Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:06:36.0±2.2, 1°.99N×96°.56E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/41, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=49.4km s-min=27.4km az=29.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.49	71	Pn	Pn	00 07 17.7	-0.3
	0.7nm,0.3s,baz=101,slow=22,SNR=6.5						
PSI				Sn	Sn	00 07 49.3	+0.1
	1.7nm,0.3s,baz=179,slow=4.5,SNR=4.7						
H08S2	Diego Garcia H	25.85	248	T	T	00 39 19.6	
	baz=70,slow=75,SNR=118						
H08S3	Diego Garcia H	25.85	248	T	T	00 39 27.0	
	baz=70,slow=75,SNR=125						
H08S1	Diego Carcia H	25.87	248	T	T	00 39 21.8	
	baz=70,slow=75,SNR=124						
WRA	Warramunga Arr	42.99	122	P	P	00 14 37.3	-0.2
	0.2nm,0.6s,baz=300,slow=8.8,SNR=1.7						
MKAR	Makanchi Array	46.33	346	P	P	00 15 03.8	+0.1
	0.6nm,0.7s,baz=160,slow=9.6,SNR=6.1						
ZALV	Zalesovo Beam	52.68	351	P	P	00 15 51.7	-0.4
	0.9nm,0.5s,baz=179,slow=8.9,SNR=4.4						

WEL 01 00:17:18.6, 44°S±7°×17°1E±2°9, h15km±40km, M2.3/6, ML2.4/6, MLv2.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=96.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCZ	Arundel	0.21	7	P	Pg	00 17 22.9	-0.6
ARCZ				S	Sg	00 17 25.9	-0.9
RPZ	Rata Peaks	0.45	352	P	Pg	00 17 27.4	-0.3
MHCZ	Mount Hutt	0.70	26	P	Pb	00 17 32.7	+0.2
LBZ	Lake Benmore	0.72	252	P	Pb	00 17 33.0	+0.1
ODZ	Otahua Downs	0.95	202	P	Pn	00 17 37.5	0.0
ODZ				S	Sn	00 17 50.3	-0.5
GCSZ	Gaunt Creek Bo	1.03	325	P	Pb	00 17 38.3	+0.1
WVZ	Waitaha Valley	1.13	345	P	Pn	00 17 40.0	+0.2
FOZ	Fox Glacier	1.15	303	P	Pg	00 17 40.6	-0.2
JCZ	Jackson Bay	1.70	272	P	Pg	00 17 51.2	-0.1

IDC 01 00:29:18.7±0.5, 28°.30N×139°.26E, h499km±6km, mb3.4/21, mb1 3.6/28, mb1mx3.5/45, mbtmp4.4/28, Error ellipse: s-maj=12.8km s-min=7.9km az=69.0
NEIC 01 00:29:19.1±1.8, 28°.31N±0°.05×139°.3E±0°.1, h510km±7km, mb4.2/43, Error ellipse: s-maj=16.5km s-min=1.9km az=66.0
JMA 01 00:29:19.2±0.3, 28°.36N×139°.58E, h519km±5km, M4.3
ISC 01 00:29:18.5±0.4, 28°.32N±0°.06×139°.35E±0°.07, h500km, n109, σ1s39/117, mb4.1/39, 1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.79	115	P	P	00 30 29.5	+1.3
CBIJ				eS	S	00 31 25.2	+0.4
JCJ	Chichijima	2.79	115	P	P	00 30 29.6	+1.4
	39nm,0.3s,baz=327,slow=22,SNR=46						
JCJ				S	S	00 31 25.1	+0.3
	120nm,0.3s,baz=298,slow=22,SNR=15						
JCJ	Chichijima	2.79	115		P	00 30 28.8	+0.6
JHH2	Haha-jima-NKT2	3.02	123	P	P	00 30 31.8	+2.1
JHH2				eS	S	00 31 28.8	+1.3
JHJ2	Mitsune	4.79	5	P	P	00 30 46.0	+2.5
JHJ2				eS	S	00 31 53.8	+0.9
JHJ2	Mitsune	4.79	5	P	P	00 30 44.6	+1.2
JHJ	Hachijo jima 2	4.79	4	P	P	00 30 44.8	+1.3
	51nm,0.3s,baz=118,slow=22,SNR=12						
JHJ				S	S	00 31 52.5	-0.6
	49nm,0.3s,baz=70,slow=19,SNR=3.8						
TTO1	TONANKAI O.B.S	5.72	338	P	P	00 30 54.8	+3.1
JTNC	Tanabenakahech	6.35	331	P	P	00 31 01.3	+3.2
JSG	Sagara	6.41	351	P	P	00 31 00.8	+2.2
JIE	Ise	6.46	340	P	P	00 31 02.4	+3.2
BSO1	Boso 1	6.46	12	P	P	00 31 01.0	+2.4
BSO1				eS	S	00 32 21.0	+0.3
JOD2	Odawara 2	6.92	358	P	P	00 31 05.6	+1.8
JOD2				eS	S	00 32 30.4	+0.3
JMN	Monobe	7.15	320		P	00 31 09.0	+2.9
JTO	Tosashimizu	7.23	310	P	P	00 31 10.3	+3.3
INU	Inuyama	7.28	345		P	00 31 09.4	+2.0
JGF	Kuroka	7.45	347		P	00 31 11.3	+2.1
JRY	Ryogami san	7.68	357	P	P	00 31 12.7	+1.2
JRY				eS	S	00 32 42.5	-1.7
JWT	Wachi	7.71	335		P	00 31 14.8	+3.0
JYT	Yasato	7.91	5		P	00 31 14.3	+0.5
MJAR	Matsushiro Arr	8.25	354	P	P	00 31 17.9	+0.5
	1.0nm,0.3s,baz=169,slow=12,SNR=33						
MJAR	Matsushiro Arr	8.25	354	P	P	00 31 17.7	+0.3
MAJO	Matsushiro	8.25	354		P	00 31 18.3	+0.9
MAT	Matsushiro	8.25	354	P	P	00 31 18.1	+0.7
MAT				S	S	00 32 53.9	-1.2
MJB9	Matsu-Tunnel	8.26	354	P	P	00 31 17.4	0.0
JHS	Saijyo	8.51	323	P	P	00 31 23.1	+2.9
JNU	Nakatsue	8.72	305	P	P	00 31 22.9	+0.5
	1.3nm,0.3s,baz=96,slow=9.2,SNR=6.9						
JMM	Marumori	9.59	7	P	P	00 31 31.6	+0.3
JSD	Sado	9.73	355	P	P	00 31 33.4	+0.5
JMK	Ichinoseki	10.71	8	P	P	00 31 45.4	+2.2
JOT	Ohata	13.10	6	P	P	00 32 10.6	+2.1
KSRS	Korea Array	13.22	316	P	P	00 32 11.6	+1.7
	0.3nm,0.3s,baz=143,slow=9.0,SNR=2.9						
JOSM	Okushiri--Mats	13.73	0	P	P	00 32 16.7	+1.6
GUMO	Guam	15.54	160	P	P	00 32 36.0	+1.5
	7.5nm,0.3s,baz=92,slow=5.1,SNR=4.3						
USA0B	Ussuriysk Arra	16.91	342	P	P	00 32 49.5	+1.1
USRK	Ussuriysk Ar.	16.91	342	P	P	00 32 49.3	+1.0
	baz=146,slow=9.9,SNR=28						
USRK	Ussuriysk Ar.	16.91	342		P	00 32 48.2	-0.2
YULB	Yu-li	16.97	257	P	P	00 32 48.9	-0.5
SSLB	Suanglung	17.14	259	P	P	00 32 50.7	-0.3
TIA	Tai'an	20.35	298	P	P	00 33 20.7	+0.4
TIA				pmax	pmax		
	comp=Z,13nm,0.5s						
WHN	Wuhan	21.88	282	P	P	00 33 34.7	+0.5
WHN				pmax	pmax		
	comp=Z,60nm,0.7s						
HHC	Hu-ho-hao-te	25.95	306	eP	P	00 34 13.0	+2.6
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,91nm,6.6s						
ENH	Enshi	26.09	282	P	P	00 34 11.8	+0.1
XAN	Xi'an	26.59	290	P	P	00 34 16.4	+0.3
XAN				pmax	pmax		
	comp=Z,19nm,0.5s						
XAN	Xi'an	26.59	290	P	P	00 34 16.6	+0.4
GYA	Guiyang	29.04	274	⇓P	P	00 34 37.9	+0.1
GYA				pmax	pmax		
	comp=Z,18nm,1.0s						
CD2	Chengdu	30.97	284	P	P	00 34 53.7	-0.7
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
ULN	Ulaanbaatar	31.71	317	P	P	00 35 00.5	-0.1
ULN				IAmb	IAmb	00 35 02.2	
	comp=Z,4.7nm,0.6s						
SONM	Songino Array	32.09	316	P	P	00 35 04.3	+0.5
	comp=Z,2.8nm,0.5s,baz=125,slow=8.1,SNR=13						
SONM	Songino Array	32.09	316	P	P	00 35 04.2	+0.5
SLVN	Son La	32.83	266		P	00 35 11.2	+0.8
SLVN				IAmb	IAmb	00 35 12.0	
	comp=Z,4.2nm,0.8s						
GTA	Gaotai	34.40	299	eP	P	00 35 23.6	+0.1
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	Chiang Mai	38.08	265	P	P	00 35 54.1	0.0
CHTO				IAmb	IAmb	00 35 55.1	
	comp=Z,6.7nm,0.8s						
CMAR	Chiang Mai Arr	38.22	264	P	P	00 35 54.1	-1.0
	comp=Z,2.0nm,0.6s,baz=53,slow=9.0,SNR=10						
CMAR	Chiang Mai Arr	38.22	264	P	P	00 35 55.4	+0.3
SHL	Shillong	42.20	278	P	P	00 36 26.5	-0.8
KULM	Kulim	43.25	245	P	P	00 36 35.2	-0.3
IPM	Ipoh	43.44	244	P	P	00 36 36.6	-0.4
WMQ	Urumqi	43.82	305	eP	P	00 36 40.9	+1.3
RPSI	Rantau Prapat	46.18	244	P	P	00 36 56.8	-1.2
ZAA0	Zalesovo Array	46.92	319	P	P	00 37 02.1	-0.9
ZALV	Zalesovo Beam	46.92	319	P	P	00 37 02.9	-0.2
	comp=Z,2.2nm,0.5s,baz=96,slow=7.7,SNR=14						
ZALV	Zalesovo Beam	46.92	319	P	P	00 37 02.5	-0.5
MK31	Makanchi Array	47.76	309	P	P	00 37 09.9	+0.3
MKAR	Makanchi Array	47.76	309	P	P	00 37 09.8	+0.3
	comp=Z,3.0nm,0.4s,baz=87,slow=10,SNR=59						
MKAR				ScP	ScP	00 41 32.7	-2.6
	comp=Z,0.6nm,0.6s,baz=78,slow=4.6,SNR=4.9						
MKAR	Makanchi Array	47.76	309	P	P	00 37 09.6	+0.1
MAKZ	Makanchi	47.97	309	P	P	00 37 11.3	+0.1
MAKZ				IAmb	IAmb	00 37 11.9	
	comp=Z,4.3nm,0.6s						
WB0	Warramunga Arr	48.05	186	P	P	00 37 10.5	-1.5
GSI	Gunungsitoli	48.09	244	P	P	00 37 12.6	+0.1
WR0	Warramunga Arr	48.23	186	P	P	00 37 11.6	-1.7
WB2	Warramunga Arr	48.23	186	P	P	00 37 10.6	-2.8
WB2				IAmb	IAmb	00 37 14.7	
	comp=Z,20nm,1.5s						
WRA	Warramunga Arr	48.23	186	P	P	00 37 13.3	0.0
	comp=Z,6.5nm,0.4s,baz=2.2,slow=7.7,SNR=240						
WRA				ScP	ScP	00 41 35.9	-1.7
	comp=Z,1.2nm,1.0s,baz=358,slow=4.3,SNR=4.8						
KURK	Kurchatov	50.33	314	P	P	00 37 28.4	-0.1
KURK				IAmb	IAmb	00 37 30.4	
	comp=Z,8.7nm,0.7s						
NRIK	Noril'sk	50.60	339	P	P	00 37 30.5	+0.4
	comp=Z,3.3nm,0.4s,baz=104,slow=7.5,SNR=6.5						
TARG	Taragay, Kyrgy	51.14	302	IAmb	IAmb	00 37 36.2	
	comp=Z,9.3nm,1.0s						
KDJ	Kajisay	51.57	303	P	P	00 37 37.8	-0.2
KDJ				IAmb	IAmb	00 37 40.4	
	comp=Z,5.1nm,0.7s						
AS31	Alice Springs	51.95	186	P	P	00 37 39.7	-1.0
ASAR	Alice Springs	51.95	186	P	P	00 37 40.5	-0.2
	comp=Z,2.7nm,0.5s,baz=16,slow=12,SNR=47						
KSH	Kashi	52.79	300	P	P	00 37 50.8	+4.0
KSH				pmax	pmax		
	comp=Z,12nm,0.5s						
KDAK	Kodiak Island	54.90	37	P	P	00 38 02.1	+1.0
	comp=Z,2.9nm,0.5s,baz=270,slow=6.1,SNR=6.0						
BRVK	Borovoye	55.50	317	P	P	00 38 05.2	-0.2
BRVK				IAmb	IAmb	00 38 06.6	
	comp=Z,8.8nm,0.6s						
NIL	Nilore	56.07	293	P	P	00 38 09.8	0.0
KK31	Karatay Array	56.33	305	P	P	00 38 11.5	+0.1
KKAR	Karatay Array	56.33	305	P	P	00 38 11.5	+0.1
DZM	Mont Dzumac	56.52	150	P	P	00 38 14.0	+1.0
	comp=Z,6.7nm,1.2s,baz=0.0,slow=7.1,SNR=5.5						
DZM	Mont Dzumac	56.52	150	IAmb	IAmb	00 38 55.4	
	comp=Z,28nm,1.6s						
ILAR	Eielson Array	57.85	29	P	P	00 38 21.6	+0.2
	comp=Z,0.5nm,0.6s,baz=258,slow=5.8,SNR=8.0						
CHGR	Chuyangaron	58.16	300	P	P	00 38 23.8	-0.3
KBL	Kabul	59.23	295	P	P	00 38 32.0	+0.4
STKA	Stephens Creek	59.91	178	P	P	00 38 35.7	+0.1
	comp=Z,1.9nm,0.7s,baz=345,slow=5.7,SNR=3.9						
ARU	Arti	61.91	322	P	P	00 38 47.6	-1.0
ARU				IAmb	IAmb	00 38 48.9	
	comp=Z,5.2nm,0.5s						
ABKAR	Akbulak array	62.44	313	P	P	00 38 52.0	-0.2
INK	Inuvik	62.96	25	P	P	00 38 55.7	+0.5
	comp=Z,0.8nm,0.3s,baz=282,slow=7.3,SNR=6.4						
INK	Inuvik	62.96	25	IAmb	IAmb	00 39 04.1	
	comp=Z,26nm,1.6s						
HRA	Herat	64.66	297	P	P	00 39 06.7	-0.3
HRA				IAmb	IAmb	00 39 08.4	
	comp=Z,4.5nm,0.8s						
GEYT	Alibeck	66.73	302	P	P	00 39 20.4	+0.7
	comp=Z,1.1nm,0.6s,baz=62,slow=3.9,SNR=2.4						
ARCES	ARCESS Array B	71.55	340	P	P	00 39 48.3	+0.2
	comp=Z,1.4nm,0.6s,baz=60,slow=7.2,SNR=7.8						
KBZ	Khabaz	75.33	312	P	P	00 40 09.4	-0.7
	comp=Z,5.7nm,0.8s,baz=100,slow=3.8,SNR=10.0						
FINES	FINESS Array B	75.73	333	P	P	00 40 11.8	-0.2
	comp=Z,3.3nm,0.3s,baz=66,slow=5.0,SNR=52						
RPZ	Rata Peaks	77.36	157	P	P	00 40 21.6	+0.5
	comp=Z,8.3nm,0.6s,baz=320,slow=4.1,SNR=2.2						
AKASG	Malin Array Be	80.14	323	P	P	00 40 34.8	-1.2
	comp=Z,0.2nm,0.2s,baz=49,slow=4.7,SNR=4.2						
NVAR	Mina Array Bea	81.71	51	P	P	00 40 46.1	+1.3
	comp=Z,1.1nm,0.5s,baz=300,slow=5.9,SNR=8.3						
NVAR	Mina Array Bea	81.71	51	P	P	00 40 40.8	-4.0
BRTR	Keskin Array B	83.32	312	P	P	00 40 52.6	-0.2
	comp=Z,0.7nm,0.6s,baz=86,slow=3.3,SNR=6.0						
VYHS	Vyhne	86.87	325	eP	P	00 41 08.5	-1.1
GERES	GERESS Array B	89.15	328	P	P	00 41 19.5	-0.9
	comp=Z,0.1nm,0.3s,baz=21,slow=8.4,SNR=1.7						
TORD	Torodi Ar. Bea	121.88	309	PKP	PKPdf	00 47 15.3	-1.0
	comp=Z,0.3nm,0.9s,baz=1.5,slow=1.2,SNR=1.2						
LPAZ	La Paz	151.97	71	PKPbc	PKiKP	00 48 19.1	+0.8
	comp=Z,0.5nm,0.4s,baz=332,slow=4.0,SNR=4.6						
PLCA	Paso Flores	152.57	125	PKPbc	PKiKP	00 48 18.6	+0.3
	comp=Z,1.6nm,0.5s,baz=223,slow=2.8,SNR=7.0						

RSNC 01 00:30:30.9±1.8, 5°.71N×73°.91W, h111km±8km, ML2.5, 8C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPBC	San Pablo de B	0.17	251	⇑iP	Pn	00 30 46.4	-0.1
SPBC				eS	Sn	00 30 57.9	-0.2
SPBC				i		00 30 59.7	
	comp=Z,156nm,0.2s						
SPBC	San Pablo de B	0.17	251	⇑iP	Pn	00 30 46.4	-0.1
SPBC				eS	Sn	00 30 57.8	-0.4
SPBC				i		00 30 59.6	
	comp=Z,156nm,0.2s						
RUSC	La Rusia	0.85	77	⇓eP	Pn	00 30 51.0	-0.2
RUSC				eS	Sn	00 31 05.9	-0.6
RUSC				i		00 31 08.0	
	comp=Z,19nm,0.2s						
RUSC	La Rusia	0.85	77	⇓eP	Pn	00 30 51.0	-0.2
RUSC				eS	Sn	00 31 05.7	-0.8
RUSC				i		00 31 08.0	
	comp=Z,19nm,0.2s						
ROSC	El Rosal	0.95	205	⇑iP	Pn	00 30 52.9	+0.7
ROSC				eS	Sn	00 31 07.8	-0.4
ROSC				i		00 31 12.7	
	comp=Z,93nm,0.4s						
ROSC	El Rosal	0.95	205	eP	Pn	00 30 52.9	+0.8
ROSC				eS	Sn	00 31 07.9	-0.3
ROSC				i		00 31 12.7	
	comp=Z,93nm,0.4s						
PTBC	PUERTO BERRIO,	0.99	327	⇑iP	Pn	00 30 51.1	-1.0
PTBC				i		00 30 53.2	
	comp=Z,37nm,0.2s						
PTBC				eS	Sn	00 31 07.6	-0.5
PTBC	PUERTO BERRIO,	0.99	327	⇑iP	Pn	00 30 51.1	-1.0
PTBC				eS	Sn	00 31 07.9	-0.2
PTBC				i		00 31 09.4	
	comp=Z,64nm,0.3s						
CHIC	Chingaza	1.09	170	⇓eP	Pn	00 30 53.0	-0.6
CHIC				i		00 30 53.7	
	comp=Z,16nm,0.2s						
CHIC				eS	Sn	00 31 10.1	-0.6
CHIC	Chingaza	1.09	170	⇓iP	Pn	00 30 53.1	-0.5
CHIC				i		00 30 53.6	
	comp=Z,16nm,0.2s						
CHIC				eS	Sn	00 31 10.1	-0.6
BARC	Barichara	1.14	40	eP	Pn	00 30 53.9	0.0
BARC				eS	Sn	00 31 10.7	-0.6
BARC				i		00 31 12.5	
	comp=Z,62nm,0.2s						
BARC	Barichara	1.14	40	i P	Pn	00 30 54.0	0.0
BARC				eS	Sn	00 31 10.7	-0.7
BARC				i		00 31 12.5	
	comp=Z,62nm,0.2s						
BRRC	Barranca, Sant	1.40	8	⇑iP	Pn	00 30 56.5	-0.2
BRRC				eS	Sn	00 31 16.7	+0.4
BRRC				i		00 31 19.7	
	comp=Z,85nm,0.4s						
BRRC	Barranca, Sant	1.40	8	⇑iP	Pn	00 30 56.5	-0.2
BRRC				eS	Sn	00 31 16.5	+0.2
BRRC				i		00 31 19.6	
	comp=Z,85nm,0.4s						
GUY2C	Guyana, Caldas	1.52	252	eP	Pn	00 30 58.5	0.0
GUY2C				eS	Sn	00 31 20.0	+0.6
GUY2C				i		00 31 24.2	
	comp=Z,24nm,0.2s						
GUY2C	Guyana, Caldas	1.52	252	eP	Pn	00 30 58.5	0.0
GUY2C				eS	Sn	00 31 21.0	+1.5
GUY2C				i		00 31 24.1	
	comp=Z,24nm,0.2s						
VILC	Villavicencio,	1.60	172	eP	Pn	00 30 58.6	-0.5
VILC				eS	Sn	00 31 20.0	-0.6
VILC				i		00 31 27.0	
	comp=Z,34nm,0.4s						
VILC	Villavicencio,	1.60	172	eP	Pn	00 30 58.6	-0.5
VILC				eS	Sn	00 31 19.9	-0.8
VILC				i		00 31 27.1	
	comp=Z,34nm,0.4s						
RREF	El Recreo	1.64	241	eP	Pn	00 30 56.3	-3.8
RREF				eS	Sn	00 31 17.4	-4.8
RREF				i		00 31 22.1	
	comp=Z,26nm,0.2s						
RREF	El Recreo	1.64	241	eP	Pn	00 30 56.3	-3.8
RREF				eS	Sn	00 31 16.3	-5.9
RREF				i		00 31 22.2	
	comp=Z,27nm,0.2s						
TOLC	Tolima	1.79	232	eP	Pn	00 31 01.8	+0.2
TOLC				eS	Sn	00 31 24.6	-0.5
TOLC	Tolima	1.79	232	eP	Pn	00 31 01.8	+0.1
TOLC				eS	Sn	00 31 24.6	-0.5
ANIL	Santa Ana	1.91	231	eS	Sn	00 31 27.8	0.0
ANIL				i		00 31 30.8	
	comp=Z,4.8nm,0.3s						
ANIL	Santa Ana	1.91	231	eP	Pn	00 31 04.2	+1.0
ANIL				eS	Sn	00 31 27.6	-0.1
ANIL				i		00 31 30.9	
	comp=Z,4.8nm,0.3s						
ZARC	Zaragoza, Cauc	2.01	332	eP	Pn	00 31 03.2	-0.8
ZARC				eS	Sn	00 31 28.7	-0.7
ZARC				i		00 31 36.1	
	comp=Z,57nm,0.3s						
ZARC	Zaragoza, Cauc	2.01	332	eP	Pn	00 31 03.1	-0.9
ZARC				eS	Sn	00 31 29.0	-0.4
ZARC				i		00 31 36.1	
	comp=Z,57nm,0.3s						
CBOC	Ciudad Bolivar	2.09	274	eP	Pn	00 31 05.0	-0.3
CBOC				eS	Sn	00 31 31.1	-0.5
CBOC				i		00 31 42.5	
	comp=Z,6.6nm,0.5s						
PRAC	Prado	2.21	206	eP	Pn	00 31 05.5	-1.2
PRAC				eS	Sn	00 31 32.9	-1.1
PRAC				i		00 31 35.5	
	comp=Z,23nm,0.2s						
PRAC	Prado	2.21	206	eP	Pn	00 31 05.7	-1.0
PRAC				eS	Sn	00 31 33.0	-1.0
PRAC				i		00 31 35.5	
	comp=Z,23nm,0.2s						
ORTC	Ortega, Tolima	2.23	217	eP	Pn	00 31 06.5	-0.4
ORTC				eS	Sn	00 31 33.6	-0.9
ORTC				i		00 31 39.6	
	comp=Z,22nm,0.5s						
ORTC	Ortega, Tolima	2.23	217	eP	Pn	00 31 06.5	-0.4
ORTC				eS	Sn	00 31 33.6	-0.9
ORTC				i		00 31 39.7	
	comp=Z,22nm,0.5s						
OCAC	Ocana	2.58	13	eP	Pn	00 31 11.9	+0.3
OCAC				eS	Sn	00 31 42.8	-0.1
OCAC				i		00 31 49.4	
	comp=Z,31nm,0.2s						
OCAC	Ocana	2.58	13	eP	Pn	00 31 11.9	+0.2
OCAC				eS	Sn	00 31 44.1	+1.2
OCAC				i		00 31 49.3	
	comp=Z,31nm,0.2s						
UREC	San Jos de Ur	2.59	322	⇑iP	Pn	00 31 09.8	-1.8
UREC				eS	Sn	00 31 39.3	-3.5
UREC				i		00 31 42.6	
	comp=Z,28nm,0.3s						
UREC	San Jos de Ur	2.59	322	eP	Pn	00 31 09.8	-1.8
UREC				eS	Sn	00 31 39.3	-3.6
UREC				i		00 31 42.6	
	comp=Z,28nm,0.3s						
DBBC	Dabeiba	2.63	300	eP	Pn	00 31 12.4	+0.2
DBBC				i		00 31 47.8	
	comp=Z,72nm,0.4s						
DBBC	Dabeiba	2.63	300	eP	Pn	00 31 12.3	+0.1
DBBC				i		00 31 47.7	
	comp=Z,72nm,0.4s						
SMLC	San Martn de	3.08	357	eP	Pn	00 31 16.7	-1.3
SMLC				eS	Sn	00 31 52.7	-1.6
SMLC				i		00 32 01.0	
	comp=Z,30nm,0.2s						
SMLC	San Martn de	3.08	357	eP	Pn	00 31 16.7	-1.3
MOTC	Monteria, Cord	3.51	330	eP	Pn	00 31 21.6	-2.2
MOTC				eS	Sn	00 31 59.4	-5.2
MOTC				i		00 32 04.7	
	comp=Z,7.6nm,0.2s						
MOTC	Monteria, Cord	3.51	330	eP	Pn	00 31 21.6	-2.2
MOTC				eS	Sn	00 31 59.4	-5.2
MOTC				i		00 32 04.9	
	comp=Z,7.6nm,0.2s						
SOCV	Socops	3.97	50	eP	Pn	00 31 28.7	-1.2
SOCV				eS	Sn	00 32 11.5	-4.1
SJCC	San Jacinto, C	4.35	343	eP	Pn	00 31 32.5	-2.5
SJCC				eS	Sn	00 32 19.0	-5.8
SJCC				i		00 32 26.2	
	comp=Z,6.1nm,0.4s						

NEIC 01 00:33:29.3±1.4, 37°.39N±0°.03×95°.38W±0°.03, h9km±6km, mb_Lg3.0/80, Error ellipse: s-maj=4.6km s-min=3.7km az=201.0
ANF 01 00:33:29.2±2.1, 37°.37N×95°.42W, h8km±15km, ML3.7/8, Error ellipse: s-maj=8.9km s-min=5.4km az=63.0
ISC 01 00:33:28.7±0.9, 37°.40N±0°.03×95°.40W±0°.03, h10km, n90, σ1s09/78, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	1.01	242	Pg	Pg	00 33 47.5	-0.7
T35A				Sg	Sg	00 34 01.0	-0.3
U38A	Gravette	1.25	139		Pn	00 33 51.5	-0.9
U38A				Sn	Sb	00 34 08.0	-0.7
TUL1	Leonard	1.52	192	P	Pn	00 33 56.1	+0.1
	baz=12						
TUL1				S	Sb	00 34 16.7	+0.4
	baz=12						
TUL1	Leonard	1.52	192		Pn	00 33 55.9	0.0
TUL1				Sn	Sb	00 34 16.7	+0.4
QUOK	Quay	1.61	221		Pn	00 33 58.1	+0.8
HHAR	Hobbs	1.61	133		Pn	00 33 57.9	+0.6
S39A	Bolivar	1.68	79		Pn	00 33 58.5	+0.3
KAN13	South Haven SW	1.70	258	Pn	Pn	00 33 58.8	+0.3
KSU1	Kansas State U	1.95	331	P	Pn	00 34 02.9	+1.0
	baz=150						
KSU1				S	Sb	00 34 28.6	-0.1
	baz=150						
KSU1	Kansas State U	1.95	331		Pn	00 34 02.9	+1.0
KAN12	Harper NE Stat	2.07	268		Pn	00 34 03.8	+0.2
KAN10	Anthony SW Sta	2.17	264		Pn	00 34 05.5	+0.6
CROK	Carrier	2.25	248		Pn	00 34 07.0	+0.9
U40A	Yellville	2.29	116	P	Pn	00 34 07.3	+0.7
	baz=298						
U40A	Yellville	2.29	116	Pn	Pn	00 34 08.2	+1.6
OK025	Westminster Rd	2.39	221		Pn	00 34 10.0	+2.0
BCOK	Bluff Creek, N	2.49	226	Pn	Pn	00 34 10.1	+0.9
MGMO	Mountain Grove	2.51	95	Pn	Pn	00 34 10.8	+1.2
W35A	Tecumseh	2.54	208		Pn	00 34 12.1	+2.2
W39A	Magazine	2.55	149	P	Pn	00 34 11.2	+1.0
	baz=330						
W39A				S	Sn	00 34 43.3	+2.0
	baz=330						
W39A	Magazine	2.55	149		Pn	00 34 12.2	+2.0
W39A				IAmb_Lg		00 34 53.7	
	comp=Z,67nm,0.8s						
OKCFA	Oklahoma City	2.58	221	Pn	Pn	00 34 12.2	+1.6
OKCSW	OKLAHOMA CITY	2.58	220		Pb	00 34 13.0	-2.0
R40A	Maddies Statio	2.63	69		Pn	00 34 11.8	+0.5
P38A	Dawn	2.66	33	Pn	Pn	00 34 12.2	+0.5
FNO	Franklin	2.68	218		Pn	00 34 13.3	+1.4
FNO					Pb	00 34 15.0	-1.8
X37A	Clayton	2.80	180		Pn	00 34 15.7	+2.1
R32A	Long Quarter,	2.81	292		Pn	00 34 16.5	+2.7
FCAR	Ozark Folk Cen	3.03	119		Pn	00 34 17.0	+0.2
U32A	Winter Ranch,	3.06	252	Pn	Pn	00 34 17.9	+0.7
MIAR	Mount Ida	3.21	152	P	Pn	00 34 20.3	+1.1
	baz=333						
MIAR				S	Sn	00 34 59.1	+1.6
	baz=333						
MIAR	Mount Ida	3.21	152	Pn	Pn	00 34 20.6	+1.4
MIAR				IAmb_Lg		00 35 13.2	
	comp=Z,34nm,0.7s						
WHAR	Wooly Hollow	3.27	129	Pn	Pn	00 34 21.2	+1.1
CCM	Cathedral Cave	3.36	77	P	Pn	00 34 21.9	+0.6
	baz=260						
CCM				S	Sn	00 35 03.0	+1.8
	baz=260						
CCM	Cathedral Cave	3.36	77		Pn	00 34 22.4	+1.1
W41B	Gary Mavity, V	3.38	130	P	Pn	00 34 22.0	+0.5

	baz=312							
W41B				S	**Sn**	**00 35 02.9**	**+1.3**	
	baz=312							
W41B	**Gary Mavity, V**	**3.38**	**130**		**Pn**	**00 34 23.0**	**+1.5**	
W41B				IAmb_Lg		00 35 18.8		
	comp=Z,52nm,0.8s							
P40A	**Paris**	**3.38**	**50**		**Pn**	**00 34 23.2**	**+1.6**	
P40A				IAmb_Lg		00 35 19.1		
	comp=Z,34nm,0.7s							
X34A	**Smith Ranch, M**	**3.42**	**216**	Pn	**Pn**	**00 34 22.7**	**+0.6**	
T42A	**Van Buren**	**3.46**	**95**		**Pn**	**00 34 23.0**	**+0.4**	
T42A				IAmb_Lg		00 35 23.7		
	comp=Z,34nm,1.1s							
N35A	**Tabor**	**3.46**	**357**		**Pn**	**00 34 22.7**	**0.0**	
X40A	**Basin Creek Fa**	**3.57**	**144**	P	**Pn**	**00 34 24.6**	**+0.4**	
	baz=325							
X40A				S	**Sn**	**00 35 07.6**	**+1.1**	
	baz=325							
X40A	**Basin Creek Fa**	**3.57**	**144**		**Pn**	**00 34 25.1**	**+0.9**	
X40A				IAmb_Lg		00 35 27.6		
	comp=Z,42nm,0.7s							
UALR	**University of**	**3.60**	**136**	Pn	**Pn**	**00 34 25.0**	**+0.4**	
UALR				IAmb_Lg		00 35 27.9		
	comp=Z,46nm,1.0s							
LCAR	**Lake Charles**	**3.66**	**110**		**Pn**	**00 34 25.5**	**+0.1**	
LCAR				IAmb_Lg		00 35 23.5		
	comp=Z,48nm,0.9s							
N33A	**J Bar K, Exete**	**3.70**	**335**	Pn	**Pn**	**00 34 27.5**	**+1.6**	
N33A				IAmb_Lg		00 35 35.4		
	comp=Z,46nm,0.8s							
CBKS	**Cedar Bluff**	**3.70**	**294**		**Pn**	**00 34 27.1**	**+1.0**	
CBKS					Pb	00 34 28.3	-6.0	
WMOK	**Wichita Mounta**	**3.81**	**227**		**Pn**	**00 34 29.0**	**+1.5**	
PBMO	**Poplar Bluff**	**4.02**	**97**		**Pn**	**00 34 30.8**	**+0.4**	
WLAR	**White Oak Lake**	**4.14**	**153**	Pn	**Pn**	**00 34 32.2**	**+0.1**	
WLAR				Sb	**Sb**	**00 35 31.6**	**-0.2**	
WLAR				IAmb_Lg		00 35 48.3		
	comp=Z,28nm,0.8s							
Z35A	**Perchaven, San**	**4.33**	**201**	Pn	**Pn**	**00 34 34.6**	**0.0**	
BGNE	**Belgrade**	**4.54**	**333**	Pn	**Pn**	**00 34 38.3**	**+0.8**	
L34A	**Svendsen Farm,**	**4.63**	**351**	Pn	**Pn**	**00 34 39.2**	**+0.5**	
Z41A	**Richland Creek**	**4.64**	**152**	IAmb_Lg		00 36 05.6		
	comp=Z,22nm,0.7s							
X43A	**Marvell**	**4.66**	**127**	IAmb_Lg		00 35 55.6		
	comp=Z,35nm,0.7s							
SCIA	**State Center**	**4.81**	**20**	Pn	**Pn**	**00 34 41.6**	**+0.4**	
SCIA				IAmb_Lg		00 36 02.8		
	comp=Z,30nm,0.9s							
S44A	**Carbondale**	**4.89**	**85**	Pn	**Pn**	**00 34 41.5**	**-0.8**	
S44A				IAmb_Lg		00 36 02.7		
	comp=Z,28nm,0.8s							
LNXT	**Lenox**	**4.92**	**103**	IAmb_Lg		00 36 03.3		
	comp=Z,42nm,0.7s							
GLAT	**Glass**	**5.03**	**101**	IAmb_Lg		00 36 13.7		
	comp=Z,31nm,0.8s							
P43A	**Skaggs, Pawnee**	**5.13**	**62**	Pn	**Pn**	**00 34 46.6**	**+1.0**	
Q44A	**Meyer Farm, Va**	**5.25**	**71**	Pn	**Pn**	**00 34 48.0**	**+0.8**	
T45A	**Paducah**	**5.41**	**92**	IAmb_Lg		00 36 33.5		
	comp=Z,38nm,0.9s							
W45A	**Hickory Valley**	**5.49**	**112**	IAmb_Lg		00 36 21.1		
	comp=Z,29nm,0.8s							
K38A	**Parkersburg**	**5.62**	**20**	IAmb_Lg		00 36 28.3		
	comp=Z,19nm,0.9s							
OXF	**Oxford**	**5.65**	**119**	IAmb_Lg		00 36 25.1		
	comp=Z,27nm,0.8s							
WHTX	**Lake Whitney,**	**5.65**	**198**	Pn	**Pn**	**00 34 52.5**	**-0.2**	
L40A	**Anamosa**	**5.66**	**33**	IAmb_Lg		00 36 32.3		
	comp=Z,28nm,0.9s							
AMTX	**Amarillo**	**5.67**	**246**	Pn	**Pn**	**00 34 53.5**	**+0.4**	
AMTX				IAmb_Lg		00 36 30.2		
	comp=Z,25nm,0.8s							
HDIL	**Hopedale**	**5.71**	**55**	Pn	**Pn**	**00 34 54.4**	**+0.8**	
ABTX	**Abilene, Hawle**	**5.90**	**217**	IAmb_Lg		00 36 39.4		
	comp=Z,27nm,1.2s							
OLIL	**Olney**	**5.91**	**75**	IAmb_Lg		00 36 33.7		
	comp=Z,18nm,0.8s							
Y45A	**Yeager Farm, C**	**5.93**	**125**	IAmb_Lg		00 36 39.2		
	comp=Z,32nm,0.8s							
O44A	**Mansfield**	**6.08**	**61**	IAmb_Lg		00 36 43.9		
	comp=Z,34nm,0.8s							
WVT	**Waverly**	**6.21**	**99**	Pn	**Pn**	**00 35 00.8**	**+0.4**	
L42A	**Oliver, Polo**	**6.38**	**42**	Pn	**Pn**	**00 35 02.1**	**-0.7**	
PLAL	**Pickwick Lake**	**6.39**	**110**	Pn	**Pn**	**00 35 02.1**	**-0.9**	
ECSD	**EROS Data Cent**	**6.40**	**352**	Pn	**Pn**	**00 35 03.6**	**+0.5**	
T47A	**Sharon Grove**	**6.63**	**91**	Pn	**Pn**	**00 35 06.4**	**+0.2**	
JFWS	**Jewell Farm**	**6.78**	**34**	IAmb_Lg		00 37 09.2		
	comp=Z,19nm,0.7s							
SFIN	**Lafayette**	**7.13**	**63**	IAmb_Lg		00 37 10.6		
	comp=Z,23nm,0.8s							
T25A	**Trinidad**	**7.19**	**271**	Pn	**Pn**	**00 35 15.0**	**+0.9**	
T25A				IAmb_Lg		00 37 26.3		
	comp=Z,13nm,1.0s							
BLO	**Bloomington**	**7.20**	**73**	IAmb_Lg		00 37 14.0		
	comp=Z,22nm,0.9s							
WCI	**Wyandotte Cave**	**7.26**	**81**	IAmb_Lg		00 37 14.9		
	comp=Z,14nm,0.8s							
I40A	**Norwalk**	**7.44**	**28**	IAmb_Lg		00 37 31.3		
	comp=Z,16nm,0.9s							
U49A	**Red Boiling Sp**	**7.75**	**94**	IAmb_Lg		00 37 49.8		
	comp=Z,13nm,1.3s							
JCT	**Junction City**	**7.81**	**209**	IAmb_Lg		00 37 45.8		
	comp=Z,14nm,0.8s							
I42A	**Draeger Farm,**	**8.15**	**35**	IAmb_Lg		00 37 48.8		
	comp=Z,15nm,0.9s							
N23A	**Red Feather La**	**8.90**	**296**	IAmb_Lg		00 38 14.2		
	comp=Z,15nm,1.0s							
Q51A	**Peebles**	**9.63**	**77**	IAmb_Lg		00 38 40.3		
	comp=Z,15nm,1.0s							
J47A	**Sunmer**	**9.96**	**51**	IAmb_Lg		00 38 47.2		
	comp=Z,15nm,0.7s							

IDC 01 00:34:27.8±2.5, 16°.43S×178°.25W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/23, mbtmp3.9/3, Error ellipse: s-maj=285.4km s-min=33.3km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.07**	**258**	P	P	00 42 46.0	+0.1
	0.5nm,0.4s,baz=90,slow=8.2,SNR=22						
ASAR	**Alice Springs**	**45.36**	**253**	P	P	00 42 47.9	-0.4
	4.0nm,0.6s,baz=89,slow=8.5,SNR=48						
TXAR	**Lajitas Array**	**85.08**	**58**	P	P	00 47 06.0	0.0
	0.3nm,0.7s,baz=203,slow=5.2,SNR=4.0						

IDC 01 01:07:37.7±5.0, 6°.47S×103°.41E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/37, mbtmp3.7/4, Error ellipse: s-maj=204.0km s-min=29.8km az=50.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**30.70**	**266**	T	T	01 46 28.9	
	baz=90,slow=75,SNR=6.5						
H08S3	**Diego Garcia H**	**30.71**	**266**	T	T	01 46 28.8	
	baz=90,slow=75,SNR=7.2						
H08S1	**Diego Carcia H**	**30.72**	**266**	T	T	01 46 30.4	
	baz=90,slow=75,SNR=5.2						
WRA	**Warramunga Arr**	**32.87**	**117**	P	P	01 14 13.1	-0.6
	0.4nm,0.6s,baz=288,slow=12,SNR=5.3						
SONM	**Songino Array**	**54.13**	**2**	P	P	01 17 04.7	0.0
	0.7nm,0.7s,baz=177,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**56.25**	**343**	P	P	01 17 20.0	+0.1
	0.5nm,0.5s,baz=151,slow=8.7,SNR=7.4						
ZALV	**Zalesovo Beam**	**62.20**	**348**	P	P	01 17 59.8	-1.1
	0.4nm,0.3s,baz=144,slow=5.4,SNR=3.5						
TXAR	**Lajitas Array**	**145.81**	**45**	PKPbc	PKPab	01 27 20.0	-0.1
	0.5nm,0.7s,baz=302,slow=1.3,SNR=8.0						

IDC 01 01:20:37.0±2.1, 6°.89S×131°.58E, h0km, mb4.4/1, mb1 4.6/5, mb1mx4.0/35, mbtmp4.5/5, ML4.4/4, Error ellipse: s-maj=90.5km s-min=24.8km az=85.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.99**	**357**	Pn	Pn	01 22 08.9	+1.8
	18nm,0.3s,baz=65,slow=16,SNR=15						
SIJI				Sn	Sn	01 23 09.6	-6.8
	7.1nm,0.3s,baz=221,slow=23,SNR=2.3						
FITZ	**Fitzroy Crossi**	**12.55**	**207**	Pn	Pn	01 23 38.3	+1.2
	2.5nm,0.3s,baz=360,slow=15,SNR=113						
FITZ				Sn	Sn	01 25 48.7	-9.1
	3.5nm,0.3s,baz=180,slow=14,SNR=13						
WRA	**Warramunga Arr**	**13.25**	**169**	Pn	Pn	01 23 46.4	-0.2
	1.5nm,0.3s,baz=350,slow=13,SNR=55						
WRA				Sn	Sn	01 26 07.8	-7.0
	1.3nm,0.3s,baz=357,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**16.83**	**173**	Pn	Pn	01 24 34.3	0.0
	1.1nm,0.3s,baz=352,slow=11,SNR=40						
ASAR				Sn	Sn	01 27 34.8	-7.2
	0.4nm,0.3s,baz=4.2,slow=25,SNR=5.9						
MKAR	**Makanchi Array**	**69.00**	**326**	P	P	01 31 43.8	-0.6
	2.0nm,0.5s,baz=119,slow=8.1,SNR=5.7						

*BJI **01** 01:23:29.2±0.0, 28°.38N×102°.74E, h10km, mB5.3/45, mb4.9/59, ML5.1/19, Ms5.2/77, Ms7 5.1/72*
*NEIC **01** 01:23:29.4±0.8, 28°.40N±0°.06×102°.79E±0°.07, h9km±3km, mb5.1/164, Error ellipse: s-maj=9.2km s-min=8.2km az=93.0*
*MOS **01** 01:23:29.2±1.0, 28°.37N×102°.82E, h17km, mb5.2/76, MS4.8/22, Error ellipse: s-maj=5.7km s-min=3.5km az=119.5*
*IDC **01** 01:23:32.5±1.6, 28°.37N×102°.77E, h26km±10km, mb4.7/40, mb1 4.8/41, mb1mx4.8/50, mbtmp4.9/41, ML4.7/1, MS4.6/33, Ms1 4.6/33, ms1mx4.5/36, Error ellipse: s-maj=11.7km s-min=7.9km az=54.0*
*GCMT **01** 01:23:32.4±0.1, 28°.31N±0°.01×102°.87E±0°.01, h25km, MW5.2/131, Moment Tensor Solution. s85,c110; s131,c246; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr1.18±.16; Mθθ3.01±.13; Mφφ-4.20±.14; Mrθ-2.09±.31; Mθφ-6.93±.12; Mφr3.11±.33; Best double couple: Mo8.72400×10¹⁶ NP1:ϕs254.00000°, δ66.00000°, λ169.00000°. NP2:ϕs349.00000°, δ80.00000°, λ25.00000°. Principal axes: T 8.7700, Plg25.0000°, Azm214.0000°; N -0.1020, Plg63.0000°, Azm9.0000°; P -8.6780, Plg10.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **01** 01:23:39.4±0.0, 28°.13N×101°.41E, h33km, mb5.0*

ISC 01 01:23:31.1±0.6, 28°.37N±0°.03×102°.81E±0°.03, h18km±3km, n688, σ1§68/723, mb5.1/235, MS4.7/73, 61C-16D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.66**	**18**	i*P*g	**Pb**	**01 24 16.5**	**-1.7**
CD2				Sg	**Sb**	**01 24 51.6**	**+1.0**
CD2				smax	smax		
	comp=N,33μm,1.0s						
CD2				smax	smax		
	comp=E,32μm,1.2s						
KMI	**Kunming**	**3.24**	**181**	*e*Pn	**Pn**	**01 24 23.9**	**+2.6**
KMI				Sn	**Sn**	**01 25 03.3**	**+3.7**
KMI				Sg	**Sg**	**01 25 18.3**	**+3.1**
KMI				smax	smax		
	comp=N,2μm,1.7s						
KMI				smax	smax		
	comp=E,4μm,1.3s						
KMI				LR	LR		
	comp=N,30μm,6.2s						
KMI				LR	LR		
	comp=Z,17μm,8.2s						
KMI	**Kunming**	**3.24**	**181**	P	**Pn**	**01 24 22.7**	**+1.4**
KMI	**Kunming**	**3.24**	**181**		**Pn**	**01 24 22.7**	**+1.4**
GYA	**Guiyang**	**3.92**	**118**	i*P*n	**Pn**	**01 24 32.9**	**+2.3**
GYA				Sn	**Sn**	**01 25 20.8**	**+4.6**
GYA				Sg	**Sg**	**01 25 36.5**	**-0.5**
GYA				smax	smax		
	comp=N,4μm,1.0s						
GYA				smax	smax		
	comp=E,3μm,1.1s						
GYA				LR	LR		
	comp=N,23μm,4.9s						
GYA				LR	LR		
	comp=Z,30μm,6.1s						
ENH	**Enshi**	**6.13**	**70**	Pn	**Pn**	**01 25 00.8**	**0.0**
LKP	**Lekhapani**	**6.25**	**262**	*e*P	**Pn**	**01 25 04.7**	**+2.2**
LKP				*ex*	x	01 26 45.9	
LKP				*ex*	x	01 26 50.1	
DIBR	**DIBRUGARH**	**7.05**	**264**	*e*P	**Pn**	**01 25 15.2**	**+1.8**
DIBR				*ex*	x	01 27 13.1	
SLVN	**Son La**	**7.08**	**172**	Pn	**Pn**	**01 25 14.3**	**+0.3**
XAN	**Xi'an**	**7.70**	**41**	Pn	**Pn**	**01 25 23.0**	**+0.6**
XAN				smax	smax		
	comp=N,3μm,1.4s						
XAN				smax	smax		
	comp=E,3μm,0.9s						
XAN				LR	LR		
	comp=N,18μm,6.0s						
XAN				LR	LR		
	comp=E,21μm,6.6s						
XAN				LR	LR		
	comp=Z,23μm,6.3s						
XAN	**Xi'an**	**7.70**	**41**	P	**Pn**	**01 25 21.3**	**-1.1**
XAN	**Xi'an**	**7.70**	**41**	Pn	**Pn**	**01 25 21.3**	**-1.1**
LZH	**Lanzhou**	**7.74**	**6**	*e*P	Pn	01 25 27.8	+4.7
LZH				sP	Pb	01 25 32.1	-13
LZH				S	**Sn**	**01 26 56.7**	**+6.3**
LZH				sS	Sb	01 27 02.7	-14
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,380nm,4.2s						
LZH				LR	LR		
	comp=N,19μm,7.6s						
LZH				LR	LR		
	comp=E,20μm,8.5s						
LZH				LR	LR		
	comp=Z,23μm,11.4s						
JORH	**JORHAT**	**7.77**	**260**	*e*P	**Pn**	**01 25 24.4**	**+1.0**
JORH				*ex*	x	01 27 37.7	
ZIRO	**ZIRO**	**7.97**	**266**	*e*P	**Pn**	**01 25 26.5**	**+0.2**
ZIRO				*ex*	x	01 26 57.3	
ITAN	**ITANAGAR**	**8.15**	**263**	*e*P	**Pn**	**01 25 29.5**	**+0.9**
ITAN				*ex*	x	01 27 00.0	
ITAN				*e*S	**Sn**	**01 27 00.4**	**+0.2**
KOHI	**KOHIMA**	**8.20**	**253**	*ex*	x	01 25 29.3	
KOHI				IAmb	IAmb	01 25 37.2	
	comp=Z,18nm,0.7s						
TEZP	**TEZPUR**	**9.06**	**261**	*e*P	**Pn**	**01 25 40.3**	**-0.8**
TEZP				*e*S	**Sn**	**01 27 21.5**	**-1.2**
PAYA	**Payao**	**9.37**	**197**	P	**Pn**	**01 25 49.9**	**+4.6**
SILR	**SILCHAR**	**9.65**	**251**	*ex*	**Pn**	**01 25 47.6**	**-1.5**
PHRA	**Phrae**	**10.11**	**194**	P	**Pn**	**01 25 59.6**	**+4.1**
SHL	**Shillong**	**10.14**	**257**	*e*P	**Pn**	**01 25 54.6**	**-1.5**
SHL	**Shillong**	**10.14**	**257**	P	**Pn**	**01 25 55.7**	**-0.4**
SHL	**Shillong**	**10.14**	**257**	Pn	**Pn**	**01 25 55.7**	**-0.4**
CHTO	**Chiang Mai**	**10.15**	**201**	P	**Pn**	**01 25 56.6**	**+0.5**
CHTO	**Chiang Mai**	**10.15**	**201**	Pn	**Pn**	**01 25 56.6**	**+0.5**
CMMT	**Chiang Mai**	**10.15**	**201**	P	**Pn**	**01 26 00.4**	**+4.3**
NONG	**Nongkai**	**10.27**	**178**	P	**Pn**	**01 26 00.2**	**+2.5**
WHN	**Wuhan**	**10.29**	**75**	P	**Pn**	**01 26 00.8**	**+3.0**
WHN				pmax	pmax		
	comp=Z,230nm,0.8s						
WHN				LR	LR		
	comp=Z,63μm,11.1s						
LSA	**Lhasa**	**10.29**	**280**	P	**Pn**	**01 26 01.1**	**+2.7**
LSA				S	**Sn**	**01 27 52.8**	**-0.8**
LSA				LR	LR		
	comp=Z,19μm,8.2s						
LSA				LR	LR		
	comp=Z,47μm,11.0s						
LSA	**Lhasa**	**10.29**	**280**	P	**Pn**	**01 25 57.9**	**-0.5**
LSA	**Lhasa**	**10.29**	**280**	Pn	**Pn**	**01 25 57.9**	**-0.5**
CM09	**Chiang Mai Arr**	**10.49**	**200**	P	**Pn**	**01 26 05.1**	**+4.4**
CM31	**Chiang Mai Arr**	**10.49**	**201**	P	Pn	01 26 05.8	+5.1
	SNR=40						
CM31	**Chiang Mai Arr**	**10.49**	**201**	P	Pn	01 26 05.9	+5.2
CM31	**Chiang Mai Arr**	**10.49**	**201**		**Pn**	**01 26 01.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**10.49**	**201**	Pn	**Pn**	**01 26 03.9**	**+3.2**
	comp=Z,1.7nm,0.3s,baz=14,slow=12,SNR=158						
CMAR				Lg	Lg	01 29 06.8	
	comp=Z,0.5nm,0.3s,baz=18,slow=29,SNR=6.1						
CMAR				LR	LR	01 30 29.8	
	comp=Z,4μm,19.0s,baz=50,slow=40						
CMAR				ScP	**ScP**	**01 35 36.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=298,slow=2.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**10.49**	**201**	P	**Pn**	**01 26 03.0**	**+2.3**
CMAR	**Chiang Mai Arr**	**10.49**	**201**	Pn	**Pn**	**01 26 01.5**	**+0.8**
CMAR					**ScP**	**01 35 37.2**	**+0.2**
CM15	**Chiang Mai Arr**	**10.50**	**201**	P	Pn	01 26 05.5	+4.6
CM02	**Chiang Mai Arr**	**10.51**	**201**	P	**Pn**	**01 26 05.3**	**+4.3**
CM04	**Chiang Mai Arr**	**10.53**	**200**	P	**Pn**	**01 26 05.7**	**+4.4**
CM13	**Chiang Mai Arr**	**10.54**	**201**	P	**Pn**	**01 26 05.7**	**+4.4**
CM05	**Chiang Mai Arr**	**10.54**	**200**	P	**Pn**	**01 26 05.9**	**+4.5**
SAIH	**SAIHA**	**10.64**	**239**	*e*P	**Pn**	**01 26 03.9**	**+1.1**
SAIH				*ex*	x	01 28 09.9	
UTTA	**Uttaradit**	**10.78**	**192**	P	**Pn**	**01 26 08.1**	**+3.4**
GZH	**Guangzhou**	**10.85**	**117**	P	**Pn**	**01 26 03.9**	**-1.7**
GZH				S	**Sn**	**01 28 02.0**	**-4.7**
GZH				pmax	pmax		
	comp=Z,910nm,2.5s						
GZH				LR	LR		
	comp=Z,1μm,4.3s						
GZH				LR	LR		
	comp=Z,7μm,5.2s						
MHMT	**Maesarieng**	**11.10**	**205**	P	**Pn**	**01 26 13.3**	**+4.3**
SUKH	**Sukhothai**	**11.23**	**196**	P	**Pn**	**01 26 14.7**	**+3.8**
GTA	**Gaotai**	**11.29**	**348**	*e*P	**Pn**	**01 26 14.6**	**+3.0**
GTA				pP		01 26 19.0	
GTA				sP		01 26 21.8	
GTA				S	**Sn**	**01 28 20.5**	**+3.1**
GTA				sS		01 28 27.8	
GTA				SS	**SnSn**	**01 28 32.2**	**+2.5**
GTA				pmax	pmax		
	comp=Z,15nm,1.4s						
GTA				pmax	pmax		
	comp=Z,79nm,9.1s						
GTA				LR	LR		
	comp=Z,5μm,12.7s						
GTA				LR	LR		
	comp=Z,4μm,14.9s						
GTA				LR	LR		
	comp=Z,3μm,13.5s						
QIZ	**Qiongzhong**	**11.31**	**144**	P	**Pn**	**01 26 10.6**	**-1.3**
QIZ				S	**Sn**	**01 28 23.6**	**+5.6**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,59nm,4.3s						
QIZ				LR	LR		
	comp=Z,4μm,11.3s						
QIZ				LR	LR		
	comp=Z,8μm,15.2s						
QIZ				LR	LR		
	comp=Z,3μm,10.6s						
QIZ	**Qiongzhong**	**11.31**	**144**	Pn	**Pn**	**01 26 10.8**	**-1.1**
PHIT	**Phitsanulok**	**11.35**	**192**	P	**Pn**	**01 26 16.4**	**+3.9**
KHON	**Khomkaen**	**11.98**	**180**	P	**Pn**	**01 26 23.6**	**+2.5**
TIY	**Taiyuan**	**12.31**	**38**	P	**Pn**	**01 26 27.1**	**+1.4**
CHAI	**Chaiyaphum**	**12.44**	**184**	P	**Pn**	**01 26 28.7**	**+1.4**
GTK	**Tadong**	**12.62**	**269**	*e*P	**Pn**	**01 26 29.9**	**0.0**
BTO	**Baotou**	**13.56**	**24**	*e*P	**Pn**	**01 26 42.5**	**-0.2**
SRAK	**Srakaew**	**14.31**	**183**	P	**Pn**	**01 26 53.2**	**+0.3**
NJ2	**Nanjing**	**14.35**	**71**	*e*P	**Pn**	**01 26 53.6**	**+0.2**
NJ2				S	**Sn**	**01 29 34.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,50nm,0.9s						
NJ2				LR	LR		
	comp=Z,13μm,10.4s						
NJ2				LR	LR		
	comp=Z,22μm,10.9s						
HHC	**Hu-ho-hao-te**	**14.37**	**28**	*e*P	**Pn**	**01 26 54.0**	**+0.2**
HHC				PP	**PnPn**	**01 27 05.6**	**+3.8**
HHC				S	**Sn**	**01 29 39.2**	**+6.5**
HHC				SS	**S**	**01 29 54.4**	**+1.7**
HHC				pmax	pmax		
	comp=Z,29nm,1.7s						
HHC				pmax	pmax		
	comp=Z,290nm,6.6s						
HHC				LR	LR		
	comp=Z,7μm,11.4s						
HHC				LR	LR		
	comp=Z,9μm,13.0s						
SRDT	**SRDT**	**14.37**	**195**	P	**Pn**	**01 26 56.0**	**+2.2**
TIA	**Tai'an**	**14.40**	**54**	P	**Pn**	**01 26 54.4**	**+0.3**
TIA				S	**Sn**	**01 29 34.3**	**+1.0**
TIA				pmax	pmax		
	comp=Z,28nm,3.9s						
TIA				LR	LR		
	comp=Z,3μm,7.3s						
TIA				LR	LR		
	comp=Z,4μm,9.8s						
QZH	**Quanzhou**	**14.52**	**100**	*e*P	**Pn**	**01 26 56.6**	**+0.9**
QZH				LR	LR		
	comp=Z,7μm,9.8s						
QZH				LR	LR		
	comp=Z,12μm,7.6s						
PATY	**Pattaya**	**15.48**	**187**	P	**Pn**	**01 27 10.1**	**+1.4**
PHET	**Kaeng Krachan**	**15.67**	**192**	P	**P**	**01 27 13.4**	**-1.7**
BOK	**Bokaro**	**15.87**	**257**	*e*P	**Pn**	**01 27 10.8**	**-3.0**
BJT	**Baijiatuau**	**16.01**	**40**	P	**Pn**	**01 27 14.9**	**-0.5**
BJT				pmax	pmax		
	comp=Z,87nm,1.2s						
BJT	**Baijiatuau**	**16.01**	**40**	Pn	**Pn**	**01 27 14.9**	**-0.5**
BJI	**Beijing**	**16.03**	**40**	P	**Pn**	**01 27 15.0**	**-0.6**
BJI				S	**Sn**	**01 30 15.4**	**+2.5**
BJI				pmax	pmax		
	comp=Z,64nm,1.1s						
BJI				LR	LR		
	comp=Z,4μm,9.8s						
BJI				LR	LR		
	comp=Z,4μm,8.6s						
BJI				LR	LR		
	comp=Z,2μm,14.2s						
SSE	**Sheshan**	**16.19**	**76**	P	**P**	**01 27 22.9**	**+2.1**
SSE				S	**Sn**	**01 30 20.1**	**+3.2**
SSE				pmax	pmax		
	comp=Z,15nm,1.3s						
SSE				pmax	pmax		
	comp=Z,150nm,4.6s						
SSE				LR	LR		
	comp=Z,1μm,13.9s						
SSE				LR	LR		
	comp=Z,3μm,12.0s						
TPUB	**Ta-pu**	**16.81**	**103**	Pn	**Pn**	**01 27 25.5**	**-0.2**
TPUB				IAmb	IAmb	01 27 49.2	
	comp=Z,466nm,1.9s						
SSLB	**Suanglung**	**16.92**	**102**	Pn	**Pn**	**01 27 27.0**	**-0.2**
SSLB				IAmb	IAmb	01 27 34.0	
	comp=Z,209nm,1.2s						
YHNB	**Yeheng**	**17.02**	**98**	Pn	**Pn**	**01 27 25.4**	**-2.9**
YHNB				IAmb	IAmb	01 27 34.1	
	comp=Z,102nm,0.9s						
DLV	**T Lat**	**17.19**	**161**	Pn	**Pn**	**01 27 29.2**	**-1.4**
YULB	**Yu-li**	**17.35**	**102**	Pn	**Pn**	**01 27 32.1**	**-0.4**
NACB	**Ninganchiao**	**17.35**	**100**	P	**Pn**	**01 27 31.2**	**-1.3**
TWG	**Pinlang**	**17.37**	**104**	Pn	**Pn**	**01 27 32.4**	**-0.3**
DGPR	**DIGLIPUR**	**17.70**	**213**	*e*P	**Pn**	**01 27 36.8**	**-0.1**
DL2	**Dalian**	**18.83**	**51**	P	**Pn**	**01 27 51.9**	**+1.4**
DL2				S	**S**	**01 31 27.1**	**+3.7**
DL2				pmax	pmax		
	comp=Z,75nm,1.2s				

ULN Ulaanbaatar 19.74 8 P Pn 01 28 01.7 +0.2
ULN Ulaanbaatar 19.74 8 *ce*P Pn 01 28 01.8 +0.3
ULN pmax pmax
comp=Z,86nm,1.7s
ULN Ulaanbaatar 19.74 8 P P 01 27 59.4 -0.6
SRIT Nakonsritamara 19.91 189 P Pn 01 28 03.5 -0.1
KRAB Krabi 20.34 190 P P 01 28 07.3 +0.7
TRTT Trang 20.64 189 P P 01 28 10.9 +1.1
PKDT Phuket 20.81 193 P P 01 28 12.8 +1.2
JBP Jabalpur 21.19 261⇓ *e*P P 01 28 15.8 0.0
JBP IAmb IAmb 01 28 20.4
comp=Z,83nm,1.1s
SUJ Sinuiju 21.34 51 P P 01 28 20.6 +3.3
SUJ pP **sP** 01 28 24.5 -1.1
SUJ sP pP 01 28 35.4 +12
SUJ S Sn 01 32 20.3 -1.0
SNY Shenyang 21.58 46 ⇑P P 01 28 23.3 +3.5
SNY S **S** 01 32 17.4 -0.8
SNY pmax pmax
comp=Z,16nm,0.7s
SNY LR LR
comp=Z,2μm,14.9s
SNY LR LR
comp=Z,2μm,10.0s
SNY LR LR
comp=Z,3μm,12.5s
PYAG Pyongyang 21.80 55 P P 01 28 27.0 +4.8
PYAG S **S** 01 32 24.0 +1.4
PYS Pyongsong 21.95 54 P P 01 28 26.4 +2.7
ZAK Zakamensk 21.98 1 *e*P P 01 28 25.2 +1.0
ZAK pmax pmax
comp=Z,37nm,1.1s
TGY Tagaytay City 22.02 126 P P 01 28 27.1 +2.3
comp=Z,223nm,0.3s,baz=267,slow=8.0,SNR=5.2
TJN Taejon 22.18 63 *ce*P P 01 28 27.1 +0.8
NDI New Delhi 22.48 277 *ex* P 01 28 33.0 +3.4
NGP Nagpur 22.72 257 *e*P P 01 28 30.7 -1.6
NGP *ex* x 01 28 44.8
comp=Z,63nm,1.3s
KSAR Wonju Array Be 22.86 60 P P 01 28 33.2 -0.3
KSAR Wonju Array Be 22.86 60 P P 01 28 33.2 -0.3
KS19 Wonju Array Si 22.86 60 P P 01 28 33.2 -0.4
KS19 IAmb IAmb 01 28 35.8
comp=Z,115nm,1.4s
KSRS Korea Array 22.89 60 P P 01 28 34.1 +0.3
comp=Z,22nm,0.8s,baz=247,slow=9.3,SNR=48
KSRS LR LR 01 37 57.3
comp=Z,2μm,18.4s,baz=256,slow=38
KULM Kulim 23.05 186 P P 01 28 35.7 +0.1
KULM IAmb IAmb 01 28 37.2
comp=Z,84nm,1.5s
BHK Bhakra 23.07 284 *ex* P 01 28 39.4 +3.6
DHRM DHARAMSHALA 23.19 286 *e*P P 01 28 36.6 -0.6
TLY Talaya 23.29 1 P P 01 28 38.3 +0.5
comp=Z,1.7nm,0.3s,baz=183,slow=18,SNR=1.7
TLY LR LR 01 38 29.5
comp=Z,3μm,19.0s,baz=170,slow=38
TLY Talaya 23.29 1 *i* P P 01 28 38.2 +0.4
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 23.29 1 P P 01 28 37.0 -0.8
MOY Mondy 23.31 357 *e*P P 01 28 40.9 +2.8
MOY pmax pmax
comp=Z,41nm,2.1s
HHU Hamhung 23.40 54 P P 01 28 40.4 +1.4
HHU pP **pP** 01 28 42.4 -2.6
HHU sP **sP** 01 28 48.9 +1.4
HHU S **S** 01 32 56.7 +5.4
BHPL Bhopal 23.40 263 *e*P P 01 28 36.7 -2.5
ZSN Zaisan 23.63 329 *e*P P 01 28 41.6 +0.3
comp=Z,12nm,0.7s
ZSN *e*S **S** 01 32 56.3 +1.3
ZSN eLR LR 01 37 47.3
comp=Z,534nm,10.8s
ZSN Zaisan 23.63 329 *e*P P 01 28 41.5 +0.3
ZSN *e*S **S** 01 32 56.2 +1.3
ZSN pmax pmax
comp=Z,12nm,0.7s
ZSN MLR MLR
comp=Z,534nm,11.0s
LHMI Lhok Sumawe 23.68 195 P P 01 28 42.1 +0.2
comp=Z,113nm,0.5s
CN2 Changchun 23.80 44 *e*P P 01 28 44.3 +1.4
CN2 *e*S **S** 01 32 58.5 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,820nm,4.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,4μm,12.0s
IPM Ipoh 23.82 184 P P 01 28 42.4 -0.9
IPM IAmb IAmb 01 28 43.7
comp=Z,73nm,1.0s
IRK Irkutsk 23.87 2 *e*P P 01 28 45.4 +2.0
IRK pmax pmax
comp=Z,104nm,2.4s
SHLS Shalkode 23.90 314 *e*P P 01 28 42.1 -2.0
comp=Z,26nm,0.9s
SHLS *e*S **S** 01 33 00.3 +0.6
SHLS eLR LR 01 37 37.6
comp=Z,179nm,10.1s
SHLS Shalkode 23.90 314 *e*P P 01 28 42.0 -2.0
SHLS *e*S **S** 01 33 00.2 +0.6
SHLS pmax pmax
comp=Z,26nm,0.9s
SHLS MLR MLR
comp=Z,179nm,10.0s
UZB Uzynbulak 24.18 314 *e*P P 01 28 47.7 +1.1
comp=Z,16nm,0.9s
UZB *e*S **S** 01 33 05.3 +1.2
UZB Uzynbulak 24.18 314 *e*P P 01 28 47.7 +1.1
UZB *e*S **S** 01 33 05.2 +1.2
UZB pmax pmax
comp=Z,16nm,0.9s
PRZ Przheval'sk 24.26 312 P P 01 28 46.5 -0.9
PRZ pmax pmax
comp=Z,67nm,1.2s
PRZ Przheval'sk 24.26 312 P P 01 28 46.5 -0.9
PRZ IAmb IAmb 01 29 11.3
comp=Z,67nm,1.2s
TARG Taragay, Kyrgy 24.32 310 P P 01 28 47.1 -1.2
TARG IAmb IAmb 01 29 18.6
comp=Z,33nm,0.9s
DGZ Jazzator, Alta 24.33 335 *c i* P P 01 28 48.9 +1.0
DGZ pmax pmax
comp=Z,79nm,0.7s
MK31 Makanchi Array 24.42 324 P P 01 28 46.9 -1.8
MK31 pmax pmax
comp=Z,35nm,1.0s
MK31 Makanchi Array 24.42 324 P P 01 28 46.9 -1.8
MK31 IAmb IAmb 01 28 50.8
comp=Z,35nm,0.9s
MKAR Makanchi Array 24.42 324 P P 01 28 48.9 +0.2
comp=Z,34nm,0.7s,baz=129,slow=8.7,SNR=153
MKAR PcP **PcP** 01 32 27.2 -0.2
comp=Z,2.4nm,0.8s,baz=123,slow=5.3,SNR=2.2
MKAR ScP **ScP** 01 36 03.4 -1.9
comp=Z,11nm,1.0s,baz=123,slow=4.5,SNR=20
MKAR LR LR 01 38 08.2
comp=Z,1μm,18.6s,baz=124,slow=36
MKAR Makanchi Array 24.42 324 P P 01 28 47.7 -1.0
MKAR **PcP** 01 32 26.8 -0.6
MKAR ScP **ScP** 01 36 03.4 -1.9
SATY Saty 24.53 313 *e*P P 01 28 50.4 +0.6
comp=Z,25nm,0.9s
SATY *e*S **S** 01 33 10.7 +1.0
SATY eLR LR 01 38 14.0
comp=Z,138nm,10.4s
SATY Saty 24.53 313 *e*P P 01 28 50.4 +0.6
SATY *e*S **S** 01 33 10.7 +1.0
SATY pmax pmax
comp=Z,25nm,0.9s
SATY MLR MLR
comp=Z,138nm,10.0s
JNU Nakatsue 24.55 72 P P 01 28 50.6 +0.7
comp=Z,85nm,1.0s,baz=295,slow=2.1,SNR=20
JNU LR LR 01 39 47.6
comp=Z,3μm,18.4s,baz=268,slow=40
JNU Nakatsue 24.55 72 P P 01 28 49.7 -0.2
KPKS Kokpek 24.55 314 *e*P P 01 28 50.6 +0.7
comp=Z,25nm,1.2s
KPKS *e*S S 01 33 21.0 +11
KPKS eLR LR 01 40 29.4
comp=Z,404nm,11.7s
KPKS Kokpek 24.55 314 *e*P P 01 28 50.6 +0.7
KPKS pmax pmax
comp=Z,25nm,1.2s
KPKS MLR MLR
comp=Z,404nm,12.0s
HIA Hailar 24.57 27 P P 01 28 49.6 -0.4
HIA pmax pmax
comp=Z,135nm,1.7s
HIA Hailar 24.57 27 P P 01 28 49.6 -0.4
HIA IAmb IAmb 01 28 56.4
comp=Z,135nm,1.7s
MAKZ Makanchi 24.59 324 P P 01 28 49.7 -0.5
MAKZ pmax pmax
comp=Z,31nm,0.8s
MAKZ Makanchi 24.59 324 P P 01 28 49.7 -0.5
MAKZ IAmb IAmb 01 28 53.5
comp=Z,30nm,0.8s
MLSI Meulaboh, Aceh 24.74 195 P P 01 28 52.2 +0.5
comp=Z,129nm,0.8s
KSH Kashi 24.80 304 P P 01 28 55.5 +3.3
KSH sP sP 01 29 02.1 +1.1
KSH S **S** 01 33 17.7 +3.6
KSH SS **SnSn** 01 34 15.7 +14
KSH pmax pmax
comp=Z,13nm,0.8s
KSH pmax pmax
comp=Z,530nm,6.0s
KSH LR LR
comp=Z,1μm,10.5s
KSH LR LR
comp=Z,3μm,16.8s
HYB Hyderabad 24.82 249 *i* P P 01 28 52.0 -0.5
CIT Chita 24.95 16 *e*P P 01 28 55.9 +2.5
CIT *e* 01 29 28.6
CIT pmax pmax
comp=Z,148nm,2.0s
MDOK Medeo 25.46 312 *e*P P 01 29 00.2 +1.9
MDOK *e*S **S** 01 33 25.9 +1.2
MDOK eLR LR 01 38 49.3
comp=Z,438nm,14.3s
MDOK Medeo 25.46 312 *e*P P 01 29 00.1 +1.9
MDOK *e*S **S** 01 33 25.8 +1.2
MDOK MLR MLR
comp=Z,438nm,14.0s
TNSS Tian-Shan 25.46 312 *e*P P 01 28 59.7 +1.1
TNSS Tian-Shan 25.46 312 *e*P P 01 28 59.7 +1.1
TDK Taldyqorghan 25.52 317 *e*P P 01 29 00.2 +1.6
TDK eLR LR 01 38 22.3
comp=Z,832nm,14.3s
TDK Taldyqorghan 25.52 317 *e*P P 01 29 00.2 +1.6
TDK MLR MLR
comp=Z,832nm,14.0s
TPTI 25.55 193 P P 01 28 59.3 +0.3
comp=Z,22nm,1.2s
AAA Alma-Ata 25.56 312 *e*P P 01 28 59.1 0.0
AAA *e*S **S** 01 33 23.0 -3.1
AAA eLR LR 01 40 24.8
comp=Z,361nm,10.8s
AAA Alma-Ata 25.56 312 *e*P P 01 28 59.1 0.0
AAA *e*S **S** 01 33 23.0 -3.1
AAA MLR MLR
comp=Z,361nm,11.0s
KKM Kota Kinabalu 25.59 148 P P 01 28 59.3 -0.2
KKM IAmb IAmb 01 29 02.2
comp=Z,48nm,0.8s
PSI Prapat 25.70 189 P P 01 29 00.9 +0.3
comp=Z,26nm,0.8s,baz=1.9,slow=6.9,SNR=37
PSI ScP **ScP** 01 36 08.6 -0.9
comp=Z,4.7nm,0.9s,baz=69,slow=2.9,SNR=5.1
PSI LR LR 01 39 36.9
comp=Z,496nm,19.8s,baz=272,slow=37
RPSI Rantau Prapat 25.80 189 P P 01 29 00.8 -0.5
RPSI IAmb IAmb 01 29 04.2
comp=Z,50nm,1.0s
NIL Nilore 25.83 289 P P 01 29 03.8 +2.2
NIL Nilore 25.83 289 P P 01 29 00.7 -0.8
NIL pmax pmax
comp=Z,45nm,0.9s
NIL Nilore 25.83 289 P P 01 29 00.7 -0.8
NIL IAmb IAmb 01 29 36.7
comp=Z,45nm,0.9s
BOOM Boomskoye usch 25.90 310 P P 01 29 01.5 -0.8
BOOM pmax pmax
comp=Z,31nm,1.0s
BOOM Boomskoye usch 25.90 310 P P 01 29 01.5 -0.8
BOOM IAmb IAmb 01 29 14.1
comp=Z,31nm,1.0s
MDJ Mudanjiang 26.78 46 P P 01 29 13.2 +3.2
MDJ sP sP 01 29 17.7 -0.9
MDJ S **S** 01 33 47.8 +2.7
MDJ sS sS 01 33 55.3 0.0
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,250nm,4.4s
MDJ LR LR
comp=Z,2μm,11.2s
MDJ LR LR
comp=Z,4μm,10.0s
AAK Ala-Archa 26.94 309 P P 01 29 14.0 +2.3
AAK Ala-Archa 26.94 309 *i* P P 01 29 12.5 +0.8
AAK pmax pmax
comp=Z,40nm,1.1s
SGDS Sogindy 27.17 311 *e*P P 01 29 16.7 +3.0
SGDS Sogindy 27.17 311 *e*P P 01 29 16.6 +3.0
SBUM Sibu 27.30 159 P P 01 29 15.1 +0.3
SBUM IAmb IAmb 01 29 17.6
comp=Z,32nm,0.9s
GSI Gunungsitoli 27.38 191 P P 01 29 14.4 -1.2
comp=Z,29nm,0.7s
BKNI Bangkinang 27.94 184 P P 01 29 20.9 +0.3
comp=Z,4μmcomp=Z,94nm,1.0s
USA0B Ussuriysk Arra 28.14 48 P P 01 29 21.8 -0.3
USA0B pmax pmax
comp=Z,24nm,0.9s
USA0B Ussuriysk Arra 28.14 48 P P 01 29 21.8 -0.3
USA0B IAmb IAmb 01 29 27.6
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 28.14 48 P P 01 29 22.3 +0.1
comp=Z,14nm,0.8s,baz=251,slow=8.4,SNR=22
USRK PcP **PcP** 01 32 35.9 -0.1
comp=Z,1.2nm,0.6s,baz=259,slow=2.9,SNR=1.4
USRK LR LR 01 42 14.7
comp=Z,2μm,18.8s,baz=249,slow=40
USRK Ussuriysk Ar. 28.14 48 P P 01 29 21.8 -0.3
USRK **PcP** 01 32 35.9 -0.1
BTLS Baital 28.23 314 *e*P P 01 29 23.2 +0.2
BTLS Baital 28.23 314 *e*P P 01 29 23.2 +0.2
RGRI Rengat 28.56 181 P P 01 29 26.8 +0.6
comp=Z,67μmcomp=Z,375nm,0.4s
DSRI Dabo 28.74 176 P P 01 29 27.8 +0.1
ZAA0 Zalesovo Array 28.75 338 P P 01 29 27.0 -0.5
ZALV Zalesovo Beam 28.75 338 P P 01 29 27.0 -0.5
comp=Z,20nm,0.8s,baz=144,slow=10,SNR=57
ZALV PcP **PcP** 01 32 35.8 -1.5
comp=Z,1.3nm,0.6s,baz=114,slow=3.6,SNR=1.4
ZALV ScP **ScP** 01 36 15.5 -2.4
comp=Z,3.2nm,0.8s,baz=188,slow=4.3,SNR=6.1
ZALV LR LR 01 40 35.4
comp=Z,637nm,18.1s,baz=149,slow=36
KURBB Kurchatov Arra 28.83 327 P P 01 29 28.1 -0.2
comp=Z,21nm,0.8s,baz=134,slow=9.4,SNR=169
KURBB PcP **PcP** 01 32 36.6 -1.0
comp=Z,3.4nm,1.0s,baz=127,slow=1.7,SNR=6.1
KURBB ScP **ScP** 01 36 16.1 -2.1
comp=Z,10nm,1.1s,baz=147,slow=2.6,SNR=22
KURBB Kurchatov Arra 28.83 327 P P 01 29 27.8 -0.4
KURK Kurchatov 28.84 327 P P 01 29 28.2 -0.1
KURK Kurchatov 28.84 327 *ce*P P 01 29 28.4 0.0
KURK pmax pmax
comp=Z,36nm,1.0s
KURK Kurchatov 28.84 327 P P 01 29 27.8 -0.5
KURK IAmb IAmb 01 29 30.1
comp=Z,26nm,0.7s
KURK ScP **ScP** 01 36 16.2 -2.0
GAR Garm 28.90 300 P P 01 29 27.8 -1.4
SDSI Sungai Dareh 29.17 183 P P 01 29 31.6 +0.1
comp=Z,35nm,0.8s
KBL Kabul 29.36 291 P P 01 29 35.7 +2.3
SNR=14
KBL Kabul 29.36 291 P P 01 29 32.5 -0.9
KBL pmax pmax
comp=Z,34nm,1.2s
KBL Kabul 29.36 291 P P 01 29 32.5 -0.9
KBL IAmb IAmb 01 29 37.7
comp=Z,34nm,1.2s
PALK Pallekele 29.62 229 P P 01 29 34.5 -1.1
PALK pmax pmax
comp=Z,21nm,1.0s
PALK Pallekele 29.62 229 P P 01 29 34.5 -1.1
CHGR Chuyangaron 29.73 299 P P 01 29 35.8 -0.7
CHGR IAmb IAmb 01 30 21.6
comp=Z,22nm,0.9s
KKAR Karatay Array 29.84 308 P P 01 29 37.1 -0.3
KKAR Karatay Array 29.84 308 P P 01 29 37.1 -0.3
JGF Kuroka 30.06 67 P P 01 29 38.9 -0.5
DAV Davao City (W) 30.20 130 LR LR 01 42 26.9
comp=Z,865nm,18.1s,baz=328,slow=38
BOD Bodaibo 30.46 12 *e*P P 01 29 43.1 +0.5
BOD pmax pmax
comp=Z,15nm,2.0s
MAJO Matsushiro 30.82 66 P P 01 29 45.0 -1.1
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 30.82 66 P P 01 29 45.0 -1.1
MAT Matsushiro 30.82 66 P P 01 29 45.0 -1.1
MAT *e*S **S** 01 34 48.0 -1.0
MJAR Matsushiro Arr 30.82 66 P P 01 29 45.3 -0.8
comp=Z,7.0nm,1.0s,baz=268,slow=9.4,SNR=13
MJAR ScP **ScP** 01 36 24.1 -0.9
comp=Z,4.9nm,0.9s,baz=264,slow=3.2,SNR=7.7
MJAR LR LR 01 41 53.1
comp=Z,1μm,18.9s,baz=255,slow=36
MJAR Matsushiro Arr 30.82 66 P P 01 29 45.6 -0.6
MJAR **ScP** 01 36 25.1 +0.1
ZEA Zeya 31.03 28 *e*P P 01 29 50.7 +3.0
ZEA *e* 01 40 26.3
ZEA pmax pmax
comp=Z,130nm,1.8s
ZEA pmax pmax
comp=Z,20nm,0.4s
ZEA MLR MLR
comp=E,2μm,10.0s
ZEA MLR MLR
comp=N,2μm,9.0s
ZEA MLR MLR
comp=Z,2μm,10.0s
PMBI Palembang 31.18 176 P P 01 29 49.9 +0.6
TPI Tanjungpandan 31.30 171 P P 01 29 51.8 +1.4
comp=Z,28nm,1.2s
MTKI Muara Teweh, K 31.37 156 P P 01 29 51.8 +0.8
KSI Kapahiang 31.84 180 P P 01 29 55.7 +0.5
comp=Z,43nm,0.5s
JHJ Hachijo jima 2 32.01 72 LR LR 01 42 54.5
comp=Z,2μm,19.4s,baz=276,slow=36
LHSI Lahat 32.02 179 P P 01 29 57.4 +0.7
comp=Z,56nm,1.0s
PBKI Pangkalan Bun 32.05 163 P P 01 29 57.6 +0.6
comp=Z,156nm,0.5s
MPSI Mapaga 32.32 147 P P 01 29 59.8 +0.4
comp=Z,16nm,1.1s
MDSI Maura Dua 32.70 177 P P 01 30 02.1 -0.5
comp=Z,31nm,1.2s
KLSI 32.92 176 P P 01 30 05.1 +0.5
comp=Z,12nm,1.7s
BLSI Bandar Lampung 33.63 176 P P 01 30 10.6 -0.2
comp=Z,123nm,0.4s
KMSI Cibinong 34.27 140 P P 01 30 17.3 +0.9
comp=Z,86nm,0.5s
BRVK Borovoye 34.38 325 *ce*P P 01 30 17.3 +0.3
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 34.38 325 P P 01 30 16.8 -0.2
BRVK IAmb IAmb 01 30 18.4
comp=Z,20nm,0.9s
TNG Tangerang 34.54 173 P P 01 30 18.9 +0.2
comp=Z,594nm,0.5s
JCJ Chichijima 34.77 83 LR LR 01 44 12.9
comp=Z,894nm,19.6s,baz=264,slow=36
LUWI Luwuk 34.96 143 P P 01 30 22.8 +0.5
comp=Z,107nm,1.3s
HRA Herat 34.98 290 P P 01 30 21.8 -0.9
LEM Lembang 35.30 172 P P 01 30 26.5 +1.0
comp=Z,48nm,0.7s,baz=355,slow=14,SNR=4.5
KPJI Karang Pucung 35.99 170 P P 01 30 32.2 +1.1
comp=Z,136nm,0.8s
SPSI Sidrap Palu 36.06 150 P P 01 30 33.0 +1.2
comp=Z,57nm,1.0s
YSS Yuzh-Sakhalins 36.17 48 *e*P P 01 30 30.7 -1.8
YSS *e* 01 31 58.9
YSS *e*S **S** 01 36 04.6 -7.0
YSS *e*SS **SnSn** 01 38 31.2 -6.5
YSS pmax pmax
comp=Z,300nm,3.8s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,2μm,15.0s
KAPI Kappang 36.99 151 P P 01 30 39.7 -0.1
comp=E,17nm,0.6s,baz=296,slow=8.0,SNR=8.1
KAPI Kappang 36.99 151 P P 01 30 39.7 -0.1
KAPI IAmb IAmb 01 30 40.9
comp=Z,20nm,0.8s
BKSI Bulukumba 37.42 151 P P 01 30 43.5 +0.1
comp=Z,44nm,0.8s
YAK Yakutsk 38.05 20 *e*P P 01 30 49.3 +1.1
YAK *e* 01 32 21.7
YAK *e* 01 33 09.0
YAK *e*S **S** 01 36 33.2 -6.5
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,12nm,0.4s
YAK smax smax
comp=N,139nm,12.8s
YAK smax smax
comp=E,28nm,11.9s
YAK MLR MLR
comp=Z,2μm,12.0s
YAK MLR MLR
comp=N,374nm,11.0s
YAK MLR MLR
comp=E,696nm,11.0s
GEYT Alibeck 38.30 296 P P 01 30 52.2 +1.4
comp=E,8.3nm,0.6s,baz=101,slow=7.7,SNR=19
GEYT ScP **ScP** 01 36 50.3 -1.4
comp=E,4.2nm,0.9s,baz=194,slow=1.2,SNR=6.5
GEYT LR LR 01 49 04.0
comp=E,1μm,21.6s,baz=45,slow=40
GEYT Alibeck 38.30 296 P P 01 30 49.2 -1.6
GEYT ScP **ScP** 01 36 50.8 -0.9
GYA0B ALIBECK ARRAY 38.30 296 P P 01 30 50.4 -0.4
GYA0B IAmb IAmb 01 31 07.4
comp=Z,29nm,0.9s
AB31 Akbulak array 38.71 315 *i* P P 01 30 53.7 -0.3
ABKAR Akbulak array 38.71 315 P P 01 30 53.6 -0.4
ABKAR **S** 01 36 50.6 +0.5
ABKAR Akbulak array 38.71 315 P P 01 30 53.6 -0.4
ABKAR **S** 01 36 50.3 +0.2
TWSI Taliwang, Sumb 39.32 158 P P 01 31 00.2 +0.8
comp=Z,498nmcomp=Z,35nm,1.1s
JLN Jalan Bani Buh 39.58 271 P P 01 31 02.3 +0.8
JLN P P 01 31 02.3 +0.8
WBK Wadi Bani Khal 39.83 272 P P 01 31 03.9 +0.3
WBK P P 01 31 03.9 +0.3
BIDO Bidbid 40.30 274 P P 01 31 08.3 +0.8
BIDO P P 01 31 08.3 +0.8
MSAI Masohi 40.32 137 P P 01 31 08.1 +0.4
comp=Z,789nmcomp=Z,17nm,0.7s
SMDO Samad 40.50 273 P P 01 31 10.3 +1.0
SNR=9.0
SMDO P P 01 31 10.3 +1.0
SNR=9.0
HOQ Hoqain 41.00 274 P P 01 31 14.0 +0.7
SNR=8.0
HOQ P P 01 31 14.0 +0.7
SNR=8.0
SVE Sverdlovsk 41.07 326 *e*P P 01 31 13.7 +0.2
SVE pmax pmax
comp=Z,14nm,1.0s
EDFI Ende, Flores 41.17 151 P P 01 31 14.0 -0.8
comp=Z,15nm,1.0s
MHTO MHTO 41.22 270 P P 01 31 16.0 +0.8
SNR=5.7

MHTO P P 01 31 16.0 +0.8
SNR=5.7
BANOM Banah 41.27 278 P P 01 31 18.4 +2.9
MMRI Maumere 41.30 150 P P 01 31 15.6 -0.2
comp=Z,114nm,1.1s
MMRI Maumere 41.30 150 P P 01 31 15.7 -0.2
BSY Bisya 41.34 273 P P 01 31 17.1 +0.9
SNR=8.5
BSY P P 01 31 17.1 +0.9
SNR=8.5
SOHO SOHO 41.53 275 P P 01 31 19.5 +1.9
SOHO P P 01 31 19.5 +1.9
UOSS Minazif 41.60 276 P P 01 31 21.0 +2.7
UOSS P P 01 31 21.0 +2.7
UOSS Minazif 41.60 276 P P 01 31 17.6 -0.6
GUMO Guam 41.71 102 P P 01 31 19.1 -0.1
comp=Z,30nm,0.4s,baz=120,slow=3.2,SNR=3.8
GUMO Guam 41.71 102 P P 01 31 18.6 -0.6
GUMO Guam 41.71 102 P P 01 31 18.6 -0.6
ARQ Araqi 41.76 274 P P 01 31 21.0 +1.3
SNR=5.6
ARQ P P 01 31 21.0 +1.3
SNR=5.6
ASHO Ashiyiah 41.80 276 P P 01 31 19.7 -0.2
SNR=12
ARU Arti 41.95 325 *c* *i* P P 01 31 21.0 +0.3
ARU 01 32 58.9
ARU 01 33 13.3
ARU S S 01 37 41.4 +3.1
ARU SS SS 01 40 45.8 +0.8
ARU pmax pmax
comp=Z,14nm,0.9s
ARU MLR MLR
comp=Z,572nm,19.0s
ARU Arti 41.95 325 P P 01 31 20.4 -0.3
NRIK Noril'sk 41.95 352 P P 01 31 21.1 +0.5
comp=Z,22nm,0.8s,baz=167,slow=8.4,SNR=17
NRIK LR LR 01 49 11.4
comp=Z,1μm,19.3s,baz=166,slow=37
NRIK Noril'sk 41.95 352 *ce* P P 01 31 20.5 -0.1
NRIK pmax pmax
comp=Z,25nm,0.9s
BATI Baumata 43.33 149 P P 01 31 31.7 -0.7
comp=Z,33nm,0.7s
SKR Severo-Kuril's 45.59 46 *e* P P 01 31 40.3 -10
SKR *e* PPP PPP 01 34 14.1
SKR pmax pmax
comp=Z,400nm,5.0s
SKR MLR MLR
comp=Z,1μm,14.0s
SKR MLR MLR
comp=Z,900nm,14.0s
TIXI Tiksi 45.64 11 *ce* P P 01 31 51.2 +1.1
TIXI pmax pmax
comp=Z,166nm,1.7s
TIXI Tiksi 45.64 11 P P 01 31 50.4 +0.3
MAK Makhachkala 46.43 304 *e* P P 01 31 51.5 -5.3
MAK *e* 01 33 42.3
MAK *e* PPP PPP 01 34 24.0
MAK *e* S S 01 38 38.6 -5.3
MAK *e* SS SS 01 42 00.8 -8.7
MAK *e* SSS SSS 01 43 02.9
MAK pmax pmax
comp=Z,28nm,0.4s
MAK MLR MLR
comp=Z,676nm,12.0s
PETK Petropavlovsk- 46.94 42 P P 01 32 01.3 +0.7
comp=Z,3.9nm,0.8s,baz=262,slow=4.2,SNR=2.2
PETK LR LR 01 53 58.4
comp=Z,538nm,18.8s,baz=261,slow=39
PETK Petropavlovsk- 46.94 42 P P 01 32 00.6 -0.1
PETK Petropavlovsk- 46.94 42 P P 01 32 00.6 -0.1
BELG Belogornoye 47.01 317 *i* P P 01 32 02.2 +1.0
KIRV Kirov 47.32 325 *ce* P P 01 32 03.8 +0.3
ZEI Tsey 49.09 303 *e* P P 01 32 18.8 +1.1
ZEI pmax pmax
comp=Z,11nm,1.4s
GOF Gofitskoye 49.61 306 ⇑ *e* P P 01 32 28.1 +6.7
KBZ Khabaz 49.77 305 P P 01 32 23.1 +0.5
comp=Z,1.6nm,0.7s,baz=122,slow=9.5,SNR=2.0
KBZ LR LR 01 56 34.3
comp=Z,561nm,18.1s,baz=88,slow=40
KBZ Khabaz 49.77 305 *i* P P 01 32 23.6 +1.0
KIV Kislovodsk 49.91 305 *e* P P 01 32 24.7 +0.9
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,2μm,16.0s
SHA1 Shidzhatmaz 49.94 305 *i* P P 01 32 24.8 +0.6
PRGR Permogore 49.95 328 *e* P P 01 32 23.0 -0.7
PRGR pmax pmax
comp=Z,23nm,0.9s
CHVG Ch'k'valeri 50.43 303 ⇓ P PcP 01 33 44.4 -1.5
KNRA Kununurra 50.48 147 P P 01 32 27.8 -0.5
KNRA IAmb IAmb 01 32 28.7
comp=Z,17nm,0.8s
VRH Novokhopyorsk 50.55 314 *e* P P 01 32 28.3 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,620nm,25.0s
FITZ Fitzroy Crossi 51.21 152 P P 01 32 33.4 -0.2
comp=Z,4.1nm,0.9s,baz=7.5,slow=4.2,SNR=5.2
MARD Mardin 52.06 297 P P 01 32 39.5 -0.7
MARD IAmb IAmb 01 32 55.2
comp=Z,23nm,1.2s
SOC Sochi 52.08 305 *e* P P 01 32 36.6 -3.4
SOC *e* PPP PPP 01 35 50.1
SOC *e* S S 01 40 01.9 -1.3
SOC *e* SS SS 01 43 43.6 +3.4
SOC MLR MLR
comp=Z,474nm,14.0s
VSR Storozhevoye 52.15 314 *e* P P 01 32 40.2 -0.2
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR MLR MLR
comp=Z,360nm,12.0s
LPSR Galich'ya Gora 52.32 316 *e* P P 01 32 41.6 -0.1
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,680nm,17.0s
KLMR Klimovskoe 52.69 327 *e* P P 01 32 43.2 -1.0
KLMR pmax pmax
comp=Z,28nm,1.2s
KLMR Klimovskoe 52.69 327 *e* P P 01 32 43.3 -1.0
KLMR AMP 01 32 57.0
comp=Z,28nm,1.2s
KLMR LQ LQ 01 49 18.3
KLMR LQ LQ 01 49 18.3
KLMR LR LR 01 53 20.0
MOS Moscow 53.20 320 *e* P P 01 32 47.5 -0.6
MOS pmax pmax
comp=Z,34nm,0.9s
ANN Anapa 53.60 306 *e* P P 01 32 55.1 +3.9
ANN pmax pmax
comp=Z,87nm,1.1s
ANN MLR MLR
comp=N,631nm,19.0s
ANN MLR MLR
comp=Z,504nm,15.0s
OBN Obninsk 53.78 319 *ce* P P 01 32 53.5 +1.2
OBN *e* 01 34 51.6
OBN *i* S S 01 40 16.4 -10
OBN pmax pmax
comp=Z,26nm,1.3s
OBN MLR MLR
comp=Z,458nm,16.0s
TMCR Tamitsa 53.88 331 *e* P P 01 32 52.1 -0.8
TMCR pmax pmax
comp=Z,14nm,0.6s
BILL Bilibino 54.12 25 *i* P P 01 32 56.2 +1.6
BILL *i* 01 34 57.9
BILL pmax pmax
comp=Z,13nm,0.9s
BILL MLR MLR
comp=Z,2μm,14.0s
GAZ Gaziantep 54.89 297 P P 01 33 00.3 -0.5
GAZ IAmb IAmb 01 33 05.6
comp=Z,32nm,1.3s
DAMY Dhamar 55.60 269 P P 01 33 05.4 -1.1
APA Apatity 56.26 334 ⇑ *i* P P 01 33 17.9 +7.8
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR

comp=Z,1μm,12.0s
PATS Pohnpei 56.53 101 P P 01 33 12.2 -0.6
WB0 Warramunga Arr 56.77 144 P P 01 33 14.3 0.0
WB0 IAmb IAmb 01 33 14.9
comp=Z,20nm,0.8s
ILGA Ilgaz 56.83 302 P P 01 33 14.5 -0.4
ILGA IAmb IAmb 01 33 30.1
comp=Z,13nm,0.8s
WRAB Tennant Creek 56.88 144 *ce* P P 01 33 15.4 +0.3
WRAB pmax pmax
comp=Z,43nm,0.8s
WRAB Tennant Creek 56.88 144 P P 01 33 15.1 0.0
WRA Warramunga Arr 56.88 144 P P 01 33 15.1 -0.1
comp=Z,29nm,0.7s,baz=333,slow=8.1,SNR=243
WRA ScP ScP 01 38 09.9 +0.5
comp=Z,3.2nm,1.1s,baz=332,slow=4.2,SNR=4.8
WRA LR LR 01 59 53.3
comp=Z,100nm,20.5s,baz=305,slow=38
WRA Warramunga Arr 56.88 144 P P 01 33 15.1 -0.1
WRA ScP 01 38 10.2 +0.8
WB2 Warramunga Arr 56.89 144 P P 01 33 15.1 0.0
PMG Port Moresby 56.97 125 P P 01 33 16.2 +0.3
comp=Z,51nm,0.8s,baz=351,slow=5.3,SNR=9.9
PMG Port Moresby 56.97 125 *ce* P P 01 33 17.6 +1.7
PMG pmax pmax
comp=Z,44nm,1.0s
PMG Port Moresby 56.97 125 P P 01 33 15.6 -0.3
WR0 Warramunga Arr 57.00 144 P P 01 33 15.7 -0.3
WR0 IAmb IAmb 01 33 16.7
comp=Z,23nm,0.7s
BR131 Keskin Array S 57.14 301 P P 01 33 18.3 +1.3
SNR=6.5
BR131 Keskin Array S 57.14 301 P P 01 33 16.4 -0.6
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 57.14 301 P P 01 33 16.4 -0.6
BRTR Keskin Array B 57.14 301 P P 01 33 16.9 -0.2
comp=Z,4.3nm,0.7s,baz=119,slow=7.2,SNR=33
BRTR ScP ScP 01 38 08.4 -2.3
comp=Z,0.7nm,0.8s,baz=88,slow=4.3,SNR=2.5
BRTR LR LR 02 01 57.3
comp=Z,208nm,18.1s,baz=97,slow=40
BRTR Keskin Array B 57.14 301 P P 01 33 16.4 -0.6
KRVT Keravat (AS076 57.40 116 P P 01 33 20.1 +1.2
comp=Z,65nm,0.8s,baz=51,slow=6.5,SNR=6.2
COEN Coen 57.41 132 P P 01 33 18.7 -0.2
COEN IAmb IAmb 01 33 20.6
comp=Z,19nm,0.9s
RABL Rabaul 57.44 116 P P 01 33 19.1 -0.1
ATD Arta Tunnel 58.25 266 P P 01 33 24.3 -0.8
AKASG Malin Array Be 58.45 314 P P 01 33 25.2 -0.6
comp=Z,3.1nm,0.6s,baz=70,slow=6.9,SNR=13
AKASG LR LR 01 58 59.0
comp=Z,428nm,19.0s,baz=100,slow=36
AKASG Malin Array Be 58.45 314 *i* P P 01 33 25.2 -0.6
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 58.45 314 P P 01 33 25.6 -0.3
AKBB Malin Array Si 58.45 314 *ce* P P 01 33 26.2 +0.3
AKBB Malin Array Si 58.45 314 IAmb IAmb 01 33 50.0
comp=Z,25nm,1.7s
MORW Morawa 58.50 166 P P 01 33 26.2 -0.1
MORW IAmb IAmb 01 33 28.1
comp=Z,21nm,0.8s
PURM Purcari 58.63 309 ⇓ P P 01 33 29.4 +2.2
LEF Lefka 58.75 296 ⇓ P P 01 33 30.9 +2.6
MDUB Mudurnu 58.82 302 P P 01 33 27.9 -0.9
VSU Vasula 59.09 324 *e* P P 01 33 30.6 +0.5
FINES FINESS Array B 59.22 327 P P 01 33 30.9 -0.1
comp=Z,3.0nm,0.5s,baz=93,slow=6.9,SNR=21
FINES LR LR 01 59 03.1
comp=Z,549nm,21.7s,baz=90,slow=36
FINES FINESS Array B 59.22 327 *i* P P 01 33 30.8 -0.2
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 59.22 327 P P 01 33 30.8 -0.2
ARCES ARCESS Array B 59.29 336 P P 01 33 31.4 0.0
comp=Z,1.9nm,0.4s,baz=86,slow=7.7,SNR=15
SORM Soroca 59.39 311 ⇑ P P 01 33 31.6 -0.8
SORM Soroca 59.39 311 ⇑ P P 01 33 31.6 -0.8
IDID Didziasalis 59.39 320 *e* P P 01 33 33.3 +1.0
ISAL Salakas 59.71 320 *e* P P 01 33 35.6 +1.1
AS31 Alice Springs 59.79 147 P P 01 33 35.3 -0.2
ASAR Alice Springs 59.79 147 P P 01 33 35.8 +0.3
comp=Z,16nm,0.7s,baz=327,slow=6.6,SNR=130
ASAR ScP ScP 01 38 23.6 +1.4
comp=Z,1.1nm,0.8s,baz=329,slow=4.0,SNR=4.3
ASAR Alice Springs 59.79 147 P P 01 33 35.3 -0.1
ASAR ScP 01 38 23.0 +0.8
CFR Carcaliu 60.07 308 ⇑ P P 01 33 38.0 +0.8
CFR Carcaliu 60.07 308 ⇑ P P 01 33 38.0 +0.8
HARR Harsova 60.31 308 ⇑ P P 01 33 39.6 +0.8
HARR Harsova 60.31 308 ⇑ P P 01 33 39.6 +0.8
ELL Elmali 60.68 298 P P 01 33 41.0 -0.6
ELL pmax pmax
comp=Z,100nm,0.8s
ELL Elmali 60.68 298 P P 01 33 41.0 -0.6
VRI Vrincioaia 60.90 309 ⇑ P P 01 33 44.1 +1.2
VRI Vrincioaia 60.90 309 ⇑ P P 01 33 44.1 +1.2
PABE Paberze 60.94 320 *e* P P 01 33 43.7 +0.8
PRAR RASCA 60.94 311 ⇓ P P 01 33 54.3 +11
PLOR Plostina 60.96 309 ⇑ P P 01 33 45.2 +1.9
PLOR Plostina 60.96 309 ⇑ P P 01 33 45.2 +1.9
BISRR Bisoca 60.98 309 ⇑ P P 01 33 46.1 +2.6
BIZ Bicaz 61.11 310 ⇑ P P 01 33 44.6 +0.4
NEHR Nehoiu 61.29 309 ⇑ P P 01 33 47.6 +2.1
MLR Muntele Rosu 61.52 309 ⇑ P P 01 33 47.8 +0.6
MLR Muntele Rosu 61.52 309 P P 01 33 46.6 -0.6
MLR pmax pmax
comp=Z,27nm,1.1s
MLR Muntele Rosu 61.52 309 P P 01 33 46.6 -0.6
MLR IAmb IAmb 01 34 03.1
comp=Z,27nm,1.1s
BURAR Bucovina Array 61.56 311 ⇑ P P 01 33 48.2 +0.8
BURAR Bucovina Array 61.56 311 ⇑ P P 01 33 48.2 +0.8
BURAR Bucovina Array 61.56 311 P P 01 33 47.1 -0.4
SUW Suwalki 61.62 319 *e* P P 01 33 46.7 -0.8
SUW Suwalki 61.62 319 *e* P P 01 33 46.7 -0.8
SUW Suwalki 61.62 319 P P 01 33 47.2 -0.3
DOPR Dopca 61.80 309 ⇑ P P 01 33 50.2 +1.3
LVV L'vov 61.89 314 *e* P P 01 33 51.2 +1.8
LVV *e* 01 42 08.3
PBUR Paburge 61.99 321 *e* P P 01 33 51.0 +1.0
VOIR 62.15 309 ⇓ P P 01 33 52.3 +0.9
VOIR 62.15 309 ⇓ P P 01 33 52.3 +0.9
ARCR ARCALIA 62.25 311 ⇑ P P 01 33 53.7 +1.8
ARR Arges 62.45 309 ⇑ P P 01 33 54.3 +1.0
NWAO Narrogin (SRO) 62.48 166 P P 01 33 53.6 +0.1
comp=Z,15nm,0.8s,baz=349,slow=5.4,SNR=5.8
NWAO Narrogin (SRO) 62.48 166 P P 01 33 53.4 -0.1
NWAO pmax pmax
comp=Z,28nm,1.1s
NWAO Narrogin (SRO) 62.48 166 P P 01 33 53.4 -0.1
KWP Kalwaria Pacla 62.77 314 *e* P P 01 33 56.0 +0.7
KWP Kalwaria Pacla 62.77 314 *e* P P 01 33 56.0 +0.7
KOLS Kolonicke sedl 63.20 313 *e* P P 01 33 57.4 -0.8
KOLS Kolonicke sedl 63.20 313 *e* P P 01 33 57.4 -0.8
PLD Plovdiv 63.20 305 P P 01 34 03.0 +4.7
PLD pmax pmax
comp=Z,46nm,1.4s
UZH Uzhgorod 63.25 313 *e* P P 01 33 59.0 +0.5
UZH *e* 01 34 03.6
UZH *e* 01 34 10.6
UZH *e* 01 36 24.0
UZH *e* S S 01 42 29.0 -0.5
DEV Deva 63.50 310 ⇑ P P 01 34 01.7 +1.4
DEV Deva 63.50 310 ⇑ P P 01 34 01.7 +1.4
MPEP Malo Peshtene 63.56 307 *i* P P 01 34 07.4 +6.7
FORT Forrest 63.56 156 P P 01 34 00.6 -0.1
GZR Gura Zlata 63.71 309 ⇓ P P 01 34 02.6 +0.8
GZR Gura Zlata 63.71 309 ⇓ P P 01 34 02.6 +0.8
CRVS Cervenica-Dubn 63.73 313 *e* P P 01 34 04.0 +2.3
CRVS Cervenica-Dubn 63.73 313 *e* P P 01 34 04.0 +2.3
CTA Charters Tower 63.90 134 P P 01 34 03.5 +0.4
comp=Z,24nm,0.8s,baz=319,slow=8.5,SNR=26
CTAO Charters Tower 63.90 134 P P 01 34 03.1 0.0
CTAO pmax pmax
comp=Z,38nm,1.0s
CTAO Charters Tower 63.90 134 P P 01 34 03.1 0.0
HERR Herculane 64.09 309 ⇑ P P 01 34 05.2 +1.1
VTS Vitosha 64.11 306 P P 01 34 04.8 +0.3
SIRR Siria 64.25 310 ⇓ P P 01 34 05.6 +0.4
NIE Niedzica 64.34 314 *e* P P 01 34 07.7 +1.9

NIE Niedzica 64.34 314 *e* P P 01 34 07.7 +1.9
KKB Krupnik 64.42 305 P P 01 34 05.0 -1.4
BZS Buzias 64.44 310 ⇓ P P 01 34 06.7 +0.3
BZS Buzias 64.44 310 ⇓ P P 01 34 06.7 +0.3
OJC Ojcow 64.46 315 *e* P P 01 34 07.6 +1.1
OJC Ojcow 64.46 315 *e* P P 01 34 07.6 +1.1
OJC Ojcow 64.46 315 IAmb IAmb 01 34 08.9
comp=Z,21nm,1.3s
PAIG Paliouri 64.53 303 P P 01 34 07.0 -0.1
MDVR Moldovita 64.60 309 ⇑ P P 01 34 08.1 +0.6
KNT Kendrikon 64.75 305 P P 01 34 09.2 +0.6
PSZ Piszkesteto 64.98 313 ⇓ P P 01 34 12.2 +2.1
PSZ Piszkesteto 64.98 313 ⇓ P P 01 34 12.2 +2.1
PSZ Piszkesteto 64.98 313 IAmb IAmb 01 34 19.4
comp=Z,16nm,1.3s
IDI Anoyia 64.99 298 ⇑ P P 01 34 08.1 -2.2
GKP Gorka Klasztor 65.24 319 *e* P P 01 34 12.3 +0.8
GKP Gorka Klasztor 65.24 319 *e* P P 01 34 12.3 +0.8
VYHS Vyhne 65.51 313 *e* P P 01 34 13.9 +0.5
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 65.51 313 *e* P P 01 34 13.9 +0.5
FRGS Fruska Gora 65.79 310 ⇑ *i* P P 01 34 14.9 -0.4
DIVS Divibare 65.97 308 ⇑ *i* P P 01 34 16.0 -0.5
MORC Moravsky Berou 65.98 315 ⇓ P P 01 34 17.2 +0.8
MORC Moravsky Berou 65.98 315 *e* P P 01 34 16.8 +0.4
MORC Moravsky Berou 65.98 315 ⇓ P P 01 34 17.2 +0.8
MORC Moravsky Berou 65.98 315 IAmb IAmb 01 34 18.8
comp=Z,13nm,1.2s
NC405 NORSAR Array S 66.10 328 P P 01 34 17.0 0.0
JAVC Velka Javorina 66.15 314 *e* P P 01 34 19.1 +1.5
NOR Nord 66.18 352 *i* P P 01 34 17.0 -0.1
NOR pmax pmax
comp=Z,4.0nm,0.7s
NOR Nord 66.18 352 *i* P P 01 34 17.0 -0.1
comp=Z,4.2nm,0.7s
NOR Nord 66.18 352 *i* P P 01 34 17.1 -0.1
NOR IAmb IAmb 01 34 18.0
comp=Z,4.2nm,0.7s
SJES Sjenica 66.23 308 ⇑ *i* P P 01 34 18.5 +0.3
NC602 NORSAR Array S 66.29 328 P P 01 34 18.1 0.0
NB2 NORSAR Subarra 66.36 328 P P 01 34 17.4 -1.2
comp=Z,5.0nm,0.7s,baz=75,slow=6.5
NOA NORSAR Array B 66.36 328 P P 01 34 17.6 -1.0
comp=Z,3.7nm,0.7s,baz=68,slow=6.0,SNR=9.1
NOA LR LR 02 03 36.0
comp=Z,457nm,18.6s,baz=80,slow=36
KRLC Kraliky 66.37 315 *e* P P 01 34 19.4 +0.5
KRLC AMS AMS 02 03 20.0
comp=Z,700nm,18.4s
KRLC Kraliky 66.37 315 *e* P P 01 34 19.4 +0.5
KRLC MLR MLR
comp=Z,700nm,18.4s
BBLS Lazići 66.44 308 ⇑ *i* P P 01 34 19.2 -0.3
KSP Ksiaz 66.45 316 *e* P P 01 34 19.8 +0.4
KSP Ksiaz 66.45 316 *e* P P 01 34 19.8 +0.4
NC204 NORSAR Array S 66.50 328 P P 01 34 18.5 -1.1
MODS Modra-Piesok 66.54 314 *e* P P 01 34 19.9 -0.1
MODS Modra-Piesok 66.54 314 *e* P P 01 34 19.9 -0.1
DPC Dobruska-Polom 66.57 316 *e* P P 01 34 20.7 +0.5
DPC AMS AMS 02 03 30.0
comp=Z,800nm,19.6s
DPC Dobruska-Polom 66.57 316 *e* P P 01 34 20.7 +0.5
DPC MLR MLR
comp=Z,800nm,19.6s
OSTC Ostas 66.58 316 *e* P P 01 34 20.9 +0.7
OSTC AMS AMS 02 03 20.0
comp=Z,600nm,18.1s
CHVC Chvalec 66.67 316 *e* P P 01 34 22.7 +1.9
ITM Ithomi 66.67 301 IAmb IAmb 01 34 21.0
comp=Z,19nm,0.8s
HAPS Han Pijesak,Bl 66.69 309 ⇑ *i* P P 01 34 19.9 -1.3
VRAC Vranov 66.70 315 ⇑ P P 01 34 22.3 +1.3
VRAC Vranov 66.70 315 *e* P P 01 34 21.1 +0.1
VRAC Vranov 66.70 315 ⇑ P P 01 34 22.3 +1.3
UPC Upice 66.72 316 *e* P P 01 34 23.3 +2.2
UPC AMS AMS 02 03 40.0
comp=Z,700nm,20.7s
UPC Upice 66.72 316 *e* P P 01 34 23.3 +2.2
UPC MLR MLR
comp=Z,700nm,20.7s
TIR Tirane 66.88 306 P P 01 34 25.9 +3.6
KRUC Moravsky 66.90 314 *e* P P 01 34 22.7 +0.4
PDG Podgorica 66.98 307 ⇑ P P 01 34 23.2 +0.3
PDG Podgorica 66.98 307 ⇑ *i* P P 01 34 22.1 -0.8
PDG Podgorica 66.98 307 IAmb IAmb 01 34 27.2
comp=Z,17nm,0.9s
DRME Dracevica, Mon 67.11 307 ⇑ *i* P P 01 34 22.9 -0.8
IGT Igoumenitsa 67.11 304 P P 01 34 23.0 -0.8
IGT pmax pmax
comp=Z,17nm,1.2s
SOP Sopron 67.21 313 P P 01 34 26.4 +2.2
SOP pmax pmax
comp=Z,15nm,1.0s
BRY Bratogost 67.34 308 ⇑ *i* P P 01 34 24.6 -0.7
CONA Conrad Observa 67.58 313 *e* P P 01 34 27.1 +0.4
comp=Z,15nm,1.3s,SNR=9.8
PVCC Panska Ves 67.59 316 AMS AMS 02 05 30.0
comp=Z,600nm,18.5s
GOPC GO Pecny, Ondr 67.65 316 *e* P P 01 34 27.7 +0.7
GOPC AMS AMS 02 04 10.0
comp=Z,700nm,18.2s
BLY Banja Luka 67.69 310 ⇑ *i* P P 01 34 24.6 -2.8
PRU Pruhonice 67.78 316 *e* P P 01 34 28.2 +0.4
PRU AMS AMS 02 04 10.0
comp=Z,700nm,20.4s
PRU Pruhonice 67.78 316 *e* P P 01 34 28.2 +0.4
PRU MLR MLR
comp=Z,700nm,20.4s
PRA Prague 67.82 316 AMS AMS 02 04 20.0
comp=Z,300nm,20.0s
PRA Prague 67.82 316 *e* P P 01 34 27.7 -0.3
PRA MLR MLR
comp=Z,700nm,18.2s
BRG Berggiesshubel 67.87 317 *e* P P 01 34 28.2 -0.1
comp=Z,10nm,1.1s
BRG PP PP 01 36 43.0 -15
BRG S S 01 43 29.0 +3.1
BRG SS SS 01 47 58.0 +11
comp=N,744nm,18.8s
comp=E,365nm,22.9s
comp=Z,744nm,18.8s
BRG Berggiesshubel 67.87 317 *e* P P 01 34 28.2 -0.1
BRG S S 01 43 29.0 +3.1
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG MLR MLR
comp=N,744nm,18.8s
BRG MLR MLR
comp=E,365nm,22.9s
BRG MLR MLR
comp=Z,744nm,18.8s
BRG Berggiesshubel 67.87 317 *e* P P 01 34 29.0 +0.7
baz=71,slow=6.2
ARSA Arzberg 68.01 313 *e* P P 01 34 29.2 -0.1
comp=Z,4.6nm,0.8s
FBE Freiberg 68.20 317 *e* P P 01 34 31.2 +0.8
baz=71,slow=6.2
CLL Collm 68.29 317 *i* P P 01 34 30.8 -0.2
comp=Z,14nm,1.2s
CLL *i* 01 34 32.2
CLL *e* 01 34 36.0
CLL *e* S S 01 43 38.0 +7.0
CLL *e* SS SS 01 48 24.0 +30
CLL *e* SSS SSS 01 51 12.0
CLL L L 02 06 00.0
comp=Z,400nm,19.3s
CLL Collm 68.29 317 *i* P P 01 34 30.8 -0.2
CLL *e* S S 01 43 38.0 +7.0
CLL pmax pmax
comp=Z,14nm,1.2s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 68.29 317 *e* P P 01 34 31.9 +0.9
comp=Z,8.5nm,1.1s,baz=71,slow=6.2
PERS Pernice 68.47 312 *i* P P 01 34 32.3 0.0
CRES Cresnjev 68.51 311 ⇑ *i* P P 01 34 31.9 -0.6
SOKA Soboth 68.51 312 *e* P P 01 34 32.6 0.0
comp=Z,8.1nm,1.1s,SNR=8.1
MOA Molln 68.62 314 *e* P P 01 34 33.1 -0.1
comp=Z,10nm,1.6s
KHC Kasperske Hory 68.64 315 *e* P P 01 34 33.4 +0.1
KHC AMS AMS 02 04 50.0
comp=Z,800nm,17.7s

KHC	**Kasperske Hory**	**68.64**	**315**	*ce*P		**P**		**01 34 35.3**	**+2.0**
KHC	comp=Z,17nm,1.7s			pmax		pmax			
GEC2	**GERESS Array S**	**68.66**	**315**	*e*P		**P**		**01 34 34.0**	**+0.5**
GEC2	baz=71,slow=6.2 **GERESS Array S**	**68.66**	**315**	IAmb		IAmb		01 34 38.5	
GERES	comp=Z,12nm,1.1s **GERESS Array B**	**68.66**	**315**	P		**P**		**01 34 33.6**	**+0.2**
GERES	comp=Z,3.4nm,0.6s,baz=72,slow=5.6,SNR=34			LR		LR		02 05 32.9	
GERES	comp=Z,714nm,20.8s,baz=68,slow=37 **GERESS Array B**	**68.66**	**315**	P		**P**		**01 34 32.9**	**-0.6**
GERES	**GERESS Array B**	**68.66**	**315**	P		**P**		**01 34 32.9**	**-0.6**
MUD	**Monsted U'grnd**	**68.77**	**324**	*i* P		**P**		**01 34 34.3**	**+0.5**
MUD	comp=Z,180nm,1.9s			pmax		pmax			
MUD	**Monsted U'grnd**	**68.77**	**324**	*i* P		**P**		**01 34 34.3**	**+0.5**
MUD	comp=Z,176nm,1.9s **Monsted U'grnd**	**68.77**	**324**	*i* P		**P**		**01 34 34.4**	**+0.5**
MUD	comp=Z,177nm,1.9s			IAmb		IAmb		01 34 34.9	
OBKA	**Obir**	**68.88**	**312**	*e*P		**P**		**01 34 34.9**	**0.0**
TANN	comp=Z,4.3nm,0.7s **Tannenbergstha**	**68.91**	**317**	*e*P		**P**		**01 34 35.5**	**+0.6**
NKC	comp=Z,8.7nm,0.9s,baz=71,slow=6.2 **Novy Kostel**	**68.97**	**317**	AMS		AMS		02 05 30.0	
BSEG	comp=Z,700nm,17.1s **Bad Segeberg**	**68.99**	**321**	*e*P		**P**		**01 34 36.1**	**+0.9**
WERN	comp=Z,18nm,0.9s,baz=71,slow=6.2 **Wernitzgrund**	**69.00**	**317**	*e*P		**P**		**01 34 36.3**	**+0.8**
GUNZ	baz=71,slow=6.2 **Gunzen**	**69.00**	**317**	*e*P		**P**		**01 34 36.0**	**+0.5**
NEUB	comp=Z,6.4nm,0.9s,baz=71,slow=6.2 **Neuenburg**	**69.06**	**318**	*e*P		**P**		**01 34 36.4**	**+0.7**
WET	comp=Z,13nm,0.9s,baz=71,slow=6.2 **Wettzell**	**69.07**	**315**	*e*P		**P**		**01 34 36.7**	**+0.7**
KMBO	baz=71,slow=6.2 **Kilima Mbogo**	**69.19**	**257**	P		**P**		**01 34 38.3**	**+0.8**
KMBO	comp=Z,1.7nm,0.4s,baz=28,slow=7.3,SNR=10			LR		LR		02 05 20.3	
KMBO	comp=Z,171nm,21.0s,baz=56,slow=36 **Kilima Mbogo**	**69.19**	**257**	*i* P		**P**		**01 34 39.2**	**+1.7**
KMBO	comp=Z,2.0nm,0.4s			pmax		pmax			
KMBO	**Kilima Mbogo**	**69.19**	**257**	P		**P**		**01 34 36.5**	**-1.0**
KMBO	comp=Z,23nm,1.4s			IAmb		IAmb		01 34 38.7	
CEY	**Cerknica**	**69.22**	**312**	⇑*i*P		**P**		**01 34 36.6**	**-0.3**
MANZ	**Manzenberg**	**69.26**	**316**	*e*P		**P**		**01 34 37.6**	**+0.5**
ROTZ	baz=71,slow=6.2 **Rotzenmuhle**	**69.28**	**316**	*e*P		**P**		**01 34 37.7**	**+0.6**
MOX	comp=Z,9.1nm,0.8s,baz=71,slow=6.2 **Moxa**	**69.34**	**317**	*e*P		**P**		**01 34 38.2**	**+0.6**
MATE	baz=71,slow=6.2 **Matera**	**69.37**	**306**	⇑P		**P**		**01 34 37.3**	**-0.6**
ASSE	**Asse, Remlinge**	**69.39**	**319**	*e*P		**P**		**01 34 39.3**	**+1.5**
MYKA	comp=Z,6.4nm,1.0s,baz=71,slow=6.2 **Terra Mystica**	**69.43**	**313**	*i* P		**P**		**01 34 38.0**	**-0.3**
KBA	comp=Z,1.4nm,0.5s **Koelnbreinsper**	**69.47**	**313**	*e*P		**P**		**01 34 38.5**	**-0.2**
CADS	comp=Z,15nm,0.9s **Cadrg**	**69.50**	**312**	*i* P		**P**		**01 34 38.0**	**-0.7**
NRDL	**Niedersach Rie**	**69.59**	**319**	*e*P		**P**		**01 34 40.2**	**+1.2**
CLZ	comp=Z,14nm,0.9s,baz=71,slow=6.2 **Clausthal**	**69.67**	**319**	*e*P		**P**		**01 34 40.5**	**+0.9**
TIP	comp=Z,9.9nm,0.8s,baz=71,slow=6.2 **Timpagrande**	**69.84**	**304**	IAmb		IAmb		01 34 45.2	
GRA1	comp=Z,16nm,0.9s **Grafenberg Arr**	**69.90**	**316**	IAmb		IAmb		01 34 43.8	
GRF	comp=Z,23nm,1.1s **Grafenberg Arr**	**69.90**	**316**	*e*P		**P**		**01 34 41.9**	**+0.8**
TOLK	baz=71,slow=6.2 **Toolik Lake Re**	**69.99**	**22**	P		**P**		**01 34 39.5**	**-1.8**
TOLK	baz=297 **Toolik Lake Re**	**69.99**	**22**	P		**P**		**01 34 41.3**	**0.0**
TOLK	comp=Z,22nm,0.9s			IAmb		IAmb		01 34 47.3	
GTTG	**Gottingen**	**70.01**	**318**	*e*P		**P**		**01 34 42.6**	**+1.0**
ABTA	baz=71,slow=6.2 **Abfaltersbach**	**70.12**	**313**	*e*P		**P**		**01 34 41.5**	**-1.0**
UBBA	comp=Z,7.5nm,0.8s **Unterbreizbach**	**70.24**	**318**	*e*P		**P**		**01 34 44.1**	**+1.1**
STKA	comp=Z,2.7nm,0.8s,baz=71,slow=6.2 **Stephens Creek**	**70.37**	**146**	P		**P**		**01 34 44.1**	**+0.1**
STKA	comp=Z,13nm,0.8s,baz=331,slow=6.9,SNR=18			LR		LR		02 09 42.6	
STKA	comp=Z,268nm,19.6s,baz=315,slow=39 **Stephens Creek**	**70.37**	**146**	P		**P**		**01 34 44.1**	**+0.1**
STKA	comp=Z,3.0nm,0.8s			pmax		pmax			
STKA	**Stephens Creek**	**70.37**	**146**	P		**P**		**01 34 44.1**	**+0.1**
FUR	**Furstenfeldbru**	**70.41**	**315**	*e*P		**P**		**01 34 44.7**	**+0.5**
COLD	baz=71,slow=6.2 **Coldfoot**	**70.41**	**23**	P		**P**		**01 34 41.5**	**-2.4**
COLD	baz=297 **Coldfoot**	**70.41**	**23**	IAmb		IAmb		01 34 50.0	
WTTA	comp=Z,18nm,1.1s **Wattenberg**	**70.50**	**314**	*e*P		**P**		**01 34 44.5**	**-0.4**
WTTA	comp=Z,15nm,1.1s,SNR=7.4 **Wattenberg**	**70.50**	**314**	P		**P**		**01 34 45.0**	**0.0**
WATA	**Walderalm**	**70.51**	**314**	*e*P		**P**		**01 34 44.5**	**-0.5**
EIDS	comp=Z,15nm,1.3s,SNR=5.2 **Eidsvold**	**70.78**	**134**	IAmb		IAmb		01 34 48.2	
SQTA	comp=Z,13nm,0.8s **Sankt Quirin**	**70.79**	**314**	*e*P		**P**		**01 34 46.3**	**-0.3**
MOTA	comp=Z,13nm,1.0s,SNR=10 **Moosalm**	**70.81**	**314**	*e*P		**P**		**01 34 46.4**	**-0.4**
SVW2	comp=Z,12nm,1.0s,SNR=11 **Sparrevohn**	**70.91**	**30**	IAmb		IAmb		01 34 52.4	
RETA	comp=Z,21nm,1.0s **Reutte**	**70.97**	**314**	*e*P		**P**		**01 34 47.1**	**-0.6**
IBBN	comp=Z,5.7nm,0.8s **Ibbenburen**	**71.01**	**320**	*e*P		**P**		**01 34 48.5**	**+0.8**
AQU	comp=Z,11nm,0.8s,baz=71,slow=6.2 **L'Aquila**	**71.09**	**308**	⇑*i*P		**P**		**01 34 48.6**	**+0.1**
AQU	**L'Aquila**	**71.09**	**308**	IAmb		IAmb		01 34 53.5	
FETA	comp=Z,19nm,0.9s **Feichten**	**71.16**	**314**	*e*P		**P**		**01 34 48.6**	**-0.3**
TEOL	comp=Z,11nm,1.0s,SNR=12 **Teolo**	**71.16**	**312**	IAmb		IAmb		01 35 00.2	
UBR	comp=Z,21nm,0.9s **Ueberruh**	**71.31**	**315**	*e*P		**P**		**01 34 49.9**	**+0.2**
TNS	baz=71,slow=6.2 **Taunus Mts**	**71.38**	**317**	*e*P		**P**		**01 34 50.6**	**+0.5**
ABPO	baz=71,slow=6.2 **Ambohimpanom**	**71.45**	**235**	P		**P**		**01 34 50.4**	**-0.7**
ABPO	comp=Z,21nm,1.2s			pmax		pmax			
ABPO	**Ambohimpanom**	**71.45**	**235**	P		**P**		**01 34 50.4**	**-0.7**
ABPO	comp=Z,9.9nm,0.8s			IAmb		IAmb		01 34 50.5	
DAVA	comp=Z,21nm,1.2s **Damuels**	**71.60**	**314**	*e*P		**P**		**01 34 50.7**	**-0.9**
FUORN	comp=Z,11nm,1.2s **Ofenpass-Fuorn**	**71.61**	**313**	IAmb		IAmb		01 34 57.0	
BUG	comp=Z,37nm,1.6s **Bochum--Univer**	**71.61**	**319**	*e*P		**P**		**01 34 52.0**	**+0.6**
NEA2	comp=Z,9.2nm,0.8s,baz=71,slow=6.2 **Nenana**	**72.04**	**26**	P		**P**		**01 34 53.0**	**-0.8**
AHRW	baz=298 **Bad Neuenahr-A**	**72.07**	**318**	*e*P		**P**		**01 34 54.8**	**+0.6**
LATE	comp=Z,18nm,1.1s,baz=71,slow=6.2 **Laterza**	**72.09**	**309**	IAmb		IAmb		01 34 59.4	
TRF	comp=Z,16nm,1.2s **Thorofare Moun**	**72.11**	**27**	P		**P**		**01 34 54.2**	**-0.2**
TRF	comp=Z,9.9nm,0.8s			IAmb		IAmb		01 35 01.2	
OSSC	**Osservatorio P**	**72.13**	**310**	IAmb		IAmb		01 35 25.3	
BFO	comp=Z,18nm,1.1s **Black Forest**	**72.17**	**316**	P		**P**		**01 34 54.8**	**-0.1**
BFO	comp=Z,14nm,1.0s			pmax		pmax			
BFO	**Black Forest**	**72.17**	**316**	*e*P		**P**		**01 34 55.0**	**+0.1**
BFO	baz=71,slow=6.2 **Black Forest**	**72.17**	**316**	P		**P**		**01 34 54.8**	**-0.1**
BFO	comp=Z,14nm,1.0s			IAmb		IAmb		01 34 59.6	
BMAR	**Burnt Mountain**	**72.22**	**22**	P		**P**		**01 34 54.8**	**0.0**
TUE	**Stuetta**	**72.25**	**314**	IAmb		IAmb		01 35 02.9	
SKT	comp=Z,17nm,0.7s **Skwentna**	**72.28**	**29**	IAmb		IAmb		01 34 59.4	
TCOL	comp=Z,18nm,0.9s **CIGO, UAF Yank**	**72.36**	**25**	P		**P**		**01 34 54.6**	**-1.0**
COLA	baz=299 **College**	**72.37**	**25**	P		**P**		**01 34 55.9**	**+0.2**
COLA	comp=Z,42nm,1.0s			pmax		pmax			
COLA	**College**	**72.37**	**25**	P		**P**		**01 34 55.9**	**+0.2**

POKR	**Poker Plat Res**	**72.40**	**25**	P		**P**		**01 34 54.3**	**-1.6**
WRH	baz=300 **Wood River Hil**	**72.47**	**25**	IAmb		IAmb		01 35 01.6	
CCB	comp=Z,9.2nm,0.8s **Clear Creek Bu**	**72.50**	**25**	IAmb		IAmb		01 35 00.9	
BTNL	comp=Z,14nm,0.9s **Ternell**	**72.61**	**318**	P		**P**		**01 34 58.2**	**+0.8**
BTNL				x		x		01 35 07.7	
MEM	**Membach**	**72.67**	**318**	P		**P**		**01 34 57.9**	**+0.1**
RND	**Reindeer**	**72.70**	**27**	IAmb		IAmb		01 35 03.5	
ILAR	comp=Z,16nm,0.9s **Eielson Array**	**72.78**	**25**	P		**P**		**01 34 57.7**	**-0.5**
ILAR	comp=Z,3.6nm,1.0s,baz=273,slow=8.4,SNR=17			LR		LR		02 10 03.9	
BHOU	comp=Z,308nm,18.4s,baz=312,slow=38 **Houvegnez**	**72.78**	**318**	P		**P**		**01 34 58.8**	**+0.4**
BHOU				x		x		01 35 04.5	
CDF	**Champ du Feu**	**72.79**	**316**	*e*P		**P**		**01 34 57.9**	**-0.7**
CDF	comp=Z,32nm,1.2s			pmax		pmax			
CORL	**Corleone**	**72.83**	**304**	IAmb		IAmb		01 35 00.1	
HDA	comp=Z,15nm,1.0s **Harding Lake**	**72.94**	**25**	P		**P**		**01 34 57.3**	**-1.8**
BSTI	baz=300 **Sart Tilman**	**72.94**	**319**	P		**P**		**01 34 59.6**	**+0.2**
WLF	**Walferdange**	**72.97**	**318**	P		**P**		**01 34 59.9**	**+0.4**
WLF				PcP		**PcP**		**01 35 17.6**	**+1.2**
WLF	**Walferdange**	**72.97**	**318**	*e*P		**P**		**01 35 00.3**	**+0.8**
BCLA	comp=Z,20nm,0.8s,baz=71,slow=6.2 **Clavier**	**73.16**	**318**	P		**P**		**01 35 00.6**	**-0.1**
BCLA				PcP		**PcP**		**01 35 17.7**	**+0.5**
HINF	**Hinteralfeld**	**73.29**	**316**	*e*P		**P**		**01 35 00.6**	**-0.9**
HINF	comp=Z,18nm,1.3s			pmax		pmax			
BGES	**Gesves**	**73.30**	**319**	P		**P**		**01 35 01.5**	**0.0**
RCHB	**Rochefort**	**73.31**	**318**	P		**P**		**01 35 01.2**	**-0.3**
RC01	**Rabbit Creek A**	**73.45**	**29**	P		**P**		**01 35 00.8**	**-1.4**
GHO	baz=299 **Glory Hole Cre**	**73.46**	**28**	IAmb		IAmb		01 35 08.2	
HAU	comp=Z,14nm,0.8s **Haudompre**	**73.52**	**316**	*e*P		**P**		**01 35 01.9**	**-1.0**
HAU	comp=Z,5.0nm,0.8s			pmax		pmax			
BMRD	**Maredsous**	**73.52**	**319**	P		**P**		**01 35 02.5**	**-0.2**
BMRD				x		x		01 35 04.2	
GIVF	**Givet**	**73.57**	**318**	*e*P		**P**		**01 35 03.0**	**-0.1**
GIVF	comp=Z,16nm,1.0s			pmax		pmax			
OHAK	**Old Harbor**	**73.65**	**33**	IAmb		IAmb		01 35 07.1	
DOU	comp=Z,22nm,0.8s **Dourbes**	**73.71**	**318**	P		**P**		**01 35 04.1**	**+0.3**
KDAK	**Kodiak Island**	**73.73**	**33**	P		**P**		**01 35 04.2**	**+0.3**
KDAK	comp=Z,11nm,0.6s,baz=354,slow=7.6,SNR=16 **Kodiak Island**	**73.73**	**33**	P		**P**		**01 35 03.9**	**+0.1**
KDAK	comp=Z,20nm,0.9s			pmax		pmax			
KDAK	**Kodiak Island**	**73.73**	**33**	P		**P**		**01 35 03.9**	**+0.1**
KDAK	comp=Z,20nm,0.8s			IAmb		IAmb		01 35 07.5	
KNK	**Knik Glacier**	**73.83**	**28**	IAmb		IAmb		01 35 09.6	
BAIF	comp=Z,25nm,0.8s **Baives**	**73.95**	**318**	*e*P		**P**		**01 35 04.9**	**-0.4**
BAIF	comp=Z,13nm,1.0s			pmax		pmax			
SCRK	**Sand Creek**	**74.27**	**25**	P		**P**		**01 35 04.0**	**-3.1**
LPG	baz=303 **La Plagne**	**74.30**	**313**	*e*P		**P**		**01 35 08.3**	**+0.5**
LPG	comp=Z,34nm,0.7s			pmax		pmax			
LPL	**La Plagne**	**74.30**	**313**	*e*P		**P**		**01 35 07.5**	**-0.3**
LPL	comp=Z,38nm,0.9s			pmax		pmax			
M24K	**Tolsona, Glenn**	**74.42**	**27**	P		**P**		**01 35 07.2**	**-0.7**
BNI	baz=301 **Bardonecchia**	**74.53**	**313**	IAmb		IAmb		01 35 20.0	
MBAR	comp=Z,14nm,0.8s **Mbarara**	**74.56**	**261**	*ce*P		**P**		**01 35 10.0**	**+0.4**
MBAR	comp=Z,18nm,1.7s			pmax		pmax			
MBAR	**Mbarara**	**74.56**	**261**	P		**P**		**01 35 08.9**	**-0.7**
MBAR	comp=Z,30nm,1.6s			IAmb		IAmb		01 35 10.8	
K27K	**Chicken**	**74.94**	**24**	P		**P**		**01 35 09.3**	**-1.5**
INK	baz=304 **Inuvik**	**75.09**	**19**	P		**P**		**01 35 11.9**	**+0.4**
INK	comp=Z,34nm,0.8s,baz=335,slow=5.4,SNR=17 **Inuvik**	**75.09**	**19**	P		**P**		**01 35 12.1**	**+0.5**
LOR	**Lormes**	**75.36**	**316**	*e*P		**P**		**01 35 12.3**	**-1.3**
LOR	comp=Z,16nm,1.2s			pmax		pmax			
EYAK	**Cordova Ski Ar**	**75.41**	**28**	P		**P**		**01 35 13.7**	**+0.1**
EKA	**Eskdalemuir Ar**	**75.56**	**325**	P		**P**		**01 35 14.5**	**0.0**
EKA	comp=Z,1.0nm,0.6s			pmax		pmax			
BCAR	**Beaver Creek A**	**75.60**	**25**	P		**P**		**01 35 14.8**	**+0.1**
GLB	**Gilahina Butte**	**75.72**	**27**	IAmb		IAmb		01 35 20.1	
AVF	comp=Z,20nm,0.8s **Avril sur Loir**	**75.88**	**316**	*e*P		**P**		**01 35 15.7**	**-0.8**
AVF	comp=Z,22nm,1.0s			pmax		pmax			
SUMG	**Summit**	**75.89**	**349**	*i* P		**P**		**01 35 16.0**	**-0.6**
SUMG	**Summit**	**75.89**	**349**	*i* P		**P**		**01 35 16.0**	**-0.6**
SUMG	**Summit**	**75.89**	**349**	*i* P		**P**		**01 35 16.0**	**-0.6**
VRDI	**Verde Repeater**	**75.99**	**27**	IAmb		IAmb		01 35 21.2	
BALM	comp=Z,14nm,0.7s **Baldy**	**76.54**	**27**	IAmb		IAmb		01 35 24.9	
KEST	comp=Z,18nm,0.8s **Kesra**	**76.61**	**303**	P		**P**		**01 35 20.9**	**-0.1**
KEST	comp=Z,14nm,1.2s,baz=311,slow=3.8,SNR=5.8			LR		LR		02 17 13.4	
KEST	comp=Z,89nm,18.5s,baz=190,slow=42 **Kesra**	**76.61**	**303**	IAmb		IAmb		01 35 26.5	
C36M	comp=Z,21nm,1.2s **Paulatuk**	**76.80**	**15**	P		**P**		**01 35 20.0**	**-1.3**
TCF	baz=319 **Toulx Ste Croi**	**76.81**	**316**	*e*P		**P**		**01 35 21.4**	**-0.5**
TCF	comp=Z,18nm,0.9s			pmax		pmax			
CTGM	**Chitina Glacie**	**76.98**	**27**	IAmb		IAmb		01 35 27.3	
GRR	comp=Z,16nm,0.7s **Gorron**	**77.67**	**318**	*e*P		**P**		**01 35 26.0**	**-0.6**
GRR	comp=Z,17nm,0.8s			pmax		pmax			
HYT	**Haines Junctio**	**78.56**	**26**	P		**P**		**01 35 31.3**	**-0.2**
HYT	comp=Z,13nm,0.9s			IAmb		IAmb		01 35 36.9	
ICESG	**Greenland Ices**	**79.02**	**347**	*i* P		**P**		**01 35 33.7**	**-0.4**
QUIF	**Quistinic**	**79.24**	**319**	*e*P		**P**		**01 35 34.8**	**-0.5**
QUIF	comp=Z,34nm,1.4s			pmax		pmax			
DZM	**Mont Dzumac**	**79.26**	**122**	*e*P		**P**		**01 35 37.0**	**+1.2**
DZM	comp=Z,38nm,1.1s **Mont Dzumac**	**79.26**	**122**	*e*LR		LR		02 00 16.7	
DZM	comp=Z,370nm,23.8s **Mont Dzumac**	**79.26**	**122**	IAmb		IAmb		01 35 41.2	
SKAG	comp=Z,21nm,1.1s **Skagway**	**80.27**	**26**	P		**P**		**01 35 39.6**	**-1.0**
SKAG				IAmb		IAmb		01 35 46.0	
SJPF	comp=Z,28nm,1.0s **Ste Jean**	**80.48**	**314**	*e*P		**P**		**01 35 42.4**	**+0.3**
SJPF	comp=Z,7.0nm,0.7s			pmax		pmax			
DLBC	**Dease Lake**	**82.99**	**25**	P		**P**		**01 35 56.4**	**+1.3**
DLBC	comp=Z,3.6nm,0.7s,baz=245,slow=3.5,SNR=4.7 **Dease Lake**	**82.99**	**25**	IAmb		IAmb		01 36 11.4	
ESBB	comp=Z,27nm,1.4s **Sonseca Array**	**84.01**	**312**	IAmb		IAmb		01 36 02.9	
ESDC	comp=Z,16nm,1.4s **Sonseca Array**	**84.01**	**312**	P		**P**		**01 36 00.8**	**0.0**
ESDC	comp=Z,6.9nm,1.2s,baz=44,slow=5.6,SNR=21			LR		LR		02 16 25.7	
ESDC	comp=Z,148nm,18.4s,baz=50,slow=38 **Sonseca Array**	**84.01**	**312**	P		**P**		**01 36 00.3**	**-0.4**
LSZ	**Lusaka**	**84.16**	**249**	P		**P**		**01 36 01.3**	**-0.6**
LSZ	comp=Z,50nm,1.4s			pmax		pmax			
LSZ	**Lusaka**	**84.16**	**249**	P		**P**		**01 36 01.3**	**-0.6**
YKA	**Yellowknife Ar**	**84.62**	**16**	P		**P**		**01 36 03.3**	**0.0**
YKA	comp=Z,8.1nm,0.8s,baz=331,slow=4.6,SNR=8.9			LR		LR		02 18 28.9	
MVO	comp=Z,379nm,18.4s,baz=0.0,slow=39 **Moncorvo**	**85.17**	**315**	*e*P		**P**		**01 36 06.9**	**+0.3**
MVO	comp=Z,24nm,1.4s **Moncorvo**	**85.17**	**315**	*e*LQ		LQ		02 07 46.8	
MVO	comp=Z,229nm,18.0s			*e*LR		LR		02 09 53.2	

TAM	**Tamanrasset**	**85.47**	**293**	P		**P**		**01 36 09.3**	**+0.8**
PCAB	**Cabril**	**85.49**	**315**	*e*P		**P**		**01 36 09.0**	**+0.9**
PGAV	comp=Z,33nm,1.5s **Gavieira, Arco**	**85.49**	**316**	*e*LQ		LQ		02 07 32.4	
PGAV				*e*LR		LR		02 10 33.1	
PMRV	comp=Z,298nm,20.0s **Marv??o**	**86.37**	**313**	*e*P		**P**		**01 36 13.8**	**+1.3**
PMRV	comp=Z,32nm,1.5s **Marv??o**	**86.37**	**313**	*e*LQ		LQ		02 09 47.9	
PMRV				*e*LR		LR		02 11 15.2	
PCAS	comp=Z,188nm,16.0s **Casmilo, Conde**	**86.72**	**314**	*e*P		**P**		**01 36 11.9**	**-2.3**
PMTG	comp=Z,38nm,1.5s **Montargil**	**87.11**	**313**	*e*P		**P**		**01 36 20.4**	**+4.3**
EVO	**Evora**	**87.27**	**313**	*e*P		**P**		**01 36 17.6**	**+0.7**
PBEJ	comp=Z,29nm,1.6s **Beja**	**87.46**	**312**	*e*P		**P**		**01 36 18.9**	**+1.1**
PVAQ	comp=Z,18nm,1.5s **Vaqueiros**	**87.72**	**312**	*e*LQ		LQ		02 06 43.3	
PVAQ				*e*LR		LR		02 11 45.2	
PNCL	comp=Z,277nm,20.0s **Nicolau / Gran**	**87.84**	**313**	*e*P		**P**		**01 36 17.3**	**-2.4**
LBTB	comp=Z,37nm,1.6s **Lobatse**	**91.25**	**242**	P		**P**		**01 36 35.3**	**-0.6**
LBTB				pmax		pmax			
LBTB	comp=Z,26nm,1.1s **Lobatse**	**91.25**	**242**	P		**P**		**01 36 35.2**	**-0.6**
BOSA	**Boshof**	**93.34**	**239**	P		**P**		**01 36 44.0**	**-1.5**
BOSA	comp=Z,12nm,1.1s,baz=52,slow=4.8,SNR=5.5			LR		LR		02 15 34.9	
BOSA	comp=Z,275nm,19.4s,baz=56,slow=34 **Boshof**	**93.34**	**239**	P		**P**		**01 36 44.0**	**-1.5**
BOSA	**Boshof**	**93.34**	**239**	P		**P**		**01 36 44.4**	**-1.1**
TOA0	**Torodi Ar. Sit**	**93.36**	**287**	IAmb		IAmb		01 36 46.6	
TORD	comp=Z,15nm,1.2s **Torodi Ar. Bea**	**93.36**	**287**	P		**P**		**01 36 45.2**	**-0.6**
TORD	comp=Z,6.2nm,1.0s,baz=49,slow=4.3,SNR=18			PP		**PP**		**01 40 29.4**	**-0.3**
TORD	comp=Z,1.9nm,1.0s,baz=60,slow=7.2,SNR=4.3			LR		LR		02 22 30.2	
TORD	comp=Z,220nm,20.8s,baz=45,slow=38 **Torodi Ar. Bea**	**93.36**	**287**	P		**P**		**01 36 45.0**	**-0.8**
CASY	**Casey**	**94.54**	**177**	P		**P**		**01 36 50.5**	**+0.6**
SCHQ	**Schefferville**	**96.66**	**354**	LR		LR		02 24 13.0	
ULM	comp=Z,301nm,20.5s,baz=43,slow=38 **Lac du Bonnet**	**99.99**	**12**	LR		LR		02 28 27.7	
PDAR	comp=Z,253nm,18.2s,baz=312,slow=39 **Pinedale Array**	**103.19**	**24**	PKiKP		**PKiKP**		**01 41 51.5**	**+2.1**
VNDA	comp=Z,0.8nm,0.9s,baz=298,slow=1.9,SNR=4.3 **Vanda**	**111.27**	**168**	PKiKP		**PKiKP**		**01 42 01.8**	**-1.0**
PPT2	comp=Z,0.4nm,0.7s,baz=320,slow=4.6,SNR=2.1 **Papeete2**	**113.35**	**98**	*e*LR		LR		02 15 58.4	
TBI	comp=Z,182nm,22.2s **Tubuai**	**115.65**	**104**	*e*LR		LR		02 17 12.2	
TX32	comp=Z,150nm,26.5s **Lajitas Array**	**117.28**	**26**	PKPdf		**PKPdf**		**01 42 15.3**	**-0.8**
TXAR	**Lajitas Array**	**117.28**	**26**	PKP		**PKPdf**		**01 42 16.0**	**0.0**
TXAR	comp=Z,1.2nm,0.5s,baz=136,slow=0.2,SNR=22			PP		**PP**		**01 43 26.4**	**+0.9**
TXAR	comp=Z,0.5nm,0.8s,baz=341,slow=5.2,SNR=4.0			PKKPbc		**PKKPbc**		**01 52 38.7**	**-0.9**
TXAR	comp=Z,0.6nm,0.9s,baz=152,slow=6.1,SNR=4.8 **Lajitas Array**	**117.28**	**26**	PKiKP		**PKPdf**		**01 42 15.3**	**-0.7**
TXAR	**Lajitas Array**	**117.28**	**26**	PKPdf		**PKPdf**		**01 42 15.3**	**-0.7**
JCT	**Junction City**	**117.62**	**22**	PKiKP		**PKPdf**		**01 42 15.9**	**-0.7**
JCT	**Junction City**	**117.62**	**22**	PKPdf		**PKPdf**		**01 42 15.9**	**-0.7**
TAOE	**Nuku Hiva Isla**	**117.92**	**85**	*e*LR		LR		02 18 07.6	
QSPA	comp=Z,265nm,26.5s **South Pole Qui**	**118.16**	**180**			**PKPdf**		**01 42 15.3**	**-1.1**
SNAA	**Sanae**	**121.58**	**201**	PKPdf		**PKPdf**		**01 42 21.5**	**-1.4**
SNAA	**Sanae**	**121.58**	**201**	PKiKP		**PKPdf**		**01 42 22.1**	**-0.8**
SNAA	**Sanae**	**121.58**	**201**	PKPdf		**PKPdf**		**01 42 22.1**	**-0.8**
VNA2	**Neumayer--Watz**	**123.13**	**202**	PKPdf		**PKPdf**		**01 42 25.8**	**0.0**
BSFB	**Barra de Sao F**	**145.48**	**278**	*e*P		**PKPdf**		**01 43 08.9**	**+0.1**
PTGA	**Pitinga**	**147.95**	**326**			**PKPdf**		**01 43 12.0**	**-1.2**
BSCB	**Bom Sucesso**	**149.71**	**277**	*e*P		**PKPdf**		**01 43 15.9**	**0.0**
BDFB	**Brasilia**	**150.22**	**289**	PKPbc		**PKPbc**		**01 43 21.1**	**-0.9**
BDFB	comp=Z,10nm,1.0s,baz=80,slow=4.1,SNR=9.5 **Brasilia**	**150.22**	**289**	PKiKP		**PKPdf**		**01 43 15.9**	**-0.9**
BDFB	**Brasilia**	**150.22**	**289**	PKPdf		**PKPdf**		**01 43 15.9**	**-0.9**
OTAV	**Otavalo**	**151.52**	**3**	PKiKP		**PKPdf**		**01 43 17.1**	**-2.4**
OTAV	**Otavalo**	**151.52**	**3**	PKPdf		**PKPdf**		**01 43 17.1**	**-2.4**
SAML	**Samuel**	**156.60**	**323**	PKiKP		**PKPdf**		**01 43 25.0**	**-0.9**
SAML	**Samuel**	**156.60**	**323**			**PKPdf**		**01 43 25.0**	**-0.9**
SAML						**PKPab**		**01 43 54.1**	**-0.7**
LPAZ	**La Paz**	**165.35**	**323**	PKP		**PKPdf**		**01 43 35.0**	**-1.0**
LPAZ	comp=Z,4.3nm,1.1s,baz=342,slow=5.0,SNR=7.6 **La Paz**	**165.35**	**323**	PKiKP		**PKPdf**		**01 43 34.3**	**-1.7**

EFP				S	Sg	02 19 57.4	-0.5
EFP				AML	AML	02 19 58.4	
	comp=E,267μm,0.1s						
EFP				AML	AML	02 19 58.7	
	comp=N,270μm,0.1s						
SERG	**Sergoula**	**0.20**	**73**	P	Pg	02 19 57.6	+0.3
SERG				S	Sg	02 20 00.9	+0.5
SERG				AML	AML	02 20 03.7	
	comp=E,94μm,0.1s						
SERG				AML	AML	02 20 04.4	
	comp=N,103μm,0.2s						
ANX	**Ano Chora**	**0.25**	**20**	P	Pg	02 19 58.1	-0.1
ANX				S	Sg	02 20 01.8	-0.1
ANX				AML	AML	02 20 03.0	
	comp=N,140μm,0.3s						
ANX				AML	AML	02 20 03.3	
	comp=E,111μm,0.2s						
RLS	**Riolos of Patr**	**0.40**	**223**	P	Pg	02 20 00.8	0.0
RLS				S	Sg	02 20 06.7	+0.5
KLV	**Kalavryta, Ach**	**0.41**	**139**	P	Pg	02 20 01.0	+0.1
KLV				S	Sg	02 20 06.5	+0.1
DSF	**Desfina**	**0.56**	**84**	P	Pg	02 20 03.3	-0.5
DSF				S	Sb	02 20 12.2	-0.3
GUR	**Goura**	**0.59**	**135**	P	Pg	02 20 04.1	-0.2
GUR				S	Sg	02 20 12.2	0.0
GUR				AML	AML	02 20 13.9	
	comp=N,61μm,0.4s						
GUR				AML	AML	02 20 15.6	
	comp=E,47μm,0.3s						

BUC 01 02:23:01.3±0.5, 45°.76N×26°.70E, h105km±3km, ml2.8/13, 30C-17D, Error ellipse: s-maj=2.8km s-min=2.4km az=25.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.10**	**338**	⇓P	Pn	02 23 15.4	-0.6
PLOR				⇓S	Sn	02 23 27.3	+0.4
PLOR	**Plostina**	**0.10**	**338**	⇓P	Pn	02 23 15.4	-0.6
VRI	**Vrincioaia**	**0.11**	**10**	⇓P	Pn	02 23 16.7	+0.7
VRI				⇓S	Sn	02 23 27.5	+0.5
VRI	**Vrincioaia**	**0.11**	**10**	⇓P	Pn	02 23 16.7	+0.7
VRI	**Vrincioaia**	**0.11**	**10**	⇓S	Sn	02 23 27.5	+0.5
BISRR	**Bisoca**	**0.21**	**178**	⇑P	Pn	02 23 15.8	-0.5
BISRR				⇓S	Sn	02 23 27.5	0.0
BISRR	**Bisoca**	**0.21**	**178**	⇑P	Pn	02 23 15.8	-0.5
ODBI	**Odobesti**	**0.25**	**89**	⇑P	Pn	02 23 16.8	+0.5
ODBI	**Odobesti**	**0.25**	**89**	⇑P	Pn	02 23 16.8	+0.5
GRER		**0.43**	**153**	⇑S	Sn	02 23 29.5	+0.4
GRER		**0.43**	**153**	⇑S	Sn	02 23 29.5	+0.4
NEHR	**Nehoiu**	**0.44**	**221**	⇑S	Sn	02 23 30.4	+1.1
NEHR	**Nehoiu**	**0.44**	**221**	⇑S	Sn	02 23 30.4	+1.1
GHRR		**0.58**	**59**	⇓P	Pn	02 23 18.7	+0.6
GHRR				⇑S	Sn	02 23 31.4	+0.5
GHRR		**0.58**	**59**	⇓P	Pn	02 23 18.7	+0.6
MLR	**Muntele Rosu**	**0.59**	**243**	⇓P	Pn	02 23 19.0	+0.4
MLR				⇑S	Sn	02 23 31.8	+0.4
MLR	**Muntele Rosu**	**0.59**	**243**	⇓P	Pn	02 23 19.0	+0.4
TUDR		**0.70**	**104**	⇑P	Pn	02 23 19.7	+0.5
TUDR				⇑S	Sn	02 23 33.7	+1.1
TUDR		**0.70**	**104**	⇑P	Pn	02 23 19.7	+0.5
TESR	**Tescani**	**0.75**	**357**	⇑S	Sn	02 23 32.9	-0.6
TESR	**Tescani**	**0.75**	**357**	⇑S	Sn	02 23 32.9	-0.6
DOPR	**Dopca**	**0.94**	**283**	⇓P	Pn	02 23 21.5	0.0
DOPR				⇑S	Sn	02 23 36.8	+0.1
DOPR	**Dopca**	**0.94**	**283**	⇓P	Pn	02 23 21.5	0.0
SULR		**1.13**	**196**	⇑S	Sn	02 23 40.3	+0.1
SULR		**1.13**	**196**	⇑S	Sn	02 23 40.3	+0.1
CFR	**Carcaliu**	**1.17**	**119**	⇑P	Pn	02 23 24.4	+0.5
CFR				⇓S	Sn	02 23 41.0	0.0
CFR	**Carcaliu**	**1.17**	**119**	⇑P	Pn	02 23 24.4	+0.5
VOIR		**1.20**	**255**	⇑P	Pn	02 23 24.1	-0.4
VOIR		**1.20**	**255**	⇑P	Pn	02 23 24.1	-0.4
BIZ	**Bicaz**	**1.25**	**341**	⇑S	Sn	02 23 43.6	+0.9
BIZ	**Bicaz**	**1.25**	**341**	⇑S	Sn	02 23 43.6	+0.9
TLCR		**1.59**	**110**	⇑S	Sn	02 23 50.4	+0.4
TLCR		**1.59**	**110**	⇑S	Sn	02 23 50.4	+0.4
TIRR	**Tirgusor**	**1.78**	**136**	⇑P	Pn	02 23 31.8	+0.5
TIRR				⇑S	Sn	02 23 53.3	-0.8
TIRR	**Tirgusor**	**1.78**	**136**	⇑P	Pn	02 23 31.8	+0.5
MILM	**Milestii Mici**	**1.87**	**51**	⇓P	Pn	02 23 32.9	+0.6
MILM				⇑S	Sn	02 23 55.5	-0.5
MILM	**Milestii Mici**	**1.87**	**51**	⇓P	Pn	02 23 32.9	+0.6

*NEIC **01** 02:34:57.8±0.6, 43°.11N×0°.02×110°.72W±0°.04, h2km±10km, ML3.5/126, Error ellipse: s-maj=4.6km s-min=3.0km az=58.0*
*ANF **01** 02:34:57.4±0.3, 43°.14N×110°.80W, ML3.4/12, ML3.5/11, Error ellipse: s-maj=3.5km s-min=3.1km az=74.0*
*BUT **01** 02:34:57.0, 43.07N×110.76W, h4km*
ISC 01 02:34:58.8±0.9, 43°.11N±0°.02×110°.76W±0°.03, h10km, n93, σ0°92/107, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REDW	**Red Top Meadow**	**0.26**	**345**		**Pg**	**02 35 03.0**	**-1.3**
REDW				Sg	**Sg**	**02 35 07.6**	**-0.3**
REDW				IAML		02 35 08.9	
	12μm,0.4s						
REDW				IAML		02 35 10.3	
	12μm,0.5s						
SNOW	**Snow King Moun**	**0.35**	**0**		**Pg**	**02 35 04.7**	**-1.2**
SNOW				Sg	**Sg**	**02 35 10.8**	**+0.1**
SNOW				IAML		02 35 14.0	
	4μm,0.7s						
SNOW				IAML		02 35 15.4	
	3μm,0.6s						
TPAW	**Teton Pass**	**0.41**	**340**	Pg	**Pg**	**02 35 05.8**	**-1.1**
TPAW				Sg	**Sg**	**02 35 12.6**	**+0.3**
TPAW				IAML		02 35 14.0	
	4μm,0.3s						
AHID	**Auburn Hatcher**	**0.42**	**216**		**Pg**	**02 35 05.1**	**-2.0**
AHID				Sg	**Sg**	**02 35 11.4**	**-1.3**
ECR	**Eagle Creek**	**0.45**	**263**		**Pg**	**02 35 06.4**	**-1.2**
LOHW	**Long Hollow**	**0.52**	**13**		**Pg**	**02 35 07.5**	**-1.4**
LOHW				Sg	**Sg**	**02 35 14.9**	**-0.8**
FXWY	**Fox Creek**	**0.56**	**340**	Pg	**Pg**	**02 35 08.4**	**-1.5**
FXWY				Sg	**Sg**	**02 35 16.8**	**-0.5**
IMW	**Indian Meadow**	**0.80**	**351**	Pg	**Pg**	**02 35 12.7**	**-1.6**
IMW				Sg	**Sg**	**02 35 23.9**	**-0.8**
IMW				IAML		02 35 27.6	
	3μm,0.4s						
IMW				IAML		02 35 29.3	
	1μm,0.4s						
BW06	**Boulder Array**	**0.94**	**111**	P	**Pg**	**02 35 15.5**	**-1.4**
	baz=289,SNR=336						
BW06	**Boulder Array**	**0.94**	**111**		**Pg**	**02 35 15.2**	**-1.7**
PD31	**Pinedale Array**	**0.94**	**111**		**Pg**	**02 35 15.3**	**-1.7**
PDAR	**Pinedale Array**	**0.94**	**111**		**Pg**	**02 35 14.9**	**-2.1**
FLWY	**Flagg Ranch**	**0.98**	**2**		**Pg**	**02 35 15.9**	**-1.6**
FLWY				Sg	**Sg**	**02 35 29.1**	**-1.2**
YPP	**Pitchstone Pla**	**1.16**	**358**		**Pg**	**02 35 19.5**	**-1.6**
YPP				Sg	**Sg**	**02 35 35.6**	**-0.8**
H17A	**Grant Village**	**1.29**	**6**	P	**Pn**	**02 35 22.0**	**-1.2**
	baz=186,SNR=46						
H17A				S	**Sb**	**02 35 39.5**	**-0.6**
	baz=186						
H17A	**Grant Village**	**1.29**	**6**		**Pn**	**02 35 21.9**	**-1.2**
LKWY	**Lake**	**1.48**	**10**		**Pn**	**02 35 25.5**	**-0.2**
YMR	**Madison River**	**1.57**	**355**		**Pn**	**02 35 26.3**	**-0.6**
YNR	**Norris Junctio**	**1.61**	**2**		**Pn**	**02 35 27.1**	**-0.4**
HWUT	**Hardware Ranch**	**1.61**	**202**		**Pn**	**02 35 27.4**	**-0.1**
HWUT				IAML		02 36 03.1	
	177nm,0.8s						
YHH	**Holmes Hill**	**1.68**	**358**	Pn	**Pn**	**02 35 28.1**	**-0.4**
YMP	**Mirror Lake Pl**	**1.69**	**15**	Pn	**Pn**	**02 35 28.4**	**-0.2**
YHL	**Hebgen Lake**	**1.77**	**350**		**Pn**	**02 35 29.6**	**-0.1**
QLMT	**Earthquake Lak**	**1.79**	**345**		**Pn**	**02 35 29.5**	**-0.1**
YNE	**Yellowstone No**	**1.98**	**16**		**Pn**	**02 35 32.3**	**-0.2**
TCUT	**Toone Canyon**	**2.05**	**194**		**Pn**	**02 35 33.8**	**+0.3**
SPUT	**South Promonto**	**2.19**	**216**		**Pn**	**02 35 35.0**	**-0.4**
BCYI	**Bear Canyon**	**2.27**	**303**		**Pn**	**02 35 36.8**	**+0.4**
RLMT	**Red Lodge**	**2.28**	**28**	P	**Pn**	**02 35 37.2**	**+0.5**
	baz=208,SNR=29						
RLMT				Sb	**Sb**	**02 36 09.0**	**+0.5**
	baz=208						
RLMT	**Red Lodge**	**2.28**	**28**	Pn	**Pn**	**02 35 36.4**	**-0.4**
RLMT				IAML		02 36 10.3	
	110nm,0.3s						
MCMT	**McKenzie Canyo**	**2.29**	**319**		**Pn**	**02 35 37.0**	**+0.2**
CTU	**Camp Tracy**	**2.52**	**197**	Pn	**Pn**	**02 35 39.9**	**-0.1**
JLU	**Jordanelle**	**2.56**	**192**		**Pn**	**02 35 40.5**	**0.0**
BOZ	**Bozeman (W)**	**2.57**	**346**	P	**Pn**	**02 35 41.7**	**+1.1**
BOZ	baz=166,SNR=128			Sb	**Sb**	**02 36 17.1**	**+0.5**
	baz=166						
BOZ	**Bozeman (W)**	**2.57**	**346**		**Pn**	**02 35 40.5**	**0.0**
DLMT	**Dillon**	**2.61**	**330**		**Pn**	**02 35 41.3**	**+0.1**
DLMT				IAML		02 36 25.0	
	108nm,0.8s						
DLMT				IAML		02 36 26.6	
	78nm,1.1s						
RDMU	**Red Mountain**	**2.69**	**160**		**Pn**	**02 35 42.3**	**0.0**
HLID	**Hailey**	**2.71**	**281**	P	**Pn**	**02 35 42.5**	**+0.1**
HLID	baz=99,SNR=167			Sb	**Sb**	**02 36 21.7**	**+1.1**
	baz=99						
HLID	**Hailey**	**2.71**	**281**		**Pn**	**02 35 43.2**	**+0.7**
BGU	**Big Grassy Mou**	**2.76**	**219**	Pn	**Pn**	**02 35 42.6**	**-0.6**
LRM	**Limekiln Ridge**	**2.97**	**337**	Pn	**Pn**	**02 35 46.3**	**0.0**
RWWY	**Rawlins**	**2.99**	**117**		**Pn**	**02 35 45.2**	**-1.2**
RWWY				IAML		02 36 29.2	
	240nm,0.4s						
RWWY				IAML		02 36 39.1	
	180nm,0.6s						
K22A	**Casper**	**3.15**	**97**	P	**Pn**	**02 35 49.7**	**+1.2**
	baz=279,SNR=78						
K22A	**Casper**	**3.15**	**97**		**Pn**	**02 35 48.3**	**-0.2**
K22A				IAML		02 36 32.8	
	comp=N,192nm,0.3s						
K22A				IAML		02 36 35.9	
	comp=E,150nm,0.3s						
DUG	**Dugway, Tooele**	**3.29**	**209**	P	**Pn**	**02 35 50.5**	**0.0**
	baz=27,SNR=15						
DUG	**Dugway, Tooele**	**3.29**	**209**	Pn	**Pn**	**02 35 50.6**	**0.0**
DUG				IAML		02 36 53.6	
	comp=E,44nm,1.1s						
DUG				IAML		02 36 59.7	
	comp=E,41nm,0.8s						
O20A	**White River Ci**	**3.52**	**147**	P	**Pn**	**02 35 54.4**	**+0.8**
	baz=328,SNR=36						
O20A				S	**Sn**	**02 36 38.7**	**+3.3**
	baz=328						
O20A	**White River Ci**	**3.52**	**147**	Pn	**Pn**	**02 35 53.7**	**0.0**
O20A				IAML		02 36 56.4	
	comp=N,135nm,0.6s						
O20A				IAML		02 37 02.9	
	comp=E,124nm,0.7s						
P17A	**Butcher Ranch,**	**3.63**	**180**		**Pn**	**02 35 55.4**	**+0.2**
HRY	**Holter Researc**	**3.68**	**348**		**Pn**	**02 35 55.9**	**0.0**
MFID	**Camas Ranch**	**3.72**	**276**		**Pn**	**02 35 57.0**	**+0.6**
MFID				IAML		02 36 59.5	
	comp=E,36nm,1.6s						
MFID				IAML		02 37 06.7	
	comp=E,34nm,0.8s						
TMUT	**Trail Mountain**	**3.82**	**185**		**Pn**	**02 35 57.9**	**-0.1**
SRU	**San Rafael Swe**	**4.00**	**177**		**Pn**	**02 36 00.5**	**+0.3**
ELK	**Elko**	**4.09**	**236**	Pn	**Pn**	**02 36 01.7**	**+0.1**
Q16A	**Castle Valley**	**4.20**	**184**	Pn	**Pn**	**02 36 03.3**	**+0.3**
N23A	**Red Feather La**	**4.21**	**120**	P	**Pn**	**02 36 03.7**	**+0.4**
	baz=303,SNR=31						
N23A	**Red Feather La**	**4.21**	**120**	Pn	**Pn**	**02 36 03.1**	**-0.2**
N23A				IAML		02 37 15.3	
	comp=E,93nm,0.8s						
PLID	**Pearl Lake**	**4.26**	**299**		**Pn**	**02 36 04.3**	**+0.4**
PLID				IAML		02 37 23.0	
	comp=E,19nm,1.2s						
PHWY	**Pilot Hill**	**4.33**	**113**		**Pn**	**02 36 04.5**	**-0.4**
MSO	**Missoula**	**4.35**	**330**		**Pn**	**02 36 05.2**	**+0.2**
MSO				IAML		02 37 15.8	
	comp=E,34nm,0.8s						
MSO				IAML		02 37 22.1	
	comp=E,32nm,0.7s						
MSU	**Marysvale**	**4.71**	**194**	Pn	**Pn**	**02 36 10.3**	**+0.2**
PV22	**Blue Mesa, Par**	**4.81**	**161**		**Pn**	**02 36 11.5**	**+0.1**
PV22				IAML		02 37 30.4	
	comp=N,59nm,0.8s						
LAO	**LASA Array**	**4.82**	**40**	Sb	**Sb**	**02 37 25.7**	**+4.4**
	baz=223						
PV23	**Carpenter Ridg**	**4.84**	**164**		**Pn**	**02 36 11.9**	**0.0**
PV23				IAML		02 37 49.7	
	comp=N,31nm,1.6s						
PV10	**Paradox Valley**	**4.90**	**164**	Pn	**Pn**	**02 36 13.9**	**+1.2**
PV14	**Lion Creek, Pa**	**4.91**	**164**		**Pn**	**02 36 12.5**	**-0.3**
PV04	**Paradox Valley**	**4.92**	**163**		**Pn**	**02 36 12.7**	**-0.2**
PV04				IAML		02 37 35.3	
	comp=E,57nm,0.8s						
PV07	**Paradox Valley**	**4.93**	**160**		**Pn**	**02 36 13.2**	**0.0**
PV07				IAML		02 37 47.0	
	comp=N,46nm,0.8s						
PV20	**West Nyswonger**	**4.95**	**163**		**Pn**	**02 36 13.3**	**0.0**
PV19	**Morning Glory**	**4.98**	**164**		**Pn**	**02 36 13.9**	**+0.1**
PV19				IAML		02 37 35.5	
	comp=N,40nm,0.7s						
PV19				IAML		02 37 45.4	
	comp=E,42nm,1.2s						
RSSD	**Black Hills**	**4.99**	**76**	P	**Pn**	**02 36 13.7**	**-0.1**
	baz=260						
RSSD	**Black Hills**	**4.99**	**76**	Pn	**Pn**	**02 36 13.5**	**-0.3**
RSSD				IAML		02 37 33.3	
	comp=E,51nm,0.7s						
RSSD				IAML		02 37 44.1	
	comp=E,55nm,0.7s						
PV16	**Nyswonger Mesa**	**4.99**	**163**		**Pn**	**02 36 14.0**	**0.0**
PV12	**Saucer Basin,**	**5.01**	**162**		**Pn**	**02 36 14.2**	**0.0**
PV11	**David Mesa, Pa**	**5.01**	**163**		**Pn**	**02 36 13.8**	**-0.4**
PV17	**East Wray Mesa**	**5.01**	**164**		**Pn**	**02 36 14.2**	**-0.1**
PV17				IAML		02 37 34.2	
	comp=N,54nm,0.5s						
PV17				IAML		02 37 45.8	
	comp=E,39nm,1.0s						
BMO	**Blue Mountains**	**5.04**	**293**	Pn	**Pn**	**02 36 15.0**	**+0.6**
BMO				IAML		02 38 06.1	
	comp=E,9.7nm,4.2s						
PV18	**Skein Mesa, Pa**	**5.06**	**163**		**Pn**	**02 36 14.2**	**-0.6**
PV18				IAML		02 37 42.4	
	comp=E,45nm,1.1s						
PV18				IAML		02 37 46.2	
	comp=N,30nm,0.6s						
PV03	**Paradox Valley**	**5.06**	**163**		**Pn**	**02 36 14.4**	**-0.5**
PV03				IAML		02 37 40.1	
	comp=N,54nm,1.0s						
PV03				IAML		02 37 46.0	
	comp=E,50nm,1.0s						
PV15	**Paradox Valley**	**5.07**	**159**		**Pn**	**02 36 15.0**	**0.0**
ISCO	**Idaho Springs**	**5.08**	**129**	P	**Pn**	**02 36 15.6**	**+0.2**
	baz=312,SNR=8.5						
ISCO	**Idaho Springs**	**5.08**	**129**	Pn	**Pn**	**02 36 15.1**	**-0.3**
ISCO				IAML		02 37 41.0	
	comp=E,16nm,0.7s						
ISCO				IAML		02 37 45.8	
	comp=E,17nm,1.0s						
PV02	**Paradox Valley**	**5.13**	**162**	Pn	**Pn**	**02 36 15.9**	**0.0**
PSUT	**Pine Spring**	**5.14**	**208**	Pn	**Pn**	**02 36 16.4**	**+0.5**
PV13	**Radium Mtn., P**	**5.16**	**163**		**Pn**	**02 36 15.7**	**-0.5**
PV13				IAML		02 37 54.0	
	comp=N,46nm,1.0s						
PV05	**Paradox Valley**	**5.18**	**165**		**Pn**	**02 36 16.1**	**-0.4**
PV01	**Paradox Valley**	**5.24**	**161**		**Pn**	**02 36 16.9**	**-0.5**
PV01				IAML		02 37 45.9	
	comp=E,37nm,1.0s						
CCUT	**Cedar City**	**5.90**	**201**		**Pn**	**02 36 26.7**	**+0.3**
S22A	**4UR Ranch, Cre**	**6.14**	**149**	Pn	**Pn**	**02 36 29.5**	**-0.2**
MVCO	**Mesa Verde**	**6.14**	**163**	P	**Pn**	**02 36 30.2**	**+0.5**
	baz=344,SNR=5.7						
MVCO	**Mesa Verde**	**6.14**	**163**	Pn	**Pn**	**02 36 29.8**	**+0.1**
I07A	**Izee**	**6.42**	**282**	Pn	**Pn**	**02 36 33.7**	**+0.1**
NEW	**Newport**	**6.81**	**321**	Pn	**Pn**	**02 36 38.9**	**+0.1**

*NNC **01** 02:36:03.5±4.9, 37°.38N×68°.64E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=38.7km s-min=30.2km az=169.0*
ISC 01 02:36:03.1±3.5, 37°.2N±0°.2×68°.7E±0°.1, h10km, n11, σ1§82/15, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.05**	**13**	Pn	**Pn**	**02 37 34.1**	**+1.4**
	0.9nm,0.3s,baz=202,slow=15,SNR=34						
KK31				⇑Sn	**Sn**	**02 38 39.9**	**-2.1**
	1.7nm,0.3s						
KK31				⇓Lg	Lg	02 39 11.0	
	8.1nm,0.6s,baz=198,slow=28,SNR=5.0						
EKS2	**Erkin-Say**	**6.70**	**34**	P	**Pn**	**02 37 41.5**	**-0.1**
	SNR=11						
UCH	**Uchtor**	**6.72**	**40**	P	**Pn**	**02 37 40.7**	**-1.5**
	SNR=18						
AAK	**Ala-Archa**	**7.01**	**37**	P	**Pn**	**02 37 45.4**	**-0.6**
	SNR=15						
AAK	**Ala-Archa**	**7.01**	**37**	⇑Pn	**Pn**	**02 37 45.1**	**-0.9**
	8.6nm,0.5s						
AAK				⇓Sn	**Sn**	**02 39 09.4**	**+3.6**
	9.2nm,0.7s						
AAK				⇑Lg	Lg	02 39 44.4	
	8.7nm,0.8s						
KBK	**Karagaybulak**	**7.25**	**39**	P	**Pn**	**02 37 48.8**	**-0.5**
	SNR=6.8						
CHMS	**Chumysh**	**7.41**	**37**	P	**Pn**	**02 37 50.5**	**-0.8**
	SNR=13						
USP	**Ospenovka**	**7.50**	**34**	P	**Pn**	**02 37 51.2**	**-1.3**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.77**	**41**	P	**Pn**	**02 37 54.9**	**-1.5**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.77**	**41**	⇓Pn	**Pn**	**02 37 54.1**	**-2.4**
	5.0nm,0.6s						
TKM2				⇑Sn	**Sn**	**02 39 25.4**	**+0.8**
	4.9nm,0.8s						
AB31	**Akbulak array**	**13.63**	**335**	⇑Pn	**Pn**	**02 39 17.7**	**+1.4**
	0.5nm,0.3s,baz=153,slow=14,SNR=35						
AB31				⇑Sn	**Sn**	**02 41 45.8**	**-2.0**
	1.6nm,0.9s,baz=156,slow=24,SNR=2.7						

*BJI **01** 02:40:57.0±0.0, 52°.17N×152°.43E, h540km, mB4.9/43, mb5.3/72*
*MOS **01** 02:41:00.8±0.7, 52°.23N×151°.89E, h555km, mb4.7/88, Error ellipse: s-maj=6.5km s-min=4.7km az=60.4*
*KRSC **01** 02:41:00.2±1.3, 52°.13N×152°.20E, h571km±25km, ML5.7*
*SKHL **01** 02:41:01.1±0.1, 52°.13N×152°.01E, h559km±5km, mb5.6/7, msh5.2/1, msh5.9/11*
*NEIC **01** 02:41:01.5±0.5, 52°.19N±0°.08×151°.8E±0°.1, h549km±5km, mb4.8/563, Error ellipse: s-maj=11.7km s-min=10.6km az=124.0*
*IDC **01** 02:41:02.9±0.4, 52°.28N×151°.81E, h560km±3km, mb4.1/49, mb1 4.2/56, mb1mx4.2/65, mbtmp5.1/56, Error ellipse: s-maj=5.7km s-min=5.1km az=152.0*
*GCMT **01** 02:41:02.5±0.3, 52°.23N±0°.02×151°.91E±0°.04, h561km±1km, MW5.3/114, Moment Tensor Solution. s114,c161; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=0.95±.02; Mθθ=0.78±.04; Mφφ=0.17±.04; Mrθ=0.38±.05; Mrφ=0.46±.04; Mθφ=-0.08±.05; Best double couple: M₀1.07100×10^17 NP1:φ×48.00000°, δ38.00000°, λ-113.00000°. NP2:φ256.00000°, δ55.00000°, λ-73.00000°. Principal axes: T 1.0790, Plg9.0000°, Azm334.0000°; N -0.0150, Plg14.0000°, Azm66.0000°; P -1.0630, Plg74.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 01 02:41:01.9±0.3, 52°.19N±0°.03×151°.86E±0°.03, h558km±2km, h556km:pP-P, n1449, σ1§34/1542, mb4.8/414, 57C-40D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.66**	**118**	*e*P	**P**	**02 42 15.6**	**-0.1**
ALID				*e*S	**S**	**02 43 13.6**	**-2.3**
ALID	**Alaid**	**2.66**	**118**	P	**P**	**02 42 15.6**	**-0.1**
ALID				S	**S**	**02 43 13.6**	**-2.3**
SKR	**Severo-Kuril's**	**3.06**	**118**	*e*P	**P**	**02 42 17.0**	**-0.8**
SKR				*e*S	**S**	**02 43 16.0**	**-3.8**
SKR	**Severo-Kuril's**	**3.06**	**118**	*e*P	**P**	**02 42 16.6**	**-1.3**
SKR				AMB	AMB	02 42 17.5	
	2μm,1.5s						
SKR				AMB	AMB	02 42 17.7	
	1μm,0.5s						
SKR				*e*S	**S**	**02 43 16.1**	**-3.8**
SKR				A	A	02 43 19.3	
	4μm,2.5s						
SKR				A	A	02 43 19.3	
	3μm,2.5s						
SKR				A	A	02 43 19.7	
	2μm,0.5s						
SKR				A	A	02 43 19.7	
	665nm,0.5s						
SKR	**Severo-Kuril's**	**3.06**	**118**	*e*P	**P**	**02 42 16.5**	**-1.3**
SKR				*e*S	**S**	**02 43 16.3**	**-3.5**
SKR				pmax	pmax		
	comp=Z,2μm,0.7s						
SKR				pmax	pmax		
	comp=Z,2μm,5.1s						
SKR				smax	smax		
	comp=N,4μm,0.8s						
SKR				smax	smax		
	comp=E,1μm,0.8s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
PAU	**Pauzhetka**	**3.16**	**101**	*e*P	**P**	**02 42 17.5**	**-0.9**
PAU				*e*S	**S**	**02 43 18.3**	**-2.6**
PAU	**Pauzhetka**	**3.16**	**101**	*e*P	**P**	**02 42 17.5**	**-0.9**
PAU				AMB	AMB	02 42 18.5	
	comp=Z,8μm,1.1s						
PAU				AMB	AMB	02 42 19.1	
	comp=Z,4μm,0.7s						
PAU				*e*S	**S**	**02 43 17.2**	**-3.7**
PAU				A	A	02 43 19.5	
	comp=Z,8μm,2.0s						
PAU				A	A	02 43 19.5	
	comp=Z,11μm,2.0s						
PAU				A	A	02 43 19.9	
	comp=Z,4μm,0.8s						
PAU				A	A	02 43 19.9	
	comp=Z,1μm,0.8s						
PAU	**Pauzhetka**	**3.16**	**101**	P	**P**	**02 42 17.5**	**-0.9**
PAU				S	**S**	**02 43 18.3**	**-2.6**
APC	**Apacha**	**3.32**	**75**	*e*P	**P**	**02 42 18.4**	**-1.0**
APC				*e*S	**S**	**02 43 20.1**	**-2.7**
APC	**Apacha**	**3.32**	**75**	P	**P**	**02 42 18.4**	**-1.0**
APC				S	**S**	**02 43 20.1**	**-2.7**
PEA0B	**Petropavlovsk-**	**3.68**	**73**	*ce*P	**P**	**02 42 21.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**3.68**	**73**	P	**P**	**02 42 20.8**	**-1.0**
PEA0B				S	**S**	**02 43 24.3**	**-3.0**
PETK	**Petropavlovsk-**	**3.68**	**73**	P	**P**	**02 42 21.7**	**-0.1**
	comp=Z,80nm,0.3s,baz=279,slow=2.4,SNR=697						
PETK				S	**S**	**02 43 25.7**	**-1.6**
	baz=264,slow=23,SNR=1.6						
PETK	**Petropavlovsk-**	**3.68**	**73**	P	**P**	**02 42 19.9**	**-1.9**
PETK				S	**S**	**02 43 25.4**	**-1.8**
ASAK	**Asacha**	**3.72**

comp=E,3μm,0.9s
PET Petropavlovsk 4.23 76 P **P 02 42 24.7 -1.2**
KOK Koryaka 4.27 72 *e*P **P 02 42 25.6 -0.6**
KOK Koryaka 4.27 72 *e*P **P 02 42 25.6 -0.6**
KOK Koryaka 4.27 72 P **P 02 42 25.6 -0.6**
DALK Dalny 4.29 76 *e*P **P 02 42 25.0 -1.3**
DALK *e*S **S 02 43 30.7 -4.7**
DALK Dalny 4.29 76 P **P 02 42 25.0 -1.3**
DALK S **S 02 43 30.7 -4.7**
KRX Arik 4.29 71 *e*P **P 02 42 25.7 -0.8**
KRX Arik 4.29 71 P **P 02 42 25.7 -0.8**
AVH Avacha 4.32 73 *e*P **P 02 42 26.4 -0.2**
AVH Avacha 4.32 73 P **P 02 42 26.4 -0.2**
KRER Koryakskii 4.34 72 *e*P **P 02 42 26.3 -0.6**
KRER *e*S **S 02 43 33.2 -3.3**
KRER Koryakskii 4.34 72 P **P 02 42 26.3 -0.6**
KRER S **S 02 43 33.2 -3.3**
SMAR Somma 4.36 73 *e*P **P 02 42 26.0 -1.1**
SMAR *e*S **S 02 43 33.7 -3.1**
SMAR Somma 4.36 73 P **P 02 42 26.0 -1.1**
SMAR S **S 02 43 33.7 -3.1**
UGLR Uglovaya 4.36 74 *e*P **P 02 42 26.4 -0.6**
UGLR *e*S **S 02 43 34.1 -2.6**
UGLR Uglovaya 4.36 74 P **P 02 42 26.4 -0.6**
UGLR S **S 02 43 34.1 -2.6**
SDLR Sedlovina 4.41 73 *e*P **P 02 42 26.4 -1.0**
SDLR Sedlovina 4.41 73 P **P 02 42 26.4 -1.0**
NLC Nalytchevo 4.66 75 *e*P **P 02 42 28.1 -1.1**
NLC *e*S **S 02 43 35.6 -5.1**
NLC Nalytchevo 4.66 75 *e*P **P 02 42 28.1 -1.1**
NLC Nalytchevo 4.66 75 P **P 02 42 28.1 -1.1**
NLC S **S 02 43 35.6 -5.1**
KII Karymskiy 4.94 65 *e*P **P 02 42 30.9 -0.6**
KII Karymskiy 4.94 65 P **P 02 42 30.9 -0.6**
SPN Mys Shipunski 5.06 76 *e*P **P 02 42 30.0 -2.5**
SPN *e*S **S 02 43 38.4 -8.3**
SPN Mys Shipunski 5.06 76 *e*P **P 02 42 30.0 -2.5**
SPN Mys Shipunski 5.06 76 P **P 02 42 30.0 -2.5**
SPN S **S 02 43 38.4 -8.3**
ESO Esso 5.50 44 *e*P **P 02 42 36.4 +0.2**
ESO Esso 5.50 44 P **P 02 42 36.4 +0.2**
OKH Okha 5.58 288 *e*P **P 02 42 36.5 -0.4**
OKH AMB AMB 02 42 39.0
comp=E,1μm,1.7s
OKH AMB AMB 02 42 39.1
comp=E,610nm,0.6s
OKH *e*S **S 02 43 54.0 -0.7**
OKH A A 02 43 58.5
comp=E,10μm,3.0s
OKH A A 02 43 58.5
comp=E,8μm,3.0s
OKH A A 02 43 58.8
comp=E,760nm,0.7s
OKH A A 02 43 58.8
comp=E,1μm,0.7s
KZV Kizimen 5.81 56 *e*P **P 02 42 38.3 -0.8**
KZV *e*S **S 02 43 56.1 -2.8**
KZV Kizimen 5.81 56 P **P 02 42 38.3 -0.8**
KZV S **S 02 43 56.1 -2.8**
TUMR Tumrok 5.82 54 *e*P **P 02 42 38.6 -0.5**
TUMR *e*S **S 02 43 56.9 -2.0**
TUMR Tumrok 5.82 54 P **P 02 42 38.6 -0.5**
TUMR S **S 02 43 56.9 -2.0**
TYV Tymovskoe 5.89 261 *e*P **P 02 42 40.1 +0.3**
TYV AMB AMB 02 42 43.7
comp=E,50nm,0.7s
TYV *e*S **S 02 43 58.2 -1.8**
TYV A A 02 44 03.0
comp=E,66nm,0.7s
TYV A A 02 44 03.0
comp=E,46nm,0.7s
TYV A A 02 44 04.0
comp=E,2μm,3.0s
TYV A A 02 44 04.0
comp=E,3μm,3.0s
TYV Tymovskoe 5.89 261 *e*P **P 02 42 41.4 +1.6**
TYV *e*S **S 02 44 00.9 +0.9**
TYV pmax pmax
comp=Z,100nm,3.3s
TYV pmax pmax
comp=Z,50nm,0.9s
TYV smax smax
comp=E,77nm,1.5s
TYV smax smax
comp=E,4μm,5.8s
TUMD Tumrok D 5.91 56 *e*P **P 02 42 38.2 -1.6**
TUMD *e*S **S 02 43 59.3 -0.9**
KMNR Kamenistaya 6.10 51 *e*P **P 02 42 42.1 +0.4**
KMNR Kamenistaya 6.10 51 P **P 02 42 42.1 +0.4**
KOZ Kozyrevsk 6.10 47 *e*P **P 02 42 41.8 +0.2**
KOZ Kozyrevsk 6.10 47 P **P 02 42 41.8 +0.2**
SRDR Sredinnyy 6.19 45 *e*P **P 02 42 42.0 -0.4**
SRDR Sredinnyy 6.19 45 P **P 02 42 42.0 -0.4**
KPT Kopyto 6.21 49 *e*P **P 02 42 41.2 -1.4**
KPT Kopyto 6.21 49 P **P 02 42 41.2 -1.4**
KIRR Kirishev 6.26 50 *e*P **P 02 42 42.1 -1.1**
KIRR Kirishev 6.26 50 P **P 02 42 42.1 -1.1**
BZMR Bezymyannaya 6.32 50 *e*P **P 02 42 43.8 +0.1**
BZMR Bezymyannaya 6.32 50 P **P 02 42 43.8 +0.1**
BZWR Bezymyannyi-We 6.34 50 *e*P **P 02 42 43.5 -0.4**
BZWR Bezymyannyi-We 6.34 50 P **P 02 42 43.5 -0.4**
BZGR Bezymyannyi-Gr 6.42 51 *e*P **P 02 42 43.6 -1.0**
BZGR Bezymyannyi-Gr 6.42 51 P **P 02 42 43.6 -1.0**
LGNR Loginova 6.50 50 *e*P **P 02 42 44.9 -0.6**
LGNR Loginova 6.50 50 P **P 02 42 44.9 -0.6**
KRSR Krestovskiy 6.51 48 *e*P **P 02 42 44.1 -1.3**
KRSR Krestovskiy 6.51 48 P **P 02 42 44.1 -1.3**
ZLN Zelenaya 6.51 50 *e*P **P 02 42 44.8 -0.6**
ZLN Zelenaya 6.51 50 P **P 02 42 44.8 -0.6**
CIRR Tsirk 6.54 49 *e*P **P 02 42 46.3 +0.6**
CIRR Tsirk 6.54 49 P **P 02 42 46.3 +0.6**
KLY Klyuchi 6.61 48 *e*P **P 02 42 46.7 +0.6**
KLY *e*S **S 02 44 12.4 +0.6**
KLY Klyuchi 6.61 48 P **P 02 42 46.7 +0.6**
KLY S **S 02 44 12.4 +0.6**
NKL Nikolayevsk 6.87 282 *e*P **P 02 42 49.5 +0.8**
NKL AMB AMB 02 42 50.0
comp=E,388nm,0.7s
NKL AMB AMB 02 42 51.5
comp=E,650nm,2.0s
NKL *e*S **S 02 44 14.5 -1.8**
NKL A A 02 44 19.6
comp=E,5μm,3.0s
NKL A A 02 44 19.6
comp=E,4μm,3.0s
NKL Nikolayevsk 6.87 282 *e*P **P 02 42 47.3 -1.4**
NKL *e*S **S 02 44 14.0 -2.3**
NKL pmax pmax
comp=N,12nm,0.6s
NKL pmax pmax
comp=Z,389nm,0.9s
NKL smax smax
comp=N,11nm,3.2s
UGL Uglegorsk 6.96 247 *e*P **P 02 42 49.4 -0.3**
UGL AMB AMB 02 42 55.0
comp=N,214nm,0.8s
UGL *e*S **S 02 44 16.0 -2.0**
UGL A A 02 44 21.5
comp=N,1μm,2.0s
UGL A A 02 44 21.5
comp=N,560nm,2.0s
UGL Uglegorsk 6.96 247 *e*P **P 02 42 52.0 +2.3**
UGL S **S 02 44 16.0 -2.0**
UGL pmax pmax
comp=Z,214nm,0.8s
UGL smax smax
comp=N,1μm,3.3s
SRKR Sorokina 7.04 47 *e*P **P 02 42 49.9 -0.4**
SRKR Sorokina 7.04 47 P **P 02 42 49.9 -0.4**
SMKR Semkarok 7.13 48 *e*P **P 02 42 50.8 -0.4**
SMKR Semkarok 7.13 48 P **P 02 42 50.8 -0.4**
MA2 Magadan 7.43 356 P **P 02 42 54.0 +0.1**
comp=N,23nm,0.3s,baz=164,slow=8.0,SNR=98
MA2 S **S 02 44 24.8 -1.3**
baz=9.7,slow=10,SNR=7.5
MA2 Magadan 7.43 356 *e*P **P 02 42 53.9 -0.1**
MA2 Magadan 7.43 356*c e*P **P 02 42 53.9 -0.1**
MA2 pmax pmax
comp=Z,466nm,1.0s
MA2 Magadan 7.43 356 **P 02 42 53.4 -0.6**
MA2 **S 02 44 24.9 -1.3**
KUR Kuril'sk 7.44 202 *i* P **P 02 42 53.0 -1.3**
KUR AMB AMB 02 42 55.1
comp=Z,820nm,0.6s
KUR *e*S **S 02 44 23.7 -2.8**
KUR A A 02 44 27.0
comp=Z,3μm,2.0s
KUR A A 02 44 27.0
comp=Z,3μm,2.0s
KUR A A 02 44 32.5
comp=Z,840nm,0.9s
KUR A A 02 44 32.5
comp=Z,420nm,0.9s
KUR Kuril'sk 7.44 202*c i* P **P 02 42 53.3 -1.0**
KUR *i* S **S 02 44 23.9 -2.6**
KUR pmax pmax
comp=Z,449nm,0.6s
KUR pmax pmax
comp=N,31nm,0.3s
KUR pmax pmax
comp=E,119nm,0.4s
KUR pmax pmax
comp=Z,646nm,0.9s
KUR smax smax
comp=N,2μm,1.8s
KUR smax smax
comp=E,1μm,1.8s
KBG Krutoberegovo 7.55 53 *e*P **P 02 42 52.7 -2.5**
KBG *e*S **S 02 44 22.3 -5.9**
KBG Krutoberegovo 7.55 53 *e*P **P 02 42 52.7 -2.5**
KBG AMB AMB 02 42 53.1
comp=E,430nm,2.0s
KBG AMB AMB 02 42 53.2
comp=E,167nm,0.6s
KBG *e*S **S 02 44 22.3 -5.9**
KBG A A 02 44 23.5
comp=E,2μm,3.0s
KBG A A 02 44 23.5
comp=E,1μm,3.0s
KBG A A 02 44 27.0
comp=E,1μm,0.4s
KBG A A 02 44 27.0
comp=E,1μm,0.4s
KBG Krutoberegovo 7.55 53 P **P 02 42 52.7 -2.5**
KBG S **S 02 44 22.3 -5.9**
KBTR Krutoberegovo 7.59 54 *e*P **P 02 42 52.1 -3.4**
KBTR *e*S **S 02 44 20.9 -8.0**
KBTR Krutoberegovo 7.59 54 P **P 02 42 52.1 -3.4**
KBTR S **S 02 44 20.9 -8.0**
YSS Yuzh-Sakhalins 7.90 232 *e*P **P 02 42 58.7 -0.1**
YSS AMB AMB 02 43 00.3
comp=E,80nm,0.9s
YSS AMB AMB 02 43 00.6
comp=E,300nm,3.0s
YSS AMB AMB 02 43 00.6
comp=E,300nm,3.0s
YSS AMB AMB 02 43 00.6
comp=E,300nm,3.0s
YSS *e*S **S 02 44 34.2 -0.4**
YSS A A 02 44 37.7
comp=E,3μm,3.0s
YSS A A 02 44 37.7
comp=E,3μm,3.0s
YSS A A 02 44 39.0
comp=E,220nm,1.0s
YSS A A 02 44 39.0
comp=E,170nm,1.0s
YSS Yuzh-Sakhalins 7.90 232⇑ *i* P **P 02 42 59.7 +0.9**
YSS *e*S **S 02 44 35.7 +1.1**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS pmax pmax
comp=Z,300nm,3.7s
YSS pmax pmax
comp=N,300nm,3.2s
YSS pmax pmax
comp=E,300nm,2.2s
YSS smax smax
comp=N,3μm,2.8s
YSS smax smax
comp=E,3μm,3.8s
YSS smax smax
comp=N,220nm,1.7s
YSS smax smax
comp=E,170nm,1.3s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS Yuzh-Sakhalins 7.90 232 P **P 02 42 58.2 -0.6**
PALN Palana 8.30 30 *e*P **P 02 43 02.2 -0.2**
PALN Palana 8.30 30 P **P 02 43 02.2 -0.2**
BKI Bering 8.90 65 *e*P **P 02 43 11.9 +3.4**
BKI *e*S **S 02 44 49.3 -3.4**
BKI Bering 8.90 65 P **P 02 43 11.9 +3.4**
BKI S **S 02 44 49.3 -3.4**
YUK Yuzh-Kuril'sk 9.08 208 *i* P **P 02 43 09.2 -1.4**
YUK AMB AMB 02 43 14.0
comp=Z,817nm,0.5s
YUK *i* S **S 02 44 53.1 -3.2**
YUK A A 02 44 59.0
comp=Z,6μm,1.1s
YUK A A 02 44 59.0
comp=Z,4μm,1.1s
YUK Yuzh-Kuril'sk 9.08 208*c* i P **P 02 43 08.6 -2.0**
YUK *i* S **S 02 44 53.1 -3.2**
YUK pmax pmax
comp=Z,817nm,0.5s
YUK pmax pmax
comp=E,801nm,0.4s
YUK pmax pmax
comp=N,498nm,0.3s
YUK smax smax
comp=E,4μm,0.8s
YUK smax smax
comp=N,6μm,1.1s
GRPR Tuman 9.15 209 *i* P **P 02 43 08.3 -3.0**
GRPR AMB AMB 02 43 15.0
comp=N,824nm,0.5s
GRPR *i* S **S 02 44 54.0 -3.5**
GRPR A A 02 44 56.0
comp=N,3μm,1.6s
GRPR A A 02 44 56.0
comp=N,2μm,1.6s
GRPR Tuman 9.15 209*c* i P **P 02 43 08.3 -3.0**
GRPR *i* S **S 02 44 54.5 -3.0**
GRPR pmax pmax
comp=Z,824nm,0.5s
GRPR pmax pmax
comp=N,340nm,0.4s
GRPR pmax pmax
comp=E,637nm,0.4s
GRPR smax smax
comp=E,2μm,1.6s
GRPR smax smax
comp=N,3μm,1.3s
NMR Nemuro--Hokkai 9.73 207 *i* P **P 02 43 13.4 -3.8**
NMR *i* S **S 02 45 02.8 -5.5**
NMR Nemuro--Hokkai 9.73 207⇑ *i* P P 02 43 12.2 -5.0
NMR *i* S **S 02 45 01.0 -7.3**
GRNR Gornyy 9.74 268 *e*P **P 02 43 18.5 +1.4**
GRNR AMB AMB 02 43 18.9
comp=N,10.0nm,0.7s
GRNR AMB AMB 02 43 18.9
comp=N,40nm,0.7s
GRNR AMB AMB 02 43 18.9
comp=N,50nm,0.7s
GRNR Gornyy 9.74 268⇑ *i* P **P 02 43 18.5 +1.4**
GRNR *e*S **S 02 45 07.4 -0.9**
GRNR pmax pmax
comp=E,40nm,0.6s
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,50nm,0.7s
GRNR smax smax
comp=N,20nm,1.0s
JKA Kamikawa-asahi 10.16 221 *e*P **P 02 43 21.3 -0.2**
JKA Kamikawa-asahi 10.16 221 P **P 02 43 21.1 -0.5**
JKA **S 02 45 15.4 -0.9**
ASAJ Asahikawa 10.16 221 P **P 02 43 21.3 -0.3**
comp=N,6.0nm,0.3s,baz=311,slow=6.5,SNR=17
ASAJ S **S 02 45 15.6 -0.7**
comp=N,1.7nm,0.3s,baz=174,slow=33,SNR=7.2
SEY Seymchan 10.78 1 P **P 02 43 28.0 +0.5**
comp=N,40nm,0.3s,baz=180,slow=8.2,SNR=611
SEY S **S 02 45 27.4 0.0**
comp=N,1.1nm,0.3s,baz=352,slow=20,SNR=6.2
SEY Seymchan 10.78 1 *e*P **P 02 43 27.7 +0.2**
SEY Seymchan 10.78 1*c i*P **P 02 43 27.7 +0.2**
EKMR Ekimchan 11.52 282 *e*P **P 02 43 36.0 +0.6**
EKMR AMB AMB 02 43 37.1
comp=N,210nm,0.8s
JEW Eniwo 11.69 221 P **P 02 43 35.6 -1.6**
ERM Erimo 11.76 214*c e*P **P 02 43 35.8 -2.2**
ERM pmax pmax
comp=Z,66nm,0.5s
ERM Erimo 11.76 214 P **P 02 43 36.0 -2.0**
TEY Ternei 12.36 241 *e*P **P 02 43 43.6 -0.4**
TEY AMB AMB 02 43 45.1
comp=Z,30nm,0.4s
TEY *e*S **S 02 45 54.3 -3.1**
TEY A A 02 45 59.8
comp=Z,990nm,5.0s
TEY A A 02 45 59.8
comp=Z,1μm,5.0s
TEY Ternei 12.36 241⇑ *e*P **P 02 43 44.4 +0.4**
TEY *e*S **S 02 45 57.2 -0.2**
TEY pmax pmax
comp=E,40nm,0.8s
TEY pmax pmax
comp=N,10.0nm,0.6s
TEY pmax pmax
comp=Z,30nm,0.4s
TEY smax smax
comp=N,30nm,3.1s
KMSK Kamenskaya 12.86 31 *e*P **P 02 43 48.0 -0.8**
KMSK Kamenskaya 12.86 31 P **P 02 43 48.0 -0.8**
JTM Tenmabayashi 13.59 217 P **P 02 43 54.6 -2.1**
BMKR Bomnak 13.93 290 *e*P **P 02 44 00.2 +0.1**
BMKR AMB AMB 02 44 01.9
comp=N,87nm,0.4s
ZEA Zeya 14.89 286 *e*P **P 02 44 08.7 -1.1**
ZEA AMB AMB 02 44 09.5
comp=N,40nm,1.0s
ZEA AMB AMB 02 44 09.5
comp=N,80nm,1.0s
ZEA AMB AMB 02 44 12.9
comp=N,100nm,2.0s
ZEA Zeya 14.89 286*c e*P **P 02 44 08.7 -1.1**
ZEA *e*S **S 02 46 42.6 -1.8**
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=Z,80nm,1.5s
ZEA pmax pmax
comp=Z,100nm,1.9s
ZEA smax smax
comp=N,1μm,4.7s
ZEA smax smax
comp=E,1μm,5.3s
ZEA MLR MLR
comp=Z,200nm,6.0s
KROS Kirovskiy 15.02 288 *e*P **P 02 44 09.7 -1.4**
KROS AMB AMB 02 44 11.7
comp=Z,74nm,0.2s
KROS AMB AMB 02 44 11.7
comp=Z,270nm,0.2s
KROS AMB AMB 02 44 11.7
comp=Z,380nm,0.2s
USA0B Ussuriysk Arra 15.43 247 *i* P **P 02 44 14.1 -1.4**
USA0B Ussuriysk Arra 15.43 247 P **P 02 44 13.9 -1.6**
USRK Ussuriysk Ar. 15.43 247 P **P 02 44 14.5 -1.0**
baz=60,slow=7.8,SNR=79
USRK ScP **ScP 02 51 21.2 +0.6**
baz=0.0,slow=1.9,SNR=10
USRK Ussuriysk Ar. 15.43 247 P **P 02 44 13.5 -2.0**
USRK **ScP 02 51 21.3 +0.6**
YAK Yakutsk 15.48 318 P **P 02 44 14.3 -1.3**
comp=Z,3.9nm,0.3s,baz=6.7,slow=1.2,SNR=103
YAK S **S 02 46 53.1 -1.3**
baz=34,slow=20,SNR=8.4
YAK ScS **ScS 02 54 55.9 -2.8**
comp=Z,0.3nm,0.3s,baz=11,slow=0.8,SNR=11
YAK Yakutsk 15.48 318 *e*P **P 02 44 14.2 -1.4**
YAK Yakutsk 15.48 318*c i*P **P 02 44 14.2 -1.4**
YAK *e*S **S 02 46 52.5 -1.9**
YAK pmax pmax
comp=Z,639nm,0.8s
YAK pmax pmax
comp=E,261nm,1.1s
YAK pmax pmax
comp=N,161nm,1.1s
YAK smax smax
comp=E,399nm,1.3s
YAK smax smax
comp=N,743nm,1.3s
YAK MLR MLR
comp=Z,230nm,11.0s
YAK MLR MLR
comp=E,132nm,9.0s
YAK Yakutsk 15.48 318 P **P 02 44 14.3 -1.3**
VLA Vladivostok 16.18 244 *e*P **P 02 44 21.9 -0.8**
VLA Vladivostok 16.18 244 *i* P **P 02 44 21.9 -0.8**
VLA pmax pmax
comp=Z,45nm,0.6s
JMM Marumori 16.28 213 P **P 02 44 23.7 0.0**
MDJ Mudanjiang 16.57 252 P **P 02 44 25.5 -0.7**
MDJ sP sP 02 46 28.9 -12
MDJ S **S 02 47 10.5 -2.3**
MDJ ScS **ScS 02 55 02.3 -0.2**
MDJ pmax pmax
comp=Z,47nm,0.6s
MDJ pmax pmax
comp=Z,440nm,4.9s
MDJ Mudanjiang 16.57 252 P **P 02 44 25.5 -0.7**
AMKA Amchitka 16.97 82 P **P 02 44 29.0 -0.7**
JSD Sado 17.05 219 P **P 02 44 30.8 +0.1**
BILL Bilibino 17.37 18 *e*P **P 02 44 32.7 -0.4**
BILL Bilibino 17.37 18*c i*P **P 02 44 32.7 -0.4**
BILL *i* S **S 02 47 22.4 -2.8**
BILL pmax pmax
comp=Z,45nm,0.9s
BILL Bilibino 17.37 18 P **P 02 44 33.0 -0.1**
JYT Yasato 17.97 212 P **P 02 44 38.8 -0.3**
MJB9 Matsu-Tunnel 18.38 217 P **P 02 44 42.8 -0.1**
MAJO Matsushiro 18.38 217*d i*P **P 02 44 43.5 +0.6**
MAJO pmax pmax
comp=Z,158nm,0.5s
MAJO Matsushiro 18.38 217 P **P 02 44 43.1 +0.2**
MAT Matsushiro 18.38 217 P **P 02 44 43.5 +0.6**
MAT S **S 02 47 43.5 +0.9**
MJAR Matsushiro Arr 18.38 217 P **P 02 44 43.7 +0.8**
comp=Z,6.3nm,0.3s,baz=17,slow=10,SNR=259
MJAR S **S 02 47 43.6 +1.0**
baz=17,slow=16,SNR=7.6
MJAR PcP **PcP 02 48 44.5 +0.4**
comp=Z,0.2nm,0.3s,baz=80,slow=1.2,SNR=6.0
MJAR ScP **ScP 02 51 27.2 +0.3**
comp=Z,0.1nm,0.3s,baz=65,slow=0.6,SNR=6.0
MJAR Matsushiro Arr 18.38 217 P **P 02 44 42.9 0.0**
MJAR **S 02 47 42.8 +0.2**
MJAR **PcP 02 48 44.1 -0.1**
MJAR **ScP 02 51 27.5 +0.6**
CN2 Changchun 19.48 255 *e*P **P 02 44 52.3 -0.4**
CN2 *e*S **S 02 47 59.3 -0.6**
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 pmax pmax
comp=Z,320nm,4.0s
JGF Kuroka 19.53 218 P **P 02 44 53.3 0.0**
INU Inuyama 19.88 218 P **P 02 44 56.5 0.0**
JSG Sagara 20.06 215 P **P 02 44 58.3 +0.2**
HIA Hailar 20.45 275 *i* P **P 02 45 01.2 -0.2**
HIA pmax pmax
comp=Z,53nm,1.0s
HIA Hailar 20.45 275 P **P 02 45 01.3 -0.2**
HIA **S 02 48 15.5 +0.2**
JWT Wachi 20.58 221 P **P 02 45 02.8 +0.1**
JHJ Hachijo jima 2 20.97 209 P **P 02 45 07.0 +0.7**
comp=Z,142nm,0.7s,baz=222,slow=14,SNR=4.4
SNY Shenyang 21.75 253 ⇓P **P 02 45 13.9 +0.7**
SNY sP **sP 02 47 40.0 +1.2**
SNY S **S 02 48 37.2 +1.2**
SNY pmax pmax
comp=Z,61nm,0.7s
SNY LR LR
comp=Z,99nm,4.3s
SNY LR LR
comp=Z,210nm,4.3s
SNY LR LR
comp=Z,170nm,5.3s
JHS Saijyo 21.78 225 P **P 02 45 13.8 +0.1**
TIXI Tiksi 22.04 341 *e*P **P 02 45 15.2 -0.1**
TIXI Tiksi 22.04 341*c e*P **P 02 45 15.2 -0.1**
TIXI pmax pmax

comp=Z,1µm,1.7s
TIXI Tiksi 22.04 341 P P 02 45 15.5 +0.1
BOD Bodaibo 22.21 300 *e*P **P 02 45 16.9 -0.1**
BOD pmax pmax
comp=Z,10.0nm,1.2s
KS19 Wonju Array Si 22.32 238 P **P 02 45 18.5 +0.1**
KS19 PcP **PcP 02 48 52.4 +0.7**
KSRS Korea Array 22.33 238 P **P 02 45 20.1 +1.6**
comp=Z,43nm,0.7s,baz=43,slow=9.2,SNR=100
KSRS PcP **PcP 02 48 52.8 +1.1**
comp=Z,22nm,0.7s,baz=359,slow=1.8,SNR=28
KSRS ScP **ScP 02 51 37.5 +1.1**
comp=Z,6.6nm,0.7s,baz=24,slow=1.9,SNR=12
KSAR Wonju Array Be 22.36 238 P **P 02 45 18.9 +0.2**
KSAR Wonju Array Be 22.36 238 P **P 02 45 18.9 +0.2**
TJN Taejon 23.44 237*c*e**P P 02 45 29.8 +1.5**
JNU Nakatsue 24.36 227 P **P 02 45 37.7 +1.1**
comp=Z,54nm,0.6s,baz=300,slow=0.8,SNR=36
JNU Nakatsue 24.36 227 P **P 02 45 36.4 -0.1**
DL2 Dalian 24.78 250 P **P 02 45 40.4 +0.3**
DL2 PcP **PcP 02 48 56.6 -0.4**
DL2 S **S 02 49 23.3 -0.3**
DL2 pmax pmax
comp=Z,160nm,0.8s
DL2 pmax pmax
comp=Z,250nm,3.9s
JCJ Chichijima 26.09 200 P **P 02 45 52.8 +1.0**
comp=Z,125nm,0.4s,baz=277,slow=22,SNR=23
JCJ Chichijima 26.09 200 P **P 02 45 52.1 +0.3**
RDOG Red Dog Mine 26.73 36 P **P 02 45 57.5 +0.6**
RDOG IAmb IAmb 02 45 58.1
comp=Z,37nm,1.2s
BJI Beijing 27.27 258 P **P 02 46 02.2 +0.2**
BJI PcP **PcP 02 49 03.1 +0.2**
BJI S **S 02 50 03.2 +0.8**
BJI ScP **ScP 02 51 50.8 +0.3**
BJI PcS **PcS 02 52 45.8 +0.6**
BJI ScS **ScS 02 55 42.5 -0.6**
BJI pmax pmax
comp=Z,14nm,0.8s
BJI pmax pmax
comp=Z,130nm,3.5s
BJT Baijiatuan 27.29 258 P **P 02 46 02.1 -0.1**
BJT IAmb IAmb 02 46 04.0
comp=Z,17nm,0.6s
BJT PcP **PcP 02 49 03.3 +0.3**
ULN Ulaanbaatar 28.75 279 *e*P **P 02 46 15.9 +0.9**
ULN Ulaanbaatar 28.75 279 P **P 02 46 15.8 +0.9**
ULN Ulaanbaatar 28.75 279*c*e**P P 02 46 15.9 +0.9**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 28.75 279 P **P 02 46 14.9 -0.1**
TTA Tatalina 29.12 48 P **P 02 46 18.4 +0.5**
TTA IAmb IAmb 02 46 19.6
comp=Z,31nm,1.1s
TTA PcP **PcP 02 49 08.3 +1.0**
SONM Songino Array 29.16 280 P **P 02 46 19.5 +0.9**
comp=Z,2.2nm,0.5s,baz=78,slow=8.0,SNR=8.8
SONM PcP **PcP 02 49 07.8 0.0**
comp=Z,22nm,0.7s,baz=96,slow=1.9,SNR=20
SONM ScP **ScP 02 51 56.4 -0.2**
comp=Z,14nm,0.5s,baz=92,slow=2.1,SNR=23
SONM Songino Array 29.16 280 P **P 02 46 18.4 -0.1**
SONM PcP **PcP 02 49 07.9 +0.2**
SONM ScP **ScP 02 51 56.1 -0.5**
TIA Tai'an 29.23 251 P **P 02 46 19.8 +0.7**
TIA pmax pmax
comp=Z,140nm,0.6s
TLY Talaya 29.30 288 P **P 02 46 20.9 +1.3**
comp=Z,7.1nm,0.7s,baz=82,slow=11,SNR=4.6
TLY PcP **PcP 02 49 08.8 +0.9**
comp=Z,11nm,0.5s,baz=219,slow=3.5,SNR=9.6
TLY ScP **ScP 02 51 56.8 0.0**
comp=Z,10nm,0.6s,baz=160,slow=2.4,SNR=7.9
TLY Talaya 29.30 288 *e*P **P 02 46 19.3 -0.3**
TLY Talaya 29.30 288 *e*P **P 02 46 20.6 +1.0**
TLY *e*S **S 02 50 36.6 +2.8**
TLY pmax pmax
comp=Z,62nm,1.3s
TLY Talaya 29.30 288 P **P 02 46 19.6 0.0**
TLY IAmb IAmb 02 46 23.0
comp=Z,14nm,0.9s
TLY PcP **PcP 02 49 08.6 +0.7**
TLY ScP **ScP 02 51 56.9 0.0**
SVW2 Sparrevohn 29.48 52 P **P 02 46 21.3 +0.4**
SVW2 IAmb IAmb 02 46 23.3
comp=Z,22nm,1.1s
SVW2 PcP **PcP 02 49 08.5 +0.3**
HHC Hu-ho-hao-te 29.58 264 *e*P **P 02 46 23.0 +0.8**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.6s
ZAK Zakamensk 29.99 286 *e*P **P 02 46 26.4 +0.8**
ZAK Zakamensk 29.99 286 *e*P **P 02 46 26.4 +0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.7s
IMAR Indian Mountai 30.04 42 P **P 02 46 26.0 +0.3**
BTO Baotou 30.67 265 *e*P **P 02 46 31.8 +0.2**
PPLA Purkeypile 30.87 48 P **P 02 46 33.5 +0.4**
PPLA IAmb IAmb 02 46 47.6
comp=Z,36nm,1.2s
PPLA PcP **PcP 02 49 12.5 +0.4**
RSO Redoubt South 30.94 52 P **P 02 46 34.0 +0.3**
TIY Taiyuan 31.00 258 *e*P **P 02 46 35.7 +1.3**
TIY S **S 02 51 01.0 +0.7**
TIY pmax pmax
comp=Z,88nm,0.7s
NJ2 Nanjing 31.28 243⇓*i*P **P 02 46 36.9 +0.1**
NJ2 pmax pmax
comp=Z,82nm,0.9s
SKT Skwentna 31.29 49 P **P 02 46 37.1 +0.6**
SKT PcP **PcP 02 49 14.1 +1.0**
BPAW Bear Paw Mtn. 31.29 45 P **P 02 46 37.0 +0.5**
BPAW IAmb IAmb 02 46 38.3
comp=Z,29nm,1.0s
BPAW PcP **sP 02 49 14.1 +0.9**
OHAK Old Harbor 31.35 59 P **P 02 46 36.7 -0.3**
OHAK IAmb IAmb 02 46 37.8
comp=Z,16nm,0.6s
KTH Kantishna Hill 31.37 46 P **P 02 46 37.5 +0.3**
COLD Coldfoot 31.46 39 P **P 02 46 38.2 +0.4**
baz=271,SNR=52
COLD S **S 02 51 06.6 +0.1**
baz=271
COLD Coldfoot 31.46 39 P **P 02 46 38.1 +0.4**
KDAK Kodiak Island 31.58 58 P **P 02 46 38.6 -0.3**
comp=Z,8.2nm,0.5s,baz=96,slow=0.6,SNR=41
KDAK PcP **PcP 02 49 14.6 +0.8**
comp=Z,24nm,0.7s,baz=249,slow=1.1,SNR=7.6
KDAK S **S 02 51 06.6 -1.8**
comp=Z,8.2nm,0.6s,baz=60,slow=19,SNR=11
KDAK ScP **ScP 02 52 05.1 +0.9**
comp=Z,12nm,0.6s,baz=245,slow=4.5,SNR=10
KDAK Kodiak Island 31.58 58 P **P 02 46 38.8 -0.2**
KDAK IAmb IAmb 02 46 40.5
comp=Z,16nm,0.8s
KDAK PcP **sP 02 49 14.9 -0.8**
KDAK ScP **ScP 02 52 05.7 +1.4**
TRF Thorofare Moun 31.66 46 P **P 02 46 40.2 +0.4**
TRF IAmb IAmb 02 46 41.6
comp=Z,34nm,1.0s
TOLK Toolik Lake Re 31.70 37 P **P 02 46 40.2 +0.3**
baz=269,SNR=19
TOLK S **S 02 51 08.9 -1.3**
baz=269
TOLK Toolik Lake Re 31.70 37 P **P 02 46 40.2 +0.3**
CUT Chulitna 31.81 48 P **P 02 46 41.1 +0.2**
baz=278,SNR=8.2
CNPM China Poot 31.87 54 IAmb IAmb 02 46 42.9
comp=Z,19nm,0.7s
BWN Browne 31.95 45 P **P 02 46 43.0 +1.1**
NEA2 Nenana 32.07 44 P **P 02 46 43.7 +0.6**
baz=276,SNR=36
NEA2 S **S 02 51 16.4 +0.5**
baz=276
RC01 Rabbit Creek A 32.28 51 P **P 02 46 45.5 +0.6**
baz=281
RC01 S **S 02 51 17.1 -2.0**
baz=281
RND Reindeer 32.31 46 P **P 02 46 45.1 -0.1**
RND pmax pmax
comp=Z,40nm,1.1s
RND Reindeer 32.31 46 P **P 02 46 45.1 -0.1**
RND IAmb IAmb 02 46 46.3
comp=Z,40nm,1.1s
MDM Murphy Dome 32.39 43 P **P 02 46 44.8 -1.0**
MDM IAmb IAmb 02 46 48.6
comp=Z,31nm,0.9s
PMR Palmer 32.48 50 P **P 02 46 47.1 +0.6**
PMR pmax pmax
comp=Z,19nm,1.2s
PMR Palmer 32.48 50 P **P 02 46 47.1 +0.6**
PMR IAmb IAmb 02 46 49.1
comp=Z,18nm,1.2s
GHO Glory Hole Cre 32.54 49 P **P 02 46 47.8 +0.6**
GHO IAmb IAmb 02 46 49.3
comp=Z,49nm,1.1s
TCOL CIGO, UAF Yank 32.56 44 P **P 02 46 47.9 +0.8**
baz=276,SNR=12
COLA College 32.56 44 P **P 02 46 48.1 +0.9**
COLA pmax pmax
comp=Z,79nm,0.9s
COLA College 32.56 44 P **P 02 46 48.0 +0.9**
CCB Clear Creek Bu 32.61 44 P **P 02 46 48.0 +0.4**
CCB IAmb IAmb 02 46 49.1
comp=Z,29nm,0.9s
SEW Seward 32.62 53 IAmb IAmb 02 46 50.2
comp=Z,20nm,0.9s
POKR Poker Plat Res 32.71 43 P **P 02 46 49.1 +0.6**
baz=276,SNR=11
POKR S **S 02 51 25.5 -0.1**
baz=276
SML Sawmill 32.81 49 P **P 02 46 50.0 +0.5**
KNK Knik Glacier 32.83 50 P **P 02 46 50.1 +0.6**
IL31 32.98 44 P **P 02 46 50.9 +0.2**
IL31 IAmb IAmb 02 46 52.0
comp=Z,28nm,0.8s
ILAR Eielson Array 32.98 44 P **P 02 46 50.9 +0.1**
comp=Z,22nm,0.8s,baz=277,slow=9.1,SNR=205
ILAR PcP **PcP 02 49 16.9 -0.9**
comp=Z,2.7nm,0.6s,baz=299,slow=4.3,SNR=4.7
ILAR S **S 02 51 28.4 -1.3**
comp=Z,3.7nm,1.1s,baz=290,slow=9.5,SNR=8.1
ILAR ScP **ScP 02 52 08.2 -0.8**
comp=Z,4.9nm,0.9s,baz=266,slow=3.4,SNR=8.9
ILAR Eielson Array 32.98 44 P **P 02 46 50.7 -0.1**
ILAR Eielson Array 32.98 44 P **P 02 46 50.7 -0.1**
HDA Harding Lake 33.01 44 P **P 02 46 50.7 -0.2**
baz=278,SNR=23
HDA Harding Lake 33.01 44 IAmb IAmb 02 46 54.1
comp=Z,39nm,1.1s
DHY Denali Highway 33.02 47 P **P 02 46 51.3 0.0**
DHY IAmb IAmb 02 46 53.0
comp=Z,29nm,0.9s
SCM Sheep Creek Mo 33.27 49 P **P 02 46 53.9 +0.5**
SCM pmax pmax
comp=Z,54nm,1.2s
SCM Sheep Creek Mo 33.27 49 P **P 02 46 53.9 +0.5**
GLI Glacier Island 33.59 51 IAmb IAmb 02 46 57.9
comp=Z,16nm,1.0s
BMAR Burnt Mountain 33.62 39 P **P 02 46 56.9 +0.7**
M24K Tolsona, Glenn 33.75 48 P **P 02 46 58.6 +1.3**
baz=282
M24K Tolsona, Glenn 33.75 48 P **P 02 46 57.8 +0.4**
M24K IAmb IAmb 02 47 00.8
comp=Z,20nm,0.8s
NRIK Noril'sk 33.75 325 P **P 02 46 57.3 +0.1**
comp=Z,34nm,0.9s,baz=95,slow=9.1,SNR=37
NRIK S **S 02 51 41.2 0.0**
comp=Z,12nm,1.0s,baz=293,slow=23,SNR=21
NRIK ScP **ScP 02 52 11.4 -0.3**
comp=Z,24nm,0.8s,baz=120,slow=4.2,SNR=6.3
NRIK Noril'sk 33.75 325*c*e**P P 02 46 57.2 +0.1**
NRIK pmax pmax
comp=Z,81nm,1.2s
PAX Paxson 33.90 47 P **P 02 46 59.6 +1.0**
PAX PcP **PcP 02 49 21.4 +0.9**
KLU Klutina 34.00 49 P **P 02 46 59.9 +0.4**
KLU IAmb IAmb 02 47 01.8
comp=Z,44nm,1.1s
RIDG Independent Ri 34.02 45 P **P 02 46 59.1 -0.5**
SCRK Sand Creek 34.35 45 P **P 02 47 02.1 -0.4**
baz=281,SNR=33
DOT Dot Lake 34.38 45 P **P 02 47 02.0 -0.6**
DOT IAmb IAmb 02 47 04.5
comp=Z,17nm,0.7s
MENT Mentasta 34.68 46 IAmb IAmb 02 47 08.3
comp=Z,16nm,1.0s
WHN Wuhan 34.93 247⇓*i*P **P 02 47 07.9 +0.4**
WHN PcP **PcP 02 49 24.6 +0.6**
WHN S **S 02 51 56.5 -3.4**
WHN pmax pmax
comp=Z,180nm,0.7s
WHN pmax pmax
comp=Z,750nm,4.6s
K27K Chicken 35.17 44 P **P 02 47 09.8 +0.7**
baz=282
K27K S **S 02 52 01.4 -1.3**
baz=282
MCARA McCarthy VSAT 35.38 49 IAmb IAmb 02 47 20.5
comp=Z,24nm,1.0s
EGAK Eagle 35.40 43 P **P 02 47 11.0 0.0**
BCAR Beaver Creek A 35.51 46 P **P 02 47 12.6 +0.6**
XAN Xi'an 35.57 256 P **P 02 47 13.0 +0.1**
XAN pmax pmax
comp=Z,50nm,0.9s
XAN Xi'an 35.57 256 P **P 02 47 12.7 -0.2**
XAN pmax pmax
comp=Z,29nm,0.7s
XAN Xi'an 35.57 256 P **P 02 47 12.7 -0.2**
XAN IAmb IAmb 02 47 13.6
comp=Z,29nm,0.7s
TATO Taipei 35.61 232 P **P 02 47 15.7 +2.5**
BALM Baldy 35.79 49 P **P 02 47 14.6 +0.2**
BALM IAmb IAmb 02 47 17.1
comp=Z,22nm,0.9s
YHNB Yeheng 35.92 232 P **P 02 47 15.8 -0.1**
BARN Barnard Glacie 36.10 49 P **P 02 47 17.7 +0.6**
BARN IAmb IAmb 02 47 19.1
comp=Z,21nm,0.6s
CTGM Chitina Glacie 36.28 49 IAmb IAmb 02 47 21.4
comp=Z,30nm,0.8s
CTGM ScP **ScP 02 52 23.1 +1.8**
SSLB Suanglung 36.87 232 P **P 02 47 23.6 -0.1**
SSLB IAmb IAmb 02 47 31.5
comp=Z,27nm,0.9s
YULB Yu-li 37.04 231 P **P 02 47 25.1 +0.1**
QZH Quanzhou 37.08 236⇓*i*P **P 02 47 25.8 +0.5**
QZH S **S 02 52 36.5 +4.6**
QZH pmax pmax
comp=Z,78nm,0.6s
LZH Lanzhou 37.28 264 *e*P **P 02 47 28.6 +1.6**
LZH pP pP 02 48 58.5 -3.9
LZH PcP **PcP 02 49 32.0 +0.7**
LZH S **S 02 52 35.5 +0.5**
LZH sS sS 02 55 28.3 -1.8
LZH SS **SS 02 55 41.8 -10**
LZH ScS **ScS 02 56 34.4 -1.3**
LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,180nm,5.4s
TPUB Ta-pu 37.44 232 P **P 02 47 28.5 +0.2**
INK Inuvik 37.61 36 P **P 02 47 29.6 +0.6**
comp=Z,30nm,0.5s,baz=291,slow=6.9,SNR=263
INK PcP **PcP 02 49 32.0 +0.5**
comp=Z,16nm,0.5s,baz=256,slow=3.6,SNR=8.7
INK ScP **ScP 02 52 25.2 -0.7**
comp=Z,11nm,0.8s,baz=315,slow=3.3,SNR=7.2
INK ScS **ScS 02 56 35.6 -0.5**
comp=Z,7.2nm,0.9s,baz=222,slow=31,SNR=14
INK Inuvik 37.61 36 P **P 02 47 29.7 +0.7**
INK PcP **PcP 02 49 32.2 +0.7**
INK ScP **ScP 02 52 27.1 +1.2**
GTA Gaotai 37.66 271⇓P **P 02 47 31.3 +1.2**
GTA pP pP 02 49 06.7 +1.0
GTA sP sP 02 50 07.1 -1.9
GTA S **S 02 52 39.8 -0.7**
GTA SS **SS 02 55 47.4 -12**
GTA pmax pmax
comp=Z,44nm,1.0s
GTA pmax pmax
comp=Z,100nm,11.3s
ENH Enshi 37.93 252 P **P 02 47 32.1 -0.1**
ENH PcP **PcP 02 49 33.7 +0.4**
HYT Haines Junctio 38.10 49 P **P 02 47 33.9 +0.6**
ZAA0 Zalesovo Array 38.96 300 P **P 02 47 40.2 0.0**
ZAA0 IAmb IAmb 02 47 40.7
comp=Z,14nm,0.5s
ZALV Zalesovo Beam 38.96 300 P **P 02 47 40.4 +0.2**
comp=Z,14nm,0.4s,baz=57,slow=6.6,SNR=40
ZALV PP **PP 02 49 25.9 -1.1**
comp=Z,6.1nm,0.8s,baz=60,slow=8.9,SNR=4.2
ZALV PcP **PcP 02 49 36.0 -0.1**
comp=Z,36nm,0.8s,baz=62,slow=3.5,SNR=20
ZALV ScP **ScP 02 52 30.8 -0.6**
comp=Z,12nm,0.7s,baz=51,slow=3.3,SNR=10
ZALV ScS **ScS 02 56 43.0 -1.6**
comp=Z,2.5nm,0.6s,baz=106,slow=3.2,SNR=5.3
WHY Whitehorse 39.37 48 IAmb IAmb 02 47 46.8
comp=Z,19nm,0.9s
DGZ Jazzator, Alta 39.48 293 *i*P **P 02 47 44.3 -0.3**
DGZ pmax pmax
comp=Z,4.0nm,0.4s
C36M Paulatuk 40.60 33 P **P 02 47 53.3 +0.3**
baz=290
CD2 Chengdu 40.87 258⇓P **P 02 47 56.8 +1.0**
CD2 S **S 02 53 27.8 +0.4**
CD2 SS **ScS 02 56 57.3 +0.2**
CD2 pmax pmax
comp=Z,180nm,0.6s
CD2 pmax pmax
comp=Z,170nm,3.8s
ZSN Zaisan 42.09 291 *e*P **P 02 48 06.3 +1.1**
ZSN *e*S **S 02 53 45.9 +1.3**
ZSN Zaisan 42.09 291 *e*P **P 02 48 06.3 +1.1**
ZSN *e*S **S 02 53 45.8 +1.3**
GYA Guiyang 42.42 251⇓P **P 02 48 08.6 +0.4**
GYA PcP **PcP 02 49 48.3 +0.1**
GYA sP sP 02 50 47.8 -1.4
GYA ScP **ScP 02 52 45.9 +0.1**
GYA PcS **PcS 02 53 40.3 -1.3**
GYA S **S 02 53 53.7 +3.7**
GYA ScS **ScS 02 57 03.7 -3.3**
GYA pmax pmax
comp=Z,110nm,0.7s
GYA pmax pmax
comp=Z,180nm,3.5s
WMQ Urumqi 42.44 285 *e*P **P 02 48 10.1 +2.0**
WMQ pP PcP 02 49 48.5 +0.5
WMQ pmax pmax
comp=Z,33nm,0.9s
WMQ pmax pmax
comp=Z,72nm,4.1s
WMQ Urumqi 42.44 285 IAmb IAmb 02 48 10.9
comp=Z,47nm,0.9s
DLBC Dease Lake 42.54 50 P **P 02 48 10.5 +1.9**
comp=Z,14nm,0.9s,baz=291,slow=8.4,SNR=13
DLBC PcP **PcP 02 49 48.6 +0.6**
comp=Z,8.9nm,0.9s,baz=306,slow=5.3,SNR=5.8
DLBC ScP **ScP 02 52 46.4 +0.7**
comp=Z,8.1nm,0.9s,baz=269,slow=5.2,SNR=5.7
DLBC Dease Lake 42.54 50 P **P 02 48 09.0 +0.4**
DLBC IAmb IAmb 02 48 12.5
comp=Z,26nm,1.1s
KURK Kurchatov 43.85 299 *e*P **P 02 48 19.4 +0.6**
KURK Kurchatov 43.85 299 P **P 02 48 19.4 +0.6**
KURK Kurchatov 43.85 299*c*e**P P 02 48 19.4 +0.6**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 43.85 299 P **P 02 48 19.4 +0.6**
MK31 Makanchi Array 43.92 292*c*e**P P 02 48 20.3 +0.8**
MK31 Makanchi Array 43.92 292 P **P 02 48 19.9 +0.3**
MKAR Makanchi Array 43.92 292 P **P 02 48 20.3 +0.8**
comp=Z,6.2nm,0.4s,baz=60,slow=7.0,SNR=133
MKAR PcP **PcP 02 49 52.7 -0.2**
comp=Z,5.5nm,0.7s,baz=56,slow=5.2,SNR=5.3
MKAR ScP **ScP 02 52 50.4 -1.1**
comp=Z,9.1nm,0.6s,baz=48,slow=4.5,SNR=9.5
MKAR S **S 02 54 11.6 +0.9**
comp=Z,7.5nm,0.9s,baz=59,slow=17,SNR=6.7
MKAR ScS **ScS 02 57 12.7 -3.1**
comp=Z,0.8nm,0.4s,baz=336,slow=3.2,SNR=4.3
MKAR Makanchi Array 43.92 292 *e*P **P 02 48 20.2 +0.7**
MKAR Makanchi Array 43.92 292*c*e**P P 02 48 20.2 +0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 43.92 292 P **P 02 48 19.8 +0.3**
KURBB Kurchatov Arra 43.95 298 P **P 02 48 20.2 +0.6**
comp=Z,12nm,0.5s,baz=64,slow=7.5,SNR=94
KURBB PcP **PcP 02 49 52.7 -0.1**
comp=Z,30nm,0.8s,baz=61,slow=3.2,SNR=23
KURBB ScP **ScP 02 52 50.5 -1.0**
comp=Z,19nm,0.8s,baz=60,slow=3.4,SNR=18
KURBB S **S 02 54 03.9 -6.8**
comp=Z,5.9nm,0.9s,baz=61,slow=15,SNR=5.2
KURBB Kurchatov Arra 43.95 298 P **P 02 48 19.1 -0.5**
PATS Pohnpei 45.52 171 P **P 02 48 32.4 +0.3**
KMI Kunming 45.73 253⇓*e*P **P 02 48 34.7 +0.8**
KMI pmax pmax
comp=Z,69nm,0.9s
KMI Kunming 45.73 253 P **P 02 48 33.5 -0.4**
KMI pmax pmax
comp=Z,72nm,1.0s
KMI Kunming 45.73 253 P **P 02 48 33.5 -0.4**
RES Resolute Bay 45.97 20 P **P 02 48 34.5 -0.1**
comp=Z,26nm,0.9s,baz=356,slow=5.9,SNR=5.8
RES Resolute Bay 45.97 20 IAmb IAmb 02 48 36.0
comp=Z,29nm,0.9s
NOR Nord 46.31 358 P **P 02 48 36.4 -0.8**
NOR pmax pmax
comp=Z,22nm,2.3s
QIZ Qiongzhong 46.52 241 P **P 02 48 39.5 -0.1**
BVAR Borovoye Array 46.91 305 P **P 02 48 42.7 +0.6**
comp=Z,6.7nm,0.4s,baz=223,slow=2.2,SNR=41
BVAR PcP **PcP 02 50 03.2 -0.2**
comp=Z,41nm,1.1s,baz=146,slow=11,SNR=10
BVAR S **S 02 54 45.5 -6.6**
comp=Z,24nm,0.9s,baz=108,slow=19,SNR=16
BVAR ScS **ScS 02 57 31.3 -3.8**
comp=Z,3.6nm,0.8s,baz=113,slow=11,SNR=4.1
BRVK Borovoye 46.94 305 *e*P **P 02 48 42.8 +0.4**
BRVK Borovoye 46.94 305 P **P 02 48 42.6 +0.3**
BRVK Borovoye 46.94 305*c*e**P P 02 48 42.8 +0.4**
BRVK pmax pmax
comp=Z,35nm,1.7s
BRVK Borovoye 46.94 305 P **P 02 48 42.9 +0.6**
BRVK IAmb IAmb 02 48 43.9
comp=Z,25nm,1.1s
KBS Kingsbay 46.99 350*c*e**P P 02 48 43.1 +0.7**
KBS pmax pmax
comp=Z,21nm,1.0s
KBS Kingsbay 46.99 350 P **P 02 48 42.5 +0.1**
KBS IAmb IAmb 02 48 43.5
comp=Z,34nm,0.9s
KBS Kingsbay 46.99 350⇑*i*P **P 02 48 42.3 -0.1**
SPA0 Spitsbergen Ar 47.12 349 P **P 02 48 42.9 -0.4**
SPA0 IAmb IAmb 02 49 00.1
comp=Z,42nm,1.1s
SPA0 Spitsbergen Ar 47.12 349⇑*i*P **P 02 48 42.5 -0.9**
SPITS Spitsbergen Ar 47.12 349 P **P 02 48 42.4 -0.9**
comp=Z,3.1nm,0.4s,baz=69,slow=7.9,SNR=23
YKA Yellowknife Ar 47.14 39 P **P 02 48 44.1 +0.4**
comp=Z,12nm,0.7s,baz=308,slow=7.3,SNR=18
YKA PcP **PcP 02 50 04.5 +0.6**
comp=Z,21nm,1.0s,baz=318,slow=3.0,SNR=16
YKA pP **pP 02 50 27.6 +2.1**
comp=Z,6.1nm,0.9s,baz=308,slow=8.6,SNR=4.1
YKA ScP **ScP 02 53 06.0 +1.4**
comp=Z,5.3nm,0.7s,baz=310,slow=4.9,SNR=9.4
TDK Taldyqorghan 47.17 292 *e*P **P 02 48 44.8 +0.6**
TDK *e*S **S 02 54 56.1 0.0**
TDK Taldyqorghan 47.17 292 *e*P **P 02 48 44.8 +0.6**
TDK *e*S **S 02 54 56.0 0.0**
BRZS Berezniki 47.44 301 *e*P **P 02 48 46.4 +0.2**
comp=Z,7.1nm,0.4s
BRZS *e*S **S 02 54 58.7 -0.8**
BRZS Berezniki 47.44 301 *e*P **P 02 48 46.3 +0.2**
BRZS *e*S **S 02 54 58.7 -0.8**
BRZS pmax pmax
comp=Z,7.0nm,0.4s
SHLS Shalkode 47.67 289 *e*P **P 02 48 47.1 -1.1**
comp=Z,15nm,0.5s
SHLS *e*S **S 02 55 00.5 -2.7**
SHLS Shalkode 47.67 289 *e*P **P 02 48 47.1 -1.1**
SHLS *e*S **S 02 55 00.5 -2.7**
SHLS pmax pmax
comp=Z,15nm,0.5s
UZB Uzynbulak 47.94 290⇓*i*P **P 02 48 50.8 +0.7**
comp=Z,11nm,1.0s
UZB *e*S **S 02 55 06.9 0.0**
UZB Uzynbulak 47.94 290*d*i**P P 02 48 50.8 +0.7**
UZB *e*S **S 02 55 06.8 -0.1**
UZB pmax pmax

comp=Z,11nm,1.0s
KPKS Kokpek 47.94 290 *e*P **P 02 48 50.7 +0.5**
comp=Z,13nm,0.7s
KPKS *e*S **S 02 55 06.9 0.0**
KPKS Kokpek 47.94 290 *e*P **P 02 48 50.6 +0.5**
KPKS *e*S **S 02 55 06.8 0.0**
KPKS pmax pmax
comp=Z,13nm,0.7s
SLVN Son La 47.97 249 P **P 02 48 50.6 0.0**
SATY Saty 48.35 290 *e*P **P 02 48 54.2 +1.0**
comp=Z,12nm,1.1s
SATY *e*S **S 02 55 13.5 +0.9**
SATY Saty 48.35 290 *e*P **P 02 48 54.2 +1.0**
SATY *e*S **S 02 55 13.4 +0.9**
SATY pmax pmax
comp=Z,11nm,1.1s
KUU Kurty 49.02 292 *e*P **P 02 48 58.0 -0.1**
comp=Z,10nm,0.5s
KUU *e*S **S 02 55 21.4 -0.2**
KUU Kurty 49.02 292 *e*P **P 02 48 57.9 -0.1**
KUU *e*S **S 02 55 21.3 -0.2**
KUU pmax pmax
comp=Z,11nm,0.5s
MDOK Medeo 49.07 291 *e*P **P 02 48 59.2 +0.6**
MDOK *e*S **S 02 55 22.7 +0.3**
MDOK Medeo 49.07 291 *e*P **P 02 48 59.1 +0.6**
MDOK *e*S **S 02 55 22.7 +0.3**
KIP Kipapa 49.16 109*ce*P **P 02 49 01.8 +2.5**
KIP pmax pmax
comp=Z,123nm,2.5s
TNSS Tian-Shan 49.20 291 *e*P **P 02 48 59.9 +0.1**
TNSS Tian-Shan 49.20 291 *e*P **P 02 48 59.9 +0.1**
LSA Lhasa 49.42 268 P **P 02 49 03.5 +1.9**
LSA pmax pmax
comp=Z,370nm,0.9s
LSA Lhasa 49.42 268 P **P 02 49 03.6 +1.9**
LSA Lhasa 49.42 268 P **P 02 49 03.8 +2.1**
LSA Lhasa 49.42 268 P **P 02 49 01.5 -0.2**
LSA pmax pmax
comp=Z,71nm,0.8s
LSA Lhasa 49.42 268 P **P 02 49 01.5 -0.2**
TARG Taragay, Kyrgy 49.52 289 P **P 02 49 02.0 -0.2**
TARG IAmb IAmb 02 49 05.3
comp=Z,16nm,0.7s
BTLS Baital 49.62 295 *e*P **P 02 49 02.6 +0.3**
BTLS *e*S **S 02 55 29.6 +0.1**
BTLS Baital 49.62 295 *e*P **P 02 49 02.6 +0.3**
BTLS *e*S **S 02 55 29.5 +0.1**
KDJ Kajisay 49.63 290 P **P 02 49 02.6 -0.1**
KDJ pmax pmax
comp=Z,36nm,0.8s
KDJ Kajisay 49.63 290 P **P 02 49 02.6 -0.1**
KDJ IAmb IAmb 02 49 04.8
comp=Z,36nm,0.8s
TKM2 Tokmak 2 50.05 291 P **P 02 49 06.8 +1.0**
SNR=5.3
ULHL Ulaho! 50.10 290 P **P 02 49 07.6 +1.4**
SNR=7.5
BOOM Boomskoye usch 50.12 291 P **P 02 49 06.3 0.0**
BOOM pmax pmax
comp=Z,25nm,0.8s
BOOM Boomskoye usch 50.12 291 P **P 02 49 06.3 0.0**
BOOM IAmb IAmb 02 49 08.7
comp=Z,25nm,0.8s
SGDS Sogindy 50.27 293 *e*P **P 02 49 07.8 +0.5**
comp=Z,9.4nm,1.1s
SGDS *e*S **S 02 55 39.4 +0.8**
SGDS Sogindy 50.27 293 *e*P **P 02 49 07.7 +0.5**
SGDS *e*S **S 02 55 39.3 +0.8**
SGDS pmax pmax
comp=Z,9.0nm,1.1s
USP Ospenovka 50.46 292 P **P 02 49 10.0 +1.4**
SNR=23
CHMS Chumysh 50.48 292 P **P 02 49 09.9 +1.2**
SNR=14
ARU Arti 50.54 314 P **P 02 49 09.2 +0.3**
comp=Z,9.9nm,0.4s,baz=39,slow=4.0,SNR=35
ARU PcP **PcP 02 50 16.3 -0.3**
comp=Z,7.3nm,0.4s,baz=24,slow=4.8,SNR=5.2
ARU ScP **ScP 02 53 17.8 -1.5**
comp=Z,11nm,0.8s,baz=40,slow=2.2,SNR=11
ARU S **S 02 55 40.9 -0.6**
comp=Z,1.1nm,0.3s,baz=5.3,slow=23,SNR=7.8
ARU Arti 50.54 314 *e*P **P 02 49 09.0 +0.1**
ARU Arti 50.54 314*c i*P **P 02 49 09.0 +0.1**
ARU 02 50 15.9
ARU 02 51 10.1
ARU S **S 02 55 40.9 -0.6**
ARU pmax pmax
comp=Z,90nm,1.5s
ARU Arti 50.54 314 P **P 02 49 09.2 +0.3**
ARU IAmb IAmb 02 49 09.6
comp=Z,36nm,0.6s
KBK Karagaybulak 50.59 292 P **P 02 49 10.9 +1.2**
SNR=6.8
FRU1 Bishkek 50.67 292 P **P 02 49 11.1 +0.9**
FRU1 pmax pmax
comp=Z,50nm,0.7s
FRU1 Bishkek 50.67 292 P **P 02 49 11.1 +0.9**
HLK Haleakala 50.71 108 P **P 02 49 11.5 +0.5**
HLK IAmb IAmb 02 49 19.4
comp=Z,58nm,1.0s
AAK Ala-Archa 50.86 292 P **P 02 49 12.8 +1.2**
SNR=23
AAK Ala-Archa 50.86 292 *i*P **P 02 49 12.4 +0.7**
SNR=30
AAK Ala-Archa 50.86 292 *e*P **P 02 49 12.6 +1.0**
AAK Ala-Archa 50.86 292 P **P 02 49 12.7 +1.0**
AAK Ala-Archa 50.86 292*ce*P **P 02 49 12.6 +1.0**
AAK pmax pmax
comp=Z,67nm,0.7s
DAG Danmarks Havn 51.17 357 *i*P **PcP 02 50 17.8 -0.8**
DAG Danmarks Havn 51.17 357 *i*P **PcP 02 50 17.9 -0.8**
EKS2 Erkin-Say 51.25 292 P **P 02 49 15.8 +1.4**
SNR=20
A04D Lummi Island 51.48 58 P **P 02 49 16.9 +1.2**
baz=308,SNR=5.2
NLWA Neilton Lookou 51.69 59 P **P 02 49 18.1 +0.7**
NLWA IAmb IAmb 02 49 19.8
comp=Z,24nm,1.0s
SHL Shillong 51.94 263 P **P 02 49 20.6 +0.9**
SNR=49
SHL Shillong 51.94 263 P **P 02 49 20.3 +0.6**
SHL pmax pmax
comp=Z,201nm,0.5s
SHL Shillong 51.94 263 P **P 02 49 20.3 +0.6**
HAMF Hammerfest 51.97 341⇑ *i*P **P 02 49 18.8 -0.2**
KSH Kashi 52.01 288 P **P** 02 49 24.9 +5.0
KSH S **S 02 56 07.8 +5.8**
KSH pmax pmax
comp=Z,35nm,1.0s
KSH LR LR
comp=Z,2μm,9.1s
KSH LR LR
comp=Z,2μm,6.2s
D03D Eldon 52.01 59 P **P 02 49 21.0 +1.3**
baz=309,SNR=10
B05A Bryant 52.08 58 P **P 02 49 21.2 +1.1**
baz=309,SNR=8.4
B06A Marblemount 52.23 57 P **P 02 49 21.9 +0.7**
B06A IAmb IAmb 02 49 22.4
comp=Z,19nm,0.6s
PRGR Permogore 52.40 325⇑ *i*P **P 02 49 22.4 +0.2**
PRGR *e*S **S 02 56 05.9 -0.3**
PRGR pmax pmax
comp=Z,92nm,1.0s
D04E Lakebay 52.41 59 P **P 02 49 24.4 +2.0**
baz=309
ARCES ARCESS Array B 52.46 339 P **P 02 49 22.1 -0.4**
comp=Z,8.6nm,0.6s,baz=33,slow=7.6,SNR=45
ARCES ScP **ScP 02 53 26.8 -0.7**
comp=Z,7.3nm,1.0s,baz=40,slow=6.4,SNR=5.4
D05A Enumclaw 52.81 59 P **P 02 49 26.1 +0.7**
KK31 Karatay Array 52.81 295 *i*P **P 02 49 25.6 +0.1**
KK31 Karatay Array 52.81 295 PcP **PcP 02 50 25.5 0.0**
KKAR Karatay Array 52.81 295 P **P 02 49 25.8 +0.3**
KKAR Karatay Array 52.81 295 P **P 02 49 25.8 +0.3**
KKAR Karatay Array 52.81 295 IAmb IAmb 02 49 27.1
comp=Z,16nm,0.8s
CHTO Chiang Mai 52.82 252 P **P 02 49 27.0 +1.1**
CHTO Chiang Mai 52.82 252 P **P 02 49 25.9 0.0**
CHTO pmax pmax
comp=Z,81nm,0.7s
CHTO Chiang Mai 52.82 252 P **P 02 49 25.9 0.0**
E04D Cinebar 52.91 60 P **P 02 49 27.6 +1.5**

baz=310,SNR=5.7
C06D Leavenworth 52.92 57 P **P 02 49 27.2 +1.1**
baz=310
KIRV Kirov 53.00 320 P **P 02 49 26.8 +0.3**
comp=Z,22nm,0.5s,baz=19,slow=5.7,SNR=11
KIRV PcP **PcP 02 50 25.8 -0.1**
comp=Z,24nm,0.7s,baz=308,slow=1.5,SNR=6.3
KIRV ScP **ScP 02 53 28.4 -1.5**
comp=Z,10nm,0.4s,baz=60,slow=1.5,SNR=5.4
KIRV S **S 02 56 13.9 -0.3**
comp=Z,7.2nm,0.5s,baz=208,slow=21,SNR=7.2
KIRV ScS **ScS 02 58 13.9 -3.1**
comp=Z,9.3nm,0.5s,baz=151,slow=22,SNR=6.4
KIRV Kirov 53.00 320*ce*P **P 02 49 27.0 +0.5**
CM31 Chiang Mai Arr 53.10 251 P **P 02 49 29.5 +1.7**
SNR=26
CM31 Chiang Mai Arr 53.10 251 IAmb IAmb 02 49 30.4
comp=Z,60nm,0.8s
CM31 **PcP 02 50 27.1 +0.1**
CMAR Chiang Mai Arr 53.10 251 P **P 02 49 29.4 +1.5**
comp=Z,44nm,0.8s,baz=24,slow=6.8,SNR=171
CMAR PcP **PcP 02 50 27.9 +1.0**
comp=Z,26nm,0.7s,baz=11,slow=3.1,SNR=21
CMAR ScP **ScP 02 53 31.3 +0.3**
comp=Z,7.4nm,0.7s,baz=12,slow=4.0,SNR=16
CMAR Chiang Mai Arr 53.10 251*ce*P **P 02 49 29.3 +1.4**
CMAR pmax pmax
comp=Z,44nm,0.8s
CMAR Chiang Mai Arr 53.10 251 P **P 02 49 27.9 +0.1**
DLV T Lat 53.13 237 P **P 02 49 28.2 -0.1**
DLV IAmb IAmb 02 49 30.5
comp=Z,48nm,0.7s
TMCR Tamitsa 53.17 330 *e*P **P 02 49 27.6 0.0**
TMCR pmax pmax
comp=Z,49nm,0.8s
LON Longmire 53.19 59 P **P 02 49 28.8 +0.6**
LON pmax pmax
comp=Z,10.0nm,1.2s
LON Longmire 53.19 59 P **P 02 49 28.8 +0.6**
BRLS Borolday 53.24 295 *e*S **S 02 56 22.6 +4.5**
F04A Amboy 53.39 60 P **P 02 49 30.2 +0.8**
F04A IAmb IAmb 02 49 31.4
comp=Z,30nm,0.6s
F04A **PcP 02 50 28.4 +0.8**
B08A Colville Reser 53.44 56 P **P 02 49 30.6 +0.7**
B08A PcP **PcP 02 50 28.6 +0.8**
LTY Liberty 53.46 58 PcP **PcP 02 50 28.7 +0.7**
IUG Iuzhnay 53.71 294 *e*P **P 02 49 33.0 +1.1**
IUG *e*S **S 02 56 26.4 +2.0**
IUG Iuzhnay 53.71 294 *e*P **P 02 49 33.0 +1.1**
IUG *e*S **S 02 56 26.3 +2.0**
TRO Tromso 53.75 341 *e*P **P 02 49 31.4 -0.3**
I02D Swisshome 53.80 63 P **P 02 49 34.1 +1.7**
baz=311
SGF Sodankyl 53.87 337 P **P 02 49 32.2 -0.3**
SGF pmax pmax
comp=Z,27nm,1.4s
F05D White Salmon 53.93 60 P **P 02 49 34.6 +1.3**
baz=311
H04D Lebanon 54.13 62 P **P 02 49 36.3 +1.5**
baz=311
H04A Detroit Lake 54.33 61 P **P 02 49 36.8 +0.6**
H04A PcP **PcP 02 50 32.1 +0.7**
E07A Sunnyside 54.34 58 P **P 02 49 36.7 +0.5**
I03D Drain, OR 54.34 63 P **P 02 49 38.3 +2.0**
baz=311
MYLDM Lahad Datu 54.35 222 P **P 02 49 36.7 +0.1**
MYLDM IAmb IAmb 02 49 48.3
comp=Z,34nm,0.9s
J01E Myrtle Point 54.37 64 P **P 02 49 38.5 +2.1**
baz=311,SNR=6.6
AB31 Akbulak array 54.42 306 *i*P **P 02 49 37.2 +0.5**
ABKAR Akbulak array 54.42 306 P **P 02 49 37.1 +0.4**
ABKAR Akbulak array 54.42 306 P **P 02 49 37.1 +0.4**
G05D Wamic, OR 54.43 60 P **P 02 49 38.3 +1.4**
baz=311
D08A Wollman Farm, 54.50 57 P **P 02 49 38.0 +0.7**
KKM Kota Kinabalu 54.55 225 P **P 02 49 38.2 +0.1**
KKM IAmb IAmb 02 49 41.7
comp=Z,69nm,0.9s
AKTO Aktyubinsk 54.59 308 P **P 02 49 38.1 +0.3**
comp=Z,4.4nm,0.3s,baz=66,slow=8.4,SNR=20
AKTO PcP **PcP 02 50 31.9 -0.3**
comp=Z,5.1nm,0.6s,baz=81,slow=5.0,SNR=5.4
AKTO ScP **ScP 02 53 35.5 -1.6**
comp=Z,24nm,0.9s,baz=54,slow=3.4,SNR=13
AKTO S **S 02 56 35.5 +0.1**
comp=Z,4.5nm,0.9s,baz=236,slow=20,SNR=16
HAWA Hanford 54.62 58 P **P 02 49 38.7 +0.6**
HAWA PcP **PcP 02 50 33.2 +0.8**
NEW Newport 54.62 55 P **P 02 49 38.8 +0.6**
comp=Z,9.6nm,0.8s,baz=307,slow=6.3,SNR=13
NEW PcP **PcP 02 50 32.4 -0.1**
comp=Z,12nm,0.9s,baz=292,slow=2.8,SNR=8.2
NEW Newport 54.62 55 P **P 02 49 38.6 +0.4**
baz=311,SNR=8.1
NEW Newport 54.62 55 P **P 02 49 38.8 +0.6**
NEW PcP **PcP 02 50 32.4 -0.1**
F07A Phinny Hill Vi 54.73 59 P **P 02 49 39.7 +0.7**
F07A IAmb IAmb 02 49 41.2
comp=Z,32nm,0.7s
I04A Tendick Farm, 54.79 62 P **P 02 49 40.9 +1.5**
baz=311,SNR=12
E08A Dider Farm, El 54.80 58 P **P 02 49 40.1 +0.7**
K02D Willamette Mer 54.83 64 P **P 02 49 41.5 +1.8**
baz=312,SNR=7.6
I05D Terrebonne, OR 55.01 61 P **P 02 49 42.4 +1.4**
baz=312,SNR=13
KLMR Klimovskoe 55.07 326 *e*P **P 02 49 39.4 -1.6**
KLMR *e* 02 51 50.2
KLMR pmax pmax
comp=Z,64nm,1.1s
KLMR Klimovskoe 55.07 326 *e*P **P 02 49 39.5 -1.6**
KLMR AMP 02 49 42.2
comp=Z,64nm,1.1s
KLMR *e*PP **PP 02 51 50.2 -1.8**
L02E Cave Junction 55.22 64 P **P 02 49 44.4 +2.0**
baz=312
E09A Wood Farm, Sta 55.26 57 P **P 02 49 43.4 +0.8**
HUMO Hull Mountain 55.28 64 P **P 02 49 43.3 +0.5**
HUMO **PcP 02 50 37.1 +2.0**
J04D Umpqua Nationa 55.32 62 P **P 02 49 45.2 +1.9**
baz=312,SNR=19
SUMG Summit 55.33 4 *i*P **P 02 49 43.5 +0.4**
SUMG pmax pmax
comp=Z,150nm,1.0s
SUMG Summit 55.33 4 P **P 02 49 43.5 +0.4**
SUMG IAmb IAmb 02 49 44.5
comp=Z,71nm,1.1s
SUMG Summit 55.33 4 *i*P **P 02 49 43.5 +0.4**
comp=Z,153nm,1.0s
SUMG Summit 55.33 4 IAmb IAmb 02 49 44.8
comp=Z,153nm,1.0s
SUMG Summit 55.33 4 *i*P **P 02 49 43.5 +0.4**
PINE Pine Mountain 55.59 61 P **P 02 49 46.3 +1.2**
PINE IAmb IAmb 02 49 48.2
comp=Z,64nm,0.9s
GAR Garm 55.63 291 P **P 02 49 46.5 +1.0**
WALA Waterton Lakes 55.69 53 **PcP 02 50 37.4 +0.6**
N2IH Innhavet 55.75 341 *e*P **P 02 49 45.0 -0.6**
J05D Fort Rock, OR 55.77 62 P **P 02 49 48.6 +2.3**
baz=312,SNR=42
N2VI Vinje 55.77 342 *e*P **P 02 49 45.5 -0.2**
L04D Klamath Falls 55.90 63 P **P 02 49 48.9 +1.7**
baz=312,SNR=13
OUL Oulu 55.90 336 P **P 02 49 46.7 0.0**
OUL pmax pmax
comp=Z,39nm,1.2s
K04D Chiloquin, OR 55.92 63 P **P 02 49 49.3 +1.9**
baz=312
YBH Yreka Blue Hor 56.00 64 P **P 02 49 48.8 +0.9**
YBH pmax pmax
comp=Z,17nm,0.7s
YBH Yreka Blue Hor 56.00 64 P **P 02 49 48.8 +0.9**
LOF Lofoten 56.06 343 *e*P **P 02 49 47.1 -0.7**
F10A Beach Ranch, E 56.09 57 P **P 02 49 49.0 +0.5**
M02C Callahan 56.15 65 P **P 02 49 51.2 +2.2**
baz=312,SNR=5.9
RABL Rabaul 56.16 180 P **P 02 49 49.7 +0.5**
I07A Izee 56.16 60 P **P 02 49 49.5 +0.5**
N2TV TVrnvik 56.25 342 *e*P **P 02 49 48.8 -0.3**
K05A Summer Lake 56.33 62 P **P 02 49 50.6 +0.3**
K05A IAmb IAmb 02 49 53.5
comp=Z,36nm,0.8s
N2ST Straumen 56.34 341 *e*P **P 02 49 49.0 -0.7**

FAUS Fauske 56.38 341⇑ *i*P **P 02 49 49.6 -0.3**
M04C Macdoel 56.44 64 P **P 02 49 52.9 +1.8**
baz=313,SNR=12
NBB08 Skaug oppvekst 56.50 342 *e*P **P 02 49 50.6 -0.2**
N02D Trinity Center 56.51 65 P **P 02 49 53.6 +2.1**
baz=313,SNR=10
CHGR Chuyangaron 56.53 291 P **P 02 49 51.7 0.0**
BMO Blue Mountains 56.81 58 P **P 02 49 53.9 +0.5**
BMO pmax pmax
comp=Z,13nm,1.0s
BMO Blue Mountains 56.81 58 P **P 02 49 53.9 +0.5**
WDC Whiskeytown Da 56.87 65 P **P 02 49 54.3 +0.5**
WDC pmax pmax
comp=Z,15nm,0.9s
WDC Whiskeytown Da 56.87 65 P **P 02 49 54.3 +0.5**
NBB05 Inndyr 56.92 342 *e*P **P 02 49 53.5 -0.1**
O02D Mt. Diablo Mer 57.01 66 P **P 02 49 56.9 +2.0**
baz=313,SNR=6.4
NBB30 Finnes 57.03 342 *e*P **P 02 49 53.3 -1.2**
NBB17 Glomfjord B¥r 57.13 342 *e*P **P 02 49 54.9 -0.3**
FFC Flin Flon 57.15 42 P **P 02 49 56.1 +0.6**
FFC pmax pmax
comp=Z,19nm,0.8s
FFC Flin Flon 57.15 42 P **P 02 49 56.1 +0.6**
MSO Missoula 57.19 55 P **P 02 49 56.9 +0.8**
baz=313,SNR=24
MSO Missoula 57.19 55 P **P 02 49 56.6 +0.6**
MSO IAmb IAmb 02 49 57.9
comp=Z,32nm,1.1s
J08A Circle Bar Ran 57.20 60 P **P 02 49 56.7 +0.5**
J08A IAmb IAmb 02 49 59.0
comp=Z,37nm,1.0s
MOD Modoc Plateau 57.21 63 P **P 02 49 56.7 +0.4**
MOD IAmb IAmb 02 49 58.8
comp=Z,25nm,0.7s
PLID Pearl Lake 57.33 57 P **P 02 49 57.4 +0.2**
PLID IAmb IAmb 02 49 59.0
comp=Z,51nm,0.7s
O03E Paynes Creek 57.48 65 P **P 02 49 59.1 +1.1**
baz=313,SNR=22
KONS Konsvik 57.57 342 *e*P **P 02 49 57.5 -0.6**
NIL Nilore 57.58 284 P **P 02 50 00.1 +1.2**
NIL Nilore 57.58 284 P **P 02 49 58.7 -0.1**
NIL pmax pmax
comp=Z,179nm,1.0s
NIL Nilore 57.58 284 P **P 02 49 58.7 -0.1**
MOR8 Moi Rana 57.60 341⇑ *i*P **P 02 49 56.7 -1.6**
GDXM Geysers 57.94 67 P **P 02 50 01.8 +0.6**
BELG Belogornoye 58.00 316*c i*P **P 02 50 01.2 0.0**
ORV Oroville 58.15 65 P **P 02 50 03.1 +0.5**
ORV pmax pmax
comp=Z,24nm,0.9s
ORV Oroville 58.15 65 P **P 02 50 03.1 +0.5**
HRY Holter Researc 58.32 53 P **P 02 50 04.3 +0.6**
EGMT Eagleton 58.42 51 P **P 02 50 05.0 +0.7**
baz=314
EGMT Eagleton 58.42 51 P **P 02 50 04.8 +0.5**
MFID Camas Ranch 58.57 59 P **P 02 50 05.9 +0.5**
LRM Limekiln Ridge 58.63 55 P **P 02 50 06.3 +0.4**
ICESG Greenland Ices 58.74 5 IAmb IAmb 02 50 07.4
comp=Z,53nm,0.9s
ICESG Greenland Ices 58.74 5 *i*P **P 02 50 06.2 -0.2**
FIA1 FINESS Array S 58.79 333 P **P 02 50 06.5 0.0**
FIA1 IAmb IAmb 02 50 06.8
comp=Z,20nm,0.6s
FINES FINESS Array B 58.80 333 P **P 02 50 06.4 -0.1**
comp=Z,12nm,0.4s,baz=33,slow=7.9,SNR=114
FINES S **S 02 57 29.0 +0.1**
comp=Z,8.9nm,1.0s,baz=42,slow=15,SNR=7.9
AFDM Forest Hills D 58.87 65 P **P 02 50 08.0 +0.6**
DLMT Dillon 58.88 55 P **P 02 50 08.0 +0.5**
DLMT IAmb IAmb 02 50 09.8
comp=Z,46nm,1.1s
MCMT McKenzie Canyo 59.12 56 P **P 02 50 09.5 +0.2**
BOZ Bozeman (W) 59.20 54 P **P 02 50 10.8 +1.2**
baz=315,SNR=48
BOZ Bozeman (W) 59.20 54 P **P 02 50 10.0 +0.4**
BOZ pmax pmax
comp=Z,27nm,0.8s
BOZ Bozeman (W) 59.20 54 P **P 02 50 10.0 +0.4**
BOZ IAmb IAmb 02 50 11.8
comp=Z,27nm,0.8s
BCYI Bear Canyon 59.20 56 P **P 02 50 10.2 +0.4**
HLID Hailey 59.20 58 P **P 02 50 11.1 +1.3**
baz=314,SNR=14
HLID Hailey 59.20 58 P **P 02 50 10.1 +0.4**
PAHR Pah Rah Range 59.22 64 P **P 02 50 10.4 +0.5**
PAHR IAmb IAmb 02 50 12.2
comp=Z,49nm,1.0s
RUBR Rubicon Trail 59.25 65 P **P 02 50 10.5 +0.3**
RUBR IAmb IAmb 02 50 14.3
comp=Z,30nm,0.8s
VCNR Virginia City 59.36 64 P **P 02 50 11.2 +0.3**
VCNR IAmb IAmb 02 50 13.4
comp=Z,25nm,0.8s
KBL Kabul 59.45 288 P **P 02 50 11.1 -0.5**
SNR=22
KBL Kabul 59.45 288 P **P 02 50 11.1 -0.5**
KBL Kabul 59.45 288 P **P 02 50 11.1 -0.5**
KBL IAmb IAmb 02 50 12.0
comp=Z,49nm,0.8s
SBUM Sibu 59.52 228 P **P 02 50 12.1 +0.1**
PNTR Pine Nut 59.54 65 P **P 02 50 12.2 +0.1**
PNTR IAmb IAmb 02 50 14.7
comp=Z,34nm,0.9s
MOS Moscow 59.54 323 *e*P **P 02 50 10.1 -1.4**
MOS *e* 02 50 50.1
MOS *e*S **S 02 57 35.5 -2.9**
MOS *e* 02 58 57.1
NSS Namsos 59.54 341 *e*P **P 02 50 11.0 -0.3**
YERR Yerington 59.81 64 P **P 02 50 14.0 +0.2**
YERR IAmb IAmb 02 50 16.4
comp=Z,61nm,0.8s
CMB Columbia Colle 59.83 66 P **P 02 50 14.6 +0.7**
CMB pmax pmax
comp=Z,33nm,1.1s
CMB Columbia Colle 59.83 66 P **P 02 50 14.6 +0.7**
CMB IAmb IAmb 02 50 17.0
comp=Z,33nm,1.1s
QLMT Earthquake Lak 59.84 55 P **P 02 50 14.4 +0.4**
YHL Hebgen Lake 59.95 55 P **P 02 50 15.2 +0.3**
GCMT Greycliff 60.03 53 P **P 02 50 15.7 +0.5**
WAKR Walker 60.04 65 P **P 02 50 15.8 +0.4**
WAKR IAmb IAmb 02 50 18.1
comp=Z,35nm,1.0s
YHH Holmes Hill 60.16 55 P **P 02 50 16.6 +0.4**
YMR Madison River 60.19 55 P **P 02 50 16.7 +0.4**
YNR Norris Junctio 60.30 54 P **P 02 50 17.5 +0.4**
KVN Kaiserville 60.39 64 P **P 02 50 18.2 +0.5**
KVN pmax pmax
comp=Z,53nm,0.9s
KVN Kaiserville 60.39 64 P **P 02 50 18.2 +0.5**
KVN IAmb IAmb 02 50 20.3
comp=Z,53nm,0.9s
OBN Obninsk 60.41 323 P **P 02 50 17.1 -0.1**
comp=Z,3.4nm,0.4s,baz=209,slow=22,SNR=3.5
OBN pP **pP 02 52 07.8 +1.5**
comp=Z,2.8nm,0.4s,baz=28,slow=13,SNR=1.6
OBN Obninsk 60.41 323 *e*P **P 02 50 17.3 +0.1**
OBN Obninsk 60.41 323⇓ *e*P **P 02 50 17.3 +0.1**
OBN *i* 02 50 55.0
OBN *i* *PP **pP 02 52 05.0 -1.3**
OBN *i* 02 52 39.0
OBN *i* S **S 02 57 47.4 -1.8**
OBN *e*SS **SS 03 02 01.0 +2.1**
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 60.41 323 P **P 02 50 17.8 +0.6**
YNE Yellowstone No 60.42 54 P **P 02 50 18.3 +0.4**
RYN Ryan 60.46 64 P **P 02 50 18.7 +0.5**
RYN IAmb IAmb 02 50 20.7
comp=Z,28nm,0.9s
YMP Mirror Lake Pl 60.54 54 P **P 02 50 19.1 +0.3**
YPP Pitchstone Pla 60.55 55 P **P 02 50 19.2 +0.3**
H17A Grant Village 60.58 55 P **P 02 50 21.6 +2.7**
baz=316,SNR=12
H17A Grant Village 60.58 55 P **P 02 50 19.4 +0.4**
H17A IAmb IAmb 02 50 22.7
comp=Z,29nm,1.1s
DGMT Dagmar 60.70 48 P **P 02 50 19.9 +0.5**
baz=317
DGMT Dagmar 60.70 48 P **P 02 50 20.0 +0.6**
DGMT IAmb IAmb 02 50 20.9
comp=Z,35nm,0.9s

RLMT **Red Lodge** 60.71 53 P P 02 50 21.2 +1.5
baz=316,SNR=18
RLMT **Red Lodge** 60.71 53 P P 02 50 20.2 +0.4
RLMT lAmb lAmb 02 50 22.4
comp=Z,29nm,1.0s
NVAR **Mina Array Bea** 60.72 64 P P 02 50 21.6 +1.6
comp=Z,31nm,0.8s,baz=299,slow=6.5,SNR=100
NVAR pP **pP** 02 52 11.5 +1.9
comp=Z,2.3nm,0.8s,baz=305,slow=6.0,SNR=2.9
NVAR ScP **ScP** 02 54 06.2 +1.5
comp=Z,1.8nm,0.7s,baz=281,slow=5.0,SNR=3.8
NVAR **Mina Array Bea** 60.72 64 P P 02 50 20.3 +0.3
FLWY **Flagg Ranch** 60.74 55 P P 02 50 20.4 +0.5
IMW **Indian Meadow** 60.75 55 P P 02 50 20.5 +0.3
ELK **Elko** 60.75 60 P P 02 50 20.5 +0.4
ELK pmax pmax
comp=Z,10.0nm,0.7s
ELK **Elko** 60.75 60 P P 02 50 20.5 +0.4
NV11 **Mina Array Sit** 60.80 64 P P 02 50 20.8 +0.4
NV11 lAmb lAmb 02 50 22.4
comp=Z,21nm,0.7s
BKB **Balikpapan** 60.84 221 P P 02 50 20.1 -0.5
MDPB **Devils Postpil** 60.85 65 P P 02 50 21.2 +0.3
MDPB lAmb lAmb 02 50 23.4
comp=Z,20nm,0.8s
FXWY **Fox Creek** 60.89 56 P P 02 50 21.4 +0.4
OMMB **Old Mammoth Mi** 60.91 65 P P 02 50 21.6 +0.3
MLAC **Mammoth, Mammo** 60.99 65 P P 02 50 23.6 +1.9
baz=315
TBLU **Trondheim** 61.03 341 *eP* P 02 50 19.0 -2.2
TPAW **Teton Pass** 61.03 56 lAmb lAmb 02 50 24.9
comp=Z,32nm,0.9s
VSU **Vasula** 61.04 331 *eP* P 02 50 22.0 +0.7
VSU **Vasula** 61.04 331 *i* P P 02 50 21.0 -0.4
VSU pmax pmax
comp=Z,53nm,0.7s
LAO **LASA Array** 61.05 50 P P 02 50 22.8 +1.0
baz=317,SNR=8.6
LAO **LASA Array** 61.05 50 P P 02 50 22.6 +0.8
LAO lAmb lAmb 02 50 24.0
comp=Z,44nm,1.1s
LOHW **Long Hollow** 61.12 55 lAmb lAmb 02 50 25.3
comp=Z,32nm,1.1s
SNOW **Snow King Moun** 61.15 56 P P 02 50 23.1 +0.4
REDW **Red Top Meadow** 61.18 56 lAmb lAmb 02 50 25.7
comp=Z,36nm,1.1s
KSM **Kuching** 61.27 229 P P 02 50 23.7 +0.2
VRH **Novokhopyorsk** 61.37 318 *eP* P 02 50 23.1 -0.5
VRH *eS* **S** 02 57 58.4 -2.8
VRH *e* 02 59 13.3
VRH pmax pmax
comp=Z,30nm,0.7s
VRH smax smax
comp=N,350nm,1.6s
LPSR **Galich'ya Gora** 61.44 320 *eP* P 02 50 23.9 -0.1
LPSR *eS* **S** 02 57 59.8 -2.2
LPSR *e* 02 59 15.0
LPSR pmax pmax
comp=Z,20nm,0.6s
LPSR smax smax
comp=N,250nm,1.8s
PMG **Port Moresby** 61.48 185 *ceP* P 02 50 26.4 +1.6
PMG pmax pmax
comp=Z,68nm,0.6s
PMG **Port Moresby** 61.48 185 P P 02 50 25.3 +0.5
AHID **Auburn Hatcher** 61.48 56 P P 02 50 25.3 +0.5
PAGB **Antelope Grade** 61.54 68 lAmb lAmb 02 50 27.1
comp=Z,27nm,0.7s
TIN **Tinemaha, Big** 61.74 65 P P 02 50 28.3 +1.8
baz=316,SNR=8.7
BGU **Big Grassy Mou** 61.80 59 P P 02 50 27.4 +0.5
SPUT **South Promonto** 61.83 58 P P 02 50 27.6 +0.5
SMMC **Simmler** 61.98 68 P P 02 50 29.7 +1.7
baz=316,SNR=7.3
HWUT **Hardware Ranch** 62.07 57 P P 02 50 29.2 +0.5
HWUT lAmb lAmb 02 50 31.0
comp=Z,35nm,0.9s
PBA **Port Blair** 62.11 252 P P 02 50 29.7 +0.8
SNR=6.8
PBA **Port Blair** 62.11 252 P P 02 50 29.1 +0.2
VES **Vestal, Richgr** 62.12 67 P P 02 50 29.4 +0.5
baz=316,SNR=14
MOL **Molde** 62.17 342 *eP* P 02 50 28.2 -0.5
GRAC **Grapevine Rang** 62.26 65 P P 02 50 31.5 +1.7
baz=316,SNR=26
BW06 **Boulder Array** 62.26 55 P P 02 50 30.7 +0.8
baz=317,SNR=5
PD31 **Pinedale Array** 62.26 55 P P 02 50 30.3 +0.4
PD31 lAmb lAmb 02 50 31.2
comp=Z,18nm,0.7s
PDAR **Pinedale Array** 62.26 55 P P 02 50 30.8 +0.8
comp=Z,18nm,0.6s,baz=347,slow=1.6,SNR=201
PDAR pP **pP** 02 52 21.8 +1.3
comp=Z,5.2nm,0.7s,baz=326,slow=3.0,SNR=8.9
PDAR **Pinedale Array** 62.26 55 P P 02 50 30.4 +0.4
R11A **Troy Canyon, C** 62.27 63 P P 02 50 31.1 +1.1
baz=316,SNR=31
R11A **Troy Canyon, C** 62.27 63 P P 02 50 30.5 +0.5
DOMB **Dombas** 62.36 341 *eP* P 02 50 29.7 -0.3
PKM **Mcpherson Peak** 62.39 68 P P 02 50 32.4 +1.6
baz=316,SNR=7.4
VSR **Storozhevoye** 62.40 319 *eP* P 02 50 30.1 -0.3
VSR *e* 02 51 02.0
VSR *eS* **S** 02 58 10.3 -3.6
VSR *e* 02 59 21.4
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR smax smax
comp=N,100nm,1.4s
DUG **Dugway, Tooele** 62.44 59 P P 02 50 32.4 +1.5
baz=316,SNR=32
DUG **Dugway, Tooele** 62.44 59 P P 02 50 31.4 +0.4
DUG pmax pmax
comp=Z,34nm,0.9s
DUG **Dugway, Tooele** 62.44 59 P P 02 50 31.4 +0.4
DUG lAmb lAmb 02 50 33.5
comp=Z,34nm,0.8s
TCUT **Toone Canyon** 62.51 58 P P 02 50 32.0 +0.4
VORD **Divnogorie** 62.54 319 *eP* P 02 50 30.7 -0.6
VORD *e* 02 51 02.6
VORD pmax pmax
comp=Z,10.0nm,0.7s
ISA **Isabella, Lake** 62.60 67 P P 02 50 32.4 +0.4
baz=316,SNR=13
ISA **Isabella, Lake** 62.60 67 P P 02 50 32.6 +0.6
ISA pmax pmax
comp=Z,18nm,0.9s
ISA **Isabella, Lake** 62.60 67 P P 02 50 32.6 +0.6
NC303 **NORSAR Array S** 62.63 340 lAmb lAmb 02 50 32.2
comp=Z,29nm,0.8s
CTU **Camp Tracy** 62.64 58 P P 02 50 32.9 +0.5
NC405 **NORSAR Array S** 62.65 339 lAmb lAmb 02 50 32.5
comp=Z,57nm,0.9s
NC204 **NORSAR Array S** 62.71 340 P P 02 50 32.4 +0.1
NC204 lAmb lAmb 02 50 33.3
comp=Z,60nm,1.1s
NB201 **NORSAR Array S** 62.80 340 lAmb lAmb 02 50 33.2
comp=Z,40nm,0.8s
NB2 **NORSAR Subarra** 62.83 340 P P 02 50 32.7 -0.3
comp=Z,15nm,0.7s,baz=29,slow=6.5
NB2 **NORSAR Subarra** 62.83 340 P P 02 50 32.7 -0.3
baz=29,slow=6.5
NOA **NORSAR Array B** 62.83 340 P P 02 50 32.8 -0.3
comp=Z,7.5nm,0.6s,baz=26,slow=7.0,SNR=9.4
NOA PP **PP** 02 52 57.5 -2.4
comp=Z,4.7nm,1.0s,baz=26,slow=8.7,SNR=3.3
KULM **Kulim** 62.85 241 P P 02 50 34.0 +0.2
JLU **Jordanelle** 62.86 58 P P 02 50 34.2 +0.4
MPMC **Manual Prospec** 62.87 66 P P 02 50 35.1 +1.2
baz=316,SNR=28
TPNV **Topopah Spring** 62.91 64 P P 02 50 35.6 +1.4
baz=316,SNR=61
TPNV **Topopah Spring** 62.91 64 lAmb lAmb 02 50 36.4
comp=Z,55nm,0.8s
FURC **Furnace Creek,** 62.92 65 P P 02 50 35.6 +1.6
baz=316,SNR=49
ULM **Lac du Bonnet** 62.98 42 P P 02 50 33.6 -0.4
comp=Z,7.2nm,0.6s,baz=317,slow=8.3,SNR=11
NLU **North Lily Min** 63.00 59 P P 02 50 35.2 +0.5
NC602 **NORSAR Array S** 63.03 339 *eP* P 02 50 33.8 -0.4
NORES **NORESS Array B** 63.03 339 P P 02 50 36.4 +2.1
NORES pmax pmax
comp=Z,1.0nm,0.2s
HFS **Hagfors** 63.09 338 P P 02 50 34.4 -0.2
comp=Z,20nm,0.8s,baz=61,slow=4.2,SNR=46

LRMC **Laurel Mtn Rad** 63.17 66 P P 02 50 36.7 +0.9
baz=316
KAPI **Kappang** 63.18 216 P P 02 50 37.3 +1.5
KAPI **Kappang** 63.18 216 P P 02 50 36.2 +0.4
KAPI pmax pmax
comp=Z,68nm,0.6s
KAPI **Kappang** 63.18 216 P P 02 50 36.2 +0.4
GEYT **Alibeck** 63.22 298 P P 02 50 37.1 +1.2
comp=Z,21nm,0.6s,baz=29,slow=3.4,SNR=42
GEYT **Alibeck** 63.22 298 P P 02 50 36.1 +0.2
GYA0B **ALIBECK ARRAY** 63.22 298 P P 02 50 36.1 +0.2
GYA0B lAmb lAmb 02 50 37.9
comp=Z,36nm,1.0s
PRN **Pahroc Range** 63.24 63 lAmb lAmb 02 50 38.8
comp=Z,28nm,0.9s
IPM **Ipoh** 63.33 240 P P 02 50 37.0 +0.1
EDW2 **Edwards Air Fo** 63.43 67 P P 02 50 38.7 +1.3
baz=317,SNR=29
HRA **Herat** 63.48 292 P P 02 50 37.8 -0.1
HRA lAmb lAmb 02 50 39.8
comp=Z,26nm,0.9s
ISAL **Salakas** 63.62 329 *eP* P 02 50 38.7 +0.6
IDID **Didziasalis** 63.63 329 *eP* P 02 50 38.8 +0.6
SHOC **Shoshone, Teco** 63.66 65 P P 02 50 40.0 +1.3
baz=317,SNR=9.6
DECC **Green Verdugo** 63.69 68 P P 02 50 40.1 +1.1
baz=317,SNR=6.5
E28A **Huff** 63.70 47 lAmb lAmb 02 50 39.8
comp=Z,28nm,0.6s
HYA **Hoyanger** 63.72 342 *eP* P 02 50 39.0 +0.4
SKAR **Skarsla** 63.76 341 *eP* P 02 50 39.5 +0.6
GSC **Goldstone, Bar** 63.80 66 P P 02 50 40.8 +1.1
baz=317,SNR=24
GSC **Goldstone, Bar** 63.80 66 P P 02 50 40.2 +0.5
GSC pmax pmax
comp=Z,39nm,1.2s
GSC **Goldstone, Bar** 63.80 66 P P 02 50 40.2 +0.5
GSC lAmb lAmb 02 50 41.9
comp=Z,39nm,1.1s
PASC **Pasadena Art C** 63.84 67 lAmb lAmb 02 50 41.8
comp=Z,30nm,0.9s
SHPR **Sheep Range** 63.84 64 P P 02 50 40.5 +0.4
SHPR lAmb lAmb 02 50 42.6
comp=Z,24nm,1.0s
K22A **Casper** 63.87 54 P P 02 50 40.5 +0.3
baz=318,SNR=12
K22A **Casper** 63.87 54 lAmb lAmb 02 50 41.0
comp=Z,16nm,0.7s
MWC **Mount Wilson** 63.87 67 lAmb lAmb 02 50 41.9
comp=Z,26nm,0.7s
RSSD **Black Hills** 63.99 51 P P 02 50 41.5 +0.6
baz=318
RSSD **Black Hills** 63.99 51 P P 02 50 41.4 +0.4
RSSD pmax pmax
comp=Z,49nm,0.9s
RSSD **Black Hills** 63.99 51 P P 02 50 41.4 +0.4
RSSD lAmb lAmb 02 50 42.4
comp=Z,49nm,0.9s
RRX **Edison Barstow** 64.00 66 P P 02 50 42.1 +1.2
baz=317
BFSC **Mount Baldy Ra** 64.09 67 P P 02 50 42.6 +1.0
baz=317,SNR=16
FMP **Fort Macarthur** 64.11 68 P P 02 50 42.3 +0.7
baz=317
TUQ **Turquoise Moun** 64.19 65 P P 02 50 43.7 +1.4
baz=317,SNR=51
CIS **Catalina Islan** 64.27 68 P P 02 50 43.6 +0.9
baz=317
PABE **Paberze** 64.35 330 *eP* P 02 50 43.3 +0.6
HEC **Hector,Ludlow** 64.41 66 P P 02 50 44.9 +1.3
baz=317,SNR=35
BBRC **Big Bear Solar** 64.49 67 P P 02 50 45.4 +1.1
baz=317,SNR=8.6
ASK **Askoy** 64.54 342 *eP* P 02 50 44.5 +0.7
BER **Bergen** 64.61 342 *eP* P 02 50 44.9 +0.6
ODD1 **Odda** 64.80 341 *eP* P 02 50 46.0 +0.4
GMRC **Granite Mounta** 64.82 65 P P 02 50 47.5 +1.2
baz=317,SNR=33
MURC **Murrieta** 64.82 67 P P 02 50 47.0 +0.9
baz=317,SNR=11
O20A **White River Ci** 64.86 57 P P 02 50 47.2 +0.7
baz=318,SNR=25
O20A **White River Ci** 64.86 57 lAmb lAmb 02 50 48.2
comp=Z,38nm,0.7s
BELC **Belle Mtn. Jos** 65.20 66 P P 02 50 49.3 +0.7
baz=318,SNR=12
PFO **Pinyon Flats O** 65.22 67 P P 02 50 49.2 +0.4
PFO pmax pmax
comp=Z,13nm,0.7s
PFO **Pinyon Flats O** 65.22 67 P P 02 50 49.2 +0.4
PFO lAmb lAmb 02 50 50.2
comp=Z,13nm,0.7s
BLS5 **Blasjo** 65.28 341 *eP* P 02 50 48.9 +0.3
XMAS **Kiritimati** 65.31 122 P P 02 50 49.8 +0.4
B35A **Bob, Littlefor** 65.33 42 lAmb lAmb 02 50 49.4
comp=Z,21nm,0.8s
109C **Camp Elliot, M** 65.39 68 P P 02 50 50.5 +0.9
baz=318
109C **Camp Elliot, M** 65.39 68 lAmb lAmb 02 50 51.8
comp=Z,34nm,1.1s
PHWY **Pilot Hill** 65.40 54 PcP 02 51 16.8 +0.3
N23A **Red Feather La** 65.47 55 P P 02 50 51.2 +0.8
baz=319,SNR=12
U15A **North Rim** 65.47 62 lAmb lAmb 02 50 53.0
comp=Z,22nm,0.9s
GOF **Gofitskoye** 65.47 312 ⇓*i*P P 02 50 50.7 +0.7
GOF pmax pmax
comp=Z,61nm,0.8s
IRM **Iron Mountain** 65.56 65 P P 02 50 52.2 +1.4
baz=318,SNR=31
W13A **Hualapai Mount** 65.57 64 lAmb lAmb 02 50 53.4
comp=Z,20nm,0.9s
GROC **Groznyy** 65.61 310 *eP* P 02 50 49.7 -1.2
GROC *e**PP **pP** 02 52 43.4 +0.9
GROC *e**SP **sP** 02 53 43.0 +2.0
GROC *eS* **S** 02 58 52.0 -0.8
GROC pmax pmax
comp=Z,12nm,0.4s
PV21 **Cone Mtn., Par** 65.65 58 lAmb lAmb 02 50 53.4
comp=Z,30nm,0.7s
MMRI **Maumere** 65.69 212 P P 02 50 51.7 0.0
comp=Z,265nm,0.9s
BC3 **Big Chuckawall** 65.76 66 P P 02 50 53.1 +1.0
baz=318,SNR=15
PV14 **Lion Creek, Pa** 65.77 58 lAmb lAmb 02 50 54.1
comp=Z,38nm,0.8s
MONP2 **Monument Peak** 65.78 67 P P 02 50 53.1 +0.8
baz=318,SNR=11
BAR **Barrett** 65.79 68 lAmb lAmb 02 50 54.3
comp=Z,22nm,0.8s
PV11 **David Mesa, Pa** 65.90 58 lAmb lAmb 02 50 55.8
comp=Z,63nm,1.2s
PV07 **Paradox Valley** 65.92 58 lAmb lAmb 02 50 54.9
comp=Z,27nm,1.1s
SWSC **Sam W. Stewart** 66.09 67 P P 02 50 54.8 +0.8
baz=318,SNR=8.5
SOEI **Soe** 66.09 210 P P 02 50 54.4 +0.1
SUSD **Miller** 66.11 48 P P 02 50 53.9 -0.1
baz=321
IKP **In-Ko-Pah, Jac** 66.13 67 P P 02 50 55.6 +1.2
baz=318,SNR=12
SNART **Snartemo** 66.13 341 *i* P P 02 50 54.6 +0.8
HYB **Hyderabad** 66.21 268 *i* P P 02 50 55.0 -0.1
comp=Z,71nm,0.8s
HYB *e*PcP **PcP** 02 51 19.5 -0.4
F33A **5 Mile Ranch,** 66.22 45 lAmb lAmb 02 50 55.4
comp=Z,22nm,1.1s
COEN **Coen** 66.30 189 P P 02 50 55.9 +0.5
LGD **Lagodekhi** 66.44 308 P P 02 50 56.5 +0.4
ISCO **Idaho Springs** 66.45 55 P P 02 50 57.7 +1.1
baz=319,SNR=22
ISCO **Idaho Springs** 66.45 55 lAmb lAmb 02 50 58.9
comp=Z,25nm,1.1s
KVAR **Kislovodsk Arr** 66.48 312 P P 02 50 57.9 +1.5
comp=Z,4.8nm,0.6s,baz=333,slow=6.8,SNR=3.2
KVAR S **S** 02 59 06.1 +2.8
comp=Z,16nm,1.1s,baz=16,slow=7.4,SNR=4.0
KIV **Kislovodsk** 66.48 312 P P 02 50 56.8 +0.4
KIV **Kislovodsk** 66.48 312 *eP* P 02 50 58.0 +1.6
KIV **Kislovodsk** 66.48 312 *eP* P 02 50 58.0 +1.6
KIV *eS* **S** 02 59 06.1 +2.8
KIV pmax pmax
comp=Z,40nm,1.1s
KIV **Kislovodsk** 66.48 312 P P 02 50 56.6 +0.2
GLA **Glamis** 66.56 66 P P 02 50 58.3 +1.3
baz=318,SNR=13

KBZ **Khabaz** 66.56 312 P P 02 50 57.9 +1.2
comp=Z,20nm,0.8s,baz=82,slow=3.6,SNR=27
KBZ **Khabaz** 66.56 312 *ce*P P 02 50 57.9 +1.2
KBZ pmax pmax
comp=Z,24nm,0.9s
EYMN **Ely** 66.57 41 P P 02 50 56.3 -0.5
baz=323
AKASG **Malin Array Be** 66.61 324 P P 02 50 56.5 -0.4
comp=Z,3.4nm,0.4s,baz=32,slow=6.2,SNR=21
AKASG S **S** 02 59 02.3 -2.0
comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=9.9
AKASG **Malin Array Be** 66.61 324 *ce*P P 02 50 56.5 -0.4
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG **Malin Array Be** 66.61 324 P P 02 50 56.8 -0.1
WUAZ **Wupatki** 66.64 62 P P 02 50 59.2 +1.6
baz=318,SNR=23
WUAZ **Wupatki** 66.64 62 lAmb lAmb 02 51 00.3
comp=Z,29nm,0.9s
SHA1 **Shidzhatmaz** 66.66 312 *i* P P 02 50 57.7 0.0
ESJX **Sierra Juarez** 66.70 68 lAmb lAmb 02 51 00.5
comp=Z,41nm,1.1s
ZEI **Tsey** 66.82 310 *eP* P 02 50 58.1 -0.6
ZEI **Tsey** 66.82 310 *eP* P 02 50 58.1 -0.6
ZEI pmax pmax
comp=Z,12nm,1.0s
MVCO **Mesa Verde** 66.91 59 P P 02 51 00.2 +0.9
baz=319,SNR=19
MVCO **Mesa Verde** 66.91 59 lAmb lAmb 02 51 01.3
comp=Z,24nm,0.9s
Y14A **Wickenburg** 66.92 64 lAmb lAmb 02 51 01.1
comp=Z,29nm,0.7s
ONI **Oni** 67.18 311 P P 02 51 02.7 +2.0
BSD **Bornholm Skovb** 67.26 335 *i* P P 02 51 00.8 0.0
BSD **Bornholm Skovb** 67.26 335 *i* P P 02 51 00.8 0.0
BSD **Bornholm Skovb** 67.26 335 *i* P P 02 51 00.9 0.0
Q24A **Divide** 67.32 55 P P 02 51 02.7 +0.7
baz=320
113A **Mohawk Valley,** 67.36 66 lAmb lAmb 02 51 03.5
comp=Z,18nm,0.9s
S22A **4UR Ranch, Cre** 67.38 57 P P 02 51 03.5 +1.2
baz=319,SNR=25
X16A **Lo Mia Camp, P** 67.42 63 lAmb lAmb 02 51 05.2
comp=Z,32nm,0.8s
KZRT **Kazreti** 67.67 309 P P 02 51 05.6 +1.9
SPX **San Pedro Mart** 67.69 68 lAmb lAmb 02 51 05.7
comp=Z,22nm,1.1s
BASI **Baing, Sumba** 67.72 214 P P 02 51 06.9 +2.7
ECSD **EROS Data Cent** 67.73 47 P P 02 51 03.8 -0.1
baz=322,SNR=33
ECSD **EROS Data Cent** 67.73 47 lAmb lAmb 02 51 04.3
comp=Z,31nm,0.6s
W18A **Petrified Fore** 67.82 61 P P 02 51 06.2 +1.3
baz=319
W18A **Petrified Fore** 67.82 61 lAmb lAmb 02 51 07.5
comp=Z,23nm,0.9s
GSI **Gunungsitoli** 67.84 241 P P 02 51 05.1 +0.1
SDCO **Great Sand Dun** 68.07 56 P P 02 51 07.3 +0.8
baz=320,SNR=30
AKH **Akhalkalaki** 68.08 310 ⇑P P 02 51 08.1 +1.8
AKH **Akhalkalaki** 68.08 310 P P 02 51 06.4 +0.1
AKH pmax pmax
comp=Z,19nm,0.8s
AKH **Akhalkalaki** 68.08 310 P P 02 51 06.4 +0.1
AKH lAmb lAmb 02 51 08.8
comp=Z,19nm,0.8s
SPMN **Marine on St.** 68.21 43 P P 02 51 06.2 -0.6
baz=323
SPMN **Marine on St.** 68.21 43 lAmb lAmb 02 51 07.2
comp=Z,19nm,0.8s
POO **Poona** 68.27 272 *eP* P 02 51 06.5 -1.1
214A **Organ Pipe Nat** 68.51 65 P P 02 51 10.2 +1.3
baz=319,SNR=26
214A **Organ Pipe Nat** 68.51 65 lAmb lAmb 02 51 11.2
comp=Z,33nm,0.9s
KSCO **Kaye Shedlock'** 68.55 54 P P 02 51 09.4 +0.2
baz=320,SNR=6.0
SCHQ **Schefferville** 68.61 23 P P 02 51 08.8 -0.3
comp=Z,5.2nm,0.8s,baz=347,slow=5.5,SNR=6.3
BGNE **Belgrade** 68.85 49 P P 02 51 10.8 0.0
baz=322,SNR=7.9
PWJI **Pagerwojo** 69.05 223 P P 02 51 09.7 -2.5
SORM **Soroca** 69.06 323 ⇓P P 02 51 11.5 -0.3
SORM **Soroca** 69.06 323 ⇓P P 02 51 11.5 -0.3
T25A **Trinidad** 69.09 56 P P 02 51 12.8 +0.3
baz=320,SNR=12
L34A **Svendsen Farm,** 69.23 48 lAmb lAmb 02 51 14.5
comp=Z,34nm,0.7s
SISI **Saibi** 69.25 238 P P 02 51 16.3 +2.8
TUC **Tucson** 69.37 64 P P 02 51 15.3 +1.2
baz=319
TUC **Tucson** 69.37 64 P P 02 51 14.5 +0.4
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC **Tucson** 69.37 64 P P 02 51 14.5 +0.4
KPJI **Karang Pucung** 69.68 226 P P 02 51 13.4 -2.6
ANMO **Albuquerque** 69.70 59 P P 02 51 17.3 +1.1
baz=320
ANMO **Albuquerque** 69.70 59 *ce*P P 02 51 17.0 +0.8
ANMO pmax pmax
comp=Z,17nm,1.3s
ANMO **Albuquerque** 69.70 59 P P 02 51 16.6 +0.3
MATQ **Matagami** 70.10 32 P P 02 51 17.2 -0.8
baz=330
CBKS **Cedar Bluff** 70.12 52 P P 02 51 18.0 -0.4
baz=322,SNR=13
CBKS **Cedar Bluff** 70.12 52 lAmb lAmb 02 51 19.0
comp=Z,37nm,0.8s
OJC **Ojcow** 70.19 330 *eP* P 02 53 12.8
I40A **Norwalk** 70.20 43 lAmb lAmb 02 51 19.1
comp=Z,39nm,1.0s
K38A **Parkersburg** 70.29 45 lAmb lAmb 02 51 19.6
comp=Z,24nm,1.0s
KOLS **Kolonicke sedl** 70.51 327 *eP* P 02 51 20.4 -0.1
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS **Kolonicke sedl** 70.51 327 *eP* P 02 51 20.4 -0.1
KOPT **Kop Dagi** 70.58 311 lAmb lAmb 02 51 25.5
comp=Z,22nm,0.8s
BURAR **Bucovina Array** 70.63 325 ⇓P P 02 51 21.8 +0.5
BURAR **Bucovina Array** 70.63 325 ⇓P P 02 51 21.8 +0.5
BURAR **Bucovina Array** 70.63 325 P P 02 51 21.7 +0.3
SCIA **State Center** 70.69 46 P P 02 51 21.6 -0.1
baz=324,SNR=5.4
SCIA **State Center** 70.69 46 lAmb lAmb 02 51 22.6
comp=Z,53nm,0.9s
NIE **Niedzica** 70.73 329 *eP* pP 02 53 18.3 +2.4
121A **Cookes Peak, D** 70.84 62 P P 02 51 24.6 +1.7
baz=320,SNR=22
121A **Cookes Peak, D** 70.84 62 lAmb lAmb 02 51 25.7
comp=Z,42nm,1.0s
EKA **Eskdalemuir Ar** 70.86 345 P P 02 51 22.2 -0.2
comp=Z,1.3nm,0.4s,baz=18,slow=5.2,SNR=12
BIZ **Bicaz** 70.89 324 ⇓P P 02 51 23.4 +0.7
H43A **Windswept, Lux** 70.90 41 lAmb lAmb 02 51 23.5
comp=Z,32nm,0.7s
I42A **Draeger Farm,** 70.91 42 lAmb lAmb 02 51 23.0
comp=Z,26nm,0.6s
LSQQ **Lebel-sur-Quev** 70.92 32 P P 02 51 22.4 -0.5
baz=331
R32A **Long Quarter,** 70.93 52 lAmb lAmb 02 51 24.7
comp=Z,19nm,0.8s
OSTC **Ostas** 70.97 332 *eP* P 02 51 23.8 +0.6
OSTC *ex* x 02 51 34.5
DPC **Dobruska-Polom** 71.12 332 *eP* P 02 51 24.8 +0.7
DPC *epP* **pP** 02 53 20.3 +1.9
DPC **Dobruska-Polom** 71.12 332 *eP* P 02 51 24.8 +0.7
DPC *e* 02 53 20.3
JFWS **Jewell Farm** 71.16 43 P P 02 51 23.3 -1.1
baz=325
CLL **Collm** 71.19 334 *i* P P 02 51 24.5 +0.1
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL *i* pP **pP** 02 53 19.0 +0.2
comp=Z,14nm,1.1s
CLL *i* S **S** 02 59 56.0 -0.9
CLL **Collm** 71.19 334 *i* P P 02 51 24.5 +0.1
CLL *i* *PP **pP** 02 53 19.0 +0.2
CLL *i* S **S** 02 59 56.0 -0.9
CLL pmax pmax
comp=Z,5.0nm,1.1s
KRLC **Kraliky** 71.23 331 *eP* P 02 51 25.4 +0.6
KRLC *epP* **pP** 02 53 19.7 +0.6
KRLC **Kraliky** 71.23 331 *eP* P 02 51 25.4 +0.6
KRLC *e* 02 53 19.7
MORC **Moravsky Berou** 71.27 331 ⇑P P 02 51 25.9 +0.9
MORC **Moravsky Berou** 71.27 331 *eP* P 02 51 25.6 +0.6

MORC ep P pP 02 53 20.5 +1.1
MORC es S 02 59 58.7 +0.7
MORC Moravsky Berou 71.27 321 ⇑P P 02 51 25.9 +0.9
TLCR 71.35 321 ⇓P P 02 51 26.2 +0.7
TLCR 71.35 321 ⇓P P 02 51 26.2 +0.7
KSU1 Kansas State U 71.39 50 P P 02 51 25.0 -0.9
baz=323,SNR=14
L40A Anamosa 71.44 44 IAmb IAmb 02 51 26.0
comp=Z,17nm,0.9s
VLDQ Val d'Or 71.59 32 IAmb IAmb 02 51 26.4
comp=Z,29nm,0.8s
DIKM Dikmen 71.63 315 ⇑P P 02 51 27.6 +0.4
OZUR 71.72 324 ⇓P P 02 51 29.5 +1.8
KVT Kavak 71.75 314 P P 02 51 29.7 +1.7
HSIG 71.78 66 IAmb IAmb 02 51 30.5
comp=Z,30nm,1.1s
GLMI Grayling 71.84 39 P P 02 51 29.0 +0.6
GLMI IAmb IAmb 02 51 33.4
comp=Z,20nm,0.6s
BZK Bozkurt 71.92 316 ⇑P P 02 51 28.9 +0.1
VRAC Vranov 71.97 331 P P 02 51 29.4 +0.4
comp=Z,2.4nm,0.5s,baz=19,slow=11,SNR=3.8
VRAC pP pP 02 53 24.7 +1.0
comp=Z,5.8nm,1.0s,baz=25,slow=11,SNR=3.2
VRAC S SKiKP 03 00 06.7 +0.6
comp=Z,1.3nm,0.6s,baz=239,slow=21,SNR=6.1
VRAC Vranov 71.97 331 ⇑P P 02 51 30.3 +1.3
VRAC Vranov 71.97 331 *e*P P 02 51 29.9 +0.9
VRAC *ep*P pP 02 53 25.1 +1.4
VRAC *es* SKiKP 03 00 06.7 +0.6
VRAC Vranov 71.97 331 ⇑P P 02 51 30.3 +1.3
VYHS Vyhne 72.00 329 *e*P P 02 51 29.9 +0.6
VYHS Vyhne 72.00 329 *e*P P 02 51 29.9 +0.6
JAVC Velka Javorina 72.04 330 *e*P P 02 51 31.0 +1.5
JAVC *ep*P pP 02 53 26.3 +2.1
JAVC *es* S 03 00 08.9 +2.2
HARR Harsova 72.11 322 ⇑P P 02 51 30.5 +0.6
HARR Harsova 72.11 322 ⇑P P 02 51 30.5 +0.6
CTAO Charters Tower 72.13 186 P P 02 51 30.7 +0.5
CTAO pmax pmax
comp=Z,100nm,1.0s
CTAO Charters Tower 72.13 186 P P 02 51 30.7 +0.5
L42A Oliver, Polo 72.15 43 IAmb IAmb 02 51 29.9
comp=Z,26nm,0.8s
MLR Muntele Rosu 72.18 323 P P 02 51 31.2 +0.7
comp=Z,5.8nm,0.5s,baz=335,slow=6.2,SNR=21
MLR pP pP 02 53 26.5 +1.3
comp=Z,3.1nm,0.9s,baz=69,slow=7.0,SNR=2.6
MLR S S 03 00 07.9 -0.5
comp=Z,2.4nm,1.0s,baz=182,slow=22,SNR=8.8
MLR Muntele Rosu 72.18 323 ⇑P P 02 51 31.5 +1.1
AMTX Amarillo 72.23 56 P P 02 51 31.3 +0.4
baz=322
AMTX Amarillo 72.23 56 IAmb IAmb 02 51 32.5
comp=Z,50nm,1.1s
KRUC Moravsky 72.25 331 *e*P P 02 51 31.3 +0.7
KRUC *ep*P pP 02 53 26.6 +1.2
KRUC *es* S 03 00 10.3 +1.5
SRIG Santa Rosalia 72.34 68 IAmb IAmb 02 51 33.7
comp=Z,47nm,1.0s
U32A Winter Ranch, 72.40 53 IAmb IAmb 02 51 32.3
comp=Z,18nm,0.7s
VOIR 72.55 324 ⇑P P 02 51 33.6 +1.1
VOIR 72.55 324 ⇑P P 02 51 33.6 +1.1
MARD Mardin 72.60 309 IAmb IAmb 02 51 35.2
comp=Z,37nm,0.7s
N41A Harden Midland 72.70 45 IAmb IAmb 02 51 33.7
comp=Z,29nm,1.1s
PALK Pallekele 72.76 259 P P 02 51 34.1 -0.1
PALK pmax pmax
comp=Z,50nm,0.8s
PALK Pallekele 72.76 259 P P 02 51 34.0 -0.1
ARR Arges 72.76 324 ⇓P P 02 51 34.3 +0.6
MNTX Cornudas Mount 72.78 61 P P 02 51 35.1 +1.1
baz=321,SNR=40
MNTX Cornudas Mount 72.78 61 IAmb IAmb 02 51 36.2
comp=Z,24nm,0.9s
ILGA Ilgaz 72.79 316 IAmb IAmb 02 51 36.7
comp=Z,31nm,0.8s
CROK Carrier 72.80 52 IAmb IAmb 02 51 34.8
comp=Z,48nm,1.0s
KHC Kasperske Hory 73.00 333 *e*P P 02 51 35.7 +0.7
KHC *ex* x 02 51 42.1
KHC *ep*P pP 02 53 31.1 +0.9
KHC Kasperske Hory 73.00 333 *i* P P 02 51 35.6 +0.6
KHC pmax pmax
comp=Z,16nm,0.9s
GRF Grafenberg Arr 73.14 335 *e*P pP 02 53 32.5 +1.6
comp=Z,4.1nm,0.9s,baz=25,slow=5.4
T35A Sooner Cattle 73.18 51 IAmb IAmb 02 51 37.2
comp=Z,39nm,0.9s
D55A Sainte-Anne-du 73.19 32 P P 02 51 35.6 -0.5
baz=332,SNR=5.0
SHME Shamm 73.20 291 *i* P P 02 51 36.4 -0.1
SNR=6.6
BANOM Banah 73.20 291 *i* P P 02 51 36.7 +0.1
SNR=13
BANOM Banah 73.20 291 P P 02 51 36.8 +0.2
GERES GERESS Array B 73.23 333 P P 02 51 36.8 +0.4
comp=Z,1.6nm,0.4s,baz=36,slow=5.9,SNR=20
GERES pP pP 02 53 31.7 +0.1
comp=Z,1.1nm,0.8s,baz=40,slow=5.2,SNR=2.6
MSVF Nonsavu 73.26 154 P P 02 51 37.4 +0.6
MSVF pmax pmax
comp=Z,37nm,1.0s
MSVF Nonsavu 73.26 154 P P 02 51 37.4 +0.6
MSVF IAmb IAmb 02 51 40.0
comp=Z,37nm,0.9s
ALGO Algonquin Park 73.27 34 P P 02 51 35.6 -1.0
baz=331
D56A ZEC Mazanza, M 73.40 31 P P 02 51 37.0 -0.3
baz=332,SNR=7.8
GZR Gura Zlata 73.40 325 ⇓P P 02 51 37.4 0.0
GZR Gura Zlata 73.40 325 ⇓P P 02 51 37.4 0.0
WRAB Tennant Creek 73.42 197 *ce*P P 02 51 38.5 +0.9
WRAB pmax pmax
comp=Z,187nm,0.8s
WRAB Tennant Creek 73.42 197 P P 02 51 38.1 +0.5
CONA Conrad Observa 73.42 331 *e*P P 02 51 38.7 +1.2
comp=Z,1.4nm,0.5s,SNR=4.6
WRA Warramunga Arr 73.43 197 P P 02 51 38.6 +0.9
comp=Z,157nm,0.7s,baz=16,slow=6.1,SNR=996
WRA Warramunga Arr 73.43 197 P P 02 51 38.2 +0.5
WRA pmax pmax
comp=Z,14nm,0.8s
WRA Warramunga Arr 73.43 197 P P 02 51 38.2 +0.5
E55A Montcerf-Lytto 73.50 32 P P 02 51 37.2 -0.7
baz=332
HDIL Hopedale 73.50 44 P P 02 51 37.4 -0.6
baz=326,SNR=5.6
HDIL Hopedale 73.50 44 IAmb IAmb 02 51 38.4
comp=Z,38nm,0.9s
BTNL Ternell 73.57 338 PcP PcP 02 51 50.5 -0.1
MEM Membach 73.58 338 P P 02 51 38.9 +0.7
MDH Madha 73.68 290 *i* P P 02 51 38.8 -0.4
SNR=5.2
MDH Madha 73.68 290 P P 02 51 38.4 -0.8
D57A Chemin Vers le 73.70 31 P P 02 51 38.7 -0.3
baz=333,SNR=6.6
LATQ La Tuque 73.72 30 P P 02 51 38.7 -0.4
baz=333
MSFE Esma-Masafi 73.72 290 *i* P P 02 51 39.5 0.0
SNR=7.2
G54A Lake Saint Pet 73.74 34 P P 02 51 38.4 -0.9
baz=331
E56A St. Veronique 73.75 32 P P 02 51 39.0 -0.3
baz=332
WMOK Wichita Mounta 73.81 54 P P 02 51 40.2 +0.3
baz=323,SNR=48
WMOK Wichita Mounta 73.81 54 IAmb IAmb 02 51 41.1
comp=Z,42nm,0.9s
UMQ Umm Al-Quwin 73.88 291 P P 02 51 41.2 +0.9
UMQ Umm Al-Quwin 73.88 291 P P 02 51 40.8 +0.5
WSAR Wadi Sarin 73.90 287 P P 02 51 41.2 +0.7
comp=Z,20nm,0.8s,baz=83,slow=2.9,SNR=16
WSAR Wadi Sarin 73.90 287 P P 02 51 41.4 +0.8
BR131 Keskin Array S 73.91 315 P P 02 51 41.2 +0.7
SNR=9.9
BRTR Keskin Array B 73.91 315 P P 02 51 41.0 +0.5
comp=Z,13nm,0.9s,baz=59,slow=3.0,SNR=53
BRTR Keskin Array B 73.91 315 P P 02 51 40.6 +0.1
BRTR Keskin Array B 73.91 315 P P 02 51 40.6 +0.1
BIDO Bidbid 73.98 288 P P 02 51 41.7 +0.7
UOSS Minazif 74.01 290 *i* P P 02 51 40.8 -0.3
SNR=5.5
UOSS Minazif 74.01 290 P P 02 51 41.2 +0.1
UOSS Minazif 74.01 290 P P 02 51 41.1 +0.1
R40A Maddies Statio 74.05 47 IAmb IAmb 02 51 41.2
comp=Z,24nm,0.8s
S39A Bolivar 74.06 48 IAmb IAmb 02 51 41.3
comp=Z,26nm,1.0s
I51A Listowel 74.07 37 P P 02 51 41.1 -0.1
baz=329
HATD Hatta, Dubai 74.14 290 *i* P P 02 51 42.0 +0.2
SNR=21
HATD Hatta, Dubai 74.14 290 P P 02 51 42.2 +0.4
SNR=13
BMRD Maredsous 74.15 339 P P 02 51 42.5 +1.0
E57A Chemin Saint G 74.16 31 P P 02 51 41.4 -0.2
baz=333,SNR=11
WBK Wadi Bani Khal 74.18 286 P P 02 51 43.2 +1.0
JLN Jalan Bani Buh 74.27 286 P P 02 51 43.6 +1.0
SNR=5.7
H53A Bocayageon 74.28 35 P P 02 51 41.4 -0.9
baz=331
NAZ Nazwa, Dubai 74.29 290 *i* P P 02 51 42.6 -0.1
SNR=15
NAZ Nazwa, Dubai 74.29 290 P P 02 51 42.8 +0.1
ASHO Ashiyiah 74.30 290 *i* P P 02 51 42.7 -0.1
SNR=15
ASHO Ashiyiah 74.30 290 P P 02 51 44.0 +1.2
SNR=10
MDVR Moldovita 74.31 326 ⇑P P 02 51 42.6 +0.1
PUNG Punghina 74.31 325 ⇑P P 02 51 42.5 0.0
TUL1 Leonard 74.33 51 P P 02 51 43.0 +0.3
baz=324,SNR=19
TUL1 Leonard 74.33 51 IAmb IAmb 02 51 44.0
comp=Z,50nm,0.8s
L48A N Adams 74.35 40 IAmb IAmb 02 51 43.5
comp=Z,44nm,0.9s
AAM Ann Arbor 74.35 39 P P 02 51 42.7 0.0
baz=328
AAM Ann Arbor 74.35 39 IAmb IAmb 02 51 43.5
comp=Z,38nm,0.9s
SMDO Samad 74.38 287 P P 02 51 43.6 +0.3
X34A Smith Ranch, M 74.39 53 IAmb IAmb 02 51 44.9
comp=Z,46nm,0.9s
HOQ Hoqain 74.41 288 P P 02 51 43.6 +0.2
SNR=7.6
SOHO SOHO 74.44 289 *i* P P 02 51 43.2 -0.3
SNR=18
SOHO SOHO 74.44 289 P P 02 51 43.6 +0.1
E58A La Victoria 74.47 31 P P 02 51 43.1 -0.2
baz=333
F57A Harrington 74.51 32 P P 02 51 42.7 -0.9
baz=332
FAQ Al Faqa, Dubai 74.52 290 P P 02 51 43.8 -0.1
U38A Gravette 74.58 50 IAmb IAmb 02 51 44.4
comp=Z,22nm,0.7s
SFIN Lafayette 74.58 43 P P 02 51 43.5 -0.6
baz=327
FRGS Fruska Gora 74.63 327 ⇓*i* P P 02 51 44.1 -0.2
D61A St Aubert, Com 74.66 28 P P 02 51 43.9 -0.4
baz=335
D60A Saint Jean D'O 74.70 29 P P 02 51 44.0 -0.6
baz=334
CCM Cathedral Cave 74.70 47 P P 02 51 44.4 -0.4
baz=325
CCM Cathedral Cave 74.70 47 P P 02 51 44.5 -0.3
CCM pmax pmax
comp=Z,24nm,0.9s
CCM Cathedral Cave 74.70 47 P P 02 51 44.5 -0.3
CCM IAmb IAmb 02 51 45.4
comp=Z,24nm,0.9s
N47A Urbana 74.74 42 IAmb IAmb 02 51 44.7
comp=Z,16nm,0.7s
F58A St-Lin Laurent 74.75 31 P P 02 51 44.6 -0.3
baz=333
SOKA Soboth 74.79 331 P P 02 51 45.9 +0.6
SNR=5.7
PERS Pernice 74.81 331 *e*P P 02 51 45.7 +0.4
PERS *i* 02 51 50.5
PERS *i* pP pP 02 53 41.9 +0.7
PERS *e* 02 53 45.7
JMDO Jabal Madar 74.88 287 P P 02 51 46.6 +0.5
SNR=9.3
HHAR Hobbs 74.91 50 IAmb IAmb 02 51 46.6
comp=Z,29nm,0.8s
KBA Koelnbreinsper 74.93 332 *i* P P 02 51 47.5 +1.3
comp=Z,12nm,0.5s
ALNE Al Ain 74.96 290 *i* P P 02 51 46.6 +0.2
SNR=8.2
DZM Mont Dzumac 75.03 166 IAmb IAmb 02 51 49.7
comp=Z,32nm,0.7s
E60A Ste Agathe de 75.03 29 P P 02 51 45.9 -0.6
baz=334
G57A Newington 75.04 32 P P 02 51 45.9 -0.7
baz=332,SNR=7.2
ABTX Abilene, Hawle 75.05 56 P P 02 51 47.2 +0.3
baz=323,SNR=12
ABTX Abilene, Hawle 75.05 56 IAmb IAmb 02 51 47.7
comp=Z,25nm,0.8s
ARQ Araqi 75.06 289 P P 02 51 48.0 +1.0
SNR=5.5
F59A Saint Guilaume 75.09 31 P P 02 51 46.4 -0.4
baz=334
OBKA Obir 75.09 331 *e*P P 02 51 47.4 +0.4
comp=Z,2.3nm,0.5s,SNR=6.3
OBKA *e*P pP 02 53 44.6 +1.7
comp=Z,12nm,1.1s
D62A Allapoint, All 75.09 28 P P 02 51 46.6 -0.2
baz=335
BSY Bisya 75.12 288 P P 02 51 48.1 +0.7
SNR=9.2
P46A Rosedale 75.17 43 IAmb IAmb 02 51 48.4
comp=Z,42nm,0.8s
WATA Walderalm 75.19 333 *i* P P 02 51 48.7 +1.1
comp=Z,2.7nm,0.4s
WATA *e*P pP 02 53 45.5 +1.9
comp=Z,4.3nm,0.8s
WTTA Wattenberg 75.24 333 *e*P P 02 51 49.0 +1.1
comp=Z,3.2nm,0.5s,SNR=4.8
WTTA *e*P pP 02 53 44.4 +0.5
comp=Z,6.9nm,1.0s
MYKA Terra Mystica 75.25 332 *e*P P 02 51 48.5 +0.7
comp=Z,2.2nm,0.4s
E61A Lac Etchemin 75.26 29 P P 02 51 47.4 -0.4
baz=335
RETA Reutte 75.28 334 *e*P P 02 51 48.0 +0.1
comp=Z,13nm,1.6s,SNR=4.7
RETA *e*P pP 02 53 45.3 +1.3
comp=Z,3.9nm,1.1s
G58A Ormstown 75.31 32 P P 02 51 47.6 -0.4
baz=333,SNR=5.4
MOTA Moosalm 75.32 334 *e*P P 02 51 49.5 +1.3
comp=Z,13nm,1.1s,SNR=5.5
MOTA *e*P pP 02 53 45.9 +1.6
comp=Z,7.1nm,1.0s
CDF Champ du Feu 75.33 336 *e*P P 02 51 48.4 +0.2
CDF pmax pmax
comp=Z,8.0nm,1.1s
U40A Yellville 75.36 49 P P 02 51 48.2 -0.3
baz=325,SNR=49
E62A Clayton Lake 75.38 28 P P 02 51 47.9 -0.5
baz=335
J54A Appleton 75.39 36 P P 02 51 48.0 -0.6
baz=331
J54A Appleton 75.39 36 IAmb IAmb 02 51 49.0
comp=Z,29nm,0.8s
D63A Stockholm 75.40 27 P P 02 51 47.9 -0.6
baz=336
SQTA Sankt Quirin 75.40 333 *e*P P 02 51 49.8 +1.1
comp=Z,3.2nm,0.7s
SQTA *e*P pP 02 53 46.6 +1.8
comp=Z,12nm,1.7s
CRES Cresnjev 75.43 330 ⇓*i* P P 02 51 48.7 0.0
ABTA Abfaltersbach 75.47 332 *e*P P 02 51 49.4 +0.4
comp=Z,4.4nm,0.6s,SNR=5.9
ABTA *e*P pP 02 53 46.4 +1.2
comp=Z,8.5nm,1.3s
H57A Richville 75.48 33 P P 02 51 48.2 -0.8
baz=332,SNR=6.0
DIVS Divibare 75.50 326 ⇓*i* P P 02 51 49.0 -0.2
F61A St Evariste 75.53 29 P P 02 51 49.2 -0.1
baz=334
OLIL Olney 75.53 44 IAmb IAmb 02 51 50.0
comp=Z,23nm,1.0s
PLD Plovdiv 75.54 322 P P 02 51 51.6 +2.2
PLD pmax pmax
comp=Z,52nm,1.2s
TX32 Lajitas Array 75.54 61 IAmb IAmb 02 51 51.9
comp=Z,23nm,0.7s
TXAR Lajitas Array 75.54 61 P P 02 51 50.8 +1.0
comp=Z,18nm,0.5s,baz=297,slow=4.2,SNR=347
TXAR pP pP 02 53 47.6 +1.5
comp=Z,1.9nm,0.6s,baz=302,slow=3.8,SNR=4.3
TXAR Lajitas Array 75.54 61 P P 02 51 50.1 +0.4
TXAR Lajitas Array 75.54 61 P P 02 51 50.1 +0.4
LONY Lake Ozonia 75.61 32 P P 02 51 48.9 -0.8
baz=333,SNR=5.2
T42A Van Buren 75.61 47 IAmb IAmb 02 51 50.5
comp=Z,24nm,0.8s
G59A Clarenceville 75.65 31 P P 02 51 49.6 -0.3
baz=333,SNR=5.6
Z35A Perchaven, San 75.69 54 IAmb IAmb 02 51 50.7
comp=Z,23nm,0.6s
J55A Hilton 75.69 35 P P 02 51 49.3 -0.9
baz=331
DAVA Damuels 75.70 334 *e*P P 02 51 51.5 +1.1
comp=Z,5.6nm,0.6s,SNR=5.0
DAVA *e*P pP 02 53 47.9 +1.2
comp=Z,7.2nm,0.9s
FETA Feichten 75.72 334 *i* P P 02 51 51.6 +1.2
comp=Z,1.8nm,0.5s
FETA *e*P pP 02 53 46.6 -0.1
comp=Z,6.6nm,1.5s
CEY Cerknica 75.82 331 ⇓*i* P P 02 51 50.6 -0.3
I57A Carthage 75.85 33 P P 02 51 51.2 +0.1
baz=332
BLY Banja Luka 75.85 328 ⇓*i* P P 02 51 48.8 -2.2
HAPS Han Pijesak,Bl 75.86 327 *e*P P 02 51 50.5 -0.8
W39A Magazine 75.87 50 P P 02 51 51.3 0.0
baz=325,SNR=12
W39A Magazine 75.87 50 IAmb IAmb 02 51 52.4
comp=Z,36nm,1.1s
E63A Oxbow 75.87 27 P P 02 51 50.5 -0.6
baz=336
H59A Cadyville 75.87 32 P P 02 51 50.6 -0.5
baz=333
S44A Carbondale 75.89 46 IAmb IAmb 02 51 52.1
comp=Z,38nm,0.8s
M52A Chesterland 75.89 38 P P 02 51 51.2 -0.2
baz=330
GBRS Gornja Briga 75.89 330 *i* P P 02 51 51.2 -0.1
GBRS *ep*P pP 02 53 45.4 -2.3
BBLS Lazići 75.90 327 ⇓*i* P P 02 51 51.8 +0.4
F62A Pittston Farm, 75.90 29 P P 02 51 51.0 -0.3
baz=335
ERPA Erie 75.91 37 P P 02 51 51.3 -0.2
baz=330
ERPA Erie 75.91 37 IAmb IAmb 02 51 52.0
comp=Z,40nm,0.9s
H58A Gabriels 75.92 32 P P 02 51 50.9 -0.6
baz=333,SNR=5.6
HAU Haudompre 75.93 337 *e*P P 02 51 51.1 -0.4
HAU pmax pmax
comp=Z,3.0nm,0.6s
L53A Girard 75.95 37 P P 02 51 51.5 -0.2
baz=330,SNR=6.5
K54A Basiliko Farm, 75.95 36 P P 02 51 51.2 -0.5
baz=331
G61A St-Isidore-de- 75.99 30 P P 02 51 51.9 +0.1
baz=334
MHTO MHTO 76.02 286 P P 02 51 53.2 +0.8
SNR=28
J56A Wolcott 76.02 34 P P 02 51 51.0 -1.0
baz=332
N51A Ashland 76.03 39 P P 02 51 51.7 -0.4
baz=329
N51A Ashland 76.03 39 IAmb IAmb 02 51 52.5
comp=Z,34nm,0.8s
E64A Bridgewater 76.04 27 P P 02 51 51.5 -0.6
baz=336
P48A Milroy 76.05 42 IAmb IAmb 02 51 52.6
comp=Z,36nm,1.0s
L54A Sinclairville 76.05 37 P P 02 51 51.8 -0.4
baz=330
K55A Perry 76.08 36 P P 02 51 51.6 -0.7
baz=331,SNR=8.3
FCAR Ozark Folk Cen 76.08 49 IAmb IAmb 02 51 52.5
comp=Z,24nm,0.7s
PBMO Poplar Bluff 76.12 47 IAmb IAmb 02 51 53.1
comp=Z,27nm,0.6s
MMNY Mt. Morris Dam 76.13 35 IAmb IAmb 02 51 52.4
comp=Z,34nm,0.6s
J57A Williamstown 76.20 34 P P 02 51 52.4 -0.6
baz=332
M53A WI Miller and 76.23 38 P P 02 51 53.1 -0.1
baz=330,SNR=5.2
M53A WI Miller and 76.23 38 IAmb IAmb 02 51 54.1
comp=Z,34nm,0.8s
ALLY Alegheny Colle 76.25 37 IAmb IAmb 02 51 54.1
comp=Z,32nm,0.8s
H60A Morristown 76.27 31 P P 02 51 53.2 -0.2
baz=334
P49A Miami Univ. Ec 76.27 42 P P 02 51 52.9 -0.5
baz=328=8.4
P49A Miami Univ. Ec 76.27 42 IAmb IAmb 02 51 53.9
comp=Z,31nm,0.8s
I58A Old Forge 76.30 33 P P 02 51 52.9 -0.7
baz=333
G62A West of Eustis 76.35 29 P P 02 51 53.9 +0.1
baz=335
K56A Middlesex 76.37 35 P P 02 51 53.3 -0.7
baz=332,SNR=5.9
ACSO Alum Creek Sta 76.38 40 P P 02 51 53.7 -0.3
baz=329,SNR=6.1
ACSO Alum Creek Sta 76.38 40 IAmb IAmb 02 51 54.7
comp=Z,38nm,1.1s
N52A McGinn's Farm, 76.39 39 P P 02 51 53.7 -0.4
baz=330
F64A Sherman 76.40 28 P P 02 51 53.7 -0.4
baz=336
L55A Hinsdale 76.42 36 P P 02 51 53.6 -0.6
baz=331
J58A Remsen 76.49 33 P P 02 51 54.0 -0.6
baz=332,SNR=6.0
J58A Remsen 76.49 33 IAmb IAmb 02 51 54.8
comp=Z,32nm,1.1s
MIAR Mount Ida 76.50 51 P P 02 51 55.1 +0.3
baz=325,SNR=18
MIAR Mount Ida 76.50 51 IAmb IAmb 02 51 56.0
comp=Z,22nm,0.7s
H61A Lyndonville 76.53 31 P P 02 51 55.1 +0.2
baz=334,SNR=6.3
M54A Oil Creek Stat 76.56 37 P P 02 51 54.6 -0.4
baz=330,SNR=6.1
M54A Oil Creek Stat 76.56 37 IAmb IAmb 02 51 55.5
comp=Z,25nm,0.9s
I59A Olmsteadville 76.57 32 P P 02 51 54.3 -0.8
baz=333
O51A Pataskala 76.60 40 P P 02 51 54.8 -0.4
baz=329,SNR=5.8
W41B Gary Mavity, V 76.61 49 P P 02 51 55.4 0.0
baz=325,SNR=29
K57A Scipio Center 76.62 34 P P 02 51 54.5 -0.8
baz=332
UPM Unac-Piva 76.66 327 *e*P P 02 51 55.2 -0.6
J59A Piesco 76.66 33 P P 02 51 54.7 -0.8
baz=333,SNR=5.1
WHTX Lake Whitney, 76.67 55 P P 02 51 56.1 +0.4
baz=324,SNR=8.1
WHTX Lake Whitney, 76.67 55 IAmb IAmb 02 51 57.2
comp=Z,52nm,0.8s
JCT Junction City 76.68 57 P P 02 51 56.1 +0.2
baz=323,SNR=9.2
JCT Junction City 76.68 57 IAmb IAmb 02 51 57.2
comp=Z,33nm,0.9s
FLN La Foliniere 76.70 342 *e*P P 02 51 55.2 -0.4
FLN pmax pmax
comp=Z,11nm,0.9s
I60A Shoreham 76.72 32 P P 02 51 55.5 -0.3
baz=334
N53A Lisbon 76.72 38 P P 02 51 55.7 -0.2
baz=330,SNR=5.3
N53A Lisbon 76.72 38 IAmb IAmb 02 51 56.6
comp=Z,25nm,0.8s
WCI Wyandotte Cave 76.72 43 P P 02 51 55.8 -0.2
baz=328
WCI Wyandotte Cave 76.72 43 P P 02 51 56.0 +0.1
WCI pmax pmax
comp=Z,47nm,0.8s
WCI Wyandotte Cave 76.72 43 P P 02 51 56.0 +0.1
WCI IAmb IAmb 02 51 56.8
comp=Z,47nm,0.8s
H62A Milan 76.74 30 P P 02 51 56.1 +0.1
baz=335
L56A Greenwood 76.78 35 P P 02 51 55.6 -0.7
baz=331,SNR=5.8
L56A Greenwood 76.78 35 IAmb IAmb 02 51 56.1

comp=Z,21nm,0.6s
LDF La Druitiere 76.79 341 *e*P P 02 51 56.1 0.0
LDF pmax pmax
comp=Z,12nm,1.0s
LBNH Lisbon 76.80 31 P P 02 51 56.4 +0.1
baz=334
SRS Serrai 76.81 322 P P 02 51 56.7 +0.3
SRS pmax pmax
comp=Z,25nm,0.9s
STIP Stip 76.83 324 *i* P P 02 51 55.7 -0.8
G64A Maxfield 76.84 28 P P 02 51 56.3 -0.2
baz=336
SKO Skopje 76.86 324 *i* P P 02 51 56.5 -0.1
EZN Ezine 76.87 320 P P 02 51 57.5 +0.8
K58A Earlville 76.89 34 P P 02 51 56.3 -0.5
baz=332,SNR=5.0
K58A Earlville 76.89 34 IAmb IAmb 02 51 56.8
comp=Z,15nm,0.6s
X40A Basin Creek Fa 76.90 50 P P 02 51 57.1 +0.2
baz=325,SNR=18
X40A Basin Creek Fa 76.90 50 IAmb IAmb 02 51 58.2
comp=Z,27nm,0.8s
N54A Moraine State 76.91 38 P P 02 51 56.6 -0.3
baz=330,SNR=9.0
N54A Moraine State 76.91 38 IAmb IAmb 02 51 57.7
comp=Z,31nm,0.9s
M55A Ridgway 76.92 37 P P 02 51 56.7 -0.4
baz=331,SNR=5.6
O52A Adamsville 76.93 39 P P 02 51 56.5 -0.5
baz=330,SNR=10.0
O52A Adamsville 76.93 39 IAmb IAmb 02 51 57.6
comp=Z,36nm,0.8s
TEOL Teolo 76.97 332 IAmb IAmb 02 52 01.9
comp=Z,32nm,0.8s
I61A Oroboro, Fairl 76.99 31 P P 02 51 57.7 +0.4
baz=334
P51A Williamsport 76.99 41 P P 02 51 56.6 -0.8
baz=329,SNR=5.3
P51A Williamsport 76.99 41 IAmb IAmb 02 51 57.6
comp=Z,24nm,0.8s
VAY Valandovo 77.02 323 *i* P P 02 51 56.5 -1.0
VAY Valandovo 77.02 323 P P 02 51 59.2 +1.7
VAY pmax pmax
comp=Z,22nm,1.1s
BRY Bratogost 77.05 327 *e*P P 02 51 56.9 -0.9
O53A New Philadelph 77.06 39 P P 02 51 57.3 -0.4
baz=330,SNR=10
O53A New Philadelph 77.06 39 IAmb IAmb 02 51 58.3
comp=Z,38nm,0.7s
DQM DQM 77.09 286 P P 02 51 58.1 -0.2
M56A Emporium 77.12 36 P P 02 51 57.4 -0.7
baz=331
GRR Gorron 77.13 342 *e*P P 02 51 57.9 -0.1
GRR pmax pmax
comp=Z,19nm,0.9s
ASAR Alice Springs 77.14 197 P P 02 52 00.0 +1.7
comp=Z,260nm,0.6s,baz=8.7,slow=5.3,SNR=3360
ASAR PKKPbc **PKKPbc** 03 10 59.5 +1.4
comp=Z,0.7nm,0.6s,baz=187,slow=2.2,SNR=7.6
ASAR Alice Springs 77.14 197 P P 02 51 58.8 +0.5
ASAR Alice Springs 77.14 197 P P 02 51 58.8 +0.5
L57A Andrews Acres 77.15 35 P P 02 51 57.8 -0.5
baz=332
K59A Cooperstown 77.15 33 P P 02 51 57.7 -0.6
baz=333,SNR=7.2
LOR Lormes 77.21 338 *e*P P 02 51 58.2 -0.3
LOR pmax pmax
comp=Z,5.0nm,0.9s
PDG Podgorica 77.22 326 ⇓P P 02 51 58.4 -0.2
PDG Podgorica 77.22 326 ⇓*i*P P 02 51 58.2 -0.4
PDG Podgorica 77.22 326 IAmb IAmb 02 51 59.2
comp=Z,26nm,1.1s
P52A Corning 77.23 40 P P 02 51 57.9 -0.8
baz=329
G65A Princeton 77.23 27 P P 02 51 58.4 -0.2
baz=336
H64A Troy 77.26 29 P P 02 51 58.7 0.0
baz=336
Q51A Peebles 77.26 41 IAmb IAmb 02 51 59.6
comp=Z,43nm,0.7s
BINY Binghamton 77.27 34 P P 02 51 58.2 -0.7
baz=332
CABF La Chapelle 77.30 337 *e*P P 02 52 00.1 +1.1
CABF pmax pmax
comp=Z,9.0nm,1.2s
I62A Tamworth 77.31 30 P P 02 51 59.1 +0.1
baz=334
LMN Caledonia Moun 77.39 25 IAmb IAmb 02 52 00.1
comp=Z,18nm,0.7s
I63A Otisfield 77.39 30 P P 02 51 59.9 +0.5
baz=335
J61A Chester 77.40 32 P P 02 51 59.8 +0.3
baz=334
T47A Sharon Grove 77.42 45 IAmb IAmb 02 52 00.7
comp=Z,44nm,0.8s
WLAR White Oak Lake 77.42 51 IAmb IAmb 02 52 01.3
comp=Z,38nm,0.8s
O54A Avella 77.44 38 P P 02 51 59.4 -0.4
baz=330,SNR=5.4
N55A Marion Center 77.44 37 P P 02 51 59.4 -0.5
baz=331,SNR=9.1
L58A Harry Jones Me 77.46 34 P P 02 51 59.1 -0.8
baz=332,SNR=5.4
DRME Dracevica, Mon 77.46 326 ⇓*i*P P 02 51 59.5 -0.4
HCY Herceg Novi 77.47 327 *e*P P 02 51 56.9 -3.0
237A Washetta, Mont 77.48 54 IAmb IAmb 02 52 01.5
comp=Z,28nm,0.9s
H65A Eastbrook 77.50 28 P P 02 51 59.8 -0.2
baz=336
435B Jarrell 77.57 56 P P 02 52 01.3 +0.6
baz=324
N56A West Decatur 77.58 37 P P 02 52 00.3 -0.3
baz=331,SNR=6.0
L59A Walton 77.61 34 P P 02 52 00.1 -0.6
baz=333,SNR=7.0
L59A Walton 77.61 34 IAmb IAmb 02 52 00.8
comp=Z,26nm,0.8s
M57A Sunshine Farm, 77.63 36 P P 02 52 00.4 -0.5
baz=332,SNR=5.1
ROSF Rostrenen 77.63 343 *e*P P 02 52 00.7 0.0
ROSF pmax pmax
comp=Z,16nm,0.8s
P53A Whipple 77.64 39 P P 02 52 00.6 -0.4
baz=330,SNR=8.7
P53A Whipple 77.64 39 IAmb IAmb 02 52 01.6
comp=Z,36nm,1.1s
H66A Whiting 77.68 27 P P 02 52 00.7 -0.3
baz=337
J62A Henniker 77.75 31 P P 02 52 01.8 +0.4
baz=334
Q52A Bidwell 77.75 40 P P 02 52 00.9 -0.6
baz=329
AVF Avril sur Loir 77.77 338 *e*P P 02 52 01.4 -0.1
AVF pmax pmax
comp=Z,8.0nm,0.7s
X43A Marvell 77.78 49 P P 02 52 02.3 +0.5
baz=326
O55A Ligonier 77.82 38 P P 02 51 01.5 -0.4
baz=331,SNR=6.3
WVT Waverly 77.82 46 P P 02 52 02.0 0.0
baz=327
WVT Waverly 77.82 46 P P 02 52 02.2 +0.2
WVT pmax pmax
comp=Z,19nm,0.6s
WVT Waverly 77.82 46 P P 02 52 02.2 +0.2
WVT IAmb IAmb 02 52 02.4
comp=Z,19nm,0.6s
M58A Price's Panora 77.84 35 P P 02 52 01.4 -0.6
baz=332,SNR=6.0
OHR Ohrid 77.84 324 *i* P P 02 51 54.7 -7.3
CCAR Cane Creek 77.86 50 IAmb IAmb 02 52 04.0
comp=Z,64nm,1.2s
P54A Burton 77.90 39 P P 02 52 02.3 0.0
baz=330,SNR=9.7
TIR Tirane 77.97 325 ⇑P P 02 52 02.9 +0.2
TIR Tirane 77.97 325 ⇑P P 02 52 02.9 +0.2
TIR Tirane 77.97 325 IAmb IAmb 02 52 03.4
comp=Z,34nm,0.6s
SSPA Standing Stone 77.97 36 P P 02 52 02.2 -0.4
baz=331
SSPA Standing Stone 77.97 36 P P 02 52 02.4 -0.2
N57A Milroy 77.99 36 P P 02 52 02.3 -0.5
baz=332,SNR=8.8
CSS Mathiatis 77.99 312 IAmb IAmb 02 52 04.1
comp=Z,26nm,0.8s
ELL Elmali 78.01 316 IAmb IAmb 02 52 04.0
comp=Z,49nm,0.9s

QUIF Quistinic 78.02 343 *e*P P 02 52 02.9 +0.2
QUIF pmax pmax
comp=Z,18nm,1.3s
W45A Hickory Valley 78.03 47 IAmb IAmb 02 52 04.1
comp=Z,54nm,0.8s
O56A Blue Knob Stat 78.04 37 P P 02 52 02.7 -0.4
baz=331,SNR=6.4
O56A Blue Knob Stat 78.04 37 IAmb IAmb 02 52 03.8
comp=Z,24nm,1.0s
M59A Waymart 78.05 34 P P 02 52 02.4 -0.7
baz=333
LEF Lefka 78.06 313 ⇓P P 02 52 02.9 -0.4
L60A Shokan 78.06 33 P P 02 52 02.7 -0.5
baz=333
MCWV Mont Chateau 78.09 38 P P 02 52 03.5 +0.2
baz=330
BGF Bois d'Agland 78.11 339 *e*P P 02 52 04.5 +1.2
BGF pmax pmax
comp=Z,15nm,1.4s
Q53A Leroy 78.13 40 P P 02 52 03.5 -0.1
baz=330,SNR=27
LPL La Plagne 78.16 336 *e*P P 02 52 04.5 +0.6
LPL pmax pmax
comp=Z,27nm,1.2s
LPG La Plagne 78.17 336 *e*P P 02 52 04.7 +0.7
LPG pmax pmax
comp=Z,20nm,1.1s
N58A Sunbury 78.22 36 P P 02 52 03.2 -0.8
baz=332
P55A Reedsville 78.23 38 P P 02 52 04.3 +0.1
baz=331,SNR=16
NATX Nacogdoches 78.24 53 P P 02 52 05.3 +1.0
baz=325,SNR=9.3
Q54A Coxs Mills 78.30 39 P P 02 52 04.3 -0.2
baz=330,SNR=7.5
Q54A Coxs Mills 78.30 39 IAmb IAmb 02 52 05.4
comp=Z,31nm,1.0s
K63A Dunstable 78.32 31 P P 02 52 04.4 -0.1
baz=334
T50A Nancy 78.36 43 IAmb IAmb 02 52 05.6
comp=Z,30nm,0.8s
U49A Red Boiling Sp 78.39 44 IAmb IAmb 02 52 05.8
comp=Z,26nm,0.7s
R53A Hurricane 78.42 40 P P 02 52 05.3 +0.2
baz=330
R53A Hurricane 78.42 40 IAmb IAmb 02 52 06.0
comp=Z,27nm,0.7s
O57A Amerson 78.44 36 P P 02 52 05.0 -0.2
baz=332,SNR=5.9
OXF Oxford 78.46 48 P P 02 52 05.6 +0.2
baz=327
OXF Oxford 78.46 48 IAmb IAmb 02 52 06.2
comp=Z,64nm,1.1s
HRV Adam Dziewonsk 78.48 31 P P 02 52 05.5 +0.2
baz=334
N59A State Game Lan 78.48 35 P P 02 52 05.0 -0.4
baz=332,SNR=5.5
TCF Toulx Ste Croi 78.50 339 *e*P P 02 52 05.6 +0.1
TCF pmax pmax
comp=Z,5.0nm,0.9s
CLTN Cedars of Leba 78.51 45 IAmb IAmb 02 52 06.5
comp=Z,29nm,0.8s
Q55A Buckhannon 78.58 39 P P 02 52 06.0 0.0
baz=330,SNR=11
PSA00 Pilbara Seismi 78.59 210 P P 02 52 06.5 +0.4
PSA00 Pilbara Seismi 78.59 210 IAmb IAmb 02 52 07.0
comp=Z,45nm,0.7s
V48A Smith Brothers 78.59 45 IAmb IAmb 02 52 06.8
comp=Z,23nm,0.8s
P56A Dayton Farm, R 78.61 38 P P 02 52 06.2 +0.1
baz=331,SNR=20
833A Chaparral WMA, 78.61 58 P P 02 52 07.3 +1.0
baz=324,SNR=8.2
833A Chaparral WMA, 78.61 58 IAmb IAmb 02 52 08.3
comp=Z,29nm,0.8s
ASF Jabal al Asfar 78.62 308 P P 02 52 07.4 +1.0
comp=Z,15nm,0.9s,baz=115,slow=1.3,SNR=20
MURB Monte Urbino 78.64 331 IAmb IAmb 02 52 10.9
comp=Z,33nm,0.8s
MMAI Mount Meron Ar 78.64 310 P P 02 52 07.4 +0.9
comp=Z,28nm,0.5s,baz=46,slow=7.3,SNR=48
PLAL Pickwick Lake 78.67 46 IAmb IAmb 02 52 07.1
comp=Z,30nm,0.9s
O58A Lewisberry 78.77 36 P P 02 52 06.4 -0.5
baz=332,SNR=6.9
M61A Granite Spring 78.82 33 P P 02 52 06.9 -0.3
baz=334
NRCA Norcia 78.85 330 IAmb IAmb 02 52 11.3
comp=Z,35nm,0.8s
O59A Robesonia 78.87 35 P P 02 52 07.0 -0.5
baz=332
Q56A Snyder Ridge, 78.88 38 P P 02 52 07.4 -0.2
baz=331
S53A Williamson 78.91 41 P P 02 52 07.5 -0.3
baz=330
R54A Victor 78.93 40 P P 02 52 07.7 -0.2
baz=330,SNR=12
ORIF Oris-en-Rattie 78.93 336 *e*P P 02 52 08.4 +0.6
ORIF pmax pmax
comp=Z,10.0nm,0.7s
P57A Homestead Farm 78.94 37 P P 02 52 08.3 +0.4
baz=332
Y45A Yeager Farm, C 78.94 48 IAmb IAmb 02 52 09.0
comp=Z,52nm,0.8s
L63A North Scituate 79.04 32 P P 02 52 08.0 -0.4
baz=335
PAL Palisades 79.05 34 P P 02 52 08.1 -0.3
baz=333
HKT Hockley 79.13 55 P P 02 52 09.5 +0.5
HKT pmax pmax
comp=Z,15nm,1.1s
HKT Hockley 79.13 55 P P 02 52 09.5 +0.5
S54A Dingess, Beckl 79.13 40 P P 02 52 08.8 -0.1
baz=330
S54A Dingess, Beckl 79.13 40 IAmb IAmb 02 52 09.8
comp=Z,21nm,0.8s
O60A Telford 79.14 35 P P 02 52 08.5 -0.4
baz=333
Q57A Strasburg 79.18 38 P P 02 52 08.7 -0.4
baz=331,SNR=5.3
R55A Marlinton 79.18 39 P P 02 52 09.3 0.0
baz=330,SNR=10
R55A Marlinton 79.18 39 IAmb IAmb 02 52 10.2
comp=Z,30nm,0.8s
P58A Pank, Wackersv 79.19 37 P P 02 52 08.8 -0.4
baz=332,SNR=7.3
AQU L'Aquila 79.20 330 P P 02 52 11.1 +1.8
AQU pmax pmax
comp=Z,21nm,1.3s
AQU L'Aquila 79.20 330 *e*P P 02 52 09.5 +0.2
L64A Middleborough 79.22 31 P P 02 52 09.7 +0.4
baz=335
TZTN Tazewell 79.30 42 P P 02 52 09.8 -0.1
baz=329,SNR=9.9
TZTN Tazewell 79.30 42 IAmb IAmb 02 52 10.3
comp=Z,19nm,0.7s
M63A Gales Ferry 79.31 32 P P 02 52 09.4 -0.4
baz=334
T53A Wise 79.34 41 P P 02 52 10.0 -0.1
baz=330,SNR=6.8
R56A Bull Pasture M 79.35 39 P P 02 52 09.8 -0.3
baz=331
IGT Igoumenitsa 79.40 324 P P 02 52 10.2 -0.1
IGT pmax pmax
comp=Z,20nm,1.6s
P59A Jarrettsville 79.40 36 P P 02 52 10.0 -0.3
baz=332
SWET Sewanee 79.42 45 IAmb IAmb 02 52 10.9
comp=Z,37nm,0.7s
M64A Tiverton 79.45 31 P P 02 52 10.0 -0.5
baz=335
S55A Lewisburg 79.47 40 P P 02 52 10.5 -0.3
baz=330,SNR=5.0
P60A Greenville 79.51 35 P P 02 52 10.2 -0.6
baz=333
Q58A Fox Den Farm, 79.53 37 P P 02 52 10.8 -0.2
baz=332,SNR=8.8
RJF Les Rejaudoux 79.59 339 *e*P P 02 52 12.7 +1.5
RJF pmax pmax
comp=Z,11nm,1.0s
T54A Tazewell 79.66 41 P P 02 52 11.8 0.0
baz=330,SNR=7.4
MATE Matera 79.68 327 ⇓P P 02 52 11.8 +0.1
342A Flagon Creek P 79.69 51 IAmb IAmb 02 52 13.7
comp=Z,21nm,0.9s
W50A Signal Mountai 79.70 44 IAmb IAmb 02 52 12.6
comp=Z,18nm,0.8s
SHAO Shalim 79.70 286 P P 02 52 12.0 -0.2

SHAO Shalim 79.70 286 P P 02 52 12.0 -0.2
R57A Stanardsville 79.78 38 P P 02 52 12.4 +0.1
baz=331,SNR=7.7
CAF Calviac 79.83 339 *e*P P 02 52 13.0 +0.5
CAF pmax pmax
comp=Z,11nm,1.0s
VBMS Vicksburg 79.86 50 P P 02 52 13.5 +0.7
baz=326
VBMS Vicksburg 79.86 50 IAmb IAmb 02 52 14.2
comp=Z,30nm,0.8s
V52A Sevierville 79.88 43 IAmb IAmb 02 52 13.8
comp=Z,41nm,1.1s
S56A Natural Bridge 79.92 39 P P 02 52 12.8 -0.3
baz=331,SNR=5.2
T55A Pulaski 79.93 40 P P 02 52 13.2 0.0
baz=330,SNR=6.3
R58A Rapidan 79.98 38 P P 02 52 13.1 -0.2
baz=332,SNR=5.6
Q59A Harwood 79.98 36 P P 02 52 13.4 +0.1
baz=332
BLA Blacksburg 79.99 40 P P 02 52 13.2 -0.3
baz=330,SNR=5.5
U54A Nelsons Funny 80.03 41 P P 02 52 13.6 -0.1
baz=330,SNR=11
U54A Nelsons Funny 80.03 41 IAmb IAmb 02 52 14.6
comp=Z,36nm,0.9s
S57A Dark Hollow, R 80.09 39 P P 02 52 14.0 0.0
baz=331,SNR=5.0
FPAL Fort Paine 80.13 45 IAmb IAmb 02 52 14.8
comp=Z,23nm,1.0s
Z47A Carrollton 80.17 47 IAmb IAmb 02 52 15.3
comp=Z,35nm,0.8s
LMR La Mourre 80.25 335 *e*P P 02 52 14.7 0.0
LMR pmax pmax
comp=Z,8.0nm,0.9s
CBN Corbin Frederi 80.30 37 P P 02 52 15.0 0.0
baz=332
CBN Corbin Frederi 80.30 37 IAmb IAmb 02 52 15.8
comp=Z,28nm,0.7s
T56A Rocky Mt 80.31 40 P P 02 52 14.8 -0.3
baz=331
R58B Mineral 80.32 38 P P 02 52 15.0 -0.1
baz=332,SNR=5.3
DMTO DMTO 80.34 286 P P 02 52 14.8 -0.8
Y49A Blount Mountai 80.36 46 IAmb IAmb 02 52 15.9
comp=Z,18nm,0.8s
U55A TA2, Sparta 80.36 41 P P 02 52 15.3 -0.2
baz=330,SNR=6.7
R59A King George, V 80.39 37 P P 02 52 15.7 +0.2
baz=332
S58A Poland Farm, P 80.56 38 P P 02 52 16.1 -0.2
baz=332
S58A Poland Farm, P 80.56 38 IAmb IAmb 02 52 16.5
comp=Z,12nm,0.6s
V54A Nebo 80.62 42 P P 02 52 16.6 -0.2
baz=330,SNR=7.7
T57A Hurt 80.64 39 P P 02 52 16.6 -0.2
baz=331,SNR=6.1
T57A Hurt 80.64 39 IAmb IAmb 02 52 17.0
comp=Z,12nm,0.6s
S59A Mechanicsville 80.71 37 P P 02 52 17.2 0.0
baz=332,SNR=8.8
U56A King 80.76 40 P P 02 52 17.3 -0.1
baz=331,SNR=5.2
U56A King 80.76 40 IAmb IAmb 02 52 18.4
comp=Z,26nm,0.9s
LRAL Lakeview Retre 80.79 47 P P 02 52 17.0 -0.7
baz=328,SNR=11
LRAL Lakeview Retre 80.79 47 IAmb IAmb 02 52 17.5
comp=Z,14nm,0.7s
V55A Taylorsville 80.85 41 P P 02 52 17.8 -0.2
baz=330,SNR=5.0
ITM Ithomi 80.88 322 IAmb IAmb 02 52 17.4
comp=Z,16nm,0.8s
WHFO Wadi Hawf 80.88 287 P P 02 52 17.7 -0.7
SNR=7.2
RBK Rabkut 80.95 287 P P 02 52 17.9 -0.8
T58A Grand View Acr 80.96 39 P P 02 52 18.2 -0.3
baz=331,SNR=8.2
TIP Timpagrande 80.98 326 ⇓P P 02 52 18.6 0.0
S60A Water View 81.00 37 P P 02 52 18.7 +0.1
baz=332
U57A Blanch 81.10 40 P P 02 52 19.1 -0.1
baz=331,SNR=6.3
W54A Cherokee Point 81.12 42 P P 02 52 18.9 -0.4
baz=330,SNR=6.2
V56A Mocksville 81.18 41 P P 02 52 19.5 -0.1
baz=331,SNR=8.1
T59A Double "B" Far 81.31 38 P P 02 52 20.3 0.0
baz=332
ZAIG Zacatecas 81.34 64 IAmb IAmb 02 52 23.6
comp=Z,35nm,0.9s
IDI Anoyia 81.36 319 P P 02 52 19.3 -1.3
comp=Z,17nm,0.6s,baz=20,slow=7.3,SNR=15
IDI Anoyia 81.36 319 ⇓P P 02 52 19.2 -1.3
IDI Anoyia 81.36 319 IAmb IAmb 02 52 20.7
comp=Z,22nm,0.7s
Z51A Franklin 81.36 45 IAmb IAmb 02 52 21.0
comp=Z,29nm,0.9s
Y52A Lilburn 81.38 44 IAmb IAmb 02 52 21.7
comp=Z,18nm,0.9s
V57A Coltrane Farms 81.40 40 P P 02 52 20.3 -0.4
baz=331,SNR=8.2
KMSC Kings Mountain 81.42 42 P P 02 52 20.4 -0.4
baz=330,SNR=10
KMSC Kings Mountain 81.42 42 IAmb IAmb 02 52 21.0
comp=Z,19nm,0.7s
U58A Oxford 81.44 39 P P 02 52 20.8 -0.2
baz=332,SNR=11
T60A Surry 81.47 37 P P 02 52 20.9 -0.1
baz=332
X54A Belton 81.50 43 P P 02 52 21.2 -0.1
baz=330
ABTO Aybut 81.60 287 P P 02 52 21.5 -0.6
EIL Elat 81.63 308 P P 02 52 22.6 +0.5
comp=Z,31nm,0.6s,baz=1.9,slow=3.6,SNR=32
W56A Indian Trail 81.73 41 P P 02 52 22.1 -0.4
baz=331,SNR=5.6
V58A Windy Hill, Pi 81.74 40 P P 02 52 22.4 0.0
baz=331,SNR=10
V58A Windy Hill, Pi 81.74 40 IAmb IAmb 02 52 23.0
comp=Z,27nm,0.8s
U59A Littleton 81.77 38 P P 02 52 22.6 0.0
baz=332,SNR=7.3
U59A Littleton 81.77 38 IAmb IAmb 02 52 23.6
comp=Z,18nm,0.8s
X55A Gracelyn & Ava 81.88 42 P P 02 52 22.9 -0.3
baz=330,SNR=7.4
U60A Pendleton 81.90 38 P P 02 52 23.2 -0.1
baz=332,SNR=5.6
W57A Gilead 81.95 41 P P 02 52 23.4 -0.2
baz=331,SNR=9.5
W57A Gilead 81.95 41 IAmb IAmb 02 52 23.9
comp=Z,26nm,0.8s
GOGA Godfrey 82.02 44 P P 02 52 23.7 -0.2
baz=329,SNR=5.2
X56A White Oak 82.11 42 P P 02 52 24.3 0.0
baz=330
V59A Middlesex 82.11 39 P P 02 52 24.3 0.0
baz=332,SNR=11
BIRD Birdtown, Kers 82.20 41 IAmb IAmb 02 52 25.7
comp=Z,25nm,0.9s
Y55A Saluda 82.24 43 P P 02 52 25.1 +0.1
baz=330,SNR=8.0
ARMA Armidale 82.25 180 IAmb IAmb 02 52 28.1
comp=Z,45nm,0.9s
SJPF Ste Jean 82.26 340 *e*P P 02 52 25.6 +0.6
SJPF pmax pmax
comp=Z,49nm,2.3s
U61A Possum Corner 82.29 37 P P 02 52 25.4 +0.1
baz=332
U61A Possum Corner 82.29 37 IAmb IAmb 02 52 27.1
comp=Z,48nm,1.1s
W58A Raeford 82.37 40 P P 02 52 25.7 +0.1
baz=331,SNR=13
V60A Jim Taylor Roa 82.48 38 P P 02 52 26.2 0.0
baz=332,SNR=9.6
X57A Johnson Farm, 82.51 41 P P 02 52 26.4 0.0
baz=331,SNR=7.9
W59A Clinton 82.55 39 P P 02 52 27.0 +0.4
baz=332
Y56A Pelion 82.60 42 P P 02 52 26.9 +0.1
baz=330
CNNC Cliffs of the 82.71 39 P P 02 52 27.6 +0.2
baz=332
V61A Roper 82.72 38 P P 02 52 27.6 +0.2
baz=332
X58A Rowland 82.74 40 P P 02 52 27.4 -0.1

	baz=331,SNR=11							
Y57A	**Sumter**	**82.78**	**41**	P		**P**	02 52 27.6	**-0.1**
	baz=331							
Y57A	**Sumter**	**82.78**	**41**	IAmb		IAmb	02 52 28.0	
	comp=Z,19nm,0.6s							
154A	**Montrose**	**82.86**	**44**	IAmb		IAmb	02 52 29.4	
	comp=Z,59nm,1.1s							
W60A	**Pink Hill**	**82.94**	**39**	P		**P**	**02 52 28.6**	**+0.1**
	baz=332							
Z56A	**Williston**	**82.98**	**43**	P		**P**	**02 52 29.0**	**+0.2**
	baz=330							
X59A	**McDuffie Farm,**	**83.01**	**40**	P		**P**	**02 52 28.8**	**0.0**
	baz=332,SNR=8.0							
W61A	**Ground Anchor**	**83.11**	**38**	P		**P**	**02 52 29.4**	**0.0**
	baz=332							
X60A	**Albert Glenn T**	**83.25**	**39**	P		**P**	**02 52 30.0**	**-0.1**
	baz=332							
Z57A	**Bowman**	**83.28**	**42**	P		**P**	**02 52 30.2**	**0.0**
	baz=331,SNR=6.7							
Y59A	**Loris**	**83.42**	**40**	P		**P**	**02 52 30.8**	**-0.1**
	baz=332,SNR=7.9							
Z58A	**St. Stephen**	**83.61**	**41**	P		**P**	**02 52 31.6**	**-0.3**
	baz=331							
TIGA	**Tifton**	**83.66**	**45**	P		**P**	**02 52 32.3**	**+0.2**
	baz=330							
NHSC	**New Hope**	**83.66**	**42**	P		**P**	**02 52 32.3**	**+0.2**
	baz=331							
Y60A	**Bolivia**	**83.66**	**40**	P		**P**	**02 52 32.0**	**-0.1**
	baz=332,SNR=8.6							
157A	**Early Branch**	**83.69**	**43**	P		**P**	**02 52 32.7**	**+0.4**
	baz=331							
158A	**Hollywood**	**83.97**	**42**	P		**P**	**02 52 33.9**	**+0.2**
	baz=331							
STKA	**Stephens Creek**	**84.19**	**189**	P		**P**	**02 52 35.5**	**+1.0**
	comp=Z,41nm,0.7s,baz=348,slow=6.4,SNR=72							
PBRG	**Braganca**	**84.56**	**344**	*eP*		**P**	**02 52 35.4**	**-1.1**
	comp=Z,10nm,1.8s							
MVO	**Moncorvo**	**85.23**	**344**	*eP*		**P**	**02 52 39.0**	**-0.8**
	comp=Z,10nm,1.2s							
PVRL	**Vila Real**	**85.24**	**345**	*eP*		**P**	**02 52 39.4**	**-0.4**
	comp=Z,8.5nm,1.0s							
SOCY	**Socotra**	**85.25**	**284**	IAmb		IAmb	02 52 38.8	
	comp=Z,19nm,0.8s							
BBOO	**Buckleboo**	**85.76**	**193**	IAmb		IAmb	02 52 42.7	
	comp=Z,21nm,0.8s							
PVIS	**Viseu**	**85.82**	**345**	*eP*		**P**	**02 52 42.0**	**-0.6**
	comp=Z,24nm,1.7s							
ESDC	**Sonseca Array**	**86.12**	**342**	P		**P**	**02 52 43.5**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=4.8,slow=4.2,SNR=28							
ESDC				pP		**pP**	**02 54 44.4**	**0.0**
	comp=Z,6.0nm,1.2s,baz=360,slow=5.6,SNR=12							
ESDC				PKKPbc		**PKKPbc**	**03 10 36.9**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=186,slow=2.8,SNR=5.2							
ESDC	**Sonseca Array**	**86.12**	**342**	P		**P**	**02 52 43.5**	**-0.6**
KEST	**Kesra**	**86.52**	**330**	P		**P**	**02 52 46.4**	**+0.3**
	comp=Z,16nm,0.6s,baz=303,slow=0.8,SNR=38							
KEST	**Kesra**	**86.52**	**330**	IAmb		IAmb	02 52 47.3	
	comp=Z,18nm,0.7s							
CAN	**Canberra**	**87.17**	**182**	P		**P**	**02 52 50.9**	**+2.1**
PCVE	**Castro Verde**	**88.85**	**344**	*eP*		**P**	**02 52 54.7**	**-2.1**
	comp=Z,28nm,1.7s							
NWAO	**Narrogin (SRO)**	**90.01**	**209**	P		**P**	**02 53 02.2**	**+0.2**
NWAO				pmax		pmax		
	comp=Z,41nm,0.9s							
NWAO	**Narrogin (SRO)**	**90.01**	**209**	P		**P**	**02 53 02.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**90.01**	**209**	IAmb		IAmb	02 53 02.7	
	comp=Z,33nm,0.9s							
TORD	**Torodi Ar. Bea**	**110.01**	**329**	PKKPbc		PKKPbc	03 09 32.2	+0.1
	comp=Z,1.3nm,0.7s,baz=195,slow=2.4,SNR=9.4							
DBIC	**Dimbokro**	**118.09**	**334**	PKP		**PKPdf**	**02 58 45.2**	**-0.7**
	comp=Z,9.0nm,0.5s,baz=28,slow=2.8,SNR=30							
DBIC				PKKPbc		**PKKPbc**	**03 09 04.8**	**-0.5**
	comp=Z,7.3nm,1.0s,baz=144,slow=3.9,SNR=6.4							
DBIC	**Dimbokro**	**118.09**	**334**			**PKiKP**	**02 58 46.1**	**+0.1**
TIC	**Toumodi**	**118.16**	**334**	*e*PKIKP		**PKPdf**	**02 58 45.3**	**-0.8**
KIC	**Kosan Boka**	**118.35**	**333**	*e*PKIKP		**PKPdf**	**02 58 45.6**	**-0.9**
	comp=Z,11nm,0.4s							
LIC	**Lamto**	**118.56**	**334**	*e*PKIKP		**PKPdf**	**02 58 46.0**	**-0.9**
	comp=Z,17nm,0.4s							
PTGA	**Pitinga**	**122.21**	**39**			**PKiKP**	**02 58 54.1**	**0.0**
LSZ	**Lusaka**	**122.39**	**288**	PKIKP		**PKiKP**	**02 58 54.4**	**-0.1**
LSZ	**Lusaka**	**122.39**	**288**			**PKiKP**	**02 58 54.4**	**-0.1**
CZSB	**Cruzeiro do Su**	**122.69**	**56**	*eP*		**PKPdf**	**02 58 54.6**	**-0.1**
MACA	**Manacapuru-AM**	**124.16**	**40**	*eP*		**PKPdf**	**02 58 57.7**	**+0.1**
MCPB	**Macapa, AP**	**124.59**	**29**	*eP*		**PKiKP**	**02 58 59.1**	**+0.3**
MALB	**Monte Alegre**	**125.30**	**33**	*eP*		**PKPdf**	**02 58 59.5**	**-0.3**
ITTB	**Itaituba**	**127.14**	**35**	*eP*		**PKiKP**	**02 59 03.6**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**127.63**	**25**	*eP*		**PKiKP**	**02 59 05.4**	**+0.5**
ETMB	**Extrema**	**127.67**	**50**	*eP*		**PKPdf**	**02 59 04.0**	**-0.3**
SAML	**Samuel**	**128.30**	**46**	PKIKP		**PKPdf**	**02 59 05.7**	**+0.2**
SAML	**Samuel**	**128.30**	**46**			**PKPdf**	**02 59 05.7**	**+0.2**
VNDA	**Vanda**	**129.59**	**177**	PKP		**PKPdf**	**02 59 05.7**	**-0.3**
	comp=Z,7.7nm,0.7s,baz=325,slow=4.2,SNR=46							
VNDA	**Vanda**	**129.59**	**177**	PKPdf		**PKPdf**	**02 59 05.8**	**-0.2**
NPGB	**Novo Progresso**	**129.75**	**36**	*eP*		**PKPdf**	**02 59 08.4**	**+0.1**
PRPB	**Parauapebas**	**130.77**	**29**	*eP*		**PKPdf**	**02 59 10.4**	**+0.2**
TSUM	**Tsumeb**	**131.59**	**295**	PKPdf		**PKPdf**	**02 59 12.0**	**+0.3**
LPAZ	**La Paz**	**132.28**	**57**	PKP		**PKPdf**	**02 59 14.2**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=11,slow=4.0,SNR=19							
LPAZ				SKPbc		**SKPbc**	**03 01 48.9**	**+0.6**
	comp=Z,16nm,0.9s,baz=350,slow=6.1,SNR=19							
LPAZ	**La Paz**	**132.28**	**57**	*eP*		**PKPdf**	**02 59 13.8**	**+0.1**
CLDB	**Colider**	**133.11**	**39**	*eP*		**PKPdf**	**02 59 15.1**	**+0.5**
VILB	**Vilhena**	**133.17**	**45**	*eP*		**PKPdf**	**02 59 14.6**	**-0.1**
SMTB	**Santa Maria do**	**133.97**	**27**	*eP*		**PKPdf**	**02 59 16.0**	**-0.2**
BOSA	**Boshof**	**134.28**	**280**	PKhKP		PKPpre	02 59 02.0	
	comp=Z,2.9nm,0.8s,baz=27,slow=2.8,SNR=7.9							
BOSA				PKP		**PKPdf**	**02 59 16.8**	**+0.3**
	comp=Z,8.4nm,0.5s,baz=41,slow=2.5,SNR=22							
BOSA				SKPbc		**SKPbc**	**03 01 53.5**	**-0.5**
	comp=Z,4.5nm,0.5s,baz=28,slow=3.7,SNR=10							
SNDB	**Serra Nova Dou**	**135.76**	**33**	*eP*		**PKPdf**	**02 59 19.1**	**-0.4**
PTLB	**Pontes e Lacer**	**135.85**	**45**	*eP*		**PKPdf**	**02 59 20.3**	**+0.8**
MAW	**Mawson**	**136.36**	**214**	PKhKP		PKPpre	02 59 07.5	
	comp=Z,3.4nm,0.6s,baz=34,slow=2.1,SNR=10.0							
MAW				PKP		**PKPdf**	**02 59 19.5**	**+0.6**
	comp=Z,11nm,0.6s,baz=85,slow=0.8,SNR=20							
MAW				SKPbc		**SKPbc**	**03 01 58.7**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=296,slow=2.6,SNR=5.3							
PEXB	**Peixe**	**136.84**	**30**	*eP*		**PKiKP**	**02 59 22.6**	**-0.9**
LVC	**Limon Verde**	**137.06**	**62**	PKIKP		**PKPdf**	**02 59 22.4**	**+0.2**
LVC	**Limon Verde**	**137.06**	**62**	PKPdf		**PKPdf**	**02 59 22.4**	**+0.2**
LVC	**Limon Verde**	**137.06**	**62**			**PKiKP**	**02 59 23.4**	**-0.7**
SDBA	**SAO DESIDERIO**	**138.09**	**25**	*eP*		**PKiKP**	**02 59 25.8**	**-0.3**
ARAG	**Araguaiana, MT**	**139.03**	**36**	*eP*		**PKPdf**	**02 59 26.2**	**+0.8**
NBCP	**Cabaceiras do**	**139.52**	**17**	*eP*		**PKPdf**	**02 59 26.7**	**+0.3**
BDFB	**Brasilia**	**140.26**	**31**	PKhKP		PKPpre	02 59 20.6	
	comp=Z,5.6nm,0.7s,baz=288,slow=2.6,SNR=12							
BDFB				PKP		**PKPdf**	**02 59 28.1**	**+0.3**
	comp=Z,4.6nm,0.5s,baz=29,slow=4.5,SNR=7.8							
BDFB				SKPbc		**SKPbc**	**03 02 11.9**	**+0.3**
	comp=Z,11nm,0.8s,baz=305,slow=3.2,SNR=10							
BDFB	**Brasilia**	**140.26**	**31**	PKIKP		**PKPdf**	**02 59 28.0**	**+0.2**
BDFB	**Brasilia**	**140.26**	**31**			**PKPdf**	**02 59 27.9**	**+0.2**
GDU01	**Guandu, BA**	**140.55**	**18**	*eP*		**PKPdf**	**02 59 28.6**	**+0.1**
VCA	**Vinchina**	**142.25**	**57**	*eP*		**PKPdf**	**02 59 28.5**	**-2.6**
AGUA	**GUANDACOL**	**142.66**	**69**	*eP*		**PKPdf**	**02 59 30.0**	**-1.7**
ACCO	**Cerro Coronel**	**143.15**	**70**	*eP*		PKPbc	02 59 31.6	+0.5
CYA	**Choya**	**143.38**	**64**	*eP*		PKPbc	02 59 31.5	-0.1
ACLC	**CERRO LA CRUZ**	**143.49**	**67**	*eP*		PKPbc	02 59 32.3	+0.2
ROC1	**El Roble**	**143.72**	**75**	*eP*		PKPbc	02 59 32.3	-0.4
RTLS	**Leoncito**	**143.90**	**72**	*eP*		**PKPdf**	**02 59 34.0**	**0.0**
PEL	**Peldehue**	**144.04**	**75**	*eP*		PKPbc	02 59 32.9	-0.6
AVFE	**Valle Fertil**	**144.13**	**69**	*eP*		PKPbc	02 59 33.7	-0.2
RTCV	**Cerro Valdivia**	**144.38**	**71**	*eP*		**PKPab**	**02 59 34.9**	**-0.2**
NAN01	**Guarapari, ES**	**144.46**	**20**	*eP*		PKPbc	02 59 35.3	+0.2
PCMB	**Pacaembu**	**144.63**	**39**	*eP*		PKPbc	02 59 35.5	0.0
ASAL	**Salagasta**	**144.74**	**72**	*eP*		**PKPdf**	**02 59 35.4**	**+0.2**
ARCO	**CERRO ARCO**	**144.86**	**73**	*eP*		PKPbc	02 59 36.2	0.0
SYO	**Syowa Base**	**145.00**	**216**	*i*PKPdf		**PKPdf**	**02 59 32.6**	**-1.7**
SYO	**Syowa Base**	**145.00**	**216**	*i*PKPbc		**PKPdf**	**02 59 34.0**	**-0.3**
SYO	**Syowa Base**	**145.00**	**216**	*i*PKPab		**PKiKP**	**02 59 38.1**	**-0.3**
SJMB	**Sao Joao De Ma**	**145.05**	**22**	*eP*		**PKPdf**	**02 59 36.4**	**+0.4**
AAGR	**Agrelo**	**145.09**	**73**	*eP*		**PKPbc**	**02 59 37.2**	**+0.4**
BB19B	**Bebedouro**	**145.15**	**35**	*eP*		**PKPbc**	**02 59 37.6**	**+0.4**
TRCB	**Terra Rica**	**145.15**	**42**	*eP*		**PKPbc**	**02 59 37.2**	**+0.1**
BSFB	**Barra de Sao F**	**145.25**	**21**	*eP*		**PKPdf**	**02 59 35.7**	**-0.7**
RIB01	**Linhares ES**	**145.82**	**21**	*eP*		**PKPbc**	**02 59 38.9**	**-0.2**
BI02	**San Fabin de**	**146.08**	**80**	PKPdf		**PKPdf**	**02 59 38.3**	**+0.9**
TCA	**Tanti**	**146.26**	**66**	*eP*		**PKPdf**	**02 59 38.6**	**+0.7**
BSCB	**Bom Sucesso**	**146.30**	**29**	*eP*		**PKPdf**	**02 59 39.1**	**+0.9**
BSCB	**Bom Sucesso**	**146.30**	**29**	*eP*		**PKPbc**	**02 59 39.7**	**-0.8**
MRA	**San Martin**	**146.42**	**69**	*eP*		**PKPdf**	**02 59 38.9**	**+0.8**
FRTB	**Fartura**	**146.85**	**38**	*eP*		**PKPbc**	**02 59 40.5**	**-1.4**
PTGB	**Pitanga**	**147.09**	**43**	*eP*		**PKPdf**	**02 59 40.8**	**+1.4**
VAO	**Valinhos**	**147.47**	**34**	*eP*		**PKPdf**	**02 59 41.8**	**+1.7**
SPB	**Sao Paulo**	**147.86**	**35**	*eP*		**PKPdf**	**02 59 40.7**	**+0.2**
VAS01	**Vassouras-RJ**	**147.90**	**27**	*eP*		**PKPdf**	**02 59 40.4**	**-0.3**
PARB	**Paraibuna**	**148.23**	**32**	*eP*		**PKPdf**	**02 59 42.5**	**+1.2**
MAN01	**Angra dos Reis**	**148.30**	**29**	*eP*		**PKPdf**	**02 59 42.4**	**+1.0**
PET01	**Itanhaem-SP**	**148.55**	**35**	*eP*		**PKPdf**	**02 59 42.7**	**+1.0**
PLCA	**Paso Flores**	**149.06**	**85**	PKPbc		**PKiKP**	**02 59 47.9**	**0.0**
	comp=Z,61nm,0.6s,baz=290,slow=3.0,SNR=112							
PLCA	**Paso Flores**	**149.06**	**85**	PKPdf		**PKPdf**	**02 59 43.1**	**+1.0**
PLCA	**Paso Flores**	**149.06**	**85**	*eP*		**PKPdf**	**02 59 42.1**	**0.0**
ITAB	**Concordia**	**149.27**	**45**	*eP*		**PKPdf**	**02 59 44.4**	**+1.7**
CNLB	**Canela**	**151.62**	**45**	*eP*		**PKPdf**	**02 59 47.0**	**+0.6**
PLTB	**Pedras Altas**	**152.41**	**52**	*eP*		**PKPdf**	**02 59 49.8**	**+2.4**
TRQA	**Tornquist**	**152.55**	**72**	*eP*		**PKPdf**	**02 59 49.7**	**+2.3**
BELA	**Belgrano 2**	**154.09**	**177**	PKPdf		**PKPdf**	**02 59 47.4**	**-1.1**
NVL	**N'lazarevskaya**	**154.13**	**209**	*e*PKIKP		**PKPbc**	**02 59 56.5**	**-0.8**
NVL				*e*SSS		SSS	03 28 49.7	
NVL				pmax		pmax		
	comp=Z,7.0nm,0.5s							
SNAA	**Sanae**	**157.46**	**201**	PKPdf		**PKPdf**	**02 59 52.5**	**-0.6**
SNAA	**Sanae**	**157.46**	**201**	PKIKP		**PKPdf**	**02 59 52.1**	**-0.9**
SNAA	**Sanae**	**157.46**	**201**	PKPdf		**PKPdf**	**02 59 52.1**	**-0.9**
PMSA	**Palmer Station**	**157.77**	**138**	*eP*		**PKPdf**	**02 59 52.8**	**-0.6**

REY ***01*** *02:44:46.7, 64.6°68N×17.°46W, h7km*
NEIC ***01*** *02:44:47.6±1.3, 64.°6N±0.°1×17.°8W±0.°1, h8km±4km, mb4.6/24, Error ellipse: s-maj=17.0km s-min=7.5km az=197.0*
BGR ***01*** *02:44:47.6±0.0, 64.°85N×18.°14W, h5km, mb4.5*
IDC ***01*** *02:44:47.0±0.7, 64.°60N×17.°63W, h0km, mb4.1/12, mb1 4.2/16, mb1mx3.9/65, mbtmp4.1/16, ML2.8/3, MS3.6/11, Ms1 3.6/11, ms1mx3.2/55, Error ellipse: s-maj=20.7km s-min=10.0km az=14.0*

ISC 01 02:44:47.9±0.5, 64°68N±0°02×17°49W±0°02, h10km, n117, σ1s88/127, mb4.2/33, MS3.5/8, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**265**	P	**Pg**	**02 44 49.3**	**-1.5**
	baz=269						
IVON				S	**Sg**	**02 44 52.6**	**-0.3**
	baz=269						
IDYN	**Dyngjuhals**	**0.12**	**25**	P	**Pg**	**02 44 49.5**	**-1.4**
	baz=19						
IDYN				S	**Sg**	**02 44 52.0**	**-0.9**
	baz=19						
IURH	**Urdarhals**	**0.20**	**46**	P	**Pg**	**02 44 50.7**	**-1.4**
	baz=43						
IURH				S	**Sg**	**02 44 54.7**	**-0.3**
	baz=43						
IDJK	**Dyngjujokull**	**0.21**	**149**	P	**Pg**	**02 44 50.8**	**-1.5**
	baz=150						
IDJK				S	**Sg**	**02 44 54.1**	**-1.2**
	baz=150						
IGRF	**Grimsfjall**	**0.29**	**161**	P	**Pg**	**02 44 52.2**	**-1.6**
	baz=163						
IGRF				S	**Sg**	**02 44 56.5**	**-1.2**
	baz=163						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**02 44 53.2**	**-1.6**
	baz=89						
IKVE				S	**Sg**	**02 44 57.9**	**-1.6**
	baz=89						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**02 44 53.4**	**-2.1**
	baz=124						
IBJK				S	**Sg**	**02 44 58.6**	**-1.9**
	baz=124						
IHUS	**Husbondi**	**0.40**	**191**	P	**Pg**	**02 44 54.0**	**-1.7**
	baz=193						
IHUS				S	**Sg**	**02 45 00.1**	**-0.8**
	baz=193						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**02 44 54.5**	**-1.4**
	baz=254						
THOR	**Thorvaldshraun**	**0.43**	**54**	P	**Pg**	**02 44 54.5**	**-1.8**
	baz=52						
THOR				S	**Sg**	**02 45 01.2**	**-0.7**
	baz=52						
IVOT	**Vottur**	**0.43**	**162**	P	**Pg**	**02 44 54.7**	**-1.6**
	baz=163						
IKRE	**Kreppuhraun**	**0.48**	**77**	P	**Pg**	**02 44 55.2**	**-2.1**
	baz=76						
IKRE				S	**Sg**	**02 45 02.8**	**-0.9**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**02 44 55.7**	**-1.7**
	baz=223						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**02 44 55.9**	**-2.0**
	baz=42						
IMKO	**Mokollar**	**0.57**	**58**	P	**Pg**	**02 44 56.9**	**-2.1**
	baz=57						
IMKO				S	**Sg**	**02 45 05.2**	**-1.3**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**02 44 58.2**	**-2.2**
	baz=207						
IIEY				S	**Sg**	**02 45 07.2**	**-1.8**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**02 44 58.6**	**-2.1**
	baz=7.5						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**02 44 57.9**	**-3.2**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**02 44 59.6**	**-2.6**
	baz=188						
IKAL				S	**Sg**	**02 45 09.9**	**-1.9**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	**Pg**	**02 44 59.9**	**-2.7**
	baz=79						
IVSH				S	**Sg**	**02 45 10.3**	**-2.2**
	baz=79						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**02 45 01.7**	**-3.1**
	baz=66						
IADA				S	**Sg**	**02 45 13.8**	**-2.5**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**283**	P	**Pg**	**02 45 02.6**	**-2.8**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**02 45 03.4**	**-2.9**
	baz=20						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**02 45 04.0**	**-3.0**
	baz=13						
IKVO	**Krokottuvotn**	**1.07**	**14**	P	**Pg**	**02 45 05.2**	**-3.1**
	baz=13						
ISNB	**Snabyli**	**1.07**	**208**	P	**Pg**	**02 45 05.4**	**-3.1**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**02 45 06.0**	**-3.3**
	baz=30						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pb**	**02 45 07.6**	**-3.2**
	baz=8.5						
BORG	**Borgarnes**	**1.65**	**274**	Pg	**Pn**	**02 45 15.1**	**-1.7**
	28nm,0.3s,baz=85,slow=7.1,SNR=47						
BORG				Lg	Lg	02 45 38.2	
	20nm,0.3s,baz=73,slow=9.3,SNR=5.6						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**02 45 15.1**	**-1.7**
BORG				Sn	**Sn**	**02 45 35.9**	**-2.1**
SCO	**Scoresbysund**	**6.07**	**346**	*e*	**Pn**	**02 46 15.8**	**-1.7**
	baz=188,slow=6.9						
SCO				*i* P	Pb	02 46 18.0	-16
SCO				*e*S	**Sn**	**02 47 30.9**	**+4.0**
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR	02 48 56.5	
	comp=Z,355nm,18.4s,baz=50,slow=34						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**02 47 35.0**	**-0.6**
	baz=325,slow=12,SNR=11						
EKA				Sn	**Sn**	**02 49 49.2**	**+2.4**
	baz=329,slow=25,SNR=4.3						
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**02 47 58.3**	**-1.3**
	0.0nm,0.3s,baz=299,slow=13,SNR=5.3						
SFJD	**Kangerlussuaq**	**13.66**	**295**	LR	LR	02 52 41.9	
	comp=Z,386nm,18.9s,baz=92,slow=35						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**02 48 20.6**	**+0.5**
	0.1nm,0.3s,baz=335,slow=6.5,SNR=2.3						
ARCES	**ARCESS Array B**	**17.10**	**55**	LR	LR	02 54 51.5	
	comp=Z,90nm,19.0s,baz=260,slow=35						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**02 49 19.5**	**+1.2**
	0.1nm,0.3s,baz=293,slow=7.2,SNR=4.7						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**02 49 19.2**	**+0.9**
CLL	**Collm**	**20.71**	**116**	*i* P	**P**	**02 49 29.0**	**+1.1**
	comp=Z,18nm,1.3s						
CLL	**Collm**	**20.71**	**116**	P	**P**	**02 49 29.2**	**+1.3**
ECH	**Echery**	**21.16**	**129**	P	**P**	**02 49 33.0**	**+0.2**
GRA1	**Grafenberg Arr**	**21.34**	**121**	P	**P**	**02 49 36.1**	**+1.3**
GRA1					IAmb	IAmb	02 49 48.9	
	comp=Z,81nm,1.9s						
GRF	**Grafenberg Arr**	**21.34**	**121**	*eP*	**P**	**02 49 38.7**	**+3.9**
	comp=Z,31nm,1.5s,baz=324,slow=11						
NKC	**Novy Kostel**	**21.35**	**118**	*eP*	**P**	**02 49 38.7**	**+3.8**
BRG	**Berggiesshubel**	**21.41**	**115**	*eP*	**P**	**02 49 36.4**	**+0.9**
	comp=Z,8.8nm,1.1s						
BRG				*i*		02 49 39.1	
	comp=Z,21nm,1.1s						
BRG				*e*SCP		Sn	02 54 11.0	+30
	comp=Z,9.4nm,1.2s						
BFO	**Black Forest**	**21.45**	**127**	P		**P**	**02 49 37.5**	**+1.4**
FRB	**Frobisher Bay**	**21.75**	**291**	LR		LR	02 57 25.5	
	comp=Z,179nm,20.3s,baz=46,slow=35							
PRU	**Pruhonice**	**22.35**	**116**	*eP*		**P**	**02 49 47.5**	**+1.9**
CHVC	**Chvalec**	**22.47**	**113**	*eP*		**P**	**02 49 49.2**	**+2.3**
GOPC	**GO Pecny, Ondr**	**22.51**	**116**	*eP*		**P**	**02 49 50.2**	**+2.9**
OSTC	**Ostav**	**22.56**	**113**	*eP*		**P**	**02 49 49.6**	**+1.8**
KHC	**Kasperske Hory**	**22.68**	**118**	*eP*		**P**	**02 49 49.5**	**+0.4**
KHC	**Kasperske Hory**	**22.68**	**118**	P		**P**	**02 49 48.3**	**-0.8**
DPC	**Dobruska-Polom**	**22.76**	**113**	*eP*		**P**	**02 49 51.6**	**+1.6**
SUW	**Suwalki**	**22.88**	**98**	P		**P**	**02 49 52.0**	**+0.9**
SUW						IAmb	IAmb	02 50 01.8
	comp=Z,44nm,1.2s							
DAVA	**Damuels**	**22.89**	**126**	*eP*		**P**	**02 49 56.0**	**+4.5**
	comp=Z,7.7nm,1.0s							
GEC2	**GERESS Array S**	**22.96**	**119**	P		**P**	**02 49 52.3**	**+0.1**
GEC2						IAmb	IAmb	02 49 58.1
	comp=Z,14nm,1.4s							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**02 49 53.9**	**+1.8**
	comp=Z,2.5nm,1.0s,baz=322,slow=8.5,SNR=12							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**02 49 53.5**	**+1.4**
KRLC	**Kraliky**	**23.16**	**113**	*eP*		**P**	**02 49 55.4**	**+1.2**
SQTA	**Sankt Quirin**	**23.41**	**125**	*eP*		**P**	**02 50 00.7**	**+4.0**
	comp=Z,7.7nm,1.2s							
FETA	**Feichten**	**23.41**	**126**	*eP*		**P**	**02 50 01.7**	**+4.9**
	comp=Z,4.1nm,1.2s							
WTTA	**Wattenberg**	**23.52**	**124**	*eP*		**P**	**02 50 00.5**	**+2.5**
	comp=Z,7.3nm,1.4s							
VRAC	**Vranov**	**23.70**	**114**	P		**P**	**02 50 00.6**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=323,slow=12,SNR=5.9							
VRAC				LR		LR	02 58 55.7	
	comp=Z,135nm,19.6s,baz=308,slow=36							
VRAC	**Vranov**	**23.70**	**114**	*eP*		**P**	**02 50 00.6**	**+1.1**
MORC	**Moravsky Berou**	**23.70**	**112**	*eP*		**P**	**02 50 00.5**	**+1.0**
MORC	**Moravsky Berou**	**23.70**	**112**	P		**P**	**02 50 00.0**	**+0.5**
MORC						IAmb	IAmb	02 50 03.9
	comp=Z,23nm,1.7s							
KRUC	**Moravsky**	**23.82**	**115**	*eP*		**P**	**02 50 00.9**	**+0.3**
ABTA	**Abfaltersbach**	**24.28**	**123**	*eP*		**P**	**02 50 07.7**	**+2.7**
	comp=Z,3.9nm,1.2s							
KBA	**Koelnbreinsper**	**24.30**	**122**	*eP*		**P**	**02 50 08.6**	**+3.3**
	comp=Z,7.3nm,1.5s							
JAVC	**Velka Javorina**	**24.48**	**113**	*eP*		**P**	**02 50 09.0**

EIDS Eidsvold 29.15 260 P P 03 02 39.6 +0.5
XMAS Kiritimati 31.72 39 P P 03 03 01.7 -0.2
CTAO Charters Tower 34.30 269 P P 03 03 25.6 +1.4
CTAO IAmb IAmb 03 03 27.0
comp=Z,10.0nm,0.7s
TOO Toolangi 35.02 238 P P 03 03 30.9 +0.7
PMG Port Moresby 37.07 286 P P 03 03 48.1 +0.2
comp=Z,14nm,0.3s,baz=108,slow=6.4,SNR=6.4
STKA Stephens Creek 37.47 248 P P 03 03 50.9 -0.3
comp=Z,2.2nm,0.5s,baz=101,slow=12,SNR=8.4
STKA Stephens Creek 37.47 248 P P 03 03 50.0 -1.1
BBOO Buckleboo 42.18 247 P P 03 04 29.7 -0.3
AS31 Alice Springs 44.87 260 P P 03 04 52.2 +0.5
ASAR Alice Springs 44.88 260 P P 03 04 52.0 +0.4
comp=Z,4.9nm,0.9s,baz=90,slow=8.5,SNR=27
ASAR Alice Springs 44.88 260 P P 03 04 51.8 +0.1
WR0 Warramunga Arr 45.06 265 P P 03 04 53.2 0.0
WB2 Warramunga Arr 45.24 265 P P 03 04 54.5 0.0
WB2 IAmb IAmb 03 04 56.0
comp=Z,5.9nm,0.9s
WB0 Warramunga Arr 45.24 265 P P 03 04 54.7 +0.2
WB0 IAmb IAmb 03 04 55.6
comp=Z,5.5nm,0.7s
WRA Warramunga Arr 45.25 265 P P 03 04 54.6 0.0
comp=Z,4.6nm,0.7s,baz=103,slow=8.2,SNR=49
WRA Warramunga Arr 45.25 265 P P 03 04 54.5 -0.1
FORT Forrest 49.08 249 P P 03 05 23.4 -0.7
MTN Manton Dam 50.25 273 P P 03 05 33.7 +0.6
MTN IAmb IAmb 03 05 38.5
comp=Z,5.3nm,0.8s
FITZ Fitzroy Crossi 53.67 264 P P 03 05 58.3 -0.1
FITZ IAmb IAmb 03 06 01.4
comp=Z,4.6nm,0.8s
MJB9 Matsu-Tunnel 73.25 324 P P 03 08 07.6 +1.1
MAW Mawson 79.05 200 P P 03 08 41.7 +2.9
comp=Z,1.3nm,0.6s,baz=148,slow=9.5,SNR=4.5
AKASG Malin Array Be 146.14 330 PKPbc PKiKP 03 16 16.5 -0.4
comp=Z,2.2nm,0.4s,baz=41,slow=4.1,SNR=14
BRTR Keskin Array B 149.57 309 PKPbc PKiKP 03 16 26.0 +1.4
comp=Z,0.4nm,0.5s,baz=119,slow=2.6,SNR=2.8
MMAI Mount Meron Ar 150.11 296 PKPbc PKiKP 03 16 27.4 +1.7
comp=Z,1.3nm,0.5s,baz=86,slow=6.2,SNR=4.1
CLL Collm 151.24 347 *e*PKPbc PKiKP 03 16 31.0 +3.6

*IDC **01** 03:12:51.5±0.7,38.˚73N×70.˚44E,h0km,mb4.0/16, mb1 4.2/22,mb1mx4.0/47,mbtmp4.1/22,ML3.6/6,MS3.4/5, Ms1 3.4/5,ms1mx2.9/54,Error ellipse: s-maj=13.7km s-min=11.1km az=7.0*

*MOS **01** 03:12:52.9±1.5,38.˚74N×70.˚47E,h13km,mb4.4/16,Error ellipse: s-maj=6.7km s-min=4.6km az=87.1*

*NEIC **01** 03:12:53.8±1.7,38.˚90N±0.˚04×70.˚36E±0.˚04,h10km±2km, mb4.4/13,Error ellipse: s-maj=5.7km s-min=4.2km az=156.0*

*KRNET **01** 03:12:53.3±0.1,38.˚88N×70.˚40E,mb4.8*

*BJI **01** 03:12:54.0±0.0,39.˚10N×70.˚40E,h12km,mB4.4/3, mb4.2/13,ML4.4/1,Ms4.0/3,Ms7.3,8/2*

*NNC **01** 03:12:54.3±1.6,39.˚08N×69.˚95E,h0km,mb5.1,mpv4.7, Error ellipse: s-maj=15.7km s-min=9.3km az=159.0*

*SOME **01** 03:12:57.3,39.˚40N×71.˚15E,h10km,MS3.3*

ISC 01 03:12:53.4±0.9,38.˚88N±0.˚03×70.˚39E±0.˚03,h9km±5km, n172,σ2=48/217,mb4.2/33,MS3.4/4,43C-18D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
GAR	Garm	0.13	335	⇑*i*P	Pg	03 12 56.1	-0.4
	baz=32						
GAR				*i*S	Sg	03 12 58.5	-0.2
	baz=32						
GAR	Garm	0.13	335	Pg	Pg	03 12 56.1	-0.4
GAR				Sg	Sg	03 12 58.4	-0.2
CHGR	Chuyangaron	0.99	257	⇑*i*P	Pg	03 13 12.0	-0.4
	baz=58						
CHGR				⇑*i*S	Sg	03 13 25.8	+0.6
	baz=58						
CHGR	Chuyangaron	0.99	257	Pg	Pg	03 13 12.0	-0.4
CHGR				Sg	Sg	03 13 24.5	-0.7
BTK	Batken	1.22	16	⇑*i*P	Pb	03 13 16.0	-0.8
	baz=15						
BTK				⇑*i*S	Sb	03 13 32.5	-0.1
	baz=15						
BTK	Batken	1.22	16	Pn	Pb	03 13 15.9	-0.8
BTK				Sg	Sb	03 13 32.4	-0.3
TAS	Tashkent	2.58	341	⇑*i*P	Pb	03 13 38.2	-1.6
	baz=41						
TAS				⇑*i*S	Sb	03 14 10.3	-1.3
	baz=41						
TAS	Tashkent	2.58	341	PN	Pn	03 13 35.8	+0.5
TAS	Tashkent	2.58	341	Pn	Pn	03 13 35.8	+0.5
IUG	Iuzhnay	3.27	355	*e*P	Pb	03 13 52.5	+0.8
	561nm,0.4s						
IUG				*e*S	Sb	03 14 31.8	+0.1
	4μm,0.6s						
IUG	Iuzhnay	3.27	355	*e*PN	Pb	03 13 52.5	+0.8
IUG				*e*S	Sb	03 14 31.8	+0.1
CHM	Chimkent	3.48	350	*e*P	Pb	03 13 54.2	-1.1
	137nm,0.1s						
CHM				*e*S	Sb	03 14 34.5	-3.2
	1μm,0.4s						
CHM	Chimkent	3.48	350	*e*PN	Pb	03 13 54.2	-1.1
CHM				*e*S	Sb	03 14 34.5	-3.2
AML	Almayashu	4.11	37	⇑*i*P	Pn	03 13 59.5	+2.8
	baz=37						
AML				⇑*i*S	Sn	03 14 47.4	+2.3
	baz=37						
AML	Almayashu	4.11	37	P	Pn	03 14 00.2	+3.4
	SNR=55						
BRLS	Borolday	4.16	354	*e*P	Pn	03 14 01.2	+4.0
	23nm,0.2s						
BRLS				*e*S	Sn	03 14 46.5	+0.6
	364nm,0.6s						
BRLS	Borolday	4.16	354	*e*PN	Pn	03 14 01.2	+4.0
KK31	Karatay Array	4.22	1	Pn	Pn	03 13 59.7	+1.8
	21nm,0.3s,baz=192,slow=13,SNR=371						
KK31				⇓Sn	Sn	03 14 45.3	-1.9
	96nm,0.6s,baz=197,slow=23,SNR=4.2						
KK31				⇑Lg	Lg	03 15 04.6	
	162nm,0.5s,baz=179,slow=27,SNR=6.3						
KK31	Karatay Array	4.22	1	PN	Pn	03 13 58.7	+0.8
KK31	Karatay Array	4.22	1	Pn	Pn	03 13 58.7	+0.8
KKAR	Karatay Array	4.22	1	PN	Pn	03 13 58.7	+0.8
KKAR	Karatay Array	4.22	1	Pn	Pn	03 13 58.5	+0.6
KKAR	Karatay Array	4.22	1	Pn	Pn	03 13 58.6	+0.8
KSH	Kashi	4.39	80	Pn	Pb	03 14 09.4	-1.3
KSH				Sn	Sb	03 15 04.0	+0.2
KSH				smax	smax		
	comp=N,420nm,0.6s						
KSH				smax	smax		
	comp=E,300nm,0.7s						
MRKS	Merke	4.42	28	*e*P	Pb	03 14 06.5	-4.8
	comp=E,91nm,0.7s						
MRKS				*e*S	Sn	03 14 55.4	+3.1
	comp=E,125nm,0.4s						
MRKS	Merke	4.42	28	*e*PN	Pb	03 14 06.5	-4.8
MRKS				*e*S	Sn	03 14 55.4	+3.1
KBL	Kabul	4.47	194	PN	Pn	03 14 01.5	0.0
KBL	Kabul	4.47	194	Pn	Pn	03 14 01.5	0.0
EKS2	Erkin-Say	4.57	33	⇑*i*P	Pn	03 14 05.6	+2.8
	baz=33						
EKS2				⇑*e*S	Sn	03 14 57.8	+1.8
	baz=33						
EKS2	Erkin-Say	4.57	33	P	Pn	03 14 06.0	+3.2
	SNR=66						
UCH	Uchtor	4.59	42	*e*P	Pn	03 14 06.1	+2.7
	baz=42						
UCH				*i* S	Sn	03 14 58.6	+1.6
	baz=42						
UCH	Uchtor	4.59	42	P	Pn	03 14 06.5	+3.2
	SNR=241						
AAK	Ala-Archa	4.88	38	⇑*i*P	Pn	03 14 09.9	+2.8
	baz=38						
AAK				⇑*i*S	Sn	03 15 05.2	+1.5
	baz=38						
AAK	Ala-Archa	4.88	38	P	Pn	03 14 10.4	+3.3
	SNR=94						
AAK	Ala-Archa	4.88	38	⇑Pn	Pn	03 14 07.6	+0.6
	comp=E,55nm,0.5s						
AAK				⇓Sn	Sn	03 15 10.2	+6.5
	comp=E,232nm,0.8s						
AAK	Ala-Archa	4.88	38	*ce*PN	Pn	03 14 10.4	+3.3
AAK				pmax	pmax		
	comp=Z,269nm,0.8s						
KZA	Kyzart	4.89	48	⇓*i*P	Pn	03 14 10.0	+2.5
	baz=48						
KZA				⇓*i*S	Sn	03 15 06.0	+1.6
	baz=48						
KZA	Kyzart	4.89	48	P	Pn	03 14 13.2	+5.7
	SNR=19						
FRU1	Bishkek	5.07	38	⇑*i*P	Pn	03 14 12.1	+2.4
	baz=38						
FRU1				⇑*i*S	Sn	03 15 09.4	+1.0
	baz=38						
KBK	Karagaybulak	5.12	41	⇓*e*P	Pn	03 14 13.2	+2.8
	baz=41						
KBK				⇓*i*S	Sn	03 15 11.4	+1.7
	baz=41						
KBK	Karagaybulak	5.12	41	P	Pn	03 14 14.3	+3.9
	SNR=177						
CEP	Cherat	5.20	166	P	Pn	03 14 14.5	+3.0
CEP				S	Sn	03 15 14.0	+2.4
CHMS	Chumysh	5.28	37	⇓*e*P	Pn	03 14 15.1	+2.7
	baz=37						
CHMS				⇓*i*S	Sn	03 15 14.7	+1.4
	baz=37						
CHMS	Chumysh	5.28	37	P	Pn	03 14 15.6	+3.1
	SNR=44						
USP	Ospenovka	5.37	34	P	Pn	03 14 16.8	+3.0
	SNR=57						
BOOM	Boomskoye usch	5.55	48	⇑*e*P	Pn	03 14 18.7	+2.4
	baz=48						
BOOM				⇑*i*S	Sn	03 15 20.7	+0.4
	baz=48						
BOOM	Boomskoye usch	5.55	48	PN	Pn	03 14 17.2	+0.9
BOOM	Boomskoye usch	5.55	48	Pn	Pn	03 14 17.2	+0.9
ULHL	Ulahol	5.58	51	P	Pn	03 14 19.2	+2.4
	SNR=5.6						
TKM2	Tokmak 2	5.64	43	⇑*i*P	Pn	03 14 20.4	+2.8
	baz=43						
TKM2				⇑*i*S	Sn	03 15 23.8	+1.2
	baz=43						
TKM2	Tokmak 2	5.64	43	P	Pn	03 14 20.7	+3.0
	SNR=61						
TKM2	Tokmak 2	5.64	43	⇑Pn	Pn	03 14 20.4	+2.8
	comp=Z,111nm,0.6s						
TKM2				⇑Sn	Sn	03 15 29.8	+7.1
	comp=Z,217nm,0.9s						
TKM2				⇓Lg	Lg	03 15 59.0	
	comp=Z,100nm,0.7s						
TKM2	Tokmak 2	5.64	43	PN	Pn	03 14 20.4	+2.8
NIL	Nilore	5.71	155	PN	Pn	03 14 19.0	+0.6
NIL	Nilore	5.71	155	Pn	Pn	03 14 19.0	+0.6
KST	Kastek	5.92	44	*e*P	Pb	03 14 35.3	-1.6
	comp=Z,29nm,0.7s						
KST				*e*S	Sb	03 15 45.2	-2.7
	comp=Z,90nm,0.9s						
KDJ	Kajisay	6.11	56	⇓*e*P	Pn	03 14 26.1	+2.1
	baz=56						
KDJ				⇓*i*S	Sn	03 15 33.9	-0.2
	baz=56						
KDJ	Kajisay	6.11	56	PN	Pn	03 14 24.8	+0.8
KDJ	Kajisay	6.11	56	Pn	Pn	03 14 24.8	+0.8
THW	Thamme Wali	6.17	169	P	Pn	03 14 26.9	+2.1
TARG	Taragay, Kyrgy	6.34	61		Pn	03 14 28.1	+0.6
TNSS	Tian-Shan	6.47	48	*e*P	Pb	03 14 42.4	-3.9
	comp=Z,17nm,0.9s						
TNSS				*e*S	Sb	03 15 57.5	-6.5
	comp=Z,20nm,0.7s						
KNDC	Almaty	6.59	47	⇑Pn	Pn	03 14 34.1	+3.6
	comp=Z,96nm,0.8s						
KNDC				⇑Lg	Lg	03 16 27.8	
	comp=Z,168nm,0.8s						
KNDC	Almaty	6.59	47	PN	Pn	03 14 34.1	+3.6
MDOK	Medeo	6.61	48	*e*P	Pb	03 14 46.0	-2.6
	comp=Z,22nm,0.9s						
MDOK				*e*S	Sb	03 16 03.5	-4.1
	comp=Z,54nm,1.0s						
ANVS	Anan'yevo	6.76	52	⇑*e*P	Pn	03 14 34.8	+1.9
	baz=52						
ANVS				⇑*i*S	Sn	03 15 49.3	-0.7
	baz=52						
PRZ	Przheval'sk	7.07	57	PN	Pn	03 14 38.7	+1.4
PRZ	Przheval'sk	7.07	57	Pn	Pn	03 14 38.7	+1.4
PDGK	Podgornoye	8.18	54	⇓Pn	Pn	03 14 54.9	+2.5
	comp=Z,14nm,1.1s						
PDGK				⇑Lg	Lg	03 17 18.7	
	comp=Z,60nm,1.2s						
PDGK	Podgornoye	8.18	54	P	Pn	03 14 54.9	+2.5
DHRM	DHARAMSHALA	8.18	142	*e*P	Pn	03 14 52.6	+0.1
DHRM				*e*S	Sn	03 16 22.4	-2.8
DHRM				IAML		03 16 27.6	
	comp=N,110nm,0.4s						
SMLA	Simla	9.52	142	*e*P	Pn	03 15 10.6	-0.1
SMLA				*e*S	Sn	03 16 50.7	-7.1
GEYT	Alibeck	9.68	268	Pn	Pn	03 15 10.8	-2.0
	comp=N,1.4nm,0.3s,baz=105,slow=14,SNR=11						
GEYT					Sn	03 16 57.6	-4.1
	comp=N,3.9nm,0.3s,baz=118,slow=21,SNR=1.6						
GEYT	Alibeck	9.68	268	Pn	Pn	03 15 11.8	-1.1
GEYT					Sn	03 17 00.3	-1.4
GYA0B	ALIBECK ARRAY	9.68	268	⇑Pn	Pn	03 15 10.9	-2.0
GYA0B				⇑Sn	Sn	03 16 56.8	-4.9
GYA0B				⇓Lg	Lg	03 17 53.0	
GYA0B	ALIBECK ARRAY	9.68	268	Pn	Pn	03 15 12.0	-0.8
MK31	Makanchi Array	11.77	44	*de*P	Pn	03 15 43.7	+2.2
MK31	Makanchi Array	11.77	44		Pn	03 15 42.5	+1.0
MKAR	Makanchi Array	11.77	44	Pn	Pn	03 15 42.6	+1.2
	comp=N,0.4nm,0.3s,baz=228,slow=14,SNR=20						
MKAR				Lg	Lg	03 19 06.2	
	comp=N,0.3nm,0.3s,baz=243,slow=28,SNR=1.8						
MKAR	Makanchi Array	11.77	44	P	Pn	03 15 42.5	+1.0
MKAR	Makanchi Array	11.77	44	Pn	Pn	03 15 42.5	+1.0
AB31	Akbulak array	12.79	328	⇓Pn	Pn	03 15 54.2	-1.1
	comp=N,25nm,0.5s,baz=139,slow=13,SNR=769						
AB31				⇓Sn	Sn	03 18 11.5	-6.2
	comp=N,82nm,0.7s,baz=156,slow=21,SNR=16						
ABKAR	Akbulak array	12.79	328	Pn	Pn	03 15 54.2	-1.1
KURBB	Kurchatov Arra	13.08	24	Pn	Pn	03 15 57.8	-1.4
	comp=N,0.2nm,0.3s,baz=214,slow=12,SNR=12						
KURBB				Lg	Lg	03 19 46.6	
	comp=N,0.2nm,0.3s,baz=219,slow=34,SNR=2.2						
KURK	Kurchatov	13.19	24	*ce*P	Pn	03 16 02.9	+2.2
KURK				pmax	pmax		
	comp=Z,13nm,2.5s						
KURK	Kurchatov	13.19	24		Pn	03 16 00.0	-0.7
KURK				Sn	Sn	03 18 28.4	+1.1
BVAR	Borovoye Array	14.14	0	Pn	Pn	03 16 14.5	+0.7
	comp=Z,1.3nm,0.3s,baz=192,slow=21,SNR=9.3						
BVAR				Sn	Sn	03 18 43.2	-7.5
	comp=Z,0.5nm,0.3s,baz=173,slow=24,SNR=2.1						
BRVK	Borovoye	14.18	360	*ce*P	Pn	03 16 14.9	+0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	Borovoye	14.18	360	Pn	Pn	03 16 15.0	+0.8
AKTO	Aktyubinsk	14.50	327	Pn	Pn	03 16 18.1	-0.6
	comp=Z,2.7nm,0.3s,baz=137,slow=13,SNR=23						
AKTO				Sn	Sn	03 18 52.0	-7.4
	comp=Z,0.8nm,0.3s,baz=140,slow=18,SNR=2.4						
AKTO				Lg	Lg	03 20 39.3	
	baz=54,slow=19,SNR=1.0						
AKTO				LR	LR	03 22 34.1	
	comp=Z,87nm,21.7s,baz=109,slow=40						
AKTO	Aktyubinsk	14.50	327	⇑Pn	Pn	03 16 18.0	-0.6
	comp=Z,36nm,0.6s						
AKTO				⇑Sn	Sn	03 18 54.3	-5.0
	comp=Z,28nm,0.7s						
DGZ	Jazzator, Alta	16.27	43	*i* P	P	03 16 45.1	-0.1
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BHPL	Bhopal	16.71	157	*e*P	P	03 16 50.4	+0.3
MAK	Makhachkala	17.75	291	*e*P	Pn	03 17 00.9	+0.3
MAK				*e*S	Sn	03 20 18.0	-0.4
MAK				pmax	pmax		
	comp=Z,77nm,1.2s						
MAK				MLR	MLR		
	comp=Z,358nm,12.0s						
ZAA0	Zalesovo Array	18.00	28		Pn	03 17 02.8	-0.8
ZALV	Zalesovo Beam	18.00	28	P	Pn	03 17 02.8	-0.8
	comp=Z,1.1nm,0.3s,baz=228,slow=12,SNR=22						
ZALV				S	Sn	03 20 26.5	+2.1
	comp=Z,0.1nm,0.3s,baz=235,slow=15,SNR=1.4						
ZALV				Lg	Lg	03 22 25.3	
	comp=Z,0.1nm,0.3s,baz=218,slow=26,SNR=1.4						
ZALV	Zalesovo Beam	18.00	28	Pn	Pn	03 17 02.3	-1.4
BTLR	Botlikh	18.67	289	*i* P	Pn	03 17 15.2	+3.2
BTLR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GROC	Groznyy	19.02	291	*e*P	Pn	03 17 16.7	+0.5
GROC				pmax	pmax		
	comp=Z,28nm,1.1s						
ARU	Arti	19.23	340	P	Pn	03 17 19.1	+0.5
	comp=Z,0.0nm,0.3s,baz=159,slow=6.9,SNR=7.9						
ARU				S	Sn	03 20 46.1	-7.8
	comp=Z,0.0nm,0.3s,baz=227,slow=22,SNR=1.8						
ARU				LR	LR	03 25 48.2	
	comp=Z,88nm,18.4s,baz=170,slow=40						
ARU	Arti	19.23	340	*d* iP			
ARU				S	S	03 20 54.7	-0.6
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU				MLR	MLR		
	comp=Z,140nm,11.0s						
ARU	Arti	19.23	340	P	P	03 17 16.3	-1.3
ARU				IAmb	IAmb	03 17 29.1	
	comp=Z,13nm,0.8s						
ZEI	Tsey	20.38	290	*e*P	P	03 17 31.5	+0.9
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BELG	Belogornoye	20.76	318	*d* iP	P	03 17 35.0	+0.7
KBZ	Khabaz	21.16	292	P	P	03 17 38.5	-0.2
	comp=Z,2.8nm,0.5s,baz=130,slow=7.5,SNR=4.3						
KBZ				LR	LR	03 28 03.2	
	comp=Z,107nm,18.5s,baz=60,slow=43						
KBZ	Khabaz	21.16	292	*i* P	P	03 17 40.3	+1.6
KBZ				pmax	pmax		
	comp=Z,15nm,1.0s						
GOF	Gofitskoye	21.19	296	⇑*e*P	P	03 17 43.3	+4.3
KIV	Kislovodsk	21.33	293	*e*P	P	03 17 47.2	+6.5
KIV				pmax	pmax		
	comp=Z,56nm,1.0s						
KIV				MLR	MLR		
	comp=Z,192nm,14.0s						
SHA1	Shidzhatmaz	21.34	292	*i* P	P	03 17 44.5	+3.6
SHL	Shillong	22.45	120	P	P	03 17 52.3	-0.6
SHL				pmax	pmax		
	comp=Z,14nm,0.8s						
SHL	Shillong	22.45	120	P	P	03 17 52.3	-0.6
SHL				IAmb	IAmb	03 17 59.9	
	comp=Z,14nm,0.8s						
KIRV	Kirov	23.90	332	P	P	03 18 10.4	+3.3
	comp=Z,13nm,0.6s,baz=127,slow=10,SNR=5.3						
VSR	Storozhevoye	25.06	310	*e*P	P	03 18 20.5	+2.6
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LPSR	Galich'ya Gora	25.64	313	*e*P	P	03 18 27.5	+4.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAK	Zakamensk	25.86	53	*e*P	P	03 18 25.5	+0.2
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	27.46	59	P	P	03 18 40.0	+0.3
	comp=Z,0.5nm,0.5s,baz=251,slow=9.2,SNR=4.0						
SONM	Songino Array	27.46	59	P	P	03 18 40.2	+0.5
OBN	Obninsk	27.84	317	*e*P	P	03 18 44.6	+1.7
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ULN	Ulaanbaatar	27.90	59	*ce*P	P	03 18 44.8	+1.1
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BR131	Keskin Array S	28.32	283	P	P	03 18 47.9	+0.3
BR131				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BR131	Keskin Array S	28.32	283	P	P	03 18 47.9	+0.3
BRTR	Keskin Array B	28.32	283	P	P	03 18 48.7	+1.1
	comp=Z,1.0nm,0.8s,baz=72,slow=7.9,SNR=7.2						
BRTR	Keskin Array B	28.32	283	*i* P	P	03 18 48.2	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	28.32	283	P	P	03 18 47.7	+0.2
CD2	Chengdu	28.39	96	*e*P	P	03 18 49.9	+1.8
KLMR	Klimovskoe	29.18	329	P	P	03 18 51.7	-3.0
KLMR				pmax	pmax		
	comp=Z,14nm,1.4s						
KLMR	Klimovskoe	29.18	329	P	P	03 18 51.8	-3.0
KLMR				AMP		03 18 55.1	
	comp=Z,14nm,1.4s						
AKASG	Malin Array Be	31.11	306	P	P	03 19 12.6	+0.7
	comp=Z,0.8nm,0.4s,baz=79,slow=7.0,SNR=8.2						
AKASG				LR	LR	03 34 17.2	
	comp=Z,67nm,18.4s,baz=20,slow=41						
AKASG	Malin Array Be	31.11	306	*ce*P	P	03 19 14.8	+2.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	31.11	306	P	P	03 19 12.4	+0.5
AKBB	Malin Array Si	31.11	306	*ce*P	P	03 19 15.2	+3.2
NRIK	Noril'sk	31.88	11	*i* P	P	03 19 23.2	+4.7
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	32.06	121	P	P	03 19 20.3	-0.4
	comp=Z,0.8nm,0.3s,baz=308,slow=9.7,SNR=4.8						
CMAR	Chiang Mai Arr	32.06	121	P	P	03 19 21.3	+0.6
FINES	FINESS Array B	35.25	324	P	P	03 19 48.6	+0.7
	comp=Z,3.6nm,0.5s,baz=118,slow=9.1,SNR=16						
FINES	FINESS Array B	35.25	324	*ce*P	P	03 19 51.2	+3.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KOLS	Kolonicke sedl	35.55	302	*e*P	P	03 19 52.6	+1.9
KOLS	Kolonicke sedl	35.55	302	*e*P	P	03 19 52.6	+1.9
VYHS	Vyhne	37.85	302	*e*P	P	03 20 12.8	+2.5
VYHS	Vyhne	37.85	302	*e*P	P	03 20 12.8	+2.5
ARCES	ARCESS Array B	38.76	337	P	P	03 20 18.4	+0.7
	comp=Z,1.9nm,0.6s,baz=93,slow=5.9,SNR=13						
BRG	Berggiesshubel	40.80	306	*e*P	P	03 20 38.6	+3.7
	comp=Z,7.2nm,1.3s						
BRG	Berggiesshubel	40.80	306	*e*P	P	03 20 38.6	+3.7
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GERES	GERESS Array B	41.19	303	P	P	03 20 41.0	+2.8
	comp=Z,0.5nm,0.7s,baz=61,slow=8.0,SNR=3.6						
GERES	GERESS Array B	41.19	303	P	P	03 20 38.8	+0.5
GERES	GERESS Array B	41.19	303	P	P	03 20 38.8	+0.5
KHC	Kasperske Hory	41.23	303	*e*P	P	03 20 42.0	+3.5
KHC	Kasperske Hory	41.23	303	*ce*P	P	03 20 43.1	+4.6
KHC				pmax	pmax		
	comp=Z,12nm,2.5s						
CLL	Collm	41.35	307	*es*P	sP	03 20 43.0	-1.6
CLL	Collm	41.35	307	*e*P	sP	03 20 43.0	-1.6
NORES	NORESS Array B	42.02	321	P	P	03 20 47.8	+3.0
NORES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NC303	NORSAR Array S	42.14	322	P	P	03 20 46.6	+0.9
NC303				IAmb	IAmb	03 20 53.7	
	comp=Z,8.7nm,0.8s						
NB2	NORSAR Subarra	42.20	322	P	P	03 20 46.1	-0.2
	comp=Z,2.2nm,0.5s,baz=93,slow=8.6						
NOA	NORSAR Array B	42.20	322	P	P	03 20 47.2	+0.9
	comp=Z,3.1nm,0.6s,baz=94,slow=8.2,SNR=14						
NOA				LR	LR	03 39 15.9	
	comp=Z,46nm,18.3s,baz=85,slow=37						
TIXI	Tiksi	43.76	23	*ce*P

*PDG **01** 03:21:13.9±0.5,41.06N×20.07E,h5km,ML2.8/13,Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
*THE **01** 03:21:14.8,41.09N×20.26E,h4km±1km,ML2.4/7,Error ellipse: s-maj=1.2km s-min=0.5km az=346.0*
*BEO **01** 03:21:14.2±0.6,40.99N×20.22E,h2km±2km,ML2.6/8*
*SKO **01** 03:21:15.2,41.17N×20.23E,h0km*

ISC 01 03:21:14.2±1.1,41.06N±0.02×20.18E±0.02,h4km±9km, n67,σ1°12/110,6C-7D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.38**	**321**	P		**Pg**	**03 21 21.5**	**0.0**
TIR				S		**Sg**	**03 21 28.5**	**+2.1**
TIR	**Tirane**	**0.38**	**321**	*e*Pg		**Pg**	**03 21 21.4**	**0.0**
TIR				*e*Sg		**Sb**	**03 21 29.2**	**-0.5**
TIR	**Tirane**	**0.38**	**321**	P		**Pg**	**03 21 21.6**	**0.0**
	baz=314							
TIR				S		**Sg**	**03 21 28.6**	**+2.1**
	baz=314							
TIR				AMP				
	comp=N,1.9nm,0.6s,baz=314							
OHR	**Ohrid**	**0.47**	**83**	*i*Pg		**Pg**	**03 21 22.5**	**-0.7**
OHR				*i* Sg		**Sg**	**03 21 29.6**	**+0.3**
OHR				*e*Lg		Lg	03 21 30.0	
	comp=E,697nm,0.6s							
PHP	**Peshkopia**	**0.66**	**17**	P		**Pg**	**03 21 25.7**	**-1.1**
PHP				S		**Sg**	**03 21 35.9**	**+0.5**
PHP	**Peshkopia**	**0.66**	**17**	P		**Pg**	**03 21 25.8**	**-1.0**
	baz=10.0							
PHP				S		**Sg**	**03 21 35.6**	**+0.2**
	baz=10.0							
PHP				AMP				
	comp=N,1.4nm,0.1s,baz=10.0							
NEST	**Nestorio**	**0.92**	**134**	P		**Pg**	**03 21 31.1**	**-0.7**
NEST				S		**Sb**	**03 21 44.8**	**-0.5**
	comp=N,168nm,0.6s							
LSK	**Leskovik**	**0.96**	**161**	P		**Pg**	**03 21 30.7**	**-1.8**
	baz=164							
LSK				S		**Sg**	**03 21 44.9**	**-0.1**
	baz=164							
LSK				AMP				
	comp=N,2.0nm,0.5s,baz=164							
PUK	**Puka**	**1.01**	**348**	P		**Pg**	**03 21 33.1**	**-0.5**
	baz=344							
PUK				S		**Sb**	**03 21 48.7**	**+0.7**
	baz=344							
PUK				AMP				
	comp=E,1.3nm,0.3s,baz=344							
PENT	**Pentalofos**	**1.12**	**139**	P		**Pb**	**03 21 35.9**	**-0.3**
PENT				S		**Sn**	**03 21 52.4**	**-0.4**
	comp=E,195nm,0.3s							
ULC	**Ulcinj**	**1.15**	**322**	*i*Pg		**Pg**	**03 21 34.0**	**-2.2**
ULC				*i* Sg		**Sg**	**03 21 51.3**	**+0.2**
SRN	**Sarande**	**1.18**	**187**	P		**Pn**	**03 21 37.7**	**+0.2**
SRN				S		**Sn**	**03 21 56.1**	**+2.1**
	comp=E,130nm,0.6s							
SRN	**Sarande**	**1.18**	**187**	P		**Pg**	**03 21 36.0**	**-0.8**
	baz=191							
SRN				S		**Sb**	**03 21 53.0**	**+0.2**
	baz=191							
SRN				AMP				
	comp=N,0.5nm,0.7s,baz=191							
BCI	**Bajram Curri**	**1.31**	**356**	P		**Pn**	**03 21 38.3**	**-1.1**
	baz=354							
BCI				S		**Sn**	**03 21 57.3**	**0.0**
	baz=354							
BCI				AMP				
	comp=E,1.3nm,0.6s,baz=354							
SKO	**Skopje**	**1.31**	**45**	*e*Pg		**Pg**	**03 21 37.6**	**-1.8**
SKO				*e*Sg		**Sb**	**03 21 56.0**	**-0.7**
SKO	**Skopje**	**1.31**	**45**	*i* Pn		**Pg**	**03 21 37.6**	**-1.8**
SKO				*i* Sn		**Sb**	**03 21 55.7**	**-0.9**
SKO				*e*Lg		Lg	03 21 56.1	
	comp=E,8.0nm,0.5s							
DRME	**Dracevica, Mon**	**1.36**	**327**	*e*Pg		**Pn**	**03 21 37.7**	**-2.2**
DRME				*i* Sg		**Sg**	**03 21 58.3**	**+0.5**
DRME	**Dracevica, Mon**	**1.36**	**327**	*e*Pn		**Pn**	**03 21 39.0**	**-0.9**
KEK	**Kerkira**	**1.37**	**192**	P		**Pn**	**03 21 40.2**	**+0.1**
KEK				S		**Sn**	**03 22 00.9**	**+2.2**
	comp=E,140nm,0.5s							
KZN	**Kozani**	**1.42**	**121**	P		**Pn**	**03 21 40.6**	**-0.2**
KZN				S		**Sn**	**03 21 59.7**	**-0.3**
	comp=E,128nm,0.6s							
KPRO	**Kipourio**	**1.42**	**140**	P		**Pn**	**03 21 40.5**	**-0.3**
KPRO				S		**Sn**	**03 22 00.9**	**+0.9**
	comp=E,200nm,0.5s							
IGT	**Igoumenitsa**	**1.53**	**176**	P		**Pb**	**03 21 42.9**	**-0.1**
IGT				S		**Sb**	**03 22 03.0**	**+0.3**
	comp=E,135nm,0.6s							
IGT	**Igoumenitsa**	**1.53**	**176**	P		**Pn**	**03 21 41.8**	**-0.4**
	baz=178							
IGT				S		**Sg**	**03 22 03.4**	**+0.2**
	baz=178							
PDG	**Podgorica**	**1.54**	**333**	*e*Pg		**Pn**	**03 21 42.8**	**+0.4**
PDG				*e*Sg		**Sg**	**03 22 06.0**	**+2.4**
PDG	**Podgorica**	**1.54**	**333**	*e*Pn		**Pn**	**03 21 42.3**	**-0.1**
TTG	**Podgorica**	**1.54**	**333**	*i*Pg		**Pn**	**03 21 41.3**	**-1.1**
TTG				*i* Sg		**Sg**	**03 22 04.7**	**+1.1**
PVY	**Plav**	**1.55**	**354**	*i*Pg		**Pn**	**03 21 41.8**	**-0.8**
PVY				*i* Sg		**Sg**	**03 22 05.8**	**+1.9**
BUM	**Brajici-Budva**	**1.57**	**323**	*i*Pg		**Pg**	**03 21 41.7**	**-1.3**
BUM				*i* Sg		**Sg**	**03 22 05.5**	**+0.7**
STIP	**Stip**	**1.64**	**66**	*i* Pn		**Pg**	**03 21 45.7**	**+0.1**
STIP				*i* Sn		**Sg**	**03 22 12.1**	**+5.3**
STIP				*e*Lg		Lg	03 22 12.7	
	comp=E,16nm,0.4s							
CEME	**Cevo**	**1.77**	**328**	*i*Pn		**Pn**	**03 21 45.2**	**-0.4**
CEME				*i* Sn		**Sg**	**03 22 10.8**	**-0.1**
VAY	**Valandovo**	**1.82**	**81**	*i* Pn		**Pb**	**03 21 47.6**	**-0.5**
IVA	**Berane**	**1.83**	**353**	*i*Pn		**Pn**	**03 21 46.8**	**+0.3**
IVA				*i* Sn		**Sg**	**03 22 13.1**	**+0.2**
KOME	**Kolasin**	**1.86**	**345**	*i*Pn		**Pn**	**03 21 47.1**	**+0.2**
KOME				*i* Sn		**Sg**	**03 22 13.6**	**-0.4**
HCY	**Herceg Novi**	**1.88**	**318**	*i*Pn		**Pn**	**03 21 46.9**	**-0.2**
HCY				*i* Sn		**Sb**	**03 22 13.3**	**+0.4**
HCY	**Herceg Novi**	**1.88**	**318**	*e*Pn		**Pn**	**03 21 46.9**	**-0.2**
NKME	**Niksic**	**1.94**	**332**	*i*Pn		**Pn**	**03 21 48.0**	**0.0**
NKME				*i* Sn		**Sb**	**03 22 15.2**	**+0.5**
NKY	**Niksic**	**1.97**	**334**	*e*Pn		**Pn**	**03 21 48.4**	**0.0**
NKY				*i* Sn		**Sb**	**03 22 15.8**	**+0.3**
LIT	**Litokhoron**	**2.00**	**118**	P		**Pn**	**03 21 47.8**	**-0.9**
LIT				S		**Sn**	**03 22 13.5**	**-0.7**
SJES	**Sjenica**	**2.21**	**356**	*e*Pg		**Pb**	**03 21 54.2**	**-0.6**
SJES				*e*Sg		**Sg**	**03 22 26.8**	**+1.6**
BRY	**Bratogost**	**2.21**	**327**	*i*Pn		**Pn**	**03 21 51.7**	**-0.1**
BRY				*i* Sn		**Sb**	**03 22 21.6**	**-1.1**
BRY	**Bratogost**	**2.21**	**327**	*e*Pn		**Pn**	**03 21 51.9**	**+0.1**
BOSS	**Bosilegrad**	**2.24**	**49**	*e*Pn		**Pn**	**03 21 52.0**	**-0.1**
BOSS				*e*Sg		**Sg**	**03 22 26.4**	**+0.2**
TSLK	**Tsoukalades, L**	**2.26**	**171**	P		**Pn**	**03 21 53.2**	**+0.9**
SELS	**Selova**	**2.27**	**18**	*e*Pn		**Pn**	**03 21 53.6**	**+1.1**
LKD2	**Lefkada island**	**2.29**	**171**	P		**Pn**	**03 21 53.2**	**+0.4**
LKD2				S		**Sn**	**03 22 22.8**	**+1.3**
UPM	**Unac-Piva**	**2.35**	**337**	*i*Pn		**Pn**	**03 21 53.7**	**0.0**
UPM				*i* Sn		**Sb**	**03 22 25.1**	**-1.4**
UPM	**Unac-Piva**	**2.35**	**337**	*e*Pn		**Pn**	**03 21 55.0**	**+1.3**
PLE	**Pljevlja**	**2.35**	**346**	*i*Pn		**Pn**	**03 21 53.9**	**+0.3**
PLE				*i* Sn		**Sb**	**03 22 25.4**	**-1.1**
NYDR	**Nydri-Lefkada**	**2.37**	**170**	P		**Pn**	**03 21 53.9**	**+0.1**
DRAG	**Dragano-Lefkad**	**2.39**	**173**	P		**Pn**	**03 21 53.8**	**-0.3**
EVGI	**Lefkada island**	**2.46**	**171**	P		**Pn**	**03 21 54.8**	**-0.2**
RUDO	**Rudo**	**2.63**	**347**	*e*Pn		**Pn**	**03 21 58.8**	**+1.4**
BOVS	**Bovan**	**2.81**	**23**	*e*Pn		**Pn**	**03 22 01.3**	**+1.4**
DMLN	**Damoulianata-K**	**2.82**	**177**	P		**Pn**	**03 21 59.5**	**-0.5**
DMLN				S		**Sn**	**03 22 35.9**	**+1.5**
GRUS	**Gruza**	**2.86**	**8**	*e*Pn		**Pn**	**03 22 02.3**	**+1.8**
BBLS	**Lazići**	**2.87**	**349**	*e*Pn		**Pn**	**03 22 02.2**	**+1.5**
BBLS				*e*Sg		**Sg**	**03 22 46.5**	**+0.2**
BBLS	**Lazići**	**2.87**	**349**	*e*Pn		**Pn**	**03 22 02.2**	**+1.5**
ZAPS	**Zavoj**	**2.87**	**39**	*e*Pn		**Pn**	**03 22 01.8**	**+1.1**
DIVS	**Divibare**	**3.04**	**357**	*e*Pn		**Pn**	**03 22 04.8**	**+1.6**
DIVS	**Divibare**	**3.04**	**357**	*e*Pn		**Pn**	**03 22 03.0**	**-0.2**
ZAGS	**Zajecar**	**3.15**	**28**	*e*Pn		**Pn**	**03 22 04.6**	**+0.1**
HAPS	**Han Pijesak,BI**	**3.16**	**344**	*e*Pn		**Pn**	**03 22 05.6**	**+0.8**
HAPS				*e*Sn		**Sn**	**03 22 44.1**	**+1.0**
HAPS	**Han Pijesak,BI**	**3.16**	**344**	*e*Pn		**Pn**	**03 22 04.5**	**-0.3**
TRUS	**Trudelj**	**3.17**	**3**	*e*Pn		**Pn**	**03 22 06.1**	**+1.3**
BLY	**Banja Luka**	**4.30**	**330**	*e*Pn		**Pn**	**03 22 19.1**	**-1.2**
CRES	**Cresnjev**	**5.88**	**326**	*e*Pn		**Pn**	**03 22 40.9**	**-1.1**
CEY	**Cerknica**	**6.28**	**320**	*e*Pn		**Pn**	**03 22 46.9**	**-0.7**

*IDC **01** 03:36:44.0±0.7,6.13S×149.73E,h50km±6km,mb3.9/14, mb1 4.1/17,mb1mx3.9/49,mbtmp4.2/17,Error ellipse: s-maj=16.7km s-min=9.9km az=115.0*
*NEIC **01** 03:36:45.2±0.8,6.24S±0.08×149.77E±0.09,h68km±4km, mb4.3/17,Error ellipse: s-maj=15.1km s-min=9.0km az=132.0*

ISC 01 03:36:44.4±0.5,6.18S±0.06×149.77E±0.08,h58km,n51, σ0.97°58,mb4.2/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.92**	**50**	P		**Pn**	**03 37 29.3**	**+0.9**
	100nm,0.3s,baz=188,slow=1.2,SNR=16							
RABL	**Rabaul**	**3.10**	**50**	Pn		**Pn**	**03 37 32.3**	**+1.5**
PMG	**Port Moresby**	**4.12**	**219**	P		**Pn**	**03 37 46.6**	**+1.8**
	53nm,0.3s,baz=2.2,slow=7.3,SNR=47							
PMG				S		**Sn**	**03 38 31.9**	**+0.1**
	44nm,0.3s,baz=150,slow=21,SNR=15							
PMG	**Port Moresby**	**4.12**	**219**	Pn		**Pn**	**03 37 45.0**	**+0.1**
PMG						**Sn**	**03 38 31.1**	**-0.7**
JAY	**Jayapura**	**9.75**	**292**	P		**Pn**	**03 39 04.3**	**+2.2**
	1.5nm,0.3s,baz=177,slow=22,SNR=6.2							
COEN	**Coen**	**10.09**	**220**	Pn		**Pn**	**03 39 06.8**	**+0.1**
CTA	**Charters Tower**	**14.24**	**194**	P		**Pn**	**03 40 04.8**	**+1.7**
	0.3nm,0.3s,baz=24,slow=17,SNR=2.0							
SIJI	**Sorong**	**19.21**	**285**	P		**P**	**03 41 03.9**	**0.0**
	3.8nm,0.3s,baz=99,slow=23,SNR=2.0							
MTN	**Manton Dam**	**19.53**	**249**			**P**	**03 41 07.0**	**-0.3**
MTN					IAmb	IAmb	03 41 08.9	
	comp=Z,11nm,0.8s							
WB0	**Warramunga Arr**	**20.14**	**226**	P		**P**	**03 41 14.0**	**-0.1**
WB0					IAmb	IAmb	03 41 15.3	
	comp=Z,10.0nm,0.7s							
WR0	**Warramunga Arr**	**20.16**	**226**	P		**P**	**03 41 14.0**	**-0.2**
WR0					IAmb	IAmb	03 41 15.5	
	comp=Z,6.8nm,0.8s							
WRAB	**Tennant Creek**	**20.28**	**226**	P		**P**	**03 41 15.4**	**-0.1**
WRAB					IAmb	IAmb	03 41 16.7	
	comp=Z,11nm,0.6s							
WB2	**Warramunga Arr**	**20.29**	**226**	P		**P**	**03 41 15.8**	**+0.3**
WB2					IAmb	IAmb	03 41 16.8	
	comp=Z,11nm,0.6s							
WRA	**Warramunga Arr**	**20.30**	**226**	P		**P**	**03 41 16.2**	**+0.6**
	comp=Z,9.3nm,0.6s,baz=50,slow=11,SNR=100							
WRA				pP		**pP**	**03 41 28.0**	**+0.8**
	comp=Z,32nm,0.7s,baz=50,slow=10,SNR=41							
WRA	**Warramunga Arr**	**20.30**	**226**	P		**P**	**03 41 14.3**	**-1.4**
DZM	**Mont Dzumac**	**22.56**	**136**	P		**P**	**03 41 40.6**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=121,slow=20,SNR=1.9							
DZM	**Mont Dzumac**	**22.56**	**136**	P		**P**	**03 41 39.1**	**-0.9**
KNRA	**Kununurra**	**22.66**	**244**	P		**P**	**03 41 40.4**	**-0.7**
AS31	**Alice Springs**	**23.13**	**220**	P		**P**	**03 41 45.8**	**0.0**
ASAR	**Alice Springs**	**23.14**	**220**	P		**P**	**03 41 46.0**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=53,slow=9.5,SNR=27							
ASAR	**Alice Springs**	**23.14**	**220**	P		**P**	**03 41 44.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**26.36**	**241**	P		**P**	**03 42 14.6**	**-0.7**
	comp=Z,5.2nm,0.4s,baz=0.5,slow=4.8,SNR=66							
FITZ				pP		**pP**	**03 42 28.5**	**-0.5**
	comp=Z,13nm,0.9s,baz=0.1,slow=2.8,SNR=7.8							
FITZ	**Fitzroy Crossi**	**26.36**	**241**	P		**P**	**03 42 14.6**	**-0.7**
FITZ					IAmb	IAmb	03 42 17.2	
	comp=Z,11nm,1.0s							
STKA	**Stephens Creek**	**26.68**	**196**	P		**P**	**03 42 18.4**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=215,slow=16,SNR=2.5							
STKA	**Stephens Creek**	**26.68**	**196**	P		**P**	**03 42 17.6**	**-0.5**
CAN	**Canberra**	**29.01**	**181**	P		**P**	**03 42 38.3**	**-0.6**
CAN					IAmb	IAmb	03 42 40.3	
	comp=Z,6.2nm,0.9s							
FORT	**Forrest**	**31.85**	**217**	P		**P**	**03 43 03.6**	**-0.3**
TPUB	**Ta-pu**	**40.86**	**317**	P		**P**	**03 44 19.7**	**-1.3**
TPUB					IAmb	IAmb	03 44 25.9	
	comp=Z,2.9nm,0.4s							
KSRS	**Korea Array**	**47.96**	**336**	P		**P**	**03 45 16.9**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=154,slow=9.0,SNR=5.0							
KSRS				pP		**pP**	**03 45 30.4**	**-2.2**
	comp=Z,1.2nm,0.5s,baz=154,slow=8.4,SNR=3.3							
USRK	**Ussuriysk Ar.**	**52.66**	**344**	P		**P**	**03 45 53.0**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=172,slow=6.5,SNR=5.8							
USRK	**Ussuriysk Ar.**	**52.66**	**344**	P		**P**	**03 45 52.7**	**0.0**
PEA0B	**Petropavlovsk-**	**59.45**	**6**	P		**P**	**03 46 41.0**	**-0.1**
PETK	**Petropavlovsk-**	**59.45**	**6**	P		**P**	**03 46 41.3**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=156,slow=6.4,SNR=8.1							
PETK	**Petropavlovsk-**	**59.45**	**6**	P		**P**	**03 46 41.4**	**+0.4**
SONM	**Songino Array**	**65.93**	**330**	P		**P**	**03 47 26.2**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=146,slow=5.4,SNR=5.3							
SONM	**Songino Array**	**65.93**	**330**	P		**P**	**03 47 24.6**	**0.0**
VNDA	**Vanda**	**71.58**	**177**	P		**P**	**03 48 00.8**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=329,slow=6.3,SNR=23							
VNDA				pP		**pP**	**03 48 14.7**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=313,slow=7.8,SNR=8.1							
VNDA	**Vanda**	**71.58**	**177**	P		**P**	**03 47 59.5**	**+0.4**
VNDA					IAmb	IAmb	03 48 01.8	
	comp=Z,2.2nm,0.8s							
MKAR	**Makanchi Array**	**79.41**	**320**	P		**P**	**03 48 45.7**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=101,slow=7.5,SNR=7.2							
MKAR	**Makanchi Array**	**79.41**	**320**	P		**P**	**03 48 44.5**	**+0.1**
ZALV	**Zalesovo Beam**	**80.65**	**327**	P		**P**	**03 48 50.1**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=102,slow=6.4,SNR=5.9							
MAW	**Mawson**	**83.14**	**203**	P		**P**	**03 49 04.5**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=0.0,slow=12,SNR=2.6							
ILAR	**Eielson Array**	**84.58**	**23**	P		**P**	**03 49 10.0**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=254,slow=5.1,SNR=14							
GERES	**GERESS Array B**	**123.60**	**327**	PKP		**PKiKP**	**03 55 37.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=70,slow=3.2,SNR=1.9							
SIV	**San Ignacio**	**142.34**	**126**	PKhKP	PKPpre		03 56 07.7	
	comp=Z,1.6nm,0.6s,baz=243,slow=4.4,SNR=13							
SIV				PKP		**PKPdf**	**03 56 11.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=233,slow=3.8,SNR=7.7							
TORD	**Torodi Ar. Bea**	**147.81**	**285**	PKPbc		**PKPbc**	**03 56 22.8**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=55,slow=3.5,SNR=39							
TORD	**Torodi Ar. Bea**	**147.81**	**285**			**PKPbc**	**03 56 23.3**	**-0.6**
PTGA	**Pitinga**	**149.53**	**102**	PKPbc		**PKPbc**	**03 56 28.9**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=303,slow=1.7,SNR=9.4							
PTGA	**Pitinga**	**149.53**	**102**			**PKPbc**	**03 56 26.6**	**-1.9**
BDFB	**Brasilia**	**152.06**	**141**	PKPbc		**PKiKP**	**03 56 34.9**	**+0.1**
	comp=Z,7.4nm,0.4s,baz=208,slow=1.8,SNR=16							
BDFB				pPKPbc		**sPKPdf**	**03 56 49.1**	**-2.2**
	comp=Z,3.6nm,0.4s,baz=298,slow=2.3,SNR=3.6							
BDFB	**Brasilia**	**152.06**	**141**			**PKPbc**	**03 56 33.3**	**-1.1**

*BJI **01** 03:38:51.0±0.0,5.97S×149.63E,h56km,mB5.8/66, mb5.2/60,Ms5.6/81,Ms7 5.6/77*
*MOS **01** 03:38:51.8±1.2,5.98S×149.43E,h54km,mb5.4/27, MS5.6/10,Error ellipse: s-maj=8.2km s-min=5.4km az=103.7*
*NEIC **01** 03:38:51.8±1.2,6.07S±0.04×149.53E±0.06,h42km±1km, mb5.5/128,Ms_20 5.8/808,Mwb5.8/72,Mww6.0, Mwc6.0(GCMT),Error ellipse: s-maj=9.6km s-min=6.0km az=255.0*
*IDC **01** 03:38:53.1±0.4,6.04S×149.54E,h48km±4km,mb4.9/33, mb1 4.9/34,mb1mx4.8/43,mbtmp5.2/34,MS5.4/30, Ms1 5.4/30,ms1mx5.3/32,Error ellipse: s-maj=9.2km s-min=7.5km az=109.0*
*NEIC **01** 03:38:54.4,6.05S×149.50E,h35km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr6.14; Mθθ-5.89; Mθφ-0.25; Mrθ2.82; Mφφ0.07; Mrφ-0.53; Fault plane solution: M₀6.67000×10¹⁷ NP1:φs94.83000°, δ57.70000°,λ94.25000°. NP2:φs266.92000°,δ32.54000°, λ83.32000°. Principal axes: T 6.8055, Plg77.0000°, Azm18.0000°; N -0.2795, Plg4.0000°, Azm273.0000°; P -6.5260, Plg13.0000°, Azm182.0000°;*
*DJA **01** 03:38:55.0±0.4,6.3S×15.0E±,h76km±5km,MS.7/35, mB6.0/33,mb5.5/35,MLv6.5/2,Mw(mB)5.6/33,Mwp5.8/25*
*NEIC **01** 03:38:55,6.14S×149.49E,h50km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.01; Mθθ-1.10; Mθφ0.10; Mrθ0.24; Mφφ0.07; Mrφ-0.04; Fault plane solution: M₀1.09000×10¹⁸ NP1:φs272.00000°, δ38.00000°,λ88.00000°. NP2:φs94.00000°,δ52.00000°, λ92.00000°. Principal axes: T 1.0378, Plg83.0000°, Azm14.0000°; N 0.0994, Plg1.0000°, Azm273.0000°; P -1.1372, Plg7.0000°, Azm183.0000°;*
*GCMT **01** 03:38:56.8±0.1,6.27S×149.58E,h50km,MW6.0/167, Moment Tensor Solution. s167,c365; s155,c528; Duration: 2⁰4 Moment tensor: Scale 10¹⁸Nm; Mrr1.05±.01; Mθθ-1.21±.01; Mφφ0.16±.01; Mrθ0.15±.01; Mθφ0.01±.01; Mrφ-0.09±.01; Best double couple: M₀1.14400×10¹⁸ NP1:φs265.00000°,δ41.00000°, λ82.00000°. NP2:φs96.00000°,δ49.00000°,λ97.00000°.*

Principal axes: T 1.0680, Plg83.0000°, Azm55.0000°; N 0.1520, Plg5.0000°, Azm271.0000°; P -1.2200, Plg4.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
*NEIC **01** 03:38:57,6.28S×149.65E,h51km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.05; Mθθ-1.25; Mθφ0.20; Mrθ0.12; Mφφ-0.02; Mrφ-0.08; Fault plane solution: M₀1.17000×10¹⁸ NP1:φs264.00000°, δ42.00000°,λ82.00000°. NP2:φs94.00000°,δ48.00000°, λ97.00000°. Principal axes: T 1.0629, Plg84.0000°, Azm59.0000°; N 0.1952, Plg5.0000°, Azm270.0000°; P -1.2580, Plg3.0000°, Azm179.0000°;*

ISC 01 03:38:53.3±0.3,6.04S±0.03×149.56E±0.03,h58km±2km, h58km:pP-P,n994,σ2s02/662,mb5.3/146,MS5.8/466, 29C-7D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.00**	**55**	P		**Pn**	**03 39 40.1**	**+1.7**
	1µm,0.3s,baz=102,slow=0.9,SNR=106							
KRVT				S		**Sn**	**03 40 13.3**	**+0.1**
	501nm,0.3s,baz=57,slow=5.3,SNR=5.0							
RABL	**Rabaul**	**3.18**	**55**	Pn		**Pn**	**03 39 42.6**	**+1.7**
RABL				Sn		**Sn**	**03 40 22.1**	**+4.5**
PMG	**Port Moresby**	**4.10**	**215**	P		**Pn**	**03 39 55.3**	**+1.7**
	266nm,0.3s,baz=28,slow=7.2,SNR=90							
PMG				S		**Sn**	**03 40 40.1**	**-0.2**
	972nm,0.3s,baz=269,slow=24,SNR=22							
PMG	**Port Moresby**	**4.10**	**215**	*de*P		**Pn**	**03 39 55.1**	**+1.5**
PMG					pmax	pmax		
	comp=Z,7µm,0.8s							
PMG	**Port Moresby**	**4.10**	**215**	Pn		**Pn**	**03 39 55.0**	**+1.4**
PMG				Sn		**Sn**	**03 40 42.2**	**+1.9**
JAY	**Jayapura**	**9.50**	**291**	P		**Pn**	**03 41 11.4**	**+3.8**
	comp=Z,9.2nm,0.3s,baz=113,slow=14,SNR=25							
JAY				LR		LR	03 45 42.4	
	comp=Z,26µm,18.2s,baz=94,slow=43							
JAY	**Jayapura**	**9.50**	**291**	P		**Pn**	**03 41 08.8**	**+1.2**
	comp=Z,16µmcomp=Z,3µmcomp=Z,91nm,0.9s							
JAY	**Jayapura**	**9.50**	**291**	P		**Pn**	**03 41 07.1**	**-0.5**
JAY					pmax	pmax		
	comp=Z,148nm,1.2s							
GENI	**Genyem**	**9.97**	**290**	P		**Pn**	**03 41 15.3**	**+1.3**
	comp=Z,33µmcomp=Z,11µmcomp=Z,254nm,1.6s							
COEN	**Coen**	**10.07**	**218**	P		**Pn**	**03 41 16.2**	**+0.9**
	baz=10,SNR=16							
COEN	**Coen**	**10.07**	**218**			**Pn**	**03 41 14.1**	**-1.2**
HNR	**Honiara**	**10.83**	**109**	P		**Pn**	**03 41 28.3**	**+2.6**
	comp=Z,35nm,0.3s,baz=188,slow=11,SNR=2.0							
HNR	**Honiara**	**10.83**	**109**			**Pn**	**03 41 24.8**	**-0.9**
MTSU	**Mount Surprise**	**13.06**	**203**	P		**Pn**	**03 41 57.7**	**+1.5**
	baz=13,SNR=58							
CTA	**Charters Tower**	**14.33**	**193**	P		**Pn**	**03 42 14.0**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=18,slow=14,SNR=61							
CTA				LR		LR	03 47 20.7	
	comp=Z,19µm,21.9s,baz=7.5,slow=35							
CTAO	**Charters Tower**	**14.33**	**193**	P		**Pn**	**03 42 12.1**	**-1.1**
CTAO	**Charters Tower**	**14.33**	**193**	Pn		**Pn**	**03 42 12.1**	**-1.1**
PATS	**Pohnpei**	**15.49**	**34**	Pn		**Pn**	**03 42 28.2**	**-0.1**
QIS	**Mount Isa**	**17.36**	**213**	P		**P**	**03 42 52.5**	**0.0**
	baz=17,SNR=101							
KDU	**Kakadu**	**18.10**	**247**	P		**P**	**03 43 00.4**	**-0.2**
	baz=18,SNR=24							
SIJI	**Sorong**	**18.97**	**285**	LR		LR	03 52 16.5	
	comp=Z,9µm,21.6s,baz=116,slow=42							
EIDS	**Eidsvold**	**19.27**	**176**	P		**Pn**	**03 43 15.7**	**+0.8**
	baz=19,SNR=7.9							
EIDS	**Eidsvold**	**19.27**	**176**	P		**P**	**03 43 13.0**	**-0.3**
EIDS					IAmb	IAmb	03 43 19.8	
	comp=Z,468nm,1

CMSA Cobar Meteorol 25.62 188 P **P** **03 44 18.6 +1.1**
baz=26,SNR=13
BATI Baumata 25.96 259 P **P** **03 44 21.2 +0.4**
comp=Z,65nm,0.5s,baz=170,slow=2.5,SNR=6.1
BATI S **S** **03 48 57.9 +10**
comp=Z,16nm,0.5s,baz=51,slow=22,SNR=1.1
BATI LR LR 03 56 53.6
comp=Z,15µm,21.6s,baz=102,slow=42
FITZ Fitzroy Crossi 26.24 241 P **P** **03 44 23.3 +0.1**
comp=Z,51nm,0.4s,baz=360,slow=4.1,SNR=56
FITZ pP **pP** **03 44 37.0 -0.1**
comp=Z,812nm,1.1s,baz=0.0,slow=3.0,SNR=28
FITZ S **S** **03 48 51.5 -0.2**
comp=Z,9.9nm,0.8s,baz=0.3,slow=3.6,SNR=1.2
FITZ Fitzroy Crossi 26.24 241 P **P** **03 44 23.3 +0.1**
baz=26,SNR=81
FITZ Fitzroy Crossi 26.24 241 P **P** **03 44 22.8 -0.4**
KMSI Cibinong 26.37 284 P **P** **03 44 22.8 -1.6**
comp=Z,111nm,0.8s
STKA Stephens Creek 26.76 195 P **P** **03 44 29.6 +1.9**
comp=Z,40nm,1.0s,baz=357,slow=10,SNR=25
STKA LR LR 03 55 13.5
comp=Z,18µm,21.1s,baz=29,slow=37
STKA Stephens Creek 26.76 195 P **P** **03 44 30.1 +2.4**
baz=27,SNR=21
STKA Stephens Creek 26.76 195 P **P** **03 44 27.6 -0.1**
LUWI Luwuk 27.19 279 P **P** **03 44 30.4 -1.4**
comp=Z,8µmcomp=Z,5µmcomp=Z,97nm,0.5s
MMRI Maumere 27.22 263 P **P** **03 44 31.3 -0.8**
comp=Z,6µmcomp=Z,7µmcomp=Z,338nm,0.7s
DAV Davao City (W) 27.25 298 LR LR 03 54 59.6
comp=Z,2µm,18.9s,baz=122,slow=36
GTOI Gorontalo 27.32 283 P **P** **03 44 33.6 +0.6**
comp=Z,916nmcomp=Z,30nm,0.8s
EDFI Ende, Flores 27.77 263 P **P** **03 44 35.7 -1.4**
comp=Z,4µmcomp=Z,1µmcomp=Z,86nm,0.8s
WRKA Warakurna 27.78 225 P **P** **03 44 37.1 +0.1**
baz=28,SNR=36
YNG Young 28.14 182 P **P** **03 44 42.3 +2.2**
baz=28,SNR=5.6
BASI Baing, Sumba 28.98 260 P **P** **03 44 48.2 +0.4**
comp=Z,5µmcomp=Z,6µmcomp=Z,367nm,1.1s
HTT Hallett 28.99 199 P **P** **03 44 47.8 +0.1**
baz=29,SNR=8.3
CNB Canberra Magne 29.13 180 P **P** **03 44 51.2 +2.3**
baz=29,SNR=8.2
CAN Canberra 29.14 181 P **P** **03 44 48.8 -0.2**
CAN pmax pmax
comp=Z,58nm,1.2s
CAN MLR MLR
comp=Z,20µm,19.0s
CAN Canberra 29.14 181 P **P** **03 44 48.8 -0.2**
CAN IAMs_20 IAMs_20 03 56 38.5
comp=Z,21µm,19.0s
BBOO Buckleboo 29.45 204 P **P** **03 44 53.9 +2.1**
baz=30,SNR=7.4
BBOO Buckleboo 29.45 204 P **P** **03 44 51.4 -0.4**
BBOO IAmb IAmb 03 45 36.1
comp=Z,176nm,1.5s
KAPI Kappang 29.69 270 LR LR 03 58 23.8
comp=Z,2µm,18.9s,baz=84,slow=40
MSVF Nonsavu 30.15 115 *i* P **P** **03 44 58.4 +0.2**
MSVF pmax pmax
comp=Z,193nm,1.0s
MPSI Mapaga 30.28 281 P **P** **03 44 59.3 0.0**
comp=Z,6µmcomp=Z,789nmcomp=Z,16nm,1.0s
ARPS Mount Arapiles 31.39 192 P **P** **03 45 11.6 +2.8**
baz=32,SNR=4.8
TOO Toolangi 31.60 186 P **P** **03 45 13.4 +2.7**
baz=32,SNR=6.1
TOO Toolangi 31.60 186 P **P** **03 45 12.3 +1.6**
TOO pmax pmax
comp=Z,49nm,1.1s
TOO MLR MLR
comp=Z,10µm,19.0s
TOO Toolangi 31.60 186 P **P** **03 45 12.3 +1.6**
PLAI Plampang 31.63 263 P P 03 45 24.4 +13
FORT Forrest 31.83 217 P **P** **03 45 13.1 +0.3**
baz=32,SNR=25
FORT Forrest 31.83 217 P **P** **03 45 12.4 -0.3**
PSA00 Pilbara Seismi 32.63 239 P **P** **03 45 18.5 -1.4**
JCJ Chichijima 33.71 348 P **P** **03 45 29.1 0.0**
comp=Z,132nm,1.0s,baz=183,slow=11,SNR=3.6
JCJ LR LR 03 58 41.4
comp=Z,3µm,19.8s,baz=163,slow=35
JCJ Chichijima 33.71 348 P **P** **03 45 29.3 +0.1**
SPMM Sapulut 34.73 287 P **P** **03 45 42.0 +3.7**
MEEK Meekatharra 35.90 232 P **P** **03 45 48.3 +0.2**
baz=36,SNR=23
KMBL Kambalda 36.15 222 P **P** **03 45 50.6 +0.4**
baz=36,SNR=12
MOO Moorlands 36.31 183 P **P** **03 45 54.2 +2.7**
baz=36,SNR=7.4
TAU Tasmania Unive 36.77 183 P **P** **03 45 54.6 -0.7**
TAU pmax pmax
comp=Z,353nm,1.9s
TAU MLR MLR
comp=Z,25µm,19.0s
TAU Tasmania Unive 36.77 183 P **P** **03 45 54.6 -0.7**
GIRL Giralia 37.85 241 P **P** **03 46 06.4 +1.6**
baz=38,SNR=7.3
GIRL Giralia 37.85 241 P **P** **03 46 04.3 -0.4**
KNTN Kanton 38.73 87 P **P** **03 46 12.7 +0.3**
AFI Afiamalu 38.82 105 P **P** **03 46 14.7 +1.6**
comp=Z,164nm,0.9s,baz=94,slow=16,SNR=14
AFI Afiamalu 38.82 105 P **P** **03 46 13.0 -0.1**
MORW Morawa 39.07 230 P **P** **03 46 14.5 -0.5**
baz=39,SNR=6.2
MORW Morawa 39.07 230 P **P** **03 46 14.9 -0.1**
MORW IAmb IAmb 03 46 29.3
comp=Z,160nm,1.2s
MORW IAMs_20 IAMs_20 04 03 41.1
comp=Z,12µm,18.0s
KLBR Kellerberrin 39.13 225 P **P** **03 46 14.9 -0.5**
baz=39,SNR=16
BLDU Ballidu 39.35 228 P **P** **03 46 16.4 -0.9**
baz=39,SNR=5.3
YOJ Yonaguni jima 39.86 321 IAMs_20 IAMs_20 03 59 26.9
comp=Z,13µm,21.0s
JHJ Hachijo jima 2 40.04 347 P **P** **03 46 23.3 +0.5**
comp=Z,152nm,0.9s,baz=167,slow=10,SNR=3.6
JHJ LR LR 04 01 59.4
comp=Z,2µm,20.2s,baz=173,slow=35
YULB Yu-li 40.23 318 IAmb IAmb 03 47 00.4
comp=Z,91nm,1.4s
YULB IAMs_20 IAMs_20 03 59 31.5
comp=Z,11µm,21.0s
NWAO Narrogin (SRO) 40.24 224 P **P** **03 46 25.0 +0.4**
comp=Z,13nm,0.6s,baz=66,slow=5.8,SNR=7.0
NWAO Narrogin (SRO) 40.24 224 P **P** **03 46 25.0 +0.4**
baz=40,SNR=5.6
NWAO Narrogin (SRO) 40.24 224 P **P** **03 46 24.8 +0.2**
NWAO IAmb IAmb 03 46 38.7
comp=Z,122nm,1.2s
NWAO Narrogin (SRO) 40.24 224 IAMs_20 IAMs_20 04 04 27.0
comp=Z,13µm,18.0s
MUN Mundaring 40.44 226 P **P** **03 46 27.3 +1.1**
baz=40,SNR=4.3
NACB Ninganchiao 40.57 319 P **P** **03 46 28.6 +1.2**
NACB IAmb IAmb 03 47 04.0
comp=Z,72nm,0.9s
NACB IAMs_20 IAMs_20 03 59 33.5
comp=Z,12µm,22.0s
TPUB Ta-pu 40.61 317 P **P** **03 46 28.5 +0.7**
TPUB IAmb IAmb 03 46 53.2
comp=Z,302nm,2.0s
TPUB IAMs_20 IAMs_20 03 59 35.8
comp=Z,11µm,22.0s
URZ Urewera 40.66 146 P **P** **03 46 29.2 +1.3**
comp=Z,5.8nm,0.6s,baz=216,slow=1.4,SNR=6.3
URZ Urewera 40.66 146 IAMs_20 IAMs_20 04 01 17.3
comp=Z,13µm,20.0s
SSLB Suanglung 40.72 318 IAMs_20 IAMs_20 03 59 26.7
comp=Z,13µm,22.0s
JCJI Jatiwangi 41.04 267 P **P** **03 46 31.6 +0.1**
comp=Z,9µmcomp=Z,297nm,0.5s
YHNB Yeheng 41.05 319 P **P** **03 46 33.1 +1.7**
YHNB IAmb IAmb 03 47 00.7
comp=Z,205nm,1.3s
YHNB IAMs_20 IAMs_20 03 59 50.5
comp=Z,15µm,22.0s
THZ Tophouse 41.19 153 P **P** **03 46 34.1 +1.7**
TATO Taipei 41.19 320 IAMs_20 IAMs_20 03 59 55.5
comp=Z,16µm,22.0s
CISI Cisompet, Garu 41.47 265 P **P** **03 46 33.0 -2.1**
comp=Z,5µmcomp=Z,224nm,1.1s
CISI Cisompet, Garu 41.47 265 P **P** **03 46 34.4 -0.7**

JSU Suzuyama 41.56 335 P **P** **03 46 35.5 0.0**
SNZO South Karori 41.67 151 IAMs_20 IAMs_20 04 04 04.0
comp=Z,10µm,18.0s
LEM Lembang 41.68 267 P **P** **03 46 37.8 +0.9**
comp=Z,50nm,0.6s,baz=87,slow=4.5,SNR=5.5
LTZ Lake Taylor 41.74 155 P **P** **03 46 36.9 0.0**
LTZ IAmb IAmb 03 46 51.0
comp=Z,261nm,1.6s
LTZ IAMs_20 IAMs_20 04 03 05.8
comp=Z,13µm,19.0s
JSG Sagara 41.90 346 IAmb IAmb 03 46 40.4
comp=Z,206nm,1.2s
RPZ Rata Peaks 42.01 157 P **P** **03 46 39.5 +0.5**
comp=Z,10nm,0.6s,baz=70,slow=6.7,SNR=4.0
RPZ Rata Peaks 42.01 157 P **P** **03 46 39.3 +0.3**
RPZ IAmb IAmb 03 47 07.0
comp=Z,51nm,0.8s
RPZ IAMs_20 IAMs_20 04 01 49.0
comp=Z,12µm,20.0s
OXZ Oxford 42.09 155 IAMs_20 IAMs_20 04 02 05.0
comp=Z,11µm,21.0s
JMN Monobe 42.25 340 P **P** **03 46 42.0 +0.8**
JMN IAmb IAmb 03 46 59.5
comp=Z,135nm,1.1s
JNU Nakatsue 42.80 337 P **P** **03 46 44.9 -0.7**
comp=Z,35nm,0.9s,baz=76,slow=6.3,SNR=10
JNU LR LR 04 01 53.8
comp=Z,4µm,21.9s,baz=148,slow=32
JNU Nakatsue 42.80 337 P **P** **03 46 46.1 +0.5**
INU Inuyama 42.83 345 P **P** **03 46 46.6 +0.9**
INU IAmb IAmb 03 46 48.3
comp=Z,126nm,1.1s
JGF Kuroka 42.98 345 IAmb IAmb 03 47 01.8
comp=Z,142nm,1.4s
QZH Quanzhou 43.09 317⇑ *i* P **P** **03 46 47.6 -0.4**
QZH pP **pP** **03 47 00.3 -2.7**
QZH S **S** **03 53 08.0 -2.1**
QZH pmax pmax
comp=Z,1µm,7.4s
QZH LR LR
comp=Z,4µm,18.5s
QZH LR LR
comp=Z,4µm,21.8s
QZH LR LR
comp=Z,8µm,27.5s
JWT Wachi 43.21 343 P **P** **03 46 50.1 +1.3**
JWT IAmb IAmb 03 47 09.7
comp=Z,69nm,1.0s
MJAR Matsushiro Arr 43.68 347 P **P** **03 46 52.9 +0.3**
comp=Z,40nm,1.1s,baz=159,slow=8.8,SNR=50
MJAR ScP **ScP** **03 52 26.2 +0.5**
comp=Z,3.1nm,0.9s,baz=174,slow=4.6,SNR=4.1
MJAR LR LR 04 03 20.0
comp=Z,3µm,20.3s,baz=170,slow=34
MJAR Matsushiro Arr 43.68 347 P **P** **03 46 52.9 +0.3**
MJAR **ScP** **03 52 25.9 +0.2**
MAJO Matsushiro 43.68 347 *i* P **P** **03 46 52.7 +0.1**
MAJO pmax pmax
comp=Z,24nm,1.4s
MAJO Matsushiro 43.68 347 P **P** **03 46 51.3 -1.2**
MAJO IAmb IAmb 03 46 54.7
comp=Z,200nm,1.4s
MAT Matsushiro 43.68 347 P **P** **03 46 51.7 -0.9**
MAT S **S** **03 53 18.8 +0.4**
JMM Marumori 44.44 350 IAmb IAmb 03 47 14.3
comp=Z,68nm,0.9s
MDSI Maura Dua 45.21 270 P **P** **03 47 03.3 -1.9**
GZH Guangzhou 45.73 311 P **P** **03 47 10.0 +0.9**
GZH S **S** **03 53 49.1 +0.7**
GZH pmax pmax
comp=Z,1µm,9.2s
GZH LR LR
comp=Z,2µm,21.1s
GZH LR LR
comp=Z,4µm,24.5s
SSE Sheshan 45.82 325 P **P** **03 47 10.8 +1.1**
SSE S **S** **03 53 53.1 +3.5**
SSE pmax pmax
comp=Z,460nm,10.6s
SSE LR LR
comp=Z,2µm,21.0s
SSE LR LR
comp=Z,3µm,21.8s
SSE Sheshan 45.82 325 IAMs_20 IAMs_20 04 03 04.7
comp=Z,12µm,22.0s
JOHN Johnston Islan 46.35 60 IAMs_20 IAMs_20 04 03 47.4
comp=Z,13µm,20.0s
QIZ Qiongzhong 46.39 303 P **P** **03 47 13.8 -0.5**
QIZ S **S** **03 54 00.7 +2.6**
QIZ sS **sS** **03 54 26.0 +2.4**
QIZ pmax pmax
comp=Z,3.0nm,0.7s
QIZ pmax pmax
comp=Z,660nm,14.2s
QIZ LR LR
comp=Z,3µm,24.0s
QIZ LR LR
comp=Z,2µm,22.6s
QIZ LR LR
comp=Z,3µm,30.9s
QIZ Qiongzhong 46.39 303 IAmb IAmb 03 47 44.5
comp=Z,63nm,1.5s
TJN Taejon 47.05 335 *ce* P **P** **03 47 20.0 +0.8**
KSRS Korea Array 47.75 337 P **P** **03 47 26.1 +1.5**
comp=Z,13nm,0.6s,baz=152,slow=8.9,SNR=25
KSRS pP **pP** **03 47 39.2 -0.6**
comp=Z,28nm,0.8s,baz=155,slow=8.3,SNR=17
KSRS ScP **ScP** **03 52 45.4 +2.8**
comp=Z,0.6nm,0.4s,baz=144,slow=42,SNR=3.4
KSRS LR LR 04 06 39.5
comp=Z,3µm,20.0s,baz=144,slow=35
KSAR Wonju Array Be 47.76 337 P **P** **03 47 25.0 +0.3**
KSAR Wonju Array Be 47.76 337 P **P** **03 47 25.0 +0.3**
KS19 Wonju Array Si 47.81 337 P **P** **03 47 25.6 +0.4**
KS19 IAmb IAmb 03 47 40.0
comp=Z,31nm,0.8s
NJ2 Nanjing 47.87 324⇑ *i* P **P** **03 47 25.9 +0.3**
NJ2 pP **pP** **03 47 38.4 -2.4**
NJ2 sP **sP** **03 47 48.4 +0.9**
NJ2 S **S** **03 54 19.9 +1.2**
NJ2 sS **sS** **03 54 46.4 +2.1**
NJ2 pmax pmax
comp=Z,47nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,6.1s
NJ2 LR LR
comp=Z,5µm,21.6s
NJ2 LR LR
comp=Z,5µm,23.5s
NJ2 LR LR
comp=Z,8µm,22.1s
ERM Erimo 48.18 354 *ce* P **P** **03 47 29.5 +1.6**
ERM pmax pmax
comp=Z,86nm,1.3s
ERM Erimo 48.18 354 P **P** **03 47 28.4 +0.6**
INCN Inchon 48.30 335 P **P** **03 47 30.5 +1.6**
INCN pmax pmax
comp=Z,86nm,1.2s
INCN Inchon 48.30 335 P **P** **03 47 30.5 +1.6**
INCN IAmb IAmb 03 47 46.1
comp=Z,86nm,1.1s
IPM Ipoh 49.58 281 P **P** **03 47 43.0 +3.8**
WHN Wuhan 49.60 319⇑ P **P** **03 47 38.9 -0.1**
WHN pP **pP** **03 47 53.1 -1.1**
WHN PcP **PcP** **03 49 00.2 +0.3**
WHN PP **PP** **03 49 30.7 -3.2**
WHN PcS **PcS** **03 52 55.9 -0.8**
WHN S **S** **03 54 44.4 +1.2**
WHN pmax pmax
comp=Z,1µm,5.0s
WHN LR LR
comp=Z,5µm,15.9s
WHN LR LR
comp=Z,9µm,17.8s
WHN LR LR
comp=Z,15µm,19.5s
YUK Yuzh-Kuril'sk 49.96 357 *d i* P **P** **03 47 38.4 -3.0**
YUK *i* 03 48 59.8
YUK *i* 03 49 37.1
YUK *i* PPP PPP 03 50 32.9
YUK *i* S **S** **03 54 46.1 -1.6**
YUK *i* SS **SS** **03 58 21.9 +0.4**
YUK *i* SSS SSS 03 59 50.8
YUK pmax pmax
comp=N,128nm,0.9s
YUK pmax pmax
comp=Z,330nm,0.9s
PYAG Pyongyang 49.99 336 P **P** **03 47 42.2 +0.4**
PYAG pP **pP** **03 47 55.9 -1.2**
PYAG S S 03 55 06.3 +18
HHU Hamhung 50.05 338 P **P** **03 47 43.2 +1.0**
HHU pP **pP** **03 47 55.6 -1.9**
HHU S S 03 55 03.6 +14
HHU sS sS 03 55 23.8 +8.9
KULM Kulim 50.11 282 P **P** **03 47 47.0 +3.8**
PYS Pyongsong 50.12 336 P **P** **03 47 44.7 +1.9**
ASAJ Asahikawa 50.32 353 P **P** **03 47 45.5 +1.3**
comp=Z,118nm,1.1s,baz=214,slow=12,SNR=15
KUR Kuril'sk 51.07 358 *c i* P **P** **03 47 50.1 +0.4**
KUR *e* 03 48 59.9
KUR *e* 03 49 45.1
KUR *e* PPP PPP 03 50 42.2
KUR *e* S **S** **03 55 05.5 +2.5**
KUR *e* SS **SS** **03 58 38.0 -1.1**
KUR *e* SSS SSS 04 00 15.3
KUR pmax pmax
comp=Z,2µm,3.8s
KUR pmax pmax
comp=Z,563nm,1.0s
KUR MLR MLR
comp=Z,2µm,18.0s
KUR MLR MLR
comp=N,1µm,16.0s
KUR MLR MLR
comp=E,2µm,16.0s
RAR Rarotonga 51.26 112 P **P** **03 47 51.9 +0.2**
RAR pmax pmax
comp=Z,158nm,1.4s
RAR Rarotonga 51.26 112 P **P** **03 47 51.9 +0.2**
RPSI Rantau Prapat 51.30 278 P **P** **03 47 51.8 -0.4**
RPSI IAmb IAmb 03 48 51.7
comp=Z,176nm,1.9s
PSI Prapat 51.32 278 P **P** **03 47 51.8 -0.7**
PSI pmax pmax
comp=Z,176nm,1.9s
PSI MLR MLR
comp=Z,3µm,21.0s
SUJ Sinuiju 51.40 335 P **P** **03 47 52.8 +0.4**
SUJ pP **pP** **03 48 04.9 -2.8**
SUJ S **S** **03 55 14.7 +6.8**
SUJ sS sS 03 55 48.7 +15
VLA Vladivostok 51.49 343 *c i* P **P** **03 47 53.6 +0.6**
VLA pmax pmax
comp=Z,109nm,1.4s
DL2 Dalian 51.67 332⇑ *i* P **P** **03 47 54.8 +0.4**
DL2 pP **pP** **03 48 06.4 -3.4**
DL2 sP **sP** **03 48 18.7 +2.3**
DL2 PP **PP** **03 49 56.4 +3.8**
DL2 S **S** **03 55 09.6 -2.1**
DL2 sS **sS** **03 55 34.7 -2.8**
DL2 SS **SS** **03 58 41.4 -7.5**
DL2 pmax pmax
comp=Z,40nm,0.7s
DL2 pmax pmax
comp=Z,1µm,5.8s
DL2 LR LR
comp=Z,4µm,22.4s
DL2 LR LR
comp=Z,3µm,20.4s
DL2 LR LR
comp=Z,7µm,22.1s
TIA Tai'an 51.88 327 P **P** **03 47 56.0 -0.1**
TIA PP **PP** **03 49 57.0 +2.4**
TIA S **S** **03 55 10.9 -3.8**
TIA pmax pmax
comp=Z,6.0nm,0.7s
TIA pmax pmax
comp=Z,550nm,3.6s
TIA LR LR
comp=Z,4µm,19.4s
TIA LR LR
comp=Z,4µm,18.4s
TIA LR LR
comp=Z,8µm,17.8s
TEY Ternei 52.16 348⇑⇑ *e* P **P** **03 47 57.8 -0.1**
TEY pmax pmax
comp=Z,200nm,8.3s
TEY pmax pmax
comp=E,10.0nm,0.9s
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,30nm,1.0s
GSI Gunungsitoli 52.41 276 P **P** **03 47 59.9 -0.6**
GSI IAmb IAmb 03 49 04.4
comp=Z,61nm,0.9s
USA0B Ussuriysk Arra 52.46 344 *c i* P **P** **03 48 00.3 +0.1**
USA0B Ussuriysk Arra 52.46 344 IAmb IAmb 03 48 16.0
comp=Z,56nm,0.9s
USRK Ussuriysk Ar. 52.46 344 P **P** **03 48 01.7 +1.5**
comp=Z,15nm,0.7s,baz=168,slow=8.8,SNR=34
USRK pP **pP** **03 48 15.1 -0.5**
comp=Z,41nm,0.8s,baz=172,slow=8.4,SNR=15
USRK LR LR 04 08 11.3
comp=Z,6µm,21.1s,baz=144,slow=34
USRK Ussuriysk Ar. 52.46 344 P **P** **03 48 00.8 +0.6**
GYA Guiyang 52.64 310⇑ P **P** **03 48 01.1 -1.0**
GYA pP sP 03 48 21.0 -3.1
GYA S **S** **03 55 23.0 -2.7**
GYA SS **SS** **03 59 04.0 -1.0**
GYA pmax pmax
comp=Z,540nm,9.7s
GYA LR LR
comp=Z,2µm,23.3s
GYA LR LR
comp=Z,2µm,23.5s
GYA LR LR
comp=Z,4µm,27.5s
ENH Enshi 52.71 316 IAMs_20 IAMs_20 04 07 34.0
comp=Z,7µm,21.0s
YSS Yuzh-Sakhalins 53.11 354 *e* P **P** **03 48 04.0 -0.9**
YSS *e* 03 48 19.3
YSS *e** SP **sP** **03 48 28.8 +1.8**
YSS *e* 03 50 02.3
YSS *e* S **S** **03 55 26.3 -4.7**
YSS *e* PS **PnS** **03 55 33.7 -14**
YSS pmax pmax
comp=Z,2µm,4.0s
YSS pmax pmax
comp=N,900nm,3.9s
YSS MLR MLR
comp=N,1µm,14.0s
YSS MLR MLR
comp=E,1µm,15.0s
YSS Yuzh-Sakhalins 53.11 354 P **P** **03 48 05.6 +0.7**
YSS IAmb IAmb 03 48 07.6
comp=Z,131nm,1.3s
SNY Shenyang 53.23 336⇑ P **P** **03 48 05.4 -0.5**
SNY pP **pP** **03 48 19.2 -2.1**
SNY sP **sP** **03 48 31.3 +3.4**
SNY PP **PP** **03 50 03.8 -2.8**
SNY S **S** **03 55 28.5 -4.3**
SNY pmax pmax
comp=Z,33nm,2.4s
SNY LR LR
comp=Z,3µm,27.8s
SNY LR LR
comp=Z,1µm,23.8s
SNY LR LR
comp=Z,6µm,27.8s
XMAS Kiritimati 53.52 83 P **P** **03 48 08.8 +0.2**
XMAS Kiritimati 53.52 83 IAMs_20 IAMs_20 04 05 48.4
comp=Z,7µm,22.0s
MDJ Mudanjiang 53.53 342 P **P** **03 48 10.1 +2.0**
MDJ pP pP 03 48 25.8 +2.3
MDJ sP sP 03 48 32.4 +2.2
MDJ S **S** **03 55 38.2 +1.3**
MDJ sS sS 03 56 05.1 +3.2
MDJ pmax pmax
comp=Z,33nm,1.0s
MDJ pmax pmax
comp=Z,1µm,9.9s
MDJ LR LR
comp=Z,2µm,26.5s
MDJ LR LR
comp=Z,2µm,29.9s
MDJ LR LR
comp=Z,8µm,28.4s
MDJ Mudanjiang 53.53 342 IAmb IAmb 03 48 30.7
comp=Z,52nm,1.0s

CN2 Changchun 54.19 339 *e*P **P** **03 48 12.4 -0.5**
CN2 *e*S **S** **03 55 49.8 +4.0**
CN2 SS **SS** **03 59 25.3 -3.2**
CN2 pmax pmax
comp=Z,1μm,6.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,22.0s
KMI Kunming 55.06 306⇑ *e*P **P** **03 48 18.5 -1.4**
KMI pP pP 03 48 31.8 -3.6
KMI sP sP 03 48 39.5 -2.5
KMI S **S** **03 55 58.0 -0.6**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI pmax pmax
comp=Z,590nm,8.9s
KMI LR LR
comp=Z,830nm,24.8s
KMI LR LR
comp=Z,2μm,22.8s
KMI LR LR
comp=Z,3μm,25.7s
BJT Baijiatuau 55.20 329 P **P** **03 48 18.7 -1.6**
BJT pmax pmax
comp=Z,31nm,1.2s
BJT Baijiatuau 55.20 329 IAmb IAmb 03 49 04.8
comp=Z,100nm,1.8s
BJI Beijing 55.22 329 P **P** **03 48 20.6 +0.2**
BJI pP **pP** **03 48 36.9 +1.0**
BJI S **S** **03 55 57.5 -2.1**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI pmax pmax
comp=Z,960nm,4.3s
BJI LR LR
comp=Z,4μm,23.1s
BJI LR LR
comp=Z,2μm,23.1s
BJI LR LR
comp=Z,5μm,24.7s
XAN Xi'an 55.36 319 P **P** **03 48 20.8 -0.9**
XAN pP pP 03 48 34.5 -2.7
XAN S **S** **03 55 56.3 -5.7**
XAN SS **SS** **03 59 40.3 -7.2**
XAN pmax pmax
comp=Z,1μm,7.9s
XAN LR LR
comp=Z,1μm,25.0s
XAN LR LR
comp=Z,3μm,25.0s
XAN LR LR
comp=Z,7μm,25.0s
XAN Xi'an 55.36 319 P **P** **03 48 19.6 -2.1**
XAN pmax pmax
comp=Z,35nm,2.3s
XAN Xi'an 55.36 319 IAmb IAmb 03 48 52.1
comp=Z,62nm,1.2s
CMAR Chiang Mai Arr 55.53 297 P **P** **03 48 22.1 -1.0**
comp=Z,0.8nm,0.3s,baz=126,slow=6.2,SNR=7.0
CMAR PP PP 03 50 16.9 -11
comp=Z,8.7nm,1.0s,baz=114,slow=5.5,SNR=4.4
CMAR LR LR 04 13 30.9
comp=Z,823nm,20.1s,baz=179,slow=37
CMAR PKPPKP **P'P'df** **04 18 29.5 +2.0**
comp=Z,1.1nm,0.3s,baz=285,slow=3.5,SNR=3.5
CMAR PKP2bc 04 18 41.1
comp=Z,4.1nm,0.9s,baz=293,slow=3.9,SNR=6.5
CMAR PKP2ab 04 18 54.2
comp=Z,1.6nm,0.4s,baz=299,slow=3.7,SNR=4.5
CMAR Chiang Mai Arr 55.53 297 P **P** **03 48 21.3 -1.7**
TIY Taiyuan 55.59 325 *e*P **P** **03 48 23.0 -0.2**
TIY S **S** **03 56 03.2 -1.7**
TIY sS **sS** **03 56 29.8 -0.2**
TIY pmax pmax
comp=Z,800nm,5.8s
TIY LR LR
comp=Z,3μm,21.8s
TIY LR LR
comp=Z,3μm,20.4s
TIY LR LR
comp=Z,9μm,27.8s
CHTO Chiang Mai 55.65 298 P **P** **03 48 22.8 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
SKR Severo-Kuril's 56.78 5 *e*P P 03 48 25.8 -5.5
TYV Tymovskoe 56.99 355 *e*P **P** **03 48 33.6 +0.8**
TYV *e*S **S** **03 56 24.1 +1.3**
TYV pmax pmax
comp=Z,1μm,3.9s
TYV pmax pmax
comp=Z,55nm,1.2s
TYV smax smax
comp=E,14nm,1.5s
TYV smax smax
comp=N,1μm,6.1s
CD2 Chengdu 57.15 313 P **P** **03 48 37.4 +2.9**
CD2 PP **PP** **03 50 46.5 +4.5**
CD2 S **S** **03 56 24.8 -1.0**
CD2 pmax pmax
comp=N,40nm,1.3s
CD2 pmax pmax
comp=N,970nm,7.7s
CD2 LR LR
comp=N,3μm,18.8s
CD2 LR LR
comp=N,3μm,25.5s
CD2 LR LR
comp=N,4μm,26.0s
GRNR Gornyy 57.71 350⇓ *i*P **P** **03 48 40.3 +2.3**
GRNR *e*S **S** **03 56 30.0 -2.4**
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,10.0nm,0.7s
HON Honolulu 58.16 60 IAMs_20 IAMs_20 04 08 46.4
comp=Z,9μm,20.0s
HHC Hu-ho-hao-te 58.24 327 *e*P **P** **03 48 39.9 -2.1**
HHC S **S** **03 56 36.2 -3.6**
HHC sS sS 03 57 01.6 -3.6
HHC SS **SS** **04 00 28.2 -4.5**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,930nm,6.6s
HHC LR LR
comp=Z,4μm,20.2s
HHC LR LR
comp=Z,5μm,20.0s
HHC LR LR
comp=Z,8μm,20.3s
BTO Baotou 58.93 326 *e*P **P** **03 48 44.8 -2.0**
PEA0B Petropavlovsk- 59.33 6*c e*P **P** **03 48 50.7 +1.5**
PEA0B Petropavlovsk- 59.33 6 P **P** **03 48 50.2 +1.1**
PETK Petropavlovsk- 59.33 6 P **P** **03 48 49.9 +0.7**
comp=Z,77nm,0.8s,baz=171,slow=6.2,SNR=41
PETK LR LR 04 11 35.6
comp=Z,3μm,20.6s,baz=195,slow=33
PETK Petropavlovsk- 59.33 6 P **P** **03 48 50.0 +0.8**
PETK Petropavlovsk- 59.33 6 P **P** **03 48 50.0 +0.8**
PET Petropavlovsk 59.34 6 *e*P **P** **03 48 49.5 +0.3**
PET *e*S **S** **03 57 00.7 +7.3**
PET pmax pmax
comp=Z,234nm,1.3s
PET pmax pmax
comp=Z,900nm,15.2s
KHLU Kahalu`u 59.40 63 IAMs_20 IAMs_20 04 09 25.2
comp=Z,7μm,21.0s
NKL Nikolayevsk 59.45 354 *e*P **P** **03 48 49.0 -0.9**
NKL *e*S **S** **03 56 52.5 -2.2**
NKL pmax pmax
comp=N,9.0nm,0.8s
NKL pmax pmax
comp=Z,66nm,1.0s
MLOA Mauna Loa Obse 59.66 63 IAMs_20 IAMs_20 04 10 07.2
comp=Z,7μm,20.0s
HPAH Hawaii Prepara 59.72 63 IAMs_20 IAMs_20 04 10 15.7
comp=Z,8μm,21.0s
POHA Pohakuloa 59.78 63 IAMs_20 IAMs_20 04 10 19.1
comp=Z,8μm,20.0s
LZH Lanzhou 59.93 318 *e*P **P** **03 48 55.2 +1.3**
LZH pP pP 03 49 09.8 +0.3
LZH sP sP 03 49 17.8 +1.7
LZH S **S** **03 56 58.8 -3.2**
LZH sS sS 03 57 27.4 -0.6
LZH SS **SS** **04 00 59.6 +0.1**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,840nm,6.0s
LZH LR LR
comp=Z,3μm,15.2s
LZH LR LR
comp=Z,4μm,17.3s
LZH LR LR
comp=Z,4μm,17.9s
PPT Papeete 60.44 107 P **P** **03 48 59.5 +2.0**
comp=Z,48nm,0.9s,baz=197,slow=14,SNR=2.0
PPT2 Papeete2 60.44 107 *e*P **P** **03 48 58.3 +0.7**
comp=Z,103nm,1.5s
PPT2 *e*S **S** **03 57 07.8 -1.2**
comp=Z,3μm,25.2s
PPT2 *e*LQ LQ 04 04 18.1
comp=Z,10μm,34.0s
PPT2 *e*LR LR 04 06 50.7
comp=Z,3μm,24.5s
TIAR Tiarei 60.66 107 *e*P **P** **03 48 59.4 +0.4**
comp=Z,39nm,1.2s
HIA Hailar 60.91 338 *i* P **P** **03 48 59.8 -0.3**
HIA pmax pmax
comp=Z,28nm,0.8s
TBI Tubuai 61.01 113 *e*S **S** **03 57 14.9 -1.1**
TBI comp=Z,3μm,28.2s *e*LQ LQ 04 04 38.8
TBI comp=Z,6μm,38.8s *e*LR LR 04 07 15.3
comp=Z,7μm,36.0s
MEH Mehetia 61.89 107 *e*P **P** **03 49 07.5 +0.1**
comp=Z,25nm,0.9s
PMOR Pomariorio Ree 61.97 104 *e*P **P** **03 49 08.1 +0.3**
comp=Z,248nm,1.1s
SAIH SAIHA 62.17 299 *e*P **P** **03 49 05.0 -4.2**
VAH Vaihoa 62.23 104 *e*P **P** **03 49 09.8 +0.2**
comp=Z,66nm,1.1s
DIBR DIBRUGARH 62.40 305 *e*P P 03 49 05.6 -4.9
DIBR IVmB_BB 03 49 08.3
comp=Z,3μm,0.2s
ZEA Zeya 62.45 345*c e*P **P** **03 49 10.5 +0.1**
ZEA *e* 03 49 47.0
ZEA *e*S **S** **03 57 39.0 +5.9**
ZEA pmax pmax
comp=N,60nm,1.1s
ZEA pmax pmax
comp=Z,80nm,0.9s
ZEA pmax pmax
comp=E,200nm,4.1s
ZEA pmax pmax
comp=N,400nm,6.2s
ZEA pmax pmax
comp=Z,800nm,6.8s
ZEA smax smax
comp=E,700nm,12.6s
SILR SILCHAR 63.13 302 *e*P **P** **03 49 14.5 -0.9**
SILR IVmB_BB 03 49 15.9
comp=Z,1μm,0.2s
ITAN ITANAGAR 63.25 304 *e*P **P** **03 49 12.7 -3.5**
ZIRO ZIRO 63.29 305 *e*P **P** **03 49 13.8 -2.9**
TEZP TEZPUR 63.81 303 *ex* P 03 49 11.4 -8.5
TEZP IVmB_BB 03 49 48.5
comp=Z,432nm,1.8s
SHL Shillong 64.19 302 *e*P P 03 49 16.7 -6.0
SHL Shillong 64.19 302 P **P** **03 49 22.5 -0.2**
SHL pmax pmax
comp=Z,47nm,1.1s
SHL Shillong 64.19 302 P **P** **03 49 22.5 -0.2**
SHL IAmb IAmb 03 50 25.9
comp=Z,47nm,1.1s
GTA Gaotai 64.42 319 *e*P **P** **03 49 27.6 +3.7**
GTA pP sP 03 49 43.3 -2.9
GTA sP PcP 03 49 50.9 -6.9
GTA S **S** **03 57 59.1 +0.6**
GTA sS sS 03 58 25.2 +0.2
GTA SS **SS** **04 02 11.0 +1.3**
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA pmax pmax
comp=Z,890nm,10.5s
GTA LR LR
comp=Z,2μm,20.7s
GTA LR LR
comp=Z,2μm,23.3s
GTA LR LR
comp=Z,3μm,22.9s
ADK Adak 64.50 22 P **P** **03 49 21.5 -2.4**
ULN Ulaanbaatar 65.40 330*c i*P **P** **03 49 29.0 -1.0**
ULN pmax pmax
comp=Z,43nm,3.2s
ULN Ulaanbaatar 65.40 330 P **P** **03 49 30.4 +0.4**
ULN IAmb IAmb 03 49 49.5
comp=Z,37nm,1.3s
SONM Songino Array 65.70 330 P **P** **03 49 34.5 +2.5**
comp=Z,8.1nm,0.6s,baz=142,slow=3.9,SNR=19
SONM PcP **PcP** **03 50 03.1 +0.2**
comp=Z,24nm,1.0s,baz=129,slow=5.3,SNR=8.6
SONM LR LR 04 15 47.8
comp=Z,3μm,21.6s,baz=129,slow=34
SONM PKPPKP **P'P'df** **04 18 05.1 -4.1**
comp=Z,0.5nm,0.6s,baz=254,slow=2.6,SNR=5.4
SONM PKP2bc 04 18 14.2
comp=Z,4.5nm,1.1s,baz=289,slow=1.3,SNR=11
SONM Songino Array 65.70 330 P **P** **03 49 32.0 0.0**
SONM **PcP** **03 50 02.9 0.0**
ATKA Atka Island 65.72 24 IAMs_20 IAMs_20 04 12 23.5
comp=Z,5μm,21.0s
CASY Casey 65.91 196 P **P** **03 49 33.2 +0.4**
CASY IAmb IAmb 03 49 47.2
comp=Z,55nm,1.1s
CASY Casey 65.91 196 IAMs_20 IAMs_20 04 16 49.0
comp=Z,7μm,20.0s
LSA Lhasa 66.32 306 P **P** **03 49 33.7 -3.0**
LSA pmax pmax
comp=Z,11nm,0.6s
GTK Tadong 67.56 303 *e*P **P** **03 49 41.0 -3.3**
GTK IVmB_BB 03 49 41.5
comp=Z,176nm,0.2s
NIKH Nikolski High 68.49 26 IAMs_20 IAMs_20 04 12 57.0
comp=Z,5μm,21.0s
BOK Bokaro 68.78 298 *e*P **P** **03 49 49.2 -2.5**
BOK IVmB_BB 03 50 11.2
comp=Z,404nm,2.4s
SEY Seymchan 68.81 1 P **P** **03 49 52.2 +1.1**
comp=Z,21nm,0.9s,baz=171,slow=5.0,SNR=20
SEY Seymchan 68.81 1*c i*P **P** **03 49 50.5 -0.7**
ZAK Zakamensk 68.92 330 *e*P **P** **03 49 53.4 +1.2**
ZAK pmax pmax
comp=Z,34nm,1.1s
CHLP Challavanipeta 69.00 292 *e*P **P** **03 49 51.5 -1.8**
CHLP IVmB_BB 03 49 58.2
comp=Z,262nm,3.9s
CHLP IVMsBB 04 18 09.0
comp=Z,307nm,4.0s
TLY Talaya 69.58 331 P **P** **03 49 57.9 +1.7**
comp=Z,3.4nm,0.5s,baz=109,slow=1.6,SNR=7.7
TLY Talaya 69.58 331*c i*P **P** **03 49 54.3 -1.9**
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 69.58 331 P **P** **03 49 56.7 +0.5**
YAK Yakutsk 69.59 350 P **P** **03 49 56.8 +0.8**
comp=Z,7.5nm,0.4s,baz=151,slow=6.3,SNR=1.1
YAK Yakutsk 69.59 350 *e*P **P** **03 49 56.1 +0.1**
YAK *e* 03 50 21.5
YAK *e*S **S** **03 59 01.6 +2.1**
YAK *e* 03 59 53.5
YAK *e*SS **SS** **04 03 33.5 +4.9**
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK smax smax
comp=N,311nm,3.8s
YAK Yakutsk 69.59 350 P **P** **03 49 56.9 +0.9**
YAK IAmb IAmb 03 50 24.7
comp=Z,139nm,1.4s
IRK Irkutsk 69.65 332 *e*P **P** **03 49 57.5 +0.9**
IRK pmax pmax
comp=Z,55nm,3.1s
BOD Bodaibo 69.84 341 *e*P **P** **03 49 58.9 +1.3**
BOD pmax pmax
comp=Z,11nm,1.6s
UNV Unalaska Valle 70.11 26 IAMs_20 IAMs_20 04 14 07.9
comp=Z,4μm,22.0s
AKUT Akutan 70.63 26 IAMs_20 IAMs_20 04 14 21.5
comp=Z,4μm,22.0s
MOY Mondy 70.85 330 *e*P **P** **03 50 05.9 +1.8**
MOY pmax pmax
comp=Z,85nm,2.8s
PVM Polavaram 70.97 290 *e*P **P** **03 50 04.2 -1.1**
PVM IVmB_BB 03 50 09.1
comp=Z,182nm,5.0s
PVM IVMs_BB IVMs_BB 04 18 15.5
comp=Z,150nm,5.2s
VNDA Vanda 71.73 177 P **P** **03 50 09.8 +0.9**
comp=Z,18nm,0.8s,baz=326,slow=6.4,SNR=68
VNDA pP **pP** **03 50 23.3 -1.4**
comp=Z,56nm,1.0s,baz=341,slow=5.8,SNR=27
VNDA LR LR 04 18 13.0
comp=Z,3μm,19.4s,baz=16,slow=33
VNDA Vanda 71.73 177 P **P** **03 50 09.8 +0.9**
VNDA IAmb IAmb 03 50 24.2
comp=Z,90nm,1.1s
MYLAV Mylavaram 71.78 290 *e*P **P** **03 50 07.2 -3.0**
MYLAV IVmB_BB 03 50 14.8
comp=Z,114nm,2.6s
MYLAV IVMs_BB IVMs_BB 04 23 33.1
comp=Z,269nm,21.9s
SKHT Srikalahasti 72.05 286 *e*P **P** **03 50 10.8 -1.1**
SKHT IVmBBB 03 50 17.7
comp=Z,159nm,4.7s
SKHT IVMs_BB IVMs_BB 04 18 20.4
comp=Z,387nm,28.9s
FALS False Pass 72.14 26 IAMs_20 IAMs_20 04 15 29.5
comp=Z,5μm,22.0s
ADKI Addanki 72.22 289 *e*P **P** **03 50 10.4 -2.5**
ADKI IVmB_BB 03 50 18.5
comp=Z,157nm,4.1s
ADKI IVMs_BB IVMs_BB 04 23 55.9
comp=Z,289nm,23.5s
GGR Gangavaram 72.42 291 *e*P **P** **03 50 12.0 -2.1**
GGR IVmBBB 03 50 19.5
comp=Z,99nm,7.3s
GGR IVMs_BB IVMs_BB 04 19 43.7
comp=Z,170nm,24.8s
NJS Nagarjunasagar 72.99 289 *e*P **P** **03 50 15.4 -2.1**
NJS IVmBBB 03 50 22.8
comp=Z,171nm,3.9s
NJS IVMs_BB IVMs_BB 04 24 03.9
comp=Z,235nm,35.0s
SRLM Srisailam 73.28 289 *e*P **P** **03 50 18.8 -0.5**
SRLM IVmBBB 03 50 24.2
comp=Z,196nm,3.9s
SRLM IVMs_BB IVMs_BB 04 24 35.8
comp=Z,254nm,22.4s
CUPL Choutuppal 73.50 290 *e*P **P** **03 50 17.7 -2.8**
HYB Hyderabad 73.87 290 *i* P **P** **03 50 23.0 +0.3**
HYB *e*PcP **pP** **03 50 38.5 -0.3**
HYB *e* 03 50 55.5
HYBB Hyderabad (bro 73.87 290 *e*P **P** **03 50 19.9 -2.8**
HYBB IVmB_BB 03 50 28.0
comp=Z,172nm,4.9s
HYBB IVMs_BB IVMs_BB 04 26 41.8
comp=Z,238nm,23.8s
WMQ Urumqi 74.50 319 *e*P **P** **03 50 27.0 +1.1**
WMQ pP pP 03 50 43.6 +1.6
WMQ sP sP 03 50 48.8 +0.3
WMQ S **S** **03 59 56.2 -0.5**
WMQ sS sS 04 00 21.3 -2.6
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,290nm,5.1s
WMQ LR LR
comp=Z,790nm,21.3s
WMQ LR LR
comp=Z,730nm,17.7s
WMQ LR LR
comp=Z,1μm,23.7s
URV Uravakonda 74.61 287 *e*P **P** **03 50 26.6 -0.4**
URV IVmBBB 03 50 34.3
comp=Z,170nm,10.6s
URV IVMs_BB IVMs_BB 04 19 49.1
comp=Z,252nm,25.6s
BILL Bilibino 74.85 6*c i*P **P** **03 50 26.9 -0.4**
BILL *i* 03 50 45.3
BILL pmax pmax
comp=Z,24nm,1.1s
BILL MLR MLR
comp=Z,2μm,19.0s
BILL Bilibino 74.85 6 P **P** **03 50 28.7 +1.4**
BILL IAmb IAmb 03 50 52.2
comp=Z,43nm,1.2s
GAMB Gambell 75.47 17 IAMs_20 IAMs_20 04 21 44.1
comp=Z,5μm,20.0s
KLRI Killari 75.82 290 *e*P **P** **03 50 30.9 -3.1**
KLRI IVmBBB 03 50 39.0
comp=Z,195nm,4.2s
KLRI IVMs_BB IVMs_BB 04 26 11.9
comp=Z,319nm,24.0s
BHPL Bhopal 76.14 296 *e*P P 03 50 29.9 -5.8
DGZ Jazzator, Alta 77.15 324 *i* P **P** **03 50 41.0 0.0**
DGZ pmax pmax
comp=Z,8.0nm,0.5s
DDI Dehra Dun 77.28 303 *e*P **P** **03 50 38.1 -3.9**
DDI IVmB_BB 03 50 38.5
comp=Z,2μm,0.2s
SII Sitkinak Islan 77.36 28 IAmb IAmb 03 53 28.7
comp=Z,105nm,1.6s
ANM Nome 77.94 18 IAMs_20 IAMs_20 04 19 58.1
comp=Z,4μm,22.0s
OHAK Old Harbor 78.13 28 P **P** **03 50 46.9 +0.9**
OHAK IAmb IAmb 03 51 44.4
comp=Z,46nm,1.4s
POO Poona 78.47 290⇑ *e*P **P** **03 50 44.4 -4.4**
POO *e*P PcP 03 50 47.0 -11
TIXI Tiksi 78.73 353 *i* P **P** **03 50 46.0 -3.0**
TIXI Tiksi 78.73 353 **PcP** **03 50 55.4 -2.3**
KDAK Kodiak Island 78.75 28 P **P** **03 50 49.7 +0.3**
comp=Z,8.5nm,0.9s,baz=310,slow=19,SNR=3.1
KDAK LR LR 04 22 40.2
comp=Z,2μm,19.7s,baz=253,slow=33
KDAK Kodiak Island 78.75 28 P **P** **03 50 50.4 +1.0**
KDAK pmax pmax
comp=Z,48nm,1.5s
KDAK Kodiak Island 78.75 28 P **P** **03 50 50.4 +1.0**
MK31 Makanchi Array 79.16 320 *i* P **P** **03 50 52.9 +0.9**
MK31 Makanchi Array 79.16 320 P **P** **03 50 52.3 +0.3**
MKAR Makanchi Array 79.16 320 P **P** **03 50 52.9 +0.8**
comp=Z,1.6nm,0.5s,baz=103,slow=7.3,SNR=24
MKAR PKKPbc **PKKPbc** **04 09 43.8 -1.5**
comp=Z,1.9nm,0.8s,baz=298,slow=2.6,SNR=8.1
MKAR PKPPKP **P'P'df** **04 17 49.2 +2.8**
comp=Z,2.2nm,1.0s,baz=298,slow=3.1,SNR=4.4
MKAR LR LR 04 26 03.5
comp=Z,2μm,19.2s,baz=86,slow=36
MKAR Makanchi Array 79.16 320*c e*P **P** **03 50 52.7 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 79.16 320 P **P** **03 50 52.5 +0.5**
DHRM DHARAMSHALA 79.21 304 *e*P P 03 50 45.5 -7.4
DHRM IVmB_BB 03 50 55.3
comp=Z,543nm,0.6s
TTA Tatalina 80.11 22 P **P** **03 50 57.7 +0.8**
TTA pmax pmax
comp=Z,37nm,1.6s
TTA Tatalina 80.11 22 P **P** **03 50 57.7 +0.8**
CNPM China Poot 80.24 26 IAmb IAmb 03 51 01.4
comp=Z,51nm,0.7s
ZALV Zalesovo Beam 80.42 327 P **P** **03 50 59.3 +0.8**
comp=Z,14nm,0.6s,baz=110,slow=5.5,SNR=36
ZALV PKKPbc **PKKPbc** **04 09 41.1 -1.6**
comp=Z,1.5nm,0.4s,baz=280,slow=0.9,SNR=6.5
ZALV PKPPKP **P'P'df** **04 17 41.1 -2.4**
comp=Z,1.1nm,0.8s,baz=222,slow=3.8,SNR=3.6
ZALV LR LR 04 26 55.7
comp=Z,3μm,19.6s,baz=116,slow=36
ZALV Zalesovo Beam 80.42 327 *i* P **P** **03 51 00.4 +1.8**
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 80.42 327 P **P** **03 50 58.4 -0.2**
RDOG Red Dog Mine 81.05 16 IAMs_20 IAMs_20 04 24 28.8
comp=Z,5μm,20.0s
SUA Susitna One 81.42 25 IAMs_20 IAMs_20 04 20 52.7
comp=Z,4μm,22.0s
PPLA Purkeypile 81.56 23 IAMs_20 IAMs_20 04 21 46.5
comp=Z,4μm,21.0s

NIL	Nilore	82.03	305	P	P	03 51 07.7	0.0		
NIL				pmax	pmax				
	comp=Z,54nm,1.0s								
NIL				MLR	MLR				
	comp=Z,2µm,22.0s								
NIL	Nilore	82.03	305	P	P	03 51 07.7	0.0		
NIL				IAmb	IAmb	03 51 54.7			
	comp=Z,54nm,1.0s								
KNK	Knik Glacier	82.36	25	IAMs_20	IAMs_20	04 21 36.5			
	comp=Z,4µm,22.0s								
SML	Sawmill	82.59	25	IAmb	IAmb	03 51 55.4			
	comp=Z,47nm,1.2s								
IMAR	Indian Mountai	82.64	20	P	P	03 51 09.9	-0.2		
BPAW	Bear Paw Mtn.	82.64	22	IAMs_20	IAMs_20	04 26 35.0			
	comp=Z,3µm,19.0s								
GLI	Glacier Island	82.70	26	IAmb	IAmb	03 51 13.9			
	comp=Z,22nm,0.6s								
KURK	Kurchatov	82.78	323 *ce*	P	P	03 51 09.4	-1.7		
KURK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KURK	Kurchatov	82.78	323	P	P	03 51 11.8	+0.7		
KURK				IAmb	IAmb	03 51 52.6			
	comp=Z,39nm,1.2s								
KURBB	Kurchatov Arra	82.80	323	P	P	03 51 10.7	-0.6		
	comp=Z,4.8nm,0.7s,baz=108,slow=4.5,SNR=8.7								
SCM	Sheep Creek Mo	83.03	25	IAmb	IAmb	03 52 30.5			
	comp=Z,41nm,1.2s								
SCM				IAMs_20	IAMs_20	04 21 56.3			
	comp=Z,4µm,22.0s								
RND	Reindeer	83.13	23	IAmb	IAmb	03 51 15.2			
	comp=Z,20nm,0.7s								
RND				IAMs_20	IAMs_20	04 23 15.9			
	comp=Z,5µm,21.0s								
EYAK	Cordova Ski Ar	83.15	27	IAMs_20	IAMs_20	04 23 19.7			
	comp=Z,3µm,22.0s								
MAW	Mawson	83.19	203	P	P	03 51 12.9	-0.1		
	comp=Z,9.4nm,0.8s,baz=81,slow=5.6,SNR=22								
MAW				pP	pP	03 51 26.8	-2.3		
	comp=Z,37nm,1.0s,baz=92,slow=5.5,SNR=22								
MAW				LR	LR	04 25 56.1			
	comp=Z,5µm,21.5s,baz=86,slow=34								
MAW	Mawson	83.19	203	P	P	03 51 12.9	-0.1		
	baz=83,SNR=16								
MAW	Mawson	83.19	203	P	P	03 51 12.8	-0.1		
AAK	Ala-Archa	83.19	314 *c i*	P	P	03 51 12.6	-1.1		
AAK				pmax	pmax				
	comp=Z,55nm,2.5s								
MCK	McKinley	83.25	23	IAMs_20	IAMs_20	04 23 43.2			
	comp=Z,4µm,21.0s								
BWN	Browne	83.26	23	IAMs_20	IAMs_20	04 26 56.0			
	comp=Z,3µm,19.0s								
KLU	Klutina	83.48	26	IAmb	IAmb	03 52 02.9			
	comp=Z,35nm,1.1s								
RAGM	Ragged Mountai	83.57	27	IAMs_20	IAMs_20	04 23 07.7			
	comp=Z,5µm,22.0s								
DHY	Denali Highway	83.57	24	IAmb	IAmb	03 52 47.9			
	comp=Z,41nm,0.6s								
DHY				IAMs_20	IAMs_20	04 22 33.6			
	comp=Z,6µm,22.0s								
M24K	Tolsona, Glenn	83.64	25	IAmb	IAmb	03 51 42.3			
	comp=Z,42nm,1.1s								
M24K				IAMs_20	IAMs_20	04 22 37.4			
	comp=Z,4µm,22.0s								
QSPA	South Pole Qui	83.92	180	P	P	03 51 17.4	+0.5		
QSPA	South Pole Qui	83.92	180	IAMs_20	IAMs_20	04 28 22.9			
	comp=Z,3µm,19.0s								
MDM	Murphy Dome	84.10	22	IAMs_20	IAMs_20	04 25 04.6			
	comp=Z,3µm,21.0s								
HDA	Harding Lake	84.34	23	IAmb	IAmb	03 52 36.1			
	comp=Z,44nm,1.7s								
ILAR	Eielson Array	84.53	23	P	P	03 51 17.9	-2.0		
	comp=Z,11nm,0.7s,baz=249,slow=4.1,SNR=39								
ILAR				PKKPbc	PKKPbc	04 09 30.9	-2.7		
	comp=Z,0.2nm,0.6s,baz=353,slow=1.1,SNR=4.6								
ILAR				LR	LR	04 28 39.9			
	comp=Z,1µm,19.1s,baz=256,slow=35								
ILAR	Eielson Array	84.53	23	P	P	03 51 17.4	-2.4		
ILAR	Eielson Array	84.53	23	P	P	03 51 17.4	-2.4		
RIDG	Independent Ri	84.89	24	IAMs_20	IAMs_20	04 24 10.4			
	comp=Z,5µm,22.0s								
MENT	Mentasta	85.02	25	IAMs_20	IAMs_20	04 23 21.0			
	comp=Z,5µm,22.0s								
DOT	Dot Lake	85.17	24	IAmb	IAmb	03 52 11.7			
	comp=Z,34nm,1.3s								
DOT				IAMs_20	IAMs_20	04 24 18.7			
	comp=Z,4µm,22.0s								
BARN	Barnard Glacie	85.20	27	IAmb	IAmb	03 52 41.0			
	comp=Z,27nm,1.2s								
GAR	Garm	85.47	310	IAmb	IAmb	03 53 02.1			
	comp=Z,38nm,1.2s								
BCAR	Beaver Creek A	85.89	25	P	P	03 51 26.1	-0.6		
NRIK	Noril'sk	86.11	342	P	P	03 51 27.8	+0.2		
	comp=Z,11nm,0.6s,baz=146,slow=3.6,SNR=15								
NRIK				LR	LR	04 28 52.1			
	comp=Z,2µm,22.0s,baz=118,slow=35								
NRIK	Noril'sk	86.11	342 *ce*	P	P	03 51 29.0	+1.4		
NRIK				pmax	pmax				
	comp=Z,11nm,0.6s								
KK31	Karatay Array	86.15	314	IAmb	IAmb	03 52 17.5			
	comp=Z,29nm,1.2s								
KKAR	Karatay Array	86.15	314	P	P	03 51 28.2	-0.2		
KKAR	Karatay Array	86.15	314	P	P	03 51 28.2	-0.2		
KKAR	Karatay Array	86.15	314	IAmb	IAmb	03 52 17.5			
	comp=Z,29nm,1.2s								
CHGR	Chuyangaron	86.29	309	IAmb	IAmb	03 52 07.1			
	comp=Z,44nm,1.1s								
BMAR	Burnt Mountain	86.53	21	P	P	03 51 29.1	-0.7		
EGAK	Eagle	86.77	24	IAmb	IAmb	03 52 28.9			
	comp=Z,32nm,1.2s								
EGAK				IAMs_20	IAMs_20	04 26 20.3			
	comp=Z,4µm,20.0s								
SIT	Sitka	87.02	32	IAMs_20	IAMs_20	04 20 52.2			
	comp=Z,5µm,22.0s								
HYT	Haines Junctio	87.03	28	IAmb	IAmb	03 52 51.2			
	comp=Z,44nm,1.1s								
HYT				IAMs_20	IAMs_20	04 28 11.2			
	comp=Z,4µm,21.0s								
JIS	Juneau Island	87.83	31	IAMs_20	IAMs_20	04 22 29.5			
	comp=Z,3µm,22.0s								
WHY	Whitehorse	88.22	29	IAmb	IAmb	03 52 55.8			
	comp=Z,23nm,1.2s								
BVAR	Borovoye Array	88.31	324	P	P	03 51 38.2	-0.4		
	comp=Z,3.1nm,0.8s,baz=141,slow=15,SNR=7.9								
BRVK	Borovoye	88.38	324 *ce*	P	P	03 51 36.0	-2.9		
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
WRAK	Wrangell Islan	88.45	33	IAMs_20	IAMs_20	04 23 16.0			
	comp=Z,5µm,21.0s								
BBB	Bella Bella	90.04	38	IAMs_20	IAMs_20	04 25 46.3			
	comp=Z,4µm,20.0s								
DLBC	Dease Lake	90.10	31	IAMs_20	IAMs_20	04 23 37.7			
	comp=Z,4µm,22.0s								
INK	Inuvik	90.77	21	P	P	03 51 48.8	-0.9		
	comp=Z,13nm,1.2s,baz=261,slow=3.4,SNR=4.7								
INK				LR	LR	04 28 40.1			
	comp=Z,744nm,22.0s,baz=243,slow=33								
INK	Inuvik	90.77	21	IAmb	IAmb	03 52 13.2			
	comp=Z,36nm,1.4s								
INK				IAMs_20	IAMs_20	04 29 20.7			
	comp=Z,4µm,21.0s								
JCC	Jacoby Creek,	91.19	49	IAMs_20	IAMs_20	04 29 50.6			
	comp=Z,3µm,18.0s								
KBO	Bosley Butte	91.21	48	IAMs_20	IAMs_20	04 24 52.1			
	comp=Z,4µm,22.0s								
KEBM	Edson Butte	91.22	47	IAMs_20	IAMs_20	04 31 21.1			
	comp=Z,4µm,18.0s								
KRMB	Red Mountain	91.37	49	IAMs_20	IAMs_20	04 25 25.2			
	comp=Z,4µm,22.0s								
SYO	Syowa Base	91.42	200 ‖ *e*	P	P	03 51 51.4	-1.4		
SYO	Syowa Base	91.42	200 ‖ *i*	pP	pP	03 52 04.8	-4.5		
KHMM	Horse Mountain	91.42	49	IAMs_20	IAMs_20	04 30 17.7			
	comp=Z,3µm,19.0s								
MCCM	Marconi Confer	91.77	52	IAMs_20	IAMs_20	04 25 28.1			
	comp=Z,4µm,22.0s								
COR	Corvallis	92.16	46	IAMs_20	IAMs_20	04 25 48.9			
	comp=Z,5µm,21.0s								
E03A	Lebam	92.19	44	IAMs_20	IAMs_20	04 25 21.7			
	comp=Z,4µm,22.0s								
HUMO	Hull Mountain	92.19	48	P	P	03 51 57.6	+0.6		
HUMO				IAmb	IAmb	03 53 19.3			
	comp=Z,17nm,1.2s								
YBH	Yreka Blue Hor	92.28	48	IAMs_20	IAMs_20	04 25 56.4			
	comp=Z,4µm,21.0s								
WDC	Whiskeytown Da	92.29	50	IAMs_20	IAMs_20	04 26 19.7			
	comp=Z,4µm,21.0s								
F04A	Amboy	92.92	44	IAMs_20	IAMs_20	04 25 52.9			
	comp=Z,4µm,22.0s								
H04A	Detroit Lake	92.96	46	IAMs_20	IAMs_20	04 25 54.2			
	comp=Z,3µm,20.0s								
ORV	Oroville	92.98	51	IAMs_20	IAMs_20	04 27 19.1			
	comp=Z,3µm,21.0s								
PMPB	Monarch Peak	93.23	54	IAMs_20	IAMs_20	04 28 59.0			
	comp=Z,4µm,20.0s								
D05A	Enumclaw	93.33	43	IAMs_20	IAMs_20	04 25 58.8			
	comp=Z,4µm,22.0s								
AFDM	Forest Hills D	93.34	51	IAMs_20	IAMs_20	04 26 16.6			
	comp=Z,3µm,22.0s								
LON	Longmire	93.41	44	IAMs_20	IAMs_20	04 26 11.0			
	comp=Z,3µm,21.0s								
PAGB	Antelope Grade	93.64	55	IAMs_20	IAMs_20	04 25 12.7			
	comp=Z,3µm,21.0s								
CMB	Columbia Colle	93.72	52	IAMs_20	IAMs_20	04 26 28.7			
	comp=Z,3µm,21.0s								
K05A	Summer Lake	93.72	48	P	P	03 52 04.7	+0.4		
K05A				IAmb	IAmb	03 52 55.9			
	comp=Z,24nm,1.2s								
K05A				IAMs_20	IAMs_20	04 26 34.4			
	comp=Z,5µm,21.0s								
PINE	Pine Mountain	93.77	47	IAMs_20	IAMs_20	04 25 30.7			
	comp=Z,4µm,22.0s								
RUBR	Rubicon Trail	93.98	51	IAMs_20	IAMs_20	04 26 36.6			
	comp=Z,5µm,22.0s								
MOD	Modoc Plateau	94.09	48	IAmb	IAmb	03 53 57.6			
	comp=Z,15nm,0.4s								
MOD				IAMs_20	IAMs_20	04 27 16.3			
	comp=Z,4µm,21.0s								
A36M	Sachs Harbour	94.21	18	IAMs_20	IAMs_20	04 30 29.6			
	comp=Z,4µm,22.0s								
ABKAR	Akbulak array	94.28	319	P	P	03 52 06.7	+0.3		
VCNR	Virginia City	94.39	51	IAMs_20	IAMs_20	04 27 01.4			
	comp=Z,4µm,21.0s								
PNTR	Pine Nut	94.42	51	IAMs_20	IAMs_20	04 26 51.1			
	comp=Z,4µm,22.0s								
WAKR	Walker	94.50	52	IAMs_20	IAMs_20	04 27 04.9			
	comp=Z,3µm,22.0s								
PAHR	Pah Rah Range	94.63	51	IAMs_20	IAMs_20	04 27 09.6			
	comp=Z,4µm,22.0s								
F07A	Phinny Hill Vi	94.65	44	IAMs_20	IAMs_20	04 26 58.7			
	comp=Z,4µm,21.0s								
YERR	Yerington	94.69	51	IAMs_20	IAMs_20	04 27 10.3			
	comp=Z,3µm,21.0s								
MDPB	Devils Postpil	94.72	53	IAMs_20	IAMs_20	04 28 12.2			
	comp=Z,4µm,20.0s								
E07A	Sunnyside	94.74	44	IAMs_20	IAMs_20	04 27 24.2			
	comp=Z,3µm,21.0s								
OMMB	Old Mammoth Mi	94.78	53	IAMs_20	IAMs_20	04 28 13.9			
	comp=Z,4µm,20.0s								
OSI	Osito Audit: C	94.80	56	IAMs_20	IAMs_20	04 26 10.5			
	comp=Z,4µm,22.0s								
GEYT	Alibeck	94.81	308	P	P	03 52 06.8	-2.4		
	comp=Z,1.1nm,0.5s,baz=77,slow=29,SNR=2.1								
GEYT				LR	LR	04 36 42.2			
	comp=Z,2µm,21.6s,baz=60,slow=37								
GYA0B	ALIBECK ARRAY	94.81	308	IAMs_20	IAMs_20	04 36 20.0			
	comp=Z,3µm,22.0s								
I07A	Izee	94.83	46	P	P	03 52 09.7	+0.5		
I07A				IAMs_20	IAMs_20	04 26 25.7			
	comp=Z,4µm,22.0s								
HAWA	Hanford	94.95	44	IAMs_20	IAMs_20	04 26 58.8			
	comp=Z,3µm,21.0s								
ISA	Isabella, Lake	95.08	55	IAMs_20	IAMs_20	04 25 55.7			
	comp=Z,3µm,22.0s								
PASC	Pasadena Art C	95.21	56	IAMs_20	IAMs_20	04 25 59.5			
	comp=Z,4µm,22.0s								
RYN	Ryan	95.22	52	IAMs_20	IAMs_20	04 27 17.5			
	comp=Z,3µm,22.0s								
E08A	Dider Farm, El	95.29	44	IAMs_20	IAMs_20	04 26 45.6			
	comp=Z,4µm,22.0s								
G08A	Pilot Rock	95.29	45	IAMs_20	IAMs_20	04 30 05.8			
	comp=Z,4µm,20.0s								
MWC	Mount Wilson	95.32	56	IAMs_20	IAMs_20	04 26 48.4			
	comp=Z,4µm,22.0s								
NVAR	Mina Array Bea	95.38	52	P	P	03 52 10.6	-1.4		
	comp=Z,3.5nm,0.9s,baz=256,slow=5.9,SNR=13								
NVAR				PKKPbc	PKKPdf	04 09 08.4	+2.5		
	comp=Z,0.4nm,0.6s,baz=60,slow=3.9,SNR=4.1								
NVAR				LR	LR	04 27 59.3			
	comp=Z,3µm,21.4s,baz=274,slow=31								
NVAR	Mina Array Bea	95.38	52	P	P	03 52 12.2	+0.2		
D08A	Wollman Farm,	95.41	43	IAMs_20	IAMs_20	04 27 01.9			
	comp=Z,3µm,22.0s								
NV11	Mina Array Sit	95.50	52	IAMs_20	IAMs_20	04 27 57.8			
	comp=Z,3µm,20.0s								
J08A	Circle Bar Ran	95.53	47	IAMs_20	IAMs_20	04 27 32.3			
	comp=Z,5µm,22.0s								
ARU	Arti	95.54	326 *d i*	P	P	03 52 11.2	-0.8		
ARU						03 56 03.4			
ARU				PPP	PPP	03 58 06.0			
ARU				S	SKSac	04 02 40.7	-2.3		
ARU				SP	SP	04 04 43.5	+1.8		
ARU				PS	PS	04 04 57.5	+8.0		
ARU				SS	SS	04 10 06.7	+13		
ARU				SSS	SSS	04 13 41.5			
ARU				pmax	pmax				
	comp=Z,12nm,1.4s								
ARU				MLR	MLR				
	comp=Z,6µm,23.0s								
KVN	Kaiserville	95.58	51	IAMs_20	IAMs_20	04 27 38.8			
	comp=Z,3µm,22.0s								
C09A	Chrisman Ranch	95.89	43	IAMs_20	IAMs_20	04 27 29.4			
	comp=Z,3µm,22.0s								
E09A	Wood Farm, Sta	95.92	44	IAMs_20	IAMs_20	04 27 04.3			
	comp=Z,3µm,22.0s								
109C	Camp Elliot, M	96.04	58	IAMs_20	IAMs_20	04 26 57.4			
	comp=Z,4µm,21.0s								
TJX	Tijuana	96.06	58	IAMs_20	IAMs_20	04 26 24.0			
	comp=Z,4µm,22.0s								
BELA	Belgrano 2	96.17	179	P	P	03 52 13.6	-1.0		
BAR	Barrett	96.39	58	IAMs_20	IAMs_20	04 26 34.7			
	comp=Z,5µm,22.0s								
GSC	Goldstone, Bar	96.41	55	IAMs_20	IAMs_20	04 28 36.2			
	comp=Z,3µm,21.0s								
BMO	Blue Mountains	96.44	46	IAMs_20	IAMs_20	04 30 52.2			
	comp=Z,3µm,20.0s								
F10A	Beach Ranch, E	96.53	44	IAMs_20	IAMs_20	04 28 07.6			
	comp=Z,3µm,21.0s								
TPNV	Topopah Spring	96.94	54	IAMs_20	IAMs_20	04 31 19.0			
	comp=Z,3µm,19.0s								
ESJX	Sierra Juarez	96.97	59	IAMs_20	IAMs_20	04 29 25.1			
	comp=Z,3µm,20.0s								
SPX	San Pedro Mart	97.33	60	IAMs_20	IAMs_20	04 28 48.8			
	comp=Z,3µm,21.0s								
PLID	Pearl Lake	97.37	45	IAMs_20	IAMs_20	04 31 43.9			
	comp=Z,3µm,18.0s								
R11A	Troy Canyon, C	97.51	52	IAMs_20	IAMs_20	04 30 05.1			
	comp=Z,3µm,20.0s								
CPBX	Cerro Prieto	97.53	58	IAMs_20	IAMs_20	04 29 45.0			
	comp=Z,3µm,20.0s								
SHPR	Sheep Range	97.80	54	IAMs_20	IAMs_20	04 32 04.8			
	comp=Z,2µm,20.0s								
ELK	Elko	97.84	50	IAMs_20	IAMs_20	04 30 25.7			
	comp=Z,3µm,20.0s								
SFX	San Felipe	97.86	60	IAMs_20	IAMs_20	04 28 30.8			
	comp=Z,3µm,21.0s								
PRN	Pahroc Range	97.91	53	IAMs_20	IAMs_20	04 32 00.7			
	comp=Z,3µm,20.0s								
GLA	Glamis	97.96	58	IAMs_20	IAMs_20	04 27 55.2			
	comp=Z,4µm,21.0s								
YKA	Yellowknife Ar	98.02	28	LR	LR	04 32 58.8			
	comp=Z,2µm,21.2s,baz=0.0,slow=33								
JTMT	Jette	98.58	43	IAMs_20	IAMs_20	04 29 01.6			
	comp=Z,3µm,22.0s								
FOMA	Nahampoana Res	98.78	244	IAMs_20	IAMs_20	04 35 52.0			
	comp=Z,3µm,19.0s								
W13A	Hualapai Mount	98.80	56	IAMs_20	IAMs_20	04 28 47.3			
	comp=Z,3µm,22.0s								
MSO	Missoula	98.82	44	IAMs_20	IAMs_20	04 29 07.0			
	comp=Z,3µm,21.0s								
113A	Mohawk Valley,	98.84	58	IAMs_20	IAMs_20	04 30 22.6			
	comp=Z,4µm,20.0s								
Y14A	Wickenburg	99.50	57	IAMs_20	IAMs_20	04 28 54.1			
	comp=Z,4µm,22.0s								
214A	Organ Pipe Nat	99.63	59	IAMs_20	IAMs_20	04 28 57.6			
	comp=Z,3µm,21.0s								
DUG	Dugway, Tooele	99.69	50	IAMs_20	IAMs_20	04 31 32.6			
	comp=Z,2µm,20.0s								
DLMT	Dillon	99.78	45	IAMs_20	IAMs_20	04 33 27.5			
	comp=Z,3µm,20.0s								
U15A	North Rim	100.11	54	IAMs_20	IAMs_20	04 31 33.9			
	comp=Z,2µm,20.0s								
SNAA	Sanae	100.35	189	P	Pdif	03 52 34.0	+0.5		
SNAA	Sanae	100.35	189 *i*	P	Pdif	03 52 33.0	-0.5		
SNAA				pmax	pmax				
	comp=Z,18nm,1.1s								
BOZ	Bozeman (W)	100.45	45	IAMs_20	IAMs_20	04 31 52.3			
	comp=Z,3µm,21.0s								
HWUT	Hardware Ranch	100.61	49	IAMs_20	IAMs_20	04 31 37.0			
	comp=Z,2µm,21.0s								
X16A	Lo Mia Camp, P	100.80	56	IAMs_20	IAMs_20	04 29 47.4			
	comp=Z,4µm,22.0s								
WUAZ	Wupatki	100.85	55	IAMs_20	IAMs_20	04 29 42.7			
	comp=Z,4µm,22.0s								
IMW	Indian Meadow	101.00	47	IAMs_20	IAMs_20	04 30 39.1			
	comp=Z,3µm,21.0s								
HSIG		101.19	62	IAMs_20	IAMs_20	04 33 42.1			
	comp=Z,3µm,20.0s								
TUC	Tucson	101.35	58	IAMs_20	IAMs_20	04 29 59.2			
	comp=Z,4µm,21.0s								
EGMT	Eagleton	101.61	42	IAMs_20	IAMs_20	04 30 45.8			
	comp=Z,2µm,22.0s								
BW06	Boulder Array	102.06	48	IAMs_20	IAMs_20	04 32 06.2			
	comp=Z,4µm,21.0s								
PDAR	Pinedale Array	102.06	48	P	Pdif	03 52 41.1	-0.8		
	comp=Z,0.8nm,0.7s,baz=220,slow=2.0,SNR=6.4								
PDAR				PKKPbc	PKKPbc	04 08 45.7	-1.3		
	comp=Z,0.3nm,0.4s,baz=66,slow=2.3,SNR=8.4								
RLMT	Red Lodge	102.14	45	IAMs_20	IAMs_20	04 33 57.0			
	comp=Z,3µm,20.0s								
PV10	Paradox Valley	102.66	52	IAMs_20	IAMs_20	04 37 41.4			
	comp=Z,4µm,20.0s								
PV19	Morning Glory	102.70	52	IAMs_20	IAMs_20	04 37 44.6			
	comp=Z,3µm,19.0s								
PV20	West Nyswonger	102.72	52	IAMs_20	IAMs_20	04 37 35.8			
	comp=Z,3µm,19.0s								
PV16	Nyswonger Mesa	102.76	52	IAMs_20	IAMs_20	04 37 37.9			
	comp=Z,3µm,19.0s								
PV18	Skein Mesa, Pa	102.77	52	IAMs_20	IAMs_20	04 37 19.2			
	comp=Z,3µm,19.0s								
PV03	Paradox Valley	102.81	52	IAMs_20	IAMs_20	04 37 46.4			
	comp=Z,3µm,19.0s								
PV13	Radium Mtn., P	102.84	52	IAMs_20	IAMs_20	04 37 12.1			
	comp=Z,3µm,18.0s								
PV22	Blue Mesa, Par	102.85	52	IAMs_20	IAMs_20	04 33 19.3			
	comp=Z,4µm,21.0s								
MAK	Makhachkala	102.92	313 *e*	P	Pdif	03 52 44.9	-0.4		
MAK			*e*			03 56 59.8			
MAK			*e*	PPP	PPP	03 59 09.9			
MAK			*e*	SS	SS	04 11 35.6	-1.5		
MAK				pmax	pmax				
	comp=Z,108nm,1.5s								
PV07	Paradox Valley	102.96	52	IAMs_20	IAMs_20	04 33 41.4			
	comp=Z,4µm,21.0s								
O20A	White River Ci	103.19	50	IAMs_20	IAMs_20	04 32 59.3			
	comp=Z,2µm,20.0s								
121A	Cookes Peak, D	103.89	58	IAMs_20	IAMs_20	04 31 06.2			
	comp=Z,3µm,22.0s								
LAO	LASA Array	104.12	43	IAMs_20	IAMs_20	04 32 38.3			
	comp=Z,3µm,22.0s								
K22A	Casper	104.30	48	IAMs_20	IAMs_20	04 37 54.4			
	comp=Z,2µm,20.0s								
S22A	4UR Ranch, Cre	104.43	53	IAMs_20	IAMs_20	04 33 09.3			
	comp=Z,3µm,21.0s								
Y22D	IRIS PASSCAL I	104.55	56	IAMs_20	IAMs_20	04 32 07.8			
	comp=Z,3µm,22.0s								
LVZ	Lovozero	104.79	339	IAMs_20	IAMs_20	04 43 06.1			
	comp=Z,2µm,20.0s								
N23A	Red Feather La	104.89	49	IAMs_20	IAMs_20	04 37 56.0			
	comp=Z,2µm,20.0s								
ANMO	Albuquerque	104.89	56	IAMs_20	IAMs_20	04 33 35.7			
	comp=Z,3µm,21.0s								
EPT	El Paso	105.00	59	IAMs_20	IAMs_20	04 33 45.7			
	comp=Z,3µm,20.0s								
PHWY	Pilot Hill	105.22	49	IAMs_20	IAMs_20	04 33 43.7			
	comp=Z,3µm,21.0s								
APA	Apatity	105.36	339 ‖ *i*	P	Pdif	03 53 13.0	+17		
APA			*i*			03 57 19.0			
APA				pmax	pmax				
	comp=Z,12nm,1.1s								
SDCO	Great Sand Dun	105.48	53	IAMs_20	IAMs_20	04 33 45.1			
	comp=Z,3µm,21.0s								
FFC	Flin Flon	105.54	35	IAMs_20	IAMs_20	04 35 23.0			
	comp=Z,3µm,21.0s								
Q24A	Divide	105.66	51	IAMs_20	IAMs_20	04 35 02.7			
	comp=Z,4µm,21.0s								
RSSD	Black Hills	105.95	46	IAMs_20	IAMs_20	04 35 29.9			

comp=Z,0.5nm,0.4s,baz=259,slow=3.8,SNR=5.7
AKASG PKKP **PKKPdf 04 08 33.2 +1.1**
comp=Z,0.4nm,0.3s,baz=258,slow=4.6,SNR=2.8
EYMN Ely 113.64 40 IAMs_20 IAMs_20 04 42 16.8
comp=Z,2µm,20.0s
BRTR Keskin Array B 113.69 311 PKKPbc PKKPbc 04 08 10.8 +0.6
comp=Z,0.4nm,0.5s,baz=193,slow=4.9,SNR=5.3
X37A Clayton 114.00 55 IAMs_20 IAMs_20 04 38 14.8
comp=Z,3µm,22.0s
E38A The Farm, Brul 114.01 41 IAMs_20 IAMs_20 04 44 11.8
comp=Z,2µm,20.0s
237A Washetta, Mont 114.03 58 IAMs_20 IAMs_20 04 40 13.0
comp=Z,3µm,20.0s
SCIA State Center 114.15 47 IAMs_20 IAMs_20 04 45 48.1
comp=Z,2µm,20.0s
K38A Parkersburg 114.29 46 IAMs_20 IAMs_20 04 39 45.5
comp=Z,3µm,21.0s
N38A Joes South For 114.41 48 IAMs_20 IAMs_20 04 39 14.9
comp=Z,3µm,21.0s
P38A Dawn 114.46 49 IAMs_20 IAMs_20 04 41 33.4
comp=Z,3µm,20.0s
Z38A Mt. Pleasant 114.53 56 IAMs_20 IAMs_20 04 40 15.0
comp=Z,2µm,20.0s
HHAR Hobbs 114.84 53 IAMs_20 IAMs_20 04 39 08.9
comp=Z,3µm,21.0s
NATX Nacogdoches 115.04 58 IAMs_20 IAMs_20 04 41 01.5
comp=Z,3µm,19.0s
G40A Rib Lake 115.32 42 IAMs_20 IAMs_20 04 49 03.6
comp=Z,2µm,18.0s
MDUB Mudurnu 115.34 312 IAMs_20 IAMs_20 04 48 36.2
comp=Z,2µm,21.0s
MIAR Mount Ida 115.46 55 IAMs_20 IAMs_20 04 40 23.5
comp=Z,3µm,21.0s
L40A Anamosa 115.55 46 IAMs_20 IAMs_20 04 41 14.9
comp=Z,3µm,21.0s
U40A Yellville 115.69 53 PKPdf 03 57 29.6 0.0
COWI Conover 115.76 41 IAMs_20 IAMs_20 04 44 36.1
comp=Z,2µm,20.0s
D41A Chassel 115.81 40 IAMs_20 IAMs_20 04 40 12.2
comp=Z,3µm,22.0s
JFWS Jewell Farm 116.00 45 IAMs_20 IAMs_20 04 40 27.7
comp=Z,3µm,22.0s
WLAR White Oak Lake 116.00 56 PKiKP 03 57 30.4 +0.1
WLAR IAMs_20 IAMs_20 04 46 21.8
comp=Z,2µm,20.0s
X40A Basin Creek Fa 116.08 55 IAMs_20 IAMs_20 04 40 52.8
comp=Z,3µm,20.0s
N41A Harden Midland 116.18 47 IAMs_20 IAMs_20 04 43 43.8
comp=Z,3µm,21.0s
BOSA Boshof 116.30 234 PKP **PKiKP 03 57 31.5 +0.2**
comp=Z,3.8nm,0.8s,baz=119,slow=4.9,SNR=4.7
BOSA Boshof 116.30 234 PKPdf 03 57 30.9 -0.3
Z41A Richland Creek 116.33 56 IAMs_20 IAMs_20 04 43 14.7
comp=Z,3µm,21.0s
WHAR Wooly Hollow 116.36 54 IAMs_20 IAMs_20 04 39 32.1
comp=Z,3µm,22.0s
441A DeRidder 116.44 59 IAMs_20 IAMs_20 04 42 31.6
comp=Z,3µm,20.0s
F42A Maple Grove Fa 116.53 41 IAMs_20 IAMs_20 04 45 07.6
comp=Z,2µm,21.0s
I42A Draeger Farm, 116.63 44 IAMs_20 IAMs_20 04 40 51.3
comp=Z,2µm,22.0s
T42A Van Buren 116.92 51 IAMs_20 IAMs_20 04 41 27.8
comp=Z,3µm,20.0s
E43A Lone Tree Farm 117.06 40 IAMs_20 IAMs_20 04 45 11.4
comp=Z,3µm,21.0s
342A Flagon Creek P 117.07 58 IAMs_20 IAMs_20 04 42 08.2
comp=Z,2µm,20.0s
H43A Windswept, Lux 117.22 43 IAMs_20 IAMs_20 04 52 50.7
comp=Z,2µm,20.0s
HDIL Hopedale 117.36 47 IAMs_20 IAMs_20 04 44 48.1
comp=Z,2µm,20.0s
K43A Burlington 117.41 45 IAMs_20 IAMs_20 04 45 43.0
comp=Z,3µm,20.0s
P43A Skaggs, Pawnee 117.45 48 IAMs_20 IAMs_20 04 40 40.5
comp=Z,2µm,21.0s
143A Socs Landing, 117.59 56 IAMs_20 IAMs_20 04 41 51.0
comp=Z,2µm,20.0s
HBAR Harrisburg 117.60 53 IAMs_20 IAMs_20 04 49 27.0
comp=Z,2µm,20.0s
X43A Marvell 117.65 54 IAMs_20 IAMs_20 04 40 20.0
comp=Z,3µm,22.0s
KWP Kalwaria Pacla 117.86 324 IAMs_20 IAMs_20 04 47 34.6
comp=Z,2µm,21.0s
L44A Lake County Fo 117.87 45 IAMs_20 IAMs_20 04 42 47.2
comp=Z,3µm,22.0s
LPAR Lepanto 117.87 53 IAMs_20 IAMs_20 04 49 53.2
comp=Z,2µm,20.0s
GNAR Gosnell 118.01 52 IAMs_20 IAMs_20 04 41 26.8
comp=Z,3µm,21.0s
M44A Midewin, Midew 118.02 46 IAMs_20 IAMs_20 04 43 30.4
comp=Z,2µm,20.0s
Q44A Meyer Farm, Va 118.03 49 IAMs_20 IAMs_20 04 44 37.9
comp=Z,2µm,20.0s
O44A Mansfield 118.08 47 IAMs_20 IAMs_20 04 50 32.2
comp=Z,2µm,19.0s
LSZ Lusaka 118.19 249 PKIKP **PKPdf 03 57 34.5 -0.6**
LSZ MLR MLR
comp=Z,2µm,19.0s
LSZ Lusaka 118.19 249 PKPdf 03 57 34.5 -0.6
LSZ Lusaka 118.19 249 IAMs_20 IAMs_20 04 50 52.4
comp=Z,2µm,19.0s
344A Westbrook Farm 118.39 58 IAMs_20 IAMs_20 04 44 05.3
comp=Z,2µm,20.0s
I45A Fountain 118.40 43 IAMs_20 IAMs_20 04 45 07.1
comp=Z,2µm,21.0s
KOLS Kolonicke sedl 118.42 323 *e*PKIKP **PKiKP 03 57 35.5 +0.9**
KOLS Kolonicke sedl 118.42 323 *e*PKP **PKiKP 03 57 35.5 +0.9**
G45A Suttons Bay 118.42 41 IAMs_20 IAMs_20 04 46 44.5
comp=Z,3µm,20.0s
VBMS Vicksburg 118.42 57 IAMs_20 IAMs_20 04 44 38.0
comp=Z,2µm,20.0s
KONO Kongsberg 118.47 338 IAMs_20 IAMs_20 04 49 35.8
comp=Z,2µm,22.0s
LL01 San Ignacio de 118.53 146 IAMs_20 IAMs_20 04 37 34.3
comp=Z,3µm,21.0s
HALT Halls 118.56 52 IAMs_20 IAMs_20 04 42 35.2
comp=Z,2µm,20.0s
OLIL Olney 118.77 49 IAMs_20 IAMs_20 04 51 20.4
comp=Z,2µm,19.0s
545A Edgard 118.86 59 IAMs_20 IAMs_20 04 43 40.7
comp=Z,3µm,21.0s
Y45A Yeager Farm, C 118.88 55 IAMs_20 IAMs_20 04 41 08.8
comp=Z,2µm,21.0s
SFIN Lafayette 119.02 47 IAMs_20 IAMs_20 04 47 31.4
comp=Z,2µm,20.0s
GKP Gorka Klasztor 119.07 329 PKIKP **PKPdf 03 57 33.2 -2.4**
P46A Rosedale 119.17 48 IAMs_20 IAMs_20 04 51 13.9
comp=Z,2µm,18.0s
146A Union 119.54 56 IAMs_20 IAMs_20 04 45 26.6
comp=Z,3µm,20.0s
J47A Sunmer 119.65 43 IAMs_20 IAMs_20 04 42 32.1
comp=Z,3µm,22.0s
BLO Bloomington 119.81 48 IAMs_20 IAMs_20 04 51 33.9
comp=Z,2µm,19.0s
Z47A Carrollton 120.22 55 IAMs_20 IAMs_20 04 50 28.6
comp=Z,2µm,20.0s
P48A Milroy 120.53 47 IAMs_20 IAMs_20 04 51 47.8
comp=Z,2µm,18.0s
V48A Smith Brothers 120.58 52 IAMs_20 IAMs_20 04 43 58.7
comp=Z,3µm,21.0s
VYHS Vyhne 120.64 324 *e*PKIKP **PKiKP 03 57 39.1 +0.2**
VYHS Vyhne 120.64 324 *e*PKP **PKiKP 03 57 39.1 +0.2**
PLCA Paso Flores 120.67 145 PKP **PKiKP 03 57 39.5 +0.1**
comp=Z,7.3nm,0.7s,baz=210,slow=3.2,SNR=19
PLCA pPKP **pPKPdf 03 57 53.7 -2.7**
comp=Z,8.4nm,0.7s,baz=231,slow=1.8,SNR=7.9
PLCA PKKPbc **PKKPab 04 07 47.7 +1.1**
comp=Z,0.9nm,0.6s,baz=59,slow=5.9,SNR=4.0
PLCA Paso Flores 120.67 145 *e*P **PKiKP 03 57 39.9 +0.5**
I49A Point Hope 120.72 42 IAMs_20 IAMs_20 04 45 14.3
comp=Z,2µm,20.0s
X48A Hartselle 120.74 53 IAMs_20 IAMs_20 04 41 30.2
comp=Z,3µm,22.0s
N49A Columbus Grove 120.92 45 IAMs_20 IAMs_20 04 42 58.2
comp=Z,3µm,22.0s
KRLC Kraliky 121.01 327 *e*PKP **PKiKP 03 57 41.4 +1.8**
KRLC *e*PP **PP 03 59 07.2 -1.9**
KRLC *e*SP SP 04 08 34.6 -20
KRLC AMS AMS 04 49 40.0
comp=Z,3µm,21.3s
KRLC Kraliky 121.01 327 *e*PKIKP **PKiKP 03 57 41.4 +1.8**
KRLC *e* 03 59 07.2
KRLC MLR MLR
comp=Z,3µm,21.3s
P49A Miami Univ. Ec 121.02 47 IAMs_20 IAMs_20 04 47 05.9
comp=Z,2µm,20.0s
OSTC Ostas 121.06 327 *e*PS PS 04 08 55.8 -6.6
OSTC AMS AMS 04 50 50.0
comp=Z,4µm,20.2s
O49A Covington 121.07 46 IAMs_20 IAMs_20 04 48 38.2
comp=Z,2µm,21.0s
R49A Shelbyville 121.09 49 IAMs_20 IAMs_20 04 48 23.9
comp=Z,2µm,19.0s
DPC Dobruska-Polom 121.11 327 *e*SP SP 04 08 55.4 +0.4
DPC AMS AMS 04 50 10.0
comp=Z,4µm,22.2s
CHVC Chvalec 121.13 327 AMS AMS 04 51 10.0
comp=Z,3µm,18.8s
JAVC Velka Javorina 121.14 325 *e*PKP **PKiKP 03 57 41.4 +1.5**
LRAL Lakeview Retre 121.14 55 PKPdf **PKiKP 03 57 40.3 0.0**
LRAL IAMs_20 IAMs_20 04 51 01.8
comp=Z,2µm,21.0s
UPC Upice 121.20 327 *e*PP PP 03 59 16.7 +6.4
UPC AMS AMS 04 51 00.0
comp=Z,4µm,20.5s
K50A Casco 121.31 43 IAMs_20 IAMs_20 04 42 38.2
comp=Z,3µm,22.0s
Y49A Blount Mountai 121.41 54 IAMs_20 IAMs_20 04 42 12.8
comp=Z,3µm,22.0s
BRAL Brewton 121.53 57 IAMs_20 IAMs_20 04 52 50.4
comp=Z,2µm,20.0s
MTO3 Montecristo 121.55 77 IAMs_20 IAMs_20 04 40 36.4
comp=Z,2µm,21.0s
ESQI Esquipulas 121.57 77 IAMs_20 IAMs_20 04 39 45.7
comp=Z,3µm,22.0s
SNET Serv Nac Est T 121.70 78 IAMs_20 IAMs_20 04 39 07.2
comp=Z,3µm,22.0s
R50A Paris 121.72 48 IAMs_20 IAMs_20 04 49 11.6
comp=Z,2µm,20.0s
T50A Nancy 121.74 50 IAMs_20 IAMs_20 04 43 27.2
comp=Z,2µm,21.0s
KRUC Moravsky 121.75 326 *e*PKP **PKiKP 03 57 41.9 +0.8**
W50A Signal Mountai 121.91 52 IAMs_20 IAMs_20 04 43 39.0
comp=Z,3µm,21.0s
DIVS Divibare 121.94 319 PKiKP 03 57 41.9 +0.2
PVCC Panska Ves 121.96 328 AMS AMS 04 52 10.0
comp=Z,2µm,20.9s
250A Grady 121.99 56 IAMs_20 IAMs_20 04 46 42.5
comp=Z,3µm,20.0s
ACSO Alum Creek Sta 122.03 46 IAMs_20 IAMs_20 04 49 54.4
comp=Z,2µm,20.0s
BRG Berggiesshubel 122.09 328 *e*PKP **PKiKP 03 57 43.6 +2.0**
comp=Z,6.0nm,1.3s
BRG *es*PKP 03 58 23.8
comp=Z,12nm,1.2s
BRG PP **PP 03 59 21.0 +4.7**
BRG SS SS 04 16 07.0 +17
comp=N,201µm,18.8s
comp=E,2µm,20.4s
comp=Z,3µm,21.4s
BRG Berggiesshubel 122.09 328 *e*PKIKP **PKiKP 03 57 43.7 +2.0**
BRG 03 59 21.0
BRG SS SS 04 16 07.0 +17
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG MLR MLR
comp=N,201µm,18.8s
BRG MLR MLR
comp=E,2µm,20.4s
BRG MLR MLR
comp=Z,3µm,21.4s
TREC Trest 122.14 326 *e*PP PP 03 59 18.5 +1.8
TREC AMS AMS 04 51 00.0
comp=Z,4µm,20.4s
VLDQ Val d'Or 122.14 35 IAMs_20 IAMs_20 04 51 16.6
comp=Z,3µm,20.0s
GOPC GO Pecny, Ondr 122.18 327 *e*PP PP 03 59 17.4 +0.4
GOPC *e*SP SP 04 08 55.4 -9.1
GOPC AMS AMS 04 51 10.0
comp=Z,3µm,22.9s
Q51A Peebles 122.19 47 IAMs_20 IAMs_20 04 44 18.9
comp=Z,3µm,22.0s
PRU Pruhonice 122.27 327 *e*PP PP 03 59 18.3 +0.7
PRU *e*SP SP 04 09 07.2 +2.0
PRU AMS AMS 04 51 10.0
comp=Z,3µm,22.4s
PRA Prague 122.28 327 AMS AMS 04 51 30.0
comp=Z,1µm,20.0s
CLL Collm 122.32 329 *e*PKPdf **PKiKP 03 57 44.0 +1.9**
CLL *i* sPKPdf **pPKPdf 03 57 59.0 -0.1**
comp=Z,6.0nm,0.9s
CLL *e*PP **PP 03 59 18.0 +0.2**
CLL *e*PS **PS 04 09 13.0 -0.4**
CLL *e*SS SS 04 16 02.0 +8.8
CLL *e* 04 16 55.0
CLL *e*(SSS) 04 21 06.0
CLL *e* 04 30 12.0
CLL LMV 04 51 00.0
comp=Z,4µm,21.4s
CLL LmV 07 01 00.0
comp=Z,100nm,20.5s
CLL Collm 122.32 329 *e*PKIKP **PKiKP 03 57 44.0 +1.9**
CLL *i* 03 57 59.0
CLL *e*PS **PS 04 09 13.0 -0.4**
CLL MLR MLR
comp=Z,4µm,21.4s
X51A Calhoun 122.45 53 IAMs_20 IAMs_20 04 44 12.4
comp=Z,2µm,20.0s
S51A Beattyville 122.48 49 IAMs_20 IAMs_20 04 44 58.7
comp=Z,2µm,22.0s
Z51A Franklin 122.54 54 IAMs_20 IAMs_20 04 43 22.9
comp=Z,2µm,22.0s
451A Vernon 122.75 57 IAMs_20 IAMs_20 04 53 55.7
comp=Z,2µm,19.0s
P52A Corning 122.85 46 IAMs_20 IAMs_20 04 50 18.3
comp=Z,2µm,20.0s
BI02 San Fabin de 122.88 141 PKPdf **PKPdf 03 57 43.6 0.0**
O52A Adamsville 122.88 46 IAMs_20 IAMs_20 04 44 29.6
comp=Z,3µm,21.0s
152A Waverly Hall 123.09 55 IAMs_20 IAMs_20 04 51 14.3
comp=Z,2µm,20.0s
352A Blakely 123.22 56 IAMs_20 IAMs_20 04 46 53.1
comp=Z,2µm,21.0s
NKC Novy Kostel 123.24 328 AMS AMS 04 50 10.0
comp=Z,3µm,20.6s
KHC Kasperske Hory 123.27 327 *e*PKP **PKiKP 03 57 44.9 +0.8**
KHC *e*PP **PP 03 59 22.7 -1.7**
KHC *e*PKKP **PKKPbc 04 07 35.5 -0.1**
KHC *e*SP SP 04 09 18.8 +4.6
KHC AMS AMS 04 52 20.0
comp=Z,3µm,19.7s
KHC Kasperske Hory 123.27 327 *c i*PKIKP **PKiKP 03 57 44.4 +0.3**
KHC pmax pmax
comp=Z,5.0nm,1.0s
O53A New Philadelph 123.27 45 IAMs_20 IAMs_20 04 47 42.3
comp=Z,3µm,20.0s
Y52A Lilburn 123.28 53 IAMs_20 IAMs_20 04 43 54.4
comp=Z,2µm,21.0s
ERPA Erie 123.36 43 IAMs_20 IAMs_20 04 51 33.3
comp=Z,2µm,19.0s
GERES GERESS Array B 123.37 327 PKP **PKiKP 03 57 46.4 +2.0**
comp=Z,1.2nm,0.5s,baz=42,slow=2.2,SNR=12
GERES PKKPbc **PKKPbc 04 07 34.9 -0.4**
comp=Z,0.9nm,0.9s,baz=256,slow=5.4,SNR=6.4
GERES GERESS Array B 123.37 327 PKPdf **PKiKP 03 57 44.6 +0.2**
P53A Whipple 123.44 46 IAMs_20 IAMs_20 04 56 04.8
comp=Z,2µm,19.0s
R53A Hurricane 123.46 48 IAMs_20 IAMs_20 04 53 37.5
comp=Z,2µm,19.0s
SOKA Soboth 123.78 324 *e*P **PKiKP 03 57 45.5 +0.2**
comp=Z,3.7nm,1.1s
N54A Moraine State 123.84 44 IAMs_20 IAMs_20 04 46 14.2
comp=Z,3µm,22.0s
GOGA Godfrey 123.89 54 IAMs_20 IAMs_20 04 44 13.5
comp=Z,3µm,22.0s
MEDO Medina 123.92 41 IAMs_20 IAMs_20 04 45 48.9
comp=Z,3µm,20.0s
Q54A Coxs Mills 124.03 46 IAMs_20 IAMs_20 04 50 45.5
comp=Z,2µm,20.0s
S54A Dingess, Beckl 124.12 48 IAMs_20 IAMs_20 04 48 03.1
comp=Z,2µm,20.0s
WVNY West Valley, N 124.16 42 IAMs_20 IAMs_20 04 46 48.4
comp=Z,2µm,22.0s
GRA1 Grafenberg Arr 124.20 329 IAMs_20 IAMs_20 04 53 32.9
comp=Z,2µm,20.0s
TIGA Tifton 124.34 56 IAMs_20 IAMs_20 04 47 45.6
comp=Z,2µm,20.0s
M55A Ridgway 124.47 43 IAMs_20 IAMs_20 04 49 54.6
comp=Z,2µm,21.0s
MCWV Mont Chateau 124.47 45 IAMs_20 IAMs_20 04 50 00.1
comp=Z,2µm,20.0s
KBA Koelnbreinsper 124.55 325 *e*P **PKPdf 03 57 46.6 0.0**
comp=Z,4.0nm,1.0s
PRED Cave del Predi 124.77 324 IAMs_20 IAMs_20 04 54 44.3
comp=Z,3µm,22.0s
R55A Marlinton 124.81 47 IAMs_20 IAMs_20 04 54 23.3
comp=Z,2µm,19.0s
V55A Taylorsville 124.88 50 IAMs_20 IAMs_20 04 47 33.4
comp=Z,2µm,20.0s
BLA Blacksburg 125.00 48 IAMs_20 IAMs_20 04 50 35.2
comp=Z,2µm,20.0s
ZOU Zoufplan 125.05 325 IAMs_20 IAMs_20 04 55 02.7
comp=Z,2µm,20.0s
255A Hazlehurst 125.12 55 IAMs_20 IAMs_20 04 49 46.1
comp=Z,2µm,21.0s
ABTA Abfaltersbach 125.20 325 *e*P **PKPdf 03 57 47.7 0.0**
comp=Z,5.1nm,1.4s
STAL STALIGIAL 125.36 324 PKiKP 03 57 48.2 -0.1
JSC Jenkinsville 125.37 52 IAMs_20 IAMs_20 04 45 34.5
comp=Z,2µm,21.0s
WATA Walderalm 125.40 326 *e*P **PKiKP 03 57 48.5 0.0**
comp=Z,5.5nm,1.1s
WTTA Wattenberg 125.41 326 P **PKiKP 03 57 49.0 +0.5**
comp=Z,2.7nm,0.7s
SSPA Standing Stone 125.43 43 IAMs_20 IAMs_20 04 45 16.1
comp=Z,3µm,22.0s
CIMO Cimolais 125.49 325 PKPdf **PKiKP 03 57 48.7 +0.1**
Z56A Williston 125.59 53 IAMs_20 IAMs_20 04 46 37.5
comp=Z,2µm,21.0s
LONY Lake Ozonia 125.65 38 IAMs_20 IAMs_20 04 49 58.4
comp=Z,2µm,20.0s
MOTA Moosalm 125.65 326 *e*P **PKiKP 03 57 49.4 +0.3**
comp=Z,5.4nm,1.0s
SQTA Sankt Quirin 125.67 326 *e*P **PKPdf 03 57 48.1 -0.6**
comp=Z,4.8nm,1.0s
656A Willston 125.75 58 IAMs_20 IAMs_20 04 54 08.4
comp=Z,2µm,20.0s
STU Stuttgart 125.81 329 IAMs_20 IAMs_20 04 53 08.6
comp=Z,2µm,21.0s
456A Hilliard 125.82 56 IAMs_20 IAMs_20 04 48 45.0
comp=Z,2µm,21.0s
S57A Dark Hollow, R 125.87 47 IAMs_20 IAMs_20 04 49 00.1
comp=Z,2µm,22.0s
JTS Las Juntas de 125.92 82 IAMs_20 IAMs_20 04 43 01.3
comp=Z,2µm,20.0s
T57A Hurt 125.94 48 IAMs_20 IAMs_20 04 51 32.2
comp=Z,2µm,19.0s
FETA Feichten 126.05 326 P **PKPdf 03 57 49.0 -0.4**
CTI Castel Tesino 126.09 325 IAMs_20 IAMs_20 04 53 31.3
comp=Z,2µm,22.0s
FRNY Flat Rock 126.14 37 IAMs_20 IAMs_20 04 52 24.2
comp=Z,3µm,20.0s
MEM Membach 126.18 332 pPKP pPKPdf 03 58 04.2 -2.4
NCB Newcomb 126.21 38 IAMs_20 IAMs_20 04 49 01.2
comp=Z,2µm,20.0s
TIP Timpagrande 126.23 315 IAMs_20 IAMs_20 04 56 24.0
comp=Z,2µm,21.0s
257A Skidaway Islan 126.28 55 IAMs_20 IAMs_20 04 49 20.9
comp=Z,2µm,22.0s
DAVA Damuels 126.36 327 *e*P **PKiKP 03 57 51.9 +1.4**
comp=Z,1.3nm,0.5s
PAGS Pennsylvania G 126.40 43 IAMs_20 IAMs_20 04 46 09.0
comp=Z,3µm,22.0s
BFO Black Forest 126.54 329 IAMs_20 IAMs_20 04 54 12.8
comp=Z,2µm,21.0s
S58A Poland Farm, P 126.58 47 IAMs_20 IAMs_20 04 49 43.1
comp=Z,2µm,21.0s
NHSC New Hope 126.61 53 IAMs_20 IAMs_20 04 49 22.3
comp=Z,2µm,21.0s
SDMD Soldier's Deli 126.69 44 IAMs_20 IAMs_20 04 46 49.5
comp=Z,2µm,22.0s
VT1 Waterbury 126.91 37 IAMs_20 IAMs_20 04 47 33.9
comp=Z,2µm,21.0s
NRCA Norcia 126.94 321 IAMs_20 IAMs_20 04 58 49.3
comp=Z,2µm,20.0s
SALO Salr 126.98 325 IAMs_20 IAMs_20 04 53 33.9
comp=Z,2µm,20.0s
AQU L'Aquila 127.01 320 IAMs_20 IAMs_20 04 55 57.0
comp=Z,2µm,22.0s
T59A Double "B" Far 127.20 47 IAMs_20 IAMs_20 04 53 59.6
comp=Z,2µm,19.0s
ECH Echery 127.21 329 IAMs_20 IAMs_20 04 54 00.6
comp=Z,3µm,22.0s
U59A Littleton 127.27 48 IAMs_20 IAMs_20 04 52 29.5
comp=Z,2µm,20.0s
WUPA West Chester U 127.30 43 IAMs_20 IAMs_20 04 52 21.7
comp=Z,2µm,21.0s
ZCCA Zocca 127.44 323 IAMs_20 IAMs_20 05 00 09.2
comp=Z,2µm,21.0s
PRMA PARMA 127.60 324 IAMs_20 IAMs_20 04 54 53.2
comp=Z,3µm,22.0s
F62A Pittston Farm, 127.63 34 IAMs_20 IAMs_20 04 47 24.3
comp=Z,2µm,22.0s
OSSC Osservatorio P 127.74 322 IAMs_20 IAMs_20 04 56 19.1
comp=Z,2µm,22.0s
V60A Jim Taylor Roa 127.90 49 IAMs_20 IAMs_20 04 50 21.1
comp=Z,2µm,21.0s
061Z Ochoppi 128.00 62 IAMs_20 IAMs_20 04 47 33.2
comp=Z,2µm,22.0s
K62A Royalston 128.13 39 IAMs_20 IAMs_20 04 49 24.2
comp=Z,2µm,20.0s
060A Indiantown 128.20 60 IAMs_20 IAMs_20 04 53 28.3
comp=Z,2µm,20.0s
MSSA Maissana 128.32 324 IAMs_20 IAMs_20 04 54 42.4
comp=Z,2µm,22.0s
V61A Roper 128.40 48 IAMs_20 IAMs_20 04 50 56.3
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 128.64 39 IAMs_20 IAMs_20 04 49 47.5
comp=Z,2µm,20.0s
WES Weston 128.85 39 IAMs_20 IAMs_20 04 53 32.2
comp=Z,2µm,20.0s
V62A Hyde County Ai 128.95 48 IAMs_20 IAMs_20 04 53 02.6
comp=Z,2µm,20.0s
G65A Princeton 129.39 34 IAMs_20 IAMs_20 04 48 18.8
comp=Z,2µm,20.0s
GGN Saint George 129.84 33 IAMs_20 IAMs_20 04 48 20.9
comp=Z,2µm,22.0s
ATAH Atahualpa 130.39 105 PKP **PKiKP 03 58 01.1 +1.3**
comp=Z,30nm,0.9s,baz=299,slow=1.7,SNR=22
ATAH SKPbc **SKPbc 04 01 23.6 +6.0**
comp=Z,14nm,1.0s,baz=267,slow=3.2,SNR=6.4
SSB Saint Sauveur 130.50 328 IAMs_20 IAMs_20 04 56 12.5
comp=Z,2µm,22.0s
NNA Nana 130.50 111 PKP **PKiKP 03 58 00.1 +0.5**
comp=Z,29nm,1.0s,baz=252,slow=4.1,SNR=8.0
NNA Nana 130.50 111 *c i*PKIKP **PKiKP 03 57 59.7 +0.2**
NNA pmax pmax
comp=Z,54nm,1.0s
NNA Nana 130.50 111 PKPdf **PKPdf 03 57 58.2 -0.5**
AZU Azuero 130.52 85 *e*P **PKPdf 03 57 58.6 -0.1**
BCIP Isla Barro Col 130.97 83 *e*P **PKPdf 03 57 57.8 -1.7**
UPA Univ. de Panam 131.26 83 *e*P **PKPdf 03 57 55.8 -4.3**
PAC1 Pacto, Paraso 131.40 95 *e*P **PKPdf 03 58 00.2 -0.4**
OTAV Otavalo 131.74 95 *e*P **PKPdf 03 58 00.8 -0.8**
OTAV Otavalo 131.74 95 PKIKP **PKPdf 03 58 00.6 -1.0**
OTAV Otavalo 131.74 95 PKPdf **PKPdf 03 58 00.6 -1.0**
UPD2 Meteti 132.76 84 *e*P **PKPdf 03 58 03.2 +0.3**
LVC Limon Verde 132.81 128 PKP **PKiKP 03 58 04.7 +0.3**
comp=Z,5.0nm,0.6s,baz=266,slow=2.8,SNR=9.6
LVC pPKP **pPKPdf 03 58 18.3 -2.2**
comp=Z,8.1nm,0.6s,baz=247,slow=2.6,SNR=7.3
LVC Limon Verde 132.81 128 PKPdf **PKPdf 03 58 02.4 -0.9**
LVC Limon Verde 132.81 128 *e*P **PKPdf 03 58 03.7 +0.4**
GCUF Volcan Galeras 132.96 94 *e*P **PKPdf 03 58 03.9 -0.1**
BBAC Balboa, Cauca 133.15 93 *e*P **PKPdf 03 58 03.3 -0.7**
CAPC Capurgana 133.42 84 *e*P **PKPdf 03 58 03.4 -0.8**
PUAC Puerto Asis, P 133.64 95 *e*P **PKPdf 03 58 02.9 -1.8**
POPC Popayan, Colom 133.77 92 *e*P **PKPdf 03 58 02.4 -2.8**
PCON Cinco Dias 134.03 93 *e*P **PKPdf 03 58 05.8 -0.2**
YOTC Yotoco, Valle 134.23 90 *e*P **PKPdf 03 58 05.5 -0.4**
PLMC San Jos del P 134.36 89 *e*P **PKPdf 03 58 02.5 -3.5**
MARP Paez Balcaza 134.52 92 *e*P **PKPdf 03 58 05.7 -0.9**
CBOC Ciudad Bolivar 134.68 88 *e*P **PKPdf 03 58 06.3 -0.4**
FLOC Florencia 134.68 94 *e*P **PKPdf 03 58 06.8 +0.2**
GARC Garzon, Huila 134.91 93 *e*P **PKPdf 03 58 04.5 -2.8**
BETC Betania 135.01 92 *e*P **PKPdf 03 58 05.0 -2.2**
MOTC Monteria, Cord 135.09 84 *e*P **PKPdf 03 58 06.6 -0.6**
ANIL Santa Ana 135.21 90 *e*P **PKPdf 03 58 07.2 -0.7**
UREC San Jos de Ur 135.21 85 *e*P **PKPdf 03 58 06.1 -1.5**
RREF El Recreo 135.29 89 *e*P **PKPdf 03 58 05.0 -3.5**
GUY2C Guyana, Caldas 135.29 89 *e*P **PKPdf 03 58 00.5 -7.7**
TOLC Tolima 135.30 90 *e*P **PKPdf 03 58 08.3 +0.2**
ORTC Ortega, Tolima 135.32 91 *e*P **PKPdf 03 58 07.2 -0.6**
PTLC Puerto Leguiza 135.35 96 *e*P **PKPdf 03 58 06.9 -0.9**
SJCC San Jacinto, C 135.55 82 *e*P **PKiKP 03 58 09.1 -0.7**
PRAC Prado 135.66 91 *e*P **PKPdf 03 58 07.9 -0.5**
CZSB Cruzeiro do Su 135.68 107 *e*P **PKPdf 03 58 08.8 +0.4**
ZARC Zaragoza, Cauc 135.88 85 *e*P **PKPdf 03 58 08.1 -0.7**
PTBC PUERTO BERRIO 136.25 87 *e*P **PKPdf 03 58 08.0 -1.5**
ROSC El Rosal 136.31 89 *e*P **PKPdf 03 58 10.1 0.0**

PLTB	Pedras Altas	136.39	151	*e*P		PKPdf	03 58 09.8	+0.5	
SMRC	Santa Marta, M	136.44	80	*e*P		PKPdf	03 58 09.7	-0.1	
ARGC	Ariguani, Magd	136.47	82	*e*P		PKPdf	03 58 10.5	+0.6	
MACC	Macarena, Meta	136.54	93	*e*P		PKPdf	03 58 09.3	-0.7	
SPBC	San Pablo de B	136.60	88	*e*P		PKPdf	03 58 03.8	-6.4	
LPAZ	La Paz	136.60	121	*e*P		PKPdf	03 57 58.8	-12	
SMLC	San Martn de	136.66	84	*e*P		PKPdf	03 58 09.0	-1.2	
CHIC	Chingaza	136.88	90	*e*P		PKPdf	03 58 10.6	-0.6	
VILC	Villavicencio,	136.88	90	*e*P		PKPdf	03 58 05.7	-5.1	
BRRC	Barranca, Sant	137.01	86	*e*P		PKPdf	03 58 09.2	-1.6	
OCAC	Ocana	137.41	84	*e*P		PKPdf	03 58 07.1	-4.7	
BARC	Barichara	137.52	87	*e*P		PKPdf	03 58 07.1	-5.0	
RUSC	La Rusia	137.59	88	*e*P		PKPdf	03 58 11.8	-0.8	
GRTK	Grand Turk	137.75	65	IAMs_20	IAMs_20		04 51 33.8		
	comp=Z,2µm,22.0s								
GUVC	San Jose del G	137.80	93	*e*P		PKPdf	03 58 07.0	-5.4	
UCM	Universidad Co	138.06	328	PKP		PKPdf	03 58 03.5	-8.6	
UCM	Universidad Co	138.06	328	PP		PP	04 01 01.2	+1.2	
SDDR	Presa de Saban	138.22	68	IAMs_20	IAMs_20		04 52 22.4		
	comp=Z,1µm,20.0s								
PTGC	Puerto Gaitan,	138.44	90	*e*P		PKPdf	03 58 11.5	-2.0	
URIC	Uribia, Colomb	138.59	79	*e*P		PKPdf	03 58 12.0	-1.7	
PBRG	Braganca	138.62	333	*e*PKPdf		PKPdf	03 58 11.7	-1.4	
PBRG	Braganca	138.62	333	*e*PP		PP	04 01 16.7	+13	
SC01	Santiago de Io	138.63	67	IAMs_20	IAMs_20		05 09 31.4		
	comp=Z,1µm,19.0s								
BBSR	BB Station	138.70	46	IAMs_20	IAMs_20		04 52 15.9		
	comp=Z,2µm,22.0s								
CART	Cartagena	138.73	324	PKP		PKPdf	03 58 03.4	-10	
CART	Cartagena	138.73	324	PP		PP	04 00 59.3	-5.0	
CART	Cartagena	138.73	324	IAMs_20	IAMs_20		05 01 20.8		
	comp=Z,1µm,20.0s								
ES19	SONSECA Array	138.85	328	IAMs_20	IAMs_20		05 01 23.5		
	comp=Z,2µm,22.0s								
ES09	SONSECA Array	138.86	328	IAMs_20	IAMs_20		05 01 15.0		
	comp=Z,2µm,22.0s								
ES08	SONSECA Array	138.87	328	IAMs_20	IAMs_20		05 01 24.0		
	comp=Z,2µm,22.0s								
ES18	SONSECA Array	138.87	328	IAMs_20	IAMs_20		05 01 24.0		
	comp=Z,2µm,22.0s								
ES10	SONSECA Array	138.88	328	IAMs_20	IAMs_20		05 01 24.4		
	comp=Z,2µm,22.0s								
ES02	SONSECA Array	138.88	328	IAMs_20	IAMs_20		05 01 23.5		
	comp=Z,2µm,22.0s								
ES07	SONSECA Array	138.88	328	IAMs_20	IAMs_20		05 01 23.5		
	comp=Z,2µm,22.0s								
ES17	SONSECA Array	138.88	328	IAMs_20	IAMs_20		05 01 22.5		
	comp=Z,2µm,22.0s								
ES03	SONSECA Array	138.89	328	IAMs_20	IAMs_20		05 01 24.7		
	comp=Z,2µm,22.0s								
ES06	SONSECA Array	138.89	328	IAMs_20	IAMs_20		05 01 24.7		
	comp=Z,2µm,22.0s								
ES01	SONSECA Array	138.89	328	IAMs_20	IAMs_20		05 01 24.8		
	comp=Z,2µm,22.0s								
ES11	SONSECA Array	138.90	328	IAMs_20	IAMs_20		05 01 25.8		
	comp=Z,2µm,22.0s								
ESBB	Sonseca Array	138.90	328	IAMs_20	IAMs_20		05 01 24.9		
	comp=Z,2µm,22.0s								
TAMC	Tame, Arauca	138.90	87	*e*P		PKPdf	03 58 09.0	-5.4	
ESDC	Sonseca Array	138.90	328	PKP		PKPdf	03 58 14.5	+0.8	
	comp=Z,0.7nm,0.9s,baz=1.9,slow=3.6,SNR=2.5								
ESDC	Sonseca Array	138.90	328			PKPdf	03 58 13.8	+0.1	
ES04	SONSECA Array	138.90	328	IAMs_20	IAMs_20		05 01 27.0		
	comp=Z,2µm,22.0s								
ES05	SONSECA Array	138.91	328	IAMs_20	IAMs_20		05 01 26.1		
	comp=Z,2µm,22.0s								
ES16	SONSECA Array	138.91	328	IAMs_20	IAMs_20		05 01 24.1		
	comp=Z,2µm,22.0s								
ES13	SONSECA Array	138.92	328	IAMs_20	IAMs_20		05 01 24.4		
	comp=Z,2µm,22.0s								
ES15	SONSECA Array	138.93	328	IAMs_20	IAMs_20		05 01 39.6		
	comp=Z,2µm,21.0s								
ES14	SONSECA Array	138.93	328	IAMs_20	IAMs_20		05 01 24.7		
	comp=Z,2µm,22.0s								
PGAV	Gavieira, Arco	139.16	335	*e*PKPdf		PKPdf	03 58 05.9	-8.3	
PGAV	Gavieira, Arco	139.16	335	*e*PP		PP	04 01 17.9	+11	
PGAV	Gavieira, Arco	139.16	335	eLR		LR	04 48 27.7		
	comp=Z,3µm,22.0s								
MVO	Moncorvo	139.26	333	*e*PKPdf		PKPdf	03 58 14.6	+0.3	
MVO	Moncorvo	139.26	333	*e*PP		PP	04 01 17.1	+10	
MVO	Moncorvo	139.26	333	eLR		LR	04 50 05.4		
	comp=Z,2µm,20.0s								
CNLB	Canela	139.74	152	*e*P		PKPdf	03 58 15.5	-0.1	
SOCV	Socops	139.85	84	*e*P		PKPdf	03 58 16.5	+0.4	
SDV	Santo Domingo	140.06	83	PKhKP		PKPpre	03 58 10.6		
	comp=Z,36nm,0.9s,baz=239,slow=2.4,SNR=4.8								
SDV				PKP		PKPdf	03 58 16.9	+0.2	
	comp=Z,33nm,0.8s,baz=212,slow=1.2,SNR=8.6								
SDV				SKPbc		SKiKP	04 01 51.4	+0.8	
	comp=Z,11nm,0.8s,baz=256,slow=6.6,SNR=3.0								
SDV	Santo Domingo	140.06	83	*e*P		PKPdf	03 58 07.2	-9.5	
SDV	Santo Domingo	140.06	83	*e*P		PKPdf	03 58 14.6	-2.1	
COI	Coimbra	140.65	333	*e*PKPdf		PKPdf	03 58 12.8	-4.0	
COI	Coimbra	140.65	333	*e*PP		PP	04 01 25.9	+10	
COI	Coimbra	140.65	333	IAMs_20	IAMs_20		05 02 36.8		
	comp=Z,2µm,22.0s								
PMRV	Marv??o	140.80	331	*e*PKPdf		PKPdf	03 58 14.0	-3.1	
PMRV	Marv??o	140.80	331	*e*PP		PP	04 01 08.6	-8.2	
PMRV	Marv??o	140.80	331	eLR		LR	04 51 19.7		
	comp=Z,1µm,20.0s								
PCAS	Casmilo, Conde	140.81	333	*e*PKPdf		PKPdf	03 58 12.7	-4.4	
PCAS	Casmilo, Conde	140.81	333	*e*PP		PP	04 01 22.7	+5.9	
ETMB	Extrema	141.03	114	*e*P		PKPdf	03 58 16.3	-1.9	
ELOV	Elorza	141.20	86	*e*P		PKPdf	03 58 12.1	-6.4	
EMAL	Malaga-Limoner	141.27	326	PKP		PKPdf	03 58 06.6	-11	
EMAL	Malaga-Limoner	141.27	326	PP		PP	04 01 22.6	+2.8	
PSBE	So Bento	141.38	333	*e*PKPdf		PKPdf	03 58 16.4	-1.8	
PSBE	So Bento	141.38	333	*e*PP		PP	04 01 33.0	+13	
MELI	Melilla	141.42	323	PKP		PKPdf	03 58 06.6	-12	
MELI	Melilla	141.42	323	PP		PP	04 01 19.8	-1.1	
PMTG	Montargil	141.48	332	*e*PKPdf		PKPdf	03 58 15.1	-3.2	
PMTG	Montargil	141.48	332	*e*PP		PP	04 01 30.9	+10	
TAM	Tamanrasset	141.55	299	IAMs_20	IAMs_20		05 11 25.3		
	comp=Z,1µm,22.0s								
EVO	Evora	141.80	331	PKP		PKPdf	03 58 08.8	-10	
EVO	Evora	141.80	331	PP		PP	04 01 25.0	+2.1	
PMAFR	Mafra	142.06	333	*e*PKPdf		PKPdf	03 58 18.5	-0.9	
PMAFR	Mafra	142.06	333	*e*PP		PP	04 01 15.5	-8.9	
LIS	Lisbon	142.19	332	*e*PKPdf		PKPdf	03 58 19.0	-0.6	
LIS				AMS		AMS	05 06 17.3		
	comp=E,2µm,21.8s								
LIS	Lisbon	142.19	332	*e*PKIKP		PKPdf	03 58 19.0	-0.6	
PVLZ	Peæn de	142.32	324	PKP		PKPdf	03 58 06.6	-13	
PVLZ	Peæn de	142.32	324	PP		PP	04 01 27.7	+1.5	
PNCL	Nicolau / Gran	142.38	331	*e*PKPdf		PKPdf	03 58 17.9	-2.0	
PNCL	Nicolau / Gran	142.38	331	*e*PP		PP	04 01 16.0	-10	
CEU	Ceuta	142.42	326	PKP		PKPdf	03 58 10.8	-9.2	
CEU	Ceuta	142.42	326	PP		PP	04 01 28.8	+2.1	
SFS	San Fernando	142.46	327	PKP		PKPdf	03 58 15.2	-4.9	
SFS	San Fernando	142.46	327	PP		PP	04 01 16.8	-10	
PCVE	Castro Verde	142.52	330	*e*PKPdf		PKPdf	03 58 17.5	-2.7	
PCVE	Castro Verde	142.52	330	*e*PP		PP	04 01 38.6	+11	
PVAQ	Vaqueiros	142.54	330	*e*PKPdf		PKPdf	03 58 19.6	-0.7	
PVAQ	Vaqueiros	142.54	330	*e*PP		PP	04 01 27.0	-0.4	
PVAQ	Vaqueiros	142.54	330	eLR		LR	04 52 50.5		
	comp=E,2µm,22.0s								
SIV	San Ignacio	142.60	126	PKhKP		PKPpre	03 58 16.4		
	comp=E,16nm,0.7s,baz=254,slow=5.7,SNR=45								
SIV				PKP		PKiKP	03 58 23.0	-1.1	
	comp=E,10nm,0.7s,baz=289,slow=1.8,SNR=7.1								
BAUV	El Baul	142.62	83	*e*P		PKPdf	03 58 10.3	-11	
PBDV	Barranco-do-Ve	142.77	330	*e*PKPdf		PKPdf	03 58 14.1	-6.6	
PBDV	Barranco-do-Ve	142.77	330	*e*PP		PP	04 01 39.1	+10	
PTGB	Pitanga	142.87	146	*e*P		PKPdf	03 58 21.6	+0.2	
MORF	Marmelete	143.08	330	*e*PKPdf		PKPdf	03 58 20.8	-0.6	
MORF				AMS		AMS	05 04 10.4		
	comp=N,1µm,22.0s								
MORF	Marmelete	143.08	330	*e*PKIKP		PKPdf	03 58 20.7	-0.6	
MORF	Marmelete	143.08	330	*e*PKPdf		PKPdf	03 58 20.7	-0.6	
PDPR	Patillas Dam,	143.30	68			PKPdf	03 58 21.4	-0.7	
PFVI	Vila Bisbo	143.30	330	*e*PKPdf		PKPdf	03 58 20.5	-1.1	
PFVI	Vila Bisbo	143.30	330	*e*PP		PP	04 01 27.6	-4.4	
IFR	Ifrane	143.96	323	PKP		PKPab	03 58 17.8	-2.7	
IFR	Ifrane	143.96	323	PP		PP	04 01 35.2	-1.2	
TIJ01	Guaruva-PR	143.97	151	*e*P		PKPdf	03 58 23.7	+0.4	
TRCB	Terra Rica	144.04	144	*e*P		PKPdf	03 58 22.5	-0.9	
CDVI	St. Croix	144.53	68	*e*P		PKPab	03 58 19.1	-3.6	
FRTB	Fartura	145.33	148	*e*P		PKPbc	03 58 25.2	-0.2	
AVE	Averroes	145.46	325	PKP		PKPdf	03 58 21.2	-4.3	
AVE	Averroes	145.46	325	PP		PP	04 01 48.0	+3.0	
PET01	Itanhaem-SP	145.67	152	*e*P		PKPdf	03 58 25.7	-0.4	
PCMB	Pacaembu	145.76	144	*e*P		PKPdf	03 58 26.4	+0.1	
PCRV	Puerto La Cruz	145.91	81	PKPbc		PKPdf	03 58 25.9	-0.9	

	comp=N,18nm,0.4s,baz=26,slow=3.3,SNR=26								
SABA	Saba	145.96	67	*e*P		PKPdf	03 58 25.8	-0.9	
SABA	Saba	145.96	67	IAMs_20	IAMs_20		05 06 34.5		
	comp=Z,1µm,21.0s								
SMRT	St. Maarten	146.00	67	*e*P		PKPdf	03 58 25.0	-1.8	
SMRT	St. Maarten	146.00	67	IAMs_20	IAMs_20		04 57 35.3		
	comp=Z,2µm,22.0s								
SPB	Sao Paulo	146.19	151	IAMs_20	IAMs_20		05 02 56.1		
	comp=Z,1µm,22.0s								
SPB	Sao Paulo	146.19	151	*e*P		PKPbc	03 58 27.8	-0.2	
SEUS	St. Eustatius	146.23	67	*e*P		PKPdf	03 58 26.3	-0.9	
SEUS	St. Eustatius	146.23	67	IAMs_20	IAMs_20		04 56 27.8		
	comp=Z,2µm,22.0s								
SKI	Saint Kitts	146.50	68	*e*P		PKPdf	03 58 24.7	-2.9	
SKI	Saint Kitts	146.50	68	PKIKP		PKPdf	03 58 27.4	-0.3	
SKI				MLR		MLR			
	comp=Z,2µm,21.0s								
SKI	Saint Kitts	146.50	68	PKPdf		PKPdf	03 58 27.4	-0.3	
SKI				IAMs_20	IAMs_20		05 05 31.8		
	comp=Z,2µm,21.0s								
VAO	Valinhos	146.92	151	*e*P		PKPdf	03 58 28.2	-0.2	
SRBC	Serra Branca	147.08	357	*e*PKP		PKPab	03 58 31.0	-0.8	
PGRA	Graciosa	147.09	356	*e*PKP		PKPbc	03 58 29.7	-0.5	
MLYT	Lee's Yard	147.17	68	*e*P		PKPdf	03 58 28.7	-0.1	
ORIV	Oritupano	147.19	83	*e*P		PKPdf	03 58 29.6	+0.7	
PARB	Paraibuna	147.25	154	*e*P		PKPdf	03 58 29.2	+0.3	
ANWB	Willy Bob	147.28	67	*e*P		PKPdf	03 58 27.5	-1.5	
ANWB	Willy Bob	147.28	67	IAMs_20	IAMs_20		05 02 20.4		
	comp=Z,1µm,22.0s								
BPA	Boggy Peak	147.39	68	*e*P		PKPbc	03 58 31.2	-0.5	
ROSA	Rosais	147.41	357	*e*PKP		PKPbc	03 58 30.6	-0.5	
ANBD	Bethesda, Anti	147.47	68	*e*P		PKPbc	03 58 31.0	-0.9	
TOA0	Torodi Ar. Sit	147.57	285	PKPdf		PKPdf	03 58 29.0	-0.5	
TORD	Torodi Ar. Bea	147.57	285	PKPbc		PKPbc	03 58 31.7	-0.5	
	comp=Z,7.5nm,0.5s,baz=64,slow=2.5,SNR=30								
CALA	Caldeira	147.57	357	*e*PKP		PKPbc	03 58 31.0	-0.7	
BB19B	Bebedouro	147.73	147	*e*P		PKPdf	03 58 30.9	+1.2	
ITRB	Iturama	147.77	143	*e*P		PKPdf	03 58 30.5	+0.7	
CBE	Ff, Capester	147.88	69	*e*P		PKPbc	03 58 32.9	-0.2	
ABD	La Joyeuse, An	147.88	69	*e*P		PKPbc	03 58 31.9	-1.1	
TDBA	Terre de Bas,	147.90	70	*e*P		PKPdf	03 58 30.9	+0.9	
BART	Pico Bartolome	148.05	352	*e*PKP		PKPdf	03 58 29.7	-0.1	
PSET	Sete Cidades	148.07	353	*e*PKP		PKPbc	03 58 33.6	+0.6	
CMLA	Cha da Macela	148.11	353	*e*PKP		PKPdf	03 58 31.0	+1.2	
DSLB	Salisbury	148.20	70	*e*P		PKPbc	03 58 34.7	+0.9	
MAGL	Barre de l'ile	148.21	69	*e*P		PKPdf	03 58 23.5	-7.0	
MDN	Morne-Daniel	148.26	71	*e*P		PKPbc	03 58 32.9	-1.1	
DSHT	Scott's Head	148.30	71	*e*P		PKPbc	03 58 34.3	+0.2	
MAN01	Angra dos Reis	148.37	156	*e*P		PKPbc	03 58 32.6	-1.6	
DLPL	La Plaine	148.39	71	*e*P		PKPbc	03 58 34.4	0.0	
DLPL	La Plaine	148.39	71	IAMs_20	IAMs_20		04 59 47.1		
	comp=Z,2µm,21.0s								
MACA	Manacapuru-AM	148.44	106	*e*P		PKPdf	03 58 30.8	-0.2	
GRGR	Grenville	148.61	77	*e*P		PKPdf	03 58 32.7	+1.5	
GRGR	Grenville	148.61	77	IAMs_20	IAMs_20		05 09 23.3		
	comp=Z,1µm,20.0s								
FDF	Fort de France	148.62	72	*e*P		PKiKP	03 58 35.8	-0.7	
BIM	Bigot	148.74	72	*e*P		PKPbc	03 58 35.6	+0.2	
GCMP	Grenada, Carri	148.78	76	*e*P		PKPdf	03 58 31.2	-0.3	
PSMN	Pico do Norte,	148.79	352	*e*PKP		PKPdf	03 58 29.3	-1.7	
SVB	Belmont	148.81	74	*e*P		PKPdf	03 58 32.9	+1.3	
SVV	Soufriere Volc	148.84	74	*e*P		PKPbc	03 58 35.4	-0.1	
ILAM	Ilet Lapin Mar	148.87	71	*e*P		PKPbc	03 58 35.5	-0.1	
SVCV	St. Vincent, C	148.91	74	*e*P		PKPbc	03 58 34.9	-0.8	
SLBI	Saint Lucia, B	148.93	73	*e*P		PKPdf	03 58 33.3	+1.6	
MPOM	Morne Pois Mar	148.96	72	*e*P		PKPdf	03 58 32.7	+0.9	
MCLT	Moule a Chique	149.03	73	*e*P		PKPdf	03 58 26.2	-5.7	
TRN	Trinidad (W)	149.03	79	*e*P		PKPdf	03 58 32.4	+0.5	
VAS01	Vassouras-RJ	149.10	156	*e*P		PKPdf	03 58 32.2	+0.3	
TBH	Brigand Hill	149.38	80	*e*		PKiKP	03 58 39.8	+1.8	
TPR	Prospect	149.59	78	*e*P		PKiKP	03 58 38.6	+0.1	
BSCB	Bom Sucesso	149.66	153	*e*P		PKPdf	03 58 33.7	+0.8	
CLDB	Colider	149.67	124	*e*P		PKPdf	03 58 34.3	+1.3	
ARAG	Araguaiana, MT	149.75	136	*e*P		PKPdf	03 58 34.2	+1.1	
PTGA	Pitinga	149.76	102	PKPbc		PKPbc	03 58 37.6	-0.4	
	comp=Z,86nm,0.9s,baz=252,slow=2.7,SNR=74								
PTGA	Pitinga	149.76	102	PKPdf		PKPdf	03 58 32.9	-0.3	
PTGA						PKPbc	03 58 37.5	-0.4	
TOSP	Speyside	149.81	78	*e*P		PKPbc	03 58 36.8	-1.2	
TOSP	Speyside	149.81	78			PKPbc	03 58 37.5	-0.4	
TOSP				IAMs_20	IAMs_20		05 06 10.1		
	comp=Z,2µm,22.0s								
IPMB	Ipameri, GO	150.37	144	*e*P		PKPdf	03 58 32.8	-1.2	
NPGB	Novo Progresso	151.94	117	*e*P		PKPdf	03 58 36.0	-0.5	
BDFB	Brasilia	152.30	141	PKP		PKPdf	03 58 38.3	+1.2	
	comp=Z,27nm,1.0s,baz=173,slow=2.0,SNR=23								
BDFB				PKPbc		PKiKP	03 58 44.3	+0.2	
	comp=Z,53nm,0.4s,baz=162,slow=1.3,SNR=52								
BDFB				PKPab		pPKPdf	03 58 54.8	+0.4	
	comp=Z,33nm,0.8s,baz=258,slow=5.5,SNR=6.1								
BDFB	Brasilia	152.30	141	PKPdf		PKPdf	03 58 36.5	-0.6	
BDFB				IAMs_20	IAMs_20		05 02 45.2		
	comp=Z,2µm,20.0s								
KOWA	Kowa	152.70	290			PKPbc	03 58 44.3	-0.4	
ITTB	Itaituba	152.71	112	*e*P		PKPdf	03 58 39.3	+1.7	
RIB01	Linhares ES	152.96	159	*e*P		PKPdf	03 58 38.8	+1.0	
SJMB	Sao Joao De Ma	153.22	157	*e*P		PKPdf	03 58 39.5	+1.2	
BSFB	Barra de Sao F	153.24	158	*e*P		PKPdf	03 58 40.2	+1.9	
MC01	Montes Claros	153.75	150	*e*P		PKPdf	03 58 40.9	+1.8	
KIC	Kosan Boka	154.45	272	*e*P		PKiKP	03 58 54.8	+6.2	
	comp=Z,67nm,1.2s								
DBIC	Dimbokro	154.57	273	PKPbc		PKiKP	03 58 50.0	+1.2	
	comp=Z,4.9nm,0.7s,baz=87,slow=3.8,SNR=7.8								
DBIC				PKPab		PKPab	03 59 03.0	-0.5	
	comp=Z,10.0nm,0.8s,baz=92,slow=5.7,SNR=5.7								
DBIC	Dimbokro	154.57	273	PKIKP		PKPbc	03 58 48.3	-0.5	
DBIC	Dimbokro	154.57	273			PKPbc	03 58 48.3	-0.5	
PEXB	Peixe	154.69	135	*e*P		PKPdf	03 58 42.0	+1.6	
TIC	Toumodi	154.73	273	*e*P		PKiKP	03 58 52.4	+3.2	
LIC	Lamto	154.74	272	*e*P		PKiKP	03 58 52.3	+3.1	
	comp=Z,66nm,1.2s								
JANB	Januaria	154.93	147	*e*P		PKPdf	03 58 42.9	+2.1	
MALB	Monte Alegre	154.95	108	*e*P		PKPdf	03 58 42.4	+1.6	
SDBA	SAO DESIDERIO	156.70	142	*e*P		PKPdf	03 58 44.7	+1.5	
PRPB	Parauapebas	157.17	122	*e*P		PKPdf	03 58 45.5	+1.7	
SMTB	Santa Maria do	157.38	131	*e*P		PKPdf	03 58 45.6	+1.5	
MCPB	Macapa, AP	157.50	106	*e*P		PKPdf	03 58 45.9	+1.7	
MDP	Montagnes des	157.88	91	PKP		PKPdf	03 58 45.7	+1.0	
	comp=Z,14nm,1.0s,baz=14,slow=3.3,SNR=3.8								
MDP				PKPab		PKPab	03 59 17.6	-0.2	
	comp=Z,21nm,0.9s,baz=276,slow=4.2,SNR=7.0								

*IDC **01** 04:12:57.3±1.0,31°.87N×141°.77E,h0km,mb3.7/5, mb1 3.9/8,mb1mx3.7/37,mbtmp3.7/8,ML3.3/3,Error ellipse: s-maj=30.7km s-min=18.5km az=69.0*
*JMA **01** 04:12:57.2±0.6,32°.12N×141°.89E,h0km,M3.6*
*NEIC **01** 04:12:59.7±1.1,31°.93N±0°.07×141°.9E±0°.1,h25km±4km, mb4.2/4,Error ellipse: s-maj=17.9km s-min=7.4km az=64.0*

ISC 01 04:13:00.8±0.8,**31°91N**±0°.06×**141°8E**±0°.1,**h29**km,**n27**, σ0**9**4/28,**mb3.9**/8,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.82	288	P	Pn	04 13 30.6	+0.5
JHJ2	Mitsune	2.07	306	P	Pn	04 13 33.2	-0.3
JHJ2	Mitsune	2.07	306	Pn	Pn	04 13 33.3	-0.2
JHJ	Hachijo jima 2	2.10	306	Pn	Pn	04 13 33.3	-0.6
	32nm,0.3s,baz=71,slow=22,SNR=15						
JHJ				Sn	Sn	04 13 59.0	+0.1
	27nm,0.3s,baz=69,slow=16,SNR=4.5						
BSO1	Boso 1	2.83	346	P	Pn	04 13 42.7	-0.7
JRY	Ryogami san	4.76	330	P	Pn	04 14 10.8	+0.3
JCJ	Chichijima	4.81	176	Pn	Pn	04 14 11.1	-0.1
	7.0nm,0.3s,baz=273,slow=22,SNR=8.6						
JCJ				Sn	Sn	04 15 04.6	-1.3
	4.8nm,0.3s,baz=350,slow=23,SNR=2.4						
JCJ	Chichijima	4.81	176		Pn	04 14 10.8	-0.3
JCJ					Sn	04 15 05.5	-0.4
JAG	Ashikaga	4.91	337	P	Pn	04 14 12.1	-0.5
JAG				eS	Sn	04 15 08.4	-0.1
MJAR	Matsushiro Arr	5.50	328	Pn	Pn	04 14 21.8	+1.0
	0.1nm,0.3s,baz=160,slow=12,SNR=4.4						
MJAR	Matsushiro Arr	5.50	328		Pn	04 14 20.3	-0.4
JMM	Marumori	6.00	352	Pn	Pn	04 14 26.7	-0.9
H11N2	WAKE ISLAND Hy	25.56	112	T	T	04 45 01.8	
	baz=305						
H11N1	WAKE ISLAND Hy	25.57	112	T	T	04 45 04.6	
	baz=305						
H11N3	WAKE ISLAND Hy	25.58	112	T	T	04 45 04.1	
	baz=305						

ULN	Ulaanbaatar	30.75	311	P		P	04 19 11.6	-2.0	
ULN				IAmb		IAmb	04 19 20.7		
	comp=Z,2.3nm,0.8s								
MKAR	Makanchi Array	47.27	306	P		P	04 21 32.3	+1.0	
	comp=Z,0.6nm,0.7s,baz=94,slow=9.3,SNR=2.0								
MKAR	Makanchi Array	47.27	306	P		P	04 21 30.6	-0.7	
WR0	Warramunga Arr	52.04	189	P		P	04 22 06.5	-1.3	
WR0				IAmb		IAmb	04 22 10.2		
	comp=Z,3.0nm,1.0s								
WB2	Warramunga Arr	52.05	189	P		P	04 22 08.2	+0.3	
WB2				IAmb		IAmb	04 22 15.9		
	comp=Z,4.7nm,1.1s								
WRA	Warramunga Arr	52.05	189	P		P	04 22 07.7	-0.2	
	comp=Z,0.7nm,0.6s,baz=6.3,slow=7.7,SNR=13								
WRA	Warramunga Arr	52.05	189	P		P	04 22 07.9	0.0	
WC3	Warramunga Arr	52.06	189	P		P	04 22 08.3	+0.3	
ILAR	Eielson Array	53.70	30	P		P	04 22 19.7	+0.1	
	comp=Z,0.3nm,0.8s,baz=271,slow=8.0,SNR=5.1								
ILAR	Eielson Array	53.70	30	P		P	04 22 19.4	-0.2	
ASAR	Alice Springs	55.77	189	P		P	04 22 36.4	+1.3	
	comp=Z,0.2nm,0.4s,baz=3.3,slow=4.8,SNR=2.6								
TXAR	Lajitas Array	92.97	53	P		P	04 26 14.5	+2.7	
	comp=Z,0.7nm,1.0s,baz=313,slow=3.3,

	10nm,0.3s							
MDOK	**Medeo**	**3.66**	**34**	Pg	**Pb**	**04 57 32.7**	**+1.4**
	3.3nm,0.4s							
MDOK				Lg	Lg	04 58 25.2		
	10nm,0.3s							
KRBS	**Karabastau**	**3.70**	**16**	Pg	**Pb**	**04 57 31.7**	**-0.2**
	2.4nm,0.3s							
KRBS				Lg	Lg	04 58 23.6		
	7.2nm,0.5s							
KUU	**Kurty**	**4.05**	**22**	Pg	**Pb**	**04 57 38.2**	**+0.4**
	2.0nm,0.6s							
KUU				Lg	Lg	04 58 34.8		
	8.5nm,0.5s							
KK31	**Karatay Array**	**4.09**	**318**	⇑Pg	**Pb**	**04 57 38.8**	**+0.3**
	0.8nm,0.3s,baz=129,slow=16,SNR=10.0							
KK31				⇑Sn	**Sn**	**04 58 17.2**	**+0.3**
	3.3nm,0.6s							
KK31				⇓Lg	Lg	04 58 33.4		
	4.1nm,0.4s,baz=125,slow=29,SNR=6.5							
SATY	**Saty**	**4.25**	**45**	Pg	**Pb**	**04 57 43.1**	**+1.8**
	2.4nm,0.5s							
SATY				Lg	Lg	04 58 42.9		
	6.4nm,0.4s							
PDGK	**Podgornoye**	**5.03**	**49**	⇑Pg	**Pb**	**04 57 56.3**	**+1.7**
	4.9nm,0.8s							
PDGK				⇑Lg	Lg	04 59 05.4		
	7.0nm,0.9s							

*JMA **01** 04:57:20.0±0.1, 41°.93N×144°.44E, h38km±2km, M3.9*
*IDC **01** 04:57:24.1±4.2, 41°.86N×144°.27E, h63km±32km, mb3.5/7, mb1 3.6/8, mb1mx3.4/33, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=29.4km s-min=27.4km az=130.0*

ISC 01 04:57:21.2±1.0, 42°.02N±0°.08×144°.39E±0°.07, h34km, n21, σ1s49/19, mb3.8/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.86**	**289**	P	**Pb**	**04 57 36.9**	**-0.8**
JTHR				eS	**Sb**	**04 57 50.3**	**+1.4**
JEM	**Erimo**	**0.92**	**270**	P	**Pb**	**04 57 37.8**	**-0.9**
JCH	**Churui**	**0.97**	**308**	P	**Pb**	**04 57 38.8**	**-0.7**
JCH				eS	**Sb**	**04 57 54.8**	**+2.8**
JOB	**Onbets**	**0.97**	**335**	P	**Pb**	**04 57 39.2**	**-0.5**
JAK	**Akkeshi**	**1.00**	**13**	P	**Pn**	**04 57 39.0**	**+0.2**
JAK				eS	**Sb**	**04 57 53.8**	**+0.8**
JKHN	**Kushirohamanak**	**1.20**	**28**	P	**Pn**	**04 57 41.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.25**	**283**	P	**Pb**	**04 57 42.5**	**-1.7**
ASAJ	**Asahikawa**	**2.47**	**328**	P	**Pb**	**04 58 01.5**	**-3.4**
	3.5nm,0.3s,baz=155,slow=15,SNR=9.7							
ASAJ				S	**Sb**	**04 58 34.5**	**-0.5**
	9.5nm,0.3s,baz=351,slow=12,SNR=5.4							
SONM	**Songino Array**	**27.32**	**295**	P	**P**	**05 03 03.4**	**+0.6**
	0.7nm,0.4s,baz=76,slow=7.8,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**29.27**	**132**	T	T	05 34 03.4		
	baz=325,slow=75,SNR=31							
H11N1	**WAKE ISLAND Hy**	**29.29**	**133**	T	T	05 34 08.6		
	baz=325,slow=75,SNR=27							
H11N3	**WAKE ISLAND Hy**	**29.29**	**132**	T	T	05 34 09.2		
	baz=325,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**30.16**	**134**	T	T	05 35 55.1		
	baz=326,slow=76,SNR=73							
H11S3	**WAKE ISLAND Hy**	**30.17**	**134**	T	T	05 35 59.2		
	baz=326,slow=76,SNR=46							
H11S2	**WAKE ISLAND Hy**	**30.18**	**134**	T	T	05 35 50.2		
	baz=326,slow=76,SNR=46							
MKAR	**Makanchi Array**	**43.60**	**298**	P	**P**	**05 05 22.0**	**-0.1**
	2.1nm,1.1s,baz=86,slow=10,SNR=3.7							
ILAR	**Eielson Array**	**44.07**	**35**	P	**P**	**05 05 27.6**	**+2.1**
	0.4nm,0.8s,baz=279,slow=8.3,SNR=4.8							
INK	**Inuvik**	**48.91**	**29**	P	**P**	**05 06 04.4**	**+1.1**
	3.5nm,1.1s,baz=292,slow=5.4,SNR=2.0							
WRA	**Warramunga Arr**	**62.35**	**191**	P	**P**	**05 07 39.2**	**-1.1**
	0.3nm,0.8s,baz=7.4,slow=6.7,SNR=1.4							
FINES	**FINESS Array B**	**65.48**	**332**	P	**P**	**05 07 59.7**	**-0.7**
	0.9nm,0.5s,baz=46,slow=8.0,SNR=9.6							
AKASG	**Malin Array Be**	**71.75**	**323**	P	**P**	**05 08 39.7**	**0.0**
	0.6nm,0.3s,baz=45,slow=5.8,SNR=4.1							

*DDA **01** 05:19:52.4, 39°.31N×42°.11E, h7km±2km, ML2.5*
*ISK **01** 05:19:52.5, 39°.33N×42°.06E, h16km, ML2.2/6*
*ATA **01** 05:19:53.8±0.5, 39°.85N×42°.13E, h58km±4km, ML2.2, MW2.9*

ISC 01 05:19:51.0±1.4, 39°.38N±0°.04×42°.17E±0°.04, h14km±12km, n17, σ0s63/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.15**	**212**	*i* P	**Pb**	**05 19 56.1**	**+0.4**
EKAR				*i* S	**Sb**	**05 19 59.4**	**+0.6**
EKAR				IAML		05 20 00.0		
	comp=E,7μm,0.3s							
EKAR				IAML		05 20 01.0		
	comp=N,3μm,0.3s							
MLAZ	**Malazgirt-MUS**	**0.38**	**129**	PG	**Pn**	**05 20 01.4**	**-0.9**
MLAZ				SG	**Sn**	**05 20 08.3**	**-1.2**
EATA	**Eleskirt**	**0.54**	**28**	*e*P	**Pn**	**05 20 04.6**	**-0.1**
EATA				*e*S	**Sn**	**05 20 13.8**	**0.0**
EATA				IAML		05 20 17.5		
	comp=Z,27nm,0.5s							
EATA	**Eleskirt**	**0.54**	**28**	*i* P	**Pn**	**05 20 04.5**	**-0.1**
EATA				*i* S	**Sn**	**05 20 13.7**	**0.0**
EATA				IAML		05 20 15.0		
	comp=N,221nm,0.4s							
EATA				IAML		05 20 15.0		
	comp=E,266nm,0.5s							
VRTB	**Varto-Mus**	**0.59**	**248**	PG	**Pb**	**05 20 03.3**	**+0.1**
VRTB	**Varto-Mus**	**0.59**	**248**	*i* P	**Pb**	**05 20 03.6**	**+0.4**
VRTB				*i* S	**Sb**	**05 20 11.2**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**0.66**	**339**	PG	**Pn**	**05 20 06.1**	**+0.1**
KOPR				SG	**Sn**	**05 20 16.2**	**-0.1**
HOMI	**Horasan**	**0.69**	**343**	*i* P	**Pn**	**05 20 06.5**	**-0.1**
HOMI				*i* S	**Sn**	**05 20 17.7**	**+0.4**
ERZM	**Erzurum**	**0.81**	**311**	*i* P	**Pn**	**05 20 08.5**	**+0.2**
ERZM				*i* S	**Sb**	**05 20 17.8**	**-0.1**
MUSM	**Mu-Merkez**	**0.83**	**218**	*i* P	**Pg**	**05 20 06.6**	**-0.5**
MUSM				*i* S	**Sg**	**05 20 16.7**	**-1.3**
GURO	**Guroymak-BITLI**	**0.84**	**187**	PG	**Pb**	**05 20 07.7**	**+0.3**
GURO				SG	**Sb**	**05 20 19.5**	**+1.0**
BLIS	**Bitlis-Merkez**	**0.97**	**182**	*e*P	Pn	05 20 19.4	+9.1
BLIS				IAML		05 20 24.9		
	comp=Z,32nm,0.3s							
BLIS	**Bitlis-Merkez**	**0.97**	**182**	*i* P	**Pg**	**05 20 10.0**	**+0.3**
BLIS				*i* S	**Sg**	**05 20 22.9**	**+0.6**
AKDM	**Akdamar-Van**	**1.23**	**149**	PN	**Pg**	**05 20 15.6**	**+1.0**
YEDI	**Yedisu-Bingol**	**1.26**	**273**	PN	**Pg**	**05 20 14.9**	**-0.3**
KOPT	**Kop Dagi**	**1.44**	**297**	*e*P	**Pn**	**05 20 17.2**	**+0.3**
EAK	**Akyaka**	**1.71**	**40**	*e*P	**Pn**	**05 20 19.4**	**-1.1**
EAK				IAML		05 20 24.8		
	comp=Z,26nm,0.6s							

*SOME **01** 05:20:42.6, 38°.92N×71°.27E, h15km*
*KRNET **01** 05:20:43.5±0.1, 38°.76N×70°.22E, h9km, mb3.8*
*NNC **01** 05:20:57.7±16.0, 39°.11N×70°.97E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=122.4km s-min=78.7km az=12.0*

ISC 01 05:20:36.1±2.0, 38°.48N±0°.08×70°.68E±0°.04, h10km, n21, σ2s55/35, 16C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.59**	**332**	⇑*i*P	**Pb**	**05 20 48.7**	**0.0**
	baz=18							
GAR				⇑*i*S	**Sg**	**05 20 52.3**	**-3.2**
	baz=18							
CHGR	**Chuyangaron**	**1.21**	**279**	⇑*i*P	**Pb**	**05 20 59.5**	**+0.4**
	baz=64							
CHGR				⇑*i*S	**Sb**	**05 21 11.2**	**-3.5**
	baz=64							
BTK	**Batken**	**1.58**	**4**	⇓*i*P	**Pg**	**05 21 09.6**	**+3.1**
	baz=19							
BTK				⇓*i*S	**Sg**	**05 21 28.7**	**+1.7**
	baz=19							
TAS	**Tashkent**	**3.04**	**340**	⇑*e*P	**Pb**	**05 21 29.3**	**-1.0**
	baz=45							
TAS				⇑*e*S	**Sn**	**05 22 03.5**	**+2.8**
	baz=45							
IUG	**luzhnay**	**3.70**	**353**	*e*P	**Pb**	**05 21 41.9**	**+0.3**
	28nm,0.3s							
IUG				*e*S	**Sb**	**05 22 26.7**	**+0.2**
	68nm,0.3s							
AML	**Almayashu**	**4.32**	**31**	⇑*e*P	**Pb**	**05 21 52.8**	**+0.5**
	baz=37							
AML				⇑*i*S	**Sb**	**05 22 43.4**	**-1.2**
	baz=37							
AML	**Almayashu**	**4.32**	**31**	P	**Pb**	**05 21 53.6**	**+1.3**
	SNR=7.0							
BRLS	**Boroldaу**	**4.59**	**352**	*e*P	**Pb**	**05 21 56.8**	**0.0**
	12nm,0.2s							
BRLS				*e*S	**Sb**	**05 22 52.6**	**+0.5**
	18nm,0.5s							
KK31	**Karatay Array**	**4.62**	**358**	⇓Pn	**Pb**	**05 21 58.0**	**+0.7**
	5.5nm,0.7s,baz=165,slow=13,SNR=48							
KK31				⇑Sn	**Sb**	**05 22 47.4**	**-5.7**
	2.8nm,0.3s							
KK31				⇑Lg	Lg	05 23 04.2		
	4.5nm,0.4s,baz=160,slow=30							
MRKS	**Merke**	**4.68**	**24**	*e*P	**Pb**	**05 21 58.8**	**+0.4**
	14nm,0.4s							
MRKS				*e*S	**Sb**	**05 22 55.5**	**+0.7**
	21nm,0.4s							
UCH	**Uchtor**	**4.76**	**37**	⇓*e*P	**Pb**	**05 21 59.5**	**-0.3**
	baz=42							
UCH				⇓*i*S	**Sb**	**05 22 54.6**	**-2.7**
	baz=42							
UCH	**Uchtor**	**4.76**	**37**	P	**Pb**	**05 22 02.7**	**+2.8**
	SNR=11							
EKS2	**Erkin-Say**	**4.80**	**28**	⇑*e*P	**Pb**	**05 21 59.1**	**-1.3**
	baz=34							
EKS2				⇑*i*S	**Sb**	**05 22 53.8**	**-4.4**
	baz=34							
EKS2	**Erkin-Say**	**4.80**	**28**	P	**Pb**	**05 22 02.0**	**+1.6**
	SNR=5.3							
KZA	**Kyzart**	**5.02**	**43**	P	**Pb**	**05 22 07.3**	**+3.1**
	SNR=8.2							
AAK	**Ala-Archa**	**5.07**	**34**	⇑*e*P	**Pb**	**05 22 03.3**	**-1.7**
	baz=39							
AAK				⇑*e*S	**Sb**	**05 23 01.4**	**-4.7**
	baz=39							
AAK	**Ala-Archa**	**5.07**	**34**	P	**Pb**	**05 22 06.2**	**+1.2**
	SNR=8.4							
AAK	**Ala-Archa**	**5.07**	**34**	⇓Pn	**Pb**	**05 22 05.8**	**+0.8**
	4.6nm,0.5s							
AAK				⇑Sn	**Sb**	**05 23 02.3**	**-3.7**
	9.2nm,0.7s							
USP	**Ospenovka**	**5.59**	**30**	P	**Pb**	**05 22 11.9**	**-2.0**
	SNR=9.7							
TKM2	**Tokmak 2**	**5.80**	**39**	P	**Pb**	**05 22 16.7**	**-0.8**
	SNR=13							
TKM2	**Tokmak 2**	**5.80**	**39**	⇓Pn	**Pb**	**05 22 15.5**	**-2.0**
	3.8nm,0.4s							
TKM2				⇑Sn	**Sb**	**05 23 21.7**	**-5.4**
	6.0nm,0.8s							

WEL 01 05:33:44.1, 43°S±1°×17°.2E±°, h9km±1km, M2.5/9, ML2.5/9, MLv2.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=127.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**0.09**	**239**	P	Pg	05 33 47.6	+1.3
OXZ				S	Sg	05 33 49.8	+1.9
AMCZ	**Amberley**	**0.39**	**74**	P	Pb	05 33 53.1	-0.1
MHCZ	**Mount Hutt**	**0.48**	**239**	P	Pb	05 33 55.4	+0.5
LTZ	**Lake Taylor**	**0.51**	**11**	P	Pg	05 33 54.0	+0.1
LTZ				S	Sg	05 34 00.7	0.0
MQZ	**McQueen's Vall**	**0.57**	**139**	P	Pb	05 33 56.7	+0.5
MQZ				S	Sb	05 34 05.4	+1.0
WACZ	**Wakanui South**	**0.69**	**198**	P	Pn	05 33 59.8	-0.4
WACZ				S	Sn	05 34 10.7	-0.3
GVZ	**Greta Valley S**	**0.73**	**65**	P	Pb	05 33 59.4	+0.4
INZ	**Inchbonnie**	**0.76**	**317**	P	Pg	05 33 58.7	+0.1
INZ				S	Sg	05 34 08.1	-0.3
AKCZ	**Akaroa Harbour**	**0.81**	**137**	P	Pn	05 34 01.6	-0.3
AKCZ				S	Sn	05 34 14.1	0.0
RPZ	**Rata Peaks**	**0.90**	**241**	P	Pn	05 34 02.6	-0.5
ARCZ	**Arundel**	**0.96**	**226**	P	Pn	05 34 03.6	-0.3
WVZ	**Waitaha Valley**	**1.05**	**281**	P	Pn	05 34 05.5	+0.5
DSZ	**Denniston Nort**	**1.56**	**351**	P	Pn	05 34 12.0	-0.1
THZ	**Tophouse**	**1.62**	**21**	P	Pn	05 34 12.1	-0.9
LBZ	**Lake Benmore**	**1.79**	**231**	P	Pg	05 34 20.2	+1.7

*DJA **01** 05:53:20.0±0.6, 9°S±7°×12°6E±°, h87km±10km, M4.0/7, mb4.1/4, MLv4.0/7*
*IDC **01** 05:53:21.6±2.0, 9°.78S×126°.42E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.6/26, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=60.5km s-min=24.0km az=70.0*

ISC 01 05:53:16.0±2.0, 9°.3S±0°.2×126°.2E±0°.1, h35km, n7, σ2s08/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.94**	**255**	P	**Pn**	**05 53 48.0**	**+1.4**
EDFI	**Ende, Flores**	**4.45**	**276**	P	**Pn**	**05 54 20.0**	**-1.1**
PLAI	**Plampang**	**8.30**	**272**	P	**Pn**	**05 55 13.0**	**-0.9**
	0.1nm25nm,1.2s							
FITZ	**Fitzroy Crossi**	**8.80**	**183**	Pn	**Pn**	**05 55 23.8**	**+3.0**
	1.0nm,0.3s,baz=0.1,slow=11,SNR=16							
FITZ				Sn	**Sn**	**05 56 57.2**	**-1.7**
	1.9nm,0.3s,baz=180,slow=12,SNR=7.1							
WRA	**Warramunga Arr**	**13.24**	**144**	Pn	**Pn**	**05 56 23.3**	**+1.7**
	0.7nm,0.3s,baz=320,slow=14,SNR=28							
WRA				Sn	**Sn**	**05 58 45.7**	**-1.9**
	1.4nm,0.3s,baz=324,slow=24,SNR=9.9							
ASAR	**Alice Springs**	**16.13**	**154**	Pn	**P**	**05 57 03.1**	**0.0**
	0.3nm,0.3s,baz=322,slow=10,SNR=16							
ASAR				Sn	**Sn**	**05 59 56.3**	**-1.8**
	0.2nm,0.3s,baz=327,slow=25,SNR=8.9							
MKAR	**Makanchi Array**	**68.11**	**329**	P	P	06 04 26.9	+15
	0.6nm,0.8s,baz=126,slow=7.3,SNR=2.2							

*IDC **01** 06:08:30.0±0.6, 16°.79S×67°.67W, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.4/40, mbtmp4.4/19, ML4.6/2, MS4.3/22, Ms1 4.3/22, ms1mx4.3/24, Error ellipse: s-maj=14.6km s-min=7.2km az=38.0*
*BJI **01** 06:08:30.6±0.0, 17°.10S×67°.18W, h12km, mB5.3/1, Ms5.3/1, Ms7 5.1/1*
*NEIC **01** 06:08:32.6±2.7, 16°.65S±0°.06×67°.55W±0°.06, h17km±3km, mb4.9/98, Error ellipse: s-maj=8.7km s-min=8.3km az=208.0*
*GUC **01** 06:08:32.2±0.6, 16°.62S×67°.73W, h0km±9km, ML4.0*
*VAO **01** 06:08:32.1±0.2, 16°.59S×67°.49W, h10km, mb4.9*
*GCMT **01** 06:08:37.5±0.2, 16°.57S±0°.01×67°.31W±0°.02, h24km±1km, MW5.1/91, Moment Tensor Solution. s24,c26; s91,c132; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.64±.27; Mθθ3.26±.21; Mϕϕ-3.91±.25; Mrθ-1.61±.29; Mθϕ4.12±.18; Mϕr1.22±.35; Best double couple: Mo5.79700×10¹⁶ NP1:ϕs201.00000°, δ71.00000°, λ-178.00000°. NP2: ϕs111.00000°, δ88.00000°, λ-19.00000°. Principal axes: T 5.3450, Plg12.0000°, Azm158.0000°; N 0.8980, Plg71.0000°, Azm286.0000°; P -6.2500, Plg15.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 06:08:31.4±0.3, 16°.64S±0°.04×67°.54W±0°.04, h10km, n270, σ1s71/261, mb4.8/55, MS4.3/17, 7C-4D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**0.66**	**301**	Pg	**Pg**	**06 08 43.0**	**-1.4**
	2μm,0.3s,baz=135,slow=17,SNR=1795							
LPAZ				Lg	Lg	06 08 52.4		
	2μm,0.3s,baz=266,slow=19,SNR=15							
LPAZ	**La Paz**	**0.66**	**301**	⇑*i*P	**Pg**	**06 08 42.7**	**-1.6**
LPAZ				*e*S	**Sg**	**06 08 50.8**	**-2.3**
LPAZ	**La Paz**	**0.66**	**301**	⇑*i*P	**Pg**	**06 08 42.8**	**-1.6**
LPAZ				*i* S	**Sg**	**06 08 51.7**	**-1.4**
LPAZ	**La Paz**	**0.66**	**301**		**Pg**	**06 08 42.9**	**-1.5**
I08BO	**LAS PENAS INFR**	**0.97**	**295**	Pg	**Pg**	**06 08 48.2**	**-2.0**
	baz=117,slow=38,SNR=5.3							
I08BO				Lg	Lg	06 09 03.6		
	baz=163,slow=361							
PB16	**IPOC Station P**	**2.52**	**228**	⇓*i*P	**Pn**	**06 09 14.9**	**+1.9**
PB16				*i* S	**Sb**	**06 09 48.1**	**-0.5**
PB16	**IPOC Station P**	**2.52**	**228**	Pn	**Pn**	**06 09 15.0**	**+1.9**
MNMC	**Minye Minye**	**3.16**	**218**	⇓*i*P	**Pn**	**06 09 24.2**	**+2.8**
MNMC				IAML		06 09 54.4		
	comp=N,466nm,0.6s							
MNMC	**Minye Minye**	**3.16**	**218**		**Pn**	**06 09 23.8**	**+2.3**
AP01	**Chacalluta**	**3.18**	**237**	*i* S	**Sn**	**06 10 01.6**	**+2.0**
AP01	**Chacalluta**	**3.18**	**237**	Pn	**Pn**	**06 09 23.4**	**+1.9**
GO01	**Chusmiza**	**3.40**	**207**	⇑*i*P	**Pn**	**06 09 27.6**	**+2.7**
GO01				*i* S	**Sb**	**06 10 11.0**	**-2.7**
GO01	**Chusmiza**	**3.40**	**207**		**Pn**	**06 09 27.4**	**+2.4**
PB11	**IPOC Station P**	**3.70**	**213**	⇓*i*P	**Pn**	**06 09 31.2**	**+2.4**
PB11	**IPOC Station P**	**3.70**	**213**		**Pn**	**06 09 31.1**	**+2.3**
PB08	**IPOC Station P**	**3.81**	**203**	⇑*i*P	**Pn**	**06 09 31.3**	**+0.8**
PB08	**IPOC Station P**	**3.81**	**203**		**Pn**	**06 09 32.9**	**+2.4**
PSGC	**Pisagua**	**3.83**	**219**	⇑*i*P	**Pn**	**06 09 29.4**	**-1.3**
PSGCX	**Pisagua**	**3.83**	**219**	Pn	**Pn**	**06 09 32.1**	**+1.5**
TA01	**Diego Aracena**	**4.64**	**212**	*e*P	**Pn**	**06 09 43.2**	**+1.7**
TA01	**Diego Aracena**	**4.64**	**212**	Pn	**Pn**	**06 09 42.8**	**+1.2**
PB01	**IPOC Station P**	**4.75**	**202**		**Pn**	**06 09 44.9**	**+1.6**
PATCX	**Punta Patache**	**4.84**	**210**	Pn	**Pn**	**06 09 45.0**	**+0.5**
PB09	**IPOC Station P**	**5.38**	**197**		**Pn**	**06 09 53.9**	**+2.0**
PB07	**IPOC Station P**	**5.53**	**203**	Pn	**Pn**	**06 09 54.6**	**+0.6**
LVC	**Limon Verde**	**6.08**	**192**	Pn	**Pn**	**06 10 03.5**	**+1.8**
	comp=N,1.3nm,0.3s,baz=16,slow=9.4,SNR=14							
LVC	**Limon Verde**	**6.08**	**192**	Pn	**Pn**	**06 10 03.1**	**+1.4**
LVC	**Limon Verde**	**6.08**	**192**	*e*P	**Pn**	**06 10 03.6**	**+1.8**
LVC				*e*S	**Sn**	**06 11 15.3**	**+3.7**
PB04	**IPOC Station P**	**6.18**	**203**	Pn	**Pn**	**06 10 03.9**	**+1.0**
SIV	**San Ignacio**	**6.25**	**85**	Pn	**Pn**	**06 10 05.6**	**+1.9**
	comp=N,97nm,0.3s,baz=278,slow=11,SNR=589							
SIV				Sn	**Sn**	**06 11 19.4**	**+4.1**
	comp=N,82nm,0.3s,baz=357,slow=16,SNR=3.2							
SIV				Lg	Lg	06 11 50.9		
	comp=N,260nm,0.3s,baz=181,slow=24,SNR=8.7							
SIV				LR	LR	06 12 48.6		
	comp=N,7μm,18.6s,baz=277,slow=41							
PB06	**IPOC Station P**	**6.33**	**197**		**Pn**	**06 10 07.3**	**+2.3**
PB15	**IPOC Station P**	**6.79**	**195**		**Pn**	**06 10 11.6**	**+0.3**
ETMB	**Extrema**	**6.90**	**11**	*e*P	**Pn**	**06 10 14.8**	**+2.1**
ETMB				*e*S	**Sn**	**06 11 34.1**	**+2.7**
PB10	**IPOC Station P**	**7.40**	**202**	Pn	**Pn**	**06 10 19.9**	**+0.3**
VILB	**Vilhena**	**7.99**	**64**	*e*P	**Pn**	**06 10 29.9**	**+2.2**
PTLB	**Pontes e Lacer**	**8.17**	**83**	*e*P	**Pn**	**06 10 31.3**	**+1.2**
PTLB				*e*S	**Sn**	**06 12 02.6**	**+0.1**
PB14	**IPOC Station P**	**8.39**	**198**	Pn	**Pn**	**06 10 33.6**	**+0.2**
GO02	**Mina Guanaco**	**8.70**	**192**	Pn	**Pn**	**06 10 38.8**	**+1.2**
SAML	**Samuel**	**8.74**	**30**		**Pn**	**06 10 40.0**	**+2.0**
NNA	**Nana**	**10.13**	**296**	Pn	**Pn**	**06 10 59.4**	**+2.4**
	comp=N,0.7nm,0.3s,baz=130,slow=13,SNR=2.2							
NNA				LR	LR	06 15 32.5		
	comp=N,3μm,19.9s,baz=139,slow=42							
CZSB	**Cruzeiro do Su**	**10.19**	**330**	*e*P	**Pn**	**06 10 57.5**	**-0.3**
AC02	**Maricunga**	**10.26**	**188**	Pn	**Pn**	**06 11 00.0**	**+0.9**
AQDB	**Aquidauana**	**11.86**	**111**	*e*P	**Pn**	**06 11 20.1**	**-0.6**
AQDB				*e*S	**Sn**	**06 13 29.3**	**-4.0**
AC05	**El Transito**	**12.40**	**191**	Pn	**Pn**	**06 11 27.2**	**-1.0**
CLDB	**Colider**	**12.76**	**65**	*e*P	**Pn**	**06 11 30.8**	**-2.3**
CLDB				*e*S	**Sn**	**06 13 50.4**	**-5.0**
CO01	**Juntas del Tor**	**13.48**	**190**		**Pn**	**06 11 44.0**	**+0.9**
GO04	**Tololo Observa**	**13.80**	**192**	Pn	**Pn**	**06 11 46.6**	**-0.9**
ATAH	**Atahualpa**	**14.20**	**310**	Pn	**Pn**	**06 11 56.0**	**+2.9**
	comp=N,0.3nm,0.3s,baz=127,slow=14,SNR=5.0							
ATAH				LR	LR	06 18 08.9		
	comp=N,3μm,20.2s,baz=162,slow=41							
CO03	**El Pedregal**	**14.43**	**191**	Pn	**Pn**	**06 11 55.3**	**-0.6**
CO02	**Combarbal**	**14.84**	**192**		**Pn**	**06 12 00.8**	**-0.7**
MACA	**Manacapuru-AM**	**14.99**	**27**	*e*P	**Pn**	**06 12 03.0**	**-0.6**
ARAG	**Araguaiana, MT**	**15.14**	**89**	*e*P	**Pn**	**06 12 00.4**	**-5.1**
NPGB	**Novo Progresso**	**15.26**	**53**	*e*P	**Pn**	**06 12 05.2**	**-1.8**
TRCB	**Terra Rica**	**15.31**	**116**	*e*P	**Pn**	**06 12 06.6**	**-1.2**
PCMB	**Pacaembu**	**16.16**	**110**	*e*P	**Pn**	**06 12 19.8**	**+1.0**
VA03	**San Esteban**	**16.29**	**189**		**Pn**	**06 12 18.7**	**-1.7**
VA03				IAmb	IAmb	06 12 23.7		
	comp=Z,64nm,1.0s							
PTGB	**Pitanga**	**16.55**	**122**	*e*P	**Pn**	**06 12 24.7**	**+0.8**
ROC1	**El Roble**	**16.57**	**190**	Pn	**Pn**	**06 12 21.8**	**-2.3**
ITRB	**Iturama**	**16.61**	**103**	*e*P	**Pn**	**06 12 24.4**	**-0.2**
PEL	**Peldehue**	**16.68**	**189**		**Pn**	**06 12 23.5**	**-1.9**
PEL				IAmb	IAmb	06 12 41.7		
	comp=Z,93nm,1.5s							
ITTB	**Itaituba**	**16.82**	**45**	*e*P	**Pn**	**06 12 25.2**	**-2.0**
MT02	**Curacav**	**16.87**	**190**		**Pn**	**06 12 25.1**	**-2.6**
MT05	**Renca**	**16.93**	**189**	Pn	**Pn**	**06 12 25.1**	**-3.4**
MT05				IAmb	IAmb	06 12 41.4		
	comp=Z,191nm,1.5s							
PTGA	**Pitinga**	**17.48**	**26**	P	**Pn**	**06 12 33.5**	**-1.9**
	comp=Z,2.1nm,0.3s,baz=214,slow=13,SNR=24							
PTGA				S	**Sn**	**06 15 44.6**	**-5.6**
	comp=Z,3.5nm,0.3s,baz=311,slow=20,SNR=2.6							
PTGA				Lg	Lg	06 17 44.5		
	comp=Z,4.8nm,0.3s,baz=288,slow=23,SNR=5.3							
PTGA				LR	LR	06 18 36.8		
	comp=

ELOV Elorza 23.56 355 *e*P P **06 13 43.7 +1.5**
BARC Barichara 23.74 346 *e*P P **06 13 45.6 +1.3**
TMAB Tom-Au,PA,Br 23.81 55 *e*P P **06 13 48.8 +4.1**
CBOC Ciudad Bolivar 23.87 339 *e*P P **06 13 47.0 +1.5**
PTBC PUERTO BERRIO, 24.02 343 *e*P P **06 13 46.3 -0.4**
PLCA Paso Flores 24.15 186 P P **06 13 45.8 -2.0**
comp=Z,12nn,0.9s,baz=3.4,slow=12,SNR=21
PLCA LR LR 06 24 40.9
comp=Z,1μm,19.0s,baz=356,slow=40
PLCA Paso Flores 24.15 186 P P **06 13 45.6 -2.2**
PLCA Paso Flores 24.15 186 *e*P P **06 13 45.7 -2.0**
BRRC Barranca, Sant 24.37 345 *e*P P **06 13 48.4 -1.5**
SOLC Bahia Solano 24.72 336 *e*P P **06 13 46.4 -6.7**
SOCV Socops 24.98 352 *e*P P **06 13 57.0 +1.6**
DBBC Dabeiba 25.02 339 *e*P P **06 13 56.1 +0.3**
ZARC Zaragoza, Cauc 25.04 343 *e*P P **06 13 55.7 -0.3**
SJMB Sao Joao De Ma 25.19 99 *e*P P **06 13 59.0 +1.7**
OCAC Ocana 25.37 347 *e*P P **06 13 56.0 -3.1**
UREC San Jos de Ur 25.49 341 *e*P P **06 13 59.6 -0.4**
BSFB Barra de Sao F 25.51 99 *e*P P **06 14 00.7 +0.4**
SDV Santo Domingo 25.54 353 P P **06 14 03.1 +2.4**
comp=Z,6.2nn,0.3s,baz=204,slow=3.0,SNR=5.4
SDV Lg Lg 06 22 03.9
comp=Z,7.5nn,0.3s,baz=66,slow=23,SNR=4.6
SDV Santo Domingo 25.54 353 P P **06 14 01.1 +0.4**
SDV IAmb IAmb 06 14 18.6
comp=Z,35nn,1.4s
RIB01 Linhares ES 25.95 100 *e*P P **06 14 04.3 0.0**
LL01 San Ignacio de 25.99 188 P P **06 14 03.5 -0.8**
LL01 IAmb IAmb 06 14 05.6
comp=Z,31nn,1.1s
SMLC San Martn de 26.09 345 *e*P P **06 14 04.3 -1.2**
MDP Montagnes des 26.14 36 P P **06 14 08.1 +2.0**
comp=Z,20nn,0.8s,baz=201,slow=12,SNR=6.3
MDP LR LR 06 23 55.7
comp=Z,354nn,20.0s,baz=210,slow=35
NAN01 Guarapari, ES 26.20 97 *e*P P **06 14 06.9 +0.3**
MOTC Monteria, Cord 26.50 342 *e*P P **06 14 11.4 +2.2**
PLCV Puerto La Cruz 26.79 6 P P **06 14 13.0 +1.2**
PCRV Puerto La Cruz 26.80 6 P P **06 14 13.0 +1.1**
comp=Z,6.8nn,0.9s,baz=180,slow=4.0,SNR=2.0
PCRV Lg Lg 06 22 45.0
comp=Z,46nn,1.2s,baz=194,slow=21,SNR=4.5
PCRV LR LR 06 24 18.9
comp=Z,1μm,18.4s,slow=35
CAPC Capurgana 26.92 338 *e*P P **06 14 15.7 +2.7**
UPD2 Meteti 27.08 337 *e*P P **06 14 15.5 +1.0**
GDU01 Guandu, BA 27.14 88 *e*P P **06 14 16.1 +1.1**
ARGC Ariguani, Magd 27.15 345 *e*P P **06 14 15.0 0.0**
SJCC San Jacinto, C 27.42 343 *e*P P **06 14 14.0 -3.6**
BCIP Isla Barro Col 28.38 334 P P **06 14 27.6 +1.6**
FDF Fort de France 31.80 12 P P **06 14 57.4 +1.0**
JTS Las Juntas de 31.82 326 LR LR 06 28 33.7
comp=Z,676nm,20.6s,baz=232,slow=38
PDPR Patillas Dam, 34.47 3 P P **06 15 18.6 -1.0**
PDPR IAmb IAmb 06 15 25.5
comp=Z,21nn,0.9s
GCPR Guaynabo City 34.76 2 P P **06 15 21.9 -0.2**
GCPR IAmb IAmb 06 15 27.5
comp=Z,14nn,0.9s
TEIG Tepich 41.91 330 P P **06 16 22.3 0.0**
comp=Z,5.4nn,0.7s,baz=151,slow=13,SNR=5.7
TEIG Tepich 41.91 330 P P **06 16 22.2 0.0**
352A Blakely 50.67 341 P P **06 17 30.6 -0.4**
Y60A Bolivia 51.38 349 P P **06 17 37.9 +1.6**
250A Grady 51.56 340 P P **06 17 38.5 +0.8**
Y57A Sumter 51.84 346 IAmb IAmb 06 17 42.0
comp=Z,16nn,0.9s
ZAIG Zacatecas 52.04 318 P P **06 17 42.2 +0.3**
V55A Taylorsville 53.78 346 IAmb IAmb 06 17 56.2
comp=Z,18nn,1.1s
X48A Hartselle 54.09 340 P P **06 17 55.2 -1.2**
X48A IAmb IAmb 06 17 59.1
comp=Z,11nn,0.9s
T59A Double "B" Far 54.15 350 P P **06 17 56.5 -0.2**
833A Chaparral WMA, 54.30 325 P P **06 17 57.7 -0.3**
833A IAmb IAmb 06 17 59.5
comp=Z,19nn,1.1s
T57A Hurt 54.48 348 P P **06 17 58.5 -0.7**
T57A IAmb IAmb 06 18 05.8
comp=Z,15nn,1.1s
VWCC Virginia Weste 54.86 348 P P **06 18 01.8 -0.1**
V48A Smith Brothers 55.20 341 P P **06 18 03.2 -1.3**
V48A IAmb IAmb 06 18 19.3
comp=Z,10nn,0.9s
WVT Waverly 55.88 340 P P **06 18 09.0 -0.3**
WVT IAmb IAmb 06 18 11.3
comp=Z,8.0nn,0.8s
T47A Sharon Grove 56.44 341 P P **06 18 11.9 -1.4**
T47A IAmb IAmb 06 18 30.0
comp=Z,21nn,1.1s
Q54A Coxs Mills 56.71 348 P P **06 18 15.0 -0.2**
Q54A IAmb IAmb 06 18 19.9
comp=Z,14nn,0.8s
LCAR Lake Charles 56.98 337 P P **06 18 16.4 -0.8**
LCAR IAmb IAmb 06 18 19.4
comp=Z,12nn,1.3s
FCAR Ozark Folk Cen 57.19 336 IAmb IAmb 06 18 26.2
comp=Z,19nn,1.5s
Z35A Perchaven, San 57.22 330 P P **06 18 18.5 -0.4**
PBMO Poplar Bluff 57.35 338 P P **06 18 19.3 -0.5**
PBMO IAmb IAmb 06 18 20.6
comp=Z,9.7nn,0.7s
TXAR Lajitas Array 57.49 322 P P **06 18 20.9 -0.2**
comp=Z,1.3nn,0.7s,baz=146,slow=9.1,SNR=4.1
TXAR LR LR 06 43 22.7
comp=Z,131nn,20.4s,baz=0.0,slow=36
TXAR Lajitas Array 57.49 322 P P **06 18 19.6 -1.4**
S44A Carbondale 57.77 340 P P **06 18 20.5 -2.2**
S44A IAmb IAmb 06 18 39.5
comp=Z,17nn,0.9s
ABTX Abilene, Hawle 57.82 328 P P **06 18 23.0 -0.2**
ABTX IAmb IAmb 06 18 26.4
comp=Z,22nn,1.2s
HHAR Hobbs 58.25 335 P P **06 18 25.1 -1.0**
HHAR IAmb IAmb 06 18 34.1
comp=Z,11nn,1.2s
N53A Lisbon 58.47 348 P P **06 18 26.9 -0.6**
W35A Tecumseh 58.55 332 P P **06 18 26.9 -1.3**
CCM Cathedral Cave 58.78 338 P P **06 18 29.3 -0.5**
CCM IAmb IAmb 06 18 31.6
comp=Z,15nn,1.0s
S39A Bolivar 59.23 336 IAmb IAmb 06 18 45.7
comp=Z,5.4nn,0.7s
OK029 Liberty Lake 59.35 332 P P **06 18 33.4 -0.4**
R40A Maddies Statio 59.36 338 P P **06 18 32.3 -1.5**
R40A IAmb IAmb 06 18 49.8
comp=Z,6.8nn,0.9s
J59A Piesco 60.14 354 P P **06 18 39.8 +0.6**
MNTX Cornudas Mount 60.23 323 IAmb IAmb 06 18 40.2
comp=Z,9.0nn,1.2s
P40A Paris 60.38 338 IAmb IAmb 06 18 41.3
comp=Z,11nn,1.0s
G65A Princeton 61.54 360 P P **06 18 49.7 +1.2**
G62A West of Eustis 61.62 358 P P **06 18 51.2 +2.1**
F64A Sherman 62.21 359 P P **06 18 54.2 +1.2**
LMN Caledonia Moun 62.24 2 P P **06 18 54.6 +1.3**
LMN IAmb IAmb 06 18 56.1
comp=Z,14nn,0.9s
CBKS Cedar Bluff 62.86 332 P P **06 18 57.8 +0.2**
E62A Clayton Lake 62.98 358 P P **06 18 59.1 +0.9**
D62A Allapoint, All 63.44 359 P P **06 19 01.7 +0.5**
BATG Bathurst New B 63.63 1 P P **06 19 04.2 +1.7**
BATG IAmb IAmb 06 19 09.9
comp=Z,13nn,1.1s
VNA3 Neumayer Olymp 64.27 162 P P **06 19 06.4 -0.1**
SDCO Great Sand Dun 64.80 327 P P **06 19 11.1 +0.3**
SDCO IAmb IAmb 06 19 14.0
comp=Z,8.3nn,1.1s
214A Organ Pipe Nat 64.94 318 P P **06 19 11.8 +0.3**
214A IAmb IAmb 06 19 15.7
comp=Z,6.6nn,0.9s
X16A Lo Mia Camp, P 65.73 321 P P **06 19 17.1 +0.3**
MVCO Mesa Verde 66.00 325 P P **06 19 17.2 -1.4**
MVCO IAmb IAmb 06 19 31.2
comp=Z,9.7nn,1.2s
DBIC Dimbokro 66.16 75 P P **06 19 20.2 +0.5**
comp=Z,2.5nn,0.5s,baz=233,slow=10,SNR=1.4
DBIC LR LR 06 46 58.2
comp=Z,350nm,18.3s,baz=224,slow=35
SNAA Sanae 66.45 162 P P **06 19 20.2 -0.5**
SNAA Sanae 66.45 162 P P **06 19 19.1 -1.6**
SNAA IAmb IAmb 06 19 31.3
comp=Z,15nn,1.1s
PV15 Paradox Valley 66.82 326 P P **06 19 24.3 +0.6**
PV15 IAmb IAmb 06 19 28.0
comp=Z,9.8nn,1.2s
PV02 Paradox Valley 66.86 326 P P **06 19 24.6 +0.6**
PV13 Radium Mtn., P 66.87 326 IAmb IAmb 06 19 25.7
comp=Z,11nn,1.4s
PV22 Blue Mesa, Par 67.12 326 P P **06 19 26.1 +0.5**
PV22 IAmb IAmb 06 19 28.4
comp=Z,9.5nn,1.3s
KNB Kanab 68.32 322 P P **06 19 33.3 +0.1**
MSU Marysvale 68.98 324 P P **06 19 37.5 +0.2**
CCUT Cedar City 69.00 322 P P **06 19 37.6 +0.2**
SHPR Sheep Range 69.38 321 P P **06 19 40.8 +1.0**
TPNV Topopah Spring 70.34 320 IAmb IAmb 06 19 49.6
comp=Z,9.6nn,1.4s
DUG Dugway, Tooele 70.50 325 P P **06 19 46.6 +0.1**
PDAR Pinedale Array 70.61 328 P P **06 19 48.1 +0.8**
comp=Z,0.3nn,0.4s,baz=143,slow=6.3,SNR=3.2
PDAR LR LR 06 54 02.9
comp=Z,90nn,19.5s,baz=144,slow=39
ELK Elko 72.23 324 P P **06 19 58.2 +1.1**
comp=Z,0.9nn,0.7s,baz=80,slow=5.0,SNR=4.3
ELK Elko 72.23 324 P P **06 19 57.7 +0.6**
OMMB Old Mammoth Mi 72.46 319 P P **06 19 59.5 +0.9**
YNE Yellowstone No 72.47 330 P P **06 19 58.4 -0.1**
NVAR Mina Array Bea 72.53 320 P P **06 19 59.6 +0.7**
comp=Z,1.8nn,0.9s,baz=145,slow=6.1,SNR=6.9
NVAR Mina Array Bea 72.53 320 P P **06 19 59.1 +0.2**
YHH Holmes Hill 72.72 329 P P **06 20 00.8 +0.8**
QSPA South Pole Qui 73.53 180 P P **06 20 03.7 -0.7**
QSPA IAmb IAmb 06 20 06.4
comp=Z,13nn,1.2s
MCMT McKenzie Canyo 73.75 328 P P **06 20 06.6 +0.6**
PAHR Pah Rah Range 73.99 321 IAmb IAmb 06 20 11.1
comp=Z,11nn,1.3s
TOA0 Torodi Ar. Sit 74.53 71 P P **06 20 10.1 -0.8**
TOA0 IAmb IAmb 06 20 15.6
comp=Z,13nn,1.2s
TORD Torodi Ar. Bea 74.53 71 P P **06 20 09.2 -1.7**
comp=Z,2.1nn,0.6s,baz=255,slow=5.0,SNR=11
TORD LR LR 06 51 48.9
comp=Z,564nn,19.1s,baz=230,slow=35
TORD Torodi Ar. Bea 74.53 71 P P **06 20 08.2 -2.7**
ORV Oroville 75.19 320 P P **06 20 15.3 +1.1**
YBH Yreka Blue Hor 77.22 321 P P **06 20 24.8 -1.0**
comp=Z,1.8nn,0.7s,baz=35,slow=5.5,SNR=5.3
PINE Pine Mountain 77.42 323 P P **06 20 27.3 +0.2**
SYO Syowa Base 80.58 160‖ *e*P P **06 20 41.4 -2.4**
SYO Syowa Base 80.58 160‖ *i*X P **06 20 44.4 +0.6**
SYO Syowa Base 80.58 160‖ *e*PP PP 06 23 44.0 -2.8
ESDC Sonseca Array 81.47 44 P P **06 20 50.6 +1.6**
comp=Z,1.6nn,0.9s,baz=246,slow=4.8,SNR=7.4
ESDC LR LR 06 53 21.1
comp=Z,148nm,21.4s,baz=235,slow=33
ESDC Sonseca Array 81.47 44 P P **06 20 48.8 -0.2**
VNDA Vanda 81.84 190 P P **06 20 50.5 +0.2**
comp=Z,1.3nn,0.8s,baz=77,slow=1.5,SNR=7.7
VNDA LR LR 06 57 20.0
comp=Z,82nn,18.3s,baz=127,slow=36
VNDA Vanda 81.84 190 P P **06 20 50.5 +0.2**
BOSA Boshof 84.58 118 P P **06 21 05.6 0.0**
comp=Z,3.8nn,0.8s,baz=275,slow=5.5,SNR=4.5
BOSA LR LR 06 56 44.8
comp=Z,121nm,18.0s,baz=252,slow=34
BOSA Boshof 84.58 118 IAmb IAmb 06 21 14.1
comp=Z,17nn,1.3s
YKA Yellowknife Ar 87.06 340 P P **06 21 15.9 -0.9**
comp=Z,6.6nn,1.1s,baz=121,slow=4.4,SNR=6.8
YKA LR LR 07 02 49.8
comp=Z,302nm,19.6s,baz=0.0,slow=37
MAW Mawson 88.59 163 P P **06 21 24.0 -0.2**
comp=Z,8.2nn,1.0s,baz=237,slow=7.1,SNR=14
MAW LR LR 07 00 59.3
comp=Z,134nm,19.9s,baz=238,slow=36
KEST Kesra 89.34 52 LR LR 07 01 26.0
comp=Z,128nm,20.2s,baz=277,slow=36
GERES GERESS Array B 96.73 41 LR LR 07 05 26.0
comp=Z,61nn,18.3s,baz=258,slow=35
NOA NORSAR Array B 99.07 29 LR LR 07 02 29.3
comp=Z,45nn,18.7s,baz=255,slow=33
ASAR Alice Springs 134.79 208 PKP **PKPdf 06 27 51.0 -0.4**
comp=Z,0.8nn,0.9s,baz=127,slow=1.8,SNR=4.0
ZALV Zalesovo Beam 137.01 24 PKP **PKiKP**
comp=Z,6.3nn,0.8s,baz=300,slow=2.9,SNR=15
ZALV Zalesovo Beam 137.01 24 PKPdf **PKPdf 06 27 54.7 +0.2**
WRA Warramunga Arr 137.77 211 PKP **PKPdf 06 27 56.5 -0.5**
comp=Z,3.0nn,1.1s,baz=149,slow=1.8,SNR=9.2
MKAR Makanchi Array 140.91 33 PKP **PKPdf 06 28 02.5 +0.6**
comp=Z,2.1nn,1.0s,baz=5.7,slow=1.4,SNR=4.2
FITZ Fitzroy Crossi 143.12 201 PKP **PKPdf 06 28 06.3 -0.4**
comp=Z,1.2nn,0.6s,baz=212,slow=0.5,SNR=5.1
NDI New Delhi 145.47 63 *e*P **PKPab 06 28 12.0 +1.4**
WMQ Urumqi 145.73 33 *e*PKPbc **PKPdf 06 28 10.1 -0.4**
HYB Hyderabad 147.59 84 *i* PKP **PKPdf 06 28 16.0 +1.7**
USRK Ussuriysk Ar. 147.94 333 PKPbc **PKPbc 06 28 17.1 0.0**
comp=Z,10nn,0.8s,baz=24,slow=2.0,SNR=17
USRK Ussuriysk Ar. 147.94 333 **PKPbc 06 28 16.1 -1.0**
SONM Songino Array 148.49 8 PKPbc **PKPbc 06 28 17.9 -0.7**
comp=Z,7.1nn,0.9s,baz=325,slow=1.8,SNR=16
SONM Songino Array 148.49 8 **PKPdf 06 28 16.9 +1.8**
MJAR Matsushiro Arr 149.77 316 PKP **PKPdf 06 28 18.4 +1.0**
comp=Z,0.9nn,0.3s,baz=56,slow=0.3,SNR=2.6
MJAR PKPbc **PKPbc 06 28 22.7 +0.6**
comp=Z,11nn,1.0s,baz=80,slow=2.0,SNR=6.1
MAT Matsushiro 149.78 316 *e*PKP **PKPbc 06 28 21.9 -0.2**
KSRS Korea Array 155.17 330 PKP **PKPdf 06 28 26.2 +1.0**
comp=Z,4.1nn,1.1s,baz=282,slow=0.8,SNR=8.7
HHC Hu-ho-hao-te 155.86 2 *e*PKP **PKPdf 06 28 21.2 -5.0**
NJ2 Nanjing 163.59 340 *e*PKP **PKPdf 06 28 36.2 +1.1**

*IDC **01** 06:11:04.5±0.9, 37°.36N×98°.02W, h0km, mb1 3.9/4, mb1mx3.6/44, mbtmp3.6/4, ML1.9/1, Error ellipse: s-maj=12.4km s-min=10.0km az=113.0*
*ANF **01** 06:11:05.5±0.7, 37°.27N×97°.91W, h5km, ML4.2/7, Error ellipse: s-maj=11.6km s-min=7.7km az=52.0*
*NEIC **01** 06:11:05.1±0.9, 37°.26N±0°.02×97°.94W±0°.03, h5km±2km, mb_Lg3.3/134, Error ellipse: s-maj=3.9km s-min=3.3km az=42.0*
ISC 01 06:11:05.0±0.9, **37°.25N**±0°.03×**97°.96W**±0°.03, **h8**km±7km, **n103**, σ0**91**/93, **Kansas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KAN12	**Harper NE Stat**	**0.06**	**323**			**Pg**	**06 11 06.7**	**-0.1**
KAN10	**Anthony SW Sta**	**0.17**	**221**			**Pg**	**06 11 08.4**	**-0.1**
KAN10				Sg		**Sg**	**06 11 10.7**	**-0.2**
KAN13	**South Haven SW**	**0.45**	**122**			**Pg**	**06 11 13.6**	**-0.1**
KAN13				Sg		**Sg**	**06 11 19.0**	**-0.6**
CROK	**Carrier**	**0.75**	**182**			**Pg**	**06 11 18.6**	**-0.7**
T35A	**Sooner Cattle**	**1.20**	**106**	Pg		**Pg**	**06 11 27.2**	**-0.8**
T35A				Sg		**Sg**	**06 11 43.3**	**-0.3**
U32A	**Winter Ranch,**	**1.21**	**224**	Pg		**Pg**	**06 11 27.4**	**-0.8**
U32A				Sg		**Sg**	**06 11 43.9**	**0.0**
R32A	**Long Quarter,**	**1.31**	**333**	Pn		**Pn**	**06 11 29.4**	**-0.3**
R32A				Sg		**Sg**	**06 11 47.0**	**-0.2**
QUOK	**Quay**	**1.47**	**137**			**Pn**	**06 11 31.6**	**-0.2**
QUOK				Sn		**Sn**	**06 11 51.4**	**+0.1**
OK029	**Liberty Lake**	**1.51**	**164**			**Pn**	**06 11 32.3**	**0.0**
OK029				Sn		**Sn**	**06 11 52.8**	**+0.6**
BCOK	**Bluff Creek, N**	**1.62**	**170**	Pn		**Pn**	**06 11 33.9**	**+0.1**
BCOK				Sn		**Sn**	**06 11 55.8**	**+1.0**
ADOK	**Arcadia Dam**	**1.67**	**163**	Pn		**Pn**	**06 11 35.6**	**+1.2**
OK025	**Westminster Rd**	**1.74**	**163**	Pn		**Pn**	**06 11 36.3**	**+0.8**
OKCFA	**Oklahoma City**	**1.88**	**167**			**Pn**	**06 11 38.2**	**+0.8**
OKCFA				IAmb_Lg			06 12 08.3	
comp=Z,158nm,0.7s								
OKCSW	**OKLAHOMA CITY**	**1.89**	**167**			**Pn**	**06 11 38.6**	**+1.0**
CBKS	**Cedar Bluff**	**2.10**	**318**	P		**Pn**	**06 11 41.6**	**+1.1**
CBKS	baz=137			S		**Sb**	**06 12 09.7**	**+0.1**
CBKS	**Cedar Bluff**	**2.10**	**318**			**Pn**	**06 11 41.2**	**+0.7**
KSU1	**Kansas State U**	**2.13**	**29**	P		**Pn**	**06 11 40.8**	**0.0**
KSU1	baz=209			S		**Sb**	**06 12 09.9**	**-0.5**
KSU1	**Kansas State U**	**2.13**	**29**	Pn		**Pn**	**06 11 41.0**	**+0.2**
TUL1	**Leonard**	**2.20**	**127**	P		**Pn**	**06 11 42.6**	**+0.8**
TUL1	baz=309			S		**Sn**	**06 12 10.1**	**+0.9**
TUL1	**Leonard**	**2.20**	**127**	Pn		**Pn**	**06 11 43.0**	**+1.2**
WMOK	**Wichita Mounta**	**2.60**	**195**	P		**Pn**	**06 11 49.0**	**+1.7**
WMOK	baz=16			S		**Sn**	**06 12 20.9**	**+1.9**
WMOK	**Wichita Mounta**	**2.60**	**195**	Pn		**Pn**	**06 11 48.5**	**+1.2**
X34A	**Smith Ranch, M**	**2.65**	**178**	Pn		**Pn**	**06 11 49.6**	**+1.6**
U38A	**Gravette**	**2.98**	**105**			**Pn**	**06 11 53.5**	**+1.0**
U38A				IAmb_Lg			06 12 45.9	
comp=Z,81nm,0.8s								
HHAR	**Hobbs**	**3.37**	**106**			**Pn**	**06 11 58.6**	**+0.8**
X37A	**Clayton**	**3.38**	**141**			**Pn**	**06 11 59.1**	**+1.0**
X37A				IAmb_Lg			06 13 00.3	
comp=Z,112nm,0.8s								
N33A	**J Bar K, Exete**	**3.50**	**6**	Pn		**Pn**	**06 11 59.8**	**+0.1**
N33A				IAmb_Lg			06 12 59.4	
comp=Z,130nm,0.9s								
S39A	**Bolivar**	**3.71**	**82**	IAmb_Lg			06 13 05.8	
comp=Z,64nm,0.8s								
AMTX	**Amarillo**	**3.83**	**233**	P		**Pn**	**06 12 06.0**	**+1.7**
baz=52								
AMTX	**Amarillo**	**3.83**	**233**	Pn		**Pn**	**06 12 05.5**	**+1.1**
W39A	**Magazine**	**3.95**	**120**	P		**Pn**	**06 12 06.0**	**+0.1**
baz=303								
W39A	**Magazine**	**3.95**	**120**			**Pn**	**06 12 06.1**	**+0.3**
Z35A	**Perchaven, San**	**3.96**	**171**	Pn		**Pn**	**06 12 06.8**	**+0.8**
N35A	**Tabor**	**4.03**	**26**			**Pn**	**06 12 07.5**	**+0.5**
KSCO	**Kaye Shedlock'**	**4.08**	**297**	Pn		**Pn**	**06 12 08.6**	**+0.8**
BGNE	**Belgrade**	**4.15**	**358**	Pn		**Pn**	**06 12 09.0**	**+0.3**
U40A	**Yellville**	**4.19**	**101**	P		**Pn**	**06 12 10.4**	**+1.2**
baz=284								
U40A	**Yellville**	**4.19**	**101**	Pn		**Pn**	**06 12 09.9**	**+0.7**
U40A				IAmb_Lg			06 13 23.3	
comp=Z,63nm,0.8s								
P38A	**Dawn**	**4.20**	**54**	Pn		**Pn**	**06 12 09.8**	**+0.5**
MIAR	**Mount Ida**	**4.46**	**126**	Pn		**Pn**	**06 12 13.7**	**+0.7**
MIAR				IAmb_Lg			06 13 35.6	
comp=Z,73nm,1.0s								
MGMO	**Mountain Grove**	**4.54**	**90**	Pn		**Pn**	**06 12 14.9**	**+0.9**
MGMO				IAmb_Lg			06 13 30.9	
comp=Z,50nm,0.7s								
R40A	**Maddies Statio**	**4.62**	**75**	IAmb_Lg			06 13 30.2	
comp=Z,44nm,0.9s								
Z38A	**Mt. Pleasant**	**4.67**	**148**			**Pn**	**06 12 16.1**	**+0.4**
Z38A				IAmb_Lg			06 13 45.5	
comp=Z,93nm,0.9s								
L34A	**Svendsen Farm,**	**4.86**	**14**	Pn		**Pn**	**06 12 18.9**	**+0.5**
FCAR	**Ozark Folk Cen**	**4.89**	**104**			**Pn**	**06 12 18.8**	**0.0**
WHAR	**Wooly Hollow**	**4.98**	**111**	Pn		**Pn**	**06 12 20.1**	**+0.1**
WHAR				IAmb_Lg			06 13 45.9	
comp=Z,55nm,0.8s								
X40A	**Basin Creek Fa**	**4.99**	**122**			**Pn**	**06 12 20.6**	**+0.4**
X40A				IAmb_Lg			06 13 50.6	
comp=Z,60nm,0.7s								
W41B	**Gary Mavity, V**	**5.06**	**113**			**Pn**	**06 12 21.6**	**+0.5**
N38A	**Joes South For**	**5.10**	**45**	Pn		**Pn**	**06 12 22.1**	**+0.4**
N38A				IAmb_Lg			06 13 48.8	
comp=Z,65nm,0.8s								
T25A	**Trinidad**	**5.16**	**271**	Pn		**Pn**	**06 12 24.2**	**+1.6**
P40A	**Paris**	**5.17**	**62**	IAmb_Lg			06 13 55.1	
comp=Z,39nm,0.7s								
UALR	**University of**	**5.18**	**117**	Pn		**Pn**	**06 12 23.2**	**+0.5**
UALR				IAmb_Lg			06 13 58.4	
comp=Z,38nm,0.9s								
WHTX	**Lake Whitney,**	**5.26**	**175**	Pn		**Pn**	**06 12 24.6**	**+0.6**
WLAR	**White Oak Lake**	**5.32**	**131**	Pn		**Pn**	**06 12 25.3**	**+0.6**
WLAR				IAmb_Lg			06 13 57.1	
comp=Z,39nm,0.9s								
CCM	**Cathedral Cave**	**5.38**	**79**	Pn		**Pn**	**06 12 25.9**	**+0.3**
K31A	**O'Neill**	**5.40**	**354**	Pn		**Pn**	**06 12 26.4**	**+0.5**
T42A	**Van Buren**	**5.49**	**90**			**Pn**	**06 12 27.2**	**+0.2**
237A	**Washetta, Mont**	**5.53**	**161**	Pn		**Pn**	**06 12 28.3**	**+0.8**
237A				IAmb_Lg			06 14 10.0	
comp=Z,58nm,1.0s								
LCAR	**Lake Charles**	**5.59**	**100**			**Pn**	**06 12 29.1**	**+0.6**
LCAR				IAmb_Lg			06 14 01.5	
comp=Z,42nm,0.8s								
Z41A	**Richland Creek**	**5.80**	**132**	IAmb_Lg			06 14 19.5	
comp=Z,51nm,1.0s								
SCIA	**State Center**	**5.92**	**37**	Pn		**Pn**	**06 12 34.1**	**+1.2**
Q24A	**Divide**	**5.92**	**289**	Pn		**Pn**	**06 12 34.1**	**+0.8**
SDCO	**Great Sand Dun**	**6.02**	**277**			**Pn**	**06 12 36.5**	**+1.9**
CCAR	**Cane Creek**	**6.04**	**122**	IAmb_Lg			06 14 23.1	
comp=Z,74nm,1.2s								
PBMO	**Poplar Bluff**	**6.04**	**92**			**Pn**	**06 12 35.3**	**+0.7**
NATX	**Nacogdoches**	**6.12**	**153**	IAmb_Lg			06 14 34.4	
comp=Z,48nm,1.1s								
X43A	**Marvell**	**6.36**	**113**	IAmb_Lg			06 14 36.1	
comp=Z,40nm,0.8s								
435B	**Jarrell**	**6.46**	**177**	IAmb_Lg			06 14 37.4	
comp=Z,38nm,0.8s								
N41A	**Harden Midland**	**6.52**	**56**			**Pn**	**06 12 41.5**	**+0.3**
N41A				IAmb_Lg			06 14 31.9	
comp=Z,51nm,0.8s								
ISCO	**Idaho Springs**	**6.52**	**295**	Pn		**Pn**	**06 12 43.4**	**+1.9**
ECSD	**EROS Data Cent**	**6.55**	**9**	Pn		**Pn**	**06 12 42.1**	**+0.4**
K38A	**Parkersburg**	**6.70**	**35**	IAmb_Lg			06 14 53.5	
comp=Z,61nm,1.0s								
JCT	**Junction City**	**6.93**	**193**	Pn		**Pn**	**06 12 47.3**	**+0.5**
S44A	**Carbondale**	**6.93**	**84**			**Pn**	**06 12 47.4**	**+0.5**
S44A				IAmb_Lg			06 14 41.6	
comp=Z,35nm,0.7s								
GLAT	**Glass**	**7.03**	**95**	Pn		**Pn**	**06 12 48.8**	**+0.6**
HICK	**Hickman**	**7.03**	**93**	Pn		**Pn**	**06 12 49.7**	**+1.5**
P43A	**Skaggs, Pawnee**	**7.04**	**68**	IAmb_Lg			06 14 53.1	
comp=Z,32nm,0.7s								
143A	**Socs Landing,**	**7.04**	**128**	IAmb_Lg			06 14 51.2	
comp=Z,32nm,0.8s								
HALT	**Halls**	**7.06**	**98**	IAmb_Lg			06 15 01.6	
comp=Z,58nm,0.7s								
L40A	**Anamosa**	**7.07**	**45**	Pn		**Pn**	**06 12 49.1**	**+0.3**
L40A				IAmb_Lg			06 14 52.8	
comp=Z,53nm,0.8s								
N23A	**Red Feather La**	**7.20**	**303**	Pn		**Pn**	**06 12 52.1**	**+1.4**
Q44A	**Meyer Farm, Va**	**7.24**	**74**	Pn		**Pn**	**06 12 50.7**	**-0.3**
Q44A				IAmb_Lg			06 14 58.6	
comp=Z,42nm,0.9s								
W45A	**Hickory Valley**	**7.39**	**104**	Pn		**Pn**	**06 12 53.7**	**+0.5**
W45A				IAmb_Lg			06 15 00.3	
comp=Z,50nm,0.8s								
OXF	**Oxford**	**7.46**	**109**	Pn		**Pn**	**06 12 54.0**	**-0.1**
OXF				IAmb_Lg			06 15 08.4	
comp=Z,40nm,0.9s								
HDIL	**Hopedale**	**7.51**	**61**	Pn		**Pn**	**06 12 55.6**	**+0.8**
HDIL				IAmb_Lg			06 15 08.3	
comp=Z,29nm,0.7s								
I37A	**Lemond, Waseca**	**7.59**	**26**	IAmb_Lg			06 15 19.2	
comp=Z,31nm,0.9s								
Y45A	**Yeager Farm, C**	**7.64**	**114**	Pn		**Pn**	**06 12 56.9**	**+0.3**
Y45A				IAmb_Lg			06 15 12.6	
comp=Z,32nm,0.9s								
OLIL	**Olney**	**7.92**	**76**	IAmb_Lg			06 15 13.0	
comp=Z,39nm,1.1s								
L42A	**Oliver, Polo**	**7.96**	**51**	Pn		**Pn**	**06 13 00.9**	**0.0**
L42A				IAmb_Lg			06 15 22.6	
comp=Z,38nm,0.8s								
O44A	**Mansfield**	**7.96**	**66**	IAmb_Lg			06 15 15.5	
comp=Z,25nm,0.8s								
JFWS	**Jewell Farm**	**8.18**	**44**	Pn		**Pn**	**06 13 03.9**	**0.0**
JFWS				IAmb_Lg			06 15 28.5	
comp=Z,35nm,0.8s								
MNTX	**Cornudas Mount**	**8.26**	**230**	Pn		**Pn**	**06 13 05.

comp=Z,0.2nm,0.3s,baz=114,slow=17,SNR=2.6
PDAR Lg Lg 06 16 27.7
comp=Z,0.2nm,0.3s,baz=123,slow=30,SNR=2.1
TKL Tuckaleechee C 11.53 94 Pn **Pn 06 13 50.0 +0.1**
comp=Z,0.4nm,0.3s,baz=273,slow=17,SNR=5.4
TKL Lg Lg 06 17 02.5
comp=Z,0.7nm,0.3s,baz=196,slow=19,SNR=7.5
ULM Lac du Bonnet 13.08 6 Pn Pn 06 14 05.4 -5.6
comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=2.1
ULM Sn Sn 06 16 24.1 -12
comp=Z,0.3nm,0.3s,baz=102,slow=19,SNR=2.3
ULM Lg Lg 06 17 45.8
comp=Z,0.3nm,0.3s,baz=234,slow=19,SNR=1.6

*NEIC **01** 06:30:27.3±1.4, 60.40N±0.04×153.06W±0.09, h137km±3km, Error ellipse: s-maj=6.7km s-min=5.7km az=97.0*
*ANF **01** 06:30:28.3±0.9, 60.42N×152.74W, h149km±8km, ML4.0/9, Error ellipse: s-maj=12.6km s-min=7.6km az=109.0*
*AEIC **01** 06:30:28±1.4, 60.39N±0.04×153.02W±0.09, h138km±3km, ML3.5, Error ellipse: s-maj=6.8km s-min=5.7km az=98.0*

ISC 01 06:30:25.6±1.4, 60.38N±0.04×153.08W±0.04, h153km±7km, n133, σ1§28/159, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RED	**Redoubt Volcan**	**0.16**	**76**		**Pn**	**06 30 46.3**	**0.0**
RED					**Sn**	**06 30 60.0**	**-2.0**
RDWB	**Redoubt West**	**0.16**	**47**		**Pn**	**06 30 46.4**	**0.0**
RDWB					**Sn**	**06 31 00.3**	**-1.9**
RSO	**Redoubt South**	**0.18**	**63**		**Pn**	**06 30 46.6**	**+0.1**
RDSO	**Redoubt South**	**0.18**	**66**		**Pn**	**06 30 46.4**	**0.0**
NCT	**North Crescent**	**0.20**	**22**		**Pn**	**06 30 46.6**	**+0.3**
NCT					**Sn**	**06 31 00.5**	**-1.7**
DFR	**Drift River**	**0.29**	**42**		**Pn**	**06 30 46.6**	**+0.1**
DFR					**Sn**	**06 31 00.7**	**-1.8**
ILIM	**Iliamna**	**0.31**	**169**		**Pn**	**06 30 47.1**	**+0.4**
IVE	**Iliamna Volcan**	**0.37**	**175**		**Pn**	**06 30 47.2**	**+0.3**
IVE					**Sn**	**06 31 01.8**	**-1.2**
ILS	**Iliamna Low So**	**0.42**	**179**		**Pn**	**06 30 47.3**	**+0.2**
OPT	**Oil Point**	**0.73**	**186**		**Pn**	**06 30 49.6**	**+0.9**
SPCR	**Spurr Chakacha**	**0.93**	**27**		**Pn**	**06 30 50.8**	**+0.7**
SPCR					**Sn**	**06 31 08.0**	**-0.9**
SPBG	**Spurr Blockage**	**0.95**	**21**		**Pn**	**06 30 51.3**	**+1.0**
SPBG					**Sn**	**06 31 09.1**	**-0.1**
SPU	**Mount Spurr**	**0.95**	**32**	Pn	**Pn**	**06 30 50.9**	**+0.7**
SPCN	**Chakachatna No**	**0.95**	**27**		**Pn**	**06 30 51.2**	**+0.9**
SPCP	**Crater Peak Br**	**1.00**	**27**		**Pn**	**06 30 51.6**	**+0.9**
SPCP					**Sn**	**06 31 10.3**	**+0.2**
SPNN	**North Nagishla**	**1.01**	**10**		**Pn**	**06 30 51.6**	**+0.7**
AUL	**Augustine Lava**	**1.02**	**190**		**Pn**	**06 30 52.0**	**+1.2**
HOM	**Homer**	**1.02**	**135**	P	**Pn**	**06 30 51.9**	**+1.1**
	baz=318,SNR=6.9						
HOM				S	**Sn**	**06 31 10.1**	**+0.1**
	baz=318						
HOM	**Homer**	**1.02**	**135**		**Pn**	**06 30 51.9**	**+1.1**
HOM					**Sn**	**06 31 10.2**	**+0.1**
AU22	**Augustine Moun**	**1.02**	**188**		**Pn**	**06 30 52.0**	**+1.2**
AU22					**Sn**	**06 31 10.1**	**+0.1**
CAPN	**Captain Cook N**	**1.03**	**67**	P	**Pn**	**06 30 52.9**	**+2.0**
	baz=249,SNR=18						
CAPN				S	**Sn**	**06 31 12.6**	**+2.6**
	baz=249						
CAPN	**Captain Cook N**	**1.03**	**67**		**Pn**	**06 30 52.8**	**+2.0**
AUP	**Augustine Pinn**	**1.04**	**190**		**Pn**	**06 30 52.2**	**+1.1**
AUCH	**Augustine Cone**	**1.04**	**190**		**Pn**	**06 30 52.2**	**+1.1**
AUQ	**Augustine Qik'**	**1.04**	**190**		**Pn**	**06 30 52.2**	**+1.1**
SPCG	**Spurr Capps Gl**	**1.05**	**29**		**Pn**	**06 30 51.9**	**+0.7**
BRLK	**Bradley Lake**	**1.26**	**118**		**Pn**	**06 30 53.4**	**+0.4**
CNPM	**China Poot**	**1.26**	**132**		**Pn**	**06 30 53.8**	**+0.8**
CNPM					**Sn**	**06 31 13.4**	**-0.6**
STLK	**Strandline Lak**	**1.27**	**28**		**Pn**	**06 30 54.1**	**+0.9**
BRSE	**Bradley Lake S**	**1.33**	**118**		**Pn**	**06 30 54.2**	**+0.4**
SLKM	**Skilak Lake**	**1.42**	**84**		**Pn**	**06 30 54.8**	**+0.2**
SVW2	**Sparrevohn**	**1.43**	**301**		**Pn**	**06 30 54.9**	**+0.3**
SVW2					**Sn**	**06 31 15.5**	**-1.3**
SUA	**Susitna One**	**1.57**	**45**		**Pn**	**06 30 57.2**	**+1.0**
FIS	**Fire Island**	**1.60**	**60**		**Pn**	**06 30 57.9**	**+1.6**
O22K	**Cooper Landing**	**1.67**	**85**	P	**Pn**	**06 30 57.4**	**+0.3**
	baz=268,SNR=67						
O22K				S	**Sn**	**06 31 20.0**	**-1.2**
	baz=268						
O22K	**Cooper Landing**	**1.67**	**85**		**Pn**	**06 30 57.4**	**+0.3**
O22K					**Sn**	**06 31 19.9**	**-1.3**
SKT	**Skwentna**	**1.77**	**24**		**Pn**	**06 30 59.5**	**+1.2**
RC01	**Rabbit Creek A**	**1.79**	**65**	P	**Pn**	**06 30 58.7**	**+0.3**
	baz=248,SNR=34						
RC01				S	**Sn**	**06 31 23.0**	**-0.7**
	baz=248						
RC01	**Rabbit Creek A**	**1.79**	**65**		**Pn**	**06 30 58.7**	**+0.3**
SEW	**Seward**	**1.83**	**97**		**Pn**	**06 30 59.3**	**+0.5**
KAHC	**Katmai Hardscr**	**2.00**	**210**		**Pn**	**06 31 02.2**	**+1.2**
PMR	**Palmer**	**2.27**	**56**		**Pn**	**06 31 03.8**	**-0.3**
KAKN	**Katmai Knife C**	**2.33**	**207**		**Pn**	**06 31 06.3**	**+1.4**
PWL	**Port Wells**	**2.39**	**76**		**Pn**	**06 31 05.0**	**-0.4**
KABU	**Katmai Buttres**	**2.40**	**209**		**Pn**	**06 31 07.4**	**+1.7**
CUT	**Chulitna**	**2.44**	**32**	P	**Pn**	**06 31 07.2**	**+1.2**
	baz=214,SNR=17						
CUT				S	**Sn**	**06 31 36.9**	**-0.3**
	baz=214						
CUT	**Chulitna**	**2.44**	**32**		**Pn**	**06 31 07.2**	**+1.2**
GHO	**Glory Hole Cre**	**2.45**	**54**		**Pn**	**06 31 06.3**	**0.0**
KNK	**Knik Glacier**	**2.48**	**63**		**Pn**	**06 31 06.5**	**-0.1**
ANCK	**Angle Creek**	**2.52**	**211**		**Pn**	**06 31 08.7**	**+1.6**
PPLA	**Purkeypile**	**2.56**	**9**		**Pn**	**06 31 09.7**	**+2.0**
CAHL	**Cahill**	**2.60**	**207**		**Pn**	**06 31 10.0**	**+1.9**
KDAK	**Kodiak Island**	**2.62**	**174**		**Pn**	**06 31 08.4**	**+0.1**
KDAK					**Sn**	**06 31 39.9**	**-1.3**
KJL	**Kejulik**	**2.66**	**210**		**Pn**	**06 31 10.8**	**+1.8**
SML	**Sawmill**	**2.71**	**56**	Pn	**Pn**	**06 31 09.6**	**+0.1**
TT01	**Tatalina**	**2.90**	**332**		**Pn**	**06 31 12.7**	**+0.9**
TTA	**Tatalina**	**2.92**	**333**		**Pn**	**06 31 12.9**	**+0.8**
GLI	**Glacier Island**	**2.99**	**78**		**Pn**	**06 31 11.8**	**-1.1**
HUR	**Hurricane**	**3.08**	**31**		**Pn**	**06 31 14.8**	**+0.8**
SCM	**Sheep Creek Mo**	**3.15**	**60**		**Pn**	**06 31 15.2**	**+0.2**
PLK1	**Peulik 1**	**3.16**	**217**		**Pn**	**06 31 17.1**	**+2.0**
OHAK	**Old Harbor**	**3.17**	**182**		**Pn**	**06 31 15.0**	**-0.2**
WAT7	**Susitna Watana**	**3.18**	**38**		**Pn**	**06 31 16.1**	**+0.7**
WAT1	**Susitna Watana**	**3.27**	**39**		**Pn**	**06 31 17.2**	**+0.7**
FID	**Port Fidalgo**	**3.28**	**81**		**Pn**	**06 31 14.9**	**-1.7**
KTH	**Kantishna Hill**	**3.34**	**17**		**Pn**	**06 31 18.3**	**+0.9**
TRF	**Thorofare Moun**	**3.35**	**22**		**Pn**	**06 31 18.6**	**+1.0**
WAT2	**Susitna Watana**	**3.36**	**38**		**Pn**	**06 31 18.5**	**+0.8**
WAT6	**Susitna Watana**	**3.38**	**47**		**Pn**	**06 31 18.5**	**+0.5**
Q23K	**Middleton Isla**	**3.52**	**103**		**Pn**	**06 31 20.8**	**+1.1**
EYAK	**Cordova Ski Ar**	**3.63**	**84**		**Pn**	**06 31 19.7**	**-1.3**
EYAK					**Sn**	**06 32 04.5**	**+0.4**
RND	**Reindeer**	**3.63**	**32**		**Pn**	**06 31 22.4**	**+1.3**
DIV	**Divide**	**3.66**	**75**		**Pn**	**06 31 21.3**	**-0.2**
KLU	**Klutina**	**3.66**	**69**		**Pn**	**06 31 21.5**	**-0.1**
M24K	**Tolsona, Glenn**	**3.76**	**60**	P	**Pn**	**06 31 23.8**	**+1.0**
	baz=246						
M24K				S	**Sn**	**06 32 07.5**	**+0.3**
	baz=246						
M24K	**Tolsona, Glenn**	**3.76**	**60**		**Pn**	**06 31 23.7**	**+1.0**
DHY	**Denali Highway**	**3.83**	**43**		**Pn**	**06 31 24.7**	**+1.0**
BPAW	**Bear Paw Mtn.**	**3.86**	**14**		**Pn**	**06 31 24.8**	**+0.8**
SII	**Sitkinak Islan**	**3.88**	**189**		**Pn**	**06 31 24.2**	**-0.2**
MCK	**McKinley**	**3.89**	**28**		**Pn**	**06 31 25.5**	**+1.1**
BWN	**Browne**	**4.16**	**22**		**Pn**	**06 31 28.8**	**+0.8**
KAIM	**Kayak Island**	**4.35**	**92**		**Pn**	**06 31 31.6**	**+1.3**
PAX	**Paxson**	**4.46**	**51**		**Pn**	**06 31 33.2**	**+1.3**
NEA2	**Nenana**	**4.62**	**22**	P	**Pn**	**06 31 34.4**	**+0.5**
	baz=205,SNR=43						
NEA2	**Nenana**	**4.62**	**22**		**Pn**	**06 31 34.3**	**+0.5**
GLB	**Gilahina Butte**	**4.65**	**73**		**Pn**	**06 31 34.7**	**+0.3**
WRH	**Wood River Hil**	**4.71**	**27**		**Pn**	**06 31 35.7**	**+0.5**
VRDI	**Verde Repeater**	**4.79**	**76**		**Pn**	**06 31 36.8**	**+0.4**
VRDI					**Sn**	**06 32 30.5**	**-1.0**
CCB	**Clear Creek Bu**	**4.93**	**27**		**Pn**	**06 31 38.9**	**+0.9**
HDA	**Harding Lake**	**4.95**	**33**	P	**Pn**	**06 31 39.2**	**+1.0**
	baz=218,SNR=59						
HDA				S	**Sn**	**06 32 31.9**	**-2.9**
	baz=218						
HDA	**Harding Lake**	**4.95**	**33**		**Pn**	**06 31 39.3**	**+1.0**
CHGN	**Chignik**	**4.96**	**217**		**Pn**	**06 31 39.9**	**+1.4**
MCARA	**McCarthy VSAT**	**5.01**	**74**		**Pn**	**06 31 41.0**	**+1.8**
TGL	**Tana Glacier**	**5.07**	**81**	Pn	**Pn**	**06 31 41.7**	**+1.7**
PS08	**TAPS Pump Stn8**	**5.08**	**32**		**Pn**	**06 31 41.1**	**+1.1**
MDM	**Murphy Dome**	**5.11**	**24**		**Pn**	**06 31 41.1**	**+0.8**
TCOL	**CIGO, UAF Yank**	**5.11**	**26**	P	**Pn**	**06 31 40.9**	**+0.6**
	baz=210,SNR=15						
COLA	**College**	**5.11**	**26**		**Pn**	**06 31 40.4**	**0.0**
RIDG	**Independent Ri**	**5.13**	**45**		**Pn**	**06 31 42.4**	**+1.7**
IL31		**5.25**	**30**		**Pn**	**06 31 42.9**	**+0.7**
ILAR	**Eielson Array**	**5.25**	**30**	Pn	**Pn**	**06 31 42.6**	**+0.4**
PTPK	**Patty Peak**	**5.26**	**77**		**Pn**	**06 31 44.9**	**+2.2**
VNHG	**Veniaminof 1**	**5.26**	**220**		**Pn**	**06 31 44.9**	**+2.3**
KIAG	**Kiagna River**	**5.30**	**79**		**Pn**	**06 31 44.2**	**+1.1**
BALM	**Baldy**	**5.31**	**78**		**Pn**	**06 31 44.8**	**+1.6**
DOT	**Dot Lake**	**5.36**	**48**		**Pn**	**06 31 45.5**	**+1.7**
POKR	**Poker Plat Res**	**5.41**	**26**	P	**Pn**	**06 31 45.3**	**+0.9**
	baz=211,SNR=6.8						
POKR				S	**Sn**	**06 32 43.7**	**-2.3**
	baz=211						
POKR	**Poker Plat Res**	**5.41**	**26**		**Pn**	**06 31 45.5**	**+1.1**
SCRK	**Sand Creek**	**5.58**	**46**	P	**Pn**	**06 31 47.5**	**+0.8**
	baz=234,SNR=10						
SCRK				S	**Sn**	**06 32 46.8**	**-3.3**
	baz=234						
SCRK	**Sand Creek**	**5.58**	**46**		**Pn**	**06 31 47.6**	**+0.9**
YAH	**Yahtse**	**5.62**	**85**		**Pn**	**06 31 49.1**	**+1.7**
IM03		**5.63**	**357**		**Pn**	**06 31 48.9**	**+1.7**
IMAR	**Indian Mountai**	**5.63**	**357**		**Pn**	**06 31 48.4**	**+1.1**
BARN	**Barnard Glacie**	**5.65**	**78**		**Pn**	**06 31 49.8**	**+2.1**
CTGM	**Chitina Glacie**	**5.80**	**79**		**Pn**	**06 31 51.8**	**+2.0**
LOGN	**Logan Glacier**	**5.96**	**80**		**Pn**	**06 31 53.8**	**+1.9**
BC03		**6.00**	**58**		**Pn**	**06 31 53.7**	**+1.5**
BCAR	**Beaver Creek A**	**6.00**	**58**		**Pn**	**06 31 53.6**	**+1.3**
YUK2	**White River**	**6.10**	**71**		**Pn**	**06 31 55.5**	**+1.9**
SAMH	**Samovar Hills**	**6.13**	**87**		**Pn**	**06 31 56.3**	**+2.2**
YUK3	**Moose Creek**	**6.28**	**72**		**Pn**	**06 31 58.0**	**+1.9**
K27K	**Chicken**	**6.31**	**50**	P	**Pn**	**06 31 57.3**	**+1.0**
	baz=240						
K27K				S	**Sn**	**06 33 05.0**	**-2.4**
	baz=240						
K27K	**Chicken**	**6.31**	**50**		**Pn**	**06 31 57.6**	**+1.2**
PCA	**Pinnacle**	**6.39**	**87**		**Pn**	**06 31 59.4**	**+1.9**
PNL	**Peninsula**	**6.89**	**90**		**Pn**	**06 32 05.3**	**+1.1**
COLD	**Coldfoot**	**6.99**	**9**	P	**Pn**	**06 32 07.2**	**+1.9**
	baz=192,SNR=9.0						
COLD	**Coldfoot**	**6.99**	**9**	Pn	**Pn**	**06 32 06.1**	**+0.8**
EGAK	**Eagle**	**7.05**	**46**	Pn	**Pn**	**06 32 06.6**	**+0.5**
FYU	**Fort Yukon**	**7.13**	**26**		**Pn**	**06 32 08.4**	**+1.2**
HYT	**Haines Junctio**	**7.68**	**80**	Pn	**Pn**	**06 32 17.6**	**+3.0**
BMAR	**Burnt Mountain**	**8.00**	**24**		**Pn**	**06 32 17.8**	**-1.0**
TOLK	**Toolik Lake Re**	**8.43**	**9**	P	**Pn**	**06 32 27.3**	**+2.8**
	baz=192						
TOLK	**Toolik Lake Re**	**8.43**	**9**	Pn	**Pn**	**06 32 26.9**	**+2.4**

NNC 01 07:15:55.2±3.3, 53.73N×88.07E, h0km, mb3.6, mpv3.2, 3C-5D, Error ellipse: s-maj=26.6km s-min=15.1km az=55.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.94**	**278**	⇓Pg	Pn	07 16 30.0	+0.6
	4.2nm,0.7s						
ZAA0				⇑Lg	Lg	07 16 58.2	
	7.1nm,0.6s						
KURBB	**Kurchatov Arra**	**6.64**	**246**	⇓Pn	Pn	07 17 34.7	+0.8
	4.2nm,0.3s						
KURBB				⇓Sn	Sn	07 18 50.3	+0.1
	7.5nm,0.5s						
KURBB				⇑Lg	Lg	07 19 25.0	
	12nm,0.7s						
MK31	**Makanchi Array**	**7.87**	**210**	⇓Pn	Pn	07 17 52.7	+1.8
	0.4nm,0.4s,baz=30,slow=12,SNR=11						
MK31				⇑Sn	Sn	07 19 21.2	+0.6
	4.9nm,0.9s,baz=33,slow=26,SNR=3.3						
MK31				⇓Lg	Lg	07 20 06.7	
	5.5nm,0.8s						

*IDC **01** 07:16:28.3±0.6, 36.99N×29.41E, h0km, mb4.1/19, mb1 4.2/25, mb1mx4.1/51, mbtmp4.1/25, ML4.4/6, MS2.8/3, Ms1 2.9/3, ms1mx2.5/47, Error ellipse: s-maj=15.1km s-min=11.1km az=156.0*
*DDA **01** 07:16:28.8, 36.96N×29.37E, h25km, MW4.2*
*ISK **01** 07:16:28.9, 36.96N×29.37E, h1km, ML4.1/26*
*MED_RC **01** 07:16:28.0±0.6, 36.95N×29.37E, h10km, MW4.3/9, Moment Tensor Solution.Mantle waves: s9,c12; Duration: 150 Moment tensor: Scale 10^15Nm; Mrr=1.94±.31; Mθθ=3.04±.24; Mϕϕ=-1.09±.25; Mrθ=1.11±.77; Mθϕ=0.48±.25; Mϕr=1.77±.77; Best double couple: M0=3.42000×10^15 NP1:φs=115.00000°, δ42.00000°, λ=-35.00000°. NP2: φs=232.00000°, δ68.00000°, λ=-126.00000°. Principal axes: T 3.4500, Plg15.0000°, Azm348.0000°; N -0.0500, Plg33.0000°, Azm248.0000°; P -3.3900, Plg53.0000°, Azm99.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NIC **01** 07:16:29.7±0.0, 36.97N×29.42E, h0km±1km, Ml4.3/4*
*THE **01** 07:16:30.0, 36.98N×29.48E, h0km±1km, ML4.0/6, Error ellipse: s-maj=3.2km s-min=1.4km az=66.0*
*NEIC **01** 07:16:32.0±2.3, 36.94N±0.02×29.46E±0.05, h21km±6km, mb4.1/13, ML4.3(ISK), Error ellipse: s-maj=5.7km s-min=1.7km az=73.0*
*GII **01** 07:16:34.7±0.0, 36.53N×29.44E, h10km, mb4.3/4, MD4.1/4*

ISC 01 07:16:30.2±0.9, 36.95N±0.02×29.39E±0.01, h12km±6km, n203, σ1§45/260, mb4.2/24, 27C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.32**	**26**	*i*P	**Pg**	**07 16 36.1**	**-0.6**
GOLH				IAML		07 16 41.0	
	comp=E,26μm,0.8s						
GOLH				*i* S	**Sg**	**07 16 41.7**	**+0.6**
GOLH				IAML		07 16 42.0	
	comp=N,42μm,0.4s						
FETY	**Fethiye**	**0.40**	**218**	P	**Pg**	**07 16 37.4**	**-0.8**
FETY				S	**Sb**	**07 16 44.9**	**-0.5**
FETY	**Fethiye**	**0.40**	**218**	PG	**Pg**	**07 16 37.4**	**-0.8**
FETY				SG	**Sg**	**07 16 44.2**	**+0.7**
FETY	**Fethiye**	**0.40**	**218**	*i*P	**Pg**	**07 16 37.3**	**-0.8**
FETY				*i* S	**Sg**	**07 16 44.5**	**+1.0**
FETY				IAML		07 16 47.0	
	comp=E,4μm,0.8s						
ELL	**Elmali**	**0.46**	**116**	PG	**Pg**	**07 16 38.8**	**-0.6**
ELL				SG	**Sb**	**07 16 46.9**	**-0.4**
ELL	**Elmali**	**0.46**	**116**	P	**Pg**	**07 16 38.8**	**-0.6**
ELL				S	**Sb**	**07 16 46.8**	**-0.6**
ELL	**Elmali**	**0.46**	**116**		**Pg**	**07 16 38.7**	**-0.6**
DALY	**Dalyan (Mula)**	**0.60**	**257**	PG	**Pg**	**07 16 41.4**	**-0.6**
DALY				SG	**Sg**	**07 16 50.7**	**+0.7**
DALY	**Dalyan (Mula)**	**0.60**	**257**	*i*P	**Pg**	**07 16 41.0**	**-1.0**
DALY				*i* S	**Sg**	**07 16 50.0**	**+0.1**
DALY				IAML		07 16 51.0	
	comp=N,8μm,0.2s						
DALY				IAML		07 16 51.0	
	comp=E,4μm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.64**	**324**	*i*P	**Pg**	**07 16 41.3**	**-1.4**
TAVA				*i* S	**Sg**	**07 16 50.8**	**-0.4**
TAVA				IAML		07 16 52.0	
	comp=N,8μm,0.4s						
TAVA				IAML		07 16 54.0	
	comp=E,7μm,0.6s						
AKAS	**Kas**	**0.74**	**166**	PG	**Pg**	**07 16 44.3**	**-0.3**
AKAS	**Kas**	**0.74**	**166**	*i*P	**Pg**	**07 16 43.8**	**-0.7**
AKAS				*i* S	**Sn**	**07 17 00.7**	**+2.8**
AKAS				IAML		07 17 06.0	
	comp=E,3μm,0.5s						
AKAS	**Kas**	**0.74**	**166**	Pg	**Pg**	**07 16 44.2**	**-0.3**
KSL	**Kastellorizon**	**0.81**	**169**	P	**Pg**	**07 16 45.4**	**-0.6**
KSL				S	**Sn**	**07 17 00.6**	**+1.0**
	comp=E,9μm,0.7s						
KSL	**Kastellorizon**	**0.81**	**169**	P	**Pg**	**07 16 45.3**	**-0.6**
KSL				S	**Sn**	**07 17 00.2**	**+0.6**
DEMR	**Demre-Antalya**	**0.82**	**150**	PG	**Pg**	**07 16 46.0**	**-0.2**
YER	**Yerkesik**	**0.90**	**282**	P	**Pg**	**07 16 47.4**	**-0.3**
YER				S	**Sn**	**07 17 02.5**	**+0.6**
YER	**Yerkesik**	**0.90**	**282**	PG	**Pg**	**07 16 46.9**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.92**	**36**	⇓*i*P	**Pg**	**07 16 46.7**	**-1.2**
BRDR				*i* S	**Sn**	**07 17 02.5**	**+0.2**
BRDR				IAML		07 17 06.0	
	comp=E,5μm,0.8s						
BRDR				IAML		07 17 10.0	
	comp=N,4μm,1.0s						

TURN	**Turunc**	**0.93**	**260**	PG	**Pg**	**07 16 47.6**	**-0.6**
TURN	**Turunc**	**0.93**	**260**	⇓*i*P	**Pg**	**07 16 46.9**	**-1.4**
TURN				*i* S	**Sg**	**07 16 59.4**	**-1.1**
TURN				IAML		07 17 03.0	
	comp=N,3μm,0.5s						
TURN				IAML		07 17 04.0	
	comp=E,1μm,0.7s						
AKUM	**Antalya-Kumluc**	**0.99**	**129**	*i*P	**Pg**	**07 16 48.1**	**-1.2**
AKUM				*i* S	**Sn**	**07 17 09.6**	**+5.7**
AKUM				IAML		07 17 12.0	
	comp=E,3μm,0.7s						
AKUM				IAML		07 17 19.0	
	comp=N,3μm,0.7s						
KEMT	**Kemer-ANTALYA**	**1.00**	**110**	PG	**Pb**	**07 16 49.4**	**-0.1**
ANTB	**Antalya**	**1.01**	**92**	PG	**Pb**	**07 16 49.9**	**+0.1**
BCK	**Bucak**	**1.08**	**62**	PN	**Pb**	**07 16 51.0**	**0.0**
BASM	**Basmaki-Afyon**	**1.10**	**28**	PN	**Pg**	**07 16 50.8**	**-0.6**
ARG	**Arkhangelos**	**1.25**	**235**	P	**Pn**	**07 16 53.0**	**-0.6**
ARG				S	**Sn**	**07 17 13.5**	**+3.1**
	comp=N,5μm,0.7s						
ARG	**Arkhangelos**	**1.25**	**235**	PN	**Pn**	**07 16 53.7**	**+0.1**
ARG	**Arkhangelos**	**1.25**	**235**	⇑P	**Pn**	**07 16 52.8**	**-0.8**
ARG				S	**Sn**	**07 17 14.4**	**+3.9**
ISP	**Isparta**	**1.25**	**46**	PN	**Pg**	**07 16 54.1**	**-0.3**
ISP	**Isparta**	**1.25**	**46**		**Pn**	**07 16 53.2**	**-0.5**
MLSB	**Milas**	**1.33**	**285**	PN	**Pn**	**07 16 54.9**	**+0.1**
AYDN	**Tasoluk**	**1.40**	**301**	⇑*i*P	**Pn**	**07 16 55.1**	**-0.5**
AYDN				*i* S	**Sg**	**07 17 15.6**	**+0.4**
AYDN				IAML		07 17 16.0	
	comp=E,5μm,0.6s						
AYDN				IAML		07 17 18.0	
	comp=N,4μm,0.6s						
KZIL	**AFYON_Kizioren**	**1.44**	**24**	⇑*i*P	**Pn**	**07 16 55.8**	**-0.5**
KZIL				*i* S	**Sg**	**07 17 17.4**	**+0.9**
KZIL				IAML		07 17 22.0	
	comp=N,999nm,0.6s						
KZIL				IAML		07 17 22.0	
	comp=E,1μm,0.5s						
DAT	**Datca**	**1.47**	**262**	P	**Pb**	**07 16 57.9**	**+0.3**
DAT				S	**Sg**	**07 17 18.4**	**+0.8**
DAT	**Datca**	**1.47**	**262**	PN	**Pn**	**07 16 57.2**	**+0.5**
DAT	**Datca**	**1.47**	**262**	*i*P	**Pb**	**07 16 57.6**	**0.0**
DAT				*i* S	**Sg**	**07 17 17.6**	**0.0**
DAT				IAML		07 17 23.0	
	comp=N,965nm,0.3s						
DAT				IAML		07 17 23.0	
	comp=E,690nm,0.3s						
BAGO	**Egridir - ISPA**	**1.52**	**47**	⇓*i*P	**Pb**	**07 16 58.0**	**-0.5**
BAGO				*i* S	**Sg**	**07 17 20.4**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**310**	PN	**Pn**	**07 16 58.1**	**+0.2**
BDRM	**Kayabasi**	**1.56**	**275**	*i*P	**Pb**	**07 16 59.1**	**0.0**
BDRM				*i* S	**Sg**	**07 17 21.0**	**+0.6**
BDRM				IAML		07 17 28.0	
	comp=E,1μm,0.4s						
KULA	**Kula-Manisa**	**1.66**	**340**	P	**Pn**	**07 16 59.7**	**+0.3**
KULA				S	**Sn**	**07 17 21.5**	**+0.8**
KULA	**Kula-Manisa**	**1.66**	**340**	PN	**Pn**	**07 16 59.7**	**+0.3**
BODT	**Bodrum**	**1.67**	**274**	P	**Pb**	**07 17 00.6**	**-0.3**
BODT				S	**Sg**	**07 17 24.4**	**+0.5**
BODT	**Bodrum**	**1.67**	**274**	PN	**Pn**	**07 17 00.2**	**+0.9**
MANT	**Manisa**	**1.67**	**337**	⇑*i*P	**Pn**	**07 16 59.7**	**+0.1**
MANT				*i* S	**Sb**	**07 17 22.7**	**+0.4**
MANT				IAML		07 17 28.0	
	comp=N,786nm,0.5s						
MANT				IAML		07 17 31.0	
	comp=E,869nm,0.7s						
MANT	**Manisa**	**1.67**	**337**		**Pn**	**07 16 59.7**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.70**	**277**	PN	**Pn**	**07 17 00.5**	**+0.8**
KEPZ	**Antalya-Kepez**	**1.78**	**91**	*i*P	**Pg**	**07 17 03.6**	**-0.7**
KEPZ				*i* S	**Sg**	**07 17 31.0**	**+3.7**
KEPZ				IAML		07 17 36.0	
	comp=E,524nm,1.0s						
KEPZ				IAML		07 17 37.0	
	comp=N,507nm,0.7s						
USAK	**Uak-Merkez**	**1.79**	**351**	⇑*i*P	**Pn**	**07 17 01.3**	**+0.3**
USAK				*i* S	**Sb**	**07 17 24.9**	**-0.4**
USAK				IAML		07 17 26.0	
	comp=E,1μm,0.7s						
NISR	**Nisiros**	**1.85**	**260**	P	**Pb**	**07 17 03.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.85**	**30**	PN	**Pn**	**07 17 02.8**	**+0.9**
KOSK	**Kos Island**	**1.94**	**265**	P	**Pb**	**07 17 04.6**	**-1.0**
KOSK				S	**S

comp=N,1µm,0.6s
STEP IAML 07 17 50.0

comp=E,522nm,0.5s
CHOS Chios island 3.01 299 P **Pn** **07 17 18.8 +1.0**
CHOS S **Sn** **07 17 56.7 +2.8**

comp=E,742nm,1.1s
AKMS Akamas 3.07 128 P **Pn** **07 17 20.6 +2.0**
AKMS S **Sn** **07 17 58.6 +3.3**
AKMS AML AML 07 18 01.8

comp=E,2.1nm,0.4s
AKMS AML AML 07 18 01.8

comp=E,2.1nm,0.4s
AKMS AML AML 07 18 25.9

comp=E,2.5nm,0.8s
AKMS AML AML 07 18 25.9

comp=E,2.5nm,0.8s
APE Apeiranthos 3.09 273 P **Pn** **07 17 20.3 +1.3**
APE Apeiranthos 3.09 273 ⇓P **Pn** **07 17 20.4 +1.5**
APE Apeiranthos 3.09 273 ⇑S **Sn** **07 17 58.6 +2.8**
APE Apeiranthos 3.09 273 ⇑P **Pn** **07 17 20.2 +1.3**
BALY Balya 3.11 334 *i* P **Pn** **07 17 19.4 +0.2**
BALY *i* S **Sg** **07 18 11.3 +1.1**
BALY IAML 07 18 19.0

comp=E,179nm,0.9s
BALY IAML 07 18 20.0

comp=N,270nm,0.7s
ZKR Zakros 3.16 235 P **Pn** **07 17 21.5 +1.7**
ALFC Alefka 3.16 124 ⇑P **Pn** **07 17 21.5 +1.7**
ALFC AML AML 07 18 00.7

comp=N,2.0nm,1.0s
ALFC AML AML 07 18 00.7

comp=N,2.0nm,1.0s
ALFC S **Sn** **07 18 00.9 +3.4**
ALFC AML AML 07 18 09.5

comp=N,1.8nm,0.6s
ALFC AML AML 07 18 09.5

comp=N,1.8nm,0.6s
SANT Santorini 3.21 261 ⇑P **Pn** **07 17 22.6 +2.0**
SANT Santorini 3.21 261 **Pn** **07 17 22.2 +1.7**
NATA Nata 3.37 129 P **Pn** **07 17 24.5 +1.7**
LEF Lefka 3.38 122 ⇑P **Pn** **07 17 23.4 +0.6**
LEF Lefka 3.38 122 ⇑S **Sn** **07 18 02.9 +0.1**
LEF Lefka 3.38 122 *i* P **Pn** **07 17 22.9 +0.1**
LEF *i* S **Sn** **07 18 03.0 +0.1**
LEF IAML 07 18 16.0

comp=N,243nm,1.0s
LEF IAML 07 18 36.0

comp=E,201nm,0.9s
NPS Neapolis 3.49 242 P **Pn** **07 17 25.7 +1.3**
SZAC Souni 3.58 127 ⇑P **Pn** **07 17 27.4 +1.7**
SZAC AML AML 07 18 10.3

comp=E,1.6nm,0.6s
SZAC AML AML 07 18 13.4

comp=E,2.0nm,0.5s
ATHAL Athalassa 3.71 118 S **Sn** **07 18 13.9 +2.7**
EZN Ezine 3.75 321 P **Pn** **07 17 28.9 +1.0**
CSS Mathiatis 3.76 121 Pn **Pn** **07 17 30.0 +1.8**
CSS Mathiatis 3.76 121 ⇓P **Pn** **07 17 29.4 +1.2**
CSS Mathiatis 3.76 121 **Pn** **07 17 28.8 +0.7**
OSC1 CSNet OBS 1 3.77 155 P **Pn** **07 17 29.2 +0.9**
MDUB Mudurnu 3.79 21 Pn **Pn** **07 17 29.9 +1.3**
ASGA Asgata 3.81 123 P **Pn** **07 17 30.3 +1.6**
BR231 Keskin MP Arra 3.93 42 Pn **Pn** **07 17 32.3 +1.8**
MVOU Mavrovouni 3.94 118 ⇑P **Pn** **07 17 31.6 +1.0**
IDI Anoyia 4.00 247 Pn **Pn** **07 17 32.3 +0.8**
comp=E,12nm,0.3s,baz=27,slow=7.7,SNR=31
IDI Sn **Sn** **07 18 21.3 +2.9**
comp=E,25nm,0.3s,baz=251,slow=8.0,SNR=9.2
IDI Anoyia 4.00 247 ⇓P **Pn** **07 17 32.9 +1.5**
IDI Anoyia 4.00 247 ⇓S **Sn** **07 18 21.6 +3.2**
IDI Anoyia 4.00 247 Pn **Pn** **07 17 32.6 +1.1**
BR131 Keskin Array S 4.34 49 Pn **Pn** **07 17 38.0 +1.8**
BRTR Keskin Array B 4.34 49 Pn **Pn** **07 17 37.5 +1.4**
comp=E,3.6nm,0.3s,baz=222,slow=14,SNR=58
BRTR Sn **Sn** **07 18 27.4 +0.6**
comp=E,1.8nm,0.3s,baz=202,slow=23,SNR=1.8
BRTR LR LR 07 19 58.2
comp=E,106nm,18.1s,baz=224,slow=49
BRTR Keskin Array B 4.34 49 Pn **Pn** **07 17 37.3 +1.1**
OSC2 CSNet OBS 4 4.53 148 P **Pn** **07 17 39.7 +1.1**
SMTH Samothraki Isl 4.63 321 P **Pn** **07 17 41.1 +1.0**
ALN Alexandroupoli 4.72 328 P **Pn** **07 17 42.3 +1.0**
ALN Alexandroupoli 4.72 328 Pn **Pn** **07 17 42.5 +1.2**
ILGA Ilgaz 5.30 38 Pn **Pn** **07 17 51.6 +2.1**
HWQ Hawqa 5.97 115 *e*P **Pn** **07 18 00.6 +2.0**
ITM Ithomi 5.97 274 Pn **Pn** **07 18 03.0 +4.5**
BZK Bozkurt 6.14 34 ⇑P **Pn** **07 18 02.6 +1.8**
LIT Litokhoron 6.26 302 Pn **Pn** **07 18 04.0 +1.6**
GAZ Gaziantep 6.26 86 Pn **Pn** **07 18 04.2 +1.7**
RCY Rachaya 6.30 121 *e*P **Pn** **07 18 03.8 +0.6**
MMA0B Mount Meron ar 6.31 127 Pn **Pn** **07 18 03.4 +0.2**
MMA0B Sn **Sn** **07 19 13.7 -1.5**
MMAI Mount Meron Ar 6.31 127 Pn **Pn** **07 18 04.0 +0.8**
comp=E,40nm,0.3s,baz=310,slow=12,SNR=53
MMAI Sn **Sn** **07 19 13.4 -1.8**
comp=E,26nm,0.3s,baz=318,slow=26,SNR=8.8
GEM Giv'at Ha'Em 6.35 124 Pn **Pn** **07 18 05.1 +1.4**
GEM Sn **Sn** **07 19 15.0 -1.3**
BLGI Bet Lehem HaGe 6.36 130 Pn **Pn** **07 18 04.4 +0.6**
NATI Neve Ativ 6.37 123 Pn **Pn** **07 18 04.8 +0.8**
NATI Sn **Sn** **07 19 15.5 -1.2**
MMLI Mount Malkishu 6.70 130 Pn **Pn** **07 18 09.1 +0.5**
SHMJ Saham 6.72 127 Pn **Pn** **07 18 10.0 +1.2**
HMDT Nahal Hemdat 6.90 131 Pn **Pn** **07 18 12.3 +1.1**
UJAP Al Uja 7.07 133 Pn **Pn** **07 18 14.6 +1.0**
DSI Dead Sea 7.31 136 Pn **Pn** **07 18 17.5 +0.7**
STIP Stip 7.32 313 *i* Pn **Pn** **07 18 18.0 +1.0**
KZIT Kziot 7.32 144 Pn **Pn** **07 18 17.3 +0.2**
KZIT Sn **Sn** **07 19 35.8 -4.4**
TIRR Tirgusor 7.54 355 ⇓P **Pn** **07 18 21.0 +1.0**
TIRR Tirgusor 7.54 355 Pn **Pn** **07 18 21.0 +1.0**
KARJ KARJ 7.80 136 Pn **Pn** **07 18 15.1 -8.5**
HARR Harsova 7.81 352 ⇓P **Pn** **07 18 25.7 +2.1**
ASF Jabal al Asfar 7.81 125 **Pn** **07 18 26.4 +2.6**
comp=E,1.6nm,0.3s,baz=283,slow=6.6,SNR=14
ASF Sn **Sn** **07 19 56.9 +4.6**
comp=E,0.9nm,0.3s,baz=6.4,slow=17,SNR=1.8
PRNI Paran 8.07 143 Pn **Pn** **07 18 27.1 -0.3**
PRNI Sn **Sn** **07 19 54.9 -3.8**
HRFI Mount Harif 8.35 144 Pn **Pn** **07 18 31.5 +0.3**
HRFI Sn **Sn** **07 20 02.3 -3.2**
MBRI Mt Berech 8.50 146 Pn **Pn** **07 18 33.0 -0.3**
EIL Elat 8.62 146 Pn **Pn** **07 18 34.9 0.0**
comp=E,9.2nm,0.3s,baz=328,slow=2.8,SNR=34
EIL Sn **Sn** **07 20 07.7 -4.4**
comp=E,5.9nm,0.3s,baz=117,slow=14,SNR=5.8
EIL Elat 8.62 146 Pn **Pn** **07 18 34.7 -0.2**
EIL Sn **Sn** **07 20 07.6 -4.5**
MTUR Matau 8.89 340 ⇑P **Pn** **07 18 40.1 +1.6**
MLR Muntele Rosu 8.92 344 Pn **Pn** **07 18 38.4 -0.6**
comp=E,1.3nm,0.3s,baz=309,slow=9.3,SNR=15
MLR Muntele Rosu 8.92 344 ⇑P **Pn** **07 18 40.7 +1.6**
MLR Muntele Rosu 8.92 344 Pn **Pn** **07 18 40.6 +1.6**
VOIR 9.09 340 ⇓P **Pn** **07 18 42.6 +1.3**
PLOR Plostina 9.13 348 ⇑P **Pn** **07 18 43.8 +2.0**
VRI Vrincioaia 9.13 348 ⇑P **Pn** **07 18 43.8 +2.0**
MDVR Moldovita 9.74 326 ⇑P **Pn** **07 18 50.8 +0.5**
GZR Gura Zlata 9.79 332 ⇑P **Pn** **07 18 51.2 +0.3**
MILM Milestii Mici 9.97 358 ⇑P **Pn** **07 18 54.8 +1.5**
TIP Timpagrande 10.21 286 ⇓P **Pn** **07 18 58.0 +1.4**
TIP Timpagrande 10.21 286 Pn **Pn** **07 18 58.3 +1.7**
BZS Buzias 10.44 328 ⇓P **Pn** **07 18 60.0 +0.2**
BURAR Bucovina Array 11.09 345 ⇓P **Pn** **07 19 11.5 +2.7**
BURAR Bucovina Array 11.09 345 Pn **Pn** **07 19 10.1 +1.3**
BUR08 Bucovina Ar. S 11.12 345 Pn **Pn** **07 19 11.2 +2.0**
AKASG Malin Array Be 13.75 360 Pn **Pn** **07 19 44.6 -0.2**
comp=E,0.6nm,0.3s,baz=188,slow=13,SNR=5.1
VYHS Vyhne 13.88 329 *e*PN **Pn** **07 19 44.9 -1.9**
VRAC Vranov 15.46 327 LR LR 07 26 16.5
comp=E,33nm,21.6s,baz=84,slow=38
GEC2 GERESS Array S 16.50 321 P **P** **07 20 23.6 -0.6**
GERES GERESS Array B 16.50 321 Pn **P** **07 20 26.6 +2.4**
comp=E,0.1nm,0.3s,baz=130,slow=12,SNR=14
GERES GERESS Array B 16.50 321 P **P** **07 20 25.2 +1.1**
SENIN Lac Senin/Sane 18.94 307 **Pn** **07 20 53.6 +1.6**
BFO Black Forest 19.15 313 P **Pn** **07 20 54.4 +0.2**
BFO IAmb IAmb 07 21 01.3
comp=Z,6.2nm,0.8s
GEYT Alibeck 22.80 79 P **P** **07 21 33.1 +0.3**
comp=E,1.8nm,0.4s,baz=265,slow=8.6,SNR=3.8
GEYT Alibeck 22.80 79 IAmb IAmb 07 21 34.5
comp=Z,2.6nm,1.1s
AKTO Aktyubinsk 24.52 48 P **P** **07 21 48.6 -0.9**

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comp=Z,3.8nm,0.7s,baz=249,slow=9.6,SNR=13
FINES FINESS Array B 24.60 356 P **P** **07 21 49.6 -0.5**
comp=Z,3.7nm,0.9s,baz=165,slow=13,SNR=2.0
FINES FINESS Array B 24.60 356 P **P** **07 21 49.8 -0.3**
TAM Tamanrasset 24.96 242 P **P** **07 21 54.2 +0.4**
TAM IAmb IAmb 07 21 57.7
comp=Z,5.8nm,1.1s
HFS Hagfors 25.29 342 P **P** **07 21 56.5 +0.3**
comp=Z,7.9nm,0.9s,baz=160,slow=14,SNR=2.9
ABKAR Akbulak array 25.29 51 P **P** **07 21 56.0 -0.4**
ABKAR IAmb IAmb 07 21 58.7
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 25.29 51 P **P** **07 21 55.3 -1.1**
ESDC Sonseca Array 26.23 286 P **P** **07 22 04.5 -0.6**
comp=Z,2.1nm,0.8s,baz=79,slow=10,SNR=12
ESDC Sonseca Array 26.23 286 P **P** **07 22 03.5 -1.6**
NOA NORSAR Array B 26.71 340 P **P** **07 22 09.1 -0.1**
comp=Z,1.4nm,0.9s,baz=139,slow=8.9,SNR=2.3
NOA LR LR 07 33 35.6
comp=Z,27nm,21.2s,baz=155,slow=38
MDT Midelt 28.10 272 P **P** **07 22 22.1 0.0**
comp=Z,2.6nm,1.0s,baz=257,slow=14,SNR=2.7
EKA Eskdalemuir Ar 28.71 320 P **P** **07 22 27.2 +0.1**
comp=Z,0.3nm,0.3s,baz=125,slow=8.7,SNR=2.0
KK31 Karatay Array 31.84 66 P **P** **07 22 54.5 -0.4**
KK31 IAmb IAmb 07 22 59.0
comp=Z,3.1nm,1.0s
KKAR Karatay Array 31.84 66 P **P** **07 22 54.2 -0.8**
KKAR Karatay Array 31.84 66 IAmb IAmb 07 22 59.0
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 32.71 357 P **P** **07 23 03.1 +0.9**
comp=Z,5.4nm,1.0s,baz=170,slow=11,SNR=4.2
TOA0 Torodi Ar. Sit 34.28 233 P **P** **07 23 16.3 -0.2**
TORD Torodi Ar. Bea 34.28 233 P **P** **07 23 16.5 0.0**
comp=Z,3.5nm,0.4s,baz=32,slow=8.8,SNR=70
TORD Torodi Ar. Bea 34.28 233 P **P** **07 23 16.2 -0.4**
KOWA Kowa 37.19 242 P **P** **07 23 41.7 +0.3**
comp=Z,1.7nm,0.8s,baz=56,slow=11,SNR=1.9
KURBB Kurchatov Arra 37.32 53 P **P** **07 23 41.9 -0.4**
comp=Z,2.2nm,0.4s,baz=274,slow=8.8,SNR=15
MK31 Makanchi Array 39.92 59 IAmb IAmb 07 24 07.5
comp=Z,4.2nm,0.7s
MKAR Makanchi Array 39.92 59 P **P** **07 24 04.0 -0.1**
comp=Z,5.0nm,0.7s,baz=282,slow=6.1,SNR=17
MKAR Makanchi Array 39.92 59 P **P** **07 24 03.9 -0.3**
ZALV Zalesovo Beam 41.28 48 P **P** **07 24 14.0 -1.3**
comp=Z,0.9nm,0.5s,baz=278,slow=9.1,SNR=4.5
DBIC Dimbokro 43.38 234 P **P** **07 24 33.1 +0.4**
comp=Z,9.2nm,1.1s,baz=0.0,slow=7.1,SNR=1.9
SONM Songino Array 55.69 53 P **P** **07 26 05.9 -0.6**
comp=Z,0.5nm,0.4s,baz=284,slow=8.6,SNR=2.5
CMAR Chiang Mai Arr 63.00 87 P **P** **07 26 56.0 -1.4**
comp=Z,1.8nm,0.6s,baz=297,slow=8.5,SNR=5.9
SCHQ Schefferville 64.03 320 P **P** **07 27 02.9 -0.7**
comp=Z,5.3nm,0.6s,baz=46,slow=4.4,SNR=6.4
ILAR Eielson Array 78.57 358 P **P** **07 28 30.4 -0.9**
comp=Z,0.4nm,1.1s,baz=324,slow=33,SNR=2.2
TXAR Lajitas Array 100.71 320 P **Pdif** **07 30 18.7 -0.2**
comp=Z,0.3nm,0.8s,baz=54,slow=4.6,SNR=4.1
ASAR Alice Springs 115.02 102 PKP **PKPdf** **07 35 11.3 -0.3**
comp=Z,0.2nm,0.7s,baz=321,slow=1.3,SNR=1.8

*CRAAG **01** 07:21:58.5,36°.83N×3°.21E, Ml2.9*
*MDD **01** 07:22:01.5±2.4,37°.18N×3°.08E, h0km, mb4.0/8, Error ellipse: s-maj=23.0km s-min=13.0km az=147.0, PRXIMO*
ISC 01 07:21:57.8±1.2, 37°.01N±0°.06×3°.18E±0°.06, h12km, n15, σ1s74/22, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.24**	**209**	P	**Pg**	**07 22 02.3**	**-0.6**
ABMS	**Boumerdes**	**0.36**	**137**	P	**Pg**	**07 22 04.4**	**-0.6**
EMHD	**Djebel Mahouad**	**0.83**	**193**	P	**Pg**	**07 22 12.6**	**-1.3**
EIBI	**Ibiza**	**2.48**	**325**	P	**Pn**	**07 22 38.6**	**+0.5**
	5.4nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**07 23 07.5**	**-0.7**
	9.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**2.77**	**354**	P	**Pn**	**07 22 43.1**	**+1.1**
	2.2nm,0.1s,SNR=27						
ETOS				S	**Sn**	**07 23 13.8**	**-1.6**
	2.7nm,0.2s,SNR=58						
ETOB	**Tobarra**	**4.08**	**295**	P	**Pn**	**07 23 02.6**	**+2.5**
	1.9nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**07 23 46.4**	**-1.4**
	2.7nm,0.4s,SNR=7.9						
ECHE	**Chera**	**4.16**	**310**	P	**Pn**	**07 23 03.4**	**+2.3**
	2.3nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**07 23 48.2**	**-1.5**
	0.1nm,0.0s,SNR=7.9						
EMOS	**Mosqueruela**	**4.40**	**321**	P	**Pn**	**07 23 05.8**	**+1.1**
	0.9nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**07 23 53.8**	**-2.0**
	1.0nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.52**	**332**	S	**Sn**	**07 23 56.3**	**-2.3**
	0.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.68**	**285**	P	**Pn**	**07 23 10.3**	**+1.9**
	0.9nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**07 24 01.9**	**-0.9**
	3.9nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**4.78**	**353**	P	**Pn**	**07 23 10.9**	**+1.1**
	1.9nm,0.2s,SNR=8.7						
EQES	**Quesada**	**5.04**	**281**	P	**Pn**	**07 23 15.0**	**+1.7**
	0.9nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**07 24 11.2**	**-0.3**
	3.6nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**5.43**	**358**	P	**Pn**	**07 23 21.0**	**+2.3**
	2.4nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**5.47**	**358**	P	**Pn**	**07 23 21.3**	**+2.1**
	1.3nm,0.1s,SNR=7.9						
CSOR	**Sort**	**5.58**	**344**	P	**Pn**	**07 23 23.2**	**+2.4**
	1.2nm,0.3s,SNR=7.9						

*DJA **01** 07:36:19.4±0.5, 6°.5S×6°.1×12°.9E±°, h320km±9km, M4.6/7, mb4.4/7, mB5.2/4, MLv4.7/2, Mw(mB)4.5/4*
*IDC **01** 07:36:22.0±2.3, 6°.21S×128°.59E, h337km±24km, mb3.4/8, mb1 3.4/11, mb1mx3.3/28, mbtmp4.1/11, Error ellipse: s-maj=27.2km s-min=9.5km az=71.0*
ISC 01 07:36:19.9±0.6, 6°.14S±0°.06×128°.73E±0°.09, h322km, n19, σ2s00/23, mb3.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.14**	**126**	P	**Pn**	**07 37 20.0**	**+1.5**
SOEI	**Soe**	**5.69**	**231**	P	**Pn**	**07 37 46.0**	**-0.4**
	3µm124nm,0.5s						
SIJI	**Sorong**	**5.82**	**26**	P	**Pn**	**07 37 47.4**	**-0.3**
	2.7nm,0.3s,baz=168,slow=20,SNR=1.3						
SIJI				S	**S**	**07 38 53.5**	**-5.2**
	7.3nm,0.3s,baz=293,slow=23,SNR=6.9						
EDFI	**Ende, Flores**	**7.45**	**249**	P	**Pn**	**07 38 08.1**	**+0.9**
	4.4nm,0.8s						
PLAI	**Plampang**	**11.18**	**256**	P	**P**	**07 38 52.0**	**-1.8**
	29nm,1.6s						
TWSI	**Taliwang, Sumb**	**12.03**	**257**	P	**Pn**	**07 39 01.3**	**-1.2**
	923nm9.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**12.26**	**194**	P	**P**	**07 39 07.0**	**+1.3**
	0.3nm,0.3s,baz=355,slow=12,SNR=13						
FITZ				S	**S**	**07 41 20.3**	**-1.2**
	0.3nm,0.3s,baz=0.7,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**14.76**	**159**	P	**P**	**07 39 34.3**	**+1.0**
	1.1nm,0.3s,baz=334,slow=12,SNR=74						
WRA				S	**S**	**07 42 08.7**	**-5.2**
	0.4nm,0.3s,baz=332,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**18.12**	**165**	P	**P**	**07 40 11.1**	**+1.4**
	1.0nm,0.3s,baz=345,slow=12,SNR=55						
ASAR				S	**S**	**07 43 20.2**	**-0.2**
	0.5nm,0.3s,baz=344,slow=20,SNR=36						
ASAR				ScP	**ScP**	**07 47 31.8**	**0.0**
	0.1nm,0.3s,baz=346,slow=2.0,SNR=4.3						
CTA	**Charters Tower**	**21.95**	**131**	P	**P**	**07 40 50.2**	**+2.3**
	3.6nm,0.8s,baz=300,slow=8.6,SNR=5.1						
STKA	**Stephens Creek**	**28.29**	**156**	pP	pP	07 42 48.5	+3.5
	3.0nm,0.8s,baz=314,slow=5.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**38.22**	**310**	P	**P**	**07 43 10.3**	**+0.4**
	2.5nm,0.5s,baz=141,slow=7.6,SNR=13						
KSRS	**Korea Array**	**43.38**	**359**	P	**P**	**07 43 52.7**	**+1.3**
	1.0nm,0.5s,baz=177,slow=9.5,SNR=2.7						
USRK	**Ussuriysk Ar.**	**50.19**	**3**	P	**P**	**07 44 44.4**	**+0.7**
	0.9nm,0.4s,baz=189,slow=7.3,SNR=5.0						
SONM	**Songino Array**	**57.24**	**342**	P	**P**	**07 45 35.4**	**+1.0**
	0.4nm,0.4s,baz=148,slow=8.7,SNR=3.8						
PETK	**Petropavlovsk-**	**63.92**	**19**	P	**P**	**07 46 20.3**	**+1.3**
	4.8nm,0.9s,baz=177,slow=5.8,SNR=1.8						
MKAR	**Makanchi Array**	**66.82**	**327**	P	**P**	**07 46 38.2**	**+0.5**
	1.4nm,0.4s,baz=116,slow=8.7,SNR=29						
ZALV	**Zalesovo Beam**	**70.26**	**334**	P	**P**	**07 46 58.3**	**-0.3**
	0.9nm,0.4s,baz=120,slow=5.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**127.40**	**282**	PKP	**PKiKP**	**07 54 47.7**	**-0.5**
	0.4nm,0.8s,baz=65,slow=1.9,SNR=1.8						

*BGR **01** 07:47:25.6±0.8, 48°.21N×6°.24E, h10km, ML2.1/6, Error ellipse: s-maj=6.7km s-min=2.2km az=62.0*
*STR **01** 07:47:26.1±0.3, 48°.18N±2°.×±°, h0km, MLv2.2/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*LDG **01** 07:47:26.0±0.0, 48°.18N×6°.27E, h4km, Md2.3/2, Ml2.7/24, Error ellipse: s-maj=0.7km s-min=0.5km az=59.0*
ISC 01 07:47:25.1±0.8, 48°.17N±0°.02×6°.23E±0°.01, h17km±5km, n66, σ0s87/127, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THEF	**They Montfort**	**0.17**	**289**	Pg	**Pg**	**07 47 29.7**	**+0.1**
THEF				Sg	**Sg**	**07 47 32.0**	**-0.5**
HAU	**Haudompre**	**0.18**	**154**	*e*Pg	**Pg**	**07 47 29.7**	**0.0**
HAU				*e*Sg	**Sg**	**07 47 32.1**	**-0.7**
	685nm,0.2s						
PAGF	**Fort de Pagny**	**0.51**	**319**	*e*Pg	**Pb**	**07 47 36.2**	**+0.5**
	baz=137						
PAGF	**Fort de Pagny**	**0.51**	**319**	*e*Pn	**Pn**	**07 47 38.3**	**+0.6**
PAGF				*e*Sg	**Sb**	**07 47 43.1**	**+0.3**
PAGF				*e*Sn	**Sn**	**07 47 46.8**	**+0.7**
	45nm,0.3s						
HINF	**Hinteralfeld**	**0.55**	**130**	*e*Pg	**Pb**	**07 47 36.2**	**-0.1**
HINF	**Hinteralfeld**	**0.55**	**130**	*e*Pn	**Pn**	**07 47 38.8**	**+0.6**
HINF				*e*Sg	**Sg**	**07 47 43.3**	**-0.1**
	44nm,0.2s						
HINF				*e*Sn	**Sn**	**07 47 47.4**	**+0.4**
	35nm,0.2s						
ECH	**Echery**	**0.62**	**85**	Pg	**Pb**	**07 47 37.4**	**-0.2**
ECH				Pg	**Pb**	**07 47 37.5**	**-0.2**
ECH				Sg	**Sb**	**07 47 45.6**	**-0.5**
ECH				Sg	**Sg**	**07 47 45.8**	**0.0**
ECH	**Echery**	**0.62**	**85**	*e*Pg	**Pb**	**07 47 37.4**	**-0.2**
ECH				*e*Sg	**Sg**	**07 47 45.2**	**-0.6**
MOF	**Molkenrain**	**0.69**	**117**	Pg	**Pb**	**07 47 38.8**	**+0.1**
CDF	**Champ du Feu**	**0.74**	**71**	*e*Pg	**Pg**	**07 47 39.3**	**-0.3**
CDF				*e*Sg	**Sb**	**07 47 49.3**	**-0.2**
	92nm,0.3s						
WLS	**Welschbruch**	**0.79**	**72**	Pg	**Pb**	**07 47 40.3**	**-0.2**
SFTF	**Sexfontaines**	**0.80**	**273**	*e*Pg	**Pg**	**07 47 40.7**	**0.0**
	baz=93						
SFTF	**Sexfontaines**	**0.80**	**273**	*e*Pn	**Pn**	**07 47 42.3**	**+0.7**
SFTF				*e*Sg	**Sb**	**07 47 52.5**	**+1.5**
	44nm,0.3s						
SFTF				*e*Sn	**Sn**	**07 47 55.0**	**+1.9**
MEZF	**Maizieres J'vi**	**0.85**	**293**	*e*Pg	**Pb**	**07 47 42.5**	**+1.0**
	baz=113						
MEZF				*e*Sg	**Sb**	**07 47 53.8**	**+1.2**
	10nm,0.2s						
MEZF				*e*Sn	**Sn**	**07 47 56.1**	**+1.7**
	47nm,0.2s						
LOMF	**Lomont**	**0.91**	**154**	Pg	**Pn**	**07 47 44.0**	**+0.8**
CHMF	**Charmoille**	**0.97**	**163**	Pg	**Pn**	**07 47 44.5**	**+0.5**
CHMF				Sg	**Sb**	**07 47 57.1**	**+1.2**
BOURR	**Bourrignon**	**1.03**	**139**	Pg	**Pn**	**07 47 46.0**	**+1.1**
BOURR				Sg	**Sn**	**07 47 59.3**	**+0.4**
KIZ	**Kirchzarten**	**1.15**	**100**	Pg	**Pn**	**07 47 47.3**	**+0.8**
KIZ				Sg	**Sn**	**07 48 02.6**	**+0.7**
BRANT	**Les Verrieres**	**1.24**	**172**	Pg	**Pn**	**07 47 50.1**	**+0.9**
BRANT				Sg	**Sn**	**07 48 06.4**	**+2.1**
BERGE	**Lenzkirch (DE)**	**1.34**	**102**	*e*Pg	**Pg**	**07 47 50.7**	**-0.3**
BERGE				*e*Sg	**Sn**	**07 48 08.4**	**+1.7**
OPP	**Oppenau**	**1.35**	**75**	Pg	**Pg**	**07 47 50.9**	**-0.2**
OPP				Sg	**Sb**	**07 48 05.5**	**-1.4**
BFO	**Black Forest**	**1.41**	**83**	*e*Pg	**Pb**	**07 47 51.0**	**0.0**
SULZ	**Cheisacher**	**1.42**	**116**	*e*Sg	**Sg**	**07 48 11.1**	**+0.1**
METMA	**Mettma DE**	**1.44**	**108**	*e*Pg	**Pg**	**07 47 52.9**	**+0.1**
METMA				*e*Sg	**Sg**	**07 48 11.1**	**-0.4**
WLF	**Walferdange**	**1.50**	**358**	*e*Pg	**Pb**	**07 47 52.9**	**+0.4**
CABF	**La Chapelle**	**1.56**	**184**	*e*Pn	**Pn**	**07 47 53.1**	**+0.9**
CABF	**La Chapelle**	**1.56**	**184**	*e*Pg	**Pg**	**07 47 55.6**	**+0.4**
CABF				*e*Sg	**Sg**	**07 48 16.1**	**+0.6**
	108nm,0.6s						
SLE	**Schleitheim**	**1.57**	**104**	Pn	**Pb**	**07 47 53.7**	**-0.1**
SLE				Pg	**Pg**	**07 47 55.6**	**+0.2**
SLE				Sn	**Sg**	**07 48 15.6**	**-0.3**
RIVT	**Riveris**	**1.58**	**13**	*e*Pg	**Pg**	**07 47 54.8**	**-0.7**
RIVT				*e*Sg	**Sb**	**07 48 14.2**	**+0.7**
GIMEL	**St. Georges /**	**1.64**	**179**	Pn	**Pb**	**07 47 55.1**	**+0.1**
GIMEL				Pg	**Pg**	**07 47 57.2**	**+0.6**
GIMEL				Sn	**Sg**	**07 48 18.5**	**+0.6**
KTD	**Kalmit**	**1.68**	**46**	*e*Pg	**Pg**	**07 47 56.7**	**-0.8**
KTD				*e*Sg	**Sg**	**07 48 18.4**	**-1.0**
EMING	**Emmingen-Lipti**	**1.78**	**98**	*e*Pg	**Pg**	**07 47 59.2**	**-0.1**
LOR	**Lormes**	**1.84**	**241**	*e*Pn	**Pn**	**07 47 56.6**	**+0.7**
	baz=62						
LOR	**Lormes**	**1.84**	**241**	*e*Pg	**Pg**	**07 48 00.5**	**+0.1**
	baz=62						
LOR				*e*Sg	**Sg**	**07 48 24.5**	**+0.2**
	32nm,0.2s,baz=61						
ABH	**Alteburg**	**1.92**	**26**	Pn	**Pb**	**07 47 59.1**	**-0.6**
ABH	**Alteburg**	**1.92**	**26**	*e*Sg	**Sb**	**07 48 25.1**	**+1.7**
WALHA	**Wallhausen, DE**	**1.99**	**101**	*e*Pg	**Pg**	**07 48 03.6**	**+0.2**
GIVF	**Givet**	**2.14**	**335**	*e*Pn	**Pn**	**07 48 00.9**	**+0.8**
GIVF	**Givet**	**2.14**	**335**	*e*Pg	**Pg**	**07 48 05.7**	**-0.5**
GIVF				*e*Sn	**Sn**	**07 48 26.3**	**0.0**
GIVF				*e*Sg	**Sg**	**07 48 33.4**	**-0.6**
	12nm,0.4s						
SSF	**Saint Saulge**	**2.15**	**240**	*e*Pn	**Pn**	**07 48 00.8**	**+0.6**
SSF	**Saint Saulge**	**2.15**	**240**	*e*Pg	**Pg**	**07 48 06.5**	**+0.1**
SSF				*e*Sn	**Sn**	**07 48 26.7**	**+0.2**
SSF				*e*Sg	**Sg**	**07 48 34.4**	**+0.1**
	6.3nm,0.2

CAF				*e*Sg	**Sg**	**07 49 43.3**	**-0.9**
	1.7nm,0.3s							
LASF	**Ste Croix**	**4.41**	**203**	*e*Pn	**Pn**	**07 48 32.3**	**+1.0**
LASF	**Ste Croix**	**4.41**	**203**	*e*Pg	**Pg**	**07 48 48.7**	**-0.9**
LASF				*e*Sn	**Sn**	**07 49 21.6**	**-0.7**
LASF				*e*Sg	**Sg**	**07 49 44.7**	**-2.1**
	1.9nm,0.3s							
FLN	**La Foliniere**	**4.50**	**280**	*e*Pn	**Pn**	**07 48 33.3**	**+0.8**
FLN	**La Foliniere**	**4.50**	**280**	*e*Pg	**Pg**	**07 48 49.6**	**-1.7**
FLN				*e*Sn	**Sn**	**07 49 23.5**	**-1.0**
FLN				*e*Sg	**Sg**	**07 49 47.9**	**-1.7**
	4.7nm,0.3s,baz=100							
GRR	**Gorron**	**4.74**	**275**	*e*Sn	**Sn**	**07 49 27.8**	**-2.4**
GRR				*e*Sg	**Sg**	**07 49 55.3**	**-1.8**
	3.0nm,0.2s							

*GRAL **01** 07:54:25.0±0.3, 33°.26N×35°.43E, h8km±13km, MD2.5*
*GII **01** 07:54:25.0±0.6, 33°.34N×35°.45E, h3km±1km, MD1.6/2*
ISC 01 07:54:25.1±1.7, 33°.31N±0°.05×35°.4E±0°.1, h10km±16km, n10, σ0°61/17, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEM	**Giv'at Ha'Em**	**0.24**	**115**	Pg	**Pg**	**07 54 30.0**	**0.0**
GEM				Sg	**Sg**	**07 54 33.6**	**+0.3**
NATI	**Neve Ativ**	**0.29**	**100**	Pg	**Pg**	**07 54 30.6**	**-0.2**
NATI				Sg	**Sg**	**07 54 34.6**	**-0.1**
MMA0B	**Mount Meron ar**	**0.30**	**180**	Pg	**Pb**	**07 54 32.1**	**-0.5**
MMA0B				Sg	**Sb**	**07 54 37.3**	**-0.3**
MMC4	**Mount Meron ar**	**0.31**	**177**	Pg	**Pb**	**07 54 32.2**	**-0.5**
QRWL	**Qaraoun**	**0.33**	**45**	*e*P	**Pg**	**07 54 31.6**	**-0.1**
QRWL				*e*S	**Sg**	**07 54 36.5**	**+0.4**
RCY	**Rachaya**	**0.41**	**63**	*e*P	**Pg**	**07 54 32.7**	**-0.4**
DQRL	**Deir Qamar**	**0.42**	**20**	*e*P	**Pg**	**07 54 33.5**	**+0.2**
DQRL				*e*S	**Sg**	**07 54 39.8**	**+1.0**
SHMJ	**Saham**	**0.66**	**152**	Pg	**Pb**	**07 54 38.0**	**-0.7**
SHMJ				Sg	**Sb**	**07 54 48.8**	**+0.9**
HMDT	**Nahal Hemdat**	**1.06**	**174**	Pg	**Pn**	**07 54 46.3**	**+0.3**
HMDT				Sg	**Sn**	**07 55 01.4**	**+0.5**
HWQ	**Hawqa**	**1.06**	**25**	*e*P	**Pg**	**07 54 44.5**	**-1.1**

MAN 01 07:58:21.8, 8°.47N×124°.44E, h33km, mb4.1, ML2.9, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.26**	**94**	⇑*i*P	Pn	07 58 30.9	+1.8
CGP				*i* S	Sb	07 58 36.4	+2.5
BUKP	**Musuan**	**0.85**	**134**	*e*P	Pn	07 58 37.0	-0.6
BUKP				*e*S	Sb	07 58 49.4	-0.1
PAGZ	**Pagadian**	**1.21**	**239**	*e*P	Pn	07 58 43.0	+0.5
PAGZ				*e*S	Sn	07 58 57.1	-0.6
SKMP	**Bagumbayan, Su**	**1.94**	**177**	*e*P	Pn	07 58 53.5	+1.0
SKMP				*e*S	Sn	07 59 16.9	+1.1

LVSN 01 08:05:50.2±0.3, 58°.08N×23°.85E, h1km, ML2.2, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**0.95**	**242**	*e*S	Sg	08 06 20.2	-0.4
SLIT				AML	AML	08 06 22.1	
	comp=N,79nm,0.6s						
SLIT				AML	AML	08 06 22.8	
	comp=E,67nm,0.5s						
SLIT				AML	AML	08 06 23.0	
	comp=Z,36nm,0.5s						
MEF	**Metsahovi**	**2.16**	**7**	AML	AML	08 06 37.6	
	comp=E,144nm,0.5s						
MEF				AML	AML	08 06 38.1	
	comp=N,118nm,0.5s						
MEF				AML	AML	08 06 38.2	
	comp=Z,196nm,0.4s						
PBUR	**Paburge**	**2.31**	**208**	*e*S	Sb	08 07 02.2	+0.5

HEL 01 08:06:33.6±0.4, 60°.11N×24°.30E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.12**	**24**	*e*P	Pg	08 06 35.1	-0.7
MEF				*e*S	Sg	08 06 39.6	-0.4
PVF	**Pernaja**	**0.89**	**60**	*e*P	Pg	08 06 49.6	-1.0
PVF				*e*S	Sg	08 07 00.9	-1.2
RAF	**Rauma**	**1.55**	**307**	*e*S	Sn	08 07 22.0	-1.2
RAF				AML	AML	08 07 27.7	
	comp=E,4.5nm,0.4s						
RAF				AML	AML	08 07 27.7	
	comp=N,4.6nm,0.3s						
RAF				AML	AML	08 07 34.0	
	comp=Z,3.9nm,0.6s						
RAF	**Rauma**	**1.55**	**307**	*e*P	Pn	08 07 00.7	-1.7
RAF				*e*S	Sn	08 07 21.9	-1.3
FIA1	**FINESS Array S**	**1.60**	**32**	*e*P	Pn	08 07 02.4	-0.7
FIA1				*e*S	Sn	08 07 22.4	-1.9
FIA1				MSG		08 07 26.5	
	comp=Z,0.7nm,0.1s						
KEF	**Keuruu**	**2.08**	**7**	*e*S	Sn	08 07 36.3	0.0
KEF				MSG		08 07 40.2	
	comp=Z,0.4nm,0.1s						

*UCR **01** 08:10:42.0±1.6, 9°.98N×86°.26W, h10km, MW4.5*
*INET **01** 08:10:43.7, 9°.90N×86°.13W, h15km, ML3.3*
*IDC **01** 08:10:46.6±39.0, 11°.46N×84°.98W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.5/3, Error ellipse: s-maj=679.5km s-min=252.9km az=151.0*
ISC 01 08:10:45.5±1.3, 10°.03N±0°.07×86°.05W±0°.08, h24km, n34, σ1s14/34, mb3.5/3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNO	**Dulce Nombre,**	**0.55**	**85**	*e*P	**Pb**	**08 10 56.2**	**-0.4**
DUNO				*e*S	**Sn**	**08 11 08.4**	**+2.0**
GUAI	**GUAI**	**0.58**	**66**	*i* P	**Pb**	**08 10 56.8**	**-0.3**
GUAI				*i* S	**Sn**	**08 11 06.8**	**-0.4**
ORTG	**Ortega, Santa**	**0.67**	**60**	*e*P	**Pb**	**08 10 58.1**	**-0.5**
PLVR	**Palo Verde**	**0.76**	**65**	*e*P	**Pb**	**08 10 59.6**	**-0.6**
PLVR				*e*S	**Sn**	**08 11 14.8**	**+3.1**
GBS3	**Finca Las Img**	**0.95**	**38**	*i* P	**Pn**	**08 11 02.3**	**-1.2**
LAPC	**Finca la Perla**	**0.95**	**40**	*i* P	**Pn**	**08 11 02.3**	**-1.1**
GPS3	**Bodega del ICE**	**0.99**	**43**	*i* P	**Pn**	**08 11 03.2**	**-0.8**
GPS3				*i* S	**Sn**	**08 11 18.0**	**+0.8**
BUEV	**Buena Vista**	**0.99**	**40**	*e*P	**Pn**	**08 11 02.9**	**-1.2**
GPS2	**Hotel Rincn d**	**1.00**	**44**	*i* P	**Pn**	**08 11 03.1**	**-0.9**
GPS1	**Guardaparques**	**1.01**	**43**	*i* P	**Pn**	**08 11 03.4**	**-0.9**
GB1A	**Boringuen Arri**	**1.01**	**39**	*i* P	**Pn**	**08 11 03.2**	**-1.2**
COLC	**Colonia**	**1.05**	**53**	*i* P	**Pn**	**08 11 03.9**	**-0.8**
GUAB	**Guayabo de Bag**	**1.05**	**50**	*i* P	**Pn**	**08 11 03.9**	**-0.9**
CUI	**Cuipilapa**	**1.07**	**54**	*i* P	**Pn**	**08 11 04.3**	**-0.8**
BUAI	**Buenos Aires**	**1.10**	**40**	*i* P	**Pn**	**08 11 04.9**	**-0.6**
JTS	**Las Juntas de**	**1.11**	**76**	*e*P	**Pn**	**08 11 04.7**	**-0.9**
LAFE	**Finca La Fe, P**	**1.15**	**101**	*e*P	**Pn**	**08 11 04.1**	**-2.0**
CASO	**Castillo**	**1.36**	**73**	*i* P	**Pn**	**08 11 08.9**	**-0.1**
CEDE	**Laguna Cedeo**	**1.40**	**71**	*e*P	**Pb**	**08 11 09.9**	**-1.1**
JACO	**JACO, Garabito**	**1.42**	**105**	*e*P	**Pb**	**08 11 10.2**	**-1.1**
FORC	**Fortuna**	**1.43**	**72**	*i* P	**Pb**	**08 11 10.2**	**-1.2**
SRA1	**San Ramn**	**1.55**	**88**	*e*P	**Pn**	**08 11 11.4**	**-0.3**
COVE	**Coope Vega, Sa**	**1.76**	**67**	*e*P	**Pn**	**08 11 14.2**	**-0.3**
LCR2	**La Lucha 2**	**2.04**	**98**	*e*P	**Pn**	**08 11 19.0**	**+0.5**
CDM	**Cerro de Muert**	**2.31**	**102**	*e*P	**Pn**	**08 11 22.2**	**-0.2**
ESPN	**Las Esperanzas**	**2.76**	**38**	*e*P	**Pn**	**08 11 28.0**	**-0.2**
MATN	**Matagalpa**	**2.89**	**2**	*e*P	**Pn**	**08 11 29.6**	**-0.5**
TXAR	**Lajitas Array**	**25.31**	**322**	P	**P**	**08 16 11.6**	**+1.0**
	0.7nm,0.6s,baz=140,slow=10,SNR=15						
H06E1	**SOCORRO T-PHAS**	**25.59**	**293**	T	T	08 42 48.1	
PDAR	**Pinedale Array**	**38.54**	**332**	P	**P**	**08 18 05.0**	**-1.5**
	0.3nm,0.7s,baz=129,slow=13,SNR=3.0						
NVAR	**Mina Array Bea**	**40.42**	**320**	P	**P**	**08 18 23.8**	**+1.6**
	1.6nm,0.9s,baz=139,slow=8.4,SNR=7.4						
H01W1	**Cape Leeuwin H**	**149.13**	**214**	T	T	11 20 45.0	
	baz=148,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**149.13**	**214**	T	T	11 20 49.9	
	baz=148,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**149.15**	**214**	T	T	11 20 45.7	
	baz=148,slow=76,SNR=13						

*NNC **01** 08:36:04.4±1.9, 38°.08N×71°.93E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=14.6km s-min=11.9km az=176.0*
ISC 01 08:36:04.0±4.9, 37°.8N±0°.3×71°.9E±0°.2, h113km, n9, σ0s53/12, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.57**	**17**	P	**Pn**	**08 37 10.1**	**-1.2**
	SNR=7.3						
UCH	**Uchtor**	**4.88**	**24**	P	**Pn**	**08 37 15.6**	**0.0**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.09**	**16**	P	**Pn**	**08 37 18.9**	**+0.7**
	SNR=7.0						
AAK	**Ala-Archa**	**5.25**	**21**	P	**Pn**	**08 37 20.7**	**+0.4**
	SNR=9.3						
AAK	**Ala-Archa**	**5.25**	**21**	⇑Pn	**Pn**	**08 37 20.5**	**+0.2**
	4.3nm,0.3s						
AAK				⇑Sn	**Sn**	**08 38 19.9**	**+0.2**
	18nm,0.8s						
KK31	**Karatay Array**	**5.43**	**349**	⇓Pn	**Pn**	**08 37 22.6**	**+0.1**
	2.4nm,0.3s,baz=166,slow=11,SNR=29						
KK31				⇓Sn	**Sn**	**08 38 23.7**	**-0.1**
	5.1nm,0.3s,baz=174,slow=22,SNR=14						
CHMS	**Chumysh**	**5.66**	**22**	P	**Pn**	**08 37 26.0**	**+0.3**
	SNR=5.3						
USP	**Ospenovka**	**5.84**	**19**	P	**Pn**	**08 37 27.9**	**-0.3**
	SNR=8.3						
TKM2	**Tokmak 2**	**5.87**	**28**	⇓Pn	**Pn**	**08 37 28.7**	**0.0**
	1.1nm,0.5s						
TKM2				⇓Sn	**Sn**	**08 38 34.7**	**-0.1**
	3.0nm,0.6s						

NNC 01 08:36:16.1±2.5, 53°.66N×88°.04E, h0km, mb3.8, mpv3.5, 6C-5D, Error ellipse: s-maj=19.5km s-min=12.1km az=56.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.93**	**280**	⇓Pg	Pn	08 36 50.7	+0.5
	3.2nm,0.5s						
ZAA0				⇓Lg	Lg	08 37 19.0	
	19nm,0.9s						
KURK	**Kurchatov**	**6.50**	**247**	⇑Pn	Pn	08 37 54.3	+1.4
	2.1nm,0.5s						
KURK				⇑Sn	Sn	08 39 07.3	-0.4
	2.4nm,0.6s						
KURK				⇑Lg	Lg	08 39 41.0	
	7.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.59**	**246**	⇓Pn	Pn	08 37 55.9	+1.7
	6.9nm,0.6s						
KURBB				⇑Sn	Sn	08 39 10.8	+0.8
	9.3nm,0.6s						
KURBB				⇑Lg	Lg	08 39 45.8	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.79**	**210**	⇑Pn	Pn	08 38 10.7	-0.1
	4.5nm,1.1s,baz=27,slow=13,SNR=9.1						
MK31				⇓Sn	Sn	08 39 41.6	+2.0
	9.5nm,1.3s,baz=18,slow=19,SNR=4.7						
MK31				⇓Lg	Lg	08 40 23.4	
	7.7nm,1.1s,baz=27,slow=30						

*KRNET **01** 08:44:16.8±0.1, 39°.68N×74°.17E, mb2.8*
*SOME **01** 08:44:19.5, 39°.92N×74°.15E, h5km*
*NNC **01** 08:44:23.2±2.9, 40°.05N×74°.19E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=19.9km s-min=10.4km az=173.0*
ISC 01 08:44:18.3±1.9, 39°.61N±0°.10×74°.06E±0°.05, h10km, n17, σ1s37/29, 20C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**2.25**	**5**	⇑*i*P	**Pn**	**08 44 56.4**	**+0.6**
	baz=3.0						
ARLS				⇑*i*S	**Sn**	**08 45 25.3**	**+1.5**
	baz=3.0						
AML	**Almayashu**	**2.53**	**354**	⇑*i*P	**Pn**	**08 45 00.2**	**+0.4**
	baz=52						
AML				⇑*i*S	**Sn**	**08 45 32.0**	**+1.1**
	baz=52						
BTK	**Batken**	**2.53**	**281**	⇑*i*P	**Pb**	**08 45 02.1**	**-1.8**
	baz=79						
BTK				⇑*i*S	**Sb**	**08 45 35.3**	**+0.1**
	baz=79						
KZA	**Kyzart**	**2.62**	**20**	⇑*e*P	**Pn**	**08 45 01.4**	**+0.3**
	baz=19						
KZA				⇑*i*S	**Sn**	**08 45 33.6**	**+0.4**
	baz=19						
UCH	**Uchtor**	**2.63**	**7**	⇓*i*P	**Pn**	**08 45 01.8**	**+0.5**
	baz=6.0						
UCH				⇓*i*S	**Sn**	**08 45 34.5**	**+0.9**
	baz=6.0						
AAK	**Ala-Archa**	**3.04**	**6**	⇑*i*P	**Pn**	**08 45 07.0**	**+0.4**
	baz=5.0						
AAK				⇑*i*S	**Sn**	**08 45 43.9**	**+0.8**
	baz=5.0						
AAK	**Ala-Archa**	**3.04**	**6**	⇑Pg	**Pb**	**08 45 10.6**	**-2.0**
	4.5nm,0.4s						
AAK				⇑Lg	Lg	08 45 46.0	
	9.7nm,0.9s						
EKS2	**Erkin-Say**	**3.05**	**356**	⇑*i*P	**Pn**	**08 45 07.4**	**+0.6**
	baz=54						
EKS2				⇑*i*S	**Sn**	**08 45 44.4**	**+1.0**
	baz=54						
MRKS	**Merke**	**3.19**	**349**	*e*P	**Pb**	**08 45 13.6**	**-1.6**
	7.0nm,0.4s						
MRKS				*e*S	**Sb**	**08 45 51.1**	**-3.0**
	10nm,0.4s						
MRKS	**Merke**	**3.19**	**349**	Pg	**Pb**	**08 45 13.6**	**-1.6**
	7.0nm,0.4s						
MRKS				Lg	Lg	08 45 49.6	
	10nm,0.4s						
BOOM	**Boomskoye usch**	**3.21**	**26**	⇑*i*P	**Pn**	**08 45 09.2**	**+0.3**
	baz=25						
BOOM				⇑*i*S	**Sn**	**08 45 47.3**	**0.0**
	baz=25						
KDJ	**Kajisay**	**3.45**	**42**	⇓*i*P	**Pn**	**08 45 12.4**	**+0.1**
	baz=42						
KDJ				⇓*i*S	**Sn**	**08 45 53.1**	**-0.3**
	baz=42						
TKM2	**Tokmak 2**	**3.50**	**19**	⇑Pg	**Pb**	**08 45 17.4**	**-3.2**
	1.9nm,0.8s						
TKM2				⇑Lg	Lg	08 46 01.7	
	4.2nm,0.6s						
SGDS	**Sogindy**	**3.86**	**6**	Pg	**Pb**	**08 45 26.4**	**-0.1**
	2.4nm,0.3s						
SGDS				Lg	Lg	08 46 12.3	
	2.2nm,0.6s						
TNSS	**Tian-Shan**	**4.05**	**32**	*e*P	**Pb**	**08 45 30.7**	**+0.7**
	2.5nm,0.3s						
TNSS				*e*S	**Sb**	**08 46 20.1**	**+0.9**
	3.2nm,0.6s						
TNSS	**Tian-Shan**	**4.05**	**32**	Pg	**Pb**	**08 45 31.4**	**+1.3**
	2.5nm,0.3s						
TNSS				Lg	Lg	08 46 20.1	
	3.2nm,0.6s						
KK31	**Karatay Array**	**4.39**	**324**	⇓Pg	**Pb**	**08 45 37.5**	**+1.9**
	0.6nm,0.4s,baz=130,slow=16,SNR=4.4						
KK31				⇑Sn	**Sn**	**08 46 18.1**	**+1.8**
	1.6nm,0.6s						
KK31				⇑Lg	Lg	08 46 34.6	
	1.0nm,0.3s,baz=131,slow=29,SNR=4.0						

*SNET **01** 08:48:56.1±0.9, 14°.15N×90°.89W, h102km±3km, ML3.2*
*GCG **01** 08:48:59.0±0.3, 14°.11N×90°.87W, h84km±54km, MD3.8*
ISC 01 08:48:56.2±2.0, 14°.11N±0°.08×90°.91W±0°.06, h108km±12km, n33, σ0s50/42, 3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.35**	**11**	*e*P	**Pn**	**08 49 12.6**	**+0.4**
PCG	**Pacaya**	**0.41**	**46**	*e*P	**Pn**	**08 49 13.2**	**+0.6**
IXG	**Ixpaco**	**0.46**	**82**	*e*P	**Pn**	**08 49 12.1**	**-0.7**
IXG				*e*S	**Sn**	**08 49 24.9**	**-0.4**
IXG	**Ixpaco**	**0.46**	**82**	*e*P	**Pn**	**08 49 13.2**	**+0.4**
NBG	**Las Nubes**	**0.73**	**49**	*e*P	**Pn**	**08 49 15.9**	**+1.0**
RTAL	**Retalhuleu**	**0.87**	**299**	*e*P	**Pn**	**08 49 16.1**	**+0.1**
RTAL				*e*S	**Sn**	**08 49 30.2**	**-0.6**
RTAL				IAML		08 49 35.6	
	comp=Z,266nm,0.3s						
NUBE	**Las Nubes**	**1.11**	**100**	⇓*e*P	**Pn**	**08 49 18.4**	**-0.2**
NUBE				*e*S	**Sn**	**08 49 34.9**	**-0.7**
RTR	**El Retiro**	**1.24**	**99**	*e*P	**Pn**	**08 49 20.2**	**+0.1**
SBLS	**San Blas**	**1.28**	**102**	*e*P	**Pn**	**08 49 20.7**	**+0.2**
CEVE	**Cerro Verde**	**1.28**	**102**	*e*P	**Pn**	**08 49 19.5**	**-1.1**
CEVE				*e*S	**Sn**	**08 49 38.5**	**-0.5**
CEVE				IAML		08 49 43.0	
	comp=Z,974nm,0.2s						
SNJE	**San Jose**	**1.29**	**100**	*e*P	**Pn**	**08 49 20.3**	**-0.3**
UNIC	**Universidad Ca**	**1.33**	**95**	*e*P	**Pn**	**08 49 20.2**	**-0.7**
HUEH	**Huehuetenango**	**1.33**	**335**	*e*P	**Pn**	**08 49 21.3**	**+0.1**
HUEH				*e*S	**Sn**	**08 49 40.0**	**-0.2**
CEDA	**San Andres**	**1.50**	**101**	*e*P	**Pn**	**08 49 22.9**	**-0.1**
CEDA				IAML		08 49 25.5	
	comp=Z,197nm,0.2s						
TACO	**Tacachico**	**1.52**	**95**	*e*P	**Pn**	**08 49 22.4**	**-0.7**
MTO3	**Montecristo**	**1.53**	**79**	⇓*e*P	**Pn**	**08 49 23.0**	**-0.5**
MRL	**Marmol**	**1.53**	**51**	⇓*e*P	**Pn**	**08 49 23.5**	**-0.1**
MRL				*e*S	**Sn**	**08 49 44.0**	**-0.3**
ESQI	**Esquipulas**	**1.58**	**73**	*e*P	**Pn**	**08 49 23.9**	**-0.1**
ESQI				*e*S	**Sn**	**08 49 45.8**	**+0.6**
BOQS	**Boqueron**	**1.62**	**103**	*e*P	**Pn**	**08 49 24.8**	**+0.2**
UEES	**Universidad Ev**	**1.67**	**103**	*e*P	**Pn**	**08 49 25.0**	**0.0**
SNET	**Serv Nac Est T**	**1.68**	**104**	*e*P	**Pn**	**08 49 25.1**	**-0.1**
SNET				IAML		08 49 26.1	
	comp=Z,164nm,0.3s						
SNET				*e*S	**Sn**	**08 49 48.1**	**+0.8**
UESS	**Universidad de**	**1.70**	**103**	*e*P	**Pn**	**08 49 25.6**	**+0.1**
OPAM	**Oficina de Pla**	**1.71**	**103**	*e*P	**Pn**	**08 49 25.7**	**+0.2**
LBRS	**Las Brisas**	**1.85**	**101**	*e*P	**Pn**	**08 49 27.2**	**0.0**
LFRS	**El Faro**	**1.86**	**105**	*e*P	**Pn**	**08 49 27.8**	**+0.4**
LFRS				*e*S	**Sn**	**08 49 52.2**	**+1.0**
PAVA	**Las Pavas**	**1.95**	**101**	*e*P	**Pn**	**08 49 28.7**	**+0.1**
PAVA				IAML		08 49 29.9	
	comp=Z,137nm,0.4s						
COEG	**Centro de Oper**	**2.03**	**104**	*e*P	**Pn**	**08 49 29.6**	**0.0**
ALJI	**Alcalda de J**	**2.40**	**109**	*e*P	**Pn**	**08 49 34.9**	**+0.6**
FAGO	**Alcalda de S**	**2.75**	**98**	*e*P	**Pn**	**08 49 38.5**	**-0.3**
PETF	**Flores**	**2.97**	**20**	*e*P	**Pn**	**08 49 41.8**	**0.0**
LCND	**La Caada**	**3.04**	**105**	*e*P	**Pn**	**08 49 42.5**	**-0.2**
CNCH	**Conchagua**	**3.10**	**105**	*e*P	**Pn**	**08 49 44.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**3.53**	**90**	*e*P	**Pn**	**08 49 48.8**	**-0.5**

*UCR **01** 09:00:58.9±1.6, 10°.05N×86°.18W, h20km±7km, MW4.2, mb4.2(NEIC)*
*IDC **01** 09:00:58.6±1.7, 10°.17N×86°.03W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/32, mbtmp3.9/6, MS3.2/3, Ms1 3.2/3, ms1mx2.7/35, Error ellipse: s-maj=43.5km s-min=14.9km az=18.0*
*INET **01** 09:00:59.1, 9°.93N×86°.11W, h14km, ML3.4*
*NEIC **01** 09:01:03.0±1.1, 10°.146N±0°.010×85°.91W±0°.07, h40km±13km, mb4.2/22, Error ellipse: s-maj=10.1km s-min=1.3km az=87.0*
ISC 01 09:01:01.3±1.8, 10°.04N±0°.08×86°.02W±0°.06, h25km±12km, n70, σ1s01/72, mb4.2/16, 9C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNO	**Dulce Nombre,**	**0.52**	**86**	⇑*i*P	**Pb**	**09 01 11.4**	**-0.5**
DUNO				*e*S	**Sn**	**09 01 23.1**	**+1.8**
GUAI	**GUAI**	**0.56**	**65**	*i* P	**Pb**	**09 01 11.9**	**-0.5**
GUAI				*i* S	**Sn**	**09 01 22.1**	**0.0**
ORTG	**Ortega, Santa**	**0.64**	**60**	⇑*i*P	**Pb**	**09 01 13.4**	**-0.6**
ORTG				*e*S	**Sn**	**09 01 24.9**	**+0.5**
PLVR	**Palo Verde**	**0.73**	**65**	⇑*i*P	**Pn**	**09 01 14.7**	**-1.5**
PLVR				*e*S	**Sn**	**09 01 26.2**	**-0.4**
GBS3	**Finca Las Img**	**0.93**	**37**	*i* P	**Pn**	**09 01 17.4**	**-1.4**
LAPC	**Finca la Perla**	**0.93**	**39**	*i* P	**Pn**	**09 01 17.4**	**-1.4**
GPS3	**Bodega del ICE**	**0.96**	**42**	*i* P	**Pn**	**09 01 18.2**	**-1.1**
GPS3				*i* S	**Sb**	**09 01 33.0**	**+1.2**
BUEV	**Buena Vista**	**0.97**	**39**	⇑*i*P	**Pn**	**09 01 18.1**	**-1.4**
GPS2	**Hotel Rincn d**	**0.97**	**43**	*i* P	**Pn**	**09 01 18.3**	**-1.1**
GPS1	**Guardaparques**	**0.99**	**42**	*i* P	**Pn**	**09 01 18.6**	**-1.1**
GPS1				*i* S	**Sb**	**09 01 33.5**	**+1.0**
GB1A	**Boringuen Arri**	**0.99**	**38**	⇑*i*P	**Pn**	**09 01 18.4**	**-1.3**
LIM1	**Limonal**	**1.00**	**49**	*i* P	**Pn**	**09 01 18.8**	**-1.0**
COLC	**Colonia**	**1.02**	**52**	*i* P	**Pn**	**09 01 19.2**	**-0.9**
GUAB	**Guayabo de Bag**	**1.03**	**50**	*i* P	**Pn**	**09 01 19.1**	**-1.0**
BUAI	**Buenos Aires**	**1.07**	**39**	*i* P	**Pn**	**09 01 20.0**	**-0.8**
JTS	**Las Juntas de**	**1.08**	**77**	Pg	**Pn**	**09 01 19.8**	**-1.1**
	30nm,0.3s,baz=324,slow=6.1,SNR=277						
JTS				Lg	Lg	09 01 40.7	
	70nm,0.3s,baz=80,slow=20,SNR=11						
JTS	**Las Juntas de**	**1.08**	**77**	⇑*i*P	**Pn**	**09 01 19.9**	**-1.1**
CASO	**Castillo**	**1.33**	**73**	*i* P	**Pn**	**09 01 24.1**	**-0.3**
CEDE	**Laguna Cedeo**	**1.37**	**71**	*i* P	**Pn**	**09 01 25.0**	**+0.1**
FORC	**Fortuna**	**1.40**	**72**	*i* P	**Pn**	**09 01 25.2**	**-0.1**
COVE	**Coope Vega, Sa**	**1.73**	**67**	*e*P	**Pn**	**09 01 28.8**	**-1.1**
LCR2	**La Lucha 2**	**2.01**	**98**	⇑*i*P	**Pn**	**09 01 33.5**	**-0.3**
ACON	**Acoyapa**	**2.09**	**23**		**Pn**	**09 01 33.9**	**-0.8**
RIMA	**Rio Macho**	**2.15**	**97**	⇑*i*P	**Pn**	**09 01 35.6**	**-0.1**
CVTR	**Volcan Turrial**	**2.23**	**90**	*e*P	**Pn**	**09 01 37.8**	**+0.7**
CDM	**Cerro de Muert**	**2.28**	**102**	⇑*i*P	**Pn**	**09 01 37.7**	**-0.1**
ESPN	**Las Esperanzas**	**2.73**	**38**		**Pn**	**09 01 42.9**	**-0.6**
RIOS	**Rincon, Osa**	**2.81**	**118**	*e*P	**Pn**	**09 01 44.1**	**-0.6**
MATN	**Matagalpa**	**2.88**	**2**		**Pn**	**09

WRA **Warramunga Arr** **139.88** **251** PKP **PKPdf** **09 20 28.0 -0.3**
comp=Z,0.4nm,0.7s,baz=96,slow=2.5,SNR=2.8

IDC 01 09:07:08.3±2.1, 26°58N×96°55E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/45, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=66.5km s-min=25.9km az=77.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.38**	**164**	Pn	Pn	09 09 11.7	+0.6
	0.4nm,0.3s,baz=340,slow=16,SNR=4.9						
CMAR				Sn	Sn	09 10 45.9	-0.6
	baz=349,slow=29,SNR=1.1						
SONM	**Songino Array**	**22.58**	**17**	P	P	09 12 12.0	+1.6
	0.4nm,0.4s,baz=209,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**23.12**	**334**	P	P	09 12 14.8	-1.2
	0.6nm,0.5s,baz=145,slow=9.7,SNR=7.4						

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*NEIC **01** 09:08:29.5±1.1, 17°.9S±0°.1×168°.9E±0°.2, h188km±11km, mb4.3/15, Error ellipse: s-maj=23.6km s-min=14.6km az=103.0*
*IDC **01** 09:08:30.2±8.7, 17°.82S×168°.71E, h175km±66km, mb3.5/3, mb1 3.5/4, mb1mx3.2/37, mbtmp3.9/4, Error ellipse: s-maj=141.9km s-min=73.1km az=107.0*
ISC 01 09:08:30.3±1.4, 18°.0S±0°.1×168°.9E±0°.2, h200km, n22, σ0s88/23, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.69**	**209**	P	**Pn**	**09 09 41.4**	**+0.5**
	0.9nm,0.3s,baz=128,slow=22,SNR=12						
DZM				S	**Sn**	**09 10 35.6**	**-1.0**
	baz=92,slow=15,SNR=1.3						
DZM	**Mont Dzumac**	**4.69**	**209**		**Pn**	**09 09 40.5**	**-0.4**
ARMA	**Armidale**	**20.01**	**228**	P	**P**	**09 12 47.2**	**-0.8**
CTAO	**Charters Tower**	**21.49**	**261**	P	**P**	**09 13 04.2**	**+0.6**
STKA	**Stephens Creek**	**28.26**	**235**	P	**P**	**09 14 04.8**	**-0.3**
	2.0nm,1.0s,baz=73,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**28.26**	**235**	P	**P**	**09 14 06.0**	**+0.9**
TOO	**Toolangi**	**28.33**	**222**	P	**P**	**09 14 06.2**	**+0.6**
TOO				IAmb	IAmb	09 14 30.3	
	comp=Z,18nm,1.3s						
WR0	**Warramunga Arr**	**32.51**	**261**	P	**P**	**09 14 42.8**	**+0.2**
WR0				IAmb	IAmb	09 14 50.5	
	comp=Z,8.8nm,1.4s						
WB0	**Warramunga Arr**	**32.65**	**261**	P	**P**	**09 14 44.4**	**+0.6**
WB0				IAmb	IAmb	09 15 02.9	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**32.69**	**261**	P	**P**	**09 14 44.7**	**+0.6**
WB2				IAmb	IAmb	09 14 48.4	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**32.69**	**261**	P	**P**	**09 14 43.8**	**-0.3**
WRAB				IAmb	IAmb	09 14 48.1	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**32.70**	**261**	P	**P**	**09 14 46.1**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=84,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**32.70**	**261**	P	**P**	**09 14 45.3**	**+1.1**
BBOO	**Buckleboo**	**32.98**	**237**	P	**P**	**09 14 46.5**	**+0.1**
AS31	**Alice Springs**	**33.13**	**254**	P	**P**	**09 14 48.4**	**+0.5**
AS31				IAmb	IAmb	09 14 50.2	
	comp=Z,2.4nm,0.3s						
ASAR	**Alice Springs**	**33.13**	**254**	P	**P**	**09 14 48.6**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=83,slow=8.8,SNR=43						
ASAR	**Alice Springs**	**33.13**	**254**	P	**P**	**09 14 49.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**41.05**	**263**	P	**P**	**09 15 55.2**	**+0.7**
SOEI	**Soe**	**43.98**	**275**	P	**P**	**09 16 17.4**	**-0.9**
SOEI				IAmb	IAmb	09 16 43.3	
	comp=Z,21nm,1.3s						
PSAB2	**Pilbara Seismi**	**46.13**	**257**	P	**P**	**09 16 35.1**	**0.0**
INCN	**Inchon**	**67.98**	**325**	P	**P**	**09 19 06.6**	**-1.3**
RYN	**Ryan**	**88.14**	**48**	P	**P**	**09 20 59.0**	**+0.3**
RYN				IAmb	IAmb	09 21 03.2	
	comp=Z,8.2nm,1.3s						

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*NEIC **01** 09:17:28.0±1.8, 27°.69N±0°.05×139°.9E±0°.2, h481km±9km, mb4.4/12, Error ellipse: s-maj=19.6km s-min=6.0km az=78.0*
*IDC **01** 09:17:28.2±0.6, 27°.73N×139°.85E, h478km±7km, mb3.2/13, mb1 3.3/18, mb1mx3.2/48, mbtmp4.0/18, Error ellipse: s-maj=15.8km s-min=10.4km az=83.0*
*JMA **01** 09:17:29.6±0.3, 28°.09N×140°.57E, h499km±4km, M3.7*
ISC 01 09:17:29.3±0.6, 27°.87N±0°.07×140°.01E±0°.09, h500km, n56, σ2s17/64, mb3.7/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.08**	**111**	P	**P**	**09 18 33.5**	**-1.3**
CBIJ				S	**S**	**09 19 24.2**	**-3.8**
JCJ	**Chichijima**	**2.08**	**111**	P	**P**	**09 18 33.5**	**-1.2**
	72nm,0.3s,baz=288,slow=22,SNR=23						
JCJ				S	**S**	**09 19 24.2**	**-3.7**
	200nm,0.3s,baz=259,slow=22,SNR=21						
JCJ	**Chichijima**	**2.08**	**111**	P	**P**	**09 18 31.2**	**-3.6**
JCJ				S	**S**	**09 19 23.1**	**-4.9**
JHH2	**Haha-jima-NKT2**	**2.29**	**122**	P	**P**	**09 18 35.5**	**-0.4**
JHH2				S	**S**	**09 19 27.7**	**-2.3**
JHJ	**Hachijo jima 2**	**5.24**	**358**	P	**P**	**09 18 58.0**	**-0.2**
	3.0nm,0.3s,baz=270,slow=20,SNR=2.8						
JHJ				S	**S**	**09 20 06.8**	**-4.2**
	4.9nm,0.3s,baz=69,slow=23,SNR=1.9						
BSO3	**Boso 3**	**6.92**	**3**	S	**S**	**09 20 35.9**	**-4.5**
JIE	**Ise**	**7.09**	**337**	P	**P**	**09 19 17.9**	**+1.7**
JIE				*eS*	S	09 20 33.9	-10
BSO4	**Boso 4**	**7.11**	**2**	*eS*	**S**	**09 20 41.5**	**-2.5**
JKN2	**Miekihoku**	**7.11**	**334**	P	**P**	**09 19 18.2**	**+1.8**
JHU	**Hanno**	**7.98**	**356**	P	**P**	**09 19 24.7**	**-0.6**
JRY	**Ryogami san**	**8.18**	**354**	P	**P**	**09 19 27.1**	**-0.3**
JRY				*eS*	**S**	**09 21 00.8**	**-3.6**
JWT	**Wachi**	**8.37**	**333**	P	**P**	**09 19 30.6**	**+1.3**
JAG	**Ashikaga**	**8.54**	**357**	P	**P**	**09 19 30.0**	**-1.1**
JAG				*eS*	**S**	**09 21 06.1**	**-5.2**
JHO	**Hitachi**	**8.73**	**3**	P	**P**	**09 19 33.0**	**-0.1**
JHO				*eS*	**S**	**09 21 10.3**	**-4.5**
MJAR	**Matsushiro Arr**	**8.78**	**350**	P	**P**	**09 19 33.5**	**-0.1**
	0.1nm,0.3s,baz=169,slow=8.5,SNR=1.5						
MJAR	**Matsushiro Arr**	**8.78**	**350**	P	**P**	**09 19 33.0**	**-0.7**
JSU	**Suzuyama**	**9.07**	**296**	P	**P**	**09 19 37.4**	**+0.7**
JNU	**Nakatsue**	**9.46**	**306**	P	**P**	**09 19 40.5**	**-0.3**
	0.3nm,0.3s,baz=214,slow=6.1,SNR=6.7						
JFK	**Kawauchi**	**9.50**	**4**	*eS*	**S**	**09 21 26.3**	**-3.4**
JMM	**Marumori**	**9.99**	**4**	P	**P**	**09 19 48.1**	**+1.8**
JMM					**S**	**09 21 38.1**	**-1.0**
KSRS	**Korea Array**	**13.95**	**316**	P	P	09 20 33.1	+4.8
	0.3nm,0.3s,baz=144,slow=8.4,SNR=6.3						
USRK	**Ussuriysk Ar.**	**17.52**	**341**	P	**P**	**09 21 05.6**	**+0.6**
	baz=162,slow=11,SNR=3.7						
USRK	**Ussuriysk Ar.**	**17.52**	**341**	P	**P**	**09 21 04.8**	**-0.2**
MDJ	**Mudanjiang**	**18.68**	**336**	P	**P**	**09 21 12.5**	**-3.1**
MDJ				IAmb	IAmb	09 21 30.3	
	comp=Z,34nm,1.9s						
SONM	**Songino Array**	**32.82**	**317**	P	**P**	**09 23 21.6**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=138,slow=9.3,SNR=1.8						
SONM	**Songino Array**	**32.82**	**317**	P	**P**	**09 23 20.7**	**-0.1**
SEY	**Seymchan**	**35.99**	**10**	P	**P**	**09 23 49.3**	**+2.3**
	comp=Z,1.8nm,0.7s,baz=210,slow=20,SNR=1.8						
CMAR	**Chiang Mai Arr**	**38.75**	**265**	P	**P**	**09 24 09.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=54,slow=7.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**47.64**	**319**	P	**P**	**09 25 18.4**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=94,slow=2.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**47.64**	**319**	P	**P**	**09 25 19.7**	**+0.4**
WRA	**Warramunga Arr**	**47.85**	**187**	P	**P**	**09 25 18.8**	**-2.4**
	comp=Z,1.6nm,0.4s,baz=3.1,slow=7.7,SNR=46						
WRA	**Warramunga Arr**	**47.85**	**187**	P	**P**	**09 25 19.4**	**-1.8**
MKAR	**Makanchi Array**	**48.49**	**309**	P	**P**	**09 25 26.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=89,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**48.49**	**309**	P	**P**	**09 25 25.0**	**-0.8**
KURK	**Kurchatov**	**51.06**	**314**	P	**P**	**09 25 44.4**	**-0.2**
KURK				IAmb	IAmb	09 25 46.4	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**51.57**	**187**	P	**P**	**09 25 49.2**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=3.2,slow=6.1,SNR=26						
ASAR	**Alice Springs**	**51.57**	**187**	P	**P**	**09 25 48.4**	**-0.2**
KKAR	**Karatay Array**	**57.06**	**305**	P	**P**	**09 26 27.7**	**+0.4**
DHY	**Denali Highway**	**57.69**	**31**	P	**P**	**09 26 32.0**	**+0.7**
DHY				IAmb	IAmb	09 26 36.3	
	comp=Z,7.2nm,0.9s						
ILAR	**Eielson Array**	**57.97**	**29**	P	**P**	**09 26 34.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=248,slow=5.7,SNR=9.4						
ILAR	**Eielson Array**	**57.97**	**29**	P	**P**	**09 26 34.1**	**+1.2**
CHGR	**Chuyangaron**	**58.89**	**300**	P	**P**	**09 26 40.2**	**+0.4**
CHGR				IAmb	IAmb	09 26 41.3	
	comp=Z,13nm,0.5s						
STKA	**Stephens Creek**	**59.43**	**178**	P	**P**	**09 26 43.7**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=20,slow=6.7,SNR=3.8						
STKA	**Stephens Creek**	**59.43**	**178**	P	**P**	**09 26 41.8**	**-1.4**
BCAR	**Beaver Creek A**	**60.24**	**31**	P	**P**	**09 26 51.2**	**+2.9**
EGAK	**Eagle**	**60.42**	**29**	P	**P**	**09 26 51.8**	**+2.4**
EGAK				IAmb	IAmb	09 28 16.9	
	comp=Z,15nm,1.6s						
INK	**Inuvik**	**63.13**	**25**	P	**P**	**09 27 09.1**	**+2.0**
	comp=Z,2.9nm,0.9s,baz=271,slow=4.1,SNR=4.2						
INK	**Inuvik**	**63.13**	**25**	P	**P**	**09 27 09.0**	**+2.0**
INK				IAmb	IAmb	09 29 26.1	
	comp=Z,25nm,1.6s						
ABKAR	**Akbulak array**	**63.17**	**314**	P	**P**	**09 27 08.5**	**+0.8**
FIA1	**FINESS Array S**	**76.39**	**333**	P	**P**	**09 28 27.4**	**+1.0**
FINES	**FINESS Array B**	**76.39**	**333**	P	**P**	**09 28 27.3**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=65,slow=4.8,SNR=21						
FINES	**FINESS Array B**	**76.39**	**333**	P	**P**	**09 28 26.9**	**+0.5**
NVAR	**Mina Array Bea**	**81.55**	**51**	P	**P**	**09 28 56.5**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=291,slow=5.8,SNR=7.1						
MDUB	**Mudurnu**	**85.25**	**314**	P	**P**	**09 29 11.7**	**-1.2**
TXAR	**Lajitas Array**	**96.67**	**52**	P	**P**	**09 30 08.7**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=320,slow=2.9,SNR=3.9						
TXAR	**Lajitas Array**	**96.67**	**52**	P	**P**	**09 30 09.0**	**+3.1**

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*MOS **01** 09:19:58.1±1.2, 64°.51N×17°.97W, h10km, mb4.4/30, Error ellipse: s-maj=15.8km s-min=8.0km az=109.0*
*REY **01** 09:19:58.6, 64°.67N×17°.49W, h6km*
*IDC **01** 09:19:59.4±0.7, 64°.55N×17°.70W, h0km, mb3.8/10, mb1 4.1/11, mb1mx3.9/36, mbtmp3.8/11, ML4.1/1, MS3.3/10, Ms1 3.3/10, ms1mx2.9/44, Error ellipse: s-maj=24.3km s-min=10.4km az=17.0*
*NEIC **01** 09:19:59.3±1.6, 64°.53N±0°.05×18°.0W±0°.2, h8km±4km, mb4.4/39, Error ellipse: s-maj=11.8km s-min=3.4km az=50.0*
ISC 01 09:19:59.0±0.7, 64°.67N±0°.02×17°.55W±0°.02, h5km±4km, n153, σ1s78/157, mb4.3/51, MS3.3/7, 14C-5D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**269**	P	**Pg**	**09 20 01.0**	**0.0**
	baz=274						
IVON				S	**Sg**	**09 20 03.3**	**+0.9**
	baz=274						
IDYN	**Dyngjuhals**	**0.14**	**33**	P	**Pg**	**09 20 01.6**	**-0.3**
	baz=23						
IDYN				S	**Sg**	**09 20 04.1**	**+0.4**
	baz=23						
IDJK	**Dyngjujokull**	**0.22**	**142**	P	**Pg**	**09 20 02.6**	**-0.6**
	baz=146						
IURH	**Urdarhals**	**0.23**	**49**	P	**Pg**	**09 20 02.9**	**-0.5**
	baz=43						
IURH				S	**Sg**	**09 20 06.8**	**+0.4**
	baz=43						
IGRF	**Grimsfjall**	**0.29**	**156**	P	**Pg**	**09 20 03.9**	**-0.8**
	baz=160						
IKVE	**Kverkfjoll**	**0.37**	**89**	P	**Pg**	**09 20 05.2**	**-1.0**
	baz=88						
IKVE				S	**Sg**	**09 20 10.2**	**-1.0**
	baz=88						
ISKR	**Skrokkalda**	**0.38**	**253**	P	**Pg**	**09 20 05.9**	**-0.4**
	baz=255						
IHUS	**Husbondi**	**0.38**	**187**	P	**Pg**	**09 20 05.7**	**-0.6**
	baz=191						
IBJK	**Bruarjokull**	**0.40**	**121**	P	**Pg**	**09 20 05.3**	**-1.4**
	baz=122						
IBJK				S	**Sg**	**09 20 11.0**	**-0.9**
	baz=122						
IVOT	**Vottur**	**0.43**	**159**	P	**Pg**	**09 20 06.5**	**-0.9**
	baz=161						
THOR	**Thorvaldshraun**	**0.45**	**55**	P	**Pg**	**09 20 06.6**	**-1.1**
	baz=52						
THOR				S	**Sg**	**09 20 12.9**	**-0.7**
	baz=52						
IJOK	**Jokulheimar**	**0.47**	**220**	P	**Pg**	**09 20 07.3**	**-0.6**
	baz=222						
IJOK				S	**Sg**	**09 20 13.4**	**-0.6**
	baz=222						
IASK	**Askja**	**0.54**	**45**	P	**Pg**	**09 20 08.0**	**-1.4**
	baz=42						
IASK				S	**Sg**	**09 20 14.9**	**-1.5**
	baz=42						
IMKO	**Mokollar**	**0.60**	**59**	P	**Pg**	**09 20 09.0**	**-1.4**
	baz=57						
IMKO				S	**Sg**	**09 20 17.4**	**-0.9**
	baz=57						
IIEY	**Innrieyrar**	**0.63**	**204**	P	**Pg**	**09 20 09.8**	**-1.3**
	baz=206						
ISVA	**Svartarkot**	**0.68**	**10**	P	**Pg**	**09 20 10.7**	**-1.3**
	baz=8.3						
ISVA				S	**Sg**	**09 20 20.1**	**-0.7**
	baz=8.3						
IKSK	**Karasker**	**0.69**	**137**	P	**Pg**	**09 20 10.1**	**-2.1**
	baz=138						
IKSK				S	**Sg**	**09 20 19.7**	**-1.6**
	baz=138						
IKAL	**Kalfafell**	**0.73**	**185**	P	**Pg**	**09 20 11.4**	**-1.6**
	baz=187						
IKAL				S	**Sg**	**09 20 21.9**	**-0.5**
	baz=187						
IVAT	**Vatnsfell**	**0.77**	**231**	P	**Pg**	**09 20 12.4**	**-1.3**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.79**	**79**	P	**Pg**	**09 20 11.8**	**-2.3**
	baz=79						
IVSH				S	**Sg**	**09 20 22.5**	**-1.9**
	baz=79						
IHVE	**Hveravellir**	**0.89**	**284**	P	**Pg**	**09 20 14.1**	**-1.9**
	baz=284						
IHVE				S	**Sg**	**09 20 26.2**	**-1.3**
	baz=284						
IADA	**Aoalbol**	**0.91**	**67**	P	**Pg**	**09 20 13.9**	**-2.5**
	baz=66						
IADA				S	**Sg**	**09 20 26.1**	**-2.0**
	baz=66						
IMEL	**Melhnausar**	**0.97**	**22**	P	**Pg**	**09 20 15.4**	**-2.2**
	baz=21						
IREN	**Reynihlio**	**1.01**	**15**	P	**Pg**	**09 20 16.1**	**-2.3**
	baz=14						
ISNB	**Snabyli**	**1.05**	**207**	P	**Pg**	**09 20 16.8**	**-2.3**
	baz=209						
ISNB				S	**Sg**	**09 20 31.2**	**-1.6**
	baz=209						
IKVO	**Krokottuvotn**	**1.08**	**15**	P	**Pg**	**09 20 17.2**	**-2.5**
	baz=13						
ISLY	**Slysaalda**	**1.10**	**220**	P	**Pg**	**09 20 18.0**	**-2.0**
	baz=221						
IGRS	**Grimsstaoir**	**1.14**	**31**	P	**Pg**	**09 20 18.1**	**-2.6**
	baz=30						
IGHA	**Grjothals**	**1.23**	**17**	P	**Pg**	**09 20 19.6**	**-3.0**
	baz=16						
IGRA	**Granastaoir**	**1.25**	**359**	P	**Pn**	**09 20 19.9**	**-3.1**
	baz=358						
IDIM	**Dimmadalss**	**1.32**	**11**	P	**Pn**	**09 20 21.1**	**-2.9**
	baz=10.0						
BORG	**Borgarnes**	**1.63**	**274**	Pg	**Pn**	**09 20 26.5**	**-1.6**
	52nm,0.3s,baz=102,slow=6.0,SNR=89						
BORG				Lg	Lg	09 20 50.2	
	22nm,0.3s,baz=72,slow=23,SNR=17						
BORG	**Borgarnes**	**1.63**	**274**	P	**Pn**	**09 20 26.1**	**-2.1**
BORG	**Borgarnes**	**1.63**	**274**		**Pn**	**09 20 26.1**	**-2.1**
ISOL	**Solvholt**	**1.66**	**245**	P	**Pn**	**09 20 27.0**	**-1.6**
	baz=245						
SCO	**Scoresbysund**	**6.07**	**346**	P	**Pn**	**09 21 29.7**	**+0.5**
SCO						09 22 36.5	
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**09 21 29.7**	**+0.5**
SCO				Sn	**Sn**	**09 22 36.5**	**-2.5**
SCO	**Scoresbysund**	**6.07**	**346**	IAML		09 21 38.3	
	comp=Z,8.9nm,0.5s						
SCO	**Scoresbysund**	**6.07**	**346**	*e*	**Pn**	**09 21 29.5**	**+0.3**
	baz=179,slow=7.4						
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**09 21 30.2**	**+1.0**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**09 21 30.2**	**+1.0**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**09 22 48.1**	**+0.7**
	baz=326,slow=13,SNR=8.7						
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**	**09 22 44.8**	**-2.6**
ESK						09 24 57.6	
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**09 22 44.8**	**-2.6**
ESK				Sn	**Sn**	**09 24 57.6**	**-1.5**
NOA	**NORSAR Array B**	**13.55**	**92**	LR	LR	09 28 19.1	
	comp=Z,42nm,18.1s,baz=290,slow=37						
KONO	**Kongsberg**	**13.57**	**99**	*e*P	**P**	**09 23 19.9**	**-1.2**
KONO				pmax	pmax		
	comp=Z,11nm,1.2s						
SFJD	**Kangerlussuaq**	**13.64**	**295**	LR	LR	09 28 00.3	
	comp=Z,263nm,18.3s,baz=70,slow=35						
HFS	**Hagfors**	**15.07**	**93**	LR	LR	09 29 14.8	
	comp=Z,47nm,19.9s,baz=263,slow=37						
SGMF	**Saint Gilles**	**18.34**	**147**	*e*P	**Pn**	**09 24 10.9**	**-2.8**
SGMF				pmax	pmax		
	comp=Z,98nm,2.2s						
MEM	**Membach**	**18.73**	**128**	P	Pn	09 24 25.3	+6.8
CLL	**Collm**	**20.73**	**116**	*i* P	Pn	09 24 42.6	+0.4
	comp=Z,9.0nm,1.0s						
CLL	**Collm**	**20.73**	**116**	*i* P	Pn	09 24 42.6	+0.4
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	**Collm**	**20.73**	**116**	P	Pn	09 24 40.9	-1.4
CLL				IAmb	IAmb	09 24 44.6	
	comp=Z,13nm,1.3s						
LOR	**Lormes**	**20.97**	**136**	*e*P	**P**	**09 24 42.8**	**+0.2**
LOR				pmax	pmax		
	comp=Z,11nm,1.1s						
SSF	**Saint Saulge**	**21.05**	**137**	*e*P	**P**	**09 24 43.7**	**+0.2**
SSF				pmax	pmax		
	comp=Z,23nm,1.4s						
HAU	**Haudompre**	**21.09**	**131**	*e*P	**P**	**09 24 45.0**	**+1.1**
HAU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ECH	**Echery**	**21.17**	**129**	P	**P**	**09 24 45.7**	**+0.9**
ECH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ECH	**Echery**	**21.17**	**129**	P	**P**	**09 24 45.7**	**+0.9**
ECH				IAmb	IAmb	09 24 48.4	
	comp=Z,10nm,1.2s						
AVF	**Avril sur Loir**	**21.25**	**137**	*e*P	**P**	**09 24 45.7**	**+0.1**
AVF				pmax	pmax		
	comp=Z,17nm,1.4s						
BGF	**Bois d'Agland**	**21.32**	**139**	*e*P	**P**	**09 24 47.3**	**+1.0**
BGF				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TCF	**Toulx Ste Croi**	**21.38**	**140**	*e*P	**P**	**09 24 47.5**	**+0.4**
TCF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HINF	**Hinteralfeld**	**21.42**	**130**	*e*P	**P**	**09 24 49.1**	**+1.6**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.2s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**09 24 50.2**	**+2.7**
	comp=Z,26nm,1.8s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**09 24 50.2**	**+2.7**
BRG				pmax	pmax		
	comp=Z,26nm,1.8s						
BFO	**Black Forest**	**21.47**	**127**	P	**P**	**09 24 47.8**	**-0.2**
BFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BFO	**Black Forest**	**21.47**	**127**	P	**P**	**09 24 47.8**	**-0.2**
VSU	**Vasula**	**21.59**	**86**	*e*P	**P**	**09 24 54.1**	**+5.0**
VSU				pmax	pmax		
	comp=Z,23nm,1.0s						
RJF	**Les Rejaudoux**	**22.10**	**142**	*e*P	**P**	**09 24 56.0**	**+1.2**
RJF				pmax	pmax		
	comp=Z,28nm,1.8s						
KHC	**Kasperske Hory**	**22.70**	**118**	*e*P	**P**	**09 25 00.5**	**-0.6**
KHC				*e*pP	**sP**	**09 25 04.5**	**+0.5**
KHC	**Kasperske Hory**	**22.70**	**118**	*e*P	**P**	**09 25 03.9**	**+2.8**
KHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KHC	**Kasperske Hory**	**22.70**	**118**	P	**P**	**09 25 01.4**	**+0.2**
GEC2	**GERESS Array S**	**22.98**	**119**	P	**P**	**09 25 04.4**	**+0.3**
GERES	**GERESS Array B**	**22.98**	**119**	P	**P**	**09 25 04.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=338,slow=7.4,SNR=5.5						
GERES				LR	LR	09 35 19.2	
	comp=Z,72nm,18.0s,baz=308,slow=40						
GERES	**GERESS Array B**	**22.98**	**119**	P	**P**	**09 25 05.4**	**+1.2**
GERES	**GERESS Array B**	**22.98**	**119**	P	**P**	**09 25 05.3**	**+1.2**
ORIF	**Oris-en-Rattie**	**23.70**	**135**	*e*P	**P**	**09 25 14.4**	**+3.0**
ORIF				pmax	pmax		
	comp=Z,17nm,1.4s						
VRAC	**Vranov**	**23.72**	**114**	LR	LR	09 35 44.8	
	comp=Z,52nm,19.9s,baz=325,slow=40						
MORC	**Moravsky Berou**	**23.72**	**112**	P	**P**	**09 25 12.7**	**+1.1**
MORC				pmax	pmax		
	comp=Z,11nm,1.4s						
MORC	**Moravsky Berou**	**23.72**	**112**	P	**P**	**09 25 12.7**	**+1.1**
MORC				IAmb	IAmb	09 25 26.1	
	comp=Z,11nm,1.4s						
OJC	**Ojcow**	**24.28**	**109**	P	**P**	**09 25 18.0**	**+1.2**
OJC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
OJC	**Ojcow**	**24.28**	**109**	P	**P**	**09 25 18.0**	**+1.2**
OJC				IAmb	IAmb	09 25 32.0	
	comp=Z,9.4nm,1.3s						
PRED	**Cave del Predi**	**24.93**	**122**	P	**P**	**09 25 24.2**	**+1.4**
PRED				IAmb	IAmb	09 25 29.4	
	comp=Z,7.0nm,1.3s						
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**09 25 33.4**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**09 25 33.4**	**-0.3**
PSZ				IAmb	IAmb	09 25 39.6	
	comp=Z,7.9nm,1.1s						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**09 25 35.0**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=350,slow=9.2,SNR=9.1						
ESDC				LR	LR	09 35 35.8	
	comp=Z,29nm,19.0s,baz=345,slow=36						
CMLA	**Cha da Macela**	**27.36**	**194**	P	**P**	**09 25 42.5**	**-2.2**
CMLA				pmax	pmax		
	comp=Z,93nm,1.0s						
CMLA	**Cha da Macela**	**27.36**	**194**	P	**P**	**09 25 42.5**	**-2.2**
AKASG	**Malin Array Be**	**27.86**	**98**	P	**P**	**09 25 51.9**	**+2.8**
	com

BCAR	**Beaver Creek A**	**46.09**	**328**	P		**P**	**09 28 24.5**	**+1.2**
ZALV	**Zalesovo Beam**	**47.64**	**51**	P		**P**	**09 28 36.4**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=303,slow=8.2,SNR=1.7							
ZALV	**Zalesovo Beam**	**47.64**	**51**	P		**P**	**09 28 36.7**	**+1.2**
ZALV	**Zalesovo Beam**	**47.64**	**51**	P		**P**	**09 28 36.7**	**+1.2**
KURK	**Kurchatov**	**48.12**	**58**⇑	*eP*		**P**	**09 28 40.3**	**+1.0**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BESE	**Bessie Mountai**	**48.27**	**321**	P		**P**	**09 28 41.5**	**+1.1**
HRY	**Holter Researc**	**50.73**	**298**	P		**P**	**09 28 57.5**	**-1.9**
X48A	**Hartselle**	**50.74**	**269**	P		**P**	**09 28 58.8**	**-0.7**
X48A				IAmb	IAmb		09 28 59.0	
	comp=Z,8.1nm,1.4s							
KK31	**Karatay Array**	**51.29**	**70**	P		**P**	**09 29 04.2**	**+0.7**
KK31				pmax	pmax			
	comp=Z,6.0nm,1.4s							
KK31	**Karatay Array**	**51.29**	**70**	P		**P**	**09 29 04.2**	**+0.7**
KK31				IAmb	IAmb		09 29 05.7	
	comp=Z,5.9nm,1.4s							
KKAR	**Karatay Array**	**51.29**	**70**	P		**P**	**09 29 04.2**	**+0.7**
KKAR	**Karatay Array**	**51.29**	**70**	P		**P**	**09 29 04.2**	**+0.7**
BOZ	**Bozeman (W)**	**51.59**	**297**	IAmb	IAmb		09 29 08.4	
	comp=Z,6.8nm,1.2s							
DGZ	**Jazzator, Alta**	**52.09**	**53**⇓	*eP*		**P**	**09 29 11.1**	**+1.5**
DGZ				pmax	pmax			
	comp=Z,5.0nm,1.2s							
HHAR	**Hobbs**	**52.15**	**276**	P		**P**	**09 29 08.9**	**-1.1**
MKAR	**Makanchi Array**	**52.74**	**58**	P		**P**	**09 29 16.3**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=300,slow=6.5,SNR=2.2							
TPAW	**Teton Pass**	**53.09**	**295**	P		**P**	**09 29 16.9**	**-0.3**
TPAW				IAmb	IAmb		09 29 20.0	
	comp=Z,5.9nm,1.3s							
PDAR	**Pinedale Array**	**53.16**	**293**	P		**P**	**09 29 18.9**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=51,slow=6.4,SNR=13							
PDAR				LR	LR		09 50 16.6	
	comp=Z,41nm,20.8s,baz=137,slow=34							
PDAR	**Pinedale Array**	**53.16**	**293**	P		**P**	**09 29 15.6**	**-2.0**
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P		**P**	**09 29 17.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=344,slow=7.3,SNR=6.9							
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P		**P**	**09 29 16.5**	**-1.1**
AAK	**Ala-Archa**	**53.27**	**67**⇑	*eP*		**P**	**09 29 20.7**	**+2.3**
AAK				pmax	pmax			
	comp=Z,13nm,1.3s							
MIAR	**Mount Ida**	**53.47**	**274**	P		**P**	**09 29 18.5**	**-1.2**
MIAR				pmax	pmax			
	comp=Z,7.0nm,1.4s							
MIAR	**Mount Ida**	**53.47**	**274**	P		**P**	**09 29 18.5**	**-1.2**
MIAR				IAmb	IAmb		09 29 20.0	
	comp=Z,6.6nm,1.4s							
CHGR	**Chuyangaron**	**54.48**	**74**	P		**P**	**09 29 28.6**	**+1.4**
PV03	**Paradox Valley**	**56.71**	**290**	P		**P**	**09 29 44.9**	**+1.6**
PV03				IAmb	IAmb		09 29 45.9	
	comp=Z,5.4nm,1.2s							
WMQ	**Urumqi**	**57.24**	**56**	*eP*		**P**	**09 29 50.3**	**+3.4**
ANMO	**Albuquerque**	**58.57**	**286**⇑	*eP*		P	09 29 46.0	-10
ANMO				pmax	pmax			
	comp=Z,4.0nm,2.5s							
U15A	**North Rim**	**59.67**	**291**	P		**P**	**09 30 05.6**	**+1.4**
U15A				IAmb	IAmb		09 30 05.8	
	comp=Z,3.7nm,1.1s							
ULN	**Ulaanbaatar**	**59.80**	**40**⇑	*eP*		**P**	**09 30 06.7**	**+1.9**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.3s							
NVAR	**Mina Array Bea**	**60.28**	**297**	LR		LR	09 56 43.3	
	comp=Z,56nm,18.9s,baz=336,slow=37							
NIL	**Nilore**	**60.47**	**73**	P		**P**	**09 30 10.4**	**+1.0**
NIL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
NIL	**Nilore**	**60.47**	**73**	P		**P**	**09 30 10.4**	**+1.0**
MNTX	**Cornudas Mount**	**60.93**	**283**	P		**P**	**09 30 11.7**	**-0.9**
X16A	**Lo Mia Camp, P**	**61.07**	**290**	P		**P**	**09 30 12.4**	**-1.3**
X16A				IAmb	IAmb		09 30 16.5	
	comp=Z,5.2nm,1.2s							
TXAR	**Lajitas Array**	**62.26**	**280**	P		**P**	**09 30 23.2**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=72,slow=4.1,SNR=6.3							
TXAR	**Lajitas Array**	**62.26**	**280**	P		**P**	**09 30 19.3**	**-2.4**
HHC	**Hu-ho-hao-te**	**67.52**	**40**	*eP*		**P**	**09 30 58.0**	**+2.2**
HHC				pmax	pmax			
	comp=Z,16nm,0.7s							
HHC				pmax	pmax			
	comp=Z,150nm,5.7s							

IDC 01 09:36:33.1±53.0, 18°76S×180°00E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/24, mbtmpg3.7/3, Error ellipse: s-maj=962.3km s-min=154.9km az=80.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.90**	**242**	P	P	09 43 44.2	+0.6
	1.2nm,0.6s,baz=73,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**43.00**	**261**	P	P	09 44 34.5	-0.1
	0.4nm,0.4s,baz=98,slow=7.9,SNR=19						
ASAR	**Alice Springs**	**43.11**	**255**	P	P	09 44 34.9	-0.6
	0.4nm,0.4s,baz=87,slow=8.2,SNR=16						

BUC 01 09:38:23.3±0.2, 45°29N×25°06E, h2km, ml1.2/5, 8C-9D, Error ellipse: s-maj=1.9km s-min=1.2km az=161.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.07**	**179**	⇓P	Pg	09 38 24.6	0.0
MTUR	**Matau**	**0.07**	**179**	⇓P	Pg	09 38 24.6	0.0
VOIR		**0.15**	**357**	⇑P	Pg	09 38 25.6	-0.5
VOIR				⇓S	Sg	09 38 28.2	+0.1
VOIR		**0.15**	**357**	⇑P	Pg	09 38 25.6	-0.5
VOIR				⇓S	Sg	09 38 28.2	+0.1
ARR	**Arges**	**0.31**	**284**	⇑P	Pg	09 38 29.2	-0.1
ARR				⇑S	Sg	09 38 33.7	+0.4
ARR	**Arges**	**0.31**	**284**	⇑P	Pg	09 38 29.2	-0.1
ARR				⇑S	Sg	09 38 33.7	+0.4
MLR	**Muntele Rosu**	**0.65**	**72**	⇓S	Sg	09 38 45.2	+0.9
MLR	**Muntele Rosu**	**0.65**	**72**	⇓S	Sg	09 38 45.2	+0.9
DOPR	**Dopca**	**0.71**	**19**	⇓S	Sg	09 38 47.5	+1.2
DOPR	**Dopca**	**0.71**	**19**	⇓S	Sg	09 38 47.5	+1.2
LOT	**Lotru**	**0.93**	**280**	⇑P	Pg	09 38 41.2	+0.2
LOT				⇓S	Sb	09 38 54.3	-0.6
LOT	**Lotru**	**0.93**	**280**	⇑P	Pg	09 38 41.2	+0.2

*ATA **01** 09:43:59.9±2.1, 38°.93N×43°.49E, h0km±7km, ML2.0, MW3.5*
*ISK **01** 09:43:59.9, 38°.96N×43°.52E, h26km, ML2.6/4*
*DDA **01** 09:44:01.4, 38°.93N×43°.54E, h7km±5km, ML2.2*
ISC 01 09:44:00.8±1.1, 38°91N±0°.03×43°55E±0°.04, h12km±8km, n21, σ1°49/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.20**	**303**	PG	**Pg**	**09 44 05.6**	**+0.4**
ERCV				SG	**Sg**	**09 44 09.7**	**+1.4**
VANB	**Van**	**0.34**	**202**	PG	**Pb**	**09 44 10.0**	**+1.1**
VANB				SG	**Sb**	**09 44 17.7**	**+3.3**
CLDR	**Caldiran**	**0.37**	**51**	PG	**Pb**	**09 44 08.2**	**-1.2**
CLDR				SG	**Sb**	**09 44 15.1**	**-0.1**
CLDR	**Caldiran**	**0.37**	**51**	*i* P	**Pb**	**09 44 08.2**	**-1.2**
CLDR				*i* S	**Sb**	**09 44 15.0**	**-0.2**
CLDR				IAML		09 44 15.0	
	comp=N,206nm,0.2s						
CLDR				IAML		09 44 22.0	
	comp=E,197nm,0.3s						
TVAN	**Van**	**0.40**	**197**	*eP*	**Pb**	**09 44 09.3**	**-0.7**
TVAN				*eS*	**Sb**	**09 44 17.2**	**+1.1**
TVAN				IAML		09 44 23.4	
	comp=Z,359nm,0.8s						
TVAN	**Van**	**0.40**	**197**	*i* P	**Pb**	**09 44 09.5**	**-0.5**
TVAN				*i* S	**Sb**	**09 44 17.4**	**+1.3**
TVAN				IAML		09 44 21.0	
	comp=E,457nm,0.5s						
TVAN				IAML		09 44 23.0	
	comp=N,400nm,0.8s						
DYDN	**Diyadin**	**0.64**	**10**	*eP*	**Pb**	**09 44 12.7**	**-1.4**
DYDN				*eS*	**Sb**	**09 44 22.4**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.65**	**261**	*i* P	**Pb**	**09 44 13.8**	**-0.5**
ADCV				IAML		09 44 24.0	
	comp=E,136nm,0.5s						
ADCV				*i* S	**Sn**	**09 44 24.5**	**-2.0**
ADCV				IAML		09 44 25.0	
	comp=N,169nm,0.5s						
GEVA	**Gevas**	**0.71**	**213**	*eP*	**Pg**	**09 44 14.0**	**-0.6**
GEVA				IAML		09 44 28.0	
	comp=Z,47nm,0.5s						
GEVA	**Gevas**	**0.71**	**213**	*i* P	**Pb**	**09 44 14.8**	**-0.5**
GEVA				*i* S	**Sn**	**09 44 26.6**	**-1.3**
AKDM	**Akdamar-Van**	**0.73**	**218**	PG	**Pb**	**09 44 14.9**	**-0.8**
IGDI	**IGDIR**	**1.04**	**23**	*eP*	**Pn**	**09 44 20.8**	**-0.5**
IGDI				*eS*	**Sn**	**09 44 38.4**	**+2.5**
IGDI				IAML		09 44 44.4	
	comp=Z,6.4nm,0.6s						
IGDI	**IGDIR**	**1.04**	**23**	*i* P	**Pn**	**09 44 21.4**	**+0.1**
IGDI				*i* S	**Sn**	**09 44 39.7**	**+3.9**
IGDI				IAML		09 44 42.0	
	comp=N,52nm,0.6s						
BLIS	**Bitlis-Merkez**	**1.23**	**247**	*eP*	**Pg**	**09 44 23.1**	**-1.3**
BLIS				IAML		09 44 51.4	
	comp=Z,37nm,0.6s						
BLIS	**Bitlis-Merkez**	**1.23**	**247**	*i* P	**Pn**	**09 44 23.4**	**-0.6**
BLIS				*i* S	**Sn**	**09 44 42.4**	**+1.8**
BLIS				IAML		09 44 43.0	
	comp=N,64nm,0.8s						
BLIS				IAML		09 44 47.0	
	comp=E,37nm,0.8s						
GURO	**Guroymak-BITLI**	**1.24**	**254**	PN	**Pg**	**09 44 22.1**	**-2.6**
EATA	**Eleskirt**	**1.25**	**319**	*eP*	**Pn**	**09 44 25.2**	**+0.6**
EATA				*eS*	**Sn**	**09 44 43.4**	**+1.9**
EATA				IAML		09 44 44.3	
	comp=Z,9.0nm,0.4s						
EATA	**Eleskirt**	**1.25**	**319**	*i* P	**Pn**	**09 44 25.1**	**+0.6**
EATA				*i* S	**Sn**	**09 44 42.6**	**+1.0**
EATA				IAML		09 44 44.0	
	comp=E,40nm,0.4s						
EATA				IAML		09 44 45.0	
	comp=N,38nm,0.4s						
DIGO	**Kars**	**1.51**	**355**	*eP*	**Pg**	**09 44 28.9**	**-0.9**
MUSM	**Mu-Merkez**	**1.60**	**264**	*i* P	**Pn**	**09 44 28.5**	**-0.7**
MUSM				*i* S	**Sg**	**09 44 51.9**	**-0.6**
HOMI	**Horasan**	**1.70**	**312**	*eP*	**Pg**	**09 44 33.0**	**-0.5**

*DDA **01** 09:47:54.0, 41°.10N×23°.38E, h23km±51km, ML2.7*
*ATH **01** 09:47:54.7, 41°.10N×23°.33E, h21km±1km, ML2.8/19, Error ellipse: s-maj=1.4km s-min=0.9km az=346.0*
*SOF **01** 09:47:54.8, 41°.10N×23°.32E, h10km, MD3.0*
*THE **01** 09:47:55.6, 41°.12N×23°.31E, h10km, ML2.8/15, Error ellipse: s-maj=1.0km s-min=0.6km az=39.0*
*SKO **01** 09:47:56.2, 41°.12N×23°.31E, h1km*
*BEO **01** 09:47:56.6±0.5, 41°.11N×23°.33E, h1km±3km, ML2.8/8*
ISC 01 09:47:55.3±0.9, 41°06N±0°.02×23°33E±0°.01, h18km±3km, n81, σ1°38/121, 1C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.21**	**73**	P	**Pg**	**09 48 00.1**	**-0.3**
SRS				S	**Sg**	**09 48 02.9**	**-1.0**
	5μm,0.1s						
SRS	**Serrai**	**0.21**	**73**	*e*Pg	**Pg**	**09 48 00.2**	**-0.3**
SRS				*e*Sg	**Sg**	**09 48 03.3**	**-0.6**
SRS	**Serrai**	**0.21**	**73**	P	**Pg**	**09 48 00.2**	**-0.3**
SRS				S	**Sg**	**09 48 02.7**	**-1.2**
SRS				AML	AML	09 48 04.0	
	comp=E,11715μm,0.1s						
SRS				AML	AML	09 48 04.3	
	comp=N,7784μm,0.1s						
SOH	**Sokhos**	**0.23**	**175**	P	**Pg**	**09 48 01.8**	**+1.0**
SOH				S	**Sg**	**09 48 05.5**	**+1.0**
	comp=N,5μm,0.2s						
SOH	**Sokhos**	**0.23**	**175**	P	**Pg**	**09 48 01.8**	**+1.0**
SOH				S	**Sg**	**09 48 05.7**	**+1.2**
SOH				AML	AML	09 48 06.3	
	comp=N,15489μm,0.3s						
SOH				AML	AML	09 48 07.0	
	comp=E,11986μm,0.2s						
KNT	**Kendrikon**	**0.34**	**288**	P	**Pb**	**09 48 02.0**	**-0.8**
KNT				S	**Sg**	**09 48 06.3**	**-1.1**
	comp=E,3μm,0.1s						
KNT	**Kendrikon**	**0.34**	**288**	P	**Pb**	**09 48 02.0**	**-0.8**
KNT				S	**Sg**	**09 48 06.3**	**-1.1**
KNT				AML	AML	09 48 06.4	
	comp=E,6195μm,0.2s						
KNT				AML	AML	09 48 06.5	
	comp=N,6492μm,0.2s						
HORT	**Hortiatis**	**0.49**	**201**	P	**Pn**	**09 48 06.2**	**-1.2**
HORT				S	**Sb**	**09 48 13.7**	**+1.5**
	comp=N,1μm,0.1s						
HORT	**Hortiatis**	**0.49**	**201**	P	**Pn**	**09 48 06.2**	**-1.2**
HORT				S	**Sb**	**09 48 12.6**	**+0.4**
HORT				AML	AML	09 48 14.8	
	comp=N,2210μm,0.2s						
HORT				AML	AML	09 48 15.1	
	comp=E,2180μm,0.1s						
NVR	**Nevrokopi**	**0.50**	**54**	P	**Pb**	**09 48 05.1**	**-0.5**
NVR				S	**Sb**	**09 48 11.7**	**-0.9**
	comp=E,1μm,0.2s						
NVR	**Nevrokopi**	**0.50**	**54**	P	**Pb**	**09 48 05.0**	**-0.5**
NVR				S	**Sg**	**09 48 10.9**	**-1.3**
NVR				AML	AML	09 48 12.2	
	comp=N,2712μm,0.2s						
NVR				AML	AML	09 48 14.5	
	comp=E,2223μm,0.2s						
THE	**Thessaloniki**	**0.50**	**213**	P	**Pn**	**09 48 06.3**	**-1.2**
THE				S	**Sb**	**09 48 13.6**	**+1.1**
	comp=E,1μm,0.2s						
THE	**Thessaloniki**	**0.50**	**213**	P	**Pn**	**09 48 06.3**	**-1.2**
THE				S	**Sb**	**09 48 12.6**	**0.0**
THE				AML	AML	09 48 13.8	
	comp=E,3790μm,0.2s						
THE				AML	AML	09 48 14.5	
	comp=N,2738μm,0.3s						
MMB	**Musomiste**	**0.61**	**30**	*i* Pg	**Pg**	**09 48 06.3**	**-1.2**
VAY	**Valandovo**	**0.63**	**295**	*e*Pg	**Pb**	**09 48 07.2**	**-0.5**
VAY				*e*Sg	**Sb**	**09 48 16.0**	**-0.1**
VAY	**Valandovo**	**0.63**	**295**	*i* Pg	**Pb**	**09 48 07.2**	**-0.5**
VAY				*i* Sg	**Sg**	**09 48 15.6**	**-0.5**
VAY				*e*Lg	Lg	09 48 16.8	
	comp=N,569nm,0.6s						
PLG	**Polygyros**	**0.69**	**172**	P	**Pn**	**09 48 09.5**	**-0.6**
PLG				S	**Sn**	**09 48 19.5**	**-0.9**
	comp=N,680nm,0.3s						
PLG	**Polygyros**	**0.69**	**172**	P	**Pn**	**09 48 09.6**	**-0.6**
PLG				S	**Sb**	**09 48 18.0**	**+0.1**
PLG				AML	AML	09 48 23.4	
	comp=N,1405μm,0.3s						
PLG				AML	AML	09 48 23.9	
	comp=E,1274μm,0.3s						
KVLA	**Kavala**	**0.81**	**98**	P	**Pn**	**09 48 11.2**	**-0.6**
KVLA				S	**Sb**	**09 48 21.9**	**+0.5**
KKB	**Krupnik**	**0.83**	**347**	*i* Pg	**Pg**	**09 48 09.8**	**-1.7**
OUR	**Ouranopolis**	**0.88**	**145**	P	**Pn**	**09 48 13.3**	**+0.6**
OUR				S	**Sn**	**09 48 26.6**	**+1.6**
	comp=E,1μm,0.2s						
OUR	**Ouranopolis**	**0.88**	**145**	P	**Pn**	**09 48 13.0**	**+0.3**
OUR				S	**Sb**	**09 48 23.5**	**+0.2**
OUR				AML	AML	09 48 29.3	
	comp=E,2477μm,0.2s						
OUR				AML	AML	09 48 29.5	
	comp=N,2803μm,0.2s						
KAVA	**Kavala**	**0.90**	**93**	P	**Pn**	**09 48 12.6**	**-0.4**
KAVA				S	**Sb**	**09 48 24.7**	**+0.7**
	comp=N,548nm,0.2s						
KAVA	**Kavala**	**0.90**	**93**	P	**Pb**	**09 48 12.2**	**-0.2**
KAVA				S	**Sb**	**09 48 23.6**	**-0.4**
KAVA				AML	AML	09 48 28.6	
	comp=N,1425μm,0.2s						
KAVA				AML	AML	09 48 29.5	
	comp=E,1305μm,0.2s						
STIP	**Stip**	**1.07**	**307**	⇓*i* Pg	**Pg**	**09 48 12.6**	**-3.4**
STIP				*i* Sg	**Sg**	**09 48 25.9**	**-4.2**
STIP				*e*Lg	Lg	09 48 27.7	
	comp=N,105nm,0.3s						
KTI	**Kastanea**	**1.13**	**235**	P	**Pn**	**09 48 17.6**	**+1.2**
LIT	**Litokhoron**	**1.15**	**214**	P	**Pn**	**09 48 17.3**	**+0.9**
LIT				S	**Sn**	**09 48 34.0**	**+2.3**
	comp=N,160nm,0.2s						
LIT	**Litokhoron**	**1.15**	**214**	P	**Pn**	**09 48 17.0**	**+0.6**
LIT				AML	AML	09 48 38.6	
	comp=E,326μm,0.3s						
LIT				AML	AML	09 48 41.7	
	comp=N,297μm,0.3s						
LIT	**Litokhoron**	**1.15**	**214**	*i* P	**Pn**	**09 48 17.4**	**+1.0**
LIT				*i* S	**Sn**	**09 48 35.4**	**+3.7**
LIT				IAML		09 48 38.0	
	comp=E,108nm,0.3s						
LIT				IAML		09 48 41.0	
	comp=N,97nm,0.3s						
THAS	**Thassos island**	**1.15**	**113**	P	**Pn**	**09 48 17.3**	**+0.9**
THAS				S	**Sn**	**09 48 32.9**	**+1.2**
	comp=N,562nm,0.2s						
THAS	**Thassos island**	**1.15**	**113**	P	**Pn**	**09 48 16.9**	**+0.4**
THAS				S	**Sn**	**09 48 32.7**	**+1.0**
THAS				AML	AML	09 48 35.5	
	comp=N,1263μm,0.3s						
THAS				AML	AML	09 48 36.1	
	comp=E,979μm,0.2s						
PAIG	**Paliouri**	**1.16**	**166**	P	**Pn**	**09 48 18.0**	**+1.4**
PAIG				S	**Sn**	**09 48 34.7**	**+2.8**
	comp=E,305nm,0.5s						
PAIG	**Paliouri**	**1.16**	**166**	P	**Pn**	**09 48 17.5**	**+1.0**
PAIG				AML	AML	09 48 37.5	
	comp=E,699μm,0.6s						
PAIG				AML	AML	09 48 39.8	
	comp=N,528μm,0.5s						
RZN	**Rozhen**	**1.22**	**58**	*i* Pg	**Pn**	**09 48 19.2**	**+1.5**
KZN	**Kozani**	**1.40**	**238**	P	**Pn**	**09 48 20.0**	**0.0**
KZN				S	**Sn**	**09 48 40.7**	**+2.7**
	comp=N,282nm,0.5s						
KZN	**Kozani**	**1.40**	**238**	P	**Pg**	**09 48 21.1**	**-1.2**
KZN				AML	AML	09 48 43.9	
	comp=E,543μm,0.5s						
KZN				AML	AML	09 48 45.8	
	comp=N,581μm,0.6s						
PLD	**Plovdiv**	**1.47**	**44**	P	**Pg**	**09 48 22.8**	**-0.9**
PLD	**Plovdiv**	**1.47**	**44**	*eP*	**Pg**	**09 48 23.2**	**-0.5**
VTS	**Vitosha**	**1.56**	**358**	*i* P	**Pb**	**09 48 23.8**	**0.0**
BOSS	**Bosilegrad**	**1.57**	**337**	*e*Pg	**Pg**	**09 48 24.9**	**-0.7**
BOSS				*e*Sg	**Sb**	**09 48 44.7**	**+1.3**
PGB	**Panagyurishte**	**1.62**	**23**	P	**Pb**	**09 48 24.4**	**-0.3**
RDO	**Rodhopi**	**1.67**	**86**	P	**Pb**	**09 48 24.6**	**-0.9**
RDO				S	**Sg**	**09 48 47.1**	**-2.2**
RDO				AML	AML	09 48 54.0	
	comp=E,626μm,0.2s						
RDO				AML	AML	09 48 54.1	
	comp=N,525μm,0.2s						
RDO	**Rodhopi**	**1.67**	**86**	*eP*	**Pb**	**09 48 24.5**	**-1.1**
KDZ	**Kurdzhali**	**1.68**	**69**	P	**Pn**	**09 48 23.4**	**-0.4**
KDZ	**Kurdzhali**	**1.68**	**69**	*eP*	**Pb**	**09 48 24.5**	**-1.2**
XOR	**Xorichti**	**1.69**	**183**	P	**Pg**	**09 48 25.8**	**-2.0**
XOR				S	**Sg**	**09 48 47.9**	**-1.9**
	comp=N,202nm,0.4s						
XOR	**Xorichti**	**1.69**	**183**	P	**Pg**	**09 48 25.8**	**-2.0**
XOR				S	**Sg**	**09 48 47.5**	**-2.3**
XOR				AML	AML	09 48 48.3	
	comp=N,543μm,0.4s						
XOR				AML	AML	09 48 48.6	
	comp=E,244μm,0.4s						
VOL3	**Nea Ionia, Vol**	**1.71**	**190**	P	**Pg**	**09 48 27.3**	**-0.8**
NEO	**Neokhori**	**1.75**	**183**	P	**Pg**	**09 48 26.5**	**-2.4**
NEO				AML	AML	09 48 51.0	
	comp=N,371μm,0.4s						
NEO				AML	AML	09 48 56.2	
	comp=E,253μm,0.5s						
SMTH	**Samothraki Isl**	**1.77**	**108**	P	**Pb**	**09 48 25.8**	**-1.5**
SMTH				AML	AML	09 49 00.6	
	comp=N,105μm,0.4s						
SMTH				AML	AML	09 49 01.6	
	comp=E,98μm,0.4s						
THL	**Klokotos Trika**	**1.79**	**214**	P	**Pb**	**09 48 27.3**	**-0.3**
THL	**Klokotos Trika**	**1.79**	**214**	P	**Pb**	**09 48 27.0**	**-0.6**
THL				AML	AML	09 48 56.1	
	comp=N,85μm,0.8s						
THL				AML	AML	09 48 56.5	
	comp=E,141μm,0.7s						
LIA	**Limnos Island**	**1.83**	**129**	P	**Pb**	**09 48 27.0**	**-1.2**
LIA				AML	AML	09 48 57.7	
	comp=E,407μm,0.5s						
LIA				AML	AML	09 48 58.4	
	comp=N,340μm,0.3s						
NEST	**Nestorio**	**1.84**	**250**	P	**Pb**	**09 48 28.1**	**-0.4**
KPRO	**Kipourio**	**1.86**	**234**	P	**Pb**	**09 48 27.7**	**-1.0**
KPRO				S	**Sb**	**09 48 52.3**	**+0.7**
	comp=N,80nm,0.9s						
KPRO	**Kipourio**	**1.86**	**234**	P	**Pb**	**09 48 27.5**	**-1.2**
DIM	**Dimitrovgrad**	**1.93**	**58**	P	**Pg**	**09 48 31.2**	**-1.2**
ALN	**Alexandroupoli**	**2.07**	**93**	P	**Pn**	**09 48 30.1**	**+1.0**
ALN	**Alexandroupoli**	**2.07**	**93**	P	**Pn**	**09 48 30.1**	**+1.0**
ALN	**Alexandroupoli**	**2.07**	**93**	*eP*	**Pn**	**09 48 29.6**	**+0.6**
ALN	**Alexandroupoli**	**2.07**	**93**	*i* P	**Pn**	**09 48 30.0**	**+1.0**
ALN				*i* S	**Sg**	**09 49 02.0**	**+0.3**
GADA	**Gvkgeada**	**2.14**	**113**	*eP*	**Pn**	**09 48 31.1**	**+1.0**
GOKA	**anakkale-Gk**	**2.15**	**113**	*i* P	**Pb**	**09 48 32.4**	**-1.2**
GOKA				*i* S	**Sg**	**09 49 04.4**	**+0.1**
GOKA				IAML		09 49 06.0	
	comp=N,137nm,0.5s						
GOKA				IAML		09 49 09.0	
	comp=E,147nm,0.4s						
ENEZ	**Enez**	**2.17**	**98**	*eP*	**Pg**	**09 48 36.5**	**-0.4**
ZAPS	**Zavoj**	**2.28**	**347**	*e*Pg	**Pb**	**09 48 35.3**	**-0.5**
MPEP	**Malo Peshtene**	**2.32**	**8**	P	**Pn**	**09 48 34.2**	**+1.6**
ERIK	**Erikli-Kesan**	**2.45**	**98**	*eP*	**Pg**	**09 48 40.6**	**-1.6**
GELI	**Tayfur-Gelibol**	**2.48**	**104**	*eP*	**Pg**	**09 48 41.0**	**-1.9**
UKOP	**Uzunkopru-Edir**	**2.50**	**87**	*eP*	**Pn**	**09 48 35.1**	**+0.1**
KESN	**Edirne-Kesan**	**2.55**	**94**	*i* P	Pg	09 48 48.0	+3.7
KESN				*i* S	**Sg**	**09 49 17.2**	**-0.2**
ANX	**Ano Chora**	**2.69**	**204**	P	**Pn**	**09 48 39.7**	**+2.0**
EDRB	**Edirne**	**2.69**	**72**	*eP*	**Pb**	**09 48 41.6**	**-1.3**
SELS	**Selova**	**2.71**	**324**	*e*Pg	**Pb**	**09 48 44.3**	**+1.0**
SELS				*e*Sg	**Sg**	**09 49 19.9**	**-2.6**
BAYC	**CANAKKALE_Bayr**	**2.79**	**117**	*i* P	**Pn**	**09 48 39.6**	**+0.6**
BAYC				*i* S	**Sg**	**09 49 23.0**	**-1.9**
BOVS	**Bovan**	**2.84**	**336**	*e*Pg	**Pb**	**09 48 45.5**	**0.0**
BOVS				*e*Sg	**Sg**	**09 49 25.6**	**-1.1**
MAR4	**Marsite Statio**	**3.02**	**94**	*eP*	**Pn**	**09 48 44.8**	**+2.5**
MAR3	**Marsite

SBF	**Sospel**	**2.86**	**337**	*e*Pn	**Pn**	**10 53 08.9 +1.1**
SBF				*e*Sn	**Sn**	**10 53 40.4 -1.4**
	7.1nm,0.3s					
FRF	**La Foret Royal**	**2.89**	**324**	*e*Pn	**Pn**	**10 53 09.0 +0.8**
FRF				*e*Sn	**Sn**	**10 53 42.1 -0.4**
	2.8nm,0.2s					
MAIM	**Mastiano**	**2.90**	**22**	P	**Pn**	**10 53 09.8 +1.5**
SAOF	**Saorge**	**2.94**	**340**	P	**Pn**	**10 53 10.7 +1.8**
EQUI	**Equi**	**3.05**	**16**	P	**Pn**	**10 53 12.3 +1.9**
CERT	**Cerreto**	**3.09**	**75**	P	**Pn**	**10 53 10.5 -0.4**
MSSA	**Maissana**	**3.10**	**7**	P	**Pn**	**10 53 12.9 +1.7**
MTCR	**Monte La Croce**	**3.16**	**27**	P	**Pn**	**10 53 14.0 +2.0**
ENR	**Entracque**	**3.20**	**340**	P	**Pn**	**10 53 14.6 +2.1**
STV	**Sant Anna di V**	**3.24**	**339**	P	**Pn**	**10 53 15.2 +2.1**
PCP	**Piancastagn**	**3.32**	**355**	P	**Pn**	**10 53 15.7 +1.6**
SMRF	**Simiane la Rot**	**3.71**	**319**	*e*Pn	**Pn**	**10 53 21.5 +2.0**
SMRF				*e*Sn	**Sn**	**10 54 02.1 -0.7**
MBDF	**Montbardon**	**3.84**	**336**	*e*Pn	**Pn**	**10 53 24.8 +3.4**
MBDF				*e*Sn	**Sn**	**10 54 05.0 -1.2**
	2.2nm,0.5s					
ORIF	**Oris-en-Rattie**	**4.32**	**329**	*e*Pn	**Pn**	**10 53 30.0 +2.1**
ORIF				*e*Sn	**Sn**	**10 54 16.5 -1.4**
	1.7nm,0.4s					
ORIF				*e*Sg	**Sg**	**10 54 39.7 -2.0**
LPG	**La Plagne**	**4.56**	**340**	*e*Pn	**Pn**	**10 53 34.9 +3.6**
LPL	**La Plagne**	**4.58**	**340**	*e*Pn	**Pn**	**10 53 34.5 +2.9**
LASF	**Ste Croix**	**4.72**	**309**	*e*Pn	**Pn**	**10 53 33.6 +0.3**
LASF				*e*Sn	**Sn**	**10 54 26.3 -1.3**
	1.6nm,0.3s					
VIVF	**Saint-Julien-l**	**4.80**	**320**	*e*Pn	**Pn**	**10 53 35.3 +0.9**
MTLF	**Montolieu**	**5.43**	**295**	*e*Pn	**Pn**	**10 53 43.6 +0.5**
MTLF				*e*Sn	**Sn**	**10 54 40.7 -4.5**
	2.5nm,0.3s					
CAF	**Calviac**	**6.26**	**308**	*e*Pn	**Pn**	**10 53 55.5 +1.0**

*IDC **01** 10:53:03.2±1.2,55°.43S×28°.28W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/27,mbtmp4.0/3,MS3.2/1,Ms1 3.1/1, ms1mx2.7/15,Error ellipse: s-maj=45.0km s-min=31.6km az=90.0*

*NEIC **01** 10:53:05.2±0.5,55°.51S±0°.08×28°.3W±0°.2,h10km±1km, mb4.4/16,Error ellipse: s-maj=18.5km s-min=8.8km az=128.0*

ISC 01 10:53:04.9±0.8,55°.5S±0°.1×28°.3W±0°.1,h10km,n25, σ0961/21,mb4.4/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.88**	**281**		**Pn**	**10 54 18.1**	**-0.2**
SNAA	**Sanae**	**19.51**	**156**	P	**P**	**10 57 31.4**	**-0.5**
PMSA	**Palmer Station**	**19.81**	**228**	P	**P**	**10 57 35.0**	**-0.2**
PMSA				IAmb	IAmb	10 57 46.1	
	comp=Z,32nm,1.4s						
BELA	**Belgrano 2**	**22.60**	**183**	P	**P**	**10 58 05.3**	**+0.1**
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**10 59 55.8**	**+0.6**
AC05	**El Transito**	**40.03**	**294**	P	**P**	**11 00 40.4**	**+0.3**
AC05				IAmb	IAmb	11 01 08.5	
	comp=Z,14nm,1.2s						
AC04	**Llanos de Chal**	**40.95**	**294**	P	**P**	**11 00 47.7**	**+0.2**
MAW	**Mawson**	**40.97**	**144**	P	**P**	**11 00 47.4**	**+0.2**
GO02	**Mina Guanaco**	**42.68**	**298**	P	**P**	**11 01 02.4**	**+0.4**
GO02				IAmb	IAmb	11 01 19.5	
	comp=Z,27nm,1.5s						
PB06	**IPOC Station P**	**44.72**	**300**	P	**P**	**11 01 17.2**	**-1.2**
BOSA	**Boshof**	**46.44**	**77**	LR	LR	11 15 54.0	
	comp=Z,28nm,20.4s,baz=207,slow=30						
PB08	**IPOC Station P**	**46.69**	**302**	P	**P**	**11 01 34.5**	**+0.3**
PB08				IAmb	IAmb	11 01 38.2	
	comp=Z,5.0nm,1.2s						
VNDA	**Vanda**	**47.11**	**183**	P	**P**	**11 01 36.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=185,slow=6.2,SNR=7.0						
VNDA	**Vanda**	**47.11**	**183**	P	**P**	**11 01 37.2**	**+0.9**
VNDA				IAmb	IAmb	11 01 49.7	
	comp=Z,3.5nm,1.4s						
MNMC	**Minye Minye**	**47.77**	**303**	P	**P**	**11 01 42.9**	**+0.4**
MNMC				IAmb	IAmb	11 01 43.7	
	comp=Z,4.6nm,0.8s						
H10N1	**ASCENSION HYDR** baz=191	**48.77**	**18**	T	T	11 55 01.1	
H10N3	**ASCENSION HYDR** baz=191	**48.77**	**18**	T	T	11 55 01.1	
H10N2	**ASCENSION HYDR** baz=191	**48.78**	**18**	T	T	11 54 45.8	
LPAZ	**La Paz**	**49.54**	**306**	P	**P**	**11 01 56.0**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=181,slow=7.3,SNR=11						
LPAZ	**La Paz**	**49.54**	**306**	P	**P**	**11 01 57.3**	**+0.8**
LPAZ				IAmb	IAmb	11 01 57.6	
	comp=Z,2.9nm,0.8s						
CASY	**Casey**	**54.65**	**161**	P	**P**	**11 02 32.1**	**-1.1**
CASY				IAmb	IAmb	11 02 50.0	
	comp=Z,4.1nm,1.3s						
TOA0	**Torodi Ar. Sit**	**72.88**	**31**	P	**P**	**11 04 34.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.88**	**31**	P	**P**	**11 04 33.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=201,slow=6.7,SNR=13						
TORD	**Torodi Ar. Bea**	**72.88**	**31**	P	**P**	**11 04 34.4**	**+0.6**
ILAR	**Eielson Array**	**149.28**	**313**	PKPbc	**PKPbc**	**11 12 51.6**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=121,slow=2.0,SNR=12						

OMAN 01 10:58:14.6,18°.49N×60°.12E,h39km,mb4.5/1,ml3.7/11, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**2.83**	**301**	P	Pn	10 58 57.8	+0.6
	SNR=12						
DQM				S	Sn	10 59 31.3	+1.2
MHTO	**MHTO**	**3.21**	**321**	P	Pn	10 59 02.1	-0.3
	SNR=93						
MHTO				S	Sn	10 59 39.6	+0.2
JLN	**Jalan Bani Buh**	**3.70**	**350**	P	Pn	10 59 08.3	-1.0
	SNR=14						
JLN				S	Sn	10 59 49.9	-1.8
WBK	**Wadi Bani Khal**	**4.24**	**345**	P	Pn	10 59 16.7	0.0
	SNR=16						
SHAO	**Shalim**	**4.29**	**264**	P	Pn	10 59 17.1	-0.4
	SNR=36						
SHAO				S	Sn	11 00 05.8	-0.5
JMDO	**Jabal Madar**	**4.30**	**334**	P	Pn	10 59 18.1	+0.6
	SNR=81						
WSAR	**Wadi Sarin**	**4.93**	**344**	P	Pn	10 59 26.2	+0.1
SMDO	**Samad**	**4.94**	**337**	P	Pn	10 59 27.0	+0.6
	SNR=11						
DMTO	**DMTO**	**4.98**	**262**	P	Pn	10 59 26.9	+0.1
	SNR=19						
BSY	**Bisya**	**5.04**	**328**	P	Pn	10 59 28.4	+0.7
	SNR=14						
BIDO	**Bidbid**	**5.34**	**340**	P	Pn	10 59 32.3	+0.5
BIDO				S	Sn	11 00 33.5	+1.4
ARQ	**Araqi**	**5.88**	**326**	P	Pn	10 59 40.1	+0.8
	SNR=7.4						
ARQ				S	Sn	11 00 46.6	+1.2

*IDC **01** 10:58:21.1±0.7,12°.52Nx88°.17W,h0km,mb4.3/15, mb1 4.5/17,mb1mx4.3/37,mbtmp4.3/17,ML3.0/2,MS3.9/26, Ms1 3.9/26,ms1mx3.9/30,Error ellipse: s-maj=30.9km s-min=12.4km az=58.0*

*SNET **01** 10:58:25.2±1.2,12°.34N×88°.64W,h16km±4km,ML3.8*

*NEIC **01** 10:58:25.7±1.8,12°.24N±0°.06×88°.47W±0°.05,h35km±2km, mb4.8/255,Error ellipse: s-maj=12.0km s-min=7.2km az=209.0*

*INET **01** 10:58:25.3,12°.27N×88°.51W,h15km,ML4.3*

*UCR **01** 10:58:25.1±1.7,12°.31N×88°.61W,h21km±6km,ML3.7, mb4.8(NEIC)*

*GCG **01** 10:58:27.5±0.9,12°.30N×88°.48W,h38km±999km,MD4.5*

*GCMT **01** 10:58:24.9±0.4,12°.13N±0°.02×88°.55W±0°.04,h20km±1km, MW4.8/79,Moment Tensor Solution. s26,c27; s79,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.88±.15; Mθθ-1.64±.09; Mφφ-0.23±.10; Mrθ0.82±.15; Mθφ0.74±.07; Mφr0.62±.22; Best double couple: M◎2.16600×10^16 NP1:φs313.00000°,δ41.00000°,λ123.00000°. NP2: φs92.00000°,δ57.00000°,λ65.00000°. Principal axes: T 2.3000, Plg67.0000°, Azm310.0000°; N -0.2660, Plg21.0000°, Azm107.0000°; P -2.0320, Plg8.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UPA **01** 10:58:33.2±0.2,11°.62Nx88°.19W,h6km±536km,MW4.8*

ISC 01 10:58:26.1±0.6,12°.32N±0°.04×88°.41W±0°.04,h33km±2km, n559,σ1822/531,mb4.8/114,MS3.9/23,16C,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.01**	**351**	*e*P	**Pb**	**10 58 44.4**	**-0.7**
ALJI				*e*S	**Sb**	**10 58 58.5**	**+0.4**
ALJI	**Alcalda de J**	**1.01**	**351**	*e*P	**Pb**	**10 58 44.4**	**-0.7**
ALJI				*e*S	**Sb**	**10 58 58.5**	**+0.4**
LCY	**Lacayo**	**1.10**	**6**	*e*P	**Pb**	**10 58 46.2**	**-0.5**
LCY	**Lacayo**	**1.10**	**6**	*e*P	**Pb**	**10 58 46.2**	**-0.5**
CNCH	**Conchagua**	**1.10**	**31**	*i*P	**Pb**	**10 58 46.3**	**-0.4**
CNCH	**Conchagua**	**1.10**	**31**	*i*P	**Pb**	**10 58 46.3**	**-0.4**
LCND	**La Caada**	**1.10**	**27**	*e*P	**Pb**	**10 58 46.4**	**-0.3**
LCND	**La Caada**	**1.10**	**27**	*e*P	**Pb**	**10 58 46.4**	**-0.3**
VSM	**San Miguel**	**1.11**	**7**	*e*P	**Pb**	**10 58 46.6**	**-0.3**
VSM	**San Miguel**	**1.11**	**7**	*e*P	**Pb**	**10 58 46.6**	**-0.3**
RANC	**El Ranchito**	**1.11**	**6**	*e*P	**Pb**	**10 58 46.4**	**-0.5**
RANC				*e*S	**Sb**	**10 59 01.6**	**+0.5**
RANC	**El Ranchito**	**1.11**	**6**	*e*P	**Pb**	**10 58 46.4**	**-0.5**
RANC				*e*S	**Sb**	**10 59 01.6**	**+0.5**
BLLM	**Bellamira**	**1.12**	**9**	*e*P	**Pb**	**10 58 46.6**	**-0.4**
BLLM	**Bellamira**	**1.12**	**9**	*e*P	**Pb**	**10 58 46.6**	**-0.4**
TECA	**Tecapa**	**1.17**	**356**	*e*P	**Pn**	**10 58 46.5**	**+0.2**
TECA				*e*S	**Sb**	**10 59 02.4**	**-0.4**
TECA	**Tecapa**	**1.17**	**356**	*e*P	**Pn**	**10 58 46.5**	**+0.2**
TECA				*e*S	**Sb**	**10 59 02.4**	**-0.4**
COEG	**Centro de Oper**	**1.37**	**340**	*e*P	**Pn**	**10 58 48.3**	**-0.7**
COEG				*e*S	**Sn**	**10 59 05.8**	**-0.2**
COEG	**Centro de Oper**	**1.37**	**340**	*e*P	**Pn**	**10 58 48.3**	**-0.7**
COEG				*e*S	**Sn**	**10 59 05.8**	**-0.2**
CRIN	**San Cristobal**	**1.38**	**74**		**Pb**	**10 58 51.0**	**-0.4**
CRIN				Sn	**Sb**	**10 59 08.4**	**-0.3**
FAGO	**Alcalda de S**	**1.40**	**12**	*i*P	**Pn**	**10 58 50.1**	**+0.8**
FAGO				*e*S	**Sb**	**10 59 10.7**	**+1.6**
FAGO	**Alcalda de S**	**1.40**	**12**	*i*P	**Pn**	**10 58 50.1**	**+0.8**
FAGO				*e*S	**Sb**	**10 59 10.7**	**+1.6**
LFRS	**El Faro**	**1.44**	**334**	*e*P	**Pn**	**10 58 48.6**	**-1.4**
LFRS	**El Faro**	**1.44**	**334**	*e*P	**Pn**	**10 58 48.6**	**-1.4**
PAVA	**Las Pavas**	**1.47**	**340**	*i*P	**Pn**	**10 58 50.0**	**-0.4**
PAVA				IAML		10 59 13.5	
	comp=Z,2μm,0.4s						
PAVA	**Las Pavas**	**1.47**	**340**	*i*P	**Pn**	**10 58 50.0**	**-0.4**
PAVA				IAML		10 59 13.5	
	comp=Z,2μm,0.4s						
LBRS	**Las Brisas**	**1.54**	**336**	*e*P	**Pn**	**10 58 51.5**	**+0.3**
LBRS	**Las Brisas**	**1.54**	**336**	*e*P	**Pn**	**10 58 51.5**	**+0.3**
SNET	**Serv Nac Est T**	**1.57**	**330**	*e*P	**Pn**	**10 58 50.3**	**-1.5**
SNET				*e*S	**Sn**	**10 59 10.7**	**-0.4**
SNET				IAML		10 59 23.1	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.57**	**330**	*e*P	**Pn**	**10 58 50.3**	**-1.5**
SNET				*e*S	**Sn**	**10 59 10.7**	**-0.4**
SNET				IAML		10 59 23.1	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.57**	**330**		**Pn**	**10 58 50.4**	**-1.4**
OPAM	**Oficina de Pla**	**1.58**	**331**	*e*P	**Pn**	**10 58 50.7**	**-1.2**
OPAM				IAML		10 59 13.7	
	comp=Z,953nm,0.3s						
OPAM	**Oficina de Pla**	**1.58**	**331**	*e*P	**Pn**	**10 58 50.7**	**-1.2**
OPAM				IAML		10 59 13.7	
	comp=Z,953nm,0.3s						
UEES	**Universidad Ev**	**1.60**	**330**	*e*P	**Pn**	**10 58 51.1**	**-1.1**
UEES	**Universidad Ev**	**1.60**	**330**	*e*P	**Pn**	**10 58 51.1**	**-1.1**
BOQS	**Boqueron**	**1.64**	**329**	*e*P	**Pn**	**10 58 52.0**	**-0.8**
BOQS	**Boqueron**	**1.64**	**329**	*e*P	**Pn**	**10 58 52.0**	**-0.8**
CEDA	**San Andres**	**1.76**	**327**	*e*P	**Pn**	**10 58 53.0**	**-1.3**
CEDA				*e*S	**Sn**	**10 59 14.6**	**-0.9**
CEDA				IAML		10 59 26.9	
	comp=Z,3μm,0.3s						
CEDA	**San Andres**	**1.76**	**327**	*e*P	**Pn**	**10 58 53.0**	**-1.3**
CEDA				*e*S	**Sn**	**10 59 14.6**	**-0.9**
CEDA				IAML		10 59 26.9	
	comp=Z,3μm,0.3s						
TACO	**Tacachico**	**1.88**	**331**	*e*P	**Pn**	**10 58 55.2**	**-0.7**
TACO				*e*S	**Sn**	**10 59 18.4**	**-0.1**
TACO	**Tacachico**	**1.88**	**331**	*e*P	**Pn**	**10 58 55.2**	**-0.7**
TACO				*e*S	**Sn**	**10 59 18.4**	**-0.1**
SBLS	**San Blas**	**1.92**	**322**	*e*P	**Pn**	**10 58 55.5**	**-1.2**
SBLS	**San Blas**	**1.92**	**322**	*e*P	**Pn**	**10 58 55.5**	**-1.2**
SNJE	**San Jose**	**1.93**	**323**	*e*P	**Pn**	**10 58 55.5**	**-1.3**
SNJE	**San Jose**	**1.93**	**323**	*e*P	**Pn**	**10 58 55.5**	**-1.3**
RTR	**El Retiro**	**1.97**	**323**	*e*P	**Pn**	**10 58 56.3**	**-1.1**
RTR	**El Retiro**	**1.97**	**323**	*e*P	**Pn**	**10 58 56.3**	**-1.1**
UNIC	**Universidad Ca**	**1.99**	**326**	*e*P	**Pn**	**10 58 57.1**	**-0.3**
UNIC	**Universidad Ca**	**1.99**	**326**	*e*P	**Pn**	**10 58 57.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.05**	**33**	*i*P	**Pn**	**10 58 59.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.05**	**33**	*i*P	**Pn**	**10 58 59.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.05**	**33**	Pn	**Pb**	**10 59 00.8**	**-1.9**
TGUH				Sn	**Sn**	**10 59 19.5**	**-3.4**
NUBE	**Las Nubes**	**2.06**	**320**	*i*P	**Pn**	**10 58 56.8**	**-1.7**
NUBE				IAML		10 59 35.0	
	comp=Z,528nm,0.3s						
NUBE	**Las Nubes**	**2.06**	**320**	*i*P	**Pn**	**10 58 56.8**	**-1.7**
NUBE				IAML		10 59 35.0	
	comp=Z,528nm,0.3s						
MTO3	**Montecristo**	**2.26**	**336**	*i*P	**Pn**	**10 59 01.5**	**+0.1**
MTO3	**Montecristo**	**2.26**	**336**	*i*P	**Pn**	**10 59 01.5**	**+0.1**
MTO3	**Montecristo**	**2.26**	**336**		**Pn**	**10 59 01.4**	**+0.1**
ESQI	**Esquipulas**	**2.40**	**338**		**Pn**	**10 59 03.9**	**+0.7**
ESQI				Sn	**Sn**	**10 59 33.5**	**+2.0**
MATN	**Matagalpa**	**2.50**	**76**	Pn	**Pn**	**10 59 05.6**	**+1.1**
IXG	**Ixpaco**	**2.70**	**313**	*e*P	**Pn**	**10 59 06.8**	**-0.6**
NBG	**Las Nubes**	**2.94**	**320**	*e*P	**Pn**	**10 59 13.0**	**+2.3**
PCG	**Pacaya**	**2.97**	**314**	*e*P	**Pn**	**10 59 12.2**	**+1.1**
MRL	**Marmol**	**3.01**	**336**	*e*P	**Pn**	**10 59 13.6**	**+1.9**
FUG	**Fuego 3**	**3.17**	**312**	*e*P	**Pn**	**10 59 15.5**	**+1.7**
FUG				*e*S	**Sn**	**10 59 52.6**	**+1.9**
ACON	**Acoyapa**	**3.18**	**96**		**Pn**	**10 59 14.1**	**+0.3**
JTS	**Las Juntas de**	**3.95**	**120**	Pn	**Pn**	**10 59 26.4**	**+2.0**
	comp=Z,12nm,0.3s,baz=18,slow=14,SNR=31						
JTS				Sn	**Sn**	**11 00 10.9**	**+1.3**
	comp=Z,10nm,0.3s,baz=179,slow=19,SNR=4.6						
JTS	**Las Juntas de**	**3.95**	**120**	*e*P	**Pn**	**10 59 27.0**	**+2.6**
JTS				*e*S	**Sn**	**11 00 07.9**	**-1.7**
JTS	**Las Juntas de**	**3.95**	**120**	Pn	**Pn**	**10 59 25.7**	**+1.3**
ESPN	**Las Esperanzas**	**4.02**	**91**	Pn	**Pn**	**10 59 25.1**	**-0.3**
HUEH	**Huehuetenango**	**4.23**	**315**		**Pn**	**10 59 31.6**	**+3.1**
PETF	**Flores**	**4.78**	**343**		**Pn**	**10 59 37.9**	**+2.1**
COMG	**Comitan**	**5.34**	**318**		**Pn**	**10 59 36.4**	**+1.3**
EDDO	**Dominical**	**5.41**	**124**	*e*P	**Pn**	**10 59 46.3**	**+1.9**
EDLM	**Las Mercedes**	**5.62**	**122**	*e*P	**Pn**	**10 59 49.4**	**+2.0**
EDPN	**Palmar Norte**	**5.90**	**124**	*e*P	**Pn**	**10 59 53.3**	**+2.0**
EDBA	**Buenos Aires**	**5.94**	**121**	*e*P	**Pn**	**10 59 53.5**	**+1.7**
PTJ1	**Puerto Jimnez**	**6.28**	**126**	*e*P	**Pn**	**10 59 58.1**	**+1.7**
PTJ1				*e*S	**Sn**	**11 01 02.4**	**-4.7**
BRU2	**Volcan**	**6.63**	**121**	*e*P	**Pn**	**11 00 04.0**	**+2.7**
BRU2				*e*S	**Sn**	**11 01 13.0**	**-2.9**
BCO2	**Palmira**	**6.80**	**121**	*e*P	**Pn**	**11 00 06.3**	**+2.5**
BCO2				*e*S	**Sn**	**11 01 17.1**	**-3.2**
PTAR3	**Potrerillos Ar**	**6.84**	**121**	*e*P	**Pn**	**11 00 06.6**	**+2.3**
CHGR2	**Aguacate**	**7.02**	**118**	*e*P	**Pn**	**11 00 09.7**	**+3.1**
TEIG	**Tepich**	**7.86**	**1**	Pn	**Pn**	**11 00 22.1**	**+4.0**
	comp=Z,0.6nm,0.3s,baz=178,slow=18,SNR=15						
TEIG				LR	LR	11 03 42.0	
	comp=Z,2μm,18.5s,baz=140,slow=42						
TEIG	**Tepich**	**7.86**	**1**	Pn	**Pn**	**11 00 17.8**	**-0.3**
BCIP	**Isla Barro Col**	**8.99**	**110**		**Pn**	**11 00 34.5**	**+0.9**
TLIG	**Tlapa**	**11.11**	**299**	Pn	**Pn**	**11 01 03.3**	**+0.4**
DBBC	**Dabeiba**	**13.13**	**113**	*e*P	**Pn**	**11 01 31.6**	**+1.2**
SJCC	**San Jacinto, C**	**13.21**	**99**	*e*P	**P**	**11 01 37.7**	**-3.3**
MOIG	**Morelia**	**14.29**	**302**	Pn	**Pn**	**11 01 46.5**	**+0.1**
SMLC	**San Martn de**	**14.52**	**103**	*e*P	**P**	**11 01 53.9**	**-1.7**
GUY2C	**Guyana, Caldas**	**14.69**	**118**	*e*P	**Pn**	**11 01 54.9**	**+2.8**
PTBC	**PUERTO BERRIO,**	**14.91**	**111**	*e*P	**P**	**11 02 01.7**	**+1.7**
ANIL	**Santa Ana**	**15.03**	**120**	*e*P	**P**	**11 02 05.0**	**+3.5**
TOLC	**Tolima**	**15.05**	**120**	*e*P	**P**	**11 02 04.9**	**+3.1**
BBAC	**Balboa, Cauca**	**15.07**	**132**	*e*P	**P**	**11 02 01.6**	**-0.3**
POPC	**Popayan, Colom**	**15.15**	**129**	*e*P	**P**	**11 02 06.0**	**+3.1**
MARP	**Paez Belalcaza**	**15.52**	**126**	*e*P	**P**	**11 02 11.9**	**+4.9**
OTAV	**Otavalo**	**15.55**	**140**	Pn	**Pn**	**11 01 58.1**	**-5.4**
OTAV	**Otavalo**	**15.55**	**140**	*e*P	**P**	**11 02 07.8**	**+0.3**
GCUF	**Volcan Galeras**	**15.55**	**134**	*e*P	**Pn**	**11 01 55.0**	**-8.6**
ROSC	**El Rosal**	**15.78**	**117**	Pn	**Pn**	**11 02 05.5**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=307,slow=20,SNR=1.3						
ROSC				LR	LR	11 09 26.2	
	comp=Z,412nm,18.4s,baz=340,slow=42						
ROSC	**El Rosal**	**15.78**	**117**		**Pn**	**11 02 05.8**	**-0.6**
PRAC	**Prado**	**15.88**	**121**	*e*P	**P**	**11 02 10.4**	**-0.4**
BETC	**Betania**	**16.02**	**126**	*e*P	**P**	**11 02 11.6**	**-0.8**
BARC	**Barichara**	**16.06**	**109**	*e*P	**P**	**11 02 11.8**	**-1.1**
CHIC	**Chingaza**	**16.40**	**117**	*e*P	**Pn**	**11 02 10.2**	**-4.1**
RUSC	**La Rusia**	**16.42**	**112**	*e*P	**P**	**11 02 16.7**	**-0.5**
FLOC	**Florencia**	**16.55**	**129**	*e*P	**P**	**11 02 22.9**	**+4.7**
PAPH	**Port-au-Prince**	**16.70**	**66**	Pn	**Pn**	**11 02 18.6**	**+0.8**
PAPH				IAmb	IAmb	11 02 35.8	
	comp=Z,40nm,0.8s						
ZAIG	**Zacatecas**	**17.02**	**310**	P	**Pn**	**11 02 21.9**	**0.0**
KVTX	**Kingsville**	**17.56**	**331**	P	**Pn**	**11 02 27.4**	**-0.9**
KVTX				IAmb	IAmb	11 02 35.2	
	comp=Z,109nm,1.1s						
MACC	**Macarena, Meta**	**17.62**	**124**	*e*P	**P**	**11 02 33.0**	**+3.1**
SDV	**Santo Domingo**	**17.80**	**99**	P	**Pn**	**11 02 28.3**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=232,slow=7.4,SNR=4.1						
SDV				LR	LR	11 11 13.7	
	comp=Z,238nm,18.0s,baz=294,slow=44						
SDV	**Santo Domingo**	**17.80**	**99**	P	**Pn**	**11 02 31.4**	**-0.2**
SDV	**Santo Domingo**	**17.80**	**99**	*e*P	**Pn**	**11 02 31.9**	**+0.3**
GUVC	**San Jose del G**	**18.40**	**121**	*e*P	**Pn**	**11 02 39.2**	**+0.4**
SC01	**Santiago de lo**	**18.41**	**65**	P	**Pn**	**11 02 39.7**	**+0.8**
BANI	**BANI**	**18.42**	**69**	P	**P**	**11 02 38.6**	**-0.3**
735A	**Kenedy**	**18.64**	**333**	P	**P**	**11 02 40.9**	**-0.2**
735A				IAmb	IAmb	11 02 57.8	
	comp=Z,38nm,0.9s						
BRAL	**Brewton**	**18.80**	**4**	P	**Pn**	**11 02 45.4**	**+1.9**
HKT	**Hockley**	**18.84**	**340**	P	**Pn**	**11 02 43.8**	**-0.2**
441A	**DeRidder**	**18.86**	**347**	P	**Pn**	**11 02 44.5**	**+0.2**
441A				IAmb	IAmb	11 02 47.7	
	comp=Z,70nm,1.1s						
833A	**Chaparral WMA,** baz=145,SNR=11	**18.94**	**329**	P	**Pn**	**11 02 45.0**	**-0.2**
833A	**Chaparral WMA,**	**18.94**	**329**	P	**Pn**	**11 02 45.0**	**-0.2**
346A	**Big Creek Wild**	**19.00**	**357**	P	**Pn**	**11 02 46.7**	**+0.8**
346A				IAmb	IAmb	11 02 49.5	
	comp=Z,48nm,0.7s						
344A	**Westbrook Farm**	**19.16**	**354**		**P**	**11 02 47.1**	**+0.4**
456A	**Hilliard**	**19.24**	**17**	P	**Pn**	**11 02 48.7**	**-0.1**
456A				IAmb	IAmb	11 02 51.1	
	comp=Z,64nm,0.9s						
342A	**Flagon Creek P**	**19.30**	**350**	P	**Pn**	**11 02 49.6**	**+0.1**
342A				IAmb	IAmb	11 02 52.8	
	comp=Z,70nm,1.1s						
352A	**Blakely**	**19.33**	**9**	P	**P**	**11 02 49.1**	**+0.5**
TIGA	**Tifton**	**19.54**	**12**	P	**Pn**	**11 02 53.1**	**+0.7**
	baz=194						
TIGA	**Tifton**	**19.54**	**12**	P	**Pn**	**11 02 52.7**	**+0.3**
TIGA				IAmb	IAmb	11 02 58.1	
	comp=Z,60nm,0.9s						
250A	**Grady**	**19.66**	**5**	P	**Pn**	**11 02 53.4**	**-0.4**
VBMS	**Vicksburg**	**19.90**	**355**	P	**Pn**	**11 02 57.0**	**+0.4**
	baz=174,SNR=6.4						
VBMS	**Vicksburg**	**19.90**	**355**	P	**Pn**	**11 02 56.6**	**0.0**
NATX	**Nacogdoches**	**20.18**	**344**	P	Pn	11 02 59.1	-0.9
	baz=162						
NATX	**Nacogdoches**	**20.18**	**344**	P	**P**	**11 02 58.9**	**+0.9**
NATX				IAmb	IAmb	11 03 13.9	
	comp=Z,62nm,1.0s						
146A	**Union**	**20.23**	**358**	P	**P**	**11 02 59.1**	**+0.7**
435B	**Jarrell**	**20.24**	**337**	P	**P**	**11 02 58.6**	**+0.1**
	baz=154						
435B	**Jarrell**	**20.24**	**337**	P	**P**	**11 02 58.2**	**-0.3**
435B				IAmb	IAmb	11 02 59.4	
	comp=Z,66nm,0.9s						
255A	**Hazlehurst**	**20.26**	**15**		Pn	11 03 00.6	-0.2
255A				IAmb	IAmb	11 03 01.9	
	comp=Z,48nm,1.0s						
143A	**Socs Landing,**	**20.47**	**353**	P	**P**	**11 03 02.2**	**+1.2**
143A				IAmb	IAmb	11 03 08.0	
	comp=Z,71nm,1.1s

comp=Z,56nm,1.1s
UALR University of 22.64 352 IAmb IAmb 11 03 26.5
comp=Z,55nm,1.2s
ABTX Abilene, Hawle 22.68 335 P **P** **11 03 23.4 -1.5**
baz=151,SNR=13
X54A Belton 22.80 13 P **P** **11 03 27.0 +1.0**
baz=195
Y57A Sumter 22.80 17 P **P** **11 03 27.1 +1.1**
Y57A IAmb IAmb 11 03 28.4
comp=Z,39nm,0.8s
JSC Jenkinsville 22.81 15 IAmb IAmb 11 03 28.8
comp=Z,32nm,1.0s
X55A Gracelyn & Ava 22.89 15 P **P** **11 03 27.9 +0.9**
baz=197,SNR=17
SWET Sewanee 22.90 5 P **P** **11 03 26.5 -0.6**
SWET IAmb IAmb 11 03 39.8
comp=Z,39nm,1.4s
W50A Signal Mountai 22.95 7 P **P** **11 03 27.3 -0.3**
W41B Gary Mavity, V 23.01 352 P **P** **11 03 28.2 -0.1**
baz=171,SNR=7.1
W41B Gary Mavity, V 23.01 352 P **P** **11 03 28.3 +0.1**
W41B IAmb IAmb 11 03 29.2
comp=Z,29nm,1.1s
W52A Murphy 23.03 9 IAmb IAmb 11 03 30.5
comp=Z,33nm,1.3s
WHAR Wooly Hollow 23.13 352 P **P** **11 03 29.6 +0.1**
HBAR Harrisburg 23.22 355 P **P** **11 03 30.2 -0.1**
W39A Magazine 23.29 349 P **P** **11 03 31.3 +0.3**
baz=167,SNR=14
X57A Johnson Farm, 23.30 18 P **P** **11 03 32.0 +0.8**
baz=201
W54A Cherokee Point 23.35 13 P **P** **11 03 32.6 +0.9**
baz=196,SNR=10
BIRD Birdtown, Kers 23.37 17 IAmb IAmb 11 03 33.0
comp=Z,29nm,1.0s
PCRV Puerto La Cruz 23.41 93 P **P** **11 03 32.9 +0.4**
comp=Z,5.2nm,0.6s,baz=288,slow=11,SNR=2.0
PCRV PcP **PcP** **11 07 17.7 -0.8**
comp=Z,2.5nm,0.6s,baz=233,slow=5.1,SNR=3.5
PLCV Puerto La Cruz 23.46 93 P **P** **11 03 32.9 0.0**
KMSC Kings Mountain 23.61 15 P **P** **11 03 34.8 +0.6**
baz=198
KMSC Kings Mountain 23.61 15 IAmb IAmb 11 03 37.2
comp=Z,23nm,1.1s
TKL Tuckaleechee C 23.61 9 P **P** **11 03 34.3 +0.2**
comp=Z,33nm,1.0s,baz=186,slow=12,SNR=28
TKL LR LR 11 14 21.4
comp=Z,112nm,18.0s,baz=194,slow=41
TKL Tuckaleechee C 23.61 9 IAmb IAmb 11 03 36.3
comp=Z,37nm,0.9s
WVT Waverly 23.71 1 P **P** **11 03 34.6 -0.4**
baz=182
WVT Waverly 23.71 1 P **P** **11 03 34.8 -0.2**
LCAR Lake Charles 23.77 354 IAmb IAmb 11 03 36.2
comp=Z,19nm,1.0s
V53A Saluda 23.79 11 IAmb IAmb 11 03 42.2
comp=Z,22nm,0.8s
W56A Indian Trail 23.79 16 P **P** **11 03 36.2 +0.4**
baz=199
V52A Sevierville 23.82 10 IAmb IAmb 11 03 38.4
comp=Z,22nm,1.0s
LPIG La Paz 23.83 302 LR LR 11 13 48.0
comp=Z,553nm,19.0s,baz=124,slow=39
W57A Gilead 23.98 17 P **P** **11 03 37.3 -0.2**
baz=201
W57A Gilead 23.98 17 IAmb IAmb 11 03 38.3
comp=Z,21nm,1.1s
V54A Nebo 24.07 13 P **P** **11 03 38.3 -0.2**
baz=196,SNR=17
W58A Raeford 24.08 19 P **P** **11 03 38.6 0.0**
baz=202,SNR=7.1
U49A Red Boiling Sp 24.20 5 IAmb IAmb 11 03 41.1
comp=Z,22nm,1.1s
WMOK Wichita Mounta 24.22 339 P **P** **11 03 38.9 -1.0**
baz=155,SNR=12
WMOK Wichita Mounta 24.22 339 IAmb IAmb 11 03 53.3
comp=Z,16nm,0.9s
U40A Yellville 24.26 351 P **P** **11 03 39.8 -0.5**
baz=170,SNR=38
PARMO Parma 24.27 357 P **P** **11 03 41.0 +0.8**
HENM Henderson Moun 24.31 358 P **P** **11 03 40.6 -0.1**
V55A Taylorsville 24.31 14 P **P** **11 03 40.9 +0.2**
baz=197,SNR=9.5
V55A Taylorsville 24.31 14 IAmb IAmb 11 03 43.6
comp=Z,28nm,0.9s
HHAR Hobbs 24.37 349 P **P** **11 03 40.9 -0.3**
HHAR IAmb IAmb 11 03 42.9
comp=Z,38nm,1.0s
TUL1 Leonard 24.41 345 P **P** **11 03 40.3 -1.3**
baz=163,SNR=7.8
TUL1 Leonard 24.41 345 P **P** **11 03 40.4 -1.3**
TUL1 IAmb IAmb 11 03 52.5
comp=Z,30nm,0.8s
PBMO Poplar Bluff 24.42 356 IAmb IAmb 11 03 46.2
comp=Z,18nm,0.9s
V56A Mocksville 24.45 16 P **P** **11 03 42.2 +0.2**
baz=199,SNR=7.2
TZTN Tazewell 24.51 9 P **P** **11 03 42.1 -0.4**
baz=192
TZTN Tazewell 24.51 9 P **P** **11 03 42.1 -0.4**
TZTN IAmb IAmb 11 03 45.1
comp=Z,21nm,1.1s
OK025 Westminster Rd 24.52 342 P **P** **11 03 41.6 -1.0**
T47A Sharon Grove 24.59 3 IAmb IAmb 11 03 43.4
comp=Z,36nm,0.9s
U38A Gravette 24.61 348 IAmb IAmb 11 03 45.0
comp=Z,42nm,1.0s
V57A Coltrane Farms 24.72 17 P **P** **11 03 44.7 +0.2**
baz=200,SNR=7.7
U54A Nelsons Funny 24.81 13 P **P** **11 03 45.1 -0.2**
baz=196,SNR=6.5
U54A Nelsons Funny 24.81 13 IAmb IAmb 11 03 48.6
comp=Z,33nm,0.9s
MNTX Cornudas Mount 24.82 324 P **P** **11 03 43.9 -1.5**
baz=138,SNR=17
V58A Windy Hill, Pi 24.83 18 P **P** **11 03 45.3 -0.1**
baz=202,SNR=15
MGMO Mountain Grove 24.97 353 IAmb IAmb 11 03 47.4
comp=Z,39nm,1.0s
U55A TA2, Sparta 24.97 14 P **P** **11 03 46.7 -0.1**
baz=197,SNR=7.3
U56A King 24.99 15 P **P** **11 03 47.7 +0.9**
baz=199
U56A King 24.99 15 IAmb IAmb 11 03 50.6
comp=Z,33nm,0.9s
V59A Middlesex 25.08 20 P **P** **11 03 47.4 -0.3**
baz=204
T53A Wise 25.11 11 P **P** **11 03 48.1 0.0**
baz=194
S44A Carbondale 25.28 358 IAmb IAmb 11 03 49.8
comp=Z,22nm,0.9s
CZSB Cruzeiro do Su 25.31 141 *e*P **P** **11 03 52.5 +2.6**
U57A Blanch 25.36 17 P **P** **11 03 50.4 +0.2**
baz=201,SNR=5.2
T54A Tazewell 25.39 13 P **P** **11 03 50.9 +0.4**
baz=196
AMTX Amarillo 25.49 334 P **P** **11 03 51.0 -0.5**
baz=149
T35A Sooner Cattle 25.55 345 P **P** **11 03 51.1 -0.8**
T35A IAmb IAmb 11 03 53.4
comp=Z,28nm,1.1s
U58A Oxford 25.56 19 P **P** **11 03 52.0 0.0**
baz=203
T55A Pulaski 25.62 14 P **P** **11 03 53.1 +0.5**
baz=198
T56A Rocky Mt 25.73 16 P **P** **11 03 54.2 +0.7**
baz=199
CCM Cathedral Cave 25.75 355 P **P** **11 03 52.9 -0.8**
baz=174
CCM Cathedral Cave 25.75 355 P **P** **11 03 53.4 -0.3**
WCI Wyandotte Cave 25.87 4 P **P** **11 03 54.1 -0.7**
baz=185
WCI Wyandotte Cave 25.87 4 P **P** **11 03 53.9 -0.9**
WCI IAmb IAmb 11 03 54.8
comp=Z,17nm,0.8s
T57A Hurt 25.91 17 P **P** **11 03 55.3 +0.1**
baz=201
T57A Hurt 25.91 17 P **P** **11 03 55.1 0.0**
T58A Grand View Acr 26.07 18 P **P** **11 03 56.7 +0.1**
baz=202
R40A Maddies Statio 26.09 353 IAmb IAmb 11 03 57.0
comp=Z,49nm,1.2s
S55A Lewisburg 26.31 14 P **P** **11 03 59.1 +0.3**
baz=198
KAN12 Harper NE Stat 26.31 343 P **P** **11 03 58.4 -0.4**
T59A Double "B" Far 26.41 20 P **P** **11 03 59.9 +0.2**
baz=204

T59A Double "B" Far 26.41 20 P **P** **11 03 59.4 -0.3**
S56A Natural Bridge 26.46 16 P **P** **11 04 00.4 +0.2**
baz=200
Q44A Meyer Farm, Va 26.48 359 P **P** **11 03 58.9 -1.4**
Q44A IAmb IAmb 11 04 00.3
comp=Z,20nm,0.8s
S57A Dark Hollow, R 26.71 17 P **P** **11 04 02.6 +0.2**
baz=201
NNA Nana 26.74 154 LR LR 11 12 54.4
comp=Z,150nm,19.6s,baz=296,slow=33
121A Cookes Peak, D 26.84 322 P **P** **11 04 04.0 +0.2**
baz=134,SNR=7.6
R55A Marlinton 26.89 15 P **P** **11 04 04.7 +0.6**
baz=198
Q51A Peebles 26.97 9 IAmb IAmb 11 04 05.5
comp=Z,21nm,0.9s
Q52A Bidwell 27.09 11 P **P** **11 04 05.8 0.0**
baz=193
R56A Bull Pasture M 27.19 16 P **P** **11 04 07.4 +0.6**
baz=200
R58B Mineral 27.21 18 P **P** **11 04 07.2 +0.3**
baz=203
P40A Paris 27.29 354 P **P** **11 04 06.3 -1.3**
P49A Miami Univ. Ec 27.30 6 P **P** **11 04 06.5 -1.1**
baz=188
R57A Stanardsville 27.33 17 P **P** **11 04 08.0 +0.1**
baz=201
BNM Barren Site 27.34 326 P **P** **11 04 08.7 +0.3**
Q54A Coxs Mills 27.39 13 P **P** **11 04 08.9 +0.3**
baz=196
Y22D IRIS PASSCAL I 27.44 325 P **P** **11 04 09.4 +0.1**
P51A Williamsport 27.46 9 P **P** **11 04 09.3 +0.1**
baz=191
R32A Long Quarter, 27.57 342 IAmb IAmb 11 04 20.1
comp=Z,31nm,1.0s
P38A Dawn 27.57 351 P **P** **11 04 09.2 -0.9**
KSU1 Kansas State U 27.64 346 P **P** **11 04 09.6 -1.1**
baz=163,SNR=5.9
KSU1 Kansas State U 27.64 346 P **P** **11 04 09.7 -1.1**
KSU1 IAmb IAmb 11 04 10.8
comp=Z,24nm,0.9s
P53A Whipple 27.76 12 P **P** **11 04 11.6 -0.3**
baz=195
P53A Whipple 27.76 12 P **P** **11 04 11.5 -0.3**
P53A IAmb IAmb 11 04 12.5
comp=Z,19nm,1.1s
P52A Corning 27.76 10 P **P** **11 04 11.4 -0.4**
baz=193
Q56A Snyder Ridge, 27.84 16 P **P** **11 04 12.1 -0.5**
baz=200
ANMO Albuquerque 27.84 327 P **P** **11 04 12.4 -0.4**
baz=140
ANMO Albuquerque 27.84 327 P **P** **11 04 12.8 -0.1**
P54A Burton 28.06 13 P **P** **11 04 14.7 +0.2**
baz=197
O51A Pataskala 28.18 9 P **P** **11 04 15.5 -0.1**
baz=192
ACSO Alum Creek Sta 28.21 9 P **P** **11 04 15.8 0.0**
baz=191
ACSO Alum Creek Sta 28.21 9 P **P** **11 04 14.5 -1.3**
ACSO IAmb IAmb 11 04 16.6
comp=Z,12nm,0.8s
CBKS Cedar Bluff 28.24 341 P **P** **11 04 15.5 -0.7**
baz=156,SNR=5.5
CBKS Cedar Bluff 28.24 341 IAmb IAmb 11 04 25.2
comp=Z,23nm,0.8s
O52A Adamsville 28.29 11 P **P** **11 04 16.2 -0.3**
baz=194
O52A Adamsville 28.29 11 P **P** **11 04 16.3 -0.2**
O52A IAmb IAmb 11 04 17.1
comp=Z,20nm,1.1s
P56A Dayton Farm, R 28.37 16 P **P** **11 04 17.0 -0.2**
baz=200
O53A New Philadelph 28.53 12 P **P** **11 04 19.0 +0.3**
baz=195
P57A Homestead Farm 28.58 17 P **P** **11 04 19.9 +0.8**
baz=202
P57A Homestead Farm 28.58 17 P **P** **11 04 17.9 -1.1**
P57A IAmb IAmb 11 04 20.9
comp=Z,11nm,0.8s
T25A Trinidad 28.58 333 P **P** **11 04 19.9 +0.5**
baz=146,SNR=6.0
T25A Trinidad 28.58 333 P **P** **11 04 19.4 0.0**
T25A IAmb IAmb 11 04 30.5
comp=Z,22nm,0.9s
TUC Tucson 28.59 318 P **P** **11 04 19.3 -0.1**
baz=129
N38A Joes South For 28.68 352 P **P** **11 04 18.6 -1.3**
N52A McGinn's Farm, 28.99 11 P **P** **11 04 22.8 0.0**
baz=194
N35A Tabor 29.13 349 P **P** **11 04 23.1 -0.9**
N35A IAmb IAmb 11 04 25.2
comp=Z,40nm,1.5s
N53A Lisbon 29.14 12 P **P** **11 04 25.2 +1.0**
baz=195
O57A Amberson 29.36 17 P **P** **11 04 26.7 +0.7**
baz=202
KSCO Kaye Shedlock' 29.43 337 P **P** **11 04 26.7 -0.1**
baz=151,SNR=9.7
KSCO Kaye Shedlock' 29.43 337 P **P** **11 04 26.9 +0.1**
O58A Lewisberry 29.49 18 P **P** **11 04 27.4 +0.2**
baz=203
SDCO Great Sand Dun 29.57 332 P **P** **11 04 28.3 0.0**
baz=145,SNR=8.7
SDCO Great Sand Dun 29.57 332 P **P** **11 04 28.3 0.0**
SDCO IAmb IAmb 11 04 39.6
comp=Z,12nm,1.0s
L40A Anamosa 29.73 356 P **P** **11 04 28.6 -0.7**
L40A IAmb IAmb 11 04 29.4
comp=Z,29nm,1.4s
O59A Robesonia 29.89 19 P **P** **11 04 31.5 +0.8**
baz=204
S22A 4UR Ranch, Cre 30.20 330 P **P** **11 04 33.4 -0.4**
baz=142,SNR=11
S22A 4UR Ranch, Cre 30.20 330 P **P** **11 04 34.4 +0.5**
BGNE Belgrade 30.20 345 P **P** **11 04 33.1 -0.4**
baz=161
Q24A Divide 30.41 334 P **P** **11 04 34.6 -1.2**
K38A Paxtonsburg 30.45 354 P **P** **11 04 34.6 -1.1**
JFWS Jewell Farm 30.52 357 P **P** **11 04 35.2 -1.1**
JFWS IAmb IAmb 11 04 40.5
comp=Z,13nm,1.1s
N59A State Game Lan 30.57 19 P **P** **11 04 36.9 +0.2**
baz=205
MVCO Mesa Verde 30.63 327 P **P** **11 04 37.4 -0.3**
baz=139
MVCO Mesa Verde 30.63 327 P **P** **11 04 36.1 -1.5**
N60A Cedar Hill Far 30.75 20 P **P** **11 04 39.2 +0.9**
baz=206
L55A Hinsdale 30.99 14 P **P** **11 04 40.7 +0.2**
baz=199
WUAZ Wupatki 31.05 322 P **P** **11 04 41.1 -0.2**
baz=133
WUAZ Wupatki 31.05 322 P **P** **11 04 41.8 +0.5**
PTGA Pitinga 31.07 113 LR LR 11 18 28.0
comp=Z,169nm,18.9s,baz=294,slow=39
ETMB Extrema 31.15 134 *e*P **P** **11 04 42.8 +0.7**
WVNY West Valley, N 31.16 14 P **P** **11 04 42.5 +0.6**
WVNY IAmb IAmb 11 04 44.0
comp=Z,35nm,1.4s
L56A Greenwood 31.17 16 P **P** **11 04 41.5 -0.6**
baz=201
L57A Andrews Acres 31.24 17 P **P** **11 04 42.6 -0.1**
baz=202
ISCO Idaho Springs 31.31 334 P **P** **11 04 43.5 -0.2**
ISCO IAmb IAmb 11 04 55.0
comp=Z,11nm,0.9s
M60A Port Jervis 31.31 20 P **P** **11 04 43.6 +0.3**
baz=207
K54A Basilko Farm, 31.34 14 P **P** **11 04 43.8 +0.3**
baz=198
PV01 Paradox Valley 31.37 329 P **P** **11 04 46.2 +2.1**
PV15 Paradox Valley 31.48 329 P **P** **11 04 45.0 -0.2**
K31A O'Neill 31.50 345 P **P** **11 04 44.6 -0.3**
PV02 Paradox Valley 31.51 328 P **P** **11 04 45.1 -0.3**
PV13 Radium Mtn., P 31.52 328 P **P** **11 04 45.4 0.0**
PV13 IAmb IAmb 11 04 48.2
comp=Z,9.8nm,1.1s
MACA Manacapuru-AM 31.55 117 *e*P **P** **11 04 46.8 +1.1**
M61A Granite Spring 31.60 21 P **P** **11 04 45.7 -0.1**
baz=208
PV05 Paradox Valley 31.60 328 P **P** **11 04 47.2 +1.1**
PV05 IAmb IAmb 11 04 57.2
comp=Z,8.7nm,0.9s
PV03 Paradox Valley 31.60 328 P **P** **11 04 46.6 +0.4**
PV03 IAmb IAmb 11 04 52.0

comp=Z,8.1nm,0.8s
PV12 Saucer Basin, 31.63 328 P **P** **11 04 47.5 +1.1**
PV12 IAmb IAmb 11 04 51.3
comp=Z,16nm,0.9s
PV18 Skein Mesa, Pa 31.63 328 P **P** **11 04 46.5 +0.1**
PV18 IAmb IAmb 11 04 49.0
comp=Z,11nm,0.9s
PV07 Paradox Valley 31.64 329 P **P** **11 04 46.0 -0.5**
PV07 IAmb IAmb 11 04 50.0
comp=Z,11nm,1.1s
PV11 David Mesa, Pa 31.65 328 P **P** **11 04 46.3 -0.3**
PV11 IAmb IAmb 11 04 51.1
comp=Z,11nm,0.7s
BINY Binghamton 31.67 18 P **P** **11 04 46.3 -0.2**
baz=204
PV17 East Wray Mesa 31.68 328 P **P** **11 04 46.8 0.0**
PV17 IAmb IAmb 11 04 58.4
comp=Z,12nm,0.9s
PV16 Nyswonger Mesa 31.68 328 IAmb IAmb 11 04 49.5
comp=Z,10nm,1.0s
PV20 West Nyswonger 31.73 328 IAmb IAmb 11 04 50.3
comp=Z,10.0nm,1.1s
PV04 Paradox Valley 31.74 328 IAmb IAmb 11 04 50.0
comp=Z,13nm,1.0s
K56A Middlesex 31.76 16 P **P** **11 04 46.0 -1.2**
baz=201
PV22 Blue Mesa, Par 31.79 329 IAmb IAmb 11 04 51.6
comp=Z,9.4nm,1.1s
PV23 Carpenter Ridg 31.84 328 IAmb IAmb 11 04 51.3
comp=Z,16nm,1.1s
L59A Walton 31.95 19 P **P** **11 04 49.8 +0.8**
baz=205
J54A Appleton 31.98 14 P **P** **11 04 49.9 +0.8**
baz=198
I51A Listowel 32.01 10 P **P** **11 04 48.7 -0.7**
baz=194
ECSD EROS Data Cent 32.09 349 P **P** **11 04 48.4 -1.7**
baz=165,SNR=6.5
ECSD EROS Data Cent 32.09 349 IAmb IAmb 11 04 50.4
comp=Z,16nm,1.2s
K58A Earlville 32.29 18 P **P** **11 04 52.0 +0.1**
baz=204
M63A Gales Ferry 32.32 23 P **P** **11 04 52.6 +0.5**
baz=211
N23A Red Feather La 32.36 335 P **P** **11 04 54.1 +1.3**
baz=147
N23A Red Feather La 32.36 335 P **P** **11 04 54.1 +1.3**
N23A IAmb IAmb 11 05 03.6
comp=Z,12nm,1.0s
J56A Wolcott 32.42 16 P **P** **11 04 52.6 -0.3**
baz=201
L61A Hillsdale 1, H 32.45 21 P **P** **11 04 54.1 +0.8**
baz=208
IKP In-Ko-Pah, Jac 32.45 313 P **P** **11 04 54.4 +0.9**
baz=122
PHWY Pilot Hill 32.50 336 P **P** **11 04 53.0 -1.0**
PHWY IAmb IAmb 11 05 05.3
comp=Z,16nm,1.1s
K59A Cooperstown 32.54 19 P **P** **11 04 55.0 +0.9**
baz=205
BC3 Big Chuckawall 32.54 315 P **P** **11 04 54.4 0.0**
baz=125
IRM Iron Mountain 32.62 316 P **P** **11 04 55.3 +0.4**
baz=126
O20A White River Ci 32.76 331 P **P** **11 04 57.7 +1.4**
baz=142,SNR=12
O20A White River Ci 32.76 331 P **P** **11 04 57.0 +0.7**
M64A Tiverton 32.77 24 P **P** **11 04 57.1 +1.0**
baz=212
J57A Williamstown 32.78 17 P **P** **11 04 56.2 +0.1**
baz=203
SAML Samuel 32.79 129 P **P** **11 04 55.9 -0.6**
SAML IAmb IAmb 11 05 01.8
comp=Z,6.9nm,0.8s
SAML Samuel 32.79 129 *e*P **P** **11 04 56.6 +0.1**
MONP2 Monument Peak 32.81 313 P **P** **11 04 57.2 +0.4**
baz=122
G40A Rib Lake 32.87 358 IAmb IAmb 11 04 56.6
comp=Z,16nm,1.1s
J58A Remsen 32.94 18 P **P** **11 04 58.1 +0.5**
baz=204
K61A Williamstown 32.97 21 P **P** **11 04 58.5 +0.7**
baz=208
L61B Northampton 32.98 22 P **P** **11 04 58.8 +0.8**
baz=209
SPMN Marine on St. 33.00 354 P **P** **11 04 56.5 -1.5**
baz=172,SNR=16
SRU San Rafael Swe 33.11 328 P **P** **11 04 59.3 0.0**
BELC Belle Mtn. Jos 33.11 315 P **P** **11 04 58.8 -0.6**
baz=124
PFO Pinyon Flats O 33.22 314 P **P** **11 05 04.7 +4.4**
comp=Z,2.5nm,0.9s,baz=81,slow=7.3,SNR=3.5
H53A Bobcaygeon 33.23 13 P **P** **11 05 00.1 +0.1**
baz=198
SUSD Miller 33.26 346 P **P** **11 04 58.7 -1.7**
baz=161,SNR=8.4
J59A Piesco 33.27 19 P **P** **11 05 00.5 0.0**
baz=205
SADO Sadowa 33.30 12 P **P** **11 04 59.1 -1.5**
comp=Z,7.0nm,1.0s,baz=247,slow=7.7,SNR=2.4
SADO Sadowa 33.30 12 P **P** **11 04 59.5 -1.1**
GMRC Granite Mounta 33.33 317 P **P** **11 05 01.7 +0.5**
baz=126
I58A Old Forge 33.34 18 P **P** **11 05 01.1 +0.1**
baz=204
SZCU Shurtz Canyon 33.47 323 P **P** **11 05 02.4 -0.1**
P17A Butcher Ranch, 33.49 328 P **P** **11 05 02.6 0.0**
RWWY Rawlins 33.55 334 IAmb IAmb 11 05 04.7
comp=Z,21nm,1.1s
COWI Conover 33.67 359 IAmb IAmb 11 05 03.2
comp=Z,14nm,1.0s
F36A Milaca 33.71 354 P **P** **11 05 02.4 -1.8**
F36A IAmb IAmb 11 05 03.3
comp=Z,15nm,1.0s
RDMU Red Mountain 33.73 330 P **P** **11 05 05.8 +1.1**
I59A Olmsteadville 33.77 19 P **P** **11 05 04.5 -0.3**
baz=206
E43A Lone Tree Farm 33.96 2 P **P** **11 05 03.9 -2.5**
J62A Henniker 33.98 22 P **P** **11 05 07.0 +0.4**
baz=210
K22A Casper 34.06 336 P **P** **11 05 07.0 -0.6**
baz=147,SNR=6.4
K22A Casper 34.06 336 P **P** **11 05 07.8 +0.2**
K22A IAmb IAmb 11 05 21.1
comp=Z,16nm,0.9s
G54A Lake Saint Pet 34.12 13 P **P** **11 05 07.0 -0.8**
baz=198
H58A Gabriels 34.24 18 P **P** **11 05 08.9 +0.1**
baz=205
J63A Strafford 34.29 23 P **P** **11 05 08.1 -1.2**
baz=211
LONY Lake Ozonia 34.30 18 P **P** **11 05 09.4 0.0**
baz=204
LONY Lake Ozonia 34.30 18 P **P** **11 05 08.8 -0.6**
LONY IAmb IAmb 11 05 09.9
comp=Z,15nm,1.0s
GSC Goldstone, Bar 34.40 316 P **P** **11 05 09.5 -1.0**
baz=125
RSSD Black Hills 34.42 340 P **P** **11 05 11.4 +0.7**
baz=152
RSSD Black Hills 34.42 340 P **P** **11 05 10.9 +0.2**
RSSD IAmb IAmb 11 05 22.3
comp=Z,10nm,1.1s
H59A Cadyville 34.59 19 P **P** **11 05 11.6 -0.4**
baz=206
ALGO Algonquin Park 34.66 13 P **P** **11 05 11.8 -0.6**
baz=198
I62A Tamworth 34.71 22 P **P** **11 05 13.4 +0.5**
baz=210
I62A Tamworth 34.71 22 P **P** **11 05 13.4 +0.5**
LPAZ La Paz 34.79 144 P **P** **11 05 15.1 +0.5**
comp=Z,1.2nm,0.9s,baz=315,slow=8.6,SNR=3.1
LPAZ LR LR 11 20 10.4
comp=Z,164nm,20.3s,baz=318,slow=38
LPAZ La Paz 34.79 144 P **P** **11 05 14.1 -0.5**
LPAZ La Paz 34.79 144 *e*P **P** **11 05 15.2 +0.6**
LPAZ *ep*P **sP** **11 05 28.9 +1.4**
H60A Morristown 34.84 20 P **P** **11 05 14.2 +0.2**
baz=208
TPNV Topopah Spring 35.00 319 P **P** **11 05 14.9 -0.8**
H61A Lyndonville 35.07 21 P **P** **11 05 16.8 +0.7**
baz=209
FURC Furnace Creek, 35.10 318 P **P** **11 05 17.0 +0.6**
baz=126
DUG Dugway, Tooele 35.11 327 IAmb IAmb 11 05 29.4
comp=Z,11nm,1.3s
I63A Otisfield 35.14 23 P **P** **11 05 16.8 +0.2**

baz=211
G59A Clarenceville 35.14 19 P P 11 05 17.3 +0.7
baz=206
MPMC Manual Prospec 35.28 317 P P 11 05 18.0 -0.2
baz=125
F57A Harrington 35.35 17 P P 11 05 18.1 -0.3
baz=204
H62A Milan 35.38 21 P P 11 05 18.3 -0.4
baz=210
G60A Masonville 35.43 20 P P 11 05 18.8 -0.4
baz=208
PD31 Pinedale Array 35.45 333 P P 11 05 19.4 -0.2
PDAR Pinedale Array 35.45 333 P P 11 05 18.7 -0.9
comp=Z,1.7nm,0.9s,baz=153,slow=12,SNR=8.1
PDAR PcP **PcP 11 07 49.5 +0.6**
comp=Z,0.9nm,0.9s,baz=155,slow=4.9,SNR=3.7
PDAR LR LR 11 23 16.0
comp=Z,130nm,19.1s,baz=150,slow=42
BW06 Boulder Array 35.45 333 P P 11 05 20.1 +0.5
baz=143
BW06 Boulder Array 35.45 333 P P 11 05 19.6 0.0
HWUT Hardware Ranch 35.50 329 P P 11 05 19.3 -0.7
PB16 IPOC Station P 35.72 148 P P 11 05 23.3 +0.8
BGU Big Grassy Mou 35.75 327 P P 11 05 22.2 +0.1
AHID Auburn Hatcher 36.16 331 P P 11 05 25.4 -0.3
AHID IAmb IAmb 11 05 29.4
comp=Z,10nm,1.0s
H64A Troy 36.16 23 P P 11 05 26.2 +0.8
baz=213
G62A West of Eustis 36.16 22 P P 11 05 26.2 +0.8
baz=210
E58A La Victoria 36.27 18 P P 11 05 25.6 -0.7
baz=206
AGMN Agassiz Nation 36.40 352 P P 11 05 25.7 -1.6
baz=168,SNR=11
ITTB Itaituba 36.47 115 *e*P **P 11 05 28.1 -0.3**
REDW Red Top Meadow 36.50 332 IAmb IAmb 11 05 31.1
comp=Z,18nm,1.0s
SNOW Snow King Moun 36.53 332 IAmb IAmb 11 05 42.4
comp=Z,18nm,1.1s
MDND Maddock 36.63 347 P P 11 05 28.0 -1.4
baz=162,SNR=6.5
TPAW Teton Pass 36.65 332 IAmb IAmb 11 05 47.1
comp=Z,14nm,1.1s
ELK Elko 36.83 325 P P 11 05 29.8 -1.6
VLDQ Val d'Or 36.83 12 P P 11 05 30.7 -0.4
VLDQ IAmb IAmb 11 05 31.0
comp=Z,24nm,1.4s
E60A Ste Agathe de 36.85 20 P P 11 05 30.7 -0.5
baz=209
G64A Maxfield 36.85 23 P P 11 05 31.5 +0.2
baz=213
F62A Pittston Farm, 36.95 22 P P 11 05 32.0 -0.1
baz=211
IMW Indian Meadow 36.96 333 P P 11 05 29.4 -3.1
D58A Chemin du LacG 37.04 18 P P 11 05 32.3 -0.6
baz=206
NVAR Mina Array Bea 37.19 320 P P 11 05 34.8 +0.3
comp=Z,3.2nm,0.9s,baz=139,slow=6.0,SNR=10
NVAR PcP **PcP 11 07 55.1 +1.0**
comp=Z,1.2nm,0.7s,baz=143,slow=4.2,SNR=4.5
NVAR ScP **ScP 11 11 46.0 +7.0**
comp=Z,0.9nm,0.9s,baz=143,slow=4.1,SNR=4.5
NVAR LR LR 11 23 34.7
comp=Z,293nm,18.6s,baz=102,slow=41
NVAR Mina Array Bea 37.19 320 P P 11 05 35.2 +0.7
RLMT Red Lodge 37.22 335 P P 11 05 35.6 +0.9
baz=145,SNR=7.1
RLMT Red Lodge 37.22 335 P P 11 05 34.3 -0.4
RLMT IAmb IAmb 11 05 45.6
comp=Z,13nm,1.1s
LKWY Lake 37.25 334 P P 11 05 33.3 -1.7
G65A Princeton 37.28 25 P P 11 05 35.3 +0.5
baz=215
LATQ La Tuque 37.33 18 P P 11 05 34.6 -0.7
baz=206
KVN Kaiserville 37.43 321 P P 11 05 35.7 -0.9
YNE Yellowstone No 37.44 335 P P 11 05 35.7 -0.9
F64A Sherman 37.52 23 P P 11 05 37.1 +0.2
baz=213
YMR Madison River 37.58 333 P P 11 05 37.5 -0.2
VILB Vilhena 37.60 131 *e*P **P 11 05 38.8 +0.8**
VILB *e*pP **sP 11 05 52.5 +1.8**
YHH Holmes Hill 37.62 334 P P 11 05 37.9 -0.3
E62A Clayton Lake 37.72 21 P P 11 05 38.4 -0.2
baz=211
YHL Hebgen Lake 37.81 333 P P 11 05 38.5 -1.4
LSQQ Lebel-sur-Quev 37.83 12 P P 11 05 38.8 -0.7
baz=198
E63A Oxbow 37.96 23 P P 11 05 40.3 -0.3
baz=213
NPGB Novo Progresso 38.08 119 *e*P **P 11 05 41.4 -0.7**
E64A Bridgewater 38.18 23 P P 11 05 42.7 +0.2
baz=214
D62A Allapoint, All 38.29 21 P P 11 05 42.3 -1.1
baz=212
D62A Allapoint, All 38.29 21 IAmb IAmb 11 05 44.1
comp=Z,12nm,0.9s
ULM Lac du Bonnet 38.31 352 P P 11 05 41.0 -2.5
comp=Z,14nm,0.9s,baz=165,slow=9.0,SNR=8.7
ULM LR LR 11 22 41.7
comp=Z,238nm,21.9s,baz=108,slow=38
ULM Lac du Bonnet 38.31 352 IAmb IAmb 11 05 42.6
comp=Z,20nm,0.9s
DGMT Dagmar 38.36 343 P P 11 05 43.6 -0.4
baz=155,SNR=6.5
HLID Hailey 38.36 329 P P 11 05 43.8 -0.5
baz=137
MATQ Matagami 38.37 11 P P 11 05 43.1 -0.9
baz=197
BCYI Bear Canyon 38.42 331 P P 11 05 44.9 +0.1
D63A Stockholm 38.59 22 P P 11 05 45.0 -0.9
baz=213
BOZ Bozeman (W) 38.60 334 P P 11 05 46.3 0.0
baz=142
BOZ Bozeman (W) 38.60 334 P P 11 05 45.6 -0.6
DLMT Dillon 38.84 333 P P 11 05 49.8 +1.6
LMN Caledonia Moun 38.96 26 P P 11 05 48.7 -0.4
LMN IAmb IAmb 11 05 49.9
comp=Z,26nm,1.0s
SIV San Ignacio 39.02 135 P P 11 05 50.4 +0.4
comp=Z,9.8nm,0.9s,baz=315,slow=8.4,SNR=29
LRM Limekiln Ridge 39.13 333 P P 11 05 49.9 -0.9
HRY Holter Researc 39.56 335 P P 11 05 54.0 -0.3
LVC Limon Verde 39.63 151 *e*P **P 11 05 57.0 +1.7**
LVC *e*pP **sP 11 06 11.1 +2.8**
CLDB Colider 39.75 124 *e*P **P 11 05 54.4 -1.6**
CLDB *e*pP **sP 11 06 07.2 -1.6**
EGMT Eagleton 39.81 338 P P 11 05 56.2 0.0
baz=146
EGMT Eagleton 39.81 338 P P 11 05 55.6 -0.6
EGMT IAmb IAmb 11 06 06.9
comp=Z,25nm,0.9s
PTLB Pontes e Lacer 40.01 133 *e*P **P 11 06 00.5 +2.3**
MSO Missoula 40.57 333 P P 11 06 02.0 -0.6
baz=140
MSO Missoula 40.57 333 P P 11 06 02.5 0.0
M04C Macdoel 41.34 321 P P 11 06 10.6 +1.6
baz=126
F10A Beach Ranch, E 41.49 330 P P 11 06 09.4 -0.7
FFC Flin Flon 43.63 349 P P 11 06 26.1 -1.2
FFC IAmb IAmb 11 06 39.2
comp=Z,24nm,1.4s
B08A Colville Reser 44.18 331 P P 11 06 31.5 -0.4
B06A Marblemount 45.34 329 P P 11 06 40.6 -0.4
B06A IAmb IAmb 11 06 50.7
comp=Z,11nm,1.1s
SCHQ Schefferville 45.67 17 P P 11 06 41.5 -2.0
comp=Z,20nm,0.9s,baz=207,slow=6.5,SNR=8.2
SCHQ Schefferville 45.67 17 P P 11 06 42.4 -1.2
ARAG Araguaiana, MT 45.68 127 *e*P **P 11 06 45.0 +0.8**
SMTB Santa Maria do 45.70 116 *e*P **P 11 06 44.4 0.0**
AQDB Aquidauana 45.80 135 *e*P **P 11 06 45.4 +0.4**
ROSB Rosrio 46.52 106 *e*P **P 11 06 48.8 -2.1**
BDFB Brasilia 48.68 124 P **P 11 07 07.4 -0.3**
comp=Z,0.9nm,0.3s,baz=294,slow=6.8,SNR=1.7
BDFB LR LR 11 29 39.6
comp=Z,257nm,18.4s,baz=297,slow=39
BDFB Brasilia 48.68 124 IAmb IAmb 11 07 21.1
comp=Z,13nm,1.4s
IPMB Ipameri, GO 49.81 126 *e*P **P 11 07 16.3 +0.1**
BB19B Bebedouro 51.35 130 *e*P **P 11 07 28.5 +0.8**
JANB Januaria 51.45 121 *e*P **P 11 07 28.6 0.0**
YKA Yellowknife Ar 53.49 345 P **P 11 07 41.9 -1.1**
comp=Z,8.3nm,1.0s,baz=128,slow=7.7,SNR=11
BSCB Bom Sucesso 54.17 127 *e*P **P 11 07 48.3 -0.5**

PLCA Paso Flores 55.32 164 P P 11 07 56.1 -0.5
comp=Z,2.7nm,0.8s,baz=332,slow=8.3,SNR=5.7
PLCA LR LR 11 26 00.2
comp=Z,50nm,20.7s,baz=339,slow=30
PLCA Paso Flores 55.32 164 P P 11 07 55.6 -1.1
PLCA Paso Flores 55.32 164 *e*P **P 11 07 57.2 +0.5**
RIB01 Linhares ES 56.79 123 *e*P **P 11 08 06.5 -1.0**
BCAR Beaver Creek A 62.98 336 P P 11 08 48.4 -1.0
INK Inuvik 63.05 343 P P 11 08 48.5 -1.2
INK IAmb IAmb 11 08 49.9
comp=Z,14nm,1.1s
SCRK Sand Creek 64.28 336 P P 11 08 58.3 +0.2
baz=117
RC01 Rabbit Creek A 65.59 332 P P 11 09 05.8 -0.7
baz=110
HDA Harding Lake 65.64 336 P P 11 09 06.0 -0.7
baz=114
HDA Harding Lake 65.64 336 P P 11 09 05.8 -0.9
IL31 65.76 336 P P 11 09 05.8 -1.7
IL31 IAmb IAmb 11 09 07.4
comp=Z,15nm,1.4s
ILAR Eielson Array 65.76 336 P P 11 09 06.3 -1.2
comp=Z,3.9nm,1.1s,baz=135,slow=3.9,SNR=20
ILAR LR LR 11 40 41.7
comp=Z,120nm,20.9s,baz=138,slow=39
RND Reindeer 66.03 335 IAmb IAmb 11 09 10.9
comp=Z,11nm,1.1s
BWN Browne 66.56 335 P P 11 09 12.0 -0.7
COLD Coldfoot 67.97 338 P P 11 09 21.4 -0.1
baz=112
COLD Coldfoot 67.97 338 P P 11 09 21.9 +0.3
COLD IAmb IAmb 11 09 22.7
comp=Z,11nm,1.3s
TOLK Toolik Lake Re 68.28 340 P P 11 09 23.6 +0.1
baz=113
ESDC Sonseca Array 78.00 52 P P 11 10 19.7 -1.9
comp=Z,0.6nm,1.0s,baz=305,slow=4.5,SNR=2.3
ESDC LR LR 11 39 43.5
comp=Z,71nm,20.9s,baz=285,slow=32
DBIC Dimbokro 82.33 85 LR LR 11 43 51.9
comp=Z,49nm,19.1s,baz=281,slow=33
NOA NORSAR Array B 83.93 29 LR LR 11 44 21.3
comp=Z,53nm,21.6s,baz=265,slow=33
ARCES ARCESS Array B 86.61 19 LR LR 11 48 39.1
comp=Z,65nm,19.3s,baz=255,slow=35
TORD Torodi Ar. Bea 87.35 77 P P 11 11 08.8 -1.8
comp=Z,0.7nm,1.0s,baz=284,slow=5.8,SNR=2.3
TORD LR LR 11 47 03.5
comp=Z,50nm,21.0s,baz=290,slow=34
TORD Torodi Ar. Bea 87.35 77 P P 11 11 09.6 -1.0
GERES GERESS Array B 88.64 40 LR LR 11 47 39.1
comp=Z,118nm,18.9s,baz=286,slow=34
KEST Kesra 89.08 54 LR LR 11 46 53.7
comp=Z,49nm,20.0s,baz=249,slow=33
FINES FINESS Array B 90.50 26 LR LR 11 53 12.1
comp=Z,54nm,18.4s,baz=314,slow=36
AKASG Malin Array Be 97.16 35 LR LR 11 55 59.6
comp=Z,98nm,18.9s,baz=310,slow=36
NRIK Norilsk 98.50 1 LR LR 11 57 47.4
comp=Z,124nm,21.9s,baz=18,slow=36
SONM Songino Array 118.68 349 PKP **PKiKP 11 17 11.6 +0.4**
comp=Z,0.4nm,0.3s,baz=43,slow=2.6,SNR=2.1
SONM Songino Array 118.68 349 PKPdf 11 17 10.0 -1.1
LZH Lanzhou 130.48 347 *e*PKP **PKPdf 11 17 34.3 +0.2**
LZH pPKP sPKPdf 11 17 45.5 -2.5
LZH sPKP 11 17 51.8
WRA Warramunga Arr 138.33 254 PKP **PKPdf 11 17 48.7 -0.3**
comp=Z,0.6nm,1.0s,baz=93,slow=4.0,SNR=2.8
WRA Warramunga Arr 138.33 254 PKPdf 11 17 48.2 -0.8
ASAR Alice Springs 138.35 248 PKhKP PKPpre 11 17 45.2
comp=Z,0.4nm,0.8s,baz=108,slow=3.0,SNR=2.7
CMAR Chiang Mai Arr 148.57 347 PKPbc **PKPdf 11 18 08.3 +1.3**
comp=Z,8.5nm,1.1s,baz=321,slow=2.8,SNR=15
CMAR Chiang Mai Arr 148.57 347 PKPdf 11 18 07.9 +1.0

IDC 01 11:31:40.9±17.0, 1°.19S×127°.14E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/34, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=255.6km s-min=150.1km az=152.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.92**	**160**	P	Pn	11 36 15.3	-0.7
	0.1nm,0.3s,baz=338,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**23.29**	**164**	P	P	11 36 50.5	0.0
	0.1nm,0.3s,baz=344,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**33.44**	**157**	P	P	11 38 21.0	-0.7
	1.0nm,0.5s,baz=329,slow=12,SNR=1.9						

JMA 01 11:44:16.1±0.1, 24°.99N×123°.54E, h17km, M2.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.68**	**165**	P	Pg	11 44 28.9	-0.5
IRIF				S	Sg	11 44 37.9	-0.4
YOJ	**Yonaguni jima**	**0.71**	**223**	P	Pb	11 44 29.5	-0.6
YOJ				*e*S	Sg	11 44 38.8	-0.8
JISG	**Ishigakijimahi**	**0.81**	**120**	P	Pb	11 44 31.3	-0.4
JISG				*e*S	Sb	11 44 42.2	-0.1
JIJ	**Ishigaki jima**	**0.83**	**139**	P	Pb	11 44 31.3	-0.8
JIJ				*e*S	Sb	11 44 41.8	-1.2
JKRS	**Kuro-shima**	**0.86**	**150**	P	Pb	11 44 32.1	-0.5
JKRS				*e*S	Sb	11 44 43.5	-0.4
HATJ	**Hateruma jima**	**0.96**	**165**	P	Pb	11 44 33.8	-0.5
HATJ				*e*S	Sb	11 44 46.3	-0.4
JTJ	**Tarama**	**1.11**	**108**	P	Pn	11 44 36.9	0.0
JTJ				*e*S	Sn	11 44 51.9	+0.1

TAP 01 11:44:58.2, 24°.81N×122°.50E, h18km±1km, ML2.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.50**	**293**	P	Pg	11 45 08.2	-0.2
	baz=293						
TWB1				S	Sb	11 45 16.7	+1.2
	baz=293						
YOJ	**Yonaguni jima**	**0.58**	**126**	P	Pg	11 45 10.2	+0.4
	baz=126						
TWC	**Suao**	**0.62**	**252**	P	Pb	11 45 10.4	-0.1
	baz=251						
TWC				S	Sn	11 45 20.2	-1.3
	baz=251						
TIPB	**Shuangxi**	**0.63**	**285**	P	Pg	11 45 11.3	+0.6
	baz=285						
TIPB				S	Sg	11 45 20.1	+0.9
	baz=285						
ENAH	**Nanao**	**0.72**	**240**	P	Pg	11 45 12.3	0.0
	baz=240						
ENAH				S	Sn	11 45 23.5	-0.5
	baz=240						
TWE	**Neicheng**	**0.76**	**264**	P	Pb	11 45 12.8	-0.1
	baz=263						
TWE				S	Sn	11 45 24.1	-0.8
	baz=263						
ENA	**Nanau**	**0.78**	**241**	*i* P	Pb	11 45 13.2	-0.1
	baz=240						
ENA				*e*S	Sg	11 45 24.8	+0.7
	baz=240						
ENTT	**Nioudou**	**0.86**	**259**	*i* P	Pg	11 45 15.1	+0.1
	baz=258						
ENTT				S	Sn	11 45 27.3	-0.3
	baz=258						
NWLT	**Wulai**	**0.90**	**268**	*e*P	Pg	11 45 15.8	0.0
	baz=268						
NWLT				*e*S	Sn	11 45 28.5	-0.1
	baz=268						
NDT	**Datong Townshi**	**0.92**	**257**	P	Pn	11 45 16.3	+0.1
	baz=257						
NDT				S	Sn	11 45 29.5	+0.6
	baz=257						
YHNB	**Yeheng**	**1.03**	**263**	P	Pg	11 45 18.0	-0.2
	baz=262						
YHNB				S	Sn	11 45 32.2	+0.4
	baz=262						
NACB	**Ninganchiao**	**1.04**	**233**	*e*P	Pb	11 45 17.3	-0.3
	baz=232						
NACB				*e*S	Sb	11 45 31.3	+0.5
	baz=232						
NSK	**Sanguang**	**1.04**	**263**	P	Pn	11 45 18.2	+0.2
	baz=262						
NSK				S	Sb	11 45 31.2	+0.1
	baz=262						
NNSB	**Datong**	**1.08**	**250**	P	Pn	11 45 18.8	+0.2
	baz=249						
NNSB				S	Sn	11 45 33.3	+0.2
	baz=249						
NNSH	**Datong**	**1.08**	**250**	*e*P	Pg	11 45 18.9	-0.3
	baz=249						
NNSH				*e*S	Sn	11 45 33.2	0.0
	baz=249						

IDC ***01*** *11:46:56.5±0.8, 12°.62N×88°.27W, h0km, mb4.3/10, mb1 4.6/11, mb1mx4.3/30, mbtmp4.4/11, ML4.1/1, MS4.1/21, Ms1 4.1/21, ms1mx4.0/25, Error ellipse: s-maj=38.5km s-min=16.1km az=60.0*

SNET ***01*** *11:46:57.7±1.1, 12°.20N×88°.61W, h21km±5km, ML4.2*

UCR ***01*** *11:46:58.4±1.3, 12°.24N×88°.65W, h18km±6km, ML4.1, MW4.1, mb4.6(NEIC)*

GCG ***01*** *11:47:00.3±0.4, 12°.37N×88°.63W, h0km±89km, MD4.6*

NEIC ***01*** *11:47:01.6±1.7, 12°.31N±0°.06×88°.42W±0°.06, h47km±8km, mb4.6/195, Md4.2(SNET), Error ellipse: s-maj=10.6km s-min=6.3km az=212.0*

INET ***01*** *11:47:01.0, 12°.38N×88°.42W, h15km, ML4.2*

GCMT ***01*** *11:47:03.6±0.3, 12°.11N±0°.02×88°.62W±0°.03, h19km±1km, MW4.9/92, Moment Tensor Solution. s31,c36; s92,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.16±.14; $M_{\theta\theta}$-1.94±.09; $M_{\phi\phi}$-0.22±.09; $M_{r\theta}$1.27±.17; $M_{r\phi}$0.71±.06; $M_{\theta\phi}$-0.08±.21; Best double couple: M_o2.52300×10^{16} NP1:ϕ298.00000°, δ31.00000°, λ104.00000°. NP2: ϕ102.00000°, δ60.00000°, λ82.00000°. Principal axes: T 2.5270, Plg74.0000°, Azm351.0000°; N -0.0110, Plg7.0000°, Azm106.0000°; P -2.5180, Plg15.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 11:46:56.5±1.2, 12°.24N±0°.04×88°.59W±0°.04, h7km±6km, n408, σ1ϑ28/402, mb4.7/90, MS4.1/21, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.08**	**1↑**	*e*P	Pn	11 47 18.3	+0.3
ALJI				*e*S	Sn	11 47 32.8	-0.4
ALJI	**Alcalda de J**	**1.08**	**1↑**	*e*P	Pn	11 47 18.3	+0.3
ALJI				*e*S	Sn	11 47 32.8	-0.4
LCY	**Lacayo**	**1.21**	**14**	*e*P	Pb	11 47 20.2	+0.4
LCY	**Lacayo**	**1.21**	**14**	*e*P	Pb	11 47 20.2	+0.4
VSM	**San Miguel**	**1.22**	**15**	*e*P	Pn	11 47 20.8	+0.6
VSM	**San Miguel**	**1.22**	**15**	*e*P	Pn	11 47 20.8	+0.6
RANC	**El Ranchito**	**1.22**	**14**	*e*P	Pn	11 47 20.6	+0.5
RANC				*e*S	Sn	11 47 38.6	+1.6
RANC	**El Ranchito**	**1.22**	**14**	*e*P	Pn	11 47 20.6	+0.5
RANC				*e*S	Sn	11 47 38.6	+1.6
BLLM	**Bellamira**	**1.24**	**16**	*e*P	Pn	11 47 20.8	+0.4
BLLM	**Bellamira**	**1.24**	**16**	*e*P	Pn	11 47 20.8	+0.4
TECA	**Tecapa**	**1.25**	**4**	*e*P	Pb	11 47 20.8	+0.3
TECA	**Tecapa**	**1.25**	**4**	*e*P	Pb	11 47 20.8	+0.3
LCND	**La Caada**	**1.26**	**33↑**	*e*P	Pn	11 47 20.7	+0.2
LCND				*e*S	Sn	11 47 39.0	+1.2
LCND				IAML		11 47 43.1	
	comp=Z,4μm,0.5s						
LCND	**La Caada**	**1.26**	**33↑**	*e*P	Pn	11 47 20.7	+0.2
LCND				*e*S	Sn	11 47 39.0	+1.2
LCND				IAML		11 47 43.1	
	comp=Z,4μm,0.5s						
CNCH	**Conchagua**	**1.27**	**36**	*e*P	Pn	11 47 20.3	-0.4
CNCH				*e*S	Sn	11 47 38.7	+0.6
CNCH	**Conchagua**	**1.27**	**36**	*e*P	Pn	11 47 20.3	-0.4
CNCH				*e*S	Sn	11 47 38.7	+0.6
COEG	**Centro de Oper**	**1.40**	**348**	*e*P	Pn	11 47 22.4	-0.1
COEG				*e*S	Sg	11 47 41.6	+0.1
COEG				IAML		11 47 53.1	
	comp=Z,4μm,0.4s						
COEG	**Centro de Oper**	**1.40**	**348**	*e*P	Pn	11 47 22.4	-0.1
COEG				*e*S	Sg	11 47 41.6	+0.1
COEG				IAML		11 47 53.1	
	comp=Z,4μm,0.4s						
LFRS	**El Faro**	**1.45**	**342**	*e*P	Pn	11 47 22.9	-0.4
LFRS	**El Faro**	**1.45**	**342**	*e*P	Pn	11 47 22.9	-0.4
PAVA	**Las Pavas**	**1.50**	**347**	*e*P	Pn	11 47 24.2	+0.2
PAVA				*e*S	Sg	11 47 45.1	+0.3
PAVA				IAML		11 47 51.9	
	comp=Z,4μm,0.4s						
PAVA	**Las Pavas**	**1.50**	**347**	*e*P	Pn	11 47 24.2	+0.2
PAVA				*e*S	Sg	11 47 45.1	+0.3
PAVA				IAML		11 47 51.9	
	comp=Z,4μm,0.4s						
FAGO	**Alcalda de S**	**1.52**	**18**	*e*P	Pn	11 47 24.8	+0.7
FAGO				IAML		11 47 55.3	
	comp=Z,1μm,0.5s						
FAGO	**Alcalda de S**	**1.52**	**18**	*e*P	Pn	11 47 24.8	+0.7
FAGO				IAML		11 47 55.3	
	comp=Z,1μm,0.5s						
LBRS	**Las Brisas**	**1.55**	**344**	*e*P	Pn	11 47 24.7	+0.1
LBRS	**Las Brisas**	**1.55**	**344**	*e*P	Pn	11 47 24.7	+0.1
SNET	**Serv Nac Est T**	**1.57**	**337**	*e*P	Pn	11 47 24.4	-0.4
SNET				IAML		11 47 48.1	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.57**	**337**	*e*P	Pn	11 47 24.4	-0.4
SNET				IAML		11 47 48.1	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.57**	**337**		Pn	11 47 24.5	-0.4
SNET				Sn	Sb	11 47 45.8	-0.2
CRIN	**San Cristobal**	**1.57**	**73**		Pn	11 47 25.1	+0.2
CRIN				Sn	Sn	11 47 42.7	-2.9
BOQS	**Boqueron**	**1.63**	**336**	*e*P	Pn	11 47 25.8	0.0
BOQS	**Boqueron**	**1.63**	**336**	*e*P	Pn	11 47 25.8	0.0
CEDA	**San Andres**	**1.74**	**333**	*e*P	Pn	11 47 26.8	-0.4
CEDA				*e*S	Sb	11 47 50.3	-0.6
CEDA				IAML		11 47 59.7	
	comp=Z,6μm,0.5s						
CEDA	**San Andres**	**1.74**	**333**	*e*P	Pn	11 47 26.8	-0.4
CEDA				*e*S	Sb	11 47 50.3	-0.6
CEDA				IAML		11 47 59.7	
	comp=Z,6μm,0.5s						
TACO	**Tacachico**	**1.87**	**337**	*e*P	Pn	11 47 29.1	+0.1
TACO	**Tacachico**	**1.87**	**337**	*e*P	Pn	11 47 29.1	+0.1
SBLS	**San Blas**	**1.88**	**328**	*e*P	Pn	11 47 29.8	+0.5
SBLS	**San Blas**	**1.88**	**328**	*e*P	Pn	11 47 29.8	+0.5
SNJE	**San Jose**	**1.90**	**329**	*e*P	Pn	11 47 29.8	+0.3
SNJE	**San Jose**	**1.90**	**329**	*e*P	Pn	11 47 29.8	+0.3
LLGN	**La Laguna**	**1.94**	**350**	*e*P	Pn	11 47 31.0	+1.0
LLGN	**La Laguna**	**1.94**	**350**	*e*P	Pn	11 47 31.0	+1.0
RTR	**El Retiro**	**1.94**	**328**	*e*P	Pn	11 47 30.6	+0.5
RTR	**El Retiro**	**1.94**	**328**	*e*P	Pn	11 47 30.6	+0.5
UNIC	**Universidad Ca**	**1.96**	**332**	*e*P	Pn	11 47 31.1	+0.8
UNIC	**Universidad Ca**	**1.96**	**332**	*e*P	Pn	11 47 31.1	+0.8
NUBE	**Las Nubes**	**2.02**	**325**	*e*P	Pn	11 47 30.6	-0.4
NUBE				IAML		11 48 14.1	
	comp=Z,966nm,0.6s						
NUBE	**Las Nubes**	**2.02**	**325**	*e*P	Pn	11 47 30.6	-0.4
NUBE				IAML		11 48 14.1	
	comp=Z,966nm,0.6s						
TGUH	**Tegucigalpa,Un**	**2.21**	**35**	Pn	Pn	11 47 34.9	+1.1
MTO3	**Montecristo**	**2.27**	**341**	*e*P	Pn	11 47 34.9	+0.2
MTO3	**Montecristo**	**2.27**	**341**	*e*P	Pn	11 47 34.9	+0.2
MTO3	**Montecristo**	**2.27**	**341**		Pn	11 47 35.5	+0.9
ESQI	**Esquipulas**	**2.42**	**343**		Pn	11 47 38.0	+1.4
ESQI				Sn	Sb	11 48 08.4	-2.0
IXG	**Ixpaco**	**2.63**	**317**	*e*P	Pn	11 47 40.8	+1.2
MATN	**Matagalpa**	**2.69**	**75**	Pn	Pn	11 47 39.9	-0.4
NBG	**Las Nubes**	**2.89**	**324**	*e*P	Pn	11 47 46.6	-2.0
MRL	**Marmol**	**3.02**	**340**	*e*P	Pb	11 47 48.3	-2.4
FUG	**Fuego 3**	**3.10**	**315**	*e*P	Pb	11 47 49.5	-2.6
FUG				*e*S	Sb	11 48 27.7	-2.5
ACON	**Acoyapa**	**3.35**	**94**		Pn	11 47 48.7	-0.7
GB1A	**Borinquen Arri**	**3.43**	**114**	*e*P	Pn	11 47 50.9	+0.3
BUEV	**Buena Vista**	**3.44**	**114**	*e*P	Pn	11 47 51.7	+1.1
ORTG	**Ortega, Santa**	**3.60**	**121**	*e*P	Pn	11 47 55.0	+2.2
PLVR	**Palo Verde**	**3.69**	**120**	*e*P	Pn	11 47 55.2	+1.0
RTAL	**Retalhuleu**	**3.78**	**307**		Pn	11 47 58.5	+3.3
JTS	**Las Juntas de**	**4.06**	**118**	Pn	Pn	11 48 00.3	+1.2
	comp=Z,12nm,0.3s,baz=29,slow=14,SNR=20						
JTS				Sn	Sn	11 48 44.8	-2.2
	comp=Z,12nm,0.3s,baz=333,slow=21,SNR=3.9						
JTS	**Las Juntas de**	**4.06**	**118**	*e*P	Pn	11 48 00.7	+1.6
JTS	**Las Juntas de**	**4.06**	**118**	Pn	Pn	11 47 59.6	+0.4
HUEH	**Huehuetenango**	**4.17**	**318**	Pn	Pn	11 48 04.0	+3.3
ESPN	**Las Esperanzas**	**4.20**	**90**	Pn	Pn	11 48 01.4	+0.4
LAFE	**Finca La Fe, P**	**4.35**	**123**	*e*P	Pn	11 48 03.4	+0.4

JACO JACO, Garabito 4.63 123 eP Pn 11 48 09.4 +2.5
PETF Flores 4.81 345 Pn 11 48 11.8 +2.4
RIMA Rio Macho 5.25 117 eP Pn 11 48 17.6 +2.0
CCIG Comitan 5.29 320 Pn 11 48 19.2 +3.1
CDM Cerro de Muert 5.44 119 eP Pn 11 48 20.7 +2.2
TEIG Tepich 7.95 2 Pn Pn 11 48 54.8 +2.3
comp=Z,2.3nm,0.3s,baz=173,slow=20,SNR=14
TEIG LR LR 11 52 16.4
comp=Z,2µm,18.5s,baz=142,slow=42
TEIG Tepich 7.95 2 Pn Pn 11 48 53.8 +1.3
BCIP Isla Barro Col 9.13 109 Pn Pn 11 49 08.6 -0.1
TLIG Tlapa 10.99 300 Pn Pn 11 49 37.9 +3.5
UNM Universidad Na 12.38 306 Pn Pn 11 49 56.6 +3.0
OTAV Otavalo 15.60 139 Pn Pn 11 50 37.6 +0.1
ROSC El Rosal 15.91 116 LR LR 11 58 01.4
comp=Z,504nm,19.3s,baz=332,slow=42
SDV Santo Domingo 17.96 99 P Pn 11 51 04.0 -3.1
HKT Hockley 18.86 340 P Pn 11 51 18.0 +0.3
833A Chaparral WMA, 18.92 329 P Pn 11 51 18.6 +0.1
baz=145,SNR=22
833A Chaparral WMA, 18.92 329 P Pn 11 51 19.1 +0.6
GRTK Grand Turk 19.07 59 P P 11 51 18.6 -1.0
GRTK IAmb IAmb 11 51 18.8
comp=Z,34nm,1.1s
342A Flagon Creek P 19.35 350 P Pn 11 51 24.8 +1.1
342A IAmb IAmb 11 51 27.4
comp=Z,34nm,0.8s
352A Blakely 19.44 9 P P 11 51 23.7 +0.1
TIGA Tifton 19.66 13 P P 11 51 26.7 +0.8
baz=194
TIGA Tifton 19.66 13 P P 11 51 26.4 +0.5
TIGA IAmb IAmb 11 51 31.0
comp=Z,35nm,0.9s
VBMS Vicksburg 19.96 355 P P 11 51 30.3 +1.0
baz=174
VBMS Vicksburg 19.96 355 P Pn 11 51 30.5 -0.5
NATX Nacogdoches 20.21 345 P P 11 51 33.0 +0.9
baz=162
NATX Nacogdoches 20.21 345 P Pn 11 51 33.5 -0.5
NATX IAmb IAmb 11 51 49.1
comp=Z,36nm,0.8s
435B Jarrell 20.24 337 P P 11 51 31.8 -0.5
baz=153,SNR=5.5
435B Jarrell 20.24 337 P P 11 51 32.5 +0.1
146A Union 20.30 359 P P 11 51 34.1 +1.1
255A Hazlehurst 20.39 15 P P 11 51 34.3 +0.4
255A IAmb IAmb 11 51 36.5
comp=Z,45nm,1.1s
152A Waverly Hall 20.64 9 P P 11 51 37.5 +0.8
152A IAmb IAmb 11 51 39.6
comp=Z,22nm,0.9s
LRAL Lakeview Retre 20.75 4 P P 11 51 36.8 -1.1
baz=184
LRAL Lakeview Retre 20.75 4 P P 11 51 38.4 +0.5
237A Washetta, Mont 20.76 342 P Pn 11 51 42.5 +2.1
237A IAmb IAmb 11 51 43.6
comp=Z,44nm,0.8s
154A Montrose 20.89 13 P P 11 51 40.4 +1.0
JCT Junction City 20.91 332 P P 11 51 39.6 0.0
baz=147,SNR=22
JCT Junction City 20.91 332 P P 11 51 39.6 0.0
Z51A Franklin 21.21 8 P P 11 51 43.8 +1.0
Z41A Richland Creek 21.27 350 P P 11 51 44.8 +1.3
Z41A IAmb IAmb 11 51 51.0
comp=Z,31nm,0.8s
WHTX Lake Whitney, 21.28 339 P P 11 51 42.8 -0.8
baz=155,SNR=6.8
WHTX Lake Whitney, 21.28 339 P P 11 51 43.6 0.0
WHTX IAmb IAmb 11 51 53.6
comp=Z,33nm,1.1s
Y45A Yeager Farm, C 21.54 358 P P 11 51 49.4 +3.0
Y45A IAmb IAmb 11 51 59.3
comp=Z,42nm,1.0s
GOGA Godfrey 21.59 12 P P 11 51 47.4 +0.5
baz=193,SNR=7.1
GOGA Godfrey 21.59 12 P P 11 51 46.4 -0.5
GOGA IAmb IAmb 11 51 58.6
comp=Z,23nm,1.2s
Y49A Blount Mountai 21.61 5 P P 11 51 46.8 -0.4
Z38A Mt. Pleasant 21.72 345 P P 11 51 49.2 +0.9
WLAR White Oak Lake 21.74 350 P P 11 51 49.2 +0.6
WLAR IAmb IAmb 11 51 51.8
comp=Z,43nm,0.9s
ATAH Atahualpa 21.76 152 P P 11 51 51.2 +1.9
comp=Z,7.5nm,0.8s,baz=335,slow=7.9,SNR=4.9
CCAR Cane Creek 21.77 353 P P 11 51 49.3 +0.4
Y52A Lilburn 21.92 10 P P 11 51 51.2 +0.7
Y52A IAmb IAmb 11 51 54.3
comp=Z,19nm,0.9s
TXAR Lajitas Array 22.05 323 P P 11 51 52.9 +0.9
comp=Z,13nm,0.8s,baz=146,slow=10,SNR=123
TXAR PcP PcP 11 55 50.9 +0.7
comp=Z,0.2nm,0.7s,baz=111,slow=4.3,SNR=2.1
TXAR ScP ScP 11 59 30.0 +1.9
comp=Z,0.3nm,0.8s,baz=161,slow=5.7,SNR=2.7
TXAR LR LR 12 02 26.4
comp=Z,192nm,20.3s,baz=0.0,slow=42
TXAR Lajitas Array 22.05 323 P P 11 51 53.1 +1.1
TX31 Lajitas Ar. Si 22.05 323 P P 11 51 53.6 +1.6
TX32 Lajitas Array 22.05 323 P P 11 51 53.3 +1.3
TX32 IAmb IAmb 11 51 55.5
comp=Z,15nm,0.8s
X48A Hartselle 22.16 3 P P 11 51 52.4 -0.6
OXF Oxford 22.18 358 P P 11 51 53.9 +0.6
baz=178
OXF Oxford 22.18 358 P P 11 51 52.4 -0.8
OXF IAmb IAmb 11 52 05.0
comp=Z,29nm,1.1s
FPAL Fort Paine 22.36 6 P P 11 51 55.4 +0.1
Z35A Perchaven, San 22.44 341 P P 11 51 54.8 -1.2
Z35A IAmb IAmb 11 52 01.5
comp=Z,30nm,0.7s
Y55A Saluda 22.45 15 P P 11 51 56.3 +0.2
baz=197,SNR=9.9
H06E1 SOCORRO T-PHAS 22.47 290 T T 12 15 02.0
SNR=8.1
X40A Basin Creek Fa 22.48 351 P P 11 51 57.0 +0.5
baz=169
X40A Basin Creek Fa 22.48 351 P P 11 51 58.0 +1.6
X40A IAmb IAmb 11 52 00.1
comp=Z,31nm,1.4s
PLAL Pickwick Lake 22.64 1 P P 11 51 57.7 -0.5
MIAR Mount Ida 22.66 349 P P 11 51 57.9 -0.5
baz=167,SNR=21
MIAR Mount Ida 22.66 349 P P 11 51 58.3 -0.1
MIAR IAmb IAmb 11 52 00.0
comp=Z,23nm,0.8s
ABTX Abilene, Hawle 22.68 335 P P 11 51 57.2 -1.5
baz=151,SNR=11
ABTX Abilene, Hawle 22.68 335 P P 11 51 57.9 -0.8
ABTX IAmb IAmb 11 52 01.3
comp=Z,37nm,1.0s
UALR University of 22.69 352 P P 11 51 59.0 +0.3
UALR IAmb IAmb 11 52 08.9
comp=Z,15nm,0.8s
W45A Hickory Valley 22.82 359 P P 11 52 00.2 +0.2
X54A Belton 22.91 13 P P 11 52 01.3 +0.2
baz=195,SNR=6.6
JSC Jenkinsville 22.93 16 P P 11 52 01.7 +0.4
JSC IAmb IAmb 11 52 04.0
comp=Z,22nm,1.0s
SWET Sewanee 23.00 6 P P 11 52 01.6 -0.4
X55A Gracelyn & Ava 23.02 15 P P 11 52 02.1 0.0
baz=197,SNR=9.0
W50A Signal Mountai 23.05 7 P P 11 51 01.7 -0.8
W41B Gary Mavity, V 23.07 352 P P 11 52 03.0 +0.3
baz=170,SNR=9.7
W41B Gary Mavity, V 23.07 352 P P 11 52 02.0 -0.7
W41B IAmb IAmb 11 52 04.4
comp=Z,18nm,0.9s
X37A Clayton 23.09 346 P P 11 52 04.0 +1.1
X37A IAmb IAmb 11 52 20.3
comp=Z,31nm,0.8s
W52A Murphy 23.14 10 P P 11 52 02.5 -1.0
WHAR Wooly Hollow 23.19 352 P P 11 52 04.2 +0.3
WHAR IAmb IAmb 11 52 05.5
comp=Z,36nm,0.9s
X56A White Oak 23.19 16 P P 11 52 03.7 -0.2
baz=199
W39A Magazine 23.33 349 P P 11 52 05.3 -0.1
baz=167,SNR=12
W39A Magazine 23.33 349 P P 11 52 05.8 +0.5
W39A IAmb IAmb 11 52 07.2
comp=Z,21nm,0.8s
CPCT Cooper Cave 23.40 8 P P 11 52 06.8 +0.8

V48A Smith Brothers 23.45 4 P P 11 52 06.0 -0.5
W54A Cherokee Point 23.47 13 P P 11 52 06.4 -0.4
baz=196,SNR=7.2
BIRD Birdtown, Kers 23.50 17 P P 11 52 06.3 -0.6
BIRD IAmb IAmb 11 52 08.2
comp=Z,15nm,0.7s
Y60A Bolivia 23.64 22 P P 11 52 07.2 -1.2
baz=206
TKL Tuckaleechee C 23.72 10 P P 11 52 07.8 -1.4
comp=Z,21nm,0.9s,baz=178,slow=11,SNR=22
TKL Tuckaleechee C 23.72 10 P P 11 52 08.8 -0.3
TKL IAmb IAmb 11 52 11.0
comp=Z,24nm,0.9s
KMSC Kings Mountain 23.73 15 P P 11 52 08.8 -0.5
baz=198,SNR=5.9
KMSC Kings Mountain 23.73 15 P P 11 52 09.2 -0.1
KMSC IAmb IAmb 11 52 10.6
comp=Z,20nm,1.0s
FCAR Ozark Folk Cen 23.76 353 P P 11 52 09.0 -0.5
WVT Waverly 23.79 2 P P 11 52 09.3 -0.6
baz=181
WVT Waverly 23.79 2 P P 11 52 10.0 +0.1
CLTN Cedars of Leba 23.83 5 P P 11 52 09.9 -0.4
LCAR Lake Charles 23.84 355 P P 11 52 09.4 -0.9
V53A Saluda 23.90 12 P P 11 52 11.8 +0.8
V53A IAmb IAmb 11 52 13.2
comp=Z,16nm,0.9s
V52A Sevierville 23.93 10 P P 11 52 11.6 +0.4
V52A IAmb IAmb 11 52 13.0
comp=Z,14nm,0.9s
W35A Tecumseh 24.02 343 P P 11 52 11.7 -0.3
W57A Gilead 24.11 17 P P 11 52 11.7 -1.1
baz=201
W57A Gilead 24.11 17 P P 11 52 12.5 -0.3
W57A IAmb IAmb 11 52 21.8
comp=Z,22nm,1.2s
V54A Nebo 24.19 13 P P 11 52 13.9 +0.2
baz=196,SNR=7.2
W58A Raeford 24.22 19 P P 11 52 12.9 -1.0
baz=202
WMOK Wichita Mounta 24.23 339 P P 11 52 13.1 -1.0
baz=155,SNR=13
WMOK Wichita Mounta 24.23 339 P P 11 52 13.5 -0.6
WMOK IAmb IAmb 11 52 25.1
comp=Z,21nm,1.2s
X60A Albert Glenn T 24.24 22 P P 11 52 13.0 -1.1
baz=206
U49A Red Boiling Sp 24.30 6 P P 11 52 13.2 -1.5
U49A IAmb IAmb 11 52 15.8
comp=Z,15nm,1.1s
U40A Yellville 24.32 352 P P 11 52 14.1 -0.7
baz=170,SNR=43
U40A Yellville 24.32 352 P P 11 52 14.4 -0.4
PARMO Parma 24.34 358 P P 11 52 14.2 -0.8
HHAR Hobbs 24.42 350 P P 11 52 15.8 0.0
HHAR IAmb IAmb 11 52 18.1
comp=Z,22nm,0.9s
V55A Taylorsville 24.43 15 P P 11 52 15.5 -0.4
baz=197,SNR=6.9
V55A Taylorsville 24.43 15 P P 11 52 16.7 +0.8
V55A IAmb IAmb 11 52 18.3
comp=Z,16nm,0.8s
TUL1 Leonard 24.45 346 P P 11 52 15.1 -0.9
baz=162,SNR=6.4
TUL1 Leonard 24.45 346 P P 11 52 15.5 -0.5
TUL1 IAmb IAmb 11 52 18.4
comp=Z,25nm,0.8s
PBMO Poplar Bluff 24.49 356 P P 11 52 15.0 -1.4
PBMO IAmb IAmb 11 52 16.6
comp=Z,15nm,0.9s
OK025 Westminster Rd 24.55 343 P P 11 52 16.6 -0.4
TZTN Tazewell 24.62 10 P P 11 52 17.3 -0.3
baz=192
TZTN Tazewell 24.62 10 P P 11 52 18.1 +0.5
TZTN IAmb IAmb 11 52 19.8
comp=Z,21nm,1.1s
U38A Gravette 24.65 349 P P 11 52 17.3 -0.6
U38A IAmb IAmb 11 52 20.2
comp=Z,31nm,0.9s
T45A Paducah 24.67 360 P P 11 52 16.6 -1.4
T47A Sharon Grove 24.68 3 P P 11 52 16.7 -1.3
T47A IAmb IAmb 11 52 18.6
comp=Z,27nm,1.1s
BCOK Bluff Creek, N 24.70 342 P P 11 52 17.6 -0.7
MNTX Cornudas Mount 24.78 324 P P 11 52 19.1 0.0
baz=137,SNR=10
MNTX Cornudas Mount 24.78 324 P P 11 52 19.0 0.0
OK029 Liberty Lake 24.78 343 P P 11 52 18.6 -0.5
T42A Van Buren 24.79 355 P P 11 52 17.9 -1.1
V57A Coltrane Farms 24.85 17 P P 11 52 18.9 -0.8
baz=200
QUOK Quay 24.93 344 P P 11 52 19.3 -1.0
U54A Nelsons Funny 24.93 13 P P 11 52 19.7 -0.7
baz=196,SNR=6.8
U54A Nelsons Funny 24.93 13 P P 11 52 20.9 +0.5
U54A IAmb IAmb 11 52 23.3
comp=Z,25nm,0.8s
V58A Windy Hill, Pi 24.96 18 P P 11 52 19.5 -1.1
baz=202,SNR=7.4
V58A Windy Hill, Pi 24.96 18 P P 11 52 20.4 -0.3
V58A IAmb IAmb 11 52 21.5
comp=Z,32nm,1.1s
MGMO Mountain Grove 25.02 353 P P 11 52 20.4 -0.9
MGMO IAmb IAmb 11 52 22.6
comp=Z,32nm,1.1s
U55A TA2, Sparta 25.09 14 P P 11 52 20.8 -1.1
baz=197,SNR=6.3
U56A King 25.12 16 P P 11 52 22.0 -0.1
baz=199
U56A King 25.12 16 P P 11 52 21.7 -0.3
U56A IAmb IAmb 11 52 25.3
comp=Z,23nm,1.0s
V59A Middlesex 25.22 20 P P 11 52 22.8 -0.1
baz=204
T53A Wise 25.23 11 P P 11 52 21.9 -1.2
baz=194
S44A Carbondale 25.35 359 P P 11 52 23.3 -0.9
S44A IAmb IAmb 11 52 30.6
comp=Z,21nm,0.7s
AMTX Amarillo 25.48 334 P P 11 52 25.7 +0.2
baz=149
AMTX Amarillo 25.48 334 P P 11 52 25.8 +0.4
U57A Blanch 25.49 18 P P 11 52 24.4 -1.0
baz=201
T54A Tazewell 25.50 13 P P 11 52 25.0 -0.6
baz=196
T35A Sooner Cattle 25.58 345 P P 11 52 26.1 -0.2
CROK Carrier 25.60 342 P P 11 52 25.8 -0.6
S39A Bolivar 25.69 351 P P 11 52 26.5 -0.7
U58A Oxford 25.70 19 P P 11 52 26.5 -0.8
baz=203
T55A Pulaski 25.74 14 P P 11 52 26.9 -0.8
baz=197
U32A Winter Ranch, 25.80 340 P P 11 52 27.9 -0.4
CCM Cathedral Cave 25.82 355 P P 11 52 27.5 -0.8
baz=174
CCM Cathedral Cave 25.82 355 P P 11 52 27.2 -1.1
BLA Blacksburg 25.92 15 P P 11 52 28.1 -1.3
WCI Wyandotte Cave 25.96 4 P P 11 52 28.6 -1.0
baz=185
WCI Wyandotte Cave 25.96 4 P P 11 52 28.5 -1.1
WCI IAmb IAmb 11 52 29.6
comp=Z,14nm,0.8s
S53A Williamson 25.99 12 P P 11 52 29.1 -0.9
baz=194
T57A Hurt 26.04 17 P P 11 52 29.2 -1.2
baz=201
R40A Maddies Statio 26.15 353 P P 11 52 30.4 -1.0
R40A IAmb IAmb 11 52 32.3
comp=Z,24nm,1.1s
S55A Lewisburg 26.43 15 P P 11 52 34.2 +0.2
baz=198
T59A Double "B" Far 26.55 20 P P 11 52 35.2 +0.2
baz=204
121A Cookes Peak, D 26.80 322 P P 11 52 38.3 +0.7
S57A Dark Hollow, R 26.84 17 P P 11 52 38.7 +1.1
baz=201
R55A Marlinton 27.01 15 P P 11 52 39.2 -0.1
baz=198
Q51A Peebles 27.08 9 P P 11 52 38.1 -1.7
Q51A IAmb IAmb 11 52 40.1
comp=Z,19nm,0.9s
Q52A Bidwell 27.20 11 P P 11 52 41.1 +0.3
baz=193
BNM Barren Site 27.30 326 P P 11 52 44.9 +2.8
R56A Bull Pasture M 27.32 16 P P 11 52 42.5 +0.5
baz=200
P40A Paris 27.35 354 P P 11 52 40.7 -1.5
R57A Stanardsville 27.46 17 P P 11 52 42.5 -0.7
baz=201
Q54A Coxs Mills 27.51 13 P P 11 52 43.1 -0.6
baz=196
R32A Long Quarter, 27.59 343 P P 11 52 43.7 -0.7
R32A IAmb IAmb 11 52 54.3
comp=Z,18nm,0.9s
P38A Dawn 27.62 352 P P 11 52 43.6 -1.0
P38A IAmb IAmb 11 52 45.5
comp=Z,20nm,1.0s
KSU1 Kansas State U 27.68 346 P P 11 52 45.0 -0.2
baz=163
KSU1 Kansas State U 27.68 346 P P 11 52 44.0 -1.2
KSU1 IAmb IAmb 11 52 54.4
comp=Z,18nm,0.8s
ANMO Albuquerque 27.81 327 P P 11 52 51.9 +5.2
P53A Whipple 27.88 12 P P 11 52 46.5 -0.5
baz=195
Q56A Snyder Ridge, 27.97 16 P P 11 52 47.4 -0.4
baz=200
CBKS Cedar Bluff 28.26 341 P P 11 52 50.7 +0.3
baz=156
CBKS Cedar Bluff 28.26 341 P P 11 52 49.5 -0.9
TUC Tucson 28.54 318 P P 11 52 53.2 +0.2
T25A Trinidad 28.57 333 P P 11 52 54.7 +1.3
baz=146,SNR=12
T25A Trinidad 28.57 333 P P 11 52 50.5 -2.9
T25A IAmb IAmb 11 53 05.6
comp=Z,20nm,0.9s
KSCO Kaye Shedlock' 29.43 337 P P 11 53 00.6 -0.3
baz=151,SNR=10
KSCO Kaye Shedlock' 29.43 337 P P 11 53 01.3 +0.4
N33A J Bar K, Exete 29.44 346 P P 11 53 00.5 -0.3
SDCO Great Sand Dun 29.56 332 P P 11 53 03.5 +1.2
baz=144,SNR=9.1
SDCO Great Sand Dun 29.56 332 P P 11 53 02.8 +0.5
L40A Anamosa 29.80 356 P P 11 53 03.4 -0.5
L40A IAmb IAmb 11 53 04.7
comp=Z,11nm,1.0s
S22A 4UR Ranch, Cre 30.18 330 P P 11 53 08.7 +0.9
baz=142,SNR=14
S22A 4UR Ranch, Cre 30.18 330 P P 11 53 08.7 +0.9
BGNE Belgrade 30.24 346 P P 11 53 08.0 0.0
baz=161
X16A Lo Mia Camp, P 30.32 321 P P 11 53 10.0 +1.1
L34A Svendsen Farm, 30.38 348 P P 11 53 08.5 -0.7
L34A IAmb IAmb 11 53 08.6
comp=Z,10nm,0.6s
K38A Parkersburg 30.51 354 P P 11 53 08.5 -1.7
M56A Emporium 30.52 16 P P 11 53 09.6 -0.8
baz=200
MVCO Mesa Verde 30.61 328 P P 11 53 12.6 +1.1
baz=139
MVCO Mesa Verde 30.61 328 P P 11 53 14.0 +2.5
MVCO IAmb IAmb 11 53 17.6
comp=Z,6.9nm,0.8s
WUAZ Wupatki 31.01 322 P P 11 53 17.2 +2.2
ISCO Idaho Springs 31.30 334 P P 11 53 18.6 +0.9
baz=146,SNR=13
ISCO Idaho Springs 31.30 334 P P 11 53 20.1 +2.5
ISCO IAmb IAmb 11 53 29.1
comp=Z,7.7nm,0.9s
M60A Port Jervis 31.45 20 P P 11 53 18.0 -0.6
baz=207
PV02 Paradox Valley 31.49 329 P P 11 53 24.8 +5.6
PV13 Radium Mtn., P 31.49 329 P P 11 53 20.9 +1.6
PV13 IAmb IAmb 11 53 32.0
comp=Z,6.0nm,0.8s
K31A O'Neill 31.53 346 P P 11 53 19.0 -0.4
PV05 Paradox Valley 31.57 328 P P 11 53 21.2 +1.2
PV05 IAmb IAmb 11 53 32.3
comp=Z,7.2nm,0.8s
PV03 Paradox Valley 31.58 329 P P 11 53 21.7 +1.6
PV03 IAmb IAmb 11 53 32.5
comp=Z,8.2nm,0.8s
PV12 Saucer Basin, 31.60 329 P P 11 53 22.2 +1.9
PV18 Skein Mesa, Pa 31.60 329 P P 11 53 21.2 +1.0
PV18 IAmb IAmb 11 53 31.4
comp=Z,9.6nm,0.7s
PV07 Paradox Valley 31.62 329 P P 11 53 20.1 -0.3
PV11 David Mesa, Pa 31.62 329 P P 11 53 20.9 +0.4
PV11 IAmb IAmb 11 53 25.7
comp=Z,14nm,0.8s
PV17 East Wray Mesa 31.66 329 P P 11 53 21.7 +1.0
PV17 IAmb IAmb 11 53 32.6
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 31.66 329 P P 11 53 21.4 +0.7
PV16 IAmb IAmb 11 53 32.5
comp=Z,7.3nm,0.8s
PV19 Morning Glory 31.69 329 P P 11 53 21.4 +0.4
PV19 IAmb IAmb 11 53 27.2
comp=Z,8.1nm,0.6s
L58A Harry Jones Me 31.70 18 P P 11 53 20.0 -0.9
baz=204
PV20 West Nyswonger 31.71 329 IAmb IAmb 11 53 33.5
comp=Z,7.7nm,0.8s
PV04 Paradox Valley 31.71 329 IAmb IAmb 11 53 26.6
comp=Z,11nm,0.9s
PV14 Lion Creek, Pa 31.76 329 IAmb IAmb 11 53 27.9
comp=Z,7.5nm,0.7s
PV10 Paradox Valley 31.77 329 P P 11 53 21.8 0.0
PV10 IAmb IAmb 11 53 33.5
comp=Z,13nm,0.8s
PV23 Carpenter Ridg 31.81 329 IAmb IAmb 11 53 34.9
comp=Z,13nm,0.8s
L59A Walton 32.09 19 P P 11 53 24.2 -0.1
baz=205
ECSD EROS Data Cent 32.13 349 P P 11 53 23.4 -1.2
baz=165
ECSD EROS Data Cent 32.13 349 P P 11 53 23.4 -1.2
ECSD IAmb IAmb 11 53 35.9
comp=Z,18nm,1.5s
N23A Red Feather La 32.36 335 P P 11 53 27.9 +1.0
baz=147
N23A Red Feather La 32.36 335 P P 11 53 28.0 +1.1
N23A IAmb IAmb 11 53 38.1
comp=Z,6.8nm,0.8s
IKP In-Ko-Pah, Jac 32.38 313 P P 11 53 28.6 +1.6
baz=122
PHWY Pilot Hill 32.50 336 P P 11 53 28.9 +0.7
K59A Cooperstown 32.68 19 P P 11 53 29.6 +0.2
baz=205
O20A White River Ci 32.75 332 P P 11 53 31.3 +1.1
baz=142,SNR=14
O20A White River Ci 32.75 332 P P 11 53 31.4 +1.2
SAML Samuel 32.88 129 P P 11 53 30.3 -1.1
KNB Kanab 32.88 323 P P 11 53 34.4 +3.0
G40A Rib Lake 32.94 358 P P 11 53 30.5 -1.1
G40A IAmb IAmb 11 53 31.9
comp=Z,9.7nm,1.1s
SPMN Marine on St. 33.07 355 P P 11 53 30.6 -2.2
baz=172,SNR=16
SPMN Marine on St. 33.07 355 P P 11 53 31.1 -1.6
J58A Remsen 33.07 18 P P 11 53 32.5 -0.3
baz=204
SRU San Rafael Swe 33.09 328 P P 11 53 33.5 +0.3
MTPU Mount Pierson 33.22 325 P P 11 53 37.5 +2.9
SUSD Miller 33.30 346 P P 11 53 34.0 -0.8
baz=161
SUSD Miller 33.30 346 P P 11 53 33.9 -0.9
SZCU Shurtz Canyon 33.43 323 P P 11 53 41.2 +4.9
P17A Butcher Ranch, 33.47 328 P P 11 53 37.1 +0.6
RWWY Rawlins 33.55 334 P P 11 53 37.4 +0.1
RWWY IAmb IAmb 11 53 40.8
comp=Z,12nm,0.9s
CCUT Cedar City 33.56 323 P P 11 53 41.3 +3.9
RDMU Red Mountain 33.72 331 P P 11 53 42.2 +3.5
F36A Milaca 33.77 354 P P 11 53 37.0 -1.9
F36A IAmb IAmb 11 53 39.5
comp=Z,15nm,1.1s
I59A Olmsteadville 33.91 19 P P 11 53 39.7 -0.4
baz=206
K22A Casper 34.07 336 P P 11 53 43.8 +2.1
K22A IAmb IAmb 11 53 53.4
comp=Z,11nm,0.9s
J62A Henniker 34.12 22 P P 11 53 41.9 0.0
baz=210
F33A 5 Mile Ranch, 34.12 350 P P 11 53 40.0 -1.9
LONY Lake Ozonia 34.43 18 P P 11 53 44.2 -0.5
baz=204
RSSD Black Hills 34.43 340 P P 11 53 46.3 +1.4
RSSD IAmb IAmb 11 53 56.9
comp=Z,5.3nm,0.8s

PSUT	Pine Spring	34.51	324	P		P	11 53 50.3	+4.7
ALGO	Algonquin Park	34.77	13	P		P	11 53 46.3	-1.3
	baz=198							
LPAZ	La Paz	34.83	144	P		P	11 53 52.3	+3.3
	comp=Z,1.7nm,1.1s,baz=310,slow=8.7,SNR=2.4							
LPAZ				LR		LR	12 08 45.1	
	comp=Z,175nm,19.0s,baz=318,slow=37							
I62A	Tamworth	34.85	22	P		P	11 53 48.1	-0.1
	baz=210							
MPMC	Manual Prospec	35.22	317	P		P	11 53 52.4	+0.6
	baz=125							
PDAR	Pinedale Array	35.44	333	P		P	11 53 53.9	+0.2
	comp=Z,1.6nm,0.8s,baz=123,slow=9.7,SNR=12							
PDAR				PcP		PcP	11 56 23.7	+0.3
	comp=Z,0.4nm,0.5s,baz=117,slow=4.8,SNR=3.9							
PDAR				ScP		ScP	12 00 12.1	+2.2
	comp=Z,0.4nm,0.9s,baz=60,slow=5.5,SNR=3.1							
PDAR				LR		LR	12 11 08.7	
	comp=Z,142nm,20.3s,baz=146,slow=41							
PDAR	Pinedale Array	35.44	333	P		P	11 53 52.8	-0.8
BW06	Boulder Array	35.44	333	P		P	11 53 54.9	+1.3
	baz=143							
HWUT	Hardware Ranch	35.48	330	IAmb		IAmb	11 54 04.9	
	comp=Z,7.6nm,1.1s							
AHID	Auburn Hatcher	36.14	331	P		P	11 53 60.0	+0.4
AHID				IAmb		IAmb	11 54 05.4	
	comp=Z,7.4nm,0.6s							
E57A	Chemin Saint G	36.19	17	P		P	11 53 59.4	-0.4
	baz=204							
B35A	Bob, Littlefor	36.26	354	P		P	11 53 59.1	-1.2
G62A	West of Eustis	36.30	22	P		P	11 54 00.2	-0.5
	baz=210							
AGMN	Agassiz Nation	36.45	352	P		P	11 53 59.9	-2.1
	baz=168,SNR=6.8							
AGMN	Agassiz Nation	36.45	352	P		P	11 54 00.5	-1.5
REDW	Red Top Meadow	36.49	332	P		P	11 54 02.6	0.0
REDW				IAmb		IAmb	11 54 05.8	
	comp=Z,9.3nm,0.8s							
SNOW	Snow King Moun	36.52	333	P		P	11 54 03.2	+0.3
LOHW	Long Hollow	36.58	333	P		P	11 54 04.5	+1.1
TPAW	Teton Pass	36.63	332	IAmb		IAmb	11 54 10.6	
	comp=Z,9.3nm,0.8s							
MDND	Maddock	36.67	348	P		P	11 54 03.2	-0.7
IMW	Indian Meadow	36.95	333	P		P	11 54 07.3	+0.6
IMW				IAmb		IAmb	11 54 13.9	
	comp=Z,3.5nm,0.6s							
FLWY	Flagg Ranch	36.99	333	IAmb		IAmb	11 54 19.0	
	comp=Z,12nm,1.4s							
NV11	Mina Array Sit	37.04	320	P		P	11 54 11.8	+4.5
NVAR	Mina Array Bea	37.13	320	P		P	11 54 09.3	+1.1
	comp=Z,2.7nm,0.8s,baz=131,slow=6.8,SNR=15							
NVAR				PcP		PcP	11 56 29.1	+0.6
	comp=Z,1.4nm,0.8s,baz=138,slow=3.1,SNR=6.3							
NVAR				ScP		ScP	12 00 18.4	+2.1
	comp=Z,0.5nm,0.6s,baz=125,slow=4.6,SNR=5.3							
NVAR				LR		LR	12 11 28.7	
	comp=Z,370nm,18.5s,baz=110,slow=40							
NVAR	Mina Array Bea	37.13	320	P		P	11 54 08.8	+0.6
RLMT	Red Lodge	37.22	336	P		P	11 54 09.7	+0.9
	baz=145							
RLMT	Red Lodge	37.22	336	P		P	11 54 09.4	+0.5
RLMT				IAmb		IAmb	11 54 20.2	
	comp=Z,8.3nm,0.9s							
YNE	Yellowstone No	37.43	335	P		P	11 54 11.3	+0.7
LATQ	La Tuque	37.47	18	P		P	11 54 09.4	-1.1
	baz=206							
D60A	Saint Jean D'O	37.63	20	P		P	11 54 12.4	+0.4
	baz=209							
QLMT	Earthquake Lak	37.90	333	P		P	11 54 18.6	+4.0
LSQQ	Lebel-sur-Quev	37.95	12	P		P	11 54 13.1	-1.6
	baz=198							
HLID	Hailey	38.34	329	P		P	11 54 19.0	+0.7
	baz=136							
HLID	Hailey	38.34	329	P		P	11 54 18.8	+0.6
ULM	Lac du Bonnet	38.37	352	P		P	11 54 15.2	-2.9
	comp=Z,15nm,0.8s,baz=167,slow=9.2,SNR=11							
ULM				LR		LR	12 11 27.1	
	comp=Z,259nm,21.6s,baz=116,slow=39							
ULM	Lac du Bonnet	38.37	352	P		P	11 54 15.3	-2.9
DGMT	Dagmar	38.39	343	P		P	11 54 17.8	-0.7
	baz=155,SNR=5.1							
DGMT	Dagmar	38.39	343	P		P	11 54 18.0	-0.4
D62A	Allapoint, All	38.43	22	P		P	11 54 17.8	-0.9
	baz=212							
MCMT	McKenzie Canyo	38.53	332	P		P	11 54 19.7	-0.3
BOZ	Bozeman (W)	38.59	334	P		P	11 54 19.7	-0.6
	baz=142,SNR=6.5							
BOZ	Bozeman (W)	38.59	334	P		P	11 54 23.6	+3.2
BOZ				IAmb		IAmb	11 54 27.3	
	comp=Z,4.1nm,0.7s							
D63A	Stockholm	38.74	22	P		P	11 54 20.3	-1.0
	baz=213							
LMN	Caledonia Moun	39.12	27	P		P	11 54 23.3	-1.3
LRM	Limekiln Ridge	39.12	333	P		P	11 54 26.0	+1.1
HRY	Holter Researc	39.56	335	P		P	11 54 28.9	+0.5
BATG	Bathurst New B	39.73	24	P		P	11 54 28.5	-1.1
BATG				IAmb		IAmb	11 54 29.8	
	comp=Z,16nm,1.1s							
EGMT	Eagleton	39.81	338	P		P	11 54 31.8	+1.3
	baz=146							
J08A	Circle Bar Ran	40.33	326	P		P	11 54 36.5	+1.7
MSO	Missoula	40.56	333	P		P	11 54 38.2	+1.5
	baz=140							
MSO	Missoula	40.56	333	P		P	11 54 37.6	+1.0
MSO				IAmb		IAmb	11 54 39.8	
	comp=Z,12nm,1.4s							
JTMT	Jette	41.41	334	P		P	11 54 44.2	+0.5
F10A	Beach Ranch, E	41.47	330	P		P	11 54 44.5	+0.4
SCHQ	Schefferville	45.80	17	P		P	11 55 15.9	-3.0
	comp=Z,12nm,0.8s,baz=222,slow=7.6,SNR=6.1							
SCHQ				LR		LR	12 15 58.0	
	comp=Z,607nm,18.4s,baz=187,slow=38							
SCHQ	Schefferville	45.80	17	P		P	11 55 16.7	-2.1
H03N2	Juan Fernandez	46.35	169	T		T	12 45 28.8	
	baz=348,slow=76,SNR=2.3							
H03N1	Juan Fernandez	46.35	169	T		T	12 45 32.2	
	baz=348,slow=76,SNR=2.6							
H03N3	Juan Fernandez	46.37	169	T		T	12 45 30.3	
	baz=348,slow=76,SNR=1.8							
BDFB	Brasilia	48.78	124	LR		LR	12 18 14.8	
	comp=Z,307nm,18.4s,slow=38							
YKA	Yellowknife Ar	53.52	345	P		P	11 56 16.2	-1.3
	comp=Z,3.3nm,0.8s,baz=123,slow=10,SNR=9.2							
PLCA	Paso Flores	55.29	163	LR		LR	12 14 24.5	
	comp=Z,106nm,19.3s,baz=340,slow=30							
TAOE	Nuku Hiva Isla	55.36	250	eS		S	12 04 18.2	+1.3
	comp=Z,87nm,25.9s							
BCAR	Beaver Creek A	62.98	336	P		P	11 57 23.8	0.0
PMOR	Pomariorio Ree	64.66	247	eT		T	13 07 47.8	
	comp=Z,1.7nm,0.2s							
HDA	Harding Lake	65.64	336	P		P	11 57 41.5	+0.4
	baz=114							
IL31		65.76	336	P		P	11 57 41.7	-0.1
IL31				IAmb		IAmb	11 57 42.8	
	comp=Z,8.1nm,1.4s							
ILAR	Eielson Array	65.76	336	P		P	11 57 40.4	-1.5
	comp=Z,1.6nm,0.9s,baz=88,slow=6.4,SNR=14							
ILAR				PP		PP	12 00 01.4	-5.0
	comp=Z,0.3nm,0.7s,baz=101,slow=7.4,SNR=2.8							
ILAR				LR		LR	12 29 16.2	
	comp=Z,149nm,20.3s,baz=129,slow=39							
RND	Reindeer	66.02	335	P		P	11 57 44.1	+0.5
RND				IAmb		IAmb	11 57 47.5	
	comp=Z,6.8nm,1.0s							
BMAR	Burnt Mountain	66.08	340	P		P	11 57 43.5	-0.5
PPT2	Papeete2	67.11	245	eS		S	12 06 48.3	+2.0
	comp=Z,49nm,21.8s							
PPT2	Papeete2	67.11	245	eLR		LR	12 18 04.0	
	comp=Z,148nm,25.2s							
TBI	Tubuai	69.25	239	eS		S	12 07 09.2	-2.3
	comp=Z,165nm,32.0s							
TBI	Tubuai	69.25	239	eLR		LR	12 19 01.3	
	comp=Z,190nm,29.0s							
ESDC	Sonseca Array	78.19	52	LR		LR	12 28 18.1	
	comp=Z,93nm,20.7s,baz=255,slow=32							
DBIC	Dimbokro	82.52	85	LR		LR	12 32 37.9	
	comp=Z,56nm,19.3s,baz=268,slow=33							
NOA	NORSAR Array B	84.09	29	LR		LR	12 32 56.2	
	comp=Z,65nm,21.8s,baz=275,slow=33							
ARCES	ARCESS Array B	86.74	19	LR		LR	12 37 04.1	
	comp=Z,86nm,20.5s,baz=275,slow=35							
TORD	Torodi Ar. Bea	87.54	77	LR		LR	12 35 26.2	
	comp=Z,73nm,21.2s,baz=325,slow=33							
GERES	GERESS Array B	88.81	40	LR		LR	12 36 23.8	
	comp=Z,146nm,19.2s,baz=284,slow=34							
KEST	Kesra	89.28	54	LR		LR	12 35 39.2	
	comp=Z,58nm,20.0s,baz=254,slow=33							
FINES	FINESS Array B	90.65	26	LR		LR	12 41 56.3	
	comp=Z,69nm,18.8s,baz=320,slow=37							
AKASG	Malin Array Be	97.32	35	LR		LR	12 44 34.4	
	comp=Z,123nm,18.9s,baz=305,slow=36							
NRIK	Norilʹsk	98.58	1	LR		LR	12 48 35.6	
	comp=Z,118nm,19.2s,baz=17,slow=38							
MKAR	Makanchi Array	120.67	7	PKP		PKPdf	12 05 48.0	-1.5
	comp=Z,0.6nm,0.8s,baz=325,slow=3.2,SNR=2.3							
WRA	Warramunga Arr	138.14	254	PKhKP		PKPpre	12 06 20.6	
	comp=Z,0.7nm,0.9s,baz=89,slow=3.4,SNR=3.8							
ASAR	Alice Springs	138.16	248	PKhKP		PKPpre	12 06 20.1	
	comp=Z,0.5nm,0.9s,baz=122,slow=3.4,SNR=2.4							
CMAR	Chiang Mai Arr	148.60	346	PKP		PKPdf	12 06 42.7	+1.1
	comp=Z,2.9nm,0.8s,baz=337,slow=3.5,SNR=14							
CMAR				PKPbc		pPKPdf	12 06 45.2	+2.0
	comp=Z,3.1nm,0.8s,baz=326,slow=1.5,SNR=6.9							

*IDC **01** 12:28:14.8±2.0, 2˚.40N×95˚.76E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/34, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=50.0km s-min=29.9km az=41.0*

*DJA **01** 12:28:15.5±0.9, 3˚N±4˚×9˚6E±˚, h10km, M3.4/7, mb3.7/1, MLv3.3/7*

ISC 01 12:28:14.5±1.9, 3˚.01N±0˚.08×95˚.8E±0˚.1, h10km, n14, σ1s51/10, mb3.4/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	1.38	25	P		Pg	12 28 40.1	-0.8
MLSI				S		Sg	12 28 59.1	+0.3
TPTI		1.38	80	P		Pb	12 28 40.0	-0.3
TPTI				S		Sn	12 28 58.7	+0.6
GSI	Gunungsitoli	2.44	134	P		Pn	12 28 55.4	+1.0
PSI	Prapat	3.10	94	Pn		Pn	12 29 06.4	+2.8
	2.7nm,0.3s,baz=360,slow=3.2,SNR=13							
PSI				Sn		Sb	12 29 46.0	-1.9
	1.3nm,0.3s,baz=353,slow=18,SNR=2.1							
MNSI	Mandailing Nat	4.35	120	P		Pn	12 29 22.0	+1.3
H08S2	Diego Garcia H	25.57	245	T		T	13 00 00.2	
	baz=66,slow=75,SNR=77							
H08S3	Diego Garcia H	25.57	245	T		T	13 00 01.3	
	baz=66,slow=75,SNR=74							
H08S1	Diego Carcia H	25.59	245	T		T	13 00 01.6	
	baz=66,slow=75,SNR=86							
H01W3	Cape Leeuwin H	41.44	157	T		T	13 19 48.0	
H01W2	Cape Leeuwin H	41.45	157	T		T	13 19 44.9	
	baz=172,slow=74,SNR=4.7							
H01W1	Cape Leeuwin H	41.45	157	T		T	13 19 42.7	
	baz=331,slow=74,SNR=5.1							
WRA	Warramunga Arr	44.16	123	P		P	12 36 23.3	-0.5
	0.3nm,0.5s,baz=301,slow=9.2,SNR=9.0							
MKAR	Makanchi Array	45.17	347	P		P	12 36 37.8	+6.4
	0.2nm,0.4s,baz=163,slow=8.1,SNR=1.9							
ASAR	Alice Springs	45.58	128	P		P	12 36 34.4	-0.7
	0.2nm,0.4s,baz=300,slow=7.8,SNR=5.9							

*JMA **01** 12:29:46.9±0.2, 36˚.74N×141˚.41E, h50km±2km, M3.0*

*IDC **01** 12:29:55.8±2.6, 36˚.43N×140˚.61E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/34, mbtmp3.4/2, Error ellipse: s-maj=46.4km s-min=30.1km az=46.0*

ISC 01 12:29:45.9±3.2, 36˚.77N±0˚.06×141˚.5E±0˚.1, h19km±4km, n18, σ1s06/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.64	302	P		Pb	12 29 59.3	+0.9
ONAJ				eS		Sn	12 30 08.8	-0.8
JHO	Hitachi	0.75	258	P		Pb	12 30 00.3	0.0
JFK	Kawauchi	0.76	321	P		Pb	12 30 01.1	+0.4
JFFD	Fukushimafurud	0.80	294	P		Pg	12 30 01.5	-0.1
JHYU	Hitachinakayam	0.83	239	P		Pb	12 30 01.6	-0.2
JHYU				S		Sb	12 30 12.5	-0.1
JFT	Otama	1.18	310	P		Pb	12 30 08.1	+0.4
JFT				S		Sg	12 30 23.7	-0.5
JMM	Marumori	1.22	334	P		Pn	12 30 07.6	-0.4
JMM				S		Sb	12 30 23.5	-0.3
JAG	Ashikaga	1.66	259	P		Pn	12 30 13.9	-0.2
MJAR	Matsushiro Arr	2.64	266	Pn		Pn	12 30 28.6	+1.1
	0.7nm,0.3s,baz=89,slow=15,SNR=26							
MJAR				Sn		Sn	12 30 56.5	-2.5
	0.3nm,0.3s,baz=90,slow=27,SNR=5.8							
MAT	Matsushiro	2.64	266	P		Pn	12 30 29.0	+1.5
MAT				S		Sn	12 31 00.2	+1.2
H11N2	WAKE ISLAND Hy	27.97	120	T		T	13 04 47.1	
	baz=313,slow=75,SNR=13							
H11N1	WAKE ISLAND Hy	27.98	120	T		T	13 04 51.5	
	baz=313,slow=75,SNR=10							
H11N3	WAKE ISLAND Hy	27.99	120	T		T	13 04 52.4	
	baz=313,slow=75,SNR=9.1							
H11S1	WAKE ISLAND Hy	28.68	123	T		T	13 05 45.7	
	baz=315,slow=76,SNR=3.9							
H11S3	WAKE ISLAND Hy	28.68	123	T		T	13 05 46.5	
	baz=315,slow=76,SNR=3.7							
H11S2	WAKE ISLAND Hy	28.69	123	T		T	13 05 45.5	
	baz=315,slow=76,SNR=4.6							
MKAR	Makanchi Array	44.30	302	P		P	12 38 04.6	+10
	0.5nm,0.6s,baz=92,slow=10,SNR=2.3							
WRA	Warramunga Arr	56.81	188	P		P	12 39 38.6	+10
	0.3nm,0.6s,baz=4.7,slow=7.4,SNR=1.8							

*ANF **01** 12:46:07.7±0.4, 41˚.76N×119˚.75W, ML4.0/21, Error ellipse: s-maj=3.7km s-min=3.2km az=122.0*

*IDC **01** 12:46:07.2±0.7, 41˚.99N×119˚.66W, h0km, mb3.7/1, mb1 3.8/6, mb1mx3.6/41, mbtmp3.4/6, ML3.2/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/45, Error ellipse: s-maj=10.6km s-min=5.0km az=10.0*

*NEIC **01** 12:46:08.5, 41˚.91N×119˚.64W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=2.27; Mθθ=3.53; Mφφ 5.80; Mrθ=4.24; Mθφ=0.54; Mφr=4.51; Fault plane solution: M₀8.02000×10¹⁴ NP1:φ8=34.99000°, δ79.83000°, λ=54.51000°. NP2:φ8=138.90000°, δ36.73000°, λ=162.83000°. Principal axes: T 7.9654, Plg26.0000°, Azm98.0000°; N 0.0985, Plg35.0000°, Azm208.0000°; P -8.0639, Plg44.0000°, Azm340.0000°;*

*REN **01** 12:46:08.5±1.9, 41˚.91N±0˚.05×119˚.64W±0˚.04, h0km±8km, ML3.9/2, ML3.9/64(SEA), Mwr3.9/66(NEIC) Error ellipse: s-maj=6.7km s-min=4.3km az=187.0*

*SEA **01** 12:46:09.4±2.8, 41˚.83N±0˚.04×119˚.71W±0˚.05, h0km±8km, Error ellipse: s-maj=6.5km s-min=4.3km az=210.0*

*NEIC **01** 12:46:09.5±1.7, 41˚.94N±0˚.05×119˚.68W±0˚.04, h5km±2km, Error ellipse: s-maj=7.8km s-min=5.3km az=2.0*

ISC 01 12:46:08.4±1.3, 41˚.91N±0˚.03×119˚.68W±0˚.03, h2km±11km, n77, σ1s17/92, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.47	270	Pg		Pg	12 46 17.8	+0.5
MOD						Sg	12 46 25.1	+1.7
K05A	Summer Lake	1.22	313			Pg	12 46 32.1	+0.4
M04C	Macdoel	1.62	266	P		Pn	12 46 36.7	-1.4
	baz=85,SNR=217							
M04C				S		Sn	12 46 58.4	-1.2
	baz=85							
K04D	Chiloquin, OR	1.70	296	P		Pn	12 46 38.8	-0.3
	baz=114,SNR=31							
K04D				S		Sb	12 47 02.5	+0.2
	baz=114							
J08A	Circle Bar Ran	1.70	31	Pn		Pn	12 46 38.1	-1.1
J05D	Fort Rock, OR	1.79	321	P		Pn	12 46 40.2	-0.3
	baz=139,SNR=354							
J05D				S		Sg	12 47 07.3	+1.2
	baz=139							
L04D	Klamath Falls	1.98	280	P		Pn	12 46 41.8	-1.2
	baz=98,SNR=78							
L04D				Sb		Sg	12 47 11.8	-0.2
	baz=98							
PINE	Pine Mountain	2.10	334	Pn		Pb	12 46 46.9	-0.4
I07A	Izee	2.18	3			Pn	12 46 46.4	+0.6
PAHR	Pah Rah Range	2.21	174			Pn	12 46 47.6	+1.4
J04D	Umpqua Nationa	2.24	307	P		Pn	12 46 46.6	0.0
	baz=125							
J04D				Sb		Sg	12 47 21.5	+1.2
	baz=125							
O03E	Paynes Creek	2.27	226	P		Pn	12 46 44.6	-2.4
	baz=45,SNR=96							
O03E				Sb		Sn	12 47 16.5	+0.9
	baz=45							
YBH	Yreka Blue Hor	2.27	267	Pn		Pn	12 46 45.8	-1.2
	4.1nm,0.3s,baz=79,slow=9.4,SNR=38							
YBH				Pg		Pb	12 46 49.4	-0.7
	8.8nm,0.3s,baz=72,slow=12,SNR=43							
YBH				Lg		Lg	12 47 20.1	
	31nm,0.3s,baz=329,slow=2.6,SNR=15							
YBH	Yreka Blue Hor	2.27	267	Pn		Pn	12 46 45.4	-1.6
M02C	Callahan	2.43	259	P		Pn	12 46 47.4	-1.8
	baz=77,SNR=66							
M02C				Sg		Sg	12 47 25.8	-0.8
	baz=77							
N02D	Trinity Center	2.46	249	P		Pn	12 46 47.7	-1.8
	baz=67,SNR=15							
N02D				Sg		Sb	12 47 25.4	+1.4
	baz=67							
HUMO	Hull Mountain	2.53	287	Pn		Pn	12 46 49.6	-0.9
WDC	Whiskeytown Da	2.53	239			Pn	12 46 51.0	+0.5
VCNR	Virginia City	2.61	179			Pn	12 46 53.7	+2.0
I05D	Terrebonne, OR	2.72	334	Pb		Pb	12 46 58.1	+0.3
	baz=152,SNR=15							
I05D				Sb		Sg	12 47 36.6	+0.9
	baz=152							
ORV	Oroville	2.73	211			Pn	12 46 53.4	+0.2
I04A	Tendick Farm,	2.76	314	P		Pn	12 46 54.2	+0.6
	baz=132,SNR=14							
I04A				Sb		Sg	12 47 36.6	-0.3
	baz=132							
PNTR	Pine Nut	2.81	179			Pb	12 46 57.9	-1.6
O02D	Mt. Diablo Mer	2.92	235	P		Pn	12 46 54.2	-1.7
	baz=53,SNR=71							
O02D				Sg		Sb	12 47 38.8	+1.5
	baz=53							
L02E	Cave Junction	2.93	276	P		Pn	12 46 55.2	-0.8
	baz=94,SNR=39							
L02E				Sb		Sb	12 47 38.1	+0.4
	baz=94							
K02D	Willamette Mer	3.06	286	P		Pn	12 46 57.6	-0.2
	baz=104,SNR=61							
KRMB	Red Mountain	3.19	265			Pn	12 46 59.3	-0.3
KHMM	Horse Mountain	3.22	253			Pn	12 47 01.0	+0.9
MFID	Camas Ranch	3.22	61	Pn		Pn	12 46 59.0	-1.1
I03D	Drain, OR	3.24	305	Pb		Pb	12 47 06.6	0.0
	baz=122							
I03D				Sb		Sg	12 47 49.7	-2.8
	baz=122							
H04A	Detroit Lake	3.33	327			Pn	12 47 01.3	-0.1
J01E	Myrtle Point	3.38	293	P		Pn	12 47 02.7	+0.5
	baz=110							
RYN	Ryan	3.39	164			Pn	12 47 03.3	+0.8
KBO	Bosley Butte	3.40	277			Pn	12 47 03.6	+1.1
WAKR	Walker	3.40	177			Pb	12 47 06.7	-2.8
BMO	Blue Mountains	3.42	30			Pn	12 47 04.2	+1.4
G08A	Pilot Rock	3.42	9			Pn	12 47 03.8	+0.9
H04D	Lebanon	3.44	321	P		Pn	12 47 04.7	+1.7
	baz=138							
H04D				Sb		Sg	12 47 58.0	-0.9
	baz=138							
KMRM	Mail Ridge	3.48	242			Pn	12 47 04.0	+0.4
ELK	Elko	3.54	108	Pn		Pn	12 47 04.6	0.0
	1.1nm,0.3s,baz=291,slow=16,SNR=53							
ELK				Pg		Pb	12 47 10.2	-1.6
	4.4nm,0.3s,baz=289,slow=18,SNR=27							
ELK				Lg		Lg	12 47 59.6	
	18nm,0.3s,baz=20,slow=19,SNR=6.7							
ELK	Elko	3.54	108			Pn	12 47 04.9	+0.3
G05D	Wamic, OR	3.54	341	Pb		Pb	12 47 12.7	+0.9
	baz=159							
KEBM	Edson Butte	3.58	287			Pn	12 47 06.6	+1.7
NVAR	Mina Array Bea	3.63	163	Pn		Pn	12 47 05.4	-0.4
	0.9nm,0.3s,baz=341,slow=13,SNR=15							
NVAR				Pg		Pb	12 47 14.9	+1.5
	5.8nm,0.3s,baz=348,slow=18,SNR=44							
NVAR				Lg		Lg	12 48 02.1	
	19nm,0.3s,baz=342,slow=24,SNR=4.3							
NVAR	Mina Array Bea	3.63	163			Pn	12 47 06.8	+1.0
NV11	Mina Array Sit	3.66	161			Pn	12 47 07.5	+1.3
I02D	Swisshome	3.77	307	Pg		Pg	12 47 19.5	-1.0
	baz=124							
F07A	Phinny Hill Vi	3.99	358			Pn	12 47 11.9	+1.4
F05D	White Salmon	4.18	343	Pb		Pb	12 47 23.0	+0.4
	baz=161							
HLID	Hailey	4.22	65	P		Pn	12 47 13.7	-0.2
	baz=248							
HLID	Hailey	4.22	65			Pn	12 47 13.8	0.0
R11A	Troy Canyon, C	4.74	137	P		Pn	12 47 21.7	+0.7
	baz=320							
R11A	Troy Canyon, C	4.74	137	Pn		Pn	12 47 22.1	+1.0
BGU	Big Grassy Mou	5.09	99			Pn	12 47 25.7	-0.1
DUG	Dugway, Tooele	5.47	106	P		Pn	12 47 31.5	+0.6
	baz=291							
DUG	Dugway, Tooele	5.47	106			Pn	12 47 30.4	-0.5
PSUT	Pine Spring	5.59	125			Pn	12 47 33.8	+1.1
TPNV	Topopah Spring	5.62	151	P		Pn	12 47 33.3	+0.2
	baz=333							
TPNV	Topopah Spring	5.62	151			Pn	12 47 34.1	+1.0
PRN	Pahroc Range	5.74	140			Pn	12 47 35.1	+0.4
MCMT	McKenzie Canyo	5.77	57			Pn	12 47 36.9	+1.6
HWUT	Hardware Ranch	6.08	90			Pn	12 47 40.2	+0.8
JLU	Jordanelle	6.34	99	Pn		Pn	12 47 43.6	+0.6
TCRU	Three Creeks R	6.44	118	Pn		Pn	12 47 45.4	+1.0
CCUT	Cedar City	6.53	130			Pn	12 47 46.6	+1.0
LRM	Limekiln Ridge	6.53	51			Pn	12 47 46.3	+0.7
NEW	Newport	6.61	15	Lg		Lg	12 49 38.4	
	0.1nm,0.3s,baz=121,slow=20,SNR=2.3							
SZCU	Shurtz Canyon	6.66	128			Pn	12 47 48.4	+1.0
M

IRIF	**Iriomote-Funau**	**1.02**	**101**	P	**Pn**	**12 48 52.6**	**+0.2**
IRIF				*e*S	**Sn**	**12 49 07.3**	**+0.2**
NDT	**Datong Townshi**	**1.02**	**274**	*i* P	**Pn**	**12 48 52.7**	**+0.3**
	baz=274						
NDT				S	**Sn**	**12 49 07.7**	**+0.5**
	baz=274						
TWD	**Chiawan**	**1.05**	**245**	*i* P	**Pn**	**12 48 52.2**	**-0.5**
	baz=245						
TWD				*i* S	**Sn**	**12 49 07.7**	**0.0**
	baz=245						
NWLT	**Wulai**	**1.06**	**284**	*e*P	**Pn**	**12 48 53.4**	**+0.6**
	baz=283						
NWLT				*e*S	**Sn**	**12 49 07.6**	**-0.4**
	baz=283						
HWA	**Hwalien**	**1.09**	**240**	P	**Pn**	**12 48 53.1**	**-0.1**
	baz=240						
HWA				*e*S	**Sn**	**12 49 08.7**	**+0.2**
	baz=240						
ETLH	**Xiulin Townshi**	**1.10**	**253**	P	**Pn**	**12 48 53.0**	**-0.4**
	baz=253						
ETLH				S	**Sn**	**12 49 08.8**	**-0.1**
	baz=253						
NNSB	**Datong**	**1.14**	**265**	P	**Pn**	**12 48 53.7**	**-0.2**
	baz=265						
NNSB				S	**Sn**	**12 49 09.7**	**-0.2**
	baz=265						
NNSH	**Datong**	**1.14**	**265**	*e*P	**Pn**	**12 48 53.7**	**-0.3**
	baz=265						
NNSH				*e*S	**Sn**	**12 49 09.5**	**-0.4**
	baz=265						
YM01	**YM01**	**1.14**	**303**	P	**Pn**	**12 48 53.5**	**-0.4**
	baz=302						
YM01				S	**Sn**	**12 49 09.2**	**-0.6**
	baz=302						
NNS	**Nan Shan**	**1.15**	**266**	*i* P	**Pn**	**12 48 53.8**	**-0.3**
	baz=265						
NNS				*i* S	**Sn**	**12 49 09.8**	**-0.3**
	baz=265						
YHNB	**Yeheng**	**1.15**	**277**	P	**Pn**	**12 48 54.1**	**0.0**
	baz=277						
YHNB				S	**Sn**	**12 49 09.8**	**-0.3**
	baz=277						
YM10	**YM10**	**1.15**	**303**	*e*P	**Pn**	**12 48 53.5**	**-0.6**
	baz=302						
YM10				*e*S	**Sn**	**12 49 09.2**	**-0.9**
	baz=302						
NSK	**Sanguang**	**1.17**	**277**	*i* P	**Pn**	**12 48 54.1**	**-0.2**
	baz=277						
NSK				*i* S	**Sn**	**12 49 09.7**	**-0.7**
	baz=277						
HATJ	**Hateruma jima**	**1.17**	**114**	*e*S	**Sn**	**12 49 11.5**	**+1.2**
YM04	**YM04**	**1.17**	**302**	P	**Pn**	**12 48 54.0**	**-0.2**
	baz=301						
YM04				S	**Sn**	**12 49 09.3**	**-1.1**
	baz=301						
JKRS	**Kuro-shima**	**1.29**	**103**	P	**Pn**	**12 48 56.1**	**+0.5**
JKRS				*e*S	**Sn**	**12 49 13.9**	**+1.0**
FUSS	**Fushou**	**1.30**	**258**	P	**Pn**	**12 48 56.2**	**+0.2**
	baz=258						
FUSS				S	**Sn**	**12 49 14.3**	**+0.8**
	baz=258						
WHF	**Hehuan Shan**	**1.30**	**253**	*i* P	**Pn**	**12 48 55.9**	**-0.4**
	baz=253						
WHF				*i* S	**Sn**	**12 49 13.3**	**-0.7**
	baz=253						
ESL	**Shilin**	**1.31**	**237**	*i* P	**Pn**	**12 48 55.1**	**-0.8**
	baz=237						
ESL				S	**Sn**	**12 49 12.8**	**-0.5**
	baz=237						
TDCB	**Techi**	**1.37**	**259**	P	**Pn**	**12 48 57.1**	**+0.2**
	baz=258						
TDCB				S	**Sn**	**12 49 14.5**	**-0.5**
	baz=258						
JIJ	**Ishigaki jima**	**1.39**	**97**	P	**Pn**	**12 48 56.9**	**0.0**
JIJ				S	**Sn**	**12 49 14.4**	**-0.7**
EGFH	**Guangfu**	**1.40**	**232**	P	**Pn**	**12 48 56.5**	**-0.5**
	baz=232						
EGFH				*e*S	**Sn**	**12 49 14.7**	**-0.6**
	baz=232						
CHGB	**Renai**	**1.41**	**251**	⇑P	**Pn**	**12 48 57.2**	**-0.2**
	baz=251						
CHGB				S	**Sn**	**12 49 15.7**	**-0.3**
	baz=251						
LIOB	**Emei**	**1.48**	**275**	P	**Pn**	**12 48 58.6**	**+0.5**
	baz=274						
LIOB				S	**Sn**	**12 49 17.4**	**+0.2**
	baz=274						
NSTT	**Nanjuang**	**1.49**	**274**	*e*P	**Pn**	**12 48 58.4**	**+0.2**
	baz=274						
NSTT				S	**Sn**	**12 49 17.1**	**-0.3**
	baz=274						
HGSD	**Ruisui**	**1.51**	**227**	P	**Pn**	**12 48 58.0**	**-0.5**
	baz=227						
HGSD				*e*S	**Sn**	**12 49 19.4**	**+1.5**
	baz=227						
JISG	**Ishigakijimahi**	**1.53**	**88**	P	**Pn**	**12 48 58.6**	**-0.1**
JISG				*e*S	**Sn**	**12 49 18.3**	**0.0**
WHP	**Taichung City**	**1.56**	**261**	P	**Pn**	**12 49 00.0**	**+0.9**
	baz=261						
WHP				S	**Sn**	**12 49 19.9**	**+0.8**
	baz=261						
VWDT	**VWDT**	**1.57**	**241**	⇑P	**Pn**	**12 48 59.0**	**-0.2**
	baz=241						
VWDT				S	**Sn**	**12 49 19.3**	**+0.1**
	baz=241						
EHY	**Hungye**	**1.57**	**230**	*i* P	**Pn**	**12 48 58.3**	**-1.0**
	baz=230						
EHY				S	**Sn**	**12 49 17.7**	**-1.6**
	baz=230						
YULB	**Yu-li**	**1.67**	**227**	P	**Pn**	**12 48 59.7**	**-0.8**
	baz=227						
YULB				S	**Sn**	**12 49 19.8**	**-1.8**
	baz=227						
TWF1	**Yuli**	**1.69**	**226**	*i* P	**Pn**	**12 49 00.2**	**-0.7**
	baz=226						
TWF1				*i* S	**Sn**	**12 49 21.0**	**-1.2**
	baz=226						
SSLB	**Suanglung**	**1.70**	**245**	P	**Pn**	**12 49 00.7**	**-0.3**
	baz=244						
SSLB				S	**Sn**	**12 49 22.4**	**0.0**
	baz=244						
SMLT	**Sun Moon Lake**	**1.71**	**248**	P	**Pn**	**12 49 01.8**	**+0.6**
	baz=248						
SMLT				S	**Sn**	**12 49 24.1**	**+1.5**
	baz=248						
TYC	**Yuchr**	**1.74**	**249**	*i* P	**Pn**	**12 49 02.4**	**+1.0**
	baz=249						
TYC				S	**Sn**	**12 49 23.1**	**0.0**
	baz=249						
FULB	**Fuli**	**1.81**	**223**	P	**Pn**	**12 49 02.1**	**-0.2**
	baz=223						
FULB				S	**Sn**	**12 49 24.5**	**-0.3**
	baz=223						
WHYT	**Xinyi Township**	**1.83**	**243**	P	**Pn**	**12 49 03.7**	**+1.1**
	baz=243						
WHYT				S	**Sn**	**12 49 27.1**	**+1.9**
	baz=243						
WJS	**Zhushan**	**1.88**	**248**	P	**Pn**	**12 49 04.4**	**+1.2**
	baz=248						
WJS				*e*S	**Sn**	**12 49 26.3**	**-0.1**
	baz=248						
JTJ	**Tarama**	**1.89**	**86**	P	**Pn**	**12 49 03.4**	**+0.1**
JTJ				S	**Sn**	**12 49 26.7**	**+0.1**
WNT	**Mingjian**	**1.90**	**250**	P	**Pn**	**12 49 03.2**	**-0.3**
	baz=250						
ALS	**Alishan**	**1.96**	**239**	*i* P	**Pn**	**12 49 05.2**	**+0.7**
	baz=239						
ALS				S	**Sn**	**12 49 29.9**	**+1.2**
	baz=239						
EDH	**Donghe**	**1.97**	**218**	*e*P	**Pn**	**12 49 03.5**	**-0.9**
	baz=218						
EDH				*e*S	**Sn**	**12 49 26.9**	**-1.7**
	baz=218						
ELDTW	**Lidau**	**1.99**	**228**	*i* P	**Pn**	**12 49 04.1**	**-0.8**
	baz=228						
ELDTW				S	**Sn**	**12 49 28.4**	**-0.9**
	baz=228						
CHN5	**Tsauling**	**2.02**	**243**	P	**Pn**	**12 49 05.8**	**+0.7**
	baz=243						
CHN5				*e*S	**Sn**	**12 49 30.3**	**+0.5**
	baz=243						
TPUB	**Ta-pu**	**2.21**	**237**	P	**Pn**	**12 49 08.9**	**+1.3**
	baz=236						
TPUB				*e*S	**Sn**	**12 49 33.8**	**-0.4**
	baz=236						
CHN4	**Tsaushan**	**2.21**	**238**	P	**Pn**	**12 49 08.4**	**+0.8**
	baz=238						
CHN4				*e*S	**Sn**	**12 49 34.3**	**+0.1**
	baz=238						
TWGBT	**Beinan**	**2.22**	**220**	*e*P	**Pn**	**12 49 06.8**	**-1.0**
	baz=220						
TWGBT				*e*S	**Sn**	**12 49 33.9**	**-0.7**
	baz=220						
TWG	**Pinlang**	**2.23**	**220**	P	**Pn**	**12 49 06.6**	**-1.2**
	baz=220						
TWG				S	**Sn**	**12 49 33.9**	**-0.7**
	baz=220						
WTP	**Ta-pu**	**2.25**	**236**	P	**Pn**	**12 49 09.4**	**+1.3**
	baz=235						
WTP				*e*S	**Sn**	**12 49 35.2**	**0.0**
	baz=235						
JIRB	**Irabujima**	**2.33**	**82**	*e*S	**Sn**	**12 49 35.9**	**-1.2**
TWK	**Hsinying**	**2.33**	**238**	*e*P	**Pn**	**12 49 09.4**	**+0.1**
	baz=237						
CHN1	**Nanshi**	**2.35**	**236**	*e*P	**Pn**	**12 49 10.7**	**+1.2**
	baz=235						
SLGT	**Liugui**	**2.38**	**230**	*e*P	**Pn**	**12 49 11.5**	**+1.6**
	baz=230						
JMJ2	**Miyako jima3**	**2.46**	**85**	P	**Pn**	**12 49 11.4**	**+0.4**
JMJ2				*e*S	**Sn**	**12 49 39.4**	**-0.8**
JOGS	**Gusukube**	**2.53**	**84**	*e*S	**Sn**	**12 49 41.2**	**-0.8**
SSD	**Sandimen**	**2.56**	**226**	P	**Pn**	**12 49 13.8**	**+1.6**
	baz=226						
TSMG	**Majia**	**2.58**	**225**	*e*P	**Pn**	**12 49 13.5**	**+1.0**
	baz=225						

JMA ***01*** *12:49:47.4, 24.07N×121.64E, h55km±1km, M2.5*
TAP ***01*** *12:49:48.6, 24.13N×121.71E, h47km, ML3.1, C*
ISC 01 12:49:49.3±1.2, 24.13N±0.02×121.71E±0.02, h45km±5km, n110, ⌀0°71/200, 11C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.11**	**246**	⇑*i* P		**Pn**	**12 49 56.4**	**-0.2**
	baz=240							
TWD				*i* S		**Sn**	**12 50 02.2**	**+0.4**
	baz=240							
NACB	**Ninganchiao**	**0.12**	**294**	⇑P		**Pn**	**12 49 56.3**	**-0.3**
	baz=292							
NACB				S		**Sn**	**12 50 02.0**	**+0.2**
	baz=292							
HWA	**Hwalien**	**0.18**	**213**	*i* P		**Pn**	**12 49 57.4**	**+0.4**
	baz=208							
HWA				S		**Sn**	**12 50 04.2**	**+1.9**
	baz=208							
ETLH	**Xiulin Townshi**	**0.22**	**291**	⇑P		**Pn**	**12 49 57.0**	**-0.4**
	baz=289							
ETLH				*e*S		**Sn**	**12 50 03.0**	**-0.1**
	baz=289							
ENA	**Nanau**	**0.30**	**5**	*i* P		**Pn**	**12 49 58.9**	**+0.8**
	baz=7.0							
ENA				S		**Sn**	**12 50 04.7**	**+0.5**
	baz=7.0							
ENAH	**Nanao**	**0.33**	**16**	*i* P		**Pn**	**12 49 58.4**	**+0.1**
	baz=16							
ENAH				S		**Sn**	**12 50 04.5**	**-0.2**
	baz=16							
ESL	**Shilin**	**0.40**	**219**	*i* P		**Pn**	**12 49 57.9**	**-1.2**
	baz=217							
ESL				*i* S		**Sn**	**12 50 05.3**	**-0.7**
	baz=217							
WHF	**Hehuan Shan**	**0.41**	**273**	⇑*i*P		**Pn**	**12 49 59.0**	**-0.6**
	baz=271							
WHF				*i* S		**Sn**	**12 50 06.5**	**-0.4**
	baz=271							
NNSB	**Datong**	**0.42**	**315**	⇑P		**Pn**	**12 49 59.0**	**-0.5**
	baz=315							
NNSB				S		**Sn**	**12 50 06.8**	**+0.1**
	baz=315							
NNSH	**Datong**	**0.42**	**315**	P		**Pn**	**12 49 58.9**	**-0.6**
	baz=315							
NNSH				*e*S		**Sn**	**12 50 06.8**	**0.0**
	baz=315							
NNS	**Nan Shan**	**0.44**	**315**	⇑*i*P		**Pn**	**12 49 59.0**	**-0.7**
	baz=315							
NNS				*i* S		**Sn**	**12 50 07.1**	**+0.1**
	baz=315							
FUSS	**Fushou**	**0.44**	**286**	P		**Pn**	**12 49 59.4**	**-0.4**
	baz=285							
FUSS				S		**Sn**	**12 50 07.5**	**+0.2**
	baz=285							
CHGB	**Renai**	**0.49**	**262**	⇑P		**Pn**	**12 50 00.0**	**-0.4**
	baz=261							
CHGB				S		**Sn**	**12 50 08.0**	**-0.4**
	baz=261							
TWC	**Suao**	**0.50**	**15**	*i* P		**Pn**	**12 50 00.5**	**+0.3**
	baz=16							
TWC				*i* S		**Sn**	**12 50 09.4**	**+1.4**
	baz=16							
NDT	**Datong Townshi**	**0.51**	**339**	*i* P		**Pn**	**12 49 59.8**	**-0.6**
	baz=339							
NDT				*i* S		**Sn**	**12 50 08.3**	**+0.1**
	baz=339							
OWD	**Renai**	**0.52**	**251**	P		**Pn**	**12 50 00.2**	**-0.5**
	baz=249							
OWD				S		**Sn**	**12 50 08.4**	**-0.4**
	baz=249							
TDCB	**Techi**	**0.52**	**284**	⇑P		**Pn**	**12 50 00.3**	**-0.4**
	baz=283							
TDCB				S		**Sn**	**12 50 08.5**	**-0.3**
	baz=283							
EGFH	**Guangfu**	**0.53**	**210**	*e*P		**Pn**	**12 49 59.1**	**-1.5**
	baz=208							
ENTT	**Nioudou**	**0.53**	**346**	⇑*i*P		**Pn**	**12 50 00.1**	**-0.5**
	baz=346							
ENTT				*i* S		**Sn**	**12 50 08.7**	**0.0**
	baz=346							
TWE	**Neicheng**	**0.59**	**356**	*i* P		**Pn**	**12 50 01.0**	**-0.5**
	baz=358							
TWE				*i* S		**Sn**	**12 50 10.2**	**0.0**
	baz=358							
YHNB	**Yeheng**	**0.62**	**331**	⇑P		**Pn**	**12 50 01.2**	**-0.7**
	baz=330							
YHNB				S		**Sn**	**12 50 10.4**	**-0.6**
	baz=330							
NSK	**Sanguang**	**0.63**	**330**	*i* P		**Pn**	**12 50 01.4**	**-0.7**
	baz=330							
NSK				*i* S		**Sn**	**12 50 10.5**	**-0.8**
	baz=330							
ILA	**Ilan**	**0.64**	**3**	*e*P		**Pn**	**12 50 01.9**	**-0.2**
	baz=4.0							
ILA				S		**Sn**	**12 50 11.2**	**0.0**
	baz=4.0							
VWDT	**VWDT**	**0.64**	**235**	⇓P		**Pn**	**12 50 01.6**	**-0.4**
	baz=233							
VWDT				S		**Sn**	**12 50 11.1**	**-0.1**
	baz=233							
NWLT	**Wulai**	**0.67**	**344**	*e*P		**Pn**	**12 50 02.1**	**-0.5**
	baz=343							
NWLT				S		**Sn**	**12 50 11.8**	**-0.4**
	baz=343							
HGSD	**Ruisui**	**0.69**	**203**	P		**Pn**	**12 50 02.1**	**-0.5**
	baz=201							
HGSD				*e*S		**Sn**	**12 50 13.0**	**+0.7**
	baz=201							
EHY	**Hungye**	**0.71**	**210**	P		**Pn**	**12 50 02.8**	**-0.3**
	baz=208							
EHY				S		**Sn**	**12 50 13.5**	**+0.5**
	baz=208							
WHP	**Taichung City**	**0.71**	**282**	*i* P		**Pn**	**12 50 03.2**	**+0.1**
	baz=281							
WHP				*i* S		**Sn**	**12 50 13.8**	**+0.6**
	baz=281							
NTC	**Toucheng**	**0.73**	**9**	*e*P		**Pn**	**12 50 03.0**	**-0.3**
	baz=8.0							
NTC				*e*S		**Sn**	**12 50 14.8**	**+1.4**
	baz=8.0							
EGS		**0.74**	**16**	P		**Pn**	**12 50 04.3**	**+0.8**
	baz=17							
EGS				S		**Sn**	**12 50 15.6**	**+1.9**
	baz=17							
SSLB	**Suanglung**	**0.77**	**244**	P		**Pn**	**12 50 03.0**	**-0.9**
	baz=243							
SSLB				S		**Sn**	**12 50 14.3**	**-0.1**
	baz=243							
SMLT	**Sun Moon Lake**	**0.78**	**252**	⇑*i*P		**Pn**	**12 50 04.2**	**+0.2**
	baz=251							
SMLT				*i* S		**Sn**	**12 50 14.8**	**+0.1**
	baz=251							
TYC	**Yuchr**	**0.81**	**254**	*i* P		**Pn**	**12 50 04.4**	**0.0**
	baz=253							
TYC				S		**Sn**	**12 50 16.0**	**+0.7**
	baz=253							
LIOB	**Emei**	**0.82**	**309**	P		**Pn**	**12 50 04.5**	**0.0**
	baz=309							
LIOB				S		**Sn**	**12 50 16.6**	**+1.1**
	baz=309							
NSTT	**Nanjuang**	**0.82**	**308**	*i* P		**Pn**	**12 50 04.3**	**-0.2**
	baz=307							
NSTT				*i* S		**Sn**	**12 50 16.3**	**+0.8**
	baz=307							
YULB	**Yu-li**	**0.82**	**207**	*e*S		**Sn**	**12 50 16.1**	**+0.4**
	baz=206							
TIPB	**Shuangxi**	**0.85**	**7**	P		**Pn**	**12 50 05.2**	**+0.3**
	baz=7.0							
TIPB				S		**Sn**	**12 50 16.8**	**+0.5**
	baz=7.0							
EYUL	**Yuli**	**0.85**	**205**	*e*P		**Pn**	**12 50 05.4**	**+0.4**
	baz=204							
EYUL				*e*S		**Sn**	**12 50 16.4**	**0.0**
	baz=204							
TWA	**Mucha**	**0.86**	**352**	P		**Pn**	**12 50 04.6**	**-0.4**
	baz=353							
TWA				S		**Sn**	**12 50 16.1**	**-0.4**
	baz=353							
TWF1	**Yuli**	**0.86**	**206**	P		**Pn**	**12 50 04.9**	**-0.2**
	baz=205							
TWF1				S		**Sn**	**12 50 16.7**	**+0.2**
	baz=205							
TATO	**Taipei**	**0.87**	**347**	P		**Pn**	**12 50 05.2**	**0.0**
	baz=347							
TATO				S		**Sn**	**12 50 16.8**	**+0.1**
	baz=347							
TWQ1	**Liyutan**	**0.88**	**285**	P		**Pn**	**12 50 05.3**	**-0.1**
	baz=284							
TWQ1				S		**Sn**	**12 50 17.2**	**+0.1**
	baz=284							
WHYT	**Xinyi Township**	**0.89**	**241**	P		**Pn**	**12 50 05.9**	**+0.3**
	baz=240							
WHYT				S		**Sn**	**12 50 18.5**	**+1.1**
	baz=240							
NSY	**Sanyi**	**0.91**	**289**	P		**Pn**	**12 50 05.7**	**-0.1**
	baz=288							
NSY				S		**Sn**	**12 50 18.3**	**+0.5**
	baz=288							
TWB1	**Santiao Chiao**	**0.91**	**16**	P		**Pn**	**12 50 06.1**	**+0.3**
	baz=17							
TWB1				*i* S		**Sn**	**12 50 18.7**	**+0.9**
	baz=17							
NMLH	**Miaoli**	**0.93**	**296**	P		**Pn**	**12 50 05.3**	**-0.7**
	baz=295							
NMLH				S		**Sn**	**12 50 18.7**	**+0.4**
	baz=295							
SBCB	**Hsinchu**	**0.94**	**315**	*e*P		**Pn**	**12 50 05.9**	**-0.1**
	baz=315							
YUS	**Yu-Shan**	**0.94**	**228**	P		**Pn**	**12 50 05.9**	**-0.6**
	baz=226							
YUS				*e*S		**Sn**	**12 50 19.2**	**0.0**
	baz=226							
NWF	**Wu-fen Shan**	**0.94**	**4**	P		**Pn**	**12 50 05.3**	**-0.9**
	baz=4.0							
NWF				S		**Sn**	**12 50 19.2**	**+0.6**
	baz=4.0							
WFSB	**Wu-fen Shan**	**0.94**	**4**	*e*S		**Sn**	**12 50 19.0**	**+0.5**
	baz=4.0							
TCU	**Taichung**	**0.94**	**271**	P		**Pn**	**12 50 06.0**	**-0.2**
	baz=270							
TCU				S		**Sn**	**12 50 19.0**	**+0.5**
	baz=270							
WJS	**Zhushan**	**0.95**	**252**	P		**Pn**	**12 50 06.5**	**+0.3**
	baz=250							
WJS				S		**Sn**	**12 50 20.1**	**+1.4**
	baz=250							
HSN	**Hsinchu**	**0.95**	**315**	*e*P		**Pn**	**12 50 05.3**	**-1.0**
	baz=317							
NCUH	**Zhongli**	**0.96**	**330**	*e*P		**Pn**	**12 50 06.1**	**-0.4**
	baz=330							
NCU	**National Centr**	**0.96**	**331**	*e*S		**Sn**	**12 50 19.4**	**+0.3**
	baz=330							
PTSB	**Yuanli**	**0.97**	**289**	*e*S		**Sn**	**12 50 19.5**	**+0.3**
	baz=288							
WNT	**Mingjian**	**0.97**	**255**	*i* P		**Pn**	**12 50 06.7**	**+0.2**
	baz=254							
WNT				*i* S		**Sn**	**12 50 20.9**	**+1.7**
	baz=254							
FULB	**Fuli**	**1.00**	**203**	P		**Pn**	**12 50 06.5**	**-0.5**
	baz=202							
FULB				S		**Sn**	**12 50 19.9**	**-0.1**
	baz=202							
WDJ	**Dajia District**	**1.00**	**283**	S		**Sn**	**12 50 20.2**	**+0.3**
	baz=282							
TWS1	**Kuangyinshan**	**1.00**	**345**	P		**Pn**	**12 50 06.6**	**-0.4**
	baz=345							
TWS1				S		**Sn**	**12 50 20.5**	**+0.5**
	baz=345							
YM01	**YM01**	**1.02**	**353**	*e*S		**Sn**	**12 50 19.7**	**-0.8**
	baz=353							
ALS	**Alishan**	**1.03**	**234**	P		**Pn**	**12 50 07.6**	**0.0**
	baz=232							
ALS				S		**Sn**	**12 50 21.2**	**+0.1**
	baz=232							
YM10	**YM10**	**1.03**	**352**	*e*P		**Pn**	**12 50 05.8**	**-1.6**
	baz=352							
YM10				*e*S		**Sn**	**12 50 19.7**	**-1.1**
	baz=352							
YM04	**YM04**	**1.03**	**351**	P		**Pn**	**12 50 07.3**	**-0.1**
	baz=351							
YM04				S		**Sn**	**12 50 21.3**	**+0.5**
	baz=351							
YM11	**YM11**	**1.04**	**353**	*e*P		**Pn**	**12 50 07.3**	**-0.2**
	baz=353							
YM11				S		**Sn**	**12 50 21.5**	**+0.5**
	baz=353							
WCHH	**Zhanghua**	**1.05**	**268**	S		**Sn**	**12 50 21.5**	**+0.3**
	baz=267							
YM03	**YM03**	**1.06**	**352**	P		**Pn**	**12 50 08.1**	**+0.3**
	baz=351							
YM03				S		**Sn**	**12 50 22.0**	**+0.6**
	baz=351							
YM08	**YM08**	**1.06**	**354**	*e*P		**Pn**	**12 50 07.1**	**-0.7**
	baz=354							
YM08				*e*S		**Sn**	**12 50 20.2**	**-1.2**
	baz=354							
ANP	**Anpu**	**1.07**	**351**	*e*P		**Pn**	**12 50 08.1**	**+0.2**
	baz=351							
CHKT	**Chengkung**	**1.07**	**197**	*e*P		**Pn**	**12 50 07.1**	**-0.8**
	baz=196							
CHKT				S		**Sn**	**12 50 21.5**	**-0.1**
	baz=196							
CHN5	**Tsauling**	**1.08**	**241**	*i* P		**Pn**	**12 50 08.1**	**0.0**
	baz=240							
CHN5				*i* S		**Sn**	**12 50 23.4**	**+1.4**
	baz=240							
ELDTW	**Lidau**	**1.13**	**214**	P		**Pn**	**12 50 07.3**	**-1.5**
	baz=213							
ELDTW				S		**Sn**	**12 50 22.4**	**-0.8**
	baz=213							
WGK	**Gukeng**	**1.14**	**248**	P		**Pn**	**12 50 09.4**	**+0.6**
	baz=246							
WGK				S		**Sn**	**12 50 24.9**	**+1.6**
	baz=246							
WDLH	**Douliu**	**1.16**	**248**	*e*P		**Pn**	**12 50 09.2**	**+0.1**
	baz=247							
WDLH				S		**Sn**	**12 50 25.9**	**+2.2**
	baz=247							
JYNG	**Yonagunijimaku**	**1.17**	**74**	P		**Pn**	**12 50 09.0**	**-0.2**
JYNG				S		**Sn**	**12 50 24.9**	**+0.8**
EDH	**Donghe**	**1.21**	**198**	*e*P		**Pn**	**12 50 08.4**	**-1.4**
	baz=197							
EDH				S		**Sn**	**12 50 25.4**	**+0.4**
	baz=197							
RLNB	**Erlin**	**1.26**	**259**	P		**Pn**	**12 50 10.0**	**-0.4**
	baz=258							
RLNB				S		**Sn**	**12 50 26.2**	**0.0**
	baz=258							
CHN4	**Tsaushan**	**1.28**	**233**	P		**Pn**	**12 50 11.2**	**+0.4**
	baz=232							
CHN4				S		**Sn**	**12 50 28.4**	**+1.6**
	baz=232							
WTK	**Tuku**	**1.29**	**250**	*e*P		**Pn**	**12 50 10.5**	**-0.3**
	baz=249							
WTK				S		**Sn**	**12 50 27.1**	**+0.3**
	baz=249							
TPUB	**Ta-pu**	**1.29**	**230**	P		**Pn**	**12 50 11.1**	**+0.2**
	baz=229							
TPUB				S		**Sn**	**12 50 27.7**	**+0.7**
	baz=229							
LONT	**Longtian**	**1.33**	**204**	*e*P		**Pn**	**12 50 11.7**	**+0.3**
	baz=203							
LONT				*e*S		**Sn**	**12 50 28.2**	**+0.3**
	baz=203							
CHY	**Chiayi**	**1.33**	**242**	*e*P		**Pn**	**12 50 12.0**	**+0.5**
	baz=241							

CHY				*e*S		**Sn**	**12 50 29.8**	**+1.7**	
	baz=241								
WTP	**Ta-pu**	**1.33**	**229**	*i* P		**Pn**	**12 50 11.6**	**+0.1**	
	baz=228								
WTP				S		**Sn**	**12 50 29.3**	**+1.1**	
	baz=228								
TWK	**Hsinying**	**1.41**	**233**	P		**Pn**	**12 50 12.8**	**+0.3**	
	baz=231								
TWK				S		**Sn**	**12 50 31.3**	**+1.3**	
	baz=231								
TWGBT	**Beinan**	**1.43**	**204**	*e*S		**Sn**	**12 50 30.1**	**-0.2**	
	baz=203								
TWG	**Pinlang**	**1.43**	**204**	*e*P		**Pn**	**12 50 12.8**	**0.0**	
	baz=203								
SNST	**Tainan City**	**1.43**	**231**	*e*P		**Pn**	**12 50 13.0**	**+0.2**	
	baz=230								
SNST				*e*S		**Sn**	**12 50 32.1**	**+1.6**	
	baz=230								
CHN1	**Nanshi**	**1.43**	**229**	P		**Pn**	**12 50 13.0**	**+0.1**	
	baz=228								
CHN1				*e*S		**Sn**	**12 50 30.7**	**+0.2**	
	baz=228								
WLGB	**Puzi**	**1.45**	**244**	*e*P		**Pn**	**12 50 12.0**	**-1.0**	
	baz=243								
WLGB				*e*S		**Sn**	**12 50 31.3**	**+0.6**	
	baz=243								
LDUT	**Ludao**	**1.46**	**189**	*e*S		**Sn**	**12 50 30.3**	**-1.0**	
	baz=188								
SGST	**Jiashian**	**1.47**	**225**	P		**Pn**	**12 50 12.8**	**-0.6**	
	baz=224								
SGST				S		**Sn**	**12 50 31.6**	**+0.2**	
	baz=224								
SLGT	**Liugui**	**1.49**	**221**	P		**Pn**	**12 50 14.8**	**+1.2**	
	baz=220								
SLGT				*e*S		**Sn**	**12 50 32.6**	**+0.6**	
	baz=220								
ICHU	**Yijhu**	**1.52**	**240**	P		**Pn**	**12 50 14.5**	**+0.6**	
	baz=239								
ICHU				*e*S		**Sn**	**12 50 32.6**	**+0.1**	
	baz=239								
PCYT	**Pengchaiyu**	**1.53**	**12**	*e*P		**Pn**	**12 50 13.5**	**-0.6**	
	baz=12								
PCYT				*e*S		**Sn**	**12 50 32.8**	**-0.1**	
	baz=12								
CHN8	**Yiju**	**1.58**	**241**	*e*P		**Pn**	**12 50 14.6**	**-0.2**	
	baz=240								
CHN8				*e*S		**Sn**	**12 50 32.6**	**-1.5**	
	baz=240								
SCST	**Cishan**	**1.67**	**222**	*e*P		**Pn**	**12 50 14.8**	**-1.2**	
	baz=221								
SCST				*e*S		**Sn**	**12 50 35.7**	**-0.5**	
	baz=221								
ECL	**Taimali**	**1.67**	**205**	*e*P		**Pn**	**12 50 16.9**	**+0.7**	
	baz=204								
ECL				*e*S		**Sn**	**12 50 35.9**	**-0.5**	
	baz=204								
SCLT	**Jiali**	**1.68**	**236**	*e*P		**Pn**	**12 50 14.3**	**-1.9**	
	baz=235								
SSD	**Sandimen**	**1.69**	**216**	P		**Pn**	**12 50 17.1**	**+0.7**	
	baz=215								
SSD				*e*S		**Sn**	**12 50 38.2**	**+1.3**	
	baz=215								
TSMG	**Majia**	**1.72**	**215**	*e*P		**Pn**	**12 50 16.6**	**-0.2**	
	baz=214								
TSMG				*e*S		**Sn**	**12 50 37.7**	**+0.2**	
	baz=214								
MASBT	**Mashibuluo**	**1.80**	**213**	*e*P		**Pn**	**12 50 17.9**	**0.0**	
	baz=213								
MASBT				*e*S		**Sn**	**12 50 40.3**	**+0.7**	
	baz=213								
IRIF	**Iriomote-Funau**	**1.85**	**83**	P		**Pn**	**12 50 18.5**	**-0.1**	
IRIF				*e*S		**Sn**	**12 50 41.0**	**+0.2**	
EAST	**Anshuo**	**1.91**	**205**	*e*P		**Pn**	**12 50 19.5**	**+0.1**	
	baz=204								
HATJ	**Hateruma jima**	**1.92**	**92**	*e*S		**Sn**	**12 50 43.4**	**+1.1**	
JKRS	**Kuro-shima**	**2.10**	**87**	P		**Pn**	**12 50 22.3**	**+0.3**	
JKRS				*e*S		**Sn**	**12 50 47.5**	**+0.6**	
JIJ	**Ishigaki jima**	**2.23**	**83**	P		**Pn**	**12 50 23.2**	**-0.6**	
JIJ				*e*S		**Sn**	**12 50 48.9**	**-1.3**	
JISG	**Ishigakijimahi**	**2.42**	**79**	P		**Pn**	**12 50 26.1**	**-0.2**	
JISG				*e*S		**Sn**	**12 50 54.1**	**-0.5**	
JTJ	**Tarama**	**2.77**	**79**	P		**Pn**	**12 50 30.4**	**-0.8**	
JTJ				*e*S		**Sn**	**12 51 03.0**	**-0.5**	
JIRB	**Irabujima**	**3.23**	**77**	S		**Sn**	**12 51 14.7**	**0.0**	
JMJ2	**Miyako jima3**	**3.35**	**79**	*e*S		**Sn**	**12 51 18.6**	**+0.8**	

DJA 01 12:56:18.2±1.3, 9°S±8″×11°6E±″, h32km±17km, M3.9/7, MLv3.9/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.85**	**57**	P	Pb	12 56 34.9	+0.3
TWSI				S	Sb	12 56 48.3	+2.6
PLAI	**Plampang**	**1.64**	**77**	P	Pn	12 56 45.1	+0.2
PLAI				S	Sn	12 57 05.6	+0.7
JAGI	**Jajag, Banyuwa**	**2.12**	**290**	P	Pn	12 56 51.8	+0.4
GMJI	**Gumukmas**	**2.84**	**289**	P	Pn	12 57 01.4	0.0
PWJI	**Pagerwojo**	**4.47**	**285**	P	Pn	12 57 22.7	-1.0
BASI	**Baing, Sumba**	**4.47**	**103**	P	Pn	12 57 23.0	-0.8
EDFI	**Ende, Flores**	**5.48**	**86**	P	Pn	12 57 29.0	-8.8

*NEIC **01** 13:02:48.7±0.8, 6°.25S±0°.07×147°.93E±0°.08, h65km±8km, mb4.0/15, Error ellipse: s-maj=11.6km s-min=9.4km az=75.0*

*IDC **01** 13:02:50.9±2.9, 6°.42S×148°.07E, h81km±30km, mb3.8/3, mb1 3.9/6, mb1mx3.5/34, mbtmp4.0/6, MS3.2/4, Ms1 3.2/4, ms1mx2.7/36, Error ellipse: s-maj=51.5km s-min=17.6km az=125.0*

ISC 01 13:02:47.7±0.7, 6°.23S±0°.08×147°.9E±0°.1, h50km, n26, σ1°02′25″, mb3.8/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**193**	P	**Pn**	**13 03 37.6**	**+1.5**
	13nm,0.3s,baz=10,slow=5.7,SNR=26						
PMG				S	**Sn**	**13 04 14.1**	**+0.6**
	14nm,0.3s,baz=210,slow=15,SNR=8.1						
PMG				LR	LR	13 05 00.8	
	comp=Z,173nm,20.5s,baz=64,slow=42						
PMG	**Port Moresby**	**3.24**	**193**		**Pn**	**13 03 37.3**	**+1.2**
KRVT	**Keravat (AS076**	**4.55**	**65**	P	**Pn**	**13 03 56.4**	**+2.2**
	6.4nm,0.3s,baz=265,slow=3.0,SNR=11						
RABL	**Rabaul**	**4.73**	**65**	Pn	**Pn**	**13 03 56.8**	**+0.3**
COEN	**Coen**	**8.97**	**211**	Pn	**Pn**	**13 04 55.7**	**+0.9**
SAUI	**Saumlaki**	**16.54**	**263**		**P**	**13 06 37.7**	**-0.6**
SIJI	**Sorong**	**17.40**	**287**	LR	LR	13 15 32.9	
	comp=Z,56nm,19.3s,baz=270,slow=43						
MTN	**Manton Dam**	**17.76**	**247**	P	**P**	**13 06 51.9**	**+0.1**
MTN				IAmb	IAmb	13 07 19.6	
	comp=Z,30nm,1.5s						
WB0	**Warramunga Arr**	**18.79**	**223**	P	**P**	**13 07 02.9**	**-0.2**
WB0				IAmb	IAmb	13 07 05.6	
	comp=Z,9.9nm,1.4s						
WR0	**Warramunga Arr**	**18.82**	**222**	P	**P**	**13 07 03.6**	**+0.1**
WR0				IAmb	IAmb	13 07 07.0	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**18.93**	**223**	P	**P**	**13 07 04.9**	**+0.2**
WRAB				IAmb	IAmb	13 07 32.7	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**18.93**	**223**	P	**P**	**13 07 04.7**	**-0.1**
WRA	**Warramunga Arr**	**18.94**	**223**	P	**P**	**13 07 05.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=52,slow=10,SNR=22						
EIDS	**Eidsvold**	**19.28**	**171**	P	**P**	**13 07 07.8**	**-0.7**
KNRA	**Kununurra**	**20.96**	**242**	P	**P**	**13 07 27.0**	**+0.2**
KNRA				IAmb	IAmb	13 07 47.4	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**21.94**	**216**	P	**P**	**13 07 37.5**	**+0.2**
AS31				IAmb	IAmb	13 07 46.3	
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**21.94**	**216**	P	**P**	**13 07 37.7**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=51,slow=9.1,SNR=29						
FITZ	**Fitzroy Crossi**	**24.69**	**239**	P	**P**	**13 08 05.3**	**+1.0**
	comp=Z,4.7nm,0.5s,baz=1.7,slow=4.4,SNR=34						
FITZ				LR	LR	13 19 15.6	
	comp=Z,87nm,18.4s,baz=102,slow=40						
FITZ	**Fitzroy Crossi**	**24.69**	**239**	P	**P**	**13 08 05.2**	**+0.9**
STKA	**Stephens Creek**	**26.19**	**192**	P	**P**	**13 08 17.9**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=11,slow=12,SNR=5.6						
STKA				LR	LR	13 18 04.5	
	comp=Z,83nm,18.1s,baz=23,slow=35						
STKA	**Stephens Creek**	**26.19**	**192**	IAmb	IAmb	13 08 20.7	
	comp=Z,0.6nm,0.8s						
TPUB	**Ta-pu**	**39.62**	**319**	P	**P**	**13 10 14.2**	**-0.6**
CMWZ	**Cape Campbell**	**42.43**	**151**	P	**P**	**13 10 37.4**	**-0.2**
MLZ	**Mavora Lakes**	**42.78**	**159**	P	**P**	**13 10 37.5**	**-2.9**
JHS	**Saijyo**	**43.30**	**342**	P	**P**	**13 10 45.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**145.99**	**284**	PKPbc	**PKPdf**	**13 22 21.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=69,slow=3.0,SNR=11						

*IDC **01** 13:14:25.3±1.6, 7°.17S×155°.22E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=38.3km s-min=24.4km az=102.0*

*NEIC **01** 13:14:31.1±0.4, 7°.6S±0°.3×155°.5E±0°.3, h59km±15km, mb4.0/5, Error ellipse: s-maj=58.0km s-min=27.9km az=137.0*

ISC 01 13:14:30.6±1.2, 7°.1S±0°.1×155°.2E±0°.2, h35km, n14, σ1°38′14″, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.20**	**311**	Pn	**Pn**	**13 15 31.0**	**-1.2**
	1.7nm,0.3s,baz=122,slow=3.0,SNR=2.0						
KRVT				Sn	**Sn**	**13 16 20.4**	**+0.1**
	4.1nm,0.3s,baz=326,slow=12,SNR=3.9						
WR0	**Warramunga Arr**	**23.75**	**235**	P	**P**	**13 19 38.6**	**-1.3**
WB0	**Warramunga Arr**	**23.77**	**236**	P	**P**	**13 19 38.8**	**-1.4**
WB0				IAmb	IAmb	13 20 06.4	
	comp=Z,6.0nm,1.1s						
WB2	**Warramunga Arr**	**23.89**	**236**	P	**P**	**13 19 39.8**	**-1.5**
WB2				IAmb	IAmb	13 19 49.5	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**23.91**	**236**	P	**P**	**13 19 39.5**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=62,slow=9.5,SNR=9.8						
WRA	**Warramunga Arr**	**23.91**	**236**	IAmb	IAmb	13 19 39.9	
	comp=Z,0.2nm,1.1s						
ASAR	**Alice Springs**	**26.24**	**229**	P	**P**	**13 20 00.9**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=61,slow=9.4,SNR=5.7						
STKA	**Stephens Creek**	**27.71**	**205**	P	**P**	**13 20 15.8**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=44,slow=13,SNR=4.0						
FITZ	**Fitzroy Crossi**	**30.78**	**246**	P	**P**	**13 20 44.6**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=6.2,slow=4.9,SNR=1.6						
CMAR	**Chiang Mai Arr**	**61.01**	**296**	P	**P**	**13 24 42.5**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=120,slow=5.3,SNR=5.1						
ILAR	**Eielson Array**	**83.42**	**21**	P	**P**	**13 26 53.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=251,slow=5.6,SNR=2.6						
MKAR	**Makanchi Array**	**83.62**	**319**	P	**P**	**13 26 56.4**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=98,slow=7.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**153.24**	**285**	PKPbc	**PKiKP**	**13 34 27.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=103,slow=1.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**153.24**	**285**	PKPdf	**PKPdf**	**13 34 17.8**	**-0.7**

*AEIC **01** 13:20:26±1.4, 59°.51N±0°.04×153°.35W±0°.09, h118km±4km, ML3.2, Error ellipse: s-maj=6.9km s-min=5.2km az=124.0*

*ANF **01** 13:20:27.1±1.0, 59°.66N×153°.14W, h133km±12km, ML3.9/7, Error ellipse: s-maj=16.2km s-min=8.6km az=110.0*

ISC 01 13:20:24.9±1.0, 59°.51N±0°.04×153°.32W±0°.05, h129km±7km, n136, σ0°.88, 158, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.14**	**204**		**Pn**	**13 20 42.5**	**+0.1**
AUL					**Sn**	**13 20 54.8**	**-0.9**
AU22	**Augustine Moun**	**0.14**	**188**		**Pn**	**13 20 42.4**	**0.0**
AU22					**Sn**	**13 20 54.6**	**-1.0**
OPT	**Oil Point**	**0.15**	**18**		**Pn**	**13 20 42.4**	**-0.1**
AUP	**Augustine Pinn**	**0.16**	**199**		**Pn**	**13 20 42.6**	**0.0**
AUCH	**Augustine Cone**	**0.16**	**203**		**Pn**	**13 20 42.6**	**0.0**
AUQ	**Augustine Qik'**	**0.16**	**197**		**Pn**	**13 20 42.5**	**-0.1**
ILS	**Iliamna Low So**	**0.47**	**16**		**Pn**	**13 20 43.4**	**-0.3**
IVE	**Iliamna Volcan**	**0.53**	**17**		**Pn**	**13 20 43.9**	**-0.2**
HOM	**Homer**	**0.87**	**79**	P	**Pn**	**13 20 47.1**	**+0.7**
	baz=261,SNR=31						
HOM				S	**Sn**	**13 21 03.4**	**+0.6**
	baz=261						
HOM	**Homer**	**0.87**	**79**		**Pn**	**13 20 47.2**	**+0.8**
HOM					**Sn**	**13 21 03.2**	**+0.4**
RED	**Redoubt Volcan**	**0.95**	**17**		**Pn**	**13 20 47.3**	**0.0**
RED					**Sn**	**13 21 03.0**	**-1.4**
RSO	**Redoubt South**	**1.00**	**16**	Pn	**Pn**	**13 20 47.9**	**0.0**
RDWB	**Redoubt West**	**1.01**	**14**		**Pn**	**13 20 48.0**	**0.0**
KAPH	**Katmai Pasha**	**1.06**	**210**		**Pn**	**13 20 48.6**	**+0.3**
KAPH					**Sn**	**13 21 05.0**	**-1.0**
CNPM	**China Poot**	**1.06**	**88**		**Pn**	**13 20 48.7**	**+0.4**
CNPM	**China Poot**	**1.06**	**88**		**Sn**	**13 21 05.4**	**-0.6**
NCT	**North Crescent**	**1.07**	**10**		**Pn**	**13 20 48.5**	**+0.1**
NCT					**Sn**	**13 21 05.0**	**-1.4**
DFR	**Drift River**	**1.13**	**16**		**Pn**	**13 20 49.2**	**+0.2**
DFR					**Sn**	**13 21 06.5**	**-0.9**
KAHC	**Katmai Hardscr**	**1.23**	**226**		**Pn**	**13 20 50.2**	**+0.1**
BRLK	**Bradley Lake**	**1.26**	**77**		**Pn**	**13 20 50.5**	**+0.2**
BRSE	**Bradley Lake S**	**1.33**	**79**		**Pn**	**13 20 51.4**	**+0.3**
BRSE					**Sn**	**13 21 07.9**	**-1.0**
KAKN	**Katmai Knife C**	**1.52**	**217**		**Pn**	**13 20 53.4**	**+0.2**
KAKN					**Sn**	**13 21 13.7**	**-0.9**
KABU	**Katmai Buttres**	**1.61**	**220**		**Pn**	**13 20 54.7**	**+0.5**
KELA	**Mount Kelaz**	**1.65**	**230**		**Pn**	**13 20 54.9**	**+0.2**
CAPN	**Captain Cook N**	**1.66**	**40**	P	**Pn**	**13 20 56.8**	**+2.1**
	baz=222						
CAPN				S	**Sn**	**13 21 19.9**	**+2.5**
	baz=222						
CAPN	**Captain Cook N**	**1.66**	**40**		**Pn**	**13 20 56.7**	**+2.0**
ANCK	**Angle Creek**	**1.73**	**222**		**Pn**	**13 20 56.1**	**+0.5**
KDAK	**Kodiak Island**	**1.77**	**167**		**Pn**	**13 20 55.7**	**-0.4**
KDAK					**Sn**	**13 21 17.9**	**-1.9**
SPCR	**Spurr Chakacha**	**1.78**	**18**		**Pn**	**13 20 56.7**	**+0.4**
SPCR					**Sn**	**13 21 19.7**	**-0.4**
CAHL	**Cahill**	**1.79**	**216**		**Pn**	**13 20 56.8**	**+0.5**
SPU	**Mount Spurr**	**1.79**	**20**	Pn	**Pn**	**13 20 56.5**	**+0.2**
SPCN	**Chakachatna No**	**1.81**	**18**		**Pn**	**13 20 57.2**	**+0.7**
SPBG	**Spurr Blockage**	**1.82**	**15**		**Pn**	**13 20 57.4**	**+0.8**
SLKM	**Skilak Lake**	**1.85**	**56**		**Pn**	**13 20 57.2**	**+0.2**
SPCP	**Crater Peak Br**	**1.85**	**18**		**Pn**	**13 20 57.8**	**+0.6**
SPNN	**North Nagishla**	**1.89**	**9**		**Pn**	**13 20 58.2**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.90**	**19**		**Pn**	**13 20 58.2**	**+0.5**
SVW2	**Sparrevohn**	**1.95**	**326**		**Pn**	**13 20 58.2**	**0.0**
SEW	**Seward**	**2.04**	**71**		**Pn**	**13 20 59.7**	**+0.4**
SEW					**Sn**	**13 21 23.7**	**-1.8**
O22K	**Cooper Landing**	**2.05**	**60**	P	**Pn**	**13 21 00.1**	**+0.8**
	baz=244,SNR=19						
O22K				S	**Sn**	**13 21 24.7**	**-1.1**
	baz=244						
O22K	**Cooper Landing**	**2.05**	**60**		**Pn**	**13 21 00.1**	**+0.8**
STLK	**Strandline Lak**	**2.13**	**20**		**Pn**	**13 21 01.2**	**+0.8**
OHAK	**Old Harbor**	**2.29**	**180**		**Pn**	**13 21 01.8**	**-0.6**
SUA	**Susitna One**	**2.34**	**32**		**Pn**	**13 21 03.9**	**+0.9**
RC01	**Rabbit Creek A**	**2.39**	**47**	P	**Pn**	**13 21 04.1**	**+0.6**
	baz=230,SNR=25						
RC01				S	**Sn**	**13 21 32.2**	**-1.0**
	baz=230						
RC01	**Rabbit Creek A**	**2.39**	**47**		**Pn**	**13 21 04.0**	**+0.5**
PLK3	**Peulik 3**	**2.39**	**221**		**Pn**	**13 21 04.5**	**+0.8**
SKT	**Skwentna**	**2.63**	**19**		**Pn**	**13 21 07.1**	**+0.5**
PWL	**Port Wells**	**2.83**	**59**		**Pn**	**13 21 09.3**	**+0.1**
PMR	**Palmer**	**2.94**	**43**		**Pn**	**13 21 10.4**	**-0.2**
SII	**Sitkinak Islan**	**3.00**	**189**		**Pn**	**13 21 10.4**	**-1.0**
KNK	**Knik Glacier**	**3.07**	**50**		**Pn**	**13 21 12.3**	**0.0**
GHO	**Glory Hole Cre**	**3.14**	**42**		**Pn**	**13 21 13.1**	**-0.2**
CUT	**Chulitna**	**3.26**	**26**	P	**Pn**	**13 21 15.4**	**+0.6**
	baz=209,SNR=13						
CUT				S	**Sn**	**13 21 52.6**	**-0.7**
	baz=209						
CUT	**Chulitna**	**3.26**	**26**		**Pn**	**13 21 15.1**	**+0.3**
SML	**Sawmill**	**3.37**	**45**		**Pn**	**13 21 16.1**	**-0.1**
GLI	**Glacier Island**	**3.40**	**63**		**Pn**	**13 21 16.0**	**-0.6**
PPLA	**Purkeypile**	**3.44**	**9**		**Pn**	**13 21 18.6**	**+1.3**
HIN	**Hinchinbrook I**	**3.54**	**73**		**Pn**	**13 21 19.1**	**+0.5**
Q23K	**Middleton Isla**	**3.56**	**88**	Pn	**Pn**	**13 21 19.5**	**+0.8**
MID	**Middleton Isla**	**3.56**	**88**		**Pn**	**13 21 19.6**	**+0.8**
FID	**Port Fidalgo**	**3.64**	**67**		**Pn**	**13 21 19.2**	**-0.5**
TT01	**Tatalina**	**3.65**	**340**		**Pn**	**13 21 20.1**	**+0.2**
TTA	**Tatalina**	**3.67**	**340**		**Pn**	**13 21 20.3**	**+0.1**
SCM	**Sheep Creek Mo**	**3.76**	**49**		**Pn**	**13 21 21.5**	**+0.1**
CHIR	**Chirikof Islan**	**3.90**	**199**		**Pn**	**13 21 22.7**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.94**	**71**		**Pn**	**13 21 23.9**	**+0.2**
WAT7	**Susitna Watana**	**3.98**	**31**		**Pn**	**13 21 24.5**	**+0.2**
WAT1	**Susitna Watana**	**4.05**	**33**		**Pn**	**13 21 25.3**	**+0.1**
WAT6	**Susitna Watana**	**4.11**	**39**		**Pn**	**13 21 25.9**	**-0.1**
WAT2	**Susitna Watana**	**4.15**	**31**		**Pn**	**13 21 26.5**	**-0.1**
KLU	**Klutina**	**4.16**	**58**		**Pn**	**13 21 27.0**	**+0.2**
CHGN	**Chignik**	**4.21**	**222**	Pn	**Pn**	**13 21 27.9**	**+0.6**
TRF	**Thorofare Moun**	**4.21**	**19**		**Pn**	**13 21 27.4**	**-0.1**
KTH	**Kantishna Hill**	**4.22**	**15**		**Pn**	**13 21 27.4**	**-0.1**
M24K	**Tolsona, Glenn**	**4.36**	**50**	P	**Pn**	**13 21 30.1**	**+0.7**
	baz=237,SNR=9.6						
M24K				S	**Sn**	**13 22 18.3**	**-1.2**
	baz=237						
M24K	**Tolsona, Glenn**	**4.36**	**50**		**Pn**	**13 21 30.0**	**+0.6**
RND	**Reindeer**	**4.46**	**27**		**Pn**	**13 21 30.5**	**-0.2**
KAIM	**Kayak Island**	**4.53**	**81**	Pn	**Pn**	**13 21 32.9**	**+1.4**
DHY	**Denali Highway**	**4.58**	**36**		**Pn**	**13 21 32.5**	**+0.1**
MCK	**McKinley**	**4.72**	**24**		**Pn**	**13 21 34.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**4.74**	**13**		**Pn**	**13 21 34.0**	**-0.4**
BERG	**Berg Lake**	**4.92**	**75**		**Pn**	**13 21 37.4**	**+0.6**
BWN	**Browne**	**5.02**	**20**	Pn	**Pn**	**13 21 38.5**	**+0.4**
GLB	**Gilahina Butte**	**5.09**	**64**		**Pn**	**13 21 39.5**	**+0.4**
PAX	**Paxson**	**5.14**	**44**		**Pn**	**13 21 40.5**	**+0.8**
VRDI	**Verde Repeater**	**5.19**	**66**	Pn	**Pn**	**13 21 41.5**	**+0.9**
CRQM	**Cirque**	**5.24**	**72**	Pn	**Pn**	**13 21 42.5**	**+1.2**
TGL	**Tana Glacier**	**5.39**	**72**	Pn	**Pn**	**13 21 44.0**	**+0.8**
MCARA	**McCarthy VSAT**	**5.43**	**65**	Pn	**Pn**	**13 21 44.7**	**+1.1**
NEA2	**Nenana**	**5.48**	**20**	P	**Pn**	**13 21 43.8**	**-0.4**
	baz=204,SNR=14						
NEA2				S	**Sn**	**13 22 43.4**	**-2.7**
	baz=204						
NEA2	**Nenana**	**5.48**	**20**		**Pn**	**13 21 43.8**	**-0.4**
BARK	**Barkley Ridge**	**5.52**	**76**		**Pn**	**13 21 46.0**	**+1.2**
WRH	**Wood River Hil**	**5.55**	**24**	Pn	**Pn**	**13 21 44.9**	**-0.4**
KIAG	**Kiagna River**	**5.65**	**71**		**Pn**	**13 21 47.6**	**+0.9**
PTPK	**Patty Peak**	**5.65**	**68**		**Pn**	**13 21 48.2**	**+1.5**
BALM	**Baldy**	**5.67**	**70**		**Pn**	**13 21 48.2**	**+1.2**
HDA	**Harding Lake**	**5.76**	**29**	P	**Pn**	**13 21 47.7**	**-0.3**
	baz=214,SNR=17						
HDA				S	**Sn**	**13 22 50.4**	**-2.5**
	baz=214						
HDA	**Harding Lake**	**5.76**	**29**		**Pn**	**13 21 47.7**	**-0.3**
CCB	**Clear Creek Bu**	**5.77**	**24**		**Pn**	**13 21 47.5**	**-0.6**
MENT	**Mentasta**	**5.77**	**49**		**Pn**	**13 21 49.0**	**+0.8**
RIDG	**Independent Ri**	**5.86**	**40**		**Pn**	**13 21 50.0**	**+0.7**
YAH	**Yahtse**	**5.88**	**77**		**Pn**	**13 21 50.9**	**+1.0**
PS08	**TAPS Pump Stn8**	**5.90**	**28**		**Pn**	**13 21 49.4**	**-0.5**
TCOL	**CIGO, UAF Yank**	**5.96**	**23**	P	**Pn**	**13 21 50.4**	**-0.2**
	baz=208,SNR=7.9						
TCOL				S	**Sn**	**13 22 55.8**	**-1.8**
	baz=208						
COLA	**College**	**5.96**	**23**		**Pn**	**13 21 50.2**	**-0.4**
MDM	**Murphy Dome**	**5.96**	**21**		**Pn**	**13 21 50.4**	**-0.4**
BARN	**Barnard Glacie**	**6.00**	**70**		**Pn**	**13 21 52.8**	**+1.3**
DOT	**Dot Lake**	**6.06**	**43**	Pn	**Pn**	**13 21 52.7**	**+0.6**
IL31		**6.08**	**27**		**Pn**	**13 21 51.9**	**-0.3**
ILAR	**Eielson Array**	**6.08**	**27**	Pn	**Pn**	**13 21 51.3**	**-1.0**
CTGM	**Chitina Glacie**	**6.15**	**71**		**Pn**	**13 21 54.4**	**+1.0**
POKR	**Poker Plat Res**	**6.26**	**23**	P	**Pn**	**13 21 54.3**	**-0.4**
	baz=209,SNR=5.1						
POKR				S	**Sn**	**13 23 03.0**	**-1.9**
	baz=209						
SCRK	**Sand Creek**	**6.30**	**41**	P	**Pn**	**13 21 55.5**	**+0.1**
	baz=229						
IM03		**6.50**	**358**		**Pn**	**13 21 58.8**	**+0.9**
IMAR	**Indian Mountai**	**6.50**	**358**		**Pn**	**13 21 58.8**	**+0.9**
BC03		**6.60**	**52**		**Pn**	**13 22 01.5**	**+2.2**
BCAR	**Beaver Creek A**	**6.60**	**52**		**Pn**	**13 22 00.3**	**+0.9**
PCA	**Pinnacle**	**6.62**	**79**		**Pn**	**13 22 00.8**	**+1.2**
YUK3	**Moose Creek**	**6.72**	**65**		**Pn**	**13 22 02.6**	**+1.4**
BCPM	**Bancas Point**	**6.94**	**80**	Pn	**Pn**	**13 22 05.1**	**+1.3**
PNL	**Peninsula**	**7.07**	**83**		**Pn**	**13 22 06.5**	**+0.8**
FALS	**False Pass**	**7.20**	**234**	Pn	**Pn**	**13 22 08.3**	**+0.9**
EGAK	**Eagle**	**7.76**	**42**		**Pn**	**13 22 14.7**	**-0.2**
COLD	**Coldfoot**	**7.87**	**9**	P	**Pn**	**13 22 16.1**	**-0.4**
	baz=192						
**

	1.7nm,0.3s							
PAE	**Paea**	**22.60**	**100**	*e*T		T	13 59 50.7	
	1.4nm,0.2s							
TVO	**Taravao**	**22.92**	**100**	*e*T		T	13 59 56.3	
	0.8nm,0.3s							
TBI	**Tubuai**	**23.68**	**114**	*e*LQ		LQ	13 41 13.4	
	325nm,30.0s							
TBI				*e*LR		LR	13 42 11.7	
	comp=Z,270nm,28.0s							
TBI	**Tubuai**	**23.68**	**114**	*e*T		T	14 00 50.0	
	4.9nm,0.3s							
HNR	**Honiara**	**27.03**	**279**	LR		LR	13 45 56.8	
	comp=Z,114nm,19.1s,baz=102,slow=33							
TAOE	**Nuku Hiva Isla**	**32.66**	**83**	*e*LR		LR	13 46 12.6	
	comp=Z,124nm,26.2s							
H11S2	**WAKE ISLAND Hy**	**38.83**	**328**	T		T	14 20 05.1	
	baz=143,slow=74,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**38.84**	**328**	T		T	14 19 32.7	
	baz=143,SNR=9.6							
H11S1	**WAKE ISLAND Hy**	**38.84**	**328**	T		T	14 20 16.1	
	baz=143,slow=74,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**39.76**	**330**	T		T	14 21 40.7	
H11N1	**WAKE ISLAND Hy**	**39.77**	**330**	T		T	14 21 35.5	
H11N2	**WAKE ISLAND Hy**	**39.78**	**330**	T		T	14 21 40.3	
WRA	**Warramunga Arr**	**50.35**	**256**	P		**P**	**13 40 15.3**	**-1.4**
	0.6nm,0.7s,baz=91,slow=6.9,SNR=6.3							
WRA				LR		LR	13 59 25.4	
	comp=Z,40nm,20.2s,baz=150,slow=34							
AS31	**Alice Springs**	**50.64**	**252**	P		**P**	**13 40 16.9**	**-2.0**
AS31				IAmb		IAmb	13 40 27.8	
	comp=Z,0.8nm,0.8s							
ASAR	**Alice Springs**	**50.64**	**252**	P		**P**	**13 40 17.4**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=86,slow=7.9,SNR=24							
ASAR				LR		LR	13 59 57.2	
	comp=Z,78nm,18.7s,baz=76,slow=34							
FITZ	**Fitzroy Crossi**	**58.71**	**258**	P		**P**	**13 41 15.4**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=179,slow=7.1,SNR=5.6							
FITZ	**Fitzroy Crossi**	**58.71**	**258**	IAmb		IAmb	13 41 20.0	
	comp=Z,4.4nm,0.9s							
VNDA	**Vanda**	**63.83**	**186**	P		**P**	**13 41 53.6**	**+2.4**
	comp=Z,0.6nm,0.9s,baz=351,slow=5.6,SNR=4.9							
VNDA				LR		LR	14 05 15.0	
	comp=Z,17nm,21.4s,baz=285,slow=32							
TXAR	**Lajitas Array**	**80.03**	**56**	P		P	13 43 34.2	+4.8
	comp=Z,0.9nm,1.1s,baz=268,slow=6.9,SNR=4.5							
PDAR	**Pinedale Array**	**81.68**	**42**	P		**P**	**13 43 42.2**	**+4.1**
	comp=Z,0.2nm,0.6s,baz=193,slow=3.5,SNR=1.9							
BRTR	**Keskin Array B**	**146.09**	**322**	PKPbc		**PKiKP**	**13 51 03.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=66,slow=3.5,SNR=2.7							

*JMA **01** 13:33:02.8±0.3,26.°13N×128.°73E,h35km±4km,M3.7*
*NIED **01** 13:33:02.9,26.°13N×128.°73E,h35km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.21; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$-1.87; $M_{r\theta}$1.10; $M_{\theta\phi}$-2.42; $M_{r\phi}$0.89; Fault plane solution: $M_0$3.89000×10^{15} NP1:ϕ_s46.00000°, δ56.00000°,λ96.00000°. NP2:ϕ_s216.00000°,δ35.00000°, λ82.00000°.*
*NEIC **01** 13:33:04.5±1.4,26.°18N±0.°08×128.°80E±0.°05,h30km±6km, mb4.4/24 Error ellipse: s-maj=12.1km s-min=6.1km az=185.0*
*IDC **01** 13:33:06.7±3.0,26.°24N×128.°78E,h44km±29km,mb3.8/15, mb1 3.9/18,mb1mx3.7/63,mbtmp4.0/18,ML3.3/3,MS3.5/11, Ms1 3.5/11,ms1mx3.1/48,Error ellipse: s-maj=27.2km s-min=15.4km az=76.0*

ISC 01 13:33:02.0±1.6,26.15N±0.05×128.74E±0.04,h11km±9km, n86,σ1°51/88,mb4.3/25,MS3.7/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.74**	**300**	P	**Pg**	**13 33 16.5**	**+0.1**
JNTH				*e*S	**Sb**	**13 33 27.1**	**+0.1**
JOW	**Kunigami**	**0.80**	**329**	P	**Pb**	**13 33 17.9**	**0.0**
JOW				*e*S	**Sb**	**13 33 28.4**	**-0.3**
JJT3	**Tamagusuku3**	**0.86**	**270**	P	**Pb**	**13 33 18.7**	**-0.2**
JJT3				*e*S	**Sb**	**13 33 30.0**	**-0.4**
JYRO	**Yoronjima**	**0.91**	**344**	P	**Pg**	**13 33 19.6**	**0.0**
JYRO				*e*S	**Sg**	**13 33 31.5**	**0.0**
JIH	**Iheya**	**1.12**	**322**	P	**Pb**	**13 33 22.9**	**-0.5**
JIH				*e*S	**Sb**	**13 33 37.6**	**-0.4**
JOKE	**Okinoerabujima**	**1.22**	**353**	P	**Pn**	**13 33 24.6**	**-0.4**
JOKE				S	**Sb**	**13 33 40.5**	**-0.3**
JAGN	**Aguni-jima**	**1.41**	**289**	P	**Pn**	**13 33 26.9**	**-0.7**
JAGN				*e*S	**Sn**	**13 33 44.9**	**-1.3**
JTK	**Tokunoshima**	**1.64**	**7**	P	**Pn**	**13 33 30.5**	**-0.3**
JTK				*e*S	**Sn**	**13 33 50.1**	**-1.9**
JKE	**Kume jima 2**	**1.76**	**276**	P	**Pn**	**13 33 30.8**	**-1.6**
JKE				S	**Sn**	**13 33 52.9**	**-1.9**
JMZ	**Minamidaito 2**	**2.26**	**98**	P	**Pn**	**13 33 38.5**	**-0.7**
JMZ				S	**Sn**	**13 34 04.4**	**-2.7**
JMZ	**Minamidaito 2**	**2.26**	**98**		**Pn**	**13 33 38.4**	**-0.9**
JKDJ	**Kitadaitoujima**	**2.31**	**94**	P	**Pn**	**13 33 39.2**	**-0.8**
JKDJ				*e*S	**Sn**	**13 34 06.1**	**-2.3**
JSU	**Suzuyama**	**5.55**	**15**	Pn	**Pn**	**13 34 24.8**	**+0.3**
NACB	**Ninganchiao**	**6.76**	**255**	Pn	**Pn**	**13 34 38.9**	**-2.3**
YHNB	**Yeheng**	**6.82**	**259**	Pn	**Pn**	**13 34 41.8**	**-0.2**
JNU	**Nakatsue**	**7.20**	**14**	P	**Pn**	**13 34 47.7**	**+0.5**
	1.9nm,0.3s,baz=208,slow=4.3,SNR=29							
JNU				S	**Sn**	**13 36 06.3**	**-2.7**
	0.2nm,0.3s,baz=187,slow=22,SNR=0.8							
YULB	**Yu-li**	**7.30**	**250**		**Pn**	**13 34 43.9**	**-4.7**
SSLB	**Suanglung**	**7.44**	**253**	Pn	**Pn**	**13 34 47.3**	**-3.3**
TWG	**Pinlang**	**7.73**	**246**		**Pn**	**13 34 50.0**	**-4.5**
TPUB	**Ta-pu**	**7.90**	**251**	Pn	**Pn**	**13 34 54.2**	**-2.6**
JMN	**Monobe**	**8.77**	**29**	Pn	**Pn**	**13 35 08.4**	**-0.4**
JWT	**Wachi**	**10.76**	**31**	Pn	**Pn**	**13 35 38.5**	**+2.5**
KSRS	**Korea Array**	**11.29**	**357**	P	**Pn**	**13 35 44.8**	**+1.5**
	0.1nm,0.3s,baz=170,slow=9.9,SNR=2.8							
MJAR	**Matsushiro Arr**	**13.14**	**36**	LR	LR	13 41 01.7	
	comp=Z,84nm,21.9s,baz=230,slow=36							
USRK	**Ussuriysk Ar.**	**18.20**	**8**	P	**P**	**13 37 16.5**	**+1.7**
	baz=189,slow=10.0,SNR=6.0							
QIZ	**Qiongzhong**	**18.82**	**252**	P	**Pn**	**13 37 24.4**	**+2.2**
XAN	**Xi'an**	**18.85**	**299**	P	**P**	**13 37 22.0**	**0.0**
DAV	**Davao City (W)**	**19.21**	**190**	LR	LR	13 44 26.7	
	comp=Z,44nm,21.6s,baz=30,slow=35							
GUMO	**Guam**		**19.62**	**126**	LR	LR	13 44 45.0	
	comp=Z,60nm,19.1s,baz=280,slow=36							
SLVN	**Son La**		**23.22**	**263**	P	**P**	**13 38 09.8**	**+0.6**
ULN	**Ulaanbaatar**		**27.57**	**327**	P	**P**	**13 38 49.6**	**+0.5**
ULN					IAmb	IAmb	13 38 51.6	
	comp=Z,7.9nm,0.9s							
SONM	**Songino Array**		**27.87**	**327**	P	**P**	**13 38 53.6**	**+1.8**
	comp=Z,6.3nm,1.0s,baz=135,slow=11,SNR=19							
SONM	**Songino Array**		**27.87**	**327**	P	**P**	**13 38 50.5**	**-1.3**
CHTO	**Chiang Mai**		**28.43**	**261**	P	**P**	**13 38 58.3**	**+1.3**
CMAR	**Chiang Mai Arr**		**28.56**	**261**	P	**P**	**13 38 59.9**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=72,slow=7.3,SNR=7.9							
CMAR					LR	LR	13 52 08.1	
	comp=Z,69nm,18.4s,baz=122,slow=40							
CMAR	**Chiang Mai Arr**		**28.56**	**261**	P	**P**	**13 38 58.6**	**+0.6**
JAY	**Jayapura**		**30.75**	**156**	LR	LR	13 49 29.3	
	comp=Z,55nm,20.8s,baz=278,slow=32							
MK31	**Makanchi Array**		**41.93**	**312**	P	**P**	**13 40 51.7**	**-0.9**
MKAR	**Makanchi Array**		**41.93**	**312**	P	**P**	**13 40 52.1**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=97,slow=9.7,SNR=9.4							
MKAR	**Makanchi Array**		**41.93**	**312**	P	**P**	**13 40 51.9**	**-0.8**
ZALV	**Zalesovo Beam**		**42.59**	**323**	P	**P**	**13 40 56.4**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=111,slow=6.5,SNR=3.8							
ZALV	**Zalesovo Beam**		**42.59**	**323**	P	**P**	**13 40 55.5**	**-2.4**
KURK	**Kurchatov**		**45.19**	**317**	P	**P**	**13 41 18.1**	**-0.7**
KURK	**Kurchatov**		**45.19**	**317**	IAmb	IAmb	13 41 40.5	
	comp=Z,3.9nm,1.1s							
KURBB	**Kurchatov Arra**		**45.23**	**316**	P	**P**	**13 41 18.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=102,slow=8.5,SNR=10							
TIXI	**Tiksi**		**45.54**	**0**	P	**P**	**13 41 20.9**	**-0.4**
BOOM	**Boomskoye usch**		**45.82**	**305**	P	**P**	**13 41 25.9**	**+1.8**
BOOM					IAmb	IAmb	13 41 27.6	
	comp=Z,5.8nm,0.9s							
WB0	**Warramunga Arr**		**45.97**	**173**	P	**P**	**13 41 25.4**	**+0.2**
WB0					IAmb	IAmb	13 41 26.2	
	comp=Z,5.6nm,1.0s							
WRAB	**Tennant Creek**		**46.13**	**173**	P	**P**	**13 41 26.9**	**+0.4**
WRAB					IAmb	IAmb	13 41 43.5	
	comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**		**46.13**	**173**	P	**P**	**13 41 26.9**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=353,slow=8.3,SNR=13							
WRA	**Warramunga Arr**		**46.13**	**173**	P	**P**	**13 41 26.6**	**+0.1**
WB2	**Warramunga Arr**		**46.14**	**173**	P	**P**	**13 41 26.3**	**-0.2**
WB2					IAmb	IAmb	13 41 35.8	
	comp=Z,4.8nm,0.9s							
WR0	**Warramunga Arr**		**46.18**	**172**	P	**P**	**13 41 26.7**	**-0.1**
WR0					IAmb	IAmb	13 41 36.3	
	comp=Z,5.0nm,1.0s							
ASAR	**Alice Springs**		**49.77**	**174**	P	**P**	**13 41 55.6**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=357,slow=7.6,SNR=13							
ASAR	**Alice Springs**		**49.77**	**174**	P	**P**	**13 41 54.8**	**+0.1**
KKAR	**Karatay Array**		**49.83**	**305**	P	**P**	**13 41 55.3**	**+0.2**
BVAR	**Borovoye Array**		**50.64**	**318**	P	**P**	**13 42 00.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=133,slow=14,SNR=5.4							
BRVK	**Borovoye**		**50.71**	**318**	P	**P**	**13 42 01.1**	**-0.5**
KBL	**Kabul**		**51.55**	**294**	P	**P**	**13 42 08.4**	**0.0**
FALS	**False Pass**		**56.39**	**40**	P	**P**	**13 42 41.0**	**-2.1**
ABKAR	**Akbulak array**		**57.03**	**313**	P	**P**	**13 42 47.3**	**-0.6**
GEYT	**Alibeck**		**59.73**	**300**	LR	LR	14 12 53.2	
	comp=Z,50nm,18.1s,baz=0.0,slow=40							
DZM	**Mont Dzumac**		**60.27**	**139**	LR	LR	14 09 36.6	
	comp=Z,123nm,18.1s,baz=37,slow=36							
RND	**Reindeer**		**63.59**	**30**	P	**P**	**13 43 32.6**	**+0.1**
ILAR	**Eielson Array**		**64.30**	**28**	P	**P**	**13 43 37.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=268,slow=5.6,SNR=4.2							
DOT	**Dot Lake**		**65.68**	**29**	P	**P**	**13 43 46.8**	**+0.7**
DOT					IAmb	IAmb	13 43 47.5	
	comp=Z,4.0nm,1.0s							
MENT	**Mentasta**		**65.96**	**30**	P	**P**	**13 43 48.9**	**+0.9**
BCAR	**Beaver Creek A**		**66.80**	**30**	P	**P**	**13 43 53.8**	**+0.4**
KBZ	**Khabaz**		**69.56**	**310**	P	**P**	**13 44 10.7**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=51,slow=13,SNR=3.8							
ARCES	**ARCESS Array B**		**70.25**	**339**	LR	LR	14 21 54.8	
	comp=Z,52nm,19.9s,baz=240,slow=42							
FINES	**FINESS Array B**		**73.16**	**331**	P	**P**	**13 44 31.8**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=62,slow=15,SNR=1.6							
FINES					LR	LR	14 21 05.2	
	comp=Z,54nm,19.2s,baz=36,slow=39							
AKASG	**Malin Array Be**		**75.89**	**320**	P	**P**	**13 44 47.3**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=54,slow=5.5,SNR=7.4							
AKASG					LR	LR	14 20 55.4	
	comp=Z,75nm,18.1s,baz=290,slow=38							
AKASG	**Malin Array Be**		**75.89**	**320**	IAmb	IAmb	13 44 49.1	
	comp=Z,2.7nm,1.2s							
AKBB	**Malin Array Si**		**75.89**	**320**	P	**P**	**13 44 48.1**	**-0.4**
AKBB					IAmb	IAmb	13 44 48.7	
	comp=Z,4.5nm,0.9s							
BR131	**Keskin Array S**		**77.44**	**308**	P	**P**	**13 44 57.8**	**+0.1**
BR131					IAmb	IAmb	13 44 58.6	
	comp=Z,3.4nm,1.1s							
BRTR	**Keskin Array B**		**77.44**	**308**	P	**P**	**13 44 57.9**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=101,slow=5.2,SNR=15							
BRTR	**Keskin Array B**		**77.44**	**308**	P	**P**	**13 44 57.5**	**-0.2**
NOA	**NORSAR Array B**		**79.59**	**334**	P	**P**	**13 45 08.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=59,slow=2.6,SNR=1.0							
BUR08	**Bucovina Ar. S**		**79.59**	**318**	P	**P**	**13 45 09.4**	**0.0**
BUR08					IAmb	IAmb	13 45 20.5	
	comp=Z,3.9nm,1.2s							
BURAR	**Bucovina Array**		**79.60**	**318**	P	**P**	**13 45 08.8**	**-0.5**
SUMG	**Summit**		**81.15**	**356**	*i* P	**P**	**13 45 22.0**	**+4.4**
SUMG	**Summit**		**81.15**	**356**	*i* P	**P**	**13 45 22.0**	**+4.4**
CLL	**Collm**		**84.48**	**325**	*i* P	**P**	**13 45 35.5**	**+0.7**
CLL					LmH		14 20 00.0	
	comp=N,200nm,18.5s							
CLL					LmH		14 20 00.0	
	comp=E,100nm,18.1s							
GERES	**GERESS Array B**		**85.54**	**323**	P	**P**	**13 45 40.7**	**+0.4**
	comp=E,0.2nm,0.3s,baz=62,slow=3.6,SNR=3.6							
GERES	**GERESS Array B**		**85.54**	**323**	P	**P**	**13 45 39.8**	**-0.5**
PPT	**Papeete**		**90.43**	**109**	LR	LR	14 19 55.7	
	comp=E,24nm,19.4s,baz=98,slow=31							

*SOME **01** 13:55:34.5,41.°07N×69.°40E,h5km*
*KRNET **01** 13:55:36.6±0.1,41.°21N×69.°45E,mb2.2*
*ISU **01** 13:55:36.0,40.°90N×69.°30E,h5km*
*NNC **01** 13:55:36.3±2.1,41.°09N×69.°45E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=14.7km s-min=8.2km az=38.0*

ISC 01 13:55:32.8±2.4,41.°08N±0.°05×68.9E±0.°1,h10km±10km, n14,σ1°74/23,5C-6D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.36**	**48**	⇓*e*P	**Pg**	**13 55 40.1**	**+0.2**
	baz=15						
TAS				⇓*e*S	**Sg**	**13 55 42.6**	**-2.1**
	baz=15						
TAS	**Tashkent**	**0.36**	**48**	*i* P	**Pn**	**13 55 44.5**	**+0.5**
TAS				*i* S	**Sb**	**13 55 50.5**	**+3.6**
BTK	**Batken**	**1.76**	**125**	⇑*i*P	**Pb**	**13 56 05.4**	**+0.3**
	baz=38						
BTK				⇑*i*S	**Sn**	**13 56 26.3**	**+0.6**
	baz=38						
BTK	**Batken**	**1.76**	**125**	*e*P	**Pn**	**13 56 03.4**	**+0.1**
BTK				*i* S	**Sn**	**13 56 22.4**	**-3.3**
BRLS	**Borolday**	**2.06**	**19**	*e*P	**Pn**	**13 56 07.3**	**0.0**
	8.2nm,0.2s						
BRLS				*e*S	**Sn**	**13 56 31.7**	**-1.3**
	46nm,0.2s						
BRLS	**Borolday**	**2.06**	**19**	P	**Pn**	**13 56 07.4**	**0.0**
	10.0nm,0.3s						
BRLS				S	**Sn**	**13 56 31.0**	**-2.1**
	46nm,0.2s						
CHMI	**Chimion**	**2.12**	**112**	*i* P	**Pn**	**13 56 08.9**	**+0.6**
CHMI				*i* S	**Sn**	**13 56 33.3**	**-1.4**
KK31	**Karatay Array**	**2.33**	**29**	Pg	**Pb**	**13 56 15.1**	**+0.2**
	0.8nm,0.2s,baz=205,slow=16,SNR=17						
KK31				⇓Lg	Lg	13 56 44.1	
	6.3nm,0.4s,baz=209,slow=31,SNR=21						
MRKS	**Merke**	**3.60**	**61**	*e*P	**Pb**	**13 56 36.9**	**+0.3**
	3.7nm,0.3s						
MRKS				*e*S	**Sb**	**13 57 22.2**	**+2.0**
	6.6nm,0.4s						
MRKS	**Merke**	**3.60**	**61**	Pg	**Pb**	**13 56 36.2**	**-0.3**
	4.6nm,0.6s						
MRKS				Lg	Lg	13 57 19.3	
	7.5nm,0.4s						
ARLS	**Aral**	**4.12**	**77**	⇑*i*P	**Pn**	**13 56 36.4**	**+0.6**
	baz=78						
ARLS				⇑*i*S	**Sn**	**13 57 20.3**	**-3.7**
	baz=78						
AAK	**Ala-Archa**	**4.43**	**68**	⇓Pg	**Pb**	**13 56 51.0**	**+0.3**
	2.7nm,0.8s						
AAK				⇓Lg	Lg	13 57 46.9	
	4.6nm,0.9s						
SGDS	**Sogindy**	**4.84**	**59**	Pg	**Pb**	**13 56 58.7**	**+1.1**
	3.1nm,0.7s						
SGDS				Lg	Lg	13 57 57.5	
	2.6nm,0.5s						
TKM2	**Tokmak 2**	**5.29**	**67**	⇓Pg	**Pb**	**13 57 05.6**	**+0.3**
	2.1nm,0.7s						
TKM2				⇑Lg	Lg	13 58 12.8	
	2.5nm,0.6s						

*STR **01** 14:06:09.1±0.9,44.°N±5.°×1.°1E±.°,h0km,mb3.5/1,MLv3.1/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ROM **01** 14:06:12.0±0.1,44.°488N±0.°009×10.°48E±0.°02, h30km±1km,ML2.3/22,Error ellipse: s-maj=1.1km s-min=0.8km az=99.0*
*LDG **01** 14:06:12.5±0.2,44.°48N×10.°47E,h10km,Ml2.9/4,Error ellipse: s-maj=3.8km s-min=3.4km az=79.0*
*GEN **01** 14:06:13.9,44.°47N×10.°48E,h0km±1km,Ml1.9*

ISC 01 14:06:13.0±1.0,44.°50N±0.°02×10.°47E±0.°02,h21km±1km, n82,σ1°43/95,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.09**	**208**	P	**Pb**	**14 06 16.8**	**-0.4**
ERBM				S	**Sb**	**14 06 21.1**	**+1.2**
ERBM				AML	AML		
	comp=E,2450μm,0.1s						
ERBM				AML	AML		
	comp=N,1740μm,0.1s						
NEVI	**Neviano degli**	**0.14**	**308**	P	**Pb**	**14 06 17.7**	**-1.5**
NEVI				S	**Sb**	**14 06 22.4**	**-1.3**
GRAM	**Graiana**	**0.29**	**269**	S	**Sb**	**14 06 24.8**	**+0.6**
GRAM	**Graiana**	**0.29**	**269**	P	**Pb**	**14 06 19.1**	**-0.6**
GRAM				S	**Sb**	**14 06 24.7**	**+0.5**
GRAM				AML	AML		
	comp=N,2610μm,0.4s						
GRAM				AML	AML		
	comp=E,2120μm,0.6s						
SARO	**Sassorosso**	**0.32**	**189**	P	**Pb**	**14 06 18.9**	**-1.2**
SARO				S	**Sb**	**14 06 24.5**	**-0.3**
SARO	**Sassorosso**	**0.32**	**189**	P	**Pb**	**14 06 18.9**	**-1.2**
SARO				S	**Sb**	**14 06 24.5**	**-0.3**
VLC	**Villacollemand**	**0.34**	**190**	P	**Pb**	**14 06 19.2**	**-1.2**
VLC				S	**Sb**	**14 06 25.6**	**+0.2**
VLC				AML	AML		
	comp=N,244μm,0.6s						
VLC				AML	AML		
	comp=N,242μm,0.3s						
VLC				AML	AML		
	comp=E,338μm,0.3s						
VLC				AML	AML		
	comp=E,348μm,0.2s						
VLC				AML	AML		
	comp=N,244μm,0.6s						
NOVE	**Novellara**	**0.35**	**30**	P	**Pb**	**14 06 19.5**	**-0.9**
NOVE				AML	AML		
	comp=E,1174μm,0.7s						
NOVE				AML	AML		
	comp=N,1995μm,0.5s						
NOVE				AML	AML		
	comp=E,1178μm,0.7s						
NOVE				AML	AML		
	comp=E,1445μm,0.7s						
NOVE				AML	AML		
	comp=N,1990μm,0.5s						
ZCCA	**Zocca**	**0.39**	**112**	P	**Pb**	**14 06 21.0**	**-0.2**
ZCCA				AML	AML		
	comp=E,277μm,0.5s						
ZCCA				AML	AML		
	comp=N,350μm,0.6s						
ZCCA				AML	AML		
	comp=E,244μm,0.6s						
ZCCA				AML	AML		
	comp=E,284μm,0.5s						
ZCCA				AML	AML		
	comp=N,360μm,0.5s						
ZCCA				AML	AML		
	comp=E,265μm,1.3s						
ZCCA				AML	AML		
	comp=N,371μm,0.5s						
EQUI	**Equi**	**0.40**	**215**	P	**Pb**	**14 06 21.2**	**-0.1**
EQUI	**Equi**	**0.40**	**215**	P	**Pb**	**14 06 21.3**	**0.0**
EQUI				AML	AML		
	comp=N,188μm,0.5s						
EQUI				AML	AML		
	comp=E,84μm,1.2s						
EQUI				AML	AML		
	comp=N,152μm,0.5s						
EQUI				AML	AML		
	comp=E,140μm,1.0s						
BDI	**Bagni Di Lucca**	**0.44**	**168**	P	**Pb**	**14 06 21.4**	**-0.7**
BDI				S	**Sb**	**14 06 28.1**	**-0.2**
BDI				AML	AML		
	comp=E,272μm,0.4s						
BDI				AML	AML		
	comp=N,299μm,0.4s						
BDI				AML	AML		
	comp=E,332μm,0.4s						
BDI				AML	AML		
	comp=N,283μm,1.0s						
BDI				AML	AML		
	comp=N,356μm,0.4s						
BDI				AML	AML		
	comp=E,349μm,0.2s						
FNVD	**Fontana Vidola**	**0.57**	**125**	P	**Pb**	**14 06 23.6**	**-0.9**
MAIM	**Mastiano**	**0.58**	**178**	P	**Pb**	**14 06 23.7**	**-0.9**
MAIM				S	**Sb**	**14 06 32.8**	**+0.3**
MAIM				AML	AML		
	comp=E,207μm,1.3s						
MAIM				AML	AML		
	comp=N,182μm,0.9s						
MAIM				AML	AML		
	comp=E,190μm,0.3s						
MAIM				AML	AML		
	comp=N,183μm,0.9s						
MAIM				AML	AML		
	comp=E,250μm,0.3s						
MAIM				AML	AML		
	comp=N,238μm,0.8s						
MTCR	**Monte La Croce**	**0.60**	**141**	P	**Pb**	**14 06 24.5**	**-0.5**
PLMA	**Palmaria, Port**	**0.63**	**225**	P	**Pb**	**14 06 24.7**	**-0.7**
PLMA				AML	AML		
	comp=E,274μm,0.4s						
PLMA				AML	AML		
	comp=N,225μm,1.3s						
PLMA				AML	AML		
	comp=E,274μm,0.4s						
PLMA				AML	AML		
	comp=N,232μm,1.3s						
MSSA	**Maissana**	**0.71**	**255**	P	**Pb**	**14 06 26.4**	**-0.3**
MSSA				AML	AML		
	comp=E,146μm,0.8s						
MSSA				AML	AML		
	comp=E,160μm,1.1s						
MSSA				AML	AML		
	comp=N,139μm,0.7s						
PII	**Pisa**	**0.78**	**177**	P	**Pb**	**14 06 27.0**	**-0.8**
PII				AML	AML		
	comp=E,466μm,0.7s						
PII				AML	AML		
	comp=E,465μm,0.7s						
PII				AML	AML		
	comp=N,363μm,0.7s						
PII				AML	AML		
	comp=N,432μm,0.7s						
BOB	**Bobbio (Coli)**	**0.78**	**291**	P	**Pb**	**14 06 28.4**	**+0.5**
BOB				AML	AML		
	comp=E,203μm,1.0s						
BOB				AML	AML		
	comp=N,176μm,1.4s						
BOB				AML	AML		
	comp=N,194μm,1.4s						
BOB				AML	AML		
	comp=E,204μm,1.0s						
CRMI	**Carmignano**	**0.79**	**153**	P	**Pb**	**14 06 28.1**	**0.0**
GORR	**Gorreto**	**0.85**	**278**	P	**Pb**	**14 06 28.9**	**-0.2**
GORR				AML	AML		
	comp=E,172μm,0.5s						
GORR				AML	AML		
	comp=N,186μm,0.6s						
GORR				AML	AML		
	comp=E,194μm,0.5s						
GORR				AML	AML		
	comp=N,216μm,1.2s						
LMD	**Lutirano**	**0.98**	**115**	*e*Pg	**Pb**	**14 06 31.5**	**+0.2**
LMD				*e*Sg	**Sn**	**14 06 48.0**	**+3.1**
LMD	**Lutirano**	**0.98**	**115**	P	**Pb**	**14 06 31.6**

	comp=E,808µm,0.4s							
ROVR	**Rover Verones**	**1.23**	**20**	P	**Pn**	**14 06 32.7**	**-2.3**	
ROVR				AML	AML			
	comp=E,92µm,0.2s							
ROVR				AML	AML			
	comp=E,100µm,0.3s							
ROVR				AML	AML			
	comp=N,193µm,0.4s							
MAGA	**Magasa**	**1.28**	**5**	P	**Pn**	**14 06 33.6**	**-2.2**	
MAGA				AML	AML			
	comp=E,468µm,0.6s							
MAGA				AML	AML			
	comp=N,426µm,0.5s							
MAGA				AML	AML			
	comp=E,560µm,0.6s							
MAGA				AML	AML			
	comp=N,466µm,0.5s							
PCP	**Piancastagn**	**1.38**	**273**	P	**Pn**	**14 06 37.0**	**-0.1**	
PCP				AML	AML			
	comp=E,84µm,0.5s							
PCP				AML	AML			
	comp=N,103µm,0.4s							
PCP				AML	AML			
	comp=E,84µm,0.5s							
FINB	**Finale Ligure**	**1.57**	**259**	AML	AML			
	comp=N,77µm,0.4s							
FINB				AML	AML			
	comp=E,119µm,0.3s							
PE3	**Peglio**	**1.67**	**118**	AML	AML			
	comp=N,128µm,0.5s							
PE3				AML	AML			
	comp=E,98µm,0.7s							
RORO	**Rocca Rossa**	**1.77**	**258**	AML	AML			
	comp=E,28µm,1.0s							
RORO				AML	AML			
	comp=N,29µm,1.1s							
RORO				AML	AML			
	comp=N,34µm,1.1s							
GBOS	**Grotte di Boss**	**1.90**	**263**	AML	AML			
	comp=N,50µm,0.4s							
GBOS				AML	AML			
	comp=E,31µm,1.5s							
IMI	**Imperia**	**1.94**	**253**	AML	AML			
	comp=N,62µm,0.6s							
IMI				AML	AML			
	comp=E,55µm,1.6s							
TUE	**Stuetta**	**2.13**	**339**	AML	AML			
	comp=E,56µm,0.3s							
TUE				AML	AML			
	comp=N,59µm,0.3s							
SAOF	**Saorge**	**2.16**	**257**	P	**Pn**	**14 06 48.0**	**+0.2**	
SAOF				S	**Sb**	**14 07 16.1**	**-1.5**	
SAOF	**Saorge**	**2.16**	**257**	AML	AML			
	comp=E,72µm,0.7s							
SAOF				AML	AML			
	comp=N,51µm,0.7s							
PGF	**Pioggiola**	**2.22**	**209**	*e*Pn	**Pn**	**14 06 46.5**	**-2.2**	
PGF	**Pioggiola**	**2.22**	**209**	*e*Pg	**Pb**	**14 06 53.8**	**+1.3**	
PGF				*e*Sn	**Sn**	**14 07 13.7**	**-1.9**	
PGF				*e*Sg	**Sb**	**14 07 22.8**	**+3.2**	
PGF	**Pioggiola**	**2.22**	**209**	P	**Pn**	**14 06 47.9**	**-0.8**	
SBF	**Sospel**	**2.27**	**255**	*e*Pn	**Pn**	**14 06 48.7**	**-0.7**	
SBF	**Sospel**	**2.27**	**255**	*e*P	**Pb**	**14 06 51.7**	**-1.7**	
SBF				*e*Sn	**Sn**	**14 07 15.6**	**-1.2**	
SBF				*e*Sg	**Sb**	**14 07 24.8**	**+3.8**	
TURF	**col de Turini**	**2.27**	**258**	P	**Pn**	**14 06 49.5**	**0.0**	
TURF				S	**Sn**	**14 07 19.0**	**+2.0**	
DAVOX	**Davos/Dischmat**	**2.32**	**350**	AML	AML			
	comp=E,20µm,1.6s							
DAVOX				AML	AML			
	comp=N,32µm,1.1s							
FUSIO	**Fusio**	**2.33**	**328**	AML	AML			
	comp=E,64µm,0.2s							
FUSIO				AML	AML			
	comp=N,26µm,1.6s							
ISO	**Isola**	**2.47**	**264**	P	**Pn**	**14 06 52.7**	**+0.5**	
ISO				S	**Sn**	**14 07 22.6**	**+0.8**	
FETA	**Feichten**	**2.53**	**4**	*e*Pn	**Pb**	**14 06 58.4**	**+0.6**	
	comp=N,14nm,0.4s							
SMPL	**Sampolo**	**2.55**	**200**	P	**Pn**	**14 06 53.2**	**0.0**	
SMPL				S	**Sn**	**14 07 22.6**	**-1.0**	
SURF	**Saint Ours**	**2.62**	**271**	P	**Pn**	**14 06 55.1**	**+0.9**	
MBDF	**Montbardon**	**2.65**	**276**	*e*Pn	**Pn**	**14 06 53.9**	**-0.8**	
MBDF				*e*Sn	**Sn**	**14 07 25.6**	**-0.6**	
CALF	**Calern**	**2.66**	**255**	P	**Pn**	**14 06 55.2**	**+0.4**	
SABO	**M.te Sabotino**	**2.66**	**55**	AML	AML			
	comp=E,54µm,0.4s							
SABO				AML	AML			
	comp=N,80µm,0.6s							
ABTA	**Abfaltersbach**	**2.67**	**32**	*e*Pn	**Pn**	**14 06 54.3**	**-0.5**	
	comp=N,0.3nm,0.1s							
ABTA				*e*Pg	**Pb**	**14 07 02.9**	**+2.8**	
	comp=N,3.7nm,0.5s							
ABTA				*e*Sn	**Sn**	**14 07 27.7**	**+1.1**	
	comp=N,3.6nm,0.3s							
SQTA	**Sankt Quirin**	**2.77**	**10**	Pn	**Pn**	**14 06 56.9**	**+0.6**	
	comp=N,9.3nm,0.2s							
SQTA	**Sankt Quirin**	**2.77**	**10**	*e*X		14 07 27.1		
	comp=N,11nm,0.3s							
LPG	**La Plagne**	**2.82**	**292**	*e*Pn	**Pn**	**14 06 56.6**	**-0.5**	
LPG	**La Plagne**	**2.82**	**292**	*e*P	**Pn**	**14 06 59.6**	**+2.5**	
LPG				*e*Sn	**Sn**	**14 07 29.1**	**-1.5**	
	comp=N,3.4nm,0.2s							
LPL	**La Plagne**	**2.84**	**292**	*e*Pn	**Pn**	**14 06 57.2**	**-0.1**	
MOTA	**Moosalm**	**2.88**	**9**	*e*Pn	**Pn**	**14 06 58.6**	**+0.8**	
	comp=N,2.1nm,0.3s							
WTTA	**Wattenberg**	**2.88**	**16**	*i* Pn	**Pn**	**14 06 58.1**	**+0.2**	
	comp=N,2.0nm,0.2s							
WTTA	**Wattenberg**	**2.88**	**16**	*e*X		14 07 28.3		
	comp=N,9.7nm,0.2s							
FRF	**La Foret Royal**	**2.91**	**253**	*e*Pn	**Pn**	**14 06 57.1**	**-1.0**	
FRF	**La Foret Royal**	**2.91**	**253**	*e*P	**Pn**	**14 07 00.4**	**+2.3**	
FRF				*e*Sn	**Sn**	**14 07 31.5**	**-1.0**	
WATA	**Walderalm**	**2.94**	**15**	*e*Pn	**Pn**	**14 06 59.3**	**+0.6**	
	comp=N,3.4nm,0.1s							
WATA	**Walderalm**	**2.94**	**15**	*e*X		14 07 29.0		
	comp=N,2.5nm,0.1s							
LMR	**La Mourre**	**3.09**	**249**	*e*Pn	**Pn**	**14 06 58.7**	**-1.8**	
LMR				*e*Sn	**Sn**	**14 07 35.2**	**-1.6**	
	comp=N,11nm,0.4s							
ORIF	**Oris-en-Rattie**	**3.30**	**279**	*e*Pn	**Pn**	**14 07 03.7**	**+0.2**	
ORIF	**Oris-en-Rattie**	**3.30**	**279**	*e*Pg	**Pb**	**14 07 14.4**	**+3.5**	
ORIF				*e*Sn	**Sn**	**14 07 40.4**	**-1.8**	
ARTF	**Artigues**	**3.48**	**256**	P	**Pn**	**14 07 05.9**	**-0.1**	
BSTF	**la Bastide-des**	**3.52**	**262**	P	**Pn**	**14 07 07.8**	**+1.2**	
SMRF	**Simiane la Rot**	**3.56**	**263**	*e*Pn	**Pn**	**14 07 07.2**	**+0.2**	
ASEAF	**Site Antares,**	**3.56**	**243**	P	**Pn**	**14 07 06.8**	**+0.2**	
CABF	**La Chapelle**	**3.73**	**306**	*e*Pn	**Pn**	**14 07 08.6**	**-0.9**	
VIVF	**Saint-Julien-l**	**4.15**	**277**	*e*Pn	**Pn**	**14 07 14.0**	**-1.2**	
CDF	**Champ du Feu**	**4.50**	**332**	*e*Pn	**Pn**	**14 07 17.9**	**-2.0**	
CDF				*e*Sn	**Sn**	**14 08 07.3**	**-4.3**	
	comp=N,2.4nm,0.2s							
LASF	**Ste Croix**	**4.77**	**267**	*e*Pn	**Pn**	**14 07 23.1**	**-0.5**	
LOR	**Lormes**	**5.38**	**303**	*e*Pn	**Pn**	**14 07 30.9**	**-1.2**	
LOR				*e*Sn	**Sn**	**14 08 29.7**	**-3.7**	
	comp=N,8.7nm,0.5s							
LOR	**Lormes**	**5.38**	**303**	P	**Pn**	**14 07 32.5**	**+0.4**	
MTLF	**Montolieu**	**6.07**	**262**	*e*Pn	**Pn**	**14 07 40.9**	**-0.6**	
MTLF	**Montolieu**	**6.07**	**262**	P	**Pn**	**14 07 42.5**	**+1.0**	
FNEB	**Nbias**	**6.27**	**258**	P	**Pn**	**14 07 45.2**	**+0.9**	

BGR ***01*** *14:08:37.3±0.8, 44°.23N×10°.48E, h10km, ML3.5/11, Error ellipse: s-maj=12.2km s-min=7.8km az=31.0*
STR ***01*** *14:08:38.7±1.2, 45°.N±2°×1°.1E±°, h14km±7km, MLv3.4/12, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ROM ***01*** *14:08:39.8±0.1, 44°.497N±0°.006×10°.46E±0°.01, h27km, ML3.1/1, Error ellipse: s-maj=0.8km s-min=0.3km az=131.0*
LDG ***01*** *14:08:39.7±0.1, 44°.54N×10°.50E, h2km, Ml3.4/19, Error ellipse: s-maj=2.5km s-min=2.3km az=27.0*
GEN ***01*** *14:08:40.0, 44°.49N×10°.55E, h24km±3km, Ml2.9*
PRU ***01*** *14:08:40.6±0.0, 44°.65N×10°.98E, h0km*
ISC 01 14:08:40.2±0.8, 44°.52N±0°.02×10°.44E±0°.02, h29km±5km, n179, σ1s80/217, 1C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.10**	**190**	⇓P	**Pb**	**14 08 44.5**	**-1.1**
ERBM				S	**Sb**	**14 08 48.9**	**-0.3**
ERBM				AML	AML		
	comp=E,12145µm,1.0s						
ERBM				AML	AML		
	comp=N,11200µm,0.5s						
ERBM				AML	AML		
	comp=E,12155µm,1.0s						
ERBM				AML	AML		
	comp=N,11250µm,0.5s						
ERBM				AML	AML		
	comp=E,12165µm,1.0s						
NEVI	**Neviano degli**	**0.11**	**307**	P	**Pb**	**14 08 45.0**	**-0.5**
NEVI				S	**Sb**	**14 08 50.1**	**+0.9**
NEVI				AML	AML		
	comp=E,14210µm,0.5s						
NEVI				AML	AML		
	comp=E,14200µm,0.5s						
NEVI				AML	AML		
	comp=N,10105µm,0.6s						
NEVI				AML	AML		
	comp=N,10110µm,0.6s						
NEVI				AML	AML		
	comp=E,14210µm,0.5s						
GRAM	**Graiana**	**0.27**	**264**	P	**Pb**	**14 08 46.8**	**-0.5**
GRAM				S	**Sb**	**14 08 52.8**	**+0.8**
GRAM	**Graiana**	**0.27**	**264**	⇓P	**Pb**	**14 08 46.8**	**-0.5**
GRAM				S	**Sb**	**14 08 52.6**	**+0.6**
GRAM				AML	AML		
	comp=E,8270µm,0.6s						
GRAM				AML	AML		
	comp=N,10520µm,0.5s						
SARO	**Sassorosso**	**0.34**	**184**	P	**Pb**	**14 08 46.7**	**-1.5**
SARO				S	**Sb**	**14 08 52.5**	**-1.1**
SARO	**Sassorosso**	**0.34**	**184**	⇓P	**Pb**	**14 08 46.7**	**-1.5**
SARO				S	**Sb**	**14 08 52.5**	**-1.1**
SARO				AML	AML		
	comp=E,1275µm,0.9s						
SARO				AML	AML		
	comp=N,2105µm,0.5s						
NOVE	**Novellara**	**0.34**	**35**	P	**Pb**	**14 08 47.4**	**-0.8**
NOVE				AML	AML		
	comp=E,9515µm,0.7s						
NOVE				AML	AML		
	comp=N,16700µm,1.6s						
NOVE				AML	AML		
	comp=E,9540µm,0.7s						
NOVE				AML	AML		
	comp=N,16700µm,1.6s						
VLC	**Villacollemand**	**0.36**	**186**	⇓P	**Pb**	**14 08 47.1**	**-1.4**
VLC				S	**Sb**	**14 08 53.4**	**-0.7**
VLC				AML	AML		
	comp=N,2035µm,0.7s						
VLC				AML	AML		
	comp=N,1955µm,0.7s						
VLC				AML	AML		
	comp=E,2730µm,0.3s						
VLC				AML	AML		
	comp=E,2790µm,0.3s						
VLC				AML	AML		
	comp=N,2040µm,0.7s						
MODE	**Modena**	**0.38**	**73**	P	**Pb**	**14 08 48.4**	**-0.3**
MODE				AML	AML		
	comp=E,66850µm,0.7s						
MODE				AML	AML		
	comp=N,29850µm,0.6s						
MODE				AML	AML		
	comp=N,29800µm,0.6s						
MODE				AML	AML		
	comp=E,66850µm,0.7s						
MODE				AML	AML		
	comp=N,29850µm,0.6s						
MODE				AML	AML		
	comp=N,29850µm,0.6s						
MODE				AML	AML		
	comp=E,66850µm,0.7s						
EQUI	**Equi**	**0.41**	**210**	P	**Pb**	**14 08 47.8**	**-1.4**
EQUI				S	**Sb**	**14 08 54.6**	**-0.6**
EQUI	**Equi**	**0.41**	**210**	⇓P	**Pb**	**14 08 47.8**	**-1.4**
EQUI				S	**Sb**	**14 08 54.9**	**-0.3**
EQUI				AML	AML		
	comp=E,1135µm,1.1s						
EQUI				AML	AML		
	comp=N,1540µm,0.6s						
ZCCA	**Zocca**	**0.42**	**113**	⇑P	**Pb**	**14 08 48.5**	**-0.8**
ZCCA				AML	AML		
	comp=E,2720µm,0.4s						
ZCCA				AML	AML		
	comp=N,3360µm,0.5s						
ZCCA				AML	AML		
	comp=E,2230µm,0.3s						
ZCCA				AML	AML		
	comp=N,3880µm,0.5s						
ZCCA				AML	AML		
	comp=E,2720µm,0.4s						
ZCCA				AML	AML		
	comp=N,3360µm,0.5s						
BDI	**Bagni Di Lucca**	**0.47**	**166**	⇓P	**Pb**	**14 08 48.4**	**-1.8**
BDI				S	**Sb**	**14 08 56.0**	**-0.9**
BDI				AML	AML		
	comp=E,2380µm,0.4s						
BDI				AML	AML		
	comp=N,2725µm,0.4s						
BDI				AML	AML		
	comp=E,2690µm,0.3s						
BDI				AML	AML		
	comp=N,2400µm,0.4s						
CARD	**Cardoso**	**0.49**	**176**	P	**Pb**	**14 08 49.5**	**-0.9**
CARD				S	**Sb**	**14 08 57.2**	**-0.3**
CARD	**Cardoso**	**0.49**	**176**	P	**Pb**	**14 08 48.8**	**-1.7**
CARD				S	**Sb**	**14 08 56.6**	**-0.9**
CARD				AML	AML		
	comp=N,2900µm,0.5s						
CARD				AML	AML		
	comp=E,1970µm,0.4s						
CAVE	**Cavezzo**	**0.53**	**49**	P	**Pb**	**14 08 50.6**	**-0.5**
CAVE				S	**Sn**	**14 08 59.3**	**-0.5**
CAVE				AML	AML		
	comp=E,5455µm,1.6s						
CAVE				AML	AML		
	comp=N,5855µm,1.2s						
RAVA	**Ravarino**	**0.54**	**64**	P	**Pn**	**14 08 51.5**	**-0.4**
RAVA				AML	AML		
	comp=N,12600µm,0.6s						
RAVA				AML	AML		
	comp=E,8350µm,1.2s						
FNVD	**Fontana Vidola**	**0.60**	**125**	P	**Pb**	**14 08 51.1**	**-1.3**
FNVD				S	**Sb**	**14 09 00.4**	**-0.2**
FNVD				AML	AML		
	comp=E,1940µm,0.8s						
FNVD				AML	AML		
	comp=N,1745µm,1.3s						
MAIM	**Mastiano**	**0.60**	**176**	P	**Pb**	**14 08 51.5**	**-0.8**
MAIM				S	**Sb**	**14 09 00.3**	**-0.3**
MAIM	**Mastiano**	**0.60**	**176**	P	**Pb**	**14 08 51.5**	**-0.8**
MAIM				S	**Sb**	**14 09 00.3**	**-0.3**
MAIM				AML	AML		
	comp=E,1905µm,0.3s						
MAIM				AML	AML		
	comp=N,1725µm,0.9s						
PLMA	**Palmaria, Port**	**0.63**	**222**	P	**Pb**	**14 08 52.7**	**0.0**
PLMA				S	**Sb**	**14 09 01.6**	**+0.4**
PLMA				AML	AML		
	comp=N,1340µm,1.2s						
PLMA				AML	AML		
	comp=E,1885µm,0.5s						
MTCR	**Monte La Croce**	**0.64**	**140**	P	**Pb**	**14 08 51.5**	**-1.4**
MTCR				S	**Sb**	**14 09 01.4**	**-0.2**
MTCR				AML	AML		
	comp=E,1404µm,0.7s						
MTCR				AML	AML		
	comp=N,1885µm,0.5s						
MSSA	**Maissana**	**0.69**	**253**	P	**Pb**	**14 08 53.6**	**-0.2**
MSSA				S	**Sn**	**14 09 04.2**	**+0.4**
MSSA				AML	AML		
	comp=E,1040µm,0.8s						
MSSA				AML	AML		
	comp=N,1108µm,0.9s						
BOB	**Bobbio (Coli)**	**0.75**	**290**	P	**Pn**	**14 08 55.6**	**+0.7**
BOB				AML	AML		
	comp=E,1450µm,0.8s						
BOB				AML	AML		
	comp=N,1360µm,1.3s						
BOB				AML	AML		
	comp=N,1345µm,1.4s						
BOB				AML	AML		
	comp=E,1455µm,0.8s						
BOB				AML	AML		
	comp=E,1585µm,0.8s						
BOB				AML	AML		
	comp=N,1360µm,1.3s						
MTRZ	**Monterenzio**	**0.75**	**101**	P	**Pn**	**14 08 55.0**	**+0.1**
MTRZ				AML	AML		
	comp=E,2275µm,1.6s						
MTRZ				AML	AML		
	comp=E,2370µm,1.6s						
MTRZ				AML	AML		
	comp=E,2270µm,1.6s						
MTRZ				AML	AML		
	comp=N,2095µm,0.5s						
MTRZ				AML	AML		
	comp=N,2120µm,0.5s						
GAZZ	**Gazzo Veronese**	**0.76**	**38**	*e*Pg	**Pn**	**14 08 54.8**	**0.0**
GAZZ				*e*Sg	**Sn**	**14 09 07.1**	**+1.8**
SERM	**Sermide**	**0.79**	**51**	P	**Pb**	**14 08 54.7**	**-0.6**
SERM				AML	AML		
	comp=E,3010µm,0.3s						
SERM				AML	AML		
	comp=E,4055µm,1.0s						
SERM				AML	AML		
	comp=N,3595µm,0.4s						
SERM				AML	AML		
	comp=N,2195µm,1.2s						
SERM				AML	AML		
	comp=E,4050µm,1.0s						
SERM				AML	AML		
	comp=N,3594µm,0.4s						
PII	**Pisa**	**0.80**	**175**	P	**Pb**	**14 08 54.7**	**-0.9**
PII				AML	AML		
	comp=N,3550µm,0.7s						
PII				AML	AML		
	comp=E,4415µm,1.4s						
CRMI	**Carmignano**	**0.82**	**152**	P	**Pb**	**14 08 55.0**	**-1.0**
CRMI				AML	AML		
	comp=E,504µm,0.6s						
CRMI				AML	AML		
	comp=N,450µm,0.7s						
CRMI				AML	AML		
	comp=E,504µm,0.6s						
GORR	**Gorreto**	**0.82**	**277**	P	**Pn**	**14 08 56.6**	**+0.8**
GORR				AML	AML		
	comp=E,1120µm,0.6s						
GORR				AML	AML		
	comp=N,1225µm,0.8s						
GORR				AML	AML		
	comp=N,1220µm,0.8s						
GORR				AML	AML		
	comp=E,1115µm,0.6s						
BRIS	**BRISIGHELLA**	**0.85**	**115**	P	**Pn**	**14 08 59.6**	**+3.4**
BRIS				AML	AML		
	comp=N,1375µm,0.8s						
BRIS				AML	AML		
	comp=E,1690µm,1.3s						
OPPE	**Oppeano**	**0.95**	**33**	P	**Pb**	**14 08 57.8**	**-0.2**
OPPE				AML	AML		
	comp=E,3305µm,1.2s						
OPPE				AML	AML		
	comp=N,4090µm,1.2s						
LMD	**Lutirano**	**1.01**	**115**	*e*P	**Pb**	**14 08 59.3**	**+0.2**
LMD	**Lutirano**	**1.01**	**115**	P	**Pb**	**14 08 59.1**	**0.0**
LMD				AML	AML		
	comp=N,677µm,0.3s						
LMD				AML	AML		
	comp=E,628µm,0.5s						
RUFI	**Rufina**	**1.03**	**131**	P	**Pb**	**14 08 59.2**	**-0.2**
SALO	**Salr**	**1.10**	**3**	P	**Pb**	**14 09 00.4**	**-0.3**
SALO				AML	AML		
	comp=N,3790µm,0.8s						
SALO				AML	AML		
	comp=N,4090µm,0.9s						
SALO				AML	AML		
	comp=E,2480µm,1.0s						
SALO				AML	AML		
	comp=N,3785µm,0.8s						
SALO				AML	AML		
	comp=E,2130µm,0.4s						
OSSC	**Osservatorio P**	**1.15**	**149**	P	**Pn**	**14 09 00.8**	**+0.4**
OSSC				AML	AML		
	comp=N,914µm,1.0s						
OSSC				AML	AML		
	comp=E,719µm,0.7s						
OSSC				AML	AML		
	comp=N,942µm,1.1s						
OSSC				AML	AML		
	comp=E,718µm,1.5s						
GROG	**Isola di Gorgo**	**1.16**	**200**	P	**Pn**	**14 09 00.7**	**+0.3**
GROG				S	**Sn**	**14 09 15.7**	**+0.4**
GROG				AML	AML		
	comp=E,421µm,1.4s						
GROG				AML	AML		
	comp=N,492µm,1.6s						
GARGN	**Gargnano BS**	**1.18**	**8**	*e*Pg	**Pn**	**14 09 01.3**	**+0.5**
GARGN				*e*Sg	**Sb**	**14 09 17.5**	**+0.5**
SFI	**Santa Sofia**	**1.19**	**121**	P	**Pb**	**14 09 01.9**	**-0.1**
SFI				AML	AML		
	comp=E,483µm,0.9s						
SFI				AML	AML		
	comp=E,638µm,0.8s						
SFI				AML	AML		
	comp=N,558µm,1.3s						
SFI				AML	AML		
	comp=N,628µm,1.3s						
BALD	**Monte Baldo**	**1.20**	**13**	⇓*e*Pg	**Pn**	**14 09 01.2**	**+0.1**
BALD				*e*Sg	**Sb**	**14 09 18.2**	**+0.6**
ASQU	**Asqua**	**1.21**	**126**	P	**Pn**	**14 09 01.7**	**+0.5**
CSNT	**Castellina Chi**	**1.21**	**149**	AML	AML		
	comp=N,586µm,0.4s						
CSNT				AML	AML		
	comp=E,526µm,0.6s						
ROVR	**Rover Verones**	**1.22**	**22**	P	**Pn**	**14 09 01.0**	**-0.3**
ROVR				AML	AML		
	comp=N,2720µm,1.6s						
ROVR				AML	AML		
	comp=E,1760µm,0.3s						
ROVR				AML	AML		
	comp=N,1110µm,0.3s						
ROVR				AML	AML		
	comp=E,690µm,0.3s						
TEOL	**Teolo**	**1.22**	**46**	*e*Pg	**Pb**	**14 09 01.9**	**-0.6**
TEOL	**Teolo**	**1.22**	**46**	P	**Pn**	**14 09 00.6**	**-0.6**
TEOL				AML	AML		
	comp=N,4705µm,1.1s						
TEOL				AML	AML		
	comp=E,7290µm,0.4s						
ADRI	**Adria, Italy**	**1.24**	**65**	*e*Pg	**Pb**	**14 09 02.7**	**-0.2**
MARN	**Marana (Italy)**	**1.25**	**26**	*e*Pg	**Pb**	**14 09 02.5**	**-0.6**
MAGA	**Magasa**	**1.26**	**6**	P	**Pn**	**14 09 01.9**	**-0.1**
MAGA				AML	AML		
	comp=E,4650µm,0.6s						
MAGA				AML	AML		
	comp=N,2880µm,0.6s						
PCP	**Piancastagn**	**1.35**	**272**	P	**Pb**	**14 09 04.8**	**-0.2**
PCP				AML	AML		
	comp=N,644µm,0.5s						
PCP				AML	AML		
	comp=E,450µm,0.7s						
CRE	**Caprese Michel**	**1.41**	**129**	P	**Pb**	**14 09 05.0**	**-1.0**
CRE				AML	AML		
	comp=E,446µm,0.7s						
CRE				AML	AML		
	comp=N,594µm,0.5s						
DOSS	**Dosso del Somm**	**1.46**	**21**	*e*Pg	**Pn**	**14 09 05.5**	**+0.7**
QLNO	**Quiliano**	**1.51**	**263**	AML	AML		
	comp=E,272µm,0.6s						
QLNO				AML	AML		
	comp=N,314µm,1.1s						
MABI	**Malga Bissina**	**1.54**	**2**	P	**Pn**	**14 09 06.0**	**+0.2**
MABI				AML	AML		
	comp=E,385µm,0.5s						
MABI				AML	AML		
	comp=N,292µm,0.4s						
FINB	**Finale Ligure**	**1.55**	**258**	AML	AML		
	comp=N,390µm,0.5s						
FINB				AML	AML		
	comp=E,358µm,0.4s						
PARC	**Parchiule**	**1.56**	**123**	AML	AML		
	comp=N,241µm,0.5s						
PARC				AML	AML		
	comp=E,260µm,0.6s						
GAGG	**Gaggia**	**1.61**	**13**	*e*Pg	**Pn**	**14 09 07.3**	**+0.5**
CAFI	**Castiglion Fio**	**1.62**	**137**	P	**Pn**	**14 09 07.7**	**+0.9**
CAFI				AML	AML		
	comp=E,200µm,0.5s						
CAFI				AML	AML		
	comp=N,264µm,0.4s						
PE3	**Peglio**	**1.70**	**118**	AML	AML		
	comp=E,940µm,0.7s						

PE3					AML	AML			
	comp=N,1155μm,0.5s								
MUGIO	**Muggio**	**1.72**	**325**		AML	AML			
	comp=N,243μm,0.6s								
MUGIO					AML	AML			
	comp=E,218μm,0.5s								
CTI	**Castel Tesino**	**1.75**	**29**		P	**Pn**	**14 09 08.5**	**-0.2**	
CTI					AML	AML			
	comp=E,1875μm,1.2s								
CTI					AML	AML			
	comp=N,1720μm,0.7s								
CASP	**Castiglione de**	**1.75**	**170**		P	**Pn**	**14 09 09.1**	**+0.5**	
CASP					AML	AML			
	comp=N,312μm,0.4s								
CASP					AML	AML			
	comp=E,184μm,1.5s								
PIEI	**Pieia**	**1.80**	**122**		P	**Pb**	**14 09 11.1**	**-1.5**	
PIEI					AML	AML			
	comp=E,236μm,0.5s								
PIEI					AML	AML			
	comp=N,163μm,0.5s								
GBOS	**Grotte di Boss**	**1.88**	**262**		AML	AML			
	comp=N,247μm,0.4s								
GBOS					AML	AML			
	comp=E,174μm,0.6s								
ATTE	**AVT- Monte Tez**	**1.91**	**133**		AML	AML			
	comp=N,190μm,1.2s								
ATTE					AML	AML			
	comp=E,212μm,0.6s								
IMI	**Imperia**	**1.93**	**253**		P	**Pn**	**14 09 12.0**	**+1.0**	
IMI					AML	AML			
	comp=N,292μm,0.7s								
IMI					AML	AML			
	comp=E,351μm,1.6s								
MGRO	**Montegrosso**	**1.95**	**257**		AML	AML			
	comp=E,423μm,0.5s								
MGRO					AML	AML			
	comp=N,240μm,1.4s								
MURB	**Monte Urbino**	**1.96**	**129**		AML	AML			
	comp=E,562μm,1.0s								
MURB					AML	AML			
	comp=N,870μm,0.4s								
SSFR	**Montelago di S**	**2.01**	**122**		AML	AML			
	comp=N,287μm,1.6s								
SSFR					AML	AML			
	comp=E,302μm,0.3s								
MGAB	**Montegabbione**	**2.01**	**142**		AML	AML			
	comp=E,224μm,1.1s								
MGAB					AML	AML			
	comp=N,187μm,0.5s								
KOSI	**Kohlern**	**2.05**	**18**		AML	AML			
	comp=E,463μm,0.9s								
KOSI					AML	AML			
	comp=N,516μm,0.7s								
AGOR	**Agordo**	**2.10**	**32**		AML	AML			
	comp=N,308μm,0.5s								
AGOR					AML	AML			
	comp=E,527μm,0.5s								
TUE	**Stuetta**	**2.10**	**339**		AML	AML			
	comp=E,168μm,0.9s								
TUE					AML	AML			
	comp=N,229μm,1.3s								
TUE					AML	AML			
	comp=E,188μm,0.9s								
TUE					AML	AML			
	comp=N,210μm,1.3s								
MOSI	**Grossmontoni**	**2.10**	**2**		AML	AML			
	comp=N,1135μm,0.7s								
MOSI					AML	AML			
	comp=E,522μm,0.6s								
FUORN	**Ofenpass-Fuorn**	**2.11**	**357**		AML	AML			
	comp=N,146μm,0.7s								
FUORN					AML	AML			
	comp=E,167μm,1.5s								
SAOF	**Saorge**	**2.14**	**257**		P	**Pn**	**14 09 15.6**	**+1.7**	
SAOF					Sn	**Sn**	**14 09 38.6**	**-0.9**	
SAOF	**Saorge**	**2.14**	**257**		AML	AML			
	comp=E,360μm,0.7s								
SAOF					AML	AML			
	comp=N,341μm,0.6s								
TRAV	**Traversella**	**2.15**	**298**		AML	AML			
	comp=E,192μm,0.6s								
TRAV					AML	AML			
	comp=N,132μm,0.5s								
ENR	**Entracque**	**2.18**	**263**		AML	AML			
	comp=E,235μm,0.8s								
ENR					AML	AML			
	comp=N,174μm,0.9s								
PGF	**Pioggiola**	**2.23**	**208**		*e*Pn	**Pn**	**14 09 15.6**	**+0.4**	
PGF					*e*Sn	**Sn**	**14 09 42.2**	**+0.4**	
	comp=N,29nm,0.3s								
PGF	**Pioggiola**	**2.23**	**208**		P	**Pn**	**14 09 15.7**	**+0.5**	
PGF					S	**Sn**	**14 09 41.3**	**-0.5**	
PGF	**Pioggiola**	**2.23**	**208**		AML	AML			
	comp=N,120μm,0.4s								
PGF					AML	AML			
	comp=E,136μm,1.3s								
STV	**Sant Anna di V**	**2.25**	**264**		AML	AML			
	comp=N,130μm,1.2s								
STV					AML	AML			
	comp=E,131μm,1.3s								
TURF	**col de Turini**	**2.25**	**257**		P	**Pn**	**14 09 17.4**	**+1.8**	
TURF					Sn	**Sn**	**14 09 40.8**	**-1.7**	
SBF	**Sospel**	**2.26**	**254**		*e*Pn	**Pn**	**14 09 16.8**	**+1.2**	
SBF					*e*Sn	**Sn**	**14 09 45.3**	**+2.9**	
	comp=E,156nm,0.5s								
EL6	**Elcito**	**2.26**	**121**		AML	AML			
	comp=N,345μm,0.5s								
EL6					AML	AML			
	comp=E,320μm,1.6s								
ABSI	**Aberstueckl**	**2.30**	**15**		AML	AML			
	comp=N,946μm,0.5s								
ABSI					AML	AML			
	comp=E,909μm,0.5s								
DAVOX	**Davos/Dischmat**	**2.30**	**350**		AML	AML			
	comp=N,128μm,1.0s								
DAVOX					AML	AML			
	comp=E,125μm,1.2s								
ISO	**Isola**	**2.45**	**263**		P	**Pn**	**14 09 20.6**	**+2.3**	
FETA	**Feichten**	**2.51**	**5**	*i*	Pn	**Pn**	**14 09 21.3**	**+2.2**	
	comp=E,3.3nm,0.4s,SNR=11								
FETA					Sn	**Sb**	**14 09 52.9**	**-2.3**	
	comp=E,20nm,0.7s								
SMPL	**Sampolo**	**2.56**	**200**		P	**Pn**	**14 09 21.2**	**+1.4**	
SMPL					S	**Sn**	**14 09 51.3**	**+1.3**	
SMPL	**Sampolo**	**2.56**	**200**		AML	AML			
	comp=E,7550μm,1.2s								
SMPL					AML	AML			
	comp=N,6670μm,0.5s								
SURF	**Saint Ours**	**2.59**	**270**		P	**Pn**	**14 09 22.4**	**+2.1**	
SURF					S	**Sn**	**14 09 49.3**	**-1.6**	
MBDF	**Montbardon**	**2.63**	**276**		*e*Pn	**Pn**	**14 09 22.3**	**+1.6**	
MBDF					*e*Sn	**Sn**	**14 09 54.5**	**+2.8**	
	comp=N,51nm,0.6s								
PLONS	**Plons/SG**	**2.64**	**344**		*e*Pn	**Pn**	**14 09 23.4**	**+2.6**	
PLONS					*e*Sn	**Sn**	**14 09 55.2**	**+3.4**	
PLONS	**Plons/SG**	**2.64**	**344**		AML	AML			
	comp=E,117μm,0.7s								
PLONS					AML	AML			
	comp=N,73μm,0.3s								
CALF	**Calern**	**2.64**	**254**		P	**Pn**	**14 09 22.6**	**+1.7**	
ABTA	**Abfaltersbach**	**2.66**	**32**		Pn	**Pn**	**14 09 22.0**	**+0.8**	
	SNR=10								
ABTA					*e*Pg	**Pb**	**14 09 30.3**	**+3.1**	
	comp=N,28nm,0.4s								
ABTA					*e*Sn	**Sn**	**14 09 54.7**	**+2.2**	
	comp=N,33nm,0.5s								
BNALP	**Bannalp**	**2.74**	**330**		AML	AML			
	comp=E,83μm,0.5s								
BNALP					AML	AML			
	comp=N,72μm,0.7s								
SQTA	**Sankt Quirin**	**2.76**	**11**		*e*Pn	**Pn**	**14 09 24.4**	**+1.9**	
	comp=N,78nm,0.3s,SNR=36								
SQTA					*e*Sn	**Sb**	**14 09 59.7**	**-2.5**	
	comp=N,40nm,0.3s								
PTCC	**Patocco-Chiusa**	**2.79**	**46**		AML	AML			
	comp=N,181μm,0.6s								
PTCC					AML	AML			
	comp=E,212μm,0.7s								
LPG	**La Plagne**	**2.79**	**292**		*e*Pn	**Pn**	**14 09 24.7**	**+1.6**	
LPG	**La Plagne**	**2.79**	**292**		*e*P	**Pb**	**14 09 27.5**	**-2.0**	
LPG					*e*Sn	**Sn**	**14 09 57.7**	**+1.8**	
	comp=E,49nm,0.6s								
DAVA	**Damuels**	**2.80**	**352**		*e*Pn	**Pn**	**14 09 25.5**	**+2.4**	
DAVA					*e*Sn	**Sn**	**14 09 59.5**	**+3.7**	
DAVA	**Damuels**	**2.80**	**352**		*e*Pn	**Pn**	**14 09 25.6**	**+2.6**	
	comp=E,12nm,0.3s,SNR=7.2								
DAVA					*e*Sn	**Sb**	**14 09 59.8**	**-3.6**	
	comp=E,20nm,0.2s								
LPL	**La Plagne**	**2.81**	**292**		*e*Pn	**Pn**	**14 09 25.7**	**+2.4**	
LPL					*e*Sn	**Sn**	**14 09 57.8**	**+1.5**	
	comp=E,32nm,0.5s								
SMA1	**SAN MARTINO**	**2.83**	**131**		AML	AML			
	comp=N,137μm,0.4s								
SMA1					AML	AML			
	comp=E,117μm,0.8s								
MOTA	**Moosalm**	**2.87**	**9**		*e*Pn	**Pn**	**14 09 26.6**	**+2.6**	
	comp=E,20nm,0.3s,SNR=16								
WTTA	**Wattenberg**	**2.87**	**17**		*e*Pn	**Pn**	**14 09 25.5**	**+1.4**	
WTTA					*e*Sn	**Sb**	**14 10 02.2**	**-3.3**	
WTTA	**Wattenberg**	**2.87**	**17**		*e*Pn	**Pn**	**14 09 25.6**	**+1.5**	
	comp=E,5.0nm,0.3s,SNR=80								
WTTA					*i* Pg	**Pb**	**14 09 27.1**	**-3.8**	
	comp=E,72nm,0.3s,SNR=26								
WTTA					*e*Sn	**Sb**	**14 10 02.4**	**-3.2**	
	comp=E,78nm,0.5s								
WTTA	**Wattenberg**	**2.87**	**17**		AML	AML			
	comp=N,199μm,1.3s								
WTTA					AML	AML			
	comp=E,254μm,0.6s								
OBER	**Oberstdorf**	**2.89**	**358**		*e*Pn	**Pn**	**14 09 26.7**	**+2.4**	
OBER					*e*Sn	**Sn**	**14 10 01.2**	**+3.1**	
FRF	**La Foret Royal**	**2.90**	**252**		*e*Pn	**Pn**	**14 09 25.4**	**+1.1**	
FRF	**La Foret Royal**	**2.90**	**252**		*e*P	**Pb**	**14 09 28.4**	**-2.7**	
FRF					*e*Sn	**Sn**	**14 10 00.1**	**+2.0**	
ZUGS	**Zugspitze, Sch**	**2.92**	**7**		*e*Pn	**Pn**	**14 09 27.3**	**+2.4**	
WATA	**Walderalm**	**2.93**	**15**	*i*	Pn	**Pn**	**14 09 27.2**	**+2.3**	
	comp=E,46nm,0.5s,SNR=16								
WATA					*e*Sn	**Sb**	**14 10 03.5**	**-3.7**	
	comp=E,50nm,0.4s								
RSL	**Roselend**	**2.94**	**295**		P	**Pn**	**14 09 28.2**	**+3.1**	
ACOM	**Acomizza, Ital**	**2.96**	**46**		AML	AML			
	comp=E,454μm,0.4s								
ACOM					AML	AML			
	comp=N,452μm,0.5s								
RETA	**Reutte**	**2.98**	**4**	*i*	Pn	**Pn**	**14 09 27.5**	**+2.0**	
	comp=N,6.6nm,0.3s,SNR=7.0								
PART	**Garnisch-Parte**	**3.02**	**9**		*e*Pn	**Pn**	**14 09 28.1**	**+2.2**	
LMR	**La Mourre**	**3.08**	**249**		*e*Pn	**Pn**	**14 09 27.3**	**+0.6**	
LMR					*e*Sn	**Sn**	**14 10 03.6**	**+1.1**	
	comp=N,48nm,0.4s								
UBR	**Ueberruh**	**3.17**	**356**		*e*Pn	**Pn**	**14 09 29.9**	**+1.8**	
UBR					*e*Sn	**Sn**	**14 10 09.0**	**+4.0**	
BLAF	**les Blancs**	**3.21**	**261**		P	**Pn**	**14 09 31.9**	**+3.3**	
LJU	**Ljubljana**	**3.27**	**61**		AML	AML			
	comp=N,534μm,0.6s								
LJU					AML	AML			
	comp=E,476μm,1.0s								
KBA	**Koelnbreinsper**	**3.27**	**37**		*e*Pn	**Pn**	**14 09 30.7**	**+1.2**	
KBA					*e*Pg	**Pb**	**14 09 40.9**	**+3.3**	
KBA	**Koelnbreinsper**	**3.27**	**37**	*i*	Pn	**Pn**	**14 09 31.3**	**+1.7**	
	comp=E,3.4nm,0.2s,SNR=4.8								
ORIF	**Oris-en-Rattie**	**3.27**	**279**		*e*Pn	**Pn**	**14 09 32.6**	**+3.0**	
ORIF	**Oris-en-Rattie**	**3.27**	**279**		*e*P	**Pb**	**14 09 34.5**	**-3.1**	
ORIF					*e*Sn	**Sn**	**14 10 10.9**	**+3.4**	
	comp=E,38nm,0.5s								
BALST	**Balsthal**	**3.41**	**327**		P	**Pn**	**14 09 32.3**	**+1.0**	
BALST	**Balsthal**	**3.41**	**327**		*e*Sn	**Sn**	**14 10 10.6**	**-0.2**	
SULZ	**Cheisacher**	**3.42**	**333**		*e*Sn	**Sn**	**14 10 12.6**	**+1.6**	
BE1	**Monatshausen**	**3.44**	**9**		*e*Pn	**Pn**	**14 09 33.1**	**+1.3**	
BE1					*e*Sn	**Sn**	**14 10 13.3**	**+1.8**	
ARF	**Artigues**	**3.47**	**256**		P	**Pn**	**14 09 34.6**	**+2.4**	
BSTF	**la Bastide-des**	**3.50**	**261**		P	**Pn**	**14 09 35.5**	**+2.8**	
OBKA	**Obir**	**3.51**	**54**		*e*Pn	**Pn**	**14 09 32.8**	**0.0**	
OBKA	**Obir**	**3.51**	**54**	*i*	Pn	**Pn**	**14 09 32.8**	**0.0**	
	comp=E,7.9nm,0.4s,SNR=5.4								
OBKA					*i* Sn	**Sb**	**14 10 30.3**	**+6.5**	
	comp=E,102nm,0.6s								
OGSM	**Saint Maurice**	**3.53**	**290**		P	**Pn**	**14 09 34.6**	**+1.6**	
SMRF	**Simiane la Rot**	**3.54**	**263**		*e*Pn	**Pn**	**14 09 35.7**	**+2.6**	
SMRF	**Simiane la Rot**	**3.54**	**263**		*e*P	**Pn**	**14 09 37.8**	**+4.7**	
SMRF					*e*Sn	**Sn**	**14 10 17.3**	**+3.4**	
	comp=E,21nm,0.6s								
ASEAF	**Site Antares,**	**3.55**	**242**		P	**Pn**	**14 09 34.5**	**+1.6**	
BOURR	**Bourrignon**	**3.64**	**323**		P	**Pn**	**14 09 36.1**	**+1.5**	
BRANT	**Les Verrieres**	**3.68**	**312**		P	**Pn**	**14 09 36.9**	**+1.7**	
CABF	**La Chapelle**	**3.70**	**306**		*e*Pn	**Pn**	**14 09 37.1**	**+1.6**	
CABF					*e*Sn	**Sn**	**14 10 19.0**	**+0.9**	
	comp=E,22nm,0.7s								
KIZ	**Kirchzarten**	**3.86**	**334**		P	**Pn**	**14 09 37.9**	**+0.4**	
KIZ					S	**Sn**	**14 10 19.7**	**-2.1**	
SOKA	**Soboth**	**3.88**	**55**	*i*	Pn	**Pn**	**14 09 37.7**	**-0.2**	
	comp=E,5.7nm,0.3s,SNR=7.8								
MOF	**Molkenrain**	**4.05**	**327**		P	**Pn**	**14 09 41.2**	**+1.0**	
BFO	**Black Forest**	**4.08**	**340**		P	**Pn**	**14 09 41.0**	**+0.4**	
BFO	**Black Forest**	**4.08**	**340**		*e*Pn	**Pn**	**14 09 41.2**	**+0.6**	
VIVF	**Saint-Julien-l**	**4.12**	**277**		*e*Pn	**Pn**	**14 09 42.7**	**+1.5**	
VIVF					*e*Sn	**Sn**	**14 10 30.0**	**+1.5**	
	comp=E,6.2nm,0.4s								
HINF	**Hinteralfeld**	**4.13**	**324**		*e*Pn	**Pn**	**14 09 41.0**	**-0.3**	
HINF					*e*Sn	**Sn**	**14 10 27.4**	**-1.3**	
	comp=E,15nm,0.2s								
SSB	**Saint Sauveur**	**4.26**	**282**		P	**Pn**	**14 09 44.4**	**+1.4**	
MOA	**Molln**	**4.26**	**37**		*e*Pn	**Pn**	**14 09 43.7**	**+0.6**	
MOA	**Molln**	**4.26**	**37**	*i*	Pn	**Pn**	**14 09 43.7**	**+0.6**	
	comp=E,12nm,0.3s,SNR=16								
MOA					*e*Sn	**Sn**	**14 10 32.7**	**+0.8**	
	comp=E,9.8nm,0.4s								
OPP	**Oppenau**	**4.27**	**339**		P	**Pn**	**14 09 43.7**	**+0.5**	
OPP					S	**Sn**	**14 10 29.6**	**-2.4**	
ECH	**Echery**	**4.34**	**330**		P	**Pn**	**14 09 44.8**	**+0.6**	
ECH					S	**Sn**	**14 10 31.5**	**-2.2**	
CDF	**Champ du Feu**	**4.46**	**332**		*e*Pn	**Pn**	**14 09 45.9**	**0.0**	
CDF					*e*Sn	**Sn**	**14 10 35.8**	**-1.1**	
	comp=E,12nm,0.2s								
ARSA	**Arzberg**	**4.48**	**51**		*e*Pn	**Pn**	**14 09 45.8**	**-0.3**	
ARSA	**Arzberg**	**4.48**	**51**	*i*	Pn	**Pn**	**14 09 45.9**	**-0.2**	
	comp=E,4.6nm,0.3s,SNR=5.0								
HAU	**Haudompre**	**4.50**	**322**		*e*Pn	**Pn**	**14 09 46.9**	**+0.6**	
HAU					*e*Sn	**Sn**	**14 10 37.1**	**-0.5**	
	comp=E,12nm,0.2s								
LASF	**Ste Croix**	**4.74**	**267**		*e*Pn	**Pn**	**14 09 51.2**	**+1.5**	
LASF	**Ste Croix**	**4.74**	**267**		*e*P	**Pn**	**14 09 53.9**	**+4.2**	
LASF					*e*Sn	**Sn**	**14 10 45.7**	**+2.0**	
SGRT	**San Giovanni R**	**4.76**	**124**		AML	AML			
	comp=N,61μm,0.4s								
SGRT					AML	AML			
	comp=E,101μm,0.3s								
GEC2	**GERESS Array S**	**4.88**	**26**		*e*Pn	**Pn**	**14 09 51.1**	**-0.4**	
GEC2					*e*Sn	**Sn**	**14 10 45.1**	**-1.9**	
CONA	**Conrad Observa**	**5.08**	**46**	*i*	Pn	**Pn**	**14 09 54.8**	**+0.5**	
	comp=E,4.0nm,0.3s,SNR=10								
CONA					*e*Sn	**Sn**	**14 10 50.5**	**-1.6**	
	comp=E,5.2nm,0.4s								
KHC	**Kasperske Hory**	**5.09**	**24**		*e*PN	**Pn**	**14 09 53.8**	**-0.7**	
KHC					*e*SN	**Sn**	**14 10 50.1**	**-2.2**	
KHC					*ex*	x	14 11 20.0		
LOR	**Lormes**	**5.35**	**303**		*e*Pn	**Pn**	**14 09 59.6**	**+1.6**	
LOR					*e*Sn	**Sn**	**14 10 58.3**	**-0.4**	
	comp=E,56nm,0.5s								
AVF	**Avril sur Loir**	**5.46**	**297**		*e*Pn	**Pn**	**14 10 01.0**	**+1.5**	
AVF					*e*Sn	**Sn**	**14 11 01.0**	**-0.3**	
	comp=E,3.6nm,0.4s								
SSF	**Saint Saulge**	**5.47**	**300**		*e*Pn	**Pn**	**14 10 01.3**	**+1.6**	
SSF					*e*Sn	**Sn**	**14 10 59.9**	**-1.7**	
	comp=E,8.9nm,0.6s								
BGF	**Bois d'Agland**	**5.71**	**294**		*e*Pn	**Pn**	**14 10 03.5**	**+0.6**	
BGF					*e*Sn	**Sn**	**14 11 08.8**	**+1.4**	
	comp=E,11nm,0.3s								
MTLF	**Montolieu**	**6.05**	**262**		*e*Pn	**Pn**	**14 10 09.3**	**+1.7**	
MTLF	**Montolieu**	**6.05**	**262**		*e*P	Pn	14 10 13.3	+5.7	
MTLF					*e*Sn	**Sn**	**14 11 16.0**	**+0.1**	
	comp=E,11nm,0.6s								
TCF	**Toulx Ste Croi**	**6.06**	**290**		*e*Pn	**Pn**	**14 10 08.4**	**+0.7**	
TCF					*e*Sn	**Sn**	**14 11 15.7**	**-0.3**	
	comp=E,3.8nm,0.5s								
MODS	**Modra-Piesok**	**6.10**	**48**		*e*PN	**Pn**	**14 10 07.1**	**-1.2**	
MODS					*e*SN	**Sn**	**14 11 12.7**	**-4.3**	
KRUC	**Moravsky**	**6.11**	**40**		*e*SN	**Sn**	**14 11 11.6**	**-5.8**	
KRUC					*e*SG	Sb	14 11 59.9	+21	
PRU	**Pruhonice**	**6.14**	**26**		*e*PN	**Pn**	**14 10 08.7**	**-0.2**	
VRAC	**Vranov**	**6.38**	**39**		*e*SN	Sn	14 11 14.7	-9.3	
VRAC					*e*SG	Sb	14 12 05.7	+19	
BRG	**Berggiesshubel**	**6.78**	**19**		PN	**Pn**	**14 10 17.3**	**-0.3**	
BRG					SN	**Sn**	**14 11 30.0**	**-3.9**	
	comp=E,6.2nm,0.9s								
VYHS	**Vyhne**	**7.03**	**53**		*e*PN	**Pn**	**14 10 19.8**	**-1.2**	
ETSF	**Etsaut**	**8.13**	**262**		*e*Pn	**Pn**	**14 10 38.7**	**+2.5**	

*AUST **01** 14:09:38.7±0.4,33°.51S×138°.43E,h14km±3km, Error ellipse: s-maj=4.2km s-min=2.9km az=17.0*

*IDC **01** 14:09:40.3±6.3,33°.05S×138°.37E,h0km,mb1 3.1/3, mb1mx3.1/29,mbtmp2.9/3,ML2.8/3,Error ellipse: s-maj=68.9km s-min=22.3km az=10.0*

ISC 01 14:09:37.1±0.9,33°.24S±0°.05×138°.50E±0°.04,h10km,n10, σ2°08/16,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.40**	**119**	P		**Pb**	**14 09 46.9**	**+0.6**
	baz=0.4,SNR=210							
HTT				S		**Sb**	**14 09 53.2**	**+0.6**
	baz=0.4							
BBOO	**Buckleboo**	**2.10**	**281**	P		**Pb**	**14 10 14.1**	**-1.1**
	baz=2.1,SNR=32							
BBOO				S		**Sb**	**14 10 40.3**	**-0.9**
	baz=2.1							
LCRK	**Leigh Creek**	**2.79**	**355**	P		**Pb**	**14 10 27.9**	**+0.8**
	baz=3.1,SNR=6.0							
LCRK				S		**Sg**	**14 11 04.0**	**-2.8**
	baz=3.1							
STKA	**Stephens Creek**	**2.94**	**63**	Pn		**Pb**	**14 10 28.5**	**-1.2**
	1.2nm,0.3s,baz=241,slow=10,SNR=24							
STKA				Sn		**Sb**	**14 11 04.1**	**-1.6**
	1.3nm,0.3s,baz=245,slow=14,SNR=4.8							
STKA				Lg		Lg	14 11 15.1	
	1.2nm,0.3s,baz=307,slow=20,SNR=4.4							
STKA	**Stephens Creek**	**2.94**	**63**	P		**Pb**	**14 10 28.7**	**-0.9**
	baz=3.1,SNR=17							
ARPS	**Mount Arapiles**	**4.46**	**143**	P		**Pn**	**14 10 42.7**	**-2.2**
	baz=4.3,SNR=18							
MULG	**Mulgathing**	**4.79**	**307**	P		**Pn**	**14 10 52.3**	**+3.0**
	baz=4.9,SNR=4.7							
INKA	**Innaminka**	**5.81**	**20**	P		**Pn**	**14 11 06.9**	**+3.6**
	baz=6.1,SNR=3.7							
ASAR	**Alice Springs**	**10.35**	**336**	Pn		**Pn**	**14 12 09.1**	**+3.4**
	0.1nm,0.3s,baz=155,slow=13,SNR=1.8							
ASAR				Sn		**Sn**	**14 14 01.9**	**-0.1**
	0.3nm,0.3s,baz=160,slow=23,SNR=11							
WRA	**Warramunga Arr**	**13.75**	**343**	Pn		**Pn**	**14 12 53.2**	**+1.0**
	0.1nm,0.3s,baz=171,slow=15,SNR=1.4							
WRA				Sn		**Sn**	**14 15 23.9**	**-1.2**
	0.1nm,0.3s,baz=166,slow=25,SNR=5.0							

GCMT 01 14:09:55.0±0.4,6°.26S±0°.04×11°.35W±0°.03,h24km±1km, MW4.8/70,Moment Tension Solution. s15,c17; s70,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.45±.21; $M_{\theta\theta}$0.36±.11; $M_{\phi\phi}$2.10±.13; $M_{r\theta}$0.36±.17; $M_{\theta\phi}$0.00±.06; $M_{r\phi}$0.35±.15; **Best double couple:** M_w2.32600×10^{16} **NP1:**ϕ_s353.00000°,δ41.00000°, λ-101.00000°. **NP2:**ϕ_s188.00000°,δ50.00000°, λ-81.00000°. **Principal axes:** T 2.1280, Plg4.0000°, Azm271.0000°; N 0.4030, Plg7.0000°, Azm1.0000°; P -2.5230, Plg82.0000°, Azm149.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Ascension Island region**

*IDC **01** 14:12:06.1±2.2,24°.43S×66°.99W,h150km±18km,mb3.0/3, mb1 3.5/8,mb1mx3.4/40,mbtmp3.8/8 Error ellipse: s-maj=28.3km s-min=19.3km az=180.0*

*NEIC **01** 14:12:07.3±1.5,24°.29S±0°.07×67°.1W±0°.1,h168km±3km, mb4.0/7,Error ellipse: s-maj=15.0km s-min=9.9km az=90.0*

*VAO **01** 14:12:10.5±0.7,24°.00S×67°.18W,h203km±5km,mb4.1*

*GUC **01** 14:12:10.2±0.5,23°.95S×67°.62W,h223km±5km,ML4.2*

ISC 01 14:12:08.8±0.6,24°.24S±0°.05×67°.25W±0°.06,h200km,n85, σ1§82/99,mb3.6/5,8C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**316**	P		**Pn**	**14 12 49.6**	**-0.5**
	35nm,0.3s,baz=148,slow=7.0,SNR=317							
LVC				S		**Sn**	**14 13 20.3**	**-1.8**
	51nm,0.3s,baz=17,slow=22,SNR=52							
LVC	**Limon Verde**	**2.23**	**316**	*e*P		**Pn**	**14 12 50.1**	**0.0**
LVC				*e*S		**Sn**	**14 13 20.2**	**-2.0**
LVC	**Limon Verde**	**2.23**	**316**			**Pn**	**14 12 50.0**	**-0.1**
LVC	**Limon Verde**	**2.23**	**316**	*e*P		**Pn**	**14 12 50.2**	**+0.1**
PB15	**IPOC Station P**	**2.28**	**296**	↑*i*P		**Pn**	**14 12 50.5**	**0.0**
PB15				*i* S		**Sn**	**14 13 21.8**	**-1.2**
PB15	**IPOC Station P**	**2.28**	**296**			**Pn**	**14 12 50.4**	**-0.1**
GO02	**Mina Guanaco**	**2.32**	**246**			**Pn**	**14 12 50.8**	**-0.2**
PB06	**IPOC Station P**	**2.62**	**305**	↑*i*P		**Pn**	**14 12 54.3**	**+0.1**
PB06				*i* S		**Sn**	**14 13 27.4**	**-2.3**
PB06				IAML			14 13 29.5	
	comp=N,575nm,0.3s							
PB06	**IPOC Station P**	**2.62**	**305**			**Pn**	**14 12 54.0**	**-0.3**
PB14	**IPOC Station P**	**2.90**	**262**			**Pn**	**14 12 57.0**	**-0.6**
PB05	**IPOC Station P**	**3.04**	**296**	↑*i*P		**Pn**	**14 12 58.7**	**-0.4**
PB05				*i* S		**Sn**	**14 13 35.2**	**-3.1**
PB05				IAML			14 13 39.8	
	comp=E,227nm,0.5s							
PB09	**IPOC Station P**	**3.05**	**323**	*e*P		**Pn**	**14 12 59.3**	**+0.1**
PB09				*i* S		**Sn**	**14 13 36.2**	**-2.4**
PB09				IAML			14 13 42.0	
	comp=E,354nm,0

ARAG	**Araguaiana, MT**	**16.80**	**63**	*e*P		**Pn**	14 15 51.9	-0.8
CLDB	**Colider**	**17.18**	**41**	*e*P		**P**	14 15 54.8	-1.0
CZSB	**Cruzeiro do Su**	**17.23**	**341**	*e*P		**P**	14 15 55.8	-0.5
SPB	**Sao Paulo**	**18.13**	**92**	*e*P		**Pn**	14 16 07.6	-0.8
PET01	**Itanhaem-SP**	**18.21**	**94**	*e*P		**Pn**	14 16 07.9	-1.4
VAO	**Valinhos**	**18.63**	**90**	*e*P		**Pn**	14 16 12.0	-2.3
IPMB	**Ipameri, GO**	**18.81**	**74**	*e*P		**Pn**	14 16 14.1	-2.4
PARB	**Paraibuna**	**19.81**	**92**	*e*P		**Pn**	14 16 24.9	-3.5
BDFB	**Brasilia**	**19.98**	**68**	P		**P**	14 16 25.7	-0.5
	comp=Z,1.3nm,0.3s,baz=254,slow=9.7,SNR=13							
BDFB	**Brasilia**	**19.98**	**68**	P		**P**	14 16 25.5	-0.7
BDFB				IAmb		IAmb	14 16 27.2	
	comp=Z,18nm,1.0s							
MAN01	**Angra dos Reis**	**21.39**	**91**	*e*P		**P**	14 16 41.6	+0.6
PEXB	**Peixe**	**21.64**	**59**	*e*P		**P**	14 16 43.3	-0.3
MACA	**Manacapuru-AM**	**21.89**	**18**	*e*P		**P**	14 16 45.5	-0.6
JANB	**Januaria**	**23.42**	**71**	*e*P		**P**	14 16 59.6	-0.6
SDBA	**SAO DESIDERIO**	**24.21**	**65**	*e*P		**P**	14 17 07.0	-0.4
SMTB	**Santa Maria do**	**24.21**	**54**	*e*P		**P**	14 17 08.3	+1.0
PTGA	**Pitinga**	**24.41**	**18**	P		**P**	14 17 11.6	+2.5
PTGA				IAmb		IAmb	14 17 11.6	
	comp=Z,4.1nm,1.2s							
PRPB	**Parauapebas**	**24.55**	**46**	*e*P		**P**	14 17 10.2	-0.2
SJMB	**Sao Joao De Ma**	**24.85**	**82**	*e*P		**P**	14 17 13.7	+0.6
NAN01	**Guarapari, ES**	**26.07**	**81**	*e*P		**P**	14 17 23.2	-0.8
CRIN	**San Cristobal**	**41.50**	**330**	P		**P**	14 19 38.4	+1.8
MIAR	**Mount Ida**	**63.58**	**336**	P		**P**	14 22 20.6	+2.4
MIAR				IAmb		IAmb	14 22 31.8	
	comp=Z,1.9nm,0.8s							
TXAR	**Lajitas Array**	**63.74**	**325**	P		**P**	14 22 22.7	+3.2
	comp=Z,0.1nm,0.4s,baz=134,slow=7.7,SNR=2.0							
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P		**P**	14 23 41.3	+2.1
	comp=Z,0.5nm,0.4s,baz=264,slow=6.5,SNR=7.8							
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P		**P**	14 23 40.5	+1.3
PDAR	**Pinedale Array**	**77.24**	**329**	P		**P**	14 23 46.5	+5.6
	comp=Z,0.2nm,0.6s,baz=147,slow=5.4,SNR=2.1							
PDAR	**Pinedale Array**	**77.24**	**329**	P		**P**	14 23 44.1	+3.2
ASAR	**Alice Springs**	**128.15**	**205**	PKP		**PKiKP**	14 30 54.2	+1.7
	comp=Z,0.5nm,0.7s,baz=129,slow=1.6,SNR=6.5							
WRA	**Warramunga Arr**	**131.31**	**207**	PKP		**PKiKP**	14 31 00.6	+1.7
	comp=Z,0.4nm,0.5s,baz=161,slow=1.8,SNR=9.9							
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc		**PKiKP**	14 31 30.4	+0.7
	comp=Z,1.0nm,0.6s,baz=311,slow=3.0,SNR=6.0							
MKAR	**Makanchi Array**	**146.85**	**40**			**PKiKP**	14 31 29.9	+0.1

*IDC **01** 14:18:43.5±3.3,23˚.08S×179˚.42W,h376km±41km, mb3.2/3, mb1 3.5/5, mb1mx3.1/25, mbtmp4.3/5, Error ellipse: s-maj=45.6km s-min=25.9km az=138.0*
*NEIC **01** 14:18:47.3±1.0,23˚.3S±0˚.1×179˚.3W±0˚.2, h438km±11km, mb4.3/20, Error ellipse: s-maj=23.6km s-min=18.9km az=53.0*

ISC 01 14:18:44.2±0.7,**23˚.2S**±0˚.1×**179˚.3W**±0˚.1,**h400**km,**n28,** σ0**95**/29,**mb4.1**/12,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.97**	**335**		Pn	14 20 24.6	+7.9
AFI	**Afiamalu**	**11.63**	**39**	P	**P**	14 21 19.9	-0.1
	1.0nm,0.3s,baz=246,slow=12,SNR=6.7						
AFI				S	S	14 23 23.0	-5.7
	1.1nm,0.3s,baz=231,slow=18,SNR=1.5						
URZ	**Urewera**	**15.36**	**191**	P	**P**	14 22 01.5	+1.1
	4.4nm,0.3s,baz=259,slow=3.9,SNR=30						
URZ				S	**S**	14 24 43.6	+0.9
	0.4nm,0.3s,baz=56,slow=23,SNR=1.0						
URZ	**Urewera**	**15.36**	**191**	P	**P**	14 22 00.4	0.0
BKZ	**Black Stump Fm**	**16.35**	**192**	P	**P**	14 22 12.2	+1.1
QRZ	**Quartz Range**	**18.91**	**200**	P	**P**	14 22 37.6	-0.6
TUWZ	**Tuamarina**	**19.07**	**196**	P	**P**	14 22 38.4	-1.4
LTZ	**Lake Taylor**	**20.78**	**198**	P	**P**	14 22 54.8	-0.8
LTZ				IAmb	IAmb	14 23 20.3	
	comp=Z,18nm,1.1s						
CTAO	**Charters Tower**	**32.16**	**269**	P	**P**	14 24 38.4	+1.5
CTAO				IAmb	IAmb	14 24 53.7	
	comp=Z,13nm,1.3s						
BBOO	**Buckleboo**	**40.35**	**246**	P	**P**	14 25 44.7	-0.4
BBOO				IAmb	IAmb	14 25 51.3	
	comp=Z,20nm,1.4s						
ASAR	**Alice Springs**	**42.82**	**260**	P	**P**	14 26 05.1	0.0
	comp=Z,1.0nm,0.8s,baz=93,slow=7.7,SNR=9.3						
ASAR				PcP	**PcP**	14 27 47.8	-0.1
	comp=Z,0.1nm,0.3s,baz=102,slow=3.2,SNR=4.2						
ASAR	**Alice Springs**	**42.82**	**260**	P	**P**	14 26 04.4	-0.7
WR0	**Warramunga Arr**	**42.95**	**265**	P	**P**	14 26 05.5	-0.5
WB2	**Warramunga Arr**	**43.12**	**265**	P	**P**	14 26 07.0	-0.5
WB2				IAmb	IAmb	14 26 27.3	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**43.12**	**265**	P	**P**	14 26 07.1	-0.4
WB0				IAmb	IAmb	14 26 35.5	
	comp=Z,6.9nm,1.1s						
WRAB	**Tennant Creek**	**43.13**	**265**	P	**P**	14 26 06.4	-1.1
WRA	**Warramunga Arr**	**43.13**	**265**	P	**P**	14 26 07.3	-0.3
	comp=Z,0.6nm,0.4s,baz=96,slow=8.6,SNR=22						
FORT	**Forrest**	**47.20**	**249**	P	**P**	14 26 38.0	-1.0
FORT				IAmb	IAmb	14 26 39.6	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**48.08**	**273**	P	**P**	14 26 45.3	-0.5
MTN				IAmb	IAmb	14 27 02.1	
	comp=Z,26nm,1.5s						
KNRA	**Kununurra**	**49.37**	**269**	P	**P**	14 26 54.7	-0.7
KNRA				IAmb	IAmb	14 27 06.7	
	comp=Z,28nm,1.4s						
VNDA	**Vanda**	**55.16**	**185**	P	**P**	14 27 36.5	0.0
MORW	**Morawa**	**57.76**	**249**	P	**P**	14 27 54.5	-1.0
MORW				IAmb	IAmb	14 27 56.2	
	comp=Z,23nm,1.4s						
RPN	**Rapa Nui**	**62.68**	**110**	P	**P**	14 28 28.1	-0.3
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	14 28 54.4	-0.4
QSPA				IAmb	IAmb	14 29 08.8	
	comp=Z,6.6nm,1.5s						
MYLDM	**Lahad Datu**	**66.93**	**287**	P	**P**	14 28 54.5	-1.2
MAW	**Mawson**	**78.66**	**200**	P	**P**	14 30 03.2	+0.4
CMAR	**Chiang Mai Arr**	**89.91**	**290**	P	**P**	14 31 02.4	+2.8
	comp=Z,0.5nm,0.3s,baz=143,slow=3.2,SNR=6.0						
AKASG	**Malin Array Be**	**144.72**	**328**	PKP	**PKPdf**	14 37 33.8	0.0
	comp=Z,0.4nm,0.3s,baz=48,slow=4.2,SNR=2.1						

IDC 01 14:21:52.1±2.7,**19˚.34S**×**177˚.50W**,**h0**km,**mb3.6**/3, **mb1 4.0**/3,**mb1mx3.6**/22,**mbtmp3.6**/3,**MS3.5**/2,**Ms1 3.7**/2, **ms1mx2.8**/29,**Error ellipse: s-maj=280.7km s-min=33.5km az=160.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.23**	**261**	P	P	14 30 11.5	0.0
	0.3nm,0.3s,baz=96,slow=7.2,SNR=21						
ASAR	**Alice Springs**	**45.25**	**256**	P	P	14 30 11.4	-0.2
	0.6nm,0.5s,baz=93,slow=8.3,SNR=19						
FITZ	**Fitzroy Crossi**	**53.65**	**261**	LR	LR	14 53 55.9	
	comp=Z,58nm,19.7s,baz=269,slow=36						
TXAR	**Lajitas Array**	**86.04**	**57**	P	P	14 34 35.1	0.0
	0.3nm,0.7s,baz=201,slow=4.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**90.17**	**289**	LR	LR	15 12 51.5	
	comp=Z,23nm,21.2s,baz=228,slow=34						

*NNC **01** 14:38:32.4±1.3,44˚.68N×79˚.60E,h0km,mb2.0,mpv2.8, Error ellipse: s-maj=9.5km s-min=7.9km az=134.0*
*SOME **01** 14:38:34.6,44˚.62N×79˚.60E,h10km*

ISC 01 14:38:33.9±1.2,**44˚.62N**±0˚.03×**79˚.57E**±0˚.04,**h3**km±11km, **n13,** σ0**63**/25,**2D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.33**	**151**	*e*P	**Pg**	14 38 40.4	+0.1
	1.9nm,0.1s						
DJR				*e*S	**Sg**	14 38 44.4	-0.3
	32nm,0.1s						
DJR	**Jarkent**	**0.33**	**151**	P	**Pg**	14 38 40.8	+0.5
	1.9nm,0.1s						
DJR				S	**Sg**	14 38 45.0	+0.4
	32nm,0.1s						
KAPS	**Kapalarasan**	**0.68**	**347**	*e*P	**Pg**	14 38 46.4	-0.5
	0.8nm,0.1s						
KAPS				*e*S	**Sg**	14 38 54.9	-0.9
	20nm,0.2s						
MNBS	**Baschi**	**1.00**	**237**	*e*P	**Pg**	14 38 53.0	0.0
	1.0nm,0.1s						
MNBS				*e*S	**Sg**	14 39 06.3	+0.3
	3.4nm,0.2s						
MNBS	**Baschi**	**1.00**	**237**	P	**Pg**	14 38 52.9	-0.1
	1.0nm,0.1s						
MNBS				S	**Sg**	14 39 06.3	+0.3
	3.4nm,0.2s						
PDGK	**Podgornoye**	**1.29**	**182**	P	**Pn**	14 38 58.3	-0.7
	0.6nm,0.2s						
PDGK				S	**Sg**	14 39 15.2	-0.3
	0.6nm,0.1s						
KTMS	**Ketmen**	**1.31**	**154**	*e*P	**Pn**	14 38 58.2	-1.0
	0.5nm,0.1s						
KTMS				*e*S	**Sg**	14 39 15.0	-0.8
	1.4nm,0.1s						
KPKS	**Kokpek**	**1.32**	**209**	*e*P	**Pn**	14 38 59.2	-0.1
	16nm,0.1s						
KPKS				*e*S	**Sg**	14 39 16.8	+0.5
	3.3nm,0.2s						
UZB	**Uzynbulak**	**1.53**	**195**	*e*P	**Pb**	14 39 02.5	-0.4
	2.2nm,0.1s						
UZB				*e*S	**Sn**	14 39 22.3	-0.3
	3.6nm,0.2s						
UZB	**Uzynbulak**	**1.53**	**195**	P	**Pb**	14 39 02.5	-0.4
	2.2nm,0.1s						
UZB				S	**Sn**	14 39 22.3	-0.3
	3.6nm,0.2s						
SATY	**Saty**	**1.77**	**209**	*e*P	**Pb**	14 39 07.3	+0.2
	2.0nm,0.1s						
SATY				*e*S	**Sb**	14 39 30.6	+0.8
	2.1nm,0.1s						
SATY	**Saty**	**1.77**	**209**	P	**Pb**	14 39 07.3	+0.2
	2.0nm,0.1s						
SATY				S	**Sb**	14 39 30.6	+0.8
	2.1nm,0.1s						
MK31	**Makanchi Array**	**2.89**	**40**	||Pg	**Pn**	14 39 22.3	+1.5
	0.1nm,0.3s,baz=210,slow=15,SNR=3.7						
MK31				||Lg	Lg	14 40 00.0	
	0.3nm,0.4s,baz=216,slow=28,SNR=8.1						

*NEIC **01** 14:41:53.7±1.3,24˚.5S±0˚.1×180˚.0E±0˚.2, h504km±3km, mb4.4/31, Error ellipse: s-maj=21.4km s-min=15.9km az=110.0*
*IDC **01** 14:41:55.7±4.0,24˚.56S×179˚.95E, h526km±47km, mb3.3/8, mb1 3.5/10, mb1mx3.3/36, mbtmp4.2/10, Error ellipse: s-maj=31.5km s-min=20.4km az=4.0*

ISC 01 14:41:54.8±0.7,**24˚.43S**±0˚.08×**180˚.0E**±0˚.1,**h517**km,**n51,** σ0**97**/52,**mb4.2**/19,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.90**	**345**	P	**P**	14 43 38.9	-1.9
OUZ	**Omahuta**	**12.08**	**206**	P	**P**	14 44 36.1	+2.1
DZM	**Mont Dzumac**	**12.65**	**278**	P	**P**	14 44 41.6	+1.3
	0.6nm,0.3s,baz=97,slow=18,SNR=7.9						
URZ	**Urewera**	**14.00**	**189**	P	**P**	14 44 52.7	-1.3
	1.0nm,0.3s,baz=37,slow=18,SNR=2.5						
URZ				S	**S**	14 47 21.4	-0.4
	0.5nm,0.3s,baz=50,slow=22,SNR=7.0						
BKZ	**Black Stump Fm**	**14.98**	**190**	P	**P**	14 45 03.1	-1.3
BFZ	**Birch Farm**	**16.50**	**190**	P	**P**	14 45 19.3	-0.7
MSWZ	**Moikau Station**	**17.39**	**192**	P	**P**	14 45 26.5	-2.1
BHW	**Baring Head**	**17.45**	**193**	P	**P**	14 45 28.1	-1.0
QRZ	**Quartz Range**	**17.49**	**199**	P	**P**	14 45 28.7	-0.8
PLWZ	**Palliser**	**17.53**	**192**	P	**P**	14 45 29.1	-0.8
NNZ	**Nelson**	**17.62**	**197**	P	**P**	14 45 29.4	-1.3
TUWZ	**Tuamarina**	**17.68**	**195**	P	**P**	14 45 29.9	-1.3
THZ	**Tophouse**	**18.25**	**197**	P	**P**	14 45 36.2	-0.3
KHZ	**Kahutara**	**18.71**	**195**	P	**P**	14 45 39.0	-1.5
LTZ	**Lake Taylor**	**19.37**	**197**	P	**P**	14 45 44.9	-1.8
MQZ	**McQueen's Vall**	**20.14**	**196**	P	**P**	14 45 53.1	-0.5
RPZ	**Rata Peaks**	**20.58**	**199**	P	**P**	14 45 56.6	-0.9
	7.9nm,0.6s,baz=36,slow=2.3,SNR=5.6						
LBZ	**Lake Benmore**	**21.45**	**199**	P	**P**	14 46 04.5	-1.0
EIDS	**Eidsvold**	**26.19**	**262**	P	**P**	14 46 48.6	+0.6
EIDS				IAmb	IAmb	14 47 10.9	
	comp=Z,24nm,1.4s						
CAN	**Canberra**	**28.85**	**241**	P	**P**	14 47 12.1	+0.9
CAN				IAmb	IAmb	14 47 40.6	
	comp=Z,24nm,1.2s						
CTAO	**Charters Tower**	**31.45**	**271**	P	**P**	14 47 34.2	+0.4
CTAO				IAmb	IAmb	14 47 35.1	
	comp=Z,8.4nm,0.8s						
TOO	**Toolangi**	**32.13**	**238**	P	**P**	14 47 40.1	+0.7
TOO				IAmb	IAmb	14 47 47.2	
	comp=Z,9.6nm,1.0s						
TAU	**Tasmania Unive**	**32.55**	**227**	P	**P**	14 47 43.6	+0.8
MCQ	**Macquarie Isla**	**33.85**	**202**	P	**P**	14 47 54.3	+0.7
STKA	**Stephens Creek**	**34.49**	**249**	P	**P**	14 48 00.0	+0.6
	comp=Z,2.0nm,0.4s,baz=96,slow=12,SNR=14						
PMG	**Port Moresby**	**34.64**	**290**	P	**P**	14 48 00.3	-0.5
COEN	**Coen**	**36.17**	**280**	P	**P**	14 48 14.1	+0.5
COEN				IAmb	IAmb	14 48 21.3	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**39.20**	**247**	P	**P**	14 48 37.9	-0.4
BBOO				IAmb	IAmb	14 48 51.9	
	comp=Z,17nm,1.1s						
AS31	**Alice Springs**	**41.91**	**261**	P	**P**	14 48 59.6	-0.4
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	14 49 00.0	0.0
	comp=Z,1.0nm,0.4s,baz=97,slow=7.2,SNR=40						
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	14 48 59.5	-0.6
WR0	**Warramunga Arr**	**42.15**	**267**	P	**P**	14 49 01.1	-0.8
WB2	**Warramunga Arr**	**42.33**	**267**	P	**P**	14 49 02.7	-0.6
WB2				IAmb	IAmb	14 49 03.1	
	comp=Z,3.6nm,0.4s						
WRAB	**Tennant Creek**	**42.33**	**267**	P	**P**	14 49 02.6	-0.7
WRAB				IAmb	IAmb	14 49 08.4	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**42.33**	**267**	P	**P**	14 49 02.7	-0.7
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	14 49 02.9	-0.5
	comp=Z,2.8nm,0.4s,baz=98,slow=8.4,SNR=92						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	14 49 02.4	-1.0
FORT	**Forrest**	**46.09**	**250**	P	**P**	14 49 31.6	-0.7
FORT				IAmb	IAmb	14 49 32.2	
	comp=Z,16nm,0.7s						
MTN	**Manton Dam**	**47.46**	**275**	P	**P**	14 49 41.9	-0.9
MTN				IAmb	IAmb	14 50 04.2	
	comp=Z,19nm,1.3s						
KNRA	**Kununurra**	**48.65**	**270**	P	**P**	14 49 51.5	-0.1
KNRA				IAmb	IAmb	14 50 02.9	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.75**	**266**	P	**P**	14 50 07.2	+0.1
	comp=Z,2.5nm,0.6s,baz=172,slow=3.8,SNR=9.3						
PSA00	**Pilbara Seismi**	**55.03**	**260**	P	**P**	14 50 37.4	-0.4
PSA00				IAmb	IAmb	14 50 52.6	
	comp=Z,16nm,1.1s						
MORW	**Morawa**	**56.66**	**250**	P	**P**	14 50 48.4	-0.5
CASY	**Casey**	**59.62**	**206**	P	**P**	14 51 08.3	0.0
GSTR	**Great Sitkin T**	**76.28**	**3**	P	**P**	14 52 50.6	+0.8
NVAR	**Mina Array Bea**	**85.16**	**44**	P	**P**	14 53 37.7	+1.2
	comp=Z,0.3nm,0.6s,baz=235,slow=11,SNR=2.1						
TXAR	**Lajitas Array**	**90.74**	**58**	P	**P**	14 54 03.8	+1.0
	comp=Z,0.8nm,0.7s,baz=213,slow=6.1,SNR=11						
PDAR	**Pinedale Array**	**93.10**	**44**	P	**P**	14 54 12.4	-1.1
	comp=Z,0.1nm,0.3s,baz=174,slow=1.8,SNR=1.9						
ARCES	**ARCESS Array B**	**132.40**	**348**	PKP	**PKPdf**	15 00 09.7	+0.4
	comp=Z,4.7nm,1.0s,baz=56,slow=2.3,SNR=3.9						
BRTR	**Keskin Array B**	**147.87**	**306**	PKPbc	**PKPbc**	15 00 41.0	-0.9
	comp=Z,0.6nm,0.6s,baz=131,slow=4.0,SNR=2.7						
KHC	**Kasperske Hory**	**153.13**	**340**		**PKiKP**	15 00 54.5	+0.8

*MAN **01** 14:47:38.2,4˚.58N×126˚.38E, h10km, mb5.0, ML3.9, MS3.9*
*DJA **01** 14:47:38.1±0.4,4˚.N±4˚.12˚.6E±˚, h23km±3km, M4.6/14, mb4.6/14, mB5.2/6, ML4.5/9, Mw(mB)4.5/6*
*IDC **01** 14:47:39.4±1.8,4˚.23N×126˚.33E, h44km±18km, mb4.0/19, mb1 4.2/22, mb1mx4.1/37, mbtmp4.3/22, ML4.3/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=24.3km s-min=9.8km az=76.0*
*NEIC **01** 14:47:42.8±1.6,4˚.24N±0˚.06×126˚.21E±0˚.09, h79km±6km, mb4.5/59, Error ellipse: s-maj=13.9km s-min=8.8km az=76.0*

ISC 01 14:47:34.6±0.3,**4˚.32N**±0˚.03×**126˚.39E**±0˚.06,**h10**km,**n122,** σ1**55**/130,**mb4.6**/43,**1C-2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.90**	**339**	*e*P	**Pn**	14 48 06.0	-1.1
DDMP				*e*S	**Sn**	14 48 29.0	-2.1
MATI	**Mati**	**2.62**	**357**	*e*P	**Pn**	14 48 17.8	+0.9
MATI				*e*S	**Sb**	14 48 55.9	+2.1
DAV	**Davao City (W)**	**2.85**	**344**	P	**Pb**	14 48 23.7	-1.9
	30nm,0.3s,baz=90,slow=17,SNR=1.2						
DAV	**Davao City (W)**	**2.85**	**344**	Pn	**Pg**	14 48 27.9	-1.4
SKMP	**Bagumbayan, Su**	**2.86**	**320**	*e*P	**Pn**	14 48 22.0	+1.8
SKMP				*e*S	**Sn**	14 48 55.3	+0.6
KCP	**Kidapawan**	**2.97**	**334**	||*e*P	**Pn**	14 48 24.9	+3.1
KCP				*i* S	**Sg**	14 49 13.2	+3.2
TNTI	**Ternate**	**3.65**	**164**	P	**Pn**	14 48 33.0	+1.8
TNTI	**Ternate**	**3.65**	**164**	Pn	**Pb**	14 48 37.3	-2.0
KMSI	**Cibinong**	**4.42**	**213**	P	**Pn**	14 48 44.0	+2.2
CGP	**Cagayan de Oro**	**4.44**	**338**	||*e*P	**Pn**	14 48 43.6	+1.5
PAGZ	**Pagadian**	**4.61**	**320**	*e*P	**Pn**	14 48 46.2	+1.9
GTOI	**Gorontalo**	**4.97**	**223**	P	**Pn**	14 48 50.5	+1.1
SANI	**Sanana**	**6.34**	**184**	P	**Pn**	14 49 06.8	-1.3
	0.4nm1µm79nm,0.7s						
LUWI	**Luwuk**	**6.43**	**214**	P	**Pn**	14 49 12.1	+2.7
	1.0nm3µm346nm,1.0s						
LUWI	**Luwuk**	**6.43**	**214**		**Pn**	14 49 13.4	+4.0
CNOP	**Candoni, Negro**	**6.62**	**326**	*e*P	**Pn**	14 49 14.2	+2.2
SIJI	**Sorong**	**7.09**	**136**	P	**Pn**	14 49 19.4	+0.9
	1.5nm,0.3s,baz=296,slow=22,SNR=1.9						
SIJI				S	**Sn**	14 50 41.1	+1.9
	0.6nm,0.3s,baz=332,slow=23,SNR=1.2						
MPSI	**Mapaga**	**7.59**	**239**	P	**Pn**	14 49 28.3	+2.9
	0.1nm459nm23nm,0.9s						
MYLDM	**Lahad Datu**	**7.91**	**277**		**Pn**	14 49 32.5	+2.8
KKM	**Kota Kinabalu**	**10.27**	**280**	Pn	**Pn**	14 50 06.0	+3.8
LQP	**Lukban**	**10.84**	**334**	||*e*P	**Pn**	14 50 10.7	+0.5
KAPI	**Kappang**	**11.39**	**216**	P	**Pn**	14 50 21.8	+4.3
	0.8nm,0.3s,baz=45,slow=17,SNR=1.9						
KAPI				LR	LR	14 55 01.2	
	comp=Z,80nm,19.8s,baz=38,slow=39						
KAPI	**Kappang**	**11.39**	**216**	Pn	Pn	14 50 22.4	+4.9
EDFI	**Ende, Flores**	**13.80**	**200**	P	**Pn**	14 50 51.1	+0.6
	16nm,0.8s						
SOEI	**Soe**	**14.14**	**189**	P	**P**	14 51 04.4	+1.6
SBUM	**Sibu**	**14.26**	**263**	P	**P**	14 51 04.7	+0.6
BATI	**Baumata**	**14.68**	**191**	P	**Pn**	14 51 04.1	+1.6
	8.9nm,0.3s,baz=100,slow=18,SNR=12						
BATI	**Baumata**	**14.68**	**191**	P	**Pn**	14 51 02.9	+0.4
	30nm,0.8s						
GENI	**Genyem**	**15.39**	**116**	P	**P**	14 51 14.2	-2.4
	32nm,0.7s						
KSM	**Kuching**	**16.30**	**260**	P	**P**	14 51 27.4	+0.6
MTN	**Manton Dam**	**17.69**	**165**	P	**Pn**	14 51 38.6	-2.6
MTN				IAmb	IAmb	14 51 52.2	
	comp=Z,35nm,1.4s						
YULB	**Yu-li**	**19.59**	**346**	P	**P**	14 52 01.7	-1.3
YULB				IAmb	IAmb	14 52 18.4	
	comp=Z,44nm,1.5s						
TPUB	**Ta-pu**	**19.68**	**344**		**P**	14 52 03.4	-0.6
TPUB				IAmb	IAmb	14 52 14.1	
	comp=Z,22nm,0.8s						
UGM	**Wanagama**	**19.95**	**233**	P	**P**	14 52 05.7	-1.3
KNRA	**Kununurra**	**20.00**	**173**	P	**P**	14 52 07.9	+0.4
KNRA				IAmb	IAmb	14 52 32.2	
	comp=Z,17nm,0.8s						
SSLB	**Suanglung**	**20.05**	**345**	P	Pn	14 52 10.1	+0.2
NACB	**Ninganchiao**	**20.28**	**347**	P	Pn	14 52 12.4	0.0
NACB				IAmb	IAmb	14 52 38.9	
	comp=Z,22nm,0.9s						
YHNB	**Yeheng**	**20.80**	**347**	P	**P**	14 52 17.0	+0.7
YHNB				IAmb	IAmb	14 52 17.7	
	comp=Z,27nm,1.2s						
TATO	**Taipei**	**21.07**	**348**	P	**P**	14 52 19.6	+0.5
FITZ	**Fitzroy Crossi**	**22.28**	**182**	P	**P**	14 52 31.9	-0.3
	comp=Z,9.5nm,0.8s,baz=0.6,slow=8.4,SNR=18						
FITZ	**Fitzroy Crossi**	**22.28**	**182**	P	**P**	14 52 32.4	+0.3
FITZ				IAmb	IAmb	14 52 45.6	
	comp=Z,30nm,1.2s						
WB0	**Warramunga Arr**	**25.19**	**162**	P	**P**	14 52 59.5	-1.1
WB0				IAmb	IAmb	14 53 14.4	
	comp=Z,22nm,1.3s						
IPM	**Ipoh**	**25.29**	**271**	P	**P**	14 52 58.6	-2.9
IPM				IAmb	IAmb	14 53 14.2	
	comp=Z,27nm,1.5s						
WRAB	**Tennant Creek**	**25.34**	**162**	P	**P**	14 53 00.9	-1.0
WRA	**Warramunga Arr**	**25.34**	**162**	P	**P**	14 53 01.0	-0.9
	comp=Z,5.1nm,0.7s,baz=342,slow=10,SNR=38						
WRA				PcP

WMQ	Urumqi	52.05	325	eP	P	14 56 45.8	+1.1
PETK	Petropavlovsk-	55.02	22	P	P	14 57 07.2	+1.0
	comp=Z,6.7nm,0.7s,baz=183,slow=2.8,SNR=7.2						
MK31	Makanchi Array	56.88	325	P	P	14 57 18.8	-0.9
MKAR	Makanchi Array	56.88	325	P	P	14 57 19.6	-0.1
	comp=Z,1.6nm,0.5s,baz=121,slow=7.4,SNR=22						
MKAR				PcP	PcP	14 58 15.2	-0.1
	comp=Z,1.3nm,0.5s,baz=128,slow=4.1,SNR=4.7						
MKAR				ScP	ScP	15 02 11.2	-3.9
	comp=Z,1.5nm,1.0s,baz=115,slow=4.0,SNR=5.5						
MKAR	Makanchi Array	56.88	325	P	P	14 57 19.1	-0.6
MAKZ	Makanchi	57.07	325	P	P	14 57 20.4	-0.7
MAKZ				IAmb	IAmb	14 57 40.6	
	comp=Z,11nm,1.5s						
YAK	Yakutsk	57.64	2	P	P	14 57 24.1	-0.5
ZALV	Zalesovo Beam	59.91	333	P	P	14 57 41.0	+0.2
	comp=Z,2.2nm,0.4s,baz=118,slow=7.4,SNR=10						
ZALV	Zalesovo Beam	59.91	333	P	P	14 57 40.5	-0.2
KURK	Kurchatov	61.06	327	P	P	14 57 48.0	-0.6
KURK				IAmb	IAmb	14 57 51.8	
	comp=Z,5.5nm,0.7s						
KKAR	Karatay Array	62.57	317	P	P	14 57 57.7	-1.3
KKAR	Karatay Array	62.57	317	P	P	14 57 57.9	-1.1
KKAR				IAmb	IAmb	14 58 02.4	
	comp=Z,6.0nm,1.5s						
HRA	Herat	66.31	306	P	P	14 58 19.8	-4.1
HRA				IAmb	IAmb	14 58 20.5	
	comp=Z,3.4nm,0.6s						
BRVK	Borovoye	66.72	327	P	P	14 58 25.5	-0.3
BRVK				IAmb	IAmb	14 58 29.3	
	comp=Z,7.3nm,1.2s						
TIXI	Tiksi	67.27	1	P	P	14 58 29.0	+0.1
NRIK	Noril'sk	69.78	346	P	P	14 58 45.0	+0.3
	comp=Z,6.8nm,0.6s,baz=116,slow=6.7,SNR=16						
CASY	Casey	71.35	187	P	P	14 58 54.4	+0.1
ABKAR	Akbulak array	71.48	321	P	P	14 58 54.6	-0.9
UNV	Unalaska Valle	73.14	35	P	P	14 59 05.5	+0.2
AKUT	Akutan	73.64	35	P	P	14 59 08.5	+0.3
ARU	Arti	74.26	328	P	P	14 59 10.9	-1.0
ARU				IAmb	IAmb	14 59 23.0	
	comp=Z,4.0nm,0.6s						
BPAW	Bear Paw Mtn.	82.91	26	P	P	14 59 59.8	+0.4
BPAW				IAmb	IAmb	15 00 02.4	
	comp=Z,7.7nm,1.0s						
COLD	Coldfoot	83.49	23	P	P	15 00 04.1	+1.7
COLD				IAmb	IAmb	15 00 05.5	
	comp=Z,6.6nm,0.9s						
RND	Reindeer	83.81	27	P	P	15 00 04.8	+0.6
RND				IAmb	IAmb	15 00 05.4	
	comp=Z,4.7nm,0.9s						
KNK	Knik Glacier	83.91	29	P	P	15 00 05.1	+0.4
SML	Sawmill	83.99	28	P	P	15 00 05.8	+0.8
VNDA	Vanda	84.05	173	P	P	15 00 05.2	+0.2
	comp=Z,0.9nm,0.9s,baz=313,slow=7.5,SNR=4.8						
MAW	Mawson	84.18	200	P	P	15 00 05.9	+0.1
	comp=Z,1.0nm,0.7s,baz=40,slow=7.9,SNR=2.4						
CCB	Clear Creek Bu	84.33	26	P	P	15 00 07.0	+0.4
CCB				IAmb	IAmb	15 00 07.8	
	comp=Z,4.9nm,1.1s						
HDA	Harding Lake	84.69	26	P	P	15 00 08.8	+0.3
HDA				IAmb	IAmb	15 00 11.4	
	comp=Z,3.6nm,0.8s						
IL31		84.72	25	P	P	15 00 09.4	+0.8
ILAR	Eielson Array	84.72	25	P	P	15 00 09.9	+1.2
	comp=Z,1.3nm,0.7s,baz=248,slow=4.8,SNR=16						
ILAR	Eielson Array	84.72	25	P	P	15 00 08.5	-0.1
KLMR	Klimovskoe	84.73	331	eP	P	15 00 06.9	-1.8
KLMR				AMP		15 00 10.1	
	comp=Z,4.0nm,0.8s						
ARCES	ARCESS Array B	89.78	340	P	P	15 00 32.2	-0.8
	comp=Z,2.5nm,0.6s,baz=84,slow=6.0,SNR=15						
FINES	FINESS Array B	91.16	332	P	P	15 00 39.0	-0.6
	comp=Z,0.9nm,0.5s,baz=59,slow=5.8,SNR=7.1						
NOA	NORSAR Array B	98.11	334	P	P	15 01 10.3	-1.3
	comp=Z,0.9nm,0.8s,baz=65,slow=4.4,SNR=2.4						
TORD	Torodi Ar. Bea	122.41	288	PKP	PKPdf	15 06 29.4	-1.9
	comp=Z,0.2nm,0.3s,baz=122,slow=3.4,SNR=1.7						

*IDC **01** 15:01:28.9±0.7, 12.°61N×88.°25W, h0^{km}, mb4.3/12, mb1 4.6/13, mb1mx4.3/30, mbtmp4.4/13, ML3.5/2, MS4.0/21, Ms1 4.0/21, ms1mx3.8/34, Error ellipse: s-maj=30.7km s-min=14.3km az=60.0*

*GCG **01** 15:01:28.9±0.7, 11.°72N×88.°80W, h35^{km}±835^{km}, MD4.5*

*INET **01** 15:01:29.8, 12.°09N×88.°76W, h26^{km}, ML4.5*

*SNET **01** 15:01:31.3±1.0, 12.°22N×88.°66W, h15^{km}±6^{km}, ML4.4*

*UCR **01** 15:01:32.5±1.2, 12.°22N×88.°63W, h31^{km}±11^{km}, ML4.3, MW4.3, mb4.8(NEIC)*

*NEIC **01** 15:01:33.2±1.7, 12.°40N±0.°07×88.°32W±0.°06, h35^{km}±1^{km}, mb4.8/217, Md4.4(SNET), Error ellipse: s-maj=12.6km s-min=8.4km az=217.0*

*GCMT **01** 15:01:36.2±0.4, 12.°08N±0.°03×88.°83W±0.°03, h16^{km}±1^{km}, MW4.9/77, Moment Tensor Solution. s31,c34; s77,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.80±.14; $M_{\theta\theta}$-1.25±.09; $M_{\phi\phi}$-0.54±.09; $M_{r\theta}$1.89±.26; $M_{\theta\phi}$0.42±.05; $M_{\phi r}$-1.66±.32; Best double couple: $M_0$2.98700×10^{16} NP1:ϕ_s290.00000°,δ17.00000°,λ73.00000°. NP2: ϕ_s128.00000°,δ74.00000°,λ95.00000°. Principal axes: T 3.1960, Plg61.0000°, Azm46.0000°; N -0.4170, Plg5.0000°, Azm307.0000°; P -2.7780, Plg29.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 15:01:33.4±0.4**, 12.°28N**±0.°04×**88.°51W**±0.°04**, h35^{km}, n519, σ1.°26**/516**, mb4.8**/98**, MS4.0**/23**, 26C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JUCU	Jucuar¡n	1.00	15⇑	iP	Pn	15 01 51.3	+0.2
JUCU				eS	Sn	15 02 07.1	+3.1
JUCU				IAML		15 02 14.5	
	comp=Z,8µm,0.4s						
JUCU	Jucuar¡n	1.00	15⇑	iP	Pn	15 01 51.3	+0.2
JUCU				eS	Sn	15 02 07.1	+3.1
JUCU				IAML		15 02 14.5	
	comp=Z,8µm,0.4s						
LCY	Lacayo	1.16	10⇑	eP	Pn	15 01 53.9	+0.6
LCY	Lacayo	1.16	10⇑	eP	Pn	15 01 53.9	+0.6
BLLM	Bellamira	1.19	13⇓	iP	Pn	15 01 54.2	+0.6
BLLM	Bellamira	1.19	13⇓	iP	Pn	15 01 54.2	+0.6
LCND	La Caada	1.19	30⇑	eP	Pn	15 01 54.0	+0.4
LCND				eS	Sn	15 02 12.1	+3.6
LCND				IAML		15 02 21.7	
	comp=Z,4µm,0.3s						
LCND	La Caada	1.19	30⇑	eP	Pn	15 01 54.0	+0.4
LCND				eS	Sn	15 02 12.1	+3.6
LCND				IAML		15 02 21.7	
	comp=Z,4µm,0.3s						
CNCH	Conchagua	1.19	34⇑	iP	Pn	15 01 54.0	+0.3
CNCH	Conchagua	1.19	34⇑	iP	Pn	15 01 54.0	+0.3
TECA	Tecapa	1.21	0⇑	iP	Pn	15 01 54.3	+0.3
TECA	Tecapa	1.21	0⇑	iP	Pn	15 01 54.3	+0.3
COEB	Comit de Eme	1.21	359	eP	Pn	15 01 54.2	+0.2
COEB				eS	Sn	15 02 12.1	+2.9
COEB				IAML		15 02 20.3	
	comp=Z,6µm,0.5s						
COEB	Comit de Eme	1.21	359	eP	Pn	15 01 54.2	+0.2
COEB				eS	Sn	15 02 12.1	+2.9
COEB				IAML		15 02 20.3	
	comp=Z,6µm,0.5s						
COEG	Centro de Oper	1.38	345⇑	eP	Pn	15 01 55.9	-0.3
COEG				IAML		15 02 23.4	
	comp=Z,5µm,0.4s						
COEG	Centro de Oper	1.38	345⇑	eP	Pn	15 01 55.9	-0.3
COEG				IAML		15 02 23.4	
	comp=Z,5µm,0.4s						
LFRS	El Faro	1.44	338⇑	iP	Pn	15 01 56.5	-0.6
LFRS	El Faro	1.44	338⇑	iP	Pn	15 01 56.5	-0.6
FAGO	Alcalda de S	1.46	16⇑	eP	Pn	15 01 58.3	+0.9
FAGO	Alcalda de S	1.46	16⇑	eP	Pn	15 01 58.3	+0.9
CRIN	San Cristobal	1.48	74		Pn	15 01 54.9	-2.8
PAVA	Las Pavas	1.48	344⇑	iP	Pn	15 01 57.6	-0.1
PAVA	Las Pavas	1.48	344⇑	iP	Pn	15 01 57.6	-0.1
LBRS	Las Brisas	1.54	340	eP	Pn	15 01 58.5	0.0
LBRS	Las Brisas	1.54	340	eP	Pn	15 01 58.5	0.0
SNET	Serv Nac Est T	1.57	333	eP	Pn	15 01 58.0	-0.8
SNET				eS	Sn	15 02 18.8	+0.8
SNET				IAML		15 02 24.2	
	comp=Z,3µm,0.5s						
SNET	Serv Nac Est T	1.57	333	eP	Pn	15 01 58.0	-0.8
SNET				eS	Sn	15 02 18.8	+0.8
SNET				IAML		15 02 24.2	
	comp=Z,3µm,0.5s						
SNET	Serv Nac Est T	1.57	333	Pn	Pn	15 01 58.0	-0.8
UEES	Universidad Ev	1.59	334	eP	Pn	15 01 58.6	-0.6
UEES	Universidad Ev	1.59	334	eP	Pn	15 01 58.6	-0.6
BOQS	Boqueron	1.63	333⇓	eP	Pn	15 01 59.6	-0.2
BOQS	Boqueron	1.63	333⇓	eP	Pn	15 01 59.6	-0.2
CEDA	San Andres	1.74	330	eP	Pn	15 02 00.6	-0.7
CEDA				IAML		15 02 30.8	
	comp=Z,9µm,0.5s						
CEDA	San Andres	1.74	330	eP	Pn	15 02 00.6	-0.7
CEDA				IAML		15 02 30.8	
	comp=Z,9µm,0.5s						
TACO	Tacachico	1.87	334⇑	iP	Pn	15 02 02.8	-0.2
TACO	Tacachico	1.87	334⇑	iP	Pn	15 02 02.8	-0.2
SBLS	San Blas	1.89	325	eP	Pn	15 02 03.2	-0.2
SBLS	San Blas	1.89	325	eP	Pn	15 02 03.2	-0.2
SNJE	San Jose	1.91	326	eP	Pn	15 02 03.1	-0.5
SNJE	San Jose	1.91	326	eP	Pn	15 02 03.1	-0.5
RTR	El Retiro	1.95	326	eP	Pn	15 02 04.2	0.0
RTR	El Retiro	1.95	326	eP	Pn	15 02 04.2	0.0
NUBE	Las Nubes	2.03	323⇑	eP	Pn	15 02 04.7	-0.6
NUBE	Las Nubes	2.03	323⇑	eP	Pn	15 02 04.7	-0.6
TGUH	Tegucigalpa,Un	2.14	34⇑	eP	Pn	15 02 08.3	+1.6
TGUH	Tegucigalpa,Un	2.14	34⇑	eP	Pn	15 02 08.3	+1.6
TGUH	Tegucigalpa,Un	2.14	34		Pn	15 02 03.0	-3.7
MTO3	Montecristo	2.26	339⇑	iP	Pn	15 02 09.1	+0.6
MTO3	Montecristo	2.26	339⇑	iP	Pn	15 02 09.1	+0.6
MTO3	Montecristo	2.26	339	Pn	Pn	15 02 08.8	+0.3
ESQI	Esquipulas	2.41	340		Pn	15 02 11.3	+0.9
MATN	Matagalpa	2.60	75		Pn	15 02 10.9	-2.2
IXG	Ixpaco	2.66	315	eP	Pn	15 02 13.5	-0.5
NBG	Las Nubes	2.91	322	eP	Pn	15 02 19.0	+1.5
PCG	Pacaya	2.93	316	eP	Pn	15 02 16.3	-1.4
MRL	Marmol	3.01	338	eP	Pn	15 02 21.2	+2.4
FUG	Fuego 3	3.13	314	eP	Pn	15 02 19.9	-0.6
FUG				eS	Sn	15 02 59.6	+2.9
ACON	Acoyapa	3.27	95		Pn	15 02 21.0	-1.2
GB1A	Borinquen Arri	3.38	115	eP	Pn	15 02 25.3	+1.6
GB1A				eS	Sn	15 03 04.0	+1.3
BUEV	Buena Vista	3.38	116	eP	Pn	15 02 24.6	+0.9
BUEV				eS	Sn	15 03 05.2	+2.5
PLVR	Palo Verde	3.64	121	eP	Pn	15 02 27.8	+0.3
RTAL	Retalhuleu	3.82	306		Pn	15 02 32.9	+3.1
JTS	Las Juntas de	4.01	119	Pn	Pn	15 02 32.6	+0.2
	comp=Z,6.5nm,0.3s,baz=7.7,slow=20,SNR=7.2						
JTS	Las Juntas de	4.01	119	eP	Pn	15 02 33.1	+0.7
JTS	Las Juntas de	4.01	119	Pn	Pn	15 02 32.1	-0.3
ESPN	Las Esperanzas	4.11	91	Pn	Pn	15 02 32.7	-1.1
HUEH	Huehuetenango	4.19	316	Pn	Pn	15 02 37.4	+2.2
LCR2	La Lucha 2	5.09	119	eP	Pn	15 02 49.1	+1.6
CCIG	Comitan	5.31	319		Pn	15 02 52.4	+1.9
BRU2	Volcan	6.69	121	eP	Pn	15 03 10.5	+1.2
TEIG	Tepich	7.90	2	Pn	Pn	15 03 29.1	+3.3
	comp=Z,2.1nm,0.3s,baz=177,slow=16,SNR=20						
TEIG				LR	LR	15 06 49.7	
	comp=Z,2µm,18.7s,baz=104,slow=42						
TEIG	Tepich	7.90	2		Pn	15 03 26.3	+0.4
BCIP	Isla Barro Col	9.06	109	Pn	Pn	15 03 41.4	-0.5
TLIG	Tlapa	11.05	300	Pn	Pn	15 04 10.4	+1.3
GUY2C	Guyana, Caldas	14.76	117	eP	P	15 05 07.0	+1.2
ANIL	Santa Ana	15.09	120	eP	P	15 05 10.3	+1.0
BBAC	Balboa, Cauca	15.11	132	eP	P	15 05 11.9	+2.5
TOLC	Tolima	15.11	119	eP	Pn	15 05 02.8	-1.9
POPC	Popayan, Colom	15.20	129	eP	P	15 05 11.1	+0.6
PCON	Cinco Dias	15.55	129	eP	P	15 05 12.8	-1.9
MARP	Paez Belalcaza	15.57	126	eP	P	15 05 18.2	+3.6
GCUF	Volcan Galeras	15.59	134	eP	Pn	15 05 13.0	+1.8
ROSC	El Rosal	15.85	117	Pn	P	15 05 22.1	+4.3
	comp=Z,2.1nm,0.3s,baz=120,slow=20,SNR=1.7						
ROSC				LR	LR	15 12 42.5	
	comp=Z,494nm,18.3s,baz=340,slow=43						
PRAC	Prado	15.94	121	eP	Pn	15 05 13.6	-1.6
BETC	Betania	16.07	125	eP	Pn	15 05 18.4	-1.6
PAMC	Pamplona, Colo	16.33	106	eP	Pn	15 05 14.9	-5.7
GARC	Garzon, Huila	16.34	127	eP	Pn	15 05 21.6	+1.1
CHIC	Chingaza	16.46	116	eP	P	15 05 24.3	-0.4
FLOC	Florencia	16.59	129	eP	P	15 05 27.9	+2.1
ZAIG	Zacatecas	16.97	310		P	15 05 30.3	+0.1
SDV	Santo Domingo	17.89	99	P	Pn	15 05 38.4	-1.4
	comp=Z,0.9nm,0.3s,baz=326,slow=10,SNR=3.5						
PTLC	Puerto Leguiza	18.16	130	eP	P	15 05 50.6	+7.6
GUVC	San Jose del G	18.46	121	eP	Pn	15 05 47.5	+0.8
HKT	Hockley	18.85	340	P	P	15 05 50.3	-0.1
833A	Chaparral WMA,	18.93	329	P	P	15 05 51.9	-0.3
	baz=145,SNR=18						
833A	Chaparral WMA,	18.93	329	P	P	15 05 51.5	+0.1
342A	Flagon Creek P	19.33	350	P	P	15 05 56.1	+0.4
342A				IAmb	IAmb	15 06 03.1	
	comp=Z,57nm,0.8s						
TIGA	Tifton	19.60	13	P	Pn	15 06 00.3	+0.1
	baz=194						
TIGA	Tifton	19.60	13	P	P	15 05 57.7	-1.0
TIGA				IAmb	IAmb	15 06 04.9	
	comp=Z,54nm,0.9s						
250A	Grady	19.71	6	P	P	15 06 00.1	+0.1
250A				IAmb	IAmb	15 06 07.6	
	comp=Z,74nm,1.4s						
VBMS	Vicksburg	19.93	355	P	Pn	15 06 04.3	+0.2
	baz=174						
NATX	Nacogdoches	20.20	345	P	Pn	15 06 07.0	-0.3
	baz=162						
NATX	Nacogdoches	20.20	345	P	Pn	15 06 06.3	-1.0
NATX				IAmb	IAmb	15 06 07.7	
	comp=Z,54nm,0.8s						
435B	Jarrell	20.24	337	P	P	15 06 05.8	+0.2
	baz=153,SNR=6.5						
435B	Jarrell	20.24	337	P	P	15 06 05.5	-0.2
146A	Union	20.27	359	Pn	Pn	15 06 06.9	-1.2
255A	Hazlehurst	20.33	15	P	P	15 06 06.5	-0.1
255A				IAmb	IAmb	15 06 09.3	
	comp=Z,53nm,0.9s						
LRAL	Lakeview Retre	20.70	4	P	Pn	15 06 12.1	-1.1
	baz=184,SNR=9.6						
LRAL	Lakeview Retre	20.70	4	P	P	15 06 10.9	+0.3
237A	Washetta, Mont	20.75	342	P	Pn	15 06 12.4	-1.3
257A	Skidaway Islan	20.77	18	P	P	15 06 10.5	-0.9
Z47A	Carrollton	20.83	1	P	P	15 06 12.8	+0.8
Z47A				IAmb	IAmb	15 06 18.0	
	comp=Z,48nm,1.1s						
154A	Montrose	20.84	13	P	P	15 06 12.6	+0.5
JCT	Junction City	20.91	332	P	P	15 06 13.7	+0.6
	baz=147,SNR=35						
JCT	Junction City	20.91	332	P	P	15 06 12.8	-0.3
Z51A	Franklin	21.16	8	P	P	15 06 14.6	-1.0
Z51A				IAmb	IAmb	15 06 19.8	
	comp=Z,32nm,0.9s						
Z41A	Richland Creek	21.25	350	P	P	15 06 17.6	+1.1
	baz=168						
Z41A	Richland Creek	21.25	350	P	P	15 06 16.3	-0.2
Z41A				IAmb	IAmb	15 06 21.8	
	comp=Z,57nm,0.9s						
WHTX	Lake Whitney,	21.28	339	P	P	15 06 16.4	-0.4
	baz=155,SNR=5.9						
WHTX	Lake Whitney,	21.28	339	P	P	15 06 15.8	-1.1
WHTX				IAmb	IAmb	15 06 38.3	
	comp=Z,66nm,1.2s						
157A	Early Branch	21.44	18	P	P	15 06 19.9	+1.3
	baz=200						
GOGA	Godfrey	21.53	12	P	P	15 06 20.6	+1.0
	baz=193,SNR=10						
GOGA	Godfrey	21.53	12	P	P	15 06 18.4	-1.2
GOGA				IAmb	IAmb	15 06 23.1	
	comp=Z,40nm,1.2s						
Y49A	Blount Mountai	21.56	5	P	P	15 06 19.6	-0.3
Z38A	Mt. Pleasant	21.71	345	P	P	15 06 21.8	+0.3
WLAR	White Oak Lake	21.72	350	P	P	15 06 22.3	+0.7
WLAR				IAmb	IAmb	15 06 24.6	
	comp=Z,41nm,0.8s						
CCAR	Cane Creek	21.74	353	P	P	15 06 22.8	+1.0
ATAH	Atahualpa	21.75	152	P	P	15 06 24.6	+2.1
	comp=Z,4.4nm,0.7s,baz=289,slow=18,SNR=2.6						
Y52A	Lilburn	21.86	10	P	P	15 06 22.6	-0.6
TXAR	Lajitas Array	22.06	323	P	P	15 06 26.0	+0.5
	comp=Z,18nm,0.7s,baz=141,slow=12,SNR=163						
TXAR				PcP	PcP	15 10 24.1	+1.5
	comp=Z,0.4nm,0.7s,baz=178,slow=5.2,SNR=3.5						
TXAR				ScP	ScP	15 14 02.8	+5.3
	comp=Z,0.3nm,0.8s,baz=132,slow=6.4,SNR=3.4						
TXAR				LR	LR	15 16 59.1	
	comp=Z,206nm,18.2s,baz=0.0,slow=42						
TXAR	Lajitas Array	22.06	323	P	P	15 06 25.6	+0.1
NHSC	New Hope	22.09	19	P	P	15 06 27.6	+2.1
	baz=202						
Z57A	Bowman	22.11	18	P	P	15 06 27.7	+2.0
	baz=200						
X48A	Hartselle	22.11	3	P	P	15 06 25.5	-0.3
OXF	Oxford	22.15	358	P	P	15 06 27.2	+1.0
	baz=177						
OXF	Oxford	22.15	358	P	P	15 06 26.1	-0.1
OXF				IAmb	IAmb	15 06 55.3	
	comp=Z,88nm,1.4s						
FPAL	Fort Paine	22.32	6	P	P	15 06 26.8	-1.2
Y55A	Saluda	22.40	15	P	P	15 06 30.0	+1.2
	baz=197,SNR=16						
Z58A	St. Stephen	22.42	19	P	P	15 06 30.7	+1.6
	baz=202						
Z35A	Perchaven, San	22.43	341	P	P	15 06 28.1	-1.1
PDPR	Patillas Dam,	22.43	73	P	P	15 06 26.5	-2.8
X51A	Calhoun	22.43	8	P	P	15 06 27.8	-1.4
X51A				IAmb	IAmb	15 06 47.3	
	comp=Z,40nm,1.5s						
X40A	Basin Creek Fa	22.45	351	P	P	15 06 30.0	+0.5
	baz=168,SNR=8.5						
X40A	Basin Creek Fa	22.45	351	P	P	15 06 28.0	-1.4
X40A				IAmb	IAmb	15 06 32.1	
	comp=Z,48nm,1.3s						
MIAR	Mount Ida	22.64	349	P	P	15 06 31.6	+0.2
	baz=167,SNR=37						
MIAR	Mount Ida	22.64	349	P	P	15 06 30.3	-1.2
MIAR				IAmb	IAmb	15 06 32.7	
	comp=Z,46nm,0.8s						
UALR	University of	22.66	352	P	P	15 06 29.9	-1.8
UALR				IAmb	IAmb	15 06 36.1	
	comp=Z,60nm,1.3s						
ABTX	Abilene, Hawle	22.68	335	P	P	15 06 30.8	-1.1
	baz=150,SNR=12						
ABTX	Abilene, Hawle	22.68	335	P	P	15 06 30.1	-1.8
X54A	Belton	22.86	13	P	P	15 06 34.1	+0.3
	baz=195,SNR=8.6						
JSC	Jenkinsville	22.88	16	P	P	15 06 33.5	-0.4
JSC				IAmb	IAmb	15 06 36.2	
	comp=Z,40nm,1.1s						
X55A	Gracelyn & Ava	22.96	15	P	P	15 06 35.3	+0.5
	baz=197,SNR=10						
W50A	Signal Mountai	23.00	7	P	P	15 06 33.8	-1.5
W41B	Gary Mavity, V	23.04	352	P	P	15 06 36.2	+0.6
	baz=170,SNR=18						
W41B	Gary Mavity, V	23.04	352	P	P	15 06 35.5	-0.1
W41B				IAmb	IAmb	15 06 36.6	
	comp=Z,31nm,0.9s						
X37A	Clayton	23.07	345	P	P	15 06 35.9	0.0
X37A				IAmb	IAmb	15 06 38.4	
	comp=Z,43nm,0.8s						
W52A	Murphy	23.09	10	P	P	15 06 35.6	-0.5
X56A	White Oak	23.13	16	P	P	15 06 37.3	+0.8
	baz=198,SNR=9.8						
WHAR	Wooly Hollow	23.16	352	P	P	15 06 36.5	-0.3
BG3	Lake Jocassee	23.17	12	P	P	15 06 36.7	-0.2
BG3				IAmb	IAmb	15 06 38.8	
	comp=Z,43nm,1.5s						
W39A	Magazine	23.31	349	P	P	15 06 38.7	+0.4
	baz=166,SNR=28						
W39A	Magazine	23.31	349	P	P	15 06 38.2	-0.1
W39A				IAmb	IAmb	15 06 39.9	
	comp=Z,33nm,0.8s						
CPCT	Cooper Cave	23.35	8	P	P	15 06 38.1	-0.6
X57A	Johnson Farm,	23.37	18	P	P	15 06 39.4	+0.5
	baz=201						
V48A	Smith Brothers	23.41	3	P	P	15 06 38.2	-1.1
W54A	Cherokee Point	23.42	13	P	P	15 06 40.1	+0.7
	baz=195,SNR=9.4						
BIRD	Birdtown, Kers	23.43	17	P	P	15 06 39.0	-0.6
BIRD				IAmb	IAmb	15 06 40.4	
	comp=Z,22nm,0.8s						
Y60A	Bolivia	23.57	22	P	P	15 06 41.4	+0.6
	baz=206						
TKL	Tuckaleechee C	23.67	10	P	P	15 06 40.3	-1.5
	comp=Z,18nm,0.5s,baz=189,slow=11,SNR=24						
TKL	Tuckaleechee C	23.67	10	P	P	15 06 39.8	-2.0
TKL				IAmb	IAmb	15 06 43.7	
	comp=Z,44nm,0.9s						
KMSC	Kings Mountain	23.67	15	P	P	15 06 42.1	+0.3
	baz=197,SNR=5.5						
X58A	Rowland	23.69	19	P	P	15 06 41.8	-0.2
	baz=202						
X58A	Rowland	23.69	19	P	P	15 06 41.7	-0.2
X58A				IAmb	IAmb	15 06 43.1	
	comp=Z,20nm,0.7s						
V51A	Loudon	23.72	8	P	P	15 06 39.9	-2.3
V51A				IAmb	IAmb	15 06 50.4	
	comp=Z,13nm,0.6s						
FCAR	Ozark Folk Cen	23.73	353	P	P	15 06 41.6	-0.7
WVT	Waverly	23.75	1	P	P	15 06 41.0	-1.6
	baz=181						
WVT	Waverly	23.75	1	P	P	15 06 41.7	-0.9
X34A	Smith Ranch, M	23.78	341	P	P	15 06 40.9	-2.0
CLTN	Cedars of Leba	23.79	4	P	P	15 06 42.0	-0.9
LCAR	Lake Charles	23.81	355	P	P	15 06 42.1	-0.9
LCAR				IAmb	IAmb	15 06 43.6	
	comp=Z,23nm,1.1s						
V53A	Saluda	23.85	12	P	P	15 06 43.5	-0.1
V53A				IAmb	IAmb	15 06 45.9	
	comp=Z,24nm,0.9s						
W56A	Indian Trail	23.86	16	P	P	15 06 43.1	-0.5
	baz=199						
W35A	Tecumseh	24.00	343	P	P	15 06 43.6	-1.3
W57A	Gilead	24.05	17	P	P	15 06 45.9	+0.6
	baz=200						
V54A	Nebo	24.13	13	P	P	15 06 46.3	+0.1
	baz=195						
W58A	Raeford	24.15	19	P	P	15 06 46.5	+0.3
	baz=202,SNR=6.0						
WMOK	Wichita Mounta	24.23	339	P	P	15 06 46.4	-0.6
	baz=154,SNR=14						
FNO	Franklin	24.25	342	P	P	15 06 46.9	-0.3
U49A	Red Boiling Sp	24.25	5	P	P	15 06 45.8	-1.4
U40A	Yellville	24.29	351	P	P	15 06 48.0	+0.4
	baz=169,SNR=62						
U40A	Yellville	24.29	351	P	P	15 06 47.1	-0.5
V55A	Taylorsville	24.38	14	P	P	15 06 47.9	-0.5
	baz=197						
V55A	Taylorsville	24.38	14	P	P	15 06 47.1	-1.2
V55A				IAmb	IAmb	15 06 51.0	
	comp=Z,24nm,0.9s						
HHAR	Hobbs	24.39	349	P	P	15 06 47.4	-1.1
HHAR				IAmb	IAmb	15 06 50.3	
	comp=Z,33nm,0.9s						
TUL1	Leonard	24.43	346	P	P	15 06 48.2	-0.6
	baz=162						
TUL1	Leonard	24.43	346	P	P	15 06 47.4	-1.4
TUL1				IAmb	IAmb	15 06 51.1	
	comp=Z,29nm,0.8s						
PBMO	Poplar Bluff	24.45	356	P	P	15 06 47.8	-1.2
PBMO				IAmb	IAmb	15 06 53.7	
	comp=Z,35nm,1.3s						
OK025	Westminster Rd	24.54	342	P	P	15 06 48.6	-1.2
TZTN	Tazewell	24.57	10	P	P	15 06 50.3	+0.2
	baz=191						
U38A	Gravette	24.63	349	P	P	15 06 49.4	-1.2
T47A	Sharon Grove	24.64	3	P	P	15 06 49.1	-1.5
T47A				IAmb	IAmb	15 06 50.8	
	comp=Z,35nm,0.8s						
BCOK	Bluff Creek, N	24.69	342	P	P	15 06 50.0	-1.2
W60A	Pink Hill	24.70	22	P	P	15 06 52.2	+1.0
	baz=206						
T42A	Van Buren	24.75	355	P	P	15 06 50.2	-1.5
OK029	Liberty Lake	24.77	342	P	P	15 06 50.4	-1.6
V57A	Coltrane Farms	24.79	17	P	P	15 06 51.9	-0.2
	baz=200						
MNTX	Cornudas Mount	24.80	324	P	P	15 06 52.0	-0.3
	baz=137,SNR=13						
MNTX	Cornudas Mount	24.80	324	P	P	15 06 50.9	-1.4
U54A	Nelsons Funny	24.88	13	P	P	15 06 52.8	-0.1
	baz=195						
U54A	Nelsons Funny	24.88	13	P	P	15 06 52.5	-0.4
V58A	Windy Hill, Pi	24.90	18	P	P	15 06 53.3	+0.2
	baz=202,SNR=11						
V58A	Windy Hill, Pi	24.90	18	P	P	15 06 49.7	-3.4
QUOK	Quay	24.91	344	P	P	15 06 51.8	-1.4
MGMO	Mountain Grove	25.00	353	P	P	15 06 53.0	-1.0
MGMO				IAmb	IAmb	15 06 54.8	
	comp=Z,41nm,0.9s						
U55A	TA2, Sparta	25.04	14	P	P	15 06 54.2	-0.2
	baz=197,SNR=6.3						
U56A	King	25.06	16	P	P	15 06 55.7	+1.2
	baz=199						
V59A	Middlesex	25.16	20	P	P	15 06 55.8	+0.4

baz=204
S44A Carbondale 25.32 359 P P 15 06 55.6 -1.2
S44A IAmb IAmb 15 06 57.2
comp=Z,35nm,1.1s
U57A Blanch 25.43 17 P P 15 06 58.5 +0.6
baz=201
T54A Tazewell 25.45 13 P P 15 06 57.9 -0.2
baz=196
AMTX Amarillo 25.48 334 P P 15 06 58.5 0.0
baz=148
AMTX Amarillo 25.48 334 P P 15 06 58.0 -0.5
T35A Sooner Cattle 25.56 345 P P 15 06 58.8 -0.4
T35A IAmb IAmb 15 07 01.9
comp=Z,15nm,0.7s
CROK Carrier 25.59 342 P P 15 06 58.1 -1.2
S39A Bolivar 25.67 351 P P 15 06 59.2 -0.9
T55A Pulaski 25.68 14 P P 15 06 59.9 -0.3
baz=197
CCM Cathedral Cave 25.78 355 P P 15 07 01.0 -0.1
baz=174
CCM Cathedral Cave 25.78 355 P P 15 06 59.5 -1.5
U32A Winter Ranch, 25.79 340 P P 15 07 00.7 -0.5
BLA Blacksburg 25.86 15 P P 15 07 01.9 0.0
baz=198
WCI Wyandotte Cave 25.92 4 P P 15 07 01.4 -0.9
baz=185
WCI Wyandotte Cave 25.92 4 P P 15 07 00.8 -1.5
WCI IAmb IAmb 15 07 02.2
comp=Z,22nm,1.0s
T57A Hurt 25.98 17 P P 15 07 02.9 +0.1
baz=201
R49A Shelbyville 26.07 6 P P 15 07 02.3 -1.4
R40A Maddies Statio 26.12 353 P P 15 07 01.2 -2.9
KAN10 Anthony SW Sta 26.19 342 P P 15 07 03.6 -1.2
S54A Dingess, Beckl 26.21 13 P P 15 07 05.6 +0.6
baz=196
KAN12 Harper NE Stat 26.32 343 P P 15 07 04.9 -1.1
T59A Double "B" Far 26.48 20 P P 15 07 07.6 +0.2
baz=204
Q44A Meyer Farm, Va 26.52 359 P P 15 07 06.2 -1.5
Q44A IAmb IAmb 15 07 07.7
comp=Z,24nm,0.8s
121A Cookes Peak, D 26.82 322 P P 15 07 11.3 +0.6
baz=134
121A Cookes Peak, D 26.82 322 P P 15 07 10.9 +0.2
121A IAmb IAmb 15 07 16.8
comp=Z,22nm,1.2s
R55A Marlinton 26.95 15 P P 15 07 11.5 -0.2
baz=198
Q51A Peebles 27.03 9 P P 15 07 10.9 -1.4
Q51A IAmb IAmb 15 07 12.9
comp=Z,35nm,1.1s
Q52A Bidwell 27.15 11 P P 15 07 13.1 -0.2
baz=193
Q53A Leroy 27.19 12 P P 15 07 13.6 -0.1
baz=195
P46A Rosedale 27.25 2 P P 15 07 12.1 -2.2
P46A IAmb IAmb 15 07 39.3
comp=Z,10nm,0.7s
R56A Bull Pasture M 27.26 16 P P 15 07 14.4 0.0
baz=199
BNM Barren Site 27.32 326 P P 15 07 13.3 -2.0
P40A Paris 27.32 354 P P 15 07 13.2 -1.7
R57A Stanardsville 27.40 17 P P 15 07 16.0 +0.3
baz=201
Q54A Coxs Mills 27.45 13 P P 15 07 16.1 -0.1
baz=196
LENM Lemitar 27.52 325 P P 15 07 16.9 -0.1
R32A Long Quarter, 27.58 343 P P 15 07 16.2 -1.0
R32A IAmb IAmb 15 07 18.6
comp=Z,50nm,1.4s
P38A Dawn 27.60 352 P P 15 07 15.7 -1.7
KSU1 Kansas State U 27.66 346 P P 15 07 17.6 -0.4
baz=162
KSU1 Kansas State U 27.66 346 P P 15 07 16.1 -1.9
KSU1 IAmb IAmb 15 07 18.2
comp=Z,28nm,0.9s
P53A Whipple 27.82 12 P P 15 07 19.5 +0.1
baz=195
P53A Whipple 27.82 12 P P 15 07 18.0 -1.5
P53A IAmb IAmb 15 07 20.3
comp=Z,27nm,1.2s
P52A Corning 27.82 11 P P 15 07 19.0 -0.4
baz=193
ANMO Albuquerque 27.83 327 P P 15 07 20.7 +0.9
O51A Pataskala 28.24 10 P P 15 07 22.6 -0.5
baz=192
CBKS Cedar Bluff 28.25 341 P P 15 07 22.9 -0.4
baz=156
CBKS Cedar Bluff 28.25 341 P P 15 07 22.4 -0.9
CBKS IAmb IAmb 15 07 24.1
comp=Z,25nm,0.8s
ACSO Alum Creek Sta 28.27 9 P P 15 07 22.9 -0.4
baz=191
P56A Dayton Farm, R 28.44 16 P P 15 07 25.2 +0.3
baz=200
TUC Tucson 28.56 318 P P 15 07 27.3 +1.1
T25A Trinidad 28.57 333 P P 15 07 27.6 +1.2
baz=146,SNR=16
T25A Trinidad 28.57 333 P P 15 07 27.7 +1.3
T25A IAmb IAmb 15 07 31.6
comp=Z,22nm,0.7s
O53A New Philadelph 28.59 12 P P 15 07 25.8 -0.5
baz=195
P57A Homestead Farm 28.64 17 P P 15 07 27.2 +0.4
baz=201
N38A Joes South For 28.70 353 P P 15 07 26.0 -1.3
N49A Columbus Grove 28.78 7 P P 15 07 26.9 -1.1
N49A IAmb IAmb 15 07 28.1
comp=Z,34nm,1.4s
KSCO Kaye Shedlock' 29.43 337 P P 15 07 34.2 +0.3
SDCO Great Sand Dun 29.56 332 P P 15 07 36.4 +1.1
baz=144,SNR=17
SDCO Great Sand Dun 29.56 332 P P 15 07 35.1 -0.2
214A Organ Pipe Nat 29.71 315 P P 15 07 38.0 +1.6
baz=126
L40A Anamosa 29.77 356 P P 15 07 35.8 -0.9
L40A IAmb IAmb 15 07 38.0
comp=Z,12nm,0.6s
W18A Petrified Fore 29.78 323 P P 15 07 38.5 +1.4
baz=134
W18A Petrified Fore 29.78 323 P P 15 07 37.7 +0.6
SCIA State Center 29.80 353 P P 15 07 36.7 -0.2
baz=170
SCIA State Center 29.80 353 P P 15 07 35.8 -1.2
O59A Robesonia 29.96 19 P P 15 07 38.5 +0.1
baz=204
S22A 4UR Ranch, Cre 30.19 330 P P 15 07 42.4 +1.6
baz=142,SNR=5.6
S22A 4UR Ranch, Cre 30.19 330 P P 15 07 41.4 +0.5
Q24A Divide 30.41 334 P P 15 07 42.5 -0.3
baz=146
Q24A Divide 30.41 334 P P 15 07 41.5 -1.3
K38A Parkersburg 30.48 354 P P 15 07 41.5 -1.5
JFWS Jewell Farm 30.56 357 P P 15 07 43.1 -0.5
baz=176
JFWS Jewell Farm 30.56 357 P P 15 07 42.1 -1.6
JFWS IAmb IAmb 15 07 43.8
comp=Z,26nm,1.4s
M57A Sunshine Farm, 30.61 17 P P 15 07 42.3 -1.9
baz=202
MVCO Mesa Verde 30.62 328 P P 15 07 45.7 +1.1
baz=139
MVCO Mesa Verde 30.62 328 P P 15 07 44.1 -0.4
N59A State Game Lan 30.64 19 P P 15 07 44.9 +0.4
baz=205
M58A Price's Panora 30.84 18 P P 15 07 46.3 0.0
baz=203
WUAZ Wupatki 31.03 322 P P 15 07 49.1 +1.0
baz=132
L55A Hinsdale 31.06 15 P P 15 07 47.5 -0.6
baz=199
ISCO Idaho Springs 31.30 334 P P 15 07 50.7 0.0
ISCO IAmb IAmb 15 08 01.9
comp=Z,8.8nm,0.8s
M59A Waymart 31.32 19 P P 15 07 50.7 +0.3
baz=205
PV01 Paradox Valley 31.36 329 P P 15 07 50.9 -0.1
M60A Port Jervis 31.39 20 P P 15 07 51.7 +0.7
baz=206
K54A Basiliko Farm, 31.40 14 P P 15 07 51.5 +0.4
baz=198
PV15 Paradox Valley 31.47 329 P P 15 07 51.8 -0.3
PV02 Paradox Valley 31.50 329 P P 15 07 52.4 +0.1
PV13 Radium Mtn., P 31.50 328 P P 15 07 52.2 -0.1
K31A O'Neill 31.52 345 P P 15 07 51.6 -0.6

I40A Norwalk 31.55 357 P P 15 07 51.3 -1.1
I40A IAmb IAmb 15 07 52.1
comp=Z,32nm,1.3s
PV05 Paradox Valley 31.58 328 P P 15 07 53.4 +0.3
PV05 IAmb IAmb 15 07 56.0
comp=Z,12nm,1.1s
PV03 Paradox Valley 31.59 329 P P 15 07 53.4 +0.3
PV03 IAmb IAmb 15 07 56.2
comp=Z,11nm,1.0s
PV12 Saucer Basin, 31.61 329 P P 15 07 53.1 -0.2
PV12 IAmb IAmb 15 07 56.7
comp=Z,19nm,0.9s
PV18 Skein Mesa, Pa 31.61 328 P P 15 07 53.2 -0.1
PV18 IAmb IAmb 15 07 56.4
comp=Z,17nm,1.0s
PV07 Paradox Valley 31.63 329 P P 15 07 53.3 -0.1
PV07 IAmb IAmb 15 07 56.8
comp=Z,9.9nm,1.0s
PV11 David Mesa, Pa 31.64 329 P P 15 07 53.4 -0.1
PV11 IAmb IAmb 15 07 59.6
comp=Z,15nm,0.7s
PV17 East Wray Mesa 31.66 328 P P 15 07 53.5 -0.3
PV17 IAmb IAmb 15 07 59.8
comp=Z,14nm,0.7s
PV16 Nyswonger Mesa 31.67 328 P P 15 07 53.6 -0.1
PV16 IAmb IAmb 15 07 56.9
comp=Z,19nm,1.1s
M61A Granite Spring 31.67 21 P P 15 07 53.3 -0.2
baz=208
PV19 Morning Glory 31.70 328 P P 15 07 53.6 -0.5
PV19 IAmb IAmb 15 08 00.0
comp=Z,10nm,0.7s
PV20 West Nyswonger 31.72 328 P P 15 07 54.7 +0.6
PV20 IAmb IAmb 15 07 57.1
comp=Z,14nm,1.1s
PV04 Paradox Valley 31.72 329 P P 15 07 54.3 +0.1
PV04 IAmb IAmb 15 07 57.4
comp=Z,15nm,1.0s
GLA Glamis 31.73 315 P P 15 07 54.1 -0.1
baz=124
GLA Glamis 31.73 315 P P 15 07 54.3 +0.1
GLA IAmb IAmb 15 07 56.1
comp=Z,12nm,0.9s
BINY Binghamton 31.74 18 P P 15 07 54.6 +0.5
baz=203
PV14 Lion Creek, Pa 31.77 328 P P 15 07 55.5 +0.8
PV14 IAmb IAmb 15 07 57.7
comp=Z,10nm,1.0s
PV22 Blue Mesa, Par 31.77 329 P P 15 07 55.4 +0.7
PV22 IAmb IAmb 15 07 59.0
comp=Z,10nm,1.0s
PV10 Paradox Valley 31.78 328 P P 15 07 54.7 -0.1
PV10 IAmb IAmb 15 08 05.8
comp=Z,15nm,0.8s
PV23 Carpenter Ridg 31.82 329 P P 15 07 55.1 -0.1
PV23 IAmb IAmb 15 07 58.7
comp=Z,16nm,0.9s
K56A Middlesex 31.82 16 P P 15 07 54.2 -0.6
baz=201
I37A Lemond, Waseca 31.90 353 P P 15 07 54.2 -1.3
I49A Point Hope 31.93 8 P P 15 07 54.1 -1.6
ESJX Sierra Juarez 31.96 312 P P 15 07 57.0 +0.7
L59A Walton 32.02 19 P P 15 07 56.8 +0.1
baz=205
J54A Appleton 32.04 14 P P 15 07 56.6 0.0
baz=198
J54A Appleton 32.04 14 P P 15 07 55.3 -1.4
ECSD EROS Data Cent 32.11 349 P P 15 07 55.9 -1.4
baz=165,SNR=9.1
ECSD EROS Data Cent 32.11 349 P P 15 07 55.8 -1.6
ECSD IAmb IAmb 15 07 57.1
comp=Z,15nm,1.1s
L60A Shokan 32.11 20 P P 15 07 57.6 +0.2
baz=207
SWSC Sam W. Stewart 32.35 314 P P 15 08 00.2 +0.6
baz=123
N23A Red Feather La 32.36 335 P P 15 07 59.4 -0.5
N23A IAmb IAmb 15 08 04.5
comp=Z,8.2nm,0.8s
IKP In-Ko-Pah, Jac 32.41 313 P P 15 08 00.1 -0.2
baz=122
J56A Wolcott 32.49 16 P P 15 08 00.5 -0.1
baz=201
BC3 Big Chuckawall 32.51 315 P P 15 08 02.6 +1.6
baz=124
L61A Hillsdale 1, H 32.52 21 P P 15 08 02.0 +1.0
baz=208
IRM Iron Mountain 32.58 316 P P 15 08 02.3 +0.6
baz=125
K59A Cooperstown 32.61 19 P P 15 08 02.3 +0.5
baz=205
G45A Suttons Bay 32.74 4 P P 15 08 01.3 -1.5
O20A White River Ci 32.75 331 P P 15 08 05.1 +1.8
baz=142,SNR=12
O20A White River Ci 32.75 331 P P 15 08 04.4 +1.2
SAML Samuel 32.84 129 P P 15 08 02.2 -1.8
J57A Williamstown 32.85 17 P P 15 08 03.9 +0.1
baz=203
G40A Rib Lake 32.91 358 P P 15 08 01.9 -2.4
G40A IAmb IAmb 15 08 03.4
comp=Z,12nm,1.1s
J58A Remsen 33.01 18 P P 15 08 04.7 -0.5
baz=204
SPMN Marine on St. 33.04 354 P P 15 08 04.3 -1.1
baz=172,SNR=20
SPMN Marine on St. 33.04 354 P P 15 08 03.3 -2.1
K61A Williamstown 33.05 21 P P 15 08 05.7 +0.1
baz=208
L61B Northampton 33.06 22 P P 15 08 05.2 -0.5
baz=209
SRU San Rafael Swe 33.10 328 P P 15 08 06.2 -0.1
LCMT Little Creek M 33.15 322 P P 15 08 06.5 -0.2
SUSD Miller 33.28 346 P P 15 08 07.2 -0.5
baz=161
SUSD Miller 33.28 346 P P 15 08 06.3 -1.3
H53A Bobcaygeon 33.29 13 P P 15 08 07.1 -0.5
baz=198
GMRC Granite Mounta 33.29 317 P P 15 08 08.2 +0.2
baz=126
J59A Piesco 33.35 19 P P 15 08 07.7 -0.5
baz=205
J59A Piesco 33.35 19 P P 15 08 07.0 -1.1
J59A IAmb IAmb 15 08 08.3
comp=Z,18nm,1.3s
SADO Sadowa 33.36 12 LR LR 15 21 13.1
comp=Z,150nm,20.7s,baz=200,slow=36
SADO Sadowa 33.36 12 P P 15 08 06.6 -1.6
SADO IAmb IAmb 15 08 08.5
comp=Z,28nm,1.4s
I58A Old Forge 33.41 18 P P 15 08 08.3 -0.4
baz=204
I57A Carthage 33.43 17 P P 15 08 08.4 -0.5
baz=203
P17A Butcher Ranch, 33.48 328 P P 15 08 08.9 -0.6
RWWY Rawlins 33.55 334 P P 15 08 09.2 -1.0
CCUT Cedar City 33.58 323 P P 15 08 09.8 -0.8
TMUT Trail Mountain 33.59 327 P P 15 08 11.8 +1.0
COWI Conover 33.71 359 P P 15 08 09.1 -2.2
COWI IAmb IAmb 15 08 10.1
comp=Z,7.8nm,0.7s
RDMU Red Mountain 33.72 330 P P 15 08 11.1 -0.6
F36A Milaca 33.74 354 P P 15 08 09.7 -1.9
TCRU Three Creeks R 33.78 325 P P 15 08 11.9 -0.4
I59A Olmsteadville 33.84 19 P P 15 08 11.9 -0.5
baz=206
E43A Lone Tree Farm 34.01 2 P P 15 08 11.8 -2.1
E43A IAmb IAmb 15 08 13.1
comp=Z,18nm,1.1s
J62A Henniker 34.05 22 P P 15 08 13.6 -0.7
baz=210
K22A Casper 34.06 336 P P 15 08 15.8 +1.1
baz=147
K22A Casper 34.06 336 P P 15 08 14.6 0.0
K22A IAmb IAmb 15 08 28.5
comp=Z,19nm,1.0s
I60A Shoreham 34.08 20 P P 15 08 14.2 -0.2
baz=207
F33A 5 Mile Ranch, 34.10 350 P P 15 08 12.6 -2.1
G54A Lake Saint Pet 34.18 13 P P 15 08 14.7 -0.7
baz=198
H58A Gabriels 34.31 18 P P 15 08 16.3 -0.2
baz=205
E38A The Farm, Brul 34.31 356 P P 15 08 14.8 -1.7
LONY Lake Ozonia 34.37 18 P P 15 08 16.8 -0.2
baz=204
LONY Lake Ozonia 34.37 18 P P 15 08 15.5 -1.5

LONY IAmb IAmb 15 08 17.3
comp=Z,15nm,0.9s
RSSD Black Hills 34.43 340 P P 15 08 19.0 +1.2
baz=152
I61A Oroboro, Fairl 34.52 21 P P 15 08 19.0 +0.6
baz=209
H59A Cadyville 34.66 19 P P 15 08 19.0 -0.6
baz=206
ALGO Algonquin Park 34.72 13 P P 15 08 19.5 -0.5
baz=198
I62A Tamworth 34.78 22 P P 15 08 21.5 +0.9
baz=210
I62A Tamworth 34.78 22 P P 15 08 20.3 -0.4
LPAZ La Paz 34.81 144 P P 15 08 22.4 +0.6
comp=Z,0.5nm,0.4s,baz=354,slow=6.8,SNR=2.2
LPAZ LR LR 15 23 17.5
comp=Z,160nm,19.4s,baz=310,slow=38
FRNY Flat Rock 34.87 19 P P 15 08 19.9 -1.4
FRNY IAmb IAmb 15 08 21.5
comp=Z,18nm,1.2s
TPNV Topopah Spring 34.97 319 P P 15 08 24.0 +1.5
baz=127
G58A Ormstown 35.01 18 P P 15 08 21.9 -0.5
baz=205
MPMC Manual Prospec 35.25 317 P P 15 08 26.3 +1.4
baz=125
R11A Troy Canyon, C 35.43 322 P P 15 08 26.8 +0.3
baz=130
BW06 Boulder Array 35.44 333 P P 15 08 26.9 +0.3
baz=142
BW06 Boulder Array 35.44 333 P P 15 08 25.4 -1.2
PD31 Pinedale Array 35.44 333 P P 15 08 25.5 -1.1
PDAR Pinedale Array 35.44 333 P P 15 08 24.9 -1.7
comp=Z,2.0nm,0.9s,baz=132,slow=8.4,SNR=12
PDAR PcP PcP 15 10 55.6 -0.3
comp=Z,0.8nm,0.6s,baz=131,slow=5.8,SNR=4.5
PDAR LR LR 15 26 53.9
comp=Z,127nm,18.1s,baz=146,slow=43
HWUT Hardware Ranch 35.49 330 P P 15 08 26.2 -0.8
G60A Masonville 35.51 20 P P 15 08 25.9 -0.9
baz=208
EYMN Ely 35.64 357 P P 15 08 26.4 -1.6
baz=175
EYMN Ely 35.64 357 P P 15 08 25.8 -2.1
E57A Chemin Saint G 36.13 17 P P 15 08 31.8 -0.4
baz=204
AHID Auburn Hatcher 36.15 331 P P 15 08 30.8 -1.9
AHID IAmb IAmb 15 08 38.2
comp=Z,8.9nm,0.8s
B35A Bob, Littlefor 36.23 354 P P 15 08 30.1 -2.9
B35A IAmb IAmb 15 08 32.3
comp=Z,16nm,0.8s
G62A West of Eustis 36.23 22 P P 15 08 33.3 +0.2
baz=210
H64A Troy 36.24 24 P P 15 08 33.4 +0.3
baz=213
D55A Sainte-Anne-du 36.33 15 P P 15 08 33.1 -0.7
baz=202
E58A La Victoria 36.34 18 P P 15 08 33.3 -0.6
baz=205
F60A Warwick 36.40 20 P P 15 08 33.6 -0.8
baz=208
AGMN Agassiz Nation 36.43 352 P P 15 08 33.7 -1.0
baz=168,SNR=11
AGMN Agassiz Nation 36.43 352 P P 15 08 32.0 -2.7
G63A Kingsbury 36.48 23 P P 15 08 34.9 -0.3
baz=212
REDW Red Top Meadow 36.49 332 P P 15 08 34.9 -0.7
SNOW Snow King Moun 36.53 332 P P 15 08 35.3 -0.6
SNOW IAmb IAmb 15 08 38.9
comp=Z,18nm,0.8s
LOHW Long Hollow 36.58 333 P P 15 08 35.7 -0.6
MDND Maddock 36.65 347 P P 15 08 36.0 -0.6
baz=161
MDND Maddock 36.65 347 P P 15 08 35.2 -1.4
H65A Eastbrook 36.67 24 P P 15 08 36.5 -0.3
baz=214
D57A Chemin Vers le 36.75 17 P P 15 08 36.6 -0.9
baz=204
ELK Elko 36.81 325 P P 15 08 38.1 -0.2
VLDQ Val d'Or 36.90 12 P P 15 08 36.3 -2.4
VLDQ IAmb IAmb 15 08 38.3
comp=Z,13nm,1.0s
G64A Maxfield 36.93 23 P P 15 08 38.6 -0.4
baz=213
IMW Indian Meadow 36.95 333 P P 15 08 38.2 -1.4
FLWY Flagg Ranch 36.99 333 P P 15 08 38.9 -0.9
F62A Pittston Farm, 37.02 22 P P 15 08 39.3 -0.5
baz=211
D58A Chemin du LacG 37.11 18 P P 15 08 39.9 -0.6
baz=206
NVAR Mina Array Bea 37.16 320 P P 15 08 41.2 -0.1
comp=Z,4.3nm,0.9s,baz=104,slow=3.8,SNR=9.0
NVAR PcP PcP 15 11 01.9 +0.9
comp=Z,1.4nm,0.7s,baz=123,slow=4.0,SNR=6.2
NVAR ScP ScP 15 14 52.3 +6.7
comp=Z,0.8nm,0.7s,baz=96,slow=6.0,SNR=4.5
NVAR LR LR 15 26 02.2
comp=Z,306nm,19.0s,baz=131,slow=40
NVAR Mina Array Bea 37.16 320 P P 15 08 41.5 +0.2
RLMT Red Lodge 37.22 335 P P 15 08 42.2 +0.5
baz=145
RLMT Red Lodge 37.22 335 P P 15 08 41.2 -0.6
RLMT IAmb IAmb 15 08 46.6
comp=Z,11nm,1.0s
G65A Princeton 37.36 25 P P 15 08 42.7 0.0
baz=215
KVN Kaiserville 37.40 321 P P 15 08 43.9 +0.5
YNE Yellowstone No 37.43 335 P P 15 08 43.6 0.0
F64A Sherman 37.60 23 P P 15 08 44.0 -0.6
baz=213
YHH Holmes Hill 37.62 334 P P 15 08 45.5 +0.3
E62A Clayton Lake 37.80 21 P P 15 08 46.3 -0.1
baz=211
YHL Hebgen Lake 37.81 333 P P 15 08 47.0 +0.1
LSQQ Lebel-sur-Quev 37.89 12 P P 15 08 46.6 -0.5
baz=198
E63A Oxbow 38.03 23 P P 15 08 47.9 -0.4
baz=213
E63A Oxbow 38.03 23 P P 15 08 47.6 -0.7
D61A St Aubert, Com 38.07 20 P P 15 08 48.0 -0.5
baz=210
E64A Bridgewater 38.26 23 P P 15 08 49.5 -0.7
baz=214
ULM Lac du Bonnet 38.34 352 P P 15 08 48.9 -1.9
comp=Z,21nm,0.6s,baz=168,slow=8.4,SNR=19
ULM LR LR 15 26 00.1
comp=Z,206nm,22.0s,baz=152,slow=39
ULM Lac du Bonnet 38.34 352 P P 15 08 48.5 -2.3
HLID Hailey 38.35 329 P P 15 08 51.6 +0.3
baz=136
D62A Allapoint, All 38.36 22 P P 15 08 50.5 -0.5
baz=211
D62A Allapoint, All 38.36 22 P P 15 08 49.7 -1.3
D62A IAmb IAmb 15 08 51.4
comp=Z,13nm,0.8s
DGMT Dagmar 38.37 343 P P 15 08 50.9 -0.3
baz=155
DGMT Dagmar 38.37 343 P P 15 08 49.7 -1.5
PQI Presque Isle 38.40 23 P P 15 08 50.3 -1.0
PQI IAmb IAmb 15 08 51.7
comp=Z,11nm,1.0s
BCYI Bear Canyon 38.41 331 P P 15 08 51.0 -0.8
MATQ Matagami 38.43 11 P P 15 08 50.6 -1.0
baz=197
MCMT McKenzie Canyo 38.54 332 P P 15 08 51.9 -1.1
D63A Stockholm 38.67 22 P P 15 08 53.0 -0.7
baz=213
DLMT Dillon 38.84 333 P P 15 08 54.1 -1.1
LMN Caledonia Moun 39.04 26 P P 15 08 54.0 -2.8
LMN IAmb IAmb 15 08 56.7
comp=Z,27nm,1.1s
LRM Limekiln Ridge 39.13 333 P P 15 08 57.6 -0.2
CHGQ Chibougamau 39.28 14 P P 15 08 57.2 -1.6
baz=202
BATG Bathurst New B 39.66 24 P P 15 09 00.3 -1.6
BATG IAmb IAmb 15 09 02.3
comp=Z,17nm,1.0s
EGMT Eagleton 39.81 338 P P 15 09 03.0 -0.3
EGMT IAmb IAmb 15 09 14.3
comp=Z,22nm,0.8s
J08A Circle Bar Ran 40.34 326 P P 15 09 07.4 -0.5
MSO Missoula 40.56 333 P P 15 09 09.9 +0.3
baz=140
MSO Missoula 40.56 333 P P 15 09 09.5 -0.1
O02D Mt. Diablo Mer 41.01 319 P P 15 09 13.9 +0.6

baz=123
JTMT Jette 41.41 334 P P 15 09 16.4 -0.2
FFC Flin Flon 43.65 349 P P 15 09 33.5 -1.0
FFC IAmb IAmb 15 09 34.9
comp=Z,23nm,1.4s
SCHQ Schefferville 45.74 17 P P 15 09 48.4 -2.8
comp=Z,22nm,1.0s,baz=223,slow=6.6,SNR=7.8
SCHQ LR LR 15 30 31.1
comp=Z,544nm,18.5s,baz=176,slow=38
SCHQ Schefferville 45.74 17 P P 15 09 49.2 -2.0
BDFB Brasilia 48.74 124 LR LR 15 32 37.9
comp=Z,298nm,18.3s,slow=38
YKA Yellowknife Ar 53.51 345 P P 15 10 48.6 -1.6
comp=Z,8.5nm,0.9s,baz=136,slow=7.2,SNR=10
PLCA Paso Flores 55.30 163 P P 15 11 07.0 +3.4
comp=Z,1.9nm,0.9s,baz=0.0,slow=13,SNR=2.3
PLCA LR LR 15 29 40.1
comp=Z,66nm,18.4s,baz=341,slow=30
TAOE Nuku Hiva Isla 55.45 250 *e*LR LR 15 26 59.4
comp=Z,134nm,24.4s
C36M Paulatuk 61.34 346 P P 15 11 45.7 +0.5
baz=139
INK Inuvik 63.06 343 P P 15 11 55.5 -1.3
DOT Dot Lake 64.16 336 P P 15 12 03.4 -0.8
SCRK Sand Creek 64.28 336 P P 15 12 05.2 +0.2
baz=116
PMOR Pomariorio Ree 64.75 247 *e*T T 16 22 24.3
comp=Z,2.6nm,0.2s
GHO Glory Hole Cre 65.46 333 P P 15 12 11.5 -1.2
GHO IAmb IAmb 15 12 13.1
comp=Z,7.6nm,1.0s
RC01 Rabbit Creek A 65.59 332 P P 15 12 12.4 -1.1
baz=110
HDA Harding Lake 65.64 336 P P 15 12 12.6 -1.1
baz=114
HDA Harding Lake 65.64 336 P P 15 12 12.4 -1.4
IL31 65.76 336 P P 15 12 12.6 -1.9
IL31 IAmb IAmb 15 12 14.9
comp=Z,13nm,1.4s
ILAR Eielson Array 65.76 336 P P 15 12 13.1 -1.5
comp=Z,3.4nm,1.0s,baz=126,slow=4.1,SNR=22
ILAR PP PP 15 14 38.2 -1.1
comp=Z,0.3nm,0.6s,baz=109,slow=9.1,SNR=4.5
ILAR LR LR 15 43 49.3
comp=Z,127nm,20.5s,baz=134,slow=39
ILAR Eielson Array 65.76 336 P P 15 12 12.9 -1.7
RND Reindeer 66.02 335 P P 15 12 15.3 -1.1
RND IAmb IAmb 15 12 25.4
comp=Z,12nm,1.1s
POKR Poker Plat Res 66.11 337 P P 15 12 15.5 -1.4
baz=114
CAPN Captain Cook N 66.14 332 P P 15 12 15.8 -1.2
baz=108
MDM Murphy Dome 66.36 336 P P 15 12 17.0 -1.5
MDM IAmb IAmb 15 12 18.5
comp=Z,8.9nm,1.4s
NEA2 Nenana 66.55 336 P P 15 12 18.5 -1.1
baz=112
BWN Browne 66.56 335 P P 15 12 17.0 -2.7
KTH Kantishna Hill 66.94 334 P P 15 12 21.2 -1.0
KTH IAmb IAmb 15 12 22.8
comp=Z,12nm,1.4s
BPAW Bear Paw Mtn. 67.16 335 P P 15 12 22.4 -1.2
PPT2 Papeete2 67.20 245 *e*LR LR 15 32 31.4
comp=Z,128nm,26.0s,baz=62
COLD Coldfoot 67.97 338 P P 15 12 27.5 -1.1
baz=112
COLD Coldfoot 67.97 338 P P 15 12 28.3 -0.3
COLD IAmb IAmb 15 12 30.2
comp=Z,12nm,1.3s
TBI Tubuai 69.34 239 *e*LR LR 15 33 24.0
comp=Z,185nm,29.5s
TBI Tubuai 69.34 239 *e*T T 16 28 08.8
comp=Z,4.9nm,0.3s
ESDC Sonseca Array 78.11 52 P P 15 13 26.3 -2.8
comp=Z,0.3nm,0.3s,baz=289,slow=3.9,SNR=2.4
ESDC LR LR 15 43 11.8
comp=Z,91nm,19.9s,baz=290,slow=32
GSTR Great Sitkin T 78.92 321 P P 15 13 32.8 -0.6
DBIC Dimbokro 82.43 85 LR LR 15 47 22.2
comp=Z,56nm,18.8s,baz=270,slow=34
NOA NORSAR Array B 84.01 29 LR LR 15 50 32.0
comp=Z,56nm,18.7s,baz=270,slow=35
ARCES ARCESS Array B 86.68 19 LR LR 15 51 25.7
comp=Z,75nm,20.5s,baz=285,slow=35
TORD Torodi Ar. Bea 87.45 77 LR LR 15 49 59.6
comp=Z,59nm,21.1s,baz=320,slow=33
KEST Kesra 89.19 54 LR LR 15 50 11.2
comp=Z,66nm,20.0s,baz=236,slow=33
FINES FINESS Array B 90.58 26 LR LR 15 56 00.9
comp=Z,73nm,18.4s,baz=302,slow=36
AKASG Malin Array Be 97.25 35 LR LR 15 58 57.7
comp=Z,97nm,18.9s,baz=310,slow=36
NRIK Noril'sk 98.54 1 LR LR 16 00 55.0
comp=Z,131nm,21.9s,baz=18,slow=36
KSRS Korea Array 119.86 327 PKP PKiKP 15 20 21.4 +0.9
comp=Z,1.1nm,0.8s,baz=356,slow=2.4,SNR=3.7
MKAR Makanchi Array 120.62 7 PKP PKPdf 15 20 21.3 -0.5
comp=Z,0.2nm,0.4s,baz=295,slow=2.1,SNR=5.6
LZH Lanzhou 130.50 347 *e*PKP PKPdf 15 20 40.4 -0.8
LZH pPKP pPKPdf 15 20 53.0 +1.0
LZH sPKP 15 21 00.8
LZH LR LR
comp=N,90nm,13.5s
LZH LR LR
comp=E,67nm,16.3s
LZH LR LR
comp=Z,120nm,17.7s
WRA Warramunga Arr 138.23 254 PKP PKPdf 15 20 54.9 -0.9
comp=Z,1.0nm,0.9s,baz=96,slow=2.7,SNR=5.5
ASAR Alice Springs 138.25 248 PKP PKPdf 15 20 55.2 -0.5
comp=Z,0.2nm,0.7s,baz=104,slow=3.6,SNR=3.4
CMAR Chiang Mai Arr 148.59 346 PKP PKPdf 15 21 14.3 +0.3
comp=Z,5.8nm,0.8s,baz=317,slow=2.3,SNR=14
CMAR PKPbc PKPbc 15 21 18.1 +0.5
comp=Z,8.2nm,0.9s,baz=340,slow=3.4,SNR=39

*UCR **01** 15:18:08.6±1.0, 11.°97N×88.°61W, h7km±16km, ML3.6, mb4.4(NEIC)*
*SNET **01** 15:18:08.9±1.1, 11.°94N×88.°58W, h16km±10km, ML3.7*
*IDC **01** 15:18:11.0±1.2, 12.°50N×88.°25W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/33, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=53.6km s-min=19.0km az=54.0*
*INET **01** 15:18:11.7, 12.°17N×88.°65W, h15km, ML3.8*
*NEIC **01** 15:18:12.1±1.7, 12.°19N±0.°09×88.°50W±0.°08, h23km±8km, mb4.4/35, Error ellipse: s-maj=15.0km s-min=8.0km az=220.0*

ISC 01 15:18:13.3±0.8, 12.°16N±0.°06×88.°51W±0.°06, h33km, n85, σ1§07/89, mb4.3/17, 4C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuaŗn**	**1.11**	**13**	⇓*iP*		**Pn**		**15 18 32.9**	**+0.2**
JUCU				*eS*		**Sb**		**15 18 51.0**	**+2.6**
JUCU				IAML				15 18 57.5	
comp=Z,1μm,0.5s									
JUCU	**Jucuaŗn**	**1.11**	**13**	⇓*iP*		**Pn**		**15 18 32.9**	**+0.2**
JUCU				*eS*		**Sb**		**15 18 51.0**	**+2.6**
JUCU				IAML				15 18 57.5	
comp=Z,1μm,0.5s									
LCY	**Lacayo**	**1.27**	**9**	*eP*		**Pn**		**15 18 35.3**	**+0.4**
LCY	**Lacayo**	**1.27**	**9**	*eP*		**Pn**		**15 18 35.3**	**+0.4**
CNCH	**Conchagua**	**1.29**	**31**⇑	*eP*		**Pn**		**15 18 35.2**	**+0.1**
CNCH				IAML				15 19 06.2	
comp=Z,2μm,0.4s									
CNCH	**Conchagua**	**1.29**	**31**⇑	*eP*		**Pn**		**15 18 35.2**	**+0.1**
CNCH				IAML				15 19 06.2	
comp=Z,2μm,0.4s									
LCND	**La Caada**	**1.29**	**28**	*eP*		**Pn**		**15 18 35.4**	**+0.3**
LCND				IAML				15 19 00.8	
comp=Z,754nm,0.4s									
LCND	**La Caada**	**1.29**	**28**	*eP*		**Pn**		**15 18 35.4**	**+0.3**
LCND				IAML				15 19 00.8	
comp=Z,754nm,0.4s									
BLLM	**Bellamira**	**1.30**	**12**	*eP*		**Pn**		**15 18 35.4**	**+0.1**
BLLM	**Bellamira**	**1.30**	**12**	*eP*		**Pn**		**15 18 35.4**	**+0.1**
TECA	**Tecapa**	**1.32**	**0**	*eP*		**Pn**		**15 18 35.5**	**-0.2**
TECA	**Tecapa**	**1.32**	**0**	*eP*		**Pn**		**15 18 35.5**	**-0.2**
COEB	**Comit de Eme**	**1.33**	**359**	*eP*		**Pn**		**15 18 35.5**	**-0.2**
COEB				IAML				15 18 55.6	
comp=Z,802nm,0.4s									
COEB	**Comit de Eme**	**1.33**	**359**	*eP*		**Pn**		**15 18 35.5**	**-0.2**
COEB				IAML				15 18 55.6	
comp=Z,802nm,0.4s									
COEG	**Centro de Oper**	**1.50**	**346**	*eP*		**Pn**		**15 18 37.3**	**-0.7**
COEG				IAML				15 19 09.4	
comp=Z,668nm,0.4s									
COEG	**Centro de Oper**	**1.50**	**346**	*eP*		**Pn**		**15 18 37.3**	**-0.7**
COEG				IAML				15 19 09.4	
comp=Z,668nm,0.4s									
CRIN	**San Cristobal**	**1.52**	**69**			**Pb**		**15 18 39.5**	**-1.6**
LFRS	**El Faro**	**1.55**	**340**	*eP*		**Pn**		**15 18 37.9**	**-0.9**
LFRS				*eS*		**Sb**		**15 19 01.8**	**+0.9**
LFRS	**El Faro**	**1.55**	**340**	*eP*		**Pn**		**15 18 37.9**	**-0.9**
LFRS				*eS*		**Sb**		**15 19 01.8**	**+0.9**
FAGO	**Alcalda de S**	**1.57**	**14**	*eP*		**Pn**		**15 18 39.6**	**+0.6**
FAGO	**Alcalda de S**	**1.57**	**14**	*eP*		**Pn**		**15 18 39.6**	**+0.6**
PAVA	**Las Pavas**	**1.60**	**345**⇑	*iP*		**Pn**		**15 18 39.0**	**-0.4**
PAVA				IAML				15 19 09.0	
comp=Z,826nm,0.5s									
PAVA	**Las Pavas**	**1.60**	**345**⇑	*iP*		**Pn**		**15 18 39.0**	**-0.4**
PAVA				IAML				15 19 09.0	
comp=Z,826nm,0.5s									
SNET	**Serv Nac Est T**	**1.67**	**335**	Pn		**Pn**		**15 18 39.5**	**-0.9**
BOQS	**Boqueron**	**1.74**	**334**	*eP*		**Pn**		**15 18 40.9**	**-0.6**
BOQS	**Boqueron**	**1.74**	**334**	*eP*		**Pn**		**15 18 40.9**	**-0.6**
TACO	**Tacachico**	**1.98**	**335**	*eP*		**Pn**		**15 18 44.4**	**-0.2**
TACO	**Tacachico**	**1.98**	**335**	*eP*		**Pn**		**15 18 44.4**	**-0.2**
NUBE	**Las Nubes**	**2.13**	**325**	*eP*		**Pn**		**15 18 46.2**	**-0.6**
NUBE	**Las Nubes**	**2.13**	**325**	*eP*		**Pn**		**15 18 46.2**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.24**	**32**	Pn		**Pn**		**15 18 49.0**	**+0.8**
MTO3	**Montecristo**	**2.37**	**340**	Pn		**Pn**		**15 18 49.5**	**-0.7**
ESQI	**Esquipulas**	**2.52**	**341**			**Pn**		**15 18 51.4**	**-0.7**
MATN	**Matagalpa**	**2.63**	**73**	Pn		**Pn**		**15 18 52.8**	**-0.9**
ACON	**Acoyapa**	**3.27**	**93**			**Pn**		**15 19 01.6**	**-0.7**
JTS	**Las Juntas de**	**3.95**	**118**	Pn		**Pn**		**15 19 14.1**	**+2.4**
comp=Z,3.0nm,0.3s,baz=341,slow=13,SNR=5.6									
JTS				Sn		**Sn**		**15 19 56.6**	**-0.4**
comp=Z,3.7nm,0.3s,baz=349,slow=18,SNR=2.2									
JTS	**Las Juntas de**	**3.95**	**118**			**Pn**		**15 19 12.0**	**+0.3**
ESPN	**Las Esperanzas**	**4.12**	**89**	Pn		**Pn**		**15 19 13.5**	**-0.4**
PETF	**Flores**	**4.91**	**345**	Pn		**Pn**		**15 19 25.2**	**+0.3**
TEIG	**Tenich**	**8.02**	**2**	Pn		**Pn**		**15 20 08.1**	**+0.4**
comp=Z,0.3nm,0.3s,baz=229,slow=19,SNR=2.7									
FSCY	**Frank Sound, G**	**10.01**	**44**	Pn		**Pn**		**15 20 34.1**	**-0.8**
KVTX	**Kingsville**	**17.65**	**331**			**P**		**15 22 16.5**	**-1.0**
833A	**Chaparral WMA,**	**19.03**	**329**	P		**Pn**		**15 22 33.4**	**-0.1**
833A				IAmb		IAmb		15 22 34.8	
comp=Z,20nm,0.8s									
TIGA	**Tifton**	**19.71**	**13**	P		**Pn**		**15 22 40.3**	**-1.4**
TIGA				IAmb		IAmb		15 23 09.3	
comp=Z,30nm,1.2s									
435B	**Jarrell**	**20.35**	**337**	P		**P**		**15 22 46.9**	**-0.1**
435B				IAmb		IAmb		15 22 48.1	
comp=Z,17nm,0.7s									
152A	**Waverly Hall**	**20.71**	**9**	P		**P**		**15 22 50.6**	**-0.3**
257A	**Skidaway Islan**	**20.89**	**18**	P		**P**		**15 22 52.7**	**-0.1**
JCT	**Junction City**	**21.02**	**332**	P		**P**		**15 22 54.0**	**-0.3**
JCT				IAmb		IAmb		15 22 55.9	
comp=Z,12nm,0.8s									
TXAR	**Lajitas Array**	**22.16**	**323**	P		**P**		**15 23 07.4**	**+0.8**
comp=Z,2.7nm,0.7s,baz=146,slow=12,SNR=34									
TX31	**Lajitas Ar. Si**	**22.16**	**323**	P		**P**		**15 23 07.4**	**+0.8**
TX31				IAmb		IAmb		15 23 09.5	
comp=Z,9.6nm,0.8s									
TX32	**Lajitas Array**	**22.16**	**323**	P		**P**		**15 23 07.7**	**+1.1**
MIAR	**Mount Ida**	**22.76**	**349**	P		**P**		**15 23 12.1**	**-0.8**
ABTX	**Abilene, Hawle**	**22.79**	**335**	P		**P**		**15 23 12.8**	**-0.5**
ABTX				IAmb		IAmb		15 23 14.8	
comp=Z,10nm,1.0s									
SWET	**Sewanee**	**23.07**	**5**	P		**P**		**15 23 16.0**	**-0.1**
WHAR	**Wooly Hollow**	**23.28**	**352**	P		**P**		**15 23 17.7**	**-0.5**
WHAR				IAmb		IAmb		15 23 19.5	
comp=Z,7.9nm,0.8s									
W39A	**Magazine**	**23.43**	**349**	P		**P**		**15 23 19.0**	**-0.6**
TKL	**Tuckaleechee C**	**23.78**	**10**	P		**P**		**15 23 22.5**	**-0.6**
comp=Z,5.5nm,0.8s,baz=190,slow=13,SNR=6.9									
TKL	**Tuckaleechee C**	**23.78**	**10**	IAmb		IAmb		15 23 41.4	
comp=Z,15nm,1.4s									
FCAR	**Ozark Folk Cen**	**23.85**	**353**	P		**P**		**15 23 22.4**	**-1.3**
FCAR				IAmb		IAmb		15 23 24.9	
comp=Z,10nm,0.9s									
X34A	**Smith Ranch, M**	**23.89**	**341**	P		**P**		**15 23 24.3**	**+0.1**
V53A	**Saluda**	**23.97**	**11**	P		**P**		**15 23 24.8**	**0.0**
WMOK	**Wichita Mounta**	**24.34**	**339**	P		**P**		**15 23 27.5**	**-0.7**
U40A	**Yellville**	**24.41**	**351**	P		**P**		**15 23 28.2**	**-0.6**
HHAR	**Hobbs**	**24.51**	**349**	P		**P**		**15 23 29.8**	**0.0**
T47A	**Sharon Grove**	**24.75**	**3**	P		**P**		**15 23 31.1**	**-0.8**
T47A				IAmb		IAmb		15 23 31.9	
comp=Z,7.6nm,0.8s									
T42A	**Van Buren**	**24.87**	**355**	P		**P**		**15 23 31.7**	**-1.3**
T42A				IAmb		IAmb		15 23 34.0	
comp=Z,11nm,1.5s									
OK029	**Liberty Lake**	**24.88**	**343**	P		**P**		**15 23 32.0**	**-1.1**
MGMO	**Mountain Grove**	**25.11**	**353**	P		**P**		**15 23 34.4**	**-0.8**
MGMO				IAmb		IAmb		15 23 35.9	
comp=Z,5.2nm,0.8s									
AMTX	**Amarillo**	**25.59**	**334**	P		**P**		**15 23 39.8**	**+0.1**
S39A	**Bolivar**	**25.79**	**351**	P		**P**		**15 23 40.5**	**-0.8**
CCM	**Cathedral Cave**	**25.90**	**355**	P		**P**		**15 23 41.2**	**-1.1**
CCM				IAmb		IAmb		15 23 43.3	
comp=Z,6.2nm,0.8s									
R40A	**Maddies Statio**	**26.24**	**353**	P		**P**		**15 23 44.4**	**-1.0**
R40A				IAmb		IAmb		15 23 49.4	
comp=Z,11nm,1.2s									
P40A	**Paris**	**27.44**	**354**	P		**P**		**15 23 55.4**	**-0.8**
P40A				IAmb		IAmb		15 23 56.3	
comp=Z,8.3nm,0.7s									
N38A	**Joes South For**	**28.82**	**353**	P		**P**		**15 24 07.7**	**-0.9**
BGNE	**Belgrade**	**30.34**	**346**	P		**P**		**15 24 21.9**	**-0.1**
J54A	**Appleton**	**32.16**	**14**	P		**P**		**15 24 36.1**	**-1.8**
SPMN	**Marine on St.**	**33.15**	**354**	P		**P**		**15 24 45.3**	**-1.4**
PDAR	**Pinedale Array**	**35.55**	**333**	P		**P**		**15 25 09.1**	**+1.4**
comp=Z,0.4nm,0.8s,baz=156,slow=6.7,SNR=2.7									
NVAR	**Mina Array Bea**	**37.25**	**320**	P		**P**		**15 25 23.7**	**+1.4**
comp=Z,0.1nm,0.4s,baz=124,slow=7.8,SNR=2.2									
ULM	**Lac du Bonnet**	**38.46**	**352**	P		**P**		**15 25 30.6**	**-1.5**
comp=Z,3.8nm,0.6s,baz=156,slow=6.8,SNR=2.9									
ULM	**Lac du Bonnet**	**38.46**	**352**	IAmb		IAmb		15 25 59.1	
comp=Z,9.7nm,1.1s									
SIV	**San Ignacio**	**38.98**	**135**	P		**P**		**15 25 38.8**	**+2.0**
comp=Z,2.3nm,0.7s,baz=315,slow=8.1,SNR=9.6									
WRA	**Warramunga Arr**	**138.20**	**254**	PKP		**PKiKP**		**15 37 41.2**	**+3.2**
comp=Z,0.4nm,0.8s,baz=56,slow=1.3,SNR=6.8									
ASAR	**Alice Springs**	**138.20**	**248**	PKP		**PKiKP**		**15 37 41.6**	**+3.6**
comp=Z,0.3nm,0.7s,baz=68,slow=1.9,SNR=6.5									
CMAR	**Chiang Mai Arr**	**148.70**	**346**	PKP		**PKPbc**		**15 37 55.9**	**-2.3**
comp=Z,0.7nm,0.3s,baz=289,slow=2.8,SNR=2.3									
CMAR				PKPbc		**PKPab**		**15 37 59.9**	**-1.9**
comp=Z,1.1nm,0.5s,baz=340,slow=3.4,SNR=8.2									

*NEIC **01** 15:35:18.3±2.0, 6.°17S±0.°06×147.°69E±0.°07, h69km±7km, mb4.1/18, Error ellipse: s-maj=12.4km s-min=5.5km az=133.0*
*IDC **01** 15:35:18.9±1.8, 6.°17S×147.°61E, h66km±16km, mb3.5/7, mb1 3.8/11, mb1mx3.6/33, mbtmp3.9/11, MS3.0/3, Ms1 3.0/3, ms1mx2.6/30, Error ellipse: s-maj=24.3km s-min=11.8km az=105.0*

ISC 01 15:35:19.4±0.6, 6.°19S±0.°07×147.°68E±0.°08, h77km, n35, σ0§94/35, mb3.8/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**189**	P		**Pn**		**15 36 07.3**	**-0.6**
4.7nm,0.3s,baz=345,slow=9.4,SNR=32									
PMG				S		**Sn**		**15 36 45.5**	**+0.1**
13nm,0.3s,baz=18,slow=19,SNR=7.6									
PMG				LR		LR		15 37 49.5	
comp=Z,168nm,20.1s,baz=36,slow=46									
PMG	**Port Moresby**	**3.24**	**189**			**Pn**		**15 36 07.1**	**-0.8**
KRVT	**Keravat (AS076**	**4.71**	**67**	P		**Pn**		**15 36 27.7**	**-0.4**
5.6nm,0.3s,baz=245,slow=3.6,SNR=8.8									
JAY	**Jayapura**	**7.86**	**297**	P		**Pn**		**15 37 10.9**	**-0.2**
2.3nm,0.3s,baz=114,slow=7.3,SNR=14									
COEN	**Coen**	**8.90**	**210**	Pn		**Pn**		**15 37 23.9**	**-1.4**
MTN	**Manton Dam**	**17.60**	**247**			**Pn**		**15 39 18.7**	**-1.0**
MTN				IAmb		IAmb		15 39 42.5	
comp=Z,21nm,1.4s									
WB0	**Warramunga Arr**	**18.68**	**223**	P		**P**		**15 39 30.9**	**-0.7**
WR0	**Warramunga Arr**	**18.72**	**222**	P		**P**		**15 39 30.9**	**-1.1**
WB2	**Warramunga Arr**	**18.83**	**222**	P		**P**		**15 39 32.3**	**-1.0**
WRA	**Warramunga Arr**	**18.84**	**222**	P		**P**		**15 39 32.7**	**-0.6**
comp=Z,0.7nm,0.3s,baz=49,slow=12,SNR=27									
WRA				PcP		**PcP**		**15 43 59.2**	**+1.8**
comp=Z,0.0nm,0.3s,baz=26,slow=1.8,SNR=5.1									
EIDS	**Eidsvold**	**19.35**	**171**	Pn		**Pn**		**15 39 41.0**	**+0.4**
EIDS				IAmb		IAmb		15 39 52.5	
comp=Z,15nm,1.4s									
GUMO	**Guam**	**19.85**	**352**	LR		LR		15 45 41.8	
comp=Z,51nm,20.3s,baz=126,slow=31									
KNRA	**Kununurra**	**20.81**	**242**	P		**P**		**15 39 53.5**	**-1.3**
KNRA				IAmb		IAmb		15 40 00.7	
comp=Z,22nm,1.4s									
AS31	**Alice Springs**	**21.85**	**216**	P		**P**		**15 40 05.5**	**-0.4**
AS31				IAmb		IAmb		15 40 08.7	
comp=Z,2.0nm,0.4s									
ASAR	**Alice Springs**	**21.86**	**216**	P		**P**		**15 40 05.9**	**0.0**
comp=Z,2.8nm,0.4s,baz=52,slow=8.7,SNR=108									
ASAR				S		**S**		**15 44 04.5**	**+1.2**
comp=Z,1.2nm,0.9s,baz=36,slow=19,SNR=6.6									
ASAR	**Alice Springs**	**21.86**	**216**	P		**P**		**15 40 05.7**	**-0.2**
SOEI	**Soe**	**23.45**	**260**	P		**P**		**15 40 21.9**	**-0.6**
SOEI				IAmb		IAmb		15 40 23.3	
comp=Z,18nm,1.2s									
FITZ	**Fitzroy Crossi**	**24.55**	**239**	P		**P**		**15 40 32.0**	**-0.1**
comp=Z,3.4nm,0.5s,baz=1.0,slow=8.1,SNR=24									
FITZ				LR		LR		15 49 29.6	
comp=Z,56nm,21.7s,baz=69,slow=35									
FITZ	**Fitzroy Crossi**	**24.55**	**239**	P		**P**		**15 40 31.9**	**-0.1**
FITZ				IAmb		IAmb		15 40 51.3	
comp=Z,18nm,1.4s									
STKA	**Stephens Creek**	**26.18**	**192**	P		**P**		**15 40 47.6**	**+0.8**
comp=Z,1.3nm,0.5s,baz=2.7,slow=12,SNR=4.9									
STKA	**Stephens Creek**	**26.18**	**192**	IAmb		IAmb		15 40 51.4	
comp=Z,1.6nm,1.2s									
FORT	**Forrest**	**30.62**	**215**	P		**P**		**15 41 26.4**	**+0.1**
RAO	**Raoul Island**	**39.74**	**129**	P		**P**		**15 42 43.9**	**-0.8**
HIZ	**Hauiti**	**40.51**	**147**	P		**P**		**15 42 50.8**	**-0.2**
BHW	**Baring Head**	**42.62**	**149**	P		**P**		**15 43 06.1**	**-2.0**
KHU	**Kahuku**	**61.27**	**64**	P		**P**		**15 45 27.1**	**-0.3**
SONM	**Songino Array**	**64.90**	**331**	P		**P**		**15 45 51.1**	**+0.4**
comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=1.5									
CASY	**Casey**	**65.26**	**196**	P		**P**		**15 45 53.5**	**+0.9**
CASY				IAmb		IAmb		15 45 54.6	
comp=Z,1.7nm,0.9s									
VNDA	**Vanda**	**71.69**	**177**	P		**P**		**15 46 34.4**	**+1.9**
comp=Z,0.3nm,0.5s,baz=328,slow=6.9,SNR=4.1									
VNDA	**Vanda**	**71.69**	**177**	P		**P**		**15 46 34.3**	**+1.8**
VNDA				IAmb		IAmb		15 46 35.3	
comp=Z,1.7nm,1.1s									
MKAR	**Makanchi Array**	**78.07**	**320**	P		**P**		**15 47 10.8**	**+0.9**
comp=Z,0.2nm,0.5s,baz=101,slow=7.5,SNR=2.4									
ZALV	**Zalesovo Beam**	**79.53**	**328**	P		**P**		**15 47 17.3**	**-0.4**
comp=Z,0.3nm,0.3s,baz=111,slow=7.9,SNR=2.1									
SIV	**San Ignacio**	**144.00**	**128**	PKP		PKPbc		15 54 45.6	+0.4
comp=Z,1.4nm,0.6s,baz=231,slow=6.5,SNR=2.7									
TORD	**Torodi Ar. Bea**	**145.79**	**284**	PKPbc		**PKPdf**		**15 54 50.2**	**0.0**
comp=Z,1.1nm,0.6s,baz=80,slow=3.7,SNR=6.3									
TORD	**Torodi Ar. Bea**	**145.79**	**284**			**PKPdf**		**15 54 50.0**	**-0.3**

*UPA **01** 15:37:27.9±1.9, 6.°94N×73.°14W, h189km±84km, MW4.5*
*VAO **01** 15:37:28.7±0.4, 6.°88N×73.°10W, h166km±4km, mb4.3*
*IDC **01** 15:37:28.5±0.5, 6.°74N×72.°93W, h163km±5km, mb3.9/20, mb1 4.0/24, mb1mx3.9/35, mbtmp4.3/24, MS2.6/1, Ms1 2.6/1, ms1mx2.3/28, Error ellipse: s-maj=10.0km s-min=7.2km az=134.0*
*RSNC **01** 15:37:29.2±1.1, 6.°81N×73.°14W, h156km±4km, ML4.5, Mw4.6, Fault plane solution: NP1:θ±58.00000°, δ38.00000°, λ18.00000°.*
*NEIC **01** 15:37:29.1±1.3, 6.°71N±0.°07×72.°97W±0.°06, h169km±5km, mb4.6/242, Error ellipse: s-maj=11.4km s-min=8.2km az=148.0*

ISC 01 15:37:28.4±0.5, 6.°83N±0.°02×73.°10W±0.°03, h158km±4km, n586, σ1§49/645, mb4.6/126, 10C-14D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**199**⇑	*iP*		**Pn**		**15 37 50.2**	**+0.2**
BARC				*eS*		**Sn**		**15 38 05.6**	**-0.9**
BARC				*i*				15 38 08.0	
comp=Z,6μm,0.4s									
PAMC	**Pamplona, Colo**	**0.65**	**38**⇑	*iP*		**Pn**		**15 37 53.0**	**+1.0**
PAMC				*eS*		**Sn**		**15 38 10.3**	**+0.3**
PAMC				*i*				15 38 14.2	
comp=Z,3μm,0.4s									
BRRC	**Barranca, Sant**	**0.67**	**295**⇑	*iP*		**Pn**		**15 37 52.1**	**+0.6**
BRRC				*eS*		**Sn**		**15 38 09.4**	**+0.3**
BRRC				*i*				15 38 16.4	
comp=Z,2μm,0.3s									
RUSC	**La Rusia**	**0.93**	**179**⇓	*iP*		**Pn**		**15 37 54.0**	**+0.1**
RUSC				*eS*		**Sn**		**15 38 12.5**	**-0.9**
RUSC				*i*				15 38 13.9	
comp=Z,3μm,0.3s									
TAMC	**Tame, Arauca**	**1.36**	**107**⇑	*iP*		**Pn**		**15 37 58.4**	**+1.2**
TAMC				*i*				15 38 19.1	
comp=Z,3μm,0.4s									
TAMC				*eS*		**Sn**		**15 38 20.1**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**⇓	*iP*		**Pn**		**15 37 56.7**	**-0.6**
PTBC				*eS*		**Sn**		**15 38 18.0**	**-1.4**
PTBC				*i*				15 38 25.5	
comp=Z,5μm,0.4s					

SDV eS Sn 15 38 56.8 -0.6
MOTC Monteria, Cord 3.19 307 eP Pn 15 38 17.1 -1.3
MOTC eS Sn 15 38 55.2 -2.2
MOTC i 15 39 10.9
comp=Z,1µm,0.5s
ARGC Ariguani, Magd 3.22 339 eP Pn 15 38 20.1 +1.3
ARGC eS Sn 15 38 58.5 +0.6
ARGC i 15 39 10.9
comp=Z,1µm,0.4s
ANIL Santa Ana 3.26 225 eP Pn 15 38 20.6 +0.9
ANIL eS Sn 15 39 00.7 +1.4
ANIL i 15 39 04.3
comp=Z,647nm,0.4s
PRAC Prado 3.57 210 eP Pn 15 38 22.9 -0.4
PRAC eS Sn 15 39 05.4 -0.7
PRAC i 15 39 10.9
comp=Z,2µm,0.5s
ORTC Ortega, Tolima 3.60 216 eP Pn 15 38 23.7 -0.1
ORTC eS Sn 15 39 07.5 +0.7
ORTC i 15 39 14.0
comp=Z,1µm,0.4s
SJCC San Jacinto, C 3.68 326 iP Pn 15 38 23.8 -0.9
SJCC eS Sn 15 39 05.5 -3.0
SJCC i 15 39 18.1
comp=Z,437nm,0.3s
SJCC San Jacinto, C 3.68 326 eP Pn 15 38 23.9 -0.8
SJCC eS Sn 15 39 05.6 -3.0
PLMC San Jos del P 3.70 239 eP Pn 15 38 25.6 +0.7
GUVC San Jose del G 4.28 174 eP Pn 15 38 31.6 -0.9
GUVC eS Sn 15 39 21.7 -0.9
GUVC i 15 39 27.6
comp=Z,825nm,0.3s
YOTC Yotoco, Valle 4.29 229 eP Pn 15 38 32.1 -0.7
SOLC Bahia Solano 4.32 262 eP Pn 15 38 33.2 +0.2
SMRC Santa Marta, M 4.45 346 eP Pn 15 38 35.0 +0.4
CAPC Capurgana 4.58 293 eP Pn 15 38 34.1 -2.3
CAP2 Capurgana 4.59 293 eP Pn 15 38 34.7 -1.9
CAP2 eS Sn 15 39 27.0 -2.8
PIZC Pizarro, Choco 4.62 247 eP Pn 15 38 38.1 +1.2
PTAC Punta Ardita, 4.68 274 eP Pn 15 38 37.3 -0.5
MACC Macarena, Meta 4.71 189 iP Pn 15 38 36.6 -1.6
BETC Betania 4.73 210 eP Pn 15 38 37.8 -0.7
BETC eS Sn 15 39 27.4 -5.9
MARP Paez Belalcaza 4.88 216 eP Pn 15 38 40.0 -0.6
URIC Uribia, Colomb 4.96 13 eP Pn 15 38 40.5 -1.0
URIC eS Sn 15 39 35.1 -3.5
URIC i 15 40 00.2
comp=Z,154nm,0.6s
MALC Bahia Malaga 5.06 237 eP Pn 15 38 44.0 +1.3
UPD2 Meteti 5.16 290 eP Pn 15 38 43.3 -0.7
UPD2 eS Sn 15 39 40.3 -2.9
GARC Garzon, Huila 5.19 207 eP Pn 15 38 43.9 -0.8
PCON Cinco Dias 5.55 216 eP Pn 15 38 49.4 +0.6
POPC Popayan, Colom 5.55 220 eP Pn 15 38 49.9 +0.4
FLOC Florencia 5.80 206 iP Pn 15 38 51.9 -0.7
FLOC eS Sn 15 39 55.2 -3.3
FLOC i 15 40 27.0
comp=Z,242nm,0.9s
BBAC Balboa, Cauca 6.32 221 eP Pn 15 38 59.3 -0.3
GR1C Gorgona, Isla 6.32 233 eP Pn 15 38 58.0 -1.4
CHPO Chepo, Panama 6.39 292 eP Pn 15 39 00.0 -0.4
CHPO eS Sn 15 40 08.3 -4.3
FLAM Flamenco Islan 6.70 288 eP Pn 15 39 02.6 -1.9
FLAM eS Sn 15 40 12.8 -7.1
UPA Univ. de Panam 6.72 289 eP Pn 15 39 02.3 -2.4
UPA eS Sn 15 40 14.4 -6.0
PTLC Puerto Leguiza 6.83 194 eP Pn 15 39 08.5 +2.3
FRIJ El Hiral 6.98 290 eP Pn 15 39 06.7 -1.5
GCUF Volcan Galeras 6.99 217 eP Pn 15 39 10.3 +1.4
BCIP Isla Barro Col 7.06 290 eP Pn 15 39 07.2 -2.2
BCIP Isla Barro Col 7.06 290 eP Pn 15 39 07.5 -1.9
BCIP eS Sn 15 40 24.9 -3.7
BCIP Isla Barro Col 7.06 290 Pn Pn 15 39 07.3 -2.0
MLIR Monte Lirio 7.10 290 eP Pn 15 39 08.3 -1.5
OTAV Otavalo 8.45 219 Pn Pn 15 39 27.1 -1.1
OTAV Otavalo 8.45 219 eP Pn 15 39 29.1 +0.9
PCRV Puerto La Cruz 9.01 68 P Pn 15 39 33.1 -2.1
comp=Z,8.1nm,0.3s,baz=228,slow=7.7,SNR=25
PLCV Puerto La Cruz 9.05 68 Pn 15 39 33.1 -2.6
LGNH Logne 11.62 2 Pn 15 40 11.4 +1.9
PAPH Port-au-Prince 11.65 4 Pn Pn 15 40 11.4 +1.5
MTDJ Mount Denham 12.12 340 Pn Pn 15 40 18.4 +2.3
SDDR Presa de Saban 12.21 8 Pn Pn 15 40 19.7 +2.5
JTS Las Juntas de 12.21 287 P Pn 15 40 18.6 +1.3
comp=Z,1.2nm,0.3s,baz=189,slow=6.3,SNR=6.1
JTS Las Juntas de 12.21 287 Pn Pn 15 40 19.6 +2.3
DR12 Loma Pena Alta 12.43 17 Pn Pn 15 40 18.1 -2.0
GRGR Grenville 12.46 64 P P 15 40 25.8 -0.1
MLPR Magueyes Islan 12.55 28 Pn Pn 15 40 19.9 -1.6
CRPR Cabo Rojo, PR 12.55 27 Pn Pn 15 40 20.3 -1.3
ICMP Isla Caja de M 12.72 30 Pn Pn 15 40 22.3 -1.5
AOPR Arecibo Observ 13.01 28 Pn Pn 15 40 27.3 -0.2
PDPR Patillas Dam, 13.09 31 Pn 15 40 26.7 -1.8
GTBY Guantanamo Bay 13.16 352 Pn Pn 15 40 32.3 +2.9
HUMP Col San Antoni 13.28 31 Pn 15 40 29.5 -1.4
GCPR Guaynabo City 13.30 30 Pn Pn 15 40 30.3 -0.9
SVB Belmont 13.30 60 Pn Pn 15 40 30.2 -1.1
CBYP Canovanas 13.39 31 Pn Pn 15 40 30.2 -2.1
MTP Monte Pirata 13.40 33 Pn Pn 15 40 30.8 -1.7
CDVI St. Croix 13.56 36 Pn 15 40 35.7 +0.6
CUPR Culebra, Puert 13.72 33 Pn Pn 15 40 37.0 +0.6
MCLT Moule a Chique 13.78 59 P P 15 40 43.2 +2.6
CBCY The Bluff, Cay 14.37 334 P P 15 40 48.5 +1.4
LCCY Blossom Villag 14.45 333 P P 15 40 50.4 +2.4
CZSB Cruzeiro do Su 14.47 178 eP Pn 15 40 46.2 +0.3
FSCY Frank Sound, G 14.69 328 P P 15 40 52.4 +1.8
ATAH Atahualpa 14.84 201 P Pn 15 40 51.7 +0.7
comp=Z,0.4nm,0.3s,baz=40,slow=7.9,SNR=2.2
PTGA Pitinga 15.11 119 P Pn 15 40 52.6 -1.2
comp=Z,0.2nm,0.3s,baz=308,slow=19,SNR=1.5
PTGA S Sn 15 43 35.3 -6.7
comp=Z,1.4nm,0.3s,baz=42,slow=16,SNR=5.8
MTO3 Montecristo 17.65 297 P P 15 41 24.7 +1.0
ETMB Extrema 17.90 157 eP P 15 41 24.9 -1.2
ETMB eS S 15 44 44.4 +0.7
SAML Samuel 18.53 148 P P 15 41 31.8 -1.2
SAML IAmb IAmb 15 42 00.9
comp=Z,47nm,1.4s
SAML Samuel 18.53 148 eP P 15 41 32.4 -0.6
PAYG Puerto Ayora 18.70 247 Pn Pn 15 41 37.4 +0.3
TEIG Tepich 19.85 314 P P 15 41 49.1 +1.9
comp=Z,27nm,0.5s,baz=119,slow=6.8,SNR=14
TEIG Tepich 19.85 314 P P 15 41 48.6 +1.3
061Z Ochoppi 20.34 339 P P 15 41 53.9 +1.4
MDP Montagnes des 20.42 94 P P 15 41 52.0 -1.4
comp=Z,5.9nm,0.7s,baz=258,slow=11,SNR=5.0
MDP pP pP 15 42 18.2 -2.9
comp=Z,7.0nm,0.5s,baz=282,slow=16,SNR=2.9
ITTB Itaituba 20.60 122 eP P 15 41 56.1 +0.8
ITTB eS S 15 45 37.4 +0.3
MALB Monte Alegre 20.68 114 eP P 15 41 57.8 +1.6
MALB eS S 15 45 40.0 +1.1
MCPB Macapa, AP 22.18 108 eP P 15 42 12.8 +0.9
MCPB eS S 15 46 05.2 +0.1
NPGB Novo Progresso 22.43 128 eP P 15 42 13.9 -0.5
NPGB eS S 15 46 08.9 -0.2
VILB Vilhena 23.46 147 eP P 15 42 22.9 -0.9
VILB eS S 15 46 26.1 +0.4
LPAZ La Paz 23.49 168 eS S 15 46 26.1 -1.0
CLDB Colider 24.62 135 eP P 15 42 32.5 -1.8
AP01 Chacalluta 25.19 174 P P 15 42 36.4 -3.0
SIV San Ignacio 25.61 152 P P 15 42 42.3 -1.1
comp=Z,0.8nm,0.6s,baz=356,slow=8.9,SNR=5.4
SIV pP pP 15 43 14.6 -2.3
comp=Z,4.4nm,0.6s,baz=337,slow=7.9,SNR=11
PTLB Pontes e Lacer 26.10 148 eP P 15 42 49.6 +1.9
TMAB Tom-Au,PA,Br 26.58 109 eP P 15 42 51.8 -0.3
PRPB Parauapebas 26.58 119 eP P 15 42 52.2 +0.1
Z58A St. Stephen 27.10 348 P P 15 42 57.9 +1.5
baz=165
Z57A Bowman 27.27 346 P P 15 43 00.3 +2.4
baz=163
Y60A Bolivia 27.45 351 P P 15 43 01.8 +2.3
baz=169
152A Waverly Hall 27.89 339 P P 15 43 05.7 +2.2
152A IAmb IAmb 15 43 06.7
comp=Z,17nm,0.8s
GOGA Godfrey 28.14 341 P P 15 43 08.1 +2.3
baz=158
GOGA Godfrey 28.14 341 P P 15 43 07.5 +1.7
GOGA IAmb IAmb 15 43 08.7
comp=Z,8.3nm,1.0s

Y55A Saluda 28.17 344 P P 15 43 08.0 +2.0
baz=161
X55A Gracelyn & Ava 28.61 345 P P 15 43 12.2 +2.3
baz=162
Z51A Franklin 28.64 339 P P 15 43 11.6 +1.4
LRAL Lakeview Retre 29.10 335 P P 15 43 16.3 +2.1
baz=151
LRAL Lakeview Retre 29.10 335 P P 15 43 15.8 +1.6
LRAL IAmb IAmb 15 43 17.3
comp=Z,7.9nm,0.8s
V59A Middlesex 29.18 351 P P 15 43 16.7 +1.7
baz=169
LVC Limon Verde 29.54 172 eP P 15 43 18.9 +0.2
SMTB Santa Maria do 29.83 121 eP P 15 43 20.8 -0.2
W52A Murphy 29.84 342 P P 15 43 22.7 +1.8
W52A IAmb IAmb 15 43 24.1
comp=Z,19nm,0.9s
U58A Oxford 29.85 351 P P 15 43 22.6 +1.8
baz=169
U57A Blanch 30.01 350 P P 15 43 23.8 +1.6
baz=167
V53A Saluda 30.06 344 P P 15 43 24.6 +1.9
V53A IAmb IAmb 15 43 25.9
comp=Z,7.6nm,0.8s
T59A Double "B" Far 30.28 353 P P 15 43 26.2 +1.6
baz=171
T59A Double "B" Far 30.28 353 P P 15 43 24.6 0.0
T59A IAmb IAmb 15 43 26.9
comp=Z,11nm,0.8s
TKL Tuckaleechee C 30.32 343 P P 15 43 26.8 +1.8
comp=Z,1.4nm,0.3s,baz=141,slow=14,SNR=1.5
TKL PcP PcP 15 46 21.9 +0.5
comp=Z,3.8nm,0.6s,baz=207,slow=4.5,SNR=4.3
TKL Tuckaleechee C 30.32 343 IAmb IAmb 15 43 55.0
comp=Z,18nm,1.4s
X48A Hartselle 30.35 337 P P 15 43 26.9 +1.6
CPCT Cooper Cave 30.36 341 P P 15 43 27.2 +1.8
CPCT IAmb IAmb 15 43 28.5
comp=Z,12nm,0.9s
T58A Grand View Acr 30.38 351 P P 15 43 27.3 +1.7
baz=169
W50A Signal Mountai 30.39 340 P P 15 43 27.4 +1.8
W50A IAmb IAmb 15 43 28.8
comp=Z,16nm,0.9s
ROSB Rosrio 30.50 108 eP P 15 43 26.7 -0.2
T57A Hurt 30.55 350 P P 15 43 28.8 +1.8
baz=168
T57A Hurt 30.55 350 P P 15 43 28.1 +1.1
T57A IAmb IAmb 15 43 43.8
comp=Z,21nm,1.1s
ARAG Araguaiana, MT 30.76 137 eP P 15 43 28.1 -0.9
ARAG eS S 15 48 20.8 0.0
Y45A Yeager Farm, C 30.91 333 P P 15 43 31.4 +1.2
S58A Poland Farm, P 30.97 352 P P 15 43 32.2 +1.5
baz=170
PEXB Peixe 31.02 127 eP P 15 43 31.2 -0.2
T54A Tazewell 31.07 347 P P 15 43 33.7 +2.0
baz=163
TZTN Tazewell 31.08 344 P P 15 43 34.1 +2.4
baz=160
T53A Wise 31.22 345 P P 15 43 34.8 +1.7
baz=162
PLAL Pickwick Lake 31.23 336 P P 15 43 33.7 +0.7
S57A Dark Hollow, R 31.25 351 P P 15 43 35.2 +2.0
baz=169
OXF Oxford 31.39 334 P P 15 43 36.0 +1.6
baz=148
S55A Lewisburg 31.53 349 P P 15 43 37.6 +2.0
baz=166
CLTN Cedars of Leba 31.55 339 P P 15 43 37.7 +1.9
CLTN IAmb IAmb 15 43 38.9
comp=Z,24nm,1.2s
R58A Rapidan 31.64 353 P P 15 43 38.8 +2.2
baz=170
S54A Dingess, Beckl 31.72 348 P P 15 43 39.3 +2.0
baz=164
S54A Dingess, Beckl 31.72 348 P P 15 43 38.4 +1.1
S54A IAmb IAmb 15 43 40.4
comp=Z,9.2nm,0.8s
W45A Hickory Valley 31.84 335 P P 15 43 39.6 +1.2
T50A Nancy 31.90 342 P P 15 43 40.3 +1.4
T50A IAmb IAmb 15 43 42.4
comp=Z,7.2nm,0.8s
R56A Bull Pasture M 31.95 351 P P 15 43 41.6 +2.3
baz=168
R55A Marlinton 31.95 350 P P 15 43 40.9 +1.5
baz=167
R55A Marlinton 31.95 350 P P 15 43 40.0 +0.6
R55A IAmb IAmb 15 43 42.6
comp=Z,7.9nm,0.8s
R54A Victor 32.02 348 P P 15 43 41.8 +1.9
baz=165
Q59A Harwood 32.05 355 P P 15 43 42.2 +2.0
baz=173
AQDB Aquidauana 32.08 148 eP P 15 43 40.4 -0.2
WVT Waverly 32.13 337 P P 15 43 42.6 +1.7
baz=152
Q56A Snyder Ridge, 32.54 351 P P 15 43 46.6 +2.2
baz=169
T47A Sharon Grove 32.62 339 P P 15 43 46.6 +1.4
Q55A Buckhannon 32.64 350 P P 15 43 48.0 +2.7
baz=167
Q54A Coxs Mills 32.77 349 P P 15 43 48.3 +1.9
baz=166
Q53A Leroy 32.78 348 P P 15 43 48.8 +2.2
baz=164
P57A Homestead Farm 32.81 353 P P 15 43 49.2 +2.5
baz=171
R50A Paris 32.92 344 P P 15 43 49.6 +1.8
R50A IAmb IAmb 15 43 51.0
comp=Z,17nm,0.8s
P56A Dayton Farm, R 32.94 352 P P 15 43 50.2 +2.3
baz=169
X40A Basin Creek Fa 33.00 329 P P 15 43 49.2 +0.8
baz=142,SNR=5.9
X40A Basin Creek Fa 33.00 329 P P 15 43 49.3 +0.8
X40A IAmb IAmb 15 43 50.8
comp=Z,10nm,0.9s
Q52A Bidwell 33.04 347 P P 15 43 51.0 +2.2
baz=163
P55A Reedsville 33.09 350 P P 15 43 51.2 +2.0
baz=168
W41B Gary Mavity, V 33.26 331 P P 15 43 51.8 +1.1
baz=144
W41B Gary Mavity, V 33.26 331 P P 15 43 51.4 +0.7
P54A Burton 33.30 350 P P 15 43 52.8 +1.8
baz=166
O58A Lewisberry 33.33 355 P P 15 43 53.2 +2.0
baz=173
P53A Whipple 33.36 348 P P 15 43 53.2 +1.7
baz=165
Q51A Peebles 33.36 345 P P 15 43 53.1 +1.5
Q51A IAmb IAmb 15 43 54.7
comp=Z,11nm,0.7s
WHAR Wooly Hollow 33.37 331 P P 15 43 52.6 +0.9
WHAR IAmb IAmb 15 43 53.5
comp=Z,14nm,0.9s
BDFB Brasilia 33.41 132 P P 15 43 50.2 -2.2
comp=Z,2.0nm,0.6s,baz=306,slow=9.7,SNR=3.4
MIAR Mount Ida 33.43 328 P P 15 43 53.1 +0.9
baz=141
MIAR Mount Ida 33.43 328 P P 15 43 52.6 +0.4
MIAR IAmb IAmb 15 43 55.0
comp=Z,9.4nm,1.2s
WCI Wyandotte Cave 33.47 341 P P 15 43 54.3 +1.8
baz=156
WCI Wyandotte Cave 33.47 341 P P 15 43 52.4 -0.1
LCAR Lake Charles 33.47 333 P P 15 43 52.9 +0.4
LCAR IAmb IAmb 15 43 54.7
comp=Z,10.0nm,0.6s
O57A Amberson 33.48 354 P P 15 43 55.1 +2.5
baz=172
O56A Blue Knob Stat 33.65 352 P P 15 43 56.7 +2.6
baz=170
P52A Corning 33.66 347 P P 15 43 56.0 +1.9
baz=164,SNR=6.4
P52A Corning 33.66 347 P P 15 43 55.5 +1.4
LUPA Lehigh Univers 33.69 357 P P 15 43 55.5 +1.2
LUPA IAmb IAmb 15 43 57.6
comp=Z,17nm,0.9s
USIN University of 33.70 339 P P 15 43 55.7 +1.3
O55A Ligonier 33.70 351 P P 15 43 56.9 +2.5
baz=169
P51A Williamsport 33.72 346 P P 15 43 56.9 +2.2
baz=162
PBMO Poplar Bluff 33.75 335 P P 15 43 56.1 +1.1

FCAR Ozark Folk Cen 33.77 332 P P 15 43 56.0 +0.8
SDBA SAO DESIDERIO 33.93 124 eP P 15 43 56.2 -0.7
N58A Sunbury 34.02 355 P P 15 43 59.4 +2.2
baz=173
N59A State Game Lan 34.03 356 P P 15 43 59.8 +2.5
baz=175
N59A State Game Lan 34.03 356 P P 15 43 59.5 +2.2
N59A IAmb IAmb 15 44 00.3
comp=Z,10nm,0.8s
W39A Magazine 34.04 329 P P 15 43 58.8 +1.2
baz=141,SNR=8.8
W39A Magazine 34.04 329 P P 15 43 58.7 +1.2
W39A IAmb IAmb 15 43 59.7
comp=Z,17nm,0.8s
S44A Carbondale 34.05 337 P P 15 43 58.4 +0.9
O52A Adamsville 34.06 348 P P 15 43 59.7 +2.1
baz=164
O52A Adamsville 34.06 348 P P 15 43 59.1 +1.6
O53A New Philadelph 34.06 349 P P 15 43 59.6 +2.0
baz=165
N55A Marion Center 34.21 352 P P 15 44 01.1 +2.1
baz=169
T42A Van Buren 34.25 334 P P 15 43 59.8 +0.6
O51A Pataskala 34.25 347 P P 15 44 01.4 +2.2
baz=163
N56A West Decatur 34.26 353 P P 15 44 01.7 +2.4
baz=171
ACSO Alum Creek Sta 34.42 347 P P 15 44 02.1 +1.4
baz=162
M62A Hamden 34.47 0 P P 15 44 03.9 +2.8
baz=180
U40A Yellville 34.50 331 P P 15 44 02.6 +1.1
baz=144,SNR=26
U40A Yellville 34.50 331 P P 15 44 02.4 +0.9
M58A Price's Panora 34.53 356 P P 15 44 03.6 +2.0
baz=174
N53A Lisbon 34.53 350 P P 15 44 03.6 +1.9
baz=166
N54A Moraine State 34.54 351 P P 15 44 03.8 +2.1
baz=168
N54A Moraine State 34.54 351 P P 15 44 03.8 +2.1
N54A IAmb IAmb 15 44 04.8
comp=Z,14nm,1.0s
M57A Sunshine Farm, 34.55 355 P P 15 44 03.8 +2.0
baz=173
M57A Sunshine Farm, 34.55 355 P P 15 44 03.8 +2.0
M57A IAmb IAmb 15 44 04.6
comp=Z,9.4nm,0.7s
ITRB Iturama 34.59 140 eP P 15 44 02.3 -0.1
Z35A Perchaven, San 34.60 323 P P 15 44 03.3 +1.0
M64A Tiverton 34.62 2 P P 15 44 04.1 +1.8
baz=183
M59A Waymart 34.63 357 P P 15 44 04.6 +2.1
baz=176
KSPA Keystone Colle 34.66 356 P P 15 44 04.4 +1.6
KSPA IAmb IAmb 15 44 05.5
comp=Z,14nm,0.6s
N52A McGinn's Farm, 34.70 349 P P 15 44 05.0 +1.9
baz=165
M56A Emporium 34.80 353 P P 15 44 06.0 +2.0
baz=171
M56A Emporium 34.80 353 P P 15 44 05.6 +1.6
IPMB Ipameri, GO 34.81 135 eP P 15 44 04.3 -0.1
M55A Ridgway 34.86 353 P P 15 44 06.0 +1.5
baz=170
M55A Ridgway 34.86 353 P P 15 44 06.0 +1.5
M55A IAmb IAmb 15 44 34.0
comp=Z,6.4nm,0.8s
L63A North Scituate 34.91 2 P P 15 44 07.0 +2.1
baz=182
HHAR Hobbs 34.97 330 P P 15 44 05.8 +0.4
HHAR IAmb IAmb 15 44 06.8
comp=Z,7.7nm,0.8s
Q44A Meyer Farm, Va 35.02 338 P P 15 44 06.2 +0.4
M54A Oil Creek Stat 35.02 351 P P 15 44 07.8 +1.9
baz=168
M54A Oil Creek Stat 35.02 351 P P 15 44 07.1 +1.2
M54A IAmb IAmb 15 44 09.1
comp=Z,23nm,1.1s
P46A Rosedale 35.02 341 P P 15 44 06.7 +0.9
L58A Harry Jones Me 35.15 356 P P 15 44 08.9 +1.9
baz=175
CCM Cathedral Cave 35.17 335 P P 15 44 08.5 +1.3
baz=148
CCM Cathedral Cave 35.17 335 P P 15 44 08.0 +0.9
L57A Andrews Acres 35.18 355 P P 15 44 09.1 +1.8
baz=173
L61A Hillsdale 1, H 35.22 359 P P 15 44 09.7 +2.2
baz=179
L59A Walton 35.26 358 P P 15 44 09.5 +1.6
baz=176
L59A Walton 35.26 358 P P 15 44 08.8 +0.9
L59A IAmb IAmb 15 44 23.7
comp=Z,20nm,1.2s
U38A Gravette 35.32 330 P P 15 44 08.2 -0.2
U38A IAmb IAmb 15 44 09.4
comp=Z,11nm,1.1s
BINY Binghamton 35.32 356 P P 15 44 10.2 +1.8
baz=175
L56A Greenwood 35.38 354 P P 15 44 10.6 +1.7
baz=172
PCMB Pacaembu 35.46 143 eP P 15 44 09.5 -0.3
L61B Northampton 35.48 1 P P 15 44 11.9 +2.2
baz=180
L55A Hinsdale 35.52 353 P P 15 44 11.9 +1.7
baz=171
L53A Girard 35.55 351 P P 15 44 12.1 +1.8
baz=168
ABTX Abilene, Hawle 35.61 320 P P 15 44 12.2 +1.2
baz=130
ABTX Abilene, Hawle 35.61 320 P P 15 44 11.3 +0.3
ABTX IAmb IAmb 15 44 13.0
comp=Z,9.0nm,0.8s
TRCB Terra Rica 35.61 146 eP P 15 44 10.8 -0.3
SFIN Lafayette 35.68 342 P P 15 44 12.8 +1.3
baz=156,SNR=5.5
SFIN Lafayette 35.68 342 P P 15 44 12.4 +1.0
L54A Sinclairville 35.69 352 P P 15 44 13.9 +2.4
baz=169
K62A Royalston 35.70 1 P P 15 44 14.2 +2.6
baz=181
K63A Dunstable 35.74 2 P P 15 44 14.2 +2.3
baz=182
S39A Bolivar 35.80 332 P P 15 44 12.8 +0.3
S39A IAmb IAmb 15 44 14.6
comp=Z,9.7nm,0.7s
R40A Maddies Statio 35.81 334 P P 15 44 13.2 +0.6
R40A IAmb IAmb 15 44 13.8
comp=Z,13nm,0.6s
P43A Skaggs, Pawnee 35.85 338 P P 15 44 13.9 +0.9
K58A Earlville 35.86 357 P P 15 44 14.9 +2.0
baz=176
JANB Januaria 35.88 127 eP P 15 44 13.4 -0.1
K57A Scipio Center 35.88 356 P P 15 44 15.1 +1.9
baz=174
K56A Middlesex 35.92 355 P P 15 44 15.5 +2.0
baz=173
K54A Basiliko Farm, 35.98 353 P P 15 44 16.0 +2.0
baz=170
J60A Lant Hill Farm 36.27 360 P P 15 44 18.6 +2.2
baz=179
QUOK Quay 36.33 327 P P 15 44 17.4 +0.4
J58A Remsen 36.44 357 P P 15 44 18.8 +1.0
baz=176
TXAR Lajitas Array 36.47 312 P P 15 44 19.8 +1.3
comp=Z,1.6nm,0.4s,baz=129,slow=9.0,SNR=35
TXAR PcP PcP 15 46 40.9 +1.7
comp=Z,0.7nm,0.6s,baz=134,slow=5.8,SNR=4.7
TXAR Lajitas Array 36.47 312 P P 15 44 19.5 +1.0
TX31 Lajitas Ar. Si 36.47 312 P P 15 44 19.4 +0.9
TX31 IAmb IAmb 15 44 20.4
comp=Z,10nm,0.9s
TX32 Lajitas Array 36.47 312 P P 15 44 19.5 +1.0
WMOK Wichita Mounta 36.48 323 P P 15 44 18.7 +0.2
baz=134,SNR=7.4
WMOK Wichita Mounta 36.48 323 P P 15 44 18.4 0.0
WMOK IAmb IAmb 15 44 19.4
comp=Z,7.6nm,0.7s
MEDO Medina 36.49 353 P P 15 44 19.9 +1.6
J57A Williamstown 36.52 356 P P 15 44 20.0 +1.4
baz=175
J57A Williamstown 36.52 356 P P 15 44 19.4 +0.9
J57A IAmb IAmb 15 44 21.0
comp=Z,17nm,0.8s
J55A Hilton 36.53 354 P P 15 44 20.1 +1.5
baz=172

HDIL **Hopedale** 36.58 339 P P 15 44 19.5 +0.5
baz=152
HDIL **Hopedale** 36.58 339 P P 15 44 19.2 +0.1
I58A **Old Forge** 36.75 358 P P 15 44 22.2 +1.7
baz=177,SNR=5.8
P40A **Paris** 36.75 335 P P 15 44 20.6 0.0
BB19B **Bebedouro** 36.75 140 eP P 15 44 21.0 +0.1
T35A **Sooner Cattle** 36.78 328 P P 15 44 20.6 -0.3
T35A IAmb IAmb 15 44 22.0
comp=Z,18nm,1.1s
MC01 **Montes Claros** 37.13 129 eP P 15 44 23.7 -0.4
PTGB **Pitanga** 37.46 148 eP P 15 44 28.1 +1.3
P38A **Dawn** 37.47 334 P P 15 44 26.7 0.0
I51A **Listowel** 37.48 351 P P 15 44 28.2 +1.5
baz=167
J47A **Sunmer** 37.70 346 P P 15 44 29.5 +1.0
DELO **Deloro Mine** 37.75 355 P P 15 44 30.1 +1.2
DELO IAmb IAmb 15 44 30.7
comp=Z,8.5nm,0.6s
H63A **New Sharon** 37.78 4 P P 15 44 31.4 +2.2
baz=185
H64A **Troy** 37.82 5 P P 15 44 31.5 +2.1
baz=186
H53A **Bobcaygeon** 37.90 354 P P 15 44 31.9 +1.7
baz=171
I49A **Point Hope** 37.94 349 P P 15 44 31.6 +1.2
L42A **Oliver, Polo** 37.99 340 P P 15 44 31.1 +0.1
L42A IAmb IAmb 15 44 31.8
comp=Z,22nm,1.1s
EMMW **East Machias** 38.05 7 P P 15 44 32.8 +1.4
G59A **Clarenceville** 38.10 360 P P 15 44 33.7 +1.9
baz=180
G60A **Masonville** 38.13 1 P P 15 44 34.1 +2.0
baz=181
H66A **Whiting** 38.15 7 P P 15 44 34.1 +1.9
baz=189
SADO **Sadowa** 38.16 353 P P 15 44 33.3 +1.0
SADO IAmb IAmb 15 44 34.1
comp=Z,10.0nm,0.6s
G57A **Newington** 38.16 358 P P 15 44 34.0 +1.6
baz=177
K43A **Burlington** 38.18 342 P P 15 44 33.4 +0.8
PLVO **Plevna** 38.22 355 P P 15 44 34.4 +1.5
PLVO IAmb IAmb 15 44 35.2
comp=Z,7.4nm,0.8s
N38A **Joes South For** 38.30 335 P P 15 44 34.0 +0.4
G62A **West of Eustis** 38.31 3 P P 15 44 35.8 +2.1
baz=184
G62A **West of Eustis** 38.31 3 P P 15 44 34.0 +0.4
G62A IAmb IAmb 15 44 36.1
comp=Z,12nm,0.9s
AMTX **Amarillo** 38.36 321 P P 15 44 35.6 +1.3
baz=130
AMTX **Amarillo** 38.36 321 P P 15 44 35.2 +0.9
AMTX IAmb IAmb 15 44 36.3
comp=Z,18nm,1.0s
G64A **Maxfield** 38.46 5 P P 15 44 37.0 +2.1
baz=187
KSU1 **Kansas State U** 38.49 330 P P 15 44 35.1 -0.1
baz=140
KSU1 **Kansas State U** 38.49 330 P P 15 44 35.0 -0.3
G65A **Princeton** 38.53 6 P P 15 44 37.4 +2.0
baz=189
G65A **Princeton** 38.53 6 P P 15 44 36.9 +1.5
G65A IAmb IAmb 15 44 37.6
comp=Z,12nm,0.7s
GGN **Saint George** 38.53 7 P P 15 44 37.0 +1.6
L40A **Anamosa** 38.59 338 P P 15 44 36.0 0.0
L40A IAmb IAmb 15 44 36.9
comp=Z,12nm,0.8s
G54A **Lake Saint Pet** 38.66 354 P P 15 44 38.3 +1.7
baz=172
NBCP **Cabaceiras do** 38.84 120 eP P 15 44 38.0 -0.5
MNTX **Cornudas Mount** 38.98 314 P P 15 44 40.5 +1.1
baz=123,SNR=14
MNTX **Cornudas Mount** 38.98 314 P P 15 44 40.5 +1.1
MNTX IAmb IAmb 15 44 41.8
comp=Z,20nm,1.4s
JFWS **Jewell Farm** 38.99 340 P P 15 44 39.7 +0.3
baz=152,SNR=7.7
JFWS **Jewell Farm** 38.99 340 P P 15 44 39.7 +0.3
F60A **Warwick** 39.01 1 P P 15 44 40.9 +1.5
baz=182
GDU01 **Guandu, BA** 39.05 122 eP P 15 44 39.9 -0.3
F64A **Sherman** 39.10 5 P P 15 44 42.2 +2.0
baz=187
ALGO **Algonquin Park** 39.21 355 P P 15 44 42.6 +1.5
baz=172,SNR=5.2
SCIA **State Center** 39.23 336 P P 15 44 41.9 +0.6
baz=147,SNR=6.7
SCIA **State Center** 39.23 336 P P 15 44 41.9 +0.6
E58A **La Victoria** 39.40 360 P P 15 44 44.5 +1.8
baz=180
N35A **Tabor** 39.41 333 P P 15 44 43.0 +0.1
I42A **Draeger Farm,** 39.43 342 P P 15 44 43.7 +0.7
E57A **Chemin Saint G** 39.45 359 P P 15 44 44.8 +1.7
baz=178
E61A **Lac Etchemin** 39.52 3 P P 15 44 45.6 +1.9
baz=184
LMN **Caledonia Moun** 39.53 9 P P 15 44 44.8 +1.0
LMN IAmb IAmb 15 44 45.7
comp=Z,19nm,0.8s
E55A **Montcerf-Lytto** 39.56 357 P P 15 44 45.6 +1.7
baz=175
H43A **Windswept, Lux** 39.62 343 P P 15 44 45.4 +0.8
TIJ01 **Guaruva-PR** 39.64 145 eP P 15 44 45.1 +0.1
E63A **Oxbow** 39.65 5 P P 15 44 46.7 +2.0
baz=187
E63A **Oxbow** 39.65 5 P P 15 44 46.5 +1.7
E63A IAmb IAmb 15 44 47.1
comp=Z,15nm,0.8s
K38A **Parkersburg** 39.68 337 P P 15 44 45.1 +0.1
K38A IAmb IAmb 15 44 45.7
comp=Z,8.3nm,0.8s
E64A **Bridgewater** 39.70 6 P P 15 44 47.2 +2.1
baz=188
GBN **Guysborough** 39.73 13 P P 15 44 45.7 +0.3
GBN IAmb IAmb 15 44 54.8
comp=Z,14nm,0.9s
E62A **Clayton Lake** 39.76 4 P P 15 44 47.6 +1.9
baz=185
E62A **Clayton Lake** 39.76 4 P P 15 44 47.2 +1.5
E62A IAmb IAmb 15 44 48.4
comp=Z,14nm,0.9s
CBKS **Cedar Bluff** 39.90 327 P P 15 44 48.1 +1.2
baz=136
PQI **Presque Isle** 39.94 5 P P 15 44 48.2 +1.1
PQI IAmb IAmb 15 45 16.4
comp=Z,16nm,1.1s
I40A **Norwalk** 39.98 340 P P 15 44 48.0 +0.5
I40A IAmb IAmb 15 44 48.8
comp=Z,15nm,0.9s
D57A **Chemin Vers le** 40.05 359 P P 15 44 49.9 +1.9
baz=179
D55A **Sainte-Anne-du** 40.09 357 P P 15 44 50.0 +1.6
baz=176
D56A **ZEC Mazanza, M** 40.10 358 P P 15 44 49.8 +1.4
baz=177
D58A **Chemin du LacG** 40.12 0 P P 15 44 50.1 +1.5
baz=180
D62A **Allapoint, All** 40.26 4 P P 15 44 51.3 +1.7
baz=186,SNR=5.9
D62A **Allapoint, All** 40.26 4 P P 15 44 51.4 +1.7
D62A IAmb IAmb 15 44 52.2
comp=Z,14nm,0.8s
D63A **Stockholm** 40.29 5 P P 15 44 52.0 +2.0
baz=187
D61A **St Aubert, Com** 40.30 3 P P 15 44 52.7 +2.7
baz=184
E46A **Sault Ste Mari** 40.56 348 P P 15 44 53.5 +1.3
BATG **Bathurst New B** 40.75 7 P P 15 44 54.9 +1.2
BGNE **Belgrade** 41.02 331 P P 15 44 56.5 +0.4
G40A **Rib Lake** 41.07 342 P P 15 44 57.1 +0.7
G40A IAmb IAmb 15 44 58.2
comp=Z,13nm,1.1s
121A **Cookes Peak, D** 41.15 313 P P 15 44 59.9 +2.3
baz=121
E43A **Lone Tree Farm** 41.18 345 P P 15 44 57.8 +0.5
E43A IAmb IAmb 15 45 06.0
comp=Z,17nm,1.2s
VLDQ **Val d'Or** 41.30 356 P P 15 45 00.2 +2.0
COWI **Conover** 41.51 343 P P 15 45 00.8 +0.8
COWI IAmb IAmb 15 45 02.4
comp=Z,12nm,0.9s
ANMO **Albuquerque** 41.52 317 P P 15 45 02.0 +1.5
baz=125

ECSD **EROS Data Cent** 42.15 334 P P 15 45 04.9 -0.3
baz=144,SNR=7.1
ECSD **EROS Data Cent** 42.15 334 P P 15 45 05.3 0.0
ECSD IAmb IAmb 15 45 06.6
comp=Z,22nm,1.5s
LSQQ **Lebel-sur-Quev** 42.21 356 P P 15 45 06.9 +1.3
baz=174
D41A **Chassel** 42.23 344 P P 15 45 06.9 +1.1
K31A **O'Neill** 42.24 332 P P 15 45 06.7 +0.7
SDCO **Great Sand Dun** 42.55 321 P P 15 45 10.7 +1.8
baz=128,SNR=14
SDCO **Great Sand Dun** 42.55 321 P P 15 45 10.5 +1.6
E38A **The Farm, Brul** 42.69 341 P P 15 45 09.8 +0.2
E38A IAmb IAmb 15 45 10.9
comp=Z,7.9nm,0.7s
F36A **Milaca** 42.71 339 P P 15 45 09.8 +0.1
F36A IAmb IAmb 15 45 10.8
comp=Z,23nm,1.4s
MATQ **Matagami** 42.95 356 P P 15 45 13.1 +1.5
baz=173
TUC **Tucson** 43.26 311 P P 15 45 16.0 +1.6
baz=118
S22A **4UR Ranch, Cre** 43.39 320 P P 15 45 17.6 +1.9
baz=127
F33A **5 Mile Ranch,** 43.73 337 P P 15 45 17.6 -0.4
F33A IAmb IAmb 15 45 18.8
comp=Z,10nm,1.0s
SUSD **Miller** 43.74 333 P P 15 45 18.7 +0.6
baz=141
SUSD **Miller** 43.74 333 P P 15 45 17.8 -0.2
EYMN **Ely** 43.87 342 P P 15 45 19.4 +0.4
baz=153,SNR=6.1
EYMN **Ely** 43.87 342 P P 15 45 19.1 +0.1
W18A **Petrified Fore** 43.87 315 P P 15 45 21.5 +2.1
baz=121
ISCO **Idaho Springs** 43.91 323 P P 15 45 21.6 +1.7
baz=130,SNR=8.1
ISCO **Idaho Springs** 43.91 323 P P 15 45 20.8 +0.9
MVCO **Mesa Verde** 44.16 318 P P 15 45 23.4 +1.6
baz=124
MVCO **Mesa Verde** 44.16 318 P P 15 45 22.7 +0.9
MVCO IAmb IAmb 15 45 24.1
comp=Z,16nm,1.4s
DRLN **Deer Lake** 44.28 15 P P 15 45 22.9 +0.7
PV01 **Paradox Valley** 44.73 319 P P 15 45 28.3 +2.0
X16A **Lo Mia Camp, P** 44.74 313 P P 15 45 27.6 +1.3
PHWY **Pilot Hill** 44.79 325 P P 15 45 27.6 +0.9
PV15 **Paradox Valley** 44.80 320 P P 15 45 28.6 +1.8
PV15 IAmb IAmb 15 45 29.8
comp=Z,19nm,1.0s
N23A **Red Feather La** 44.81 324 P P 15 45 28.3 +1.4
baz=130
N23A **Red Feather La** 44.81 324 P P 15 45 28.3 +1.4
PV02 **Paradox Valley** 44.88 319 P P 15 45 29.0 +1.5
PV02 IAmb IAmb 15 45 30.2
comp=Z,8.0nm,0.7s
PV13 **Radium Mtn., P** 44.91 319 P P 15 45 29.0 +1.3
PV13 IAmb IAmb 15 45 30.3
comp=Z,12nm,0.7s
B35A **Bob, Littlefor** 44.94 341 P P 15 45 27.7 +0.2
B35A IAmb IAmb 15 45 28.6
comp=Z,13nm,0.7s
PV07 **Paradox Valley** 44.96 320 P P 15 45 29.4 +1.3
PV07 IAmb IAmb 15 45 30.8
comp=Z,14nm,1.3s
PV03 **Paradox Valley** 44.98 319 P P 15 45 29.8 +1.5
PV12 **Saucer Basin,** 44.99 320 P P 15 45 30.1 +1.7
PV12 IAmb IAmb 15 45 31.1
comp=Z,8.4nm,0.7s
PV18 **Skein Mesa, Pa** 45.02 319 P P 15 45 29.8 +1.3
PV11 **David Mesa, Pa** 45.02 319 P P 15 45 30.1 +1.6
PV16 **Nyswonger Mesa** 45.06 319 P P 15 45 30.2 +1.3
PV17 **East Wray Mesa** 45.07 319 P P 15 45 30.0 +1.1
PV17 IAmb IAmb 15 45 32.1
comp=Z,21nm,1.5s
PV04 **Paradox Valley** 45.10 320 P P 15 45 29.9 +0.8
PV22 **Blue Mesa, Par** 45.10 320 P P 15 45 31.2 +2.0
PV23 **Carpenter Ridg** 45.20 320 P P 15 45 31.4 +1.4
WUAZ **Wupatki** 45.23 315 P P 15 45 32.1 +1.9
baz=120,SNR=8.6
WUAZ **Wupatki** 45.23 315 P P 15 45 31.6 +1.5
WUAZ IAmb IAmb 15 45 33.5
comp=Z,13nm,0.9s
PV21 **Cone Mtn., Par** 45.24 320 P P 15 45 31.5 +1.2
AGMN **Agassiz Nation** 45.62 339 P P 15 45 33.8 +0.9
baz=147
AGMN **Agassiz Nation** 45.62 339 P P 15 45 33.1 +0.2
AGMN IAmb IAmb 15 45 34.1
comp=Z,12nm,0.6s
Y14A **Wickenburg** 45.66 312 P P 15 45 34.5 +1.1
O20A **White River Ci** 45.70 322 P P 15 45 35.7 +1.8
baz=127
O20A **White River Ci** 45.70 322 P P 15 45 35.3 +1.5
RSSD **Black Hills** 45.94 329 P P 15 45 37.2 +1.5
baz=135
RSSD **Black Hills** 45.94 329 P P 15 45 36.6 +0.9
RWWY **Rawlins** 46.05 324 P P 15 45 37.3 +0.7
E28A **Huff** 46.16 334 P P 15 45 38.0 +0.9
E28A IAmb IAmb 15 45 38.7
comp=Z,23nm,0.8s
K22A **Casper** 46.28 326 P P 15 45 39.3 +1.0
baz=131
K22A **Casper** 46.28 326 P P 15 45 39.2 +1.0
U15A **North Rim** 46.33 315 P P 15 45 40.2 +1.3
SRU **San Rafael Swe** 46.55 319 P P 15 45 41.6 +1.1
MDND **Maddock** 46.70 336 P P 15 45 42.4 +1.1
baz=142
MDND **Maddock** 46.70 336 P P 15 45 41.9 +0.6
P17A **Butcher Ranch,** 46.89 320 P P 15 45 44.4 +1.3
KNB **Kanab** 46.99 316 P P 15 45 45.9 +2.0
MTPU **Mount Pierson** 47.07 317 P P 15 45 46.1 +1.3
TMUT **Trail Mountain** 47.09 319 P P 15 45 46.0 +1.1
LCMT **Little Creek M** 47.28 315 P P 15 45 47.9 +1.8
ULM **Lac du Bonnet** 47.28 340 P P 15 45 45.8 0.0
comp=Z,13nm,0.4s,baz=143,slow=7.1,SNR=25
ULM **Lac du Bonnet** 47.28 340 P P 15 45 45.5 -0.3
MSU **Marysvale** 47.31 318 P P 15 45 48.1 +1.7
IRM **Iron Mountain** 47.35 311 P P 15 45 48.2 +1.6
baz=115
BC3 **Big Chuckawall** 47.37 310 P P 15 45 48.4 +1.5
baz=115
TCRU **Three Creeks R** 47.54 318 P P 15 45 50.0 +1.7
BELC **Belle Mtn. Jos** 47.93 310 P P 15 45 53.2 +2.1
baz=114
JLU **Jordanelle** 47.97 321 P P 15 45 52.7 +1.1
BW06 **Boulder Array** 48.08 324 P P 15 45 53.1 +0.8
baz=128,SNR=7.4
BW06 **Boulder Array** 48.08 324 P P 15 45 52.8 +0.5
PD31 **Pinedale Array** 48.08 324 P P 15 45 52.9 +0.6
PDAR **Pinedale Array** 48.08 324 P P 15 45 53.1 +0.7
comp=Z,2.4nm,0.5s,baz=125,slow=9.1,SNR=24
PDAR PcP PcP 15 47 15.8 -1.8
comp=Z,0.3nm,0.3s,baz=127,slow=6.0,SNR=1.9
PDAR **Pinedale Array** 48.08 324 P P 15 45 52.8 +0.4
SCHQ **Schefferville** 48.13 5 P P 15 45 52.9 +0.6
comp=Z,11nm,0.5s,baz=192,slow=6.3,SNR=15
SCHQ **Schefferville** 48.13 5 P P 15 45 52.8 +0.6
SCHQ IAmb IAmb 15 45 53.9
comp=Z,12nm,0.5s
TCUT **Toone Canyon** 48.23 321 P P 15 45 54.9 +1.3
PSUT **Pine Spring** 48.45 317 P P 15 45 56.9 +1.6
TUQ **Turquoise Moun** 48.48 312 P P 15 45 56.9 +1.5
baz=116
HEC **Hector,Ludlow** 48.52 311 P P 15 45 57.3 +1.6
baz=115
HWUT **Haware Ranch** 48.61 322 P P 15 45 56.9 +0.5
DUG **Dugway, Tooele** 48.62 319 P P 15 45 57.8 +1.4
baz=122
DUG **Dugway, Tooele** 48.62 319 P P 15 45 57.8 +1.4
AHID **Auburn Hatcher** 48.99 323 P P 15 46 00.2 +0.9
GSC **Goldstone, Bar** 49.07 312 P P 15 46 01.4 +1.6
baz=115
GSC **Goldstone, Bar** 49.07 312 P P 15 46 01.2 +1.4
BGU **Big Grassy Mou** 49.15 320 P P 15 46 01.4 +1.0
DGMT **Dagmar** 49.15 333 P P 15 46 01.6 +1.4
baz=137,SNR=7.0
DGMT **Dagmar** 49.15 333 P P 15 46 01.6 +1.4
REDW **Red Top Meadow** 49.20 324 P P 15 46 01.5 +0.6
REDW IAmb IAmb 15 46 02.9
comp=Z,9.5nm,0.6s
LOHW **Long Hollow** 49.20 324 P P 15 46 01.7 +0.9
LOHW IAmb IAmb 15 46 02.9
comp=Z,5.5nm,0.7s
TPAW **Teton Pass** 49.33 324 P P 15 46 02.9 +0.9
TPAW IAmb IAmb 15 46 04.3
comp=Z,6.9nm,0.7s
TPNV **Topopah Spring** 49.38 314 P P 15 46 04.2 +1.9
baz=117
RLMT **Red Lodge** 49.38 327 P P 15 46 03.5 +1.3
baz=130
RLMT **Red Lodge** 49.38 327 P P 15 46 03.1 +0.8
FXWY **Fox Creek** 49.47 324 P P 15 46 03.4 +0.5
R11A **Troy Canyon, C** 49.55 316 P P 15 46 05.3 +1.7
baz=118,SNR=6.0
R11A **Troy Canyon, C** 49.55 316 P P 15 46 04.8 +1.2
IMW **Indian Meadow** 49.57 324 P P 15 46 04.6 +0.9
IMW IAmb IAmb 15 46 05.5
comp=Z,5.4nm,0.6s
YNE **Yellowstone No** 49.72 326 P P 15 46 05.4 +0.6
EDW2 **Edwards Air Fo** 49.79 311 P P 15 46 06.5 +1.2
baz=114
YHH **Holmes Hill** 50.06 325 P P 15 46 08.7 +1.3
YHL **Hebgen Lake** 50.28 325 P P 15 46 11.1 +2.0
QLMT **Earthquake Lak** 50.41 325 P P 15 46 11.9 +2.0
ELK **Elko** 50.49 319 P P 15 46 11.3 +0.7
BOZ **Bozeman (W)** 50.99 326 P P 15 46 15.4 +1.2
baz=127,SNR=7.2
BOZ **Bozeman (W)** 50.99 326 P P 15 46 14.8 +0.7
MCMT **McKenzie Canyo** 51.22 324 P P 15 46 17.3 +1.2
BCYI **Bear Canyon** 51.25 323 P P 15 46 17.8 +1.5
HLID **Hailey** 51.44 322 P P 15 46 19.0 +1.4
baz=123,SNR=6.6
HLID **Hailey** 51.44 322 P P 15 46 18.7 +1.1
NVAR **Mina Array Bea** 51.49 315 P P 15 46 19.8 +1.6
comp=Z,1.8nm,0.7s,baz=119,slow=7.1,SNR=12
NVAR PcP PcP 15 47 29.1 -1.2
comp=Z,0.2nm,0.3s,baz=81,slow=5.6,SNR=1.9
NVAR **Mina Array Bea** 51.49 315 P P 15 46 18.9 +0.8
EGMT **Eagleton** 51.51 329 P P 15 46 19.4 +1.5
baz=131
EGMT **Eagleton** 51.51 329 P P 15 46 19.0 +1.0
EGMT IAmb IAmb 15 46 20.8
comp=Z,14nm,1.4s
LRM **Limekiln Ridge** 51.58 326 P P 15 46 19.5 +0.8
KVN **Kaiserville** 51.62 315 P P 15 46 19.8 +0.7
RYN **Ryan** 51.73 315 P P 15 46 20.7 +0.8
HRY **Holter Researc** 51.77 327 P P 15 46 21.1 +1.1
PAGB **Antelope Grade** 51.82 311 P P 15 46 21.8 +1.4
PAGB IAmb IAmb 15 46 49.3
comp=Z,7.6nm,0.9s
MFID **Camas Ranch** 52.23 321 P P 15 46 24.4 +1.0
MFID IAmb IAmb 15 46 26.2
comp=Z,7.2nm,0.6s
YERR **Yerington** 52.39 315 P P 15 46 26.4 +1.6
MSO **Missoula** 53.01 326 P P 15 46 29.5 +0.5
baz=126
PLID **Pearl Lake** 53.23 323 P P 15 46 31.1 +0.2
AFDM **Forest Hills D** 53.60 314 P P 15 46 34.5 +1.0
JTMT **Jette** 53.73 327 P P 15 46 35.6 +1.2
JTMT IAmb IAmb 15 46 36.6
comp=Z,10.0nm,1.0s
BMO **Blue Mountains** 53.89 322 P P 15 46 36.4 +0.9
ORV **Oroville** 54.22 315 P P 15 46 39.4 +1.5
F10A **Beach Ranch, E** 54.43 323 P P 15 46 39.8 +0.4
F10A IAmb IAmb 15 46 40.6
comp=Z,5.5nm,0.5s
O03E **Paynes Creek** 54.73 315 P P 15 46 43.1 +1.4
baz=114
I07A **Izee** 54.87 320 P P 15 46 43.4 +0.8
G08A **Pilot Rock** 55.12 322 P P 15 46 45.3 +0.9
G08A IAmb IAmb 15 46 46.2
comp=Z,7.6nm,0.7s
K05A **Summer Lake** 55.15 318 P P 15 46 45.8 +1.0
K05A IAmb IAmb 15 47 09.4
comp=Z,15nm,1.4s
M04C **Macdoel** 55.38 317 P P 15 46 47.4 +1.1
baz=115
J05D **Fort Rock, OR** 55.62 319 P P 15 46 49.3 +1.3
baz=116,SNR=7.3
PINE **Pine Mountain** 55.66 319 P P 15 46 49.5 +1.1
PINE IAmb IAmb 15 46 50.9
comp=Z,13nm,0.8s
L04D **Klamath Falls** 55.87 317 P P 15 46 50.9 +1.0
baz=115
YBH **Yreka Blue Hor** 55.95 317 P P 15 46 50.2 -0.1
comp=Z,2.6nm,0.5s,baz=172,slow=4.3,SNR=3.8
YBH **Yreka Blue Hor** 55.95 317 P P 15 46 49.7 -0.7
YBH IAmb IAmb 15 46 50.5
comp=Z,3.0nm,0.6s
C09A **Chrisman Ranch** 56.00 325 P P 15 46 51.4 +0.9
C09A IAmb IAmb 15 46 52.4
comp=Z,7.6nm,0.7s
I05D **Terrebonne, OR** 56.16 320 P P 15 46 53.5 +1.7
baz=117
J04D **Umpqua Nationa** 56.18 318 P P 15 46 53.1 +1.0
baz=116
I04A **Tendick Farm,** 56.61 319 P P 15 46 55.5 +0.5
baz=116
H04A **Detroit Lake** 56.86 320 P P 15 46 57.5 +0.8
H04A IAmb IAmb 15 47 00.6
comp=Z,8.6nm,0.9s
B08A **Colville Reser** 56.90 325 P P 15 46 57.4 +0.6
B08A IAmb IAmb 15 46 58.8
comp=Z,9.1nm,1.2s
K02D **Willamette Mer** 56.99 317 P P 15 46 58.6 +1.0
baz=114
LTY **Liberty** 57.12 323 P P 15 46 59.5 +1.0
LTY IAmb IAmb 15 47 00.5
comp=Z,5.9nm,0.8s
I03D **Drain, OR** 57.19 318 P P 15 47 00.2 +1.2
baz=115
I02D **Swisshome** 57.69 319 P P 15 47 03.8 +1.4
baz=115
YKA **Yellowknife Ar** 63.26 340 P P 15 47 40.2 +0.4
comp=Z,9.1nm,0.6s,baz=130,slow=6.7,SNR=22
DLBC **Dease Lake** 67.33 331 P P 15 48 07.6 +1.4
WRAK **Wrangell Islan** 67.64 329 P P 15 48 09.4 +1.3
WRAK IAmb IAmb 15 48 36.7
comp=Z,18nm,1.4s
DBIC **Dimbokro** 67.72 86 P P 15 48 07.2 -2.2
comp=Z,2.9nm,0.7s,baz=352,slow=2.9,SNR=1.9
DBIC **Dimbokro** 67.72 86 P P 15 48 08.1 -1.3
DBIC IAmb IAmb 15 48 32.1
comp=Z,25nm,1.5s
SUMG **Summit** 68.98 11 P P 15 48 16.9 +0.2
SUMG **Summit** 68.98 11 *i* P P 15 48 17.1 +0.5
comp=Z,55nm,0.9s
SUMG **Summit** 68.98 11 *i* P P 15 48 17.2 +0.5
SUMG IAmb IAmb 15 48 18.2
comp=Z,55nm,0.9s
A36M **Sachs Harbour** 72.43 345 P P 15 48 36.6 -0.4
INK **Inuvik** 73.03 340 P P 15 48 41.2 +0.6
CTGM **Chitina Glacie** 73.58 332 P P 15 48 45.7 +1.5
CTGM IAmb IAmb 15 48 48.8
comp=Z,24nm,1.4s
TORD **Torodi Ar. Bea** 73.72 78 P P 15 48 43.5 -2.2
comp=Z,0.3nm,0.3s,baz=285,slow=6.4,SNR=7.6
BARN **Barnard Glacie** 73.75 332 P P 15 48 46.3 +1.1
BARN IAmb IAmb 15 48 50.5
comp=Z,8.0nm,1.1s
BALM **Baldy** 74.07 332 P P 15 48 48.5 +1.5
BALM IAmb IAmb 15 48 56.2
comp=Z,15nm,1.4s
TGL **Tana Glacier** 74.23 331 P P 15 48 49.1 +1.3
TGL IAmb IAmb 15 48 50.4
comp=Z,11nm,1.0s
EGAK **Eagle** 74.59 336 P P 15 48 50.9 +1.1
K27K **Chicken** 74.76 335 P P 15 48 52.3 +1.5
baz=106
GLB **Gilahina Butte** 74.86 332 P P 15 48 52.7 +1.2
GLB IAmb IAmb 15 48 55.0
comp=Z,14nm,1.4s
DOT **Dot Lake** 75.51 334 P P 15 48 56.5 +1.3
DOT IAmb IAmb 15 48 57.4
comp=Z,7.0nm,0.6s
SCRK **Sand Creek** 75.56 335 P P 15 48 56.7 +1.2
baz=104
RIDG **Independent Ri** 75.87 334 P P 15 48 58.3 +1.1
RIDG IAmb IAmb 15 48 59.4
comp=Z,7.8nm,1.0s
PAX **Paxson** 75.97 333 P P 15 48 58.5 +0.7
FID **Port Fidalgo** 75.97 331 P P 15 48 58.7 +1.0
FID IAmb IAmb 15 49 27.5
comp=Z,19nm,1.4s
M24K **Tolsona, Glenn** 76.10 332 P P 15 49 00.2 +1.6
baz=102
M24K **Tolsona, Glenn** 76.10 332 P P 15 48 59.6 +1.0
M24K IAmb IAmb 15 49 01.6
comp=Z,23nm,1.2s
GLI **Glacier Island** 76.29 331 P P 15 49 00.1 +0.5

GLI				IAmb	IAmb	15 49 23.1	
	comp=Z,18nm,1.2s						
SCM	**Sheep Creek Mo**	**76.58**	**332**	P	**P**	**15 49 02.5**	**+1.2**
SCM				IAmb	IAmb	15 49 02.9	
	comp=Z,9.0nm,0.9s						
DHY	**Denali Highway**	**76.84**	**333**	P	**P**	**15 49 03.5**	**+0.7**
HDA	**Harding Lake**	**76.92**	**335**	P	**P**	**15 49 03.9**	**+0.9**
	baz=102						
HDA	**Harding Lake**	**76.92**	**335**	P	**P**	**15 49 03.4**	**+0.4**
IL31		**76.96**	**335**	P	**P**	**15 49 03.6**	**+0.4**
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**15 49 03.6**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=107,slow=4.5,SNR=13						
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**15 49 03.3**	**0.0**
KNK	**Knik Glacier**	**77.04**	**331**	P	**P**	**15 49 04.7**	**+1.0**
KNK				IAmb	IAmb	15 49 05.8	
	comp=Z,4.9nm,0.7s						
GHO	**Glory Hole Cre**	**77.32**	**332**	P	**P**	**15 49 06.2**	**+0.8**
GHO				IAmb	IAmb	15 49 07.3	
	comp=Z,7.9nm,0.9s						
CCB	**Clear Creek Bu**	**77.33**	**335**	P	**P**	**15 49 05.7**	**+0.4**
RND	**Reindeer**	**77.56**	**333**	P	**P**	**15 49 07.8**	**+1.2**
RND				IAmb	IAmb	15 49 08.9	
	comp=Z,8.2nm,0.6s						
MDM	**Murphy Dome**	**77.56**	**335**	P	**P**	**15 49 07.4**	**+0.8**
MDM				IAmb	IAmb	15 49 08.4	
	comp=Z,11nm,1.4s						
NEA2	**Nenana**	**77.85**	**335**	P	**P**	**15 49 09.1**	**+0.9**
	baz=100						
BRLK	**Bradley Lake**	**77.98**	**330**	P	**P**	**15 49 09.6**	**+0.5**
BRLK				IAmb	IAmb	15 49 10.4	
	comp=Z,12nm,1.0s						
SUA	**Susitna One**	**78.13**	**331**	P	**P**	**15 49 11.0**	**+1.0**
SUA				IAmb	IAmb	15 49 11.7	
	comp=Z,8.5nm,0.8s						
KTH	**Kantishna Hill**	**78.50**	**333**	P	**P**	**15 49 12.4**	**+0.5**
SKT	**Skwentna**	**78.57**	**332**	P	**P**	**15 49 12.8**	**+0.5**
BPAW	**Bear Paw Mtn.**	**78.60**	**334**	P	**P**	**15 49 12.5**	**+0.2**
KDAK	**Kodiak Island**	**78.65**	**328**	P	**P**	**15 49 12.7**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=45,slow=4.3,SNR=1.8						
KDAK	**Kodiak Island**	**78.65**	**328**	IAmb	IAmb	15 49 33.2	
	comp=Z,26nm,1.4s						
COLD	**Coldfoot**	**78.75**	**337**	P	**P**	**15 49 14.5**	**+1.4**
	baz=99						
PPLA	**Purkeypile**	**78.98**	**333**	P	**P**	**15 49 15.2**	**+0.5**
PPLA				IAmb	IAmb	15 49 16.0	
	comp=Z,9.6nm,0.5s						
NOA	**NORSAR Array B**	**81.31**	**29**	P	**P**	**15 49 26.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=268,slow=5.3,SNR=2.1						
GERES	**GERESS Array B**	**82.80**	**42**	P	**P**	**15 49 34.0**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=306,slow=4.6,SNR=3.5						
ARCES	**ARCESS Array B**	**86.66**	**20**	P	**P**	**15 49 53.6**	**-0.2**
	comp=Z,3nm,0.7s,baz=274,slow=3.6,SNR=6.6						
FINES	**FINESS Array B**	**88.42**	**28**	P	**P**	**15 50 02.5**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=221,slow=5.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**116.66**	**14**	PKP	**PKPdf**	**15 55 53.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=311,slow=1.3,SNR=2.3						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**15 56 04.4**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=292,slow=2.8,SNR=13						
ASAR	**Alice Springs**	**149.13**	**234**	PKP	**PKPdf**	**15 56 54.5**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=108,slow=1.4,SNR=8.8						
ASAR				PKPbc	**PKPbc**	**15 56 58.5**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=110,slow=4.0,SNR=13						
ASAR				PKPab	**PKiKP**	**15 57 02.7**	**+2.5**
	comp=Z,1.3nm,0.4s,baz=117,slow=3.5,SNR=8.4						
ASAR				pPKP	**pPKPdf**	**15 57 37.0**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=116,slow=3.1,SNR=2.5						
WRA	**Warramunga Arr**	**150.36**	**241**	PKP	**PKPdf**	**15 56 56.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=106,slow=2.9,SNR=2.0						
WRA				PKPbc	**PKPbc**	**15 57 01.6**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=109,slow=2.7,SNR=7.3						
WRA				pPKP	**pPKPdf**	**15 57 39.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=110,slow=2.4,SNR=2.1						
WRA	**Warramunga Arr**	**150.36**	**241**		**PKPbc**	**15 57 01.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**153.68**	**17**	PKP	**PKPdf**	**15 56 59.5**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=302,slow=2.0,SNR=2.0						
CMAR				PKPbc	**PKPbc**	**15 57 09.1**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=326,slow=3.5,SNR=10						
CMAR				PKPab	**PKPab**	**15 57 21.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=332,slow=3.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**153.68**	**17**		**PKPbc**	**15 57 09.4**	**-0.2**

*IDC **01** 16:02:04.8±1.6, 12°.12N×88°.64W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.7/32, mbtmp3.6/6, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=49.0km s-min=23.9km az=43.0*
*INET **01** 16:02:05.7, 12°.12N×88°.69W, h30km, ML3.6*
*UCR **01** 16:02:06.6±0.6, 12°.21N×88°.59W, h18km±6km, ML3.4, mb4.3(NEIC)*
*SNET **01** 16:02:06.3±0.6, 12°.20N×88°.60W, h15km±6km, ML3.4*
*NEIC **01** 16:02:10.5±1.0, 12°.45N±0°.07×88°.36W±0°.06, h35km±2km, mb4.3/17, Error ellipse: s-maj=12.7km s-min=8.5km az=19.0*

ISC 01 16:02:08.8±0.8, 12°.24N±0°.06×88°.52W±0°.05, h33km, n52, σ1s25/57, mb4.2/10, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**1.04**	**15**	*eP*		**Pn**		**16 02 26.4**	**-0.8**
JUCU				*eS*		**Sb**		**16 02 41.9**	**+0.2**
JUCU				IAML				16 02 52.5	
	comp=Z,963nm,0.4s								
JUCU	**Jucuarįn**	**1.04**	**15**	*eP*		**Pn**		**16 02 26.4**	**-0.8**
JUCU				*eS*		**Sb**		**16 02 41.9**	**+0.2**
JUCU				IAML				16 02 52.5	
	comp=Z,963nm,0.4s								
LCND	**La Caada**	**1.22**	**30**	*eP*		**Pn**		**16 02 29.2**	**-0.4**
LCND				*eS*		**Sn**		**16 02 46.7**	**+1.7**
LCND				IAML				16 02 52.6	
	comp=Z,550nm,0.3s								
LCND	**La Caada**	**1.22**	**30**	*eP*		**Pn**		**16 02 29.2**	**-0.4**
LCND				*eS*		**Sn**		**16 02 46.7**	**+1.7**
LCND				IAML				16 02 52.6	
	comp=Z,550nm,0.3s								
COEB	**Comit de Eme**	**1.25**	**359**	*eP*		**Pn**		**16 02 29.5**	**-0.6**
COEB				*eS*		**Sb**		**16 02 47.4**	**-0.3**
COEB				IAML				16 02 55.9	
	comp=Z,692nm,0.4s								
COEB	**Comit de Eme**	**1.25**	**359**	*eP*		**Pn**		**16 02 29.5**	**-0.6**
COEB				*eS*		**Sb**		**16 02 47.4**	**-0.3**
COEB				IAML				16 02 55.9	
	comp=Z,692nm,0.4s								
COEG	**Centro de Oper**	**1.41**	**346**	*eP*		**Pn**		**16 02 31.4**	**-0.9**
COEG				IAML				16 02 54.4	
	comp=Z,556nm,0.5s								
COEG	**Centro de Oper**	**1.41**	**346**	*eP*		**Pn**		**16 02 31.4**	**-0.9**
COEG				IAML				16 02 54.4	
	comp=Z,556nm,0.5s								
FAGO	**Alcalda de S**	**1.50**	**15**	*eP*		**Pn**		**16 02 33.4**	**0.0**
FAGO	**Alcalda de S**	**1.50**	**15**	*eP*		**Pn**		**16 02 33.4**	**0.0**
CRIN	**San Cristobal**	**1.50**	**72**	Pn		**Pn**		**16 02 32.3**	**-1.3**
PAVA	**Las Pavas**	**1.52**	**344**	*eP*		**Pn**		**16 02 33.0**	**-0.8**
PAVA				IAML				16 02 56.5	
	comp=Z,576nm,0.3s								
PAVA	**Las Pavas**	**1.52**	**344**	*eP*		**Pn**		**16 02 33.0**	**-0.8**
PAVA				IAML				16 02 56.5	
	comp=Z,576nm,0.3s								
SNET	**Serv Nac Est T**	**1.59**	**334**	Pn		**Pn**		**16 02 33.6**	**-1.2**
TACO	**Tacachico**	**1.90**	**335**	*eP*		**Pn**		**16 02 38.0**	**-0.9**
TACO	**Tacachico**	**1.90**	**335**	*eP*		**Pn**		**16 02 38.0**	**-0.9**
NUBE	**Las Nubes**	**2.06**	**323**	*eP*		**Pn**		**16 02 40.2**	**-1.1**
NUBE	**Las Nubes**	**2.06**	**323**	*eP*		**Pn**		**16 02 40.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.17**	**34**					**16 02 41.6**	**-1.2**
MTO3	**Montecristo**	**2.29**	**339**	Pn		**Pn**		**16 02 44.3**	**-0.3**
ESQI	**Esquipulas**	**2.44**	**341**	Pn		**Pn**		**16 02 46.2**	**-0.3**
MATN	**Matagalpa**	**2.62**	**75**			**Pn**		**16 02 47.4**	**-1.5**
ACON	**Acoyapa**	**3.28**	**94**	Pn		**Pn**		**16 02 57.1**	**-0.8**
JTS	**Las Juntas de**	**4.00**	**119**	Pn		**Pn**		**16 03 08.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=270,slow=16,SNR=1.3								
JTS				Sn		**Sn**		**16 03 55.8**	**+2.1**
	comp=Z,1.5nm,0.3s,baz=358,slow=15,SNR=4.0								
TEIG	**Tepich**	**7.94**	**2**	Pn		**Pn**		**16 04 04.3**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=184,slow=19,SNR=2.2								
TEIG	**Tepich**	**7.94**	**2**	Pn		**Pn**		**16 03 57.7**	**-4.3**
LCCY	**Blossom Villag**	**10.96**	**47**	Pn		Pn		16 04 37.8	-5.6
833A	**Chaparral WMA,**	**18.93**	**329**	P		**Pn**		**16 06 28.1**	**0.0**
SDD	**Santo Domingo**	**18.97**	**69**	P		P		**16 06 24.4**	**-3.1**
143A	**Socs Landing,**	**20.54**	**353**	P		**P**		**16 06 41.8**	**-2.6**
JCT	**Junction City**	**20.94**	**332**	P		**P**		**16 06 48.4**	**-0.6**
JCT				IAmb		IAmb		16 06 49.9	
	comp=Z,8.9nm,0.8s								
ATAH	**Atahualpa**	**21.72**	**152**	LR		LR		16 14 18.2	
	comp=Z,48nm,18.9s,baz=43,slow=34								
TX31	**Lajitas Ar. Si**	**22.09**	**323**	P		**P**		**16 07 02.2**	**+0.9**
TX31				IAmb		IAmb		16 07 03.5	
	comp=Z,8.5nm,0.7s								
TX32	**Lajitas Array**	**22.09**	**323**	P		**P**		**16 07 02.2**	**+0.9**
TXAR	**Lajitas Array**	**22.09**	**323**	P		**P**		**16 07 01.8**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=146,slow=12,SNR=36								
TXAR	**Lajitas Array**	**22.09**	**323**	P		**P**		**16 07 02.2**	**+0.9**
MIAR	**Mount Ida**	**22.67**	**349**	P		**P**		**16 07 06.7**	**-0.7**
MIAR				IAmb		IAmb		16 07 07.9	
	comp=Z,6.0nm,0.8s								
X37A	**Clayton**	**23.10**	**345**	P		**P**		**16 07 10.9**	**-1.0**
X37A				IAmb		IAmb		16 07 13.6	
	comp=Z,6.7nm,0.8s								
WHAR	**Wooly Hollow**	**23.20**	**352**	P		**P**		**16 07 12.3**	**-0.5**
WHAR				IAmb		IAmb		16 07 13.3	
	comp=Z,7.3nm,0.9s								
W39A	**Magazine**	**23.34**	**349**	P		**P**		**16 07 14.3**	**+0.1**
TKL	**Tuckaleechee C**	**23.70**	**10**	P		**P**		**16 07 19.9**	**+2.1**
	comp=Z,2.1nm,0.4s,baz=148,slow=9.5,SNR=4.0								
TKL				LR		LR		16 15 57.1	
	comp=Z,67nm,18.4s,baz=204,slow=35								
TKL	**Tuckaleechee C**	**23.70**	**10**	IAmb		IAmb		16 07 25.5	
	comp=Z,4.1nm,0.4s								
X34A	**Smith Ranch, M**	**23.81**	**341**	P		**P**		**16 07 18.8**	**0.0**
U40A	**Yellville**	**24.32**	**351**	P		**P**		**16 07 23.3**	**-0.2**
U40A				IAmb		IAmb		16 07 24.9	
	comp=Z,12nm,0.8s								
AMTX	**Amarillo**	**25.51**	**334**	P		**P**		**16 07 34.3**	**-0.1**
AMTX				IAmb		IAmb		16 07 35.1	
	comp=Z,6.4nm,0.6s								
S39A	**Bolivar**	**25.70**	**351**	P		**P**		**16 07 35.1**	**-0.9**
R40A	**Maddies Statio**	**26.15**	**353**	P		**P**		**16 07 38.8**	**-1.3**
PDAR	**Pinedale Array**	**35.47**	**333**	P		**P**		**16 09 03.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=168,slow=9.1,SNR=2.2								
NVAR	**Mina Array Bea**	**37.18**	**320**	P		**P**		**16 09 18.5**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=118,slow=5.4,SNR=2.1								
WRA	**Warramunga Arr**	**138.21**	**254**	PKP		**PKiKP**		**16 21 33.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=90,slow=3.3,SNR=2.3								
ASAR	**Alice Springs**	**138.22**	**248**	PKP		**PKiKP**		**16 21 33.7**	**+0.2**
	comp=Z,0.5nm,1.1s,baz=72,slow=3.0,SNR=1.8								
CMAR	**Chiang Mai Arr**	**148.62**	**346**	PKP		**PKPdf**		**16 21 50.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=9.6,slow=4.8,SNR=2.9								
CMAR				PKPbc		**PKiKP**		**16 21 53.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=351,slow=3.9,SNR=6.0								

*IDC **01** 16:19:00.9±0.8, 16°.62S×172°.59W, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.4/39, mbtmp4.3/15, ML3.5/1, MS4.1/25, Ms1 4.1/25, ms1mx4.0/28, Error ellipse: s-maj=32.7km s-min=14.0km az=136.0*
*NEIC **01** 16:19:02.6±0.6, 16°.45S±0°.2×172°.2W±0°.3, h43km±14km, mb4.7/18, Error ellipse: s-maj=39.4km s-min=26.3km az=61.0*
*GCMT **01** 16:19:04.8±0.2, 17°.02S±0°.02×171°.81W±0°.01, h12km, MW4.9/113, Moment Tensor Solution. s21,c24; s113,c159; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.96±.07; Mθθ0.61±.07; Mϕϕ2.34±.06; Mrθ1.53±.30; Mθϕ0.72±.05; Mϕr-1.09±.27; Best double couple: M0 3.22400×10^16^ NP1:ϕs218.00000°, δ43.00000°, λ-55.00000°. NP2:ϕs355.00000°, δ56.00000°, λ-118.00000°. Principal axes: T 2.6590, Plg7.0000°, Azm104.0000°; N 1.1250, Plg23.0000°, Azm12.0000°; P -3.7900, Plg66.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 16:19:01.7±0.6, 16°.78S±0°.08×172°.5W±0°.1, h10km, n81, σ1s62/55, mb4.4/22, MS4.2/29, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.95**	**14**	Pn		**Pn**		**16 19 46.5**	**-2.2**
	6.8nm,0.3s,baz=157,slow=2.5,SNR=13								
AFI				LR		LR		16 20 11.6	
	comp=Z,193nm,20.2s,baz=162,slow=25								
AFI				Sn		**Sn**		**16 20 21.2**	**-3.0**
	79nm,0.3s,baz=19,slow=21,SNR=20								
AFI	**Afiamalu**	**2.95**	**14**			Pn		16 19 33.7	-15
NIUE	**Niue**	**3.37**	**133**			Pn		16 19 42.9	-12
MSVF	**Nonsavu**	**9.05**	**263**	Pn		Pn		16 21 20.8	+8.3
RAR	**Rarotonga**	**12.85**	**112**	Pn		Pn		16 21 52.1	-12
	2.2nm,0.3s,baz=304,slow=18,SNR=2.2								
RAR	**Rarotonga**	**12.85**	**112**	Pn		Pn		16 21 53.3	-11
DZM	**Mont Dzumac**	**20.51**	**252**	P		**P**		**16 23 42.3**	**+2.1**
	3.6nm,0.7s,baz=66,slow=4.8,SNR=3.7								
DZM				LR		LR		16 30 32.7	
	comp=Z,1μm,18.9s,baz=80,slow=34								
DZM	**Mont Dzumac**	**20.51**	**252**	P		Pn		16 23 43.8	+1.4
PPT2	**Papeete2**	**21.95**	**95**	*e*LQ		LQ		16 27 53.6	
	644nm,26.2s								
PPT2				*e*LR		LR		16 28 48.4	
	comp=Z,2μm,25.5s								
PPT	**Papeete**	**21.95**	**95**	LR		LR		16 29 41.2	
	comp=Z,663nm,20.9s,baz=264,slow=29								
OUZ	**Omahuta**	**22.15**	**211**	P		**P**		**16 23 56.8**	**-0.9**
TBI	**Tubuai**	**22.62**	**111**	*e*LR		LR		16 28 57.6	
	comp=Z,2μm,27.8s								
URZ	**Urewera**	**23.25**	**201**	P		**P**		**16 24 10.4**	**+1.2**
	22nm,0.6s,baz=42,slow=1.7,SNR=24								
URZ				S		**S**		**16 28 17.1**	**-4.3**
	4.3nm,0.7s,baz=30,slow=20,SNR=1.7								
URZ				LR		LR		16 32 56.2	
	comp=Z,253nm,18.6s,baz=24,slow=36								
URZ	**Urewera**	**23.25**	**201**	P		**P**		**16 24 07.2**	**-2.1**
BKZ	**Black Stump Fm**	**24.27**	**201**	P		**P**		**16 24 16.8**	**-2.4**
BKZ				IAmb		IAmb		16 24 25.9	
	comp=Z,36nm,1.4s								
HNR	**Honiara**	**27.76**	**282**	LR		LR		16 34 19.6	
	comp=Z,2μm,21.7s,baz=123,slow=33								
HNR	**Honiara**	**27.76**	**282**	P		**P**		**16 24 50.9**	**+0.1**
THZ	**Tophouse**	**27.86**	**204**	P		**P**		**16 24 49.8**	**-1.8**
TAOE	**Nuku Hiva Isla**	**32.51**	**80**	*e*LR		LR		16 33 36.0	
	comp=Z,1μm,27.2s								
KRVT	**Keravat (AS076**	**36.90**	**286**	LR		LR		16 39 48.4	
	comp=Z,447nm,21.6s,baz=186,slow=34								
CTA	**Charters Tower**	**39.17**	**259**	P		**P**		**16 26 29.5**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=74,slow=11,SNR=2.8								
CTA				LR		LR		16 41 11.2	
	comp=Z,497nm,20.2s,baz=130,slow=34								
H11S2	**WAKE ISLAND Hy**	**40.57**	**329**	T		T		17 10 47.5	
	baz=154,slow=75								
H11S3	**WAKE ISLAND Hy**	**40.58**	**329**	T		T		17 10 47.6	
	baz=154,slow=75								
H11S1	**WAKE ISLAND Hy**	**40.59**	**329**	T		T		17 10 54.4	
	baz=154,slow=75								
STKA	**Stephens Creek**	**44.09**	**241**	P		**P**		**16 27 10.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=69,slow=7.8,SNR=6.8								
STKA				LR		LR		16 43 15.8	
	comp=Z,179nm,20.0s,baz=44,slow=33								
STKA	**Stephens Creek**	**44.09**	**241**	P		**P**		**16 27 10.5**	**+0.2**
BBOO	**Buckleboo**	**48.86**	**241**	P		**P**		**16 27 47.9**	**+0.1**
WR0	**Warramunga Arr**	**50.16**	**258**	P		**P**		**16 27 57.6**	**-0.2**
WB0	**Warramunga Arr**	**50.32**	**258**	P		**P**		**16 27 58.6**	**-0.5**
WB2	**Warramunga Arr**	**50.34**	**258**	P		**P**		**16 27 59.2**	**0.0**
WRAB	**Tennant Creek**	**50.35**	**258**	P		**P**		**16 27 59.2**	**0.0**
WRAB				IAmb		IAmb		16 28 03.3	
	comp=Z,12nm,0.9s								
WRA	**Warramunga Arr**	**50.35**	**258**	P		**P**		**16 27 59.1**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=96,slow=7.1,SNR=69								
WRA				LR		LR		16 48 27.2	
	comp=Z,255nm,19.1s,baz=95,slow=35								
WRA	**Warramunga Arr**	**50.35**	**258**	P		**P**		**16 27 59.1**	**-0.2**
AS31	**Alice Springs**	**50.49**	**253**	P		**P**		**16 28 00.2**	**-0.1**
AS31				IAmb		IAmb		16 28 02.7	
	comp=Z,5.2nm,1.0s								
ASAR	**Alice Springs**	**50.49**	**253**	P		**P**		**16 28 00.7**	**+0.3**
	comp=Z,12nm,0.7s,baz=90,slow=7.9,SNR=186								
ASAR				LR		LR		16 48 12.6	
	comp=Z,220nm,18.2s,baz=88,slow=35								
ASAR	**Alice Springs**	**50.49**	**253**	P		**P**		**16 28 00.2**	**-0.2**
FORT	**Forrest**	**55.55**	**244**	P		**P**		**16 28 37.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**58.75**	**259**	P		**P**		**16 29 01.2**	**+0.9**
	comp=Z,2.2nm,1.0s,baz=180,slow=7.9,SNR=1.4								
SOEI	**Soe**	**61.70**	**268**	P		**P**		**16 29 18.6**	**-2.2**
VNDA	**Vanda**	**62.10**	**186**	P		**P**		**16 29 20.4**	**-1.8**
	comp=Z,1.8nm,1.0s,baz=358,slow=9.1,SNR=7.9								
VNDA				LR		LR		16 56 23.7	
	comp=Z,23nm,18.1s,baz=14,slow=36								
NWAO	**Narrogin (SRO)**	**64.68**	**241**	P		**P**		**16 29 42.1**	**+2.0**
	comp=Z,14nm,0.9s,baz=91,slow=3.5,SNR=5.1								
MORW	**Morawa**	**66.06**	**245**	P		**P**		**16 29 50.4**	**+1.2**
MJAR	**Matsushiro Arr**	**70.53**	**320**	P		**P**		**16 30 16.3**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=135,slow=5.8,SNR=5.3								
MJAR				LR		LR		16 55 58.2	
	comp=Z,103nm,21.8s,baz=125,slow=32								
QSPA	**South Pole Qui**	**73.27**	**180**	P		**P**		**16 30 31.8**	**-1.4**
QSPA				IAmb		IAmb		16 30 34.0	
	comp=Z,8.4nm,1.1s								
PETK	**Petropavlovsk-**	**74.19**	**342**	LR		LR		16 55 02.4	
	comp=Z,103nm,21.9s,baz=72,slow=29								
NVAR	**Mina Array Bea**	**74.80**	**41**	P		**P**		**16 30 43.3**	**+0.7**
	comp=Z,0.5nm,0.2s,baz=235,slow=7.6,SNR=6.2								
NVAR				LR		LR		16 58 47.5	
	comp=Z,126nm,18.8s,baz=272,slow=32								
KSRS	**Korea Array**	**77.72**	**315**	LR		LR		16 59 43.5	
	comp=Z,75nm,21.2s,baz=118,slow=32								
USRK	**Ussuriysk Ar.**	**78.98**	**323**	LR		LR		16 59 38.5	
	comp=Z,64nm,21.6s,baz=135,slow=31								
TXAR	**Lajitas Array**	**80.69**	**56**	P		**P**		**16 31 15.8**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=213,slow=6.5,SNR=11								
TXAR				LR		LR		17 00 12.7	
	comp=Z,59nm,20.2s,baz=0.0,slow=31								
NJ2	**Nanjing**	**81.66**	**307**	*e*P		P		16 31 16.4	-4.0
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.6s								
PDAR	**Pinedale Array**	**82.74**	**41**	P		**P**		**16 31 25.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=246,slow=3.6,SNR=6.1								
PDAR				LR		LR		17 03 11.9	
	comp=Z,84nm,19.6s,baz=282,slow=32								
ILAR	**Eielson Array**	**83.64**	**11**	P		**P**		**16 31 30.4**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=229,slow=5.7,SNR=9.8								
ILAR				LR		LR		17 05 17.7	
	comp=Z,27nm,18.6s,baz=204,slow=33								
QIZ	**Qiongzhong**	**84.19**	**292**	P		P		16 31 28.1	-5.8
QIZ	**Qiongzhong**	**84.19**	**292**	S		**S**		**16 41 56.2**	**-3.3**
QIZ				LR		LR			
	comp=N,75nm,14.1s								
QIZ				LR		LR			
	comp=E,110nm,18.2s								
QIZ				LR		LR			
	comp=Z,250nm,22.4s								
MAW	**Mawson**	**86.75**	**198**	P		**P**		**16 31 45.2**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=54,slow=4.7,SNR=4.3								
MAW				LR		LR		17 06 32.9	
	comp=Z,58nm,21.6s,baz=60,slow=33								
PLCA	**Paso Flores**	**87.97**	**132**	LR		LR		17 01 47.3	
	comp=Z,219nm,21.0s,baz=336,slow=29								
HHC	**Hu-ho-hao-te**	**90.57**	**313**	*e*P		P		16 31 58.9	-5.5
HHC				pmax		pmax			
	comp=Z,11nm,0.7s								
HHC				pmax		pmax			
	comp=Z,150nm,6.6s								
YKA	**Yellowknife Ar**	**91.03**	**23**	LR		LR		17 08 50.3	
	comp=Z,34nm,18.5s,baz=0.0,slow=33								
CMAR	**Chiang Mai Arr**	**93.84**	**288**	P		**P**		**16 32 20.7**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=91,slow=2.4,SNR=4.5								
CMAR				LR		LR		17 09 34.6	
	comp=Z,71nm,21.7s,baz=157,slow=32								
ULM	**Lac du Bonnet**	**94.48**	**39**	LR		LR		17 11 04.1	
	comp=Z,135nm,18.7s,baz=270,slow=33								
LZH	**Lanzhou**	**94.71**	**306**	*e*P		P		16 32 17.3	-6.4
LZH				pP		sP		16 32 28.8	+2.7
LZH				sP		pwP		16 32 34.2	+2.4
LZH				pmax		pmax			
	comp=Z,19nm,1.0s								
LZH				pmax		pmax			
	comp=Z,130nm,4.5s								
LPAZ	**La Paz**	**98.56**	**110**	LR		LR		17

az=70.0
MOS ***01*** *16:49:24.1±1.2,38°.60N×69°.86E,h25km,mb4.8/31,*
MS4.0/7, Error ellipse: s-maj=5.0km s-min=4.0km az=91.8
ISC 01 16:49:19.6±0.3,38°.50N±0°.03×69°.68E±0°.03,h10km,n347,
$_{\alpha}$25:21/364,**mb4.6**/95,**MS3.7**/19,**26C-34D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**0.43**	**291**		**Pg**	**16 49 28.2**	**+0.1**
CHGR				Sg	**Sg**	**16 49 32.7**	**-1.1**
GAR	**Garm**	**0.70**	**45**	Pg	**Pg**	**16 49 32.1**	**-1.1**
TAS	**Tashkent**	**2.83**	**354**	PN	**Pb**	**16 50 11.4**	**+1.1**
TAS	**Tashkent**	**2.83**	**354**	Pg	**Pb**	**16 50 11.4**	**+1.1**
IUG	**luzhnay**	**3.65**	**4**	*e*P	**Pb**	**16 50 24.6**	**+0.4**
	207nm,0.2s						
IUG				*e*S	**Sg**	**16 51 14.4**	**-2.4**
	2μm,0.4s						
CHM	**Chimkent**	**3.81**	**359**	*e*P	**Pb**	**16 50 28.8**	**+1.8**
	122nm,0.3s						
CHM				*e*S	**Sg**	**16 51 21.3**	**-0.6**
	2μm,0.6s						
KBL	**Kabul**	**3.99**	**188**	PN	**Pn**	**16 50 25.1**	**+4.1**
KBL	**Kabul**	**3.99**	**188**	Pn	**Pn**	**16 50 25.1**	**+4.1**
BRLS	**Boroldaу**	**4.52**	**1**	*e*P	**Pb**	**16 50 36.7**	**-2.4**
	57nm,0.4s						
BRLS				*e*S	**Sb**	**16 51 35.2**	**+1.6**
	2μm,0.7s						
DZA	**Taraz**	**4.56**	**15**	*e*P	**Pn**	**16 50 32.6**	**+3.9**
	1μm,0.6s						
DZA				*e*S	**Sn**	**16 51 28.1**	**+6.4**
	3μm,0.3s						
DZA	**Taraz**	**4.56**	**15**	*e*PN	**Pn**	**16 50 32.6**	**+3.9**
DZA				*e*S	**Sn**	**16 51 28.1**	**+6.4**
KK31	**Karatay Array**	**4.64**	**8**	⇓Pn	**Pn**	**16 50 31.8**	**+2.1**
	17nm,0.3s,baz=202,slow=22,SNR=456						
KK31				⇓Pg	**Pb**	**16 50 44.2**	**+3.1**
	122nm,0.5s,baz=192,slow=18,SNR=21						
KK31				⇓Sn	**Sn**	**16 51 28.1**	**+4.5**
	97nm,0.4s						
KK31				⇓Lg	Lg	16 51 48.0	
	130nm,0.4s,baz=191,slow=33,SNR=7.8						
KK31	**Karatay Array**	**4.64**	**8**	PN	**Pn**	**16 50 31.8**	**+2.1**
KK31	**Karatay Array**	**4.64**	**8**	Pn	**Pn**	**16 50 31.8**	**+2.1**
KKAR	**Karatay Array**	**4.64**	**8**	PN	**Pn**	**16 50 31.7**	**+2.0**
KKAR	**Karatay Array**	**4.64**	**8**	Pn	**Pn**	**16 50 31.6**	**+2.0**
AML	**Almayashu**	**4.75**	**39**	P	**Pn**	**16 50 33.7**	**+2.1**
	SNR=19						
CEP	**Cherat**	**5.01**	**158**	P	**Pn**	**16 50 38.7**	**+3.8**
CEP				S	**Sn**	**16 51 38.0**	**+5.1**
KSH	**Kashi**	**5.01**	**76**	P	**Pn**	**16 50 32.7**	**-2.2**
KSH				pmax	pmax		
	comp=Z,78nm,0.5s						
MRKS	**Merke**	**5.02**	**31**	*e*P	**Pn**	**16 50 38.6**	**+3.5**
	comp=Z,417nm,0.4s						
MRKS				*e*S	**Sn**	**16 51 38.5**	**+5.3**
	comp=Z,362nm,0.7s						
MRKS	**Merke**	**5.02**	**31**	*e*PN	**Pn**	**16 50 38.6**	**+3.5**
MRKS				*e*S	**Sn**	**16 51 38.6**	**+5.3**
EKS2	**Erkin-Say**	**5.20**	**36**	P	**Pn**	**16 50 40.2**	**+2.8**
	SNR=32						
UCH	**Uchtor**	**5.24**	**43**	P	**Pn**	**16 50 40.4**	**+2.0**
	SNR=226						
AAK	**Ala-Archa**	**5.52**	**40**	P	**Pn**	**16 50 44.3**	**+2.3**
	SNR=9.6						
AAK	**Ala-Archa**	**5.52**	**40**	⇑Pn	**Pn**	**16 50 43.9**	**+1.9**
	comp=Z,97nm,0.8s						
AAK				⇑Pg	**Pb**	**16 51 00.4**	**+4.3**
	comp=Z,117nm,0.6s						
AAK				⇑Sn	**Sn**	**16 51 52.4**	**+6.8**
	comp=Z,252nm,0.9s						
AAK	**Ala-Archa**	**5.52**	**40**	*d i*PN	**Pn**	**16 50 43.9**	**+1.9**
KZA	**Kyzart**	**5.56**	**48**	P	**Pn**	**16 50 44.9**	**+2.2**
	SNR=76						
NIL	**Nilore**	**5.64**	**148**	PN	**Pn**	**16 50 47.4**	**+3.9**
NIL	**Nilore**	**5.64**	**148**	Pn	**Pn**	**16 50 47.4**	**+3.9**
FRU1	**Bishkek**	**5.72**	**40**	PN	**Pn**	**16 50 44.8**	**+0.2**
FRU1	**Bishkek**	**5.72**	**40**		**Pn**	**16 50 44.8**	**+0.2**
KBK	**Karagaybulak**	**5.77**	**42**	P	**Pn**	**16 50 47.9**	**+2.5**
	SNR=113						
CHMS	**Chumysh**	**5.92**	**39**	P	**Pn**	**16 50 49.4**	**+2.1**
	SNR=102						
THW	**Thamme Wali**	**5.94**	**163**	P	**Pn**	**16 50 50.6**	**+3.0**
USP	**Ospenovka**	**6.00**	**36**	P	**Pn**	**16 50 50.0**	**+1.5**
	SNR=13						
BOOM	**Boomskoye usch**	**6.22**	**48**	PN	**Pn**	**16 50 53.5**	**+1.9**
BOOM	**Boomskoye usch**	**6.22**	**48**	Pn	**Pn**	**16 50 53.5**	**+1.9**
ULHL	**Ulahol**	**6.25**	**51**	P	**Pn**	**16 50 54.1**	**+2.0**
	SNR=17						
TKM2	**Tokmak 2**	**6.30**	**44**	P	**Pn**	**16 50 54.8**	**+2.1**
	SNR=15						
TKM2	**Tokmak 2**	**6.30**	**44**	⇑Pn	**Pn**	**16 50 54.2**	**+1.5**
	comp=Z,49nm,0.4s						
TKM2				⇓Sn	**Sn**	**16 52 10.2**	**+5.4**
	comp=Z,83nm,0.7s						
TKM2				⇓Lg	Lg	16 52 45.6	
	comp=Z,267nm,1.2s						
TKM2	**Tokmak 2**	**6.30**	**44**	PN	**Pn**	**16 50 54.2**	**+1.5**
KST	**Kastek**	**6.58**	**44**	*e*P	Pb	16 51 05.6	-8.6
	comp=Z,41nm,0.6s						
KST				*e*S	**Sb**	**16 52 24.5**	**-8.5**
	comp=Z,94nm,0.8s						
KST	**Kastek**	**6.58**	**44**	*e*PN	Pb	16 51 05.6	-8.6
KDJ	**Kajisay**	**6.78**	**55**	PN	**Pn**	**16 51 01.4**	**+2.1**
KDJ	**Kajisay**	**6.78**	**55**	Pn	**Pn**	**16 51 01.4**	**+2.1**
MTBS	**Maitube**	**6.90**	**46**	*e*P	Pn	16 51 08.3	+7.5
	comp=Z,20nm,0.5s						
MTBS				*e*S	Sn	16 52 29.1	+10
	comp=Z,22nm,0.6s						
MTBS	**Maitube**	**6.90**	**46**	*e*PN	Pn	16 51 08.3	+7.5
MTBS				*e*S	Sn	16 52 29.1	+10
TNSS	**Tian-Shan**	**7.14**	**48**	*e*P	Pn	16 51 12.0	+7.6
	comp=Z,18nm,0.4s						
TNSS				*e*S	Sn	16 52 35.2	+9.5
	comp=Z,17nm,0.8s						
TNSS	**Tian-Shan**	**7.14**	**48**	*e*PN	Pn	16 51 12.0	+7.6
TNSS				*e*S	Sn	16 52 35.2	+9.5
AAA	**Alma-Ata**	**7.22**	**47**	*e*PN	**Pn**	**16 51 07.8**	**+2.5**
KNDC	**Almaty**	**7.26**	**47**	⇑Pn	**Pn**	**16 51 08.0**	**+2.3**
	comp=Z,110nm,0.6s						
KNDC				⇑Lg	Lg	16 53 16.4	
	comp=Z,302nm,0.9s						
KNDC	**Almaty**	**7.26**	**47**	PN	**Pn**	**16 51 08.0**	**+2.3**
HRA	**Herat**	**7.26**	**238**	Pn	**Pn**	**16 51 06.7**	**+0.8**
PRZ	**Przheval'sk**	**7.75**	**56**	P	**Pn**	**16 51 14.5**	**+2.0**
PRZ	**Przheval'sk**	**7.75**	**56**	Pn	**Pn**	**16 51 14.5**	**+2.0**
DHRM	**DHARAMSHALA**	**8.26**	**137**	*e*P	**Pn**	**16 51 21.5**	**+1.9**
DHRM				*e*S	**Sn**	**16 52 52.8**	**-0.3**
PDGK	**Podgornoye**	**8.85**	**54**	⇓Pn	**Pn**	**16 51 28.7**	**+1.0**
	comp=Z,36nm,0.8s						
PDGK				⇓Lg	Lg	16 54 06.7	
	comp=Z,134nm,1.1s						
PDGK	**Podgornoye**	**8.85**	**54**	P	**Pn**	**16 51 28.7**	**+1.0**
BHK	**Bhakra**	**8.97**	**140**	*e*P	Pg	16 51 59.0	-12
BHK				*e*S	Sn	16 53 24.2	+14
GEYT	**Alibeck**	**9.12**	**270**	Pn	**Pn**	**16 51 29.1**	**-2.1**
	comp=Z,5.6nm,0.3s,baz=100,slow=10,SNR=35						
GEYT				Sn	**Sn**	**16 53 09.6**	**-4.3**
	comp=Z,5.8nm,0.3s,baz=122,slow=46,SNR=2.5						
GEYT				LR	LR	16 55 54.0	
	comp=Z,372nm,21.9s,baz=75,slow=43						
GEYT	**Alibeck**	**9.12**	**270**	Pn	**Pn**	**16 51 28.7**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**9.12**	**270**	⇓Pn	**Pn**	**16 51 28.9**	**-2.3**
GYA0B				⇑Sn	**Sn**	**16 53 09.6**	**-4.3**
GYA0B	**ALIBECK ARRAY**	**9.12**	**270**	Pn	**Pn**	**16 51 28.7**	**-2.6**
SMLA	**Simla**	**9.59**	**138**	*e*P	**Pn**	**16 51 40.2**	**+2.5**
SMLA				*e*S	**Sn**	**16 53 21.6**	**-3.9**
NDI	**New Delhi**	**11.63**	**145**	*e*P	**Pn**	**16 52 05.0**	**-0.7**
KUDL	**Kundal**	**11.79**	**149**	*e*P	**Pn**	**16 52 07.4**	**-0.4**
KUDL				*e*S	**Sn**	**16 54 12.2**	**-7.3**
MAKZ	**Makanchi**	**12.27**	**44**	⇑Pn	**Pn**	**16 52 14.6**	**+0.2**
	comp=Z,11nm,0.8s						
MAKZ	**Makanchi**	**12.27**	**44**	P	**Pn**	**16 52 13.9**	**-0.4**
MAKZ	**Makanchi**	**12.27**	**44**	Pn	**Pn**	**16 52 13.9**	**-0.4**
MK31	**Makanchi Array**	**12.43**	**44**	⇓Pn	**Pn**	**16 52 16.5**	**-0.1**
	comp=Z,17nm,0.7s,baz=232,slow=12,SNR=118						
MK31	**Makanchi Array**	**12.43**	**44**	*c i*P	**Pn**	**16 52 17.0**	**+0.4**
MK31	**Makanchi Array**	**12.43**	**44**		**Pn**	**16 52 16.2**	**-0.3**
MKAR	**Makanchi Array**	**12.43**	**44**	Pn	**Pn**	**16 52 17.0**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=227,slow=13,SNR=107						
MKAR				Lg	Lg	16 55 43.3	
	comp=Z,0.2nm,0.3s,baz=234,slow=27,SNR=1.3						
MKAR				LR	LR	16 57 58.6	
	comp=Z,73nm,20.8s,baz=224,slow=42						
MKAR	**Makanchi Array**	**12.43**	**44**	*i* P	**Pn**	**16 52 17.0**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
MKAR	**Makanchi Array**	**12.43**	**44**	Pn	**Pn**	**16 52 16.0**	**-0.6**
AB31	**Akbulak array**	**12.82**	**330**	⇑Pn	**Pn**	**16 52 21.2**	**-0.6**
	comp=Z,13nm,0.6s,baz=147,slow=13,SNR=360						
AB31				⇓Sn	**Sn**	**16 54 43.9**	**-0.6**
	comp=Z,36nm,0.7s,baz=146,slow=24,SNR=5.8						
ABKAR	**Akbulak array**	**12.82**	**330**	Pn	**Pn**	**16 52 20.0**	**-1.8**
KURBB	**Kurchatov Arra**	**13.65**	**25**	Pn	**Pn**	**16 52 31.7**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=30						
KURBB				Sn	**Sn**	**16 55 07.3**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=219,slow=30,SNR=1.8						
KURBB				Lg	Lg	16 56 26.6	
	comp=Z,0.2nm,0.3s,baz=214,slow=27,SNR=8.1						
KURBB	**Kurchatov Arra**	**13.65**	**25**	⇑Pn	**Pn**	**16 52 33.1**	**+0.1**
	comp=Z,12nm,0.7s						
KURBB				⇑Lg	Lg	16 56 36.4	
	comp=Z,172nm,1.4s						
KURK	**Kurchatov**	**13.76**	**25**	⇓Pn	**Pn**	**16 52 34.4**	**-0.1**
	comp=Z,15nm,1.2s						
KURK				⇓Lg	Lg	16 56 39.0	
	comp=Z,69nm,0.9s						
KURK	**Kurchatov**	**13.76**	**25**	*de*P	**Pn**	**16 52 33.4**	**-1.1**
KURK				pmax	pmax		
	comp=Z,16nm,2.5s						
KURK	**Kurchatov**	**13.76**	**25**	Pn	**Pn**	**16 52 32.7**	**-1.8**
KURK	**Kurchatov**	**13.76**	**25**		**Sn**	**16 55 07.3**	**0.0**
AKTO	**Aktyubinsk**	**14.52**	**329**	Pn	**Pn**	**16 52 45.3**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=138,slow=12,SNR=15						
AKTO				Sn	Sn	16 55 17.7	-8.3
	comp=Z,1.1nm,0.3s,baz=131,slow=19,SNR=1.6						
AKTO				Lg	Lg	16 57 11.8	
	comp=Z,0.6nm,0.3s,baz=222,slow=23,SNR=2.3						
AKTO				LR	LR	16 58 49.0	
	comp=Z,130nm,18.7s,baz=153,slow=39						
AKTO	**Aktyubinsk**	**14.52**	**329**	⇓Pn	**Pn**	**16 52 45.4**	**+0.3**
	comp=Z,39nm,0.8s						
AKTO				⇓Sn	**Sn**	**16 55 27.7**	**+1.8**
	comp=Z,59nm,0.8s						
BVAR	**Borovoye Array**	**14.53**	**2**	Pn	**Pn**	**16 52 44.1**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=189,slow=20,SNR=25						
BRVK	**Borovoye**	**14.56**	**1**	*de*P	**Pn**	**16 52 43.9**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,13nm,1.3s						
BRVK	**Borovoye**	**14.56**	**1**	Pn	**Pn**	**16 52 42.7**	**-2.9**
WMQ	**Urumqi**	**14.57**	**63**	*e*P	**Pn**	**16 52 45.7**	**-0.1**
WMQ				pP	P	16 52 51.9	-0.4
WMQ				pmax	pmax		
	comp=Z,39nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,95nm,4.3s						
WMQ				LR	LR		
	comp=Z,410nm,10.9s						
WMQ				LR	LR		
	comp=Z,310nm,10.7s						
WMQ				LR	LR		
	comp=Z,380nm,8.5s						
WMQ	**Urumqi**	**14.57**	**63**	P	**P**	**16 52 51.7**	**-0.6**
WMQ	**Urumqi**	**14.57**	**63**	P	**P**	**16 52 51.7**	**-0.6**
BHPL	**Bhopal**	**16.59**	**154**	*e*P	**P**	**16 53 16.2**	**+1.3**
BHPL				*e*S	**Sn**	**16 56 06.6**	**-10**
DGZ	**Jazzator, Alta**	**16.92**	**43**	*de*P	**Pn**	**16 53 14.9**	**-1.6**
DGZ				pmax	pmax		
	comp=Z,21nm,0.6s						
AKT	**Akhty**	**17.07**	**287**	*de*P	**P**	**16 53 20.5**	**+0.3**
MAK	**Makhachkala**	**17.37**	**292**	*e*P	**Pn**	**16 53 22.6**	**+0.6**
MAK				*e*S	**Sn**	**16 56 35.4**	**+0.2**
MAK				pmax	pmax		
	comp=Z,55nm,1.0s						
MAK				MLR	MLR		
	comp=Z,681nm,15.0s						
LGD	**Lagodekhi**	**18.20**	**288**	P	**P**	**16 53 34.9**	**+2.3**
ZAA0	**Zalesovo Array**	**18.60**	**29**	P	**P**	**16 53 34.9**	**-1.9**
ZAA0				IAmb	IAmb	16 53 37.0	
	comp=Z,27nm,0.8s						
ZALV	**Zalesovo Beam**	**18.60**	**29**	P	**P**	**16 53 35.8**	**-1.1**
	comp=Z,5.0nm,0.3s,baz=227,slow=12,SNR=102						
ZALV				S	**Sn**	**16 57 01.0**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=226,slow=14,SNR=2.0						
ZALV				LR	LR	17 01 28.0	
	comp=Z,129nm,20.4s,baz=218,slow=39						
ZALV	**Zalesovo Beam**	**18.60**	**29**	*i* P	**P**	**16 53 35.5**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,18nm,0.5s						
ZALV	**Zalesovo Beam**	**18.60**	**29**	P	**P**	**16 53 34.7**	**-2.1**
GROC	**Groznyy**	**18.64**	**292**	*e*P	**P**	**16 53 37.6**	**+0.3**
GROC				*e*S	**Sn**	**16 57 04.8**	**-1.2**
GROC				pmax	pmax		
	comp=Z,64nm,1.2s						
GROC				MLR	MLR		
	comp=Z,616nm,11.0s						
SVE	**Sverdlovsk**	**19.29**	**345**	*e*P	**P**	**16 53 44.7**	**+0.4**
SVE				*e*S	**Sn**	**16 57 12.5**	**-8.9**
SVE				pmax	pmax		
	comp=Z,18nm,1.0s						
SVE				MLR	MLR		
	comp=Z,386nm,13.0s						
ARU	**Arti**	**19.40**	**341**	P	**P**	**16 53 45.4**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=179,slow=8.7,SNR=9.1						
ARU				S	**Sn**	**16 57 14.7**	**-9.4**
	comp=Z,0.0nm,0.3s,baz=158,slow=24,SNR=6.9						
ARU	**Arti**	**19.40**	**341**	*d i*P	**P**	**16 53 45.9**	**+0.4**
ARU				S	**Sn**	**16 57 22.4**	**-1.7**
ARU				pmax	pmax		
	comp=Z,11nm,1.4s						
ARU	**Arti**	**19.40**	**341**	P	**P**	**16 53 45.2**	**-0.4**
ARU				IAmb	IAmb	16 53 58.5	
	comp=Z,30nm,1.2s						
LSA	**Lhasa**	**19.80**	**110**	P	**Pn**	**16 53 51.7**	**-0.4**
LSA				pmax	pmax		
	comp=Z,110nm,0.6s						
LSA	**Lhasa**	**19.80**	**110**	P	**P**	**16 53 51.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.7s						
LSA	**Lhasa**	**19.80**	**110**	P	**P**	**16 53 51.3**	**+0.6**
LSA				IAmb	IAmb	16 53 53.9	
	comp=Z,20nm,0.7s						
ZEI	**Tsey**	**19.99**	**291**	*e*P	Pn	16 53 55.8	+1.7
ZEI				pmax	pmax		
	comp=Z,11nm,0.7s						
BOK	**Bokaro**	**20.14**	**132**	*e*P	**P**	**16 53 54.4**	**+0.6**
BOK				IAmb	IAmb	16 53 55.4	
	comp=Z,28nm,0.7s						
AKH	**Akhalkalaki**	**20.25**	**287**	P	**P**	**16 53 55.7**	**+0.5**
AKH				pmax	pmax		
	comp=Z,44nm,1.1s						
AKH	**Akhalkalaki**	**20.25**	**287**		**P**	**16 53 55.7**	**+0.5**
AKH				IAmb	IAmb	16 54 06.7	
	comp=Z,44nm,1.1s						
ONI	**Oni**	**20.31**	**290**	P	Pn	16 53 58.8	+1.1
BELG	**Belogornoye**	**20.68**	**319**	*c i*P	**P**	**16 54 00.6**	**+1.1**
KBZ	**Khabaz**	**20.80**	**293**	P	**P**	**16 54 01.4**	**+0.6**
	comp=Z,12nm,0.7s,baz=119,slow=7.6,SNR=24						
KBZ				S	**S**	**16 57 47.5**	**-5.3**
	comp=Z,2.5nm,0.8s,baz=216,slow=14,SNR=1.3						
KBZ				LR	LR	17 04 08.2	
	comp=Z,239nm,18.3s,baz=60,slow=43						
KBZ	**Khabaz**	**20.80**	**293**	⇓*e*P	**P**	**16 54 01.0**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,12nm,0.7s						
GOF	**Gofitskoye**	**20.86**	**297**	⇑*e*P	Pn	16 54 04.4	+0.4
GOF				pmax	pmax		
	comp=Z,107nm,1.2s						
KIV	**Kislovodsk**	**20.97**	**294**	*e*P	**P**	**16 54 05.5**	**+2.7**
KIV				*e*S	**S**	**16 57 58.5**	**+2.1**
KIV				pmax	pmax		
	comp=Z,87nm,1.0s						
KIV				MLR	MLR		
	comp=Z,418nm,14.0s						
KIV	**Kislovodsk**	**20.97**	**294**	P	**P**	**16 54 02.7**	**-0.1**
KIV				IAmb	IAmb	16 54 09.9	
	comp=Z,23nm,0.7s						
HYB	**Hyderabad**	**22.40**	**157**	*i* P	**P**	**16 54 19.0**	**+0.7**
SHL	**Shillong**	**22.75**	**118**	*ex*	x	16 54 21.3	
SHL				IAmb	IAmb	16 54 24.5	
	comp=Z,10nm,0.4s						
SHL	**Shillong**	**22.75**	**118**	P	**P**	**16 54 21.0**	**-1.2**
SHL				pmax	pmax		
	comp=Z,22nm,1.0s						
SHL	**Shillong**	**22.75**	**118**	P	**P**	**16 54 21.0**	**-1.2**
SHL				IAmb	IAmb	16 54 23.8	
	comp=Z,22nm,1.0s						
SOC	**Sochi**	**23.09**	**292**	*e*P	**P**	**16 54 28.2**	**+2.9**
SOC				*e*		16 54 50.2	
SOC				*e*PPP	PPP	16 54 59.0	
SOC				*e*SS	Sn	16 59 11.1	+18
SOC				*e*SSS	SSS	16 59 31.0	
SOC				pmax	pmax		
	comp=Z,22nm,0.8s						
SOC				MLR	MLR		
	comp=Z,179nm,13.0s						
VRH	**Novokhopyorsk**	**23.37**	**312**	*e*P	**P**	**16 54 32.8**	**+4.7**
VRH				pmax	pmax		
	comp=Z,50nm,0.7s						
GTA	**Gaotai**	**23.41**	**78**	*e*P	**P**	**16 54 29.0**	**+0.2**
GTA				pP	pP	16 54 33.2	+1.0
GTA				sP	sP	16 54 36.0	+2.3
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,78nm,8.4s						
GTA				LR	LR		
	comp=Z,180nm,11.6s						
GTA				LR	LR		
	comp=Z,240nm,12.4s						
GTA				LR	LR		
	comp=Z,270nm,13.1s						
KIRV	**Kirov**	**23.98**	**333**	P	**P**	**16 54 33.4**	**-0.5**
	comp=Z,7.2nm,0.6s,baz=116,slow=6.7,SNR=5.3						
KIRV				LR	LR	17 05 25.4	
	comp=Z,46nm,20.8s,baz=139,slow=40						
MALT	**Malatya**	**24.43**	**279**	P	**P**	**16 54 44.7**	**+6.2**
VORD	**Divnogorie**	**24.73**	**310**	*e*P	**P**	**16 54 43.5**	**+2.6**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VSR	**Storozhevoye**	**24.88**	**311**	*e*P	**P**	**16 54 43.0**	**+0.7**
VSR				pmax	pmax		
	comp=Z,20nm,0.6s						
LPSR	**Galich'ya Gora**	**25.50**	**314**	*e*P	**P**	**16 54 48.9**	**+1.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MOY	**Mondy**	**25.51**	**49**	*e*P	**P**	**16 54 49.1**	**+1.0**
MOY				pmax	pmax		
	comp=Z,25nm,1.6s						
ZAK	**Zakamensk**	**26.54**	**52**	*e*P	**P**	**16 54 58.0**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,20nm,0.9s						
TLY	**Talaya**	**27.09**	**50**	P	**P**	**16 55 02.1**	**-0.2**
	comp=Z,4.6nm,0.5s,baz=239,slow=12,SNR=2.7						
TLY	**Talaya**	**27.09**	**50**	*e*P	**P**	**16 55 04.1**	**+1.8**
TLY				*e*		16 55 43.0	
TLY				*e*PPP	PPP	16 55 59.8	
TLY				pmax	pmax		
	comp=Z,18nm,1.1s						
TLY				MLR	MLR		
	comp=Z,217nm,8.0s						
TLY	**Talaya**	**27.09**	**50**	P	**P**	**16 55 03.1**	**+0.8**
OBN	**Obninsk**	**27.74**	**318**	LR	LR	17 08 50.9	
	comp=Z,22nm,19.2s,baz=127,slow=42						
OBN	**Obninsk**	**27.74**	**318**	⇑*e*P	**P**	**16 55 09.8**	**+1.8**
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
BR131	**Keskin Array S**	**27.87**	**284**	⇑*i*P	**P**	**16 55 11.1**	**+1.5**
BR131	**Keskin Array S**	**27.87**	**284**	P	**P**	**16 55 09.7**	**+0.1**
BRTR	**Keskin Array B**	**27.87**	**284**	P	**P**	**16 55 10.3**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=98,slow=8.7,SNR=9.8						
BRTR	**Keskin Array B**	**27.87**	**284**	*i* P	**P**	**16 55 11.1**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**27.87**	**284**	P	**P**	**16 55 09.6**	**0.0**
SONM	**Songino Array**	**28.13**	**59**	P	**P**	**16 55 11.8**	**0.0**
	comp=Z,2.1nm,0.5s,baz=264,slow=9.1,SNR=17						
SONM				PcP	**PcP**	**16 58 26.2**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=214,slow=4.9,SNR=3.4						
SONM	**Songino Array**	**28.13**	**59**	P	**P**	**16 55 11.7**	**-0.1**
ULN	**Ulaanbaatar**	**28.57**	**59**	*ce*P	**P**	**16 55 15.8**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.57**	**59**	P	**P**	**16 55 15.7**	**0.0**
CD2	**Chengdu**	**28.90**	**95**	P	**P**	**16 55 20.8**	**+2.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
KLMR	**Klimovskoe**	**29.22**	**330**	P	**P**	**16 55 19.8**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	**Klimovskoe**	**29.22**	**330**	P	**P**	**16 55 19.9**	**-1.3**
KLMR				AMP		16 55 24.9	
	comp=Z,8.0nm,1.1s						
EIL	**Elat**	**29.94**	**263**	LR	LR	17 09 48.2	
	comp=Z,74nm,21.7s,baz=98,slow=41						
AKASG	**Malin Array Be**	**30.89**	**307**	P	**P**	**16 55 35.6**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=83,slow=7.2,SNR=13						
AKASG				LR	LR	17 09 31.8	
	comp=Z,65nm,20.5s,baz=295,slow=39						
AKASG	**Malin Array Be**	**30.89**	**307**	*i* P	**P**	**16 55 39.4**	**+3.4**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKASG	**Malin Array Be**	**30.89**	**307**	P	**P**	**16 55 35.8**	**-0.2**
AKBB	**Malin Array Si**	**30.89**	**307**	⇓*e*P	**P**	**16 55 36.3**	**+0.3**
AKBB	**Malin Array Si**	**30.89**	**307**	P	**P**	**16 55 35.7**	**-0.3**
AKBB				IAmb	IAmb	16 55 43.3	
	comp=Z,7.0nm,0.7s						
SORM	**Soroca**	**31.23**	**301**	⇑P	**P**	**16 55 40.3**	**+1.2**

VOIR			**33.55**	**296**	⇓P		**P**	**16 56 01.4**	**+1.9**
VOIR			**33.55**	**296**	P		**P**	**16 56 01.8**	**+2.3**
VOIR					pmax		pmax		
	comp=Z,6.0nm,2.8s								
ENH	**Enshi**		**33.66**	**92**	P		**P**	**16 56 01.2**	**+0.6**
ENH					IAmb		IAmb	16 56 03.3	
	comp=Z,12nm,1.0s								
VSU	**Vasula**		**33.97**	**320**	⇓*e*P		**P**	**16 56 06.3**	**+3.4**
VSU					pmax		pmax		
	comp=Z,19nm,0.8s								
LVV	**L'vov**		**34.14**	**304**	*e*P		**P**	**16 56 08.4**	**+3.9**
BOD	**Bodaibo**		**34.50**	**41**	*e*P		**P**	**16 56 06.4**	**-1.2**
BOD					pmax		pmax		
	comp=Z,24nm,0.8s								
GZR	**Gura Zlata**		**35.15**	**297**	⇓P		**P**	**16 56 15.9**	**+2.6**
FIA1	**FINESS Array S**		**35.24**	**325**	P		**P**	**16 56 14.0**	**+0.2**
FIA1					IAmb		IAmb	16 56 21.0	
	comp=Z,11nm,1.0s								
FINES	**FINESS Array B**		**35.24**	**325**	P		**P**	**16 56 14.1**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=116,slow=8.8,SNR=24								
FINES	**FINESS Array B**		**35.24**	**325**	*i* P		**P**	**16 56 15.1**	**+1.3**
FINES					pmax		pmax		
	comp=Z,5.0nm,0.7s								
FINES	**FINESS Array B**		**35.24**	**325**	P		**P**	**16 56 14.4**	**+0.5**
UZH	**Uzhgorod**		**35.28**	**302**	*e*P		**P**	**16 56 18.0**	**+3.6**
UZH					*e*			16 56 34.2	
KOLS	**Kolonicke sedl**		**35.28**	**303**	P		**P**	**16 56 15.3**	**+0.8**
KOLS					pmax		pmax		
	comp=Z,8.0nm,0.9s								
KOLS	**Kolonicke sedl**		**35.28**	**303**	*e*P		**P**	**16 56 15.1**	**+0.6**
APA	**Apatity**		**35.38**	**337**	⇓*i*P		**P**	**16 56 16.0**	**+1.0**
APA					pmax		pmax		
	comp=Z,5.0nm,1.1s								
BJT	**Baijiatuau**		**35.72**	**73**	P		**P**	**16 56 18.7**	**+0.5**
BJT					pmax		pmax		
	comp=Z,8.0nm,0.8s								
BJT	**Baijiatuau**		**35.72**	**73**	P		**P**	**16 56 18.7**	**+0.5**
BJT					IAmb		IAmb	16 56 19.6	
	comp=Z,7.9nm,0.8s								
BJI	**Beijing**		**35.72**	**73**	P		**P**	**16 56 19.1**	**+0.9**
BJI					pmax		pmax		
	comp=Z,10.0nm,0.6s								
BZS	**Buzias**		**35.93**	**297**	⇑P		**P**	**16 56 22.4**	**+2.3**
MDVR	**Moldovita**		**35.96**	**296**	⇑P		**P**	**16 56 22.9**	**+2.5**
NIE	**Niedzica**		**36.57**	**304**	P		**P**	**16 56 28.4**	**+2.9**
OJC	**Ojcow**		**36.87**	**305**	P		**P**	**16 56 28.4**	**+0.4**
OJC					pmax		pmax		
	comp=Z,12nm,0.8s								
OJC	**Ojcow**		**36.87**	**305**	P		**P**	**16 56 28.4**	**+0.4**
OJC					IAmb		IAmb	16 56 33.0	
	comp=Z,12nm,0.8s								
DIVS	**Divibare**		**37.28**	**295**	P		**P**	**16 56 33.0**	**+1.3**
DIVS					IAmb		IAmb	16 56 37.4	
	comp=Z,7.0nm,0.8s								
WHN	**Wuhan**		**37.36**	**88**	⇓*i*P		**P**	**16 56 33.5**	**+1.2**
WHN					pmax		pmax		
	comp=Z,32nm,0.8s								
WHN					LR		LR		
	comp=Z,510nm,12.6s								
VYHS	**Vyhne**		**37.58**	**302**	*e*P		**P**	**16 56 36.6**	**+2.6**
VYHS					pmax		pmax		
	comp=Z,7.0nm,1.2s								
VYHS	**Vyhne**		**37.58**	**302**	*e*P		**P**	**16 56 36.6**	**+2.6**
PDG	**Podgorica**		**38.10**	**292**	⇑P		**P**	**16 56 42.4**	**+3.8**
JAVC	**Velka Javorina**		**38.32**	**303**	*e*P		**P**	**16 56 42.4**	**+2.0**
MORC	**Moravsky Berou**		**38.34**	**304**	*e*P		**P**	**16 56 42.9**	**+2.4**
KRLC	**Kraliky**		**38.82**	**305**	*e*P		**P**	**16 56 46.0**	**+1.5**
KRLC	**Kraliky**		**38.82**	**305**	*e*P		**P**	**16 56 46.0**	**+1.5**
ARCES	**ARCESS Array B**		**38.89**	**337**	P		**P**	**16 56 44.9**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=105,slow=7.2,SNR=24								
VRAC	**Vranov**		**38.99**	**304**	*e*P		**P**	**16 56 48.8**	**+2.8**
DPC	**Dobruska-Polom**		**39.10**	**305**	*e*P		**P**	**16 56 48.8**	**+2.0**
DPC	**Dobruska-Polom**		**39.10**	**305**	*e*P		**P**	**16 56 48.8**	**+2.0**
KRUC	**Moravsky**		**39.14**	**303**	*e*P		**P**	**16 56 48.9**	**+1.7**
UPC	**Upice**		**39.28**	**306**	*e*pP		pP	16 56 53.1	+1.1
UPC	**Upice**		**39.28**	**306**	*e*P		pP	16 56 53.1	+1.1
CONA	**Conrad Observa**		**39.61**	**302**	*e*P		**P**	**16 56 53.8**	**+2.6**
	comp=Z,10nm,0.9s								
QIZ	**Qiongzhong**		**39.81**	**108**	P		**P**	**16 56 53.6**	**+0.5**
QIZ					S		**S**	**17 02 58.4**	**+0.9**
QIZ					LR		LR		
	comp=Z,96nm,13.7s								
QIZ					LR		LR		
	comp=Z,110nm,16.9s								
QIZ					LR		LR		
	comp=Z,110nm,14.1s								
NJ2	**Nanjing**		**40.27**	**84**	*e*P		**P**	**16 56 57.1**	**+0.3**
NJ2					pmax		pmax		
	comp=Z,15nm,0.7s								
SOKA	**Soboth**		**40.34**	**300**	*e*P		**P**	**16 56 59.0**	**+1.7**
	comp=Z,9.9nm,0.9s								
BRG	**Berggiesshubel**		**40.57**	**306**	*e*P		**P**	**16 57 03.6**	**+4.6**
	comp=Z,6.5nm,0.8s								
BRG	**Berggiesshubel**		**40.57**	**306**	*e*P		**P**	**16 57 03.6**	**+4.6**
BRG					pmax		pmax		
	comp=Z,7.0nm,0.8s								
MOA	**Molln**		**40.69**	**302**	P		**P**	**16 57 00.0**	**0.0**
	comp=Z,6.7nm,0.8s								
OBKA	**Obir**		**40.69**	**300**	*e*P		**P**	**16 57 04.0**	**+3.8**
	comp=Z,8.0nm,1.1s								
GERES	**GERESS Array B**		**40.93**	**303**	P		**P**	**16 57 02.7**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=78,slow=7.5,SNR=13								
GERES	**GERESS Array B**		**40.93**	**303**	P		**P**	**16 57 03.1**	**+1.0**
KHC	**Kasperske Hory**		**40.98**	**304**	*e*P		**P**	**16 57 04.1**	**+1.6**
KHC	**Kasperske Hory**		**40.98**	**304**	⇓*e*P		**P**	**16 57 04.5**	**+2.0**
KHC					pmax		pmax		
	comp=Z,7.0nm,0.9s								
KHC	**Kasperske Hory**		**40.98**	**304**	P		**P**	**16 57 03.6**	**+1.1**
CLL	**Collm**		**41.13**	**307**	*i* pP		**P**	**16 57 07.5**	**+3.9**
	comp=Z,6.0nm,0.8s								
CLL					*i* sP		**sP**	**16 57 10.1**	**+1.3**
CLL	**Collm**		**41.13**	**307**	*i* P		**P**	**16 57 07.5**	**+3.9**
CLL					pmax		pmax		
	comp=Z,6.0nm,0.8s								
MYKA	**Terra Mystica**		**41.29**	**300**	P		**P**	**16 57 06.7**	**+1.5**
	comp=Z,4.9nm,0.7s								
PRED	**Cave del Predi**		**41.38**	**300**	P		**P**	**16 57 06.7**	**+0.9**
PRED					IAmb		IAmb	16 57 18.9	
	comp=Z,8.4nm,0.9s								
ZEA	**Zeya**		**41.52**	**49**	*e*P		**P**	**16 57 07.9**	**+1.1**
NC405	**NORSAR Array S**		**41.92**	**322**	P		**P**	**16 57 10.5**	**+0.6**
NC602	**NORSAR Array S**		**41.97**	**321**	P		**P**	**16 57 10.7**	**+0.3**
NORES	**NORESS Array B**		**41.97**	**321**	P		**P**	**16 57 10.8**	**+0.4**
NORES					pmax		pmax		
	comp=Z,2.0nm,0.3s								
ABTA	**Abfaltersbach**		**42.04**	**300**	*e*P		**P**	**16 57 13.4**	**+2.2**
	comp=Z,5.1nm,1.0s								
NC303	**NORSAR Array S**		**42.09**	**322**	P		**P**	**16 57 11.9**	**+0.5**
NB201	**NORSAR Array S**		**42.11**	**322**	P		**P**	**16 57 11.8**	**+0.2**
NB2	**NORSAR Subarra**		**42.15**	**322**	P		**P**	**16 57 12.1**	**+0.2**
	comp=Z,9.7nm,0.8s,baz=96,slow=8.6								
NOA	**NORSAR Array B**		**42.15**	**322**	P		**P**	**16 57 12.2**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=107,slow=7.1,SNR=18								
NOA					LR		LR	17 15 39.9	
	comp=Z,67nm,18.1s,baz=265,slow=37								
CIMO	**Cimolais**		**42.16**	**300**	P		**P**	**16 57 12.9**	**+0.7**
NAO01	**NORSAR Array S**		**42.30**	**322**	P		**P**	**16 57 13.4**	**+0.3**
NBO00	**NORSAR Array S**		**42.36**	**322**	P		**P**	**16 57 13.8**	**+0.2**
NC204	**NORSAR Array S**		**42.39**	**322**	P		**P**	**16 57 14.4**	**+0.5**
NRCA	**Norcia**		**42.44**	**295**	P		**P**	**16 57 15.3**	**+0.8**
SSE	**Sheshan**		**42.48**	**84**	P		**P**	**16 57 15.8**	**+0.9**
SSE					IAmb		IAmb	16 57 16.6	
	comp=Z,20nm,1.0s								
WTTA	**Wattenberg**		**42.54**	**301**	P		**P**	**16 57 18.4**	**+3.0**
	comp=Z,9.1nm,0.9s								
WATA	**Walderalm**		**42.56**	**301**	*e*P		**P**	**16 57 19.1**	**+3.5**
	comp=Z,3.0nm,0.6s								
CTI	**Castel Tesino**		**42.75**	**300**	P		**P**	**16 57 17.8**	**+0.7**
CTI					pmax		pmax		
	comp=Z,5.0nm,0.7s								
CTI	**Castel Tesino**		**42.75**	**300**	P		**P**	**16 57 17.8**	**+0.7**
MOTA	**Moosalm**		**42.88**	**301**	*e*P		**P**	**16 57 20.4**	**+2.2**
	comp=Z,8.4nm,0.9s								
YAK	**Yakutsk**		**42.97**	**37**	P		**P**	**16 57 17.7**	**-0.7**
	comp=Z,13nm,0.6s,baz=19,slow=1.0,SNR=17								
YAK	**Yakutsk**		**42.97**	**37**	*c i*P		**P**	**16 57 17.8**	**-0.7**
YAK					pmax		pmax		
	comp=Z,30nm,0.7s								
YAK	**Yakutsk**		**42.97**	**37**	P		**P**	**16 57 17.8**	**-0.7**
FETA	**Feichten**		**43.19**	**301**	*e*P		**P**	**16 57 22.9**	**+2.2**
	comp=Z,6.8nm,0.9s								
FUORN	**Ofenpass-Fuorn**		**43.58**	**301**	P		**P**	**16 57 24.3**	**+0.3**
DAVA	**Damuels**		**43.71**	**302**	*e*P		**P**	**16 57 26.2**	**+1.4**
	comp=Z,8.3nm,0.8s								
TUE	**Stuetta**		**44.23**	**301**	P		**P**	**16 57 28.9**	**-0.2**
TUE					IAmb		IAmb	16 57 38.0	
	comp=Z,5.6nm,0.8s								
IPM	**Ipoh**		**44.26**	**132**	P		**P**	**16 57 28.8**	**-0.6**
TIXI	**Tiksi**		**44.33**	**23**	*c i*P		**P**	**16 57 28.9**	**-0.4**
TIXI	**Tiksi**		**44.33**	**23**	P		**P**	**16 57 28.4**	**-0.9**
BFO	**Black Forest**		**44.53**	**303**	*i* P		**P**	**16 57 34.3**	**+3.0**
KSAR	**Wonju Array Be**		**45.22**	**72**	P		**P**	**16 57 37.0**	**+0.1**
KSAR	**Wonju Array Be**		**45.22**	**72**	P		**P**	**16 57 37.0**	**+0.1**
KSRS	**Korea Array**		**45.25**	**72**	P		**P**	**16 57 36.1**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=283,slow=6.2,SNR=12								
KSRS					LR		LR	17 17 48.8	
	comp=Z,86nm,19.1s,baz=272,slow=38								
SENIN	**Lac Senin/Sane**		**45.64**	**301**	P		**P**	**16 57 40.1**	**-0.2**
SENIN					IAmb		IAmb	16 57 48.4	
	comp=Z,8.2nm,0.7s								
USRK	**Ussuriysk Ar.**		**46.14**	**62**	P		**P**	**16 57 43.0**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=278,slow=8.6,SNR=6.9								
EKA	**Eskdalemuir Ar**		**50.12**	**315**	P		**P**	**16 58 16.7**	**+2.0**
JWT	**Wachi**		**51.65**	**72**	P		**P**	**16 58 27.1**	**+0.5**
KSM	**Kuching**		**52.33**	**125**	P		**P**	**16 58 32.6**	**+0.8**
JGF	**Kuroka**		**52.98**	**71**	P		**P**	**16 58 35.9**	**-0.5**
JGF					IAmb		IAmb	16 58 36.5	
	comp=Z,6.5nm,0.8s								
KKM	**Kota Kinabalu**		**53.02**	**115**	P		**P**	**16 58 38.6**	**+1.6**
JEW	**Eniwo**		**53.09**	**61**	P		**P**	**16 58 36.9**	**-0.2**
MAJO	**Matsushiro**		**53.22**	**69**	*i* P		**P**	**16 58 36.5**	**-1.6**
MAJO	**Matsushiro**		**53.22**	**69**	P		**P**	**16 58 37.4**	**-0.7**
MAJO					IAmb		IAmb	16 58 38.1	
	comp=Z,7.2nm,0.7s								
MAT	**Matsushiro**		**53.22**	**69**	P		**P**	**16 58 37.0**	**-1.1**
MJAR	**Matsushiro Arr**		**53.22**	**69**	P		**P**	**16 58 37.0**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=291,slow=8.9,SNR=8.8								
MJAR	**Matsushiro Arr**		**53.22**	**69**	P		**P**	**16 58 37.5**	**-0.6**
MJAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
MJAR	**Matsushiro Arr**		**53.22**	**69**	P		**P**	**16 58 37.5**	**-0.6**
JTM	**Tenmabayashi**		**53.59**	**63**	P		**P**	**16 58 38.0**	**-2.8**
JMM	**Marumori**		**54.55**	**67**	P		**P**	**16 58 47.1**	**-0.8**
JYT	**Yasato**		**54.80**	**69**	P		**P**	**16 58 48.8**	**-0.9**
MYLDM	**Lahad Datu**		**55.24**	**114**	P		**P**	**16 58 55.5**	**+2.4**
ESDC	**Sonseca Array**		**55.61**	**296**	P		**P**	**16 58 56.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=60,slow=7.6,SNR=6.0								
ESDC	**Sonseca Array**		**55.61**	**296**	P		**P**	**16 58 55.9**	**+0.4**
BORG	**Borgarnes**		**56.34**	**329**	*i* P		**P**	**16 58 58.2**	**-2.1**
SUMG	**Summit**		**58.83**	**340**	P		**P**	**16 59 19.1**	**+0.9**
SUMG					pmax		pmax		
	comp=Z,21nm,1.1s								
SUMG	**Summit**		**58.83**	**340**	P		**P**	**16 59 19.1**	**+0.9**
SUMG	**Summit**		**58.83**	**340**	*i* P		**P**	**16 59 19.0**	**+0.9**
	comp=Z,40nm,1.0s								
SUMG	**Summit**		**58.83**	**340**	*i* P		**P**	**16 59 19.0**	**+0.9**
SUMG					IAmb		IAmb	16 59 21.9	
	comp=Z,40nm,1.0s								
PETK	**Petropavlovsk-**		**59.27**	**45**	LR		LR	17 25 18.1	
	comp=Z,84nm,19.2s,baz=65,slow=36								
TOA0	**Torodi Ar. Sit**		**64.74**	**267**	P		**P**	**16 59 58.2**	**-0.2**
TORD	**Torodi Ar. Bea**		**64.74**	**267**	P		**P**	**16 59 58.1**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=50,slow=6.4,SNR=10								
TORD	**Torodi Ar. Bea**		**64.74**	**267**	P		**P**	**16 59 58.2**	**-0.2**
TOLK	**Toolik Lake Re**		**69.25**	**14**	P		**P**	**17 00 26.7**	**+0.4**
COLD	**Coldfoot**		**70.32**	**15**	P		**P**	**17 00 33.0**	**+0.2**
COLD					IAmb		IAmb	17 00 34.6	
	comp=Z,6.8nm,0.8s								
INK	**Inuvik**		**72.09**	**9**	P		**P**	**17 00 43.8**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=3.4,slow=6.9,SNR=7.6								
INK	**Inuvik**		**72.09**	**9**	IAmb		IAmb	17 00 45.0	
	comp=Z,19nm,1.4s								
MDM	**Murphy Dome**		**72.69**	**16**	P		**P**	**17 00 47.6**	**+0.4**
MDM					IAmb		IAmb	17 00 58.6	
	comp=Z,7.8nm,1.3s								
COLA	**College**		**72.84**	**16**	⇓*e*P		**P**	**17 00 48.5**	**+0.4**
IL31			**73.14**	**15**	P		**P**	**17 00 49.0**	**-0.7**
ILAR	**Eielson Array**		**73.14**	**15**	P		**P**	**17 00 49.1**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=321,slow=5.3,SNR=14								
ILAR					LR		LR	17 39 08.7	
	comp=Z,32nm,20.5s,baz=354,slow=41								
ILAR	**Eielson Array**		**73.14**	**15**	P		**P**	**17 00 48.8**	**-1.0**
ILAR	**Eielson Array**		**73.14**	**15**	P		**P**	**17 00 48.8**	**-1.0**
KTH	**Kantishna Hill**		**73.28**	**18**	P		**P**	**17 00 50.7**	**-0.1**
KTH					IAmb		IAmb	17 00 51.7	
	comp=Z,4.2nm,0.9s								
PPLA	**Purkeypile**		**73.53**	**19**	P		**P**	**17 00 52.2**	**-0.2**
PPLA					IAmb		IAmb	17 00 53.6	
	comp=Z,7.5nm,1.1s								
RND	**Reindeer**		**73.89**	**17**	P		**P**	**17 00 54.1**	**-0.3**
RND					pmax		pmax		
	comp=Z,3.0nm,1.0s								
RND	**Reindeer**		**73.89**	**17**	P		**P**	**17 00 54.1**	**-0.3**
SKT	**Skwentna**		**74.47**	**19**	P		**P**	**17 00 57.2**	**-0.6**
SKT					IAmb		IAmb	17 01 10.8	
	comp=Z,10nm,1.3s								
RIDG	**Independent Ri**		**74.47**	**15**	P		**P**	**17 00 56.9**	**-0.8**
RIDG					IAmb		IAmb	17 01 18.0	
	comp=Z,9.0nm,1.2s								
DHY	**Denali Highway**		**74.52**	**17**	P		**P**	**17 00 57.0**	**-1.1**
DHY					IAmb		IAmb	17 01 20.3	
	comp=Z,3.5nm,0.8s								
DOT	**Dot Lake**		**74.71**	**15**	P		**P**	**17 00 58.0**	**-1.1**
PAX	**Paxson**		**75.03**	**16**	P		**P**	**17 01 00.9**	**-0.1**
PAX					pmax		pmax		
	comp=Z,4.0nm,1.0s								
PAX	**Paxson**		**75.03**	**16**	P		**P**	**17 01 00.9**	**-0.1**
SUA	**Susitna One**		**75.11**	**19**	P		**P**	**17 01 01.0**	**-0.6**
GHO	**Glory Hole Cre**		**75.29**	**18**	P		**P**	**17 01 02.7**	**+0.1**
GHO					IAmb		IAmb	17 01 10.0	
	comp=Z,6.9nm,0.8s								
SCM	**Sheep Creek Mo**		**75.61**	**17**	P		**P**	**17 01 04.6**	**+0.2**
SCM					pmax		pmax		
	comp=Z,10.0nm,1.0s								
SCM	**Sheep Creek Mo**		**75.61**	**17**	P		**P**	**17 01 04.5**	**+0.2**
SCM					IAmb		IAmb	17 01 16.3	
	comp=Z,10nm,1.0s								
M24K	**Tolsona, Glenn**		**75.64**	**17**	P		**P**	**17 01 05.4**	**+0.8**
KNK	**Knik Glacier**		**75.71**	**18**	P		**P**	**17 01 05.0**	**+0.1**
KNK					IAmb		IAmb	17 01 21.5	
	comp=Z,12nm,1.3s								
KLU	**Klutina**		**76.24**	**17**	P		**P**	**17 01 08.2**	**+0.2**
KLU					IAmb		IAmb	17 01 31.1	
	comp=Z,4.2nm,0.9s								
GLI	**Glacier Island**		**76.51**	**18**	P		**P**	**17 01 09.6**	**+0.1**
FID	**Port Fidalgo**		**76.77**	**17**	P		**P**	**17 01 11.3**	**+0.4**
KNRA	**Kununurra**		**77.19**	**122**	P		**P**	**17 01 14.4**	**+0.6**
BALM	**Baldy**		**77.42**	**15**	P		**P**	**17 01 15.1**	**+0.4**
YKA	**Yellowknife Ar**		**79.29**	**2**	P		**P**	**17 01 24.1**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=356,slow=6.4,SNR=3.2								
YKA					LR		LR	17 40 47.8	
	comp=Z,32nm,18.0s,baz=0.0,slow=39								
WRA	**Warramunga Arr**		**83.94**	**121**	P		**P**	**17 01 49.5**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=323,slow=4.8,SNR=45								
WRA	**Warramunga Arr**		**83.94**	**121**	P		**P**	**17 01 48.9**	**-1.1**
WRAB	**Tennant Creek**		**83.94**	**121**	*i* P		**P**	**17 01 49.7**	**-0.3**
WRAB					pmax		pmax		
	comp=Z,11nm,1.1s								
WB2	**Warramunga Arr**		**83.94**	**121**	P		**P**	**17 01 49.0**	**-1.0**
WR0	**Warramunga Arr**		**84.08**	**121**	P		**P**	**17 01 49.5**	**-1.2**
WR0					IAmb		IAmb	17 01 50.5	
	comp=Z,3.9nm,0.7s								
AS31	**Alice Springs**		**86.26**	**124**	P		**P**	**17 02 01.2**	**-0.4**
ASAR	**Alice Springs**		**86.26**	**124**	P		**P**	**17 02 00.9**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=316,slow=4.8,SNR=64								
ASAR	**Alice Springs**		**86.26**	**124**	P		**P**	**17 02 01.0**	**-0.6**
CTA	**Charters Tower**		**92.32**	**114**	P		**P**	**17 02 28.6**	**-1.7**
	comp=Z,6.0nm,1.0s,baz=6.2,slow=6.1,SNR=5.2								
CTAO	**Charters Tower**		**92.32**	**114**	P		**P**	**17 02 28.6**	**-1.7**
CTAO					pmax		pmax		
	comp=Z,22nm,1.5s								
CTAO	**Charters Tower**		**92.32**	**114**	P		**P**	**17 02 28.6**	**-1.7**
HNR	**Honiara**		**96.00**	**97**	LR		LR	17 44 43.2	
	comp=Z,35nm,19.9s,baz=360,slow=35								

*SJA **01** 17:26:58.5±0.7, 22°.43S×67°.58W, h190km±4km, ML4.2, MW4.0*
*IDC **01** 17:26:59.4±0.8, 22°.38S×67°.39W, h163km±9km, mb3.8/8, mb1 3.9/13, mb1mx3.7/28, mbtmp4.3/13, Error ellipse: s-maj=17.2km s-min=12.5km az=113.0*
*NEIC **01** 17:26:59±2.0, 22°.45S±0°.02×67°.39W±0°.09, h164km±6km, mb4.4/18, Error ellipse: s-maj=12.8km s-min=2.4km az=83.0*
*VAO **01** 17:26:59.9±0.3, 22°.35S×67°.50W, h175km±4km, mb4.5*
*GUC **01** 17:27:00.4±0.8, 22°.42S×67°.81W, h187km±6km, ML4.6*
*SCB **01** 17:27:03.1±2.9, 22°.42S×67°.58W, h150km±18km, ML4.1/7,*

Error ellipse: s-maj=8.4km s-min=6.2km az=0.0
ISC 01 17:26:59.6±0.6, **22°.44S**±0°.04×**67°.56W**±0°.03, **h172**km±6km, **n164**, σ1**s34**/214, **mb4.4**/14, **11C**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**			**1.26**	**262**	P	**Pn**	**17 27 30.2**	**+1.1**
	165nm,0.3s,baz=88,slow=7.9,SNR=2019								
LVC						S	**Sn**	**17 27 52.4**	**+0.6**
	314nm,0.3s,baz=348,slow=3.9,SNR=7.5								
LVC	**Limon Verde**			**1.26**	**262**	*e*P	**Pn**	**17 27 30.2**	**+1.1**
LVC						*i* S	**Sn**	**17 27 52.4**	**+0.6**
LVC	**Limon Verde**			**1.26**	**262**	*e*P	**Pn**	**17 27 30.2**	**+1.1**
LVC						*e*S	**Sn**	**17 27 52.9**	**+1.1**
LVC	**Limon Verde**			**1.26**	**262**	*e*P	**Pn**	**17 27 30.1**	**+1.1**
LVC						*e*S	**Sn**	**17 27 53.3**	**+1.5**
LVC						IAML		17 27 56.6	
	comp=Z,454nm,0.3s								
PB09	**IPOC Station P**			**1.69**	**292**	⇑*i*P	**Pn**	**17 27 34.5**	**+1.5**
PB09						*i* S	**Sn**	**17 27 59.8**	**+1.1**
PB09						IAML		17 28 03.7	
	comp=N,2μm,0.2s								
PB09	**IPOC Station P**			**1.69**	**292**		**Pn**	**17 27 34.2**	**+1.2**
PB09	**IPOC Station P**			**1.69**	**292**	P	**Pn**	**17 27 34.5**	**+1.5**
PB09						S	**Sn**	**17 27 57.3**	**-1.4**
PB09						IAML		17 28 03.6	
	comp=N,415nm,0.3s								
PB09	**IPOC Station P**			**1.69**	**292**	*e*P	**Pn**	**17 27 34.2**	**+1.2**
PB09						*e*S	**Sn**	**17 27 59.9**	**+1.1**
PB09						IAML		17 28 02.3	
	comp=Z,2μm,0.2s								
PB06	**IPOC Station P**			**1.88**	**261**	⇑*i*P	**Pn**	**17 27 35.6**	**+0.6**
PB06						*i* S	**Sn**	**17 28 02.6**	**+0.3**
PB06						IAML		17 28 05.6	
	comp=E,2μm,0.2s								
PB06	**IPOC Station P**			**1.88**	**261**		**Pn**	**17 27 35.5**	**+0.6**
PB06	**IPOC Station P**			**1.88**	**261**	P	**Pn**	**17 27 35.7**	**+0.7**
PB06	**IPOC Station P**			**1.88**	**261**	*e*P	**Pn**	**17 27 35.7**	**+0.7**
PB06						*e*S	**Sn**	**17 28 03.0**	**+0.6**
PB06						IAML		17 28 09.9	
	comp=Z,2μm,0.3s								
YJA	**Yavi**			**1.91**	**83**	P	**Pn**	**17 27 36.5**	**+0.9**
YJA						S	**Sn**	**17 28 01.3**	**-2.1**
YJA	**Yavi**			**1.91**	**83**	*e*P	**Pn**	**17 27 36.7**	**+1.1**
YJA						*e*S	**Sn**	**17 28 04.4**	**+1.0**
YJA						IAML		17 28 07.2	
	comp=Z,217nm,0.9s								
PB15	**IPOC Station P**			**1.92**	**246**	⇑*i*P	**Pn**	**17 27 36.5**	**+1.0**
PB15						*i* S	**Sn**	**17 28 03.9**	**+0.6**
PB15						*i* S		17 28 04.2	
PB15	**IPOC Station P**			**1.92**	**246**		**Pn**	**17 27 36.5**	**+1.0**
PB15	**IPOC Station P**			**1.92**	**246**	*e*P	**Pn**	**17 27 36.5**	**+1.0**
PB15						*e*S	**Sn**	**17 28 04.2**	**+0.9**
PB15						IAML		17 28 06.9	
	comp=Z,9μm,0.2s								
PB03	**IPOC Station P**			**2.07**	**280**	⇑*i*P	**Pn**	**17 27 37.8**	**+0.7**
PB03						*i* S	**Sn**	**17 28 05.9**	**-0.2**
PB

GO01	**Chusmiza**	**3.15**	**331**			**Pn**	**17 27 51.0**	**+0.8**
ASTB	**Santa Barbara**	**3.23**	**118**	*eP*		**Pn**	**17 27 51.0**	**+0.1**
ASTB				*eS*		**Sn**	**17 28 31.8**	**+1.0**
ASTB				IAML			17 28 37.7	
	comp=Z,74nm,0.6s							
GO02	**Mina Guanaco**	**3.29**	**214**	Pn		**Pn**	**17 27 52.2**	**+0.4**
PB11	**IPOC Station P**	**3.31**	**323**	*iP*		**Pn**	**17 27 51.5**	**-0.4**
PB11				*i* S		**Sn**	**17 28 31.4**	**-1.2**
PB11				IAML			17 28 33.6	
	comp=E,2μm,0.4s							
PB11	**IPOC Station P**	**3.31**	**323**			**Pn**	**17 27 51.5**	**-0.4**
PB11	**IPOC Station P**	**3.31**	**323**	P		**Pn**	**17 27 52.2**	**+0.3**
PB11				S		**Sn**	**17 28 29.6**	**-3.0**
PB11				IAML			17 28 33.0	
	comp=E,476nm,0.4s							
PB11	**IPOC Station P**	**3.31**	**323**	*eP*		**Pn**	**17 27 51.7**	**-0.1**
PB11				*eS*		**Sn**	**17 28 31.8**	**-0.8**
PB11				IAML			17 28 33.2	
	comp=Z,493nm,0.2s							
PB14	**IPOC Station P**	**3.40**	**230**	Pn		**Pn**	**17 27 53.2**	**0.0**
PB14	**IPOC Station P**	**3.40**	**230**	*eP*		**Pn**	**17 27 53.3**	**+0.2**
PB14				*eS*		**Sn**	**17 28 33.8**	**-1.1**
PB14				IAML			17 28 35.9	
	comp=Z,364nm,0.5s							
PSGCX	**Pisagua**	**3.71**	**319**	Pn		**Pn**	**17 27 55.7**	**-1.1**
MNMC	**Minye Minye**	**3.80**	**330**			**Pn**	**17 27 58.0**	**-0.2**
MNMC	**Minye Minye**	**3.80**	**330**	P		**Pn**	**17 27 58.8**	**+0.5**
MNMC				S		**Sn**	**17 28 40.3**	**-3.7**
MNMC				IAML			17 28 46.5	
	comp=Z,2μm,1.1s							
PB16	**IPOC Station P**	**4.47**	**336**	Pn		**Pn**	**17 28 07.2**	**0.0**
AC02	**Maricunga**	**4.61**	**198**	Pn		**Pn**	**17 28 08.7**	**-0.1**
PB12	**IPOC Station P**	**4.61**	**325**	Pn		**Pn**	**17 28 06.8**	**-1.7**
AC01	**Pan de Azucar**	**4.62**	**216**	Pn		**Pn**	**17 28 06.9**	**-1.5**
BBOJ	**La Paz, Jacaqu**	**5.47**	**354**	P		**Pn**	**17 28 21.5**	**+1.4**
BBOE	**La Paz, Chanca**	**5.61**	**356**	P		**Pn**	**17 28 23.6**	**+1.6**
GO03	**Copiap**	**5.68**	**205**			**Pn**	**17 28 20.3**	**-2.0**
BBOD	**La Paz, Gloria**	**5.85**	**355**	P		**Pn**	**17 28 26.8**	**+1.6**
LPAZ	**La Paz**	**6.14**	**355**	P		**Pn**	**17 28 29.9**	**+0.9**
	comp=Z,12nm,0.3s,baz=134,slow=4.5,SNR=283							
LPAZ				S		**Sn**	**17 29 37.8**	**-1.5**
	comp=Z,1.9nm,0.3s,baz=326,slow=17,SNR=4.1							
LPAZ	**La Paz**	**6.14**	**355**	Pn		**Pn**	**17 28 30.2**	**+1.2**
LPAZ	**La Paz**	**6.14**	**355**	P		**Pn**	**17 28 30.0**	**+0.9**
LPAZ				S		**Sn**	**17 29 34.0**	**-5.2**
LPAZ				IAML			17 29 41.2	
	comp=Z,13nm,0.6s							
LPAZ	**La Paz**	**6.14**	**355**	*eP*		**Pn**	**17 28 30.3**	**+1.2**
CYA	**Choya**	**6.18**	**165**	*eP*		**Pn**	**17 28 29.2**	**+0.2**
CYA				IAML			17 29 42.8	
	comp=Z,8.9nm,1.0s							
BBOB	**La Paz, Bander**	**6.29**	**355**	P		**Pn**	**17 28 31.8**	**+1.0**
VCA	**Vinchina**	**6.30**	**185**	*eP*		**Pn**	**17 28 30.6**	**+0.1**
VCA				*eS*		**Sn**	**17 29 43.2**	**+1.0**
VCA				IAML			17 29 45.7	
	comp=Z,51nm,0.3s							
AC04	**Llanos de Chal**	**6.56**	**208**	Pn		**Pn**	**17 28 30.4**	**-3.5**
AC05	**El Transito**	**6.83**	**200**	Pn		**Pn**	**17 28 35.8**	**-1.7**
CO01	**Juntas del Tor**	**7.84**	**196**			**Pn**	**17 28 50.0**	**-1.0**
AROD	**Rodeo**	**7.89**	**192**	*eS*		**Sn**	**17 30 18.0**	**-2.2**
ACCO	**Cerro Coronel**	**8.23**	**189**	*eP*		**Pn**	**17 28 55.1**	**-1.1**
ACCO				*eS*		**Sn**	**17 30 21.0**	**-7.4**
ACCO				IAML			17 30 26.3	
	comp=Z,48nm,0.4s							
GO04	**Tololo Observa**	**8.23**	**200**	Pn		**Pn**	**17 28 53.4**	**-2.7**
CO03	**El Pedregal**	**8.82**	**198**	Pn		**Pn**	**17 29 01.6**	**-2.2**
SIV	**San Ignacio**	**8.87**	**45**	P		**Pn**	**17 29 01.5**	**-3.0**
	comp=Z,42nm,0.3s,baz=234,slow=10,SNR=295							
SIV				S		Sn	17 30 28.4	-15
	comp=Z,6.1nm,0.3s,baz=240,slow=17,SNR=4.7							
SIV	**San Ignacio**	**8.87**	**45**	P		**Pn**	**17 29 05.0**	**+0.5**
CO02	**Combarbal**	**9.25**	**199**	Pn		**Pn**	**17 29 07.0**	**-2.6**
PTLB	**Pontes e Lacer**	**10.57**	**50**	*eP*		**Pn**	**17 29 23.8**	**-3.0**
VA03	**San Esteban**	**10.62**	**194**			**Pn**	**17 29 27.6**	**+0.2**
ROC1	**El Roble**	**10.93**	**195**	Pn		**Pn**	**17 29 30.6**	**-1.0**
AQDB	**Aquidauana**	**11.21**	**82**	*eP*		**Pn**	**17 29 34.7**	**-0.5**
MT02	**Curacav**	**11.23**	**196**	Pn		**Pn**	**17 29 34.5**	**-0.7**
VILB	**Vilhena**	**11.75**	**38**	*eP*		**Pn**	**17 29 40.7**	**-1.4**
ETMB	**Extrema**	**12.62**	**6**	*eP*		**Pn**	**17 29 51.5**	**-1.8**
BO02	**Sierra Bellavi**	**12.63**	**192**			**Pn**	**17 29 52.8**	**-0.5**
SAML	**Samuel**	**14.06**	**18**			**Pn**	**17 30 09.5**	**-1.9**
SAML	**Samuel**	**14.06**	**18**	*eP*		**Pn**	**17 30 09.9**	**-1.5**
PTGB	**Pitanga**	**14.39**	**102**	*eP*		**P**	**17 30 17.4**	**-0.2**
BI02	**San Fabin de**	**14.54**	**192**	Pn		**Pn**	**17 30 16.0**	**-1.3**
ITAB	**Concordia**	**14.79**	**112**	*eP*		**Pn**	**17 30 20.9**	**+0.4**
CPSB	**Cacapava Do Su**	**14.92**	**125**	*eP*		**Pn**	**17 30 21.7**	**-0.3**
PCMB	**Pacaembu**	**15.14**	**90**	*eP*		**Pn**	**17 30 24.2**	**-0.6**
CLDB	**Colider**	**16.09**	**46**	*eP*		**Pn**	**17 30 34.7**	**-1.7**
ITRB	**Iturama**	**16.28**	**84**	*eP*		**P**	**17 30 38.5**	**0.0**
ITRB				*eS*		**S**	**17 33 37.9**	**-1.2**
ARAG	**Araguaiana, MT**	**16.31**	**69**	*eP*		**Pn**	**17 30 39.3**	**+0.1**
FRTB	**Fartura**	**16.61**	**97**	*eP*		**Pn**	**17 30 42.5**	**-0.2**
BB19B	**Bebedouro**	**17.73**	**89**	*eP*		**P**	**17 30 54.7**	**+0.2**
PLCA	**Paso Flores**	**18.41**	**187**	P		**P**	**17 31 02.2**	**+0.4**
	comp=Z,3nm,0.3s,baz=5,7,slow=12,SNR=8.8							
PLCA	**Paso Flores**	**18.41**	**187**	P		**P**	**17 31 01.9**	**+0.1**
PLCA	**Paso Flores**	**18.41**	**187**	*eP*		**P**	**17 31 02.7**	**+1.0**
ATAH	**Atahualpa**	**18.45**	**324**	P		**Pn**	**17 31 03.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=45,slow=7.1,SNR=2.2							
SPB	**Sao Paulo**	**18.56**	**97**	*eP*		**P**	**17 31 03.3**	**-0.2**
SNDB	**Serra Nova Dou**	**18.68**	**59**	*eP*		**P**	**17 31 03.9**	**-0.9**
IPMB	**Ipameri, GO**	**18.69**	**80**	*eP*		**P**	**17 31 04.4**	**-0.5**
PET01	**Itanhaem-SP**	**18.71**	**100**	*eP*		**P**	**17 31 04.2**	**-0.9**
VAO	**Valinhos**	**19.01**	**96**	*eP*		**P**	**17 31 07.8**	**-0.6**
NPGB	**Novo Progresso**	**19.30**	**39**	*eP*		**P**	**17 31 09.9**	**-1.6**
BDFB	**Brasilia**	**19.66**	**73**	P		**P**	**17 31 14.6**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=254,slow=12,SNR=18							
BDFB	**Brasilia**	**19.66**	**73**	P		**P**	**17 31 14.5**	**-1.0**
MACA	**Manacapuru-AM**	**20.29**	**20**	*eP*		**P**	**17 31 22.3**	**+0.2**
LL01	**San Ignacio de**	**20.29**	**190**	P		**P**	**17 31 22.3**	**+0.4**
LL01				IAmb		IAmb	17 31 24.8	
	comp=Z,10nm,0.7s							
PEXB	**Peixe**	**21.04**	**64**	*eP*		**P**	**17 31 29.1**	**-1.1**
ITTB	**Itaituba**	**21.30**	**34**	*eP*		**P**	**17 31 31.3**	**-1.6**
PTGA	**Pitinga**	**22.81**	**20**	P		**P**	**17 31 46.2**	**-1.5**
	comp=Z,7.6nm,0.5s,baz=199,slow=9.8,SNR=26							
MC01	**Montes Claros**	**22.96**	**80**	*eP*		**P**	**17 31 48.4**	**-0.8**
JANB	**Januaria**	**23.19**	**76**	*eP*		**P**	**17 31 50.1**	**-1.2**
SMTB	**Santa Maria do**	**23.45**	**58**	*eP*		**P**	**17 31 53.5**	**-0.2**
PRPB	**Parauapebas**	**23.56**	**49**	*eP*		**P**	**17 31 53.2**	**-1.3**
SDBA	**SAO DESIDERIO**	**23.77**	**69**	*eP*		**P**	**17 31 53.2**	**-1.5**
MALB	**Monte Alegre**	**24.20**	**34**	*eP*		**P**	**17 31 59.4**	**-1.0**
BSFB	**Barra de Sao F**	**25.24**	**87**	*eP*		**P**	**17 32 09.3**	**-0.6**
MCPB	**Macapa, AP**	**26.64**	**37**	*eP*		**P**	**17 32 21.7**	**-0.7**
GDU01	**Guandu, BA**	**27.94**	**77**	*eP*		**P**	**17 32 32.9**	**-1.1**
SNAA	**Sanae**	**60.99**	**161**	P		**P**	**17 36 55.5**	**+1.2**
SNAA				IAmb		IAmb	17 36 56.0	
	comp=Z,2.6nm,0.6s							
TXAR	**Lajitas Array**	**62.12**	**324**	P		**P**	**17 37 03.4**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=143,slow=12,SNR=3.0							
T42A	**Van Buren**	**63.18**	**339**	P		**P**	**17 37 10.3**	**+1.1**
T42A				IAmb		IAmb	17 37 11.3	
	comp=Z,4.3nm,0.7s							
CCM	**Cathedral Cave**	**64.16**	**339**	P		**P**	**17 37 15.9**	**+0.3**
N38A	**Joes South For**	**67.29**	**339**	P		**P**	**17 37 38.7**	**+3.1**
QSPA	**South Pole Qui**	**67.76**	**180**	P		**P**	**17 37 39.9**	**+1.4**
QSPA				IAmb		IAmb	17 37 41.0	
	comp=Z,6.1nm,0.7s							
DBIC	**Dimbokro**	**67.81**	**72**	P		**P**	**17 37 39.1**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=284,slow=12,SNR=2.1							
DBIC	**Dimbokro**	**67.81**	**72**	P		**P**	**17 37 37.8**	**-1.7**
ANMO	**Albuquerque**	**67.97**	**326**	P		**P**	**17 37 42.3**	**+2.0**
SDCO	**Great Sand Dun**	**69.69**	**329**	P		**P**	**17 37 52.9**	**+2.0**
KOWA	**Kowa**	**72.25**	**66**	P		**P**	**17 38 06.0**	**-0.5**
KOWA				IAmb		IAmb	17 38 07.2	
	comp=Z,7.5nm,0.7s							
PDAR	**Pinedale Array**	**75.55**	**329**	P		**P**	**17 38 26.5**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=140,slow=7.1,SNR=1.3							
TOA0	**Torodi Ar. Sit**	**76.50**	**70**	P		**P**	**17 38 30.9**	**-0.1**
TOA0				IAmb		IAmb	17 38 31.8	
	comp=Z,8.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.50**	**70**	P		**P**	**17 38 30.9**	**-0.1**
	comp=Z,8.6nm,0.6s,baz=254,slow=5.3,SNR=33							
TORD	**Torodi Ar. Bea**	**76.50**	**70**	P		**P**	**17 38 30.8**	**-0.2**
ULM	**Lac du Bonnet**	**76.59**	**342**	P		**P**	**17 38 31.2**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=139,slow=6.3,SNR=5.1							
ULM	**Lac du Bonnet**	**76.59**	**342**	P		**P**	**17 38 31.2**	**+0.5**
ULM				IAmb		IAmb	17 38 34.7	
	comp=Z,9.4nm,1.1s							
PLID	**Pearl Lake**	**80.39**	**327**	P		**P**	**17 38 53.6**	**+1.6**
PLID				IAmb		IAmb	17 38 54.2	
	comp=Z,11nm,1.4s							
BOSA	**Boshof**	**81.90**	**118**	P		**P**	**17 39 00.6**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=244,slow=7.1,SNR=1.1							
BOSA	**Boshof**	**81.90**	**118**	P		**P**	**17 39 00.9**	**+0.5**
BOSA				IAmb		IAmb	17 39 10.8	
	comp=Z,8.2nm,1.3s							
MAW	**Mawson**	**83.07**	**163**	P		**P**	**17 39 06.5**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=228,slow=2.7,SNR=4.4							
MAW	**Mawson**	**83.07**	**163**	P		**P**	**17 39 06.4**	**+1.0**
ASAR	**Alice Springs**	**129.64**	**206**	PKP		**PKiKP**	**17 45 49.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=131,slow=1.7,SNR=10							
ASAR	**Alice Springs**	**129.64**	**206**			**PKPdf**	**17 45 48.9**	**0.0**
WRA	**Warramunga Arr**	**132.76**	**209**	PKP		**PKiKP**	**17 45 55.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=163,slow=1.7,SNR=13							
ZALV	**Zalesovo Beam**	**142.25**	**27**	PKhKP	PKPpre		17 46 08.2	
	comp=Z,0.2nm,0.4s,baz=230,slow=34,SNR=2.0							
ZALV				PKP		**PKPdf**	**17 46 11.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=328,slow=1.8,SNR=2.9							
MKAR	**Makanchi Array**	**145.63**	**38**	PKPbc		**PKPab**	**17 46 18.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=317,slow=3.3,SNR=12							
SONM	**Songino Array**	**154.20**	**9**	PKPbc		**PKiKP**	**17 46 39.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=33,slow=1.2,SNR=2.4							

*IDC **01** 17:48:35.5±1.5,5.°85S×153.°68E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML2.5/2, Error ellipse: s-maj=29.5km s-min=22.8km az=55.0*

ISC 01 17:48:37.1±1.2,**5.°78S**±0.09×**153.°7E**±0.°1, **h10**km, **n10,** σ1♀**55**/**11**, **mb3.3**/**4**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.19**	**312**	Pn		**Pn**	**17 49 14.8**		**+1.2**
	13nm,0.3s,baz=92,slow=3.2,SNR=39								
KRVT				Sn		**Sb**	**17 49 42.3**		**-1.8**
	19nm,0.3s,baz=151,slow=19,SNR=3.4								
PMG	**Port Moresby**	**7.39**	**240**	Pn		**Pn**	**17 50 26.2**		**+1.1**
	1.0nm,0.3s,baz=60,slow=5.5,SNR=1.0								
PMG				Sn		**Sn**	**17 51 49.5**		**+0.4**
	0.4nm,0.3s,baz=307,slow=20,SNR=2.0								
DZM	**Mont Dzumac**	**20.38**	**144**	P		**P**	**17 53 14.0**		**-0.3**
	4.3nm,0.8s,baz=353,slow=19,SNR=8.5								
WRA	**Warramunga Arr**	**23.48**	**231**	P		**P**	**17 53 47.4**		**+0.2**
	0.2nm,0.4s,baz=56,slow=10.0,SNR=4.7								
WRA				PcP		**PcP**	**17 57 31.5**		**-1.8**
	0.2nm,0.5s,baz=54,slow=2.4,SNR=1.6								
ASAR	**Alice Springs**	**26.04**	**225**	P		**P**	**17 54 10.6**		**-0.3**
	0.9nm,0.9s,baz=57,slow=9.4,SNR=8.5								
ASAR				PcP		**PcP**	**17 57 37.0**		**-1.9**
	1.3nm,1.2s,baz=60,slow=2.2,SNR=5.7								
H11S3	**WAKE ISLAND Hy**	**27.32**	**28**	T		T	18 22 34.1		
	baz=208,slow=74								
H11S2	**WAKE ISLAND Hy**	**27.33**	**28**	T		T	18 22 44.3		
	baz=208,slow=74								
H11S1	**WAKE ISLAND Hy**	**27.34**	**28**	T		T	18 22 41.2		
	baz=208,slow=74								
FITZ	**Fitzroy Crossi**	**29.97**	**243**	P		**P**	**17 54 45.0**		**-1.1**
	1.4nm,0.8s,baz=162,slow=3.2,SNR=1.8								
MKAR	**Makanchi Array**	**81.62**	**319**	P		**P**	**18 00 57.8**		**+2.3**
	0.1nm,0.4s,baz=112,slow=6.4,SNR=1.5								

*IDC **01** 17:59:51.8±0.5, 64.°62N×17.°56W, h0km, mb4.2/21, mb1 4.3/26, mb1mx4.2/46, mbtmp4.2/26, ML2.9/4, MS3.8/38, Ms1 3.8/38, ms1mx3.7/52, Error ellipse: s-maj=16.0km s-min=8.3km az=11.0*

*REY **01** 17:59:51.3, 64.°68N×17.°47W, h3km*

*BGS **01** 17:59:51.9±2.3, 64.°65N×17.°50W, h5km, mb4.6(NEIC)*

*MOS **01** 17:59:52.4±0.9, 64.°71N×17.°42W, h10km, mb4.7/48, Error ellipse: s-maj=9.1km s-min=4.8km az=112.6*

*NEIC **01** 17:59:53.9±1.1, 64.°65N±0.°08×17.°5W±0.°1, h9km±4km, mb4.6/126, Error ellipse: s-maj=12.1km s-min=9.1km az=184.0*

*GCMT **01** 17:59:54.9±0.4, 64.°48N±0.°03×16.°82W±0.°09, h19km±1km, MW4.8/94, Moment Tensor Solution. s22,c23; s94,c114; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=-1.78±. 13; Mθθ=1.11±.08; Mϕϕ=0.67±.07; Mrθ=-0.44±. 15; Mϕθ=-0.35±.05; Mϕr=-0.97±.18; Best double couple: M=1.75600×10^16^ NP1:ϕs=102.00000°, δ46.00000°, λ=-120.00000°. NP2: ϕs=322.00000°, δ52.00000°, λ=-62.00000°. Principal axes: T 1.3100, Plg3.0000°, Azm33.0000°; N 0.8940, Plg21.0000°, Azm124.0000°; P -2.2030, Plg68.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DNK **01** 17:59:56.9±3.7, 64.°71N×17.°56W, h0km±88km*

*BGR **01** 18:00:01.7±0.0, 64.°89N×16.°04W, h10km, mb4.1*

ISC 01 17:59:52.3±0.**7**, **64.°68N**±0.°02×**17.°48W**±0.°02, **h1**km±4km, **n473,** σ1♀**36**/475, **mb4.6**/153, **MS3.9**/42, **18C-10D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**268**	P		**Pg**	**17 59 54.0**		**-0.6**
	baz=269								
IDYN	**Dyngjuhals**	**0.12**	**23**	P		**Pg**	**17 59 54.2**		**-0.5**
	baz=20								
IDYN				S		**Sg**	**17 59 56.9**		**+0.6**
	baz=20								
IURH	**Urdarhals**	**0.20**	**45**	P		**Pg**	**17 59 55.6**		**-0.6**
	baz=43								
IURH				S		**Sg**	**17 59 59.4**		**+0.6**
	baz=43								
IDJK	**Dyngjujokull**	**0.20**	**149**	P		**Pg**	**17 59 55.6**		**-0.6**
	baz=150								
IGRF	**Grimsfjall**	**0.29**	**161**	P		**Pg**	**17 59 57.1**		**-0.8**
	baz=162								
IGRF				S		**Sg**	**18 00 01.1**		**-0.4**
	baz=162								
IKVE	**Kverkfjoll**	**0.34**	**90**	P		**Pg**	**17 59 58.0**		**-0.9**
	baz=89								
IKVE				S		**Sg**	**18 00 02.7**		**-0.7**
	baz=89								
IBJK	**Bruarjokull**	**0.38**	**123**	P		**Pg**	**17 59 58.3**		**-1.3**
	baz=124								
IHUS	**Husbondi**	**0.39**	**191**	P		**Pg**	**17 59 59.2**		**-0.6**
	baz=192								
ISKR	**Skrokkalda**	**0.41**	**253**	P		**Pg**	**17 59 59.0**		**-1.2**
	baz=254								
IVOT	**Vottur**	**0.43**	**162**	P		**Pg**	**17 59 59.2**		**-1.3**
	baz=163								
THOR	**Thorvaldshraun**	**0.43**	**53**	P		**Pg**	**17 59 59.3**		**-1.2**
	baz=52								
THOR				S		**Sg**	**18 00 06.1**		**0.0**
	baz=52								
IJOK	**Jokulheimar**	**0.49**	**222**	P		**Pg**	**18 00 00.4**		**-1.2**
	baz=223								
IASK	**Askja**	**0.52**	**43**	P		**Pg**	**18 00 00.8**		**-1.5**
	baz=42								
IASK				S		**Sg**	**18 00 07.8**		**-1.1**
	baz=42								
IMKO	**Mokollar**	**0.57**	**58**	P		**Pg**	**18 00 01.6**		**-1.6**
	baz=57								
IMKO				S		**Sg**	**18 00 10.3**		**-0.4**
	baz=57								
IIEY	**Innrieyrar**	**0.65**	**206**	P		**Pg**	**18 00 03.0**		**-1.8**
	baz=206								
IIEY				S		**Sg**	**18 00 12.0**		**-1.1**
	baz=206								
ISVA	**Svartarkot**	**0.67**	**8**	P		**Pg**	**18 00 03.4**		**-1.8**
	baz=7.6								
ISVA				S		**Sg**	**18 00 13.5**		**-0.2**
	baz=7.6								
IKSK	**Karasker**	**0.68**	**139**	P		**Pg**	**18 00 02.9**		**-2.4**
	baz=140								
IKSK				S		**Sg**	**18 00 12.5**		**-1.6**
	baz=140								
IKAL	**Kalfafell**	**0.74**	**187**	P		**Pg**	**18 00 04.4**		**-2.0**
	baz=188								
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P		**Pg**	**18 00 04.7**		**-2.2**
	baz=79								
IVSH				S		**Sg**	**18 00 14.9**		**-1.9**
	baz=79								
IVAT	**Vatnsfell**	**0.80**	**232**	P		**Pg**	**18 00 05.9**		**-1.6**
	baz=233								
IADA	**Aoalbol**	**0.88**	**66**	P		**Pg**	**18 00 06.5**		**-2.7**
	baz=66								
IADA				S		**Sg**	**18 00 18.9**		**-1.7**
	baz=66								
IFAG	**Fagurholsmyri**	**0.88**	**156**	P		**Pg**	**18 00 06.9**		**-2.3**
	baz=156								
IHVE	**Hveravellir**	**0.92**	**283**	P		**Pg**	**18 00 07.6**		**-2.2**
	baz=283								
IMEL	**Melhnausar**	**0.96**	**21**	P		**Pg**	**18 00 08.2**		**-2.5**
	baz=20								
IMEL				S		**Sg**	**18 00 22.1**		**-1.0**
	baz=20								
IREN	**Reynihlio**	**1.00**	**14**	P		**Pg**	**18 00 09.0**		**-2.5**
	baz=13								
IKVO	**Krokottuvotn**	**1.07**	**13**	P		**Pg**	**18 00 10.1**		**-2.7**
	baz=13								
ISNB	**Snabyli**	**1.07**	**209**	P		**Pg**	**18 00 10.1**		**-2.7**
	baz=209								
ISLY	**Slysaalda**	**1.12**	**221**	P		**Pg**	**18 00 11.2**		**-2.5**
	baz=221								
IGRS	**Grimsstaoir**	**1.12**	**30**	P		**Pg**	**18 00 10.9**		**-2.9**
	baz=30								
IGRS				S		**Sg**	**18 00 26.9**		**-1.4**
	baz=30								
IFED	**Fedgar**	**1.16**	**237**	P		**Pg**	**18 00 12.4**		**-2.2**
	baz=237								
IRJU	**Rjupnafell**	**1.19**	**207**	P		**Pg**	**18 00 12.7**		**-2.3**
	baz=207								
ISKI	**Skildingahlsh**	**1.21**	**9**	P		**Pg**	**18 00 12.3**		**-3.2**
	baz=8.6								
IMJO	**Mjoaskard**	**1.21**	**233**	P		**Pg**	**18 00 13.2**		**-2.4**
	baz=233								
IGHA	**Grjothals**	**1.22**	**16**	P		**Pg**	**18 00 12.3**		**-3.4**
	baz=16								
IGRA	**Granastaoir**	**1.25**	**358**	P		**Pg**	**18 00 12.8**		**-3.4**
	baz=358								
IGRA				S		**Sg**	**18 00 30.8**		**-1.5**
	baz=358								
IHAU	**Haukadalur**	**1.30**	**238**	P		**Pg**	**18 00 14.3**		**-2.9**
	baz=238								
IDIM	**Dimmadalss**	**1.31**	**10**	P		**Pg**	**18 00 13.8**		**-3.5**
	baz=9.6								
IHED	**Heoinshofoi**	**1.41**	**3**	P		**Pn**	**18 00 15.5**		**-3.6**
	baz=2.6								
IHED				S		**Sg**	**18 00 34.9**		**-2.7**
	baz=2.6								
IBRE	**Brettingsstaoi**	**1.46**	**353**	P		**Pn**	**18 00 16.3**		**-3.5**
	baz=353								
IGIL	**Gilhagi**	**1.48**	**18**	P		**Pn**	**18 00 16.4**		**-3.7**
	baz=18								
BORG	**Borgarnes**	**1.65**	**274**	Pg		**Pn**	**18 00 19.5**		**-2.9**
	27nm,0.3s,baz=100,slow=10,SNR=61								
BORG				Lg		Lg	18 00 42.6		
	36nm,0.3s,baz=18,slow=16,SNR=6.6								
BORG	**Borgarnes**	**1.65**	**274**	P		**Pn**	**18 00 19.6**		**-2.8**
BORG	**Borgarnes**	**1.65**	**274**	Pn		**Pn**	**18 00 19.6**		**-2.8**
IASB	**`sbjarnarst**	**1.65**	**274**	P		**Pn**	**18 00 19.4**		**-3.0**
	baz=274								
IKRO	**Krokur**	**1.69**	**251**	P		**Pn**	**18 00 20.3**		**-2.6**
	baz=252								
ISOL	**Solvholt**	**1.69**	**245**	P		**Pn**	**18 00 20.2**		**-2.6**
	baz=245								
IHRN	**Hraun**	**1.81**	**324**	P		**Pn**	**18 00 21.9**		**-2.7**
	baz=324								
IBJA	**Bjarnastaoir**	**1.82**	**248**	P		**Pn**	**18 00 22.5**		**-2.2**
	baz=248								
IGRI	**Grimsey**	**1.89**	**354**	P		**Pn**	**18 00 22.5**		**-3.1**
	baz=353								
IKUD	**Kuludalsa**	**1.94**	**261**	P		**Pn**	**18 00 23.8**		**-2.5**
	baz=261								
SCO	**Scoresbysund**	**6.08**	**346**	*e*		**Pn**	**18 01 22.6**		**-0.5**
	baz=160,slow=6.2								
SCO				*i* P		**Pn**	**18 01 23.6**		**+0.5**
SCO				*i* S		**Sn**	**18 02 39.5**		**+6.4**
LEWI	**Lewis, Hebride**	**8.29**	**137**	*eP*		**Pn**	**18 01 52.5**		**-1.0**
KAC	**Achnashellach**	**9.29**	**135**	*eP*

NEUB Neuenburg 20.31 118 *e*P **P 18 04 29.6 +0.3**
baz=327,slow=11
MOX Moxa 20.70 119 P **P 18 04 34.4 +0.8**
MOX pmax pmax
comp=Z,17nm,1.3s
MOX Moxa 20.70 119 *e*P **P 18 04 33.9 +0.3**
comp=Z,11nm,1.1s,baz=327,slow=11
CLL Collm 20.70 116⇑ *i*P **P 18 04 33.8 +0.2**
comp=Z,42nm,1.5s
CLL LmV 18 12 00.0
comp=Z,400nm,22.0s
CLL Collm 20.70 116⇑ *i*P **P 18 04 33.8 +0.2**
CLL pmax pmax
comp=Z,42nm,1.5s
CLL MLR MLR
comp=Z,400nm,22.0s
CLL Collm 20.70 116 *e*P **P 18 04 33.0 -0.6**
comp=Z,33nm,1.4s,baz=327,slow=11
CLL Collm 20.70 116 P **P 18 04 33.7 +0.1**
CLL IAmb IAmb 18 04 35.3
comp=Z,36nm,1.4s
GKP Gorka Klasztor 20.91 107 *e*P Pn 18 04 40.6 +2.3
GKP Gorka Klasztor 20.91 107 *e*P Pn 18 04 40.6 +2.3
LOR Lormes 20.95 136 *e*P **P 18 04 36.3 -0.1**
LOR pmax pmax
comp=Z,24nm,1.1s
CDF Champ du Feu 21.02 129 *e*P **P 18 04 37.8 +0.6**
CDF pmax pmax
comp=Z,32nm,1.5s
HAU Haudompre 21.07 131 *e*P **P 18 04 38.1 +0.4**
HAU pmax pmax
comp=Z,18nm,0.8s
FBE Freiberg 21.14 116 *e*P **P 18 04 38.4 +0.1**
comp=Z,17nm,1.1s,baz=327,slow=11
ECH Echery 21.16 129 P **P 18 04 39.1 +0.5**
ECH pmax pmax
comp=Z,16nm,1.0s
ECH Echery 21.16 129 P **P 18 04 39.0 +0.5**
GUNZ Gunzen 21.20 118 *e*P **P 18 04 39.4 +0.4**
baz=327,slow=11
TANN Tannenbergstha 21.21 118 *e*P **P 18 04 39.2 0.0**
baz=327,slow=11
AVF Avril sur Loir 21.23 138 *e*P **P 18 04 38.8 -0.6**
AVF pmax pmax
comp=Z,14nm,0.9s
WERN Wernitzgruen 21.28 118 *e*P **P 18 04 39.6 -0.3**
baz=327,slow=11
GRA1 Grafenberg Arr 21.33 121 P **P 18 04 41.3 +0.9**
GRA1 IAmb IAmb 18 04 53.0
comp=Z,42nm,1.2s
GRF Grafenberg Arr 21.33 121 P **P 18 04 41.3 +0.9**
GRF pmax pmax
comp=Z,42nm,1.2s
GRF Grafenberg Arr 21.33 121 *e*P **P 18 04 41.2 +0.8**
comp=Z,9.9nm,0.9s,baz=327,slow=11
NKC Novy Kostel 21.35 118 *e*P **P 18 04 43.4 +2.8**
NKC Novy Kostel 21.35 118 *e*P **P 18 04 43.4 +2.8**
STU Stuttgart 21.37 125 P **P 18 04 42.0 +1.2**
STU pmax pmax
comp=Z,37nm,1.1s
STU Stuttgart 21.37 125 P **P 18 04 42.0 +1.2**
STU IAmb IAmb 18 04 43.2
comp=Z,37nm,1.1s
BRG Berggiesshubel 21.41 115 *e*P **P 18 04 41.2 0.0**
comp=Z,20nm,1.1s
BRG S Sn 18 08 49.0 +2.3
comp=N,518nm,19.3s
comp=E,418nm,20.8s
comp=Z,400nm,12.5s
BRG Berggiesshubel 21.41 115 *e*P **P 18 04 41.2 0.0**
BRG S Sn 18 08 49.0 +2.3
BRG pmax pmax
comp=Z,20nm,1.1s
BRG MLR MLR
comp=N,518nm,19.3s
BRG MLR MLR
comp=E,418nm,20.8s
BRG MLR MLR
comp=Z,400nm,12.5s
BRG Berggiesshubel 21.41 115 *e*P **P 18 04 41.0 -0.3**
comp=Z,12nm,1.0s,baz=327,slow=11
MANZ Manzenberg 21.42 119 *e*P **P 18 04 41.7 +0.3**
comp=Z,5.4nm,1.1s,baz=327,slow=11
BFO Black Forest 21.45 127 P **P 18 04 42.4 +0.6**
BFO pmax pmax
comp=Z,21nm,1.1s
BFO Black Forest 21.45 127 *e*P **P 18 04 41.6 -0.1**
comp=Z,11nm,0.9s,baz=327,slow=11
BFO Black Forest 21.45 127 P **P 18 04 42.4 +0.6**
VSU Vasula 21.56 86 *e*P **P 18 04 40.8 -2.0**
VSU Vasula 21.56 86 *c i*P **P 18 04 42.0 -0.7**
VSU pmax pmax
comp=Z,92nm,0.9s
ROTZ Rotzenmuhle 21.64 119 *e*P **P 18 04 44.2 +0.5**
comp=Z,3.8nm,0.9s,baz=327,slow=11
PVCC Panska Ves 21.93 115 *e*S Sn 18 09 03.3 +4.2
SLE Schleitheim 21.99 128 P **P 18 04 48.6 +1.0**
SLE pmax pmax
comp=Z,23nm,1.0s
RJF Les Rejaudoux 22.09 142 *e*P **P 18 04 48.3 -0.3**
RJF pmax pmax
comp=Z,30nm,1.1s
PABE Paberze 22.20 95 *e*P **P 18 04 48.6 -1.1**
PRA Prague 22.24 116 *e*P **P 18 04 52.6 +2.5**
PRU Pruhonice 22.35 116 *e*P **P 18 04 52.9 +1.6**
PRU Pruhonice 22.35 116 *e*P **P 18 04 52.9 +1.6**
KSP Ksiaz 22.36 112 *e*P **P 18 04 52.0 +0.5**
KSP Ksiaz 22.36 112 *e*P **P 18 04 52.0 +0.5**
WET Wettzell 22.40 119 P **P 18 04 53.6 +1.7**
WET Wettzell 22.40 119 *e*P **P 18 04 53.0 +1.1**
comp=Z,6.3nm,1.0s,baz=327,slow=11
CHVC Chvalec 22.46 113 *e*P **P 18 04 54.2 +1.6**
GOPC GO Pecny, Ondr 22.50 116 *e*P **P 18 04 52.6 -0.4**
UPC Upice 22.51 113 *e*S Sn 18 09 13.0 -0.1
OSTC Ostas 22.55 113 *e*P **P 18 04 54.8 +1.3**
UBR Ueberruh 22.62 126 *e*P **P 18 04 55.2 +0.9**
comp=Z,6.5nm,0.9s,baz=327,slow=11
KHC Kasperske Hory 22.67 118 *e*P **P 18 04 54.7 -0.1**
KHC AMS AMS 18 17 00.0
comp=Z,600nm,11.5s
KHC Kasperske Hory 22.67 118 *de*P **P 18 04 54.9 +0.1**
KHC pmax pmax
comp=Z,33nm,1.3s
KHC Kasperske Hory 22.67 118 P **P 18 04 55.1 +0.2**
DPC Dobruska-Polom 22.76 113 *e*P **P 18 04 55.5 -0.2**
DPC Dobruska-Polom 22.76 113 *e*P **P 18 04 55.5 -0.2**
SENIN Lac Senin/Sane 22.83 132 P **P 18 04 57.3 +0.6**
SUW Suwalki 22.88 98 P **P 18 04 56.3 -0.6**
SUW pmax pmax
comp=Z,38nm,1.1s
SUW Suwalki 22.88 98 P **P 18 04 56.3 -0.6**
DAVA Damuels 22.88 126 *e*P **P 18 04 58.5 +1.3**
comp=Z,17nm,1.2s
SSB Saint Sauveur 22.95 137 P **P 18 04 57.3 -0.5**
SSB pmax pmax
comp=Z,16nm,1.5s
SSB Saint Sauveur 22.95 137 P **P 18 04 57.3 -0.5**
GEC2 GERESS Array S 22.95 119 *e*P **P 18 04 58.1 +0.3**
comp=Z,5.7nm,1.0s,baz=327,slow=11
GEC2 GERESS Array S 22.95 119 P **P 18 04 57.9 +0.1**
GEC2 IAmb IAmb 18 05 05.6
comp=Z,48nm,1.5s
GERES GERESS Array B 22.95 119 P **P 18 04 57.5 -0.4**
comp=Z,3.8nm,0.9s,baz=323,slow=8.4,SNR=19
GERES LR LR 18 14 06.0
comp=Z,393nm,21.2s,baz=324,slow=37
GERES GERESS Array B 22.95 119 P **P 18 04 57.7 -0.1**
GERES GERESS Array B 22.95 119 P **P 18 04 57.7 -0.1**
RETA Reutte 23.02 125 *e*P **P 18 04 58.9 +0.4**
comp=Z,8.6nm,1.1s
ISAL Salakas 23.09 93 *e*P **P 18 04 58.0 -1.0**
KRLC Kraliky 23.16 113 *e*P **P 18 05 00.0 +0.1**
KRLC *ep*P **sP 18 05 04.7 +3.8**
KRLC Kraliky 23.16 113 *e*P **P 18 05 00.0 +0.1**
KRLC *e* 18 05 04.7
MOTA Moosalm 23.26 125 *i*P **P 18 05 01.2 +0.1**
comp=Z,17nm,1.2s,SNR=8.2
TREC Trest 23.27 116 P **P 18 05 01.2 +0.2**
TREC pmax pmax
comp=Z,8.0nm,2.2s
IIGN Ignalina 23.27 93 *e*P **P 18 04 59.9 -1.1**
DAVOX Davos/Dischmat 23.32 127 P **P 18 05 01.9 +0.2**
comp=Z,4.5nm,0.9s,baz=321,slow=11,SNR=9.1
TMCR Tamitsa 23.33 66 *e*P **P 18 05 00.4 -1.1**
TMCR pmax pmax
comp=Z,52nm,1.4s
PGAV Gavieira, Arco 23.36 162 *e*P P 18 05 18.7 +17
comp=Z,31nm,2.1s
LPL La Plagne 23.40 133 *e*P **P 18 05 03.2 +0.6**
LPL pmax pmax
comp=Z,16nm,1.2s
SQTA Sankt Quirin 23.40 125 *e*P **P 18 05 02.8 +0.3**
comp=Z,12nm,1.1s
FETA Feichten 23.41 125 *e*P **P 18 05 04.0 +1.4**
comp=Z,18nm,1.5s
TUE Stuetta 23.41 128 P **P 18 05 03.1 +0.5**
TUE IAmb IAmb 18 05 10.5
comp=Z,32nm,1.3s
LPG La Plagne 23.42 133 *e*P **P 18 05 03.6 +0.7**
LPG pmax pmax
comp=Z,14nm,1.2s
WATA Walderalm 23.44 124 *e*P **P 18 05 04.3 +1.4**
comp=Z,16nm,1.1s
IDID Didziasalis 23.52 92 *e*P **P 18 05 02.4 -1.0**
WTTA Wattenberg 23.52 124 *i*P **P 18 05 04.8 +1.1**
comp=Z,21nm,1.5s,SNR=6.4
FUORN Ofenpass-Fuorn 23.59 127 P **P 18 05 05.2 +0.6**
FUORN IAmb IAmb 18 05 21.4
comp=Z,20nm,1.4s
ORIF Oris-en-Rattie 23.68 135 *e*P **P 18 05 05.4 +0.2**
ORIF pmax pmax
comp=Z,20nm,1.3s
VRAC Vranov 23.69 114 P **P 18 05 05.7 +0.5**
comp=Z,3.9nm,0.8s,baz=326,slow=8.9,SNR=10
VRAC Vranov 23.69 114 *e*P **P 18 05 05.4 +0.2**
MORC Moravsky Berou 23.69 112 *e*P **P 18 05 05.2 -0.1**
MORC Moravsky Berou 23.69 112 P **P 18 05 05.8 +0.5**
MORC pmax pmax
comp=Z,26nm,1.5s
MORC Moravsky Berou 23.69 112 P **P 18 05 05.8 +0.5**
MORC IAmb IAmb 18 05 12.5
comp=Z,26nm,1.5s
PBRG Braganca 23.73 160 *e*P P 18 05 21.3 +16
comp=Z,23nm,2.0s
BNI Bardonecchia 23.80 134 P **P 18 05 06.9 +0.5**
BNI pmax pmax
comp=Z,11nm,1.2s
BNI Bardonecchia 23.80 134 P **P 18 05 06.9 +0.5**
NACGM Naroch 23.81 93 *e* **P 18 05 06.0 -0.3**
KRUC Moravsky 23.81 115 *e*P **P 18 05 05.5 -0.9**
KRUC Moravsky 23.81 115 P **P 18 05 06.3 -0.1**
KRUC pmax pmax
comp=Z,16nm,2.1s
MOA Molln 23.99 119 *e*P **P 18 05 08.5 +0.4**
comp=Z,20nm,1.9s
OJC Ojcow 24.26 109 *e*P **P 18 05 10.6 +0.1**
OJC Ojcow 24.26 109 *e*P **P 18 05 10.6 +0.1**
OJC Ojcow 24.26 109 P **P 18 05 10.3 -0.3**
OJC IAmb IAmb 18 05 30.6
comp=Z,20nm,1.4s
ABTA Abfaltersbach 24.27 123 *e*P **P 18 05 12.6 +1.8**
comp=Z,21nm,1.4s
JAVC Velka Javorina 24.48 113 *e*P **P 18 05 13.6 +1.0**
CONA Conrad Observa 24.53 117 *i*P **P 18 05 13.3 +0.1**
comp=Z,7.5nm,1.0s,SNR=6.3
MICGM Minsk 24.55 93 *e* **P 18 05 12.0 -1.2**
MNK Minsk 24.55 93 *e*P **P 18 05 12.0 -1.2**
CTI Castel Tesino 24.57 125 P **P 18 05 12.9 -0.6**
CTI pmax pmax
comp=Z,13nm,1.0s
CTI Castel Tesino 24.57 125 P **P 18 05 12.9 -0.6**
CTI IAmb IAmb 18 05 23.0
comp=Z,13nm,1.0s
ZOU Zoufplan 24.60 123 P **P 18 05 14.4 +0.5**
ZOU IAmb IAmb 18 05 21.1
comp=Z,22nm,1.3s
CIMO Cimolais 24.62 124 P **P 18 05 14.5 +0.6**
PVIS Viseu 24.64 162 *e*P **P 18 05 15.9 +1.8**
comp=Z,25nm,1.4s
SMOL Smolenice 24.66 114 *e*P **P 18 05 14.8 +0.6**
SMOL pmax pmax
comp=Z,8.0nm,1.1s
SMOL Smolenice 24.66 114 *e*P **P 18 05 14.8 +0.6**
STAL STALIGIAL 24.76 124 P **P 18 05 15.7 +0.5**
STAL IAmb IAmb 18 05 22.2
comp=Z,24nm,1.3s
PRED Cave del Predi 24.91 122 P **P 18 05 16.8 +0.2**
LANS Liptovska Anna 24.96 111 *e*P **P 18 05 17.6 +0.6**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 24.96 111 *e*P **P 18 05 17.6 +0.6**
ARSA Arzberg 24.96 118 *e*P **P 18 05 17.1 +0.2**
comp=Z,6.3nm,0.9s
NIE Niedzica 25.09 109 P **P 18 05 19.5 +1.4**
PCAS Casmilo, Conde 25.22 164 *e*P **P 18 05 24.5 +5.2**
comp=Z,52nm,1.6s
OBKA Obir 25.22 121 *e*P **P 18 05 20.2 +0.8**
comp=Z,9.1nm,1.2s
VYHS Vyhne 25.23 112 *e*P **P 18 05 19.6 +0.2**
VYHS pmax pmax
comp=Z,28nm,1.5s
VYHS Vyhne 25.23 112 *e*P **P 18 05 19.6 +0.2**
SOKA Soboth 25.26 120 *i*P **P 18 05 19.9 +0.2**
comp=Z,14nm,1.3s,SNR=9.3
PCBR Castelo Branco 25.55 162 *e*P **P 18 05 18.6 -3.7**
comp=Z,27nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P 18 05 20.5 -2.0**
KLMR pmax pmax
comp=Z,46nm,1.4s
KLMR Klimovskoe 25.59 72 *e*P **P 18 05 20.5 -2.0**
KLMR AMP 18 05 38.2
comp=Z,46nm,1.4s
KWP Kalwaria Pacla 25.91 106 *e*P **P 18 05 28.1 +2.6**
KWP Kalwaria Pacla 25.91 106 *e*P **P 18 05 28.1 +2.6**
KWP Kalwaria Pacla 25.91 106 P **P 18 05 26.1 +0.6**
PMRV Marv??o 25.97 162 *e*P **P 18 05 28.8 +2.6**
comp=Z,24nm,1.6s
SCHQ Schefferville 26.05 271 P **P 18 05 27.2 +0.4**
comp=Z,6.9nm,0.7s,baz=36,slow=3.1,SNR=5.0
SCHQ LR LR 18 14 35.5
comp=Z,211nm,20.9s,baz=32,slow=34
SCHQ Schefferville 26.05 271 P **P 18 05 25.2 -1.6**
SCHQ IAmb IAmb 18 05 32.5
comp=Z,28nm,1.5s
PSZ Piszkesteto 26.11 112 P **P 18 05 27.5 0.0**
PSZ pmax pmax
comp=Z,50nm,1.4s
PSZ Piszkesteto 26.11 112 P **P 18 05 27.5 0.0**
ESBB Sonseca Array 26.26 156 P **P 18 05 28.8 0.0**
ESBB IAmb IAmb 18 05 35.9
comp=Z,18nm,1.4s
ESDC Sonseca Array 26.26 156 P **P 18 05 27.8 -1.1**
comp=Z,3.1nm,0.8s,baz=350,slow=9.2,SNR=19
ESDC LR LR 18 15 30.9
comp=Z,98nm,19.5s,baz=355,slow=36
ESDC Sonseca Array 26.26 156 P **P 18 05 28.7 -0.1**
KOLS Kolonicke sedl 26.27 108 *e*P **P 18 05 28.4 -0.4**
KOLS pmax pmax
comp=Z,21nm,1.3s
KOLS Kolonicke sedl 26.27 108 *e*P **P 18 05 28.4 -0.4**
LVV L'vov 26.31 104 *e*P **P 18 05 31.7 +2.6**
UZH Uzhgorod 26.52 108 *e*P **P 18 05 30.4 -0.6**
UZH *e* 18 06 11.0
OSSC Osservatorio P 26.64 129 P **P 18 05 34.0 +1.9**
TRSU Trosnyk 27.21 108 P **P 18 05 36.3 -0.9**
MURB Monte Urbino 27.30 127 P **P 18 05 38.6 +0.4**
HORU Horodok 27.78 103 P **P 18 05 41.6 -0.7**
AKASG Malin Array Be 27.84 98 P **P 18 05 41.7 -1.1**
comp=Z,3.6nm,0.9s,baz=322,slow=9.8,SNR=9.1
AKASG LR LR 18 16 51.4
comp=Z,136nm,20.2s,baz=295,slow=37
AKASG Malin Array Be 27.84 98 *ce*P **P 18 05 45.4 +2.6**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 27.84 98 P **P 18 05 41.1 -1.7**
AKBB Malin Array Si 27.84 98‖ *e*P **P 18 05 44.6 +1.8**
AKBB Malin Array Si 27.84 98 P **P 18 05 44.6 +1.8**
AKBB IAmb IAmb 18 06 10.5
comp=Z,21nm,1.4s
OBN Obninsk 27.87 84 P **P 18 05 42.4 -0.7**
comp=Z,2.2nm,0.3s,baz=161,slow=17,SNR=5.3
OBN Obninsk 27.87 84 *ce*P **P 18 05 42.8 -0.3**
OBN *e*S **S 18 10 31.0 +4.1**
OBN *e*SS **SnSn 18 11 38.9 -0.3**
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,159nm,16.0s
OBN Obninsk 27.87 84 P **P 18 05 42.6 -0.5**
KSV Kosov 27.91 105 P **P 18 05 42.7 -0.8**
BUR08 Bucovina Ar. S 28.49 106 P **P 18 05 49.4 +0.5**
BURAR Bucovina Array 28.52 106 P **P 18 05 49.4 +0.3**
BURAR Bucovina Array 28.52 106 P **P 18 05 49.4 +0.3**
DIVS Divibare 29.31 116 P **P 18 05 55.8 -0.3**
LPSR Galich'ya Gora 30.62 86 *e*P **P 18 06 07.2 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KIRV Kirov 30.97 69 *ce*P **P 18 06 10.6 +0.1**
CORL Corleone 32.38 131 P **P 18 06 24.5 +1.3**
VRH Novokhopyorsk 32.83 85 *e*P **P 18 06 26.0 -0.9**
VRH pmax pmax
comp=Z,20nm,1.2s
KNT Kendrikon 32.93 116 P **P 18 06 29.4 +1.4**
KEST Kesra 33.16 138 P **P 18 06 29.6 -0.4**
comp=Z,3.7nm,1.1s,baz=14,slow=8.9,SNR=4.2
KEST Kesra 33.16 138 P **P 18 06 30.3 +0.3**
KEST IAmb IAmb 18 06 47.5
comp=Z,15nm,1.5s
SRS Serrai 33.24 115 P **P 18 06 32.0 +1.4**
SRS pmax pmax
comp=Z,17nm,1.0s
ALN Alexandroupoli 34.39 112 P **P 18 06 40.0 -0.6**
ALN pmax pmax
comp=Z,16nm,1.4s
ALN Alexandroupoli 34.39 112 P **P 18 06 40.0 -0.6**
ALN IAmb IAmb 18 06 46.5
comp=Z,16nm,1.4s
BELG Belogornoye 34.48 79‖ *e*P **P 18 06 41.1 -0.1**
ARU Arti 36.07 66 LR LR 18 21 06.1
comp=Z,336nm,21.6s,baz=315,slow=35
ARU Arti 36.07 66 *d i*P **P 18 06 54.8 -0.1**
ARU 18 08 13.1
ARU S **S 18 12 36.6 +2.1**
ARU SS **SnSn 18 15 01.6 +3.3**
ARU pmax pmax
comp=Z,12nm,1.5s
ARU Arti 36.07 66 P **P 18 06 54.8 -0.1**
ARU IAmb IAmb 18 06 57.7
comp=Z,17nm,1.5s
NRIK Noril'sk 36.44 35 P **P 18 06 58.3 +0.3**
comp=Z,6.5nm,1.0s,baz=298,slow=4.4,SNR=6.0
NRIK LR LR 18 23 23.1
comp=Z,64nm,18.6s,baz=15,slow=39
NRIK Noril'sk 36.44 35 *ce*P **P 18 06 58.9 +0.9**
NRIK pmax pmax
comp=Z,15nm,1.3s
SVE Sverdlovsk 36.60 64 *e*P **P 18 06 56.9 -2.5**
SVE pmax pmax
comp=Z,10.0nm,1.1s
SOC Sochi 37.86 96 *e*P **P 18 07 09.2 -1.1**
SOC *e* 18 08 34.2
SOC *e*PPP PPP 18 08 56.0
SOC *e*S **S 18 13 02.6 +0.6**
SOC *e*SS **SnSn 18 15 38.8 -3.1**
SOC MLR MLR
comp=Z,74nm,11.0s
GOF Gofitskoye 38.11 91⇑ *e*P **P 18 07 12.3 0.0**
GOF pmax pmax
comp=Z,36nm,1.0s
BR131 Keskin Array S 38.48 105 P **P 18 07 16.7 +1.0**
BR131 pmax pmax
comp=Z,7.0nm,1.2s
BR131 Keskin Array S 38.48 105 P **P 18 07 16.6 +1.0**
BRTR Keskin Array B 38.48 105 P **P 18 07 16.1 +0.4**
comp=Z,3.0nm,1.0s,baz=327,slow=6.2,SNR=12
BRTR LR LR 18 25 51.6
comp=Z,41nm,18.4s,baz=316,slow=40
BRTR Keskin Array B 38.48 105 *i*P **P 18 07 20.1 +4.4**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 38.48 105 P **P 18 07 16.5 +0.8**
KIV Kislovodsk 38.84 92 *e*P **P 18 07 18.8 +0.2**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,331nm,16.0s
KBZ Khabaz 39.11 92 P **P 18 07 21.9 +1.2**
comp=Z,8.8nm,0.9s,baz=330,slow=11,SNR=11
KBZ LR LR 18 23 40.6
comp=Z,196nm,21.7s,baz=330,slow=36
KBZ Khabaz 39.11 92 *c i*P **P 18 07 22.3 +1.6**
KBZ pmax pmax
comp=Z,11nm,0.9s
YKA Yellowknife Ar 39.21 313 LR LR 18 23 09.6
comp=Z,235nm,19.4s,baz=0.0,slow=36
AKTO Aktyubinsk 40.28 73 LR LR 18 24 06.7
comp=Z,256nm,21.0s,baz=325,slow=36
ZEI Tsey 40.30 92 *e*P **P 18 07 31.4 +0.5**
ZEI pmax pmax
comp=Z,8.0nm,1.2s
GROC Groznyy 40.78 90 P **P 18 07 36.1 +1.5**
GROC *e* 18 09 07.1
GROC *e* 18 09 33.6
GROC *e*S **S 18 13 42.1 -3.8**
GROC pmax pmax
comp=Z,24nm,1.1s
AKH Akhalkalaki 41.25 94 P **P 18 07 40.2 +1.4**
AKH pmax pmax
comp=Z,11nm,1.0s
AKH Akhalkalaki 41.25 94 P **P 18 07 40.2 +1.4**
AKH IAmb IAmb 18 07 43.9
comp=Z,11nm,1.0s
ULM Lac du Bonnet 41.60 289 LR LR 18 23 35.7
comp=Z,167nm,19.4s,baz=94,slow=34
M54A Oil Creek Stat 41.69 267 P **P 18 07 42.5 +0.4**
M54A IAmb IAmb 18 07 44.9
comp=Z,16nm,1.0s
ABKAR Akbulak array 41.98 73 P **P 18 07 44.6 +0.2**
ABKAR Akbulak array 41.98 73 P **P 18 07 44.3 -0.1**
TIXI Tiksi 42.02 15 *d i*P **P 18 07 45.9 +1.4**
TIXI pmax pmax
comp=Z,53nm,1.0s
TIXI Tiksi 42.02 15 P **P 18 07 45.6 +1.1**
TOLK Toolik Lake Re 42.74 336 P **P 18 07 51.6 +1.1**
TOLK IAmb IAmb 18 07 53.2
comp=Z,18nm,1.1s
BRVK Borovoye 43.12 62 *de*P **P 18 07 53.8 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 43.12 62 P **P 18 07 54.2 +0.6**
N49A Columbus Grove 44.11 271 P **P 18 08 02.7 +0.9**
TAM Tamanrasset 44.52 149 P **P 18 08 05.6 +0.2**
TAM pmax pmax
comp=Z,15nm,1.5s
TAM Tamanrasset 44.52 149 P **P 18 08 05.6 +0.2**
TAM IAmb IAmb 18 08 20.9
comp=Z,14nm,1.5s
IL31 45.68 332 P **P 18 08 13.8 -0.1**
IL31 IAmb IAmb 18 08 16.3
comp=Z,12nm,1.4s
ILAR Eielson Array 45.68 332 P **P 18 08 14.8 +0.8**
comp=Z,4.3nm,1.0s,baz=27,slow=6.5,SNR=23
ILAR PcP **PcP 18 09 50.9 -0.9**
comp=Z,2.2nm,1.0s,baz=356,slow=2.6,SNR=9.1
ILAR LR LR 18 29 31.2
comp=Z,114nm,18.1s,baz=38,slow=39
ILAR Eielson Array 45.68 332 P **P 18 08 14.2 +0.2**
ILAR **PcP 18 09 51.8 0.0**
MDM Murphy Dome 45.77 333 P **P 18 08 16.4 +1.6**
MDM IAmb IAmb 18 08 17.9
comp=Z,9.3nm,1.1s
COLA College 45.78 333 *d i*P **P 18 08 15.7 +1.0**
COLA pmax pmax
comp=Z,10.0nm,1.1s
SFIN Lafayette 45.81 273 P **P 18 08 15.8 +0.5**
P48A Milroy 45.85 271 P **P 18 08 15.9 +0.2**
CCB Clear Creek Bu 45.97 333 P **P 18 08 17.6 +1.4**
HDA Harding Lake 46.01 332 P **P 18 08 17.2 +0.6**
HDA IAmb IAmb 18 08 18.8
comp=Z,8.4nm,1.2s
DOT Dot Lake 46.09 330 P **P 18 08 18.4 +1.1**
RIDG Independent Ri 46.17 331 P **P 18 08 19.2 +1.3**
PAX Paxson 46.99 330 P **P 18 08 25.7 +1.3**
PAX pmax pmax
comp=Z,5.0nm,1.2s
PAX Paxson 46.99 330 P **P 18 08 25.7 +1.3**
DLBC Dease Lake 47.07 318 LR LR 18 27 23.9
comp=Z,167nm,21.4s,baz=130,slow=35
BPAW Bear Paw Mtn. 47.07 334 P **P 18 08 25.9 +0.9**
BPAW IAmb IAmb 18 08 27.0
comp=Z,10nm,1.2s
BILL Bilibino 47.54 358 *i*P **P 18 08 28.7 +0.2**
BILL *i* 18 10 19.9
BILL pmax pmax
comp=Z,6.0nm,1.4s

BILL MLR MLR
comp=Z,64nm,16.0s
ZAA0 Zalesovo Array 47.62 51 P P 18 08 29.0 -0.3
ZAA0 IAmb IAmb 18 08 31.1
comp=Z,5.6nm,1.2s
ZALV Zalesovo Beam 47.62 51 P P 18 08 29.3 0.0
comp=Z,1.9nm,0.8s,baz=330,slow=8.6,SNR=11
ZALV PcP **PcP 18 09 58.5 -0.3**
comp=Z,0.9nm,0.6s,baz=318,slow=5.8,SNR=4.7
ZALV LR LR 18 28 35.2
comp=Z,54nm,19.9s,baz=4.5,slow=36
ZALV Zalesovo Beam 47.62 51 *i* P **P 18 08 29.6 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.9s
KMSC Kings Mountain 47.73 264 P P 18 08 30.4 0.0
KURK Kurchatov 48.10 58‖ *iP* **P 18 08 33.1 0.0**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 48.10 58 P P 18 08 33.0 0.0
KURBB Kurchatov Arra 48.14 58 P P 18 08 33.0 -0.4
baz=324,slow=7.4
KURBB PcP **PcP 18 10 00.3 -0.4**
comp=Z,0.4nm,0.7s,baz=326,slow=4.8,SNR=2.3
TKL Tuckaleechee C 48.34 266 LR LR 18 27 42.3
comp=Z,135nm,20.5s,baz=25,slow=35
U49A Red Boiling Sp 48.48 269 P P 18 08 36.5 +0.4
U49A IAmb IAmb 18 08 37.9
comp=Z,5.8nm,0.9s
T47A Sharon Grove 48.65 270 P P 18 08 38.0 +0.6
W50A Signal Mountai 49.38 268 P P 18 08 43.7 +0.5
FPAL Fort Paine 50.08 267 P P 18 08 48.6 +0.2
FPAL IAmb IAmb 18 08 49.0
comp=Z,14nm,1.4s
GOGA Godfrey 50.12 265 P P 18 08 49.2 +0.4
GOGA pmax pmax
comp=Z,8.0nm,1.1s
GOGA Godfrey 50.12 265 P P 18 08 49.2 +0.4
GOGA IAmb IAmb 18 08 50.1
comp=Z,8.4nm,1.1s
T42A Van Buren 50.32 274 P P 18 08 50.0 -0.3
T42A IAmb IAmb 18 08 53.2
comp=Z,8.9nm,1.2s
MID Middleton Isla 50.35 329 P P 18 08 50.6 +0.4
MID pmax pmax
comp=Z,125nm,0.9s
MID Middleton Isla 50.35 329 P P 18 08 50.6 +0.4
Q23K Middleton Isla 50.36 329 P P 18 08 50.6 +0.4
GEYT Alibeck 50.42 84 P P 18 08 51.2 +0.2
comp=Z,2.7nm,0.9s,baz=290,slow=11,SNR=6.1
GEYT LR LR 18 32 47.0
comp=Z,89nm,20.5s,baz=15,slow=39
GEYT Alibeck 50.42 84 P P 18 08 51.9 +0.9
S39A Bolivar 50.72 276 P P 18 08 53.0 -0.2
YAK Yakutsk 51.26 19‖ *eP* **P 18 08 56.0 -0.9**
YAK pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 51.26 70 P P 18 08 58.0 +0.7
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 51.26 70 P P 18 08 58.0 +0.7
KKAR Karatay Array 51.26 70 P P 18 08 57.9 +0.6
KKAR 18 08 57.9
KKAR pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 51.26 70 P P 18 08 57.9 +0.6
NEW Newport 51.42 303 LR LR 18 30 41.3
comp=Z,145nm,20.3s,baz=14,slow=36
YNE Yellowstone No 51.48 295 P P 18 08 60.0 +0.8
BOZ Bozeman (W) 51.61 297 P P 18 08 59.9 -0.1
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 51.61 297 P P 18 08 59.9 -0.1
BOZ IAmb IAmb 18 09 01.7
comp=Z,7.3nm,1.1s
LRM Limekiln Ridge 51.73 297 P P 18 09 01.4 +0.3
YMP Mirror Lake Pl 51.76 295 P P 18 09 02.4 +1.1
BBB Bella Bella 51.82 313 LR LR 18 29 51.0
comp=Z,93nm,20.9s,baz=52,slow=35
DGZ Jazzator, Alta 52.07 53*de*P **P 18 09 04.4 +1.0**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 52.59 59 P P 18 09 07.3 +0.2
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 52.59 59 P P 18 09 07.3 +0.2
MK31 Makanchi Array 52.71 58‖ *eP* **P 18 09 08.1 0.0**
MK31 Makanchi Array 52.71 58 P P 18 09 08.0 -0.1
MKAR Makanchi Array 52.71 58 P P 18 09 07.7 -0.3
comp=Z,3.8nm,1.0s,baz=335,slow=5.5,SNR=20
MKAR LR LR 18 31 48.2
comp=Z,79nm,18.7s,baz=316,slow=36
MKAR Makanchi Array 52.71 58*ce*P **P 18 09 07.6 -0.5**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 52.71 58 P P 18 09 08.0 -0.1
FXWY Fox Creek 53.02 295 P P 18 09 11.2 +0.6
SNOW Snow King Moun 53.06 295 P P 18 09 12.2 +1.3
SNOW IAmb IAmb 18 09 20.3
comp=Z,5.4nm,0.6s
TPAW Teton Pass 53.12 295 P P 18 09 12.0 +0.6
TOA0 Torodi Ar. Sit 53.15 156 P P 18 09 10.4 -1.1
TOA0 IAmb IAmb 18 09 13.3
comp=Z,8.9nm,1.3s
TORD Torodi Ar. Bea 53.15 156 P P 18 09 10.3 -1.3
comp=Z,4.3nm,1.0s,baz=340,slow=7.2,SNR=12
TORD LR LR 18 33 15.1
comp=Z,42nm,18.4s,baz=320,slow=38
TORD Torodi Ar. Bea 53.15 156 P P 18 09 10.4 -1.1
BW06 Boulder Array 53.18 293 P P 18 09 11.7 -0.1
BW06 IAmb IAmb 18 09 12.5
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 53.18 293 P P 18 09 11.5 -0.3
PD31 IAmb IAmb 18 09 14.2
comp=Z,7.5nm,1.1s
PDAR Pinedale Array 53.18 293 P P 18 09 10.9 -0.9
comp=Z,4.1nm,1.0s,baz=60,slow=7.0,SNR=21
PDAR LR LR 18 31 18.7
comp=Z,238nm,19.8s,baz=27,slow=36
PDAR Pinedale Array 53.18 293 P P 18 09 11.5 -0.3
AAK Ala-Archa 53.25 67*di* P **P 18 09 12.9 +0.7**
AAK pmax pmax
comp=Z,35nm,1.3s
N23A Red Feather La 53.31 289 P P 18 09 13.2 +0.3
N23A IAmb IAmb 18 09 19.6
comp=Z,10nm,1.1s
BOOM Boomskoye usch 53.94 66 P P 18 09 17.7 +0.3
BOOM pmax pmax
comp=Z,8.0nm,1.1s
BOOM Boomskoye usch 53.94 66 P P 18 09 17.7 +0.3
BOOM IAmb IAmb 18 09 20.0
comp=Z,7.7nm,1.1s
CHGR Chuyangaron 54.45 74 P P 18 09 21.6 +0.6
GAR Garm 54.64 73 P P 18 09 23.2 +0.8
MOY Mondy 54.64 42 *eP* **P 18 09 24.0 +1.7**
MOY pmax pmax
comp=Z,39nm,3.2s
O20A White River Ci 54.88 290 P P 18 09 24.8 +0.6
HWUT Hardware Ranch 54.95 294 P P 18 09 25.0 +0.3
HWUT IAmb IAmb 18 09 27.1
comp=Z,8.0nm,1.1s
RDMU Red Mountain 55.04 292 P P 18 09 26.0 +0.5
HRA Herat 55.18 82 P P 18 09 27.1 +0.6
HRA IAmb IAmb 18 09 30.8
comp=Z,12nm,1.5s
TCUT Toone Canyon 55.31 294 P P 18 09 28.1 +0.7
TLY Talaya 55.38 40‖ *eP* **P 18 09 28.3 +0.8**
TLY pmax pmax
comp=Z,7.0nm,0.8s
ZAK Zakamensk 56.45 41 *eP* **P 18 09 35.9 +0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
PV21 Cone Mtn., Par 56.52 290 P P 18 09 36.2 +0.2
PV21 IAmb IAmb 18 09 37.0
comp=Z,5.4nm,1.0s
PV23 Carpenter Ridg 56.63 290 P P 18 09 37.2 +0.3
PV23 IAmb IAmb 18 09 38.3
comp=Z,7.0nm,0.9s
PV12 Saucer Basin, 56.66 290 P P 18 09 37.4 +0.4
PV12 IAmb IAmb 18 09 37.8
comp=Z,8.8nm,1.2s
SRU San Rafael Swe 56.67 292 P P 18 09 37.3 +0.2
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael Swe 56.67 292 P P 18 09 37.3 +0.2
PV14 Lion Creek, Pa 56.70 290 P P 18 09 37.7 +0.4
PV14 IAmb IAmb 18 09 46.5
comp=Z,6.6nm,1.0s
PV11 David Mesa, Pa 56.70 290 P P 18 09 38.0 +0.7
PV11 IAmb IAmb 18 09 41.2
comp=Z,5.5nm,0.9s
PV16 Nyswonger Mesa 56.71 290 P P 18 09 37.7 +0.3
PV01 Paradox Valley 56.72 289 P P 18 09 38.3 +0.8
PV01 IAmb IAmb 18 09 38.9
comp=Z,6.6nm,1.0s
PV02 Paradox Valley 56.73 290 P P 18 09 38.0 +0.5
PV02 IAmb IAmb 18 09 39.7
comp=Z,8.6nm,1.0s
PV18 Skein Mesa, Pa 56.76 290 P P 18 09 38.1 +0.3
PV18 IAmb IAmb 18 09 39.1
comp=Z,8.2nm,1.0s
PV13 Radium Mtn., P 56.80 290 P P 18 09 38.1 0.0
ELK Elko 57.12 296 LR LR 18 33 39.5
comp=Z,304nm,21.0s,baz=34,slow=36
WMQ Urumqi 57.22 56 *eP* **P 18 09 44.3 +3.6**
WMQ LR LR
comp=E,190nm,24.3s
WMQ LR LR
comp=Z,63nm,25.9s
MSU Marysvale 57.84 293 P P 18 09 46.2 +0.8
MSU Marysvale 57.84 293 P P 18 09 46.2 +0.8
MTPU Mount Pierson 58.25 292 P P 18 09 48.7 +0.2
HKT Hockley 58.41 274‖ *eP* **P 18 09 51.9 +2.8**
HKT pmax pmax
comp=Z,4.0nm,0.9s
PSUT Pine Spring 58.49 294 P P 18 09 50.3 +0.4
ANMO Albuquerque 58.59 286‖ *eP* **P 18 09 52.1 +1.4**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
PKCU Pink Cliffs 58.82 292 P P 18 09 53.4 +1.0
YBH Yreka Blue Hor 59.06 303 LR LR 18 33 55.7
comp=Z,100nm,19.8s,baz=18,slow=35
CCUT Cedar City 59.15 293 P P 18 09 55.3 +0.8
R11A Troy Canyon, C 59.33 295 P P 18 09 56.5 +0.8
BNM Barren Site 59.35 285 P P 18 09 57.0 +1.0
KNB Kanab 59.39 292 P P 18 09 56.5 +0.4
KNB pmax pmax
comp=Z,8.0nm,1.3s
KNB Kanab 59.39 292 P P 18 09 56.5 +0.4
SONM Songino Array 59.63 40 P P 18 09 57.7 +0.1
comp=Z,1.6nm,0.9s,baz=334,slow=6.4,SNR=8.6
SONM LR LR 18 38 24.6
comp=Z,128nm,18.2s,baz=330,slow=39
SONM Songino Array 59.63 40 P P 18 09 58.1 +0.5
SONM pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 59.63 40 P P 18 09 58.1 +0.5
JCT Junction City 59.65 278 P P 18 09 58.5 +0.7
JCT Junction City 59.65 278 P P 18 09 58.5 +0.7
KVN Kaiserville 59.68 298 P P 18 09 58.6 +0.5
KVN pmax pmax
comp=Z,6.0nm,1.3s
KVN Kaiserville 59.68 298 P P 18 09 58.6 +0.5
KVN IAmb IAmb 18 10 03.9
comp=Z,6.0nm,1.3s
U15A North Rim 59.69 291 P P 18 09 58.3 0.0
U15A IAmb IAmb 18 10 00.0
comp=Z,4.8nm,1.1s
ULN Ulaanbaatar 59.78 40*ce*P **P 18 09 59.5 +0.8**
ULN pmax pmax
comp=Z,11nm,2.5s
WUAZ Wupatki 60.11 290 P P 18 10 01.6 +0.5
NVAR Mina Array Bea 60.30 297 P P 18 10 03.1 +0.7
comp=Z,0.4nm,0.7s,baz=40,slow=7.2,SNR=4.3
NVAR LR LR 18 35 50.5
comp=Z,291nm,19.7s,baz=52,slow=36
NVAR Mina Array Bea 60.30 297 P P 18 10 00.0 -2.4
NIL Nilore 60.44 74 P P 18 10 03.3 +0.1
NIL pmax pmax
comp=Z,20nm,1.1s
NIL Nilore 60.44 74 P P 18 10 03.3 +0.1
SHPR Sheep Range 60.76 294 P P 18 10 06.8 +1.3
SHPR IAmb IAmb 18 10 07.6
comp=Z,7.4nm,1.3s
MNTX Cornudas Mount 60.95 283 P P 18 10 07.5 +0.8
MNTX IAmb IAmb 18 10 09.8
comp=Z,7.4nm,1.4s
X16A Lo Mia Camp, P 61.09 290 P P 18 10 08.7 +0.9
X16A IAmb IAmb 18 10 14.8
comp=Z,6.0nm,1.1s
TX31 Lajitas Ar. Si 62.29 280 P P 18 10 15.7 -0.2
TX31 IAmb IAmb 18 10 17.8
comp=Z,7.9nm,1.1s
TX32 Lajitas Array 62.29 280 P P 18 10 15.6 -0.3
TXAR Lajitas Array 62.29 280 P P 18 10 15.8 0.0
comp=Z,2.1nm,1.0s,baz=41,slow=4.0,SNR=11
TXAR LR LR 18 36 46.1
comp=Z,169nm,19.2s,baz=0.0,slow=36
TXAR Lajitas Array 62.29 280 P P 18 10 16.0 +0.1
TXAR Lajitas Array 62.29 280 P P 18 10 15.9 +0.1
TUC Tucson 62.66 288 P P 18 10 19.3 +1.0
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC Tucson 62.66 288 P P 18 10 19.3 +1.0
TUC IAmb IAmb 18 10 20.4
comp=Z,4.1nm,1.1s
PFO Pinyon Flats O 63.81 293 LR LR 18 38 31.0
comp=Z,167nm,18.4s,baz=12,slow=36
GTA Gaotai 65.29 49 *eP* **P 18 10 35.8 +0.3**
GTA pP sP 18 10 40.3 +3.7
GTA sP pP 18 10 43.2 +6.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
HHC Hu-ho-hao-te 67.50 40 *eP* **P 18 10 50.2 +0.6**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,79nm,6.6s
LPIG La Paz 69.68 283 LR LR 18 40 19.2
comp=Z,121nm,20.8s,baz=52,slow=35
ASAJ Asahikawa 70.42 15 LR LR 18 43 29.9
comp=Z,26nm,18.2s,baz=7.5,slow=37
XAN Xi'an 73.08 44 pP pP 18 11 32.4 +7.8
XAN Xi'an 73.08 44 P **P 18 11 20.9 -2.9**
XAN pmax pmax
comp=Z,16nm,1.1s
XAN Xi'an 73.08 44 P P **18 11 20.9 -2.9**
XAN Xi'an 73.08 44 pmax pmax
comp=Z,16nm,0.9s
XAN Xi'an 73.08 44 P **P 18 11 20.9 -2.9**
CD2 Chengdu 74.35 50 *eP* **P 18 11 29.4 -1.9**
KSRS Korea Array 74.64 28 LR LR 18 45 55.4
comp=Z,25nm,18.6s,baz=340,slow=37
SHL Shillong 75.01 62 P **P 18 11 34.9 -0.5**
SHL pmax pmax
comp=Z,5.0nm,1.0s
SHL Shillong 75.01 62 P **P 18 11 34.9 -0.5**
SHL IAmb IAmb 18 11 35.6
comp=Z,5.3nm,1.0s
NJ2 Nanjing 77.72 37 *eP* **P 18 11 50.0 -0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
WHN Wuhan 77.93 41 P **P 18 11 51.1 -0.5**
JHJ Hachijo jima 2 80.90 19 LR LR 18 49 22.2
comp=Z,24nm,18.8s,baz=158,slow=37
CHTO Chiang Mai 83.79 59 P **P 18 12 22.8 -0.4**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 83.79 59 P **P 18 12 22.8 -0.4**
CHTO IAmb IAmb 18 12 24.1
comp=Z,5.5nm,1.1s
CMAR Chiang Mai Arr 84.12 59 P **P 18 12 23.9 -0.9**
comp=Z,2.2nm,1.0s,baz=318,slow=6.8,SNR=20
CMAR LR LR 18 52 14.8
comp=Z,30nm,18.9s,baz=305,slow=37
CMAR Chiang Mai Arr 84.12 59 *i* P **P 18 12 24.6 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 84.12 59 P **P 18 12 24.6 -0.2**
PSI Prapat 98.46 65 LR LR 19 02 23.7
comp=Z,56nm,19.5s,baz=348,slow=38
BOSA Boshof 98.77 143 LR LR 19 01 39.0
comp=Z,29nm,18.3s,baz=357,slow=38
ASAR Alice Springs 134.95 38 PKP **PKPdf 18 19 11.3 -1.3**
comp=Z,1.2nm,0.9s,baz=2.9,slow=3.2,SNR=7.9

*IDC **01** 18:06:55.4±1.9,26.56N×129.23E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.7/47,mbtmp3.9/8,MS2.6/1,Ms1 2.6/1, ms1mx2.2/39,Error ellipse: s-maj=107.0km s-min=17.9km az=65.0*
*JMA **01** 18:06:57.1,26.71N×129.67E,h49km,M3.6*
*NIED **01** 18:06:57.1,26.71N×129.67E,h49km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.08; $M_{\theta\theta}$1.67; $M_{\phi\phi}$5.40; $M_{r\theta}$3.77; $M_{\theta\phi}$3.70; $M_{r\phi}$2.89; Fault plane solution: $M_0$8.79000×10^{14} NP1: ϕ_s223.00000°,δ62.00000°,λ-78.00000°. NP2:ϕ_s20.00000°, δ31.00000°,λ-111.00000°.*
*NEIC **01** 18:06:59.0±1.1,26.78N±0.08×129.9E±0.2,h32km±6km, mb4.6/8 Error ellipse: s-maj=21.2km s-min=9.2km az=66.0*

ISC 01 18:06:55.3±3.2,26.73N±0.04×129.68E±0.03,h10km±21km, n39,σ1$09/51,mb4.3/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYRO	**Yoronjima**	**1.13**	**285**	P	**Pb**	**18 07 16.8**	**-0.2**
JYRO				S	**Sb**	**18 07 31.1**	**-0.6**
JOKE	**Okinoerabujima**	**1.17**	**303**	P	**Pn**	**18 07 17.8**	**+0.1**
JOKE				S	**Sb**	**18 07 31.9**	**-0.9**
JTK	**Tokunoshima**	**1.23**	**329**	P	**Pn**	**18 07 18.7**	**+0.1**
JTK				*eS*	**Sb**	**18 07 33.8**	**-0.8**
JOW	**Kunigami**	**1.26**	**275**	P	**Pn**	**18 07 18.8**	**-0.1**
JOW				*eS*	**Sb**	**18 07 34.3**	**-1.0**
JNTH	**Nagotoyohara**	**1.50**	**262**	P	**Pn**	**18 07 21.8**	**-0.4**
JNTH				S	**Sn**	**18 07 39.7**	**-2.0**
JIH	**Iheya**	**1.56**	**282**	P	**Pn**	**18 07 23.2**	**+0.2**
JIH				*eS*	**Sn**	**18 07 41.7**	**-1.5**
JAMN	**Amaminishikomi**	**1.57**	**344**	P	**Pn**	**18 07 23.1**	**-0.1**
JAMN				*eS*	**Sn**	**18 07 42.6**	**-1.0**
JZK	**Kikaishima**	**1.60**	**9**	P	**Pb**	**18 07 24.6**	**-0.3**
JKDJ	**Kitadaitoujima**	**1.65**	**118**	P	**Pn**	**18 07 24.3**	**0.0**
JKDJ				*eS*	**Sn**	**18 07 43.6**	**-2.0**
JMZ	**Minamidaito 2**	**1.66**	**123**	P	**Pn**	**18 07 24.0**	**-0.5**
JMZ				*eS*	**Sn**	**18 07 43.9**	**-1.9**
JMZ	**Minamidaito 2**	**1.66**	**123**		**Pn**	**18 07 23.9**	**-0.6**
JAM	**Amami Oshima**	**1.67**	**358**	P	**Pn**	**18 07 24.4**	**-0.3**
JAM				*eS*	**Sn**	**18 07 44.4**	**-1.8**
JJT3	**Tamagusuku3**	**1.79**	**251**	P	**Pn**	**18 07 26.4**	**+0.1**
JJT3				*eS*	**Sn**	**18 07 47.9**	**-1.2**
JAGN	**Aguni-jima**	**2.18**	**267**	P	**Pn**	**18 07 31.8**	**+0.2**
JAGN				*eS*	**Sn**	**18 07 57.1**	**-1.6**
JTAJ	**Takarajima**	**2.45**	**350**	P	**Pn**	**18 07 35.1**	**-0.2**
JKE	**Kume jima 2**	**2.62**	**262**	P	**Pn**	**18 07 37.4**	**-0.3**
JKE				*eS*	**Sn**	**18 08 08.4**	**-1.1**
JSU	**Suzuyama**	**4.80**	**8**	Pn	**Pn**	**18 08 07.8**	**0.0**
JNU	**Nakatsue**	**6.45**	**9**	Pn	**Pn**	**18 08 31.8**	**+1.4**
KSRS	**Korea Array**	**10.79**	**353**	LR	LR	18 14 07.4	
	comp=Z,30nm,19.6s,baz=205,slow=40						
MTN	**Manton Dam**	**39.36**	**178**	P	**P**	**18 14 25.5**	**+0.5**
MTN				IAmb	IAmb	18 14 28.1	
	comp=Z,18nm,1.4s						
PMG	**Port Moresby**	**39.73**	**152**	P	**P**	**18 14 28.2**	**0.0**
PMG				IAmb	IAmb	18 14 44.0	
	comp=Z,16nm,1.0s						
KNRA	**Kununurra**	**42.16**	**181**	P	**P**	**18 14 49.2**	**+1.0**
MKAR	**Makanchi Array**	**42.17**	**311**	P	**P**	**18 14 49.5**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=87,slow=8.5,SNR=2.2						
MKAR	**Makanchi Array**	**42.17**	**311**	P	**P**	**18 14 49.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**44.73**	**185**	P	**P**	**18 15 07.7**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=358,slow=18,SNR=1.3						
KURK	**Kurchatov**	**45.35**	**316**	P	**P**	**18 15 11.7**	**-1.9**
KURK				IAmb	IAmb	18 15 22.2	
	comp=Z,4.4nm,1.4s						
KURBB	**Kurchatov Arra**	**45.39**	**316**	P	**P**	**18 15 12.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=103,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**46.62**	**174**	P	**P**	**18 15 24.1**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=354,slow=8.5,SNR=23						
WRA	**Warramunga Arr**	**46.62**	**174**	P	**P**	**18 15 24.8**	**+1.0**
WB2	**Warramunga Arr**	**46.62**	**174**	P	**P**	**18 15 24.4**	**+0.6**
WB2				IAmb	IAmb	18 15 36.9	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**46.65**	**174**	P	**P**	**18 15 25.1**	**+1.0**
WR0				IAmb	IAmb	18 15 25.8	
	comp=Z,5.6nm,1.0s						
KIWB	**Kanaga Island**	**46.89**	**43**	P	**P**	**18 15 23.8**	**-1.8**
CTA	**Charters Tower**	**49.24**	**159**	P	**P**	**18 15 46.0**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=336,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**50.27**	**175**	P	**P**	**18 15 53.2**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=6.0,slow=14,SNR=23						
ASAR	**Alice Springs**	**50.27**	**175**	P	**P**	**18 15 53.1**	**+1.1**
ABKAR	**Akbulak array**	**57.25**	**313**	P	**P**	**18 16 42.6**	**-0.2**
ABKAR	**Akbulak array**	**57.25**	**313**	P	**P**	**18 16 43.1**	**+0.3**
KBZ	**Khabaz**	**69.84**	**310**	P	**P**	**18 18 07.1**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=154,slow=3.7,SNR=4.9						
FINES	**FINESS Array B**	**73.06**	**331**	P	**P**	**18 18 26.9**	**+1.6**
	comp=Z,2.8nm,1.0s,baz=3.3,slow=9.7,SNR=3.0						

*IDC **01** 18:18:54.9±1.1,36.95N×98.05W,h0km,mb3.5/1, mb1 3.9/4,mb1mx3.6/37,mbtmp3.5/4,ML4.0/3,MS3.4/1, Ms1 3.4/1,ms1mx2.5/31,Error ellipse: s-maj=16.8km s-min=11.9km az=168.0*
*ANF **01** 18:18:55.6±0.7,36.76N×97.99W,h5km,ML4.2/8,Error ellipse: s-maj=9.2km s-min=8.6km az=64.0*
*TUL **01** 18:18:55.3±1.3,36.77N±0.04×97.99W±0.06,h5km±6km, ML3.6,Error ellipse: s-maj=6.7km s-min=5.3km az=82.0*
*NEIC **01** 18:18:55.5±1.2,36.75N±0.04×98.00W±0.06,h6km±1km, Error ellipse: s-maj=6.6km s-min=5.8km az=60.0*

ISC 01 18:18:55.5±1.1,36.75N±0.03×97.99W±0.03,h7km±8km, n91,σ0$62/97,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.25**	**179**		**Pg**	**18 19 00.7**	**+0.3**
CROK				Sg	**Sg**	**18 19 04.5**	**+0.8**
KAN10	**Anthony SW Sta**	**0.38**	**347**	Pg	**Pg**	**18 19 02.6**	**-0.3**
KAN10				Sg	**Sg**	**18 19 08.7**	**+0.7**
KAN13	**South Haven SW**	**0.48**	**58**	Pg	**Pg**	**18 19 04.9**	**0.0**
KAN13				Sg	**Sg**	**18 19 11.8**	**+0.5**
KAN12	**Harper NE Stat**	**0.54**	**359**		**Pg**	**18 19 05.8**	**-0.3**
U32A	**Winter Ranch,**	**0.90**	**246**		**Pg**	**18 19 12.2**	**-0.6**
OK029	**Liberty Lake**	**1.05**	**156**		**Pg**	**18 19 15.3**	**-0.4**
BCOK	**Bluff Creek, N**	**1.14**	**164**		**Pg**	**18 19 16.6**	**-0.7**
QUOK	**Quay**	**1.18**	**119**		**Pg**	**18 19 17.8**	**-0.4**
T35A	**Sooner Cattle**	**1.20**	**82**		**Pg**	**18 19 17.9**	**-0.6**
ADOK	**Arcadia Dam**	**1.21**	**155**		**Pg**	**18 19 18.4**	**-0.3**
OK025	**Westminster Rd**	**1.28**	**156**		**Pn**	**18 19 19.6**	**-0.2**
OKCFA	**Oklahoma City**	**1.41**	**162**		**Pn**	**18 19 21.6**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.42**	**162**		**Pn**	**18 19 22.0**	**+0.3**
FNO	**Franklin**	**1.57**	**162**		**Pn**	**18 19 24.5**	**+0.7**
R32A	**Long Quarter,**	**1.76**	**341**		**Pn**	**18 19 27.1**	**+0.6**
W35A	**Tecumseh**	**1.83**	**150**		**Pn**	**18 19 27.7**	**+0.2**
TUL1	**Leonard**	**1.96**	**115**	P	**Pn**	**18 19 29.4**	**+0.2**
	baz=296						
TUL1				S	**Sb**	**18 19 56.6**	**+0.4**
	baz=296						
TUL1	**Leonard**	**1.96**	**115**		**Pn**	**18 19 29.5**	**+0.2**
WMOK	**Wichita Mounta**	**2.11**	**198**	P	**Pn**	**18 19 31.8**	**+0.5**
	baz=17						
WMOK				S	**Sn**	**18 19 59.3**	**+1.4**
	baz=17						
WMOK	**Wichita Mounta**	**2.11**	**198**	Pn	**Pn**	**18 19 31.9**	**+0.5**
CBKS	**Cedar Bluff**	**2.48**	**327**	P	**Pn**	**18 19 37.0**	**+0.6**
	baz=145						
CBKS				S	**Sn**	**18 20 07.8**	**+0.9**
	baz=145						
CBKS	**Cedar Bluff**	**2.48**	**327**		**Pn**	**18 19 36.8**	**+0.4**
KSU1	**Kansas State U**	**2.58**	**25**	P	**Pn**	**18 19 38.1**	**+0.4**
	baz=205						
KSU1				S	**Sn**	**18 20 10.8**	**+1.4**
	baz=205						
KSU1	**Kansas State U**	**2.58**	**25**		**Pn**	**18 19 38.2**	**+0.4**
U38A	**Gravette**	**2.92**	**95**		**Pn**	**18 19 42.9**	**+0.5**
X37A	**Clayton**	**3.03**	**135**		**Pn**	**18 19 44.7**	**+0.8**
HHAR	**Hobbs**	**3.29**	**97**		**Pn**	**18 19 48.1**	**+0.5**
Z35A	**Perchaven, San**	**3.47**	**170**	Pn	**Pn**	**18 19 50.1**	**+0.2**
AMTX	**Amarillo**	**3.53**	**239**	P	**Pn**	**18 19 51.3**	**+0.3**
	baz=57						
AMTX	**Amarillo**	**3.53**	**239**		**Pn**	**18 19 51.5**	**+0.6**
W39A	**Magazine**	**3.75**	**113**	P	**Pn**	**18 19 53.5**	**-0.2**
	baz=296						
W39A	**Magazine**	**3.75**	**113**	Pn	**Pn**	**18 19 54.6**	**+0.8**
S39A	**Bolivar**	**3.84**	**74**	Pn	**Pn**	**18 19 55.3**	**+0.3**
N33A	**J Bar K, Exete**	**4.00**	**6**		**Pn**	**18 19 56.4**	**-0.9**
U40A	**Yellville**	**4.15**	**94**	P	**Pn**	**18 19 59.5**	**+0.2**
	baz=277						
U40A	**Yellville**	**4.15**	**94**	Pn	**Pn**	**18 19 59.6**	**+0.2**
MIAR	**Mount Ida**	**4.21**	**120**	P	**Pn**	**18 20 00.9**	**+0.7**
	baz=303						
MIAR	**Mount Ida**	**4.21**	**120**	Pn	**Pn**	**18 20 01.2**	**+1.0**

Z38A	**Mt. Pleasant**	**4.27**	**144**			**Pn**	**18 20 01.0**	**+0.1**
KSCO	**Kaye Shedlock'**	**4.31**	**303**			**Pn**	**18 20 01.2**	**-0.3**
ABTX	**Abilene, Hawle**	**4.34**	**199**			**Pn**	**18 20 02.2**	**+0.3**
P38A	**Dawn**	**4.53**	**49**		Pn	**Pn**	**18 20 05.9**	**+1.3**
MGMO	**Mountain Grove**	**4.60**	**83**		Pn	**Pn**	**18 20 06.2**	**+0.7**
BGNE	**Belgrade**	**4.65**	**358**			**Pn**	**18 20 05.5**	**-0.7**
X40A	**Basin Creek Fa**	**4.77**	**117**		Pn	**Pn**	**18 20 08.5**	**+0.7**
WHTX	**Lake Whitney,**	**4.77**	**175**		Pn	**Pn**	**18 20 08.0**	**+0.2**
R40A	**Maddies Statio**	**4.80**	**70**			**Pn**	**18 20 08.3**	**+0.1**
FCAR	**Ozark Folk Cen**	**4.81**	**99**			**Pn**	**18 20 08.9**	**+0.5**
WHAR	**Wooly Hollow**	**4.84**	**106**		Pn	**Pn**	**18 20 09.2**	**+0.4**
W41B	**Gary Mavity, V**	**4.92**	**107**			**Pn**	**18 20 10.5**	**+0.7**
UALR	**University of**	**5.00**	**112**		Pn	**Pn**	**18 20 10.9**	**0.0**
WLAR	**White Oak Lake**	**5.03**	**126**		Pn	**Pn**	**18 20 11.3**	**0.0**
237A	**Washetta, Mont**	**5.07**	**159**		Pn	**Pn**	**18 20 11.6**	**-0.3**
T25A	**Trinidad**	**5.16**	**276**		Pn	**Pn**	**18 20 14.3**	**+1.0**
P40A	**Paris**	**5.44**	**58**		Pn	**Pn**	**18 20 17.2**	**+0.2**
N38A	**Joes South For**	**5.48**	**41**			**Pn**	**18 20 17.1**	**-0.5**
Z41A	**Richland Creek**	**5.50**	**128**		Pn	**Pn**	**18 20 17.5**	**-0.3**
T42A	**Van Buren**	**5.53**	**85**			**Pn**	**18 20 18.4**	**+0.1**
LCAR	**Lake Charles**	**5.55**	**95**			**Pn**	**18 20 18.7**	**+0.1**
PBMO	**Poplar Bluff**	**6.07**	**88**		Pn	**Pn**	**18 20 25.9**	**+0.3**
SDCO	**Great Sand Dun**	**6.08**	**282**			**Pn**	**18 20 26.9**	**+0.9**
Q24A	**Divide**	**6.08**	**293**			**Pn**	**18 20 27.3**	**+1.2**
LPAR	**Lepanto**	**6.32**	**98**		Pn	**Pn**	**18 20 28.8**	**-0.4**
SCIA	**State Center**	**6.34**	**34**		Pn	**Pn**	**18 20 28.3**	**-1.0**
JCT	**Junction City**	**6.44**	**194**		Pn	**Pn**	**18 20 29.7**	**-1.1**
ISCO	**Idaho Springs**	**6.72**	**299**		Pn	**Pn**	**18 20 35.2**	**+0.2**
ECSD	**EROS Data Cent**	**7.05**	**8**		Pn	**Pn**	**18 20 37.8**	**-1.4**
ANMO	**Albuquerque**	**7.11**	**258**		Pn	**Pn**	**18 20 39.6**	**-0.5**
OXF	**Oxford**	**7.33**	**105**		Pn	**Pn**	**18 20 43.3**	**+0.2**
PHWY	**Pilot Hill**	**7.38**	**310**			**Pn**	**18 20 43.9**	**0.0**
Q44A	**Meyer Farm, Va**	**7.42**	**70**		Pn	**Pn**	**18 20 44.8**	**+0.7**
L40A	**Anamosa**	**7.45**	**43**		Pn	**Pn**	**18 20 43.9**	**-0.7**
N23A	**Red Feather La**	**7.46**	**306**		Pn	**Pn**	**18 20 45.8**	**+0.8**
BNM	**Barren Site**	**7.51**	**252**		Pn	**Pn**	**18 20 45.1**	**-0.7**
HDIL	**Hopedale**	**7.79**	**58**		Pn	**Pn**	**18 20 48.7**	**-0.6**
MNTX	**Cornudas Mount**	**7.93**	**233**		Pn	**Pn**	**18 20 50.7**	**-0.6**
WVT	**Waverly**	**8.21**	**91**		Pn	**Pn**	**18 20 54.8**	**-0.3**
PLAL	**Pickwick Lake**	**8.24**	**99**		Pn	**Pn**	**18 20 54.7**	**-0.7**
JFWS	**Jewell Farm**	**8.56**	**42**		Pn	**Pn**	**18 20 59.3**	**-0.5**
RSSD	**Black Hills**	**8.68**	**330**		Pn	**Pn**	**18 21 01.1**	**-0.6**
RWWY	**Rawlins**	**8.69**	**307**		Pn	**Pn**	**18 21 01.4**	**-0.5**
TX31	**Lajitas Ar. Si**	**8.80**	**214**			**Pn**	**18 21 03.5**	**+0.3**
TX32	**Lajitas Array**	**8.80**	**214**			**Pn**	**18 21 03.8**	**+0.6**
TXAR	**Lajitas Array**	**8.80**	**214**		Pn	**Pn**	**18 21 03.6**	**+0.3**
	0.3nm,0.3s,baz=39,slow=10,SNR=12							
TXAR					Pg	Pg	18 21 34.6	-9.4
	1.0nm,0.3s,baz=42,slow=15,SNR=8.5							
TXAR					Lg	Lg	18 23 31.0	
	1.5nm,0.3s,baz=45,slow=18,SNR=11							
TXAR	**Lajitas Array**	**8.80**	**214**		Pn	**Pn**	**18 21 02.8**	**-0.5**
PDAR	**Pinedale Array**	**10.74**	**308**		Pn	**Pn**	**18 21 28.4**	**-1.5**
	0.4nm,0.3s,baz=115,slow=15,SNR=2.9							
PDAR					Pg		18 22 12.7	
	0.5nm,0.3s,baz=109,slow=16,SNR=3.3							
PDAR					Lg	Lg	18 24 28.4	
	0.7nm,0.3s,baz=111,slow=36,SNR=2.9							
TKL	**Tuckaleechee C**	**11.54**	**91**		Pn	**Pn**	**18 21 40.0**	**-0.7**
	0.2nm,0.3s,baz=238,slow=8.0,SNR=3.9							
TKL					Sn	**Sn**	**18 23 49.9**	**+0.1**
	0.5nm,0.3s,baz=216,slow=8.7,SNR=1.7							
TKL					Lg	Lg	18 24 50.8	
	0.6nm,0.3s,baz=175,slow=16,SNR=4.3							
ULM	**Lac du Bonnet**	**13.58**	**6**		Lg	Lg	18 25 56.0	
	0.3nm,0.3s,baz=81,slow=11,SNR=1.9							
RES	**Resolute Bay**	**38.05**	**1**		LR	LR	18 43 11.3	
	comp=Z,51nm,18.4s,baz=94,slow=38							
ILAR	**Eielson Array**	**40.13**	**330**		P	**P**	**18 26 31.6**	**0.0**
	0.5nm,0.7s,baz=103,slow=6.8,SNR=4.1							
ILAR	**Eielson Array**	**40.13**	**330**		P	**P**	**18 26 31.9**	**+0.2**

*KRSC **01** 18:32:24.8±0.6,53°.25N×159°.75E, h68^{km}±5^{km}, ML4.1*
*IDC **01** 18:32:27.6±1.5,53°.37N×159°.42E, h94^{km}±12^{km}, mb3.2/7, mb1 3.5/7, mb1mx3.2/53, mbtmp3.6/7, Error ellipse: s-maj=31.8km s-min=21.0km az=145.0*

ISC 01 18:32:25.4±0.8,**53°.25N**±0°.04×**159°.72E**±0°.05,**h68**^{km}±6^{km}, **n41**,σ1°**53**/54,**mb3.5/7**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.24**	**130**	*i* P	**Pn**	**18 32 35.8**	**-0.1**
SPN				*e*S	**Sn**	**18 32 43.6**	**0.0**
NLC	**Nalytchevo**	**0.24**	**251**	*i* P	**Pn**	**18 32 36.3**	**+0.4**
NLC				*e*S	**Sn**	**18 32 44.6**	**+1.0**
UGLR	**Uglovaya**	**0.54**	**266**	*e*P	**Pn**	**18 32 39.6**	**+1.1**
UGLR				*e*S	**Sn**	**18 32 50.3**	**+2.1**
SMAR	**Somma**	**0.55**	**272**	*e*P	**Pn**	**18 32 39.6**	**+0.8**
KRER	**Koryakskii**	**0.59**	**276**	*e*P	**Pn**	**18 32 40.0**	**+0.9**
KRER				*e*S	**Sn**	**18 32 50.8**	**+1.7**
AVH	**Avacha**	**0.59**	**272**	*e*P	**Pn**	**18 32 39.8**	**+0.8**
AVH				*e*S	**Sn**	**18 32 50.8**	**+1.8**
DALK	**Dalny**	**0.62**	**250**	*e*P	**Pn**	**18 32 39.6**	**+0.4**
DALK				*e*S	**Sn**	**18 32 50.2**	**+0.8**
KOK	**Koryaka**	**0.65**	**274**	*e*P	**Pn**	**18 32 40.5**	**+0.8**
KOK				*e*S	**Sn**	**18 32 51.5**	**+1.3**
KRX	**Arik**	**0.65**	**280**	*e*P	**Pn**	**18 32 40.2**	**+0.4**
KRX				*e*S	**Sn**	**18 32 50.9**	**+0.6**
PET	**Petropavlovsk**	**0.68**	**251**	*e*P	**Pn**	**18 32 40.4**	**+0.5**
PET				*e*S	**Sn**	**18 32 51.6**	**+1.0**
KII	**Karymskiy**	**0.80**	**348**	*e*P	**Pn**	**18 32 41.5**	**+0.1**
KRMR	**Karymshinskiy**	**1.05**	**247**	*e*P	**Pn**	**18 32 45.5**	**+1.1**
KRMR				*e*S	**Sn**	**18 33 00.1**	**+1.6**
RUS	**Russkaya**	**1.10**	**222**	*e*P	**Pn**	**18 32 45.4**	**+0.4**
RUS				*e*S	**Sn**	**18 33 00.3**	**+0.7**
GNL	**Ganaly**	**1.15**	**293**	*e*P	**Pn**	**18 32 45.8**	**0.0**
GNL				*e*S	**Sn**	**18 33 01.0**	**-0.1**
MTVR	**Mutnovka**	**1.21**	**231**	*e*P	**Pn**	**18 32 47.5**	**+0.9**
MTVR				*e*S	**Sn**	**18 33 03.7**	**+1.3**
GRL	**Gorelyy**	**1.22**	**236**	*e*P	**Pn**	**18 32 47.9**	**+1.2**
GRL				*e*S	**Sn**	**18 33 04.5**	**+1.9**
PETK	**Petropavlovsk-**	**1.23**	**264**	P	**Pn**	**18 32 47.2**	**+0.5**
	40nm,0.3s,baz=86,slow=17,SNR=666						
PETK				S	**Sn**	**18 33 04.4**	**+1.8**
	43nm,0.3s,baz=19,slow=5.0,SNR=18						
ASAK	**Asacha**	**1.41**	**233**	*e*P	**Pn**	**18 32 50.5**	**+1.4**
ASAK				*e*S	**Sn**	**18 33 10.0**	**+3.1**
APC	**Apacha**	**1.58**	**259**	*e*P	**Pn**	**18 32 52.3**	**+1.0**
APC				*e*S	**Sn**	**18 33 12.5**	**+1.6**
KDTR	**Khodutka, Kamc**	**1.76**	**215**	*e*P	**Pn**	**18 32 54.4**	**+0.7**
KDTR				*e*S	**Sn**	**18 33 16.8**	**+1.6**
TUMD	**Tumrok D**	**2.00**	**11**	*e*P	**Pn**	**18 32 57.5**	**+0.6**
TUMD				*e*S	**Sn**	**18 33 21.5**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.75**	**11**	P	**Pn**	**18 33 10.9**	**+3.6**
ZLN	**Zelenaya**	**2.84**	**12**	*e*P	**Pn**	**18 33 10.1**	**+1.6**
LGNR	**Loginova**	**2.89**	**11**	*e*P	**Pn**	**18 33 10.7**	**+1.4**
SKR	**Severo-Kuril's**	**3.40**	**222**	*e*S	**Sn**	**18 33 59.0**	**+3.9**
KBTR	**Krutoberegovo**	**3.46**	**30**	*e*P	**Pn**	**18 33 19.2**	**+2.3**
SMKR	**Semkarok**	**3.49**	**16**	*e*P	**Pn**	**18 33 19.4**	**+2.2**
SRKR	**Sorokina**	**3.51**	**13**	*e*P	**Pn**	**18 33 20.1**	**+2.5**
MJAR	**Matsushiro Arr**	**22.47**	**231**	P	**P**	**18 37 17.6**	**-1.4**
	1.3nm,0.6s,baz=18,slow=13,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**33.91**	**168**	T	T	19 14 50.6	
	baz=352,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.93**	**168**	T	T	19 14 51.9	
	baz=352,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.93**	**168**	T	T	19 15 00.5	
	baz=352,slow=76						
H11S1	**WAKE ISLAND Hy**	**35.10**	**168**	T	T	19 16 18.9	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**35.11**	**168**	T	T	19 16 27.6	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**35.12**	**168**	T	T	19 16 22.2	
	baz=352						
ZALV	**Zalesovo Beam**	**42.50**	**302**	P	**P**	**18 40 11.0**	**-2.6**
	0.5nm,0.5s,baz=55,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**47.88**	**295**	P	**P**	**18 40 54.3**	**-2.1**
	0.2nm,0.5s,baz=64,slow=9.1,SNR=2.0						
PDAR	**Pinedale Array**	**57.64**	**61**	P	**P**	**18 42 08.8**	**+0.2**
	0.2nm,0.5s,baz=321,slow=2.3,SNR=2.4						
TXAR	**Lajitas Array**	**70.78**	**67**	P	**P**	**18 43 34.7**	**+0.1**
	0.3nm,0.4s,baz=292,slow=4.3,SNR=7.1						
WRA	**Warramunga Arr**	**76.13**	**205**	P	**P**	**18 44 05.1**	**-0.7**
	0.2nm,0.3s,baz=23,slow=6.1,SNR=6.1						
ASAR	**Alice Springs**	**79.81**	**204**	P	**P**	**18 44 25.9**	**-0.3**
	0.3nm,0.5s,baz=16,slow=5.2,SNR=11						

*IDC **01** 18:45:43.0±3.1, 13°.68N×120°.75E, h98^{km}±12^{km}, mb3.3/5, mb1 3.3/5, mb1mx3.0/47, mbtmp3.6/5, Error ellipse:*
s-maj=67.9km s-min=43.5km az=129.0
*MAN **01** 18:45:44.5, 13°.67N×120°.48E, h72^{km}, mb4.7, ML3.6, MS3.6*

ISC 01 18:45:44.0±0.9,**13°.71N**±0°.05×**120°.43E**±0°.05,**h91**^{km}±7^{km}, **n15**,σ1°**11**/25,**mb3.7**/5,**3C-1D**,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.18**	**278**	*e*P	**Pn**	**18 45 57.7**	**+0.7**
LUBP				*e*S	**Sn**	**18 46 06.6**	**-0.1**
PGP	**Puerto Galera**	**0.55**	**112**	*e*P	**Pn**	**18 45 59.2**	**0.0**
PGP				*e*S	**Sn**	**18 46 10.4**	**-0.1**
TGY	**Tagaytay City**	**0.63**	**51**	P	**Pn**	**18 45 59.1**	**-0.8**
	199nm,0.3s,baz=263,slow=1.9,SNR=19						
TGY				S	**Sn**	**18 46 11.6**	**-0.3**
	2µm,0.3s,baz=54,slow=18,SNR=24						
TGY	**Tagaytay City**	**0.63**	**51**	*e*P	**Pn**	**18 45 59.9**	**0.0**
TGY				*i* S	**Sn**	**18 46 11.5**	**-0.3**
LQP	**Lukban**	**1.15**	**69**	*i* P	**Pn**	**18 46 05.2**	**-0.4**
LQP				*i* S	**Sn**	**18 46 21.7**	**-0.2**
BOAC	**Boac**	**1.39**	**100**	*e*P	**Pn**	**18 46 08.1**	**-0.3**
BOAC				*e*S	**Sn**	**18 46 27.4**	**+0.5**
GQP	**Guinayangan**	**1.96**	**84**	*i* P	**Pn**	**18 46 16.6**	**+0.8**
GQP				*e*S	**Sn**	**18 46 41.4**	**+1.4**
OTRP	**Odiongan**	**2.04**	**131**	*e*P	**Pn**	**18 46 17.3**	**+0.5**
OTRP				*e*S	**Sn**	**18 46 43.2**	**+1.3**
ENPP	**El Nido**	**2.67**	**202**	*e*P	**Pn**	**18 46 25.7**	**+0.5**
ENPP				*e*S	**Sn**	**18 46 57.4**	**+0.6**
CUYO	**Cuyo Island**	**2.90**	**169**	*e*P	**Pn**	**18 46 28.5**	**+0.3**
CUYO				*e*S	**Sn**	**18 46 58.4**	**-3.8**
CMAR	**Chiang Mai Arr**	**21.18**	**286**	P	**P**	**18 50 23.8**	**+1.7**
	0.8nm,0.9s,baz=97,slow=7.4,SNR=6.0						
SONM	**Songino Array**	**35.98**	**344**	P	**P**	**18 52 35.2**	**-0.9**
	1.2nm,0.6s,baz=167,slow=10.0,SNR=9.7						
MKAR	**Makanchi Array**	**45.87**	**324**	P	**P**	**18 53 57.2**	**0.0**
	0.3nm,0.5s,baz=104,slow=9.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**48.93**	**333**	P	**P**	**18 54 20.0**	**-0.7**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**50.04**	**326**	P	**P**	**18 54 29.0**	**-0.2**
	0.6nm,0.4s,baz=121,slow=8.8,SNR=11						

*INET **01** 18:47:35.6, 11°.83N×89°.40W, h15^{km}, ML3.3*
*SNET **01** 18:47:38.7±0.9, 11°.83N×89°.11W, h14^{km}±50^{km}, ML3.3*
*GCG **01** 18:47:42.6±0.6, 11°.75N×89°.80W, h28^{km}±999^{km}, MD4.1*

ISC 01 18:47:35.5±3.4,**11°.9N**±0°.2×**89°.32W**±0°.06,**h5**^{km}±15^{km},**n18**, σ0°**85**/23,**4C-3D**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarɹn**	**1.70**	**38**	*i* P	**Pb**	**18 48 06.9**	**-0.4**
JUCU				*e*S	**Sb**	**18 48 28.8**	**-0.2**
LFRS	**El Faro**	**1.73**	**8**	*e*P	**Pg**	**18 48 08.8**	**+0.1**
TECA	**Tecapa**	**1.77**	**27**	*e*P	**Pb**	**18 48 08.6**	**0.0**
TECA				*e*S	**Sg**	**18 48 32.3**	**-0.1**
BOQS	**Boqueron**	**1.82**	**1**	*e*P	**Pg**	**18 48 11.0**	**+0.5**
LBRS	**Las Brisas**	**1.84**	**8**	*e*P	**Pg**	**18 48 11.0**	**+0.1**
LFU	**La Fuente**	**1.84**	**6**	*e*P	**Pg**	**18 48 10.9**	**0.0**
BLLM	**Bellamira**	**1.86**	**35**	*i*P	**Pb**	**18 48 09.4**	**-0.6**
SBLS	**San Blas**	**1.94**	**351**	*i*P	**Pg**	**18 48 13.1**	**+0.3**
SNJE	**San Jose**	**1.97**	**352**	*e*P	**Pg**	**18 48 13.4**	**0.0**
LCND	**La Caada**	**1.97**	**45**	*e*P	**Pn**	**18 48 10.1**	**+0.5**
LCND				IAML		18 48 12.6	
	comp=Z,419nm,0.2s						
LCND				*e*S	**Sn**	**18 48 35.4**	**+0.7**
CNCH	**Conchagua**	**1.99**	**47**	*e*P	**Pn**	**18 48 10.4**	**+0.4**
TACO	**Tacachico**	**2.05**	**359**	*i*P	**Pb**	**18 48 14.2**	**+0.9**
TACO				IAML		18 48 43.9	
	comp=Z,152nm,0.3s						
FAGO	**Alcalda de S**	**2.14**	**34**	*e*P	**Pb**	**18 48 13.7**	**-1.1**
MTO3	**Montecristo**	**2.48**	**359**	*i*P	**Pb**	**18 48 20.6**	**-0.1**
IXG	**Ixpaco**	**2.50**	**334**	*e*P	**Pb**	**18 48 21.6**	**+0.5**
PCG	**Pacaya**	**2.77**	**333**	*e*P	**Pb**	**18 48 26.3**	**+0.6**
NBG	**Las Nubes**	**2.85**	**340**	*e*P	**Pb**	**18 48 27.6**	**+0.5**
NBG				*e*S	**Sb**	**18 49 08.6**	**+0.3**
FUG	**Fuego 3**	**2.93**	**330**	*e*P	**Pb**	**18 48 27.1**	**+0.2**
FUG				*e*S	**Sb**	**18 49 01.9**	**-2.7**

*NEIC **01** 18:52:43.8±2.0, 30°.4N×82°.1E±0°.09, h44^{km}±8^{km}, mb4.2/22, Error ellipse: s-maj=18.2km s-min=9.8km az=203.0*
*NDI **01** 18:52:44.9±1.8, 30°.44N×82°.16E, h25^{km}±13^{km}, ML3.8*
*IDC **01** 18:52:45.7±5.1, 30°.43N×82°.19E, h66^{km}±47^{km}, mb3.5/17, mb1 3.7/19, mb1mx3.6/50, mbtmp3.9/19, ML3.7/2, Error ellipse: s-maj=24.9km s-min=13.0km az=37.0*

ISC 01 18:52:42.3±0.4,**30°.33N**±0°.05×**82°.20E**±0°.04,**h35**^{km},**n97**, σ**2**°**06**/108,**mb4.0**/24,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**3.58**	**271**	*e*P	**Pn**	**18 53 39.1**	**+3.7**
DDI				*e*S	**Sn**	**18 54 18.4**	**+1.9**
DDI				*e*S		18 54 19.5	
DDI				IAML		18 54 24.5	
	comp=N,1µm,0.3s						
SMLA	**Simla**	**4.41**	**282**	*e*P	**Pn**	**18 53 50.9**	**+4.2**
SMLA				*e*P		18 53 50.9	
SMLA				*e*S	**Sn**	**18 54 36.4**	**-0.4**
SMLA				*e*S		18 54 37.0	
SMLA				IAML		18 54 39.1	
	comp=N,225nm,0.4s						
SMLA				IAML		18 54 41.0	
	comp=N,260nm,0.4s						
SMLA				IAML		18 54 41.2	
	comp=E,208nm,0.3s						
SONA	**Sohna**	**4.93**	**246**	*e*P	**Pn**	**18 53 53.3**	**-0.5**
SONA				*e*S	**Sn**	**18 54 49.4**	**-0.2**
SONA				IAML		18 54 54.4	
	comp=E,72nm,0.2s						
DHRM	**DHARAMSHALA**	**5.40**	**292**	*e*P	**Pn**	**18 54 02.6**	**+2.1**
DHRM				*e*P		18 54 02.9	
DHRM				*e*S	**Sn**	**18 54 58.8**	**-2.8**
DHRM				*e*S		18 54 60.0	
DHRM				IAML		18 55 01.6	
	comp=E,136nm,0.5s						
DHRM				IAML		18 55 01.9	
	comp=E,150nm,0.6s						
DHRM				IAML		18 55 03.6	
	comp=N,108nm,0.6s						
KUDL	**Kundal**	**5.44**	**248**	*e*P	**Pn**	**18 54 03.1**	**+2.2**
KUDL				*e*S	**Sn**	**18 55 02.8**	**+0.4**
GTK	**Tadong**	**6.37**	**117**	*ex*	Pn	18 54 20.5	+6.7
GTK				*e*P		18 54 20.8	
GTK				*ex*	x	18 54 24.6	
GTK				*i* x	x	18 54 35.3	
GTK				*e*S	**Sn**	**18 55 26.2**	**+0.8**
GTK				IAML		18 55 28.0	
	comp=N,15nm,0.2s						
BOK	**Bokaro**	**7.29**	**152**	*e*P	Pn	18 54 31.3	+4.9
BOK				*e*P		18 54 31.5	
BOK				*e*S	**Sn**	**18 55 48.3**	**+0.3**
BOK				IAML		18 55 51.3	
	comp=E,41nm,0.7s						
BOK				IAML		18 55 51.7	
	comp=N,35nm,0.4s						
JBP	**Jabalpur**	**7.41**	**196**	*e*S	**Sn**	**18 55 52.9**	**+2.2**
LSA	**Lhasa**	**7.79**	**92**		**Pn**	**18 54 34.7**	**+1.2**
LSA					**Sn**	**18 56 02.4**	**+1.7**
BHPL	**Bhopal**	**8.25**	**212**	*e*P	**Pn**	**18 54 43.1**	**+3.6**
BHPL				*e*P		18 54 44.2	
BHPL				*e*S	**Sn**	**18 56 09.0**	**-2.5**
BHPL				*e*S		18 56 09.9	
BHPL				IAML		18 56 11.2	
	comp=E,66nm,0.5s						
BHPL				IAML		18 56 12.8	
	comp=N,124nm,0.3s						
BHPL				IAML		18 56 14.3	
	comp=E,94nm,0.3s						
NIL	**Nilore**	**8.29**	**296**	Pn	**Pn**	**18 54 38.3**	**-1.7**
THW	**Thamme Wali**	**9.25**	**288**	P	**Pn**	**18 54 53.6**	**+0.3**
CEP	**Cherat**	**9.40**	**294**	P	**Pn**	**18 54 56.6**	**+1.2**
NGP	**Nagpur**	**9.57**	**198**	*e*S	**Sn**	**18 56 38.0**	**-6.1**
NGP				IAML		18 56 43.1	
	comp=E,38nm,0.3s						
SHL	**Shillong**	**9.79**	**117**	*e*P	**Pn**	**18 55 03.5**	**+2.8**
SHL				*e*S	**Sn**	**18 56 46.3**	**-3.3**
SHL	**Shillong**	**9.79**	**117**		**Pn**	**18 55 03.6**	**+2.8**
ZIRO	**ZIRO**	**10.58**	**102**	*e*P	**Pn**	**18 55 15.1**	**+3.4**
ZIRO				*e*S	**Sn**	**18 57 02.1**	**-6.9**
ZIRO				IAML		18 57 10.8	
	comp=N,92nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**11.48**	**111**	*e*P	**Pn**	**18 55 26.4**	**+2.5**
KOHI				*e*S	**Sn**	**18 57 22.9**	**-8.0**
KOHI				IAML		18 57 29.9	
	comp=E,20nm,0.6s						
RPR	**Rampur**	**11.72**	**194**	*e*P	**Pn**	**18 55 30.5**	**+3.4**
CHLP	**Challavanipeta**	**11.89**	**171**	*e*P	**Pn**	**18 55 31.8**	**+2.3**
TARG	**Taragay, Kyrgy**	**11.91**	**344**	Pn	**Pn**	**18 55 30.7**	**+0.6**
SAIH	**SAIHA**	**12.42**	**126**	*e*P	**Pn**	**18 55 40.5**	**+3.7**
SAIH				*e*S	Sn	18 57 45.3	-8.7
SAIH				IAML		18 57 55.1	
	comp=E,7.6nm,0.5s						
GGR	**Gangavaram**	**12.58**	**189**	*e*P	**Pn**	**18 55 40.6**	**+1.7**
PVM	**Polavaram**	**13.03**	**182**	*e*P	**Pn**	**18 55 47.1**	**+2.1**
GAR	**Garm**	**13.04**	**315**	Pn	**Pn**	**18 55 45.4**	**+0.2**
KLRI	**Killari**	**13.23**	**204**	*e*P	**Pn**	**18 55 51.2**	**+3.4**
HYBB	**Hyderabad (bro**	**13.28**	**195**	*e*P	**Pn**	**18 55 49.1**	**+0.7**
HYB	**Hyderabad**	**13.28**	**195**	*i* P	**Pn**	**18 55 50.5**	**+2.1**
HYB				*e*S	**Sn**	**18 58 09.0**	**-5.9**
CUPL	**Choutuppal**	**13.32**	**194**	*e*P	**Pn**	**18 55 51.0**	**+2.0**
BTK	**Batken**	**13.43**	**319**	Pn	**Pn**	**18 55 48.5**	**-2.0**
CHGR	**Chuyangaron**	**13.58**	**311**	Pn	**Pn**	**18 55 51.1**	**-1.3**
MYLAV	**Mylavaram**	**13.60**	**186**	*e*P	**Pn**	**18 55 52.8**	**+0.1**
NJS	**Nagarjunasagar**	**13.97**	**192**	*e*P	**Pn**	**18 55 59.1**	**+1.3**
SRLM	**Srisailam**	**14.49**	**193**	*e*P	**Pn**	**18 56 06.1**	**+1.3**
ADKI	**Addanki**	**14.56**	**189**	*e*P	**Pn**	**18 56 08.0**	**+2.2**
KK31	**Karatay Array**	**15.80**	**327**	P	**Pn**	**18 56 19.5**	**-2.5**
KKAR	**Karatay Array**	**15.80**	**327**	P	**Pn**	**18 56 19.4**	**-2.7**
KKAR	**Karatay Array**	**15.80**	**327**	Pn	**Pn**	**18 56 19.7**	**-2.4**
URV	**Uravakonda**	**15.97**	**198**	*e*P	**Pn**	**18 56 25.7**	**+1.2**
MK31	**Makanchi Array**	**16.44**	**0**	P	**Pn**	**18 56 29.8**	**-0.4**
MKAR	**Makanchi Array**	**16.44**	**0**	P	**Pn**	**18 56 29.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=177,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**16.44**	**0**	P	**Pn**	**18 56 28.8**	**-1.4**
MAKZ	**Makanchi**	**16.45**	**359**		**Pn**	**18 56 29.6**	**-0.8**
SKHT	**Srikalahasti**	**16.67**	**188**	*e*P	**Pn**	**18 56 35.0**	**+1.7**
CM31	**Chiang Mai Arr**	**19.27**	**124**	P	**Pn**	**18 57 06.5**	**+1.4**
CM31				IAmb	IAmb	18 57 08.8	
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.27**	**124**	P	**P**	**18 57 04.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=310,slow=11,SNR=26						
CMAR	**Chiang Mai Arr**	**19.27**	**124**	P	**Pn**	**18 57 05.6**	**+0.5**
KURBB	**Kurchatov Arra**	**20.46**	**353**	P	**P**	**18 57 15.8**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=177,slow=9.9,SNR=18						
KURK	**Kurchatov**	**20.54**	**354**		**P**	**18 57 16.8**	**-0.8**
KURK				IAmb	IAmb	18 57 23.5	
	comp=Z,3.9nm,0.7s						
GEYT	**Alibeck**	**21.29**	**297**	P	**P**	**18 57 27.5**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=108,slow=12,SNR=

PDG	**Podgorica**	**0.89**	**133**	*e*Pg	**Pg**	**19 02 18.6**	**-0.4**
PDG				*e*Sg	**Sb**	**19 02 33.0**	**+1.3**
PDG	**Podgorica**	**0.89**	**133**	*e*Pg	**Pg**	**19 02 17.7**	**-1.3**
PDG				*e*Sg	**Sg**	**19 02 31.6**	**+1.0**
TTG	**Podgorica**	**0.89**	**133**	⇑*i*Pg	**Pg**	**19 02 18.2**	**-0.8**
TTG				*i* Sg	**Sg**	**19 02 31.1**	**+0.5**
RUDO	**Rudo**	**0.93**	**51**	*e*Pg	**Pg**	**19 02 18.6**	**-1.1**
RUDO				*e*Sg	**Sg**	**19 02 31.1**	**-0.8**
MAKA	**Makarska**	**1.02**	**285**	*i* Pg	**Pg**	**19 02 19.3**	**-2.0**
MAKA				Sg	**Sg**	**19 02 34.5**	**-0.1**
DRME	**Dracevica, Mon**	**1.04**	**144**	⇓*i*Pg	**Pg**	**19 02 21.0**	**-0.8**
DRME				*i* Sg	**Sb**	**19 02 36.2**	**+0.2**
DRME	**Dracevica, Mon**	**1.04**	**144**	*e*Pg	**Pg**	**19 02 21.3**	**-0.5**
DRME				*e*Sg	**Sb**	**19 02 36.7**	**+0.7**
BBLS	**Lazići**	**1.12**	**42**	*e*Pg	**Pg**	**19 02 23.2**	**-0.1**
BBLS				*e*Sg	**Sn**	**19 02 40.3**	**+0.6**
BBLS	**Lazići**	**1.12**	**42**	*e*Pg	**Pg**	**19 02 22.6**	**-0.7**
BBLS				*e*Sg	**Sg**	**19 02 37.9**	**0.0**
HAPS	**Han Pijesak,Bl**	**1.13**	**22**	*e*Pg	**Pg**	**19 02 23.0**	**-0.5**
HAPS				*e*Sg	**Sg**	**19 02 38.8**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.13**	**22**	*e*Pg	**Pg**	**19 02 21.8**	**-1.7**
HAPS				*e*Sg	**Sg**	**19 02 37.3**	**-0.9**
IVA	**Berane**	**1.13**	**98**	⇓*i*Pg	**Pg**	**19 02 22.9**	**-0.7**
IVA				*i* Sg	**Sb**	**19 02 39.7**	**+1.0**
SJES	**Sjenica**	**1.20**	**79**	*e*Pg	**Pb**	**19 02 24.6**	**-0.3**
SJES				*e*Sg	**Sb**	**19 02 41.5**	**+0.9**
SJES	**Sjenica**	**1.20**	**79**	*e*Pg	**Pb**	**19 02 21.5**	**-3.4**
PVY	**Plav**	**1.25**	**110**	⇑*i*Pg	**Pn**	**19 02 24.9**	**-0.9**
PVY				*i* Sg	**Sn**	**19 02 43.5**	**+0.5**
ULC	**Ulcinj**	**1.25**	**149**	*e*Pg	**Pn**	**19 02 24.9**	**-0.9**
ULC				*i* Sg	**Sn**	**19 02 43.6**	**+0.7**
DIVS	**Divibare**	**1.59**	**48**	*e*Pg	**Pn**	**19 02 31.5**	**+1.1**
DIVS				*e*Sg	**Sg**	**19 02 53.2**	**+0.4**
DIVS	**Divibare**	**1.59**	**48**	*e*Pg	**Pn**	**19 02 30.2**	**-0.2**
DIVS				*e*Sg	**Sn**	**19 02 51.6**	**+0.4**
KIJV	**Kijevo**	**1.72**	**305**	*e*Pn	**Pn**	**19 02 32.7**	**+0.4**
KIJV				Sg	**Sb**	**19 02 57.0**	**+1.3**
TEKS	**Tekeris**	**1.73**	**29**	*e*Pn	**Pn**	**19 02 32.9**	**+0.6**
TEKS				*e*Sn	**Sn**	**19 02 54.8**	**+0.2**
GRUS	**Gruza**	**1.91**	**63**	*e*Pg	**Pg**	**19 02 38.7**	**+0.3**
GRUS				*e*Sg	**Sg**	**19 03 05.3**	**+2.2**
BLY	**Banja Luka**	**1.91**	**334**	*e*Pg	**Pb**	**19 02 36.7**	**-0.3**
BLY				*e*Sg	**Sg**	**19 03 04.6**	**+1.3**
BLY	**Banja Luka**	**1.91**	**334**	*e*Pn	**Pn**	**19 02 35.1**	**+0.3**
BLY				*e*Sn	**Sn**	**19 02 59.2**	**+0.1**
MORI	**Morici**	**2.11**	**294**	*i* Pn	**Pn**	**19 02 37.9**	**+0.4**
MORI				Sn	**Sb**	**19 03 06.0**	**-0.6**
UDBI	**Udbina**	**2.40**	**309**	*e*Pn	**Pb**	**19 02 44.0**	**-1.4**
UDBI				Sn	**Sb**	**19 03 16.7**	**+1.5**
DUGI	**Dugi Otok**	**2.59**	**293**	*i* Pn	**Pn**	**19 02 46.1**	**+2.0**
DUGI				Sn	**Sn**	**19 03 17.8**	**+2.0**
CRES	**Cresnjev**	**3.48**	**324**	*e*Pn	**Pn**	**19 02 56.3**	**-0.1**
CRES				*e*Sn	**Sn**	**19 03 37.8**	**0.0**

IDC 01 19:18:41.7±2.2, 8°53S×122°48E, h164km±22km, mb2.9/1, mb1 2.9/5, mb1mx2.8/31, mbtmp3.3/5, Error ellipse: s-maj=110.9km s-min=29.5km az=59.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.04**	**145**	P	Pn	19 19 18.8	+0.6
	30nm,0.3s,baz=341,slow=3.2,SNR=34						
BATI				S	Sn	19 19 46.7	+0.2
	27nm,0.3s,baz=0.0,slow=20,SNR=8.6						
FITZ	**Fitzroy Crossi**	**10.00**	**162**	P	Pn	19 21 00.5	-1.1
	0.1nm,0.3s,baz=355,slow=12,SNR=8.1						
FITZ				S	Sn	19 22 43.5	-9.1
	0.1nm,0.3s,baz=347,slow=0.0,SNR=1.9						
WRA	**Warramunga Arr**	**16.14**	**136**	P	Pn	19 22 18.1	-1.5
	0.1nm,0.3s,baz=312,slow=13,SNR=6.1						
WRA				S	S	19 25 06.7	-12
	0.2nm,0.3s,baz=315,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**18.61**	**145**	P	Pn	19 22 48.0	-1.0
	0.1nm,0.3s,baz=328,slow=12,SNR=8.8						
ASAR				S	S	19 26 03.5	-6.9
	0.0nm,0.3s,baz=320,slow=17,SNR=0.9						
MKAR	**Makanchi Array**	**65.66**	**331**	P	P	19 29 08.2	-0.2
	0.2nm,0.4s,baz=136,slow=6.7,SNR=4.2						

*BGR **01** 19:19:57.9±0.0, 29°.05N×41°.32W, h10km, mb4.8*
*BJI **01** 19:20:08.9±0.0, 31°.47N×41°.12W, h4km, mb5.2/4, mb5.1/13, Ms5.1/10, Ms7 4.9/10*
*IDC **01** 19:20:10.7±0.5, 31°.43N×41°.08W, h0km, mb4.5/28, mb1 4.7/28, mb1mx4.6/38, mbtmp4.5/28, MS4.6/37, Ms1 4.6/37, ms1mx4.5/40, Error ellipse: s-maj=14.6km s-min=12.0km az=175.0*
*MOS **01** 19:20:10.6±1.1, 31°.49N×41°.10W, h10km, mb5.2/74, MS4.7/11, Error ellipse: s-maj=5.9km s-min=3.6km az=137.7*
*NEIC **01** 19:20:12.0±2.0, 31°.42N±0°.10×41°.0W±0°.1, h11km±3km, mb5.1/440, Error ellipse: s-maj=14.8km s-min=12.8km az=156.0*
*GCMT **01** 19:20:13.0±0.1, 31°.61N±0°.01×41°.08W±0°.01, h12km, MW5.3/149, Moment Tensor Solution. s56,c77; s149,c263; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr-1.07±.02; Mθθ0.24±.02; Mϕϕ0.83±.01; Mrθ0.64±.06; Mrϕ0.43±.01; Mθϕ0.13±.04; Best double couple: M0 1.23500×10^17 NP1:ϕs10.00000°, δ37.00000°, λ-122.00000°. NP2:ϕs229.00000°, δ59.00000°, λ-68.00000°. Principal axes: T 1.1420, Plg12.0000°, Azm303.0000°; N 0.1880, Plg19.0000°, Azm37.0000°; P -1.3280, Plg68.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 19:20:11.7±0.6, 31°.41N±0°.05×41°.15W±0°.05, h7km±3km, h6km: pP-P, n1144, σ1ŝ31/1155, mb5.1/365, MS4.7/59, 16C-28D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSR	**BB Station**	**20.02**	**279**		Pn	19 24 46.5	-0.2
BBSR				IAmb	IAmb	19 25 08.4	
	comp=Z,170nm,1.6s						
PMAR	**Madeira**	**20.57**	**80**	*e*P	Pn	19 24 52.9	-0.7
	comp=Z,312nm,1.5s						
PMPST	**Porto Santo, M**	**21.05**	**79**	*e*P	**P**	**19 24 58.2**	**+1.9**
	comp=Z,424nm,1.5s						
PMPS	**Porto Santo**	**21.05**	**79**	*e*P	**P**	**19 24 57.9**	**+1.7**
	comp=Z,528nm,1.6s						
DRLN	**Deer Lake**	**21.68**	**330**	P	**P**	**19 25 02.3**	**-0.6**
DRLN				IAmb	IAmb	19 25 08.9	
	comp=Z,161nm,1.3s						
ANWB	**Willy Bob**	**23.17**	**239**	*e*P	**P**	**19 25 14.9**	**-4.1**
ANWB	**Willy Bob**	**23.17**	**239**	P	**P**	**19 25 19.9**	**+0.9**
LMN	**Caledonia Moun**	**23.33**	**315**	P	**P**	**19 25 19.7**	**-0.7**
LMN				IAmb	IAmb	19 25 28.3	
	comp=Z,72nm,1.0s						
H05N1	**Guadeloupe/Mar**	**23.54**	**235**	T	T	19 49 38.8	
	SNR=8.9						
ANBD	**Bethesda, Anti**	**23.56**	**237**	*e*P	**P**	**19 25 20.5**	**-2.4**
ABD	**La Joyeuse, An**	**23.74**	**236**	*e*P	**P**	**19 25 17.9**	**-6.7**
SMRT	**St. Maarten**	**23.89**	**241**	*e*P	P	19 25 14.9	-11
MAGL	**Barre de l'ile**	**23.95**	**235**	*e*P	**P**	**19 25 26.9**	**+0.2**
SKI	**Saint Kitts**	**24.09**	**239**	*e*P	**P**	**19 25 23.9**	**-4.1**
CBE	**Ff, Capester**	**24.10**	**235**	*e*P	**P**	**19 25 26.9**	**-1.2**
SEUS	**St. Eustatius**	**24.16**	**240**	*e*P	**P**	**19 25 29.9**	**+1.2**
GGN	**Saint George**	**24.26**	**312**	P	**P**	**19 25 27.6**	**-1.7**
GGN				IAmb	IAmb	19 25 54.6	
	comp=Z,113nm,1.6s						
TDBA	**Terre de Bas,**	**24.27**	**235**	*e*P	**P**	**19 25 23.9**	**-5.7**
SABA	**Saba**	**24.28**	**241**	*e*P	**P**	**19 25 32.9**	**+3.1**
DLPL	**La Plaine**	**24.35**	**234**	*e*P	P	19 25 38.9	+8.4
DSLB	**Salisbury**	**24.40**	**234**	*e*P	**P**	**19 25 26.9**	**-4.0**
H66A	**Whiting**	**24.42**	**311**	P	**P**	**19 25 31.2**	**+0.4**
	baz=114						
FDF	**Fort de France**	**24.71**	**232**	*e*P	**P**	**19 25 26.9**	**-6.8**
FDF	**Fort de France**	**24.71**	**232**	P	**P**	**19 25 37.8**	**+4.1**
H05S1	**Guadeloupe/Mar**	**24.72**	**231**	T	T	19 51 01.3	
MPOM	**Morne Pois Mar**	**24.72**	**231**	*e*P	**P**	**19 25 32.9**	**-0.9**
G65A	**Princeton**	**24.75**	**311**	P	**P**	**19 25 34.8**	**+1.0**
	baz=115						
G65A	**Princeton**	**24.75**	**311**	P	**P**	**19 25 35.8**	**+2.0**
BATG	**Bathurst New B**	**24.80**	**317**		**P**	**19 25 33.4**	**-0.8**
BATG				IAmb	IAmb	19 25 41.6	
	comp=Z,45nm,1.1s						
BBGH	**Gun Hill**	**24.84**	**227**	*e*P	**P**	**19 25 29.9**	**-5.0**
H65A	**Eastbrook**	**24.99**	**310**	P	**P**	**19 25 37.6**	**+1.6**
	baz=113						
SLBI	**Saint Lucia, B**	**25.10**	**231**	*e*P	P	19 25 49.8	+13
E64A	**Bridgewater**	**25.45**	**314**	P	**P**	**19 25 39.8**	**-0.3**
	baz=117						
F64A	**Sherman**	**25.53**	**312**	P	**P**	**19 25 41.5**	**+0.6**
	baz=115						
G64A	**Maxfield**	**25.54**	**311**	P	**P**	**19 25 42.0**	**+1.0**
	baz=113						
MTP	**Monte Pirata**	**25.75**	**245**	P	**P**	**19 25 46.5**	**+3.4**
MTP				IAmb	IAmb	19 25 52.9	
	comp=Z,69nm,1.3s						
E63A	**Oxbow**	**25.82**	**313**	P	**P**	**19 25 44.0**	**+0.6**
	baz=116						
E63A	**Oxbow**	**25.82**	**313**	P	**P**	**19 25 44.2**	**+0.7**
CBYP	**Canovanas**	**25.89**	**245**	P	**P**	**19 25 45.8**	**+1.4**
D63A	**Stockholm**	**25.90**	**315**	P	**P**	**19 25 44.5**	**+0.2**
	baz=117						
HUMP	**Col San Antoni**	**25.95**	**245**	P	**P**	**19 25 47.1**	**+2.1**
HUMP				IAmb	IAmb	19 25 53.8	
	comp=Z,53nm,1.1s						
GCPR	**Guaynabo City**	**26.04**	**246**	P	**P**	**19 25 48.0**	**+2.3**
GCPR				IAmb	IAmb	19 25 55.0	
	comp=Z,53nm,1.1s						
PDPR	**Patillas Dam,**	**26.16**	**245**	P	**P**	**19 25 47.7**	**+0.9**
I63A	**Otisfield**	**26.33**	**307**	P	**P**	**19 25 50.3**	**+2.2**
	baz=109						
J63A	**Strafford**	**26.44**	**305**	P	**P**	**19 25 51.0**	**+1.9**
	baz=106						
L63A	**North Scituate**	**26.45**	**302**	P	**P**	**19 25 50.6**	**+1.3**
	baz=103						
D62A	**Allapoint, All**	**26.50**	**314**	P	**P**	**19 25 49.8**	**+0.2**
	baz=116						
D62A	**Allapoint, All**	**26.50**	**314**	P	**P**	**19 25 49.3**	**-0.3**
GCMP	**Grenada, Carri**	**26.53**	**229**	*e*P	**P**	**19 25 47.8**	**-2.3**
F62A	**Pittston Farm,**	**26.58**	**311**	P	**P**	**19 25 51.2**	**+0.8**
	baz=113						
F62A	**Pittston Farm,**	**26.58**	**311**	P	**P**	**19 25 51.7**	**+1.3**
E62A	**Clayton Lake**	**26.59**	**313**	P	**P**	**19 25 51.0**	**+0.5**
	baz=115						
E62A	**Clayton Lake**	**26.59**	**313**	P	**P**	**19 25 50.9**	**+0.4**
E62A				IAmb	IAmb	19 25 57.6	
	comp=Z,34nm,1.0s						
OBIP	**Obispado Ponce**	**26.60**	**246**	P	**P**	**19 25 52.3**	**+1.5**
OBIP				IAmb	IAmb	19 26 01.4	
	comp=Z,74nm,1.4s						
ICMP	**Isla Caja de M**	**26.63**	**246**	P	**P**	**19 25 55.1**	**+4.1**
G62A	**West of Eustis**	**26.69**	**309**	P	**P**	**19 25 52.7**	**+1.2**
	baz=111						
MPR	**Mayaguez**	**26.92**	**247**	P	**P**	**19 25 56.3**	**+2.6**
MLPR	**Magueyes Islan**	**26.98**	**246**	P	**P**	**19 25 56.8**	**+2.5**
MLPR				IAmb	IAmb	19 26 02.3	
	comp=Z,57nm,1.1s						
CRPR	**Cabo Rojo, PR**	**27.01**	**247**	P	**P**	**19 25 56.8**	**+2.2**
PFVI	**Vila Bisbo**	**27.23**	**69**	*e*P	**P**	**19 25 59.1**	**+2.8**
	comp=Z,114nm,1.8s						
L61B	**Northampton**	**27.36**	**303**	P	**P**	**19 25 58.3**	**+0.8**
	baz=103						
I61A	**Oroboro, Fairl**	**27.41**	**306**	P	**P**	**19 25 58.0**	**0.0**
	baz=106						
J61A	**Chester**	**27.50**	**305**	P	**P**	**19 25 58.8**	**+0.2**
	baz=105						
PNCL	**Nicolau / Gran**	**27.52**	**67**	*e*P	**P**	**19 26 00.0**	**+1.0**
	comp=Z,54nm,1.8s						
PCAS	**Casmilo, Conde**	**27.75**	**63**	*e*P	**P**	**19 26 03.1**	**+2.1**
	comp=Z,45nm,1.8s						
COI	**Coimbra**	**27.84**	**62**	P	**P**	**19 25 58.3**	**-3.4**
COI				pmax	pmax		
	comp=Z,134nm,1.7s						
COI	**Coimbra**	**27.84**	**62**	P	**P**	**19 25 58.3**	**-3.4**
G60A	**Masonville**	**27.85**	**308**	P	**P**	**19 26 01.9**	**0.0**
	baz=108						
PCVE	**Castro Verde**	**27.88**	**68**	*e*P	**P**	**19 26 06.9**	**+4.7**
	comp=Z,65nm,1.8s						
PBDV	**Barranco-do-Ve**	**27.95**	**69**	*e*P	**P**	**19 26 03.5**	**+0.7**
	comp=Z,72nm,1.5s						
EVO	**Evora**	**27.96**	**66**	*e*P	**P**	**19 26 06.4**	**+3.5**
	comp=Z,41nm,1.5s						
PBEJ	**Beja**	**28.04**	**67**	*e*P	**P**	**19 26 04.3**	**+0.7**
	comp=Z,58nm,1.5s						
PVAQ	**Vaqueiros**	**28.13**	**69**	*e*P	**P**	**19 26 08.3**	**+3.9**
	comp=Z,36nm,1.6s						
PVAQ				*e*S	**S**	**19 30 53.9**	**+4.1**
PVAQ				*e*LR	LR	19 33 00.8	
	comp=Z,3μm,20.0s						
PGAV	**Gavieira, Arco**	**28.24**	**59**	*e*P	**P**	**19 26 05.0**	**-0.4**
	comp=Z,44nm,2.2s						
PGAV				*e*LR	LR	19 33 15.0	
	comp=Z,1μm,20.0s						
MDP	**Montagnes des**	**28.31**	**205**	LR	LR	19 34 54.3	
	comp=Z,858nm,19.6s,baz=11,slow=31						
PCBR	**Castelo Branco**	**28.50**	**63**	*e*P	**P**	**19 26 07.7**	**0.0**
	comp=Z,32nm,1.5s						
ODNJ	**Ogdensburg**	**28.51**	**299**	P	**P**	**19 26 09.3**	**+1.6**
PVRL	**Vila Real**	**28.52**	**60**	*e*P	P	19 26 13.4	+5.5
	comp=Z,52nm,1.9s						
PMRV	**Marv??o**	**28.52**	**64**	*e*P	**P**	**19 26 07.6**	**-0.3**
	comp=Z,42nm,1.9s						
PMRV				*e*S	**S**	**19 31 00.6**	**+4.5**
PMRV				*e*LR	LR	19 33 14.2	
	comp=Z,794nm,24.0s						
I59A	**Olmsteadville**	**28.54**	**305**	P	**P**	**19 26 07.8**	**-0.2**
	baz=104						
M60A	**Port Jervis**	**28.57**	**300**	P	**P**	**19 26 08.8**	**+0.6**
	baz=99						
H59A	**Cadyville**	**28.64**	**307**	P	**P**	**19 26 09.4**	**+0.6**
	baz=106						
N60A	**Cedar Hill Far**	**28.85**	**299**	P	**P**	**19 26 11.2**	**+0.4**
	baz=98						
E58A	**La Victoria**	**28.90**	**310**	P	**P**	**19 26 10.8**	**-0.3**
	baz=110						
J59A	**Piesco**	**28.90**	**304**	P	**P**	**19 26 10.9**	**-0.4**
	baz=103						
H58A	**Gabriels**	**28.91**	**306**	P	**P**	**19 26 10.4**	**-1.0**
	baz=105						
K59A	**Cooperstown**	**29.00**	**303**	P	**P**	**19 26 13.0**	**+0.8**
	baz=102						
O60A	**Telford**	**29.01**	**297**	P	**P**	**19 26 13.1**	**+0.9**
	baz=97						
MVO	**Moncorvo**	**29.02**	**61**	*e*P	**P**	**19 26 12.3**	**0.0**
	comp=Z,48nm,2.1s						
MVO				*e*LR	LR	19 33 30.4	
	comp=Z,950nm,20.0s						
L59A	**Walton**	**29.02**	**301**	P	**P**	**19 26 13.2**	**+0.8**
	baz=100						
L59A	**Walton**	**29.02**	**301**	P	**P**	**19 26 13.2**	**+0.8**
G58A	**Ormstown**	**29.03**	**308**	P	**P**	**19 26 12.1**	**-0.1**
	baz=107						
M59A	**Waymart**	**29.20**	**300**	P	**P**	**19 26 14.6**	**+0.7**
	baz=99						
I58A	**Old Forge**	**29.29**	**304**	P	**P**	**19 26 15.2**	**+0.5**
	baz=103						
PBRG	**Braganca**	**29.33**	**60**	*e*P	**P**	**19 26 15.7**	**+0.6**
	comp=Z,40nm,1.5s						
N59A	**State Game Lan**	**29.36**	**299**	P	**P**	**19 26 15.9**	**+0.5**
	baz=98						
N59A	**State Game Lan**	**29.36**	**299**	P	**P**	**19 26 16.3**	**+1.0**
N59A				IAmb	IAmb	19 26 22.8	
	comp=Z,36nm,1.4s						
J58A	**Remsen**	**29.43**	**304**	P	**P**	**19 26 16.6**	**+0.7**
	baz=102						
J58A	**Remsen**	**29.43**	**304**	P	**P**	**19 26 16.5**	**+0.6**
J58A				IAmb	IAmb	19 26 23.1	
	comp=Z,34nm,1.3s						
E57A	**Chemin Saint G**	**29.48**	**310**	P	**P**	**19 26 17.2**	**+0.8**
	baz=109						
D57A	**Chemin Vers le**	**29.51**	**311**	P	**P**	**19 26 15.0**	**-1.6**
	baz=110						
K58A	**Earlville**	**29.57**	**302**	P	**P**	**19 26 18.2**	**+1.0**
	baz=101						
L58A	**Harry Jones Me**	**29.59**	**301**	P	**P**	**19 26 17.6**	**+0.2**
	baz=100						
SCHQ	**Schefferville**	**29.69**	**330**	P	**P**	**19 26 17.5**	**-0.5**
	comp=Z,8.7nm,0.8s,baz=149,slow=6.5,SNR=5.7						
SCHQ				LR	LR	19 37 31.4	
	comp=Z,4μm,19.4s,baz=136,slow=35						
SCHQ	**Schefferville**	**29.69**	**330**	P	**P**	**19 26 17.3**	**-0.8**
SCHQ				IAmb	IAmb	19 26 24.3	
	comp=Z,26nm,1.0s						
BINY	**Binghamton**	**29.72**	**301**	P	**P**	**19 26 18.9**	**+0.4**
	baz=100						
P59A	**Jarrettsville**	**29.72**	**296**	P	**P**	**19 26 19.7**	**+1.2**
	baz=95						
SDDR	**Presa de Saban**	**29.84**	**253**	P	**P**	**19 26 23.2**	**+3.3**
SDDR				IAmb	IAmb	19 26 28.5	
	comp=Z,36nm,1.1s						
SDMD	**Soldier's Deli**	**30.02**	**295**	P	**P**	**19 26 23.0**	**+1.8**
K57A	**Scipio Center**	**30.20**	**302**	P	**P**	**19 26 23.5**	**+0.8**
	baz=100						
M57A	**Sunshine Farm,**	**30.43**	**299**	P	**P**	**19 26 25.8**	**+1.0**
M57A				IAmb	IAmb	19 26 28.2	
	comp=Z,26nm,1.1s						
T59A	**Double "B" Far**	**30.50**	**291**	P	**P**	**19 26 26.3**	**+0.9**
Q58A	**Fox Den Farm,**	**30.64**	**294**	P	**P**	**19 26 27.2**	**+0.5**
	baz=93						
N57A	**Milroy**	**30.68**	**298**	P	**P**	**19 26 28.4**	**+1.4**
	baz=96						
O57A	**Amberson**	**30.69**	**297**	P	**P**	**19 26 28.2**	**+1.1**
	baz=95						
E55A	**Montcerf-Lytto**	**30.75**	**309**	P	**P**	**19 26 28.5**	**+1.0**
	baz=107						
R58B	**Mineral**	**30.76**	**292**	P	**P**	**19 26 27.7**	**-0.1**
	baz=91						
R58B	**Mineral**	**30.76**	**292**	P	**P**	**19 26 28.8**	**+1.1**
R58B				IAmb	IAmb	19 26 35.7	
	comp=Z,26nm,1.2s						
K56A	**Middlesex**	**30.78**	**302**	P	**P**	**19 26 28.2**	**+0.3**
	baz=99						
S58A	**Poland Farm, P**	**30.89**	**292**	P	**P**	**19 26 29.4**	**+0.5**
	baz=90						
CHGQ	**Chibougamau**	**30.91**	**316**	P	**P**	**19 26 30.2**	**+1.3**
	baz=114						
SSPA	**Standing Stone**	**30.93**	**298**	P	**P**	**19 26 30.1**	**+1.0**
	baz=96						
SSPA	**Standing Stone**	**30.93**	**298**	P	**P**	**19 26 29.8**	**+0.6**
P57A	**Homestead Farm**	**30.93**	**295**	P	**P**	**19 26 30.2**	**+1.0**
	baz=94						
P57A	**Homestead Farm**	**30.93**	**295**	P	**P**	**19 26 30.6**	**+1.4**
V59A	**Middlesex**	**31.08**	**288**	P	**P**	**19 26 33.1**	**+2.5**
	baz=87						
ESDC	**Sonseca Array**	**31.19**	**64**	P	**P**	**19 26 30.6**	**-1.0**
	comp=Z,3.0nm,1.1s,baz=259,slow=8.4,SNR=9.7						
ESDC				PcP	**PcP**	**19 29 26.5**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=285,slow=5.1,SNR=4.0						
ESDC				LR	LR	19 36 56.3	
	comp=Z,444nm,18.3s,baz=260,slow=32						
ESDC	**Sonseca Array**	**31.19**	**64**	P	**P**	**19 26 30.6**	**-1.0**
Q57A	**Strasburg**	**31.21**	**295**	P	**P**	**19 26 32.5**	**+0.8**
	baz=92						
N56A	**West Decatur**	**31.26**	**298**	P	**P**	**19 26 33.1**	**+0.9**
	baz=96						
R57A	**Stanardsville**	**31.28**	**293**	P	**P**	**19 26 34.9**	**+2.6**
	baz=91						
T58A	**Grand View Acr**	**31.28**	**290**	P	**P**	**19 26 33.9**	**+1.6**
	baz=89						
U58A	**Oxford**	**31.31**	**289**	P	**P**	**19 26 33.7**	**+1.1**
	baz=88						
K55A	**Perry**	**31.32**	**302**	P	**P**	**19 26 34.5**	**+1.8**
	baz=99						
O56A	**Blue Knob Stat**	**31.41**	**297**	P	**P**	**19 26 35.3**	**+1.8**
	baz=94						
O56A	**Blue Knob Stat**	**31.41**	**297**	P	**P**	**19 26 34.5**	**+1.0**
O56A				IAmb	IAmb	19 26 41.9	
	comp=Z,46nm,1.3s						
X59A	**McDuffie Farm,**	**31.46**	**286**	P	**P**	**19 26 34.6**	**+0.7**
	baz=85						
P56A	**Dayton Farm, R**	**31.57**	**295**	P	**P**	**19 26 35.6**	**+0.8**
	baz=93						
S57A	**Dark Hollow, R**	**31.61**	**292**	P	**P**	**19 26 35.6**	**+0.3**
	baz=90						
M55A	**Ridgway**	**31.67**	**299**	P	**P**	**19 26 36.5**	**+0.8**
	baz=96						
N55A	**Marion Center**	**31.77**	**298**	P	**P**	**19 26 36.9**	**+0.3**
	baz=95						
V58A	**Windy Hill, Pi**	**31.79**	**288**	P	**P**	**19 26 37.4**	**+0.5**
	baz=87						
V58A	**Windy Hill, Pi**	**31.79**	**288**	P	**P**	**19 26 38.9**	**+2.1**
Q56A	**Snyder Ridge,**	**31.82**	**294**	P	**P**	**19 26 38.0**	**+0.9**
	baz=92						
Q56A	**Snyder Ridge,**	**31.82**	**294**	P	**P**	**19 26 38.2**	**+1.1**
Q56A				IAmb	IAmb	19 26 45.7	
	comp=Z,29nm,1.1s						
W58A	**Raeford**	**31.94**	**287**	P	**P**	**19 26 38.2**	**+0.1**
	baz=85						
U57A	**Blanch**	**31.94**	**290**	P	**P**	**19 26 38.3**	**+0.2**
	baz=88						
ALGO	**Algonquin Park**	**31.95**	**308**	P	**P**	**19 26 39.4**	**+1.3**
	baz=104						
O55A	**Ligonier**	**31.97**	**297**	P	**P**	**19 26 38.8**	**+0.4**
	baz=94						
R56A	**Bull Pasture M**	**31.97**	**293**	P	**P**	**19 26 39.3**	**+0.8**
	baz=91						
X58A	**Rowland**	**32.07**	**286**	P	**P**	**19 26 40.8**	**+1.6**
X58A				IAmb	IAmb	19 26 48.8	
	comp=Z,32nm,1.1s						
VLDQ	**Val d'Or**	**32.15**	**312**	P	**P**	**19 26 42.4**	**+2.6**
VLDQ				IAmb	IAmb	19 26 48.6	
	comp=Z,35nm,1.3s						
LSQQ	**Lebel-sur-Quev**	**32.16**	**314**	P	**P**	**19 26 40.1**	**+0.2**
	baz=110						
L54A	**Sinclairville**	**32.17**	**300**	P	**P**	**19 26 40.2**	**+0.1**
	baz=97						
V57A	**Coltrane Farms**	**32.32**	**289**	P	**P**	**19 26 41.8**	**+0.3**
	baz=86						
P55A	**Reedsville**	**32.33**	**295**	P	**P**	**19 26 40.9**	**-0.6**
	baz=92						
M54A	**Oil Creek Stat**	**32.35**	**299**	P	**P**	**19 26 41.4**	**-0.3**
	baz=96						
**M54A

P53A Whipple 33.54 295 P P 19 26 52.7 +0.6
baz=91
P53A Whipple 33.54 295 P P 19 26 50.7 -1.4
P53A IAmb IAmb 19 26 60.0
comp=Z,44nm,1.3s
SJPF Ste Jean 33.56 58 eP P 19 26 51.8 -0.5
SJPF pmax pmax
comp=Z,55nm,1.5s
I51A Listowel 33.62 303 P P 19 26 53.6 +0.8
baz=98
KMSC Kings Mountain 33.65 287 P P 19 26 53.8 +0.7
KMSC IAmb IAmb 19 27 01.7
comp=Z,58nm,1.7s
SGMF Saint Gilles 33.66 49 eP P 19 26 52.6 -0.4
SGMF pmax pmax
comp=Z,43nm,1.3s
JSC Jenkinsville 33.67 286 P P 19 26 53.7 +0.4
JSC pmax pmax
comp=Z,14nm,1.1s
JSC Jenkinsville 33.67 286 P P 19 26 53.7 +0.4
N52A McGinn's Farm, 33.82 298 P P 19 26 55.7 +1.1
baz=93
O52A Adamsville 33.90 296 P P 19 26 55.5 +0.2
baz=92
O52A Adamsville 33.90 296 P P 19 26 58.5 +3.2
O52A IAmb IAmb 19 27 03.6
comp=Z,45nm,1.1s
X55A Gracelyn & Ava 33.96 286 P P 19 26 56.4 +0.6
baz=84
V54A Nebo 34.09 289 P P 19 26 57.0 +0.1
baz=85
P52A Corning 34.12 295 P P 19 26 57.2 +0.1
P52A IAmb IAmb 19 27 04.8
comp=Z,29nm,1.1s
Y55A Saluda 34.21 285 P P 19 26 58.5 +0.6
baz=83
Q52A Bidwell 34.22 294 P P 19 26 58.1 +0.1
baz=90
ROSB Rosrio 34.23 185 eP P 19 26 58.2 0.0
TMAB Tom-Au,PA,Br 34.23 192 eP P 19 26 57.3 -0.9
TMAB epP sP 19 26 59.7 0.0
T53A Wise 34.48 291 P P 19 27 01.2 +0.7
baz=87
O51A Pataskala 34.49 296 P P 19 27 01.0 +0.6
baz=91
HODGE Hodges 34.50 286 P P 19 27 01.1 +0.6
X54A Belton 34.56 286 P P 19 27 01.7 +0.7
baz=83
EPF Esparros 34.69 59 eP P 19 27 04.1 +2.0
EPF pmax pmax
comp=Z,50nm,1.8s
ACSO Alum Creek Sta 34.78 296 P P 19 27 03.5 +0.6
baz=91
ACSO Alum Creek Sta 34.78 296 P P 19 27 02.1 -0.7
GRR Gorron 34.78 49 eP P 19 27 02.4 -0.4
GRR pmax pmax
comp=Z,29nm,1.0s
V53A Saluda 34.80 288 P P 19 27 02.0 -1.2
MFF Saint Martin d 34.86 52 eP P 19 27 03.4 -0.1
MFF pmax pmax
comp=Z,95nm,1.3s
M50A Fremont 34.87 299 P P 19 27 03.7 +0.1
M50A IAmb IAmb 19 27 11.5
comp=Z,30nm,0.9s
BG3 Lake Jocassee 34.97 287 P P 19 27 05.9 +1.4
Q51A Peebles 35.06 294 P P 19 27 05.5 +0.2
Q51A IAmb IAmb 19 27 13.0
comp=Z,22nm,0.8s
FLN La Foliniere 35.12 49 eP P 19 27 05.2 -0.5
FLN pmax pmax
comp=Z,36nm,1.3s
S51A Beattyville 35.29 292 P P 19 27 08.1 +0.8
LDF La Druitiere 35.31 49 eP P 19 27 06.8 -0.5
LDF pmax pmax
comp=Z,26nm,0.9s
TZTN Tazewell 35.33 290 P P 19 27 08.9 +1.2
baz=86
TZTN Tazewell 35.33 290 P P 19 27 08.4 +0.8
TZTN IAmb IAmb 19 27 15.7
comp=Z,27nm,1.1s
MALB Monte Alegre 35.35 203 eP P 19 27 07.1 -0.8
MALB epP pP 19 27 09.2 +0.2
AAM Ann Arbor 35.38 300 P P 19 27 08.1 +0.1
AAM pmax pmax
comp=Z,26nm,1.0s
AAM Ann Arbor 35.38 300 P P 19 27 08.1 +0.1
AAM IAmb IAmb 19 27 16.2
comp=Z,26nm,0.9s
SDV Santo Domingo 35.41 237 eP P 19 27 07.9 -0.8
SDV Santo Domingo 35.41 237 P P 19 27 10.5 +1.8
SDV Santo Domingo 35.41 237 eP P 19 27 10.1 +1.4
TKL Tuckaleechee C 35.58 289 P P 19 27 10.1 +0.2
TKL pmax pmax
comp=Z,16nm,1.1s
TKL Tuckaleechee C 35.58 289 P P 19 27 10.1 +0.2
GOGA Godfrey 35.61 285 P P 19 27 10.8 +0.7
baz=81
GOGA Godfrey 35.61 285 P P 19 27 11.5 +1.4
GOGA pmax pmax
comp=Z,28nm,1.1s
GOGA Godfrey 35.61 285 P P 19 27 11.5 +1.4
GOGA IAmb IAmb 19 27 18.5
comp=Z,28nm,1.1s
RJF Les Rejaudoux 35.80 55 eP P 19 27 09.7 -1.9
RJF pmax pmax
comp=Z,56nm,1.4s
O49A Covington 35.82 296 P P 19 27 12.0 +0.2
O49A IAmb IAmb 19 27 19.3
comp=Z,25nm,1.0s
R50A Paris 35.84 293 P P 19 27 13.2 +1.2
R50A IAmb IAmb 19 27 20.1
comp=Z,26nm,0.9s
L48A N Adams 35.94 299 P P 19 27 13.4 +0.6
L48A IAmb IAmb 19 27 20.6
comp=Z,32nm,0.9s
Y52A Lilburn 36.03 286 P P 19 27 14.2 +0.4
MTLF Montolieu 36.08 58 P P 19 27 13.4 -0.7
MTLF pmax pmax
comp=Z,18nm,1.0s
P49A Miami Univ. Ec 36.11 295 P P 19 27 14.9 +0.6
baz=89
P49A Miami Univ. Ec 36.11 295 P P 19 27 15.7 +1.3
P49A IAmb IAmb 19 27 22.0
comp=Z,46nm,1.3s
CAF Calviac 36.13 56 eP P 19 27 12.7 -1.8
CAF pmax pmax
comp=Z,31nm,1.2s
J47A Sunmer 36.30 302 P P 19 27 15.4 -0.5
J47A IAmb IAmb 19 27 27.8
comp=Z,24nm,0.8s
T50A Nancy 36.32 291 P P 19 27 15.3 -0.9
T50A IAmb IAmb 19 27 24.6
comp=Z,29nm,1.1s
R49A Shelbyville 36.51 293 P P 19 27 19.3 +1.6
P48A Milroy 36.66 295 P P 19 27 18.3 -0.8
P48A IAmb IAmb 19 27 26.1
comp=Z,35nm,1.3s
CLF Chambon-Foret 36.74 50 P P 19 27 19.5 0.0
152A Waverly Hall 36.77 284 P P 19 27 21.3 +1.3
Z51A Franklin 37.04 285 P P 19 27 23.1 +0.8
G45A Suttons Bay 37.06 304 P P 19 27 24.1 +1.8
G45A IAmb IAmb 19 27 30.3
comp=Z,45nm,1.0s
U49A Red Boiling Sp 37.12 290 P P 19 27 24.0 +1.1
352A Blakely 37.16 282 P P 19 27 24.9 +1.6
352A IAmb IAmb 19 27 33.4
comp=Z,48nm,1.2s
FPAL Fort Paine 37.21 287 P P 19 27 24.7 +0.9
AVF Avril sur Loir 37.27 53 eP P 19 27 23.3 -0.8
AVF pmax pmax
comp=Z,66nm,2.0s
L46A Eue Claire 37.33 299 P P 19 27 24.9 +0.3
SWET Sewanee 37.38 288 P P 19 27 25.9 +0.6
WCI Wyandotte Cave 37.39 293 P P 19 27 26.7 +1.5
baz=86
WCI Wyandotte Cave 37.39 293 P P 19 27 25.3 +0.1
WCI pmax pmax
comp=Z,16nm,1.0s
WCI Wyandotte Cave 37.39 293 P P 19 27 25.3 +0.1
ARGC Ariguani, Magd 37.43 242 eP P 19 27 27.8 +2.0
BLO Bloomington 37.52 295 P P 19 27 25.4 -0.9
BLO pmax pmax
comp=Z,62nm,1.5s
BLO Bloomington 37.52 295 P P 19 27 25.4 -0.9
BLO IAmb IAmb 19 27 33.5
comp=Z,62nm,1.5s
CLTN Cedars of Leba 37.60 290 P P 19 27 28.0 +0.9
CLTN IAmb IAmb 19 27 35.4
comp=Z,34nm,1.1s
LOR Lormes 37.68 52 eP P 19 27 26.9 -0.7
LOR pmax pmax
comp=Z,38nm,1.1s
KOWA Kowa 37.88 108 P P 19 27 27.8 -1.8
KOWA IAmb IAmb 19 27 35.6
comp=Z,42nm,1.3s
SSB Saint Sauveur 37.91 55 P P 19 27 27.9 -1.7
SSB pmax pmax
comp=Z,32nm,1.6s
SSB Saint Sauveur 37.91 55 P P 19 27 27.9 -1.7
TAMC Tame, Arauca 37.93 235 eP P 19 27 29.2 -0.9
SFIN Lafayette 37.93 297 P P 19 27 30.9 +1.2
baz=89
SFIN Lafayette 37.93 297 P P 19 27 30.5 +0.7
SFIN IAmb IAmb 19 27 37.5
comp=Z,38nm,0.9s
PAMC Pamplona, Colo 37.95 238 eP P 19 27 30.5 -0.2
Y49A Blount Mountai 37.97 286 P P 19 27 31.5 +1.3
VIVF Saint-Julien-l 37.97 56 eP P 19 27 31.1 +1.0
VIVF pmax pmax
comp=Z,18nm,1.3s
SMLC San Martn de 37.98 241 eP P 19 27 29.2 -1.3
P46A Rosedale 38.04 295 P P 19 27 31.0 +0.3
V48A Smith Brothers 38.04 289 P P 19 27 31.7 +0.9
V48A IAmb IAmb 19 27 39.1
comp=Z,34nm,1.2s
SJCC San Jacinto, C 38.12 243 eP P 19 27 29.2 -2.5
T47A Sharon Grove 38.13 291 P P 19 27 33.7 +2.1
ITTB Itaituba 38.20 204 eP P 19 27 31.2 -1.0
ITTB epP pP 19 27 33.5 +0.2
PRPB Parauapebas 38.27 194 eP P 19 27 31.3 -1.5
X48A Hartselle 38.40 287 P P 19 27 34.6 +0.8
USIN University of 38.49 293 P P 19 27 34.7 +0.2
USIN IAmb IAmb 19 27 42.4
comp=Z,34nm,0.9s
SNF Seneffe 38.54 47 P P 19 27 34.0 -0.8
SNF sP pwP 19 27 39.8 +0.2
LRAL Lakeview Retre 38.59 285 P P 19 27 36.5 +1.0
baz=80
LRAL Lakeview Retre 38.59 285 P P 19 27 36.4 +1.0
UCC Uccle 38.65 46 P P 19 27 34.9 -0.7
UCC pmax pmax
comp=Z,79nm,1.5s
UCC Uccle 38.65 46 P P 19 27 34.9 -0.7
UCC IAmb IAmb 19 27 41.6
comp=Z,79nm,1.5s
DOU Dourbes 38.65 48 P P 19 27 32.7 -3.0
OLIL Olney 38.77 294 P P 19 27 35.3 -1.6
BMRD Maredsous 38.80 47 P P 19 27 36.2 -0.7
BMRD sP pwP 19 27 40.9 -0.9
WVT Waverly 38.80 290 P P 19 27 37.9 +0.7
baz=83
WVT Waverly 38.80 290 P P 19 27 37.6 +0.4
WVT pmax pmax
comp=Z,28nm,1.1s
WVT Waverly 38.80 290 P P 19 27 37.5 +0.4
O44A Mansfield 38.98 296 P P 19 27 38.7 0.0
O44A IAmb IAmb 19 27 46.3
comp=Z,34nm,0.8s
BRAL Brewton 39.01 282 P P 19 27 39.0 0.0
BRAL IAmb IAmb 19 27 56.7
comp=Z,39nm,0.7s
BGES Gesves 39.01 47 P P 19 27 38.1 -0.6
BGES sP pwP 19 27 43.0 -0.7
MACA Manacapuru-AM 39.09 212 eP P 19 27 38.9 -0.7
BCLA Clavier 39.16 47 P P 19 27 39.2 -0.8
PLAL Pickwick Lake 39.16 288 P P 19 27 41.6 +1.5
PLAL IAmb IAmb 19 27 48.4
comp=Z,36nm,1.1s
MOTC Monteria, Cord 39.20 242 eP P 19 27 41.8 +1.1
RUSC La Rusia 39.22 236 eP P 19 27 31.8 -10
FRF La Foret Royal 39.32 58 eP P 19 27 41.1 -0.3
FRF pmax pmax
comp=Z,14nm,1.0s
BSTI Sal Tilman 39.35 47 P P 19 27 41.4 -0.2
BSTI sP pwP 19 27 46.8 +0.3
BNI Bardonecchia 39.40 56 P P 19 27 42.6 +0.3
BNI pmax pmax
comp=Z,46nm,1.4s
BNI Bardonecchia 39.40 56 P P 19 27 42.6 +0.3
ZARC Zaragoza, Cauc 39.43 240 eP P 19 27 41.8 -0.8
Z47A Carrollton 39.45 285 P P 19 27 41.2 -1.4
HAU Haudompre 39.45 51 eP P 19 27 41.7 -0.8
HAU pmax pmax
comp=Z,43nm,1.2s
LPL La Plagne 39.47 55 eP P 19 27 43.2 +0.3
LPL pmax pmax
comp=Z,18nm,1.2s
Q44A Meyer Farm, Va 39.48 294 P P 19 27 41.9 -0.9
LPG La Plagne 39.48 55 eP P 19 27 43.4 +0.3
LPG pmax pmax
comp=Z,28nm,1.3s
WLF Walferdange 39.56 49 P P 19 27 42.7 -0.7
WLF Walferdange 39.56 49 P P 19 27 42.2 -1.2
WLF pmax pmax
comp=Z,39nm,1.2s
WLF Walferdange 39.56 49 eP P 19 27 43.1 -0.2
comp=Z,14nm,1.0s,baz=262,slow=8.0
WLF Walferdange 39.56 49 P P 19 27 42.1 -1.2
BHOU Houvegnez 39.59 47 P P 19 27 43.6 0.0
BHOU sP pwP 19 27 48.8 +0.3
COWI Conover 39.59 306 P P 19 27 45.6 +2.0
HDIL Hopedale 39.60 297 P P 19 27 44.6 +0.8
ISO Isola 39.63 57 P P 19 27 43.2 -0.9
ISO pmax pmax
comp=Z,18nm,2.2s
MEM Membach 39.63 47 P P 19 27 44.3 +0.4
MEM sP pwP 19 27 49.0 +0.2
MEM Membach 39.63 47 P P 19 27 44.6 +0.7
MEM pmax pmax
comp=Z,22nm,1.4s
BTNL Ternell 39.71 47 P P 19 27 44.6 0.0
PTGC Puerto Gaitan, 39.75 233 eP P 19 27 43.1 -2.2
URES San Jos de Ur 39.76 241 eP P 19 27 40.5 -4.9
PTBC PUERTO BERRIO, 39.77 239 eP P 19 27 46.5 +1.0
S44A Carbondale 39.77 293 P P 19 27 45.3 +0.1
S44A IAmb IAmb 19 27 53.2
comp=Z,40nm,1.1s
P43A Skaggs, Pawnee 39.82 296 P P 19 27 45.5 -0.1
P43A IAmb IAmb 19 27 53.1
comp=Z,41nm,1.2s
L42A Oliver, Polo 39.84 299 P P 19 27 46.6 +0.8
L42A IAmb IAmb 19 27 53.4
comp=Z,47nm,0.9s
SENIN Lac Senin/Sane 39.93 54 P P 19 27 46.0 -0.7
ECH Echery 40.01 51 P P 19 27 45.6 -1.6
ECH pmax pmax
comp=Z,47nm,1.8s
ECH Echery 40.01 51 P P 19 27 45.6 -1.6
W45A Hickory Valley 40.03 289 P P 19 27 45.8 -1.7
JFWS Jewell Farm 40.26 301 P P 19 27 49.7 +0.5
baz=90
JFWS Jewell Farm 40.26 301 P P 19 27 50.2 +0.9
JFWS pmax pmax
comp=Z,28nm,1.0s
JFWS Jewell Farm 40.26 301 P P 19 27 50.2 +0.9
G40A Rib Lake 40.28 304 P P 19 27 50.6 +1.1
AHRW Bad Neuenahr-A 40.29 47 eP P 19 27 49.3 -0.1
baz=262,slow=8.0
OXF Oxford 40.31 288 P P 19 27 50.2 +0.3
baz=80
OXF Oxford 40.31 288 P P 19 27 50.1 +0.3
OXF pmax pmax
comp=Z,48nm,1.1s
OXF Oxford 40.31 288 P P 19 27 50.1 +0.3
OXF IAmb IAmb 19 27 57.3
comp=Z,48nm,1.1s
146A Union 40.37 285 P P 19 27 49.0 -1.2
146A IAmb IAmb 19 27 58.7
comp=Z,60nm,1.1s
SLM Saint Louis 40.45 294 P P 19 27 50.2 -0.6
SLM pmax pmax
comp=Z,35nm,0.8s
SLM Saint Louis 40.45 294 P P 19 27 50.2 -0.6
SLM IAmb IAmb 19 27 58.5
comp=Z,35nm,0.8s
SMTB Santa Maria do 40.51 190 eP P 19 27 51.7 +0.2
Y45A Yeager Farm, C 40.53 287 P P 19 27 50.8 -0.8
I40A Norwalk 40.54 302 P P 19 27 51.6 +0.1
I40A IAmb IAmb 19 27 59.1
comp=Z,34nm,0.9s
BUG Bochum--Univer 40.57 46 eP P 19 27 51.8 +0.1
baz=262,slow=8.0
NPGB Novo Progresso 40.58 202 eP P 19 27 52.4 +0.3
GNAR Gosnell 40.58 290 P P 19 27 52.5 +0.5
N41A Harden Midland 40.78 297 P P 19 27 54.2 +0.7
BFO Black Forest 40.80 51 P P 19 27 52.6 -1.1
BFO pmax pmax
comp=Z,46nm,1.2s
BFO Black Forest 40.80 51 eP P 19 27 52.7 -1.1
baz=262,slow=8.0
BFO Black Forest 40.80 51 P P 19 27 52.6 -1.1
BFO IAmb IAmb 19 28 00.2
comp=Z,46nm,1.2s
PBMO Poplar Bluff 40.80 291 P P 19 27 54.0 +0.2
PBMO IAmb IAmb 19 28 01.4
comp=Z,71nm,1.6s
ROSC El Rosal 40.83 237 LR LR 19 43 46.8
comp=Z,799nm,21.2s,baz=48,slow=35
346A Big Creek Wild 40.97 283 P P 19 27 54.3 -0.9
L40A Anamosa 41.00 299 P P 19 27 55.3 0.0
L40A IAmb IAmb 19 28 03.1
comp=Z,71nm,1.3s
IBBN Ibbenburen 41.03 45 eP P 19 27 55.5 +0.1
comp=Z,31nm,0.9s,baz=262,slow=8.0
TNS Taunus Mts 41.11 48 eP P 19 27 56.0 -0.2
baz=262,slow=8.0
SUMG Summit 41.26 1 *i* P P 19 27 57.0 -0.5
SUMG Summit 41.26 1 *i* P P 19 27 57.0 -0.5
SUMG Summit 41.26 1 *i* P P 19 27 57.0 -0.5
GUVC San Jose del G 41.29 232 eP P 19 27 57.2 -0.8
E38A The Farm, Brul 41.30 306 P P 19 27 57.6 -0.2
E38A IAmb IAmb 19 28 04.8
comp=Z,29nm,0.9s
CCM Cathedral Cave 41.30 293 P P 19 27 57.8 -0.1
CCM pmax pmax
comp=Z,14nm,0.9s
CCM Cathedral Cave 41.30 293 P P 19 27 57.8 -0.1
T42A Van Buren 41.30 292 P P 19 27 56.8 -1.1
T42A IAmb IAmb 19 28 05.3
comp=Z,34nm,1.0s
GUY2C Guyana, Caldas 41.32 238 eP P 19 27 58.5 -0.3
TUE Stuetta 41.35 54 P P 19 27 58.0 -0.5
TUE IAmb IAmb 19 28 05.7
comp=Z,54nm,1.1s
EYMN Ely 41.35 308 P P 19 27 58.9 +0.7
baz=95
CBOC Ciudad Bolivar 41.36 239 eP P 19 27 55.8 -3.0
LCAR Lake Charles 41.48 290 P P 19 27 58.7 -0.7
LCAR IAmb IAmb 19 28 06.7
comp=Z,35nm,1.0s
X43A Marvell 41.51 288 P P 19 28 00.3 +0.7
VBMS Vicksburg 41.66 285 P P 19 28 01.9 +1.0
VBMS IAmb IAmb 19 28 09.4
comp=Z,50nm,1.0s
TOLC Tolima 41.72 237 eP P 19 28 01.1 -0.9
DAVA Damuels 41.76 53 *i* P P 19 28 02.1 +0.3
comp=Z,32nm,1.1s,SNR=12
P40A Paris 41.77 296 P P 19 28 02.1 +0.3
P40A IAmb IAmb 19 28 09.2
comp=Z,40nm,0.8s
ANIL Santa Ana 41.85 237 eP P 19 28 05.5 +2.5
DBIC Dimbokro 41.89 118 P P 19 28 02.0 -0.9
comp=Z,6.7nm,0.8s,baz=323,slow=3.5,SNR=5.3
DBIC LR LR 19 42 46.7
comp=Z,2µm,21.1s,baz=299,slow=32
DBIC Dimbokro 41.89 118 P P 19 28 02.0 -0.9
DBIC pmax pmax
comp=Z,50nm,1.6s
DBIC Dimbokro 41.89 118 IAmb IAmb 19 28 08.2
comp=Z,50nm,1.6s
KEST Kesra 41.92 70 P P 19 28 02.4 -0.7
comp=Z,5.4nm,1.0s,baz=222,slow=8.6,SNR=6.1
KEST LR LR 19 42 09.5
comp=Z,595nm,21.4s,baz=220,slow=32
KEST Kesra 41.92 70 P P 19 28 02.8 -0.4
UBR Ueberruh 41.94 52 eP P 19 28 01.3 -1.8
baz=262,slow=8.0
FUORN Ofenpass-Fuorn 41.99 54 P P 19 28 03.6 -0.1
344A Westbrook Farm 42.01 284 P P 19 28 01.4 -2.4
PRAC Prado 42.02 236 eP P 19 28 01.1 -3.0
R40A Maddies Statio 42.07 294 P P 19 28 03.0 -1.2
SPMN Marine on St. 42.12 304 P P 19 28 04.9 +0.4
baz=91
SPMN Marine on St. 42.12 304 P P 19 28 04.1 -0.4
SALO Salr 42.14 55 P P 19 28 03.2 -1.5
SALO IAmb IAmb 19 28 10.8
comp=Z,40nm,1.1s
TAM Tamanrasset 42.17 90 P P 19 28 06.2 +0.8
TAM pmax pmax
comp=Z,23nm,1.1s
UBBA Unterbreizbach 42.17 47 eP P 19 28 04.6 -0.1
baz=262,slow=8.0
MGMO Mountain Grove 42.22 292 P P 19 28 05.9 +0.5
MGMO IAmb IAmb 19 28 12.9
comp=Z,56nm,1.4s
GTTG Gottingen 42.25 46 eP P 19 28 05.1 -0.4
comp=Z,13nm,0.9s,baz=262,slow=8.0
FCAR Ozark Folk Cen 42.29 290 P P 19 28 05.1 -0.9
FCAR IAmb IAmb 19 28 12.9
comp=Z,30nm,0.9s
FETA Feichten 42.32 53 *i* P P 19 28 06.5 +0.2
comp=Z,4.4nm,0.9s,SNR=6.1
CCAR Cane Creek 42.35 287 P P 19 28 05.7 -0.8
RETA Reutte 42.37 52 *i* P P 19 28 06.7 +0.1
comp=Z,26nm,1.2s,SNR=11
MACC Macarena, Meta 42.41 233 eP P 19 28 07.9 +0.6
ZCCA Zocca 42.45 57 P P 19 28 02.8 -4.5
ZCCA IAmb IAmb 19 28 19.1
comp=Z,39nm,1.2s
NRDL Niedersach Rie 42.48 45 eP P 19 28 07.3 +0.1
comp=Z,34nm,0.9s,baz=262,slow=8.0
SCIA State Center 42.49 299 P P 19 28 07.8 +0.2
baz=87
SCIA State Center 42.49 299 P P 19 28 08.6 +1.0
W41B Gary Mavity, V 42.50 289 P P 19 28 07.8 0.0
baz=80
W41B Gary Mavity, V 42.50 289 P P 19 28 07.7 0.0
W41B IAmb IAmb 19 28 15.0
comp=Z,45nm,1.1s
WHAR Wooly Hollow 42.52 290 P P 19 28 07.7 -0.2
WHAR IAmb IAmb 19 28 15.0
comp=Z,36nm,1.0s
CLZ Clausthal 42.54 46 eP P 19 28 08.1 +0.2
comp=Z,23nm,0.9s,baz=262,slow=8.0
N38A Joes South For 42.58 298 P P 19 28 06.8 -1.5
N38A IAmb IAmb 19 28 15.7
comp=Z,53nm,1.1s
MOTA Moosalm 42.59 53 *i* P P 19 28 08.4 -0.2
comp=Z,25nm,1.7s,SNR=10
F36A Milaca 42.64 305 P P 19 28 07.6 -1.1
UALR University of 42.65 289 P P 19 28 08.8 -0.2
OSSC Osservatorio P 42.66 58 P P 19 28 08.2 -0.8
OSSC IAmb IAmb 19 28 15.1
comp=Z,49nm,1.1s
SQTA Sankt Quirin 42.66 53 *i* P P 19 28 09.3 +0.3
comp=Z,22nm,1.2s,SNR=14
ASSE Asse, Remlinge 42.77 46 eP P 19 28 10.0 +0.4
baz=262,slow=8.0
U40A Yellville 42.80 291 P P 19 28 09.9 -0.2
baz=81
U40A Yellville 42.80 291 P P 19 28 10.5 +0.3
U40A IAmb IAmb 19 28 17.5
comp=Z,40nm,1.1s
GRA1 Grafenberg Arr 42.83 49 P P 19 28 08.6 -1.7
GRA1 IAmb IAmb 19 28 16.2
comp=Z,34nm,1.1s
GRF Grafenberg Arr 42.83 49 P P 19 28 08.6 -1.7
GRF pmax pmax
comp=Z,34nm,1.1s
GRF Grafenberg Arr 42.83 49 eP P 19 28 10.1 -0.2
baz=262,slow=8.0
BSEG Bad Segeberg 42.85 43 eP P 19 28 10.5 +0.2
baz=262,slow=8.0
P38A Dawn 42.91 296 P P 19 28 11.6 +0.6
P38A IAmb IAmb 19 28 18.5
comp=Z,36nm,0.9s
WATA Walderalm 42.91 53 *i* P P 19 28 11.1 0.0
comp=Z,28nm,1.0s,SNR=11
CTI Castel Tesino 42.93 55 P P 19 28 09.9 -1.3
CTI pmax pmax
comp=Z,31nm,1.3s
CTI Castel Tesino 42.93 55 P P 19 28 09.9 -1.3
TEOL Teolo 42.94 56 P P 19 28 09.3 -1.8
TEOL IAmb IAmb 19 28 16.9

comp=Z,24nm,0.8s
WTTA Wattenberg 42.95 53 *i* P **P** **19 28 11.6 +0.1**
comp=Z,43nm,1.4s,SNR=11
S39A Bolivar 42.97 293 P **P** **19 28 10.5 -1.0**
X40A Basin Creek Fa 43.10 288 P **P** **19 28 11.3 -1.4**
baz=79
X40A Basin Creek Fa 43.10 288 P **P** **19 28 11.7 -1.0**
BETC Betania 43.14 235 *eP* **P** **19 28 12.4 -0.8**
MOX Moxa 43.17 48 *eP* **P** **19 28 12.8 -0.2**
comp=Z,7.1nm,0.9s,baz=262,slow=8.0
TOA0 Torodi Ar. Sit 43.29 105 P **P** **19 28 13.3 -1.0**
TOA0 Torodi Ar. Sit 43.29 105 P **P** **19 28 12.8 -1.5**
TORD Torodi Ar. Bea 43.29 105 P **P** **19 28 13.2 -1.1**
comp=Z,10nm,0.9s,baz=298,slow=6.2,SNR=37
TORD LR LR 19 43 52.1
comp=Z,859nm,21.9s,baz=300,slow=33
TORD Torodi Ar. Bea 43.29 105 P **P** **19 28 12.5 -1.8**
Z41A Richland Creek 43.32 287 P **P** **19 28 15.2 +0.8**
342A Flagon Creek P 43.35 284 P **P** **19 28 15.0 +0.3**
MARP Paez Belalcaza 43.38 236 *eP* **P** **19 28 11.0 -4.4**
MANZ Manzenberg 43.43 49 *eP* **P** **19 28 14.7 -0.4**
comp=Z,12nm,0.9s,baz=262,slow=8.0
ROTZ Rotzenmuhle 43.47 49 *eP* **P** **19 28 15.0 -0.5**
baz=262,slow=8.0
CIMO Cimolais 43.48 54 P **P** **19 28 14.0 -1.6**
WLAR White Oak Lake 43.49 287 P **P** **19 28 16.1 +0.4**
GARC Garzon, Huila 43.52 235 *eP* **P** **19 28 15.7 -0.8**
ABTA Abfaltersbach 43.54 54 *i* P **P** **19 28 15.6 -0.5**
comp=Z,13nm,1.0s,SNR=14
MURB Monte Urbino 43.60 59 P **P** **19 28 14.4 -2.2**
MURB IAmb IAmb 19 28 22.1
comp=Z,32nm,1.2s
GUNZ Gunzen 43.60 48 *eP* **P** **19 28 16.0 -0.6**
comp=Z,7.7nm,0.9s,baz=262,slow=8.0
WERN Wernitzgruen 43.62 48 *eP* **P** **19 28 16.4 -0.3**
baz=262,slow=8.0
NKC Novy Kostel 43.67 48 *eP* **P** **19 28 16.7 -0.3**
NKC *epP* **pwP** **19 28 22.9 +1.0**
NKC AMS AMS 19 44 00.0
comp=Z,1µm,20.4s
NKC Novy Kostel 43.67 48 *eP* **P** **19 28 16.7 -0.3**
NKC *e* 19 28 22.9
NKC MLR MLR
comp=Z,1µm,20.4s
STAL STALIGIAL 43.67 54 P **P** **19 28 15.8 -1.3**
HHAR Hobbs 43.67 291 P **P** **19 28 16.2 -1.1**
HHAR IAmb IAmb 19 28 24.6
comp=Z,46nm,1.4s
TANN Tannenbergstha 43.69 48 *eP* **P** **19 28 16.8 -0.5**
comp=Z,11nm,0.8s,baz=262,slow=8.0
MIAR Mount Ida 43.69 289 P **P** **19 28 17.5 +0.1**
baz=79
MIAR Mount Ida 43.69 289 P **P** **19 28 16.3 -1.1**
MIAR pmax pmax
comp=Z,45nm,1.3s
MIAR Mount Ida 43.69 289 P **P** **19 28 16.3 -1.1**
MIAR IAmb IAmb 19 28 25.3
comp=Z,45nm,1.3s
SDBA SAO DESIDERIO 43.71 185 *eP* **P** **19 28 18.1 +0.4**
W39A Magazine 43.74 290 P **P** **19 28 18.3 +0.6**
baz=79
W39A Magazine 43.74 290 P **P** **19 28 17.2 -0.6**
W39A IAmb IAmb 19 28 25.3
comp=Z,41nm,1.1s
NBCP Cabaceiras do 43.79 177 *eP* **P** **19 28 19.8 +1.6**
PEXB Peixe 43.80 190 *eP* **P** **19 28 19.3 +0.9**
KONO Kongsberg 43.83 35⇑ *eP* **P** **19 28 19.1 +1.0**
KONO pmax pmax
comp=Z,13nm,0.9s
ZOU Zoufplan 43.85 54 P **P** **19 28 17.1 -1.7**
ZOU IAmb IAmb 19 28 24.7
comp=Z,30nm,1.2s
WET Wettzell 43.87 50 P **P** **19 28 18.8 +0.1**
WET Wettzell 43.87 50 *eP* **P** **19 28 18.3 -0.4**
baz=262,slow=8.0
U38A Gravette 44.00 292 P **P** **19 28 18.9 -1.1**
U38A IAmb IAmb 19 28 27.1
comp=Z,41nm,0.9s
ESPN Las Esperanzas 44.05 254 P **P** **19 28 22.1 +1.6**
POPC Popayan, Colom 44.11 237 *eP* P 19 28 27.6 +6.4
CLL Collm 44.11 47⇓ *iP* **P** **19 28 19.9 -0.6**
comp=Z,25nm,1.1s
CLL *i* 19 28 25.9
comp=Z,44nm,1.2s
CLL *eS* **S** **19 35 01.0 +7.6**
comp=N,200nm,23.8s
CLL *eS* **S** **19 35 01.0 +7.6**
comp=E,300nm,23.6s
CLL LmV 19 43 00.0
comp=Z,900nm,20.8s
CLL Collm 44.11 47⇓ *iP* **P** **19 28 19.9 -0.6**
CLL *eS* **S** **19 35 01.0 +7.6**
CLL pmax pmax
comp=Z,25nm,1.1s
CLL MLR MLR
comp=Z,900nm,20.8s
CLL Collm 44.11 47 *eP* **P** **19 28 20.0 -0.5**
comp=Z,15nm,0.8s,baz=262,slow=8.0
CLL Collm 44.11 47 P **P** **19 28 19.0 -1.5**
CLL IAmb IAmb 19 28 27.0
comp=Z,29nm,1.0s
PRED Cave del Predi 44.26 54 P **P** **19 28 20.5 -1.4**
AGMN Agassiz Nation 44.29 309 P **P** **19 28 22.2 +0.2**
baz=92
AGMN Agassiz Nation 44.29 309 P **P** **19 28 21.6 -0.5**
AGMN IAmb IAmb 19 28 28.7
comp=Z,22nm,1.0s
FBE Freiberg 44.30 48 *eP* **P** **19 28 21.6 -0.5**
comp=Z,20nm,0.9s,baz=262,slow=8.0
AQU L'Aquila 44.30 60 P **P** **19 28 22.0 -0.3**
AQU pmax pmax
comp=Z,23nm,0.9s
AQU L'Aquila 44.30 60 P **P** **19 28 22.0 -0.3**
AQU IAmb IAmb 19 28 24.5
comp=Z,22nm,0.9s
CLDB Colider 44.32 201 *eP* **P** **19 28 22.3 -0.3**
KHC Kasperske Hory 44.33 50 *eP* **P** **19 28 21.3 -1.1**
KHC *ex* x 19 28 27.9
KHC Kasperske Hory 44.33 50 *dP* **P** **19 28 21.8 -0.6**
KHC pmax pmax
comp=Z,40nm,1.3s
KHC Kasperske Hory 44.33 50 P **P** **19 28 20.9 -1.5**
CADS Cadrg 44.38 54 *i* P **P** **19 28 21.6 -1.2**
ULM Lac du Bonnet 44.39 311 P **P** **19 28 21.9 -0.9**
comp=Z,6.1nm,0.6s,baz=74,slow=7.1,SNR=9.4
ULM LR LR 19 44 56.8
comp=Z,691nm,22.0s,baz=82,slow=34
ULM Lac du Bonnet 44.39 311⇓ *eP* **P** **19 28 22.7 -0.1**
ULM Lac du Bonnet 44.39 311 P **P** **19 28 21.9 -0.9**
ULM IAmb IAmb 19 28 28.9
comp=Z,23nm,0.9s
GEC2 GERESS Array S 44.40 51 *eP* **P** **19 28 22.2 -0.8**
baz=262,slow=8.0
GEC2 GERESS Array S 44.40 51 P **P** **19 28 21.5 -1.5**
GEC2 IAmb IAmb 19 28 29.4
comp=Z,55nm,1.9s
GERES GERESS Array B 44.40 51 P **P** **19 28 22.1 -0.9**
comp=Z,2.8nm,0.9s,baz=260,slow=6.6,SNR=19
GERES PcP **PcP** **19 30 06.8 0.0**
comp=Z,1.0nm,0.8s,baz=252,slow=0.4,SNR=3.7
GERES LR LR 19 45 22.2
comp=Z,366nm,18.3s,baz=256,slow=34
GERES GERESS Array B 44.40 51 P **P** **19 28 21.1 -1.9**
PTLC Puerto Leguiza 44.49 232 *eP* **P** **19 28 24.3 +0.3**
BRG Berggiesshubel 44.67 48 *eP* **P** **19 28 24.3 -0.7**
comp=Z,20nm,1.5s
BRG *e* 19 28 30.1
comp=Z,25nm,1.2s
BRG S **S** **19 35 04.0 +2.5**
BRG SS **ScS** **19 38 25.0 +1.8**
comp=N,398nm,19.8s
comp=E,959nm,19.9s
comp=Z,1µm,17.6s
BRG Berggiesshubel 44.67 48 *eP* **P** **19 28 24.3 -0.7**
BRG *e* 19 28 30.1
BRG S **S** **19 35 04.0 +2.5**
BRG SS **ScS** **19 38 25.0 +1.8**
BRG pmax pmax
comp=Z,20nm,1.5s
BRG pmax pmax
comp=Z,25nm,1.2s
BRG MLR MLR
comp=N,398nm,19.8s
BRG MLR MLR
comp=E,959nm,19.9s
BRG MLR MLR
comp=Z,1µm,17.6s
BRG Berggiesshubel 44.67 48 *eP* **P** **19 28 24.5 -0.5**
baz=262,slow=8.0
BBAC Balboa, Cauca 44.88 237 *eP* **P** **19 28 27.0 -0.3**
ECSD EROS Data Cent 44.88 302 P **P** **19 28 26.5 -0.3**
baz=86
ACON Acoyapa 44.89 254 P **P** **19 28 29.3 +2.1**
ACON IAmb IAmb 19 28 36.2
comp=Z,39nm,1.0s
PRA Prague 44.93 49 AMS AMS 19 45 20.0
comp=Z,400nm,11.4s
PRA Prague 44.93 49 *eP* **P** **19 28 29.1 +2.0**
PRA *e* 19 28 34.5
PRA MLR MLR
comp=Z,700nm,13.9s
LJU Ljubljana 44.94 55 *i* P **P** **19 28 26.5 -0.7**
OBKA Obir 44.94 54 *iP* **P** **19 28 26.6 -0.8**
comp=Z,16nm,0.7s,SNR=14
PRU Pruhonice 45.00 49 *eP* **P** **19 28 27.7 +0.1**
PRU *ex* x 19 28 33.6
PRU AMS AMS 19 45 20.0
comp=Z,800nm,10.5s
PRU Pruhonice 45.00 49 *eP* **P** **19 28 27.7 +0.1**
PRU *e* 19 28 33.6
PRU MLR MLR
comp=Z,800nm,10.5s
NB2 NORSAR Subarra 45.00 33 P **P** **19 28 27.0 -0.6**
comp=Z,31nm,1.4s,baz=254,slow=8.6
NOA NORSAR Array B 45.00 33 P **P** **19 28 27.0 -0.6**
comp=Z,4.2nm,0.8s,baz=254,slow=8.0,SNR=12
NOA LR LR 19 43 55.7
comp=Z,251nm,20.9s,baz=255,slow=32
MATN Matagalpa 45.01 256 P **P** **19 28 27.3 -0.9**
MATN IAmb IAmb 19 28 36.8
comp=Z,31nm,1.2s
PVCC Panska Ves 45.04 48 *eP* **P** **19 28 28.2 +0.2**
PVCC AMS AMS 19 44 20.0
comp=Z,2µm,19.8s
PVCC Panska Ves 45.04 48 *eP* **P** **19 28 28.2 +0.2**
PVCC MLR MLR
comp=Z,2µm,19.8s
Z38A Mt. Pleasant 45.11 287 P **P** **19 28 29.4 +0.6**
Z38A IAmb IAmb 19 28 36.4
comp=Z,22nm,0.7s
NC303 NORSAR Array S 45.12 33 P **P** **19 28 28.0 -0.5**
X37A Clayton 45.13 289 P **P** **19 28 27.2 -1.7**
X37A IAmb IAmb 19 28 36.8
comp=Z,39nm,1.1s
GOPC GO Pecny, Ondr 45.15 49 *eP* **P** **19 28 29.1 +0.2**
GOPC *epP* **pwP** **19 28 34.5 +0.7**
GOPC AMS AMS 19 45 50.0
comp=Z,700nm,13.9s
NATX Nacogdoches 45.19 285 P **P** **19 28 27.9 -1.5**
TUL1 Leonard 45.22 291 P **P** **19 28 29.3 -0.2**
baz=79
TUL1 Leonard 45.22 291 P **P** **19 28 29.1 -0.5**
SOKA Soboth 45.27 54 *eP* **P** **19 28 28.4 -1.6**
comp=Z,2.8nm,0.8s
PAOL Paolisi 45.29 62 P **P** **19 28 28.5 -1.7**
PAOL IAmb IAmb 19 28 38.0
comp=Z,44nm,1.5s
SAML Samuel 45.34 211 P **P** **19 28 30.4 -0.2**
SAML pmax pmax
comp=Z,30nm,1.4s
SAML Samuel 45.34 211 P **P** **19 28 30.4 -0.2**
SAML IAmb IAmb 19 28 38.2
comp=Z,30nm,1.4s
SAML Samuel 45.34 211 *eP* **P** **19 28 31.0 +0.3**
KSU1 Kansas State U 45.34 296 P **P** **19 28 30.2 -0.3**
baz=82
KSU1 Kansas State U 45.34 296 P **P** **19 28 29.6 -0.9**
GCUF Volcan Galeras 45.50 236 *eP* P 19 28 19.7 -13
GCUF *eP* sP 19 28 35.0 +0.8
TGUH Tegucigalpa,Un 45.55 258 P **P** **19 28 32.4 -0.3**
ARSA Arzberg 45.60 53 *i* P **P** **19 28 31.7 -0.8**
comp=Z,2.0nm,0.5s,SNR=12
T35A Sooner Cattle 45.61 293 P **P** **19 28 32.0 -0.7**
JTS Las Juntas de 45.63 252⇓ *eP* **P** **19 28 35.0 +1.9**
JTS pmax pmax
comp=Z,10.0nm,1.3s
JTS Las Juntas de 45.63 252 P **P** **19 28 33.4 +0.3**
JTS IAmb IAmb 19 28 51.5
comp=Z,19nm,1.1s
GOLS Golise 45.70 55 *eP* **P** **19 28 32.5 -0.8**
CONA Conrad Observa 45.82 52 *eP* **P** **19 28 33.7 -0.7**
comp=Z,4.1nm,0.7s
QUOK Quay 45.90 292 P **P** **19 28 33.8 -1.2**
UPC Upice 45.96 48 *eP* **P** **19 28 35.3 0.0**
UPC Upice 45.96 48 *eP* **P** **19 28 35.3 0.0**
CHVC Chvalec 45.99 48 *eP* **P** **19 28 35.2 -0.3**
CHVC AMS AMS 19 45 20.0
comp=Z,1µm,19.5s
OSTC Ostas 46.09 48 *eP* **P** **19 28 35.8 -0.5**
OSTC *ex* x 19 28 40.4
OSTC AMS AMS 19 45 10.0
comp=Z,1µm,17.5s
KSP Ksiaz 46.15 48 *eP* **P** **19 28 36.4 -0.4**
KSP Ksiaz 46.15 48 *eP* **P** **19 28 36.4 -0.4**
DPC Dobruska-Polom 46.15 48 *eP* **P** **19 28 36.4 -0.5**
DPC *epP* **pwP** **19 28 42.3 +0.5**
DPC AMS AMS 19 45 10.0
DPC Dobruska-Polom 46.15 48 *eP* **P** **19 28 36.4 -0.5**
DPC *e* 19 28 42.3
DPC MLR MLR
comp=E,700nm,12.2s
KRUC Moravsky 46.18 50 *eP* **P** **19 28 35.7 -1.3**
BGNE Belgrade 46.22 299 P **P** **19 28 36.9 -0.6**
JANB Januaria 46.30 184 *eP* **P** **19 28 38.4 +0.1**
SOP Sopron 46.30 52 P **P** **19 28 37.3 -0.6**
SOP pmax pmax
comp=Z,31nm,1.2s
VRAC Vranov 46.31 50 *eP* **P** **19 28 36.8 -1.3**
PETF Flores 46.37 264 P **P** **19 28 38.9 0.0**
KRLC Kraliky 46.44 49 *eP* **P** **19 28 39.0 -0.1**
KRLC AMS AMS 19 45 20.0
comp=Z,700nm,17.8s
KRLC Kraliky 46.44 49 *eP* **P** **19 28 39.0 -0.1**
KRLC MLR MLR
comp=Z,700nm,17.8s
OK025 Westminster Rd 46.51 291 P **P** **19 28 38.5 -1.3**
SUSD Miller 46.52 303 P **P** **19 28 39.6 -0.2**
baz=86
OK029 Liberty Lake 46.56 291 P **P** **19 28 40.1 -0.1**
H10N2 ASCENSION HYDR 46.61 142 T T 20 18 18.8
baz=328,slow=76,SNR=30
H10N3 ASCENSION HYDR 46.61 142 T T 20 18 17.2
baz=328,slow=76,SNR=1916
H10N1 ASCENSION HYDR 46.63 142 T T 20 18 18.0
baz=328,slow=76,SNR=2253
FNO Franklin 46.63 291 P **P** **19 28 40.7 -0.1**
OKCFA Oklahoma City 46.64 291 P **P** **19 28 41.4 +0.6**
HKT Hockley 46.64 283 P **P** **19 28 42.0 +1.2**
HKT pmax pmax
comp=Z,30nm,1.4s
HKT Hockley 46.64 283 P **P** **19 28 42.0 +1.2**
HKT IAmb IAmb 19 28 49.3
comp=Z,30nm,1.4s
ZST Bratislava 46.65 51 *eP* **P** **19 28 39.4 -1.3**
ZST pmax pmax
comp=Z,107nm,1.6s
ZST Bratislava 46.65 51 *eP* **P** **19 28 39.4 -1.3**
KAN12 Harper NE Stat 46.71 293 P **P** **19 28 41.6 +0.3**
BCOK Bluff Creek, N 46.71 291 P **P** **19 28 40.9 -0.5**
MODS Modra-Piesok 46.77 51 *eP* **P** **19 28 40.2 -1.5**
MODS pmax pmax
comp=Z,48nm,1.4s
MODS Modra-Piesok 46.77 51 *eP* **P** **19 28 40.2 -1.5**
KAN10 Anthony SW Sta 46.81 293 P **P** **19 28 42.1 -0.1**
CROK Carrier 46.84 292 P **P** **19 28 42.3 -0.1**
MORC Moravsky Berou 46.93 49 P **P** **19 28 42.6 -0.3**
MORC Moravsky Berou 46.93 49 *eP* **P** **19 28 42.0 -1.0**
MORC Moravsky Berou 46.93 49 P **P** **19 28 41.5 -1.4**
MORC pmax pmax
comp=Z,20nm,1.3s
MORC Moravsky Berou 46.93 49 P **P** **19 28 41.5 -1.4**
MORC IAmb IAmb 19 28 49.5
comp=Z,20nm,1.3s
Z35A Perchaven, San 46.94 288 P **P** **19 28 42.6 -0.6**
OTAV Otavalo 46.98 236 *eP* **P** **19 28 46.2 +2.1**
OTAV Otavalo 46.98 236 P **P** **19 28 45.1 +0.9**
OTAV pmax pmax
comp=Z,47nm,1.2s
OTAV Otavalo 46.98 236 P **P** **19 28 45.1 +0.9**
OTAV Otavalo 46.98 236 *eP* **P** **19 28 46.0 +1.8**
JAVC Velka Javorina 47.02 51 *eP* **P** **19 28 43.5 -0.2**
ESQI Esquipulas 47.04 260 P **P** **19 28 45.4 +1.1**
R32A Long Quarter, 47.07 295 P **P** **19 28 42.9 -1.3**
MTO3 Montecristo 47.14 260 P **P** **19 28 46.8 +1.6**
PAC1 Pacto, Paraso 47.20 236 *eP* **P** **19 28 46.9 +1.3**
BDFB Brasilia 47.24 189 P **P** **19 28 46.2 +0.5**
comp=Z,7.2nm,0.7s,baz=13,slow=9.4,SNR=9.5
BDFB LR LR 19 46 11.1
comp=Z,740nm,18.9s,slow=33
BDFB Brasilia 47.24 189 P **P** **19 28 46.7 +1.0**
BDFB pmax pmax
comp=Z,50nm,1.6s
BDFB Brasilia 47.24 189 P **P** **19 28 46.7 +1.0**
WHTX Lake Whitney, 47.44 286 P **P** **19 28 47.9 +0.8**
baz=75
WHTX Lake Whitney, 47.44 286 P **P** **19 28 48.3 +1.2**
H10S3 ASCENSION HYDR 47.47 143 T T 20 19 21.7
baz=328,slow=74,SNR=5553
SRO Srobarova 47.48 52 *eP* **P** **19 28 46.6 -0.6**
SRO pmax pmax
comp=Z,39nm,1.4s
SRO Srobarova 47.48 52 *eP* **P** **19 28 46.6 -0.6**
H10S2 ASCENSION HYDR 47.49 143 T T 20 19 27.1
baz=252,slow=74,SNR=1387
ETMB Extrema 47.51 214 *eP* **P** **19 28 46.9 -0.8**
SRO2 Moca 47.53 52 *eP* **P** **19 28 46.3 -1.3**
SRO2 pmax pmax
comp=Z,15nm,0.9s
SRO2 Moca 47.53 52 *eP* **P** **19 28 46.3 -1.3**
E28A Huff 47.59 306 P **P** **19 28 48.6 +0.4**
U32A Winter Ranch, 47.67 292 P **P** **19 28 48.5 -0.4**
CBKS Cedar Bluff 47.79 296 P **P** **19 28 48.8 -1.0**
CBKS pmax pmax
comp=Z,45nm,0.9s
CBKS Cedar Bluff 47.79 296 P **P** **19 28 48.8 -1.0**
VYHS Vyhne 47.80 51 *eP* **P** **19 28 48.8 -0.9**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 47.80 51 *eP* **P** **19 28 48.8 -0.9**
WMOK Wichita Mounta 47.85 290 P **P** **19 28 50.6 +0.3**
baz=77
WMOK Wichita Mounta 47.85 290 P **P** **19 28 50.6 +0.3**
WMOK pmax pmax
comp=Z,32nm,1.1s
WMOK Wichita Mounta 47.85 290 P **P** **19 28 50.6 +0.3**
435B Jarrell 47.87 285 P **P** **19 28 49.5 -0.9**
MC01 Montes Claros 47.91 184 *eP* **P** **19 28 51.1 +0.3**
ARAG Araguaiana, MT 47.95 194 *eP* **P** **19 28 52.1 +1.1**
LANS Liptovska Anna 48.20 50 *eP* **P** **19 28 53.4 +0.6**
LANS pmax pmax
comp=Z,8.0nm,1.2s
LANS Liptovska Anna 48.20 50 *eP* **P** **19 28 53.4 +0.6**
OJC Ojcow 48.38 49 *eP* **P** **19 28 53.7 -0.5**
OJC Ojcow 48.38 49 *eP* **P** **19 28 53.7 -0.5**
OJC Ojcow 48.38 49 P **P** **19 28 52.7 -1.5**
OJC IAmb IAmb 19 29 00.9
comp=Z,21nm,1.1s
FFC Flin Flon 48.38 317 P **P** **19 28 54.3 +0.2**
FFC pmax pmax
comp=Z,20nm,0.9s
FFC Flin Flon 48.38 317 P **P** **19 28 54.3 +0.2**
FFC IAmb IAmb 19 29 01.3
comp=Z,20nm,0.8s
PSZ Piszkesteto 48.53 52 P **P** **19 28 50.8 -4.7**
PSZ pmax pmax
comp=Z,28nm,1.3s
PSZ Piszkesteto 48.53 52 P **P** **19 28 50.8 -4.7**
PSZ IAmb IAmb 19 29 01.9
comp=Z,28nm,1.3s
PDG Podgorica 48.61 59 P **P** **19 28 52.4 -3.6**
PDG IAmb IAmb 19 29 02.6
comp=Z,25nm,1.3s
NIE Niedzica 48.73 50 *eP* **P** **19 28 57.1 +0.2**
NIE Niedzica 48.73 50 *eP* **P** **19 28 57.1 +0.2**
DIVS Divibare 48.93 57 P **P** **19 28 57.2 -1.4**
DIVS IAmb IAmb 19 29 04.2
comp=Z,17nm,1.1s
ABTX Abilene, Hawle 49.06 288 P **P** **19 28 59.5 -0.2**
baz=75
ABTX Abilene, Hawle 49.06 288 P **P** **19 29 00.2 +0.5**
CRVS Cervenica-Dubn 49.52 50 *eP* **P** **19 29 03.0 +0.1**
CRVS pmax pmax
comp=Z,56nm,1.4s
CRVS Cervenica-Dubn 49.52 50 *eP* **P** **19 29 03.0 +0.1**
IPMB Ipameri, GO 49.57 189 *eP* **P** **19 29 04.3 +0.7**
PTLB Pontes e Lacer 49.69 203 *eP* **P** **19 29 05.4 +1.0**
PBUR Paburge 49.72 41 *eP* **P** **19 29 05.5 +1.1**
JCT Junction City 49.78 285 P **P** **19 29 05.5 +0.3**
baz=73
JCT Junction City 49.78 285 P **P** **19 29 05.0 -0.3**
JCT pmax pmax
comp=Z,34nm,0.9s
JCT Junction City 49.78 285 P **P** **19 29 05.0 -0.3**
SJMB Sao Joao De Ma 49.82 180 *eP* **P** **19 29 08.1 +2.7**
DGMT Dagmar 49.84 309 P **P** **19 29 05.7 +0.3**
baz=86
DGMT Dagmar 49.84 309 P **P** **19 29 01.9 -3.6**
DGMT IAmb IAmb 19 29 12.1
comp=Z,33nm,1.0s
SIRR Siria 49.87 54 ⇑P **P** **19 29 05.8 +0.1**
IGT Igoumenitsa 49.87 63 P **P** **19 29 07.3 +1.5**
IGT pmax pmax
comp=Z,16nm,1.7s
BZS Buzias 49.91 55 ⇑P **P** **19 29 06.2 +0.3**
KSCO Kaye Shedlock' 49.97 297 P **P** **19 29 06.9 +0.2**
baz=79
KSCO Kaye Shedlock' 49.97 297 P **P** **19 29 05.0 -1.7**
KSCO IAmb IAmb 19 29 14.0
comp=Z,23nm,0.8s
KOLS Kolonicke sedl 50.05 50 *eP* **P** **19 29 05.6 -1.4**
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 50.05 50 *eP* **P** **19 29 05.6 -1.4**
MDVR Moldovita 50.07 56 ⇑P **P** **19 29 07.0 -0.3**
UZH Uzhgorod 50.09 51 *eP* **P** **19 29 07.4 +0.2**
UZH *e* 19 29 13.0
AMTX Amarillo 50.13 291 P **P** **19 29 08.4 +0.5**
baz=76
AMTX Amarillo 50.13 291 P **P** **19 29 07.5 -0.4**
RIB01 Linhares ES 50.43 179 *eP* **P** **19 29 14.3 +4.3**
HERR Herculane 50.56 56 ⇑P **P** **19 29 10.3 -0.5**
TRSU Trosnyk 50.57 51 P **P** **19 29 11.4 +0.5**
GZR Gura Zlata 50.74 55 ⇑P **P** **19 29 12.2 -0.1**
PABE Paberze 50.87 42 *eP* **P** **19 29 12.4 -0.6**
MORS Morshin 51.10 50 P **P** **19 29 15.6 +0.7**
LVV L'vov 51.13 49 *eP* **P** **19 29 14.9 -0.2**
NOR Nord 51.15 4 *iP* **P** **19 29 14.6 -0.1**
NOR pmax pmax
comp=Z,15nm,1.2s
NOR Nord 51.15 4 *iP* **P** **19 29 14.6 -0.1**
comp=Z,15nm,1.2s
NOR Nord 51.15 4 *iP* **P** **19 29 14.7 -0.1**
NOR IAmb IAmb 19 29 17.3
comp=Z,15nm,1.2s
LIT Litokhoron 51.40 62 P **P** **19 29 16.1 -1.2**
LIT pmax pmax
comp=Z,8.0nm,1.0s
LIT Litokhoron 51.40 62 P **P** **19 29 16.1 -1.2**
LOT Lotru 51.43 55 ⇑P **P** **19 29 17.1 -0.4**
ITRB Iturama 51.58 191 *eP* **P** **19 29 21.8 +3.1**
ITM Ithomi 51.59 65 P **P** **19 29 18.4 -0.4**
ITM IAmb IAmb 19 29 32.6
comp=Z,69nm,1.8s
PHWY Pilot Hill 51.67 300 P **P** **19 29 17.6 -2.1**
T25A Trinidad 51.75 295 P **P** **19 29 20.0 -0.2**
baz=76
T25A Trinidad 51.75 295 P **P** **19 29 19.8 -0.4**
T25A IAmb IAmb 19 29 28.1
comp=Z,28nm,0.9s
SOH Sokhos 51.90 61 P **P** **19 29 22.7 +1.6**
SOH pmax pmax
comp=Z,7.0nm,2.2s
Q24A Divide 51.91 297 P **P** **19 29 21.9 +0.4**
baz=77
Q24A Divide 51.91 297 P **P** **19 29 19.4 -2.1**
Q24A IAmb IAmb 19 29 29.4
comp=Z,31nm,1.4s
KSV Kosov 51.95 51 P **P** **19 29 20.3 -1.0**
ARR Arges 52.04 55 ⇑P **P** **19 29 21.8 -0.3**
ISCO Idaho Springs 52.08 298 P **P** **19 29 22.9 +0.1**
baz=78
ISCO Idaho Springs 52.08 298 P **P** **19 29 21.8 -1.0**
ISCO pmax pmax

comp=Z,7,0nm,0.9s
ISCO Idaho Springs 52.08 298 P P 19 29 21.8 -1.0
ISAL Salakas 52.09 42 eP P 19 29 21.7 -0.4
N23A Red Feather La 52.11 300 P P 19 29 21.9 -0.9
N23A IAmb IAmb 19 29 30.8
comp=Z,39nm,1.5s
BUR08 Bucovina Ar. S 52.12 52 P P 19 29 21.1 -1.6
BUR08 IAmb IAmb 19 29 29.8
comp=Z,30nm,1.1s
FINES FINESS Array B 52.13 34 P P 19 29 22.1 -0.3
comp=Z,6.1nm,0.9s,baz=276,slow=5.6,SNR=12
FINES LR LR 19 47 57.2
comp=Z,330nm,21.3s,baz=256,slow=32
FINES FINESS Array B 52.13 34 P P 19 29 22.0 -0.4
FIA1 FINESS Array S 52.14 34 P P 19 29 22.5 +0.1
FIA1 IAmb IAmb 19 29 29.5
comp=Z,27nm,1.1s
BURAR Bucovina Array 52.14 52 ⇑P P 19 29 22.8 0.0
BURAR Bucovina Array 52.14 52 P P 19 29 22.8 0.0
BURAR Bucovina Array 52.14 52 P P 19 29 21.3 -1.5
IIGN Ignalina 52.15 42 eP P 19 29 22.3 -0.4
VOIR 52.32 54 ⇑P P 19 29 23.6 -0.6
VOIR 52.32 54 P P 19 29 23.6 -0.6
VSU Vasula 52.38 38 eP P 19 29 23.9 -0.3
VSU Vasula 52.38 38⇓eP P 19 29 22.3 -2.0
VSU pmax pmax
comp=Z,58nm,1.0s
IDID Didziasalis 52.45 42 eP P 19 29 24.4 -0.4
SDCO Great Sand Dun 52.45 296 P P 19 29 26.9 +1.4
baz=76
SDCO Great Sand Dun 52.45 296 P P 19 29 24.7 -0.8
NACGM Naroch 52.49 42 e P 19 29 23.0 -2.2
NACGM eLR LR 19 46 00.0
HORU Horodok 52.74 50 P P 19 29 25.2 -1.9
ARCES ARCESS Array B 52.80 24 P P 19 29 26.7 -0.6
comp=Z,7.5nm,1.0s,baz=274,slow=4.6,SNR=7.4
ARCES LR LR 19 48 26.7
comp=Z,162nm,19.5s,baz=260,slow=32
BIZ Bicaz 52.83 52 ⇓P P 19 29 27.5 -0.3
KMPD K-Podol'skiy 52.84 50 P P 19 29 28.0 +0.1
PRAR RASCA 52.85 52 ⇓P P 19 29 27.8 -0.2
RWWY Rawlins 52.88 301 P P 19 29 27.7 -0.9
RWWY IAmb IAmb 19 29 36.3
comp=Z,49nm,1.8s
MLR Muntele Rosu 52.94 54 ⇓P P 19 29 28.5 -0.3
MLR Muntele Rosu 52.94 54 P P 19 29 28.1 -0.7
MLR pmax pmax
comp=Z,58nm,1.2s
MLR Muntele Rosu 52.94 54 P P 19 29 28.1 -0.7
GDL2 Guadalupe Moun 53.01 289 P P 19 29 29.5 0.0
MICGM Minsk 53.15 43 e P 19 29 28.0 -2.0
MICGM eLR LR 19 47 25.0
MNK Minsk 53.15 43 eP P 19 29 28.0 -2.0
TXAR Lajitas Array 53.33 285 P P 19 29 32.3 +0.4
comp=Z,1.4nm,0.7s,baz=78,slow=6.5,SNR=5.6
TXAR LR LR 19 52 22.8
comp=Z,474nm,18.2s,baz=0.0,slow=36
TXAR Lajitas Array 53.33 285 P P 19 29 32.0 +0.1
PLOR Plostina 53.37 54 ⇓P P 19 29 31.2 -0.6
PLOR Plostina 53.37 54 P P 19 29 31.2 -0.6
VRI Vrincioaia 53.42 54 ⇓P P 19 29 32.1 -0.1
VRI Vrincioaia 53.42 54 P P 19 29 32.1 -0.1
S22A 4UR Ranch, Cre 53.47 296 P P 19 29 33.3 +0.3
baz=76
S22A 4UR Ranch, Cre 53.47 296 P P 19 29 34.3 +1.2
EGMT Eagleton 53.58 309 P P 19 29 32.7 -0.7
baz=82
EGMT Eagleton 53.58 309 P P 19 29 33.5 +0.1
PCMB Pacaembu 53.59 192 eP P 19 29 34.8 +1.2
RLMT Red Lodge 53.72 305 P P 19 29 34.6 0.0
baz=80
RLMT Red Lodge 53.72 305 P P 19 29 33.6 -1.1
RLMT IAmb IAmb 19 29 54.5
comp=Z,47nm,1.7s
GCMT Greycliff 53.88 306 P P 19 29 36.7 +0.9
ALN Alexandroupoli 53.88 60 P P 19 29 33.3 -2.3
ALN Alexandroupoli 53.88 60 P P 19 29 33.3 -2.3
ANMO Albuquerque 53.91 293 P P 19 29 36.9 +0.7
baz=74
ANMO Albuquerque 53.91 293 *de*P P **19 29 38.5 +2.3**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO Albuquerque 53.91 293 P P 19 29 36.6 +0.4
O20A White River Ci 53.98 299 P P 19 29 37.6 +1.0
baz=77
O20A White River Ci 53.98 299 P P 19 29 35.5 -1.2
O20A IAmb IAmb 19 29 56.6
comp=Z,24nm,1.3s
MNTX Cornudas Mount 53.99 288 P P 19 29 37.4 +0.8
baz=72
MNTX Cornudas Mount 53.99 288 P P 19 29 35.3 -1.3
LPAZ La Paz 54.04 213 P P 19 29 38.2 +0.6
comp=Z,5.2nm,0.7s,baz=5.0,slow=6.8,SNR=20
LPAZ LR LR 19 51 19.4
comp=Z,741nm,19.8s,baz=15,slow=35
LPAZ La Paz 54.04 213 P P 19 29 37.7 +0.1
LPAZ La Paz 54.04 213 eP P 19 29 38.3 +0.6
YNE Yellowstone No 54.25 305 P P 19 29 38.2 -0.4
BNM Barren Site 54.27 292 P P 19 29 39.9 +1.0
AKASG Malin Array Be 54.35 47 P P 19 29 37.7 -1.2
AKASG LR LR 19 51 06.4
comp=Z,15nm,0.9s,baz=274,slow=6.5,SNR=18
comp=Z,796nm,18.2s,baz=280,slow=34
AKBB Malin Array Si 54.35 47 *ce*P P **19 29 37.8 -1.1**
BW06 Boulder Array 54.37 303 P P 19 29 39.3 -0.1
baz=78
BW06 Boulder Array 54.37 303 P P 19 29 39.4 -0.1
BW06 IAmb IAmb 19 29 46.3
comp=Z,19nm,0.9s
PD31 Pinedale Array 54.37 303 P P 19 29 39.1 -0.4
PD31 IAmb IAmb 19 29 46.3
comp=Z,17nm,0.8s
PDAR Pinedale Array 54.37 303 P P 19 29 39.4 -0.1
comp=Z,8.0nm,0.9s,baz=83,slow=8.0,SNR=27
PDAR LR LR 19 52 16.6
comp=Z,3µm,18.1s,baz=113,slow=35
PDAR Pinedale Array 54.37 303 P P 19 29 39.0 -0.5
YMP Mirror Lake Pl 54.41 305 P P 19 29 40.5 +0.8
CFR Carcaliu 54.51 54 P P 19 29 38.6 -1.6
CFR Carcaliu 54.51 54 P P 19 29 38.5 -1.6
PV15 Paradox Valley 54.59 297 P P 19 29 40.2 -0.9
LKWY Lake 54.61 305 P P 19 29 41.2 0.0
LKWY pmax pmax
comp=Z,20nm,0.8s
LKWY Lake 54.61 305 P P 19 29 41.2 0.0
LKWY IAmb IAmb 19 29 58.7
comp=Z,20nm,0.8s
YUF Upper Falls 54.66 305 P P 19 29 41.4 -0.2
PV01 Paradox Valley 54.71 297 P P 19 29 40.8 -1.2
H17A Grant Village 54.77 305 P P 19 29 40.0 -2.3
PV22 Blue Mesa, Par 54.77 297 P P 19 29 44.5 +2.1
PV22 IAmb IAmb 19 29 52.0
comp=Z,14nm,0.9s
PV12 Saucer Basin, 54.84 297 P P 19 29 41.9 -1.0
RDMU Red Mountain 54.87 300 P P 19 29 43.1 0.0
YHH Holmes Hill 54.88 305 P P 19 29 42.2 -1.0
PV03 Paradox Valley 54.89 297 P P 19 29 42.8 -0.5
MVCO Mesa Verde 54.89 296 P P 19 29 44.4 +1.1
baz=75
MVCO Mesa Verde 54.89 296 P P 19 29 43.8 +0.5
MVCO IAmb IAmb 19 29 51.7
comp=Z,27nm,1.0s
PV13 Radium Mtn., P 54.89 297 P P 19 29 42.6 -0.8
PV21 Cone Mtn., Par 54.91 297 P P 19 29 41.2 -2.3
PV21 IAmb IAmb 19 29 56.4
comp=Z,21nm,1.4s
FLWY Flagg Ranch 54.92 304 P P 19 29 43.6 +0.2
FLWY IAmb IAmb 19 30 11.6
comp=Z,18nm,1.1s
PV16 Nyswonger Mesa 54.93 297 P P 19 29 43.1 -0.5
PV18 Skein Mesa, Pa 54.94 297 P P 19 29 42.8 -0.9
LOHW Long Hollow 54.95 304 P P 19 29 42.8 -0.8
YPP Pitchstone Pla 54.95 305 P P 19 29 44.2 +0.5
YMR Madison River 54.98 305 P P 19 29 43.2 -0.7
FRTB Fartura 55.03 189 eP P 19 29 46.5 +2.4
NNA Nana 55.08 224 *i* P P 19 29 49.7 +5.1
SNOW Snow King Moun 55.09 304 P P 19 29 45.2 +0.5
SNOW IAmb IAmb 19 29 52.1
comp=Z,17nm,0.8s
YKA Yellowknife Ar 55.09 327 P P 19 29 45.5 +1.4
comp=Z,7.4nm,0.9s,baz=72,slow=7.4,SNR=5.1
YKA LR LR 19 52 23.7
comp=Z,2µm,20.3s,baz=0.0,slow=35
YHL Hebgen Lake 55.10 305 P P 19 29 44.4 -0.5

IMW Indian Meadow 55.12 304 P P 19 29 45.0 -0.1
IMW IAmb IAmb 19 29 52.4
comp=Z,18nm,0.9s
REDW Red Top Meadow 55.17 304 P P 19 29 45.2 -0.1
REDW IAmb IAmb 19 29 58.4
comp=Z,25nm,1.2s
HRY Holter Researc 55.19 308 P P 19 29 44.4 -0.8
TPAW Teton Pass 55.22 304 P P 19 29 45.5 -0.2
TPAW IAmb IAmb 19 29 53.1
comp=Z,26nm,1.4s
FXWY Fox Creek 55.24 304 P P 19 29 45.7 -0.1
BOZ Bozeman (W) 55.26 306 P P 19 29 46.2 +0.4
baz=79
BOZ Bozeman (W) 55.26 306 P P 19 29 45.4 -0.4
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 55.26 306 P P 19 29 45.4 -0.4
QLMT Earthquake Lak 55.28 305 P P 19 29 45.8 -0.2
AHID Auburn Hatcher 55.48 303 P P 19 29 47.1 -0.4
AHID IAmb IAmb 19 30 00.4
comp=Z,13nm,0.5s
APA Apatity 55.51 27 ⇓*i*P P **19 29 47.7 +0.7**
APA pmax pmax
comp=Z,16nm,0.8s
121A Cookes Peak, D 55.67 290 P P 19 29 49.9 +0.9
baz=72
121A Cookes Peak, D 55.67 290 P P 19 29 50.1 +1.1
LRM Limekiln Ridge 55.78 307 P P 19 29 48.8 -0.8
SRU San Rafael Swe 55.94 298 P P 19 29 50.9 +0.1
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 55.94 298 P P 19 29 50.9 +0.1
DLMT Dillon 55.98 306 P P 19 29 51.5 +0.6
DLMT IAmb IAmb 19 30 14.0
comp=Z,26nm,1.2s
HWUT Hardware Ranch 56.09 302 P P 19 29 51.4 -0.5
HWUT IAmb IAmb 19 29 59.0
comp=Z,17nm,0.9s
TCUT Toone Canyon 56.09 301 P P 19 29 51.0 -1.0
WALA Waterton Lakes 56.14 311 P P 19 29 51.4 -0.6
JLU Jordanelle 56.25 300 P P 19 29 53.2 +0.1
MCMT McKenzie Canyo 56.27 306 P P 19 29 54.2 +1.1
TMUT Trail Mountain 56.40 299 P P 19 29 54.2 -0.1
W18A Petrified Fore 56.44 294 P P 19 29 53.0 -1.4
W18A IAmb IAmb 19 30 02.2
comp=Z,22nm,1.0s
CTU Camp Tracy 56.45 301 P P 19 29 53.8 -0.6
PB16 IPOC Station P 56.46 213 P P 19 29 54.2 -0.9
Q16A Castle Valley 56.48 298 P P 19 29 56.1 +1.4
MSO Missoula 56.59 308 P P 19 29 56.2 +1.0
baz=78
MSO Missoula 56.59 308 P P 19 29 55.5 +0.3
MSO IAmb IAmb 19 30 02.4
comp=Z,45nm,1.6s
BCYI Bear Canyon 56.77 305 P P 19 29 55.6 -1.1
HVU Hansel Valley 56.92 302 P P 19 29 56.5 -1.3
HVU pmax pmax
comp=Z,28nm,1.5s
HVU Hansel Valley 56.92 302 P P 19 29 56.5 -1.3
PB12 IPOC Station P 57.08 213 P P 19 29 57.2 -1.7
MNMC Minye Minye 57.19 212 P P 19 29 58.4 -1.5
BGU Big Grassy Mou 57.33 301 P P 19 30 00.3 -0.3
MSU Marysvale 57.34 298 P P 19 30 01.0 +0.2
MSU Marysvale 57.34 298 P P 19 30 01.0 +0.2
DUG Dugway, Tooele 57.36 300 P P 19 30 01.4 +0.5
baz=74
DUG Dugway, Tooele 57.36 300 P P 19 30 01.5 +0.7
DUG pmax pmax
comp=Z,20nm,1.0s
DUG Dugway, Tooele 57.36 300 P P 19 30 01.5 +0.7
DUG IAmb IAmb 19 30 08.5
comp=Z,20nm,1.0s
GO01 Chusmiza 57.48 212 P P 19 30 01.6 -0.5
MTPU Mount Pierson 57.48 298 P P 19 30 03.9 +1.9
TCRU Three Creeks R 57.52 298 P P 19 30 03.2 +1.1
TMCR Tamitsa 57.56 31 *e*P P **19 30 00.8 -0.8**
TMCR pmax pmax
comp=Z,20nm,0.9s
WUAZ Wupatki 57.60 295 P P 19 30 03.6 +1.0
baz=72
WUAZ Wupatki 57.60 295 P P 19 30 04.2 +1.6
WUAZ IAmb IAmb 19 30 11.1
comp=Z,31nm,1.0s
HLID Hailey 57.65 305 P P 19 30 02.9 0.0
baz=76
HLID Hailey 57.65 305 P P 19 30 02.8 0.0
PB11 IPOC Station P 57.77 212 P P 19 30 03.0 -0.8
MDUB Mudurnu 57.78 59 P P 19 30 02.2 -1.6
PSGCX Pisagua 57.84 213 P P 19 30 03.0 -1.3
ELL Elmali 57.87 64 P P 19 30 03.8 -0.6
ELL pmax pmax
comp=Z,76nm,1.1s
ELL Elmali 57.87 64 P P 19 30 03.8 -0.6
PB08 IPOC Station P 57.87 211 P P 19 30 04.6 -0.2
PB08 IAmb IAmb 19 30 07.0
comp=Z,23nm,1.2s
X16A Lo Mia Camp, P 57.99 293 P P 19 30 06.7 +1.3
U15A North Rim 58.03 296 P P 19 30 06.6 +0.8
U15A IAmb IAmb 19 30 14.2
comp=Z,22nm,0.9s
OBN Obninsk 58.07 41 LR LR 19 53 43.6
comp=Z,138nm,18.6s,baz=274,slow=35
OBN Obninsk 58.07 41 *de*P P **19 30 04.6 -0.7**
OBN *i* 19 30 10.9
OBN *i* SS SKiKP 19 41 52.7 +58
OBN pmax pmax
comp=Z,54nm,1.7s
OBN Obninsk 58.07 41 P P 19 30 03.1 -2.2
SHEL Horse Pasture 58.08 139 *i* P P **19 30 08.4 +2.5**
TUC Tucson 58.15 291 P P 19 30 06.0 -0.4
baz=70
TUC Tucson 58.15 291 P P 19 30 05.1 -1.3
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 58.15 291 P P 19 30 05.1 -1.3
KNB Kanab 58.26 297 P P 19 30 08.3 +1.0
KNB pmax pmax
comp=Z,14nm,1.1s
KNB Kanab 58.26 297 P P 19 30 08.3 +1.0
SZCU Shurtz Canyon 58.29 297 P P 19 30 07.2 -0.4
PLID Pearl Lake 58.38 307 P P 19 30 07.2 -0.8
PLID IAmb IAmb 19 30 15.2
comp=Z,19nm,1.1s
NEW Newport 58.38 310 P P 19 30 07.3 -0.5
baz=77
NEW Newport 58.38 310 P P 19 30 07.3 -0.5
NEW pmax pmax
comp=Z,39nm,0.9s
NEW Newport 58.38 310 P P 19 30 07.3 -0.5
CCUT Cedar City 58.52 297 P P 19 30 09.1 0.0
MOS Moscow 58.55 41 eP P 19 30 06.5 -2.2
MOS *e* 19 30 57.7
MOS pmax pmax
comp=Z,43nm,1.5s
LCMT Little Creek M 58.59 297 P P 19 30 09.8 +0.3
PSUT Pine Spring 58.60 299 P P 19 30 09.3 -0.4
KLMR Klimovskoe 58.66 34 eP P 19 30 07.7 -1.7
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 58.66 34 eP P 19 30 07.8 -1.7
KLMR AMP 19 30 19.5
comp=Z,27nm,1.4s
MFID Camas Ranch 58.69 305 P P 19 30 10.1 0.0
MFID IAmb IAmb 19 30 17.6
comp=Z,21nm,1.0s
PB01 IPOC Station P 58.81 211 P P 19 30 09.2 -1.8
PB01 IAmb IAmb 19 30 15.8
comp=Z,21nm,1.1s
ELK Elko 58.99 302 P P 19 30 11.9 -0.4
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 58.99 302 P P 19 30 11.9 -0.4
F10A Beach Ranch, E 59.00 308 P P 19 30 12.2 0.0
F10A IAmb IAmb 19 30 18.3
comp=Z,16nm,1.1s
BR231 Keskin MP Arra 59.12 60 P P 19 30 12.0 -1.2
BR231 IAmb IAmb 19 30 19.7
comp=Z,14nm,0.8s
C09A Chrisman Ranch 59.24 310 P P 19 30 14.1 +0.4
BMO Blue Mountains 59.34 307 P P 19 30 12.8 -1.8
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 59.34 307 P P 19 30 12.8 -1.8
Y14A Wickenburg 59.37 293 P P 19 30 14.4 -0.5

Y14A IAmb IAmb 19 30 23.2
comp=Z,24nm,1.1s
E09A Wood Farm, Sta 59.48 309 P P 19 30 14.8 -0.5
E09A IAmb IAmb 19 30 22.3
comp=Z,28nm,1.4s
W13A Hualapai Mount 59.68 295 P P 19 30 17.9 +0.7
W13A IAmb IAmb 19 30 25.8
comp=Z,17nm,0.9s
BR131 Keskin Array S 59.79 59 P P 19 30 17.0 -0.8
SNR=9.6
BR131 P P **19 30 17.0 -0.8**
SNR=9.6
BR131 Keskin Array S 59.79 59 *d*/P P **19 30 17.0 -0.8**
BR131 Keskin Array S 59.79 59 P P 19 30 16.8 -1.0
BRTR Keskin Array B 59.79 59 P P 19 30 17.1 -0.8
comp=Z,6.8nm,0.9s,baz=284,slow=5.0,SNR=28
BRTR LR LR 19 55 31.4
comp=Z,134nm,18.6s,baz=289,slow=36
BRTR Keskin Array B 59.79 59 P P 19 30 15.9 -1.9
B08A Colville Reser 59.79 311 P P 19 30 17.1 -0.5
PRN Pahroc Range 59.84 298 P P 19 30 19.8 +1.6
D08A Wollman Farm, 59.85 309 P P 19 30 18.9 +1.0
D08A IAmb IAmb 19 30 24.9
comp=Z,23nm,1.1s
LVC Limon Verde 59.94 210 P P 19 30 18.0 -1.1
LVC pmax pmax
comp=Z,13nm,1.0s
LVC Limon Verde 59.94 210 P P 19 30 18.0 -1.1
LVC IAmb IAmb 19 30 21.6
comp=Z,13nm,1.0s
LPSR Galich'ya Gora 59.95 44 *e*P P **19 30 17.3 -1.1**
LPSR pmax pmax
comp=Z,70nm,1.5s
R11A Troy Canyon, C 59.95 299 P P 19 30 19.1 +0.2
baz=72
R11A Troy Canyon, C 59.95 299 P P 19 30 18.9 -0.1
R11A IAmb IAmb 19 30 26.6
comp=Z,14nm,1.2s
E08A Dider Farm, El 60.09 309 P P 19 30 18.2 -1.3
E08A IAmb IAmb 19 30 26.9
comp=Z,23nm,1.2s
SHPR Sheep Range 60.21 297 P P 19 30 20.1 -0.6
G08A Pilot Rock 60.35 307 P P 19 30 21.5 0.0
G08A IAmb IAmb 19 30 28.2
comp=Z,36nm,1.8s
113A Mohawk Valley, 60.36 292 P P 19 30 22.5 +0.9
113A IAmb IAmb 19 30 29.7
comp=Z,18nm,1.0s
VSR Storozhevoye 60.42 45 *e*P P **19 30 18.2 -3.5**
VSR pmax pmax
comp=Z,30nm,1.6s
HAWA Hanford 60.44 309 P P 19 30 22.3 +0.4
J08A Circle Bar Ran 60.56 305 P P 19 30 23.8 +0.8
VORD Divnogorie 60.56 46 *e*P P **19 30 21.5 -1.2**
VORD pmax pmax
comp=Z,40nm,1.6s
E07A Sunnyside 60.60 309 P P 19 30 22.5 -0.6
E07A IAmb IAmb 19 30 30.5
comp=Z,29nm,1.1s
PB15 IPOC Station P 60.70 210 P P 19 30 24.4 +0.3
PB15 IAmb IAmb 19 30 25.5
comp=Z,32nm,1.3s
TPNV Topopah Spring 60.89 298 P P 19 30 26.7 +1.3
baz=71
TPNV Topopah Spring 60.89 298 P P 19 30 26.7 +1.3
TPNV pmax pmax
comp=Z,35nm,1.2s
TPNV Topopah Spring 60.89 298 P P 19 30 26.7 +1.3
LTY Liberty 60.95 310 P P 19 30 25.1 -0.4
IRM Iron Mountain 60.97 294 P P 19 30 26.8 +1.0
baz=70
ANN Anapa 61.01 53 *e*P P **19 30 25.5 -0.3**
ANN *e*S S **19 38 45.9 +1.2**
ANN pmax pmax
comp=Z,62nm,1.1s
ANN MLR MLR
comp=Z,561nm,20.0s
I07A Izee 61.06 306 P P 19 30 28.0 +1.6
I07A IAmb IAmb 19 30 33.3
comp=Z,18nm,1.4s
GLA Glamis 61.10 293 P P 19 30 28.3 +1.6
baz=70
GLA Glamis 61.10 293 P P 19 30 27.0 +0.2
GLA pmax pmax
comp=Z,24nm,1.1s
GLA Glamis 61.10 293 P P 19 30 27.0 +0.2
GLA IAmb IAmb 19 30 34.9
comp=Z,24nm,1.1s
TUQ Turquoise Moun 61.14 296 P P 19 30 27.9 +0.8
baz=70
GMRC Granite Mounta 61.16 295 P P 19 30 27.6 +0.4
baz=70
BC3 Big Chuckawall 61.38 294 P P 19 30 29.5 +0.7
baz=70
PRGR Permogore 61.41 33 *e*P P **19 30 27.3 -0.9**
PRGR pmax pmax
comp=Z,11nm,0.9s
KVN Kaiserville 61.60 300 P P 19 30 29.8 -0.4
KVN pmax pmax
comp=Z,22nm,1.0s
KVN Kaiserville 61.60 300 P P 19 30 29.8 -0.4
KVN IAmb IAmb 19 30 37.2
comp=Z,22nm,1.0s
TOKA Tokat 61.68 58 P P 19 30 30.2 -0.4
TOKA IAmb IAmb 19 30 32.5
comp=Z,22nm,1.1s
BELC Belle Mtn. Jos 61.69 294 P P 19 30 31.7 +0.8
baz=70
NV11 Mina Array Sit 61.84 300 P P 19 30 30.9 -0.9
LON Longmire 61.84 310 P P 19 30 32.4 +0.9
LON pmax pmax
comp=Z,5.0nm,0.9s
LON Longmire 61.84 310 P P 19 30 32.4 +0.9
F05D White Salmon 61.86 309 P P 19 30 31.6 0.0
baz=73
GSC Goldstone, Bar 61.87 296 P P 19 30 32.5 +0.6
baz=70
GSC Goldstone, Bar 61.87 296 P P 19 30 32.1 +0.2
GSC pmax pmax
comp=Z,15nm,1.0s
GSC Goldstone, Bar 61.87 296 P P 19 30 32.1 +0.2
GSC IAmb IAmb 19 30 40.3
comp=Z,15nm,1.0s
NVAR Mina Array Bea 61.95 300 P P 19 30 32.6 -0.1
comp=Z,3.3nm,0.9s,baz=78,slow=5.2,SNR=9.2
NVAR PP **PP 19 32 45.7 -3.0**
comp=Z,0.7nm,0.9s,baz=75,slow=8.5,SNR=2.2
NVAR LR LR 19 56 46.8
comp=Z,3µm,19.2s,baz=82,slow=36
NVAR Mina Array Bea 61.95 300 P P 19 30 32.0 -0.6
VRH Novokhopyorsk 61.98 45 *eP* P **19 30 29.9 -2.3**
VRH pmax pmax
comp=Z,30nm,1.2s
RYN Ryan 62.05 300 P P 19 30 33.0 -0.2
RYN IAmb IAmb 19 30 40.2
comp=Z,19nm,1.3s
INK Inuvik 62.08 335 P P 19 30 33.8 +1.1
INK pmax pmax
comp=Z,22nm,1.1s
INK Inuvik 62.08 335 P P 19 30 33.8 +1.1
INK IAmb IAmb 19 30 39.7
comp=Z,22nm,1.1s
MPMC Manual Prospec 62.13 297 P P 19 30 33.7 -0.2
baz=70
PINE Pine Mountain 62.14 306 P P 19 30 33.4 -0.4
PINE IAmb IAmb 19 30 43.6
comp=Z,21nm,1.2s
XPFO Pion Flat 62.18 294 P P 19 30 36.1 +2.0
XPFO IAmb IAmb 19 30 42.5
comp=Z,15nm,1.1s
PFO Pinyon Flats O 62.19 294⇓*eP* P **19 30 36.3 +2.2**
PFO pmax pmax
comp=Z,16nm,1.3s
PFO Pinyon Flats O 62.19 294 P P 19 30 32.5 -1.6
PFO IAmb IAmb 19 30 42.5
comp=Z,15nm,1.1s
I05D Terrebonne, OR 62.25 307 P P 19 30 35.1 +0.8
baz=72
IKP In-Ko-Pah, Jac 62.25 293 P P 19 30 36.7 +2.2
baz=69
MOD Modoc Plateau 62.28 304 P P 19 30 33.7 -1.0
MOD IAmb IAmb 19 30 54.6
comp=Z,20nm,1.2s
PAHR Pah Rah Range 62.33 301 P P 19 30 35.0 -0.1
PAHR IAmb IAmb 19 30 42.1
comp=Z,17nm,1.0s

SPX **San Pedro Mart** 62.33 291 P **P** 19 30 36.6 +1.2
MONP2 **Monument Peak** 62.41 293 P **P** 19 30 36.1 +0.3
baz=69
K05A **Summer Lake** 62.44 305 P **P** 19 30 36.3 +0.5
GO02 **Mina Guanaco** 62.48 209 P **P** 19 30 36.6 +0.4
GO02 IAmb IAmb 19 30 38.9
comp=Z,18nm,0.9s
J05D **Fort Rock, OR** 62.50 306 P **P** 19 30 36.6 +0.4
baz=72
VCNR **Virginia City** 62.66 301 P **P** 19 30 37.2 -0.2
VCNR IAmb IAmb 19 30 44.1
comp=Z,9.9nm,0.9s
H04A **Detroit Lake** 62.72 308 P **P** 19 30 39.7 +2.3
H04A IAmb IAmb 19 30 44.5
comp=Z,27nm,1.3s
OMMB **Old Mammoth Mi** 62.74 299 P **P** 19 30 38.9 +0.8
OMMB IAmb IAmb 19 30 46.1
comp=Z,11nm,1.0s
WAKR **Walker** 62.76 300 P **P** 19 30 38.7 +0.7
WAKR IAmb IAmb 19 30 53.7
comp=Z,17nm,1.5s
MDPB **Devils Postpil** 62.79 299 P **P** 19 30 39.5 +1.1
MDPB IAmb IAmb 19 30 46.3
comp=Z,12nm,1.0s
EDW2 **Edwards Air Fo** 62.92 296 P **P** 19 30 39.6 +0.6
baz=69
SOC **Sochi** 62.94 54 *e*P **P** 19 30 38.9 0.0
SOC *e*PPP PPP 19 34 28.1
SOC *e*S **S** 19 39 10.0 +0.8
SOC *e*SS **SS** 19 43 11.2 -2.8
SOC pmax pmax
comp=Z,31nm,1.1s
SOC MLR MLR
comp=Z,86nm,12.0s
NLWA **Neilton Lookou** 62.99 311 P **P** 19 30 39.6 +0.3
ISA **Isabella, Lake** 63.02 297 P **P** 19 30 41.1 +1.5
baz=69
ISA **Isabella, Lake** 63.02 297 P **P** 19 30 39.2 -0.4
ISA pmax pmax
comp=Z,42nm,1.2s
ISA **Isabella, Lake** 63.02 297 P **P** 19 30 39.2 -0.4
H04D **Lebanon** 63.14 308 P **P** 19 30 40.5 +0.3
baz=71
MWC **Mount Wilson** 63.21 295 P **P** 19 30 40.4 -0.7
MWC pmax pmax
comp=Z,21nm,1.1s
MWC **Mount Wilson** 63.21 295 P **P** 19 30 40.4 -0.7
MWC IAmb IAmb 19 30 48.9
comp=Z,21nm,1.1s
DLBC **Dease Lake** 63.27 324 P **P** 19 30 41.3 +0.4
DLBC IAmb IAmb 19 31 02.7
comp=Z,27nm,1.5s
GAZ **Gaziantep** 63.27 61 P **P** 19 30 38.9 -2.4
GAZ IAmb IAmb 19 30 54.2
comp=Z,18nm,0.9s
MMAI **Mount Meron Ar** 63.37 66 LR LR 19 57 28.1
comp=Z,87nm,20.3s,baz=255,slow=35
OSI **Osito Audit: C** 63.58 296 P **P** 19 30 41.6 -1.7
L04D **Klamath Falls** 63.59 305 P **P** 19 30 44.4 +1.0
baz=70
CMB **Columbia Colle** 63.63 300 P **P** 19 30 41.4 -2.2
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB **Columbia Colle** 63.63 300 P **P** 19 30 41.4 -2.2
AC02 **Maricunga** 63.78 208 P **P** 19 30 45.2 +0.2
O03E **Paynes Creek** 63.88 303 P **P** 19 30 45.0 -0.2
baz=70
HUMO **Hull Mountain** 63.92 306 P **P** 19 30 45.0 -0.3
ORV **Oroville** 63.92 302 P **P** 19 30 45.0 -0.4
ORV pmax pmax
comp=Z,15nm,1.2s
ORV **Oroville** 63.92 302 P **P** 19 30 45.0 -0.4
ORV IAmb IAmb 19 30 52.4
comp=Z,14nm,1.2s
PLTB **Pedras Altas** 63.92 192 *e*S S 19 39 11.2 -10
KIRV **Kirov** 64.07 36 LR LR 19 57 00.2
comp=Z,230nm,18.3s,baz=276,slow=34
KIRV **Kirov** 64.07 36 *ce*P **P** 19 30 45.6 -0.4
EIL **Elat** 64.27 70 LR LR 20 00 02.9
comp=Z,157nm,18.1s,baz=270,slow=37
K02D **Willamette Mer** 64.38 306 P **P** 19 30 49.0 +0.5
baz=70
KOPT **Kop Dagi** 64.69 57 P **P** 19 30 50.3 -0.5
KOPT IAmb IAmb 19 30 58.2
comp=Z,21nm,1.1s
GOF **Gofitskoye** 64.71 51⇑ *e*P **P** 19 30 50.2 -0.3
GOF pmax pmax
comp=Z,19nm,1.0s
KIV **Kislovodsk** 64.85 52 *i* P **P** 19 30 51.9 +0.3
SNR=5.7
KIV **Kislovodsk** 64.85 52 *e*P **P** 19 30 51.2 -0.4
KIV *e*S **S** 19 39 31.9 -1.2
KIV pmax pmax
comp=Z,166nm,4.3s
KIV pmax pmax
comp=Z,57nm,1.1s
KIV MLR MLR
comp=Z,473nm,17.0s
KIV **Kislovodsk** 64.85 52 P **P** 19 30 51.6 +0.1
ASF **Jabal al Asfar** 64.85 66 LR LR 19 58 06.8
comp=Z,116nm,21.6s,baz=272,slow=35
KBZ **Khabaz** 65.07 53 P **P** 19 30 53.6 +0.8
comp=Z,9.8nm,0.9s,baz=310,slow=3.6,SNR=13
KBZ LR LR 19 58 49.6
comp=Z,103nm,18.1s,baz=304,slow=36
KBZ **Khabaz** 65.07 53⇓ *e*P **P** 19 30 53.4 +0.6
KBZ pmax pmax
comp=Z,22nm,1.2s
BELG **Belogornoye** 65.10 42 *d i*P **P** 19 30 52.0 -0.9
ARTV **Artvin** 65.29 56 P **P** 19 30 53.0 -1.7
ARTV IAmb IAmb 19 30 58.8
comp=Z,14nm,1.2s
ONI **Oni** 65.85 54 P **P** 19 30 58.8 +0.7
MARD **Mardin** 65.87 60 P **P** 19 30 58.1 -0.2
ZEI **Tsey** 66.09 53 *e*P **P** 19 30 59.4 -0.4
ZEI pmax pmax
comp=Z,35nm,1.6s
EGAK **Eagle** 66.12 333 P **P** 19 30 59.5 +0.3
EGAK IAmb IAmb 19 31 06.4
comp=Z,11nm,0.9s
AKH **Akhalkalaki** 66.31 55 P **P** 19 31 01.1 -0.1
AKH pmax pmax
comp=Z,28nm,1.1s
AKH **Akhalkalaki** 66.31 55 P **P** 19 31 01.1 -0.1
K27K **Chicken** 66.78 332 P **P** 19 31 05.0 +1.4
baz=66
CO01 **Juntas del Tor** 66.96 207 P **P** 19 31 06.5 +1.2
CO01 IAmb IAmb 19 31 13.8
comp=Z,29nm,1.4s
GEVA **Gevas** 67.17 58 P **P** 19 31 06.0 -0.7
GEVA IAmb IAmb 19 31 14.9
comp=Z,20nm,1.2s
GROC **Groznyy** 67.23 52 *e*P **P** 19 31 04.2 -2.5
GROC *e* 19 31 33.5
GROC pmax pmax
comp=Z,22nm,1.0s
GO04 **Tololo Observa** 67.41 208 P **P** 19 31 08.7 +0.5
GO04 IAmb IAmb 19 31 09.2
comp=Z,19nm,0.9s
TOLK **Toolik Lake Re** 67.45 338 P **P** 19 31 09.4 +1.6
baz=61
SCRK **Sand Creek** 67.57 332 P **P** 19 31 08.7 0.0
baz=64
DOT **Dot Lake** 67.74 332 P **P** 19 31 10.2 +0.5
ZON **Zonda** 67.83 205 P **P** 19 31 11.1 +0.5
ZON pmax pmax
comp=Z,63nm,1.7s
ZON **Zonda** 67.83 205 P **P** 19 31 11.1 +0.5
MENT **Mentasta** 67.91 331 P **P** 19 31 08.7 -2.1
RIDG **Independent Ri** 68.02 332 P **P** 19 31 11.7 +0.3
RIDG IAmb IAmb 19 31 18.8
comp=Z,18nm,1.0s
LGD **Lagodekhi** 68.06 54 P **P** 19 31 12.8 +0.8
MCARA **McCarthy VSAT** 68.30 330 P **P** 19 31 13.6 +0.4
MCARA IAmb IAmb 19 31 20.5
comp=Z,14nm,1.0s
IL31 **Eielson Array** 68.34 334 P **P** 19 31 13.1 -0.2
ILAR **Eielson Array** 68.34 334 P **P** 19 31 14.6 +1.2
comp=Z,16nm,1.1s,baz=53,slow=4.5,SNR=48
ILAR PP **PP** 19 33 43.5 -0.2
comp=Z,0.8nm,0.9s,baz=76,slow=7.5,SNR=2.4
ILAR LR LR 20 01 00.6
comp=Z,1µm,19.5s,baz=82,slow=36
ILAR **Eielson Array** 68.34 334 P **P** 19 31 13.9 +0.5
COLD **Coldfoot** 68.35 337 P **P** 19 31 13.7 +0.3
baz=60
POKR **Poker Plat Res** 68.38 334 P **P** 19 31 15.2 +1.5
baz=62
MAK **Makhachkala** 68.48 52 *e*P P 19 31 09.2 -5.4
MAK *e*S **S** 19 40 08.2 -8.6
MAK pmax pmax
comp=Z,98nm,0.9s
MAK MLR MLR
comp=Z,192nm,16.0s
TGL **Tana Glacier** 68.49 329 P **P** 19 31 16.0 +1.5
HDA **Harding Lake** 68.53 333 P **P** 19 31 15.0 +0.4
baz=62
HDA **Harding Lake** 68.53 333 P **P** 19 31 16.1 +1.5
GLB **Gilahina Butte** 68.61 330 P **P** 19 31 16.3 +1.1
GLB IAmb IAmb 19 31 45.0
comp=Z,16nm,1.4s
PAX **Paxson** 68.62 332 P **P** 19 31 16.3 +1.1
PAX pmax pmax
comp=Z,11nm,1.4s
PAX **Paxson** 68.62 332 P **P** 19 31 16.3 +1.1
COLA **College** 68.66 334⇓ *e*P **P** 19 31 17.5 +2.2
COLA pmax pmax
comp=Z,8.0nm,0.9s
CCB **Clear Creek Bu** 68.75 334 P **P** 19 31 16.2 +0.3
MDM **Murphy Dome** 68.76 334 P **P** 19 31 14.2 -1.9
MDM IAmb IAmb 19 31 24.6
comp=Z,22nm,1.5s
WRH **Wood River Hil** 68.94 334 P **P** 19 31 18.2 +1.1
NEA2 **Nenana** 69.25 334 P **P** 19 31 19.0 0.0
baz=60
DHY **Denali Highway** 69.33 332 P **P** 19 31 21.1 +1.3
DHY IAmb IAmb 19 31 33.2
comp=Z,15nm,1.2s
ARU **Arti** 69.45 36 LR LR 19 58 34.6
comp=Z,325nm,21.5s,baz=287,slow=33
ARU **Arti** 69.45 36 *d i*P **P** 19 31 20.3 -0.1
ARU S **S** 19 40 28.5 +0.6
ARU pmax pmax
comp=Z,17nm,1.3s
ARU **Arti** 69.45 36 P **P** 19 31 19.9 -0.5
ARU IAmb IAmb 19 31 41.2
comp=Z,34nm,1.5s
KLU **Klutina** 69.49 330 P **P** 19 31 21.1 +0.4
KLU IAmb IAmb 19 31 27.5
comp=Z,12nm,0.9s
BWN **Browne** 69.61 334 P **P** 19 31 20.2 -1.1
RND **Reindeer** 69.76 333 P **P** 19 31 23.7 +1.4
RND pmax pmax
comp=Z,82nm,1.8s
RND **Reindeer** 69.76 333 P **P** 19 31 23.7 +1.4
BPAW **Bear Paw Mtn.** 70.22 334 P **P** 19 31 26.0 +0.9
BPAW IAmb IAmb 19 31 32.3
comp=Z,39nm,1.7s
SVE **Sverdlovsk** 70.30 35 *e*P **P** 19 31 25.7 +0.1
KTH **Kantishna Hill** 70.48 333 P **P** 19 31 27.8 +1.1
RC01 **Rabbit Creek A** 71.29 331 P **P** 19 31 32.8 +1.2
baz=59
SKT **Skwentna** 71.55 332 P **P** 19 31 34.2 +1.0
SKT IAmb IAmb 19 31 41.4
comp=Z,24nm,1.3s
AKTO **Aktyubinsk** 71.85 42 LR LR 20 02 26.0
comp=Z,402nm,18.0s,baz=294,slow=35
NRIK **Noril'sk** 72.84 17 P **P** 19 31 41.7 +0.9
comp=Z,8.5nm,1.0s,baz=29,slow=2.3,SNR=6.3
NRIK **Noril'sk** 72.84 17 *de*P **P** 19 31 43.6 +2.9
NRIK pmax pmax
comp=Z,14nm,1.1s
H09N1 **TRISTAN DA CUN** 73.27 156 T T 20 51 43.7
SNR=5.0
H09W1 **TRISTAN DA CUN** 73.29 156 T T 20 51 41.1
SNR=5.1
ABKAR **Akbulak array** 73.50 42 P **P** 19 31 44.7 -0.3
ABKAR **Akbulak array** 73.50 42 P **P** 19 31 44.1 -0.9
SVW2 **Sparrevohn** 73.66 333 P **P** 19 31 47.9 +2.2
SVW2 IAmb IAmb 19 31 52.6
comp=Z,24nm,1.3s
MBAR **Mbarara** 74.90 100 P **P** 19 31 53.6 -0.4
MBAR P **P** 19 31 53.6 -0.4
MBAR **Mbarara** 74.90 100⇑ *e*P **P** 19 31 54.6 +0.7
MBAR pmax pmax
comp=Z,9.0nm,1.2s
MBAR **Mbarara** 74.90 100 P **P** 19 31 54.3 +0.3
MBAR IAmb IAmb 19 32 01.5
comp=Z,31nm,1.5s
LODK **Lodwar** 76.71 94 P **P** 19 32 04.1 0.0
SNR=8.5
PLCA **Paso Flores** 76.76 203 P **P** 19 32 04.1 +0.3
comp=Z,3.1nm,0.9s,baz=15,slow=9.1,SNR=3.8
PLCA LR LR 20 05 16.2
comp=Z,166nm,20.3s,baz=346,slow=35
PLCA **Paso Flores** 76.76 203 P **P** 19 32 04.1 +0.3
PLCA pmax pmax
comp=Z,16nm,1.4s
PLCA **Paso Flores** 76.76 203 IAmb IAmb 19 32 07.1
comp=Z,16nm,1.4s
TIXI **Tiksi** 76.99 3⇓ *e*P **P** 19 32 06.9 +2.2
TIXI pmax pmax
comp=Z,100nm,2.5s
TIXI **Tiksi** 76.99 3 P **P** 19 32 05.4 +0.8
BRVK **Borovoye** 77.00 35 P **P** 19 32 05.0 -0.1
BRVK P **P** 19 32 05.0 -0.1
BRVK **Borovoye** 77.00 35 *de*P **P** 19 32 05.1 0.0
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK **Borovoye** 77.00 35 P **P** 19 32 05.3 +0.2
GEYT **Alibeck** 77.96 53 P **P** 19 32 11.0 +0.2
comp=Z,3.9nm,0.9s,baz=260,slow=8.9,SNR=9.8
GEYT **Alibeck** 77.96 53 P **P** 19 32 10.2 -0.6
GYA0B **ALIBECK ARRAY** 77.96 53 P **P** 19 32 09.5 -1.3
BILL **Bilibino** 78.76 350 *i* P **P** 19 32 13.4 -1.2
BILL *i* 19 32 24.6
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,386nm,18.0s
KMBO **Kilima Mbogo** 80.69 97 P **P** 19 32 26.4 +0.1
comp=Z,1.0nm,0.4s,baz=340,slow=6.7,SNR=6.6
KMBO LR LR 20 07 34.2
comp=Z,2µm,19.9s,baz=278,slow=35
KMBO **Kilima Mbogo** 80.69 97 P **P** 19 32 24.6 -1.7
KMBO IAmb IAmb 19 32 35.8
comp=Z,46nm,1.9s
KIBK **Kibwezi** 82.00 98 P **P** 19 32 35.2 +2.2
SNR=8.4
KURK **Kurchatov** 82.51 34 *de*P **P** 19 32 34.5 -0.5
KURK pmax pmax
comp=Z,24nm,1.3s
KURK **Kurchatov** 82.51 34 P **P** 19 32 34.5 -0.5
KURK IAmb IAmb 19 32 38.1
comp=Z,32nm,1.4s
HRA **Herat** 82.66 54 P **P** 19 32 35.6 -0.9
BANOM **Banah** 82.78 64 P **P** 19 32 36.6 -0.4
BANOM **Banah** 82.78 64 P **P** 19 32 36.8 -0.1
BANOM P **P** 19 32 36.8 -0.1
MSFE **Esma-Masafi** 82.96 65 P **P** 19 32 37.4 -0.5
KK31 **Karatay Array** 83.00 43 P **P** 19 32 37.0 -0.7
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KK31 **Karatay Array** 83.00 43 P **P** 19 32 37.0 -0.7
KKAR **Karatay Array** 83.00 43 P **P** 19 32 36.3 -1.4
KKAR 19 32 37.0
KKAR pmax pmax
comp=Z,5.0nm,1.1s
KKAR **Karatay Array** 83.00 43 P **P** 19 32 37.0 -0.7
KKAR **Karatay Array** 83.00 43 P **P** 19 32 36.3 -1.4
ZAA0 **Zalesovo Array** 83.03 29 P **P** 19 32 36.6 -1.0
ZAA0 IAmb IAmb 19 32 40.9
comp=Z,16nm,1.1s
ZALV **Zalesovo Beam** 83.03 29 P **P** 19 32 37.8 +0.2
comp=Z,11nm,0.9s,baz=300,slow=6.2,SNR=26
ZALV LR LR 20 08 40.6
comp=Z,152nm,18.4s,baz=343,slow=35
ZALV **Zalesovo Beam** 83.03 29 P **P** 19 32 35.8 -1.8
MDH **Madha** 83.10 65 P **P** 19 32 38.5 0.0
MDH **Madha** 83.10 65 P **P** 19 32 38.7 +0.2
MDH P **P** 19 32 38.7 +0.2
UOSS **Minazif** 83.21 65 *i* P **P** 19 32 38.6 -0.5
SNR=7.8
UOSS **Minazif** 83.21 65 P **P** 19 32 38.6 -0.5
HATD **Hatta, Dubai** 83.22 65 *i* P **P** 19 32 38.9 -0.3
SNR=8.4
HATD **Hatta, Dubai** 83.22 65 P **P** 19 32 40.0 +0.8
SNR=7.4
HATD P **P** 19 32 40.0 +0.8
SNR=7.4
ASHO **Ashiyiah** 83.23 65 *i* P **P** 19 32 39.0 -0.4
SNR=5.7
ASHO **Ashiyiah** 83.23 65 P **P** 19 32 39.2 -0.2
SNR=5.6
ASHO P **P** 19 32 39.2 -0.2
SNR=5.6
IUG **Iuzhnay** 83.28 44 *e*P **P** 19 32 39.1 -0.2
IUG **Iuzhnay** 83.28 44 *e*P **P** 19 32 39.1 -0.2
TAS **Tashkent** 83.33 45 P **P** 19 32 39.0 -0.5
TAS **Tashkent** 83.33 45 P **P** 19 32 39.0 -0.5
BTLS **Baital** 83.82 40 *e*P **P** 19 32 41.9 -0.1
comp=Z,9.1nm,1.3s
BTLS **Baital** 83.82 40 *e*P **P** 19 32 41.8 -0.1
BTLS pmax pmax
comp=Z,9.0nm,1.3s
SOHO **SOHO** 83.89 66 *i* P **P** 19 32 41.9 -0.7
SNR=6.6
SOHO **SOHO** 83.89 66 P **P** 19 32 41.9 -0.7
SOHO P **P** 19 32 41.9 -0.7
HOQ **Hoqain** 84.78 66 P **P** 19 32 45.6 -1.6
SNR=7.5
HOQ P **P** 19 32 45.6 -1.6
SNR=7.5
ABTO **Aybut** 84.81 73 P **P** 19 32 47.7 +0.2
SNR=11
CHGR **Chuyangaron** 84.82 48 P **P** 19 32 47.2 -0.1
WHFO **Wadi Hawf** 84.91 72 P **P** 19 32 47.9 0.0
SNR=9.4
BTK **Batken** 85.01 46 P **P** 19 32 47.5 -0.7
BTK pmax pmax
comp=Z,20nm,1.2s
BTK **Batken** 85.01 46 P **P** 19 32 47.5 -0.7
BTK IAmb IAmb 19 32 50.9
comp=Z,20nm,1.1s
SGDS **Sogindy** 85.15 41 *e*P **P** 19 32 48.5 -0.4
SGDS **Sogindy** 85.15 41 *e*P **P** 19 32 48.4 -0.4
GAR **Garm** 85.34 47 P **P** 19 32 49.2 -0.7
SEY **Seymchan** 85.37 354⇓ *e*P **P** 19 32 50.5 +1.1
AML **Almayashu** 85.45 43 P **P** 19 32 51.5 +0.7
SNR=27
BIDO **Bidbid** 85.45 65 P **P** 19 32 49.9 -0.7
RBK **Rabkut** 85.47 72 P **P** 19 32 49.2 -1.6
RBK P **P** 19 32 49.2 -1.6
CHMS **Chumysh** 85.50 41 P **P** 19 32 51.4 +0.9
SNR=10
FRU1 **Bishkek** 85.56 42 P **P** 19 32 51.0 +0.2
FRU1 pmax pmax
comp=Z,16nm,1.1s
FRU1 **Bishkek** 85.56 42 P **P** 19 32 51.0 +0.2
FRU1 IAmb IAmb 19 32 54.4
comp=Z,16nm,1.1s
AAK **Ala-Archa** 85.59 42 P **P** 19 32 52.3 +1.2
SNR=6.7
AAK **Ala-Archa** 85.59 42 *i* P **P** 19 32 51.5 +0.3
SNR=11
AAK **Ala-Archa** 85.59 42⇑ *e*P **P** 19 32 52.1 +1.0
AAK pmax pmax
comp=Z,84nm,2.5s
KUU **Kurty** 85.82 40 *e*P **P** 19 32 51.9 -0.2
comp=Z,31nm,1.2s
KUU *e*S **S** 19 43 22.6 -2.9
KUU **Kurty** 85.82 40 *e*P **P** 19 32 51.8 -0.2
KUU *e*S **S** 19 43 22.6 -2.9
KUU pmax pmax
comp=Z,31nm,1.2s
UCH **Uchtor** 85.86 42 P **P** 19 32 54.4 +1.6
SNR=8.6
DMTO **DMTO** 85.97 72 P **P** 19 32 52.6 -0.6
WSAR **Wadi Sarin** 85.99 65 LR LR 20 14 12.0
comp=Z,250nm,18.5s,baz=321,slow=38
TKM2 **Tokmak 2** 86.03 41 P **P** 19 32 53.8 +0.5
SNR=13
JMDO **Jabal Madar** 86.04 66 P **P** 19 32 52.7 -0.8
JMDO P **P** 19 32 52.7 -0.8
AAA **Alma-Ata** 86.58 40 *e*P **P** 19 32 55.3 -0.6
AAA **Alma-Ata** 86.58 40 *e*P **P** 19 32 55.2 -0.6
WBK **Wadi Bani Khal** 86.59 66 P **P** 19 32 53.5 -2.8
WBK P **P** 19 32 53.5 -2.8
YAK **Yakutsk** 86.60 4 *e*P **P** 19 32 56.3 +0.8
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK **Yakutsk** 86.60 4 P **P** 19 32 54.5 -0.9
YAK IAmb IAmb 19 32 57.8
comp=Z,23nm,1.1s
MHTO **MHTO** 86.67 68 P **P** 19 32 55.7 -0.9
SNR=9.9
MHTO P **P** 19 32 55.7 -0.9
SNR=9.9
MDOK **Medeo** 86.68 40 *e*P **P** 19 32 56.4 -0.1
MDOK *e*S **SKSac** 19 43 20.3 -3.7
MDOK **Medeo** 86.68 40 *e*P **P** 19 32 56.4 -0.1
MDOK *e*S **SKSac** 19 43 20.3 -3.7
MAKZ **Makanchi** 86.80 35 P **P** 19 32 55.9 -0.9
MAKZ pmax pmax
comp=Z,12nm,1.1s
MAKZ **Makanchi** 86.80 35 P **P** 19 32 55.9 -0.9
MAKZ IAmb IAmb 19 32 59.0
comp=Z,12nm,1.1s
BOSA **Boshof** 86.91 126 LR LR 20 05 32.7
comp=Z,548nm,21.8s,baz=323,slow=31
MK31 **Makanchi Array** 86.96 35 *ce*P **P** 19 32 57.2 -0.5
MK31 **Makanchi Array** 86.96 35 P **P** 19 32 57.1 -0.5
MKAR **Makanchi Array** 86.96 35 P **P** 19 32 57.2 -0.4
comp=Z,6.2nm,1.0s,baz=323,slow=5.2,SNR=23
MKAR LR LR 20 10 55.0
comp=Z,506nm,20.0s,baz=306,slow=35
KBL **Kabul** 87.19 51 P **P** 19 32 57.6 -1.6
KBL pmax pmax
comp=Z,6.0nm,1.0s
KBL **Kabul** 87.19 51 P **P** 19 32 57.5 -1.6
DGZ **Jazzator, Alta** 87.24 31⇓ *e*P **P** 19 32 59.4 +0.3
DGZ pmax pmax
comp=Z,7.0nm,1.6s
KPKS **Kokpek** 87.38 39 *e*P **P** 19 32 60.0 +0.1
comp=Z,50nm,2.2s
KPKS **Kokpek** 87.38 39 *e*P **P** 19 32 59.9 +0.1
KPKS pmax pmax
comp=Z,50nm,2.2s
SATY **Saty** 87.50 40 *e*P **P** 19 33 00.4 0.0
comp=Z,4.6nm,1.0s
SATY **Saty** 87.50 40 *e*P **P** 19 33 00.4 0.0
SATY pmax pmax
comp=Z,5.0nm,1.0s
KSH **Kashi** 88.45 44 P **P** 19 33 03.5 -1.5
KSH pmax pmax
comp=Z,10.0nm,0.8s
NIL **Nilore** 90.50 49 P **P** 19 33 13.5 -1.1
NIL pmax pmax
comp=Z,23nm,1.3s
NIL **Nilore** 90.50 49 P **P** 19 33 13.5 -1.1
WMQ **Urumqi** 91.74 34 *e*P **P** 19 33 20.8 +0.6
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,68nm,4.3s
WMQ LR LR
comp=Z,230nm,19.7s
WMQ LR LR
comp=Z,230nm,23.3s
WMQ LR LR
comp=Z,240nm,25.9s
ZAK **Zakamensk** 92.69 22 *e*P **P** 19 33 24.5 0.0
ZAK pmax pmax
comp=Z,3.0nm,1.5s
PEA0B **Petropavlovsk-** 94.25 349⇓ *e*P **P** 19 33 32.9 +1.4
PETK **Petropavlovsk-** 94.25 349 LR LR 20 15 02.7
comp=Z,264nm,20.5s,baz=61,slow=35
SONM **Songino Array** 95.91 21 P **P** 19 33 39.2 -0.2
comp=Z,0.5nm,0.9s,baz=311,slow=9.0,SNR=5.4
SONM LR LR 20 18 28.0
comp=Z,172nm,18.1s,baz=340,slow=36
ULN **Ulaanbaatar** 96.08 21⇓ *e*P **P** 19 33 41.4 +1.2
ULN pmax pmax
comp=Z,3.0nm,1.4s
TAOE **Nuku Hiva Isla** 102.21 267 *e*LR LR 20 07 25.9
comp=Z,451nm,23.5s
WHN **Wuhan** 114.14 23 PKPbc PKPdf 19 39 00.6 +8.4
PPT2 **Papeete2** 114.43 264 *e*LR LR 20 13 14.7
comp=Z,574nm,32.8s
TBI **Tubuai** 116.83 258 *e*LR LR 20 14 14.4
comp=Z,247nm,22.5s

CMAR	**Chiang Mai Arr**	**117.35**	**43**	PKP	**PKPdf**	**19 38 57.7**	**-1.0**	
	comp=Z,0.8nm,0.8s,baz=288,slow=2.6,SNR=6.9							
CMAR				PP	**PP**	**19 40 07.4**	**-1.4**	
	comp=Z,0.4nm,0.5s,baz=305,slow=6.5,SNR=2.2							
CMAR	**Chiang Mai Arr**	**117.35**	**43**	PKPdf	**PKPdf**	**19 38 57.0**	**-1.7**	
QIZ	**Qiongzhong**	**122.64**	**33**	PKP	**PKPdf**	**19 39 07.0**	**-1.8**	
QIZ				PP	**PP**	**19 40 41.6**	**-3.2**	
QIZ				SS	SS	19 57 23.5	-3.1	
QIZ				LR	LR			
	comp=Z,120nm,15.5s							
QIZ				LR	LR			
	comp=Z,170nm,16.7s							
MAW	**Mawson**	**123.94**	**153**	PKP	**PKPdf**	**19 39 09.5**	**-0.2**	
	comp=Z,0.9nm,0.5s,baz=266,slow=2.6,SNR=4.6							
VNDA	**Vanda**	**132.64**	**187**	PKP	**PKPdf**	**19 39 26.6**	**+0.5**	
	comp=Z,2.8nm,0.9s,baz=276,slow=4.3,SNR=14							
VNDA	**Vanda**	**132.64**	**187**	PKIKP	**PKPdf**	**19 39 26.4**	**+0.3**	
VNDA	**Vanda**	**132.64**	**187**	PKPdf	**PKPdf**	**19 39 26.4**	**+0.3**	
TARA	**Tarawa**	**134.10**	**309**		**PKPdf**	**19 39 28.8**	**-1.9**	
BKZ	**Black Stump Fm**	**148.49**	**245**		**PKiKP**	**19 40 00.5**	**-0.3**	
DZM	**Mont Dzumac**	**153.72**	**284**	eLR	LR	20 31 24.8		
	comp=Z,501nm,24.2s							
FITZ	**Fitzroy Crossi**	**162.15**	**45**	PKPab	**PKPab**	**19 41 00.8**	**-0.3**	
	comp=Z,8.1nm,1.1s,baz=359,slow=7.2,SNR=6.4							
FITZ	**Fitzroy Crossi**	**162.15**	**45**	PKPab	**PKPab**	**19 41 01.7**	**+0.6**	
WRA	**Warramunga Arr**	**167.88**	**21**	PKP	**PKPdf**	**19 40 18.9**	**-0.6**	
	comp=Z,2.2nm,1.1s,baz=328,slow=1.2,SNR=7.5							
WRA				PKPab	**PKPab**	**19 41 26.1**	**-0.2**	
	comp=Z,1.6nm,1.0s,baz=335,slow=5.4,SNR=5.0							
AS31	**Alice Springs**	**171.13**	**31**	PKPab	**PKPab**	**19 41 40.0**	**-0.6**	
ASAR	**Alice Springs**	**171.13**	**31**	PKP	**PKPdf**	**19 40 20.7**	**-0.7**	
	comp=Z,2.3nm,1.1s,baz=325,slow=1.1,SNR=5.3							
ASAR				PKPab	**PKPab**	**19 41 40.8**	**+0.2**	
	comp=Z,7.3nm,0.9s,baz=334,slow=4.4,SNR=27							
ASAR	**Alice Springs**	**171.13**	**31**		**PKPdf**	**19 40 20.1**	**-1.3**	
ASAR				PKPab	**PKPab**	**19 41 39.6**	**-1.0**	

EAF 01 19:59:22.3±1.7, 22°.93S×24°.14E, h0km±28km, MD4.1, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**2.47**	**148**	*i* P	Pn	20 00 04.2	+0.4
LBTB				*i* Sg	Sb	20 00 38.5	-0.1
LBTB	**Lobatse**	**2.47**	**148**	*i* P	Pn	20 00 04.2	+0.4
LBTB				*i* Sg	Sb	20 00 38.5	-0.1
MATP	**Matopo**	**4.76**	**59**	*i* P	Pn	20 00 33.7	-1.8
MATP				*i* S	Sn	20 01 27.2	-4.2
MATP	**Matopo**	**4.76**	**59**	*i* P	Pn	20 00 33.7	-1.8
MATP				*i* S	Sn	20 01 27.2	-4.2
BLWY	**Bulawayo**	**5.00**	**57**	*i* P	Pn	20 00 37.5	-1.3
BLWY				*i* S	Sn	20 01 34.4	-3.0
BLWY	**Bulawayo**	**5.00**	**57**	*i* P	Pn	20 00 37.5	-1.3
BLWY				*i* S	Sn	20 01 34.4	-3.0

*RSNC **01** 20:20:52.0±0.9, 8°.79N×77°.91W, h23km±2km, ML2.9, Mw3.3*
*UPA **01** 20:20:53.9±1.7, 8°.75N×78°.08W, h8km±8km, MW3.8*
ISC 01 20:20:52.0±0.9, 8°.77N±0°.04×77°.94W±0°.02, h26km±8km, n37, σ1§29/66, 1C-10D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPD2	**Meteti**	**0.23**	**198**	⇓*i*P	**Pb**	**20 20 58.0**	**-0.2**
UPD2				*e*S	**Sb**	**20 21 25.5**	**+0.1**
UPD2	**Meteti**	**0.23**	**198**	⇓P	**Pb**	**20 20 58.0**	**-0.2**
UPD2				*i* S	**Sb**	**20 21 02.6**	**+0.2**
CAP2	**Capurgana**	**0.59**	**102**	⇓*i*P	**Pb**	**20 21 02.6**	**-1.1**
CAP2				*i* S	**Sb**	**20 21 10.7**	**-1.1**
CAPC	**Capurgana**	**0.60**	**103**	⇓*i*P	**Pb**	**20 21 02.6**	**-1.4**
CAPC				*e*S	**Sb**	**20 21 10.4**	**-1.6**
CAPC				*i*		20 21 12.3		
	comp=Z,1μm,0.2s							
CNTA3	**Canitas, Panam**	**1.04**	**296**	*i* P	**Pb**	**20 21 09.9**	**-1.5**
CNTA3				*i* S	**Sb**	**20 21 23.9**	**-0.7**
CHPO	**Chepo, Panama**	**1.23**	**289**	*e*P	**Pn**	**20 21 13.6**	**+0.1**
CHPO				*e*S	**Sn**	**20 21 28.9**	**-0.3**
LCBC	**Los crdobas,**	**1.56**	**87**	*e*P	**Pb**	**20 21 20.5**	**+0.3**
LCBC				*e*S	**Sb**	**20 21 43.2**	**+3.7**
LCBC				*i*		20 21 51.7		
	comp=Z,115nm,0.7s							
FLAM	**Flamenco Islan**	**1.58**	**275**	⇓*i*P	**Pn**	**20 21 18.8**	**+0.4**
FLAM				*e*S	**Sn**	**20 21 38.2**	**+0.1**
MIRA3	**Miramar, Colon**	**1.59**	**300**	*i* P	**Pb**	**20 21 21.1**	**+0.3**
UPA	**Univ. de Panam**	**1.59**	**278**	*e*P	**Pn**	**20 21 18.2**	**-0.3**
UPA				*e*S	**Sn**	**20 21 37.8**	**-0.4**
UPA				*i*		20 21 42.4		
	comp=Z,91nm,0.5s							
UPA	**Univ. de Panam**	**1.59**	**278**	*e*P	**Pn**	**20 21 18.5**	**0.0**
UPA				*e*S	**Sn**	**20 21 38.1**	**-0.1**
PTAC	**Punta Ardita,**	**1.62**	**175**	*e*P	**Pn**	**20 21 18.4**	**-0.5**
PTAC				*e*S	**Sn**	**20 21 38.8**	**-0.2**
ARRA3	**Arraijan, Pana**	**1.71**	**277**	⇓*e*P	**Pn**	**20 21 21.2**	**+1.1**
ARRA3				*i* S	**Sn**	**20 21 42.4**	**+1.3**
GAMB1	**Gamboa**	**1.78**	**281**	*e*S	**Sb**	**20 21 44.5**	**-1.5**
CHOR3	**La Chorrera**	**1.81**	**274**	*e*P	**Pn**	**20 21 22.9**	**-1.6**
CHOR3				*e*S	**Sn**	**20 21 44.2**	**+0.5**
FRIJ	**El Hiral**	**1.82**	**284**	*e*P	**Pn**	**20 21 22.8**	**+1.1**
FRIJ				*e*S	**Sn**	**20 21 44.0**	**+0.1**
BCIP	**Isla Barro Col**	**1.91**	**282**	*e*P	**Pn**	**20 21 23.7**	**+0.7**
BCIP				*e*S	**Sn**	**20 21 46.6**	**+0.3**
BCIP				*i*		20 21 56.5		
	comp=Z,139nm,0.3s							
BCIP	**Isla Barro Col**	**1.91**	**282**	⇓*e*P	**Pn**	**20 21 24.0**	**+1.0**
BCIP				*e*S	**Sn**	**20 21 47.5**	**+1.2**
SABA3	**Sabanitas, Col**	**1.93**	**288**	⇓*i*P	**Pb**	**20 21 24.7**	**-1.7**
MLIR	**Monte Lirio**	**1.95**	**284**	*i* P	**Pn**	**20 21 24.6**	**+1.2**
MLIR				*i* S	**Sn**	**20 21 48.0**	**+1.0**
VTON	**El Valle, Cocl**	**2.15**	**266**	⇓*i*P	**Pn**	**20 21 27.1**	**+0.8**
VTON				*i* S	**Sn**	**20 21 53.4**	**+1.1**
MOTC	**Monteria, Cord**	**2.25**	**90**	*e*P	**Pn**	**20 21 28.8**	**+1.2**
MOTC				*e*S	**Sn**	**20 21 56.0**	**+1.4**
MOTC				*i*		20 21 58.4		
	comp=Z,29nm,0.3s							
MONA	**Monteria**	**2.25**	**90**	*i* P	**Pn**	**20 21 28.8**	**+1.1**
DBBC	**Dabeiba**	**2.44**	**135**	*e*P	**Pn**	**20 21 31.6**	**+1.2**
DBBC				*e*S	**Sn**	**20 21 58.8**	**-0.7**
DBBC				*i*		20 22 09.1		
	comp=Z,198nm,0.5s							
AZU	**Azuero**	**2.51**	**247**	*e*P	**Pn**	**20 21 31.4**	**+0.3**
AZU				*e*S	**Sn**	**20 22 00.4**	**-0.5**
AZU				*i*		20 22 17.0		
	comp=Z,122nm,0.3s							
AZU	**Azuero**	**2.51**	**247**	⇑*i*P	**Pn**	**20 21 31.5**	**+0.3**
AZU				*i* S	**Sn**	**20 22 00.9**	**0.0**
SOLC	**Bahia Solano**	**2.58**	**168**	*e*P	**Pb**	**20 21 35.1**	**-2.6**
SOLC				*e*S	**Sn**	**20 22 04.3**	**+1.5**
SOLC				*i*		20 22 19.6		
	comp=Z,29nm,0.3s							
UREC	**San Jos de Ur**	**2.59**	**113**	*e*P	**Pn**	**20 21 33.1**	**+0.7**
UREC				*e*S	**Sn**	**20 22 02.4**	**-0.6**
UREC				*i*		20 22 06.6		
	comp=Z,33nm,0.2s							
SJCC	**San Jacinto, C**	**2.95**	**67**	*e*S	**Sn**	**20 22 13.0**	**+1.1**
SJCC	**San Jacinto, C**	**2.95**	**67**	*e*P	**Pb**	**20 21 42.1**	**-1.9**
SJCC				*e*S	**Sb**	**20 22 19.4**	**-0.1**
PONU3	**Ponuga, Veragu**	**3.13**	**254**	*e*P	**Pn**	**20 21 42.1**	**+2.3**
CACAO	**El Cacao, Vera**	**3.22**	**244**	⇓*e*P	**Pn**	**20 21 43.6**	**+2.7**
CNAZ3	**Canazas, Verag**	**3.26**	**263**	*e*P	**Pn**	**20 21 44.1**	**+2.6**
ZARC	**Zaragoza, Cauc**	**3.31**	**112**	*e*P	**Pn**	**20 21 43.4**	**+1.2**
ZARC				*e*S	**Sn**	**20 22 20.0**	**-0.7**
ZARC				*i*		20 22 23.1		
	comp=Z,78nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.46**	**146**	*e*P	**Pn**	**20 21 45.8**	**+1.3**
CBOC				*e*S	**Sn**	**20 22 27.8**	**+2.9**
CBOC				*i*		20 22 47.8		
	comp=Z,13nm,0.5s							
SMLC	**San Martn de**	**3.83**	**89**	*e*P	**Pn**	**20 21 49.5**	**+0.2**
SMLC				*e*S	**Sn**	**20 22 31.3**	**-2.2**
SMLC				*i*		20 22 41.8		
	comp=Z,11nm,0.4s							
PTBC	**PUERTO BERRIO,**	**4.10**	**122**	*e*P	**Pn**	**20 21 53.9**	**+0.7**
PTBC				*e*S	**Sn**	**20 22 39.2**	**-1.2**
PTBC				*i*		20 22 44.3		
	comp=Z,14nm,0.5s							

IDC 01 20:33:35.9±2.2, 6°.47S×130°.30E, h139km±25km, mb3.4/1, mb1 3.2/6, mb1mx3.0/32, mbtmp3.6/6, Error ellipse: s-maj=40.0km s-min=19.9km az=93.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.64**	**10**	P	Pn	20 34 58.2	+0.4
	1.1nm,0.3s,baz=170,slow=10,SNR=12						
SIJI				S	Sn	20 35 57.2	-4.5
	3.3nm,0.3s,baz=226,slow=22,SNR=12						
BATI	**Baumata**	**7.55**	**240**	P	Pn	20 35 23.1	-0.3
	2.7nm,0.3s,baz=72,slow=6.4,SNR=4.6						
BATI				S	Sn	20 36 44.8	-2.8
	4.6nm,0.3s,baz=150,slow=20,SNR=6.4						
FITZ	**Fitzroy Crossi**	**12.42**	**201**	P	Pn	20 36 27.6	-0.5
	0.3nm,0.3s,baz=359,slow=11,SNR=17						
FITZ				S	Sn	20 38 35.0	-10
	0.7nm,0.3s,baz=0.3,slow=2.7,SNR=7.5						
WRA	**Warramunga Arr**	**13.96**	**164**	P	Pn	20 36 47.0	-0.9
	0.4nm,0.3s,baz=349,slow=13,SNR=18						
WRA				S	Sn	20 39 13.6	-8.8
	0.7nm,0.3s,baz=338,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**17.45**	**169**	P	Pn	20 37 31.7	+0.8
	0.1nm,0.3s,baz=345,slow=9.8,SNR=8.7						
ASAR				S	S	20 40 37.0	-7.8
	0.1nm,0.3s,baz=356,slow=29,SNR=2.8						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	20 44 19.8	-0.1
	0.3nm,0.3s,baz=117,slow=7.6,SNR=11						

*SOME **01** 21:16:13.0, 40°.80N×74°.17E, h10km*
*KRNET **01** 21:16:14.4±0.1, 40°.86N×74°.09E, h13km, mb3.3*
*NNC **01** 21:16:14.2±1.2, 40°.85N×74°.10E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=8.6km s-min=5.8km az=177.0*
*KNET **01** 21:16:16.8±0.4, 41°.02N×74°.13E, h0km±2km, ml2.6, Error ellipse: s-maj=2.5km s-min=2.1km az=47.0*
ISC 01 21:16:16.3±0.8, 40°.93N±0°.03×74°.09E±0°.02, h10km, n81, σ1§52/137, 41C-24D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.95**	**10**	⇓*i*P	**Pg**	**21 16 33.6**	**-1.0**
	baz=10.0						
ARLS				⇓*i*S	**Sb**	**21 16 47.3**	**-0.3**
	baz=10.0						
OHH	**Osh**	**1.07**	**248**	⇑*i*P	**Pg**	**21 16 34.6**	**-2.3**
	baz=52						
OHH				⇑*i*S	**Sg**	**21 16 49.0**	**-1.9**
	baz=52						
AML	**Almayashu**	**1.24**	**346**	⇓*i*P	**Pb**	**21 16 39.0**	**-1.0**
	baz=47						
AML				⇓*i*S	**Sn**	**21 16 56.8**	**-0.2**
	baz=47						
AML	**Almayashu**	**1.24**	**346**	⇓P	**Pb**	**21 16 39.2**	**-0.8**
	117nm,0.2s,SNR=72						
AML				⇑S	**Sn**	**21 16 56.8**	**-0.2**
	171nm,0.5s						
UCH	**Uchtor**	**1.33**	**14**	⇑*i*P	**Pn**	**21 16 40.5**	**-0.9**
	baz=13						
UCH				⇑*i*S	**Sn**	**21 17 00.0**	**+0.5**
	baz=13						
UCH	**Uchtor**	**1.33**	**14**	⇓P	**Pn**	**21 16 41.1**	**-0.3**
	23nm,0.1s,SNR=49						
UCH				⇑S	**Sn**	**21 17 00.1**	**+0.7**
	34nm,0.1s						
KZA	**Kyzart**	**1.44**	**37**	⇑*i*P	**Pn**	**21 16 42.2**	**-0.6**
	baz=35						
KZA				⇑*i*S	**Sg**	**21 17 02.5**	**-0.2**
	baz=35						
KZA	**Kyzart**	**1.44**	**37**	⇑P	**Pn**	**21 16 42.4**	**-0.4**
	22nm,0.2s,SNR=23						
KZA				⇑S	**Sg**	**21 17 03.6**	**+0.9**
	46nm,0.2s						
AAK	**Ala-Archa**	**1.73**	**10**	⇓*i*P	**Pb**	**21 16 48.0**	**-0.3**
	baz=10.0						
AAK				⇓*i*S	**Sg**	**21 17 12.1**	**+0.1**
	baz=10.0						
AAK	**Ala-Archa**	**1.73**	**10**	⇑P	**Pb**	**21 16 48.4**	**+0.1**
	12nm,0.2s,SNR=17						
AAK				⇑S	**Sg**	**21 17 12.1**	**+0.1**
	48nm,0.3s						
AAK	**Ala-Archa**	**1.73**	**10**	⇓P	**Pb**	**21 16 48.2**	**-0.1**
	7.5nm,0.4s						
AAK				⇑S	**Sg**	**21 17 11.4**	**-0.7**
	24nm,0.3s						
EKS2	**Erkin-Say**	**1.75**	**352**	⇓*i*P	**Pb**	**21 16 48.1**	**-0.4**
	baz=53						
EKS2				⇓*i*S	**Sg**	**21 17 13.1**	**+0.6**
	baz=53						
EKS2	**Erkin-Say**	**1.75**	**352**	⇓P	**Pb**	**21 16 48.4**	**-0.1**
	18nm,0.2s,SNR=30						
KBK	**Karagaybulak**	**1.84**	**20**	⇑*i*P	**Pb**	**21 16 50.0**	**-0.2**
	baz=19						
KBK				⇑*i*S	**Sg**	**21 17 15.6**	**+0.1**
	baz=19						
KBK	**Karagaybulak**	**1.84**	**20**	⇓P	**Pb**	**21 16 50.4**	**+0.3**
	30nm,0.1s,SNR=71						
KBK				⇓S	**Sg**	**21 17 15.9**	**+0.5**
	127nm,0.3s						
FRU1	**Bishkek**	**1.92**	**12**	⇑*i*P	**Pb**	**21 16 51.3**	**-0.2**
	baz=12						
FRU1				⇑*i*S	**Sg**	**21 17 18.0**	**-0.1**
	baz=12						
MRKS	**Merke**	**1.93**	**341**	*e*P	**Pb**	**21 16 51.3**	**-0.3**
	78nm,0.4s						
MRKS				*e*S	**Sg**	**21 17 18.6**	**+0.4**
	50nm,0.3s						
MRKS	**Merke**	**1.93**	**341**	*e*P	**Pb**	**21 16 51.3**	**-0.3**
	78nm,0.4s						
MRKS				*e*S	**Sg**	**21 17 18.6**	**+0.4**
	50nm,0.3s						
MRKS	**Merke**	**1.93**	**341**	Pg	**Pb**	**21 16 51.3**	**-0.3**
	78nm,0.4s						
MRKS				Lg	Lg	21 17 18.6	
	50nm,0.3s						
ULHL	**Ulahol**	**2.08**	**50**	⇑*i*P	**Pb**	**21 16 53.1**	**-1.2**
	baz=49						
ULHL				⇑*i*S	**Sb**	**21 17 20.9**	**+0.7**
	baz=49						
ULHL	**Ulahol**	**2.08**	**50**	⇑P	**Pb**	**21 16 53.4**	**-0.9**
	21nm,0.1s,SNR=17						
BOOM	**Boomskoye usch**	**2.08**	**41**	⇑*i*P	**Pb**	**21 16 53.3**	**-1.0**
	baz=40						
BOOM				⇑*i*S	**Sb**	**21 17 21.1**	**+0.8**
	baz=40						
CHMS	**Chumysh**	**2.12**	**13**	⇑*i*P	**Pb**	**21 16 54.0**	**-0.9**
	baz=13						
CHMS				⇑*i*S	**Sg**	**21 17 22.8**	**-1.8**
	baz=13						
CHMS	**Chumysh**	**2.12**	**13**	⇑P	**Pb**	**21 16 55.3**	**+0.4**
	8.2nm,0.1s,SNR=20						
TKM2	**Tokmak 2**	**2.28**	**29**	⇓*i*P	**Pb**	**21 16 56.1**	**-1.6**
	baz=28						
TKM2				⇓*i*S	**Sb**	**21 17 26.7**	**+0.6**
	baz=28						
TKM2	**Tokmak 2**	**2.28**	**29**	⇑P	**Pb**	**21 16 57.6**	**-0.1**
	9.9nm,0.2s,SNR=30						
TKM2	**Tokmak 2**	**2.28**	**29**	⇑Pg	**Pb**	**21 16 58.0**	**+0.2**
	6.7nm,0.5s						
TKM2				⇓Lg	Lg	21 17 30.8	
	30nm,0.6s						
USP	**Ospenovka**	**2.35**	**7**	⇑*i*P	**Pb**	**21 16 57.2**	**-1.7**
	baz=7.0						
USP				⇑*i*S	**Sb**	**21 17 28.4**	**+0.4**
	baz=7.0						
USP	**Ospenovka**	**2.35**	**7**	⇓P	**Pb**	**21 16 58.5**	**-0.3**
	13nm,0.2s,SNR=26						
KST	**Kastek**	**2.53**	**33**	*e*P	**Pb**	**21 17 01.6**	**-0.3**
	26nm,0.5s						
KST				*e*S	**Sg**	**21 17 36.9**	**-0.7**
	50nm,0.5s						
KST	**Kastek**	**2.53**	**33**	*e*P	**Pb**	**21 17 01.6**	**-0.3**
	26nm,0.5s						
KST				*e*S	**Sg**	**21 17 36.9**	**-0.7**
	50nm,0.5s						
KST	**Kastek**	**2.53**	**33**	Pg	**Pb**	**21 17 01.6**	**-0.3**
	26nm,0.5s						
KST				Lg	Lg	21 17 36.9	
	50nm,0.5s						
SGDS	**Sogindy**	**2.55**	**9**	Pg	**Pb**	**21 17 02.1**	**-0.2**
	9.7nm,0.3s						
SGDS				Lg	Lg	21 17 37.2	
	32nm,0.6s						
KDJ	**Kajisay**	**2.61**	**62**	⇑*i*P	**Pn**	**21 17 00.4**	**+1.7**
	baz=61						
KDJ				⇑*i*S	**Sb**	**21 17 33.7**	**-1.8**
	baz=61						
BTK	**Batken**	**2.65**	**252**	⇑*i*P	**Pn**	**21 16 59.6**	**+0.5**
	baz=53						
BTK				⇑*i*S	**Sn**	**21 17 32.5**	**+1.2**
	baz=53						
MTBS	**Maitube**	**2.80**	**38**	*e*P	**Pb**	**21 17 06.3**	**-0.2**
	13nm,0.2s						
MTBS				*e*S	**Sg**	**21 17 44.8**	**-1.6**
	32nm,0.4s						
MTBS	**Maitube**	**2.80**	**38**	*e*P	**Pb**	**21 17 06.3**	**-0.2**
	13nm,0.2s						
MTBS				*e*S	**Sg**	**21 17 44.8**	**-1.6**
	32nm,0.4s						
MTBS	**Maitube**	**2.80**	**38**	Pg	**Pb**	**21 17 06.3**	**-0.2**
	13nm,0.2s						
MTBS				Lg	Lg	21 17 44.8	
	32nm,0.4s						
DZA	**Taraz**	**2.84**	**314**	*e*P	**Pb**	**21 17 07.9**	**+0.7**
	18nm,0.2s						
DZA				*e*S	**Sg**	**21 17 47.1**	**-0.6**
	90nm,0.2s						
DZA	**Taraz**	**2.84**	**314**	*e*P	**Pb**	**21 17 07.9**	**+0.7**
	18nm,0.2s						
DZA				*e*S	**Sg**	**21 17 47.1**	**-0.6**
	90nm,0.2s						
DZA	**Taraz**	**2.84**	**314**	Pg	**Pb**	**21 17 07.9**	**+0.7**
	18nm,0.2s						
DZA				Lg	Lg	21 17 47.1	
	90nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.91**	**73**	⇑*i*P	**Pn**	**21 17 04.2**	**+1.2**
	baz=72						
TARG				⇑*i*S	**Sn**	**21 17 40.6**	**+2.4**
	baz=72						
TNSS	**Tian-Shan**	**2.99**	**44**	*e*P	**Pb**	**21 17 09.7**	**-0.3**
	20nm,0.3s						
TNSS				*e*S	**Sg**	**21 17 50.2**	**-2.3**
	23nm,0.5s						
TNSS	**Tian-Shan**	**2.99**	**44**	*e*P	**Pb**	**21 17 09.7**	**-0.3**
	20nm,0.3s						
TNSS				*e*S	**Sg**	**21 17 50.2**	**-2.3**
	23nm,0.5s						
TNSS	**Tian-Shan**	**2.99**	**44**	Pg	**Pb**	**21 17 09.7**	**-0.3**
	20nm,0.3s						
TNSS				Lg	Lg	21 17 50.2	
	23nm,0.5s						
KNDC	**Almaty**	**3.13**	**42**	⇑Pg	**Pb**	**21 17 12.4**	**+0.3**
	14nm,0.4s						
KNDC				⇑Lg	Lg	21 17 55.5	
	46nm,0.6s						
MDOK	**Medeo**	**3.13**	**44**	*e*P	**Pb**	**21 17 12.0**	**-0.2**
	9.8nm,0.6s						
MDOK				*e*S	**Sg**	**21 17 54.5**	**-2.5**
	14nm,0.5s						
MDOK	**Medeo**	**3.13**	**44**	*e*P	**Pb**	**21 17 12.0**	**-0.2**
	9.8nm,0.6s						
MDOK				*e*S	**Sg**	**21 17 54.5**	**-2.5**
	14nm,0.5s						
MDOK	**Medeo**	**3.13**	**44**	Pg	**Pb**	**21 17 12.0**	**-0.2**
	9.8nm,0.6s						
MDOK				Lg	Lg	21 17 54.5	
	14nm,0.5s						
KOTS	**Kotyrbulak**	**3.22**	**43**	*e*P	**Pb**	**21 17 12.9**	**-0.7**
	24nm,0.4s						
KOTS				*e*S	**Sg**	**21 17 56.5**	**-3.1**
	72nm,0.6s						
KOTS	**Kotyrbulak**	**3.22**	**43**	*e*P	**Pb**	**21 17 12.9**	**-0.7**
	24nm,0.4s						
KOTS				*e*S	**Sg**	**21 17 56.5**	**-3.1**
	72nm,0.6s						
KOTS	**Kotyrbulak**	**3.22**	**43**	Pg	**Pb**	**21 17 12.9**	**-0.7**
	24nm,0.4s						
KOTS				Lg	Lg	21 17 56.5	
	72nm,0.6s						
ANVS	**Anan'yevo**	**3.25**	**54**	⇑*i*P	**Pn**	**21 17 09.0**	**+1.5**
	baz=53						
ANVS				⇑*i*S	**Sn**	**21 17 49.0**	**+2.7**
	baz=53						
KTBS	**Karatobe**	**3.38**	**34**	*e*P	**Pb**	**21 17 16.7**	**+0.4**
	3.8nm,0.2s						
KTBS				*e*S	**Sg**	**21 18 02.6**	**-2.2**
	40nm,0.5s						
KTBS	**Karatobe**	**3.38**	**34**	*e*P	**Pb**	**21 17 16.7**	**+0.4**
	3.8nm,0.2s						
KTBS				*e*S	**Sg**	**21 18 02.6**	**-2.2**
	40nm,0.5s						
KTBS	**Karatobe**	**3.38**	**34**	Pg	**Pb**	**21 17 16.7**	**+0.4**
	3.8nm,0.2s						
KTBS				Lg	Lg	21 18 02.6	
	40nm,0.5s						
KUU	**Kurty**	**3.40**	**29**	*e*P	**Pb**	**21 17 16.7**	**+0.2**
	3.4nm,0.3s						
KUU				*e*S	**Sg**	**21 18 02.6**	**-2.7**
	20nm,0.5s						
KUU	**Kurty**	**3.40**	**29**	*e*P	**Pb**	**21 17 16.7**	**+0.2**
	3.4nm,0.3s						
KUU				*e*S	**Sg**	**21 18 02.6**	**-2.7**
	20nm,0.5s						
KUU	**Kurty**	**3.40**	**29**	Pg	**Pb**	**21 17 16.7**	**+0.2**
	3.4nm,0.3s						
KUU				Lg	Lg	21 18 02.6	
	20nm,0.5s						
KK31	**Karatay Array**	**3.44**	**310**	⇓Pg	**Pb**	**21 17 17.9**	**+0.6**
	0.8nm,0.2s,baz=123,slow=17,SNR=19						
KK31				⇑Lg	Lg	21 18 06.0	
	4.7nm,0.3s,baz=117,slow=31,SNR=7.3						
GAR	**Garm**	**3.48**	**238**	⇓*i*P	**Pn**	**21 17 11.3**	**+0.6**
	baz=38						
GAR				⇓*i*S	**Sn**	**21 17 52.6**	**+0.6**
	baz=38						
PRZ	**Przheval'sk**	**3.58**	**63**	⇓*i*P	**Pn**	**21 17 13.7**	**+1.7**
	baz=62						
PRZ				⇓*i*S	**Sn**	**21 17 57.4**	**+2.9**
	baz=62						
SATY	**Saty**	**3.85**	**55**	*e*P	**Pb**	**21 17 25.3**	**+0.8**
	5.1nm,0.

MNBS	**Baschi**	**4.48**	**44**	*e*P		**Pb**	**21 17 37.0**	**+1.9**
	2.2nm,0.3s							
MNBS				*e*S		**Sg**	**21 18 36.5**	**-3.5**
	16nm,0.3s							
MNBS	**Baschi**	**4.48**	**44**	Pg		**Pb**	**21 17 36.8**	**+1.7**
	2.8nm,0.4s							
MNBS				Lg		Lg	21 18 37.0	
	16nm,0.3s							
PDGK	**Podgornoye**	**4.67**	**57**	Pg		**Pb**	**21 17 39.4**	**+0.9**
	2.4nm,0.7s							
PDGK				Lg		Lg	21 18 41.3	
	3.5nm,0.7s							
PDGK	**Podgornoye**	**4.67**	**57**	⇑Pg		**Pb**	**21 17 40.2**	**+1.8**
	4.1nm,0.8s							
PDGK				⇓Lg		Lg	21 18 46.0	
	9.4nm,0.8s							

IDC ***01*** *21:20:10.6±1.3, 60°.30S×26°.50W, h0km, mb4.3/3, mb1 4.3/4, mb1mx3.9/19, mbtmp4.3/4, ML4.4/1, Error ellipse: s-maj=57.1km s-min=34.1km az=46.0*
NEIC ***01*** *21:20:16.4±1.8, 60°.1S±0°.1×26°.1W±0°.2, h35km±1km, mb4.6/15, Error ellipse: s-maj=26.7km s-min=5.8km az=226.0*
ISC 01 21:20:13.2±0.6, 60°.06S±0°.10×26°.1W±0°.1, h10km, n33, σ1§55/32, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.89**	**153**	P	**Pn**	**21 23 14.4**	**-1.7**
VNA3	**Neumayer Olymp**	**13.03**	**156**	P	**Pn**	**21 23 15.8**	**-2.3**
SNAA	**Sanae**	**14.88**	**151**	P	**Pn**	**21 23 42.9**	**-0.4**
SNAA	**Sanae**	**14.88**	**151**	Pn	**Pn**	**21 23 42.0**	**-1.3**
	1.5nm,0.3s,baz=315,slow=14,SNR=9.2						
SNAA	**Sanae**	**14.88**	**151**		**Pn**	**21 23 42.7**	**-0.6**
PMSA	**Palmer Station**	**17.99**	**239**	P	**Pn**	**21 24 24.8**	**+1.9**
BELA	**Belgrano 2**	**18.12**	**186**		**Pn**	**21 24 25.9**	**+1.4**
EFI	**East Falkland**	**19.64**	**281**		**P**	**21 24 42.8**	**+1.1**
TRQA	**Tornquist**	**31.59**	**298**	P	**P**	**21 26 34.6**	**-1.1**
MT02	**Curacav**	**39.73**	**292**	P	**P**	**21 27 45.1**	**-0.4**
MT02				IAmb	IAmb	21 27 50.0	
	comp=Z,16nm,1.2s						
CO02	**Combarbal**	**41.38**	**294**	P	**P**	**21 27 59.3**	**-0.1**
CO02				IAmb	IAmb	21 28 16.4	
	comp=Z,15nm,1.2s						
GO02	**Mina Guanaco**	**45.94**	**300**	P	**P**	**21 28 35.9**	**-0.5**
GO02				IAmb	IAmb	21 28 55.4	
	comp=Z,7.4nm,1.2s						
BDFB	**Brasilia**	**47.15**	**331**	P	**P**	**21 28 45.3**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=128,slow=14,SNR=1.8						
BDFB	**Brasilia**	**47.15**	**331**	P	**P**	**21 28 45.6**	**-0.1**
BDFB				IAmb	IAmb	21 28 59.5	
	comp=Z,7.2nm,1.3s						
PB11	**IPOC Station P**	**50.73**	**303**	P	**P**	**21 29 11.7**	**-1.4**
PB11				IAmb	IAmb	21 29 30.2	
	comp=Z,7.9nm,1.0s						
PSGCX	**Pisagua**	**51.07**	**303**	P	**P**	**21 29 14.4**	**-1.2**
PSGCX				IAmb	IAmb	21 29 30.7	
	comp=Z,8.0nm,1.1s						
MNMC	**Minye Minye**	**51.27**	**303**	P	**P**	**21 29 16.4**	**-0.9**
MNMC				IAmb	IAmb	21 29 29.3	
	comp=Z,6.0nm,1.0s						
PB16	**IPOC Station P**	**51.94**	**304**	P	**P**	**21 29 21.5**	**-1.2**
LPAZ	**La Paz**	**53.22**	**307**	P	**P**	**21 29 31.3**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=204,slow=10.0,SNR=2.8						
LPAZ	**La Paz**	**53.22**	**307**		**P**	**21 29 31.3**	**-0.9**
DBIC	**Dimbokro**	**68.62**	**23**	P	**P**	**21 31 15.9**	**-0.3**
TOA0	**Torodi Ar. Sit**	**76.30**	**28**	P	**P**	**21 32 03.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**76.30**	**28**	P	**P**	**21 32 03.1**	**+1.1**
	comp=Z,4.8nm,0.5s,baz=200,slow=6.2,SNR=75						
TORD	**Torodi Ar. Bea**	**76.30**	**28**	P	**P**	**21 32 03.0**	**+1.1**
CMWZ	**Cape Campbell**	**77.18**	**195**	P	**P**	**21 32 06.0**	**-0.8**
FINES	**FINESS Array B**	**127.65**	**29**	PKP	**PKPdf**	**21 39 16.1**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=204,slow=3.0,SNR=4.1						
ARCES	**ARCESS Array B**	**134.45**	**23**	PKP	**PKPdf**	**21 39 28.9**	**-0.7**
	comp=Z,5.1nm,1.2s,baz=202,slow=1.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**143.47**	**68**	PKP	PKPab	21 39 43.4	+0.6
	comp=Z,0.3nm,0.4s,baz=241,slow=3.9,SNR=2.1						
SONM	**Songino Array**	**150.17**	**93**	PKPbc	**PKPdf**	**21 40 02.3**	**+4.1**
	comp=Z,1.0nm,0.7s,baz=242,slow=4.6,SNR=6.6						
SONM	**Songino Array**	**150.17**	**93**		**PKPdf**	**21 40 02.5**	**+4.3**
DOT	**Dot Lake**	**151.55**	**304**		**PKPbc**	**21 40 05.8**	**-0.1**
ILAR	**Eielson Array**	**153.09**	**306**	PKPbc	**PKPbc**	**21 40 08.1**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=149,slow=1.6,SNR=2.9						
ILAR	**Eielson Array**	**153.09**	**306**		**PKPbc**	**21 40 08.3**	**-1.0**

KRNET ***01*** *22:01:52.2±0.1, 42°.93N×78°.51E, h30km, mb2.1*
NNC ***01*** *22:01:52.9±1.0, 42°.84N×78°.61E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=8.2km s-min=2.6km az=171.0*
SOME ***01*** *22:01:54.3, 42°.88N×78°.53E, h10km*
ISC 01 22:01:51.0±1.2, 42°.80N±0°.03×78°.67E±0°.03, h10km±9km, n28, σ1§04/55, 17C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.32**	**323**	⇓*e*P	**Pb**	**22 01 58.5**	**-0.5**
	baz=30						
SATY				⇓*e*S	**Sg**	**22 02 01.7**	**-0.2**
	baz=30						
SATY	**Saty**	**0.32**	**323**	⇓*e*P	**Pb**	**22 01 58.5**	**-0.5**
	4.9nm,0.1s						
SATY				*e*S	**Sg**	**22 02 01.7**	**-0.2**
	68nm,0.1s						
SATY	**Saty**	**0.32**	**323**	P	**Pb**	**22 01 58.6**	**-0.4**
	4.9nm,0.1s						
SATY				S	**Sg**	**22 02 01.7**	**-0.2**
	68nm,0.1s						
PRZ	**Przheval'sk**	**0.38**	**212**	⇑*i*P	**Pn**	**22 02 02.7**	**0.0**
	baz=88						
PRZ				⇑*i*S	**Sb**	**22 02 09.0**	**+3.1**
	baz=88						
UZB	**Uzynbulak**	**0.43**	**37**	⇑*e*P	**Pn**	**22 02 02.1**	**-1.3**
	baz=60						
UZB				⇑*e*S	**Sb**	**22 02 07.6**	**+0.2**
	baz=60						
UZB	**Uzynbulak**	**0.43**	**37**	⇑*e*P	**Pn**	**22 02 02.1**	**-1.3**
	7.0nm,0.1s						
UZB				*e*S	**Sb**	**22 02 07.6**	**+0.2**
	29nm,0.1s						
UZB	**Uzynbulak**	**0.43**	**37**	P	**Pn**	**22 02 02.1**	**-1.3**
	7.0nm,0.1s						
UZB				S	**Sb**	**22 02 07.6**	**+0.2**
	18nm,0.2s						
ANVS	**Anan'yevo**	**0.74**	**269**	⇑*i*P	**Pg**	**22 02 05.2**	**-0.1**
	baz=57						
ANVS				⇑*i*S	**Sg**	**22 02 14.0**	**-1.0**
	baz=57						
KURS	**Kuram**	**0.78**	**332**	*e*P	**Pb**	**22 02 06.9**	**+0.2**
	0.8nm,0.1s						
KURS				*e*S	**Sg**	**22 02 16.1**	**-0.1**
	2.0nm,0.1s						
KURS	**Kuram**	**0.78**	**332**	P	**Pb**	**22 02 06.9**	**+0.2**
	0.8nm,0.1s						
KURS				S	**Sg**	**22 02 16.1**	**-0.1**
	2.0nm,0.1s						
PDGK	**Podgornoye**	**0.80**	**48**	P	**Pn**	**22 02 08.7**	**+0.3**
	0.2nm,0.2s						
PDGK				S	**Sn**	**22 02 19.1**	**-1.3**
	0.9nm,0.2s						
PDGK	**Podgornoye**	**0.80**	**48**	⇑P	**Pn**	**22 02 08.7**	**+0.3**
	1.0nm,0.9s						
PDGK				⇑S	**Sn**	**22 02 19.5**	**-0.9**
	2.4nm,0.7s						
TARG	**Taragay, Kyrgy**	**1.25**	**211**	⇑*i*P	**Pn**	**22 02 16.0**	**+1.1**
	baz=4.0						
TARG				⇑*i*S	**Sn**	**22 02 33.0**	**+0.9**
	baz=4.0						
TNSS	**Tian-Shan**	**1.29**	**281**	*e*P	**Pb**	**22 02 16.6**	**+1.0**
	0.3nm,0.1s						
TNSS				*e*S	**Sg**	**22 02 32.5**	**-0.1**
	0.7nm,0.1s						
MNBS	**Baschi**	**1.29**	**351**	*e*P	**Pg**	**22 02 16.6**	**+0.8**
	1.3nm,0.3s						
MNBS				*e*S	**Sg**	**22 02 32.6**	**0.0**
	5.7nm,0.3s						
MNBS	**Baschi**	**1.29**	**351**	P	**Pg**	**22 02 16.6**	**+0.8**
	1.3nm,0.3s						
MNBS				S	**Sg**	**22 02 32.6**	**0.0**
	5.7nm,0.3s						
KDJ	**Kajisay**	**1.29**	**239**	⇓*i*P	**Pb**	**22 02 15.5**	**0.0**
	baz=31						
KDJ				⇓*i*S	**Sg**	**22 02 31.2**	**-1.5**
	baz=31						
KNDC	**Almaty**	**1.32**	**289**	⇓P	**Pg**	**22 02 17.0**	**+0.6**
	5.5nm,0.4s						
KNDC				⇑S	**Sb**	**22 02 34.0**	**+1.1**
	7.1nm,0.6s						
ARXS	**Arharly**	**1.54**	**337**	*e*P	**Pg**	**22 02 20.7**	**+0.2**
	2.4nm,0.1s						
ARXS				*e*S	**Sn**	**22 02 39.5**	**+0.8**
	3.3nm,0.1s						
ARXS	**Arharly**	**1.54**	**337**	P	**Pg**	**22 02 20.7**	**+0.2**
	2.4nm,0.1s						
ARXS				S	**Sn**	**22 02 39.5**	**+0.8**
	3.3nm,0.1s						
KTBS	**Karatobe**	**1.71**	**303**	*e*P	**Pg**	**22 02 23.6**	**-0.3**
	2.8nm,0.2s						
KTBS				*e*S	**Sn**	**22 02 44.5**	**+1.6**
	4.8nm,0.3s						
KTBS	**Karatobe**	**1.71**	**303**	P	**Pg**	**22 02 23.6**	**-0.3**
	2.8nm,0.2s						
KTBS				S	**Sn**	**22 02 44.5**	**+1.6**
	4.8nm,0.3s						
DJR	**Jarkent**	**1.73**	**28**	*e*P	**Pg**	**22 02 24.9**	**+0.7**
	1.6nm,0.3s						
DJR				*e*S	**Sg**	**22 02 46.8**	**+0.2**
	2.9nm,0.3s						
DJR	**Jarkent**	**1.73**	**28**	P	**Pg**	**22 02 24.9**	**+0.7**
	1.6nm,0.3s						
DJR				S	**Sg**	**22 02 46.8**	**+0.2**
	2.9nm,0.3s						
ULHL	**Ulahol**	**1.88**	**254**	⇑*i*P	**Pb**	**22 02 23.9**	**-1.7**
	baz=48						
ULHL				⇑*i*S	**Sn**	**22 02 45.6**	**-1.7**
	baz=48						
BOOM	**Boomskoye usch**	**2.04**	**262**	⇓*i*P	**Pn**	**22 02 25.7**	**+0.1**
	baz=58						
BOOM				⇓*i*S	**Sn**	**22 02 48.7**	**-2.5**
	baz=58						
TKM2	**Tokmak 2**	**2.27**	**274**	⇑*i*P	**Pn**	**22 02 28.8**	**+0.1**
	baz=71						
TKM2				⇑*i*S	**Sn**	**22 02 54.3**	**-2.5**
	baz=71						
TKM2	**Tokmak 2**	**2.27**	**274**	⇓Pg	**Pb**	**22 02 30.7**	**-1.4**
	1.4nm,0.8s						
TKM2				⇑Lg	Lg	22 03 02.9	
	2.1nm,0.7s						

TAP ***01*** *22:22:38.7, 24°.87N×122°.46E, h19km, ML2.6, C*
JMA ***01*** *22:22:39.5, 24°.83N×122°.48E, h30km±4km*
ISC 01 22:22:37.1±1.4, 24°.83N±0°.04×122°.54E±0°.04, h12km±10km, n39, σ0§63/68, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.53**	**290**	*e*P	**Pb**	**22 22 48.0**	**-0.3**
	baz=289						
TWB1				*e*S	**Sg**	**22 22 54.0**	**-0.5**
	baz=289						
JYNG	**Yonagunijimaku**	**0.53**	**135**	P	**Pn**	**22 22 50.7**	**+0.3**
JYNG				S	**Sn**	**22 22 58.7**	**-0.6**
EGS		**0.55**	**272**	P	**Pb**	**22 22 48.6**	**-0.1**
	baz=259						
EGS				*e*S	**Sg**	**22 22 56.0**	**+0.8**
	baz=259						
YOJ	**Yonaguni jima**	**0.57**	**130**	*i* P	**Pn**	**22 22 51.3**	**+0.3**
	baz=119						
YOJ				*i* S	**Sn**	**22 22 59.8**	**-0.5**
	baz=119						
YOJ	**Yonaguni jima**	**0.57**	**130**	P	**Pn**	**22 22 51.2**	**+0.3**
YOJ				S	**Sn**	**22 22 59.6**	**-0.6**
NTC	**Toucheng**	**0.64**	**272**	*e*P	**Pb**	**22 22 50.3**	**+0.1**
	baz=283						
NTC				*e*S	**Sb**	**22 22 59.3**	**+0.1**
	baz=283						
TIPB	**Shuangxi**	**0.66**	**283**	P	**Pb**	**22 22 50.8**	**+0.3**
	baz=280						
TIPB				*e*S	**Sg**	**22 22 58.8**	**+0.1**
	baz=280						
TWC	**Suao**	**0.66**	**251**	P	**Pg**	**22 22 50.4**	**+0.4**
	baz=252						
TWC				*e*S	**Sg**	**22 22 58.3**	**-0.4**
	baz=252						
ILA	**Ilan**	**0.72**	**265**	*e*P	**Pg**	**22 22 50.7**	**-0.4**
	baz=261						
NWF	**Wu-fen Shan**	**0.73**	**289**	P	**Pb**	**22 22 51.7**	**0.0**
	baz=289						
NWF				*e*S	**Sg**	**22 23 01.2**	**+0.4**
	baz=289						
WFSB	**Wu-fen Shan**	**0.73**	**289**	P	**Pb**	**22 22 51.8**	**+0.1**
	baz=288						
WFSB				*e*S	**Sg**	**22 23 01.3**	**+0.6**
	baz=288						
ENAH	**Nanao**	**0.76**	**240**	*e*P	**Pb**	**22 22 52.3**	**+0.1**
	baz=235						
ENAH				*e*S	**Sb**	**22 23 02.8**	**+0.2**
	baz=235						
TWE	**Neicheng**	**0.80**	**262**	*i* P	**Pb**	**22 22 52.8**	**-0.1**
	baz=258						
TWE				*e*S	**Sg**	**22 23 03.0**	**0.0**
	baz=258						
ENA	**Nanau**	**0.83**	**241**	P	**Pb**	**22 22 53.5**	**+0.1**
	baz=236						
ENA				*e*S	**Sg**	**22 23 04.2**	**+0.2**
	baz=236						
PCYT	**Pengchaiyu**	**0.90**	**332**	*e*P	**Pn**	**22 22 55.7**	**+0.1**
	baz=336						
ENTT	**Nioudou**	**0.90**	**258**	P	**Pb**	**22 22 55.0**	**+0.3**
	baz=242						
ENTT				*e*S	**Sg**	**22 23 04.9**	**-1.5**
	baz=242						
YM08	**YM08**	**0.93**	**293**	*e*P	**Pb**	**22 22 55.4**	**+0.2**
	baz=292						
YM01	**YM01**	**0.93**	**290**	*e*P	**Pn**	**22 22 56.2**	**+0.2**
	baz=289						
YM01				*e*S	**Sg**	**22 23 07.2**	**-0.1**
	baz=289						
YM11	**YM11**	**0.93**	**291**	*e*P	**Pn**	**22 22 56.3**	**+0.2**
	baz=291						
NWLT	**Wulai**	**0.94**	**267**	*e*P	**Pb**	**22 22 55.7**	**+0.3**
	baz=276						
NWLT				*e*S	**Sg**	**22 23 06.6**	**-1.0**
	baz=276						
YM10	**YM10**	**0.94**	**290**	*e*P	**Pn**	**22 22 56.3**	**+0.1**
	baz=290						
NDT	**Datong Townshi**	**0.96**	**257**	P	**Pb**	**22 22 55.9**	**+0.2**
	baz=240						
NDT				*e*S	**Sg**	**22 23 08.3**	**+0.2**
	baz=240						
TWY	**Chenhua**	**0.96**	**298**	*e*P	**Pn**	**22 22 56.5**	**+0.1**
	baz=285						
TWY				*e*S	**Sg**	**22 23 07.4**	**-0.8**
	baz=285						
YM04	**YM04**	**0.96**	**290**	*e*P	**Pb**	**22 22 56.2**	**+0.5**
	baz=289						
YHNB	**Yeheng**	**1.07**	**262**	*e*P	**Pg**	**22 22 57.7**	**0.0**
	baz=245						
YHNB				*e*S	**Sg**	**22 23 09.8**	**-1.8**
	baz=245						
NACB	**Ninganchiao**	**1.08**	**233**	P	**Pn**	**22 22 58.2**	**+0.2**
	baz=239						
NACB				*e*S	**Sg**	**22 23 11.6**	**-0.3**
	baz=239						
NSK	**Sanguang**	**1.08**	**262**	*e*P	**Pb**	**22 22 58.1**	**+0.3**
	baz=259						
NSK				*e*S	**Sg**	**22 23 10.1**	**-1.9**
	baz=259						
NNSB	**Datong**	**1.12**	**249**	P	**Pg**	**22 22 58.4**	**-0.3**
	baz=236						
NNSB				*e*S	**Sg**	**22 23 11.3**	**-2.1**
	baz=236						
NNS	**Nan Shan**	**1.13**	**250**	*e*P	**Pn**	**22 22 59.1**	**+0.3**
	baz=237						
NNS				*e*S	**Sg**	**22 23 12.3**	**-1.3**
	baz=237						
ETLH	**Xiulin Townshi**	**1.14**	**237**	*e*P	**Pn**	**22 22 59.6**	**+0.6**
	baz=243						
ETLH				*e*S	**Sg**	**22 23 14.1**	**0.0**
	baz=243						
FUSS	**Fushou**	**1.31**	**244**	*e*P	**Pg**	**22 23 02.8**	**+0.4**
	baz=241						
FUSS				*e*S	**Sb**	**22 23 19.2**	**+0.6**
	baz=241						
WHF	**Hehuan Shan**	**1.34**	**240**	*e*P	**Pg**	**22 23 03.7**	**+0.7**
	baz=246						
WHF				*e*S	**Sb**	**22 23 19.8**	**+0.1**
	baz=246						
TWT	**Tachien**	**1.36**	**245**	*e*P	**Pg**	**22 23 04.0**	**+0.6**
	baz=243						
TDCB	**Techi**	**1.38**	**246**	*e*P	**Pb**	**22 23 03.3**	**+0.3**
	baz=235						
TDCB				*e*S	**Sb**	**22 23 21.2**	**+0.7**
	baz=235						
CHGB	**Renai**	**1.46**	**239**	*e*P	**Pg**	**22 23 05.7**	**+0.6**
	baz=243						
CHGB				*e*S	**Sg**	**22 23 24.5**	**+0.3**
	baz=243						
WHP	**Taichung City**	**1.55**	**250**	*e*P	**Pg**	**22 23 07.2**	**+0.3**
	baz=240						
WHP				*e*S	**Sn**	**22 23 24.1**	**-0.5**
	baz=240						
VWDT	**VWDT**	**1.66**	**230**	*e*P	**Pn**	**22 23 06.6**	**+0.6**
	baz=213						
ALS	**Alishan**	**2.06**	**231**	*e*P	**Pb**	**22 23 14.2**	**-0.3**
	baz=212						
CHN5	**Tsauling**	**2.09**	**234**	*e*P	**Pb**	**22 23 14.4**	**-0.7**
	baz=216						

NIED ***01*** *22:32:59.0, 40°.22N×142°.33E, h37km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.10; Mθθ-0.43; Mϕϕ-0.66; Mrθ0.81; Mθϕ-0.54; Mϕr0.99; Fault plane solution: M0 1.69000×10¹⁴ NP1:ϕs39.00000°, δ70.00000°, λ90.00000°. NP2:ϕs219.00000°, δ20.00000°, λ89.00000°.*
JMA 01 22:32:59.0±0.1, 40°.22N×142°.33E, h37km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.46**	**232**	P	Pn	22 33 09.0	+0.2
JTH				S	Sn	22 33 16.0	+0.1
JKEN	**Kujiedanarisaw**	**0.47**	**268**	P	Pn	22 33 09.0	-0.2
JKEN				S	Sn	22 33 16.2	-0.2
JANG	**Nango**	**0.64**	**284**	P	Pn	22 33 11.5	-0.2
JANG				S	Sn	22 33 20.4	-0.2
MIYJ	**Miyakonagasawa**	**0.75**	**212**	P	Pn	22 33 13.0	-0.1
MIYJ				S	Sn	22 33 23.2	0.0
JKZ	**Kuzumaki**	**0.80**	**253**	P	Pn	22 33 14.1	+0.3
JKZ				S	Sn	22 33 24.8	+0.2
JARK	**Aomorirokkasho**	**1.08**	**317**	P	Pn	22 33 17.7	+0.2
JARK				S	Sn	22 33 31.7	+0.6
JOM	**Ohasama**	**1.09**	**227**	P	Pn	22 33 18.3	+0.6
JTM	**Tenmabayashi**	**1.12**	**301**	P	Pn	22 33 18.4	+0.4
JTM				eS	Sn	22 33 32.5	+0.3
JAH	**Hinai**	**1.30**	**269**	P	Pn	22 33 21.2	+0.7
JAH				eS	Sn	22 33 36.2	-0.4
JOT	**Ohata**	**1.52**	**320**	P	Pn	22 33 23.7	+0.2
JMK	**Ichinoseki**	**1.53**	**214**	P	Pn	22 33 25.1	+1.4
JMK				eS	Sn	22 33 44.2	+1.9
JRG	**Rokugo**	**1.54**	**238**	P	Pn	22 33 25.2	+1.3

IDC 01 22:36:37.7±51.0, 13°.18S×166°.99E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/49, mbtmp4.1/3, Error ellipse: s-maj=870.0km s-min=110.1km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.81**	**227**	P	P	22 42 46.5	-0.1
	0.8nm,0.4s,baz=41,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**31.97**	**253**	P	P	22 43 05.9	+0.1
	1.4nm,0.5s,baz=85,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**33.00**	**247**	P	P	22 43 14.6	-0.2
	1.7nm,0.5s,baz=73,slow=9.5,SNR=30						

IDC ***01*** *22:40:02.2±2.6, 6°.03S×146°.66E, h104km±23km, mb3.6/9, mb1 3.8/13, mb1mx3.6/47, mbtmp4.0/13, MS2.9/3, Ms1 2.9/3, ms1mx2.6/31, Error ellipse: s-maj=29.8km s-min=18.4km az=90.0*
ISC 01 22:40:01.5±0.9, 6°.05S±0°.08×146°.7E±0°.2, h100km, n24, σ0§69/17, mb3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.37**	**172**	P	**Pn**	**22 40 53.4**	**+1.2**
	39nm,0.3s,baz=31,slow=4.4,SNR=58						
PMG				S	**Sn**	**22 41 30.3**	**-1.0**
	18nm,0.3s,baz=342,slow=23,SNR=16						
PMG				LR	LR	22 42 01.0	
	comp=Z,114nm,21.1s,baz=98,slow=35						
JAY	**Jayapura**	**6.92**	**300**	P	**Pn**	**22 41 41.0**	**+0.6**
	1.1nm,0.3s,baz=96,slow=4.1,SNR=5.1						
CTA	**Charters Tower**	**13.96**	**182**	P	**P**	**22 43 19.5**	**-0.3**
	1.4nm,0.3s,baz=1.6,slow=14,SNR=25						
SIJI	**Sorong**	**16.23**	**288**	P	**P**	**22 43 44.4**	**-0.6**
	1.9nm,0.3s,baz=96,slow=15,SNR=9.2						
WRA	**Warramunga Arr**	**18.30**	**220**	P	**P**	**22 44 07.2**	**-0.6**
	0.4nm,0.3s,baz=44,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**21.41**	**214**	P	**P**	**22 44 41.7**	**+0.3**
	2.4nm,0.6s,baz=49,slow=8.3,SNR=25						
FITZ	**Fitzroy Crossi**	**23.78**	**238**	P	**P**	**22 45 05.0**	**-0.2**
	3.8nm,0.7s,baz=25,slow=0.7,SNR=12						
STKA	**Stephens Creek**	**26.14**	**190**	LR	LR	22 57 50.1	
	comp=Z,28nm,20.6s,baz=320,slow=41						
KAPI	**Kappang**	**26.83**	**271**	LR	LR	22 58 12.2	
	comp=Z,44nm,18.2s,baz=73,slow=41						
H11S3	**WAKE ISLAND Hy**	**31.36**	**39**	T	T	23 19 21.4	
	baz=222						
H11S2	**WAKE ISLAND Hy**	**31.37**	**39**	T	T	23 19 26.6	
	baz=222						
H11S1	**WAKE ISLAND Hy**	**31.38**	**39**	T	T	23 19 27.6	
	baz=222						
H11N1	**WAKE ISLAND Hy**	**32.41**	**37**	T	T	23 20 41.4	
	baz=222						
H11N3	**WAKE ISLAND Hy**	**32.43**	**37**	T	T	23 20 39.5	
	baz=222						
H11N2	**WAKE ISLAND Hy**	**32.43**	**37**	T	T	23 20 39.6	
	baz=222						
KSRS	**Korea Array**	**46.69**	**339**	P	**P**	**22 48 20.5**	**+0.3**
	2.1nm,0.6s,baz=160,slow=8.4,SNR=6.7						
USRK	**Ussuriysk Ar.**	**51.74**	**347**	P	**P**	**22 48 59.2**	**+0.5**
	0.8nm,0.5s,baz=167,slow=7.1,SNR=2.2						
CMAR	**Chiang Mai Arr**	**53.00**	**298**	P	**P**	**22 49 08.4**	**0.0**
	1.7nm,0.5s,baz=128,slow=5.5,SNR=9.0						
SONM	**Songino Array**	**64.30**	**331**	P	**P**	**22 50 26.3**	**-0.1**
	0.3nm,0.4s,baz=154,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**77.34**	**321**	P	**P**	**22 51 44.5**	**-0.8**
	0.3nm,0.5s,baz=97,slow=8.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**78.89**	**328**	P	**P**	**22 51 52.8**	**-0.9**
	0.5nm,0.4s,baz=114,slow=7.0,SNR=2.6						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**22 52 28.2**	**-0.5**
	0.5nm,0.7s,baz=254,slow=4.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.81**	**284**	PKP	**PKPdf**	**22 59 28.2**	**+0.4**
	7.1nm,0.7s,baz=76,slow=3.6,SNR=36						
DBIC	**Dimbokro**	**151.72**	**273**	PKPbc	**PKiKP**	**22 59 46.6**	**+0.

	baz=246						
TWE				*e*S	**Sb**	**22 46 41.2**	**-0.1**
	baz=246						
ENTT	**Nioudou**	**0.82**	**255**	*e*P	**Pb**	**22 46 33.5**	**+0.3**
	baz=237						
ENTT				*e*S	**Sb**	**22 46 44.7**	**+0.3**
	baz=237						
YM01	**YM01**	**0.84**	**290**	*e*P	**Pn**	**22 46 34.4**	**-0.4**
	baz=286						
YM11	**YM11**	**0.85**	**292**	*e*P	**Pn**	**22 46 34.6**	**-0.2**
	baz=287						
YM05	**YM05**	**0.85**	**291**	*e*P	**Pn**	**22 46 34.7**	**-0.2**
	baz=287						
YM10	**YM10**	**0.85**	**291**	*e*P	**Pb**	**22 46 33.7**	**-0.1**
	baz=286						
NWLT	**Wulai**	**0.86**	**265**	*e*P	**Pg**	**22 46 33.7**	**+0.2**
	baz=261						
NWLT				*e*S	**Sg**	**22 46 45.0**	**+0.3**
	baz=261						
NDT	**Datong Townshi**	**0.88**	**254**	*e*P	**Pb**	**22 46 34.5**	**+0.2**
	baz=237						
NDT				*e*S	**Sb**	**22 46 46.6**	**+0.6**
	baz=237						
YHNB	**Yeheng**	**0.99**	**259**	*e*P	**Pg**	**22 46 36.1**	**+0.1**
	baz=270						
YHNB				*e*S	**Sg**	**22 46 47.5**	**-1.4**
	baz=270						
NSK	**Sanguang**	**1.00**	**260**	*e*P	**Pb**	**22 46 36.5**	**+0.2**
	baz=270						
NSK				*e*S	**Sg**	**22 46 49.5**	**+0.1**
	baz=270						
NACB	**Ninganchiao**	**1.03**	**229**	*e*P	**Pg**	**22 46 36.2**	**-0.6**
	baz=226						
NNSB	**Datong**	**1.05**	**246**	*e*P	**Pg**	**22 46 37.4**	**+0.1**
	baz=243						
NNSH	**Datong**	**1.05**	**246**	*e*P	**Pg**	**22 46 37.4**	**+0.1**
	baz=243						
NNSH				*e*S	**Sb**	**22 46 51.5**	**+0.4**
	baz=243						
NNS	**Nan Shan**	**1.06**	**247**	*e*P	**Pg**	**22 46 37.3**	**-0.1**
	baz=244						
ETLH	**Xiulin Townshi**	**1.09**	**234**	*e*P	**Pg**	**22 46 37.2**	**-0.7**
	baz=231						
FUSS	**Fushou**	**1.25**	**241**	*e*P	**Pg**	**22 46 41.0**	**0.0**
	baz=238						
FUSS				*e*S	**Sb**	**22 46 57.0**	**+0.2**
	baz=238						
IRIF	**Iriomote-Funau**	**1.28**	**114**	P	**Pg**	**22 46 41.4**	**-0.2**
WHF	**Hehuan Shan**	**1.28**	**237**	*e*P	**Pn**	**22 46 41.4**	**+0.3**
	baz=234						
TDCB	**Techi**	**1.31**	**243**	*e*P	**Pb**	**22 46 42.0**	**+0.3**
	baz=240						
CHGB	**Renai**	**1.40**	**236**	*e*P	**Pg**	**22 46 43.8**	**-0.1**
	baz=233						
HATJ	**Hateruma jima**	**1.47**	**122**	P	**Pg**	**22 46 45.0**	**-0.3**

*DJA **01** 22:49:12.9±0.7,3°N×5°×12°8E±°, h18km±4km, M4.5/10, mb4.6/10, mB5.2/4, MLv4.5/7, Mw(mB)4.6/4*
*NEIC **01** 22:49:17.3±1.3,2°91N±0°09×128°33E±0°10, h72km±9km, mb4.2/22, Error ellipse: s-maj=16.0km s-min=10.9km az=50.0*
*IDC **01** 22:49:17.2±3.4,2°98N×128°43E, h72km±33km, mb3.6/12, mb1 3.8/13, mb1mx3.6/41, mbtmp4.0/13, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/34, Error ellipse: s-maj=33.2km s-min=13.5km az=77.0*

ISC 01 22:49:13.4±0.5,3°11N±0°06×128°59E±0°09, h35km, n61, σ1©13/56, mb4.1/19, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.62**	**208**	P	**Pn**	**22 49 54.5**	**+1.2**
TNTI	**Ternate**	**2.62**	**208**	Pn	**Pn**	**22 49 53.1**	**-0.2**
SIJI	**Sorong**	**4.77**	**146**	P	Pn	22 50 27.1	+4.2
	5.6nm,0.3s,baz=181,slow=20,SNR=13						
SIJI				S	**Sn**	**22 51 18.6**	**+1.6**
	4.1nm,0.3s,baz=184,slow=23,SNR=6.8						
DAV	**Davao City (W)**	**4.95**	**323**	LR	LR	22 52 13.6	
	comp=Z,57nm,18.5s,baz=162,slow=36						
KMSI	**Cibinong**	**5.25**	**241**	P	**Pn**	**22 50 29.7**	**+0.3**
	0.8nm163hnm,0.5s						
GTOI	**Gorontalo**	**6.09**	**246**	P	**Pn**	**22 50 40.7**	**-0.3**
	0.1nm366nm21nm,0.6s						
LUWI	**Luwuk**	**7.13**	**235**	P	**Pn**	**22 50 56.0**	**+0.7**
	0.4nm38nm,0.5s						
LUWI	**Luwuk**	**7.13**	**235**	Pn	**Pn**	**22 50 54.5**	**-0.8**
MPSI	**Mapaga**	**9.11**	**253**	P	**Pn**	**22 51 21.1**	**-1.4**
	2µm16nm,1.0s						
MYLDM	**Lahad Datu**	**10.27**	**282**	Pn	**Pn**	**22 51 40.0**	**+1.6**
SPSI	**Sidrap Palu**	**11.27**	**232**	P	**Pn**	**22 51 51.7**	**-0.4**
	19nm,0.9s						
EDFI	**Ende, Flores**	**13.64**	**210**	P	**Pn**	**22 52 27.9**	**+3.3**
	4.8nm,1.6s						
MTN	**Manton Dam**	**16.05**	**171**	P	**P**	**22 52 58.2**	**-1.4**
MTN				IAmb	IAmb	22 53 01.4	
	comp=Z,28nm,1.5s						
SBUM	**Sibu**	**16.36**	**268**	P	**Pn**	**22 53 01.5**	**+0.9**
SBUM				IAmb	IAmb	22 53 04.2	
	comp=Z,20nm,1.4s						
TWSI	**Taliwang, Sumb**	**16.57**	**225**	P	**Pn**	**22 53 03.8**	**+0.5**
	comp=Z,16nm,0.9s						
TWSI				pP	**P**	**22 53 07.0**	**+1.5**
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**18.66**	**179**		**Pn**	**22 53 28.5**	**-0.6**
KNRA				IAmb	IAmb	22 53 31.0	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.27**	**188**	P	**P**	**22 53 54.8**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=1.9,slow=11,SNR=1.5						
FITZ	**Fitzroy Crossi**	**21.27**	**188**	P	**P**	**22 53 55.7**	**-1.2**
WRA	**Warramunga Arr**	**23.59**	**166**	P	**P**	**22 54 21.0**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=345,slow=11,SNR=28						
WRA	**Warramunga Arr**	**23.59**	**166**	P	**P**	**22 54 20.2**	**-1.0**
WB2	**Warramunga Arr**	**23.59**	**166**	P	**P**	**22 54 21.1**	**-0.1**
AS31	**Alice Springs**	**27.11**	**169**	P	**P**	**22 54 51.8**	**-1.4**
ASAR	**Alice Springs**	**27.11**	**169**	P	**P**	**22 54 52.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=351,slow=8.2,SNR=6.7						
ASAR				PcP	**PcP**	**22 58 13.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=3.8,slow=2.4,SNR=5.9						
ASAR	**Alice Springs**	**27.11**	**169**	P	**P**	**22 54 52.4**	**-0.9**
JWT	**Wachi**	**32.63**	**10**	P	**P**	**22 55 44.5**	**+2.5**
CM31	**Chiang Mai Arr**	**32.79**	**300**	P	**P**	**22 55 43.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**32.79**	**300**	P	**P**	**22 55 43.6**	**0.0**
	comp=Z,1.3nm,0.4s,baz=106,slow=6.4,SNR=7.2						
CMAR	**Chiang Mai Arr**	**32.79**	**300**	P	**P**	**22 55 43.4**	**-0.2**
CHTO	**Chiang Mai**	**32.93**	**300**	P	**P**	**22 55 44.7**	**-0.2**
CHTO				IAmb	IAmb	22 55 45.7	
	comp=Z,3.5nm,0.6s						
MJAR	**Matsushiro Arr**	**34.44**	**14**	P	**P**	**22 55 58.8**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=184,slow=10,SNR=7.2						
JSD	**Sado**	**35.88**	**13**	P	**P**	**22 56 11.7**	**+1.6**
BBOO	**Buckleboo**	**36.41**	**169**		**P**	**22 56 14.3**	**-0.4**
STKA	**Stephens Creek**	**36.92**	**161**	P	**P**	**22 56 18.8**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=339,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**36.92**	**161**	P	**P**	**22 56 19.0**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**40.30**	**65**	T	T	23 40 19.0	
	baz=252,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.31**	**65**	T	T	23 40 17.1	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.31**	**65**	T	T	23 40 15.8	
	baz=252						
H11N1	**WAKE ISLAND Hy**	**40.86**	**63**	T	T	23 40 52.9	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**40.87**	**63**	T	T	23 40 58.0	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**40.88**	**63**	T	T	23 40 57.3	
	baz=258						
USA0B	**Ussuriysk Arra**	**41.03**	**4**	P	**P**	**22 56 54.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**41.03**	**4**	P	**P**	**22 56 54.9**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=202,slow=7.1,SNR=5.6						
USRK	**Ussuriysk Ar.**	**41.03**	**4**	P	**P**	**22 56 55.5**	**+2.1**
SHL	**Shillong**	**41.74**	**306**	P	**P**	**22 56 59.5**	**-0.2**
SHL				IAmb	IAmb	22 57 03.3	
	comp=Z,3.4nm,0.7s						
MK31	**Makanchi Array**	**59.13**	**325**	P	**P**	**22 59 10.8**	**+0.2**
MK31				IAmb	IAmb	22 59 14.1	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**22 59 10.7**	**0.0**
	comp=Z,1.5nm,0.5s,baz=120,slow=8.4,SNR=17						
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**22 59 10.5**	**-0.1**
MAKZ	**Makanchi**	**59.32**	**325**	P	**P**	**22 59 11.8**	**-0.1**
MAKZ				IAmb	IAmb	22 59 15.9	
	comp=Z,1.7nm,0.7s						
ZAA0	**Zalesovo Array**	**61.99**	**332**	P	**P**	**22 59 28.5**	**-1.4**
ZAA0				IAmb	IAmb	22 59 29.3	
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**61.99**	**332**	P	**P**	**22 59 28.8**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=124,slow=7.7,SNR=1.8						
ZALV				LR	LR	23 30 55.1	
	comp=Z,40nm,19.7s,baz=316,slow=40						
ZALV	**Zalesovo Beam**	**61.99**	**332**	P	**P**	**22 59 28.4**	**-1.5**
KURK	**Kurchatov**	**63.27**	**327**	P	**P**	**22 59 38.1**	**-0.4**
KURK				IAmb	IAmb	22 59 42.6	
	comp=Z,2.1nm,0.6s						
GAR	**Garm**	**63.71**	**312**	P	**P**	**22 59 41.6**	**-0.3**
GAR				IAmb	IAmb	22 59 42.3	
	comp=Z,6.6nm,1.2s						
KK31	**Karatay Array**	**64.95**	**317**	P	**P**	**22 59 49.5**	**-0.3**
KKAR	**Karatay Array**	**64.95**	**317**	P	**P**	**22 59 49.1**	**-0.7**
NRIK	**Noril'sk**	**71.48**	**346**	P	**P**	**23 00 30.2**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=170,slow=11,SNR=2.1						
ABKAR	**Akbulak array**	**73.81**	**321**	P	**P**	**23 00 43.5**	**-0.9**
VNDA	**Vanda**	**82.58**	**173**	P	**P**	**23 01 31.3**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=327,slow=5.3,SNR=7.4						
VNDA	**Vanda**	**82.58**	**173**	P	**P**	**23 01 31.9**	**-0.5**
VNDA				IAmb	IAmb	23 01 35.7	
	comp=Z,3.1nm,1.5s						
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**23 01 44.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=260,slow=5.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**124.88**	**288**	PKP	**PKPdf**	**23 08 09.3**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=165,slow=6.2,SNR=3.8						

*IDC **01** 23:04:07.5±5.4, 37°40N×72°29E, h82km±40km, mb3.5/2, mb1 3.4/7, mb1mx3.0/52, mbtmp3.7/7, Error ellipse: s-maj=67.2km s-min=27.1km az=144.0*
*NNC **01** 23:04:15.2±2.8, 38°23N×72°00E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=22.0km s-min=14.6km az=171.0*

ISC 01 23:04:11.1±1.5, 37°7N±0°1×71°97E±0°08, h100km, n20, σ1©62/26, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.63**	**16**	P	**Pn**	**23 05 20.3**	**+1.2**
	SNR=30						
UCH	**Uchtor**	**4.94**	**23**	P	**Pn**	**23 05 24.2**	**+0.8**
	SNR=13						
EKS2	**Erkin-Say**	**5.16**	**15**	P	**Pn**	**23 05 27.5**	**+1.5**
	SNR=18						
AAK	**Ala-Archa**	**5.31**	**21**	P	**Pn**	**23 05 29.4**	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**5.31**	**21**	⇑P	**Pn**	**23 05 28.9**	**+0.8**
	5.5nm,0.4s						
AAK				⇑S	**Sn**	**23 06 26.4**	**-1.6**
	28nm,0.7s						
KK31	**Karatay Array**	**5.52**	**349**	⇑P	**Pn**	**23 05 32.9**	**+2.0**
	15nm,0.3s,baz=165,slow=12,SNR=229						
KK31				⇑S	**Sn**	**23 06 31.4**	**-1.7**
	5.5nm,0.3s,baz=167,slow=23,SNR=14						
CHMS	**Chumysh**	**5.71**	**21**	P	**Pn**	**23 05 34.5**	**+1.0**
	SNR=9.2						
USP	**Ospenovka**	**5.90**	**18**	P	**Pn**	**23 05 36.5**	**+0.5**
	SNR=9.0						
TKM2	**Tokmak 2**	**5.92**	**27**	P	**Pn**	**23 05 38.0**	**+1.6**
	SNR=6.3						
TKM2	**Tokmak 2**	**5.92**	**27**	⇑P	**Pn**	**23 05 37.1**	**+0.8**
	1.4nm,0.4s						
TKM2				⇓S	**Sn**	**23 06 41.4**	**-1.4**
	2.7nm,0.4s						
GEYT	**Alibeck**	**10.96**	**275**	P	**Pn**	**23 06 45.4**	**+0.5**
	0.3nm,0.3s,baz=99,slow=9.3,SNR=1.8						
GEYT				S	**Sn**	**23 08 41.6**	**-3.9**
	0.2nm,0.3s,baz=70,slow=22,SNR=1.5						
MKAR	**Makanchi Array**	**11.88**	**37**	P	**Pn**	**23 06 55.4**	**-1.7**
	0.1nm,0.3s,baz=227,slow=15,SNR=6.0						
KURBB	**Kurchatov Arra**	**13.75**	**18**	P	**Pn**	**23 07 18.0**	**-3.6**
	0.1nm,0.3s,baz=200,slow=12,SNR=2.5						
AB31	**Akbulak array**	**14.47**	**327**	⇑P	**P**	**23 07 35.9**	**+1.2**
	0.2nm,0.3s,baz=3.5,slow=28,SNR=14						
AB31				⇑S	**Sn**	**23 10 11.8**	**+1.6**
	0.9nm,0.5s,baz=149,slow=23,SNR=11						
BVAR	**Borovoye Array**	**15.38**	**356**	P	**Pn**	**23 07 42.7**	**+0.4**
	1.0nm,0.3s,baz=185,slow=17,SNR=22						
AKTO	**Aktyubinsk**	**16.18**	**326**	P	**P**	**23 07 54.4**	**+0.7**
	0.3nm,0.3s,baz=126,slow=13,SNR=4.4						
AKTO	**Aktyubinsk**	**16.18**	**326**	⇑P	**P**	**23 07 54.3**	**+0.6**
	3.2nm,1.0s						
AKTO				⇓S	**Sn**	**23 10 51.0**	**-0.5**
	3.4nm,1.2s						
ZALV	**Zalesovo Beam**	**18.51**	**24**	P	**P**	**23 08 18.5**	**-0.9**
	0.5nm,0.3s,baz=218,slow=9.6,SNR=10						
ARCES	**ARCESS Array B**	**40.35**	**337**	P	**P**	**23 11 39.0**	**+0.5**
	2.4nm,1.0s,baz=111,slow=9.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**66.52**	**269**	P	**P**	**23 14 50.8**	**+0.2**
	0.4nm,0.6s,baz=49,slow=6.1,SNR=6.8						

*IDC **01** 23:24:18.3±3.1, 14°54S×167°34E, h139km±25km, mb3.7/8, mb1 3.9/9, mb1mx3.6/48, mbtmp4.1/9, Error ellipse: s-maj=24.6km s-min=21.8km az=97.0*
*NEIC **01** 23:24:19.7±0.9, 14°61S±0°10×167°4E±0°1, h150km±5km, mb4.3/13, Error ellipse: s-maj=21.6km s-min=10.8km az=120.0*

ISC 01 23:24:21.5±0.7, 14°67S±0°08×167°4E±0°1, h170km, n33, σ1©38/40, mb4.1/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.79**	**191**	Pn	**Pn**	**23 24 43.4**	**-3.3**
SANVU				Sn	**Sn**	**23 25 00.4**	**-5.9**
DZM	**Mont Dzumac**	**7.42**	**187**	P	**Pn**	**23 26 06.3**	**-0.9**
	2.1nm,0.3s,baz=337,slow=17,SNR=17						
DZM				S	**Sn**	**23 27 29.7**	**-0.9**
	1.3nm,0.3s,baz=158,slow=23,SNR=6.8						
DZM	**Mont Dzumac**	**7.42**	**187**		**Pn**	**23 26 06.8**	**-0.4**
DZM				Sn	**Sn**	**23 27 31.6**	**+1.0**
EIDS	**Eidsvold**	**18.61**	**233**	P	**P**	**23 28 26.2**	**+0.1**
EIDS				IAmb	IAmb	23 28 35.5	
	comp=Z,11nm,1.1s						
CTA	**Charters Tower**	**20.84**	**252**	P	**P**	**23 28 50.6**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=85,slow=13,SNR=3.9						
CTAO	**Charters Tower**	**20.84**	**252**	P	**P**	**23 28 50.2**	**+0.1**
CTAO				IAmb	IAmb	23 28 52.1	
	comp=Z,20nm,1.5s						
HIZ	**Hauiti**	**24.66**	**166**	P	**P**	**23 29 26.7**	**+0.2**
STKA	**Stephens Creek**	**29.10**	**229**	P	**P**	**23 30 07.5**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=38,slow=8.7,SNR=9.4						
STKA				PcP	**PcP**	**23 33 10.3**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=122,slow=2.0,SNR=5.3						
STKA	**Stephens Creek**	**29.10**	**229**	P	**P**	**23 30 07.1**	**+0.8**
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**23 30 29.9**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=86,slow=8.4,SNR=5.4						
ASAR	**Alice Springs**	**32.77**	**249**	P	**P**	**23 30 37.8**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=83,slow=8.6,SNR=19						
ASAR				PcP	**PcP**	**23 33 20.3**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=88,slow=2.9,SNR=4.2						
ASAR				ScP	**ScP**	**23 36 51.5**	**+3.3**
	comp=Z,0.8nm,1.0s,baz=90,slow=0.9,SNR=4.3						
BBOO	**Buckleboo**	**33.68**	**232**	P	**P**	**23 30 47.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**40.11**	**259**	P	**P**	**23 31 40.4**	**-0.4**
MORW	**Morawa**	**49.37**	**244**	P	**P**	**23 32 53.8**	**-0.2**
MORW				IAmb	IAmb	23 33 09.9	
	comp=Z,9.6nm,1.2s						
VNDA	**Vanda**	**62.93**	**181**	P	**P**	**23 34 29.9**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=356,slow=7.7,SNR=35						
VNDA	**Vanda**	**62.93**	**181**	P	**P**	**23 34 30.0**	**+0.8**
VNDA				IAmb	IAmb	23 34 30.3	
	comp=Z,2.8nm,0.7s						
CASY	**Casey**	**63.62**	**202**	P	**P**	**23 34 34.5**	**+0.6**
QSPA	**South Pole Qui**	**75.36**	**180**	P	**P**	**23 35 46.3**	**+0.2**
QSPA				IAmb	IAmb	23 35 47.5	
	comp=Z,6.9nm,0.9s						
MAW	**Mawson**	**81.97**	**202**	P	**P**	**23 36 22.6**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=101,slow=9.3,SNR=4.8						
MAW	**Mawson**	**81.97**	**202**	P	**P**	**23 36 22.8**	**+0.8**
TRF	**Thorofare Moun**	**84.45**	**18**	P	**P**	**23 36 35.4**	**+0.5**
TRF				IAmb	IAmb	23 36 51.8	
	comp=Z,5.0nm,1.3s						
ILAR	**Eielson Array**	**86.44**	**18**	P	**P**	**23 36 43.5**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=235,slow=5.5,SNR=6.8						
ILAR	**Eielson Array**	**86.44**	**18**	P	**P**	**23 36 44.6**	**+0.1**
BELA	**Belgrano 2**	**86.78**	**175**	P	**P**	**23 36 45.3**	**-0.8**
MKAR	**Makanchi Array**	**97.22**	**316**	P	**P**	**23 37 34.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=95,slow=4.8,SNR=3.2						
MKAR	**Makanchi Array**	**97.22**	**316**	P	**P**	**23 37 35.0**	**+0.1**
ARCES	**ARCESS Array B**	**120.21**	**345**	PKP	**PKPdf**	**23 42 52.0**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=83,slow=2.1,SNR=31						
FINES	**FINESS Array B**	**125.69**	**338**	PKP	**PKPdf**	**23 43 02.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=28,slow=0.7,SNR=6.9						
FINES	**FINESS Array B**	**125.69**	**338**		**PKiKP**	**23 43 03.0**	**+0.3**
KEST	**Kesra**	**151.21**	**321**	PKPbc	**PKPbc**	**23 43 55.6**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=138,slow=2.2,SNR=8.9						
KEST	**Kesra**	**151.21**	**321**		**PKiKP**	**23 43 56.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**166.00**	**266**	PKPab	**PKPab**	**23 45 08.1**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=91,slow=4.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**166.00**	**266**	PKPdf	**PKPdf**	**23 44 07.3**	**+0.2**
TORD					**PKPab**	**23 45 08.4**	**+0.2**

*JMA **01** 23:24:48.4±0.2, 34°39N×137°12E, h353km±2km, M3.3*
*IDC **01** 23:24:48.6±0.5, 34°29N×137°09E, h340km±5km, mb3.6/25, mb1 3.8/31, mb1mx3.6/57, mbtmp4.3/31, Error ellipse: s-maj=8.8km s-min=8.0km az=86.0*
*NEIC **01** 23:24:49.2±0.9, 34°35N±0°07×137°12E±0°08, h345km±4km, mb4.1/54, Error ellipse: s-maj=10.0km s-min=9.6km az=70.0*

ISC 01 23:24:48.9±0.5, 34°36N±0°05×137°11E±0°04, h344km±5km, n146, σ0©95/170, mb4.0/50, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.28**	**6**	P	**Pn**	**23 25 33.2**	**+1.2**
JAA				*e*S	**S**	**23 26 07.6**	**+1.0**
JIE	**Ise**	**0.33**	**276**	P	**Pn**	**23 25 33.0**	**+0.9**
JIE				S	**S**	**23 26 07.2**	**+0.4**
TK02	**Tokai 2**	**0.68**	**127**	P	**Pn**	**23 25 33.9**	**+1.2**
TTO1	**TONANKAI O.B.S**	**0.78**	**200**	P	**Pn**	**23 25 34.0**	**+1.1**
JSG	**Sagara**	**0.94**	**70**	Pn	**Pn**	**23 25 34.2**	**+0.5**
JSG				S	**S**	**23 26 11.3**	**+1.7**
INU	**Inuyama**	**0.99**	**356**		**Pn**	**23 25 34.7**	**+0.8**
INU				S	**S**	**23 26 10.5**	**+0.6**
JGF	**Kuroka**	**1.26**	**9**	Pn	**Pn**	**23 25 35.5**	**+0.4**
JGF				S	**S**	**23 26 12.2**	**0.0**
JWY	**Kouya**	**1.26**	**264**	S	**S**	**23 26 12.2**	**-0.2**
JYTA	**Yamagatataniai**	**1.27**	**346**	P	**Pn**	**23 25 36.0**	**+0.9**
JYTA				S	**S**	**23 26 12.5**	**+0.3**
JTNC	**Tanabenakahech**	**1.35**	**247**	P	**Pn**	**23 25 36.3**	**+0.6**
JTNC				S	**S**	**23 26 13.1**	**0.0**
JYN	**Shimob**	**1.64**	**46**	P	**Pn**	**23 25 37.9**	**+0.6**
JWT	**Wachi**	**1.68**	**304**	P	**Pn**	**23 25 38.1**	**+0.7**
JWT				*e*S	**S**	**23 26 15.6**	**-0.8**
JWT	**Wachi**	**1.68**	**304**	Pn	**Pn**	**23 25 38.1**	**+0.7**
JWT				S	**S**	**23 26 15.7**	**-0.6**
JOD2	**Odawara 2**	**1.86**	**60**	P	**Pn**	**23 25 39.2**	**+0.5**
JKG	**Kaga**	**2.02**	**342**	P	**Pn**	**23 25 40.2**	**+0.6**
JKG				*e*S	**S**	**23 26 20.3**	**-0.1**
JRY	**Ryogami san**	**2.21**	**41**	S	**S**	**23 26 22.9**	**-0.2**
JAI	**Aioi**	**2.27**	**256**	P	**Pn**	**23 25 42.0**	**+0.3**
JAI				*e*S	**S**	**23 26 23.5**	**-0.5**
MAJO	**Matsushiro**	**2.36**	**22**	Pn	**Pn**	**23 25 42.8**	**+0.6**
MAJO				S	**S**	**23 26 24.8**	**-0.3**
MAT	**Matsushiro**	**2.36**	**22**	P	**Pn**	**23 25 42.7**	**+0.5**
MAT				S	**S**	**23 26 24.1**	**-1.0**
MAT	**Matsushiro**	**2.36**	**22**	P	**Pn**	**23 25 42.8**	**+0.5**
MAT				*e*S	**S**	**23 26 24.7**	**-0.4**
MJAR	**Matsushiro Arr**	**2.36**	**22**	P	**Pn**	**23 25 42.6**	**+0.4**
	7.9nm,0.3s,baz=196,slow=8.6,SNR=544						
MJAR				S	**S**	**23 26 24.5**	**-0.6**
	0.7nm,0.3s,baz=200,slow=15,SNR=12						
MJAR	**Matsushiro Arr**	**2.36**	**22**		**Pn**	**23 25 42.5**	**+0.2**
MJB9	**Matsu-Tunnel**	**2.36**	**22**	Pn	**Pn**	**23 25 42.7**	**+0.5**
JHJ	**Hachijo jima 2**	**2.55**	**118**	P	**Pn**	**23 25 44.0**	**+0.1**
	92nm,0.3s,baz=84,slow=23,SNR=28						
JHJ				S	**S**	**23 26 28.1**	**+0.1**
	57nm,0.3s,baz=76,slow=23,SNR=2.1						
JHJ2	**Mitsune**	**2.58**	**118**	P	**Pn**	**23 25 44.1**	**0.0**
JHJ2	**Mitsune**	**2.58**	**118**	Pn	**Pn**	**23 25 44.2**	**+0.1**
JMN	**Monobe**	**2.75**	**258**	P	**Pn**	**23 25 46.1**	**+0.4**
JMN				S	**S**	**23 26 31.0**	**-0.2**
JMN	**Monobe**	**2.75**	**258**	Pn	**Pn**	**23 25 46.2**	**+0.6**
JAG	**Ashikaga**	**2.82**	**42**	P	**Pn**	**23 25 45.3**	**-0.8**
JAOM	**Aogashimamukai**	**2.92**	**130**	P	**Pn**	**23 25 47.3**	**+0.2**
JYT	**Yasato**	**3.14**	**53**	Pn	**Pn**	**23 25 48.4**	**-0.6**
BSO1	**Boso 1**	**3.21**	**84**	P	**Pn**	**23 25 47.9**	**-1.2**
BSO1				S	**S**	**23 26 35.8**	**-1.8**
JHS	**Saijyo**	**3.35**	**282**	P	**Pn**	**23

KURBB	**Kurchatov Arra**	**44.94**	**310**	P	**P**	**23 32 30.6**	**0.0**		
	comp=Z,3.5nm,0.5s,baz=90,slow=6.5,SNR=57								
PRZ	**Przheval'sk**	**45.90**	**298**	P	**P**	**23 32 39.0**	**+0.5**		
PRZ				IAmb	IAmb	23 32 40.4			
	comp=Z,8.6nm,0.7s								
TARG	**Taragay, Kyrgy**	**46.48**	**297**	P	**P**	**23 32 42.9**	**-0.3**		
TARG				IAmb	IAmb	23 32 43.8			
	comp=Z,4.1nm,0.7s								
KDJ	**Kajisay**	**46.86**	**298**	P	**P**	**23 32 45.9**	**+0.1**		
BOOM	**Boomskoye usch**	**47.69**	**299**	P	**P**	**23 32 52.4**	**+0.2**		
TTA	**Tatalina**	**49.60**	**34**	P	**P**	**23 33 07.4**	**+1.4**		
BVAR	**Borovoye Array**	**49.82**	**313**	P	**P**	**23 33 07.8**	**0.0**		
	comp=Z,1.1nm,0.3s,baz=147,slow=12,SNR=16								
BRVK	**Borovoye**	**49.88**	**313**	P	**P**	**23 33 08.7**	**+0.4**		
IMAR	**Indian Mountai**	**50.72**	**30**	P	**P**	**23 33 15.5**	**+1.3**		
KDAK	**Kodiak Island**	**51.41**	**40**	P	**P**	**23 33 20.3**	**+0.8**		
	comp=Z,5.3nm,0.4s,baz=290,slow=1.2,SNR=22								
KDAK	**Kodiak Island**	**51.41**	**40**	P	**P**	**23 33 20.6**	**+1.1**		
KDAK				IAmb	IAmb	23 33 21.2			
	comp=Z,13nm,1.0s								
KK31	**Karatay Array**	**51.45**	**301**	P	**P**	**23 33 20.4**	**+0.4**		
KKAR	**Karatay Array**	**51.45**	**301**	P	**P**	**23 33 20.5**	**+0.4**		
KKAR				IAmb	IAmb	23 33 21.1			
	comp=Z,8.5nm,0.6s								
KKAR	**Karatay Array**	**51.45**	**301**	P	**P**	**23 33 20.5**	**+0.4**		
SKT	**Skwentna**	**51.68**	**35**	P	**P**	**23 33 22.8**	**+1.3**		
CNPM	**China Poot**	**51.97**	**38**	P	**P**	**23 33 24.0**	**+0.4**		
CNPM				IAmb	IAmb	23 33 27.0			
	comp=Z,12nm,1.1s								
SUA	**Susitna One**	**52.08**	**35**	P	**P**	**23 33 25.1**	**+0.7**		
SUA				IAmb	IAmb	23 33 27.6			
	comp=Z,6.7nm,0.7s								
NIL	**Nilore**	**52.13**	**288**	P	**P**	**23 33 25.0**	**-0.1**		
NIL				IAmb	IAmb	23 33 27.0			
	comp=Z,6.0nm,0.6s								
GAR	**Garm**	**52.69**	**296**	P	**P**	**23 33 29.1**	**-0.2**		
GAR				IAmb	IAmb	23 33 30.1			
	comp=Z,9.3nm,1.1s								
RND	**Reindeer**	**52.84**	**33**	P	**P**	**23 33 31.0**	**+1.0**		
RND				IAmb	IAmb	23 33 31.9			
	comp=Z,5.8nm,0.7s								
MDM	**Murphy Dome**	**53.02**	**31**	P	**P**	**23 33 33.1**	**+1.9**		
MDM				IAmb	IAmb	23 33 34.0			
	comp=Z,8.1nm,0.8s								
WRH	**Wood River Hil**	**53.11**	**32**	P	**P**	**23 33 33.2**	**+1.4**		
FITZ	**Fitzroy Crossi**	**53.29**	**194**	P	**P**	**23 33 33.7**	**+0.1**		
FITZ				IAmb	IAmb	23 33 36.4			
	comp=Z,8.6nm,0.8s								
IL31		**53.61**	**31**	P	**P**	**23 33 36.3**	**+1.1**		
ILAR	**Eielson Array**	**53.61**	**31**	P	**P**	**23 33 36.0**	**+0.6**		
	comp=Z,1.1nm,0.7s,baz=277,slow=5.6,SNR=16								
CHGR	**Chuyangaron**	**53.65**	**296**	P	**P**	**23 33 36.4**	**+0.1**		
WB0	**Warramunga Arr**	**53.89**	**183**	P	**P**	**23 33 36.9**	**-1.0**		
WB0				IAmb	IAmb	23 33 37.5			
	comp=Z,7.6nm,0.8s								
WB2	**Warramunga Arr**	**54.06**	**183**	P	**P**	**23 33 38.3**	**-0.9**		
WB2				IAmb	IAmb	23 33 38.9			
	comp=Z,6.1nm,0.7s								
WRA	**Warramunga Arr**	**54.06**	**183**	P	**P**	**23 33 37.9**	**-1.2**		
	comp=Z,6.4nm,0.3s,baz=359,slow=7.7,SNR=98								
ARU	**Arti**	**56.06**	**319**	P	**P**	**23 33 53.0**	**+0.2**		
ARU				IAmb	IAmb	23 33 53.8			
	comp=Z,4.5nm,0.9s								
BCAR	**Beaver Creek A**	**56.06**	**33**	P	**P**	**23 33 54.4**	**+1.5**		
ABKAR	**Akbulak array**	**56.99**	**310**	P	**P**	**23 33 59.6**	**+0.1**		
ABKAR				IAmb	IAmb	23 34 00.3			
	comp=Z,5.5nm,0.5s								
ABKAR	**Akbulak array**	**56.99**	**310**	P	**P**	**23 33 59.6**	**+0.1**		
AS31	**Alice Springs**	**57.78**	**183**	P	**P**	**23 34 04.5**	**-0.8**		
AS31				IAmb	IAmb	23 34 09.3			
	comp=Z,2.5nm,0.3s								
ASAR	**Alice Springs**	**57.78**	**183**	P	**P**	**23 34 04.6**	**-0.7**		
	comp=Z,2.5nm,0.5s,baz=16,slow=12,SNR=39								
ASAR	**Alice Springs**	**57.78**	**183**	P	**P**	**23 34 04.4**	**-0.8**		
PSA00	**Pilbara Seismi**	**57.99**	**199**	P	**P**	**23 34 06.0**	**-0.7**		
PSA00				IAmb	IAmb	23 34 08.6			
	comp=Z,6.2nm,0.7s								
INK	**Inuvik**	**58.34**	**26**	P	**P**	**23 34 09.0**	**+0.6**		
	comp=Z,2.0nm,0.5s,baz=276,slow=4.9,SNR=7.3								
INK	**Inuvik**	**58.34**	**26**	P	**P**	**23 34 09.3**	**+0.8**		
INK				IAmb	IAmb	23 34 10.2			
	comp=Z,2.6nm,0.6s								
HRA	**Herat**	**60.36**	**293**	P	**P**	**23 34 23.1**	**0.0**		
C36M	**Paulatuk**	**61.30**	**24**	P	**P**	**23 34 29.6**	**+1.2**		
GYA0B	**ALIBECK ARRAY**	**62.04**	**299**	P	**P**	**23 34 34.5**	**+0.5**		
GYA0B				IAmb	IAmb	23 34 50.7			
	comp=Z,3.5nm,0.7s								
EUNU	**Eureka**	**63.33**	**8**	P	**P**	**23 34 42.4**	**+0.7**		
ARCES	**ARCESS Array B**	**65.24**	**339**	P	**P**	**23 34 54.4**	**+0.3**		
	comp=Z,2.4nm,0.9s,baz=42,slow=7.2,SNR=1.8								
STKA	**Stephens Creek**	**66.02**	**176**	P	**P**	**23 34 59.1**	**-0.3**		
	comp=Z,1.0nm,0.4s,baz=353,slow=1.6,SNR=4.6								
STKA	**Stephens Creek**	**66.02**	**176**	P	**P**	**23 34 59.3**	**-0.1**		
MORW	**Morawa**	**66.15**	**200**	P	**P**	**23 35 01.7**	**+1.4**		
BBOO	**Buckleboo**	**66.82**	**181**	P	**P**	**23 35 04.4**	**-0.1**		
FIA1	**FINESS Array S**	**69.51**	**331**	P	**P**	**23 35 20.6**	**-0.1**		
FIA1				IAmb	IAmb	23 35 21.2			
	comp=Z,4.7nm,0.9s								
FINES	**FINESS Array B**	**69.51**	**331**	P	**P**	**23 35 20.7**	**0.0**		
	comp=Z,5.0nm,1.0s,baz=73,slow=5.9,SNR=12								
KBZ	**Khabaz**	**69.94**	**310**	P	**P**	**23 35 24.4**	**+0.7**		
	comp=Z,2.9nm,0.7s,baz=64,slow=2.4,SNR=7.8								
KIV	**Kislovodsk**	**69.97**	**310**	P	**P**	**23 35 24.4**	**+0.5**		
AKASG	**Malin Array Be**	**74.22**	**321**	P	**P**	**23 35 48.4**	**-0.2**		
	comp=Z,0.4nm,0.4s,baz=57,slow=6.1,SNR=1.3								
SOCY	**Socotra**	**77.60**	**276**	P	**P**	**23 36 06.0**	**-2.4**		
BR131	**Keskin Array S**	**77.94**	**310**	P	**P**	**23 36 09.8**	**0.0**		
BRTR	**Keskin Array B**	**77.94**	**310**	P	**P**	**23 36 10.1**	**+0.2**		
	comp=Z,0.8nm,0.5s,baz=126,slow=4.9,SNR=7.6								
BUR08	**Bucovina Ar. S**	**78.16**	**320**	P	**P**	**23 36 11.9**	**+1.0**		
BURAR	**Bucovina Array**	**78.17**	**320**	P	**P**	**23 36 11.3**	**+0.3**		
NVAR	**Mina Array Bea**	**79.39**	**51**	P	**P**	**23 36 18.5**	**+0.6**		
	comp=Z,0.2nm,0.4s,baz=316,slow=5.0,SNR=3.1								
PDAR	**Pinedale Array**	**82.02**	**43**	P	**P**	**23 36 32.6**	**+1.0**		
	comp=Z,0.3nm,0.4s,baz=308,slow=3.3,SNR=1.9								
PDAR	**Pinedale Array**	**82.02**	**43**	P	**P**	**23 36 32.4**	**+0.7**		
GERES	**GERESS Array B**	**83.06**	**326**	P	**P**	**23 36 36.6**	**0.0**		
	comp=Z,0.5nm,0.6s,baz=43,slow=6.0,SNR=6.7								
GERES	**GERESS Array B**	**83.06**	**326**	P	**P**	**23 36 37.0**	**+0.4**		
FUORN	**Ofenpass-Fuorn**	**86.27**	**326**	P	**P**	**23 36 53.0**	**+0.2**		
FUORN				IAmb	IAmb	23 37 04.5			
	comp=Z,3.1nm,1.1s								
TXAR	**Lajitas Array**	**94.53**	**50**	P	**P**	**23 37 33.2**	**+1.9**		
	comp=Z,0.2nm,0.5s,baz=324,slow=4.5,SNR=2.1								

*NEIC **01** 23:27:14.5±1.8, 16°.90S±0°.06×69°.28W±0°.09, h191km±5km, mb4.0/16, Error ellipse: s-maj=13.6km s-min=8.0km az=113.0*

*VAO **01** 23:27:15.2±0.7, 16°.83S×69°.25W, h183km±6km, mb4.1*

*IDC **01** 23:27:15.4±0.9, 16°.91S×69°.11W, h193km±5km, mb3.7/9, mb1 3.8/12, mb1mx3.6/38, mbtmp4.2/12, Error ellipse: s-maj=17.9km s-min=15.1km az=102.0*

*GUC **01** 23:27:15.9±0.7, 17°.02S×69°.53W, h203km±4km, ML4.2*

ISC 01 23:27:14.0±0.6, **16°.92S**±0°.04×**69°.40W**±0°.05, **h186**km±5km, **n96**, σ1s**33**/113, **mb4.0**/12, **3C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.37**	**63**	P		**Pn**	**23 27 46.8**	**+0.8**
	339nm,0.3s,baz=275,slow=5.8,SNR=6369							
LPAZ				S		**Sn**	**23 28 09.7**	**-1.1**
	baz=190,slow=47,SNR=2.9							
LPAZ	**La Paz**	**1.37**	**63**	Pn		**Pn**	**23 27 47.0**	**+0.9**
LPAZ				Sn		**Sn**	**23 28 10.2**	**-0.6**
PB16	**IPOC Station P**	**1.41**	**184**	⇑*i*	P	**Pn**	**23 27 48.6**	**+2.2**
PB16				*i*	S	**Sn**	**23 28 14.0**	**+2.4**
PB16	**IPOC Station P**	**1.41**	**184**	Pn		**Pn**	**23 27 48.6**	**+2.2**
PB16				Sn		**Sn**	**23 28 14.2**	**+2.6**
AP01	**Chacalluta**	**1.70**	**212**	IAML			23 28 15.8	
	comp=E,2μm,0.4s							
MNMC	**Minye Minye**	**2.21**	**185**	⇑*i*	P	**Pn**	**23 27 55.7**	**+1.5**
MNMC				*i*	S	**Sn**	**23 28 26.4**	**+1.0**
MNMC				IAML			23 28 30.5	
	comp=E,737nm,0.4s							
MNMC	**Minye Minye**	**2.21**	**185**			**Pn**	**23 27 55.6**	**+1.5**
MNMC				Sn		**Sn**	**23 28 26.4**	**+1.0**
GO01	**Chusmiza**	**2.74**	**176**	*eP*		**Pn**	**23 28 02.0**	**+1.6**
GO01				*i*	S	**Sn**	**23 28 37.3**	**+0.7**
GO01				IAML			23 28 45.3	
	comp=N,257nm,0.1s							
GO01	**Chusmiza**	**2.74**	**176**			**Pn**	**23 28 02.3**	**+1.9**
PSGC	**Pisagua**	**2.75**	**194**	⇑*i*	P	**Pn**	**23 28 00.2**	**+0.1**
PSGC				*i*	S	**Sn**	**23 28 33.6**	**-2.6**
PSGC				IAML			23 28 36.2	
	comp=N,375nm,0.4s							
PSGCX	**Pisagua**	**2.75**	**194**	Pn		**Pn**	**23 28 00.3**	**+0.2**
PB11	**IPOC Station P**	**2.84**	**185**	*eP**		**Pn**	**23 28 01.9**	**+0.7**
PB11				*i*	S	**Sn**	**23 28 37.5**	**-0.6**
PB11				IAML			23 28 41.2	
	comp=N,311nm,0.4s							
PB11	**IPOC Station P**	**2.84**	**185**			**Pn**	**23 28 02.4**	**+1.1**
PB08	**IPOC Station P**	**3.21**	**176**	*eP**		**Pn**	**23 28 07.3**	**+1.3**
PB08				*i*	S	**Sn**	**23 28 46.8**	**+0.2**
PB08	**IPOC Station P**	**3.21**	**176**			**Pn**	**23 28 07.4**	**+1.5**
TA01	**Diego Aracena**	**3.70**	**191**	*eP**		**Pn**	**23 28 11.4**	**-0.2**
TA01				*i*	S	**Sn**	**23 28 54.1**	**-2.6**
PB01	**IPOC Station P**	**4.10**	**181**	*eP**		**Pn**	**23 28 17.2**	**+0.5**
PB01				*i*	S	**Sn**	**23 29 03.4**	**-2.7**
PB01	**IPOC Station P**	**4.10**	**181**			**Pn**	**23 28 17.5**	**+0.7**
PB02	**IPOC Station P**	**4.40**	**186**	*eP**		**Pn**	**23 28 20.8**	**+0.3**
PB02				*i*	S	**Sn**	**23 29 10.0**	**-2.8**
PB07	**IPOC Station P**	**4.80**	**185**	*eP**		**Pn**	**23 28 26.2**	**+0.4**
PB07				*i*	S	**Sn**	**23 29 19.5**	**-2.7**
PB07	**IPOC Station P**	**4.80**	**185**	Pn		**Pn**	**23 28 26.4**	**+0.6**
PB09	**IPOC Station P**	**4.86**	**178**	*eP**		**Pn**	**23 28 27.5**	**+1.1**
PB09	**IPOC Station P**	**4.86**	**178**			**Pn**	**23 28 27.7**	**+1.3**
LVC	**Limon Verde**	**5.68**	**175**	P		**Pn**	**23 28 38.1**	**+0.8**
	comp=N,2.5nm,0.3s,baz=345,slow=6.5,SNR=54							
LVC				S		**Sn**	**23 29 39.0**	**-3.9**
	comp=N,5.8nm,0.3s,baz=128,slow=21,SNR=17							
PB06	**IPOC Station P**	**5.76**	**182**	Pn		**Pn**	**23 28 37.9**	**-0.2**
PB15	**IPOC Station P**	**6.26**	**181**			**Pn**	**23 28 45.1**	**+0.4**
PB10	**IPOC Station P**	**6.65**	**189**	Pn		**Pn**	**23 28 49.0**	**-0.6**
ETMB	**Extrema**	**7.71**	**24**	*eP**		**Pn**	**23 29 02.8**	**-0.8**
SIV	**San Ignacio**	**8.04**	**85**	P		**Pn**	**23 29 05.6**	**-2.4**
	comp=N,3.4nm,0.3s,baz=278,slow=11,SNR=27							
SIV				S		Sn	23 30 26.9	-11
	comp=N,0.5nm,0.3s,baz=265,slow=14,SNR=4.1							
GO02	**Mina Guanaco**	**8.21**	**181**	Pn		**Pn**	**23 29 10.2**	**-0.1**
NNA	**Nana**	**8.72**	**303**	P		**Pn**	**23 29 16.4**	**-0.4**
	comp=N,8.7nm,0.3s,baz=114,slow=6.9,SNR=11							
NNA				S		**Sn**	**23 30 49.0**	**-5.5**
	comp=N,3.2nm,0.3s,baz=252,slow=13,SNR=3.5							
NNA	**Nana**	**8.72**	**303**	Pn		**Pn**	**23 29 17.1**	**+0.2**
VILB	**Vilhena**	**9.72**	**67**	*eP**		**Pn**	**23 29 29.1**	**-0.9**
AC02	**Maricunga**	**9.87**	**179**	Pn		**Pn**	**23 29 32.5**	**+0.3**
SAML	**Samuel**	**9.97**	**38**			**Pn**	**23 29 32.5**	**-0.6**
SAML	**Samuel**	**9.97**	**38**	*eP**		**Pn**	**23 29 32.4**	**-0.8**
CLDB	**Colider**	**14.50**	**67**	*eP**		**Pn**	**23 30 29.6**	**-1.2**
MACA	**Manacapuru-AM**	**16.13**	**33**	*eP**		**P**	**23 30 49.9**	**-0.5**
MT02	**Curacav**	**16.35**	**185**	P		**P**	**23 30 52.5**	**-0.1**
MT02				IAmb		IAmb	23 30 60.0	
	comp=Z,6.8nm,1.0s							
TRCB	**Terra Rica**	**16.81**	**113**	*eP**		**Pn**	**23 30 58.4**	**-0.5**
NPGB	**Novo Progresso**	**16.87**	**56**	*eP**		**P**	**23 30 57.8**	**-0.7**
ARAG	**Araguaiana, MT**	**16.93**	**88**	*eP**		**Pn**	**23 30 59.8**	**-0.5**
PCMB	**Pacaembu**	**17.74**	**108**	*eP**		**Pn**	**23 31 08.6**	**-1.3**
BO02	**Sierra Bellavi**	**17.84**	**184**	P		**P**	**23 31 09.2**	**+0.1**
PTGB	**Pitanga**	**17.95**	**118**	*eP**		**Pn**	**23 31 11.5**	**-0.8**
SNDB	**Serra Nova Dou**	**18.20**	**77**	*eP**		**P**	**23 31 13.1**	**-0.1**
ITRB	**Iturama**	**18.29**	**102**	*eP**		**P**	**23 31 14.2**	**+0.2**
ITTB	**Itaituba**	**18.31**	**49**	*eP**		**P**	**23 31 13.8**	**-0.5**
PTGA	**Pitinga**	**18.57**	**31**	P		**P**	**23 31 15.4**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=276,slow=23,SNR=10							
OTAV	**Otavalo**	**19.24**	**331**	*eP**		**P**	**23 31 25.6**	**+0.8**
FRTB	**Fartura**	**19.68**	**112**	*eP**		**P**	**23 31 29.2**	**+0.2**
BB19B	**Bebedouro**	**20.16**	**105**	*eP**		**P**	**23 31 33.9**	**-0.4**
IPMB	**Ipameri, GO**	**20.24**	**96**	*eP**		**P**	**23 31 34.6**	**-0.6**
BDFB	**Brasilia**	**20.57**	**90**	P		**P**	**23 31 37.0**	**-1.7**
	comp=Z,2.5nm,0.4s,baz=262,slow=14,SNR=7.6							
BDFB	**Brasilia**	**20.57**	**90**	P		**P**	**23 31 37.7**	**-1.0**
BDFB				IAmb		IAmb	23 31 41.8	
	comp=Z,7.4nm,1.0s							
PLTB	**Pedras Altas**	**20.59**	**139**	*eP**		**P**	**23 31 39.1**	**+0.5**
TIJ01	**Guaruva-PR**	**20.76**	**117**	*eP**		**P**	**23 31 40.7**	**0.0**
PEXB	**Peixe**	**20.97**	**80**	*eP**		**P**	**23 31 42.5**	**-0.4**
CNLB	**Canela**	**21.02**	**129**	*eP**		**P**	**23 31 44.1**	**+0.8**
MALB	**Monte Alegre**	**21.11**	**46**	*eP**		**P**	**23 31 45.0**	**+0.6**
SPB	**Sao Paulo**	**21.64**	**111**	*eP**		**P**	**23 31 49.9**	**+0.1**
VAO	**Valinhos**	**21.92**	**110**	*eP**		**P**	**23 31 53.7**	**+0.9**
LC01	**Cunco**	**22.00**	**185**	P		**P**	**23 31 53.7**	**+0.3**
LC01				IAmb		IAmb	23 31 56.9	
	comp=Z,3.0nm,0.8s							
SMTB	**Santa Maria do**	**22.70**	**72**	*eP**		**P**	**23 31 59.7**	**-0.3**
PARB	**Paraibuna**	**23.20**	**110**	*eP**		**P**	**23 32 05.3**	**+0.7**
MCPB	**Macapa, AP**	**23.72**	**48**	*eP**		**P**	**23 32 09.3**	**+0.1**
MCPB				*eS*		**S**	**23 36 10.6**	**-0.2**
PLCA	**Paso Flores**	**23.75**	**182**	P		**P**	**23 32 10.1**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=350,slow=8.8,SNR=7.2							
PLCA	**Paso Flores**	**23.75**	**182**	P		**P**	**23 32 09.7**	**+0.3**
PLCA				IAmb		IAmb	23 32 13.6	
	comp=Z,3.6nm,0.8s							
PLCA	**Paso Flores**	**23.75**	**182**	*eP**		**P**	**23 32 11.9**	**+2.5**
JANB	**Januaria**	**24.18**	**89**	*eP**		**P**	**23 32 12.9**	**-0.7**
MDP	**Montagnes des**	**27.44**	**79**	P		**P**	**23 32 42.6**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=216,slow=7.2,SNR=8.7							
RCBR	**Riachuelo**	**34.58**	**75**	P		**P**	**23 33 45.2**	**-0.2**
TLIG	**Tlapa**	**44.71**	**319**	P		**P**	**23 35 10.2**	**+1.2**
Y52A	**Lilburn**	**52.40**	**345**	P		**P**	**23 36 08.1**	**+0.8**
Y52A				IAmb		IAmb	23 36 08.7	
	comp=Z,3.5nm,1.0s							
TXAR	**Lajitas Array**	**56.65**	**324**	P		**P**	**23 36 38.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=153,slow=6.1,SNR=1.9							
KNB	**Kanab**	**67.47**	**323**	P		**P**	**23 37 52.4**	**+2.3**
DBIC	**Dimbokro**	**67.95**	**75**	P		**P**	**23 37 51.7**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=212,slow=5.4,SNR=5.9							
DBIC	**Dimbokro**	**67.95**	**75**	P		**P**	**23 37 52.4**	**-1.0**
ULM	**Lac du Bonnet**	**70.83**	**342**	P		**P**	**23 38 10.0**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=318,slow=20,SNR=1.9							
ULM	**Lac du Bonnet**	**70.83**	**342**	P		**P**	**23 38 09.9**	**-0.3**
ULM				IAmb		IAmb	23 38 15.0	
	comp=Z,4.6nm,1.1s							
NVAR	**Mina Array Bea**	**71.63**	**321**	P		**P**	**23 38 17.8**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=134,slow=6.4,SNR=5.0							
NVAR	**Mina Array Bea**	**71.63**	**321**	P		**P**	**23 38 17.2**	**+1.7**
KOWA	**Kowa**	**71.68**	**68**	P		**P**	**23 38 15.4**	**-0.6**
QSPA	**South Pole Qui**	**73.25**	**180**	P		**P**	**23 38 25.6**	**+0.9**
TOA0	**Torodi Ar. Sit**	**76.30**	**72**	P		**P**	**23 38 42.0**	**-0.9**
TOA0				IAmb		IAmb	23 38 46.2	
	comp=Z,4.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P		**P**	**23 38 42.1**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=249,slow=5.1,SNR=26							
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P		**P**	**23 38 41.7**	**-1.2**
TSUM	**Tsumeb**	**81.83**	**108**	P		**P**	**23 39 13.1**	**+0.1**
TSUM				IAmb		IAmb	23 39 19.7	
	comp=Z,2.1nm,0.9s							
YKA	**Yellowknife Ar**	**86.73**	**341**	P		**P**	**23 39 37.3**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=129,slow=5.8,SNR=2.0							
ASAR	**Alice Springs**	**133.68**	**210**	PKP		**PKPdf**	**23 46 09.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=127,slow=2.8,SNR=1.3							
WRA	**Warramunga Arr**	**136.58**	**213**	PKP		**PKiKP**	**23 46 15.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=149,slow=1.7,SNR=5.6							
WRA				SKP		**SKPbc**	**23 49 31.4**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=152,slow=3.8,SNR=3.4							
ZALV	**Zalesovo Beam**	**137.97**	**23**	PKP		**PKPdf**	**23 46 16.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=309,slow=3.0,SNR=2.3							
MKAR	**Makanchi Array**	**142.11**	**32**	SKPbc		**SKPbc**	**23 49 43.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=318,slow=1.9,SNR=4.3							
USRK	**Ussuriysk Ar.**	**147.36**	**331**	PKPbc		**PKPbc**	**23 46 36.9**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=19,slow=4.9,SNR=4.9							
USRK	**Ussuriysk Ar.**	**147.36**	**331**			**PKiKP**	**23 46 37.5**	**-0.4**
SONM	**Songino Array**	**148.97**	**6**	PKPbc		**PKiKP**	**23 46 41.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=329,slow=1.7,SNR=4.0							

*JMA **01** 23:27:50.0, 22°.71N×121°.44E, h5km±1km, M3.8*

*NIED **01** 23:27:50.0, 22°.71N×121°.44E, h5km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr=0.52; Mθθ5.67; Mϕϕ=5.15; Mrθ=-1.64; Mθϕ3.50; Mϕr1.70; Fault plane solution: M0 6.88000×10^14^ NP1: ϕs117.00000°, δ83.00000°, λ-19.00000°. NP2: ϕs210.00000°, δ71.00000°, λ-173.00000°.*

*TAP **01** 23:27:51.6, 22°.67N×121°.28E, h24km, MW3.7, B*

ISC 01 23:27:51.2±0.9, **22°.65N**±0°.02×**121°.32E**±0°.02, **h28**km±5km, **n119**, σ1s**04**/202, **7C-8D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.14**	**79**	*i* P		**Pb**	**23 27 57.2**	**+0.6**
	baz=84							
LDUT				*i*	S	**Sb**	**23 28 00.8**	**+0.6**
	baz=84							
TTN	**Taitung**	**0.19**	**304**	*i* P		**Pn**	**23 27 57.5**	**-0.8**
	baz=303							
TTN				S		**Sb**	**23 28 02.5**	**+1.5**
	baz=303							
TWGBT	**Beinan**	**0.28**	**308**	⇓*i* P		**Pb**	**23 27 57.8**	**-0.4**
	baz=308							
TWGBT				*i*	S	**Sb**	**23 28 02.0**	**-1.0**
	baz=308							
TWG	**Pinlang**	**0.29**	**308**	⇓*i* P		**Pb**	**23 27 57.8**	**-0.5**
	baz=308							
TWG				S		**Sb**	**23 28 02.0**	**-1.1**
	baz=308							
LONT	**Longtian**	**0.31**	**326**	*i* P		**Pb**	**23 27 58.5**	**-0.2**
	baz=315							
LONT				*eS*		**Sb**	**23 28 03.0**	**-0.7**
	baz=315							
EDH	**Donghe**	**0.33**	**358**	⇑*i* P		**Pb**	**23 27 58.8**	**-0.1**
	baz=359							
EDH				*i*	S	**Sb**	**23 28 03.9**	**-0.2**
	baz=359							
ECL	**Taimali**	**0.34**	**262**	⇓*i* P		**Pb**	**23 27 58.4**	**-0.6**
	baz=263							
ECL				S		**Sb**	**23 28 03.1**	**-1.2**
	baz=263							
CHKT	**Chengkung**	**0.45**	**6**	*i* P		**Pb**	**23 28 00.7**	**-0.1**
	baz=18							
CHKT				S		**Sb**	**23 28 07.6**	**+0.3**
	baz=18							
TAW	**Tawu**	**0.48**	**234**	⇑*i* P		**Pb**	**23 28 00.9**	**-0.4**
	baz=236							
TAW				*eS*		**Sb**	**23 28 07.0**	**-1.1**
	baz=236							
EAST	**Anshuo**	**0.51**	**239**	P		**Pb**	**23 28 01.2**	**-0.5**
	baz=234							
EAST				*eS*		**Sb**	**23 28 06.9**	**-2.0**
	baz=234							
FULB	**Fuli**	**0.55**	**358**	*i* P		**Pb**	**23 28 02.1**	**-0.3**
	baz=346							
FULB				*eS*		**Sn**	**23 28 10.8**	**-0.8**
	baz=346							
ELDTW	**Lidau**	**0.61**	**333**	*i* P		**Pb**	**23 28 02.1**	**-1.4**
	baz=335							
ELDTW				*eS*		**Sb**	**23 28 10.8**	**-0.9**
	baz=335							
TSMG	**Majia**	**0.62**	**276**	⇓*i* P		**Pb**	**23 28 02.9**	**-0.7**
	baz=273							
TSMG				*eS*		**Sb**	**23 28 09.7**	**-2.4**
	baz=273							
MASBT	**Mashibuluo**	**0.63**	**267**	⇓*i* P		**Pb**	**23 28 03.2**	**-0.6**
	baz=261							
MASBT				*eS*		**Sb**	**23 28 11.0**	**-1.4**
	baz=261							
LAY	**Lan-yu**	**0.64**	**160**	P		**Pb**	**23 28 03.9**	**0.0**
	baz=159							
LAY				*eS*		**Sb**	**23 28 13.5**	**+0.9**
	baz=159							
SSD	**Sandimen**	**0.64**	**279**	⇓P		**Pb**	**23 28 03.0**	**-1.0**
	baz=277							
SSD				*eS*		**Sb**	**23 28 09.0**	**-3.6**

SCLT	**Jiali**	**1.16**	**297**	*eP*	**Pb**	**23 28 12.8**	**+0.1**
	baz=295						
SCLT				*eS*	**Sb**	**23 28 29.9**	**+2.5**
	baz=295						
ESL	**Shilin**	**1.17**	**5**	*eP*	**Pn**	**23 28 12.2**	**+0.5**
	baz=4.0						
ESL				*eS*	**Sn**	**23 28 26.2**	**-0.7**
	baz=4.0						
CHN2	**Minshiung**	**1.18**	**319**	*eP*	**Pb**	**23 28 13.9**	**+1.0**
	baz=317						
CHN2				*eS*	**Sb**	**23 28 29.7**	**+1.9**
	baz=317						
CHY	**Chiayi**	**1.18**	**316**	*eP*	**Pb**	**23 28 13.6**	**+0.5**
	baz=314						
CHY				*eS*	**Sb**	**23 28 29.1**	**+1.1**
	baz=314						
SSLB	**Suanglung**	**1.19**	**344**	P	**Pn**	**23 28 11.8**	**-0.2**
	baz=350						
SSLB				*eS*	**Sb**	**23 28 28.8**	**+0.7**
	baz=350						
ICHU	**Yijhu**	**1.19**	**307**	*eP*	**Pb**	**23 28 13.4**	**+0.2**
	baz=305						
ICHU				*eS*	**Sb**	**23 28 29.2**	**+1.0**
	baz=305						
CHN8	**Yiju**	**1.24**	**305**	*eP*	**Pb**	**23 28 13.6**	**-0.3**
	baz=303						
CHN8				*eS*	**Sb**	**23 28 30.5**	**+1.0**
	baz=303						
WGK	**Gukeng**	**1.25**	**326**	P	**Pb**	**23 28 14.8**	**+0.7**
	baz=325						
WGK				*eS*	**Sb**	**23 28 30.7**	**+0.9**
	baz=325						
WLGB	**Puzi**	**1.25**	**312**	*eS*	**Sb**	**23 28 30.7**	**+0.8**
	baz=310						
WDLH	**Douliu**	**1.26**	**325**	P	**Pb**	**23 28 14.7**	**+0.3**
	baz=324						
WDLH				*eS*	**Sb**	**23 28 31.4**	**+1.2**
	baz=324						
SMLT	**Sun Moon Lake**	**1.29**	**343**	P	**Pb**	**23 28 14.4**	**-0.6**
	baz=351						
SMLT				*eS*	**Sb**	**23 28 31.1**	**-0.1**
	baz=351						
WJS	**Zhushan**	**1.29**	**335**	P	**Pb**	**23 28 14.8**	**-0.1**
	baz=333						
WJS				*eS*	**Sb**	**23 28 32.3**	**+1.2**
	baz=333						
TYC	**Yuchr**	**1.32**	**341**	P	**Pb**	**23 28 15.4**	**-0.1**
	baz=340						
TYC				*eS*	**Sb**	**23 28 32.8**	**+0.8**
	baz=340						
WTK	**Tuku**	**1.34**	**321**	*eP*	**Pb**	**23 28 15.0**	**-0.8**
	baz=319						
WTK				*eS*	**Sb**	**23 28 32.6**	**0.0**
	baz=319						
WNT	**Mingjian**	**1.36**	**335**	P	**Pb**	**23 28 16.5**	**+0.4**
	baz=333						
WNT				S	**Sb**	**23 28 34.7**	**+1.6**
	baz=333						
CHGB	**Renai**	**1.41**	**355**	*eP*	**Pn**	**23 28 15.0**	**-0.4**
	baz=1.0						
TWD	**Chiawan**	**1.45**	**10**	*eP*	**Pn**	**23 28 15.3**	**-0.4**
	baz=357						
TWD				*eS*	**Sn**	**23 28 33.6**	**-0.2**
	baz=357						
WHF	**Hehuan Shan**	**1.49**	**358**	*eP*	**Pn**	**23 28 16.2**	**-0.5**
	baz=9.0						
WHF				*eS*	**Sn**	**23 28 35.0**	**-0.4**
	baz=9.0						
NACB	**Ninganchiao**	**1.54**	**9**	*eP*	**Pn**	**23 28 15.6**	**-1.4**
	baz=7.0						
NACB				*eS*	**Sn**	**23 28 36.2**	**+0.2**
	baz=7.0						
ETLH	**Xiulin Townshi**	**1.56**	**5**	*eP*	**Pn**	**23 28 15.8**	**-1.4**
	baz=3.0						
ETLH				*eS*	**Sn**	**23 28 35.2**	**-1.4**
	baz=3.0						
WCHH	**Zhanghua**	**1.59**	**334**	*eP*	**Pb**	**23 28 19.4**	**-0.6**
	baz=318						
FUSS	**Fushou**	**1.60**	**358**	*eP*	**Pn**	**23 28 17.8**	**-0.1**
	baz=7.0						
FUSS				*eS*	**Sn**	**23 28 38.1**	**+0.4**
	baz=7.0						
TWT	**Tachien**	**1.61**	**355**	*eP*	**Pn**	**23 28 18.1**	**+0.2**
	baz=2.0						
TDCB	**Techi**	**1.61**	**355**	*eP*	**Pn**	**23 28 18.1**	**+0.1**
	baz=3.0						
TDCB				*eS*	**Sb**	**23 28 38.9**	**-1.4**
	baz=3.0						
WDGT	**Dungji**	**1.65**	**292**	P	**Pn**	**23 28 18.8**	**+0.4**
	baz=290						
WDGT				S	**Sn**	**23 28 38.2**	**-0.4**
	baz=290						
WHP	**Taichung City**	**1.66**	**348**	*eP*	**Pb**	**23 28 20.6**	**-0.7**
	baz=356						
WHP				*eS*	**Sb**	**23 28 42.4**	**+0.7**
	baz=356						
TWQ1	**Liyutan**	**1.77**	**344**	*eP*	**Pb**	**23 28 22.4**	**-0.7**
	baz=341						
TWQ1				*eS*	**Sb**	**23 28 45.5**	**+0.7**
	baz=341						
NNSB	**Datong**	**1.78**	**2**	P	**Pn**	**23 28 20.4**	**+0.1**
	baz=9.0						
NNSB				*eS*	**Sn**	**23 28 41.1**	**-0.9**
	baz=9.0						
NNSH	**Datong**	**1.78**	**2**	*eP*	**Pn**	**23 28 20.3**	**0.0**
	baz=9.0						
NNSH				*eS*	**Sn**	**23 28 43.2**	**+1.2**
	baz=9.0						
NNS	**Nan Shan**	**1.79**	**2**	P	**Pn**	**23 28 21.4**	**+0.9**
	baz=10.0						
PHUB	**P'eng-hu**	**1.82**	**299**	*eP*	**Pn**	**23 28 19.2**	**-1.6**
	baz=296						
PHUB				*eS*	**Sb**	**23 28 42.0**	**-1.1**
	baz=296						
NSY	**Sanyi**	**1.83**	**344**	*eP*	**Pb**	**23 28 23.0**	**-1.2**
	baz=341						
NSY				*eS*	**Sb**	**23 28 47.2**	**+0.4**
	baz=341						
PNG	**Penghu**	**1.86**	**300**	*eP*	**Pn**	**23 28 21.1**	**-0.3**
	baz=299						
PTSB	**Yuanli**	**1.88**	**343**	*eP*	**Pb**	**23 28 23.7**	**-1.2**
	baz=340						
PTSB				*eS*	**Sb**	**23 28 48.2**	**+0.2**
	baz=340						
NMLH	**Miaoli**	**1.94**	**346**	*eP*	**Pn**	**23 28 23.6**	**+1.2**
	baz=344						
NDT	**Datong Townshi**	**1.96**	**5**	*eP*	**Pn**	**23 28 24.4**	**+1.8**
	baz=12						
ENTT	**Nioudou**	**2.00**	**6**	*eP*	**Pb**	**23 28 25.4**	**-1.6**
	baz=3.0						
ENTT				*eS*	**Sn**	**23 28 45.6**	**-1.8**
	baz=3.0						
NSTT	**Nanjuang**	**2.00**	**352**	*eP*	**Pb**	**23 28 25.8**	**-1.1**
	baz=350						
LIOB	**Emei**	**2.01**	**352**	*eP*	**Pn**	**23 28 25.1**	**+1.7**
	baz=350						
TWC	**Suao**	**2.01**	**14**	*eP*	**Pn**	**23 28 24.1**	**+0.7**
TWC				*eS*	**Sn**	**23 28 47.0**	**-0.7**
YHNB	**Yeheng**	**2.02**	**1**	*eP*	**Pn**	**23 28 24.3**	**+0.7**
	baz=10.0						
NSK	**Sanguang**	**2.02**	**1**	*eP*	**Pn**	**23 28 24.5**	**+0.9**
	baz=9.0						
NSK				*eS*	**Sn**	**23 28 49.3**	**+1.3**
	baz=9.0						
TWE	**Neicheng**	**2.09**	**9**	*eP*	**Pn**	**23 28 25.4**	**+0.9**
	baz=5.0						
TWE				*eS*	**Sn**	**23 28 50.7**	**+1.1**
	baz=5.0						
NWLT	**Wulai**	**2.13**	**5**	*eP*	**Pn**	**23 28 25.7**	**+0.6**
	baz=10.0						
NTC	**Toucheng**	**2.25**	**12**	*eP*	**Pn**	**23 28 28.8**	**+2.2**
	baz=7.0						
EGS		**2.26**	**14**	*eP*	**Pn**	**23 28 27.4**	**+0.6**
JYNG	**Yonagunijimaku**	**2.34**	**39**	S	**Sn**	**23 28 55.9**	**+0.2**
TIPB	**Shuangxi**	**2.36**	**11**	*eP*	**Pn**	**23 28 29.1**	**+0.9**
	baz=7.0						
TIPB				*eS*	**Sn**	**23 28 57.1**	**+0.8**
	baz=7.0						
YOJ	**Yonaguni jima**	**2.38**	**40**	*eP*	**Pn**	**23 28 29.1**	**+0.6**
	baz=48						
YOJ				*eS*	**Sn**	**23 28 57.4**	**+0.5**
	baz=48						
YOJ	**Yonaguni jima**	**2.38**	**40**	P	**Pn**	**23 28 29.3**	**+0.8**
YOJ				S	**Sn**	**23 28 57.2**	**+0.4**
TWB1	**Santiao Chiao**	**2.43**	**14**	*eP*	**Pn**	**23 28 29.9**	**+0.8**
	baz=1.0						
NWF	**Wu-fen Shan**	**2.45**	**10**	*eP*	**Pn**	**23 28 30.5**	**+1.0**
	baz=5.0						
WFSB	**Wu-fen Shan**	**2.45**	**10**	*eP*	**Pn**	**23 28 30.1**	**+0.6**
	baz=5.0						
YM01	**YM01**	**2.50**	**5**	*eP*	**Pn**	**23 28 31.4**	**+1.2**
	baz=13						
YM04	**YM04**	**2.50**	**5**	*eP*	**Pn**	**23 28 31.4**	**+1.2**
	baz=12						
YM05	**YM05**	**2.52**	**5**	*eP*	**Pn**	**23 28 31.9**	**+1.5**
	baz=12						
YM03	**YM03**	**2.53**	**5**	*eP*	**Pn**	**23 28 33.3**	**+2.7**
	baz=12						
ANP	**Anpu**	**2.54**	**4**	*eP*	**Pn**	**23 28 32.9**	**+2.2**
	baz=12						
HATJ	**Hateruma jima**	**2.68**	**58**	P	**Pn**	**23 28 33.1**	**+0.5**
HATJ				S	**Sn**	**23 29 03.3**	**-0.9**
IRIF	**Iriomote-Funau**	**2.78**	**52**	P	**Pn**	**23 28 34.8**	**+0.9**
IRIF				S	**Sn**	**23 29 06.3**	**-0.3**
VWUC	**VWUC**	**2.90**	**324**	*eP*	**Pn**	**23 28 36.0**	**+0.5**
	baz=324						
JKRS	**Kuro-shima**	**2.94**	**57**	P	**Pn**	**23 28 36.9**	**+0.8**
JKRS				S	**Sn**	**23 29 10.4**	**0.0**
PCYT	**Pengchaiyu**	**3.05**	**13**	*eP*	**Pn**	**23 28 39.6**	**+1.9**
	baz=7.0						
JIJ	**Ishigaki jima**	**3.11**	**56**	P	**Pn**	**23 28 38.7**	**+0.3**
JIJ				S	**Sn**	**23 29 13.2**	**-1.5**
KNM	**Kinmen**	**3.18**	**304**	*eP*	**Pn**	**23 28 41.1**	**+1.7**
	baz=303						
JISG	**Ishigakijimahi**	**3.36**	**54**	P	**Pn**	**23 28 42.5**	**+0.6**
JISG				*eS*	**Sn**	**23 29 19.5**	**-1.3**
ZPLA	**Ao Xicun**	**3.52**	**292**	*eP*	**Pn**	**23 28 44.1**	**0.0**
	baz=292						
JTJ	**Tarama**	**3.68**	**57**	P	**Pn**	**23 28 47.2**	**+0.8**
JTJ				S	**Sn**	**23 29 28.6**	**-0.3**
AXDP	**Jialang**	**3.80**	**307**	*eP*	**Pn**	**23 28 48.0**	**0.0**
	baz=307						
ZZJH	**Jiuhuzhen**	**3.84**	**299**	*eP*	**Pn**	**23 28 49.6**	**+1.0**
	baz=298						
MHZQ	**Yeshan**	**4.02**	**329**	*eP*	**Pn**	**23 28 51.4**	**+0.4**
	baz=331						
JIRB	**Irabujima**	**4.15**	**58**	P	**Pn**	**23 28 53.2**	**+0.5**
JMJ2	**Miyako jima3**	**4.23**	**60**	P	**Pn**	**23 28 54.4**	**+0.6**

ARE ***01*** *23:47:54.4±3.7, 13.69S±0.08×76.5W±0.1, h41km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=153.0*
IDC ***01*** *23:47:58.8±0.8, 13.51S×76.17W, h47km±6km, mb3.8/8, mb1 4.0/11, mb1mx3.8/37, mbtmp4.1/11, MS2.9/4, Ms1 2.9/4, ms1mx2.8/34, Error ellipse: s-maj=28.9km s-min=9.0km az=61.0*
NEIC ***01*** *23:47:59.0±1.4, 13.53S±0.09×76.16W±0.09, h51km±7km, mb4.2/11, ML4.6(ARE), Error ellipse: s-maj=17.8km s-min=1.3km az=225.0*

ISC 01 23:47:58.4±0.7, 13.59S±0.07×76.2W±0.1, h47km±6km, h48km:pP-P, n70, σ1°35/69, mb4.4/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.70**	**339**	P	**Pn**	**23 48 25.3**	**-0.3**
	54nm,0.3s,baz=159,slow=13,SNR=53						
NNA				S	**Sn**	**23 48 45.6**	**-0.6**
	212nm,0.3s,baz=211,slow=11,SNR=7.8						
NNA				LR	LR	23 49 18.8	
	comp=Z,240nm,18.1s,baz=144,slow=48						
ATAH	**Atahualpa**	**6.75**	**341**	P	**Pn**	**23 49 37.0**	**+1.6**
	2.7nm,0.3s,baz=170,slow=3.5,SNR=16						
ATAH				S	**Sn**	**23 50 47.0**	**-4.3**
	0.7nm,0.3s,baz=78,slow=24,SNR=1.7						
ATAH				LR	LR	23 52 32.3	
	comp=Z,76nm,18.2s,baz=141,slow=41						
PB16	**IPOC Station P**	**8.01**	**127**		**Pn**	**23 49 54.2**	**+1.5**
LPAZ	**La Paz**	**8.28**	**110**	P	**Pn**	**23 49 59.5**	**+3.1**
	3.5nm,0.3s,baz=282,slow=9.4,SNR=56						
LPAZ	**La Paz**	**8.28**	**110**		**Pn**	**23 49 59.8**	**+3.3**
PSGCX	**Pisagua**	**8.37**	**136**		**Pn**	**23 49 56.0**	**-1.2**
MNMC	**Minye Minye**	**8.42**	**132**		**Pn**	**23 49 57.7**	**-0.4**
PB11	**IPOC Station P**	**8.80**	**135**		**Pn**	**23 50 02.6**	**-0.6**
TA01	**Diego Aracena**	**9.03**	**141**	Pn	**Pn**	**23 50 06.9**	**+0.6**
GO01	**Chusmiza**	**9.06**	**133**		**Pn**	**23 50 07.1**	**+0.1**
PATCX	**Punta Patache**	**9.24**	**142**	Pn	**Pn**	**23 50 09.8**	**+0.6**
PB08	**IPOC Station P**	**9.40**	**135**		**Pn**	**23 50 12.2**	**+0.6**
PB01	**IPOC Station P**	**9.82**	**140**		**Pn**	**23 50 17.9**	**+0.8**
PB07	**IPOC Station P**	**10.10**	**144**		**Pn**	**23 50 21.0**	**-0.1**
PB09	**IPOC Station P**	**10.53**	**142**		**Pn**	**23 50 27.7**	**+0.7**
LVC	**Limon Verde**	**11.35**	**143**	P	**Pn**	**23 50 39.6**	**+1.3**
	0.7nm,0.3s,baz=316,slow=12,SNR=7.4						
LVC				S	**Sn**	**23 52 40.5**	**-3.5**
	0.5nm,0.3s,baz=325,slow=10,SNR=1.7						
LVC				LR	LR	23 55 23.4	
	comp=Z,51nm,18.0s,baz=323,slow=39						
LVC	**Limon Verde**	**11.35**	**143**		**Pn**	**23 50 40.0**	**+1.6**
PB14	**IPOC Station P**	**12.28**	**154**	Pn	**Pn**	**23 50 49.9**	**-1.1**
SAML	**Samuel**	**13.60**	**72**		**Pn**	**23 51 07.2**	**-1.5**
PUAC	**Puerto Asis, P**	**14.05**	**359**	*eP*	**Pn**	**23 51 15.2**	**+0.3**
AC02	**Maricunga**	**14.76**	**154**	Pn	**Pn**	**23 51 26.7**	**+1.9**
SIV	**San Ignacio**	**14.85**	**101**	P	**Pn**	**23 51 25.5**	**-0.1**
	0.5nm,0.3s,baz=282,slow=6.2,SNR=8.7						
SIV				LR	LR	23 57 22.3	
	comp=Z,46nm,19.3s,baz=104,slow=38						
FLOC	**Florencia**	**15.08**	**2**	*eP*	**Pn**	**23 51 29.1**	**+0.6**
GARC	**Garzon, Huila**	**15.69**	**3**	*eP*	**Pn**	**23 51 35.9**	**-0.7**
POPC	**Popayan, Colom**	**16.03**	**358**	*eP*	**Pn**	**23 51 44.1**	**+0.4**
AC05	**El Transito**	**16.15**	**161**		**Pn**	**23 51 44.2**	**+1.8**
AC05				IAmb	IAmb	23 51 59.0	
	comp=Z,10nm,1.0s						
PRAC	**Prado**	**17.24**	**5**	*eP*	**Pn**	**23 51 56.2**	**+0.2**
GO04	**Tololo Observa**	**17.25**	**164**		**Pn**	**23 51 57.2**	**+1.0**
GO04				IAmb	IAmb	23 52 01.3	
	comp=Z,19nm,1.0s						
ORTC	**Ortega, Tolima**	**17.41**	**3**	*eP*	**P**	**23 52 01.0**	**+2.2**
CO03	**El Pedregal**	**17.91**	**164**		**P**	**23 52 05.6**	**+1.2**
TOLC	**Tolima**	**18.07**	**3**	*eP*	**P**	**23 52 08.9**	**+2.4**
CHIC	**Chingaza**	**18.27**	**8**	*eP*	**Pn**	**23 52 12.2**	**+3.3**
GUY2C	**Guyana, Caldas**	**18.71**	**3**	*eP*	**Pn**	**23 52 13.8**	**-0.5**
SPBC	**San Pablo de B**	**19.23**	**7**	*eP*	**Pn**	**23 52 20.4**	**+0.1**
RUSC	**La Rusia**	**19.60**	**9**	*eP*	**Pn**	**23 52 25.8**	**+0.7**
H03N1	**Juan Fernandez**	**19.92**	**187**	T	T	00 12 29.2	
	baz=7.2,slow=74						
H03N2	**Juan Fernandez**	**19.92**	**187**	T	T	00 12 27.3	
	baz=7.2						
H03N3	**Juan Fernandez**	**19.93**	**187**	T	T	00 12 47.7	
	baz=7.2,slow=74						
PTBC	**PUERTO BERRIO,**	**20.07**	**5**	*eP*	**P**	**23 52 28.7**	**+0.7**
PTGA	**Pitinga**	**20.55**	**53**	P	**P**	**23 52 32.6**	**-0.7**
	comp=Z,5.0nm,1.0s,baz=281,slow=22,SNR=7.1						
PTGA				LR	LR	00 00 17.9	
	comp=Z,59nm,18.7s,baz=268,slow=36						
PTGA	**Pitinga**	**20.55**	**53**	IAmb	IAmb	23 52 34.0	
	comp=Z,5.6nm,1.1s						
ZARC	**Zaragoza, Cauc**	**20.98**	**4**	*eP*	**P**	**23 52 39.0**	**+1.1**
MOTC	**Monteria, Cord**	**22.23**	**1**	*eP*	**P**	**23 52 52.1**	**+0.9**
PLCA	**Paso Flores**	**27.50**	**171**	P	**P**	**23 53 41.0**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=345,slow=17,SNR=1.4						
PLCA	**Paso Flores**	**27.50**	**171**	P	**P**	**23 53 41.2**	**+0.7**
PLCA				IAmb	IAmb	23 53 54.4	
	comp=Z,2.8nm,1.0s						
TXAR	**Lajitas Array**	**50.22**	**328**	P	**P**	**23 56 50.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=147,slow=8.5,SNR=4.5						
TXAR				pP	**pP**	**23 57 02.2**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=147,slow=9.1,SNR=6.9						
TXAR	**Lajitas Array**	**50.22**	**328**	P	**P**	**23 56 50.3**	**+0.3**
TXAR				pP	**pP**	**23 57 03.5**	**+0.5**
121A	**Cookes Peak, D**	**54.90**	**327**	P	**P**	**23 57 25.3**	**+0.6**
121A				IAmb	IAmb	23 57 37.1	
	comp=Z,3.8nm,0.8s						
PDAR	**Pinedale Array**	**63.87**	**333**	P	**P**	**23 58 26.4**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=125,slow=7.8,SNR=2.3						
NVAR	**Mina Array Bea**	**65.01**	**325**	P	**P**	**23 58 34.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=114,slow=6.6,SNR=3.7						
NVAR				pP	**pP**	**23 58 47.7**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=140,slow=6.3,SNR=7.2						
NVAR	**Mina Array Bea**	**65.01**	**325**	P	**P**	**23 58 34.7**	**+0.7**
NVAR				pP	**pP**	**23 58 48.5**	**+1.0**
ULM	**Lac du Bonnet**	**65.86**	**346**	P	**P**	**23 58 38.3**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=79,slow=5.2,SNR=3.4						
ULM	**Lac du Bonnet**	**65.86**	**346**	P	**P**	**23 58 38.5**	**-0.4**
DBIC	**Dimbokro**	**73.65**	**79**	P	**P**	**23 59 27.4**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=246,slow=5.4,SNR=4.4						
DBIC	**Dimbokro**	**73.65**	**79**	P	**P**	**23 59 27.5**	**-0.2**
KOWA	**Kowa**	**76.72**	**71**	P	**P**	**23 59 45.0**	**-0.3**
TOA0	**Torodi Ar. Sit**	**81.64**	**74**	P	**P**	**00 00 11.8**	**-0.4**
TOA0				IAmb	IAmb	00 00 15.6	
	comp=Z,3.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.64**	**74**	P	**P**	**00 00 12.0**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=266,slow=4.1,SNR=16						
TORD	**Torodi Ar. Bea**	**81.64**	**74**	P	**P**	**00 00 11.9**	**-0.3**
H11N3	**WAKE ISLAND Hyl**	**19.48**	**285**	T	T	02 17 00.4	
	baz=96,slow=74,SNR=68						
H11N2	**WAKE ISLAND Hyl**	**19.50**	**285**	T	T	02 17 03.0	
	baz=96,slow=74,SNR=73						
H11N1	**WAKE ISLAND Hyl**	**19.50**	**285**	T	T	02 17 07.2	
	baz=96,slow=74,SNR=40						
H11S2	**WAKE ISLAND Hyl**	**19.57**	**284**	T	T	02 17 15.7	
	baz=93,slow=74,SNR=50						
H11S1	**WAKE ISLAND Hyl**	**19.57**	**284**	T	T	02 17 02.9	
	baz=93,slow=74,SNR=64						
H11S3	**WAKE ISLAND Hyl**	**19.58**	**284**	T	T	02 17 03.7	
	baz=93,slow=74,SNR=38						
WRA	**Warramunga Arr**	**135.11**	**223**	PKP	**PKPdf**	**00 07 13.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=138,slow=1.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**137.04**	**16**	PKP	**PKPdf**	**00 07 14.2**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=339,slow=3.6,SNR=2.6						
ZALV				pPKP	**pPKPdf**	**00 07 29.5**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=300,slow=2.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**137.04**	**16**		**PKPdf**	**00 07 13.7**	**-2.3**
SONM	**Songino Array**	**145.78**	**357**	PKPbc	**PKPbc**	**00 07 32.9**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=338,slow=1.9,SNR=10						
SONM				pPKPbc	**pPKPdf**	**00 07 46.8**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=322,slow=2.4,SNR=8.0						
SONM	**Songino Array**	**145.78**	**357**		**PKPdf**	**00 07 32.3**	**+0.3**

BGR ***02*** *00:13:37.9±0.0, 21.23S×173.09W, h33km*
BJI ***02*** *00:13:38.8±0.0, 20.68S×174.03W, h10km, mB5.5/9, mb5.2/26, Ms5.1/5, Ms7 4.8/5*
IDC ***02*** *00:13:38.5±0.5, 21.09S×174.47W, h0km, mb4.7/17, mb1 4.9/18, mb1mx4.7/33, mbtmp4.6/18, ML4.7/1, MS4.2/19, Ms1 4.2/19, ms1mx4.1/33, Error ellipse: s-maj=20.5km s-min=14.8km az=120.0*
NEIC ***02*** *00:13:39.5±0.8, 21.1S±0.1×174.49W±0.08, h10km±1km, mb5.0/111, Error ellipse: s-maj=19.2km s-min=12.8km az=169.0*
GCMT ***02*** *00:13:42.5±0.2, 21.42S±0.02×173.82W±0.02, h21km, MW5.1/103, Moment Tensor Solution. s61,c91; s103,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.00±.17; Mθθ-1.02±.13; Mϕϕ-2.98±.12; Mrθ1.80±.24; Mθϕ-2.51±.09; Mϕr1.88±.20; Best double couple: M≥5.07100×10^16 NP1:ϕs208.00000°, δ30.00000°, λ79.00000°. NP2:ϕs40.00000°, δ61.00000°, λ96.00000°. Principal axes: T 4.7430, Plg74.0000°, Azm325.0000°; N 0.6550, Plg5.0000°, Azm217.0000°; P -5.3980, Plg15.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 00:13:39.8±0.3, 21.14S±0.08×174.45W±0.08, h10km, n345, σ0°81/334, mb5.0/75, MS4.2/20, 24C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.72**	**65**		**Pn**	**00 14 42.2**	**-9.0**
AFI	**Afiamalu**	**7.63**	**20**	Pn	**Pn**	**00 15 25.9**	**-5.3**
	19nm,0.3s,baz=127,slow=6.8,SNR=12						
AFI				Sn	Sn	00 16 43.3	-15
	7.5nm,0.3s,baz=219,slow=23,SNR=1.5						
AFI				LR	LR	00 18 15.8	
	comp=Z,1μm,19.6s,baz=196,slow=37						
AFI	**Afiamalu**	**7.63**	**20**	Pn	Pn	00 15 25.7	-5.5
RAR	**Rarotonga**	**13.70**	**93**	Pn	Pn	00 16 44.3	-10
	16nm,0.3s,baz=260,slow=4.8,SNR=21						
RAR				Sn	Sn	00 18 59.9	-26
	3.3nm,0.3s,baz=344,slow=16,SNR=1.9						
RAR				LR	LR	00 22 54.9	
	comp=Z,806nm,18.1s,baz=269,slow=41						
RAR	**Rarotonga**	**13.70**	**93**		Pn	00 16 43.6	-11
DZM	**Mont Dzumac**	**17.79**	**264**	P	**P**	**00 17 51.5**	**+3.0**
	0.9nm,0.3s,baz=72,slow=19,SNR=17						
DZM				LR	LR	00 23 40.2	
	comp=Z,1μm,19.9s,baz=96,slow=34						
DZM	**Mont Dzumac**	**17.79**	**264**	*eP*	**P**	**00 17 51.9**	**+3.4**
	97nm,1.2s						
DZM				*e*LR	LR	00 22 05.8	
	comp=Z,1μm,22.3s						
DZM	**Mont Dzumac**	**17.79**	**264**		**Pn**	**00 17 48.3**	**+0.5**
SANVU	**Saraoutou**	**18.31**	**285**		**Pn**	**00 17 53.1**	**-1.0**
SANVU				IAmb	IAmb	00 18 09.9	
	comp=Z,72nm,0.9s						
URZ	**Urewera**	**18.55**	**201**	P	**P**	**00 17 56.0**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=75,slow=2.9,SNR=8.9						
URZ				S	Sn	00 21 08.8	-15
	comp=Z,0.3nm,0.3s,baz=232,slow=22,SNR=1.4						
URZ	**Urewera**	**18.55**	**201**	P	**Pn**	**00 17 56.4**	**-0.4**
TBI	**Tubuai**	**23.23**	**100**	*eS*	S	00 22 42.2	-17
	comp=Z,264nm,27.0s						
TBI				*e*LQ	LQ	00 23 08.0	
	comp=Z,1μm,27.2s						
TBI				*e*LR	LR	00 24 13.1	
	comp=Z,1μm,29.0s						
PPT2	**Papeete2**	**23.72**	**86**	*eS*	S	00 22 52.3	-15
	comp=Z,239nm,24.8s						
PPT2				*e*LQ	LQ	00 23 14.4	
	comp=Z,2μm,27.0s						
PPT2				*e*LR	LR	00 24 23.9	
	comp=Z,1μm,26.8s						
PPT	**Papeete**	**23.73**	**86**	LR	LR	00 27 50.4	
	comp=Z,519nm,18.0s,baz=252,slow=36						
RPZ	**Rata Peaks**	**25.54**	**205**	P	**P**	**00 19 10.7**

MORW IAmb IAmb 00 24 06.7
comp=Z,22nm,1.1s
CASY Casey 64.81 206 P P 00 24 18.6 +0.2
QSPA South Pole Qui 68.93 180 P P 00 24 45.6 +0.7
QSPA IAmb IAmb 00 24 58.2
comp=Z,18nm,1.1s
JYT Yasato 71.37 323 P P 00 25 00.3 +0.2
MJAR Matsushiro Arr 72.73 322 P P 00 25 08.5 +0.2
comp=Z,10nm,0.8s,baz=160,slow=6.1,SNR=20
MJAR LR LR 00 57 32.7
comp=Z,63nm,18.0s,baz=165,slow=36
MJAR Matsushiro Arr 72.73 322 P P 00 25 07.6 -0.7
MAJO Matsushiro 72.73 322 P P 00 25 08.1 -0.2
MAJO IAmb IAmb 00 25 08.9
comp=Z,9.6nm,0.8s
MAT Matsushiro 72.73 322 P P 00 25 08.3 0.0
MAT *e*S **SKiKP 00 34 50.0 +7.3**
JSD Sado 73.74 323 P P 00 25 14.2 0.0
JSD IAmb IAmb 00 25 15.7
comp=Z,14nm,0.8s
JTM Tenmabayashi 74.19 326 P P 00 25 17.5 +0.8
JHS Saijyo 74.78 318 P P 00 25 20.2 -0.1
SMMC Simmler 76.27 43 P P 00 25 28.7 -0.2
baz=231
KSM Kuching 76.79 277 P P 00 25 31.3 -1.0
KSM IAmb IAmb 00 25 33.8
comp=Z,18nm,1.2s
ESJX Sierra Juarez 76.98 48 P P 00 25 32.8 -0.4
ESJX IAmb IAmb 00 25 36.6
comp=Z,30nm,2.0s
MURC Murrieta 77.06 46 P P 00 25 33.9 +0.5
baz=234
BFSC Mount Baldy Ra 77.13 45 P P 00 25 33.8 -0.1
baz=233
MONP2 Monument Peak 77.17 47 P P 00 25 33.9 -0.4
baz=234
VES Vestal, Richgr 77.17 43 P P 00 25 34.0 +0.1
baz=232
IKP In-Ko-Pah, Jac 77.25 47 P P 00 25 34.4 -0.1
baz=234
EDW2 Edwards Air Fo 77.30 45 P P 00 25 34.7 0.0
baz=233,SNR=8.6
ISA Isabella, Lake 77.46 44 P P 00 25 35.8 +0.2
baz=232,SNR=6.2
ISA Isabella, Lake 77.46 44 P 00 25 35.3 -0.3
ISA IAmb IAmb 00 25 40.8
comp=Z,13nm,1.2s
PFO Pinyon Flats O 77.57 46 P P 00 25 35.2 -1.2
PFO IAmb IAmb 00 25 38.8
comp=Z,20nm,1.4s
O02D Mt. Diablo Mer 77.69 38 P P 00 25 37.4 +0.5
baz=228
CMB Columbia Colle 77.73 41 P 00 25 36.9 -0.2
PETK Petropavlovsk- 77.79 343 P P 00 25 37.0 0.0
comp=Z,7.6nm,1.0s,baz=101,slow=1.5,SNR=2.9
PETK Petropavlovsk- 77.79 343 P P 00 25 36.2 -0.7
LRMC Laurel Mtn Rad 77.86 44 P P 00 25 38.3 +0.3
baz=233
AFDM Forest Hills D 77.95 40 P 00 25 38.0 -0.3
WDC Whiskeytown Da 78.10 38 P P 00 25 38.4 -0.6
WDC IAmb IAmb 00 25 42.0
comp=Z,16nm,1.3s
BELC Belle Mtn. Jos 78.10 46 P P 00 25 39.6 +0.2
baz=234,SNR=6.7
N02D Trinity Center 78.27 37 P P 00 25 40.7 +0.7
baz=228
BC3 Big Chuckawall 78.27 47 P P 00 25 40.5 +0.2
baz=235
MDPB Devils Postpil 78.28 42 P P 00 25 40.4 0.0
MDPB IAmb IAmb 00 25 43.0
comp=Z,13nm,1.0s
OMMB Old Mammoth Mi 78.32 42 P P 00 25 40.2 -0.5
OMMB IAmb IAmb 00 25 52.5
comp=Z,14nm,1.2s
GSC Goldstone, Bar 78.33 45 P P 00 25 40.6 +0.1
baz=234,SNR=5.8
MPMC Manual Prospec 78.33 44 P P 00 25 40.3 -0.3
baz=233,SNR=13
O03E Paynes Creek 78.34 38 P P 00 25 40.6 +0.2
baz=229
HEC Hector,Ludlow 78.36 45 P P 00 25 40.6 -0.1
baz=234,SNR=8.5
M02C Callahan 78.46 37 P P 00 25 41.4 +0.3
baz=228
BELA Belgrano 2 78.48 172 P P 00 25 39.9 -0.8
WAKR Walker 78.60 41 P P 00 25 41.5 -0.6
WAKR IAmb IAmb 00 25 44.5
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 78.77 37 P P 00 25 42.5 -0.2
YBH IAmb IAmb 00 25 44.3
comp=Z,18nm,1.4s
IRM Iron Mountain 78.77 47 P P 00 25 42.7 -0.2
baz=235,SNR=6.5
GMRC Granite Mounta 78.79 46 P P 00 25 42.9 -0.2
baz=234
PNTR Pine Nut 78.87 40 P P 00 25 43.4 -0.2
PNTR IAmb IAmb 00 25 45.8
comp=Z,21nm,0.9s
VCNR Virginia City 78.97 40 P P 00 25 43.5 -0.6
VCNR IAmb IAmb 00 25 46.4
comp=Z,14nm,1.1s
GRAC Grapevine Rang 78.97 43 P P 00 25 44.0 0.0
baz=233
FURC Furnace Creek, 78.98 44 P P 00 25 44.7 +0.8
baz=233
YERR Yerington 79.02 41 P P 00 25 43.9 -0.5
YERR IAmb IAmb 00 25 46.0
comp=Z,15nm,1.0s
214A Organ Pipe Nat 79.16 50 P P 00 25 44.9 -0.2
baz=237
RYN Ryan 79.24 41 P P 00 25 44.5 -1.0
RYN IAmb IAmb 00 26 01.2
comp=Z,35nm,1.8s
NVAR Mina Array Bea 79.25 42 P P 00 25 45.9 +0.2
comp=Z,13nm,1.0s,baz=224,slow=8.4,SNR=48
NVAR Mina Array Bea 79.25 42 P P 00 25 45.3 -0.4
M04C Macdoel 79.29 37 P P 00 25 45.9 +0.2
baz=229
L04D Klamath Falls 79.31 37 P P 00 25 46.4 +0.6
baz=229
NV11 Mina Array Sit 79.35 42 P P 00 25 45.7 -0.5
NV11 IAmb IAmb 00 25 47.7
comp=Z,15nm,1.0s
PAHR Pah Rah Range 79.39 40 P P 00 25 45.8 -0.5
KSRS Korea Array 79.59 317 P P 00 25 49.0 +1.7
comp=Z,6.1nm,1.0s,baz=135,slow=5.9,SNR=17
KSAR Wonju Array Be 79.61 317 P P 00 25 48.4 +1.0
TPNV Topopah Spring 79.67 44 P P 00 25 47.8 -0.1
baz=234,SNR=8.2
KVN Kaiserville 79.76 41 P P 00 25 47.3 -1.2
J04D Umpqua Nationa 80.10 36 P P 00 25 50.4 +0.3
baz=229
SHPR Sheep Range 80.11 45 P 00 25 50.4 +0.1
Y14A Wickenburg 80.12 48 P P 00 25 49.9 -0.4
MOD Modoc Plateau 80.24 38 P 00 25 50.5 -0.4
I04A Tendick Farm, 80.30 35 P P 00 25 51.5 +0.5
baz=228
K05A Summer Lake 80.44 37 P 00 25 51.7 -0.3
K05A IAmb IAmb 00 25 55.0
comp=Z,23nm,1.1s
INCN Inchon 80.44 316 P P 00 25 51.6 -0.3
J05D Fort Rock, OR 80.61 36 P P 00 25 53.8 +1.0
baz=229,SNR=11
TUC Tucson 80.80 50 P P 00 25 54.4 +0.4
baz=238
TUC Tucson 80.80 50 P P 00 25 53.3 -0.7
R11A Troy Canyon, C 80.91 43 P P 00 25 54.1 -0.5
baz=234,SNR=5.7
PINE Pine Mountain 81.10 36 P P 00 25 54.6 -0.9
PINE IAmb IAmb 00 25 58.0
comp=Z,15nm,1.1s
I05D Terrebonne, OR 81.24 35 P P 00 25 56.4 +0.4
baz=229
USRK Ussuriysk Ar. 81.39 324 P P 00 25 58.4 +1.7
comp=Z,2.6nm,0.8s,baz=98,slow=6.9,SNR=4.1
USRK LR LR 00 56 44.9
comp=Z,96nm,19.8s,baz=125,slow=32
USRK Ussuriysk Ar. 81.39 324 P P 00 25 57.2 +0.4
KNB Kanab 81.95 45 P 00 25 59.9 -0.2
U15A North Rim 81.98 46 P P 00 26 00.3 -0.2
MAW Mawson 82.06 199 P P 00 26 00.3 +0.2
comp=Z,2.1nm,0.6s,baz=126,slow=11,SNR=7.1
MAW LR LR 01 01 32.3
comp=Z,167nm,18.5s,baz=68,slow=35
MAW Mawson 82.06 199 P P 00 25 59.6 -0.4
E04D Cinebar 82.06 33 P P 00 26 00.9 +0.7
baz=228
I07A Izee 82.08 37 P P 00 26 00.2 -0.4
J08A Circle Bar Ran 82.20 38 P 00 26 00.9 -0.4
D03D Eldon 82.46 32 P P 00 26 03.6 +1.2
baz=227
PKCU Pink Cliffs 82.53 45 P P 00 26 03.5 +0.1
ELK Elko 82.54 41 P P 00 26 02.7 -0.5
LON Longmire 82.58 33 P P 00 26 03.2 +0.1
D05A Enumclaw 82.78 33 P P 00 26 04.1 +0.1
NJ2 Nanjing 82.86 308 *e*P **P 00 26 05.3 +0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
H03S2 Juan Fernandez 82.88 123 T T 01 58 29.3
baz=247,slow=75,SNR=7.6
H03S1 Juan Fernandez 82.89 123 T T 01 58 19.1
baz=247,slow=75,SNR=4.8
H03S3 Juan Fernandez 82.90 123 T T 01 58 17.9
baz=247,slow=75,SNR=6.5
MDJ Mudanjiang 82.98 323 P P 00 26 06.9 +1.8
MDJ pmax pmax
comp=Z,22nm,1.2s
MDJ pmax pmax
comp=Z,250nm,5.5s
G08A Pilot Rock 83.15 36 P P 00 26 05.7 -0.4
G08A IAmb IAmb 00 26 07.8
comp=Z,16nm,1.1s
B05A Bryant 83.44 32 P P 00 26 07.9 +0.6
baz=228,SNR=5.2
HAWA Hanford 83.54 35 P P 00 26 07.4 -0.6
HAWA IAmb IAmb 00 26 09.8
comp=Z,19nm,1.1s
DUG Dugway, Tooele 83.73 43 P P 00 26 09.7 +0.4
baz=236
DUG Dugway, Tooele 83.73 43 P P 00 26 08.8 -0.5
MFID Camas Ranch 83.77 39 P 00 26 08.9 -0.4
MFID IAmb IAmb 00 26 11.3
comp=Z,15nm,1.1s
BMO Blue Mountains 83.79 37 P P 00 26 08.9 -0.5
D08A Wollman Farm, 84.29 35 P P 00 26 11.4 -0.3
D08A IAmb IAmb 00 26 12.9
comp=Z,18nm,1.3s
RC01 Rabbit Creek A 84.34 12 P P 00 26 11.8 +0.1
baz=203
E09A Wood Farm, Sta 84.36 35 P P 00 26 11.8 -0.3
E09A IAmb IAmb 00 26 13.4
comp=Z,9.6nm,1.1s
MNTX Cornudas Mount 84.45 53 P P 00 26 12.9 0.0
baz=241
MNTX Cornudas Mount 84.45 53 P P 00 26 12.2 -0.7
LENM Lemitar 84.49 50 P P 00 26 12.6 -0.7
SUA Susitna One 84.50 11 P P 00 26 11.7 -0.9
SUA IAmb IAmb 00 26 14.8
comp=Z,9.6nm,0.9s
F10A Beach Ranch, E 84.52 36 P P 00 26 12.1 -1.0
SRU San Rafael Swe 84.61 45 P P 00 26 13.2 -0.6
TX31 Lajitas Ar. Si 84.64 56 P P 00 26 13.7 -0.4
TXAR Lajitas Array 84.64 56 P P 00 26 14.5 +0.4
comp=Z,2.8nm,1.0s,baz=216,slow=6.2,SNR=19
TXAR Lajitas Array 84.64 56 P P 00 26 13.8 -0.3
GLI Glacier Island 84.68 13 P P 00 26 12.6 -0.8
HLID Hailey 84.69 39 P P 00 26 14.1 0.0
baz=234,SNR=20
BNM Barren Site 84.73 50 P P 00 26 14.6 0.0
TTA Tatalina 85.05 8 P P 00 26 15.4 +0.1
TTA IAmb IAmb 00 26 18.2
comp=Z,19nm,1.3s
TCUT Toone Canyon 85.14 43 P P 00 26 16.1 -0.4
ANMO Albuquerque 85.25 50 P P 00 26 17.5 +0.3
baz=240
ANMO Albuquerque 85.25 50 P P 00 26 16.6 -0.5
ANMO IAmb IAmb 00 26 19.3
comp=Z,11nm,1.1s
PV12 Saucer Basin, 85.33 46 P P 00 26 16.2 -1.3
PV12 IAmb IAmb 00 26 21.9
comp=Z,13nm,1.3s
SCM Sheep Creek Mo 85.49 13 P P 00 26 17.4 -0.2
SCM IAmb IAmb 00 26 43.9
comp=Z,15nm,1.1s
WHN Wuhan 85.51 305 P P 00 26 19.8 +1.5
TGL Tana Glacier 85.53 15 P P 00 26 17.7 -0.2
TGL IAmb IAmb 00 26 55.8
comp=Z,13nm,1.1s
GLB Gilahina Butte 85.90 14 P P 00 26 19.4 -0.2
GLB IAmb IAmb 00 26 20.8
comp=Z,17nm,1.3s
M24K Tolsona, Glenn 85.98 13 P P 00 26 20.2 +0.2
baz=206,SNR=5.9
M24K Tolsona, Glenn 85.98 13 P P 00 26 20.2 +0.2
NEW Newport 85.99 34 P P 00 26 20.4 +0.1
baz=232
TIA Tai'an 86.18 311 P P 00 26 22.4 +0.9
TIA pmax pmax
comp=Z,12nm,1.2s
MCMT McKenzie Canyo 86.33 39 P P 00 26 21.6 -0.8
S22A 4UR Ranch, Cre 86.38 47 P P 00 26 23.3 +0.5
baz=240
PLCA Paso Flores 86.41 132 P P 00 26 23.1 +0.3
comp=Z,4.0nm,1.1s,baz=224,slow=5.6,SNR=3.4
PLCA LR LR 01 01 16.1
comp=Z,84nm,18.1s,baz=337,slow=33
PLCA Paso Flores 86.41 132 P P 00 26 22.5 -0.3
PLCA IAmb IAmb 00 27 05.3
comp=Z,24nm,1.8s
TRF Thorofare Moun 86.42 11 P P 00 26 21.7 -0.6
TRF IAmb IAmb 00 26 30.1
comp=Z,11nm,0.8s
SKAG Skagway 86.47 19 P P 00 26 22.6 +0.2
IPM Ipoh 86.50 276 P P 00 26 23.1 -0.6
DHY Denali Highway 86.61 12 P P 00 26 22.8 -0.4
DHY IAmb IAmb 00 26 24.1
comp=Z,19nm,1.4s
RND Reindeer 86.64 11 P P 00 26 22.9 -0.3
SNOW Snow King Moun 86.83 41 P P 00 26 24.4 -0.4
SNOW IAmb IAmb 00 26 27.1
comp=Z,12nm,1.2s
KULM Kulim 87.14 277 P P 00 26 26.0 -0.8
KULM IAmb IAmb 00 28 34.7
comp=Z,14nm,1.2s
BW06 Boulder Array 87.19 42 P P 00 26 26.0 -0.6
baz=238
BW06 Boulder Array 87.19 42 P P 00 26 24.8 -1.8
PD31 Pinedale Array 87.19 42 P P 00 26 25.4 -1.2
PDAR Pinedale Array 87.19 42 P P 00 26 25.9 -0.7
comp=Z,3.5nm,0.9s,baz=204,slow=3.3,SNR=17
PDAR Pinedale Array 87.19 42 P P 00 26 25.1 -1.5
BWN Browne 87.23 11 P P 00 26 25.0 -1.0
SNAA Sanae 87.25 177 P P 00 26 25.9 -0.4
SNAA IAmb IAmb 00 26 36.3
comp=Z,21nm,1.7s
VNA3 Neumayer Olymp 87.25 175 P P 00 26 25.9 -0.4
BOZ Bozeman (W) 87.48 39 P P 00 26 27.8 0.0
baz=236
RIDG Independent Ri 87.72 13 P P 00 26 28.1 -0.2
WRH Wood River Hil 87.75 11 P P 00 26 27.9 -0.6
DOT Dot Lake 87.80 13 P P 00 26 28.4 -0.3
DOT IAmb IAmb 00 26 29.9
comp=Z,20nm,1.4s
RPSI Rantau Prapat 87.81 274 P P 00 26 29.4 -0.5
RPSI IAmb IAmb 00 26 31.2
comp=Z,13nm,1.0s
HDA Harding Lake 87.90 12 P P 00 26 28.8 -0.4
baz=206,SNR=5.2
HDA Harding Lake 87.90 12 P P 00 26 28.3 -0.9
HDA IAmb IAmb 00 26 29.3
comp=Z,9.2nm,1.0s
CCB Clear Creek Bu 87.96 11 P P 00 26 28.5 -0.9
SCRK Sand Creek 88.10 13 P P 00 26 30.6 +0.3
baz=208
COLA College 88.16 11 P P 00 26 29.6 -0.7
MDM Murphy Dome 88.17 11 P P 00 26 29.3 -1.2
IL31 88.24 11 P P 00 26 29.8 -1.0
IL31 IAmb IAmb 00 26 32.4
comp=Z,15nm,1.3s
ILAR Eielson Array 88.24 11 P P 00 26 29.9 -0.9
comp=Z,13nm,1.2s,baz=216,slow=4.3,SNR=22
ILAR Eielson Array 88.24 11 P P 00 26 30.2 -0.6
IMAR Indian Mountai 88.27 8 P P 00 26 30.8 -0.2
POKR Poker Plat Res 88.46 11 P P 00 26 32.7 +0.9
baz=205
K27K Chicken 88.56 14 P P 00 26 33.1 +0.8
baz=210,SNR=7.3
GSI Gunungsitoli 88.57 272 P P 00 26 26.8 -6.8
comp=Z,62nm,0.9s
GSI Gunungsitoli 88.57 272 P P 00 26 33.7 +0.1
K22A Casper 89.04 43 P P 00 26 35.7 +0.4
baz=240
ENH Enshi 89.16 303 P P 00 26 36.6 +0.6
ABTX Abilene, Hawle 89.20 55 P P 00 26 36.5 +0.4
baz=244
GYA Guiyang 89.86 298 ⇑P **P 00 26 40.7 +1.2**
GYA pmax pmax
comp=Z,9.0nm,1.7s
COLD Coldfoot 89.94 9 P P 00 26 39.5 +0.8
baz=203
SLVN Son La 90.19 293 P P 00 26 41.5 +0.5
SLVN IAmb IAmb 00 26 44.3
comp=Z,15nm,1.3s
BMAR Burnt Mountain 91.05 11 P P 00 26 44.6 +0.6
XAN Xi'an 91.18 306 P P 00 26 47.2 +1.8
XAN pmax pmax
comp=Z,33nm,1.1s
XAN Xi'an 91.18 306 P P 00 26 45.7 +0.3
LAO LASA Array 91.25 40 P P 00 26 46.4 +1.0
baz=240
RSSD Black Hills 91.34 43 P P 00 26 46.2 +0.1
baz=242
HHC Hu-ho-hao-te 92.19 313 *e*P **P 00 26 50.3 +0.3**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.6s
KMI Kunming 92.61 296⇑*e*P **P 00 26 54.3 +1.9**
KMI pP sP 00 26 56.7 +0.6
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,140nm,18.0s
KMI LR LR
comp=Z,190nm,19.7s
KMI LR LR
comp=Z,280nm,30.5s
DGMT Dagmar 93.31 39 P P 00 26 55.8 +0.9
baz=242
DGMT Dagmar 93.31 39 P P 00 26 54.5 -0.3
CMAR Chiang Mai Arr 93.46 288 P P 00 26 58.2 +2.0
comp=Z,2.1nm,0.4s,baz=117,slow=2.8,SNR=29
CMAR LR LR 01 04 56.7
comp=Z,25nm,21.1s,baz=173,slow=33
CMAR Chiang Mai Arr 93.46 288 P P 00 26 57.1 +0.9
CHTO Chiang Mai 93.59 289 P P 00 26 56.8 0.0
CHTO IAmb IAmb 00 26 58.8
comp=Z,8.0nm,0.8s
INK Inuvik 94.05 14 P P 00 26 56.5 -1.3
comp=Z,5.0nm,1.0s,baz=264,slow=2.9,SNR=2.9
KSU1 Kansas State U 94.14 50 P P 00 26 58.9 +0.1
baz=246
W39A Magazine 94.69 54 P P 00 27 01.5 0.0
baz=248
LZH Lanzhou 95.81 306 *e*P **P 00 27 09.0 +2.2**
LZH pP pwP 00 27 14.8 +2.8
LZH sP sP 00 27 17.8 +7.3
LZH pmax pmax
comp=Z,19nm,1.0s
ECSD EROS Data Cent 96.00 45 P P 00 27 06.9 -0.3
baz=247
LPAZ La Paz 98.74 111 LR LR 01 05 05.0
comp=Z,134nm,18.4s,baz=269,slow=31
ULM Lac du Bonnet 98.99 40 LR LR 01 07 50.3
comp=Z,227nm,18.8s,baz=262,slow=33
GOGA Godfrey 102.12 59 P Pdif 00 27 34.1 -0.8
baz=253
H60A Morristown 112.75 49 P PKiKP 00 32 15.8 -1.0
baz=262
MKAR Makanchi Array 114.06 313 PKiKP PKPdf 00 32 17.5 -1.8
comp=Z,0.3nm,0.6s,baz=93,slow=3.0,SNR=2.0
E64A Bridgewater 116.34 48 P PKPdf 00 32 22.8 -0.8
baz=266
KURBB Kurchatov Arra 116.77 317 PKP PKPdf 00 32 22.9 -1.4
comp=Z,0.5nm,0.6s,baz=90,slow=1.9,SNR=4.6
BRVK Borovoye 121.76 320 PKPdf PKPdf 00 32 33.1 -0.7
KKAR Karatay Array 122.24 308 PKPdf 00 32 34.1 -1.1
ARCES ARCESS Array B 130.11 351 PKhKP PKPpre 00 32 46.1
comp=Z,2.2nm,1.0s,baz=46,slow=6.9,SNR=1.6
FINES FINESS Array B 137.27 346 PKP PKPdf 00 33 03.2 +0.2
comp=Z,4.0nm,1.0s,baz=346,slow=2.9,SNR=1.5
SUW Suwalki 144.54 342 *e*PKP **PKPab 00 33 14.6 -0.1**
SUW Suwalki 144.54 342 PKPdf PKPbc 00 33 15.0 +0.1
MUD Monsted U'grnd 144.63 357 *i* P **PKPab 00 33 15.1 +0.2**
comp=Z,41nm,1.1s
MUD Monsted U'grnd 144.63 357 *i* P **PKPab 00 33 15.1 +0.2**
MUD IAmb IAmb 00 33 15.9
comp=Z,41nm,1.1s
AKASG Malin Array Be 145.13 333 PKPbc **PKPbc 00 33 16.3 -0.6**
comp=Z,9.0nm,0.6s,baz=38,slow=3.9,SNR=34
AKASG Malin Array Be 145.13 333 PKPbc 00 33 16.1 -0.8
AKBB Malin Array Si 145.13 333 PKPbc 00 33 16.2 -0.7
BSD Bornholm Skovb 145.35 351⇑*i*P **PKPbc 00 33 16.8 -0.7**
comp=Z,36nm,0.9s
BSD Bornholm Skovb 145.35 351⇑*i*P **PKPbc 00 33 16.8 -0.7**
BSD IAmb IAmb 00 33 17.8
comp=Z,36nm,0.9s
MARD Mardin 145.53 306 PKPdf 00 33 18.5 -0.2
GKP Gorka Klasztor 146.70 347 *e*PKP **PKPbc 00 33 21.8 +0.2**
BSEG Bad Segeberg 147.06 355 *e*PKPbc **PKPbc 00 33 23.2 +0.6**
baz=8.4,slow=2.4
BEL Belsk 147.15 343 *e*PKP **PKPbc 00 33 23.6 +0.7**
SORM Soroca 147.43 331⇑P **PKPbc 00 33 23.5 -0.3**
PURM Purcari 147.85 328⇓P **PKPab 00 33 27.6 +0.1**
RUE Ruedersdorf 148.08 350 *e*PKPbc **PKPbc 00 33 25.7 +0.3**
baz=8.4,slow=2.4
NRDL Niedersach Rie 148.51 355 *e*PKPbc **PKPbc 00 33 27.0 +0.5**
baz=8.4,slow=2.4
ASSE Asse, Remlinge 148.82 354 *e*PKPbc **PKPbc 00 33 27.4 +0.1**
baz=8.4,slow=2.4
OJC Ojcow 148.88 342 *e*PKP **PKPbc 00 33 27.8 +0.1**
CLZ Clausthal 149.13 354 *e*PKPbc **PKPbc 00 33 28.0 -0.3**
baz=8.4,slow=2.4
KSP Ksiaz 149.18 347 *e*PKP **PKPbc 00 33 29.1 +0.6**
BURAR Bucovina Array 149.18 334⇓P **PKPbc 00 33 28.3 -0.4**
BURAR Bucovina Array 149.18 334 PKPbc 00 33 29.1 +0.4
KOLS Kolonicke sedl 149.22 338 *e*PKP **PKPbc 00 33 28.6 0.0**
BIZ Bicaz 149.33 332⇓P **PKiKP 00 33 30.2 +0.1**
CLL Collm 149.33 351 *i* PKPdf **PKPdf 00 33 24.1 -0.3**
comp=Z,4.0nm,1.2s
CLL ⇑*i*PKPbc **PKPbc 00 33 28.6 -0.2**
comp=Z,23nm,1.3s
CLL *i* PKPab **PKPab 00 33 33.0 -0.3**
comp=Z,27nm,1.6s
CLL Collm 149.33 351 PKPbc 00 33 28.6 -0.2
NIE Niedzica 149.44 341 *e*PKP **PKiKP 00 33 30.1 -0.2**
OSTC Ostas 149.47 347⇑*e*PKP **PKPbc 00 33 29.2 0.0**
OSTC *ex* x 00 33 38.7
CHVC Chvalec 149.47 347⇑*e*PKP **PKPbc 00 33 29.6 +0.4**
CRVS Cervenica-Dubn 149.52 339 *e*PKP **PKPbc 00 33 29.7 +0.3**
CRVS *e* 00 33 36.9
UPC Upice 149.56 347⇑*e*PKP **PKPbc 00 33 29.6 +0.2**
NEUB Neuenburg 149.60 352 *e*PKPbc **PKPbc 00 33 29.7 +0.2**
baz=8.4,slow=2.4
BRG Berggiesshubel 149.60 349 *e*PKPbc **PKPbc 00 33 29.7 +0.2**
baz=8.4,slow=2.4
DPC Dobruska-Polom 149.64 346⇑*e*PKP **PKPbc 00 33 29.9 +0.3**
DPC *ex* x 00 33 43.1
FBE Freiberg 149.66 350 *e*PKPbc **PKiKP 00 33 30.2 -0.4**
baz=8.4,slow=2.4
BR131 Keskin Array S 149.70 314 PKPbc 00 33 30.0 -0.3
BRTR Keskin Array B 149.70 314 PKPbc **PKPbc 00 33 30.2 -0.1**
comp=Z,4.1nm,0.9s,baz=131,slow=3.3,SNR=20
BUG Bochum--Univer 149.73 358 *e*PKPbc **PKPbc 00 33 29.8 +0.1**
baz=8.4,slow=2.4
KRLC Kraliky 149.79 346⇑*e*PKP **PKPbc 00 33 30.2 +0.2**
KRLC *ex* x 00 33 38.2
PVCC Panska Ves 149.82 349⇑*e*PKP **PKPbc 00 33 30.4 +0.4**
PVCC *ex* x 00 33 38.3
MORC Moravsky Berou 149.88 344⇑P **PKPbc 00 33 29.9 -0.4**
MORC Moravsky Berou 149.88 344 *e*PKP **PKPbc 00 33 30.4 +0.1**
ASF Jabal al Asfar 150.01 298 PKPbc **PKPbc 00 33 31.2 0.0**
comp=Z,4.1nm,0.9s,baz=143,slow=2.1,SNR=5.5
MOX Moxa 150.17 352 *e*PKPbc **PKPbc 00 33 30.7 -0.2**
baz=8.4,slow=2.4
TANN Tannenbergstha 150.28 351 *e*PKPbc **PKPbc 00 33 31.5 +0.3**
baz=8.4,slow=2.4
PRA Prague 150.29 348⇑*e*PKP **PKiKP 00 33 31.7 -0.2**
PRU Pruhonice 150.35 348⇑*e*PKP **PKPbc 00 33 31.2 -0.1**
GUNZ Gunzen 150.35 351 *e*PKPbc **PKiKP 00 33 31.8 -0.3**
baz=8.4,slow=2.4
GOPC GO Pecny, Ondr 150.37 348⇑*e*PKP **PKPbc 00 33 31.5 +0.1**
GOPC *ex* x 00 33 37.4
NEHR Nehoiu 150.38 330⇓P **PKPbc 00 33 31.9 +0.3**
DOPR Dopca 150.39 331⇓P **PKiKP 00 33 32.8 +0.5**
WERN Wernitzgruen 150.42 351 *e*PKPbc **PKPbc 00 33 31.8 +0.3**

baz=8.4,slow=2.4
NKC Novy Kostel 150.46 351 ⇑ePKP PKPbc 00 33 32.0 +0.4
MLR Muntele Rosu 150.50 330 ⇑P PKPbc 00 33 31.8 -0.2
MLR Muntele Rosu 150.50 330 PKPdf PKPdf 00 33 26.1 -0.5
VRAC Vranov 150.55 345 ⇓P PKiKP 00 33 32.7 +0.2
VRAC Vranov 150.55 345 ePKP PKPbc 00 33 31.9 +0.1
MEM Membach 150.59 359 PKiKP PKPbc 00 33 31.9 0.0
BTNL Ternell 150.61 359 PKiKP PKPbc 00 33 32.0 0.0
JAVC Velka Javorina 150.69 344 ePKP PKiKP 00 33 33.3 +0.4
VYHS Vyhne 150.70 342 ePKP PKiKP 00 33 32.9 0.0
VYHS e 00 33 40.3
MANZ Manzenberg 150.75 351 ePKPbc PKPbc 00 33 32.4 +0.1
baz=8.4,slow=2.4
BCLA Clavier 150.78 0 PKPab PKPab 00 33 39.2 -0.1
TREC Trest 150.81 347 ⇑ePKP PKPbc 00 33 32.8 +0.3
BGES Gesves 150.82 1 PKPab PKPab 00 33 38.5 -1.0
KRUC Moravsky 150.83 345 ePKP PKPbc 00 33 32.5 0.0
PSZ Piszkesteto 150.89 340 PKPdf PKPdf 00 33 26.8 -0.3
PSZ PKiKP 00 33 33.3 -0.1
TNS Taunus Mts 150.89 356 ePKPbc PKPbc 00 33 32.8 +0.1
baz=8.4,slow=2.4
BMRD Maredsous 150.90 1 PKiKP PKPbc 00 33 32.7 +0.1
BMRD PKPab PKPab 00 33 39.4 -0.4
VOIR 150.95 331 ⇑P PKiKP 00 33 34.3 +0.7
ROTZ Rotzenmuhle 150.95 351 ePKPbc PKPbc 00 33 32.8 +0.1
baz=8.4,slow=2.4
MMAI Mount Meron Ar 151.01 300 PKPbc PKiKP 00 33 34.0 -0.1
comp=Z,2.6nm,0.6s,baz=30,slow=6.8,SNR=4.9
DOU Dourbes 151.10 1 PKiKP PKPbc 00 33 33.1 0.0
GRF Grafenberg Arr 151.16 352 ePKPbc PKPbc 00 33 33.2 -0.1
baz=8.4,slow=2.4
ARR Arges 151.19 331 ⇑P PKiKP 00 33 34.8 +0.8
MODS Modra-Piesok 151.24 344 ePKP PKPbc 00 33 33.1 -0.4
MODS e 00 33 41.6
KHC Kasperske Hory 151.35 349 ⇑ePKP PKPbc 00 33 33.6 -0.1
KHC ePKPAB PKPab 00 33 40.6 -1.2
KHC ex x 00 33 46.7
KHC Kasperske Hory 151.35 349 PKPbc PKPbc 00 33 33.8 +0.1
WET Wettzell 151.46 350 ePKPbc PKiKP 00 33 34.7 +0.3
baz=8.4,slow=2.4
WLF Walferdange 151.54 359 PKiKP PKPbc 00 33 34.3 +0.2
WLF PKPab PKPab 00 33 43.0 +0.5
WLF Walferdange 151.54 359 ePKPbc PKiKP 00 33 34.9 +0.4
baz=8.4,slow=2.4
GEC2 GERESS Array S 151.60 349 ePKPbc PKPbc 00 33 34.5 +0.1
baz=8.4,slow=2.4
GEC2 GERESS Array S 151.60 349 PKPbc PKPbc 00 33 34.7 +0.3
GERES GERESS Array B 151.60 349 PKPbc PKPbc 00 33 34.7 +0.3
comp=Z,3.7nm,1.0s,baz=20,slow=1.6,SNR=15
GERES GERESS Array B 151.60 349 PKPbc PKPbc 00 33 34.0 -0.5
SIRR Siria 151.69 336 ⇑P PKPbc 00 33 34.9 +0.3
CONA Conrad Observa 152.01 345 eP PKPbc 00 33 35.6 +0.2
comp=Z,11nm,1.3s
EIL Elat 152.18 294 PKPbc PKPbc 00 33 35.8 -0.4
comp=Z,3.9nm,0.8s,baz=344,slow=7.2,SNR=4.0
BZS Buzias 152.25 335 ⇑P PKiKP 00 33 36.2 +0.1
ARSA Arzberg 152.73 345 eP PKiKP 00 33 38.2 +1.1
comp=Z,4.5nm,1.2s
BFO Black Forest 152.78 356 ePKPbc PKiKP 00 33 37.2 0.0
baz=8.4,slow=2.4
SOKA Soboth 153.38 345 eP PKPab 00 33 50.5 +0.1
comp=Z,13nm,1.3s
RETA Reutte 153.38 352 eP PKiKP 00 33 39.9 +1.4
comp=Z,3.4nm,1.1s
WATA Walderalm 153.42 351 eP PKPbc 00 33 38.6 0.0
comp=Z,4.5nm,1.2s
MOTA Moosalm 153.48 352 eP PKiKP 00 33 38.9 +0.1
comp=Z,6.7nm,1.3s
WTTA Wattenberg 153.48 351 eP PKPbc 00 33 38.8 0.0
comp=Z,5.0nm,1.1s
SQTA Sankt Quirin 153.58 351 eP PKPbc 00 33 39.0 0.0
comp=Z,7.0nm,1.4s
DAVA Damuels 153.68 353 eP PKiKP 00 33 39.9 +0.6
comp=Z,7.6nm,1.1s
ABTA Abfaltersbach 153.84 349 eP PKPbc 00 33 39.1 -0.4
comp=Z,7.0nm,1.0s
FETA Feichten 153.84 352 eP PKPbc 00 33 39.1 -0.5
comp=Z,3.2nm,1.1s
PRED Cave del Predi 153.93 347 PKPab PKPab 00 33 52.3 -0.4
ESDC Sonseca Array 159.81 22 PKPab PKPab 00 34 17.9 -0.4
comp=Z,0.9nm,0.8s,baz=322,slow=4.8,SNR=5.3
TORD Torodi Ar. Bea 171.24 155 PKPdf PKPdf 00 33 48.5 -0.9
comp=Z,0.9nm,0.9s,baz=5.2,slow=3.3,SNR=4.2
TORD PKPab PKPab 00 35 09.4 +0.4
comp=Z,1.3nm,0.8s,baz=223,slow=3.6,SNR=5.2
TORD Torodi Ar. Bea 171.24 155 PKPdf 00 33 48.2 -1.2

ISK ***02*** *00:14:30.4, 41.°03N×39.°87E, h22km, ML2.1/3*
ATA ***02*** *00:14:32.5±1.8, 40.°84N×39.°92E, h49km±8km, ML1.1, MW2.6*
DDA ***02*** *00:14:32.9, 40.°93N×39.°91E, h7km±3km, ML1.6*
ISC 02 00:14:31.8±0.8, 40.°96N±0.°04×39.°92E±0.°02, h18km, n18, σ0s72/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MACK	**Trabzon**	**0.12**	**260**	*i* P		**Pg**	**00 14 36.0**	**+0.2**
MACK				*i* S		**Sg**	**00 14 37.7**	**-0.7**
MACK				IAML			00 14 39.0	
	comp=E,227nm,0.1s							
MACK				IAML			00 14 39.0	
	comp=N,504nm,0.2s							
KTUT	**Trabzon**	**0.12**	**281**	PG		**Pb**	**00 14 35.1**	**+0.4**
KTUT				SG		**Sb**	**00 14 37.4**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**0.59**	**164**	PG		**Pb**	**00 14 44.1**	**+0.4**
BAYT				SG		**Sn**	**00 14 53.9**	**-0.9**
CHOM	**Cayeli-Rize**	**0.65**	**78**	PG		**Pb**	**00 14 44.3**	**-0.3**
CHOM				SG		**Sg**	**00 14 54.3**	**+1.0**
BAYB	**BAYBURT**	**0.75**	**160**	*e*P		**Pg**	**00 14 46.6**	**0.0**
BAYB				*e*S		**Sn**	**00 14 58.5**	**-0.2**
BAYB	**BAYBURT**	**0.75**	**160**	*i* P		**Pn**	**00 14 47.3**	**-0.4**
BAYB				*i* S		**Sn**	**00 14 58.2**	**-0.5**
ESPY	**Espiye-Giresun**	**0.91**	**267**	PG		**Pb**	**00 14 47.5**	**-1.5**
KELT	**Kelkit**	**0.96**	**212**	*e*P		**Pn**	**00 14 51.1**	**+0.6**
KELT				*e*S		**Sn**	**00 15 03.7**	**-0.2**
KELT				IAML			00 15 04.8	
	comp=N,3.6nm,0.1s							
KELT	**Kelkit**	**0.96**	**212**	*i* P		**Pn**	**00 14 50.4**	**-0.2**
KELT				*i* S		**Sn**	**00 15 03.2**	**-0.7**
KRIK	**Erzurum-spir**	**0.99**	**129**	*e*P		**Pn**	**00 14 51.1**	**+0.2**
KRIK				*e*S		**Sn**	**00 15 05.8**	**+1.2**
KRIK	**Erzurum-spir**	**0.99**	**129**	*i* P		**Pn**	**00 14 51.5**	**+0.5**
KRIK				*i* S		**Sn**	**00 15 05.1**	**+0.5**
KOPT	**Kop Dagi**	**1.04**	**155**	*e*P		**Pb**	**00 14 49.9**	**-1.6**
KOPT				IAML			00 15 16.1	
	comp=Z,2.7nm,0.8s							
KOPT	**Kop Dagi**	**1.04**	**155**	*i* P		**Pg**	**00 14 53.1**	**+1.1**
KOPT				*i* S		**Sn**	**00 15 06.3**	**+0.3**
DBAD	**Bademkaya**	**1.34**	**87**	*i* P		**Pn**	**00 14 55.6**	**-0.1**
DBAD				*i* S		**Sn**	**00 15 12.2**	**-1.0**
DBAD				IAML			00 15 16.0	
	comp=E,11nm,0.6s							
DBAD				IAML			00 15 16.0	
	comp=N,11nm,0.5s							
DBOC	**Borcka**	**1.37**	**73**	*i* P		**Pn**	**00 14 55.5**	**-0.6**
DBOC				*i* S		**Sn**	**00 15 12.8**	**-1.0**
DBOC				IAML			00 15 16.0	
	comp=E,7.6nm,1.9s							
DDEM	**Demirkent**	**1.39**	**92**	*i* P		**Pn**	**00 14 55.8**	**-0.6**
DDEM				*i* S		**Sn**	**00 15 14.6**	**+0.3**
DDEM				IAML			00 15 17.0	
	comp=N,39nm,0.3s							
DDEM				IAML			00 15 19.0	
	comp=E,22nm,0.4s							
DAGI	**Agillar**	**1.51**	**85**	*i* P		**Pn**	**00 14 58.2**	**+0.1**
DAGI				*i* S		**Sn**	**00 15 16.8**	**-0.6**
DAGI				IAML			00 15 19.0	
	comp=E,4.2nm,0.6s							
DAGI				IAML			00 15 20.0	
	comp=N,4.6nm,0.9s							
ARTV	**Artvin**	**1.53**	**81**	*i* P		**Pn**	**00 14 58.6**	**+0.1**
ARTV				*i* S		**Sn**	**00 15 18.3**	**+0.3**

IDC 02 00:21:06.7±2.0, 0.°77S×128.°45E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/50, mbtmp3.4/4, ML3.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/26, Error ellipse: s-maj=168.4km s-min=24.7km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**8.30**	**340**	LR		LR	00 26 13.0	
	comp=Z,73nm,18.3s,baz=78,slow=37							

WRA Warramunga Arr 19.91 164 P P 00 25 40.5 +0.4
0.1nm,0.3s,baz=344,slow=12,SNR=2.7
ASAR Alice Springs 23.37 167 P P 00 26 16.9 -0.2
0.3nm,0.5s,baz=346,slow=12,SNR=3.3
JCJ Chichijima 30.69 24 LR LR 00 38 03.1
comp=Z,288nm,19.5s,baz=186,slow=33
MKAR Makanchi Array 62.21 326 P P 00 31 30.3 +0.1
0.4nm,0.4s,baz=120,slow=8.5,SNR=8.8
KURBB Kurchatov Arra 66.43 328 P P 00 31 57.5 -0.2
0.4nm,0.5s,baz=128,slow=5.9,SNR=3.2

REY ***02*** *00:36:59.8, 64.°67N×17.°46W, h5km*
BGS ***02*** *00:37:00.7±2.0, 64.°60N×17.°62W, h5km, mb4.9(NEIC)*
IDC ***02*** *00:37:00.6±0.5, 64.°58N×17.°59W, h0km, mb4.2/22, mb1 4.3/26, mb1mx4.2/45, mbtmp4.2/26, ML2.8/3, MS3.8/24, Ms1 3.8/24, ms1mx3.7/43, Error ellipse: s-maj=16.8km s-min=8.2km az=13.0*
MOS ***02*** *00:37:00.3±1.1, 64.°63N×17.°65W, h8km, mb4.9/88, MS4.0/5, Error ellipse: s-maj=7.7km s-min=4.4km az=111.1*
BJI ***02*** *00:37:01.2±0.0, 64.°98N×17.°50W, h9km, mB5.1/19, mb4.7/32, Ms4.9/5, Ms7 4.6/3*
NEIC ***02*** *00:37:01.6±0.9, 64.°60N±0.°08×17.°6W±0.°1, h8km±3km, mb4.9/163, Error ellipse: s-maj=11.4km s-min=6.6km az=185.0*
DNK ***02*** *00:37:05.2±3.5, 64.°95N×17.°40W, h0km±710km, mb4.7*
ISC 02 00:37:01.7±0.6, 64.°67N±0.°02×17.°53W±0.°02, h6km±3km, n663, σ1s40/666, mb4.8/176, MS4.0/25, 25C-11D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IVON	**Vonarskard**	**0.10**	**272**	P		**Pg**	**00 37 02.6**	**-1.3**
	baz=271							
IDYN	**Dyngjuhals**	**0.14**	**31**	P		**Pg**	**00 37 02.7**	**-1.9**
	baz=18							
IDJK	**Dyngjujokull**	**0.21**	**142**	P		**Pg**	**00 37 03.9**	**-2.0**
	baz=150							
IURH	**Urdarhals**	**0.22**	**47**	P		**Pg**	**00 37 04.1**	**-2.0**
	baz=42							
IGRF	**Grimsfjall**	**0.29**	**156**	P		**Pg**	**00 37 05.3**	**-2.0**
	baz=163							
IKVE	**Kverkfjoll**	**0.37**	**88**	P		**Pg**	**00 37 06.3**	**-2.6**
	baz=89							
IHUS	**Husbondi**	**0.38**	**188**	P		**Pg**	**00 37 07.3**	**-1.8**
	baz=193							
ISKR	**Skrokkalda**	**0.38**	**254**	P		**Pg**	**00 37 07.7**	**-1.5**
	baz=255							
IBJK	**Bruarjokull**	**0.39**	**121**	P		**Pg**	**00 37 06.6**	**-2.8**
	baz=123							
IVOT	**Vottur**	**0.43**	**159**	P		**Pg**	**00 37 07.7**	**-2.3**
	baz=163							
THOR	**Thorvaldshraun**	**0.45**	**54**	P		**Pg**	**00 37 07.9**	**-2.6**
	baz=52							
IJOK	**Jokulheimar**	**0.47**	**220**	P		**Pg**	**00 37 08.8**	**-1.9**
	baz=223							
IASK	**Askja**	**0.54**	**44**	P		**Pg**	**00 37 09.3**	**-2.8**
	baz=42							
IMKO	**Mokollar**	**0.60**	**58**	P		**Pg**	**00 37 10.3**	**-2.9**
	baz=57							
IIEY	**Innrieyrar**	**0.63**	**204**	P		**Pg**	**00 37 11.5**	**-2.3**
	baz=207							
ISVA	**Svartarkot**	**0.68**	**10**	P		**Pg**	**00 37 12.0**	**-2.8**
	baz=7.3							
IKAL	**Kalfafell**	**0.73**	**185**	P		**Pg**	**00 37 13.0**	**-2.6**
	baz=188							
IVAT	**Vatnsfell**	**0.77**	**232**	P		**Pg**	**00 37 14.2**	**-2.3**
	baz=233							
IVSH	**V-Sauoahnukur**	**0.79**	**79**	P		**Pg**	**00 37 13.1**	**-3.7**
	baz=79							
IFAG	**Fagurholsmyri**	**0.89**	**154**	P		**Pg**	**00 37 15.6**	**-3.0**
	baz=156							
IHVE	**Hveravellir**	**0.89**	**284**	P		**Pg**	**00 37 15.8**	**-3.0**
	baz=283							
IADA	**Aoalbol**	**0.91**	**66**	P		**Pg**	**00 37 15.1**	**-4.0**
	baz=66							
IMEL	**Melhnausar**	**0.98**	**22**	P		**Pg**	**00 37 16.7**	**-3.7**
	baz=20							
IREN	**Reynihlio**	**1.02**	**15**	P		**Pg**	**00 37 17.5**	**-3.7**
	baz=13							
ISNB	**Snabyli**	**1.05**	**208**	P		**Pg**	**00 37 18.7**	**-3.2**
	baz=209							
IKVO	**Krokottuvotn**	**1.08**	**14**	P		**Pg**	**00 37 18.6**	**-3.9**
	baz=13							
ISLY	**Slysaalda**	**1.09**	**220**	P		**Pg**	**00 37 19.7**	**-3.0**
	baz=221							
IFED	**Fedgar**	**1.14**	**236**	P		**Pg**	**00 37 20.8**	**-2.8**
	baz=237							
IGRS	**Grimsstaoir**	**1.14**	**31**	P		**Pg**	**00 37 19.5**	**-4.1**
	baz=30							
IRJU	**Rjupnafell**	**1.17**	**206**	P		**Pg**	**00 37 20.8**	**-3.2**
	baz=207							
IMJO	**Mjoskard**	**1.19**	**233**	P		**Pg**	**00 37 21.8**	**-2.7**
	baz=233							
ISKI	**Skildingahlsh**	**1.22**	**10**	P		**Pg**	**00 37 20.9**	**-4.2**
	baz=8.4							
IGYG	**Gygjarholskot**	**1.23**	**253**	P		**Pg**	**00 37 21.4**	**-3.7**
	baz=253							
IGHA	**Grjothals**	**1.23**	**17**	P		**Pg**	**00 37 20.9**	**-4.5**
	baz=16							
IGRA	**Granastaoir**	**1.25**	**359**	P		**Pg**	**00 37 21.5**	**-4.2**
	baz=358							
IHAU	**Haukadalur**	**1.27**	**237**	P		**Pn**	**00 37 23.1**	**-2.9**
	baz=238							
IHVO	**Lagu-Hvolar**	**1.28**	**207**	P		**Pn**	**00 37 22.8**	**-3.3**
	baz=209							
BORG	**Borgarnes**	**1.63**	**274**	Pg		**Pn**	**00 37 28.1**	**-2.8**
	43nm,0.3s,baz=102,slow=8.9,SNR=85							
BORG				Lg		Lg	00 37 50.9	
	78nm,0.3s,baz=218,slow=23,SNR=11							
SCO	**Scoresbysund**	**6.08**	**346**	*i* P		**Pn**	**00 38 32.0**	**+0.1**
SCO	**Scoresbysund**	**6.08**	**346**	Pn		**Pn**	**00 38 31.1**	**-0.8**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P		**Pn**	**00 38 32.0**	**+0.1**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P		**Pn**	**00 38 32.1**	**+0.1**
JMIC	**Jan Mayen**	**7.20**	**24**	LR		LR	00 40 44.5	
	comp=Z,237nm,20.0s,baz=244,slow=31							
LEWI	**Lewis, Hebride**	**8.30**	**137**	*e*P		**Pn**	**00 39 01.4**	**-1.0**
KAC	**Achnashellach**	**9.30**	**135**	*e*P		**Pn**	**00 39 14.8**	**-1.4**
KPL	**Plockton**	**9.33**	**136**	*e*P		**Pn**	**00 39 14.8**	**-1.7**
MCD	**Coleburn Disti**	**9.89**	**129**	*e*P		**Pn**	**00 39 23.9**	**-0.3**
INVG	**Invergeldie, C**	**10.58**	**135**	*e*P		**Pn**	**00 39 32.6**	**-1.1**
DRUM	**Mains of Drumt**	**10.68**	**130**	*e*P		**Pn**	**00 39 34.4**	**-0.5**
EAB	**Aberfoyle**	**10.69**	**137**	*e*P		**Pn**	**00 39 34.2**	**-0.9**
SUMG	**Summit**	**10.93**	**325**	*i* P		**Pn**	**00 39 40.6**	**+1.9**
SUMG	**Summit**	**10.93**	**325**	Pn		**Pn**	**00 39 39.0**	**+0.3**
SUMG	**Summit**	**10.93**	**325**	*i* P		**Pn**	**00 39 40.7**	**+1.9**
SUMG	**Summit**	**10.93**	**325**	*i* P		**Pn**	**00 39 40.7**	**+1.9**
PGBU	**Glenifferbraes**	**10.97**	**138**	*e*P		**Pn**	**00 39 37.7**	**-1.3**
EDI	**Edinburgh**	**11.26**	**134**	*e*P		**Pn**	**00 39 42.0**	**-0.9**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn		**Pn**	**00 39 48.1**	**-1.8**
	baz=323,slow=13,SNR=35							
ESK	**Eskdalemuir**	**11.77**	**136**	*e*P		**Pn**	**00 39 48.9**	**-1.0**
ESK	**Eskdalemuir**	**11.77**	**136**	P		**Pn**	**00 39 49.8**	**-0.2**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn		**Pn**	**00 39 49.8**	**-0.2**
DSB	**Dublin**	**12.79**	**148**	Pn		**Pn**	**00 40 03.5**	**-0.4**
NC204	**NORSAR Array S**	**13.24**	**92**	Pn		**Pn**	**00 40 07.2**	**-2.9**
NOA	**NORSAR Array B**	**13.55**	**92**	Pn		**Pn**	**00 40 11.7**	**-2.5**
	0.0nm,0.3s,baz=245,slow=3.4,SNR=1.9							
NOA				LR		LR	00 45 28.5	
	comp=Z,222nm,19.9s,baz=300,slow=37							
LBWR	**Ladybower, Pea**	**13.87**	**137**	*e*P		**Pn**	**00 40 17.3**	**-1.2**
HFS	**Hagfors**	**15.06**	**93**	Pn		**Pn**	**00 40 35.5**	**+0.8**
	0.1nm,0.3s,baz=270,slow=5.9,SNR=2.1							
HFS				LR		LR	00 46 05.3	
	comp=Z,311nm,20.9s,baz=292,slow=36							
MUD	**Monsted U'grnd**	**15.38**	**110**	*i* P		**P**	**00 40 44.0**	**+0.3**
MUD				pmax		pmax		
	comp=Z,41nm,1.1s							
MUD	**Monsted U'grnd**	**15.38**	**110**	*i* P		**P**	**00 40 44.0**	**+0.3**
	comp=Z,41nm,1.1s							
MUD	**Monsted U'grnd**	**15.38**	**110**	*i* P		**P**	**00 40 44.0**	**+0.3**
MUD				IAmb		IAmb	00 40 47.8	
	comp=Z,41nm,1.1s							
SPITS	**Spitsbergen Ar**	**16.87**	**23**	LR		LR	00 46 01.8	
	comp=Z,168nm,18.0s,baz=160,slow=32							
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**00 41 01.4**	**-0.4**
NOR				pmax		pmax		
	comp=Z,120nm,1.7s							
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**00 41 01.4**	**-0.4**
	comp=Z,123nm,1.7s							
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**00 41 01.5**	**-0.4**
NOR				IAmb		IAmb	00 41 04.1	
	comp=Z,123nm,1.7s							
ARCES	**ARCESS Array B**	**17.13**	**55**	P		**P**	**00 41 03.3**	**+0.3**
	baz=267,slow=12,SNR=5.7							
ARCES				LR		LR	00 46 27.3	
	comp=Z,203nm,18.3s,baz=290,slow=33							
BSEG	**Bad Segeberg**	**17.65**	**114**	P		**Pn**	**00 41 08.2**	**+0.4**
BSEG				pmax		pmax		
	comp=Z,32nm,1.7s							
SNF	**Seneffe**	**18.24**	**131**	P		**P**	**00 41 15.5**	**+0.2**
SGMF	**Saint Gilles**	**18.33**	**147**	*e*P		**P**	**00 41 16.7**	**+0.3**
SGMF				pmax		pmax		
	comp=Z,73nm,1.5s							
FLN	**La Foliniere**	**18.38**	**142**	*e*P		**Pn**	**00 41 14.5**	**-2.4**
FLN				pmax		pmax		
	comp=Z,22nm,1.2s							
BEBN	**Eben Emael**	**18.46**	**128**	P		**Pn**	**00 41 18.1**	**+0.4**
BUG	**Bochum--Univer**	**18.47**	**124**	P		**Pn**	**00 41 19.0**	**+1.0**
BUG				pmax		pmax		
	comp=Z,22nm,1.5s							
QUIF	**Quistinic**	**18.51**	**148**	*e*P		**Pn**	**00 41 18.7**	**+0.3**
QUIF				pmax		pmax		
	comp=Z,47nm,1.4s							
BMRD	**Maredsous**	**18.57**	**130**	P		**P**	**00 41 18.9**	**-0.1**
BGES	**Gesves**	**18.61**	**129**	P		**P**	**00 41 17.7**	**-1.8**
GRR	**Gorron**	**18.62**	**143**	*e*P		**P**	**00 41 17.6**	**-2.0**
GRR				pmax		pmax		
	comp=Z,36nm,1.2s							
LDF	**La Druitiere**	**18.63**	**142**	*e*P		**P**	**00 41 18.5**	**-1.2**
LDF				pmax		pmax		
	comp=Z,26nm,1.5s							
BCLA	**Clavier**	**18.65**	**129**	P		**Pn**	**00 41 20.6**	**+0.5**
DOU	**Dourbes**	**18.70**	**131**	P		**Pn**	**00 41 21.7**	**+1.0**
DOU	**Dourbes**	**18.70**	**131**	P		**Pn**	**00 41 23.5**	**+2.8**
DOU				pmax		pmax		
	comp=Z,13nm,2.2s							
MEM	**Membach**	**18.73**	**128**	P		**P**	**00 41 19.7**	**-1.0**
MEM				pP		**pP**	**00 41 22.4**	**-0.5**
MEM				x		x	00 41 27.4	
MEM				x		x	00 41 32.5	
MEM				x		x	00 41 37.8	
MEM	**Membach**	**18.73**	**128**	P		**Pn**	**00 41 22.8**	**+1.7**
MEM				pmax		pmax		
	comp=Z,34nm,1.6s							
BHOU	**Houvegnez**	**18.94**	**128**	P		**Pn**	**00 41 23.6**	**-0.2**
WLF	**Walferdange**	**19.58**	**129**	P		**Pn**	**00 41 32.3**	**+0.9**
WLF				pmax		pmax		
	comp=Z,14nm,2.2s							
FIA1	**FINESS Array S**	**19.72**	**79**	P		**P**	**00 41 31.9**	**+0.4**
FINES	**FINESS Array B**	**19.72**	**79**	P		**Pn**	**00 41 32.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=330,slow=11,SNR=6.0							
FINES				LR		LR	00 48 48.0	
	comp=Z,161nm,20.7s,baz=294,slow=36							
FINES	**FINESS Array B**	**19.72**	**79**	P		**Pn**	**00 41 33.0**	**+0.1**
FINES	**FINESS Array B**	**19.72**	**79**	P		**Pn**	**00 41 33.0**	**+0.1**
CLF	**Chambon-Foret**	**19.81**	**138**			**P**	**00 41 31.8**	**-0.8**
TNS	**Taunus Mts**	**19.90**	**124**	P		**Pn**	**00 41 36.3**	**+1.0**
TNS				pmax		pmax		
	comp=Z,18nm,2.1s							
APA	**Apatity**	**20.34**	**59**	⇓*i* P		Pn	00 41 40.6	+0.4
APA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
APA				MLR		MLR		
	comp=Z,900nm,13.0s							
MFF	**Saint Martin d**	**20.46**	**144**	*e*P		**P**	**00 41 38.8**	**-0.9**
MFF				pmax		pmax		
	comp=Z,33nm,1.3s							
MOX	**Moxa**	**20.72**	**119**	P		Pn	00 41 44.2	-0.6
MOX				pmax		pmax		
	comp=Z,25nm,1.6s							
CLL	**Collm**	**20.72**	**116**	*e*P		**P**	**00 41 42.0**	**-0.5**
	comp=Z,54nm,1.5s							
CLL				LmV			00 50 00.0	
	comp=Z,400nm,18.1s							
CLL	**Collm**	**20.72**	**116**	*e*P		**P**	**00 41 42.0**	**-0.5**
CLL				pmax		pmax		
	comp=Z,54nm,1.5s							
CLL				MLR		MLR		
	comp=Z,400nm,18.1s							
CLL	**Collm**	**20.72**	**116**	P		**P**	**00 41 41.9**	**-0.6**
GKP	**Gorka Klasztor**	**20.93**	**106**	P		Pn	00 41 47.8	+0.6
GKP				pmax		pmax		
	comp=Z,81nm,1.8s							
LOR	**Lormes**	**20.96**	**136**	*e*P		**P**	**00 41 45.0**	**-0.1**
LOR				pmax		pmax		
	comp=Z,40nm,1.3s							
SSF	**Saint Saulge**	**21.04**	**137**	*e*P		**P**	**00 41 44.7**	**-1.3**
SSF				pmax		pmax		
	comp=Z,65nm,1.3s							
HAU	**Haudompre**	**21.08**	**131**	*e*P		**P**	**00 41 46.0**	**-0.5**
HAU				pmax		pmax		
	comp=Z,55nm,1.3s							
ECH	**Echery**	**21.17**	**129**	P		**P**	**00 41 46.5**	**-0.9**
ECH				pmax		pmax		
	comp=Z,26nm,1.2s							
ECH	**Echery**	**21.17**	**129**	P		**P**	**00 41 46.5**	**-0.9**
AVF	**Avril sur Loir**	**21.24**	**137**	*e*P		**P**	**00 41 46.7**	**-1.4**
AVF				pmax		pmax		
	comp=Z,56nm,1.4s							
GRA1	**Grafenberg Arr**	**21.35**	**121**	P		**P**	**00 41 49.4**	**+0.1**
GRA1				IAmb		IAmb	00 42 05.1	
	comp=Z,67nm,1.4s							
GRF	**Grafenberg Arr**	**21.35**	**121**	P		**P**	**00 41 49.4**	**+0.1**
GRF				pmax		pmax		
	comp=Z,67nm,1.4s							
NKC	**Novy Kostel**	**21.36**	**118**	*e*P		**P**	**00 41 49.8**	**+0.3**
NKC	**Novy Kostel**	**21.36**	**118**	*e*P		**P**	**00 41 49.8**	**+0.3**
STU	**Stuttgart**	**21.39**	**125**	P		**P**	**00 41 49.5**	**-0.2**
STU				pmax		pmax		
	comp=Z,38nm,1.0s							
STU	**Stuttgart**	**21.39**	**125**	P		**P**	**00 41 49.5**	**-0.2**
STU				IAmb		IAmb	00 41 54.0	
	comp=Z,38nm,1.0s							
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P		**P**	**00 41 49.6**	**-0.5**
	comp=Z,50nm,1.4s							
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P		**P**	**00 41 49.6**	**-0.5**
BRG				pmax		pmax		
	comp=Z,50nm,1.4s							
BFO	**Black For

CAF pmax pmax
comp=Z,33nm,1.4s
KHC Kasperske Hory 22.69 118 *eP* **P 00 42 03.4 -0.3**
KHC *ex* x 00 42 12.3
KHC *ex* x 00 42 25.3
KHC Kasperske Hory 22.69 118 *eP* **P 00 42 03.4 -0.3**
KHC *e* 00 42 25.3
KHC Kasperske Hory 22.69 118 P **P 00 42 03.4 -0.3**
DPC Dobruska-Polom 22.78 113 *eP* **P 00 42 04.7 +0.1**
DPC Dobruska-Polom 22.78 113 *eP* **P 00 42 04.7 +0.1**
DPC smax smax
comp=N,4.0nm,0.5s
SENIN Lac Senin/Sane 22.84 131 P **P 00 42 04.9 -0.5**
DAVA Damuels 22.89 126 *eP* **P 00 42 07.9 +1.9**
comp=N,30nm,1.3s
SUW Suwalki 22.90 98 *eP* **P 00 42 06.9 +1.1**
SUW Suwalki 22.90 98 *eP* **P 00 42 06.9 +1.1**
SUW Suwalki 22.90 98 P **P 00 42 06.3 +0.5**
SSB Saint Sauveur 22.96 137 P **P 00 42 06.3 -0.3**
SSB pmax pmax
comp=Z,59nm,1.7s
SSB Saint Sauveur 22.96 137 P **P 00 42 06.3 -0.3**
SSB IAmb IAmb 00 42 15.5
comp=Z,59nm,1.7s
GEC2 GERESS Array S 22.97 119 **P 00 42 06.4 -0.3**
GEC2 IAmb IAmb 00 42 17.1
comp=Z,38nm,1.4s
GERES GERESS Array B 22.97 119 P **P 00 42 06.8 +0.1**
comp=Z,9.0nm,1.2s,baz=318,slow=7.2,SNR=18
GERES LR LR 00 53 06.1
comp=Z,265nm,18.2s,baz=326,slow=42
GERES GERESS Array B 22.97 119 P **P 00 42 06.2 -0.4**
RETA Reutte 23.03 125 *i* P **P 00 42 10.5 +3.2**
comp=Z,17nm,2.0s,SNR=6.7
ISAL Salakas 23.11 92 *eP* **P 00 42 08.3 +0.4**
KRLC Kraliky 23.17 113 *eP* **P 00 42 09.6 +0.9**
KRLC Kraliky 23.17 113 *eP* **P 00 42 09.6 +0.9**
MOTA Moosalm 23.27 124 *i* P **P 00 42 11.1 +1.2**
comp=Z,21nm,1.8s,SNR=6.0
TREC Trest 23.29 116 *eP* **P 00 42 10.4 +0.5**
TREC Trest 23.29 116 *eP* **P 00 42 10.4 +0.5**
IIGN Ignalina 23.30 93 *eP* **P 00 42 09.4 -0.5**
DAVOX Davos/Dischmat 23.33 127 P **P 00 42 10.6 +0.1**
comp=Z,3.9nm,0.9s,baz=290,slow=12,SNR=6.1
DAVOX LR LR 00 51 51.9
comp=Z,276nm,20.2s,baz=319,slow=38
TMCR Tamitsa 23.36 66 *eP* **P 00 42 10.4 +0.1**
comp=Z,34nm,0.9s
TMCR Tamitsa 23.36 66 *eP* **P 00 42 10.7 +0.3**
TMCR pmax pmax
comp=Z,34nm,0.9s
LPL La Plagne 23.41 133 *eP* **P 00 42 10.1 -1.3**
LPL pmax pmax
comp=Z,23nm,1.4s
SQTA Sankt Quirin 23.42 124 *eP* **P 00 42 11.7 +0.4**
comp=Z,20nm,1.7s
TUE Stuetta 23.42 128 P **P 00 42 11.3 -0.1**
TUE IAmb IAmb 00 42 28.8
comp=Z,44nm,1.4s
FETA Feichten 23.42 125 *eP* **P 00 42 14.6 +3.2**
comp=Z,16nm,1.4s
LPG La Plagne 23.43 133 *eP* **P 00 42 11.7 0.0**
LPG pmax pmax
comp=Z,30nm,1.4s
WATA Walderalm 23.45 124 *eP* **P 00 42 12.8 +1.2**
comp=Z,24nm,1.6s
WTTA Wattenberg 23.53 124 *eP* **P 00 42 13.7 +1.2**
comp=Z,25nm,1.5s
IDID Didziasalis 23.54 92 *eP* **P 00 42 11.6 -0.6**
FUORN Ofenpass-Fuorn 23.60 127 P **P 00 42 13.5 +0.2**
EUNU Eureka 23.66 336 P **P 00 42 13.9 +0.5**
ORIF Oris-en-Rattie 23.69 135 *eP* **P 00 42 16.9 +3.0**
ORIF pmax pmax
comp=Z,41nm,1.6s
VRAC Vranov 23.71 114 P **P 00 42 13.5 -0.5**
comp=Z,3.4nm,0.7s,baz=323,slow=12,SNR=12
VRAC LR LR 00 52 40.8
comp=Z,292nm,19.0s,baz=330,slow=40
VRAC Vranov 23.71 114 *eP* **P 00 42 14.0 0.0**
MORC Moravsky Berou 23.71 112 *eP* **P 00 42 14.6 +0.5**
MORC Moravsky Berou 23.71 112 P **P 00 42 13.8 -0.3**
MORC pmax pmax
comp=Z,58nm,1.7s
MORC Moravsky Berou 23.71 112 P **P 00 42 13.8 -0.3**
MORC IAmb IAmb 00 42 29.0
comp=Z,58nm,1.7s
BNI Bardonecchia 23.81 134 P **P 00 42 15.0 -0.2**
BNI pmax pmax
comp=Z,33nm,1.6s
BNI Bardonecchia 23.81 134 P **P 00 42 15.0 -0.2**
KRUC Moravsky 23.83 115 *eP* **P 00 42 15.1 -0.1**
NACGM Naroch 23.83 93 *e* **P 00 42 13.0 -2.1**
ETSF Etsaut 23.85 148 *eP* **P 00 42 18.2 +2.7**
ETSF pmax pmax
comp=Z,82nm,2.2s
MOA Molln 24.00 119 *eP* **P 00 42 17.2 +0.3**
comp=Z,7.4nm,1.6s
OJC Ojcow 24.28 109 *eP* **P 00 42 20.8 +1.5**
OJC Ojcow 24.28 109 *eP* **P 00 42 20.8 +1.5**
OJC Ojcow 24.28 109 P **P 00 42 18.7 -0.7**
OJC IAmb IAmb 00 42 32.7
comp=Z,49nm,1.8s
ABTA Abfaltersbach 24.29 123 *i* P **P 00 42 23.9 +4.3**
comp=Z,13nm,1.5s,SNR=5.4
KBA Koelnbreinsper 24.31 122 *eP* **P 00 42 21.5 +1.6**
comp=Z,11nm,1.5s
JAVC Velka Javorina 24.49 113 *eP* **P 00 42 21.8 +0.4**
CONA Conrad Observa 24.55 117 *eP* **P 00 42 22.0 0.0**
comp=Z,13nm,1.3s
MICGM Minsk 24.58 93 *e* **P 00 42 24.0 +2.0**
MNK Minsk 24.58 93 *eP* **P 00 42 24.0 +2.0**
CTI Castel Tesino 24.58 125 P **P 00 42 22.0 -0.3**
CTI pmax pmax
comp=Z,51nm,1.7s
CTI Castel Tesino 24.58 125 P **P 00 42 22.0 -0.3**
CTI IAmb IAmb 00 42 40.9
comp=Z,51nm,1.7s
CIMO Cimolais 24.64 124 P **P 00 42 21.2 -1.5**
CIMO IAmb IAmb 00 42 36.8
comp=Z,29nm,1.5s
SMOL Smolenice 24.68 114 *eP* **P 00 42 24.6 +1.6**
SMOL pmax pmax
comp=Z,32nm,2.0s
SMOL Smolenice 24.68 114 *eP* **P 00 42 24.6 +1.6**
MODS Modra-Piesok 24.73 115 *eP* **P 00 42 23.1 -0.4**
MODS pmax pmax
comp=Z,54nm,1.7s
MODS Modra-Piesok 24.73 115 *eP* **P 00 42 23.1 -0.4**
MYKA Terra Mystica 24.80 122 *eP* **P 00 42 27.4 +3.3**
comp=Z,18nm,1.6s
PRED Cave del Predi 24.93 122 P **P 00 42 25.1 -0.2**
PRED IAmb IAmb 00 42 31.0
comp=Z,28nm,1.4s
ARSA Arzberg 24.98 118 *eP* **P 00 42 26.8 +1.1**
comp=Z,7.1nm,1.2s
LANS Liptovska Anna 24.98 111 *eP* **P 00 42 28.1 +2.3**
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 24.98 111 *eP* **P 00 42 28.1 +2.3**
NIE Niedzica 25.10 109 *eP* **P 00 42 28.0 +1.1**
NIE Niedzica 25.10 109 *eP* **P 00 42 28.0 +1.1**
TEOL Teolo 25.18 126 P **P 00 42 26.1 -1.5**
OBKA Obir 25.23 121 *eP* **P 00 42 30.6 +2.4**
comp=Z,12nm,1.3s
VYHS Vyhne 25.25 112 *eP* **P 00 42 28.2 0.0**
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 25.25 112 *eP* **P 00 42 28.2 0.0**
SOKA Soboth 25.27 120 *eP* **P 00 42 29.2 +0.7**
comp=Z,7.6nm,1.3s
KLMR Klimovskoe 25.62 72 *eP* **P 00 42 29.9 -1.5**
comp=Z,37nm,1.4s
KLMR Klimovskoe 25.62 72 *eP* **P 00 42 29.9 -1.5**
KLMR pmax pmax
comp=Z,37nm,1.4s
KLMR Klimovskoe 25.62 72 *eP* **P 00 42 29.9 -1.5**
KLMR AMP 00 42 35.4
comp=Z,37nm,1.4s
ZCCA Zocca 25.83 128 P **P 00 42 33.1 -0.4**
ZCCA IAmb IAmb 00 42 46.0
comp=Z,26nm,1.2s
KWP Kalwaria Pacla 25.93 106 *eP* **P 00 42 35.1 +0.8**
KWP Kalwaria Pacla 25.93 106 *eP* **P 00 42 35.1 +0.8**
KWP Kalwaria Pacla 25.93 106 P **P 00 42 33.8 -0.5**
LSH Leshukonskoye 25.98 61 *eP* **P 00 42 27.8 -6.8**
comp=Z,66nm,1.2s
CRVS Cervenica-Dubn 25.98 109 *eP* **P 00 42 35.4 +0.6**
CRVS pmax pmax
comp=Z,60nm,1.6s
CRVS Cervenica-Dubn 25.98 109 *eP* **P 00 42 35.4 +0.6**
SCHQ Schefferville 26.02 271 P **P 00 42 34.5 -0.7**
comp=Z,22nm,1.2s,baz=33,slow=11,SNR=3.6
SCHQ LR LR 00 51 31.2
comp=Z,164nm,21.9s,baz=15,slow=34
SCHQ Schefferville 26.02 271 P **P 00 42 34.6 -0.5**
PSZ Piszkesteto 26.13 112 P **P 00 42 35.5 -0.8**
PSZ pmax pmax
comp=Z,42nm,1.4s
PSZ Piszkesteto 26.13 112 P **P 00 42 35.5 -0.8**
PSZ IAmb IAmb 00 42 50.6
comp=Z,42nm,1.4s
ESBB Sonseca Array 26.26 156 P **P 00 42 35.7 -1.8**
ESDC Sonseca Array 26.26 156 P **P 00 42 37.5 0.0**
comp=Z,2.0nm,0.7s,baz=347,slow=9.1,SNR=8.1
ESDC LR LR 00 52 37.5
comp=Z,412nm,18.4s,baz=340,slow=36
KOLS Kolonicke sedl 26.29 108 *eP* **P 00 42 36.9 -0.7**
KOLS pmax pmax
comp=Z,81nm,2.3s
KOLS Kolonicke sedl 26.29 108 *eP* **P 00 42 36.9 -0.7**
LVV L'vov 26.33 104 *eP* **P 00 42 40.2 +2.3**
RES Resolute Bay 26.45 324 LR LR 00 52 51.0
comp=Z,246nm,19.7s,baz=42,slow=36
UZH Uzhgorod 26.54 108 ⇓ *iP* **P 00 42 42.0 +2.2**
UZH *i* 00 42 50.0
OSSC Osservatorio P 26.65 129 P **P 00 42 40.5 -0.4**
OSSC IAmb IAmb 00 42 47.3
comp=Z,35nm,1.2s
MORS Morshin 26.80 105 P **P 00 42 42.6 +0.4**
TRSU Trosnyk 27.23 108 P **P 00 42 45.7 -0.3**
HORU Horodok 27.80 103 P **P 00 42 49.5 -1.6**
AKASG Malin Array Be 27.86 98 P **P 00 42 50.3 -1.3**
comp=Z,1.4nm,0.7s,baz=323,slow=9.5,SNR=8.9
AKASG LR LR 00 53 30.1
comp=Z,100nm,18.1s,baz=300,slow=36
AKBB Malin Array Si 27.86 98 *c* *eP* **P 00 42 51.6 0.0**
OBN Obninsk 27.90 84 P **P 00 42 51.6 -0.4**
comp=Z,2.9nm,0.4s,baz=308,slow=6.1,SNR=4.6
OBN LR LR 00 55 11.3
comp=Z,21nm,19.5s,baz=12,slow=39
OBN Obninsk 27.90 84 ⇓ *eP* **P 00 42 51.5 -0.4**
OBN *e**PP* **sP 00 42 54.9 -0.1**
OBN 00 43 39.0
OBN *eS* **S 00 47 40.6 +5.2**
OBN SSS SSS 00 49 03.0
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,146nm,13.0s
OBN Obninsk 27.90 84 P **P 00 42 51.2 -0.7**
OBN IAmb IAmb 00 43 00.1
comp=Z,35nm,1.3s
MOS Moscow 27.93 82 *eP* **P 00 42 51.3 -1.0**
MOS *e* 00 43 51.4
KMPD K-Podol'skiy 28.31 103 P **P 00 42 57.0 +1.3**
BUR08 Bucovina Ar. S 28.51 106 P **P 00 42 57.7 0.0**
BURAR Bucovina Array 28.54 106 P **P 00 42 59.3 +1.4**
BURAR Bucovina Array 28.54 106 P **P 00 42 57.4 -0.5**
BZS Buzias 28.70 113 ⇓ P **P 00 43 01.4 +2.2**
BZS Buzias 28.70 113 P **P 00 43 01.5 +2.3**
DIVS Divibare 29.33 116 P **P 00 43 04.1 -0.8**
GZR Gura Zlata 29.34 112 ⇑ P **P 00 43 02.3 -2.7**
BIZ Bicaz 29.45 106 ⇑ P **P 00 43 08.3 +2.5**
ARR Arges 30.11 109 ⇑ P **P 00 43 13.1 +1.3**
VOIR 30.22 109 ⇓ P **P 00 43 15.4 +2.6**
MLR Muntele Rosu 30.55 108 ⇑ P P 00 43 21.3 +5.6
MLR Muntele Rosu 30.55 108 P **P 00 43 16.4 +0.7**
MLR pmax pmax
comp=Z,14nm,1.3s
MLR Muntele Rosu 30.55 108 P **P 00 43 16.4 +0.7**
VRI Vrincioaia 30.56 106 ⇑ P **P 00 43 18.3 +2.6**
LPSR Galich'ya Gora 30.64 86 *eP* **P 00 43 15.8 -0.5**
LPSR pmax pmax
comp=Z,7.0nm,1.0s
NEHR Nehoiu 30.74 107 ⇑ P **P 00 43 19.5 +2.2**
KIRV Kirov 30.99 69 *ce* P **P 00 43 21.9 +2.6**
VSR Storozhevoye 31.75 88 *eP* **P 00 43 23.5 -2.6**
VSR pmax pmax
comp=Z,20nm,1.5s
CORL Corleone 32.40 131 P **P 00 43 31.2 -0.7**
CHGQ Chibougamau 32.77 271 P **P 00 43 34.7 -0.4**
baz=42
VRH Novokhopyorsk 32.85 85 *eP* **P 00 43 34.0 -1.7**
VRH pmax pmax
comp=Z,20nm,1.2s
KNT Kendrikon 32.95 116 P **P 00 43 38.6 +1.9**
KNT pmax pmax
comp=Z,16nm,1.3s
KEST Kesra 33.17 138 P **P 00 43 38.4 -0.3**
comp=Z,1.5nm,0.7s,baz=296,slow=7.6,SNR=2.4
KEST LR LR 00 56 58.8
comp=Z,256nm,18.7s,baz=312,slow=36
KEST Kesra 33.17 138 P **P 00 43 37.7 -1.1**
KEST IAmb IAmb 00 43 53.2
comp=Z,16nm,1.4s
SRS Serrai 33.26 115 P **P 00 43 42.2 +2.8**
SRS pmax pmax
comp=Z,20nm,1.2s
SOH Sokhos 33.42 116 P **P 00 43 45.1 +4.2**
SOH pmax pmax
comp=Z,6.0nm,1.4s
LIT Litokhoron 33.71 117 P **P 00 43 43.0 -0.3**
LIT pmax pmax
comp=Z,10.0nm,1.3s
LIT Litokhoron 33.71 117 P **P 00 43 43.0 -0.3**
F63A Nahmakanta, Br 33.76 261 P **P 00 43 44.5 +0.7**
baz=37
G64A Maxfield 33.97 260 P **P 00 43 46.3 +0.8**
baz=37
F62A Pittston Farm, 33.97 262 P **P 00 43 46.1 +0.5**
baz=38
E60A Ste Agathe de 34.23 264 P **P 00 43 47.9 +0.1**
baz=38
D58A Chemin du LacG 34.28 266 P **P 00 43 48.3 +0.1**
baz=39
MATQ Matagami 34.29 274 P **P 00 43 48.3 0.0**
baz=42
F61A St Evariste 34.35 263 P **P 00 43 49.1 +0.3**
baz=38
BELG Belogornoye 34.50 79 ⇑ *eP* **P 00 43 51.4 +1.4**
D57A Chemin Vers le 34.77 267 P **P 00 43 53.0 +0.5**
baz=39
D56A ZEC Mazanza, M 35.12 268 P **P 00 43 55.5 -0.1**
baz=39
E57A Chemin Saint G 35.36 267 P **P 00 43 57.7 +0.1**
baz=38
D55A Sainte-Anne-du 35.45 269 P **P 00 43 58.2 -0.2**
baz=39
G60A Masonville 35.62 264 P **P 00 43 59.6 -0.2**
baz=37
E56A St. Veronique 35.63 268 P **P 00 43 59.3 -0.6**
baz=38
G59A Clarenceville 35.99 264 P **P 00 44 03.9 +0.9**
baz=37
ARU Arti 36.09 66 *c* *iP* **P 00 44 06.3 +2.6**
ARU 00 45 25.3
ARU S **S 00 49 49.7 +6.7**
ARU SS **SnSn 00 52 11.7 +4.4**
ARU pmax pmax
comp=Z,17nm,1.8s
ARU Arti 36.09 66 P **P 00 44 03.4 -0.4**
ARU IAmb IAmb 00 44 09.8
comp=Z,23nm,1.6s
NRIK Noril'sk 36.46 35 P **P 00 44 07.5 +0.8**
comp=Z,5.0nm,1.0s,baz=288,slow=3.2,SNR=7.4
NRIK LR LR 01 00 47.7
comp=Z,94nm,18.1s,baz=14,slow=39
NRIK Noril'sk 36.46 35 ⇓ *eP* **P 00 44 08.0 +1.2**
NRIK pmax pmax
comp=Z,18nm,1.4s
SVE Sverdlovsk 36.62 64 *eP* **P 00 44 08.5 +0.2**
SVE pmax pmax
comp=Z,12nm,1.4s
G57A Newington 36.75 266 P **P 00 44 10.5 +1.1**
baz=37
LONY Lake Ozonia 36.96 265 P **P 00 44 11.8 +0.5**
baz=37
ALGO Algonquin Park 37.39 270 P **P 00 44 15.6 +0.6**
baz=38
ILGA Ilgaz 37.42 104 P **P 00 44 15.3 -0.2**
H57A Richville 37.44 266 P **P 00 44 15.8 +0.5**
baz=37
G54A Lake Saint Pet 37.85 269 P **P 00 44 19.3 +0.5**
baz=38
I57A Carthage 37.97 266 P **P 00 44 20.4 +0.6**
baz=36
GOF Gofitskoye 38.13 91 ⇑ *eP* **P 00 44 21.5 +0.3**
GOF pmax pmax
comp=Z,59nm,1.5s
J58A Remsen 38.28 265 P **P 00 44 22.9 +0.5**
baz=36
BR131 Keskin Array S 38.49 105 ⇑ *eP* **P 00 44 24.9 +0.4**
BR131 Keskin Array S 38.49 105 P **P 00 44 24.3 -0.1**
BRTR Keskin Array B 38.49 105 P **P 00 44 24.9 +0.4**
comp=Z,3.1nm,0.9s,baz=331,slow=7.4,SNR=13
BRTR Keskin Array B 38.49 105 P **P 00 44 24.5 0.0**
H53A Bobcaygeon 38.72 269 P **P 00 44 26.6 +0.5**
baz=37
KIV Kislovodsk 38.86 92 *eP* **P 00 44 30.6 +3.2**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,289nm,16.0s
KIV Kislovodsk 38.86 92 P **P 00 44 28.4 +1.0**
KBZ Khabaz 39.13 92 P **P 00 44 30.1 +0.6**
comp=Z,7.6nm,1.2s,baz=291,slow=7.3,SNR=7.0
KBZ LR LR 01 00 52.5
comp=Z,215nm,18.5s,baz=328,slow=37
KBZ Khabaz 39.13 92 *ce* P **P 00 44 30.4 +0.9**
KBZ pmax pmax
comp=Z,17nm,1.5s
ELL Elmali 39.51 112 P **P 00 44 33.1 +0.1**
ELL pmax pmax
comp=Z,104nm,1.6s
ELL Elmali 39.51 112 P **P 00 44 33.1 +0.1**
K56A Middlesex 39.69 266 P **P 00 44 35.2 +0.9**
baz=36
E46A Sault Ste Mari 39.76 276 P **P 00 44 34.2 -0.5**
E46A IAmb IAmb 00 44 38.4
comp=Z,46nm,1.6s
AKAS Kas 39.84 112 P **P 00 44 35.1 -0.6**
ZEI Tsey 40.32 92 *eP* P 00 44 45.3 +5.6
ZEI pmax pmax
comp=Z,6.0nm,1.4s
WVNY West Valley, N 40.48 267 P **P 00 44 39.7 -1.1**
WVNY IAmb IAmb 00 44 43.7
comp=Z,28nm,1.2s
L55A Hinsdale 40.59 267 P **P 00 44 42.6 +0.9**
baz=35
M57A Sunshine Farm, 40.72 265 P **P 00 44 43.4 +0.6**
baz=35
L54A Sinclairville 40.92 267 P **P 00 44 45.1 +0.6**
baz=35
N58A Sunbury 40.95 264 P **P 00 44 44.7 0.0**
baz=34
M56A Emporium 41.05 266 P **P 00 44 45.2 -0.3**
baz=35
KOPT Kop Dagi 41.14 98 P **P 00 44 46.8 +0.2**
O59A Robesonia 41.16 263 P **P 00 44 46.4 0.0**
baz=34
AKH Akhalkalaki 41.27 94 P **P 00 44 47.1 -0.5**
AKH pmax pmax
comp=Z,29nm,1.6s
AKH Akhalkalaki 41.27 94 P **P 00 44 47.1 -0.5**
AKH IAmb IAmb 00 44 53.3
comp=Z,29nm,1.6s
M55A Ridgway 41.31 266 P **P 00 44 49.2 +1.5**
baz=35
N57A Milroy 41.38 265 P **P 00 44 48.8 +0.6**
baz=34
N56A West Decatur 41.56 265 P **P 00 44 51.3 +1.5**
baz=34
SSPA Standing Stone 41.62 265 P **P 00 44 51.4 +1.2**
baz=34
O58A Lewisberry 41.63 263 P **P 00 44 51.2 +0.9**
baz=34
M54A Oil Creek Stat 41.66 267 P **P 00 44 50.9 +0.3**
baz=35
MAK Makhachkala 41.73 89 *eP* **P 00 44 46.9 -4.2**
MAK *e* 00 46 25.3
MAK *eS* **S 00 51 03.2 -4.9**
MAK *eSS* **SS 00 54 12.5 -0.7**
O57A Amberson 41.86 264 P **P 00 44 53.4 +1.2**
baz=34
N55A Marion Center 41.97 266 P **P 00 44 54.6 +1.5**
baz=34
ABKAR Akbulak array 42.00 73 P **P 00 44 52.9 -0.3**
ABKAR Akbulak array 42.00 73 P **P 00 44 52.8 -0.5**
TIXI Tiksi 42.03 15 ⇑ *eP* **P 00 44 54.6 +1.4**
TIXI pmax pmax
comp=Z,105nm,1.3s
TIXI Tiksi 42.03 15 P **P 00 44 54.2 +1.0**
GAZ Gaziantep 42.14 104 P **P 00 44 54.5 -0.1**
M53A Wi Miller and 42.16 268 P **P 00 44 55.5 +0.9**
baz=35
O56A Blue Knob Stat 42.21 265 P **P 00 44 56.0 +0.9**
baz=34
N54A Moraine State 42.25 267 P **P 00 44 55.7 +0.3**
baz=35
P58A Pank, Wackersv 42.32 263 P **P 00 44 56.2 +0.3**
baz=34
P57A Homestead Farm 42.63 264 P **P 00 44 59.4 +0.9**
baz=34
TOLK Toolik Lake Re 42.74 336 P **P 00 44 59.8 +0.7**
baz=28,SNR=9.7
N53A Lisbon 42.74 268 P **P 00 45 00.0 +0.6**
baz=34
BMAR Burnt Mountain 42.88 333 P **P 00 45 00.7 +0.4**
M51A Elyria 42.89 269 P **P 00 45 00.9 +0.3**
baz=35
O54A Avella 43.06 267 P **P 00 45 01.7 -0.3**
baz=34
AGMN Agassiz Nation 43.10 287 P **P 00 45 02.9 +0.7**
baz=38
N52A McGinn's Farm, 43.11 268 P **P 00 45 03.5 +1.2**
baz=34
G40A Rib Lake 43.14 280 P **P 00 45 02.1 -0.5**
BRVK Borovoye 43.14 62 ⇑ *eP* **P 00 45 02.6 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 43.14 62 P **P 00 45 02.2 -0.3**
Q57A Strasburg 43.17 264 P **P 00 45 03.5 +0.6**
baz=33
N51A Ashland 43.31 269 P **P 00 45 05.2 +1.2**
baz=35
N51A Ashland 43.31 269 P **P 00 45 03.6 -0.4**
N51A IAmb IAmb 00 45 06.7
comp=Z,33nm,1.1s
L48A N Adams 43.36 272 P **P 00 45 02.7 -1.6**
L48A IAmb IAmb 00 45 06.9
comp=Z,18nm,1.0s
O53A New Philadelph 43.37 268 P **P 00 45 06.0 +1.6**
baz=34
P55A Reedsville 43.38 266 P **P 00 45 06.1 +1.5**
baz=34
MARD Mardin 43.53 100 P **P 00 45 06.3 +0.4**
MARD IAmb IAmb 00 45 10.9
comp=Z,34nm,1.5s
P54A Burton 43.59 266 P **P 00 45 08.1 +1.8**
baz=34
R58A Rapidan 43.61 263 P **P 00 45 07.1 +0.6**
baz=33
O52A Adamsville 43.74 268 P **P 00 45 08.1 +0.6**
baz=34
O52A Adamsville 43.74 268 P **P 00 45 07.0 -0.4**
O52A IAmb IAmb 00 45 12.2
comp=Z,34nm,1.3s
FYU Fort Yukon 43.77 333 P **P 00 45 08.1 +0.8**
R58B Mineral 43.84 263 P **P 00 45 08.0 -0.3**
baz=33
Q55A Buckhannon 43.92 265 P **P 00 45 08.6 -0.4**
baz=33
O51A Pataskala 44.05 269 P **P 00 45 10.1 +0.2**
baz=34,SNR=8.4
P53A Whipple 44.07 267 P **P 00 45 10.1 -0.1**
baz=34,SNR=5.2
P53A Whipple 44.07 267 P **P 00 45 09.2 -0.9**
N49A Columbus Grove 44.09 271 P **P 00 45 09.5 -0.7**
COLD Coldfoot 44.11 336 P **P 00 45 10.2 +0.2**
R56A Bull Pasture M 44.12 264 P **P 00 45 11.5 +0.8**
baz=33
ACSO Alum Creek Sta 44.14 269 P **P 00 45 11.3 +0.6**
baz=34
ACSO Alum Creek Sta 44.14 269 P **P 00 45 10.8 +0.2**
ACSO IAmb IAmb 00 45 12.7
comp=Z,25nm,1.3s

Q54A Coxs Mills 44.25 266 P P 00 45 12.8 +1.3
baz=33
Q54A Coxs Mills 44.25 266 P P 00 45 10.9 -0.7
Q54A IAmb IAmb 00 45 14.6
comp=Z,29nm,1.3s
P52A Corning 44.27 268 P P 00 45 12.3 +0.6
baz=34
P52A Corning 44.27 268 P P 00 45 11.4 -0.3
P52A IAmb IAmb 00 45 16.2
comp=Z,29nm,1.2s
EGAK Eagle 44.47 329 P P 00 45 12.9 -0.1
EGAK IAmb IAmb 00 45 14.8
comp=Z,22nm,1.5s
TAM Tamanrasset 44.52 149 P P 00 45 13.2 -0.8
TAM pmax pmax
comp=Z,7.0nm,1.3s
TAM Tamanrasset 44.52 149 P P 00 45 13.2 -0.8
Q53A Leroy 44.66 267 P P 00 45 14.7 -0.1
baz=33,SNR=5.2
Q49A Covington 44.76 270 P P 00 45 14.7 -0.9
Q49A IAmb IAmb 00 45 18.7
comp=Z,20nm,1.1s
P51A Williamsport 44.80 269 P P 00 45 16.2 +0.3
baz=34
P51A Williamsport 44.80 269 P P 00 45 15.3 -0.5
P51A IAmb IAmb 00 45 18.4
comp=Z,14nm,0.8s
Q52A Bidwell 44.89 267 P P 00 45 17.1 +0.5
baz=34
R54A Victor 44.99 266 P P 00 45 17.4 -0.1
baz=33
T57A Hurt 45.24 263 P P 00 45 19.8 +0.4
baz=32
T57A Hurt 45.24 263 P P 00 45 18.4 -1.1
T57A IAmb IAmb 00 45 24.9
comp=Z,15nm,1.1s
R53A Hurricane 45.28 267 P P 00 45 20.7 +1.0
baz=33
R53A Hurricane 45.28 267 P P 00 45 19.2 -0.5
R53A IAmb IAmb 00 45 24.7
comp=Z,21nm,1.1s
Q51A Peebles 45.30 269 P P 00 45 18.9 -0.9
K27K Chicken 45.32 329 P P 00 45 20.5 +0.7
baz=30,SNR=7.6
S54A Dingess, Beckl 45.45 266 P P 00 45 22.4 +1.2
baz=33
U58A Oxford 45.45 262 P P 00 45 22.1 +1.0
baz=32
P49A Miami Univ. Ec 45.47 270 P P 00 45 21.5 +0.3
baz=34
L42A Oliver, Polo 45.55 276 P P 00 45 20.9 -1.0
BLA Blacksburg 45.56 264 P P 00 45 22.1 0.0
baz=32
IL31 45.67 332 P P 00 45 22.5 0.0
IL31 IAmb IAmb 00 45 27.9
comp=Z,19nm,1.3s
ILAR Eielson Array 45.67 332 P P 00 45 23.7 +1.1
comp=Z,12nm,1.2s,baz=28,slow=5.2,SNR=28
ILAR PcP PcP 00 47 01.1 +0.8
comp=Z,3.5nm,1.1s,baz=353,slow=2.9,SNR=8.9
ILAR LR LR 01 07 52.7
comp=Z,121nm,18.1s,baz=57,slow=40
ILAR Eielson Array 45.67 332 P P 00 45 22.1 -0.4
U57A Blanch 45.76 263 P P 00 45 23.0 -0.6
baz=32
COLA College 45.77 333⇓ *e*P P 00 45 24.3 +1.0
COLA pmax pmax
comp=Z,14nm,1.2s
SCRK Sand Creek 45.78 330 P P 00 45 24.3 +0.7
baz=29
SFIN Lafayette 45.79 273 P P 00 45 23.8 +0.1
baz=34
T55A Pulaski 45.80 265 P P 00 45 23.8 -0.1
baz=32
IMAR Indian Mountai 45.85 337 P P 00 45 24.8 +0.9
HDA Harding Lake 46.01 332 P P 00 45 25.8 +0.6
baz=28,SNR=7.1
HDA Harding Lake 46.01 332 P P 00 45 25.0 -0.2
HDA IAmb IAmb 00 45 30.4
comp=Z,18nm,1.3s
BCAR Beaver Creek A 46.10 329 P P 00 45 26.8 +0.8
RIDG Independent Ri 46.17 331 P P 00 45 26.7 +0.1
T54A Tazewell 46.18 265 P P 00 45 27.6 +0.6
baz=32
NEA2 Nenana 46.26 333 P P 00 45 27.7 +0.5
baz=26,SNR=9.4
U56A King 46.28 264 P P 00 45 28.0 +0.3
baz=32
U55A TA2, Sparta 46.43 264 P P 00 45 28.0 -1.0
baz=32
S51A Beattyville 46.56 268 P P 00 45 29.6 -0.3
S51A IAmb IAmb 00 45 34.3
comp=Z,12nm,1.0s
HDIL Hopedale 46.59 275 P P 00 45 30.7 +0.7
baz=34
HDIL Hopedale 46.59 275 P P 00 45 29.2 -0.8
T53A Wise 46.66 266 P P 00 45 31.3 +0.6
baz=32
V56A Mocksville 46.78 263 P P 00 45 32.0 +0.4
baz=32,SNR=6.3
W58A Raeford 46.91 262 P P 00 45 33.6 +1.0
baz=31
HYT Haines Junctio 47.03 325 P P 00 45 33.7 +0.3
V55A Taylorsville 47.05 264 P P 00 45 34.1 +0.4
baz=32
V55A Taylorsville 47.05 264 P P 00 45 32.6 -1.1
ECSD EROS Data Cent 47.08 284 P P 00 45 34.6 +0.7
baz=35
ECSD EROS Data Cent 47.08 284 P P 00 45 33.4 -0.5
WCI Wyandotte Cave 47.23 271 P P 00 45 35.1 +0.1
baz=33
WCI Wyandotte Cave 47.23 271 P P 00 45 33.8 -1.3
WCI pmax pmax
comp=Z,16nm,1.1s
WCI Wyandotte Cave 47.23 271 P P 00 45 33.8 -1.3
W56A Indian Trail 47.39 263 P P 00 45 36.7 +0.4
baz=31
V54A Nebo 47.43 265 P P 00 45 37.1 +0.4
baz=32,SNR=5.6
BILL Bilibino 47.55 358⇓ *e*P P 00 45 41.0 +3.8
BILL 00 47 34.0
BILL S S 00 52 33.0 +1.0
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,153nm,19.0s
ZAA0 Zalesovo Array 47.64 51 P P 00 45 37.6 -0.5
ZAA0 IAmb IAmb 00 45 42.8
comp=Z,8.6nm,1.2s
ZALV Zalesovo Beam 47.64 51 P P 00 45 38.0 -0.1
comp=Z,4.7nm,1.1s,baz=331,slow=9.0,SNR=11
ZALV PcP PcP 00 47 07.8 +0.4
comp=Z,0.4nm,0.3s,baz=318,slow=2.0,SNR=4.9
ZALV Zalesovo Beam 47.64 51 P P 00 45 37.4 -0.7
KMSC Kings Mountain 47.70 264 P P 00 45 38.9 +0.1
baz=31
KMSC Kings Mountain 47.70 264 P P 00 45 37.7 -1.1
USIN University of 48.04 272 P P 00 45 40.5 -0.8
W54A Cherokee Point 48.12 265 P P 00 45 43.3 +1.3
baz=32
KURK Kurchatov 48.12 58⇑ *e*P P 00 45 41.4 -0.4
KURK pmax pmax
comp=Z,14nm,1.3s
KURK Kurchatov 48.12 58 P P 00 45 41.1 -0.8
KURK IAmb IAmb 00 45 45.4
comp=Z,14nm,1.1s
X56A White Oak 48.13 263 P P 00 45 42.5 +0.4
baz=31
SCM Sheep Creek Mo 48.40 331 P P 00 45 43.9 0.0
SCM pmax pmax
comp=Z,32nm,1.5s
SCM Sheep Creek Mo 48.40 331 P P 00 45 43.9 0.0
X55A Gracelyn & Ava 48.41 264 P P 00 45 46.2 +2.0
baz=31
BG3 Lake Jocassee 48.52 265 P P 00 45 43.5 -1.6
BG3 IAmb IAmb 00 45 49.8
comp=Z,12nm,1.3s
LAO LASA Array 48.58 293 P P 00 45 46.2 +0.6
baz=35
LAO LASA Array 48.58 293 P P 00 45 45.3 -0.2
T47A Sharon Grove 48.62 270 P P 00 45 44.9 -0.9
X54A Belton 48.66 264 P P 00 45 47.5 +1.3
baz=31
GHO Glory Hole Cre 48.78 332 P P 00 45 46.9 0.0
GHO IAmb IAmb 00 45 52.1
comp=Z,12nm,1.2s

W52A Murphy 48.86 266 P P 00 45 47.1 -0.7
EGMT Eagleton 48.86 297 P P 00 45 47.9 +0.2
baz=35,SNR=12
EGMT Eagleton 48.86 297 P P 00 45 47.9 +0.2
NHSC New Hope 48.95 261 P P 00 45 49.5 +1.1
baz=30
PMR Palmer 48.99 332 P P 00 45 49.7 +1.4
PMR pmax pmax
comp=Z,17nm,1.2s
PMR Palmer 48.99 332 P P 00 45 49.7 +1.4
PMR IAmb IAmb 00 45 53.5
comp=Z,17nm,1.2s
TTA Tatalina 49.05 336 P P 00 45 48.8 -0.2
TTA pmax pmax
comp=Z,9.0nm,1.2s
TTA Tatalina 49.05 336 P P 00 45 48.8 -0.2
W50A Signal Mountai 49.36 268 P P 00 45 51.4 -0.2
RC01 Rabbit Creek A 49.57 332 P P 00 45 53.9 +1.1
baz=25
RSSD Black Hills 49.82 290 P P 00 45 55.0 -0.3
RSSD pmax pmax
comp=Z,17nm,1.7s
RSSD Black Hills 49.82 290 P P 00 45 55.0 -0.3
RSSD IAmb IAmb 00 45 59.0
comp=Z,17nm,1.6s
GOGA Godfrey 50.10 265 P P 00 45 57.6 +0.5
baz=31
GOGA Godfrey 50.10 265 P P 00 45 56.2 -1.0
GOGA pmax pmax
comp=Z,18nm,1.4s
GOGA Godfrey 50.10 265 P P 00 45 56.2 -1.0
GOGA IAmb IAmb 00 46 01.5
comp=Z,18nm,1.4s
GEYT Alibeck 50.44 84 P P 00 45 58.4 -1.4
comp=Z,0.8nm,0.6s,baz=233,slow=14,SNR=2.3
GEYT Alibeck 50.44 84 P P 00 45 59.9 +0.1
GYA0B ALIBECK ARRAY 50.44 84 P P 00 46 00.3 +0.5
GYA0B IAmb IAmb 00 46 05.2
comp=Z,26nm,1.6s
S39A Bolivar 50.70 276 P P 00 46 00.8 -0.9
S39A IAmb IAmb 00 46 05.4
comp=Z,15nm,1.3s
X48A Hartselle 50.74 269 P P 00 46 01.2 -0.8
X48A IAmb IAmb 00 46 05.6
comp=Z,15nm,1.3s
KOWA Kowa 50.97 163 P P 00 46 02.6 -1.3
W45A Hickory Valley 51.06 271 P P 00 46 03.4 -1.0
RLMT Red Lodge 51.07 295 P P 00 46 04.5 -0.2
baz=34,SNR=6.7
RLMT Red Lodge 51.07 295 P P 00 46 04.4 -0.3
RLMT IAmb IAmb 00 46 10.5
comp=Z,28nm,1.5s
BTLS Baital 51.08 66 *e*P P 00 46 05.6 +1.1
BTLS Baital 51.08 66 *e*P P 00 46 05.5 +1.1
KK31 Karatay Array 51.29 70 P P 00 46 06.5 +0.4
KK31 pmax pmax
comp=Z,22nm,1.6s
KK31 Karatay Array 51.29 70 P P 00 46 06.5 +0.4
KK31 IAmb IAmb 00 46 10.9
comp=Z,22nm,1.6s
KKAR Karatay Array 51.29 70 P P 00 46 06.2 +0.1
KKAR Karatay Array 51.29 70 P P 00 46 06.2 +0.1
MSO Missoula 51.44 299 P P 00 46 06.7 -0.6
baz=33
BOZ Bozeman (W) 51.59 297 P P 00 46 08.6 +0.1
baz=33,SNR=17
BOZ Bozeman (W) 51.59 297 P P 00 46 08.3 -0.2
BOZ pmax pmax
comp=Z,25nm,1.4s
BOZ Bozeman (W) 51.59 297 P P 00 46 08.2 -0.2
BOZ IAmb IAmb 00 46 13.2
comp=Z,25nm,1.4s
U40A Yellville 51.62 275 P P 00 46 08.5 -0.2
baz=32
U40A Yellville 51.62 275 P P 00 46 07.3 -1.4
OXF Oxford 51.71 271 P P 00 46 09.1 -0.1
baz=31
IUG Iuzhnay 51.89 71 *e*P P 00 46 11.6 +0.9
IUG Iuzhnay 51.89 71 *e*P P 00 46 11.6 +0.9
LRAL Lakeview Retre 51.93 268 P P 00 46 10.8 -0.1
baz=31
K22A Casper 52.05 291 P P 00 46 11.6 -0.4
baz=33
K22A Casper 52.05 291 P P 00 46 11.2 -0.7
K22A IAmb IAmb 00 46 15.6
comp=Z,26nm,1.8s
DGZ Jazzator, Alta 52.09 53⇑ *e*P P 00 46 13.2 +1.0
DGZ pmax pmax
comp=Z,10.0nm,1.3s
H17A Grant Village 52.19 295 P P 00 46 14.5 +1.4
baz=33
H17A Grant Village 52.19 295 P P 00 46 13.5 +0.4
WHAR Wooly Hollow 52.28 274 P P 00 46 13.2 -0.3
WHAR IAmb IAmb 00 46 17.6
comp=Z,18nm,1.4s
BOD Bodaibo 52.42 30 *e*P P 00 46 12.6 -1.6
BOD pmax pmax
comp=Z,8.0nm,1.5s
SEY Seymchan 52.48 6⇑ *e*P P 00 46 16.8 +2.1
MAKZ Makanchi 52.61 59 P P 00 46 16.2 +0.3
MAKZ pmax pmax
comp=Z,19nm,1.6s
MAKZ Makanchi 52.61 59 P P 00 46 16.2 +0.3
MAKZ IAmb IAmb 00 46 19.9
comp=Z,19nm,1.6s
SGDS Sogindy 52.64 66 *e*P P 00 46 16.2 0.0
SGDS Sogindy 52.64 66 *e*P P 00 46 16.2 0.0
T35A Sooner Cattle 52.71 279 P P 00 46 16.0 -0.8
T35A IAmb IAmb 00 46 19.1
comp=Z,16nm,1.2s
MK31 Makanchi Array 52.74 58⇑ *e*P P 00 46 17.5 +0.7
MK31 Makanchi Array 52.74 58 P P 00 46 16.5 -0.3
MKAR Makanchi Array 52.74 58 P P 00 46 16.2 -0.6
comp=Z,3.8nm,1.1s,baz=347,slow=3.7,SNR=10
MKAR Makanchi Array 52.74 58 P P 00 46 16.1 -0.7
TDK Taldyqorghan 52.80 62 *e*P P 00 46 17.8 +0.4
TDK Taldyqorghan 52.80 62 *e*P P 00 46 17.7 +0.4
KUU Kurty 52.94 65 *e*P P 00 46 17.8 -0.5
KUU Kurty 52.94 65 *e*P P 00 46 17.8 -0.5
W39A Magazine 53.01 275 P P 00 46 18.8 -0.1
baz=32
SNOW Snow King Moun 53.05 295 P P 00 46 19.2 -0.2
TOA0 Torodi Ar. Sit 53.15 156 P P 00 46 19.0 -1.2
TOA0 IAmb IAmb 00 46 35.3
comp=Z,19nm,1.4s
TORD Torodi Ar. Bea 53.15 156 P P 00 46 18.7 -1.4
comp=Z,4.9nm,1.1s,baz=344,slow=7.5,SNR=10
TORD LR LR 01 10 42.6
comp=Z,69nm,18.2s,baz=10.0,slow=38
TORD Torodi Ar. Bea 53.15 156 P P 00 46 18.8 -1.4
BW06 Boulder Array 53.16 293 P P 00 46 19.4 -0.9
baz=32,SNR=7.1
PD31 Pinedale Array 53.16 293 P P 00 46 19.9 -0.4
PD31 IAmb IAmb 00 46 24.0
comp=Z,16nm,1.1s
PDAR Pinedale Array 53.16 293 P P 00 46 20.1 -0.2
comp=Z,7.9nm,1.0s,baz=56,slow=5.6,SNR=24
PDAR Pinedale Array 53.16 293 P P 00 46 19.7 -0.6
FRU1 Bishkek 53.18 67 P P 00 46 19.9 -0.3
FRU1 pmax pmax
comp=Z,14nm,1.2s
FRU1 Bishkek 53.18 67 P P 00 46 19.9 -0.3
FRU1 IAmb IAmb 00 46 26.0
comp=Z,14nm,1.1s
AAK Ala-Archa 53.27 67 *ce*P P 00 46 22.0 +1.0
AAK pmax pmax
comp=Z,46nm,1.3s
N23A Red Feather La 53.29 289 P P 00 46 21.2 0.0
baz=32,SNR=8.2
MIAR Mount Ida 53.47 275 P P 00 46 22.2 -0.1
baz=31
PLID Pearl Lake 53.68 300 P P 00 46 23.1 -0.9
PLID IAmb IAmb 00 46 31.5
comp=Z,11nm,1.3s
MDOK Medeo 53.83 65 *e*P P 00 46 24.8 -0.3
MDOK *e*S S 00 54 00.4 +0.3
MDOK Medeo 53.83 65 *e*P P 00 46 24.7 -0.3
MDOK *e*S S 00 54 00.4 +0.3
BOOM Boomskoye usch 53.97 66 P P 00 46 26.3 +0.2
BOOM pmax pmax
comp=Z,18nm,1.4s
BOOM Boomskoye usch 53.97 66 P P 00 46 26.3 +0.2
BOOM IAmb IAmb 00 46 31.2
comp=Z,18nm,1.4s
BTK Batken 53.97 72 P P 00 46 25.9 -0.2

BTK pmax pmax
comp=Z,32nm,1.2s
BTK Batken 53.97 72 P P 00 46 25.9 -0.2
ISCO Idaho Springs 54.08 288 P P 00 46 27.1 -0.1
baz=32
ISCO Idaho Springs 54.08 288 P P 00 46 26.6 -0.5
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 54.08 288 P P 00 46 26.6 -0.5
KPKS Kokpek 54.20 63 *e*P P 00 46 27.2 -0.5
KPKS Kokpek 54.20 63 *e*P P 00 46 27.2 -0.5
HLID Hailey 54.38 297 P P 00 46 28.7 -0.4
baz=32
HLID Hailey 54.38 297 P P 00 46 28.4 -0.7
SATY Saty 54.44 64 *e*P P 00 46 28.9 -0.6
SATY Saty 54.44 64 *e*P P 00 46 28.9 -0.6
CHGR Chuyangaron 54.48 74 P P 00 46 29.5 -0.3
UZB Uzynbulak 54.61 63 *e*P P 00 46 30.1 -0.7
UZB Uzynbulak 54.61 63 *e*P P 00 46 30.0 -0.7
GAR Garm 54.66 73 P P 00 46 30.9 -0.2
MOY Mondy 54.67 42 *e*P P 00 46 31.3 +0.3
MOY pmax pmax
comp=Z,32nm,1.5s
KDJ Kajisay 54.76 65 P P 00 46 31.8 -0.1
KDJ pmax pmax
comp=Z,25nm,1.7s
KDJ Kajisay 54.76 65 P P 00 46 31.8 -0.1
KDJ IAmb IAmb 00 46 36.5
comp=Z,25nm,1.7s
O20A White River Ci 54.86 290 P P 00 46 33.5 +0.8
baz=32
O20A White River Ci 54.86 290 P P 00 46 31.9 -0.8
PRZ Przheval'sk 54.93 64 P P 00 46 33.2 0.0
PRZ pmax pmax
comp=Z,11nm,1.2s
PRZ Przheval'sk 54.93 64 P P 00 46 33.2 0.0
PRZ IAmb IAmb 00 46 41.5
comp=Z,11nm,1.1s
HWUT Hardware Ranch 54.94 294 P P 00 46 32.6 -0.6
HWUT IAmb IAmb 00 46 38.3
comp=Z,15nm,1.1s
RDMU Red Mountain 55.02 292 P P 00 46 33.5 -0.4
HRA Herat 55.20 82 P P 00 46 34.7 -0.6
TARG Taragay, Kyrgy 55.34 65 P P 00 46 35.5 -0.9
TARG IAmb IAmb 00 46 40.9
comp=Z,12nm,1.2s
WMOK Wichita Mounta 55.53 279 P P 00 46 37.0 -0.4
baz=31,SNR=11
T25A Trinidad 55.84 285 P P 00 46 39.1 -0.7
baz=31
T25A Trinidad 55.84 285 P P 00 46 38.7 -1.1
T25A IAmb IAmb 00 46 44.7
comp=Z,17nm,1.5s
BGU Big Grassy Mou 56.09 295 P P 00 46 41.6 +0.1
P17A Butcher Ranch, 56.43 292 P P 00 46 43.0 -0.9
ZAK Zakamensk 56.47 41 *e*P P 00 46 44.0 0.0
ZAK pmax pmax
comp=Z,9.0nm,1.3s
KSH Kashi 56.51 68 P P 00 46 45.6 +1.2
KSH pmax pmax
comp=Z,27nm,1.4s
DUG Dugway, Tooele 56.63 294 P P 00 46 45.5 +0.2
baz=31,SNR=5.4
DUG Dugway, Tooele 56.63 294 P P 00 46 44.9 -0.4
DUG pmax pmax
comp=Z,15nm,1.5s
DUG Dugway, Tooele 56.63 294 P P 00 46 44.9 -0.4
DUG IAmb IAmb 00 46 50.4
comp=Z,15nm,1.4s
PV12 Saucer Basin, 56.64 290 P P 00 46 44.5 -1.0
PV12 IAmb IAmb 00 46 49.7
comp=Z,18nm,1.4s
ELK Elko 57.10 296 P P 00 46 49.5 +0.8
comp=Z,3.3nm,1.1s,baz=11,slow=2.6,SNR=6.2
J05D Fort Rock, OR 57.16 302 P P 00 46 50.6 +1.6
baz=30
WMQ Urumqi 57.24 56 *e*P P 00 46 53.2 +3.7
WMQ pmax pmax
comp=Z,10.0nm,1.3s
WMQ pmax pmax
comp=Z,56nm,8.3s
WMQ LR LR
comp=Z,140nm,29.2s
WMQ LR LR
comp=Z,370nm,28.8s
WMQ Urumqi 57.24 56 P P 00 46 50.6 +1.1
WMQ pmax pmax
comp=Z,7.0nm,0.5s
WMQ Urumqi 57.24 56 P P 00 46 50.6 +1.1
WMQ IAmb IAmb 00 47 06.3
comp=Z,6.5nm,0.5s
ABTX Abilene, Hawle 57.71 279 P P 00 46 52.8 -0.1
baz=30
ABTX Abilene, Hawle 57.71 279 P P 00 46 52.5 -0.4
ABTX IAmb IAmb 00 46 57.0
comp=Z,13nm,1.2s
SDDR Presa de Saban 57.82 244 P P 00 46 53.6 -0.2
SDDR IAmb IAmb 00 47 00.7
comp=Z,13nm,1.0s
KBL Kabul 57.95 76 P P 00 46 54.6 -0.2
KBL pmax pmax
comp=Z,7.0nm,1.2s
KBL Kabul 57.95 76 P P 00 46 54.6 -0.2
MOD Modoc Plateau 58.02 301 P P 00 46 55.4 +0.3
HKT Hockley 58.39 274⇑ *e*P P 00 46 58.6 +1.1
HKT pmax pmax
comp=Z,4.0nm,1.3s
L04D Klamath Falls 58.47 303 P P 00 46 58.0 -0.2
baz=29
ANMO Albuquerque 58.57 286 P P 00 46 59.7 +0.6
baz=30
ANMO Albuquerque 58.57 286⇑ *e*P P 00 47 00.0 +0.9
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 58.57 286 P P 00 46 58.2 -0.9
R11A Troy Canyon, C 59.31 295 P P 00 47 04.3 +0.2
baz=30,SNR=7.6
BNM Barren Site 59.33 285 P P 00 47 04.3 -0.2
PAHR Pah Rah Range 59.58 299 P P 00 47 05.8 -0.2
PAHR IAmb IAmb 00 47 08.2
comp=Z,11nm,1.4s
JCT Junction City 59.63 277 P P 00 47 05.9 -0.4
baz=30
SONM Songino Array 59.65 40 P P 00 47 06.1 -0.2
comp=Z,1.6nm,0.9s,baz=346,slow=4.9,SNR=6.2
SONM LR LR 01 15 04.7
comp=Z,109nm,18.8s,baz=48,slow=38
SONM Songino Array 59.65 40 P P 00 47 06.0 -0.2
KVN Kaiserville 59.67 298 P P 00 47 06.3 -0.4
KVN pmax pmax
comp=Z,19nm,1.7s
KVN Kaiserville 59.67 298 P P 00 47 06.3 -0.4
KVN IAmb IAmb 00 47 11.0
comp=Z,19nm,1.7s
ULN Ulaanbaatar 59.80 40⇓ *e*P P 00 47 08.6 +1.2
ULN pmax pmax
comp=Z,17nm,2.5s
ULN Ulaanbaatar 59.80 40 P P 00 47 07.1 -0.3
ULN IAmb IAmb 00 47 11.9
comp=Z,12nm,1.4s
PRN Pahroc Range 59.92 294 P P 00 47 07.4 -0.9
PRN IAmb IAmb 00 47 22.6
comp=Z,10nm,1.3s
WUAZ Wupatki 60.09 290 P P 00 47 10.6 +1.0
baz=30
WUAZ Wupatki 60.09 290 P P 00 47 08.8 -0.8
NVAR Mina Array Bea 60.29 297 P P 00 47 11.2 +0.3
comp=Z,1.1nm,0.9s,baz=51,slow=4.3,SNR=5.6
NVAR LR LR 01 12 49.4
comp=Z,170nm,20.1s,baz=22,slow=36
NVAR Mina Array Bea 60.29 297 P P 00 47 10.4 -0.5
NIL Nilore 60.46 73 P P 00 47 11.7 -0.3
NIL pmax pmax
comp=Z,24nm,1.2s
NIL Nilore 60.46 73 P P 00 47 11.7 -0.3
SHPR Sheep Range 60.74 294 P P 00 47 13.4 -0.6
SHPR IAmb IAmb 00 47 19.2
comp=Z,11nm,1.5s
TPNV Topopah Spring 60.78 295 P P 00 47 14.4 +0.1
baz=29
MNTX Cornudas Mount 60.94 283 P P 00 47 15.5 +0.3
baz=29,SNR=5.8
MNTX Cornudas Mount 60.94 283 P P 00 47 14.9 -0.2
121A Cookes Peak, D 61.21 285 P P 00 47 17.3 +0.1
baz=29

121A	**Cookes Peak, D**	**61.21**	**285**	P	**P**	**00 47 17.0**	**-0.2**
HIA	**Hailar**	**61.63**	**30**⇑	*e*P	**P**	**00 47 21.5**	**+1.8**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	**Hailar**	**61.63**	**30**	P	**P**	**00 47 20.2**	**+0.5**
HIA				IAmb	IAmb	00 47 37.3	
	comp=Z,9.3nm,1.1s						
MPMC	**Manual Prospec**	**62.05**	**295**	P	**P**	**00 47 22.9**	**+0.1**
	baz=29						
TX32	**Lajitas Array**	**62.27**	**280**	P	**P**	**00 47 23.4**	**-0.9**
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**00 47 24.9**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=63,slow=5.8,SNR=13						
TXAR				LR	LR	01 13 18.3	
	comp=Z,180nm,18.1s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**00 47 23.9**	**-0.4**
GMRC	**Granite Mounta**	**62.44**	**293**	P	**P**	**00 47 25.9**	**+0.5**
	baz=29						
TUC	**Tucson**	**62.64**	**288**	P	**P**	**00 47 27.9**	**+1.2**
	baz=29						
TUC	**Tucson**	**62.64**	**288**	P	**P**	**00 47 27.4**	**+0.6**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TUC	**Tucson**	**62.64**	**288**	P	**P**	**00 47 27.4**	**+0.6**
TUC				IAmb	IAmb	00 47 31.9	
	comp=Z,9.7nm,1.2s						
HEC	**Hector,Ludlow**	**62.67**	**294**	P	**P**	**00 47 28.1**	**+1.1**
	baz=29						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**00 47 28.4**	**+0.8**
	baz=28						
IRM	**Iron Mountain**	**62.79**	**292**	P	**P**	**00 47 28.2**	**+0.6**
	baz=29						
BELC	**Belle Mtn. Jos**	**63.26**	**293**	P	**P**	**00 47 31.7**	**+0.8**
	baz=28						
214A	**Organ Pipe Nat**	**63.78**	**289**	P	**P**	**00 47 34.2**	**0.0**
	baz=28						
PFO	**Pinyon Flats O**	**63.79**	**293**⇓	*e*P	**P**	**00 47 35.2**	**+0.8**
PFO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SDV	**Santo Domingo**	**66.81**	**239**	P	**P**	**00 47 52.9**	**-1.3**
HHC	**Hu-ho-hao-te**	**67.52**	**40**	*e*P	**P**	**00 48 01.1**	**+2.7**
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
MTO3	**Montecristo**	**69.32**	**260**	P	**P**	**00 48 09.3**	**-0.8**
MTO3				IAmb	IAmb	00 48 13.8	
	comp=Z,8.5nm,1.2s						
LZH	**Lanzhou**	**69.64**	**48**	*e*P	**P**	**00 48 15.4**	**+3.7**
LZH				pP	sP	00 48 22.1	+7.3
LZH				sP	PcP	00 48 25.6	-9.1
LZH				PP	**PP**	**00 50 51.7**	**+6.7**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=Z,190nm,11.9s						
LZH				LR	LR		
	comp=Z,260nm,14.1s						
LZH				LR	LR		
	comp=Z,260nm,14.5s						
LSA	**Lhasa**	**71.03**	**61**	P	**P**	**00 48 21.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,12nm,1.3s						
LSA	**Lhasa**	**71.03**	**61**	P	**P**	**00 48 21.1**	**+0.4**
LSA				IAmb	IAmb	00 48 23.2	
	comp=Z,12nm,1.3s						
ROSC	**El Rosal**	**71.91**	**241**	P	**P**	**00 48 24.9**	**-1.1**
ROSC				IAmb	IAmb	00 48 31.9	
	comp=Z,16nm,1.3s						
XAN	**Xi'an**	**73.10**	**44**	P	**P**	**00 48 34.8**	**+2.3**
XAN				pmax	pmax		
	comp=Z,12nm,1.5s						
XAN	**Xi'an**	**73.10**	**44**	P	**P**	**00 48 32.1**	**-0.4**
XAN				pmax	pmax		
	comp=Z,21nm,1.4s						
XAN	**Xi'an**	**73.10**	**44**	P	**P**	**00 48 32.1**	**-0.4**
SHL	**Shillong**	**75.03**	**62**	P	**P**	**00 48 43.4**	**-0.7**
SHL				pmax	pmax		
	comp=Z,23nm,1.7s						
SHL	**Shillong**	**75.03**	**62**	P	**P**	**00 48 43.4**	**-0.7**
SHL				IAmb	IAmb	00 48 47.5	
	comp=Z,23nm,1.7s						
ENH	**Enshi**	**76.78**	**45**	P	**P**	**00 48 52.8**	**-1.1**
NJ2	**Nanjing**	**77.74**	**37**	*e*P	**P**	**00 49 00.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WHN	**Wuhan**	**77.95**	**41**	P	**P**	**00 48 56.2**	**-4.1**
GYA	**Guiyang**	**79.44**	**49**	*e*P	**P**	**00 49 11.4**	**+2.7**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SAML	**Samuel**	**80.93**	**226**	P	**P**	**00 49 15.7**	**-0.9**
SAML				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SAML	**Samuel**	**80.93**	**226**	P	**P**	**00 49 15.7**	**-0.9**
CHTO	**Chiang Mai**	**83.82**	**59**	P	**P**	**00 49 31.3**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CHTO	**Chiang Mai**	**83.82**	**59**	P	**P**	**00 49 31.3**	**-0.5**
CHTO				IAmb	IAmb	00 49 35.3	
	comp=Z,8.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**00 49 33.1**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=320,slow=5.6,SNR=9.3						
CMAR	**Chiang Mai Arr**	**84.14**	**59**	*ce*P	**P**	**00 49 33.7**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCJ	**Chichijima**	**87.18**	**18**	LR	LR	01 28 02.3	
	comp=Z,1μm,21.8s,baz=85,slow=35						
BOSA	**Boshof**	**98.77**	**143**	LR	LR	01 37 13.0	
	comp=Z,152nm,18.8s,baz=12,slow=37						
HOPE	**Hope Point**	**119.52**	**193**	*i* PKIKP	**PKiKP**	**00 55 51.1**	**+0.4**
WRA	**Warramunga Arr**	**131.53**	**36**	PKP	**PKiKP**	**00 56 15.7**	**-0.1**
	comp=Z,2.6nm,1.2s,baz=340,slow=2.0,SNR=5.4						
ASAR	**Alice Springs**	**134.97**	**38**	PKP	**PKPdf**	**00 56 19.4**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=326,slow=2.0,SNR=6.2						
STKA	**Stephens Creek**	**144.73**	**32**	PKP	**PKPdf**	**00 56 38.2**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=164,slow=3.6,SNR=4.9						

PRU 02 00:45:22.1±0.0,**50.08N**×**18.59E**,**h0**km,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.74**	**246**	*e*PG	Pg	00 45 36.5	+0.2
MORC				*e*SG	Sg	00 45 46.2	+0.3
KRLC	**Kraliky**	**1.17**	**270**	*e*PG	Pg	00 45 43.6	-0.8
KRLC				*e*SG	Sg	00 45 58.9	-0.6
DPC	**Dobruska-Polom**	**1.48**	**281**	*e*PG	Pn	00 45 49.7	-0.4
DPC				*e*SG	Sg	00 46 09.3	-0.4
	comp=Z,3.9nm,0.5s						
OSTC	**Ostas**	**1.59**	**288**	*e*PG	Pn	00 45 51.8	+0.2
OSTC				*e*SG	Sn	00 46 12.4	-0.5
CHVC	**Chvalec**	**1.70**	**288**	*e*PG	Pb	00 45 53.7	-0.6
CHVC				*e*SG	Sn	00 46 15.7	+0.1

*IDC **02** 00:53:38.0±2.5,24°.16S×179°.83W,h485km±23km, mb3.6/7, mb1 3.8/8,mb1mx3.4/31,mbtmp4.4/8,Error ellipse: s-maj=24.1km s-min=19.7km az=24.0*

*NEIC **02** 00:53:40.2±1.6,24°.2S±0°.1×179°.8W±0°.2, h513km±9km, mb4.2/23,Error ellipse: s-maj=22.3km s-min=17.8km az=62.0*

ISC 02 00:53:39.5±0.7,**24.24S**±0.08×**179.8W**±0.1,**h500**km,**n44, s88/48,mb4.2/17,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.27**	**162**	P	**P**	**00 55 10.7**	**+1.8**
MSVF	**Nonsavu**	**6.77**	**343**	P	**P**	**00 55 24.1**	**+0.4**
DZM	**Mont Dzumac**	**12.81**	**277**	P	**P**	**00 56 28.8**	**+1.9**
	0.5nm,0.3s,baz=168,slow=23,SNR=6.2						
URZ	**Urewera**	**14.21**	**190**	P	**P**	**00 56 40.8**	**-0.5**
	1.3nm,0.3s,baz=254,slow=2.9,SNR=6.1						
URZ				S	**S**	**00 59 10.4**	**-0.7**
	1.1nm,0.3s,baz=219,slow=22,SNR=9.3						
URZ	**Urewera**	**14.21**	**190**	P	**P**	**00 56 41.6**	**+0.3**
BKZ	**Black Stump Fm**	**15.20**	**191**	P	**P**	**00 56 51.6**	**-0.1**
BKZ				IAmb	IAmb	00 56 54.6	
	comp=Z,5.7nm,0.9s						
QRZ	**Quartz Range**	**17.73**	**199**	P	**P**	**00 57 16.8**	**-0.5**
RPZ	**Rata Peaks**	**20.82**	**199**	P	**P**	**00 57 46.0**	**+0.6**
	comp=Z,11nm,0.6s,baz=14,slow=7.2,SNR=2.4						
RPZ	**Rata Peaks**	**20.82**	**199**	P	**P**	**00 57 46.0**	**+0.6**
ARMA	**Armidale**	**26.05**	**250**	P	**P**	**00 58 33.4**	**+0.9**
ARMA				IAmb	IAmb	00 58 34.5	
	comp=Z,12nm,0.9s						
EIDS	**Eidsvold**	**26.41**	**261**	P	**P**	**00 58 35.9**	**+0.4**
EIDS				IAmb	IAmb	00 58 36.7	
	comp=Z,5.4nm,0.7s						
CAN	**Canberra**	**29.11**	**240**	P	**P**	**00 58 59.6**	**+0.5**
CAN				IAmb	IAmb	00 59 03.6	
	comp=Z,6.4nm,0.9s						
CTAO	**Charters Tower**	**31.64**	**271**	P	**P**	**00 59 21.5**	**+0.3**
TOO	**Toolangi**	**32.40**	**238**	P	**P**	**00 59 27.3**	**-0.1**
TOO				IAmb	IAmb	00 59 45.6	
	comp=Z,7.7nm,1.1s						
STKA	**Stephens Creek**	**34.74**	**249**	P	**P**	**00 59 47.2**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=96,slow=10,SNR=11						
STKA	**Stephens Creek**	**34.74**	**249**	P	**P**	**00 59 47.2**	**-0.1**
COEN	**Coen**	**36.33**	**280**	P	**P**	**01 00 01.1**	**+0.4**
COEN				IAmb	IAmb	01 00 01.9	
	comp=Z,4.1nm,0.8s						
BBOO	**Buckleboo**	**39.45**	**247**	P	**P**	**01 00 25.1**	**-1.0**
BBOO				IAmb	IAmb	01 00 25.8	
	comp=Z,10nm,1.1s						
AS31	**Alice Springs**	**42.13**	**261**	P	**P**	**01 00 47.1**	**-0.5**
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**01 00 47.1**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=94,slow=7.3,SNR=32						
ASAR				ScP	**ScP**	**01 05 34.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=95,slow=4.6,SNR=4.6						
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**01 00 47.0**	**-0.7**
WR0	**Warramunga Arr**	**42.35**	**266**	P	**P**	**01 00 48.4**	**-1.0**
WR0				IAmb	IAmb	01 00 49.5	
	comp=Z,5.7nm,0.9s						
WB2	**Warramunga Arr**	**42.53**	**266**	P	**P**	**01 00 49.7**	**-1.0**
WRA	**Warramunga Arr**	**42.54**	**266**	P	**P**	**01 00 49.9**	**-1.0**
	comp=Z,7.0nm,0.4s,baz=98,slow=8.4,SNR=98						
WRA				ScP	**ScP**	**01 05 36.7**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=99,slow=3.9,SNR=11						
MTN	**Manton Dam**	**47.64**	**275**	P	**P**	**01 01 28.7**	**-1.4**
MTN				IAmb	IAmb	01 01 42.7	
	comp=Z,5.0nm,0.9s						
KNRA	**Kununurra**	**48.84**	**270**	P	**P**	**01 01 38.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**01 01 54.3**	**-0.3**
FITZ				IAmb	IAmb	01 01 55.7	
	comp=Z,6.7nm,0.7s						
VNDA	**Vanda**	**54.05**	**185**	P	**P**	**01 02 16.8**	**+0.9**
PSA00	**Pilbara Seismi**	**55.26**	**260**	P	**P**	**01 02 24.0**	**-1.3**
MORW	**Morawa**	**56.91**	**250**	P	**P**	**01 02 35.7**	**-1.0**
MORW				IAmb	IAmb	01 02 37.6	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**65.84**	**180**	P	**P**	**01 03 34.9**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=336,slow=0.9,SNR=9.4						
QSPA	**South Pole Qui**	**65.84**	**180**	P	**P**	**01 03 35.0**	**+0.2**
BELA	**Belgrano 2**	**76.08**	**173**	P	**P**	**01 04 33.7**	**-1.0**
MAW	**Mawson**	**77.48**	**200**	P	**P**	**01 04 42.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**89.79**	**290**	P	**P**	**01 05 45.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=134,slow=5.1,SNR=1.3						
TX31	**Lajitas Ar. Si**	**90.48**	**58**	P	**P**	**01 05 48.2**	**+0.4**
TX31				IAmb	IAmb	01 05 55.4	
	comp=Z,3.0nm,1.1s						
TXAR	**Lajitas Array**	**90.48**	**58**	P	**P**	**01 05 48.1**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=213,slow=6.7,SNR=16						
TXAR	**Lajitas Array**	**90.48**	**58**	P	**P**	**01 05 47.8**	**0.0**
AKASG	**Malin Array Be**	**145.34**	**327**	PKPbc	**PKPdf**	**01 12 18.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=50,slow=4.0,SNR=2.3						
AKASG	**Malin Array Be**	**145.34**	**327**	PKPab	**PKPbc**	**01 12 20.8**	**0.0**
BRTR	**Keskin Array B**	**147.91**	**307**	PKPbc	**PKPbc**	**01 12 27.0**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=68,slow=3.0,SNR=3.1						
BRTR	**Keskin Array B**	**147.91**	**307**		**PKPbc**	**01 12 27.2**	**-1.2**
BRTR				PKPab	**PKPab**	**01 12 32.5**	**-0.3**
CLL	**Collm**	**151.23**	**343**	*e*PKPbc	**PKPbc**	**01 12 35.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**168.87**	**188**	PKPab	**PKPab**	**01 14 02.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=184,slow=4.3,SNR=3.1						

*PRE **02** 00:56:50.8±1.0,26°.43S×27°.69E, h2km, ML1.8*

*EAF **02** 00:56:55.9±1.5,25°.31S×27°.96E, h0km±27km, MD4.0*

ISC 02 00:56:50.1±1.0,**26.37S**±0.05×**27.74E**±0.04,**h10**km±7km, **n14,**σ**1s39/20,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**278**	*e*P	**Pg**	**00 56 52.5**	**-0.6**
KLOF				*e*S	**Sg**	**00 56 54.6**	**-0.7**
KLOF				AML	AML	00 56 57.5	
	comp=Z,750nm,0.1s						
ERPM	**east rand prop**	**0.45**	**87**	*e*P	**Pn**	**00 57 01.5**	**-1.4**
ERPM				*e*S	**Sn**	**00 57 08.0**	**+3.0**
ERPM				AML	AML	00 57 08.9	
	comp=Z,19nm,0.4s						
PRYS	**Parys**	**0.65**	**211**	*e*P	**Pg**	**00 57 01.8**	**-1.0**
PRYS				*e*S	**Sg**	**00 57 10.2**	**-1.2**
PRYS				AML	AML	00 57 15.5	
	comp=Z,17nm,0.3s						
KSR	**Koster**	**0.91**	**304**	*e*P	**Pn**	**00 57 08.9**	**-0.3**
KSR				*e*S	**Sb**	**00 57 20.4**	**0.0**
KSR				AML	AML	00 57 27.6	
	comp=Z,61nm,0.1s						
SWZ	**Schweizer**	**2.30**	**249**	*e*P	**Pn**	**00 57 29.9**	**+1.7**
SWZ				*e*S	**Sn**	**00 57 57.5**	**+0.9**
SWZ				AML	AML	00 58 00.7	
	comp=Z,9.4nm,0.4s						
LBTB	**Lobatse**	**2.35**	**304**	*i* P	**Pg**	**00 57 33.8**	**-1.5**
LBTB				*i* Sg	**Sb**	**00 58 03.9**	**+2.0**
LBTB	**Lobatse**	**2.35**	**304**	*i* P	**Pb**	**00 57 33.6**	**+0.9**
LBTB				*i* Sg	**Sb**	**00 58 02.6**	**+0.8**
LBTB	**Lobatse**	**2.35**	**304**	*e*P	**Pb**	**00 57 31.8**	**-0.9**
LBTB				*e*S	**Sb**	**00 58 00.1**	**-1.7**
LBTB				AML	AML	00 58 04.6	
	comp=Z,10nm,0.3s						
LBTB	**Lobatse**	**2.35**	**304**	*i* P	**Pb**	**00 57 33.6**	**+0.9**
LBTB				*i* Sg	**Sb**	**00 58 02.6**	**+0.8**
BOSA	**Boshof**	**3.14**	**224**	*e*P	**Pn**	**00 57 40.3**	**+0.5**
BOSA				*e*S	**Sn**	**00 58 17.4**	**0.0**
BOSA				AML	AML	00 58 32.5	
	comp=Z,5.4nm,0.8s						
MATP	**Matopo**	**5.95**	**7**	*i* P	Pn	00 58 09.0	-9.4
MATP	**Matopo**	**5.95**	**7**	*i* P	Pn	00 58 09.0	-9.4
BLWY	**Bulawayo**	**6.25**	**8**	*i* P	Pn	00 58 13.5	-9.0
BLWY				*i* S	Sn	00 59 11.7	-22
BLWY	**Bulawayo**	**6.25**	**8**	*i* P	Pn	00 58 13.5	-9.0
BLWY				*i* S	Sn	00 59 11.7	-22

RSNC 02 00:57:13.6±1.2,**7.17N**×**74.50W,h24**km±3km,**ML3.4, Mw3.5,6C-2D,Fault plane solution: NP1:**ϕ±31.00000°, δ88.00000°,λ138.00000°.,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARC	**Zaragoza, Cauc**	**0.48**	**311**	*i* Pg	Pb	00 57 23.3	-0.2
ZARC				*e*Sg	Sb	00 57 30.5	+0.3
ZARC				*i*		00 57 32.6	
	comp=Z,4μm,0.4s						
PTBC	**PUERTO BERRIO,**	**0.63**	**176**⇑	*i* P	Pb	00 57 24.9	-1.2
PTBC				*e*S	Sb	00 57 34.5	0.0
BRRC	**Barranca, Sant**	**0.78**	**95**⇑	*i* P	Pb	00 57 27.5	-1.1
BRRC				*e*S	Sb	00 57 39.3	+0.5
BRRC				*i*		00 57 44.7	
	comp=Z,378nm,0.3s						
UREC	**San Jos de Ur**	**1.18**	**299**	*e*P	Pn	00 57 32.9	-1.7
UREC				*e*S	Sn	00 57 48.9	-0.9
UREC				*i*		00 57 49.6	
	comp=Z,2μm,0.2s						
BARC	**Barichara**	**1.43**	**114**⇓	*e*P	Pn	00 57 36.9	-1.3
BARC				*e*S	Sn	00 57 55.7	-0.6
BARC				*i*		00 57 57.9	
	comp=Z,946nm,0.7s						
SPBC	**San Pablo de B**	**1.57**	**164**⇑	*i* P	Pn	00 57 37.6	-2.4
SPBC				*i*		00 58 05.0	
	comp=Z,438nm,0.3s						
OCAC	**Ocana**	**1.57**	**48**	*e*P	Pn	00 57 38.5	-1.6
OCAC				*e*S	Sn	00 57 58.9	-1.0
OCAC				*i*		00 58 03.2	
	comp=Z,309nm,0.2s						
SMLC	**San Martn de**	**1.67**	**15**	*e*P	Pn	00 57 39.5	-1.8
SMLC				*e*S	Sn	00 58 01.6	-0.5
SMLC				*i*		00 58 04.9	
	comp=Z,570nm,0.2s						
DBBC	**Dabeiba**	**1.71**	**265**	*e*P	Pn	00 57 41.1	-0.8
DBBC				*e*S	Sn	00 58 02.5	-0.5
DBBC				*i*		00 58 07.1	
	comp=Z,876nm,0.5s						
PAMC	**Pamplona, Colo**	**1.79**	**85**	*e*P	Pn	00 57 42.4	-1.0
PAMC				*e*S	Sn	00 58 04.9	-0.7
PAMC				*i*		00 58 09.4	
	comp=Z,237nm,0.3s						
RUSC	**La Rusia**	**1.90**	**132**	*e*P	Pn	00 57 43.7	-1.2
RUSC				*e*S	Sn	00 58 07.3	-0.9
RUSC				*i*		00 58 10.2	
	comp=Z,195nm,0.3s						
MOTC	**Monteria, Cord**	**1.97**	**324**⇑	*i*P	Pn	00 57 43.6	-1.9
MOTC				*e*S	Sn	00 58 09.1	-0.3
MOTC				*i*		00 58 19.3	
	comp=Z,133nm,0.5s						
CBOC	**Ciudad Bolivar**	**1.99**	**229**	*e*P	Pn	00 57 44.7	-1.2
CBOC				*i*		00 58 16.6	
	comp=Z,139nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.12**	**204**	*e*P	Pn	00 57 46.3	-1.7
ROSC	**El Rosal**	**2.33**	**176**	*e*P	Pn	00 57 49.5	-1.2
LCBC	**Los crdobas,**	**2.50**	**312**	*e*P	Pn	00 57 50.9	-1.8
CHIC	**Chingaza**	**2.64**	**163**⇓	*e*P	Pn	00 57 54.4	-0.7
CHIC				*e*S	Sn	00 58 27.0	+0.5
CHIC				*i*		00 58 30.9	
	comp=N,328nm,0.4s						
CVER	**Cruz Verde, Cu**	**2.67**	**171**	*e*P	Pn	00 57 55.6	+0.1
ARGC	**Ariguani, Magd**	**2.68**	**5**	*e*P	Pn	00 57 56.0	+0.8
ARGC				*e*S	Sb	00 58 31.2	-2.2
ARGC				*i*		00 58 36.2	
	comp=Z,141nm,0.3s						
TOLC	**Tolima**	**2.70**	**198**	*e*P	Pn	00 57 55.3	-0.5
TOLC				*i*		00 58 35.0	
	comp=Z,415nm,0.6s						
TAMC	**Tame, Arauca**	**2.79**	**105**	*e*P	Pn	00 57 56.7	-0.1
TAMC				*e*S	Sn	00 58 29.5	-0.1
TAMC				*i*		00 58 38.4	
	comp=Z,84nm,0.7s						
SJCC	**San Jacinto, C**	**2.79**	**346**⇑	*i*P	Pn	00 57 54.8	-2.0
SJCC				*e*S	Sn	00 58 26.2	-3.5
SJCC				*i*		00 58 39.6	
	comp=Z,113nm,0.4s						
ANIL	**Santa Ana**	**2.81**	**199**	*e*P	Pn	00 57 57.8	+0.4
ANIL				*i*		00 58 39.2	
	comp=Z,47nm,0.3s						
PLMC	**San Jos del P**	**2.87**	**218**	*e*P	Pn	00 57 52.4	-5.6
VILC	**Villavicencio,**	**3.15**	**165**⇑	*e*P	Pn	00 58 01.1	-0.7
VILC				*e*S	Sn	00 58 40.6	+1.9
VILC				*i*		00 58 44.8	
	comp=Z,253nm,0.3s						
CAPC	**Capurgana**	**3.18**	**297**	*e*P	Pn	00 57 58.6	-3.5
CAPC				*e*S	Sn	00 58 29.6	-10
CAPC				*i*		00 58 36.6	
	comp=Z,77nm,0.2s						
PTAC	**Punta Ardita,**	**3.29**	**270**	*e*P	Pn	00 58 01.3	-2.3
PTAC				*e*S	Sn	00 58 37.5	-4.5
PTAC				*i*		00 58 42.0	
	comp=Z,187nm,0.3s						
ORTC	**Ortega, Tolima**	**3.33**	**193**	*e*P	Pn	00 58 03.0	-1.2
ORTC				*e*S	Sn	00 58 45.0	+2.0
ORTC				*i*		00 58 50.8	
	comp=Z,115nm,0.5s						
PRAC	**Prado**	**3.46**	**186**	*e*P	Pn	00 58 05.9	-0.1
YOTC	**Yotoco, Valle**	**3.66**	**210**	*e*P	Pn	00 58 06.7	-2.2
SDV	**Santo Domingo**	**4.19**	**66**	*e*P	Pn	00 58 16.3	+0.2
MARP	**Paez Belalcaza**	**4.54**	**199**	*e*P	Pn	00 58 19.8	-1.4
MACC	**Macarena, Meta**	**5.04**	**173**	*e*P	Pn	00 58 24.1	-3.6
GARC	**Garzon, Huila**	**5.05**	**191**	*e*P	Pn	00 58 26.4	-1.7
POPC	**Popayan, Colom**	**5.09**	**205**	*e*P	Pn	00 58 25.3	-3.3
URIC	**Uribia, Colomb**	**5.13**	**29**	*e*P	Pn	00 58 25.8	-3.2

*IDC **02** 01:27:09.0±1.9,3°.60S×134°.77E, h0km, mb4.0/2, mb1 4.0/6,mb1mx3.7/34,mbtmp3.9/6,ML3.7/4,MS3.1/1, Ms1 3.1/1,ms1mx2.3/35,Error ellipse: s-maj=61.5km s-min=22.8km az=75.0*

ISC 02 01:27:11.2±1.7,**3.71S**±0.10×**134.0E**±0.2,**h10**km,**n7,** σ**1s53/8,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.95**	**315**	Pn	**Pb**	**01 28 19.2**	**-1.8**
	6.3nm,0.3s,baz=148,slow=23,SNR=10						
SIJI				Sn	**Sb**	**01 29 09.9**	**+1.1**
	9.2nm,0.3s,baz=330,slow=22,SNR=7.6						
PMG	**Port Moresby**	**14.21**	**114**	LR	LR	01 37 23.7	
	comp=Z,74nm,18.5s,baz=98,slow=45						
WRA	**Warramunga Arr**	**16.14**	**179**	Pn	**Pn**	**01 30 56.7**	**-1.7**
	0.1nm,0.3s,baz=358,slow=13,SNR=3.0						
FITZ	**Fitzroy Crossi**	**16.50**	**209**	Pn	**P**	**01 31 06.1**	**+0.5**
	0.2nm,0.3s,baz=28,slow=12,SNR=7.3						
FITZ				Sn	**Sn**	**01 34 06.5**	**+0.3**
	0.1nm,0.3s,baz=259,slow=16,SNR=1.5						
ASAR	**Alice Springs**	**19.84**	**180**	P	**Pn**	**01 31 44.6**	**+0.6**
	0.7nm,0.3s,baz=6.6,slow=11,SNR=40						
MKAR	**Makanchi Array**	**67.80**	**324**	P	**P**	**01 38 11.4**	**+1.9**
	1.0nm,0.6s,baz=113,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**70.52**	**332**	P	**P**	**01 38 26.1**	**0.0**
	0.9nm,0.6s,baz=89,slow=7.7,SNR=3.8						

*IDC **02** 01:27:19.6±1.8,24°.44S×180°.00W,h481km±19km, mb3.8/18,mb1 3.9/20,mb1mx3.8/40,mbtmp4.6/20,Error ellipse: s-maj=14.0km s-min=13.2km az=58.0*

*NEIC **02** 01:27:22.1±1.6,24°.5S±0°.1×180°.0W±0°.1,h524km±8km, mb4.5/32,Error ellipse: s-maj=18.5km s-min=16.2km az=127.0*

ISC 02 01:27:21.0±0.5,**24.45S**±0.08×**179.99W**±0.08,**h505**km, **n73,**σ**1s16/74,mb4.3/32,South of Fiji Islands**

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

FORT	**Forrest**	**46.13**	**250**	P		**P**	**01 34 58.5**	**-1.1**
KNRA	**Kununurra**	**48.70**	**270**	P		**P**	**01 35 18.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P		**P**	**01 35 34.6**	**0.0**
	comp=Z,14nm,0.7s,baz=130,slow=9.5,SNR=29							
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P		**P**	**01 35 34.8**	**+0.2**
FITZ				IAmb		IAmb	01 35 36.1	
	comp=Z,14nm,0.8s							
SIJI	**Sorong**	**52.62**	**289**	P		**P**	**01 35 47.0**	**-0.9**
	comp=Z,38nm,0.8s,baz=274,slow=23,SNR=4.8							
VNDA	**Vanda**	**53.83**	**185**	P		**P**	**01 35 56.5**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=343,slow=6.5,SNR=2.7							
SOEI	**Soe**	**54.91**	**275**	P		**P**	**01 36 03.1**	**-1.1**
	comp=Z,35nm,1.0s							
SOEI	**Soe**	**54.91**	**275**	P		**P**	**01 36 04.2**	**0.0**
SOEI				IAmb		IAmb	01 36 15.3	
	comp=Z,43nm,1.1s							
EDFI	**Ende, Flores**	**57.64**	**275**	P		**P**	**01 36 22.2**	**-0.9**
	comp=Z,12nm,0.7s							
CASY	**Casey**	**59.62**	**206**	P		**P**	**01 36 34.8**	**-0.7**
QSPA	**South Pole Qui**	**65.63**	**180**	P		**P**	**01 37 15.3**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=45,slow=1.3,SNR=17							
QSPA	**South Pole Qui**	**65.63**	**180**	P		**P**	**01 37 14.3**	**-0.2**
QSPA				IAmb		IAmb	01 37 16.2	
	comp=Z,5.5nm,0.8s							
MJAR	**Matsushiro Arr**	**72.36**	**326**	P		**P**	**01 37 56.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=170,slow=4.0,SNR=1.8							
MJAR	**Matsushiro Arr**	**72.36**	**326**	P		**P**	**01 37 55.1**	**-0.3**
MDSI	**Maura Dua**	**75.27**	**272**	P		**P**	**01 38 11.0**	**-1.4**
	comp=Z,14nm,0.8s							
MAW	**Mawson**	**77.24**	**200**	P		**P**	**01 38 22.7**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=133,slow=8.8,SNR=18							
MAW	**Mawson**	**77.24**	**200**	P		**P**	**01 38 22.8**	**+0.5**
KSRS	**Korea Array**	**78.68**	**320**	P		**P**	**01 38 31.2**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=124,slow=5.1,SNR=2.0							
CMB	**Columbia Colle**	**83.59**	**43**	P		**P**	**01 38 54.7**	**-1.2**
NVAR	**Mina Array Bea**	**85.14**	**44**	P		**P**	**01 39 05.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=223,slow=9.0,SNR=8.1							
NVAR	**Mina Array Bea**	**85.14**	**44**	P		**P**	**01 39 02.1**	**-1.6**
PINE	**Pine Mountain**	**86.81**	**38**	P		**P**	**01 39 10.5**	**-1.1**
I07A	**Izee**	**87.81**	**39**	P		**P**	**01 39 15.1**	**-1.0**
I07A				IAmb		IAmb	01 39 18.2	
	comp=Z,3.0nm,0.8s							
U15A	**North Rim**	**87.96**	**48**	P		**P**	**01 39 15.7**	**-1.6**
J08A	**Circle Bar Ran**	**87.97**	**40**	P		**P**	**01 39 15.5**	**-1.4**
J08A				IAmb		IAmb	01 39 19.2	
	comp=Z,5.0nm,1.1s							
G08A	**Pilot Rock**	**88.85**	**38**	P		**P**	**01 39 19.9**	**-1.1**
G08A				IAmb		IAmb	01 39 23.3	
	comp=Z,4.2nm,1.2s							
CMAR	**Chiang Mai Arr**	**89.73**	**290**	P		**P**	**01 39 27.6**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=140,slow=3.9,SNR=6.9							
TX31	**Lajitas Ar. Si**	**90.71**	**58**	P		**P**	**01 39 31.6**	**+1.6**
TX31				IAmb		IAmb	01 39 32.4	
	comp=Z,6.8nm,0.9s							
TX32	**Lajitas Array**	**90.71**	**58**	P		**P**	**01 39 30.8**	**+0.8**
TX32				IAmb		IAmb	01 39 32.5	
	comp=Z,2.3nm,0.9s							
TXAR	**Lajitas Array**	**90.71**	**58**	P		**P**	**01 39 31.7**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=214,slow=6.7,SNR=18							
TXAR	**Lajitas Array**	**90.71**	**58**	P		**P**	**01 39 29.5**	**-0.4**
ILAR	**Eielson Array**	**92.56**	**14**	P		**P**	**01 39 36.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=206,slow=6.0,SNR=2.1							
PDAR	**Pinedale Array**	**93.08**	**44**	P		**P**	**01 39 41.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=227,slow=3.6,SNR=1.7							
ARCES	**ARCESS Array B**	**132.43**	**348**	PKP		**PKPdf**	**01 45 36.5**	**-0.4**
	comp=Z,2.6nm,1.0s,baz=36,slow=3.4,SNR=3.5							
MARD	**Mardin**	**143.01**	**300**			PKPbc	01 45 55.5	+0.2
AKASG	**Malin Array Be**	**145.44**	**327**	PKPbc		**PKPdf**	**01 46 01.4**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=46,slow=4.3,SNR=6.0							
AKASG	**Malin Array Be**	**145.44**	**327**			**PKPdf**	**01 46 00.4**	**-0.5**
BR131	**Keskin Array S**	**147.92**	**306**			**PKPdf**	**01 46 03.9**	**-1.7**
BRTR	**Keskin Array B**	**147.92**	**306**	PKPbc		**PKPbc**	**01 46 09.4**	**0.0**
	comp=Z,1.2nm,0.7s,baz=115,slow=2.8,SNR=7.2							
BRTR	**Keskin Array B**	**147.92**	**306**			**PKPbc**	**01 46 08.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**168.64**	**188**	PKPab		**PKPab**	**01 47 43.2**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=177,slow=2.0,SNR=5.6							

IDC 02 01:33:49.1±1.9,1°.27N×126°.81E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/35,mbtmp3.6/4,ML3.0/1,MS3.6/1, Ms1 3.6/1,ms1mx2.5/36,Error ellipse: s-maj=119.7km s-min=23.0km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.28**	**183**	P		P	01 38 14.8	-0.7
	0.0nm,0.3s,baz=9.0,slow=14,SNR=0.9							
WRA	**Warramunga Arr**	**22.33**	**161**	P		P	01 38 47.7	-1.0
	0.4nm,0.3s,baz=340,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**25.72**	**165**	P		P	01 39 22.4	+1.0
	1.3nm,0.4s,baz=343,slow=12,SNR=22							
PSI	**Prapat**	**27.91**	**274**	LR		LR	01 51 17.9	
	comp=Z,108nm,18.1s,baz=90,slow=38							
MKAR	**Makanchi Array**	**59.62**	**326**	P		P	01 43 55.0	-0.1
	0.3nm,0.3s,baz=119,slow=8.0,SNR=10							

*NNC **02** 01:46:42.9±1.0,40°.98N×73°.59E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=9.0km s-min=3.7km az=174.0*
*ISU **02** 01:46:42.0,40°.80N×73°.60E,h5km*
*KRNET **02** 01:46:42.7±0.1,40°.96N×73°.65E,h14km,mb3.3*
*SOME **02** 01:46:42.9,41°.00N×73°.60E,h10km*
*KNET **02** 01:46:44.1±0.7,41°.04N×73°.68E,h10km±6km,ml2.7,Error ellipse: s-maj=5.3km s-min=3.7km az=53.0*
ISC 02 01:46:40.1±1.2,40°.82N±0°.03×73°.82E±0°.02,h8km±11km, n60,σ1°.24/101,36C-15D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.84**	**250**	*e*P		**Pb**	**01 46 55.8**	**-1.1**
OHH				*e*S		**Sb**	**01 47 04.6**	**-3.8**
AML	**Almayashu**	**1.32**	**356**	⇑*i*P		**Pg**	**01 47 05.0**	**-0.4**
	baz=2.0							
AML				⇑*i*S		**Sn**	**01 47 20.7**	**-2.4**
	baz=2.0							
AML	**Almayashu**	**1.32**	**356**	⇑P		**Pg**	**01 47 04.9**	**-0.6**
	42nm,0.2s,SNR=35							
AML				⇑S		**Sn**	**01 47 21.3**	**-1.8**
	74nm,0.2s							
FRG	**Fergana**	**1.55**	**268**	*i* P		**Pg**	**01 47 09.9**	**+0.1**
FRG				*i* S		**Sg**	**01 47 30.1**	**+0.2**
NAM	**Namangan**	**1.65**	**277**	*i* P		**Pb**	**01 47 10.2**	**-0.5**
NAM				*i* S		**Sb**	**01 47 31.2**	**-0.4**
KZA	**Kyzart**	**1.66**	**40**	⇑*i*P		**Pg**	**01 47 13.0**	**+1.1**
	baz=47							
KZA				⇑*i*S		**Sg**	**01 47 35.3**	**+1.9**
	baz=47							
KZA	**Kyzart**	**1.66**	**40**	⇓P		**Pg**	**01 47 13.5**	**+1.6**
	20nm,0.2s,SNR=22							
KZA				⇑S		**Sg**	**01 47 36.6**	**+3.2**
	100nm,0.3s							
EKS2	**Erkin-Say**	**1.85**	**359**	⇑*i*P		**Pg**	**01 47 14.4**	**-1.1**
	baz=3.0							
EKS2				⇑*i*S		**Sb**	**01 47 37.0**	**-0.4**
	baz=3.0							
EKS2	**Erkin-Say**	**1.85**	**359**	⇑P		**Pg**	**01 47 14.7**	**-0.8**
	9.8nm,0.1s,SNR=45							
AAK	**Ala-Archa**	**1.89**	**15**	⇑*i*P		**Pg**	**01 47 16.1**	**-0.2**
	baz=20							
AAK				⇑*i*S		**Sg**	**01 47 40.2**	**-0.6**
	baz=20							
AAK	**Ala-Archa**	**1.89**	**15**	⇓P		**Pg**	**01 47 16.5**	**+0.1**
	33nm,0.2s,SNR=45							
AAK				⇑S		**Sg**	**01 47 40.7**	**-0.1**
	32nm,0.3s							
MRKS	**Merke**	**1.98**	**347**	*e*P		**Pb**	**01 47 16.1**	**-0.3**
	50nm,0.2s							
MRKS				*e*S		**Sb**	**01 47 40.3**	**-0.9**
	222nm,0.2s							
MRKS	**Merke**	**1.98**	**347**	P		**Pb**	**01 47 16.1**	**-0.3**
	50nm,0.2s							
MRKS				S		**Sb**	**01 47 40.3**	**-0.9**
	222nm,0.2s							
KBK	**Karagaybulak**	**2.02**	**24**	⇑*i*P		**Pg**	**01 47 18.9**	**0.0**
	baz=29							
KBK				⇑*i*S		**Sg**	**01 47 45.3**	**+0.1**
	baz=29							
KBK	**Karagaybulak**	**2.02**	**24**	⇓P		**Pg**	**01 47 19.5**	**+0.6**
	22nm,0.2s,SNR=31							
KBK				⇓S		**Sg**	**01 47 45.9**	**+0.7**
	130nm,0.3s							
FRU1	**Bishkek**	**2.08**	**17**	⇓*i*P		**Pg**	**01 47 19.3**	**-0.7**
	baz=21							
FRU1				⇓*e*S		**Sg**	**01 47 45.8**	**-1.2**
	baz=21							
CHMS	**Chumysh**	**2.29**	**17**	⇑*i*P		**Pb**	**01 47 22.3**	**+0.7**
	baz=22							
CHMS				⇑*i*S		**Sb**	**01 47 50.6**	**+0.5**
	baz=22							
CHMS	**Chumysh**	**2.29**	**17**	⇑P		**Pg**	**01 47 22.6**	**-1.3**
	20nm,0.2s,SNR=21							
CHMS				⇑S		**Sg**	**01 47 52.8**	**-0.9**
	17nm,0.2s							
BOOM	**Boomskoye usch**	**2.31**	**43**	⇑*i*P		**Pg**	**01 47 23.4**	**-0.9**
	baz=48							
BOOM				⇑*i*S		**Sg**	**01 47 53.0**	**-1.2**
	baz=48							
ULHL	**Ulahol**	**2.31**	**51**	⇑*e*P		**Pg**	**01 47 24.0**	**-0.4**
	baz=56							
ULHL				⇑*i*S		**Sg**	**01 47 54.3**	**-0.1**
	baz=56							
ULHL	**Ulahol**	**2.31**	**51**	⇓P		**Pg**	**01 47 23.4**	**-1.0**
	4.0nm,0.1s,SNR=9.2							
BTK	**Batken**	**2.41**	**253**	⇓*i*P		**Pb**	**01 47 24.1**	**+0.3**
	baz=48							
BTK				⇓*i*S		**Sb**	**01 47 54.3**	**+0.6**
	baz=48							
TKM2	**Tokmak 2**	**2.49**	**32**	⇑*i*P		**Pb**	**01 47 25.4**	**+0.3**
	baz=36							
TKM2				⇑*i*S		**Sb**	**01 47 56.9**	**+0.9**
	baz=36							
TKM2	**Tokmak 2**	**2.49**	**32**	⇑P		**Pb**	**01 47 26.0**	**+0.8**
	17nm,0.3s,SNR=9.6							
USP	**Ospenovka**	**2.50**	**11**	⇑*e*P		**Pb**	**01 47 24.4**	**-0.9**
	baz=15							
USP				⇑*i*S		**Sb**	**01 47 55.3**	**-0.9**
	baz=15							
USP	**Ospenovka**	**2.50**	**11**	⇓P		**Pb**	**01 47 24.8**	**-0.4**
	9.6nm,0.3s,SNR=21							
SGDS	**Sogindy**	**2.70**	**13**	Pg		**Pg**	**01 47 30.7**	**-1.2**
	6.5nm,0.3s							
SGDS				Lg		Lg	01 48 05.0	
	39nm,0.6s							
KST	**Kastek**	**2.74**	**35**	*e*P		**Pg**	**01 47 32.8**	**+0.1**
	14nm,0.6s							
KST				*e*S		**Sg**	**01 48 08.9**	**+0.8**
	88nm,0.6s							
KST	**Kastek**	**2.74**	**35**	Pg		**Pg**	**01 47 32.8**	**+0.1**
	14nm,0.6s							
KST				Lg		Lg	01 48 08.9	
	88nm,0.6s							
DZA	**Taraz**	**2.79**	**319**	*e*P		**Pb**	**01 47 30.5**	**+0.4**
	77nm,0.1s							
DZA				*e*S		**Sb**	**01 48 04.7**	**+0.3**
	320nm,0.5s							
DZA	**Taraz**	**2.79**	**319**	Pg		**Pb**	**01 47 30.5**	**+0.4**
	77nm,0.1s							
DZA				Lg		Lg	01 48 04.7	
	320nm,0.5s							
KDJ	**Kajisay**	**2.85**	**61**	⇑*i*P		**Pb**	**01 47 32.4**	**+1.2**
	baz=65							
KDJ				⇑*e*S		**Sb**	**01 48 07.2**	**+1.0**
	baz=65							
MTBS	**Maitube**	**3.02**	**39**	*e*P		**Pg**	**01 47 38.7**	**+0.7**
	12nm,0.3s							
MTBS				*e*S		**Sg**	**01 48 18.6**	**+1.4**
	38nm,0.4s							
MTBS	**Maitube**	**3.02**	**39**	Pg		**Pg**	**01 47 38.7**	**+0.7**
	12nm,0.3s							
MTBS				Lg		Lg	01 48 18.6	
	38nm,0.4s							
IUG	**Iuzhnay**	**3.14**	**296**	*e*P		**Pb**	**01 47 36.2**	**0.0**
	29nm,0.4s							
IUG				*e*S		**Sb**	**01 48 14.8**	**+0.1**
	159nm,0.4s							
IUG	**Iuzhnay**	**3.14**	**296**	Pg		**Pb**	**01 47 36.2**	**0.0**
	29nm,0.4s							
IUG				Lg		Lg	01 48 14.8	
	159nm,0.4s							
TNSS	**Tian-Shan**	**3.22**	**45**	*e*P		**Pg**	**01 47 41.9**	**+0.1**
	6.5nm,0.3s							
TNSS				*e*S		**Sg**	**01 48 24.8**	**+1.2**
	38nm,0.4s							
TNSS	**Tian-Shan**	**3.22**	**45**	Pg		**Pg**	**01 47 41.9**	**+0.1**
	6.5nm,0.3s							
TNSS				Lg		Lg	01 48 24.8	
	38nm,0.4s							
GAR	**Garm**	**3.25**	**237**	⇓*e*P		**Pb**	**01 47 36.1**	**-1.9**
	baz=34							
GAR				⇓*i*S		**Sb**	**01 48 15.7**	**-2.0**
	baz=34							
KK31	**Karatay Array**	**3.36**	**314**	⇓Pn		**Pn**	**01 47 34.1**	**+1.2**
	0.2nm,0.2s,baz=128,slow=12,SNR=31							
KK31				⇑Pg		**Pb**	**01 47 39.5**	**-0.4**
	2.4nm,0.5s,baz=134,slow=14,SNR=12							
KK31				⇑Lg		Lg	01 48 19.1	
	21nm,0.5s,baz=129,slow=29,SNR=14							
KOTS	**Kotyrbulak**	**3.44**	**44**	*e*P		**Pg**	**01 47 46.0**	**0.0**
	22nm,0.4s							
KOTS				*e*S		**Sg**	**01 48 31.6**	**+0.9**
	203nm,0.5s							
KOTS	**Kotyrbulak**	**3.44**	**44**	Pg		**Pg**	**01 47 46.0**	**0.0**
	22nm,0.4s							
KOTS				Lg		Lg	01 48 31.6	
	203nm,0.5s							
ANVS	**Anan'yevo**	**3.48**	**54**	⇓*i*P		**Pb**	**01 47 40.8**	**-1.3**
	baz=57							
ANVS				⇓*i*S		**Sb**	**01 48 22.4**	**-2.2**
	baz=57							
KTBS	**Karatobe**	**3.59**	**35**	*e*P		**Pg**	**01 47 48.1**	**-0.7**
	2.0nm,0.4s							
KTBS				*e*S		**Sg**	**01 48 35.3**	**-0.1**
	110nm,0.7s							
KTBS	**Karatobe**	**3.59**	**35**	Pg		**Pg**	**01 47 48.1**	**-0.7**
	2.0nm,0.4s							
KTBS				Lg		Lg	01 48 35.3	
	110nm,0.7s							
KUU	**Kurty**	**3.60**	**30**	*e*P		**Pg**	**01 47 47.6**	**-1.4**
	2.6nm,0.3s							
KUU				*e*S		**Sg**	**01 48 34.5**	**-1.1**
	56nm,0.7s							
KUU	**Kurty**	**3.60**	**30**	Pg		**Pg**	**01 47 47.6**	**-1.4**
	2.6nm,0.3s							
KUU				Lg		Lg	01 48 34.5	
	56nm,0.7s							
BRLS	**Borolday**	**3.71**	**308**	*e*P		**Pb**	**01 47 46.3**	**+0.6**
	17nm,0.4s							
BRLS				*e*S		**Sb**	**01 48 32.2**	**+1.3**
	35nm,0.4s							
BRLS	**Borolday**	**3.71**	**308**	Pg		**Pb**	**01 47 46.3**	**+0.6**
	17nm,0.4s							
BRLS				Lg		Lg	01 48 32.2	
	35nm,0.4s							
PRZ	**Przheval'sk**	**3.81**	**63**	⇑*i*P		**Pb**	**01 47 45.1**	**-2.6**
	baz=65							
PRZ				⇑*i*S		**Sb**	**01 48 30.9**	**-3.2**
	baz=65							
SATY	**Saty**	**4.09**	**55**	*e*P		**Pg**	**01 47 58.5**	**+0.1**
	3.7nm,0.1s							
SATY				*e*S		**Sg**	**01 48 52.7**	**+1.3**
	32nm,0.7s							
SATY	**Saty**	**4.09**	**55**	Pg		**Pg**	**01 47 58.5**	**+0.1**
	3.7nm,0.1s							
SATY				Lg		Lg	01 48 52.7	
	32nm,0.7s							
CHGR	**Chuyangaron**	**4.19**	**241**	⇑*e*P		Pb	01 47 48.9	-5.2
	baz=38							
CHGR				⇑*i*S		**Sn**	**01 48 38.1**	**+4.6**
	baz=38							
KURS	**Kuram**	**4.19**	**49**	*e*P		**Pg**	**01 47 59.4**	**-1.0**
	5.2nm,0.7s							
KURS				*e*S		**Sg**	**01 48 54.1**	**-0.7**
	8.5nm,0.4s							
KURS	**Kuram**	**4.19**	**49**	Pg		**Pg**	**01 47 59.4**	**-1.0**
	5.2nm,0.7s							
KURS				Lg		Lg	01 48 54.1	
	8.5nm,0.4s							
KPKS	**Kokpek**	**4.48**	**52**	*e*P		**Pg**	**01 48 05.6**	**-0.4**
	6.2nm,0.2s							
KPKS				*e*S		**Sg**	**01 49 04.6**	**+0.6**
	44nm,0.6s							
UZB	**Uzynbulak**	**4.52**	**57**	*e*P		**Pg**	**01 48 06.2**	**-0.6**
	2.4nm,0.5s							
UZB				*e*S		**Sg**	**01 49 06.1**	**+0.8**
	18nm,0.3s							
UZB	**Uzynbulak**	**4.52**	**57**	Pg		**Pg**	**01 48 06.2**	**-0.6**
	2.4nm,0.5s							
UZB				Lg		Lg	01 49 06.1	
	18nm,0.3s							
DJR	**Jarkent**	**5.64**	**49**	*e*P		**Pg**	**01 48 28.1**	**0.0**
	1.8nm,0.5s							
DJR				*e*S		**Sg**	**01 49 43.9**	**+2.9**
	5.5nm,0.3s							
DJR	**Jarkent**	**5.64**	**49**	Pg		**Pg**	**01 48 28.1**	**0.0**
	1.8nm,0.5s							
DJR				Lg		Lg	01 49 43.9	
	5.5nm,0.3s							

*NEIC **02** 01:48:27.9±0.8,18°.8S±0°.2×177°.9W±0°.2,h572km±7km, mb4.0/24,Error ellipse: s-maj=25.4km s-min=18.8km az=146.0*
*IDC **02** 01:48:27.7±2.7,18°.92S×177°.80W,h566km±30km, mb3.5/13,mb1 3.7/13,mb1mx3.5/24,mbtmp4.4/13,Error ellipse: s-maj=28.5km s-min=12.0km az=153.0*
ISC 02 01:48:25.7±0.5,18°.9S±0°.1×177°.8W±0°.1,h550km,n105, σ0°.80/112,mb4.0/23,7C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.12**	**286**	P		**P**	**01 49 50.9**	**+2.2**
CTA	**Charters Tower**	**33.87**	**262**	P		**P**	**01 54 24.7**	**+1.4**
	2.1nm,0.5s,baz=114,slow=12,SNR=5.0							
STKA	**Stephens Creek**	**38.67**	**242**	P		**P**	**01 55 03.4**	**+0.7**
	1.9nm,0.4s,baz=6.8,slow=12,SNR=4.6							
STKA	**Stephens Creek**	**38.67**	**242**	P		**P**	**01 55 02.5**	**-0.2**
BBOO	**Buckleboo**	**43.44**	**242**	P		**P**	**01 55 40.5**	**0.0**
BBOO				IAmb		IAmb	01 55 54.5	
	comp=Z,6.3nm,1.1s							
JAY	**Jayapura**	**43.75**	**287**	P		**P**	**01 55 43.4**	**+0.1**
	comp=Z,4.4nm,0.5s,baz=100,slow=11,SNR=2.0							
WRA	**Warramunga Arr**	**45.03**	**260**	P		**P**	**01 55 53.4**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=98,slow=7.6,SNR=58							
WRA				PcP		**PcP**	**01 57 22.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=90,slow=3.9,SNR=5.1							
WRA				S		**S**	**02 01 49.6**	**-2.5**
	comp=Z,1.3nm,1.0s,baz=92,slow=14,SNR=5.7							
WRA	**Warramunga Arr**	**45.03**	**260**	P		**P**	**01 55 52.0**	**-1.0**
WRA						**PcP**	**01 57 21.0**	**-1.2**
WRA						**S**	**02 01 48.8**	**-3.3**
AS31	**Alice Springs**	**45.09**	**255**	P		**P**	**01 55 52.6**	**-0.9**
ASAR	**Alice Springs**	**45.09**	**255**	P		**P**	**01 55 54.1**	**+0.7**
	comp=Z,5.6nm,0.6s,baz=86,slow=8.7,SNR=58							
ASAR				PcP		**PcP**	**01 57 22.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=111,slow=3.9,SNR=6.7							
ASAR				S		**S**	**02 01 52.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=91,slow=15,SNR=11							
ASAR	**Alice Springs**	**45.09**	**255**	P		**P**	**01 55 53.0**	**-0.5**
ASAR						**PcP**	**01 57 21.8**	**-0.6**
ASAR						**S**	**02 01 50.6**	**-2.4**
PSA00	**Pilbara Seismi**	**58.23**	**256**	P		**P**	**01 57 28.1**	**0.0**
PSA00				IAmb		IAmb	01 57 29.1	
	comp=Z,6.3nm,0.8s							
VNDA	**Vanda**	**59.50**	**185**	P		**P**	**01 57 35.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=20,slow=2.6,SNR=2.3							
CASY	**Casey**	**65.47**	**205**	P		**P**	**01 58 15.3**	**+0.9**
PETK	**Petropavlovsk-**	**74.80**	**345**	P		**P**	**01 59 10.2**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=98,slow=5.2,SNR=4.3							
PETK	**Petropavlovsk-**	**74.80**	**345**	P		**P**	**01 59 08.5**	**-1.2**
PNTR	**Pine Nut**	**79.28**	**42**	P		**P**	**01 59 35.1**	**+0.3**
PNTR				IAmb		IAmb	01 59 36.4	
	comp=Z,5.7nm,0.8s							
NVAR	**Mina Array Bea**	**79.75**	**43**	P		**P**	**01 59 37.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=225,slow=8.3,SNR=15							
NVAR	**Mina Array Bea**	**79.75**	**43**	P		**P**	**01 59 36.9**	**-0.3**
KVN	**Kaiserville**	**80.22**	**43**	P		**P**	**01 59 39.9**	**+0.2**
BELA	**Belgrano 2**	**81.10**	**173**	P		**P**	**01 59 42.7**	**-0.7**
PRN	**Pahroc Range**	**81.35**	**46**	P		**P**	**01 59 45.7**	**+0.2**
PRN				IAmb		IAmb	01 59 47.4	
	comp=Z,2.5nm,0.8s							
R11A	**Troy Canyon, C**	**81.49**	**45**	P		**P**	**01 59 45.4**	**-0.8**
I07A	**Izee**	**82.23**	**38**	P		**P**	**01 59 49.9**	**+0.2**
I07A				IAmb		IAmb	01 59 51.5	
	comp=Z,5.6nm,0.9s							
J08A	**Circle Bar Ran**	**82.42**	**39**	P		**P**	**01 59 50.9**	**+0.2**
J08A				IAmb		IAmb	01 59 52.9	
	comp=Z,5.6nm,1.2s							
CCUT	**Cedar City**	**82.58**	**46**	P		**P**	**01 59 52.0**	**+0.2**
U15A	**North Rim**	**82.76**	**48**	P		**P**	**01 59 53.1**	**+0.3**
U15A				IAmb		IAmb	01 59 54.7	
	comp=Z,5.3nm,0.8s							
SUA	**Susitna One**	**82.98**	**13**	P		**P**	**01 59 52.3**	**-0.8**
G08A	**Pilot Rock**	**83.25**	**37**	P		**P**	**01 59 55.0**	**+0.1**
G08A				IAmb		IAmb	01 59 56.4	
	comp=Z,4.2nm,1.1s							
GLI	**Glacier Island**	**83.27**	**15**	P		**P**	**01 59 54.3**	**-0.1**
TRF	**Thorofare Moun**	**84.86**	**12**	P		**P**	**02 00 01.9**	**-0.5**
TX32	**Lajitas Array**	**86.04**	**57**	P		**P**	**02 00 09.3**	**+0.5**
TX32				IAmb		IAmb	02 00 10.9	
	comp=Z,3.5nm,1.0s							
TXAR	**Lajitas Array**	**86.04**	**57**	P		**P**	**02 00 10.0**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=214,slow=7.0,SNR=21							
TXAR	**Lajitas Array**	**86.04**	**57**	P		**P**	**02 00 09.1**	**+0.3**
WRH	**Wood River Hil**	**86.22**	**12**	P		**P**	**02 00 08.5**	**-0.2**

baz=16,slow=2.7
GEC2 **GERESS Array S** **148.73 345** *e*PKPbc **PKiKP** **02 07 11.9 -0.6**
baz=16,slow=2.7
GERES **GERESS Array B** **148.73 345** PKPbc **PKPbc** **02 07 11.6 +0.2**
comp=Z,2.4nm,0.7s,baz=32,slow=2,3,SNR=16
BZS **Buzias** **148.89 333** ⇑P **PKiKP** **02 07 12.2 -0.5**
CONA **Conrad Observa** **148.99 342** *e*P **PKiKP** **02 07 12.7 -0.3**
comp=Z,1.9nm,0.5s
HERR **Herculane** **149.11 331** ⇑P **PKiKP** **02 07 12.6 -0.6**
WLF **Walferdange** **149.16 355** *e*PKPbc **PKiKP** **02 07 13.1 0.0**
baz=16,slow=2.7
MOA **Molln** **149.51 344** *e*P **PKiKP** **02 07 13.4 -0.6**
comp=Z,1.6nm,0.5s
BFO **Black Forest** **150.24 352** *e*PKPbc **PKiKP** **02 07 15.2 -0.2**
baz=16,slow=2.7
BFO **Black Forest** **150.24 352** **PKiKP** **02 07 15.2 -0.2**
SOKA **Soboth** **150.37 342** *i* P **PKPbc** **02 07 15.1 -0.2**
comp=Z,0.9nm,0.3s,SNR=4.2
KBA **Koelnbreinsper** **150.46 344** *e*P **PKPbc** **02 07 15.2 -0.5**
comp=Z,2.3nm,0.4s
WATA **Walderalm** **150.63 347** *e*P **PKiKP** **02 07 16.0 -0.5**
comp=Z,4.1nm,0.4s
RETA **Reutte** **150.65 348** *e*P **PKiKP** **02 07 16.2 -0.3**
comp=Z,0.8nm,0.2s
WTTA **Wattenberg** **150.69 347** *i* P **PKiKP** **02 07 16.3 -0.3**
comp=Z,6.7nm,0.3s,SNR=13
MOTA **Moosalm** **150.72 348** *i* P **PKPbc** **02 07 16.2 0.0**
comp=Z,2.1nm,0.4s,SNR=6.4
MYKA **Terra Mystica** **150.80 344** *e*P **PKPbc** **02 07 15.8 -0.6**
comp=Z,3.8nm,0.5s
SQTA **Sankt Quirin** **150.82 347** *i* P **PKiKP** **02 07 16.5 -0.3**
comp=Z,5.1nm,0.6s,SNR=6.0
ABTA **Abfaltersbach** **150.97 345** *i* P **PKPbc** **02 07 16.4 -0.4**
comp=Z,8.4nm,0.6s,SNR=13
DAVA **Damuels** **151.01 349** *e*P **PKiKP** **02 07 17.0 -0.2**
comp=Z,2.2nm,0.4s
FETA **Feichten** **151.11 348** *e*P **PKiKP** **02 07 17.2 -0.3**
comp=Z,1.9nm,0.5s
CIMO **Cimolais** **151.40 345** **PKPbc** **02 07 17.3 -0.3**

JMA 02 02:14:28.7±0.2, 38°43N×144°60E, h40km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.38**	**287**	P	Pn	02 15 06.6	+1.4
OFUJ				*e*S	Sn	02 15 35.0	+1.8
MIYJ	**Miyakonagasawa**	**2.45**	**299**	P	Pn	02 15 07.1	+0.9
JIKH	**Ishinomakikobu**	**2.47**	**268**	*e*S	Sn	02 15 36.8	+1.5
JKMT	**Kesennumamotoy**	**2.48**	**280**	P	Pn	02 15 08.1	+1.6
JKMT				S	Sn	02 15 37.2	+1.7
JMK	**Ichinoseki**	**2.70**	**282**	P	Pn	02 15 11.4	+1.9
JMK				*e*S	Sn	02 15 43.6	+2.7
JOM	**Ohasama**	**2.78**	**293**	P	Pn	02 15 12.2	+1.5
JOM				S	Sn	02 15 44.9	+1.9
JFT	**Otama**	**3.49**	**256**	P	Pn	02 15 23.4	+2.9
JFT				S	Sn	02 16 03.8	+3.3
JCH	**Churui**	**4.29**	**348**	P	Pn	02 15 31.1	-0.2
JCH				*e*S	Sn	02 16 18.7	-1.4
NEM2	**Nemuro 2**	**5.01**	**10**	P	Pn	02 16 38.2	-3.0
NEM2				*e*S	Sn	02 16 31.7	-6.1
JRY	**Ryogami san**	**5.15**	**244**	*e*S	Sn	02 16 42.8	+1.4

*JMA **02** 02:37:20.9±0.1, 24°32N×122°93E, h82km±2km, M2.5*
*TAP **02** 02:37:20.5, 24°33N×122°96E, h84km, ML3.4, C*
ISC 02 02:37:21.2±1.3, 24°28N±0°04×122°93E±0°02, h77km±8km, n68, σ1s01/129, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.17**	**4**	P	**Pn**	**02 37 32.8**	**+0.2**
JYNG				S	**Sn**	**02 37 41.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.19**	**22**	*i* P	**Pn**	**02 37 32.8**	**+0.2**
	baz=23						
YOJ				*i* S	**Sn**	**02 37 41.5**	**+0.4**
	baz=23						
YOJ	**Yonaguni jima**	**0.19**	**22**	P	**Pn**	**02 37 32.9**	**+0.2**
YOJ				S	**Sn**	**02 37 41.3**	**+0.2**
IRIF	**Iriomote-Funau**	**0.73**	**86**	P	**Pn**	**02 37 37.2**	**+0.2**
IRIF				*e*S	**Sn**	**02 37 48.8**	**+0.1**
HATJ	**Hateruma jima**	**0.83**	**106**	P	**Pn**	**02 37 38.8**	**+0.7**
HATJ				*e*S	**Sn**	**02 37 51.6**	**+0.9**
JKRS	**Kuro-shima**	**0.98**	**92**	P	**Pn**	**02 37 40.3**	**+0.4**
JKRS				S	**Sn**	**02 37 54.6**	**+0.7**
ENAH	**Nanao**	**1.04**	**279**	*e*S	**Sn**	**02 37 55.2**	**+0.2**
	baz=276						
TWC	**Suao**	**1.04**	**289**	*e*P	**Pn**	**02 37 41.1**	**+0.5**
	baz=285						
TWC				S	**Sn**	**02 37 54.1**	**-1.0**
	baz=285						
ENA	**Nanau**	**1.09**	**278**	*e*P	**Pn**	**02 37 41.4**	**+0.1**
	baz=275						
ENA				S	**Sn**	**02 37 56.6**	**+0.3**
	baz=275						
JIJ	**Ishigaki jima**	**1.11**	**86**	P	**Pn**	**02 37 41.4**	**0.0**
JIJ				S	**Sn**	**02 37 55.8**	**-0.8**
NTC	**Toucheng**	**1.15**	**300**	*e*P	**Pn**	**02 37 41.5**	**-0.6**
	baz=296						
NTC				*e*S	**Sn**	**02 37 56.6**	**-1.0**
	baz=296						
TIPB	**Shuangxi**	**1.22**	**305**	*e*P	**Pn**	**02 37 43.1**	**+0.2**
	baz=301						
TIPB				S	**Sn**	**02 37 58.0**	**-1.1**
	baz=301						
NACB	**Ninganchiao**	**1.23**	**265**	P	**Pn**	**02 37 42.5**	**-0.4**
	baz=263						
NACB				S	**Sn**	**02 37 57.9**	**-1.3**
	baz=263						
TWE	**Neicheng**	**1.23**	**291**	*e*P	**Pn**	**02 37 43.2**	**+0.2**
	baz=288						
TWE				S	**Sn**	**02 37 59.2**	**-0.1**
	baz=288						
TWD	**Chiawan**	**1.24**	**261**	*e*P	**Pn**	**02 37 42.6**	**-0.5**
	baz=250						
TWD				*e*S	**Sn**	**02 37 58.5**	**-0.9**
	baz=250						
JISG	**Ishigakijimahi**	**1.29**	**76**	P	**Pn**	**02 37 43.5**	**-0.3**
JISG				S	**Sn**	**02 37 59.8**	**-0.9**
ENTT	**Nioudou**	**1.29**	**286**	*e*P	**Pn**	**02 37 44.4**	**+0.6**
	baz=290						
ENTT				S	**Sn**	**02 38 00.8**	**0.0**
	baz=290						
ETLH	**Xiulin Townshi**	**1.32**	**267**	*e*P	**Pn**	**02 37 44.0**	**-0.3**
	baz=264						
ETLH				*e*S	**Sn**	**02 38 01.0**	**-0.6**
	baz=264						
NDT	**Datong Townshi**	**1.33**	**284**	*e*P	**Pn**	**02 37 44.7**	**+0.4**
	baz=288						
NDT				S	**Sn**	**02 38 01.6**	**0.0**
	baz=288						
NWLT	**Wulai**	**1.39**	**291**	*e*P	**Pn**	**02 37 45.6**	**+0.6**
	baz=288						
NWLT				S	**Sn**	**02 38 02.3**	**-0.7**
	baz=288						
NNSB	**Datong**	**1.42**	**276**	*e*P	**Pn**	**02 37 45.5**	**0.0**
	baz=274						
NNSB				S	**Sn**	**02 38 02.8**	**-1.0**
	baz=274						
NNS	**Nan Shan**	**1.43**	**277**	*e*P	**Pn**	**02 37 46.1**	**+0.4**
	baz=274						
NNS				*e*S	**Sn**	**02 38 03.2**	**-0.9**
	baz=274						
ESL	**Shilin**	**1.45**	**252**	*e*P	**Pn**	**02 37 45.0**	**-0.7**
	baz=249						
ESL				*e*S	**Sn**	**02 38 03.1**	**-1.1**
	baz=249						
YHNB	**Yeheng**	**1.47**	**286**	P	**Pn**	**02 37 46.5**	**+0.4**
	baz=283						
YHNB				S	**Sn**	**02 38 04.8**	**-0.1**
	baz=283						
NSK	**Sanguang**	**1.49**	**286**	*e*P	**Pn**	**02 37 47.1**	**+0.7**
	baz=283						
NSK				S	**Sn**	**02 38 05.0**	**-0.3**
	baz=283						
EGFH	**Guangfu**	**1.50**	**246**	*e*P	**Pn**	**02 37 46.1**	**-0.4**
	baz=244						
EGFH				*e*S	**Sn**	**02 38 04.7**	**-1.0**
	baz=244						
WHF	**Hehuan Shan**	**1.53**	**265**	*e*P	**Pn**	**02 37 47.2**	**-0.1**
	baz=263						
WHF				S	**Sn**	**02 38 06.7**	**-0.1**
	baz=263						
YM04	**YM04**	**1.54**	**305**	*e*P	**Pn**	**02 37 47.3**	**+0.3**
	baz=295						
YM04				*e*S	**Sn**	**02 38 05.3**	**-1.1**
	baz=295						
FUSS	**Fushou**	**1.54**	**269**	*e*P	**Pn**	**02 37 47.7**	**+0.4**
	baz=267						
FUSS				*e*S	**Sn**	**02 38 06.1**	**-0.8**
	baz=267						
HGSD	**Ruisui**	**1.59**	**241**	*e*P	**Pn**	**02 37 47.4**	**-0.2**
	baz=239						
HGSD				*e*S	**Sn**	**02 38 06.7**	**-0.9**
	baz=239						
TWT	**Tachien**	**1.60**	**269**	*e*P	**Pn**	**02 37 48.9**	**+0.9**
	baz=267						
TWT				*e*S	**Sn**	**02 38 09.2**	**+1.0**
	baz=267						
TDCB	**Techi**	**1.62**	**269**	*e*P	**Pn**	**02 37 49.0**	**+0.9**
	baz=267						
TDCB				*e*S	**Sn**	**02 38 08.0**	**-0.6**
	baz=267						
CHGB	**Renai**	**1.62**	**263**	*e*P	**Pn**	**02 37 48.5**	**+0.3**
	baz=253						
CHGB				*e*S	**Sn**	**02 38 08.1**	**-0.6**
	baz=253						
JTJ	**Tarama**	**1.65**	**77**	P	**Pn**	**02 37 48.2**	**-0.2**
JTJ				S	**Sn**	**02 38 09.2**	**+0.1**
EHY	**Hungye**	**1.66**	**243**	P	**Pn**	**02 37 48.1**	**-0.5**
	baz=250						
EHY				*e*S	**Sn**	**02 38 08.2**	**-1.1**
	baz=250						
VWDT	**VWDT**	**1.72**	**253**	P	**Pn**	**02 37 49.7**	**+0.4**
	baz=251						
VWDT				S	**Sn**	**02 38 10.1**	**-0.6**
	baz=251						
YULB	**Yu-li**	**1.74**	**240**	*e*P	**Pn**	**02 37 49.3**	**-0.3**
	baz=249						
YULB				*e*S	**Sn**	**02 38 09.6**	**-1.5**
	baz=249						
EYUL	**Yuli**	**1.75**	**238**	*e*P	**Pn**	**02 37 49.4**	**-0.3**
	baz=231						
TWF1	**Yuli**	**1.76**	**239**	*e*P	**Pn**	**02 37 49.8**	**-0.1**
	baz=231						
TWF1				S	**Sn**	**02 38 11.3**	**-0.3**
	baz=231						
LIOB	**Emei**	**1.78**	**282**	*e*S	**Sn**	**02 38 12.8**	**+0.6**
	baz=288						
NSTT	**Nanjuang**	**1.79**	**282**	*e*P	**Pn**	**02 37 51.6**	**+1.3**
	baz=287						
NSTT				*e*S	**Sn**	**02 38 12.7**	**+0.3**
	baz=287						
WHP	**Taichung City**	**1.81**	**270**	*e*P	**Pn**	**02 37 51.9**	**+1.3**
	baz=263						
WHP				*e*S	**Sn**	**02 38 13.4**	**+0.4**
	baz=263						
FULB	**Fuli**	**1.85**	**235**	*e*P	**Pn**	**02 37 50.4**	**-0.6**
	baz=226						
FULB				*e*S	**Sn**	**02 38 13.1**	**-0.6**
	baz=226						
CHKT	**Chengkung**	**1.86**	**231**	*e*P	**Pn**	**02 37 50.9**	**-0.3**
	baz=224						
CHKT				*e*S	**Sn**	**02 38 11.9**	**-1.9**
	baz=224						
SMLT	**Sun Moon Lake**	**1.90**	**258**	*e*P	**Pn**	**02 37 52.4**	**+0.6**
	baz=251						
SMLT				*e*S	**Sn**	**02 38 14.8**	**-0.2**
	baz=251						
TYC	**Yuchr**	**1.93**	**259**	*e*P	**Pn**	**02 37 52.4**	**+0.2**
	baz=252						
TYC				*e*S	**Sn**	**02 38 16.0**	**+0.3**
	baz=252						
TWQ1	**Liyutan**	**1.97**	**272**	*e*S	**Sn**	**02 38 17.7**	**+1.1**
	baz=280						
EDH	**Donghe**	**1.98**	**229**	*e*P	**Pn**	**02 37 51.9**	**-0.9**
	baz=224						
EDH				*e*S	**Sn**	**02 38 14.8**	**-2.1**
	baz=224						
ELDTW	**Lidau**	**2.06**	**239**	*e*P	**Pn**	**02 37 53.8**	**-0.3**
	baz=237						
ELDTW				*e*S	**Sn**	**02 38 17.4**	**-1.6**
	baz=237						
LDUT	**Ludao**	**2.09**	**220**	*e*P	**Pn**	**02 37 53.2**	**-1.0**
	baz=215						
LDUT				*e*S	**Sn**	**02 38 17.0**	**-2.4**
	baz=215						
ALS	**Alishan**	**2.09**	**249**	*e*P	**Pn**	**02 37 56.2**	**+1.6**
	baz=247						
ALS				*e*S	**Sn**	**02 38 20.4**	**+0.4**
	baz=247						
WNT	**Mingjian**	**2.09**	**259**	*e*S	**Sn**	**02 38 21.1**	**+1.5**
	baz=249						
JIRB	**Irabujima**	**2.11**	**75**	*e*S	**Sn**	**02 38 19.1**	**-0.9**
LONT	**Longtian**	**2.15**	**231**	*e*P	**Pn**	**02 37 54.1**	**-0.9**
	baz=239						
LONT				*e*S	**Sn**	**02 38 20.0**	**-0.9**
	baz=239						
CHN5	**Tsauling**	**2.17**	**252**	*e*P	**Pn**	**02 37 57.6**	**+2.1**
	baz=250						
CHN5				*e*S	**Sn**	**02 38 22.9**	**+1.3**
	baz=250						
TWGBT	**Beinan**	**2.24**	**230**	*e*P	**Pn**	**02 37 55.5**	**-0.8**
	baz=238						
TWGBT				*e*S	**Sn**	**02 38 21.9**	**-1.1**
	baz=238						
TPUB	**Ta-pu**	**2.32**	**246**	*e*P	**Pn**	**02 37 58.7**	**+1.3**
	baz=251						
TPUB				*e*S	**Sn**	**02 38 27.1**	**+2.0**
	baz=251						
CHN4	**Tsaushan**	**2.33**	**247**	*e*P	**Pn**	**02 37 59.8**	**+2.2**
	baz=245						
CHN4				*e*S	**Sn**	**02 38 27.8**	**+2.4**
	baz=245						
WTP	**Ta-pu**	**2.36**	**245**	*e*S	**Sn**	**02 38 28.4**	**+2.4**
	baz=250						
TWK	**Hsinying**	**2.46**	**246**	*e*P	**Pn**	**02 38 00.6**	**+1.3**
	baz=244						
TWK				*e*S	**Sn**	**02 38 29.9**	**+1.6**
	baz=244						
SLGT	**Liugui**	**2.46**	**239**	*e*P	**Pn**	**02 38 00.9**	**+1.7**
	baz=234						
SLGT				*e*S	**Sn**	**02 38 30.2**	**+1.9**
	baz=234						
CHN1	**Nanshi**	**2.46**	**244**	*e*P	**Pn**	**02 38 01.0**	**+1.8**
	baz=252						
CHN1				*e*S	**Sn**	**02 38 30.4**	**+2.0**
	baz=252						
MASBT	**Mashibuluo**	**2.69**	**232**	*e*P	**Pn**	**02 38 02.2**	**-0.1**
	baz=227						
MASBT				*e*S	**Sn**	**02 38 35.2**	**+1.3**
	baz=227						
EAST	**Anshuo**	**2.69**	**226**	*e*P	**Pn**	**02 38 02.5**	**+0.1**
	baz=229						
EAST				*e*S	**Sn**	**02 38 33.4**	**-0.6**
	baz=229						
SLIU	**Shizi**	**2.84**	**224**	*e*P	**Pn**	**02 38 04.9**	**+0.5**
	baz=217						
SLIU				*e*S	**Sn**	**02 38 37.3**	**-0.3**
	baz=217						
TWKBT	**Hengchun**	**3.04**	**220**	*e*P	**Pn**	**02 38 07.8**	**+0.7**
	baz=220						
TWKBT				*e*S	**Sn**	**02 38 43.6**	**+1.2**
	baz=220						
VWUC	**VWUC**	**3.25**	**283**	*e*P	**Pn**	**02 38 09.6**	**-0.3**
	baz=281						
VWUC				*e*S	**Sn**	**02 38 45.1**	**-2.3**
	baz=281						
PTMZ	**Houxiangcun**	**3.55**	**283**	*e*P	**Pn**	**02 38 14.3**	**+0.3**
	baz=280						
PTMZ				*e*S	**Sn**	**02 38 51.9**	**-2.9**
	baz=280						

*IDC **02** 02:57:56.4±1.0, 3°73S×151°42E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/50, Error ellipse: s-maj=22.4km s-min=17.0km az=30.0*
ISC 02 02:58:01.6±1.1, 3°8S±0°2×151°4E±0°1, h35km, n9, σ1s05/8, mb3.9/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.81**	**133**	Pn	**Pn**	**02 58 16.7**	**+0.1**
	220nm,0.3s,baz=130,slow=1.9,SNR=149						
KRVT				Sn	**Sn**	**02 58 27.5**	**+0.1**
	973nm,0.3s,baz=328,slow=23,SNR=23						
KRVT				LR	LR	02 58 45.8	
	comp=Z,313nm,20.9s,baz=125,slow=59						
WRA	**Warramunga Arr**	**23.17**	**225**	P	**P**	**03 03 04.3**	**-1.0**
	1.9nm,0.6s,baz=51,slow=10.0,SNR=27						
ASAR	**Alice Springs**	**26.05**	**219**	P	**P**	**03 03 30.3**	**-1.6**
	0.5nm,0.5s,baz=56,slow=8.8,SNR=11						
FITZ	**Fitzroy Crossi**	**29.00**	**239**	P	**P**	**03 03 59.6**	**+1.3**
	2.3nm,0.4s,baz=60,slow=7.0,SNR=22						
JNU	**Nakatsue**	**41.52**	**334**	LR	LR	03 23 23.6	
	comp=Z,126nm,18.4s,baz=206,slow=37						
KSRS	**Korea Array**	**46.46**	**334**	LR	LR	03 24 25.5	
	comp=Z,18nm,18.5s,baz=335,slow=34						
ILAR	**Eielson Array**	**81.71**	**22**	P	**P**	**03 10 15.9**	**-0.3**
	0.9nm,0.6s,baz=249,slow=5.2,SNR=15						
GERES	**GERESS Array B**	**122.45**	**328**	PKP	**PKiKP**	**03 16 53.8**	**+0.1**
	0.3nm,0.6s,baz=70,slow=3.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.68**	**289**	PKPbc	**PKPbc**	**03 17 46.5**	**+0.3**
	1.3nm,0.5s,baz=82,slow=2.4,SNR=31						

*KRNET **02** 03:22:21.8±0.1, 41°.63N×73°.07E, h19km, mb3.3*
*SOME **02** 03:22:21.1, 41°.63N×73°.07E, h10km*
*NNC **02** 03:22:22.6±0.8, 41°.70N×73°.12E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=6.5km s-min=3.9km az=177.0*
*KNET **02** 03:22:24.2±0.5, 41°.73N×73°.20E, h17km±3km, ml2.6, Error ellipse: s-maj=3.7km s-min=3.0km az=73.0*
ISC 02 03:22:20.4±1.3, 41°.62N±0°.04×73°.07E±0°.03, h2km±11km, n52, σ1s50/89, 29C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.69**	**42**	⇑*i*P	**Pb**	**03 22 35.1**	**-0.3**
	baz=43						
AML				⇑*i*S	**Sb**	**03 22 44.5**	**-1.1**
	baz=43						
AML	**Almayashu**	**0.69**	**42**	⇓P	**Pb**	**03 22 35.2**	**-0.3**
	36nm,0.1s,SNR=66						
AML				⇑S	**Sb**	**03 22 44.5**	**-1.1**
	207nm,0.2s						
MRKS	**Merke**	**1.13**	**6**	*e*P	**Pn**	**03 22 43.1**	**-0.3**
	34nm,0.2s						
MRKS				*e*S	**Sn**	**03 22 58.2**	**-1.4**
	140nm,0.2s						
MRKS	**Merke**	**1.13**	**6**	P	**Pn**	**03 22 42.8**	**-0.6**
	34nm,0.2s						
MRKS				S	**Sn**	**03 22 58.5**	**-1.1**
	140nm,0.2s						
EKS2	**Erkin-Say**	**1.17**	**27**	⇓*i*P	**Pg**	**03 22 43.4**	**+0.6**
	baz=27						
EKS2				⇓*i*S	**Sn**	**03 22 58.9**	**-1.6**
	baz=27						
EKS2	**Erkin-Say**	**1.17**	**27**	⇑P	**Pn**	**03 22 43.6**	**-0.4**
	21nm,0.1s,SNR=40						
EKS2				⇑S	**Sg**	**03 22 58.3**	**+0.5**
	20nm,0.1s						
UCH	**Uchtor**	**1.24**	**60**	⇑*i*P	**Pn**	**03 22 44.9**	**-0.3**
	baz=60						
UCH				⇑*i*S	**Sb**	**03 23 01.1**	**-0.3**
	baz=60						
UCH	**Uchtor**	**1.24**	**60**	⇓P	**Pn**	**03 22 45.0**	**-0.2**
	104nm,0.2s,SNR=72						
UCH				⇓S	**Sn**	**03 23 01.6**	**-1.1**
	54nm,0.1s						
AAK	**Ala-Archa**	**1.47**	**46**	⇑*i*P	**Pg**	**03 22 49.0**	**+0.5**
	baz=46						
AAK				⇑*i*S	**Sg**	**03 23 08.2**	**+0.6**
	baz=46						
AAK	**Ala-Archa**	**1.47**	**46**	⇓P	**Pg**	**03 22 49.0**	**+0.5**
	23nm,0.1s,SNR=35						
AAK				⇓S	**Sg**	**03 23 08.3**	**+0.6**
	62nm,0.2s						
FRU1	**Bishkek**	**1.66**	**44**	⇑*i*P	**Pg**	**03 22 52.3**	**+0.1**
	baz=44						
FRU1				⇑*i*S	**Sg**	**03 23 14.7**	**+0.9**
	baz=44						
KZA	**Kyzart**	**1.69**	**74**	⇑*i*P	**Pb**	**03 22 52.6**	**0.0**
	baz=74						
KZA				⇑*i*S	**Sg**	**03 23 15.3**	**+0.5**
	baz=74						
KZA	**Kyzart**	**1.69**	**74**	⇓P	**Pb**	**03 22 53.0**	**+0.4**
	23nm,0.1s,SNR=63						
KZA				⇑S	**Sg**	**03 23 15.5**	**+0.7**
	36nm,0.2s						
KBK	**Karagaybulak**	**1.74**	**53**	⇑*i*P	**Pb**	**03 22 53.7**	**+0.5**
	baz=53						
KBK				⇑*i*S	**Sg**	**03 23 16.7**	**+0.4**
	baz=53						
KBK	**Karagaybulak**	**1.74**	**53**	⇑P	**Pg**	**03 22 54.1**	**+0.4**
	57nm,0.2s,SNR=40						
KBK				⇑S	**Sg**	**03 23 17.4**	**+1.1**
	65nm,0.2s						
CHMS	**Chumysh**	**1.86**	**42**	⇑*i*P	**Pb**	**03 22 55.7**	**+0.5**
	baz=42						
CHMS				⇑*i*S	**Sg**	**03 23 20.4**	**+0.3**
	baz=42						
CHMS	**Chumysh**	**1.86**	**42**	⇓P	**Pg**	**03 22 56.2**	**+0.2**
	49nm,0.2s,SNR=52						
CHMS				⇓S	**Sg**	**03 23 20.6**	**+0.5**
	29nm,0.2s						
USP	**Ospenovka**	**1.96**	**32**	⇓*i*P	**Pb**	**03 22 56.8**	**0.0**
	baz=32						
USP				⇓*i*S	**Sg**	**03 23 22.4**	**-0.9**
	baz=32						
USP	**Ospenovka**	**1.96**	**32**	⇓P	**Pb**	**03 22 57.5**	**+0.7**
	29nm,0.2s,SNR=30						
USP				⇑S	**Sg**	**03 23 23.1**	**-0.2**
	113nm,0.3s						
SGDS	**Sogindy**	**2.16**	**32**	Pg	**Pb**	**03 23 00.6**	**+0.2**
	18nm,0.4s						
SGDS				Lg	Lg	03 23 29.9	
	75nm,0.4s						
TKM2	**Tokmak 2**	**2.28**	**55**	⇓*i*P	**Pb**	**03 23 01.3**	**-1.2**
	baz=55						
TKM2				⇓*i*S	**Sb**	**03 23 30.4**	**-0.9**
	baz=55						
TKM2	**Tokmak 2**	**2.28**	**55**	⇑P	**Pb**	**03 23 02.6**	**+0.1**
	28nm,0.2s,SNR=28						
BOOM	**Boomskoye usch**	**2.31**	**67**	⇓*e*P	**Pb**	**03 23 01.8**	**-1.1**
	baz=67						
BOOM				⇓*i*S	**Sb**	**03 23 31.1**	**-0.9**
	baz=67						
BTK	**Batken**	**2.31**	**228**	⇑*e*P	**Pb**	**03 23 02.1**	**-0.8**
	baz=28						
BTK				⇑*i*S	**Sb**	**03 23 31.5**	**-0.5**
	baz=28						
KK31	**Karatay Array**	**2.40**	**309**	⇑Pg	**Pb**	**03 23 05.6**	**+1.1**
	4.9nm,0.6s,baz=121,slow=17,SNR=43						
KK31				⇓Lg	Lg	03 23 36.8	
	5.4nm,0.2s,baz=121,slow=29,SNR=11						
ULHL	**Ulahol**	**2.45**	**74**	⇑*e*P	**Pb**	**03 23 03.8**	**-1.5**
	baz=74						
ULHL				⇑*i*S	**Sb**	**03 23 35.1**	**-1.0**
	baz=74						
ULHL	**Ulahol**	**2.45**	**74**	⇓P	**Pb**	**03 23 04.6**	**-0.7**
	7.6nm,0.2s,SNR=8.6						
KST	**Kastek**	**2.57**	**56**	*e*P	**Pb**	**03 23 08.2**	**+0.8**
	47nm,0.3s						
KST				*e*S	**Sg**	**03 23 42.5**	**-0.6**
	61nm,0.4s						
KST	**Kastek**	**2.57**	**56**	Pg	**Pb**	**03 23 08.2**	**+0.8**
	47nm,0.3s						
KST				Lg	Lg	03 23 42.5	
	61nm,0.4s						
BRLS	**Boroldaу**	**2.78**	**301**	*e*P	**Pb**	**03 23 12.3**	**+1.5**
	13nm,0.3s						
BRLS				*e*S	**Sg**	**03 23 50.0**	**+0.4**
	35nm,0.6s						
BRLS	**Boroldaу**	**2.78**	**301**	Pg	**Pb**	**03 23 12.3**	**+1.5**
	13nm,0.3s						
BRLS				Lg	Lg	03 23 50.0	
	35nm,0.6s						
KRBS	**Karabastau**	**2.83**	**42**	*e*P	**Pb**	**03 23 12.3**	**+0.6**
	9.6nm,0.3s						
KRBS				*e*S	**Sg**	**03 23 49.5**	**-1.7**
	39nm,0.6s						
KRBS	**Karabastau**	**2.83**	**42**	Pg	**Pb**	**03 23 12.3**	**+0.6**
	9.6nm,0.3s						
KRBS				Lg	Lg	03 23 49.5	
	39nm,0.6s						
MTBS	**Maitube**	**2.91**	**58**	*e*P	**Pb**	**03 23 14.3**

	9.6nm,0.4s							
TNSS	**Tian-Shan**	**3.21**	**63**	Pg		**Pb**	**03 23 20.1**	**+1.8**
	13nm,0.5s							
TNSS				Lg		Lg	03 24 03.5	
	9.6nm,0.4s							
KUU	**Kurty**	**3.31**	**46**	*e*P		**Pb**	**03 23 21.0**	**+1.1**
	3.5nm,0.2s							
KUU				*e*S		**Sg**	**03 24 04.7**	**-2.0**
	26nm,0.4s							
KUU	**Kurty**	**3.31**	**46**	Pg		**Pb**	**03 23 21.0**	**+1.1**
	3.5nm,0.2s							
KUU				Lg		Lg	03 24 04.7	
	26nm,0.4s							
KTBS	**Karatobe**	**3.39**	**51**	*e*P		**Pb**	**03 23 22.5**	**+1.3**
	3.3nm,0.3s							
KTBS				*e*S		**Sg**	**03 24 07.2**	**-2.0**
	38nm,0.6s							
KTBS	**Karatobe**	**3.39**	**51**	Pg		**Pb**	**03 23 22.5**	**+1.3**
	3.3nm,0.3s							
KTBS				Lg		Lg	03 24 07.2	
	38nm,0.6s							
BTLS	**Baital**	**3.49**	**11**	*e*P		**Pb**	**03 23 24.5**	**+1.6**
	1.7nm,0.4s							
BTLS				*e*S		**Sg**	**03 24 10.7**	**-1.9**
	23nm,0.3s							
BTLS	**Baital**	**3.49**	**11**	Pg		**Pb**	**03 23 24.5**	**+1.6**
	1.7nm,0.4s							
BTLS				Lg		Lg	03 24 10.7	
	23nm,0.3s							
ANVS	**Anan'yevo**	**3.61**	**70⇑**	*i*P		**Pn**	**03 23 19.8**	**+2.2**
	baz=70							
ANVS			⇑	*i*S		**Sn**	**03 24 02.6**	**+1.7**
	baz=70							
SATY	**Saty**	**4.21**	**68**	*e*P		**Pg**	**03 23 38.9**	**-2.1**
	2.7nm,0.4s							
SATY				*e*S		**Sg**	**03 24 35.1**	**-0.6**
	8.9nm,0.3s							
SATY	**Saty**	**4.21**	**68**	Pg		**Pg**	**03 23 38.9**	**-2.1**
	2.7nm,0.4s							
SATY				Lg		Lg	03 24 35.1	
	8.9nm,0.3s							
KPKS	**Kokpek**	**4.54**	**64**	*e*P		**Pb**	**03 23 44.1**	**+3.2**
	9.4nm,0.4s							
KPKS				*e*S		**Sg**	**03 24 43.9**	**-2.4**
	12nm,0.5s							
UZB	**Uzynbulak**	**4.67**	**69**	*e*P		**Pb**	**03 23 46.1**	**+3.0**
	2.4nm,0.5s							
UZB				*e*S		**Sg**	**03 24 47.2**	**-3.1**
	5.5nm,0.7s							
UZB	**Uzynbulak**	**4.67**	**69**	Pg		**Pb**	**03 23 46.1**	**+3.0**
	2.4nm,0.5s							
UZB				Lg		Lg	03 24 47.2	
	5.5nm,0.7s							
DJR	**Jarkent**	**5.63**	**59**	*e*P		**Pb**	**03 24 03.9**	**+4.5**
	1.4nm,0.4s							
DJR				*e*S		**Sg**	**03 25 17.8**	**-3.2**
	4.1nm,0.8s							
DJR	**Jarkent**	**5.63**	**59**	Pg		**Pb**	**03 24 03.9**	**+4.5**
	1.4nm,0.4s							
DJR				Lg		Lg	03 25 17.8	
	4.1nm,0.8s							

GCG ***02*** *03:34:31.9±0.4, 13˚28N×93˚62W, h50km±999km, MD4.8*
GCMT ***02*** *03:34:46.7±0.3, 13˚74N±0˚02×92˚94W±0˚03, h13km±1km, MW4.9/89, Moment Tensor Solution. s29,c33; s89,c110; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.34±.14; Mθθ-1.44±.09; Mϕϕ-0.90±.08; Mrθ1.84±.29; Mθϕ0.48±.05; Mϕr-1.59±.29; Best double couple: M₀3.16500×10¹⁶ NP1:ϕs299.00000°, δ20.00000°, λ81.00000°. NP2: ϕs128.00000°, δ70.00000°, λ93.00000°. Principal axes: T 3.4860, Plg65.0000°, Azm44.0000°; N -0.6460, Plg3.0000°, Azm307.0000°; P -2.8440, Plg25.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***02*** *03:34:48.6±1.8, 13˚96N±0˚06×92˚56W±0˚06, h41km±7km, mb4.3/145 Error ellipse: s-maj=9.8km s-min=7.3km az=211.0*
MEX ***02*** *03:34:48.1±0.7, 13˚88N×92˚66W, h15km, MD4.8*
IDC ***02*** *03:34:53.8±3.1, 14˚13N×92˚22W, h80km±28km, mb3.8/17, mb1 4.0/21, mb1mx3.8/54, mbtmp4.1/21, MS4.2/32, Ms1 4.2/32, ms1mx4.1/41, Error ellipse: s-maj=29.7km s-min=10.3km az=56.0*
ISC 02 03:34:48.5±0.6, 13˚93N±0˚06×92˚60W±0˚06, h36km±2km, n296, σ1§12/228, mb4.3/70, MS4.2/32, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.02**	**19**	*i*	P		**Pn**	**03 35 05.5**	**-0.7**
THIG					*e*S		**Sn**	**03 35 18.5**	**-0.9**
THIG		**1.02**	**19**				**Pn**	**03 35 05.5**	**-0.7**
THIG							**Sn**	**03 35 18.5**	**-0.9**
RTAL	**Retalhuleu**	**1.06**	**56**				**Pn**	**03 35 06.7**	**-0.1**
RTAL							**Sn**	**03 35 19.1**	**-1.2**
HUEH	**Huehuetenango**	**1.74**	**38**	*e*P			**Pn**	**03 35 17.1**	**+0.7**
HUEH	**Huehuetenango**	**1.74**	**38**				**Pn**	**03 35 16.7**	**+0.3**
FUG	**Fuego 3**	**1.78**	**73**	*e*P			**Pn**	**03 35 16.9**	**0.0**
PCIG		**1.86**	**341⇑**	*i*P			**Pn**	**03 35 16.4**	**-1.4**
PCIG				*i*S			**Sn**	**03 35 38.6**	**-1.5**
PCIG		**1.86**	**341**				**Pn**	**03 35 16.4**	**-1.4**
PCIG							**Sn**	**03 35 38.6**	**-1.5**
PCG	**Pacaya**	**1.99**	**77**	*e*P			**Pn**	**03 35 20.1**	**+0.3**
IXG	**Ixpaco**	**2.11**	**83**	*e*P			**Pn**	**03 35 19.8**	**-1.6**
IXG	**Ixpaco**	**2.11**	**83**	*e*P			**Pn**	**03 35 19.8**	**-1.6**
IXG	**Ixpaco**	**2.11**	**83**	*e*P			**Pn**	**03 35 20.8**	**-0.6**
NBG	**Las Nubes**	**2.28**	**73**	*e*P			**Pn**	**03 35 25.6**	**+1.7**
CCIG	**Comitan**	**2.38**	**11**	*i*P			**Pn**	**03 35 26.6**	**+1.5**
CCIG				*i*S			**Sn**	**03 35 52.6**	**-0.5**
CCIG	**Comitan**	**2.38**	**11**				**Sn**	**03 35 52.6**	**-0.5**
CCIG	**Comitan**	**2.38**	**11**				**Pn**	**03 35 26.4**	**+1.3**
TGIG		**2.87**	**350**	*i*P			**Pn**	**03 35 31.7**	**-0.1**
TGIG				*e*S			**Sn**	**03 36 04.6**	**-0.5**
TGIG		**2.87**	**350**				**Pn**	**03 35 31.7**	**-0.1**
TGIG							**Sn**	**03 36 04.6**	**-0.5**
MRL	**Marmol**	**3.05**	**68**	*e*S			Sn	03 36 24.2	+14
CEDA	**San Andres**	**3.12**	**92**	*e*P			**Pn**	**03 35 34.7**	**-0.5**
CEDA	**San Andres**	**3.12**	**92**	*e*P			**Pn**	**03 35 34.7**	**-0.5**
MTO3	**Montecristo**	**3.18**	**81**				**Pn**	**03 35 35.2**	**-0.9**
ESQI	**Esquipulas**	**3.22**	**78**				**Pn**	**03 35 36.7**	**+0.1**
SNET	**Serv Nac Est T**	**3.28**	**94**				**Pn**	**03 35 37.5**	**0.0**
CMIG	**Matias Romero**	**3.83**	**325**	*i*P			**Pn**	**03 35 42.1**	**-2.9**
CMIG				*i*S			**Sn**	**03 36 28.4**	**-0.4**
CMIG	**Matias Romero**	**3.83**	**325**				**Pn**	**03 35 42.1**	**-2.9**
CMIG							**Sn**	**03 36 28.4**	**-0.4**
TUIG	**Tuzandepetl**	**4.44**	**337**	*i*P			Pn	03 36 02.8	+10
LCND	**La Caada**	**4.62**	**97**	*e*P			**Pn**	**03 35 55.5**	**-0.3**
LCND	**La Caada**	**4.62**	**97**	*e*P			**Pn**	**03 35 55.5**	**-0.3**
TGUH	**Tegucigalpa,Un**	**5.17**	**88**	Pn			**Pn**	**03 36 03.6**	**+0.1**
MATN	**Matagalpa**	**6.57**	**98**	Pn			**Pn**	**03 36 21.9**	**-0.8**
TLIG	**Tlapa**	**6.78**	**303**	Pn			**Pn**	**03 36 25.0**	**-0.6**
TEIG	**Tepich**	**7.50**	**33**	P			**Pn**	**03 36 36.0**	**+0.7**
	5.0nm,0.3s,baz=228,slow=2.7,SNR=34								
TEIG					S		**Sn**	**03 38 00.8**	**+1.7**
	baz=225,slow=22,SNR=1.0								
TEIG					LR		LR	03 39 55.4	
	comp=Z,5μm,18.1s,baz=217,slow=42								
TEIG	**Tepich**	**7.50**	**33**	*i*P			**Pn**	**03 36 35.1**	**-0.3**
TEIG	**Tepich**	**7.50**	**33**	Pn			**Pn**	**03 36 35.5**	**+0.1**
JTS	**Las Juntas de**	**8.31**	**115**	P			**Pn**	**03 36 47.7**	**+1.2**
	0.9nm,0.3s,baz=340,slow=10,SNR=5.1								
JTS					S		**Sn**	**03 38 18.7**	**-0.5**
	baz=127,slow=22,SNR=0.7								
JTS	**Las Juntas de**	**8.31**	**115**	Pn			**Pn**	**03 36 47.5**	**+1.0**
MOIG	**Morelia**	**10.01**	**306**	Pn			**Pn**	**03 37 10.5**	**+0.5**
833A	**Chaparral WMA,**	**15.65**	**337**	P			**Pn**	**03 38 26.4**	**+0.1**
	baz=154								
HKT	**Hockley**	**16.22**	**350**	P			**P**	**03 38 34.8**	**-1.5**
435B	**Jarrell**	**17.39**	**346**	P			**Pn**	**03 38 48.4**	**+0.1**
	baz=163								
344A	**Westbrook Farm**	**17.52**	**5**	P			**Pn**	**03 38 49.9**	**0.0**
JCT	**Junction City**	**17.75**	**339**	P			**P**	**03 38 53.0**	**-0.4**
	baz=156								
JCT	**Junction City**	**17.75**	**339**	P			**P**	**03 38 54.2**	**+0.8**
NATX	**Nacogdoches**	**17.84**	**354**	P			**P**	**03 38 54.6**	**+0.3**
	baz=173								
BRAL	**Brewton**	**17.90**	**16**	P			**Pn**	**03 38 54.2**	**-0.4**
	baz=197								
CBOC	**Ciudad Bolivar**	**18.19**	**115**	*e*P			**Pn**	**03 38 58.4**	**-0.1**
VBMS	**Vicksburg**	**18.30**	**6**	P			**Pn**	**03 39 00.1**	**+0.6**
	baz=186								
PLMC	**San Jos del P**	**18.42**	**118**	*e*P			**P**	**03 38 59.1**	**-1.8**
TX32	**Lajitas Array**	**18.44**	**328**	Pn			**Pn**	**03 39 03.1**	**+1.8**
TXAR	**Lajitas Array**	**18.44**	**328**	P			**Pn**	**03 39 02.9**	**+1.6**
	0.1nm,0.3s,baz=153,slow=11,SNR=16								
TXAR					LR		LR	03 47 08.9	
	comp=Z,307nm,19.3s,baz=0.0,slow=40								
TXAR	**Lajitas Array**	**18.44**	**328**	Pn			**Pn**	**03 39 03.2**	**+1.9**
TX31	**Lajitas Ar. Si**	**18.44**	**328**	P			**Pn**	**03 39 03.4**	**+2.1**
WHTX	**Lake Whitney,**	**18.52**	**347**	P			**Pn**	**03 39 02.9**	**+0.7**
	baz=164								
352A	**Blakely**	**18.83**	**21**				**P**	**03 39 05.2**	**0.0**
352A					IAmb		IAmb	03 39 16.1	
	comp=Z,18nm,0.9s								
SMLC	**San Martn de**	**18.86**	**104**	*e*P			**Pn**	**03 39 06.1**	**-0.4**
250A	**Grady**	**18.88**	**17**	P			**P**	**03 39 04.7**	**-1.0**
GUY2C	**Guyana, Caldas**	**19.06**	**115**	*e*P			**Pn**	**03 39 10.5**	**+1.2**
Z41A	**Richland Creek**	**19.24**	**359**	P			**Pn**	**03 39 10.6**	**-0.2**
	baz=179								
Z41A	**Richland Creek**	**19.24**	**359**	P			**P**	**03 39 09.3**	**-0.4**
Z41A					IAmb		IAmb	03 39 15.8	
	comp=Z,19nm,1.1s								
TIGA	**Tiflon**	**19.29**	**24**	P			**Pn**	**03 39 11.2**	**-0.3**
	baz=207								
PTBC	**PUERTO BERRIO,**	**19.30**	**111**	*e*P			**P**	**03 39 09.6**	**-0.9**
ANIL	**Santa Ana**	**19.38**	**117**	*e*P			**Pn**	**03 39 14.1**	**+1.1**
POPC	**Popayan, Colom**	**19.39**	**124**	*e*P			**P**	**03 39 10.7**	**-0.9**
TOLC	**Tolima**	**19.41**	**117**	*e*P			**Pn**	**03 39 18.8**	**+5.5**
OTAV	**Otavalo**	**19.53**	**133**	P			**P**	**03 39 13.0**	**-0.5**
LPIG	**La Paz**	**19.54**	**304**	LR			LR	03 47 22.3	
	comp=Z,439nm,21.4s,baz=108,slow=38								
Z47A	**Carrollton**	**19.62**	**11**	P			**P**	**03 39 12.9**	**-0.9**
Z47A					IAmb		IAmb	03 39 22.1	
	comp=Z,15nm,1.1s								
GCUF	**Volcan Galeras**	**19.68**	**129**	*e*P			**P**	**03 39 11.1**	**-4.0**
ABTX	**Abilene, Hawle**	**19.68**	**342**	P			**Pn**	**03 39 16.0**	**-0.2**
	baz=159								
ABTX	**Abilene, Hawle**	**19.68**	**342**		IAmb		IAmb	03 39 17.4	
	comp=Z,24nm,1.1s								
LRAL	**Lakeview Retre**	**19.69**	**14**	P			**P**	**03 39 15.2**	**+0.6**
	baz=196								
LRAL	**Lakeview Retre**	**19.69**	**14**	P			**P**	**03 39 13.7**	**-0.9**
PCON	**Cinco Dias**	**19.73**	**124**	*e*P			**Pn**	**03 39 20.0**	**+2.5**
OCAC	**Ocana**	**19.74**	**105**	*e*P			**P**	**03 39 14.8**	**-0.7**
MARP	**Paez Belalcaza**	**19.79**	**122**	*e*P			**Pn**	**03 39 18.3**	**+0.4**
ORTC	**Ortega, Tolima**	**19.81**	**119**	*e*P			**P**	**03 39 15.9**	**-0.2**
152A	**Waverly Hall**	**19.99**	**20**	P			**P**	**03 39 16.7**	**-1.2**
152A					IAmb		IAmb	03 39 34.5	
	comp=Z,20nm,1.1s								
SPBC	**San Pablo de B**	**20.02**	**112**	*e*P			**P**	**03 39 17.9**	**-0.5**
ROSC	**El Rosal**	**20.16**	**115**	P			**P**	**03 39 20.7**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=332,slow=6.2,SNR=17								
ROSC	**El Rosal**	**20.16**	**115**	*e*P			Pn	03 39 22.3	0.0
ROSC	**El Rosal**	**20.16**	**115**	P			**P**	**03 39 19.2**	**-1.1**
BARC	**Barichara**	**20.44**	**109**	*e*P			Pn	03 39 24.9	-0.5
X40A	**Basin Creek Fa**	**20.46**	**359**	P			**P**	**03 39 24.0**	**+1.0**
	baz=179								
MIAR	**Mount Ida**	**20.54**	**358**	P			**P**	**03 39 24.9**	**+1.0**
	baz=177								
MIAR	**Mount Ida**	**20.54**	**358**	P			**P**	**03 39 23.5**	**-0.4**
MIAR					IAmb		IAmb	03 39 37.5	
	comp=Z,22nm,0.9s								
X43A	**Marvell**	**20.55**	**4**	P			**P**	**03 39 24.3**	**+0.3**
	baz=184								
Y49A	**Blount Mountai**	**20.62**	**15**	P			**P**	**03 39 22.8**	**-1.9**
PAMC	**Pamplona, Colo**	**20.62**	**106**	*e*P			**P**	**03 39 24.0**	**-1.4**
OXF	**Oxford**	**20.69**	**7**	P			Pn	03 39 26.7	-1.2
	baz=188								
OXF	**Oxford**	**20.69**	**7**				**P**	**03 39 24.8**	**-0.7**
OXF					IAmb		IAmb	03 39 37.7	
	comp=Z,28nm,1.1s								
X37A	**Clayton**	**20.72**	**354**	P			**P**	**03 39 25.6**	**-0.2**
X37A					IAmb		IAmb	03 39 41.3	
	comp=Z,9.6nm,0.7s								
CHIC	**Chingaza**	**20.77**	**115**	*e*P			Pn	03 39 28.4	-1.1
FLOC	**Florencia**	**20.77**	**125**	*e*P			**P**	**03 39 27.0**	**+0.4**
RUSC	**La Rusia**	**20.81**	**111**	*e*P			**P**	**03 39 27.2**	**-0.2**
GOGA	**Godfrey**	**21.10**	**22**	P			**P**	**03 39 30.2**	**+0.4**
	baz=205								
GOGA	**Godfrey**	**21.10**	**22**	P			**P**	**03 39 28.4**	**-1.4**
W41B	**Gary Mavity, V**	**21.15**	**1**	P			**P**	**03 39 31.2**	**+0.8**
	baz=180								
W39A	**Magazine**	**21.20**	**357**	P			**P**	**03 39 31.7**	**+0.8**
	baz=176								
W39A	**Magazine**	**21.20**	**357**		IAmb		IAmb	03 39 52.2	
	comp=Z,14nm,1.1s								
MNTX	**Cornudas Mount**	**21.21**	**329**	P			**P**	**03 39 31.3**	**+0.2**
	baz=143,SNR=13								
MNTX	**Cornudas Mount**	**21.21**	**329**	P			**P**	**03 39 31.1**	**-0.1**
WHAR	**Wooly Hollow**	**21.27**	**1**		IAmb		IAmb	03 39 39.0	
	comp=Z,9.4nm,1.1s								
Y52A	**Lilburn**	**21.30**	**20**		IAmb		IAmb	03 39 42.6	
	comp=Z,9.8nm,0.9s								
WMOK	**Wichita Mounta**	**21.45**	**346**	P			**P**	**03 39 33.9**	**+0.2**
	baz=163								
WMOK	**Wichita Mounta**	**21.45**	**346**	P			**P**	**03 39 33.8**	**0.0**
157A	**Early Branch**	**21.46**	**28**	P			**P**	**03 39 33.7**	**0.0**
	baz=212								
FPAL	**Fort Paine**	**21.47**	**16**		IAmb		IAmb	03 39 48.2	
	comp=Z,11nm,0.9s								
X51A	**Calhoun**	**21.70**	**18**		IAmb		IAmb	03 39 37.3	
	comp=Z,8.3nm,0.9s								
MACC	**Macarena, Meta**	**21.93**	**121**	*e*P			**P**	**03 39 39.1**	**+0.1**
SWET	**Sewanee**	**22.03**	**15**		IAmb		IAmb	03 39 39.8	
	comp=Z,14nm,1.2s								
SDV	**Santo Domingo**	**22.10**	**101**	P			**P**	**03 39 39.2**	**-1.9**
	comp=Z,3.9nm,0.3s,baz=336,slow=4.3,SNR=3.1								
SDV					LR		LR	03 50 11.1	
	comp=Z,416nm,18.7s,baz=310,slow=42								
Z57A	**Bowman**	**22.11**	**27**	P			**P**	**03 39 40.1**	**-0.7**
	baz=212								
Y55A	**Saluda**	**22.17**	**24**	P			**P**	**03 39 40.7**	**-0.7**
	baz=208								
NHSC	**New Hope**	**22.19**	**29**	P			**P**	**03 39 41.8**	**+0.2**
	baz=213								
HODGE	**Hodges**	**22.28**	**23**		IAmb		IAmb	03 39 56.7	
	comp=Z,19nm,1.2s								
HHAR	**Hobbs**	**22.29**	**357**		IAmb		IAmb	03 39 52.8	
	comp=Z,5.8nm,0.5s								
V48A	**Smith Brothers**	**22.33**	**12**		IAmb		IAmb	03 39 44.9	
	comp=Z,6.0nm,0.8s								
U40A	**Yellville**	**22.33**	**359**	P			**P**	**03 39 43.0**	**-0.1**
	baz=179								
U40A	**Yellville**	**22.33**	**359**		IAmb		IAmb	03 40 03.7	
	comp=Z,8.8nm,1.1s								
AMTX	**Amarillo**	**22.41**	**340**	P			**P**	**03 39 43.5**	**-0.6**
	baz=156								
U38A	**Gravette**	**22.47**	**356**		IAmb		IAmb	03 40 02.9	
	comp=Z,9.6nm,1.1s								
X54A	**Belton**	**22.51**	**23**	P			**P**	**03 39 43.8**	**-1.3**
	baz=206								
Z58A	**St. Stephen**	**22.55**	**29**	P			**P**	**03 39 45.0**	**-0.5**
	baz=214								
CPCT	**Cooper Cave**	**22.63**	**17**		IAmb		IAmb	03 39 59.5	
	comp=Z,9.0nm,0.9s								
SRIG	**Santa Rosalia**	**22.65**	**309**	P			**P**	**03 39 48.4**	**+1.8**
SRIG					IAmb		IAmb	03 39 52.3	
	comp=Z,12nm,1.1s								
HSIG		**22.68**	**314**	P			**P**	**03 39 47.7**	**+0.7**
HSIG					IAmb		IAmb	03 39 59.8	
	comp=Z,6.3nm,0.7s								
JSC	**Jenkinsville**	**22.71**	**25**		IAmb		IAmb	03 40 02.6	
	comp=Z,8.2nm,1.1s								
X55A	**Gracelyn & Ava**	**22.73**	**24**	P			**P**	**03 39 46.4**	**-1.0**
	baz=208								
PBMO	**Poplar Bluff**	**22.83**	**4**		IAmb		IAmb	03 40 02.4	
	comp=Z,7.7nm,0.8s								
X56A	**White Oak**	**22.99**	**25**	P			**P**	**03 39 48.8**	**-1.3**
	baz=209								
V51A	**Loudon**	**23.01**	**17**		IAmb		IAmb	03 40 07.5	
	comp=Z,7.3nm,0.9s								
TKL	**Tuckaleechee C**	**23.04**	**19**	P			**P**	**03 39 49.9**	**-0.7**
	comp=Z,6.7nm,0.6s,baz=190,slow=9.9,SNR=13								
TKL					LR		LR	03 50 03.4	
	comp=Z,960nm,19.9s,baz=216,slow=40								
TKL	**Tuckaleechee C**	**23.04**	**19**		IAmb		IAmb	03 39 52.3	
	comp=Z,23nm,1.1s								
W54A	**Cherokee Point**	**23.06**	**22**	P			**P**	**03 39 49.9**	**-0.8**
	baz=206								
121A	**Cookes Peak, D**	**23.13**	**326**	P			**P**	**03 39 52.5**	**+0.8**
	baz=139,SNR=5.5								
T35A	**Sooner Cattle**	**23.15**	**352**		IAmb		IAmb	03 39 52.1	
	comp=Z,8.7nm,0.9s								
V52A	**Sevierville**	**23.27**	**19**		IAmb		IAmb	03 40 02.4	
	comp=Z,20nm,1.1s								
U49A	**Red Boiling Sp**	**23.30**	**14**		IAmb		IAmb	03 39 53.3	
	comp=Z,14nm,1.1s								
KMSC	**Kings Mountain**	**23.44**	**24**	P			**P**	**03 39 53.4**	**-1.1**
	baz=208,SNR=6.3								
KMSC	**Kings Mountain**	**23.44**	**24**	IAmb			IAmb	03 39 54.8	
	comp=Z,21nm,1.1s								
T47A	**Sharon Grove**	**23.48**	**11**	IAmb			IAmb	03 40 07.2	
	comp=Z,9.0nm,0.8s								
Y59A	**Loris**	**23.53**	**30**	P			**P**	**03 39 53.9**	**-1.5**
	baz=215								
S39A	**Bolivar**	**23.67**	**359**	IAmb			IAmb	03 39 58.1	
	comp=Z,10nm,0.7s								
W56A	**Indian Trail**	**23.73**	**25**	P			**P**	**03 39 56.0**	**-1.3**
	baz=210								
V54A	**Nebo**	**23.77**	**22**	P			**P**	**03 39 57.3**	**-0.4**
	baz=206								
X58A	**Rowland**	**23.78**	**28**	P			**P**	**03 39 56.0**	**-1.8**
	baz=213								
TZTN	**Tazewell**	**23.93**	**18**	P			**P**	**03 39 58.7**	**-0.5**
	baz=202								
T50A	**Nancy**	**24.02**	**15**	IAmb			IAmb	03 40 13.3	
	comp=Z,12nm,1.1s								
V55A	**Taylorsville**	**24.11**	**23**	P			**P**	**03 40 00.0**	**-0.8**
	baz=207,SNR=5.4								
V55A	**Taylorsville**	**24.11**	**23**	IAmb			IAmb	03 40 02.0	
	comp=Z,15nm,1.0s								
V56A	**Mocksville**	**24.35**	**24**	P			**P**	**03 40 01.8**	**-1.3**
	baz=209								
ANMO	**Albuquerque**	**24.38**	**332**	P			**P**	**03 40 03.9**	**+0.4**
U54A	**Nelsons Funny**	**24.48**	**21**	P			**P**	**03 40 03.8**	**-0.5**
	baz=205								
U54A	**Nelsons Funny**	**24.48**	**21**	IAmb			IAmb	03 40 05.3	
	comp=Z,14nm,0.9s								
TUC	**Tucson**	**24.71**	**321**	P			**P**	**03 40 05.3**	**-1.2**
	baz=133								
TUC	**Tucson**	**24.71**	**321**	P			**P**	**03 40 07.2**	**+0.8**
V57A	**Coltrane Farms**	**24.71**	**26**	P			**P**	**03 40 05.0**	**-1.3**
	baz=210,SNR=5.5								
U55A	**TA2, Sparta**	**24.74**	**23**	P			**P**	**03 40 05.0**	**-1.7**
	baz=207								
WCI	**Wyandotte Cave**	**24.84**	**12**	P			**P**	**03 40 06.2**	**-1.2**
	baz=194								
WCI	**Wyandotte Cave**	**24.84**	**12**	P			**P**	**03 40 06.4**	**-1.0**
U56A	**King**	**24.86**	**24**	P			**P**	**03 40 06.2**	**-1.5**
	baz=209								
V58A	**Windy Hill, Pi**	**24.92**	**27**	IAmb			IAmb	03 40 08.5	
	comp=Z,15nm,1.1s								
OLIL	**Olney**	**25.02**	**8**	IAmb			IAmb	03 40 22.4	
	comp=Z,16nm,0.9s								
T54A	**Tazewell**	**25.05**	**21**	P			**P**	**03 40 07.9**	**-1.6**
	baz=206								
ATAH	**Atahualpa**	**25.24**	**145**	P			**P**	**03 40 13.4**	**+1.6**
	comp=Z,6.2nm,1.1s,baz=266,slow=17,SNR=6.0								
ATAH					LR		LR	03 48 29.9	
	comp=Z,201nm,20.0s,baz=328,slow=32								
U57A	**Blanch**	**25.36**	**26**	P			**P**	**03 40 10.5**	**-1.7**
	baz=211,SNR=5.5								
T55A	**Pulaski**	**25.39**	**22**	P			**P**	**03 40 12.0**	**-0.5**
	baz=207								
T25A	**Trinidad**	**25.40**	**338**	P			**P**	**03 40 14.3**	**+1.5**
	baz=152,SNR=9.9								
CBKS	**Cedar Bluff**	**25.57**	**347**	P			**P**	**03 40 13.5**	**-0.7**
	baz=163,SNR=7.0								
T56A	**Rocky Mt**	**25.59**	**24**	P			**P**	**03 40 14.6**	**+0.3**
	baz=209								
214A	**Organ Pipe Nat**	**25.77**	**318**	P			**P**	**03 40 15.8**	**-0.2**
S55A	**Lewisburg**	**26.07**	**22**	P			**P**	**03 40 17.2**	**-1.5**
	baz=207								
T58A	**Grand View Acr**	**26.14**	**26**	P			**P**	**03 40 18.6**	**-0.6**
	baz=212								
P48A	**Milroy**	**26.20**	**13**	IAmb			IAmb	03 40 35.6	
	comp=Z,7.2nm,0.8s								
Q51A	**Peebles**	**26.30**	**16**	IAmb			IAmb	03 40 39.1	
	comp=Z,16nm,1.1s								
SDCO	**Great Sand Dun**	**26.35**	**336**	P			**P**	**03 40 22.1**	**+0.6**
	baz=150,SNR=17								
SDCO	**Great Sand Dun**	**26.35**	**336**	IAmb			IAmb	03 40 39.0	
	comp=Z,13nm,1.1s								
Q52A	**Bid

baz=212
PDAR Pinedale Array 32.24 336 P **P** **03 41 13.9 +0.2**
comp=Z,0.3nm,0.5s,baz=86,slow=2.1,SNR=4.5
VES Vestal, Richgr 32.26 317 P **P** **03 41 15.3 +1.6**
baz=125
H53A Bobcaygeon 32.79 19 P **P** **03 41 17.5 -0.7**
baz=205
SADO Sadowa 32.80 18 LR LR 03 56 32.2
comp=Z,891nm,18.5s,baz=216,slow=40
ELK Elko 33.23 328 P **P** **03 41 23.2 +0.8**
comp=Z,0.9nm,0.8s,baz=136,slow=5.1,SNR=4.3
ELK LR LR 03 56 46.5
comp=Z,554nm,18.1s,baz=136,slow=40
NV11 Mina Array Sit 33.27 322 IAmb IAmb 03 41 43.3
comp=Z,7.7nm,1.1s
NVAR Mina Array Bea 33.36 322 P **P** **03 41 25.0 +1.5**
comp=Z,1.9nm,0.7s,baz=136,slow=8.3,SNR=16
NVAR LR LR 03 56 51.3
comp=Z,588nm,18.6s,baz=132,slow=40
NVAR Mina Array Bea 33.36 322 P **P** **03 41 24.2 +0.7**
KVN Kaiserville 33.64 323 IAmb IAmb 03 41 46.8
comp=Z,2.9nm,1.1s
IMW Indian Meadow 33.74 336 IAmb IAmb 03 41 32.1
comp=Z,4.8nm,1.1s
H17A Grant Village 34.01 337 IAmb IAmb 03 41 37.4
comp=Z,5.3nm,1.1s
RLMT Red Lodge 34.16 339 P **P** **03 41 30.3 -0.1**
baz=150
HLID Hailey 34.95 332 P **P** **03 41 38.2 +0.9**
baz=141
HLID Hailey 34.95 332 IAmb IAmb 03 41 55.9
comp=Z,3.5nm,1.1s
BOZ Bozeman (W) 35.43 337 IAmb IAmb 03 42 00.4
comp=Z,5.0nm,1.1s
MFID Camas Ranch 35.51 330 IAmb IAmb 03 42 05.1
comp=Z,3.2nm,1.1s
D55A Sainte-Anne-du 35.97 20 P **P** **03 41 44.5 -1.2**
baz=209
ULM Lac du Bonnet 36.31 356 LR LR 03 58 22.9
comp=Z,179nm,19.7s,baz=171,slow=39
J08A Circle Bar Ran 36.78 328 IAmb IAmb 03 42 06.5
comp=Z,8.7nm,1.2s
SAML Samuel 37.00 126 P **P** **03 41 53.9 -1.0**
SAML IAmb IAmb 03 41 55.4
comp=Z,5.7nm,1.0s
MSO Missoula 37.35 336 P **P** **03 41 58.4 +0.7**
baz=144
MSO Missoula 37.35 336 IAmb IAmb 03 42 00.7
comp=Z,3.1nm,1.0s
YBH Yreka Blue Hor 38.06 322 LR LR 03 59 09.6
comp=Z,486nm,19.9s,baz=147,slow=38
LPAZ La Paz 38.55 140 P **P** **03 42 09.2 +0.5**
comp=Z,3.0nm,1.1s,baz=333,slow=4.3,SNR=5.5
LPAZ LR LR 03 57 29.3
comp=Z,175nm,18.3s,baz=324,slow=35
LPAZ La Paz 38.55 140 P **P** **03 42 07.8 -0.8**
H04A Detroit Lake 39.64 326 IAmb IAmb 03 42 35.5
comp=Z,9.0nm,1.1s
NEW Newport 39.80 334 P **P** **03 42 20.1 +2.0**
comp=Z,1.0nm,0.6s,baz=124,slow=11,SNR=1.6
NEW LR LR 04 00 55.0
comp=Z,203nm,18.6s,baz=140,slow=39
NEW Newport 39.80 334 P **P** **03 42 18.4 +0.3**
NEW IAmb IAmb 03 42 34.3
comp=Z,3.9nm,1.1s
H04D Lebanon 39.84 326 P **P** **03 42 20.0 +1.7**
baz=130
SIV San Ignacio 43.07 133 P **P** **03 42 43.6 -1.7**
comp=Z,7.1nm,0.9s,baz=308,slow=7.5,SNR=19
SCHQ Schefferville 45.49 21 LR LR 04 02 49.5
comp=Z,915nm,20.9s,baz=196,slow=37
BBB Bella Bella 47.53 331 LR LR 04 04 00.4
comp=Z,164nm,20.3s,baz=133,slow=37
YKA Yellowknife Ar 62.58 347 P **P** **03 43 45.7 -0.5**
comp=Z,10.0nm,1.0s,baz=141,slow=7.7,SNR=8.0
YKA LR LR 04 11 04.4
comp=Z,120nm,18.1s,baz=0.0,slow=43
TAOE Nuku Hiva Isla 52.33 247 *e*LR LR 03 58 42.6
comp=Z,187nm,28.1s
DLBC Dease Lake 52.48 336 P **P** **03 43 59.0 +1.3**
comp=Z,3.7nm,0.7s,baz=161,slow=7.9,SNR=6.4
DLBC Dease Lake 52.48 336 P **P** **03 43 58.0 +0.3**
BDFB Brasilia 52.98 122 P **P** **03 44 02.1 +0.1**
comp=Z,1.8nm,0.7s,baz=279,slow=4.1,SNR=3.5
BDFB Brasilia 52.98 122 P **P** **03 44 01.1 -0.9**
BDFB IAmb IAmb 03 44 04.1
comp=Z,3.0nm,0.8s
PLCA Paso Flores 58.11 160 P **P** **03 44 38.9 +0.6**
comp=Z,1.7nm,0.9s,baz=288,slow=13,SNR=2.9
PLCA LR LR 04 04 37.5
comp=Z,140nm,19.5s,baz=344,slow=31
PLCA Paso Flores 58.11 160 P **P** **03 44 39.0 +0.6**
PLCA IAmb IAmb 03 44 56.8
comp=Z,1.9nm,0.8s
BCAR Beaver Creek A 59.87 337 P **P** **03 44 50.6 +0.3**
INK Inuvik 60.34 344 P **P** **03 44 53.4 0.0**
comp=Z,2.6nm,0.7s,baz=146,slow=5.2,SNR=7.4
INK Inuvik 60.34 344 P **P** **03 44 53.7 +0.3**
K27K Chicken 60.49 337 P **P** **03 44 55.4 +0.9**
baz=122
SCRK Sand Creek 61.18 337 P **P** **03 45 01.5 +2.1**
baz=120
RC01 Rabbit Creek A 62.28 333 P **P** **03 45 07.8 +1.1**
baz=113
HDA Harding Lake 62.53 337 P **P** **03 45 09.7 +1.4**
baz=117
ILAR Eielson Array 62.67 337 P **P** **03 45 10.2 +0.9**
comp=Z,1.2nm,0.7s,baz=120,slow=5.2,SNR=4.1
ILAR LR LR 04 14 10.5
comp=Z,109nm,20.3s,baz=134,slow=38
ILAR Eielson Array 62.67 337 P **P** **03 45 09.4 +0.2**
PPT Papeete 64.34 243 LR LR 04 05 00.5
comp=Z,187nm,20.7s,baz=90,slow=28
PPT2 Papeete2 64.35 243 *e*LR LR 04 04 21.3
comp=Z,197nm,25.0s
COLD Coldfoot 64.98 339 P **P** **03 45 25.2 +0.8**
baz=115
TOLK Toolik Lake Re 65.39 340 P **P** **03 45 28.9 +1.8**
baz=116
TBI Tubuai 66.82 237 *e*LR LR 04 05 30.0
comp=Z,245nm,28.6s,baz=56
RAR Rarotonga 74.61 243 LR LR 04 13 00.2
comp=Z,89nm,18.9s,baz=72,slow=30
EKA Eskdalemuir Ar 78.36 36 P **P** **03 46 42.7 -2.4**
comp=Z,0.5nm,0.4s,baz=272,slow=5.6,SNR=6.2
ESDC Sonseca Array 80.22 52 P **P** **03 46 53.0 -2.6**
comp=Z,0.5nm,0.9s,baz=264,slow=5.2,SNR=2.7
ESDC LR LR 04 18 42.2
comp=Z,110nm,19.2s,baz=240,slow=33
ESDC Sonseca Array 80.22 52 P **P** **03 46 53.4 -2.2**
AFI Afiamalu 83.11 254 LR LR 04 14 11.7
comp=Z,60nm,19.1s,baz=72,slow=28
NOA NORSAR Array B 84.48 28 LR LR 04 23 28.7
comp=Z,134nm,21.7s,baz=285,slow=35
DBIC Dimbokro 86.24 84 LR LR 04 24 01.1
comp=Z,78nm,19.9s,baz=299,slow=34
ARCES ARCESS Array B 86.38 18 LR LR 04 25 59.7
comp=Z,144nm,18.1s,baz=260,slow=36
GERES GERESS Array B 90.03 39 LR LR 04 29 38.1
comp=Z,263nm,18.2s,baz=309,slow=37
FINES FINESS Array B 90.81 25 LR LR 04 30 47.2
comp=Z,106nm,18.1s,baz=274,slow=37
TORD Torodi Ar. Bea 90.96 76 LR LR 04 24 01.8
comp=Z,75nm,21.8s,baz=300,slow=33
NRIK Noril'sk 96.94 360 LR LR 04 36 15.7
comp=Z,249nm,19.4s,baz=18,slow=38
AKASG Malin Array Be 98.10 33 LR LR 04 33 16.2
comp=Z,121nm,19.6s,baz=290,slow=36
URZ Urewera 98.71 233 LR LR 04 21 23.2
comp=Z,136nm,21.9s,baz=320,slow=28
CMAR Chiang Mai Arr 145.86 340 PKPbc **PKPab** **03 54 24.9 -0.3**
comp=Z,1.4nm,0.3s,baz=350,slow=3.9,SNR=18
CMAR Chiang Mai Arr 145.86 340 PKPdf **PKPdf** **03 54 23.1 -1.2**
HYB Hyderabad 147.65 16 *i* PKP **PKPbc** **03 54 29.5 -0.6**

*IDC **02** 03:45:01.0±1.1, 73°.57N×8°.19E, h0km, mb3.5/3, mb1 3.7/8, mb1mx3.4/61, mbtmp3.5/8, ML3.0/5, MS2.7/2, Ms1 2.7/2, ms1mx2.5/45, Error ellipse: s-maj=24.0km s-min=14.2km az=80.0*

ISC 02 03:45:02.2±1.0, 73°.58N±0°.09×8°.8E±0°.1, h10km, n9, σ1s85/10, mb3.4/3, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**4.97**	**18**	Pn		**Pn**	**03 46 15.6**	**-1.2**
	baz=202,slow=19,SNR=44							
ARCES	**ARCESS Array B**	**6.66**	**119**	Pn		**Pn**	**03 46 41.5**	**+1.5**
	baz=320,slow=12,SNR=17							
ARCES				Sn		**Sn**	**03 47 53.1**	**-2.6**
	baz=310,slow=21,SNR=2.2							
ARCES				LR		LR	03 48 38.0	
	comp=Z,27nm,19.6s,baz=250,slow=32							
NOA	**NORSAR Array B**	**12.63**	**175**	Pn		**Pn**	**03 48 01.0**	**-0.7**
	0.0nm,0.3s,baz=358,slow=16,SNR=1.6							
NOA				LR		LR	03 51 45.6	
	comp=Z,62nm,18.2s,baz=265,slow=32							
FINES	**FINESS Array B**	**13.77**	**143**	Pn		**Pn**	**03 48 17.6**	**+0.5**
	0.1nm,0.3s,baz=320,slow=13,SNR=2.5							
KLMR	**Klimovskoe**	**17.13**	**122**	*e*		**Pn**	**03 49 04.5**	**+3.2**
KLMR				AMP			03 49 06.7	
	comp=Z,18nm,1.2s							
EKA	**Eskdalemuir Ar**	**18.96**	**201**	P		**P**	**03 49 22.1**	**-1.0**
	baz=23,slow=9.5,SNR=2.3							
GERES	**GERESS Array B**	**24.92**	**172**	P		**P**	**03 50 26.0**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=4.0,slow=7.1,SNR=4.7							
ILAR	**Eielson Array**	**40.96**	**344**	P		**P**	**03 52 44.9**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=8.9,slow=7.4,SNR=6.3							
TORD	**Torodi Ar. Bea**	**60.55**	**188**	P		**P**	**03 55 12.7**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=356,slow=5.7,SNR=3.4							

*GCG **02** 03:46:42.7±0.6, 13°.85N×92°.14W, h119km±36km, MD4.3*
*MEX **02** 03:46:47.2±0.8, 14°.08N×91°.99W, h116km±87km, MD4.2*

ISC 02 03:46:45.8±3.2, 13°.7N±0°.2×92°.1W±0°.1, h100km, n9, σ2s28/12, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**1.19**	**351**	*i* P		**Pn**	**03 47 06.7**	**-1.6**
THIG				*e*S		**Sn**	**03 47 20.5**	**-4.8**
FUG	**Fuego 3**	**1.38**	**59**	*e*P		**Pn**	**03 47 09.9**	**-0.9**
PCG	**Pacaya**	**1.56**	**65**	*e*P		**Pn**	**03 47 11.9**	**-1.2**
PCG				*e*S		**Sn**	**03 47 35.2**	**+1.5**
IXG	**Ixpaco**	**1.64**	**74**	*e*P		**Pn**	**03 47 13.3**	**-0.6**
NBG	**Las Nubes**	**1.87**	**63**	*e*P		**Pn**	**03 47 17.7**	**+0.7**
NBG				*e*S		**Sn**	**03 47 42.1**	**+1.3**
PCG		**2.26**	**330**	*i* P		**Pn**	**03 47 21.3**	**-0.4**
CCIG	**Comitan**	**2.54**	**358**	*i* P		**Pn**	**03 47 28.3**	**+2.7**
TGIG		**3.20**	**342**	*i* P		**Pn**	**03 47 35.3**	**+1.1**
CMIG	**Matias Romero**	**4.31**	**321**	*i* P		**Pn**	**03 47 51.5**	**+2.4**

*IDC **02** 04:43:34.2±0.8, 45°.13N×16°.33E, h0km, mb3.8/9, mb1 4.0/17, mb1mx3.8/54, mbtmp3.8/17, ML3.8/8, MS3.0/1, Ms1 3.1/1, ms1mx2.4/60, Error ellipse: s-maj=17.9km s-min=10.4km az=60.0*
*BEO **02** 04:43:34.4±0.3, 45°.35N×16°.49E, h3km±3km, ML4.0/7*
*NEIC **02** 04:43:34.6±2.3, 45°.11N±0°.05×16°.44E±0°.06, h11km±5km, Error ellipse: s-maj=7.4km s-min=5.2km az=205.0*
*RHSSO **02** 04:43:35.5±0.3, 45°.07N×16°.38E, h5km±2km, ML4.1/12*
*PDG **02** 04:43:36.1±0.5, 45°.14N×16°.34E, h25km±1km, ML3.8/13, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*LDG **02** 04:43:37.0±0.1, 45°.15N×16°.40E, h2km, Md3.9/2, Ml3.5/28, Error ellipse: s-maj=2.0km s-min=1.6km az=27.0*
*PRU **02** 04:43:38.4±0.0, 45°.32N×16°.31E, h10km, M3.9*
*BGR **02** 04:43:40.7±0.6, 45°.51N×16°.49E, h10km, ML4.1/12, Error ellipse: s-maj=21.1km s-min=12.2km az=76.0*

ISC 02 04:43:35.5±0.9, 45°.12N±0°.02×16°.43E±0°.02, h14km±6km, n319, σ1s86/438, mb3.9/9, 25C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRIJ	**Prijedor**	**0.25**	**124**	*e*Pg		**Pg**	**04 43 40.3**	**-0.5**
PRIJ				*e*Sg		**Sg**	**04 43 44.5**	**+0.1**
MOSL	**Moslavina**	**0.55**	**25**	*e*Pg		**Pb**	**04 43 47.4**	**+0.5**
MOSL				Sg		**Sg**	**04 43 53.1**	**-0.5**
BLY	**Banja Luka**	**0.65**	**124**	*i*Pg		**Pg**	**04 43 47.3**	**-0.9**
BLY				*e*Sg		**Sb**	**04 43 58.2**	**+0.7**
BLY	**Banja Luka**	**0.65**	**124**	⇓*i*Pg		**Pg**	**04 43 47.0**	**-1.2**
BLY				*e*Sg		**Sg**	**04 43 56.1**	**-0.7**
UDBI	**Udbina**	**0.75**	**219**	*i* Pg		**Pg**	**04 43 49.3**	**-0.8**
UDBI				Sg		**Sg**	**04 43 59.2**	**-0.8**
ZAG	**Zagreb**	**0.78**	**337**	*e*Pg		**Pn**	**04 43 51.9**	**-0.1**
ZAG				Sg		**Sn**	**04 44 02.8**	**-0.6**
OZLJ	**Ozalj**	**0.84**	**307**	*i* Pg		**Pg**	**04 43 50.8**	**+0.1**
OZLJ				Sg		**Sb**	**04 44 03.6**	**+0.6**
PTJ	**Puntijarka**	**0.85**	**338**	*i* Pg		**Pn**	**04 43 52.8**	**-0.3**
PTJ				Sg		**Sn**	**04 44 05.0**	**-0.5**
BOJS	**Bojanci**	**0.92**	**295**	*i* Pg		**Pg**	**04 43 52.2**	**-1.0**
BOJS				*i* Sg		**Sn**	**04 44 06.5**	**-0.3**
	comp=Z,1μm,0.2s							
GCIS	**Gornji Cirnik**	**0.94**	**323**	*i* Pg		**Pg**	**04 43 52.8**	**-0.9**
GCIS				*i* Sg		**Sn**	**04 44 07.0**	**-0.4**
	comp=Z,1μm,0.4s							
CRES	**Cresnjev**	**0.98**	**316**	*i* Pg		**Pb**	**04 43 53.5**	**-0.9**
CRES				*i* Sg		**Sn**	**04 44 08.3**	**-0.3**
	comp=Z,2μm,0.2s							
CRES	**Cresnjev**	**0.98**	**316**	⇓*i*Pg		**Pb**	**04 43 53.1**	**-1.2**
CRES				*e*Sg		**Sg**	**04 44 07.6**	**+0.2**
KALN	**Kalnik**	**1.02**	**1**	*i* Pg		**Pg**	**04 43 55.1**	**0.0**
KALN				Sg		**Sg**	**04 44 08.4**	**0.0**
GOLS	**Golise**	**1.06**	**328**	*i* Pg		**Pn**	**04 43 55.9**	**0.0**
GOLS				*i* Sg		**Sn**	**04 44 11.8**	**+1.4**
	comp=Z,791nm,0.2s							
CESS	**Cesta pri Krsk**	**1.09**	**322**	*i* Pg		**Pn**	**04 43 56.5**	**+0.1**
CESS				*i* Sg		**Sn**	**04 44 13.0**	**+1.7**
	comp=Z,2μm,0.2s							
KIJV	**Kijevo**	**1.11**	**181**	*e*Pg		**Pb**	**04 43 56.1**	**-0.4**
KIJV				Sg		**Sn**	**04 44 12.2**	**+0.5**
LEGS	**Legarje**	**1.14**	**317**	*i* Pg		**Pn**	**04 43 56.7**	**-0.3**
LEGS				*i* Sg		**Sn**	**04 44 15.2**	**+2.8**
GBRS	**Gornja Briga**	**1.21**	**291**	*i* Pg		**Pn**	**04 43 57.6**	**-0.5**
GBRS				*i* Sg		**Sg**	**04 44 16.1**	**+1.4**
	comp=Z,1μm,0.2s							
DOBS	**Dobrina**	**1.23**	**327**	*i* Pg		**Pn**	**04 43 58.4**	**+0.1**
DOBS				*i* Sg		**Sg**	**04 44 17.5**	**+2.1**
	comp=Z,704nm,0.2s							
NVLJ	**Novalja**	**1.24**	**244**	*e*Pg		**Pb**	**04 43 58.5**	**-0.1**
NVLJ				Sg		**Sg**	**04 44 15.8**	**+0.4**
VISS	**Visnje**	**1.31**	**302**	*i* Pg		**Pb**	**04 43 59.6**	**-0.2**
VISS				*i* Sg		**Sg**	**04 44 18.7**	**+0.9**
	comp=Z,910nm,0.3s							
KOGS	**Kog**	**1.34**	**355**	*i* Pn		**Pn**	**04 43 59.7**	**0.0**
KOGS				*i* Sn		**Sg**	**04 44 20.1**	**+1.4**
	comp=Z,3μm,0.3s							
MORI	**Morici**	**1.35**	**203**	*i* Pg		**Pg**	**04 44 02.8**	**+1.3**
MORI				Sg		**Sg**	**04 44 20.3**	**+1.2**
BEHE	**Becsehely**	**1.38**	**10**	*e*Pg		**Pb**	**04 44 01.4**	**+0.4**
BEHE				*e*Sg		**Sg**	**04 44 21.2**	**+1.3**
PDKS	**Podkum**	**1.38**	**314**	*i* Pn		**Pn**	**04 44 00.6**	**+0.3**
PDKS				*i* Sn		**Sg**	**04 44 22.0**	**+2.0**
	comp=Z,4μm,0.7s							
RIY	**Rijeka**	**1.39**	**279**	*i* Pg		**Pb**	**04 44 01.1**	**-0.1**
RIY				Sg		**Sg**	**04 44 19.3**	**-1.0**
DUGI	**Dugi Otok**	**1.49**	**222**	*i* Pn		**Pb**	**04 44 03.4**	**+0.5**
DUGI				Sg		**Sg**	**04 44 22.7**	**-0.8**
CEY	**Cerknica**	**1.54**	**295**	⇑*i*Pn		**Pn**	**04 44 02.9**	**+0.4**
CEY				*e*Sg		**Sg**	**04 44 24.0**	**-1.1**
VNDS	**Vrh nad Dolski**	**1.56**	**310**	*i* Pn		**Pn**	**04 44 03.2**	**+0.3**
LJU	**Ljubljana**	**1.63**	**305**	*e*Pg		**Pn**	**04 44 03.7**	**0.0**
LJU				*e*Sg		**Sn**	**04 44 23.8**	**-0.6**
LJU	**Ljubljana**	**1.63**	**305**	*i* Pn		**Pn**	**04 44 04.1**	**+0.4**
LJU				*i* Sn		**Sg**	**04 44 28.1**	**+0.3**
LJU	**Ljubljana**	**1.63**	**305**	⇑*i*Pn		**Pn**	**04 44 04.0**	**+0.4**
LJU				*e*Sn		**Sb**	**04 44 26.1**	**+0.5**
SOKA	**Soboth**	**1.84**	**329**	*e*Pn		**Pn**	**04 44 07.0**	**+0.3**
	comp=Z,188nm,0.4s,SNR=92							
SOKA				*e*Sn		**Sg**	**04 44 34.9**	**+0.2**
	comp=Z,305nm,0.3s							
SOKA	**Soboth**	**1.84**	**329**			**Pn**	**04 44 07.0**	**+0.3**
SOKA						**Sg**	**04 44 34.9**	**+0.2**
MAKA	**Makarska**	**1.88**	**167**	*e*Pn		**Pb**	**04 44 09.4**	**-0.1**
OBKA	**Obir**	**1.92**	**317**	*e*Pn		**Pn**	**04 44 07.8**	**+0.1**
OBKA	**Obir**	**1.92**	**317**	*e*Pn		**Pn**	**04 44 07.8**	**+0.1**
	comp=Z,17nm,0.2s,SNR=180							
OBKA				*e*Sn		**Sg**	**04 44 37.8**	**+0.7**
	comp=Z,1μm,0.6s							
OBKA	**Obir**	**1.92**	**317**	*e*Pn		**Pn**	**04 44 07.8**	**+0.1**
OBKA	**Obir**	**1.92**	**317**			**Pn**	**04 44 07.8**	**+0.1**
HAPS	**Han Pijesak,BI**	**1.98**	**119**	*e*Pn		**Pn**	**04 44 09.8**	**-0.1**
HAPS				*e*Sg		**Sg**	**04 44 43.4**	**+1.2**
HAPS	**Han Pijesak,BI**	**2.08**	**119**	*e*Sn		**Sn**	**04 44 37.5**	**+1.9**
ARSA	**Arzberg**	**2.23**	**344**	*e*Pn		**Pn**	**04 44 12.1**	**+0.2**
ARSA				*e*Sg		**Sb**	**04 44 41.3**	**-1.5**
ARSA	**Arzberg**	**2.23**	**344**	*e*Pn		**Pn**	**04 44 12.2**	**+0.2**
	SNR=51							
ARSA				*e*Sn		**Sg**	**04 44 47.1**	**0.0**
	comp=Z,386nm,0.4s							
ARSA	**Arzberg**	**2.23**	**344**	*e*Pn		**Pn**	**04 44 12.1**	**+0.2**
ARSA				*e*Sg		**Sb**	**04 44 41.3**	**-1.5**
ARSA	**Arzberg**	**2.23**	**344**			**Pn**	**04 44 12.2**	**+0.2**
ARSA						Lg	04 44 47.1	
TEKS	**Tekeris**	**2.28**	**103**	*e*Pn		**Pn**	**04 44 13.7**	**+1.1**
TEKS	**Tekeris**	**2.28**	**103**	*e*Pn		**Pn**	**04 44 13.6**	**+1.0**
TEKS				*e*Sn		**Sn**	**04 44 42.2**	**+1.7**
LSTV	**Lastovo**	**2.37**	**172**	*i* Pn		**Pb**	**04 44 16.9**	**-1.0**
PRED	**Cave del Predi**	**2.40**	**305**	Pn		**Pn**	**04 44 13.5**	**-0.9**
MYKA	**Terra Mystica**	**2.47**	**309**	*e*Pn		**Pn**	**04 44 16.1**	**+0.8**
	comp=Z,66nm,0.3s,SNR=21							
MYKA				*e*Sn		**Sg**	**04 44 54.6**	**-0.1**
	comp=Z,304nm,0.6s							
MYKA	**Terra Mystica**	**2.47**	**309**			**Pn**	**04 44 16.1**	**+0.8**
MYKA						Lg	04 44 54.6	
BBLS	**Lazi?i**	**2.47**	**119**	*e*Pn		**Pn**	**04 44 16.2**	**+0.9**
BBLS	**Lazi?i**	**2.47**	**119**	⇓*i*Pn		**Pn**	**04 44 15.9**	**+0.6**
BBLS				*e*Sn		**Sn**	**04 44 47.3**	**+2.0**
RUDO	**Rudo**	**2.59**	**124**	*e*Pn		**Pn**	**04 44 18.5**	**+1.6**
RUDO				*e*Sn		**Sn**	**04 44 50.1**	**+2.0**
UPM	**Unac-Piva**	**2.61**	**136**	⇑*i*Pn		**Pn**	**04 44 18.9**	**+1.5**
UPM				*i* Sn		**Sn**	**04 44 51.1**	**+2.1**
UPM	**Unac-Piva**	**2.61**	**136**	⇓*i*Pn		**Pn**	**04 44 18.7**	**+1.3**
BRY	**Bratogost**	**2.69**	**145**	⇑*i*Pn		**Pn**	**04 44 19.9**	**+1.5**
BRY				*i* Sn		**Sn**	**04 44 52.8**	**+2.1**
BRY	**Bratogost**	**2.69**	**145**	⇑*i*Pn		**Pn**	**04 44 19.8**	**+1.4**
BRY				*e*Sn		**Sn**	**04 44 52.4**	**+1.7**
DIVS	**Divibare**	**2.74**	**111**	*e*Pg		**Pb**	**04 44 25.1**	**+0.8**
DIVS	**Divibare**	**2.74**	**111**	*e*Pn		**Pn**	**04 44 19.9**	**+0.8**
DIVS				*e*Sn		**Sn**	**04 44 53.6**	**+1.6**
DIVS	**Divibare**	**2.74**	**111**	Pn		**Pn**	**04 44 18.7**	**-0.4**
DBRK	**Dubrovnik**	**2.74**	**152**	*i* Pn		**Pn**	**04 44 22.0**	**+2.9**
PLE	**Pljevlja**	**2.78**	**129**	⇓*i*Pn		**Pn**	**04 44 21.2**	**+1.6**
PLE				*i* Sn		**Sn**	**04 44 55.2**	**+2.2**
ZOU	**Zoufplan**	**2.81**	**302**			**Pn**	**04 44 19.0**	**-1.2**
CONA	**Conrad Observa**	**2.84**	**352**	*e*Pn		**Pn**	**04 44 21.2**	**+0.7**
	comp=Z,62nm,0.4s,SNR=114							
CONA				*e*Sg		**Sg**	**04 45 09.6**	**+2.9**
	comp=Z,473nm,0.7s							
CONA	**Conrad Observa**	**2.84**	**352**			**Pn**	**04 44 21.2**	**+0.7**
CONA						Lg	04 45 09.6	
STAL	**STALIGIAL**	**2.85**	**295**	Pn		**Pn**	**04 44 19.3**	**-1.2**
KBA	**Koelnbreinsper**	**2.91**	**314**	*e*Pn		**Pn**	**04 44 22.1**	**+0.7**
KBA	**Koelnbreinsper**	**2.91**	**314**	*i* Pn		**Pn**	**04 44 22.2**	**+0.8**
	comp=Z,7.8nm,0.3s,SNR=11							
KBA				*e*Sn		**Sg**	**04 45 10.0**	**+1.1**
	comp=Z,247nm,0.8s							
KBA	**Koelnbreinsper**	**2.91**	**314**	*e*Pn		**Pn**	**04 44 22.1**	**+0.7**
KBA	**Koelnbreinsper**	**2.91**	**314**			**Pn**	**04 44 22.2**	**+0.8**
KBA						Lg	04 45 10.0	
NKY	**Niksic**	**2.96**	**140**	⇑*i*Pn		**Pn**	**04 44 23.6**	**+1.6**
NKY				*i* Sn		**Sn**	**04 44 59.3**	**+2.0**
NKME	**Niksic**	**2.97**	**141**	⇑*i*Pn		**Pn**	**04 44 23.9**	**+1.7**
NKME				*i* Sn		**Sn**	**04 44 59.6**	**+1.9**
TRUS	**Trudelj**	**2.98**	**106**	*e*Pn		**Pn**	**04 44 23.8**	**+1.6**
SRO	**Srobarova**	**3.00**	**25**	*e*PN		**Pn**	**04 44 23.2**	**+0.7**
SRO				*e*PG		**Pg**	**04 44 35.3**	**+2.4**
SRO				*e*LG		Lg	04 45 29.5	
CIMO	**Cimolais**	**3.04**	**295**			**Pn**	**04 44 22.0**	**-1.1**
HCY	**Herceg Novi**	**3.06**	**150**	⇓*i*Pn		**Pn**	**04 44 24.9**	**+1.5**
HCY				*i* Sn		**Sn**	**04 45 01.6**	**+1.9**
HCY	**Herceg Novi**	**3.06**	**150**	*e*Pn		**Pn**	**04 44 24.9**	**+1.5**
HCY				*e*Sn		**Sn**	**04 45 00.4**	**+0.7**
MOA	**Molln**	**3.12**	**332**	*e*Pg		**Pn**	**04 44 25.6**	**+1.4**
MOA				*e*Sg		**Sb**	**04 45 06.7**	**-1.8**
MOA	**Molln**	**3.12**	**332**	*e*Pn		**Pn**	**04 44 25.4**	**+1.3**
MOA				*e*Sg		**Sn**	**04 45 03.1**	**+2.0**
MOA	**Molln**	**3.12**	**332**	*i* Pn		**Pn**	**04 44 25.6**	**+1.4**
	comp=Z,55nm,0.3s,SNR=82							
MOA				*i* Sn		**Sn**	**04 45 03.3**	**+2.1**
	comp=Z,335nm,0.6s							
MOA	**Molln**	**3.12**	**332**	*e*Pn		**Pn**	**04 44 25.4**	**+1.3**
MOA				*e*Sg		**Sn**	**04 45 03.1**	**+2.0**
MOA	**Molln**	**3.12**	**332**			**Pn**	**04 44 25.6**	**+1.4**
MOA						**Sn**	**04 45 03.3**	**+2.1**
ZST	**Bratislava**	**3.12**	**8**	*e*PN		**Pn**	**04 44 23.2**	**-0.9**
ZST				*e*PG		**Pg**	**04 44 35.0**	**-0.2**
ZST				*e*SG		**Sg**	**04 45 16.4**	**+0.8**
ZST				*e*LG		Lg	04 45 24.8	
CEME	**Cevo**	**3.14**	**144**	⇑*i*Pn		**Pn**	**04 44 26.1**	**+1.6**
CEME				*i* Sn		**Sn**	**04 45 03.5**	**+1.8**
SJES	**Sjenica**	**3.15**	**125**	*e*Pn		**Pn**	**04 44 25.9**	**+1.1**
KOME	**Kolasin**	**3.18**	**134**	⇑*i*Pn		**Pn**	**04 44 26.7**	**+1.6**
KOME				*i* Sn		**Sn**	**04 45 04.6**	**+1.8**
ABTA	**Abfaltersbach**	**3.18**	**302**	*i* Pn		**Pn**	**04 44 26.2**	**+1.1**
	comp=Z,16nm,0.3s,SNR=19							
ABTA				*e*Sn		**Sg**	**04 45 17.6**	**-0.1**
	comp=Z,228nm,0.7s							
ABTA	**Abfaltersbach**	**3.18**	**302**			**Pn**	**04 44 26.2**	**+1.1**
ABTA						LR	04 45 17.6	
GRUS	**Gruza**	**3.30**	**110**	*e*Pn		**Pn**	**04 44 28.0**	**+1.3**
MODS	**Modra-Piesok**	**3.31**	**10**	*e*PN		**Pn**	**04 44 25.6**	**-1.2**
MODS				*e*LG		Lg	04 45 34.1	
BUM	**Brajici-Budva**

GEC2	GERESS Array S	4.17	334			Pn	04 44 37.5	-1.2
GERES	GERESS Array B	4.17	334		Pn	Pn	04 44 39.3	+0.6
	comp=Z,19nm,0.3s,baz=158,slow=14,SNR=429							
GERES					Sn	Sn	04 45 26.0	-1.3
	comp=Z,39nm,0.3s,baz=149,slow=26,SNR=18							
GERES					Lg	Lg	04 45 46.3	
	comp=Z,11nm,0.3s,baz=147,slow=29,SNR=7.1							
GERES	GERESS Array B	4.17	334			Pn	04 44 37.5	-1.2
GERES						Sn	04 45 25.6	-1.7
SALO	Salr	4.19	279			Pn	04 44 37.9	-1.0
SQTA	Sankt Quirin	4.19	302	*i*	Pn	Pn	04 44 41.7	+2.7
	comp=Z,27nm,0.4s,SNR=18							
SQTA					*e*Sn	Sg	04 45 53.2	+3.2
	comp=Z,132nm,0.6s							
SQTA	Sankt Quirin	4.19	302			Pn	04 44 41.7	+2.7
SQTA						Lg	04 45 53.2	
VRAC	Vranov	4.20	1		Pn	Pn	04 44 39.1	+0.1
	comp=Z,10nm,0.3s,baz=190,slow=14,SNR=30							
VRAC					Sn	Sn	04 45 25.7	-2.0
	comp=Z,4.0nm,0.3s,baz=103,slow=18,SNR=6.2							
VRAC					Lg	Lg	04 45 50.3	
	comp=Z,4.8nm,0.3s,baz=57,slow=15,SNR=3.4							
VRAC	Vranov	4.20	1	⇑P		Pn	04 44 39.4	+0.4
VRAC	Vranov	4.20	1	*e*PN		Pn	04 44 38.8	-0.2
VRAC				*e*SN		Sn	04 45 26.1	-1.7
TREC	Trest	4.23	352	*e*PN		Pn	04 44 39.7	+0.2
TREC				*e*SN		Sn	04 45 26.9	-1.7
PAOL	Paolisi	4.30	199			Pn	04 44 40.7	+0.2
MOTA	Moosalm	4.32	303	*i*	Pn	Pn	04 44 42.5	+1.7
	comp=Z,4.6nm,0.2s,SNR=17							
MOTA				*e*Sn		Sg	04 45 51.2	-2.8
	comp=Z,57nm,0.6s							
MOTA	Moosalm	4.32	303			Pn	04 44 42.5	+1.7
MOTA						LR	04 45 51.2	
NOCI	Noci	4.35	174	P		Pn	04 44 41.5	+0.4
	baz=183							
ZAGS	Zajecar	4.36	105	*e*Pn		Pn	04 44 41.9	+0.7
PRMA	PARMA	4.36	268			Pn	04 44 40.8	-0.4
KECS	Kecovo	4.37	38	*e*PN		Pn	04 44 41.8	+0.4
KECS				*e*PG		Pg	04 44 58.7	-0.5
KECS				*e*SG		Sg	04 45 56.0	+0.2
KECS				*e*LG		Lg	04 46 03.0	
PART	Garmisch-Parte	4.39	305	*e*Pn		Pn	04 44 43.4	+1.8
PART	Garmisch-Parte	4.39	305	*e*Pn		Pn	04 44 43.4	+1.8
FETA	Feichten	4.40	298	*i*	Pn	Pn	04 44 44.1	+2.1
	comp=Z,8.5nm,0.3s,SNR=19							
FETA				*i*	Sn	Sg	04 45 52.2	-4.5
	comp=Z,31nm,0.4s							
FETA	Feichten	4.40	298			Pn	04 44 44.1	+2.1
FETA						LR	04 45 52.2	
VLC	Villacollemand	4.42	260			Pn	04 44 41.3	-0.8
ZUGS	Zugspitze, Sch	4.42	303	*e*Pn		Pn	04 44 44.1	+1.7
ZUGS	Zugspitze, Sch	4.42	303	*e*Pn		Pn	04 44 44.1	+1.7
KHC	Kasperske Hory	4.46	335	*e*PN		Pn	04 44 43.3	+0.6
KHC				*e*SN		Sn	04 45 31.0	-3.4
KHC	Kasperske Hory	4.46	335			Pn	04 44 41.6	-1.1
MATE	Matera	4.47	177	⇑P		Pn	04 44 42.0	-0.7
GZR	Gura Zlata	4.49	84	⇓P		Pb	04 44 51.6	-2.5
PHP	Peshkopia	4.51	138	P		Pn	04 44 46.4	+3.1
	baz=122							
TIR	Tirane	4.53	145	*e*Pn		Pn	04 44 45.6	+2.1
TIR	Tirane	4.53	145	⇓P		Pn	04 44 46.0	+2.5
TIR	Tirane	4.53	145			Pn	04 44 44.1	+0.6
TIR	Tirane	4.53	145	P		Pn	04 44 45.6	+2.1
	baz=133							
LANS	Liptovska Anna	4.54	26	*e*PN		Pn	04 44 43.1	-0.6
LANS				*e*LG		Lg	04 46 15.8	
BE1	Monatshausen	4.55	310	*e*Pn		Pn	04 44 45.0	+1.1
BE1	Monatshausen	4.55	310	*e*Pn		Pn	04 44 45.0	+1.1
FUORN	Ofenpass-Fuorn	4.56	291	Pn		Pn	04 44 42.8	-1.4
RETA	Reutte	4.59	303	*i*	Pn	Pn	04 44 46.0	+1.6
	comp=Z,5.8nm,0.3s,SNR=5.6							
RETA	Reutte	4.59	303			Pn	04 44 46.0	+1.6
DEV	Deva	4.62	78	⇓P		Pb	04 44 52.3	-3.9
FUR	Furstenfeldbru	4.68	313	*e*Pn		Pn	04 44 46.6	+1.0
FUR				*e*Sg		Sg	04 46 04.5	-1.2
FUR	Furstenfeldbru	4.68	313	*e*PN		Pn	04 44 46.6	+1.0
FUR				*e*Sg		Sg	04 46 04.5	-1.2
WET	Wettzell	4.70	330	*e*Pn		Pn	04 44 46.1	+0.2
WET	Wettzell	4.70	330	*e*Pn		Pn	04 44 46.1	+0.2
MORC	Moravsky Berou	4.72	9	⇓P		Pn	04 44 48.0	+1.7
MORC	Moravsky Berou	4.72	9	*e*PN		Pn	04 44 46.9	+0.6
MORC				*e*SN		Sn	04 45 39.2	-1.6
MORC	Moravsky Berou	4.72	9			Pn	04 44 45.2	-1.1
SKO	Skopje	4.81	129	*i*	Pn	Pn	04 44 49.3	+1.8
ZAPS	Zavoj	4.83	110	*e*Pn		Pn	04 44 48.2	+0.5
OBER	Oberstdorf	4.83	300	*e*Pn		Pn	04 44 49.6	+1.8
OBER	Oberstdorf	4.83	300	*e*Pn		Pn	04 44 49.6	+1.8
DAVOX	Davos/Dischmat	4.86	292	Pn		Pn	04 44 48.4	+0.1
	comp=Z,5.0nm,0.3s,baz=120,slow=11,SNR=38							
DAVOX				Lg		Lg	04 46 06.6	
	comp=Z,2.8nm,0.3s,baz=329,slow=19,SNR=3.4							
PBCC	Pribram	4.86	341	*e*PN		Pn	04 44 48.7	+0.6
PBCC				*e*SN		Sn	04 45 41.0	-3.1
GOPC	GO Pecny, Ondr	4.93	348	*e*PN		Pn	04 44 49.3	+0.3
GOPC				*e*SN		Sn	04 45 41.7	-4.1
KRLC	Kraliky	4.97	3	*e*PN		Pn	04 44 49.6	0.0
KRLC				*e*SN		Sn	04 45 44.7	-2.1
MSSA	Maissana	4.99	263	Pn		Pn	04 44 49.1	-0.8
DAVA	Damuels	5.04	298	*e*Pn		Pn	04 44 52.9	+2.2
DAVA	Damuels	5.04	298	*i*	Pn	Pn	04 44 52.9	+2.2
	comp=Z,6.5nm,0.2s,SNR=7.9							
DAVA				*e*Sn		Sg	04 46 25.1	+7.9
	comp=Z,76nm,0.7s							
DAVA	Damuels	5.04	298	*e*Pn		Pn	04 44 52.9	+2.2
DAVA	Damuels	5.04	298			Pn	04 44 52.9	+2.2
DAVA						Lg	04 46 25.1	
PRU	Pruhonice	5.04	346	*e*PN		Pn	04 44 50.4	-0.2
PRU				*e*SN		Sn	04 45 45.0	-3.5
BOSS	Bosilegrad	5.10	119	*e*Pn		Pn	04 44 52.2	+0.7
CRVS	Cervenica-Dubn	5.12	40	*e*PN		Pn	04 44 52.5	+0.8
CRVS				*e*PG		Pg	04 45 12.0	-1.4
OHR	Ohrid	5.12	140	*i*	Pn	Pn	04 44 55.3	+3.6
TUE	Stuetta	5.13	288			Pn	04 44 51.1	-1.0
PRA	Prague	5.14	345	*e*Pn		Pn	04 44 52.5	+0.6
LOT	Lotru	5.19	84	⇓P		Pb	04 45 00.4	-5.6
DPC	Dobruska-Polom	5.24	359	*e*PN		Pn	04 44 53.7	+0.4
CJR	Cluj-Napoca	5.25	70	⇑P		Pn	04 45 00.2	+6.6
SCTE	Santa Cesarea	5.26	163	P		Pn	04 44 54.7	+1.1
	baz=162							
PLONS	Plons/SG	5.27	294	*e*Pn		Pn	04 44 56.8	+2.9
PLONS	Plons/SG	5.27	294	*e*Pn		Pn	04 44 56.8	+2.9
UPC	Upice	5.40	357	*e*PN		Pn	04 44 56.2	+0.7
STIP	Stip	5.41	127	*i*	Pn	Pn	04 44 58.1	+2.4
OSTC	Ostas	5.45	359	*e*PN		Pn	04 44 56.1	-0.1
ROTZ	Rotzenmuhle	5.46	330	*e*Pn		Pn	04 44 56.2	-0.2
ROTZ	Rotzenmuhle	5.46	330	*e*Pn		Pn	04 44 56.2	-0.2
CHVC	Chvalec	5.48	358	*e*PN		Pn	04 44 56.7	0.0
VTS	Vitosha	5.52	115	*e*P		Pn	04 44 57.5	+0.2
KOLS	Kolonicke sedl	5.53	44	*e*PG		Pg	04 45 20.5	-0.8
PVCC	Panska Ves	5.56	348	*e*PN		Pn	04 44 58.1	+0.4
MANZ	Manzenberg	5.68	331	*e*Pn		Pn	04 44 59.5	0.0
MANZ	Manzenberg	5.68	331	*e*Pn		Pn	04 44 59.5	0.0
WILA	Wila	5.70	296	*e*Pn		Pn	04 45 01.5	+1.8
WILA	Wila	5.70	296	*e*PN		Pn	04 45 01.5	+1.8
GRA1	Grafenberg Arr	5.78	324	Pn		Pn	04 44 59.7	-1.1
GRF	Grafenberg Arr	5.78	324	*e*Pn		Pn	04 45 00.6	-0.1
GRF	Grafenberg Arr	5.78	324	*e*Pn		Pn	04 45 00.6	-0.1
NKC	Novy Kostel	5.78	334	*e*PN		Pn	04 45 01.6	+0.8
NKC				*e*SN		Sn	04 46 02.4	-4.4
ARR	Arges	5.80	85	⇑P		Pn	04 45 08.9	+7.8
KKB	Krupnik	5.83	122	*e*P		Pn	04 45 03.2	+1.8
LSK	Leskovik	5.84	147	P		Pn	04 45 02.9	+1.3
	baz=139							
ARCR	ARCALIA	5.85	68	⇓P		Pn	04 45 09.6	+7.9
SRN	Sarande	5.86	152	P		Pn	04 45 02.8	+1.0
	baz=147							
VAY	Valandovo	5.88	128	*i*	Pn	Pn	04 45 03.9	+1.9
TIP	Timpagrande	5.94	178	⇓P		Pn	04 45 01.7	-1.3
TIP	Timpagrande	5.94	178	Pn		Pn	04 45 03.4	+0.5
PGF	Pioggiola	5.95	247	*e*Pn		Pn	04 45 03.8	+0.6
PGF	Pioggiola	5.95	247	*e*Pn		Pn	04 45 05.1	+1.9
PGF				*e*Sn		Sn	04 46 09.7	-1.5
	comp=Z,5.9nm,0.5s							
BRG	Berggiesshubel	6.00	345	PN		Pn	04 45 03.7	0.0
BRG				SN		Sn	04 46 11.1	-1.0
BRG				*i*			04 46 38.2	
BRG	Berggiesshubel	6.00	345	SG		Sg	04 46 47.5	-0.3
	comp=Z,80nm,0.9s							
SLE	Schleitheim	6.09	299	*e*Pn		Pn	04 45 05.5	+0.5
SLE	Schleitheim	6.09	299	*e*Pn		Pn	04 45 05.5	+0.5
VOIR		6.09	84	⇑P		Pn	04 45 13.1	+8.0
STU	Stuttgart	6.16	309			Pn	04 45 04.9	-1.0
SULZ	Cheisacher	6.24	296	*e*Pn		Pn	04 45 08.2	+1.1
SULZ	Cheisacher	6.24	296	*e*Pn		Pn	04 45 08.2	+1.1
IGT	Igoumenitsa	6.28	151	P		Pn	04 45 08.1	+0.4
	baz=146							
MMB	Musomiste	6.38	121	*e*P		Pn	04 45 10.8	+1.7
MOX	Moxa	6.41	331	*e*Pn		Pn	04 45 09.5	+0.1
MOX	Moxa	6.41	331	*e*Pn		Pn	04 45 09.5	+0.1
BFO	Black Forest	6.43	303	*e*Pn		Pn	04 45 09.6	0.0
BFO	Black Forest	6.43	303	*e*Pn		Pn	04 45 09.6	0.0
BFO	Black Forest	6.43	303	Pn		Pn	04 45 08.4	-1.2
BALST	Balsthal	6.45	293	*e*Pn		Pn	04 45 11.0	+1.0
BALST	Balsthal	6.45	293	*e*Pn		Pn	04 45 11.0	+1.0
SENIN	Lac Senin/Sane	6.51	284	Pn		Pn	04 45 09.9	-1.1
SBF	Sospel	6.55	262	*e*Pn		Pn	04 45 11.8	+0.4
SBF				*e*Sn		Sn	04 46 22.6	-3.3
	comp=Z,13nm,0.3s							
BURAR	Bucovina Array	6.58	65	⇑P		Pn	04 45 19.2	+7.5
CLL	Collm	6.61	341	*e*Pn		Pn	04 45 12.0	0.0
	comp=Z,13nm,0.4s							
CLL				*e*Sn		Sn	04 46 25.0	-2.0
CLL				*e*Sg		Sb	04 46 56.0	+7.3
	comp=Z,70nm,0.8s							
CLL	Collm	6.61	341	Pn		Pn	04 45 10.8	-1.2
LIT	Litokhoron	6.71	136	Pn		Pn	04 45 14.1	+0.5
MLR	Muntele Rosu	6.72	83	⇓P		Pn	04 45 22.1	+8.2
LPG	La Plagne	6.83	277	*e*Pn		Pn	04 45 15.7	+0.2
LPG				*e*Sn		Sn	04 46 29.5	-3.7
	comp=Z,35nm,0.8s							
LPL	La Plagne	6.85	277	*e*Pn		Pn	04 45 16.0	+0.4
LPL				*e*Sn		Sn	04 46 29.6	-3.8
	comp=Z,14nm,0.5s							
MBDF	Montbardon	6.87	270	*e*Pn		Pn	04 45 15.1	-0.7
MBDF				*e*Sn		Sn	04 46 29.8	-4.0
	comp=Z,3.5nm,0.2s							
BNI	Bardonecchia	6.90	273	Pn		Pn	04 45 15.8	-0.5
ECH	Echery	7.09	299			Pn	04 45 17.9	-0.9
CDF	Champ du Feu	7.10	301	*e*Pn		Pn	04 45 18.8	-0.1
CDF				*e*Sn		Sn	04 46 35.4	-3.9
	comp=Z,7.4nm,0.5s							
HINF	Hinteralfeld	7.14	296	*e*Pn		Pn	04 45 19.4	-0.1
HINF				*e*Sn		Sn	04 46 36.2	-4.2
	comp=Z,21nm,0.5s							
FRF	La Foret Royal	7.18	261	*e*Pn		Pn	04 45 20.1	+0.1
FRF				*e*Sn		Sn	04 46 37.2	-4.1
	comp=Z,17nm,0.6s							
LMR	La Mourre	7.34	259	*e*Pn		Pn	04 45 22.0	-0.2
LMR				*e*Sn		Sn	04 46 40.6	-4.7
	comp=Z,6.8nm,0.5s							
CABF	La Chapelle	7.37	285	*e*Pn		Pn	04 45 23.0	+0.3
CABF				*e*Sn		Sn	04 46 41.7	-4.4
	comp=Z,5.4nm,0.6s							
TNS	Taunus Mts	7.42	316	*e*Pn		Pn	04 45 24.3	+1.0
TNS				*e*Sn		Sn	04 46 42.6	-4.7
TNS	Taunus Mts	7.42	316	*e*Pn		Pn	04 45 24.3	+1.0
TNS				*e*Sn		Sn	04 46 42.6	-4.7
ORIF	Oris-en-Rattie	7.48	272	*e*Pn		Pn	04 45 24.4	+0.3
ORIF				*e*Sn		Sn	04 46 44.8	-3.9
	comp=Z,17nm,0.7s							
HAU	Haudompre	7.53	296	*e*Pn		Pn	04 45 24.9	+0.2
HAU				*e*Sn		Sn	04 46 45.5	-4.2
	comp=Z,14nm,0.6s							
SMRF	Simiane la Rot	7.84	265	*e*Pn		Pn	04 45 29.5	+0.5
SMRF				*e*Sn		Sn	04 46 52.9	-4.6
	comp=Z,3.9nm,0.5s							
VIVF	Saint-Julien-l	8.34	272	*e*Pn		Pn	04 45 36.1	+0.2
VIVF				*e*Sn		Sn	04 47 05.7	-4.1
	comp=Z,8.7nm,0.6s							
SFTF	Sexfontaines	8.42	296	*e*Pn		Pn	04 45 36.9	-0.1
	baz=115							
SFTF				*e*Sn		Sn	04 47 06.2	-5.5
	comp=Z,11nm,0.7s							
MEZF	Maizieres J'vi	8.51	298	*e*Sn		Sn	04 47 09.2	-4.6
	comp=Z,6.8nm,0.6s							
LOR	Lormes	8.98	288	*e*Pn		Pn	04 45 45.0	+0.3
	baz=108							
LOR	Lormes	8.98	288	*e*Pn		Pn	04 45 45.6	+0.9
LOR				*e*Sn		Sn	04 47 20.3	-5.2
	comp=Z,8.3nm,0.5s							
LASF	Ste Croix	9.03	268	*e*Pn		Pn	04 45 44.5	-0.9
LASF				*e*Sn		Sn	04 47 21.5	-5.3
	comp=Z,4.4nm,0.5s							
SSF	Saint Saulge	9.19	287	*e*Pn		Pn	04 45 48.0	+0.5
SSF				*e*Sn		Sn	04 47 25.9	-4.7
	comp=Z,5.0nm,0.6s							
AVF	Avril sur Loir	9.26	285	*e*Pn		Pn	04 45 48.5	0.0
GIVF	Givet	9.29	307	*e*Pn		Pn	04 45 48.5	-0.3
BGF	Bois d'Agland	9.59	283	*e*Pn		Pn	04 45 53.1	+0.1
BGF				*e*Sn		Sn	04 47 34.7	-5.8
	comp=Z,5.4nm,0.4s							
BAIF	Baives	9.62	305	*e*Pn		Pn	04 45 53.2	-0.2
BAIF				*e*Sn		Sn	04 47 35.4	-5.8
HYF	Humbligny	9.80	288	*e*Pn		Pn	04 45 47.8	+0.8
HYF				*e*Sn		Sn	04 47 39.7	-6.0
TCF	Toulx Ste Croi	10.02	282	*e*Pn		Pn	04 45 58.7	-0.2
TCF				*e*Sn		Sn	04 47 45.2	-5.8
	comp=Z,3.1nm,0.4s							
CAF	Calviac	10.18	274	*e*Pn		Pn	04 46 01.3	+0.3
MTLF	Montolieu	10.36	265	*e*Pn		Pn	04 46 03.8	+0.3
MTLF				*e*Sn		Sn	04 47 53.1	-6.1
	comp=Z,1.0nm,0.4s							
RJF	Les Rejaudoux	10.53	276	*e*Pn		Pn	04 46 05.5	-0.3
RJF				*e*Sn		Sn	04 47 57.0	-6.5
	comp=Z,1.6nm,0.5s							
MFF	Saint Martin d	11.65	283	*e*Pn		Pn	04 46 20.9	-0.3
EPF	Esparros	11.76	265	*e*Pn		Pn	04 46 22.7	-0.1
ETSF	Etsaut	12.43	266	*e*Pn		Pn	04 46 31.8	-0.2
ROSF	Rostrenen	13.89	290	*e*Pn		Pn	04 46 51.3	-0.4
HFS	Hagfors	15.13	355	Pn		Pn	04 47 09.0	+0.5
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=2.6							
ESBB	Sonseca Array	16.00	257	Pn		Pn	04 47 19.4	-0.6
ESBB				IAmb		IAmb	04 47 25.2	
	comp=Z,8.7nm,0.8s							
ESDC	Sonseca Array	16.00	257	Pn		P	04 47 23.5	0.0
	comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=41							
ESDC	Sonseca Array	16.00	257	Pn		Pn	04 47 19.5	-0.5
EKA	Eskdalemuir Ar	16.12	316	Pn		Pn	04 47 22.5	+1.1
	baz=124,slow=14,SNR=5.1							
NOA	NORSAR Array B	16.25	351	Pn		Pn	04 47 22.8	-0.2
	comp=Z,0.0nm,0.3s,baz=180,slow=11,SNR=5.1							
NOA				LR		LR	04 54 11.8	
	comp=Z,58nm,21.7s,baz=265,slow=39							
FINES	FINESS Array B	17.31	16	P		P	04 47 37.9	+0.1
	comp=Z,0.3nm,0.3s,baz=193,slow=10,SNR=8.5							
FINES	FINESS Array B	17.31	16	Pn		Pn	04 47 35.8	-0.6
MMAI	Mount Meron Ar	19.00	123	P		Pn	04 47 59.4	+2.0
	comp=Z,1.0nm,0.3s,baz=304,slow=11,SNR=4.3							
ASF	Jabal al Asfar	20.49	122	P		Pn	04 48 15.6	+0.5
	comp=Z,2.5nm,0.8s,baz=276,slow=11,SNR=3.2							
ARCES	ARCESS Array B	24.91	8	P		P	04 48 57.6	0.0
	comp=Z,0.9nm,0.8s,baz=195,slow=10,SNR=1.3							
TORD	Torodi Ar. Bea	34.24	206	P		P	04 50 21.1	+0.1
	comp=Z,0.7nm,0.6s,baz=19,slow=8.9,SNR=10							
TORD	Torodi Ar. Bea	34.24	206	P		P	04 50 20.9	+0.1
ZALV	Zalesovo Beam	43.64	53	P		P	04 51 40.4	+1.2
	comp=Z,1.5nm,0.7s,baz=258,slow=7.4,SNR=4.7							
SONM	Songino Array	58.53	52	P		P	04 53 32.6	+1.3
	comp=Z,1.3nm,0.7s,baz=289,slow=6.5,SNR=5.7							
SONM	Songino Array	58.53	52	P		P	04 53 31.2	0.0
CD2	Chengdu	67.09	69	*e*P		P	04 54 28.9	+0.4
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
ILAR	Eielson Array	69.67	352	P		P	04 54 44.2	+0.1
	comp=Z,0.4nm,0.9s,baz=13,slow=5.1,SNR=2.4							
CMAR	Chiang Mai Arr	71.95	82	P		P	04 54 59.0	+0.4
	comp=Z,1.0nm,0.3s,baz=312,slow=7.2,SNR=5.1							
CMAR	Chiang Mai Arr	71.95	82	P		P	04 54 58.4	-0.2
PDAR	Pinedale Array	80.13	323	P		P	04 55 45.5	+0.4
	comp=Z,0.2nm,0.3s,baz=90,slow=4.4,SNR=3.7							
PDAR	Pinedale Array	80.13	323	P		P	04 55 44.5	-0.7
TXAR	Lajitas Array	88.04	311	P		P	04 56 27.4	+1.9
	comp=Z,0.5nm,0.7s,baz=75,slow=4.8,SNR=7.1							
TXAR	Lajitas Array	88.04	311	P		P	04 56 24.6	-0.9
VNDA	Vanda	144.69	168	PKP		PKPbc	05 03 09.5	+0.5
	comp=Z,1.0nm,0.9s,baz=214,slow=3.6,SNR=5.3							

*SNET **02** 04:53:52.9±0.3, 14.03N×93.18W, h10km*
*MEX **02** 04:53:59.6±0.5, 13.60N×92.71W, h12km±314km, MD4.4*
*GCG **02** 04:54:04.4±1.0, 13.74N×92.48W, h24km±999km, MD4.4*
*NEIC **02** 04:54:04.6±2.6, 13.91N±0.07×92.65W±0.06, h44km±9km, mb4.2/21, Md4.4/13(MEX), Error ellipse: s-maj=10.4km s-min=8.4km az=208.0*

*IDC **02** 04:54:11.2±4.1, 14.21N×92.14W, h96km±37km, mb3.6/6, mb1 3.8/10, mb1mx3.6/33, mbtmp3.9/10, MS3.8/4, Ms1 3.8/4, ms1mx3.2/26, Error ellipse: s-maj=49.4km s-min=16.2km az=54.0*

ISC 02 04:54:04.6±0.8, **13.90N**±0.08×**92.64W**±0.06, **h46km, n74, σ163/70, mb4.0/12, MS3.8/4, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		1.07	20	*i*	P	Pn	04 54 22.5	-0.7
THIG		1.07	20			Pn	04 54 22.5	-0.7
RTAL	Retalhuleu	1.11	56			Pn	04 54 22.5	-1.2
RTAL					Sn	Sn	04 54 36.1	-1.8
HUEH	Huehuetenango	1.79	38			Pn	04 54 33.4	+0.1
FUG	Fuego 3	1.83	72	*e*P		Pn	04 54 33.0	-0.7
FUG				*e*S		Sn	04 54 56.2	+0.4
PCIG		1.88	343	*i*	P	Pn	04 54 31.7	-2.7
PCIG		1.88	343			Pn	04 54 31.7	-2.7
IXG	Ixpaco	2.15	82	*e*P		Pn	04 54 37.5	-0.7
NBG	Las Nubes	2.33	73	*e*P		Pn	04 54 41.6	+0.9
CCIG	Comitan	2.42	11	*i*	P	Pn	04 54 41.1	-0.8
CCIG	Comitan	2.42	11			Pn	04 54 43.5	+1.6
TGIG		2.90	351	*i*	P	Pn	04 54 47.6	-0.8
TGIG		2.90	351			Pn	04 54 47.6	-0.8
MTO3	Montecristo	3.22	81			Pn	04 54 51.3	-1.6
ESQI	Esquipulas	3.26	78			Pn	04 54 52.7	-0.7
SNET	Serv Nac Est T	3.32	93			Pn	04 54 53.6	-0.5
SNET					Sn	Sn	04 55 29.1	-3.2
COEG	Centro de Oper	3.66	94	*e*P		Pn	04 54 57.1	-1.8
HUIG	Huatulco	3.84	299	*i*	P	Pn	04 54 56.8	-4.4
HUIG	Huatulco	3.84	299			Pn	04 54 56.8	-4.4
CMIG	Matias Romero	3.84	326	*i*	P	Pn	04 54 59.1	-2.3
CMIG	Matias Romero	3.84	326			Pn	04 54 59.1	-2.3
PETF	Flores	4.02	41			Pn	04 55 03.4	-0.3
LCND	La Caada	4.65	97	*e*P		Pn	04 55 10.9	-1.6
CNCH	Conchagua	4.71	97	*e*P		Pn	04 55 11.9	-1.5
TGUH	Tegucigalpa,Un	5.21	88			Pn	04 55 21.9	+1.7
CRIN	San Cristobal	5.57	102	Pn		Pn	04 55 27.8	+2.7
MATN	Matagalpa	6.60	98	Pn		Pn	04 55 42.1	+2.8
TEIG	Tepich	7.55	33	P		Pn	04 55 52.2	0.0
	0.7nm,0.3s,baz=213,slow=18,SNR=4.9							
JTS	Las Juntas de	8.33	115	P		Pn	04 56 05.9	+3.1
	0.2nm,0.3s,baz=50,slow=20,SNR=1.4							
MOIG	Morelia	10.00	306	Pn		Pn	04 56 29.6	+3.6
TXAR	Lajitas Array	18.45	328	P		Pn	04 58 18.7	+1.6
	0.0nm,0.3s,baz=152,slow=14,SNR=10							
TXAR	Lajitas Array	18.45	328			Pn	04 58 18.1	+1.0
TX32	Lajitas Array	18.45	328	P		Pn	04 58 17.6	+0.5
152A	Waverly Hall	20.04	20			P	04 58 32.5	-1.3
152A					IAmb	IAmb	04 58 38.9	
	comp=Z,7.1nm,0.8s						

baz=49,SNR=223
SCI2 S Sb 05 12 43.7 -0.3
baz=49
SCI2 San Clemente I 0.28 232 Pb 05 12 39.2 -0.1
FMP Fort Macarthur 0.56 359 P Pg 05 12 43.6 +0.3
baz=182,SNR=42
FMP S Sg 05 12 51.3 +0.6
baz=182
FMP Fort Macarthur 0.56 359 Pg 05 12 43.6 +0.3
FMP Sg 05 12 51.5 +0.8
RPV Rancho Palos V 0.60 350 Pg 05 12 44.4 +0.4
RPV Sg 05 12 53.1 +1.2
SANC Santa Ana 0.65 31 Sb 05 12 55.8 +1.2
BREC Barre Substati 0.70 21 Sg 05 12 56.4 +1.2
DLAC Del Amo 0.71 13 Pb 05 12 47.4 +0.6
WTT2 Watts, South G 0.79 2 Sb 05 12 59.5 +0.7
BHPC Baldwin Hills 0.84 356 Pg 05 12 49.5 +0.9
BHPC Sb 05 13 01.6 +1.4
LCGC La Cienega, Cu 0.85 355 Pg 05 12 49.5 +0.7
LCGC Sb 05 13 01.7 +1.2
USC University of 0.86 360 Sb 05 13 02.5 +1.6
ELS Elsinore Mount 0.87 55 Pg 05 12 49.2 0.0
ELS Sg 05 13 01.1 +0.5
RHC Rose Hills Cem 0.88 15 Pg 05 12 49.9 +0.6
RHC Sb 05 13 02.1 +0.8
GORC Green Oak Ranc 0.89 90 Pg 05 12 49.4 -0.1
GORC Sb 05 13 02.3 +0.8
GVRC Garvey Reservo 0.91 9 Pg 05 12 50.4 +0.6
PT2 Point Dume 0.95 333 Pg 05 12 49.9 -0.8
GR2C Griffith Obs. 0.96 359 Pg 05 12 50.6 -0.3
GR2C Sg 05 13 03.5 0.0
CHNC Chino 0.98 31 Sg 05 13 04.5 +0.4
MURC Murrieta 1.02 64 P Pg 05 12 51.5 -0.5
baz=244,SNR=38
MURC S Sg 05 13 04.9 -0.3
baz=244
MURC Murrieta 1.02 64 Pg 05 12 51.5 -0.5
MURC Sg 05 13 05.3 +0.1
PSRC Puddingstone R 1.02 23 Pg 05 12 51.7 -0.3
PSRC Sg 05 13 05.0 -0.3
PASC Pasadena Art C 1.02 5 Pg 05 12 51.1 -0.9
PASC Pasadena Art C 1.02 5 Sg 05 13 04.3 -1.0
HLLC North Hollywoo 1.02 357 Sg 05 13 05.1 -0.4
SME Santa Rosa Min 1.02 49 Pg 05 12 51.5 -0.6
109C Camp Elliot, M 1.03 105 P Pg 05 12 51.8 -0.3
baz=285,SNR=35
109C S Sg 05 13 05.2 -0.3
baz=285
109C Camp Elliot, M 1.03 105 Pg 05 12 52.0 -0.1
CPE Camp Elliot 1.03 105 Pg 05 12 51.8 -0.4
CPE Sg 05 13 05.1 -0.4
PEM Pine Mountain 1.07 19 Pb 05 12 52.4 -0.5
MWC Mount Wilson 1.08 10 Pg 05 12 52.6 -0.7
MWC Mount Wilson 1.08 10 Sg 05 13 06.8 -0.6
DECC Green Verdugo 1.10 358 P Pb 05 12 52.7 -0.7
baz=179,SNR=17
DECC S Sg 05 13 07.0 -0.8
baz=179
HWB Hans Werner Br 1.12 96 Pb 05 12 52.8 -0.9
HWB Sg 05 13 07.7 -0.9
RVR Riverside 1.13 42 Pb 05 12 53.5 -0.5
RVR Sb 05 13 08.2 -0.4
BACC Bachelor Mtn. 1.14 66 Pb 05 12 53.3 -0.8
BACC Sb 05 13 08.3 -0.5
DPP Dos Picos Cty 1.14 97 Pb 05 12 53.1 -0.9
DPP Sb 05 13 08.2 -0.6
RSBC Riverside Bore 1.15 44 Sb 05 13 08.7 -0.3
SSK Sunset Peak 1.17 25 Pb 05 12 54.1 -0.5
DGR Domenigoni Val 1.18 65 Pb 05 12 53.9 -0.8
DGR Sb 05 13 09.2 -0.8
XTL Crystal Lake, 1.19 17 Pb 05 12 54.3 -0.8
CHFC Chilao Flat St 1.20 10 Pb 05 12 54.0 -1.1
CHFC Sb 05 13 09.4 -1.2
BFSC Mount Baldy Ra 1.20 26 P Pb 05 12 54.4 -0.8
baz=207,SNR=81
BFSC S Sb 05 13 09.8 -1.0
baz=207
BFSC Mount Baldy Ra 1.20 26 Pb 05 12 54.4 -0.8
SDRC San Diego Road 1.20 110 Pn 05 12 54.1 -0.9
HMTC Hemet 1.21 62 Pn 05 12 54.5 -0.7
PLM Palomar 1.21 80 Pb 05 12 54.5 -0.8
PLM Sb 05 13 10.6 -0.5
TJX Tijuana 1.22 121 Pn 05 12 55.1 -0.1
TJX Pb 05 12 55.8 +0.4
TJX Sn 05 13 13.4 +1.6
IR2C Iron Canyon 1.24 356 Pn 05 12 54.7 -0.9
SS2 San Sevaine 1.24 32 Pn 05 12 55.1 -0.4
CFT Crafton Hills 1.32 48 Pn 05 12 56.8 +0.1
JNH Juniper Hills 1.32 12 Pn 05 12 56.3 -0.5
STCC Santa Clara 1.37 327 Pn 05 12 56.6 -0.7
CJV Casa Juvan 1.38 5 Pn 05 12 57.0 -0.6
BAR Barrett 1.44 109 Pb 05 12 59.5 +0.4
BAR Sn 05 13 18.3 +0.9
OSI Osito Audit: C 1.50 346 P Pn 05 12 58.5 -0.7
baz=167
OSI S Sn 05 13 17.7 -1.2
baz=167
OSI Osito Audit: C 1.50 346 Pn 05 12 59.2 -0.1
TKX Tecate 1.53 112 Pn 05 13 00.1 +0.5
BBRC Big Bear Solar 1.59 45 Pg Pb 05 13 02.2 +0.4
baz=226
MONP2 Monument Peak 1.59 99 P Pn 05 13 00.1 -0.5
baz=280,SNR=22
MONP2 S Sn 05 13 20.3 -0.9
baz=280
PFO Pinyon Flats O 1.59 73 Pn 05 13 01.0 +0.4
EDW2 Edwards Air Fo 1.74 8 P Pn 05 13 02.7 +0.2
baz=189,SNR=37
EDW2 S Sn 05 13 24.3 -0.4
baz=189
CCX Cicese 1.88 133 Pn 05 13 04.3 0.0
IKP In-Ko-Pah, Jac 1.90 105 P Pn 05 13 05.2 +0.5
baz=286,SNR=37
IKP S Sn 05 13 28.8 +0.2
baz=286
IKP In-Ko-Pah, Jac 1.90 105 Pn 05 13 05.5 +0.8
TJR Tejon Ranch 1.91 349 Pn 05 13 03.3 -1.5
RMX La Rumorosa 1.94 106 Pn 05 13 05.5 +0.2
ARVC Arvin 2.02 347 P Pn 05 13 06.5 +0.1
baz=168,SNR=14
ARVC S Sn 05 13 31.5 0.0
baz=168
YUH Yuha Desert 2.05 104 Pn 05 13 08.1 +1.4
BELC Belle Mtn. Jos 2.09 65 P Pn 05 13 08.3 +1.0
baz=247,SNR=36
BELC Sb Sb 05 13 36.8 +0.5
baz=247
SWSC Sam W. Stewart 2.10 95 Sb Sb 05 13 36.4 0.0
baz=276
PKM Mcpherson Peak 2.15 324 P Pn 05 13 07.4 -0.8
baz=144
PKM Sb Sb 05 13 39.1 +1.1
baz=144
ESJX Sierra Juarez 2.28 119 Pn 05 13 12.0 +1.9
HEC Hector,Ludlow 2.33 44 P Pn 05 13 11.1 +0.5
baz=225
LRMC Laurel Mtn Rad 2.37 12 S Sn 05 13 39.2 -1.3
baz=193
GSC Goldstone, Bar 2.47 29 P Pn 05 13 13.3 +0.7
baz=210,SNR=14
GSC S Sn 05 13 43.2 +0.5
baz=210
GSC Goldstone, Bar 2.47 29 Pn Pn 05 13 13.3 +0.7
SMMC Simmler 2.58 327 S Sn 05 13 46.0 +0.6
baz=147
GMRC Granite Mounta 2.72 53 P Pn 05 13 16.7 +0.7
baz=234
VES Vestal, Richgr 2.76 346 S Sn 05 13 48.7 -1.1
baz=166
IRM Iron Mountain 2.81 68 P Pn 05 13 17.2 +0.1
baz=250
GLA Glamis 2.91 91 Pn Pn 05 13 18.3 -0.2
MPMC Manual Prospec 2.97 13 P Pn 05 13 19.5 -0.1
baz=193,SNR=8.0
PAGB Antelope Grade 3.04 328 Pn Pn 05 13 20.1 -0.3
PMPB Monarch Peak 3.69 327 Pn Pn 05 13 27.7 -1.7
113A Mohawk Valley, 3.82 95 Pn Pn 05 13 31.0 0.0
GRAC Grapevine Rang 3.91 11 P Pn 05 13 33.9 +1.6
baz=192
W13A Hualapai Mount 4.13 61 Pn 05 13 36.7 +1.1
TPNV Topopah Spring 4.14 23 P Pn 05 13 37.4 +1.8
baz=205
TPNV Topopah Spring 4.14 23 Pn Pn 05 13 37.6 +2.0

SHPR Sheep Range 4.22 37 Pn Pn 05 13 37.4 +0.7
PRN Pahroc Range 5.00 31 Pn Pn 05 13 49.0 +1.6
CMB Columbia Colle 5.16 341 Pn Pn 05 13 50.6 +1.0
CMB Sn Sn 05 14 50.2 +1.1

JMA ***02*** *05:15:15.8±0.2, 37.˚58N×144.˚44E, h33km, M3.4*
IDC ***02*** *05:15:19.2±9.8, 36.˚23N×144.˚20E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/35, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=218.1km s-min=46.2km az=34.0*

ISC 02 05:15:14.6±1.4, 37.˚61N±0.˚07×144.˚71E±0.˚08, h35km, n22, σ1f66/31, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.66**	**286**	P	**Pn**	**05 15 55.2**	**+0.3**
JIKH				S	**Sn**	**05 16 23.9**	**-2.0**
JIO	**Ouri**	**2.78**	**289**	P	**Pn**	**05 15 57.3**	**+0.7**
JIO				S	**Sn**	**05 16 27.9**	**-1.1**
OFUJ	**Ofunato**	**2.80**	**303**	P	**Pn**	**05 15 57.8**	**+0.8**
OFUJ				*e*S	**Sn**	**05 16 28.8**	**-0.7**
JKMT	**Kesennumamotoy**	**2.81**	**296**	P	**Pn**	**05 15 57.5**	**+0.4**
JKMT				*e*S	**Sn**	**05 16 28.7**	**-1.1**
JMK	**Ichinoseki**	**3.05**	**297**	P	**Pn**	**05 16 01.0**	**+0.6**
JMK				*e*S	**Sn**	**05 16 35.3**	**-0.4**
JOM	**Ohasama**	**3.26**	**306**	P	**Pn**	**05 16 04.4**	**+1.2**
JOM				*e*S	**Sn**	**05 16 41.5**	**+0.7**
JOU	**Okura**	**3.28**	**285**	P	**Pn**	**05 16 04.5**	**+0.9**
JOU				*e*S	**Sn**	**05 16 40.9**	**-0.5**
JFT	**Otama**	**3.47**	**270**	*e*S	**Sn**	**05 16 44.7**	**-1.4**
JRG	**Rokugo**	**3.66**	**300**	P	**Pn**	**05 16 10.8**	**+2.1**
JRG				*e*S	**Sn**	**05 16 50.8**	**+0.2**
JYK	**Kaneyama**	**3.66**	**292**	*e*S	**Sn**	**05 16 51.1**	**+0.4**
JTM	**Tenmabayashi**	**4.25**	**319**	P	**Pn**	**05 16 19.9**	**+3.1**
JOT	**Ohata**	**4.71**	**324**	P	**Pn**	**05 16 24.9**	**+1.7**
JRY	**Ryogami san**	**4.92**	**253**	P	**Pn**	**05 16 25.8**	**-0.3**
JRY				*e*S	**Sn**	**05 17 17.6**	**-4.2**
JCH	**Churui**	**5.10**	**349**	P	**Pn**	**05 16 29.4**	**+0.8**
JCH				*e*S	**Sn**	**05 17 24.1**	**-2.1**
JKB	**Kayabe**	**5.12**	**328**	P	**Pn**	**05 16 31.1**	**+2.3**
JKB				*e*S	**Sn**	**05 17 25.7**	**-1.0**
MJAR	**Matsushiro Arr**	**5.30**	**260**	Pn	**Pn**	**05 16 33.6**	**+2.2**
	0.2nm,0.3s,baz=89,slow=16,SNR=4.6						
NEM2	**Nemuro 2**	**5.80**	**8**	P	**Pn**	**05 16 37.0**	**-1.1**
NEM2				*e*S	**Sn**	**05 17 40.2**	**-3.2**
H11N2	**WAKE ISLAND Hy**	**26.28**	**127**	T	T	05 48 02.5	
	baz=318,slow=76,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**26.29**	**127**	T	T	05 47 58.0	
	baz=318,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**26.30**	**127**	T	T	05 48 05.0	
	baz=318,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**58.07**	**192**	P	**P**	**05 25 03.9**	**-0.5**
	1.0nm,0.5s,baz=10,slow=7.1,SNR=19						
ASAR	**Alice Springs**	**61.79**	**191**	P	**P**	**05 25 30.2**	**+0.4**
	0.3nm,0.5s,baz=9.8,slow=7.3,SNR=4.6						

IDC 02 05:16:14.6±1.1, 19.˚78N×44.˚29W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/43, mbtmp3.9/5, MS3.4/1, Ms1 3.3/1, ms1mx2.6/34, Error ellipse: s-maj=35.4km s-min=28.1km az=164.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**35.38**	**186**	LR	LR	05 34 48.7	
	comp=Z,67nm,20.7s,baz=109,slow=32						
KOWA	**Kowa**	**38.78**	**91**	P	P	05 23 41.7	+0.5
	0.8nm,0.4s,baz=286,slow=6.8,SNR=2.1						
H10N3	**ASCENSION HYDR**	**40.17**	**130**	T	T	06 06 35.2	
	baz=313,slow=75,SNR=84						
H10N2	**ASCENSION HYDR**	**40.17**	**130**	T	T	06 06 35.8	
	baz=313,slow=75,SNR=95						
H10N1	**ASCENSION HYDR**	**40.19**	**130**	T	T	06 06 37.1	
	baz=313,slow=75,SNR=100						
LPAZ	**La Paz**	**42.82**	**215**	P	P	05 24 15.2	0.0
	1.6nm,0.8s,baz=30,slow=8.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**44.49**	**91**	P	P	05 24 27.3	-0.8
	1.6nm,0.9s,baz=292,slow=7.5,SNR=6.9						
AKASG	**Malin Array Be**	**64.57**	**42**	P	P	05 26 54.0	+0.5
	0.3nm,0.4s,baz=281,slow=5.6,SNR=1.1						
ILAR	**Eielson Array**	**77.53**	**335**	P	P	05 28 11.9	-0.1
	1.5nm,0.8s,baz=71,slow=4.9,SNR=15						
CMAR	**Chiang Mai Arr**	**127.61**	**46**	PKP	PKPdf	05 35 22.3	-0.4
	0.5nm,0.3s,baz=299,slow=3.6,SNR=4.6						

MOS ***02*** *05:32:35.7±0.9, 38.˚43N×141.˚79E, h62km, mb4.8/18, Error ellipse: s-maj=7.9km s-min=5.9km az=96.6*
NEIC ***02*** *05:32:36.1±1.0, 38.˚41N±0.˚05×141.˚81E±0.˚07, h52km±6km, mb4.6/28, Error ellipse: s-maj=8.8km s-min=5.7km az=133.0*
NIED ***02*** *05:32:37.6, 38.˚43N×141.˚67E, h54km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.01; Mθθ0.33; Mϕϕ -0.34; Mrθ0.62; Mϕθ0.79; Mϕr2.44; Fault plane solution: M₀2.66000×10¹⁵ NP1: ϕs194.00000°, δ90.00000°, λ-109.00000°. NP2: ϕs103.00000°, δ19.00000°, λ-1.00000°.*
JMA ***02*** *05:32:37.6, 38.˚43N×141.˚67E, h54km±1km, M4.2*
JMA Felt II J1.
IDC ***02*** *05:32:39.4±2.2, 38.˚46N×141.˚60E, h72km±19km, mb3.8/17, mb1 4.0/22, mb1mx3.9/54, mbtmp4.1/22, MS3.2/10, Ms1 3.2/10, ms1mx3.0/45, Error ellipse: s-maj=17.5km s-min=13.8km az=88.0*

ISC 02 05:32:36.5±0.7, 38.˚42N±0.˚04×141.˚81E±0.˚05, h53km±5km, n151, σ1f17/168, mb4.5/47, MS3.3/6, 8C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.29**	**248**	P	**Pn**	**05 32 46.4**	**+0.5**
JIKH				S	**Sn**	**05 32 52.4**	**-0.2**
JIO	**Ouri**	**0.37**	**275**	P	**Pn**	**05 32 46.8**	**+0.3**
JIO				S	**Sn**	**05 32 53.0**	**-0.7**
JKMT	**Kesennumamotoy**	**0.47**	**326**	P	**Pn**	**05 32 48.2**	**+0.6**
JKMT				S	**Sn**	**05 32 55.4**	**-0.2**
OFUJ	**Ofunato**	**0.67**	**350**	P	**Pn**	**05 32 50.8**	**+0.8**
OFUJ				S	**Sn**	**05 33 00.1**	**+0.3**
JMK	**Ichinoseki**	**0.70**	**319**	P	**Pn**	**05 32 50.8**	**+0.3**
JMK				S	**Sn**	**05 33 00.0**	**-0.6**
JOFO	**Osakifurukawao**	**0.73**	**285**	P	**Pn**	**05 32 50.7**	**-0.1**
JOFO				S	**Sn**	**05 33 00.9**	**-0.2**
JOU	**Okura**	**0.91**	**267**	P	**Pn**	**05 32 52.7**	**-0.4**
JOU				S	**Sn**	**05 33 03.9**	**-1.4**
JMM	**Marumori**	**0.98**	**236**	P	**Pn**	**05 32 53.5**	**-0.5**
JMM				S	**Sn**	**05 33 05.4**	**-1.5**
JMM	**Marumori**	**0.98**	**236**	Pn	**Sn**	**05 32 53.6**	**-0.5**
JMM				Sn	**Sn**	**05 33 05.0**	**-1.9**
JOM	**Ohasama**	**1.13**	**339**	P	**Pn**	**05 32 56.6**	**+0.6**
JOM				S	**Sn**	**05 33 10.7**	**+0.2**
JYK	**Kaneyama**	**1.24**	**294**	P	**Pn**	**05 32 57.4**	**-0.2**
JYK				S	**Sn**	**05 33 12.3**	**-1.0**
JFK	**Kawauchi**	**1.29**	**215**	P	**Pn**	**05 32 58.3**	**0.0**
JFK				S	**Sn**	**05 33 13.9**	**-0.6**
JRG	**Rokugo**	**1.34**	**317**	P	**Pn**	**05 32 59.2**	**+0.3**
JRG				S	**Sn**	**05 33 15.8**	**+0.2**
JYS	**Shirataka**	**1.39**	**262**	P	**Pn**	**05 32 59.4**	**-0.2**
JYS				S	**Sn**	**05 33 16.0**	**-0.9**
JFT	**Otama**	**1.48**	**233**	P	**Pn**	**05 33 00.9**	**+0.1**
JFT				*e*S	**Sn**	**05 33 17.4**	**-1.6**
JTM	**Tenmabayashi**	**2.43**	**347**	Pn	**Pn**	**05 33 15.0**	**+1.3**
JTM				Sn	**Sn**	**05 33 44.5**	**+2.1**
JYT	**Yasato**	**2.54**	**211**	Pn	**Pn**	**05 33 14.9**	**-0.4**
JSD	**Sado**	**2.83**	**263**	Pn	**Pn**	**05 33 18.6**	**-0.6**
MJAR	**Matsushiro Arr**	**3.43**	**238**	P	**Pn**	**05 33 28.9**	**+1.4**
	1.7nm,0.3s,baz=39,slow=12,SNR=83						
MJAR				S	**Sn**	**05 34 07.1**	**+0.2**
	1.2nm,0.3s,baz=95,slow=29,SNR=1.9						
MJAR				LR	LR	05 35 02.0	
	comp=Z,353nm,20.6s,baz=60,slow=43						
MJAR	**Matsushiro Arr**	**3.43**	**238**		**Pn**	**05 33 27.1**	**-0.4**
MAJO	**Matsushiro**	**3.43**	**238**	*d* iP	**Pn**	**05 33 28.8**	**+1.3**
MAJO	**Matsushiro**	**3.43**	**238**	Pn	**Pn**	**05 33 29.0**	**+1.5**
MAT	**Matsushiro**	**3.43**	**238**	P	**Pn**	**05 33 28.8**	**+1.3**
MAT				S	**Sn**	**05 34 06.4**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.43**	**238**		**Pn**	**05 33 26.0**	**-1.5**
ERM	**Erimo**	**3.73**	**16**	*d* iP	**Pn**	**05 33 28.8**	**+1.2**
ERM				pmax	pmax		
	comp=Z,40nm,0.8s						
ERM	**Erimo**	**3.73**	**16**	Pn	**Pn**	**05 33 32.3**	**+0.7**
JGF	**Kuroka**	**4.54**	**233**	Pn	**Pn**	**05 33 43.9**	**+1.1**

INU Inuyama 4.92 233 Pn **Pn 05 33 47.3 -0.6**
JHJ Hachijo jima 2 5.54 198 S **Sn 05 34 58.6 -0.3**
comp=Z,60nm,0.3s,baz=85,slow=23,SNR=2.4
JHJ LR LR 05 35 37.0
comp=Z,85nm,19.4s,baz=302,slow=32
ASAJ Asahikawa 5.72 6 P **Pn 05 33 59.8 +1.0**
comp=Z,4.8nm,0.3s,baz=193,slow=14,SNR=7.3
ASAJ S **Sn 05 35 01.6 -1.5**
comp=Z,6.2nm,0.3s,baz=2.0,slow=26,SNR=4.0
JKA Kamikawa-asahi 5.72 6 Pn **Pn 05 33 59.6 +0.8**
JKA Kamikawa-asahi 5.72 6 Sn 05 35 01.6 -1.5
NMR Nemuro--Hokkai 5.76 30 ||*i*P **Pn 05 33 58.6 -0.8**
NMR *i* S **Sn 05 34 59.6 -4.6**
JWT Wachi 6.02 241 Pn **Pn 05 34 05.4 +2.4**
GRPR Tuman 6.32 27 ||*i*P **Pn 05 34 07.8 +0.8**
GRPR *i* S **Sn 05 35 13.8 -3.9**
GRPR pmax pmax
comp=Z,116nm,0.2s
GRPR pmax pmax
comp=N,37nm,0.1s
GRPR pmax pmax
comp=E,56nm,0.1s
GRPR smax smax
comp=E,551nm,0.4s
GRPR smax smax
comp=N,513nm,0.3s
YUK Yuzh-Kuril'sk 6.38 27 *d* iP **Pn 05 34 08.9 +1.0**
YUK *i* S **Sn 05 35 16.2 -3.2**
YUK pmax pmax
comp=N,105μm,0.2s
YUK pmax pmax
comp=E,80μm,0.2s
YUK pmax pmax
comp=Z,246μm,0.2s
YUK smax smax
comp=N,597nm,0.3s
YUK smax smax
comp=E,345nm,0.2s
TEY Ternei 7.67 331 ⇑*i*P **Pn 05 34 29.6 +4.1**
TEY pmax pmax
comp=E,60nm,0.7s
TEY pmax pmax
comp=N,110nm,0.7s
TEY pmax pmax
comp=Z,100nm,0.7s
JHS Saijyo 7.78 247 Pn **Pn 05 34 27.9 +0.9**
KUR Kuril'sk 8.17 32 *e*P **Pn 05 34 32.8 +0.5**
KUR *e*S **Sn 05 36 00.5 -2.6**
YSS Yuzh-Sakhalins 8.55 4 *e*P **Pn 05 34 38.8 +1.2**
USRK Ussuriysk Ar. 9.38 311 P **Pn 05 34 49.7 +0.8**
baz=123,slow=14,SNR=34
USRK LR LR 05 38 17.0
comp=Z,76nm,18.3s,baz=165,slow=37
USA0B Ussuriysk Arra 9.38 311 *e*P **Pn 05 34 51.2 +2.3**
USA0B Ussuriysk Arra 9.38 311 Pn **Pn 05 34 49.9 +1.0**
JNU Nakatsue 10.34 243 P **Pn 05 35 03.8 +1.7**
comp=Z,0.6nm,0.3s,baz=110,slow=11,SNR=4.5
JNU LR LR 05 39 10.8
comp=Z,212nm,18.3s,baz=42,slow=38
JNU Nakatsue 10.34 243 Pn **Pn 05 35 04.0 +1.9**
KSRS Korea Array 11.02 269 P **Pn 05 35 13.1 +1.8**
comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=7.2
KSRS LR LR 05 39 06.5
comp=Z,108nm,20.1s,baz=46,slow=36
MDJ Mudanjiang 11.05 308 P Pn 05 35 16.8 +5.0
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ pmax pmax
comp=Z,290nm,2.6s
CN2 Changchun 13.45 299 *e*P **Pn 05 35 46.2 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
PET Petropavlovsk 18.68 33 *e*P **Pn 05 36 52.6 +1.7**
PET *e*S **Sn 05 40 14.3 -4.5**
PET MLR MLR
comp=Z,100nm,15.0s
TIA Tai'an 19.75 271 P **P 05 37 00.9 -1.1**
TIA pmax pmax
comp=Z,6.0nm,1.1s
NJ2 Nanjing 19.78 258 *e*P **P 05 37 01.4 -0.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 19.92 283 P **P 05 37 03.1 -0.7**
BJT pmax pmax
comp=Z,14nm,1.2s
BJT Baijiatuau 19.92 283 P **P 05 37 03.1 -0.7**
MA2 Magadan 21.93 12 LR LR 05 46 15.2
comp=Z,31nm,18.7s,baz=133,slow=37
HHC Hu-ho-hao-te 23.37 286 *e*P **P 05 37 40.2 -0.3**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.9s
YAK Yakutsk 24.79 346 LR LR 05 47 58.7
comp=Z,54nm,18.7s,baz=252,slow=37
YAK Yakutsk 24.79 346 *e*P **P 05 37 53.8 +0.7**
YAK *e* 05 41 30.8
YAK *e*S **S 05 42 12.0 +0.3**
YAK *e**SS **sS 05 42 33.7 -0.4**
YAK *e* 05 48 54.6
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK smax smax
comp=E,17nm,1.7s
YAK smax smax
comp=N,33nm,1.8s
BOD Bodaibo 26.54 326 *e*P **P 05 38 08.5 -0.5**
BOD pmax pmax
comp=Z,6.0nm,1.0s
XAN Xi'an 26.81 271 P **P 05 38 10.6 -1.2**
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN Xi'an 26.81 271 P **P 05 38 10.6 -1.2**
ULN Ulaanbaatar 26.87 302 *ce*P **P 05 38 13.0 +0.7**
ULN pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 26.87 302 P **P 05 38 11.7 -0.6**
SONM Songino Array 27.30 302 P **P 05 38 16.6 +0.5**
comp=Z,2.2nm,0.9s,baz=106,slow=9.2,SNR=4.3
SONM Songino Array 27.30 302 P **P 05 38 16.6 +0.5**
ENH Enshi 27.79 263 P **P 05 38 20.3 -0.3**
H11N2 WAKE ISLAND Hy 28.62 124 T T 06 08 46.4
baz=316,slow=76
H11N1 WAKE ISLAND Hy 28.62 124 T T 06 08 47.0
baz=316,slow=76
H11N3 WAKE ISLAND Hy 28.63 124 T T 06 08 47.8
baz=316,slow=76
H11S1 WAKE ISLAND Hy 29.38 126 T T 06 09 41.1
baz=318,slow=76
H11S3 WAKE ISLAND Hy 29.38 126 T T 06 09 41.2
baz=318,slow=76
H11S2 WAKE ISLAND Hy 29.39 126 T T 06 09 42.5
baz=318,slow=76
TLY Talaya 29.68 309 P **P 05 38 36.3 -0.9**
TLY pmax pmax
comp=Z,15nm,0.4s
TLY Talaya 29.68 309 P **P 05 38 36.3 -0.9**
LZH Lanzhou 30.17 277 *e*P **P 05 38 42.1 +0.2**
LZH pP pP 05 38 54.2 -1.1
LZH sP sP 05 38 59.8 -1.8
LZH pmax pmax
comp=Z,13nm,1.0s
GYA Guiyang 31.79 258 ⇑P **P 05 38 55.7 -0.4**
GYA pP pP 05 39 14.1 +4.5
GYA pmax pmax
comp=Z,8.0nm,1.0s
CD2 Chengdu 32.01 268 P **P 05 38 58.3 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
GTA Gaotai 32.48 285 *e*P **P 05 39 02.4 +0.3**
GTA pP pP 05 39 16.5 +0.9
GTA sP sP 05 39 24.8 +2.9
GTA pmax pmax
comp=Z,3.0nm,0.9s
KMI Kunming 35.50 260 P **P 05 39 28.0 -0.5**
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI Kunming 35.50 260 P **P 05 39 28.0 -0.5**
KMI lAmb lAmb 05 39 47.6
comp=Z,9.2nm,0.6s
DGZ Jazzator, Alta 39.85 305 *de*P **P 05 40 05.9 +1.0**
DGZ pmax pmax
comp=Z,16nm,0.9s

WMQ	**Urumqi**	**40.51 295**	*e*P	**P**	**05 40 11.3**	**+0.9**
WMQ			pmax	pmax		
	comp=Z,11nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,85nm,7.5s					
WMQ			LR	LR		
	comp=N,440nm,29.2s					
WMQ			LR	LR		
	comp=E,600nm,29.0s					
WMQ			LR	LR		
	comp=Z,55nm,29.5s					
WMQ	**Urumqi**	**40.51 295**	P	**P**	**05 40 10.8**	**+0.5**
WMQ			pmax	pmax		
	comp=Z,18nm,0.8s					
WMQ	**Urumqi**	**40.51 295**	P	**P**	**05 40 10.8**	**+0.5**
ZAA0	**Zalesovo Array**	**41.23 311**	P	**P**	**05 40 15.8**	**-0.2**
ZAA0			IAmb	IAmb	05 40 16.6	
	comp=Z,8.3nm,1.0s					
ZALV	**Zalesovo Beam**	**41.23 311**	P	**P**	**05 40 15.9**	**0.0**
	comp=Z,6.6nm,0.4s,baz=79,slow=7.7,SNR=21					
ZALV	**Zalesovo Beam**	**41.23 311**	*i* P	**P**	**05 40 16.0**	**0.0**
ZALV			pmax	pmax		
	comp=Z,3.0nm,0.4s					
ZALV	**Zalesovo Beam**	**41.23 311**	P	**P**	**05 40 15.6**	**-0.4**
CHTO	**Chiang Mai**	**41.95 255**	P	**P**	**05 40 22.7**	**+0.4**
CHTO			pmax	pmax		
	comp=Z,5.0nm,0.7s					
CHTO	**Chiang Mai**	**41.95 255**	P	**P**	**05 40 22.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.17 254**	P	**P**	**05 40 23.3**	**-0.8**
	comp=Z,0.5nm,0.2s,baz=45,slow=9.1,SNR=1.0					
CMAR			LR	LR	05 57 35.3	
	comp=Z,18nm,19.4s,baz=55,slow=36					
MK31	**Makanchi Array**	**43.66 301**	*ce*P	**P**	**05 40 35.6**	**-0.3**
MK31	**Makanchi Array**	**43.66 301**	P	**P**	**05 40 34.7**	**-1.2**
MK31			IAmb	IAmb	05 40 36.7	
	comp=Z,8.3nm,0.8s					
MKAR	**Makanchi Array**	**43.66 301**	P	**P**	**05 40 35.3**	**-0.7**
	comp=Z,8.5nm,0.8s,baz=83,slow=9.9,SNR=34					
MKAR	**Makanchi Array**	**43.66 301**	*i* P	**P**	**05 40 35.7**	**-0.2**
MKAR			pmax	pmax		
	comp=Z,9.0nm,0.8s					
SHL	**Shillong**	**43.75 268**	P	**P**	**05 40 35.5**	**-1.6**
SHL			pmax	pmax		
	comp=Z,6.0nm,0.8s					
SHL	**Shillong**	**43.75 268**	P	**P**	**05 40 35.5**	**-1.6**
MAKZ	**Makanchi**	**43.87 301**	P	**P**	**05 40 36.9**	**-0.7**
MAKZ			pmax	pmax		
	comp=Z,11nm,1.1s					
MAKZ	**Makanchi**	**43.87 301**	P	**P**	**05 40 36.9**	**-0.7**
MAKZ			IAmb	IAmb	05 40 39.0	
	comp=Z,11nm,1.1s					
KURK	**Kurchatov**	**45.34 307**	*c i*P	**P**	**05 40 48.5**	**-0.7**
KURK			pmax	pmax		
	comp=Z,28nm,0.8s					
KURK	**Kurchatov**	**45.34 307**	P	**P**	**05 40 48.8**	**-0.4**
TARG	**Taragay, Kyrgy**	**48.08 295**	P	**P**	**05 41 11.1**	**-0.2**
TARG			IAmb	IAmb	05 41 11.6	
	comp=Z,6.7nm,0.7s					
ILAR	**Eielson Array**	**48.16 33**	P	**P**	**05 41 12.6**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=260,slow=6.8,SNR=7.1					
BRVK	**Borovoye**	**49.94 312**	*ce*P	**P**	**05 41 25.2**	**+0.4**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BRVK	**Borovoye**	**49.94 312**	P	**P**	**05 41 24.6**	**-0.1**
BRVK			IAmb	IAmb	05 41 39.2	
	comp=Z,5.5nm,1.1s					
KK31	**Karatay Array**	**52.71 299**	P	**P**	**05 41 44.9**	**-0.8**
KK31			pmax	pmax		
	comp=Z,5.0nm,1.1s					
KK31	**Karatay Array**	**52.71 299**	P	**P**	**05 41 44.9**	**-0.8**
KK31			IAmb	IAmb	05 41 46.4	
	comp=Z,4.9nm,1.1s					
KKAR	**Karatay Array**	**52.71 299**	P	**P**	**05 41 45.5**	**-0.2**
KKAR			pmax	pmax		
	comp=Z,5.0nm,1.1s					
KKAR	**Karatay Array**	**52.71 299**	P	**P**	**05 41 45.1**	**-0.7**
KKAR	**Karatay Array**	**52.71 299**	P	**P**	**05 41 45.5**	**-0.2**
KKAR			IAmb	IAmb	05 41 46.4	
	comp=Z,4.9nm,1.1s					
PSI	**Prapat**	**52.78 239**	P	**P**	**05 41 46.5**	**-0.1**
PSI			pmax	pmax		
	comp=Z,5.0nm,0.7s					
RPSI	**Rantau Prapat**	**52.86 239**	P	**P**	**05 41 46.5**	**-0.5**
RPSI			IAmb	IAmb	05 41 47.8	
	comp=Z,5.1nm,0.7s					
NIL	**Nilore**	**54.49 287**	P	**P**	**05 41 59.4**	**+0.5**
NIL			pmax	pmax		
	comp=Z,10.0nm,0.7s					
NIL	**Nilore**	**54.49 287**	P	**P**	**05 41 59.4**	**+0.5**
CHGR	**Chuyangaron**	**55.37 295**	P	**P**	**05 42 04.7**	**-0.6**
ARU	**Arti**	**55.54 318**	*c i*P	**P**	**05 42 05.9**	**-0.1**
ARU			*PP	**pP**	**05 42 19.7**	**-0.7**
ARU					05 44 08.0	
ARU			S	**S**	**05 49 47.6**	**+0.3**
ARU			SS	**SS**	**05 53 30.5**	**-1.7**
ARU			pmax	pmax		
	comp=Z,15nm,1.1s					
ARU	**Arti**	**55.54 318**	P	**P**	**05 42 05.6**	**-0.4**
ARU			IAmb	IAmb	05 42 06.8	
	comp=Z,12nm,1.0s					
ABKAR	**Akbulak array**	**57.30 310**	P	**P**	**05 42 18.2**	**-0.5**
ABKAR			IAmb	IAmb	05 42 18.9	
	comp=Z,3.5nm,0.6s					
ABKAR	**Akbulak array**	**57.30 310**	P	**P**	**05 42 18.0**	**-0.6**
WRA	**Warramunga Arr**	**58.48 188**	P	**P**	**05 42 27.5**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=5.7,slow=7.3,SNR=12					
WRA	**Warramunga Arr**	**58.48 188**	P	**P**	**05 42 26.1**	**-1.0**
ASAR	**Alice Springs**	**62.20 188**	P	**P**	**05 42 53.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=10,slow=6.8,SNR=7.9					
ASAR	**Alice Springs**	**62.20 188**	P	**P**	**05 42 52.2**	**-0.4**
ARCES	**ARCESS Array B**	**62.81 339**	P	**P**	**05 42 55.8**	**-0.4**
	comp=Z,4.5nm,1.1s,baz=58,slow=7.7,SNR=6.5					
DZM	**Mont Dzumac**	**64.46 155**	P	**P**	**05 43 09.2**	**+1.6**
	comp=Z,5.4nm,0.9s,baz=329,slow=5.9,SNR=3.7					
DZM	**Mont Dzumac**	**64.46 155**	P	**P**	**05 43 06.5**	**-1.1**
DZM			IAmb	IAmb	05 43 23.3	
	comp=Z,9.1nm,1.2s					
FINES	**FINESS Array B**	**67.74 332**	P	**P**	**05 43 28.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=40,slow=7.4,SNR=5.8					
FINES	**FINESS Array B**	**67.74 332**	P	**P**	**05 43 27.8**	**-0.3**
KIV	**Kislovodsk**	**70.24 311**	*e*P	**P**	**05 43 45.5**	**+1.4**
KIV			pmax	pmax		
	comp=Z,32nm,1.1s					
KBZ	**Khabaz**	**70.24 310**	P	**P**	**05 43 44.3**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=34,slow=3.7,SNR=6.1					
KBZ	**Khabaz**	**70.24 310**	*e*P	**P**	**05 43 43.6**	**-0.3**
KBZ			pmax	pmax		
	comp=Z,4.0nm,0.8s					
WSAR	**Wadi Sarin**	**70.82 285**	LR	LR	06 18 23.2	
	comp=Z,30nm,19.4s,baz=40,slow=39					
NB2	**NORSAR Subarra**	**73.03 337**	P	**P**	**05 44 00.7**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=40,slow=6.2					
NOA	**NORSAR Array B**	**73.03 337**	P	**P**	**05 44 00.8**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=39,slow=5.8,SNR=5.9					
AKASG	**Malin Array Be**	**73.40 322**	P	**P**	**05 44 02.5**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=46,slow=6.1,SNR=9.5					
AKASG	**Malin Array Be**	**73.40 322**	IAmb	IAmb	05 44 03.5	
	comp=Z,1.6nm,1.1s					
AKBB	**Malin Array Si**	**73.40 322**	*e*P	**P**	**05 44 02.4**	**-0.3**
NVAR	**Mina Array Bea**	**73.91 54**	P	**P**	**05 44 08.4**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=293,slow=5.1,SNR=3.7					
NVAR	**Mina Array Bea**	**73.91 54**	P	**P**	**05 44 05.8**	**-0.4**
PDAR	**Pinedale Array**	**76.47 46**	P	**P**	**05 44 22.1**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=274,slow=2.4,SNR=4.7					
PDAR	**Pinedale Array**	**76.47 46**	P	**P**	**05 44 19.7**	**-1.2**
KOLS	**Kolonicke sedl**	**77.89 324**	*e*P	**P**	**05 44 28.1**	**-0.4**
KOLS	**Kolonicke sedl**	**77.89 324**	*e*P	**P**	**05 44 28.1**	**-0.4**
KHC	**Kasperske Hory**	**81.53 329**	*e*P	**P**	**05 44 48.1**	**-0.1**
KHC	**Kasperske Hory**	**81.53 329**	*e*P	**P**	**05 44 48.1**	**-0.1**
GERES	**GERESS Array B**	**81.70 328**	P	**P**	**05 44 48.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=52,slow=8.6,SNR=3.9					
FUORN	**Ofenpass-Fuorn**	**84.88 329**	P	**P**	**05 45 06.6**	**+0.8**
FUORN			IAmb	IAmb	05 45 12.1	
	comp=Z,4.5nm,0.7s					
PPT	**Papeete**	**84.97 117**	LR	LR	06 17 40.1	
	comp=Z,34nm,19.2s,baz=225,slow=32					
TXAR	**Lajitas Array**	**89.03 53**	P	**P**	**05 45 27.5**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=282,slow=3.2,SNR=10					
TXAR	**Lajitas Array**	**89.03 53**	P	**P**	**05 45 26.5**	**+0.4**
LPAZ	**La Paz**	**145.71 58**	PKPbc	**PKPab**	**05 52 11.8**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=270,slow=4.0,SNR=8.8					
LPAZ	**La Paz**	**145.71 58**		**PKPdf**	**05 52 07.7**	**-2.5**

***IDC* 02 05:40:52.8±8.4, 14°.91N×142°.92E, h101km±67km, mb3.2/4, mb1 3.6/5, mb1mx3.2/41, mbtmp3.6/5, ML4.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/21, Error ellipse: s-maj=114.0km s-min=23.2km az=117.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.30**	**124**	P	Pn	05 41 29.2	-0.1
	100nm,0.3s,baz=304,slow=7.3,SNR=21						
GUMO				S	Sn	05 41 47.3	-10
	126nm,0.3s,baz=125,slow=23,SNR=28						
DAV	**Davao City (W)**	**18.71**	**247**	LR	LR	05 52 10.7	
	comp=Z,27nm,21.2s,baz=342,slow=36						
WRA	**Warramunga Arr**	**35.64**	**194**	P	P	05 47 41.0	-0.2
	0.5nm,0.7s,baz=5.0,slow=9.8,SNR=9.1						
ASAR	**Alice Springs**	**39.34**	**193**	P	P	05 48 13.2	+0.8
	0.4nm,0.8s,baz=20,slow=8.9,SNR=2.2						
ILAR	**Eielson Array**	**68.20**	**26**	P	P	05 51 42.6	+0.5
	0.3nm,0.6s,baz=252,slow=6.6,SNR=5.2						
NVAR	**Mina Array Bea**	**87.57**	**51**	P	P	05 53 30.4	+0.2
	0.3nm,0.7s,baz=259,slow=5.3,SNR=4.5						
LPAZ	**La Paz**	**150.07**	**97**	PKPbc	PKPbc	06 00 31.5	-1.9
	0.6nm,0.6s,baz=270,slow=5.1,SNR=2.0						

GCG ***02*** *05:56:27.2±0.7, 13°.60N×91°.42W, h38km±4km, MD4.4*
SNET ***02*** *05:56:29.1±1.6, 13°.82N×91°.24W, h15km±7km, ML3.3*

ISC 02 05:56:26.8±2.7, 13°.72N±0°.09×91°.38W±0°.09, h14km±12km, n20, σ0°.75/30, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.89**	**35**	*e*P	**Pn**	**05 56 45.2**	**0.0**
PCG	**Pacaya**	**1.00**	**48**	*e*P	**Pn**	**05 56 47.4**	**+0.6**
IXG	**Ixpaco**	**1.01**	**63**	*e*P	**Pb**	**05 56 45.7**	**-0.7**
IXG	**Ixpaco**	**1.01**	**63**	*e*P	**Pg**	**05 56 46.5**	**+0.1**
IXG				*e*S	**Sn**	**05 57 02.0**	**+1.0**
NBG	**Las Nubes**	**1.32**	**49**	*e*P	**Pb**	**05 56 51.9**	**+0.3**
NBG				*e*S	**Sg**	**05 57 09.4**	**-0.1**
NUBE	**Las Nubes**	**1.56**	**83**	*e*P	**Pn**	**05 56 54.0**	**-0.4**
NUBE				*e*S	**Sn**	**05 57 12.4**	**-2.1**
NUBE				IAML		05 57 14.5	
	comp=Z,428nm,0.3s						
HUEH	**Huehuetenango**	**1.60**	**356**	*e*P	**Pb**	**05 56 55.9**	**-0.5**
HUEH				*e*S	**Sb**	**05 57 16.8**	**+0.3**
RTR	**El Retiro**	**1.69**	**84**	*e*P	**Pn**	**05 56 56.6**	**+0.4**
CEVE	**Cerro Verde**	**1.71**	**86**	*e*P	**Pn**	**05 56 55.1**	**-1.3**
CEVE				IAML		05 57 17.9	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**1.71**	**86**	*e*P	**Pn**	**05 56 56.6**	**+0.1**
SNJE	**San Jose**	**1.73**	**85**	*e*P	**Pn**	**05 56 56.9**	**+0.2**
MTO3	**Montecristo**	**2.07**	**71**	*e*P	**Pn**	**05 57 00.9**	**-0.5**
MTO3				IAML		05 57 30.3	
	comp=Z,90nm,0.4s						
UEES	**Universidad Ev**	**2.08**	**90**	*e*P	**Pn**	**05 57 02.0**	**+0.5**
UEES				*e*S	**Sn**	**05 57 26.2**	**-1.0**
SNET	**Serv Nac Est T**	**2.08**	**91**	*e*P	**Pn**	**05 57 02.2**	**+0.7**
SNET				*e*S	**Sn**	**05 57 27.4**	**+0.1**
SNET				IAML		05 57 28.9	
	comp=Z,454nm,0.2s						
MRL	**Marmol**	**2.13**	**50**	*e*P	**Pn**	**05 57 02.2**	**-0.1**
MRL	**Marmol**	**2.13**	**50**	*e*P	**Pn**	**05 57 02.8**	**+0.5**
MRL				*e*S	**Sb**	**05 57 32.4**	**+0.7**
ESQI	**Esquipulas**	**2.14**	**67**	*e*P	**Pn**	**05 57 02.2**	**-0.2**
ESQI				*e*S	**Sn**	**05 57 28.6**	**-0.3**
ESQI				IAML		05 57 32.4	
	comp=Z,92nm,0.6s						
LFRS	**El Faro**	**2.25**	**92**	*e*P	**Pn**	**05 57 04.5**	**+0.7**
COEG	**Centro de Oper**	**2.43**	**92**	*e*P	**Pn**	**05 57 07.1**	**+0.9**
COEG				*e*S	**Sn**	**05 57 36.7**	**+0.8**
COEB	**Comit de Eme**	**2.77**	**94**	*e*P	**Pn**	**05 57 11.9**	**+0.8**
COEB				*e*S	**Sn**	**05 57 43.8**	**-0.6**

IDC ***02*** *06:32:53.4±1.6, 11°.21S×164°.52E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/31, mbtmp3.9/6, ML4.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/39, Error ellipse: s-maj=33.2km s-min=31.4km az=137.0*
NEIC ***02*** *06:32:56.7±0.9, 11°.3S±0°.2×164°.4E±0°.2, h10km±2km, mb4.5/5, Error ellipse: s-maj=39.8km s-min=10.0km az=40.0*

ISC 02 06:32:59.2±1.1, 11°.3S±0°.1×164°.5E±0°.1, h35km, n21, σ1.9/16/17, mb3.8/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.80**	**292**	Pn	**Pn**	**06 34 08.4**	**-0.7**
	26nm,0.3s,baz=143,slow=6.8,SNR=4.0						
HNR				Sn	**Sn**	**06 35 04.1**	**+0.5**
	16nm,0.3s,baz=228,slow=21,SNR=1.4						
HNR				LR	LR	06 35 57.6	
	comp=Z,181nm,21.1s,baz=102,slow=38						
HNR	**Honiara**	**4.80**	**292**		**Pn**	**06 34 09.6**	**+0.5**
HNR					**Sn**	**06 35 03.3**	**-0.2**
SANVU	**Saraoutou**	**4.91**	**147**		**Pn**	**06 34 11.1**	**+0.5**
SANVU				Sn	**Sn**	**06 35 05.2**	**-1.0**
DZM	**Mont Dzumac**	**10.88**	**170**	Pn	**Pn**	**06 35 31.8**	**-0.7**
	0.6nm,0.3s,baz=338,slow=22,SNR=7.8						
DZM				LR	LR	06 38 46.0	
	comp=Z,140nm,18.4s,baz=22,slow=32						
PMG	**Port Moresby**	**17.11**	**275**	LR	LR	06 43 43.5	
	comp=Z,60nm,18.4s,baz=112,slow=38						
H11S2	**WAKE ISLAND Hy**	**29.69**	**4**	T	T	07 10 07.3	
	baz=184,slow=76,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**29.69**	**4**	T	T	07 10 15.2	
	baz=184,slow=76,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**29.70**	**4**	T	T	07 10 18.0	
	baz=184,slow=76,SNR=6.0						
WB0	**Warramunga Arr**	**30.12**	**250**	P	**P**	**06 39 06.3**	**+0.4**
WB0				IAmb	IAmb	06 39 13.9	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**30.19**	**250**	P	**P**	**06 39 03.3**	**-3.2**
WB2	**Warramunga Arr**	**30.19**	**250**	P	**P**	**06 39 07.1**	**+0.6**
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**06 39 06.9**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=80,slow=8.9,SNR=7.6						
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**06 39 06.6**	**0.0**
H11N1	**WAKE ISLAND Hy**	**30.91**	**4**	T	T	07 11 39.8	
	baz=184,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**30.92**	**5**	T	T	07 11 41.3	
	baz=184,slow=76,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**30.93**	**4**	T	T	07 11 42.9	
	baz=184,slow=76,SNR=5.2						
ASAR	**Alice Springs**	**31.54**	**243**	P	**P**	**06 39 18.2**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=70,slow=9.8,SNR=9.6						
FITZ	**Fitzroy Crossi**	**38.09**	**255**	P	**P**	**06 40 15.2**	**+0.3**
QSPA	**South Pole Qui**	**78.70**	**180**	P	**P**	**06 44 59.9**	**+2.1**
QSPA				IAmb	IAmb	06 45 01.2	
	comp=Z,5.9nm,1.4s						
ILAR	**Eielson Array**	**84.16**	**19**	P	**P**	**06 45 25.7**	**-0.7**
	comp=Z,0.7nm,1.1s,baz=228,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**92.84**	**317**	P	**P**	**06 46 07.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=116,slow=4.5,SNR=2.7						

REY ***02*** *06:39:32.4, 64°.67N×17°.48W, h2km*
IDC ***02*** *06:39:33.0±0.5, 64°.63N×17°.61W, h0km, mb4.2/18, mb1 4.4/21, mb1mx4.2/37, mbtmp4.2/21, ML3.6/3, MS3.4/13, Ms1 3.5/13, ms1mx3.2/52, Error ellipse: s-maj=18.0km s-min=8.9km az=10.0*
MOS ***02*** *06:39:33.3±1.0, 64°.65N×17°.46W, h8km, mb4.6/64, Error ellipse: s-maj=9.9km s-min=4.7km az=112.0*
NEIC ***02*** *06:39:35.1±1.3, 64°.63N±0°.08×17°.5W±0°.1, h8km±4km, mb4.6/160, Error ellipse: s-maj=11.6km s-min=7.8km az=186.0*
BGR ***02*** *06:39:37.2±0.0, 64°.64N×17°.97W, h5km, mb4.5*

ISC 02 06:39:34.5±0.3, 64°.67N±0°.02×17°.48W±0°.02, h10km, h10km:pP-P, n427, σ1.9/55/421, mb4.6/140, MS3.4/7, 12C-1D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**273**	P	**Pg**	**06 39 35.0**	**-2.4**
	baz=271						
IVON				S	**Sg**	**06 39 37.0**	**-2.6**
	baz=271						
IDYN	**Dyngjuhals**	**0.13**	**20**	P	**Pg**	**06 39 35.2**	**-2.5**
	baz=21						
IDJK	**Dyngjujokull**	**0.19**	**148**	P	**Pg**	**06 39 36.7**	**-2.0**
	baz=148						
IURH	**Urdarhals**	**0.21**	**42**	P	**Pg**	**06 39 37.0**	**-2.0**
	baz=43						
IGRF	**Grimsfjall**	**0.28**	**161**	P	**Pg**	**06 39 38.1**	**-2.1**
	baz=161						
IKVE	**Kverkfjoll**	**0.34**	**88**	P	**Pg**	**06 39 39.2**	**-2.2**
	baz=88						
IBJK	**Bruarjokull**	**0.37**	**122**	P	**Pg**	**06 39 39.2**	**-2.6**
	baz=123						
IHUS	**Husbondi**	**0.38**	**192**	P	**Pg**	**06 39 40.1**	**-2.0**
	baz=192						
ISKR	**Skrokkalda**	**0.41**	**255**	P	**Pg**	**06 39 40.0**	**-2.5**
	baz=255						
IVOT	**Vottur**	**0.42**	**162**	P	**Pg**	**06 39 40.2**	**-2.5**
	baz=162						
THOR	**Thorvaldshraun**	**0.43**	**52**	P	**Pg**	**06 39 40.6**	**-2.4**
	baz=52						
IJOK	**Jokulheimar**	**0.48**	**223**	P	**Pg**	**06 39 41.4**	**-2.5**
	baz=223						
IASK	**Askja**	**0.52**	**42**	P	**Pg**	**06 39 42.1**	**-2.6**
	baz=42						
IMKO	**Mokollar**	**0.58**	**57**	P	**Pg**	**06 39 43.1**	**-2.6**
	baz=57						
IIEY	**Innrieyrar**	**0.64**	**206**	P	**Pg**	**06 39 44.0**	**-2.9**
	baz=206						
IKSK	**Karasker**	**0.67**	**139**	P	**Pg**	**06 39 44.1**	**-3.3**
	baz=139						
ISVA	**Svartarkot**	**0.68**	**8**	P	**Pg**	**06 39 44.5**	**-3.2**
	baz=7.9						
IKAL	**Kalfafell**	**0.73**	**187**	P	**Pg**	**06 39 45.6**	**-2.9**
	baz=187						
IVSH	**V-Saucoahnukur**	**0.76**	**78**	P	**Pg**	**06 39 45.6**	**-3.7**
	baz=79						
IVSH				S	**Sg**	**06 39 56.2**	**-2.9**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**233**	P	**Pg**	**06 39 47.1**	**-2.6**
	baz=233						
IFAG	**Fagurholsmyri**	**0.87**	**155**	P	**Pg**	**06 39 48.1**	**-3.2**
	baz=156						
IADA	**Aoalbol**	**0.89**	**66**	P	**Pg**	**06 39 47.8**	**-3.7**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**284**	P	**Pg**	**06 39 48.4**	**-3.8**
	baz=284						
IMEL	**Melhnausar**	**0.97**	**21**	P	**Pg**	**06 39 49.6**	**-3.5**
	baz=21						
IREN	**Reynihlio**	**1.01**	**13**	P	**Pg**	**06 39 50.1**	**-3.9**
	baz=14						
ISNB	**Snabyli**	**1.06**	**209**	P	**Pg**	**06 39 51.2**	**-3.7**
	baz=209						
IKVO	**Krokottuvotn**	**1.08**	**13**	P	**Pg**	**06 39 51.5**	**-3.8**
	baz=13						
ISLY	**Slysaalda**	**1.11**	**221**	P	**Pb**	**06 39 52.5**	**-3.3**
	baz=221						
IGRS	**Grimsstaoir**	**1.13**	**30**	P	**Pb**	**06 39 52.2**	**-3.9**
	baz=30						
BORG	**Borgarnes**	**1.66**	**275**	Pg	**Pn**	**06 40 00.8**	**-2.8**
	21nm,0.3s,baz=100,slow=10.0,SNR=47						
BORG				Lg	Lg	06 40 23.2	
	22nm,0.3s,baz=334,slow=14,SNR=9.3						
BORG	**Borgarnes**	**1.66**	**275**	Pn	**Pn**	**06 40 00.8**	**-2.8**
BORG				Sn	**Sn**	**06 40 24.2**	**-0.7**
SCO	**Scoresbysund**	**6.09**	**346**	Pn	**Pn**	**06 41 04.4**	**0.0**
SCO	**Scoresbysund**	**6.09**	**346**	*i* S	**Sn**	**06 42 18.0**	**+4.0**
SCO	**Scoresbysund**	**6.09**	**346**	IAML		06 41 12.6	
	comp=Z,18nm,0.5s						
SCO	**Scoresbysund**	**6.09**	**346**	*i* P	**Pn**	**06 41 03.5**	**-0.9**
SCO	**Scoresbysund**	**6.09**	**346**	*e*	**Pn**	**06 41 04.5**	**0.0**
	baz=181,slow=7.9						
SCO	**Scoresbysund**	**6.09**	**346**	*i* P	**Pn**	**06 41 05.3**	**+0.9**
JMIC	**Jan Mayen**	**7.19**	**24**	LR	LR	06 43 46.3	
	comp=Z,117nm,19.2s,baz=242,slow=35						
ANGG	**Annnasaalik, Gr**	**8.54**	**285**	Pn	**Pn**	**06 41 40.1**	**+2.1**
SUMG	**Summit**	**10.95**	**325**	*i* P	**Pn**	**06 42 15.0**	**+3.7**
SUMG	**Summit**	**10.95**	**325**	Pn	**Pn**	**06 42 12.1**	**+0.8**
SUMG	**Summit**	**10.95**	**325**	*i* P	**Pn**	**06 42 15.0**	**+3.7**
SUMG	**Summit**	**10.95**	**325**	*i* P	**Pn**	**06 42 15.0**	**+3.7**
SUMG	**Summit**	**10.95**	**325**	*i* P	**Pn**	**06 42 15.0**	**+3.7**
SUMG	**Summit**	**10.95**	**325**	*i* P	**Pn**	**06 42 15.0**	**+3.7**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**06 42 20.9**	**-1.1**
	baz=324,slow=14,SNR=9.9						
ESK	**Eskdalemuir**	**11.75**	**136**	P	**Pn**	**06 42 21.6**	**-0.4**
ESK	**Eskdalemuir**	**11.75**	**136**	Pn	**Pn**	**06 42 21.6**	**-0.4**
NRS	**Narsarsuaq**	**13.15**	**267**	P	**P**	**06 42 46.4**	**-4.8**
NRS	**Narsarsuaq**	**13.15**	**267**	Pn	**P**	**06 42 46.4**	**-4.8**
NC204	**NORSAR Array S**	**13.22**	**92**	Pn	**Pn**	**06 42 39.2**	**-2.9**
NBO00	**NORSAR Array S**	**13.34**	**93**	Pn	**Pn**	**06 42 42.5**	**-1.2**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**06 42 42.7**	**-3.5**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.8						
NOA				LR	LR	06 47 31.8	
	comp=Z,145nm,20.0s,baz=295,slow=35						
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	06 47 28.8	
	comp=Z,255nm,20.9s,baz=92,slow=35						
HFS	**Hagfors**	**15.04**	**93**	Pn	**P**	**06 43 10.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=318,slow=10,SNR=13						
HFS				LR	LR	06 48 46.0	
	comp=Z,172nm,20.5s,baz=288,slow=37						
SPITS	**Spitsbergen Ar**	**16.86**	**23**	LR	LR	06 48

MOX Moxa 20.69 119 *eP* Pn 06 44 15.3 -1.5
comp=Z,28nm,1.3s,baz=327,slow=11
CLL Collm 20.70 116 *i* P Pn 06 44 15.3 -1.5
comp=Z,27nm,1.2s
CLL Collm 20.70 116 *i* P Pn 06 44 15.3 -1.5
CLL pmax pmax
comp=Z,27nm,1.2s
CLL Collm 20.70 116 *eP* **P 06 44 14.2 -0.3**
comp=Z,27nm,1.2s,baz=327,slow=11
CLL Collm 20.70 116 P Pn 06 44 15.1 -1.7
LOR Lormes 20.94 136 P **P 06 44 17.3 +0.1**
LOR pmax pmax
comp=Z,19nm,1.0s
PBUR Paburge 20.99 96 *eP* Pn 06 44 17.9 -2.3
CDF Champ du Feu 21.01 129 *eP* **P 06 44 18.5 +0.5**
CDF pmax pmax
comp=Z,15nm,1.1s
PLN Plauen 21.03 118 *eP* **P 06 44 18.9 +0.8**
comp=Z,30nm,1.3s,baz=327,slow=11
HAU Haudompre 21.06 131 *eP* **P 06 44 18.8 +0.3**
HAU pmax pmax
comp=Z,3.0nm,0.2s
FBE Freiberg 21.14 116 *eP* **P 06 44 19.3 +0.1**
comp=Z,18nm,1.0s,baz=327,slow=11
ECH Echery 21.14 129 P **P 06 44 20.2 +0.8**
ECH pmax pmax
comp=Z,15nm,1.0s
ECH Echery 21.14 129 P **P 06 44 20.2 +0.8**
GUNZ Gunzen 21.19 118 *eP* **P 06 44 20.4 +0.5**
comp=Z,32nm,1.3s,baz=327,slow=11
TANN Tannenbergstha 21.20 118 *eP* **P 06 44 20.2 +0.2**
comp=Z,56nm,1.3s,baz=327,slow=11
AVF Avril sur Loir 21.22 138 *eP* **P 06 44 19.5 -0.7**
AVF pmax pmax
comp=Z,20nm,1.1s
WERN Wernitzgruen 21.27 118 *eP* **P 06 44 21.0 +0.2**
comp=Z,47nm,1.3s,baz=327,slow=11
GRA1 Grafenberg Arr 21.32 121 P **P 06 44 22.2 +0.9**
GRA1 IAmb IAmb 06 44 34.3
comp=Z,28nm,1.2s
GRF Grafenberg Arr 21.32 121 P **P 06 44 22.2 +0.9**
GRF pmax pmax
comp=Z,28nm,1.2s
GRF Grafenberg Arr 21.32 121 *eP* **P 06 44 22.0 +0.7**
baz=327,slow=11
NKC Novy Kostel 21.34 118 *eP* **P 06 44 25.2 +3.7**
NKC Novy Kostel 21.34 118 *eP* **P 06 44 25.2 +3.7**
STU Stuttgart 21.36 125 P **P 06 44 23.2 +1.5**
STU pmax pmax
comp=Z,25nm,0.8s
STU Stuttgart 21.36 125 P **P 06 44 23.2 +1.5**
STU IAmb IAmb 06 44 24.3
comp=Z,24nm,0.8s
BRG Berggiesshubel 21.40 115 *i* P **P 06 44 22.6 +0.5**
comp=Z,25nm,1.3s
BRG Berggiesshubel 21.40 115 *i* P **P 06 44 22.6 +0.5**
BRG pmax pmax
comp=Z,25nm,1.3s
BRG Berggiesshubel 21.40 115 *eP* **P 06 44 21.6 -0.5**
comp=Z,25nm,1.3s,baz=327,slow=11
MANZ Manzenberg 21.41 119 *eP* **P 06 44 22.8 +0.6**
comp=Z,26nm,1.6s,baz=327,slow=11
BFO Black Forest 21.44 127 *i* P **P 06 44 22.7 +0.1**
BFO Black Forest 21.44 127 *eP* **P 06 44 23.6 +1.1**
comp=Z,14nm,1.1s,baz=327,slow=11
BFO Black Forest 21.44 127 P **P 06 44 23.9 +1.3**
VSU Vasula 21.56 86 *eP* **P 06 44 23.9 +0.2**
VSU Vasula 21.56 86 *i* P **P 06 44 23.4 -0.2**
VSU pmax pmax
comp=Z,61nm,0.8s
ROTZ Rotzenmuhle 21.63 119 *eP* **P 06 44 25.7 +1.2**
baz=327,slow=11
FRB Frobisher Bay 21.76 291 LR LR 06 52 31.3
comp=Z,98nm,20.1s,baz=18,slow=36
SLE Schleitheim 21.98 128 P **P 06 44 29.8 +1.4**
SLE pmax pmax
comp=Z,18nm,1.1s
SLVR Solovky 22.06 65 P **P 06 44 26.5 -2.4**
comp=Z,34nm,1.1s
RJF Les Rejaudoux 22.08 142 *eP* **P 06 44 29.0 -0.4**
RJF pmax pmax
comp=Z,30nm,1.2s
PABE Paberze 22.20 95 *eP* **P 06 44 30.8 +0.3**
CABF La Chapelle 22.21 133 *eP* **P 06 44 32.0 +1.1**
CABF pmax pmax
comp=Z,42nm,1.8s
PRU Pruhonice 22.34 116 *eP* **P 06 44 33.4 +1.3**
PRU Pruhonice 22.34 116 *eP* **P 06 44 33.4 +1.3**
KSP Ksiaz 22.35 112 P **P 06 44 33.3 +1.0**
KSP pmax pmax
comp=Z,23nm,1.2s
WET Wettzell 22.39 119 P **P 06 44 34.9 +2.2**
WET Wettzell 22.39 119 *eP* **P 06 44 33.6 +0.9**
comp=Z,17nm,1.5s,baz=327,slow=11
CHVC Chvalec 22.46 114 *eP* **P 06 44 34.9 +1.5**
OSTC Ostas 22.55 113 *eP* **P 06 44 35.9 +1.5**
CAF Calviac 22.58 142 *eP* **P 06 44 34.0 -0.7**
CAF pmax pmax
comp=Z,17nm,1.3s
KHC Kasperske Hory 22.67 118 *eP* **P 06 44 35.8 +0.1**
KHC *ex* x 06 44 46.1
KHC Kasperske Hory 22.67 118 *ceP* **P 06 44 36.2 +0.5**
KHC pmax pmax
comp=Z,28nm,1.3s
KHC Kasperske Hory 22.67 118 P **P 06 44 36.2 +0.5**
DPC Dobruska-Polom 22.75 113 *eP* **P 06 44 37.6 +1.0**
DPC Dobruska-Polom 22.75 113 *eP* **P 06 44 37.6 +1.0**
SENIN Lac Senin/Sane 22.82 132 P **P 06 44 38.9 +1.4**
GEC2 GERESS Array S 22.95 119 *eP* **P 06 44 39.3 +0.6**
baz=327,slow=11
GEC2 GERESS Array S 22.95 119 P **P 06 44 39.3 +0.6**
GEC2 IAmb IAmb 06 44 46.7
comp=Z,26nm,1.4s
GERES GERESS Array B 22.95 119 P **P 06 44 39.5 +0.9**
comp=Z,4.4nm,1.1s,baz=330,slow=7.8,SNR=16
GERES LR LR 06 54 59.9
comp=Z,81nm,20.0s,baz=320,slow=40
GERES GERESS Array B 22.95 119 P **P 06 44 39.1 +0.4**
ISAL Salakas 23.08 93 *eP* **P 06 44 40.5 +0.6**
KRLC Kraliky 23.15 113 *eP* **P 06 44 40.9 +0.2**
KRLC *ex* x 06 44 52.0
KRLC Kraliky 23.15 113 *eP* **P 06 44 40.9 +0.2**
IIGN Ignalina 23.27 93 *eP* **P 06 44 42.5 +0.7**
LPL La Plagne 23.39 133 *eP* **P 06 44 43.0 -0.4**
LPL pmax pmax
comp=Z,12nm,1.2s
TUE Stuetta 23.40 128 P **P 06 44 44.2 +0.8**
LPG La Plagne 23.41 133 *eP* **P 06 44 44.3 +0.6**
LPG pmax pmax
comp=Z,23nm,1.6s
BEL Belsk 23.43 105 P **P 06 44 43.5 0.0**
IDID Didziasalis 23.52 92 *eP* **P 06 44 45.0 +0.8**
FUORN Ofenpass-Fuorn 23.58 127 P **P 06 44 46.1 +0.8**
ORIF Oris-en-Rattie 23.67 135 *eP* **P 06 44 46.2 +0.2**
ORIF pmax pmax
comp=Z,13nm,1.1s
EUNU Eureka 23.67 336 P **P 06 44 43.4 -2.4**
EUNU IAmb IAmb 06 45 02.2
comp=Z,26nm,1.4s
VRAC Vranov 23.68 114 P **P 06 44 47.2 +1.2**
comp=Z,1.5nm,0.3s,baz=315,slow=11,SNR=4.8
VRAC LR LR 06 53 26.9
comp=Z,144nm,20.9s,baz=326,slow=35
VRAC Vranov 23.68 114 *eP* **P 06 44 46.3 +0.3**
MORC Moravsky Berou 23.69 112 *eP* **P 06 44 46.5 +0.4**
MORC Moravsky Berou 23.69 112 P **P 06 44 47.2 +1.1**
MORC pmax pmax
comp=Z,17nm,1.4s
MORC Moravsky Berou 23.69 112 P **P 06 44 47.2 +1.1**
BNI Bardonecchia 23.79 134 P **P 06 44 47.7 +0.5**
BNI pmax pmax
comp=Z,11nm,1.2s
BNI Bardonecchia 23.79 134 P **P 06 44 47.7 +0.5**
KRUC Moravsky 23.80 115 *eP* **P 06 44 47.2 0.0**
KRUC Moravsky 23.80 115 P **P 06 44 47.6 +0.4**
KRUC pmax pmax
comp=Z,6.0nm,1.3s
NACGM Naroch 23.81 93 *e* **P 06 44 46.0 -1.1**
ETSF Etsaut 23.83 148 *eP* **P 06 44 50.5 +3.0**
ETSF pmax pmax
comp=Z,26nm,1.6s
OJC Ojcow 24.25 109 P **P 06 44 50.9 -0.5**
OJC pmax pmax
comp=Z,8.0nm,1.0s
OJC Ojcow 24.25 109 P **P 06 44 50.9 -0.5**

JAVC Velka Javorina 24.47 113 *eP* **P 06 44 53.5 +0.1**
CTI Castel Tesino 24.56 125 P **P 06 44 55.3 +1.0**
CTI pmax pmax
comp=Z,28nm,1.5s
CTI Castel Tesino 24.56 125 P **P 06 44 55.3 +1.0**
CTI IAmb IAmb 06 45 04.7
comp=Z,28nm,1.5s
ZOU Zoufplan 24.59 123 P **P 06 44 56.4 +1.6**
ZOU IAmb IAmb 06 45 03.0
comp=Z,18nm,1.4s
CIMO Cimolais 24.61 124 P **P 06 44 55.6 +0.9**
SMOL Smolenice 24.65 114 *eP* **P 06 44 56.6 +1.6**
SMOL Smolenice 24.65 114 *eP* **P 06 44 56.6 +1.6**
MODS Modra-Piesok 24.71 115 *eP* **P 06 44 55.1 -0.4**
MODS Modra-Piesok 24.71 115 *eP* **P 06 44 55.1 -0.4**
STAL STALIGIAL 24.75 124 P **P 06 44 57.0 +1.0**
STAL IAmb IAmb 06 44 58.9
comp=Z,18nm,1.3s
PRED Cave del Predi 24.91 122 P **P 06 44 58.4 +1.0**
PRED IAmb IAmb 06 45 09.2
comp=Z,14nm,1.2s
LANS Liptovska Anna 24.95 111 *eP* **P 06 44 59.2 +1.5**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 24.95 111 *eP* **P 06 44 59.2 +1.5**
NIE Niedzica 25.08 109 P **P 06 45 00.7 +1.8**
VYHS Vyhne 25.22 112 *eP* **P 06 45 01.0 +0.8**
VYHS pmax pmax
comp=Z,16nm,1.3s
VYHS Vyhne 25.22 112 *eP* **P 06 45 01.0 +0.8**
KLMR Klimovskoe 25.59 72 *eP* **P 06 45 02.3 -1.1**
comp=Z,29nm,1.3s
KLMR Klimovskoe 25.59 72 *eP* **P 06 45 02.4 -0.9**
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 25.59 72 *eP* **P 06 45 02.5 -0.9**
KLMR AMP 06 45 05.3
comp=Z,29nm,1.3s
KWP Kalwaria Pacla 25.90 106 P **P 06 45 07.0 +0.7**
KWP pmax pmax
comp=Z,33nm,1.1s
KWP Kalwaria Pacla 25.90 106 P **P 06 45 07.0 +0.7**
LSH Leshukonskoye 25.96 61 *eP* **P 06 45 05.5 -1.1**
comp=Z,25nm,1.2s
SCHQ Schefferville 26.05 271 P **P 06 45 08.2 +0.7**
comp=Z,9.0nm,1.0s,baz=55,slow=11,SNR=4.2
SCHQ Schefferville 26.05 271 IAmb IAmb 06 45 09.6
comp=Z,12nm,1.1s
PSZ Piszkesteto 26.11 112 P **P 06 45 07.6 -0.7**
PSZ pmax pmax
comp=Z,14nm,1.1s
PSZ Piszkesteto 26.11 112 P **P 06 45 07.6 -0.7**
PSZ IAmb IAmb 06 45 16.5
comp=Z,14nm,1.1s
ESDC Sonseca Array 26.25 156 P **P 06 45 09.6 0.0**
comp=Z,3.2nm,1.0s,baz=349,slow=9.3,SNR=10
ESDC Sonseca Array 26.25 156 P **P 06 45 09.1 -0.4**
KOLS Kolonicke sedl 26.27 108 *eP* **P 06 45 09.8 +0.2**
KOLS pmax pmax
comp=Z,14nm,1.3s
KOLS Kolonicke sedl 26.27 108 *eP* **P 06 45 09.8 +0.2**
LVV L'vov 26.30 104 *eP* **P 06 45 12.5 +2.6**
RES Resolute Bay 26.47 324 LR LR 06 55 48.7
comp=Z,54nm,21.6s,baz=354,slow=37
UZH Uzhgorod 26.51 108 *eP* **P 06 45 10.3 -1.5**
OSSC Osservatorio P 26.63 129 P **P 06 45 16.0 +3.1**
OSSC IAmb IAmb 06 45 25.7
comp=Z,11nm,0.8s
AKASG Malin Array Be 27.83 98 P **P 06 45 22.5 -1.1**
comp=Z,2.5nm,0.8s,baz=322,slow=9.6,SNR=5.3
AKASG Malin Array Be 27.83 98 P **P 06 45 22.8 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 27.83 98 P **P 06 45 22.8 -0.8**
AKBB Malin Array Si 27.83 98 *ceP* **P 06 45 23.6 0.0**
AKBB Malin Array Si 27.83 98 P **P 06 45 23.0 -0.6**
OBN Obninsk 27.87 84 *i* P **P 06 45 23.1 -0.8**
OBN 06 48 42.0
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,105nm,13.0s
OBN Obninsk 27.87 84 P **P 06 45 24.7 +0.8**
BUR08 Bucovina Ar. S 28.49 106 P **P 06 45 30.9 +1.2**
BURAR Bucovina Array 28.52 106 P **P 06 45 31.1 +1.2**
BURAR Bucovina Array 28.52 106 P **P 06 45 31.1 +1.2**
CORL Corleone 32.37 131 P **P 06 46 05.9 +1.9**
CLTB Caltabellotta 32.63 131 P **P 06 46 06.8 +0.5**
BELG Belogornoye 34.48 79 *i* P **P 06 46 22.1 +0.1**
ARU Arti 36.07 66 *ceP* **P 06 46 34.8 -1.0**
ARU S **S 06 52 15.3 +0.8**
ARU SS **SnSn 06 54 36.7 -2.1**
ARU pmax pmax
comp=Z,9.0nm,1.4s
NRIK Noril'sk 36.45 35 P **P 06 46 39.6 +0.7**
comp=Z,5.0nm,0.8s,baz=311,slow=6.0,SNR=6.5
NRIK Noril'sk 36.45 35 *ceP* **P 06 46 39.7 +0.8**
SOC Sochi 37.86 96 *eP* P 06 47 00.4 +9.3
SOC *e* 06 48 17.4
SOC pmax pmax
comp=Z,14nm,0.8s
GOF Gofitskoye 38.10 91 *eP* **P 06 46 53.8 +0.7**
BR131 Keskin Array S 38.47 105 P **P 06 46 57.8 +1.3**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 38.47 105 P **P 06 46 57.8 +1.3**
BRTR Keskin Array B 38.47 105 P **P 06 46 57.8 +1.3**
comp=Z,2.9nm,0.9s,baz=36,slow=6.5,SNR=7.9
BRTR Keskin Array B 38.47 105 *i* P **P 06 46 57.9 +1.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 38.47 105 P **P 06 46 58.0 +1.6**
KIV Kislovodsk 38.83 92 *eP* **P 06 47 01.0 +1.6**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 38.83 92 P **P 06 47 00.7 +1.4**
KBZ Khabaz 39.10 92 P **P 06 47 03.1 +1.6**
comp=Z,5.8nm,0.9s,baz=306,slow=8.3,SNR=5.8
KBZ LR LR 07 05 22.4
comp=Z,119nm,18.4s,baz=326,slow=40
AKTO Aktyubinsk 40.28 73 LR LR 07 03 12.4
comp=Z,90nm,20.5s,baz=322,slow=35
ZEI Tsey 40.30 92 *eP* **P 06 47 12.0 +0.3**
ZEI pmax pmax
comp=Z,5.0nm,1.2s
KOPT Kop Dagi 41.11 98 P **P 06 47 20.6 +2.0**
AKH Akhalkalaki 41.25 94 P **P 06 47 21.5 +1.9**
AKH pmax pmax
comp=Z,6.0nm,0.8s
AKH Akhalkalaki 41.25 94 P **P 06 47 21.4 +1.9**
MALT Malatya 41.66 101 P P 06 47 27.4 +4.5
K50A Casco 41.93 271 P **P 06 47 25.8 +0.9**
K50A IAmb IAmb 06 47 27.0
comp=Z,24nm,1.2s
ABKAR Akbulak array 41.98 73 P **P 06 47 25.8 +0.5**
TIXI Tiksi 42.03 15 *ceP* **P 06 47 26.7 +1.3**
TIXI pmax pmax
comp=Z,77nm,1.3s
TIXI Tiksi 42.03 15 P **P 06 47 27.2 +1.9**
B35A Bob, Littlefor 42.20 285 P **P 06 47 28.1 +1.0**
B35A IAmb IAmb 06 47 28.7
comp=Z,14nm,1.4s
TOLK Toolik Lake Re 42.75 336 P **P 06 47 33.5 +2.1**
TOLK IAmb IAmb 06 47 34.4
comp=Z,17nm,1.1s
N53A Lisbon 42.77 268 P **P 06 47 32.8 +1.0**
N53A IAmb IAmb 06 47 34.3
comp=Z,15nm,1.1s
BRVK Borovoye 43.12 62 *ceP* **P 06 47 34.5 0.0**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 43.12 62 P **P 06 47 35.6 +1.2**
BRVK IAmb IAmb 06 47 36.3
comp=Z,11nm,1.3s
M50A Fremont 43.23 270 P **P 06 47 36.4 +0.9**
MARD Mardin 43.50 100 P **P 06 47 39.9 +2.0**
MARD IAmb IAmb 06 47 44.6
comp=Z,18nm,1.2s
FYU Fort Yukon 43.78 333 P **P 06 47 41.5 +1.9**
P53A Whipple 44.10 267 P **P 06 47 43.4 +0.8**
N49A Columbus Grove 44.11 271 P **P 06 47 42.8 +0.2**
ACSO Alum Creek Sta 44.17 269 P **P 06 47 44.0 +1.0**
P52A Corning 44.30 268 P **P 06 47 45.1 +1.0**
SPMN Marine on St. 44.30 282 P **P 06 47 45.9 +1.8**
SPMN IAmb IAmb 06 47 51.0
comp=Z,9.9nm,1.1s
EGAK Eagle 44.49 329 P **P 06 47 46.0 +0.7**
EGAK IAmb IAmb 06 47 52.6
comp=Z,14nm,1.5s
TAM Tamanrasset 44.51 149 P **P 06 47 49.0 +2.9**
O49A Covington 44.78 270 P **P 06 47 46.8 -1.2**
P51A Williamsport 44.82 269 P **P 06 47 49.1 +0.9**
P51A IAmb IAmb 06 47 50.4
comp=Z,12nm,1.1s
Q51A Peebles 45.32 269 P **P 06 47 53.3 +1.0**
P49A Miami Univ. Ec 45.49 270 P **P 06 47 54.2 +0.6**
P49A IAmb IAmb 06 47 56.6
comp=Z,11nm,1.0s
IL31 45.69 332 P **P 06 47 55.7 +0.9**
ILAR Eielson Array 45.69 332 P **P 06 47 56.0 +1.1**
comp=Z,4.8nm,1.1s,baz=24,slow=5.6,SNR=27
ILAR PcP **PcP 06 49 32.4 -0.2**
comp=Z,2.0nm,1.0s,baz=1.8,slow=2.9,SNR=7.1
ILAR Eielson Array 45.69 332 P **P 06 47 56.2 +1.3**
ILAR Eielson Array 45.69 332 P **P 06 47 56.2 +1.3**
MDM Murphy Dome 45.79 333 P **P 06 47 57.5 +1.8**
COLA College 45.79 333 *i* P **P 06 47 57.4 +1.8**
COLA pmax pmax
comp=Z,5.0nm,0.7s
COLA College 45.79 333 P **P 06 47 57.3 +1.7**
P48A Milroy 45.86 271 P **P 06 47 57.0 +0.5**
P48A IAmb IAmb 06 47 57.4
comp=Z,6.2nm,0.8s
IMAR Indian Mountai 45.86 337 P **P 06 47 57.5 +1.3**
CCB Clear Creek Bu 45.98 333 P **P 06 47 58.4 +1.2**
CCB IAmb IAmb 06 47 59.6
comp=Z,6.7nm,1.4s
HDA Harding Lake 46.02 332 P **P 06 47 57.9 +0.4**
HDA IAmb IAmb 06 47 60.0
comp=Z,11nm,1.2s
BCAR Beaver Creek A 46.11 329 P **P 06 47 59.0 +0.7**
RIDG Independent Ri 46.19 331 P **P 06 48 00.4 +1.5**
WRH Wood River Hil 46.20 333 P **P 06 48 00.1 +1.2**
S51A Beattyville 46.59 268 P **P 06 48 03.2 +1.0**
O44A Mansfield 46.59 274 P **P 06 48 03.7 +1.5**
MENT Mentasta 46.65 330 P **P 06 48 04.6 +2.1**
MENT IAmb IAmb 06 48 05.5
comp=Z,7.7nm,1.3s
PAX Paxson 47.00 331 P **P 06 48 07.1 +1.8**
PAX pmax pmax
comp=Z,7.0nm,1.2s
PAX Paxson 47.00 331 P **P 06 48 07.1 +1.8**
PAX IAmb IAmb 06 48 08.1
comp=Z,7.5nm,1.2s
BPAW Bear Paw Mtn. 47.09 334 P **P 06 48 07.4 +1.5**
WCI Wyandotte Cave 47.26 271 P **P 06 48 08.3 +0.9**
WCI pmax pmax
comp=Z,8.0nm,0.9s
WCI Wyandotte Cave 47.26 271 P **P 06 48 08.3 +0.9**
P43A Skaggs, Pawnee 47.47 275 P **P 06 48 10.1 +1.1**
BILL Bilibino 47.55 358 *eP* **P 06 48 10.8 +1.4**
BILL *e**PP **pP 06 48 12.7 -0.3**
BILL *e**SP **sP 06 48 14.3 -0.1**
BILL SSS SSS 06 59 35.0
BILL pmax pmax
comp=Z,6.0nm,1.3s
ZAA0 Zalesovo Array 47.62 51 P **P 06 48 10.5 +0.4**
ZAA0 IAmb IAmb 06 48 12.3
comp=Z,7.6nm,1.4s
ZALV Zalesovo Beam 47.62 51 P **P 06 48 09.6 -0.5**
comp=Z,1.7nm,0.7s,baz=336,slow=3.3,SNR=5.7
ZALV Zalesovo Beam 47.62 51 *i* P **P 06 48 10.8 +0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 47.62 51 P **P 06 48 10.9 +0.8**
KMSC Kings Mountain 47.73 264 P **P 06 48 12.4 +1.2**
USIN University of 48.07 272 P **P 06 48 14.8 +1.0**
KURK Kurchatov 48.10 58 *ceP* **P 06 48 13.8 -0.1**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 48.10 58 P **P 06 48 14.3 +0.4**
PAULI Pauline 48.21 264 P **P 06 48 16.1 +1.2**
SCM Sheep Creek Mo 48.41 331 P **P 06 48 17.7 +1.5**
SCM pmax pmax
comp=Z,21nm,1.4s
SCM Sheep Creek Mo 48.41 331 P **P 06 48 17.7 +1.5**
JSC Jenkinsville 48.43 263 P **P 06 48 18.1 +1.5**
JSC pmax pmax
comp=Z,5.0nm,1.1s
JSC Jenkinsville 48.43 263 P **P 06 48 18.1 +1.5**
JSC IAmb IAmb 06 48 18.8
comp=Z,5.3nm,1.1s
LAO LASA Array 48.61 293 P **P 06 48 19.2 +1.3**
T47A Sharon Grove 48.65 270 P **P 06 48 19.2 +1.0**
EGMT Eagleton 48.88 297 P **P 06 48 21.3 +1.3**
PMR Palmer 49.00 332 P **P 06 48 22.1 +1.5**
PMR pmax pmax
comp=Z,12nm,1.3s
PMR Palmer 49.00 332 P **P 06 48 22.1 +1.5**
PMR IAmb IAmb 06 48 31.1
comp=Z,12nm,1.3s
SKT Skwentna 49.12 333 P **P 06 48 21.7 +0.1**
SKT IAmb IAmb 06 48 22.9
comp=Z,8.4nm,1.2s
W50A Signal Mountai 49.39 268 P **P 06 48 25.6 +1.6**
X51A Calhoun 49.73 267 P **P 06 48 28.3 +1.7**
X51A IAmb IAmb 06 48 28.6
comp=Z,9.8nm,1.1s
GOGA Godfrey 50.12 265 P **P 06 48 30.5 +1.0**
GOGA pmax pmax
comp=Z,13nm,1.3s
GOGA Godfrey 50.12 265 P **P 06 48 30.5 +1.0**
GOGA IAmb IAmb 06 48 31.2
comp=Z,13nm,1.2s
T42A Van Buren 50.33 274 P **P 06 48 32.3 +1.2**
T42A IAmb IAmb 06 48 33.8
comp=Z,10nm,1.4s
GEYT Alibeck 50.41 84 P **P 06 48 32.2 +0.4**
comp=Z,1.6nm,0.6s,baz=264,slow=14,SNR=4.9
GEYT Alibeck 50.41 84 P **P 06 48 32.9 +1.2**
GYA0B ALIBECK ARRAY 50.41 84 P **P 06 48 32.8 +1.0**
GYA0B IAmb IAmb 06 48 33.9
comp=Z,4.0nm,0.6s
S39A Bolivar 50.72 276 P **P 06 48 34.3 +0.2**
HRY Holter Researc 50.76 298 P **P 06 48 35.2 +0.8**
KSU1 Kansas State U 50.94 280 P **P 06 48 36.1 +0.4**
KK31 Karatay Array 51.27 70 P **P 06 48 39.4 +1.3**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KK31 Karatay Array 51.27 70 P **P 06 48 39.4 +1.3**
KKAR Karatay Array 51.27 70 P **P 06 48 39.0 +0.9**
KKAR 06 48 39.4
KKAR pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 51.27 70 P **P 06 48 39.0 +0.9**
KKAR Karatay Array 51.27 70 P **P 06 48 39.4 +1.3**
KKAR IAmb IAmb 06 48 40.3
comp=Z,5.9nm,1.1s
YNE Yellowstone No 51.48 295 P **P 06 48 40.9 +0.9**
BOZ Bozeman (W) 51.62 297 P **P 06 48 42.1 +1.2**
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 51.62 297 P **P 06 48 42.1 +1.2**
U40A Yellville 51.65 275 P **P 06 48 41.8 +0.7**
U40A IAmb IAmb 06 48 42.1
comp=Z,9.2nm,1.2s
YMP Mirror Lake Pl 51.76 295 P **P 06 48 43.0 +0.8**
DGZ Jazzator, Alta 52.07 53 *i* P **P 06 48 45.5 +1.3**
DGZ pmax pmax
comp=Z,8.0nm,1.1s
QLMT Earthquake Lak 52.18 296 P **P 06 48 46.8 +1.6**
H17A Grant Village 52.22 295 P **P 06 48 47.7 +2.3**
H17A IAmb IAmb 06 48 53.6
comp=Z,9.7nm,1.2s
MAKZ Makanchi 52.59 59 P **P 06 48 48.5 +0.6**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 52.59 59 P **P 06 48 48.5 +0.6**
MK31 Makanchi Array 52.72 58 *ceP* **P 06 48 49.2 +0.3**
MK31 Makanchi Array 52.72 58 P **P 06 48 49.0 +0.1**
MKAR Makanchi Array 52.72 58 P **P 06 48 48.9 0.0**
comp=Z,3.2nm,0.9s,baz=335,slow=5.5,SNR=15
MKAR Makanchi Array 52.72 58 *i* P **P 06 48 49.2 +0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 52.72 58 P **P 06 48 48.7 -0.2**
MCMT McKenzie Canyo 52.73 297 P **P 06 48 50.2 +0.9**
PHWY Pilot Hill 52.77 289 P **P 06 48 50.1 +0.4**

IMW	**Indian Meadow**	**52.78**	**295**	P		**P**		**06 48 51.1**	**+1.4**
FXWY	**Fox Creek**	**53.03**	**295**	P		**P**		**06 48 52.4**	**+0.9**
FXWY				IAmb		IAmb		06 48 53.8	
	comp=Z,9.3nm,1.5s								
SNOW	**Snow King Moun**	**53.07**	**295**	P		**P**		**06 48 52.5**	**+0.7**
SNOW				IAmb		IAmb		06 48 55.2	
	comp=Z,8.5nm,1.2s								
TPAW	**Teton Pass**	**53.12**	**295**	P		**P**		**06 48 53.6**	**+1.4**
TPAW				IAmb		IAmb		06 48 58.8	
	comp=Z,11nm,1.4s								
TOA0	**Torodi Ar. Sit**	**53.14**	**156**	P		**P**		**06 48 52.0**	**-0.3**
TOA0				IAmb		IAmb		06 48 53.1	
	comp=Z,12nm,1.3s								
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**		**06 48 51.4**	**-0.8**
	comp=Z,4.6nm,1.1s,baz=341,slow=8.9,SNR=11								
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**		**06 48 51.8**	**-0.5**
TORD						**pP**		**06 48 52.0**	**-4.0**
BW06	**Boulder Array**	**53.19**	**293**	P		**P**		**06 48 52.8**	**+0.2**
BW06				IAmb		IAmb		06 48 53.6	
	comp=Z,8.1nm,1.1s								
PD31	**Pinedale Array**	**53.19**	**293**	P		**P**		**06 48 52.7**	**+0.1**
PD31				IAmb		IAmb		06 48 53.6	
	comp=Z,7.2nm,1.1s								
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**		**06 48 52.1**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=55,slow=5.6,SNR=18								
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**		**06 48 52.2**	**-0.4**
PDAR						**pP**		**06 48 52.4**	**-3.8**
REDW	**Red Top Meadow**	**53.19**	**295**	P		**P**		**06 48 53.7**	**+1.0**
REDW				IAmb		IAmb		06 49 00.3	
	comp=Z,10nm,1.4s								
AAK	**Ala-Archa**	**53.25**	**67**	*i* P		**P**		**06 48 54.5**	**+1.5**
AAK				pmax		pmax			
	comp=Z,18nm,1.0s								
N23A	**Red Feather La**	**53.31**	**289**	P		**P**		**06 48 55.0**	**+1.3**
BOOM	**Boomskoye usch**	**53.95**	**66**	P		**P**		**06 48 59.8**	**+1.7**
BOOM				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BOOM	**Boomskoye usch**	**53.95**	**66**	P		**P**		**06 48 59.8**	**+1.7**
BOOM				IAmb		IAmb		06 49 00.7	
	comp=Z,6.8nm,1.1s								
BTK	**Batken**	**53.95**	**72**	P		**P**		**06 48 57.0**	**-1.1**
BTK				*PP		**pP**		**06 48 59.1**	**-2.6**
BTK				pmax		pmax			
	comp=Z,18nm,1.1s								
BTK	**Batken**	**53.95**	**72**	P		**P**		**06 48 57.0**	**-1.1**
BTK						**pP**		**06 48 59.1**	**-2.6**
OK025	**Westminster Rd**	**54.22**	**278**	P		**P**		**06 49 00.5**	**+0.5**
CHGR	**Chuyangaron**	**54.45**	**74**	P		**P**		**06 49 02.8**	**+1.0**
GAR	**Garm**	**54.64**	**73**	P		**P**		**06 49 04.1**	**+1.0**
MOY	**Mondy**	**54.65**	**42**	*e*P		**P**		**06 49 05.1**	**+2.0**
MOY				pmax		pmax			
	comp=Z,34nm,1.4s								
O20A	**White River Ci**	**54.89**	**290**	P		**P**		**06 49 06.1**	**+1.0**
O20A				IAmb		IAmb		06 49 10.8	
	comp=Z,12nm,1.3s								
HWUT	**Hardware Ranch**	**54.96**	**294**	P		**P**		**06 49 06.3**	**+0.7**
HWUT				IAmb		IAmb		06 49 07.8	
	comp=Z,9.9nm,1.2s								
RDMU	**Red Mountain**	**55.05**	**292**	P		**P**		**06 49 07.5**	**+1.2**
HRA	**Herat**	**55.18**	**82**	P		**P**		**06 49 08.3**	**+1.0**
HRA				IAmb		IAmb		06 49 13.0	
	comp=Z,7.5nm,1.3s								
TCUT	**Toone Canyon**	**55.31**	**294**	P		**P**		**06 49 09.1**	**+0.9**
WMOK	**Wichita Mounta**	**55.55**	**279**	P		**P**		**06 49 10.0**	**+0.3**
WMOK				pmax		pmax			
	comp=Z,9.0nm,1.2s								
WMOK	**Wichita Mounta**	**55.55**	**279**	P		**P**		**06 49 10.0**	**+0.3**
WMOK				IAmb		IAmb		06 49 12.9	
	comp=Z,8.5nm,1.2s								
ZAK	**Zakamensk**	**56.45**	**41**	*e*P		**P**		**06 49 16.1**	**+0.1**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
P17A	**Butcher Ranch,**	**56.45**	**292**	P		**P**		**06 49 17.6**	**+1.4**
KSH	**Kashi**	**56.49**	**68**	P		**P**		**06 49 17.8**	**+1.3**
KSH				pmax		pmax			
	comp=Z,14nm,1.1s								
DUG	**Dugway, Tooele**	**56.66**	**294**	P		**P**		**06 49 19.3**	**+1.6**
DUG				pmax		pmax			
	comp=Z,6.0nm,1.2s								
DUG	**Dugway, Tooele**	**56.66**	**294**	P		**P**		**06 49 19.3**	**+1.6**
DUG				IAmb		IAmb		06 49 20.1	
	comp=Z,6.1nm,1.1s								
SRU	**San Rafael Swe**	**56.68**	**292**	P		**P**		**06 49 19.1**	**+1.2**
SRU				pmax		pmax			
	comp=Z,6.0nm,1.1s								
SRU	**San Rafael Swe**	**56.68**	**292**	P		**P**		**06 49 19.1**	**+1.2**
PV16	**Nyswonger Mesa**	**56.72**	**290**	P		**P**		**06 49 19.5**	**+1.3**
PV16				IAmb		IAmb		06 49 24.7	
	comp=Z,7.1nm,1.0s								
PV01	**Paradox Valley**	**56.73**	**289**	P		**P**		**06 49 19.8**	**+1.5**
PV01				IAmb		IAmb		06 49 20.1	
	comp=Z,8.4nm,1.1s								
PV02	**Paradox Valley**	**56.73**	**290**	P		**P**		**06 49 19.3**	**+0.9**
PV03	**Paradox Valley**	**56.74**	**290**	P		**P**		**06 49 19.6**	**+1.2**
PV03				IAmb		IAmb		06 49 20.0	
	comp=Z,9.3nm,1.2s								
PV18	**Skein Mesa, Pa**	**56.77**	**290**	P		**P**		**06 49 19.9**	**+1.4**
TMUT	**Trail Mountain**	**56.79**	**292**	P		**P**		**06 49 20.4**	**+1.6**
PV13	**Radium Mtn., P**	**56.81**	**290**	P		**P**		**06 49 19.9**	**+1.0**
PV05	**Paradox Valley**	**56.99**	**290**	P		**P**		**06 49 20.2**	**0.0**
ELK	**Elko**	**57.13**	**296**	P		**P**		**06 49 22.9**	**+1.8**
ELK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
ELK	**Elko**	**57.13**	**296**	P		**P**		**06 49 22.9**	**+1.8**
WMQ	**Urumqi**	**57.22**	**56**	*e*P		**P**		**06 49 25.0**	**+3.5**
MSU	**Marysvale**	**57.85**	**293**	P		**P**		**06 49 27.8**	**+1.6**
MSU	**Marysvale**	**57.85**	**293**	P		**P**		**06 49 27.8**	**+1.6**
TCRU	**Three Creeks R**	**57.87**	**293**	P		**P**		**06 49 27.9**	**+1.5**
MTPU	**Mount Pierson**	**58.26**	**292**	P		**P**		**06 49 31.3**	**+2.1**
ANMO	**Albuquerque**	**58.60**	**286**	*ce*P		**P**		**06 49 32.3**	**+0.8**
ANMO				pmax		pmax			
	comp=Z,3.0nm,1.3s								
ANMO	**Albuquerque**	**58.60**	**286**	P		**P**		**06 49 33.0**	**+1.6**
CCUT	**Cedar City**	**59.15**	**293**	P		**P**		**06 49 37.5**	**+2.2**
R11A	**Troy Canyon, C**	**59.33**	**295**	P		**P**		**06 49 37.8**	**+1.3**
BNM	**Barren Site**	**59.36**	**285**	P		**P**		**06 49 38.2**	**+1.4**
LCMT	**Little Creek M**	**59.57**	**293**	P		**P**		**06 49 39.7**	**+1.6**
SONM	**Songino Array**	**59.63**	**40**	P		**P**		**06 49 38.7**	**+0.3**
	comp=Z,2.2nm,1.1s,baz=316,slow=4.1,SNR=5.5								
SONM	**Songino Array**	**59.63**	**40**	P		**P**		**06 49 38.6**	**+0.2**
JCT	**Junction City**	**59.66**	**278**	P		**P**		**06 49 39.3**	**+0.7**
JCT				pmax		pmax			
	comp=Z,7.0nm,0.9s								
JCT	**Junction City**	**59.66**	**278**	P		**P**		**06 49 39.3**	**+0.7**
KVN	**Kaiserville**	**59.69**	**298**	P		**P**		**06 49 40.4**	**+1.4**
KVN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
KVN	**Kaiserville**	**59.69**	**298**	P		**P**		**06 49 40.4**	**+1.4**
KVN				IAmb		IAmb		06 49 40.8	
	comp=Z,6.9nm,1.2s								
U15A	**North Rim**	**59.70**	**291**	P		**P**		**06 49 39.4**	**+0.3**
U15A				IAmb		IAmb		06 49 40.3	
	comp=Z,4.3nm,1.1s								
ULN	**Ulaanbaatar**	**59.79**	**40**	*ce*P		**P**		**06 49 40.8**	**+1.3**
ULN				pmax		pmax			
	comp=Z,6.0nm,1.7s								
WUAZ	**Wupatki**	**60.12**	**290**	P		**P**		**06 49 42.8**	**+0.9**
YERR	**Yerington**	**60.18**	**298**	P		**P**		**06 49 44.1**	**+1.8**
YERR				IAmb		IAmb		06 49 46.7	
	comp=Z,6.6nm,1.3s								
NVAR	**Mina Array Bea**	**60.31**	**297**	P		**P**		**06 49 43.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=50,slow=8.4,SNR=5.2								
NVAR	**Mina Array Bea**	**60.31**	**297**	P		**P**		**06 49 44.9**	**+1.6**
NIL	**Nilore**	**60.44**	**74**	P		**P**		**06 49 44.7**	**+0.7**
NIL				pmax		pmax			
	comp=Z,14nm,1.0s								
NIL	**Nilore**	**60.44**	**74**	P		**P**		**06 49 44.7**	**+0.7**
SHPR	**Sheep Range**	**60.77**	**294**	P		**P**		**06 49 48.5**	**+2.2**
SHPR				IAmb		IAmb		06 49 48.8	
	comp=Z,4.3nm,1.2s								
MNTX	**Cornudas Mount**	**60.96**	**283**	P		**P**		**06 49 48.4**	**+0.9**
MNTX				IAmb		IAmb		06 49 50.5	
	comp=Z,5.1nm,1.3s								
X16A	**Lo Mia Camp, P**	**61.10**	**290**	P		**P**		**06 49 50.0**	**+1.4**
X16A				IAmb		IAmb		06 49 55.9	
	comp=Z,6.2nm,1.2s								
OMMB	**Old Mammoth Mi**	**61.29**	**297**	P		**P**		**06 49 52.3**	**+2.2**
TX31	**Lajitas Ar. Si**	**62.29**	**280**	P		**P**		**06 49 57.5**	**+0.9**
TX32	**Lajitas Array**	**62.29**	**280**	P		**P**		**06 49 57.3**	**+0.6**
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**		**06 49 56.8**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=60,slow=4.9,SNR=11								
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**		**06 49 57.3**	**+0.6**
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**		**06 49 57.2**	**+0.6**
TUC	**Tucson**	**62.67**	**288**	P		**P**		**06 50 00.2**	**+1.1**
TUC				pmax		pmax			
	comp=Z,8.0nm,1.4s								
TUC	**Tucson**	**62.67**	**288**	P		**P**		**06 50 00.2**	**+1.1**
TUC				IAmb		IAmb		06 50 01.5	
	comp=Z,7.9nm,1.4s								
ISA	**Isabella, Lake**	**62.80**	**296**	P		**P**		**06 50 01.2**	**+1.3**
ISA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
ISA	**Isabella, Lake**	**62.80**	**296**	P		**P**		**06 50 01.2**	**+1.3**
ISA				IAmb		IAmb		06 50 03.8	
	comp=Z,3.3nm,1.1s								
319A	**Douglas**	**62.86**	**286**	P		**P**		**06 50 02.2**	**+1.7**
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e*P		**P**		**06 50 33.2**	**+2.8**
HHC				pmax		pmax			
	comp=Z,11nm,0.8s								
HHC				pmax		pmax			
	comp=Z,210nm,7.0s								
PTGA	**Pitinga**	**72.19**	**225**	P		**P**		**06 51 00.9**	**+1.5**
PTGA				IAmb		IAmb		06 51 01.7	
	comp=Z,4.1nm,1.0s								
CD2	**Chengdu**	**74.35**	**50**	P		**P**		**06 51 12.3**	**+0.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NJ2	**Nanjing**	**77.73**	**37**	*e*P		**P**		**06 51 33.1**	**+1.9**
NJ2				pmax		pmax			
	comp=Z,11nm,0.6s								
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**		**06 52 04.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=324,slow=6.4,SNR=9.5								
CMAR	**Chiang Mai Arr**	**84.12**	**59**	*i* P		**P**		**06 52 05.9**	**+0.4**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**		**06 52 06.0**	**+0.4**
ASAR	**Alice Springs**	**134.96**	**38**	PKP		**PKiKP**		**06 58 53.5**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=337,slow=1.7,SNR=5.5								

MEX ***02*** *06:41:54.9±0.4, 14.°41N×92.°77W, h16km±27km, MD3.8*
GCG ***02*** *06:41:58.9±0.3, 15.°12N×92.°09W, h108km±11km, MD4.1*

ISC 02 06:41:53.8±2.7, 14.°5N±0.°1×92.°76W±0.°09, h29km±15km, n8, σ1§06/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**48**	*eP*		**Pb**	**06 42 06.0**	**-0.5**
THIG				*eS*		**Sb**	**06 42 15.5**	**+0.3**
PCIG		**1.30**	**340**	*eP*		**Pn**	**06 42 15.7**	**-0.3**
PCIG				*i* S		**Sn**	**06 42 31.1**	**-1.2**
FUG	**Fuego 3**	**1.85**	**91**	*eP*		**Pn**	**06 42 24.8**	**+1.0**
FUG				*eS*		**Sn**	**06 42 45.0**	**-1.3**
CCIG	**Comitan**	**1.89**	**18**	*eP*		**Pn**	**06 42 24.6**	**+0.3**
CCIG				*i* S		**Sn**	**06 42 48.0**	**+0.7**
PCG	**Pacaya**	**2.08**	**92**	*eP*		**Pn**	**06 42 27.9**	**+0.9**
PCG				*eS*		**Sn**	**06 42 50.5**	**-1.6**
IXG	**Ixpaco**	**2.27**	**97**	*eP*		**Pn**	**06 42 30.7**	**+1.3**
IXG				*eS*		**Sn**	**06 42 55.6**	**-0.9**
TGIG		**2.31**	**351**	*i* P		**Pn**	**06 42 30.3**	**+0.3**
TGIG				*i* S		**Sn**	**06 42 58.3**	**+0.8**
CMIG	**Matias Romero**	**3.31**	**322**	*eP*		**Pn**	**06 42 44.4**	**+0.7**

BJI ***02*** *07:02:03.9±0.0, 20.°75S×174.°20W, h5km, mB5.6/23, mb5.3/36, Ms5.1/7, Ms7 4.8/7*
IDC ***02*** *07:02:04.0±0.4, 20.°86S×174.°33W, h0km, mb4.9/28, mb1 5.0/29, mb1mx4.9/42, mbtmp4.9/29, ML4.8/1, MS4.2/24, Ms1 4.2/24, ms1mx4.1/34, Error ellipse: s-maj=14.8km s-min=12.3km az=114.0*
NEIC ***02*** *07:02:05.2±1.5, 20.°93S±0.°09×174.°3W±0.°1, h10km±1km, mb5.1/187, Error ellipse: s-maj=18.1km s-min=14.5km az=111.0*
GCMT ***02*** *07:02:10.2±0.2, 21.°12S±0.°02×173.°73W±0.°01, h21km, MW5.1/115, Moment Tension Solution. s68,c91; s115,c176; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.09±.18; Mθθ-0.60±.12; Mφφ-4.48±.12; Mrθ1.79±.23; Mθφ-2.10±.07; Mφr1.81±.18; Best double couple: Mo5.83400×10^16 NP1:φs194.00000°, δ34.00000°, λ74.00000°. NP2:φs33.00000°, δ58.00000°, λ100.00000°. Principal axes: T 5.7500, Plg75.0000°, Azm332.0000°; N 0.1750, Plg9.0000°, Azm207.0000°; P -5.9190, Plg12.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***02*** *07:02:29.3±0.0, 20.°57S×173.°32W, h95km±1km*

ISC 02 07:02:05.9±0.7, 21.°01S±0.°05×174.°19W±0.°06, h17km±3km, h17km:pP-P, n584, σ1§26/589, mb5.1/134, MS4.3/26, 37C-8D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.44**	**65**	P		Pn	07 03 05.8	-6.8
	baz=4.0,SNR=63							
NIUE				S		Sn	07 03 49.9	-14
	baz=4.0							
NIUE	**Niue**	**4.44**	**65**			Pn	07 03 05.9	-6.7
AFI	**Afiamalu**	**7.42**	**18**	Pn		Pn	07 03 47.3	-6.4
	18nm,0.3s,baz=225,slow=20,SNR=20							
AFI				Sn		Sn	07 05 00.7	-17
	15nm,0.3s,baz=131,slow=22,SNR=2.8							
AFI				LR		LR	07 06 33.0	
	comp=Z,1μm,19.2s,baz=192,slow=37							
AFI	**Afiamalu**	**7.42**	**18**			Pn	07 03 47.4	-6.2
MSVF	**Nonsavu**	**8.02**	**293**			Pn	07 04 09.8	+8.0
RIZ	**Raoul Island**	**8.87**	**202**	S		**Sn**	**07 05 50.0**	**-3.0**
RAO	**Raoul Island**	**8.88**	**202**	Sn		**Sn**	**07 05 48.2**	**-4.9**
	22nm,0.3s,baz=264,slow=23,SNR=1.8							
RAO	**Raoul Island**	**8.88**	**202**	Pn		**Pn**	**07 04 13.3**	**-0.1**
GLKZ	**Green Lake**	**8.89**	**202**	P		**Pn**	**07 04 13.9**	**+0.4**
GLKZ				S		**Sn**	**07 05 51.5**	**-1.8**
RAR	**Rarotonga**	**13.45**	**93**	Pn		Pn	07 05 08.5	-7.6
	11nm,0.3s,baz=264,slow=12,SNR=19							
RAR				Sn		Sn	07 07 25.6	-20
	1.9nm,0.3s,baz=46,slow=16,SNR=1.1							
RAR				LR		LR	07 11 00.1	
	comp=Z,802nm,18.2s,baz=254,slow=39							
OUZ	**Omahuta**	**17.77**	**215**	P		**P**	**07 06 14.5**	**+1.2**
DZM	**Mont Dzumac**	**18.05**	**263**	P		**P**	**07 06 19.2**	**+2.7**
	1.8nm,0.3s,baz=79,slow=19,SNR=25							
DZM				LR		LR	07 12 10.7	
	comp=Z,2μm,19.7s,baz=98,slow=34							
DZM	**Mont Dzumac**	**18.05**	**263**	*eP*		**P**	**07 06 18.5**	**+1.9**
	138nm,1.1s							
DZM				*eS*		**Sn**	**07 09 38.4**	**+1.0**
	285nm,24.5s							
DZM				*eLR*		LR	07 10 33.6	
	comp=Z,2μm,22.3s							
DZM	**Mont Dzumac**	**18.05**	**263**	P		**P**	**07 06 19.3**	**+2.7**
DZM				IAmb		IAmb	07 06 28.4	
	comp=Z,340nm,2.0s							
HAZ	**Te Kaha**	**18.08**	**201**	P		P	07 06 24.0	+7.3
HAZ				S		Sn	07 09 27.0	-11
PUZ	**Puketiti**	**18.22**	**199**	P		**P**	**07 06 23.7**	**+5.5**
SANVU	**Saraoutou**	**18.52**	**284**	P		**Pn**	**07 06 21.4**	**-0.4**
SANVU				IAmb		IAmb	07 06 26.7	
	comp=Z,247nm,1.2s							
URZ	**Urewera**	**18.76**	**202**	P		**Pn**	**07 06 25.7**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=16,slow=3.8,SNR=17							
URZ				S		Sn	07 09 39.0	-15
	comp=Z,1.3nm,0.3s,baz=173,slow=12,SNR=2.2							
URZ				LR		LR	07 13 05.5	
	comp=Z,831nm,21.0s,baz=12,slow=35							
URZ	**Urewera**	**18.76**	**202**	P		**Pn**	**07 06 26.5**	**+1.8**
BKZ	**Black Stump Fm**	**19.79**	**202**	P		**P**	**07 06 35.5**	**0.0**
HIZ	**Hauiti**	**19.84**	**206**	P		**P**	**07 06 36.9**	**+0.9**
KWHZ	**Kaweka Forest**	**20.05**	**202**	P		**P**	**07 06 39.6**	**+1.4**
KWHZ				S		S	07 10 04.0	-19
BHHZ	**Black Hill Sta**	**20.23**	**202**	P		Pn	07 06 41.9	-0.3
BHHZ				S		S	07 10 10.7	-16
KRHZ	**Kereru**	**20.26**	**201**	P		Pn	07 06 45.9	+3.3
KRHZ				S		S	07 10 14.9	-12
DREZ	**Durham Road**	**20.68**	**206**	P		Pn	07 06 53.8	+6.3
BFZ	**Birch Farm**	**21.23**	**200**	P		**P**	**07 06 53.4**	**+2.3**
BFZ				IAmb		IAmb	07 07 10.0	
	comp=Z,64nm,0.9s							
OGWZ	**Otaki Gorge**	**21.72**	**202**	P		**P**	**07 06 56.6**	**+0.3**
OGWZ				S		S	07 10 40.5	-16
MSWZ	**Moikau Station**	**22.23**	**201**	P		**P**	**07 07 02.8**	**+1.0**
SNZO	**South Karori**	**22.32**	**202**	P		**P**	**07 07 03.3**	**+0.6**
SNZO				IAmb		IAmb	07 07 14.0	
	comp=Z,91nm,0.8s							
BHW	**Baring Head**	**22.35**	**202**	P		**P**	**07 07 01.6**	**-1.4**
PLWZ	**Palliser**	**22.36**	**201**	P		**P**	**07 07 02.4**	**-0.8**
TCW	**Tory Channel**	**22.39**	**203**	P		**P**	**07 07 01.5**	**-2.0**
TCW				S		**S**	**07 11 03.3**	**-5.5**
TUWZ	**Tuamarina**	**22.70**	**204**	P		**P**	**07 07 05.7**	**-1.1**
TUWZ	**Tuamarina**	**22.70**	**204**	P		**P**	**07 07 05.6**	**-1.2**
NNZ	**Nelson**	**22.74**	**205**	P		**P**	**07 07 07.4**	**+0.2**
NNZ				S		**S**	**07 11 05.8**	**-9.3**
NNZ	**Nelson**	**22.74**	**205**	P		**P**	**07 07 06.9**	**-0.3**
NNZ				IAmb		IAmb	07 07 17.2	
	comp=Z,43nm,0.7s							
QRZ	**Quartz Range**	**22.75**	**207**	P		**P**	**07 07 09.5**	**+2.1**
QRZ	**Quartz Range**	**22.75**	**207**	P		**P**	**07 07 09.3**	**+1.9**
QRZ				IAmb		IAmb	07 07 24.1	
	comp=Z,78nm,0.9s							
BSWZ	**Blackbirch Sta**	**22.98**	**203**	P		**P**	**07 07 09.3**	**-0.4**
TBI	**Tubuai**	**23.01**	**100**	*eS*		S	07 11 10.6	-10
	comp=Z,351nm,23.3s							
TBI				*e*LQ		LQ	07 11 33.0	
	comp=Z,956nm,27.5s							
TBI				*e*LR		LR	07 12 33.9	
	comp=Z,2μm,29.5s							
THZ	**Tophouse**	**23.39**	**205**	P		**P**	**07 07 14.4**	**+0.5**
THZ	**Tophouse**	**23.39**	**205**	P		**P**	**07 07 13.2**	**-0.7**
PAE	**Paea**	**23.45**	**86**	*e*T		T	07 31 36.7	
	comp=Z,1.9nm,0.3s							
PPT2	**Papeete2**	**23.47**	**86**	*e*S		**S**	**07 11 20.1**	**-7.9**
	comp=Z,291nm,24.2s							
PPT2				*e*LQ		LQ	07 11 36.7	
	comp=Z,2μm,27.0s							
PPT2				*e*LR		LR	07 12 44.4	
	comp=Z,2μm,27.2s							
PPT2	**Papeete2**	**23.47**	**86**	*e*T		T	07 31 39.0	
	comp=Z,1.8nm,0.3s							
PPT	**Papeete**	**23.47**	**86**	P		**P**	**07 07 14.1**	**-0.8**
	comp=Z,33nm,0.8s,baz=225,slow=20,SNR=2.2							
PPT				LR		LR	07 14 44.5	
	comp=Z,299nm,19.6s,baz=268,slow=32							
TIAR	**Tiarei**	**23.69**	**86**	*eP*		**P**	**07 07 14.7**	**-2.3**
	comp=Z,19nm,0.9s							
KHZ	**Kahutara**	**23.71**	**203**	P		**P**	**07 07 16.7**	**-0.3**
KHZ				IAmb		IAmb	07 07 24.7	
	comp=Z,60nm,1.0s							
TVO	**Taravao**	**23.73**	**87**	*eP*		**P**	**07 07 15.0**	**-2.5**
	comp=Z,26nm,1.1s							
LTZ	**Lake Taylor**	**24.50**	**205**	P		**P**	**07 07 23.8**	**-0.6**
OXZ	**Oxford**	**25.05**	**204**	P		**P**	**07 07 29.1**	**-0.2**
MQZ	**McQueen's Wall**	**25.15**	**203**	P		**P**	**07 07 30.0**	**-0.1**
MQZ				IAmb		IAmb	07 07 39.9	
	comp=Z,60nm,1.3s							
RPZ	**Rata Peaks**	**25.77**	**205**	P		**P**	**07 07 36.2**	**+0.4**
	comp=Z,36nm,0.7s,baz=290,slow=2.4,SNR=12							
RPZ	**Rata Peaks**	**25.77**	**205**	P		**P**	**07 07 36.0**	**+0.2**
FOZ	**Fox Glacier**	**26.13**	**207**	P		**P**	**07 07 36.6**	**-2.4**
ODZ	**Otahua Downs**	**27.04**	**204**	P		**P**	**07 07 49.3**	**+2.0**
ODZ				IAmb		IAmb	07 08 24.6	
	comp=Z,51nm,1.2s							
HNR	**Honiara**	**27.44**	**291**	LR		LR	07 17 13.3	
	comp=Z,593nm,19.3s,baz=134,slow=33							
EIDS	**Eidsvold**	**32.16**	**256**	P		**P**	**07 08 33.3**	**+0.4**
	baz=33,SNR=5.9							
EIDS	**Eidsvold**	**32.16**	**256**	P		**P**	**07 08 32.6**	**-0.4**
EIDS				IAmb		IAmb	07 08 34.1	
	comp=Z,14nm,0.7s							
RMQ	**Roma**	**34.27**	**254**	P		**P**	**07 08 52.6**	**+1.2**
	baz=35,SNR=13							
CNB	**Canberra Magne**	**34.94**	**238**	P		**P**	**07 08 58.5**	**+1.4**
	baz=35,SNR=6.2							
TAOE	**Nuku Hiva Isla**	**34.95**	**75**	*e*S		**S**	**07 14 25.8**	**-2.9**
	comp=Z,145nm,26.6s							
TAOE				*e*LR		LR	07 17 58.0	
	comp=Z,863nm,29.6s							
CAN	**Canberra**	**35.23**	**238**	P		**P**	**07 09 00.0**	**+0.4**
CAN				IAmb		IAmb	07 09 06.8	
	comp=Z,32nm,1.2s							
KRVT	**Keravat (AS076**	**36.78**	**292**	P		**P**	**07 09 11.9**	**-1.2**
	comp=Z,40nm,0.5s,baz=262,slow=4.4,SNR=4.7							
CTA	**Charters Tower**	**36.99**	**264**	P		**P**	**07 09 14.0**	**-0.8**
	comp=Z,12nm,0.7s,baz=109,slow=12,SNR=17							
CTAO	**Charters Tower**	**36.99**	**264**	P		**P**	**07 09 14.3**	**-0.5**
CMSA	**Cobar Meteorol**	**37.29**	**245**	P		**P**	**07 09 17.3**	**0.0**
	baz=38,SNR=20	

comp=Z,91nm,18.5s,baz=13,slow=36
VNDA Vanda 57.75 186 P P 07 11 59.6 +4.1
SOEI Soe 60.08 271 P P 07 12 14.1 +1.3
comp=Z,76nm,1.0s
SOEI Soe 60.08 271 P P 07 12 13.7 +0.8
PSA00 Pilbara Seismi 61.02 256 P P 07 12 18.2 -0.8
PSA00 IAmb IAmb 07 12 24.8
comp=Z,24nm,1.1s
KLBR Kellerberrin 61.07 245 P P 07 12 19.9 +0.7
baz=62,SNR=5.3
MEEK Meekatharra 61.12 250 P P 07 12 19.3 -0.3
baz=62,SNR=3.6
NWAO Narrogin (SRO) 61.33 243 P P 07 12 22.5 +1.6
baz=62,SNR=3.9
NWAO Narrogin (SRO) 61.33 243 P P 07 12 20.8 -0.2
NWAO Narrogin (SRO) 61.33 243 P P 07 12 21.1 +0.1
NWAO IAmb IAmb 07 12 22.8
comp=Z,20nm,0.8s
BLDU Ballidu 62.10 246 P P 07 12 26.6 +0.4
baz=62,SNR=7.7
MUN Mundaring 62.32 244 P P 07 12 28.7 +1.0
baz=63,SNR=14
EDFI Ende, Flores 62.81 271 P P 07 12 30.9 -0.4
comp=Z,13nm,0.8s
MORW Morawa 62.93 247 P P 07 12 32.3 +0.5
baz=63,SNR=7.0
MORW Morawa 62.93 247 P P 07 12 32.0 +0.2
LUWI Luwuk 64.54 279 P P 07 12 42.7 +0.2
GTOI Gorontalo 64.97 281 P P 07 12 46.5 +1.1
comp=Z,25nm,0.8s
CASY Casey 65.04 206 P P 07 12 46.2 +1.3
CASY IAmb IAmb 07 12 48.4
comp=Z,13nm,0.8s
MPSI Mapaga 67.72 279 P P 07 13 03.4 +0.4
comp=Z,43nm,0.9s
QSPA South Pole Qui 69.06 180 P P 07 13 13.2 +2.5
comp=Z,20nm,1.0s,baz=37,slow=2.0,SNR=46
QSPA South Pole Qui 69.06 180 P P 07 13 13.2 +2.5
JHJ Hachijo jima 2 69.48 320 P P 07 13 13.5 0.0
comp=Z,184nm,0.8s,baz=134,slow=5.8,SNR=5.0
MYLDM Lahad Datu 70.92 284 P P 07 13 20.4 -2.4
JYT Yasato 71.42 322 P P 07 13 24.3 -1.0
ADK Adak 72.61 358 P P 07 13 31.6 -0.4
JGF Kuroka 72.64 320 P P 07 13 30.8 -1.9
JGF IAmb IAmb 07 13 33.8
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 72.78 321 P P 07 13 33.4 -0.2
comp=Z,24nm,0.8s,baz=158,slow=5.9,SNR=46
MJAR LR LR 07 45 55.3
comp=Z,68nm,18.1s,baz=150,slow=36
MJAR Matsushiro Arr 72.78 321 P P 07 13 32.9 -0.6
MAJO Matsushiro 72.78 321 P P 07 13 33.3 -0.2
MAT Matsushiro 72.78 321 P P 07 13 33.2 -0.3
MAT eS SKiKP 07 23 11.4 +4.5
MJB9 Matsu-Tunnel 72.79 321 P P 07 13 33.3 -0.2
JMN Monobe 73.55 317 P P 07 13 38.7 +0.5
JHS Saijyo 74.85 317 P P 07 13 46.5 +0.8
JNU Nakatsue 75.13 315 P P 07 13 47.5 +0.2
comp=Z,27nm,0.8s,baz=86,slow=6.1,SNR=12
JNU Nakatsue 75.13 315 P P 07 13 47.6 +0.2
JNU IAmb IAmb 07 13 48.9
comp=Z,28nm,0.8s
JEW Eniwo 75.53 328 P P 07 13 49.0 -0.3
SBUM Sibu 75.61 278 P P 07 13 49.5 -1.0
SBUM Sibu 75.61 278 P P 07 13 56.0 +5.5
PKM Mcpherson Peak 75.85 44 P P 07 13 52.4 +0.7
baz=232
JKA Kamikawa-asahi 75.92 329 P P 07 13 52.3 +0.7
JKA IAmb IAmb 07 14 02.3
comp=Z,16nm,0.8s
ASAJ Asahikawa 75.93 329 P P 07 13 52.9 +1.3
comp=Z,16nm,0.8s,baz=107,slow=2.5,SNR=8.3
YOJ Yonaguni jima 75.97 303 P P 07 13 51.9 -0.5
SMMC Simmler 76.00 43 P P 07 13 53.2 +0.9
baz=232
ESJX Sierra Juarez 76.71 48 P P 07 13 57.9 +1.3
MURC Murrieta 76.79 46 P P 07 13 58.0 +1.2
baz=234
BFSC Mount Baldy Ra 76.86 45 P P 07 13 58.0 +0.6
baz=233
MONP2 Monument Peak 76.90 47 P P 07 13 58.1 +0.4
baz=234
VES Vestal, Richgr 76.91 43 P P 07 13 57.6 +0.2
baz=232,SNR=7.5
IKP In-Ko-Pah, Jac 76.97 47 P P 07 13 58.1 +0.2
baz=235
KSM Kuching 77.02 277 P P 07 13 59.6 +1.0
KSM Kuching 77.02 277 P P 07 14 00.0 +1.5
EDW2 Edwards Air Fo 77.03 45 P P 07 13 58.8 +0.7
baz=233,SNR=8.5
ISA Isabella, Lake 77.19 44 P P 07 13 60.0 +0.9
baz=232,SNR=9.2
ISA Isabella, Lake 77.19 44 P P 07 14 00.2 +1.1
ISA IAmb IAmb 07 14 22.9
comp=Z,25nm,1.4s
TPUB Ta-pu 77.27 301 P P 07 13 58.3 -1.4
PFO Pinyon Flats O 77.29 46 P P 07 14 01.0 +1.2
O02D Mt. Diablo Mer 77.43 38 P P 07 14 01.4 +1.0
baz=229
CMB Columbia Colle 77.46 41 P P 07 14 01.2 +0.7
LRMC Laurel Mtn Rad 77.59 44 P P 07 14 02.5 +1.1
baz=233
RRX Edison Barstow 77.68 45 P P 07 14 02.9 +1.1
baz=234
AFDM Forest Hills D 77.69 40 P P 07 14 00.9 -0.9
PETK Petropavlovsk- 77.73 343 P P 07 14 01.5 -0.1
comp=Z,15nm,0.7s,baz=132,slow=8.8,SNR=14
PETK Petropavlovsk- 77.73 343 P P 07 14 01.7 +0.1
ORV Oroville 77.77 39 P P 07 14 03.2 +1.0
BELC Belle Mtn. Jos 77.83 46 P P 07 14 03.7 +0.9
baz=234
YSS Yuzh-Sakhalins 78.00 331 P P 07 14 04.3 +1.1
BC3 Big Chuckawall 78.00 47 P P 07 14 04.7 +0.9
baz=235
MDPB Devils Postpil 78.02 42 P P 07 14 04.9 +1.0
MDPB IAmb IAmb 07 14 06.6
comp=Z,10nm,0.9s
OMMB Old Mammoth Mi 78.05 42 P P 07 14 05.3 +1.1
OMMB IAmb IAmb 07 14 24.0
comp=Z,14nm,1.3s
GSC Goldstone, Bar 78.06 45 P P 07 14 04.6 +0.6
baz=234,SNR=6.1
GSC Goldstone, Bar 78.06 45 P P 07 14 03.7 -0.3
GSC IAmb IAmb 07 14 22.8
comp=Z,21nm,1.6s
MPMC Manual Prospec 78.06 44 P P 07 14 04.9 +0.7
baz=233,SNR=13
GLA Glamis 78.08 48 P P 07 14 06.1 +2.0
L02E Cave Junction 78.30 36 P P 07 14 06.0 +0.9
baz=228
WAKR Walker 78.34 41 P P 07 14 06.8 +1.2
WAKR IAmb IAmb 07 14 29.5
comp=Z,25nm,1.2s
CGJI Cibinong 78.46 267 P P 07 14 05.7 -0.9
comp=Z,81nm,0.9s
IRM Iron Mountain 78.50 47 P P 07 14 07.5 +1.1
baz=235
YBH Yreka Blue Hor 78.51 37 P P 07 14 08.1 +1.8
GMRC Granite Mounta 78.52 46 P P 07 14 07.4 +0.8
baz=234
PNTR Pine Nut 78.61 40 P P 07 14 08.1 +1.0
PNTR IAmb IAmb 07 14 17.3
comp=Z,22nm,1.1s
113A Mohawk Valley, 78.66 48 P P 07 14 07.7 +0.5
GRAC Grapevine Rang 78.71 43 P P 07 14 08.5 +1.0
baz=233,SNR=9.6
VCNR Virginia City 78.71 40 P P 07 14 08.1 +0.5
VCNR IAmb IAmb 07 14 17.1
comp=Z,18nm,1.1s
FURC Furnace Creek, 78.71 44 P P 07 14 08.5 +1.1
baz=233
SHOC Shoshone, Teco 78.76 45 P P 07 14 08.7 +1.0
baz=234
YERR Yerington 78.76 41 P P 07 14 08.4 +0.5
YERR IAmb IAmb 07 14 17.3
comp=Z,18nm,1.1s
214A Organ Pipe Nat 78.89 50 P P 07 14 09.5 +1.0
baz=237
214A Organ Pipe Nat 78.89 50 P P 07 14 09.7 +1.2
RYN Ryan 78.98 41 P P 07 14 10.2 +1.1
RYN IAmb IAmb 07 14 20.6
comp=Z,30nm,1.4s
NVAR Mina Array Bea 78.99 41 P P 07 14 09.7 +0.5
comp=Z,12nm,0.9s,baz=224,slow=9.1,SNR=69
NVAR LR LR 07 44 17.8
comp=Z,277nm,18.2s,baz=244,slow=32
NVAR Mina Array Bea 78.99 41 P P 07 14 09.8 +0.6
M04C Macdoel 79.03 37 P P 07 14 10.5 +1.3
baz=229
L04D Klamath Falls 79.06 37 P P 07 14 10.2 +0.8
baz=229
NV11 Mina Array Sit 79.08 42 P P 07 14 10.5 +0.9
NV11 IAmb IAmb 07 14 12.3
comp=Z,14nm,0.9s
PAHR Pah Rah Range 79.12 40 P P 07 14 10.7 +0.8
PAHR IAmb IAmb 07 14 33.5
comp=Z,18nm,1.3s
TPNV Topopah Spring 79.40 44 P P 07 14 12.0 +0.6
baz=234,SNR=15
TPNV Topopah Spring 79.40 44 P P 07 14 11.8 +0.4
TPNV IAmb IAmb 07 14 20.6
comp=Z,14nm,1.1s
KVN Kaiserville 79.50 41 P P 07 14 12.6 +0.6
KSRS Korea Array 79.67 317 P P 07 14 14.2 +1.6
comp=Z,16nm,1.0s,baz=137,slow=6.2,SNR=32
KSRS LR LR 07 44 56.4
comp=Z,102nm,19.5s,baz=146,slow=32
KSAR Wonju Array Be 79.68 317 P P 07 14 13.6 +0.9
KS19 Wonju Array Si 79.73 317 P P 07 14 12.9 -0.1
KS19 IAmb IAmb 07 14 14.9
comp=Z,18nm,0.9s
Y14A Wickenburg 79.84 48 P P 07 14 14.7 +0.9
J04D Umpqua Nationa 79.84 36 P P 07 14 14.9 +1.2
baz=229
SHPR Sheep Range 79.84 45 P P 07 14 14.9 +1.1
W13A Hualapai Mount 79.89 46 P P 07 14 14.9 +0.7
MOD Modoc Plateau 79.98 38 P P 07 14 14.1 -0.3
K05A Summer Lake 80.18 37 P P 07 14 16.2 +0.7
K05A IAmb IAmb 07 14 35.6
comp=Z,23nm,1.2s
J05D Fort Rock, OR 80.35 36 P P 07 14 17.7 +1.2
baz=229
PRN Pahroc Range 80.44 44 P P 07 14 18.1 +1.1
PRN IAmb IAmb 07 14 27.8
comp=Z,18nm,1.2s
INCN Inchon 80.51 316 P P 07 14 18.5 +1.3
TUC Tucson 80.52 50 P P 07 14 18.5 +1.0
baz=238
TUC Tucson 80.52 50 P P 07 14 17.9 +0.4
KDAK Kodiak Island 80.54 12 P P 07 14 16.9 +0.1
comp=Z,9.0nm,0.8s,baz=252,slow=6.4,SNR=2.2
MDSI Maura Dua 80.61 269 P P 07 14 17.8 -0.5
comp=Z,763nmcomp=Z,20nm,1.1s
R11A Troy Canyon, C 80.65 43 P P 07 14 18.7 +0.5
baz=234,SNR=6.6
R11A Troy Canyon, C 80.65 43 P P 07 14 18.7 +0.5
PINE Pine Mountain 80.85 36 P P 07 14 19.4 +0.3
PINE IAmb IAmb 07 14 38.0
comp=Z,15nm,1.1s
I05D Terrebonne, OR 80.99 35 P P 07 14 20.9 +1.3
baz=229
319A Douglas 81.12 52 P P 07 14 21.6 +0.8
X16A Lo Mia Camp, P 81.19 48 P P 07 14 21.9 +0.7
LCMT Little Creek M 81.40 45 P P 07 14 21.3 -0.8
USRK Ussuriysk Ar. 81.43 324 P P 07 14 23.2 +1.3
comp=Z,9.1nm,1.0s,baz=102,slow=6.2,SNR=9.4
USRK LR LR 07 47 07.6
comp=Z,128nm,18.7s,baz=127,slow=33
USRK Ussuriysk Ar. 81.43 324 P P 07 14 22.0 +0.1
LHSI Lahat 81.45 269 P P 07 14 21.9 -0.9
comp=Z,35nm,0.7s
G05D Wamic, OR 81.59 35 P P 07 14 23.9 +1.1
baz=229
CCUT Cedar City 81.62 45 P P 07 14 24.4 +1.0
DSRI Dabo 81.64 273 P P 07 14 25.2 +1.4
comp=Z,4µmcomp=Z,14nm,1.1s
KNB Kanab 81.68 45 P P 07 14 23.3 -0.3
U15A North Rim 81.70 46 P P 07 14 25.3 +1.3
U15A IAmb IAmb 07 14 44.4
comp=Z,16nm,1.4s
E04D Cinebar 81.81 33 P P 07 14 25.3 +1.4
baz=228
I07A Izee 81.83 36 P P 07 14 25.1 +0.9
SZCU Shurtz Canyon 81.83 45 P P 07 14 25.6 +1.1
WUAZ Wupatki 81.83 47 P P 07 14 25.4 +0.9
baz=237
PSUT Pine Spring 81.86 44 P P 07 14 25.2 +0.6
J08A Circle Bar Ran 81.95 37 P P 07 14 24.9 0.0
D03D Eldon 82.21 32 P P 07 14 26.9 +0.9
baz=227
PKCU Pink Cliffs 82.25 45 P P 07 14 27.3 +0.4
MAW Mawson 82.27 199 P P 07 14 28.1 +2.0
comp=Z,6.0nm,0.7s,baz=124,slow=6.4,SNR=27
MAW LR LR 07 50 14.6
comp=Z,228nm,18.2s,baz=82,slow=35
MAW Mawson 82.27 199 P P 07 14 27.7 +1.6
baz=82,SNR=17
MAW Mawson 82.27 199 P P 07 14 27.9 +1.9
ELK Elko 82.27 41 P P 07 14 27.1 +0.3
LON Longmire 82.33 33 P P 07 14 26.8 +0.1
KSI Kapahiang 82.38 269 P P 07 14 27.8 0.0
D05A Enumclaw 82.53 33 P P 07 14 28.3 +0.6
MTPU Mount Pierson 82.67 45 P P 07 14 30.4 +1.4
BRLK Bradley Lake 82.71 12 P P 07 14 29.0 +0.7
BRLK IAmb IAmb 07 14 29.6
comp=Z,15nm,0.9s
H03S2 Juan Fernandez 82.75 123 T T 08 46 49.0
baz=248,slow=75,SNR=3.8
H03S1 Juan Fernandez 82.76 123 T T 08 46 49.5
baz=248,slow=75,SNR=3.7
H03S3 Juan Fernandez 82.76 123 T T 08 46 53.6
baz=248,slow=75,SNR=4.7
H03N2 Juan Fernandez 82.88 123 T T 08 46 55.0
baz=261
H03N3 Juan Fernandez 82.88 123 T T 08 46 58.8
baz=261
G08A Pilot Rock 82.89 36 P P 07 14 30.3 +0.5
G08A IAmb IAmb 07 14 48.8
comp=Z,15nm,1.2s
H03N1 Juan Fernandez 82.89 123 T T 08 46 51.5
baz=261
MSU Marysvale 82.94 44 P P 07 14 31.4 +1.1
NJ2 Nanjing 82.98 308 eP P 07 14 31.4 +1.1
NJ2 pmax pmax
comp=Z,22nm,0.7s
MDJ Mudanjiang 83.02 323 P P 07 14 31.7 +1.4
MDJ pmax pmax
comp=Z,29nm,0.8s
MDJ pmax pmax
comp=Z,180nm,4.6s
MDJ Mudanjiang 83.02 323 P P 07 14 30.5 +0.3
RSO Redoubt South 83.03 11 P P 07 14 30.2 0.0
MYKOM Kota Tinggi 83.14 275 P P 07 14 33.0 +1.4
B05A Bryant 83.20 32 P P 07 14 32.4 +1.4
baz=228
A04D Lumi Island 83.21 31 P P 07 14 32.1 +1.1
baz=228
E07A Sunnyside 83.22 34 P P 07 14 31.5 +0.2
E07A IAmb IAmb 07 14 33.1
comp=Z,12nm,1.0s
LTY Liberty 83.25 33 P P 07 14 31.0 -0.5
HAWA Hanford 83.29 35 P P 07 14 32.6 +0.9
HAWA IAmb IAmb 07 14 37.0
comp=Z,28nm,1.6s
DUG Dugway, Tooele 83.47 43 P P 07 14 33.6 +0.7
baz=236
DUG Dugway, Tooele 83.47 43 P P 07 14 33.0 +0.1
MFID Camas Ranch 83.51 39 P P 07 14 33.8 +0.9
MFID IAmb IAmb 07 14 35.6
comp=Z,9.2nm,1.1s
BMO Blue Mountains 83.53 37 P P 07 14 33.3 +0.2
BMO IAmb IAmb 07 14 41.5
comp=Z,16nm,1.4s
E08A Dider Farm, El 83.60 35 P P 07 14 33.7 +0.5
E08A IAmb IAmb 07 14 40.9
comp=Z,35nm,1.9s
Q16A Castle Valley 83.81 44 P P 07 14 33.8 -1.0
TMUT Trail Mountain 84.00 44 P P 07 14 36.7 +0.9
D08A Wollman Farm, 84.04 34 P P 07 14 35.9 +0.5
D08A IAmb IAmb 07 14 37.6
comp=Z,12nm,0.8s
E09A Wood Farm, Sta 84.11 35 P P 07 14 36.3 +0.5
E09A IAmb IAmb 07 14 44.0
comp=Z,27nm,1.6s
RC01 Rabbit Creek A 84.16 12 P P 07 14 36.9 +1.2
baz=203
MNTX Cornudas Mount 84.17 53 P P 07 14 37.3 +0.8
baz=241
MNTX Cornudas Mount 84.17 53 P P 07 14 37.0 +0.5
F10A Beach Ranch, E 84.27 36 P P 07 14 36.4 -0.4
F10A IAmb IAmb 07 14 46.6
comp=Z,18nm,0.9s
SPUT South Promonto 84.32 42 P P 07 14 36.7 -0.6
SRU San Rafael Swe 84.34 44 P P 07 14 38.1 +0.6
TX31 Lajitas Ar. Si 84.36 56 P P 07 14 38.4 +0.7
TX31 IAmb IAmb 07 14 48.5
comp=Z,28nm,1.4s
TX32 Lajitas Array 84.36 56 P P 07 14 37.8 +0.2
TXAR Lajitas Array 84.36 56 P P 07 14 38.2 +0.6
comp=Z,2.8nm,1.0s,baz=207,slow=5.4,SNR=14
TXAR LR LR 07 46 23.3
comp=Z,149nm,18.9s,baz=0.0,slow=32
P17A Butcher Ranch, 84.40 44 P P 07 14 38.6 +0.9
PLID Pearl Lake 84.41 37 P P 07 14 37.9 +0.2
PLID IAmb IAmb 07 14 42.7
comp=Z,28nm,1.8s
CTU Camp Tracy 84.42 43 P P 07 14 38.1 +0.4
HLID Hailey 84.42 39 P P 07 14 38.5 +0.8
baz=234,SNR=22
HLID Hailey 84.42 39 P P 07 14 38.0 +0.3
HLID IAmb IAmb 07 14 40.6
comp=Z,11nm,0.9s
SDSI Sungai Dareh 84.42 271 P P 07 14 38.5 +0.3
comp=Z,5µmcomp=Z,10nm,0.7s
BNM Barren Site 84.45 50 P P 07 14 38.9 +0.7
JLU Jordanelle 84.56 43 P P 07 14 38.9 +0.3
B08A Colville Reser 84.65 33 P P 07 14 38.7 +0.1
B08A IAmb IAmb 07 14 43.3
comp=Z,22nm,1.6s
SKT Skwentna 84.66 11 P P 07 14 37.5 -0.8
SKT IAmb IAmb 07 14 41.2
comp=Z,12nm,1.0s
KNK Knik Glacier 84.70 12 P P 07 14 38.0 -0.5
KNK IAmb IAmb 07 14 51.3
comp=Z,15nm,0.8s
C09A Chrisman Ranch 84.85 34 P P 07 14 39.6 +0.1
C09A IAmb IAmb 07 14 43.9
comp=Z,43nm,2.0s
TCUT Toone Canyon 84.87 42 P P 07 14 40.0 -0.1
TTA Tatalina 84.88 8 P P 07 14 39.8 +0.3
TTA IAmb IAmb 07 14 43.5
comp=Z,18nm,1.1s
CN2 Changchun 84.91 321 eP P 07 14 42.3 +2.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
PV20 West Nyswonger 84.97 46 P P 07 14 40.9 +0.3
PV20 IAmb IAmb 07 15 06.0
comp=Z,9.4nm,1.0s
ANMO Albuquerque 84.97 50 P P 07 14 41.9 +1.2
baz=240
ANMO Albuquerque 84.97 50 P P 07 14 41.7 +0.9
ANMO IAmb IAmb 07 14 43.7
comp=Z,8.4nm,1.0s
PV16 Nyswonger Mesa 84.98 46 P P 07 14 42.1 +1.4
PV16 IAmb IAmb 07 15 03.5
comp=Z,10nm,1.2s
HWUT Hardware Ranch 85.04 42 P P 07 14 40.6 -0.3
HWUT IAmb IAmb 07 15 14.7
comp=Z,9.5nm,1.2s
MA2 Magadan 85.27 343 P P 07 14 41.4 +0.1
comp=Z,16nm,0.9s,baz=194,slow=21,SNR=2.1
MA2 Magadan 85.27 343 P P 07 14 40.8 -0.5
SCM Sheep Creek Mo 85.31 12 P P 07 14 41.8 +0.2
SCM IAmb IAmb 07 14 54.5
comp=Z,19nm,0.9s
BCYI Bear Canyon 85.45 39 P P 07 14 43.1 +0.2
VRDI Verde Repeater 85.61 14 P P 07 14 42.7 -0.6
VRDI IAmb IAmb 07 15 02.3
comp=Z,11nm,1.1s
WHN Wuhan 85.64 305 P P 07 14 45.4 +1.5
WHN pP pwP 07 14 51.0 -1.4
WHN pmax pmax
comp=Z,58nm,1.0s
BALM Baldy 85.70 15 P P 07 14 43.7 +0.1
BALM IAmb IAmb 07 14 56.8
comp=Z,10nm,1.0s
GLB Gilahina Butte 85.71 14 P P 07 14 43.7 +0.1
GLB IAmb IAmb 07 14 57.7
comp=Z,9.5nm,1.0s
NEW Newport 85.74 34 P P 07 14 44.3 +0.3
comp=Z,0.7nm,0.4s,baz=311,slow=5.1,SNR=4.1
NEW Newport 85.74 34 P P 07 14 44.0 -0.1
NEW IAmb IAmb 07 16 34.5
comp=Z,16nm,1.7s
RDMU Red Mountain 85.75 44 P P 07 14 44.7 +0.2
M24K Tolsona, Glenn 85.79 13 P P 07 14 45.1 +1.1
baz=206
CTGM Chitina Glacie 85.88 15 P P 07 14 42.2 -2.4
CTGM IAmb IAmb 07 14 46.2
comp=Z,12nm,0.9s
BARN Barnard Glacie 85.89 15 P P 07 14 45.2 +0.5
BARN IAmb IAmb 07 15 09.7
comp=Z,31nm,1.5s
MCMT McKenzie Canyo 86.07 39 P P 07 14 46.5 +0.5
S22A 4UR Ranch, Cre 86.11 47 P P 07 14 47.8 +1.3
baz=240
S22A 4UR Ranch, Cre 86.11 47 P P 07 14 46.7 +0.2
LC01 Cunco 86.13 130 P P 07 14 51.5 +5.2
LC01 IAmb IAmb 07 14 59.7
comp=Z,20nm,1.6s
KTH Kantishna Hill 86.23 10 P P 07 14 45.3 -0.9
KTH IAmb IAmb 07 14 48.7
comp=Z,14nm,1.1s
TRF Thorofare Moun 86.25 11 P P 07 14 45.5 -0.8
TIA Tai'an 86.28 311 P P 07 14 48.4 +1.5
TIA pmax pmax
comp=Z,20nm,1.0s
PLCA Paso Flores 86.31 132 LR LR 07 47 56.3
comp=Z,89nm,18.1s,baz=325,slow=32
REDW Red Top Meadow 86.45 41 P P 07 14 48.2 +0.3
DLMT Dillon 86.52 38 P P 07 14 48.4 +0.3
SNOW Snow King Moun 86.56 41 P P 07 14 49.3 +0.8
BPAW Bear Paw Mtn. 86.73 10 P P 07 14 47.6 -0.9
IPM Ipoh 86.73 276 P P 07 14 52.0 +2.3
MNSI Mandailing Nat 86.77 272 P P 07 14 49.4 -0.5
comp=Z,10µmcomp=Z,72nm,0.8s
BW06 Boulder Array 86.92 42 P P 07 14 50.4 +0.1
baz=238
BW06 Boulder Array 86.92 42 P P 07 14 50.1 -0.1
PD31 Pinedale Array 86.92 42 P P 07 14 49.9 -0.4
PDAR Pinedale Array 86.92 42 P P 07 14 49.5 -0.7
comp=Z,3.9nm,0.9s,baz=214,slow=3.8,SNR=24
PDAR LR LR 07 51 08.6
comp=Z,168nm,18.1s,baz=302,slow=34
PDAR Pinedale Array 86.92 42 P P 07 14 49.8 -0.4
SDCO Great Sand Dun 87.02 48 P P 07 14 51.3 +0.4
baz=241
MENT Mentasta 87.05 13 P P 07 14 51.1 +1.0
MENT IAmb IAmb 07 15 03.7
comp=Z,17nm,1.0s
BWN Browne 87.06 11 P P 07 14 50.7 +0.6
BOZ Bozeman (W) 87.22 39 P P 07 14 52.1 +0.6
baz=236
BOZ Bozeman (W) 87.22 39 P P 07 14 51.8 +0.3
BOZ IAmb IAmb 07 14 54.0
comp=Z,20nm,2.0s
SNAA Sanae 87.37 177 P P 07 14 53.6 +1.8
SNAA Sanae 87.37 177 P P 07 14 53.6 +1.8
baz=193,slow=5.7
SNAA Sanae 87.37 177 P P 07 14 53.4 +1.6
SNAA IAmb IAmb 07 14 58.7
comp=Z,19nm,1.2s
KULM Kulim 87.38 277 P P 07 14 53.4 +0.6
NEA2 Nenana 87.51 11 P P 07 14 53.1 +0.8
baz=204
RIDG Independent Ri 87.53 13 P P 07 14 52.7 +0.3
RIDG IAmb IAmb 07 15 05.6
comp=Z,17nm,1.2s
WRH Wood River Hil 87.57 11 P P 07 14 53.0 +0.5
DOT Dot Lake 87.61 13 P P 07 14 52.7 -0.1
DOT IAmb IAmb 07 15 06.0
comp=Z,14nm,0.9s
SEY Seymchan 87.72 345 P P 07 14 53.1 -0.1
comp=Z,13nm,0.9s,baz=157,slow=5.5,SNR=11
HDA Harding Lake 87.72 11 P P 07 14 53.4 +0.1
baz=206,SNR=6.0
HDA Harding Lake 87.72 11 P P 07 14 53.2 -0.1
HDA IAmb IAmb 07 15 05.5
comp=Z,20nm,1.2s
CCB Clear Creek Bu 87.78 11 P P 07 14 53.0 -0.5
CCB IAmb IAmb 07 15 06.3
comp=Z,18nm,1.1s
SCRK Sand Creek 87.92 13 P P 07 14 54.8 +0.4
baz=208
TCOL CIGO, UAF Yank 87.98 11 P P 07 14 55.3 +0.9
baz=205

COLA	College	87.98	11	P		P	07 14 54.0	-0.4	
MDM	Murphy Dome	87.99	11	P		P	07 14 52.4	-2.2	
RPSI	Rantau Prapat	88.05	274	P		P	07 14 56.0	-0.1	
VNA1	Neumayer--Stat	88.05	175	P		P	07 14 58.1	+3.1	
IL31		88.06	11	P		P	07 14 54.7	-0.2	
IL31				IAmb		IAmb	07 15 21.5		
	comp=Z,19nm,1.4s								
ILAR	Eielson Array	88.06	11	P		P	07 14 54.9	-0.1	
	comp=Z,2.8nm,0.9s,baz=210,slow=5.1,SNR=17								
ILAR				LR		LR	07 48 05.5		
	comp=Z,63nm,19.8s,baz=212,slow=31								
ILAR	Eielson Array	88.06	11	P		P	07 14 54.4	-0.6	
IMAR	Indian Mountai	88.10	8	P		P	07 14 55.2	+0.1	
N23A	Red Feather La	88.27	45	P		P	07 14 56.9	+0.1	
	baz=240								
POKR	Poker Plat Res	88.28	11	P		P	07 14 56.5	+0.6	
	baz=205								
K22A	Casper	88.78	43	P		P	07 14 59.0	0.0	
	baz=240								
BJI	Beijing	88.79	314	P		P	07 15 01.0	+2.1	
BJI				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GSI	Gunungsitoli	88.82	272	P		P	07 15 00.4	+0.7	
	comp=Z,9µmcomp=Z,134nm,0.9s								
COLD	Coldfoot	89.77	9	P		P	07 15 04.0	+1.1	
	baz=202								
GYA	Guiyang	90.02	298	⇑P		P	07 15 06.6	+1.4	
GYA				pmax		pmax			
	comp=Z,13nm,1.0s								
BMAR	Burnt Mountain	90.87	11	P		P	07 15 08.6	+0.5	
MLSI	Meulaboh, Aceh	90.96	274	P		P	07 15 09.7	0.0	
	comp=Z,5µmcomp=Z,131nm,1.0s								
RSSD	Black Hills	91.08	43	P		P	07 15 09.9	+0.1	
	baz=242								
RSSD	Black Hills	91.08	43	P		P	07 15 08.7	-1.2	
RSSD				IAmb		IAmb	07 15 27.1		
	comp=Z,12nm,1.4s								
XAN	Xi'an	91.30	306	P		P	07 15 12.6	+1.7	
XAN				pmax		pmax			
	comp=Z,38nm,1.2s								
HHC	Hu-ho-hao-te	92.28	313	eP		P	07 15 15.3	0.0	
HHC				pmax		pmax			
	comp=Z,34nm,0.9s								
HHC				pmax		pmax			
	comp=Z,130nm,7.5s								
HHC				LR		LR			
	comp=Z,160nm,18.0s								
HHC				LR		LR			
	comp=Z,150nm,15.7s								
HHC				LR		LR			
	comp=Z,170nm,14.9s								
KMI	Kunming	92.77	296	⇑eP		P	07 15 20.1	+2.0	
KMI				pP		sP	07 15 22.0	-2.5	
KMI				sP		pwP	07 15 23.1	-3.5	
KMI				pmax		pmax			
	comp=Z,35nm,1.0s								
KMI				LR		LR			
	comp=Z,140nm,18.2s								
KMI				LR		LR			
	comp=Z,200nm,21.8s								
KMI				LR		LR			
	comp=Z,310nm,20.2s								
DGMT	Dagmar	93.05	39	P		P	07 15 19.6	+1.0	
	baz=242								
DGMT	Dagmar	93.05	39	P		P	07 15 19.1	+0.5	
T35A	Sooner Cattle	93.06	52	P		P	07 15 19.2	+0.3	
T35A				IAmb		IAmb	07 15 20.8		
	comp=Z,9.7nm,1.0s								
CMAR	Chiang Mai Arr	93.66	288	P		P	07 15 24.1	+2.1	
	comp=Z,16nm,0.8s,baz=122,slow=2.9,SNR=80								
CMAR				LR		LR	07 52 58.0		
	comp=Z,60nm,21.8s,baz=182,slow=33								
CHTO	Chiang Mai	93.78	289	P		P	07 15 23.4	+0.8	
K31A	O'Neill	93.84	46	P		P	07 15 23.4	+1.0	
YAK	Yakutsk	93.95	337	LR		LR	07 56 50.5		
	comp=Z,61nm,18.4s,baz=100,slow=35								
CD2	Chengdu	94.08	301	eP		P	07 15 22.7	-1.1	
CD2				LR		LR			
	comp=Z,230nm,18.0s								
CD2				LR		LR			
	comp=Z,280nm,16.3s								
CD2				LR		LR			
	comp=Z,330nm,19.2s								
ECSD	EROS Data Cent	95.73	45	P		P	07 15 31.2	+0.2	
	baz=247								
ECSD	EROS Data Cent	95.73	45	P		P	07 15 31.5	+0.5	
ECSD				IAmb		IAmb	07 15 31.8		
	comp=Z,8.6nm,1.1s								
LZH	Lanzhou	95.93	306	eP		P	07 15 33.6	+1.3	
LZH				pP		pwP	07 15 38.4	-2.4	
LZH				sP		sP	07 15 41.6	+2.9	
LZH				pmax		pmax			
	comp=Z,20nm,1.0s								
LZH				pmax		pmax			
	comp=Z,130nm,4.7s								
F33A	5 Mile Ranch,	96.77	43	P		P	07 15 35.2	-0.4	
SONM	Songino Array	98.50	318	P		Pdif	07 15 43.9	+0.3	
	comp=Z,0.3nm,0.5s,baz=134,slow=4.2,SNR=1.4								
SONM	Songino Array	98.50	318	P		P	07 15 40.6	-2.9	
LPAZ	La Paz	98.56	111	LR		LR	07 53 22.2		
	comp=Z,108nm,18.6s,baz=274,slow=31								
ULM	Lac du Bonnet	98.73	39	LR		LR	07 56 18.1		
	comp=Z,188nm,18.1s,baz=287,slow=33								
ZALV	Zalesovo Beam	113.13	321	PKiKP		PKiKP	07 20 41.9	-0.2	
	comp=Z,5.5nm,0.6s,baz=171,slow=1.0,SNR=19								
MKAR	Makanchi Array	114.15	313	PKiKP		PKPdf	07 20 43.9	-0.5	
	comp=Z,3.7nm,0.7s,baz=70,slow=2.5,SNR=32								
UZB	Uzynbulak	116.13	309	ePKP		PKPdf	07 20 48.0	-0.5	
KPKS	Kokpek	116.40	309	ePKP		PKPdf	07 20 47.5	-1.4	
SATY	Saty	116.57	309	ePKP		PKPdf	07 20 48.9	-0.4	
KURK	Kurchatov	116.79	317	PKPdf		PKPdf	07 20 48.9	-0.4	
MDOK	Medeo	117.57	309	ePKP		PKPdf	07 20 49.6	-1.7	
BOOM	Boomskoye usch	118.35	308	PKPdf		PKPdf	07 20 52.7	-0.1	
SGDS	Sogindy	119.35	309	ePKP		PKPdf	07 20 53.9	-0.7	
BTLS	Baital	119.80	311	ePKP		PKPdf	07 20 54.4	-0.9	
BRZS	Berezniki	120.61	316	ePKP		PKPdf	07 20 55.6	-1.1	
BRVK	Borovoye	121.82	308	PKPdf		PKPdf	07 20 58.1	-0.7	
KK31	Karatay Array	122.35	308	PKPdf		PKPdf	07 21 00.4	+0.1	
KKAR	Karatay Array	122.35	308	PKPdf		PKPdf	07 21 00.4	+0.1	
KKAR	Karatay Array	122.35	308	PKPdf		PKPdf	07 21 00.2	0.0	
GAR	Garm	122.47	304	PKPdf		PKiKP	07 21 01.4	+0.5	
IUG	Iuzhnay	122.72	307	ePKP		PKPdf	07 21 00.9	-0.2	
KBL	Kabul	123.27	298	PKPdf		PKPdf	07 21 02.5	-0.1	
CHGR	Chuyangaron	123.36	303			PKPdf	07 21 01.5	-1.0	
ABKAR	Akbulak array	128.90	317	PKPdf		PKPdf	07 21 11.8	-0.7	
ARCES	ARCESS Array B	130.02	351	PKP		PKPdf	07 21 14.3	+0.2	
	comp=Z,3.3nm,0.7s,baz=36,slow=3.1,SNR=13								
GEYT	Alibeck	132.06	303	PKP		PKiKP	07 21 19.7	-0.3	
	comp=Z,3.9nm,0.7s,baz=180,slow=4.3,SNR=7.3								
GEYT	Alibeck	132.06	303	PKPdf		PKPdf	07 21 19.6	+0.6	
KLMR	Klimovskoe	133.73	338	ePKPdf		PKPdf	07 21 21.4	+0.1	
KLMR				AMP			07 21 35.4		
	comp=Z,20nm,1.5s								
FINES	FINESS Array B	137.20	346	PKP		PKPdf	07 21 27.6	-0.1	
	comp=Z,5.4nm,0.9s,baz=126,slow=4.9,SNR=6.4								
FINES	FINESS Array B	137.20	346			PKPdf	07 21 27.9	+0.2	
NB2	NORSAR Subarra	139.82	356	PKPdf		PKPdf	07 21 26.4	-6.3	
	comp=Z,6.5nm,1.2s,baz=6.6,slow=1.8								
NOA	NORSAR Array B	139.82	356	PKP		PKPdf	07 21 33.9	+1.2	
	comp=Z,2.6nm,0.9s,baz=15,slow=3.9,SNR=4.2								
KBZ	Khabaz	141.80	315	PKP		PKPdf	07 21 37.9	+1.2	
	comp=Z,4.4nm,0.9s,baz=117,slow=1.9,SNR=7.1								
KMBO	Kilima Mbogo	142.19	238	PKP		PKPdf	07 21 37.5	-1.1	
	comp=Z,1.0nm,0.3s,baz=44,slow=2.7,SNR=5.8								
KMBO	Kilima Mbogo	142.19	238	PKPdf		PKPdf	07 21 35.8	-2.9	
NACGM	Naroch	142.64	340	e		PKPdf	07 21 32.0	-5.9	
ARTV	Artvin	143.47	312	PKPdf		PKPdf	07 21 40.0	-0.1	
SUW	Suwalki	144.49	342	PKPdf		PKPdf	07 21 40.8	-0.3	
MUD	Monsted U'grnd	144.51	357	iP		PKPbc	07 21 40.4	+0.7	
	comp=Z,19nm,0.7s								
MUD	Monsted U'grnd	144.51	357	iP		PKPbc	07 21 40.5	+0.8	
MUD				IAmb		IAmb	07 21 41.5		
	comp=Z,19nm,0.7s								
KOPT	Kop Dagi	144.92	311	PKPdf		PKPdf	07 21 42.5	-0.2	
AKASG	Malin Array Be	145.12	334	PKP		PKPbc	07 21 41.7	-0.1	
	comp=Z,15nm,0.7s,baz=40,slow=4.4,SNR=90								
AKASG	Malin Array Be	145.12	334			PKPbc	07 21 41.3	-0.5	
AKBB	Malin Array Si	145.12	334			PKPbc	07 21 41.4	-0.4	
BSD	Bornholm Skovb	145.26	351	iP		PKPbc	07 21 41.7	-0.4	
	comp=Z,39nm,0.9s								
BSD				i			07 21 54.7		
BSD	Bornholm Skovb	145.26	351	iP		PKPbc	07 21 41.8	-0.4	
BSD				IAmb		IAmb	07 21 43.0		
	comp=Z,39nm,0.9s								
BSD				i			07 21 54.7		

EDMD	Edmundbyers	145.72	8	⇑eP		PKPdf	07 21 43.6	+0.4	
WIM	Isle of Man	145.96	11	eP		PKPab	07 21 45.1	+0.2	
SKMB	Sankelmark Bun	146.23	356	ePKPbc		PKPab	07 21 47.1	+1.3	
	baz=8.7,slow=2.5								
GDLE	Glaisdale, N Y	146.26	7	⇑eP		PKPbc	07 21 45.7	+0.5	
WPS	Cemaes, Angles	146.71	11	eP		PKPbc	07 21 46.3	-0.3	
WME	Myndd Eilian	146.75	11	⇑eP		PKPbc	07 21 47.5	+0.7	
WLF1	Llynfaes	146.83	11	eP		PKPbc	07 21 47.0	+0.1	
YRC	Rhoscolyn	146.84	11	eP		PKPbc	07 21 46.7	-0.3	
HLG	Helgoland	146.84	358	ePKPbc		PKPab	07 21 48.6	+0.4	
	baz=8.7,slow=2.5								
HLG				epPKPbc		sPKPab	07 22 14.9	+20	
BSEG	Bad Segeberg	146.95	355	ePKPbc		PKPab	07 21 48.7	+0.1	
	baz=8.7,slow=2.5								
LBWR	Ladybower, Pea	147.15	8	eP		PKPbc	07 21 47.9	+0.1	
SBD1	Bryn Du	147.40	10	eP		PKiKP	07 21 54.0	+3.1	
FOEL	Foel Wylfa	147.42	10	eP		PKPbc	07 21 48.6	-0.1	
SORM	Soroca	147.43	332	⇓P		PKPab	07 21 50.0	-0.7	
HLM1	Long Mynd	147.84	10	⇑eP		PKPbc	07 21 49.0	-0.8	
PURM	Purcari	147.87	328	⇓P		PKPab	07 21 52.4	-0.2	
RUE	Ruedersdorf	147.99	351	ePKPbc		PKiKP	07 21 51.6	-0.4	
	baz=8.7,slow=2.5								
MILM	Milestii Mici	148.11	330	⇑P		PKPbc	07 21 51.7	+1.0	
MCH1	Michaelchurch	148.32	10	⇑eP		PKPbc	07 21 51.0	-0.1	
NRDL	Niedersach Rie	148.40	355	ePKPbc		PKiKP	07 21 52.4	-0.4	
	baz=8.7,slow=2.5								
KWP	Kalwaria Pacla	148.44	339	ePKP		PKiKP	07 21 52.6	-0.6	
MONM	Monmouth	148.50	10	⇑eP		PKPbc	07 21 51.4	-0.2	
ASSE	Asse, Remlinge	148.71	354	ePKPbc		PKiKP	07 21 53.1	-0.3	
	baz=8.7,slow=2.5								
IBBN	Ibbenburen	148.72	358	ePKPbc		PKiKP	07 21 53.2	-0.3	
	baz=8.7,slow=2.5								
OJC	Ojcow	148.82	343	ePKP		PKiKP	07 21 53.5	-0.4	
OJC	Ojcow	148.82	343	PKPdf		PKPdf	07 21 48.8	+0.2	
CLZ	Clausthal	149.02	355	ePKPbc		PKiKP	07 21 54.0	-0.2	
	baz=8.7,slow=2.5								
KSP	Ksiaz	149.10	347	ePKP		PKiKP	07 21 54.5	+0.1	
BURAR	Bucovina Array	149.17	334	PKPdf		PKPdf	07 21 50.0	+0.6	
KOLS	Kolonicke sedl	149.19	339	ePKP		PKPbc	07 21 54.0	+0.6	
CLL	Collm	149.24	351	ePKPdf		PKPdf	07 21 51.0	+1.8	
CLL				⇑iPKPbc		PKiKP	07 21 54.5	-0.2	
	comp=Z,46nm,0.9s								
CLL				ePKPab		PKPab	07 21 59.0	+1.1	
	comp=Z,81nm,1.6s								
TLCR		149.34	327	⇑P		PKiKP	07 21 55.0	-0.1	
GTTG	Gottingen	149.35	355	ePKPbc		PKiKP	07 21 54.9	0.0	
	baz=8.7,slow=2.5								
OSTC	Ostas	149.39	347	⇑ePKP		PKiKP	07 21 54.8	-0.3	
OSTC				ex		x	07 22 05.6		
NIE	Niedzica	149.39	341	ePKP		PKiKP	07 21 55.7	+0.6	
CHVC	Chvalec	149.40	347	⇑ePKP		PKiKP	07 21 55.3	+0.2	
UPC	Upice	149.48	347	⇑ePKP		PKiKP	07 21 55.4	+0.2	
UPC				epPKP		pPKPab	07 22 01.6	-2.1	
CRVS	Cervenica-Dubn	149.48	339	ePKP		PKiKP	07 21 55.7	+0.4	
NEUB	Neuenburg	149.50	353	ePKPbc		PKiKP	07 21 55.6	+0.4	
	baz=8.7,slow=2.5								
BRG	Berggiesshubel	149.52	350	ePKP		PKPdf	07 21 50.5	+0.8	
	comp=Z,4.6nm,1.0s								
BRG	Berggiesshubel	149.52	350	iPKP		PKiKP	07 21 55.3	+0.1	
	comp=Z,33nm,0.9s								
BRG	Berggiesshubel	149.52	350	ePKPbc		PKiKP	07 21 55.6	+0.3	
	baz=8.7,slow=2.5								
DPC	Dobruska-Polom	149.56	347	⇑ePKP		PKiKP	07 21 55.7	+0.2	
DPC				ex		x	07 22 06.7		
FBE	Freiberg	149.56	351	ePKPbc		PKiKP	07 21 55.9	+0.5	
	baz=8.7,slow=2.5								
KRLC	Kraliky	149.72	346	⇑ePKP		PKiKP	07 21 55.7	-0.1	
KRLC				ePKPAB		PKPab	07 21 59.5	-0.5	
KRLC				ex		x	07 22 06.6		
PVCC	Panska Ves	149.74	349	⇑ePKP		PKiKP	07 21 56.4	+0.7	
PVCC				ex		x	07 22 07.3		
BR131	Keskin Array S	149.78	314	PKPbc		PKiKP	07 21 56.1	-0.4	
BRTR	Keskin Array B	149.78	314	PKP		PKPdf	07 21 50.4	-0.3	
	comp=Z,0.3nm,0.4s,baz=95,slow=1.7,SNR=5.5								
BRTR				PKPbc		PKiKP	07 21 56.0	-0.4	
	comp=Z,13nm,0.8s,baz=36,slow=2.3,SNR=9.1								
BRTR	Keskin Array B	149.78	314			PKPdf	07 21 50.0	-0.7	
BRTR						PKPbc	07 21 55.9	+0.4	
MORC	Moravsky Berou	149.82	345	⇑P		PKiKP	07 21 56.7	+0.7	
MORC	Moravsky Berou	149.82	345	ePKP		PKiKP	07 21 56.0	0.0	
MORC	Moravsky Berou	149.82	345			PKiKP	07 21 55.7	-0.3	
VRI	Vrincioaia	149.86	330	⇑P		PKPbc	07 21 55.2	0.0	
LANS	Liptovska Anna	149.88	342	ePKP		PKiKP	07 21 57.4	+1.3	
PLOR	Plostina	149.91	330	⇓P		PKPbc	07 21 55.6	+0.2	
TIRR	Tirgusor	150.05	327	⇑P		PKPbc	07 21 56.1	+0.4	
UBBA	Unterbreizbach	150.07	355	ePKPbc		PKiKP	07 21 56.5	+0.3	
	baz=8.7,slow=2.5								
MOX	Moxa	150.07	353	ePKPbc		PKiKP	07 21 56.9	+0.4	
	baz=8.7,slow=2.5								
HARR	Harsova	150.13	327	⇓P		PKiKP	07 21 56.7	0.0	
KECS	Kecovo	150.16	340	ePKP		PKiKP	07 21 57.3	+0.6	
WERD	Werda	150.18	352	ePKPbc		PKiKP	07 21 57.2	+0.5	
	baz=8.7,slow=2.5								
TANN	Tannenbergstha	150.19	351	ePKPbc		PKiKP	07 21 57.4	+0.6	
	baz=8.7,slow=2.5								
PRA	Prague	150.21	349	⇑ePKP		PKiKP	07 21 57.1	+0.4	
GUNZ	Gunzen	150.26	352	ePKPbc		PKiKP	07 21 57.6	+0.8	
	baz=8.7,slow=2.5								
PRU	Pruhonice	150.26	349	⇑ePKP		PKiKP	07 21 57.1	+0.3	
PRU				epPKP		sPKPab	07 22 07.9	-0.7	
GOPC	GO Pecny, Ondr	150.29	348	⇑ePKP		PKiKP	07 21 57.2	+0.3	
GOPC				ex		x	07 22 08.5		
WERN	Wernitzgruen	150.32	351	ePKPbc		PKiKP	07 21 57.9	+0.9	
	baz=8.7,slow=2.5								
NKC	Novy Kostel	150.37	351	⇑ePKP		PKiKP	07 21 57.2	+0.1	
DOPR	Dopca	150.39	332	⇑P		PKiKP	07 21 57.1	-0.2	
MEM	Membach	150.46	360	PKiKP		PKiKP	07 21 57.2	0.0	
MEM	Membach	150.46	360	PKPab		PKPab	07 22 02.5	-0.4	
BTNL	Ternell	150.48	360	PKiKP		PKiKP	07 21 57.3	0.0	
BTNL				PKPab		PKPab	07 22 02.2	-0.9	
VRAC	Vranov	150.48	346	⇑P		PKiKP	07 21 58.5	+1.2	
VRAC	Vranov	150.48	346	ePKP		PKiKP	07 21 57.5	+0.2	
BSTI	Sart Tilman	150.49	0	PKiKP		PKiKP	07 21 57.5	+0.2	
ISR	Istrita	150.50	329	⇓P		PKiKP	07 21 57.6	0.0	
MLR	Muntele Rosu	150.50	331	⇓P		PKiKP	07 21 57.6	-0.1	
MLR	Muntele Rosu	150.50	331			PKPbc	07 21 57.2	+0.2	
AHRW	Bad Neuenahr-A	150.51	358	ePKPbc		PKiKP	07 21 58.1	+0.8	
	baz=8.7,slow=2.5								
SNF	Seneffe	150.54	2	PKiKP		PKiKP	07 21 57.3	-0.1	
CJR	Cluj-Napoca	150.55	335	⇑P		PKiKP	07 21 58.2	+0.6	
JAVC	Velka Javorina	150.63	344	ePKP		PKiKP	07 21 58.8	+1.1	
BCLA	Clavier	150.65	1	PKiKP		PKiKP	07 21 57.9	+0.3	
BCLA				PKPab		PKPab	07 22 03.3	-0.4	
VYHS	Vyhne	150.65	342	ePKP		PKiKP	07 21 58.6	+0.9	
PBCC	Pribram	150.65	349	⇑ePKP		PKiKP	07 21 57.7	0.0	
PBCC				ex		x	07 22 08.4		
MANZ	Manzenberg	150.66	352	ePKPbc		PKiKP	07 21 58.7	+1.0	
	baz=8.7,slow=2.5								
BGES	Gesves	150.68	1	PKiKP		PKPbc	07 21 57.6	+0.6	
TREC	Trest	150.74	347	⇑ePKP		PKiKP	07 21 58.2	+0.3	
TREC				epPKP		sPKPab	07 22 08.9	-1.7	
BMRD	Maredsous	150.75	1	PKiKP		PKiKP	07 21 58.1	+0.3	
KRUC	Moravsky	150.76	346	ePKP		PKiKP	07 21 57.9	0.0	
TNS	Taunus Mts	150.77	357	ePKPbc		PKiKP	07 21 58.7	+0.7	
	baz=8.7,slow=2.5								
PSZ	Piszkesteto	150.85	340	⇑P		PKiKP	07 21 58.4	+0.2	
PSZ	Piszkesteto	150.85	340			PKPbc	07 21 58.0	+0.4	
ROTZ	Rotzenmuhle	150.86	351	ePKPbc		PKiKP	07 21 58.9	+0.8	
	baz=8.7,slow=2.5								
RCHB	Rochefort	150.91	1	PKiKP		PKPbc	07 21 58.1	+0.5	
RCHB				PKPab		PKPab	07 22 03.1	-1.7	
VOIR		150.95	331	⇓P		PKiKP	07 21 58.6	+0.1	
DOU	Dourbes	150.96	2	PKiKP		PKiKP	07 21 58.9	+0.6	
DOU				PKPab		PKPab	07 22 03.5	-1.5	
MDUB	Mudurnu	150.97	318			PKPbc	07 21 58.3	+0.1	
SMOL	Smolenice	151.02	344	ePKP		PKiKP	07 21 59.9	+1.4	
GRF	Grafenberg Arr	151.06	353	ePKPbc		PKiKP	07 21 59.5	+1.0	
	baz=8.7,slow=2.5								
JSA	Saint Aubin	151.17	11	⇑eP		PKPbc	07 21 57.8	-0.3	
MODS	Modra-Piesok	151.18	344	ePKP		PKiKP	07 21 59.1	+0.3	
ARR	Arges	151.19	332	⇑P		PKPbc	07 21 58.9	+0.4	
KHC	Kasperske Hory	151.26	349	ePKPDF		PKPdf	07 21 53.7	+1.2	
KHC				⇑ePKP		PKiKP	07 21 59.4	+0.4	
KHC				ePKPAB		PKPab	07 22 05.7	-0.7	
KHC	Kasperske Hory	151.26	349			PKPdf	07 21 51.8	-0.7	
KHC						PKiKP	07 21 59.8	+0.8	
WET	Wettzell	151.37	350	ePKPbc		PKiKP	07 21 59.9	+0.7	
	baz=8.7,slow=2.5								
WLF	Walferdange	151.40	360	PKiKP		PKiKP	07 22 00.5	+1.3	
WLF	Walferdange	151.40	360	ePKPbc		PKiKP	07 22 00.6	+1.4	
	baz=8.7,slow=2.5								
WLF	Walferdange	151.40	360			PKiKP	07 22 00.3	+1.1	
WLF				PKPab		pPKPab	07 22 08.9	-2.7	

LOT	Lotru	151.50	333	⇑P		PKPbc	07 21 58.9	-0.3	
GEC2	GERESS Array S	151.52	349	ePKPbc		PKiKP	07 22 00.5	+0.9	
	baz=8.7,slow=2.5								
GEC2	GERESS Array S	151.52	349			PKiKP	07 22 00.0	+0.4	
GERES	GERESS Array B	151.52	349	PKP		PKPdf	07 21 52.4	-0.6	
	comp=Z,1.0nm,0.8s,baz=109,slow=3.2,SNR=6.5								
GERES				PKPbc		PKiKP	07 21 59.8	+0.2	
	comp=Z,14nm,0.8s,baz=40,slow=2.3,SNR=62								
SIRR	Siria	151.67	336	⇑P		PKiKP	07 21 59.9	0.0	
CONA	Conrad Observa	151.95	346	eP		PKPdf	07 21 55.0	+1.4	
	comp=Z,6.5nm,1.4s								
CONA				iP		PKiKP	07 22 01.3	+0.8	
	comp=Z,22nm,0.8s,SNR=8.9								
CSS	Mathiatis	152.12	306			PKiKP	07 22 01.5	+0.3	
CSS				PKPab		PKPab	07 22 10.1	-0.3	
BZS	Buzias	152.23	336	⇑P		PKPbc	07 22 00.7	-0.1	
MOA	Molln	152.37	348	eP		PKiKP	07 22 01.9	+0.6	
	comp=Z,9.7nm,0.7s								
LEF	Lefka	152.39	306	⇓P		PKiKP	07 22 02.7	+1.0	
HERR	Herculane	152.53	334	⇑P		PKPbc	07 22 01.1	-0.3	
FUR	Furstenfeldbru	152.55	352	ePKPbc		PKiKP	07 22 02.8	+1.1	
	baz=8.7,slow=2.5								
ARSA	Arzberg	152.66	346	eP		PKiKP	07 22 02.3	+0.4	
	comp=Z,4.7nm,0.8s								
BFO	Black Forest	152.67	356	ePKPbc		PKiKP	07 22 02.7	+0.8	
	baz=8.7,slow=2.5								
BFO				epPKPbc		sPKPab	07 22 28.6	+10	
BFO	Black Forest	152.67	356			PKiKP	07 22 02.3	+0.4	
RETA	Reutte	153.28	353	ePKP		PKiKP	07 22 03.8	+0.6	
	comp=Z,10nm,1.0s								
KBA	Koelnbreinsper	153.28	349	eP		PKiKP	07 22 04.0	+0.6	
	comp=Z,14nm,1.0s								
SOKA	Soboth	153.31	346	iP		PKiKP	07 22 03.8	+0.5	
	comp=Z,20nm,1.0s,SNR=5.7								
BISS	Bistriski jare	153.32	346	iPKPbc		PKiKP	07 22 03.6	+0.3	
WATA	Walderalm	153.32	351	eP		PKiKP	07 22 04.0	+0.5	
	comp=Z,20nm,1.2s								
PERS	Pernice	153.33	346	iPKPbc		PKiKP	07 22 03.7	+0.3	
MOTA	Moosalm	153.38	352	iP		PKiKP	07 22 03.9	+0.4	
	comp=Z,25nm,1.0s,SNR=8.2								
WTTA	Wattenberg	153.38	351	iP		PKiKP	07 22 04.3	+0.6	
	comp=Z,27nm,0.9s,SNR=7.7								
SQTA	Sankt Quirin	153.49	352	iP		PKiKP	07 22 04.4	+0.7	
	comp=Z,18nm,0.9s,SNR=5.8								
DAVA

comp=N,978nm,0.9s
GURO Guroymak-BITLI 0.49 320 PG **Pg** **07 27 11.9 0.0**
GURO SG **Sb** **07 27 19.6 -0.9**
GEVA Gevas 0.52 75 *e*P **Pg** **07 27 12.5 +0.1**
GEVA *e*S **Sb** **07 27 21.5 +0.2**
GEVA IAML 07 27 24.1
comp=Z,283nm,0.5s
GEVA Gevas 0.52 75 *i* P **Pg** **07 27 12.3 -0.1**
GEVA *i* S **Sb** **07 27 20.1 -1.2**
GEVA IAML 07 27 23.0
comp=E,606nm,0.8s
GEVA IAML 07 27 24.0
comp=N,334nm,0.4s
ADCV BITLIS_Adilcev 0.67 20 *i* P **Pb** **07 27 16.3 -0.1**
ADCV *i* S **Sb** **07 27 27.0 +1.1**
ADCV IAML 07 27 28.0
comp=N,228nm,0.2s
ADCV IAML 07 27 29.0
comp=E,276nm,0.2s
SIRT Sirnak 0.67 179 PG **Pg** **07 27 15.2 -0.2**
SIRT SG **Sb** **07 27 25.1 -0.7**
SIRN Sırnak 0.68 181 *i* P **Pb** **07 27 16.6 +0.2**
SIRN *i* S **Sn** **07 27 28.7 -0.3**
SIRN IAML 07 27 30.0
comp=E,217nm,0.6s
TVAN Van 0.85 65 *e*P **Pg** **07 27 16.8 -2.0**
TVAN IAML 07 27 49.4
comp=Z,54nm,1.2s
MUSM Mu-Merkez 0.90 308 *i* P **Pg** **07 27 19.1 -0.7**
MUSM *i* S **Sb** **07 27 33.4 +1.0**
BTMN Batman 0.96 253 *i* P **Pn** **07 27 21.5 -0.5**
BTMN *i* S **Sn** **07 27 35.5 -0.3**
BTMN IAML 07 27 38.0
comp=E,218nm,0.6s
BTMN IAML 07 27 40.0
comp=N,155nm,0.6s
SVAN Silvan-Diyarba 0.97 269 PG **Pb** **07 27 21.2 -0.1**
SVAN SG **Sn** **07 27 35.1 -0.9**
SVAN Silvan-Diyarba 0.97 269 *i* P **Pb** **07 27 21.4 +0.1**
SVAN *i* S **Sn** **07 27 35.7 -0.3**
EKAR Karacoban 1.11 345 *i* P **Pn** **07 27 24.8 +0.5**
EKAR IAML 07 27 41.0
comp=E,357nm,1.6s
EKAR *i* S **Sn** **07 27 43.8 +3.8**
EKAR IAML 07 27 47.0
comp=N,173nm,0.6s
HAKT HAKKARI 1.19 121 *i* P **Pg** **07 27 23.4 -1.8**
HAKT *i* S **Sn** **07 27 43.9 +2.2**
CUKT Cukurca 1.32 134 PN **Pg** **07 27 27.6 -0.1**
CUKT SN **Sn** **07 27 46.3 +1.6**
CUKT Cukurca 1.32 134 *i* P **Pn** **07 27 26.7 -0.3**
CUKT IAML 07 27 54.0
comp=N,153nm,0.5s
CUKT IAML 07 27 55.0
comp=E,184nm,0.8s
MARD Mardin 1.56 237 *i* P **Pn** **07 27 30.6 +0.2**
MARD IAML 07 27 53.0
comp=E,290nm,0.5s
MARD *i* S **Sg** **07 27 53.7 +1.0**
MARD IAML 07 27 56.0
comp=N,460nm,0.6s
HANI Diyarbakir_Han 1.61 279 *i* P **Pn** **07 27 31.4 +0.4**
HANI *i* S **Sg** **07 27 54.8 +0.6**
HANI IAML 07 27 58.0
comp=N,73nm,0.7s
HANI IAML 07 27 58.0
comp=E,98nm,0.4s
EATA Eleskirt 1.68 2 *i* P **Pb** **07 27 33.8 +0.1**
EATA *i* S **Sg** **07 27 59.3 +2.7**
MAZI Mazidag 1.72 246 PN **Pb** **07 27 33.3 -0.9**
MAZI SN **Sb** **07 27 56.5 +0.5**
DIYA Diyarbakir 1.84 263 *i* P **Pn** **07 27 33.8 -0.3**
DIYA IAML 07 28 07.0
comp=N,52nm,0.6s
DIYA IAML 07 28 08.0
comp=E,104nm,0.8s
HOMI Horasan 1.91 348 *e*P Pn 07 27 30.4 -4.9
YEDI Yedisu-Bingol 1.94 311 PN **Pb** **07 27 37.2 -0.7**
KOPT Kop Dagi 2.37 321 *e*P **Pn** **07 27 37.7 -4.0**
KOPT IAML 07 27 58.2
comp=Z,9.4nm,0.7s
KRIK Erzurum-spir 2.45 332 *e*P **Pn** **07 27 38.2 -4.5**
SVRC Sivrice-ELAZID 2.46 276 PN **Pn** **07 27 44.1 +1.3**
SVRC SN **Sn** **07 28 14.7 +1.6**
PTK Pertek 2.48 288 PN **Pn** **07 27 44.5 +1.4**

NEIC ***02*** *07:42:49.8±1.7, 17°.73S±0°.09×178°.4W±0°.1, h562km±7km, mb4.5/29, Error ellipse: s-maj=17.9km s-min=13.2km az=100.0*
IDC ***02*** *07:42:50.7±1.7, 17°.78S×178°.61W, h562km±19km, mb3.3/10, mb1 3.6/12, mb1mx3.4/29, mbtmp4.2/12, Error ellipse: s-maj=24.8km s-min=12.8km az=145.0*
ISC 02 07:42:51.7±0.5,**17.8S**±0.1×**178.50W**±0.10,**h579km,n58,**
σ0**94**/61,**mb4.5**/28,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.29**	**270**	P	**P**	**07 44 12.9**	**+2.0**
AFI	**Afiamalu**	**7.52**	**60**	P	**P**	**07 44 44.9**	**-0.9**
	2.8nm,0.3s,baz=136,slow=13,SNR=4.9						
AFI	**Afiamalu**	**7.52**	**60**	P	**P**	**07 44 45.1**	**-0.7**
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**07 45 57.6**	**-1.0**
	0.9nm,0.3s,baz=89,slow=17,SNR=18						
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**07 45 58.6**	**0.0**
KNTN	**Kanton**	**16.31**	**25**	P	**P**	**07 46 13.1**	**+0.1**
OUZ	**Omahuta**	**18.75**	**201**	P	**P**	**07 46 36.2**	**+1.3**
EIDS	**Eidsvold**	**29.24**	**250**	P	**P**	**07 48 07.5**	**-0.5**
EIDS				IAmb	IAmb	07 48 08.0	
	comp=Z,10nm,0.8s						
ARMA	**Armidale**	**29.94**	**240**	P	**P**	**07 48 14.3**	**+0.2**
ARMA				IAmb	IAmb	07 48 15.4	
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**33.39**	**260**	P	**P**	**07 48 43.0**	**-0.5**
CTAO				IAmb	IAmb	07 48 43.8	
	comp=Z,9.1nm,0.8s						
CAN	**Canberra**	**33.72**	**232**	P	**P**	**07 48 46.2**	**+0.1**
CAN				IAmb	IAmb	07 48 46.7	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**37.02**	**270**	P	**P**	**07 49 14.2**	**+0.5**
COEN				IAmb	IAmb	07 49 14.5	
	comp=Z,11nm,0.7s						
TOO	**Toolangi**	**37.20**	**231**	P	**P**	**07 49 14.8**	**0.0**
TOO				IAmb	IAmb	07 49 18.9	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**07 49 26.3**	**-0.2**
	comp=Z,14nm,0.5s,baz=90,slow=10,SNR=53						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**07 49 26.6**	**+0.2**
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**07 50 03.8**	**-0.4**
BBOO				IAmb	IAmb	07 50 04.4	
	comp=Z,22nm,0.9s						
WR0	**Warramunga Arr**	**44.38**	**259**	P	**P**	**07 50 11.0**	**-1.0**
WR0				IAmb	IAmb	07 50 11.8	
	comp=Z,9.8nm,1.1s						
WB0	**Warramunga Arr**	**44.54**	**260**	P	**P**	**07 50 12.2**	**-1.0**
WB0				IAmb	IAmb	07 50 12.9	
	comp=Z,12nm,0.6s						
WB2	**Warramunga Arr**	**44.56**	**259**	P	**P**	**07 50 12.3**	**-1.1**
WRAB	**Tennant Creek**	**44.57**	**259**	P	**P**	**07 50 11.9**	**-1.4**
WRAB				IAmb	IAmb	07 50 13.0	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**07 50 12.2**	**-1.3**
	comp=Z,6.9nm,0.4s,baz=96,slow=7.3,SNR=265						
WRA				PcP	**PcP**	**07 51 43.7**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=90,slow=3.6,SNR=5.6						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**07 50 12.2**	**-1.3**
AS31	**Alice Springs**	**44.75**	**254**	P	**P**	**07 50 14.2**	**-0.5**
AS31				IAmb	IAmb	07 50 14.8	
	comp=Z,19nm,0.8s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**07 50 14.2**	**-0.5**
	comp=Z,63nm,0.6s,baz=88,slow=8.4,SNR=1257						
ASAR				PcP	**PcP**	**07 51 44.0**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=107,slow=4.1,SNR=5.2						
ASAR				ScP	**ScP**	**07 54 44.0**	**+2.0**
	comp=Z,0.2nm,0.8s,baz=101,slow=5.0,SNR=2.6						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**07 50 13.8**	**-1.0**
MTN	**Manton Dam**	**48.72**	**268**	P	**P**	**07 50 44.1**	**-0.6**
MTN				IAmb	IAmb	07 50 44.5	
	comp=Z,9.0nm,0.8s						
FORT	**Forrest**	**49.99**	**244**	P	**P**	**07 50 52.8**	**-1.0**
KNRA	**Kununurra**	**50.42**	**264**	P	**P**	**07 50 56.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.97**	**260**	P	**P**	**07 51 15.2**	**-0.2**
SOEI	**Soe**	**55.99**	**270**	P	**P**	**07 51 37.8**	**+1.1**
SOEI				IAmb	IAmb	07 51 38.8	
	comp=Z,30nm,0.9s						
PSA00	**Pilbara Seismi**	**57.86**	**255**	P	**P**	**07 51 48.4**	**-1.0**
PSA00				IAmb	IAmb	07 51 49.2	
	comp=Z,13nm,0.6s						
VNDA	**Vanda**	**60.58**	**185**	P	**P**	**07 52 06.5**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=358,slow=6.3,SNR=5.4						
MJAR	**Matsushiro Arr**	**67.74**	**323**	P	**P**	**07 52 51.0**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=106,slow=10,SNR=2.2						
MJAR	**Matsushiro Arr**	**67.74**	**323**	P	**P**	**07 52 52.0**	**-0.4**
UGM	**Wanagama**	**69.57**	**268**	P	**P**	**07 53 03.8**	**-0.1**
QSPA	**South Pole Qui**	**72.29**	**180**	P	**P**	**07 53 19.3**	**+0.3**
NJ2	**Nanjing**	**77.78**	**309**	*e*P	**P**	**07 53 51.7**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.38**	**44**	P	**P**	**07 54 00.4**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=224,slow=9.7,SNR=8.5						
GHO	**Glory Hole Cre**	**82.69**	**14**	P	**P**	**07 54 14.6**	**-0.4**
GHO				IAmb	IAmb	07 54 36.6	
	comp=Z,5.6nm,0.7s						
TRF	**Thorofare Moun**	**83.89**	**12**	P	**P**	**07 54 21.0**	**0.0**
MAW	**Mawson**	**83.97**	**200**	P	**P**	**07 54 20.4**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=140,slow=4.1,SNR=13						
MAW	**Mawson**	**83.97**	**200**	P	**P**	**07 54 21.0**	**-0.3**
DHY	**Denali Highway**	**84.18**	**14**	P	**P**	**07 54 22.9**	**+0.4**
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**07 54 29.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=223,slow=5.5,SNR=11						
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**07 54 30.2**	**+0.4**
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**07 54 33.9**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=215,slow=6.1,SNR=8.6						
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**07 54 30.6**	**-1.3**
HHC	**Hu-ho-hao-te**	**87.11**	**314**	*e*P	**P**	**07 54 35.2**	**-1.7**
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,6.8s						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**07 54 38.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=193,slow=3.8,SNR=4.8						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**07 54 37.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**88.76**	**290**	P	**P**	**07 54 46.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=123,slow=2.4,SNR=7.9						
MKAR	**Makanchi Array**	**108.98**	**314**	PKIKP	**PKiKP**	**08 00 15.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=88,slow=1.4,SNR=4.7						
MKAR	**Makanchi Array**	**108.98**	**314**		**PKiKP**	**08 00 15.3**	**-0.8**
BR131	**Keskin Array S**	**144.62**	**315**	PKPdf	**PKPdf**	**08 01 23.4**	**+0.1**
BRTR	**Keskin Array B**	**144.62**	**315**	PKP	**PKPdf**	**08 01 23.5**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=122,slow=3.5,SNR=8.2						
KHC	**Kasperske Hory**	**147.22**	**345**	*e*PKP	**PKPdf**	**08 01 26.4**	**-0.9**
KHC				*ex*	x	08 01 31.3	
GERES	**GERESS Array B**	**147.45**	**345**	PKPbc	**PKPbc**	**08 01 31.7**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=27,slow=3.5,SNR=9.4						
DIVS	**Divibare**	**149.48**	**333**		**PKPbc**	**08 01 36.6**	**+0.2**

NNC ***02*** *07:44:17.6±0.7, 50°.02N×78°.74E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=15.1km s-min=3.8km az=79.0, Suspected Mining explosion.*
IDC ***02*** *07:44:18.4±1.0, 50°.07N×78°.75E, h0km, mb1 3.1/2, mb1mx3.0/45, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=15.3km s-min=6.1km az=66.0*
ISC 02 07:44:15.6±1.3,**49.98N**±0°.03×**78.2E**±0°.1,**h0km,n13,**
σ1**16**/17,**7C-2D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.67**	**16**	Pg	**Pg**	**07 44 28.4**	**-0.1**
	2.6nm,0.3s,baz=165,slow=19,SNR=159						
KURBB				Lg	Lg	07 44 38.7	
	2.1nm,0.3s,baz=165,slow=32,SNR=9.5						
KURBB	**Kurchatov Arra**	**0.67**	**16**	⇑P	**Pb**	**07 44 29.7**	**-0.5**
	27nm,0.3s						
KURBB				⇓S	**Sb**	**07 44 38.5**	**-1.6**
	66nm,0.8s						
KURK	**Kurchatov**	**0.78**	**18**	⇑P	**Pg**	**07 44 30.8**	**+0.3**
	7.6nm,0.3s						
KURK				⇓S	**Sg**	**07 44 41.4**	**+0.8**
	3.4nm,0.5s						
BRZS	**Berezniki**	**3.59**	**272**	Pg	Pg	07 45 31.6	+7.2
	4.2nm,0.2s						
BRZS				Lg	Lg	07 46 19.4	
	5.1nm,0.4s						
MAKZ	**Makanchi**	**4.03**	**140**	⇑Pn	**Pn**	**07 45 20.7**	**+2.1**
	0.7nm,0.5s						
MAKZ				⇑Pg	**Pb**	**07 45 26.7**	**-0.8**
	0.3nm,0.2s						
MAKZ				⇑Lg	Lg	07 46 15.9	
	8.1nm,0.8s						
MK31	**Makanchi Array**	**4.17**	**138**	⇑Pn	**Pn**	**07 45 21.8**	**+1.3**
	0.1nm,0.2s,baz=13,slow=3.6,SNR=30						
MK31				Pg	**Pb**	**07 45 29.9**	**-0.1**
	0.2nm,0.2s,baz=326,slow=13,SNR=10						
MK31				⇑Lg	Lg	07 46 22.8	
	2.1nm,0.3s,baz=326,slow=35,SNR=14						
MKAR	**Makanchi Array**	**4.17**	**138**	Pn	**Pn**	**07 45 21.8**	**+1.3**
	0.5nm,0.3s,baz=320,slow=10,SNR=39						
MKAR				Pg	**Pb**	**07 45 29.9**	**-0.1**
	1.3nm,0.3s,baz=328,slow=15,SNR=18						
MKAR				Sn	**Sn**	**07 46 08.1**	**-2.0**
	0.3nm,0.3s,baz=329,slow=16,SNR=1.9						
MKAR				Lg	Lg	07 46 24.7	
	2.2nm,0.3s,baz=329,slow=27,SNR=14						
ZALV	**Zalesovo Beam**	**5.69**	**43**	Pn	**Pn**	**07 45 42.2**	**+0.9**
	1.3nm,0.3s,baz=230,slow=14,SNR=11						
ZALV				Lg	Lg	07 47 09.8	
	0.2nm,0.3s,baz=215,slow=27,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**5.69**	**43**	*i*		08 15 30.0	
	baz=223,slow=316,SNR=0.9						
ARXS	**Arharly**	**5.77**	**183**	Pg	**Pg**	**07 46 07.1**	**+0.9**
	3.2nm,0.3s						
ARXS				Lg	Lg	07 47 20.5	
	7.1nm,0.5s						
MNBS	**Baschi**	**5.90**	**179**	Pg	**Pg**	**07 46 07.9**	**-0.7**
	0.8nm,0.1s						
MNBS				Lg	Lg	07 47 21.3	
	9.6nm,0.7s						
KUU	**Kurty**	**6.22**	**193**	Pg	**Pg**	**07 46 13.9**	**-0.9**
	1.2nm,0.6s						
KUU				Lg	Lg	07 47 31.6	
	6.7nm,0.6s						
KTBS	**Karatobe**	**6.36**	**190**	Pg	**Pg**	**07 46 17.7**	**+0.3**
	1.1nm,0.7s						
KTBS				Lg	Lg	07 47 38.8	
	7.0nm,0.6s						

IDC ***02*** *07:54:56.2±2.8, 54°.39N×87°.07E, h0km, mb1 3.2/2, mb1mx3.0/52, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=22.6km s-min=16.2km az=60.0*
NNC ***02*** *07:54:58.7±4.0, 54°.26N×86°.83E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=33.2km s-min=16.5km az=15.0, Suspected Mining explosion.*
ISC 02 07:55:00.1±4.2,**54.3N**±0°.2×**86.7E**±0°.2,**h0km,n9,**σ1**24**/13,
10C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**253**	*i*		08 03 30.0	
	baz=70,slow=330,SNR=0.8						
ZAA0	**Zalesovo Array**	**1.14**	**253**	⇑P	**Pg**	**07 55 20.2**	**-1.8**
	1.2nm,0.8s						
ZAA0				⇑S	**Sb**	**07 55 38.8**	**+0.8**
	5.6nm,0.9s						
ZALV	**Zalesovo Beam**	**1.14**	**253**	Pg	**Pg**	**07 55 20.9**	**-1.0**
	1.3nm,0.3s,baz=67,slow=16,SNR=16						
ZALV				Lg	Lg	07 55 40.2	
	1.9nm,0.3s,baz=70,slow=26,SNR=11						
KURK	**Kurchatov**	**6.08**	**237**	⇑Pn	**Pn**	**07 56 31.9**	**+0.8**
	2.6nm,0.8s						
KURK				⇓Lg	Lg	07 58 14.4	
	7.2nm,1.1s						
KURBB	**Kurchatov Arra**	**6.19**	**237**	Pn	**Pn**	**07 56 33.4**	**+0.8**
	0.2nm,0.3s,baz=54,slow=14,SNR=9.3						
KURBB				Sn	**Sn**	**07 57 45.5**	**+1.5**
	baz=46,slow=20,SNR=1.2						
KURBB				Lg	Lg	07 58 22.4	
	baz=55,slow=34,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.19**	**237**	⇑Pn	**Pn**	**07 56 32.7**	**+0.2**
	3.0nm,0.6s,baz=57,slow=14						
KURBB				⇑Lg	Lg	07 58 16.4	
	13nm,0.9s,baz=57,slow=30						
MK31	**Makanchi Array**	**8.01**	**202**	⇑Pn	**Pn**	**07 56 59.0**	**+1.3**
	0.6nm,0.6s						
MK31				⇑Sn	**Sn**	**07 58 27.9**	**-1.1**
	0.5nm,0.5s						
MK31				⇑Lg	Lg	07 59 11.9	
	4.7nm,1.0s						
MKAR	**Makanchi Array**	**8.01**	**202**	Pn	**Pn**	**07 56 57.2**	**-0.5**
	0.1nm,0.3s,baz=21,slow=28,SNR=6.9						
MKAR				Sn	**Sn**	**07 58 28.6**	**-0.3**
	0.2nm,0.3s,baz=26,slow=26,SNR=7.9						
MKAR				Lg	Lg	07 59 14.1	
	0.0nm,0.3s,baz=26,slow=23,SNR=3.6						
MAKZ	**Makanchi**	**8.07**	**204**	⇑Pn	**Pn**	**07 57 00.4**	**+1.9**
	0.2nm,0.4s						
MAKZ				⇓Sn	**Sn**	**07 58 30.0**	**-0.4**
	0.7nm,0.6s						
MAKZ				⇑Lg	Lg	07 59 13.1	
	3.5nm,1.1s						

IDC ***02*** *07:59:29.8±2.6, 54°.14N×86°.53E, h0km, mb1 3.2/2, mb1mx3.0/40, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=21.2km s-min=13.1km az=58.0*
NNC ***02*** *07:59:30.8±1.4, 54°.14N×86°.46E, h0km, mb3.4, mpv2.8, Error ellipse: s-maj=19.2km s-min=6.5km az=1.0, Suspected Mining explosion.*
ISC 02 07:59:32.3±7.5,**54.1N**±0°.5×**86°.3E**±0°.3,**h0km,n9,**σ0**95**/9,
3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**263**	*i*		08 06 10.0	
	baz=81,slow=333,SNR=1.1						
ZAA0	**Zalesovo Array**	**0.90**	**263**	⇓P	**Pg**	**07 59 49.5**	**0.0**
	0.3nm,0.3s						
ZAA0				S	**Sb**	**08 00 03.5**	**+0.2**
	3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**0.90**	**263**	Pg	**Pg**	**07 59 48.1**	**-1.4**
	2.2nm,0.3s,baz=78,slow=17,SNR=9.7						
ZALV				Lg	Lg	08 00 03.6	
	1.7nm,0.3s,baz=78,slow=29,SNR=9.2						
KURK	**Kurchatov**	**5.79**	**238**	Pn	**Pn**	**08 01 00.9**	**+1.6**
	1.8nm,0.9s						
KURK				Lg	Lg	08 02 36.2	
	4.8nm,0.9s						
KURBB	**Kurchatov Arra**	**5.89**	**237**	Pn	**Pn**	**08 01 01.2**	**+0.5**
	0.2nm,0.3s,baz=54,slow=13,SNR=6.7						
KURBB				Lg	Lg	08 02 45.3	
	0.1nm,0.3s,baz=52,slow=32,SNR=5.7						
KURBB	**Kurchatov Arra**	**5.89**	**237**	Pn	**Pn**	**08 01 00.7**	**0.0**
	1.1nm,0.4s						
KURBB				Lg	Lg	08 02 39.9	
	4.9nm,0.7s						
MK31	**Makanchi Array**	**7.72**	**201**	Pn	**Pn**	**08 01 26.6**	**+0.8**
	0.4nm,0.6s,baz=29,slow=14,SNR=12						
MK31				⇓Lg	Lg	08 03 37.1	
	2.7nm,0.9s,baz=27,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**7.72**	**201**	Pn	**Pn**	**08 01 25.9**	**+0.1**
	0.3nm,0.3s,baz=24,slow=13,SNR=9.9						
MKAR				Lg	Lg	08 03 36.7	
	baz=23,slow=30,SNR=5.5						
MAKZ	**Makanchi**	**7.78**	**203**	Pn	**Pn**	**08 01 26.3**	**-0.3**
	0.9nm,1.1s						
MAKZ				⇓Lg	Lg	08 03 38.2	
	1.6nm,0.9s						

NEIC ***02*** *07:59:58.0±2.0, 7°.41S±0°.09×128°.74E±0°.08, h148km±8km, mb4.6/37, Error ellipse: s-maj=12.9km s-min=11.0km az=202.0*
IDC ***02*** *07:59:58.2±1.4, 7°.41S×128°.64E, h150km±13km, mb4.1/20, mb1 4.2/23, mb1mx4.1/40, mbtmp4.6/23, MS3.3/3, Ms1 3.3/3, ms1mx2.8/36, Error ellipse: s-maj=13.4km s-min=8.5km az=93.0*
DJA ***02*** *08:00:00.0±0.2, 8°S±2°×129°E±°, h155km±3km, M4.9/18, mb4.9/18, mB5.3/9, MLv5.0/10, Mw(mB)4.8/9*
ISC 02 07:59:57.8±0.3,**7.53S**±0°.04×**128.70E**±0°.05,**h151km,n115,**
σ1**77**/119,**mb4.5**/44,**1C-1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.62**	**100**	P	**Pn**	**08 00 43.8**	**+3.3**
SAUI				S	**Sn**	**08 01 18.1**	**+4.8**
SAUI	**Saumlaki**	**2.62**	**100**		**Pn**	**08 00 43.7**	**+3.3**
BNDI	**Bandanaira**	**3.22**	**22**	P	**Pn**	**08 00 50.8**	**+2.7**
AAI	**Ambon**	**3.85**	**352**	P	**Pn**	**08 00 59.1**	**+2.9**
AAI				S	**Sn**	**08 01 44.8**	**+3.2**
MSAI	**Masohi**	**4.16**	**3**	P	**Pn**	**08 01 03.2**	**+2.9**
NLAI	**Namlea**	**4.55**	**339**	P	Pn	08 01 10.2	+4.8
SOEI	**Soe**	**4.91**	**243**	P	**Pn**	**08 01 11.9**	**+1.7**
SOEI	**Soe**	**4.91**	**243**		**Pn**	**08 01 11.9**	**+1.7**
BATI	**Baumata**	**5.64**	**242**	P	**Pn**	**08 01 20.7**	**+0.9**
	396nm,0.3s,baz=94,slow=5.8,SNR=98						
BATI				S	**Sn**	**08 02 24.6**	**+0.6**
	177nm,0.3s,baz=101,slow=20,SNR=13						
BATI				LR	LR	08 03 37.5	
	comp=Z,134nm,21.4s,baz=192,slow=39						
BATI	**Baumata**	**5.64**	**242**	P	**Pn**	**08 01 21.4**	**+1.6**
	4.0nm12μm1μm,0.5s						
MTN	**Manton Dam**	**5.80**	**156**	Pn	**Pn**	**08 01 23.2**	**+1.3**
MMRI	**Maumere**	**6.49**	**260**	P	**Pn**	**08 01 32.1**	**+1.0**
	1.0nm3μm282nm,0.8s						
MMRI	**Maumere**	**6.49**	**260**	Pn	**Pn**	**08 01 32.1**	**+1.0**
KDI	**Kendari**	**7.01**	**300**	P	Pn	08 01 43.4	+5.3
EDFI	**Ende, Flores**	**7.04**	**260**	P	**Pn**	**08 01 40.0**	**+1.4**
	0.2nm658nm32nm,0.6s						
SIJI	**Sorong**	**7.10**	**21**	P	**Pn**	**08 01 38.2**	**-1.0**
	11nm,0.3s,baz=61,slow=4.9,SNR=26						
SIJI				S	**Sn**	**08 02 56.9**	**-1.9**
	5.7nm,0.3s,baz=225,slow=22,SNR=7.1						
KNRA	**Kununurra**	**8.10**	**180**		**Pn**	**08 01 52.9**	**+0.4**
BASI	**Baing, Sumba**	**8.46**	**251**	P	**Pn**	**08 01 56.9**	**-0.5**
	3μm232nm,0.8s						
BKSI	**Bulukumba**	**8.80**	**284**	P	**Pn**	**08 02 05.7**	**+3.7**
BAKI	**Biak**	**9.71**	**50**	P	Pn	08 02 17.4	+3.4
PLAI	**Plampang**	**10.89**	**262**	P	**Pn**	**08 02 29.0**	**-0.6**
	135nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.92**	**196**	P	**Pn**	**08 02 28.3**	**-1.7**
	8.7nm,0.3s,baz=27,slow=10,SNR=112						
FITZ				S	**Sn**	**08 04 25.0**	**-5.8**
	6.8nm,0.3s,baz=84,slow=17,SNR=3.2						
FITZ	**Fitzroy Crossi**	**10.92**	**196**	Pn	**Pn**	**08 02 28.4**	**-1.5**
JAY	**Jayapura**	**12.95**	**68**	P	**Pn**	**08 02 53.3**	**-3.2**
	0.2nm,0.3s,baz=208,slow=13,SNR=1.9						
WB0	**Warramunga Arr**	**13.36**	**156**	Pn	**Pn**	**08 03 00.2**	**-1.5**
WRAB	**Tennant Creek**	**13.49**	**157**		**Pn**	**08 03 03.2**	**-0.2**
WRA	**Warramunga Arr**	**13.49**	**157**	P	**Pn**	**08 03 01.8**	**-1.6**
	2.5nm,0.3s,baz=344,slow=13,SNR=96						
WRA				S	**

RPSI				IAmb	IAmb	08 06 06.8	
	comp=Z,11nm,0.9s						
SLVN	**Son La**	**37.62**	**320**	P	**P**	**08 06 58.9**	**+0.6**
CM31	**Chiang Mai Arr**	**39.10**	**312**	P	**P**	**08 07 11.5**	**+0.8**
CM31				IAmb	IAmb	08 07 12.0	
	comp=Z,8.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.10**	**312**	P	**P**	**08 07 10.5**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=143,slow=7.1,SNR=22						
CMAR				PcP	**PcP**	**08 09 18.8**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=166,slow=2.8,SNR=7.5						
CMAR	**Chiang Mai Arr**	**39.10**	**312**	P	**P**	**08 07 10.9**	**+0.3**
CHTO	**Chiang Mai**	**39.32**	**312**	P	**P**	**08 07 13.0**	**+0.5**
CHTO				IAmb	IAmb	08 07 13.7	
	comp=Z,7.9nm,0.8s						
GYA	**Guiyang**	**39.99**	**328**	⇑P	**P**	**08 07 17.7**	**-0.3**
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
WHN	**Wuhan**	**40.28**	**341**	P	**P**	**08 07 20.3**	**+0.1**
WHN				pmax	pmax		
	comp=Z,54nm,0.9s						
NJ2	**Nanjing**	**40.47**	**347**	*eP*	**P**	**08 07 24.6**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PBA	**Port Blair**	**40.53**	**298**	P	P	08 07 24.6	+2.1
PBA				IAmb	IAmb	08 07 41.0	
	comp=Z,15nm,0.8s						
KMI	**Kunming**	**41.14**	**323**	⇓*eP*	**P**	**08 07 29.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,16nm,1.5s						
MJAR	**Matsushiro Arr**	**44.74**	**11**	P	**P**	**08 07 55.0**	**-1.2**
	comp=Z,7nm,0.8s,baz=191,slow=9.5,SNR=5.5						
MAT	**Matsushiro**	**44.74**	**11**	P	**P**	**08 07 53.7**	**-2.5**
KSRS	**Korea Array**	**44.76**	**359**	P	**P**	**08 07 56.0**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=179,slow=9.3,SNR=6.3						
CD2	**Chengdu**	**45.08**	**329**	P	**P**	**08 07 58.9**	**-0.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
XAN	**Xi'an**	**45.40**	**337**	P	**P**	**08 08 00.6**	**-0.8**
XAN				pP	pP	08 08 07.3	-27
XAN				pmax	pmax		
	comp=Z,31nm,0.8s						
SHL	**Shillong**	**48.62**	**314**	P	**P**	**08 08 26.0**	**-0.8**
SHL				IAmb	IAmb	08 08 27.9	
	comp=Z,9.5nm,0.6s						
LZH	**Lanzhou**	**49.28**	**333**	*eP*	**P**	**08 08 31.7**	**+0.1**
LZH				pP	pwP	08 09 08.0	-2.3
LZH				sP	sP	08 09 26.3	+5.5
LZH				*e*PP	**PP**	**08 10 23.8**	**-3.3**
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
HHC	**Hu-ho-hao-te**	**50.66**	**343**	*eP*	**P**	**08 08 44.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.9s						
USRK	**Ussuriysk Ar.**	**51.58**	**3**	P	**P**	**08 08 47.5**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=187,slow=6.9,SNR=9.9						
GTA	**Gaotai**	**53.83**	**332**	*eP*	**P**	**08 09 05.3**	**0.0**
GTA				pP	pP	08 09 38.6	-0.4
GTA				sP	sP	08 09 53.3	-1.8
GTA				pmax	pmax		
	comp=Z,16nm,0.9s						
ULN	**Ulaanbaatar**	**58.38**	**343**	P	**P**	**08 09 38.1**	**+0.6**
ULN				IAmb	IAmb	08 09 39.9	
	comp=Z,4.3nm,0.6s						
SONM	**Songino Array**	**58.55**	**343**	P	**P**	**08 09 38.9**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=162,slow=7.8,SNR=16						
SONM	**Songino Array**	**58.55**	**343**	P	**P**	**08 09 38.6**	**0.0**
CASY	**Casey**	**59.99**	**188**	P	**P**	**08 09 50.1**	**+2.0**
CASY				IAmb	IAmb	08 09 50.5	
	comp=Z,4.6nm,0.7s						
WMQ	**Urumqi**	**63.14**	**328**	*eP*	**P**	**08 10 11.9**	**+2.2**
PETK	**Petropavlovsk-**	**65.23**	**19**	P	**P**	**08 10 23.3**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=236,slow=1.6,SNR=6.5						
TARG	**Taragay, Kyrgy**	**67.56**	**321**	P	**P**	**08 10 37.9**	**-0.7**
MK31	**Makanchi Array**	**67.97**	**328**	P	**P**	**08 10 40.5**	**0.0**
MK31				IAmb	IAmb	08 10 41.7	
	comp=Z,8.6nm,0.8s						
MKAR	**Makanchi Array**	**67.97**	**328**	P	**P**	**08 10 40.7**	**+0.2**
	comp=Z,8.6nm,0.6s,baz=125,slow=7.8,SNR=111						
MKAR	**Makanchi Array**	**67.97**	**328**	P	**P**	**08 10 40.6**	**0.0**
MAKZ	**Makanchi**	**68.15**	**327**	P	**P**	**08 10 41.8**	**+0.1**
MAKZ				IAmb	IAmb	08 10 42.6	
	comp=Z,7.4nm,0.7s						
BOOM	**Boomskoye usch**	**69.14**	**321**	P	**P**	**08 10 48.2**	**+0.1**
TKM2	**Tokmak 2**	**69.58**	**321**	P	**P**	**08 10 51.3**	**+0.5**
	SNR=11						
AAK	**Ala-Archa**	**70.12**	**320**	P	**P**	**08 10 55.0**	**+0.9**
	SNR=6.9						
AML	**Almayashu**	**70.37**	**320**	P	**P**	**08 10 57.0**	**+1.1**
	SNR=5.5						
USP	**Ospenovka**	**70.44**	**321**	P	**P**	**08 10 56.4**	**+0.5**
	SNR=17						
EKS2	**Erkin-Say**	**70.59**	**320**	P	**P**	**08 10 57.8**	**+0.9**
	SNR=11						
GAR	**Garm**	**71.13**	**315**	P	**P**	**08 11 00.1**	**-0.2**
GAR				IAmb	IAmb	08 11 01.6	
	comp=Z,20nm,1.3s						
ZAA0	**Zalesovo Array**	**71.49**	**334**	P	**P**	**08 11 01.1**	**-0.7**
ZAA0				IAmb	IAmb	08 11 02.4	
	comp=Z,6.4nm,0.8s						
ZALV	**Zalesovo Beam**	**71.49**	**334**	P	**P**	**08 11 01.3**	**-0.6**
	comp=Z,6.4nm,0.7s,baz=118,slow=4.9,SNR=18						
ZALV	**Zalesovo Beam**	**71.49**	**334**	P	**P**	**08 11 01.2**	**-0.7**
CHGR	**Chuyangaron**	**71.79**	**315**	P	**P**	**08 11 03.9**	**-0.3**
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**08 11 06.3**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=318,slow=6.4,SNR=38						
VNDA				LR	LR	08 40 56.4	
	comp=Z,24nm,19.9s,baz=322,slow=34						
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**08 11 06.0**	**+0.9**
KURK	**Kurchatov**	**72.30**	**329**	P	**P**	**08 11 06.8**	**0.0**
KURK				IAmb	IAmb	08 11 08.5	
	comp=Z,9.9nm,0.8s						
KK31	**Karatay Array**	**72.89**	**319**	P	**P**	**08 11 10.7**	**+0.2**
KK31				IAmb	IAmb	08 11 12.2	
	comp=Z,10.0nm,1.1s						
KKAR	**Karatay Array**	**72.89**	**319**	P	**P**	**08 11 10.4**	**-0.1**
KKAR				IAmb	IAmb	08 11 12.2	
	comp=Z,10.0nm,1.1s						
MAW	**Mawson**	**73.99**	**201**	P	**P**	**08 11 17.6**	**+1.2**
	comp=Z,4.7nm,0.6s,baz=73,slow=6.7,SNR=24						
MAW	**Mawson**	**73.99**	**201**	P	**P**	**08 11 18.0**	**+1.6**
BRVK	**Borovoye**	**77.90**	**328**	P	**P**	**08 11 38.2**	**-0.7**
NRIK	**Noril'sk**	**81.76**	**346**	P	**P**	**08 11 58.8**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=128,slow=2.9,SNR=4.7						
ABKAR	**Akbulak array**	**82.12**	**322**	P	**P**	**08 12 01.0**	**-0.6**
ABKAR	**Akbulak array**	**82.12**	**322**	P	**P**	**08 12 01.0**	**-0.6**
QSPA	**South Pole Qui**	**82.45**	**180**	P	**P**	**08 12 03.8**	**+0.6**
	comp=Z,6.8nm,0.6s,baz=308,slow=0.8,SNR=72						
AKTO	**Aktyubinsk**	**83.71**	**323**	P	**P**	**08 12 09.5**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=134,slow=5.9,SNR=11						
ARU	**Arti**	**85.48**	**328**	P	**P**	**08 12 17.0**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=126,slow=19,SNR=4.5						
KBZ	**Khabaz**	**92.12**	**314**	P	**P**	**08 12 48.6**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=110,slow=7.5,SNR=1.7						
RND	**Reindeer**	**93.30**	**27**	P	**P**	**08 12 54.0**	**-1.3**
CCB	**Clear Creek Bu**	**93.97**	**25**	P	**P**	**08 12 56.7**	**-1.5**
CCB				IAmb	IAmb	08 12 57.6	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**94.38**	**25**	P	**P**	**08 12 58.3**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=246,slow=4.8,SNR=6.9						
SNAA	**Sanae**	**94.85**	**194**	P	**P**	**08 13 02.1**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=130,slow=16,SNR=4.1						
GERES	**GERESS Array B**	**112.00**	**320**	PKiKP	**PKiKP**	**08 18 15.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=75,slow=5.7,SNR=5.5						
PDAR	**Pinedale Array**	**118.18**	**45**	PKP	**PKiKP**	**08 18 28.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=31,slow=0.9,SNR=3.9						
TXAR	**Lajitas Array**	**126.31**	**59**	PKP	**PKiKP**	**08 18 44.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=180,slow=2.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**127.64**	**281**	PKP	**PKiKP**	**08 18 46.0**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=52,slow=1.0,SNR=9.1						
PLCA	**Paso Flores**	**128.81**	**161**	PKP	**PKiKP**	**08 18 48.8**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=212,slow=6.3,SNR=4.8						

*GCG **02** 08:39:23.4±1.0, 16°.62N×92°.99W, h31km±999km, MD4.6*
*NEIC **02** 08:39:25.3±1.0, 15°.40N±0°.05×93°.52W±0°.05, h79km±6km, Error ellipse: s-maj=10.2km s-min=3.2km az=221.0*
*MEX **02** 08:39:26.3±0.5, 15°.41N×93°.53W, h82km±6km, MD4.0*
*SNET **02** 08:39:26.7±1.2, 15°.61N×93°.41W, h35km±93km, ML3.9*
*UCR **02** 08:39:26.6±1.2, 15°.62N×93°.42W, h35km±102km, ML3.5, mb4.0(NEIC)*

ISC 02 08:39:26.3±1.0, 15°.49N±0°.04×93°.55W±0°.03, h71km±9km, n60, σ1°36/86, 3C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.38**	**57**	*eP*	**Pn**	**08 39 38.3**	**+0.1**
PCIG				*eS*	**Sn**	**08 39 47.9**	**+1.0**
PCIG		**0.38**	**57**		**Pn**	**08 39 38.3**	**+0.1**
PCIG					**Sn**	**08 39 47.9**	**+1.0**
TGIG		**1.34**	**18**	*i* P	**Pn**	**08 39 49.3**	**0.0**
TGIG				*i* S	**Sn**	**08 40 06.8**	**+0.3**
TGIG		**1.34**	**18**		**Pn**	**08 39 49.3**	**0.0**
TGIG					**Sn**	**08 40 06.8**	**+0.3**
TGBT	**Tuxtla Gutierr**	**1.35**	**19**	*i* P	**Pn**	**08 39 49.5**	**+0.1**
TGBT				*i* S	**Sn**	**08 40 06.9**	**+0.2**
TGBT	**Tuxtla Gutierr**	**1.35**	**19**		**Pn**	**08 39 49.5**	**+0.1**
TGBT					**Sn**	**08 40 06.9**	**+0.2**
THIG		**1.37**	**115**	*eP*	**Pn**	**08 39 47.8**	**-1.8**
THIG				*eS*	**Sn**	**08 40 05.3**	**-1.8**
THIG		**1.37**	**115**		**Pn**	**08 39 47.8**	**-1.8**
THIG					**Sn**	**08 40 05.3**	**-1.8**
CCIG	**Comitan**	**1.57**	**60**	*eP*	**Pn**	**08 39 51.9**	**-0.5**
CCIG				*i* S	**Sn**	**08 40 12.1**	**0.0**
CCIG	**Comitan**	**1.57**	**60**		**Pn**	**08 39 51.9**	**-0.5**
CCIG					**Sn**	**08 40 12.1**	**0.0**
HUEH	**Huehuetenango**	**1.98**	**95**	*eP*	**Pn**	**08 39 57.4**	**-0.6**
HUEH				*eS*	**Sn**	**08 40 21.3**	**-0.7**
HUEH				IAML		08 40 27.5	
	comp=Z,1μm,0.3s						
RTAL	**Retalhuleu**	**2.04**	**118**	*eP*	**Pn**	**08 39 57.1**	**-1.3**
RTAL				*eS*	**Sn**	**08 40 22.2**	**-0.8**
RTAL				IAML		08 40 24.5	
	comp=Z,546nm,0.3s						
RTAL	**Retalhuleu**	**2.04**	**118**	Pn	**Pn**	**08 39 57.0**	**-1.5**
CMIG	**Matias Romero**	**2.04**	**321**	*eP*	**Pn**	**08 39 59.3**	**+0.8**
CMIG				*i* S	**Sn**	**08 40 24.6**	**+1.5**
CMIG	**Matias Romero**	**2.04**	**321**		**Pn**	**08 39 59.3**	**+0.8**
CMIG					**Sn**	**08 40 24.6**	**+1.5**
HUIG	**Huatulco**	**2.48**	**277**	*eP*	**Pn**	**08 40 03.7**	**-0.8**
HUIG				*i* S	**Sn**	**08 40 32.6**	**-1.1**
HUIG	**Huatulco**	**2.48**	**277**		**Pn**	**08 40 03.7**	**-0.8**
HUIG					**Sn**	**08 40 32.6**	**-1.1**
FUG	**Fuego 3**	**2.82**	**111**	*eP*	**Pn**	**08 40 09.3**	**+0.1**
FUG				*eS*	**Sn**	**08 40 45.4**	**+3.2**
PCG	**Pacaya**	**3.05**	**111**	*eP*	**Pn**	**08 40 12.2**	**-0.2**
PCG				*eS*	**Sn**	**08 40 55.0**	**+7.0**
NBG	**Las Nubes**	**3.22**	**106**	*eP*	**Pn**	**08 40 18.0**	**+3.1**
IXG	**Ixpaco**	**3.28**	**113**	*eP*	**Pn**	**08 40 16.6**	**+1.0**
VHO	**Vista Hermosa**	**3.44**	**298**	*eP*	**Pn**	**08 40 19.8**	**+2.1**
VHO				*i* S	**Sn**	**08 40 57.5**	**+0.1**
PEIG	**Puerto Escondi**	**3.50**	**279**	*i* P	**Pn**	**08 40 17.7**	**-0.6**
PEIG				*i* S	**Sn**	**08 40 58.6**	**0.0**
PETF	**Flores**	**3.81**	**68**	*eP*	**Pn**	**08 40 20.8**	**-1.8**
PETF				*eS*	**Sn**	**08 41 03.0**	**-3.2**
PETF	**Flores**	**3.81**	**68**	Pn	**Pn**	**08 40 21.8**	**-0.8**
NUBE	**Las Nubes**	**3.98**	**113**	*eP*	**Pn**	**08 40 24.4**	**-0.7**
NUBE				*eS*	**Sn**	**08 41 09.7**	**-0.8**
NUBE				IAML		08 41 13.6	
	comp=Z,56nm,0.6s						
NUBE	**Las Nubes**	**3.98**	**113**	*eP*	**Pn**	**08 40 24.4**	**-0.7**
NUBE				*eS*	**Sn**	**08 41 09.7**	**-0.8**
NUBE				IAML		08 41 13.6	
	comp=Z,56nm,0.6s						
YOIG	**Yosondua**	**4.07**	**290**	⇑*i* P	**Pn**	**08 40 26.2**	**-0.2**
YOIG				*i* S	**Sn**	**08 41 13.3**	**+0.4**
ESQI	**Esquipulas**	**4.17**	**102**	*eP*	**Pn**	**08 40 26.7**	**-0.9**
ESQI	**Esquipulas**	**4.17**	**102**	Pn	**Pn**	**08 40 27.1**	**-0.5**
MTO3	**Montecristo**	**4.19**	**104**	⇑*eP*	**Pn**	**08 40 27.3**	**-0.7**
MTO3	**Montecristo**	**4.19**	**104**	⇑*eP*	**Pn**	**08 40 27.3**	**-0.7**
MTO3	**Montecristo**	**4.19**	**104**	Pn	**Pn**	**08 40 26.7**	**-1.3**
TACO	**Tacachico**	**4.33**	**110**	*eP*	**Pn**	**08 40 29.8**	**0.0**
TACO	**Tacachico**	**4.33**	**110**	*eP*	**Pn**	**08 40 29.8**	**0.0**
UEES	**Universidad Ev**	**4.53**	**112**	*eP*	**Pn**	**08 40 33.4**	**+0.8**
UEES	**Universidad Ev**	**4.53**	**112**	*eP*	**Pn**	**08 40 33.4**	**+0.8**
SNET	**Serv Nac Est T**	**4.55**	**113**	Pn	**Pn**	**08 40 30.7**	**-2.1**
LFRS	**El Faro**	**4.73**	**113**	*eP*	**Pn**	**08 40 35.8**	**+0.6**
LFRS				*eS*	**Sn**	**08 41 29.5**	**+0.7**
LFRS	**El Faro**	**4.73**	**113**	*eP*	**Pn**	**08 40 35.8**	**+0.6**
LFRS				*eS*	**Sn**	**08 41 29.5**	**+0.7**
PAVA	**Las Pavas**	**4.80**	**111**	*eP*	**Pn**	**08 40 36.9**	**+0.6**
PAVA				IAML		08 40 45.4	
	comp=Z,75nm,0.4s						
PAVA	**Las Pavas**	**4.80**	**111**	*eP*	**Pn**	**08 40 36.9**	**+0.6**
PAVA				IAML		08 40 45.4	
	comp=Z,75nm,0.4s						
COEG	**Centro de Oper**	**4.89**	**112**	*eP*	**Pn**	**08 40 37.6**	**+0.2**
COEG				IAML		08 40 42.3	
	comp=Z,323nm,0.5s						
COEG	**Centro de Oper**	**4.89**	**112**	*eP*	**Pn**	**08 40 37.6**	**+0.2**
COEG				IAML		08 40 42.3	
	comp=Z,323nm,0.5s						
COEB	**Comit de Eme**	**5.25**	**112**	*eP*	**Pn**	**08 40 42.2**	**-0.2**
COEB				IAML		08 40 47.1	
	comp=Z,99nm,0.6s						
COEB	**Comit de Eme**	**5.25**	**112**	*eP*	**Pn**	**08 40 42.2**	**-0.2**
COEB				IAML		08 40 47.1	
	comp=Z,99nm,0.6s						
ALJI	**Alcalda de J**	**5.28**	**113**	*eP*	**Pn**	**08 40 43.5**	**+0.8**
ALJI	**Alcalda de J**	**5.28**	**113**	*eP*	**Pn**	**08 40 43.5**	**+0.8**
LCND	**La Caada**	**5.90**	**111**	*eP*	**Pn**	**08 40 51.2**	**0.0**
LCND				IAML		08 40 57.0	
	comp=Z,58nm,0.4s						
LCND	**La Caada**	**5.90**	**111**	*eP*	**Pn**	**08 40 51.2**	**0.0**
LCND				IAML		08 40 57.0	
	comp=Z,58nm,0.4s						
CNCH	**Conchagua**	**5.96**	**111**	*eP*	**Pn**	**08 40 52.6**	**+0.5**
CNCH	**Conchagua**	**5.96**	**111**	*eP*	**Pn**	**08 40 52.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**6.24**	**102**	Pn	**Pn**	**08 40 54.7**	**-1.2**
TEIG	**Tepich**	**6.88**	**46**	*eP*	**Pn**	**08 41 02.9**	**-1.7**
TEIG	**Tepich**	**6.88**	**46**		**Pn**	**08 41 02.9**	**-1.7**
ESPN	**Las Esperanzas**	**9.56**	**109**	Pn	**Pn**	**08 41 39.2**	**-2.0**
JTS	**Las Juntas de**	**9.85**	**121**	Pn	**Pn**	**08 41 46.5**	**+1.3**
TX31	**Lajitas Ar. Si**	**16.64**	**328**		**P**	**08 43 17.1**	**+0.6**
TX31				IAmb	IAmb	08 43 34.3	
	comp=Z,22nm,1.6s						
TXAR	**Lajitas Array**	**16.64**	**328**		**P**	**08 43 16.5**	**+0.1**
U38A	**Gravette**	**20.88**	**358**	P	**P**	**08 44 03.0**	**+0.3**
U38A				IAmb	IAmb	08 44 03.6	
	comp=Z,3.5nm,0.5s						

*SKHL **02** 08:45:32.9±0.1, 45°.21N×149°.87E, h107km±12km, mb4.8/4, msh5.2/3*
*JMA **02** 08:45:34.8±0.6, 44°.88N×149°.83E, h105km, M3.8*

ISC 02 08:45:31.2±4.0, 45°.04N±0°.10×150°.1E±0°.2, h100km, n26, σ1°97/38, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.56**	**278**	*i* P	**Pn**	**08 45 58.2**	**0.0**
KUR				AMB	AMB	08 45 59.0	
	400nm,0.4s						
KUR				*i* S	**Sn**	**08 46 17.2**	**-1.4**
KUR				A	A	08 46 18.0	
	200nm,0.6s						
KUR				A	A	08 46 18.0	
	99nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.16**	**253**	*i* P	**Pn**	**08 46 20.2**	**+1.2**
YUK				AMB	AMB	08 46 23.0	
	127nm,0.4s						
YUK				*i* S	**Sn**	**08 46 55.7**	**-0.3**
YUK				A	A	08 47 04.0	
	180nm,0.4s						
YUK				A	A	08 47 04.0	
	190nm,0.4s						
GRPR	**Tuman**	**3.23**	**253**	*eP*	**Pn**	**08 46 22.4**	**+2.3**
GRPR				AMB	AMB	08 46 28.0	
	75nm,0.4s						
GRPR				*i* S	**Sn**	**08 46 59.5**	**+1.7**
GRPR				A	A	08 47 01.0	
	202nm,0.4s						
GRPR				A	A	08 47 01.0	
	71nm,0.4s						
NEM2	**Nemuro 2**	**3.52**	**243**	P	**Pn**	**08 46 25.4**	**+1.5**
NEM2				*eS*	**Sn**	**08 47 04.4**	**-0.2**
NMR	**Nemuro--Hokkai**	**3.53**	**243**	*i* P	**Pn**	**08 46 25.0**	**+1.0**
NMR				*i* S	**Sn**	**08 47 04.0**	**-0.8**
JRA	**Rausu**	**3.69**	**254**	P	**Pn**	**08 46 29.0**	**+2.8**
JNK	**Nakash**	**4.09**	**251**	P	**Pn**	**08 46 34.0**	**+2.4**
JAK	**Akkeshi**	**4.37**	**244**	P	**Pn**	**08 46 36.7**	**+1.4**
JTKR	**Abashiri--Toko**	**4.52**	**259**	P	**Pn**	**08 46 39.3**	**+1.9**
JAR	**Ashorobuto**	**4.84**	**251**	P	**Pn**	**08 46 44.3**	**+2.5**
JMP	**Maruseppu**	**4.90**	**260**	P	**Pn**	**08 46 44.8**	**+2.3**
JOB	**Onbets**	**4.97**	**247**	P	**Pn**	**08 46 45.4**	**+2.0**
JOB				*e*S	**Sn**	**08 47 40.7**	**+1.1**
JKK2	**Kamakawa 2**	**5.36**	**260**	P	**Pn**	**08 46 51.2**	**+2.5**
JCH	**Churui**	**5.41**	**246**	P	**Pn**	**08 46 50.8**	**+1.3**
JCH				*e*S	**Sn**	**08 47 50.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.44**	**293**	*e*P	**Pn**	**08 46 49.2**	**-0.5**
YSS				AMB	AMB	08 46 49.7	
	20nm,0.7s						
JEM	**Erimo**	**5.85**	**241**	P	**Pn**	**08 46 58.8**	**+3.4**
JNBK	**Urakawa-nobuka**	**5.97**	**245**	P	**Pn**	**08 46 57.9**	**+0.9**
JNBK				*e*S	**Sn**	**08 48 02.0**	**-2.0**
JBT2	**Biratori 2**	**6.00**	**251**	P	**Pn**	**08 46 58.9**	**+1.5**
JNB	**Noboribetsu**	**7.01**	**252**	P	**Pn**	**08 47 12.2**	**+1.0**
JNB				*e*S	**Sn**	**08 48 28.8**	**-0.6**
JKB	**Kayabe**	**7.28**	**248**	P	**Pn**	**08 47 15.5**	**+0.7**
JKB				*e*S	**Sn**	**08 48 33.5**	**-2.3**
JYM2	**Yakumo 2**	**7.61**	**251**	P	**Pn**	**08 47 20.9**	**+1.6**
JANG	**Nango**	**7.82**	**236**	*e*S	**Sn**	**08 48 45.5**	**-3.6**
JTM	**Tenmabayashi**	**7.84**	**240**	P	**Pn**	**08 47 24.1**	**+1.6**
JTM				*e*S	**Sn**	**08 48 45.5**	**-4.1**
JTH	**Tanohata**	**7.91**	**233**	P	**Pn**	**08 47 23.0**	**-0.4**
JTH				*e*S	**Sn**	**08 48 47.9**	**-3.3**
JOSM	**Okushiri--Mats**	**8.23**	**253**	P	**Pn**	**08 47 28.5**	**+0.8**
JRG	**Rokugo**	**8.97**	**234**	*e*S	**Sn**	**08 49 15.2**	**-1.9**

IDC 02 09:00:24.8±3.4, 54°.59N×86°.54E, h0km, mb1 2.8/2, mb1mx2.7/48, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=26.9km s-min=16.7km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**238**	*i*		09 08 00.0	
	baz=53,slow=314,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.20**	**238**	Pg	Pg	09 00 46.8	-1.0
	0.6nm,0.3s,baz=62,slow=18,SNR=4.7						
ZALV				Lg	Lg	09 01 03.6	
	2.7nm,0.3s,baz=57,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.29**	**234**	Pn	Pn	09 02 00.6	+1.9
	0.0nm,0.3s,baz=52,slow=15,SNR=4.4						
KURBB				Lg	Lg	09 03 44.1	
	0.1nm,0.3s,baz=51,slow=32,SNR=4.2						
MKAR	**Makanchi Array**	**8.25**	**201**	Pn	Pn	09 02 25.6	-0.1
	0.1nm,0.3s,baz=17,slow=16,SNR=2.0						
MKAR				Lg	Lg	09 04 47.9	
	0.1nm,0.3s,baz=23,slow=31,SNR=3.1						

*UPP **02** 09:01:01.8±2.8, 64°.33N×31°.10E, h0km, ML1.6, Suspected explosion*
*HEL **02** 09:01:03.6±0.4, 64°.61N×30°.75E, h0km, ML2.0, Explosion*
*IDC **02** 09:01:06.4±2.5, 64°.69N×31°.16E, h0km, mb1 3.4/5, mb1mx3.2/41, mbtmp3.4/5, ML2.2/4, Error ellipse: s-maj=37.3km s-min=9.3km az=104.0*

ISC 02 09:01:01.5±1.6, 64°.59N±0°.05×31°.15E±0°.09, h0km, n24, σ1°52/34, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.53**	**340**	PG	**Pn**	**09 01 29.6**	**-0.4**
KU6				MSG		09 01 47.7	
	comp=Z,11nm,0.2s						
KU6				SN	**Sn**	**09 01 52.6**	**+1.9**
MSF	**Maaselka**	**1.59**	**327**	PG	**Pn**	**09 01 30.1**	**-0.8**
	baz=146						
MSF				SN	**Sg**	**09 01 52.6**	**0.0**
OUL	**Oulu**	**2.30**	**285**	PG	**Pn**	**09 01 41.7**	**+1.2**
OUL				SG	**Sn**	**09 02 08.1**	**-1.4**
OUF	**Merijarvi**	**2.79**	**268**	PG	**Pn**	**09 01 49.4**	**+2.2**
	baz=80						
OUF				MSG		09 02 20.8	
	comp=Z,14nm,0.2s						
OUF				SG	**Sn**	**09 02 23.2**	**+1.7**
SUF	**Sumiainen**	**2.91**	**232**	PG	**Pb**	**09 01 53.6**	**-0.6**
SUF				MSG		09 02 26.0	
	comp=Z,2.8nm,0.2s						
RNF	**Rovaniemi**	**2.94**	**316**	PB	**Pn**	**09 01 52.1**	**+2.8**
	baz=137						
RNF				SG	**Sb**	**09 02 30.6**	**-0.5**
OBF0	**Syolatti, Pyha**	**2.98**	**271**	PG	**Pb**	**09 01 54.5**	**-1.0**
OBF0				SG	**Sb**	**09 02 33.5**	**+1.1**

MKAR				Lg	Lg	09 07 51.3		
	0.0nm,0.3s,baz=15,slow=24,SNR=1.2							
MAKZ	**Makanchi**	**8.21**	**203**	⇓P	**Pn**	**09 05 31.8**	**-0.2**	
	0.4nm,0.3s							
MAKZ				⇑Sn	**Sn**	**09 07 04.8**	**-0.5**	
	0.7nm,0.7s							
MAKZ				⇑Lg	Lg	09 07 50.6		
	0.5nm,0.6s							

BEO **02** *09:19:22.2±1.3,47.°04N×28.°28E, h0km, ML3.3/2*
IDC **02** *09:19:35.5±1.0,45.°13N×27.°98E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/46, mbtmp3.4/7, ML2.9/4, Error ellipse: s-maj=14.0km s-min=11.9km az=19.0*
SIGU **02** *09:19:36.9±0.1,45.°2N±0.°6×28.°0E±0.°6, h2km, mb3.0/6*
SOF **02** *09:19:36.3,45.°15N×27.°75E, h2km, MD3.4*
BUC **02** *09:19:37.3±0.1,45.°22N×27.°99E, h3km±1km, ml3.4/40, Error ellipse: s-maj=1.0km s-min=0.7km az=76.0*

ISC 02 09:19:37.4±0.8, 45.°25N±0.°01×28.°03E±0.°02, h14km±5km, n127, σ1§43/177, mb3.1/3, 76C-60D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.10**	**131**	⇓P		**Pg**	**09 19 40.7**	**+0.1**
CFR				⇑S		**Sg**	**09 19 42.0**	**-0.7**
CFR	**Carcaliu**	**0.10**	**131**	⇓P		**Pg**	**09 19 40.7**	**+0.1**
GISR	**Galati**	**0.20**	**6**	⇓P		**Pg**	**09 19 41.8**	**-0.1**
GISR				⇑S		**Sg**	**09 19 45.1**	**+0.1**
GISR	**Galati**	**0.20**	**6**	⇑P		**Pg**	**09 19 41.8**	**-0.1**
GIUM	**Giurgiulesti**	**0.27**	**28**	P		**Pb**	**09 19 43.6**	**-0.4**
GIUM				S		**Sb**	**09 19 48.6**	**+0.1**
GIUM	**Giurgiulesti**	**0.27**	**28**	⇑P		**Pb**	**09 19 43.6**	**-0.4**
GIUM				⇓S		**Sb**	**09 19 47.9**	**-0.6**
GIUM	**Giurgiulesti**	**0.27**	**28**	⇑P		**Pb**	**09 19 43.6**	**-0.4**
SCHL	**Schela**	**0.29**	**332**	⇑P		**Pg**	**09 19 42.7**	**-0.8**
SCHL				⇓S		**Sg**	**09 19 47.0**	**-0.6**
SCHL	**Schela**	**0.29**	**332**	⇑P		**Pg**	**09 19 42.7**	**-0.8**
TUDR		**0.43**	**324**	⇓P		**Pg**	**09 19 45.2**	**-0.7**
TUDR				⇑S		**Sg**	**09 19 51.9**	**+0.1**
TUDR		**0.43**	**324**	⇓P		**Pg**	**09 19 45.2**	**-0.7**
HARR	**Harsova**	**0.56**	**187**	⇓P		**Pg**	**09 19 47.8**	**-0.6**
HARR	**Harsova**	**0.56**	**187**	⇑P		**Pg**	**09 19 47.8**	**-0.6**
TLCR		**0.56**	**96**	⇓P		**Pb**	**09 19 49.1**	**+0.2**
TLCR				⇑S		**Sb**	**09 19 57.2**	**+0.4**
TLCR		**0.56**	**96**	⇓P		**Pb**	**09 19 49.1**	**+0.2**
VARL	**Varlezi**	**0.67**	**349**	⇑P		**Pg**	**09 19 49.8**	**-0.6**
VARL				⇓S		**Sg**	**09 19 58.9**	**-0.3**
VARL	**Varlezi**	**0.67**	**349**	⇑P		**Pg**	**09 19 49.8**	**-0.6**
TLBR	**Topalu**	**0.70**	**179**	⇑P		**Pg**	**09 19 50.5**	**-0.5**
TLBR				⇓S		**Sg**	**09 19 59.5**	**-0.7**
TLBR	**Topalu**	**0.70**	**179**	⇑P		**Pg**	**09 19 50.5**	**-0.5**
GRER		**0.75**	**281**	⇓P		**Pb**	**09 19 52.1**	**-0.1**
GRER				⇑S		**Sg**	**09 20 01.6**	**-0.3**
GRER		**0.75**	**281**	⇓P		**Pb**	**09 19 52.1**	**-0.1**
JURR	**Jurilovca**	**0.77**	**128**	⇑P		**Pb**	**09 19 52.6**	**+0.1**
JURR	**Jurilovca**	**0.77**	**128**	⇑P		**Pb**	**09 19 52.6**	**+0.1**
AMRR	**Amara**	**0.80**	**218**	⇑P		**Pg**	**09 19 52.1**	**-0.8**
AMRR				⇓S		**Sg**	**09 20 03.3**	**-0.2**
AMRR	**Amara**	**0.80**	**218**	⇑P		**Pg**	**09 19 52.1**	**-0.8**
TIRR	**Tirgusor**	**0.83**	**161**	⇑P		**Pg**	**09 19 52.9**	**-0.6**
TIRR				⇑S		**Sb**	**09 20 04.5**	**-0.1**
TIRR	**Tirgusor**	**0.83**	**161**	⇓P		**Pg**	**09 19 52.9**	**-0.6**
ODBI	**Odobesti**	**0.86**	**308**	⇓P		**Pg**	**09 19 53.4**	**-0.6**
ODBI				⇓S		**Sb**	**09 20 06.0**	**+0.7**
ODBI	**Odobesti**	**0.86**	**308**	⇓P		**Pg**	**09 19 53.4**	**-0.6**
CVDA	**Cernavoda**	**0.91**	**179**	⇓P		**Pg**	**09 19 54.5**	**-0.5**
CVDA				⇓S		**Sg**	**09 20 06.3**	**-0.6**
CVDA	**Cernavoda**	**0.91**	**179**	⇓P		**Pg**	**09 19 54.5**	**-0.5**
GHRR		**0.92**	**332**	⇑P		**Pg**	**09 19 54.9**	**-0.4**
GHRR				⇓S		**Sb**	**09 20 08.1**	**+0.8**
GHRR		**0.92**	**332**	⇑P		**Pg**	**09 19 54.9**	**-0.4**
BISRR	**Bisoca**	**0.98**	**289**	⇑P		**Pb**	**09 19 56.1**	**0.0**
BISRR				⇓S		**Sg**	**09 20 09.0**	**0.0**
BISRR	**Bisoca**	**0.98**	**289**	⇑P		**Pb**	**09 19 56.1**	**0.0**
ISR	**Istrita**	**1.06**	**264**	⇑P		**Pg**	**09 19 57.4**	**-0.4**
ISR				⇓S		**Sg**	**09 20 11.3**	**-0.3**
ISR	**Istrita**	**1.06**	**264**	⇑P		**Pg**	**09 19 57.4**	**-0.4**
BIR	**Birlad**	**1.06**	**345**	⇑P		**Pg**	**09 19 56.6**	**-1.2**
BIR				⇓S		**Sb**	**09 20 12.5**	**+1.4**
BIR	**Birlad**	**1.06**	**345**	⇑P		**Pg**	**09 19 56.6**	**-1.2**
MFTR	**Murfatlar**	**1.10**	**165**	⇑P		**Pg**	**09 19 57.9**	**-0.7**
MFTR				⇓S		**Sb**	**09 20 12.9**	**+0.6**
MFTR	**Murfatlar**	**1.10**	**165**	⇑P		**Pg**	**09 19 57.9**	**-0.7**
VRI	**Vrincioaia**	**1.10**	**305**	⇑P		**Pg**	**09 19 57.0**	**-1.7**
VRI				⇓S		**Sb**	**09 20 13.1**	**+0.6**
VRI	**Vrincioaia**	**1.10**	**305**	⇑P		**Pg**	**09 19 57.0**	**-1.7**
ICOR	**Ion Corvin**	**1.14**	**188**	⇑P		**Pg**	**09 19 58.5**	**-0.8**
ICOR				⇓S		**Sg**	**09 20 13.6**	**-0.6**
ICOR	**Ion Corvin**	**1.14**	**188**	⇑P		**Pg**	**09 19 58.5**	**-0.8**
PLOR	**Plostina**	**1.14**	**303**	⇓P		**Pg**	**09 19 58.0**	**-1.3**
PLOR				⇓S		**Sb**	**09 20 15.2**	**+1.7**
PLOR	**Plostina**	**1.14**	**303**	⇓P		**Pg**	**09 19 58.0**	**-1.3**
LEHL	**Lehliu**	**1.15**	**228**	⇓P		**Pg**	**09 19 58.2**	**-1.4**
LEHL				⇓S		**Sg**	**09 20 14.0**	**-0.7**
LEHL	**Lehliu**	**1.15**	**228**	⇓P		**Pg**	**09 19 58.2**	**-1.4**
TSCT	**Constanta Port**	**1.17**	**157**	⇓P		**Pb**	**09 19 59.6**	**+0.2**
TSCT				⇓S		**Sb**	**09 20 15.5**	**+1.1**
TSCT	**Constanta Port**	**1.17**	**157**	⇓P		**Pb**	**09 19 59.6**	**+0.2**
RASA	**Rasa**	**1.21**	**212**	⇓P		**Pg**	**09 19 59.1**	**-1.5**
RASA				⇓S		**Sg**	**09 20 15.1**	**-1.1**
RASA	**Rasa**	**1.21**	**212**	⇓P		**Pg**	**09 19 59.1**	**-1.5**
NEHR	**Nehoiu**	**1.23**	**279**	⇑P		**Pn**	**09 20 01.5**	**+1.3**
NEHR				⇓S		**Sb**	**09 20 17.7**	**+1.5**
NEHR	**Nehoiu**	**1.23**	**279**	⇑P		**Pn**	**09 20 01.5**	**+1.3**
EFOR	**EFORIE**	**1.24**	**159**	⇓P		**Pn**	**09 20 01.0**	**+0.7**
EFOR				⇑S		**Sn**	**09 20 17.8**	**+1.0**
EFOR	**EFORIE**	**1.24**	**159**	⇓P		**Pn**	**09 20 01.0**	**+0.7**
SULR		**1.38**	**246**	⇓P		**Pn**	**09 20 02.5**	**+0.4**
SULR				⇑S		**Sn**	**09 20 21.9**	**+1.8**
SULR		**1.38**	**246**	⇓P		**Pn**	**09 20 02.5**	**+0.4**
VASR	**Vaslui**	**1.41**	**353**	⇑P		**Pg**	**09 20 03.6**	**-0.8**
VASR				⇑S		**Sn**	**09 20 22.7**	**+1.9**
VASR	**Vaslui**	**1.41**	**353**	⇑P		**Pg**	**09 20 03.6**	**-0.8**
MANR	**Mangalia**	**1.48**	**164**	⇓P		**Pg**	**09 20 05.2**	**-0.7**
MANR				⇑S		**Sn**	**09 20 24.1**	**+1.4**
MANR	**Mangalia**	**1.48**	**164**	⇓P		**Pg**	**09 20 05.2**	**-0.7**
MLR	**Muntele Rosu**	**1.49**	**280**	Pg		**Pn**	**09 20 04.0**	**+0.3**
	2.7nm,0.3s,baz=97,slow=4.3,SNR=27							
MLR				Lg	Lg	09 20 23.4		
	8.6nm,0.3s,baz=212,slow=22,SNR=5.9							
MLR	**Muntele Rosu**	**1.49**	**280**	⇑P		**Pn**	**09 20 04.9**	**+1.2**
MLR				⇓S		**Sg**	**09 20 25.6**	**+0.3**
MLR	**Muntele Rosu**	**1.49**	**280**	⇑P		**Pn**	**09 20 04.9**	**+1.2**
PSN	**Preselentsi**	**1.57**	**176**	*i* P		**Pg**	**09 20 07.0**	**-0.5**
TESR	**Tescani**	**1.59**	**323**	⇓P		**Pb**	**09 20 06.9**	**+0.4**
TESR				⇓S		**Sg**	**09 20 28.0**	**-0.6**
TESR	**Tescani**	**1.59**	**323**	⇓P		**Pb**	**09 20 06.9**	**+0.4**
BUC1	**Bucharest**	**1.68**	**238**	⇓S		**Sn**	**09 20 29.5**	**+1.9**
BUC1	**Bucharest**	**1.68**	**238**	⇑S		**Sn**	**09 20 29.5**	**+1.9**
MILM	**Milestii Mici**	**1.76**	**18**	P		**Pb**	**09 20 09.7**	**+0.3**
MILM				S		**Sg**	**09 20 32.9**	**-1.1**
MILM	**Milestii Mici**	**1.76**	**18**	⇓P		**Pb**	**09 20 09.7**	**+0.3**
MILM				⇓S		**Sg**	**09 20 32.9**	**-1.1**
MILM	**Milestii Mici**	**1.76**	**18**	⇓P		**Pb**	**09 20 09.7**	**+0.3**
SGRR	**Singureni**	**1.78**	**236**	⇑P		**Pn**	**09 20 09.1**	**+1.4**
SGRR				⇑S		**Sn**	**09 20 32.5**	**+2.4**
SGRR	**Singureni**	**1.78**	**236**	⇑P		**Pn**	**09 20 09.1**	**+1.4**
KIS	**Kishinev**	**1.84**	**17**	*e*P		**Pb**	**09 20 11.0**	**+0.3**
	200nm,0.3s							
KIS				*e*S		**Sb**	**09 20 34.5**	**+1.0**
	500nm,0.6s							
KIS	**Kishinev**	**1.84**	**17**	P		**Pb**	**09 20 11.0**	**+0.3**
KIS				Pm			09 20 11.4	
KIS				S		**Sb**	**09 20 34.5**	**+1.0**
KIS				Sm			09 20 35.5	
KIS	**Kishinev**	**1.84**	**17**	⇓S		**Sg**	**09 20 35.0**	**-1.4**
KIS	**Kishinev**	**1.84**	**17**	⇓S		**Sg**	**09 20 35.0**	**-1.4**
IAS	**Iasi**	**1.98**	**351**	⇑P		**Pb**	**09 20 12.6**	**-0.4**
IAS	**Iasi**	**1.98**	**351**	⇑P		**Pb**	**09 20 12.6**	**-0.4**
DOPR	**Dopca**	**1.99**	**292**	⇓P		**Pn**	**09 20 11.4**	**+0.8**
DOPR	**Dopca**	**1.99**	**292**	⇓P		**Pn**	**09 20 11.4**	**+0.8**
RAZG	**Razgrad**	**2.00**	**213**	⇑P		**Pn**	**09 20 12.3**	**+1.6**
RAZG				⇑S		**Sn**	**09 20 37.9**	**+2.4**
RAZG	**Razgrad**	**2.00**	**213**	⇑P		**Pn**	**09 20 12.3**	**+1.6**
PRD	**Provadia**	**2.09**	**193**	*i* P		**Pn**	**09 20 12.7**	**+0.8**
VOIR		**2.11**	**276**	⇓P		**Pn**	**09 20 13.2**	**+1.0**
VOIR		**2.11**	**276**	⇓P		**Pn**	**09 20 13.2**	**+1.0**
BIZ	**Bicaz**	**2.16**	**322**	⇑P		**Pn**	**09 20 14.7**	**+1.8**
BIZ				⇑S		**Sb**	**09 20 43.0**	**+0.2**
BIZ	**Bicaz**	**2.16**	**322**	⇑P		**Pn**	**09 20 14.7**	**+1.8**
HUMR	**Humele**	**2.28**	**253**	⇑P		**Pn**	**09 20 15.0**	**+0.5**
HUMR				⇑S		**Sn**	**09 20 45.2**	**+2.8**
HUMR	**Humele**	**2.28**	**253**	⇑P		**Pn**	**09 20 15.0**	**+0.5**
COPA	**Copaceanca**	**2.29**	**242**	⇑S		**Sn**	**09 20 45.1**	**+2.5**
COPA	**Copaceanca**	**2.29**	**242**	⇑S		**Sn**	**09 20 45.1**	**+2.5**
ARR	**Arges**	**2.40**	**274**	⇓P		**Pn**	**09 20 17.1**	**+0.9**
ARR				⇑S		**Sn**	**09 20 47.8**	**+2.5**
ARR	**Arges**	**2.40**	**274**	⇓P		**Pn**	**09 20 17.1**	**+0.9**
SZH	**Strazhica**	**2.48**	**218**	*i* P		**Pn**	**09 20 20.1**	**+2.8**
SORM	**Soroca**	**2.90**	**4**	⇑P		**Pn**	**09 20 24.7**	**+1.7**
SORM				⇑S		**Sn**	**09 21 00.7**	**+3.1**
SORM	**Soroca**	**2.90**	**4**	⇑P		**Pn**	**09 20 24.7**	**+1.7**
BURAR	**Bucovina Array**	**3.06**	**322**	⇓P		**Pn**	**09 20 27.2**	**+1.8**
BURAR				⇓S		**Sn**	**09 21 05.4**	**+3.6**
BURAR	**Bucovina Array**	**3.06**	**322**	⇓P		**Pn**	**09 20 27.2**	**+1.8**
CHRU	**Chernivtsi**	**3.38**	**335**	*e*S		**Sn**	**09 21 13.9**	**+4.5**
CHRU				Sm			09 21 27.5	
NDNU	**Novodnistrovsk**	**3.38**	**353**	⇑*i*P		**Pn**	**09 20 30.6**	**+1.0**
NDNU				*e*S		**Sn**	**09 21 09.1**	**-0.4**
KMPD	**K-Podol'skiy**	**3.49**	**343**	*e*P		**Pn**	**09 20 33.5**	**+2.4**
KMPD				*e*S		**Sn**	**09 21 09.5**	**-2.6**
KSV	**Kosov**	**3.68**	**328**	*e*P		**Pn**	**09 20 35.4**	**+1.6**
KSV				Pm			09 20 35.4	
KSV				*e*S		**Sn**	**09 21 20.2**	**+3.2**
KSV				Sm			09 21 38.1	
GZR	**Gura Zlata**	**3.71**	**274**	⇓P		**Pn**	**09 20 34.5**	**+0.3**
GZR	**Gura Zlata**	**3.71**	**274**	⇓P		**Pn**	**09 20 34.5**	**+0.3**
DRGR		**4.01**	**295**	*e*Pn		Pn	09 20 22.1	-16
SEV	**Sevastopol'**	**4.07**	**98**	P		**Pn**	**09 20 39.2**	**+0.1**
SEV				Pm			09 20 42.4	
SEV				S		**Sn**	**09 21 25.9**	**-0.6**
SEV				Sm			09 21 29.6	
HORU	**Horodok**	**4.12**	**345**	*e*S		**Sn**	**09 21 26.6**	**-1.1**
HORU				Sm			09 21 47.5	
STNU	**Starunia**	**4.22**	**326**	*e*S		**Sn**	**09 21 31.7**	**+1.4**
ZAPS	**Zavoj**	**4.35**	**245**	*e*Pn		**Pn**	**09 20 43.6**	**+0.6**
ZAPS				*e*Sn		**Sb**	**09 21 46.6**	**+0.8**
ZAGS	**Zajecar**	**4.38**	**253**	*e*Pn		**Pn**	**09 20 42.6**	**-0.8**
ZAGS				*e*Sn		**Sb**	**09 21 42.8**	**-4.0**
BZS	**Buzias**	**4.53**	**277**	*e*Pn		Pn	09 20 35.6	-10
MORS	**Morshin**	**4.80**	**326**	*e*S		**Sn**	**09 21 47.7**	**+3.2**
BOSS	**Bosilegrad**	**4.86**	**238**	*e*Pn		**Pn**	**09 20 53.3**	**+3.3**
SUDU	**Sudak**	**4.95**	**92**	P		**Pn**	**09 20 52.9**	**+1.7**
SUDU				Pm			09 21 00.8	
SUDU				S		**Sn**	**09 21 50.9**	**+2.6**
SUDU				Sm			09 22 00.2	
SELS	**Selova**	**5.36**	**250**	*e*Pn		**Pn**	**09 20 55.9**	**-1.0**
AKASG	**Malin Array Be**	**5.52**	**8**	Pn		**Pn**	**09 21 00.1**	**+1.1**
	1.3nm,0.3s,baz=192,slow=11,SNR=3.5							
AKASG				Pg		**Pb**	**09 21 15.6**	**+2.2**
	4.0nm,0.3s,baz=192,slow=16,SNR=13							
AKASG				Sn		**Sn**	**09 21 59.9**	**-2.3**
	6.0nm,0.3s,baz=206,slow=40,SNR=6.9							
AKASG				Lg	Lg		09 22 24.3	
	11nm,0.3s,baz=185,slow=30,SNR=6.8							
STIP	**Stip**	**5.54**	**232**	*i* Pn		**Pn**	**09 20 59.1**	**-0.2**
BRTR	**Keskin Array B**	**6.90**	**141**	Pn		**Pn**	**09 21 18.8**	**+0.7**
	0.1nm,0.3s,baz=326,slow=13,SNR=2.3							
FINES	**FINESS Array B**	**16.27**	**357**	Pn		**Pn**	**09 23 19.5**	**-5.7**
	0.1nm,0.3s,baz=167,slow=13,SNR=1.6							
FINES				Sn		Sn	09 26 12.0	-13
	0.2nm,0.3s,baz=186,slow=24,SNR=2.1							
HFS	**Hagfors**	**17.19**	**335**	Pn		**Pn**	**09 23 32.5**	**-4.4**
	0.1nm,0.3s,baz=138,slow=19,SNR=1.1							
ARCES	**ARCESS Array B**	**24.39**	**358**	P		**P**	**09 24 56.6**	**+1.8**
	2.8nm,1.0s,baz=174,slow=9.7,SNR=1.8							
MKAR	**Makanchi Array**	**37.09**	**68**	P		**P**	**09 26 47.8**	**+0.9**
	0.1nm,0.4s,baz=282,slow=5.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**39.04**	**223**	P		**P**	**09 27 02.8**	**-0.8**
	0.2nm,0.5s,baz=33,slow=8.4,SNR=1.4							

IDC **02** *09:29:01.8±0.7,64.°52N×17.°66W, h0km, mb3.7/11, mb1 4.0/12, mb1mx3.7/47, mbtmp3.7/12, ML4.1/1, Error ellipse: s-maj=25.4km s-min=10.4km az=15.0*

ISC 02 09:29:03.2±0.7, 64.°5N±0.°1×17.°81W±0.°09, h10km, n15, σ0§79/16, mb3.8/12, Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.53**	**280**	Pg		**Pn**	**09 29 30.3**	**-0.3**
	9.3nm,0.3s,baz=99,slow=11,SNR=27							
BORG				Lg	Lg		09 29 53.4	
	9.2nm,0.3s,baz=26,slow=23,SNR=7.6							
EKA	**Eskdalemuir Ar**	**11.75**	**135**	Pn		**Pn**	**09 31 51.3**	**+0.6**
	baz=326,slow=13,SNR=4.9							
HFS	**Hagfors**	**15.17**	**92**	Pn		**P**	**09 32 43.6**	**+1.2**
	0.1nm,0.3s,baz=311,slow=5.5,SNR=3.9							
BRG	**Berggiesshubel**	**21.47**	**114**	*e*P		**P**	**09 33 51.8**	**+0.2**
	8.6nm,1.3s							
GERES	**GERESS Array B**	**23.00**	**118**	P		**P**	**09 34 07.9**	**-0.1**
	0.3nm,0.2s,baz=324,slow=6.6,SNR=5.9							
ESDC	**Sonseca Array**	**26.17**	**155**	P		**P**	**09 34 37.6**	**0.0**
	1.0nm,1.0s,baz=350,slow=9.9,SNR=2.5							
AKASG	**Malin Array Be**	**27.96**	**97**	P		**P**	**09 34 52.4**	**-1.0**
	0.4nm,0.3s,baz=330,slow=8.6,SNR=1.2							
BRTR	**Keskin Array B**	**38.57**	**105**	P		**P**	**09 36 26.1**	**+0.1**
	1.0nm,0.8s,baz=337,slow=7.0,SNR=2.2							
KBZ	**Khabaz**	**39.24**	**92**	P		**P**	**09 36 31.3**	**-0.1**
	1.3nm,0.6s,baz=321,slow=4.9,SNR=3.8							
BVAR	**Borovoye Array**	**43.39**	**62**	P		**P**	**09 37 05.9**	**+0.6**
	1.1nm,0.7s,baz=227,slow=5.9,SNR=6.0							
ILAR	**Eielson Array**	**45.75**	**332**	P		**P**	**09 37 24.7**	**+0.6**
	1.3nm,1.1s,baz=26,slow=6.1,SNR=6.8							
ILAR				PcP		**PcP**	**09 39 00.5**	**-1.0**
	0.6nm,1.0s,baz=26,slow=5.0,SNR=3.6							
MKAR	**Makanchi Array**	**52.92**	**58**	P		**P**	**09 38 17.9**	**-1.1**
	0.8nm,0.9s,baz=317,slow=6.6,SNR=6.1							
TORD	**Torodi Ar. Bea**	**53.06**	**156**	P		**P**	**09 38 19.4**	**-0.9**
	1.5nm,1.1s,baz=338,slow=9.0,SNR=5.0							
PDAR	**Pinedale Array**	**53.11**	**293**	P		**P**	**09 38 20.7**	**-0.1**
	1.5nm,1.0s,baz=46,slow=6.4,SNR=7.6							
TXAR	**Lajitas Array**	**62.18**	**280**	P		**P**	**09 39 25.7**	**+1.1**
	0.7nm,1.1s,baz=77,slow=2.7,SNR=4.0							

IDC 02 09:31:59.8±2.7, 18.°60N×94.°71E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/41, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=40.0km s-min=26.2km az=155.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.02**	**91**	Pn		Pn	09 33 03.8	+1.1
	0.3nm,0.3s,baz=270,slow=14,SNR=5.2							
CMAR				Pg		Pb	09 33 11.5	-0.1
	0.7nm,0.3s,baz=268,slow=18,SNR=4.4							
CMAR				Sn		Sn	09 33 53.5	+2.9
	1.4nm,0.3s,baz=276,slow=25,SNR=6.9							
CMAR				Lg		Lg	09 34 07.4	
	1.0nm,0.3s,baz=272,slow=32,SNR=4.8							
WRA	**Warramunga Arr**	**54.57**	**133**	P		P	09 41 30.1	-0.2
	0.3nm,0.4s,baz=319,slow=7.6,SNR=12							
ASAR	**Alice Springs**	**56.81**	**136**	P		P	09 41 46.4	0.0
	0.1nm,0.6s,baz=317,slow=6.2,SNR=4.8							

IDC 02 09:33:06.1±5.7, 47.°98N×80.°27E, h0km, Error ellipse: s-maj=51.0km s-min=48.0km az=33.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**1.81**	**130**	Pn		Pn	09 33 39.2	+0.7
	0.1nm,0.3s,baz=309,slow=12,SNR=7.1							
MKAR				Sn		Sg	09 34 03.8	-0.4
	0.1nm,0.3s,baz=312,slow=23,SNR=2.8							
I46RU	**ZALESOVO INFRA**	**6.63**	**24**	*i*			10 12 20.0	
	baz=204,slow=317,SNR=1.0							
I34MN	**SONGINO INFRAS**	**17.51**	**81**	*i*			11 17 00.0	
	baz=277,slow=322,SNR=0.5							

TRN 02 09:38:55.8, 10.°68N×59.°93W, h81km, MD3.8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TPR	**Prospect**	**0.97**	**301**	*e*P		Pn	09 39 14.3	-0.3
TBH	**Brigand Hill**	**1.14**	**260**	*e*P		Pn	09 39 17.3	+0.7
TRN	**Trinidad (W)**	**1.45**	**269**	*e*P		Pn	09 39 20.3	-0.2
GRGR	**Grenville**	**2.22**	**311**	*e*P		Pn	09 39 31.8	+1.0
GRGR				*e*S		Sn	09 39 56.3	-1.1
GCMP	**Grenada, Carri**	**2.32**	**321**	*e*P		Pn	09 39 32.2	+0.3
SVCV	**St. Vincent, C**	**2.83**	**335**	*e*P		Pn	09 39 38.8	-0.2
SVCV				*e*S		Sn	09 40 11.0	-1.2
SLB	**Belfond**	**3.31**	**341**	*e*P		Pn	09 39 46.4	+1.0
SLAC	**Saint Lucia, A**	**3.33**	**344**	*e*P		Pn	09 39 45.8	+0.1
SLAC				*e*S		Sn	09 40 23.2	-1.0
SLBI	**Saint Lucia, B**	**3.47**	**343**	*e*P		Pn	09 39 47.9	+0.3
SLBI				*e*S		Sn	09 40 25.9	-1.7
ORIV	**Oritupano**	**3.79**	**245**	*e*P		Pn	09 39 51.7	-0.2
ORIV				*e*S		Sn	09 40 34.8	-0.6
MPOM	**Morne Pois Mar**	**3.85**	**346**	*e*P		Pn	09 39 53.0	+0.3
DSLB	**Salisbury**	**4.95**	**343**	*e*P		Pn	09 40 07.7	+0.1
MAGL	**Barre de l'ile**	**5.40**	**346**	*e*P		Pn	09 40 15.1	+1.3
ABD	**La Joyeuse, An**	**5.95**	**345**	*e*P		Pn	09 40 22.0	+0.6
BAUV	**El Baul**	**8.18**	**259**	*e*P		Pn	09 40 50.9	-1.0
BAUV	**El Baul**	**8.18**	**259**	*e*S		Sn	09 42 17.1	-5.7

JMA **02** *09:39:11.5±0.4,44.°02N×148.°10E, h0km, M3.6*
SKHL **02** *09:39:11.7±0.3,44.°44N×148.°27E, h38km±6km, mb4.3/2*

ISC 02 09:39:09.5±3.4, 44.°41N±0.°09×148.°5E±0.°2, h35km, n17, σ1§92/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**331**	*i* P		**Pn**	**09 39 26.0**	**-0.2**
KUR				AMB		AMB	09 39 28.0	
	160nm,0.4s							
KUR				*i* S		**Sn**	**09 39 37.0**	**-1.4**
KUR				A		A	09 39 39.0	
	343nm,0.3s							
KUR				A		A	09 39 39.0	
	311nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.94**	**260**	*i* P		**Pn**	**09 39 40.0**	**+0.1**
YUK				AMB		AMB	09 39 43.0	
	90nm,0.2s							
YUK				*i* S		**Sn**	**09 40 01.0**	**-2.1**
YUK				A		A	09 40 08.0	
	108nm,0.4s							
YUK				A		A	09 40 08.0	
	179nm,0.4s							
GRPR	**Tuman**	**2.01**	**259**	*e*P		**Pn**	**09 39 40.8**	**-0.1**
GRPR				*e*S		**Sn**	**09 40 02.5**	**-2.4**
GRPR				A		A	09 40 08.0	
	102nm,0.3s							
GRPR				A		A	09 40 08.0	
	184nm,0.3s							
GLVR	**Golovnino**	**2.26**	**254**	*i* S		**Sn**	**09 40 11.0**	**+0.1**
NEM2	**Nemuro 2**	**2.26**	**243**	P		**Pn**	**09 39 44.5**	**+0.2**

CBYP	**Canovanas**	**8.13**	**343**	Pn	**Pn**	**09 50 10.7**	**+0.5**	
MLPR	**Magueyes Islan**	**8.27**	**335**	Pn	**Pn**	**09 50 10.7**	**-1.3**	
CRPR	**Cabo Rojo, PR**	**8.33**	**335**	Pn	**Pn**	**09 50 13.3**	**+0.5**	
AOPR	**Arecibo Observ**	**8.50**	**338**	Pn	**Pn**	**09 50 17.0**	**+1.8**	
AGPR	**Aguadilla, PR**	**8.74**	**336**	Pn	**Pn**	**09 50 17.9**	**-0.7**	
OCAC	**Ocana**	**10.08**	**258**	*eP*	**Pn**	**09 50 38.4**	**+1.4**	
DR12	**Loma Pena Alta**	**10.12**	**326**	Pn	**Pn**	**09 50 36.3**	**-1.1**	
BANI	**BANI**	**10.39**	**320**	Pn	**Pn**	**09 50 41.1**	**-0.2**	
RUSC	**La Rusia**	**10.65**	**245**	*eP*	**Pn**	**09 50 45.4**	**+0.3**	
SMLC	**San Martn de**	**10.70**	**262**	*eP*	**Pn**	**09 50 45.0**	**-0.3**	
ARGC	**Ariguani, Magd**	**10.74**	**268**	*eP*	**Pn**	**09 50 45.8**	**-0.1**	
SDDR	**Presa de Saban**	**11.42**	**319**	Pn	**Pn**	**09 50 55.2**	**-0.1**	
PTGA	**Pitinga**	**11.62**	**163**	Pn	**Pn**	**09 50 57.6**	**-0.4**	
	2.8nm,0.3s,baz=336,slow=18,SNR=25							
PTGA				Sn	**Sn**	**09 53 03.1**	**-4.9**	
	1.5nm,0.3s,baz=349,slow=8.1,SNR=5.8							
PTGA				Lg	Lg	09 54 14.2		
	2.9nm,0.3s,baz=261,slow=22,SNR=5.4							
PTGA				LR	LR	09 55 47.7		
	comp=Z,274nm,20.7s,baz=342,slow=39							
PTGA	**Pitinga**	**11.62**	**163**		**Pn**	**09 50 57.3**	**-0.7**	
SPBC	**San Pablo de B**	**11.64**	**247**	*eP*	**Pn**	**09 50 59.6**	**+1.3**	
PTBC	**PUERTO BERRIO,**	**11.65**	**251**	*eP*	**Pn**	**09 50 58.5**	**+0.1**	
SJCC	**San Jacinto, C**	**11.65**	**268**	*eP*	**Pn**	**09 50 55.9**	**-2.6**	
ZARC	**Zaragoza, Cauc**	**11.74**	**256**	*eP*	**Pn**	**09 50 58.0**	**-1.6**	
CHIC	**Chingaza**	**11.80**	**241**	*eP*	**Pn**	**09 51 01.4**	**+0.5**	
MDP	**Montagnes des**	**11.88**	**116**	Pn	**Pn**	**09 51 02.0**	**+0.6**	
	2.7nm,0.3s,baz=302,slow=14,SNR=14							
MDP				Sn	**Sn**	**09 53 07.9**	**-6.3**	
	3.9nm,0.3s,baz=32,slow=19,SNR=8.1							
MDP				LR	LR	09 56 12.1		
	comp=Z,251nm,19.0s,baz=293,slow=40							
VILC	**Villavicencio,**	**12.04**	**239**	*eP*	Pn	09 50 56.5	-7.3	
ROSC	**El Rosal**	**12.22**	**244**	Pn	**Pn**	**09 51 06.7**	**+0.2**	
	1.1nm,0.3s,baz=120,slow=20,SNR=1.4							
ROSC				LR	LR	09 57 03.2		
	comp=Z,1µm,18.3s,baz=44,slow=43							
GUY2C	**Guyana, Caldas**	**12.98**	**247**	*eP*	**Pn**	**09 51 14.7**	**-2.4**	
TOLC	**Tolima**	**13.22**	**245**	*eP*	**Pn**	**09 51 19.7**	**-0.4**	
PRAC	**Prado**	**13.26**	**240**	*eP*	**Pn**	**09 51 20.1**	**-0.3**	
CBOC	**Ciudad Bolivar**	**13.33**	**251**	*eP*	**P**	**09 51 27.2**	**-4.1**	
GARC	**Garzon, Huila**	**14.59**	**237**	*eP*	**Pn**	**09 51 40.3**	**+1.4**	
POPC	**Popayan, Colom**	**15.39**	**240**	*eP*	**P**	**09 51 56.0**	**+1.7**	
JTS	**Las Juntas de**	**21.25**	**271**	LR	LR	10 03 58.4		
	comp=Z,133nm,18.5s,baz=142,slow=44							
ACON	**Acoyapa**	**21.45**	**276**	P	**P**	**09 53 00.2**	**-0.4**	
ATAH	**Atahualpa**	**23.02**	**221**	P	**P**	**09 53 18.9**	**+1.1**	
	8.5nm,0.9s,baz=65,slow=9.7,SNR=4.1							
NNA	**Nana**	**26.02**	**211**	LR	LR	10 05 00.1		
	comp=Z,109nm,21.5s,baz=30,slow=39							
SIV	**San Ignacio**	**26.39**	**175**	P	**P**	**09 53 50.9**	**+2.2**	
	1.2nm,0.7s,baz=8.7,slow=11,SNR=4.0							
SIV				LR	LR	10 03 50.5		
	comp=Z,129nm,18.1s,baz=354,slow=36							
BDFB	**Brasilia**	**30.06**	**149**	LR	LR	10 07 09.2		
	comp=Z,211nm,18.9s,baz=316,slow=38							
RCBR	**Riachuelo**	**31.77**	**119**	LR		10 07 37.9		
	comp=Z,118nm,21.8s,baz=301,slow=37							
TXAR	**Lajitas Array**	**42.02**	**302**	P	**P**	**09 56 04.5**	**+0.6**	
	0.7nm,0.6s,baz=116,slow=9.7,SNR=12							
TXAR	**Lajitas Array**	**42.02**	**302**	P	**P**	**09 56 01.2**	**-2.7**	
TX31	**Lajitas Ar. Si**	**42.02**	**302**	P	**P**	**09 56 01.9**	**-2.0**	
TX31				IAmb	IAmb	09 56 14.7		
	comp=Z,8.7nm,1.4s							
TX32	**Lajitas Array**	**42.02**	**302**	P	**P**	**09 56 01.3**	**-2.6**	
ANMO	**Albuquerque**	**46.14**	**309**	P	**P**	**09 56 37.6**	**+0.6**	
ANMO				IAmb	IAmb	09 56 43.2		
	comp=Z,3.7nm,1.0s							
ULM	**Lac du Bonnet**	**47.87**	**332**	P	**P**	**09 56 50.6**	**+0.5**	
	comp=Z,3.8nm,0.7s,baz=142,slow=9.0,SNR=5.2							
PLCA	**Paso Flores**	**51.37**	**187**	LR	LR	10 22 46.4		
	comp=Z,98nm,18.6s,baz=356,slow=40							
PD31	**Pinedale Array**	**51.43**	**317**	P	**P**	**09 57 17.2**	**-0.4**	
PD31				IAmb	IAmb	09 57 22.9		
	comp=Z,4.2nm,1.2s							
PDAR	**Pinedale Array**	**51.43**	**317**	P	**P**	**09 57 18.1**	**+0.5**	
	comp=Z,2.0nm,0.9s,baz=111,slow=8.1,SNR=12							
PDAR				LR	LR	10 19 50.6		
	comp=Z,61nm,21.5s,baz=110,slow=37							
PDAR	**Pinedale Array**	**51.43**	**317**	P	**P**	**09 57 17.3**	**-0.4**	
MSU	**Marysvale**	**51.69**	**311**	P	**P**	**09 57 19.5**	**-0.1**	
NVAR	**Mina Array Bea**	**56.26**	**309**	P	**P**	**09 57 55.1**	**+2.0**	
	comp=Z,0.9nm,0.7s,baz=119,slow=6.7,SNR=4.8							
DBIC	**Dimbokro**	**57.91**	**89**	LR	LR	10 21 45.0		
	comp=Z,43nm,18.4s,baz=332,slow=35							
ESDC	**Sonseca Array**	**59.91**	**50**	P	**P**	**09 58 19.0**	**+0.5**	
	comp=Z,2.7nm,1.0s,baz=256,slow=7.0,SNR=8.5							
YKA	**Yellowknife Ar**	**63.53**	**336**	LR	LR	10 27 19.1		
	comp=Z,33nm,19.2s,baz=0.0,slow=37							
TORD	**Torodi Ar. Bea**	**63.58**	**80**	P	**P**	**09 58 44.4**	**+0.9**	
	comp=Z,1.0nm,0.7s,baz=278,slow=7.0,SNR=5.0							
GERES	**GERESS Array B**	**73.68**	**42**	P	**P**	**09 59 46.1**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=262,slow=4.9,SNR=7.1							
GERES	**GERESS Array B**	**73.68**	**42**	P	**P**	**09 59 45.5**	**-0.6**	
ILAR	**Eielson Array**	**77.84**	**334**	P	**P**	**10 00 10.4**	**+0.9**	
	comp=Z,0.3nm,0.5s,baz=78,slow=4.2,SNR=6.1							
ILAR				LR	LR	10 35 26.1		
	comp=Z,42nm,20.6s,baz=128,slow=36							
BOSA	**Boshof**	**93.73**	**118**	LR	LR	10 37 46.7		
	comp=Z,31nm,20.4s,baz=332,slow=32							

IDC ***02*** *09:51:33.7±1.8, 10°.57N×63°.34W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/34, mbtmp3.3/3, Error ellipse: s-maj=44.4km s-min=14.0km az=154.0*
TRN ***02*** *09:51:38.0, 10°.31N×63°.23W, h139km, MD4.0*
ISC 02 09:51:35.4±0.8, **10°.57N**±0°.05×**63°.45W**±0°.06, **h10**km, **n28,**
σ1°63/31, mb3.4/3, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.23**	**252**	Pg	**Pn**	**09 51 59.3**	**+0.5**
	186nm,0.3s,baz=75,slow=11,SNR=36						
PCRV				Lg	Lg	09 52 14.9	
	204nm,0.3s,baz=218,slow=9.5,SNR=11						
ORIV	**Oritupano**	**1.49**	**179**	*eP*	**Pn**	**09 52 03.4**	**+1.1**
ORIV				*eS*	**Sn**	**09 52 22.8**	**+1.0**
TRN	**Trinidad (W)**	**2.01**	**88**	*eP*	**Pb**	**09 52 11.5**	**-0.6**
TRN				*eS*	**Sn**	**09 52 34.9**	**+0.2**
GRGR	**Grenville**	**2.34**	**48**	*eP*	**Pb**	**09 52 17.0**	**-0.8**
GRGR				*eS*	**Sb**	**09 52 45.8**	**-1.0**
SLAC	**Saint Lucia, A**	**4.14**	**37**	*eP*	**Pn**	**09 52 41.4**	**+2.6**
SLAC	**Saint Lucia, A**	**4.14**	**37**	*eS*	**Sn**	**09 53 27.3**	**0.0**
SLBI	**Saint Lucia, B**	**4.20**	**35**	*e*	Pn	09 52 29.9	-1.3
SLBI	**Saint Lucia, B**	**4.20**	**35**	*eP*	**Pn**	**09 52 41.3**	**+1.8**
SLBI	**Saint Lucia, B**	**4.20**	**35**	*eS*	**Sn**	**09 53 27.7**	**-0.9**
BIM	**Bigot**	**4.56**	**30**	*eP*	**Pn**	**09 52 46.1**	**+1.6**
H05S1	**Guadeloupe/Mar**	**4.60**	**33**	Pn	**Pn**	**09 52 45.0**	**0.0**
H05S1					Sn	**Sn**	**09 53 37.1**	**-1.5**
FDF	**Fort de France**	**4.71**	**28**	*eP*	**Pn**	**09 52 49.7**	**+3.2**
FDF	**Fort de France**	**4.71**	**28**	*eS*	**Sn**	**09 53 40.4**	**-0.9**
BAUV	**El Baul**	**4.81**	**251**	*eS*	**Sn**	**09 53 43.5**	**-0.2**
DSLB	**Salisbury**	**5.23**	**22**	*eP*	**Pn**	**09 52 56.6**	**+2.9**
DSLB	**Salisbury**	**5.23**	**22**	*eS*	**Sn**	**09 53 53.8**	**-0.3**
TBG	**Guadaloupe-3**	**5.54**	**18**	*eP*	**Pn**	**09 53 01.2**	**+3.3**
TBG	**Guadaloupe-3**	**5.54**	**18**	*eS*	**Sn**	**09 54 02.1**	**+0.5**
TDBA	**Terre de Bas,**	**5.54**	**18**	*eS*	**Sn**	**09 54 01.7**	**0.0**
MAGL	**Barre de l'ile**	**5.75**	**21**	*eP*	**Pn**	**09 53 02.8**	**+2.0**
CBE	**Ff, Capester**	**5.75**	**18**	*eP*	**Pn**	**09 53 03.4**	**+2.4**
H05N1	**Guadeloupe/Mar**	**6.17**	**22**	Pn	**Pn**	**09 53 05.5**	**-1.1**
ABD	**La Joyeuse, An**	**6.17**	**18**	*eP*	**Pn**	**09 53 09.1**	**+2.4**
BPA	**Boggy Peak**	**6.62**	**19**	*e*	Pn	**09 53 12.6**	**-0.3**
ANBD	**Bethesda, Anti**	**6.64**	**14**	*eP*	**Pn**	**09 53 15.5**	**+2.4**
TXAR	**Lajitas Array**	**41.89**	**302**	P	**P**	**09 59 26.5**	**+0.2**
	0.2nm,0.6s,baz=100,slow=10,SNR=2.5						
PDAR	**Pinedale Array**	**51.30**	**317**	P	**P**	**10 00 40.3**	**+0.1**
	0.3nm,0.6s,baz=119,slow=9.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**63.65**	**81**	P	**P**	**10 02 06.2**	**-1.2**
	0.2nm,0.6s,baz=284,slow=7.0,SNR=1.5						

IDC ***02*** *10:03:29.2±1.6, 5°.21N×126°.64E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/44, mbtmp3.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=114.5km s-min=24.5km az=70.0*
MAN ***02*** *10:03:46.2, 5°.50N×126°.33E, h115km, mb4.5, ML3.3, MS3.2*
ISC 02 10:03:41.6±1.1, **5°.1N**±0°.1×**126°.5E**±0°.2, **h100**km, **n7,**
σ1°84/12, mb3.1/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.25**	**321**	*eP*	**Pn**	**10 04 06.2**	**+1.3**
DDMP				*eS*	**Sn**	**10 04 24.1**	**+1.6**
SKMP	**Bagumbayan, Su**	**2.39**	**306**	*eP*	**Pn**	**10 04 20.8**	**+1.5**
SKMP				*eS*	**Sn**	**10 04 46.4**	**-1.8**
BUKP	**Musuan**	**3.09**	**333**	*eP*	**Pn**	**10 04 30.0**	**+1.4**
BUKP				*eS*	**Sn**	**10 05 00.9**	**-4.0**
FITZ	**Fitzroy Crossi**	**23.09**	**182**	P	**P**	**10 08 37.4**	**-1.4**
	1.1nm,0.8s,baz=23,slow=13,SNR=1.7						
FITZ				LR	LR	10 18 32.7	
	comp=Z,19nm,20.4s,baz=186,slow=39						
WRA	**Warramunga Arr**	**26.07**	**163**	P	**P**	**10 09 05.5**	**-0.5**
	0.2nm,0.6s,baz=344,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**29.51**	**166**	P	**P**	**10 09 36.1**	**-0.5**
	0.2nm,0.7s,baz=335,slow=7.2,SNR=1.8						
ASAR				PcP	**PcP**	**10 12 40.4**	**+0.6**
	0.2nm,0.7s,baz=353,slow=3.7,SNR=1.5						
MKAR	**Makanchi Array**	**56.29**	**325**	P	**P**	**10 13 12.0**	**+0.1**
	0.3nm,0.5s,baz=108,slow=6.8,SNR=4.6						
MKAR				PcP	**PcP**	**10 14 08.7**	**+0.4**
	0.4nm,0.5s,baz=120,slow=4.4,SNR=4.6						

2014 OCT

NIED ***02*** *10:56:01.6, 38°.30N×141°.87E, h46km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.23; Mθθ-0.21; Mφφ-3.02; Mrθ0.91; Mθφ-0.69; Mφr2.42; Fault plane solution: Mo4.12000×10¹⁴ NP1:φs18.00000°, δ64.00000°, λ94.00000°. NP2:φs189.00000°, δ26.00000°, λ82.00000°.*
JMA ***02*** *10:56:01.6±0.1, 38°.30N×141°.87E, h46km±1km, M3.5*
JMA Felt I J1.
IDC ***02*** *10:56:02.2±3.0, 38°.31N×141°.99E, h63km±26km, mb3.1/3, mb1 3.3/7, mb1mx3.2/37, mbtmp3.5/7, ML2.9/4, MS3.0/1, Ms1 3.0/1, ms1mx2.2/15, Error ellipse: s-maj=45.0km s-min=22.0km az=86.0*
ISC 02 10:55:59.3±1.7, **38°.23N**±0°.04×**141°.97E**±0°.08, **h29**km±11km, **n27,**σ1°**44/32, mb3.5/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.41**	**282**	P	**Pn**	**10 56 10.5**	**+1.3**
JIKH				S	**Sn**	**10 56 16.6**	**+0.8**
JIO	**Ouri**	**0.54**	**295**	P	**Pn**	**10 56 11.9**	**+0.9**
JIO				S	**Sn**	**10 56 19.0**	**0.0**
JKMT	**Kesennumamotoy**	**0.70**	**326**	P	**Pn**	**10 56 13.9**	**+0.7**
JKMT				S	**Sn**	**10 56 22.4**	**-0.6**
OFUJ	**Ofunato**	**0.88**	**345**	P	**Pb**	**10 56 16.3**	**+0.3**
OFUJ				*eS*	**Sb**	**10 56 26.6**	**-0.8**
JMK	**Ichinoseki**	**0.93**	**321**	P	**Pb**	**10 56 17.1**	**+0.3**
JMK				S	**Sn**	**10 56 28.3**	**-0.5**
JMM	**Marumori**	**1.00**	**249**	P	**Pn**	**10 56 18.1**	**+0.8**
JMM				*eS*	**Sb**	**10 56 30.1**	**-0.6**
JOU	**Okura**	**1.04**	**278**	P	**Pn**	**10 56 18.9**	**+1.0**
JOU				*eS*	**Sb**	**10 56 31.4**	**-0.5**
JFK	**Kawauchi**	**1.22**	**226**	P	**Pn**	**10 56 21.7**	**+1.2**
JOM	**Ohasama**	**1.35**	**337**	P	**Pn**	**10 56 23.1**	**+0.9**
JYK	**Kaneyama**	**1.44**	**299**	P	**Pn**	**10 56 24.2**	**+0.8**
JFT	**Otama**	**1.48**	**242**	P	**Pn**	**10 56 25.5**	**+1.6**
JYS	**Shirataka**	**1.50**	**270**	P	**Pn**	**10 56 25.4**	**+1.2**
JYS				*eS*	**Sn**	**10 56 43.1**	**+0.3**
JRG	**Rokugo**	**1.56**	**319**	P	**Pn**	**10 56 26.1**	**+1.0**
MJAR	**Matsushiro Arr**	**3.44**	**242**	P	**Pn**	**10 56 53.8**	**+2.9**
	0.2nm,0.3s,baz=51,slow=10,SNR=8.5						
MJAR				S	**Sb**	**10 57 39.3**	**-1.5**
	0.3nm,0.3s,baz=76,slow=17,SNR=4.8						
MAT	**Matsushiro**	**3.44**	**242**	P	**Pn**	**10 56 53.3**	**+2.4**
MAT				S	**Sb**	**10 57 38.0**	**-2.8**
JHJ	**Hachijo jima 2**	**5.40**	**200**	P	**Pn**	**10 57 20.9**	**+3.0**
	6.5nm,0.3s,baz=93,slow=22,SNR=1.3						
JHJ				S	**Sn**	**10 58 17.9**	**-1.2**
	9.5nm,0.3s,baz=269,slow=17,SNR=1.9						
ASAJ	**Asahikawa**	**5.90**	**4**	P	**Pn**	**10 57 25.8**	**+1.1**
	0.6nm,0.3s,baz=180,slow=15,SNR=5.1						
USRK	**Ussuriysk Ar.**	**9.59**	**312**	P	**Pn**	**10 58 17.6**	**+2.2**
	baz=117,slow=14,SNR=5.0						
USRK				LR	LR	11 01 55.8	
	comp=Z,77nm,19.4s,baz=330,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	11 32 08.8	
	baz=316,slow=76,SNR=120						
H11N1	**WAKE ISLAND Hy**	**28.42**	**123**	T	T	11 32 09.5	
	baz=316,slow=76,SNR=146						
H11N3	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	11 32 10.2	
	baz=316,slow=76,SNR=117						
H11S1	**WAKE ISLAND Hy**	**29.16**	**125**	T	T	11 33 03.3	
	baz=318,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**29.17**	**125**	T	T	11 33 04.0	
	baz=318,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**29.18**	**125**	T	T	11 33 05.0	
	baz=318,slow=76,SNR=62						
MKAR	**Makanchi Array**	**43.87**	**301**	P	**P**	**11 04 01.8**	**-1.1**
	0.6nm,0.7s,baz=87,slow=9.1,SNR=4.9						
WRA	**Warramunga Arr**	**58.31**	**188**	P	**P**	**11 05 51.2**	**-0.3**
	0.4nm,0.9s,baz=5.8,slow=7.1,SNR=5.3						
ASAR	**Alice Springs**	**62.03**	**188**	P	**P**	**11 06 16.5**	**-0.5**
	0.3nm,0.8s,baz=3.9,slow=6.7,SNR=2.4						

PRE ***02*** *11:00:01.4±1.1, 21°.41S×33°.24E, h5km, ML3.3*
ISC 02 10:59:59.3±2.5, **21°.29S**±0°.09×**33°.4E**±0°.1, **h10**km, **n21,**
σ2°13/28, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.88**	**219**	*eP*	**Pn**	**11 00 46.1**	**+0.8**
MOPA				*eS*	**Sn**	**11 01 19.1**	**-0.9**
MOPA				AML	AML	11 01 35.6	
	comp=Z,313nm,0.3s						
MSNA	**Messina**	**3.30**	**251**	*eP*	**Pn**	**11 00 52.5**	**+1.4**
MSNA				*eS*	**Sn**	**11 01 29.9**	**-0.5**
MSNA				AML	AML	11 01 42.2	
	comp=Z,388nm,0.2s						
BLWY	**Bulawayo**	**4.62**	**284**	*i P*	**Pn**	**11 01 09.1**	**-0.3**
BLWY	**Bulawayo**	**4.62**	**284**	*i P*	**Pn**	**11 01 08.6**	**-0.7**
BLWY	**Bulawayo**	**4.62**	**284**	*i P*	**Pn**	**11 01 09.1**	**-0.3**
BLWY	**Bulawayo**	**4.62**	**284**	*i P*	**Pn**	**11 01 08.6**	**-0.7**
MATP	**Matopo**	**4.65**	**280**	*i P*	**Pn**	**11 01 12.2**	**+2.4**
MATP	**Matopo**	**4.65**	**280**	*i P*	**Pn**	**11 01 12.2**	**+2.4**
MAGG	**Maguga Dam**	**5.14**	**202**	*eP*	**Pn**	**11 01 17.1**	**+0.7**
POGA	**Pongola**	**6.22**	**194**	*eP*	**Pn**	**11 01 32.4**	**+1.2**
POGA				*eS*	**Sn**	**11 02 40.2**	**-2.2**
POGA				AML	AML	11 03 27.6	
	comp=Z,61nm,0.6s						
LSZ	**Lusaka**	**7.76**	**320**	*i P*	**Pn**	**11 01 50.9**	**-1.6**
LSZ	**Lusaka**	**7.76**	**320**	*i P*	**Pn**	**11 01 50.9**	**-1.6**
PRYS	**Parys**	**7.86**	**223**	*eP*	**Pn**	**11 01 55.2**	**+1.4**
PRYS				*eS*	**Sn**	**11 03 17.4**	**-5.6**
PRYS				AML	AML	11 04 18.7	
	comp=Z,29nm,0.6s						
LBTB	**Lobatse**	**8.07**	**241**	*i P*	**Pn**	**11 01 56.8**	**+0.1**
LBTB	**Lobatse**	**8.07**	**241**	*i P*	**Pn**	**11 01 57.0**	**+0.3**
LBTB				*i S*	**Sn**	**11 03 31.1**	**+3.0**
LBTB	**Lobatse**	**8.07**	**241**	*eP*	**Pn**	**11 01 57.9**	**+1.2**
LBTB				*eS*	**Sn**	**11 03 23.5**	**-4.6**
LBTB				AML	AML	11 03 34.7	
	comp=Z,16nm,0.4s						
LBTB	**Lobatse**	**8.07**	**241**	*i P*	**Pn**	**11 01 56.8**	**+0.1**
LBTB	**Lobatse**	**8.07**	**241**	*i P*	**Pn**	**11 01 57.0**	**+0.3**
LBTB				*i S*	**Sn**	**11 03 31.1**	**+3.0**
SWZ	**Schweizer**	**9.40**	**230**	*eP*	**Pn**	**11 02 17.3**	**+2.2**
SWZ				*eS*	Sn	11 03 54.1	-6.8
SWZ				AML	AML	11 04 58.1	
	comp=Z,30nm,0.6s						
BOSA	**Boshof**	**10.37**	**224**	*eP*	**Pn**	**11 02 29.9**	**+1.7**
BOSA				AML	AML	11 04 04.5	
	comp=Z,4.9nm,0.5s						
GRAN	**Grantham**	**14.84**	**220**	*eP*	**Pn**	**11 03 31.1**	**+1.8**
GRAN				AML	AML	11 05 05.7	
	comp=Z,1.5nm,0.5s						

ATH ***02*** *11:04:38.4, 39°.12N×22°.29E, h19km±6km, ML2.5/8, Error ellipse: s-maj=6.0km s-min=0.7km az=351.0*
THE ***02*** *11:04:39.0, 39°.12N×22°.30E, h1km±2km, ML2.7/7, Error ellipse: s-maj=2.0km s-min=0.5km az=62.0*
TIR ***02*** *11:04:42.3, 39°.31N×22°.09E, h25km±1km, Md3.6, Ml2.7*
ISC 02 11:04:37.5±1.1, **39°.07N**±0°.02×**22°.42E**±0°.02, **h8**km±9km, **n39,**σ0°**96/65, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOL3	**Nea Ionia, Vol**	**0.50**	**53**	P	**Pg**	**11 04 47.4**	**+0.3**
VOL3				S	**Sg**	**11 04 53.7**	**0.0**
EVR	**Evrytania**	**0.50**	**252**	P	**Pg**	**11 04 47.1**	**-0.1**
EVR				S	**Sg**	**11 04 53.8**	**0.0**
	675nm,0.4s						
EVR	**Evrytania**	**0.50**	**252**	P	**Pg**	**11 04 47.2**	**-0.1**
EVR				S	**Sg**	**11 04 53.6**	**-0.2**
EVR				AML	AML	11 04 59.9	
	comp=E,1551µm,0.4s						
EVR				AML	AML	11 05 00.6	
	comp=N,1124µm,0.5s						
VOL2	**Volos**	**0.50**	**54**	P	**Pn**	**11 04 50.1**	**-0.9**
VOL2				S	**Sn**	**11 04 58.1**	**-1.8**
THL	**Klokotos Trika**	**0.58**	**327**	P	**Pg**	**11 04 48.3**	**-0.4**
THL				S	**Sg**	**11 04 55.8**	**-0.6**
	comp=N,385nm,0.3s						
THL	**Klokotos Trika**	**0.58**	**327**	P	**Pg**	**11 04 48.0**	**-0.7**
THL				S	**Sg**	**11 04 55.0**	**-1.4**
THL				AML	AML	11 04 56.1	
	comp=N,833µm,0.3s						
THL				AML	AML	11 04 57.1	
	comp=E,789µm,0.5s						
DLFA	**Delphi**	**0.60**	**174**	P	**Pn**	**11 04 51.8**	**-0.5**
DLFA				S	**Sn**	**11 05 00.5**	**-1.8**
LKR	**Lokris**	**0.62**	**133**	P	**Pn**	**11 04 52.6**	**0.0**
LKR	**Lokris**	**0.62**	**133**	P	**Pn**	**11 04 52.9**	**+0.3**
LKR				S	**Sn**	**11 05 02.7**	**0.0**
LKR				AML	AML	11 05 06.0	
	comp=N,456µm,0.2s						
LKR				AML	AML	11 05 06.6	
	comp=E,520µm,0.2s						
ANX	**Ano Chora**	**0.62**	**219**	P	**Pb**	**11 04 50.2**	**-0.4**
ANX				S	**Sb**	**11 04 59.0**	**-0.5**
	comp=E,2µm,0.3s						
ANX	**Ano Chora**	**0.62**	**219**	P	**Pb**	**11 04 50.7**	**+0.1**
ANX				S	**Sb**	**11 04 59.1**	**-0.5**
ANX				AML	AML	11 05 03.0	
	comp=E,3995µm,0.4s						
ANX				AML	AML	11 05 04.0	
	comp=N,2942µm,0.3s						
NEO	**Neokhori**	**0.67**	**69**	P	**Pn**	**11 04 53.0**	**-0.3**
NEO				S	**Sn**	**11 05 04.3**	**+0.4**
	comp=N,705nm,0.3s						
NEO	**Neokhori**	**0.67**	**69**	P	**Pn**	**11 04 53.0**	**-0.3**
NEO				S	**Sn**	**11 05 02.8**	**-1.1**
NEO				AML	AML	11 05 07.8	
	comp=E,1196µm,0.4s						
NEO				AML	AML	11 05 07.9	
	comp=N,1632µm,0.3s						
XOR	**Xorichti**	**0.67**	**64**	P	**Pn**	**11 04 52.7**	**-0.6**
XOR				S	**Sn**	**11 05 03.9**	**-0.1**
	comp=N,858nm,0.4s						
XOR	**Xorichti**	**0.67**	**64**	P	**Pn**	**11 04 52.6**	**-0.6**
XOR				S	**Sn**	**11 05 03.2**	**-0.7**
XOR				AML	AML	11 05 06.9	
	comp=E,1167µm,0.3s						
XOR				AML	AML	11 05 07.2	
	comp=N,2269µm,0.4s						
DSF	**Desfina**	**0.67**	**173**	P	**Pn**	**11 04 52.6**	**-0.7**
DSF				S	**Sn**	**11 05 02.6**	**-1.3**
	comp=N,575nm,0.2s						
DSF	**Desfina**	**0.67**	**173**	P	**Pn**	**11 04 52.7**	**-0.6**
DSF				S	**Sn**	**11 05 02.7**	**-1.3**
DSF				AML	AML	11 05 05.9	
	comp=N,1071µm,0.2s						
DSF				AML	AML	11 05 06.9	
	comp=E,1128µm,0.3s						
EFP	**Efpalio**	**0.76**	**212**	P	**Pb**	**11 04 53.0**	**0.0**
EFP				S	**Sb**	**11 05 03.9**	**+0.4**
	comp=E,1µm,0.3s						
EFP	**Efpalio**	**0.76**	**212**	P	**Pb**	**11 04 53.3**	**+0.4**
EFP				S	**Sb**	**11 05 03.5**	**0.0**
ALIK	**Aliki, Aigiali**	**0.85**	**197**	P	**Pn**	**11 04 55.7**	**

BOOM				⇑*i*S		**Sn**	**11 10 31.6**	**+0.3**
	baz=56								
TKM2	**Tokmak 2**	**1.57**	**38**	⇑P		**Pn**	**11 10 10.9**	**-2.1**
	1.7nm,0.3s								
TKM2				⇑S		**Sb**	**11 10 34.5**	**+0.4**
	1.7nm,0.4s								
SGDS	**Sogindy**	**1.78**	**8**	Pg		**Pg**	**11 10 18.4**	**0.0**
	4.7nm,0.2s								
SGDS				Lg		Lg	11 10 44.7		
	2.6nm,0.3s								
KST	**Kastek**	**1.83**	**42**	*e*P		**Pg**	**11 10 19.2**	**-0.2**
	5.1nm,0.3s								
KST				*e*S		**Sg**	**11 10 46.3**	**+3.1**
	11nm,0.4s								
KST	**Kastek**	**1.83**	**42**	Pg		**Pg**	**11 10 19.2**	**-0.2**
	5.1nm,0.3s								
KST				Lg		Lg	11 10 46.3		
	11nm,0.4s								
KDJ	**Kajisay**	**2.20**	**78**	⇓*i*P		**Pb**	**11 10 23.8**	**-0.9**
	baz=78								
KDJ				⇓*i*S		**Sb**	**11 10 53.2**	**+0.8**
	baz=78								
KOTS	**Kotyrbulak**	**2.60**	**53**	*e*P		**Pb**	**11 10 31.9**	**+0.5**
	18nm,0.6s								
KOTS				*e*S		**Sg**	**11 11 08.2**	**+0.6**
	23nm,0.4s								
KOTS	**Kotyrbulak**	**2.60**	**53**	Pg		**Pb**	**11 10 31.9**	**+0.5**
	18nm,0.6s								
KOTS				Lg		Lg	11 11 08.2		
	23nm,0.4s								
KUU	**Kurty**	**2.67**	**34**	*e*P		**Pb**	**11 10 33.0**	**+0.4**
	4.6nm,0.3s								
KUU				*e*S		**Sg**	**11 11 09.6**	**-0.3**
	4.6nm,0.8s								
KUU	**Kurty**	**2.67**	**34**	Pg		**Pb**	**11 10 33.0**	**+0.4**
	4.6nm,0.3s								
KUU				Lg		Lg	11 11 09.6		
	4.6nm,0.8s								
KTBS	**Karatobe**	**2.68**	**40**	*e*P		**Pb**	**11 10 33.0**	**+0.2**
	3.6nm,0.4s								
KTBS				*e*S		**Sg**	**11 11 09.8**	**-0.6**
	6.1nm,0.4s								
KTBS	**Karatobe**	**2.68**	**40**	Pg		**Pb**	**11 10 33.0**	**+0.2**
	3.6nm,0.4s								
KTBS				Lg		Lg	11 11 09.8		
	6.1nm,0.4s								
KK31	**Karatay Array**	**3.13**	**298**	⇑Pg		**Pb**	**11 10 40.6**	**+0.2**
	0.6nm,0.5s,baz=126,slow=16,SNR=7.3								
KK31				⇑Lg		Lg	11 11 24.6		
	0.5nm,0.4s,baz=122,slow=28,SNR=3.9								
IUG	**Iuzhnay**	**3.21**	**280**	*e*P		**Pb**	**11 10 43.3**	**+1.5**
	6.3nm,0.3s								
IUG				*e*S		**Sg**	**11 11 27.1**	**-0.2**
	7.3nm,0.4s								
IUG	**Iuzhnay**	**3.21**	**280**	Pg		**Pb**	**11 10 43.3**	**+1.5**
	6.3nm,0.3s								
IUG				Lg		Lg	11 11 27.1		
	7.3nm,0.4s								

EAF ***02*** *11:51:26.8±0.4,23˚.17S×26˚.87E,h10km,MD3.6*
PRE 02 11:51:22.7±1.2,23˚.29S×27˚.10E,h5km,ML2.1,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**2.20**	**218**	*i* P	Pb	11 52 02.6	-0.5
LBTB				*i* S	Sn	11 52 21.5	-6.2
LBTB	**Lobatse**	**2.20**	**218**	*i* P	Pb	11 52 02.8	-0.3
LBTB	**Lobatse**	**2.20**	**218**	*e*P	Pn	11 52 00.7	+0.6
LBTB				*e*S	Sn	11 52 28.5	+0.8
LBTB				AML	AML	11 52 35.1	
	comp=Z,19nm,0.2s						
LBTB	**Lobatse**	**2.20**	**218**	*i* P	Pb	11 52 02.8	-0.3
MATP	**Matopo**	**3.13**	**25**	*i* P	Pn	11 52 15.7	+2.8
MATP	**Matopo**	**3.13**	**25**	*i* P	Pn	11 52 15.7	+2.8
BLWY	**Bulawayo**	**3.43**	**24**	*i* P	Pn	11 52 20.2	+3.1
BLWY				*i* S	Sn	11 52 58.7	+0.4
BLWY	**Bulawayo**	**3.43**	**24**	*i* P	Pn	11 52 20.2	+3.1
BLWY				*i* S	Sn	11 52 58.7	+0.4
PRYS	**Parys**	**3.63**	**176**	*e*P	Pn	11 52 19.6	0.0
PRYS				*e*S	Sn	11 53 02.3	-0.7
PRYS				AML	AML	11 53 10.8	
	comp=Z,12nm,0.6s						
MOPA	**Mopani**	**3.95**	**94**	*e*P	Pn	11 52 23.8	-0.2
MOPA				*e*S	Sn	11 53 10.5	-0.3
MOPA				AML	AML	11 53 25.9	
	comp=Z,5.3nm,0.6s						

OMAN 02 12:01:12.2±0.5,17˚.81N×59˚.82E,h35km±10km,mb5.3/3,ml3.9/7,Error ellipse: s-maj=17.7km s-min=11.2km az=23.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**3.02**	**315**	P	Pn	12 01 58.0	+0.5
	SNR=6.8						
DQM				S	Sn	12 02 34.0	+1.6
MHTO	**MHTO**	**3.61**	**331**	P	Pn	12 02 05.1	-0.5
	SNR=32						
MHTO				S	Sn	12 02 47.7	+0.7
SHAO	**Shalim**	**4.00**	**274**	P	Pn	12 02 11.2	+0.2
	SNR=8.4						
SHAO				S	Sn	12 02 56.8	+0.2
JLN	**Jalan Bani Buh**	**4.34**	**355**	P	Pn	12 02 14.6	-1.0
JLN				S	Sn	12 03 04.9	-0.1
	SNR=16						
DMTO	**DMTO**	**4.64**	**270**	P	Pn	12 02 20.4	+0.6
DMTO				S	Sn	12 03 12.0	-0.5
	SNR=15						
JMDO	**Jabal Madar**	**4.82**	**341**	P	Pn	12 02 22.6	+0.4
	SNR=18						
JMDO				S	Sn	12 03 19.1	+2.3
WBK	**Wadi Bani Khal**	**4.84**	**351**	P	Pn	12 02 22.7	+0.1
	SNR=8.6						
WBK				S	Sn	12 03 18.7	+1.1
SMDO	**Samad**	**5.48**	**343**	P	Pn	12 02 31.5	+0.1
	SNR=23						
SMDO				S	Sn	12 03 33.1	-0.3
WSAR	**Wadi Sarin**	**5.52**	**349**	P	Pn	12 02 31.9	0.0
BIDO	**Bidbid**	**5.90**	**345**	P	Pn	12 02 37.4	+0.2
HOQ	**Hoqain**	**6.21**	**338**	P	Pn	12 02 41.5	+0.2

DDA ***02*** *12:06:21.3,35˚.73N×26˚.54E,h16km±2km,MW4.3*
HLW ***02*** *12:06:26.9,36˚.20N×27˚.11E,h33km±33km,Md4.8,Ml4.7*
IDC ***02*** *12:06:26.3±0.5,36˚.00N×27˚.01E,h0km,mb4.3/26,mb1 4.4/33,mb1mx4.3/57,mbtmp4.3/33,ML3.9/8,MS3.3/12,Ms1 3.3/12,ms1mx3.1/58,Error ellipse: s-maj=14.4km s-min=9.5km az=158.0*
NIC ***02*** *12:06:27.7±0.0,36˚.04N×27˚.04E,h13km±2km,Ml5.0/4*
ISK ***02*** *12:06:27.9,36˚.02N×26˚.99E,h9km,ML4.4/15*
ATH ***02*** *12:06:28.2,36˚.01N×27˚.04E,h33km±1km,ML4.2/15,Error ellipse: s-maj=1.7km s-min=0.9km az=101.0*
THE ***02*** *12:06:29.3,36˚.01N×27˚.05E,h12km±1km,ML4.2/24,Error ellipse: s-maj=1.1km s-min=0.4km az=104.0*
MED_RC ***02*** *12:06:29.0±0.4,35˚.87N×27˚.02E,h14km±1km,MW4.4/21, Moment Tensor Solution.Mantle waves: s21,c22; Duration: 1‡0 Moment tensor: Scale 10¹⁵Nm; Mrr-4.44±.56; Mθθ0.84±.34; Mϕϕ3.60±.37; Mrθ0.08±.98; Mθϕ0.40±.21; Mϕr-2.04±.79; Best double couple: M₀4.53000×10¹⁵ NP1:ϕs191.00000°,δ32.00000°, λ-84.00000°. NP2:ϕs4.00000°,δ58.00000°,λ-94.00000°. Principal axes: T 4.1300, Plg13.0000°, Azm97.0000°; N 0.8100, Plg3.0000°, Azm6.0000°; P -4.9300, Plg76.0000°, Azm263.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***02*** *12:06:29.6±2.5,35˚.96N±0˚.05×26˚.96E±0˚.05,h21km±4km Error ellipse: s-maj=6.9km s-min=5.8km az=183.0*
GII ***02*** *12:06:30.7±0.3,35˚.98N×27˚.17E,h60km,mb4.1/1, MD3.9/1,Mm4.1/10*
BGR ***02*** *12:07:03.1±0.0,38˚.49N×25˚.22E,h33km*
ISC 02 12:06:28.3±1.0,35˚.99N±0˚.02×27˚.04E±0˚.02,h12km±7km, n374,σ1ˢ29/433,mb4.4/42,MS3.4/5,13C-7D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.45**	**167**	P	**Pb**	**12 06 38.0**	**-0.1**
KARP				S	**Sb**	**12 06 45.0**	**+0.1**
	22μm,0.6s						
KARP	**Karpathos**	**0.45**	**167**	P	**Pb**	**12 06 38.0**	**-0.1**
KARP				S	**Sb**	**12 06 45.3**	**+0.5**
KARP				AML	AML	12 06 48.7	
	comp=E,30874μm,0.4s						
KARP				AML	AML	12 06 49.5	
	comp=N,42907μm,0.4s						
KARP	**Karpathos**	**0.45**	**167**	PG	**Pb**	**12 06 38.1**	**-0.1**
KARP				SG	**Sb**	**12 06 44.9**	**+0.1**
KARP	**Karpathos**	**0.45**	**167**	⇑P	**Pb**	**12 06 38.0**	**-0.1**
KARP				S	**Sb**	**12 06 45.0**	**+0.1**
KARP				AML	AML	12 06 48.3	
	comp=N,37nm,0.6s						
KARP				AML	AML	12 06 48.3	
	comp=N,37nm,0.6s						
KARP				AML	AML	12 06 48.9	
	comp=N,45nm,0.5s						
KARP				AML	AML	12 06 48.9	
	comp=N,45nm,0.5s						
KARP	**Karpathos**	**0.45**	**167**		**Pb**	**12 06 38.5**	**+0.3**
NISR	**Nisiros**	**0.63**	**7**	P	**Pb**	**12 06 41.3**	**+0.2**
NISR				S	**Sb**	**12 06 50.7**	**+0.9**
	comp=N,45μm,0.5s						
NISR	**Nisiros**	**0.63**	**7**	P	**Pb**	**12 06 41.3**	**+0.2**
NISR				S	**Sn**	**12 06 51.1**	**-1.8**
NISR				AML	AML	12 06 54.4	
	comp=N,78186μm,0.5s						
NISR				AML	AML	12 06 55.6	
	comp=E,89909μm,0.4s						
NISR	**Nisiros**	**0.63**	**7**		**Pb**	**12 06 41.3**	**+0.2**
NISR					**Sn**	**12 06 51.1**	**-1.8**
KOSK	**Kos Island**	**0.76**	**356**	P	**Pb**	**12 06 43.3**	**-0.1**
KOSK				S	**Sb**	**12 06 54.2**	**+0.4**
	comp=E,17μm,0.5s						
KOSK	**Kos Island**	**0.76**	**356**	PG	**Pb**	**12 06 43.1**	**-0.3**
KOSK				SG	**Sb**	**12 06 53.1**	**-0.7**
DAT	**Datca**	**0.86**	**30**	P	**Pb**	**12 06 45.1**	**0.0**
DAT				S	**Sb**	**12 06 56.8**	**+0.2**
DAT	**Datca**	**0.86**	**30**	PG	**Pb**	**12 06 45.2**	**+0.1**
DAT				SG	**Sn**	**12 06 57.3**	**-1.4**
DAT	**Datca**	**0.86**	**30**	*i* P	**Pb**	**12 06 45.1**	**0.0**
DAT				*i* S	**Sb**	**12 06 57.1**	**+0.5**
DAT				IAML		12 07 04.0	
	comp=N,4μm,0.7s						
DAT				IAML		12 07 04.0	
	comp=E,3μm,0.8s						
ARG	**Arkhangelos**	**0.91**	**75**	P	**Pb**	**12 06 46.1**	**+0.2**
ARG				S	**Sb**	**12 06 58.1**	**+0.1**
	comp=E,30μm,0.6s						
ARG	**Arkhangelos**	**0.91**	**75**	P	**Pb**	**12 06 46.0**	**0.0**
ARG				S	**Sb**	**12 06 58.0**	**+0.1**
ARG				AML	AML	12 07 00.7	
	comp=N,44165μm,0.6s						
ARG				AML	AML	12 07 00.9	
	comp=E,79725μm,0.6s						
ARG	**Arkhangelos**	**0.91**	**75**	PG	**Pb**	**12 06 45.9**	**0.0**
ARG	**Arkhangelos**	**0.91**	**75**	⇑P	**Pb**	**12 06 46.0**	**0.0**
ARG				S	**Sb**	**12 06 57.8**	**-0.1**
ARG	**Arkhangelos**	**0.91**	**75**		**Pb**	**12 06 46.0**	**0.0**
ARG					**Sb**	**12 06 58.0**	**+0.1**
ANAF	**Anafi Island**	**1.09**	**290**	P	**Pb**	**12 06 48.6**	**-0.4**
ANAF				S	**Sg**	**12 07 03.6**	**+0.2**
	comp=E,49μm,0.4s						
ANAF	**Anafi Island**	**1.09**	**290**	P	**Pb**	**12 06 48.8**	**-0.3**
ANAF				S	**Sg**	**12 07 03.3**	**-0.1**
ANAF				AML	AML	12 07 08.9	
ANAF				AML	AML	12 07 09.8	
	comp=N,84399μm,0.3s						
ANAF	**Anafi Island**	**1.09**	**290**		**Pb**	**12 06 48.8**	**-0.3**
ANAF					**Sg**	**12 07 03.3**	**-0.1**
BODT	**Bodrum**	**1.09**	**11**	P	**Pb**	**12 06 48.3**	**-0.8**
BODT				S	**Sn**	**12 07 03.9**	**-0.5**
BODT	**Bodrum**	**1.09**	**11**	PG	**Pb**	**12 06 48.9**	**-0.2**
BODT				SG	**Sn**	**12 07 04.2**	**-0.2**
ZKR	**Zakros**	**1.10**	**218**	P	**Pg**	**12 06 49.9**	**+0.5**
ZKR				S	**Sn**	**12 07 05.0**	**+0.4**
	comp=N,5μm,0.6s						
ZKR	**Zakros**	**1.10**	**218**	P	**Pg**	**12 06 49.7**	**+0.2**
ZKR				S	**Sn**	**12 07 05.1**	**+0.6**
ZKR				AML	AML	12 07 09.5	
	comp=E,11125μm,0.4s						
ZKR				AML	AML	12 07 14.5	
	comp=N,9053μm,0.5s						
ZKR	**Zakros**	**1.10**	**218**	PN	**Pg**	**12 06 49.5**	**+0.1**
STIA	**Sitia Lasithi**	**1.10**	**225**	P	**Pg**	**12 06 49.5**	**0.0**
STIA				S	**Sn**	**12 07 04.6**	**0.0**
BDRM	**Kayabasi**	**1.12**	**17**	*i* P	**Pg**	**12 06 50.0**	**+0.1**
BDRM				IAML		12 07 15.0	
	comp=E,2μm,0.9s						
AMGA	**Amorgos Island**	**1.25**	**313**	P	**Pn**	**12 06 50.6**	**-0.9**
AMGA				S	**Sb**	**12 07 07.6**	**-0.2**
	comp=E,19μm,0.3s						
AMGA	**Amorgos Island**	**1.25**	**313**	P	**Pn**	**12 06 50.6**	**-0.9**
AMGA				S	**Sb**	**12 07 07.6**	**-0.2**
AMGA				AML	AML	12 07 12.6	
	comp=N,41206μm,0.4s						
AMGA				AML	AML	12 07 13.0	
	comp=E,34359μm,0.3s						
TURN	**Turunc**	**1.25**	**51**	PN	**Pg**	**12 06 52.3**	**0.0**
THR8	**Santorini-Mono**	**1.33**	**289**	P	**Pn**	**12 06 52.1**	**-0.4**
THR8	**Santorini-Mono**	**1.33**	**289**	P	**Pn**	**12 06 52.2**	**-0.4**
SANT	**Santorini**	**1.33**	**287**	P	**Pn**	**12 06 52.2**	**-0.5**
SANT				S	**Sn**	**12 07 10.4**	**0.0**
	comp=E,7μm,0.6s						
SANT	**Santorini**	**1.33**	**287**	P	**Pn**	**12 06 52.3**	**-0.5**
SANT				S	**Sb**	**12 07 09.5**	**-0.8**
SANT				AML	AML	12 07 16.1	
	comp=N,7110μm,0.5s						
SANT				AML	AML	12 07 16.8	
	comp=E,18962μm,0.7s						
SANT	**Santorini**	**1.33**	**287**	PN	**Pn**	**12 06 52.6**	**-0.1**
SANT	**Santorini**	**1.33**	**287**	Pn	**Pn**	**12 06 52.3**	**-0.5**
SAP2K	**Karterados**	**1.36**	**289**	P	**Pn**	**12 06 52.4**	**-0.6**
SAP2K				S	**Sb**	**12 07 10.8**	**0.0**
	comp=E,34μm,0.6s						
SAP2K	**Karterados**	**1.36**	**289**	P	**Pn**	**12 06 52.4**	**-0.6**
NPS	**Neapolis**	**1.37**	**238**	P	**Pn**	**12 06 53.2**	**0.0**
NPS				S	**Sn**	**12 07 11.2**	**0.0**
	comp=E,7μm,0.4s						
NPS	**Neapolis**	**1.37**	**238**	P	**Pn**	**12 06 53.1**	**0.0**
NPS				S	**Sb**	**12 07 11.5**	**+0.2**
NPS				AML	AML	12 07 17.5	
	comp=N,13308μm,0.4s						
NPS				AML	AML	12 07 19.8	
	comp=E,15781μm,0.5s						
SNT1	**Gialos, Santor**	**1.37**	**289**	P	**Pn**	**12 06 52.5**	**-0.7**
SNT1				S	**Sb**	**12 07 11.2**	**-0.1**
	comp=E,10μm,0.5s						
THR7	**Fira-Santorini**	**1.37**	**289**	P	**Pn**	**12 06 52.9**	**-0.3**
THR7	**Fira-Santorini**	**1.37**	**289**	P	**Pn**	**12 06 53.1**	**-0.1**
THR2	**Thira island,**	**1.38**	**290**	P	**Pn**	**12 06 52.7**	**-0.5**
THR2	**Thira island,**	**1.38**	**290**	P	**Pn**	**12 06 53.1**	**-0.2**
THR6	**Thira Island,**	**1.38**	**286**	P	**Pn**	**12 06 52.9**	**-0.4**
THR6	**Thira Island,**	**1.38**	**286**	P	**Pn**	**12 06 53.2**	**-0.1**
THT2	**Imerovigli**	**1.38**	**289**	P	**Pn**	**12 06 53.0**	**-0.3**
THT2				S	**Sb**	**12 07 11.5**	**-0.1**
	comp=E,8μm,0.5s						
THT2	**Imerovigli**	**1.38**	**289**	PN	**Pn**	**12 06 53.1**	**-0.3**
STAX	**Taxiarchis Har**	**1.38**	**288**	P	**Pn**	**12 06 53.0**	**-0.3**
STAX				S	**Sn**	**12 07 11.3**	**-0.2**
STAX	**Taxiarchis Har**	**1.38**	**288**	P	**Pn**	**12 06 53.1**	**-0.3**
THR3	**Thira Island,**	**1.39**	**288**	P	**Pn**	**12 06 53.2**	**-0.2**
THR3	**Thira Island,**	**1.39**	**288**	P	**Pn**	**12 06 53.3**	**-0.1**
SNT5	**Nea Kammeni, S**	**1.39**	**288**	P	**Pn**	**12 06 53.1**	**-0.4**
SNT5				S	**Sb**	**12 07 11.8**	**-0.1**
	comp=E,12μm,0.3s						
CMBO	**Columbo, Santo**	**1.41**	**290**	P	**Pn**	**12 06 53.1**	**-0.5**
CMBO				S	**Sn**	**12 07 11.5**	**-0.6**
	comp=E,15μm,0.5s						
CMBO	**Columbo, Santo**	**1.41**	**290**	P	**Pn**	**12 06 52.9**	**-0.7**
THR9	**Santorini-Faro**	**1.41**	**286**	P	**Pn**	**12 06 53.3**	**-0.4**
THR9	**Santorini-Faro**	**1.41**	**286**	P	**Pn**	**12 06 53.6**	**-0.1**
MLSB	**Milas**	**1.43**	**24**	PN	**Pb**	**12 06 54.4**	**-0.5**
SAP4	**Santorini-Oia**	**1.43**	**290**	P	**Pn**	**12 06 53.4**	**-0.6**
SAP4				S	**Sn**	**12 07 12.0**	**-0.7**
	comp=E,26μm,0.6s						
SAP4	**Santorini-Oia**	**1.43**	**290**	P	**Pn**	**12 06 53.6**	**-0.4**
THR5	**Thira Island,**	**1.43**	**288**	P	**Pn**	**12 06 53.7**	**-0.3**
THR5	**Thira Island,**	**1.43**	**288**	P	**Pn**	**12 06 54.0**	**-0.1**
SAP3	**Santorini-Thir**	**1.44**	**289**	P	**Pn**	**12 06 53.9**	**-0.2**
SAP3				S	**Sn**	**12 07 13.0**	**0.0**
	comp=E,18μm,1.1s						
SAP3	**Santorini-Thir**	**1.44**	**289**	P	**Pn**	**12 06 54.2**	**+0.1**
FRMA	**Ierapetra Chan**	**1.44**	**228**	P	**Pn**	**12 06 53.8**	**-0.3**
FRMA				S	**Sn**	**12 07 10.9**	**-2.1**
	comp=E,3μm,0.7s						
LAST	**Lasithi**	**1.52**	**237**	P	**Pn**	**12 06 55.5**	**+0.2**
LAST				S	**Sb**	**12 07 15.8**	**+0.2**
	comp=E,3μm,0.9s						
LAST	**Lasithi**	**1.52**	**237**	P	**Pn**	**12 06 55.5**	**+0.2**
LAST				S	**Sn**	**12 07 14.1**	**-0.8**
LAST				AML	AML	12 07 27.7	
	comp=N,6906μm,0.7s						
LAST				AML	AML	12 07 28.9	
	comp=E,5962μm,0.7s						
YER	**Yerkesik**	**1.52**	**41**	P	**Pn**	**12 06 55.4**	**+0.1**
YER				S	**Sn**	**12 07 14.2**	**-0.8**
YER	**Yerkesik**	**1.52**	**41**	PN	**Pb**	**12 06 55.9**	**-0.5**
DALY	**Dalyan (Mula)**	**1.54**	**57**	PN	**Pb**	**12 06 56.5**	**-0.2**
DALY	**Dalyan (Mula)**	**1.54**	**57**	*i* P	**Pg**	**12 06 57.3**	**-0.5**
DALY				*i* S	**Sn**	**12 07 15.0**	**-0.5**
DALY				IAML		12 07 25.0	
	comp=E,2μm,0.6s						
DALY				IAML		12 07 30.0	
	comp=N,3μm,0.7s						
IOSP	**Ios island**	**1.59**	**298**	P	**Pn**	**12 06 55.6**	**-0.6**
IOSP				S	**Sn**	**12 07 15.3**	**-1.4**
	comp=N,6μm,0.6s						
IOSP	**Ios island**	**1.59**	**298**	P	**Pn**	**12 06 55.6**	**-0.6**
IOSP				S	**Sn**	**12 07 16.3**	**-0.4**
IOSP				AML	AML	12 07 25.2	
	comp=N,13660μm,0.6s						
IOSP				AML	AML	12 07 27.5	
	comp=E,11451μm,0.5s						
APE	**Apeiranthos**	**1.62**	**312**	P	**Pn**	**12 06 56.1**	**-0.6**
APE				S	**Sn**	**12 07 16.7**	**-0.8**
	comp=E,3μm,0.6s						
APE	**Apeiranthos**	**1.62**	**312**	P	**Pn**	**12 06 56.2**	**-0.6**
APE				S	**Sn**	**12 07 16.8**	**-0.8**
APE				AML	AML	12 07 27.3	
	comp=N,5130μm,0.3s						
APE				AML	AML	12 07 30.4	
	comp=E,4960μm,0.5s						
APE	**Apeiranthos**	**1.62**	**312**	PN	**Pn**	**12 06 56.3**	**-0.4**
APE	**Apeiranthos**	**1.62**	**312**	⇑P	**Pn**	**12 06 56.1**	**-0.6**
APE				S	**Sn**	**12 07 16.7**	**-0.8**
SMG	**Samos**	**1.72**	**355**	P	**Pn**	**12 06 56.8**	**-1.2**
SMG				S	**Sn**	**12 07 18.5**	**-1.5**
	comp=E,2μm,0.4s						
SMG	**Samos**	**1.72**	**355**	P	**Pn**	**12 06 56.9**	**-1.2**
SMG				AML	AML	12 07 33.1	
	comp=E,4581μm,0.3s						
SMG				AML	AML	12 07 34.8	
	comp=N,5155μm,0.4s						
IACM	**Heraklion**	**1.74**	**248**	P	**Pn**	**12 06 57.9**	**-0.4**
KSTL	**Kastelli Herak**	**1.74**	**247**	P	**Pn**	**12 06 56.8**	**-1.5**
FETY	**Fethiye**	**1.77**	**68**	P	**Pn**	**12 06 57.5**	**-1.2**
FETY				S	**Sn**	**12 07 21.3**	**+0.1**
FETY	**Fethiye**	**1.77**	**68**	PN	**Pb**	**12 07 00.3**	**-0.4**
FETY	**Fethiye**	**1.77**	**68**	*i* P	**Pb**	**12 07 00.5**	**-0.2**
FETY				IAML		12 07 30.0	
	comp=N,1μm,0.9s						
FETY				IAML		12 07 36.0	
	comp=E,888nm,0.7s						
AYDN	**Tasoluk**	**1.80**	**22**	*i* P	**Pb**	**12 06 59.9**	**-1.3**
AYDN				IAML		12 07 34.0	
	comp=E,1μm,0.6s						
AYDN				IAML		12 07 35.0	
	comp=N,1μm,1.1s						
IDI	**Anoyia**	**1.89**	**249**	Pn	**Pn**	**12 07 00.8**	**+0.4**
	comp=N,19nm,0.3s,baz=71,slow=15,SNR=89						
IDI				Sn	**Sn**	**12 07 24.2**	**+0.2**
	comp=N,129nm,0.3s,baz=270,slow=15,SNR=8.3						
IDI	**Anoyia**	**1.89**	**249**	P	**Pn**	**12 06 59.3**	**-1.0**
IDI				S	**Sn**	**12 07 23.7**	**-0.3**
	comp=N,1μm,0.6s						
IDI	**Anoyia**	**1.89**	**249**	P	**Pn**	**12 07 00.5**	**+0.2**
IDI				S	**Sn**	**12 07 23.3**	**-0.8**
IDI				AML	AML	12 07 38.6	
	comp=N,3586μm,0.5s						
IDI				AML	AML	12 07 40.2	
	comp=E,3040μm,0.6s						
IDI	**Anoyia**	**1.89**	**249**	PN	**Pn**	**12 07 00.7**	**+0.4**
IDI	**Anoyia**	**1.89**	**249**	Pn	**Pn**	**12 07 00.5**	**+0.2**
SIVA	**Sivas**	**2.06**	**243**	P	**Pn**	**12 07 03.8**	**+1.2**
SIVA	**Sivas**	**2.06**	**243**	P	**Pn**	**12 07 04.0**	**+1.3**
DGB	**zmir**	**2.06**	**357**	*i* P	**Pn**	**12 07 01.9**	**-0.8**
DGB				IAML		12 07 40.0	
	comp=N,513nm,0.7s						
DGB				IAML		12 07 42.0	
	comp=E,601nm,0.7s						
KSL	**Kastellorizon**	**2.07**	**85**	P	**Pb**	**12 07 04.2**	**-1.5**
KSL	**Kastellorizon**	**2.07**	**85**	P	**Pn**	**12 07 03.7**	**+1.0**
KSL	**Kastellorizon**	**2.07**	**85**	⇑P	**Pn**	**12 07 01.3**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**19**	PN	**Pn**	**12 07 03.4**	**+0.5**
AKAS	**Kas**	**2.09**	**83**	PN	**Pb**	**12 07 04.8**	**-1.4**
AKAS	**Kas**	**2.09**	**83**	*i* P	**Pb**	**12 07 04.9**	**-1.4**
AKAS				IAML		12 07 54.0	
	comp=E,773nm,0.7s						
AKAS	**Kas**	**2.09**	**83**		**Pb**	**12 07 04.8**	**-1.4**
TAVA	**DENIZLI_Tavas**	**2.11**	**45**	*i* P	**Pb**	**12 07 07.2**	**+0.8**
TAVA				IAML		12 07 45.0	
	comp=N,827nm,0.6s						
TAVA				IAML		12 07 52.0	
	comp=E,900nm,0.9s						
PRNS	**Prines Rethymn**	**2.16**	**254**	P	**Pb**	**12 07 05.9**	**-1.3**
MHLO	**Agia Marina, M**	**2.24**	**289**	P	**Pn**	**12 07 05.2**	**+0.1**
MHLO	**Agia Marina, M**	**2.24**	**289**	P	**Pn**	**12 07 05.9**	**+0.7**
MHLO				AML	AML	12 07 49.8	
	comp=N,9624μm,0.6s						
MHLO				AML	AML	12 07 53.3	
	comp=E,8146μm,0.8s						
MHLA	**Plaka, Milos I**	**2.24**	**290**	P	**Pn**	**12 07 05.4**	**+0.2**
MHLA				AML	AML	12 07 58.2	
	comp=E,6910μm,1.1s						
MHLA				AML	AML	12 08 00.9	
	comp=N,8145μm,1.1s						
SERI	**Serifos**	**2.37**	**300**	P	**Pn**	**12 07 06.8**	**-0.1**
SERI	**Serifos**	**2.37**	**300**	P	**Pn**	**12 07 06.6**	**

KTHA **Kythira Island** 3.23 276 P Pn 12 07 19.3 +0.5
DION **Dionisos Attik** 3.24 311 P Pn 12 07 19.5 +0.5
DION **Dionisos Attik** 3.24 311 P Pn 12 07 19.6 +0.7
PTL **Penteli** 3.27 310 P Pn 12 07 20.4 +1.1
ATHU **Athens Univers** 3.27 308 P Pn 12 07 19.3 0.0
KTHR **Kythira** 3.28 276 P Pn 12 07 20.6 +1.2
PRK **Paraskevi** 3.31 350 P Pn 12 07 19.5 -0.3
PRK **Paraskevi** 3.31 350 P Pn 12 07 19.0 -0.8
ISP **Isparta** 3.34 56 Pn Pn 12 07 19.4 -0.9
ISP **Isparta** 3.34 56 Pn Pn 12 07 23.0 +2.7
SIGR **SIGRI** 3.35 344 P Pn 12 07 20.0 -0.4
VLI **Veliai** 3.39 284 P Pn 12 07 21.0 +0.1
VLI **Veliai** 3.39 284 P Pn 12 07 21.6 +0.7
KRND **KRANIDI** 3.42 295 P Pn 12 07 21.9 +0.5
KRND **KRANIDI** 3.42 295 P Pn 12 07 22.2 +0.9
KYMI **Kymi, Euboea I** 3.53 319 P Pn 12 07 22.9 0.0
EPID **Epidavros** 3.54 298 P Pn 12 07 24.0 +1.0
BAGO **Egridir - ISPA** 3.61 55 *i* P Pb 12 07 29.0 -3.0
BAGO IAML 12 08 34.0
comp=E,55nm,0.6s
BAGO IAML 12 09 01.0
comp=N,70nm,1.1s
GDZ **Gediz** 3.65 31 *i* P Pn 12 07 25.3 +0.7
GDZ IAML 12 08 42.0
comp=N,123nm,2.1s
GDZ IAML 12 08 47.0
comp=E,80nm,1.1s
VILL **Villia** 3.69 307 P Pn 12 07 25.9 +0.8
VIL2 **Platees** 3.74 307 P Pn 12 07 26.0 +0.2
BAYC **CANAKKALE_Bayr** 3.77 354 *i* P Pn 12 07 25.2 -1.0
BAYC IAML 12 08 43.0
comp=E,94nm,1.2s
BAYC IAML 12 08 46.0
comp=N,57nm,0.7s
BALY **Balya** 3.77 7 *i* P Pn 12 07 26.1 -0.1
BALY IAML 12 08 42.0
comp=E,175nm,0.9s
BALY IAML 12 08 57.0
comp=N,219nm,1.5s
KEPZ **Antalya-Kepez** 3.79 75 *i* P Pn 12 07 29.2 +2.7
KEPZ IAML 12 08 25.0
comp=E,204nm,1.0s
KEPZ IAML 12 08 48.0
comp=N,229nm,0.8s
AFYO **Afyonkarahisar** 3.81 42 *i* P Pn 12 07 29.2 +2.3
AFYO IAML 12 08 54.0
comp=N,494nm,1.1s
AFYO IAML 12 08 59.0
comp=E,783nm,1.7s
LTK **Loutraki** 3.84 303 P Pn 12 07 28.0 +0.8
VLX **Vlachokerasia** 3.99 292 P Pn 12 07 31.4 +2.1
VLX **Vlachokerasia** 3.99 292 P Pn 12 07 31.2 +1.9
GUR **Goura** 4.23 299 P Pn 12 07 34.1 +1.5
DOGA **KONYA_Doganhis** 4.26 59 *i* P Pn 12 07 36.7 +3.6
DOGA IAML 12 08 38.0
comp=E,112nm,0.7s
DOGA IAML 12 09 00.0
comp=N,165nm,1.7s
GAZI **Gazipasa** 4.28 85 *i* P Pn 12 07 33.4 +0.2
GAZI IAML 12 08 29.0
comp=E,464nm,0.6s
GAZI IAML 12 08 30.0
comp=N,260nm,0.6s
OSC1 **CSNet OBS 1** 4.28 124 P Pn 12 07 32.9 -0.2
OSC1 S Sn 12 08 24.9 +1.8
ITM **Ithomi** 4.28 288 P Pn 12 07 36.0 +2.8
ITM **Ithomi** 4.28 288 Pn Pn 12 07 36.0 +2.8
DSF **Desfina** 4.34 305 P Pn 12 07 34.9 +0.9
PYL **PYLOS** 4.37 284 P Pn 12 07 35.8 +1.4
KLV **Kalavryta, Ach** 4.42 299 P Pn 12 07 36.0 +0.9
AKMS **Akamas** 4.43 101 P Pn 12 07 35.3 +0.1
AKMS AML AML 12 08 26.6
comp=N,5.1nm,0.7s
AKMS AML AML 12 08 27.5
comp=N,5.3nm,0.9s
ALFC **Alefka** 4.61 99 P Pn 12 07 37.3 -0.4
ALFC AML AML 12 08 33.3
comp=N,3.8nm,0.7s
ALFC AML AML 12 08 35.3
comp=N,2.6nm,0.5s
KMER **Konya-Meram** 4.63 66 *i* P Pn 12 07 40.7 +2.7
KMER IAML 12 08 44.0
comp=N,106nm,1.3s
KMER IAML 12 09 14.0
comp=E,102nm,1.2s
NATA **Nata** 4.68 103 P Pn 12 07 38.8 +0.2
KONT **Konya--Tatoy** 4.69 64 *i* P Pn 12 07 41.8 +3.0
KONT IAML 12 08 53.0
comp=E,78nm,0.8s
KONT IAML 12 09 15.0
comp=N,87nm,1.4s
BORA **Eskisehir** 4.73 34 *i* P Pn 12 07 39.6 +0.1
BORA IAML 12 09 18.0
comp=E,28nm,1.4s
BORA IAML 12 09 27.0
comp=N,23nm,1.7s
SLUM **Salum** 4.74 199 P Pn 12 07 39.8 +0.3
baz=200
SLUM S Sn 12 08 32.9 -1.3
baz=200
EFP **Efpalio** 4.76 302 P Pn 12 07 40.5 +0.7
ANX **Ano Chora** 4.84 304 P Pn 12 07 42.5 +1.6
LEF **Lefka** 4.85 99 ⇓P Pn 12 07 43.2 +2.2
LEF ⇑S Sn 12 08 34.6 -2.4
LEF **Lefka** 4.85 99 *i* P Pn 12 07 40.4 -0.5
LEF *i* S Sn 12 08 34.6 -2.4
LEF IAML 12 08 43.0
comp=N,274nm,0.8s
LEF IAML 12 08 46.0
comp=E,227nm,0.6s
SZAC **Souni** 4.93 103 ⇑P Pn 12 07 42.1 -0.1
SZAC AML AML 12 08 39.3
comp=E,3.2nm,0.8s
SZAC AML AML 12 08 39.7
comp=E,5.6nm,0.8s
ALN **Alexandroupoli** 4.96 351 Pn Pn 12 07 42.8 +0.2
EVR **Evrytania** 5.08 307 P Pn 12 07 46.1 +1.8
OSC2 **CSNet OBS 4** 5.20 122 P Pn 12 07 46.2 +0.3
ASGA **Asgata** 5.21 102 P Pn 12 07 46.1 +0.1
CSS **Mathiatis** 5.24 99 Pn Pn 12 07 45.4 -0.9
CSS **Mathiatis** 5.24 99 ⇑P Pn 12 07 47.2 +0.8
CSS **Mathiatis** 5.24 99 Pn Pn 12 07 47.1 +0.8
GULN **MERSIN_Gulnar** 5.27 86 *i* P Pn 12 07 48.4 +1.6
GULN IAML 12 08 54.0
comp=E,81nm,0.6s
GULN IAML 12 08 57.0
comp=N,84nm,0.5s
THL **Klokotos Trika** 5.35 313 P Pn 12 07 48.7 +0.9
LIT **Litohoron** 5.45 320 Pn Pn 12 07 50.5 +1.2
MVOU **Mavrovouni** 5.46 98 ⇓P Pn 12 07 50.1 +0.6
MDUB **Mudurnu** 5.54 35 Pn Pn 12 07 53.5 +2.9
BR231 **Keskin MP Arra** 5.95 48 Pn 12 07 59.7 +3.5
ANTO **Ankara** 5.97 48 Pn Pn 12 07 59.6 +3.1
GULE **Gulek** 6.35 76 *i* P Pn 12 08 06.6 +4.8
GULE IAML 12 09 43.0
comp=N,94nm,0.8s
GULE IAML 12 09 48.0
comp=E,113nm,0.7s
VAY **Valandovo** 6.37 328 *i* Pn Pb 12 08 13.3 -5.7
BR131 **Keskin Array S** 6.42 52 Pn Pn 12 08 05.5 +2.8
BRTR **Keskin Array B** 6.42 52 Pn Pn 12 08 05.8 +3.2
comp=E,0.9nm,0.3s,baz=236,slow=15,SNR=26
BRTR Sn Sn 12 09 17.5 +1.6
comp=E,0.6nm,0.3s,baz=228,slow=22,SNR=5.2
BRTR LR LR 12 11 20.7
comp=E,173nm,20.2s,baz=244,slow=46
BRTR **Keskin Array B** 6.42 52 Pn Pn 12 08 04.9 +2.3
STIP **Stip** 6.84 328 *i* Pn Pn 12 08 09.4 +1.1
SWA2 6.86 192 P Pn 12 08 09.9 +1.3
baz=192
SWA2 AMP 12 09 00.0
baz=192
AKO **Adana** 6.91 75 *i* P Pn 12 08 10.3 +1.0
AKO IAML 12 09 37.0
comp=E,25nm,0.5s
AKO IAML 12 09 48.0
comp=N,21nm,0.5s
HMYD **Mayadein** 6.94 152 P Pn 12 08 10.2 +0.5
baz=153
OHR **Ohrid** 7.07 318 *i* Pn Pn 12 08 14.5 +2.9
KOT **Kottamia** 7.26 145 P Pn 12 08 14.5 +0.3
baz=146
KOT S Sn 12 09 32.3 -4.3
baz=146

ILGA **Ilgaz** 7.28 44 Pn Pn 12 08 17.0 +2.5
HHAG **Hagoal** 7.37 143 P Pn 12 08 15.2 -0.4
baz=144
HSAF **As Saff** 7.40 148 P Pn 12 08 15.8 -0.3
baz=149
HWQ **Hawqa** 7.49 101 *e*P Pn 12 08 16.9 -0.6
GLL **Jalalah** 7.50 147 P Pn 12 08 16.9 -0.7
baz=148
MMA0B **Mount Meron ar** 7.51 111 Pn Pn 12 08 17.5 -0.2
MMA0B Sn Sn 12 09 40.0 -2.8
MMAI **Mount Meron Ar** 7.51 111 Pn Pn 12 08 17.1 -0.6
comp=N,9.3nm,0.3s,baz=297,slow=13,SNR=11
MMAI Sn Sn 12 09 40.4 -2.4
comp=N,13nm,0.3s,baz=305,slow=25,SNR=6.9
MMAI LR LR 12 12 42.1
comp=N,98nm,19.0s,baz=260,slow=50
GEM **Giv'at Ha'Em** 7.63 109 Pn Pn 12 08 18.0 -1.2
GEM Sn Sn 12 09 41.6 -4.0
RCY **Rachaya** 7.66 106 *e*P Pn 12 08 18.8 -0.9
NATI **Neve Ativ** 7.67 108 Pn Pn 12 08 18.9 -0.8
TIR **Tirane** 7.75 316 Pn Pn 12 08 22.3 +1.5
MMLI **Mount Malkishu** 7.79 115 Pn Pn 12 08 19.9 -1.6
SUZ **Suez** 7.83 140 P Pn 12 08 22.5 +0.6
baz=141
SCTE **Santa Cesarea** 7.90 304 Pn Pn 12 08 23.7 +0.9
HMDT **Nahal Hemdat** 7.96 115 Pn Pn 12 08 22.5 -1.2
KZIT **Kziot** 7.97 127 Pn Pn 12 08 23.3 -0.5
YTIR **Yattir** 8.16 122 Pn Pn 12 08 24.7 -1.9
DSI **Dead Sea** 8.22 120 Pn Pn 12 08 26.8 -0.5
GAZ **Gaziantep** 8.27 79 Pn Pn 12 08 29.1 +1.1
DAMI2 **DAM2** 8.50 122 Pn Pn 12 08 30.6 -0.4
GHAJ **Ghor Haditha** 8.51 121 Pn Pn 12 08 29.6 -1.6
KRMI **Paran Flat** 8.71 130 Pn Pn 12 08 33.2 -0.8
PRNI **Paran** 8.72 128 Pn Pn 12 08 32.7 -1.6
TIP **Timpagrande** 8.76 294 ⇓P Pn 12 08 34.8 +0.1
PDG **Podgorica** 8.82 319 ⇓P Pn 12 08 37.6 +2.1
PDG **Podgorica** 8.82 319 Pn Pn 12 08 36.9 +1.4
HFRF **Wa'ad Farafira** 8.88 173 P Pn 12 08 37.0 +0.6
baz=173
HRFI **Mount Harif** 8.96 129 Pn Pn 12 08 36.7 -0.8
ASF **Jabal al Asfar** 9.02 112 Pn Pn 12 08 38.2 -0.1
comp=N,0.7nm,0.3s,baz=266,slow=16,SNR=8.3
ASF Sn Sn 12 10 21.8 +2.0
comp=N,0.7nm,0.3s,baz=65,slow=21,SNR=3.8
MBRI **Mt Berech** 9.05 131 Pn Pn 12 08 38.4 -0.4
GRB **Gharib** 9.11 146 P Pn 12 08 39.2 -0.3
baz=147
EIL **Elat** 9.16 131 Pn Pn 12 08 39.5 -0.8
comp=N,2.1nm,0.3s,baz=297,slow=3.7,SNR=24
EIL Sn Sn 12 10 16.7 -6.6
comp=N,3.0nm,0.3s,baz=17,slow=17,SNR=4.1
EIL **Elat** 9.16 131 Pn Pn 12 08 39.0 -1.2
AQBJ **Aqaba** 9.18 131 Pn Pn 12 08 38.4 -2.1
MATE **Matera** 9.36 303 ⇑P Pn 12 08 40.7 -2.1
MLR **Muntele Rosu** 9.53 355 Pn Pn 12 08 44.8 -0.5
comp=N,0.3nm,0.3s,baz=175,slow=12,SNR=2.3
MLR **Muntele Rosu** 9.53 355 ⇑P Pn 12 08 50.1 +4.7
BISRR **Bisoca** 9.55 359 ⇑P Pn 12 08 50.3 +4.7
VOIR 9.56 352 ⇓P Pn 12 08 50.0 +4.3
DIVS **Divibare** 9.73 328 Pn Pn 12 08 50.2 +2.1
PLOR **Plostina** 9.86 358 ⇑P Pn 12 08 54.9 +5.2
VRI **Vrincioaia** 9.87 359 ⇓P Pn 12 08 59.3 +9.4
GZR **Gura Zlata** 9.93 342 ⇑P Pn 12 08 50.7 -0.2
VAE **Valguarnera** 10.24 282 LR LR 12 13 11.9
comp=N,97nm,19.3s,baz=359,slow=40
RAFF **Raffo Rosso** 10.27 281 Pn Pn 12 08 57.8 +2.4
SGRT **San Giovanni R** 10.52 307 Pn Pn 12 08 57.7 -1.2
HDK1 **Dakhla** 10.61 168 P Pn 12 09 01.2 +1.1
baz=168
PAOL **Paolisi** 10.99 301 Pn 12 09 06.8 +1.6
BURAR **Bucovina Array** 11.70 354 Pn Pn 12 09 18.2 +3.2
INTR **Introdacqua** 11.85 304 Pn Pn 12 09 17.4 +0.3
NRCA **Norcia** 12.75 307 Pn Pn 12 09 29.1 -0.2
PSZ **Piszkesteto** 13.04 338 ⇓P P 12 09 45.3 +1.5
PSZ **Piszkesteto** 13.04 338 Pn Pn 12 09 33.9 +0.6
VYHS **Vyhne** 13.88 337 *e*PN P 12 09 48.9 -4.1
SOKA **Soboth** 13.96 324 *e*P P 12 09 50.5 -3.4
comp=N,22nm,0.8s
ARSA **Arzberg** 14.15 326 P P 12 09 52.0 -4.0
comp=N,11nm,1.5s
MODS **Modra-Piesok** 14.32 333 *e*PN P 12 09 57.6 -0.3
KEST **Kesra** 14.36 274 Pn P 12 09 57.7 -0.7
comp=N,0.8nm,0.3s,baz=2.5,slow=1.2,SNR=47
KEST LR LR 12 16 05.7
comp=N,80nm,20.2s,baz=6.0,slow=40
KBZ **Khabaz** 14.41 53 Pn Pn 12 09 54.9 +3.0
comp=N,0.1nm,0.3s,baz=70,slow=17,SNR=1.3
KBZ LR LR 12 17 20.4
comp=N,139nm,19.8s,baz=270,slow=45
CONA **Conrad Observa** 14.52 329 *e*P P 12 10 04.7 +4.6
comp=N,6.2nm,0.9s
MYKA **Terra Mystica** 14.62 321 *e*P Pn 12 09 57.7 +2.8
comp=N,15nm,1.0s
AKASC **Malin Array Be** 14.79 5 Pn Pn 12 09 57.8 +0.7
comp=N,0.4nm,0.3s,baz=195,slow=11,SNR=1.7
AKASG **Malin Array Be** 14.79 5 P Pn 12 09 59.2 +2.1
AKBB **Malin Array Si** 14.79 5 P P 12 10 03.1 +0.1
ZOU **Zoufplan** 14.92 319 P Pn 12 09 59.7 +0.6
CIMO **Cimolais** 15.05 318 P Pn 12 10 02.2 +1.5
CIMO IAmb IAmb 12 10 16.3
comp=E,11nm,0.8s
KBA **Koelnbreinsper** 15.07 322 P Pn 12 10 01.7 +0.6
comp=E,43nm,1.0s,SNR=7.1
MOA **Molln** 15.17 325 *e*P P 12 10 05.2 -2.1
comp=E,25nm,1.1s
KRUC **Moravsky** 15.22 332 *e*PN P 12 10 08.2 +0.4
ABTA **Abfaltersbach** 15.29 319 *e*P Pn 12 10 04.7 +0.9
comp=E,9.5nm,0.6s
CTI **Castel Tesino** 15.33 316 P P 12 10 06.8 -2.4
CTI IAmb IAmb 12 10 30.5
comp=E,18nm,1.0s
VRAC **Vranov** 15.35 333 Pn P 12 10 08.9 -0.3
comp=E,0.5nm,0.3s,baz=138,slow=9.6,SNR=10
VRAC **Vranov** 15.35 333 *e*PN P 12 10 10.0 +0.7
MORC **Moravsky Berou** 15.42 336 *e*PN P 12 10 10.7 +0.6
MORC **Moravsky Berou** 15.42 336 P P 12 10 10.6 +0.5
MORC IAmb IAmb 12 10 19.3
comp=E,27nm,1.3s
KRLC **Kraliky** 15.93 335 *e*P P 12 10 15.6 -0.1
WTTA **Wattenberg** 16.08 319 *i* P P 12 10 16.1 -1.5
comp=E,20nm,1.1s,SNR=5.6
WATA **Walderalm** 16.15 319 *e*P P 12 10 16.9 -1.5
comp=E,18nm,0.8s
GEC2 **GERESS Array S** 16.16 327 P P 12 10 17.0 -1.3
GEC2 IAmb IAmb 12 10 32.9
comp=E,16nm,1.0s
GERES **GERESS Array B** 16.16 327 Pn P 12 10 17.3 -1.0
comp=E,0.2nm,0.3s,baz=128,slow=12,SNR=21
GERES LR LR 12 16 42.6
comp=E,182nm,19.4s,baz=158,slow=38
GERES **GERESS Array B** 16.16 327 P Pn 12 10 16.5 +1.4
SQTA **Sankt Quirin** 16.28 318 *e*P P 12 10 18.5 -1.3
comp=E,12nm,0.8s
DPC **Dobruska-Polom** 16.32 335 *e*P P 12 10 20.5 +0.4
DPC *ex* x 12 10 31.6
MOTA **Moosalm** 16.41 319 *i* P P 12 10 20.3 -0.9
comp=E,33nm,1.1s,SNR=8.3
FETA **Feichten** 16.42 317 *i* P P 12 10 21.1 -0.3
comp=E,23nm,1.0s,SNR=10
KHC **Kasperske Hory** 16.42 327 *e*P P 12 10 21.0 -0.2
KHC *ex* x 12 10 33.9
KHC **Kasperske Hory** 16.42 327 P Pn 12 10 19.0 +0.6
FUORN **Ofenpass-Fuorn** 16.45 315 P P 12 10 21.6 -0.1
FUORN IAmb IAmb 12 10 24.2
comp=E,16nm,0.9s
OSTC **Ostas** 16.53 335 *e*P P 12 10 24.7 +2.3
UPC **Upice** 16.56 335 *e*P P 12 10 23.3 +0.6
UPC *ex* x 12 10 25.4
CHVC **Chvalec** 16.61 335 *e*P P 12 10 24.6 +1.3
CHVC *ex* x 12 10 30.3
PBCC **Pribram** 16.66 329 *e*P P 12 10 23.3 -0.6
PRU **Pruhonice** 16.68 331 *e*P P 12 10 23.6 -0.4
RETA **Reutte** 16.68 319 *i* P P 12 10 23.7 -0.5
comp=E,20nm,1.1s,SNR=7.6
DAVOX **Davos/Dischmat** 16.76 315 Pn P 12 10 25.3 +0.2
comp=E,0.2nm,0.3s,baz=169,slow=16,SNR=6.2
DAVOX LR LR 12 17 58.6
comp=E,169nm,21.1s,baz=65,slow=41
TUE **Stuetta** 16.90 314 P P 12 10 26.4 -0.2
DAVA **Damuels** 17.04 317 *e*P P 12 10 28.1 -0.2
comp=E,17nm,1.1s
BRG **Berggiesshubel** 17.62 332 *e*P P 12 10 34.3 -0.1
comp=E,11nm,1.1s
GRA1 **Grafenberg Arr** 17.89 325 P Pn 12 10 36.9 0.0

GRA1 IAmb IAmb 12 10 53.6
comp=E,33nm,1.3s
GRF **Grafenberg Arr** 17.89 325 *e*P P 12 10 38.3 +0.8
comp=E,9.2nm,0.9s,baz=139,slow=13
SENIN **Lac Senin/Sane** 18.07 311 Pn 12 10 39.0 -0.3
SUW **Suwalki** 18.22 353 P P 12 10 41.8 +0.8
STU **Stuttgart** 18.30 320 P P 12 10 42.8 +0.8
STU IAmb IAmb 12 10 45.4
comp=E,37nm,1.0s
CLL **Collm** 18.32 331 *i* (P) P 12 10 42.8 +0.7
comp=E,13nm,0.9s
BFO **Black Forest** 18.50 318 P Pn 12 10 44.2 -0.1
WLF **Walferdange** 20.44 318 P P 12 11 05.3 0.0
WLF IAmb IAmb 12 11 06.9
comp=E,21nm,1.0s
TAM **Tamanrasset** 22.84 241 P P 12 11 29.3 -2.1
TAM IAmb IAmb 12 11 35.2
comp=E,5.9nm,0.8s
ESBB **Sonseca Array** 24.70 288 P P 12 11 47.5 -1.6
ESBB IAmb IAmb 12 11 54.0
comp=E,12nm,0.9s
ESDC **Sonseca Array** 24.70 288 P P 12 11 48.5 -0.7
comp=E,6.9nm,0.8s,baz=80,slow=9.8,SNR=34
ESDC LR LR 12 21 44.8
comp=E,58nm,19.3s,baz=5.0,slow=37
ESDC **Sonseca Array** 24.70 288 P P 12 11 48.3 -0.9
GEYT **Alibeck** 24.85 76 P P 12 11 52.1 +1.5
comp=E,26nm,1.0s,baz=279,slow=9.8,SNR=19
GEYT **Alibeck** 24.85 76 IAmb IAmb 12 12 01.6
comp=E,13nm,0.9s
GYA0B **ALIBECK ARRAY** 24.85 76 P P 12 11 52.1 +1.5
GYA0B IAmb IAmb 12 12 01.6
comp=E,29nm,0.9s
FINES **FINESS Array B** 25.48 359 P P 12 11 54.9 -1.1
comp=E,5.5nm,0.8s,baz=151,slow=4.4,SNR=9.8
FINES **FINESS Array B** 25.48 359 P P 12 11 54.7 -1.2
HFS **Hagfors** 25.65 345 P P 12 11 57.6 +0.1
comp=E,6.7nm,0.9s,baz=152,slow=19,SNR=3.8
HFS LR LR 12 22 34.9
comp=E,424nm,19.0s,baz=292,slow=38
MDT **Midelt** 26.24 272 P P 12 12 03.9 +0.6
comp=E,16nm,0.9s,baz=90,slow=9.9,SNR=14
MDT LR LR 12 22 10.5
comp=E,46nm,21.9s,baz=16,slow=36
AKTO **Aktyubinsk** 26.56 47 P P 12 12 05.8 -0.1
comp=E,0.7nm,0.3s,baz=237,slow=10,SNR=1.9
PBRG **Braganca** 26.81 293 *e*P P 12 12 08.1 -0.2
comp=E,27nm,1.7s
KIRV **Kirov** 26.98 26 P P 12 12 09.1 -0.4
comp=E,7.4nm,0.4s,baz=254,slow=2.3,SNR=3.8
MVO **Moncorvo** 27.02 291 *e*P P 12 12 11.5 +1.3
comp=E,21nm,1.1s
NOA **NORSAR Array B** 27.02 343 P P 12 12 09.6 -0.3
comp=E,1.8nm,0.9s,baz=142,slow=10,SNR=3.0
ABKAR **Akbulak array** 27.36 51 P P 12 12 13.7 +0.6
PCBR **Castelo Branco** 27.40 289 *e*P P 12 12 12.3 -1.2
comp=E,19nm,1.7s
PVIS **Viseu** 27.68 290 *e*P P 12 12 16.5 +0.4
comp=E,18nm,2.0s
PMTG **Montargil** 28.03 287 *e*P P 12 12 19.5 +0.3
comp=E,20nm,1.3s
TORD **Torodi Ar. Bea** 32.20 231 P P 12 12 56.0 -0.3
comp=E,2.7nm,0.5s,baz=32,slow=8.8,SNR=16
TORD LR LR 12 26 18.0
comp=E,78nm,20.2s,baz=35,slow=37
TORD **Torodi Ar. Bea** 32.20 231 P P 12 12 55.9 -0.3
CHGR **Chuyangaron** 33.39 73 P P 12 13 09.2 +2.6
CHGR IAmb IAmb 12 13 10.3
comp=E,10nm,0.9s
ARCES **ARCESS Array B** 33.61 359 P P 12 13 05.2 -2.9
comp=E,5.1nm,0.8s,baz=150,slow=5.1,SNR=7.0
KKAR **Karatay Array** 33.96 64 P P 12 13 13.6 +2.1
KOWA **Kowa** 35.07 240 P P 12 13 21.4 +0.2
comp=E,3.9nm,0.9s,baz=40,slow=9.0,SNR=6.8
NIL **Nilore** 37.74 80 P P 12 13 45.0 +1.0
NIL IAmb IAmb 12 14 03.3
comp=E,12nm,1.1s
KURBB **Kurchatov Arra** 39.41 52 P P 12 13 57.7 0.0
comp=E,3.9nm,0.7s,baz=278,slow=8.7,SNR=29
KURK **Kurchatov** 39.47 52 P P 12 13 58.4 +0.2
KURK IAmb IAmb 12 14 22.5
comp=E,4.8nm,0.9s
DBIC **Dimbokro** 41.28 233 P P 12 14 13.3 -0.3
comp=E,4.7nm,0.7s,baz=15,slow=11,SNR=5.1
DBIC LR LR 12 35 29.1
comp=E,48nm,18.9s,baz=16,slow=42
DBIC **Dimbokro** 41.28 233 P P 12 14 12.7 -0.9
TIC **Toumodi** 41.41 233 *e*P P 12 14 14.5 -0.2
KIC **Kosan Boka** 41.44 232 *e*P P 12 14 14.9 0.0
comp=E,19nm,0.9s
LIC **Lamto** 41.73 232 *e*P P 12 14 17.2 -0.1
comp=E,28nm,0.9s
MAKZ **Makanchi** 41.82 57 P P 12 14 18.2 +0.4
MAKZ IAmb IAmb 12 15 46.5
comp=E,7.1nm,1.7s
MKAR **Makanchi Array** 42.04 57 P P 12 14 19.8 +0.3
comp=E,3.8nm,0.7s,baz=281,slow=6.1,SNR=30
MKAR ScP **ScP** 12 20 09.6 +5.0
comp=E,0.9nm,0.6s,baz=282,slow=3.6,SNR=4.2
MKAR **Makanchi Array** 42.04 57 P P 12 14 19.6 0.0
ZALV **Zalesovo Beam** 43.32 47 P P 12 14 29.1 -0.7
comp=E,1.2nm,0.4s,baz=271,slow=8.1,SNR=7.0
NRIK **Noril'sk** 46.48 25 P P 12 14 55.3 +0.6
comp=E,3.1nm,0.7s,baz=220,slow=2.7,SNR=4.8
SONM **Songino Array** 57.77 52 P P 12 16 19.7 +0.5
comp=E,2.6nm,0.7s,baz=287,slow=7.9,SNR=12
SONM **Songino Array** 57.77 52 P P 12 16 19.8 +0.5
SCHQ **Schefferville** 63.55 320 P P 12 16 56.3 -2.0
comp=E,5.1nm,0.7s,baz=56,slow=14,SNR=3.6
SCHQ **Schefferville** 63.55 320 P P 12 16 56.8 -1.6
CMAR **Chiang Mai Arr** 64.96 85 P P 12 17 07.3 -0.8
comp=E,0.9nm,0.6s,baz=304,slow=8.1,SNR=7.4
GYA **Guiyang** 67.03 73 ⇑P P 12 17 31.7 +10
GYA pmax pmax
comp=E,6.0nm,1.3s
D62A **Allapoint, All** 68.39 313 P P 12 17 29.9 +0.3
RPSI **Rantau Prapat** 73.79 99 P P 12 18 03.2 +0.4
MA2 **Magadan** 74.07 26 P P 12 18 05.5 +1.8
comp=E,16nm,0.9s,baz=260,slow=6.1,SNR=2.4
USRK **Ussuriysk Ar.** 75.17 46 P P 12 18 09.9 -0.4
comp=E,1.7nm,0.7s,baz=251,slow=3.6,SNR=6.1
KSRS **Korea Array** 76.56 53 P P 12 18 18.4 -0.1
comp=E,2.3nm,0.8s,baz=287,slow=6.1,SNR=7.4
ILAR **Eielson Array** 79.46 357 P P 12 18 34.7 +0.6
comp=E,0.3nm,0.8s,baz=320,slow=4.0,SNR=2.7
ULM **Lac du Bonnet** 80.47 327 P P 12 18 38.0 -1.8
comp=E,2.8nm,0.7s,baz=70,slow=5.9,SNR=4.5
MJAR **Matsushiro Arr** 83.63 49 P P 12 18 56.5 -0.1
comp=E,1.3nm,0.9s,baz=319,slow=9.6,SNR=2.4
BDFB **Brasilia** 87.43 249 P P 12 19 16.1 +0.1
comp=E,5.0nm,0.7s,baz=68,slow=8.4,SNR=5.6
PDAR **Pinedale Array** 92.18 330 P P 12 19 35.6 -2.5
comp=E,0.4nm,0.7s,baz=66,slow=5.0,SNR=2.6
NVAR **Mina Array Bea** 99.31 333 P Pdif 12 20 09.8 -0.8
comp=E,0.4nm,0.7s,baz=33,slow=3.5,SNR=4.4
TXAR **Lajitas Array** 100.18 318 P Pdif 12 20 14.4 0.0
comp=E,0.2nm,0.8s,baz=98,slow=1.3,SNR=2.1
WRA **Warramunga Arr** 115.17 97 PKP PKPdf 12 25 08.8 -1.0
comp=E,0.4nm,0.9s,baz=309,slow=1.6,SNR=2.2
ASAR **Alice Springs** 116.69 101 PKP PKiKP 12 25 12.5 -0.2
comp=E,0.2nm,0.2s,baz=336,slow=2.0,SNR=2.4

UPA ***02*** *12:09:36.1±1.2, 6˚.87N×73˚.13W, h165km±46km, MW4.6*
IDC ***02*** *12:09:36.6±2.7, 6˚.57N×73˚.01W, h161km±21km, mb3.5/11, mb1 3.7/14, mb1mx3.5/35, mbtmp4.0/14, Error ellipse: s-maj=30.1km s-min=15.5km az=17.0*
NEIC ***02*** *12:09:38.8±1.7, 6˚.8N±0˚.1×72˚.9W±0˚.1, h175km±8km, mb4.1/8, Error ellipse: s-maj=17.8km s-min=14.3km az=195.0*
RSNC ***02*** *12:09:38.4±2.4, 6˚.87N×73˚.17W, h152km±9km, ML4.0, Mw4.1, Fault plane solution: NP1:ϕ±55.00000°, δ39.00000°, λ151.00000°.*

ISC 02 12:09:37.1±0.6, 6˚.89N±0˚.03×73˚.12W±0˚.03, h158km±5km, n83, σ2s05/132, mb3.7/13, 6C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.30**	**191**	⇓*i*P	**Pn**	**12 09 59.0**	**+0.1**
BARC				*e*S	**Sn**	**12 10 14.6**	**-1.1**
BARC				*i*		12 10 15.8	
	comp=Z,3μm,0.5s						
PAMC	**Pamplona, Colo**	**0.61**	**43**	⇓*e*P	**Pn**	**12 10 01.6**	**+1.0**
PAMC				*e*S	**Sn**	**12 10 18.6**	**+0.1**
PAMC				*i*		12 10 20.7	

comp=Z,2µm,0.5s
BRRC Barranca, Sant 0.62 290⇑ *i* P **Pn 12 10 00.7 +0.7**
BRRC eS **Sn 12 10 17.2 -0.2**
BRRC *i* 12 10 21.3
comp=Z,2µm,0.1s
RUSC La Rusia 0.99 178⇑ *i* P **Pn 12 10 03.1 -0.1**
RUSC eS **Sn 12 10 21.6 -1.5**
RUSC *i* 12 10 23.9
comp=Z,1µm,0.4s
OCAC Ocana 1.35 352 *e*P **Pn 12 10 06.6 +0.6**
OCAC eS **Sn 12 10 28.1 -0.1**
OCAC *i* 12 10 32.8
comp=Z,1µm,0.2s
PTBC PUERTO BERRIO, 1.37 255⇑ *i* P **Pn 12 10 05.5 -0.5**
PTBC eS **Sn 12 10 27.2 -1.0**
PTBC *i* 12 10 29.1
comp=Z,2µm,0.2s
TAMC Tame, Arauca 1.40 109⇓ *i* P **Pn 12 10 07.3 +1.0**
TAMC *i* 12 10 07.5
comp=Z,2µm,0.4s
TAMC eS **Sn 12 10 28.7 0.0**
SPBC San Pablo de B 1.55 217⇑ *i* P **Pn 12 10 08.0 +0.1**
SPBC eS **Sn 12 10 30.4 -1.3**
SPBC *i* 12 10 33.8
comp=Z,1µm,0.2s
ZARC Zaragoza, Cauc 1.82 289 *e*P **Pn 12 10 10.9 +0.1**
ZARC eS **Sn 12 10 35.9 -0.7**
ZARC *i* 12 10 42.5
comp=Z,3µm,0.4s
SMLC San Martn de 2.12 334 *e*P **Pn 12 10 14.3 +0.2**
SMLC eS **Sn 12 10 42.7 0.0**
SMLC *i* 12 10 46.2
comp=Z,1µm,0.1s
CTAB Cerro Tablazo, 2.16 210 *e*P **Pn 12 10 17.2 +2.2**
CTAB eS **Sn 12 10 45.0 +0.8**
CHIC Chingaza 2.33 195⇑ *i* P **Pn 12 10 17.2 +0.2**
CHIC eS **Sn 12 10 46.8 -0.9**
CHIC *i* 12 10 51.7
comp=Z,470nm,0.3s
CVER Cruz Verde, Cu 2.54 202 *e*P **Pn 12 10 19.7 +0.1**
UREC San Jos de Ur 2.54 290 *e*P **Pn 12 10 18.6 -0.6**
UREC eS **Sn 12 10 49.2 -2.4**
UREC *i* 12 10 59.0
comp=Z,2µm,0.3s
SOCV Socops 2.64 58 *e*P **Pn 12 10 21.2 +0.8**
SOCV eS **Sn 12 10 52.2 -1.6**
GUY2C Guyana, Caldas 2.78 233 *e*P **Pn 12 10 23.6 +1.1**
GUY2C eS **Sn 12 10 57.2 -0.4**
GUY2C *i* 12 11 05.0
comp=Z,521nm,0.5s
VILC Villavicencio, 2.82 192 *e*P **Pn 12 10 22.8 +0.1**
VILC eS **Sn 12 10 57.9 -0.1**
VILC *i* 12 11 06.1
comp=Z,676nm,0.5s
PTGC Puerto Gaitan, 2.85 160⇓ *e*P **Pn 12 10 22.1 -0.9**
PTGC *i* 12 10 22.9
comp=Z,384nm,0.2s
PTGC eS **Sn 12 10 55.6 -2.9**
CBOC Ciudad Bolivar 3.05 251 *e*P **Pn 12 10 27.0 +1.4**
CBOC eS **Sn 12 10 59.4 -3.7**
CBOC *i* 12 11 13.1
comp=Z,196nm,0.5s
DBBC Dabeiba 3.07 273⇓ *i* P **Pn 12 10 26.3 +0.5**
MONA Monteria 3.13 307 *e*P **Pn 12 10 25.8 -0.7**
MONA eS **Sn 12 11 02.3 -2.5**
MOTC Monteria, Cord 3.14 307⇓ *i* P **Pn 12 10 25.7 -0.8**
MOTC eS **Sn 12 11 03.0 -2.0**
MOTC *i* 12 11 19.3
comp=Z,326nm,0.5s
ARGC Ariguani, Magd 3.15 339 *e*P **Pn 12 10 28.9 +2.1**
ARGC eS **Sn 12 11 06.7 +1.4**
ARGC *i* 12 11 21.0
comp=Z,154nm,0.2s
SDV Santo Domingo 3.16 51 P **Pn 12 10 28.1 +1.0**
comp=Z,79nm,0.3s,baz=240,slow=9.7,SNR=86
SDV S **Sn 12 11 04.8 -1.0**
comp=Z,68nm,0.3s,baz=306,slow=22,SNR=22
SDV Santo Domingo 3.16 51⇓ *e*P **Pn 12 10 27.8 +0.8**
SDV *i* 12 10 28.9
comp=Z,211nm,0.4s
SDV eS **Sn 12 11 04.2 -1.6**
TOLC Tolima 3.17 224 *e*P **Pn 12 10 27.8 +0.6**
TOLC eS **Sn 12 10 46.4 +0.3**
ANIL Santa Ana 3.29 224 *e*P **Pn 12 10 29.6 +0.8**
ANIL eS **Sn 12 11 08.5 -0.3**
ANIL *i* 12 11 15.0
comp=Z,96nm,0.3s
PRAC Prado 3.61 209 *e*P **Pn 12 10 32.4 -0.2**
PRAC eS **Sn 12 11 14.8 -1.0**
PRAC *i* 12 11 23.7
comp=Z,501nm,0.3s
SJCC San Jacinto, C 3.61 326 *e*P **Pn 12 10 32.3 -0.4**
SJCC eS **Sn 12 11 12.8 -3.1**
SJCC *i* 12 11 17.9
comp=Z,339nm,0.5s
SJCC San Jacinto, C 3.61 326 *i* P **Pn 12 10 31.3 -1.4**
SJCC eS **Sn 12 11 14.2 -1.7**
ELOV Elorza 3.62 88⇓ *i* P **Pn 12 10 33.0 +0.3**
ELOV eS **Sn 12 11 13.2 -2.6**
ORTC Ortega, Tolima 3.64 216 *e*P **Pn 12 10 33.2 +0.2**
ORTC eS **Sn 12 11 15.7 -0.8**
ORTC *i* 12 11 22.8
comp=Z,294nm,0.4s
PLMC San Jos del P 3.71 238 *e*P **Pn 12 10 34.9 +1.0**
PLMC eS **Sn 12 11 17.1 -1.1**
PLMC *i* 12 11 23.5
comp=Z,388nm,0.2s
LCBC Los crdobas, 3.76 301 *e*P **Pn 12 10 34.5 0.0**
LCBC eS **Sn 12 11 17.8 -1.3**
LCBC *i* 12 11 23.6
comp=Z,347nm,0.3s
YOTC Yotoco, Valle 4.32 228⇑ *i* P **Pn 12 10 42.1 +0.2**
YOTC eS **Sn 12 11 30.1 -2.2**
GUVC San Jose del G 4.35 173 *e*P **Pn 12 10 42.1 -0.1**
GUVC eS **Sn 12 11 30.6 -2.3**
GUVC *i* 12 11 36.2
comp=Z,221nm,0.3s
SMRC Santa Marta, M 4.38 346 *e*P **Pn 12 10 42.9 +0.3**
SMRC eS **Sn 12 11 31.1 -2.6**
SMRC *i* 12 11 32.6
comp=Z,71nm,0.2s
CAPC Capurgana 4.53 293 *e*P **Pn 12 10 43.1 -1.5**
CAPC eS **Sn 12 11 29.8 -7.4**
CAPC *i* 12 11 36.4
comp=Z,147nm,0.4s
CAP2 Capurgana 4.55 293 *i* P **Pn 12 10 43.3 -1.4**
CAP2 *i* S **Sn 12 11 34.4 -3.2**
PTAC Punta Ardita, 4.66 273 *e*P **Pn 12 10 46.5 +0.3**
PTAC *i* 12 10 51.1
comp=Z,248nm,0.2s
PTAC eS **Sn 12 11 37.5 -2.6**
DABV Dabajuro 4.70 31 *e*P **Pn 12 10 47.4 +0.7**
DABV eS **Sn 12 11 38.1 -3.0**
MACC Macarena, Meta 4.77 189 *e*P **Pn 12 10 46.4 -1.4**
MACC eS **Sn 12 11 37.0 -5.9**
MACC *i* 12 11 58.7
comp=Z,94nm,0.6s
URIC Uribia, Colomb 4.91 13 *e*P **Pn 12 10 49.1 -0.3**
URIC eS **Sn 12 11 41.4 -4.6**
MARP Paez Belalcaza 4.91 215 *e*P **Pn 12 10 50.0 +0.1**
MARP eS **Sn 12 11 45.4 -1.2**
UPD2 Meteti 5.12 289 *e*P **Pn 12 10 51.2 -1.1**
UPD2 *i* S **Sn 12 11 48.6 -2.4**
GARC Garzon, Huila 5.24 207 *e*P **Pn 12 10 53.3 -0.8**
GARC eS **Sn 12 11 47.0 -7.2**
GARC *i* 12 11 57.6
comp=Z,91nm,0.2s
FLOC Florencia 5.85 206 *e*P **Pn 12 11 00.9 -1.0**
FLOC eS **Sn 12 12 03.4 -5.0**
FLOC *i* 12 12 39.1
comp=Z,24nm,0.5s
CNTA3 Canitas, Panam 6.16 292 *e*P **Pn 12 11 04.4 -1.6**
BBAC Balboa, Cauca 6.35 221 *e*P **Pn 12 11 10.1 +1.3**
BBAC eS **Sn 12 12 16.4 -4.3**
BBAC *i* 12 12 25.5
comp=Z,24nm,0.3s
CHPO Chepo, Panama 6.35 291 *e*P **Pn 12 11 07.4 -1.2**
CHPO eS **Sn 12 12 15.5 -4.8**
UPA Univ. de Panam 6.68 289 *e*P **Pn 12 11 10.4 -2.6**
BCIP Isla Barro Col 7.02 289 Pn **Pn 12 11 17.0 -0.6**
PCRV Puerto La Cruz 9.01 68 P **Pn 12 11 45.2 +1.2**
comp=Z,1.4nm,0.3s,baz=282,slow=3.1,SNR=7.1
PCRV S **Sn 12 13 18.5 -5.6**
comp=Z,0.7nm,0.3s,baz=285,slow=13,SNR=1.7
PLCV Puerto La Cruz 9.04 68 **Pn 12 11 45.2 +0.7**
PLCV **Sn 12 13 18.5 -6.5**
JTS Las Juntas de 12.17 287 P **Pn 12 12 27.6 +2.1**
comp=Z,1.2nm,0.3s,baz=282,slow=20,SNR=2.0
SAML Samuel 18.59 148 P **P 12 13 42.6 +0.2**
TEIG Tepich 19.79 314 P **Pn 12 13 58.5 -0.1**
comp=Z,4.6nm,0.4s,baz=122,slow=17,SNR=6.1
TEIG Tepich 19.79 314 P **Pn 12 13 57.9 -0.7**
LPAZ La Paz 23.55 168 P **P 12 14 32.7 -1.3**
LPAZ IAmb IAmb 12 14 33.7
comp=Z,3.2nm,1.2s
TXAR Lajitas Array 36.41 312 P **P 12 16 28.6 +1.8**
comp=Z,0.8nm,0.6s,baz=125,slow=9.2,SNR=14
TXAR PcP **PcP 12 18 49.9 +2.3**
comp=Z,0.1nm,0.4s,baz=140,slow=3.7,SNR=3.6
TXAR Lajitas Array 36.41 312 P **P 12 16 28.3 +1.6**
TX31 Lajitas Ar. Si 36.41 312 P **P 12 16 28.3 +1.6**
TX31 IAmb IAmb 12 16 29.2
comp=Z,3.9nm,0.8s
TX32 Lajitas Array 36.41 312 P **P 12 16 28.7 +1.9**
TX32 IAmb IAmb 12 16 29.2
comp=Z,1.3nm,0.8s
ULM Lac du Bonnet 47.22 340 P **P 12 17 55.0 +1.0**
comp=Z,1.6nm,0.5s,baz=323,slow=7.1,SNR=2.3
ULM Lac du Bonnet 47.22 340 IAmb IAmb 12 17 55.7
comp=Z,16nm,1.4s
PDAR Pinedale Array 48.02 324 P **P 12 18 02.4 +1.7**
comp=Z,0.2nm,0.5s,baz=129,slow=7.1,SNR=2.7
SCHQ Schefferville 48.07 5 P **P 12 18 02.3 +1.8**
comp=Z,7.0nm,0.7s,baz=198,slow=7.6,SNR=5.2
SCHQ Schefferville 48.07 5 P **P 12 18 01.3 +0.8**
SCHQ IAmb IAmb 12 18 02.9
comp=Z,8.9nm,0.8s
NVAR Mina Array Bea 51.43 315 P **P 12 18 26.9 +0.4**
comp=Z,0.3nm,0.7s,baz=96,slow=8.3,SNR=3.5
YKA Yellowknife Ar 63.20 340 P **P 12 19 48.7 +0.5**
comp=Z,1.0nm,0.6s,baz=147,slow=7.9,SNR=4.8
DBIC Dimbokro 67.73 86 P **P 12 20 16.8 -1.4**
comp=Z,3.1nm,0.7s,baz=242,slow=5.9,SNR=1.8
TORD Torodi Ar. Bea 73.73 78 P **P 12 20 52.1 -2.4**
comp=Z,0.2nm,0.3s,baz=285,slow=6.1,SNR=5.2
TORD Torodi Ar. Bea 73.73 78 IAmb IAmb 12 20 55.4
comp=Z,0.8nm,1.1s
BRQR Ronquire 76.68 40 P **P 12 21 12.1 +1.5**
SNF Seneffe 76.70 40 P **P 12 21 11.4 +0.6**
DOU Dourbes 76.87 40 P **P 12 21 12.3 +0.5**
DOU S **PcP 12 21 18.8 -3.5**
comp=E,14nm,0.5s
ILAR Eielson Array 76.90 335 P **P 12 21 11.8 +0.2**
comp=E,0.2nm,0.7s,baz=89,slow=4.5,SNR=1.9
ARCES ARCESS Array B 86.61 20 P **P 12 22 03.1 +0.7**
comp=E,1.3nm,0.7s,baz=302,slow=5.2,SNR=1.3
ZALV Zalesovo Beam 116.60 14 PKP **PKiKP 12 28 03.5 +1.1**
comp=E,0.5nm,0.4s,baz=300,slow=5.8,SNR=1.9
MKAR Makanchi Array 122.26 20 PKP **PKPdf 12 28 13.5 0.0**
comp=E,0.3nm,0.3s,baz=291,slow=2.0,SNR=7.7
ASAR Alice Springs 149.15 234 PKPbc **PKPdf 12 29 03.7 +0.3**
comp=E,1.5nm,0.5s,baz=118,slow=3.5,SNR=7.9
WRA Warramunga Arr 150.37 241 PKPbc **PKPbc 12 29 10.6 -0.2**
comp=E,0.6nm,0.3s,baz=107,slow=2.8,SNR=32
CMAR Chiang Mai Arr 153.62 17 PKPbc **PKiKP 12 29 19.1 +0.9**
comp=E,0.7nm,0.5s,baz=322,slow=3.4,SNR=2.6

*MOS **02** 12:24:41.1±1.4,43.23N×46.37E,h91km,mb3.9/1,Error ellipse: s-maj=7.8km s-min=6.5km az=33.3*
*NORS **02** 12:24:42.0±0.0,43.05N×46.28E,h89km±2km,MPVA4.1*
*DRS **02** 12:24:43.1±0.0,43.57N×45.67E,h33km*
ISC 02 12:24:40.3±1.0,43.14N±0.04×46.33E±0.03,h101km±6km, n71,σ1996/119,8C-7D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.23**	**219**		*e*Pg	**Pn**		**12 24 55.9**	**+1.0**
DVE					*e*Sg	**Sn**		**12 25 05.9**	**+0.2**
DVE	**Vedeno**	**0.23**	**219**		*i* P	**Pn**		**12 24 55.8**	**+1.0**
DVE					pmax	pmax			
comp=Z,177nm,0.1s									
DBC	**Dubki**	**0.39**	**107**		*i* Pg	**Pn**		**12 24 56.8**	**+1.2**
DBC					*e*Sg	**Sn**		**12 25 07.5**	**+0.4**
DBC	**Dubki**	**0.39**	**107**		⇑*i*P	**Pn**		**12 24 56.7**	**+1.1**
DBC					*e*			12 25 07.3	
DBC					pmax	pmax			
comp=Z,396nm,0.3s									
DBC					smax	smax			
comp=N,733nm,0.3s									
BTLR	**Botlikh**	**0.48**	**189**		*e*Pg	**Pn**		**12 24 57.4**	**+1.2**
BTLR					*e*Sg	**Sn**		**12 25 08.4**	**+0.3**
BTLR	**Botlikh**	**0.48**	**189**		⇓*e*P	**Pn**		**12 24 57.1**	**+0.9**
BTLR					*e*			12 25 08.3	
BTLR					pmax	pmax			
comp=Z,139nm,0.3s									
BTLR					smax	smax			
comp=N,1µm,0.4s									
KRNR	**Karanay**	**0.53**	**126**		*i* Pg	**Pn**		**12 24 57.8**	**+1.2**
KRNR					*e*Sg	**Sn**		**12 25 09.0**	**+0.3**
comp=N,88nm,0.2s									
KRNR					*e*Sg	**Sn**		**12 25 09.0**	**+0.3**
comp=N,604nm,0.3s									
KRNR	**Karanay**	**0.53**	**126**		⇑*i*P	**Pn**		**12 24 57.8**	**+1.2**
KRNR					*e*S	**Sn**		**12 25 09.0**	**+0.3**
KRNR					pmax	pmax			
comp=Z,88nm,0.2s									
UNCR	**Uncukul**	**0.55**	**141**		*e*Pg	**Pn**		**12 24 57.8**	**+1.2**
comp=Z,107nm,0.2s									
UNCR					*e*Sg	**Sn**		**12 25 09.0**	**+0.2**
comp=Z,2µm,0.0s									
UNCR	**Uncukul**	**0.55**	**141**		*e*P	**Pn**		**12 24 57.8**	**+1.2**
UNCR					*e*S	**Sn**		**12 25 09.0**	**+0.2**
UNCR					pmax	pmax			
comp=Z,107nm,0.2s									
BUJR	**Buynaksk**	**0.65**	**118**		⇑*e*P	**Pn**		**12 24 59.5**	**+2.0**
BUJR					*e*			12 25 12.1	
BUJR					pmax	pmax			
comp=Z,758nm,0.4s									
BUJR					smax	smax			
comp=N,633nm,0.5s									
XNZR	**Khunzakh**	**0.66**	**155**		*e*Pg	**Pn**		**12 24 59.7**	**+2.0**
XNZR					*e*Sg	**Sn**		**12 25 11.5**	**+0.8**
XNZR	**Khunzakh**	**0.66**	**155**		*e*P	**Pn**		**12 24 59.7**	**+2.0**
XNZR					*e*S	**Sn**		**12 25 11.5**	**+0.8**
ARKR	**Arakani**	**0.73**	**137**		*e*Pg	**Pn**		**12 25 00.0**	**+1.8**
comp=N,116nm,0.0s									
ARKR					*e*Sg	**Sn**		**12 25 13.0**	**+1.5**
comp=N,579nm,0.0s									
ARKR	**Arakani**	**0.73**	**137**		P	**Pn**		**12 25 00.0**	**+1.8**
ARKR					*e*S	**Sn**		**12 25 13.0**	**+1.5**
MAK	**Makhachkala**	**0.88**	**101**		*e*P	**Pn**		**12 25 01.1**	**+1.5**
MAK					*e*			12 25 15.9	
MAK					pmax	pmax			
comp=Z,198nm,0.3s									
MAK					smax	smax			
comp=E,1µm,0.3s									
MAK					smax	smax			
comp=E,992nm,0.3s									
GNBR	**Gunib**	**0.88**	**148**		*d i*P	**Pn**		**12 25 01.5**	**+1.8**
KMGR	**Komgaron**	**1.07**	**266**		*i* Pg	**Pn**		**12 25 04.0**	**+2.3**
KMGR					*e*Sg	**Sn**		**12 25 19.2**	**+1.4**
KMGR	**Komgaron**	**1.07**	**266**		*e*P	**Pn**		**12 25 03.7**	**+2.0**
KMGR					*e*S	**Sn**		**12 25 19.0**	**+1.2**
VLKR	**Vladikavkaz**	**1.21**	**266**		*e*Pg	**Pn**		**12 25 05.1**	**+1.9**
VLKR					*e*Sg	**Sn**		**12 25 23.1**	**+2.6**
VLKR	**Vladikavkaz**	**1.21**	**266**		*e*P	**Pn**		**12 25 05.1**	**+1.9**
VLKR					*e*S	**Sn**		**12 25 23.1**	**+2.6**
TRKR	**Terskaya**	**1.30**	**297**		*e*Pg	**Pn**		**12 25 06.9**	**+2.7**
TRKR					*e*Sg	**Sn**		**12 25 26.0**	**+3.7**
TRKR	**Terskaya**	**1.30**	**297**		*e*P	**Pn**		**12 25 06.9**	**+2.7**
TRKR					*e*S	**Sn**		**12 25 26.0**	**+3.7**
LGD	**Lagodekhi**	**1.30**	**183**		⇓*i*P	**Pn**		**12 25 05.7**	**+1.4**
LGD					*e*S	**Sn**		**12 25 23.4**	**+1.0**
LGD	**Lagodekhi**	**1.30**	**183**		P	**Pn**		**12 25 05.7**	**+1.4**
LGD					S	**Sn**		**12 25 23.5**	**+1.0**
BTKR	**Batakoyurt**	**1.32**	**281**		*e*P	**Pn**		**12 25 00.8**	**-3.7**
BTKR					*e*S	**Sn**		**12 25 24.5**	**+1.6**
PNSH	**Pansheti**	**1.35**	**249**		P	**Pn**		**12 25 06.0**	**+1.0**
PNSH					S	**Sn**		**12 25 23.8**	**+0.1**
URKR	**Urkarakh**	**1.37**	**135**		⇑*e*P	**Pn**		**12 25 07.1**	**+1.9**
URKR					*e*			12 25 26.0	
URKR					pmax	pmax			
comp=Z,135nm,0.3s									
URKR					smax	smax			
comp=N,130nm,0.4s									
ARNR	**Ardon**	**1.49**	**272**		*e*P	**Pn**		**12 25 09.0**	**+2.4**
ARNR					*e*Sg	**Sn**		**12 25 28.3**	**+1.8**
ARNR	**Ardon**	**1.49**	**272**		*e*P	**Pn**		**12 25 09.0**	**+2.4**
ARNR					*e*S	**Sn**		**12 25 28.3**	**+1.8**
LACR	**Lac**	**1.52**	**259**		*e*Pg	**Pn**		**12 25 07.6**	**+0.5**
LACR					*e*Sg	**Sn**		**12 25 27.3**	**+0.1**
LACR	**Lac**	**1.52**	**259**		*e*P	**Pn**		**12 25 07.5**	**+0.5**
LACR					pmax	pmax			
comp=Z,37nm,0.2s									
PRTR	**Priterechnaya**	**1.61**	**293**		*e*Pg	**Pn**		**12 25 10.7**	**+2.8**
PRTR					*e*Sg	**Sn**		**12 25 32.6**	**+3.7**
PRTR	**Priterechnaya**	**1.61**	**293**		*e*P	**Pn**		**12 25 10.5**	**+2.5**
PRTR					pmax	pmax			
comp=Z,84nm,0.1s									
KORR	**Kora**	**1.65**	**269**		*e*Pg	**Pn**		**12 25 10.4**	**+1.8**
KORR					*e*Sg	**Sn**		**12 25 32.1**	**+2.1**
KORR	**Kora**	**1.65**	**269**		*e*P	**Pn**		**12 25 10.4**	**+1.8**
KORR					*e*S	**Sn**		**12 25 32.2**	**+2.1**
STDR	**Stavd-Durt**	**1.67**	**279**		*e*Pg	**Pn**		**12 25 11.1**	**+2.4**
STDR					*e*Sg	**Sn**		**12 25 32.5**	**+2.2**
STDR	**Stavd-Durt**	**1.67**	**279**		⇑*i*P	**Pn**		**12 25 11.1**	**+2.4**
STDR					*e*S	**Sn**		**12 25 32.3**	**+2.0**
ZEI	**Tsey**	**1.81**	**260**		*i* Pg	**Pn**		**12 25 11.5**	**+0.8**
ZEI					*e*Sg	**Sn**		**12 25 33.2**	**-0.7**
ZEI	**Tsey**	**1.81**	**260**		⇓*i*P	**Pn**		**12 25 11.5**	**+0.8**
ZEI					*e*S	**Sn**		**12 25 33.2**	**-0.7**
LSNR	**Lesken**	**1.83**	**275**		*e*Pg	**Pn**		**12 25 12.8**	**+2.0**
LSNR					*e*Sg	**Sn**		**12 25 35.6**	**+1.5**
LSNR	**Lesken**	**1.83**	**275**		*e*P	**Pn**		**12 25 12.8**	**+2.0**
LSNR					*e*S	**Sn**		**12 25 35.6**	**+1.5**
BTNK	**Botanikuri**	**1.84**	**218**		P	**Pn**		**12 25 12.2**	**+1.2**
DRN	**Derbent**	**1.85**	**126**		*e*Pg	**Pn**		**12 25 14.0**	**+3.1**
DRN					*e*Sg	**Sn**		**12 25 37.4**	**+3.1**
DRN	**Derbent**	**1.85**	**126**		⇓*e*P	**Pn**		**12 25 13.9**	**+2.9**
DRN					*e*			12 25 37.5	
DRN					pmax	pmax			
comp=Z,108nm,0.7s									
DRN					smax	smax			
comp=N,127nm,0.7s									
AKT	**Akhty**	**1.96**	**147**		*e*Pg	**Pn**		**12 25 14.8**	**+2.3**
AKT					*e*Sg	**Sn**		**12 25 38.1**	**+1.1**
AKT	**Akhty**	**1.96**	**147**		*e*P	**Pn**		**12 25 14.8**	**+2.3**
AKT					*e*S	**Sn**		**12 25 38.1**	**+1.1**
DIGR	**Digorskoe uzhe**	**2.03**	**264**		*e*Pg	**Pn**		**12 25 14.3**	**+0.8**
DIGR					*e*Sg	**Sn**		**12 25 38.4**	**-0.4**
DIGR	**Digorskoe uzhe**	**2.03**	**264**		*e*P	**Pn**		**12 25 14.3**	**+0.8**
DIGR					*e*S	**Sn**		**12 25 38.4**	**-0.4**
KSMR	**Kasumkent**	**2.03**	**138**		*e*Pn	**Pn**		**12 25 16.5**	**+3.0**
comp=N,50nm,0.2s									
KSMR					*e*Sn	**Sn**		**12 25 42.0**	**+3.3**
comp=N,299nm,0.3s									
KSMR	**Kasumkent**	**2.03**	**138**		*e*P	**Pn**		**12 25 16.5**	**+3.0**
KSMR					*e*S	**Sn**		**12 25 42.0**	**+3.3**
KSMR					pmax	pmax			
comp=Z,50nm,0.2s									
SEKA	**Sheki**	**2.03**	**161**		P	**Pn**		**12 25 14.5**	**+1.0**
ONI	**Oni**	**2.18**	**256**		*e*P	**Pn**		**12 25 17.8**	**+2.5**
ONI					*e*S	**Sn**		**12 25 42.7**	**+0.6**
ONI	**Oni**	**2.18**	**256**		P	**Pn**		**12 25 17.8**	**+2.5**
ONI					S	**Sn**		**12 25 45.8**	**+3.7**
TRLG	**Trialeti**	**2.29**	**227**		P	**Pn**		**12 25 18.1**	**+1.1**
TRLG					S	**Sn**		**12 25 45.4**	**+0.5**
DMNI	**Dmanisi**	**2.40**	**222**		P	**Pn**		**12 25 19.1**	**+0.7**
DMNI					S	**Sn**		**12 25 46.9**	**-0.6**
BKRG	**Bakuriani**	**2.49**	**237**		P	**Pn**		**12 25 21.0**	**+1.5**
GANJ	**Ganja**	**2.49**	**180**		P	**Pn**		**12 25 19.9**	**+0.5**
KBZ	**Khabaz**	**2.57**	**284**	*d*	iP	**Pn**		**12 25 21.6**	**+1.3**
TKB	**Tkibuli**	**2.58**	**253**		P	**Pn**		**12 25 22.1**	**+1.6**
BEYR	**Belyy Ugol+**	**2.69**	**290**		*e*P	**Pn**		**12 25 23.6**	**+1.5**
BEYR					*e*S	**Sn**		**12 25 53.7**	**-0.4**
AKH	**Akhalkalaki**	**2.72**	**232**		*e*P	**Pn**		**12 25 24.6**	**+2.0**
AKH					*e*S	**Sn**		**12 25 53.8**	**-1.2**
SHA1	**Shidzhatmaz**	**2.74**	**284**		*e*Pn	**Pn**		**12 25 24.2**	**+1.4**
SHA1					*e*Sn	**Sn**		**12 25 54.6**	**-0.8**
SHA1	**Shidzhatmaz**	**2.74**	**284**		*e*P	**Pn**		**12 25 24.2**	**+1.4**
SHA1					*e*S	**Sn**		**12 25 54.6**	**-0.8**
GOF	**Gofitskoye**	**3.04**	**310**		⇑*e*P	**Pn**		**12 25 28.6**	**+1.9**
GOF					*e*S	**Sn**		**12 26 03.8**	**+1.4**
GOF					pmax	pmax			
comp=Z,54nm,0.1s									
GOF					smax	smax			
comp=N,81nm,0.2s									
GOF					smax	smax			
comp=E,97nm,0.2s									
CHVG	**Ch'k'valeri**	**3.14**	**264**		P	**Pn**		12 25 36.1	+8.1
AKTO	**Aktyubinsk**	**10.83**	**44**		⇓Pn	**Pn**		**12 27 10.6**	**-1.6**
comp=E,1.8nm,0.6s									
AKTO					⇑Sn	**Sn**		12 29 01.7	-10
comp=E,1.9nm,0.8s									
AKTO	**Aktyubinsk**	**10.83**	**44**		P	**Pn**		**12 27 10.6**	**-1.6**
AB31	**Akbulak array**	**11.24**	**52**		Pn	**Pn**		**12 27 17.5**	**-0.2**
comp=E,0.2nm,0.2s,baz=246,slow=12,SNR=19									
AB31					⇑Sn	**Sn**		**12 29 13.8**	**-7.4**
comp=E,0.2nm,0.2s,baz=246,slow=21,SNR=4.6									
AB31	**Akbulak array**	**11.24**	**52**		P	**Pn**		**12 27 17.5**	**-0.2**
AAK	**Ala-Archa**	**20.61**	**82**		*i* P	Pn		12 29 16.4	+1.7
AAK					pmax	pmax			
comp=Z,2.0nm,0.5s									

*IDC **02** 12:36:38.3±6.5,21.59N×143.17E,h328km±69km,mb3.1/7, mb1 3.2/8,mb1mx3.0/55,mbtmp3.8/8,Error ellipse: s-maj=38.4km s-min=13.8km az=87.0*
ISC 02 12:36:36.5±1.2,21.6N±0.1×143.2E±0.3,h311km,n8, σ0.61/8,mb3.3/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.50**	**345**		P	**Pn**		**12 39 59.5**	**-0.9**
0.1nm,0.3s,baz=149,slow=10.0,SNR=5.1									
KSRS	**Korea Array**	**20.59**	**323**		P	**P**		**12 40 53.0**	**+0.4**
1.8nm,0.6s,baz=148,slow=9.1,SNR=8.7									
WRA	**Warramunga Arr**	**42.20**	**192**		P	**P**		**12 43 60.0**	**+0.1**
1.8nm,0.7s,baz=16,slow=9.7,SNR=31									
ASAR	**Alice Springs**	**45.91**	**192**		P	**P**		**12 44 28.6**	**-0.4**
0.6nm,0.7s,baz=11,slow=11,SNR=8.4									
ZALV	**Zalesovo Beam**	**54.29**	**322**		P	**P**		**12 45 31.7**	**+0.6**
0.6nm,0.4s,baz=134,slow=10,SNR=1.4									
MKAR	**Makanchi Array**	**54.77**	**313**		P	**P**		**12 45 35.0**	**+0.2**
0.2nm,0.5s,baz=90,slow=8.3,SNR=3.6									
ILAR	**Eielson Array**	**62.11**	**27**		P	**P**		**12 46 25.1**	**+0.4**
0.5nm,0.7s,baz=262,slow=5.6,SNR=6.3									
ARCES	**ARCESS Array B**	**79.01**	**342**		P	**P**		**12 48 05.7**	**-0.3**
3.8nm,0.9s,baz=49,slow=2.7,SNR=3.5									

IDC 02 12:45:45.1±3.9,6.68S×149.47E,h148km±31km,mb3.5/3, mb1 3.5/5,mb1mx3.2/39,mbtmp3.8/5,Error ellipse: s-maj=97.9km s-min=32.6km az=131.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**220**		P	Pn		12 46 37.7	-1.7
0.8nm,0.3s,baz=253,slow=1.2,SNR=4.1									
PMG					S	Sn		12 47 23.3	+1.7
1.2nm,0.3s,baz=182,slow=18,SNR=1.4									
WRA	**

Nikolaevka, Institute, Sosnovka, Radigina, Severo-Kurilsk; [III-IV] at river Karimshina (stationary KF GS), Ribachiy, Paratunka, state-farm Termalniy, Pionersky, Elizovo, cape Lopatka, RNS Podgornay; [Pe.

MOS ***02*** *12:57:05.0±0.8, 52°.31N×157°.96E, h157km, mb5.8/123, Error ellipse: s-maj=5.9km s-min=3.1km az=82.4*

MOS Felt (IV) at Severo-Kuril'sk; (III-IV) at Petropavlovsk-Kamchatskiy.

NEIC ***02*** *12:57:05.8±1.8, 52°.32N±0°.06×158°.05E±0°.09, h143km±1km, mb5.8/756, Mwb5.7/81, Mww5.7, Mwc5.8(GCMT), Error ellipse: s-maj=12.8km s-min=4.2km az=316.0*

NEIC ***02*** *12:57:06.7, 52°.35N×158°.01E, h144km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.52; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-0.68; $M_{r\theta}$2.23; $M_{\theta\phi}$-0.14; $M_{\phi r}$4.54; Fault plane solution: $M_0$5.10000×10^{17} NP1:ϕ_s165.29000°, δ4.25000°, λ49.26000°. NP2:ϕ_s26.11000°, δ86.78000°, λ92.78000°. Principal axes: T 5.0508, Plg48.0000°, Azm299.0000°; N 0.1027, Plg3.0000°, Azm206.0000°; P -5.1535, Plg42.0000°, Azm113.0000°;*

IDC ***02*** *12:57:07.1±0.4, 52°.43N×157°.96E, h150km±3km, mb5.3/37, mb1 5.4/41, mb1mx5.3/44, mbtmp5.7/41, MS4.4/24, Ms1 4.4/24, ms1mx4.1/67 Error ellipse: s-maj=9.2km s-min=6.3km az=146.0*

GCMT ***02*** *12:57:08.8±0.1, 52°.29N±0°.01×158°.41E±0°.01, h152km, MW5.8/158, Moment Tensor Solution. s150, c333; s158, c361; Duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08±.05; $M_{\theta\theta}$0.58±.06; $M_{\phi\phi}$-0.49±.06; $M_{r\theta}$2.90±.04; $M_{\theta\phi}$0.03±.05; $M_{\phi r}$4.96±.04; Best double couple: $M_0$5.76600×10^{17} NP1:ϕ_s124.00000°, δ5.00000°, λ3.00000°. NP2:ϕ_s31.00000°, δ90.00000°, λ95.00000°. Principal axes: T 5.6300, Plg45.0000°, Azm305.0000°; N 0.2720, Plg5.0000°, Azm211.0000°; P -5.9020, Plg45.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***02*** *12:57:08.5±0.0, 52°.29N×155°.99E, h150km±1km, mb6.4, mB_BB6.5*

NEIC ***02*** *12:57:08, 52°.29N×158°.44E, h151km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.18; $M_{\theta\theta}$0.45; $M_{\phi\phi}$-0.63; $M_{r\theta}$2.88; $M_{\theta\phi}$-0.11; $M_{\phi r}$4.99; Fault plane solution: $M_0$5.79000×10^{17} NP1:ϕ_s141.00000°, δ4.00000°, λ21.00000°. NP2:ϕ_s30.00000°, δ88.00000°, λ94.00000°. Principal axes: T 5.6498, Plg46.0000°, Azm304.0000°; N 0.2708, Plg4.0000°, Azm210.0000°; P -5.9207, Plg43.0000°, Azm116.0000°;*

NEIC ***02*** *12:57:10, 52°.28N×158°.15E, h150km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.18; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$0.20; $M_{r\theta}$2.70; $M_{\theta\phi}$-0.04; $M_{\phi r}$4.54; Fault plane solution: $M_0$5.29000×10^{17} NP1:ϕ_s292.00000°, δ3.00000°, λ171.00000°. NP2:ϕ_s31.00000°, δ89.00000°, λ87.00000°. Principal axes: T 5.3845, Plg45.0000°, Azm298.0000°; N -0.1860, Plg3.0000°, Azm31.0000°; P -5.1986, Plg44.0000°, Azm124.0000°;*

ISC 02 12:57:06.1±0.2, 52°.28N±0°.03×158°.04E±0°.02, h148km±1km, h147km:pP-P,n2193,σ1§43/2407, mb5.8/669, 180C-48D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**0.13**	**319**	*i* P	**Pn**	**12 57 26.3**	**+0.2**
ASAK	**Asacha**	**0.13**	**319**	PN	**Pn**	**12 57 26.3**	**+0.2**
GRL	**Gorelyy**	**0.27**	**4**	*i* P	**Pn**	**12 57 26.5**	**+0.1**
GRL	**Gorelyy**	**0.27**	**4**	PN	**Pn**	**12 57 26.5**	**+0.1**
RUS	**Russkaya**	**0.33**	**62**	*e*P	**Pn**	**12 57 25.3**	**-1.1**
RUS				*e*S	**Sn**	**12 57 40.1**	**-1.7**
RUS	**Russkaya**	**0.33**	**62**	PN	**Pn**	**12 57 25.3**	**-1.1**
RUS				S	**Sn**	**12 57 40.1**	**-1.7**
KDTR	**Khodutka, Kamc**	**0.47**	**178**	*i* P	**Pn**	**12 57 26.0**	**-1.0**
KDTR				*e*S	**Sn**	**12 57 40.6**	**-2.3**
KDTR	**Khodutka, Kamc**	**0.47**	**178**	PN	**Pn**	**12 57 26.0**	**-1.0**
KDTR				S	**Sn**	**12 57 40.6**	**-2.3**
KRMR	**Karymshinskiy**	**0.55**	**5**	*e*P	**Pn**	**12 57 28.2**	**+0.8**
KRMR				*e*S	**Sn**	**12 57 44.5**	**+0.8**
KRMR	**Karymshinskiy**	**0.55**	**5**	PN	**Pn**	**12 57 28.2**	**+0.8**
KRMR				S	**Sn**	**12 57 44.5**	**+0.8**
PET	**Petropavlovsk**	**0.83**	**26**	*i* P	**Pn**	**12 57 28.5**	**-0.7**
PET	**Petropavlovsk**	**0.83**	**26**	*d* iPN	**Pn**	**12 57 28.2**	**-1.0**
PET				*e*S	**Sn**	**12 57 45.4**	**-1.5**
PET				smax	smax		
	comp=N,146μm,0.4s						
PET				smax	smax		
	comp=E,151μm,0.6s						
PET	**Petropavlovsk**	**0.83**	**26**		**Pn**	**12 57 28.1**	**-1.1**
APC	**Apacha**	**0.84**	**320**	*i* P	**Pn**	**12 57 30.3**	**+1.0**
APC				*e*S	**Sn**	**12 57 48.7**	**+1.7**
APC	**Apacha**	**0.84**	**320**	PN	**Pn**	**12 57 30.3**	**+1.0**
APC				S	**Sn**	**12 57 48.7**	**+1.7**
I44RU	**PETROPAVLOVSK-**	**0.85**	**346**	P	**Pn**	**12 57 30.0**	**+0.6**
	baz=130,slow=10,SNR=7.2						
PEA0B	**Petropavlovsk-**	**0.85**	**346**	*d* iPN	**Pn**	**12 57 29.9**	**+0.4**
PEA0B	**Petropavlovsk-**	**0.85**	**346**	Pn	**Pn**	**12 57 29.9**	**+0.4**
PETK	**Petropavlovsk-**	**0.85**	**346**	P	**Pn**	**12 57 30.5**	**+1.1**
	comp=E,5μm,0.3s,baz=136,slow=10						
PETK	**Petropavlovsk-**	**0.85**	**346**		**Pn**	**12 57 29.3**	**-0.1**
DALK	**Dalny**	**0.86**	**30**	*e*P	**Pn**	**12 57 28.8**	**-0.7**
DALK				*e*S	**Sn**	**12 57 45.7**	**-1.7**
DALK	**Dalny**	**0.86**	**30**	PN	**Pn**	**12 57 28.8**	**-0.7**
DALK				S	**Sn**	**12 57 45.7**	**-1.7**
UGLR	**Uglovaya**	**1.04**	**27**	*e*P	**Pn**	**12 57 30.9**	**-0.2**
UGLR	**Uglovaya**	**1.04**	**27**	PN	**Pn**	**12 57 30.9**	**-0.2**
AVH	**Avacha**	**1.07**	**23**	*i* P	**Pn**	**12 57 31.6**	**+0.3**
AVH				*e*S	**Sn**	**12 57 50.6**	**0.0**
AVH	**Avacha**	**1.07**	**23**	PN	**Pn**	**12 57 31.6**	**+0.3**
AVH				S	**Sn**	**12 57 50.6**	**0.0**
KOK	**Koryaka**	**1.07**	**19**	*e*P	**Pn**	**12 57 31.6**	**+0.2**
KOK	**Koryaka**	**1.07**	**19**	PN	**Pn**	**12 57 31.6**	**+0.2**
SMAR	**Somma**	**1.08**	**25**	*e*P	**Pn**	**12 57 31.1**	**-0.5**
SMAR	**Somma**	**1.08**	**25**	PN	**Pn**	**12 57 31.1**	**-0.5**
KRER	**Koryakskii**	**1.11**	**22**	*i* P	**Pn**	**12 57 31.8**	**0.0**
KRER	**Koryakskii**	**1.11**	**22**	PN	**Pn**	**12 57 31.8**	**0.0**
PAU	**Pauzhetka**	**1.12**	**224**	*i* P	**Pn**	**12 57 32.6**	**+0.9**
PAU				*e*S	**Sn**	**12 57 52.4**	**+1.3**
PAU	**Pauzhetka**	**1.12**	**224**	PN	**Pn**	**12 57 32.6**	**+0.9**
PAU				S	**Sn**	**12 57 52.4**	**+1.3**
KRX	**Arik**	**1.14**	**19**	*i* P	**Pn**	**12 57 31.9**	**-0.1**
KRX	**Arik**	**1.14**	**19**	PN	**Pn**	**12 57 31.9**	**-0.1**
NLC	**Nalytchevo**	**1.19**	**41**	*i* P	**Pn**	**12 57 30.8**	**-1.5**
NLC				*e*S	**Sn**	**12 57 49.5**	**-2.9**
NLC	**Nalytchevo**	**1.19**	**41**	PN	**Pn**	**12 57 30.8**	**-1.5**
NLC				S	**Sn**	**12 57 49.5**	**-2.9**
GNL	**Ganaly**	**1.42**	**358**	*e*P	**Pn**	**12 57 34.9**	**+0.2**
GNL	**Ganaly**	**1.42**	**358**	PN	**Pn**	**12 57 34.9**	**+0.2**
SPN	**Mys Shipunski**	**1.46**	**55**	*e*P	**Pn**	**12 57 33.4**	**-1.6**
SPN				*e*S	**Sn**	**12 57 53.4**	**-3.7**
SPN	**Mys Shipunski**	**1.46**	**55**	PN	**Pn**	**12 57 33.4**	**-1.6**
SPN				S	**Sn**	**12 57 53.4**	**-3.7**
KII	**Karymskiy**	**1.95**	**25**	*e*P	**Pn**	**12 57 40.3**	**-0.2**
KII	**Karymskiy**	**1.95**	**25**	PN	**Pn**	**12 57 40.3**	**-0.2**
SKR	**Severo-Kuril's**	**2.00**	**218**	*e*P	**Pn**	**12 57 41.7**	**+0.6**
SKR				*e*S	**Sn**	**12 58 08.0**	**+0.1**
SKR	**Severo-Kuril's**	**2.00**	**218**	PN	**Pn**	**12 57 41.7**	**+0.6**
SKR				S	**Sn**	**12 58 08.0**	**+0.1**
ALID	**Alaid**	**2.10**	**229**	*i* P	**Pn**	**12 57 43.5**	**+1.0**
ALID	**Alaid**	**2.10**	**229**	PN	**Pn**	**12 57 43.5**	**+1.0**
KZV	**Kizimen**	**3.13**	**24**	*e*P	**Pn**	**12 57 55.4**	**+0.2**
KZV	**Kizimen**	**3.13**	**24**	PN	**Pn**	**12 57 55.4**	**+0.2**
TUMD	**Tumrok D**	**3.24**	**25**	*e*P	**Pn**	**12 57 56.4**	**0.0**
TUMD				*e*S	**Sn**	**12 58 34.6**	**-0.8**
TUMR	**Tumrok**	**3.25**	**22**	*e*P	**Pn**	**12 57 57.3**	**+0.6**
TUMR				*e*S	**Sn**	**12 58 36.6**	**+0.8**
TUMR	**Tumrok**	**3.25**	**22**	PN	**Pn**	**12 57 56.4**	**-0.3**
TUMR				S	**Sn**	**12 58 34.6**	**-1.2**
ESO	**Esso**	**3.67**	**6**	*e*P	**Pn**	**12 58 02.8**	**+0.9**
ESO				*e*S	**Sn**	**12 58 45.7**	**+0.4**
ESO	**Esso**	**3.67**	**6**	PN	**Pn**	**12 58 02.8**	**+0.9**
ESO				S	**Sn**	**12 58 45.7**	**+0.4**
KPT	**Kopyto**	**3.91**	**18**	*e*P	**Pn**	**12 58 05.1**	**0.0**
KPT	**Kopyto**	**3.91**	**18**	PN	**Pn**	**12 58 05.1**	**0.0**
KIRR	**Kirishev**	**3.92**	**19**	*e*P	**Pn**	**12 58 05.6**	**+0.3**
KIRR	**Kirishev**	**3.92**	**19**	PN	**Pn**	**12 58 05.6**	**+0.3**
BZMR	**Bezymyannaya**	**3.93**	**21**	*e*P	**Pn**	**12 58 06.0**	**+0.5**
BZMR	**Bezymyannaya**	**3.93**	**21**	PN	**Pn**	**12 58 06.0**	**+0.5**
KOZ	**Kozyrevsk**	**3.93**	**15**	*e*P	**Pn**	**12 58 05.6**	**+0.3**
KOZ	**Kozyrevsk**	**3.93**	**15**	PN	**Pn**	**12 58 05.6**	**+0.3**
BZWR	**Bezymyannyi-We**	**3.96**	**20**	*e*P	**Pn**	**12 58 06.4**	**+0.6**
BZWR	**Bezymyannyi-We**	**3.96**	**20**	PN	**Pn**	**12 58 06.4**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.98**	**22**	*e*P	**Pn**	**12 58 06.6**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**3.98**	**22**	PN	**Pn**	**12 58 06.6**	**+0.5**
ZLN	**Zelenaya**	**4.08**	**22**	*e*P	**Pn**	**12 58 07.6**	**+0.3**
ZLN	**Zelenaya**	**4.08**	**22**	PN	**Pn**	**12 58 07.6**	**+0.3**
LGNR	**Loginova**	**4.11**	**21**	*e*P	**Pn**	**12 58 08.8**	**+0.9**
LGNR	**Loginova**	**4.11**	**21**	PN	**Pn**	**12 58 08.8**	**+0.9**
CIRR	**Tsirk**	**4.16**	**21**	*e*P	**Pn**	**12 58 08.9**	**+0.5**
CIRR	**Tsirk**	**4.16**	**21**	PN	**Pn**	**12 58 08.9**	**+0.5**
SRDR	**Sredinnyy**	**4.16**	**13**	*e*P	**Pn**	**12 58 08.7**	**+0.4**
SRDR	**Sredinnyy**	**4.16**	**13**	PN	**Pn**	**12 58 08.7**	**+0.4**
KRSR	**Krestovskiy**	**4.21**	**20**	*e*P	**Pn**	**12 58 08.5**	**-0.6**
KRSR	**Krestovskiy**	**4.21**	**20**	PN	**Pn**	**12 58 08.5**	**-0.6**
KLY	**Klyuchi**	**4.32**	**20**	*e*P	**Pn**	**12 58 11.1**	**+0.8**
KLY				*e*S	**Sn**	**12 59 00.6**	**+0.3**
KLY	**Klyuchi**	**4.32**	**20**	PN	**Pn**	**12 58 11.1**	**+0.8**
KLY				S	**Sn**	**12 59 00.6**	**+0.3**
BDR	**Baidarnaya**	**4.67**	**22**	*e*P	**Pn**	**12 58 16.1**	**+1.0**
BDR	**Baidarnaya**	**4.67**	**22**	PN	**Pn**	**12 58 16.1**	**+1.0**
SRKR	**Sorokina**	**4.74**	**21**	*e*P	**Pn**	**12 58 16.2**	**+0.2**
SRKR	**Sorokina**	**4.74**	**21**	PN	**Pn**	**12 58 16.2**	**+0.2**
SMKR	**Semkarok**	**4.75**	**24**	*e*P	**Pn**	**12 58 16.4**	**+0.3**
SMKR	**Semkarok**	**4.75**	**24**	PN	**Pn**	**12 58 16.4**	**+0.3**
KBG	**Krutoberegovo**	**4.83**	**33**	*e*P	**Pn**	**12 58 15.6**	**-1.4**
KBG	**Krutoberegovo**	**4.83**	**33**	PN	**Pn**	**12 58 15.6**	**-1.4**
KBTR	**Krutoberegovo**	**4.83**	**34**	*e*P	**Pn**	**12 58 16.1**	**-1.0**
KBTR	**Krutoberegovo**	**4.83**	**34**	PN	**Pn**	**12 58 16.1**	**-1.0**
BKI	**Bering**	**5.54**	**55**	*e*P	**Pn**	**12 58 27.6**	**+1.1**
BKI				*e*S	**Sn**	**12 59 25.0**	**-4.3**
BKI	**Bering**	**5.54**	**55**	PN	**Pn**	**12 58 27.6**	**+1.1**
BKI				S	**Sn**	**12 59 25.0**	**-4.3**
PALN	**Palana**	**6.91**	**8**	*e*P	**Pn**	**12 58 45.7**	**+1.0**
PALN	**Palana**	**6.91**	**8**	PN	**Pn**	**12 58 45.7**	**+1.0**
OSSR	**Ossora**	**7.53**	**20**	*e*P	**Pn**	**12 58 52.4**	**-0.6**
OSSR	**Ossora**	**7.53**	**20**	PN	**Pn**	**12 58 52.4**	**-0.6**
MA2	**Magadan**	**8.37**	**334**	P	**Pn**	**12 59 04.3**	**0.0**
	comp=E,4.7nm,0.3s,baz=141,slow=9.2,SNR=30						
MA2	**Magadan**	**8.37**	**334**	*c i*PN	**Pn**	**12 59 05.0**	**+0.8**
MA2	**Magadan**	**8.37**	**334**	Pn	**Pn**	**12 59 03.0**	**-1.3**
OKH	**Okha**	**9.22**	**284**	*c i*PN	**Pn**	**12 59 17.9**	**+2.3**
OKH				pmax	pmax		
	comp=Z,2μm,12.3s						
OKH				MLR	MLR		
	comp=N,4μm,12.0s						
OKH				MLR	MLR		
	comp=Z,3μm,13.0s						
OKH				MLR	MLR		
	comp=E,4μm,15.0s						
TYV	**Tymovskoe**	**9.69**	**268**	*e*PN	**Pn**	**12 59 25.9**	**+4.0**
TYV				pmax	pmax		
	comp=Z,485nm,1.0s						
TYV				pmax	pmax		
	comp=Z,4μm,3.8s						
TYV				MLR	MLR		
	comp=E,6μm,16.0s						
TYV				MLR	MLR		
	comp=Z,6μm,16.0s						
KUR	**Kuril'sk**	**9.74**	**228**	*e*PN	**Pn**	**12 59 22.8**	**+0.3**
KUR				*i* S	**Sn**	**13 01 10.1**	**-0.2**
KUR				pmax	pmax		
	comp=E,217nm,0.7s						
KUR				pmax	pmax		
	comp=Z,392nm,0.7s						
KUR				pmax	pmax		
	comp=N,79nm,0.2s						
KUR				pmax	pmax		
	comp=Z,752nm,1.2s						
KUR				smax	smax		
	comp=N,2μm,1.4s						
KUR				smax	smax		
	comp=E,928nm,1.1s						
SMY	**Shemya**	**9.80**	**81**	PN	**Pn**	**12 59 23.7**	**+0.3**
SMY	**Shemya**	**9.80**	**81**	Pn	**Pn**	**12 59 23.6**	**+0.3**
NKL	**Nikolayevsk**	**10.57**	**282**	*e*PN	**Pn**	**12 59 35.4**	**+1.9**
NKL				*e*S	**Sn**	**13 01 26.2**	**-4.1**
NKL				pmax	pmax		
	comp=N,7.0nm,1.1s						
NKL				pmax	pmax		
	comp=Z,160nm,1.2s						
NKL				MLR	MLR		
	comp=N,165nm,13.0s						
NKL				MLR	MLR		
	comp=Z,2μm,15.0s						
UGL	**Uglegorsk**	**10.63**	**259**	*c i*PN	**Pn**	**12 59 38.3**	**+3.9**
UGL				*e*S	**Sn**	**13 01 37.6**	**+5.8**
UGL				pmax	pmax		
	comp=Z,431nm,1.2s						
UGL				pmax	pmax		
	comp=Z,2μm,2.4s						
UGL				smax	smax		
	comp=N,4μm,7.2s						
UGL				smax	smax		
	comp=E,7μm,6.5s						
SEY	**Seymchan**	**11.10**	**346**	P	**Pn**	**12 59 41.8**	**+1.4**
	comp=E,2.2nm,0.3s,baz=154,slow=8.8,SNR=73						
KMSK	**Kamenskaya**	**11.11**	**20**	*e*P	**Pn**	**12 59 41.9**	**+1.4**
KMSK	**Kamenskaya**	**11.11**	**20**	PN	**Pn**	**12 59 41.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**11.25**	**248**	*i*PN	**Pn**	**12 59 44.6**	**+2.0**
YSS				*e*S	**Sn**	**13 01 43.7**	**-3.1**
YSS				pmax	pmax		
	comp=Z,3μm,1.2s						
YSS				pmax	pmax		
	comp=N,2μm,1.1s						
YSS				pmax	pmax		
	comp=E,2μm,1.1s						
YSS				smax	smax		
	comp=N,4μm,5.9s						
YSS				smax	smax		
	comp=E,2μm,6.1s						
YSS				MLR	MLR		
	comp=Z,3μm,14.5s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.25**	**248**	Pn	**Pn**	**12 59 44.4**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**11.57**	**229**	*e*PN	**Pn**	**12 59 44.7**	**-2.1**
YUK				*i* S	**Sn**	**13 01 49.3**	**-5.3**
YUK				pmax	pmax		
	comp=E,152nm,0.3s						
YUK				pmax	pmax		
	comp=Z,747μm,0.3s						
GRPR	**Tuman**	**11.65**	**229**	*e*PN	**Pn**	**12 59 45.8**	**-2.0**
GRPR				pmax	pmax		
	comp=N,540nm,0.6s						
GRPR				pmax	pmax		
	comp=Z,712nm,0.6s						
GRPR				pmax	pmax		
	comp=E,591nm,0.4s						
NMR	**Nemuro--Hokkai**	**12.15**	**228**	*e*PN	Pn	12 59 48.8	-5.5
JKA	**Kamikawa-asahi**	**13.13**	**238**	Pn	**Pn**	**13 00 07.4**	**+0.6**
ASAJ	**Asahikawa**	**13.13**	**238**	P	**Pn**	**13 00 07.9**	**+1.0**
	comp=E,22nm,0.3s,baz=55,slow=10,SNR=202						
ASAJ				ScP	**ScP**	**13 08 46.3**	**+1.1**
	comp=E,0.4nm,0.3s,baz=264,slow=15,SNR=5.1						
AMKA	**Amchitka**	**13.18**	**86**	Pn	**Pn**	**13 00 05.9**	**-1.5**
GRNR	**Gornyy**	**13.54**	**272**	*i* P	**P**	**13 00 15.3**	**-0.8**
GRNR				*e*S	**Sn**	**13 02 46.0**	**+4.2**
GRNR				pmax	pmax		
	comp=N,40nm,0.9s						
GRNR				pmax	pmax		
	comp=E,130nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,180nm,0.9s						
GRNR				smax	smax		
	comp=E,20nm,0.9s						
GRNR				MLR	MLR		
	comp=E,1μm,16.0s						
GRNR				MLR	MLR		
	comp=Z,2μm,15.0s						
JEM	**Erimo**	**14.39**	**230**	P	Pn	13 00 18.1	-4.9
ERM	**Erimo**	**14.39**	**230**	*c i*P	**Pn**	**13 00 20.1**	**-2.8**
ERM	**Erimo**	**14.39**	**230**	Pn	**Pn**	**13 00 18.3**	**-4.7**
JEW	**Eniwo**	**14.62**	**236**	P	**Pn**	**13 00 23.3**	**-2.5**
ADK	**Adak**	**15.52**	**81**	P	**Pn**	**13 00 35.1**	**-1.8**
ADK				pmax	pmax		
	comp=Z,640nm,1.2s						
ADK	**Adak**	**15.52**	**81**	Pn	**Pn**	**13 00 35.0**	**-1.8**
ADK				IAmb	IAmb	13 00 38.6	
	comp=Z,640nm,1.2s						
GSTR	**Great Sitkin T**	**15.86**	**80**	Pn	**Pn**	**13 00 39.6**	**-1.5**
TEY	**Ternei**	**15.88**	**251**	⇑*e*P	**P**	**13 00 43.1**	**+1.1**
TEY				*e*S	**Sn**	**13 03 36.5**	**-1.4**
TEY				pmax	pmax		
	comp=Z,5μm,3.7s						
TEY				pmax	pmax		
	comp=E,3μm,3.6s						
TEY				pmax	pmax		
	comp=Z,270nm,0.9s						
TEY				pmax	pmax		
	comp=N,2μm,3.7s						
TEY				pmax	pmax		
	comp=N,90nm,0.9s						
TEY				pmax	pmax		
	comp=E,200nm,0.9s						
BILL	**Bilibino**	**16.30**	**11**	*c i*P	**P**	**13 00 46.7**	**+0.2**
BILL				*e*S	**Sn**	**13 03 48.1**	**+0.4**
BILL				pmax	pmax		
	comp=Z,538nm,1.4s						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s						
BILL	**Bilibino**	**16.30**	**11**	P	**Pn**	**13 00 45.4**	**-0.8**
BILL				IAmb	IAmb	13 01 04.0	
	comp=Z,255nm,0.8s						
ATKA	**Atka Island**	**16.96**	**79**		**P**	**13 00 52.7**	**-1.2**
YAK	**Yakutsk**	**18.06**	**314**	P	**P**	**13 01 05.2**	**-0.6**
	comp=Z,6.8nm,0.3s,baz=100,slow=4.4,SNR=786						
YAK	**Yakutsk**	**18.06**	**314**	*c i*P	**P**	**13 01 05.3**	**-0.6**
YAK				*e*S	**S**	**13 04 24.8**	**-0.1**
YAK				pmax	pmax		
	comp=Z,4μm,0.9s						
YAK				pmax	pmax		
	comp=N,220nm,0.9s						
YAK				pmax	pmax		
	comp=E,2μm,0.9s						
YAK				smax	smax		
	comp=N,551nm,1.6s						
YAK				smax	smax		
	comp=E,706nm,1.8s						
YAK	**Yakutsk**	**18.06**	**314**	P	**P**	**13 01 05.0**	**-0.8**
ZEA	**Zeya**	**18.52**	**287**	*ce*P	**P**	**13 01 11.2**	**+0.3**
ZEA				*e*S	**S**	**13 04 33.0**	**-1.2**
ZEA				pmax	pmax		
	comp=N,90nm,0.9s						
ZEA				pmax	pmax		
	comp=E,70nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.1s						
ZEA				pmax	pmax		
	comp=E,700nm,9.3s						
ZEA				pmax	pmax		
	comp=Z,900nm,6.7s						
ZEA				smax	smax		
	comp=E,1μm,10.2s						
ZEA				smax	smax		
	comp=N,1μm,12.6s						
ZEA				MLR	MLR		
	comp=E,400nm,11.0s						
ZEA				MLR	MLR		
	comp=N,900nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,900nm,13.0s						
JMM	**Marumori**	**18.80**	**227**	P	**P**	**13 01 12.9**	**-1.3**
JMM				IAmb	IAmb	13 01 18.3	
	comp=Z,258nm,0.7s						
SPIA	**Saint Paul Isl**	**18.84**	**62**	P	**P**	**13 01 14.6**	**+0.2**
USA0B	**Ussuriysk Arra**	**19.07**	**255**	*c i*P	**P**	**13 01 16.2**	**-0.7**
USA0B	**Ussuriysk Arra**	**19.07**	**255**	P	**P**	**13 01 15.9**	**-1.0**
USRK	**Ussuriysk Ar.**	**19.07**	**255**	P	**P**	**13 01 16.9**	**0.0**
	baz=62,slow=11,SNR=271						
USRK				ScP	**ScP**	**13 08 56.6**	**0.0**
	baz=32,slow=2.8,SNR=7.8						
USRK	**Ussuriysk Ar.**	**19.07**	**255**	P	**P**	**13 01 17.0**	**0.0**
USRK	**Ussuriysk Ar.**	**19.07**	**255**	P	**P**	**13 01 15.6**	**-1.3**
GAMB	**Gambell**	**19.50**	**42**	P	**P**	**13 01 21.4**	**+0.1**
VLA	**Vladivostok**	**19.75**	**253**	*i* P	**P**	**13 01 22.9**	**-1.5**
VLA				pmax	pmax		
	comp=Z,87nm,1.0s						
JSD	**Sado**	**19.84**	**232**	P	**P**	**13 01 26.4**	**+1.0**
NIKH	**Nikolski High**	**20.01**	**75**	P	**P**	**13 01 26.4**	**-0.7**
MDJ	**Mudanjiang**	**20.27**	**259**	P	**P**	**13 01 29.1**	**-0.8**
MDJ				pP	pP	13 01 58.4	+2.5
MDJ				sP	sP	13 02 12.2	-2.1
MDJ				S	**S**	**13 05 09.4**	**+0.3**
MDJ				sS	sS	13 05 51.9	-0.8
MDJ				pmax	pmax		
	comp=Z,200nm,0.8s						
MDJ	**Mudanjiang**	**20.27**	**259**	IAmb	IAmb	13 02 01.6	
	comp=Z,488nm,1.1s						
JYT	**Yasato**	**20.43**	**225**	P	**P**	**13 01 31.4**	**-0.2**
JYT				IAmb	IAmb	13 01 34.8	
	comp=Z,350nm,0.6s						
MJB9	**Matsu-Tunnel**	**21.07**	**229**	P	**P**	**13 01 39.4**	**+0.9**
MJAR	**Matsushiro Arr**	**21.07**	**229**	P	**P**	**13 01 39.9**	**+1.4**
	comp=Z,360nm,0.7s,baz=18,slow=9.5,SNR=663						
MJAR				ScP	**ScP**	**13 09 02.0**	**+0.5**
	comp=Z,23nm,1.1s,baz=21,slow=0.9,SNR=22						
MJAR	**Matsushiro Arr**	**21.07**	**229**	P	**P**	**13 01 39.0**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,190nm,0.7s						
MJAR	**Matsushiro Arr**	**21.07**	**229**	P	**P**	**13 01 39.0**	**+0.5**
MAJO	**Matsushiro**	**21.07**	**229**	*c i*P	**P**	**13 01 38.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,566nm,0.8s						
MAJO	**Matsushiro**	**21.07**	**229**	P	**P**	**13 01 39.2**	**+0.7**
MAT	**Matsushiro**	**21.07**	**229**	P	**P**	**13 01 39.3**	**+0.8**
MAT				S	**S**	**13 05 23.2**	**-1.3**
UNV	**Unalaska Valle**	**21.23**	**72**	P	**P**	**13 01 39.3**	**-0.7**
UNV				IAmb	IAmb	13 01 41.4	
	comp=Z,347nm,1.0s						
AKUT	**Akutan**	**21.60**	**71**	P	**P**	**13 01 43.4

comp=Z,2µm,16.4s
SNY LR LR
comp=Z,2µm,9.3s
SNY LR LR
comp=Z,2µm,15.7s
PYS Pyongsong 25.72 252 P P 13 02 22.8 +0.3
KS19 Wonju Array Si 25.75 247 P P 13 02 23.7 +0.8
KSRS Korea Array 25.75 247 P P 13 02 24.1 +1.3
comp=Z,112nm,0.9s,baz=44,slow=9.2,SNR=197
KSRS ScP **ScP 13 09 15.7 +1.7**
comp=Z,27nm,1.1s,baz=55,slow=3.3,SNR=20
PYAG Pyongyang 25.91 252 P P 13 02 24.9 +0.7
PYAG sP **pP 13 02 57.2 +2.2**
SUJ Sinuiju 25.98 255 P P 13 02 24.7 -0.1
SUJ pP pP 13 02 39.2 -16
SUJ sP sP 13 02 53.7 -19
SUJ S S 13 06 25.7 -19
TTA Tatalina 26.23 48 P P 13 02 26.5 -0.5
TTA pmax pmax
comp=Z,111nm,0.9s
TTA Tatalina 26.23 48 P P 13 02 26.5 -0.5
SVW2 Sparrevohn 26.42 52 P P 13 02 28.2 -0.4
INCN Inchon 26.46 248 P P 13 02 30.3 +1.0
INCN Inchon 26.46 248 P P 13 02 29.3 0.0
INCN pmax pmax
comp=Z,92nm,0.9s
INCN Inchon 26.46 248 P P 13 02 29.3 0.0
TJN Taejon 26.83 246 *i* P **P 13 02 33.3 +0.8**
CIT Chita 26.98 287 *eP* **P 13 02 34.1 +0.3**
CIT *e* 13 03 07.5
CIT *e* 13 03 23.2
CIT pmax pmax
comp=Z,316nm,2.2s
JTU Tsushima 27.09 240 P P 13 02 36.3 +1.5
JTU IAmb IAmb 13 02 38.3
comp=Z,222nm,0.9s
JNU Nakatsue 27.40 236 P P 13 02 39.4 +1.7
comp=Z,305nm,0.8s,baz=12,slow=3.0,SNR=120
JNU Nakatsue 27.40 236 P P 13 02 39.2 +1.5
IMAR Indian Mountai 27.44 41 P P 13 02 36.5 -1.2
IMAR **PcP 13 05 52.7 +0.6**
SII Sitkinak Islan 27.67 62 P P 13 02 39.6 -0.2
RSO Redoubt South 27.84 53 P P 13 02 41.8 +0.3
PPLA Purkeypile 27.97 48 IAmb IAmb 13 02 46.2
comp=Z,225nm,1.4s
OHAK Old Harbor 28.02 60 IAmb IAmb 13 02 43.5
comp=Z,259nm,0.8s
KDAK Kodiak Island 28.29 59 P P 13 02 44.0 -1.3
comp=Z,187nm,1.0s,baz=276,slow=5.7,SNR=31
KDAK Kodiak Island 28.29 59 P P 13 02 44.0 -1.3
DL2 Dalian 28.45 257 P P 13 02 46.6 -0.3
DL2 sP **sP 13 03 33.5 -1.4**
DL2 S S **13 07 22.1 -1.0**
DL2 pmax pmax
comp=Z,230nm,1.0s
DL2 pmax pmax
comp=Z,740nm,8.4s
BPAW Bear Paw Mtn. 28.50 46 P P 13 02 46.1 -1.1
KTH Kantishna Hill 28.54 47 IAmb IAmb 13 02 49.8
comp=Z,184nm,1.2s
CAPN Captain Cook N 28.59 53 P P 13 02 46.8 -1.1
baz=276
CAPN S S **13 07 26.0 +1.0**
baz=276
BRLK Bradley Lake 28.85 55 IAmb IAmb 13 02 50.9
comp=Z,140nm,0.9s
CUT Chulitna 28.88 49 P P 13 02 49.5 -1.0
baz=274,SNR=12
CUT S S **13 07 27.3 -2.2**
baz=274
JSU Suzuyama 28.91 235 IAmb IAmb 13 02 55.2
comp=Z,278nm,0.9s
COLD Coldfoot 28.97 39 P P 13 02 51.1 -0.2
baz=265,SNR=54
COLD S S **13 07 30.1 -0.9**
baz=265
BWN Browne 29.17 45 P P 13 02 53.5 +0.5
RC01 Rabbit Creek A 29.25 52 P P 13 02 52.9 -0.9
baz=277,SNR=13
RC01 S S **13 07 31.5 -3.8**
baz=277
O22K Cooper Landing 29.33 53 P P 13 02 53.1 -1.3
baz=278,SNR=14
NEA2 Nenana 29.34 45 P P 13 02 54.1 -0.4
baz=271,SNR=98
NEA2 S S **13 07 35.6 -1.0**
baz=271
TOLK Toolik Lake Re 29.36 36 P P 13 02 54.7 0.0
baz=263,SNR=28
TOLK S S **13 07 36.5 -0.6**
baz=263
TOLK Toolik Lake Re 29.36 36 P P 13 02 54.0 -0.7
RND Reindeer 29.47 47 IAmb IAmb 13 02 57.0
comp=Z,145nm,1.0s
SEW Seward 29.51 54 IAmb IAmb 13 02 56.9
comp=Z,239nm,0.9s
WRH Wood River Hil 29.76 45 IAmb IAmb 13 03 00.2
comp=Z,184nm,1.0s
TCOL CIGO, UAF Yank 29.85 44 P P 13 02 58.9 -0.1
baz=272,SNR=62
TCOL S S **13 07 44.3 -0.3**
baz=272
COLA College 29.85 44 *i* P **P 13 02 58.4 -0.6**
COLA pmax pmax
comp=Z,107nm,1.0s
COLA College 29.85 44 P P 13 02 58.9 -0.1
COLA IAmb IAmb 13 03 01.0
comp=Z,107nm,0.7s
POKR Poker Flat Res 30.03 44 P P 13 03 00.6 0.0
baz=271,SNR=22
POKR S S **13 07 46.6 -0.8**
baz=271
DHY Denali Highway 30.16 48 IAmb IAmb 13 03 04.0
comp=Z,176nm,1.2s
HDA Harding Lake 30.26 45 P P 13 03 01.4 -1.2
baz=273,SNR=83
HDA S S **13 07 48.1 -3.0**
baz=273
HDA Harding Lake 30.26 45 IAmb IAmb 13 03 04.5
comp=Z,75nm,0.6s
IL31 30.27 44 IAmb IAmb 13 03 04.6
comp=Z,77nm,0.7s
ILAR Eielson Array 30.27 44 P P 13 03 01.9 -0.8
comp=Z,53nm,0.7s,baz=263,slow=7.8,SNR=333
ILAR PcP **PcP 13 05 58.3 -1.0**
comp=Z,8.5nm,1.1s,baz=260,slow=2.9,SNR=4.5
ILAR ScP **ScP 13 09 26.2 -1.3**
comp=Z,5.4nm,1.1s,baz=283,slow=3.8,SNR=5.3
ILAR LR LR 13 16 16.4
comp=Z,688nm,18.6s,baz=277,slow=38
ILAR Eielson Array 30.27 44 P P 13 03 00.8 -2.0
SCM Sheep Creek Mo 30.31 50 P P 13 03 02.3 -0.9
SCM pmax pmax
comp=Z,288nm,1.0s
SCM Sheep Creek Mo 30.31 50 P P 13 03 02.3 -0.9
SCM IAmb IAmb 13 03 04.8
comp=Z,288nm,1.0s
GLI Glacier Island 30.55 52 IAmb IAmb 13 03 06.3
comp=Z,154nm,1.2s
M24K Tolsona, Glenn 30.82 49 P P 13 03 07.8 +0.1
baz=278,SNR=42
M24K S S **13 07 59.8 -0.2**
baz=278
M24K Tolsona, Glenn 30.82 49 IAmb IAmb 13 03 10.0
comp=Z,176nm,0.9s
FID Port Fidalgo 30.87 52 IAmb IAmb 13 03 09.0
comp=Z,167nm,1.2s
FYU Fort Yukon 30.91 41 IAmb IAmb 13 03 11.0
comp=Z,144nm,0.7s
HIN Hinchinbrook I 30.92 53 IAmb IAmb 13 03 09.9
comp=Z,191nm,0.9s
KLU Klutina 31.02 51 IAmb IAmb 13 03 11.9
comp=Z,202nm,1.2s
PAX Paxson 31.04 48 P P 13 03 08.4 -1.2
PAX pmax pmax
comp=Z,75nm,1.5s
PAX Paxson 31.04 48 P P 13 03 08.4 -1.2
BJI Beijing 31.04 264 P P 13 03 09.2 -0.5
BJI S S **13 08 01.9 -1.8**
BJI sS **sS 13 08 57.2 -1.6**
BJI ScP **ScP 13 09 32.6 +2.1**
BJI ScS **ScS 13 13 27.2 -0.5**
BJI pmax pmax
comp=Z,36nm,1.0s
BJI pmax pmax
comp=Z,570nm,3.6s
BJI LR LR
comp=Z,2µm,16.6s
BJI LR LR
comp=Z,2µm,9.0s
BJI LR LR
comp=Z,2µm,17.3s
BMAR Burnt Mountain 31.16 39 P P 13 03 09.6 -0.9
Q23K Middleton Isla 31.18 55 P P 13 03 10.7 -0.1
RIDG Independent Ri 31.23 46 IAmb IAmb 13 03 12.1
comp=Z,136nm,1.0s
EYAK Cordova Ski Ar 31.26 52 IAmb IAmb 13 03 13.1
comp=Z,123nm,1.0s
SCRK Sand Creek 31.59 46 P P 13 03 13.0 -1.4
baz=276,SNR=126
SCRK S S **13 08 08.9 -3.2**
baz=276
RAGM Ragged Mountai 31.81 52 P P 13 03 16.1 -0.3
RAGM IAmb IAmb 13 03 18.6
comp=Z,266nm,1.2s
MENT Mentasta 31.83 48 P P 13 03 15.9 -0.6
GLB Gilahina Butte 32.03 50 IAmb IAmb 13 03 20.4
comp=Z,123nm,1.3s
IRK Irkutsk 32.27 292 *eP* **P 13 03 18.9 -1.6**
IRK *e* 13 04 10.1
IRK pmax pmax
comp=Z,246nm,1.9s
MCARA McCarthy VSAT 32.41 50 P P 13 03 21.7 +0.2
ULN Ulaanbaatar 32.46 283 P P 13 03 21.9 -0.5
ULN Ulaanbaatar 32.46 283 *c iP* **P 13 03 21.1 -1.2**
ULN pmax pmax
comp=Z,86nm,0.9s
ULN Ulaanbaatar 32.46 283 P P 13 03 21.9 -0.5
ULN IAmb IAmb 13 03 24.2
comp=Z,95nm,1.0s
TGL Tana Glacier 32.63 51 P P 13 03 23.4 -0.2
BCAR Beaver Creek A 32.69 47 P P 13 03 23.8 -0.2
EGAK Eagle 32.72 44 IAmb IAmb 13 03 25.2
comp=Z,109nm,0.8s
BALM Baldy 32.80 51 P P 13 03 24.7 -0.4
TLY Talaya 32.85 291 ScP **ScP 13 09 35.1 -1.4**
comp=Z,8.2nm,0.8s,baz=360,slow=5.2,SNR=1.6
TLY Talaya 32.85 291 P P 13 03 25.8 +0.3
TLY Talaya 32.85 291 *eP* **P 13 03 25.4 -0.1**
TLY *e* 13 03 57.4
TLY *e* 13 04 16.0
TLY *eS* **S 13 08 32.0 +0.3**
TLY *e* 13 11 13.3
TLY pmax pmax
comp=Z,691nm,1.4s
TLY MLR MLR
comp=Z,3µm,17.0s
TLY Talaya 32.85 291 P P 13 03 25.8 +0.3
TLY IAmb IAmb 13 03 28.8
comp=Z,193nm,1.0s
SONM Songino Array 32.87 283 P P 13 03 26.0 +0.2
comp=Z,17nm,0.4s,baz=68,slow=6.9,SNR=78
SONM PcP **PcP 13 06 07.0 +0.2**
comp=Z,18nm,0.9s,baz=84,slow=1.3,SNR=4.9
SONM ScP **ScP 13 09 39.4 +2.6**
comp=Z,25nm,1.0s,baz=80,slow=2.1,SNR=14
SONM LR LR 13 18 43.5
comp=Z,2µm,18.3s,baz=61,slow=40
SONM Songino Array 32.87 283 P P 13 03 25.0 -0.8
TIA Tai'an 32.91 257 P P 13 03 25.6 -0.6
TIA S S **13 08 34.9 +2.0**
TIA pmax pmax
comp=Z,75nm,0.9s
TIA pmax pmax
comp=Z,580nm,4.2s
TIA LR LR
comp=Z,850nm,15.7s
TIA LR LR
comp=Z,500nm,11.4s
TIA LR LR
comp=Z,580nm,22.8s
BARN Barnard Glacie 33.12 51 IAmb IAmb 13 03 30.4
comp=Z,123nm,0.9s
H11N2 WAKE ISLAND Hy 33.22 165 T T 13 38 00.1
baz=349,slow=76,SNR=3227
H11N3 WAKE ISLAND Hy 33.23 165 T T 13 37 55.9
baz=349,slow=76,SNR=3276
H11N1 WAKE ISLAND Hy 33.23 165 T T 13 38 01.4
baz=349,slow=76,SNR=3831
YAH Yahtse 33.24 52 IAmb IAmb 13 03 31.6
comp=Z,206nm,0.8s
CTGM Chitina Glacie 33.30 51 IAmb IAmb 13 03 31.8
comp=Z,212nm,1.0s
HHC Hu-ho-hao-te 33.38 269 *eP* **P 13 03 29.7 -0.6**
HHC pP pP 13 04 01.9 +0.1
HHC S **S 13 08 37.6 -2.7**
HHC sS sS 13 09 33.8 -2.0
HHC pmax pmax
comp=Z,55nm,1.0s
HHC pmax pmax
comp=Z,380nm,5.8s
ZAK Zakamensk 33.59 289 *eP* **P 13 03 32.3 +0.3**
ZAK pmax pmax
comp=Z,148nm,1.1s
PCA Pinnacle 34.03 52 P P 13 03 35.2 -0.4
PCA IAmb IAmb 13 03 37.7
comp=Z,215nm,1.0s
SSE Sheshan 34.19 246 P P 13 03 39.0 +1.8
SSE S **S 13 08 52.5 -0.2**
SSE pmax pmax
comp=Z,100nm,0.9s
SSE pmax pmax
comp=Z,460nm,10.2s
SSE LR LR
comp=Z,420nm,22.1s
SSE LR LR
comp=Z,660nm,20.3s
SSE Sheshan 34.19 246 P P 13 03 39.2 +2.0
SSE IAmb IAmb 13 03 41.3
comp=Z,163nm,0.8s
EPYK Eagle Plains 34.33 40 IAmb IAmb 13 03 41.6
comp=Z,348nm,1.9s
BCPM Bancas Point 34.37 52 P P 13 03 38.4 -0.1
BCPM IAmb IAmb 13 03 40.5
comp=Z,164nm,0.8s
MOY Mondy 34.37 292 *eP* **P 13 03 38.9 +0.2**
MOY pmax pmax
comp=Z,343nm,1.7s
H11S1 WAKE ISLAND Hy 34.38 165 T T 13 39 20.1
baz=350,slow=76,SNR=839
H11S3 WAKE ISLAND Hy 34.40 165 T T 13 39 24.9
baz=350,slow=76,SNR=409
H11S2 WAKE ISLAND Hy 34.40 165 T T 13 39 24.9
baz=350,slow=76,SNR=419
BTO Baotou 34.47 270 *eP* **P 13 03 38.6 -1.1**
BTO S **S 13 08 50.1 -7.0**
TIY Taiyuan 34.77 264 *eP* **P 13 03 42.7 +0.4**
TIY pP **pP 13 04 15.0 +1.1**
TIY PcP **PcP 13 06 11.1 -1.2**
TIY S **S 13 09 09.8 +8.2**
TIY pmax pmax
comp=Z,89nm,0.7s
TIY LR LR
comp=Z,1µm,7.6s
TIY LR LR
comp=Z,440nm,8.0s
TIY LR LR
comp=Z,1µm,11.3s
NJ2 Nanjing 34.81 250 *eP* **P 13 03 42.9 +0.3**
NJ2 PcP **PcP 13 06 11.7 -0.7**
NJ2 S **S 13 08 57.1 -5.1**
NJ2 ScP **ScP 13 09 44.7 +1.0**
NJ2 ScS **ScS 13 13 47.0 -0.5**
NJ2 pmax pmax
comp=Z,60nm,0.6s
NJ2 pmax pmax
comp=Z,1µm,4.0s
NJ2 LR LR
comp=Z,790nm,18.0s
NJ2 LR LR
comp=Z,520nm,16.6s
NJ2 LR LR
comp=Z,790nm,16.2s
HYT Haines Junctio 35.15 50 IAmb IAmb 13 03 48.2
comp=Z,127nm,1.1s
INK Inuvik 35.27 37 P P 13 03 46.5 +0.5
comp=Z,59nm,0.8s,baz=282,slow=6.9,SNR=105
INK Inuvik 35.27 37 P P 13 03 46.0 -0.1
INK pmax pmax
comp=Z,55nm,0.8s
INK Inuvik 35.27 37 P P 13 03 46.0 -0.1
NRIK Noril'sk 35.85 325 P **P 13 03 50.6 -0.5**
comp=Z,137nm,0.8s,baz=94,slow=10.0,SNR=128
NRIK ScP **ScP 13 09 46.5 -0.4**
comp=Z,19nm,1.0s,baz=121,slow=5.6,SNR=3.1
NRIK Noril'sk 35.85 325 *c iP* **P 13 03 50.0 -1.1**
NRIK pmax pmax
comp=Z,215nm,1.0s
WHY Whitehorse 36.43 50 IAmb IAmb 13 03 59.4
comp=Z,147nm,1.0s
SKAG Skagway 36.60 52 IAmb IAmb 13 04 00.9
comp=Z,197nm,1.1s
BESE Bessie Mountai 37.12 53 P P 13 04 02.6 +0.6
BESE IAmb IAmb 13 04 05.2
comp=Z,180nm,1.2s
SIT Sitka 37.44 56 IAmb IAmb 13 04 08.2
comp=Z,165nm,1.0s
A36M Sachs Harbour 37.45 30 P P 13 04 05.3 +0.8
baz=281,SNR=13
A36M S S **13 09 43.5 +1.9**
baz=281
A36M Sachs Harbour 37.45 30 IAmb IAmb 13 04 13.0
comp=Z,153nm,0.8s
JIS Juneau Island 37.46 53 P P 13 04 05.6 +0.9
JIS IAmb IAmb 13 04 08.1
comp=Z,159nm,1.0s
C36M Paulatuk 38.42 34 P P 13 04 13.0 +0.3
baz=285,SNR=8.1
C36M S S **13 09 54.6 -1.5**
baz=285
C36M Paulatuk 38.42 34 P P 13 04 12.4 -0.2
WHN Wuhan 38.54 253 ⇓ *iP* **P 13 04 14.1 0.0**
WHN sP **sP 13 04 59.6 -3.4**
WHN S S **13 09 54.1 -4.7**
WHN pmax pmax
comp=Z,310nm,0.8s
WHN pmax pmax
comp=Z,1µm,11.2s
WHN LR LR
comp=Z,720nm,12.4s
WHN LR LR
comp=Z,2µm,12.7s
WHN LR LR
comp=Z,2µm,13.2s
TATO Taipei 38.81 240 P P 13 04 19.0 +2.6
TATO Taipei 38.81 240 P P 13 04 17.9 +1.4
TATO IAmb IAmb 13 04 22.3
comp=Z,124nm,0.8s
YHNB Yeheng 39.12 239 IAmb IAmb 13 04 25.2
comp=Z,80nm,0.7s
WRAK Wrangell Islan 39.20 56 IAmb IAmb 13 04 23.0
comp=Z,177nm,0.9s
XAN Xi'an 39.33 262 P P 13 04 20.0 -0.8
XAN PP **PnPn 13 05 57.6 -0.6**
XAN S **S 13 10 06.0 -4.7**
XAN sS sS 13 11 04.6 -2.5
XAN pmax pmax
comp=Z,17nm,0.8s
XAN pmax pmax
comp=Z,870nm,7.7s
XAN LR LR
comp=Z,2µm,22.2s
XAN LR LR
comp=Z,1µm,22.8s
XAN LR LR
comp=Z,2µm,16.4s
XAN Xi'an 39.33 262 P P 13 04 19.6 -1.2
XAN pmax pmax
comp=Z,99nm,1.6s
XAN Xi'an 39.33 262 P P 13 04 19.6 -1.2
NACB Ninganchiao 39.41 239 P P 13 04 21.4 -0.1
DLBC Dease Lake 39.53 52 P P 13 04 23.8 +1.6
comp=Z,90nm,1.0s,baz=288,slow=9.2,SNR=74
DLBC Dease Lake 39.53 52 IAmb IAmb 13 04 26.0
comp=Z,139nm,1.1s
GUMO Guam 40.02 200 LR LR 13 19 26.6
comp=Z,195nm,21.9s,baz=358,slow=33
SSLB Suanglung 40.06 239 P P 13 04 27.1 +0.3
YULB Yu-li 40.20 238 P P 13 04 28.6 +0.6
YULB IAmb IAmb 13 04 38.6
comp=Z,80nm,0.7s
QZH Quanzhou 40.40 243 ⇑ *iP* **P 13 04 30.7 +1.1**
QZH S **S 13 10 26.2 -0.4**
QZH sS **sS 13 11 21.0 -2.3**
QZH ScS **ScS 13 14 19.8 +0.3**
QZH pmax pmax
comp=Z,79nm,0.8s
QZH pmax pmax
comp=Z,1µm,3.8s
QZH LR LR
comp=Z,310nm,12.9s
QZH LR LR
comp=Z,500nm,14.2s
QZH LR LR
comp=Z,400nm,16.1s
DIB Dawson Inlet, 40.55 60 IAmb IAmb 13 04 33.6
comp=Z,182nm,1.2s
TPUB Ta-pu 40.63 239 P P 13 04 31.8 +0.3
TPUB IAmb IAmb 13 04 35.0
comp=Z,115nm,0.7s
KNMB Chin-men Tao 40.89 243 P P 13 04 33.5 -0.1
KNMB IAmb IAmb 13 04 36.7
comp=Z,191nm,0.9s
LZH Lanzhou 41.08 269 *eP* **P 13 04 35.1 -0.2**
LZH pP pP 13 05 10.8 +3.1
LZH PP **PP 13 06 15.0 +2.1**
LZH PcP **PcP 13 06 33.2 +1.2**
LZH ScP **ScP 13 10 09.6 +1.9**
LZH S **S 13 10 31.8 -5.1**
LZH sS sS 13 11 37.1 +3.5
LZH ScS **ScS 13 14 23.8 0.0**
LZH pmax pmax
comp=Z,190nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.3s
LZH LR LR
comp=Z,2µm,15.2s
LZH LR LR
comp=Z,1µm,14.6s
LZH LR LR
comp=Z,1µm,16.3s
GTA Gaotai 41.45 276 ⇑ P **P 13 04 38.4 +0.2**
GTA pP pP 13 05 13.2 +2.5
GTA sP sP 13 05 26.3 -1.1
GTA PP **PP 13 06 17.2 +0.4**
GTA ScP **ScP 13 10 10.7 +1.6**
GTA S **S 13 10 41.3 -1.0**
GTA sS **sS 13 13 43.4 -8.7**
GTA ScS **ScS 13 14 25.6 -0.3**
GTA pmax pmax
comp=Z,62nm,1.1s
GTA pmax pmax
comp=Z,780nm,10.9s
GTA LR LR
comp=Z,1µm,14.9s
GTA LR LR
comp=Z,770nm,16.7s
GTA LR LR
comp=Z,1µm,16.7s
ENH Enshi 41.62 258 IAmb IAmb 13 04 42.7
comp=Z,227nm,1.0s
ZAA0 Zalesovo Array 42.16 303 IAmb IAmb 13 04 43.8
comp=Z,110nm,0.8s
ZALV Zalesovo Beam 42.16 303 P **P 13 04 41.9 -1.8**
comp=Z,122nm,0.8s,baz=58,slow=6.4,SNR=214
ZALV PP **PP 13 06 25.0 +1.0**
comp=Z,32nm,0.9s,baz=46,slow=8.6,SNR=5.0
ZALV PcP **PcP 13 06 35.3 +0.3**
comp=Z,91nm,1.0s,baz=50,slow=8.0,SNR=10
ZALV ScP **ScP 13 10 13.3 +1.9**
comp=Z,7.5nm,1.0s,baz=53,slow=5.6,SNR=3.2
ZALV ScS **ScS 13 14 30.5 +1.1**
comp=Z,5.3nm,1.0s,baz=57,slow=5.5,SNR=5.3
ZALV Zalesovo Beam 42.16 303 P P 13 04 40.5 -3.1
BBP Basco 42.31 235 *eP* **P 13 04 43.8 -1.3**
DGZ Jazzator, Alta 42.90 296 *c iP* **P 13 04 49.8 -0.1**
DGZ pmax pmax
comp=Z,404nm,0.9s
EUNU Eureka 43.03 13 P P 13 04 51.0 +0.6
EUNU IAmb IAmb 13 04 53.3
comp=Z,244nm,0.8s
BBB Bella Bella 43.36 59 IAmb IAmb 13 04 56.5
comp=Z,152nm,1.0s
SGCP Mt. Cagua 44.12 233 *eP* **P 13 04 59.9 +0.2**
RES Resolute Bay 44.54 21 P P 13 05 03.1 +0.7
comp=Z,62nm,0.8s,baz=288,slow=7.6,SNR=22
RES Resolute Bay 44.54 21 P P 13 05 04.2 +1.9

YKA Yellowknife Ar 44.60 41 P P 13 05 03.3 +0.2
comp=Z,59nm,0.9s,baz=312,slow=11,SNR=44
YKA PcP PcP 13 06 43.6 +0.5
comp=Z,12nm,1.0s,baz=316,slow=3.3,SNR=4.3
YKA Yellowknife Ar 44.60 41 *i* P **P 13 05 03.2 +0.2**
YKA pmax pmax
comp=Z,37nm,1.0s
CD2 Chengdu 44.64 263⇑ *i* P **P 13 05 03.6 -0.2**
CD2 sP sP 13 05 52.5 -0.8
CD2 S S **13 11 26.1 -2.7**
CD2 sS sS 13 12 23.9 -2.3
CD2 ScS **ScS 13 14 44.1 -1.7**
CD2 pmax pmax
comp=Z,180nm,0.9s
CD2 pmax pmax
comp=Z,1μm,5.4s
CD2 LR LR
comp=Z,1μm,21.0s
CD2 LR LR
comp=Z,1μm,15.7s
CD2 LR LR
comp=Z,2μm,16.2s
GZH Guangzhou 44.78 247 P P 13 05 01.0 -4.0
GZH S S 13 11 20.2 -11
GZH pmax pmax
comp=Z,380nm,0.8s
APYP Conner 44.84 234 *eP* **P 13 05 04.1 -1.4**
HKPS Hong Kong Po S 44.98 245 P P 13 05 07.2 +0.7
HKPS IAmb IAmb 13 05 10.1
comp=Z,215nm,0.9s
SIPP Brgy, Tapao 45.18 235‖ *i* P P 13 04 55.0 -13
ABRA Dolores 45.29 234 *eP* **P 13 05 06.6 -2.3**
CAUP Cauayan 45.34 233 *eP* **P 13 05 10.7 +1.3**
OPA Opana 45.47 115 P P 13 05 11.4 +1.0
OPA pmax pmax
comp=Z,420nm,1.2s
OPA Opana 45.47 115 P P 13 05 11.4 +1.0
ZSN Zaisan 45.56 295⇑ *i* P **P 13 05 10.4 -0.5**
comp=Z,106nm,0.9s
ZSN *ep*P **pP 13 05 45.8 +1.9**
ZSN *e*PP **PP 13 07 00.9 +0.7**
ZSN Zaisan 45.56 295 *c i* P **P 13 05 10.4 -0.5**
ZSN *e**PP **pP 13 05 45.8 +1.9**
ZSN *e* 13 07 00.9
ZSN pmax pmax
comp=Z,106nm,0.9s
KIP Kipapa 45.68 115 *i* P **P 13 05 12.7 +0.7**
KIP pmax pmax
comp=Z,297nm,1.0s
KIP Kipapa 45.68 115 P P 13 05 12.9 +0.9
HON Honolulu 45.77 115 P P 13 05 13.6 +0.9
HON pmax pmax
comp=Z,143nm,0.9s
HON Honolulu 45.77 115 P P 13 05 13.6 +0.9
HON IAmb IAmb 13 05 17.7
comp=Z,143nm,0.9s
WMQ Urumqi 46.05 289 *eP* **P 13 05 15.2 +0.3**
WMQ pP pP 13 05 50.5 +2.6
WMQ sP sP 13 06 05.1 +0.6
WMQ PP **PP 13 07 07.1 +1.8**
WMQ ScP **ScP 13 10 27.7 0.0**
WMQ pmax pmax
comp=Z,66nm,0.9s
WMQ pmax pmax
comp=Z,770nm,3.7s
WMQ LR LR
comp=Z,1μm,8.3s
WMQ LR LR
comp=Z,480nm,10.1s
WMQ LR LR
comp=Z,800nm,29.3s
GYA Guiyang 46.10 256⇑ P **P 13 05 15.2 -0.3**
GYA pP pP 13 05 49.6 +1.0
GYA sP sP 13 06 06.0 +1.0
GYA PP **PP 13 07 05.4 -0.7**
GYA ScP **ScP 13 10 29.5 +1.3**
GYA S **S 13 11 47.4 -2.6**
GYA sS sS 13 12 44.9 -2.7
GYA ScS **ScS 13 14 53.1 -2.4**
GYA pmax pmax
comp=Z,870nm,3.6s
GYA LR LR
comp=Z,540nm,18.9s
GYA LR LR
comp=Z,530nm,19.9s
GYA LR LR
comp=Z,440nm,15.3s
NOR Nord 46.33 359 *i* P **P 13 05 16.2 -0.2**
NOR pmax pmax
comp=Z,150nm,1.3s
NOR Nord 46.33 359 *i* P **P 13 05 16.2 -0.2**
comp=Z,154nm,1.3s
NOR Nord 46.33 359 *i* P **P 13 05 16.2 -0.2**
NOR IAmb IAmb 13 05 18.2
comp=Z,154nm,1.3s
BALP Baler 46.49 232 *eP* **P 13 05 18.7 +0.3**
SMPP San Manuel, Pa 46.58 233 *eP* **P 13 05 18.1 -1.0**
BOLP Bolinao 46.76 234 *eP* **P 13 05 20.8 +0.3**
KHLH Kahului Airpor 46.98 114 IAmb IAmb 13 05 25.0
comp=Z,286nm,1.0s
KURK Kurchatov 47.10 301 P P 13 05 21.8 -0.9
KURK Kurchatov 47.10 301 *c i* P **P 13 05 21.6 -1.1**
KURK pmax pmax
comp=Z,910nm,0.9s
KURK Kurchatov 47.10 301 P P 13 05 21.7 -1.0
PVCP Virac 47.14 228 *eP* **P 13 05 25.3 +1.9**
POLP Polilio Island 47.19 231 *eP* **P 13 05 25.3 +1.4**
HLK Haleakala 47.20 114 IAmb IAmb 13 05 27.2
comp=Z,362nm,1.2s
KURBB Kurchatov Arra 47.20 301 ScP **ScP 13 10 34.5 +2.3**
comp=Z,14nm,1.1s,baz=54,slow=3.3,SNR=6.9
KURBB Kurchatov Arra 47.20 301 P **P 13 05 22.3 -1.2**
MK31 Makanchi Array 47.38 295 *i* P **P 13 05 23.6 -1.4**
MK31 Makanchi Array 47.38 295 IAmb IAmb 13 05 26.3
comp=Z,406nm,1.6s
MKAR Makanchi Array 47.38 295 P P 13 05 24.3 -0.8
comp=Z,57nm,0.5s,baz=56,slow=6.8,SNR=392
MKAR pP **pP 13 06 00.1 +1.8**
comp=Z,28nm,0.7s,baz=67,slow=9.3,SNR=2.5
MKAR ScP **ScP 13 10 34.5 +1.4**
comp=Z,12nm,1.1s,baz=46,slow=5.2,SNR=4.8
MKAR ScS **ScS 13 15 02.4 -0.7**
comp=Z,3.2nm,1.0s,baz=61,slow=9.9,SNR=5.5
MKAR LR LR 13 26 07.7
comp=Z,658nm,19.8s,baz=28,slow=37
MKAR P4KPbc 13 43 05.9
comp=Z,1.9nm,1.0s,baz=57,slow=4.5,SNR=8.9
MKAR Makanchi Array 47.38 295 *i* P **P 13 05 23.8 -1.2**
MKAR pmax pmax
comp=Z,57nm,0.5s
MKAR Makanchi Array 47.38 295 P P 13 05 23.6 -1.4
KBS Kingsbay 47.50 352 *c i* P **P 13 05 25.8 +0.3**
KBS pmax pmax
comp=Z,301nm,0.9s
KBS Kingsbay 47.50 352 P P 13 05 25.8 +0.3
KBS Kingsbay 47.50 352 *eP* **P 13 05 26.1 +0.6**
KBS Kingsbay 47.50 352⇑ *i* P **P 13 05 26.0 +0.5**
KBS IAmb IAmb 13 05 27.9
comp=Z,756nm,0.8s
MAKZ Makanchi 47.54 295 P P 13 05 25.1 -1.2
MAKZ pmax pmax
comp=Z,132nm,0.8s
MAKZ Makanchi 47.54 295 P P 13 05 25.1 -1.2
MAKZ IAmb IAmb 13 05 26.8
comp=Z,132nm,0.8s
SPA0 Spitsbergen Ar 47.72 350 P P 13 05 27.0 -0.2
SPA0 Spitsbergen Ar 47.72 350‖ *i* P **P 13 05 27.4 +0.2**
SPITS Spitsbergen Ar 47.72 350 P P 13 05 27.2 -0.1
SPITS pmax pmax
comp=Z,217nm,0.5s
PGC Sidney 47.80 61 IAmb IAmb 13 05 30.6
comp=Z,302nm,1.8s
CNP Catarman 47.87 226 *eP* **P 13 05 30.8 +1.7**
LQP Lukban 47.91 231‖ *eP* **P 13 05 31.5 +1.8**
TULEG Thule 48.03 13 *i* P **P 13 05 30.4 +0.7**
TULEG IAmb IAmb 13 05 31.2
comp=Z,142nm,1.0s
HOPEN Hopen 48.04 347 *eP* **P 13 05 29.4 -0.3**
HPAH Hawaii Prepara 48.09 114 P **P 13 05 30.8 0.0**
A04D Lummi Island 48.16 61 P P 13 05 31.6 +0.7
baz=306,SNR=21
A04D S **S 13 12 17.9 -0.3**
baz=306
HUH Hualalai 48.28 115 P P 13 05 33.7 +1.1
HUH IAmb IAmb 13 05 35.0
comp=Z,216nm,1.3s
NLWA Neilton Lookou 48.31 63 P P 13 05 32.5 +0.3
NLWA IAmb IAmb 13 05 35.3
comp=Z,225nm,1.1s
KHLU Kahalu`u 48.33 115 IAmb IAmb 13 05 35.0
comp=Z,268nm,1.1s
BOAC Boac 48.33 230 *eP* **P 13 05 33.7 +1.0**
POHA Pohakuloa 48.40 114 P **P 13 05 33.9 +0.5**
HMH Humu'ula Sheep 48.55 114 P **P 13 05 35.5 +0.9**
D03D Eldon 48.65 62 P P 13 05 35.6 +0.9
baz=307,SNR=103
D03D S **S 13 12 27.3 +2.0**
baz=307
B05A Bryant 48.75 61 P P 13 05 36.0 +0.5
baz=307,SNR=72
B05A S **S 13 12 27.1 +0.4**
baz=307
UWE Uwekahuna 48.80 114 P **P 13 05 36.7 +0.4**
UWB Uwekahuna B 48.80 114 P **P 13 05 36.4 0.0**
OBL Observatory Le 48.81 114 P **P 13 05 36.8 +0.4**
WRMHI West Rim 48.81 114 P **P 13 05 36.5 +0.1**
SBLHI Steaming Bluff 48.81 114 P **P 13 05 36.9 +0.5**
NPH North Pit 48.81 114 P **P 13 05 36.8 +0.4**
NPH IAmb IAmb 13 05 38.8
comp=Z,228nm,1.1s
HATHI Halema'uma'u T 48.81 114 P **P 13 05 36.3 -0.2**
SDHHI Sand Hill 48.82 114 P **P 13 05 35.7 -0.9**
BYL Byron's Ledge 48.82 114 P **P 13 05 35.8 -0.7**
BYL IAmb IAmb 13 05 38.9
comp=Z,283nm,1.1s
RIM Rim 48.83 114 P **P 13 05 35.7 -0.9**
KKO Keanakako`i 48.83 114 P **P 13 05 35.7 -0.9**
HSPB Hornsund (broa 48.84 349 *i* P **P 13 05 35.6 -0.1**
HSPB Hornsund (broa 48.84 349⇑ *i* P **P 13 05 35.6 -0.1**
HSPB Hornsund (broa 48.84 349 *eP* **P 13 05 35.8 0.0**
LUBP Lubang 48.86 232 *eP* **P 13 05 35.0 -1.6**
B06A Marblemount 48.93 60 IAmb IAmb 13 05 39.1
comp=Z,200nm,1.1s
D04E Lakebay 49.04 63 P P 13 05 38.8 +1.1
baz=307,SNR=24
D04E S **S 13 12 33.5 +2.9**
baz=307
OTRP Odiongan 49.21 229 *eP* **P 13 05 41.2 +1.9**
KMI Kunming 49.45 259‖ *eP* **P 13 05 41.2 -0.2**
KMI pP pP 13 06 16.4 +1.5
KMI sP sP 13 06 33.9 +2.7
KMI PP **PP 13 07 32.5 -4.2**
KMI S **S 13 12 35.6 -1.8**
KMI sS sS 13 13 38.6 +2.9
KMI ScS **ScS 13 15 16.0 -2.1**
KMI pmax pmax
comp=Z,68nm,0.9s
KMI pmax pmax
comp=Z,970nm,4.9s
KMI LR LR
comp=Z,510nm,15.3s
KMI LR LR
comp=Z,640nm,14.2s
KMI LR LR
comp=Z,530nm,21.4s
D05A Enumclaw 49.46 62 IAmb IAmb 13 05 44.0
comp=Z,195nm,1.0s
E04D Cinebar 49.52 63 P P 13 05 42.3 +0.9
baz=308,SNR=56
E04D S **S 13 12 38.8 +1.3**
baz=308
F04D Rainier, OR 49.57 64 P P 13 05 42.4 +0.6
baz=308,SNR=6.2
C06D Leavenworth 49.60 61 P P 13 05 42.4 +0.4
baz=307,SNR=16
MSLP Maasin 49.90 225 *eP* **P 13 05 46.2 +1.6**
BRVK Borovoye 49.94 308 P **P 13 05 43.2 -1.3**
BRVK Borovoye 49.94 308 P **P 13 05 43.1 -1.3**
BRVK pmax pmax
comp=Z,273nm,0.7s
BRVK Borovoye 49.94 308 P **P 13 05 43.1 -1.3**
G03D McMinnville, O 49.96 65 P P 13 05 45.3 +0.6
baz=308,SNR=9.9
G03D S **S 13 12 45.6 +1.9**
baz=308
QIZ Qiongzhong 49.98 247 P P 13 05 47.5 +2.4
QIZ pP **pP 13 06 18.9 +0.1**
QIZ sP **sP 13 06 34.2 -0.9**
QIZ S **S 13 12 45.6 +1.2**
QIZ sS **sS 13 13 42.7 -0.1**
QIZ ScS **ScS 13 15 22.1 +0.8**
QIZ pmax pmax
comp=Z,200nm,1.1s
QIZ pmax pmax
comp=Z,940nm,7.4s
QIZ LR LR
comp=Z,640nm,20.1s
QIZ LR LR
comp=Z,670nm,19.1s
QIZ LR LR
comp=Z,390nm,43.1s
F04A Amboy 49.99 64 IAmb IAmb 13 05 47.3
comp=Z,164nm,0.9s
LTY Liberty 50.13 61 IAmb IAmb 13 05 48.2
comp=Z,219nm,1.5s
B08A Colville Reser 50.17 59 P P 13 05 46.5 +0.2
B08A IAmb IAmb 13 05 48.6
comp=Z,182nm,1.0s
I02D Swisshome 50.32 66 P P 13 05 48.5 +1.1
baz=309,SNR=16
I02D S **S 13 12 50.8 +2.2**
baz=309
COR Corvallis 50.33 66 P P 13 05 48.8 +1.3
COR pmax pmax
comp=Z,190nm,1.0s
COR Corvallis 50.33 66 P P 13 05 48.8 +1.3
COR IAmb IAmb 13 05 50.8
comp=Z,190nm,1.0s
BUSP Coron 50.38 231 *eP* **P 13 05 49.6 +1.4**
GUIM Jordan 50.47 228 *eP* **P 13 05 49.0 +0.2**
F05D White Salmon 50.54 63 P P 13 05 49.5 +0.4
baz=308,SNR=24
F05D S **S 13 12 52.5 +0.8**
baz=308
BJO1 Bjornoya 50.56 347‖ *eP* **P 13 05 49.6 +0.8**
BRZS Berezniki 50.61 304⇑ *i* P **P 13 05 48.0 -1.6**
BRZS comp=Z,244nm,0.7s
BRZS *ep*P **pP 13 06 22.9 -0.5**
BRZS *e*PP **PP 13 07 46.8 +0.3**
BRZS Berezniki 50.61 304 *c i* P **P 13 05 47.9 -1.6**
BRZS *e**PP **pP 13 06 22.8 -0.5**
BRZS *e* 13 07 46.8
BRZS pmax pmax
comp=Z,244nm,0.7s
TDK Taldyqorghan 50.62 295 *eP* **P 13 05 48.9 -0.8**
comp=Z,406nm,0.9s
TDK *ep*P **pP 13 06 24.3 +0.8**
TDK Taldyqorghan 50.62 295 *eP* **P 13 05 48.9 -0.8**
TDK *e**PP **pP 13 06 24.2 +0.8**
TDK pmax pmax
comp=Z,406nm,0.9s
H04D Lebanon 50.68 65 P P 13 05 51.0 +0.8
baz=309,SNR=20
H04D S **S 13 12 55.3 +1.7**
baz=309
I03D Drain, OR 50.86 66 P P 13 05 52.7 +1.2
baz=309,SNR=35
I03D S **S 13 12 58.4 +2.3**
baz=309
J01E Myrtle Point 50.87 67 P P 13 05 52.9 +1.3
baz=309,SNR=31
J01E S **S 13 12 59.5 +3.3**
baz=309
H04A Detroit Lake 50.89 65 IAmb IAmb 13 05 54.4
comp=Z,172nm,1.1s
CUYO Cuyo Island 51.00 230 *eP* **P 13 05 54.4 +1.6**
E07A Sunnyside 51.00 62 IAmb IAmb 13 05 55.0
comp=Z,125nm,1.0s
G05D Wamic, OR 51.02 64 P P 13 05 53.3 +0.6
baz=309,SNR=52
G05D S **S 13 13 00.8 +2.5**
baz=309
PDGK Podgornoye 51.06 293 P P 13 05 52.1 -1.1
C09A Chrisman Ranch 51.07 59 P P 13 05 52.8 -0.2
C09A IAmb IAmb 13 05 55.2
comp=Z,129nm,1.1s
CNOP Candoni, Negro 51.15 227 *eP* **P 13 05 52.7 -1.2**
SHLS Shalkode 51.19 293 *i* P **P 13 05 51.4 -2.7**
comp=Z,182nm,1.7s
SHLS *ep*P **pP 13 06 25.9 -2.1**
SHLS Shalkode 51.19 293 *i* P **P 13 05 51.4 -2.7**
SHLS *e**PP **pP 13 06 25.8 -2.1**
SHLS pmax pmax
comp=Z,182nm,1.7s
DAG Danmarks Havn 51.20 359 *i* P **P 13 05 53.3 -0.2**
DAG pmax pmax
comp=Z,590nm,1.2s
DAG Danmarks Havn 51.20 359 *i* P **P 13 05 53.3 -0.2**
comp=Z,587nm,1.2s
DAG Danmarks Havn 51.20 359 *i* P **P 13 05 53.4 -0.2**
DAG IAmb IAmb 13 05 55.4
comp=Z,588nm,1.2s
HAWA Hanford 51.28 62 IAmb IAmb 13 05 57.0
comp=Z,143nm,1.1s
K02D Willamette Mer 51.32 68 P P 13 05 56.1 +1.0
baz=310,SNR=37
K02D S **S 13 13 04.8 +2.3**
baz=310
I04A Tendick Farm, 51.33 66 P P 13 05 55.6 +0.5
baz=310,SNR=78
I04A S **S 13 13 03.8 +1.2**
baz=310
F07A Phinny Hill Vi 51.37 62 IAmb IAmb 13 05 58.0
comp=Z,207nm,0.8s
NEW Newport 51.39 58 P P 13 05 55.4 0.0
comp=Z,60nm,0.9s,baz=317,slow=6.5,SNR=57
NEW Newport 51.39 58 P P 13 05 55.4 0.0
baz=309,SNR=62
NEW S **S 13 13 02.7 -0.6**
baz=309
NEW Newport 51.39 58 IAmb IAmb 13 05 57.6
comp=Z,110nm,1.1s
KPKS Kokpek 51.43 294⇑ *i* P **P 13 05 54.8 -1.1**
comp=Z,116nm,1.3s
KPKS *ep*P **pP 13 06 29.9 +0.1**
KPKS Kokpek 51.43 294 *c i* P **P 13 05 54.7 -1.1**
KPKS *e**PP **pP 13 06 29.8 +0.1**
KPKS pmax pmax
comp=Z,116nm,1.3s
ENPP El Nido 51.44 232 *eP* **P 13 05 54.7 -1.4**
UZB Uzunbulak 51.44 293⇑ *i* P **P 13 05 54.9 -1.1**
comp=Z,96nm,1.9s
UZB *ep*P **pP 13 06 29.5 -0.4**
UZB Uzunbulak 51.44 293 *c i* P **P 13 05 54.9 -1.1**
UZB *e**PP **pP 13 06 29.5 -0.4**
UZB pmax pmax
comp=Z,96nm,1.9s
E08A Dider Farm, El 51.47 61 P P 13 05 56.0 0.0
E08A IAmb IAmb 13 05 58.2
comp=Z,101nm,1.0s
E08A **pP 13 06 28.0 -1.4**
I05D Terrebonne, OR 51.58 65 P P 13 05 57.4 +0.5
baz=310,SNR=53
I05D S **S 13 13 06.7 +0.6**
baz=310
SLVN Son La 51.62 255 IAmb IAmb 13 06 01.3
comp=Z,177nm,0.9s
L02E Cave Junction 51.70 68 P P 13 05 59.1 +1.3
baz=310,SNR=57
L02E S **S 13 13 11.7 +4.1**
baz=310
HUMO Hull Mountain 51.77 67 IAmb IAmb 13 06 01.8
comp=Z,146nm,1.2s
BUKP Musuan 51.83 223 *eP* **P 13 06 02.2 +3.1**
SATY Saty 51.85 294⇑ *i* P **P 13 05 58.3 -0.7**
comp=Z,87nm,1.3s
SATY *ep*P **pP 13 06 32.7 -0.2**
SATY Saty 51.85 294 *c i* P **P 13 05 58.3 -0.7**
SATY *e**PP **pP 13 06 32.7 -0.2**
SATY pmax pmax
comp=Z,87nm,1.3s
J04D Umpqua Nationa 51.85 66 P P 13 06 00.3 +1.2
baz=310,SNR=57
J04D S **S 13 13 11.4 +1.4**
baz=310
KRMB Red Mountain 51.93 69 IAmb IAmb 13 06 03.2
comp=Z,121nm,1.1s
E09A Wood Farm, Sta 51.95 61 IAmb IAmb 13 06 01.8
comp=Z,197nm,1.0s
SVE Sverdlovsk 52.01 316 *d i* P **P 13 05 58.9 -0.9**
SVE pmax pmax
comp=Z,277nm,1.3s
LKP Lekhapani 52.03 267 *eP* **P 13 06 01.6 +1.2**
LKP *eP* **P 13 06 01.6 +1.2**
LKP IAmb IAmb 13 06 02.9
comp=Z,469nm,0.7s
CHKK Chushkaly 52.13 295⇑ *i* P **P 13 05 59.6 -1.4**
CHKK Chushkaly 52.13 295⇑ *i* P **P 13 05 59.6 -1.4**
PINE Pine Mountain 52.15 65 IAmb IAmb 13 06 04.5
comp=Z,134nm,0.9s
PRZ Przheval'sk 52.22 293 P P 13 06 02.2 +0.4
PRZ 13 07 12.9
PRZ pmax pmax
comp=Z,171nm,1.3s
PRZ Przheval'sk 52.22 293 P P 13 06 02.2 +0.4
PRZ IAmb IAmb 13 06 04.3
comp=Z,171nm,1.3s
PRZ **PcP 13 07 12.9 +1.6**
J05D Fort Rock, OR 52.31 66 P P 13 06 03.7 +1.3
baz=310,SNR=166
J05D S **S 13 13 19.2 +2.9**
baz=310
JCC Jacoby Creek, 52.32 70 IAmb IAmb 13 06 06.0
comp=Z,180nm,1.0s
L04D Klamath Falls 52.39 67 P P 13 06 04.2 +1.1
baz=310,SNR=125
L04D S **S 13 13 20.2 +2.8**
baz=310
K04D Chiloquin, OR 52.44 67 P P 13 06 04.5 +1.1
baz=310
K04D S **S 13 13 21.3 +3.2**
baz=310
KUU Kurty 52.47 296⇑ *i* P **P 13 06 01.6 -1.8**
comp=Z,107nm,0.8s
KUU *ep*P **pP 13 06 37.1 -0.4**
KUU Kurty 52.47 296 *c i* P **P 13 06 01.6 -1.8**
KUU *e**PP **pP 13 06 37.0 -0.4**
KUU pmax pmax
comp=Z,107nm,0.8s
YBH Yreka Blue Hor 52.48 68 P P 13 06 05.1 +1.4
YBH pmax pmax
comp=Z,230nm,1.2s
YBH Yreka Blue Hor 52.48 68 P P 13 06 05.1 +1.4
YBH IAmb IAmb 13 06 07.4
comp=Z,230nm,1.1s
DIBR DIBRUGARH 52.50 267 IAmb IAmb 13 06 06.6
comp=Z,418nm,0.7s
MDOK Medeo 52.54 294 *eP* **P 13 06 03.1 -1.1**
MDOK *ep*P **pP 13 06 37.7 -0.5**
MDOK Medeo 52.54 294 *eP* **P 13 06 03.1 -1.1**
MDOK *e**PP **pP 13 06 37.6 -0.5**
WALA Waterton Lakes 52.55 56 IAmb IAmb 13 06 06.4
comp=Z,130nm,0.8s
PAGZ Pagadian 52.58 225 *eP* **P 13 06 04.4 -0.2**
AAA Alma-Ata 52.59 295 *eP* **P 13 06 02.5 -1.9**
comp=Z,62nm,1.3s
AAA Alma-Ata 52.59 295 *eP* **P 13 06 02.5 -1.9**
AAA pmax pmax
comp=Z,61nm,1.3s
KCP Kidapawan 52.60 223‖ *eP* **P 13 06 07.2 +2.4**
KCP Kidapawan 52.60 223‖ *eP* **P 13 06 07.2 +2.4**
M02C Callahan 52.62 68 P P 13 06 06.3 +1.6
baz=311,SNR=59
M02C S **S 13 13 24.6 +4.3**
baz=311
TNSS Tian-Shan 52.68 294⇑ *eP* **P 13 06 04.3 -1.2**
TNSS Tian-Shan 52.68 294⇑ *eP* **P 13 06 04.3 -1.2**
K05A Summer Lake 52.86 66 P P 13 06 07.5 +0.9
KMRM Mail Ridge 52.89 70 P P 13 06 07.6 +0.9
KMRM IAmb IAmb 13 06 10.5
comp=Z,183nm,0.9s
MTBS Maitube 52.91 295⇑ *i* P **P 13 06 06.0 -0.9**
MTBS Maitube 52.91 295⇑ *i* P **P 13 06 05.9 -0.9**
M04C Macdoel 52.94 67 P P 13 06 08.3 +1.2
baz=311,SNR=82
LVZ Lovozero 52.96 337 *c i* P **P 13 06 05.5 -1.2**
LVZ pmax pmax
comp=Z,138nm,1.3s
LVZ Lovozero 52.96 337 P P 13 06 04.7 -2.0
N02D Trinity Center 52.98 69 P P 13 06 08.9 +1.6
baz=311,SNR=107
N02D S **S 13 13 30.0 +4.7**
baz=311
BTLS Baital 52.99 298⇑ *i* P **P 13 06 05.8 -1.5**
comp=Z,91nm,1.1s
BTLS *ep*P **pP 13 06 41.3 -0.1**

BTLS	**Baital**	**52.99**	**298**	*c*	*i*	P	**P**	**13 06 05.7**	**-1.5**
BTLS					*e*	*PP	**pP**	**13 06 41.2**	**-0.1**
BTLS						pmax	pmax		
	comp=Z,91nm,1.1s								
UPNV	**Upernavik**	**52.99**	**12**		*i*	P	**P**	**13 06 06.8**	**0.0**
UPNV						IAmb	IAmb	13 06 08.0	
	comp=Z,188nm,1.0s								
HAMF	**Hammerfest**	**53.08**	**343**		*e*	P	**P**	**13 06 07.3**	**-0.2**
ZIRO	**ZIRO**	**53.11**	**268**		*e*	P	**P**	**13 06 08.8**	**+0.2**
ZIRO				⇑	*e*	P	**P**	**13 06 08.9**	**+0.2**
ZIRO						IAmb	IAmb	13 06 10.8	
	comp=Z,102nm,0.7s								
ZIRO						IAmb	IAmb	13 06 10.9	
	comp=Z,104nm,0.3s								
KDJ	**Kajisay**	**53.14**	**293**			IAmb	IAmb	13 06 10.3	
	comp=Z,103nm,0.8s								
ARU	**Arti**	**53.14**	**317**	*c*	*i*	P	**P**	**13 06 06.8**	**-1.4**
ARU						*PP	**pP**	**13 06 43.2**	**+1.1**
ARU						*SP	**sP**	**13 06 57.3**	**-1.2**
ARU								13 07 13.5	
ARU								13 08 08.3	
ARU						PPP	PPP	13 09 19.4	
ARU						S	**S**	**13 13 27.1**	**+0.3**
ARU								13 15 38.3	
ARU						pmax	pmax		
	comp=Z,543nm,1.4s								
ARU	**Arti**	**53.14**	**317**			P	**P**	**13 06 06.7**	**-1.4**
DDMP	**Don Marcelino,**	**53.16**	**222**		*e*	P	**P**	**13 06 08.5**	**-0.3**
KEV	**Kevo**	**53.18**	**341**			P	**P**	**13 06 07.3**	**-0.9**
KEV						pmax	pmax		
	comp=Z,51nm,0.8s								
KEV	**Kevo**	**53.18**	**341**			P	**P**	**13 06 07.3**	**-0.9**
LSA	**Lhasa**	**53.22**	**272**			P	**P**	**13 06 10.3**	**+0.6**
LSA						pmax	pmax		
	comp=Z,540nm,0.9s								
LSA						LR	LR		
	comp=Z,1μm,18.9s								
LSA						LR	LR		
	comp=Z,2μm,16.4s								
LSA						LR	LR		
	comp=Z,4μm,17.1s								
LSA	**Lhasa**	**53.22**	**272**			P	**P**	**13 06 10.3**	**+0.6**
LSA	**Lhasa**	**53.22**	**272**			IAmb	IAmb	13 06 12.4	
	comp=Z,123nm,0.8s								
KCPM	**Cahto Peak**	**53.32**	**70**			IAmb	IAmb	13 06 13.3	
	comp=Z,143nm,1.0s								
WDC	**Whiskeytown Da**	**53.33**	**69**			IAmb	IAmb	13 06 13.1	
	comp=Z,173nm,1.0s								
JORH	**JORHAT**	**53.43**	**267**			IAmb	IAmb	13 06 13.1	
	comp=Z,176nm,0.8s								
O02D	**Mt. Diablo Mer**	**53.45**	**70**			P	**P**	**13 06 12.2**	**+1.4**
	baz=312,SNR=63								
O02D						S	**S**	**13 13 35.2**	**+3.5**
	baz=312								
BMO	**Blue Mountains**	**53.46**	**62**			IAmb	IAmb	13 06 13.5	
	comp=Z,106nm,1.1s								
TKM2	**Tokmak 2**	**53.51**	**295**			P	**P**	**13 06 10.6**	**-0.7**
	SNR=91								
TKM2	**Tokmak 2**	**53.51**	**295**			P	**P**	**13 06 10.3**	**-1.0**
APA	**Apatity**	**53.51**	**337**	⇓	*i*	P	**P**	**13 06 09.2**	**-1.5**
APA					*i*			13 07 14.1	
APA					*i*			13 08 14.0	
APA					*i*	PPP	PPP	13 09 25.0	
APA					*i*	S	**S**	**13 13 29.0**	**-2.6**
APA						pmax	pmax		
	comp=Z,50nm,0.0s								
APA						MLR	MLR		
	comp=Z,1μm,13.0s								
ULHL	**Ulahol**	**53.59**	**294**			P	**P**	**13 06 11.4**	**-0.6**
	SNR=64								
BOOM	**Boomskoye usch**	**53.60**	**294**			P	**P**	**13 06 11.9**	**-0.1**
BOOM						pmax	pmax		
	comp=Z,192nm,1.3s								
BOOM	**Boomskoye usch**	**53.60**	**294**			P	**P**	**13 06 11.8**	**-0.1**
BOOM						IAmb	IAmb	13 06 13.9	
	comp=Z,192nm,1.2s								
ARCES	**ARCESS Array B**	**53.66**	**341**			P	**P**	**13 06 10.8**	**-0.9**
	comp=Z,80nm,1.0s,baz=40,slow=7.9,SNR=72								
ARCES						PcP	**PcP**	**13 07 16.1**	**+0.1**
	comp=Z,25nm,0.7s,baz=46,slow=3.5,SNR=7.5								
ARCES						LR	LR	13 33 58.7	
	comp=Z,192nm,18.2s,baz=30,slow=41								
DBG	**Daneborg**	**53.69**	**359**		*i*	P	**P**	**13 06 12.4**	**+0.5**
DBG						IAmb	IAmb	13 06 13.5	
	comp=Z,295nm,1.4s								
SGDS	**Sogindy**	**53.70**	**296**	⇑	*i*	P	**P**	**13 06 11.7**	**-0.8**
	comp=Z,148nm,1.8s								
SGDS					*e*	pP	**pP**	**13 06 47.6**	**+0.8**
SGDS	**Sogindy**	**53.70**	**296**	*c*	*i*	P	**P**	**13 06 11.7**	**-0.8**
SGDS					*e*	*PP	**pP**	**13 06 47.5**	**+0.8**
SGDS						pmax	pmax		
	comp=Z,148nm,1.8s								
MOD	**Modoc Plateau**	**53.73**	**66**			P	**P**	**13 06 13.6**	**+0.7**
J08A	**Circle Bar Ran**	**53.80**	**64**			IAmb	IAmb	13 06 16.5	
	comp=Z,145nm,1.4s								
USP	**Ospenovka**	**53.89**	**296**			P	**P**	**13 06 13.3**	**-0.6**
	SNR=278								
CHMS	**Chumysh**	**53.93**	**296**			P	**P**	**13 06 13.5**	**-0.6**
	SNR=45								
O03E	**Paynes Creek**	**53.94**	**69**			P	**P**	**13 06 15.0**	**+0.6**
	baz=312,SNR=192								
O03E						S	**S**	**13 13 39.7**	**+1.4**
	baz=312								
MSO	**Missoula**	**53.97**	**58**			P	**P**	**13 06 14.7**	**+0.2**
	baz=311,SNR=82								
MSO						S	**S**	**13 13 39.9**	**+1.4**
	baz=311								
MSO	**Missoula**	**53.97**	**58**			IAmb	IAmb	13 06 17.0	
	comp=Z,186nm,1.2s								
PLID	**Pearl Lake**	**54.01**	**61**			IAmb	IAmb	13 06 17.4	
	comp=Z,110nm,0.9s								
KBK	**Karagaybulak**	**54.04**	**295**			P	**P**	**13 06 14.2**	**-0.9**
	SNR=54								
HOPS	**Hopland Field**	**54.07**	**71**			P	**P**	**13 06 16.4**	**+1.2**
FRU1	**Bishkek**	**54.12**	**296**			P	**P**	**13 06 15.4**	**-0.2**
FRU1	**Bishkek**	**54.12**	**296**			P	**P**	**13 06 15.4**	**-0.2**
KZA	**Kyzart**	**54.26**	**294**			P	**P**	**13 06 17.5**	**+0.5**
	SNR=7.5								
KOHI	**KOHIMA**	**54.26**	**267**		*e*	P	**P**	**13 06 17.3**	**+0.3**
KOHI					*ex*		x	13 06 18.3	
KOHI						IAmb	IAmb	13 06 20.0	
	comp=Z,170nm,0.5s								
AAK	**Ala-Archa**	**54.31**	**295**			P	**P**	**13 06 16.6**	**-0.5**
	SNR=90								
AAK	**Ala-Archa**	**54.31**	**295**		*i*	P	**P**	**13 06 16.5**	**-0.5**
	SNR=131								
AAK	**Ala-Archa**	**54.31**	**295**			P	**P**	**13 06 16.5**	**-0.6**
AAK	**Ala-Archa**	**54.31**	**295**			P	**P**	**13 06 16.2**	**-0.9**
TEZP	**TEZPUR**	**54.41**	**268**		*e*	P	**P**	**13 06 17.8**	**-0.1**
TEZP					*e*	P	**P**	**13 06 17.8**	**-0.1**
TEZP						IAmb	IAmb	13 06 21.4	
	comp=Z,153nm,1.4s								
PRGR	**Permogore**	**54.45**	**327**	⇑	*i*	P	**P**	**13 06 16.8**	**-0.8**
PRGR					*e*			13 08 17.8	
PRGR						pmax	pmax		
	comp=Z,439nm,0.7s								
FFC	**Flin Flon**	**54.48**	**45**			P	**P**	**13 06 17.9**	**0.0**
FFC						pmax	pmax		
	comp=Z,94nm,1.0s								
FFC	**Flin Flon**	**54.48**	**45**			P	**P**	**13 06 17.9**	**0.0**
FFC						IAmb	IAmb	13 06 20.3	
	comp=Z,94nm,0.9s								
UCH	**Uchtor**	**54.57**	**295**			P	**P**	**13 06 18.5**	**-0.8**
	SNR=29								
ORV	**Oroville**	**54.60**	**69**			IAmb	IAmb	13 06 21.4	
	comp=Z,167nm,0.9s								
EKS2	**Erkin-Say**	**54.69**	**296**			P	**P**	**13 06 19.4**	**-0.4**
	SNR=173								
MCCM	**Marconi Confer**	**54.75**	**71**			IAmb	IAmb	13 06 22.6	
	comp=Z,168nm,0.9s								
TRO	**Tromso**	**54.80**	**344**	⇓	*i*	P	**P**	**13 06 20.7**	**+0.8**
FCC	**Fort Churchill**	**54.89**	**37**			P	**P**	**13 06 20.8**	**+0.1**
FCC						pmax	pmax		
	comp=Z,60nm,0.7s								
FCC	**Fort Churchill**	**54.89**	**37**			P	**P**	**13 06 20.8**	**+0.1**
FCC						IAmb	IAmb	13 06 22.7	
	comp=Z,60nm,0.7s								
SUMG	**Summit**	**54.91**	**6**		*i*	P	**P**	**13 06 21.4**	**+0.2**
SUMG						pmax	pmax		
	comp=Z,930nm,0.9s								
SUMG	**Summit**	**54.91**	**6**			P	**P**	**13 06 21.6**	**+0.4**
SUMG	**Summit**	**54.91**	**6**		*i*	P	**P**	**13 06 21.4**	**+0.2**
	comp=Z,934nm,0.9s								
SUMG	**Summit**	**54.91**	**6**		*i*	P	**P**	**13 06 21.5**	**+0.2**
SUMG						IAmb	IAmb	13 06 23.5	
	comp=Z,934nm,0.9s								
AML	**Almayashu**	**55.09**	**295**			P	**P**	**13 06 22.7**	**-0.2**
	SNR=23								
MFID	**Camas Ranch**	**55.21**	**62**			IAmb	IAmb	13 06 26.4	
	comp=Z,144nm,1.1s								
AFDM	**Forest Hills D**	**55.31**	**69**			IAmb	IAmb	13 06 27.0	
	comp=Z,121nm,1.1s								
EGMT	**Eagleton**	**55.32**	**55**			P	**P**	**13 06 24.2**	**0.0**
	baz=312,SNR=23								
EGMT						S	**S**	**13 13 57.3**	**+0.8**
	baz=312								
EGMT	**Eagleton**	**55.32**	**55**			IAmb	IAmb	13 06 26.4	
	comp=Z,143nm,1.3s								
KSH	**Kashi**	**55.55**	**292**			P	**P**	**13 06 28.7**	**+2.7**
KSH						pP	pP	13 07 05.7	+5.4
KSH						pmax	pmax		
	comp=Z,75nm,1.1s								
DLMT	**Dillon**	**55.64**	**59**			IAmb	IAmb	13 06 29.3	
	comp=Z,95nm,1.1s								
RUBR	**Rubicon Trail**	**55.72**	**69**			IAmb	IAmb	13 06 34.7	
	comp=Z,112nm,0.9s								
SHL	**Shillong**	**55.74**	**268**		*e*	P	**P**	**13 06 27.1**	**-0.5**
SHL					*e*	P	**P**	**13 06 27.2**	**-0.4**
SHL						IAmb	IAmb	13 06 30.2	
	comp=Z,154nm,0.7s								
SHL	**Shillong**	**55.74**	**268**			P	**P**	**13 06 27.4**	**-0.2**
	SNR=83								
VCNR	**Virginia City**	**55.84**	**68**			IAmb	IAmb	13 06 31.4	
	comp=Z,160nm,0.9s								
HLID	**Hailey**	**55.88**	**61**			P	**P**	**13 06 29.1**	**+0.8**
	baz=312,SNR=78								
HLID						S	**S**	**13 14 04.8**	**+0.6**
	baz=312								
BOZ	**Bozeman (W)**	**55.98**	**58**			P	**P**	**13 06 29.6**	**+0.6**
	baz=312,SNR=134								
BOZ						S	**S**	**13 14 06.9**	**+1.3**
	baz=312								
BOZ	**Bozeman (W)**	**55.98**	**58**			IAmb	IAmb	13 06 31.8	
	comp=Z,103nm,1.0s								
KK31	**Karatay Array**	**56.18**	**298**		*i*	P	**P**	**13 06 28.8**	**-1.5**
KK31	**Karatay Array**	**56.18**	**298**			IAmb	IAmb	13 06 31.3	
	comp=Z,190nm,1.1s								
KKAR	**Karatay Array**	**56.18**	**298**			P	**P**	**13 06 28.1**	**-2.2**
KKAR	**Karatay Array**	**56.18**	**298**			P	**P**	**13 06 28.1**	**-2.2**
KKAR	**Karatay Array**	**56.18**	**298**			IAmb	IAmb	13 06 31.3	
	comp=Z,190nm,1.1s								
CMB	**Columbia Colle**	**56.27**	**70**			IAmb	IAmb	13 06 34.1	
	comp=Z,158nm,1.1s								
DLV	**T Lat**	**56.48**	**243**			IAmb	IAmb	13 06 37.5	
	comp=Z,106nm,0.9s								
GTK	**Tadong**	**56.48**	**272**		*e*	P	**P**	**13 06 33.1**	**+0.3**
GTK						IAmb	IAmb	13 06 34.6	
	comp=Z,137nm,0.8s								
WAKR	**Walker**	**56.50**	**69**			P	**P**	**13 06 33.6**	**+0.7**
CHTO	**Chiang Mai**	**56.51**	**257**			P	**P**	**13 06 33.9**	**+1.0**
CHTO	**Chiang Mai**	**56.51**	**257**			P	**P**	**13 06 32.9**	**0.0**
CHTO						pmax	pmax		
	comp=Z,291nm,1.2s								
CHTO	**Chiang Mai**	**56.51**	**257**			P	**P**	**13 06 32.9**	**0.0**
KRVT	**Keravat (AS076**	**56.61**	**187**			LR	LR	13 27 05.6	
	comp=Z,232nm,19.8s,baz=2.1,slow=32								
JMIC	**Jan Mayen**	**56.66**	**355**		*e*	P	**P**	**13 06 35.4**	**+2.2**
N2VI	**Vinje**	**56.75**	**345**	⇓	*i*	P	**P**	**13 06 34.2**	**+0.4**
N2IH	**Innhavet**	**56.78**	**344**	⇓	*i*	P	**P**	**13 06 33.5**	**-0.6**
CM31	**Chiang Mai Arr**	**56.79**	**257**			P	**P**	**13 06 36.4**	**+1.5**
	SNR=112								
CM31	**Chiang Mai Arr**	**56.79**	**257**			IAmb	IAmb	13 06 39.9	
	comp=Z,160nm,0.9s								
CMAR	**Chiang Mai Arr**	**56.79**	**257**			P	**P**	**13 06 36.1**	**+1.3**
	comp=Z,111nm,0.9s,baz=24,slow=6.9,SNR=327								
CMAR						ScP	**ScP**	**13 11 16.9**	**+2.6**
	comp=Z,14nm,1.0s,baz=17,slow=4.0,SNR=14								
CMAR						PKP2bc		13 36 32.4	
	comp=Z,1.9nm,1.0s,baz=236,slow=3.5,SNR=5.9								
CMAR						P4KPbc		13 43 49.5	
	comp=Z,1.3nm,1.1s,baz=21,slow=4.7,SNR=4.8								
CMAR	**Chiang Mai Arr**	**56.79**	**257**			P	**P**	**13 06 35.0**	**+0.1**
STEI	**Steigen**	**56.93**	**344**	⇓	*i*	P	**P**	**13 06 34.9**	**-0.3**
RYN	**Ryan**	**56.94**	**68**			P	**P**	**13 06 36.5**	**+0.6**
RYN						IAmb	IAmb	13 06 38.9	
	comp=Z,130nm,0.9s								
ILULI	**Ilulissat**	**56.94**	**12**		*i*	P	**P**	**13 06 34.3**	**-0.9**
ILULI						pmax	pmax		
	comp=Z,150nm,0.8s								
ILULI	**Ilulissat**	**56.94**	**12**		*i*	P	**P**	**13 06 34.3**	**-0.9**
	comp=Z,151nm,0.8s								
ILULI	**Ilulissat**	**56.94**	**12**		*i*	P	**P**	**13 06 34.4**	**-0.9**
ILULI						IAmb	IAmb	13 06 36.2	
	comp=Z,152nm,0.8s								
YMR	**Madison River**	**56.96**	**58**			P	**P**	**13 06 36.7**	**+0.7**
KLMR	**Klimovskoe**	**57.02**	**329**		*c*	*i*	P	**P**	**13 06 35.0**	**-0.8**
KLMR						*e*	*PP	**pP**	**13 07 10.4**	**+0.1**
KLMR						*e*	*SP	**sP**	**13 07 27.0**	**+0.4**
KLMR						*e*			13 08 41.3	
KLMR						*e*	S	**S**	**13 14 19.2**	**+1.0**
KLMR						pmax	pmax		
	comp=Z,415nm,0.9s								
KLMR	**Klimovskoe**	**57.02**	**329**	⇑	*i*	P	**P**	**13 06 35.0**	**-0.8**
KLMR					*i*	P	**P**	**13 06 35.0**	**-0.8**
KLMR					*i*	P	**P**	**13 06 35.0**	**-0.8**
KLMR						AMP		13 06 37.6	
	comp=Z,415nm,0.9s								
KLMR					*e*	pP	**pP**	**13 07 10.5**	**+0.1**
KLMR					*e*	sP	**sP**	**13 07 27.4**	**+0.4**
KLMR					*e*	PP	**PP**	**13 08 41.4**	**-2.1**
KLMR					*e*	S	**S**	**13 14 19.3**	**+1.0**
KLMR					*e*	S	**S**	**13 14 19.3**	**+1.0**
LOF	**Lofoten**	**57.03**	**345**		*e*	P	**P**	**13 06 35.2**	**-0.6**
IUG	**Iuzhnay**	**57.09**	**298**	⇑	*i*	P	**P**	**13 06 36.2**	**-0.7**
	comp=Z,101nm,0.8s								
IUG					*e*	pP	**pP**	**13 07 11.4**	**-0.1**
IUG	**Iuzhnay**	**57.09**	**298**	*c*	*i*	P	**P**	**13 06 36.1**	**-0.7**
IUG					*e*	*PP	**pP**	**13 07 11.3**	**-0.1**
IUG						pmax	pmax		
	comp=Z,101nm,0.8s								
MYLDM	**Lahad Datu**	**57.14**	**229**			IAmb	IAmb	13 07 37.4	
	comp=Z,95nm,1.1s								
NVAR	**Mina Array Bea**	**57.20**	**68**			P	**P**	**13 06 38.8**	**+1.0**
	comp=Z,75nm,0.7s,baz=299,slow=7.0,SNR=213								
NVAR						pP	**pwP**	**13 07 13.6**	**-0.7**
	comp=Z,32nm,1.0s,baz=287,slow=7.1,SNR=2.7								
NVAR						PKP2ab		13 36 58.2	
	comp=Z,0.8nm,0.9s,baz=188,slow=4.0,SNR=3.6								
NVAR	**Mina Array Bea**	**57.20**	**68**			P	**P**	**13 06 37.8**	**0.0**
PMPB	**Monarch Peak**	**57.28**	**72**			IAmb	IAmb	13 06 46.6	
	comp=Z,119nm,1.2s								
N2TV	**Tvrnvik**	**57.28**	**344**		*e*	P	**P**	**13 06 37.2**	**-0.4**
NV11	**Mina Array Sit**	**57.28**	**68**			IAmb	IAmb	13 06 41.4	
	comp=Z,177nm,1.1s								
MDPB	**Devils Postpil**	**57.30**	**69**			P	**P**	**13 06 38.8**	**+0.2**
MDPB						IAmb	IAmb	13 06 41.8	
	comp=Z,153nm,1.0s								
LKWY	**Lake**	**57.33**	**58**			IAmb	IAmb	13 06 43.0	
	comp=Z,142nm,1.0s								
N2SV	**S rvÿgen**	**57.33**	**345**	⇓	*i*	P	**P**	**13 06 37.5**	**-0.5**
SAIH	**SAIHÅ**	**57.34**	**265**	⇑	*i*	P	**P**	**13 06 38.9**	**0.0**
SAIH					*e*	P	**P**	**13 06 39.7**	**+0.9**
H17A	**Grant Village**	**57.35**	**58**			P	**P**	**13 06 41.3**	**+2.5**
	baz=313,SNR=50								
AB31	**Akbulak array**	**57.36**	**310**		*i*	P	**P**	**13 06 36.8**	**-1.7**
ABKAR	**Akbulak array**	**57.36**	**310**			P	**P**	**13 06 36.2**	**-2.3**
ABKAR	**Akbulak array**	**57.36**	**310**			IAmb	IAmb	13 06 39.3	
	comp=Z,212nm,1.2s								
OMMB	**Old Mammoth Mi**	**57.36**	**69**			IAmb	IAmb	13 06 42.2	
	comp=Z,90nm,1.0s								
AGT	**Agartala**	**57.37**	**267**		*e*	P	**P**	**13 06 40.9**	**+2.1**
N2ST	**Straumen**	**57.40**	**344**		*e*	P	**P**	**13 06 39.7**	**+1.3**
FAUS	**Fauske**	**57.42**	**344**		*e*	P	**P**	**13 06 38.1**	**-0.5**
AKTO	**Aktyubinsk**	**57.44**	**312**			P4KPbc		13 43 48.4	
	comp=Z,3.1nm,0.9s,baz=68,slow=3.6,SNR=9.3								
AKTO	**Aktyubinsk**	**57.44**	**312**			P	**P**	**13 06 37.1**	**-1.9**
MLAC	**Mammoth, Mammo**	**57.44**	**69**			P	**P**	**13 06 41.1**	**+1.6**
	baz=314,SNR=20								
MLAC						S	**S**	**13 14 29.0**	**+4.0**
	baz=314								
KKM	**Kota Kinabalu**	**57.47**	**232**			IAmb	IAmb	13 06 50.2	
	comp=Z,98nm,0.9s								
FLWY	**Flagg Ranch**	**57.50**	**59**			IAmb	IAmb	13 06 43.7	
	comp=Z,149nm,1.1s								
IMW	**Indian Meadow**	**57.50**	**59**			IAmb	IAmb	13 06 43.6	
	comp=Z,178nm,1.1s								
NBB08	**Skaug oppvekst**	**57.53**	**344**		*e*	P	**P**	**13 06 38.7**	**-0.6**
RLMT	**Red Lodge**	**57.53**	**57**			P	**P**	**13 06 41.1**	**+1.1**
	baz=314,SNR=107								
RLMT						S	**S**	**13 14 28.2**	**+2.2**
	baz=314								
N2VA	**Vr,y**	**57.59**	**345**	⇓	*i*	P	**P**	**13 06 39.2**	**-0.6**
FXWY	**Fox Creek**	**57.63**	**59**			IAmb	IAmb	13 06 44.2	
	comp=Z,98nm,1.0s								
DGMT	**Dagmar**	**57.74**	**51**			P	**P**	**13 06 41.7**	**+0.5**
	baz=314,SNR=12								
DGMT						S	**S**	**13 14 30.5**	**+2.3**
	baz=314								
DGMT	**Dagmar**	**57.74**	**51**			P	**P**	**13 06 42.0**	**+0.7**
DGMT	**Dagmar**	**57.74**	**51**			IAmb	IAmb	13 06 43.8	
	comp=Z,184nm,1.1s								
TPAW	**Teton Pass**	**57.77**	**59**			P	**P**	**13 06 42.5**	**+0.7**
TPAW						IAmb	IAmb	13 06 45.6	
	comp=Z,219nm,1.2s								
N2RO	**R st**	**57.82**	**345**		*e*	P	**P**	**13 06 40.9**	**-0.4**
SNOW	**Snow King Moun**	**57.90**	**59**			IAmb	IAmb	13 06 46.5	
	comp=Z,196nm,1.1s								
PAGB	**Antelope Grade**	**57.94**	**72**			IAmb	IAmb	13 06 45.8	
	comp=Z,119nm,1.0s								
LAO	**LASA Array**	**57.99**	**54**			P	**P**	**13 06 43.9**	**+0.9**
	baz=314,SNR=44								
LAO						S	**S**	**13 14 33.0**	**+1.4**
	baz=314								
VOG	**Valley Oaks Go**	**58.03**	**71**			P	**P**	**13 06 43.4**	**+0.1**
	baz=314								
TIN	**Tinemaha, Big**	**58.19**	**69**			P	**P**	**13 06 45.9**	**+1.3**
	baz=314,SNR=34								
ICESG	**Greenland Ices**	**58.24**	**7**		*i*	P	**P**	**13 06 44.6**	**-0.1**
ICESG						IAmb	IAmb	13 06 46.5	
	comp=Z,258nm,0.9s								
SMMC	**Simmler**	**58.38**	**72**			P	**P**	**13 06 46.8**	**+1.0**
	baz=315,SNR=36								
VES	**Vestal, Richgr**	**58.54**	**71**			P	**P**	**13 06 47.0**	**+0.2**
	baz=315,SNR=30								
KONS	**Konsvik**	**58.59**	**344**	⇓	*i*	P	**P**	**13 06 46.2**	**-0.5**
NBB40	**Tonnes**	**58.59**	**344**		*e*	P	**P**	**13 06 46.2**	**-0.6**
MOR8	**Moi Rana**	**58.66**	**344**		*e*	P	**P**	**13 06 45.5**	**-1.8**
GRAC	**Grapevine Rang**	**58.73**	**69**			P	**P**	**13 06 49.4**	**+1.2**
	baz=315,SNR=70								
GRAC						S	**S**	**13 14 44.4**	**+3.0**
	baz=315								
FRB	**Frobisher Bay**	**58.74**	**22**			P	**P**	**13 06 47.6**	**-0.2**
HWUT	**Hardware Ranch**	**58.75**	**61**			P	**P**	**13 06 49.0**	**+0.6**
HWUT						IAmb	IAmb	13 06 51.8	
	comp=Z,149nm,0.9s								
STOK	**Stokkvaagen**	**58.76**	**344**		*e*	P	**P**	**13 06 45.6**	**-2.3**
PKM	**Mcpherson Peak**	**58.78**	**72**			P	**P**	**13 06 49.7**	**+0.9**
	baz=315,SNR=38								
R11A	**Troy Canyon, C**	**58.79**	**67**			P	**P**	**13 06 49.3**	**+0.5**
	baz=314,SNR=212								
R11A						S	**S**	**13 14 45.1**	**+2.6**
	baz=314								
R11A	**Troy Canyon, C**	**58.79**	**67**			P	**P**	**13 06 48.6**	**-0.2**
R11A						IAmb	IAmb	13 06 51.7	
	comp=Z,122nm,1.1s								
BW06	**Boulder Array**	**59.01**	**59**			P	**P**	**13 06 51.1**	**+0.7**
	baz=314,SNR=211								
BW06						S	**S**	**13 14 45.0**	**-0.3**
	baz=314								
PD31	**Pinedale Array**	**59.01**	**59**			IAmb	IAmb	13 06 53.2	
	comp=Z,171nm,1.0s								
PDAR	**Pinedale Array**	**59.01**	**59**			P	**P**	**13 06 51.4**	**+1.0**
	comp=Z,127nm,0.9s,baz=325,slow=2.3,SNR=204								
PDAR						pP	**pwP**	**13 07 25.6**	**-1.1**
	comp=Z,29nm,0.8s,baz=309,slow=3.0,SNR=3.5								
PDAR	**Pinedale Array**	**59.01**	**59**			P	**P**	**13 06 49.8**	**-0.5**
ISA	**Isabella, Lake**	**59.02**	**71**			P	**P**	**13 06 50.0**	**-0.3**
	baz=315,SNR=69								
ISA						S	**S**	**13 14 46.8**	**+1.6**
	baz=315								
ISA	**Isabella, Lake**	**59.02**	**71**			IAmb	IAmb	13 06 52.2	
	comp=Z,93nm,1.0s								
DUG	**Dugway, Tooele**	**59.05**	**63**			P	**P**	**13 06 51.5**	**+1.0**
	baz=314,SNR=85								
DUG						S	**S**	**13 14 49.1**	**+3.4**
	baz=314								
DUG	**Dugway, Tooele**	**59.05**	**63**			IAmb	IAmb	13 06 53.8	
	comp=Z,170nm,1.1s								
SFJD	**Kangerlussuaq**	**59.09**	**13**			LR	LR	13 35 13.8	
	comp=Z,164nm,18.1s,baz=348,slow=39								
SFJD	**Kangerlussuaq**	**59.09**	**13**		*i*	P	**P**	**13 06 49.7**	**-0.4**
SFJD	**Kangerlussuaq**	**59.09**	**13**			P	**P**	**13 06 49.8**	**-0.4**
SFJD						IAmb	IAmb	13 06 51.6	
	comp=Z,107nm,1.0s

comp=Z,148nm,0.9s
CIS Catalina Islan 60.65 72 P **P** 13 07 01.5 +0.1
baz=316,SNR=30
CIS S **S** 13 15 07.1 +1.1
baz=316
TUQ Turquoise Moun 60.65 69 P **P** 13 07 02.1 +0.6
baz=316,SNR=55
TUQ S **S** 13 15 09.7 +3.5
baz=316
K22A Casper 60.68 57 P **P** 13 07 01.9 +0.2
baz=316,SNR=30
K22A S **S** 13 15 08.5 +2.0
baz=316
K22A Casper 60.68 57 IAmb IAmb 13 07 05.3
comp=Z,102nm,1.1s
SMLA Simla 60.70 284 *e*P **P** 13 07 00.3 -1.4
SMLA *e*P **P** 13 07 00.3 -1.4
SMLA IAmb IAmb 13 07 02.5
comp=Z,194nm,1.0s
SMLA IAmb IAmb 13 07 03.2
comp=Z,190nm,0.6s
BOK Bokaro 60.73 272 *e*P **P** 13 07 01.4 -0.6
BOK *e*P **P** 13 07 01.8 -0.2
BOK IAmb IAmb 13 07 06.0
comp=Z,28nm,0.7s
BOK *i* pP pP 13 07 24.1 -13
DDI Dehra Dun 60.74 283 *e*P **P** 13 07 00.9 -1.3
DDI *e*P **P** 13 07 01.1 -1.0
DDI IAmb IAmb 13 07 03.3
comp=Z,196nm,1.0s
DDI IAmb IAmb 13 07 04.2
comp=Z,146nm,0.8s
MPSI Mapaga 60.81 225 P **P** 13 07 03.8 +1.2
comp=Z,733nmcomp=Z,48nm,0.9s
LUWI Luwuk 60.84 221 P **P** 13 07 03.6 +0.8
comp=Z,108nm,1.0s
LUWI Luwuk 60.84 221 IAmb IAmb 13 07 11.5
comp=Z,78nm,0.8s
HEC Hector,Ludlow 60.84 70 P **P** 13 07 03.3 +0.6
baz=316,SNR=125
HEC S **S** 13 15 11.7 +3.1
baz=316
SCI2 San Clemente I 60.87 73 P **P** 13 07 03.3 +0.4
baz=316,SNR=11
RSSD Black Hills 60.89 55 P **P** 13 07 03.6 +0.5
baz=316
RSSD S **S** 13 15 10.5 +1.3
baz=316
RSSD Black Hills 60.89 55 P **P** 13 07 03.6 +0.5
RSSD pmax pmax
comp=Z,269nm,0.9s
RSSD Black Hills 60.89 55 P **P** 13 07 03.6 +0.5
BBRC Big Bear Solar 60.91 71 P **P** 13 07 03.8 +0.4
baz=316,SNR=21
BHK Bhakra 60.94 285 *e*P **P** 13 07 03.6 +0.2
RWWY Rawlins 61.00 59 P **P** 13 07 02.6 -1.3
RWWY IAmb IAmb 13 07 05.4
comp=Z,109nm,1.1s
NIL Nilore 61.20 289 P **P** 13 07 04.9 -0.2
NIL pmax pmax
comp=Z,264nm,1.0s
NIL Nilore 61.20 289 P **P** 13 07 04.9 -0.2
MURC Murrieta 61.22 71 P **P** 13 07 05.5 +0.3
baz=316,SNR=63
GMRC Granite Mounta 61.26 70 P **P** 13 07 06.2 +0.6
baz=316,SNR=155
GMRC S **S** 13 15 17.3 +3.2
baz=316
HNR Honiara 61.49 178 LR LR 13 33 41.2
comp=Z,356nm,18.5s,baz=0.5,slow=36
O20A White River Ci 61.57 60 P **P** 13 07 08.1 +0.4
baz=316,SNR=67
O20A S **S** 13 15 19.3 +1.4
baz=316
O20A White River Ci 61.57 60 IAmb IAmb 13 07 10.4
comp=Z,144nm,1.0s
BELC Belle Mtn. Jos 61.63 70 P **P** 13 07 08.1 0.0
baz=316,SNR=97
BELC S **S** 13 15 20.4 +1.8
baz=316
PFO Pinyon Flats O 61.64 71 *d* iP **P** 13 07 06.7 -1.5
PFO pmax pmax
comp=Z,99nm,1.0s
PFO Pinyon Flats O 61.64 71 P **P** 13 07 08.3 +0.1
PFO IAmb IAmb 13 07 10.5
comp=Z,76nm,1.1s
MOS Moscow 61.65 326 *e*P **P** 13 07 05.9 -1.8
MOS *e* 13 07 47.7
MOS *e* 13 09 21.9
MOS pmax pmax
comp=Z,216nm,0.8s
AGMN Agassiz Nation 61.73 47 P **P** 13 07 08.1 -0.3
baz=318,SNR=17
AGMN S **S** 13 15 20.3 +1.1
baz=318
AGMN Agassiz Nation 61.73 47 IAmb IAmb 13 07 10.3
comp=Z,66nm,1.0s
ISOG Isortoq, Green 61.77 8 *i* P **P** 13 07 08.1 -0.3
ISOG IAmb IAmb 13 07 09.1
comp=Z,42nm,0.7s
109C Camp Elliot, M 61.78 72 P **P** 13 07 09.3 +0.4
baz=316,SNR=12
109C S **S** 13 15 21.9 +1.6
baz=316
109C Camp Elliot, M 61.78 72 IAmb IAmb 13 07 11.5
comp=Z,167nm,1.1s
ANGG Ammassalik, Gr 61.82 7 IAmb IAmb 13 07 10.0
comp=Z,94nm,1.0s
ANGG Ammassalik, Gr 61.82 7 *i* P **P** 13 07 08.9 +0.2
ANGG IAmb IAmb 13 07 10.2
comp=Z,85nm,0.9s
NEE2 Needles Airpor 61.87 69 P **P** 13 07 10.0 +0.4
baz=316,SNR=11
NEE2 S **S** 13 15 25.4 +4.0
baz=316
U15A North Rim 62.00 66 IAmb IAmb 13 07 14.0
comp=Z,127nm,1.2s
IRM Iron Mountain 62.01 70 P **P** 13 07 11.2 +0.7
baz=316,SNR=116
IRM S **S** 13 15 26.3 +3.1
baz=316
W13A Hualapai Mount 62.06 68 IAmb IAmb 13 07 13.8
comp=Z,91nm,1.0s
TBLU Trondheim 62.06 344 *e*P **P** 13 07 09.9 -0.5
D32A Dogwood Acres, 62.07 48 P **P** 13 07 10.6 -0.1
MONP2 Monument Peak 62.18 72 P **P** 13 07 12.1 +0.2
baz=316,SNR=51
MONP2 S **S** 13 15 27.2 +1.5
baz=316
BAR Barrett 62.19 72 IAmb IAmb 13 07 14.1
comp=Z,113nm,1.1s
BC3 Big Chuckawall 62.19 70 P **P** 13 07 12.0 +0.2
baz=316,SNR=57
N23A Red Feather La 62.24 58 P **P** 13 07 13.0 +0.7
baz=317,SNR=74
N23A S **S** 13 15 30.1 +3.7
baz=317
N23A Red Feather La 62.24 58 IAmb IAmb 13 07 15.2
comp=Z,112nm,0.8s
XMAS Kiritimati 62.24 128 P **P** 13 07 12.4 +0.2
PV21 Cone Mtn., Par 62.30 62 IAmb IAmb 13 07 15.5
comp=Z,127nm,1.1s
PV22 Blue Mesa, Par 62.42 62 IAmb IAmb 13 07 17.4
comp=Z,185nm,1.1s
NDI New Delhi 62.43 282 *e*P **P** 13 07 12.0 -1.4
SWSC Sam W. Stewart 62.50 71 P **P** 13 07 13.9 +0.1
baz=316,SNR=17
OBN Obninsk 62.51 326 LR LR 13 39 34.2
comp=Z,84nm,19.2s,baz=17,slow=41
OBN Obninsk 62.51 326 *ce*P **P** 13 07 12.2 -1.3
OBN *e* 13 07 48.4
OBN *e**PP **PcP** 13 07 50.5 -0.7
OBN 13 09 34.0
OBN PPP PPP 13 11 13.0
OBN *e*S **S** 13 15 31.1 +2.4
OBN pmax pmax
comp=Z,157nm,1.0s
OBN MLR MLR
comp=Z,645nm,17.0s
OBN Obninsk 62.51 326 P **P** 13 07 12.8 -0.7
SBUM Sibu 62.53 234 IAmb IAmb 13 07 24.3
comp=Z,88nm,0.8s
SBUM Sibu 62.53 234 P **P** 13 07 17.0 +2.9
IKP In-Ko-Pah, Jac 62.53 71 P **P** 13 07 14.4 +0.3
baz=317,SNR=54
IKP S **S** 13 15 32.6 +2.7
baz=317

PV11 David Mesa, Pa 62.55 62 P **P** 13 07 14.7 +0.4
PV07 Paradox Valley 62.57 62 IAmb IAmb 13 07 17.1
comp=Z,152nm,1.1s
RMX La Rumorosa 62.59 72 IAmb IAmb 13 07 17.5
comp=Z,128nm,1.1s
B35A Bob, Littlefor 62.63 46 IAmb IAmb 13 07 16.1
comp=Z,84nm,1.1s
PV02 Paradox Valley 62.69 62 IAmb IAmb 13 07 18.9
comp=Z,150nm,1.2s
PV15 Paradox Valley 62.73 62 IAmb IAmb 13 07 18.2
comp=Z,162nm,1.0s
VSU Vasula 62.73 334 *e*P **P** 13 07 14.2 -0.7
VSU Vasula 62.73 334 *c i*P **P** 13 07 14.2 -0.7
VSU pmax pmax
comp=Z,408nm,0.9s
KBL Kabul 62.99 292 P **P** 13 07 15.4 -1.8
SNR=28
KBL Kabul 62.99 292 P **P** 13 07 15.4 -1.8
KBL pmax pmax
comp=Z,49nm,0.8s
KBL Kabul 62.99 292 P **P** 13 07 15.4 -1.8
GLA Glamis 62.99 70 P **P** 13 07 17.8 +0.7
baz=317,SNR=36
GLA S **S** 13 15 37.3 +1.8
baz=317
ESJX Sierra Juarez 63.10 72 IAmb IAmb 13 07 20.6
comp=Z,121nm,1.1s
MOL Molde 63.15 345 ⇓ *i*P **P** 13 07 18.9 +1.4
SUSD Miller 63.15 51 P **P** 13 07 17.6 -0.4
baz=318,SNR=11
SUSD S **S** 13 15 36.7 -0.5
baz=318
SUSD Miller 63.15 51 IAmb IAmb 13 07 19.8
comp=Z,131nm,0.8s
WUAZ Wupatki 63.18 66 P **P** 13 07 19.5 +1.1
baz=317,SNR=82
WUAZ S **S** 13 15 41.4 +3.3
baz=317
WUAZ Wupatki 63.18 66 IAmb IAmb 13 07 21.8
comp=Z,207nm,1.2s
ISCO Idaho Springs 63.21 59 P **P** 13 07 19.8 +1.0
baz=317,SNR=157
ISCO S **S** 13 15 42.7 +4.1
baz=317
ISCO Idaho Springs 63.21 59 IAmb IAmb 13 07 22.0
comp=Z,160nm,1.1s
KUDL Kundal 63.26 282 *e*P **P** 13 07 17.5 -1.4
BORG Borgarnes 63.30 360 P **P** 13 07 21.6 +3.1
BORG pmax pmax
comp=Z,305nm,1.1s
BORG Borgarnes 63.30 360 P **P** 13 07 21.6 +3.1
F33A 5 Mile Ranch, 63.37 49 P **P** 13 07 19.4 +0.1
F33A IAmb IAmb 13 07 21.4
comp=Z,199nm,1.1s
BWNR Bhubaneshwar 63.38 269 *ex* **P** 13 07 17.6 -2.1
Y14A Wickenburg 63.40 68 IAmb IAmb 13 07 22.6
comp=Z,142nm,1.1s
DOMB Dombas 63.40 344 *e*P **P** 13 07 18.9 -0.4
MVCO Mesa Verde 63.54 63 P **P** 13 07 21.5 +0.6
baz=317,SNR=69
MVCO S **S** 13 15 46.4 +3.7
baz=317
MVCO Mesa Verde 63.54 63 IAmb IAmb 13 07 23.7
comp=Z,121nm,1.1s
AKN Aaknes 63.60 345 ⇓ *i*P **P** 13 07 21.1 +0.5
LPSR Galich'ya Gora 63.71 324 *e*P **P** 13 07 20.3 -1.1
LPSR *e* 13 09 38.4
LPSR pmax pmax
comp=Z,370nm,0.8s
VRH Novokhopyorsk 63.77 321 *e*P **P** 13 07 19.9 -1.9
VRH pmax pmax
comp=Z,250nm,0.6s
NC405 NORSAR Array S 63.80 343 P **P** 13 07 21.4 -0.5
113A Mohawk Valley, 63.81 70 IAmb IAmb 13 07 25.0
comp=Z,104nm,1.2s
EYMN Ely 63.91 45 P **P** 13 07 22.6 -0.2
baz=320,SNR=43
EYMN S **S** 13 15 46.2 -0.3
baz=320
EYMN Ely 63.91 45 IAmb IAmb 13 07 24.6
comp=Z,129nm,1.0s
X16A Lo Mia Camp, P 63.94 67 IAmb IAmb 13 07 26.7
comp=Z,94nm,1.0s
NB2 NORSAR Subarra 63.96 343 P **P** 13 07 22.7 -0.3
comp=Z,387nm,0.9s,baz=22,slow=6.9
NB2 NORSAR Subarra 63.96 343 P **P** 13 07 22.7 -0.3
baz=22,slow=6.9
NOA NORSAR Array B 63.96 343 P **P** 13 07 22.9 -0.1
comp=Z,255nm,0.9s,baz=21,slow=6.6,SNR=302
NOA LR LR 13 39 51.8
comp=Z,191nm,19.3s,baz=10.0,slow=40
S22A 4UR Ranch, Cre 64.06 61 P **P** 13 07 25.5 +1.2
baz=317,SNR=126
S22A S **S** 13 15 52.0 +2.9
baz=317
S22A 4UR Ranch, Cre 64.06 61 IAmb IAmb 13 07 27.7
comp=Z,154nm,1.2s
Q24A Divide 64.06 59 P **P** 13 07 24.8 +0.5
baz=318,SNR=60
Q24A S **S** 13 15 50.7 +1.5
baz=318
SPX San Pedro Mart 64.08 72 IAmb IAmb 13 07 26.4
comp=Z,103nm,1.1s
NC602 NORSAR Array S 64.18 342 *e*P **P** 13 07 24.2 -0.2
NORES NORESS Array B 64.18 342 P **P** 13 07 24.3 -0.1
NORES pmax pmax
comp=Z,7.0nm,0.2s
MTKI Muara Teweh, K 64.20 229 P **P** 13 07 29.2 +4.1
HFS Hagfors 64.33 341 LR LR 13 41 08.4
comp=Z,223nm,18.5s,baz=10,slow=41
KSM Kuching 64.33 235 P **P** 13 07 27.6 +1.7
KSM IAmb IAmb 13 07 30.2
comp=Z,109nm,0.9s
KSM Kuching 64.33 235 P **P** 13 07 28.0 +2.1
W18A Petrified Fore 64.38 65 P **P** 13 07 27.2 +0.9
baz=317,SNR=35
W18A S **S** 13 15 56.7 +3.7
baz=317
W18A Petrified Fore 64.38 65 IAmb IAmb 13 07 29.5
comp=Z,115nm,1.1s
SFX San Felipe 64.44 72 IAmb IAmb 13 07 28.0
comp=Z,115nm,1.3s
FOO Floro 64.45 346 ⇓ *i*P **P** 13 07 27.4 +1.3
DGPR DIGLIPUR 64.50 258 *e*P **P** 13 07 28.2 +1.2
K31A O'Neill 64.61 53 P **P** 13 07 27.6 +0.2
SLIT Slitere, Latvi 64.63 335 *e*P **P** 13 07 26.2 -1.1
HYA Hoyanger 64.69 345 ⇓ *i*P **P** 13 07 27.7 +0.1
SPSI Sidrap Palu 64.73 223 P **P** 13 07 29.3 +0.8
comp=Z,1μmcomp=Z,85nm,1.0s
VSR Storozhevoye 64.73 322 *e*P **P** 13 07 26.7 -1.4
VSR *e* 13 09 47.5
VSR pmax pmax
comp=Z,220nm,0.7s
SDCO Great Sand Dun 64.77 61 P **P** 13 07 29.6 +0.6
baz=318,SNR=108
SDCO S **S** 13 16 00.4 +2.5
baz=318
ECSD EROS Data Cent 64.80 51 P **P** 13 07 28.5 -0.2
baz=319,SNR=125
ECSD S **S** 13 15 57.2 -0.3
baz=319
ECSD EROS Data Cent 64.80 51 IAmb IAmb 13 07 30.6
comp=Z,166nm,0.9s
SKAR Skarslia 64.81 344 *e*P **P** 13 07 28.6 +0.2
PIX Pinacate 64.87 70 IAmb IAmb 13 07 30.9
comp=Z,137nm,1.4s
VORD Divnogorie 64.89 322 *e*P **P** 13 07 28.7 -0.4
VORD *e* 13 09 49.4
VORD pmax pmax
comp=Z,220nm,1.1s
E38A The Farm, Brul 64.92 46 IAmb IAmb 13 07 30.9
comp=Z,148nm,0.9s
214A Organ Pipe Nat 64.95 70 P **P** 13 07 30.5 +0.6
baz=318,SNR=71
214A S **S** 13 16 03.6 +3.9
baz=318
214A Organ Pipe Nat 64.95 70 IAmb IAmb 13 07 32.8
comp=Z,172nm,1.1s
STKI Sintang 64.96 233 P P 13 07 36.2 +6.2
comp=Z,33μmcomp=Z,35nm,0.8s
SUE Sulen 65.01 346 ⇓ *i*P **P** 13 07 30.1 +0.4
OSL Oslo 65.08 343 *e*P **P** 13 07 31.2 +1.1
IZAR Zarasai 65.21 332 *e*P **P** 13 07 31.2 +0.1
KSCO Kaye Shedlock' 65.35 58 P **P** 13 07 32.6 +0.1
baz=318,SNR=10.0
KSCO S **S** 13 16 06.7 +2.1
baz=318
KSCO Kaye Shedlock' 65.35 58 IAmb IAmb 13 07 34.7
comp=Z,141nm,1.2s
NRS Narsarsuaq 65.36 12 *i* P **P** 13 07 31.4 -0.6
NRS pmax pmax
comp=Z,110nm,1.1s
NRS Narsarsuaq 65.36 12 *i* P **P** 13 07 31.4 -0.6
comp=Z,108nm,1.1s
NRS Narsarsuaq 65.36 12 *i* P **P** 13 07 31.4 -0.6
NRS IAmb IAmb 13 07 33.8
comp=Z,108nm,1.1s
ISAL Salakas 65.40 332 *e*P **P** 13 07 31.9 -0.4
SPMN Marine on St. 65.43 47 P **P** 13 07 32.4 -0.3
baz=321,SNR=21
SPMN S **S** 13 16 04.9 -0.2
baz=321
SPMN Marine on St. 65.43 47 IAmb IAmb 13 07 34.5
comp=Z,112nm,0.9s
IDID Didziasalis 65.44 332 *e*P **P** 13 07 32.1 -0.5
ASK Askoy 65.49 346 ⇓ *i*P **P** 13 07 34.2 +1.4
KONO Kongsberg 65.55 343 *i* P **P** 13 07 33.6 +0.4
KONO pmax pmax
comp=Z,336nm,1.1s
KONO Kongsberg 65.55 343 P **P** 13 07 33.3 +0.1
KONO Kongsberg 65.55 343 ⇓ *i*P **P** 13 07 33.7 +0.5
IIGN Ignalina 65.56 332 *e*P **P** 13 07 33.0 -0.3
BER Bergen 65.56 346 P **P** 13 07 32.8 -0.5
BER Bergen 65.56 346 ⇓ *i*P **P** 13 07 33.9 +0.6
KAPI Kappang 65.68 223 P **P** 13 07 35.3 +0.7
KAPI pmax pmax
comp=Z,46nm,1.1s
KAPI Kappang 65.68 223 P **P** 13 07 35.3 +0.7
KBKI Kotabaru 65.70 227 P **P** 13 07 37.8 +3.1
comp=Z,752nmcomp=Z,34nm,0.8s
NACGM Naroch 65.78 332 *e*P **P** 13 07 34.0 -0.8
NACGM PM 13 07 37.0
comp=Z,0.7nm,1.0s
T25A Trinidad 65.80 60 P **P** 13 07 35.8 +0.3
baz=318,SNR=62
T25A S **S** 13 16 14.1 +3.8
baz=318
T25A Trinidad 65.80 60 IAmb IAmb 13 07 38.2
comp=Z,138nm,1.2s
BKSI Bulukumba 65.80 222 P **P** 13 07 36.1 +0.7
comp=Z,824nmcomp=Z,86nm,0.8s
PBA Port Blair 65.80 257 ⇑ *i*P P 13 07 35.5 +0.1
PBA IAmb IAmb 13 07 37.7
comp=Z,251nm,1.0s
PBA IAmb IAmb 13 07 41.7
comp=Z,207nm,0.7s
PBA Port Blair 65.80 257 P P 13 07 36.2 +0.7
SNR=25
MICGM Minsk 65.81 331 ⇓ *e*P **P** 13 07 34.0 -0.9
MICGM PM 13 07 35.0
comp=Z,0.8nm,1.0s
MICGM PM 13 07 35.0
comp=N,0.9nm,1.0s
MNK Minsk 65.81 331 *e*P **P** 13 07 34.0 -0.9
MNK pmax pmax
comp=Z,750nm,1.0s
ODD1 Odda 65.81 345 *e*P **P** 13 07 34.8 -0.2
CHLP Challavanipeta 65.81 269 *e*P **P** 13 07 35.7 +0.2
CHLP IVmB_BB 13 07 37.1
comp=Z,753nm,1.5s
BGNE Belgrade 65.82 53 P **P** 13 07 34.9 -0.4
baz=319,SNR=13
BGNE S **S** 13 16 10.3 +0.3
baz=319
D41A Chassel 65.85 43 IAmb IAmb 13 07 37.8
comp=Z,193nm,1.3s
TUC Tucson 65.85 68 P **P** 13 07 36.4 +0.7
baz=318
TUC S **S** 13 16 13.4 +2.6
baz=318
TUC Tucson 65.85 68 P **P** 13 07 36.4 +0.7
TUC pmax pmax
comp=Z,91nm,1.2s
TUC Tucson 65.85 68 P **P** 13 07 36.4 +0.7
TUC IAmb IAmb 13 07 38.6
comp=Z,91nm,1.2s
PABE Paberze 66.06 333 *e*P **P** 13 07 36.4 -0.2
PBUR Paburge 66.15 335 *e*P **P** 13 07 36.6 -0.4
KULM Kulim 66.30 246 IAmb IAmb 13 07 42.5
comp=Z,155nm,1.1s
KULM Kulim 66.30 246 P **P** 13 07 40.0 +1.3
BLS5 Blasjo 66.30 345 ⇓ *i*P **P** 13 07 38.5 +0.4
BHPL Bhopal 66.32 278 *e*P **P** 13 07 37.2 -1.6
BHPL *e*P **P** 13 07 37.8 -1.0
BHPL IAmb IAmb 13 07 39.3
comp=Z,116nm,0.7s
BHPL IAmb IAmb 13 07 39.6
comp=Z,121nm,0.8s
BHPL *i* x x 13 07 46.4
ANMO Albuquerque 66.32 63 P **P** 13 07 39.6 +0.8
baz=318
ANMO S **S** 13 16 20.9 +4.3
baz=318
ANMO Albuquerque 66.32 63 *d* iP **P** 13 07 39.2 +0.3
ANMO pmax pmax
comp=Z,63nm,1.1s
ANMO Albuquerque 66.32 63 P **P** 13 07 39.6 +0.8
BBKI Banjar Baru 66.44 228 P **P** 13 07 41.0 +1.5
comp=Z,2μmcomp=Z,98nm,0.9s
GEYT Alibeck 66.47 302 P **P** 13 07 39.1 -0.4
comp=Z,65nm,0.7s,baz=28,slow=3.5,SNR=94
GEYT PP **PP** 13 10 06.5 -0.7
comp=Z,10nm,0.8s,baz=15,slow=6.4,SNR=3.6
GEYT Alibeck 66.47 302 P **P** 13 07 39.0 -0.4
GYA0 ALIBECK ARRAY 66.47 302 P **P** 13 07 38.8 -0.7
LENM Lemitar 66.62 64 P **P** 13 07 42.1 +1.4
WAL1 Walls 66.63 349 *e*P **P** 13 07 40.4 +0.3
N33A J Bar K, Exete 66.67 53 P **P** 13 07 39.6 -1.1
N33A IAmb IAmb 13 07 41.9
comp=Z,144nm,0.8s
KMY Karmoy 66.70 345 ⇓ *i*P **P** 13 07 41.2 +0.7
Y22D IRIS PASSCAL I 66.72 64 P **P** 13 07 42.5 +1.2
baz=318
Y22D S **S** 13 16 25.8 +4.5
baz=318
Y22D IRIS PASSCAL I 66.72 64 IAmb IAmb 13 07 44.9
comp=Z,148nm,1.1s
IPM Ipoh 66.76 246 IAmb IAmb 13 07 45.8
comp=Z,100nm,0.8s
IPM Ipoh 66.76 246 P **P** 13 07 43.0 +1.4
BNM Barren Site 66.82 64 P **P** 13 07 42.2 +0.2
NGP Nagpur 66.89 275 *e*P **P** 13 07 40.8 -1.6
NGP IAmb IAmb 13 07 43.1
comp=Z,44nm,0.5s
SCHQ Schefferville 66.94 26 P **P** 13 07 42.2 0.0
comp=Z,86nm,0.8s,baz=354,slow=6.6,SNR=50
SCHQ LR LR 13 39 44.1
comp=Z,201nm,20.2s,baz=339,slow=38
SCHQ Schefferville 66.94 26 IAmb IAmb 13 07 44.0
comp=Z,97nm,0.9s
CBKS Cedar Bluff 66.98 56 P **P** 13 07 42.0 -0.7
baz=320,SNR=21
CBKS S **S** 13 16 23.5 -0.6
baz=320
CBKS Cedar Bluff 66.98 56 IAmb IAmb 13 07 44.2
comp=Z,125nm,0.8s
HOMB Homborsund 67.04 343 ⇓ *i*P **P** 13 07 44.2 +1.5
HOMB Homborsund 67.04 343 *i* P **P** 13 07 43.0 +0.3
HOMB IAmb IAmb 13 07 44.9
comp=Z,133nm,0.8s
SNART Snartemo 67.21 344 ⇓ *i*P **P** 13 07 44.3 +0.5
SNART Snartemo 67.21 344 *i* P **P** 13 07 43.9 +0.1
SNART IAmb IAmb 13 07 46.0
comp=Z,1μm,1.1s
COEN Coen 67.21 196 P P 13 07 44.6 +0.4
COEN **pP** 13 08 20.9 +1.2
PBKI Pangkalan Bun 67.27 232 P **P** 13 07 47.5 +2.8
comp=Z,290nm,0.9s
121A Cookes Peak, D 67.38 66 P **P** 13 07 46.6 +1.0
baz=319,SNR=61
121A S **S** 13 16 31.1 +1.8
baz=319
121A Cookes Peak, D 67.38 66 P **P** 13 07 46.4 +0.8
121A IAmb IAmb 13 07 49.0
comp=Z,130nm,1.2s
319A Douglas 67.40 68 IAmb IAmb 13 07 48.6
comp=Z,226nm,1.1s
MYKOM Kota Tinggi 67.44 241 IAmb IAmb 13 07 51.6
comp=Z,74nm,0.9s
MYKOM Kota Tinggi 67.44 241 P **P** 13 07 48.0 +2.2
K38A Parkersburg 67.44 49 IAmb IAmb 13 07 47.0
comp=Z,112nm,1.0s

I40A Norwalk 67.45 47 IAmb IAmb 13 07 47.0
comp=Z,144nm,1.0s
N35A Tabor 67.46 52 IAmb IAmb 13 07 47.5
comp=Z,118nm,0.8s
SUW Suwalki 67.59 333 *i* P **P** **13 07 46.3 0.0**
SUW *e*PcP **PcP** **13 08 12.9 +0.7**
SUW Suwalki 67.59 333⇑ *i* P **P** **13 07 46.3 0.0**
SUW *e* 13 08 13.0
SUW Suwalki 67.59 333 **PcP** **13 08 12.5 +0.2**
SCIA State Center 67.81 50 P **P** **13 07 47.8 0.0**
baz=321,SNR=76
SCIA S **S** **13 16 33.2 -0.6**
baz=321
MAK Makhachkala 67.82 312 *e*P **P** **13 07 45.5 -2.3**
MAK *e**PP **pP** **13 08 21.7 -1.8**
MAK *e**SP **sP** **13 08 37.5 -2.0**
MAK *e* 13 10 14.3
MAK *e*S **S** **13 16 29.8 -4.0**
MAK *e*SS **SS** **13 20 59.7 +2.6**
MAK pmax pmax
comp=Z,282nm,1.4s
SANVU Saraoutou 67.91 170 P **P** **13 07 47.6 -1.0**
SANVU IAmb IAmb 13 07 50.4
comp=Z,142nm,1.0s
MATQ Matagami 67.92 35 P **P** **13 07 47.2 -1.1**
baz=327,SNR=10
MATQ S **S** **13 16 32.2 -2.6**
baz=327
MMRI Maumere 67.98 219 P **P** **13 07 50.8 +1.7**
comp=Z,1µmcomp=Z,64nm,0.8s
MMRI Maumere 67.98 219 IAmb IAmb 13 08 38.8
comp=Z,135nm,1.1s
GOET G??ttrup 68.08 342 *i* P **P** **13 07 50.4 +1.2**
comp=Z,2µm,1.0s
GOET G??ttrup 68.08 342 *i* P **P** **13 07 50.4 +1.2**
GOET IAmb IAmb 13 07 52.5
comp=Z,2µm,1.0s
GOF Gofitskoye 68.12 316⇑ *i* P **P** **13 07 49.1 -0.7**
GOF pmax pmax
comp=Z,188nm,0.7s
I42A Draeger Farm, 68.21 46 IAmb IAmb 13 07 51.7
comp=Z,82nm,0.8s
H43A Windswept, Lux 68.24 45 IAmb IAmb 13 07 52.1
comp=Z,93nm,0.8s
SOEI Soe 68.25 216 P **P** **13 07 53.6 +2.6**
comp=Z,66nm,0.9s
SOEI Soe 68.25 216 IAmb IAmb 13 08 45.6
comp=Z,130nm,1.2s
PVM Polavaram 68.26 270 *e*P **P** **13 07 50.9 -0.1**
PVM IVmB_BB 13 07 52.2
comp=Z,684nm,1.4s
EDFI Ende, Flores 68.29 219 P **P** **13 07 50.9 -0.3**
comp=Z,325nmcomp=Z,20nm,1.0s
KSU1 Kansas State U 68.34 54 P **P** **13 07 49.8 -1.4**
baz=321,SNR=14
KSU1 Kansas State U 68.34 54 P **P** **13 07 49.9 -1.4**
KSU1 IAmb IAmb 13 07 51.9
comp=Z,75nm,0.8s
JFWS Jewell Farm 68.38 47 P **P** **13 07 50.2 -1.3**
baz=322,SNR=11
JFWS S **S** **13 16 39.1 -1.5**
baz=322
LHMI Lhok Sumawe 68.46 250 P **P** **13 07 55.9 +3.7**
comp=Z,6µmcomp=Z,449nm,0.9s
RPR Rampur 68.47 273 *e*P **P** **13 07 51.9 -0.4**
RPR IVmB_BB 13 07 53.1
comp=Z,770nm,2.5s
L40A Anamosa 68.61 48 IAmb IAmb 13 07 53.9
comp=Z,107nm,0.9s
MUD Monsted U'grnd 68.63 342⇑ *i* P **P** **13 07 53.0 +0.3**
MUD pmax pmax
comp=Z,500nm,1.1s
MUD Monsted U'grnd 68.63 342⇑ *i* P **P** **13 07 53.0 +0.3**
comp=Z,500nm,1.1s
MUD Monsted U'grnd 68.63 342 *i* P **P** **13 07 53.0 +0.3**
MUD IAmb IAmb 13 07 55.3
comp=Z,500nm,1.1s
AKASG Malin Array Be 68.65 328 P **P** **13 07 51.9 -1.0**
comp=Z,48nm,0.5s,baz=32,slow=6.3,SNR=78
AKASG PP **PP** **13 10 19.5 -6.1**
comp=Z,28nm,0.9s,baz=33,slow=9.1,SNR=4.5
AKASG Malin Array Be 68.65 328 *i* P **P** **13 07 51.5 -1.4**
AKASG pmax pmax
comp=Z,89nm,0.7s
AKASG Malin Array Be 68.65 328 P **P** **13 07 50.8 -2.2**
AKBB Malin Array Si 68.65 328 IAmb IAmb 13 07 54.7
comp=Z,210nm,1.0s
KIEV Kiev 68.66 328 P **P** **13 07 51.0 -2.0**
N38A Joes South For 68.67 51 IAmb IAmb 13 07 54.6
comp=Z,159nm,0.8s
G45A Suttons Bay 68.69 43 IAmb IAmb 13 07 54.6
comp=Z,72nm,0.8s
BSD Bornholm Skovb 68.69 338 *i* P **P** **13 07 52.7 -0.3**
BSD pmax pmax
comp=Z,220nm,0.9s
BSD Bornholm Skovb 68.69 338 *i* P **P** **13 07 52.7 -0.3**
comp=Z,217nm,0.9s
BSD Bornholm Skovb 68.69 338 *i* P **P** **13 07 52.8 -0.3**
BSD IAmb IAmb 13 07 54.6
comp=Z,218nm,0.9s
GGR Gangavaram 68.70 272 *e*P **P** **13 07 53.2 -0.5**
GGR IVmB_BB 13 07 54.5
comp=Z,613nm,2.2s
COP Copenhagen 68.70 340⇑ *i* P **P** **13 07 53.3 +0.2**
COP pmax pmax
comp=Z,260nm,1.0s
COP Copenhagen 68.70 340⇑ *i* P **P** **13 07 53.3 +0.2**
comp=Z,260nm,1.0s
COP Copenhagen 68.70 340⇑ *i* P **P** **13 07 53.4 +0.2**
COP IAmb IAmb 13 07 55.3
comp=Z,261nm,1.0s
MLA1 Latheron 68.73 350 *e*P **P** **13 07 54.1 +0.8**
LSQQ Lebel-sur-Quev 68.74 35 P **P** **13 07 52.5 -1.0**
baz=328
MTN Manton Dam 68.90 208 IAmb IAmb 13 08 44.6
comp=Z,86nm,0.9s
CHGQ Chibougamau 68.92 33 P **P** **13 07 53.6 -1.0**
baz=329,SNR=13
CHGQ S **S** **13 16 44.1 -2.6**
baz=329
DSRI Dabo 68.95 239 P **P** **13 07 57.7 +2.4**
comp=Z,56nm,1.0s
AMTX Amarillo 68.95 60 P **P** **13 07 55.0 -0.2**
baz=320
AMTX Amarillo 68.95 60 IAmb IAmb 13 07 57.5
comp=Z,164nm,1.1s
KIV Kislovodsk 69.16 316 *i* P **P** **13 07 55.7 -0.6**
SNR=24
KIV Kislovodsk 69.16 316 *e*P **P** **13 07 56.1 -0.2**
KIV Kislovodsk 69.16 316 P **P** **13 07 55.5 -0.8**
KIV Kislovodsk 69.16 316 *e*P **P** **13 07 55.3 -1.0**
KIV *e*PPP PPP 13 12 12.0
KIV *e*S **S** **13 16 49.2 -0.7**
KIV pmax pmax
comp=Z,769nm,4.1s
KIV pmax pmax
comp=Z,189nm,1.0s
KIV Kislovodsk 69.16 316 P **P** **13 07 55.4 -1.0**
KIV IAmb IAmb 13 07 59.3
comp=Z,57nm,0.6s
U32A Winter Ranch, 69.22 57 IAmb IAmb 13 07 58.2
comp=Z,123nm,1.0s
LEWI Lewis, Hebride 69.25 352 *e*P **P** **13 07 57.0 +0.5**
MYLAV Mylavaram 69.25 271 *e*P **P** **13 07 57.2 +0.1**
MYLAV IVmB_BB 13 07 58.6
comp=Z,772nm,1.4s
KBZ Khabaz 69.25 315 P **P** **13 07 56.4 -0.3**
comp=Z,47nm,0.6s,baz=75,slow=2.8,SNR=85
KBZ LR LR 13 42 48.8
comp=Z,396nm,19.9s,baz=28,slow=40
KBZ Khabaz 69.25 315*c* *i* P **P** **13 07 56.0 -0.7**
KBZ pmax pmax
comp=Z,45nm,0.8s
LGD Lagodekhi 69.28 312 P **P** **13 07 55.8 -1.2**
PSI Prapat 69.31 246 P **P** **13 07 58.5 +0.8**
comp=Z,53nm,0.9s,baz=5.9,slow=5.7,SNR=32
SHA1 Shidzhatmaz 69.35 316*c* *i* P **P** **13 07 57.1 -0.6**
MNTX Cornudas Mount 69.35 65 P **P** **13 07 58.2 +0.6**
baz=320,SNR=122
MNTX S **S** **13 16 55.9 +3.5**
baz=320
MNTX Cornudas Mount 69.35 65 IAmb IAmb 13 08 00.5
comp=Z,136nm,1.2s
VLDQ Val d'Or 69.36 36 IAmb IAmb 13 07 57.5
comp=Z,99nm,1.0s
L42A Oliver, Polo 69.37 47 P **P** **13 07 55.7 -1.8**
L42A IAmb IAmb 13 07 58.3
comp=Z,112nm,0.8s
RPSI Rantau Prapat 69.40 246 P **P** **13 07 58.5 +0.5**
RPSI Rantau Prapat 69.40 246 IAmb IAmb 13 08 03.5
comp=Z,62nm,0.9s
K43A Burlington 69.41 46 IAmb IAmb 13 07 59.3
comp=Z,157nm,0.8s
MCD Coleburn Disti 69.43 349 *e*P **P** **13 07 57.7 +0.1**
P38A Dawn 69.44 52 IAmb IAmb 13 07 59.5
comp=Z,132nm,0.9s
MLSI Meulaboh, Aceh 69.55 249 P **P** **13 07 59.5 +0.5**
comp=Z,140nm,1.0s
PPBI Pangkal Pinang 69.56 237 P **P** **13 08 01.1 +2.1**
comp=Z,5µmcomp=Z,76nm,0.9s
RGN Rugen 69.57 339 *e*P **P** **13 07 58.4 0.0**
RGN Rugen 69.57 339 *e*P **P** **13 07 59.2 +0.7**
comp=Z,1µm,1.3s,baz=22,slow=5.9
ZEI Tsey 69.57 314 *e*P **P** **13 07 56.8 -2.2**
ZEI pmax pmax
comp=Z,34nm,0.8s
CROK Carrier 69.64 57 IAmb IAmb 13 08 00.6
comp=Z,188nm,1.0s
MDO Dochfour 69.69 350 *e*P **P** **13 07 59.4 +0.2**
KAC Achnashellach 69.73 351 *e*P **P** **13 07 59.4 -0.1**
GKP Gorka Klasztor 69.83 336 *i* P **P** **13 08 00.0 0.0**
GKP *e*PcP **PcP** **13 08 22.5 +0.8**
CUPL Choutuppal 69.89 272 *e*P **P** **13 08 00.6 -0.4**
KPL Plockton 69.92 351 *e*P **P** **13 08 00.5 -0.1**
ONI Oni 69.92 314 P **P** **13 08 00.9 -0.1**
TPTI 69.93 248 P **P** **13 08 02.2 +0.9**
comp=Z,625nmcomp=Z,55nm,1.0s
PLAI Plampang 69.94 223 P **P** **13 08 01.5 +0.2**
comp=Z,80nm,0.8s
DRUM Mains of Drumt 70.00 349 *e*P **P** **13 08 01.0 0.0**
DRUM IAmb IAmb 13 08 02.7
comp=Z,633nm,1.4s
L44A Lake County Fo 70.01 46 P **P** **13 08 00.7 -0.7**
baz=324,SNR=5.6
L44A Lake County Fo 70.01 46 P **P** **13 08 00.8 -0.7**
L44A IAmb IAmb 13 08 02.7
comp=Z,136nm,0.9s
HYB Hyderabad 70.02 273 *i* P **P** **13 08 01.5 -0.4**
comp=Z,150nm,1.0s
HYB *e*PcP **PcP** **13 08 24.0 +0.9**
HYB *e*sP **sP** **13 08 52.0 -1.4**
HYBB Hyderabad (bro 70.02 273 *e*P **P** **13 08 01.2 -0.6**
HYBB IVmB_BB 13 08 02.5
comp=Z,875nm,2.5s
BKNI Bangkinang 70.18 243 P **P** **13 08 03.9 +1.1**
comp=Z,4µmcomp=Z,515nm,0.9s
BEL Belsk 70.19 333 *i* P **P** **13 08 02.8 +0.4**
BEL Belsk 70.19 333⇑ *i* P **P** **13 08 02.8 +0.4**
NJS Nagarjunasagar 70.21 272 *e*P **P** **13 08 02.6 -0.4**
NJS IVmB_BB 13 08 04.0
comp=Z,710nm,1.2s
P40A Paris 70.22 51 IAmb IAmb 13 08 04.5
comp=Z,179nm,0.9s
SKMB Sankelmark Bun 70.22 341 *e*P **P** **13 08 03.6 +1.1**
baz=22,slow=5.9
HQIL Hanson Quary C 70.34 46 IAmb IAmb 13 08 04.7
comp=Z,126nm,1.2s
ADKI Addanki 70.35 271 *e*P **P** **13 08 04.0 +0.1**
ADKI IVmBBB 13 08 06.2
comp=Z,577nm,1.9s
OK029 Liberty Lake 70.46 57 IAmb IAmb 13 08 06.0
comp=Z,90nm,0.9s
KZRT Kazreti 70.47 313 P **P** **13 08 04.5 +0.2**
J47A Sunmer 70.50 44 IAmb IAmb 13 08 06.3
comp=Z,166nm,0.9s
QUOK Quay 70.55 56 IAmb IAmb 13 08 06.4
comp=Z,100nm,1.1s
M44A Midewin, Midew 70.59 47 IAmb IAmb 13 08 06.1
comp=Z,99nm,0.8s
WMOK Wichita Mounta 70.59 58 P **P** **13 08 05.0 -0.2**
baz=321,SNR=104
WMOK S **S** **13 17 05.9 -0.8**
baz=321
WMOK Wichita Mounta 70.59 58 P **P** **13 08 04.4 -0.7**
WMOK pmax pmax
comp=Z,102nm,0.9s
WMOK Wichita Mounta 70.59 58 P **P** **13 08 04.4 -0.7**
WMOK IAmb IAmb 13 08 07.1
comp=Z,102nm,0.9s
MNSI Mandailing Nat 70.60 245 P **P** **13 08 03.9 -1.4**
comp=Z,52nm,0.6s
ANN Anapa 70.65 320 *e*P **P** **13 08 02.3 -2.9**
ANN *e* 13 08 20.9
ANN *e**PP **pP** **13 08 36.8 -4.3**
ANN *e*S **S** **13 17 03.0 -3.9**
ANN pmax pmax
comp=Z,378nm,1.8s
ANN pmax pmax
comp=Z,226nm,1.7s
INVG Invergeldie, C 70.65 350 *e*P **P** **13 08 04.6 -0.5**
INVG IAmb IAmb 13 08 06.7
comp=Z,86nm,0.7s
HDIL Hopedale 70.69 48 P **P** **13 08 05.1 -0.5**
baz=323,SNR=17
HDIL S **S** **13 17 05.1 -2.5**
baz=323
HDIL Hopedale 70.69 48 IAmb IAmb 13 08 07.0
comp=Z,174nm,0.8s
OK025 Westminster Rd 70.69 57 IAmb IAmb 13 08 07.4
comp=Z,115nm,0.8s
SOC Sochi 70.72 317*c* *i* P **P** **13 08 04.6 -1.1**
SOC *e**PP **pP** **13 08 39.8 -1.8**
SOC *e**SP **sP** **13 08 55.1 -2.3**
SOC *i* 13 10 43.1
SOC *e*PPP PPP 13 12 22.8
SOC *e*S **S** **13 17 06.7 -1.1**
SOC *e*SSS SSS 13 24 45.1
SOC pmax pmax
comp=Z,61nm,0.6s
KLRI Killari 70.72 275 *e*P **P** **13 08 05.5 -0.7**
KLRI IVmB_BB 13 08 06.7
comp=Z,954nm,1.8s
I49A Point Hope 70.76 42 P **P** **13 08 05.1 -0.8**
I49A IAmb IAmb 13 08 07.4
comp=Z,100nm,0.9s
OKCFA Oklahoma City 70.76 57 IAmb IAmb 13 08 08.0
comp=Z,78nm,0.8s
BSEG Bad Segeberg 70.78 340 *e*P **P** **13 08 06.6 +0.7**
comp=Z,363nm,1.1s,baz=22,slow=5.9
SRLM Srisailam 70.82 272 *e*P **P** **13 08 06.1 -0.6**
SRLM IVmB_BB 13 08 07.5
comp=Z,815nm,1.2s
HORU Horodok 70.84 329 P **P** **13 08 05.4 -1.0**
AKH Akhalkalaki 70.86 314⇑ P **P** **13 08 07.0 +0.2**
AKH Akhalkalaki 70.86 314 *e*P **P** **13 08 06.4 -0.4**
L46A Eue Claire 70.86 45 IAmb IAmb 13 08 08.0
comp=Z,174nm,1.1s
AFI Afiamalu 70.90 149 P **P** **13 08 07.5 +0.4**
AFI pmax pmax
comp=Z,78nm,1.0s
AFI Afiamalu 70.90 149 P **P** **13 08 07.5 +0.4**
EAB Aberfoyle 70.92 350 *e*P **P** **13 08 06.8 +0.1**
ALGO Algonquin Park 70.96 38 P **P** **13 08 05.5 -1.6**
baz=328,SNR=13
LAWE Loch Awe, Argy 70.96 350 *e*P **P** **13 08 06.9 0.0**
LAWE IAmb IAmb 13 08 08.8
comp=Z,160nm,0.7s
ESY Stoneypath 70.99 349 *e*P **P** **13 08 07.1 0.0**
D55A Sainte-Anne-du 71.00 36 P **P** **13 08 06.6 -0.8**
baz=329,SNR=17
D55A S **S** **13 17 06.4 -4.7**
baz=329
SDSI Sungai Dareh 71.02 242 P **P** **13 08 08.7 +0.8**
comp=Z,1µmcomp=Z,33nm,0.8s
HLG Helgoland 71.03 342 *e*P **P** **13 08 08.2 +0.9**
baz=22,slow=5.9
EDI Edinburgh 71.05 349 *e*P **P** **13 08 07.4 -0.1**
EDI IAmb IAmb 13 08 08.7
comp=Z,85nm,1.0s
LVV L'vov 71.06 330 *e*P **P** **13 08 07.1 -0.5**
LVV *e**PP **pP** **13 08 43.2 -0.4**
LVV *e* 13 10 47.4
LVV *e*S **S** **13 17 08.1 -3.5**
LVV *e*SS **SS** **13 21 54.8 +8.3**
LVV pmax pmax
comp=Z,500nm,1.5s
R40A Maddies Statio 71.09 52 IAmb IAmb 13 08 09.3
comp=Z,133nm,1.1s
SORM Soroca 71.15 327⇑ P **P** **13 08 07.1 -1.2**
EBL Broad Law 71.18 349 *e*P **P** **13 08 08.2 -0.1**
TUL1 Leonard 71.22 55 P **P** **13 08 08.5 -0.4**
baz=322,SNR=24
TUL1 S **S** **13 17 10.6 -3.3**
baz=322
TUL1 Leonard 71.22 55 IAmb IAmb 13 08 10.6
comp=Z,136nm,0.9s
D56A ZEC Mazanza, M 71.23 35 P **P** **13 08 08.2 -0.6**
baz=329
D56A S **S** **13 17 09.1 -4.6**
baz=329
E55A Montcerf-Lytto 71.27 36 P **P** **13 08 07.9 -1.1**
baz=328
GSI Gunungsitoli 71.30 247 P **P** **13 08 09.7 +0.1**
comp=Z,2µmcomp=Z,207nm,1.0s
GSI Gunungsitoli 71.30 247 IAmb IAmb 13 08 17.8
comp=Z,151nm,0.9s
PGBU Glenifferbraes 71.31 350 *e*P **P** **13 08 09.2 +0.2**
P43A Skaggs, Pawnee 71.32 49 IAmb IAmb 13 08 10.8
comp=Z,116nm,0.9s
RUE Ruedersdorf 71.38 338 *e*P **P** **13 08 09.5 0.0**
RUE Ruedersdorf 71.38 338 *e*P **P** **13 08 09.8 +0.3**
comp=Z,649nm,1.1s,baz=22,slow=5.9
KMPD K-Podol'skiy 71.40 328 P **P** **13 08 09.0 -0.7**
G54A Lake Saint Pet 71.41 38 P **P** **13 08 08.4 -1.5**
baz=328,SNR=6.1
G54A S **S** **13 17 09.9 -6.0**
baz=328
BATM Batumi 71.49 315⇑ P **P** **13 08 09.3 -1.1**
BATM Batumi 71.49 315 *e*P **P** **13 08 09.3 -1.1**
BATM Batumi 71.49 315 P **P** **13 08 09.3 -1.1**
U38A Gravette 71.51 54 IAmb IAmb 13 08 11.9
comp=Z,86nm,0.8s
D57A Chemin Vers le 71.56 35 P **P** **13 08 09.6 -1.2**
baz=330
D57A S **S** **13 17 12.8 -4.8**
baz=330
E56A St. Veronique 71.57 36 P **P** **13 08 09.8 -1.0**
baz=329,SNR=13
E56A S **S** **13 17 14.5 -3.1**
baz=329
I51A Listowel 71.60 41 P **P** **13 08 10.6 -0.5**
baz=326,SNR=20
I51A S **S** **13 17 14.2 -3.9**
baz=326
KWP Kalwaria Pacla 71.62 331 *i* P **P** **13 08 11.2 +0.2**
KWP Kalwaria Pacla 71.62 331⇑ *i* P **P** **13 08 11.2 +0.2**
KWP Kalwaria Pacla 71.62 331 P **P** **13 08 10.7 -0.3**
ESK Eskdalemuir 71.64 349 *e*P **P** **13 08 11.2 +0.1**
ESK IAmb IAmb 13 08 13.0
comp=Z,114nm,0.7s
ESK Eskdalemuir 71.64 349 P **P** **13 08 11.0 -0.1**
ESK pmax pmax
comp=Z,639nm,1.8s
ESK Eskdalemuir 71.64 349 P **P** **13 08 11.0 -0.1**
BCA Borcka 71.65 315⇑ P **P** **13 08 11.2 -0.2**
BCA Borcka 71.65 315 *e*P **P** **13 08 09.4 -2.0**
KARS Kars 71.67 313 P **P** **13 08 13.6 +1.9**
MORS Morshin 71.70 330 P **P** **13 08 11.3 -0.2**
L48A N Adams 71.72 44 IAmb IAmb 13 08 13.4
comp=Z,152nm,0.7s
AAM Ann Arbor 71.76 43 P **P** **13 08 11.8 -0.2**
baz=326,SNR=5.5
AAM Ann Arbor 71.76 43 IAmb IAmb 13 08 13.9
comp=Z,124nm,0.8s
CCM Cathedral Cave 71.77 51 P **P** **13 08 11.4 -0.7**
baz=323
CCM S **S** **13 17 17.8 -2.3**
baz=323
CCM Cathedral Cave 71.77 51 P **P** **13 08 11.4 -0.7**
CCM pmax pmax
comp=Z,95nm,1.0s
CCM Cathedral Cave 71.77 51 P **P** **13 08 11.4 -0.7**
ABTX Abilene, Hawle 71.77 60 P **P** **13 08 12.2 0.0**
baz=321,SNR=32
ABTX S **S** **13 17 18.5 -1.9**
baz=321
ABTX Abilene, Hawle 71.77 60 P **P** **13 08 11.7 -0.6**
ABTX IAmb IAmb 13 08 14.3
comp=Z,120nm,0.9s
ABTX pP **pP** **13 08 46.9 -0.7**
SLM Saint Louis 71.78 50 IAmb IAmb 13 08 13.8
comp=Z,144nm,0.8s
SFIN Lafayette 71.83 47 P **P** **13 08 11.7 -0.7**
baz=324,SNR=18
SFIN S **S** **13 17 16.7 -4.0**
baz=324
D58A Chemin du LacG 71.84 34 P **P** **13 08 11.6 -0.8**
baz=330,SNR=6.5
D58A S **S** **13 17 18.1 -2.6**
baz=330
PWJI Pagerwojo 71.86 229 P **P** **13 08 13.1 +0.3**
comp=Z,2µmcomp=Z,140nm,0.9s
HHAR Hobbs 71.86 54 IAmb IAmb 13 08 13.9
comp=Z,130nm,0.7s
MSVF Nonsavu 71.86 160 *i* P **P** **13 08 13.0 +0.2**
MSVF pmax pmax
comp=Z,63nm,1.1s
MSVF Nonsavu 71.86 160 P **P** **13 08 15.0 +2.2**
H53A Bobcaygeon 71.92 39 P **P** **13 08 11.8 -1.1**
baz=328,SNR=9.1
OJC Ojcow 71.92 333 *i* P **P** **13 08 12.9 +0.1**
OJC Ojcow 71.92 333⇑ *i* P **P** **13 08 12.9 +0.1**
NEWG New Galloway 71.96 349 *e*P **P** **13 08 12.7 -0.3**
EDMD Edmundbyers 71.97 348 *e*P **P** **13 08 12.2 -0.8**
EDMD IAmb IAmb 13 08 14.8
comp=Z,376nm,1.6s
KRJI Kerinci 71.97 241 P **P** **13 08 14.2 +0.5**
comp=Z,6µmcomp=Z,745nm,0.9s
KIS Kishinev 71.98 326⇑ *i* P **P** **13 08 12.0 -1.2**
comp=Z,680nm,2.6s
KIS Kishinev 71.98 326 *e*PcP **PcP** **13 08 38.0 +7.0**
KIS *e*pP **pP** **13 08 54.0 +4.7**
KIS Kishinev 71.98 326*c* *i* P **P** **13 08 12.0 -1.2**
KIS *e**PP **pP** **13 08 54.0 +4.7**
KIS pmax pmax
comp=Z,700nm,2.6s
E57A Chemin Saint G 71.99 35 P **P** **13 08 12.8 -0.6**
baz=330
E57A S **S** **13 17 20.1 -2.5**
baz=330
PURM Purcari 72.02 325⇑ P **P** **13 08 14.0 +0.6**
PBSI Pulau Batu 72.03 245 P **P** **13 08 14.8 +0.9**
comp=Z,3µmcomp=Z,181nm,0.9s
POO Poona 72.05 277⇑ *i* P **P** **13 08 12.0 -2.1**
comp=Z,100nm,1.0s
POO ⇑ *i* P **P** **13 08 12.5 -1.6**
POO *e*P **P** **13 08 13.3 -0.8**
POO IAmb IAmb 13 08 15.4
comp=Z,60nm,0.7s
SENK Senkaya-Erzuru 72.05 314 *e*P **P** **13 08 13.9 -0.1**
MILM Milestii Mici 72.05 326⇑ P **P** **13 08 12.6 -1.0**
KSV Kosov 72.06 329 P **P** **13 08 12.4 -1.3**
TX32 Lajitas Array 72.11 65 IAmb IAmb 13 08 17.0
comp=Z,194nm,1.1s
TXAR Lajitas Array 72.11 65 P **P** **13 08 14.8 +0.4**
comp=Z,106nm,0.9s,baz=298,slow=4.3,SNR=359
TXAR pP **pP** **13 08 49.9 +0.3**
comp=Z,40nm,0.9s,baz=296,slow=4.4,SNR=3.6
TXAR Lajitas Array 72.11 65 P **P** **13 08 14.2 -0.3**
SKHT Srikalahasti 72.12 269 *e*P **P** **13 08 14.9 +0.4**
SKHT IVmB_BB 13 08 16.2
comp=Z,1µm,1.1s
Q44A Meyer Farm, Va 72.14 49 P **P** **13 08 13.6 -0.7**
Q44A IAmb IAmb 13 08 15.9
comp=Z,128nm,1.0s
NRDL Niedersach Rie 72.18 340 *e*P **P** **13 08 14.7 +0.5**
comp=Z,277nm,1.1s,baz=22,slow=5.9
CLGH Cloghs, Cushen 72.20 351 *e*P **P** **13 08 14.4 +0.1**
CLGH IAmb IAmb 13 08 16.3
comp=Z,148nm,0.8s
IAS Iasi 72.24 327⇑ P **P** **13 08 14.6 -0.1**
IAS Iasi 72.24 327 P **P** **13 08 14.6 -0.1**
KSP Ksiaz 72.28 336 *i* P **P** **13 08 15.0 +0.1**
KSP Ksiaz 72.28 336⇑ *i* P **P** **13 08 15.0 +0.1**
CHOM Cayeli-Rize 72.31 315 *e*P **P** **13 08 14.7 -0.6**
MDRS Chennai 72.31 269 *e*P **P** **13 08 15.9 +0.3**
MDRS *e*P **P** **13 08 15.9 +0.3**
MDRS IAmb IAmb 13 08 17.9
comp=Z,148nm,0.7s
MDRS IAmb IAmb 13 08 17.9
comp=Z,145nm,0.8s
F57A Harrington 72.31 36 P **P** **13 08 14.0 -1.2**
baz=329
E58A La Victoria 72.33 35 P **P** **13 08 15.1 -0.3**
baz=330,SNR=19
E58A S **S** **13 17 23.8 -2.5**
baz=330

LHSI Lahat 72.33 239 P P 13 08 16.4 +0.7
comp=Z,233nm,0.9s
U40A Yellville 72.34 53 P P 13 08 14.8 -0.7
baz=323,SNR=132
U40A S S 13 17 23.7 -3.0
baz=323
U40A Yellville 72.34 53 P P 13 08 14.4 -1.1
U40A IAmb IAmb 13 08 16.8
comp=Z,208nm,0.9s
KESW Keswick, Cumbr 72.35 349 eP P 13 08 15.3 0.0
KESW IAmb IAmb 13 08 17.4
comp=Z,313nm,0.9s
KOLS Kolonicke sedl 72.37 331 eP P 13 08 14.6 -0.9
KOLS pmax pmax
comp=Z,265nm,1.2s
KOLS Kolonicke sedl 72.37 331 eP P 13 08 14.6 -0.9
P46A Rosedale 72.39 47 IAmb IAmb 13 08 17.2
comp=Z,163nm,0.8s
ASSE Asse, Remlinge 72.40 340 eP P 13 08 16.1 +0.6
comp=Z,431nm,1.3s,baz=22,slow=5.9
ASSE epP pP 13 08 52.4 +0.7
MASI Maura Aman, Be 72.43 240 P P 13 08 16.6 +0.2
comp=Z,292nm,0.9s
KLSI 72.44 237 P P 13 08 16.8 +0.5
comp=Z,349nmcomp=Z,22nm,1.1s
CLDR Caldiran 72.49 312 eP P 13 08 16.6 -0.1
NIE Niedzica 72.50 333 iP P 13 08 16.9 +0.6
NIE Niedzica 72.50 333 ⇑iP P 13 08 16.9 +0.6
PRAR RASCA 72.53 328 ⇑P P 13 08 17.3 +0.8
MDSI Maura Dua 72.55 238 P P 13 08 16.8 -0.2
comp=Z,52nm,0.9s
OSTC Ostas 72.56 336 eP P 13 08 16.8 +0.1
CHVC Chvalec 72.58 336 eP P 13 08 16.6 -0.1
BUR08 Bucovina Ar. S 72.61 329 IAmb IAmb 13 08 18.9
comp=Z,183nm,0.8s
SISI Saibi 72.63 244 P P 13 08 20.7 +3.3
comp=Z,126nm,0.9s
BURAR Bucovina Array 72.63 329 ⇑P P 13 08 17.0 -0.2
BURAR Bucovina Array 72.63 329 P P 13 08 17.0 -0.2
BURAR Bucovina Array 72.63 329 P P 13 08 16.0 -1.2
UZH Uzhgorod 72.63 331 ⇓iP P 13 08 17.4 +0.3
UZH e 13 08 37.9
UZH e 13 09 12.3
CRVS Cervenica-Dubn 72.64 332 eP P 13 08 17.1 0.0
CRVS pmax pmax
comp=Z,323nm,1.2s
CRVS Cervenica-Dubn 72.64 332 eP P 13 08 17.1 0.0
VASR Vaslui 72.64 327 ⇓P P 13 08 16.8 -0.4
CLL Collm 72.65 338 ⇑iP P 13 08 16.9 -0.2
comp=Z,546nm,1.1s
CLL ePIp 13 08 18.0
CLL ePP PP 13 11 04.0 +4.1
CLL eS S 13 17 29.0 -0.7
CLL ePS PnS 13 18 24.0 +2.7
CLL LV 13 43 00.0
comp=Z,500nm,18.4s
CLL Collm 72.65 338 ⇑iP P 13 08 16.9 -0.2
CLL eS S 13 17 29.0 -0.7
CLL pmax pmax
comp=Z,546nm,1.1s
CLL MLR MLR
comp=Z,500nm,18.4s
CLL Collm 72.65 338 eP P 13 08 16.9 -0.2
comp=Z,546nm,1.1s,baz=22,slow=5.9
D61A St Aubert, Com 72.66 32 P P 13 08 15.9 -1.3
baz=332
D61A S S 13 17 29.7 -0.2
baz=332
UPC Upice 72.66 336 eP P 13 08 17.2 0.0
UPC Upice 72.66 336 eP P 13 08 17.2 0.0
D60A Saint Jean D'O 72.66 33 P P 13 08 16.8 -0.4
baz=331
D60A S S 13 17 28.7 -1.3
baz=331
N49A Columbus Grove 72.67 45 P P 13 08 16.3 -1.1
KSI Kapahiang 72.68 239 P P 13 08 20.0 +2.2
comp=Z,56nm,0.7s
OLIL Olney 72.70 49 IAmb IAmb 13 08 19.3
comp=Z,145nm,1.2s
URV Uravakonda 72.70 272 eP P 13 08 17.7 -0.3
URV IVmBBB 13 08 19.8
comp=Z,798nm,1.6s
DPC Dobruska-Polom 72.73 335 eP P 13 08 18.0 +0.3
DPC Dobruska-Polom 72.73 335 eP P 13 08 18.0 +0.3
KOPR Koprukoy-ERZUR 72.73 314 eP P 13 08 18.2 +0.1
CLZ Clausthal 72.74 340 eP P 13 08 18.4 +0.7
comp=Z,632nm,1.1s,baz=22,slow=5.9
HPK Haverah Park 72.78 348 eP P 13 08 17.9 +0.1
HPK IAmb IAmb 13 08 20.3
comp=Z,221nm,0.7s
CTAO Charters Tower 72.79 192 P P 13 08 19.0 +0.8
CTAO pmax pmax
comp=Z,35nm,0.8s
CTAO Charters Tower 72.79 192 P P 13 08 18.4 +0.2
CTAO pP 13 08 56.6 +2.4
W39A Magazine 72.79 55 P P 13 08 17.6 -0.6
baz=323,SNR=33
W39A S S 13 17 30.8 -1.1
baz=323
LEM Lembang 72.81 233 P P 13 08 19.6 +0.9
comp=Z,41nm,0.8s,baz=87,slow=10,SNR=6.0
G57A Newington 72.82 36 P P 13 08 17.1 -1.1
baz=329,SNR=9.8
IBBN Ibbenburen 72.83 341 eP P 13 08 18.7 +0.5
baz=22,slow=5.9
BRG Berggiesshubel 72.83 337 ⇑iP P 13 08 17.9 -0.3
comp=Z,261nm,1.2s
BRG pP PcP 13 08 29.0 -5.6
BRG S S 13 17 31.0 -0.8
BRG Berggiesshubel 72.83 337 ⇑iP P 13 08 17.9 -0.3
BRG *PP PcP 13 08 29.0 -5.6
BRG S S 13 17 31.0 -0.8
BRG pmax pmax
comp=Z,261nm,1.2s
BRG Berggiesshubel 72.83 337 eP P 13 08 18.1 -0.1
comp=Z,260nm,1.2s,baz=22,slow=5.9
IOMK Kirk Michael 72.84 349 eP P 13 08 17.8 -0.4
IOMK IAmb IAmb 13 08 20.0
comp=Z,241nm,0.7s
CBJI Citeko 72.84 234 P P 13 08 19.6 +0.9
KRLC Kraliky 72.86 335 eP P 13 08 18.5 0.0
KRLC Kraliky 72.86 335 eP P 13 08 18.5 0.0
TRSU Trosnyk 72.91 330 P P 13 08 17.7 -1.0
FBE Freiberg 72.93 337 eP P 13 08 19.1 +0.3
comp=Z,440nm,1.2s,baz=22,slow=5.9
MORC Moravsky Berou 72.94 334 ⇑P P 13 08 19.5 +0.5
MORC Moravsky Berou 72.94 334 ⇑iP P 13 08 19.1 +0.2
MORC Moravsky Berou 72.94 334 P P 13 08 19.4 +0.5
BIZ Bicaz 72.94 328 ⇓P P 13 08 18.5 -0.4
WIM Isle of Man 72.96 349 eP P 13 08 18.9 0.0
E60A Ste Agathe de 72.97 33 P P 13 08 18.6 -0.4
baz=331,SNR=9.0
LANS Liptovska Anna 72.98 333 eP P 13 08 20.3 +1.1
LANS pmax pmax
comp=Z,352nm,1.1s
LANS Liptovska Anna 72.98 333 eP P 13 08 20.2 +1.1
J54A Appleton 72.99 40 P P 13 08 18.8 -0.5
baz=328,SNR=10
J54A S S 13 17 30.2 -3.7
baz=328
J54A Appleton 72.99 40 IAmb IAmb 13 08 20.8
comp=Z,96nm,0.8s
PVCC Panska Ves 73.00 337 eP P 13 08 19.7 +0.5
PVCC Panska Ves 73.00 337 eP P 13 08 19.7 +0.5
S44A Carbondale 73.00 50 IAmb IAmb 13 08 21.1
comp=Z,150nm,0.8s
DBJI Dramaga 73.01 234 P P 13 08 16.6 -3.1
comp=Z,27µmcomp=Z,65nm,0.7s
GMM Mts of Mourne 73.01 350 eP P 13 08 18.9 -0.3
BIR Birlad 73.02 326 ⇑P P 13 08 20.3 +0.8
BIR Birlad 73.02 326 P P 13 08 20.2 +0.8
NEUB Neuenburg 73.02 339 eP P 13 08 19.5 +0.2
comp=Z,503nm,1.4s,baz=22,slow=5.9
LWLI Liwa 73.06 237 P P 13 08 19.2 -0.9
comp=Z,7µmcomp=Z,198nm,0.8s
FCAR Ozark Folk Cen 73.06 53 IAmb IAmb 13 08 20.9
comp=Z,120nm,0.9s
GTTG Gottingen 73.10 340 eP P 13 08 20.4 +0.6
comp=Z,345nm,1.4s,baz=22,slow=5.9
G58A Ormstown 73.11 36 P P 13 08 19.1 -0.8
baz=330,SNR=11
D62A Allapoint, All 73.13 32 P P 13 08 20.0 0.0
baz=332,SNR=7.0
D62A S S 13 17 33.1 -2.1
baz=332
F60A Warwick 73.14 34 P P 13 08 19.3 -0.8
baz=331
F60A S S 13 17 33.3 -2.2
baz=331
MEDO Medina 73.16 40 IAmb IAmb 13 08 21.7
comp=Z,106nm,0.9s
M51A Elyria 73.18 43 P P 13 08 19.9 -0.5
baz=326,SNR=9.0
M51A S S 13 17 33.4 -2.7
baz=326
PBMO Poplar Bluff 73.18 51 P P 13 08 20.3 -0.1
PBMO IAmb IAmb 13 08 22.2
comp=Z,93nm,0.8s
VANB Van 73.18 312 eP P 13 08 21.3 +0.7
comp=Z,115nm,1.1s
O49A Covington 73.20 45 IAmb IAmb 13 08 22.0
H57A Richville 73.22 37 P P 13 08 19.6 -0.9
baz=329,SNR=11
E61A Lac Etchemin 73.23 33 S S 13 17 34.8 -1.8
baz=331
VARL Varlezi 73.27 326 ⇑P P 13 08 21.5 +0.7
GHRR 73.28 327 ⇑P P 13 08 21.4 +0.5
KECS Kecovo 73.30 332 eP P 13 08 21.1 +0.1
KECS pmax pmax
comp=Z,134nm,1.0s
KECS Kecovo 73.30 332 eP P 13 08 21.1 +0.1
KOPT Kop Dagi 73.31 315 IAmb IAmb 13 08 25.7
comp=Z,92nm,0.7s
J55A Hilton 73.32 39 P P 13 08 20.4 -0.8
baz=328,SNR=12
J55A S SKiKP 13 17 33.1 -3.7
baz=328
P48A Milroy 73.32 46 IAmb IAmb 13 08 22.4
comp=Z,135nm,0.7s
ESPY Espiye-Giresun 73.33 316 eP P 13 08 19.7 -1.6
LBWR Ladybower, Pea 73.33 348 eP P 13 08 21.4 +0.3
JCT Junction City 73.35 62 P P 13 08 21.4 -0.2
baz=321,SNR=23
JCT S S 13 17 38.4 0.0
baz=321
M52A Chesterland 73.35 42 P P 13 08 21.2 -0.2
baz=327,SNR=12
M52A S SKiKP 13 17 34.7 -2.3
baz=327
M52A Chesterland 73.35 42 IAmb IAmb 13 08 23.2
comp=Z,161nm,0.8s
ARCR ARCALIA 73.38 329 ⇑P P 13 08 22.2 +0.7
LONY Lake Ozonia 73.38 36 P P 13 08 20.4 -1.2
baz=330,SNR=5.6
LONY S SKiKP 13 17 34.0 -2.9
baz=330
E62A Clayton Lake 73.38 32 P P 13 08 21.4 -0.1
baz=332,SNR=10.0
MIAR Mount Ida 73.41 55 P P 13 08 21.5 -0.4
baz=323,SNR=46
MIAR S SKiKP 13 17 37.5 +0.3
baz=323
MIAR Mount Ida 73.41 55 P P 13 08 21.3 -0.6
MIAR pmax pmax
comp=Z,73nm,0.9s
MIAR Mount Ida 73.41 55 P P 13 08 21.3 -0.6
WHTX Lake Whitney, 73.42 59 P P 13 08 21.6 -0.4
baz=322,SNR=22
WHTX S SKiKP 13 17 38.0 +0.8
baz=322
ERPA Erie 73.43 41 P P 13 08 21.4 -0.4
baz=327,SNR=8.3
ERPA S SKiKP 13 17 35.1 -1.9
baz=327
ERPA Erie 73.43 41 IAmb IAmb 13 08 23.5
comp=Z,125nm,0.9s
N51A Ashland 73.44 43 P P 13 08 21.5 -0.4
baz=326,SNR=32
N51A S SKiKP 13 17 35.9 -1.2
baz=326
L53A Girard 73.45 41 P P 13 08 21.4 -0.6
baz=327,SNR=16
PRA Prague 73.46 336 eP P 13 08 22.4 +0.5
PRA Prague 73.46 336 eP P 13 08 22.4 +0.5
WHAR Wooly Hollow 73.46 53 IAmb IAmb 13 08 23.7
comp=Z,135nm,1.1s
F61A St Evariste 73.46 33 P P 13 08 21.9 -0.1
baz=331
F61A S SKiKP 13 17 37.8 +0.8
baz=331
D63A Stockholm 73.47 31 P P 13 08 21.2 -0.9
baz=333
D63A S SKiKP 13 17 36.5 -0.5
baz=333
G59A Clarenceville 73.48 35 P P 13 08 21.6 -0.5
baz=330,SNR=6.1
GIUM Giurgiulesti 73.50 326 ⇑P P 13 08 23.3 +1.1
PRU Pruhonice 73.51 336 eP P 13 08 22.2 0.0
PRU Pruhonice 73.51 336 eP P 13 08 22.2 0.0
USIN University of 73.52 49 IAmb IAmb 13 08 24.3
comp=Z,244nm,0.9s
K54A Basiliko Farm, 73.53 40 P P 13 08 21.9 -0.6
baz=328,SNR=20
K54A S SKiKP 13 17 36.0 -1.2
baz=328
TLCR 73.55 325 ⇓P P 13 08 23.0 +0.5
TLCR 73.55 325 P P 13 08 23.0 +0.5
I57A Carthage 73.57 37 P P 13 08 21.5 -1.1
baz=329,SNR=6.9
I57A S SKiKP 13 17 35.5 -1.7
baz=329
P49A Miami Univ. Ec 73.57 46 P P 13 08 22.0 -0.7
baz=326,SNR=17
P49A S SKiKP 13 17 37.5 +0.1
baz=326
P49A Miami Univ. Ec 73.57 46 IAmb IAmb 13 08 24.0
comp=Z,164nm,1.1s
W41B Gary Mavity, V 73.57 54 P P 13 08 22.1 -0.7
baz=323,SNR=82
W41B S SKiKP 13 17 38.4 +1.0
baz=323
W41B Gary Mavity, V 73.57 54 IAmb IAmb 13 08 24.4
comp=Z,159nm,1.1s
AKDM Akdamar-Van 73.58 312 eP P 13 08 22.7 -0.4
MOX Moxa 73.59 338 P P 13 08 22.9 +0.3
MOX Moxa 73.59 338 eP P 13 08 23.0 +0.3
baz=22,slow=5.9
CGJI Cibinong 73.59 235 P P 13 08 21.2 -1.9
comp=Z,2µmcomp=Z,88nm,0.8s
VRTB Varto-Mus 73.59 314 eP P 13 08 23.5 +0.4
L54A Sinclairville 73.60 41 P P 13 08 22.1 -0.8
baz=328
L54A S SKiKP 13 17 35.8 -1.5
baz=328
TANN Tannenbergstha 73.61 338 eP P 13 08 23.2 +0.4
comp=Z,555nm,1.4s,baz=22,slow=5.9
PLN Plauen 73.61 338 eP P 13 08 23.2 +0.4
comp=Z,288nm,1.2s,baz=22,slow=5.9
PLN epP pP 13 08 60.0 +0.9
WERD Werda 73.61 338 eP P 13 08 23.1 +0.3
comp=Z,209nm,1.2s,baz=22,slow=5.9
VRAC Vranov 73.61 335 LR LR 13 43 40.0
comp=Z,328nm,19.4s,baz=12,slow=38
VRAC Vranov 73.61 335 ⇑P P 13 08 23.6 +0.7
VRAC Vranov 73.61 335 ⇑iP P 13 08 23.2 +0.4
VRAC Vranov 73.61 335 P P 13 08 23.5 +0.7
SCHL Schela 73.62 326 ⇑P P 13 08 23.1 +0.2
ODBI Odobesti 73.66 327 ⇑P P 13 08 24.1 +0.9
WME Myndd Eilian 73.66 349 eP P 13 08 22.5 -0.5
WACR West Acre 73.66 346 eP P 13 08 24.3 +1.3
WACR IAmb IAmb 13 08 25.1
comp=Z,629nm,1.3s
VRI Vrincioaia 73.68 327 ⇓P P 13 08 23.1 -0.2
VRI Vrincioaia 73.68 327 eP P 13 08 21.9 -1.4
VRI Vrincioaia 73.68 327 P P 13 08 23.1 -0.2
K55A Perry 73.68 40 P P 13 08 22.7 -0.7
baz=328,SNR=21
K55A S SKiKP 13 17 37.2 -0.2
baz=328
WPS Cemaes, Angles 73.68 349 eP P 13 08 22.7 -0.4
WPS IAmb IAmb 13 08 24.6
comp=Z,82nm,0.9s
H59A Cadyville 73.68 36 P P 13 08 22.4 -0.9
baz=330,SNR=10
J56A Wolcott 73.68 39 P P 13 08 22.0 -1.2
baz=329,SNR=13
J56A S SKiKP 13 17 37.2 -0.1
baz=329
GUNZ Gunzen 73.69 338 eP P 13 08 23.7 +0.4
comp=Z,384nm,1.5s,baz=22,slow=5.9
H58A Gabriels 73.70 36 P P 13 08 22.6 -0.8
baz=330,SNR=7.8
STNC Stoke 73.70 348 eP P 13 08 23.6 +0.3
Z38A Mt. Pleasant 73.71 57 P P 13 08 23.1 -0.5
M53A WI Miller and 73.72 42 P P 13 08 23.4 -0.1
baz=327,SNR=29
M53A S SKiKP 13 17 38.9 +1.4
baz=327
M53A WI Miller and 73.72 42 IAmb IAmb 13 08 25.4
comp=Z,220nm,0.9s
PLOR Plostina 73.72 327 ⇓P P 13 08 23.3 -0.3
PLOR Plostina 73.72 327 P P 13 08 23.2 -0.3
JAVC Velka Javorina 73.74 334 ⇑iP P 13 08 24.9 +1.3
WERN Wernitzgruen 73.75 338 eP P 13 08 23.8 +0.2
comp=Z,276nm,1.1s,baz=22,slow=5.9
BUG Bochum--Univer 73.75 341 eP P 13 08 24.3 +0.7
baz=22,slow=5.9
ACSO Alum Creek Sta 73.75 44 P P 13 08 23.2 -0.6
baz=326,SNR=25
ACSO S SKiKP 13 17 39.8 +2.2
baz=326
ACSO Alum Creek Sta 73.75 44 IAmb IAmb 13 08 25.4
comp=Z,147nm,0.9s
VYHS Vyhne 73.75 333 eP P 13 08 24.2 +0.5
VYHS pmax pmax
comp=Z,386nm,1.1s
VYHS Vyhne 73.75 333 eP P 13 08 24.2 +0.5
YEDI Yedisu-Bingol 73.77 314 eP P 13 08 24.0 -0.1
G60A Masonville 73.77 35 P P 13 08 23.5 -0.3
baz=331
G60A S S 13 17 41.7 -0.9
baz=331
WLF1 Llynfaes 73.78 349 eP P 13 08 22.7 -0.9
WLF1 IAmb IAmb 13 08 25.2
comp=Z,641nm,1.8s
UBBA Unterbreizbach 73.78 340 eP P 13 08 24.2 +0.6
baz=22,slow=5.9
NKC Novy Kostel 73.78 338 eP P 13 08 24.6 +0.8
NKC Novy Kostel 73.78 338 eP P 13 08 24.6 +0.8
CFR Carcaliu 73.80 326 ⇑P P 13 08 23.5 -0.4
CFR Carcaliu 73.80 326 P P 13 08 23.5 -0.4
N52A McGinn's Farm, 73.82 43 P P 13 08 23.6 -0.6
baz=327
X40A Basin Creek Fa 73.83 54 P P 13 08 23.8 -0.5
baz=323,SNR=20
X40A S S 13 17 41.9 -1.6
baz=323
GURO Guroymak-BITLI 73.83 313 eP P 13 08 24.5 0.0
F62A Pittston Farm, 73.88 33 P P 13 08 23.8 -0.6
baz=332
F62A S SKiKP 13 17 40.6 +2.9
baz=332
G61A St-Isidore-de- 73.89 34 P P 13 08 24.3 -0.2
baz=331,SNR=15
G61A S S 13 17 43.0 -0.9
baz=331
KRUC Moravsky 73.89 335 ⇑iP P 13 08 24.8 +0.4
KRUC Moravsky 73.89 335 P P 13 08 24.9 +0.5
J57A Williamstown 73.89 38 P P 13 08 23.6 -1.0
baz=329,SNR=8.8
J57A S SKiKP 13 17 39.1 +1.4
baz=329
JURR Jurilovca 73.90 325 ⇑P P 13 08 25.3 +0.8
YLL Llanberis 73.90 349 eP P 13 08 24.3 -0.1
TREC Trest 73.91 336 eP P 13 08 24.9 +0.3
TREC Trest 73.91 336 eP P 13 08 24.9 +0.3
E63A Oxbow 73.92 31 P P 13 08 23.9 -0.7
baz=333
PBCC Pribram 73.92 337 eP P 13 08 24.6 0.0
CWF Charnwood Fore 73.92 347 eP P 13 08 25.0 +0.5
CWF IAmb IAmb 13 08 26.7
comp=Z,362nm,1.3s
WCI Wyandotte Cave 73.94 48 P P 13 08 24.5 -0.4
baz=325
WCI S S 13 17 41.3 -3.3
baz=325
WCI Wyandotte Cave 73.94 48 P P 13 08 24.5 -0.4
WCI pmax pmax
comp=Z,117nm,0.8s
WCI Wyandotte Cave 73.94 48 P P 13 08 24.5 -0.4
WCI IAmb IAmb 13 08 26.6
comp=Z,117nm,0.8s
CJR Cluj-Napoca 73.94 329 ⇑P P 13 08 25.2 +0.3
BISRR Bisoca 73.96 327 ⇓P P 13 08 25.7 +0.6
PSZ Piszkesteto 73.98 332 ⇑P P 13 08 25.9 +0.8
PSZ Piszkesteto 73.98 332 P P 13 08 24.9 -0.2
PSZ pmax pmax
comp=Z,412nm,1.1s
PSZ Piszkesteto 73.98 332 P P 13 08 24.9 -0.2
O51A Pataskala 73.98 44 P P 13 08 24.6 -0.5
baz=326,SNR=30
O51A S SKiKP 13 17 41.5 +3.5
baz=326
K56A Middlesex 73.99 39 P P 13 08 24.4 -0.8
baz=328,SNR=20
K56A S SKiKP 13 17 41.1 +3.1
baz=328
L55A Hinsdale 73.99 40 P P 13 08 24.6 -0.7
baz=328,SNR=16
L55A S SKiKP 13 17 41.4 +3.5
baz=328
GRER 74.02 326 ⇑P P 13 08 26.4 +1.1
FOEL Foel Wylfa 74.02 348 eP P 13 08 25.3 +0.1
FOEL IAmb IAmb 13 08 27.2
comp=Z,191nm,0.9s
DOPR Dopca 74.03 328 ⇑P P 13 08 25.8 +0.5
DSB Dublin 74.04 350 IAmb IAmb 13 08 27.4
comp=Z,174nm,0.9s
I58A Old Forge 74.04 37 P P 13 08 24.2 -1.3
baz=330,SNR=5.5
M54A Oil Creek Stat 74.07 41 P P 13 08 25.2 -0.4
baz=328,SNR=28
M54A S S 13 17 43.3 -2.8
baz=328
M54A Oil Creek Stat 74.07 41 IAmb IAmb 13 08 27.2
comp=Z,127nm,0.9s
BNGB Bingl 74.07 314 eP P 13 08 25.8 0.0
MANZ Manzenberg 74.09 338 eP P 13 08 25.9 +0.3
comp=Z,246nm,1.2s,baz=22,slow=5.9
E64A Bridgewater 74.11 31 P P 13 08 25.0 -0.7
baz=333
E64A S S 13 17 43.9 -2.4
baz=333
H60A Morristown 74.11 35 P P 13 08 25.3 -0.5
baz=330
H60A S S 13 17 44.0 -2.4
baz=330
SMOL Smolenice 74.12 334 eP P 13 08 26.7 +0.9
SMOL pmax pmax
comp=Z,189nm,1.1s
SMOL Smolenice 74.12 334 eP P 13 08 26.7 +0.9
LLW Llanuwychllyn 74.12 349 eP P 13 08 25.7 0.0
DIKM Dikmen 74.15 319 ⇑P P 13 08 26.3 +0.2
DIKM Dikmen 74.15 319 eP P 13 08 26.6 +0.5
CUKT Cukurca 74.17 311 eP P 13 08 26.3 -0.1
N53A Lisbon 74.18 42 P P 13 08 26.0 -0.3
baz=327,SNR=31
N53A S S 13 17 43.9 -3.4
baz=327
N53A Lisbon 74.18 42 IAmb IAmb 13 08 27.9
comp=Z,140nm,0.8s
J58A Remsen 74.20 37 P P 13 08 25.5 -0.8
baz=329,SNR=18
J58A Remsen 74.20 37 P P 13 08 25.1 -1.3
MDB Medias 74.20 328 ⇑P P 13 08 27.2 +0.9
NEHR Nehoiu 74.21 327 ⇑P P 13 08 27.5 +1.1
MLR Muntele Rosu 74.27 327 LR LR 13 46 54.3
comp=Z,562nm,19.6s,baz=34,slow=40
MLR Muntele Rosu 74.27 327 ⇑P P 13 08 27.5 +0.6
MLR Muntele Rosu 74.27 327 P P 13 08 26.2 -0.7
MLR pmax pmax
comp=Z,205nm,0.9s
MLR Muntele Rosu 74.27 327 P P 13 08 26.2 -0.7
MLR IAmb IAmb 13 08 29.7
comp=Z,206nm,0.9s
ROTZ Rotzenmuhle 74.27 338 eP P 13 08 27.2 +0.6
comp=Z,328nm,1.2s,baz=22,slow=5.9
K57A Scipio Center 74.28 39 P P 13 08 25.9 -0.9
baz=329,SNR=6.8
K57A S S 13 17 45.1 -3.3
baz=329
237A Washetta, Mont 74.28 58 P P 13 08 25.9 -1.1
G62A West of Eustis 74.28 33 P P 13 08 26.2 -0.6
baz=332,SNR=9.2
G62A S S 13 17 46.0 -2.3
baz=332
MODS Modra-Piesok 74.29 334 eP P 13 08 26.7 -0.1
MODS pmax pmax

comp=Z,418nm,1.2s
MODS Modra-Piesok 74.29 334 *e*P **P 13 08 26.7 -0.1**
HARR Harsova 74.29 325 ⇑P **P 13 08 26.5 -0.4**
HARR Harsova 74.29 325 P **P 13 08 26.4 -0.4**
435B Jarrell 74.30 60 P **P 13 08 26.9 -0.2**
baz=322
435B S **S 13 17 48.3 -0.7**
baz=322
KVT Kavak 74.31 318 *e*P **P 13 08 27.3 +0.2**
KVT Kavak 74.31 318 P **P 13 08 27.7 +0.6**
WLAR White Oak Lake 74.33 55 IAmb IAmb 13 08 29.2
comp=Z,127nm,0.9s
TIRR Tirgusor 74.33 325 ⇑P **P 13 08 26.7 -0.4**
TIRR Tirgusor 74.33 325 P **P 13 08 26.6 -0.4**
O52A Adamsville 74.34 44 P **P 13 08 26.6 -0.6**
baz=327,SNR=41
O52A S **S 13 17 45.9 -3.2**
baz=327
O52A Adamsville 74.34 44 P **P 13 08 26.3 -0.9**
O52A IAmb IAmb 13 08 28.7
comp=Z,188nm,0.8s
P51A Williamsport 74.34 45 P **P 13 08 26.3 -0.9**
baz=326,SNR=10
P51A S **S 13 17 46.6 -2.5**
baz=326
HLM1 Long Mynd 74.35 348 *e*P **P 13 08 26.9 -0.2**
HLM1 IAmb IAmb 13 08 29.1
comp=Z,454nm,1.6s
I59A Olmsteadville 74.35 36 P **P 13 08 26.5 -0.7**
baz=330,SNR=11
I59A S **S 13 17 44.4 -4.7**
baz=330
RSDY Resadiye-TOKAT 74.35 317 *e*P **P 13 08 27.3 0.0**
L56A Greenwood 74.38 40 P **P 13 08 26.8 -0.6**
baz=328,SNR=30
L56A S **S 13 17 45.4 -4.2**
baz=328
L56A Greenwood 74.38 40 IAmb IAmb 13 08 28.9
comp=Z,116nm,0.7s
TLBR Topalu 74.38 325 ⇑P **P 13 08 27.7 +0.4**
GOA Goa 74.39 275 *e*P **P 13 08 27.6 -0.2**
GOA IAmb IAmb 13 08 29.4
comp=Z,176nm,0.9s
ISR Istrita 74.39 327 ⇑P **P 13 08 28.6 +1.1**
ISR Istrita 74.39 327 P **P 13 08 28.6 +1.1**
N54A Moraine State 74.40 42 P **P 13 08 27.1 -0.5**
baz=327,SNR=35
N54A S **S 13 17 46.2 -3.5**
baz=327
N54A Moraine State 74.40 42 IAmb IAmb 13 08 29.3
comp=Z,157nm,0.8s
DZM Mont Dzumac 74.40 172 LR LR 13 34 26.1
comp=Z,272nm,20.8s,baz=20,slow=30
DZM Mont Dzumac 74.40 172 *e*P **P 13 08 29.6 +2.0**
comp=Z,225nm,1.1s
DZM *e*S **S 13 17 48.2 -1.8**
comp=Z,415nm,27.9s
DZM Mont Dzumac 74.40 172 *e*LR LR 13 31 20.9
comp=Z,1μm,35.8s
DZM Mont Dzumac 74.40 172 P **P 13 08 29.3 +1.7**
DZM IAmb IAmb 13 08 31.8
comp=Z,148nm,1.2s
H61A Lyndonville 74.40 35 P **P 13 08 27.3 -0.2**
baz=331,SNR=17
H61A S **S 13 17 47.4 -2.3**
baz=331
J59A Piesco 74.40 37 P **P 13 08 26.7 -0.9**
baz=330,SNR=13
J59A S **S 13 17 46.1 -3.7**
baz=330
PGOR Pogoanele 74.43 326 ⇑P **P 13 08 28.6 +1.0**
F64A Sherman 74.43 32 P **P 13 08 27.2 -0.4**
baz=333
F64A S **S 13 17 46.8 -3.1**
baz=333
F64A Sherman 74.43 32 P **P 13 08 27.2 -0.4**
M55A Ridgway 74.47 41 P **P 13 08 27.5 -0.4**
baz=328,SNR=32
M55A S **S 13 17 46.2 -4.3**
baz=328
M55A Ridgway 74.47 41 P **P 13 08 27.3 -0.6**
M55A IAmb IAmb 13 08 29.6
comp=Z,145nm,0.8s
O53A New Philadelph 74.49 43 P **P 13 08 27.6 -0.4**
baz=327,SNR=34
O53A S **S 13 17 46.8 -4.0**
baz=327
O53A New Philadelph 74.49 43 IAmb IAmb 13 08 29.5
comp=Z,141nm,0.8s
ZST Bratislava 74.50 334 *e*P **P 13 08 27.8 -0.2**
ZST pmax pmax
comp=Z,920nm,1.2s
ZST Bratislava 74.50 334 *e*P **P 13 08 27.8 -0.2**
I60A Shoreham 74.52 36 P **P 13 08 27.4 -0.7**
baz=330
I60A S **S 13 17 49.4 -1.5**
baz=330
SRO Srobarova 74.52 333 *e*P **P 13 08 29.2 +1.1**
SRO pmax pmax
comp=Z,486nm,1.1s
SRO Srobarova 74.52 333 *e*P **P 13 08 29.2 +1.1**
SVAN Silvan-Diyarba 74.53 313 *e*P **P 13 08 28.9 +0.5**
KHC Kasperske Hory 74.54 337 *e*P **P 13 08 28.0 -0.2**
KHC Kasperske Hory 74.54 337 *c i*P **P 13 08 28.4 +0.2**
KHC pmax pmax
comp=Z,803nm,1.0s
KHC Kasperske Hory 74.54 337 IAmb IAmb 13 08 31.1
comp=Z,169nm,1.0s
SRO2 Moca 74.54 333 *e*P **P 13 08 28.3 +0.1**
SRO2 pmax pmax
comp=Z,498nm,1.0s
SRO2 Moca 74.54 333 *e*P **P 13 08 28.3 +0.1**
GRF Grafenberg Arr 74.57 338 *e*P **P 13 08 29.1 +0.7**
comp=Z,727nm,1.2s,baz=22,slow=5.9
T47A Sharon Grove 74.58 49 P **P 13 08 28.3 -0.3**
T47A IAmb IAmb 13 08 30.7
comp=Z,170nm,0.9s
K58A Earlville 74.58 38 P **P 13 08 27.7 -0.8**
baz=329,SNR=10
K58A S **S 13 17 50.2 -1.5**
baz=329
Q51A Peebles 74.59 45 IAmb IAmb 13 08 30.3
comp=Z,104nm,0.7s
P52A Corning 74.61 44 P **P 13 08 27.8 -0.9**
baz=327,SNR=19
P52A S **S 13 17 48.2 -4.0**
baz=327
VOIR 74.61 328 ⇓P **P 13 08 29.6 +0.8**
BUD Budapest 74.62 333 P **P 13 08 29.3 +0.6**
BUD pmax pmax
comp=Z,663nm,1.1s
SECR 74.63 327 ⇑P **P 13 08 28.6 -0.2**
H62A Milan 74.63 34 P **P 13 08 29.1 +0.2**
baz=331,SNR=16
H62A S **S 13 17 50.7 -1.5**
baz=331
H62A Milan 74.63 34 P **P 13 08 28.9 +0.1**
H62A IAmb IAmb 13 08 30.6
comp=Z,110nm,1.0s
AHRW Bad Neuenahr-A 74.64 341 *e*P **P 13 08 29.4 +0.6**
comp=Z,366nm,1.2s,baz=22,slow=5.9
PKME Peaks-Kenny Pk 74.66 33 S **S 13 17 51.2 -1.2**
baz=332
LBNH Lisbon 74.66 35 P **P 13 08 29.1 +0.2**
baz=331,SNR=6.9
LBNH S **S 13 17 50.9 -1.6**
baz=331
BEBN Eben Emael 74.67 342 ⇑P **P 13 08 29.3 +0.5**
comp=Z,383nm,1.0s
TNS Taunus Mts 74.67 340 *e*P **P 13 08 29.5 +0.5**
baz=22,slow=5.9
G63A Kingsbury 74.68 33 S **S 13 17 51.0 -1.8**
baz=332
M56A Emporium 74.69 40 P **P 13 08 28.5 -0.7**
baz=328,SNR=17
M56A S **S 13 17 47.8 -5.1**
baz=328
WET Wettzell 74.69 337 P **P 13 08 29.7 +0.6**
WET Wettzell 74.69 337 *e*P **P 13 08 29.9 +0.7**
comp=Z,490nm,1.2s,baz=22,slow=5.9
PTK Pertek 74.72 315 *e*P **P 13 08 29.7 0.0**
TOKT Tokat 74.74 317 *e*P **P 13 08 29.9 +0.3**
TOKA Tokat 74.77 318 P **P 13 08 30.5 +0.8**
TOKA IAmb IAmb 13 08 32.2
comp=Z,199nm,1.1s
L57A Andrews Acres 74.77 39 P **P 13 08 29.0 -0.7**
baz=329,SNR=16
L57A S **S 13 17 49.3 -4.6**
baz=329
GEC2 GERESS Array S 74.77 336 *e*P **P 13 08 29.9 +0.2**
comp=Z,164nm,0.9s,baz=22,slow=5.9
GEC2 GERESS Array S 74.77 336 P **P 13 08 29.6 0.0**
GEC2 IAmb IAmb 13 08 31.9
comp=Z,186nm,1.0s
GERES GERESS Array B 74.77 336 P **P 13 08 29.8 +0.1**
comp=Z,74nm,0.6s,baz=36,slow=5.0,SNR=213
GERES LR LR 13 46 13.1
comp=Z,273nm,18.4s,baz=18,slow=40
GERES GERESS Array B 74.77 336 P **P 13 08 29.3 -0.4**
GERES GERESS Array B 74.77 336 P **P 13 08 29.3 -0.4**
BTNL Ternell 74.78 342 ⇑P **P 13 08 30.0 +0.4**
comp=Z,1μm,1.3s
BTNL pP **pP 13 09 05.2 -0.8**
MEM Membach 74.79 342 ⇑P **P 13 08 29.9 +0.3**
comp=Z,466nm,1.1s
MEM PcP **PcP 13 08 42.0 -1.0**
MEM pP **pP 13 09 06.5 +0.6**
MEM sP **sP 13 09 27.6 +5.8**
MTUR Matau 74.79 328 ⇑P **P 13 08 31.0 +1.1**
WR0 Warramunga Arr 74.80 203 P **P 13 08 29.7 -0.2**
WR0 pP **pP 13 09 04.3 -1.8**
ARR Arges 74.81 328 ⇑P **P 13 08 30.6 +0.7**
CCAR Cane Creek 74.81 54 P **P 13 08 30.7 +0.7**
CCAR IAmb IAmb 13 08 32.4
comp=Z,128nm,1.0s
WRAB Tennant Creek 74.82 203 *i* P **P 13 08 30.3 +0.3**
WRAB pmax pmax
comp=Z,32nm,1.0s
WRAB Tennant Creek 74.82 203 P **P 13 08 30.9 +0.9**
Z41A Richland Creek 74.82 55 P **P 13 08 29.9 -0.2**
baz=323
I61A Oroboro, Fairl 74.83 35 P **P 13 08 30.1 +0.2**
baz=331,SNR=5.7
I61A S **S 13 17 51.9 -2.5**
baz=331
WRA Warramunga Arr 74.83 203 P **P 13 08 31.0 +0.9**
comp=Z,25nm,0.8s,baz=17,slow=6.0,SNR=52
WRA pP **pP 13 09 08.3 +2.0**
comp=Z,39nm,0.9s,baz=17,slow=6.2,SNR=7.2
WRA Warramunga Arr 74.83 203 P **P 13 08 29.2 -0.9**
ICOR Ion Corvin 74.84 325 ⇑P **P 13 08 30.5 +0.5**
G64A Maxfield 74.84 32 P **P 13 08 30.1 +0.1**
baz=332
G64A S **S 13 17 53.3 -1.2**
baz=332
K59A Cooperstown 74.87 37 P **P 13 08 29.6 -0.7**
baz=330,SNR=19
K59A S **S 13 17 49.8 -5.1**
baz=330
MCH1 Michaelchurch 74.87 348 *e*P **P 13 08 30.2 +0.1**
MCH1 IAmb IAmb 13 08 32.0
comp=Z,99nm,0.8s
SULR 74.88 327 ⇑P **P 13 08 30.2 +0.1**
O54A Avella 74.89 43 P **P 13 08 30.0 -0.4**
baz=327,SNR=20
O54A S **S 13 17 52.5 -2.8**
baz=327
O54A Avella 74.89 43 IAmb IAmb 13 08 32.2
comp=Z,109nm,0.8s
SVSK Karacayir 74.89 317 *e*P **P 13 08 30.8 +0.5**
BSTI Sart Tilman 74.89 342 P **P 13 08 30.9 +0.7**
comp=Z,102nm,1.1s
BSTI PcP **PcP 13 08 43.2 -0.2**
UCC Uccle 74.91 343 ⇑P **P 13 08 30.4 +0.1**
UCC Uccle 74.91 343 IAmb IAmb 13 08 32.5
comp=Z,227nm,1.2s
BINY Binghamton 74.93 39 P **P 13 08 29.8 -0.8**
baz=329,SNR=7.5
BINY S **S 13 17 51.9 -3.8**
baz=329
WVT Waverly 74.94 50 P **P 13 08 30.6 -0.1**
baz=325
WVT S **S 13 17 56.0 +0.2**
baz=325
WVT Waverly 74.94 50 P **P 13 08 30.6 -0.1**
WVT pmax pmax
comp=Z,85nm,0.9s
WVT Waverly 74.94 50 P **P 13 08 30.6 -0.1**
SIRR Siria 74.94 330 ⇓P **P 13 08 31.0 +0.5**
N55A Marion Center 74.96 41 P **P 13 08 30.4 -0.4**
baz=328,SNR=41
N55A S **S 13 17 52.8 -3.2**
baz=328
STRD Stroud 74.98 347 *e*P **P 13 08 31.0 +0.3**
STRD IAmb IAmb 13 08 32.7
comp=Z,805nm,1.6s
J60A Lant Hill Farm 74.99 36 P **P 13 08 30.5 -0.4**
baz=330,SNR=7.9
MONM Monmouth 75.00 348 *e*P **P 13 08 30.9 +0.1**
MONM IAmb IAmb 13 08 33.3
comp=Z,146nm,0.8s
ARPR Arapgir-MALATY 75.01 316 *e*P **P 13 08 31.9 +0.6**
LOT Lotru 75.02 329 ⇑P **P 13 08 30.3 -0.9**
LOT Lotru 75.02 329 *e*P **P 13 08 28.6 -2.6**
BHOU Houvegnez 75.03 342 ⇑P **P 13 08 31.7 +0.7**
comp=Z,285nm,1.6s
P53A Whipple 75.05 44 P **P 13 08 30.6 -0.7**
baz=327,SNR=18
P53A S **S 13 17 53.4 -3.6**
baz=327
NATX Nacogdoches 75.06 57 P **P 13 08 31.7 +0.2**
baz=323,SNR=7.4
NATX Nacogdoches 75.06 57 IAmb IAmb 13 08 33.9
comp=Z,120nm,0.9s
CONA Conrad Observa 75.08 335 *i* P **P 13 08 32.2 +0.8**
comp=Z,113nm,0.8s,SNR=197
W45A Hickory Valley 75.08 51 P **P 13 08 31.2 -0.3**
W45A IAmb IAmb 13 08 33.5
comp=Z,196nm,1.1s
W45A PcP **PcP 13 08 44.5 +0.1**
BCLA Clavier 75.10 342 P **P 13 08 31.7 +0.4**
BCLA pP **pP 13 09 07.2 -0.6**
BCLA sP **sP 13 09 24.7 +1.2**
ELSH Elham, Standar 75.11 345 *e*P **P 13 08 31.9 +0.4**
ELSH IAmb IAmb 13 08 33.8
comp=Z,947nm,1.4s
Q52A Bidwell 75.11 44 P **P 13 08 30.9 -0.7**
baz=327,SNR=18
Q52A S **S 13 17 55.1 -2.6**
baz=327
SOP Sopron 75.11 334 P **P 13 08 32.6 +1.1**
SOP pmax pmax
comp=Z,347nm,1.1s
L58A Harry Jones Me 75.12 39 P **P 13 08 30.8 -0.9**
baz=329,SNR=13
N56A West Decatur 75.12 41 P **P 13 08 31.4 -0.3**
baz=328,SNR=35
N56A S **S 13 17 53.1 -4.8**
baz=328
RSBS Rosebush, Pemb 75.13 349 *e*P **P 13 08 31.1 -0.4**
RSBS IAmb IAmb 13 08 33.2
comp=Z,324nm,1.6s
STFAR Stefanesti-Arg 75.15 327 ⇑P **P 13 08 32.9 +1.1**
DYBB Diyarbakir 75.17 314 *e*P **P 13 08 32.5 +0.4**
BGES Gesves 75.17 342 ⇑P **P 13 08 31.8 0.0**
comp=Z,193nm,1.4s
BGES PcP **PcP 13 08 43.2 -1.4**
BGES pP **pP 13 09 03.9 -4.3**
I62A Tamworth 75.18 35 P **P 13 08 31.9 -0.1**
baz=331
I62A S **S 13 17 57.3 -1.0**
baz=331
SVRC Sivrice-ELAZID 75.18 315 *e*P **P 13 08 33.1 +0.8**
SWN1 Swindon 75.19 347 *e*P **P 13 08 32.1 +0.2**
SWN1 IAmb IAmb 13 08 34.2
comp=Z,427nm,0.8s
SNF Seneffe 75.20 343 ⇑P **P 13 08 32.2 +0.3**
comp=Z,151nm,1.0s
J61A Chester 75.22 36 P **P 13 08 32.1 0.0**
baz=331,SNR=5.7
M57A Sunshine Farm, 75.23 40 P **P 13 08 31.8 -0.5**
baz=329,SNR=26
M57A S **S 13 17 54.0 -4.9**
baz=329
M57A Sunshine Farm, 75.23 40 IAmb IAmb 13 08 33.8
comp=Z,104nm,0.7s
H64A Troy 75.23 33 P **P 13 08 32.3 +0.1**
baz=332
H64A S **S 13 17 57.2 -1.6**
baz=332
833A Chaparral WMA, 75.25 63 P **P 13 08 33.2 +0.5**
baz=322,SNR=16
833A S **S 13 18 00.6 +1.1**
baz=322
833A Chaparral WMA, 75.25 63 P **P 13 08 33.1 +0.5**
833A IAmb IAmb 13 08 35.3
comp=Z,111nm,1.1s
G65A Princeton 75.28 31 P **P 13 08 31.7 -0.8**
baz=333
G65A S **S 13 17 57.8 -1.5**
baz=333
I63A Otisfield 75.29 34 P **P 13 08 31.0 -1.5**
baz=332,SNR=8.4
I63A S **S 13 18 00.3 +0.8**
baz=332
L59A Walton 75.30 38 P **P 13 08 32.1 -0.6**
baz=330,SNR=18
BMRD Maredsous 75.31 343 P **P 13 08 32.9 +0.3**
comp=Z,272nm,1.3s
O55A Ligonier 75.31 42 P **P 13 08 32.2 -0.6**
baz=328,SNR=24
O55A S **S 13 17 55.9 -4.1**
baz=328
P54A Burton 75.34 43 P **P 13 08 32.7 -0.3**
baz=327,SNR=40
P54A S **S 13 17 57.7 -2.5**
baz=327
RCHB Rochefort 75.37 342 ⇑P **P 13 08 33.1 +0.2**
comp=Z,184nm,1.2s
RCHB PcP **PcP 13 08 43.7 -1.7**
MARD Mardin 75.41 313 IAmb IAmb 13 08 36.2
comp=Z,174nm,0.7s
HUMR Humele 75.44 327 ⇑P **P 13 08 32.7 -0.7**
M58A Price's Panora 75.46 39 P **P 13 08 32.8 -0.8**
baz=329,SNR=12
M58A S **S 13 17 58.0 -3.5**
baz=329
GIVF Givet 75.49 343 *e*P **P 13 08 33.7 +0.1**
GIVF pmax pmax
comp=Z,225nm,1.2s
OXF Oxford 75.49 52 P **P 13 08 33.5 -0.4**
OXF pmax pmax
comp=Z,191nm,0.9s
OXF Oxford 75.49 52 P **P 13 08 33.5 -0.4**
OXF IAmb IAmb 13 08 35.6
comp=Z,191nm,0.9s
H65A Eastbrook 75.50 32 P **P 13 08 33.1 -0.7**
baz=333
H65A S **S 13 18 00.1 -1.7**
baz=333
Q53A Leroy 75.52 44 P **P 13 08 33.8 -0.2**
baz=327,SNR=37
Q53A S **S 13 18 00.1 -2.0**
baz=327
SSPA Standing Stone 75.52 41 P **P 13 08 33.5 -0.4**
baz=328
SSPA S **S 13 17 58.7 -3.5**
baz=328
SSPA Standing Stone 75.52 41 P **P 13 08 33.4 -0.6**
DOU Dourbes 75.54 343 ⇑P **P 13 08 34.1 +0.2**
comp=Z,118nm,1.1s
BZS Buzias 75.54 330 ⇑P **P 13 08 33.8 -0.2**
BZS Buzias 75.54 330 P **P 13 08 33.3 -0.7**
BZS pmax pmax
comp=Z,475nm,1.1s
K61A Williamstown 75.55 36 P **P 13 08 33.8 -0.3**
baz=330
MCWV Mont Chateau 75.55 42 P **P 13 08 33.9 -0.2**
baz=328,SNR=16
N57A Milroy 75.56 40 P **P 13 08 33.7 -0.4**
baz=329,SNR=45
N57A S **S 13 17 58.6 -4.0**
baz=329
MOA Molln 75.56 336 *i* P **P 13 08 34.6 +0.5**
comp=Z,60nm,0.6s,SNR=66
O56A Blue Knob Stat 75.56 41 P **P 13 08 33.9 -0.4**
baz=328,SNR=26
O56A S **S 13 18 00.3 -2.4**
baz=328
O56A Blue Knob Stat 75.56 41 IAmb IAmb 13 08 35.9
comp=Z,90nm,0.8s
U49A Red Boiling Sp 75.58 48 IAmb IAmb 13 08 36.1
comp=Z,101nm,0.9s
J62A Henniker 75.58 35 P **P 13 08 34.4 +0.2**
baz=331
T50A Nancy 75.59 47 IAmb IAmb 13 08 36.2
comp=Z,103nm,0.9s
MALT Malatya 75.62 315 *e*P **P 13 08 34.8 +0.1**
MALT Malatya 75.62 315 P **P 13 08 35.0 +0.3**
BAIF Baives 75.65 343 *e*P **P 13 08 34.7 +0.2**
BAIF pmax pmax
comp=Z,317nm,1.4s
WLF Walferdange 75.66 342 P **P 13 08 35.1 +0.6**
WLF Walferdange 75.66 342 *e*P **P 13 08 36.0 +1.4**
baz=22,slow=5.9
WLF Walferdange 75.66 342 IAmb IAmb 13 08 38.8
comp=Z,220nm,1.2s
CLTN Cedars of Leba 75.67 49 IAmb IAmb 13 08 36.8
comp=Z,144nm,0.8s
VAL Valentia 75.68 353 P **P 13 08 36.3 +1.7**
P55A Reedsville 75.69 43 P **P 13 08 35.1 +0.1**
baz=328,SNR=35
P55A S **S 13 18 02.1 -2.0**
baz=328
CANT Cankiri 75.69 320 *e*P **P 13 08 35.8 +0.8**
Q54A Coxs Mills 75.71 44 P **P 13 08 34.6 -0.4**
baz=327,SNR=19
Q54A S **S 13 18 01.5 -2.7**
baz=327
Q54A Coxs Mills 75.71 44 IAmb IAmb 13 08 37.0
comp=Z,138nm,1.3s
COPA Copaceanca 75.71 327 ⇑P **P 13 08 34.3 -0.6**
M59A Waymart 75.71 38 P **P 13 08 34.0 -1.0**
baz=330,SNR=9.0
M59A S **S 13 18 00.8 -3.5**
baz=330
V48A Smith Brothers 75.72 49 P **P 13 08 34.6 -0.6**
V48A IAmb IAmb 13 08 36.9
comp=Z,93nm,0.9s
H66A Whiting 75.73 32 P **P 13 08 35.0 -0.1**
baz=333
H66A S **S 13 18 02.4 -1.9**
baz=333
I64A Boothbay 75.73 33 S **S 13 18 03.4 -0.8**
baz=332
RAZG Razgrad 75.77 326 ⇑P **P 13 08 34.8 -0.5**
R53A Hurricane 75.78 45 P **P 13 08 35.3 -0.2**
baz=327,SNR=16
R53A S **S 13 18 03.3 -1.7**
baz=327
L60A Shokan 75.78 37 P **P 13 08 34.8 -0.6**
baz=330,SNR=12
ARSA Arzberg 75.79 335 *i* P **P 13 08 36.2 +0.8**
comp=Z,126nm,1.0s,SNR=59
J63A Strafford 75.80 35 P **P 13 08 34.5 -1.0**
baz=332
J63A S **S 13 18 03.5 -1.5**
baz=332
DARE Darende-Malaty 75.81 316 *e*P **P 13 08 36.4 +0.6**
N58A Sunbury 75.81 40 P **P 13 08 34.9 -0.7**
baz=329,SNR=18
N58A S **S 13 18 02.7 -2.6**
baz=329
YOZ Yozgat 75.82 318 *e*P **P 13 08 35.4 -0.5**
L61A Hillsdale 1, H 75.85 37 P **P 13 08 34.9 -1.0**
baz=330
L61A S **S 13 18 03.2 -2.5**
baz=330
HKT Hockley 75.88 59 *i* P **P 13 08 33.8 -2.3**
HKT pmax pmax
comp=Z,27nm,1.4s
HKT Hockley 75.88 59 P **P 13 08 36.8 +0.7**
STU Stuttgart 75.88 339 P **P 13 08 37.1 +1.2**
STU Stuttgart 75.88 339 *e*P **P 13 08 36.2 +0.3**
comp=Z,346nm,1.2s,baz=22,slow=5.9
STU Stuttgart 75.88 339 IAmb IAmb 13 08 38.4
comp=Z,330nm,1.2s
SRE Strehaia 75.90 329 ⇑P **P 13 08 36.0 0.0**
SRE Strehaia 75.90 329 P **P 13 08 36.0 0.0**
BANR Banloc 75.90 330 ⇑P **P 13 08 37.1 +1.1**
K62A Royalston 75.92 36 P **P 13 08 35.6 -0.6**
baz=331
L61B Northampton 75.95 36 P **P 13 08 35.6 -0.8**
baz=331
Y45A Yeager Farm, C 75.95 52 IAmb IAmb 13 08 38.7
comp=Z,174nm,0.8s
HERR Herculane 75.95 329 ⇓P **P 13 08 35.9 -0.5**
O57A Amberson 75.99 41 P **P 13 08 36.4 -0.2**
baz=329,SNR=28

O57A S S 13 18 02.4 -4.9
baz=329
FUR Furstenfeldbru 75.99 338 P P 13 08 37.5 +1.0
FUR Furstenfeldbru 75.99 338 *e*P P 13 08 37.0 +0.5
comp=Z,550nm,1.2s,baz=22,slow=5.9
Q55A Buckhannon 76.01 43 P P 13 08 36.5 -0.4
baz=328,SNR=14
Q55A S S 13 18 06.3 -1.4
baz=328
HTL Hartland 76.04 349 *e*P P 13 08 36.6 -0.1
HTL IAmb IAmb 13 08 38.8
comp=Z,171nm,0.9s
ZIMR 76.08 327 ⇑P P 13 08 37.1 0.0
P56A Dayton Farm, R 76.10 42 P P 13 08 37.2 0.0
baz=328,SNR=41
P56A S S 13 18 04.4 -4.1
baz=328
VLAD Vladila 76.10 327 ⇑P P 13 08 37.4 +0.2
N59A State Game Lan 76.12 39 P P 13 08 36.9 -0.5
baz=330,SNR=16
N59A S S 13 18 04.1 -4.6
baz=330
K63A Dunstable 76.15 35 P P 13 08 36.6 -0.9
baz=331,SNR=6.2
K63A S S 13 18 06.9 -2.1
baz=331
BEHE Becsehely 76.17 334⇑ *i*P P 13 08 40.9 +3.4
URFA Urfa 76.18 314 *e*P P 13 08 38.3 +0.5
M60A Port Jervis 76.20 38 P P 13 08 37.1 -0.7
baz=330,SNR=11
M60A S S 13 18 05.9 -3.7
baz=330
S53A Williamson 76.24 45 P P 13 08 37.8 -0.4
baz=327,SNR=6.8
S53A S S 13 18 07.7 -2.5
baz=327
MDVR Moldovita 76.26 330 ⇑P P 13 08 37.8 -0.4
BNN Bunyan 76.27 317 *e*P P 13 08 38.2 -0.2
HRV Adam Dziewonsk 76.30 35 P P 13 08 37.8 -0.5
baz=331
HRV Adam Dziewonsk 76.30 35 P P 13 08 39.1 +0.8
HRV pmax pmax
comp=Z,63nm,1.1s
HRV Adam Dziewonsk 76.30 35 P P 13 08 39.1 +0.8
R54A Victor 76.31 44 P P 13 08 38.4 -0.2
baz=327,SNR=33
R54A S S 13 18 09.4 -1.6
baz=327
PUNG Punghina 76.33 329 ⇑P P 13 08 38.4 0.0
KOGS Kog 76.33 334 *i*P P 13 08 38.4 0.0
O58A Lewisberry 76.34 40 P P 13 08 38.1 -0.6
baz=329,SNR=20
O58A S S 13 18 07.1 -4.1
baz=329
Q56A Snyder Ridge, 76.35 42 P P 13 08 37.9 -0.8
SARI SarD1z-Kayseri 76.40 317 *e*P P 13 08 39.7 +0.5
N60A Cedar Hill Far 76.42 39 P P 13 08 38.2 -0.8
baz=330,SNR=6.9
N60A S S 13 18 08.1 -3.8
baz=330
BR131 Keskin Array S 76.43 319 P P 13 08 38.8 -0.5
BR131 Keskin Array S 76.43 319*c* *i*P P 13 08 38.9 -0.4
BRTR Keskin Array B 76.43 319 P P 13 08 39.0 -0.4
comp=Z,84nm,1.0s,baz=46,slow=3.6,SNR=135
BRTR PP PP 13 11 32.1 -0.3
comp=Z,19nm,1.0s,baz=38,slow=4.7,SNR=5.6
BRTR Keskin Array B 76.43 319 *i*P P 13 08 39.0 -0.4
BRTR pmax pmax
comp=Z,84nm,1.0s
BRTR Keskin Array B 76.43 319 P P 13 08 36.6 -2.8
SOKA Soboth 76.45 335 *i*P P 13 08 39.8 +0.5
comp=Z,162nm,0.9s,SNR=197
P57A Homestead Farm 76.45 41 P P 13 08 38.7 -0.6
baz=329,SNR=8.4
P57A S S 13 18 09.4 -2.9
baz=329
PERS Pernice 76.46 335 *i*P P 13 08 39.7 +0.4
BFO Black Forest 76.49 340 P P 13 08 39.5 +0.1
BFO pmax pmax
comp=Z,196nm,1.2s
BFO Black Forest 76.49 340 *e*P P 13 08 39.6 +0.3
comp=Z,138nm,1.1s,baz=22,slow=5.9
BFO Black Forest 76.49 340 P P 13 08 39.5 +0.1
BFO IAmb IAmb 13 08 41.7
comp=Z,196nm,1.2s
S54A Dingess, Beckl 76.50 44 P P 13 08 39.1 -0.5
baz=327,SNR=11
S54A S S 13 18 10.4 -2.6
baz=327
FRGS Fruska Gora 76.50 331⇑ *i*P P 13 08 39.1 -0.4
KBA Koelnbreinsper 76.51 336 *i*P P 13 08 40.7 +1.1
comp=Z,568nm,0.8s,SNR=457
KBA Koelnbreinsper 76.51 336 P P 13 08 40.6 +0.9
GROS Grobnik 76.52 334 *i*P P 13 08 39.8 +0.1
PALK Pallekele 76.54 264 P P 13 08 40.3 +0.2
PALK Pallekele 76.54 264 P P 13 08 40.5 +0.4
PALK pmax pmax
comp=Z,301nm,0.9s
PALK Pallekele 76.54 264 P P 13 08 40.5 +0.4
M61A Granite Spring 76.54 38 P P 13 08 38.7 -1.0
baz=330,SNR=7.4
TZTN Tazewell 76.56 47 P P 13 08 39.7 -0.2
baz=326,SNR=30
TZTN S S 13 18 10.9 -2.8
baz=326
SWET Sewanee 76.57 49 IAmb IAmb 13 08 41.4
comp=Z,164nm,0.9s
342A Flagon Creek P 76.57 56 P P 13 08 40.7 +0.7
R55A Marlinton 76.60 43 P P 13 08 39.8 -0.4
baz=328,SNR=34
R55A S S 13 18 13.0 -1.1
baz=328
R55A Marlinton 76.60 43 IAmb IAmb 13 08 42.2
comp=Z,113nm,0.9s
BEO Beograd 76.62 330 P P 13 08 39.8 -0.3
BEO pmax pmax
comp=Z,79nm,1.0s
YUVA Yuva-Kibriscik 76.64 321 *e*P P 13 08 40.5 +0.1
LOD Lodumlu 76.64 320 *e*P P 13 08 40.4 0.0
T53A Wise 76.64 46 P P 13 08 40.3 -0.2
baz=327,SNR=36
SHME Shamm 76.66 295 *i*P P 13 08 39.5 -1.1
SNR=13
Q57A Strasburg 76.67 42 P P 13 08 40.0 -0.5
baz=328,SNR=11
Q57A S S 13 18 12.7 -2.1
baz=328
BANOM Banah 76.67 295 *i*P P 13 08 39.9 -0.8
SNR=13
BANOM Banah 76.67 295 P P 13 08 40.0 -0.8
SNR=6.9
BR231 Keskin MP Arra 76.68 320 IAmb IAmb 13 08 43.0
comp=Z,228nm,1.1s
WATA Walderalm 76.70 337 *i*P P 13 08 41.3 +0.6
comp=Z,169nm,1.0s,SNR=124
OBKA Obir 76.73 335 *i*P P 13 08 41.4 +0.6
comp=Z,166nm,1.1s,SNR=114
P58A Pank, Wackersv 76.74 41 P P 13 08 40.4 -0.4
baz=329,SNR=22
P58A S S 13 18 12.4 -3.1
baz=329
RETA Reutte 76.74 338 *i*P P 13 08 41.4 +0.5
comp=Z,90nm,0.9s,SNR=54
M62A Hamden 76.75 37 P P 13 08 40.0 -0.8
baz=331
WTTA Wattenberg 76.75 337 *i*P P 13 08 41.9 +0.9
comp=Z,262nm,1.1s,SNR=159
WTTA Wattenberg 76.75 337 P P 13 08 41.8 +0.8
PAL Palisades 76.75 38 P P 13 08 40.2 -0.7
baz=330,SNR=7.6
PAL S S 13 18 12.7 -2.8
baz=330
MDUB Mudurnu 76.75 321 *e*P P 13 08 40.9 -0.2
SILT Sile 76.75 323 *e*P P 13 08 41.4 +0.5
O60A Telford 76.77 39 P P 13 08 39.9 -1.1
baz=330
O60A S S 13 18 12.2 -3.6
baz=330
R56A Bull Pasture M 76.79 43 P P 13 08 40.6 -0.7
baz=328,SNR=22
R56A S S 13 18 14.1 -2.2
baz=328
MOTA Moosalm 76.80 338 *i*P P 13 08 41.7 +0.4
comp=Z,198nm,0.9s,SNR=175
V51A Loudon 76.81 48 P P 13 08 40.6 -0.7
V51A IAmb IAmb 13 08 43.0
comp=Z,110nm,0.8s
N61A South Mountain 76.82 38 P P 13 08 40.8 -0.5
baz=330
ECH Echery 76.84 340 IAmb IAmb 13 08 43.7
comp=Z,322nm,1.2s
MYKA Terra Mystica 76.85 336 *i*P P 13 08 41.5 0.0
comp=Z,89nm,1.0s,SNR=67
SAUV Serdivan-Sakar 76.86 322 *e*P P 13 08 41.0 -0.5
S55A Lewisburg 76.86 44 P P 13 08 41.3 -0.4
baz=328,SNR=14
S55A S S 13 18 15.2 -1.8
baz=328
W50A Signal Mountai 76.87 49 IAmb IAmb 13 08 43.3
comp=Z,118nm,0.9s
SQTA Sankt Quirin 76.89 337 *i*P P 13 08 42.5 +0.7
comp=Z,188nm,0.9s,SNR=145
KLYT Kilyos 76.89 323 *e*P P 13 08 41.2 -0.5
SPNC Sapanca-Adapaz 76.91 322 *e*P P 13 08 40.8 -1.0
KMRS Kahramanmaras 76.96 316 *e*P P 13 08 42.6 +0.4
CTYL Yalikoy Yolu 76.97 324 *e*P P 13 08 41.3 -0.8
P59A Jarrettsville 76.98 40 P P 13 08 41.4 -0.8
baz=329,SNR=13
P59A S S 13 18 14.7 -3.3
baz=329
T54A Tazewell 77.00 45 P P 13 08 42.2 -0.3
baz=327,SNR=39
T54A S S 13 18 16.0 -2.6
baz=327
ABTA Abfaltersbach 77.02 336 *i*P P 13 08 43.4 +0.9
comp=Z,276nm,1.0s,SNR=218
CPCT Cooper Cave 77.03 48 IAmb IAmb 13 08 44.1
comp=Z,92nm,0.8s
HRT Hereke 77.03 322 *e*P P 13 08 42.5 -0.1
YAYX Yaylak 77.03 319 *e*P P 13 08 42.5 -0.2
ISK Istanbul-Kandi 77.05 323 P P 13 08 41.8 -0.8
ISK Istanbul-Kandi 77.05 323 *e*P P 13 08 42.1 -0.5
Q58A Fox Den Farm, 77.05 41 P P 13 08 42.3 -0.3
baz=329,SNR=31
Q58A S S 13 18 15.8 -3.0
baz=329
KAVV Kandilli-Istan 77.05 323 *e*P P 13 08 42.2 -0.4
GULT Gulveren 77.05 322 *e*P P 13 08 42.6 -0.1
BGKT Bogazkoy 77.05 323 *e*P P 13 08 42.1 -0.5
L64A Middleborough 77.06 35 P P 13 08 42.3 -0.3
baz=332
ZOU Zoufplan 77.08 336 IAmb IAmb 13 08 45.9
comp=Z,377nm,1.5s
M63A Gales Ferry 77.09 36 P P 13 08 42.1 -0.7
baz=331,SNR=5.4
GAZ Gaziantep 77.10 315 *e*P P 13 08 43.7 +0.7
GAZ Gaziantep 77.10 315 IAmb IAmb 13 08 45.6
comp=Z,343nm,1.3s
CTKS Kestanelik-??a 77.10 323 *e*P P 13 08 42.1 -0.7
P60A Greenville 77.12 40 P P 13 08 42.4 -0.6
baz=330
P60A S S 13 18 16.2 -3.4
baz=330
CRES Cresnjev 77.12 334⇑ *i*P P 13 08 42.8 -0.1
V52A Sevierville 77.12 47 P P 13 08 42.3 -0.8
V52A IAmb IAmb 13 08 44.9
comp=Z,83nm,0.8s
DAVA Damuels 77.14 338 *i*P P 13 08 44.3 +1.2
comp=Z,104nm,0.9s,SNR=52
TEKS Tekeris 77.14 331⇑ *i*P P 13 08 43.0 0.0
MDH Madha 77.17 295 *i*P P 13 08 41.9 -1.6
SNR=6.1
LJU Ljubljana 77.17 335 *i*P P 13 08 43.1 0.0
LJU Ljubljana 77.17 335⇑ *i*P P 13 08 42.9 -0.3
146A Union 77.18 53 P P 13 08 43.8 +0.4
146A IAmb IAmb 13 08 46.0
comp=Z,250nm,0.9s
FETA Feichten 77.19 338 *i*P P 13 08 44.0 +0.6
comp=Z,162nm,1.0s,SNR=127
TKL Tuckaleechee C 77.19 47 LR LR 13 45 37.5
comp=Z,315nm,18.1s,baz=331,slow=38
MSFE Esma-Masafi 77.19 295 *i*P P 13 08 42.8 -0.9
SNR=10
EDRB Edirne 77.20 325 P P 13 08 43.1 -0.3
EDRB Edirne 77.20 325 *e*P P 13 08 43.4 0.0
HAU Haudompre 77.21 341 *e*P P 13 08 43.3 -0.1
HAU pmax pmax
comp=Z,323nm,1.2s
Z47A Carrollton 77.21 52 IAmb IAmb 13 08 45.6
comp=Z,155nm,0.8s
R57A Stanardsville 77.25 42 P P 13 08 43.6 -0.1
baz=328,SNR=18
R57A S S 13 18 20.4 -0.7
baz=328
KULU Kulu 77.27 319 *e*P P 13 08 43.8 -0.2
FPAL Fort Paine 77.27 49 IAmb IAmb 13 08 45.5
comp=Z,132nm,0.9s
T55A Pulaski 77.30 45 P P 13 08 43.9 -0.2
baz=328,SNR=17
T55A S S 13 18 20.3 -1.4
baz=328
S56A Natural Bridge 77.34 43 P P 13 08 43.8 -0.5
baz=328,SNR=12
S56A S S 13 18 21.6 -0.6
baz=328
UMQ Umm Al-Quwin 77.34 295 *i*P P 13 08 44.5 +0.1
SNR=6.8
UMQ Umm Al-Quwin 77.34 295 P P 13 08 44.5 +0.1
SNR=6.1
ADVT Abdulvahap 77.34 322 *e*P P 13 08 43.5 -0.7
U54A Nelsons Funny 77.34 46 P P 13 08 44.2 -0.2
baz=327,SNR=17
U54A Nelsons Funny 77.34 46 IAmb IAmb 13 08 46.2
comp=Z,100nm,0.8s
SRCK Saricakaya, Es 77.35 321 *e*P P 13 08 44.0 -0.3
BLA Blacksburg 77.37 44 P P 13 08 44.1 -0.4
baz=328,SNR=24
BLA S S 13 18 21.4 -1.1
baz=328
BLA Blacksburg 77.37 44 P P 13 08 43.7 -0.8
BLA pmax pmax
comp=Z,91nm,0.9s
BLA Blacksburg 77.37 44 P P 13 08 43.7 -0.8
TRML Termal-Yalova 77.40 323 *e*P P 13 08 43.5 -1.0
DIVS Divibare 77.41 330⇑ *i*P P 13 08 44.2 -0.4
KOZT Kozan 77.44 316 *e*P P 13 08 44.9 +0.1
WSAR Wadi Sarin 77.46 292 P P 13 08 45.3 +0.1
SNR=14
R58A Rapidan 77.47 42 P P 13 08 44.6 -0.3
baz=329,SNR=19
R58A S S 13 18 21.5 -1.8
baz=329
CEY Cerknica 77.47 335⇑ *i*P P 13 08 44.6 -0.3
UOSS Minazif 77.50 294 *i*P P 13 08 44.9 -0.5
SNR=23
UOSS Minazif 77.50 294 P P 13 08 44.2 -1.1
CAVI Cavuskoy 77.51 322 *e*P P 13 08 45.2 0.0
AUSIV SIVRIHISAR 77.51 320 *e*P P 13 08 44.5 -0.8
SVRH Sivrihisar-ESK 77.51 320 *e*P P 13 08 44.8 -0.5
JSA Saint Aubin 77.51 347 *e*P P 13 08 45.0 0.0
JSA IAmb IAmb 13 08 47.5
comp=Z,146nm,0.9s
BIDO Bidbid 77.53 292 P P 13 08 44.9 -0.6
SNR=15
S57A Dark Hollow, R 77.53 43 P P 13 08 45.1 -0.2
baz=328,SNR=25
S57A S S 13 18 23.6 -0.5
baz=328
GEMT Gemlik 77.55 323 *e*P P 13 08 45.2 -0.2
BORA Eskisehir 77.55 321 *e*P P 13 08 45.2 -0.3
ARMT Armutlu 77.56 323 *e*P P 13 08 44.3 -1.1
P61A Hammonton 77.57 39 P P 13 08 44.2 -1.2
baz=330
W52A Murphy 77.59 48 IAmb IAmb 13 08 47.6
comp=Z,122nm,1.1s
HATD Hatta, Dubai 77.63 294 *i*P P 13 08 45.4 -0.7
SNR=29
HATD Hatta, Dubai 77.63 294 P P 13 08 45.3 -0.7
SNR=14
BLY Banja Luka 77.64 333⇑ *i*P P 13 08 45.3 -0.5
FLN La Foliniere 77.68 346 *e*P P 13 08 44.9 -1.0
FLN pmax pmax
comp=Z,221nm,1.1s
PLD Plovdiv 77.68 326 *e*P P 13 08 45.5 -0.6
PLD Plovdiv 77.68 326 P P 13 08 45.7 -0.4
PLD pmax pmax
comp=Z,2µm,1.0s
AUBOZ BOZOYUK 77.69 322 *e*P P 13 08 46.1 -0.1
T56A Rocky Mt 77.69 44 P P 13 08 45.5 -0.7
baz=328,SNR=9.9
T56A S S 13 18 24.9 -1.0
baz=328
U55A TA2, Sparta 77.70 45 P P 13 08 46.0 -0.3
baz=326,SNR=31
U55A S S 13 18 24.6 -1.5
baz=328
CHBY Cihanbeyli 77.71 319 *e*P P 13 08 45.6 -0.8
MDNY Mudanya-Bursa 77.72 323 *e*P P 13 08 45.9 -0.4
HAPS Han Pijesak,BI 77.73 331 *e*P P 13 08 45.2 -1.3
Q60A Greensboro 77.73 40 S S 13 18 25.0 -1.2
baz=330
WBK Wadi Bani Khal 77.75 291 P P 13 08 46.9 +0.1
SNR=33
SKDS Skadanscina 77.76 335 *i*P P 13 08 46.1 -0.4
NAZ Nazwa, Dubai 77.76 295 *i*P P 13 08 45.8 -1.0
SNR=20
NAZ Nazwa, Dubai 77.76 295 P P 13 08 45.8 -1.0
SNR=14
CIFT Cifteler, Eski 77.77 321 *e*P P 13 08 46.1 -0.6
ASHO Ashiyiah 77.78 294 *i*P P 13 08 46.1 -0.9
SNR=32
ASHO Ashiyiah 77.78 294 P P 13 08 46.1 -0.9
SNR=21
SULT Sultanhani-AKS 77.79 318 *e*P P 13 08 46.2 -0.6
BBLS Lazići 77.80 331⇑ *i*P P 13 08 47.0 +0.2
R58B Mineral 77.80 42 P P 13 08 46.7 -0.2
baz=329,SNR=14
R58B S S 13 18 25.1 -1.9
baz=329
R58B Mineral 77.80 42 P P 13 08 46.6 -0.2
KDZ Kurdzhali 77.84 326 *e*P P 13 08 47.0 0.0
LRAL Lakeview Retre 77.86 51 P P 13 08 46.1 -1.1
baz=326,SNR=23
KIZT Kizilcal 77.86 320 *e*P P 13 08 46.9 -0.4
JLN Jalan Bani Buh 77.86 290 P P 13 08 47.4 +0.1
SNR=26
CEYT Ceyhan 77.87 316 *e*P P 13 08 47.9 +0.7
UKOP Uzunkopru-Edir 77.88 325 *e*P P 13 08 47.0 -0.1
V54A Nebo 77.91 46 P P 13 08 47.3 -0.2
baz=327,SNR=40
V54A S S 13 18 26.9 -1.5
baz=327
R59A King George, V 77.91 41 P P 13 08 47.2 -0.2
baz=329,SNR=5.8
SMDO Samad 77.93 292 P P 13 08 47.4 -0.5
SNR=30
MAR4 Marsite Statio 77.94 324 *e*P P 13 08 47.0 -0.6
HOQ Hoqain 77.94 293 P P 13 08 47.0 -0.8
SNR=30
SOHO SOHO 77.95 294 *i*P P 13 08 46.6 -1.2
SNR=26
KARA Karaisali 77.95 317 *e*P P 13 08 47.9 +0.3
MGRS Mrkonjic Grad 77.97 333 *e*P P 13 09 01.2 +14
MAR3 Marsite Statio 77.98 324 *e*P P 13 08 47.4 -0.3
MRMT Marmara Adasi 77.99 324 *e*P P 13 08 47.8 -0.1
FAQ Al Faqa, Dubai 77.99 295 *i*P P 13 08 46.8 -1.2
SNR=7.3
FAQ Al Faqa, Dubai 77.99 295 P P 13 08 48.5 +0.5
SNR=7.3
S58A Poland Farm, P 78.03 42 P P 13 08 47.6 -0.5
baz=329,SNR=12
S58A S S 13 18 27.4 -2.0
baz=329
Q61A Milford 78.04 40 P P 13 08 47.8 -0.3
baz=330
YESY Yesilyurt 78.05 318 *e*P P 13 08 47.9 -0.4
T57A Hurt 78.05 44 P P 13 08 47.7 -0.5
baz=328,SNR=15
T57A S S 13 18 27.9 -1.8
baz=328
RKY Sarkoy-Tekirda 78.07 324 *e*P P 13 08 47.1 -1.2
R60A Leonardtown, M 78.07 41 P P 13 08 47.5 -0.7
baz=329
R60A S S 13 18 29.6 -0.2
baz=329
YURE YUREGIR 78.07 316 *e*P P 13 08 49.5 +1.1
GRR Gorron 78.10 346 *e*P P 13 08 48.4 +0.1
GRR pmax pmax
comp=Z,271nm,1.0s
U56A King 78.12 45 P P 13 08 48.2 -0.4
baz=328,SNR=12
U56A S S 13 18 29.0 -1.5
baz=328
EDC Edincik 78.12 323 *e*P P 13 08 48.6 +0.1
V55A Taylorsville 78.17 46 P P 13 08 48.4 -0.5
baz=328,SNR=19
V55A S S 13 18 30.0 -1.1
baz=328
V55A Taylorsville 78.17 46 P P 13 08 48.1 -0.8
SJES Sjenica 78.17 330⇑ *i*P P 13 08 49.0 +0.1
S59A Mechanicsville 78.21 42 P P 13 08 48.6 -0.4
baz=329
S59A S S 13 18 30.1 -1.3
baz=329
TAHT Tahtakopru-Hat 78.22 316 *e*P P 13 08 49.6 +0.5
RDO Rodhopi 78.25 325 P P 13 08 49.1 -0.1
RDO Rodhopi 78.25 325 *e*P P 13 08 49.3 +0.1
LADK Ladik-KONYA 78.25 319 *e*P P 13 08 48.8 -0.6
KRBG Karabiga-Canak 78.28 324 *e*P P 13 08 48.9 -0.5
ALN Alexandroupoli 78.29 325 P P 13 08 48.9 -0.5
ALN Alexandroupoli 78.29 325 *e*P P 13 08 48.9 -0.5
ALN Alexandroupoli 78.29 325 P P 13 08 48.8 -0.6
ALN pmax pmax
comp=Z,353nm,1.1s
ALN Alexandroupoli 78.29 325 P P 13 08 48.8 -0.6
PLE Pljevlja 78.29 331⇓ *i*P P 13 08 48.6 -1.0
TVSB Tavsanli 78.30 322 *e*P P 13 08 49.4 -0.3
ERIK Erikli-Kesan 78.32 324 *e*P P 13 08 49.1 -0.5
W54A Cherokee Point 78.38 47 P P 13 08 49.7 -0.4
baz=327,SNR=23
W54A S S 13 18 30.5 -2.9
baz=327
ENEZ Enez 78.39 325 P P 13 08 49.9 -0.1
ENEZ Enez 78.39 325 *e*P P 13 08 49.7 -0.3
KRTS Karatas 78.39 316 *e*P P 13 08 50.3 +0.2
T58A Grand View Acr 78.40 43 P P 13 08 49.6 -0.5
baz=329,SNR=17
T58A S S 13 18 31.8 -1.6
baz=329
JMDO Jabal Madar 78.44 291 P P 13 08 50.1 -0.5
SNR=53
ALNE Al Ain 78.45 294 *i*P P 13 08 49.7 -0.9
SNR=15
KONT Konya--Tatoy 78.47 319 *e*P P 13 08 50.3 -0.2
AJN Ajban 78.47 295 *i*P P 13 08 49.3 -1.3
SNR=13
AJN Ajban 78.47 295 P P 13 08 49.4 -1.3
SNR=13
U57A Blanch 78.49 44 P P 13 08 50.3 -0.3
baz=328,SNR=18
U57A S S 13 18 33.0 -1.4
baz=328
LPK Lapseki 78.50 324 *e*P P 13 08 50.6 0.0
ROSF Rostrenen 78.50 347 *e*P P 13 08 50.4 -0.1
ROSF pmax pmax
comp=Z,277nm,1.0s
MERS Mersin 78.50 317 *e*P P 13 08 50.1 -0.7
R61A Willards 78.51 40 S S 13 18 34.0 -0.5
baz=330
AS31 Alice Springs 78.52 202 pP pP 13 09 30.7 +3.4
ASAR Alice Springs 78.52 202 P P 13 08 52.0 +1.3
comp=Z,25nm,0.9s,baz=12,slow=5.5,SNR=35
ASAR pP pP 13 09 29.1 +1.8
comp=Z,17nm,0.6s,baz=14,slow=5.3,SNR=5.6
ASAR Alice Springs 78.52 202 P P 13 08 51.6 +0.8
ASAR Alice Springs 78.52 202 P P 13 08 51.6 +0.8
V56A Mocksville 78.52 45 P P 13 08 50.5 -0.3
baz=328,SNR=28
V56A S S 13 18 32.5 -2.2
baz=328
S60A Water View 78.52 41 S S 13 18 33.8 -0.9
baz=329
YAYL Yayladag 78.54 315 *e*P P 13 08 51.2 +0.1
UPM Unac-Piva 78.55 331⇑ *i*P P 13 08 50.0 -1.1
UPM Unac-Piva 78.55 331⇓ *i*P P 13 08 50.2 -0.9
IVA Berane 78.55 330⇓ *i*P P 13 08 50.1 -0.9
GELI Tayfur-Gelibol 78.58 324 *e*P P 13 08 50.9 -0.1
SENIN Lac Senin/Sane 78.58 340 IAmb IAmb 13 08 54.0
comp=Z,306nm,1.8s
ARQ Araqi 78.58 293 P P 13 08 50.7 -0.7
SNR=43
NVR Nevrokopi 78.64 327 P P 13 08 51.3 -0.1
BSY Bisya 78.66 292 P P 13 08 51.4 -0.4
SNR=51
SHUT Suhut-Afyon 78.66 321 *e*P P 13 08 51.4 -0.3
GEDZ Gediz 78.68 322 *e*P P 13 08 51.3 -0.4
KOME Kolasin 78.69 330⇑ *i*P P 13 08 50.9 -0.8

KMSC	**Kings Mountain**	**78.72**	**46**	P		**P**	**13 08 51.3**	**-0.6**
	baz=328,SNR=24							
KMSC				S		**S**	**13 18 34.0**	**-2.9**
	baz=328							
BALB	**Balikesir**	**78.73**	**323**	*eP*		**P**	**13 08 51.6**	**-0.3**
KAVA	**Kavala**	**78.73**	**326**	P		**P**	**13 08 51.7**	**-0.2**
X54A	**Belton**	**78.75**	**47**	P		**P**	**13 08 51.8**	**-0.3**
	baz=327,SNR=25							
X54A				S		**S**	**13 18 35.2**	**-2.0**
	baz=327							
V57A	**Coltrane Farms**	**78.77**	**44**	P		**P**	**13 08 51.5**	**-0.7**
	baz=328							
V57A				S		**S**	**13 18 35.2**	**-2.1**
	baz=328							
PVY	**Plav**	**78.78**	**330⇑**	*i*P		**P**	**13 08 51.3**	**-1.0**
T59A	**Double "B" Far**	**78.78**	**42**	P		**P**	**13 08 52.1**	**-0.1**
	baz=329,SNR=20							
T59A				S		**S**	**13 18 35.9**	**-1.5**
	baz=329							
SIMA	**Simav-Kutahya**	**78.81**	**322**	*e*P		**P**	**13 08 51.4**	**-1.0**
SMTH	**Samothraki Isl**	**78.85**	**325**	P		**P**	**13 08 52.0**	**-0.5**
U58A	**Oxford**	**78.86**	**43**	P		**P**	**13 08 52.3**	**-0.4**
	baz=329,SNR=29							
U58A				S		**S**	**13 18 36.4**	**-1.9**
	baz=329							
NKY	**Niksic**	**78.88**	**331⇑**	*i*P		**P**	**13 08 51.9**	**-0.9**
SKO	**Skopje**	**78.88**	**329**	*i* P		**P**	**13 08 53.0**	**+0.3**
STIP	**Stip**	**78.89**	**328**	*i* P		**P**	**13 08 51.5**	**-1.2**
QUIF	**Quistinic**	**78.89**	**347**	*e*P		**P**	**13 08 52.7**	**+0.1**
QUIF				pmax		pmax		
	comp=Z,98nm,1.0s							
NKME	**Niksic**	**78.93**	**331⇑**	*i*P		**P**	**13 08 52.2**	**-0.8**
BRY	**Bratogost**	**78.94**	**331⇑**	*i*P		**P**	**13 08 52.1**	**-1.1**
BRY	**Bratogost**	**78.94**	**331⇑**	*i*P		**P**	**13 08 52.0**	**-1.1**
SRS	**Serrai**	**78.94**	**327**	P		**P**	**13 08 52.5**	**-0.6**
SRS	**Serrai**	**78.94**	**327**	P		**P**	**13 08 52.4**	**-0.6**
SRS				pmax		pmax		
	comp=Z,568nm,1.2s							
S61A	**Accomac**	**78.94**	**41**	P		**P**	**13 08 53.0**	**0.0**
	baz=330							
S61A				S		**S**	**13 18 39.1**	**0.0**
	baz=330							
AVF	**Avril sur Loir**	**78.95**	**343**	*e*P		**P**	**13 08 52.1**	**-0.8**
AVF				pmax		pmax		
	comp=Z,220nm,0.8s							
GADA	**Gvkgeada**	**78.96**	**325**	*e*P		**P**	**13 08 53.4**	**+0.3**
T60A	**Surry**	**78.97**	**42**	P		**P**	**13 08 52.9**	**-0.4**
	baz=329,SNR=6.5							
T60A				S		**S**	**13 18 38.7**	**-0.8**
	baz=329							
T60A	**Surry**	**78.97**	**42**	P		**P**	**13 08 53.1**	**-0.2**
KIZK	**Mersin**	**78.99**	**317**	*e*P		**P**	**13 08 52.8**	**-0.6**
THAS	**Thassos island**	**79.01**	**326**	P		**P**	**13 08 52.9**	**-0.5**
W56A	**Indian Trail**	**79.05**	**45**	P		**P**	**13 08 52.9**	**-0.8**
	baz=328,SNR=20							
W56A				S		**S**	**13 18 37.2**	**-3.3**
	baz=328							
HODGE	**Hodges**	**79.07**	**47**	P		**P**	**13 08 53.3**	**-0.5**
VAY	**Valandovo**	**79.10**	**327**	*i* P		**P**	**13 08 54.0**	**+0.2**
VAY	**Valandovo**	**79.10**	**327**	P		**P**	**13 08 54.0**	**+0.2**
VAY				pmax		pmax		
	comp=Z,532nm,1.1s							
V58A	**Windy Hill, Pi**	**79.13**	**44**	P		**P**	**13 08 53.6**	**-0.5**
	baz=328,SNR=28							
V58A				S		**S**	**13 18 39.6**	**-1.6**
	baz=328							
V58A	**Windy Hill, Pi**	**79.13**	**44**	IAmb		IAmb	13 08 56.0	
	comp=Z,116nm,1.0s							
KNT	**Kendrikon**	**79.13**	**327**	P		**P**	**13 08 54.0**	**-0.1**
KNT	**Kendrikon**	**79.13**	**327**	*e*P		**P**	**13 08 53.8**	**-0.3**
EZN	**Ezine**	**79.13**	**324**	P		**P**	**13 08 53.5**	**-0.6**
CEME	**Cevo**	**79.14**	**331⇑**	*i*P		**P**	**13 08 53.4**	**-0.8**
SEYD	**Seydisehir-KON**	**79.15**	**319**	*e*P		**P**	**13 08 53.6**	**-0.7**
X55A	**Gracelyn & Ava**	**79.15**	**47**	P		**P**	**13 08 53.7**	**-0.6**
	baz=328,SNR=21							
X55A				S		**S**	**13 18 37.7**	**-3.7**
	baz=328							
PDG	**Podgorica**	**79.15**	**330⇑**	*i*P		**P**	**13 08 53.5**	**-0.5**
TTG	**Podgorica**	**79.15**	**330⇑**	*i*P		**P**	**13 08 53.6**	**-0.5**
KEBE	**Keben-Mersin**	**79.20**	**317**	*e*P		**P**	**13 08 53.4**	**-1.2**
GOGA	**Godfrey**	**79.20**	**48**	P		**P**	**13 08 54.1**	**-0.5**
	baz=327,SNR=10							
GOGA				S		**S**	**13 18 40.1**	**-1.9**
	baz=327							
U59A	**Littleton**	**79.21**	**43**	P		**P**	**13 08 54.3**	**-0.2**
	baz=329,SNR=13							
U59A				S		**S**	**13 18 41.7**	**-0.4**
	baz=329							
BGF	**Bois d'Agland**	**79.27**	**343**	*e*P		**P**	**13 08 54.4**	**-0.3**
BGF				pmax		pmax		
	comp=Z,115nm,0.7s							
SOH	**Sokhos**	**79.28**	**327**	P		**P**	**13 08 54.3**	**-0.7**
W57A	**Gilead**	**79.29**	**45**	P		**P**	**13 08 54.6**	**-0.4**
	baz=328,SNR=21							
W57A				S		**S**	**13 18 40.2**	**-2.8**
	baz=328							
W57A	**Gilead**	**79.29**	**45**	P		**P**	**13 08 54.7**	**-0.3**
ISP	**Isparta**	**79.31**	**320**	*e*P		**P**	**13 08 54.6**	**-0.6**
ISP	**Isparta**	**79.31**	**320**	P		**P**	**13 08 55.7**	**+0.5**
ISP	**Isparta**	**79.31**	**320**	IAmb		IAmb	13 08 57.6	
	comp=Z,313nm,1.4s							
TEVE	**Tevekalti-Mers**	**79.32**	**318**	*e*P		**P**	**13 08 54.0**	**-1.3**
HCY	**Herceg Novi**	**79.36**	**331⇑**	*i*P		**P**	**13 08 54.7**	**-0.6**
HCY	**Herceg Novi**	**79.36**	**331⇑**	*i*P		**P**	**13 08 54.0**	**-1.3**
U60A	**Pendleton**	**79.37**	**42**	P		**P**	**13 08 54.8**	**-0.6**
	baz=329							
U60A				S		**S**	**13 18 42.6**	**-1.1**
	baz=329							
BUM	**Brajici-Budva**	**79.38**	**330⇑**	*i*P		**P**	**13 08 54.6**	**-0.8**
IKL	**Isikli**	**79.39**	**317**	*e*P		**P**	**13 08 54.6**	**-0.9**
DRME	**Dracevica, Mon**	**79.39**	**330⇑**	*i*P		**P**	**13 08 54.9**	**-0.5**
DRME	**Dracevica, Mon**	**79.39**	**330⇑**	*i*P		**P**	**13 08 55.1**	**-0.3**
X56A	**White Oak**	**79.40**	**46**	P		**P**	**13 08 54.9**	**-0.7**
	baz=328,SNR=21							
X56A				S		**S**	**13 18 41.1**	**-3.0**
	baz=328							
BASM	**Basmaki-Afyon**	**79.41**	**321**	*e*P		**P**	**13 08 55.1**	**-0.6**
KULA	**Kula-Manisa**	**79.42**	**322**	P		**P**	**13 08 55.3**	**-0.5**
KULA	**Kula-Manisa**	**79.42**	**322**	*e*P		**P**	**13 08 55.2**	**-0.5**
PHP	**Peshkopia**	**79.46**	**329**	P		**P**	**13 08 55.1**	**-0.8**
LIA	**Limnos Island**	**79.48**	**325**	P		**P**	**13 08 55.5**	**-0.4**
BERE	**Bereket-Mersin**	**79.49**	**318**	*e*P		**P**	**13 08 54.8**	**-1.5**
Y55A	**Saluda**	**79.49**	**47**	P		**P**	**13 08 55.9**	**-0.2**
	baz=328,SNR=23							
Y55A				S		**S**	**13 18 43.0**	**-2.1**
	baz=328							
LPL	**La Plagne**	**79.50**	**340**	*e*P		**P**	**13 08 57.2**	**+0.9**
LPL				pmax		pmax		
	comp=Z,240nm,1.1s							
OUR	**Ouranopolis**	**79.51**	**326**	P		**P**	**13 08 55.5**	**-0.6**
OUR	**Ouranopolis**	**79.51**	**326**	*e*P		**P**	**13 08 55.7**	**-0.4**
AKKU	**Akkuyu-Mersin**	**79.52**	**317**	*e*P		**P**	**13 08 55.4**	**-0.8**
LPG	**La Plagne**	**79.52**	**340**	*e*P		**P**	**13 08 57.4**	**+1.0**
LPG				pmax		pmax		
	comp=Z,498nm,1.3s							
V59A	**Middlesex**	**79.53**	**43**	P		**P**	**13 08 55.9**	**-0.3**
	baz=329,SNR=26							
V59A				S		**S**	**13 18 44.4**	**-1.0**
	baz=329							
HORT	**Hortiatis**	**79.57**	**327**	P		**P**	**13 08 55.6**	**-0.9**
HORT	**Hortiatis**	**79.57**	**327**	*e*P		**P**	**13 08 55.8**	**-0.7**
ULC	**Ulcinj**	**79.58**	**330⇑**	*i*P		**P**	**13 08 55.7**	**-0.8**
DKL	**Dikili**	**79.59**	**323**	*e*P		**P**	**13 08 55.8**	**-0.7**
BCK	**Bucak**	**79.59**	**320**	*e*P		**P**	**13 08 55.5**	**-1.2**
MHTO	**MHTO**	**79.60**	**291**	P		**P**	**13 08 56.7**	**-0.2**
	SNR=128							
PLG	**Polygyros**	**79.65**	**326**	P		**P**	**13 08 56.2**	**-0.7**
PRK	**Paraskevi**	**79.67**	**324**	P		**P**	**13 08 57.2**	**+0.3**
TEKE	**Tekeli-Mersin**	**79.71**	**318**	*e*P		**P**	**13 08 55.5**	**-1.8**
W58A	**Raeford**	**79.73**	**45**	P		**P**	**13 08 57.2**	**-0.2**
	baz=328,SNR=30							
W58A				S		**S**	**13 18 45.9**	**-1.7**
	baz=328							
U61A	**Possum Corner**	**79.79**	**42**	P		**P**	**13 08 57.1**	**-0.6**
	baz=330,SNR=6.8							
U61A				S		**S**	**13 18 48.1**	**+0.1**
	baz=330							
EREN	**Erenkoy**	**79.79**	**317**	*e*P		**P**	**13 08 57.5**	**-0.2**
X57A	**Johnson Farm,**	**79.83**	**45**	P		**P**	**13 08 56.6**	**-1.4**
	baz=328,SNR=5.5							
SIGR	**SIGRI**	**79.85**	**324**	P		**P**	**13 08 57.0**	**-0.9**
SIGR	**SIGRI**	**79.85**	**324**	*e*P		**P**	**13 08 57.2**	**-0.7**
OHR	**Ohrid**	**79.86**	**329**	*i* P		**P**	**13 08 57.5**	**-0.6**
OHR	**Ohrid**	**79.86**	**329**	P		**P**	**13 08 57.6**	**-0.5**
OHR				pmax		pmax		
	comp=Z,791nm,0.9s							
Y56A	**Pelion**	**79.86**	**47**	P		**P**	**13 08 57.3**	**-0.8**
	baz=328							
Y56A				S		**S**	**13 18 46.7**	**-2.3**
	baz=328							
V60A	**Jim Taylor Roa**	**79.94**	**43**	P		**P**	**13 08 57.6**	**-0.9**
	baz=329							
V60A				S		**S**	**13 18 48.5**	**-1.2**
	baz=329							
TIR	**Tirane**	**79.94**	**329**	P		**P**	**13 08 58.1**	**-0.3**
TIR	**Tirane**	**79.94**	**329**	P		**P**	**13 08 58.4**	**0.0**
TIR				pmax		pmax		
	comp=Z,799nm,1.0s							
W59A	**Clinton**	**79.95**	**44**	P		**P**	**13 08 57.6**	**-0.9**
	baz=329,SNR=7.0							
W59A				S		**S**	**13 18 47.7**	**-2.1**
	baz=329							
BNI	**Bardonecchia**	**79.96**	**340**	P		**P**	**13 08 59.6**	**+1.0**
BNI	**Bardonecchia**	**79.96**	**340**	IAmb		IAmb	13 09 02.1	
	comp=Z,405nm,1.8s							
GAZI	**Gazipasa**	**79.96**	**318**	*e*P		**P**	**13 08 56.4**	**-2.2**
VLC	**Villacollemand**	**79.97**	**337**	P		**P**	**13 08 59.0**	**+0.4**
PAIG	**Paliouri**	**79.97**	**326**	P		**P**	**13 08 57.6**	**-1.0**
154A	**Montrose**	**80.03**	**49**	IAmb		IAmb	13 09 01.1	
	comp=Z,192nm,0.9s							
Y57A	**Sumter**	**80.08**	**46**	P		**P**	**13 08 58.8**	**-0.4**
	baz=328							
Y57A				S		**S**	**13 18 47.6**	**-3.6**
	baz=328							
X58A	**Rowland**	**80.08**	**45**	P		**P**	**13 08 59.1**	**-0.2**
	baz=328,SNR=6.9							
X58A				S		**S**	**13 18 48.7**	**-2.6**
	baz=328							
X58A	**Rowland**	**80.08**	**45**	IAmb		IAmb	13 09 01.1	
	comp=Z,90nm,0.8s							
HWQ	**Hawqa**	**80.09**	**315**	*e*P		**P**	**13 08 58.5**	**-1.1**
CNNC	**Cliffs of the**	**80.12**	**43**	P		**P**	**13 08 58.9**	**-0.6**
	baz=329							
CNNC				S		**S**	**13 18 49.9**	**-1.7**
	baz=329							
352A	**Blakely**	**80.12**	**51**	IAmb		IAmb	13 09 01.4	
	comp=Z,110nm,0.8s							
BLCB	**Balcova**	**80.14**	**323**	P		**P**	**13 08 58.6**	**-0.9**
BLCB	**Balcova**	**80.14**	**323**	*e*P		**P**	**13 08 58.9**	**-0.6**
SSB	**Saint Sauveur**	**80.18**	**341**	P		**P**	**13 08 59.6**	**-0.1**
SSB				pmax		pmax		
	comp=Z,285nm,1.3s							
SSB	**Saint Sauveur**	**80.18**	**341**	P		**P**	**13 08 59.6**	**-0.1**
SSB				IAmb		IAmb	13 09 02.6	
	comp=Z,285nm,1.3s							
V61A	**Roper**	**80.20**	**42**	P		**P**	**13 08 59.0**	**-0.9**
	baz=330							
V61A				S		**S**	**13 18 51.8**	**-0.6**
	baz=330							
AYDB	**Zeytinkoy-Aydi**	**80.21**	**322**	*e*P		**P**	**13 08 59.7**	**-0.4**
LIT	**Litokhoron**	**80.22**	**327**	P		**P**	**13 08 58.7**	**-1.3**
LIT	**Litokhoron**	**80.22**	**327**	IAmb		IAmb	13 09 00.8	
	comp=Z,162nm,0.8s							
Z56A	**Williston**	**80.23**	**47**	P		**P**	**13 08 59.4**	**-0.7**
	baz=328							
Z56A				S		**S**	**13 18 50.8**	**-2.0**
	baz=328							
MBDF	**Montbardon**	**80.25**	**340**	*e*P		**P**	**13 09 00.5**	**+0.3**
MBDF				pmax		pmax		
	comp=Z,52nm,0.7s							
KZN	**Kozani**	**80.28**	**328**	P		**P**	**13 08 59.4**	**-0.9**
URLA	**Izmir**	**80.33**	**323**	*e*P		**P**	**13 08 59.9**	**-0.7**
W60A	**Pink Hill**	**80.36**	**43**	P		**P**	**13 09 00.6**	**-0.2**
	baz=329,SNR=5.4							
W60A				S		**S**	**13 18 53.4**	**-0.7**
	baz=329							
X59A	**McDuffie Farm,**	**80.39**	**44**	P		**P**	**13 08 59.8**	**-1.1**
	baz=329							
X59A				S		**S**	**13 18 52.9**	**-1.5**
	baz=329							
NEST	**Nestorio**	**80.41**	**328**	P		**P**	**13 09 00.6**	**-0.5**
TAOE	**Nuku Hiva Isla**	**80.44**	**118**	*e*P		**P**	**13 09 01.7**	**+0.3**
	comp=Z,311nm,1.1s							
TAOE	**Nuku Hiva Isla**	**80.44**	**118**	P		**P**	**13 09 02.0**	**+0.6**
TAOE				IAmb		IAmb	13 09 02.8	
	comp=Z,148nm,1.1s							
MNCY	**Minicoy**	**80.47**	**271**	IAmb		IAmb	13 09 33.6	
	comp=Z,241nm,0.6s							
ELL	**Elmali**	**80.48**	**320**	*e*P		**P**	**13 09 01.1**	**-0.5**
ELL	**Elmali**	**80.48**	**320**	P		**P**	**13 09 01.1**	**-0.5**
CHOS	**Chios island**	**80.50**	**324**	P		**P**	**13 09 00.8**	**-0.8**
CHOS	**Chios island**	**80.50**	**324**	*e*P		**P**	**13 09 00.8**	**-0.8**
NRCA	**Norcia**	**80.52**	**335**	P		**P**	**13 09 01.8**	**+0.2**
BHL	**Bhannes**	**80.54**	**315**	*e*P		**P**	**13 09 01.3**	**-0.6**
Z57A	**Bowman**	**80.55**	**47**	P		**P**	**13 09 01.5**	**-0.3**
	baz=328,SNR=14							
W61A	**Ground Anchor**	**80.55**	**43**	P		**P**	**13 09 00.6**	**-1.2**
	baz=330							
W61A				S		**S**	**13 18 55.5**	**-0.6**
	baz=330							
PENT	**Pentalofos**	**80.58**	**328**	P		**P**	**13 09 01.4**	**-0.6**
CSS	**Mathiatis**	**80.63**	**317**	*e*P		**P**	**13 09 01.2**	**-1.1**
XOR	**Xorichti**	**80.64**	**326**	P		**P**	**13 09 00.9**	**-1.3**
X60A	**Albert Glenn T**	**80.65**	**44**	P		**P**	**13 09 01.1**	**-1.2**
	baz=329							
X60A				S		**S**	**13 18 55.6**	**-1.5**
	baz=329							
V62A	**Hyde County Ai**	**80.65**	**42**	P		**P**	**13 09 01.5**	**-0.8**
	baz=330							
DQM	**DQM**	**80.68**	**290**	P		**P**	**13 09 01.8**	**-0.9**
	SNR=24							
LEF	**Lefka**	**80.68**	**317**	*e*P		**P**	**13 09 01.4**	**-1.1**
NEO	**Neokhori**	**80.69**	**326**	P		**P**	**13 09 01.2**	**-1.3**
RJF	**Les Rejaudoux**	**80.71**	**343**	*e*P		**P**	**13 09 02.1**	**-0.4**
RJF				pmax		pmax		
	comp=Z,193nm,1.0s							
DQRL	**Deir Qamar**	**80.74**	**315**	*e*P		**P**	**13 09 02.9**	**-0.1**
Y59A	**Loris**	**80.77**	**45**	P		**P**	**13 09 02.3**	**-0.6**
	baz=329							
YER	**Yerkesik**	**80.78**	**322**	P		**P**	**13 09 02.9**	**-0.1**
YER	**Yerkesik**	**80.78**	**322**	*e*P		**P**	**13 09 03.2**	**+0.2**
TIGA	**Tifton**	**80.79**	**50**	P		**P**	**13 09 03.2**	**+0.1**
	baz=327,SNR=17							
TIGA				S		**S**	**13 18 57.6**	**-1.1**
	baz=327							
TIGA	**Tifton**	**80.79**	**50**	P		**P**	**13 09 02.6**	**-0.5**
TIGA				IAmb		IAmb	13 09 05.4	
	comp=Z,221nm,0.9s							
RCY	**Rachaya**	**80.80**	**314**	*e*P		**P**	**13 09 03.0**	**-0.4**
MLSB	**Milas**	**80.83**	**322**	*e*P		**P**	**13 09 03.7**	**+0.4**
QRWL	**Qaraoun**	**80.83**	**314**	*e*P		**P**	**13 09 03.3**	**-0.1**
THL	**Klokotos Trika**	**80.86**	**327**	P		**P**	**13 09 01.4**	**-1.9**
AQU	**L'Aquila**	**80.89**	**334**	P		**P**	**13 09 04.8**	**+1.2**
AQU				pmax		pmax		
	comp=Z,838nm,1.1s							
AQU	**L'Aquila**	**80.89**	**334⇑**	*i*P		**P**	**13 09 04.2**	**+0.6**
255A	**Hazlehurst**	**80.90**	**49**	P		**P**	**13 09 04.2**	**+0.5**
255A				IAmb		IAmb	13 09 06.0	
	comp=Z,156nm,1.1s							
FETY	**Fethiye**	**80.90**	**321**	P		**P**	**13 09 02.9**	**-0.8**
FETY	**Fethiye**	**80.90**	**321**	*e*P		**P**	**13 09 03.2**	**-0.5**
DALY	**Dalyan (Mula)**	**80.91**	**321**	*e*P		**P**	**13 09 03.5**	**-0.1**
Z58A	**St. Stephen**	**80.91**	**46**	P		**P**	**13 09 03.3**	**-0.4**
	baz=328,SNR=14							
157A	**Early Branch**	**80.94**	**47**	P		**P**	**13 09 04.1**	**+0.2**
	baz=328,SNR=6.7							
NHSC	**New Hope**	**80.94**	**46**	P		**P**	**13 09 03.9**	**0.0**
	baz=328,SNR=5.3							
NHSC	**New Hope**	**80.94**	**46**	IAmb		IAmb	13 09 06.1	
	comp=Z,114nm,1.0s							
SHBL	**Chebaa**	**80.97**	**314**	*e*P		**P**	**13 09 03.8**	**-0.5**
CAF	**Calviac**	**80.98**	**343**	*e*P		**P**	**13 09 03.9**	**-0.1**
CAF				pmax		pmax		
	comp=Z,268nm,0.9s							
KYMI	**Kymi, Euboea I**	**80.98**	**325**	P		**P**	**13 09 03.9**	**-0.1**
Y60A	**Bolivia**	**81.04**	**44**	P		**P**	**13 09 04.0**	**-0.3**
	baz=329,SNR=6.6							
Y60A				S		**S**	**13 18 59.4**	**-1.7**
	baz=329							
AKAS	**Kas**	**81.05**	**320**	*e*P		**P**	**13 09 03.4**	**-1.2**
AKAS	**Kas**	**81.05**	**320**	IAmb		IAmb	13 09 08.5	
	comp=Z,182nm,1.1s							
TURN	**Turunc**	**81.11**	**321**	*e*P		**P**	**13 09 04.7**	**0.0**
KSL	**Kastellorizon**	**81.13**	**320**	P		**P**	**13 09 03.8**	**-1.0**
BODT	**Bodrum**	**81.21**	**322**	P		**P**	**13 09 04.2**	**-1.1**
BODT	**Bodrum**	**81.21**	**322**	*e*P		**P**	**13 09 04.5**	**-0.8**
Z59A	**Georgetown, SC**	**81.23**	**46**	P		**P**	**13 09 05.5**	**+0.2**
	baz=329,SNR=9.7							
SRN	**Sarande**	**81.23**	**329**	P		**P**	**13 09 04.6**	**-0.7**
158A	**Hollywood**	**81.25**	**46**	P		**P**	**13 09 05.1**	**-0.4**
	baz=328							
MAKR	**Makrakomi, Fth**	**81.32**	**327**	P		**P**	**13 09 04.2**	**-1.6**
LKR	**Lokris**	**81.35**	**326**	P		**P**	**13 09 04.3**	**-1.7**
FRF	**La Foret Royal**	**81.39**	**339**	*e*P		**P**	**13 09 06.0**	**-0.1**
FRF				pmax		pmax		
	comp=Z,141nm,1.2s							
KARY	**Karystos**	**81.40**	**325**	P		**P**	**13 09 05.1**	**-1.1**
553A	**Crawfordville**	**81.43**	**51**	IAmb		IAmb	13 09 09.1	
	comp=Z,129nm,1.1s							
IGT	**Igoumenitsa**	**81.44**	**328**	P		**P**	**13 09 05.8**	**-0.7**
IGT	**Igoumenitsa**	**81.44**	**328**	P		**P**	**13 09 05.5**	**-1.0**
IGT				pmax		pmax		
	comp=Z,448nm,1.1s							
KEK	**Kerkira**	**81.45**	**329**	P		**P**	**13 09 05.7**	**-0.8**
EVR	**Evrytania**	**81.52**	**327**	P		**P**	**13 09 05.7**	**-1.3**
DION	**Dionisos Attik**	**81.54**	**325**	P		**P**	**13 09 05.5**	**-1.5**
PTL	**Penteli**	**81.59**	**325**	P		**P**	**13 09 05.8**	**-1.5**
PMOR	**Pomariorio Ree**	**81.64**	**128**	*e*P		**P**	**13 09 08.5**	**+0.9**
	comp=Z,152nm,1.1s							
PMOR	**Pomariorio Ree**	**81.64**	**128**	*e*T		T	14 38 48.3	
	comp=Z,16nm,0.2s							
ARG	**Arkhangelos**	**81.64**	**321**	P		**P**	**13 09 06.8**	**-0.7**
ARG	**Arkhangelos**	**81.64**	**321**	*e*P		**P**	**13 09 06.9**	**-0.6**
VILL	**Villia**	**81.68**	**326**	P		**P**	**13 09 06.0**	**-1.8**
ATHU	**Athens Univers**	**81.69**	**325**	P		**P**	**13 09 06.1**	**-1.7**
ATH	**Athens Observa**	**81.71**	**325**	P		**P**	**13 09 06.3**	**-1.5**
DSF	**Desfina**	**81.73**	**326**	P		**P**	**13 09 05.7**	**-2.3**
ANX	**Ano Chora**	**81.77**	**327**	P		**P**	**13 09 07.0**	**-1.3**
VLY	**Voula,Athens**	**81.79**	**325**	P		**P**	**13 09 06.5**	**-1.8**
PAOL	**Paolisi**	**81.81**	**333**	P		**P**	**13 09 08.2**	**-0.2**
PAOL				IAmb		IAmb	13 09 10.8	
	comp=Z,274nm,1.1s							
APE	**Apeiranthos**	**81.86**	**323**	*e*P		**P**	**13 09 04.0**	**-4.7**
MMLI	**Mount Malkishu**	**81.89**	**314**	*e*P		**P**	**13 09 09.4**	**+0.5**
SERG	**Sergoula**	**81.89**	**327**	P		**P**	**13 09 07.2**	**-1.6**
TRIZ	**Trizonia**	**81.92**	**327**	P		**P**	**13 09 07.3**	**-1.6**
EFP	**Efpalio**	**81.92**	**327**	P		**P**	**13 09 07.8**	**-1.2**
LTK	**Loutraki**	**81.92**	**326**	P		**P**	**13 09 06.6**	**-2.4**
AMGA	**Amorgos Island**	**81.94**	**323**	P		**P**	**13 09 07.1**	**-2.0**
LOUT	**Loutraki**	**81.95**	**326**	P		**P**	**13 09 06.9**	**-2.2**
VAH	**Vaihoa**	**81.97**	**128**	*e*P		**P**	**13 09 10.0**	**+0.7**
	comp=Z,127nm,1.0s							
TSLK	**Tsoukalades, L**	**81.98**	**328**	P		**P**	**13 09 08.4**	**-0.9**
LKD2	**Lefkada island**	**82.01**	**328**	P		**P**	**13 09 08.5**	**-1.0**
NYDR	**Nydri-Lefkada**	**82.07**	**328**	P		**P**	**13 09 08.7**	**-1.0**
EVGI	**Lefkada island**	**82.17**	**328**	P		**P**	**13 09 09.3**	**-0.9**
KLV	**Kalavryta, Ach**	**82.19**	**326**	P		**P**	**13 09 09.0**	**-1.4**
GUR	**Goura**	**82.22**	**326**	P		**P**	**13 09 08.9**	**-1.8**
EPID	**Epidavros**	**82.24**	**325**	P		**P**	**13 09 08.1**	**-2.6**
IOSP	**Ios island**	**82.26**	**323**	P		**P**	**13 09 07.9**	**-2.9**
FSK	**Fiskardo**	**82.34**	**328**	P		**P**	**13 09 09.8**	**-1.3**
RLS	**Riolos of Patr**	**82.41**	**327**	P		**P**	**13 09 11.0**	**-0.5**
KRND	**KRANIDI**	**82.44**	**325**	P		**P**	**13 09 09.8**	**-1.8**
SANT	**Santorini**	**82.51**	**323**	IAmb		IAmb	13 09 12.3	
	comp=Z,197nm,1.0s							
ARMA	**Armidale**	**82.54**	**186**	pP		pP	13 09 52.5	+3.6
VLS	**Valsamata**	**82.59**	**327**	P		**P**	**13 09 11.6**	**-0.9**
DMLN	**Damoulianata-K**	**82.61**	**328**	P		**P**	**13 09 11.9**	**-0.6**
TRIP	**Tripoli**	**82.61**	**326**	P		**P**	**13 09 11.4**	**-1.3**
VTN	**Vitineika**	**82.63**	**327**	P		**P**	**13 09 12.2**	**-0.4**
VLX	**Vlachokerasia**	**82.71**	**326**	P		**P**	**13 09 11.5**	**-1.7**
ITM	**Ithomi**	**83.04**	**326**	P		**P**	**13 09 13.3**	**-1.5**
ITM	**Ithomi**	**83.04**	**326**	*e*P		**P**	**13 09 13.6**	**-1.2**
PPT	**Papeete**	**83.05**	**130**	P		**P**	**13 09 16.3**	**+1.4**
	comp=Z,119nm,1.0s,baz=17,slow=9.3,SNR=6.8							
PPT				LR		LR	13 38 18.2	
	comp=Z,234nm,20.2s,baz=316,slow=30							
PPT2	**Papeete2**	**83.07**	**130**	*e*P		**P**	**13 09 16.0**	**+0.9**
	comp=Z,188nm,1.3s							
PPT2	**Papeete2**	**83.07**	**130**	*e*S		**S**	**13

TEIG	**Tepich**	**87.74**	**59**	P		**P**	**13 09 38.3**	**0.0**
PMRV	**Marv??o**	**87.79**	**349**	*e*P		**P**	**13 09 38.6**	**+0.3**
	comp=Z,47nm,1.5s							
PMRV	**Marv??o**	**87.79**	**349**	*e*S		**S**	**13 20 12.1**	**+4.0**
PSBE	**So Bento**	**87.86**	**350**	*e*P		**P**	**13 09 40.7**	**+2.1**
	comp=Z,80nm,0.9s							
TBI	**Tubuai**	**88.12**	**133**	*e*S		**S**	**13 20 07.7**	**-3.5**
	comp=Z,820nm,24.2s							
TBI	**Tubuai**	**88.12**	**133**	*e*LQ		LQ	13 33 23.5	
	comp=Z,609nm,30.0s							
TBI				*e*LR		LR	13 37 16.5	
	comp=Z,1µm,38.5s,baz=323							
TBI	**Tubuai**	**88.12**	**133**	*e*T		T	14 46 54.4	
	comp=Z,19nm,0.3s							
KEST	**Kesra**	**88.18**	**335**	P		**P**	**13 09 40.1**	**-0.2**
	comp=Z,205nm,0.9s,baz=303,slow=2.1,SNR=101							
KEST				LR		LR	13 53 20.2	
	comp=Z,255nm,19.6s,baz=267,slow=38							
PMTG	**Montargil**	**88.24**	**349**	*e*P		**P**	**13 09 40.5**	**+0.1**
	comp=Z,55nm,1.7s							
PMTG				*e*pP		**pP**	**13 10 16.5**	**-1.3**
ABMS	**Boumerdes**	**88.60**	**340**	P		**P**	**13 09 42.2**	**+0.1**
SET	**Setif**	**88.70**	**338**	P		**P**	**13 09 44.0**	**+1.3**
EVO	**Evora**	**88.75**	**349**	*e*P		**P**	**13 09 43.0**	**+0.2**
	comp=Z,59nm,1.4s							
ADJB	**Djebel Djouab**	**89.18**	**340**	P		**P**	**13 09 45.2**	**+0.2**
AKET	**Djebel Ketaf**	**89.19**	**339**	P		**P**	**13 09 45.5**	**+0.4**
PNCL	**Nicolau / Gran**	**89.22**	**349**	*e*P		**P**	**13 09 43.5**	**-1.5**
	comp=Z,29nm,1.9s							
PBEJ	**Beja**	**89.23**	**349**	*e*P		**P**	**13 09 45.3**	**+0.3**
	comp=Z,34nm,1.2s							
ECHA	**Ech Chlef**	**89.61**	**341**	P		**P**	**13 09 44.9**	**-1.9**
PCVE	**Castro Verde**	**89.64**	**349**	*e*P		**P**	**13 09 46.8**	**-0.2**
	comp=Z,75nm,1.6s							
PCVE				*e*pP		**pP**	**13 10 27.0**	**+2.5**
PVAQ	**Vaqueiros**	**89.82**	**349**	*e*P		**P**	**13 09 48.3**	**+0.5**
	comp=Z,62nm,1.2s							
PVAQ				*e*pP		**pP**	**13 10 27.2**	**+1.9**
PVAQ				*e*S		S	13 20 12.0	-15
PBDV	**Barranco-do-Ve**	**90.01**	**349**	*e*P		**P**	**13 09 48.1**	**-0.6**
	comp=Z,64nm,1.4s							
PBDV				*e*pP		**pP**	**13 10 32.7**	**+6.4**
MORF	**Marmelete**	**90.03**	**349**	*e*P		**P**	**13 09 48.7**	**-0.1**
MORF				AMb		AMB	13 09 52.5	
	comp=Z,163nm,2.0s							
MORF	**Marmelete**	**90.03**	**349**	*e*P		**P**	**13 09 48.7**	**-0.1**
MORF	**Marmelete**	**90.03**	**349**	*e*P		**P**	**13 09 49.9**	**+1.0**
	comp=Z,158nm,1.8s							
URZ	**Urewera**	**91.69**	**165**	LR		LR	13 49 46.5	
	comp=Z,268nm,18.1s,baz=12,slow=34							
TGUH	**Tegucigalpa,Un**	**93.36**	**62**	IAmb		IAmb	13 10 07.0	
	comp=Z,70nm,1.1s							
PMPS	**Porto Santo**	**94.88**	**355**	*e*P		P	13 10 01.7	-9.5
	comp=Z,251nm,1.5s							
PMAR	**Madeira**	**95.24**	**356**	*e*P		**P**	**13 10 13.1**	**0.0**
	comp=Z,171nm,1.6s							
ATD	**Arta Tunnel**	**95.72**	**297**	IAmb		IAmb	13 10 18.9	
	comp=Z,64nm,1.2s							
SDV	**Santo Domingo**	**106.25**	**51**	*e*P		**Pdif**	**13 11 01.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**111.70**	**335**	Pdiff		**Pdif**	**13 11 24.5**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=349,slow=4.4,SNR=3.8							
TORD				PKiKP		**PKiKP**	**13 15 23.6**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=16,slow=1.7,SNR=12							
TORD				PP		**PP**	**13 16 00.7**	**-5.9**
	comp=Z,10nm,1.0s,baz=7.6,slow=7.7,SNR=6.1							
TORD				PKKPbc		**PKKPbc**	**13 26 15.5**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=233,slow=1.7,SNR=7.5							
DBIC	**Dimbokro**	**119.49**	**340**	PKP		**PKPdf**	**13 15 38.2**	**-0.1**
	comp=Z,9.8nm,0.4s,baz=348,slow=2.2,SNR=23							
DBIC				pPKP		**pPKPdf**	**13 16 18.1**	**+0.5**
	comp=Z,9.7nm,0.8s,baz=16,slow=1.9,SNR=3.6							
DBIC				PP		**PP**	**13 17 00.2**	**-0.8**
	comp=Z,15nm,0.9s,baz=356,slow=7.3,SNR=4.1							
DBIC				PKP2ab			13 31 42.6	
	comp=Z,264nm,0.3s,baz=144,slow=0.0,SNR=4.2							
TIC	**Toumodi**	**119.54**	**341**	*e*P		**PKPdf**	**13 15 38.1**	**-0.3**
KIC	**Kosan Boka**	**119.76**	**340**	*e*P		**PKPdf**	**13 15 38.7**	**-0.1**
	comp=Z,33nm,0.7s							
LIC	**Lamto**	**119.95**	**340**	*e*P		**PKiKP**	**13 15 39.8**	**+0.5**
	comp=Z,38nm,0.6s							
ETMB	**Extrema**	**124.56**	**57**	*e*P		**PKiKP**	**13 15 49.7**	**+1.4**
ITTB	**Itaituba**	**124.67**	**42**	*e*P		**PKiKP**	**13 15 49.0**	**+0.4**
SAML	**Samuel**	**125.34**	**53**	*e*P		**PKiKP**	**13 15 49.7**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**125.69**	**33**	*e*P		**PKiKP**	**13 15 52.2**	**+1.6**
LSZ	**Lusaka**	**125.91**	**294**	PKIKP		**PKiKP**	**13 15 51.7**	**+0.7**
LSZ	**Lusaka**	**125.91**	**294**			**PKiKP**	**13 15 51.7**	**+0.7**
NPGB	**Novo Progresso**	**127.24**	**43**	*e*P		**PKiKP**	**13 15 55.0**	**+1.4**
PRPB	**Parauapebas**	**128.63**	**36**	*e*P		**PKiKP**	**13 15 56.5**	**+0.1**
LPAZ	**La Paz**	**128.94**	**63**	PKP		**PKPdf**	**13 15 57.1**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=12,slow=5.0,SNR=12							
LPAZ				pPKP		**pPKPdf**	**13 16 38.0**	**+1.7**
	comp=Z,4.3nm,0.9s,baz=12,slow=11,SNR=2.9							
LPAZ	**La Paz**	**128.94**	**63**	*e*P		**PKiKP**	**13 15 58.0**	**+0.3**
VNDA	**Vanda**	**129.55**	**179**	PKP		**PKPdf**	**13 15 55.6**	**0.0**
	comp=Z,1.6nm,1.0s,baz=325,slow=4.1,SNR=6.5							
VNDA				pPKP		**pPKPdf**	**13 16 36.4**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=293,slow=22,SNR=4.3							
PB12	**IPOC Station P**	**129.59**	**67**			**PKiKP**	**13 15 57.9**	**-0.4**
VILB	**Vilhena**	**130.25**	**52**	*e*P		**PKiKP**	**13 15 59.8**	**+0.2**
CLDB	**Colider**	**130.47**	**46**	*e*P		**PKPdf**	**13 15 59.4**	**+0.1**
SMTB	**Santa Maria do**	**131.92**	**35**	*e*P		**PKiKP**	**13 16 04.6**	**+1.6**
RCBR	**Riachuelo**	**132.28**	**19**	*e*P		**PKiKP**	**13 16 04.0**	**+0.2**
PTLB	**Pontes e Lacer**	**132.91**	**53**	*e*P		**PKiKP**	**13 16 04.6**	**-0.3**
SNDB	**Serra Nova Dou**	**133.37**	**41**	*e*P		**PKPdf**	**13 16 05.0**	**+0.3**
LVC	**Limon Verde**	**133.56**	**69**	*e*P		**PKiKP**	**13 16 07.6**	**+1.1**
TSUM	**Tsumeb**	**134.89**	**302**	PKPdf		**PKPdf**	**13 16 05.5**	**-2.0**
H03N2	**Juan Fernandez**	**135.46**	**88**	T		T	15 46 58.8	
	baz=314,slow=77,SNR=8082							
H03N1	**Juan Fernandez**	**135.47**	**88**	T		T	15 47 00.1	
	baz=314,slow=77,SNR=7230							
H03N3	**Juan Fernandez**	**135.47**	**88**	T		T	15 46 59.9	
	baz=314,slow=77,SNR=7761							
H03S2	**Juan Fernandez**	**135.73**	**89**	T		T	15 47 24.0	
	baz=308,slow=77							
H03S3	**Juan Fernandez**	**135.73**	**89**	T		T	15 47 16.7	
	baz=308,slow=77							
H03S1	**Juan Fernandez**	**135.75**	**89**	T		T	15 47 17.7	
	baz=308,slow=77							
SDBA	**SAO DESIDERIO**	**136.15**	**33**	*e*P		**PKPdf**	**13 16 10.7**	**+0.7**
BOSA	**Boshof**	**137.97**	**285**	PKhKP		PKPpre	13 16 05.5	
BDFB	**Brasilia**	**138.00**	**39**	PKhKP		PKPpre	13 16 10.2	
	comp=Z,2.6nm,0.6s,baz=24,slow=6.0,SNR=3.3							
BDFB				PP		**PP**	**13 19 02.5**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=45,slow=5.7,SNR=2.1							
BDFB				SKPbc		**SKPbc**	**13 19 33.5**	**0.0**
	comp=Z,6.9nm,0.8s,baz=28,slow=3.3,SNR=4.3							
MAW	**Mawson**	**138.59**	**215**	PKhKP		PKPpre	13 16 01.4	
	comp=Z,0.5nm,0.4s,baz=117,slow=4.5,SNR=2.6							
MAW				SKPbc		**SKPbc**	**13 19 33.2**	**-0.1**
	comp=Z,14nm,1.1s,baz=14,slow=3.9,SNR=8.3							
AQDB	**Aquidauana**	**138.88**	**52**	*e*P		**PKPdf**	**13 16 15.8**	**+1.0**
AROD	**Rodeo**	**138.92**	**76**	*e*P		PKPpre	13 16 05.5	
AGUA	**GUANDACOL**	**139.01**	**75**	*e*P		PKPpre	13 16 05.8	
ACCO	**Cerro Coronel**	**139.47**	**76**	*e*P		PKPpre	13 16 08.6	
ACLC	**CERRO LA CRUZ**	**139.88**	**73**	*e*P		PKPpre	13 16 09.1	
VA03	**San Esteban**	**140.11**	**80**			PKPpre	13 16 12.0	
RTLS	**Leoncito**	**140.19**	**78**	*e*P		PKPpre	13 16 09.1	
AUSP	**Uspallata**	**140.44**	**79**	*e*P		PKPpre	13 16 09.9	
ASAL	**Salagasta**	**141.03**	**78**	*e*P		PKPpre	13 16 10.9	
QSPA	**South Pole Qui**	**142.03**	**180**			PKPpre	13 16 13.5	
TCA	**Tanti**	**142.66**	**73**	*e*P		PKPpre	13 16 16.2	
SUR	**Sutherland**	**143.33**	**286**	PKPdf		**PKPdf**	**13 16 23.3**	**+0.7**
PTGB	**Pitanga**	**144.24**	**51**	*e*P		**PKPdf**	**13 16 25.7**	**+1.4**
VAO	**Valinhos**	**145.04**	**43**	*e*P		**PKPdf**	**13 16 27.0**	**+1.3**
PLCA	**Paso Flores**	**145.25**	**90**	PKPbc		**PKPbc**	**13 16 25.6**	**0.0**
	comp=Z,146nm,1.0s,baz=298,slow=3.9,SNR=109							
PLCA				PP		**PP**	**13 19 48.8**	**+1.8**
	comp=Z,6.0nm,0.8s,baz=306,slow=6.9,SNR=2.8							
SPB	**Sao Paulo**	**145.37**	**44**	*e*P		**PKPab**	**13 16 27.5**	**+0.8**
VAS01	**Vassouras-RJ**	**145.78**	**37**	*e*P		**PKPab**	**13 16 29.6**	**+1.2**
PARB	**Paraibuna**	**145.89**	**41**	*e*P		**PKPbc**	**13 16 28.4**	**+0.3**
MAN01	**Angra dos Reis**	**146.12**	**38**	*e*P		**PKPab**	**13 16 29.8**	**+0.2**
TIJ01	**Guaruva-PR**	**146.18**	**48**	*e*P		**PKPab**	**13 16 30.5**	**+0.6**
ITAB	**Concordia**	**146.31**	**54**	*e*P		**PKPab**	**13 16 30.2**	**0.0**
SYO	**Syowa Base**	**147.30**	**216**	↑iPKPdf		**PKPbc**	**13 16 29.3**	**-1.3**
SYO	**Syowa Base**	**147.30**	**216**	↑iPKPbc		**PKPbc**	**13 16 30.2**	**-0.4**
SYO	**Syowa Base**	**147.30**	**216**	↓iPKiKP		**PKPab**	**13 16 34.8**	**+1.9**
SYO	**Syowa Base**	**147.30**	**216**	↓iPKPab		**PKPab**	**13 16 36.0**	**+3.1**
PLTB	**Pedras Altas**	**149.18**	**61**	*e*P		**PKPbc**	**13 16 34.9**	**-1.8**
PMSA	**Palmer Station**	**155.27**	**137**	PKPbc		PKPdf	13 16 49.5	+9.3
	comp=Z,35nm,1.0s,baz=222,slow=0.7,SNR=9.6							
PMSA	**Palmer Station**	**155.27**	**137**			PKPdf	13 16 49.9	+10
SNAA	**Sanae**	**158.77**	**197**	PKPab		**PKPab**	**13 17 21.4**	**+0.1**
SNAA	**Sanae**	**158.77**	**197**	PKP2		**PKPab**	**13 17 21.6**	**+0.3**
SNAA	**Sanae**	**158.77**	**197**			**PKPab**	**13 17 21.6**	**+0.3**
VNA2	**Neumayer--Watz**	**160.16**	**194**	PKPab		**PKPab**	**13 17 23.1**	**-4.2**
VNA3	**Neumayer Olymp**	**160.19**	**192**	PKPab		**PKPab**	**13 17 27.2**	**-0.2**
VNA1	**Neumayer--Stat**	**160.54**	**194**	PKPab		**PKPab**	**13 17 30.4**	**+1.5**

*IDC **02** 13:17:21.6±5.0,2.˚68S×149.˚64E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/28, mbtmp3.8/3, Error ellipse: s-maj=155.6km s-min=37.5km az=101.0*
*NEIC **02** 13:17:27.7±1.2,2.˚6S±0.˚2×149.˚6E±0.˚2, h48km±8km, mb4.4/6, Error ellipse: s-maj=30.4km s-min=18.9km az=125.0*

ISC 02 13:17:26.5±0.9,2.˚6S±0.˚1×149.˚5E±0.˚2, h35km, n10, σt1s22/10, mb4.1/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**22.71**	**176**	P	P		**Pg**	**13 22 25.3**	**-0.1**
EIDS					IAmb		IAmb	13 22 47.9	
	comp=Z,7.7nm,1.0s								
WB2	**Warramunga Arr**	**22.73**	**220**	P	P		**P**	**13 22 26.5**	**+0.8**
WB2					IAmb		IAmb	13 22 27.1	
	comp=Z,12nm,1.4s								
WRA	**Warramunga Arr**	**22.74**	**220**	P	P		**P**	**13 22 24.8**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=48,slow=11,SNR=2.3								
TARA	**Tarawa**	**23.74**	**81**	P	P		**P**	**13 22 37.2**	**+1.4**
AS31	**Alice Springs**	**25.83**	**214**	P	P		**P**	**13 22 55.8**	**+1.0**
ASAR	**Alice Springs**	**25.83**	**214**	P	P		**P**	**13 22 56.7**	**+1.8**
	comp=Z,3.3nm,0.8s,baz=53,slow=8.6,SNR=2.4								
CAN	**Canberra**	**32.58**	**181**	P	P		**P**	**13 23 53.7**	**-1.0**
CAN					IAmb		IAmb	13 24 17.0	
	comp=Z,28nm,1.4s								
GSTR	**Great Sitkin T**	**61.76**	**23**	P	P		**P**	**13 27 40.6**	**-0.9**
MKAR	**Makanchi Array**	**76.50**	**319**	P	P		**P**	**13 29 13.8**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=107,slow=5.0,SNR=3.5								
KTH	**Kantishna Hill**	**79.25**	**23**	P	P		**P**	**13 29 27.4**	**-0.6**
KTH					IAmb		IAmb	13 29 49.3	
	comp=Z,8.5nm,1.4s								

*IDC **02** 13:20:01.8±2.3,5.˚62S×148.˚51E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/25, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=119.5km s-min=31.8km az=127.0*
*NEIC **02** 13:20:04.9±1.5,6.˚2S±0.˚2×149.˚2E±0.˚2, h35km±7km, mb4.2/8, Error ellipse: s-maj=45.3km s-min=8.6km az=133.0*

ISC 02 13:20:05.3±1.0,6.˚3S±0.˚2×149.˚2E±0.˚2, h35km, n14, σt1s51/13, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.58**	**55**	P	Pn		**Pn**	**13 20 58.0**	**-0.4**
PMG	**Port Moresby**	**3.72**	**213**	Pn	Pn		**Pn**	**13 20 59.3**	**-1.0**
SAUI	**Saumlaki**	**17.87**	**263**		Pn		**Pn**	**13 24 11.0**	**-0.3**
WB0	**Warramunga Arr**	**19.69**	**226**	Pn	P		**P**	**13 24 33.7**	**+2.0**
WB0					IAmb		IAmb	13 24 49.1	
	comp=Z,12nm,1.3s								
WR0	**Warramunga Arr**	**19.71**	**225**	Pn	P		**P**	**13 24 34.0**	**+2.0**
WR0					IAmb		IAmb	13 24 56.4	
	comp=Z,16nm,1.4s								
WRAB	**Tennant Creek**	**19.83**	**225**	Pn	P		**P**	**13 24 35.4**	**+2.2**
WRAB					IAmb		IAmb	13 24 44.5	
	comp=Z,38nm,1.8s								
WB2	**Warramunga Arr**	**19.84**	**225**	Pn	P		**P**	**13 24 34.8**	**+1.6**
WB2					IAmb		IAmb	13 24 36.8	
	comp=Z,25nm,1.7s								
WRA	**Warramunga Arr**	**19.84**	**225**	P	P		**P**	**13 24 33.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=47,slow=11,SNR=2.5								
WRA	**Warramunga Arr**	**19.84**	**225**	Pn	P		**P**	**13 24 34.9**	**+1.6**
ASAR	**Alice Springs**	**22.72**	**219**	P	P		**P**	**13 25 05.9**	**+1.6**
	comp=Z,3.2nm,0.8s,baz=39,slow=12,SNR=2.0								
FITZ	**Fitzroy Crossi**	**25.84**	**241**	P	P		**P**	**13 25 33.3**	**-0.3**
	comp=Z,5.4nm,0.6s,baz=66,slow=10,SNR=3.7								
FITZ	**Fitzroy Crossi**	**25.84**	**241**	IAmb	IAmb		IAmb	13 25 36.5	
	comp=Z,5.6nm,0.7s								
MAW	**Mawson**	**82.85**	**203**	P	P		**P**	**13 32 25.0**	**-0.8**
ILAR	**Eielson Array**	**84.87**	**23**	P	P		**P**	**13 32 36.3**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=248,slow=6.2,SNR=2.2								

*BGR **02** 13:27:36.9±0.0,65.˚20N×19.˚77W, h10km, mb4.2*
*REY **02** 13:27:46.4,64.˚62N×17.˚40W, h10km*
*IDC **02** 13:27:47.8±0.6,64.˚42N×17.˚83W, h0km, mb3.8/17, mb1 4.1/21, mb1mx3.9/58, mbtmp3.8/21, ML2.6/3, Error ellipse: s-maj=19.3km s-min=9.3km az=21.0*
*NEIC **02** 13:27:48.8±2.5,64.˚45N±0.˚06×17.˚8W±0.˚1, h9km±3km, mb4.5/54, Error ellipse: s-maj=9.8km s-min=8.1km az=147.0*

ISC 02 13:27:48.1±0.4,64.˚59N±0.˚02×17.˚41W±0.˚02, h10km, n134, σt1s98/127, mb4.4/44, Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.12**	**141**	P	P		**Pg**	**13 27 49.2**	**-1.8**
	baz=149								
IVON	**Vonarskard**	**0.17**	**298**	P	P		**Pg**	**13 27 49.8**	**-2.0**
	baz=290								
IGRF	**Grimsfjall**	**0.20**	**162**	P	P		**Pg**	**13 27 50.9**	**-1.4**
	baz=165								
IDYN	**Dyngjuhals**	**0.20**	**5**	P	P		**Pg**	**13 27 50.0**	**-2.4**
	baz=4.4								
IURH	**Urdarhals**	**0.25**	**26**	P	P		**Pg**	**13 27 50.9**	**-2.4**
	baz=28								
IBJK	**Bruarjokull**	**0.31**	**114**	P	P		**Pg**	**13 27 52.3**	**-2.0**
	baz=118								
IHUS	**Husbondi**	**0.32**	**200**	P	P		**Pg**	**13 27 53.0**	**-1.4**
	baz=199								
IKVE	**Kverkfjoll**	**0.33**	**75**	P	P		**Pg**	**13 27 53.1**	**-1.5**
	baz=79								
IVOT	**Vottur**	**0.34**	**163**	P	P		**Pg**	**13 27 53.2**	**-1.6**
	baz=165								
ISKR	**Skrokkalda**	**0.42**	**266**	P	P		**Pg**	**13 27 54.3**	**-2.1**
	baz=262								
IJOK	**Jokulheimar**	**0.45**	**232**	P	P		**Pg**	**13 27 55.0**	**-1.9**
	baz=230								
IJOK					S		**Sg**	**13 28 02.1**	**-0.7**
	baz=230								
THOR	**Thorvaldshraun**	**0.46**	**42**	P	P		**Pg**	**13 27 54.4**	**-2.7**
	baz=44								
IKRE	**Kreppuhraun**	**0.48**	**66**	P	P		**Pg**	**13 27 54.7**	**-2.7**
	baz=69								
IASK	**Askja**	**0.56**	**35**	P	P		**Pg**	**13 27 56.5**	**-2.6**
	baz=36								
IIEY	**Innrieyrar**	**0.59**	**212**	P	P		**Pg**	**13 27 57.3**	**-2.2**
	baz=211								
IKSK	**Karasker**	**0.59**	**137**	P	P		**Pg**	**13 27 56.8**	**-2.8**
	baz=138								
IMKO	**Mokollar**	**0.60**	**49**	P	P		**Pg**	**13 27 56.7**	**-3.0**
	baz=51								
IKAL	**Kalfafell**	**0.66**	**191**	P	P		**Pg**	**13 27 58.6**	**-2.2**
	baz=191								
ISVA	**Svartarkot**	**0.75**	**5**	P	P		**Pg**	**13 27 59.1**	**-3.4**
	baz=4.8								
IVSH	**V-Saafoahnukur**	**0.75**	**73**	P	P		**Pg**	**13 27 59.4**	**-3.2**
	baz=74								
IVAT	**Vatnsfell**	**0.77**	**239**	P	P		**Pg**	**13 28 00.5**	**-2.5**
	baz=237								
IFAG	**Fagurholsmyri**	**0.79**	**155**	P	P		**Pg**	**13 28 00.8**	**-2.5**
	baz=156								
IADA	**Aoalbol**	**0.89**	**61**	P	P		**Pg**	**13 28 01.4**	**-3.8**
	baz=62								
ISNB	**Snabyli**	**1.01**	**212**	P	P		**Pg**	**13 28 04.6**	**-3.0**
	baz=212								
IMEL	**Melhnausar**	**1.03**	**18**	P	P		**Pg**	**13 28 04.0**	**-3.9**
	baz=18								
ISLY	**Slysaalda**	**1.08**	**225**	P	P		**Pg**	**13 28 05.6**	**-3.2**
	baz=224								
IREN	**Reynihlio**	**1.08**	**11**	P	P		**Pg**	**13 28 04.9**	**-3.9**
	baz=11								
IRJU	**Rjupnafell**	**1.13**	**210**	P	P		**Pb**	**13 28 06.8**	**-2.8**
	baz=210								
IFED	**Fedgar**	**1.15**	**241**	P	P		**Pb**	**13 28 06.9**	**-3.1**
	baz=240								
IGRS	**Grimsstaoir**	**1.18**	**27**	P	P		**Pb**	**13 28 06.3**	**-4.2**
	baz=27								
IGYG	**Gygjarholskot**	**1.26**	**257**	P	P		**Pn**	**13 28 08.7**	**-3.0**
	baz=256								
ISKI	**Skildingahlsh**	**1.29**	**7**	P	P		**Pn**	**13 28 08.3**	**-3.9**
	baz=6.9								
IGHA	**Grjothals**	**1.29**	**14**	P	P		**Pn**	**13 28 08.5**	**-3.7**
	baz=14								
BORG	**Borgarnes**	**1.69**	**277**	Pg	Pn		**Pn**	**13 28 15.6**	**-2.0**
	38nm,0.3s,baz=101,slow=8.1,SNR=59								
BORG					Lg		Lg	13 28 38.3	
	24nm,0.3s,baz=43,slow=23,SNR=11								

SCO	**Scoresbysund**	**6.17**	**346**	Pn		**Pn**	**13 29 20.6**	**+1.6**
SCO	**Scoresbysund**	**6.17**	**346**	*e*		**Pn**	**13 29 19.1**	**+0.1**
	baz=174,slow=6.5							
SCO				*i* P		**Pn**	**13 29 20.2**	**+1.2**
SCO				*e*S		**Sn**	**13 30 32.6**	**+3.2**
EKA	**Eskdalemuir Ar**	**11.68**	**136**	Pn		**Pn**	**13 30 34.6**	**+0.1**
	baz=323,slow=13,SNR=13							
ESK	**Eskdalemuir**	**11.68**	**136**	Pn		**Pn**	**13 30 36.6**	**+2.0**
NRS	**Narsarsuaq**	**13.17**	**268**	Pn		**Pn**	**13 30 53.7**	**-1.2**
NC303	**NORSAR Array S**	**13.47**	**91**	Pn		P	13 31 02.0	-6.4
NOA	**NORSAR Array B**	**13.49**	**92**	Pn		P	13 31 03.5	-5.1
	0.0nm,0.3s,baz=298,slow=13,SNR=3.2							
HFS	**Hagfors**	**15.00**	**93**	Pn		**P**	**13 31 22.4**	**-2.9**
	0.1nm,0.3s,baz=303,slow=14,SNR=1.4							
ARCES	**ARCESS Array B**	**17.13**	**54**	P		**P**	**13 31 53.0**	**+4.2**
	baz=277,slow=14,SNR=1.2							
FINES	**FINESS Array B**	**19.68**	**79**	P		Pn	13 32 23.7	+5.4
	0.2nm,0.3s,baz=292,slow=10,SNR=4.6							
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**13 32 19.1**	**+0.8**
CLL	**Collm**	**20.64**	**116**	*i* P		Pn	13 32 29.4	-0.3
	comp=Z,32nm,1.7s							
CLL	**Collm**	**20.64**	**116**	P		Pn	13 32 27.8	-1.9
ECH	**Echery**	**21.08**	**129**	P		**P**	**13 32 32.0**	**-0.1**
GRF	**Grafenberg Arr**	**21.26**	**121**	*e*P		**P**	**13 32 35.2**	**+1.0**
	comp=Z,13nm,1.4s,baz=324,slow=10							
BRG	**Berggiesshubel**	**21.35**	**115**	*e*P		**P**	**13 32 36.0**	**+1.0**
	comp=Z,9.4nm,1.1s							
BFO	**Black Forest**	**21.37**	**127**	P		**P**	**13 32 36.2**	**+0.8**
KHC	**Kasperske Hory**	**22.61**	**118**	*e*P		**P**	**13 32 52.2**	**+3.6**
KHC	**Kasperske Hory**	**22.61**	**118**	P		**P**	**13 32 49.6**	**+1.1**
DPC	**Dobruska-Polom**	**22.70**	**113**	*e*P		**P**	**13 32 51.6**	**+2.1**
SENIN	**Lac Senin/Sane**	**22.75**	**132**	P		**P**	**13 32 50.3**	**0.0**
SSB	**Saint Sauveur**	**22.87**	**137**	P		**P**	**13 32 51.8**	**+0.4**
GERES	**GERESS Array B**	**22.89**	**119**	P		**P**	**13 32 54.1**	**+2.5**
	comp=Z,1.0nm,0.7s,baz=318,slow=8.6,SNR=6.5							
GERES	**GERESS Array B**	**22.89**	**119**	P		**P**	**13 32 52.1**	**+0.5**
DAVOX	**Davos/Dischmat**	**23.24**	**127**	P		**P**	**13 32 57.7**	**+2.4**
	comp=Z,1.4nm,0.4s,baz=325,slow=15,SNR=1.9							
FUORN	**Ofenpass-Fuorn**	**23.51**	**127**	P		**P**	**13 32 58.7**	**+0.5**
VRAC	**Vranov**	**23.63**	**114**	P		**P**	**13 33 02.0**	**+3.0**
	comp=Z,3.4nm,0.4s,baz=334,slow=10,SNR=5.0							
VRAC	**Vranov**	**23.63**	**114**	*e*P		**P**	**13 32 59.7**	**+0.7**
MORC	**Moravsky Berou**	**23.63**	**112**	*e*P		**P**	**13 32 59.9**	**+0.8**
MORC	**Moravsky Berou**	**23.63

U15A	**North Rim**	**59.75**	**292**	P	**P**	**13 37 54.1**	**+1.0**
U15A				IAmb	IAmb	13 38 10.3	
	comp=Z,8.8nm,1.5s						
WUAZ	**Wupatki**	**60.17**	**290**	P	**P**	**13 37 57.0**	**+1.2**
WUAZ				IAmb	IAmb	13 38 08.2	
	comp=Z,6.3nm,1.2s						
NVAR	**Mina Arroy Bea**	**60.37**	**297**	P	**P**	**13 37 59.4**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=28,slow=2.3,SNR=2.5						
WAKR	**Walker**	**60.74**	**298**	P	**P**	**13 38 00.6**	**+0.9**
WAKR				IAmb	IAmb	13 38 03.5	
	comp=Z,7.5nm,1.3s						
SHPR	**Sheep Range**	**60.83**	**294**	P	**P**	**13 38 01.1**	**+0.9**
TXAR	**Lajitas Array**	**62.34**	**280**	P	**P**	**13 38 10.8**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=45,slow=5.5,SNR=5.5						
319A	**Douglas**	**62.91**	**286**	P	**P**	**13 38 16.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**13 40 21.2**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=324,slow=6.0,SNR=2.7						
ASAR	**Alice Springs**	**135.00**	**38**	PKP	**PKiKP**	**13 47 07.6**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=2.9,slow=3.7,SNR=3.5						

WEL 02 13:27:58.5,38°S±5'×17°6E±°, h195km±5km, M2.5/18, MLv2.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=86.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.57**	**155**	P	Pn	13 28 25.3	0.0
TOZ	**Tahuroa Road**	**0.68**	**341**	P	Pn	13 28 25.9	+0.1
MRHZ	**Matea Rd**	**0.68**	**133**	P	Pn	13 28 25.7	-0.1
MRHZ				S	Sn	13 28 45.8	-1.3
WTVZ	**West Tongariro**	**0.76**	**191**	P	Pn	13 28 26.9	+0.6
MTHZ	**Maungataniwha**	**0.96**	**120**	P	Pn	13 28 27.6	+0.1
MTHZ				S	Sn	13 28 49.0	-1.0
WNVZ	**Wahianoa**	**0.96**	**188**	P	Pn	13 28 28.0	+0.4
BKZ	**Black Stump Fm**	**0.97**	**145**	P	Pn	13 28 27.6	+0.1
BKZ				S	Sn	13 28 48.3	-1.9
MOVZ	**Moawhango**	**1.03**	**181**	P	Pn	13 28 28.1	+0.1
MOVZ				S	Sn	13 28 49.0	-2.1
URZ	**Urewera**	**1.05**	**84**	P	Pn	13 28 27.2	-0.9
URZ				S	Sn	13 28 48.1	-2.8
BHHZ	**Black Hill Sta**	**1.14**	**169**	P	Pn	13 28 28.7	0.0
BHHZ				S	Sn	13 28 50.8	-1.7
MCHZ	**McNeill Hill**	**1.29**	**147**	P	Pn	13 28 30.8	+0.9
MCHZ				S	Sn	13 28 54.6	+0.3
ARHZ	**Aropaoanui**	**1.30**	**134**	S	Sn	13 28 54.4	-0.1
PNHZ	**Pukenui**	**1.57**	**168**	P	Pn	13 28 32.7	+0.3
RIGZ	**Rimuhau**	**1.59**	**103**	P	Pn	13 28 32.6	0.0
RIGZ				S	Sn	13 28 57.5	-1.6
KNZ	**Kokohu**	**1.62**	**114**	P	Pn	13 28 32.7	0.0
KAHZ	**Kahuranaki**	**1.66**	**149**	P	Pn	13 28 33.8	+0.6
TSZ	**Takapari Road**	**1.69**	**175**	P	Pn	13 28 33.7	+0.2
WPHZ	**Waipukurau**	**1.77**	**163**	P	Pn	13 28 34.4	+0.2
PXZ	**Pawanui**	**1.86**	**153**	P	Pn	13 28 35.4	+0.3
PRHZ	**Porangahau**	**2.00**	**161**	P	Pn	13 28 36.7	0.0
POWZ	**Post Office Ro**	**2.02**	**180**	P	Pn	13 28 36.5	-0.2
MRZ	**Mangatainoka R**	**2.29**	**184**	P	Pn	13 28 39.3	-0.4
BFZ	**Birch Farm**	**2.34**	**171**	P	Pn	13 28 39.8	-0.3
OGWZ	**Otaki Gorge**	**2.49**	**191**	P	Pn	13 28 41.5	-0.3
HOWZ	**Holdsworth Sta**	**2.53**	**185**	P	Pn	13 28 41.6	-0.7
KIW	**Kapiti Island**	**2.58**	**195**	P	Pn	13 28 42.4	-0.5
CAW	**Cannon Point**	**2.79**	**191**	P	Pn	13 28 44.6	-0.7
TRWZ	**Traveller**	**3.02**	**181**	P	Pn	13 28 46.9	-1.1
TCW	**Tory Channel**	**3.06**	**202**	P	Pn	13 28 47.6	-0.9
MSWZ	**Moikau Station**	**3.07**	**187**	P	Pn	13 28 47.2	-1.4
BHW	**Baring Head**	**3.11**	**193**	P	Pn	13 28 47.8	-1.2
PLWZ	**Palliser**	**3.22**	**187**	P	Pn	13 28 48.8	-1.6
TUWZ	**Tuamarina**	**3.37**	**204**	P	Pn	13 28 51.1	-1.0
NNZ	**Nelson**	**3.39**	**212**	P	Pn	13 28 51.4	-1.0
BSWZ	**Blackbirch Sta**	**3.65**	**203**	P	Pn	13 28 54.4	-1.2
THZ	**Tophouse**	**4.04**	**212**	P	Pn	13 28 59.3	-1.3
KHZ	**Kahutara**	**4.39**	**202**	P	Pn	13 29 03.5	-1.3
MQZ	**McQueen's Vall**	**5.83**	**203**	P	Pn	13 29 20.3	-3.0

*GCG **02** 13:35:07.6±0.4, 15°.69N×91°.32W, h245km±14km, MD4.5*
*IDC **02** 13:35:09.5±3.5, 13°.94N×92°.92W, h0km, mb3.8/4, mb1 4.2/6, mb1mx3.9/38, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=69.1km s-min=51.3km az=170.0*
*MEX **02** 13:35:15.8±0.4, 14°.25N×92°.94W, h61km±21km, MD4.1*
ISC 02 13:35:16.4±2.8, 14°.41N±0°.10×92°.90W±0°.07, h26km±18km, n16, σ1°.71/19, mb3.8/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.80**	**51**	*eP*	**Pn**	**13 35 31.4**	**-0.4**
THIG				*i S*	**Sn**	**13 35 43.7**	**+0.8**
PCIG		**1.33**	**347**	*eP*	**Pn**	**13 35 38.7**	**-0.5**
PCIG				*i S*	**Sn**	**13 35 56.5**	**+0.4**
FUG	**Fuego 3**	**2.00**	**89**	*eP*	Pn	13 35 45.2	-3.4
FUG				*eS*	**Sn**	**13 36 14.6**	**+1.8**
CCIG	**Comitan**	**2.01**	**22**	*eP*	**Pb**	**13 35 52.0**	**-0.3**
CCIG				*eS*	**Sn**	**13 36 10.2**	**-2.9**
PCG	**Pacaya**	**2.23**	**90**	*eP*	Pn	13 35 46.8	-5.0
PCG				*eS*	**Sn**	**13 36 20.9**	**+2.3**
TGIG		**2.37**	**355**	*i P*	**Pn**	**13 35 53.5**	**-0.1**
TGIG				*i S*	**Sn**	**13 36 23.5**	**+1.6**
IXG	**Ixpaco**	**2.40**	**95**	*eP*	Pn	13 35 48.6	-5.5
IXG				*eS*	**Sn**	**13 36 19.1**	**-3.6**
MRL	**Marmol**	**3.19**	**77**	*eS*	Sn	13 36 20.3	-22
TEIG	**Tepich**	**7.28**	**37**	Pn	**Pn**	**13 37 02.9**	**+1.8**
	2.9nm,0.3s,baz=48,slow=1.3,SNR=8.1						
TEIG				Sn	**Sn**	**13 38 22.1**	**-0.9**
	0.1nm,0.3s,baz=82,slow=20,SNR=0.8						
JTS	**Las Juntas de**	**8.78**	**117**	Lg	Lg	13 39 37.5	
	1.5nm,0.3s,baz=23,slow=16,SNR=2.0						
TXAR	**Lajitas Array**	**17.88**	**328**	P	**Pn**	**13 39 23.4**	**-0.1**
	baz=153,slow=6.1,SNR=2.1						
PDAR	**Pinedale Array**	**31.70**	**336**	P	**P**	**13 41 38.9**	**+0.8**
	0.2nm,0.5s,baz=135,slow=14,SNR=1.8						
NVAR	**Mina Arroy Bea**	**32.81**	**322**	P	**P**	**13 41 48.8**	**+0.8**
	1.2nm,0.8s,baz=134,slow=8.9,SNR=9.1						
YKA	**Yellowknife Ar**	**50.44**	**347**	P	**P**	**13 44 11.6**	**+0.2**
	3.4nm,0.8s,baz=152,slow=7.8,SNR=3.9						
ILAR	**Eielson Array**	**62.12**	**337**	P	**P**	**13 45 35.0**	**+0.1**
	0.4nm,0.7s,baz=108,slow=6.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**145.32**	**340**	PKPbc	**PKPbc**	**13 54 50.4**	**-2.2**
	1.8nm,0.8s,baz=334,slow=3.8,SNR=11						

*OSPL **02** 13:36:35.0±0.9, 18°.96N×69°.30W, h137km±17km, ML3.4*
*RSPR **02** 13:36:39.7, 19°.22N×68°.74W, h122km±3km, MD3.7/7*
ISC 02 13:36:36.6±3.3, 19°.1N±0°.3×69°.0W±0°.1, h129km, n28, σ0°.84/31, 13C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.83**	**138**	*eP*	**Pn**	**13 36 57.5**	**-0.4**
PCDR	**Punta Cana, DR**	**0.83**	**138**	*eS*	**Sn**	**13 37 14.8**	**+0.9**
PCDR	**Punta Cana, DR**	**0.83**	**138**	*i P*	**Pn**	**13 36 56.9**	**-1.0**
PCDR				*eS*	**Sn**	**13 37 13.9**	**-0.1**
PCDR				IAML		13 37 16.5	
	comp=Z,576nm,0.5s						
AGPR	**Aguadilla, PR**	**1.88**	**110**	*eP*	**Pn**	**13 37 09.8**	**+0.7**
AGPR	**Aguadilla, PR**	**1.88**	**110**	*eS*	**Sn**	**13 37 32.7**	**-1.2**
AGPR	**Aguadilla, PR**	**1.88**	**110**	*i P*	**Pn**	**13 37 10.1**	**+1.0**
AGPR				*eS*	**Sn**	**13 37 34.7**	**+0.8**
AGPR				IAML		13 37 41.2	
	comp=Z,149nm,0.2s						
MPR	**Mayaguez**	**1.96**	**118**	*i P*	**Pn**	**13 37 09.9**	**-0.1**
MPR				*eS*	**Sn**	**13 37 36.1**	**+0.5**
LSP	**Las Mesas**	**2.02**	**118**	*eP*	**Pn**	**13 37 12.0**	**+1.2**
LSP	**Las Mesas**	**2.02**	**118**	*eS*	**Sn**	**13 37 36.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**2.09**	**122**	*eP*	**Pn**	**13 37 12.2**	**+0.6**
MLPR	**Magueyes Islan**	**2.16**	**122**	*eP*	**Pn**	**13 37 13.3**	**+0.8**
MLPR	**Magueyes Islan**	**2.16**	**122**	*eS*	**Sn**	**13 37 39.8**	**-0.3**
AOPR	**Arecibo Observ**	**2.24**	**110**	*eP*	**Pn**	**13 37 14.3**	**+0.8**
AOPR	**Arecibo Observ**	**2.24**	**110**	*eS*	**Sn**	**13 37 41.0**	**-0.8**
GBPR	**Guanica, Bosqu**	**2.29**	**120**	*eP*	**Pn**	**13 37 14.8**	**+0.6**
GBPR	**Guanica, Bosqu**	**2.29**	**120**	*eS*	**Sn**	**13 37 42.9**	**0.0**
OBIP	**Obispado Ponce**	**2.49**	**115**	*eP*	**Pn**	**13 37 17.1**	**+0.5**
OBIP	**Obispado Ponce**	**2.49**	**115**	*eS*	**Sn**	**13 37 46.5**	**-0.9**
CELP	**Cerrillos**	**2.50**	**115**	*eP*	**Pn**	**13 37 17.1**	**+0.4**
CELP	**Cerrillos**	**2.50**	**115**	*eS*	**Sn**	**13 37 47.0**	**-0.7**
GCPR	**Guaynabo City**	**2.86**	**106**	*eP*	**Pn**	**13 37 21.9**	**+0.6**
GCPR	**Guaynabo City**	**2.86**	**106**	*eS*	**Sn**	**13 37 54.2**	**-1.5**
IGPR	**InterUniversit**	**2.96**	**113**	*eP*	**Pn**	**13 37 23.2**	**+0.6**
CBYP	**Canovanas**	**3.07**	**106**	*eP*	**Pn**	**13 37 24.8**	**+0.6**
CBYP	**Canovanas**	**3.07**	**106**	*eS*	**Sn**	**13 37 59.2**	**-1.7**
HUMP	**Col San Antoni**	**3.12**	**108**	*eP*	**Pn**	**13 37 25.0**	**+0.3**
MTP	**Monte Pirata**	**3.40**	**107**	*eP*	**Pn**	**13 37 29.5**	**+1.1**
CUPR	**Culebra, Puert**	**3.59**	**103**	*eP*	**Pn**	**13 37 31.1**	**+0.2**

*IDC **02** 13:51:01.0±1.6, 18°.19S×178°.85W, h539km±17km, mb3.5/18, mb1 3.7/20, mb1mx3.6/36, mbtmp4.4/20, Error ellipse: s-maj=14.3km s-min=10.5km az=102.0*
*NEIC **02** 13:51:00.9±1.6, 18°.15S±0°.04×178°.9W±0°.1, h547km±6km, mb4.7/57, Error ellipse: s-maj=15.6km s-min=6.1km az=94.0*
ISC 02 13:51:02.2±0.4, 18°.11S±0°.07×178°.86W±0°.06, h562km, n133, σ1°37/138, mb4.5/46, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.97**	**277**	P	**P**	**13 52 20.3**	**+2.2**
AFI	**Afiamalu**	**7.99**	**59**	P	**P**	**13 52 58.5**	**-1.8**
	6.0nm,0.3s,baz=72,slow=7.2,SNR=8.7						
AFI				S	S	13 54 29.3	-7.7
	1.7nm,0.3s,baz=30,slow=20,SNR=3.4						
AFI	**Afiamalu**	**7.99**	**59**	P	**P**	**13 52 58.3**	**-2.0**
AFI					**S**	**13 54 32.2**	**-4.8**
NIUE	**Niue**	**8.52**	**98**	P	**P**	**13 53 06.0**	**+0.5**
SANVU	**Saraoutou**	**13.61**	**279**	P	**P**	**13 53 57.7**	**+0.3**
DZM	**Mont Dzumac**	**14.36**	**252**	P	**P**	**13 54 04.2**	**-0.9**
	1.5nm,0.3s,baz=278,slow=17,SNR=13						
DZM	**Mont Dzumac**	**14.36**	**252**	P	**P**	**13 54 04.4**	**-0.7**
KNTN	**Kanton**	**16.77**	**25**	P	**P**	**13 54 27.5**	**-0.9**
OUZ	**Omahuta**	**18.31**	**200**	P	**P**	**13 54 45.4**	**+3.2**
OUZ	**Omahuta**	**18.31**	**200**	P	**P**	**13 54 44.7**	**+2.5**
WCZ	**Waipu Caves**	**18.75**	**197**	P	**P**	**13 54 49.5**	**+3.3**
KUZ	**Kuaotunu**	**19.17**	**193**	P	**P**	**13 54 50.9**	**+1.0**
MXZ	**Matakaoa Point**	**19.54**	**187**	P	**P**	**13 54 53.1**	**-0.2**
MXZ	**Matakaoa Point**	**19.54**	**187**	P	**P**	**13 54 53.9**	**+0.6**
ETAZ	**East Tamaki Re**	**19.55**	**195**	P	**P**	**13 54 54.6**	**+1.2**
WTAZ	**Waiatarua**	**19.62**	**196**	P	**P**	**13 54 55.5**	**+1.4**
TOZ	**Tahuroa Road**	**20.16**	**193**	P	**P**	**13 55 02.0**	**+3.0**
URZ	**Urewera**	**20.38**	**189**	P	**P**	**13 54 58.7**	**-2.2**
	12nm,0.3s,baz=262,slow=2.7,SNR=31						
URZ				S	**S**	**13 58 13.6**	**-0.5**
	12nm,0.9s,baz=17,slow=15,SNR=2.5						
URZ	**Urewera**	**20.38**	**189**	P	**P**	**13 54 58.7**	**-2.2**
URZ	**Urewera**	**20.38**	**189**	P	**P**	**13 54 59.1**	**-1.8**
URZ				IAmb	IAmb	13 55 01.2	
	comp=Z,34nm,1.0s						
KNZ	**Kokohu**	**21.05**	**188**	P	**P**	**13 55 06.4**	**-0.6**
BKZ	**Black Stump Fm**	**21.36**	**190**	P	**P**	**13 55 08.6**	**-1.3**
BKZ				IAmb	IAmb	13 55 15.0	
	comp=Z,39nm,1.4s						
VRZ	**Vera Road**	**21.66**	**194**	P	**P**	**13 55 13.1**	**+0.6**
HNR	**Honiara**	**22.30**	**290**	P	**P**	**13 55 16.2**	**-2.3**
BFZ	**Birch Farm**	**22.89**	**190**	P	**P**	**13 55 21.4**	**-2.0**
BFZ				IAmb	IAmb	13 55 23.3	
	comp=Z,38nm,1.0s						
MRZ	**Mangatainoka R**	**22.98**	**191**	P	**P**	**13 55 22.7**	**-1.5**
KIW	**Kapiti Island**	**23.30**	**192**	P	**P**	**13 55 25.8**	**-1.2**
MSWZ	**Moikau Station**	**23.77**	**191**	P	**P**	**13 55 29.8**	**-1.4**
QRZ	**Quartz Range**	**23.82**	**196**	P	**P**	**13 55 32.6**	**+1.0**
QRZ	**Quartz Range**	**23.82**	**196**	P	**P**	**13 55 31.4**	**-0.2**
BHW	**Baring Head**	**23.83**	**192**	P	**P**	**13 55 29.8**	**-1.9**
NNZ	**Nelson**	**23.97**	**195**	P	**P**	**13 55 32.1**	**-0.9**
NNZ	**Nelson**	**23.97**	**195**	P	**P**	**13 55 32.2**	**-0.8**
TUWZ	**Tuamarina**	**24.05**	**193**	P	**P**	**13 55 34.1**	**+0.5**
BSWZ	**Blackbirch Sta**	**24.33**	**193**	P	**P**	**13 55 37.3**	**+1.1**
THZ	**Tophouse**	**24.60**	**195**	P	**P**	**13 55 38.5**	**-0.2**
THZ	**Tophouse**	**24.60**	**195**	P	**P**	**13 55 37.3**	**-1.4**
THZ				IAmb	IAmb	13 55 43.8	
	comp=Z,25nm,1.0s						
DSZ	**Denniston Nort**	**24.87**	**197**	P	**P**	**13 55 41.6**	**+0.6**
KHZ	**Kahutara**	**25.08**	**193**	P	**P**	**13 55 42.2**	**-0.6**
KHZ	**Kahutara**	**25.08**	**193**	P	**P**	**13 55 41.0**	**-1.7**
LTZ	**Lake Taylor**	**25.72**	**195**	P	**P**	**13 55 46.8**	**-1.7**
LTZ				IAmb	IAmb	13 55 49.4	
	comp=Z,30nm,0.8s						
OXZ	**Oxford**	**26.29**	**195**	P	**P**	**13 55 52.6**	**-0.9**
FOZ	**Fox Glacier**	**27.09**	**198**	P	**P**	**13 55 59.5**	**-1.0**
LBZ	**Lake Benmore**	**27.77**	**197**	P	**P**	**13 56 04.3**	**-2.1**
LBZ				IAmb	IAmb	13 56 04.8	
	comp=Z,57nm,1.2s						
WKZ	**Wanaka**	**28.50**	**198**	P	**P**	**13 56 11.8**	**-1.0**
EIDS	**Eidsvold**	**28.80**	**250**	P	**P**	**13 56 15.6**	**0.0**
EIDS				IAmb	IAmb	13 56 17.0	
	comp=Z,7.7nm,0.8s						
MLZ	**Mavora Lakes**	**29.27**	**199**	P	**P**	**13 56 19.3**	**-0.1**
ARMA	**Armidale**	**29.47**	**240**	P	**P**	**13 56 20.5**	**-1.0**
ARMA				IAmb	IAmb	13 56 23.5	
	comp=Z,12nm,0.6s						
WHZ	**Wether Hill Ro**	**29.79**	**199**	P	**P**	**13 56 23.6**	**-0.3**
WHZ				IAmb	IAmb	13 56 25.0	
	comp=Z,34nm,0.9s						
RABL	**Rabaul**	**31.55**	**293**	P	**P**	**13 56 37.5**	**-1.9**
CTA	**Charters Tower**	**32.99**	**261**	P	**P**	**13 56 52.1**	**+0.5**
	comp=Z,21nm,0.9s,baz=94,slow=13,SNR=7.4						
CTAO	**Charters Tower**	**32.99**	**261**	P	**P**	**13 56 51.2**	**-0.5**
CTAO				IAmb	IAmb	13 56 53.2	
	comp=Z,24nm,0.9s						
CAN	**Canberra**	**33.24**	**233**	P	**P**	**13 56 52.9**	**-0.7**
CAN				IAmb	IAmb	13 56 55.8	
	comp=Z,46nm,1.5s						
PMG	**Port Moresby**	**34.07**	**280**	P	**P**	**13 57 01.5**	**+0.7**
COEN	**Coen**	**36.68**	**271**	P	**P**	**13 57 22.8**	**+0.4**
COEN				IAmb	IAmb	13 57 23.8	
	comp=Z,32nm,0.8s						
TOO	**Toolangi**	**36.71**	**231**	P	**P**	**13 57 23.1**	**+0.7**
TOO				IAmb	IAmb	13 57 24.2	
	comp=Z,38nm,0.8s						
STKA	**Stephens Creek**	**38.16**	**241**	P	**P**	**13 57 35.3**	**+1.0**
	comp=Z,8.6nm,0.8s,baz=95,slow=11,SNR=19						
STKA	**Stephens Creek**	**38.16**	**241**	P	**P**	**13 57 34.7**	**+0.5**
BBOO	**Buckleboo**	**42.94**	**241**	P	**P**	**13 58 12.5**	**+0.3**
BBOO				IAmb	IAmb	13 58 13.1	
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**43.99**	**260**	P	**P**	**13 58 19.8**	**-0.8**
WB0	**Warramunga Arr**	**44.14**	**260**	P	**P**	**13 58 20.8**	**-0.9**
WB2	**Warramunga Arr**	**44.16**	**260**	P	**P**	**13 58 21.2**	**-0.8**
WRAB	**Tennant Creek**	**44.17**	**260**	P	**P**	**13 58 21.0**	**-0.9**
WRA	**Warramunga Arr**	**44.18**	**260**	P	**P**	**13 58 21.4**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=96,slow=6.8,SNR=78						
WRA				PcP	**PcP**	**13 59 55.0**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=86,slow=3.6,SNR=5.0						
WRA				S	**S**	**14 04 09.2**	**-5.9**
	comp=Z,0.7nm,0.8s,baz=91,slow=5.6,SNR=7.4						
WRA	**Warramunga Arr**	**44.18**	**260**	P	**P**	**13 58 21.1**	**-0.9**
AS31	**Alice Springs**	**44.33**	**254**	P	**P**	**13 58 23.0**	**-0.1**
ASAR	**Alice Springs**	**44.33**	**254**	P	**P**	**13 58 23.3**	**+0.1**
	comp=Z,6.6nm,0.4s,baz=89,slow=8.4,SNR=342						
ASAR				PcP	**PcP**	**13 59 55.3**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=97,slow=4.9,SNR=5.8						
ASAR				ScP	**ScP**	**14 02 56.3**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=117,slow=5.3,SNR=2.9						
ASAR				S	**S**	**14 04 14.8**	**-2.3**
	comp=Z,3.8nm,0.8s,baz=92,slow=16,SNR=20						
ASAR	**Alice Springs**	**44.33**	**254**	P	**P**	**13 58 22.8**	**-0.4**
ASAR					**PcP**	**13 59 54.7**	**-0.3**
GUMO	**Guam**	**47.67**	**309**	P	**P**	**13 58 48.8**	**+0.2**
MTN	**Manton Dam**	**48.37**	**269**	P	**P**	**13 58 53.1**	**-0.6**
MTN				IAmb	IAmb	13 58 54.1	
	comp=Z,20nm,0.8s						
FORT	**Forrest**	**49.53**	**245**	P	**P**	**13 59 01.6**	**-0.6**
FORT				IAmb	IAmb	13 59 02.7	
	comp=Z,27nm,0.6s						
KNRA	**Kununurra**	**50.04**	**264**	P	**P**	**13 59 05.9**	**-0.2**
KNRA				IAmb	IAmb	13 59 06.8	
	comp=Z,24nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.57**	**261**	S	**S**	**14 06 11.3**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=283,slow=22,SNR=1.6						
FITZ	**Fitzroy Crossi**	**52.57**	**261**	P	**P**	**13 59 24.9**	**+0.6**
SOEI	**Soe**	**55.65**	**270**	P	**P**	**13 59 48.9**	**+2.7**
	comp=Z,32nm,0.9s						
SOEI	**Soe**	**55.65**	**270**	P	**P**	**13 59 47.4**	**+1.2**
SOEI				IAmb	IAmb	13 59 49.1	
	comp=Z,26nm,1.0s						
PSA00	**Pilbara Seismi**	**57.45**	**256**	P	**P**	**13 59 57.4**	**-1.0**
JCJ	**Chichijima**	**58.72**	**319**	P	**P**	**14 00 12.2**	**+5.6**
	comp=Z,310nm,1.2s,baz=262,slow=10.0,SNR=3.7						
NWAO	**Narrogin (SRO)**	**58.74**	**242**	P	**P**	**14 00 05.5**	**-1.4**
NWAO				IAmb	IAmb	14 00 25.9	
	comp=Z,45nm,1.4s						
WSI	**Waingapu**	**59.44**	**269**	P	P	14 00 17.1	+5.3
MORW	**Morawa**	**60.01**	**246**	P	**P**	**14 00 13.6**	**-1.9**
VNDA	**Vanda**	**60.21**	**185**	P	**P**	**14 00 16.6**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=5,3,slow=6.4,SNR=22						
VNDA	**Vanda**	**60.21**	**185**	P	**P**	**14 00 16.8**	**+1.0**
GIRL	**Giralia**	**62.43**	**253**	P	**P**	**14 00 30.6**	**-0.7**
CASY	**Casey**	**65.77**	**205**	P	**P**	**14 00 51.9**	**+0.2**
CASY				IAmb	IAmb	14 00 53.3	
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**67.82**	**324**	P	**P**	**14 01 04.8**	**0.0**
	comp=Z,4.8nm,0.7s,baz=154,slow=6.3,SNR=11						
MJAR	**Matsushiro Arr**	**67.82**	**324**	P	**P**	**14 01 04.5**	**-0.3**
MAJO	**Matsushiro**	**67.82**	**324**	P	**P**	**14 01 04.7**	**-0.1**
MAT	**Matsushiro**	**67.82**	**324**	P	**P**	**14 01 03.1**	**-1.7**
JHS	**Saijyo**	**69.77**	**319**	P	**P**	**14 01 17.0**	**+0.4**
JHS				IAmb	IAmb	14 01 33.4	
	comp=Z,18nm,1.2s						
JNU	**Nakatsue**	**69.99**	**317**	P	**P**	**14 01 17.7**	**-0.2**
JNU				IAmb	IAmb	14 01 33.0	
	comp=Z,32nm,1.4s						
JKA	**Kamikawa-asahi**	**71.25**	**332**	P	**P**	**14 01 26.9**	**+1.8**
JKA	**Kamikawa-asahi**	**71.25**	**332**	IAmb	IAmb	14 01 30.1	
	comp=Z,21nm,1.4s						
ASAJ	**Asahikawa**	**71.25**	**332**	P	**P**	**14 01 26.9**	**+1.8**
	comp=Z,2.8nm,0.5s,baz=272,slow=6.3,SNR=7.4						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**14 01 29.7**	**+0.7**
QSPA				IAmb	IAmb	14 01 30.9	
	comp=Z,18nm,0.8s						
SSLB	**Suanglung**	**71.99**	**303**	P	**P**	**14 01 29.3**	**-0.6**
SSLB				IAmb	IAmb	14 01 39.9	
	comp=Z,22nm,1.2s						
TPUB	**Ta-pu**	**72.01**	**303**	P	**P**	**14 01 29.3**	**-0.6**
TPUB				IAmb	IAmb	14 01 29.7	
	comp=Z,16nm,0.7s						
PETK	**Petropavlovsk-**	**73.77**	**346**	P	**P**	**14 01 40.0**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=151,slow=9.2,SNR=2.5						
KSRS	**Korea Array**	**74.57**	**319**	P	**P**	**14 01 45.5**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=136,slow=6.0,SNR=5.1						
USRK	**Ussuriysk Ar.**	**76.54**	**326**	P	**P**	**14 01 56.7**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=100,slow=3.6,SNR=4.5						
NJ2	**Nanjing**	**77.74**	**310**	*eP*	**P**	**14 02 02.4**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NVAR	**Mina Array Bea**	**79.87**	**44**	P	**P**	**14 02 14.6**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=233,slow=10.0,SNR=3.1						
NVAR				pP	**pP**	**14 04 12.8**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=243,slow=7.8,SNR=2.5						
CN2	**Changchun**	**79.92**	**323**	*eP*	**P**	**14 02 13.8**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BELA	**Belgrano 2**	**82.02**	**173**	P	**P**	**14 02 23.3**	**-0.1**
MAW	**Mawson**	**83.52**	**200**	P	**P**	**14 02 31.4**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=138,slow=5.9,SNR=17						
MAW	**Mawson**	**83.52**	**200**	P	**P**	**14 02 31.3**	**+0.2**
SEY	**Seymchan**	**83.88**	**347**	P	**P**	**14 02 33.0**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=154,slow=4.0,SNR=6.1						
ILAR	**Eielson Array**	**86.18**	**13**	*eP*	pP	14 04 46.5	+1.6
	comp=Z,0.7nm,1.0s,baz=206,slow=6.5,SNR=4.1				

PB06 *i* S **Sn** **14 10 14.6 +1.0**
PB06 IAML 14 10 15.8
comp=N,12µm,0.2s
PB06 IPOC Station P 0.57 319 Pn **14 10 03.0 +0.6**
PB06 IPOC Station P 0.57 319 *eP* **Pn** **14 10 03.7 +1.3**
PB06 *eS* **Sn** **14 10 15.3 +1.7**
PB06 IAML 14 10 16.9
comp=Z,6µm,0.2s
LVC Limon Verde 0.58 24 P **Pn** **14 10 03.5 +0.7**
comp=Z,2µm,0.3s,baz=186,slow=7.4,SNR=7715
LVC S **Sn** **14 10 14.6 +0.5**
comp=Z,7µm,0.3s,baz=35,slow=19,SNR=95
LVC Limon Verde 0.58 24 *eP* **Pn** **14 10 03.8 +1.1**
LVC *i* S **Sn** **14 10 14.7 +0.6**
LVC Limon Verde 0.58 24 *eP* **Pn** **14 10 03.5 +0.7**
LVC Limon Verde 0.58 24 *eP* **Pn** **14 10 03.7 +0.9**
LVC *eS* **Sn** **14 10 15.1 +1.0**
LVC IAML 14 10 15.3
comp=Z,7µm,0.3s
PB05 IPOC Station P 0.99 287 *i* P **Pn** **14 10 08.2 +1.4**
PB05 *i* S **Sn** **14 10 22.8 +1.5**
PB05 IAML 14 10 29.4
comp=N,6µm,0.8s
PB05 IPOC Station P 0.99 287 *eP* **Pn** **14 10 08.2 +1.4**
PB05 *eS* **Sn** **14 10 23.5 +2.2**
PB05 IAML 14 10 27.4
comp=Z,3µm,0.3s
PB04 IPOC Station P 1.21 311 ⇓ *i* P **Pn** **14 10 10.7 +1.3**
PB04 *i* S **Sn** **14 10 27.4 +1.4**
PB04 IAML 14 10 31.4
comp=N,4µm,0.3s
PB04 IPOC Station P 1.21 311 **Pn** **14 10 10.8 +1.3**
PB04 IPOC Station P 1.21 311 *eP* **Pn** **14 10 10.8 +1.3**
PB04 *eP* 14 10 11.0
PB04 *eS* **Sn** **14 10 28.4 +2.4**
PB04 IAML 14 10 33.8
comp=Z,4µm,0.3s
PB03 IPOC Station P 1.21 333 ⇓ *i* P **Pn** **14 10 10.8 +1.3**
PB03 *i* S **Sn** **14 10 27.0 +0.9**
PB03 IAML 14 10 31.8
comp=E,3µm,0.1s
PB03 IPOC Station P 1.21 333 *eP* **Pn** **14 10 10.8 +1.3**
PB03 *eS* **Sn** **14 10 28.4 +2.3**
PB03 IAML 14 10 31.2
comp=Z,2µm,0.4s
PB10 IPOC Station P 1.33 253 ⇑ *i* P **Pn** **14 10 12.4 +1.7**
PB10 *i* S **Sn** **14 10 30.2 +1.9**
PB10 IAML 14 10 36.6
comp=N,4µm,0.5s
PB10 IPOC Station P 1.33 253 **Pn** **14 10 12.5 +1.7**
PB10 IPOC Station P 1.33 253 *eP* **Pn** **14 10 12.4 +1.7**
PB10 *eS* **Sn** **14 10 30.0 +1.7**
PB10 IAML 14 10 38.8
comp=Z,2µm,0.3s
PB09 IPOC Station P 1.34 357 ⇓ *i* P **Pn** **14 10 12.9 +1.8**
PB09 *i* S **Sn** **14 10 30.7 +1.8**
PB09 IAML 14 10 34.7
comp=E,3µm,0.6s
PB09 IPOC Station P 1.34 357 **Pn** **14 10 12.9 +1.8**
PB09 IPOC Station P 1.34 357 *eP* **Pn** **14 10 12.8 +1.8**
PB09 *eS* **Sn** **14 10 31.6 +2.7**
PB09 IAML 14 10 34.5
comp=Z,4µm,0.5s
PB07 IPOC Station P 1.56 335 *i* P **Pn** **14 10 15.2 +1.4**
PB07 *i* S **Sn** **14 10 35.3 +1.5**
PB07 IAML 14 10 39.9
comp=E,3µm,0.4s
PB07 IPOC Station P 1.56 335 Pn **Pn** **14 10 15.1 +1.4**
PB07 IPOC Station P 1.56 335 *eP* **Pn** **14 10 15.3 +1.4**
PB07 *eS* **Sn** **14 10 36.4 +2.6**
PB07 IAML 14 10 39.2
comp=Z,2µm,0.2s
PB14 IPOC Station P 1.86 217 **Pn** **14 10 19.5 +1.6**
PB14 IPOC Station P 1.86 217 *eP* **Pn** **14 10 20.0 +2.0**
PB14 *eS* **Sn** **14 10 43.4 +2.3**
PB14 IAML 14 10 50.3
comp=Z,3µm,0.4s
PB02 IPOC Station P 1.93 339 ⇑ *i* P **Pn** **14 10 20.0 +1.3**
PB02 *i* S **Sn** **14 10 43.7 +1.3**
PB02 IAML 14 10 49.8
comp=E,5µm,0.2s
PB02 IPOC Station P 1.93 339 *eP* **Pn** **14 10 20.0 +1.3**
PB02 *eP* 14 10 20.1
PB02 *eS* **Sn** **14 10 45.6 +3.1**
PB02 IAML 14 10 47.5
comp=Z,3µm,0.6s
GO02 Mina Guanaco 2.05 191 Pn **Pn** **14 10 22.4 +2.0**
PB01 IPOC Station P 2.11 352 ⇑ *i* P **Pn** **14 10 22.2 +1.3**
PB01 *i* S **Sn** **14 10 48.2 +1.6**
PB01 IAML 14 10 52.0
comp=E,3µm,0.3s
PB01 IPOC Station P 2.11 352 **Pn** **14 10 21.9 +0.9**
PB01 IPOC Station P 2.11 352 *eP* **Pn** **14 10 22.4 +1.5**
PB01 *eS* **Sn** **14 10 49.7 +3.1**
PB01 IAML 14 10 54.9
comp=Z,2µm,0.4s
PATCX Punta Patache 2.48 338 IAML 14 11 05.8
comp=N,2µm,0.3s
PATCX Punta Patache 2.48 338 **Pn** **14 10 25.9 -0.1**
PATCX Punta Patache 2.48 338 *eP* **Pn** **14 10 26.4 +0.4**
PATCX *eP* 14 10 26.7
TA01 Diego Aracena 2.73 340 Pn **Pn** **14 10 28.6 -0.6**
PB08 IPOC Station P 2.98 0 IAML 14 11 20.0
comp=E,632nm,0.3s
PB08 IPOC Station P 2.98 0 **Pn** **14 10 33.9 +0.9**
PB08 IPOC Station P 2.98 0 *eP* **Pn** **14 10 34.0 +1.0**
PB08 *eS* **Sn** **14 11 13.9 +5.9**
PB08 IAML 14 11 20.9
comp=Z,406nm,0.3s
AC01 Pan de Azucar 3.27 203 Pn **Pn** **14 10 36.4 0.0**
PB11 IPOC Station P 3.39 352 Pn **Pn** **14 10 38.1 -0.2**
PB11 IPOC Station P 3.39 352 *eP* **Pn** **14 10 38.4 0.0**
PB11 *eS* **Sn** **14 11 24.3 +6.7**
PB11 IAML 14 11 30.7
comp=Z,679nm,0.8s
GO01 Chusmiza 3.45 360 **Pn** **14 10 40.0 +0.6**
HJA Humahuaca 3.46 92 *eP* **Pn** **14 10 42.4 +3.0**
YJA Yavi 3.51 75 *eP* **Pn** **14 10 43.5 +3.3**
PSGCX Pisagua 3.64 346 Pn **Pn** **14 10 40.1 -1.5**
AC02 Maricunga 3.68 179 Pn **Pn** **14 10 44.6 +2.1**
SLA San Lorenzo 3.71 116 *eP* **Pn** **14 10 46.5 +4.0**
MNMC Minye Minye 4.01 354 **Pn** **14 10 46.7 -0.1**
FSA Cafayete 4.14 136 *eP* Pn 14 10 54.4 +5.8
GO03 Copiap 4.54 192 **Pn** **14 10 53.6 -0.2**
GO03 Copiap 4.54 192 *eP* **Pn** **14 10 53.8 +0.1**
GO03 *eS* Sn 14 11 57.5 +12
PB12 IPOC Station P 4.63 346 **Pn** **14 10 53.6 -1.5**
PB16 IPOC Station P 4.79 356 Pn **Pn** **14 10 59.7 +2.0**
AC04 Llanos de Chal 5.33 198 Pn **Pn** **14 11 02.1 -2.3**
VCA Vinchina 5.64 171 *eP* **Pn** **14 11 11.0 +2.1**
VCA IAML 14 13 09.1
comp=Z,70nm,1.1s
AC05 El Transito 5.76 190 Pn **Pn** **14 11 10.0 -0.4**
CYA Choya 6.09 151 *eP* **Pn** **14 11 16.7 +1.8**
ACLC CERRO LA CRUZ 6.57 163 *eP* **Pn** **14 11 22.4 +0.9**
ACLC IAML 14 12 40.8
comp=Z,24nm,1.2s
CO01 Juntas del Tor 6.86 187 **Pn** **14 11 25.4 -0.2**
LPAZ La Paz 6.89 8 P **Pn** **14 11 27.3 +1.0**
comp=Z,0.8nm,0.3s,baz=172,slow=4.3,SNR=15
LPAZ La Paz 6.89 8 Pn **Pn** **14 11 27.8 +1.5**
AROD Rodeo 7.00 182 *eP* **Pn** **14 11 28.6 +1.0**
AROD *eS* Sn 14 12 58.0 +12
GO04 Tololo Observa 7.15 191 Pn **Pn** **14 11 27.6 -1.9**
APLL PUNTA DE LOS L 7.60 162 *eP* **Pn** **14 11 35.0 -0.5**
APLL IAML 14 13 37.5
comp=Z,17nm,3.4s
CO03 El Pedregal 7.79 190 Pn **Pn** **14 11 35.8 -2.2**
CO02 Combarbal 8.20 191 **Pn** **14 11 41.0 -2.7**
MT02 Curacav 10.23 189 **Pn** 14 12 06.7 -4.6
SIV San Ignacio 10.43 48 P **Pn** **14 12 12.0 -2.1**
comp=Z,4.4nm,0.3s,baz=280,slow=9.3,SNR=61
SIV S Sn 14 13 58.3 -11
comp=Z,0.4nm,0.3s,baz=260,slow=18,SNR=1.7
TRCB Terra Rica 15.24 92 *eP* **P** **14 13 20.9 0.0**
PTGB Pitanga 15.72 99 *eP* **P** **14 13 26.1 -0.2**
PCMB Pacaembu 16.64 88 *eP* **Pn** **14 13 35.9 +0.5**
PLCA Paso Flores 17.58 183 P **Pn** **14 13 47.1 +0.3**
comp=Z,0.1nm,0.3s,baz=10,slow=9.0,SNR=5.9
PLCA Paso Flores 17.58 183 P **P** **14 13 46.0 -0.8**
CLDB Colider 17.66 49 *eP* **P** **14 13 46.1 -1.6**
ITRB Iturama 17.84 83 *eP* **P** **14 13 49.2 -0.5**
FRTB Fartura 18.02 95 *eP* **P** **14 13 51.3 -0.4**

IPMB Ipameri, GO 20.28 79 *eP* **P** **14 14 15.6 -0.8**
VAO Valinhos 20.43 94 *eP* **P** **14 14 17.3 -0.7**
NPGB Novo Progresso 20.80 42 *eP* **P** **14 14 19.4 -2.6**
BDFB Brasilia 21.29 73 P **P** **14 14 26.4 -0.9**
comp=Z,3.0nm,0.4s,baz=234,slow=8.5,SNR=6.3
ITTB Itaituba 22.74 37 *eP* **P** **14 14 39.3 -3.2**
PTGA Pitinga 24.00 23 P **P** **14 14 53.3 -1.0**
comp=Z,6.5nm,0.8s,baz=204,slow=12,SNR=11
PTGA Pitinga 24.00 23 P **P** **14 14 51.9 -2.4**
JANB Januaria 24.80 76 *eP* **P** **14 14 59.8 -1.9**
ROSB Rosario 31.51 54 *eP* **P** **14 15 59.2 -2.4**
RCBR Riachuelo 36.38 67 P **P** **14 16 42.5 -1.2**
comp=Z,5.2nm,0.7s,baz=176,slow=4.7,SNR=2.0
RCBR Riachuelo 36.38 67 P **P** **14 16 41.3 -2.4**
RCBR IAmb IAmb 14 16 52.2
comp=Z,12nm,1.1s
SNAA Sanae 60.82 161 P **P** **14 19 51.4 +1.1**
comp=Z,4.3nm,0.6s,baz=276,slow=5.8,SNR=10
SNAA Sanae 60.82 161 P **P** **14 19 50.4 +0.1**
QSPA South Pole Qui 67.06 180 P **P** **14 20 33.4 +2.0**
QSPA IAmb IAmb 14 20 34.0
comp=Z,6.6nm,0.6s
DBIC Dimbokro 69.44 73 P **P** **14 20 46.3 -0.6**
comp=Z,5.3nm,0.9s,baz=247,slow=9.7,SNR=4.8
DBIC Dimbokro 69.44 73 P **P** **14 20 44.6 -2.3**
DBIC IAmb IAmb 14 20 47.9
comp=Z,12nm,1.1s
SYO Syowa Base 75.06 159 ‖ *eP* **P** **14 21 19.2 -0.3**
VNDA Vanda 75.20 190 P **P** **14 21 22.8 +2.6**
comp=Z,0.5nm,0.6s,baz=286,slow=10,SNR=3.1
TOA0 Torodi Ar. Sit 78.13 70 P **P** **14 21 37.4 -0.4**
TORD Torodi Ar. Bea 78.13 70 P **P** **14 21 37.5 -0.2**
comp=Z,1.1nm,0.6s,baz=256,slow=5.3,SNR=52
TORD Torodi Ar. Bea 78.13 70 P **P** **14 21 37.5 -0.2**
BOSA Boshof 82.89 118 P **P** **14 22 03.3 +0.1**
comp=Z,3.9nm,0.8s
BOSA Boshof 82.89 118 P **P** **14 22 02.1 -1.2**
BOSA IAmb IAmb 14 22 09.0
comp=Z,4.8nm,1.1s
ESDC Sonseca Array 87.17 45 P **P** **14 22 25.0 +0.9**
comp=Z,0.5nm,0.7s,baz=287,slow=5.2,SNR=2.7
YKA Yellowknife Ar 92.65 341 P **P** **14 22 49.4 +0.3**
comp=Z,3.5nm,1.0s,baz=148,slow=42,SNR=2.1
ASAR Alice Springs 128.35 207 PKP **PKiKP** **14 28 45.5 -0.1**
comp=Z,0.7nm,0.7s,baz=137,slow=2.1,SNR=11
ASAR Alice Springs 128.35 207 **PKiKP** **14 28 45.6 +0.1**
WRA Warramunga Arr 131.42 210 PKP **PKPdf** **14 28 50.9 +0.2**
comp=Z,0.6nm,0.5s,baz=152,slow=1.6,SNR=18
WRA Warramunga Arr 131.42 210 **PKiKP** **14 28 52.0 +0.3**
ZALV Zalesovo Beam 143.53 26 PKP PKPbc 14 29 10.6 +1.2
comp=Z,1.4nm,0.6s,baz=327,slow=5.1,SNR=5.3
ZALV Zalesovo Beam 143.53 26 **PKPdf** **14 29 10.8 -1.0**
MKAR Makanchi Array 147.09 37 PKPbc **PKPbc** **14 29 19.6 -0.9**
comp=Z,3.4nm,0.8s,baz=14,slow=1.5,SNR=24
MKAR Makanchi Array 147.09 37 **PKPbc** **14 29 19.8 -0.7**

WEL 02 14:22:08.6,40°S±1°×17°4E±°, h110km±2km, M3.7/36, ML4.0/6, MLv3.7/36, Error ellipse: s-maj=0.0km s-min=0.0km az=67.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.46**	**2**	P	Pn	14 22 25.6	+0.5
LREZ				S	Sn	14 22 38.2	+0.6
WAZ	**Wanganui**	**0.50**	**70**	P	Pn	14 22 26.2	+0.8
WAZ				S	Sn	14 22 39.7	+1.7
PREZ	**Palmer Road**	**0.60**	**344**	P	Pn	14 22 25.7	-0.5
PREZ				S	Sn	14 22 39.4	-0.1
NMEZ	**Namu Road**	**0.64**	**323**	P	Pn	14 22 26.7	+0.3
NMEZ				S	Sn	14 22 40.1	+0.3
NEZ	**North Egmont**	**0.69**	**341**	P	Pn	14 22 27.2	+0.3
NEZ				S	Sn	14 22 40.4	-0.3
DREZ	**Durham Road**	**0.75**	**349**	P	Pn	14 22 27.7	+0.3
DREZ				S	Sn	14 22 41.2	-0.3
OHWZ	**Ohakea**	**0.77**	**112**	P	Pn	14 22 28.4	+0.9
PKE	**Pukeiti**	**0.79**	**337**	P	Pn	14 22 28.2	+0.5
PKE				S	Sn	14 22 41.8	-0.3
MHEZ	**Mangahewa**	**0.85**	**357**	P	Pn	14 22 28.9	+0.7
MHEZ				S	Sn	14 22 44.4	+1.3
VRZ	**Vera Road**	**0.85**	**20**	P	Pn	14 22 28.5	+0.2
VRZ				S	Sn	14 22 43.4	+0.3
DUWZ	**D'Urville Isla**	**0.94**	**202**	P	Pn	14 22 29.8	+0.6
DUWZ				S	Sn	14 22 44.8	0.0
PKVZ	**Pokaka**	**0.98**	**50**	P	Pn	14 22 30.0	+0.4
PKVZ				S	Sn	14 22 45.5	0.0
MTVZ	**Mangateitei**	**1.00**	**58**	P	Pn	14 22 30.2	+0.4
MTVZ				S	Sn	14 22 45.5	-0.3
KIW	**Kapiti Island**	**1.02**	**157**	P	Pn	14 22 30.4	+0.4
KIW				S	Sn	14 22 44.5	-1.6
OGWZ	**Otaki Gorge**	**1.08**	**146**	P	Pn	14 22 31.1	+0.5
OGWZ				S	Sn	14 22 47.0	-0.2
WNVZ	**Wahianoa**	**1.11**	**58**	P	Pn	14 22 31.3	+0.2
WNVZ				S	Sn	14 22 48.1	0.0
DRZ	**Dome Shelter**	**1.12**	**55**	P	Pn	14 22 32.4	+1.0
FWVZ	**Far West T-bar**	**1.13**	**54**	P	Pn	14 22 31.3	0.0
FWVZ				S	Sn	14 22 48.6	+0.1
POWZ	**Post Office Ro**	**1.16**	**114**	P	Pn	14 22 31.6	+0.2
MRZ	**Mangatainoka R**	**1.18**	**129**	P	Pn	14 22 31.8	+0.2
MRZ				S	Sn	14 22 47.7	-1.4
MOVZ	**Moawhango**	**1.18**	**64**	P	Pn	14 22 31.5	-0.3
MOVZ				S	Sn	14 22 48.3	-1.0
TWVZ	**Taurewa**	**1.18**	**44**	P	Pn	14 22 31.8	0.0
TWVZ				S	Sn	14 22 48.2	-1.2
TUVZ	**Tukino**	**1.18**	**57**	P	Pn	14 22 32.3	+0.4
NGZ	**Ngauruhoe**	**1.20**	**52**	P	Pn	14 22 32.2	+0.1
TSZ	**Takapari Road**	**1.22**	**97**	P	Pn	14 22 32.0	-0.2
WTVZ	**West Tongariro**	**1.24**	**50**	P	Pn	14 22 32.5	0.0
OTVZ	**Oturere**	**1.25**	**53**	P	Pn	14 22 32.9	+0.2
OTVZ				S	Sn	14 22 50.6	-0.3
KRVZ	**Karewarewa**	**1.28**	**50**	P	Pn	14 22 32.9	0.0
TCW	**Tory Channel**	**1.29**	**183**	P	Pn	14 22 33.4	+0.5
CAW	**Cannon Point**	**1.29**	**156**	P	Pn	14 22 33.7	+0.7
ETVZ	**East Tongariro**	**1.29**	**53**	P	Pn	14 22 33.4	+0.3
HOWZ	**Holdsworth Sta**	**1.30**	**139**	P	Pn	14 22 33.4	+0.3
TMVZ	**Te Maari**	**1.30**	**52**	P	Pn	14 22 33.5	+0.3
BHHZ	**Black Hill Sta**	**1.37**	**72**	P	Pn	14 22 33.5	-0.4
PRWZ	**Pori Road**	**1.37**	**118**	P	Pn	14 22 34.4	+0.5
KATZ	**Kakaramea**	**1.39**	**48**	P	Pn	14 22 34.8	+0.5
WEL	**Wellington**	**1.39**	**168**	P	Pn	14 22 34.6	+0.6
PNHZ	**Pukenui**	**1.40**	**90**	P	Pn	14 22 34.1	-0.2
DVHZ	**Dannevirke**	**1.42**	**106**	P	Pn	14 22 34.6	+0.1
HIZ	**Hauiti**	**1.46**	**15**	P	Pn	14 22 34.9	0.0
RITZ	**Rihia Road**	**1.48**	**51**	P	Pn	14 22 35.7	+0.5
NNZ	**Nelson**	**1.50**	**210**	P	Pn	14 22 35.9	+0.6
RATZ	**Rangitukua**	**1.51**	**46**	P	Pn	14 22 36.3	+0.7
BHW	**Baring Head**	**1.53**	**166**	P	Pn	14 22 36.1	+0.4
TUWZ	**Tuamarina**	**1.54**	**192**	P	Pn	14 22 36.1	+0.3
KRHZ	**Kereru**	**1.56**	**80**	P	Pn	14 22 36.0	-0.1
WPHZ	**Waipukurau**	**1.59**	**96**	P	Pn	14 22 36.3	-0.2
WATZ	**Wairara**	**1.60**	**41**	P	Pn	14 22 37.5	+0.8
BFZ	**Birch Farm**	**1.62**	**119**	P	Pn	14 22 36.6	-0.1
MSWZ	**Moikau Station**	**1.63**	**156**	P	Pn	14 22 37.4	+0.5
TMWZ	**Te Maipa**	**1.65**	**136**	P	Pn	14 22 37.6	+0.4
KWHZ	**Kaweka Forest**	**1.65**	**73**	P	Pn	14 22 37.8	+0.5
QRZ	**Quartz Range**	**1.68**	**237**	P	Pn	14 22 37.6	+0.1
QRZ				S	Sn	14 22 58.9	-0.6
ANWZ	**Angora Road**	**1.69**	**109**	P	Pn	14 22 38.1	+0.5
CPWZ	**Castlepoint**	**1.71**	**126**	P	Pn	14 22 38.6	+0.8
PRHZ	**Porangahau**	**1.76**	**102**	P	Pn	14 22 38.7	+0.1
PLWZ	**Palliser**	**1.77**	**158**	P	Pn	14 22 38.9	+0.2
TRWZ	**Traveller**	**1.78**	**146**	P	Pn	14 22 38.1	-0.6
BKZ	**Black Stump Fm**	**1.80**	**66**	P	Pn	14 22 38.5	-0.5
KUTZ	**Kaahu Road**	**1.82**	**39**	P	Pn	14 22 40.4	+1.1
CMWZ	**Cape Campbell**	**1.83**	**184**	P	Pn	14 22 40.6	+1.2
TLZ	**Tolley Road**	**1.83**	**30**	P	Pn	14 22 39.7	+0.2
BSWZ	**Blackbirch Sta**	**1.83**	**192**	P	Pn	14 22 40.1	+0.7
MCHZ	**McNeill Hill**	**1.85**	**76**	P	Pn	14 22 39.7	+0.1
PXZ	**Pawanui**	**1.91**	**94**	P	Pn	14 22 40.3	0.0
MRHZ	**Matea Rd**	**1.92**	**56**	P	Pn	14 22 40.1	-0.5
KAHZ	**Kahuranaki**	**1.93**	**87**	P	Pn	14 22 40.8	+0.1
WPRZ	**Whakapapatarin**	**1.97**	**45**	P	Pn	14 22 41.9	+0.7
ALRZ	**Allen Road**	**2.04**	**49**	P	Pn	14 22 42.0	-0.1
NMHZ	**Naumai**	**2.05**	**67**	P	Pn	14 22 42.3	0.0
GRRZ	**Galatos Road**	**2.07**	**41**	P	Pn	14 22 43.5	+1.1
PRRZ	**Plateau Road**	**2.11**	**48**	P	Pn	14 22 43.4	+0.3
ARHZ	**Aropaoanui**	**2.13**	**73**	P	Pn	14 22 42.7	-0.4
THZ	**Tophouse**	**2.15**	**211**	P	Pn	14 22 43.8	+0.3
HSRZ	**Hossack Road**	**2.17**	**43**	P	Pn	14 22 44.5	+0.8
MTHZ	**Maungataniwha**	**2.19**	**62**	P	Pn	14 22 43.5	-0.5
UTU	**Utuhina**	**2.24**	**40**	P	Pn	14 22 46.0	+1.3
RRRZ	**Republican Roa**	**2.29**	**47**	P	Pn	14 22 45.5	+0.2
TOZ	**Tahuroa Road**	**2.36**	**22**	P	Pn	14 22 45.9	-0.2
OMRZ	**Omania**	**2.39**	**41**	P	Pn	14 22 47.1	+0.5
KARZ	**Kaharoa**	**2.39**	**38**	P	Pn	14 22 47.8	+1.2
SNGZ	**Shannon Statio**	**2.56**	**65**	P	Pn	14 22 48.1	-0.7
KHZ	**Kahutara**	**2.57**	**194**	P	Pn	14 22 49.2	+0.3
TGRZ	**Tauranga**	**2.64**	**34**	P	Pn	14 22 50.5	+0.7
DSZ	**Denniston Nort**	**2.67**	**226**	P	Pn	14 22 50.3	+0.1
OPRZ	**Ohinepanea**	**2.68**	**40**	P	Pn	14 22 50.7	+0.3
URZ	**Urewera**	**2.70**	**53**	P	Pn	14 22 49.4	-1.2
KNZ	**Kokohu**	**2.70**	**72**	P	Pn	14 22 49.2	-1.4
MHGZ	**Mahia Peninsul**	**2.83**	**75**	P	Pn	14 22 51.2	-1.1
AWAZ	**Awhitu Peninsu**	**2.86**	**4**	P	Pn	14 22 53.2	+0.5
PRGZ	**Paritu Road**	**2.89**	**71**	P	Pn	14 22 51.7	-1.4
RIGZ	**Rimuhau**	**2.89**	**66**	P	Pn	14 22 52.0	-1.1
WTAZ	**Waiatarua**	**2.99**	**3**	P	Pn	14 22 55.4	+0.9
ETAZ	**East Tamaki Re**	**3.00**	**8**	P	Pn	14 22 55.0	+0.5
RVAZ	**Riverhead Bore**	**3.15**	**3**	P	Pn	14 22 57.0	+0.4
MBAZ	**Motutapu North**	**3.18**	**8**	P	Pn	14 22 57.4	+0.5
WIAZ	**Waiheke Island**	**3.18**	**11**	P	Pn	14 22 57.5	+0.5
GVZ	**Greta Valley S**	**3.21**	**198**	P	Pn	14 22 56.7	-0.6
RUGZ	**Raukumara Rang**	**3.23**	**54**	P	Pn	14 22 55.7	-2.0
LTZ	**Lake Taylor**	**3.27**	**208**	P	Pn	14 22 57.2	-0.9
TWGZ	**Tauwhareparae**	**3.30**	**59**	P	Pn	14 22 57.5	-1.1
CNGZ	**Carnagh Statio**	**3.30**	**65**	P	Pn	14 22 57.1	-1.5
KUZ	**Kuaotunu**	**3.34**	**19**	P	Pn	14 22 58.6	-0.5
HAZ	**Te Kaha**	**3.43**	**52**	P	Pn	14 22 57.9	-2.3
AMCZ	**Amberley**	**3.50**	**201**	P	Pn	14 23 00.0	-1.1
PUZ	**Puketiti**	**3.54**	**60**	P	Pn	14 22 59.9	-1.9
INZ	**Inchbonnie**	**3.57**	**217**	P	Pn	14 23 01.6	-0.5
WMGZ	**Waiomatatini S**	**3.79**	**58**	P	Pn	14 23 03.0	-2.0
OXZ	**Oxford**	**3.83**	**207**	P	Pn	14 23 04.9	-0.7
WCZ	**Waipu Caves**	**3.98**	**360**	P	Pn	14 23 08.1	+0.4
MQZ	**McQueen's Vall**	**3.99**	**198**	P	Pn	14 23 05.4	-2.4
AKCZ	**Akaroa Harbour**	**4.10**	**195**	P	Pn	14 23 07.3	-1.9
WVZ	**Waitaha Valley**	**4.17**	**220**	P	Pn	14 23 09.4	-0.7
MHCZ	**Mount Hutt**	**4.17**	**209**	P	Pn	14 23 09.5	-0.8
WACZ	**Wakanui South**	**4.44**	**204**	P	Pn	14 23 11.9	-1.9
RPZ	**Rata Peaks**	**4.53**	**212**	P	Pn	14 23 14.7	-0.4
GCSZ	**Gaunt Creek Bo**	**4.55**	**221**	P	Pn	14 23 14.3	-1.0
ARCZ	**Arundel**	**4.68**	**210**	P	Pn	14 23 15.2	-1.8
OUZ	**Omahuta**	**4.74**	**352**	P	Pn	14 23 19.0	+1.2
ODZ	**Otahua Downs**	**5.81**	**207**	P	Pn	14 23 31.0	-1.3
JCZ	**Jackson Bay**	**5.88**	**223**	P	Pn	14 23 31.7	-1.6
CTZ	**Chatham Island**	**7.73**	**122**	P	Pn	14 23 58.2	-0.1

*MDD **02** 14:28:58.9±0.5, 35°.77N×0°.11E, h0km, mb3.5/5, Error ellipse: s-maj=5.8km s-min=4.1km az=177.0, PRXIMO*
*CRAAG **02** 14:28:59.3, 35°.67N×0°.21E, Ml2.7*
ISC 02 14:28:55.1±0.9, 36°.02N±0°.06×0°.08E±0°.03, h13km, n15, σ1s63/20, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.46**	**87**	P	**Pg**	**14 29 04.0**	**-0.2**
OKGL	**Djebel Kef Gue**	**0.46**	**87**	P	**Pn**	**14 29 07.7**	**+0.3**
OKGL	SNR=7.9			S	**Sn**	**14 29 16.3**	**+0.8**
	188nm,0.2s,SNR=7.9						
OJBR	**Djebel Berber**	**0.48**	**153**	P	**Pg**	**14 29 03.0**	**-1.7**
OJBR	**Djebel Berber**	**0.48**	**153**	P	**Pg**	**14 29 03.0**	**-1.7**
USTO	**Oran**	**0.58**	**241**	P	**Pg**	**14 29 07.0**	**+0.5**
USTO	**Oran**	**0.58**	**241**	P	**Pg**	**14 29 07.0**	**+0.5**
ODJA	**Bouhanifia**	**0.71**	**195**	P	**Pg**	**14 29 10.1**	**+1.1**
ODJA	**Bouhanifia**	**0.71**	**195**	P	**Pg**	**14 29 10.1**	**+1.1**
OJGS	**Djebel Guires**	**0.75**	**133**	P	**Pg**	**14 29 10.4**	**+0.7**
OJGS	**Djebel Guires**	**0.75**	**133**	P	**Pg**	**14 29 10.4**	**+0.7**
EBER	**Berja**	**2.55**	**291**	P	**Pb**	**14 29 41.2**	**+0.3**
EBER	1.8nm,0.2s,SNR=8.8			S	**Sb**	**14 30 13.7**	**+1.6**
	4.5nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**2.97**	**316**	P	**Pb**	**14 29 50.3**	**+2.3**
SESP	4.4nm,0.2s,SNR=7.9			S	**Sg**	**14 30 27.9**	**-2.6**
	10nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**3.07**	**294**	P	**Pb**	**14 29 50.6**	**+1.0**
EQES	0.9nm,0.3s,SNR=4.0			S	**Sg**	**14 30 31.4**	**-3.0**
	1.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.09**	**306**	P	**Pb**	**14 29 52.3**	**+2.3**
ELGU	1.4nm,0.3s,SNR=7.9			S	**Sg**	**14 30 27.9**	**-1.4**
ELGU	**Los Guajares,**	**3.10**	**287**	P	**Pb**	**14 29 48.9**	**-1.4**
	1.4nm,0.1s,SNR=7.9			S	**Sb**	**14 30 26.5**	**-1.6**
	3.1nm,0.3s,SNR=7.9						

*IDC **02** 14:30:12.8±2.7, 30°.02S×177°.29W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/41, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=54.6km s-min=23.3km az=79.0*
*NEIC **02** 14:30:16.0±2.5, 29°.9S×177°.08W±0°.05, h35km±2km, mb4.1/6, Error ellipse: s-maj=26.1km s-min=7.2km az=355.0*
ISC 02 14:30:13.7±1.5, 30°.09S±0°.07×177°.1W±0°.2, h24km, n12, σ1s87/14, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**320**	Pn	**Pb**	**14 30 32.8**	**-0.8**
RAO	375nm,0.3s,baz=101,slow=8.7,SNR=21			Sn	**Sn**	**14 30 46.7**	**-0.8**
	483nm,0.3s,baz=138,slow=19,SNR=6.6						
RAO	**Raoul Island**	**1.08**	**320**		**Pn**	**14 30 33.5**	**+0.2**
URZ	**Urewera**	**9.44**	**209**	Pn	**Pn**	**14 32 28.1**	**-0.1**
URZ	0.4nm,0.3s,baz=155,slow=20,SNR=1.9			Sn	**Sn**	**14 34 10.5**	**-3.0**
	0.5

az=138.0

ISC 02 14:37:34.4±0.8, 0°05S±0°06×126°26E±0°06, h35km, n31, σ1°88/28, mb4.0/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**53**	P		**Pn**	**14 37 57.1**	**-0.1**
TNTI	**Ternate**	**1.38**	**53**			**Pn**	**14 37 58.1**	**+1.0**
SANI	**Sanana**	**2.00**	**188**	P		**Pn**	**14 38 05.0**	**-0.8**
KMSI	**Cibinong**	**2.36**	**285**	P		**Pn**	**14 38 08.9**	**-1.8**
GTOI	**Gorontalo**	**3.32**	**282**	P		**Pn**	**14 38 26.0**	**+2.1**
LUWI	**Luwuk**	**3.62**	**254**	P		**Pn**	**14 38 31.3**	**+3.2**
LUWI	**Luwuk**	**3.62**	**254**	Pn		**Pn**	**14 38 30.2**	**+2.1**
MSAI	**Masohi**	**4.22**	**141**	P		**Pn**	**14 38 40.7**	**+4.4**
SIJI	**Sorong**	**5.07**	**99**	Pn		**Pn**	**14 38 51.9**	**+3.9**
	1.1nm,0.3s,baz=140,slow=23,SNR=2.4							
SIJI				LR		LR	14 41 17.4	
	comp=Z,114nm,18.3s,baz=48,slow=42							
MPSI	**Mapaga**	**6.37**	**273**	P		**Pn**	**14 39 07.4**	**+1.5**
	0.1nm9.9nm,1.1s							
SPSI	**Sidrap Palu**	**7.56**	**239**	P		**Pn**	**14 39 23.1**	**+0.9**
	0.1nm13nm,1.1s							
FITZ	**Fitzroy Crossi**	**17.94**	**182**	P		**Pn**	**14 41 37.5**	**-3.8**
	0.2nm,0.3s,baz=60,slow=8.0,SNR=7.9							
FITZ	**Fitzroy Crossi**	**17.94**	**182**	P		Pn	14 41 35.0	-6.2
FITZ				IAmb		IAmb	14 42 06.8	
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**21.15**	**158**	P		**P**	**14 42 16.3**	**-0.4**
WB0				IAmb		IAmb	14 43 01.3	
	comp=Z,15nm,1.4s							
WRAB	**Tennant Creek**	**21.29**	**159**	P		**P**	**14 42 17.7**	**-0.4**
WRAB				IAmb		IAmb	14 43 07.2	
	comp=Z,9.4nm,1.2s							
WRA	**Warramunga Arr**	**21.29**	**159**	P		**P**	**14 42 17.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=339,slow=11,SNR=11							
WRA	**Warramunga Arr**	**21.29**	**159**	P		**P**	**14 42 17.5**	**-0.7**
WB2	**Warramunga Arr**	**21.30**	**159**	P		**P**	**14 42 17.6**	**-0.6**
WR0	**Warramunga Arr**	**21.38**	**158**	P		**P**	**14 42 18.9**	**-0.2**
WR0				IAmb		IAmb	14 42 52.4	
	comp=Z,9.6nm,1.2s							
AS31	**Alice Springs**	**24.62**	**163**	P		**P**	**14 42 53.3**	**+1.5**
ASAR	**Alice Springs**	**24.62**	**163**	P		**P**	**14 42 52.4**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=345,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**24.62**	**163**	P		**P**	**14 42 51.8**	**+0.1**
STKA	**Stephens Creek**	**34.82**	**157**	P		**P**	**14 44 23.6**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=348,slow=6.3,SNR=2.9							
STKA	**Stephens Creek**	**34.82**	**157**	P		**P**	**14 44 23.1**	**+1.1**
KSRS	**Korea Array**	**37.35**	**2**	P		**P**	**14 44 43.6**	**0.0**
	comp=Z,0.8nm,0.7s,baz=176,slow=7.3,SNR=2.6							
PETK	**Petropavlovsk-**	**59.09**	**22**	P		**P**	**14 47 32.0**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=221,slow=5.7,SNR=1.5							
PETK	**Petropavlovsk-**	**59.09**	**22**	P		**P**	**14 47 30.1**	**-1.1**
URZ	**Urewera**	**60.16**	**135**	LR		LR	15 14 44.2	
	comp=Z,150nm,21.0s,baz=180,slow=37							
MKAR	**Makanchi Array**	**60.41**	**327**	P		P	14 47 38.2	-2.2
	comp=Z,0.4nm,0.3s,baz=119,slow=8.4,SNR=9.7							
ZALV	**Zalesovo Beam**	**63.74**	**334**	P		**P**	**14 48 02.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=120,slow=8.5,SNR=2.9							
KURK	**Kurchatov**	**64.68**	**329**	P		**P**	**14 48 07.2**	**-1.6**

IDC 02 14:39:40.1±2.5, 6°90S×146°35E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/39, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=52.5km s-min=32.8km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.61**	**162**	Pn		Pn	14 40 23.8	+0.2
	1.7nm,0.3s,baz=286,slow=4.8,SNR=1.2							
WRA	**Warramunga Arr**	**17.43**	**221**	P		P	14 43 45.6	-0.6
	0.1nm,0.3s,baz=44,slow=13,SNR=4.9							
ASAR	**Alice Springs**	**20.51**	**214**	P		P	14 44 20.8	+0.7
	2.2nm,0.6s,baz=54,slow=8.9,SNR=6.0							
FITZ	**Fitzroy Crossi**	**23.05**	**239**	P		P	14 44 46.2	-1.0
	4.8nm,0.7s,baz=62,slow=7.3,SNR=5.4							
MKAR	**Makanchi Array**	**77.78**	**321**	P		P	14 51 39.5	+0.2
	0.3nm,0.7s,baz=96,slow=5.8,SNR=2.5							

IDC 02 14:41:14.0±5.9, 5°18S×148°55E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/35, mbtmp4.1/4, Error ellipse: s-maj=183.2km s-min=36.2km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.17**	**222**	P		P	14 45 49.5	-0.7
	2.8nm,0.7s,baz=41,slow=12,SNR=4.6							
ASAR	**Alice Springs**	**23.18**	**216**	P		P	14 46 22.4	0.0
	9.0nm,1.0s,baz=49,slow=9.0,SNR=2.9							
FITZ	**Fitzroy Crossi**	**25.81**	**238**	P		P	14 46 47.7	+0.6
	4.2nm,0.6s,baz=80,slow=12,SNR=2.0							
H11S3	**WAKE ISLAND Hy**	**29.55**	**37**	T		T	15 18 08.6	
	baz=220,slow=76,SNR=36							
H11S2	**WAKE ISLAND Hy**	**29.55**	**37**	T		T	15 17 56.2	
	baz=220,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**29.56**	**37**	T		T	15 17 42.2	
	baz=220,slow=76,SNR=34							
H11N1	**WAKE ISLAND Hy**	**30.61**	**36**	T		T	15 18 31.5	
	baz=214,slow=74,SNR=33							
H11N3	**WAKE ISLAND Hy**	**30.63**	**36**	T		T	15 19 19.2	
	SNR=27							
H11N2	**WAKE ISLAND Hy**	**30.63**	**36**	T		T	15 18 56.7	
	baz=180,slow=74,SNR=40							
ZALV	**Zalesovo Beam**	**79.15**	**327**	P		P	14 53 20.5	0.0
	0.3nm,0.4s,baz=120,slow=5.8,SNR=1.3							

IDC 02 14:48:12.5±3.9, 5°77S×147°90E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.6/30, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=112.5km s-min=33.1km az=96.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**191**	Pn		Pn	14 49 11.8	+1.1
	1.9nm,0.3s,baz=187,slow=23,SNR=2.3							
WRA	**Warramunga Arr**	**19.29**	**222**	P		P	14 52 38.2	-1.0
	0.2nm,0.3s,baz=49,slow=11,SNR=2.2							
ASAR	**Alice Springs**	**22.32**	**216**	P		P	14 53 12.2	+0.3
	3.7nm,0.9s,baz=52,slow=11,SNR=2.1							
MKAR	**Makanchi Array**	**77.89**	**320**	P		P	15 00 12.2	-0.1
	0.1nm,0.5s,baz=100,slow=4.8,SNR=1.5							

IDC 02 14:49:10.4±4.9, 5°60S×148°72E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/31, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=133.3km s-min=38.0km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.97**	**223**	P		P	14 53 44.0	-0.5
	0.3nm,0.3s,baz=48,slow=11,SNR=1.9							
ASAR	**Alice Springs**	**22.94**	**217**	P		P	14 54 16.1	-0.3
	5.9nm,0.9s,baz=50,slow=9.3,SNR=2.8							
FITZ	**Fitzroy Crossi**	**25.73**	**239**	P		P	14 54 43.3	+0.5
	3.8nm,0.6s,baz=75,slow=7.6,SNR=2.1							
MKAR	**Makanchi Array**	**78.28**	**320**	P		P	15 01 12.4	+0.1
	0.6nm,1.0s,baz=101,slow=4.6,SNR=2.5							

IDC 02 14:49:46.1±4.9, 5°42S×148°78E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/29, mbtmp4.1/4, Error ellipse: s-maj=132.5km s-min=37.6km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.14**	**223**	P		P	14 54 22.1	-0.1
	4.0nm,0.7s,baz=48,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**23.12**	**217**	P		P	14 54 53.9	-0.1
	12nm,0.9s,baz=49,slow=10,SNR=4.9							
FITZ	**Fitzroy Crossi**	**25.88**	**239**	P		P	14 55 20.0	+0.1
	5.1nm,0.8s,baz=56,slow=14,SNR=2.2							
MKAR	**Makanchi Array**	**78.19**	**320**	P		P	15 01 47.7	+0.1
	0.4nm,0.7s,baz=106,slow=4.7,SNR=2.7							

IDC 02 14:50:29.7±5.3, 5°06S×148°98E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=158.8km s-min=39.0km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.54**	**223**	P		P	14 55 09.5	-0.5
	2.7nm,0.9s,baz=49,slow=11,SNR=1.8							
ASAR	**Alice Springs**	**23.53**	**217**	P		P	14 55 42.1	+0.4
	6.5nm,1.0s,baz=50,slow=8.9,SNR=2.3							
MKAR	**Makanchi Array**	**78.04**	**320**	P		P	15 02 30.3	0.0
	0.1nm,0.5s,baz=109,slow=7.2,SNR=1.5							

IDC 02 14:54:22.4±5.7, 5°05S×147°40E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/39, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=160.1km s-min=36.4km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.52**	**220**	P		Pn	14 58 53.0	+0.2
	0.1nm,0.3s,baz=46,slow=11,SNR=3.8							
ASAR	**Alice Springs**	**22.62**	**214**	P		P	14 59 25.4	+0.2
	8.7nm,1.0s,baz=43,slow=12,SNR=6.1							
FITZ	**Fitzroy Crossi**	**24.91**	**237**	P		P	14 59 46.3	-1.1
	4.6nm,1.0s,baz=64,slow=7.3,SNR=3.8							
MKAR	**Makanchi Array**	**77.02**	**320**	P		P	15 06 17.6	+0.1
	0.4nm,0.9s,baz=107,slow=5.0,SNR=2.2							

*IDC **02** 14:56:48.2±1.4, 5°38S×148°03E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/42, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=50.9km s-min=18.1km az=104.0*

ISC 02 14:57:04.0±1.4, 6°08S±0°1×148°2E±0°3, h150km, n15, σ2°79/10, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**197**	Pn		**Pn**	**14 57 54.2**	**-4.0**
	2.6nm,0.3s,baz=32,slow=6.2,SNR=3.0							
PMG				Sn		**Sn**	**14 58 40.0**	**-0.4**
	1.7nm,0.3s,baz=28,slow=18,SNR=1.5							
WRA	**Warramunga Arr**	**19.32**	**223**	P		**P**	**15 01 17.9**	**+0.2**
	0.4nm,0.3s,baz=42,slow=12,SNR=11							
ASAR	**Alice Springs**	**22.31**	**217**	P		**P**	**15 01 51.0**	**+1.7**
	3.6nm,0.5s,baz=43,slow=9.6,SNR=12							
FITZ	**Fitzroy Crossi**	**25.07**	**239**	P		**P**	**15 02 17.0**	**+2.2**
	6.5nm,0.6s,baz=57,slow=8.5,SNR=9.8							
STKA	**Stephens Creek**	**26.48**	**193**	P		**P**	**15 02 32.5**	**+5.2**
	5.5nm,1.2s,baz=358,slow=9.2,SNR=3.2							
H11S3	**WAKE ISLAND Hy**	**30.42**	**37**	T		T	15 34 35.3	
	SNR=0.2							
H11S2	**WAKE ISLAND Hy**	**30.43**	**37**	T		T	15 34 35.3	
H11S1	**WAKE ISLAND Hy**	**30.43**	**37**	T		T	15 34 35.3	
H11N1	**WAKE ISLAND Hy**	**31.49**	**35**	T		T	15 35 55.2	
H11N3	**WAKE ISLAND Hy**	**31.50**	**35**	T		T	15 35 56.6	
	SNR=19							
H11N2	**WAKE ISLAND Hy**	**31.51**	**35**	T		T	15 35 55.2	
SONM	**Songino Array**	**64.97**	**330**	P		**P**	**15 07 26.2**	**-1.7**
	0.7nm,0.8s,baz=125,slow=7.8,SNR=5.2							
MKAR	**Makanchi Array**	**78.24**	**320**	P		**P**	**15 08 47.0**	**-0.1**
	0.2nm,0.6s,baz=99,slow=8.9,SNR=1.9							
ZALV	**Zalesovo Beam**	**79.63**	**328**	P		**P**	**15 08 54.0**	**-0.5**
	0.3nm,0.4s,baz=325,slow=15,SNR=1.9							
ILAR	**Eielson Array**	**85.02**	**23**	P		**P**	**15 09 22.6**	**+0.3**
	1.5nm,1.1s,baz=256,slow=5.6,SNR=6.6							

*JMA **02** 15:04:07.7±0.3, 43°31N×137°93E, h273km±3km, M3.3*
*IDC **02** 15:04:07.8±0.9, 43°41N×137°87E, h259km±11km, mb3.2/13, mb1 3.3/19, mb1mx3.2/60, mbtmp3.9/19, Error ellipse: s-maj=13.7km s-min=11.3km az=118.0*
*NEIC **02** 15:04:08.4±2.1, 43°31N±0°07×137°91E±0°10, h268km±8km, mb4.1/19, Error ellipse: s-maj=11.0km s-min=9.4km az=128.0*

ISC 02 15:04:08.2±0.6, 43°21N±0°05×138°07E±0°06, h277km±7km, n87, σ1°56/99, mb3.7/21, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.53**	**137**	P		**Pn**	**15 04 49.6**	**+0.3**
JSH	**Shimam**	**1.56**	**111**	P		**Pn**	**15 04 49.4**	**-0.1**
JSH				eS		**S**	**15 05 22.5**	**+0.3**
JSK	**Shakotan**	**1.76**	**85**	P		**Pn**	**15 04 50.9**	**0.0**
JSK				eS		**S**	**15 05 24.9**	**+0.1**
JOMM	**Oshimamatsumae**	**2.21**	**139**	P		**Pn**	**15 04 55.6**	**+0.8**
JOMM				eS		**S**	**15 05 32.9**	**+1.1**
JEW	**Eniwo**	**2.50**	**97**	Pn		**Pn**	**15 04 59.6**	**+2.1**
JEW				S		**S**	**15 05 38.9**	**+2.3**
JKB	**Kayabe**	**2.56**	**120**	P		**Pn**	**15 04 58.6**	**+0.6**
JKB				eS		**S**	**15 05 38.8**	**+1.3**
JHR	**Hokuryu**	**2.71**	**77**	P		**Pn**	**15 05 00.0**	**+0.6**
JYG	**Yagishiri**	**2.71**	**62**	P		**Pn**	**15 04 59.1**	**-0.3**
JOT	**Ohata**	**2.87**	**129**	P		**Pn**	**15 05 01.4**	**+0.4**
JRBN	**Rebuntou**	**3.08**	**43**	P		**Pn**	**15 05 02.4**	**-0.7**
JTM	**Tenmabayashi**	**3.30**	**136**			**Pn**	**15 05 05.5**	**0.0**
JTM				S		**S**	**15 05 51.3**	**+0.1**
JFR	**Furan**	**3.31**	**89**	P		**Pn**	**15 05 06.0**	**+0.4**
JFR				eS		**S**	**15 05 51.2**	**-0.1**
ASAJ	**Asahikawa**	**3.40**	**73**	P		**Pn**	**15 05 06.9**	**+0.3**
	15nm,0.3s,baz=258,slow=7.7,SNR=181							
ASAJ				S		**S**	**15 05 52.4**	**-0.8**
	baz=126,slow=31,SNR=1.4							
JKA	**Kamikawa-asahi**	**3.41**	**73**			**Pn**	**15 05 06.9**	**+0.3**
JKA	**Kamikawa-asahi**	**3.41**	**73**			**S**	**15 05 52.4**	**-0.8**
JWK2	**Keihoku**	**3.46**	**51**	P		**Pn**	**15 05 08.0**	**+0.9**
JKK2	**Kamakawa 2**	**3.46**	**77**	P		**Pn**	**15 05 07.8**	**+0.6**
JKK2				eS		**S**	**15 05 54.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.57**	**104**	P		**Pn**	**15 05 08.7**	**+0.3**
JSE	**Soyaes**	**3.69**	**60**	P		**Pn**	**15 05 10.0**	**+0.4**
JANG	**Nango**	**3.83**	**137**	eS		**S**	**15 05 59.9**	**-1.9**
JCH	**Churui**	**3.93**	**97**	P		**Pn**	**15 05 11.3**	**-1.1**
JCH				eS		**S**	**15 05 59.9**	**-3.8**
ERM	**Erimo**	**3.94**	**106**	Pn		**Pn**	**15 05 13.2**	**+0.7**
ERM				S		**S**	**15 06 02.4**	**-1.5**
JAR	**Ashorobuto**	**4.16**	**87**	P		**Pn**	**15 05 15.1**	**+0.1**
JAR				eS		**S**	**15 06 07.0**	**-1.4**
JTKR	**Abashiri--Toko**	**4.30**	**78**	P		**Pn**	**15 05 17.0**	**+0.3**
JOM	**Ohasama**	**4.45**	**146**	P		**Pn**	**15 05 19.7**	**+1.2**
USA0B	**Ussuriysk Arra**	**4.52**	**285**	Pn		**Pn**	**15 05 16.7**	**-2.4**
USRK	**Ussuriysk Ar.**	**4.52**	**285**	P		**Pn**	**15 05 16.2**	**-2.9**
	baz=98,slow=12,SNR=20							
USRK	**Ussuriysk Ar.**	**4.52**	**285**			**Pn**	**15 05 16.8**	**-2.4**
JYK	**Kaneyama**	**4.63**	**157**	P		**Pn**	**15 05 21.4**	**+0.9**
JMK	**Ichinoseki**	**4.88**	**150**	P		**Pn**	**15 05 23.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**5.00**	**40**			**Pn**	**15 05 24.3**	**-0.4**
JSD	**Sado**	**5.17**	**178**			**Pn**	**15 05 28.2**	**+1.2**
NEM2	**Nemuro 2**	**5.60**	**86**	P		**Pn**	**15 05 30.2**	**-1.8**
NEM2				eS		**S**	**15 06 33.1**	**-6.1**
JMM	**Marumori**	**5.73**	**158**			**Pn**	**15 05 33.9**	**+0.2**
MAJO	**Matsushiro**	**6.66**	**179**			**Pn**	**15 05 46.7**	**+1.5**
MJAR	**Matsushiro Arr**	**6.67**	**179**	P		**Pn**	**15 05 47.0**	**+1.8**
	0.4nm,0.3s,baz=1.6,slow=11,SNR=18							
MJAR	**Matsushiro Arr**	**6.67**	**179**			**Pn**	**15 05 46.5**	**+1.3**
JGF	**Kuroka**	**7.62**	**184**	Pn		**Pn**	**15 05 58.4**	**+1.3**
INU	**Inuyama**	**7.90**	**186**	Pn		**Pn**	**15 06 01.6**	**+1.2**
JWT	**Wachi**	**8.19**	**196**	Pn		**Pn**	**15 06 05.3**	**+1.3**
KSRS	**Korea Array**	**9.65**	**237**	P		**Pn**	**15 06 22.8**	**+0.7**
	0.2nm,0.3s,baz=57,slow=13,SNR=6.9							
JHJ	**Hachijo jima 2**	**10.17**	**172**	P		**Pn**	**15 06 27.9**	**-0.8**
	14nm,0.3s,baz=129,slow=23,SNR=16							
JHJ				S		**S**	**15 08 17.2**	**-5.9**
	5.1nm,0.3s,baz=62,slow=20,SNR=1.6							
JHJ2	**Mitsune**	**10.18**	**172**	Pn		**Pn**	**15 06 27.7**	**-1.1**
JTU	**Tsushima**	**10.99**	**221**	Pn		**Pn**	**15 06 40.2**	**+1.4**
JNU	**Nakatsue**	**11.55**	**212**	P		**P**	**15 06 48.3**	**-0.2**
	0.7nm,0.3s,baz=351,slow=8.5,SNR=7.7							
JMZ	**Minamidaito 2**	**18.24**	**200**			**P**	**15 07 58.8**	**-3.0**
YAK	**Yakutsk**	**19.49**	**348**	P		**P**	**15 08 11.7**	**-3.1**
	0.1nm,0.3s,baz=140,slow=3.5,SNR=6.8							
YAK	**Yakutsk**	**19.49**	**348**	P		**P**	**15 08 12.0**	**-2.8**
YAK						IAmb	IAmb	15 08 13.5
	comp=Z,10nm,0.7s							
SMY	**Shemya**	**25.68**	**56**	P		**P**	**15 09 12.4**	**-0.7**
ZAA0	**Zalesovo Array**	**36.02**	**306**	P		**P**	**15 10 42.0**	**-1.1**
ZAA0						IAmb	IAmb	15 10 42.9
	comp=Z,3.3nm,0.5s							
ZALV	**Zalesovo Beam**	**36.02**	**306**	P		**P**	**15 10 42.0**	**-1.1**
	comp=Z,2.9nm,0.3s,baz=94,slow=8.3,SNR=14							
ZALV	**Zalesovo Beam**	**36.02**	**306**	P		**P**	**15 10 41.3**	**-1.8**
NRIK	**Noril'sk**	**36.60**	**333**	P		**P**	**15 10 46.2**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=136,slow=5.0,SNR=4.3							
MK31	**Makanchi Array**	**38.90**	**295**	P		**P**	**15 11 06.9**	**-0.5**
MKAR	**Makanchi Array**	**38.90**	**295**	P		**P**	**15 11 06.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=82,slow=9.2,SNR=6.1							
MAKZ	**Makanchi**	**39.11**	**295**	P		**P**	**15 11 07.5**	**-1.5**
MAKZ						IAmb	IAmb	15 11 12.0
	comp=Z,3.5nm,1.6s							

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**41.15**	**246**	P		**P**	**15 11 27.5**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=33,slow=7.6,SNR=2.8							
CMAR	**Chiang Mai Arr**	**41.15**	**246**	P		**P**	**15 11 27.1**	**+1.2**
BRVK	**Borovoye**	**44.70**	**307**	P		**P**	**15 11 54.1**	**+0.2**
BRVK				IAmb		IAmb	15 11 56.5	
	comp=Z,2.7nm,0.8s							
ILAR	**Eielson Array**	**45.79**	**35**	P		**P**	**15 12 03.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=287,slow=9.0,SNR=5.7							
KK31	**Karatay Array**	**48.02**	**294**	P		**P**	**15 12 19.8**	**0.0**
KKAR	**Karatay Array**	**48.02**	**294**	P		**P**	**15 12 19.9**	**+0.2**
KKAR	**Karatay Array**	**48.02**	**294**	P		**P**	**15 12 19.8**	**+0.1**
KKAR				IAmb		IAmb	15 12 19.9	
	comp=Z,2.2nm,1.2s							
INK	**Inuvik**	**50.14**	**29**	P		**P**	**15 12 36.7**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=291,slow=21,SNR=1.3							
INK	**Inuvik**	**50.14**	**29**	IAmb		IAmb	15 12 39.3	
	comp=Z,2.7nm,1.1s							
ABKAR	**Akbulak array**	**52.12**	**306**	P		**P**	**15 12 50.2**	**-0.1**
ABKAR	**Akbulak array**	**52.12**	**306**	P		**P**	**15 12 50.0**	**-0.3**
ABKAR				IAmb		IAmb	15 13 05.3	
	comp=Z,4.3nm,1.5s							
SPA0	**Spitsbergen Ar**	**53.96**	**347**	P		**P**	**15 13 04.3**	**+1.1**
EUNU	**Eureka**	**54.46**	**9**	P		**P**	**15 13 08.2**	**+1.3**
KEV	**Kevo**	**56.76**	**337**	P		**P**	**15 13 24.4**	**+1.3**
KEV				IAmb		IAmb	15 13 30.0	
	comp=Z,25nm,1.2s							
ARCES	**ARCESS Array B**	**57.32**	**337**	P		**P**	**15 13 27.9**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=56,slow=7.8,SNR=8.9							
FIA1	**FINESS Array S**	**62.17**	**330**	P		**P**	**15 13 59.9**	**-0.2**
FIA1				IAmb		IAmb	15 14 06.7	
	comp=Z,12nm,1.2s							
FINES	**FINESS Array B**	**62.17**	**330**	P		**P**	**15 13 59.8**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=40,slow=7.4,SNR=11							
FINES	**FINESS Array B**	**62.17**	**330**	P		**P**	**15 13 59.6**	**-0.4**
WB2	**Warramunga Arr**	**62.94**	**184**	P		**P**	**15 14 06.9**	**+1.3**
WB2				IAmb		IAmb	15 14 25.3	
	comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**62.94**	**184**	P		**P**	**15 14 07.0**	**+1.5**
	comp=Z,0.5nm,1.0s,baz=1.0,slow=7.3,SNR=6.9							
WRA	**Warramunga Arr**	**62.94**	**184**	P		**P**	**15 14 07.2**	**+1.7**
WR0	**Warramunga Arr**	**62.94**	**184**	P		**P**	**15 14 07.3**	**+1.7**
WR0				IAmb		IAmb	15 14 22.6	
	comp=Z,6.9nm,1.4s							
ASAR	**Alice Springs**	**66.66**	**184**	P		**P**	**15 14 31.8**	**+2.4**
	comp=Z,0.2nm,0.8s,baz=0.6,slow=8.3,SNR=1.7							
ASAR	**Alice Springs**	**66.66**	**184**	P		**P**	**15 14 30.9**	**+1.5**
NC405	**NORSAR Array S**	**67.30**	**335**	P		**P**	**15 14 33.1**	**+0.1**
NB2	**NORSAR Subarra**	**67.51**	**335**	P		**P**	**15 14 34.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=39,slow=6.5							
NOA	**NORSAR Array B**	**67.51**	**335**	P		**P**	**15 14 34.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=39,slow=6.3,SNR=4.0							
AKASG	**Malin Array Be**	**67.89**	**319**	P		**P**	**15 14 36.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=49,slow=5.9,SNR=4.3							
AKASG	**Malin Array Be**	**67.89**	**319**	IAmb		IAmb	15 14 41.7	
	comp=Z,0.8nm,1.1s							
BURAR	**Bucovina Array**	**71.92**	**319**	P		**P**	**15 15 02.3**	**+0.8**
BRTR	**Keskin Array B**	**72.92**	**309**	P		**P**	**15 15 06.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=320,slow=30,SNR=1.8							

IDC 02 15:17:34.9±4.6, 21°23S×169°06E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/29, mbtmp4.0/3, ML2.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/33, Error ellipse: s-maj=117.6km s-min=60.5km az=151.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.58**	**251**	Pn		Pn	15 18 16.3	-1.8
	0.3nm,0.3s,baz=127,slow=21,SNR=12							
DZM				Sn		Sb	15 18 52.4	-2.0
	1.0nm,0.3s,baz=

	comp=N,221μm,0.2s						
SSFR	**Montelago di S**	**0.35**	**114**	P	Pg	15 26 05.4	+0.4
SSFR				S	Sb	15 26 11.9	-0.3
SSFR				AML	AML		
	comp=E,83μm,0.4s						
SSFR				AML	AML		
	comp=N,78μm,0.8s						
CAFI	**Castiglion Fio**	**0.37**	**228**	P	Pg	15 26 05.9	+0.6
CAFI				S	Sb	15 26 12.0	-0.7
CAFI				AML	AML		
	comp=E,38μm,0.7s						
CAFI				AML	AML		
	comp=N,35μm,0.7s						

*IDC **02** 15:27:45.0±1.2,5.°62S×147.°07E,h0km,mb3.5/5, mb1 3.6/8,mb1mx3.5/35,mbtmp3.5/8,ML2.9/1,Error ellipse: s-maj=35.5km s-min=21.3km az=118.0*

ISC 02 15:27:49.7±0.9,5.°6S±0.°1×147.°1E±0.°1,h35km,n8,σ1§57/8, mb3.4/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**180**	Pn	**Pn**	**15 28 45.9**	**+0.3**
	0.7nm,0.3s,baz=319,slow=12,SNR=3.1						
KRVT	**Keravat (AS076**	**5.04**	**75**	Pn	**Pn**	**15 29 02.2**	**-0.6**
	2.6nm,0.3s,baz=305,slow=4.5,SNR=3.1						
WRA	**Warramunga Arr**	**18.93**	**220**	P	**P**	**15 32 05.5**	**-2.3**
	0.0nm,0.3s,baz=49,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**22.03**	**214**	P	**P**	**15 32 40.8**	**-0.6**
	1.3nm,1.0s,baz=51,slow=9.1,SNR=8.3						
FITZ	**Fitzroy Crossi**	**24.40**	**238**	P	**P**	**15 33 05.9**	**+0.9**
	0.7nm,0.6s,baz=61,slow=8.5,SNR=1.3						
SONM	**Songino Array**	**64.12**	**331**	P	**P**	**15 38 19.5**	**-1.1**
	0.2nm,0.4s,baz=147,slow=8.6,SNR=1.6						
MKAR	**Makanchi Array**	**77.28**	**320**	P	**P**	**15 39 40.8**	**+0.2**
	0.1nm,0.4s,baz=108,slow=4.7,SNR=1.2						
ILAR	**Eielson Array**	**85.06**	**23**	P	**P**	**15 40 23.6**	**+2.1**
	1.1nm,0.9s,baz=238,slow=4.2,SNR=6.2						

*IDC **02** 15:28:49.7±1.6,5.°49S×148.°52E,h0km,mb4.1/5, mb1 4.3/6,mb1mx3.8/32,mbtmp4.1/6,ML3.7/1,MS3.2/4, Ms1 3.2/4,ms1mx2.9/33,Error ellipse: s-maj=56.6km s-min=25.0km az=114.0*

*NEIC **02** 15:28:57.3±3.0,5.°4S±0.°1×148.°1E±0.°1,h38km±9km, mb4.0/8,Error ellipse: s-maj=27.4km s-min=8.7km az=134.0*

ISC 02 15:28:55.2±1.4,5.°5S±0.°2×148.°5E±0.°3,h35km,n22, σ1§16/16,mb4.0/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.91**	**71**	Pn	Pn	15 30 01.8	+8.9
PMG	**Port Moresby**	**4.12**	**198**	Pn	**Pn**	**15 29 56.3**	**+0.6**
JAY	**Jayapura**	**8.27**	**290**	LR	LR	15 34 13.4	
	comp=Z,162nm,19.8s,baz=120,slow=39						
COEN	**Coen**	**9.91**	**211**	Pn	**Pn**	**15 31 16.9**	**+1.6**
HNR	**Honiara**	**12.06**	**110**	Pn	Pn	15 31 52.4	+7.7
GUMO	**Guam**	**19.27**	**349**	LR	LR	15 39 57.5	
	comp=Z,45nm,20.8s,baz=158,slow=35						
WB0	**Warramunga Arr**	**19.73**	**223**	P	**P**	**15 33 20.9**	**-1.1**
WB0				IAmb	IAmb	15 33 26.7	
	comp=Z,6.3nm,0.8s						
WR0	**Warramunga Arr**	**19.76**	**222**	P	**P**	**15 33 22.1**	**-0.4**
WR0				IAmb	IAmb	15 33 26.1	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**19.88**	**222**	P	**P**	**15 33 21.9**	**-1.8**
WB2				IAmb	IAmb	15 33 37.9	
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**19.89**	**222**	P	**P**	**15 33 22.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=48,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**19.89**	**222**	P	**P**	**15 33 21.7**	**-2.1**
KNRA	**Kununurra**	**21.83**	**241**	P	**P**	**15 33 44.3**	**-0.5**
KNRA				IAmb	IAmb	15 33 59.3	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**22.88**	**216**	P	**P**	**15 33 55.9**	**-0.1**
AS31				IAmb	IAmb	15 33 59.2	
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**22.89**	**216**	P	**P**	**15 33 54.9**	**-1.1**
	comp=Z,7.5nm,0.9s,baz=47,slow=8.8,SNR=8.7						
ASAR	**Alice Springs**	**22.89**	**216**	P	**P**	**15 33 55.2**	**-0.8**
DZM	**Mont Dzumac**	**23.98**	**135**	LR	LR	15 40 38.3	
	comp=Z,148nm,21.0s,baz=354,slow=30						
FITZ	**Fitzroy Crossi**	**25.57**	**239**	P	**P**	**15 34 22.2**	**+1.0**
	comp=Z,6.5nm,0.7s,baz=57,slow=7.4,SNR=8.0						
FITZ	**Fitzroy Crossi**	**25.57**	**239**	P	**P**	**15 34 21.7**	**+0.5**
STKA	**Stephens Creek**	**27.05**	**193**	P	**P**	**15 34 33.7**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=349,slow=14,SNR=3.2						
STKA				LR	LR	15 44 03.1	
	comp=Z,52nm,21.7s,baz=190,slow=34						
STKA	**Stephens Creek**	**27.05**	**193**	IAmb	IAmb	15 34 38.7	
	comp=Z,2.3nm,1.3s						
MKAR	**Makanchi Array**	**78.02**	**320**	P	**P**	**15 40 50.2**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=116,slow=5.2,SNR=3.6						
ILAR	**Eielson Array**	**84.43**	**23**	P	**P**	**15 41 24.2**	**+0.3**
	comp=Z,1.3nm,1.1s,baz=258,slow=5.9,SNR=4.4						

*HLW **02** 15:50:38.3,26.°68N×34.°91E,h23km±6km,Md3.5,Ml3.2*
*GII **02** 15:50:40.3±0.0,27.°25N×35.°65E,h1km±2km*

ISC 02 15:50:33.3±1.1,26.°73N±0.°05×35.°14E±0.°09,h10km,n16, σ2§32/21,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHRG	**Al Ghardaqah**	**1.48**	**290**	P	**Pn**	**15 51 00.1**	**0.0**
	baz=288						
HHRG				AMP		15 51 00.0	
	baz=288						
HHRG				S	**Sn**	**15 51 15.8**	**-3.8**
	baz=288						
NADB	**Abo Dabab**	**1.50**	**203**	P	**Pg**	**15 51 02.4**	**+0.3**
	baz=196						
NADB				S	**Sb**	**15 51 20.3**	**0.0**
	baz=196						
TR1	**Tor 1**	**1.65**	**321**	P	**Pn**	**15 51 03.5**	**+1.0**
	baz=328						
HAGS	**Hagol**	**2.34**	**183**	P	**Pb**	**15 51 14.8**	**-0.9**
	baz=178						
HRDS	**Abu Rudays**	**2.56**	**321**	P	**Pn**	**15 51 17.4**	**+2.5**
	baz=326						
GRB	**Gharib**	**2.59**	**307**	P	**Pn**	**15 51 17.4**	**+2.0**
	baz=311						
EIL	**Elat**	**2.93**	**357**	Pn	**Pn**	**15 51 21.5**	**+1.4**
EIL				Sn	**Sn**	**15 51 53.3**	**-2.1**
MBRI	**Mt Berech**	**3.06**	**356**	Pn	**Pn**	**15 51 23.4**	**+1.5**
MBRI				Sn	**Sn**	**15 51 56.8**	**-1.8**
HRFI	**Mount Harif**	**3.30**	**358**	Sn	**Sn**	**15 52 01.5**	**-2.8**
KRMI	**Paran Flat**	**3.40**	**354**	Pn	**Pn**	**15 51 29.5**	**+3.1**
KRMI				Sn	**Sn**	**15 52 05.8**	**-1.0**
PRNI	**Paran**	**3.61**	**358**	Pn	**Pn**	**15 51 31.7**	**+2.3**
SUZ	**Suez**	**3.71**	**327**	P	**Pn**	**15 51 33.7**	**+3.0**
	baz=331						
ZFRI	**Zfri**	**3.81**	**1**	Sn	**Sn**	**15 52 15.0**	**-2.0**
TAMRE	**El Minia**	**3.88**	**285**	P	**Pn**	**15 51 36.4**	**+3.4**
	baz=287						
GLL	**Jalalah**	**4.15**	**314**	P	**Pn**	**15 51 39.9**	**+3.1**
	baz=317						
GHAJ	**Ghor Haditha**	**4.57**	**5**	Pn	**Pn**	**15 51 43.3**	**+0.7**

*IDC **02** 15:51:55.4±0.7,36.°07N×26.°97E,h0km,mb3.9/14, mb1 4.0/20,mb1mx3.8/53,mbtmp3.9/20,ML3.8/6,MS3.4/10, Ms1 3.4/10,ms1mx3.2/50,Error ellipse: s-maj=17.9km s-min=11.3km az=154.0*

*ATH **02** 15:51:57.4,36.°03N×27.°04E,h30km±1km,ML4.1/25,Error ellipse: s-maj=1.6km s-min=0.8km az=93.0*

*ISK **02** 15:51:57.4,36.°02N×27.°00E,h11km,ML4.2/31*

*DDA **02** 15:51:58.7,36.°08N×27.°04E,h30km±1km,MW4.2*

*NIC **02** 15:51:58.4±0.0,36.°00N×27.°09E,h18km,Ml4.8/4*

*THE **02** 15:51:58.1,36.°01N×27.°05E,h8km,ML4.2/31,Error ellipse: s-maj=0.9km s-min=0.3km az=103.0*

*GII **02** 15:51:58.7±0.5,35.°90N×27.°10E,h40km,MD3.6/5, Mm3.6/8*

*MED_RC **02** 15:51:58.0±0.4,35.°84N×27.°06E,h10km±1km,MW4.5/20, Moment Tensor Solution.Mantle waves: s20,c23; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.54±.73; $M_{\theta\theta}$0.33±.41; $M_{\phi\phi}$5.21±.49; $M_{r\theta}$-2.26±1.55; $M_{\theta\phi}$-0.77±.26; $M_{\phi r}$-3.37±1.26; Best double couple: M_o6.72000×10^{15} NP1:ϕ_s155.00000°,δ33.00000°, λ-123.00000°. NP2:ϕ_s13.00000°,δ63.00000°,*

λ-71.00000°. Principal axes: T 6.1800, Plg16.0000°, Azm89.0000°; N 1.0800, Plg17.0000°, Azm184.0000°; P -7.2600, Plg66.0000°, Azm318.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

*NEIC **02** 15:51:59.5±2.4,35.°91N±0.°06×26.°99E±0.°06,h28km±6km, mb4.4/38,ML4.2(THE) Error ellipse: s-maj=9.1km s-min=7.0km az=178.0*

ISC 02 15:51:59.1±0.5,35.°97N±0.°02×27.°07E±0.°02,h28km±4km, h29km:pP-P,n359,σ1§50/445,mb4.0/22,MS3.4/6,15C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**170**	P	**Pb**	**15 52 07.2**	**-1.2**
KARP				S	**Sb**	**15 52 14.7**	**+0.1**
	73μm,0.5s						
KARP	**Karpathos**	**0.43**	**170**	P	**Pb**	**15 52 07.7**	**-0.7**
KARP				S	**Sb**	**15 52 14.9**	**+0.3**
KARP				AML	AML	15 52 16.8	
KARP				AML	AML	15 52 19.5	
KARP	**Karpathos**	**0.43**	**170**	PG	**Pb**	**15 52 07.5**	**-0.9**
KARP				SG	**Sb**	**15 52 14.8**	**+0.1**
KARP	**Karpathos**	**0.43**	**170**	⇑P	**Pb**	**15 52 07.5**	**-0.9**
KARP				S	**Sb**	**15 52 15.1**	**+0.4**
KARP				AML	AML	15 52 16.2	
	129nm,0.3s						
KARP				AML	AML	15 52 16.2	
	129nm,0.3s						
KARP				AML	AML	15 52 18.9	
	160nm,0.6s						
KARP				AML	AML	15 52 18.9	
	160nm,0.6s						
KARP	**Karpathos**	**0.43**	**170**		**Pb**	**15 52 07.4**	**-1.0**
KARP				Sg	**Sb**	**15 52 14.8**	**+0.1**
NISR	**Nisiros**	**0.64**	**4**	P	**Pb**	**15 52 09.8**	**-2.0**
NISR				S	**Sb**	**15 52 19.6**	**-0.8**
	28μm,0.6s						
NISR	**Nisiros**	**0.64**	**4**	P	**Pb**	**15 52 10.3**	**-1.5**
NISR				S	**Sb**	**15 52 19.0**	**-1.3**
NISR				AML	AML	15 52 23.4	
	comp=E,78094μm,0.5s						
NISR				AML	AML	15 52 24.5	
	comp=N,33622μm,0.7s						
KOSK	**Kos Island**	**0.78**	**355**	P	**Pb**	**15 52 12.2**	**-1.9**
KOSK				S	**Sb**	**15 52 23.6**	**-0.7**
	comp=N,11μm,0.5s						
KOSK	**Kos Island**	**0.78**	**355**	PG	**Pb**	**15 52 12.8**	**-1.3**
KOSK				SG	**Sb**	**15 52 22.7**	**-1.6**
DAT	**Datca**	**0.86**	**28**	P	**Pb**	**15 52 13.7**	**-1.8**
DAT				S	**Sb**	**15 52 26.5**	**-0.3**
DAT	**Datca**	**0.86**	**28**	PG	**Pb**	**15 52 14.1**	**-1.4**
DAT				SG	**Sb**	**15 52 26.4**	**-0.3**
DAT	**Datca**	**0.86**	**28**	*i* P	**Pb**	**15 52 14.1**	**-1.4**
DAT				*i* S	**Sb**	**15 52 25.3**	**-1.4**
DAT				IAML		15 52 27.0	
	comp=E,2μm,1.0s						
DAT				IAML		15 52 28.0	
	comp=N,2μm,0.5s						
ARG	**Arkhangelos**	**0.89**	**74**	P	**Pn**	**15 52 15.0**	**-0.8**
ARG				S	**Sb**	**15 52 27.4**	**-0.1**
	comp=N,15μm,0.5s						
ARG	**Arkhangelos**	**0.89**	**74**	P	**Pn**	**15 52 15.5**	**-0.3**
ARG				S	**Sb**	**15 52 27.4**	**-0.1**
ARG				AML	AML	15 52 30.3	
	comp=E,37611μm,0.7s						
ARG				AML	AML	15 52 31.2	
	comp=N,29088μm,0.4s						
ARG	**Arkhangelos**	**0.89**	**74**	PG	**Pn**	**15 52 15.5**	**-0.3**
ARG	**Arkhangelos**	**0.89**	**74**	⇑P	**Pn**	**15 52 15.5**	**-0.3**
ARG				S	**Sb**	**15 52 27.5**	**0.0**
DATC	**Datca-Mugla**	**0.92**	**31**	PG	**Pn**	**15 52 15.3**	**-0.9**
DATC				SG	**Sn**	**15 52 28.7**	**+0.2**
ZKR	**Zakros**	**1.10**	**219**	P	**Pn**	**15 52 18.9**	**+0.2**
ZKR				S	**Sb**	**15 52 34.0**	**+0.4**
	comp=N,10μm,0.5s						
ZKR	**Zakros**	**1.10**	**219**	P	**Pb**	**15 52 19.1**	**-0.4**
ZKR				S	**Sb**	**15 52 34.2**	**+0.6**
ZKR				AML	AML	15 52 42.6	
	comp=N,10563μm,0.4s						
ZKR				AML	AML	15 52 42.8	
	comp=E,29322μm,0.6s						
ZKR	**Zakros**	**1.10**	**219**	PN	**Pb**	**15 52 19.2**	**-0.4**
ZKR				SN	**Sb**	**15 52 34.6**	**+1.0**
BODT	**Bodrum**	**1.10**	**10**	P	**Pn**	**15 52 17.5**	**-1.3**
BODT				S	**Sb**	**15 52 33.4**	**-0.2**
BODT	**Bodrum**	**1.10**	**10**	PG	**Pn**	**15 52 18.2**	**-0.6**
STIA	**Sitia Lasithi**	**1.11**	**226**	P	**Pn**	**15 52 18.8**	**0.0**
STIA				S	**Sb**	**15 52 34.5**	**+0.8**
ANAF	**Anafi Island**	**1.12**	**290**	P	**Pn**	**15 52 17.7**	**-1.2**
ANAF				S	**Sb**	**15 52 33.5**	**-0.5**
	comp=E,54μm,0.3s						
ANAF	**Anafi Island**	**1.12**	**290**	P	**Pn**	**15 52 17.9**	**-1.0**
ANAF				S	**Sn**	**15 52 32.6**	**-0.8**
ANAF				AML	AML	15 52 37.0	
	comp=N,98103μm,0.3s						
ANAF				AML	AML	15 52 37.2	
BDRM	**Kayabasi**	**1.13**	**15**	*i* P	**Pn**	**15 52 18.1**	**-1.1**
BDRM				*i* S	**Sn**	**15 52 32.4**	**-1.4**
BDRM				IAML		15 52 48.0	
	comp=E,1μm,0.8s						
TURN	**Turunc**	**1.24**	**50**	PN	**Pb**	**15 52 21.3**	**-0.6**
TURN	**Turunc**	**1.24**	**50**	*i* P	**Pn**	**15 52 20.8**	**+0.1**
TURN				*i* S	**Sn**	**15 52 35.7**	**-0.7**
TURN				IAML		15 52 40.0	
	comp=E,3μm,0.5s						
TURN				IAML		15 52 43.0	
	comp=N,2μm,0.5s						
AMGA	**Amorgos Island**	**1.28**	**312**	P	**Pn**	**15 52 19.7**	**-1.5**
AMGA				S	**Sn**	**15 52 37.1**	**-0.3**
	comp=N,19μm,0.4s						
AMGA	**Amorgos Island**	**1.28**	**312**	P	**Pn**	**15 52 19.8**	**-1.3**
AMGA				S	**Sn**	**15 52 36.7**	**-0.7**
AMGA				AML	AML	15 52 41.5	
	comp=N,43611μm,0.3s						
AMGA				AML	AML	15 52 41.9	
	comp=E,32186μm,0.4s						
THR8	**Santorini-Mono**	**1.36**	**289**	P	**Pn**	**15 52 21.3**	**-0.9**
THR8	**Santorini-Mono**	**1.36**	**289**	P	**Pn**	**15 52 21.3**	**-0.9**
SANT	**Santorini**	**1.36**	**287**	P	**Pn**	**15 52 21.4**	**-0.9**
SANT				S	**Sb**	**15 52 40.3**	**-0.7**
	comp=E,7μm,0.4s						
SANT	**Santorini**	**1.36**	**287**	P	**Pn**	**15 52 21.5**	**-0.9**
SANT				S	**Sn**	**15 52 38.7**	**-0.8**
SANT				AML	AML	15 52 45.1	
	comp=E,18926μm,0.3s						
SANT				AML	AML	15 52 47.7	
	comp=N,7430μm,0.5s						
SANT	**Santorini**	**1.36**	**287**	PN	**Pn**	**15 52 22.1**	**-0.2**
SANT	**Santorini**	**1.36**	**287**	Pn	**Pn**	**15 52 21.3**	**-0.9**
NPS	**Neapolis**	**1.38**	**240**	P	**Pb**	**15 52 23.3**	**-1.0**
NPS				S	**Sb**	**15 52 40.7**	**-0.9**
	comp=N,11μm,0.5s						
NPS	**Neapolis**	**1.38**	**240**	P	**Pn**	**15 52 22.3**	**-0.3**
NPS				S	**Sb**	**15 52 41.5**	**-0.1**
NPS				AML	AML	15 52 42.2	
	comp=N,20839μm,0.4s						
NPS				AML	AML	15 52 42.8	
	comp=E,20794μm,0.5s						
SAP2K	**Karterados**	**1.38**	**289**	P	**Pn**	**15 52 21.8**	**-0.7**
SAP2K				S	**Sb**	**15 52 40.5**	**-1.1**
	comp=E,23μm,0.7s						
SAP2K	**Karterados**	**1.38**	**289**	P	**Pn**	**15 52 21.9**	**-0.7**
SNT1	**Gialos, Santor**	**1.40**	**289**	P	**Pn**	**15 52 21.9**	**-0.9**
SNT1				S	**Sn**	**15 52 40.6**	**+0.3**
	comp=E,7μm,0.7s						
SFIR	**Foira Santorin**	**1.40**	**289**	P	**Pn**	**15 52 22.2**	**-0.6**
SFIR				S	**Sb**	**15 52 41.1**	**-1.0**
	comp=E,13μm,0.3s						
THR7	**Fira-Santorini**	**1.40**	**289**	P	**Pn**	**15 52 22.2**	**-0.7**
THR7	**Fira-Santorini**	**1.40**	**289**	P	**Pn**	**15 52 22.2**	**-0.7**
THR2	**Thira island,**	**1.40**	**290**	P	**Pn**	**15 52 21.9**	**-1.0**
THR2	**Thira island,**	**1.40**	**290**	P	**Pn**	**15 52 22.2**	**-0.7**
THR6	**Thira Island,**	**1.41**	**286**	P	**Pn**	**15 52 22.2**	**-0.7**
THR6	**Thira Island,**	**1.41**	**286**	P	**Pn**	**15 52 22.5**	**-0.4**
SAP1	**Santorini-Akro**	**1.41**	**286**	P	**Pn**	**15 52 22.2**	**-0.8**
SAP1				S	**Sn**	**15 52 40.8**	**+0.3**
	comp=E,17μm,0.4s						
SAP1	**Santorini-Akro**	**1.41**	**286**	P	**Pn**	**15 52 22.1**	**-0.8**
THT2	**Imerovigli**	**1.41**	**290**	P	**Pn**	**15 52 21.8**	**-1.2**
THT2				S	**Sb**	**15 52 41.3**	**-1.1**
	comp=E,7μm,0.4s						
THT2	**Imerovigli**	**1.41**	**290**	PN	**Pn**	**15 52 22.8**	**-0.2**
STAX	**Taxiarchis Har**	**1.41**	**288**	P	**Pn**	**15 52 22.3**	**-0.7**
STAX	**Taxiarchis Har**	**1.41**	**288**	P	**Pn**	**15 52 22.3**	**-0.7**
THR3	**Thira Island,**	**1.42**	**288**	P	**Pn**	**15 52 22.2**	**-0.8**
THR3	**Thira Island,**	**1.42**	**288**	P	**Pn**	**15 52 22.3**	**-0.8**
SNT5	**Nea Kammeni, S**	**1.42**	**288**	P	**Pn**	**15 52 22.3**	**-0.8**
SNT5				S	**Sb**	**15 52 41.5**	**-1.1**
	comp=E,15μm,0.3s						
CMBO	**Columbo, Santo**	**1.43**	**291**	P	**Pn**	**15 52 22.4**	**-0.9**
CMBO				S	**Sn**	**15 52 41.1**	**-0.1**
	comp=E,21μm,0.5s						
CMBO	**Columbo, Santo**	**1.43**	**291**	P	**Pn**	**15 52 22.5**	**-0.8**
MLSB	**Milas**	**1.44**	**23**	PN	**Pn**	**15 52 24.1**	**+0.7**
THR9	**Santorini-Faro**	**1.44**	**286**	P	**Pn**	**15 52 22.5**	**-0.8**
THR9	**Santorini-Faro**	**1.44**	**286**	P	**Pn**	**15 52 22.6**	**-0.8**
FRMA	**Ierapetra Chan**	**1.45**	**229**	P	**Pn**	**15 52 23.0**	**-0.5**
FRMA				S	**Sn**	**15 52 41.5**	**-0.1**
	comp=E,4μm,0.5s						
SAP4	**Santorini-Oia**	**1.46**	**290**	P	**Pn**	**15 52 22.8**	**-0.8**
SAP4				S	**Sb**	**15 52 42.5**	**-1.3**
	comp=E,20μm,0.6s						
SAP4	**Santorini-Oia**	**1.46**	**290**	P	**Pn**	**15 52 22.7**	**-0.8**
THR5	**Thira Island,**	**1.46**	**288**	P	**Pn**	**15 52 23.1**	**-0.6**
THR5	**Thira Island,**	**1.46**	**288**	P	**Pn**	**15 52 23.3**	**-0.4**
SAP3	**Santorini-Thir**	**1.47**	**289**	P	**Pn**	**15 52 23.2**	**-0.6**
SAP3				S	**Sn**	**15 52 42.3**	**+0.2**
	comp=E,10μm,0.6s						
SAP3	**Santorini-Thir**	**1.47**	**289**	P	**Pn**	**15 52 23.0**	**-0.7**
YER	**Yerkesik**	**1.52**	**40**	P	**Pn**	**15 52 24.9**	**+0.4**
YER				S	**Sn**	**15 52 43.5**	**+0.2**
YER	**Yerkesik**	**1.52**	**40**	PN	**Pn**	**15 52 25.2**	**+0.7**
LAST	**Lasithi**	**1.53**	**238**	P	**Pn**	**15 52 24.4**	**-0.3**
LAST				S	**Sb**	**15 52 44.6**	**-1.2**
	comp=E,3μm,0.9s						
LAST	**Lasithi**	**1.53**	**238**	P	**Pn**	**15 52 24.7**	**0.0**
LAST				S	**Sn**	**15 52 44.5**	**+0.8**
LAST				AML	AML	15 53 04.2	
	comp=E,5616μm,0.7s						
LAST				AML	AML	15 53 06.1	
	comp=N,7857μm,0.7s						
DALY	**Dalyan (Mula)**	**1.53**	**56**	PN	**Pb**	**15 52 26.2**	**-0.6**
DALY	**Dalyan (Mula)**	**1.53**	**56**	*i* P	**Pb**	**15 52 25.7**	**-1.1**
DALY				*i* S	**Sb**	**15 52 46.1**	**+0.3**
DALY				IAML		15 52 55.0	
	comp=E,1μm,0.6s						
DALY				IAML		15 52 58.0	
	comp=N,2μm,0.6s						
IOSP	**Ios island**	**1.62**	**298**	P	**Pn**	**15 52 24.7**	**-1.1**
IOSP				S	**Sn**	**15 52 46.7**	**+0.9**
	comp=N,5μm,0.4s						
IOSP	**Ios island**	**1.62**	**298**	P	**Pn**	**15 52 24.6**	**-1.3**
IOSP				AML	AML	15 52 52.5	
	comp=N,10672μm,0.4s						
IOSP				AML	AML	15 52 53.1	
	comp=E,8192μm,0.4s						
APE	**Apeiranthos**	**1.65**	**312**	P	**Pn**	**15 52 25.2**	**-1.2**
APE				S	**Sn**	**15 52 46.8**	**+0.1**
	comp=E,3μm,0.4s						
APE	**Apeiranthos**	**1.65**	**312**	P	**Pn**	**15 52 25.1**	**-1.2**
APE				S	**Sn**	**15 52 46.6**	**-0.1**
APE				AML	AML	15 52 56.1	
	comp=N,5471μm,0.3s						
APE				AML	AML	15 52 56.8	
	comp=E,5300μm,0.5s						
APE	**Apeiranthos**	**1.65**	**312**	⇑P	**Pn**	**15 52 25.1**	**-1.2**
APE				⇓S	**Sn**	**15 52 44.3**	**-2.4**
APE	**Apeiranthos**	**1.65**	**312**	PN	**Pn**	**15 52 25.4**	**-0.9**
HRKL	**Herakleio**	**1.73**	**248**	P	**Pn**	**15 52 28.0**	**+0.6**
HRKL	**Herakleio**	**1.73**	**248**	PN	**Pn**	**15 52 27.9**	**+0.6**
SMG	**Samos**	**1.74**	**354**	P	**Pn**	**15 52 26.1**	**-1.4**
SMG	**Samos**	**1.74**	**354**	P	**Pn**	**15 52 26.3**	**-1.2**
FETY	**Fethiye**	**1.76**	**67**	P	**Pn**	**15 52 27.2**	**-0.5**
FETY				S	**Sn**	**15 52 50.5**	**+1.3**
FETY	**Fethiye**	**1.76**	**67**	PN	**Pb**	**15 52 29.1**	**-1.6**
FETY	**Fethiye**	**1.76**	**67**	*i* P	**Pb**	**15 52 29.0**	**-0.9**
FETY				*i* S	**Sb**	**15 52 53.7**	**+1.4**
FETY				IAML		15 53 00.0	
	comp=N,969nm,0.7s						
FETY				IAML		15 53 01.0	
	comp=E,539nm,0.4s						
IACM	**Heraklion**	**1.76**	**248**	P	**Pn**	**15 52 28.7**	**+1.0**
IACM				S	**Sb**	**15 52 50.7**	**-1.6**
KSTL	**Kastelli Herak**	**1.76**	**248**	P	**Pn**	**15 52 25.2**	**-2.5**
KSTL				S	**Sn**	**15 52 46.7**	**-2.5**
IDI	**Anoyia**	**1.90**	**250**	Pn	**Pn**	**15 52 29.6**	**-0.2**
	comp=E,32nm,0.3s,baz=88,slow=6.9,SNR=69						
IDI				Sn	**Sn**	**15 52 52.0**	**-0.9**
	comp=E,240nm,0.3s,baz=259,slow=21,SNR=9.8						
IDI	**Anoyia**	**1.90**	**250**	P	**Pn**	**15 52 29.5**	**-0.2**
IDI				S	**Sn**	**15 52 54.3**	**+1.4**
	comp=E,2μm,0.6s						
IDI	**Anoyia**	**1.90**	**250**	P	**Pn**	**15 52 29.5**	**-0.3**
IDI				S	**Sn**	**15 52 53.8**	**+0.9**
IDI				AML	AML	15 53 02.5	
	comp=N,4946μm,0.5s						
IDI				AML	AML	15 53 03.8	
	comp=E,4321μm,0.7s						
IDI	**Anoyia**	**1.90**	**250**	PN	**Pn**	**15 52 29.7**	**-0.1**
KSL	**Kastellorizon**	**2.04**	**84**	P	**Pn**	**15 52 32.5**	**+0.8**
KSL				S	**Sn**	**15 52 57.5**	**+1.2**
	comp=E,2μm,1.3s						
KSL	**Kastellorizon**	**2.04**	**84**	P	**Pn**	**15 52 33.1**	**+1.4**
KSL				AML	AML	15 53 10.6	
	comp=E,3558μm,1.0s						
KSL				AML	AML	15 53 13.2	
	comp=N,3641μm,1.0s						
KSL	**Kastellorizon**	**2.04**	**84**	⇑P	**Pn**	**15 52 32.1**	**+0.4**
KSL				S	**Sn**	**15 52 57.8**	**+1.5**
AKAS	**Kas**	**2.07**	**82**	PN	**Pn**	**15 52 33.9**	**+1.7**
AKAS	**Kas**	**2.07**	**82**	*i* P	**Pb**	**15 52 34.1**	**-2.0**
AKAS				IA

BLCB	**Balcova**	**2.41 359**		P	**Pn**	**15 52 36.0**	**-0.7**
BLCB	**Balcova**	**2.41 359**		PN	**Pn**	**15 52 37.1**	**+0.4**
URLA	**Izmir**	**2.41 351**		PN	**Pn**	**15 52 36.8**	**0.0**
URLA	**Izmir**	**2.41 351**	*i*	P	**Pb**	**15 52 42.9**	**+1.0**
URLA			*i*	S	**Sb**	**15 53 16.9**	**+5.7**
ELL	**Elmali**	**2.42 71**		PN	**Pn**	**15 52 38.8**	**+1.8**
ELL	**Elmali**	**2.42 71**		Pn	**Pb**	**15 52 39.9**	**-2.1**
CHAN	**Chania**	**2.50 260**		P	**Pn**	**15 52 38.5**	**+0.5**
CHAN				S	**Sn**	**15 53 07.9**	**+0.3**
	comp=E,655nm,0.6s						
CHOS	**Chios island**	**2.54 342**		P	**Pn**	**15 52 37.3**	**-1.3**
CHOS	**Chios island**	**2.54 342**		P	**Pn**	**15 52 37.6**	**-1.0**
CHOS	**Chios island**	**2.54 342**		PN	**Pn**	**15 52 37.9**	**-0.7**
IMMV	**Iera Moni Meta**	**2.56 259**		P	**Pn**	**15 52 39.6**	**+0.8**
IMMV				AML	AML	15 53 21.9	
	comp=N,3428µm,0.3s						
IMMV				AML	AML	15 53 31.2	
	comp=E,3297µm,0.5s						
IMMV	**Iera Moni Meta**	**2.56 259**		PN	**Pn**	**15 52 39.7**	**+0.9**
AKUM	**Antalya-Kumluc**	**2.67 82**	*i*	P	**Pn**	**15 52 42.7**	**+2.4**
AKUM				IAML		15 53 32.0	
	comp=N,246nm,0.8s						
AKUM				IAML		15 53 38.0	
	comp=E,357nm,2.1s						
GVDS	**Gavdos**	**2.68 246**		PN	**Pn**	**15 52 41.7**	**+1.3**
GVD	**Gavdhos**	**2.69 246**		P	**Pn**	**15 52 42.1**	**+1.6**
GVD				AML	AML	15 53 33.2	
	comp=N,3032µm,0.5s						
GVD				AML	AML	15 53 36.0	
	comp=E,2545µm,0.5s						
GVD	**Gavdhos**	**2.69 246**		PN	**Pn**	**15 52 41.6**	**+1.1**
RODP	**Rodopos**	**2.72 262**		PN	**Pn**	**15 52 41.8**	**+0.8**
PSRA	**Psara**	**2.83 335**		P	**Pn**	**15 52 42.0**	**-0.5**
KULA	**Kula-Manisa**	**2.84 26**		PN	**Pn**	**15 52 43.9**	**+1.2**
KNDR	**Palaiochora Ch**	**2.85 256**		PN	**Pn**	**15 52 44.6**	**+1.8**
KARY	**Karystos**	**2.94 315**		P	**Pn**	**15 52 43.8**	**-0.2**
KARY	**Karystos**	**2.94 315**		P	**Pn**	**15 52 43.6**	**-0.4**
KARY				AML	AML	15 53 39.6	
	comp=N,1270µm,0.6s						
KARY				AML	AML	15 53 39.6	
	comp=E,825µm,0.8s						
BRDR	**BURDUR-Merkez**	**2.95 54**	*i*	P	**Pn**	**15 52 45.5**	**+1.2**
BRDR				IAML		15 53 38.0	
	comp=E,438nm,0.7s						
BRDR				IAML		15 53 43.0	
	comp=N,321nm,0.8s						
ZEDA	**zmir-Bergama**	**2.99 0**	*i*	P	**Pn**	**15 52 43.6**	**-1.1**
ZEDA				IAML		15 53 52.0	
	comp=E,172nm,1.6s						
ZEDA				IAML		15 54 11.0	
	comp=N,143nm,1.7s						
ANKY	**Antikythira Is**	**3.06 269**		P	**Pn**	**15 52 45.9**	**+0.3**
ANKY	**Antikythira Is**	**3.06 269**		P	**Pn**	**15 52 46.1**	**+0.5**
ANKY				AML	AML	15 53 43.9	
	comp=N,1261µm,0.9s						
ANKY				AML	AML	15 53 49.8	
	comp=E,2077µm,0.7s						
DKL	**Dikili**	**3.10 358**		PN	**Pn**	**15 52 46.6**	**+0.5**
USAK	**Uak-Merkez**	**3.15 29**	*i*	P	**Pb**	**15 52 57.0**	**+2.6**
BCK	**Bucak**	**3.19 61**		PN	**Pn**	**15 52 49.6**	**+2.0**
VLY	**Voula,Athens**	**3.23 307**		P	**Pn**	**15 52 48.4**	**+0.5**
KTHA	**Kythira Island**	**3.26 276**		P	**Pn**	**15 52 48.5**	**+0.1**
KTHA				S	**Sn**	**15 53 27.4**	**+1.2**
	comp=E,532nm,0.5s						
KTHA	**Kythira Island**	**3.26 276**		P	**Pn**	**15 52 48.8**	**+0.5**
KTHA				AML	AML	15 53 46.2	
	comp=N,991µm,0.4s						
KTHA				AML	AML	15 53 59.6	
	comp=E,1415µm,1.1s						
KTHA	**Kythira Island**	**3.26 276**		PN	**Pn**	**15 52 48.9**	**+0.5**
DION	**Dionisos Attik**	**3.27 311**		P	**Pn**	**15 52 48.7**	**+0.1**
DION				AML	AML	15 53 51.4	
	comp=N,3315µm,0.8s						
DION				AML	AML	15 53 51.8	
	comp=E,3325µm,0.6s						
ATHU	**Athens Univers**	**3.30 308**		P	**Pn**	**15 52 48.5**	**-0.4**
ATHU				AML	AML	15 53 47.0	
	comp=E,868µm,0.9s						
ATHU				AML	AML	15 53 50.6	
	comp=N,436µm,0.5s						
KTHR	**Kythira**	**3.30 276**		P	**Pn**	**15 52 49.5**	**+0.5**
KTHR				S	**Sn**	**15 53 28.3**	**+0.9**
	comp=N,442nm,0.7s						
ISP	**Isparta**	**3.33 55**		PN	**Pn**	**15 52 51.5**	**+2.1**
ISP	**Isparta**	**3.33 55**		Pn	**Pn**	**15 52 46.9**	**-2.5**
ISP	**Isparta**	**3.33 55**			**Pn**	**15 52 52.4**	**+3.0**
SIGR	**SIGRI**	**3.37 344**		P	**Pn**	**15 52 49.1**	**-0.8**
SIGR	**SIGRI**	**3.37 344**		PN	**Pn**	**15 52 49.6**	**-0.3**
VLI	**Veliai**	**3.42 284**		P	**Pn**	**15 52 50.8**	**+0.2**
VLI	**Veliai**	**3.42 284**		P	**Pn**	**15 52 50.6**	**0.0**
KRND	**KRANIDI**	**3.45 295**		P	**Pn**	**15 52 51.1**	**+0.1**
KRND	**KRANIDI**	**3.45 295**		P	**Pn**	**15 52 51.3**	**+0.3**
SIMA	**Simav-Kutahya**	**3.46 26**		PN	**Pn**	**15 52 52.5**	**+1.3**
KYMI	**Kymi, Euboea I**	**3.56 319**		P	**Pn**	**15 52 52.1**	**-0.4**
EPID	**Epidavros**	**3.57 298**		P	**Pn**	**15 52 49.8**	**+1.2**
BALB	**Balikesir**	**3.72 10**		PN	**Pn**	**15 52 56.3**	**+1.6**
VILL	**Villia**	**3.72 307**		P	**Pn**	**15 52 55.2**	**+0.5**
VIL2	**Platees**	**3.77 307**		P	**Pn**	**15 52 55.1**	**-0.3**
VIL2				AML	AML	15 54 02.9	
	comp=E,1727µm,0.6s						
VIL2				AML	AML	15 54 09.3	
	comp=N,1029µm,1.2s						
KEPZ	**Antalya-Kepez**	**3.77 74**	*i*	P	**Pn**	**15 52 58.7**	**+3.2**
KEPZ				IAML		15 54 06.0	
	comp=E,183nm,1.1s						
KEPZ				IAML		15 54 10.0	
	comp=N,126nm,0.9s						
SHUT	**Suhut-Afyon**	**3.79 46**		PN	**Pn**	**15 52 57.8**	**+2.0**
TVSB	**Tavsanli**	**3.96 28**		PN	**Pn**	**15 52 59.8**	**+1.8**
VLX	**Vlachokerasia**	**4.02 292**		P	**Pn**	**15 53 00.3**	**+1.4**
SEYD	**Seydisehir-KON**	**4.09 68**		PN	**Pn**	**15 53 02.6**	**+2.7**
TRIP	**Tripoli**	**4.15 293**		P	**Pn**	**15 53 01.7**	**+1.0**
TRIP	**Tripoli**	**4.15 293**		P	**Pn**	**15 53 01.8**	**+1.0**
LIA	**Limnos Island**	**4.19 340**		P	**Pn**	**15 53 00.6**	**-0.5**
ATAL	**Atalanti**	**4.21 311**		P	**Pn**	**15 53 01.2**	**-0.4**
OSC1	**CSNet OBS 1**	**4.25 124**		P	**Pn**	**15 53 02.4**	**+0.4**
OSC1				S	**Sn**	**15 53 53.0**	**+2.3**
GAZI	**Gazipasa**	**4.26 85**		PN	**Pn**	**15 53 03.5**	**+1.4**
GAZI	**Gazipasa**	**4.26 85**	*i*	P	**Pn**	**15 53 03.0**	**+0.9**
GAZI				IAML		15 54 02.0	
	comp=N,246nm,0.9s						
GAZI				IAML		15 54 02.0	
	comp=E,217nm,0.9s						
GUR	**Goura**	**4.26 299**		P	**Pn**	**15 53 03.2**	**+0.9**
ITM	**Ithomi**	**4.31 288**		Pn	**Pn**	**15 53 05.9**	**+3.0**
AKMS	**Akamas**	**4.40 101**		P	**Pn**	**15 53 04.8**	**+0.7**
AKMS				AML	AML	15 53 56.6	
	comp=E,3.9nm,1.3s						
AKMS				AML	AML	15 54 05.0	
	comp=E,5.4nm,0.9s						
KLV	**Kalavryta, Ach**	**4.45 299**		P	**Pn**	**15 53 05.9**	**+1.2**
KLV	**Kalavryta, Ach**	**4.45 299**		P	**Pn**	**15 53 05.9**	**+1.2**
AXAR	**Agios Charalam**	**4.48 310**		P	**Pn**	**15 53 05.9**	**+0.7**
ALFC	**Alefka**	**4.58 99**	⇑	P	**Pn**	**15 53 07.4**	**+0.8**
ALFC				AML	AML	15 54 05.0	
	comp=E,2.3nm,0.9s						
ALFC				AML	AML	15 54 05.5	
	comp=E,2.5nm,0.5s						
NATA	**Nata**	**4.65 103**		P	**Pn**	**15 53 08.3**	**+0.8**
TRIZ	**Trizonia**	**4.65 302**		P	**Pn**	**15 53 08.7**	**+1.2**
TRIZ	**Trizonia**	**4.65 302**		P	**Pn**	**15 53 08.9**	**+1.4**
ANX	**Ano Chora**	**4.87 304**		P	**Pn**	**15 53 11.7**	**+1.1**
ANX	**Ano Chora**	**4.87 304**		P	**Pn**	**15 53 11.9**	**+1.3**
SZAC	**Souni**	**4.90 103**	⇑	P	**Pn**	**15 53 11.5**	**+0.5**
SZAC				AML	AML	15 54 09.2	
	comp=E,3.0nm,1.2s						
SZAC				AML	AML	15 54 09.5	
	comp=E,1.9nm,0.8s						
ALN	**Alexandroupoli**	**4.98 351**		Pn	**Pn**	**15 53 11.6**	**-0.5**
OSC2	**CSNet OBS 4**	**5.17 122**		P	**Pn**	**15 53 15.6**	**+0.9**
OSC2				S	**Sn**	**15 54 15.9**	**+2.5**
ASGA	**Asgata**	**5.19 101**		P	**Pn**	**15 53 15.6**	**+0.7**
CSS	**Mathiatis**	**5.21 99**		P	**Pn**	**15 53 16.6**	**+1.4**
CSS	**Mathiatis**	**5.21 99**		Pn	**Pn**	**15 53 15.7**	**+0.5**
CSS				Sn	**Sn**	**15 54 12.7**	**-1.7**
CSS	**Mathiatis**	**5.21 99**	⇓	P	**Pn**	**15 53 16.0**	**+0.8**
CSS	**Mathiatis**	**5.21 99**		Pn	**Pn**	**15 53 16.1**	**+0.8**
MVOU	**Mavrovouni**	**5.44 98**	⇑	P	**Pn**	**15 53 18.5**	**+0.2**
MDUB	**Mudurnu**	**5.54 35**			**Pn**	**15 53 22.8**	**+2.9**
BR231	**Keskin MP Arra**	**5.94 48**			**Pn**	**15 53 26.5**	**+1.2**
ANTO	**Ankara**	**5.97 48**		Pn	**Pn**	**15 53 30.4**	**+4.7**
BR131	**Keskin Array S**	**6.41 52**		Pn	**Pn**	**15 53 34.8**	**+3.1**
BRTR	**Keskin Array B**	**6.41 52**		Pn	**Pn**	**15 53 34.0**	**+2.2**
	comp=E,0.5nm,0.3s,baz=228,slow=16,SNR=14						
BRTR				LR	LR	15 56 49.9	
	comp=E,229nm,19.3s,baz=246,slow=46						
BRTR	**Keskin Array B**	**6.41 52**		Pn	**Pn**	**15 53 34.8**	**+3.1**
STIP	**Stip**	**6.87 328**	*i*	Pn	**Pn**	**15 53 38.7**	**+0.8**
OHR	**Ohrid**	**7.10 318**	*i*	Pn	Pn	15 53 47.4	+6.2
ILGA	**Ilgaz**	**7.27 44**		Pn	**Pn**	**15 53 46.1**	**+2.4**
DQRL	**Deir Qamar**	**7.35 105**	*e*	P	**Pn**	**15 53 45.4**	**+0.7**
OFRI	**`Ofer**	**7.35 115**		Sn	**Sn**	**15 55 04.4**	**-2.9**
SKO	**Skopje**	**7.42 326**	*i*	Pn	**Pn**	**15 53 49.0**	**+3.4**
BLGI	**Bet Lehem HaGe**	**7.45 113**		Sn	**Sn**	**15 55 07.9**	**-1.7**
HWQ	**Hawqa**	**7.47 101**	*e*	P	**Pn**	**15 53 47.4**	**+1.0**
MMA0B	**Mount Meron ar**	**7.49 111**		Pn	**Pn**	**15 53 45.8**	**-0.7**
MMA0B				Sn	**Sn**	**15 55 09.1**	**-1.5**
MMAI	**Mount Meron Ar**	**7.49 111**		Pn	**Pn**	**15 53 46.7**	**+0.1**
	comp=E,7.9nm,0.3s,baz=310,slow=12,SNR=24						
MMAI				Sn	**Sn**	**15 55 09.8**	**-0.7**
	comp=E,10nm,0.3s,baz=331,slow=28,SNR=2.3						
MMAI				LR	LR	15 58 11.4	
	comp=E,128nm,18.5s,baz=325,slow=50						
SLTI	**Sal'it**	**7.59 117**		Pn	**Pn**	**15 53 46.1**	**-1.8**
SLTI				Sn	**Sn**	**15 55 10.1**	**-2.8**
GEM	**Giv'at Ha'Em**	**7.60 109**		Pn	**Pn**	**15 53 47.0**	**-1.1**
GEM				Sn	**Sn**	**15 55 11.9**	**-1.4**
RCY	**Rachaya**	**7.63 106**	*e*	P	**Pn**	**15 53 47.9**	**-0.6**
NATI	**Neve Ativ**	**7.64 108**		Pn	**Pn**	**15 53 47.9**	**-0.7**
NATI				Sn	**Sn**	**15 55 13.1**	**-1.1**
MMLI	**Mount Malkishu**	**7.76 115**		Pn	**Pn**	**15 53 49.2**	**-1.1**
MMLI				Sn	**Sn**	**15 55 15.7**	**-1.7**
AMAZ	**Amatzia**	**7.89 122**		Pn	**Pn**	**15 53 50.7**	**-1.4**
AMAZ				Sn	**Sn**	**15 55 18.2**	**-2.3**
SCTE	**Santa Cesarea**	**7.92 304**		Pn	**Pn**	**15 53 53.0**	**+0.6**
HMDT	**Nahal Hemdat**	**7.93 115**		Pn	**Pn**	**15 53 51.4**	**-1.2**
HMDT				Sn	**Sn**	**15 55 19.8**	**-1.6**
KZIT	**Kziot**	**7.94 127**		Sn	**Sn**	**15 55 19.0**	**-2.6**
YTIR	**Yattir**	**8.13 122**		Pn	**Pn**	**15 53 54.2**	**-1.2**
YTIR				Sn	**Sn**	**15 55 24.7**	**-1.7**
DSI	**Dead Sea**	**8.19 120**		Pn	**Pn**	**15 53 55.5**	**-0.7**
GAZ	**Gaziantep**	**8.25 79**			**Pn**	**15 54 00.6**	**+3.6**
DAMI2	**DAM2**	**8.47 22**		Sn	**Sn**	**15 55 32.0**	**-2.5**
ZFRI	**Zfri**	**8.68 126**		Sn	**Sn**	**15 55 36.5**	**-3.2**
KRMI	**Paran Flat**	**8.68 130**		Pn	**Pn**	**15 54 00.9**	**-2.0**
TIP	**Timpagrande**	**8.79 294**	⇑	P	**Pn**	**15 54 04.2**	**-0.2**
TIP	**Timpagrande**	**8.79 294**		Pn	**Pn**	**15 54 04.5**	**+0.2**
PDG	**Podgorica**	**8.85 319**	⇑	P	**Pn**	**15 54 05.6**	**+0.5**
PDG	**Podgorica**	**8.85 319**		Pn	**Pn**	**15 54 07.6**	**+2.5**
HRFI	**Mount Harif**	**8.93 129**		Pn	**Pn**	**15 54 05.5**	**-0.8**
HRFI				Sn	**Sn**	**15 55 42.9**	**-3.1**
EIL	**Elat**	**9.13 131**		Pn	**Pn**	**15 54 09.2**	**0.0**
	comp=E,2.3nm,0.3s,baz=305,slow=7.7,SNR=9.8						
EIL				Sn	**Sn**	**15 55 46.7**	**-4.3**
	comp=E,5.6nm,0.3s,baz=85,slow=6.8,SNR=8.7						
EIL	**Elat**	**9.13 131**		Pn	**Pn**	**15 54 07.9**	**-1.2**
EIL				Sn	**Sn**	**15 55 47.9**	**-3.1**
CEL	**Celeste**	**9.21 288**		Pn	**Pn**	**15 54 10.3**	**+0.1**
MATE	**Matera**	**9.39 303**	⇑	P	**Pn**	**15 54 12.1**	**-0.4**
MLR	**Muntele Rosu**	**9.55 355**		Pn	**Pn**	**15 54 13.6**	**-1.2**
	comp=E,0.2nm,0.3s,baz=182,slow=9.0,SNR=1.5						
MLR	**Muntele Rosu**	**9.55 355**	⇑	P	**Pn**	**15 54 17.4**	**+2.6**
MLR	**Muntele Rosu**	**9.55 355**		Pn	**Pn**	**15 54 16.6**	**+1.8**
HERR	**Herculane**	**9.58 340**	⇑	P	**Pn**	**15 54 15.7**	**+0.6**
VOIR		**9.58 351**	⇑	P	**Pn**	**15 54 18.1**	**+2.9**
DIVS	**Divibare**	**9.76 328**		Pn	**Pn**	**15 54 19.2**	**+1.5**
PLOR	**Plostina**	**9.87 358**	⇑	P	**Pn**	**15 54 23.5**	**+4.3**
VRI	**Vrincioaia**	**9.89 359**	⇓	P	**Pn**	**15 54 21.3**	**+1.9**
GZR	**Gura Zlata**	**9.96 342**	⇓	P	**Pn**	**15 54 20.6**	**+0.2**
VAE	**Valguarnera**	**10.27 282**		LR	LR	15 59 51.5	
	comp=E,80nm,18.0s,baz=90,slow=47						
RAFF	**Raffo Rosso**	**10.29 281**		Pn	**Pn**	**15 54 23.7**	**-1.3**
SGRT	**San Giovanni R**	**10.54 307**		Pn	**Pn**	**15 54 28.5**	**0.0**
PAOL	**Paolisi**	**11.02 301**		Pn	**Pn**	**15 54 37.3**	**+2.4**
CORL	**Corleone**	**11.18 284**		Pn	**Pn**	**15 54 40.5**	**+3.3**
KOPT	**Kop Dagi**	**11.34 65**		Pn	**Pn**	**15 54 43.0**	**+3.5**
INTR	**Introdacqua**	**11.88 304**			**Pn**	**15 54 45.0**	**-1.7**
NRCA	**Norcia**	**12.77 307**		Pn	**Pn**	**15 54 58.6**	**-0.3**
PSZ	**Piszkesteto**	**13.07 338**	⇑	P	**Pn**	**15 55 03.7**	**+0.8**
KOLS	**Kolonicke sedl**	**13.42 346**	*e*	PN	**P**	**15 55 19.0**	**+2.2**
VYHS	**Vyhne**	**13.91 337**	*e*	PN	**P**	**15 55 20.1**	**-2.0**
SOKA	**Soboth**	**13.99 324**	*e*	P	**P**	**15 55 20.2**	**-2.9**
	comp=E,11nm,0.8s						
KEST	**Kesra**	**14.38 274**		Pn	**Pn**	**15 55 20.2**	**-0.7**
	comp=E,0.4nm,0.3s,baz=12,slow=12,SNR=2.9						
KEST				LR	LR	16 01 25.6	
	comp=E,137nm,19.3s,baz=56,slow=40						
KEST	**Kesra**	**14.38 274**			**P**	**15 55 24.4**	**-3.1**
KBZ	**Khabaz**	**14.40 53**		Pn	**P**	**15 55 25.1**	**-2.5**
	comp=E,0.1nm,0.3s,baz=120,slow=19,SNR=2.4						
VSL	**Villasalto**	**14.43 289**		P	**Pn**	**15 55 23.6**	**+2.1**
PRED	**Cave del Predi**	**14.56 320**		P	**P**	**15 55 26.5**	**-3.0**
MYKA	**Terra Mystica**	**14.65 321**	*e*	P	**P**	**15 55 32.6**	**+2.2**
	comp=E,5.5nm,0.8s						
AKASG	**Malin Array Be**	**14.80 5**		Pn	**P**	**15 55 29.8**	**-2.3**
	comp=E,1.3nm,0.3s,baz=197,slow=11,SNR=8.0						
AKASG	**Malin Array Be**	**14.80 5**		P	**Pn**	**15 55 29.1**	**+2.7**
AKBB	**Malin Array Si**	**14.80 5**		P	**P**	**15 55 30.1**	**-2.0**
ZOU	**Zoufplan**	**14.95 319**		P	**Pn**	**15 55 30.5**	**+1.9**
TEOL	**Teolo**	**14.96 314**		P	**Pn**	**15 55 29.9**	**+1.3**
CIMO	**Cimolais**	**15.08 318**		P	**P**	**15 55 34.9**	**-0.3**
CIMO				IAmb	IAmb	15 55 46.8	
	comp=E,35nm,1.7s						
KBA	**Koelnbreinsper**	**15.10 322**		P	**P**	**15 55 38.2**	**+2.7**
	comp=E,25nm,1.2s						
VLC	**Villacollemand**	**15.15 308**		P	**P**	**15 55 33.9**	**-2.1**
OJC	**Ojcow**	**15.19 342**		P	**P**	**15 55 36.2**	**-0.1**
OJC				IAmb	IAmb	15 55 50.4	
	comp=E,17nm,1.1s						
MOA	**Molln**	**15.19 325**	*e*	P	**P**	**15 55 40.1**	**+3.6**
	comp=E,22nm,1.6s						
KRUC	**Moravsky**	**15.24 332**	*e*	PN	**P**	**15 55 37.5**	**+0.5**
ABTA	**Abfaltersbach**	**15.31 319**	*e*	P	**P**	**15 55 39.9**	**+2.0**
	comp=E,6.8nm,0.6s						
CTI	**Castel Tesino**	**15.36 316**		P	**P**	**15 55 36.7**	**-1.7**
CTI				IAmb	IAmb	15 55 52.7	
	comp=E,12nm,1.1s						
VRAC	**Vranov**	**15.37 333**		Pn	**P**	**15 55 37.8**	**-0.6**
	comp=E,0.9nm,0.3s,baz=136,slow=9.9,SNR=4.2						
VRAC	**Vranov**	**15.37 333**	*e*	PN	**P**	**15 55 39.3**	**+0.9**
MORC	**Moravsky Berou**	**15.44 336**	*e*	PN	**P**	**15 55 40.2**	**+1.0**
MORC	**Moravsky Berou**	**15.44 336**		P	**P**	**15 55 39.3**	**0.0**
MORC				IAmb	IAmb	15 55 52.6	
	comp=E,41nm,1.8s						
KRLC	**Kraliky**	**15.95 335**	*e*	P	**P**	**15 55 47.4**	**+2.5**
KRLC			*e*	pP	**pP**	**15 55 52.4**	**+0.5**
WTTA	**Wattenberg**	**16.10 319**	*e*	P	**P**	**15 55 48.0**	**+1.2**
	comp=E,29nm,1.7s						
GEC2	**GERESS Array S**	**16.18 327**			**P**	**15 55 45.9**	**-1.6**
GEC2				IAmb	IAmb	15 55 57.1	
	comp=E,58nm,1.9s						
GERES	**GERESS Array B**	**16.18 327**		Pn	**P**	**15 55 47.0**	**-0.5**
	comp=E,0.4nm,0.3s,baz=134,slow=11,SNR=20						
GERES	**GERESS Array B**	**16.18 327**			**P**	**15 55 46.2**	**-1.2**
WATA	**Walderalm**	**16.18 319**	*e*	P	**P**	**15 55 46.5**	**-1.1**
	comp=E,13nm,1.1s						
SQTA	**Sankt Quirin**	**16.31 318**	*e*	P	**P**	**15 55 48.4**	**-0.5**
	comp=E,2.6nm,0.4s						
DPC	**Dobruska-Polom**	**16.34 335**	*e*	P	**P**	**15 55 51.2**	**+2.0**
DPC			*ex*		x	15 56 01.9	
MOTA	**Moosalm**	**16.44 319**	*e*	P	**P**	**15 55 49.7**	**-0.8**
	comp=E,18nm,1.1s						
FETA	**Feichten**	**16.45 317**	*e*	P	**P**	**15 55 51.1**	**+0.6**
	comp=E,13nm,1.3s						
KHC	**Kasperske Hory**	**16.45 327**	*e*	P	**P**	**15 55 49.8**	**-0.6**
KHC	**Kasperske Hory**	**16.45 327**		P	**P**	**15 55 49.9**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**16.48 315**		P	**P**	**15 55 49.6**	**-1.3**
CHVC	**Chvalec**	**16.64 335**	*e*	P	P	15 56 02.2	+10
RETA	**Reutte**	**16.71 319**	*e*	P	**P**	**15 55 53.4**	**+0.1**
	comp=E,19nm,1.5s						
DAVOX	**Davos/Dischmat**	**16.79 315**		Pn	**P**	**15 55 54.2**	**-0.1**
	comp=E,0.3nm,0.3s,baz=123,slow=8.4,SNR=4.4						
TUE	**Stuetta**	**16.93 314**		P	**P**	**15 55 55.5**	**-0.4**
DAVA	**Damuels**	**17.07 317**	*e*	P	**P**	**15 55 59.1**	**+1.7**
	comp=E,7.5nm,0.6s						
BRG	**Berggiesshubel**	**17.64 332**	*e*	P	**P**	**15 56 05.4**	**+1.9**
	comp=E,8.0nm,1.3s						
GRA1	**Grafenberg Arr**	**17.92 325**		P	**P**	**15 56 07.0**	**+0.4**
GRA1				IAmb	IAmb	15 56 53.0	
	comp=E,36nm,1.4s						
SENIN	**Lac Senin/Sane**	**18.10 311**			**P**	**15 56 08.8**	**-0.1**
STU	**Stuttgart**	**18.32 320**		P	**Pn**	**15 56 12.0**	**+0.9**
STU				IAmb	IAmb	15 56 18.3	
	comp=E,25nm,1.2s						
CLL	**Collm**	**18.35 331**	*e*	P	**Pn**	**15 56 15.0**	**+3.6**
	comp=E,5.0nm,0.8s						
CLL	**Collm**	**18.35 331**		P	**Pn**	**15 56 11.8**	**+0.5**
BFO	**Black Forest**	**18.53 318**		P	**P**	**15 56 12.9**	**-0.4**
ECH	**Echery**	**19.11 316**		P	**P**	**15 56 19.6**	**-0.2**
ECH				IAmb	IAmb	15 56 29.9	
	comp=E,15nm,1.4s						
WLF	**Walferdange**	**20.46 318**			**P**	**15 56 34.6**	**+0.2**
WLF				IAmb	IAmb	15 57 22.9	
	comp=E,28nm,1.5s						
MEM	**Membach**	**21.09 320**		P	**P**	**15 56 42.0**	**+0.9**
MEM				sP	**sP**	**15 56 53.1**	**+1.5**
MEM				PnPn	**PnPn**	**15 56 57.6**	**-2.9**
BCLA	**Clavier**	**21.34 319**		P	**P**	**15 56 44.4**	**+0.5**
BCLA				pP	**pwP**	**15 56 51.7**	**-1.6**
BCLA				PnPn	**PnPn**	**15 57 04.9**	**+0.8**
BGES	**Gesves**	**21.44 319**		P	**P**	**15 56 45.4**	**+0.5**
BGES				pP	**pP**	**15 56 52.3**	**+0.3**
BGES				PnPn	**PnPn**	**15 57 05.5**	**+0.1**
DOU	**Dourbes**	**21.55 318**		P	**P**	**15 56 47.1**	**+1.0**
DOU				pP	**pP**	**15 56 53.7**	**+0.6**
DOU				PnPn	**PnPn**	**15 57 07.7**	**+0.9**
TAM	**Tamanrasset**	**22.85 241**			**P**	**15 56 60.0**	**-0.5**
TAM				IAmb	IAmb	15 57 14.6	
	comp=Z,12nm,1.2s						
ESDC	**Sonseca Array**	**24.73 288**		P	**P**	**15 57 17.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=80,slow=9.5,SNR=12						
ESDC				LR	LR	16 06 15.3	
	comp=Z,121nm,18.1s,baz=320,slow=35						
ESDC	**Sonseca Array**	**24.73 288**		P	**P**	**15 57 17.6**	**-0.5**
GEYT	**Alibeck**	**24.84 76**		P	**P**	**15 57 20.2**	**+1.1**
	comp=Z,4.1nm,0.5s,baz=280,slow=8.9,SNR=9.3						
GEYT	**Alibeck**	**24.84 76**		P	**P**	**15 57 19.3**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**24.84 76**		P	**P**	**15 57 19.9**	**+0.8**
GYA0B				IAmb	IAmb	15 57 38.4	
	comp=Z,20nm,1.1s						
FINES	**FINESS Array B**	**25.50 359**		P	**P**	**15 57 25.3**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=176,slow=5.1,SNR=11						
HFS	**Hagfors**	**25.67 345**		P	**P**	**15 57 25.8**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=156,slow=11,SNR=2.2						
MDT	**Midelt**	**26.27 272**		P	**P**	**15 57 32.5**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=82,slow=9.1,SNR=11						
MDT				LR	LR	16 10 10.5	
	comp=Z,77nm,18.2s,baz=18,slow=42						
AKTO	**Aktyubinsk**	**26.56 47**		P	**P**	**15 57 35.8**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=257,slow=11,SNR=2.6						
NOA	**NORSAR Array B**	**27.04 343**		P	**P**	**15 57 36.6**	**-2.3**
	comp=Z,0.6nm,0.8s,baz=156,slow=11,SNR=1.4						
ABKAR	**Akbulak array**	**27.36 51**		P	**P**	**15 57 42.3**	**+0.6**
ABKAR	**Akbulak array**	**27.36 51**		P	**P**	**15 57 42.2**	**+0.5**
EKA	**Eskdalemuir

KBKI	**Kotabaru**	**7.67**	**22**	P		**Pn**	**15 54 47.1**	**+1.4**
	0.1nm27nm,1.0s							
EDFI	**Ende, Flores**	**8.44**	**79**	P		**Pn**	**15 54 59.0**	**+2.6**
CGJI	**Cibinong**	**8.45**	**296**	P		**Pn**	**15 54 57.0**	**+0.6**
	33nm,1.0s							
BATI	**Baumata**	**10.19**	**89**	Pn		**Pn**	**15 55 16.9**	**-3.4**
	1.5nm,0.3s,baz=290,slow=18,SNR=1.5							
BATI				Sn		**Sn**	**15 57 06.5**	**-7.0**
	6.5nm,0.3s,baz=206,slow=22,SNR=7.3							
GIRL	**Giralia**	**12.13**	**176**	Pn		**Pn**	**15 55 46.6**	**-0.3**
PSA00	**Pilbara Seismi**	**12.70**	**151**	Pn		**Pn**	**15 55 52.3**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.15**	**124**	Pn		**Pn**	**15 56 12.8**	**-1.5**
	0.4nm,0.3s,baz=300,slow=12,SNR=14							
FITZ				Sn		Sn	15 58 38.9	-11
	0.7nm,0.3s,baz=181,slow=22,SNR=8.8							
FITZ	**Fitzroy Crossi**	**14.15**	**124**			**Pn**	**15 56 12.9**	**-1.5**
FITZ						**Sn**	**15 58 43.4**	**-6.8**
MORW	**Morawa**	**18.68**	**173**	P		**Pn**	**15 57 12.0**	**-0.1**
MORW				IAmb		IAmb	15 57 38.5	
	comp=Z,34nm,1.4s							
WB0	**Warramunga Arr**	**22.33**	**117**	P		**P**	**15 57 54.3**	**+2.9**
WB0				IAmb		IAmb	15 58 22.2	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**22.35**	**117**	P		**P**	**15 57 52.2**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=310,slow=12,SNR=25							
WRA				S		**S**	**16 01 52.7**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=268,slow=23,SNR=2.0							
WRA	**Warramunga Arr**	**22.35**	**117**	P		**P**	**15 57 53.6**	**+2.1**
WB2	**Warramunga Arr**	**22.36**	**117**	P		**P**	**15 57 53.5**	**+1.9**
WB2				IAmb		IAmb	15 57 57.9	
	comp=Z,6.7nm,1.1s							
WR0	**Warramunga Arr**	**22.53**	**117**	P		**P**	**15 57 55.7**	**+2.2**
AS31	**Alice Springs**	**23.62**	**126**	P		**P**	**15 58 06.8**	**+2.4**
ASAR	**Alice Springs**	**23.62**	**126**	P		**P**	**15 58 06.8**	**+2.3**
	comp=Z,4.1nm,0.6s,baz=301,slow=8.8,SNR=76							
ASAR				S		**S**	**16 02 26.2**	**+9.4**
	comp=Z,0.8nm,0.6s,baz=300,slow=23,SNR=5.6							
ASAR	**Alice Springs**	**23.62**	**126**	P		**P**	**15 58 07.1**	**+2.6**
CMAR	**Chiang Mai Arr**	**32.05**	**334**	P		**P**	**15 59 21.2**	**+1.1**
	comp=Z,4.3nm,0.9s,baz=168,slow=8.3,SNR=36							
STKA	**Stephens Creek**	**33.72**	**133**	P		**P**	**15 59 37.5**	**+2.9**
	comp=Z,4.8nm,0.7s,baz=300,slow=9.2,SNR=13							
STKA	**Stephens Creek**	**33.72**	**133**	P		**P**	**15 59 36.5**	**+1.9**
STKA				IAmb		IAmb	15 59 38.5	
	comp=Z,1.3nm,0.8s							
H08S2	**Diego Garcia H**	**40.38**	**270**	T		T	16 43 32.2	
	baz=97,slow=75,SNR=26							
H08S3	**Diego Garcia H**	**40.40**	**271**	T		T	16 43 37.6	
	baz=97,slow=75,SNR=27							
H08S1	**Diego Carcia H**	**40.40**	**270**	T		T	16 43 30.0	
	baz=97,slow=75,SNR=20							
JGF	**Kuroka**	**51.15**	**25**	P		**P**	**16 01 55.2**	**-0.9**
MAJO	**Matsushiro**	**52.31**	**25**	P		**P**	**16 02 02.9**	**-1.8**
MJAR	**Matsushiro Arr**	**52.31**	**25**	P		**P**	**16 02 02.9**	**-1.8**
	comp=Z,2.5nm,0.7s,baz=198,slow=8.6,SNR=7.0							
MJAR	**Matsushiro Arr**	**52.31**	**25**	IAmb		IAmb	16 02 04.1	
	comp=Z,1.4nm,0.8s							
QSPA	**South Pole Qui**	**79.53**	**180**	P		**P**	**16 05 01.9**	**+2.3**
QSPA				IAmb		IAmb	16 05 02.0	
	comp=Z,5.4nm,1.4s							

IDC ***02*** *15:56:30.6±0.4,36°.39N×97°.82E,h0km,mb4.8/38, mb1 4.8/43,mb1mx4.7/59,mbtmp4.8/43,ML4.5/5,MS4.6/50, Ms1 4.6/50,ms1mx4.5/65,Error ellipse: s-maj=12.9km s-min=8.8km az=46.0*

MOS ***02*** *15:56:31.1±1.1,36°.39N×97°.77E,h17km,mb5.5/88, MS5.0/24,Error ellipse: s-maj=5.2km s-min=3.0km az=129.9*

BJI ***02*** *15:56:32.7±0.0,36°.42N×97°.79E,h10km,mB5.3/45, mb4.8/50,ML5.2/15,Ms5.3/72,Ms7 5.3/69*

NEIC ***02*** *15:56:32.1±1.3,36°.37N±0°.06×97°.77E±0°.08,h12km±3km, mb5.4/252,Mwb5.1/12,Error ellipse: s-maj=9.2km s-min=9.1km az=120.0*

NEIC ***02*** *15:56:32.1,36°.37N×97°.77E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr5.45; Mθθ-5.36; Mϕϕ-0.09; Mrθ-2.23; Mθϕ1.40; Mϕr2.25; Fault plane solution: M0 6.42000×10^16^ NP1:ϕ89.87000°, δ33.74000°,λ65.54000°. NP2:ϕ298.55000°,δ59.63000°, λ105.46000°. Principal axes: T 6.4833, Plg71.0000°, Azm244.0000°; N -0.1358, Plg13.0000°, Azm111.0000°; P -6.3475, Plg13.0000°, Azm17.0000°;*

BGR ***02*** *15:56:33.9±0.0,36°.67N×97°.50E,h10km,mb5.5,Ms5.1*

GCMT ***02*** *15:56:37.1±0.1,36°.52N±0°.01×97°.85E±0°.01,h23km, MW5.2/124,Moment Tensor Solution. s93,c126; s124,c219; Duration: 1ś0 Moment tensor: Scale 10^17^ Nm; Mrr0.72±.02; Mθθ-0.67±.01; Mϕϕ-0.05±.01; Mrθ-0.25±.02; Mθϕ0.28±.01; Mϕr0.16±.02; Best double couple: M0 0.80600×10^17^ NP1:ϕ107.00000°,δ35.00000°, λ82.00000°. NP2:ϕ296.00000°,δ56.00000°,λ95.00000°. Principal axes: T 0.7800, Plg79.0000°, Azm225.0000°; N 0.0510, Plg4.0000°, Azm113.0000°; P -0.8310, Plg11.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 15:56:32.6±0.3,36°.35N±0°.03×97°.72E±0°.02,h13km±1km, h13km:pP-P,n905,σ1ś72/928,mb5.3/259,MS4.8/83, 67C-8D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.48**	**28**	*e*Pn		**Pn**	**15 57 28.4**	**+1.8**
GTA				Sn		**Sn**	**15 58 09.4**	**+1.7**
GTA				LR	LR			
	comp=N,33μm,9.1s							
GTA				LR	LR			
	comp=E,29μm,9.8s							
GTA				LR	LR			
	comp=Z,38μm,9.8s							
LZH	**Lanzhou**	**4.96**	**91**	*e*Pn		**Pn**	**15 57 48.5**	**+1.6**
LZH				Sn		**Sn**	**15 58 48.8**	**+4.6**
LZH				Sg		**Sg**	**15 59 09.9**	**-1.8**
LZH				smax	smax			
	comp=N,3μm,1.1s							
LZH				smax	smax			
	comp=E,3μm,0.9s							
LZH				LR	LR			
	comp=N,32μm,8.7s							
LZH				LR	LR			
	comp=E,34μm,7.4s							
LZH				LR	LR			
	comp=Z,40μm,9.8s							
CD2	**Chengdu**	**7.40**	**135**	Pn		**Pn**	**15 58 21.5**	**+1.2**
CD2				Sn		**Sn**	**15 59 41.4**	**-2.8**
CD2				Sg		**Sg**	**16 00 27.5**	**-2.5**
CD2				LR	LR			
	comp=N,22μm,9.8s							
CD2				LR	LR			
	comp=E,20μm,9.0s							
CD2				LR	LR			
	comp=Z,31μm,9.9s							
LSA	**Lhasa**	**8.62**	**222**	P		**Pn**	**15 58 40.8**	**+3.3**
LSA				pmax	pmax			
	comp=Z,130nm,1.3s							
LSA				LR	LR			
	comp=N,59μm,10.7s							
LSA				LR	LR			
	comp=E,68μm,9.6s							
LSA				LR	LR			
	comp=Z,126μm,11.0s							
LSA	**Lhasa**	**8.62**	**222**	P		**Pn**	**15 58 40.5**	**+3.0**
LSA	**Lhasa**	**8.62**	**222**	Pn		**Pn**	**15 58 40.5**	**+3.0**
LKP	**Lekhapani**	**9.13**	**191**	*e*P		**Pn**	**15 58 46.4**	**+2.4**
LKP				IVmB_BB			15 58 49.3	
	comp=Z,946nm,0.7s							
DIBR	**DIBRUGARH**	**9.17**	**196**	*e*P		**Pn**	**15 58 46.9**	**+2.4**
DIBR				IVmB_BB			15 58 49.0	
	comp=Z,2μm,0.4s							
ZIRO	**ZIRO**	**9.39**	**202**	*e*P		**Pn**	**15 58 48.4**	**+0.6**
ZIRO				IVmB_BB			15 58 53.2	
	comp=Z,1μm,0.4s							
XAN	**Xi'an**	**9.45**	**101**	P		**Pn**	**15 58 48.4**	**-0.1**
XAN				smax	smax			
	comp=Z,290nm,1.9s							
XAN				smax	smax			
	comp=Z,220nm,1.3s							
XAN				LR	LR			
	comp=Z,8μm,11.5s							
XAN				LR	LR			
	comp=Z,19μm,12.5s							
XAN				LR	LR			
	comp=Z,22μm,12.7s							
XAN	**Xi'an**	**9.45**	**101**	P		**Pn**	**15 58 47.3**	**-1.2**
XAN	**Xi'an**	**9.45**	**101**			**Pn**	**15 58 47.3**	**-1.2**
ITAN	**ITANAGAR**	**9.78**	**201**	*e*P		**Pn**	**15 58 54.0**	**+1.0**
ITAN				IVmB_BB			15 58 57.9	
	comp=Z,1μm,0.6s							
JORH	**JORHAT**	**10.02**	**198**	*e*P		**Pn**	**15 58 55.6**	**-0.6**
JORH				IVmB_BB			15 58 59.4	
	comp=Z,2μm,0.4s							
BTO	**Baotou**	**10.54**	**62**	*e*P		**Pn**	**15 59 02.2**	**-1.2**
BTO				S		**Sn**	**16 00 56.3**	**-5.0**
TEZP	**TEZPUR**	**10.57**	**205**	*e*P		**Pn**	**15 59 03.3**	**-0.5**
TEZP				IVmB_BB			15 59 07.8	
	comp=Z,538nm,0.4s							
WMQ	**Urumqi**	**10.71**	**317**	*e*P		**Pn**	**15 59 05.6**	**0.0**
WMQ				pP			15 59 10.4	
WMQ				sP			15 59 13.3	
WMQ				PP		**PnPn**	**15 59 19.7**	**+6.4**
WMQ				S		**Sn**	**16 01 05.3**	**-0.1**
WMQ				sS			16 01 14.6	
WMQ				pmax	pmax			
	comp=Z,200nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,96nm,3.7s							
WMQ				LR	LR			
	comp=Z,4μm,9.5s							
WMQ				LR	LR			
	comp=Z,6μm,10.1s							
WMQ				LR	LR			
	comp=Z,3μm,13.7s							
WMQ	**Urumqi**	**10.71**	**317**	P		**Pn**	**15 59 05.6**	**0.0**
WMQ	**Urumqi**	**10.71**	**317**	Pn		**Pn**	**15 59 05.6**	**0.0**
KOHI	**KOHIMA**	**11.04**	**197**	*e*P		**Pn**	**15 59 10.6**	**+0.3**
KOHI				IVmB_BB			15 59 21.6	
	comp=Z,1μm,1.1s							
ENH	**Enshi**	**11.55**	**118**	Pn		**Pn**	**15 59 17.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**11.72**	**63**	*e*P		**Pn**	**15 59 20.0**	**+0.3**
HHC				sP			15 59 27.8	
HHC				S		**Sn**	**16 01 33.1**	**+2.7**
HHC				pmax	pmax			
	comp=Z,40nm,0.9s							
HHC				pmax	pmax			
	comp=Z,470nm,5.8s							
HHC				LR	LR			
	comp=Z,5μm,9.3s							
HHC				LR	LR			
	comp=Z,9μm,11.4s							
HHC				LR	LR			
	comp=Z,8μm,12.0s							
TIY	**Taiyuan**	**11.84**	**79**	*e*P		**Pn**	**15 59 23.8**	**+2.6**
TIY				S		**Sn**	**16 01 39.5**	**+6.3**
TIY				LR	LR			
	comp=Z,14μm,13.5s							
TIY				LR	LR			
	comp=Z,9μm,11.8s							
SHL	**Shillong**	**11.85**	**207**	*e*P		**Pn**	**15 59 21.0**	**-0.5**
SHL				IVmB_BB			15 59 28.4	
	comp=Z,812nm,0.8s							
SHL	**Shillong**	**11.85**	**207**	P		**Pn**	**15 59 22.2**	**+0.7**
	SNR=33							
SHL	**Shillong**	**11.85**	**207**	P		**Pn**	**15 59 20.7**	**-0.8**
SHL	**Shillong**	**11.85**	**207**	Pn		**Pn**	**15 59 20.6**	**-0.8**
GTK	**Tadong**	**11.87**	**223**	*e*P		**Pn**	**15 59 22.1**	**+0.3**
GTK				IVmB_BB			15 59 31.1	
	comp=Z,335nm,1.1s							
KMI	**Kunming**	**11.99**	**158⇓**	*e*P		**Pn**	**15 59 25.6**	**+2.2**
KMI				pP			15 59 28.9	
KMI				sP			15 59 30.9	
KMI				S		**Sn**	**16 01 40.8**	**+3.6**
KMI				sS			16 01 46.5	
KMI				pmax	pmax			
	comp=Z,19nm,1.4s							
KMI				pmax	pmax			
	comp=Z,400nm,9.3s							
KMI				LR	LR			
	comp=Z,1μm,5.4s							
KMI				LR	LR			
	comp=Z,2μm,7.1s							
KMI				LR	LR			
	comp=Z,2μm,12.5s							
KMI	**Kunming**	**11.99**	**158**	P		**Pn**	**15 59 22.9**	**-0.5**
KMI	**Kunming**	**11.99**	**158**			**Pn**	**15 59 22.9**	**-0.5**
GYA	**Guiyang**	**12.46**	**140**	⇑P		**Pn**	**15 59 30.3**	**+0.5**
GYA				pP		P	15 59 35.3	-6.4
GYA				S		**Sn**	**16 01 52.1**	**+3.5**
GYA				pmax	pmax			
	comp=Z,22nm,1.0s							
GYA				pmax	pmax			
	comp=Z,240nm,4.7s							
GYA				LR	LR			
	comp=Z,5μm,9.7s							
GYA				LR	LR			
	comp=Z,5μm,9.4s							
GYA				LR	LR			
	comp=Z,9μm,10.2s							
SONM	**Songino Array**	**13.15**	**27**	Pn		**Pn**	**15 59 38.6**	**-0.5**
	comp=Z,12nm,0.3s,baz=209,slow=15,SNR=94							
SONM				Sn		**Sn**	**16 02 05.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=194,slow=12,SNR=3.4							
SONM				Lg	Lg		16 03 15.1	
	baz=210,slow=27,SNR=1.9							
SONM				LR	LR		16 05 11.5	
	comp=Z,6μm,19.2s,baz=202,slow=40							
SONM	**Songino Array**	**13.15**	**27**	Pn		**Pn**	**15 59 38.8**	**-0.3**
ULN	**Ulaanbaatar**	**13.42**	**28**	P		Pn	15 59 37.8	-5.0
ULN				P		Pn	15 59 37.8	-5.0
ULN	**Ulaanbaatar**	**13.42**	**28**	*c*eP		**Pn**	**15 59 42.2**	**-0.6**
ULN				pmax	pmax			
	comp=Z,121nm,1.0s							
ULN	**Ulaanbaatar**	**13.42**	**28**	Pn		**Pn**	**15 59 43.0**	**+0.2**
AGT	**Agartala**	**13.62**	**206**	*e*P		**Pn**	**15 59 45.8**	**+0.4**
AGT				IVmB_BB			15 59 46.4	
	comp=Z,2μm,0.2s							
SAIH	**SAIHA**	**14.41**	**198**	⇑ *i*x		**Pn**	**15 59 54.9**	**-1.5**
SAIH				IVmB_BB			15 59 59.0	
	comp=Z,958nm,1.4s							
ZAK	**Zakamensk**	**14.59**	**14**	*e*P		**Pn**	**15 59 59.6**	**+0.8**
ZAK				pmax	pmax			
	comp=Z,16nm,1.1s							
ZSN	**Zaisan**	**14.63**	**323**	*e*P		**Pn**	**15 59 57.4**	**-1.8**
ZSN				*e*S		**Sn**	**16 02 37.5**	**-3.7**
ZSN				*e*LR	LR		16 05 33.8	
	comp=Z,2μm,10.8s							
ZSN	**Zaisan**	**14.63**	**323**	*e*P		**Pn**	**15 59 57.4**	**-1.8**
ZSN				*e*S		**Sn**	**16 02 37.5**	**-3.7**
ZSN				MLR	MLR			
	comp=Z,2μm,11.0s							
BJT	**Baijiatuan**	**14.96**	**70**	P		**P**	**16 00 07.9**	**-1.4**
BJT	**Baijiatuan**	**14.96**	**70**	P		**P**	**16 00 07.9**	**-1.4**
BJI	**Beijing**	**14.97**	**70**	P		**P**	**16 00 11.0**	**+1.7**
BJI				S		**Sn**	**16 02 51.0**	**+1.5**
BJI				pmax	pmax			
	comp=Z,19nm,1.3s							
BJI				pmax	pmax			
	comp=Z,230nm,3.7s							
BJI				LR	LR			
	comp=N,13μm,15.9s							
BJI				LR	LR			
	comp=E,4μm,12.5s							
BJI	**Beijing**	**14.97**	**70**	PcP		**PcP**	**16 05 12.4**	**-0.2**
BJI				LR	LR			
	comp=Z,4μm,12.8s							
WHN	**Wuhan**	**15.03**	**108**	P		**P**	**16 00 10.8**	**+0.7**
WHN				S		**Sn**	**16 02 55.9**	**+4.8**
WHN				pmax	pmax			
	comp=Z,110nm,1.2s							
WHN				LR	LR			
	comp=Z,14μm,8.5s							
WHN				LR	LR			
	comp=Z,9μm,9.4s							
WHN				LR	LR			
	comp=Z,15μm,10.3s							
DGZ	**Jazzator, Alta**	**15.30**	**334**	*i* P		**Pn**	**16 00 08.9**	**+0.6**
MOY	**Mondy**	**15.49**	**8**	*e*P		**P**	**16 00 16.1**	**+0.9**
MOY				pmax	pmax			
	comp=Z,637nm,1.7s							
MK31	**Makanchi Array**	**15.54**	**317**	*e*P		**Pn**	**16 00 08.0**	**-3.3**
MK31	**Makanchi Array**	**15.54**	**317**	Pn		**Pn**	**16 00 08.5**	**-2.9**
MK31				IAmb		IAmb	16 00 23.0	
	comp=Z,188nm,0.9s							
MKAR	**Makanchi Array**	**15.54**	**317**	Pn		**Pn**	**16 00 08.3**	**-3.1**
	comp=Z,7.0nm,0.3s,baz=121,slow=14,SNR=16							
MKAR				Sn		Sn	16 02 46.6	-17
	comp=Z,5.6nm,0.3s,baz=128,slow=16,SNR=1.9							
MKAR	**Makanchi Array**	**15.54**	**317**	*i* P		**Pn**	**16 00 10.1**	**-1.2**
MKAR				pmax	pmax			
	comp=Z,35nm,0.6s							
MKAR	**Makanchi Array**	**15.54**	**317**	Pn		**Pn**	**16 00 07.9**	**-3.4**
SHLS	**Shalkode**	**15.59**	**301**	*e*P		**Pn**	**16 00 05.9**	**-6.2**
	comp=Z,47nm,1.2s							
SHLS				*e*S		Sn	16 02 51.0	-14
SHLS				*e*LR	LR		16 05 53.2	
	comp=Z,1μm,10.0s							
SHLS	**Shalkode**	**15.59**	**301**	*e*P		**Pn**	**16 00 05.9**	**-6.2**
SHLS				*e*S		Sn	16 02 51.0	-14
SHLS				pmax	pmax			
	comp=Z,47nm,1.2s							
SHLS				MLR	MLR			
	comp=Z,1μm,10.0s							
PDGK	**Podgornoye**	**15.63**	**302**	P		**Pn**	**16 00 08.6**	**-4.1**
TIA	**Tai'an**	**15.65**	**85**	P		**Pn**	**16 00 14.5**	**+1.6**
TIA				pmax	pmax			
	comp=Z,190nm,6.4s							
TIA				LR	LR			
	comp=Z,1μm,6.5s							
TIA				LR	LR			
	comp=Z,7μm,12.4s							
TIA				LR	LR			
	comp=Z,12μm,12.2s							
MAKZ	**Makanchi**	**15.72**	**317**	P		**Pn**	**16 00 09.8**	**-3.9**
MAKZ				pmax	pmax			
	comp=Z,167nm,1.1s							
MAKZ	**Makanchi**	**15.72**	**317**	Pn		**Pn**	**16 00 09.8**	**-3.9**
MAKZ				IAmb	IAmb		16 00 25.1	
	comp=Z,167nm,1.1s							
UZB	**Uzynbulak**	**15.89**	**301**	*e*P		**Pn**	**16 00 13.5**	**-2.6**
UZB				*e*S		**Sn**	**16 03 04.7**	**-7.5**
UZB				*e*LR	LR		16 06 18.0	
	comp=Z,829nm,10.2s							
UZB	**Uzynbulak**	**15.89**	**301**	*e*P		**Pn**	**16 00 13.4**	**-2.6**
UZB				*e*S		**Sn**	**16 03 04.6**	**-7.5**
UZB				MLR	MLR			
	comp=Z,829nm,10.0s							
TLY	**Talaya**	**15.90**	**14**	Pn		**Pn**	**16 00 17.7**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=243,slow=9.0,SNR=1.5							
TLY				Sn		Sn	16 03 00.6	-11
	comp=Z,0.0nm,0.3s,baz=251,slow=14,SNR=3.2							
TLY				Lg	Lg		16 04 39.8	
	comp=Z,0.0nm,0.3s,baz=306,slow=21,SNR=3.7							
TLY	**Talaya**	**15.90**	**14**	P		**P**	**16 00 22.0**	**+2.4**
TLY				P		**P**	**16 00 22.0**	**+2.4**
TLY	**Talaya**	**15.90**	**14**	*d* iP		**Pn**	**16 00 14.8**	**-1.2**
TLY	**Talaya**	**15.90**	**14**			**Pn**	**16 00 15.7**	**-0.3**
SLVN	**Son La**	**15.90**	**158**			**Pn**	**16 00 16.9**	**+0.7**
PRZ	**Przheval'sk**	**16.13**	**298**	P		**Pn**	**16 00 16.7**	**-2.4**
PRZ				pmax	pmax			
	comp=Z,113nm,0.8s							
PRZ	**Przheval'sk**	**16.13**	**298**			**Pn**	**16 00 16.7**	**-2.4**
BOK	**Bokaro**	**16.15**	**222**	*ex*		**Pn**	**16 00 17.0**	**-2.3**
KPKS	**Kokpek**	**16.23**	**302**	*e*P		**Pn**	**16 00 16.6**	**-3.8**
KPKS				*e*S		**Sn**	**16 03 17.0**	**-3.3**
KPKS				*e*LR	LR		16 06 32.9	
	comp=Z,2μm,12.2s							
KPKS	**Kokpek**	**16.23**	**302**	*e*P		**Pn**	**16 00 16.5**	**-3.8**
KPKS				*e*S		**Sn**	**16 03 16.9**	**-3.3**
KPKS				MLR	MLR			
	comp=Z,2μm,12.0s							
SATY	**Saty**	**16.29**	**300**	*e*P		**Pn**	**16 00 17.9**	**-3.3**
SATY				*e*S		**Sn**	**16 03 16.6**	**-5.2**
SATY				*e*LR	LR		16 06 30.3	
	comp=Z,796nm,10.5s							
SATY	**Saty**	**16.29**	**300**	*e*P		**Pn**	**16 00 17.9**	**-3.3**
SATY				*e*S		**Sn**	**16 03 16.5**	**-5.2**
SATY				MLR	MLR			
	comp=Z,796nm,11.0s							
ZHN	**Zhinishke**	**16.30**	**301**	*e*S		**Sn**	**16 03 16.2**	**-5.9**
TARG	**Taragay, Kyrgy**	**16.37**	**295**	Pn		**Pn**	**16 00 18.6**	**-3.9**
TARG				IAmb	IAmb		16 00 28.4	
	comp=Z,201nm,0.9s							
IRK	**Irkutsk**	**16.56**	**14**	*e*P		**P**	**16 00 25.7**	**-1.2**
IRK				*e*			16 03 30.2	
IRK				pmax	pmax			
	comp=Z,551nm,1.8s							
KDJ	**Kajisay**	**16.91**	**296**	P		**Pn**	**16 00 26.4**	**-2.7**
KDJ				pmax	pmax			
	comp=Z,307nm,1.1s							
KDJ	**Kajisay**	**16.91**	**296**			**Pn**	**16 00 26.4**	**-2.7**
KDJ				IAmb	IAmb		16 00 34.7	
	comp=Z,307nm,1.1s							
TDK	**Taldyqorghan**	**16.98**	**307**	*e*P		**Pn**	**16 00 26.1**	**-3.7**
	comp=Z,127nm,1.3s							
TDK				*e*S		**Sn**	**16 03 32.4**	**-6.1**
TDK				*e*LR	LR		16 06 37.5	
	comp=Z,2μm,10.7s							
TDK	**Taldyqorghan**	**16.98**	**307**	*e*P		**Pn**	**16 00 26.1**	**-3.7**
TDK				*e*S		**Sn**	**16 03 32.3**	**-6.1**
TDK				pmax	pmax			
	comp=Z,127nm,1.3s							
TDK				MLR	MLR			
	comp=Z,2μm,11.0s							
MDOK	**Medeo**	**17.27**	**300**	*e*P		**Pn**	**16 00 31.0**	**-2.7**
MDOK				*e*S		**Sn**	**16 03 43.6**	**-2.1**
MDOK				*e*LR	LR		16 07 00.3	
	comp=Z,2μm,12.3s							
MDOK	**Medeo**	**17.27**	**300**	*e*P		**Pn**	**16 00 30.9**	**-2.7**
MDOK				*e*S		**Sn**	**16 03 43.5**	**-2.1**
MDOK				MLR	MLR			
	comp=Z,2μm,12.0s							
TNSS	**Tian-Shan**	**17.31**	**299**	*e*P		**Pn**	**16 00 31.5**	**-2.9**
TNSS	**Tian-Shan**	**17.31**	**299**	*e*P		**Pn**	**16 00 31.4**	**-2.9**
AAA	**Alma-Ata**	**17.38**	**300**	*e*P		**Pn**	**16 00 32.4**	**-2.5**
AAA				*e*LR	LR		16 07 05.5	
	comp=Z,2μm,17.8s							
AAA	**Alma-Ata**	**17.38**	**300**	*e*P		**Pn**	**16 00 32.3**	**-2.5**
AAA				MLR	MLR			
	comp=Z,2μm,18.0s							
KSH	**Kashi**	**17.44**	**287**	P		**P**	**16 00 37.4**	**+0.5**
KSH				S		**S**	**16 03 59.9**	**+1.8**
KSH				pmax	pmax			
	comp=Z,120nm,1.3s							
KSH				pmax	pmax			
	comp=Z,360nm,4.4s							
KSH				LR	LR			
	comp=Z,4μm,7.6s							
KSH				LR	LR			
	comp=Z,4μm,11.5s							
DDI	**Dehra Dun**	**17.49**	**256**	*e*P		**Pn**	**16 00 34.1**	**-2.2**
DDI				IVmB_BB			16 00 36.0	
	comp=Z,639nm,0.2s							
CHTO	**Chiang Mai**	**17.50**	**176**	P		**P**	**16 00 37.7**	**+0.1**
CHTO				P		**P**	**16 00 37.7**	**+0.1**
CHTO	**Chiang Mai**	**17.50**	**176**	P		**Pn**	**16 00 36.6**	**+0.2**
CHTO				pmax	pmax			
	comp=Z,98nm,1.3s							
CHTO	**Chiang Mai**	**17.50**	**176**			**Pn**	**16 00 36.6**	**+0.2**
CHKK	**Chushkaly**	**17.52**	**302**	*e*P		**Pn**	**16 00 32.7**	**-3.9**
CHKK	**Chushkaly**	**17.52**	**302**	*e*P		**Pn**	**16 00 32.6**	**-3.9**
MTBS	**Maitube**	**17.70**	**299**	*e*P		**Pn**	**16 00 36.9**	**-2.

NJ2	**Nanjing**	**17.99**	**98**	*e*P		**Pn**	**16 00 42.5**	**+0.1**
NJ2				sP		**sP**	**16 00 49.2**	**-0.1**
NJ2				S		**Sn**	**16 04 01.0**	**-1.9**
NJ2				sS		**S**	**16 04 09.2**	**+0.1**
NJ2				SS		**SnSn**	**16 04 24.6**	**+8.2**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,300nm,4.1s							
NJ2				LR	LR			
	comp=Z,5μm,12.7s							
NJ2				LR	LR			
	comp=Z,10μm,13.3s							
NJ2				LR	LR			
	comp=Z,11μm,13.3s							
DHRM	**DHARAMSHALA**	**18.16**	**263**	*e*P		**Pn**	**16 00 43.0**	**-1.7**
DHRM				IVmB_BB			16 00 51.6	
	comp=Z,2μm,1.3s							
TKM2	**Tokmak 2**	**18.24**	**298**	P		**Pn**	**16 00 45.3**	**-0.3**
	SNR=68							
TKM2	**Tokmak 2**	**18.24**	**298**	P		**Pn**	**16 00 43.5**	**-2.1**
KBK	**Karagaybulak**	**18.64**	**297**	P		**Pn**	**16 00 51.3**	**+0.8**
	SNR=46							
CHMS	**Chumysh**	**18.86**	**298**	P		**Pn**	**16 00 53.5**	**+0.5**
	SNR=17							
UCH	**Uchtor**	**18.88**	**295**	P		**P**	**16 00 53.3**	**+0.3**
	SNR=86							
FRU1	**Bishkek**	**18.90**	**297**	P		**P**	**16 00 51.4**	**-1.6**
FRU1				pmax	pmax			
	comp=Z,78nm,0.9s							
FRU1	**Bishkek**	**18.90**	**297**	P		**P**	**16 00 51.4**	**-1.6**
GZH	**Guangzhou**	**18.91**	**130**	P		**P**	**16 00 50.4**	**-2.6**
GZH				S		**Sn**	**16 04 20.7**	**-4.4**
GZH				LR	LR			
	comp=Z,3μm,11.5s							
GZH				LR	LR			
	comp=Z,5μm,12.0s							
AAK	**Ala-Archa**	**18.97**	**296**	P		**Pn**	**16 00 55.3**	**+0.9**
	SNR=33							
AAK	**Ala-Archa**	**18.97**	**296**	*i* P		**Pn**	**16 00 55.4**	**+0.9**
	SNR=9.3							
AAK	**Ala-Archa**	**18.97**	**296**	P		**Pn**	**16 00 55.3**	**+0.9**
AAK				P		**Pn**	**16 00 55.3**	**+0.9**
AAK				S		**S**	**16 04 33.9**	**+4.9**
AAK				S		**S**	**16 04 33.9**	**+4.9**
AAK	**Ala-Archa**	**18.97**	**296**	P		**Pn**	**16 00 54.4**	**0.0**
SGDS	**Sogindy**	**19.05**	**299**	*e*P		**P**	**16 00 53.6**	**-1.0**
	comp=Z,132nm,2.9s							
SGDS				*e*S		**Sn**	**16 04 29.0**	**+0.5**
SGDS				*e*LR		LR	16 08 11.3	
	comp=Z,880nm,10.8s							
SGDS	**Sogindy**	**19.05**	**299**	*e*P		**P**	**16 00 53.5**	**-1.0**
SGDS				*e*S		**Sn**	**16 04 29.0**	**+0.5**
SGDS				pmax	pmax			
	comp=Z,132nm,2.9s							
SGDS				MLR	MLR			
	comp=Z,880nm,11.0s							
BWNR	**Bhubaneshwar**	**19.10**	**216**	*ex*		**P**	**16 00 51.1**	**-3.9**
BWNR				IVmB_BB			16 01 05.5	
	comp=Z,1μm,2.4s							
DL2	**Dalian**	**19.10**	**75**	P		**Pn**	**16 00 56.1**	**+0.3**
DL2				S		**S**	**16 04 33.1**	**+1.8**
DL2				pmax	pmax			
	comp=Z,68nm,1.3s							
DL2				pmax	pmax			
	comp=Z,820nm,4.9s							
DL2				LR	LR			
	comp=Z,2μm,15.7s							
DL2				LR	LR			
	comp=Z,4μm,14.9s							
DL2				LR	LR			
	comp=Z,5μm,15.5s							
USP	**Ospenovka**	**19.10**	**298**	P		**Pn**	**16 00 56.9**	**+1.0**
	SNR=66							
SONA	**Sohna**	**19.20**	**251**	*e*P		**P**	**16 00 56.5**	**+0.3**
SONA				IVmB_BB			16 00 57.9	
	comp=Z,290nm,0.4s							
CIT	**Chita**	**19.28**	**31**	*e*P		**Pn**	**16 01 00.4**	**+2.4**
CIT				pmax	pmax			
	comp=Z,145nm,1.9s							
AML	**Almayashu**	**19.46**	**295**	P		**Pn**	**16 01 01.7**	**+1.2**
	SNR=43							
EKS2	**Erkin-Say**	**19.49**	**296**	P		**Pn**	**16 01 01.4**	**+0.7**
	SNR=33							
KUDL	**Kundal**	**19.71**	**252**	*e*P		**P**	**16 01 00.3**	**-1.4**
KUDL				IVmB_BB			16 01 03.8	
	comp=Z,287nm,1.2s							
ZAA0	**Zalesovo Array**	**19.76**	**337**	P		**P**	**16 01 01.7**	**-0.4**
ZAA0				IAmb	IAmb		16 01 10.9	
	comp=Z,257nm,0.9s							
ZALV	**Zalesovo Beam**	**19.76**	**337**	P		**P**	**16 01 01.4**	**-0.6**
	comp=Z,6.2nm,0.3s,baz=147,slow=11,SNR=70							
ZALV				Lg	Lg		16 07 00.7	
	comp=Z,0.1nm,0.3s,baz=176,slow=23,SNR=2.0							
ZALV	**Zalesovo Beam**	**19.76**	**337**	*i* P		**P**	**16 01 02.2**	**+0.1**
ZALV				pmax	pmax			
	comp=Z,15nm,0.4s							
ZALV	**Zalesovo Beam**	**19.76**	**337**	P		**P**	**16 01 01.2**	**-0.9**
KURBB	**Kurchatov Arra**	**19.85**	**322**	P		**P**	**16 01 03.5**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=133,slow=11,SNR=261							
KURBB				S		**Sn**	**16 04 51.5**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=102,slow=26,SNR=1.6							
KURBB				Lg	Lg		16 07 07.3	
	baz=222,slow=35,SNR=1.6							
KURBB	**Kurchatov Arra**	**19.85**	**322**	P		**P**	**16 01 02.9**	**-0.3**
KURK	**Kurchatov**	**19.87**	**322**	P		**P**	**16 01 03.5**	**+0.2**
KURK				P		**P**	**16 01 03.5**	**+0.2**
KURK				S		**S**	**16 04 44.9**	**-1.7**
KURK				S		**S**	**16 04 44.9**	**-1.7**
KURK	**Kurchatov**	**19.87**	**322**	*ce*P		**P**	**16 01 03.3**	**0.0**
KURK				pmax	pmax			
	comp=Z,303nm,1.3s							
KURK	**Kurchatov**	**19.87**	**322**			**Sn**	**16 04 51.5**	**+3.5**
KURK	**Kurchatov**	**19.87**	**322**	P		**P**	**16 01 03.1**	**-0.2**
KURK				IAmb	IAmb		16 01 10.2	
	comp=Z,247nm,1.0s							
BTLS	**Baital**	**19.89**	**303** ⇑	*i* P		**P**	**16 01 03.9**	**+0.3**
	comp=Z,70nm,1.7s							
BTLS				*e*S		**S**	**16 04 44.4**	**-2.8**
BTLS				*e*LR		LR	16 08 43.9	
	comp=Z,653nm,11.8s							
BTLS	**Baital**	**19.89**	**303**	*c i* P		**P**	**16 01 03.9**	**+0.3**
BTLS				*e*S		**S**	**16 04 44.4**	**-2.8**
BTLS				pmax	pmax			
	comp=Z,70nm,1.7s							
BTLS				MLR	MLR			
	comp=Z,653nm,12.0s							
HKPS	**Hong Kong Po S**	**20.00**	**130**	P		**Pn**	**16 01 06.0**	**-0.7**
SSE	**Sheshan**	**20.19**	**98**	P		Pn	16 01 08.6	-0.3
SSE				S		**S**	**16 04 51.7**	**-1.6**
SSE				pmax	pmax			
	comp=Z,340nm,9.7s							
SSE				LR	LR			
	comp=Z,1μm,19.1s							
SSE				LR	LR			
	comp=Z,3μm,14.6s							
SSE				LR	LR			
	comp=Z,3μm,14.9s							
SSE	**Sheshan**	**20.19**	**98**			**P**	**16 01 06.0**	**-1.0**
SSE				IAmb	IAmb		16 01 20.4	
	comp=Z,331nm,1.9s							
JBP	**Jabalpur**	**20.20**	**234** ⇑	*i* P		**P**	**16 01 08.1**	**+1.0**
JBP				IVmB_BB			16 01 15.1	
	comp=Z,734nm,1.1s							
JBP				*e*S		Sn	16 04 55.3	-0.9
NIL	**Nilore**	**20.21**	**270**	P		**P**	**16 01 06.9**	**-0.4**
NIL				pmax	pmax			
	comp=Z,126nm,1.0s							
NIL	**Nilore**	**20.21**	**270**	P		**P**	**16 01 06.9**	**-0.4**
NIL				IAmb	IAmb		16 01 25.4	
	comp=Z,126nm,1.0s							
QIZ	**Qiongzhong**	**20.29**	**145**	P		Pn	16 01 09.2	-0.9
QIZ				S		Sn	16 04 58.7	+0.3
QIZ				pmax	pmax			
	comp=Z,27nm,1.1s							
QIZ				pmax	pmax			
	comp=Z,810nm,8.4s							
QIZ				LR	LR			
	comp=Z,3μm,13.2s							
QIZ				LR	LR			
	comp=Z,3μm,11.3s							
QIZ				LR	LR			
	comp=Z,4μm,12.4s							
QIZ	**Qiongzhong**	**20.29**	**145**	P		**P**	**16 01 08.5**	**+0.4**
HIA	**Hailar**	**20.59**	**44**	P		**P**	**16 01 10.2**	**-1.0**
HIA				pmax	pmax			
	comp=Z,116nm,1.3s							
HIA	**Hailar**	**20.59**	**44**			**P**	**16 01 10.2**	**-1.0**
QZH	**Quanzhou**	**21.20**	**117** ⇓	*i* P		**P**	**16 01 19.1**	**+1.1**
QZH				S		**S**	**16 05 13.2**	**-0.3**
QZH				LR	LR			
	comp=Z,1μm,11.4s							
QZH				LR	LR			
	comp=Z,2μm,14.2s							
QZH				LR	LR			
	comp=Z,3μm,13.5s							
SUJ	**Sinuiju**	**21.33**	**72**	P		**P**	**16 01 23.3**	**+4.0**
SUJ				S		Sn	16 05 29.7	+6.3
KNMB	**Chin-men Tao**	**21.35**	**118**	P		**P**	**16 01 19.9**	**+0.3**
KNMB				IAmb	IAmb		16 01 32.4	
	comp=Z,468nm,2.0s							
GAR	**Garm**	**21.82**	**285**	P		**P**	**16 01 24.8**	**+0.1**
BHPL	**Bhopal**	**21.87**	**239** ⇑	*i* P		**P**	**16 01 24.9**	**-0.4**
BHPL				IVmB_BB			16 01 31.7	
	comp=Z,3μm,1.6s							
KK31	**Karatay Array**	**21.93**	**296**	*i* P		**P**	**16 01 25.9**	**+0.2**
KK31	**Karatay Array**	**21.93**	**296**	P		**P**	**16 01 26.1**	**+0.3**
KK31				IAmb	IAmb		16 01 33.2	
	comp=Z,172nm,1.0s							
KKAR	**Karatay Array**	**21.93**	**296**	P		**P**	**16 01 26.1**	**+0.4**
KKAR	**Karatay Array**	**21.93**	**296**	P		**P**	**16 01 25.9**	**+0.2**
KKAR				IAmb	IAmb		16 01 33.2	
	comp=Z,172nm,1.0s							
KKAR	**Karatay Array**	**21.93**	**296**	P		**P**	**16 01 26.1**	**+0.4**
IUG	**luzhnay**	**22.16**	**294** ⇑	*i* P		**P**	**16 01 29.3**	**+1.0**
IUG				*e*S		Sn	16 05 40.5	-2.9
IUG				*e*LR		LR	16 10 28.1	
IUG	**luzhnay**	**22.16**	**294**	*c i* P		**P**	**16 01 29.3**	**+1.0**
NGP	**Nagpur**	**22.24**	**232**	*e*P		**P**	**16 01 28.6**	**-0.5**
NGP				IVmB_BB			16 01 40.0	
	comp=Z,1μm,1.5s							
NGP				*ex*		x	16 05 29.6	
PYAG	**Pyongyang**	**22.31**	**75**	P		P	16 01 38.7	+8.9
PYS	**Pyongsong**	**22.38**	**74**	P		P	16 01 39.8	+9.2
BRLS	**Borolday**	**22.41**	**296**	*e*S		Sn	16 05 43.3	-6.0
CN2	**Changchun**	**22.41**	**62**	*e*P		**P**	**16 01 31.6**	**+0.7**
CN2				*es*P		sP	16 01 38.6	+1.2
CN2				*e*S		**S**	**16 05 30.6**	**-6.1**
CN2				pmax	pmax			
	comp=Z,30nm,0.8s							
CN2				pmax	pmax			
	comp=Z,300nm,3.0s							
CN2				LR	LR			
	comp=Z,8μm,13.0s							
CN2				LR	LR			
	comp=Z,4μm,13.0s							
CN2				LR	LR			
	comp=Z,5μm,14.0s							
TAS	**Tashkent**	**22.64**	**291**	P		**P**	**16 01 34.1**	**+0.7**
TAS				pmax	pmax			
	comp=Z,174nm,1.0s							
TAS	**Tashkent**	**22.64**	**291**	P		**P**	**16 01 34.1**	**+0.7**
TAS				IAmb	IAmb		16 02 02.3	
	comp=Z,174nm,1.0s							
BRZS	**Berezniki**	**22.66**	**315** ⇑	*i* P		**P**	**16 01 33.5**	**0.0**
	comp=Z,137nm,1.7s							
BRZS				*e*LR		LR	16 10 36.6	
	comp=Z,832nm,11.2s							
BRZS	**Berezniki**	**22.66**	**315**	*c i* P		**P**	**16 01 33.4**	**0.0**
BRZS				pmax	pmax			
	comp=Z,137nm,1.7s							
BRZS				MLR	MLR			
	comp=Z,832nm,11.0s							
CHGR	**Chuyangaron**	**22.74**	**284**	P		**P**	**16 01 34.3**	**-0.2**
INCN	**Inchon**	**23.11**	**78**	P		**P**	**16 01 37.3**	**-1.0**
INCN				pmax	pmax			
	comp=Z,54nm,1.0s							
INCN	**Inchon**	**23.11**	**78**	P		**P**	**16 01 37.3**	**-1.0**
KBL	**Kabul**	**23.40**	**274**	P		**P**	**16 01 42.5**	**+1.1**
	SNR=66							
KBL				P		**P**	**16 01 42.5**	**+1.1**
	SNR=66							
KBL	**Kabul**	**23.40**	**274**	P		**P**	**16 01 42.0**	**+0.5**
KBL				pmax	pmax			
	comp=Z,81nm,1.0s							
KBL	**Kabul**	**23.40**	**274**	P		**P**	**16 01 42.0**	**+0.5**
KBL				IAmb	IAmb		16 01 56.2	
	comp=Z,81nm,0.9s							
YHNB	**Yeheng**	**23.40**	**113**	P		**P**	**16 01 40.7**	**-0.7**
DGPR	**DIGLIPUR**	**23.47**	**192**	*e*P		**P**	**16 01 38.9**	**-3.0**
DGPR				IVmB_BB			16 01 50.7	
	comp=Z,2μm,1.1s							
SSLB	**Suanglung**	**23.61**	**116**	P		**P**	**16 01 43.0**	**-0.4**
HHU	**Hamhung**	**23.66**	**72**	P		**P**	**16 01 47.7**	**+4.0**
HHU				S		**S**	**16 05 54.6**	**-3.5**
TPUB	**Ta-pu**	**23.68**	**117**	P		**P**	**16 01 44.9**	**+0.9**
TPUB				IAmb	IAmb		16 02 02.0	
	comp=Z,249nm,1.8s							
TJN	**Taejon**	**23.83**	**81**	*i* P		**P**	**16 01 44.5**	**-0.9**
NACB	**Ninganchiao**	**23.85**	**114**	P		**P**	**16 01 45.9**	**+0.2**
NACB				IAmb	IAmb		16 01 54.5	
	comp=Z,171nm,1.6s							
BOD	**Bodaibo**	**24.05**	**22**	*e*P		**P**	**16 01 46.8**	**-0.4**
BOD				pmax	pmax			
	comp=Z,100nm,1.4s							
KS19	**Wonju Array Si**	**24.08**	**78**	P		**P**	**16 01 46.8**	**-1.0**
KS19				IAmb	IAmb		16 01 57.0	
	comp=Z,92nm,0.8s							
KSAR	**Wonju Array Be**	**24.10**	**78**	P		**P**	**16 01 47.2**	**-0.7**
KSAR	**Wonju Array Be**	**24.10**	**78**	P		**P**	**16 01 47.2**	**-0.7**
YULB	**Yu-li**	**24.10**	**116**	P		**P**	**16 01 47.2**	**-0.9**
YULB				IAmb	IAmb		16 02 01.8	
	comp=Z,131nm,1.5s							
KSRS	**Korea Array**	**24.13**	**78**	P		**P**	**16 01 47.4**	**-0.8**
	comp=Z,33nm,0.9s,baz=269,slow=8.6,SNR=89							
TWG	**Pinlang**	**24.29**	**117**	P		**P**	**16 01 47.7**	**-2.1**
TWG				IAmb	IAmb		16 01 57.7	
	comp=Z,104nm,1.1s							
YOJ	**Yonaguni jima**	**24.74**	**112**	P		**P**	**16 01 53.1**	**-0.8**
YOJ				pmax	pmax			
	comp=Z,212nm,1.2s							
YOJ	**Yonaguni jima**	**24.74**	**112**	P		**P**	**16 01 53.0**	**-0.8**
PBA	**Port Blair**	**24.99**	**192**	*e*P		P	16 01 56.8	+0.7
PBA				IVmB_BB			16 02 06.5	
	comp=Z,2μm,2.0s							
PBA	**Port Blair**	**24.99**	**192**	P		P	16 01 58.1	+2.0
	SNR=14							
PBA	**Port Blair**	**24.99**	**192**	P		P	16 01 54.6	-1.5
HYB	**Hyderabad**	**25.36**	**227**	*i* P		**P**	**16 02 00.0**	**+0.4**
BVAR	**Borovoye Array**	**25.38**	**320**	P		**P**	**16 01 59.6**	**+0.2**
	comp=Z,27nm,0.9s,baz=139,slow=24,SNR=73							
BRVK	**Borovoye**	**25.45**	**320**	P		**P**	**16 01 58.4**	**-1.6**
BRVK	**Borovoye**	**25.45**	**320**	P		**P**	**16 01 59.7**	**-0.3**
MDJ	**Mudanjiang**	**25.48**	**61**	P		**P**	**16 02 00.6**	**+0.2**
MDJ				pP		pP	16 02 03.4	-1.8
MDJ				S		**S**	**16 06 30.2**	**+2.9**
MDJ				sS		pS	16 06 33.2	+0.9
MDJ				pmax	pmax			
	comp=Z,15nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,440nm,4.1s							
MDJ				LR	LR			
	comp=Z,9μm,16.4s							
MDJ				LR	LR			
	comp=Z,2μm,12.8s							
MDJ				LR	LR			
	comp=Z,7μm,17.8s							
MDJ	**Mudanjiang**	**25.48**	**61**	P		**P**	**16 02 00.6**	**+0.2**
MDJ				IAmb	IAmb		16 02 07.4	
	comp=Z,91nm,1.5s							
DLV	**T Lat**	**26.17**	**156**	P		**P**	**16 02 06.4**	**-0.6**
ZEA	**Zeya**	**26.88**	**40**	*e*P		**P**	**16 02 13.0**	**+0.1**
ZEA				*e*			16 03 14.9	
ZEA				*e*S		**S**	**16 06 50.4**	**+1.3**
ZEA				pmax	pmax			
	comp=Z,100nm,2.3s							
ZEA				pmax	pmax			
	comp=E,20nm,1.3s							
ZEA				pmax	pmax			
	comp=Z,30nm,1.1s							
ZEA				smax	smax			
	comp=E,200nm,6.8s							
ZEA				MLR	MLR			
	comp=E,2μm,10.0s							
ZEA				MLR	MLR			
	comp=Z,4μm,10.0s							
ZEA				MLR	MLR			
	comp=N,2μm,11.0s							
USA0B	**Ussuriysk Arra**	**27.15**	**63**	*i* P		**P**	**16 02 15.2**	**-0.2**
USA0B	**Ussuriysk Arra**	**27.15**	**63**	P		**P**	**16 02 16.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**27.15**	**63**	P		**P**	**16 02 16.5**	**+1.0**
	comp=N,4.6nm,0.8s,baz=27,slow=23,SNR=5.2							
USRK				LR		LR	16 14 14.6	
	comp=N,3μm,18.8s,baz=257,slow=39							
JNU	**Nakatsue**	**27.36**	**87**	LR		LR	16 13 44.3	
	comp=N,1μm,20.4s,baz=292,slow=38							
JNU	**Nakatsue**	**27.36**	**87**	P		**P**	**16 02 16.6**	**-1.0**
JSU	**Suzuyama**	**27.51**	**91**	P		**P**	**16 02 16.6**	**-2.3**
JSU				IAmb	IAmb		16 02 26.2	
	comp=Z,177nm,1.8s							
POO	**Poona**	**27.52**	**236**	*e*P		**P**	**16 02 18.9**	**-0.1**
POO				IVmB_BB			16 02 20.3	
	comp=Z,279nm,0.6s							
JHS	**Saijyo**	**28.69**	**82**	P		**P**	**16 02 27.9**	**-1.5**
HRA	**Herat**	**28.90**	**277**	P		**P**	**16 02 31.8**	**+0.3**
AB31	**Akbulak array**	**30.25**	**307**	*i* P		**P**	**16 02 43.4**	**+0.4**
ABKAR	**Akbulak array**	**30.25**	**307**	P		**P**	**16 02 43.3**	**+0.3**
ABKAR	**Akbulak array**	**30.25**	**307**	P		**P**	**16 02 42.9**	**-0.1**
ABKAR				IAmb	IAmb		16 02 51.9	
	comp=Z,22nm,0.8s							
JWT	**Wachi**	**30.45**	**81**	P		**P**	**16 02 44.3**	**-0.7**
TEY	**Ternei**	**30.49**	**61**	*e*P		**P**	**16 02 44.8**	**-0.4**
TEY				*e*			16 02 49.7	
LHMI	**Lhok Sumawe**	**30.98**	**181**	P		**P**	**16 02 48.1**	**-1.6**
LHMI				IAmb	IAmb		16 03 17.3	
	comp=Z,53nm,1.2s							
KULM	**Kulim**	**31.02**	**174**	P		**P**	**16 02 50.4**	**+0.3**
KULM	**Kulim**	**31.02**	**174**	P		**P**	**16 02 51.0**	**+0.9**
GRNR	**Gornyy**	**31.14**	**50** ⇑	*i* P		**P**	**16 02 50.4**	**-0.4**
GRNR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
GRNR				MLR	MLR			
	comp=N,730nm,12.0s							
GRNR				MLR	MLR			
	comp=E,1μm,12.0s							
GRNR				MLR	MLR			
	comp=Z,2μm,12.0s							
GEYT	**Alibeck**	**31.45**	**285**	P		**P**	**16 02 54.9**	**+1.1**
	comp=Z,30nm,1.1s,baz=77,slow=6.4,SNR=36							
GEYT				LR	LR		16 19 04.7	
	comp=Z,2μm,18.3s,baz=70,slow=43							
GEYT	**Alibeck**	**31.45**	**285**	P		**P**	**16 02 54.0**	**+0.2**
GYA0	**ALIBECK ARRAY**	**31.45**	**285**	P		**P**	**16 02 55.0**	**+1.2**
GYA0B	**ALIBECK ARRAY**	**31.45**	**285**	P		**P**	**16 02 54.1**	**+0.3**
GYA0B				IAmb	IAmb		16 02 57.6	
	comp=Z,70nm,1.2s							
AKTO	**Aktyubinsk**	**31.70**	**309**	P		**P**	**16 02 56.8**	**+1.0**
	comp=Z,16nm,0.9s,baz=98,slow=9.2,SNR=38							
INU	**Inuyama**	**31.72**	**80**	P		**P**	**16 02 56.9**	**+0.8**
IPM	**Ipoh**	**31.86**	**174**	P		**P**	**16 02 56.3**	**-1.1**
IPM				IAmb	IAmb		16 03 04.1	
	comp=Z,65nm,2.0s							
IPM	**Ipoh**	**31.86**	**174**	P		**P**	**16 02 57.0**	**-0.5**
JGF	**Kuroka**	**31.93**	**79**	P		**P**	**16 02 56.4**	**-1.7**
SVE	**Sverdlovsk**	**32.12**	**321**	*de*P		**P**	**16 03 00.2**	**+0.8**
SVE				pmax	pmax			
	comp=Z,140nm,1.3s							
SVE				MLR	MLR			
	comp=Z,1μm,13.0s							
JSD	**Sado**	**32.16**	**75**	P		**P**	**16 02 57.0**	**-3.0**
JSD				IAmb	IAmb		16 03 05.3	
	comp=Z,58nm,1.5s							
MJB9	**Matsu-Tunnel**	**32.40**	**77**	P		**P**	**16 03 04.8**	**+2.7**
MAJO	**Matsushiro**	**32.40**	**77**	*i* P		**P**	**16 03 00.7**	**-1.4**
MAJO				pmax	pmax			
	comp=Z,13nm,1.0s							
MAJO	**Matsushiro**	**32.40**	**77**	P		**P**	**16 03 02.2**	**+0.1**
MAT	**Matsushiro**	**32.40**	**77**	P		**P**	**16 03 04.8**	**+2.7**
MAT				S		**S**	**16 08 18.0**	**+1.8**
MJAR	**Matsushiro Arr**	**32.40**	**77**	P		**P**	**16 03 03.6**	**+1.4**
	comp=Z,5.8nm,0.9s,baz=288,slow=10,SNR=8.8							
MJAR				PcP		**PcP**	**16 05 48.3**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=300,slow=2.5,SNR=4.3							
MJAR				LR	LR		16 17 06.0	
	comp=Z,1μm,18.2s,baz=280,slow=38							
MJAR	**Matsushiro Arr**	**32.40**	**77**	P		**P**	**16 03 01.1**	**-1.1**
YAK	**Yakutsk**	**32.51**	**28**	*e*P		**P**	**16 03 05.8**	**+3.1**
YAK				*e**PP		**sP**	**16 03 15.8**	**+6.4**
YAK				*e*			16 04 09.8	
YAK				*e*PPP		PPP	16 04 22.7	
YAK				*e*			16 05 53.1	
YAK				*e*S		**S**	**16 08 17.1**	**-0.1**
YAK				*e*SSS		SSS	16 10 29.0	
YAK				pmax	pmax			
	comp=Z,28nm,0.8s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,11nm,0.9s							
YAK				pmax	pmax			
	comp=Z,34nm,1.6s							
YAK				pmax	pmax			
	comp=N,44nm,2.0s							
YAK				pmax	pmax			
	comp=E,54nm,1.7s							
YAK				smax	smax			
	comp=N,54nm,2.1s							
YAK				smax	smax			
	comp=E,14nm,2.0s							
YAK				MLR	MLR			
	comp=Z,3μm,14.0s							
YAK				MLR	MLR			
	comp=N,2μm,14.0s							
YAK				MLR	MLR			
	comp=E,2μm,15.0s							
YAK	**Yakutsk**	**32.51**	**28**	P		**P**	**16 03 01.5**	**-1.2**
JSG	**Sagara**	**32.82**	**81**	P		**P**	**16 03 05.8**	**0.0**
PALK	**Pallekele**	**32.85**	**212**	P		**P**	**16 03 06.5**	**+0.2**
PALK				pmax	pmax			
	comp=Z,22nm,1.0s							
PALK	**Pallekele**	**32.85**	**212**	P		**P**	**16 03 06.5**	**+0.2**
ARU	**Arti**	**33.03**	**320**	P		**P**	**16 03 07.7**	**+0.3**
	comp=Z,10.0nm,0.5s,baz=116,slow=5.4,SNR=48							
ARU	**Arti**	**33.03**	**320**	*c i* P		**P**	**16 03 07.9**	**+0.6**
ARU							16 04 16.3	
ARU				S		**S**	**16 08 29.8**	**+4.4**
ARU				SS		**SnSn**	**16 10 29.8**	**+6.4**
ARU				pmax	pmax			
	comp=Z,111nm,1.1s							
ARU				MLR	MLR			
	comp=Z,1μm,13.0s							
ARU	**Arti**	**33.03**	**320**	P		**P**	**16 03 07.4**	**0.0**
PSI	**Prapat**	**33.40**	**178**	LR		LR	16 17 13.9	
	comp=Z,612nm,19.5s,baz=272,slow=37							
PSI	**Prapat**	**33.40**	**178**	P		**P**	**16 03 11.3**	**+0.2**
PSI				pmax	pmax			
	comp=Z,14nm,1.2s							
RPSI	**Rantau Prapat**	**33.50**	**178**	P		**P**	**16 03 11.3**	**-0.5**
NRIK	**Noril'sk**	**33.52**	**353**	P		**P**	**16 03 11.0**	**-0.

comp=Z,16nm,1.4s
TYV smax smax
comp=N,14nm,1.9s
TYV smax smax
comp=E,600nm,8.7s
TYV MLR MLR
comp=E,4μm,12.0s
TYV MLR MLR
comp=Z,4μm,12.0s
ERM Erimo 35.35 67 *i* P **P 16 03 26.4 -1.2**
ERM pmax pmax
comp=Z,19nm,1.2s
JEM Erimo 35.35 67 P **P 16 03 23.1 -4.5**
JEM IAmb IAmb 16 04 07.6
comp=Z,54nm,1.3s
BKNI Bangkinang 35.97 174 P **P 16 03 34.3 +1.1**
JLN Jalan Bani Buh 36.05 258 P **P 16 03 35.3 +1.4**
JLN P **P 16 03 35.3 +1.4**
WSAR Wadi Sarin 36.11 260 P **P 16 03 36.0 +1.5**
comp=Z,35nm,0.9s,baz=73,slow=5.8,SNR=19
WSAR Wadi Sarin 36.11 260 P **P 16 03 36.6 +2.2**
SNR=10
WBK Wadi Bani Khal 36.16 259 P **P 16 03 36.7 +1.8**
WBK P **P 16 03 36.7 +1.8**
SBUM Sibu 36.30 155 P **P 16 03 36.8 +0.8**
SBUM Sibu 36.30 155 P **P 16 03 38.0 +2.0**
BIDO Bidbid 36.37 261 P **P 16 03 38.3 +1.6**
SNR=7.6
MYLDM Lahad Datu 36.42 143 P **P 16 03 38.3 +1.3**
MYLDM IAmb IAmb 16 03 46.8
comp=Z,89nm,1.0s
KSM Kuching 36.61 159 P **P 16 03 38.6 0.0**
KSM Kuching 36.61 159 P **P 16 03 40.0 +1.4**
SMDO Samad 36.66 260 P **P 16 03 41.3 +2.1**
SNR=9.0
SMDO P **P 16 03 41.3 +2.1**
SNR=9.0
BANOM Banah 36.70 265 P **P 16 03 41.6 +2.1**
BANOM Banah 36.70 265 P **P 16 03 41.7 +2.3**
BANOM P **P 16 03 41.7 +2.3**
SHME Shamm 36.77 266 *i* P **P 16 03 42.0 +1.9**
SNR=7.5
MDH Madha 36.99 265 P **P 16 03 43.0 +1.2**
MSFE Esma-Masafi 37.07 265 *i* P **P 16 03 45.0 +2.4**
SNR=9.1
YUK Yuzh-Kuril'sk 37.13 63 *e*P **P 16 03 39.9 -2.9**
YUK *i* S **S 16 09 28.4 -0.3**
YUK pmax pmax
comp=Z,121nm,1.0s
YUK pmax pmax
comp=E,38nm,0.6s
YUK MLR MLR
comp=E,1μm,17.0s
YUK MLR MLR
comp=Z,1μm,17.0s
YUK MLR MLR
comp=N,1μm,16.0s
UOSS Minazif 37.23 264 P **P 16 03 45.4 +1.5**
UOSS Minazif 37.23 264 P **P 16 03 44.2 +0.3**
SOHO SOHO 37.34 263 *i* P **P 16 03 47.0 +2.1**
SNR=6.7
ASHO Ashiyiah 37.47 264 *i* P **P 16 03 48.5 +2.5**
SNR=15
ASHO Ashiyiah 37.47 264 P **P 16 03 49.0 +3.0**
SNR=6.9
ASHO P **P 16 03 49.0 +3.0**
SNR=6.9
BSY Bisya 37.50 260 P **P 16 03 48.7 +2.5**
SNR=10
BSY P **P 16 03 48.7 +2.5**
SNR=10
NAZ Nazwa, Dubai 37.64 265 *i* P **P 16 03 49.9 +2.5**
SNR=7.3
NAZ Nazwa, Dubai 37.64 265 P **P 16 03 50.1 +2.7**
SNR=7.4
NAZ P **P 16 03 50.1 +2.7**
SNR=7.4
ARQ Araqi 37.74 262 P **P 16 03 51.0 +2.7**
SNR=9.9
ARQ P **P 16 03 51.0 +2.7**
SNR=9.9
MHTO MHTO 37.80 257 P **P 16 03 50.4 +1.6**
SNR=12
MHTO P **P 16 03 50.4 +1.6**
SNR=12
FAQ Al Faqa, Dubai 37.81 264 P **P 16 03 51.8 +3.0**
KIRV Kirov 38.38 321 P **P 16 03 53.6 +0.5**
comp=N,29nm,0.4s,baz=130,slow=2.2,SNR=19
AJN Ajban 38.38 264 P **P 16 03 55.2 +1.6**
BELG Belogornoye 38.40 311*c i*P **P 16 03 53.5 0.0**
KUR Kuril'sk 38.45 61 *i* P **P 16 03 52.8 -1.2**
KUR pmax pmax
comp=Z,134nm,1.1s
LKRN Lenkeran, Azer 38.52 289 P **P 16 03 56.3 +1.6**
JCJ Chichijima 38.65 91 LR LR 16 20 39.6
comp=Z,682nm,18.2s,baz=128,slow=38
DQM DQM 38.72 256 P **P 16 03 58.1 +1.6**
SNR=8.4
DQM P **P 16 03 58.1 +1.6**
SNR=8.4
TIXI Tiksi 38.87 15 *i* P **P 16 03 54.9 -2.2**
TIXI pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 38.87 15 P **P 16 03 55.0 -2.2**
TIXI IAmb IAmb 16 04 02.1
comp=Z,102nm,1.0s
TIXI PP **PP 16 05 26.1 +0.1**
PPBI Pangkal Pinang 39.11 167 P P 16 04 06.3 +6.6
SEKA Sheki 39.24 293 P **P 16 04 01.5 +0.7**
MNGR Mingechevir, A 39.40 292 P **P 16 04 03.5 +1.5**
LGD Lagodekhi 39.84 294 P **P 16 04 08.0 +2.3**
GANJ Ganja 39.99 292 P **P 16 04 08.4 +1.4**
NAX Nakhchivan 40.92 290 P **P 16 04 16.2 +1.4**
PRGR Permogore 40.95 325 *e*P **P 16 04 14.1 -0.4**
PRGR *e* 16 05 50.5
PRGR pmax pmax
comp=Z,78nm,1.0s
MA2 Magadan 40.98 38 *i* P **P 16 04 15.4 +0.5**
MA2 pmax pmax
comp=Z,49nm,1.4s
KZRT Kazreti 41.28 294 P **P 16 04 19.5 +1.8**
SHAO Shalim 41.28 255 *i* P **P 16 04 19.5 +1.7**
SNR=6.3
ZEI Tsey 41.39 296 *e*P **P 16 04 19.0 +0.3**
ZEI pmax pmax
comp=Z,23nm,1.4s
GOF Gofitskoye 41.66 300⇑ *e*P **P 16 04 22.7 +2.0**
GOF pmax pmax
comp=Z,66nm,1.0s
ONI Oni 41.75 296 P **P 16 04 24.1 +2.6**
AKH Akhalkalaki 41.94 294 ⇓P **P 16 04 26.0 +2.7**
AKH Akhalkalaki 41.94 294 P **P 16 04 24.7 +1.5**
AKH 16 06 01.5
AKH pmax pmax
comp=Z,106nm,1.3s
AKH Akhalkalaki 41.94 294 P **P 16 04 24.7 +1.5**
AKH IAmb IAmb 16 04 27.2
comp=Z,106nm,1.3s
AKH PP **PP 16 06 01.5 +1.4**
KBZ Khabaz 41.96 298 P **P 16 04 24.1 +0.9**
comp=Z,9.8nm,1.0s,baz=74,slow=6.5,SNR=20
KBZ LR LR 16 24 40.4
comp=Z,2μm,18.3s,baz=74,slow=40
KBZ Khabaz 41.96 298*ce*P **P 16 04 24.0 +0.9**
KBZ pmax pmax
comp=Z,17nm,1.1s
DMTO DMTO 41.98 255 P **P 16 04 25.3 +1.7**
SNR=5.0
VRH Novokhopyorsk 42.04 309 *e*P **P 16 04 23.6 0.0**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,950nm,8.0s
KVAR Kislovodsk Arr 42.07 298 LR LR 16 24 39.8
comp=Z,1μm,18.2s,baz=207,slow=40
KIV Kislovodsk 42.07 298⇑P **P 16 04 26.1 +1.9**
KIV Kislovodsk 42.07 298 *i* P **P 16 04 26.4 +2.2**
SNR=6.9
KIV Kislovodsk 42.07 298 P **P 16 04 26.0 +1.8**
KIV Kislovodsk 42.07 298 *e*P **P 16 04 24.9 +0.7**
KIV pmax pmax
comp=Z,119nm,1.1s
KIV MLR MLR
comp=Z,4μm,16.0s
KIV Kislovodsk 42.07 298 P **P 16 04 24.8 +0.6**
KIV IAmb IAmb 16 04 34.6
comp=Z,80nm,1.4s
SHA1 Shidzhatmaz 42.13 298*c i*P **P 16 04 25.9 +1.1**
SEY Seymchan 42.41 34 *i* P **P 16 04 26.4 -0.1**
KARS Kars 42.41 293 P **P 16 04 30.3 +3.3**
GTOI Gorontalo 42.57 141 P **P 16 04 33.0 +4.7**
RBK Rabkut 42.69 256 P **P 16 04 30.1 +0.8**
SNR=6.3
CHVG Ch'k'valeri 42.72 296 P **P 16 04 31.4 +2.1**
WHFO Wadi Hawf 42.79 257 P **P 16 04 31.1 +0.9**
SNR=17
GEVA Gevas 42.98 290 P **P 16 04 31.9 +0.2**
GEVA PcP **PcP 16 06 20.4 -1.7**
ARTV Artvin 43.14 294 P **P 16 04 34.5 +1.5**
BATM Batumi 43.23 295⇑P **P 16 04 35.6 +2.1**
BATM Batumi 43.23 295 P **P 16 04 35.6 +2.1**
BCA Borcka 43.31 295⇑P **P 16 04 35.8 +1.6**
ABTO Aybut 43.48 256 P **P 16 04 36.6 +0.7**
SNR=9.2
ABTO P **P 16 04 36.6 +0.7**
SNR=9.2
VORR Voronezh 43.59 310 *e*P **P 16 04 35.0 -1.2**
VORR pmax pmax
comp=Z,350nm,1.4s
VSR Storozhevoye 43.64 309 *e*P **P 16 04 36.8 +0.1**
VSR pmax pmax
comp=Z,50nm,0.8s
VSR MLR MLR
comp=Z,880nm,11.0s
KLMR Klimovskoe 43.71 323 *e*P **P 16 04 34.9 -2.1**
KLMR *e* 16 06 22.6
KLMR pmax pmax
comp=Z,115nm,0.8s
KLMR Klimovskoe 43.71 323 *e*P **P 16 04 35.0 -2.1**
KLMR AMP 16 04 45.2
comp=Z,115nm,0.8s
KLMR *e*PcP **PcP 16 06 22.7 -1.1**
KLMR LQ LQ 16 19 48.5
KLMR LQ LQ 16 19 48.5
KLMR LR LR 16 22 35.4
LPSR Galich'ya Gora 43.72 311 *e*P **P 16 04 37.7 +0.5**
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR MLR MLR
comp=Z,3μm,14.0s
SOC Sochi 44.26 298 *e*P **P 16 04 42.3 +0.6**
SOC *e*PPP PPP 16 07 00.3
SOC *e*S **S 16 11 17.5 +2.5**
SOC *e*SS **SS 16 14 30.8 -2.2**
SOC *e*SSS SSS 16 15 16.5
SOC pmax pmax
comp=Z,22nm,1.0s
SOC MLR MLR
comp=Z,2μm,19.0s
PETK Petropavlovsk- 44.41 48 P **P 16 04 45.0 +2.2**
PETK Petropavlovsk- 44.41 48 P **P 16 04 45.0 +2.2**
MOS Moscow 44.42 316 *e*P **P 16 04 41.8 -1.0**
MOS *e* 16 04 47.0
MOS *e* 16 06 23.5
MOS pmax pmax
comp=Z,200nm,1.4s
MOS pmax pmax
comp=Z,180nm,1.4s
MOS MLR MLR
comp=E,1μm,16.0s
MOS MLR MLR
comp=Z,2μm,16.0s
KOPT Kop Dagi 44.47 293 P **P 16 04 44.4 +0.6**
KPJI Karang Pucung 44.71 164 P P 16 04 52.8 +7.3
KTUT Trabzon 44.78 294⇑P **P 16 04 47.7 +1.8**
MARD Mardin 44.98 289 P **P 16 04 48.7 +1.0**
MARD IAmb IAmb 16 04 50.7
comp=Z,71nm,1.3s
OBN Obninsk 45.03 315 P **P 16 04 47.5 -0.1**
comp=Z,4.3nm,0.4s,baz=80,slow=4.9,SNR=16
OBN LR LR 16 24 47.1
comp=Z,698nm,18.3s,baz=83,slow=38
OBN Obninsk 45.03 315*c i*P **P 16 04 47.6 -0.1**
OBN *e**SP **pP 16 04 53.2 +0.6**
OBN *i* 16 06 28.8
OBN SS SS 16 14 44.0 -3.4
OBN pmax pmax
comp=Z,87nm,1.3s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 45.03 315 P **P 16 04 48.0 +0.3**
SPSI Sidrap Palu 45.09 148 P P 16 04 54.7 +6.1
ANN Anapa 45.63 300 *e*P **P 16 04 52.8 +0.2**
ANN *e**PP **pP 16 04 54.7 -2.8**
ANN *e*S **S 16 11 36.0 +1.1**
ANN pmax pmax
comp=Z,74nm,1.1s
ANN MLR MLR
comp=N,3μm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
KAPI Kappang 46.03 149 P **P 16 04 55.5 -0.5**
comp=Z,4.5nm,0.3s,baz=299,slow=13,SNR=3.6
KAPI Kappang 46.03 149 P **P 16 04 55.3 -0.7**
KAPI pmax pmax
comp=Z,27nm,1.1s
KAPI Kappang 46.03 149 P **P 16 04 55.3 -0.7**
SOCY Socotra 46.04 250 P **P 16 04 53.8 -2.5**
SOCY IAmb IAmb 16 04 56.3
comp=Z,48nm,1.3s
MALT Malatya 46.48 291 P **P 16 05 01.8 +2.2**
LVZ Lovozero 46.80 332 P **P 16 05 01.7 +0.1**
LVZ pmax pmax
comp=Z,82nm,1.2s
LVZ Lovozero 46.80 332 P **P 16 05 01.6 +0.1**
APA Apatity 47.22 332⇑ *i*P **P 16 05 06.4 +1.6**
APA pmax pmax
comp=Z,10.0nm,1.1s
GAZ Gaziantep 47.74 290 P **P 16 05 09.1 -0.3**
GAZ IAmb IAmb 16 05 12.5
comp=Z,74nm,1.4s
GUMO Guam 47.80 106 LR LR 16 27 14.4
comp=Z,251nm,18.1s,baz=298,slow=39
COCO West Island 48.28 181 P **P 16 05 13.8 +0.3**
COCO pmax pmax
comp=Z,88nm,1.0s
COCO West Island 48.28 181 P **P 16 05 13.8 +0.3**
SIJI Sorong 48.40 132 LR LR 16 28 17.2
comp=Z,160nm,18.4s,baz=48,slow=39
BILL Bilibino 48.87 28*c i*P **P 16 05 17.3 -0.2**
BILL *PP **pP 16 05 20.0 -2.5**
BILL *i* *SP **sP 16 05 21.9 -2.5**
BILL pmax pmax
comp=Z,11nm,0.8s
BILL MLR MLR
comp=Z,2μm,17.0s
BILL Bilibino 48.87 28 P **P 16 05 16.9 -0.6**
BILL IAmb IAmb 16 05 24.0
comp=Z,78nm,1.2s
ILGA Ilgaz 49.18 296 P **P 16 05 20.3 -0.3**
BR131 Keskin Array S 49.63 294 P **P 16 05 25.0 +1.0**
SNR=9.3
BR131 Keskin Array S 49.63 294*c i*P **P 16 05 24.4 +0.5**
BR131 Keskin Array S 49.63 294 P **P 16 05 23.6 -0.3**
BRTR Keskin Array B 49.63 294 P **P 16 05 24.8 +0.8**
comp=Z,7.6nm,0.8s,baz=102,slow=7.2,SNR=38
BRTR LR LR 16 30 07.2
comp=Z,360nm,19.6s,baz=64,slow=41
BRTR Keskin Array B 49.63 294 P **P 16 05 23.6 -0.3**
ASF Jabal al Asfar 49.73 284 LR LR 16 32 25.8
comp=Z,324nm,18.6s,baz=44,slow=43
KEV Kevo 49.76 335 P **P 16 05 25.3 +1.0**
KEV pmax pmax
comp=Z,46nm,1.2s
KEV Kevo 49.76 335 P **P 16 05 25.3 +1.0**
KEV IAmb IAmb 16 05 30.7
comp=Z,46nm,1.2s
AKASG Malin Array Be 49.94 309 P **P 16 05 26.0 +0.1**
comp=Z,3.3nm,0.4s,baz=68,slow=7.2,SNR=41
AKASG LR LR 16 26 47.4
comp=Z,468nm,18.6s,baz=85,slow=36
AKASG Malin Array Be 49.94 309 P **P 16 05 25.6 -0.4**
AKBB Malin Array Si 49.94 309 P **P 16 05 25.6 -0.4**
AKBB pmax pmax
comp=Z,93nm,1.7s
AKBB Malin Array Si 49.94 309 P **P 16 05 25.6 -0.4**
AKBB IAmb IAmb 16 05 27.3
comp=Z,93nm,1.6s
BHL Bhannes 50.05 287 *e*P **P 16 05 28.5 +1.3**
MICGM Minsk 50.09 314 *e* **P 16 05 28.0 +1.0**
MNK Minsk 50.09 314 *e*P **P 16 05 28.0 +1.0**
SHBL Chebaa 50.18 286 *e*P **P 16 05 29.9 +1.7**
VSU Vasula 50.19 320 *e*P **P 16 05 28.4 +0.7**
VSU Vasula 50.19 320*c i*P **P 16 05 27.7 0.0**
VSU pmax pmax
comp=Z,89nm,1.1s
BR231 Keskin MP Arra 50.22 295 P **P 16 05 28.2 -0.2**
FIA1 FINESS Array S 50.23 324 P **P 16 05 28.0 0.0**
FIA1 IAmb IAmb 16 05 35.2
comp=Z,46nm,0.9s
FINES FINESS Array B 50.23 324 P **P 16 05 28.2 +0.2**
comp=Z,9.0nm,0.5s,baz=94,slow=7.8,SNR=74
FINES LR LR 16 27 45.5
comp=Z,959nm,20.6s,baz=80,slow=37
FINES FINESS Array B 50.23 324 P **P 16 05 27.9 -0.2**
ARCES ARCESS Array B 50.27 334 P **P 16 05 28.2 0.0**
comp=Z,2.6nm,0.4s,baz=80,slow=7.8,SNR=50
ARCES PcP **PcP 16 06 45.8 -1.1**
comp=Z,8.2nm,0.8s,baz=99,slow=3.1,SNR=6.0
ARCES LR LR 16 26 48.9
comp=Z,553nm,18.9s,baz=80,slow=36
MMRI Maumere 50.33 148 P **P 16 05 28.4 -0.8**
MMRI IAmb IAmb 16 05 53.5
comp=Z,95nm,1.4s
MMAI Mount Meron Ar 50.57 286 LR LR 16 32 23.3
comp=Z,535nm,18.1s,baz=55,slow=42
IDID Didziasalis 50.61 316 *e*P **P 16 05 33.0 +2.0**
NACGM Naroch 50.65 315 *e* **P 16 05 31.0 -0.3**
IZAR Zarasai 50.82 316 *e*P **P 16 05 34.5 +2.0**
IIGN Ignalina 50.90 316 *e*P **P 16 05 34.5 +1.4**
ISAL Salakas 50.92 316 *e*P **P 16 05 35.4 +2.1**
HAMF Hammerfest 50.92 336 *e*P **P 16 05 33.0 -0.1**
SORM Soroca 51.05 306⇑P **P 16 05 34.3 0.0**
SORM Soroca 51.05 306 P **P 16 05 34.3 0.0**
MDUB Mudurnu 51.18 296 P **P 16 05 35.4 -0.2**
CFR Carcaliu 51.95 303⇓P **P 16 05 41.7 +0.5**
DAMY Dhamar 52.09 260 P **P 16 05 42.7 -0.3**
DAMY IAmb IAmb 16 05 52.4
comp=Z,83nm,1.1s
PABE Paberze 52.14 316 *e*P **P 16 05 43.3 +1.0**
SOEI Soe 52.22 146 P **P 16 05 42.3 -1.3**
SOEI IAmb IAmb 16 06 18.0
comp=Z,63nm,1.3s
HARR Harsova 52.23 302⇑P **P 16 05 44.0 +0.7**
EIL Elat 52.26 282 LR LR 16 33 04.4
comp=Z,676nm,18.9s,baz=80,slow=42
BATI Baumata 52.35 147 LR LR 16 30 38.1
comp=Z,311nm,18.0s,baz=320,slow=39
ISP Isparta 52.55 293 P **P 16 05 45.3 -0.6**
ISP pmax pmax
comp=Z,77nm,0.9s
ISP Isparta 52.55 293 P **P 16 05 45.3 -0.6**
TRO Tromso 52.58 334 *e*P **P 16 05 45.2 -0.2**
SLIT Slitere, Latvi 52.65 319 *e*P **P 16 05 47.4 +1.3**
VRI Vrincioaia 52.71 304⇑P **P 16 05 48.2 +1.3**
VRI Vrincioaia 52.71 304 P **P 16 05 48.1 +1.3**
PLOR Plostina 52.77 304⇑P **P 16 05 48.6 +1.3**
PLOR Plostina 52.77 304 P **P 16 05 48.5 +1.3**
BIZ Bicaz 52.83 305⇑P **P 16 05 48.2 +0.6**
SUW Suwalki 52.89 314 *e*P **P 16 05 48.2 +0.3**
SUW Suwalki 52.89 314 P **P 16 05 47.6 -0.4**
SUW pmax pmax
comp=Z,57nm,0.9s
SUW Suwalki 52.89 314 P **P 16 05 47.6 -0.4**
SUW IAmb IAmb 16 05 55.0
comp=Z,57nm,0.9s
SPA0 Spitsbergen Ar 52.95 345 P **P 16 05 48.3 +0.1**
SPA0 IAmb IAmb 16 06 00.1
comp=Z,82nm,1.3s
SPA0 Spitsbergen Ar 52.95 345 *e*P **P 16 05 48.3 +0.1**
SPITS Spitsbergen Ar 52.95 345 LR LR 16 31 19.9
comp=Z,990nm,19.8s,baz=145,slow=40
ISR Istrita 53.05 303⇑P **P 16 05 51.7 +2.3**
ISR Istrita 53.05 303 P **P 16 05 51.7 +2.3**
NEHR Nehoiu 53.13 303⇑P **P 16 05 51.7 +1.8**
PBUR Paburge 53.16 317 *e*P **P 16 05 51.0 +1.0**
BURAR Bucovina Array 53.22 306⇓P **P 16 05 51.1 +0.4**
BURAR Bucovina Array 53.22 306 P **P 16 05 51.1 +0.4**
BURAR Bucovina Array 53.22 306 P **P 16 05 50.4 -0.3**
BUR08 Bucovina Ar. S 53.22 306 P **P 16 05 50.4 -0.3**
MLR Muntele Rosu 53.34 304 LR LR 16 33 52.8
comp=Z,1μm,18.8s,baz=56,slow=42
MLR Muntele Rosu 53.34 304⇑P **P 16 05 52.6 +0.9**
MLR Muntele Rosu 53.34 304 P **P 16 05 52.1 +0.4**
MLR pmax pmax
comp=Z,40nm,1.1s
MLR Muntele Rosu 53.34 304 P **P 16 05 52.1 +0.4**
MLR IAmb IAmb 16 06 19.7
comp=Z,40nm,1.1s
LVV L'vov 53.39 309 *e*P **P 16 05 52.4 +0.7**
LVV MLR MLR
comp=E,700nm,15.0s
LVV MLR MLR
comp=N,400nm,17.0s
LVV MLR MLR
comp=Z,600nm,15.0s
ELL Elmali 53.39 292 P **P 16 05 51.9 -0.2**
ELL pmax pmax
comp=Z,116nm,1.0s
ELL Elmali 53.39 292 P **P 16 05 51.9 -0.2**
DOPR Dopca 53.58 304⇑P **P 16 05 54.5 +1.3**
AKAS Kas 53.80 292 P **P 16 05 54.0 -1.1**
ARCR ARCALIA 53.93 306⇑P **P 16 05 57.6 +1.8**
VOIR 53.96 304⇑P **P 16 05 56.4 +0.3**
VOIR 53.96 304 P **P 16 05 56.4 +0.3**
STEI Steigen 54.11 332 *e*P **P 16 05 56.2 -0.5**
FAUS Fauske 54.18 332 *e*P **P 16 05 57.0 -0.3**
N2TV TWnvik 54.21 332 *e*P **P 16 05 56.8 -0.7**
ARR Arges 54.26 304⇑P **P 16 05 59.3 +1.0**
KWP Kalwaria Pacla 54.26 309 P **P 16 05 57.9 -0.3**
KWP pmax pmax
comp=Z,157nm,1.1s
KWP Kalwaria Pacla 54.26 309 P **P 16 05 57.9 -0.3**
HUMR Humele 54.29 303⇑P **P 16 05 59.4 +0.9**
BMR Baia Mare 54.32 307⇑P **P 16 05 59.5 +0.9**
N2VI Vinje 54.43 333 *e*P **P 16 05 57.3 -1.7**
LOF Lofoten 54.70 333 *e*P **P 16 06 00.2 -0.9**
MOR8 Moi Rana 54.72 330 *e*P **P 16 06 00.0 -1.2**
NBB05 Inndyr 54.72 331 *e*P **P 16 06 01.1 -0.1**
KOLS Kolonicke sedl 54.73 309 *e*P **P 16 06 01.3 -0.3**
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 54.73 309 *e*P **P 16 06 01.3 -0.3**
ALN Alexandroupoli 54.74 298 P **P 16 06 01.1 -0.6**
ALN pmax pmax
comp=Z,73nm,1.6s
ALN Alexandroupoli 54.74 298 P **P 16 06 01.1 -0.6**
ALN IAmb IAmb 16 06 03.7
comp=Z,73nm,1.6s
UZH Uzhgorod 54.81 308 *e*P **P 16 05 59.6 -2.5**
UZH *i* 16 06 02.0
UZH *i* 16 06 05.3
EZN Ezine 54.92 297 P **P 16 06 06.5 +3.5**
ATD Arta Tunnel 55.08 258 P **P 16 06 05.7 +1.1**
comp=Z,29nm,1.1s,baz=46,slow=5.8,SNR=11
ATD Arta Tunnel 55.08 258 P **P 16 06 06.5 +2.0**
SNR=8.8
ATD Arta Tunnel 55.08 258 P **P 16 06 05.1 +0.5**
N2VA Vr,y 55.11 332 *e*P **P 16 06 02.7 -1.3**
KONS Konsvik 55.18 331 *e*P **P 16 06 04.8 +0.3**
CRVS Cervenica-Dubn 55.26 309 *e*P **P 16 06 04.4 -1.0**
CRVS pmax pmax
comp=Z,38nm,1.6s
CRVS Cervenica-Dubn 55.26 309 *e*P **P 16 06 04.4 -1.0**
PLD Plovdiv 55.27 300 P **P 16 06 07.5 +1.9**
PLD pmax pmax
comp=Z,110nm,1.0s
GENI Genyem 55.34 125 P P 16 06 13.1 +6.7
GZR Gura Zlata 55.49 304⇑P **P 16 06 08.1 +0.9**
JAY Jayapura 55.64 124 LR LR 16 28 34.0
comp=Z,333nm,20.9s,baz=309,slow=35
NIE Niedzica 55.83 310 *e*P **P 16 06 11.6 +2.1**
NIE Niedzica 55.83 310 *e*P **P 16 06 11.6 +2.1**
KARP Karpathos 55.90 292 P **P 16 06 09.9 -0.3**
HERR Herculane 55.90 304⇑P **P 16 06 10.9 +0.8**
SIRR Siria 55.95 306⇑P **P 16 06 11.7 +1.3**
KECS Kecovo 56.00 308 *e*P **P 16 06 11.6 +0.9**
KECS pmax pmax
comp=Z,13nm,1.3s
KECS Kecovo 56.00 308 *e*P **P 16 06 11.6 +0.9**
NSS Namsos 56.09 329 *e*P **P 16 06 10.7 -0.4**
BZS Buzias 56.19 305⇑P **P 16 06 12.7 +0.6**

BZS Buzias 56.19 305 P **P** **16 06 12.7 +0.6**
MDVR Moldovita 56.41 304 ⇑P **P** **16 06 14.4 +0.6**
HFS Hagfors 56.43 323 P **P** **16 06 13.0 -0.6**
comp=Z,5.8nm,0.4s,baz=104,slow=6.3,SNR=42
HFS LR LR 16 31 25.5
comp=Z,654nm,19.0s,baz=66,slow=37
PSZ Piszkesteto 56.55 308 ⇑P **P** **16 06 15.6 +0.8**
PSZ Piszkesteto 56.55 308 P **P** **16 06 15.0 +0.2**
PSZ pmax pmax
comp=Z,53nm,1.5s
PSZ Piszkesteto 56.55 308 P **P** **16 06 15.0 +0.2**
PSZ IAmb IAmb 16 06 17.3
comp=Z,53nm,1.5s
SANT Santorini 56.84 293 P **P** **16 06 15.8 -1.2**
VYHS Vyhne 57.03 309 *e*P **P** **16 06 19.2 +1.1**
VYHS pmax pmax
comp=Z,97nm,1.6s
VYHS Vyhne 57.03 309 *e*P **P** **16 06 19.2 +1.1**
NC405 NORSAR Array S 57.10 325 P **P** **16 06 17.8 -0.6**
NC303 NORSAR Array S 57.23 325 P **P** **16 06 18.4 -0.8**
BSD Bornholm Skovb 57.24 317 *i* P **P** **16 06 19.1 -0.3**
BSD Bornholm Skovb 57.24 317 *i* P **P** **16 06 19.1 -0.3**
BSD Bornholm Skovb 57.24 317 *i* P **P** **16 06 19.2 -0.3**
NC602 NORSAR Array S 57.29 324 P **P** **16 06 19.1 -0.5**
NC602 NORSAR Array S 57.29 324 *e*P **P** **16 06 19.0 -0.7**
NORES NORESS Array B 57.29 324 P **P** **16 06 20.1 +0.4**
NORES pmax pmax
comp=Z,9.0nm,0.4s
NB201 NORSAR Array S 57.32 325 P **P** **16 06 19.3 -0.6**
NB2 NORSAR Subarra 57.36 325 P **P** **16 06 19.4 -0.8**
comp=Z,4.5nm,0.5s,baz=71,slow=7.4
NB2 NORSAR Subarra 57.36 325 P **P** **16 06 19.4 -0.8**
baz=71,slow=7.4
NOA NORSAR Array B 57.36 325 P **P** **16 06 19.6 -0.6**
comp=Z,3.7nm,0.4s,baz=71,slow=6.9,SNR=32
NOA PP **PP** **16 08 34.2 +7.1**
comp=Z,6.6nm,0.9s,baz=69,slow=8.9,SNR=3.8
NOA LR LR 16 31 56.9
comp=Z,718nm,18.1s,baz=70,slow=37
MORC Moravsky Berou 57.41 311 ⇑P **P** **16 06 21.9 +1.1**
MORC Moravsky Berou 57.41 311 *e*P **P** **16 06 21.5 +0.6**
MORC Moravsky Berou 57.41 311 P **P** **16 06 21.4 +0.6**
MORC pmax pmax
comp=Z,70nm,1.6s
MORC Moravsky Berou 57.41 311 P **P** **16 06 21.4 +0.5**
MORC IAmb IAmb 16 06 23.1
comp=Z,70nm,1.6s
NC204 NORSAR Array S 57.50 325 P **P** **16 06 20.3 -0.9**
FRGS Fruska Gora 57.55 305 ⇑*i*P **P** **16 06 22.1 +0.3**
LIT Litokhoron 57.56 298 P **P** **16 06 21.1 -0.8**
LIT pmax pmax
comp=Z,26nm,1.2s
LIT Litokhoron 57.56 298 P **P** **16 06 21.1 -0.8**
NBO00 NORSAR Array S 57.56 325 P **P** **16 06 20.8 -0.9**
NAO01 NORSAR Array S 57.57 325 P **P** **16 06 19.6 -2.1**
JAVC Velka Javorina 57.64 310 *e*P **P** **16 06 24.3 +1.9**
IDI Anoyia 57.70 292 LR LR 16 35 58.1
comp=Z,246nm,19.9s,baz=101,slow=41
AMKA Amchitka 57.73 47 P **P** **16 06 20.8 -2.1**
KRLC Kraliky 57.78 311 *e*P **P** **16 06 23.7 +0.3**
KRLC *e*pP **pP** **16 06 28.7 +0.3**
KRLC AMS AMS 16 32 10.0
comp=Z,2μm,15.7s
KRLC Kraliky 57.78 311 *e*P **P** **16 06 23.7 +0.3**
KRLC *e* 16 06 28.7
KRLC MLR MLR
comp=Z,2μm,15.7s
DIVS Divibare 57.80 304 ⇑*i*P **P** **16 06 23.9 +0.2**
DIVS Divibare 57.80 304 P **P** **16 06 23.3 -0.4**
DIVS IAmb IAmb 16 06 25.4
comp=Z,52nm,1.5s
KSP Ksiaz 57.82 312 *e*P **P** **16 06 24.3 +0.7**
KSP Ksiaz 57.82 312 *e*P **P** **16 06 24.3 +0.7**
SMOL Smolenice 57.91 309 *e*P **P** **16 06 25.4 +1.1**
SMOL pmax pmax
comp=Z,27nm,1.6s
SMOL Smolenice 57.91 309 *e*P **P** **16 06 25.4 +1.1**
OSL Oslo 57.92 324 *e*P **P** **16 06 24.3 +0.2**
OSTC Ostas 57.96 312 *e*P **P** **16 06 25.4 +0.8**
OSTC *ex* x 16 06 31.5
OSTC AMS AMS 16 32 10.0
comp=Z,3μm,15.7s
DPC Dobruska-Polom 57.97 312 *e*P **P** **16 06 25.2 +0.5**
DPC *e*pP **pP** **16 06 30.3 +0.6**
DPC AMS AMS 16 32 20.0
comp=Z,3μm,20.3s
DPC Dobruska-Polom 57.97 312 *e*P **P** **16 06 25.2 +0.5**
DPC *e* 16 06 30.3
DPC MLR MLR
comp=Z,3μm,20.3s
DOMB Dombas 58.04 326 *e*P **P** **16 06 24.8 -0.2**
CHVC Chvalec 58.05 312 *e*P **P** **16 06 25.8 +0.6**
CHVC *ex* x 16 06 31.3
CHVC AMS AMS 16 32 20.0
comp=Z,3μm,19.5s
MODS Modra-Piesok 58.05 309 *e*P **P** **16 06 25.5 +0.2**
MODS pmax pmax
comp=Z,61nm,1.6s
MODS Modra-Piesok 58.05 309 *e*P **P** **16 06 25.5 +0.2**
UPC Upice 58.10 312 *e*P **P** **16 06 26.9 +1.3**
UPC *e*pP **sP** **16 06 32.3 -0.2**
UPC AMS AMS 16 32 20.0
comp=Z,3μm,16.0s
UPC Upice 58.10 312 *e*P **P** **16 06 26.9 +1.3**
UPC *e* 16 06 32.3
UPC MLR MLR
comp=Z,3μm,16.0s
VRAC Vranov 58.15 310 LR LR 16 33 31.0
comp=Z,331nm,18.4s,baz=61,slow=38
VRAC Vranov 58.15 310 ⇑P **P** **16 06 27.3 +1.3**
VRAC Vranov 58.15 310 *e*P **P** **16 06 26.6 +0.6**
ZST Bratislava 58.22 309 *e*P **P** **16 06 26.4 -0.1**
ZST pmax pmax
comp=Z,150nm,1.8s
ZST Bratislava 58.22 309 *e*P **P** **16 06 26.4 -0.1**
BBLS Lazići 58.28 304 ⇑*i*P **P** **16 06 27.3 +0.3**
RGN Rugen 58.30 317 *e*P **P** **16 06 27.5 +0.6**
baz=68,slow=6.7
RGN Rugen 58.30 317 P **P** **16 06 26.2 -0.6**
GAMB Gambell 58.33 31 P **P** **16 06 27.1 +0.2**
GAMB IAmb IAmb 16 06 46.6
comp=Z,22nm,1.0s
KRUC Moravsky 58.36 310 *e*P **P** **16 06 28.1 +0.7**
MOL Molde 58.54 327 *e*P **P** **16 06 28.9 +0.5**
KONO Kongsberg 58.55 323 P **P** **16 06 28.0 -0.5**
KONO pmax pmax
comp=Z,43nm,1.1s
KONO Kongsberg 58.55 323 P **P** **16 06 28.0 -0.5**
KONO IAmb IAmb 16 06 34.8
comp=Z,43nm,1.1s
KONO Kongsberg 58.55 323 *e*P **P** **16 06 28.2 -0.3**
RUE Ruedersdorf 58.74 315 *e*P **P** **16 06 30.5 +0.6**
baz=68,slow=6.7
SOP Sopron 58.75 309 P **P** **16 06 32.8 +2.7**
SOP pmax pmax
comp=Z,31nm,1.4s
SKAR Skarslia 58.82 325 *e*P **P** **16 06 31.0 +0.5**
TREC Trest 58.84 311 AMS AMS 16 32 40.0
comp=Z,2μm,18.4s
TIR Tirane 58.92 301 P **P** **16 06 30.7 -0.8**
TIR pmax pmax
comp=Z,53nm,1.3s
TIR Tirane 58.92 301 P **P** **16 06 30.6 -0.8**
TIR IAmb IAmb 16 06 54.9
comp=Z,53nm,1.3s
PDG Podgorica 58.92 302 ⇑P **P** **16 06 31.9 +0.5**
PDG Podgorica 58.92 302 ⇑*i*P **P** **16 06 31.7 +0.3**
PDG Podgorica 58.92 302 P **P** **16 06 29.8 -1.6**
PDG IAmb IAmb 16 06 40.1
comp=Z,46nm,1.3s
PVCC Panska Ves 58.95 312 *e*P **P** **16 06 32.7 +1.2**
PVCC *e*pP **sP** **16 06 38.7 +0.3**
PVCC Panska Ves 58.95 312 *e*P **P** **16 06 32.7 +1.2**
PVCC *e* 16 06 38.7
DRME Dracevica, Mon 59.07 302 ⇑*i*P **P** **16 06 32.7 +0.3**
CONA Conrad Observa 59.10 309 *i* P **P** **16 06 33.8 +1.2**
comp=Z,37nm,1.6s,SNR=16
ITM Ithomi 59.12 296 P **P** **16 06 30.7 -2.2**
ITM IAmb IAmb 16 06 42.5
comp=Z,75nm,1.8s
PRU Pruhonice 59.16 312 *e*P **P** **16 06 33.8 +0.8**
PRU *ex* x 16 06 39.7
PRU *ex* x 16 06 50.2
PRU AMS AMS 16 33 00.0
comp=Z,3μm,15.6s
PRU Pruhonice 59.16 312 *e*P **P** **16 06 33.8 +0.8**
PRU *e* 16 06 39.7
PRU MLR MLR
comp=Z,3μm,15.6s
PRA Prague 59.20 312 AMS AMS 16 33 00.0
comp=Z,2μm,18.6s
BRG Berggiesshubel 59.20 313 *i* P **P** **16 06 33.8 +0.5**
comp=Z,76nm,1.6s
BRG *i* 16 06 39.2
comp=Z,32nm,1.1s
BRG *e*PP **PP** **16 08 44.8 +1.1**
comp=Z,3.6nm,0.8s
comp=N,967nm,25.3s
comp=E,2μm,12.5s
comp=Z,2μm,12.9s
BRG Berggiesshubel 59.20 313 *i* P **P** **16 06 33.8 +0.5**
BRG *i* 16 06 39.2
BRG *e* 16 08 44.8
BRG pmax pmax
comp=Z,76nm,1.6s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG MLR MLR
comp=N,967nm,25.3s
BRG MLR MLR
comp=E,2μm,12.5s
BRG MLR MLR
comp=Z,2μm,12.9s
BRG Berggiesshubel 59.20 313 *e*P **P** **16 06 33.5 +0.3**
comp=Z,77nm,1.6s,baz=68,slow=6.7
BRY Bratogost 59.23 303 ⇑*i*P **P** **16 06 33.5 -0.2**
IGT Igoumenitsa 59.31 299 P **P** **16 06 32.7 -1.5**
IGT pmax pmax
comp=Z,20nm,1.4s
BLY Banja Luka 59.43 305 ⇑*i*P **P** **16 06 35.3 +0.4**
HCY Herceg Novi 59.44 302 ⇑*i*P **P** **16 06 34.5 -0.5**
KNRA Kununurra 59.48 145 P **P** **16 06 35.2 -0.3**
KNRA IAmb IAmb 16 06 36.6
comp=Z,33nm,0.9s
FBE Freiberg 59.54 313 *e*P **P** **16 06 36.0 +0.5**
comp=Z,86nm,1.7s,baz=68,slow=6.7
ARSA Arzberg 59.56 308 *i* P **P** **16 06 36.4 +0.6**
comp=Z,24nm,1.8s,SNR=7.0
CLL Collm 59.60 314 *i* P **P** **16 06 36.1 +0.1**
comp=Z,67nm,1.7s
CLL *i* pP **pP** **16 06 40.1 -0.9**
comp=Z,30nm,1.1s
CLL *e*PP **PP** **16 08 48.0 +0.8**
comp=Z,28nm,1.5s
CLL Lm MLR 16 33 00.0
comp=N,1μm,18.0s
CLL Lm MLR 16 33 00.0
comp=E,1μm,18.1s
CLL Lm MLR 16 33 00.0
comp=Z,1μm,18.2s
CLL Collm 59.60 314 P **P** **16 06 35.6 -0.4**
CLL pmax pmax
comp=Z,65nm,1.6s
CLL Collm 59.60 314 *e*P **P** **16 06 36.3 +0.3**
baz=68,slow=6.7
CLL Collm 59.60 314 P **P** **16 06 35.6 -0.4**
CLL IAmb IAmb 16 06 37.6
comp=Z,65nm,1.6s
PBCC Pribram 59.60 312 AMS AMS 16 33 20.0
GOET G??ttrup 59.62 321 *i* P **P** **16 06 39.7 +3.8**
MUD Monsted U'grnd 59.86 320 *i* P **P** **16 06 37.8 +0.2**
MUD Monsted U'grnd 59.86 320 *i* P **P** **16 06 37.8 +0.2**
MUD Monsted U'grnd 59.86 320 *i* P **P** **16 06 37.8 +0.2**
GROS Grobnik 59.87 308 *i* P **P** **16 06 38.4 +0.4**
FURI Furi 59.93 258 P **P** **16 06 39.9 +0.7**
DOBS Dobrina 60.01 307 *i* P **P** **16 06 39.5 +0.6**
BISS Bistriski jare 60.04 308 *i* P **P** **16 06 39.6 +0.5**
PERS Pernice 60.05 308 *i* P **P** **16 06 39.7 +0.4**
PERS *e* 16 06 43.8
KHC Kasperske Hory 60.06 311 *e*P **P** **16 06 39.4 +0.2**
KHC *e*pP **pP** **16 06 44.1 -0.2**
KHC Kasperske Hory 60.06 311 *e*P **P** **16 06 39.4 +0.2**
KHC *e* 16 06 44.1
KHC Kasperske Hory 60.06 311 P **P** **16 06 38.8 -0.5**
SOKA Soboth 60.09 308 *i* P **P** **16 06 40.1 +0.6**
comp=Z,38nm,1.2s,SNR=12
GEC2 GERESS Array S 60.09 311 *e*P **P** **16 06 39.5 0.0**
baz=68,slow=6.7
GEC2 GERESS Array S 60.09 311 P **P** **16 06 39.2 -0.3**
GEC2 IAmb IAmb 16 06 41.6
comp=Z,50nm,1.6s
GERES GERESS Array B 60.09 311 P **P** **16 06 40.3 +0.7**
comp=Z,4.3nm,0.9s,baz=64,slow=6.1,SNR=34
GERES LR LR 16 34 48.1
comp=Z,1μm,18.6s,baz=70,slow=38
GERES GERESS Array B 60.09 311 P **P** **16 06 39.6 0.0**
GERES GERESS Array B 60.09 311 P **P** **16 06 39.6 0.0**
MOA Molln 60.12 309 *i* P **P** **16 06 40.5 +0.8**
comp=Z,22nm,1.3s,SNR=8.8
BLS5 Blasjo 60.13 324 *e*P **P** **16 06 39.8 +0.3**
CRES Cresnjev 60.14 307 ⇑*i*P **P** **16 06 40.1 +0.3**
SNART Snartemo 60.16 323 *e*P **P** **16 06 39.6 0.0**
SNART Snartemo 60.16 323 *i* P **P** **16 06 40.1 +0.4**
BSEG Bad Segeberg 60.16 317 *e*P **P** **16 06 40.2 +0.5**
baz=68,slow=6.7
RDOG Red Dog Mine 60.17 25 P **P** **16 06 39.1 -0.6**
RDOG IAmb IAmb 16 06 51.9
comp=Z,30nm,1.3s
LEGS Legarje 60.19 307 *i* P **P** **16 06 40.5 +0.4**
FITZ Fitzroy Crossi 60.24 149 P **P** **16 06 40.8 +0.2**
comp=Z,7.9nm,1.1s,baz=331,slow=6.7,SNR=16
FITZ LR LR 16 33 23.1
comp=Z,64nm,21.7s,baz=332,slow=37
FITZ Fitzroy Crossi 60.24 149 P **P** **16 06 40.6 -0.1**
TANN Tannenbergstha 60.25 313 *e*P **P** **16 06 41.0 +0.5**
comp=Z,134nm,1.7s,baz=68,slow=6.7
NKC Novy Kostel 60.33 313 *e*P **P** **16 06 41.6 +0.6**
NKC AMS AMS 16 34 00.0
comp=Z,3μm,13.3s
NKC Novy Kostel 60.33 313 *e*P **P** **16 06 41.6 +0.6**
NKC MLR MLR
comp=Z,3μm,13.3s
ASK Askoy 60.33 325 *e*P **P** **16 06 40.8 0.0**
WERD Werda 60.33 313 *e*P **P** **16 06 41.5 +0.4**
comp=Z,40nm,1.8s,baz=68,slow=6.7
GUNZ Gunzen 60.35 313 *e*P **P** **16 06 42.0 +0.8**
comp=Z,73nm,1.7s,baz=68,slow=6.7
WERN Wernitzgruen 60.35 313 *e*P **P** **16 06 41.5 +0.4**
baz=68,slow=6.7
SKMB Sankelmark Bun 60.35 318 *e*P **P** **16 06 41.3 +0.3**
baz=68,slow=6.7
NEUB Neuenburg 60.36 314 *e*P **P** **16 06 41.5 +0.4**
baz=68,slow=6.7
SCTE Santa Cesarea 60.40 300 P **P** **16 06 40.6 -1.1**
SCTE IAmb IAmb 16 06 49.6
comp=Z,23nm,1.0s
PLN Plauen 60.40 313 *e*P **P** **16 06 42.0 +0.5**
baz=68,slow=6.7
OBKA Obir 60.46 308 *i* P **P** **16 06 42.4 +0.4**
comp=Z,25nm,1.4s,SNR=5.4
WET Wettzell 60.48 311 P **P** **16 06 43.0 +0.9**
WET Wettzell 60.48 311 *e*P **P** **16 06 42.7 +0.6**
comp=Z,62nm,1.6s,baz=68,slow=6.7
MANZ Manzenberg 60.62 312 *e*P **P** **16 06 43.4 +0.3**
comp=Z,38nm,1.5s,baz=68,slow=6.7
ASSE Asse, Remlinge 60.64 315 *e*P **P** **16 06 43.6 +0.6**
baz=68,slow=6.7
ROTZ Rotzenmuhle 60.65 312 *e*P **P** **16 06 44.0 +0.8**
comp=Z,91nm,1.6s,baz=68,slow=6.7
LJU Ljubljana 60.66 307 *i* P **P** **16 06 43.8 +0.5**
LJU *e* 16 06 49.9
MOX Moxa 60.66 313 *e*P **P** **16 06 43.8 +0.6**
comp=Z,55nm,1.5s,baz=68,slow=6.7
MOX *e*L L 16 34 19.5
comp=Z,1μm,18.9s
NRDL Niedersach Rie 60.82 316 *e*P **P** **16 06 45.3 +1.0**
comp=Z,134nm,1.5s,baz=68,slow=6.7
CEY Cerknica 60.84 307 ⇑*i*P **P** **16 06 44.8 +0.2**
CLZ Clausthal 60.92 315 *e*P **P** **16 06 45.8 +0.7**
baz=68,slow=6.7
KBA Koelnbreinsper 61.00 309 *e*P **P** **16 06 46.1 +0.3**
comp=Z,20nm,1.1s
ATKA Atka Island 61.20 45 P **P** **16 06 46.1 -0.7**
GRA1 Grafenberg Arr 61.27 312 P **P** **16 06 46.7 -0.7**
GRF Grafenberg Arr 61.27 312 P **P** **16 06 46.7 -0.7**
GRF pmax pmax
comp=Z,190nm,1.8s
GRF Grafenberg Arr 61.27 312 *e*P **P** **16 06 48.0 +0.6**
comp=Z,152nm,1.7s,baz=68,slow=6.7
GRF *e*L L 16 34 31.9
comp=Z,1μm,18.6s
GTTG Gottingen 61.27 315 *e*P **P** **16 06 47.8 +0.5**
comp=Z,77nm,1.4s,baz=68,slow=6.7
PSA00 Pilbara Seismi 61.29 156 P **P** **16 06 48.0 +0.3**
PSA00 Pilbara Seismi 61.29 156 P **P** **16 06 47.4 -0.3**
PSA00 IAmb IAmb 16 06 54.8
comp=Z,40nm,1.2s
MATE Matera 61.39 301 ⇑P **P** **16 06 48.5 +0.2**
ZOU Zoufplan 61.44 309 P **P** **16 06 48.4 -0.5**
ZOU IAmb IAmb 16 06 54.5
comp=Z,29nm,1.3s
UBBA Unterbreizbach 61.54 314 *e*P **P** **16 06 49.7 +0.7**
comp=Z,48nm,1.6s,baz=68,slow=6.7
ABTA Abfaltersbach 61.65 309 *i* P **P** **16 06 50.0 -0.2**
comp=Z,25nm,1.2s,SNR=8.8
FUR Furstenfeldbru 61.84 311 *e*P **P** **16 06 51.6 +0.2**
comp=Z,223nm,1.8s,baz=68,slow=6.7
CIMO Cimolais 61.88 308 P **P** **16 06 51.2 -0.4**
TIP Timpagrande 61.98 300 ⇑P **P** **16 06 52.7 +0.3**
TIP Timpagrande 61.98 300 IAmb IAmb 16 06 53.9
comp=Z,56nm,1.5s
WTTA Wattenberg 61.99 310 *i* P **P** **16 06 53.1 +0.5**
comp=Z,64nm,1.7s,SNR=14
WATA Walderalm 62.00 310 *i* P **P** **16 06 52.9 +0.3**
comp=Z,57nm,1.7s,SNR=10
IBBN Ibbenburen 62.22 316 *e*P **P** **16 06 54.3 +0.5**
baz=68,slow=6.7
SQTA Sankt Quirin 62.27 310 *i* P **P** **16 06 54.7 +0.3**
comp=Z,49nm,1.5s,SNR=13
MOTA Moosalm 62.29 310 *i* P **P** **16 06 54.8 +0.3**
comp=Z,45nm,1.3s,SNR=14
RETA Reutte 62.44 310 *i* P **P** **16 06 56.0 +0.6**
comp=Z,30nm,1.3s,SNR=7.6
CTI Castel Tesino 62.49 308 IAmb IAmb 16 06 56.7
comp=Z,51nm,1.7s
FETA Feichten 62.66 310 *i* P **P** **16 06 57.3 +0.3**
comp=Z,38nm,1.5s,SNR=12
TNS Taunus Mts 62.69 314 *e*P **P** **16 06 57.5 +0.5**
baz=68,slow=6.7
PAOL Paolisi 62.70 302 P **P** **16 06 56.7 -0.5**
PAOL IAmb IAmb 16 07 08.9
comp=Z,36nm,1.4s
INTR Introdacqua 62.72 304 IAmb IAmb 16 07 04.2
comp=Z,23nm,0.9s
TEOL Teolo 62.76 308 P **P** **16 06 57.1 -0.5**
STU Stuttgart 62.85 312 P **P** **16 06 59.7 +1.6**
STU Stuttgart 62.85 312 *e*P **P** **16 06 58.2 +0.1**
baz=68,slow=6.7
BUG Bochum–Univer 62.86 315 *e*P **P** **16 06 58.5 +0.5**
baz=68,slow=6.7
NRCA Norcia 62.90 305 IAmb IAmb 16 06 59.9
comp=Z,22nm,0.9s
AQU L'Aquila 62.91 304 P **P** **16 07 00.6 +2.0**
AQU pmax pmax
comp=Z,52nm,1.6s
AQU L'Aquila 62.91 304 ⇑*i*P **P** **16 06 59.3 +0.7**
CEL Celeste 62.98 299 P **P** **16 06 58.5 -0.7**
DAVA Damuels 63.07 310 *e*P **P** **16 07 00.0 +0.3**
comp=Z,12nm,1.3s
FUORN Ofenpass-Fuorn 63.12 309 IAmb IAmb 16 07 01.6
comp=Z,56nm,1.4s
DAVOX Davos/Dischmat 63.28 310 LR LR 16 36 24.1
comp=Z,1μm,18.6s,baz=37,slow=38
AHRW Bad Neuenahr-A 63.35 314 *e*P **P** **16 07 01.9 +0.6**
comp=Z,27nm,1.3s,baz=68,slow=6.7
BFO Black Forest 63.56 312 P **P** **16 07 02.4 -0.4**
BFO pmax pmax
comp=Z,64nm,1.5s
BFO Black Forest 63.56 312 *e*P **P** **16 07 03.2 +0.3**
comp=Z,69nm,1.6s,baz=68,slow=6.7
BFO Black Forest 63.56 312 P **P** **16 07 02.4 -0.4**
BFO IAmb IAmb 16 07 04.5
comp=Z,64nm,1.5s
TUE Stuetta 63.75 310 IAmb IAmb 16 07 10.8
comp=Z,36nm,1.0s
OSSC Osservatorio P 63.83 306 IAmb IAmb 16 07 06.1
comp=Z,63nm,1.5s
BTNL Ternell 63.87 315 P **P** **16 07 05.8 +1.0**
MEM Membach 63.93 315 P **P** **16 07 05.7 +0.5**
MEM pP **pP** **16 07 09.4 -0.8**
MEM sP **sP** **16 07 11.0 -1.1**
MEM PcP **PcP** **16 07 39.3 -1.4**
BHOU Houvegnez 64.05 315 P **P** **16 07 06.7 +0.8**
VLC Villacollemand 64.11 307 P **P** **16 07 06.4 -0.1**
VLC IAmb IAmb 16 07 18.5
comp=Z,54nm,1.3s
BSTI Sart Tilman 64.20 315 P **P** **16 07 05.5 -1.4**
TOLK Toolik Lake Re 64.22 22 P **P** **16 07 05.7 -1.2**
baz=304
WLF Walferdange 64.27 314 P **P** **16 07 08.6 +1.2**
comp=Z,49nm,1.5s
WLF pP **pP** **16 07 12.8 +0.3**
WLF Walferdange 64.27 314 *e*P **P** **16 07 08.2 +0.8**
comp=Z,98nm,1.4s,baz=68,slow=6.7
ECH Echery 64.32 312 IAmb IAmb 16 07 14.4
comp=Z,22nm,1.1s
BCLA Clavier 64.42 315 P **P** **16 07 08.8 +0.5**
BCLA pP **pP** **16 07 14.1 +0.7**
BCLA sP **sP** **16 07 16.0 +0.7**
BCLA PcP **PcP** **16 07 43.4 +0.7**
RAFF Raffo Rosso 64.53 299 P **P** **16 07 08.8 -0.5**
BGES Gesves 64.56 315 P **P** **16 07 06.5 -2.8**
RCHB Rochefort 64.58 315 P **P** **16 07 09.7 +0.3**
RCHB pP **pP** **16 07 13.9 -0.5**
MSSA Maissana 64.60 307 IAmb IAmb 16 07 16.3
comp=Z,28nm,1.0s
BMRD Maredsous 64.78 315 P **P** **16 07 11.6 +0.9**
BMRD pP **pP** **16 07 15.3 -0.5**
BMRD x x 16 07 28.4
COLD Coldfoot 64.82 23 P **P** **16 07 09.6 -1.1**
baz=304
COLD Coldfoot 64.82 23 P **P** **16 07 10.4 -0.3**
COLD IAmb IAmb 16 07 17.4
comp=Z,42nm,1.0s
HAU Haudompre 64.90 312 *e*P **P** **16 07 09.7 -1.9**
HAU pmax pmax
comp=Z,17nm,1.0s
SNF Seneffe 64.96 315 P **P** **16 07 12.4 +0.6**
SNF pP **pP** **16 07 16.1 -0.8**
DOU Dourbes 64.97 315 ⇑P **P** **16 07 12.3 +0.3**
DOU pP **pP** **16 07 16.4 -0.7**
PMG Port Moresby 65.03 124*c* *i*P **P** **16 07 12.8 +0.1**
PMG pmax pmax
comp=Z,22nm,1.3s
PMG Port Moresby 65.03 124 P **P** **16 07 12.4 -0.4**
PMG IAmb IAmb 16 07 18.7
comp=Z,38nm,1.0s
SENIN Lac Senin/Sane 65.07 310 IAmb IAmb 16 07 19.6
comp=Z,26nm,0.9s
TTA Tatalina 65.09 29 P **P** **16 07 12.2 -0.4**
TTA pmax pmax
comp=Z,32nm,1.2s
TTA Tatalina 65.09 29 P **P** **16 07 12.2 -0.4**
TTA IAmb IAmb 16 07 19.1
comp=Z,32nm,1.2s
BAIF Baives 65.21 315 *e*P **P** **16 07 13.5 0.0**
BAIF pmax pmax
comp=Z,24nm,1.1s
WB0 Warramunga Arr 65.70 142 IAmb IAmb 16 07 17.4
comp=Z,17nm,0.8s
LPG La Plagne 65.80 310 *e*P **P** **16 07 17.9 +0.1**
LPG pmax pmax
comp=Z,45nm,0.8s
LPL La Plagne 65.81 310 *e*P **P** **16 07 17.8 0.0**
LPL pmax pmax
comp=Z,82nm,1.4s
WRAB Tennant Creek 65.82 142*c* *i*P **P** **16 07 17.4 -0.4**
WRAB pmax pmax
comp=Z,16nm,0.9s
WRAB Tennant Creek 65.82 142 P **P** **16 07 17.6 -0.2**
WRAB IAmb IAmb 16 07 18.4
comp=Z,20nm,0.9s
WRA Warramunga Arr 65.82 142 P **P** **16 07 17.7 -0.1**
comp=Z,10nm,0.8s,baz=339,slow=6.5,SNR=69
WRA Warramunga Arr 65.82 142 P **P** **16 07 16.5 -1.3**
LODK Lodwar 65.87 256 P **P** **16 07 19.4 +1.1**
SNR=6.3
COEN Coen 65.90 131 P **P** **16 07 18.3 0.0**
COEN IAmb IAmb 16 07 24.1
comp=Z,25nm,1.0s
WR0 Warramunga Arr 65.94 142 IAmb IAmb 16 07 20.7
comp=Z,45nm,1.8s
BNI Bardonecchia 66.06 309 P **P** **16 07 19.9 +0.6**
BNI Bardonecchia 66.06 309 IAmb IAmb 16 07 25.5
comp=Z,34nm,1.3s

SBF Sospel 66.14 308 *e*P P 16 07 19.3 -0.4
SBF pmax pmax
comp=Z,61nm,0.9s
SVW2 Sparrevohn 66.23 31 P P 16 07 19.8 -0.1
PPLA Purkeypile 66.58 28 P P 16 07 21.8 -0.5
EKA Eskdalemuir Ar 66.60 322 P P 16 07 22.1 -0.2
comp=Z,2.5nm,0.6s,baz=46,slow=7.3,SNR=7.0
ORIF Oris-en-Rattie 66.62 309 *e*P P 16 07 22.3 -0.5
ORIF pmax pmax
comp=Z,32nm,1.2s
KTH Kantishna Hill 66.67 27 P P 16 07 22.6 -0.2
NEA2 Nenana 66.73 26 P P 16 07 22.5 -0.5
baz=306
LOR Lormes 66.73 312 *e*P P 16 07 22.3 -1.1
LOR pmax pmax
comp=Z,23nm,1.3s
FRF La Foret Royal 66.78 308 *e*P P 16 07 23.0 -0.8
FRF pmax pmax
comp=Z,78nm,1.8s
FYU Fort Yukon 66.80 23 IAmb IAmb 16 07 30.6
comp=Z,43nm,1.3s
BWN Browne 66.84 26 P P 16 07 23.5 -0.2
TRF Thorofare Moun 66.96 27 P P 16 07 23.4 -1.4
TRF IAmb IAmb 16 07 42.5
comp=Z,22nm,1.1s
POKR Poker Plat Res 66.97 25 P P 16 07 23.2 -1.4
baz=307
TCOL CIGO, UAF Yank 66.98 25 P P 16 07 23.4 -1.2
baz=307
COLA College 66.98 25 *i* P P 16 07 23.2 -1.4
COLA pmax pmax
comp=Z,11nm,1.0s
CCB Clear Creek Bu 67.13 25 P P 16 07 24.8 -0.8
AVF Avril sur Loir 67.27 312 *e*P P 16 07 26.1 -0.6
AVF pmax pmax
comp=Z,66nm,1.5s
KMBO Kilima Mbogo 67.27 251 P P 16 07 29.1 +1.6
comp=Z,10nm,0.9s,baz=34,slow=8.3,SNR=29
KMBO Kilima Mbogo 67.27 251 *i* P P 16 07 28.9 +1.4
SNR=13
KMBO Kilima Mbogo 67.27 251 P P 16 07 28.4 +0.9
KMBO pmax pmax
comp=Z,79nm,1.7s
KMBO Kilima Mbogo 67.27 251 P P 16 07 28.4 +0.9
SSB Saint Sauveur 67.28 310 IAmb IAmb 16 07 28.4
comp=Z,62nm,2.0s
MORW Morawa 67.31 163 P P 16 07 26.5 -0.5
MORW IAmb IAmb 16 07 34.0
comp=Z,36nm,1.1s
ILAR Eielson Array 67.37 25 P P 16 07 25.9 -1.2
comp=Z,3.2nm,0.9s,baz=293,slow=5.4,SNR=24
ILAR Eielson Array 67.37 25 P P 16 07 25.2 -2.0
ILAR Eielson Array 67.37 25 P P 16 07 25.1 -2.0
VIVF Saint-Julien-l 67.40 310 *e*P P 16 07 27.2 -0.5
VIVF pmax pmax
comp=Z,30nm,1.2s
KIBK Kibwezi 67.46 249 P P 16 07 29.9 +1.4
SNR=12
RND Reindeer 67.51 27 IAmb IAmb 16 07 34.5
comp=Z,23nm,1.1s
HDA Harding Lake 67.57 25 P P 16 07 27.1 -1.3
baz=308
HDA Harding Lake 67.57 25 P P 16 07 27.2 -1.2
CUT Chulitna 67.58 28 P P 16 07 27.8 -0.7
baz=306
A36M Sachs Harbour 67.85 13 P P 16 07 29.4 -0.6
baz=324
A36M Sachs Harbour 67.85 13 P P 16 07 29.5 -0.5
SUA Susitna One 67.96 29 P P 16 07 29.7 -1.3
TCF Toulx Ste Croi 68.20 312 *e*P P 16 07 32.4 -0.3
TCF pmax pmax
comp=Z,49nm,1.3s
DHY Denali Highway 68.25 26 IAmb IAmb 16 07 39.3
comp=Z,43nm,1.2s
PMR Palmer 68.50 28 IAmb IAmb 16 07 40.2
comp=Z,36nm,0.8s
RC01 Rabbit Creek A 68.57 29 P P 16 07 33.3 -1.5
baz=307
RIDG Independent Ri 68.71 25 IAmb IAmb 16 07 41.1
comp=Z,50nm,1.1s
AS31 Alice Springs 68.78 145 P P 16 07 36.1 -0.4
ASAR Alice Springs 68.78 145 P P 16 07 36.6 +0.2
comp=Z,6.1nm,0.8s,baz=329,slow=6.2,SNR=63
ASAR LR LR 16 41 00.2
comp=Z,147nm,18.8s,baz=321,slow=39
ASAR Alice Springs 68.78 145 P P 16 07 35.3 -1.2
ASAR Alice Springs 68.78 145 P P 16 07 35.3 -1.2
KEST Kesra 68.80 299 P P 16 07 36.8 +0.1
comp=Z,19nm,1.2s,baz=343,slow=2.1,SNR=8.1
KEST LR LR 16 44 08.2
comp=Z,112nm,18.6s,baz=310,slow=42
SCRK Sand Creek 68.85 25 P P 16 07 35.0 -1.6
baz=310
KNK Knik Glacier 68.87 28 P P 16 07 35.7 -0.9
INK Inuvik 68.91 18 IAmb IAmb 16 07 43.0
comp=Z,30nm,1.1s
GRR Gorron 68.92 315 *e*P P 16 07 36.5 -0.6
GRR pmax pmax
comp=Z,32nm,0.8s
CAF Calviac 68.97 311 *e*P P 16 07 37.6 0.0
CAF pmax pmax
comp=Z,41nm,1.4s
SCM Sheep Creek Mo 69.03 27 P P 16 07 37.0 -0.7
SCM pmax pmax
comp=Z,184nm,1.5s
SCM Sheep Creek Mo 69.03 27 P P 16 07 37.0 -0.7
RJF Les Rejaudoux 69.11 311 *e*P P 16 07 38.5 +0.1
RJF pmax pmax
comp=Z,86nm,1.6s
M24K Tolsona, Glenn 69.29 27 P P 16 07 37.7 -1.6
baz=309
KDAK Kodiak Island 69.36 33 P P 16 07 38.9 -0.8
KDAK pmax pmax
comp=Z,216nm,1.9s
KDAK Kodiak Island 69.36 33 P P 16 07 38.9 -0.8
K27K Chicken 69.45 24 P P 16 07 38.7 -1.4
baz=312
EPYK Eagle Plains 69.47 20 P P 16 07 39.3 -1.0
baz=316
MTLF Montolieu 69.69 309 *e*P P 16 07 41.7 -0.3
MTLF pmax pmax
comp=Z,44nm,1.5s
FID Port Fidalgo 70.03 28 IAmb IAmb 16 07 50.1
comp=Z,48nm,1.0s
N25K Chitina, Valde 70.18 27 P P 16 07 43.9 -0.9
baz=311
C36M Paulatuk 70.24 15 P P 16 07 43.9 -1.0
baz=325
ROSF Rostrenen 70.32 316 *e*P P 16 07 45.5 -0.3
ROSF pmax pmax
comp=Z,41nm,1.2s
EYAK Cordova Ski Ar 70.44 28 IAmb IAmb 16 07 53.0
comp=Z,29nm,0.9s
QUIF Quistinic 70.48 316 *e*P P 16 07 46.4 -0.4
QUIF pmax pmax
comp=Z,78nm,1.6s
GLB Gilahina Butte 70.58 27 P P 16 07 46.2 -1.0
VRDI Verde Repeater 70.85 27 IAmb IAmb 16 07 55.6
comp=Z,23nm,1.0s
MCARA McCarthy VSAT 70.90 26 IAmb IAmb 16 07 55.8
comp=Z,41nm,0.9s
CRQM Cirque 71.28 27 P P 16 07 50.3 -1.3
CRQM IAmb IAmb 16 08 08.1
comp=Z,51nm,1.4s
NWAO Narrogin (SRO) 71.29 163 P P 16 07 51.7 +0.1
comp=Z,18nm,0.7s,baz=2.8,slow=6.7,SNR=8.6
NWAO LR LR 16 39 55.4
comp=Z,227nm,21.1s,baz=328,slow=36
BALM Baldy 71.38 26 IAmb IAmb 16 07 58.9
comp=Z,28nm,1.2s
TGL Tana Glacier 71.39 27 IAmb IAmb 16 07 58.6
comp=Z,49nm,1.2s
ETSF Etsaut 71.65 310 *e*P P 16 07 54.1 0.0
ETSF pmax pmax
comp=Z,35nm,1.4s
CTGM Chitina Glacie 71.78 26 IAmb IAmb 16 08 01.7
comp=Z,24nm,1.0s
MBAR Mbarara 71.97 255 P P 16 07 56.4 -0.1
MBAR pmax pmax
comp=Z,31nm,0.3s
MBAR Mbarara 71.97 255 P P 16 07 56.4 -0.1
CTAO Charters Tower 72.48 132 P P 16 07 59.2 +0.1
CTAO pmax pmax
comp=Z,42nm,1.4s
CTAO Charters Tower 72.48 132 P P 16 07 59.2 +0.1
CTAO IAmb IAmb 16 08 05.7
comp=Z,42nm,1.4s
OPO Ambohidratompo 72.54 230 P P 16 08 00.1 +0.5
comp=Z,8.8nm,0.9s,baz=8.9,slow=4.8,SNR=8.6
HYT Haines Junctio 73.22 25 IAmb IAmb 16 08 10.0
comp=Z,29nm,1.1s
HNR Honiara 74.03 115 LR LR 16 38 44.2
comp=Z,83nm,21.9s,baz=358,slow=34
SKAG Skagway 74.96 25 P P 16 08 13.7 +0.6
SKAG IAmb IAmb 16 08 20.5
comp=Z,41nm,1.0s
ESBB Sonseca Array 75.58 309 IAmb IAmb 16 08 25.9
comp=Z,40nm,1.6s
ESDC Sonseca Array 75.58 309 P P 16 08 17.2 0.0
comp=Z,7.2nm,0.7s,baz=44,slow=5.7,SNR=43
ESDC PP PP 16 11 06.1 0.0
comp=Z,2.2nm,1.1s,baz=50,slow=9.1,SNR=5.5
ESDC LR LR 16 44 23.7
comp=Z,427nm,20.2s,baz=70,slow=38
ESDC Sonseca Array 75.58 309 P P 16 08 17.0 -0.2
PBRG Braganca 76.05 312 *e*pP pP 16 08 26.8 +1.9
MVO Moncorvo 76.60 311 *e*P P 16 08 23.8 +0.8
comp=Z,32nm,1.9s
MVO *e*pP **sP** 16 08 30.2 +0.2
PGAV Gavieira, Arco 76.86 313 *e*P P 16 08 25.6 +1.1
comp=Z,33nm,1.7s
PGAV *e*pP **sP** 16 08 32.4 +0.9
PCAB Cabril 76.87 312 *e*P P 16 08 25.8 +1.3
comp=Z,49nm,1.1s
PCAB *e*pP **sP** 16 08 31.8 +0.3
PVIS Viseu 77.39 311 *e*pP pP 16 08 35.3 +2.7
DLBC Dease Lake 77.51 24 IAmb IAmb 16 08 35.4
comp=Z,40nm,1.5s
PMRV Marv??o 77.86 310 *e*P P 16 08 30.9 +0.9
comp=Z,47nm,1.7s
PMRV *e*pP **sP** 16 08 36.9 -0.2
COI Coimbra 78.02 311 P P 16 08 30.6 -0.2
COI pmax pmax
comp=Z,52nm,1.3s
COI Coimbra 78.02 311 P P 16 08 30.6 -0.2
COI IAmb IAmb 16 08 40.1
comp=Z,52nm,1.2s
YKA Yellowknife Ar 78.12 15 P P 16 08 30.8 -0.2
comp=Z,3.1nm,0.8s,baz=346,slow=5.6,SNR=4.4
YKA LR LR 16 46 15.4
comp=Z,257nm,18.5s,baz=0.0,slow=38
TAM Tamanrasset 78.54 290 P P 16 08 35.6 +1.4
PMTG Montargil 78.60 310 *e*P P 16 08 38.9 +4.8
comp=Z,25nm,1.8s
EVO Evora 78.79 310 *e*P P 16 08 36.2 +1.0
comp=Z,31nm,1.3s
EVO *e*pP **sP** 16 08 42.5 +0.3
STKA Stephens Creek 79.34 143 P P 16 08 37.7 -0.3
comp=Z,6.3nm,0.7s,baz=332,slow=6.3,SNR=22
STKA LR LR 16 49 00.2
comp=Z,118nm,18.2s,baz=315,slow=40
STKA Stephens Creek 79.34 143 P P 16 08 37.2 -0.8
STKA pmax pmax
comp=Z,20nm,2.0s
STKA Stephens Creek 79.34 143 P P 16 08 37.2 -0.8
PNCL Nicolau / Gran 79.37 310 *e*P P 16 08 39.9 +1.6
comp=Z,39nm,1.5s
EIDS Eidsvold 79.37 132 P P 16 08 37.4 -1.0
EIDS IAmb IAmb 16 08 45.1
comp=Z,33nm,1.1s
MDT Midelt 80.03 303 P P 16 08 41.8 -0.3
comp=Z,3.7nm,0.7s,baz=97,slow=7.4,SNR=5.9
MDT LR LR 16 46 34.6
comp=Z,135nm,19.4s,baz=17,slow=38
DZM Mont Dzumac 87.06 120 *e*P P 16 09 19.0 +0.8
comp=Z,53nm,1.4s
DZM Mont Dzumac 87.06 120 *e*S S 16 19 56.9 -0.3
comp=Z,72nm,22.8s
DZM Mont Dzumac 87.06 120 *e*LR LR 16 36 49.3
comp=Z,362nm,23.4s
TOA0 Torodi Ar. Sit 87.09 284 P P 16 09 18.0 -0.6
TOA0 IAmb IAmb 16 09 20.1
comp=Z,44nm,2.0s
TORD Torodi Ar. Bea 87.09 284 P P 16 09 18.3 -0.2
comp=Z,2.9nm,0.9s,baz=45,slow=5.0,SNR=11
TORD PP PP 16 12 49.4 +7.5
comp=Z,5.8nm,1.3s,baz=57,slow=5.5,SNR=3.7
TORD LR LR 16 53 31.4
comp=Z,188nm,19.4s,baz=30,slow=39
TORD Torodi Ar. Bea 87.09 284 P P 16 09 16.9 -1.6
SCHQ Schefferville 88.22 351 LR LR 16 53 12.8
comp=Z,398nm,18.9s,baz=24,slow=39
B05A Bryant 88.59 25 P P 16 09 25.3 +0.2
baz=329
NLWA Nelton Lookou 88.70 27 IAmb IAmb 16 09 34.6
comp=Z,42nm,1.6s
D03D Eldon 88.86 26 P P 16 09 26.4 0.0
baz=328
B08A Colville Reser 89.43 24 IAmb IAmb 16 09 36.6
comp=Z,38nm,1.5s
LTY Liberty 89.94 25 IAmb IAmb 16 09 39.5
comp=Z,32nm,1.4s
LON Longmire 89.98 26 P P 16 09 30.3 -1.5
LON pmax pmax
comp=Z,8.0nm,0.9s
LON Longmire 89.98 26 P P 16 09 30.3 -1.5
NEW Newport 90.21 22 LR LR 16 53 35.1
comp=Z,1000nm,18.1s,baz=310,slow=38
NEW Newport 90.21 22 P P 16 09 32.0 -0.8
baz=333
NEW Newport 90.21 22 IAmb IAmb 16 09 44.4
comp=Z,21nm,1.4s
C09A Chrisman Ranch 90.26 23 IAmb IAmb 16 09 40.7
comp=Z,43nm,1.4s
D08A Wollman Farm, 90.70 24 IAmb IAmb 16 09 45.1
comp=Z,18nm,1.3s
KOWA Kowa 90.70 288 P P 16 09 34.9 -0.7
E07A Sunnyside 90.83 25 IAmb IAmb 16 09 44.2
comp=Z,17nm,1.0s
LBTB Lobatse 91.33 240 P P 16 09 38.5 +0.2
comp=Z,7.3nm,1.1s,baz=39,slow=9.3,SNR=3.8
LBTB Lobatse 91.33 240 P P 16 09 38.5 +0.2
LBTB pmax pmax
comp=Z,59nm,1.9s
LBTB Lobatse 91.33 240 IAmb IAmb 16 09 45.3
comp=Z,59nm,1.9s
E09A Wood Farm, Sta 91.44 24 IAmb IAmb 16 09 46.8
comp=Z,19nm,1.4s
H04A Detroit Lake 91.62 27 IAmb IAmb 16 10 00.1
comp=Z,22nm,1.4s
I03D Drain, OR 92.02 28 P P 16 09 41.5 +0.3
baz=328
F10A Beach Ranch, E 92.21 24 P P 16 09 42.4 +0.2
I04A Tendick Farm, 92.29 28 P P 16 09 42.9 +0.3
baz=329
MSO Missoula 92.45 21 P P 16 09 43.1 -0.3
baz=335
MSO Missoula 92.45 21 IAmb IAmb 16 09 54.8
comp=Z,28nm,1.6s
PINE Pine Mountain 92.84 27 IAmb IAmb 16 09 54.4
comp=Z,11nm,1.1s
J04D Umpqua Nationa 92.88 28 P P 16 09 46.1 +0.7
baz=329
ULM Lac du Bonnet 92.94 9 LR LR 16 53 25.2
comp=Z,231nm,20.8s,baz=360,slow=37
J05D Fort Rock, OR 93.17 27 P P 16 09 47.1 +0.4
baz=330
PLID Pearl Lake 93.39 23 P P 16 09 47.1 -0.8
TSUM Tsumeb 93.57 249 P P 16 09 48.2 -0.6
TSUM IAmb IAmb 16 09 50.9
comp=Z,18nm,1.4s
L04D Klamath Falls 93.68 29 P P 16 09 48.6 -0.5
baz=329
BOSA Boshof 93.86 237 LR LR 16 50 41.8
comp=Z,175nm,18.0s,baz=48,slow=35
YBH Yreka Blue Hor 93.94 29 LR LR 16 53 20.4
comp=Z,396nm,18.1s,baz=324,slow=36
M02C Callahan 94.17 29 P P 16 09 50.7 -0.6
baz=328
BOZ Bozeman (W) 94.24 20 P P 16 09 50.2 -1.4
baz=337
HLID Hailey 95.26 23 P P 16 09 56.3 -0.1
baz=334
D63A Stockholm 96.02 350 P P 16 09 58.7 -0.9
baz=11
D62A Allapoint, All 96.10 351 P P 16 09 59.2 -0.7
baz=11
DBIC Dimbokro 96.12 283 P P 16 09 59.9 -0.6
comp=Z,3.0nm,0.9s,baz=129,slow=4.6,SNR=3.2
DBIC LR LR 16 59 24.1
comp=Z,214nm,18.6s,baz=37,slow=39
D56A ZEC Mazanza, M 96.71 355 P P 16 10 01.4 -1.3
baz=6.0
D55A Sainte-Anne-du 96.78 355 P P 16 10 02.4 -0.6
baz=5.5
E61A Lac Etchemin 96.92 352 P P 16 10 03.4 -0.2
baz=9.5
PDAR Pinedale Array 97.42 20 LR LR 16 58 59.4
comp=Z,600nm,19.1s,baz=342,slow=38
RSSD Black Hills 97.51 16 P P 16 10 05.3 -1.3
RSSD pmax pmax
comp=Z,16nm,1.4s
RSSD Black Hills 97.51 16 P P 16 10 05.3 -1.3
RSSD IAmb IAmb 16 10 08.5
comp=Z,16nm,1.4s
NVAR Mina Array Bea 98.49 28 P P 16 10 10.9 -0.2
comp=Z,0.4nm,0.7s,baz=52,slow=38,SNR=2.7
NVAR LR LR 16 56 17.9
comp=Z,406nm,18.7s,baz=327,slow=36
SYO Syowa Base 113.38 199 *e*PKPdf **PKiKP** 16 15 10.4 +1.3
SYO Syowa Base 113.38 199 *e*PKPdf **PKiKP** 16 15 15.6 +6.5
PPT2 Papeete2 118.32 92 eLR LR 16 51 12.0
comp=Z,278nm,26.0s,baz=309
VNDA Vanda 119.96 167 PKP **PKPdf** 16 15 19.3 -2.2
comp=Z,0.5nm,0.7s,baz=289,slow=4.4,SNR=4.3
TBI Tubuai 121.35 97 eLR LR 16 52 31.6
comp=Z,220nm,26.0s
QSPA South Pole Qui 126.11 180 **PKPdf** 16 15 31.8 -2.0
SDV Santo Domingo 133.69 344 **PKPdf** 16 15 48.5 -1.4
SDV Santo Domingo 133.69 344 *e*P **PKiKP** 16 15 53.1 +1.9
MCPB Macapa, AP 134.53 315 *e*P **PKiKP** 16 15 54.9 +2.2
PRPB Parauapebas 137.76 307 *e*P **PKiKP** 16 16 00.5 +1.3
SMTB Santa Maria do 138.27 302 *e*P **PKiKP** 16 16 00.9 +0.6
OTAV Otavalo 143.43 354 PKIKP PKPab 16 16 04.6 +0.4
OTAV Otavalo 143.43 354 PKPdf PKPab 16 16 04.5 +0.4
SAML Samuel 147.67 323 PKIKP **PKPdf** 16 16 14.1 -0.6
SAML Samuel 147.67 323 **PKPdf** 16 16 14.1 -0.6
PCMB Pacaembu 149.31 290 *e*P **PKPbc** 16 16 21.2 -0.3
VILB Vilhena 149.40 314 *e*P **PKPbc** 16 16 19.9 -2.1
ETMB Extrema 149.83 327 *e*P **PKPbc** 16 16 21.9 -1.1
PTLB Pontes e Lacer 150.70 309 *e*P **PKPbc** 16 16 24.0 -1.0
TRCB Terra Rica 151.03 290 *e*P **PKPdf** 16 16 22.1 +2.2
LPAZ La Paz 156.39 324 PKP **PKPdf** 16 16 27.5 -0.9
comp=Z,0.7nm,0.4s,baz=344,slow=4.2,SNR=6.1
PB16 IPOC Station P 158.81 324 **PKPdf** 16 16 30.4 -0.9
MNMC Minye Minye 159.54 324 **PKPdf** 16 16 31.7 -0.1
PB09 IPOC Station P 161.59 318 **PKPdf** 16 16 34.5 +0.7
AC05 El Transito 167.42 303 **PKPdf** 16 16 39.0 +0.2

*BJI **02** 16:13:21.2±0.0, 14°.88N×120°.87E, h210km, mB5.0/24, mb4.6/52*
*MAN **02** 16:13:23.5, 15°.21N×120°.47E, h184km, mb5.3, ML4.3, MS4.5*
*IDC **02** 16:13:24.6±0.5, 15°.04N×120°.74E, h208km±4km, mb4.2/33, mb1 4.3/35, mb1mx4.1/59, mbtmp4.7/35, Error ellipse: s-maj=11.7km s-min=5.8km az=73.0*
*NEIC **02** 16:13:24.5±1.6, 15°.13N±0°.06×120°.74E±0°.07, h204km±4km, mb4.7/138, Error ellipse: s-maj=10.0km s-min=8.7km az=85.0*
*KLM **02** 16:13:27.0, 15°.03N×120°.84E, h243km, mb4.9*
ISC 02 16:13:24.3±0.5, 15°.12N±0°.03×120°.62E±0°.05, h202km±4km, n285, σ1°48/310, mb4.7/114, 8C-7D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**1.03**	**3**	*e*P	**Pn**	**16 13 51.2**	**-3.3**
SMPP				*e*S	**S**	**16 14 13.8**	**-4.2**
TGY	**Tagaytay City**	**1.05**	**163**	P	**Pn**	**16 13 55.1**	**+0.4**
	2μm,0.3s,baz=285,slow=2.1,SNR=144						
TGY				S	**S**	**16 14 18.0**	**-0.2**
	353nm,0.3s,baz=180,slow=16,SNR=3.1						
TGY	**Tagaytay City**	**1.05**	**163**	↓*i* P	**Pn**	**16 13 55.0**	**+0.3**
BALP	**Baler**	**1.11**	**56**	*e*P	**Pn**	**16 13 54.2**	**-0.9**
BALP				*e*S	**S**	**16 14 17.1**	**-1.6**
POLP	**Polilio Island**	**1.33**	**107**	*e*P	**Pn**	**16 13 56.7**	**-0.1**
POLP				*e*S	**S**	**16 14 21.5**	**0.0**
LQP	**Lukban**	**1.34**	**138**	↑*i* P	**Pn**	**16 13 57.0**	**-0.1**
LQP				*i* S	S	16 14 08.0	-14
LUBP	**Lubang**	**1.42**	**195**	*e*P	**Pn**	**16 13 55.0**	**-2.5**
LUBP				*e*S	**S**	**16 14 21.7**	**-1.3**
BOLP	**Bolinao**	**1.43**	**332**	*e*P	**Pn**	**16 13 55.5**	**-2.1**
BOLP				*e*S	**S**	**16 14 20.0**	**-3.1**
PGP	**Puerto Galera**	**1.64**	**169**	↓*i* P	**Pn**	**16 13 59.0**	**-0.5**
PGP				*i* S	**S**	**16 14 28.0**	**+1.6**
GQP	**Guinayangan**	**2.14**	**124**	↓*i* P	**Pn**	**16 14 04.8**	**+0.4**
CAUP	**Cauayan**	**2.16**	**32**	*e*P	**Pn**	**16 14 03.6**	**-1.0**
CAUP				*e*S	**S**	**16 14 43.5**	**+8.0**
ABRA	**Dolores**	**2.52**	**2**	*e*P	**Pn**	**16 14 05.7**	**-2.8**
ABRA				*e*S	**S**	**16 14 38.4**	**-4.1**
APYP	**Conner**	**2.80**	**12**	*e*P	**Pn**	**16 14 09.6**	**-2.1**
APYP				*e*S	**S**	**16 14 45.6**	**-2.5**
SIPP	**Brgy, Tapao**	**2.80**	**357**	↑*e*P	**Pn**	**16 14 09.4**	**-2.3**
SIPP				*i* S	**S**	**16 14 55.1**	**+6.9**
OTRP	**Odiongan**	**3.06**	**153**	*e*P	**Pn**	**16 14 15.4**	**+0.6**
OTRP				*e*S	**S**	**16 14 55.3**	**+1.7**
BUSP	**Coron**	**3.12**	**188**	*e*P	**Pn**	**16 14 13.9**	**-1.7**
BUSP				*e*S	**S**	**16 14 53.1**	**-1.9**
SGCP	**Mt. Cagua**	**3.40**	**24**	*e*P	**Pn**	**16 14 16.7**	**-2.1**
ENPP	**El Nido**	**4.06**	**197**	*e*P	**Pn**	**16 14 27.6**	**+0.7**
ENPP				*e*S	**S**	**16 15 13.8**	**-1.7**
CUYO	**Cuyo Island**	**4.26**	**175**	*e*P	**Pn**	**16 14 29.1**	**-0.4**
JAP	**San Jose, Anti**	**4.53**	**163**	↓*e*P	**Pn**	**16 14 34.2**	**+1.3**
GUIM	**Jordan**	**4.86**	**156**	*e*P	**Pn**	**16 14 39.6**	**+2.5**
CNOP	**Candoni, Negro**	**5.61**	**159**	*e*P	**Pn**	**16 14 48.4**	**+1.6**
CNOP				*e*S	**S**	**16 15 54.2**	**+2.7**
TWG	**Pinlang**	**7.68**	**3**		**Pn**	**16 15 10.8**	**-2.6**
TPUB	**Ta-pu**	**8.14**	**0**	Pn	**Pn**	**16 15 18.8**	**-0.7**
YULB	**Yu-li**	**8.26**	**4**		**Pn**	**16 15 19.1**	**-1.9**
SSLB	**Suanglung**	**8.63**	**2**	Pn	**Pn**	**16 15 24.5**	**-1.3**
SSLB					**S**	**16 17 02.0**	**-0.9**
NACB	**Ninganchiao**	**9.06**	**6**	Pn	**Pn**	**16 15 29.4**	**-2.0**
HKPS	**Hong Kong Po S**	**9.40**	**320**	Pn	**Pn**	**16 15 38.0**	**+2.2**
HKPS					**S**	**16 17 22.9**	**+1.6**
YHNB	**Yeheng**	**9.53**	**4**	Pn	**Pn**	**16 15 37.1**	**-0.5**
KNMB	**Chin-men Tao**	**9.53**	**348**	Pn	**Pn**	**16 15 38.3**	**+0.8**
KKM	**Kota Kinabalu**	**10.00**	**206**	Pn	**Pn**	**16 15 45.8**	**+2.0**
MYLDM	**Lahad Datu**	**10.09**	**192**	Pn	**Pn**	**16 15 48.1**	**+3.2**
JMZ	**Minamidaito 2**	**14.55**	**41**	P	**Pn**	**16 16 40.1**	**-0.9**
GTOI	**Gorontalo**	**14.58**	**170**	P	**Pn**	**16 16 41.6**	**+0.1**
	32nm,1.1s						
MPSI	**Mapaga**	**14.70**	**183**	P	**P**	**16 16 45.6**	**+1.7**
MPSI	**Mapaga**	**14.70**	**183**	P	**P**	**16 16 45.7**	**+1.8**
	1μm67nm,0.7s						
KMSI	**Cibinong**	**14.82**	**167**	P	P	16 16 54.2	+8.9
SBUM	**Sibu**	**15.07**	**214**	P	**P**	**16 16 48.8**	**+0.9**
SBUM				IAmb	IAmb	16 16 52.5	
	comp=Z,23nm,0.8s						
SBUM	**Sibu**	**15.07**	**214**	P	**P**	**16 16 49.0**	**+1.0**
SMKI	**Samarinda**	**15.82**	**193**	P	**Pn**	**16 17 00.0**	**+3.4**
	comp=Z,114nm,1.0s						
LUWI	**Luwuk**	**16.19**	**172**	P	**Pn**	**16 17 03.1**	**+2.0**
	comp=Z,76nm,0.9s						
LUWI	**Luwuk**	**16.19**	**172**	P	**Pn**	**16 17 00.9**	**-0.1**
WHN	**Wuhan**	**16.40**	**341**	P	**Pn**	**16 17 06.0**	**+2.6**
MTKI	**Muara Teweh, K**	**16.93**	**200**	P	**Pn**	**16 17 11.4**	**+1.6**
	comp=Z,29nm,0.9s						
NJ2	**Nanjing**	**16.94**	**355**	*e*P	**Pn**	**16 17 09.7**	**0.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSM	**Kuching**	**16.95**	**218**	P	**P**	**16 17 09.0**	**+0.2**
KSM	**Kuching**	**16.95**	**218**	P	**Pn**	**16 17 11.0**	**+0.9**
SLVN	**Son La**	**17.03**	**294**		**Pn**	**16 17 11.3**	**+0.2**
GYA	**Guiyang**	**17.23**	**313**	↓P	**Pn**	**16 17 13.9**	**+0.5**
GYA				sP	sP	16 18 11.6	+2.4
GYA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
STKI	**Sintang**	**17.47**	**212**	P	**Pn**	**16 17 18.0**	**+1.8**
	comp=Z,20nm,0.5s						
SANI	**Sanana**	**17.86**	**162**	P	**P**	**16 17 18.3**	**-0.4**
	comp=Z,62nm,0.8s						
ENH	**Enshi**	**18.23**	**328**	P	**P**	**16 17 22.5**	**-0.1**
ENH				IAmb	IAmb	16 17 30.5	
	comp=Z,21nm,0.9s						
JSU	**Suzuyama**	**18.63**	**27**	P	**P**	**16 17 26.5**	**-0.4**
JSU				IAmb	IAmb	16 17 42.0	
	comp=Z,49nm,1.4s						
SPSI	**Sidrap Palu**	**18.98**	**183**	P	**Pn**	**16 17 33.3**	**-0.6**
	comp=Z,53nm,1.0s						
SIJI	**Sorong**	**19.06**	**146**	P	**P**	**16 17 32.1**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=149,slow=21,SNR=4.0						
BBKI	**Banjar Baru**	**19.32**	**198**	P	**Pn**	**16 17 36.3**	**-1.7**
	comp=Z,2μmcomp=Z,67nm,0.7s						
KMI	**Kunming**	**19.50**	**304**	↓*e*P	**Pn**	**16 17 39.2**	**-1.1**
KMI				pmax	pmax		

comp=Z,7.0nm,0.8s
KAPI Kappang 20.02 183 P P 16 17 42.6 +0.7
comp=Z,2.5nm,0.3s,baz=341,slow=12,SNR=8.7
KAPI Kappang 20.02 183 P P 16 17 42.6 +0.7
JNU Nakatsue 20.20 26 P P 16 17 44.5 +0.7
comp=Z,13nm,0.9s,baz=274,slow=2.4,SNR=7.9
JNU Nakatsue 20.20 26 P P 16 17 44.9 +1.1
BKSI Bulukumba 20.31 181 P P 16 17 46.0 +0.9
comp=Z,22nm,0.8s
JTU Tsushima 20.88 21 P P 16 17 51.0 0.0
CM31 Chiang Mai Arr 21.01 282 P P 16 17 53.8 +1.3
CM31 IAmb IAmb 16 17 56.3
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 21.01 282 P P 16 17 54.4 +1.8
comp=Z,11nm,0.9s,baz=94,slow=7.5,SNR=80
CMAR PcP **PcP 16 21 50.5 -0.7**
comp=Z,1.0nm,0.4s,baz=32,slow=0.8,SNR=10.0
CMAR ScP **ScP 16 25 10.0 +1.1**
comp=Z,0.2nm,0.4s,baz=81,slow=0.8,SNR=4.7
CMAR Chiang Mai Arr 21.01 282 P P 16 17 54.0 +1.4
CHTO Chiang Mai 21.05 283 P P 16 17 53.3 +0.4
MYKOM Kota Tinggi 21.19 233 P P 16 17 54.9 +0.5
MYKOM IAmb IAmb 16 17 57.3
comp=Z,20nm,1.1s
MYKOM Kota Tinggi 21.19 233 P P 16 17 55.0 +0.6
TIA Tai'an 21.24 352 P P 16 17 54.6 -0.1
TIA pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 21.60 333 P P 16 17 58.0 -0.5
XAN pmax pmax
comp=Z,23nm,0.8s
XAN Xi'an 21.60 333 P P 16 17 57.3 -1.2
XAN IAmb IAmb 16 17 59.8
comp=Z,17nm,0.8s
KULM Kulim 21.92 246 P P 16 18 02.3 +0.5
KULM IAmb IAmb 16 18 04.0
comp=Z,22nm,0.8s
KULM Kulim 21.92 246 P P 16 18 03.0 +1.2
IPM Ipoh 21.98 243 P P 16 18 02.0 -0.5
IPM Ipoh 21.98 243 P P 16 18 03.0 +0.5
CD2 Chengdu 22.04 318 ⇑P P 16 18 04.1 +1.2
CD2 pmax pmax
comp=Z,50nm,0.5s
JMN Monobe 22.08 31 P P 16 18 02.0 -1.2
PPBI Pangkal Pinang 22.36 221 P P 16 18 07.2 +1.2
comp=Z,3μmcomp=Z,57nm,1.0s
JHS Saijyo 22.77 27 P P 16 18 06.3 -3.1
KSAR Wonju Array Be 23.16 15 P P 16 18 12.6 -0.3
KSRS Korea Array 23.18 15 P P 16 18 12.8 -0.3
comp=Z,9.4nm,0.6s,baz=200,slow=11,SNR=44
KS19 Wonju Array Si 23.21 15 P P 16 18 12.7 -0.7
KS19 IAmb IAmb 16 18 14.7
comp=Z,11nm,0.8s
MMRI Maumere 23.65 176 P P 16 18 17.8 +0.2
EDFI Ende, Flores 23.73 177 P P 16 18 20.1 +1.6
comp=Z,621nmcomp=Z,73nm,0.7s
PLAI Plampang 23.95 187 P P 16 18 21.9 +1.5
JWT Wachi 24.07 31 P P 16 18 21.1 -0.2
JWT IAmb IAmb 16 18 23.5
comp=Z,20nm,0.7s
JAGI Jajag, Banyuwa 24.29 196 P P 16 18 25.9 +2.4
PSI Prapat 24.64 242 P P 16 18 26.6 -0.2
comp=Z,8.7nm,0.8s,baz=3.1,slow=6.0,SNR=10
RPSI Rantau Prapat 24.69 242 P P 16 18 26.9 -0.2
RPSI IAmb IAmb 16 18 29.1
comp=Z,15nm,0.9s
SDSI Sungai Dareh 24.79 232 P P 16 18 29.9 +1.9
comp=Z,7.8nm,0.8s
UGM Wanagama 24.97 204 P P 16 18 31.6 +2.0
SOEI Soe 24.97 171 P P 16 18 38.7 +9.0
SOEI Soe 24.97 171 P P 16 18 29.0 -0.7
BJT Baijiatuau 25.11 352 P P 16 18 30.7 0.0
BJT IAmb IAmb 16 18 31.9
comp=Z,21nm,1.0s
BJI Beijing 25.14 352 P P 16 18 30.8 0.0
BJI pmax pmax
comp=Z,21nm,1.2s
MNSI Mandailing Nat 25.18 238 P P 16 18 34.9 +3.3
comp=Z,3μmcomp=Z,48nm,0.7s
KLSI 25.20 220 P P 16 18 37.6 +5.9
comp=Z,9.7nm,1.0s
BATI Baumata 25.34 173 P P 16 18 31.6 -1.4
comp=Z,66nm,0.8s,baz=72,slow=1.4,SNR=17
BATI Baumata 25.34 173 P P 16 18 33.4 +0.5
comp=Z,56nm,0.9s
LZH Lanzhou 25.71 327 eP P 16 18 42.5 +6.2
LZH pP pP 16 19 16.8 +0.8
LZH pmax pmax
comp=Z,27nm,1.1s
CISI Cisompet, Garu 25.85 210 P P 16 18 37.9 +0.3
MNAI Manna 26.09 223 P P 16 18 41.2 +1.5
GSI Gunungsitoli 26.57 241 P P 16 18 44.5 +0.5
GSI IAmb IAmb 16 18 51.3
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 26.82 345 eP P 16 18 47.3 +1.2
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,210nm,7.4s
JSD Sado 27.65 31 P P 16 18 51.4 -1.9
SHL Shillong 28.82 296 P P 16 19 03.8 -0.3
SHL IAmb IAmb 16 19 05.8
comp=Z,27nm,1.1s
CN2 Changchun 28.89 7 eP P 16 19 07.1 +2.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
XMIS Christmas Isla 29.44 211 P P 16 19 08.6 -0.8
MTN Manton Dam 29.66 159 P P 16 19 10.3 -1.0
MTN IAmb IAmb 16 19 11.4
comp=Z,10nm,0.8s
GTA Gaotai 30.31 327 eP P 16 19 19.0 +2.0
GTA pmax pmax
comp=Z,7.0nm,0.9s
MDJ Mudanjiang 30.38 13 P P 16 19 17.7 +0.3
MDJ IAmb IAmb 16 19 26.7
comp=Z,31nm,1.4s
USA0B Ussuriysk Arra 30.56 16 P P 16 19 19.3 +0.3
USA0B IAmb IAmb 16 19 20.4
comp=Z,21nm,1.1s
USRK Ussuriysk Ar. 30.56 16 P P 16 19 19.5 +0.5
comp=Z,6.9nm,0.7s,baz=208,slow=7.7,SNR=18
USRK Ussuriysk Ar. 30.56 16 P P 16 19 18.7 -0.3
LSA Lhasa 30.75 303 P P 16 19 21.5 0.0
LSA IAmb IAmb 16 19 24.8
comp=Z,15nm,1.1s
KNRA Kununurra 31.64 165 P P 16 19 27.9 -0.7
KNRA IAmb IAmb 16 19 29.3
comp=Z,13nm,0.8s
ERM Erimo 33.12 32 P P 16 19 41.6 +0.3
JEM Erimo 33.12 32 P P 16 19 50.2 +8.9
JEM IAmb IAmb 16 20 29.6
comp=Z,29nm,1.3s
FITZ Fitzroy Crossi 33.37 171 P P 16 19 42.8 -1.0
comp=Z,7.9nm,0.8s
FITZ Fitzroy Crossi 33.37 171 P P 16 19 42.5 -1.2
FITZ IAmb IAmb 16 19 44.0
comp=Z,20nm,1.2s
JKA Kamikawa-asahi 34.43 28 P P 16 19 52.0 -0.6
JKA IAmb IAmb 16 19 53.0
comp=Z,19nm,1.2s
ULN Ulaanbaatar 34.53 344 P P 16 19 53.7 0.0
SONM Songino Array 34.69 343 P P 16 19 55.5 +0.5
comp=Z,27nm,0.7s,baz=160,slow=9.8,SNR=121
SONM Songino Array 34.69 343 P P 16 19 55.2 +0.2
PSA00 Pilbara Seismi 36.47 181 P P 16 20 09.2 -1.0
PSA00 IAmb IAmb 16 20 10.9
comp=Z,19nm,0.9s
PSA00 Pilbara Seismi 36.47 181 P P 16 20 09.7 -0.5
PSA00 IAmb IAmb 16 20 36.8
comp=Z,6.8nm,0.8s
COEN Coen 36.50 141 P P 16 20 09.8 -0.8
COEN IAmb IAmb 16 20 46.0
comp=Z,47nm,1.6s
YSS Yuzh-Sakhalins 36.71 26 P P 16 20 11.4 -0.6
YSS IAmb IAmb 16 20 18.7
comp=Z,29nm,1.4s
WB0 Warramunga Arr 37.22 158 P P 16 20 15.5 -1.1
WB0 IAmb IAmb 16 20 16.6
comp=Z,25nm,1.0s
WRAB Tennant Creek 37.35 158 P P 16 20 16.9 -0.9
WRAB IAmb IAmb 16 20 17.9
comp=Z,18nm,0.8s
WRA Warramunga Arr 37.36 158 P P 16 20 17.0 -0.8
comp=Z,12nm,0.5s,baz=327,slow=10,SNR=179
WRA S **S 16 25 45.9 -4.8**
comp=Z,0.7nm,0.6s,baz=345,slow=14,SNR=5.5
WRA Warramunga Arr 37.36 158 P P 16 20 16.7 -1.1
WB2 Warramunga Arr 37.36 158 P P 16 20 16.8 -1.0
WB2 IAmb IAmb 16 20 18.0
comp=Z,28nm,0.9s
WR0 Warramunga Arr 37.45 158 P P 16 20 17.5 -1.0
WR0 IAmb IAmb 16 20 18.7
comp=Z,19nm,1.0s
TLY Talaya 38.93 343 P P 16 20 30.8 +0.2
TLY IAmb IAmb 16 20 32.4
comp=Z,25nm,0.9s
WMQ Urumqi 40.04 322 eP P 16 20 41.9 +2.0
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,63nm,5.1s
WMQ LR LR
comp=Z,280nm,29.2s
WMQ LR LR
comp=Z,390nm,29.2s
WMQ LR LR
comp=Z,76nm,22.3s
AS31 Alice Springs 40.67 161 P P 16 20 44.2 -1.0
ASAR Alice Springs 40.67 161 P P 16 20 45.0 -0.3
comp=Z,12nm,0.5s,baz=338,slow=6.8,SNR=373
ASAR ScP **ScP 16 26 12.3 -1.1**
comp=Z,0.5nm,0.8s,baz=328,slow=3.9,SNR=3.2
ASAR S **S 16 26 34.8 -5.3**
comp=Z,0.5nm,0.9s,baz=332,slow=9.8,SNR=4.4
ASAR Alice Springs 40.67 161 P P 16 20 44.7 -0.6
ZSN Zaisan 43.76 325 eP P 16 21 09.4 -0.4
MORW Morawa 44.15 186 P P 16 21 12.2 -0.8
MORW IAmb IAmb 16 21 18.9
comp=Z,29nm,1.4s
MK31 Makanchi Array 44.86 323 P P 16 21 19.1 +0.5
MK31 PcP **PcP 16 22 56.0 -0.7**
MKAR Makanchi Array 44.86 323 P P 16 21 19.6 +1.0
comp=Z,7.7nm,0.8s,baz=123,slow=9.5,SNR=64
MKAR PcP **PcP 16 22 55.1 -1.6**
comp=Z,2.2nm,0.8s,baz=99,slow=3.8,SNR=5.3
MKAR Makanchi Array 44.86 323 P P 16 21 18.9 +0.4
MKAR pP **pP 16 22 04.8 +2.7**
MKAR **PcP 16 22 56.7 0.0**
SHLS Shalkode 44.87 317 eP P 16 21 17.9 -1.0
comp=Z,11nm,0.7s
MAKZ Makanchi 45.05 323 P P 16 21 20.7 +0.6
MAKZ IAmb IAmb 16 21 22.3
comp=Z,36nm,1.6s
UZB Uzynbulak 45.15 317 eP P 16 21 22.4 +1.2
comp=Z,7.9nm,0.7s
PRZ Przheval'sk 45.29 316 P P 16 21 24.3 +2.0
PRZ IAmb IAmb 16 21 25.8
comp=Z,34nm,1.2s
KPKS Kokpek 45.51 317 eP P 16 21 25.0 +1.2
comp=Z,19nm,1.3s
SATY Saty 45.52 316 eP P 16 21 25.3 +1.3
comp=Z,8.1nm,1.0s
KDJ Kajisay 45.98 315 P P 16 21 28.7 +1.0
FORT Forrest 46.19 171 P P 16 21 28.6 -0.5
FORT IAmb IAmb 16 21 29.8
comp=Z,21nm,0.9s
MDOK Medeo 46.48 316 eP P 16 21 33.0 +1.5
NIL Nilore 46.48 302 P P 16 21 31.5 0.0
NIL IAmb IAmb 16 21 33.3
comp=Z,39nm,1.1s
TNSS Tian-Shan 46.49 316 eP P 16 21 33.5 +1.6
ULHL Ulahol 46.67 314 P P 16 21 35.0 +1.9
SNR=5.5
KUU Kurty 47.24 317 eP P 16 21 38.4 +1.2
comp=Z,38nm,0.8s
YAK Yakutsk 47.30 6 P P 16 21 36.1 -1.1
YAK IAmb IAmb 16 21 37.6
comp=Z,48nm,1.1s
TKM2 Tokmak 2 47.37 315 P P 16 21 40.0 +1.6
SNR=9.1
KBK Karagaybulak 47.71 314 P P 16 21 42.5 +1.4
SNR=8.3
ZALV Zalesovo Beam 47.77 332 P P 16 21 41.1 0.0
comp=Z,8.6nm,0.5s,baz=129,slow=6.5,SNR=30
PEA0B Petropavlovsk- 47.83 29 P P 16 21 40.7 -0.9
PEA0B IAmb IAmb 16 22 17.9
comp=Z,76nm,1.6s
PETK Petropavlovsk- 47.83 29 P P 16 21 41.4 -0.2
comp=Z,5.7nm,0.7s,baz=200,slow=6.0,SNR=9.8
UCH Uchtor 47.87 314 P P 16 21 28.9 -14
SNR=6.6
NWAO Narrogin (SRO) 47.88 184 P P 16 21 41.6 -0.5
NWAO IAmb IAmb 16 22 07.1
comp=Z,76nm,1.6s
NWAO Narrogin (SRO) 47.88 184 P P 16 21 41.5 -0.6
NWAO IAmb IAmb 16 22 07.1
comp=Z,95nm,1.6s
CHMS Chumysh 47.97 315 P P 16 21 44.2 +1.3
SNR=6.3
USP Ospenovka 48.24 315 P P 16 21 45.9 +1.0
SNR=12
AML Almayashu 48.41 313 P P 16 21 48.6 +1.9
SNR=6.6
EKS2 Erkin-Say 48.52 314 P P 16 21 48.9 +1.7
SNR=7.8
KURK Kurchatov 48.98 326 P P 16 21 51.0 +0.7
KURBB Kurchatov Arra 48.98 326 P P 16 21 50.9 +0.5
comp=Z,24nm,0.9s
BTLS Baital 49.20 317 eP P 16 21 52.6 +0.5
BBOO Buckleboo 49.89 163 P P 16 21 56.9 -0.6
GAR Garm 49.97 308 P P 16 21 58.8 +0.5
EIDS Eidsvold 50.00 143 P P 16 21 58.0 -0.4
KBL Kabul 50.08 303 P P 16 22 00.3 +1.1
KBL IAmb IAmb 16 22 01.3
comp=Z,19nm,0.9s
CHGR Chuyangaron 50.77 308 P P 16 22 05.3 +1.1
CHGR IAmb IAmb 16 22 06.0
comp=Z,27nm,0.7s
STKA Stephens Creek 50.87 157 P P 16 22 04.6 -0.2
comp=Z,6.2nm,0.5s,baz=334,slow=7.5,SNR=38
STKA Stephens Creek 50.87 157 P P 16 22 04.4 -0.4
KK31 Karatay Array 50.94 314 P P 16 22 05.8 +0.5
KK31 PcP **PcP 16 23 18.1 -0.5**
KKAR Karatay Array 50.94 314 P P 16 22 05.9 +0.6
KKAR PcP **PcP 16 23 18.2 -0.4**
KKAR Karatay Array 50.94 314 P P 16 22 05.8 +0.5
KKAR IAmb IAmb 16 22 07.2
comp=Z,13nm,0.9s
KKAR PcP **PcP 16 23 17.8 -0.8**
IUG Iuzhnay 51.00 312 eP P 16 22 07.1 +1.3
ARMA Armidale 54.23 147 P P 16 22 30.3 +0.7
BVAR Borovoye Array 54.57 325 P P 16 22 32.2 +0.6
comp=Z,4.2nm,0.7s,baz=149,slow=20,SNR=16
BRVK Borovoye 54.64 325 P P 16 22 32.2 +0.1
BRVK IAmb IAmb 16 22 33.9
comp=Z,28nm,1.2s
TIXI Tiksi 56.73 3 P P 16 22 45.1 -1.6
CAN Canberra 56.92 152 P P 16 22 48.8 +0.1
CAN IAmb IAmb 16 23 06.0
comp=Z,28nm,1.5s
TOO Toolangi 57.39 157 P P 16 22 52.1 +0.3
TOO IAmb IAmb 16 23 09.7
comp=Z,16nm,1.2s
NRIK Noril'sk 58.03 347 P P 16 22 55.8 +0.1
comp=Z,13nm,0.6s,baz=134,slow=6.5,SNR=29
DZM Mont Dzumac 58.16 128 P P 16 22 57.9 +0.4
DZM IAmb IAmb 16 23 06.6
comp=Z,15nm,1.3s
AMKA Amchitka 58.90 39 P P 16 23 02.1 0.0
GEYT Alibeck 59.25 305 P P 16 23 06.6 +1.8
comp=Z,15nm,0.8s,baz=134,slow=4.3,SNR=25
GEYT Alibeck 59.25 305 P P 16 23 05.9 +1.1
GYA0B ALIBECK ARRAY 59.25 305 P P 16 23 05.2 +0.4
ABKAR Akbulak array 59.62 319 P P 16 23 07.6 +0.5
ABKAR IAmb IAmb 16 23 08.7
comp=Z,18nm,0.9s
ABKAR Akbulak array 59.62 319 P P 16 23 07.2 +0.1
AKTO Aktyubinsk 61.09 320 P P 16 23 17.6 +0.6
comp=Z,6.6nm,0.6s,baz=96,slow=8.2,SNR=23
ADK Adak 61.45 39 P P 16 23 18.8 -0.6
ARU Arti 62.17 326 P P 16 23 24.1 0.0
comp=Z,5.2nm,0.3s,baz=104,slow=6.0,SNR=27
ARU Arti 62.17 326 P P 16 23 23.5 -0.6
FUNA Funafuti 62.62 108 P P 16 23 26.1 -1.7
KIRV Kirov 67.43 328 P P 16 23 58.1 +0.1
comp=Z,46nm,0.8s,baz=2.3,slow=0.3,SNR=15
AKH Akhalkalaki 70.57 309 P P 16 24 18.4 +0.5
KBZ Khabaz 70.89 311 P P 16 24 20.2 +0.7
comp=Z,7.7nm,1.0s,baz=95,slow=6.3,SNR=9.6
KIV Kislovodsk 71.03 312 P P 16 24 21.4 +0.9
KIV IAmb IAmb 16 24 22.3
comp=Z,16nm,0.8s
RDOG Red Dog Mine 71.03 23 P P 16 24 19.4 -0.5
RDOG IAmb IAmb 16 24 58.0
comp=Z,18nm,1.5s
KLMR Klimovskoe 72.60 330 eP P 16 24 27.8 -1.6
KLMR AMP 16 24 30.0
comp=Z,34nm,1.1s
KLMR ePP **PP 16 27 11.5 -1.9**
MARD Mardin 73.01 305 P P 16 24 33.2 +0.8
MARD IAmb IAmb 16 24 34.3
comp=Z,11nm,0.5s
TTA Tatalina 73.65 28 P P 16 24 36.3 +0.7
TTA IAmb IAmb 16 24 36.8
comp=Z,6.3nm,0.6s
SVW2 Sparrevohn 73.91 30 P P 16 24 37.5 +0.4
PPLA Purkeypile 75.40 28 P P 16 24 46.2 +0.4
KDAK Kodiak Island 75.66 34 P P 16 24 47.0 -0.1
SKT Skwentna 75.79 29 P P 16 24 47.4 -0.4
BPAW Bear Paw Mtn. 75.84 27 P P 16 24 47.8 -0.3
BPAW IAmb IAmb 16 24 49.7
comp=Z,21nm,1.0s
KTH Kantishna Hill 75.92 27 P P 16 24 49.1 +0.5
KTH IAmb IAmb 16 24 50.8
comp=Z,22nm,1.4s
TOLK Toolik Lake Re 75.98 22 P P 16 24 50.2 +1.4
CNPM China Poot 76.18 32 P P 16 24 49.2 -1.0
TRF Thorofare Moun 76.21 28 P P 16 24 50.5 +0.1
SUA Susitna One 76.21 30 P P 16 24 49.9 -0.5
SUA IAmb IAmb 16 24 50.9
comp=Z,15nm,0.9s
BRLK Bradley Lake 76.33 31 P P 16 24 50.0 -0.9
BRLK IAmb IAmb 16 25 06.4
comp=Z,24nm,1.2s
BWN Browne 76.49 27 P P 16 24 52.5 +0.8
BWN IAmb IAmb 16 25 17.6
comp=Z,21nm,1.3s
RND Reindeer 76.86 28 P P 16 24 53.3 -0.6
RND IAmb IAmb 16 24 54.4
comp=Z,20nm,1.2s
MDM Murphy Dome 76.92 26 P P 16 24 54.2 0.0
MDM IAmb IAmb 16 24 56.3
comp=Z,12nm,1.0s
SEW Seward 77.00 31 P P 16 24 53.8 -0.9
GHO Glory Hole Cre 77.04 29 P P 16 24 54.7 -0.2
WRH Wood River Hil 77.05 26 P P 16 24 55.1 +0.3
CCB Clear Creek Bu 77.15 26 P P 16 24 54.8 -0.5
KEV Kevo 77.19 339 P P 16 24 55.5 +0.1
SML Sawmill 77.31 29 P P 16 24 55.9 -0.5
SML IAmb IAmb 16 24 57.4
comp=Z,19nm,1.1s
ILAR Eielson Array 77.52 26 P P 16 24 56.2 -1.2
comp=Z,2.1nm,1.0s,baz=252,slow=5.1,SNR=11
ILAR Eielson Array 77.52 26 P P 16 24 56.6 -0.8
HDA Harding Lake 77.55 26 P P 16 24 57.1 -0.6
DHY Denali Highway 77.56 28 P P 16 24 57.4 -0.5
ARCES ARCESS Array B 77.74 339 P P 16 24 59.0 +0.3
comp=Z,12nm,0.7s,baz=76,slow=7.2,SNR=58
SCM Sheep Creek Mo 77.78 29 P P 16 24 59.0 -0.1
SCM IAmb IAmb 16 25 00.2
comp=Z,19nm,1.0s
SPA0 Spitsbergen Ar 78.20 348 P P 16 25 01.5 +0.5
SPITS Spitsbergen Ar 78.20 348 P P 16 25 01.4 +0.5
comp=Z,25nm,0.8s,baz=121,slow=9.8,SNR=12
BRTR Keskin Array B 78.22 308 P P 16 25 01.9 -0.1
comp=Z,1.2nm,0.8s,baz=92,slow=2.0,SNR=5.8
BRTR Keskin Array B 78.22 308 P P 16 25 02.7 +0.6
M24K Tolsona, Glenn 78.27 29 P P 16 25 02.2 +0.4
M24K IAmb IAmb 16 25 03.0
comp=Z,15nm,0.7s
PAX Paxson 78.44 28 P P 16 25 03.0 +0.3
KLU Klutina 78.50 29 P P 16 25 03.4 +0.4
RIDG Independent Ri 78.57 27 P P 16 25 03.4 +0.1
RIDG IAmb IAmb 16 25 04.1
comp=Z,18nm,1.0s
DOT Dot Lake 78.93 27 P P 16 25 05.1 -0.2
DOT IAmb IAmb 16 25 06.2
comp=Z,13nm,1.3s
EIL Elat 78.98 298 P P 16 25 06.4 +0.2
comp=Z,2.2nm,0.5s,baz=81,slow=15,SNR=3.7
FIA1 FINESS Array S 79.02 331 P P 16 25 05.2 -0.4
FINES FINESS Array B 79.02 331 P P 16 25 05.6 -0.1
comp=Z,6.2nm,0.6s,baz=59,slow=5.6,SNR=62
FINES FINESS Array B 79.02 331 P P 16 25 05.4 -0.3
MENT Mentasta 79.23 28 P P 16 25 08.0 +1.0
AKASG Malin Array Be 79.34 320 P P 16 25 07.0 -0.7
comp=Z,0.4nm,0.3s,baz=67,slow=5.3,SNR=7.7
GLB Gilahina Butte 79.50 29 P P 16 25 08.2 -0.2
GLB IAmb IAmb 16 25 09.9
comp=Z,14nm,1.4s
VRDI Verde Repeater 79.72 29 P P 16 25 10.0 +0.2
VRDI IAmb IAmb 16 25 14.8
comp=Z,15nm,1.5s
EGAK Eagle 79.92 26 P P 16 25 10.2 -0.4
CRQM Cirque 79.97 30 P P 16 25 10.6 -0.5
CRQM IAmb IAmb 16 25 12.4
comp=Z,12nm,1.0s
TGL Tana Glacier 80.12 30 P P 16 25 11.2 -0.6
TGL IAmb IAmb 16 25 33.9
comp=Z,9.3nm,0.6s
BARN Barnard Glacie 80.60 29 P P 16 25 15.9 +1.4
YAH Yahtse 80.73 30 P P 16 25 15.7 +0.4
YAH IAmb IAmb 16 25 48.6
comp=Z,33nm,1.6s
CTGM Chitina Glacie 80.78 29 P P 16 25 16.5 +1.1
CTGM IAmb IAmb 16 25 17.3
comp=Z,9.7nm,0.7s
INK Inuvik 81.81 21 P P 16 25 20.4 -0.1
VRI Vrincioaia 81.98 315 ⇓P P 16 25 23.5 +1.7
PLOR Plostina 82.03 315 ⇑P P 16 25 23.2 +1.0
NEHR Nehoiu 82.37 315 ⇑P P 16 25 26.0 +2.1
BURAR Bucovina Array 82.57 317 ⇑P P 16 25 25.6 +0.7
BURAR Bucovina Array 82.57 317 P P 16 25 25.4 +0.4
BUR08 Bucovina Ar. S 82.57 317 P P 16 25 25.5 +0.5
MLR Muntele Rosu 82.60 315 P P 16 25 25.0 -0.2
comp=Z,3.5nm,0.7s,baz=103,slow=3.9,SNR=5.0
MLR Muntele Rosu 82.60 315 ⇑P P 16 25 25.7 +0.5
MLR Muntele Rosu 82.60 315 P P 16 25 25.7 +0.5
HYT Haines Junctio 82.62 29 P P 16 25 25.3 +0.3
EUNU Eureka 83.94 5 P P 16 25 31.4 +0.1
EUNU IAmb IAmb 16 25 31.5
comp=Z,15nm,1.2s
KOLS Kolonicke sedl 84.12 319 eP P 16 25 32.2 -0.6
CRVS Cervenica-Dubn 84.65 319 eP P 16 25 36.3 +0.9
HFS Hagfors 85.20 331 P P 16 25 37.5 -0.4
comp=Z,3.5nm,0.6s,baz=114,slow=1.8,SNR=13
MDVR Moldovita 85.67 315 ⇑P P 16 25 29.7 -11
NC405 NORSAR Array S 85.72 333 P P 16 25 40.4 -0.1
NB2 NORSAR Subarra 85.97 333 P P 16 25 40.7 -1.0
comp=Z,9.0nm,0.9s,baz=64,slow=4.8
NOA NORSAR Array B 85.97 333 P P 16 25 41.1 -0.7
comp=Z,3.3nm,0.7s,baz=69,slow=4.5,SNR=13
VYHS Vyhne 86.43 319 eP P 16 25 43.6 -0.6
GERES GERESS Array B 89.49 321 P P 16 25 58.6 -0.2
comp=Z,1.0nm,0.8s,baz=46,slow=5.8,SNR=6.6
GERES GERESS Array B 89.49 321 P P 16 25 58.2 -0.6
CIMO Cimolais 91.27 319 P P 16 26 06.3 -0.7
CIMO IAmb IAmb 16 26 07.8
comp=Z,8.9nm,1.3s
TXAR Lajitas Array 118.52 44 PKP PKPdf 16 31 48.5 -0.3
comp=Z,0.6nm,0.7s,baz=236,slow=1.3,SNR=4.7

DJA 02 16:15:07.0 -1.6,2°N 18°×12°7E±°, h109km±14km, M3.3/4, MLv3.3/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.86**	**176**	P		Pn	16 15 27.3	+0.5
KMSI	**Cibinong**	**3.49**	**252**	P		Pn	16 15 59.9	+0.4
SANI	**Sanana**	**3.90**	**200**	P		Pn	16 16 02.5	-2.5
GTOI	**Gorontalo**	**4.41**	**257**	P		Pn	16 16 12.9	+1.0

JMA 02 16:17:02.1, 34°97N×135°65E, h11km, M2.8, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.32**	**175**	P		Pg	16 17 08.6	+0.1
JHE				S		Sg	16 17 13.0	+0.3
JWT	**Wachi**	**0.37**	**327**	P		Pg	16 17 09.5	0.0
JWT				S		Sg	16 17 14.2	-0.3
JKS	**Kasai**	**0.66**	**271**	P		Pg	16 17 14.6	-0.3

JKS				S	Sg	16 17 23.4	-0.2
TSUJ	**Tsu 2**	**0.68**	**112**	P	Pg	16 17 14.9	-0.4
TSUJ				S	Sg	16 17 24.0	-0.3
JWY	**Kouya**	**0.75**	**184**	P	Pg	16 17 16.4	-0.2
JWY				S	Sg	16 17 26.3	-0.2
JAWN	**Awajishima-nag**	**0.78**	**232**	P	Pg	16 17 17.0	-0.2
JAWN				S	Sg	16 17 27.1	-0.4
JKY	**Yasaka**	**0.79**	**326**	P	Pg	16 17 17.1	-0.4
JKY				S	Sg	16 17 27.7	-0.2
JKN2	**Miekihoku**	**0.89**	**145**	P	Pg	16 17 18.6	-0.7
JKN2				S	Sg	16 17 30.3	-0.6
JKSM	**Kasumi**	**1.01**	**308**	P	Pg	16 17 20.9	-0.8
JKSM				S	Sg	16 17 34.2	-0.7
MAT	**Matsushiro**	**2.60**	**52**	P	Pn	16 17 45.5	+1.3
MAT				S	Sb	16 18 22.8	+1.9

HLW ***02*** *16:20:08.8, 36°.56N×23°.99E, h33km± 19km, Md4.9, Ml4.0*
DDA ***02*** *16:20:09.3, 36°.80N×23°.81E, h6km±4km, ML2.9*
ATH ***02*** *16:20:10.8, 36°.67N×23°.68E, h90km±2km, ML3.2/12, Error ellipse: s-maj=2.5km s-min=0.9km az=226.0*
ISK ***02*** *16:20:11.2, 36°.66N×23°.75E, h86km, ML3.2/8*
THE ***02*** *16:20:12.3, 36°.68N×23°.71E, h81km±1km, ML3.2/18, Error ellipse: s-maj=1.8km s-min=0.5km az=246.0*

ISC 02 16:20:10.5±1.1, 36°.67N±0°.03×23°.69E±0°.03, h93km±8km, n130, σ1§21/161, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVA	**Monemvasia**	**0.53**	**272**	P	**Pn**	**16 20 26.5**	**+0.8**
MNVA				S	**Sn**	**16 20 37.0**	**0.0**
MNVA				AML	AML	16 20 37.3	
	comp=E,1933μm,0.2s						
MNVA				AML	AML	16 20 37.6	
	comp=N,2553μm,0.2s						
MHLO	**Agia Marina, M**	**0.57**	**88**	P	**Pn**	**16 20 26.8**	**+0.7**
MHLO				S	**Sn**	**16 20 37.9**	**+0.2**
	comp=N,2μm,0.4s						
MHLO	**Agia Marina, M**	**0.57**	**88**	P	**Pn**	**16 20 27.0**	**+0.9**
MHLO				S	**Sn**	**16 20 38.2**	**+0.5**
MHLO				AML	AML	16 20 39.5	
	comp=N,3876μm,0.4s						
MHLO				AML	AML	16 20 41.3	
	comp=E,3487μm,0.3s						
MHLA	**Plaka, Milos I**	**0.59**	**83**	P	**Pn**	**16 20 27.1**	**+0.8**
VLI	**Veliai**	**0.61**	**274**	P	**Pn**	**16 20 27.1**	**+0.7**
VLI				S	**Sn**	**16 20 37.9**	**-0.4**
	comp=E,3μm,0.2s						
VLI	**Veliai**	**0.61**	**274**	P	**Pn**	**16 20 27.1**	**+0.7**
VLI				S	**Sn**	**16 20 38.0**	**-0.4**
VLI				AML	AML	16 20 38.1	
	comp=N,9644μm,0.3s						
VLI				AML	AML	16 20 38.2	
	comp=E,3572μm,0.2s						
KTHA	**Kythira Island**	**0.66**	**231**	P	**Pn**	**16 20 28.0**	**+1.1**
KTHA				S	**Sn**	**16 20 39.6**	**+0.5**
	comp=E,3μm,0.2s						
KTHA	**Kythira Island**	**0.66**	**231**	P	**Pn**	**16 20 27.9**	**+1.1**
KTHA				S	**Sn**	**16 20 39.5**	**+0.4**
KTHA				AML	AML	16 20 40.5	
	comp=N,4941μm,0.2s						
KTHA				AML	AML	16 20 40.8	
	comp=E,5509μm,0.3s						
KTHA	**Kythira Island**	**0.66**	**231**	PG	**Pn**	**16 20 28.1**	**+1.1**
KTHA				SG	**Sn**	**16 20 39.8**	**+0.7**
KTHR	**Kythira**	**0.69**	**234**	P	**Pn**	**16 20 28.4**	**+1.2**
KTHR				S	**Sn**	**16 20 39.9**	**+0.2**
	comp=E,2μm,0.3s						
SERI	**Serifos**	**0.80**	**52**	P	**Pn**	**16 20 28.9**	**+0.6**
KRND	**KRANIDI**	**0.83**	**329**	P	**Pn**	**16 20 29.1**	**+0.6**
KRND				S	**Sn**	**16 20 42.6**	**+0.5**
	comp=E,908nm,0.3s						
KRND	**KRANIDI**	**0.83**	**329**	P	**Pn**	**16 20 29.4**	**+0.8**
KRND				S	**Sn**	**16 20 42.6**	**+0.5**
KRND				AML	AML	16 20 44.0	
	comp=E,1490μm,0.3s						
KRND				AML	AML	16 20 45.9	
	comp=N,2117μm,0.4s						
ANKY	**Antikythira Is**	**0.86**	**202**	P	**Pn**	**16 20 29.9**	**+1.0**
ANKY				S	**Sn**	**16 20 42.9**	**+0.2**
	comp=N,2μm,0.4s						
EPID	**Epidavros**	**1.05**	**334**	P	**Pn**	**16 20 31.9**	**+1.0**
EPID				S	**Sn**	**16 20 47.2**	**+0.9**
	comp=N,2μm,0.3s						
RODP	**Rodopos**	**1.11**	**177**	P	**Pn**	**16 20 32.8**	**+1.1**
RODP				S	**Sn**	**16 20 48.0**	**+0.4**
	comp=N,735nm,0.4s						
RODP	**Rodopos**	**1.11**	**177**	PN	**Pn**	**16 20 32.9**	**+1.2**
RODP				SN	**Sn**	**16 20 48.1**	**+0.4**
VLY	**Voula,Athens**	**1.18**	**4**	P	**Pn**	**16 20 33.4**	**+0.9**
VLY				S	**Sn**	**16 20 48.7**	**-0.3**
	comp=N,422nm,0.3s						
VLY	**Voula,Athens**	**1.18**	**4**	P	**Pn**	**16 20 33.7**	**+1.2**
VLY				AML	AML	16 20 49.5	
	comp=N,744μm,0.3s						
VLY				AML	AML	16 20 50.0	
	comp=E,939μm,0.4s						
CHAN	**Chania**	**1.19**	**166**	P	**Pn**	**16 20 33.5**	**+1.0**
CHAN				S	**Sn**	**16 20 49.4**	**+0.3**
	comp=E,610nm,0.3s						
IMMV	**Iera Moni Meta**	**1.23**	**169**	P	**Pn**	**16 20 34.2**	**+1.1**
IMMV	**Iera Moni Meta**	**1.23**	**169**	P	**Pn**	**16 20 34.2**	**+1.1**
IMMV				AML	AML	16 20 54.5	
	comp=N,1876μm,0.4s						
IMMV				AML	AML	16 20 54.7	
	comp=E,1548μm,0.4s						
IMMV	**Iera Moni Meta**	**1.23**	**169**	PN	**Pn**	**16 20 34.3**	**+1.1**
IMMV				SN	**Sn**	**16 20 50.6**	**+0.5**
VLX	**Vlachokerasia**	**1.26**	**304**	P	**Pn**	**16 20 34.7**	**+1.1**
VLX				S	**Sn**	**16 20 50.9**	**0.0**
	comp=E,720nm,0.5s						
VLX	**Vlachokerasia**	**1.26**	**304**	P	**Pn**	**16 20 34.6**	**+1.1**
VLX				AML	AML	16 20 51.9	
	comp=E,1429μm,0.6s						
VLX				AML	AML	16 20 52.6	
	comp=N,1284μm,0.4s						
IOSP	**Ios island**	**1.28**	**87**	P	**Pn**	**16 20 34.9**	**+1.2**
IOSP				S	**Sn**	**16 20 50.9**	**-0.3**
	comp=N,498nm,0.2s						
IOSP	**Ios island**	**1.28**	**87**	P	**Pn**	**16 20 34.9**	**+1.2**
IOSP				AML	AML	16 20 51.6	
	comp=N,1039μm,0.3s						
IOSP				AML	AML	16 20 51.8	
	comp=E,910μm,0.2s						
ATHU	**Athens Univers**	**1.29**	**3**	P	**Pn**	**16 20 34.7**	**+0.9**
ATHU				S	**Sn**	**16 20 51.1**	**-0.3**
	comp=E,340nm,0.5s						
ATH	**Athens Observa**	**1.30**	**1**	P	**Pn**	**16 20 34.9**	**+1.1**
ATH				S	**Sn**	**16 20 51.2**	**-0.3**
	comp=E,545nm,0.3s						
ATH	**Athens Observa**	**1.30**	**1**	P	**Pn**	**16 20 35.0**	**+1.2**
ATH				AML	AML	16 20 52.0	
	comp=E,1137μm,0.3s						
ATH				AML	AML	16 20 52.5	
	comp=N,1038μm,0.3s						
VAM	**Vamos**	**1.33**	**162**	P	**Pn**	**16 20 35.1**	**+0.8**
VAM	**Vamos**	**1.33**	**162**	P	**Pn**	**16 20 35.0**	**+0.8**
SAP3	**Santorini-Thir**	**1.35**	**100**	P	**Pn**	**16 20 36.1**	**+1.6**
THR5	**Thira Island,**	**1.36**	**100**	P	**Pn**	**16 20 36.0**	**+1.4**
THR5	**Thira Island,**	**1.36**	**100**	P	**Pn**	**16 20 36.3**	**+1.8**
PTL	**Penteli**	**1.38**	**6**	P	**Pn**	**16 20 36.0**	**+1.1**
PTL	**Penteli**	**1.38**	**6**	P	**Pn**	**16 20 36.1**	**+1.1**
CMBO	**Columbo, Santo**	**1.39**	**98**	P	**Pn**	**16 20 36.6**	**+1.6**
SNT5	**Nea Kammeni, S**	**1.40**	**101**	P	**Pn**	**16 20 36.6**	**+1.5**
THR3	**Thira Island,**	**1.40**	**100**	P	**Pn**	**16 20 36.5**	**+1.4**
THR3	**Thira Island,**	**1.40**	**100**	P	**Pn**	**16 20 36.7**	**+1.6**
STAX	**Taxiarchis Har**	**1.41**	**101**	P	**Pn**	**16 20 36.4**	**+1.3**
STAX	**Taxiarchis Har**	**1.41**	**101**	P	**Pn**	**16 20 36.6**	**+1.4**
THR6	**Thira Island,**	**1.41**	**102**	P	**Pn**	**16 20 36.7**	**+1.5**
THR6	**Thira Island,**	**1.41**	**102**	P	**Pn**	**16 20 36.3**	**+1.1**
THT2	**Imerovigli**	**1.41**	**99**	PN	**Pn**	**16 20 35.8**	**+0.5**
DION	**Dionisos Attik**	**1.42**	**8**	P	**Pn**	**16 20 36.5**	**+1.2**
DION				S	**Sn**	**16 20 54.1**	**0.0**
	comp=N,2μm,0.5s						
DION	**Dionisos Attik**	**1.42**	**8**	P	**Pn**	**16 20 36.5**	**+1.2**
DION				AML	AML	16 20 54.7	
	comp=E,5064μm,0.5s						
DION				AML	AML	16 20 56.2	
	comp=N,2835μm,0.5s						
TRIP	**Tripoli**	**1.42**	**307**	P	**Pn**	**16 20 36.7**	**+1.2**
LOUT	**Loutraki**	**1.43**	**337**	P	**Pn**	**16 20 36.5**	**+1.0**
KNDR	**Palaiochora Ch**	**1.44**	**180**	PN	**Pn**	**16 20 37.3**	**+1.7**
SANT	**Santorini**	**1.45**	**101**	P	**Pn**	**16 20 37.4**	**+1.6**
SANT	**Santorini**	**1.45**	**101**	PN	**Pn**	**16 20 36.4**	**+0.6**
SANT	**Santorini**	**1.45**	**101**	*i* P	**Pn**	**16 20 36.4**	**+0.6**
SANT				*i* S	**Sn**	**16 20 54.7**	**-0.3**
TNSA	**Tinos**	**1.46**	**53**	P	**Pn**	**16 20 37.0**	**+1.2**
PRNS	**Prines Rethymn**	**1.46**	**153**	P	**Pn**	**16 20 36.9**	**+1.0**
PRNS				S	**Sn**	**16 20 55.4**	**+0.3**
LTK	**Loutraki**	**1.47**	**337**	P	**Pn**	**16 20 37.0**	**+1.1**
LTK	**Loutraki**	**1.47**	**337**	P	**Pn**	**16 20 37.0**	**+1.1**
ITM	**Ithomi**	**1.50**	**290**	P	**Pn**	**16 20 38.5**	**+2.1**
ITM	**Ithomi**	**1.50**	**290**	P	**Pn**	**16 20 37.7**	**+1.3**
ITM				AML	AML	16 20 58.6	
	comp=E,552μm,0.2s						
ITM				AML	AML	16 20 59.7	
	comp=N,1206μm,0.2s						
ITM	**Ithomi**	**1.50**	**290**	PN	**Pn**	**16 20 38.5**	**+2.1**
VILL	**Villia**	**1.52**	**349**	P	**Pn**	**16 20 37.6**	**+0.9**
APE	**Apeiranthos**	**1.52**	**74**	P	**Pn**	**16 20 37.9**	**+1.2**
APE	**Apeiranthos**	**1.52**	**74**	PN	**Pn**	**16 20 38.2**	**+1.5**
APE	**Apeiranthos**	**1.52**	**74**	*i* P	**Pn**	**16 20 37.7**	**+1.0**
APE				*i* S	**Sn**	**16 20 55.8**	**-0.8**
PYL	**PYLOS**	**1.58**	**279**	P	**Pn**	**16 20 38.5**	**+1.1**
PYL				S	**Sn**	**16 20 58.7**	**+0.9**
	comp=N,315nm,0.2s						
PYL	**PYLOS**	**1.58**	**279**	P	**Pn**	**16 20 38.4**	**+1.1**
GUR	**Goura**	**1.66**	**320**	P	**Pn**	**16 20 39.6**	**+1.1**
GUR				S	**Sn**	**16 21 00.9**	**+1.2**
	comp=N,465nm,0.3s						
GUR	**Goura**	**1.66**	**320**	P	**Pn**	**16 20 39.6**	**+1.1**
IDI	**Anoyia**	**1.69**	**145**	P	**Pn**	**16 20 38.9**	**+0.1**
IDI	**Anoyia**	**1.69**	**145**	P	**Pn**	**16 20 39.0**	**+0.1**
IDI	**Anoyia**	**1.69**	**145**	PN	**Pn**	**16 20 39.0**	**+0.1**
ANAF	**Anafi Island**	**1.70**	**100**	P	**Pn**	**16 20 40.5**	**+1.5**
IACM	**Heraklion**	**1.76**	**140**	P	**Pn**	**16 20 41.0**	**+1.3**
AMGA	**Amorgos Island**	**1.77**	**84**	P	**Pn**	**16 20 41.3**	**+1.5**
HRKL	**Herakleio**	**1.77**	**140**	PN	**Pn**	**16 20 41.1**	**+1.2**
KLV	**Kalavryta, Ach**	**1.84**	**319**	P	**Pn**	**16 20 41.8**	**+1.1**
KLV	**Kalavryta, Ach**	**1.84**	**319**	P	**Pn**	**16 20 41.8**	**+1.1**
GVDS	**Gavdos**	**1.85**	**170**	P	**Pn**	**16 20 41.8**	**+0.9**
GVDS				S	**Sn**	**16 21 05.9**	**+1.9**
	comp=N,300nm,0.2s						
GVDS	**Gavdos**	**1.85**	**170**	PN	**Pn**	**16 20 41.9**	**+1.0**
GVD	**Gavdhos**	**1.86**	**170**	P	**Pn**	**16 20 41.9**	**+0.9**
GVD	**Gavdhos**	**1.86**	**170**	P	**Pn**	**16 20 42.0**	**+1.1**
GVD	**Gavdhos**	**1.86**	**170**	PN	**Pn**	**16 20 42.3**	**+1.3**
SIVA	**Sivas**	**1.89**	**151**	P	**Pn**	**16 20 42.7**	**+1.4**
DSF	**Desfina**	**1.97**	**332**	P	**Pn**	**16 20 43.1**	**+0.7**
DSF	**Desfina**	**1.97**	**332**	P	**Pn**	**16 20 43.2**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.98**	**9**	P	**Pn**	**16 20 43.6**	**+1.1**
ALIK	**Aliki, Aigiali**	**2.02**	**322**	P	**Pn**	**16 20 44.2**	**+1.1**
LKR	**Lokris**	**2.05**	**345**	P	**Pn**	**16 20 44.6**	**+1.2**
ATAL	**Atalanti**	**2.08**	**345**	P	**Pn**	**16 20 45.0**	**+1.1**
LAST	**Lasithi**	**2.09**	**136**	P	**Pn**	**16 20 45.1**	**+1.0**
LAST	**Lasithi**	**2.09**	**136**	P	**Pn**	**16 20 45.2**	**+1.1**
NPS	**Neapolis**	**2.10**	**132**	P	**Pn**	**16 20 44.8**	**+0.7**
NPS				S	**Sn**	**16 21 09.8**	**0.0**
NPS	**Neapolis**	**2.10**	**132**	P	**Pn**	**16 20 45.1**	**+1.0**
TRIZ	**Trizonia**	**2.12**	**323**	P	**Pn**	**16 20 45.5**	**+1.1**
SERG	**Sergoula**	**2.17**	**324**	P	**Pn**	**16 20 45.9**	**+0.9**
AXAR	**Agios Charalam**	**2.25**	**339**	P	**Pn**	**16 20 47.2**	**+1.2**
RLS	**Riolos of Patr**	**2.25**	**309**	P	**Pn**	**16 20 48.4**	**+2.4**
EFP	**Efpalio**	**2.25**	**321**	P	**Pn**	**16 20 47.5**	**+1.4**
ANX	**Ano Chora**	**2.38**	**324**	P	**Pn**	**16 20 49.0**	**+1.2**
ANX	**Ano Chora**	**2.38**	**324**	P	**Pn**	**16 20 49.1**	**+1.3**
CHOS	**Chios island**	**2.54**	**47**	PN	**Pn**	**16 20 51.4**	**+1.4**
ZKR	**Zakros**	**2.57**	**126**	P	**Pn**	**16 20 51.7**	**+1.4**
ZKR				S	**Sn**	**16 21 21.6**	**+0.7**
ZKR	**Zakros**	**2.57**	**126**	PN	**Pn**	**16 20 52.5**	**+2.2**
URLA	**Izmir**	**2.86**	**53**	PN	**Pn**	**16 20 55.7**	**+1.6**
URLA	**Izmir**	**2.86**	**53**	*i* P	**Pn**	**16 20 55.6**	**+1.4**
VLS	**Valsamata**	**2.89**	**302**	P	**Pn**	**16 20 54.7**	**+0.1**
BODT	**Bodrum**	**2.93**	**81**	PN	**Pn**	**16 20 56.8**	**+1.7**
KARP	**Karpathos**	**3.02**	**111**	PN	**Pn**	**16 20 57.7**	**+1.3**
FSK	**Fiskardo**	**3.06**	**307**	P	**Pn**	**16 20 57.3**	**+0.5**
DMLN	**Damoulianata-K**	**3.07**	**302**	P	**Pn**	**16 20 57.0**	**0.0**
EVGI	**Lefkada island**	**3.10**	**310**	P	**Pn**	**16 20 58.1**	**+0.8**
NYDR	**Nydri-Lefkada**	**3.13**	**312**	P	**Pn**	**16 20 58.4**	**+0.7**
DRAG	**Dragano-Lefkad**	**3.19**	**310**	P	**Pn**	**16 20 59.1**	**+0.5**
LKD2	**Lefkada island**	**3.20**	**312**	P	**Pn**	**16 20 59.5**	**+0.7**
TSLK	**Tsoukalades, L**	**3.23**	**313**	P	**Pn**	**16 21 00.4**	**+1.3**
AYDN	**Tasoluk**	**3.48**	**72**	*i* P	**Pn**	**16 21 04.8**	**+2.1**
LIT	**Litokhoron**	**3.55**	**345**	*i* P	**Pn**	**16 21 03.6**	**+0.1**
IGT	**Igoumenitsa**	**3.90**	**318**	P	**Pn**	**16 21 08.5**	**+0.4**
KEK	**Kerkira**	**4.32**	**316**	P	**Pn**	**16 21 13.9**	**+0.1**
GOLH	**Golhisar**	**4.73**	**81**	*i* P	**Pn**	**16 21 22.0**	**+2.5**
GOLH				IAML		16 22 41.0	
	comp=N,8.8nm,1.1s						
AKAS	**Kas**	**4.79**	**94**	*i* P	**Pn**	**16 21 22.5**	**+2.1**
AKAS				IAML		16 22 38.0	
	comp=E,16nm,1.1s						
SWA2		**7.56**	**168**	P	**Pn**	**16 21 55.9**	**-2.0**
SWA2				AMP		16 23 00.0	
	baz=170						
KOT	**Kottamia**	**9.57**	**132**	P	**Pn**	**16 22 22.9**	**-2.4**
	baz=133						
HSAF	**As Saff**	**9.63**	**135**	P	**Pn**	**16 22 23.6**	**-2.7**
	baz=135						
HHAG	**Hagoal**	**9.71**	**131**	P	**Pn**	**16 22 24.9**	**-2.4**
	baz=131						
GLL	**Jalalah**	**9.76**	**134**	P	**Pn**	**16 22 25.0**	**-2.9**
	baz=135						
SUZ	**Suez**	**10.24**	**129**	P	**Pn**	**16 22 32.1**	**-2.4**
	baz=129						
HFRF	**Wahat Farafira**	**10.27**	**156**	P	**Pn**	**16 22 32.8**	**-2.1**
	baz=157						
HFRF				S	Sn	16 24 18.4	-10
	baz=157						
HDK1	**Dakhla**	**12.12**	**155**	P	**Pn**	**16 22 58.8**	**-1.2**
	baz=155						

GCG ***02*** *16:20:09.4±0.8, 13°.01N×89°.51W, h36km±164km, MD3.9*
UCR ***02*** *16:20:10.2±0.9, 13°.15N×89°.53W, h43km±12km, ML3.9*
SNET ***02*** *16:20:10.1±0.8, 13°.14N×89°.53W, h44km±12km, ML3.9*
INET ***02*** *16:20:11.8, 13°.22N×89°.37W, h20km, ML3.5*

ISC 02 16:20:10.9±1.7, 13°.15N±0°.07×89°.50W±0°.04, h33km±6km, n74, σ0§66/95, 12D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITCA	**Escuela Especi**	**0.57**	**23**	*e*P	**Pb**	**16 20 22.3**	**-0.4**
ITCA				*e*S	**Sb**	**16 20 31.4**	**+0.7**
ITCA	**Escuela Especi**	**0.57**	**23**	*e*P	**Pb**	**16 20 22.3**	**-0.4**
ITCA				*e*S	**Sb**	**16 20 31.4**	**+0.7**
CPRS	**Casa Presidenc**	**0.59**	**26**	*e*P	**Pb**	**16 20 22.5**	**-0.6**
SNET	**Serv Nac Est T**	**0.60**	**26**	*e*P	**Pb**	**16 20 22.7**	**-0.5**
SNET				IAML		16 20 33.3	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**0.60**	**26**	*e*P	**Pb**	**16 20 22.7**	**-0.5**
SNET				IAML		16 20 33.3	
	comp=Z,4μm,0.2s						
UEES	**Universidad Ev**	**0.62**	**24**	*e*P	**Pb**	**16 20 23.1**	**-0.5**
UEES	**Universidad Ev**	**0.62**	**24**	*e*P	**Pb**	**16 20 23.1**	**-0.5**
BOQS	**Boqueron**	**0.62**	**20**	⇓*i*P	**Pb**	**16 20 23.3**	**-0.4**
BOQS	**Boqueron**	**0.62**	**20**	⇓*i*P	**Pb**	**16 20 23.3**	**-0.4**
OPAM	**Oficina de Pla**	**0.64**	**28**	*e*S	**Sn**	**16 20 33.6**	**+0.8**
OPAM	**Oficina de Pla**	**0.64**	**28**	*e*S	**Sn**	**16 20 33.6**	**+0.8**
LFRS	**El Faro**	**0.64**	**42**	*e*P	**Pb**	**16 20 23.4**	**-0.5**
LFRS	**El Faro**	**0.64**	**42**	*e*P	**Pb**	**16 20 23.4**	**-0.5**
IGN	**Direccin Gen**	**0.65**	**30**	*e*P	**Pb**	**16 20 23.5**	**-0.5**
IGN				*e*S	**Sn**	**16 20 33.8**	**+0.7**
IGN	**Direccin Gen**	**0.65**	**30**	*e*P	**Pb**	**16 20 23.5**	**-0.5**
IGN				*e*S	**Sn**	**16 20 33.8**	**+0.7**
UDBS	**Universidad Do**	**0.66**	**31**	*e*P	**Pn**	**16 20 23.6**	**-0.4**
UDBS				*e*S	**Sn**	**16 20 33.9**	**+0.6**
UDBS	**Universidad Do**	**0.66**	**31**	*e*P	**Pn**	**16 20 23.6**	**-0.4**
UDBS				*e*S	**Sn**	**16 20 33.9**	**+0.6**
CEDA	**San Andres**	**0.66**	**9**	*i* P	**Pn**	**16 20 23.5**	**-0.5**
CEDA				*e*S	**Sb**	**16 20 33.8**	**+0.6**
CEDA				IAML		16 20 35.5	
	comp=Z,6μm,0.3s						
CEDA	**San Andres**	**0.66**	**9**	*i* P	**Pn**	**16 20 23.5**	**-0.5**
CEDA				*e*S	**Sb**	**16 20 33.8**	**+0.6**
CEDA				IAML		16 20 35.5	
	comp=Z,6μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.66**	**35**	*e*P	**Pn**	**16 20 23.9**	**-0.2**
AEIL	**Aeropuerto Ilo**	**0.66**	**35**	*e*P	**Pn**	**16 20 23.9**	**-0.2**
CEVE	**Cerro Verde**	**0.69**	**350**	IAML		16 20 38.0	
	comp=Z,8μm,0.3s						
CEVE	**Cerro Verde**	**0.69**	**350**	IAML		16 20 38.0	
	comp=Z,8μm,0.3s						
SBLS	**San Blas**	**0.70**	**350**	⇓*i*P	**Pn**	**16 20 24.1**	**-0.6**
SBLS	**San Blas**	**0.70**	**350**	⇓*i*P	**Pn**	**16 20 24.1**	**-0.6**
LFU	**La Fuente**	**0.71**	**32**	*i* P	**Pn**	**16 20 24.5**	**-0.3**
LFU	**La Fuente**	**0.71**	**32**	*i* P	**Pn**	**16 20 24.5**	**-0.3**
SNJE	**San Jose**	**0.72**	**352**	*e*P	**Pn**	**16 20 24.4**	**-0.7**
SNJE	**San Jose**	**0.72**	**352**	*e*P	**Pn**	**16 20 24.4**	**-0.7**
LBRS	**Las Brisas**	**0.74**	**37**	*e*P	**Pn**	**16 20 24.8**	**-0.4**
LBRS	**Las Brisas**	**0.74**	**37**	*e*P	**Pn**	**16 20 24.8**	**-0.4**
COEG	**Centro de Oper**	**0.77**	**52**	⇓*i*P	**Pn**	**16 20 25.0**	**-0.6**
COEG				*e*S	**Sn**	**16 20 36.2**	**+0.1**
COEG				IAML		16 20 38.4	
	comp=Z,3μm,0.2s						
COEG	**Centro de Oper**	**0.77**	**52**	⇓*i*P	**Pn**	**16 20 25.0**	**-0.6**
COEG				*e*S	**Sn**	**16 20 36.2**	**+0.1**
COEG				IAML		16 20 38.4	
	comp=Z,3μm,0.2s						
PAVA	**Las Pavas**	**0.79**	**44**	⇓*i*P	**Pn**	**16 20 25.7**	**-0.2**
PAVA				*e*S	**Sb**	**16 20 37.6**	**+0.8**
PAVA				IAML		16 20 43.7	
	comp=Z,4μm,0.2s						
PAVA	**Las Pavas**	**0.79**	**44**	⇓*i*P	**Pn**	**16 20 25.7**	**-0.2**
PAVA				*e*S	**Sb**	**16 20 37.6**	**+0.8**
PAVA				IAML		16 20 43.7	
	comp=Z,4μm,0.2s						
NUBE	**Las Nubes**	**0.80**	**340**	⇓*i*P	**Pn**	**16 20 25.1**	**-0.9**
NUBE				*e*S	**Sn**	**16 20 36.3**	**-0.5**
NUBE	**Las Nubes**	**0.80**	**340**	⇓*i*P	**Pn**	**16 20 25.1**	**-0.9**
NUBE				*e*S	**Sn**	**16 20 36.3**	**-0.5**
TACO	**Tacachico**	**0.83**	**10**	*i* P	**Pn**	**16 20 25.8**	**-0.6**
TACO				*e*S	**Sn**	**16 20 37.6**	**+0.1**
TACO	**Tacachico**	**0.83**	**10**	*i* P	**Pn**	**16 20 25.8**	**-0.6**
TACO				*e*S	**Sn**	**16 20 37.6**	**+0.1**
UNIC	**Universidad Ca**	**0.83**	**357**	*e*P	**Pn**	**16 20 25.9**	**-0.5**
UNIC	**Universidad Ca**	**0.83**	**357**	*e*P	**Pn**	**16 20 25.9**	**-0.5**
ALJI	**Alcalda de J**	**0.93**	**79**	*e*S	**Sn**	**16 20 39.8**	**0.0**
ALJI	**Alcalda de J**	**0.93**	**79**	*e*S	**Sn**	**16 20 39.8**	**0.0**
COEB	**Comit de Eme**	**1.01**	**70**	*e*P	**Pn**	**16 20 28.1**	**-0.8**
COEB	**Comit de Eme**	**1.01**	**70**	*e*P	**Pn**	**16 20 28.1**	**-0.8**
TECA	**Tecapa**	**1.03**	**70**	*e*P	**Pn**	**16 20 28.5**	**-0.8**
TECA	**Tecapa**	**1.03**	**70**	*e*P	**Pn**	**16 20 28.5**	**-0.8**
LLGN	**La Laguna**	**1.15**	**28**	*e*P	**Pn**	**16 20 30.1**	**-0.8**
LLGN				IAML		16 20 49.6	
	comp=Z,1μm,0.5s						
LLGN	**La Laguna**	**1.15**	**28**	*e*P	**Pn**	**16 20 30.1**	**-0.8**
LLGN				IAML		16 20 49.6	
	comp=Z,1μm,0.5s						
LCY	**Lacayo**	**1.21**	**77**	*e*P	**Pn**	**16 20 31.6**	**0.0**
LCY	**Lacayo**	**1.21**	**77**	*e*P	**Pn**	**16 20 31.6**	**0.0**
RANC	**El Ranchito**	**1.22**	**76**	*e*P	**Pn**	**16 20 31.5**	**-0.3**
RANC				IAML		16 20 51.6	
	comp=Z,2μm,0.2s						
RANC	**El Ranchito**	**1.22**	**76**	*e*P	**Pn**	**16 20 31.5**	**-0.3**
RANC				IAML		16 20 51.6	
	comp=Z,2μm,0.2s						
JUCU	**Jucuarįn**	**1.23**	**85**	*e*P	**Pn**	**16 20 31.0**	**-0.8**
JUCU	**Jucuarįn**	**1.23**	**85**	*e*P	**Pn**	**16 20 31.0**	**-0.8**
MTO3	**Montecristo**	**1.25**	**6**	⇓*i*P	**Pn**	**16 20 31.6**	**-0.7**
MTO3	**Montecristo**	**1.25**	**6**	⇓*i*P	**Pn**	**16 20 31.6**	**-0.7**
BLLM	**Bellamira**	**1.27**	**76**	*e*P	**Pn**	**16 20 32.4**	**-0.1**
BLLM	**Bellamira**	**1.27**	**76**	*e*P	**Pn**	**16 20 32.4**	**-0.1**
IXG	**Ixpaco**	**1.37**	**318**	*e*P	**Pn**	**16 20 32.8**	**-1.1**
IXG	**Ixpaco**	**1.37**	**318**	*e*P	**Pn**	**16 20 32.8**	**-1.1**
IXG	**Ixpaco**	**1.37**	**318**	*e*P	**Pn**	**16 20 33.7**	**-0.2**
ESQI	**Esquipulas**	**1.41**	**6**	*e*P	**Pn**	**16 20

NEST	**Nestorio**	**0.97**	**143**	P	**Pb**	**16 32 15.9**	**-0.8**
NEST				S	**Sn**	**16 32 31.3**	**+0.1**
NEST				AML	AML	16 32 35.0	
	comp=N,3724µm,0.6s						
NEST				AML	AML	16 32 37.3	
	comp=E,3265µm,0.6s						
NEST	**Nestorio**	**0.97**	**143**	P	**Pb**	**16 32 16.3**	**-0.3**
	baz=143						
ULC	**Ulcinj**	**1.09**	**315**	⇓*i*Pg	**Pg**	**16 32 16.2**	**-2.5**
ULC				*i* Sg	**Sg**	**16 32 32.6**	**-0.3**
ULC	**Ulcinj**	**1.09**	**315**	P	**Pg**	**16 32 16.4**	**-2.3**
	baz=314						
ULC				S	**Sg**	**16 32 34.0**	**+1.1**
	baz=314						
SKO	**Skopje**	**1.17**	**48**	*e*Pg	**Pg**	**16 32 19.7**	**-0.4**
SKO				*e*Sg	**Sg**	**16 32 35.0**	**-0.2**
SKO	**Skopje**	**1.17**	**48**	*i* Pg	**Pg**	**16 32 17.9**	**-2.2**
SKO				*i* Sg	**Sg**	**16 32 35.1**	**-0.2**
SKO				*e*Lg	Lg	16 32 38.5	
	comp=E,158nm,0.5s						
SKO	**Skopje**	**1.17**	**48**	P	**Pn**	**16 32 20.8**	**+0.8**
	baz=49						
SKO				S	**Sg**	**16 32 35.0**	**-0.2**
	baz=49						
PENT	**Pentalofos**	**1.19**	**147**	P	**Pn**	**16 32 19.9**	**-0.5**
PENT				S	**Sn**	**16 32 39.2**	**+2.5**
	comp=E,878nm,0.8s						
PENT	**Pentalofos**	**1.19**	**147**	P	**Pn**	**16 32 20.2**	**-0.2**
PENT				S	**Sn**	**16 32 37.9**	**+1.3**
PENT				AML	AML	16 32 41.4	
	comp=E,1498µm,0.6s						
PENT				AML	AML	16 32 45.5	
	comp=N,1217µm,0.4s						
DRME	**Dracevica, Mon**	**1.29**	**321**	⇑*i*Pg	**Pn**	**16 32 19.7**	**-2.0**
DRME				*i* Sg	**Sb**	**16 32 39.1**	**+0.6**
DRME	**Dracevica, Mon**	**1.29**	**321**	*e*Pn	**Pn**	**16 32 19.7**	**-2.0**
PVY	**Plav**	**1.42**	**350**	⇓*i*Pg	**Pn**	**16 32 21.8**	**-1.8**
PVY				*i* Sg	**Sn**	**16 32 43.2**	**+0.8**
KZN	**Kozani**	**1.44**	**128**	P	**Pb**	**16 32 24.1**	**-0.4**
KZN				S	**Sg**	**16 32 45.2**	**+1.3**
	comp=N,1µm,0.5s						
KZN	**Kozani**	**1.44**	**128**	P	**Pb**	**16 32 23.9**	**-0.6**
KZN				AML	AML	16 32 49.7	
	comp=N,2116µm,0.6s						
KZN				AML	AML	16 32 50.4	
	comp=E,2225µm,0.4s						
PDG	**Podgorica**	**1.45**	**328**	*e*Pg	**Pn**	**16 32 23.1**	**-0.9**
PDG				*e*Sg	**Sb**	**16 32 45.5**	**+2.2**
PDG	**Podgorica**	**1.45**	**328**	⇓P	**Pn**	**16 32 23.3**	**-0.6**
PDG				⇓S	**Sn**	**16 32 40.1**	**-2.9**
PDG	**Podgorica**	**1.45**	**328**	*e*Pn	**Pn**	**16 32 23.0**	**-0.9**
TTG	**Podgorica**	**1.45**	**328**	⇑*i*Pg	**Pn**	**16 32 22.7**	**-1.2**
TTG				*i* Sg	**Sn**	**16 32 44.6**	**+1.6**
KASA	**Kassiopi**	**1.47**	**190**	P	**Pg**	**16 32 25.9**	**+0.1**
STIP	**Stip**	**1.52**	**70**	*i* Pg	**Pg**	**16 32 27.7**	**+0.9**
STIP				*i* Sg	**Sg**	**16 32 51.9**	**+5.5**
STIP				*e*Lg	Lg	16 32 54.1	
	comp=E,117nm,0.4s						
BUM	**Brajici-Budva**	**1.52**	**317**	⇓*i*Pg	**Pn**	**16 32 24.0**	**-0.9**
BUM				*i* Sg	**Sb**	**16 32 47.1**	**+1.9**
KEK	**Kerkira**	**1.52**	**194**	P	**Pg**	**16 32 26.0**	**-0.9**
KEK				S	**Sg**	**16 32 49.2**	**+2.5**
	comp=E,585nm,0.5s						
KEK	**Kerkira**	**1.52**	**194**	P	**Pg**	**16 32 26.3**	**-0.6**
KTI	**Kastanea**	**1.61**	**119**	P	**Pb**	**16 32 26.9**	**-0.5**
IGT	**Igoumenitsa**	**1.66**	**179**	P	**Pg**	**16 32 28.9**	**-0.6**
IGT				S	**Sg**	**16 32 52.2**	**+1.2**
	comp=E,605nm,0.6s						
IGT	**Igoumenitsa**	**1.66**	**179**	P	**Pg**	**16 32 28.3**	**-1.2**
IGT	**Igoumenitsa**	**1.66**	**179**	P	**Pg**	**16 32 29.0**	**-0.5**
	baz=178						
CEME	**Cevo**	**1.69**	**323**	⇑*i*Pn	**Pn**	**16 32 27.2**	**-0.1**
CEME				*i* Sn	**Sb**	**16 32 52.5**	**+2.3**
IVA	**Berane**	**1.70**	**350**	⇓*i*Pn	**Pn**	**16 32 27.1**	**-0.3**
IVA				*i* Sn	**Sb**	**16 32 54.4**	**+1.9**
VAY	**Valandovo**	**1.73**	**85**	*e*Pg	**Pn**	**16 32 27.8**	**+0.1**
VAY	**Valandovo**	**1.73**	**85**	⇓*i*Pg	**Pn**	**16 32 28.0**	**+0.3**
VAY				*i* Sg	**Sg**	**16 32 53.2**	**-0.1**
VAY				*e*Lg	Lg	16 32 54.6	
	comp=E,230nm,0.5s						
KOME	**Kolasin**	**1.75**	**341**	⇓*i*Pn	**Pn**	**16 32 28.1**	**0.0**
KOME				*i* Sn	**Sb**	**16 32 53.5**	**+1.6**
SCTE	**Santa Cesarea**	**1.78**	**232**	P	**Pn**	**16 32 29.4**	**+1.0**
SCTE	**Santa Cesarea**	**1.78**	**232**	P	**Pn**	**16 32 28.6**	**+0.3**
	baz=231						
HCY	**Herceg Novi**	**1.83**	**314**	⇑*i*Pn	**Pn**	**16 32 29.7**	**+0.6**
HCY				*i* Sn	**Sb**	**16 32 55.9**	**+1.7**
HCY	**Herceg Novi**	**1.83**	**314**	*e*Pn	**Pn**	**16 32 30.0**	**+0.9**
NKME	**Niksic**	**1.86**	**328**	⇓*i*Pn	**Pn**	**16 32 29.9**	**+0.4**
NKME				*i* Sn	**Sb**	**16 32 56.3**	**+1.3**
NKY	**Niksic**	**1.88**	**330**	⇓*i*Pn	**Pn**	**16 32 30.3**	**+0.4**
NKY				*i* Sn	**Sb**	**16 32 56.8**	**+1.1**
KNT	**Kendrikon**	**1.98**	**90**	P	**Pn**	**16 32 31.4**	**+0.4**
KNT				S	**Sn**	**16 32 56.5**	**+0.6**
	comp=E,235nm,0.7s						
KNT	**Kendrikon**	**1.98**	**90**	P	**Pn**	**16 32 31.5**	**+0.4**
KNT	**Kendrikon**	**1.98**	**90**	P	**Pn**	**16 32 31.5**	**+0.4**
KNT				S	**Sn**	**16 32 55.6**	**-0.3**
LIT	**Litokhoron**	**2.00**	**122**	P	**Pn**	**16 32 32.0**	**+0.5**
LIT	**Litokhoron**	**2.00**	**122**	P	**Pn**	**16 32 32.1**	**+0.5**
SJES	**Sjenica**	**2.08**	**354**	*e*Pn	**Pn**	**16 32 34.4**	**+1.8**
SJES				*e*Sg	**Sb**	**16 33 04.2**	**+2.8**
BOSS	**Bosilegrad**	**2.10**	**51**	*e*Pn	**Pn**	**16 32 33.4**	**+0.6**
THL	**Klokotos Trika**	**2.10**	**140**	P	**Pb**	**16 32 33.9**	**-1.8**
THL	**Klokotos Trika**	**2.10**	**140**	P	**Pb**	**16 32 34.1**	**-1.7**
THL				AML	AML	16 33 08.6	
	comp=E,458µm,0.7s						
THL				AML	AML	16 33 09.7	
	comp=N,460µm,0.5s						
THE	**Thessaloniki**	**2.11**	**105**	P	**Pn**	**16 32 33.0**	**+0.1**
THE	**Thessaloniki**	**2.11**	**105**	P	**Pb**	**16 32 36.2**	**+0.3**
	baz=105						
SELS	**Selova**	**2.12**	**17**	*e*Pn	**Pn**	**16 32 33.6**	**+0.5**
SELS				*e*Sg	**Sb**	**16 33 04.5**	**+2.1**
BRY	**Bratogost**	**2.14**	**323**	⇓*i*Pn	**Pn**	**16 32 33.9**	**+0.3**
BRY				*i* Sn	**Sn**	**16 33 03.1**	**+2.8**
BRY	**Bratogost**	**2.14**	**323**	*e*Pn	**Pn**	**16 32 34.7**	**+1.1**
HORT	**Hortiatis**	**2.22**	**105**	P	**Pn**	**16 32 34.7**	**+0.2**
HORT	**Hortiatis**	**2.22**	**105**	P	**Pn**	**16 32 34.5**	**0.0**
HORT				S	**Sn**	**16 33 02.1**	**+0.1**
PLE	**Pljevlja**	**2.23**	**343**	⇑*i*Pn	**Pn**	**16 32 35.0**	**+0.2**
PLE				*i* Sn	**Sn**	**16 33 05.0**	**+2.5**
UPM	**Unac-Piva**	**2.25**	**333**	*e*Pn	**Pn**	**16 32 35.3**	**+0.2**
UPM				*i* Sn	**Sn**	**16 33 05.5**	**+2.5**
UPM	**Unac-Piva**	**2.25**	**333**	*e*Pn	**Pn**	**16 32 37.3**	**+2.2**
SOH	**Sokhos**	**2.35**	**98**	P	**Pn**	**16 32 37.0**	**+0.7**
SOH	**Sokhos**	**2.35**	**98**	P	**Pn**	**16 32 37.3**	**+0.9**
IVAS	**Ivanjica**	**2.38**	**358**	*e*Pn	**Pn**	**16 32 37.4**	**+0.6**
LKD2	**Lefkada island**	**2.42**	**173**	P	**Pn**	**16 32 38.6**	**+1.4**
LKD2	**Lefkada island**	**2.42**	**173**	P	**Pn**	**16 32 39.4**	**-1.8**
LKD2	**Lefkada island**	**2.42**	**173**	P	**Pb**	**16 32 39.2**	**-2.0**
	baz=172						
NOCI	**Noci**	**2.47**	**262**	P	**Pn**	**16 32 38.2**	**+0.3**
NOCI	**Noci**	**2.47**	**262**	P	**Pn**	**16 32 38.6**	**+0.7**
	baz=261						
NYDR	**Nydri-Lefkada**	**2.50**	**173**	P	**Pn**	**16 32 39.8**	**+1.6**
SRS	**Serrai**	**2.50**	**91**	P	**Pn**	**16 32 38.6**	**+0.3**
SRS	**Serrai**	**2.50**	**91**	P	**Pn**	**16 32 38.8**	**+0.5**
RUDO	**Rudo**	**2.52**	**345**	*e*Pn	**Pn**	**16 32 40.8**	**+2.3**
PLG	**Polygyros**	**2.54**	**108**	P	**Pn**	**16 32 39.4**	**+0.5**
PLG	**Polygyros**	**2.54**	**108**	P	**Pn**	**16 32 39.5**	**+0.7**
EVR	**Evrytania**	**2.56**	**152**	P	**Pn**	**16 32 40.2**	**+1.0**
BOVS	**Bovan**	**2.66**	**23**	*e*Pn	**Pn**	**16 32 40.9**	**+0.4**
BOVS				*e*Sg	**Sb**	**16 33 18.7**	**+0.8**
NVR	**Nevrokopi**	**2.70**	**86**	P	**Pn**	**16 32 41.8**	**+0.7**
GRUS	**Gruza**	**2.71**	**7**	*e*Pn	**Pn**	**16 32 42.6**	**+1.4**
GRUS				*e*Sg	**Sb**	**16 33 21.9**	**+2.4**
ZAPS	**Zavoj**	**2.71**	**39**	*e*Pn	**Pn**	**16 32 42.8**	**+1.5**
VOL3	**Nea Ionia, Vol**	**2.73**	**131**	P	**Pn**	**16 32 42.7**	**+1.3**
VOL2	**Volos**	**2.74**	**131**	P	**Pn**	**16 32 41.1**	**-0.5**
FSK	**Fiskardo**	**2.74**	**175**	P	**Pn**	**16 32 42.5**	**+0.9**
FSK	**Fiskardo**	**2.74**	**175**	P	**Pn**	**16 32 42.6**	**+1.1**
BBLS	**Lazići**	**2.75**	**347**	*e*Pn	**Pn**	**16 32 44.5**	**+2.7**
BBLS	**Lazići**	**2.75**	**347**	*e*Pn	**Pn**	**16 32 43.5**	**+1.7**
MATE	**Matera**	**2.77**	**260**	⇑P	**Pn**	**16 32 42.7**	**+0.8**
XOR	**Xorichti**	**2.88**	**128**	P	**Pn**	**16 32 43.7**	**+0.2**
PAIG	**Paliouri**	**2.88**	**115**	P	**Pn**	**16 32 44.0**	**+0.5**
ANX	**Ano Chora**	**2.89**	**154**	P	**Pn**	**16 32 45.2**	**+1.5**
DIVS	**Divibare**	**2.91**	**356**	*e*Pn	**Pn**	**16 32 45.9**	**+1.9**
DIVS	**Divibare**	**2.91**	**356**	*e*Pn	**Pn**	**16 32 45.7**	**+1.7**
KEF5	**Kardakata, Kep**	**2.92**	**177**	P	**Pn**	**16 32 45.2**	**+1.2**
OUR	**Ouranopolis**	**2.94**	**106**	P	**Pn**	**16 32 45.2**	**+0.9**
OUR	**Ouranopolis**	**2.94**	**106**	*e*P	**Pn**	**16 32 44.7**	**+0.4**
OUR				*e*S	**Sn**	**16 33 20.2**	**+0.6**
KEF3	**Kipouria, Keph**	**2.99**	**179**	P	**Pn**	**16 32 46.1**	**+1.1**
ZAGS	**Zajecar**	**2.99**	**28**	*e*Pn	**Pn**	**16 32 45.1**	**+0.1**
BLKB	**Belogradchik**	**3.00**	**35**	⇓S	**Sn**	**16 33 23.5**	**+2.2**
TRUS	**Trudelj**	**3.03**	**2**	*e*Pn	**Pn**	**16 32 48.0**	**+2.4**
HAPS	**Han Pijesak,BI**	**3.05**	**342**	*e*Pn	**Pn**	**16 32 46.9**	**+0.9**
HAPS	**Han Pijesak,BI**	**3.05**	**342**	*e*Pn	**Pn**	**16 32 46.8**	**+0.8**
KAVA	**Kavala**	**3.20**	**92**	P	**Pn**	**16 32 48.3**	**+0.3**
TIP	**Timpagrande**	**3.37**	**234**	⇓P	**Pn**	**16 32 52.1**	**+1.8**
TIP	**Timpagrande**	**3.37**	**234**	⇑S	**Sn**	**16 33 33.2**	**+2.9**
KUBS	**Kucevo**	**3.38**	**17**	*e*Pn	**Pn**	**16 32 52.0**	**+1.6**
KUBS				*e*Sn	**Sn**	**16 33 31.0**	**+0.6**
TEKS	**Tekeris**	**3.40**	**351**	*e*Pn	**Pn**	**16 32 52.5**	**+1.8**
TEKS	**Tekeris**	**3.40**	**351**	*e*Pn	**Pn**	**16 32 52.4**	**+1.8**
PLD	**Plovdiv**	**3.44**	**73**	*e*Pn	**Pn**	**16 32 52.6**	**+1.4**
SGRT	**San Giovanni R**	**3.46**	**281**	P	**Pn**	**16 32 53.2**	**+1.7**
	baz=281						
MDVR	**Moldovita**	**3.74**	**16**	⇑P	**Pn**	**16 32 55.6**	**+0.3**
MDVR	**Moldovita**	**3.74**	**16**	⇑S	**Sn**	**16 33 39.5**	**+0.1**
KDZ	**Kurdzhali**	**3.89**	**82**	*e*P	**Pn**	**16 32 56.7**	**-0.7**
RDO	**Rodhopi**	**3.97**	**89**	*e*P	**Pn**	**16 32 58.9**	**+0.4**
FRGS	**Fruska Gora**	**3.98**	**355**	*e*Pn	**Pn**	**16 33 00.3**	**+1.7**
FRGS	**Fruska Gora**	**3.98**	**355**	*e*Pn	**Pn**	**16 33 00.0**	**+1.4**
MGRS	**Mrkonjic Grad**	**3.99**	**325**	*e*Pn	**Pg**	**16 33 13.0**	**-1.0**
HERR	**Herculane**	**4.00**	**22**	⇓P	**Pn**	**16 32 59.6**	**+0.7**
ITM	**Ithomi**	**4.21**	**162**	*e*P	**Pn**	**16 33 03.6**	**+1.8**
BLY	**Banja Luka**	**4.22**	**328**	*e*Pn	**Pn**	**16 33 03.1**	**+1.2**
BLY	**Banja Luka**	**4.22**	**328**	*e*Pn	**Pn**	**16 33 02.0**	**+0.1**
ALN	**Alexandroupoli**	**4.37**	**92**	*e*P	**Pn**	**16 33 04.8**	**+0.8**
BZS	**Buzias**	**4.53**	**12**	*e*Pn	**Pn**	**16 33 06.0**	**-0.1**
BZS	**Buzias**	**4.53**	**12**	⇑P	**Pn**	**16 33 07.1**	**+1.0**
BZS	**Buzias**	**4.53**	**12**	⇑S	**Sn**	**16 33 60.0**	**+1.2**
GZR	**Gura Zlata**	**4.58**	**23**	⇑P	**Pn**	**16 33 07.5**	**+0.6**
GZR	**Gura Zlata**	**4.58**	**23**	⇓S	**Sn**	**16 34 00.5**	**+0.5**
UKOP	**Uzunkopru-Edir**	**4.79**	**89**	*e*P	**Pn**	**16 33 10.5**	**+0.7**
EDRB	**Edirne**	**4.89**	**80**	*e*P	**Pn**	**16 33 11.6**	**+0.4**
LOT	**Lotru**	**4.96**	**30**	⇓P	**Pn**	**16 33 13.3**	**+1.2**
LOT	**Lotru**	**4.96**	**30**	⇓S	**Sn**	**16 34 10.4**	**+0.9**
SIRR	**Siria**	**5.17**	**11**	⇓S	**Sn**	**16 34 13.2**	**-1.5**
KTHA	**Kythira Island**	**5.39**	**155**	*e*P	**Pn**	**16 33 19.9**	**+1.9**
VOIR		**5.48**	**38**	⇓P	**Pn**	**16 33 21.0**	**+1.6**
BOJS	**Bojanci**	**5.66**	**321**	*i* Pn	**Pn**	**16 33 22.5**	**+0.8**
CRES	**Cresnjev**	**5.81**	**324**	*i* Pn	**Pn**	**16 33 24.6**	**+0.8**
CRES	**Cresnjev**	**5.81**	**324**	*e*Pn	**Pn**	**16 33 23.3**	**-0.5**
GBRS	**Gornja Briga**	**5.89**	**319**	*i* Pn	**Pn**	**16 33 26.1**	**+1.2**
MLR	**Muntele Rosu**	**5.96**	**42**	Pn	**Pn**	**16 33 26.9**	**+1.0**
	comp=N,0.5nm,0.3s,baz=214,slow=18,SNR=3.7						
MLR				Sn	**Sn**	**16 34 31.1**	**-3.1**
	comp=N,0.2nm,0.3s,baz=162,slow=15,SNR=1.4						
MLR	**Muntele Rosu**	**5.96**	**42**	⇑P	**Pn**	**16 33 28.6**	**+2.6**
CEY	**Cerknica**	**6.23**	**319**	*e*Pn	**Pn**	**16 33 29.0**	**-0.5**
IMMV	**Iera Moni Meta**	**6.42**	**152**	*e*P	**Pn**	**16 33 34.2**	**+2.0**
KNDR	**Palaiochora Ch**	**6.53**	**155**	*e*P	**Pn**	**16 33 35.2**	**+1.6**
PLOR	**Plostina**	**6.56**	**43**	⇓P	**Pn**	**16 33 36.7**	**+2.6**
VRI	**Vrincioaia**	**6.61**	**43**	⇑P	**Pn**	**16 33 37.0**	**+2.2**
SOKA	**Soboth**	**6.66**	**327**	*e*Pn	**Pn**	**16 33 37.5**	**+1.9**
	comp=N,1.0nm,0.2s						
PSZ	**Piszkesteto**	**6.73**	**358**	⇑P	**Pn**	**16 33 37.4**	**+0.9**
PSZ	**Piszkesteto**	**6.73**	**358**	⇑S	**Sn**	**16 34 52.8**	**-0.4**
OBKA	**Obir**	**6.74**	**324**	*e*Pn	**Pn**	**16 33 37.7**	**+1.1**
	comp=N,3.0nm,0.3s						
IDI	**Anoyia**	**6.92**	**147**	Pn	**Pn**	**16 33 36.2**	**-3.0**
	comp=N,0.2nm,0.3s,baz=48,slow=22,SNR=1.2						
IDI				Sn	**Sn**	**16 34 54.8**	**-3.1**
	comp=N,0.7nm,0.3s,baz=97,slow=22,SNR=1.4						
IDI	**Anoyia**	**6.92**	**147**	*e*P	**Pn**	**16 33 41.2**	**+2.1**
ARSA	**Arzberg**	**6.95**	**332**	*e*Pn	Pn	16 33 45.0	+5.6
	comp=N,3.3nm,0.3s						
MYKA	**Terra Mystica**	**7.25**	**321**	*e*Pn	**Pn**	**16 33 46.4**	**+2.9**
	comp=N,1.8nm,0.3s						
VYHS	**Vyhne**	**7.37**	**352**	*e*PN	**Pn**	**16 33 49.0**	**+3.8**
VYHS				*e*SN	**Sn**	**16 35 11.1**	**+2.2**
ABTA	**Abfaltersbach**	**7.88**	**317**	*e*Pn	**Pn**	**16 33 52.9**	**+0.6**
	comp=N,1.7nm,0.4s						
WTTA	**Wattenberg**	**8.68**	**317**	*e*Pn	**Pn**	**16 34 07.7**	**+4.4**
	comp=N,1.7nm,0.3s						
WTTA				*e*Sn	**Sn**	**16 35 41.8**	**+0.6**
	comp=N,6.6nm,0.5s						
WATA	**Walderalm**	**8.76**	**317**	*e*Pn	**Pn**	**16 34 08.6**	**+4.2**
	comp=N,3.3nm,0.3s						
SQTA	**Sankt Quirin**	**8.87**	**316**	*e*Pn	**Pn**	**16 34 10.3**	**+4.4**
	comp=N,4.1nm,0.4s						
GERES	**GERESS Array B**	**8.95**	**331**	Pn	**Pn**	**16 34 08.2**	**+1.2**
	comp=N,0.1nm,0.3s,baz=237,slow=43,SNR=2.6						
GERES				Sn	**Sn**	**16 35 48.1**	**+0.2**
	comp=N,0.2nm,0.3s,baz=150,slow=27,SNR=1.3						
FETA	**Feichten**	**9.01**	**313**	*e*Sn	**Sn**	**16 35 52.5**	**+3.3**
	comp=N,1.4nm,0.5s						
MOTA	**Moosalm**	**9.01**	**316**	*e*Pn	**Pn**	**16 34 08.4**	**+0.7**
	comp=N,2.5nm,0.4s						
KRLC	**Kraliky**	**9.21**	**346**	*e*SN	**Sn**	**16 35 57.2**	**+3.0**
KHC	**Kasperske Hory**	**9.24**	**331**	*e*PN	**Pn**	**16 34 12.2**	**+1.4**
DAVOX	**Davos/Dischmat**	**9.35**	**310**	Pn	**Pn**	**16 34 13.5**	**+1.0**
	comp=N,0.8nm,0.3s,baz=159,slow=13,SNR=6.2						
HFS	**Hagfors**	**19.40**	**350**	P	**P**	**16 36 24.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=196,slow=15,SNR=2.4						
FINES	**FINESS Array B**	**20.58**	**8**	P	**P**	**16 36 34.5**	**-1.8**
	comp=N,3.6nm,1.0s,baz=320,slow=5.0,SNR=5.3						
NOA	**NORSAR Array B**	**20.63**	**347**	P	**P**	**16 36 37.1**	**+0.1**
	comp=N,0.5nm,0.7s,baz=346,slow=15,SNR=2.3						
ARCES	**ARCESS Array B**	**28.54**	**4**	P	**P**	**16 37 52.9**	**-0.1**
	comp=N,3.1nm,0.9s,baz=11,slow=8.7,SNR=1.5						
ZALV	**Zalesovo Beam**	**43.86**	**50**	P	**P**	**16 40 03.1**	**-0.7**
	comp=N,0.9nm,0.4s,baz=289,slow=9.1,SNR=4.3						
MKAR	**Makanchi Array**	**43.94**	**61**	P	**P**	**16 40 03.3**	**-1.3**
	comp=N,0.2nm,0.3s,baz=278,slow=8.1,SNR=7.2						
SONM	**Songino Array**	**58.71**	**52**	P	**P**	**16 41 54.9**	**-0.5**
	comp=N,1.0nm,0.8s,baz=292,slow=7.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**69.68**	**83**	P	**P**	**16 43 04.7**	**-2.9**
	comp=N,0.9nm,0.8s,baz=307,slow=7.6,SNR=10						

DRS **02** *16:43:42.8±0.0, 43.07N×47.14E, h6km*
NORS **02** *16:43:45.0±0.0, 42.92N×47.01E, h3km, MPVA3.6*
ISC 02 16:43:45.3±1.4, **43.04N**±0.04×**47.18E**±0.04, **h7**km±10km,
n21,σ1ₚ26/44, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.25**	**266**	*e*Pg	**Pg**	**16 43 49.7**	**-0.6**
DBC				*e*Sg	**Sg**	**16 43 52.8**	**-0.9**
KRNR	**Karanay**	**0.29**	**223**	*i* Pg	**Pg**	**16 43 50.0**	**-1.0**
	146nm,0.3s						
KRNR				*e*Sg	**Sg**	**16 43 54.0**	**-0.8**
	443nm,0.3s						
UNCR	**Uncukul**	**0.43**	**221**	*i* Pg	**Pg**	**16 43 53.5**	**-0.1**
	274nm,0.3s						
UNCR				*e*Sg	**Sb**	**16 44 01.0**	**-0.9**
	819nm,0.7s						
ARKR	**Arakani**	**0.46**	**197**	*i* Pg	**Pg**	**16 43 54.5**	**+0.4**
	140nm,0.0s						
ARKR				*e*Sg	**Sg**	**16 44 00.5**	**+0.5**
	579nm,0.0s						
XNZR	**Khunzakh**	**0.60**	**215**	*e*Pg	**Pg**	**16 43 57.1**	**+0.1**
XNZR				*e*Sg	**Sg**	**16 44 05.1**	**+0.3**
DVE	**Vedeno**	**0.77**	**264**	*e*Pg	**Pg**	**16 43 59.9**	**-0.3**
DVE				*e*Sg	**Sg**	**16 44 10.3**	**+0.1**
BTLR	**Botlikh**	**0.79**	**242**	*e*Pg	**Pg**	**16 44 00.3**	**-0.2**
BTLR				*e*Sg	**Sg**	**16 44 11.0**	**+0.1**
LGD	**Lagodekhi**	**1.39**	**210**	P	**Pn**	**16 44 11.0**	**-0.2**
LGD				S	**Sn**	**16 44 30.3**	**+0.5**
AKT	**Akhty**	**1.61**	**165**	*e*Pg	**Pg**	**16 44 16.4**	**+0.9**
AKT				*e*Sg	**Sg**	**16 44 38.7**	**+1.7**
KMGR	**Komgaron**	**1.69**	**271**	*e*Pg	**Pg**	**16 44 18.3**	**+0.6**
KMGR				*e*Sg	**Sg**	**16 44 41.2**	**+1.5**
VLKR	**Vladikavkaz**	**1.83**	**271**	*e*Pg	**Pg**	**16 44 20.6**	**+0.2**
VLKR				*e*Pg	**Pg**	**16 44 20.6**	**+0.2**
VLKR				*e*Sg	**Sg**	**16 44 45.4**	**+1.3**
VLKR				*e*Sg	**Sb**	**16 44 45.6**	**+3.2**
TRKR	**Terskaya**	**1.91**	**292**	*e*Pg	**Pg**	**16 44 21.4**	**-0.5**
TRKR				*e*Sg	**Sg**	**16 44 47.9**	**+1.3**
PNSH	**Pansheti**	**1.93**	**259**	P	**Pn**	**16 44 19.6**	**+0.9**
PNSH				S	**Sb**	**16 44 44.9**	**-0.3**
ARNR	**Ardon**	**2.12**	**275**	*e*Pg	**Pb**	**16 44 24.3**	**+0.2**
ARNR				*e*Sg	**Sg**	**16 44 53.0**	**-0.5**
LACR	**Lac**	**2.12**	**265**	*e*Pg	**Pn**	**16 44 22.1**	**+0.7**
LACR				*e*Sg	**Sb**	**16 44 51.6**	**+0.7**
ZEI	**Tsey**	**2.42**	**265**	*e*Pn	**Pb**	**16 44 28.7**	**-0.5**
ZEI				*e*Sn	**Sb**	**16 44 59.6**	**+0.2**
DIGR	**Digorskoe uzhe**	**2.64**	**268**	*e*Pn	**Pb**	**16 44 32.2**	**-0.9**
DIGR				*e*Sn	**Sb**	**16 45 05.8**	**0.0**
TRLG	**Trialeti**	**2.73**	**238**	P	**Pb**	**16 44 33.4**	**-1.1**
TRLG				S	**Sg**	**16 45 10.2**	**-2.7**
ONI	**Oni**	**2.77**	**262**	P	**Pb**	**16 44 35.4**	**+0.1**
ONI				S	**Sb**	**16 45 11.1**	**+1.5**
DMNI	**Dmanisi**	**2.80**	**233**	P	**Pn**	**16 44 32.7**	**+2.1**
DMNI				S	**Sb**	**16 45 07.9**	**-2.3**
AB31	**Akbulak array**	**10.82**	**51**	P	**Pn**	**16 46 20.8**	**+0.3**
	0.1nm,0.3s,baz=231,slow=13,SNR=11						
AB31				⇓S	**Sn**	**16 48 18.0**	**-3.8**
	0.6nm,0.4s,baz=230,slow=23,SNR=7.4						

ATH **02** *16:44:55.7, 41.41N×20.38E, h17km±2km, ML2.3/5, Error ellipse: s-maj=4.0km s-min=1.5km az=25.0*
TIR **02** *16:44:56.9, 41.21N×20.28E, h7km±2km, Md2.8, Ml2.7*
SKO **02** *16:44:57.5, 41.24N×20.23E, h15km*
THE **02** *16:44:58.5, 41.25N×20.31E, h0km±3km, ML2.1/5, Error ellipse: s-maj=3.9km s-min=1.1km az=34.0*
BEO **02** *16:44:58.5±0.7, 41.22N×20.28E, h0km, ML2.2/9*
PDG **02** *16:44:59.2±0.3, 41.29N×20.16E, h12km, ML2.7/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
ISC 02 16:44:58.1±1.0, **41.24N**±0.02×**20.27E**±0.02, **h7**km±9km,
n54,σ1ₚ56/96, 9C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.32**	**290**	P	**Pg**	**16 45 04.0**	**-0.4**
TIR				S	**Sg**	**16 45 10.4**	**+1.7**
	665nm,0.1s						
TIR	**Tirane**	**0.32**	**290**	*e*Pg	**Pg**	**16 45 04.0**	**-0.4**
TIR				*e*Sg	**Sg**	**16 45 09.8**	**+1.1**
TIR	**Tirane**	**0.32**	**290**	P	**Pg**	**16 45 04.0**	**-0.4**
TIR				S	**Sg**	**16 45 09.7**	**+1.1**
TIR				AML	AML	16 45 11.4	
	comp=N,3865µm,0.2s						
TIR				AML	AML	16

BZS	**Buzias**	**4.48**	**12**	⇑P		**Pb**	**16 46 12.8**	**-4.3**
BZS	**Buzias**	**4.48**	**12**	⇑S		**Sn**	**16 47 03.9**	**+5.0**
GZR	**Gura Zlata**	**4.54**	**23**	⇓P		**Pb**	**16 46 14.5**	**-3.6**
GZR	**Gura Zlata**	**4.54**	**23**	⇑S		**Sn**	**16 47 05.5**	**+5.2**

IDC 02 16:46:01.8±2.4, 7.70S×127.71E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=283.5km s-min=32.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.77**	**153**	Pn	Pn	16 49 17.1	-1.3
	0.4nm,0.3s,baz=330,slow=13,SNR=19						
WRA				Sn	Sn	16 51 36.4	-16
	0.6nm,0.3s,baz=343,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.95**	**160**	Pn	P	16 50 01.8	-0.9
	0.2nm,0.3s,baz=338,slow=9.3,SNR=15						
ASAR				Sn	Sn	16 53 02.0	-7.8
	0.1nm,0.3s,baz=354,slow=26,SNR=5.0						
MKAR	**Makanchi Array**	**67.59**	**328**	P	P	16 57 00.3	0.0
	0.2nm,0.5s,baz=125,slow=7.8,SNR=4.0						

*NEIC **02** 16:46:35.4±3.0, 23.2°N±0.1°×11.0°W±0.1°, h10km±2km, mb4.1/7, Error ellipse: s-maj=23.6km s-min=6.8km az=224.0*
*IDC **02** 16:46:36.0±2.3, 23.19°N×10.78°W, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.6/40, mbtmp3.7/8, ML3.6/4, Error ellipse: s-maj=61.8km s-min=21.9km az=79.0*
ISC 02 16:46:35.6±0.8, 23.15N±0.08°×11.0W±0.1°, h10km, n21, σ1§66/21, mb3.8/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**10.84**	**141**	Pn	**Pn**	**16 49 13.2**	**+2.2**
	0.7nm,0.3s,baz=318,slow=10,SNR=12						
KOWA				Sn	**Sn**	**16 51 13.8**	**+1.4**
	0.3nm,0.3s,baz=174,slow=19,SNR=5.5						
KOWA	**Kowa**	**10.84**	**141**		**Pn**	**16 49 13.3**	**+2.4**
MDT	**Midelt**	**11.15**	**29**	Lg	Lg	16 52 33.5	
	0.1nm,0.3s,baz=292,slow=13,SNR=2.5						
SACV	**Santiago Islan**	**14.44**	**238**	Pn	**Pn**	**16 50 00.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**15.61**	**127**	Pn	**Pn**	**16 50 15.9**	**+0.1**
TOA0				IAmb	IAmb	16 50 29.4	
	comp=Z,16nm,1.6s						
TORD	**Torodi Ar. Bea**	**15.61**	**127**	Pn	**P**	**16 50 18.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=318,slow=11,SNR=4.9						
TORD				Sn	**Sn**	**16 53 08.2**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=306,slow=24,SNR=2.7						
TORD	**Torodi Ar. Bea**	**15.61**	**127**		**Pn**	**16 50 17.2**	**+1.3**
DBIC	**Dimbokro**	**17.42**	**159**	P	**Pn**	**16 50 38.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=321,slow=14,SNR=2.2						
DBIC	**Dimbokro**	**17.42**	**159**		**Pn**	**16 50 37.1**	**-1.7**
DBIC				IAmb	IAmb	16 51 14.3	
	comp=Z,32nm,1.5s						
ESDC	**Sonseca Array**	**17.52**	**18**	P	**P**	**16 50 41.3**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=197,slow=13,SNR=1.1						
ESDC	**Sonseca Array**	**17.52**	**18**	P	**P**	**16 50 39.9**	**-1.2**
ESBB	**Sonseca Array**	**17.52**	**18**		**P**	**16 50 40.2**	**-0.9**
KEST	**Kesra**	**21.64**	**50**	P	**P**	**16 51 24.4**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=221,slow=9.5,SNR=3.5						
KEST	**Kesra**	**21.64**	**50**	IAmb	IAmb	16 51 52.8	
	comp=Z,11nm,1.3s						
GERES	**GERESS Array B**	**32.22**	**31**	P	**P**	**16 53 03.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=272,slow=40,SNR=2.0						
IDI	**Anovia**	**33.39**	**61**	P	**P**	**16 53 13.2**	**-1.2**
FINES	**FINESS Array B**	**45.91**	**24**	P	**P**	**16 54 59.8**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=204,slow=4.2,SNR=6.9						
FINES	**FINESS Array B**	**45.91**	**24**	P	**P**	**16 55 00.8**	**+2.7**
MKAR	**Makanchi Array**	**75.64**	**45**	P	**P**	**16 58 23.8**	**+2.8**
	comp=Z,0.4nm,0.5s,baz=279,slow=5.6,SNR=8.6						
WRA	**Warramunga Arr**	**147.63**	**91**	PKPbc	**PKPbc**	**17 06 20.7**	**-0.4**
	0.0nm,0.6nm,0.7s,baz=291,slow=2.6,SNR=3.2						
ASAR	**Alice Springs**	**147.82**	**98**	PKPbc	**PKiKP**	**17 06 21.8**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=284,slow=1.6,SNR=6.3						

*IDC **02** 16:57:51.5±1.6, 1.51N×127.28E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.7/33, mbtmp4.1/5, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/32, Error ellipse: s-maj=100.1km s-min=20.8km az=68.0*
*NEIC **02** 16:58:03.1±0.9, 1.43N±0.06°×127.3E±0.1°, h100km±4km, mb4.3/23, Error ellipse: s-maj=19.2km s-min=6.5km az=73.0*
ISC 02 16:58:02.9±0.9, 1.45N±0.09°×127.3E±0.1°, h100km, n36, σ0§82/35, mb4.3/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.68**	**174**		**Pn**	**16 58 20.2**	**+0.1**
TNTI				Sn	**Sn**	**16 58 33.4**	**+0.4**
LUWI	**Luwuk**	**5.15**	**241**	Pn	**Pn**	**16 59 16.1**	**-1.7**
MYLDM	**Lahad Datu**	**9.53**	**293**	Pn	**Pn**	**17 00 18.3**	**+1.0**
KAPI	**Kappang**	**9.90**	**230**	Pn	**Pn**	**17 00 23.9**	**+1.6**
KKM	**Kota Kinabalu**	**11.96**	**293**	Pn	**Pn**	**17 00 51.4**	**+1.2**
MTN	**Manton Dam**	**14.70**	**165**	P	**P**	**17 01 29.6**	**+0.2**
SBUM	**Sibu**	**15.10**	**274**	P	**P**	**17 01 33.3**	**-0.5**
KSM	**Kuching**	**16.98**	**270**		**Pn**	**17 01 54.1**	**-0.4**
KNRA	**Kununurra**	**17.08**	**175**		**P**	**17 01 55.8**	**0.0**
KNRA				IAmb	IAmb	17 02 39.9	
	comp=Z,16nm,1.2s						
UGM	**Wanagama**	**19.14**	**241**	P	**P**	**17 02 16.3**	**-2.2**
FITZ	**Fitzroy Crossi**	**19.49**	**185**	P	**P**	**17 02 22.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=19,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**19.49**	**185**	P	**P**	**17 02 22.3**	**+0.1**
WB0	**Warramunga Arr**	**22.20**	**162**	P	**P**	**17 02 51.5**	**+0.1**
WB0				IAmb	IAmb	17 02 52.0	
	comp=Z,6.5nm,0.5s						
WRAB	**Tennant Creek**	**22.35**	**162**	P	**P**	**17 02 52.4**	**-0.5**
WRAB				IAmb	IAmb	17 03 03.4	
	comp=Z,6.8nm,0.7s						
WRA	**Warramunga Arr**	**22.35**	**162**	P	**P**	**17 02 52.2**	**-0.7**
	comp=Z,4.3nm,0.5s,baz=339,slow=11,SNR=78						
WRA	**Warramunga Arr**	**22.35**	**162**	IAmb	IAmb	17 02 53.5	
	comp=Z,0.1nm,0.5s						
WB2	**Warramunga Arr**	**22.36**	**162**	P	**P**	**17 02 52.8**	**-0.1**
WB2				IAmb	IAmb	17 03 18.0	
	comp=Z,20nm,1.6s						
WR0	**Warramunga Arr**	**22.43**	**162**	P	**P**	**17 02 53.5**	**-0.2**
PMG	**Port Moresby**	**22.54**	**119**	LR	LR	17 13 35.5	
	comp=Z,100nm,20.1s,baz=98,slow=42						
TPUB	**Ta-pu**	**22.66**	**344**	P	**P**	**17 02 53.9**	**-2.2**
TPUB				IAmb	IAmb	17 03 34.9	
	comp=Z,66nm,1.6s						
PSA00	**Pilbara Seismi**	**24.01**	**197**	P	**P**	**17 03 08.8**	**+0.2**
PSA00				IAmb	IAmb	17 03 09.9	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**25.78**	**166**	P	**P**	**17 03 24.7**	**0.0**
AS31				IAmb	IAmb	17 03 30.8	
	comp=Z,2.5nm,0.2s						
ASAR	**Alice Springs**	**25.78**	**166**	P	**P**	**17 03 24.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=343,slow=8.1,SNR=42						
BBOO	**Buckleboo**	**35.07**	**167**	P	**P**	**17 04 46.4**	**0.0**
NWAO	**Narrogin (SRO)**	**35.49**	**195**	P	**P**	**17 04 50.0**	**0.0**
NWAO	**Narrogin (SRO)**	**35.49**	**195**	P	**P**	**17 04 50.0**	**0.0**
NWAO				IAmb	IAmb	17 05 10.1	
	comp=Z,77nm,1.6s						
STKA	**Stephens Creek**	**35.81**	**159**	P	**P**	**17 04 52.8**	**0.0**
	comp=Z,1.7nm,0.4s,baz=347,slow=8.3,SNR=11						
TOO	**Toolangi**	**42.33**	**158**	P	**P**	**17 05 47.5**	**+0.4**
MK31	**Makanchi Array**	**59.74**	**326**	P	**P**	**17 07 57.3**	**0.0**
MK31				IAmb	IAmb	17 08 00.1	
	comp=Z,2.7nm,1.5s						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**17 07 57.9**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=121,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**17 07 57.6**	**+0.3**
MAKZ	**Makanchi**	**59.93**	**326**	P	**P**	**17 07 59.0**	**+0.4**
MAKZ				IAmb	IAmb	17 08 07.3	
	comp=Z,3.3nm,1.4s						
KDJ	**Kajisay**	**60.42**	**319**	P	**P**	**17 08 02.1**	**-0.1**
KDJ				IAmb	IAmb	17 08 56.3	
	comp=Z,5.3nm,1.1s						
KURK	**Kurchatov**	**63.96**	**328**	P	**P**	**17 08 26.6**	**+1.2**
KURK				IAmb	IAmb	17 08 28.1	
	comp=Z,3.2nm,0.8s						
CASY	**Casey**	**68.64**	**187**	P	**P**	**17 08 54.7**	**-0.3**
CASY				IAmb	IAmb	17 09 22.5	
	comp=Z,5.7nm,1.4s						
ABKAR	**Akbulak array**	**74.26**	**321**	P	**P**	**17 09 30.1**	**+0.9**

*AUST **02** 17:39:51.6±1.1, 32.44S×138.15E, h16km±8km, Error ellipse: s-maj=4.4km s-min=4.0km az=42.0*
*IDC **02** 17:39:54.3±7.2, 31.92S×138.41E, h0km, mb4.1/3.0/3, mb1mx3.0/29, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=118.2km s-min=20.6km az=22.0*
ISC 02 17:39:49.3±0.8, 32.31S±0.04°×138.33E±0.05, h10km, n9, σ1§86/15, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	**Jamestown Cent**	**0.92**	**165**	P	**Pg**	**17 40 07.5**	**+0.6**
	baz=0.9						
AUJCS				S	**Sb**	**17 40 21.0**	**+1.4**
	baz=0.9						
HTT	**Hallett**	**1.22**	**156**	P	**Pn**	**17 40 12.9**	**+0.4**
	baz=1.2						
LCRK	**Leigh Creek**	**1.86**	**357**	P	**Pg**	**17 40 25.0**	**+0.1**
	baz=2.0						
LCRK				S	**Sg**	**17 40 51.0**	**+1.9**
	baz=2.0						
BBOO	**Buckleboo**	**1.98**	**255**	P	**Pn**	**17 40 22.6**	**-0.3**
	baz=1.8						
BBOO				S	**Sn**	**17 40 45.7**	**-2.1**
	baz=1.8						
STKA	**Stephens Creek**	**2.80**	**82**	Pn	**Pb**	**17 40 37.6**	**-1.8**
	0.1nm,0.3s,baz=234,slow=21,SNR=1.2						
STKA				Pg	**Pg**	**17 40 45.1**	**+2.2**
	0.4nm,0.3s,baz=244,slow=15,SNR=8.4						
STKA				Sn	**Sb**	**17 41 10.7**	**-3.1**
	0.4nm,0.3s,baz=240,slow=19,SNR=5.4						
STKA				Lg	Lg	17 41 20.1	
	0.6nm,0.3s,baz=153,slow=24,SNR=4.1						
STKA	**Stephens Creek**	**2.80**	**82**	P	**Pb**	**17 40 37.5**	**-1.9**
	baz=3.0						
MULG	**Mulgathing**	**4.18**	**298**	P	**Pn**	**17 40 54.0**	**+0.9**
	baz=4.1						
MULG				S	**Sn**	**17 41 40.6**	**-1.4**
	baz=4.1						
ASAR	**Alice Springs**	**9.46**	**334**	Pn	**Pn**	**17 42 08.0**	**+2.4**
	0.0nm,0.3s,baz=133,slow=36,SNR=1.2						
WRA	**Warramunga Arr**	**12.83**	**343**	Pn	**Pn**	**17 42 52.7**	**+0.9**
	0.0nm,0.3s,baz=161,slow=12,SNR=2.7						

*IDC **02** 18:01:23.9±0.4, 37.30N×97.79W, h0km, mb4.6/29, mb1 4.7/39, mb1mx4.5/56, mbtmp4.5/39, ML3.9/9, MS3.9/32, Ms1 3.9/32, ms1mx3.7/61, Error ellipse: s-maj=8.0km s-min=7.0km az=164.0*
*ANF **02** 18:01:24.1±1.1, 37.28N×97.81W, h10km±8km, ML5.7/16, Error ellipse: s-maj=2.7km s-min=2.1km az=7.0*
*NEIC **02** 18:01:24.4±1.2, 37.25N±0.03°×97.96W±0.04, h5km±1km, mb4.8/63, mb_Lg4.8/171, Mwr4.3/67, Error ellipse: s-maj=5.7km s-min=5.0km az=91.0*
*NEIC **02** 18:01:24.7, 37.24N×97.89W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=3.29; Mθθ=3.24; Mθφ=0.04; Mrθ=-0.37; Mθφ=0.97; Mφr=0.27; Fault plane solution: M0=3.44000×10^15 NP1:φs=247.69000°, δ=43.00000°, λ=-99.74000°. NP2:φs=80.90000°, δ=47.77000°, λ=-81.04000°. Principal axes: T 3.5272, Plg2.0000°, Azm165.0000°; N -0.1861, Plg7.0000°, Azm255.0000°; P -3.3411, Plg83.0000°, Azm55.0000°;*
*BGR **02** 18:01:31.5±0.0, 37.41N×96.74W, h10km, mb4.6*
ISC 02 18:01:24.0±0.6, 37.25N±0.03°×97.88W±0.03, h6km±3km, n655, σ1§53/665, mb4.8/69, MS4.0/21, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.10**	**296**		**Pg**	**18 01 26.3**	**0.0**
KAN12				Sg	**Sg**	**18 01 28.2**	**+0.3**
KAN01	**Argonia South**	**0.14**	**135**		**Pg**	**18 01 28.4**	**+1.4**
KAN01					**Sg**	**18 01 31.2**	**+2.3**
KAN10	**Anthony SW Sta**	**0.21**	**233**		**Pg**	**18 01 27.8**	**-0.5**
KAN13	**South Haven SW**	**0.40**	**126**		**Pb**	**18 01 33.2**	**-0.4**
KAN13	**South Haven SW**	**0.40**	**126**		**Sb**	**18 01 39.4**	**-0.5**
CROK	**Carrier**	**0.75**	**186**		**Pg**	**18 01 38.2**	**-0.2**
T35A	**Sooner Cattle**	**1.15**	**107**		**Pn**	**18 01 47.0**	**+0.5**
T35A				Sg	**Sn**	**18 02 02.6**	**0.0**
U32A	**Winter Ranch,**	**1.25**	**226**	Pg	**Pn**	**18 01 46.7**	**-1.4**
R32A	**Long Quarter,**	**1.34**	**331**		**Pn**	**18 01 49.1**	**-0.2**
QUOK	**Quay**	**1.43**	**138**	Pn	**Pg**	**18 01 51.4**	**-0.1**
OK029	**Liberty Lake**	**1.49**	**167**		**Pn**	**18 01 51.9**	**+0.6**
BCOK	**Bluff Creek, N**	**1.61**	**172**		**Pn**	**18 01 53.5**	**+0.6**
ADOK	**Arcadia Dam**	**1.65**	**165**		**Pb**	**18 01 55.8**	**+1.0**
OK005	**Luther M Schoo**	**1.69**	**161**		**Pb**	**18 01 55.1**	**-0.3**
OK009	**Oakdale Elemen**	**1.71**	**167**		**Pb**	**18 01 55.6**	**-0.2**
OK025	**Westminster Rd**	**1.73**	**165**		**Pn**	**18 01 55.6**	**+1.1**
OKCFA	**Oklahoma City**	**1.87**	**169**		**Pn**	**18 01 57.6**	**+1.1**
OKCFA				IAmb_Lg		18 02 27.3	
	comp=Z,9μm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.88**	**169**		**Pb**	**18 01 58.3**	**-0.4**
OK011	**Prague**	**2.01**	**151**		**Pn**	**18 01 58.7**	**+0.3**
FNO	**Franklin**	**2.03**	**169**		**Pn**	**18 01 59.7**	**+1.0**
KSU1	**Kansas State U**	**2.10**	**28**	P	**Pb**	**18 02 01.8**	**-0.7**
	baz=210,SNR=418						
KSU1				Sb	**Sg**	**18 02 31.5**	**0.0**
	baz=210						
KSU1	**Kansas State U**	**2.10**	**28**		**Pb**	**18 02 01.1**	**-1.4**
CBKS	**Cedar Bluff**	**2.14**	**317**	P	**Pn**	**18 02 01.1**	**+0.8**
	baz=138,SNR=860						
CBKS				S	**Sn**	**18 02 28.6**	**+1.5**
	baz=138						
CBKS	**Cedar Bluff**	**2.14**	**317**		**Pn**	**18 02 01.1**	**+0.8**
TUL1	**Leonard**	**2.15**	**128**	P	**Pb**	**18 02 01.8**	**-1.5**
	baz=308,SNR=713						
TUL1				Sb	**Sg**	**18 02 32.4**	**-0.7**
	baz=308						
TUL1	**Leonard**	**2.15**	**128**	Pn	**Pn**	**18 02 01.1**	**+0.7**
W35A	**Tecumseh**	**2.25**	**158**		**Pn**	**18 02 02.7**	**+0.9**
WMOK	**Wichita Mounta**	**2.61**	**196**	P	**Pn**	**18 02 07.5**	**+0.7**
	baz=15,SNR=1000						
WMOK				S	**Sn**	**18 02 40.2**	**+1.4**
	baz=15						
WMOK	**Wichita Mounta**	**2.61**	**196**	Pn	**Pn**	**18 02 07.0**	**+0.2**
WMOK				IAmb_Lg		18 02 47.5	
	comp=Z,3μm,0.9s						
X34A	**Smith Ranch, M**	**2.65**	**179**		**Pn**	**18 02 07.9**	**+0.7**
X34A				IAmb_Lg		18 02 49.9	
	comp=Z,3μm,0.9s						
U38A	**Gravette**	**2.92**	**105**		**Pn**	**18 02 12.4**	**+1.4**
U38A				IAmb_Lg		18 03 05.7	
	comp=Z,5μm,0.9s						
HHAR	**Hobbs**	**3.31**	**106**		**Pn**	**18 02 18.2**	**+1.9**
HHAR				IAmb_Lg		18 03 16.2	
	comp=Z,3μm,0.8s						
X37A	**Clayton**	**3.35**	**142**		**Pn**	**18 02 18.4**	**+1.5**
N33A	**J Bar K, Exete**	**3.50**	**5**		**Pn**	**18 02 19.5**	**+0.6**
N33A				IAmb_Lg		18 03 23.5	
	comp=Z,3μm,0.9s						
S39A	**Bolivar**	**3.65**	**82**		**Pn**	**18 02 22.6**	**+1.5**
S39A				IAmb_Lg		18 03 24.9	
	comp=Z,5μm,1.1s						
AMTX	**Amarillo**	**3.88**	**234**	P	**Pn**	**18 02 25.0**	**+0.8**
	baz=51						
AMTX				S	**Sn**	**18 03 10.3**	**+0.2**
	baz=51						
AMTX	**Amarillo**	**3.88**	**234**		**Pn**	**18 02 25.1**	**+0.8**
AMTX				IAmb_Lg		18 03 34.4	
	comp=Z,3μm,0.8s						
W39A	**Magazine**	**3.90**	**121**	P	**Pn**	**18 02 25.1**	**+0.7**
	baz=303,SNR=69						
W39A	**Magazine**	**3.90**	**121**		**Pn**	**18 02 25.0**	**+0.7**
Z35A	**Perchaven, San**	**3.95**	**172**	Pn	**Pn**	**18 02 25.6**	**+0.5**
Z35A				IAmb_Lg		18 03 39.9	
	comp=Z,3μm,1.2s						
N35A	**Tabor**	**4.00**	**25**		**Pn**	**18 02 27.4**	**+1.6**
KSCO	**Kaye Shedlock'**	**4.13**	**297**	P	**Pn**	**18 02 28.4**	**+0.7**
	baz=114,SNR=31						
KSCO	**Kaye Shedlock'**	**4.13**	**297**		**Pn**	**18 02 28.6**	**+0.9**
U40A	**Yellville**	**4.13**	**101**	P	**Pn**	**18 02 29.1**	**+1.5**
	baz=284,SNR=297						
U40A				S	**Sn**	**18 03 17.8**	**+1.5**
	baz=284						
U40A	**Yellville**	**4.13**	**101**	Pn	**Pn**	**18 02 28.9**	**+1.2**
BGNE	**Belgrade**	**4.16**	**357**	P	**Pn**	**18 02 28.9**	**+0.9**
	baz=178,SNR=26						
BGNE				S	**Sn**	**18 03 18.7**	**+1.9**
	baz=178						
BGNE	**Belgrade**	**4.16**	**357**		**Pn**	**18 02 28.9**	**+0.9**
BGNE				IAmb_Lg		18 03 47.0	
	comp=Z,2μm,0.8s						
P38A	**Dawn**	**4.16**	**54**	Pn	**Pn**	**18 02 29.1**	**+1.1**
P38A				IAmb_Lg		18 03 39.8	
	comp=Z,2μm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIAR	**Mount Ida**	**4.42**	**126**	P	**Pn**	**18 02 32.9**	**+1.3**
	baz=308,SNR=182						
MIAR				S	**Sn**	**18 03 25.0**	**+1.7**
	baz=308						
MIAR	**Mount Ida**	**4.42**	**126**		**Pn**	**18 02 32.7**	**+1.2**
MIAR				IAmb_Lg		18 03 55.4	
	comp=Z,4μm,1.0s						
MGMO	**Mountain Grove**	**4.48**	**90**		**Pn**	**18 02 34.5**	**+2.0**
MGMO				IAmb_Lg		18 03 47.2	
	comp=Z,3μm,1.0s						
R40A	**Maddies Statio**	**4.57**	**75**		**Pn**	**18 02 35.0**	**+1.5**
Z38A	**Mt. Pleasant**	**4.63**	**148**		**Pn**	**18 02 35.8**	**+1.2**
FCAR	**Ozark Folk Cen**	**4.83**	**105**		**Pn**	**18 02 38.3**	**+1.1**
FCAR				IAmb_Lg		18 04 00.1	
	comp=Z,3μm,1.1s						
ABTX	**Abilene, Hawle**	**4.84**	**198**	P	**Pn**	**18 02 37.8**	**+0.4**
	baz=16,SNR=9.7						
ABTX	**Abilene, Hawle**	**4.84**	**198**		**Pn**	**18 02 37.9**	**+0.4**
ABTX				IAmb_Lg		18 03 59.3	
	comp=Z,2μm,0.9s						
L34A	**Svendsen Farm,**	**4.85**	**13**	Pn	**Pn**	**18 02 37.7**	**+0.2**
WHAR	**Wooly Hollow**	**4.93**	**112**		**Pn**	**18 02 39.3**	**+0.8**
X40A	**Basin Creek Fa**	**4.94**	**122**	P	**Pn**	**18 02 39.7**	**+1.0**
	baz=305,SNR=65						
X40A				S	**Sn**	**18 03 37.6**	**+1.5**
	baz=305						
X40A	**Basin Creek Fa**	**4.94**	**122**		**Pn**	**18 02 39.7**	**+1.0**
X40A				IAmb_Lg		18 03 59.1	
	comp=Z,3μm,0.8s						
W41B	**Gary Mavity, V**	**5.01**	**113**	P	**Pn**	**18 02 40.2**	**+0.6**
	baz=296,SNR=97						
W41B	**Gary Mavity, V**	**5.01**	**113**		**Pn**	**18 02 40.4**	**+0.8**
N38A	**Joes South For**	**5.06**	**44**	Pn	**Pn**	**18 02 42.0**	**+1.6**
N38A				IAmb_Lg		18 04 14.9	
	comp=Z,2μm,0.8s						
P40A	**Paris**	**5.12**	**62**		**Pn**	**18 02 42.2**	**+1.0**
UALR	**University of**	**5.12**	**117**	Pn	**Pn**	**18 02 42.9**	**+1.6**
UALR				IAmb_Lg		18 04 12.5	
	comp=Z,2μm,0.8s						
T25A	**Trinidad**	**5.21**	**271**	P	**Pn**	**18 02 42.4**	**-0.3**
	baz=87,SNR=45						
T25A	**Trinidad**	**5.21**	**271**	Pn	**Pn**	**18 02 42.4**	**-0.3**
T25A				IAmb_Lg		18 04 13.8	
	comp=Z,2μm,0.9s						
WHTX	**Lake Whitney,**	**5.26**	**176**	P	**Pn**	**18 02 43.2**	**+0.1**
	baz=356,SNR=15						
WHTX				S	**Sn**	**18 03 43.9**	**-0.1**
	baz=356						
WHTX	**Lake Whitney,**	**5.26**	**176**	Pn	**Pn**	**18 02 43.3**	**+0.1**
WLAR	**White Oak Lake**	**5.27**	**131**	Pn	**Pn**	**18 02 44.5**	**+1.2**
WLAR				IAmb_Lg		18 04 19.4	
	comp=Z,2μm,0.9s						
CCM	**Cathedral Cave**	**5.33**	**79**	P	**Pn**	**18 02 44.8**	**+0.7**
	baz=263						
CCM				S	**Sn**	**18 03 45.7**	**-0.1**
	baz=263						
CCM	**Cathedral Cave**	**5.33**	**79**	Pn	**Pn**	**18 02 44.9**	**+0.9**
CCM				IAmb_Lg		18 04 19.9	
	comp=Z,2μm,1.0s						
K31A	**O'Neill**	**5.41**	**353**		**Pn**	**18 02 46.2**	**+1.1**
T42A	**Van Buren**	**5.43**	**90**		**Pn**	**18 02 46.3**	**+0.9**
T42A				IAmb_Lg		18 04 25.6	
	comp=Z,1μm,0.7s						
237A	**Washetta, Mont**	**5.51**	**161**	Pn	**Pn**	**18 02 46.7**	**+0.2**
LCAR	**Lake Charles**	**5.54**	**100**		**Pn**	**18 02 47.9**	**+1.0**
LCAR				IAmb_Lg		18 04 21.3	
	comp=Z,2μm,0.8s						
Z41A	**Richland Creek**	**5.76**	**132**	P	**Pn**	**18 02 50.9**	**+0.9**
	baz=315,SNR=32						
Z41A				S	**Sn**	**18 03 54.6**	**-1.7**
	baz=315						
Z41A	**Richland Creek**	**5.76**	**132**		**Pn**	**18 02 50.2**	**+0.2**
Z41A				IAmb_Lg		18 04 34.1	
	comp=Z,2μm,0.8s						
SCIA	**State Center**	**5.88**	**36**	P	**Pn**	**18 02 52.3**	**+0.7**
	baz=220,SNR=22						
SCIA	**State Center**	**5.88**	**36**	Pn	**Pn**	**18 02 52.7**	**+1.1**
SCIA				IAmb_Lg		18 04 46.8	
	comp=Z,3μm,0.8s						
Q24A	**Divide**	**5.98**	**289**	P	**Pn**	**18 02 53.2**	**-0.1**
	baz=105,SNR=87						
Q24A				S	**Sn**	**18 04 01.0**	**-1.2**
	baz=105						
Q24A	**Divide**	**5.98**	**289**		**Pn**	**18 02 53.3**	**0.0**
Q24A				IAmb_Lg		18 04 37.7	
	comp=Z,1μm,0.8s						
PBMO	**Poplar Bluff**	**5.98**	**92**	Pn	**Pn**	**18 02 53.5**	**+0.4**
CCAR	**Cane Creek**	**5.99**	**122**		**Pn**	**18 02 53.8**	**+0.7**
HBAR	**Harrisburg**	**6.07**	**104**		**Pn**	**18 02 54.2**	**0.0**
SDCO	**Great Sand Dun**	**6.08**	**277**	P	**Pn**	**18 02 54.9**	**+0.2**
	baz=92,SNR=55						
SDCO	**Great Sand Dun**	**6.08**	**277**	Pn	**Pn**	**18 02 54.9**	**+0.2**
SDCO				IAmb_Lg		18 04 41.8	
	comp=Z,1μm,1.1s						
NATX	**Nacogdoches**	**6.09**	**153**	P	**Pn**	**18 02 54.8**	**+0.3**
	baz=335,SNR=21

HDIL **Hopedale** 7.46 61 P Pn 18 03 14.0 +0.6
baz=247,SNR=123
HDIL **Hopedale** 7.46 61 Pn Pn 18 03 14.1 +0.6
HDIL IAmb_Lg 18 05 24.3
comp=Z,792nm,0.8s
HKT **Hockley** 7.48 166 IAmb_Lg 18 05 30.4
comp=Z,234nm,1.1s
441A **DeRidder** 7.56 148 Pn 18 03 15.1 +0.3
I37A **Lemond, Waseca** 7.56 25 Pn Pn 18 03 14.3 -0.5
Y45A **Yeager Farm, C** 7.59 114 Pn Pn 18 03 15.6 +0.5
Y45A IAmb_Lg 18 05 33.0
comp=Z,2µm,1.0s
BNM **Barren Site** 7.76 249 Pn Pn 18 03 18.0 +0.3
OLIL **Olney** 7.87 76 Pn Pn 18 03 19.1 +0.2
OLIL IAmb_Lg 18 05 45.2
comp=Z,2µm,1.1s
VBMS **Vicksburg** 7.87 127 Pn 18 03 18.9 0.0
O44A **Mansfield** 7.91 66 Pn 18 03 19.8 +0.3
O44A IAmb_Lg 18 05 36.8
comp=Z,841nm,0.9s
L42A **Oliver, Polo** 7.92 51 Pn 18 03 20.1 +0.5
L42A IAmb_Lg 18 05 43.5
comp=Z,1µm,0.9s
Y22D **IRIS PASSCAL I** 8.01 249 IAmb_Lg 18 05 45.7
comp=Z,1µm,0.8s
JFWS **Jewell Farm** 8.14 44 P Pn 18 03 22.7 +0.1
baz=229,SNR=42
JFWS **Jewell Farm** 8.14 44 Pn Pn 18 03 23.0 +0.4
JFWS IAmb_Lg 18 05 46.7
comp=Z,822nm,0.8s
USIN **University of** 8.14 82 Pn 18 03 22.4 -0.3
USIN IAmb_Lg 18 05 50.4
comp=Z,955nm,0.8s
WVT **Waverly** 8.15 95 P Pn 18 03 22.2 -0.4
baz=281
WVT **Waverly** 8.15 95 Pn Pn 18 03 22.0 -0.9
PLAL **Pickwick Lake** 8.25 103 Pn 18 03 23.8 -0.4
PLAL IAmb_Lg 18 05 47.5
comp=Z,834nm,1.1s
344A **Westbrook Farm** 8.27 132 Pn Pn 18 03 24.1 -0.3
RSSD **Black Hills** 8.30 328 P Pn 18 03 26.6 +1.6
baz=144
RSSD **Black Hills** 8.30 328 Pn Pn 18 03 26.5 +1.4
MNTX **Cornudas Mount** 8.31 230 P Pn 18 03 24.5 -0.5
baz=46,SNR=148
MNTX **Cornudas Mount** 8.31 230 Pn Pn 18 03 24.4 -0.6
MNTX IAmb_Lg 18 05 52.8
comp=Z,1µm,1.1s
735A **Kenedy** 8.37 180 IAmb_Lg 18 06 00.9
comp=Z,850nm,1.0s
PV15 **Paradox Valley** 8.46 281 Pn 18 03 28.4 +1.1
RWWY **Rawlins** 8.46 304 Pn 18 03 27.3 0.0
RWWY IAmb_Lg 18 05 58.2
comp=Z,973nm,1.0s
MVCO **Mesa Verde** 8.47 273 Pn Pn 18 03 28.1 +0.7
PV01 **Paradox Valley** 8.52 279 Pn 18 03 28.3 +0.2
PV01 IAmb_Lg 18 05 59.1
comp=Z,769nm,1.2s
K22A **Casper** 8.55 312 P Pn 18 03 28.5 +0.1
baz=127,SNR=36
K22A **Casper** 8.55 312 Pn Pn 18 03 28.1 -0.3
K22A IAmb_Lg 18 06 09.2
comp=Z,964nm,0.9s
146A **Union** 8.58 120 Pn 18 03 29.1 +0.3
146A IAmb_Lg 18 06 21.6
comp=Z,792nm,0.9s
O20A **White River Ci** 8.60 293 Pn Pn 18 03 29.4 +0.3
PV07 **Paradox Valley** 8.60 281 Pn Pn 18 03 29.6 +0.5
T47A **Sharon Grove** 8.61 89 Pn Pn 18 03 29.7 +0.6
T47A IAmb_Lg 18 06 08.5
comp=Z,1µm,1.1s
I40A **Norwalk** 8.63 38 Pn 18 03 30.1 +0.7
I40A IAmb_Lg 18 06 08.1
comp=Z,688nm,1.1s
PV02 **Paradox Valley** 8.65 280 Pn Pn 18 03 29.1 -0.8
F33A **5 Mile Ranch,** 8.66 7 Pn Pn 18 03 29.2 -0.6
F33A IAmb_Lg 18 06 00.2
comp=Z,636nm,0.9s
M44A **Midewin, Midew** 8.67 59 Pn 18 03 30.1 +0.2
P46A **Rosedale** 8.71 71 Pn Pn 18 03 30.6 +0.2
P46A IAmb_Lg 18 06 11.9
comp=Z,884nm,0.8s
PV12 **Saucer Basin,** 8.71 280 Pn Pn 18 03 28.1 -2.6
PV12 IAmb_Lg 18 06 07.4
comp=Z,735nm,1.0s
PV22 **Blue Mesa, Par** 8.72 282 Pn Pn 18 03 31.1 +0.3
PV13 **Radium Mtn., P** 8.72 279 Pn 18 03 30.8 0.0
PV03 **Paradox Valley** 8.74 280 Pn 18 03 32.1 +0.9
PV11 **David Mesa, Pa** 8.77 280 Pn 18 03 32.3 +0.8
PV11 IAmb_Lg 18 06 21.9
comp=Z,815nm,1.1s
PV18 **Skein Mesa, Pa** 8.79 280 Pn Pn 18 03 31.9 +0.1
PV04 **Paradox Valley** 8.80 281 Pn Pn 18 03 31.3 -0.6
PV16 **Nyswonger Mesa** 8.80 280 Pn 18 03 31.6 -0.4
PV16 IAmb_Lg 18 06 23.1
comp=Z,641nm,1.2s
PV17 **East Wray Mesa** 8.83 280 Pn 18 03 32.8 +0.4
SPMN **Marine on St.** 8.83 24 P Pn 18 03 32.3 +0.1
baz=208,SNR=33
SPMN **Marine on St.** 8.83 24 Pn Pn 18 03 32.3 +0.1
PV19 **Morning Glory** 8.85 280 Pn 18 03 32.2 -0.4
PV21 **Cone Mtn., Par** 8.87 282 Pn Pn 18 03 33.0 +0.2
PV23 **Carpenter Ridg** 8.88 281 IAmb_Lg 18 06 11.2
comp=Z,991nm,1.2s
PV14 **Lion Creek, Pa** 8.89 281 Pn 18 03 32.4 -0.7
PV05 **Paradox Valley** 8.93 279 Pn Pn 18 03 31.5 -2.3
SFIN **Lafayette** 8.98 66 P Pn 18 03 34.7 +0.6
baz=253,SNR=18
SFIN **Lafayette** 8.98 66 Pn 18 03 35.0 +0.9
SFIN IAmb_Lg 18 06 20.1
comp=Z,701nm,1.0s
HQIL **Hanson Quary C** 8.98 57 Pn 18 03 33.9 -0.3
HQIL IAmb_Lg 18 06 06.2
comp=Z,986nm,1.3s
Z47A **Carrollton** 8.99 114 Pn Pn 18 03 34.8 +0.5
Z47A IAmb_Lg 18 06 37.9
comp=Z,761nm,0.9s
833A **Chaparral WMA,** 8.99 189 P Pn 18 03 34.1 -0.3
baz=7.3
833A **Chaparral WMA,** 8.99 189 Pn Pn 18 03 34.4 0.0
833A IAmb_Lg 18 06 22.7
comp=Z,875nm,1.2s
V48A **Smith Brothers** 9.03 96 Pn 18 03 34.5 -0.4
V48A IAmb_Lg 18 06 10.2
comp=Z,656nm,0.9s
L44A **Lake County Fo** 9.12 54 P Pn 18 03 36.0 -0.1
baz=241,SNR=8.4
L44A **Lake County Fo** 9.12 54 Pn 18 03 35.7 -0.4
L44A IAmb_Lg 18 06 22.5
comp=Z,1µm,1.1s
K43A **Burlington** 9.13 50 Pn 18 03 36.1 -0.1
K43A IAmb_Lg 18 06 14.7
comp=Z,996nm,1.1s
BLO **Bloomington** 9.14 74 Pn 18 03 36.5 0.0
BLO IAmb_Lg 18 06 25.8
comp=Z,824nm,0.8s
F36A **Milaca** 9.20 19 Pn Pn 18 03 35.7 -1.5
F36A IAmb_Lg 18 06 16.5
comp=Z,661nm,1.2s
X48A **Hartselle** 9.23 104 Pn Pn 18 03 38.0 +0.4
X48A IAmb_Lg 18 06 17.9
comp=Z,677nm,1.0s
WCI **Wyandotte Cave** 9.23 80 P Pn 18 03 37.6 0.0
baz=268
WCI **Wyandotte Cave** 9.23 80 Pn Pn 18 03 37.5 -0.1
TX31 **Lajitas Ar. Si** 9.26 213 Pn Pn 18 03 37.8 -0.4
TX32 **Lajitas Array** 9.26 213 Pn Pn 18 03 37.7 -0.5
TXAR **Lajitas Array** 9.26 213 Pn Pn 18 03 38.0 -0.2
comp=Z,8.7nm,0.3s,baz=29,slow=10,SNR=240
TXAR Pg 18 04 13.2
comp=Z,7.0nm,0.3s,baz=34,slow=14,SNR=7.0
TXAR Sn Sn 18 05 19.8 -2.9
comp=Z,12nm,0.3s,baz=29,slow=23,SNR=4.4
TXAR Lg Lg 18 06 12.0
comp=Z,12nm,0.3s,baz=30,slow=30,SNR=5.8
TXAR LR LR 18 07 38.6
comp=Z,428nm,19.8s,baz=0.0,slow=40
TXAR **Lajitas Array** 9.26 213 Pn Pn 18 03 37.8 -0.4
CLTN **Cedars of Leba** 9.35 94 Pn 18 03 39.2 -0.1
CLTN IAmb_Lg 18 06 19.7
comp=Z,566nm,0.9s
121A **Cookes Peak, D** 9.40 243 P Pn 18 03 40.2 +0.1
baz=57
121A **Cookes Peak, D** 9.40 243 Pn Pn 18 03 39.8 -0.3
I42A **Draeger Farm,** 9.51 43 Pn Pn 18 03 41.6 +0.2
I42A IAmb_Lg 18 06 32.8
comp=Z,658nm,1.1s
E28A **Huff** 9.55 348 Pn 18 03 40.8 -1.1
E28A IAmb_Lg 18 06 33.6
comp=Z,815nm,1.0s
RDMU **Red Mountain** 9.69 294 Pn Pn 18 03 43.4 -0.8
U49A **Red Boiling Sp** 9.73 91 Pn Pn 18 03 45.3 +0.9
U49A IAmb_Lg 18 06 43.5
comp=Z,557nm,1.0s
W18A **Petrified Fore** 9.81 261 Pn Pn 18 03 48.1 +2.3
LRAL **Lakeview Retre** 9.86 112 P Pn 18 03 46.5 +0.3
baz=298,SNR=24
LRAL **Lakeview Retre** 9.86 112 Pn Pn 18 03 46.2 0.0
SWET **Sewanee** 9.87 98 Pn 18 03 46.9 +0.5
SWET IAmb_Lg 18 06 39.5
comp=Z,536nm,0.9s
G40A **Rib Lake** 9.87 33 Pn Pn 18 03 44.8 -1.6
D32A **Dogwood Acres,** 9.90 3 IAmb_Lg 18 06 53.3
comp=Z,594nm,1.0s
Y49A **Blount Mountai** 9.94 107 Pn Pn 18 03 47.6 +0.2
Y49A IAmb_Lg 18 06 52.3
comp=Z,575nm,0.7s
P48A **Milroy** 10.03 74 Pn 18 03 47.2 -1.3
R49A **Shelbyville** 10.12 80 Pn 18 03 49.7 -0.1
L46A **Eue Claire** 10.12 58 Pn 18 03 49.4 -0.4
SRU **San Rafael Swe** 10.12 284 Pn 18 03 50.6 +0.6
N47A **Urbana** 10.15 65 Pn 18 03 49.5 -0.7
FPAL **Fort Paine** 10.32 102 Pn 18 03 53.4 +0.9
P17A **Butcher Ranch,** 10.34 286 Pn Pn 18 03 53.7 +0.7
W50A **Signal Mountai** 10.36 98 Pn 18 03 53.4 +0.2
T50A **Nancy** 10.42 87 Pn 18 03 53.5 -0.4
E38A **The Farm, Brul** 10.46 25 Pn Pn 18 03 53.4 -1.0
BW06 **Boulder Array** 10.51 305 P Pn 18 03 54.4 -1.0
baz=118,SNR=36
BW06 **Boulder Array** 10.51 305 Pn Pn 18 03 53.8 -1.5
PD31 **Pinedale Array** 10.51 305 Pn 18 03 54.2 -1.1
PDAR **Pinedale Array** 10.51 305 Pn Pn 18 03 54.6 -0.7
comp=Z,6.7nm,0.3s,baz=124,slow=13,SNR=99
PDAR Pg 18 04 39.4
comp=Z,6.4nm,0.3s,baz=114,slow=19,SNR=4.9
PDAR Sn Sn 18 05 54.7 +1.2
comp=Z,2.2nm,0.3s,baz=105,slow=15,SNR=1.8
PDAR Lg Lg 18 06 51.5
comp=Z,8.7nm,0.3s,baz=93,slow=30,SNR=8.2
PDAR LR LR 18 08 22.5
comp=Z,929nm,18.4s,baz=122,slow=40
PDAR **Pinedale Array** 10.51 305 Pn Pn 18 03 54.2 -1.1
H43A **Windswept, Lux** 10.51 44 Pn Pn 18 03 54.5 -0.6
P49A **Miami Univ. Ec** 10.58 74 P Pn 18 03 55.8 -0.4
baz=262,SNR=9.4
P49A **Miami Univ. Ec** 10.58 74 Pn 18 03 55.9 -0.2
R50A **Paris** 10.78 80 Pn 18 03 58.1 -0.8
BRAL **Brewton** 10.82 121 P Pn 18 03 59.5 +0.1
baz=307
X51A **Calhoun** 10.90 100 Pn 18 04 00.4 -0.1
250A **Grady** 10.92 115 Pn 18 04 01.0 +0.2
CPCT **Cooper Cave** 10.93 95 Pn Pn 18 04 00.9 0.0
O49A **Covington** 10.98 70 Pn Pn 18 04 00.2 -1.4
COWI **Conover** 10.99 34 Pn 18 04 01.1 -0.6
WUAZ **Wupatki** 11.01 265 Pn Pn 18 04 04.6 +2.4
JLU **Jordanelle** 11.09 292 Pn Pn 18 04 03.6 +0.3
Z51A **Franklin** 11.10 107 Pn 18 03 59.7 -3.5
AGMN **Agassiz Nation** 11.14 7 P Pn 18 04 01.5 -2.2
baz=189
AGMN **Agassiz Nation** 11.14 7 Pn Pn 18 04 00.7 -3.0
F42A **Maple Grove Fa** 11.20 38 Pn 18 04 03.0 -1.6
N49A **Columbus Grove** 11.26 67 Pn Pn 18 04 04.6 -0.8
LAO **LASA Array** 11.28 329 P Pn 18 04 04.3 -1.4
baz=144
LAO **LASA Array** 11.28 329 Pn 18 04 03.8 -1.9
S51A **Beattyville** 11.37 84 Pn Pn 18 04 07.1 +0.2
MSU **Marysville** 11.37 281 Pn Pn 18 04 08.8 +1.7
L48A **N Adams** 11.38 62 Pn 18 04 06.7 -0.4
HWUT **Hardware Ranch** 11.44 297 Pn Pn 18 04 08.2 +0.2
TKL **Tuckaleechee C** 11.47 94 Pn Pn 18 04 07.9 -0.5
comp=Z,5.8nm,0.3s,baz=246,slow=7.3,SNR=48
TKL Sn Sn 18 06 12.2 -4.6
comp=Z,3.8nm,0.3s,baz=122,slow=15,SNR=4.7
TKL Lg Lg 18 07 16.0
comp=Z,4.9nm,0.3s,baz=1.4,slow=12,SNR=4.0
TKL LR LR 18 08 34.4
comp=Z,469nm,19.4s,baz=282,slow=38
TKL **Tuckaleechee C** 11.47 94 Pn 18 04 07.6 -0.8
W52A **Murphy** 11.48 97 Pn 18 04 08.4 -0.1
TZTN **Tazewell** 11.50 89 P Pn 18 04 09.2 +0.4
baz=278,SNR=13
TZTN **Tazewell** 11.50 89 Pn 18 04 09.3 +0.6
B35A **Bob, Littlefor** 11.51 14 Pn Pn 18 04 07.0 -1.8
AHID **Auburn Hatcher** 11.53 303 Pn 18 04 08.3 -0.9
V52A **Sevierville** 11.58 93 Pn 18 04 09.8 0.0
Q51A **Peebles** 11.59 77 Pn Pn 18 04 08.7 -1.2
SNOW **Snow King Moun** 11.61 306 Pn 18 04 09.7 -0.7
REDW **Red Top Meadow** 11.62 306 Pn 18 04 10.0 -0.6
RLMT **Red Lodge** 11.63 316 P Pn 18 04 09.7 -0.9
baz=129,SNR=43
RLMT **Red Lodge** 11.63 316 Pn Pn 18 04 09.7 -0.9
J47A **Sumner** 11.63 55 Pn 18 04 10.2 -0.2
EYMN **Ely** 11.67 22 P Pn 18 04 08.2 -2.8
baz=206,SNR=25
EYMN **Ely** 11.67 22 Pn Pn 18 04 08.4 -2.6
152A **Waverly Hall** 11.73 109 Pn Pn 18 04 12.1 +0.3
TPAW **Teton Pass** 11.75 306 Pn Pn 18 04 11.4 -0.9
Y52A **Lilburn** 11.75 103 Pn 18 04 11.8 -0.3
P51A **Williamsport** 11.85 75 P Pn 18 04 11.7 -1.7
baz=264,SNR=5.1
P51A **Williamsport** 11.85 75 Pn 18 04 13.1 -0.3
FXWY **Fox Creek** 11.87 307 Pn Pn 18 04 12.5 -1.4
FLWY **Flagg Ranch** 11.88 309 Pn Pn 18 04 12.2 -1.8
YMP **Mirror Lake Pl** 11.90 313 Pn 18 04 13.8 -0.7
IMW **Indian Meadow** 11.93 308 Pn Pn 18 04 13.5 -1.4
YNE **Yellowstone No** 11.97 314 Pn Pn 18 04 14.0 -1.4
D41A **Chassel** 11.98 32 Pn 18 04 13.2 -2.0
ACSO **Alum Creek Sta** 12.01 71 P Pn 18 04 14.0 -1.7
baz=260,SNR=18
ACSO **Alum Creek Sta** 12.01 71 Pn Pn 18 04 14.8 -0.9
DUG **Dugway, Tooele** 12.03 289 Pn 18 04 14.3 -1.7
AAM **Ann Arbor** 12.05 61 P Pn 18 04 14.5 -1.7
baz=250,SNR=6.5
AAM **Ann Arbor** 12.05 61 Pn Pn 18 04 15.6 -0.5
G45A **Suttons Bay** 12.05 46 Pn Pn 18 04 14.8 -1.4
451A **Vernon** 12.05 120 Pn Pn 18 04 16.3 +0.1
DGMT **Dagmar** 12.12 340 P Pn 18 04 16.0 -1.2
baz=156,SNR=34
DGMT **Dagmar** 12.12 340 Pn Pn 18 04 16.6 -0.6
E43A **Lone Tree Farm** 12.20 38 Pn Pn 18 04 15.7 -2.5
M50A **Fremont** 12.21 66 Pn Pn 18 04 17.9 -0.5
V53A **Saluda** 12.24 93 Pn Pn 18 04 19.3 +0.5
T53A **Wise** 12.26 87 P Pn 18 04 17.7 -1.4
baz=276,SNR=11
GCMT **Greycliff** 12.27 318 Pn Pn 18 04 19.2 -0.1
O51A **Pataskala** 12.28 72 Pn Pn 18 04 18.1 -1.3
baz=261,SNR=17
BG3 **Lake Jocassee** 12.30 96 Pn Pn 18 04 19.9 +0.3
YHH **Holmes Hill** 12.34 312 Pn Pn 18 04 18.9 -1.5
GOGA **Godfrey** 12.38 104 P Pn 18 04 20.1 -0.6
baz=292,SNR=20
GOGA **Godfrey** 12.38 104 Pn Pn 18 04 20.8 +0.1
Q52A **Bidwell** 12.42 77 P Pn 18 04 20.3 -1.0
baz=267,SNR=10.0
S53A **Williamson** 12.53 83 P Pn 18 04 22.4 -0.4
baz=273,SNR=11
GLMI **Grayling** 12.54 49 P Pn 18 04 20.7 -2.1
baz=238,SNR=6.4
GLMI **Grayling** 12.54 49 Pn Pn 18 04 20.6 -2.3
YHL **Hebgen Lake** 12.57 311 Pn Pn 18 04 23.6 -0.1
P52A **Corning** 12.58 74 P Pn 18 04 22.2 -1.2
baz=264
P52A **Corning** 12.58 74 Pn Pn 18 04 22.4 -1.0
N51A **Ashland** 12.59 68 P Pn 18 04 22.2 -1.5
baz=258,SNR=11
N51A **Ashland** 12.59 68 Pn Pn 18 04 23.4 -0.2
R53A **Hurricane** 12.65 80 P Pn 18 04 22.9 -1.5
baz=270
R53A **Hurricane** 12.65 80 Pn Pn 18 04 23.9 -0.5
M51A **Elyria** 12.82 67 P Pn 18 04 25.4 -1.4
baz=257,SNR=7.9
O52A **Adamsville** 12.86 72 P Pn 18 04 25.8 -1.5
baz=262
O52A **Adamsville** 12.86 72 Pn Pn 18 04 26.1 -1.2
X54A **Belton** 12.86 97 P Pn 18 04 26.6 -0.7
baz=287,SNR=7.1
W54A **Cherokee Point** 12.87 95 P Pn 18 04 27.3 -0.1
baz=284,SNR=37
U54A **Nelsons Funny** 12.88 88 P Pn 18 04 27.3 -0.4
baz=278,SNR=25
U54A **Nelsons Funny** 12.88 88 Pn Pn 18 04 26.9 -0.8
V54A **Nebo** 12.91 92 P Pn 18 04 27.3 -0.7
baz=281,SNR=16
K50A **Casco** 12.93 60 Pn Pn 18 04 26.0 -2.2
Q53A **Leroy** 12.99 78 P Pn 18 04 27.6 -1.5
baz=268,SNR=6.0
T54A **Tazewell** 13.01 86 P Pn 18 04 28.1 -1.3
baz=276,SNR=18
HODGE **Hodges** 13.05 99 Pn Pn 18 04 29.4 -0.4
ULM **Lac du Bonnet** 13.07 6 Pn Pn 18 04 25.8 -4.4
comp=Z,2.0nm,0.3s,baz=189,slow=11,SNR=12
ULM Sn Sn 18 06 44.4 -11
comp=Z,4.7nm,0.3s,baz=112,slow=19,SNR=3.3
ULM Lg Lg 18 08 05.9
comp=Z,3.0nm,0.3s,baz=107,slow=14,SNR=2.3
ULM LR LR 18 09 50.2
comp=Z,416nm,20.9s,baz=196,slow=39
ULM **Lac du Bonnet** 13.07 6 Pn Pn 18 04 26.3 -3.8
P53A **Whipple** 13.14 75 P Pn 18 04 29.0 -2.0
baz=265,SNR=12
P53A **Whipple** 13.14 75 Pn Pn 18 04 29.2 -1.9
S54A **Dingess, Beckl** 13.17 83 P Pn 18 04 30.1 -1.4
baz=273,SNR=18
S54A **Dingess, Beckl** 13.17 83 Pn Pn 18 04 31.3 -0.3
553A **Crawfordville** 13.22 118 Pn Pn 18 04 31.6 -0.6
PAULI **Pauline** 13.23 96 Pn Pn 18 04 32.5 +0.1
I49A **Point Hope** 13.24 55 Pn Pn 18 04 29.8 -2.6
O53A **New Philadelph** 13.35 72 P Pn 18 04 32.3 -1.7
baz=262,SNR=7.7
R54A **Victor** 13.41 81 P Pn 18 04 33.7 -1.1
baz=271,SNR=6.5
Y55A **Saluda** 13.45 99 P Pn 18 04 33.8 -1.6
baz=289,SNR=18
X55A **Gracelyn & Ava** 13.47 97 P Pn 18 04 34.1 -1.5
baz=287,SNR=11
V55A **Taylorsville** 13.48 91 P Pn 18 04 34.5 -1.2
baz=281,SNR=22
V55A **Taylorsville** 13.48 91 Pn Pn 18 04 34.9 -0.8
M52A **Chesterland** 13.48 66 P Pn 18 04 33.5 -2.1
baz=257,SNR=5.6
M52A **Chesterland** 13.48 66 Pn Pn 18 04 34.0 -1.7
U55A **TA2, Sparta** 13.50 88 P Pn 18 04 35.3 -0.8
baz=278,SNR=31
KMSC **Kings Mountain** 13.53 94 P Pn 18 04 34.9 -1.6
baz=284,SNR=24
KMSC **Kings Mountain** 13.53 94 Pn Pn 18 04 35.7 -0.8
Q54A **Coxs Mills** 13.54 77 P Pn 18 04 34.8 -1.8
baz=268
Q54A **Coxs Mills** 13.54 77 Pn Pn 18 04 35.6 -0.9
E46A **Sault Ste Mari** 13.60 44 Pn Pn 18 04 34.9 -2.4
T55A **Pulaski** 13.64 85 P Pn 18 04 37.0 -0.9
baz=276,SNR=9.8
BCYI **Bear Canyon** 13.70 306 Pn Pn 18 04 34.0 -5.0
N53A **Lisbon** 13.72 70 P Pn 18 04 36.3 -2.7
baz=260,SNR=8.3
N53A **Lisbon** 13.72 70 Pn Pn 18 04 36.9 -2.1
255A **Hazlehurst** 13.76 108 Pn Pn 18 04 38.0 -1.5
S55A **Lewisburg** 13.81 83 P Pn 18 04 37.8 -2.5
baz=273,SNR=7.5
P54A **Burton** 13.85 75 P Pn 18 04 39.2 -1.5
baz=266,SNR=9.4
BLA **Blacksburg** 13.92 85 P Pn 18 04 40.8 -1.0
baz=276
BLA **Blacksburg** 13.92 85 Pn Pn 18 04 40.5 -1.3
ELK **Elko** 13.94 290 Pn Pn 18 04 45.3 +3.1
comp=Z,0.1nm,0.3s,baz=95,slow=7.9,SNR=5.6
ELK Lg Lg 18 08 35.5
comp=Z,0.1nm,0.3s,baz=11,slow=6.0,SNR=3.2
ELK LR LR 18 10 20.3
comp=Z,564nm,18.2s,baz=94,slow=38
X56A **White Oak** 13.94 96 P Pn 18 04 40.4 -1.6
baz=286,SNR=17
M53A **WI Miller and** 13.96 67 P Pn 18 04 40.0 -2.3
baz=258
M53A **WI Miller and** 13.96 67 Pn Pn 18 04 40.2 -2.0
O54A **Avella** 13.98 73 P Pn 18 04 40.6 -2.0
baz=264
HRY **Holter Researc** 14.02 317 Pn Pn 18 04 42.1 -1.0
U56A **King** 14.06 88 P Pn 18 04 42.3 -1.3
baz=279,SNR=8.0
V56A **Mocksville** 14.06 91 P Pn 18 04 41.7 -2.0
baz=281,SNR=13
R55A **Marlinton** 14.09 80 P Pn 18 04 42.4 -1.8
baz=271
Q55A **Buckhannon** 14.12 77 P Pn 18 04 42.0 -2.6
baz=268
W56A **Indian Trail** 14.13 93 P Pn 18 04 42.3 -2.4
baz=284,SNR=13
T56A **Rocky Mt** 14.25 85 P Pn 18 04 44.3 -1.9
baz=276,SNR=9.9
P55A **Reedsville** 14.34 75 P Pn 18 04 44.3 -3.3
baz=267
L53A **Girard** 14.37 65 P Pn 18 04 45.7 -2.2
baz=257,SNR=5.7
N54A **Moraine State** 14.38 70 P Pn 18 04 45.7 -2.3
baz=261,SNR=11
I51A **Listowel** 14.38 58 P Pn 18 04 44.7 -3.4
baz=249,SNR=15
S56A **Natural Bridge** 14.56 83 P Pn 18 04 48.1 -2.4
baz=274,SNR=9.6
Z57A **Bowman** 14.58 101 P Pn 18 04 48.5 -2.2
baz=291,SNR=18
W57A **Gilead** 14.60 93 P Pn 18 04 48.2 -2.9
baz=284,SNR=9.4
V57A **Coltrane Farms** 14.62 90 P Pn 18 04 48.4 -2.9
baz=281,SNR=10
R56A **Bull Pasture M** 14.65 80 P Pn 18 04 48.5 -3.4
baz=271
X57A **Johnson Farm,** 14.69 96 P Pn 18 04 48.6 -3.8
baz=286,SNR=5.9
M54A **Oil Creek Stat** 14.71 68 P Pn 18 04 49.6 -3.0
baz=259
M54A **Oil Creek Stat** 14.71 68 Pn Pn 18 04 50.4 -2.2
O55A **Ligonier** 14.80 73 P Pn 18 04 51.0 -2.8
baz=264
RCRC **Randolf Colleg** 14.81 84 Pn Pn 18 04 52.5 -1.5
Q56A **Snyder Ridge,** 14.82 77 Pn Pn 18 04 51.0 -3.1
T57A **Hurt** 14.87 85 P Pn 18 04 52.4 -2.3
baz=277,SNR=15
T57A **Hurt** 14.87 85 Pn Pn 18 04 53.0 -1.7
U57A **Blanch** 14.88 88 P Pn 18 04 52.6 -2.2
baz=279,SNR=26
656A **Willston** 15.04 117 Pn Pn 18 04 57.1 +0.1
656A IAmb IAmb 18 05 08.3
comp=Z,34nm,0.5s
S57A **Dark Hollow, R** 15.04 82 Pn Pn 18 04 55.5 -1.5
N55A **Marion Center** 15.10 71 P Pn 18 04 54.5 -3.4
baz=263,SNR=8.0
P56A **Dayton Farm, R** 15.11 76 P Pn 18 04 54.2 -3.7
baz=268
L54A **Sinclairville** 15.12 65 P Pn 18 04 53.6 -4.4
baz=257
V58A **Windy Hill, Pi** 15.16 90 P Pn 18 04 54.4 -4.3
baz=281,SNR=16
V58A **Windy Hill, Pi** 15.16 90 Pn Pn 18 04 56.2 -2.5
V58A IAmb IAmb 18 04 57.6
comp=Z,36nm,0.7s
Z58A **St. Stephen** 15.26 99 P Pn 18 04 56.4 -3.5
baz=290,SNR=8.8
O56A **Blue Knob Stat** 15.37 73 P Pn 18 04 58.3 -3.1
baz=265
O56A **Blue Knob Stat** 15.37 73 Pn Pn 18 04 59.2 -2.2
O56A IAmb IAmb 18 05 20.1
comp=Z,17nm,0.7s
M55A **Ridgway** 15.37 68 P Pn 18 04 58.0 -3.4
baz=260
M55A **Ridgway** 15.37 68 Pn Pn 18 04 58.5 -2.9
M55A IAmb IAmb 18 05 21.5
comp=Z,38nm,0.8s
Q57A **Strasburg** 15.43 77 P Pn 18 04 59.3 -2.8
baz=270,SNR=6.5
PFO **Pinyon Flats O** 15.57 262 Pn P 18 05 09.0 +0.4
comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=1.2
PFO Lg Lg 18 09 35.7
comp=Z,0.2nm,0.3s,baz=130,slow=18,SNR=2.3
PFO LR LR 18 11 26.3
comp=Z,201nm,18.8s,baz=70,slow=38
N56A **West Decatur** 15.64 70 P Pn 18 05 01.1 -3.8
baz=263
K54A **Basiliko Farm,** 15.65 64 P Pn 18 05 01.2 -4.0
baz=256
L55A **Hinsdale** 15.74 66 P Pn 18 05 02.4 -3.9
baz=258
R58A **Rapidan** 15.76 80 P Pn 18 05 06.1 -0.4
baz=272,SNR=7.6
S58A **Poland Farm, P** 15.76 83 P Pn 18 05 04.1 -2.4

baz=275,SNR=5.4
MPMC Manual Prospec 15.78 272 P Pn 18 05 05.3 -1.7
baz=80
M56A Emporium 15.81 68 P Pn 18 05 03.4 -3.7
baz=261
V59A Middlesex 15.87 89 P Pn 18 05 04.9 -3.0
baz=281,SNR=14
SSPA Standing Stone 15.92 72 P Pn 18 05 04.4 -4.1
baz=264
SSPA Standing Stone 15.92 72 Pn Pn 18 05 05.4 -3.1
Q58A Fox Den Farm, 15.99 78 P Pn 18 05 05.5 -4.0
baz=270
SADO Sadowa 15.99 56 Pn Pn 18 05 05.2 -4.3
comp=Z,1.0nm,0.3s,baz=261,slow=12,SNR=6.2
SADO Lg Lg 18 09 34.2
comp=Z,3.1nm,0.3s,baz=333,slow=14,SNR=3.1
SADO LR LR 18 11 42.1
comp=Z,159nm,19.2s,baz=266,slow=39
O57A Amberson 16.07 73 P Pn 18 05 07.3 -3.2
baz=266,SNR=7.8
U59A Littleton 16.12 87 P Pn 18 05 08.2 -2.9
baz=279,SNR=20
U59A Littleton 16.12 87 Pn Pn 18 05 09.9 -1.2
U59A IAmb IAmb 18 05 10.3
comp=Z,99nm,1.4s
NVAR Mina Array Bea 16.18 280 Pn Pn 18 05 14.3 +2.2
comp=Z,0.3nm,0.3s,baz=83,slow=7.7,SNR=28
NVAR Sn Sn 18 08 07.9 -3.9
comp=Z,0.1nm,0.3s,baz=89,slow=14,SNR=3.6
NVAR Lg Lg 18 09 50.6
comp=Z,0.1nm,0.3s,baz=86,slow=26,SNR=1.8
NVAR LR LR 18 11 48.7
comp=Z,266nm,21.4s,baz=86,slow=39
N57A Milroy 16.18 71 P Pn 18 05 07.0 -4.9
baz=264
T59A Double "B" Far 16.22 85 P Pn 18 05 08.9 -3.5
baz=277,SNR=8.8
T59A Double "B" Far 16.22 85 Pn Pn 18 05 09.8 -2.7
P58A Pank, Wackersv 16.30 76 P Pn 18 05 10.3 -3.1
baz=269,SNR=8.2
H53A Bobcaygeon 16.30 57 P Pn 18 05 08.2 -5.2
baz=250,SNR=5.3
L56A Greenwood 16.38 66 P Pn 18 05 10.4 -4.0
baz=259
L56A Greenwood 16.38 66 Pn Pn 18 05 11.5 -3.0
L56A IAmb IAmb 18 05 34.7
comp=Z,56nm,0.8s
J55A Hilton 16.44 62 P Pn 18 05 10.1 -5.0
baz=255
M57A Sunshine Farm, 16.57 69 P Pn 18 05 13.4 -3.5
baz=263
M57A Sunshine Farm, 16.57 69 Pn Pn 18 05 14.3 -2.5
U60A Pendleton 16.61 86 P Pn 18 05 13.8 -3.5
baz=279
K56A Middlesex 16.66 65 P Pn 18 05 14.5 -3.5
baz=258
N58A Sunbury 16.82 71 P Pn 18 05 16.4 -3.7
baz=265
N58A Sunbury 16.82 71 Pn Pn 18 05 17.2 -2.9
G54A Lake Saint Pet 16.92 55 P Pn 18 05 17.9 -3.4
baz=248,SNR=21
M58A Price's Panora 17.07 69 P Pn 18 05 20.2 -3.0
baz=263,SNR=7.0
ALGO Algonquin Park 17.16 53 P Pn 18 05 20.0 -4.3
baz=247,SNR=16
BINY Binghamton 17.54 67 P Pn 18 05 26.1 -2.9
baz=261
N59A State Game Lan 17.54 71 P Pn 18 05 26.5 -2.7
baz=265
KSPA Keystone Colle 17.61 69 Pn Pn 18 05 27.9 -2.1
WUPA West Chester U 17.61 74 Pn Pn 18 05 29.0 -0.9
L58A Harry Jones Me 17.62 67 P Pn 18 05 27.4 -2.6
baz=262
FFC Flin Flon 17.70 352 Pn Pn 18 05 29.3 -1.7
J57A Williamstown 17.76 63 P Pn 18 05 28.8 -3.0
baz=257
J57A Williamstown 17.76 63 Pn Pn 18 05 29.7 -2.1
O60A Telford 17.78 73 P Pn 18 05 29.1 -2.9
baz=267
NEW Newport 17.86 314 P P 18 05 34.6 +0.9
comp=Z,0.2nm,0.3s,baz=122,slow=11,SNR=17
NEW Lg Lg 18 10 36.0
comp=Z,0.4nm,0.3s,baz=17,slow=19,SNR=2.4
NEW LR LR 18 12 58.7
comp=Z,354nm,21.9s,baz=99,slow=39
NEW Newport 17.86 314 P Pn 18 05 32.6 -0.3
baz=121,SNR=9.5
M59A Waymart 17.86 69 P Pn 18 05 30.8 -2.2
baz=264
PKM Mcpherson Peak 17.88 269 P Pn 18 05 33.5 0.0
baz=76
N60A Cedar Hill Far 18.05 71 P Pn 18 05 33.4 -1.9
baz=266
I57A Carthage 18.12 61 P Pn 18 05 34.5 -1.8
baz=256
L59A Walton 18.23 67 P Pn 18 05 36.4 -1.2
baz=262
J58A Remsen 18.26 63 P Pn 18 05 34.7 -3.2
baz=258,SNR=9.2
J58A Remsen 18.26 63 Pn Pn 18 05 35.5 -2.5
J58A IAmb IAmb 18 05 39.9
comp=Z,175nm,1.9s
H57A Richville 18.44 60 P Pn 18 05 37.7 -2.4
baz=255
M60A Port Jervis 18.44 70 P Pn 18 05 37.0 -3.1
baz=265
K59A Cooperstown 18.46 65 P Pn 18 05 37.3 -3.2
baz=260
I58A Old Forge 18.55 63 P P 18 05 36.8 -4.5
baz=258,SNR=9.8
J05D Fort Rock, OR 18.78 296 P P 18 05 42.4 -1.6
baz=101
J59A Piesco 18.84 63 P P 18 05 42.8 -1.7
O03E Paynes Creek 18.88 287 P P 18 05 42.1 -3.0
baz=92,SNR=8.3
G57A Newington 18.89 58 P P 18 05 41.9 -3.2
baz=254,SNR=5.1
TEIG Tepich 18.92 151 P Pn 18 05 46.5 +0.4
comp=Z,2.8nm,0.3s,baz=329,slow=3.9,SNR=7.9
TEIG S Sn 18 09 01.8 -16
comp=Z,2.7nm,0.3s,baz=100,slow=22,SNR=8.7
TEIG LR LR 18 14 54.3
comp=Z,85nm,19.1s,baz=82,slow=43
PAL Palisades 18.96 71 P P 18 05 43.2 -2.6
baz=266
LONY Lake Ozonia 19.04 60 P P 18 05 44.4 -2.3
baz=255
NCB Newcomb 19.14 62 P P 18 05 46.9 -0.9
MATQ Matagami 19.21 43 P P 18 05 47.8 -0.7
baz=237,SNR=8.3
D55A Sainte-Anne-du 19.21 52 P P 18 05 47.2 -1.4
baz=248
H58A Gabriels 19.27 61 P P 18 05 47.5 -1.8
baz=256
E56A St. Veronique 19.32 54 P P 18 05 48.2 -1.6
baz=250
L61A Hillsdale 1, H 19.33 68 P P 18 05 48.3 -1.6
baz=263
I59A Olmsteadville 19.35 63 P P 18 05 48.3 -1.8
baz=258,SNR=6.0
G58A Ormstown 19.54 59 P P 18 05 51.3 -0.8
baz=255
LTY Liberty 19.54 308 P 18 05 52.7 +0.4
J60A Lant Hill Farm 19.57 65 P P 18 05 51.0 -1.6
baz=260
F05D White Salmon 19.58 304 P P 18 05 52.8 +0.2
baz=108,SNR=5.6
N02D Trinity Center 19.60 289 P P 18 05 52.2 -0.7
baz=93
K61A Williamstown 19.60 66 P Pn 18 05 52.6 -1.5
baz=262
YBH Yreka Blue Hor 19.65 291 P Pn 18 05 55.7 +0.9
comp=Z,0.4nm,0.3s,baz=92,slow=4.1,SNR=33
YBH LR LR 18 14 06.0
comp=Z,335nm,21.0s,baz=94,slow=39
H59A Cadyville 19.66 60 P P 18 05 52.0 -1.6
baz=256,SNR=7.2
D56A ZEC Mazanza, M 19.68 53 P P 18 05 51.7 -2.0
baz=249
M02C Callahan 19.73 290 P P 18 05 52.1 -2.3
baz=94
I60A Shoreham 19.77 63 P P 18 05 53.3 -1.3
baz=259
E57A Chemin Saint G 19.85 55 P P 18 05 54.3 -1.3
baz=251
L61B Northampton 20.00 67 P Pn 18 05 57.3 -1.6
baz=263
LON Longmire 20.09 306 P P 18 05 58.2 0.0

E58A La Victoria 20.41 56 P P 18 06 00.6 -1.0
baz=252,SNR=7.2
G60A Masonville 20.71 60 P P 18 06 02.3 -2.6
baz=257
MOQ Mont Orford 20.81 59 P Pn 18 06 06.9 -1.6
D58A Chemin du LacG 20.90 54 P P 18 06 05.9 -1.0
baz=251,SNR=6.7
CHGQ Chibougamau 21.11 46 P P 18 06 09.2 +0.1
baz=242,SNR=18
F60A Warwick 21.18 58 P P 18 06 10.2 +0.3
baz=255,SNR=5.7
D61A St Aubert, Com 22.68 55 P P 18 06 26.2 +0.1
baz=254
E62A Clayton Lake 22.98 57 P P 18 06 30.7 +1.6
baz=256
E62A Clayton Lake 22.98 57 P P 18 06 29.8 +0.7
E62A IAmb IAmb 18 06 31.6
comp=Z,64nm,1.6s
D62A Allapoint, All 23.40 56 P P 18 06 33.9 +0.4
baz=256
F64A Sherman 23.61 59 P P 18 06 36.1 +0.6
baz=259
E63A Oxbow 23.67 58 P P 18 06 36.2 +0.1
baz=258,SNR=6.5
E63A Oxbow 23.67 58 P P 18 06 37.5 +1.4
E63A IAmb IAmb 18 06 38.3
comp=Z,39nm,0.9s
MTO3 Montecristo 23.99 159 P P 18 06 39.5 -0.1
MTO3 IAmb IAmb 18 07 16.1
comp=Z,20nm,1.2s
G65A Princeton 24.04 61 P P 18 06 39.7 0.0
baz=261
E64A Bridgewater 24.07 58 P P 18 06 40.6 +0.6
baz=258
H66A Whiting 24.16 62 P P 18 06 42.7 +1.9
baz=263
BATG Bathurst New B 25.43 57 P P 18 06 53.3 +1.0
BBB Bella Bella 25.92 315 LR LR 18 18 08.4
comp=Z,215nm,18.9s,baz=124,slow=39
YKA Yellowknife Ar 27.30 343 P P 18 07 09.0 0.0
comp=Z,5.6nm,1.0s,baz=137,slow=7.6,SNR=5.0
YKA Lg Lg 18 15 46.8
comp=Z,12nm,1.0s,baz=134,slow=27,SNR=4.3
YKA LR LR 18 18 25.4
comp=Z,591nm,18.6s,baz=0.0,slow=38
SCHQ Schefferville 27.48 40 P P 18 07 10.8 0.0
comp=Z,14nm,0.9s,baz=271,slow=5.5,SNR=8.9
SCHQ Lg Lg 18 15 41.2
comp=Z,35nm,1.0s,baz=2.2,slow=16,SNR=5.3
JTS Las Juntas de 29.27 153 LR LR 18 20 43.0
comp=Z,149nm,20.8s,baz=30,slow=40
DLBC Dease Lake 29.77 326 P P 18 07 32.6 +1.4
comp=Z,1.6nm,0.5s,baz=90,slow=5.9,SNR=3.5
DLBC LR LR 18 20 10.0
comp=Z,400nm,18.9s,baz=100,slow=38
DRLN Deer Lake 31.39 55 P P 18 07 46.6 +1.0
MOTC Moneria, Cord 34.76 139 eP P 18 08 15.0 -0.2
SMLC San Martn de 35.59 137 eP P 18 08 23.3 +0.9
SDV Santo Domingo 37.49 132 eP P 18 08 37.9 -0.9
SOCV Socops 37.84 133 eP P 18 08 43.1 +1.5
BARC Barichara 37.91 137 eP P 18 08 43.0 +0.6
GUY2C Guyana, Caldas 37.95 142 eP P 18 08 43.3 +0.3
ROSC El Rosal 38.80 141 LR LR 18 26 23.5
comp=Z,60nm,21.0s,baz=77,slow=39
CHIC Chingaza 39.28 140 eP P 18 08 54.4 +0.3
POPC Popayan, Colom 39.67 146 eP P 18 08 56.1 -1.1
IL31 39.74 330 P P 18 08 58.1 +1.2
IL31 IAmb IAmb 18 09 00.3
comp=Z,16nm,0.8s
ILAR Eielson Array 39.74 330 P P 18 08 57.9 +0.8
comp=Z,14nm,0.8s,baz=108,slow=6.7,SNR=80
ILAR PcP PcP 18 11 03.7 +0.4
comp=Z,0.9nm,0.8s,baz=122,slow=2.9,SNR=4.8
ILAR LR LR 18 28 19.4
comp=Z,50nm,18.1s,baz=127,slow=41
BBAC Balboa, Cauca 39.88 147 eP P 18 08 59.3 +0.4
MDM Murphy Dome 40.35 330 P P 18 09 03.1 +1.0
OTAV Otavalo 40.98 150 eP P 18 09 05.4 -2.8
OTAV Otavalo 40.98 150 eP P 18 09 07.3 -0.9
OTAV epP pP 18 09 09.9 -0.5
PPLA Purkeypile 41.49 326 P P 18 09 12.9 +1.3
PPLA IAmb IAmb 18 09 13.9
comp=Z,28nm,1.4s
IMAR Indian Mountai 42.84 330 P P 18 09 23.1 +0.6
CZSB Cruzeiro do Su 50.57 147 eP P 18 10 24.0 +0.5
CZSB eS S 18 17 37.1 -1.3
MDP Montagnes des 52.20 116 LR LR 18 33 59.2
comp=Z,33nm,21.6s,baz=316,slow=38
ETMB Extrema 55.45 141 eP P 18 10 57.4 -2.1
SAML Samuel 56.29 137 P P 18 11 03.9 -1.7
SAML IAmb IAmb 18 11 04.5
comp=Z,7.3nm,1.0s
SAML Samuel 56.29 137 eP P 18 11 03.6 -2.0
ITTB Itaituba 57.02 127 eP P 18 11 10.4 -0.4
ITTB epP pP 18 11 13.2 +0.2
NPGB Novo Progresso 59.32 129 eP P 18 11 26.1 -0.8
LPAZ La Paz 60.18 147 P P 18 11 33.7 +0.3
comp=Z,3.4nm,0.9s,baz=335,slow=7.0,SNR=7.9
LPAZ La Paz 60.18 147 P P 18 11 32.9 -0.5
LPAZ IAmb IAmb 18 11 34.1
comp=Z,4.3nm,0.9s
VILB Vilhena 61.22 137 eP P 18 11 40.3 +0.4
PB16 IPOC Station P 61.42 149 P P 18 11 42.4 +0.6
CLDB Colider 62.05 132 eP P 18 11 43.9 -1.6
PTLB Pontes e Lacer 63.86 138 eP P 18 11 57.5 0.0
PB01 IPOC Station P 63.86 150 P P 18 11 57.9 +0.4
PB01 IAmb IAmb 18 11 60.0
comp=Z,7.8nm,0.9s
PB07 IPOC Station P 64.33 151 P P 18 12 01.3 +0.7
PB09 IPOC Station P 64.64 150 P P 18 12 03.7 +1.0
LVC Limon Verde 65.50 151 P P 18 12 09.6 +1.1
LVC IAmb IAmb 18 12 10.6
comp=Z,13nm,1.4s
SNDB Serra Nova Dou 65.65 129 eP P 18 12 09.1 -0.1
ARCES ARCESS Array B 65.81 19 P P 18 12 09.8 +0.3
comp=Z,6.0nm,0.7s,baz=316,slow=4.6,SNR=16
ARCES LR LR 18 40 33.5
comp=Z,200nm,18.5s,baz=240,slow=36
PGAV Gavieira, Arco 66.07 55 eP P 18 12 11.9 +0.1
comp=Z,20nm,1.3s
NBO00 NORSAR Array S 66.28 30 P P 18 12 12.9 +0.2
PCAB Cabril 66.36 55 eP P 18 12 14.5 +0.9
comp=Z,30nm,1.4s
NB2 NORSAR Subarra 66.45 30 P P 18 12 13.7 -0.2
comp=Z,2.0nm,0.7s,baz=304,slow=6.9
NOA NORSAR Array B 66.45 30 P P 18 12 14.0 +0.1
comp=Z,3.9nm,0.8s,baz=304,slow=6.6,SNR=11
NOA LR LR 18 40 07.5
comp=Z,172nm,18.2s,baz=290,slow=35
NC605 NORSAR Array S 66.68 30 P P 18 12 15.6 +0.4
COI Coimbra 66.84 56 P P 18 12 16.8 +0.2
PCAS Casmilo, Conde 66.86 57 eP P 18 12 17.1 +0.3
comp=Z,27nm,1.1s
PVIS Viseu 66.94 56 eP P 18 12 18.1 +0.8
comp=Z,23nm,2.0s
PBRG Braganca 67.14 54 eP P 18 12 18.3 -0.3
comp=Z,20nm,1.3s
MVO Moncorvo 67.28 55 eP P 18 12 20.2 +0.7
comp=Z,23nm,1.1s
PMTG Montargil 67.54 57 eP P 18 12 21.7 +0.6
comp=Z,39nm,2.1s
GO02 Mina Guanaco 67.55 152 P P 18 12 22.4 +0.8
GO02 IAmb IAmb 18 12 23.3
comp=Z,13nm,1.1s
PCBR Castelo Branco 67.65 56 eP P 18 12 22.4 +0.6
comp=Z,22nm,2.4s
PNCL Nicolau / Gran 67.82 58 eP P 18 12 23.9 +1.1
comp=Z,53nm,1.7s
PMRV Mar??o 67.92 57 eP P 18 12 23.9 +0.4
comp=Z,18nm,1.2s
EVO Evora 67.95 58 eP P 18 12 24.6 +0.9
comp=Z,20nm,1.8s
PTEO Sao Teotonio 67.97 59 eP P 18 12 24.9 +1.1
comp=Z,66nm,1.6s
HFS Hagfors 67.98 30 P P 18 12 23.7 +0.2
comp=Z,8.3nm,0.7s,baz=0.0,slow=1.8,SNR=13
MORF Marmelete 68.14 59 eP P 18 12 26.0 +1.0
MORF AMb AMB 18 12 27.1
comp=Z,62nm,1.3s
MORF eS S 18 21 27.9 +2.4
MORF Marmelete 68.14 59 eP P 18 12 26.2 +1.2
comp=Z,78nm,1.8s
PBEJ Beja 68.31 58 eP P 18 12 26.9 +0.9
comp=Z,23nm,1.9s
PCVE Castro Verde 68.39 59 eP P 18 12 27.8 +1.3
comp=Z,48nm,1.1s

PBDV Barranco-do-Ve 68.67 59 eP P 18 12 27.7 -0.6
comp=Z,85nm,1.8s
PVAQ Vaqueiros 68.73 59 eP P 18 12 29.8 +1.2
comp=Z,61nm,2.6s
PVAQ Vaqueiros 68.73 59 P P 18 12 29.7 +1.2
PETK Petropavlovsk- 68.83 321 P P 18 12 28.8 -0.2
comp=Z,4.1nm,0.7s,baz=61,slow=6.0,SNR=7.5
PETK LR LR 18 45 36.6
comp=Z,82nm,18.0s,baz=60,slow=38
CLF Chambon-Foret 69.36 45 P P 18 12 33.1 +0.8
ESDC Sonseca Array 70.05 55 P P 18 12 37.3 +0.5
comp=Z,5.0nm,0.9s,baz=303,slow=6.5,SNR=20
ESDC Sonseca Array 70.05 55 P P 18 12 37.1 +0.3
ESBB Sonseca Array 70.05 55 P P 18 12 37.0 +0.2
ESBB IAmb IAmb 18 12 42.1
comp=Z,17nm,1.4s
BDFB Brasilia 70.49 129 LR LR 18 44 56.2
comp=Z,86nm,21.0s,baz=308,slow=37
WLF Walferdange 70.58 42 P P 18 12 41.1 +1.3
AC05 El Transito 70.66 154 P P 18 12 41.8 +1.3
AC05 IAmb IAmb 18 12 43.2
comp=Z,14nm,1.0s
FINES FINESS Array B 71.67 25 P P 18 12 46.6 +0.5
comp=Z,4.9nm,0.6s,baz=320,slow=4.7,SNR=20
FINES LR LR 18 43 06.3
comp=Z,210nm,18.1s,baz=302,slow=35
ECH Echery 71.96 43 P P 18 12 48.9 +0.6
ECH IAmb IAmb 18 12 50.0
comp=Z,4.4nm,0.9s
CO03 El Pedregal 72.36 156 P P 18 12 51.5 +0.8
CO03 IAmb IAmb 18 12 52.4
comp=Z,7.4nm,0.8s
CO02 Combarbal 72.60 156 P P 18 12 52.7 +0.6
OUZM OUZ 72.86 64 P P 18 12 55.2 +1.2
SNR=12
PPT Papeete 73.08 231 LR LR 18 38 22.7
comp=Z,25nm,20.4s,baz=358,slow=30
CLL Collm 73.10 38 eP P 18 12 55.0 +0.1
GRF Grafenberg Arr 73.22 40 eP P 18 12 57.2 +1.5
comp=Z,5.4nm,1.2s,baz=306,slow=5.7
MDT Midelt 73.34 61 P P 18 12 58.3 +1.5
SNR=18
BNI Bardonecchia 73.56 46 P P 18 12 59.1 +1.2
BNI IAmb IAmb 18 13 00.4
comp=Z,6.7nm,0.9s
NRIK Noril'sk 73.64 358 P P 18 12 58.5 +0.7
comp=Z,2.4nm,0.7s,baz=59,slow=5.9,SNR=3.8
ZON Zonda 73.69 154 P P 18 12 59.8 +1.2
ZON IAmb IAmb 18 13 01.2
comp=Z,18nm,1.0s
GOLM Goulmima 73.71 62 P P 18 13 02.0 +3.0
SNR=8.1
TZRR Tazzarine 73.78 64 P P 18 13 01.0 +1.5
SNR=10
ZGR Zagora 74.12 64 P P 18 13 03.0 +1.5
SNR=20
FUORN Ofenpass-Fuorn 74.61 43 P P 18 13 06.1 +1.9
FUORN IAmb IAmb 18 13 07.0
comp=Z,26nm,1.4s
PRU Pruhonice 74.70 38 eP P 18 13 05.4 +1.1
KHC Kasperske Hory 74.77 39 eP P 18 13 06.4 +1.6
GERES GERESS Array B 75.01 39 P P 18 13 06.8 +0.5
comp=Z,1.9nm,0.9s,baz=328,slow=4.7,SNR=9.6
DPC Dobruska-Polom 75.33 37 eP P 18 13 09.0 +1.0
VRAC Vranov 76.15 38 P P 18 13 13.7 +1.0
comp=Z,4.5nm,0.8s,baz=295,slow=6.4
VYHS Vyhne 77.80 37 eP P 18 13 23.0 +1.0
KWP Kalwaria Pacla 78.82 35 P P 18 13 29.0 +1.4
KIRV Kirov 80.69 17 P P 18 13 37.7 +0.2
comp=Z,10nm,0.6s,baz=284,slow=9.6,SNR=4.0
AKASG Malin Array Be 80.85 31 P P 18 13 38.8 +0.3
comp=Z,8.4nm,0.9s,baz=316,slow=4.4,SNR=26
AKASG LR LR 18 48 25.8
comp=Z,142nm,18.8s,baz=310,slow=35
AKASG Malin Array Be 80.85 31 P P 18 13 38.5 -0.1
AKBB Malin Array Si 80.85 31 P P 18 13 38.8 +0.3
KEST Kesra 80.90 52 P P 18 13 39.7 +0.5
comp=Z,19nm,0.9s,baz=284,slow=2.2,SNR=14
KEST Kesra 80.90 52 P P 18 13 39.7 +0.5
BUR08 Bucovina Ar. S 81.40 35 P P 18 13 43.3 +1.6
BUR08 IAmb IAmb 18 13 45.4
comp=Z,4.3nm,0.8s
DIVS Divibare 81.42 40 P P 18 13 43.1 +1.3
DIVS IAmb IAmb 18 13 45.1
comp=Z,5.3nm,0.9s
PLCA Paso Flores 81.55 159 P P 18 13 43.3 +1.0
comp=Z,5.2nm,0.8s,baz=329,slow=6.9,SNR=12
PLCA Paso Flores 81.55 159 P P 18 13 43.5 +1.2
PLCA IAmb IAmb 18 13 44.4
comp=Z,11nm,1.1s
LL01 San Ignacio de 82.59 161 P P 18 13 48.7 +1.2
MLR Muntele Rosu 83.34 36 P P 18 13 52.4 +0.5
comp=Z,2.8nm,0.6s,baz=272,slow=12
MLR Muntele Rosu 83.34 36 P P 18 13 52.7 +0.8
ARU Arti 84.56 13 P P 18 13 57.9 +0.2
comp=Z,0.4nm,0.4s,baz=352,slow=10,SNR=4.6
ARU LR LR 18 56 28.1
comp=Z,136nm,18.5s,baz=9.0,slow=39
USRK Ussuriysk Ar. 87.20 327 P P 18 14 11.7 +0.6
comp=Z,2.4nm,0.7s,baz=32,slow=2.3,SNR=6.6
USRK Ussuriysk Ar. 87.20 327 P P 18 14 11.8 +0.8
DBIC Dimbokro 88.41 83 P P 18 14 17.1 -0.2
comp=Z,4.9nm,0.7s,baz=310,slow=4.8,SNR=5.1
ZALV Zalesovo Jeam 89.14 358 P P 18 14 20.4 +0.3
comp=Z,2.3nm,0.6s,baz=356,slow=5.2,SNR=12
BRVK Borovoye 89.47 7 P P 18 14 22.1 +0.5
BRVK IAmb IAmb 18 14 25.0
comp=Z,7.2nm,1.2s
BVAR Borovoye Array 89.52 7 P P 18 14 22.6 +0.7
comp=Z,1.8nm,0.9s,baz=190,slow=7.5,SNR=7.4
TOA0 Torodi Ar. Sit 89.60 74 P P 18 14 23.0 +0.1
TOA0 IAmb IAmb 18 14 25.1
comp=Z,9.9nm,1.2s
TORD Torodi Ar. Bea 89.60 74 P P 18 14 22.9 -0.1
comp=Z,2.6nm,0.9s,baz=298,slow=5.1,SNR=8.6
TORD Torodi Ar. Bea 89.60 74 P P 18 14 22.8 -0.1
AKTO Aktyubinsk 90.14 15 LR LR 18 59 28.0
comp=Z,146nm,18.4s,baz=336,slow=39
IDI Anoyia 90.39 43 LR LR 18 55 22.1
comp=Z,47nm,18.1s,baz=308,slow=36
AB05 Akbulak array 91.63 14 P P 18 14 32.3 +0.5
AB09 Akbulak array 91.64 14 P P 18 14 31.9 0.0
AB04 Akbulak array 91.65 14 P P 18 14 31.9 +0.1
AB02 Akbulak array 91.65 14 P P 18 14 32.3 +0.4
AB01 Akbulak array 91.65 14 P P 18 14 32.2 +0.3
AB06 Akbulak array 91.65 14 P P 18 14 31.9 +0.1
AB31 Akbulak array 91.65 14 P P 18 14 31.8 -0.1
ABKAR Akbulak array 91.65 14 P P 18 14 31.7 -0.2
ABKAR IAmb IAmb 18 14 33.3
comp=Z,5.1nm,1.1s
ABKAR Akbulak array 91.65 14 P P 18 14 32.4 +0.5
AB03 Akbulak array 91.65 14 P P 18 14 32.0 +0.1
AB08 Akbulak array 91.66 14 P P 18 14 32.0 0.0
AB07 Akbulak array 91.67 14 P P 18 14 32.1 +0.1
KBZ Khabaz 91.89 27 P P 18 14 34.8 +1.7
comp=Z,3.6nm,1.1s,baz=293,slow=3.9,SNR=4.4
KURBB Kurchatov Arra 92.44 2 P P 18 14 36.0 +0.5
comp=Z,0.5nm,1.0s,baz=348,slow=4.8,SNR=4.5
SONM Songino Array 92.56 344 P P 18 14 37.5 +1.2
comp=Z,1.9nm,1.0s,baz=14,slow=3.6,SNR=7.9
SONM LR LR 19 02 07.0
comp=Z,99nm,18.4s,baz=6.5,slow=39
SONM Songino Array 92.56 344 P P 18 14 37.4 +1.0
KSRS Korea Array 94.45 325 LR LR 19 01 49.9
comp=Z,43nm,18.9s,baz=354,slow=38
MK31 Makanchi Array 96.33 360 P P 18 14 53.2 -0.2
MKAR Makanchi Array 96.33 360 P P 18 14 53.8 +0.3
comp=Z,1.5nm,0.9s,baz=1.9,slow=3.6,SNR=10
MKAR LR LR 19 00 58.5
comp=Z,48nm,18.7s,baz=320,slow=37
MKAR Makanchi Array 96.33 360 P P 18 14 53.3 -0.2
MMAI Mount Meron Ar 97.63 38 LR LR 18 59 37.8
comp=Z,27nm,18.9s,baz=70,slow=36
HHC Hu-ho-hao-te 97.72 338 eP Pdif 18 15 02.5 +2.4
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,89nm,6.7s
WMQ Urumqi 99.14 356 eP **Pdif** **18 15 07.9 +1.6**
CD2 Chengdu 109.23 340 Pdif **Pdif** **18 15 49.2 -2.2**
VNA3 Neumayer Olymp 124.21 157 PKiKP **PKPdf** **18 20 21.4 -1.0**
SNAA Sanae 126.44 157 PKiKP **PKiKP** **18 20 27.0 -0.2**
VNDA Vanda 128.26 196 PKP **PKiKP** **18 20 30.9 +0.3**
comp=Z,2.7nm,1.0s,baz=358,slow=2.5,SNR=18
STKA Stephens Creek 131.42 258 PKP **PKiKP** **18 20 38.8 +0.5**
comp=Z,1.0nm,0.6s,baz=0.0,slow=1.0,SNR=3.4

WRA	**Warramunga Arr**	**131.62**	**276**	PKP		**PKiKP**	**18 20 38.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=52,slow=2.4,SNR=9.3								
WRA	**Warramunga Arr**	**131.62**				**PKPdf**	**18 20 38.4**	**+0.3**
BOSA	**Boshof**	**132.12**	**97**	PKP		**PKiKP**	**18 20 39.5**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=198,slow=3.9,SNR=4.1								
ASAR	**Alice Springs**	**133.88**	**272**	PKP		**PKPdf**	**18 20 42.9**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=308,slow=1.2,SNR=9.4								
ASAR	**Alice Springs**	**133.88**	**272**			**PKiKP**	**18 20 43.1**	**-0.5**
MAW	**Mawson**	**147.72**	**166**	PKPbc		**PKPbc**	**18 21 08.9**	**+0.4**
	comp=Z,27nm,0.8s,baz=200,slow=3.7,SNR=46								
MAW	**Mawson**	**147.72**	**166**	PKPdf		**PKPdf**	**18 21 06.9**	**+1.3**
MAW				PKPbc		**pPKPdf**	**18 21 09.2**	**+1.2**

IDC ***02*** *18:14:38.9±1.0, 67.15°N×21.04°E, h0km, mb1 3.0/4, mb1mx2.8/59, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=16.6km s-min=8.2km az=112.0*
HEL ***02*** *18:14:38.5±0.1, 67.18°N×20.69°E, h0km, ML2.2, ML1.8(UPP), Explosion*
NAO ***02*** *18:14:38.5±1.0, 67.15°N×21.01°E, ML2.6*
BER ***02*** *18:14:39.9±3.1, 67.13°N×20.65°E, h0km, ML2.1, ML2.6(NAO), Suspected explosion*

ISC 02 18:14:37.5±0.8, 67.16N±0.02×20.69E±0.03, h0km, n43, σ1$33/65, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.59**	**59**	*i* P			**Pg**	**18 14 49.0**	**+0.3**
MASU				*i* S			**Sg**	**18 14 57.2**	**+0.8**
RATU	**Laukkuluspa**	**0.79**	**328**	*i* P			**Pg**	**18 14 52.3**	**-0.3**
KUA	**Kurravaara**	**0.81**	**350**	*i* P			**Pg**	**18 14 52.5**	**-0.5**
ERTU	**Ertsjaerv**	**0.85**	**135**	*e*P			**Pg**	**18 14 53.6**	**0.0**
ERTU				*e*SB			**Sg**	**18 15 05.6**	**+1.0**
SALU	**Saltoluokta**	**0.88**	**286**	*i* P			**Pg**	**18 14 54.2**	**-0.1**
SALU	**Saltoluokta**	**0.88**	**286**	*e*P			**Pg**	**18 14 54.3**	**-0.1**
PAJU	**Pajala**	**0.96**	**97**	*e*P			**Pg**	**18 14 55.8**	**0.0**
HARU	**Harads**	**1.00**	**173**	*e*P			**Pg**	**18 14 56.9**	**+0.2**
LANU	**Lannavaara**	**1.02**	**28**	*e*P			**Pg**	**18 14 56.3**	**-0.8**
KALU	**Kalix**	**1.68**	**139**	*e*P			**Pn**	**18 15 08.7**	**+0.6**
KALU				*e*SN			**Sb**	**18 15 31.7**	**+0.8**
SJUU	**Sjulsmark**	**1.70**	**167**	*e*P			**Pn**	**18 15 09.1**	**+0.8**
TOF	**Tornio**	**1.81**	**125**	*e*P			**Pn**	**18 15 10.7**	**+0.9**
TOF				MSG				18 15 33.0	
	comp=Z,24nm,0.2s								
TOF				*e*SN			**Sg**	**18 15 36.1**	**+0.6**
KIF	**Kilpisjarvi**	**1.86**	**1**	Pn			**Pn**	**18 15 11.3**	**+0.8**
KIF				Sn			**Sb**	**18 15 37.0**	**+1.0**
KIF	**Kilpisjarvi**	**1.86**	**1**	*e*P			**Pn**	**18 15 11.3**	**+0.8**
	baz=183								
KIF				MSG				18 15 34.0	
	comp=Z,14nm,0.2s								
KIF				*e*SG			**Sb**	**18 15 36.9**	**+0.9**
KIF	**Kilpisjarvi**	**1.86**	**1**	Pn			**Pn**	**18 15 11.3**	**+0.8**
KIF				Sn			**Sb**	**18 15 37.0**	**+1.0**
FAUS	**Fauske**	**2.11**	**279**	IAML				18 15 48.0	
	comp=Z,35nm,0.6s								
RNF	**Rovaniemi**	**2.17**	**102**	*e*PB			**Pn**	**18 15 16.1**	**+1.3**
RNF				*e*SG			**Sb**	**18 15 45.6**	**+0.6**
STEI	**Steigen**	**2.23**	**293**	IAML				18 15 51.6	
	comp=Z,18nm,0.5s								
SGF	**Sodankyl**	**2.28**	**80**	*e*P			**Pn**	**18 15 17.4**	**+1.0**
SGF				*e*SG			**Sb**	**18 15 48.0**	**-0.1**
BURU	**Burvik**	**2.60**	**173**	*e*P			**Pn**	**18 15 22.3**	**+1.6**
BURU				*e*SG			**Sg**	**18 16 01.6**	**+0.7**
OUL	**Oulu**	**2.97**	**132**	*e*PB			**Pb**	**18 15 30.1**	**-1.0**
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn			**Pn**	**18 15 26.6**	**+0.6**
	baz=212,slow=14								
ARA0				Sn			**Sn**	**18 16 03.0**	**+0.7**
	baz=210,slow=28								
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn			**Pn**	**18 15 26.6**	**+0.6**
	baz=212,slow=14								
ARA0				Sn			**Sn**	**18 16 03.0**	**+0.7**
	baz=210,slow=28								
ARCES	**ARCESS Array B**	**2.98**	**35**	Pn			**Pn**	**18 15 26.7**	**+0.7**
	baz=216,slow=12,SNR=64								
ARCES				Sn			**Sn**	**18 16 02.6**	**+0.2**
	baz=215,slow=23,SNR=3.9								
OUF	**Merijarvi**	**3.26**	**147**	*e*PG			**Pb**	**18 15 36.2**	**+0.1**
UMAU	**Umeaa**	**3.29**	**180**	*e*P			**Pn**	**18 15 31.6**	**+1.4**
UMAU				*e*S			**Sn**	**18 16 12.0**	**+2.1**
VRF	**Varrio**	**3.49**	**76**	*e*P			**Pn**	**18 15 33.5**	**+0.6**
	baz=260								
MSF	**Maaselka**	**3.56**	**107**	*e*P			**Pn**	**18 15 35.7**	**+1.7**
	baz=296								
MSF				*e*SG			**Sb**	**18 16 28.4**	**+3.3**
KU6	**Riekki**	**3.84**	**103**	*e*P			**Pn**	**18 15 38.7**	**+0.9**
	baz=292								
KU6				*e*S			**Sn**	**18 16 24.9**	**+1.3**
VAF	**Ylistaro**	**4.21**	**168**	*e*P			**Pn**	**18 15 44.8**	**+1.9**
VAF				*e*SG			**Sg**	**18 16 50.5**	**-2.2**
APA0	**Apatity Array**	**4.77**	**79**	Pn			**Pn**	**18 15 49.2**	**-1.3**
	baz=279,slow=12								
APA0				Sn			**Sn**	**18 16 44.2**	**-2.2**
	baz=267,slow=28								
APA0	**Apatity Array**	**4.77**	**79**	Pn			**Pn**	**18 15 49.2**	**-1.3**
	baz=279,slow=12								
APA0				Sn			**Sn**	**18 16 44.2**	**-2.2**
	baz=267,slow=28								
FIA0	**FINESS Array S**	**6.19**	**155**	Pn			**Pn**	**18 16 11.7**	**+1.7**
	baz=344,slow=12								
FIA0				Sn			**Sn**	**18 17 20.4**	**-1.0**
	baz=347,slow=28								
FIA0				Lg			Lg	18 17 50.8	
	baz=344,slow=37								
FIA0	**FINESS Array S**	**6.19**	**155**	Pn			**Pn**	**18 16 11.7**	**+1.7**
	baz=344,slow=12								
FIA0				Sn			**Sn**	**18 17 20.4**	**-1.0**
	baz=347,slow=28								
FIA0				Sg			**Sg**	**18 17 50.8**	**-5.4**
	baz=344,slow=37								
FINES	**FINESS Array B**	**6.19**	**155**	Pn			**Pn**	**18 16 11.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=7.7								
FINES				Sn			**Sn**	**18 17 20.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=344,slow=23,SNR=5.2								
FINES				Lg			Lg	18 17 51.9	
	comp=Z,0.5nm,0.3s,baz=344,slow=26,SNR=6.7								
NB2	**NORSAR Subarra**	**7.40**	**218**	Pn			**Pn**	**18 16 27.2**	**+0.5**
NB2	**NORSAR Subarra**	**7.40**	**218**	Pn			**Pn**	**18 16 27.2**	**+0.5**
NOA	**NORSAR Array B**	**7.40**	**218**	Pn			**Pn**	**18 16 27.8**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=29,slow=11,SNR=1.3								
NOA				Lg			Lg	18 18 33.1	
	comp=Z,0.0nm,0.3s,baz=196,slow=18,SNR=4.1								
NRA0	**NORESS Array S**	**7.59**	**216**	Pn			**Pn**	**18 16 29.9**	**+0.6**
	baz=37,slow=16								
NRA0	**NORESS Array S**	**7.59**	**216**	Pn			**Pn**	**18 16 29.9**	**+0.6**
	baz=37,slow=16								
HFS	**Hagfors**	**7.70**	**207**	Pn			**Pn**	**18 16 30.6**	**-0.1**
	baz=20,slow=14								
HFS	**Hagfors**	**7.70**	**207**	Pn			**Pn**	**18 16 30.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=6.3								
HFS				Sn			**Sn**	**18 17 57.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=30,slow=24,SNR=2.0								
HFS				Lg			Lg	18 18 36.3	
	comp=Z,0.2nm,0.3s,baz=26,slow=33,SNR=2.3								
HFS	**Hagfors**	**7.70**	**207**	Pn			**Pn**	**18 16 30.6**	**-0.1**
	baz=20,slow=14								

IDC 02 18:22:38.1±29.0, 20.81S×177.40W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/39, mbtmp4.0/4, Error ellipse: s-maj=566.7km s-min=148.5km az=90.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.17**	**245**	P			P	18 29 59.5	0.0
	1.1nm,0.5s,baz=93,slow=13,SNR=5.3								
ASAR	**Alice Springs**	**45.00**	**257**	P			P	18 30 55.5	-0.2
	1.8nm,0.6s,baz=99,slow=7.9,SNR=31								
WRA	**Warramunga Arr**	**45.12**	**262**	P			P	18 30 56.6	0.0
	0.6nm,0.3s,baz=98,slow=7.5,SNR=51								
FITZ	**Fitzroy Crossi**	**53.55**	**262**	P			P	18 32 00.9	-0.2
	0.9nm,0.3s,baz=99,slow=6.1,SNR=25								

IDC 02 18:32:33.6±2.9, 6.42S×129.89E, h96km±38km, mb3.6/1, mb1 3.3/5, mb1mx3.1/38, mbtmp3.6/5, Error ellipse: s-maj=69.5km s-min=21.9km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.69**	**14**	P			Pn	18 33 55.5	-0.2
	3.5nm,0.3s,baz=179,slow=22,SNR=26								
SIJI				S			Sn	18 34 53.4	-6.3
	6.2nm,0.3s,baz=200,slow=23,SNR=16								
BATI	**Baumata**	**7.22**	**238**	S			Sn	18 35 25.7	-11
	8.0nm,0.3s,baz=0.6,slow=23,SNR=1.2								
FITZ	**Fitzroy Crossi**	**12.32**	**199**	P			Pn	18 35 26.6	+0.9
	0.4nm,0.3s,baz=19,slow=10,SNR=27								
FITZ				S			Sn	18 37 25.9	-15
	1.5nm,0.3s,baz=185,slow=8.0,SNR=6.8								
FITZ	**Fitzroy Crossi**	**12.32**	**199**				Pn	18 35 26.7	+1.0
WRA	**Warramunga Arr**	**14.12**	**163**	P			Pn	18 35 48.2	-1.1
	0.2nm,0.3s,baz=342,slow=13,SNR=9.3								
WRA				S			Sn	18 38 14.3	-11
	0.6nm,0.3s,baz=345,slow=23,SNR=6.3								
ASAR	**Alice Springs**	**17.57**	**168**	P			P	18 36 32.3	+0.1
	0.1nm,0.3s,baz=343,slow=9.5,SNR=7.2								
ASAR				S			Sn	18 39 41.4	-6.9
	0.1nm,0.3s,baz=333,slow=16,SNR=1.3								
MKAR	**Makanchi Array**	**67.68**	**327**	P			P	18 43 20.6	0.0
	0.5nm,0.3s,baz=115,slow=7.8,SNR=11								

IDC ***02*** *18:33:04.3±0.8, 8.14S×122.14E, h0km, mb4.1/8, mb1 4.1/11, mb1mx3.9/39, mbtmp4.1/11, ML3.9/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/37, Error ellipse: s-maj=45.4km s-min=13.4km az=66.0*
DJA ***02*** *18:33:06.5±0.3, 8°S±2°×122°2E±°, h10km, M4.3/13, mb4.5/2, MLv4.3/13*
NEIC ***02*** *18:33:08.9±2.8, 8.24S±0.05×122.31E±0.07, h37km±8km, mb4.2/19, Error ellipse: s-maj=9.8km s-min=7.5km az=84.0*

ISC 02 18:33:04.9±0.5, 8.17S±0.04×122.58E±0.06, h10km, n51, σ1$57/56, mb4.4/15, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.57**	**216**	P			**Pn**	**18 33 18.1**	**-1.0**
MMRI				S			**Sb**	**18 33 26.4**	**+1.2**
MMRI	**Maumere**	**0.57**	**216**				**Pn**	**18 33 18.3**	**-0.8**
EDFI	**Ende, Flores**	**1.05**	**237**	P			**Pn**	**18 33 25.1**	**-0.6**
EDFI				S			**Sb**	**18 33 38.2**	**-0.8**
BATI	**Baumata**	**2.29**	**152**	Pn			**Pb**	**18 33 46.4**	**0.0**
	57nm,0.3s,baz=319,slow=20,SNR=110								
BATI				Sn			**Sg**	**18 34 18.3**	**-0.3**
	46nm,0.3s,baz=175,slow=18,SNR=5.8								
BATI	**Baumata**	**2.29**	**152**	P			**Pg**	**18 33 48.5**	**-0.3**
SOEI	**Soe**	**2.30**	**133**	P			**Pg**	**18 33 49.3**	**+0.3**
SOEI	**Soe**	**2.30**	**133**				**Pb**	**18 33 47.6**	**+1.0**
WSI	**Waingapu**	**2.70**	**236**	P			**Pn**	**18 33 49.3**	**+1.0**
BASI	**Baing, Sumba**	**2.83**	**224**	P			**Pn**	**18 33 50.8**	**+0.6**
BKSI	**Bulukumba**	**3.73**	**319**	P			**Pn**	**18 34 02.3**	**-0.3**
BKSI				S			**Sn**	**18 34 45.1**	**-1.5**
KAPI	**Kappang**	**4.21**	**318**	Pn			**Pn**	**18 34 10.9**	**+1.8**
	3.5nm,0.3s,baz=144,slow=7.6,SNR=6.3								
KAPI				Sn			**Sn**	**18 34 57.5**	**-0.8**
	11nm,0.3s,baz=350,slow=22,SNR=11								
KAPI	**Kappang**	**4.21**	**318**				**Pn**	**18 34 08.2**	**-0.8**
PLAI	**Plampang**	**4.79**	**262**	P			**Pn**	**18 34 18.5**	**+1.4**
TWSI	**Taliwang, Sumb**	**5.66**	**264**	P			**Pn**	**18 34 29.3**	**+0.2**
	0.2nm40nm,0.6s								
JAGI	**Jajag, Banyuwa**	**8.34**	**267**	Pn			**Pn**	**18 35 04.3**	**-1.7**
KNRA	**Kununurra**	**9.61**	**142**	Pn			**Pn**	**18 35 24.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**10.31**	**163**	Pn			**Pn**	**18 35 36.2**	**+3.3**
	0.5nm,0.3s,baz=27,slow=13,SNR=7.0								
FITZ				LR			LR	18 40 40.3	
	comp=Z,56nm,19.7s,baz=17,slow=44								
LEM	**Lembang**	**14.89**	**274**	LR			LR	18 44 10.6	
	comp=Z,76nm,19.3s,baz=173,slow=46								
WB0	**Warramunga Arr**	**16.25**	**136**	Pn			**Pn**	**18 36 53.9**	**+0.5**
WB0				IAmb			IAmb	18 37 08.8	
	comp=Z,7.5nm,0.9s								
WRA	**Warramunga Arr**	**16.33**	**137**	Pn			**Pn**	**18 36 53.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=311,slow=13,SNR=14								
WRA				Sn			**Sn**	**18 39 48.5**	**-7.4**
	baz=301,slow=22,SNR=2.3								
WRA	**Warramunga Arr**	**16.33**	**137**	Pn			**P**	**18 36 56.7**	**-0.7**
WB2	**Warramunga Arr**	**16.34**	**137**	Pn			**Pn**	**18 36 54.3**	**-0.3**
WR0	**Warramunga Arr**	**16.48**	**137**				**Pn**	**18 36 55.9**	**-0.5**
WR0				IAmb			IAmb	18 37 15.8	
	comp=Z,7.5nm,0.9s								
AS31	**Alice Springs**	**18.85**	**146**	P			**Pn**	**18 37 26.1**	**+0.3**
ASAR	**Alice Springs**	**18.85**	**146**	P			**Pn**	**18 37 28.6**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=321,slow=12,SNR=12								
ASAR				S			**Sn**	**18 40 56.4**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=313,slow=22,SNR=4.2								
ASAR	**Alice Springs**	**18.85**	**146**	P			**Pn**	**18 37 27.9**	**+2.1**
MORW	**Morawa**	**21.68**	**196**	P			**P**	**18 37 55.2**	**-0.7**
MORW				IAmb			IAmb	18 38 07.2	
	comp=Z,19nm,1.2s								
NWAO	**Narrogin (SRO)**	**25.13**	**191**	P			**P**	**18 38 30.4**	**+0.3**
	comp=Z,6.0nm,0.5s,baz=10,slow=8.4,SNR=6.4								
NWAO	**Narrogin (SRO)**	**25.13**	**191**				**P**	**18 38 28.2**	**-1.9**
NWAO	**Narrogin (SRO)**	**25.13**	**191**	P			**P**	**18 38 28.4**	**-1.7**
NWAO				IAmb			IAmb	18 38 34.2	
	comp=Z,56nm,1.5s								
STKA	**Stephens Creek**	**29.49**	**146**	P			P	18 39 14.4	+5.1
	comp=Z,1.4nm,0.7s,baz=329,slow=13,SNR=4.5								
STKA				LR			LR	18 52 33.9	
	comp=Z,74nm,21.8s,baz=208,slow=39								
STKA	**Stephens Creek**	**29.49**	**146**	P			**P**	**18 39 12.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**35.27**	**319**	P			**P**	**18 39 59.2**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=146,slow=6.6,SNR=9.3								
CMAR	**Chiang Mai Arr**	**35.27**	**319**	P			**P**	**18 40 00.8**	**+0.7**
SHL	**Shillong**	**44.90**	**319**	P			**P**	**18 41 20.0**	**-0.2**
SHL				IAmb			IAmb	18 41 20.7	
	comp=Z,4.5nm,0.8s								
HHC	**Hu-ho-hao-te**	**49.82**	**349**	*e*P			**P**	**18 41 59.8**	**+1.6**
HHC				pmax			pmax		
	comp=Z,7.0nm,0.8s								
HHC				pmax			pmax		
	comp=Z,150nm,6.3s								
SONM	**Songino Array**	**57.57**	**347**	P			**P**	**18 42 55.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=168,slow=7.4,SNR=4.7								
SONM	**Songino Array**	**57.57**	**347**	P			**P**	**18 42 54.7**	**-0.1**
WMQ	**Urumqi**	**60.63**	**332**	*e*P			**P**	**18 43 17.5**	**+1.4**
MK31	**Makanchi Array**	**65.40**	**331**	P			**P**	**18 43 47.7**	**0.0**
MKAR	**Makanchi Array**	**65.40**	**331**	P			**P**	**18 43 47.5**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=137,slow=7.7,SNR=38								
MAKZ	**Makanchi**	**65.56**	**331**	P			**P**	**18 43 48.4**	**-0.4**
MAKZ				IAmb			IAmb	18 43 49.5	
	comp=Z,4.3nm,1.0s								
BOOM	**Boomskoye usch**	**65.93**	**324**	P			**P**	**18 43 52.2**	**+0.7**
BOOM				IAmb			IAmb	18 43 52.4	
	comp=Z,2.9nm,0.9s								
ZALV	**Zalesovo Beam**	**69.59**	**337**	P			**P**	**18 44 13.0**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=124,slow=4.7,SNR=10								
MAW	**Mawson**	**71.23**	**200**	P			**P**	**18 44 24.3**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=71,slow=5.5,SNR=5.9								
MAW	**Mawson**	**71.23**	**200**	P			**P**	**18 44 24.3**	**+0.4**
VNDA	**Vanda**	**72.27**	**172**	P			**P**	**18 44 31.3**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=310,slow=5.8,SNR=12								
ABKAR	**Akbulak array**	**78.96**	**324**	P			**P**	**18 45 07.1**	**-1.7**
ABKAR	**Akbulak array**	**78.96**	**324**	P			**P**	**18 45 07.2**	**-1.6**
ABKAR				IAmb			IAmb	18 45 30.9	
	comp=Z,3.2nm,1.4s								
TIXI	**Tiksi**	**79.76**	**2**	P			**P**	**18 45 12.5**	**-0.1**
QSPA	**South Pole Qui**	**81.82**	**180**	P			**P**	**18 45 24.3**	**+0.2**
QSPA				IAmb			IAmb	18 45 27.8	
	comp=Z,4.9nm,1.2s								

IGIL ***02*** *18:35:08.9, 32.76°N×13.29°W, h2km, ML2.3*
MDD ***02*** *18:35:12.3±2.0, 32.61°N×12.96°W, h35km±66km, mb4.0/6, Error ellipse: s-maj=90.4km s-min=7.8km az=115.0, PRXIMO*
INMG ***02*** *18:35:13.8±1.2, 32.79°N×13.42°W, h10km, ML2.4, Error ellipse: s-maj=19.5km s-min=2.9km az=112.0*
CNRM ***02*** *18:35:18.9±3.0, 33.01°N×12.45°W, h30km±62km, Error ellipse: s-maj=52.4km s-min=8.6km az=72.0*

ISC 02 18:35:15.5±3.3, 32.96N±0.08×12.5W±0.2, h10km, n29, σ1$08/53, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**4.32**	**113**	P			**Pn**	**18 36 22.2**	**+0.6**
OUK				S			**Sn**	**18 37 10.3**	**-1.9**
CFUE	**Fuerteventura**	**4.47**	**196**	P			Pn	18 36 11.4	-12
	2.4nm,0.1s,SNR=7.9								
CFUE				S			Sn	18 36 54.5	-21
	2.9nm,0.1s,SNR=7.9								
CFTV	**Fuerteventura**	**4.73**	**197**	P			Pn	18 36 15.1	-12
	0.3nm,0.2s,SNR=7.9								
CFTV				S			Sn	18 36 59.1	-23
	0.6nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**5.14**	**35**	P			**Pn**	**18 36 32.5**	**-0.1**
	2.0nm,0.2s,SNR=7.9								
PFVI				S			**Sn**	**18 37 31.7**	**-0.3**
	2.0nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**5.14**	**35**	P			**Pn**	**18 36 31.3**	**-1.3**
PFVI				S			**Sn**	**18 37 31.1**	**-0.9**
PFVI	**Vila Bisbo**	**5.14**	**35**	*e*Pn			**Pn**	**18 36 32.0**	**-0.6**
PFVI				*e*Sn			**Sn**	**18 37 32.5**	**+0.5**
PFVI				A			A	18 37 36.5	
	7.1nm,0.8s								
OUZM	**OUZ**	**5.30**	**111**	S			**Sn**	**18 37 36.1**	**0.0**
MORF	**Marmelete**	**5.37**	**35**	*e*P			**Pn**	**18 36 35.5**	**-0.3**
MORF				*e*S			**Sn**	**18 37 38.3**	**+0.8**
MORF				AML			AML	18 37 42.4	
	comp=N,3.7nm,0.1s								
MORF	**Marmelete**	**5.37**	**35**	P			**Pn**	**18 36 35.6**	**-0.1**
MORF				S			**Sn**	**18 37 38.4**	**+0.8**
	comp=N,1.9nm,0.1s								
MORF	**Marmelete**	**5.37**	**35**	*e*Pn			**Pn**	**18 36 35.6**	**-0.1**
MORF				*e*Sn			**Sn**	**18 37 38.4**	**+0.8**
MORF				A			A	18 37 44.2	
	comp=N,1.9nm,0.1s								
PTEO	**Sao Teotonio**	**5.52**	**33**	P			**Pn**	**18 36 39.4**	**+1.6**
PTEO				S			**Sn**	**18 37 41.3**	**-0.1**
	comp=N,2.3nm,0.7s								
PTEO	**Sao Teotonio**	**5.52**	**33**	*e*Pn			**Pn**	**18 36 39.4**	**+1.6**
PTEO				*e*Sn			**Sn**	**18 37 41.3**	**-0.1**
PTEO				A			A	18 37 44.0	
	comp=N,4.7nm,0.7s								
PBDV	**Barranco-do-Ve**	**5.69**	**40**	P			**Pn**	**18 36 40.7**	**+0.6**
PBDV				S			**Sn**	**18 37 46.1**	**+0.7**
	comp=N,2.8nm,0.7s								
PBDV	**Barranco-do-Ve**	**5.69**	**40**	*e*Pn			**Pn**	**18 36 40.7**	**+0.6**
PBDV				*e*Sn			**Sn**	**18 37 46.1**	**+0.7**
PBDV				A			A	18 38 05.5	
	comp=N,2.8nm,0.7s								
PVAQ	**Vaqueiros**	**5.92**	**40**	P			**Pn**	**18 36 43.8**	**+0.5**
PVAQ				S			**Sn**	**18 37 52.4**	**+1.2**
	comp=N,2.2nm,0.7s								
PVAQ	**Vaqueiros**	**5.92**	**40**	P			**Pn**	**18 36 43.5**	**+0.3**
PVAQ				S			**Sn**	**18 37 52.1**	**+0.9**
PVAQ	**Vaqueiros**	**5.92**	**40**	*e*Pn			**Pn**	**18 36 43.8**	**+0.5**
PVAQ				*e*Sn			**Sn**	**18 37 52.4**	**+1.2**
PVAQ				A			A	18 37 54.3	
	comp=N,2.2nm,0.7s								
PCVE	**Castro Verde**	**5.92**	**37**	P			**Pn**	**18 36 45.1**	**+1.8**
PCVE				S			**Sn**	**18 37 51.4**	**+0.2**
PCVE	**Castro Verde**	**5.92**	**37**	*e*Pn			**Pn**	**18 36 45.1**	**+1.8**
PCVE				*e*Sn			**Sn**	**18 37 51.4**	**+0.2**
PNCL	**Nicolau / Gran**	**6.08**	**31**	*e*Pn			**Pn**	**18 36 45.9**	**+0.5**
PNCL				*e*Sn			**Sn**	**18 37 53.8**	**-1.2**
PNCL				A			A	18 37 54.6	
	comp=N,2.2nm,0.9s								
EGRO	**El Granado**	**6.14**	**41**	P			**Pn**	**18 36 46.6**	**+0.3**
	comp=N,0.7nm,0.1s,SNR=7.9								
EGRO				S			**Sn**	**18 37 55.6**	**-1.0**
	comp=N,0.6nm,0.1s,SNR=7.9								
MD31	**MD31**	**6.52**	**89**	P			**Pn**	**18 36 53.3**	**+1.6**
MD31				S			**Sn**	**18 38 06.0**	**-0.2**
MDT	**Midelt**	**6.65**	**89**	P			**Pn**	**18 36 54.4**	**+0.9**
MDT				S			**Sn**	**18 38 06.7**	**-2.6**
EMIN	**Mina Concepcio**	**6.76**	**43**	P			**Pn**	**18 36 55.3**	**+0.5**
	comp=N,1.0nm,0.2s,SNR=7.3								
EMIN				S			**Sn**	**18 38 10.8**	**-1.1**
	comp=N,0.1nm,0.1s,SNR=7.9								
PMTG	**Montargil**	**7.01**	**28**	P			**Pn**	**18 36 59.2**	**+0.9**
PMTG				S			**Sn**	**18 38 16.3**	**-1.8**
PMTG	**Montargil**	**7.01**	**28**	*e*Pn			**Pn**	**18 36 59.2**	**+0.

BGNE	**Belgrade**	**4.19**	**358**			**Pn**		**18 36 47.9**	**+0.7**
BGNE				IAmb_Lg				18 37 55.6	
	comp=Z,70nm,0.8s								
U40A	**Yellville**	**4.20**	**100**	P		**Pn**		**18 36 47.9**	**+0.7**
	baz=284								
U40A	**Yellville**	**4.20**	**100**	Pn		**Pn**		**18 36 47.9**	**+0.7**
P38A	**Dawn**	**4.24**	**54**			**Pn**		**18 36 49.6**	**+1.9**
MIAR	**Mount Ida**	**4.45**	**125**	P		**Pn**		**18 36 51.7**	**+1.0**
	baz=308,SNR=11								
MIAR				S		**Sn**		**18 37 43.1**	**+0.6**
	baz=308								
MIAR	**Mount Ida**	**4.45**	**125**			**Pn**		**18 36 51.7**	**+1.0**
MGMO	**Mountain Grove**	**4.55**	**89**			**Pn**		**18 36 52.7**	**+0.6**
MGMO				IAmb_Lg				18 38 09.7	
	comp=Z,105nm,0.7s								
Z38A	**Mt. Pleasant**	**4.64**	**147**			**Pn**		**18 36 54.4**	**+1.1**
R40A	**Maddies Statio**	**4.64**	**75**			**Pn**		**18 36 54.6**	**+1.3**
R40A				IAmb_Lg				18 38 12.6	
	comp=Z,66nm,0.9s								
ABTX	**Abilene, Hawle**	**4.78**	**197**	S		**Sn**		**18 37 51.2**	**+0.4**
	baz=16								
ABTX	**Abilene, Hawle**	**4.78**	**197**			**Pn**		**18 36 55.8**	**+0.5**
ABTX				IAmb_Lg				18 38 26.8	
	comp=Z,53nm,1.1s								
FCAR	**Ozark Folk Cen**	**4.89**	**104**	Pn		**Pn**		**18 36 56.8**	**+0.1**
FCAR				IAmb_Lg				18 38 18.0	
	comp=Z,107nm,0.8s								
WHAR	**Wooly Hollow**	**4.98**	**111**			**Pn**		**18 36 58.5**	**+0.6**
X40A	**Basin Creek Fa**	**4.98**	**122**	P		**Pn**		**18 36 58.4**	**+0.4**
	baz=305								
X40A				S		**Sn**		**18 37 56.0**	**+0.4**
	baz=305								
X40A	**Basin Creek Fa**	**4.98**	**122**			**Pn**		**18 36 59.2**	**+1.2**
X40A				IAmb_Lg				18 38 28.6	
	comp=Z,63nm,0.7s								
W41B	**Gary Mavity, V**	**5.06**	**112**	P		**Pn**		**18 36 58.9**	**-0.1**
	baz=296								
W41B				S		**Sn**		**18 37 56.7**	**-0.7**
	baz=296								
W41B	**Gary Mavity, V**	**5.06**	**112**			**Pn**		**18 36 59.5**	**+0.5**
W41B				IAmb_Lg				18 38 24.2	
	comp=Z,90nm,0.9s								
N38A	**Joes South For**	**5.13**	**44**			**Pn**		**18 37 00.3**	**+0.2**
N38A				IAmb_Lg				18 38 33.6	
	comp=Z,80nm,0.8s								
T25A	**Trinidad**	**5.14**	**271**	P		**Pn**		**18 37 00.7**	**+0.3**
	baz=87								
T25A	**Trinidad**	**5.14**	**271**			**Pn**		**18 37 00.7**	**+0.3**
T25A				IAmb_Lg				18 38 27.4	
	comp=Z,84nm,0.8s								
UALR	**University of**	**5.17**	**116**			**Pn**		**18 37 01.9**	**+1.4**
UALR				IAmb_Lg				18 38 41.0	
	comp=Z,75nm,0.8s								
P40A	**Paris**	**5.20**	**62**			**Pn**		**18 37 01.7**	**+0.8**
P40A				IAmb_Lg				18 38 28.8	
	comp=Z,56nm,0.9s								
WHTX	**Lake Whitney,**	**5.23**	**175**	P		**Pn**		**18 37 02.0**	**+0.6**
	baz=356								
WHTX				S		**Sn**		**18 38 01.3**	**-0.4**
	baz=356								
WLAR	**White Oak Lake**	**5.30**	**130**			**Pn**		**18 37 02.8**	**+0.5**
WLAR				IAmb_Lg				18 38 30.4	
	comp=Z,52nm,0.7s								
CCM	**Cathedral Cave**	**5.40**	**79**	P		**Pn**		**18 37 03.6**	**-0.1**
	baz=263								
CCM				S		**Sn**		**18 38 05.2**	**-0.8**
	baz=263								
CCM	**Cathedral Cave**	**5.40**	**79**			**Pn**		**18 37 05.1**	**+1.3**
CCM				IAmb_Lg				18 38 38.1	
	comp=Z,46nm,0.9s								
237A	**Washetta, Mont**	**5.50**	**160**	IAmb_Lg				18 38 45.5	
	comp=Z,84nm,1.1s								
T42A	**Van Buren**	**5.50**	**90**			**Pn**		**18 37 05.9**	**+0.8**
T42A				IAmb_Lg				18 38 42.3	
	comp=Z,51nm,1.0s								
LCAR	**Lake Charles**	**5.60**	**100**			**Pn**		**18 37 07.5**	**+1.1**
LCAR				IAmb_Lg				18 38 39.4	
	comp=Z,46nm,0.9s								
Z41A	**Richland Creek**	**5.78**	**132**	S		**Sn**		**18 38 14.4**	**-0.9**
	baz=315								
Q24A	**Divide**	**5.93**	**289**	P		**Pn**		**18 37 11.4**	**+0.2**
	baz=105								
Q24A				S		**Sn**		**18 38 17.6**	**-1.8**
	baz=105								
Q24A	**Divide**	**5.93**	**289**			**Pn**		**18 37 11.4**	**+0.2**
Q24A				IAmb_Lg				18 38 52.0	
	comp=Z,48nm,0.8s								
SCIA	**State Center**	**5.95**	**37**	S		**Sn**		**18 38 19.5**	**-0.1**
	baz=220								
SCIA	**State Center**	**5.95**	**37**	IAmb_Lg				18 39 03.0	
	comp=Z,88nm,0.8s								
SDCO	**Great Sand Dun**	**6.01**	**277**	P		**Pn**		**18 37 13.5**	**+1.1**
	baz=92								
SDCO	**Great Sand Dun**	**6.01**	**277**			**Pn**		**18 37 13.8**	**+1.3**
CCAR	**Cane Creek**	**6.03**	**121**	IAmb_Lg				18 39 01.7	
	comp=Z,66nm,0.7s								
NATX	**Nacogdoches**	**6.09**	**152**	S		**Sn**		**18 38 20.7**	**-2.2**
	baz=334								
NATX	**Nacogdoches**	**6.09**	**152**	IAmb_Lg				18 39 12.6	
	comp=Z,44nm,0.9s								
435B	**Jarrell**	**6.42**	**177**	IAmb_Lg				18 39 19.7	
	comp=Z,51nm,0.9s								
ISCO	**Idaho Springs**	**6.53**	**296**	P		**Pn**		**18 37 20.0**	**+0.5**
	baz=111								
ISCO	**Idaho Springs**	**6.53**	**296**			**Pn**		**18 37 20.3**	**+0.8**
ISCO				IAmb_Lg				18 39 14.4	
	comp=Z,45nm,0.9s								
N41A	**Harden Midland**	**6.55**	**56**	Pn		**Pn**		**18 37 20.8**	**+1.3**
ECSD	**EROS Data Cent**	**6.59**	**9**	P		**Pn**		**18 37 19.9**	**-0.2**
	baz=190								
ECSD				S		**Sn**		**18 38 32.9**	**-2.5**
	baz=190								
ECSD	**EROS Data Cent**	**6.59**	**9**			**Pn**		**18 37 20.4**	**+0.3**
ECSD				IAmb_Lg				18 39 16.7	
	comp=Z,36nm,1.0s								
K38A	**Parkersburg**	**6.74**	**35**	IAmb_Lg				18 39 34.4	
	comp=Z,77nm,0.9s								
JCT	**Junction City**	**6.89**	**193**	Pg		Pg		18 37 50.8	-4.2
JCT				IAmb_Lg				18 39 40.9	
	comp=Z,54nm,0.9s								
S44A	**Carbondale**	**6.95**	**83**	Pn		**Pn**		**18 37 26.5**	**+1.5**
S22A	**4UR Ranch, Cre**	**7.07**	**277**	Pn		**Pn**		**18 37 27.7**	**+0.8**
PHWY	**Pilot Hill**	**7.10**	**307**	Pn		**Pn**		**18 37 27.2**	**-0.1**
PHWY				IAmb_Lg				18 39 42.5	
	comp=Z,34nm,0.7s								
L40A	**Anamosa**	**7.11**	**45**	Pn		**Pn**		**18 37 27.6**	**+0.5**
L40A				IAmb_Lg				18 39 31.2	
	comp=Z,57nm,0.8s								
N23A	**Red Feather La**	**7.21**	**303**	P		**Pn**		**18 37 29.5**	**+0.6**
	baz=118								
N23A	**Red Feather La**	**7.21**	**303**			**Pn**		**18 37 29.4**	**+0.6**
ANMO	**Albuquerque**	**7.24**	**254**	Pn		**Pn**		**18 37 29.6**	**+0.5**
SUSD	**Miller**	**7.26**	**354**	IAmb_Lg				18 39 43.0	
	comp=Z,58nm,1.0s								
Q44A	**Meyer Farm, Va**	**7.26**	**74**	IAmb_Lg				18 39 37.9	
	comp=Z,68nm,0.9s								
W45A	**Hickory Valley**	**7.39**	**104**	IAmb_Lg				18 39 53.7	
	comp=Z,57nm,0.8s								
HDIL	**Hopedale**	**7.54**	**61**	P		**Pn**		**18 37 34.6**	**+1.4**
	baz=247,SNR=8.4								
HDIL	**Hopedale**	**7.54**	**61**			**Pn**		**18 37 34.2**	**+1.1**
Y45A	**Yeager Farm, C**	**7.64**	**113**	IAmb_Lg				18 40 07.6	
	comp=Z,56nm,0.9s								
LENM	**Lemitar**	**7.93**	**250**	Pn		**Pn**		**18 37 39.2**	**+0.6**
OLIL	**Olney**	**7.94**	**76**	IAmb_Lg				18 40 10.1	
	comp=Z,51nm,1.0s								
O44A	**Mansfield**	**7.99**	**66**	IAmb_Lg				18 39 59.2	
	comp=Z,49nm,0.8s								
L42A	**Oliver, Polo**	**8.00**	**51**	Pn		**Pn**		**18 37 38.9**	**-0.4**
L42A				IAmb_Lg				18 39 56.0	
	comp=Z,52nm,0.8s								
JFWS	**Jewell Farm**	**8.21**	**44**	IAmb_Lg				18 40 11.7	
	comp=Z,39nm,0.8s								
USIN	**University of**	**8.21**	**82**	IAmb_Lg				18 40 19.0	
	comp=Z,35nm,0.9s								
WVT	**Waverly**	**8.22**	**95**	P		**Pn**		**18 37 42.9**	**+0.4**
	baz=281								
WVT	**Waverly**	**8.22**	**95**			**Pn**		**18 37 43.0**	**+0.6**
MNTX	**Cornudas Mount**	**8.23**	**230**	P		**Pn**		**18 37 43.1**	**+0.5**
	baz=46								
MNTX	**Cornudas Mount**	**8.23**	**230**			**Pn**		**18 37 42.9**	**+0.3**
MNTX				IAmb_Lg				18 40 12.6	
	comp=Z,34nm,1.0s								
RSSD	**Black Hills**	**8.29**	**328**	P		**Pn**		**18 37 44.9**	**+1.2**
	baz=144								
RSSD	**Black Hills**	**8.29**	**328**	Pn		**Pn**		**18 37 44.7**	**+1.1**

PLAL	**Pickwick Lake**	**8.31**	**103**	Pn		**Pn**		**18 37 43.7**	**0.0**
RWWY	**Rawlins**	**8.43**	**305**	IAmb_Lg				18 40 18.6	
	comp=Z,29nm,0.9s								
K22A	**Casper**	**8.52**	**312**	Pn		**Pn**		**18 37 47.0**	**+0.3**
K22A				IAmb_Lg				18 40 23.6	
	comp=Z,33nm,0.8s								
PV07	**Paradox Valley**	**8.54**	**281**	Pn		**Pn**		**18 37 47.8**	**+0.8**
PV02	**Paradox Valley**	**8.59**	**280**	IAmb_Lg				18 40 25.4	
	comp=Z,32nm,1.2s								
146A	**Union**	**8.62**	**119**	IAmb_Lg				18 40 28.7	
	comp=Z,37nm,1.0s								
PV13	**Radium Mtn., P**	**8.65**	**280**	IAmb_Lg				18 40 30.5	
	comp=Z,35nm,1.2s								
T47A	**Sharon Grove**	**8.68**	**88**	IAmb_Lg				18 40 33.0	
	comp=Z,41nm,0.9s								
I40A	**Norwalk**	**8.70**	**38**	IAmb_Lg				18 40 22.6	
	comp=Z,27nm,0.9s								
PV11	**David Mesa, Pa**	**8.70**	**280**	IAmb_Lg				18 40 24.8	
	comp=Z,52nm,1.3s								
F33A	**5 Mile Ranch,**	**8.71**	**8**	IAmb_Lg				18 40 16.0	
	comp=Z,22nm,0.8s								
P46A	**Rosedale**	**8.78**	**71**	IAmb_Lg				18 40 43.3	
	comp=Z,42nm,0.8s								
SPMN	**Marine on St.**	**8.90**	**24**	IAmb_Lg				18 40 26.3	
	comp=Z,25nm,0.8s								
833A	**Chaparral WMA,**	**8.95**	**188**	IAmb_Lg				18 40 51.8	
	comp=Z,23nm,1.1s								
Z47A	**Carrollton**	**9.04**	**113**	IAmb_Lg				18 40 41.1	
	comp=Z,24nm,0.8s								
SFIN	**Lafayette**	**9.06**	**66**	P		**Pn**		**18 37 53.8**	**-0.1**
	baz=253								
SFIN	**Lafayette**	**9.06**	**66**	Pn		**Pn**		**18 37 54.3**	**+0.4**
SFIN				IAmb_Lg				18 40 29.3	
	comp=Z,25nm,0.7s								
V48A	**Smith Brothers**	**9.10**	**96**	IAmb_Lg				18 40 31.5	
	comp=Z,27nm,0.9s								
TX31	**Lajitas Ar. Si**	**9.19**	**213**	Pn		**Pn**		**18 37 56.0**	**+0.1**
TX32	**Lajitas Array**	**9.19**	**213**	Pn		**Pn**		**18 37 56.0**	**+0.1**
TXAR	**Lajitas Array**	**9.19**	**213**	Pn		**Pn**		**18 37 56.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=32,slow=10,SNR=21								
TXAR				Pg				18 38 27.4	
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=3.6								
TXAR				Sn		**Sn**		**18 39 38.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=36,slow=25,SNR=3.6								
TXAR				Lg		Lg		18 40 30.3	
	comp=Z,1.9nm,0.3s,baz=29,slow=36,SNR=5.8								
TXAR	**Lajitas Array**	**9.19**	**213**	Pn		**Pn**		**18 37 55.9**	**0.0**
L44A	**Lake County Fo**	**9.20**	**54**	IAmb_Lg				18 40 39.2	
	comp=Z,48nm,0.8s								
BLO	**Bloomington**	**9.22**	**74**	IAmb_Lg				18 40 51.6	
	comp=Z,36nm,0.8s								
WCI	**Wyandotte Cave**	**9.31**	**80**	IAmb_Lg				18 40 53.0	
	comp=Z,24nm,0.8s								
CLTN	**Cedars of Leba**	**9.42**	**93**	IAmb_Lg				18 40 41.6	
	comp=Z,22nm,0.8s								
I42A	**Draeger Farm,**	**9.59**	**43**	IAmb_Lg				18 40 45.2	
	comp=Z,23nm,0.8s								
U49A	**Red Boiling Sp**	**9.79**	**90**	IAmb_Lg				18 41 13.9	
	comp=Z,21nm,1.0s								
SWET	**Sewanee**	**9.93**	**98**	IAmb_Lg				18 41 24.3	
	comp=Z,20nm,0.9s								
BW06	**Boulder Array**	**10.47**	**306**	Pn		**Pn**		**18 38 12.9**	**-0.6**
PD31	**Pinedale Array**	**10.47**	**306**	Pn		**Pn**		**18 38 12.5**	**-1.0**
PDAR	**Pinedale Array**	**10.47**	**306**	Pn		**Pn**		**18 38 12.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=116,slow=16,SNR=9.6								
PDAR				Lg		Lg		18 41 02.2	
	comp=Z,0.3nm,0.3s,baz=115,slow=30,SNR=1.9								
PDAR	**Pinedale Array**	**10.47**	**306**	Pn		**Pn**		**18 38 12.0**	**-1.6**
O49A	**Covington**	**11.06**	**70**	Pn		**Pn**		**18 38 21.3**	**0.0**
TKL	**Tuckaleechee C**	**11.54**	**93**	Pn		**Pn**		**18 38 28.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=270,slow=13,SNR=8.8								
TKL				Lg		Lg		18 41 40.7	
	comp=Z,0.9nm,0.3s,baz=5.2,slow=17,SNR=8.7								
TKL	**Tuckaleechee C**	**11.54**	**93**	Pn		**Pn**		**18 38 28.4**	**+0.4**
RLMT	**Red Lodge**	**11.61**	**316**	Pn		**Pn**		**18 38 28.9**	**-0.1**
V52A	**Sevierville**	**11.65**	**92**	Pn		**Pn**		**18 38 29.5**	**+0.1**
ULM	**Lac du Bonnet**	**13.12**	**6**	Pn		Pn		18 38 43.9	-5.6
	comp=Z,0.3nm,0.3s,baz=191,slow=10,SNR=1.4								
ULM				Lg		Lg		18 42 21.0	
	comp=Z,0.3nm,0.3s,baz=333,slow=11,SNR=1.4								

*IDC **02** 18:51:03.6±1.3, 7.22S×155.36E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/29, mbtmp3.9/9, ML1.9/1, MS3.5/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=38.5km s-min=22.6km az=116.0*

ISC 02 18:51:09.7±1.1, 7.2S±0.1×155.2E±0.1, h35km, n15, σ0.974/12, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.25**	**312**	Pn		**Pn**		**18 52 12.9**	**+0.9**
	4.0nm,0.3s,baz=56,slow=7.3,SNR=1.8								
KRVT				Sn		**Sn**		**18 52 59.3**	**-1.1**
	8.1nm,0.3s,baz=302,slow=4.7,SNR=3.6								
HNR	**Honiara**	**5.21**	**116**	LR		LR		18 54 26.1	
	comp=Z,186nm,20.5s,baz=226,slow=40								
PMG	**Port Moresby**	**8.25**	**254**	Pn		**Pn**		**18 53 07.3**	**+0.3**
	0.9nm,0.3s,baz=53,slow=10,SNR=1.5								
WRA	**Warramunga Arr**	**23.88**	**236**	P		**P**		**18 56 19.6**	**-0.6**
	3.2nm,0.9s,baz=61,slow=9.4,SNR=9.2								
WRA				PcP		**PcP**		**19 00 03.0**	**+0.3**
	0.2nm,0.5s,baz=63,slow=2.8,SNR=1.7								
ASAR	**Alice Springs**	**26.20**	**229**	P		**P**		**18 56 40.4**	**-0.9**
	1.1nm,0.8s,baz=64,slow=8.6,SNR=9.3								
STKA	**Stephens Creek**	**27.66**	**206**	P		**P**		**18 56 55.0**	**+0.7**
	2.5nm,0.9s,baz=29,slow=15,SNR=2.3								
STKA				LR		LR		19 06 59.6	
	comp=Z,93nm,18.5s,baz=39,slow=34								
H11S3	**WAKE ISLAND Hy**	**27.92**	**24**	T		T		19 25 28.2	
	baz=202,slow=74,SNR=9.9								
H11S2	**WAKE ISLAND Hy**	**27.92**	**24**	T		T		19 25 43.8	
	baz=202,slow=74,SNR=9.1								
H11S1	**WAKE ISLAND Hy**	**27.93**	**24**	T		T		19 25 32.0	
	baz=202,slow=74,SNR=4.2								
CMAR	**Chiang Mai Arr**	**61.04**	**296**	P		**P**		**19 01 21.0**	**+0.6**
	1.4nm,0.9s,baz=118,slow=5.4,SNR=6.8								
SONM	**Songino Array**	**69.59**	**327**	P		**P**		**19 02 15.6**	**+0.2**
	0.4nm,0.7s,baz=133,slow=6.1,SNR=2.0								
ILAR	**Eielson Array**	**83.47**	**21**	P		**P**		**19 03 32.6**	**-0.8**
	0.7nm,0.4s,baz=243,slow=5.4,SNR=11								
MKAR	**Makanchi Array**	**83.67**	**319**	P		**P**		**19 03 34.9**	**0.0**
	0.2nm,0.4s,baz=97,slow=6.7,SNR=4.7								
NEW	**Newport**	**93.76**	**42**	LR		LR		19 42 28.7	
	comp=Z,43nm,18.5s,baz=344,slow=33								
TORD	**Torodi Ar. Bea**	**153.26**	**285**	PKPbc		**PKPbc**		**19 11 04.9**	**-0.2**
	0.5nm,0.8s,baz=62,slow=3.4,SNR=2.1								

*UCR **02** 19:05:08.0±0.9, 9.93N×86.35W, h10km, MW4.3, mb4.3(NEIC)*
*NEIC **02** 19:05:11.9±1.4, 10.1N±0.1×86.14W±0.09, h19km±8km, mb4.3/17, Error ellipse: s-maj=20.4km s-min=8.4km az=211.0*
*IDC **02** 19:05:13.1±1.7, 11.30N×84.93W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/30, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/31, Error ellipse: s-maj=64.5km s-min=10.5km az=84.0*
*INET **02** 19:05:14.3, 10.18N×86.11W, h14km, ML3.5*

ISC 02 19:05:10.9±1.9, 10.08N±0.08×86.21W±0.05, h11km±11km, n53, σ1.953/58, mb4.3/12, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUAI	**GUAI**	**0.72**	**75**	*i* P		**Pg**		**19 05 24.5**	**-0.4**
GUAI				*i* S		**Sg**		**19 05 35.9**	**+1.7**
PLVR	**Palo Verde**	**0.89**	**73**	*e*P		**Pb**		**19 05 27.3**	**-1.2**
PLVR				*e*S		**Sb**		**19 05 39.6**	**-0.8**
GBS3	**Finca Las Img**	**1.02**	**47**	*i* P		**Pb**		**19 05 29.6**	**-1.0**
GBS3				*i* S		**Sn**		**19 05 47.2**	**+1.7**
LAPC	**Finca la Perla**	**1.03**	**48**	*i* P		**Pb**		**19 05 29.7**	**-1.0**
BUEV	**Buena Vista**	**1.06**	**48**	*i* P		**Pb**		**19 05 30.4**	**-1.1**
BUEV				*i* S		**Sn**		**19 05 48.8**	**+2.1**
GPS3	**Bodega del ICE**	**1.07**	**51**	*i* P		**Pb**		**19 05 30.5**	**-1.0**
GPS2	**Hotel Rincn d**	**1.08**	**52**	*i* P		**Pb**		**19 05 30.7**	**-1.0**
GB1A	**Borinquen Arri**	**1.08**	**48**	*e*P		**Pb**		**19 05 30.7**	**-1.1**
GPS1	**Guardaparques**	**1.09**	**51**	*i* P		**Pb**		**19 05 30.8**	**-1.1**
GPS1				*i* S		**Sn**		**19 05 49.0**	**+1.5**
COLC	**Colonia**	**1.15**	**60**	*i* P		**Pn**		**19 05 31.6**	**-1.4**
GUAB	**Guayabo de Bag**	**1.15**	**57**	*i* P		**Pn**		**19 05 31.5**	**-1.5**
GUAB				*i* S		**Sg**		**19 05 50.9**	**+2.8**
BUAI	**Buenos Aires**	**1.17**	**48**	*i* P		**Pn**		**19 05 32.2**	**-1.1**
CUI	**Cuipilapa**	**1.18**	**61**	*i* P		**Pn**		**19 05 32.1**	**-1.3**
JTS	**Las Juntas de**	**1.26**	**80**	Pg		**Pn**		**19 05 32.5**	**-2.0**
	30nm,0.3s,baz=11,slow=16,SNR=69								
JTS				Lg		Lg		19 05 46.2	
	76nm,0.3s,baz=0.0,slow=20,SNR=9.7								
JTS	**Las Juntas de**	**1.26**	**80**	*e*P		**Pn**		**19 05 32.6**	**-1.9**
CASO	**Castillo**	**1.50**	**76**	*i* P		**Pn**		**19 05 36.6**	**-1.2**
CEDE	**Laguna Cedeo**	**1.54**	**75**	*e*P		**Pn**		**19 05 37.7**	**-0.7**
HDC	**Heredia**	**2.07**	**92**	*e*P		**Pn**		**19 05 44.9**	**-0.8**
HDC	**Heredia**	**2.07**	**92**	Pn		**Pn**		**19 05 45.0**	**-0.8**
ACON	**Acoyapa**	**2.13**	**28**			**Pn**		**19 05 46.0**	**-0.5**
LCR2	**La Lucha 2**	**2.20**	**99**	*e*P		**Pn**		**19 05 46.3**	**-1.2**
CVTR	**Volcan Turrial**	**2.42**	**91**	*e*P		**Pn**		**19 05 51.3**	**+0.5**
CRIN	**San Cristobal**	**2.73**	**343**			**Pn**		**19 05 54.6**	**-0.2**
ESPN	**Las Esperanzas**	**2.82**	**42**	Pn		**Pn**		**19 05 55.2**	**-0.6**
MATN	**Matagalpa**	**2.84**	**6**	Pn		**Pn**		**19 05 54.1**	**-2.3**
TGUH	**Tegucigalpa,Un**	**4.08**	**345**	Pn		**Pn**		**19 06 09.8**	**-3.6**
MTO3	**Montecristo**	**5.28**	**325**	Pn		**Pn**		**19 06 31.4**	**+1.4**
PETF	**Flores**	**7.67**	**333**	Pn		**Pn**		**19 06 59.4**	**-3.2**
ROSC	**El Rosal**	**12.89**	**113**	LR		LR		19 13 37.9	
	comp=Z,135nm,19.8s,baz=298,slow=41								
152A	**Waverly Hall**	**22.52**	**3**	P		**P**		**19 10 11.0**	**+0.2**
152A				IAmb		IAmb		19 10 18.8	
	comp=Z,8.6nm,0.8s								
LRAL	**Lakeview Retre**	**22.85**	**358**	P		**P**		**19 10 11.9**	**-2.4**
HODGE	**Hodges**	**24.31**	**8**	P		**P**		**19 10 27.9**	**-0.6**
HODGE				IAmb		IAmb		19 10 28.9	
	comp=Z,9.1nm,0.9s								
PAULI	**Pauline**	**24.95**	**9**	P		**P**		**19 10 32.9**	**-1.5**
BG3	**Lake Jocassee**	**24.98**	**6**	P		**P**		**19 10 31.9**	**-2.7**
W52A	**Murphy**	**24.98**	**4**	P		**P**		**19 10 34.6**	**-0.1**
W52A				IAmb		IAmb		19 10 35.8	
	comp=Z,8.4nm,0.8s								
W50A	**Signal Mountai**	**25.02**	**2**	P		**P**		**19 10 34.5**	**-0.5**
W50A				IAmb		IAmb		19 10 42.6	
	comp=Z,5.6nm,0.8s								
SWET	**Sewanee**	**25.02**	**1**	P		**P**		**19 10 33.1**	**-2.0**
SWET				IAmb		IAmb		19 10 35.0	
	comp=Z,4.6nm,0.8s								
TXAR	**Lajitas Array**	**25.17**	**322**	P		**P**		**19 10 39.0**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=138,slow=9.4,SNR=8.5								
TXAR	**Lajitas Array**	**25.17**	**322**	P		**P**		**19 10 37.5**	**+1.0**
TX31	**Lajitas Ar. Si**	**25.17**	**322**	P		**P**		**19 10 36.7**	**+0.2**
TX31				IAmb		IAmb		19 10 49.6	
	comp=Z,5.6nm,0.7s								
TX32	**Lajitas Array**	**25.17**	**322**	P		**P**		**19 10 37.8**	**+1.3**
MIAR	**Mount Ida**	**25.27**	**346**	P		**P**		**19 10 37.1**	**-0.1**
MIAR				IAmb		IAmb		19 10 46.5	
	comp=Z,6.9nm,1.1s								
CPCT	**Cooper Cave**	**25.30**	**3**	P		**P**		**19 10 36.4**	**-1.1**
KMSC	**Kings Mountain**	**25.34**	**9**	P		**P**		**19 10 37.5**	**-0.4**
KMSC				IAmb		IAmb		19 10 38.9	
	comp=Z,6.3nm,0.8s								
Q51A	**Peebles**	**28.93**	**5**	P		**P**		**19 11 09.4**	**-0.8**
Q54A	**Coxs Mills**	**29.18**	**9**	P		**P**		**19 11 12.0**	**-0.4**
Q54A				IAmb		IAmb		19 11 12.4	
	comp=Z,8.1nm,0.9s								
BW06	**Boulder Array**	**38.42**	**332**	P		**P**		**19 12 32.2**	**-0.6**
PD31	**Pinedale Array**	**38.42**	**332**	P		**P**		**19 12 32.1**	**-0.7**
PDAR	**Pinedale Array**	**38.42**	**332**	P		**P**		**19 12 32.4**	**-0.4**
NVAR	**Mina Array Bea**	**40.28**	**320**	P		**P**		**19 12 51.9**	**+3.5**
	comp=Z,1.1nm,0.8s,baz=133,slow=8.7,

GAZI	**Gazipasa**	**1.07 78**		PG	**Pn**	**19 13 43.8 +0.9**
GAZI				SG	**Sn**	**19 13 58.5 +0.5**
GAZI	**Gazipasa**	**1.07 78**	*i*	P	**Pn**	**19 13 42.9 0.0**
GAZI			*i*	S	**Sn**	**19 13 56.9 -1.1**
GAZI				IAML		19 14 01.0
	comp=N,380nm,0.5s					
GAZI				IAML		19 14 01.0
	comp=E,189nm,0.5s					
ELL	**Elmali**	**1.16 310**		PN	**Pg**	**19 13 44.4 +0.4**
ELL				SN	**Sn**	**19 14 00.3 0.0**
ELL	**Elmali**	**1.16 310**		P	**Pg**	**19 13 45.1 +1.1**
AKAS	**Kas**	**1.17 281**	*i*	P	**Pb**	**19 13 43.6 -0.5**
AKAS			*i*	S	**Sb**	**19 13 58.6 -0.8**
KSL	**Kastellorizon**	**1.17 277**		P	**Pb**	**19 13 44.3 +0.2**
KSL				S	**Sb**	**19 13 59.8 +0.4**
KSL				AML	AML	19 14 09.0
	comp=E,0.2nm,0.5s					
KSL				AML	AML	19 14 09.0
	comp=E,0.2nm,0.5s					
KSL				AML	AML	19 14 14.4
	comp=E,0.3nm,0.7s					
KSL				AML	AML	19 14 14.4
	comp=E,0.3nm,0.7s					
AKMS	**Akamas**	**1.46 132**		P	**Pg**	**19 13 49.7 0.0**
AKMS				AML	AML	19 14 18.5
	comp=E,0.7nm,0.3s					
AKMS				AML	AML	19 14 20.9
	comp=E,0.5nm,0.4s					
BCK	**Bucak**	**1.49 347**		PN	**Pb**	**19 13 49.1 -0.5**
BCK				SN	**Sb**	**19 14 08.2 -0.4**
SEYD	**Seydisehir-KON**	**1.54 25**		PN	**Pb**	**19 13 50.4 -0.1**
ALFC	**Alefka**	**1.54 123**		P	**Pb**	**19 13 50.5 0.0**
ALFC				S	**Sg**	**19 14 11.0 -0.4**
ALFC				AML	AML	19 14 19.9
	comp=E,0.5nm,0.6s					
ALFC				AML	AML	19 14 19.9
	comp=E,0.5nm,0.6s					
ALFC				AML	AML	19 14 20.1
	comp=E,0.4nm,0.3s					
ALFC				AML	AML	19 14 20.1
	comp=E,0.4nm,0.3s					
FETY	**Fethiye**	**1.68 292**		PN	**Pn**	**19 13 52.0 +0.7**
FETY	**Fethiye**	**1.68 292**	*i*	P	**Pn**	**19 13 48.8 -2.5**
FETY			*i*	S	**Sn**	**19 14 12.5 -0.5**
GOLH	**Golhisar**	**1.70 317**	*i*	P	**Pg**	**19 13 53.9 -0.4**
TEKE	**Tekeli-Mersin**	**1.70 85**		PN	**Pb**	**19 13 53.1 -0.1**
TEKE				SN	**Sb**	**19 14 15.0 +0.3**
AKDN	**Akdeniz- Kıbrı**	**1.74 114**		PN	**Pb**	**19 13 53.7 -0.1**
LEF	**Lefka**	**1.77 120**		PN	**Pb**	**19 13 53.7 -0.5**
BERE	**Bereket-Mersin**	**1.81 79**		PN	**Pb**	**19 13 54.7 -0.5**
BRDR	**BURDUR-Merkez**	**1.85 336**	*i*	P	**Pg**	**19 13 57.0 -0.2**
BRDR			*i*	S	**Sb**	**19 14 20.0 +0.9**
TEVE	**Tevekalti-Mers**	**2.00 77**		PN	**Pb**	**19 13 57.3 -1.1**
GULN	**MERSIN_Gulnar**	**2.05 84**	*i*	P	**Pb**	**19 13 59.5 +0.4**
GULN			*i*	S	**Sb**	**19 14 24.9 +0.1**
GULN				IAML		19 14 27.0
	comp=N,32nm,0.3s					
GULN				IAML		19 14 28.0
	comp=E,39nm,0.7s					
AKKU	**Akkuyu-Mersin**	**2.06 85**		PN	**Pb**	**19 13 58.1 -1.1**
KMER	**Konya-Meram**	**2.06 31**	*i*	P	**Pb**	**19 13 58.9 -0.4**
DALY	**Dalyan (Mula)**	**2.07 294**		PN	**Pn**	**19 13 57.6 +1.0**
DALY	**Dalyan (Mula)**	**2.07 294**	*i*	P	**Pn**	**19 13 57.7 +1.1**
KRMN	**Karaman**	**2.15 57**		PN	**Pn**	**19 13 58.8 +1.0**
DOGA	**KONYA_Doganhis**	**2.15 14**	*i*	P	**Pb**	**19 14 01.1 +0.1**
DOGA			*i*	S	**Sb**	**19 14 26.8 -1.1**
DOGA				IAML		19 14 28.0
	comp=N,28nm,0.7s					
DOGA				IAML		19 14 33.0
	comp=E,25nm,0.9s					
CSS	**Mathiatis**	**2.16 118**		PN	**Pb**	**19 13 59.8 -1.1**
CSS	**Mathiatis**	**2.16 118**		P	**Pn**	**19 13 58.8 +0.9**
IKL	**Isikli**	**2.17 83**		PN	**Pb**	**19 14 00.1 -1.0**
ASGA	**Asgata**	**2.19 123**		P	**Pb**	**19 14 00.0 -1.5**
KONT	**Konya--Tatoy**	**2.21 29**	*i*	P	**Pb**	**19 14 00.9 -0.9**
KEBE	**Keben-Mersin**	**2.22 78**		PN	**Pb**	**19 14 00.4 -1.7**
TAVA	**DENIZLI_Tavas**	**2.23 311**	*i*	P	**Pn**	**19 14 00.1 +1.1**
KZIL	**AFYON_Kizioren**	**2.35 343**	*i*	P	**Pn**	**19 14 01.4 +0.8**
MVOU	**Mavrovouni**	**2.35 114**		P	**Pn**	**19 14 01.4 +1.0**
ARG	**Arkhangelos**	**2.35 276**		PN	**Pn**	**19 14 01.8 +1.3**
ARG	**Arkhangelos**	**2.35 276**		P	**Pn**	**19 14 01.6 +1.1**
TURN	**Turunc**	**2.37 290**		PN	**Pn**	**19 14 02.1 +1.4**
TURN	**Turunc**	**2.37 290**	*i*	P	**Pn**	**19 14 00.7 +0.1**
TURN			*i*	S	**Sn**	**19 14 26.9 -3.0**
SILI	**Silifke-Mersin**	**2.38 81**		PN	**Pb**	**19 14 03.0 -1.7**
LADK	**Ladik-KONYA**	**2.44 26**		PN	**Pn**	**19 14 02.7 +0.9**
OSC1	**CSNet OBS 1**	**2.51 175**		S	**Sn**	**19 14 34.3 +0.8**
KIZK	**Mersin**	**2.57 79**		PN	**Pb**	**19 14 05.5 -2.4**
YESY	**Yesilyurt**	**2.81 50**		PN	**Pn**	**19 14 07.9 +1.0**
KIZT	**Kizilcal**	**2.95 13**		PN	**Pn**	**19 14 09.9 +1.1**
MERS	**Mersin**	**2.95 72**		PN	**Pn**	**19 14 09.7 +1.1**
CHBY	**Cihanbeyli**	**2.97 30**		PN	**Pn**	**19 14 10.7 +1.6**
BODT	**Bodrum**	**3.17 290**		PN	**Pn**	**19 14 12.8 +1.1**
KARP	**Karpathos**	**3.17 263**		PN	**Pn**	**19 14 12.6 +0.8**
KARP	**Karpathos**	**3.17 263**		P	**Pn**	**19 14 12.6 +0.8**
CMRD	**Camardi-Nigde**	**3.59 61**		PN	**Pn**	**19 14 19.1 +1.5**
TVSB	**Tavsanli**	**3.65 341**		PN	**Pn**	**19 14 19.6 +1.2**
YURE	**YUREGIR**	**3.81 76**		PN	**Pn**	**19 14 22.6 +2.0**

*IDC **02** 19:33:11.4±1.2,39°.06S×178°.05E,h0km,mb4.2/5, mb1 4.4/7,mb1mx4.1/32,mbtmp4.3/7,ML4.2/2,Error ellipse: s-maj=34.5km s-min=13.1km az=56.0*
*NEIC **02** 19:33:12.0±1.6,39°.03S±0°.06×178°.3E±0°.1,h17km±5km, mb4.3/10,ML4.6(WEL),Error ellipse: s-maj=14.3km s-min=5.7km az=116.0*
*WEL **02** 19:33:16.7,38°.9S±1°.0×17°8E±°,h42km±1km,M4.6/31, ML4.9/31,MLv4.6/31,Error ellipse: s-maj=0.0km s-min=0.0km az=83.3*

ISC 02 19:33:13.5±1.5,38°.99S±0°.03×178°.26E±0°.05,h23km±10km, n180,σ1°30/183,mb4.3/9,2D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**0.30 283**		P	**Pn**	**19 33 24.1**	**+1.5**
MHGZ	**Mahia Peninsul**	**0.32 239**		P	**Pn**	**19 33 26.6**	**+3.8**
KNZ	**Kokohu**	**0.46 266**		P	**Pn**	**19 33 25.8**	**+1.2**
KNZ				S	**Sn**	**19 33 32.8**	**+0.6**
RIGZ	**Rimuhau**	**0.48 306**		P	**Pn**	**19 33 25.1**	**0.0**
RIGZ				S	**Sb**	**19 33 31.4**	**+1.3**
CNGZ	**Carnagh Statio**	**0.51 355**		P	**Pn**	**19 33 27.3**	**+2.0**
TKGZ	**Te Karaka**	**0.64 329**		P	**Pn**	**19 33 27.3**	**+0.2**
TKGZ				S	**Sb**	**19 33 34.7**	**+0.2**
SNGZ	**Shannon Statio**	**0.75 286**		P	**Pn**	**19 33 28.6**	**-0.1**
SNGZ				S	**Sb**	**19 33 37.0**	**-0.7**
WHHZ	**Waihua**	**0.81 263**		P	**Pn**	**19 33 30.4**	**+1.0**
WHHZ				S	**Sn**	**19 33 41.3**	**+0.6**
RAGZ	**Rawiri**	**0.83 306**		P	**Pb**	**19 33 29.3**	**+0.1**
RAGZ				S	**Sb**	**19 33 38.2**	**-1.7**
TWGZ	**Tauwhareparae**	**0.84 345**		P	**Pn**	**19 33 30.8**	**+0.9**
TWGZ				S	**Sn**	**19 33 41.0**	**-0.6**
PUZ	**Puketiti**	**0.92 360**		P	**Pn**	**19 33 32.0**	**+1.0**
PUZ				S	**Sn**	**19 33 43.1**	**-0.3**
RAHZ	**Arahi**	**0.92 274**		P	**Pn**	**19 33 31.6**	**+0.8**
ARHZ	**Aropaoanui**	**1.02 254**		P	**Pb**	**19 33 33.7**	**+1.2**
RTZ	**Ruatahuna**	**1.07 290**		P	**Pn**	**19 33 33.0**	**-0.2**
RTZ				S	**Sn**	**19 33 44.1**	**-3.2**
MTHZ	**Maungataniwha**	**1.12 277**		P	**Pn**	**19 33 34.0**	**+0.2**
MTHZ				S	**Sn**	**19 33 46.4**	**-2.0**
RUGZ	**Raukumara Rang**	**1.12 336**		P	**Pn**	**19 33 33.6**	**-0.3**
CKHZ	**Cape Kidnapper**	**1.14 234**		P	**Pb**	**19 33 36.1**	**+1.7**
NMHZ	**Naumai**	**1.14 264**		P	**Pb**	**19 33 35.0**	**+0.5**
NMHZ				S	**Sn**	**19 33 48.5**	**-0.6**
URZ	**Urewera**	**1.16 309**		Pg	**Pn**	**19 33 34.0**	**-0.3**
	2µm,0.3s,baz=189,slow=4.4,SNR=3655						
URZ				Lg	Lg	19 33 46.0	
	1µm,0.3s,baz=347,slow=20,SNR=11						
URZ				LR	LR	19 34 19.0	
	comp=Z,1µm,21.6s,baz=32,slow=62						
URZ	**Urewera**	**1.16 309**		P	**Pn**	**19 33 33.9**	**-0.4**
URZ	**Urewera**	**1.16 309**			**Pn**	**19 33 33.9**	**-0.4**
WMGZ	**Waiomatatini S**	**1.17 6**		P	**Pb**	**19 33 35.9**	**+0.8**
HAZ	**Te Kaha**	**1.29 343**		P	**Pb**	**19 33 36.4**	**-0.7**
MCHZ	**McNeill Hill**	**1.30 249**		P	**Pb**	**19 33 37.7**	**+0.5**
KAHZ	**Kahuranaki**	**1.34 233**		P	**Pb**	**19 33 38.7**	**+0.7**
BKZ	**Black Stump Fm**	**1.39 262**		P	**Pn**	**19 33 38.2**	**+0.6**
BKZ	**Black Stump Fm**	**1.39 262**		Pn	**Pn**	**19 33 38.1**	**+0.6**
MXZ	**Matakaoa Point**	**1.43 1**		P	**Pb**	**19 33 39.1**	**-0.3**
MXZ	**Matakaoa Point**	**1.43 1**		Pn	**Pb**	**19 33 39.0**	**-0.3**
MRHZ	**Matea Rd**	**1.45 276**		P	**Pn**	**19 33 39.1**	**+0.8**
KWHZ	**Kaweka Forest**	**1.50 253**		P	**Pn**	**19 33 40.0**	**+1.0**
PXZ	**Pawanui**	**1.50 226**		P	**Pb**	**19 33 40.6**	**-0.1**
RRRZ	**Republican Roa**	**1.52 295**		P	**Pn**	**19 33 39.1**	**-0.2**
WHRZ	**Whale Island**	**1.52 318**		P	**Pn**	**19 33 39.5**	**+0.3**
PRRZ	**Plateau Road**	**1.54 288**		P	**Pn**	**19 33 39.8**	**+0.2**
ALRZ	**Allen Road**	**1.56 285**		P	**Pn**	**19 33 40.0**	**+0.1**
TARZ	**Mount Tarawera**	**1.57 298**		P	**Pn**	**19 33 40.1**	**0.0**
MARZ	**Manawahe**	**1.60 308**		P	**Pn**	**19 33 40.6**	**+0.2**
KRHZ	**Kereru**	**1.61 245**		P	**Pn**	**19 33 41.5**	**+1.0**
MKRZ	**Makatiti**	**1.65 301**		P	**Pn**	**19 33 42.2**	**+1.1**
HRRZ	**Handcock Road**	**1.66 290**		P	**Pn**	**19 33 41.0**	**-0.2**
HLRZ	**Highlands Stat**	**1.67 296**		P	**Pn**	**19 33 41.3**	**0.0**
WIZ	**White Island**	**1.69 330**		P	**Pn**	**19 33 41.2**	**-0.3**
HATZ	**Hinemaiaia**	**1.70 273**		P	**Pn**	**19 33 42.4**	**+0.7**
WSRZ	**White Island S**	**1.70 329**		P	**Pn**	**19 33 42.7**	**+1.0**
WPRZ	**Whakapapataran**	**1.71 285**		P	**Pn**	**19 33 42.2**	**+0.3**
HSRZ	**Hossack Road**	**1.72 293**		P	**Pn**	**19 33 42.0**	**0.0**
OMRZ	**Omania**	**1.73 300**		P	**Pn**	**19 33 41.8**	**-0.3**
OPRZ	**Ohinepanea**	**1.76 310**		P	**Pn**	**19 33 41.9**	**-0.7**
WPHZ	**Waipukurau**	**1.77 232**		P	**Pn**	**19 33 44.2**	**+1.4**
LIRZ	**Lichensteins R**	**1.77 303**		P	**Pn**	**19 33 42.7**	**-0.1**
BHHZ	**Black Hill Sta**	**1.78 253**		P	**Pn**	**19 33 43.9**	**+1.0**
PRHZ	**Porangahau**	**1.79 224**		P	**Pn**	**19 33 43.9**	**+0.8**
GRRZ	**Galatos Road**	**1.80 290**		P	**Pn**	**19 33 43.3**	**+0.1**
UTU	**Utuhina**	**1.81 296**		P	**Pn**	**19 33 43.6**	**+0.3**
PNHZ	**Pukenui**	**1.84 239**		P	**Pn**	**19 33 44.7**	**+1.0**
NGRZ	**Ngongotaha**	**1.85 298**		P	**Pn**	**19 33 44.0**	**+0.1**
KARZ	**Kaharoa**	**1.86 301**		P	**Pn**	**19 33 43.2**	**-0.7**
RITZ	**Rihia Road**	**1.88 270**		P	**Pn**	**19 33 44.9**	**+0.7**
RATZ	**Rangitukua**	**1.95 273**		P	**Pn**	**19 33 45.7**	**+0.6**
KUTZ	**Kaahu Road**	**1.97 284**		P	**Pn**	**19 33 45.7**	**+0.2**
ETNZ	**East Tongariro**	**1.99 265**		P	**Pn**	**19 33 46.7**	**+0.8**
MOVZ	**Moawhango**	**2.00 257**		P	**Pn**	**19 33 47.0**	**+1.1**
TMVZ	**Te Maari**	**2.00 266**		P	**Pn**	**19 33 46.6**	**+0.7**
KATZ	**Kakaramea**	**2.00 270**		P	**Pn**	**19 33 46.9**	**+0.9**
ANWZ	**Angora Road**	**2.02 223**		P	**Pn**	**19 33 47.2**	**+1.2**
TGRZ	**Tauranga**	**2.02 308**		P	**Pn**	**19 33 45.6**	**-0.5**
OTVZ	**Oturere**	**2.03 264**		P	**Pn**	**19 33 47.9**	**+1.5**
KRVZ	**Karewarewa**	**2.04 266**		P	**Pn**	**19 33 47.2**	**+0.6**
TUVZ	**Tukino**	**2.05 261**		P	**Pn**	**19 33 48.2**	**+1.5**
TSZ	**Takapari Road**	**2.08 238**		P	**Pn**	**19 33 47.7**	**+0.8**
NGZ	**Ngauruhoe**	**2.08 264**		P	**Pn**	**19 33 48.1**	**+1.0**
DVHZ	**Dannevirke**	**2.08 230**		P	**Pn**	**19 33 48.0**	**+1.0**
WTVZ	**West Tongariro**	**2.09 266**		P	**Pn**	**19 33 48.0**	**+0.8**
WNVZ	**Wahianoa**	**2.10 260**		P	**Pn**	**19 33 48.4**	**+1.0**
DRZ	**Dome Shelter**	**2.12 261**		P	**Pn**	**19 33 49.2**	**+1.4**
FWVZ	**Far West T-bar**	**2.12 262**		P	**Pn**	**19 33 48.6**	**+0.8**
KMRZ	**Kaimai**	**2.15 301**		P	**Pn**	**19 33 47.2**	**-0.8**
TWVZ	**Taurewa**	**2.20 267**		P	**Pn**	**19 33 49.5**	**+0.8**
MTVZ	**Mangateitei**	**2.21 259**		P	**Pn**	**19 33 50.4**	**+1.6**
TLZ	**Tolley Road**	**2.23 286**		P	**Pn**	**19 33 50.1**	**+1.0**
PKVZ	**Pokaka**	**2.29 262**		P	**Pn**	**19 33 51.2**	**+1.3**
BFZ	**Birch Farm**	**2.30 222**		P	**Pn**	**19 33 50.7**	**+0.7**
BFZ	**Birch Farm**	**2.30 222**		Pn	**Pn**	**19 33 50.4**	**+0.5**
MYRZ	**Mayor Island**	**2.34 316**		P	**Pn**	**19 33 50.0**	**-0.5**
PRWZ	**Pori Road**	**2.36 228**		P	**Pn**	**19 33 52.1**	**+1.3**
POWZ	**Post Office Ro**	**2.38 233**		P	**Pn**	**19 33 52.4**	**+1.3**
CPWZ	**Castlepoint**	**2.49 219**		P	**Pn**	**19 33 53.7**	**+1.1**
TOZ	**Tahuroa Road**	**2.51 299**		P	**Pn**	**19 33 52.0**	**-0.8**
TIWZ	**Tintock**	**2.56 225**		P	**Pn**	**19 33 54.4**	**+0.8**
OHWZ	**Ohakea**	**2.58 241**		P	**Pn**	**19 33 55.6**	**+1.8**
WAZ	**Wanganui**	**2.65 252**		P	**Pn**	**19 33 56.7**	**+1.8**
MRZ	**Mangatainoka R**	**2.66 230**		P	**Pn**	**19 33 55.4**	**+0.5**
HIZ	**Hauiti**	**2.71 279**		P	**Pn**	**19 33 56.3**	**+0.8**
HIZ	**Hauiti**	**2.71 279**			**Pn**	**19 33 55.7**	**+0.2**
VRZ	**Vera Road**	**2.73 266**		P	**Pn**	**19 33 56.8**	**+0.9**
TMWZ	**Te Maipa**	**2.79 229**		P	**Pn**	**19 33 57.0**	**+0.2**
OGWZ	**Otaki Gorge**	**3.00 232**		P	**Pn**	**19 33 59.8**	**+0.2**
KUZ	**Kuaotunu**	**3.01 317**		P	**Pn**	**19 33 58.7**	**-1.0**
LREZ	**Lake Rotokare**	**3.04 260**		P	**Pn**	**19 34 01.9**	**+1.8**
TRWZ	**Traveller**	**3.11 219**		P	**Pn**	**19 34 00.8**	**-0.3**
DREZ	**Durham Road**	**3.17 265**		P	**Pn**	**19 34 03.7**	**+1.8**
KIW	**Kapiti Island**	**3.19 233**		P	**Pn**	**19 34 02.3**	**+0.1**
PREZ	**Palmer Road**	**3.21 262**		P	**Pn**	**19 34 04.9**	**+2.4**
CAW	**Cannon Point**	**3.24 228**		P	**Pn**	**19 34 02.8**	**-0.1**
NEZ	**North Egmont**	**3.25 264**		P	**Pn**	**19 34 05.5**	**+2.3**
WIAZ	**Waiheke Island**	**3.31 311**		P	**Pn**	**19 34 03.9**	**0.0**
KHEZ	**Kahui Hut**	**3.32 263**		P	**Pn**	**19 34 06.3**	**+2.2**
ETAZ	**East Tamaki Re**	**3.33 307**		P	**Pn**	**19 34 04.2**	**0.0**
PKE	**Pukeiti**	**3.33 265**		P	**Pn**	**19 34 06.6**	**+2.3**
MSWZ	**Moikau Station**	**3.35 223**		P	**Pn**	**19 34 03.9**	**-0.5**
MSWZ	**Moikau Station**	**3.35 223**			**Pn**	**19 34 03.5**	**-0.9**
NMEZ	**Namu Road**	**3.43 262**		P	**Pn**	**19 34 07.7**	**+2.2**
AWAZ	**Awhitu Peninsu**	**3.44 303**		P	**Pn**	**19 34 05.6**	**-0.1**
PLWZ	**Palliser**	**3.49 221**		Pn	**Pn**	**19 34 04.9**	**-1.0**
MBAZ	**Motutapu North**	**3.46 309**		P	**Pn**	**19 34 06.1**	**+0.1**
WEL	**Wellington**	**3.53 228**		P	**Pn**	**19 34 06.8**	**-0.1**
GRZ	**Great Barrier**	**3.53 320**		P	**Pn**	**19 34 06.1**	**-0.7**
BHW	**Baring Head**	**3.55 226**		P	**Pn**	**19 34 06.5**	**-0.6**
BHW	**Baring Head**	**3.55 226**			**Pn**	**19 34 06.3**	**-0.8**
WTAZ	**Waiatarua**	**3.57 304**		P	**Pn**	**19 34 08.3**	**+0.9**
SNZO	**South Karori**	**3.58 229**			**Pn**	**19 34 06.9**	**-0.6**
ABAZ	**Army Bay**	**3.62 310**		P	**Pn**	**19 34 08.4**	**+0.3**
TCW	**Tory Channel**	**3.78 233**		P	**Pn**	**19 34 09.4**	**-0.9**
DUWZ	**D'Urville Isla**	**3.80 240**		P	**Pn**	**19 34 10.1**	**-0.6**
TUWZ	**Tuamarina**	**4.11 232**			**Pn**	**19 34 13.2**	**-1.7**
CMWZ	**Cape Campbell**	**4.14 227**		P	**Pn**	**19 34 15.2**	**-0.1**
CMWZ	**Cape Campbell**	**4.14 227**			**Pn**	**19 34 14.1**	**-1.3**
BSWZ	**Blackbirch Sta**	**4.32 230**			**Pn**	**19 34 16.5**	**-1.2**
NNZ	**Nelson**	**4.36 238**		P	**Pn**	**19 34 17.3**	**-0.9**
NNZ	**Nelson**	**4.36 238**		Pn	**Pn**	**19 34 17.4**	**-0.9**
WCZ	**Waipu Caves**	**4.36 313**		P	**Pn**	**19 34 18.2**	**-0.1**
QRZ	**Quartz Range**	**4.78 246**		P	**Pn**	**19 34 22.7**	**-1.4**
QRZ	**Quartz Range**	**4.78 246**		Pn	**Pn**	**19 34 22.6**	**-1.4**
THZ	**Tophouse**	**4.94 234**		Pn	**Pn**	**19 34 24.8**	**-1.5**
KHZ	**Kahutara**	**4.96 225**		Pn	**Pn**	**19 34 24.7**	**-1.8**
OUZ	**Omahuta**	**5.30 314**		P	**Pn**	**19 34 31.9**	**+0.7**
OUZ	**Omahuta**	**5.30 314**		Pn	**Pn**	**19 34 31.3**	**+0.2**
LTZ	**Lake Taylor**	**5.91 228**		Pn	**Pn**	**19 34 38.8**	**-0.9**
CTZ	**Chatham Island**	**6.11 143**		P	**Pn**	19 34 48.4	+6.1
MQZ	**McQueen's Vall**	**6.33 220**		Pn	**Pn**	**19 34 43.4**	**-1.8**
OXZ	**Oxford**	**6.39 225**			**Pn**	**19 34 44.4**	**-1.7**
RPZ	**Rata Peaks**	**7.19 227**		Pn	**Pn**	**19 34 55.7**	**-1.5**
	6.7nm,0.3s,baz=79,slow=2.0,SNR=27						
RPZ				Sn	**Sn**	**19 36 10.1**	**-8.0**
	38nm,0.3s,baz=130,slow=22,SNR=19						
RPZ	**Rata Peaks**	**7.19 227**		Pn	**Pn**	**19 34 56.2**	**-1.0**
LBZ	**Lake Benmore**	**8.10 226**		Pn	**Pn**	**19 35 07.8**	**-1.8**
ODZ	**Otahua Downs**	**8.29 221**		Pn	**Pn**	**19 35 10.2**	**-2.0**
WKZ	**Wanaka**	**9.03 227**		Pn	**Pn**	**19 35 20.7**	**-1.7**
MLZ	**Mavora Lakes**	**9.86 226**		Pn	**Pn**	**19 35 31.6**	**-2.2**
DZM	**Mont Dzumac**	**19.67 326**		P	**Pn**	**19 37 42.2**	**-0.3**
	0.5nm,0.3s,baz=147,slow=17,SNR=7.3						
DZM	**Mont Dzumac**	**19.67 326**		P	**Pn**	**19 37 42.3**	**-0.1**
DZM				IAmb	IAmb	19 37 42.9	
	comp=Z,9.7nm,0.8s						
COEN	**Coen**	**39.71 299**		P	**P**	**19 40 44.2**	**0.0**
COEN				IAmb	IAmb	19 40 44.9	
	comp=Z,8.9nm,0.9s						
AS31	**Alice Springs**	**40.45 279**		P	**P**	**19 40 49.5**	**-0.8**
ASAR	**Alice Springs**	**40.45 279**		P	**P**	**19 40 50.0**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=131,slow=8.5,SNR=58						
ASAR	**Alice Springs**	**40.45 279**		P	**P**	**19 40 49.3**	**-1.0**
WB2	**Warramunga Arr**	**42.22 284**		P	**P**	**19 41 04.0**	**-0.8**
WB2				IAmb	IAmb	19 41 09.9	
	comp=Z,5.7nm,1.2s						
WRA	**Warramunga Arr**	**42.22 284**		P	**P**	**19 41 04.2**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=124,slow=7.3,SNR=37						
WRA	**Warramunga Arr**	**42.22 284**		P	**P**	**19 41 04.0**	**-0.9**
WB0	**Warramunga Arr**	**42.29 284**		P	**P**	**19 41 04.7**	**-0.8**
WB0				IAmb	IAmb	19 41 28.8	
	comp=Z,9.6nm,1.4s						
MTN	**Manton Dam**	**49.04 289**		P	**P**	**19 41 56.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**49.95 279**		P	**P**	**19 42 04.8**	**-0.9**
FITZ				IAmb	IAmb	19 42 06.4	
	comp=Z,6.1nm,1.2s						
MAW	**Mawson**	**63.21 203**		P	**P**	**19 43 41.0**	**+1.6**
	comp=Z,2.6nm,1.0s,baz=131,slow=5.5,SNR=4.9						
MAW	**Mawson**	**63.21 203**		P	**P**	**19 43 39.3**	**0.0**
SYO	**Syowa Base**	**68.06 195**		*eP*	P	19 44 04.0	-6.6
SYO	**Syowa Base**	**68.06 195**		*eP*	P	19 44 04.8	-5.8
H03S2	**Juan Fernandez**	**78.26 124**		T	T	21 11 25.0	
	baz=229,slow=74,SNR=24						
H03S1	**Juan Fernandez**	**78.27 124**		T	T	21 11 26.3	
	baz=229,slow=74,SNR=24						
H03S3	**Juan Fernandez**	**78.28 124**		T	T	21 11 25.3	
	baz=229,slow=74,SNR=22						
H03N3	**Juan Fernandez**	**78.50 124**		T	T	21 11 39.3	
	baz=233,slow=72,SNR=40						
H03N2	**Juan Fernandez**	**78.50 124**		T	T	21 11 34.3	
	baz=233,slow=72,SNR=61						
H03N1	**Juan Fernandez**	**78.52 124**		T	T	21 11 38.6	
	baz=233,slow=72,SNR=41						
KSRS	**Korea Array**	**89.06 322**		P	**P**	**19 46 08.3**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=144,slow=5.4,SNR=5.5						
GO02	**Mina Guanaco**	**90.07 123**		P	**P**	**19 46 09.5**	**-2.6**
CMAR	**Chiang Mai Arr**	**93.45 291**		P	**P**	**19 46 28.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=138,slow=3.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**93.45 291**		P	**P**	**19 46 27.4**	**+0.1**
ARCES	**ARCESS Array B**	**146.13 343**		PKPbc	**PKPab**	**19 52 51.5**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=42,slow=2.7,SNR=14						
FINES	**FINESS Array B**	**151.73 332**		PKPbc	**PKiKP**	**19 53 05.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=45,slow=0.6,SNR=5.0						
FINES	**FINESS Array B**	**151.73 332**			**PKiKP**	**19 53 05.7**	**+0.2**
BRTR	**Keskin Array B**	**152.74 283**		PKPbc	**PKiKP**	**19 53 09.4**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=320,slow=4.3,SNR=2.7						
BRTR	**Keskin Array B**	**152.74 283**			**PKiKP**	**19 53 08.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**154.08 188**		PKPbc	**PKiKP**	**19 53 17.0**	**+5.2**
	comp=Z,0.3nm,0.5s,baz=161,slow=3.0,SNR=2.4						

*IDC **02** 19:45:59.0±1.2,8°.85S×116°.13E,h0km,mb4.0/7, mb1 4.2/9,mb1mx3.9/37,mbtmp4.1/9,ML4.2/2,MS3.5/2, Ms1 3.4/2,ms1mx2.9/31,Error ellipse: s-maj=53.5km s-min=11.9km az=51.0*
*NEIC **02** 19:46:04.3±1.4,9°.1S±0°.1×115°.91E±0°.07,h50km±7km, mb4.1/15,Error ellipse: s-maj=21.7km s-min=7.8km az=201.0*
*DJA **02** 19:46:05.7±0.3,10°S±3°×11°6E±°,h50km,M4.4/12, mb4.5/6,MLv4.3/12,Mwp5.5/1*

ISC 02 19:46:04.1±0.5,9°.21S±0°.09×115°.83E±0°.06,h50km,n56, σ1°84/49,mb4.1/10,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.14 66**		P	Pn	19 46 31.1	+7.4
JAGI	**Jajag, Banyuwa**	**1.82 294**		P	**Pn**	**19 46 33.9**

*REY **02** 20:08:32.0,64.°67N×17.°47W,h7km*
*IDC **02** 20:08:33.5±0.8,64.°38N×18.°00W,h0km,mb3.6/10, mb1 4.0/12,mb1mx3.7/42,mbtmp3.7/12,ML3.2/2,Error ellipse: s-maj=27.8km s-min=11.1km az=22.0*
*NEIC **02** 20:08:34.1±1.4,64.°42N±0.°05×18.°1W±0.°2,h10km±1km, mb4.4/14,Error ellipse: s-maj=11.7km s-min=8.2km az=109.0*

ISC 02 20:08:33.7±1.0,64.°56N±0.°03×17.°76W±0.°03,h6km±7km, n81,σ1°63/70,mb3.9/15,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IVON	**Vonarskard**	**0.11**	**2**	S		**Sg**	**20 08 37.2**	**-0.7**
	baz=271							
IVON				P		Pg	20 08 34.8	-1.4
	baz=271							
ISKR	**Skrokkalda**	**0.27**	**270**	P		**Pg**	**20 08 39.4**	**+0.4**
	baz=255							
ISKR				S		Sg	20 08 46.0	+3.4
	baz=255							
IHUS	**Husbondi**	**0.27**	**170**	P		**Pg**	**20 08 39.2**	**+0.2**
	baz=192							
IHUS				S		Sg	20 08 45.4	+2.8
	baz=192							
IDYN	**Dyngjuhals**	**0.29**	**36**	P		Pg	20 08 34.9	-4.5
	baz=20							
IDYN				S		Sg	20 08 37.2	-6.0
	baz=20							
IJOK	**Jokulheimar**	**0.32**	**219**	P		**Pg**	**20 08 40.9**	**+1.0**
	baz=223							
IJOK				S		**Sg**	**20 08 47.5**	**+3.4**
	baz=223							
IURH	**Urdarhals**	**0.37**	**45**	P		Pg	20 08 36.1	-4.8
	baz=42							
IURH				S		Sg	20 08 39.9	-5.9
	baz=42							
IVOT	**Vottur**	**0.39**	**139**	P		**Pg**	**20 08 39.5**	**-1.7**
	baz=163							
IBJK	**Bruarjokull**	**0.45**	**101**	P		Pg	20 08 39.4	-3.0
	baz=123							
IKVE	**Kverkfjoll**	**0.48**	**75**	S		Sg	20 08 43.8	-5.6
	baz=88							
IIEY	**Innrieyrar**	**0.49**	**199**	P		**Pb**	**20 08 43.4**	**-1.4**
	baz=206							
IIEY				S		**Sb**	**20 08 52.5**	**+0.2**
	baz=206							
IKAL	**Kalfafell**	**0.62**	**177**	P		**Pb**	**20 08 44.9**	**-2.0**
	baz=188							
IKAL				S		**Sn**	**20 08 55.2**	**-4.0**
	baz=188							
IVAT	**Vatnsfell**	**0.63**	**234**	P		**Pn**	**20 08 46.5**	**-2.6**
	baz=233							
IKRE	**Kreppuhraun**	**0.64**	**69**	P		Pg	20 08 40.5	-5.4
	baz=76							
IKRE				S		Sg	20 08 47.5	-6.7
	baz=76							
IASK	**Askja**	**0.69**	**44**	S		Sg	20 08 49.2	-6.6
	baz=42							
IASK				P		Pg	20 08 41.3	-5.6
	baz=42							
IKSK	**Karasker**	**0.69**	**125**	P		Pg	20 08 43.5	-3.4
	baz=139							
IMKO	**Mokollar**	**0.74**	**55**	S		Sg	20 08 50.8	-6.8
	baz=57							
IMKO				P		Pg	20 08 42.3	-5.7
	baz=57							
ISVA	**Svartarkot**	**0.81**	**15**	P		Pg	20 08 44.0	-5.2
	baz=7.7							
ISVA				S		Sg	20 08 53.5	-6.2
	baz=7.7							
IHVE	**Hveravellir**	**0.83**	**293**	P		**Pg**	**20 08 47.7**	**-2.0**
	baz=284							
IHVE				S		**Sb**	**20 09 00.5**	**-1.6**
	baz=284							
IFAG	**Fagurholsmyri**	**0.84**	**144**	P		**Pg**	**20 08 47.6**	**-2.3**
	baz=156							
IVSH	**V-Sauoahnukur**	**0.91**	**73**	P		Pg	20 08 45.2	-6.0
	baz=79							
IVSH				S		Sg	20 08 55.7	-7.2
	baz=79							
ISNB	**Snabyli**	**0.91**	**205**	P		**Pn**	**20 08 50.5**	**-2.6**
	baz=209							
ISNB				S		**Sn**	**20 09 05.3**	**-1.1**
	baz=209							
ISLY	**Slysaalda**	**0.95**	**219**	P		**Pn**	**20 08 51.2**	**-2.4**
	baz=221							
IRJU	**Rjupnafell**	**1.03**	**203**	P		**Pn**	**20 08 52.7**	**-1.9**
	baz=207							
IRJU				S		**Sn**	**20 09 08.7**	**-0.6**
	baz=207							
IADA	**Aoalbol**	**1.04**	**63**	P		Pn	20 08 47.6	-7.3
	baz=66							
IADA				S		Sb	20 08 59.5	-8.6
	baz=66							
IGYG	**Gygjarholskot**	**1.10**	**256**	P		**Pn**	**20 08 53.8**	**-1.9**
	baz=253							
IMEL	**Melhnausar**	**1.12**	**24**	P		Pn	20 08 48.7	-7.2
	baz=20							
IMEL				S		Sb	20 09 01.7	-8.5
	baz=20							
IREN	**Reynihlio**	**1.15**	**18**	P		Pn	20 08 49.5	-6.9
	baz=13							
IREN				S		Sb	20 09 03.2	-7.9
	baz=13							
IKVO	**Krokottuvotn**	**1.22**	**17**	P		Pn	20 08 50.6	-6.7
	baz=13							
IGRS	**Grimsstaoir**	**1.28**	**32**	P		Pn	20 08 51.4	-6.8
	baz=30							
ISKI	**Skildingahlsh**	**1.35**	**13**	P		Pn	20 08 52.7	-6.4
	baz=8.6							
IGRA	**Granastaoir**	**1.36**	**3**	P		Pn	20 08 53.4	-5.8
	baz=358							
IGRA				S		Sn	20 09 10.3	-7.3
	baz=358							
IGHA	**Grjothals**	**1.37**	**19**	P		Pn	20 08 52.9	-6.5
	baz=16							
BORG	**Borgarnes**	**1.54**	**279**	Pg		**Pb**	**20 09 00.4**	**-2.3**
	52nm,0.3s,baz=98,slow=11,SNR=56							
BORG				Lg		Lg	20 09 20.7	
	8.1nm,0.3s,baz=311,slow=20,SNR=1.8							
BORG	**Borgarnes**	**1.54**	**279**			**Pn**	**20 08 59.1**	**-2.6**
SCO	**Scoresbysund**	**6.16**	**347**	Pn		**Pn**	**20 10 05.0**	**0.0**
EKA	**Eskdalemuir Ar**	**11.76**	**135**	Pn		**Pn**	**20 11 20.7**	**-1.1**
	baz=316,slow=13,SNR=8.6							
ESK	**Eskdalemuir**	**11.76**	**135**	Pn		**Pn**	**20 11 22.2**	**+0.3**
FINES	**FINESS Array B**	**19.84**	**79**	P		Pn	20 13 08.1	+1.7
	0.0nm,0.3s,baz=308,slow=9.8,SNR=2.4							
FINES	**FINESS Array B**	**19.84**	**79**	P		**P**	**20 13 07.0**	**+2.2**
CLL	**Collm**	**20.76**	**115**	*i* P		**P**	**20 13 14.6**	**-0.3**
BRG	**Berggiesshubel**	**21.47**	**115**	*e*P		**P**	**20 13 22.2**	**-0.4**
	5.3nm,1.0s							
BRG				*e*			20 13 28.3	
	25nm,1.6s							
BRG				*e*			20 13 34.5	
	26nm,1.7s							
BFO	**Black Forest**	**21.48**	**127**	P		**P**	**20 13 23.4**	**+0.7**
KHC	**Kasperske Hory**	**22.73**	**118**	*e*P		**P**	**20 13 35.0**	**-1.1**
KHC	**Kasperske Hory**	**22.73**	**118**	P		**P**	**20 13 38.0**	**+2.0**
GEC2	**GERESS Array S**	**23.01**	**118**	P		**P**	**20 13 39.2**	**+0.1**
GEC2				IAmb		IAmb	20 13 53.7	
	comp=Z,26nm,1.8s							
GERES	**GERESS Array B**	**23.01**	**118**	P		**P**	**20 13 40.0**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=320,slow=8.9,SNR=5.7							
GERES	**GERESS Array B**	**23.01**	**118**	P		**P**	**20 13 39.2**	**+0.1**
PSZ	**Piszkesteto**	**26.18**	**111**	P		**P**	**20 14 09.4**	**+0.6**
PSZ				IAmb		IAmb	20 14 21.0	
	comp=Z,30nm,2.0s							
ESDC	**Sonseca Array**	**26.20**	**155**	P		**P**	**20 14 08.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=351,slow=8.6,SNR=6.8							
AKASG	**Malin Array Be**	**27.94**	**97**	P		**P**	**20 14 24.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=317,slow=9.4,SNR=1.9							
BRTR	**Keskin Array B**	**38.56**	**105**	P		**P**	**20 15 59.3**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=334,slow=9.6,SNR=2.9							
BRTR	**Keskin Array B**	**38.56**	**105**	P		**P**	**20 15 59.5**	**+2.5**
AB05	**Akbulak array**	**42.12**	**73**	P		**P**	**20 16 26.9**	**+0.7**
ABKAR	**Akbulak array**	**42.13**	**73**	P		**P**	**20 16 26.4**	**+0.1**
TOLK	**Toolik Lake Re**	**42.80**	**336**	P		**P**	**20 16 32.0**	**+0.5**
BBSR	**BB Station**	**43.10**	**245**	P		**P**	**20 16 33.9**	**-0.4**
ILAR	**Eielson Array**	**45.73**	**332**	P		**P**	**20 16 56.5**	**+1.5**
	comp=Z,1.6nm,1.1s,baz=35,slow=5.5,SNR=7.0							
ILAR	**Eielson Array**	**45.73**	**332**	P		**P**	**20 16 54.8**	**-0.2**
IMAR	**Indian Mountai**	**45.91**	**337**	P		**P**	**20 16 57.2**	**+0.8**
KK05	**Karatay Array**	**51.41**	**69**	P		**P**	**20 17 39.0**	**-0.1**
KK01	**Karatay Array**	**51.42**	**69**	P		**P**	**20 17 40.8**	**+1.7**
KK02	**Karatay Array**	**51.42**	**69**	P		**P**	**20 17 41.2**	**+2.1**
KK31	**Karatay Array**	**51.42**	**69**	P		**P**	**20 17 41.4**	**+2.3**
KKAR	**Karatay Array**	**51.42**	**69**	P		**P**	**20 17 39.4**	**+0.3**
KKAR	**Karatay Array**	**51.42**	**69**	P		**P**	**20 17 41.1**	**+2.0**
KKAR				IAmb		IAmb	20 17 42.1	
	comp=Z,4.3nm,1.4s							
KK07	**Karatay Array**	**51.43**	**69**	P		**P**	**20 17 40.3**	**+1.2**
KK06	**Karatay Array**	**51.43**	**69**	P		**P**	**20 17 40.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P		**P**	**20 17 51.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=340,slow=8.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P		**P**	**20 17 51.0**	**-0.7**
BW06	**Boulder Array**	**53.11**	**293**	P		**P**	**20 17 50.2**	**-1.8**
BW06				IAmb		IAmb	20 17 54.9	
	comp=Z,4.3nm,1.1s							
PD31	**Pinedale Array**	**53.11**	**293**	P		**P**	**20 17 50.7**	**-1.2**
PD31				IAmb		IAmb	20 17 54.8	
	comp=Z,4.1nm,1.1s							
PDAR	**Pinedale Array**	**53.11**	**293**	P		**P**	**20 17 52.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=63,slow=6.2,SNR=7.7							
PDAR	**Pinedale Array**	**53.11**	**293**	P		**P**	**20 17 51.1**	**-0.8**
O20A	**White River Ci**	**54.81**	**290**	P		**P**	**20 18 04.3**	**0.0**
HWUT	**Hardware Ranch**	**54.89**	**294**	P		**P**	**20 18 03.9**	**-1.0**
HWUT				IAmb		IAmb	20 18 06.6	
	comp=Z,5.4nm,1.3s							
PV05	**Paradox Valley**	**56.91**	**290**	P		**P**	**20 18 17.6**	**-1.8**
SONM	**Songino Array**	**59.80**	**40**	P		**P**	**20 18 40.9**	**+1.6**
	comp=Z,2.0nm,1.3s,baz=347,slow=5.9,SNR=2.8							
SONM	**Songino Array**	**59.80**	**40**	P		**P**	**20 18 40.6**	**+1.2**
NVAR	**Mina Array Bea**	**60.25**	**297**	P		**P**	**20 18 42.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=40,slow=7.1,SNR=2.4							
TXAR	**Lajitas Array**	**62.19**	**280**	P		**P**	**20 18 56.8**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=72,slow=4.1,SNR=3.7							
TXAR	**Lajitas Array**	**62.19**	**280**	P		**P**	**20 18 54.2**	**-1.5**

*IDC **02** 20:23:45.2±10.0,21.°54N×143.°37E,h315km±97km, mb3.1/6,mb1 3.3/6,mb1mx2.9/39,mbtmp3.8/6,Error ellipse: s-maj=58.9km s-min=18.6km az=78.0*

ISC 02 20:23:43.7±2.0,21.°5N±0.°2×143.°4E±0.°4,h300km,n6, σ0°61/6,mb3.1/5,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**20.76**	**323**	P		**P**	**20 28 02.5**	**+0.3**
	0.7nm,0.5s,baz=146,slow=8.4,SNR=4.4							
CMAR	**Chiang Mai Arr**	**41.77**	**274**	P		**P**	**20 31 04.7**	**0.0**
	0.5nm,0.6s,baz=85,slow=6.4,SNR=5.9							
WRA	**Warramunga Arr**	**42.16**	**193**	P		**P**	**20 31 07.8**	**+0.1**
	0.6nm,0.7s,baz=12,slow=7.9,SNR=15							
MKAR	**Makanchi Array**	**54.95**	**313**	P		**P**	**20 32 44.1**	**-0.1**
	0.4nm,0.5s,baz=103,slow=7.5,SNR=5.4							
ARCES	**ARCESS Array B**	**79.14**	**342**	P		**P**	**20 35 15.5**	**+0.5**
	1.5nm,0.8s,baz=90,slow=7.3,SNR=5.0							
FINES	**FINESS Array B**	**83.41**	**335**	P		**P**	**20 35 36.6**	**-0.9**
	2.5nm,0.9s,baz=72,slow=6.2,SNR=5.4							

*IDC **02** 20:24:56.0±1.3,25.°03S×69.°67W,h0km,mb4.4/1, mb1 4.4/4,mb1mx3.8/33,mbtmp4.4/4,ML4.2/3,MS2.7/1, Ms1 2.7/1,ms1mx2.3/30,Error ellipse: s-maj=64.2km s-min=29.7km az=112.0*
*SJA **02** 20:25:02.4±0.7,24.°43S×70.°25W,h68km±4km,ML4.1, MW4.0*
*NEIC **02** 20:25:03.0±2.2,24.°45S±0.°05×70.°3W±0.°1,h66km±9km, Error ellipse: s-maj=17.2km s-min=5.8km az=107.0*
*GUC **02** 20:25:03.2±0.7,24.°47S×70.°09W,h58km±4km,ML4.1*

ISC 02 20:25:03.3±0.8,24.°47S±0.°03×70.°12W±0.°06,h57km±8km, n86,σ1°79/85,4C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB14	**IPOC Station P**	**0.30**	**238**	*i*P		Pn	20 25 14.6	+1.1
PB14				*e*S		**Sn**	**20 25 22.2**	**+1.3**
PB14				IAML			20 25 22.7	
	comp=N,16μm,0.3s							
PB14	**IPOC Station P**	**0.30**	**238**			Pn	20 25 13.9	+0.3
PB14	**IPOC Station P**	**0.30**	**238**	*e*P		Pn	20 25 14.6	+1.1
PB14				*e*S		**Sn**	**20 25 22.4**	**+1.5**
PB14				IAML			20 25 23.7	
	comp=Z,10μm,0.3s							
GO02	**Mina Guanaco**	**0.84**	**145**	*i*P		**Pn**	**20 25 20.0**	**+0.5**
GO02				*i* S		**Sn**	**20 25 32.3**	**+0.9**
GO02				IAML			20 25 33.3	
	comp=E,5μm,0.3s							
GO02	**Mina Guanaco**	**0.84**	**145**	Pn		**Pn**	**20 25 19.8**	**+0.3**
PB10	**IPOC Station P**	**1.03**	**337**	*i*P		**Pn**	**20 25 21.9**	**+0.2**
PB10				*i* S		**Sn**	**20 25 36.4**	**+1.2**
PB10				IAML			20 25 42.1	
	comp=E,3μm,0.5s							
PB10	**IPOC Station P**	**1.03**	**337**	Pn		**Pn**	**20 25 21.8**	**+0.2**
PB10	**IPOC Station P**	**1.03**	**337**	*e*P		**Pn**	**20 25 22.0**	**+0.4**
PB10				*e*S		**Sn**	**20 25 35.2**	**0.0**
PB15	**IPOC Station P**	**1.39**	**25**	*e*P		**Pn**	**20 25 27.4**	**+0.7**
PB15				*e*S		**Sn**	**20 25 45.2**	**+1.2**
PB15	**IPOC Station P**	**1.39**	**25**			**Pn**	**20 25 27.3**	**+0.7**
PB15	**IPOC Station P**	**1.39**	**25**	*e*P		**Pn**	**20 25 27.7**	**+1.1**
PB15				*e*S		**Sn**	**20 25 46.0**	**+2.0**
PB05	**IPOC Station P**	**1.61**	**357**	*i*P		**Pn**	**20 25 29.8**	**+0.3**
PB05				*e*S		**Sn**	**20 25 51.1**	**+1.8**
PB05				IAML			20 25 53.9	
	comp=E,2μm,0.3s							
PB05	**IPOC Station P**	**1.61**	**357**	*e*P		**Pn**	**20 25 29.7**	**+0.2**
PB05				*e*S		**Sn**	**20 25 54.1**	**+4.9**
PB05				IAML			20 25 55.9	
	comp=Z,983nm,0.3s							
AC01	**Pan de Azucar**	**1.73**	**194**	*i*P		**Pn**	**20 25 31.8**	**+0.8**
AC01				IAML			20 25 58.9	
	comp=N,3μm,0.4s							
AC01	**Pan de Azucar**	**1.73**	**194**			**Pn**	**20 25 31.7**	**+0.6**
PB06	**IPOC Station P**	**1.82**	**16**	*e*P		**Pn**	**20 25 33.0**	**+0.5**
PB06				*i* S		**Sn**	**20 25 56.0**	**+1.5**
PB06				IAML			20 25 59.3	
	comp=E,2μm,0.4s							
PB06	**IPOC Station P**	**1.82**	**16**			**Pn**	**20 25 32.9**	**+0.5**
PB06	**IPOC Station P**	**1.82**	**16**	*e*P		**Pn**	**20 25 33.2**	**+0.7**
PB06				*e*S		**Sn**	**20 25 56.5**	**+2.0**
PB06				IAML			20 26 00.9	
	comp=Z,1μm,0.1s							
PB04	**IPOC Station P**	**2.12**	**359**	*e*P		**Pn**	**20 25 36.6**	**0.0**
PB04				*e*S		**Sn**	**20 26 05.8**	**+3.9**
PB04				IAML			20 26 16.2	
	comp=E,3μm,0.8s							
PB04	**IPOC Station P**	**2.12**	**359**			**Pn**	**20 25 36.2**	**-0.3**
PB04	**IPOC Station P**	**2.12**	**359**	*e*P		**Pn**	**20 25 36.5**	**0.0**
PB04				*e*S		**Sn**	**20 26 06.0**	**+4.1**
PB04				IAML			20 26 18.1	
	comp=Z,1μm,0.5s							
LVC	**Limon Verde**	**2.16**	**31**	Pn		Pn	20 25 38.9	+1.7
	comp=Z,102nm,0.3s,baz=196,slow=7.6,SNR=179							
LVC				Sn		**Sn**	**20 26 05.4**	**+2.4**
	comp=Z,342nm,0.3s,baz=331,slow=19,SNR=15							
LVC				LR		LR	20 26 32.5	
	comp=Z,138nm,18.3s,baz=226,slow=39							
LVC	**Limon Verde**	**2.16**	**31**			**Pn**	**20 25 38.6**	**+1.4**
PB03	**IPOC Station P**	**2.43**	**8**	*i* S		**Sn**	**20 26 11.2**	**+1.8**
PB03				IAML			20 26 22.6	
	comp=E,2μm,0.4s							
PB03	**IPOC Station P**	**2.43**	**8**	*e*P		**Pn**	**20 25 40.7**	**0.0**
PB03				*e*S		**Sn**	**20 26 13.4**	**+4.0**
PB03				IAML			20 26 22.4	
	comp=Z,2μm,0.5s							
AC02	**Maricunga**	**2.52**	**159**	*e*P		**Pn**	**20 25 43.8**	**+1.5**
AC02	**Maricunga**	**2.52**	**159**	Pn		Pn	20 25 44.8	+2.4
PB07	**IPOC Station P**	**2.74**	**5**	*i* S		**Sn**	**20 26 19.2**	**+2.2**
PB07				IAML			20 26 33.9	
	comp=N,1μm,0.7s							
PB07	**IPOC Station P**	**2.74**	**5**			**Pn**	**20 25 44.7**	**-0.3**
PB07	**IPOC Station P**	**2.74**	**5**	*e*P		**Pn**	**20 25 44.8**	**-0.1**
PB07				*e*S		Sn	20 26 22.8	+5.9
PB07				IAML			20 26 29.4	
	comp=Z,1μm,0.8s							
PB09	**IPOC Station P**	**2.78**	**17**	*e*P		**Pn**	**20 25 46.8**	**+1.3**
PB09				*i* S		**Sn**	**20 26 20.2**	**+2.2**
PB09				IAML			20 26 39.1	
	comp=N,844nm,0.6s							
PB09	**IPOC Station P**	**2.78**	**17**			**Pn**	**20 25 46.9**	**+1.4**
PB09	**IPOC Station P**	**2.78**	**17**	*e*P		**Pn**	**20 25 47.0**	**+1.5**
PB09				*e*S		Sn	20 26 05.0	-13
PB09				IAML			20 26 39.0	
	comp=Z,963nm,0.6s							
GO03	**Copiap**	**3.12**	**182**	*e*P		**Pn**	**20 25 50.7**	**+0.6**
GO03				*i* S		**Sn**	**20 26 28.2**	**+2.1**
GO03				IAML			20 26 44.6	
	comp=N,395nm,0.6s							
GO03	**Copiap**	**3.12**	**182**	*e*P		**Pn**	**20 25 50.5**	**+0.4**
GO03	**Copiap**	**3.12**	**182**	*e*P		**Pn**	**20 25 51.5**	**+1.5**
GO03				*e*S		**Sn**	**20 26 29.9**	**+3.8**
PB02	**IPOC Station P**	**3.14**	**4**	*i* S		**Sn**	**20 26 28.9**	**+2.2**
PB02	**IPOC Station P**	**3.14**	**4**	*e*P		**Pn**	**20 25 50.2**	**-0.1**
PB02				*e*S		Sn	20 26 38.0	+11
PB02				IAML			20 26 44.0	
	comp=Z,965nm,0.4s							
PB01	**IPOC Station P**	**3.46**	**10**	*e*P		**Pn**	**20 25 54.5**	**-0.2**
PB01				*i* S		**Sn**	**20 26 36.1**	**+1.6**
PB01				IAML			20 26 49.2	
	comp=E,723nm,0.4s							
PB01	**IPOC Station P**	**3.46**	**10**			**Pn**	**20 25 54.4**	**-0.3**
PB01	**IPOC Station P**	**3.46**	**10**	*e*P		**Pn**	**20 25 54.7**	**-0.1**
PB01				*e*S		Sn	20 26 42.2	+7.7
PB01				IAML			20 26 46.6	
	comp=Z,333nm,0.9s							
PATCX	**Punta Patache**	**3.63**	**360**	Pn		**Pn**	**20 25 55.9**	**-1.2**
AC04	**Llanos de Chal**	**3.82**	**193**			**Pn**	**20 25 58.1**	**-1.5**
TA01	**Diego Aracena**	**3.88**	**359**	Pn		**Pn**	**20 25 59.3**	**-1.1**
AC05	**El Transito**	**4.36**	**182**	Pn		**Pn**	**20 26 07.2**	**+0.1**
PB08	**IPOC Station P**	**4.40**	**12**	*i* S		**Sn**	**20 27 00.3**	**+2.3**
PB08	**IPOC Station P**	**4.40**	**12**			**Pn**	**20 26 08.2**	**+0.3**
HJA	**Humahuaca**	**4.49**	**75**	*e*P		Pn	20 26 13.4	+4.2
PB11	**IPOC Station P**	**4.70**	**5**	Pn		**Pn**	**20 26 11.2**	**-0.7**
YJA	**Yavi**	**4.81**	**63**	*e*P		Pn	20 26 17.2	+3.6
YJA				*e*S		Sn	20 27 20.0	+12
PSGCX	**Pisagua**	**4.85**	**360**	Pn		**Pn**	**20 26 12.0**	**-1.8**
GO01	**Chusmiza**	**4.85**	**10**			**Pn**	**20 26 13.2**	**-1.0**
MNMC	**Minye Minye**	**5.33**	**5**			**Pn**	**20 26 19.5**	**-1.1**
CYA	**Choya**	**5.54**	**137**	*e*P		Pn	20 26 27.7	+4.5
AROD	**Rodeo**	**5.71**	**174**	*e*P		Pn	20 26 33.0	+7.2
GO04	**Tololo Observa**	**5.72**	**186**	Pn		**Pn**	**20 26 25.3**	**-0.5**
PB12	**IPOC Station P**	**5.83**	**358**	Pn		**Pn**	**20 26 25.6**	**-1.6**
PB16	**IPOC Station P**	**6.13**	**5**	Pn		**Pn**	**20 26 32.3**	**+0.5**
ACCO	**Cerro Coronel**	**6.17**	**172**	*e*P		Pn	20 26 34.5	+2.4
ACCO				IAML			20 28 05.1	
	comp=Z,40nm,0.7s							
CO03	**El Pedregal**	**6.37**	**184**			**Pn**	**20 26 35.2**	**+0.6**
APLL	**PUNTA DE LOS L**	**6.71**	**152**	*e*P		Pn	20 26 41.8	+2.5
APLL				IAML			20 28 05.9	
	comp=Z,23nm,3.3s							
CO02	**Combarbal**	**6.76**	**186**	Pn		**Pn**	**20 26 38.7**	**-1.3**
RTLS	**Leoncito**	**7.34**	**175**	*e*P		**Pn**	**20 26 48.8**	**+0.7**
RTLS				IAML			20 29 03.6	
	comp=Z,28nm,0.6s							
LPAZ	**La Paz**	**8.35**	**13**	Pn		Pn	20 27 04.5	+2.3
	comp=Z,0.3nm,0.3s,baz=188,slow=16,SNR=7.0							
LPAZ	**La Paz**	**8.35**	**13**	Pn		**Pn**	**20 27 01.9**	**-0.3**
MT02	**Curacav**	**8.81**	**186**	Pn		**Pn**	**20 27 07.6**	**-0.3**
H03N1	**Juan Fernandez**	**11.79**	**219**	T		T	20 39 44.9	
	baz=43,slow=72,SNR=349							
H03N2	**Juan Fnandez**	**11.80**	**219**	T		T	20 39 42.3	
	baz=43,slow=72,SNR=294							
H03N3	**Juan Fernandez**	**11.81**	**219**	T		T	20 39 42.7	
	baz=43,slow=72,SNR=450							
SIV	**San Ignacio**	**11.96**	**47**	Pn		**Pn**	**20 27 49.4**	**-1.8**
	comp=Z,5.1nm,0.3s,baz=246,slow=13,SNR=64							
SIV				Sn		**Sn**	**20 29 54.6**	**-8.5**
	comp=Z,0.3nm,0.3s,baz=156,slow=20,SNR=1.9							
SPB	**Sao Paulo**	**20.74**	**92**	P		**P**	**20 29 39.3**	**0.0**
TORD	**Torodi Ar. Bea**	**79.40**	**70**	P		**P**	**20 37 03.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=258,slow=4.8,SNR=18							
TORD	**Torodi Ar. Bea**	**79.40**	**70**	P		**P**	**20 37 03.0**	**-0.8**
TORD				IAmb		IAmb	20 37 04.1	
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**126.78**	**208**	PKP		**PKPdf**	**20 44 01.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=141,slow=1.9,SNR=4.0							
ASAR	**Alice Springs**	**126.78**	**208**			**PKPdf**	**20 44 00.1**	**-1.0**
H11S2	**WAKE ISLAND Hyd**	**127.09**	**275**	T		T	23 03 46.1	
	baz=107,slow=75,SNR=110							
H11S1	**WAKE ISLAND Hyd**	**127.10**	**275**	T		T	23 03 46.8	
	baz=107,slow=75,SNR=138							
H11S3	**WAKE ISLAND Hyd**	**127.11**	**275**	T		T	23 03 47.5	
	baz=107,slow=75,SNR=95							
H11N3	**WAKE ISLAND Hyd**	**127.25**	**277**	T		T	23 03 58.3	
	baz=111,slow=71,SNR=24							
H11N2	**WAKE ISLAND Hyd**	**127.27**	**277**	T		T	23 03 56.9	
	baz=111,slow=71,SNR=21							
H11N1	**WAKE ISLAND Hyd**	**127.27**	**277**	T		T	23 03 57.1	
	baz=111,slow=71,SNR=14							
WRA	**Warramunga Arr**	**129.84**	**210**	PKP		**PKPdf**	**20 44 07.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=158,slow=1.6,

comp=Z,2.3nm,0.6s,baz=69,slow=6.7,SNR=25
CMAR Chiang Mai Arr 44.33 278 P **P** **21 16 49.9 +0.8**
KULM Kulim 45.76 260 P **P** **21 17 01.2 +0.9**
GSI Gunungsitoli 50.05 256 P **P** **21 17 34.0 +0.9**
GSI IAmb IAmb 21 17 34.5
comp=Z,11nm,0.7s
MORW Morawa 54.82 212 P **P** **21 18 07.1 -0.7**
MORW IAmb IAmb 21 18 26.2
comp=Z,4.0nm,0.8s
NWAO Narrogin (SRO) 57.44 208 P **P** **21 18 26.4 +0.2**
NWAO IAmb IAmb 21 18 31.6
comp=Z,7.6nm,0.9s
ZALV Zalesovo Beam 58.61 323 P **P** **21 18 34.0 -0.1**
comp=Z,1.7nm,0.4s,baz=111,slow=6.8,SNR=9.8
MK31 Makanchi Array 58.99 314 P **P** **21 18 37.3 +0.5**
MKAR Makanchi Array 58.99 314 P **P** **21 18 36.7 -0.1**
comp=Z,0.9nm,0.4s,baz=92,slow=8.3,SNR=18
MKAR PcP **PcP** **21 19 22.5 -0.5**
comp=Z,0.5nm,0.8s,baz=136,slow=4.2,SNR=4.5
MKAR Makanchi Array 58.99 314 P **P** **21 18 37.5 +0.6**
MAKZ Makanchi 59.20 314 P **P** **21 18 38.7 +0.5**
MAKZ IAmb IAmb 21 18 39.7
comp=Z,2.7nm,0.5s
BRLK Bradley Lake 61.33 31 P **P** **21 18 52.1 -0.3**
SKT Skwentna 61.60 29 P **P** **21 18 54.8 +0.6**
SKT IAmb IAmb 21 19 02.5
comp=Z,5.7nm,1.2s
IMAR Indian Mountai 61.90 24 P **P** **21 18 57.9 +1.8**
KTH Kantishna Hill 62.30 27 P **P** **21 19 00.1 +1.3**
KTH IAmb IAmb 21 19 09.9
comp=Z,6.7nm,1.2s
NRIK Noril'sk 62.32 340 P **P** **21 18 58.6 -0.1**
comp=Z,2.7nm,0.6s,baz=109,slow=7.8,SNR=5.4
BPAW Bear Paw Mtn. 62.42 26 P **P** **21 19 00.7 +1.1**
TRF Thorofare Moun 62.55 27 P **P** **21 19 00.9 +0.3**
TRF IAmb IAmb 21 19 01.4
comp=Z,3.3nm,1.0s
MDM Murphy Dome 63.80 26 P **P** **21 19 10.1 +1.5**
MDM IAmb IAmb 21 19 23.0
comp=Z,3.8nm,1.2s
ILAR Eielson Array 64.32 26 P **P** **21 19 11.7 -0.2**
comp=Z,0.8nm,0.5s,baz=248,slow=5.9,SNR=5.7
INK Inuvik 70.06 23 P **P** **21 19 46.5 -1.3**
comp=Z,0.9nm,0.4s,baz=291,slow=2.3,SNR=5.8
INK Inuvik 70.06 23 IAmb IAmb 21 19 49.7
comp=Z,5.3nm,0.8s
ARCES ARCESS Array B 83.21 342 P **P** **21 21 00.1 -1.1**
comp=Z,2.4nm,0.9s,baz=63,slow=5.7,SNR=3.6
NVAR Mina Array Bea 83.60 52 P **P** **21 21 05.5 +1.4**
comp=Z,2.0nm,0.7s,baz=263,slow=6.2,SNR=16
FINES FINESS Array B 87.57 335 P **P** **21 21 20.6 -2.2**
comp=Z,0.6nm,0.4s,baz=54,slow=3.7,SNR=9.3
PDAR Pinedale Array 88.35 45 P **P** **21 21 27.5 +0.3**
comp=Z,0.3nm,0.4s,baz=277,slow=0.7,SNR=2.6
LPAZ La Paz 147.65 92 PKPbc **PKPbc** **21 28 19.8 -0.1**
comp=Z,1.1nm,0.5s,baz=190,slow=3.0,SNR=4.7

*IDC **02** 21:16:11.2±3.3, 19.85S×175.73W, h131km±34km, mb3.9/7, mb1 4.1/9, mb1mx3.8/25, mbtmp4.4/9, Error ellipse: s-maj=37.4km s-min=22.0km az=122.0*
*NEIC **02** 21:16:13.5±2.4, 19.68S±0.10×175.42W±0.08, h175km±13km, mb4.4/32, Error ellipse: s-maj=15.5km s-min=9.2km az=209.0*
ISC 02 21:16:14.9±0.6, 19.64S±0.07×175.28W±0.07, h200km, n57,σ1ș51/57, mb4.3/21, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.09**	**85**		**Pn**	**21 17 31.8**	**+1.3**
NIUE				Sn	**Sn**	21 18 29.5	-0.5
MSVF	**Nonsavu**	**6.60**	**286**	Pn	**Pn**	**21 17 51.0**	**+1.0**
AFI	**Afiamalu**	**6.62**	**31**	P	**Pn**	**21 17 51.7**	**+1.4**
	2.7nm,0.3s,baz=227,slow=20,SNR=2.6						
AFI				S	**Sn**	**21 19 02.2**	**-3.6**
	7.2nm,0.3s,baz=297,slow=21,SNR=3.1						
AFI	**Afiamalu**	**6.62**	**31**		**Pn**	**21 17 51.4**	**+1.1**
AFI				Sn	**Sn**	21 19 04.3	-1.5
RAO	**Raoul Island**	**9.86**	**194**	Pn	**Pn**	**21 18 29.2**	**-3.2**
FUNA	**Funafuti**	**12.27**	**333**	Pn	**Pn**	**21 19 00.7**	**-2.7**
DZM	**Mont Dzumac**	**17.25**	**259**	P	**Pn**	**21 20 03.9**	**-0.3**
URZ	**Urewera**	**19.70**	**198**	P	**P**	**21 20 24.7**	**-4.2**
	1.2nm,0.3s,baz=21,slow=8.6,SNR=3.6						
URZ				S	S	21 23 47.8	-12
	0.3nm,0.3s,baz=194,slow=23,SNR=1.6						
URZ	**Urewera**	**19.70**	**198**	P	**P**	**21 20 27.0**	**-2.0**
URZ				IAmb	IAmb	21 20 30.8	
	comp=Z,24nm,1.0s						
BKZ	**Black Stump Fm**	**20.71**	**198**	P	**P**	**21 20 36.5**	**-3.4**
QRZ	**Quartz Range**	**23.55**	**204**	P	**P**	**21 21 07.2**	**+0.1**
NNZ	**Nelson**	**23.58**	**202**	P	**P**	**21 21 08.5**	**+1.1**
CMWZ	**Cape Campbell**	**23.78**	**205**	P	**P**	**21 21 08.7**	**-0.6**
THZ	**Taphouse**	**24.23**	**202**	P	**P**	**21 21 14.5**	**+1.1**
KHZ	**Kahutara**	**24.60**	**200**	P	**P**	**21 21 17.2**	**+0.6**
KHZ				IAmb	IAmb	21 21 35.2	
	comp=Z,9.9nm,1.0s						
LTZ	**Lake Taylor**	**25.35**	**202**	P	**P**	**21 21 25.2**	**+1.7**
OXZ	**Oxford**	**25.91**	**202**	P	**P**	**21 21 29.9**	**+1.4**
OXZ				IAmb	IAmb	21 21 32.3	
	comp=Z,2.3nm,0.3s						
RPZ	**Rata Peaks**	**26.60**	**202**	P	**P**	**21 21 35.5**	**+0.9**
	comp=Z,16nm,0.8s,baz=48,slow=11,SNR=2.1						
RPZ	**Rata Peaks**	**26.60**	**202**	IAmb	IAmb	21 21 40.2	
	comp=Z,3.8nm,0.5s						
FOZ	**Fox Glacier**	**26.91**	**204**	P	**P**	**21 21 37.0**	**-0.3**
MLZ	**Mavora Lakes**	**29.11**	**204**	P	**P**	**21 21 57.0**	**0.0**
EIDS	**Eidsvold**	**31.54**	**253**	P	**P**	**21 22 18.2**	**-0.3**
EIDS				IAmb	IAmb	21 22 18.8	
	comp=Z,5.3nm,0.6s						
ARMA	**Armidale**	**31.73**	**244**	P	**P**	**21 22 19.6**	**-0.7**
ARMA				IAmb	IAmb	21 22 21.6	
	comp=Z,3.9nm,0.8s						
CTA	**Charters Tower**	**36.12**	**263**	P	**P**	**21 22 57.6**	**-0.5**
	comp=Z,4.5nm,0.3s,baz=88,slow=10.0,SNR=9.0						
CTAO	**Charters Tower**	**36.12**	**263**	P	**P**	**21 22 58.2**	**+0.1**
CTAO				IAmb	IAmb	21 22 59.3	
	comp=Z,6.6nm,0.8s						
PMG	**Port Moresby**	**37.67**	**280**		**P**	**21 23 10.4**	**-0.8**
PMG				IAmb	IAmb	21 23 17.1	
	comp=Z,16nm,1.0s						
TOO	**Toolangi**	**38.46**	**234**	P	**P**	**21 23 17.8**	**+0.2**
TOO				IAmb	IAmb	21 23 23.7	
	comp=Z,6.7nm,1.1s						
COEN	**Coen**	**40.09**	**272**	P	**P**	**21 23 31.7**	**+0.3**
COEN				IAmb	IAmb	21 23 32.3	
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**40.46**	**244**	P	**P**	**21 23 33.7**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=90,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**40.46**	**244**	IAmb	IAmb	21 23 40.0	
	comp=Z,1.3nm,1.1s						
BBOO	**Buckleboo**	**45.21**	**243**	P	**P**	**21 24 11.1**	**-1.1**
BBOO				IAmb	IAmb	21 24 26.6	
	comp=Z,9.3nm,1.1s						
AS31	**Alice Springs**	**47.20**	**256**	P	**P**	**21 24 28.1**	**+0.1**
ASAR	**Alice Springs**	**47.20**	**256**	P	**P**	**21 24 27.4**	**-0.6**
	comp=Z,10nm,0.6s,baz=91,slow=8.4,SNR=137						
ASAR				PcP	**PcP**	**21 25 58.0**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=97,slow=3.9,SNR=3.9						
ASAR	**Alice Springs**	**47.20**	**256**	P	**P**	**21 24 26.6**	**-1.3**
WC3	**Warramunga Arr**	**47.22**	**261**	P	**P**	**21 24 26.8**	**-1.3**
WB0	**Warramunga Arr**	**47.23**	**261**	IAmb	IAmb	21 24 28.2	
	comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**47.24**	**261**	P	**P**	**21 24 27.4**	**-0.9**
WRAB	**Tennant Creek**	**47.24**	**261**	P	**P**	**21 24 27.9**	**-0.4**
WRAB				IAmb	IAmb	21 24 31.5	
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**47.25**	**261**	P	**P**	**21 24 27.3**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=97,slow=9.0,SNR=69						
WRA				PcP	**PcP**	**21 25 57.9**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=101,slow=3.4,SNR=2.4						
WRA	**Warramunga Arr**	**47.25**	**261**	P	**P**	**21 24 27.4**	**-0.9**
MTN	**Manton Dam**	**51.72**	**269**	IAmb	IAmb	21 25 02.6	
	comp=Z,8.8nm,0.8s						
FORT	**Forrest**	**51.98**	**246**	P	**P**	**21 25 02.4**	**-1.5**
FORT				IAmb	IAmb	21 25 09.3	
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**53.27**	**265**	P	**P**	**21 25 13.6**	**+0.1**
KNRA				IAmb	IAmb	21 25 15.3	
	comp=Z,6.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.68**	**261**	P	**P**	**21 25 31.7**	**+0.9**
SOEI	**Soe**	**59.04**	**270**	P	**P**	**21 25 56.4**	**+1.9**
PSAD2	**Pilbara Seismi**	**60.23**	**256**	P	**P**	**21 26 02.6**	**+0.2**
PSAC2	**Pilbara Seismi**	**60.30**	**256**	P	**P**	**21 26 03.2**	**+0.3**
PSAB3	**Pilbara Seismi**	**60.34**	**256**	P	**P**	**21 26 02.5**	**-0.7**
PSAB2	**Pilbara Seismi**	**60.34**	**256**	P	**P**	**21 26 04.1**	**+0.9**
PSAA3	**Pilbara Seismi**	**60.34**	**256**	P	**P**	**21 26 04.5**	**+1.3**
PSA00	**Pilbara Seismi**	**60.35**	**256**	P	**P**	**21 26 03.7**	**+0.5**
PSA00				IAmb	IAmb	21 26 11.0	
	comp=Z,4.5nm,0.8s						
PSAC3	**Pilbara Seismi**	**60.36**	**256**	P	**P**	**21 26 04.2**	**+0.9**
PSAB1	**Pilbara Seismi**	**60.37**	**256**	P	**P**	**21 26 02.9**	**-0.5**
PSAD1	**Pilbara Seismi**	**60.39**	**256**	P	**P**	**21 26 04.0**	**+0.5**
CASY	**Casey**	**65.83**	**205**	P	**P**	**21 26 40.3**	**+1.9**
ILAR	**Eielson Array**	**86.94**	**12**	P	P	21 28 42.1	+5.4
	comp=Z,0.2nm,0.5s,baz=207,slow=5.7,SNR=2.1						
CMAR	**Chiang Mai Arr**	**92.25**	**289**	P	**P**	**21 29 06.3**	**+3.6**
	comp=Z,0.3nm,0.5s,baz=127,slow=2.4,SNR=3.1						

*ANF **02** 21:33:15.5±0.5, 63.08N×150.71W, h120km±6km, ML4.6/13, Error ellipse: s-maj=7.5km s-min=2.8km az=96.0*
*NEIC **02** 21:33:15.3, 63.08N×150.86W, h114km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.13; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$-0.97; $M_{r\theta}$2.61; $M_{r\phi}$-1.27; $M_{\theta\phi}$1.56; Fault plane solution: M_o3.78000×10^{15} NP1:ϕ_s215.87000°, δ19.11000°, λ,69.90000°. NP2:ϕ_s57.04000°, δ72.10000°, λ,96.79000°. Principal axes: T 3.7074, Plg62.0000°, Azm337.0000°; N 0.1332, Plg6.0000°, Azm235.0000°; P -3.8405, Plg27.0000°, Azm142.0000°;*
*AEIC **02** 21:33:15.5±1.2, 63.06N±0.04×150.78W±0.08, h124km±4km, ML4.1, mb4.5/69(NEIC), Mwr4.3/60(NEIC) Error ellipse: s-maj=5.3km s-min=5.0km az=220.0*
*NEIC **02** 21:33:15.0±1.4, 63.08N±0.04×150.81W±0.06, h123km±3km, Error ellipse: s-maj=5.3km s-min=3.9km az=192.0*
*IDC **02** 21:33:16.4±0.6, 63.26N×150.81W, h131km±5km, mb3.8/22, mb1 4.0/26, mb1mx3.9/45, mbtmp4.2/26, MS3.6/2, Ms1 3.6/2, ms1mx2.9/39, Error ellipse: s-maj=11.3km s-min=9.7km az=46.0*
ISC 02 21:33:15.7±0.4, 63.08N±0.03×150.85W±0.03, h130km±3km, n282,σ1ș35/314, mb4.4/52, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.45**	**34**		**Pn**	**21 33 33.8**	**-0.9**
TRF				Sn	**Sn**	21 33 48.0	-1.1
KTH	**Kantishna Hill**	**0.47**	**356**		**Pn**	**21 33 33.9**	**-0.8**
KTH	**Kantishna Hill**	**0.47**	**356**	Sn	**Sn**	**21 33 47.8**	**-1.3**
HUR	**Hurricane**	**0.56**	**100**		**Pn**	**21 33 33.9**	**-1.2**
PPLA	**Purkeypile**	**0.64**	**254**		**Pn**	**21 33 35.0**	**-0.8**
PPLA	**Purkeypile**	**0.64**	**254**	Sn	**Sn**	**21 33 49.5**	**-1.5**
CAST	**Castle Rocks**	**0.65**	**302**		**Pn**	**21 33 34.7**	**-1.0**
CUT	**Chulitna**	**0.73**	**158**	P	**Pn**	**21 33 35.2**	**-1.1**
	baz=340,SNR=789						
CUT				S	**Sn**	**21 33 50.4**	**-1.3**
	baz=340						
CUT	**Chulitna**	**0.73**	**158**		**Pn**	**21 33 35.3**	**-0.9**
CUT					**Sn**	**21 33 50.7**	**-1.0**
RND	**Reindeer**	**0.96**	**69**		**Pn**	**21 33 37.2**	**-1.0**
RND	**Reindeer**	**0.96**	**69**	Sn	**Sn**	**21 33 53.5**	**-1.9**
BPAW	**Bear Paw Mtn.**	**1.02**	**357**		**Pn**	**21 33 37.8**	**-1.0**
BPAW					**Sn**	**21 33 54.8**	**-1.6**
CHUM	**Lake Minchumin**	**1.04**	**321**		**Pn**	**21 33 38.4**	**-0.5**
CHUM					**Sn**	**21 33 55.5**	**-1.1**
WAT2	**Susitna Watana**	**1.04**	**96**		**Pn**	**21 33 37.8**	**-1.3**
WAT1	**Susitna Watana**	**1.08**	**102**		**Pn**	**21 33 38.2**	**-1.2**
WAT1					**Sn**	**21 33 55.9**	**-1.4**
MCK	**McKinley**	**1.08**	**52**		**Pn**	**21 33 38.6**	**-0.8**
MCK					**Sn**	**21 33 55.9**	**-1.4**
SKT	**Skwentna**	**1.15**	**196**		**Pn**	**21 33 39.0**	**-1.0**
SKT					**Sn**	**21 33 57.2**	**-1.3**
BWN	**Browne**	**1.26**	**29**		**Pn**	**21 33 41.0**	**-0.1**
BWN					**Sn**	**21 34 00.4**	**-0.1**
WAT6	**Susitna Watana**	**1.51**	**108**		**Pn**	**21 33 42.6**	**-1.5**
DHY	**Denali Highway**	**1.58**	**89**		**Pn**	**21 33 43.8**	**-1.1**
DHY				Sn	**Sn**	**21 34 05.8**	**-1.2**
GHO	**Glory Hole Cre**	**1.59**	**145**		**Pn**	**21 33 43.8**	**-1.1**
GHO				Sn	**Sn**	**21 34 06.1**	**-1.0**
SUA	**Susitna One**	**1.62**	**178**		**Pn**	**21 33 43.9**	**-1.4**
STLK	**Strandline Lak**	**1.65**	**197**		**Pn**	**21 33 44.4**	**-1.2**
PMR	**Palmer**	**1.70**	**151**		**Pn**	**21 33 44.4**	**-1.6**
NEA2	**Nenana**	**1.71**	**27**	P	**Pn**	**21 33 45.1**	**-1.1**
	baz=207,SNR=443						
NEA2				S	**Sn**	**21 34 07.1**	**-2.4**
	baz=207						
NEA2	**Nenana**	**1.71**	**27**		**Pn**	**21 33 45.1**	**-1.1**
SML	**Sawmill**	**1.73**	**136**		**Pn**	**21 33 45.0**	**-1.5**
WRH	**Wood River Hil**	**1.86**	**40**		**Pn**	**21 33 47.0**	**-0.8**
SPCG	**Spurr Capps Gl**	**1.88**	**197**		**Pn**	**21 33 47.0**	**-1.3**
SPCP	**Crater Peak Br**	**1.92**	**199**		**Pn**	**21 33 47.7**	**-1.1**
SPNN	**North Nagishla**	**1.93**	**208**		**Pn**	**21 33 48.0**	**-0.9**
MLY	**Manley**	**1.96**	**1**		**Pn**	**21 33 48.5**	**-0.6**
SPBG	**Spurr Blockage**	**1.96**	**202**		**Pn**	**21 33 48.9**	**-0.4**
SPCN	**Chakachatna No**	**1.96**	**199**		**Pn**	**21 33 48.8**	**-0.5**
FIS	**Fire Island**	**1.97**	**171**		**Pn**	**21 33 49.2**	**0.0**
SPCR	**Spurr Chakacha**	**1.99**	**199**		**Pn**	**21 33 48.8**	**-0.8**
KNK	**Knik Glacier**	**2.01**	**145**		**Pn**	**21 33 48.4**	**-1.5**
SCM	**Sheep Creek Mo**	**2.06**	**126**		**Pn**	**21 33 48.8**	**-1.7**
RC01	**Rabbit Creek A**	**2.07**	**165**	P	**Pn**	**21 33 49.2**	**-1.3**
	baz=347,SNR=36						
RC01				S	**Sn**	**21 34 14.8**	**-2.2**
	baz=347						
RC01	**Rabbit Creek A**	**2.07**	**165**		**Pn**	**21 33 49.2**	**-1.3**
CCB	**Clear Creek Bu**	**2.07**	**39**		**Pn**	**21 33 49.6**	**-0.9**
HDA	**Harding Lake**	**2.19**	**51**	P	**Pn**	**21 33 51.0**	**-0.9**
	baz=233,SNR=180						
HDA				S	**Sn**	**21 34 17.3**	**-2.5**
	baz=233						
HDA	**Harding Lake**	**2.19**	**51**		**Pn**	**21 33 51.0**	**-0.9**
MDM	**Murphy Dome**	**2.21**	**30**		**Pn**	**21 33 51.5**	**-0.7**
TCOL	**CIGO, UAF Yank**	**2.23**	**35**	P	**Pn**	**21 33 51.8**	**-0.6**
	baz=216,SNR=53						
TCOL	**CIGO, UAF Yank**	**2.23**	**35**		**Pn**	**21 33 51.8**	**-0.6**
COLA	**College**	**2.23**	**35**		**Pn**	**21 33 51.9**	**-0.6**
PS08	**TAPS Pump Stn8**	**2.31**	**49**		**Pn**	**21 33 52.8**	**-0.7**
CAPN	**Captain Cook N**	**2.33**	**184**	P	**Pn**	**21 33 54.1**	**+0.5**
	baz=4.3						
CAPN				S	**Sn**	**21 34 23.7**	**+1.0**
	baz=4.3						
CAPN	**Captain Cook N**	**2.33**	**184**		**Pn**	**21 33 54.5**	**+0.9**
TTA	**Tatalina**	**2.36**	**269**		**Pn**	**21 33 53.3**	**-0.8**
TT01	**Tatalina**	**2.37**	**268**		**Pn**	**21 33 53.5**	**-0.7**
M24K	**Tolsona, Glenn**	**2.37**	**112**	P	**Pn**	**21 33 53.4**	**-0.9**
	baz=296,SNR=125						
M24K				S	**Sn**	**21 34 23.6**	**-0.4**
	baz=296						
M24K	**Tolsona, Glenn**	**2.37**	**112**		**Pn**	**21 33 53.4**	**-0.9**
IL31		**2.44**	**44**		**Pn**	**21 33 54.0**	**-0.9**
ILAR	**Eielson Array**	**2.44**	**44**	P	**Pn**	**21 33 54.1**	**-0.9**
	48nm,0.3s,baz=226,slow=19,SNR=60						
ILAR				S	**Sn**	**21 34 22.5**	**-2.8**
	23nm,0.3s,baz=232,slow=16,SNR=4.1						
ILAR	**Eielson Array**	**2.44**	**44**	Pn	**Pn**	**21 33 53.8**	**-1.2**
PAX	**Paxson**	**2.46**	**90**		**Pn**	**21 33 54.7**	**-0.6**
PWL	**Port Wells**	**2.53**	**151**		**Pn**	**21 33 54.6**	**-1.6**
POKR	**Poker Plat Res**	**2.54**	**35**	P	**Pn**	**21 33 55.8**	**-0.5**
	baz=217,SNR=98						
POKR				S	**Sn**	**21 34 25.1**	**-2.4**
	baz=217						
POKR	**Poker Plat Res**	**2.54**	**35**		**Pn**	**21 33 55.8**	**-0.5**
SLKM	**Skilak Lake**	**2.60**	**173**		**Pn**	**21 33 55.9**	**-1.3**
DFR	**Drift River**	**2.65**	**200**		**Pn**	**21 33 57.0**	**-0.8**
O22K	**Cooper Landing**	**2.66**	**168**	Pn	**Pn**	**21 33 56.9**	**-1.0**
	baz=350						
O22K				S	**Sn**	**21 34 27.2**	**-3.2**
	baz=350						
O22K	**Cooper Landing**	**2.66**	**168**		**Pn**	**21 33 56.6**	**-1.3**
PS11	**TAPS Pump St11**	**2.69**	**110**		**Pn**	**21 33 57.7**	**-0.5**
NCT	**North Crescent**	**2.71**	**202**		**Pn**	**21 33 58.0**	**-0.6**
RDWB	**Redoubt West**	**2.77**	**201**		**Pn**	**21 33 58.6**	**-0.8**
RSO	**Redoubt South**	**2.78**	**200**		**Pn**	**21 33 58.7**	**-0.9**
RIDG	**Independent Ri**	**2.78**	**74**		**Pn**	**21 33 59.0**	**-0.5**
KLU	**Klutina**	**2.80**	**122**		**Pn**	**21 33 57.7**	**-2.1**
RED	**Redoubt Volcan**	**2.82**	**200**		**Pn**	**21 33 59.4**	**-0.6**
PS06	**TAPS Pump Stn6**	**2.83**	**9**		**Pn**	**21 33 59.7**	**-0.3**
GLI	**Glacier Island**	**2.83**	**140**		**Pn**	**21 33 58.3**	**-1.8**
JPK	**Jack Peak**	**2.85**	**134**		**Pn**	**21 33 58.3**	**-2.1**
VMT	**TAPS TI Valdez**	**2.91**	**132**		**Pn**	**21 33 58.9**	**-2.2**
SVW2	**Sparrevohn**	**2.98**	**230**		**Pn**	**21 34 01.0**	**-1.0**
SEW	**Seward**	**3.06**	**167**		**Pn**	**21 34 01.6**	**-1.4**
DIV	**Divide**	**3.09**	**127**		**Pn**	**21 34 01.1**	**-2.4**
DOT	**Dot Lake**	**3.11**	**76**	Pn	**Pn**	**21 34 02.5**	**-1.2**
PS12	**TAPS Pump St12**	**3.12**	**119**		**Pn**	**21 34 01.8**	**-2.0**
FID	**Port Fidalgo**	**3.12**	**137**		**Pn**	**21 34 01.8**	**-2.1**
IM03		**3.17**	**338**		**Pn**	**21 34 03.9**	**-0.5**
IMAR	**Indian Mountai**	**3.17**	**338**		**Pn**	**21 34 03.9**	**-0.6**
SCRK	**Sand Creek**	**3.20**	**71**	P	**Pn**	**21 34 03.9**	**-1.2**
	baz=256,SNR=231						
SCRK	**Sand Creek**	**3.20**	**71**		**Pn**	**21 34 03.8**	**-1.2**
IVE	**Iliamna Volcan**	**3.24**	**200**		**Pn**	**21 34 04.5**	**-1.0**
MENT	**Mentasta**	**3.26**	**89**		**Pn**	**21 34 04.6**	**-1.0**
ILS	**Iliamna Low So**	**3.31**	**200**		**Pn**	**21 34 05.0**	**-1.4**
BRLK	**Bradley Lake**	**3.33**	**180**	Pn	**Pn**	**21 34 05.6**	**-1.0**
BRSE	**Bradley Lake S**	**3.35**	**179**		**Pn**	**21 34 05.6**	**-1.3**
HIN	**Hinchinbrook I**	**3.40**	**141**		**Pn**	**21 34 05.8**	**-1.6**
HOM	**Homer**	**3.46**	**187**	P	**Pn**	**21 34 07.8**	**-0.4**
	baz=6.7,SNR=8.7						
HOM				S	**Sn**	**21 34 46.4**	**-2.4**
	baz=6.7						
HOM	**Homer**	**3.46**	**187**		**Pn**	**21 34 07.7**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.51**	**134**		**Pn**	**21 34 07.5**	**-1.4**
CNPM	**China Poot**	**3.57**	**183**		**Pn**	**21 34 08.6**	**-1.2**
OPT	**Oil Point**	**3.63**	**199**		**Pn**	**21 34 10.4**	**-0.1**
BMRM	**Bremner River**	**3.63**	**123**		**Pn**	**21 34 08.5**	**-2.0**
GLB	**Gilahina Butte**	**3.68**	**113**		**Pn**	**21 34 09.8**	**-1.5**
PS05	**TAPS Pump Stn5**	**3.75**	**1**		**Pn**	**21 34 11.6**	**-0.4**
GOAT	**Goat Mountain**	**3.84**	**128**		**Pn**	**21 34 11.4**	**-1.9**
AUW	**Augustine West**	**3.93**	**200**		**Pn**	**21 34 13.6**	**-0.9**
VRDI	**Verde Repeater**	**3.94**	**115**		**Pn**	**21 34 12.9**	**-1.8**
RAGM	**Ragged Mountai**	**3.99**	**130**	Pn	**Pn**	**21 34 13.7**	**-1.6**
MCARA	**McCarthy VSAT**	**4.04**	**111**		**Pn**	**21 34 14.9**	**-1.0**
BC03		**4.12**	**86**		**Pn**	**21 34 15.5**	**-1.5**
BCAR	**Beaver Creek A**	**4.12**	**86**		**Pn**	**21 34 14.9**	**-2.2**
COLD	**Coldfoot**	**4.17**	**3**	P	**Pn**	**21 34 17.5**	**-0.1**
	baz=184,SNR=60						
COLD				S	**Sn**	**21 35 03.7**	**-2.0**
	baz=184						
COLD	**Coldfoot**	**4.17**	**3**		**Pn**	**21 34 17.3**	**-0.3**
FYU	**Fort Yukon**	**4.24**	**32**	Pn	**Pn**	**21 34 18.1**	**-0.5**
Q23K	**Middleton Isla**	**4.26**	**147**	P	**Pn**	**21 34 17.7**	**-1.1**
	baz=332						
Q23K				S	**Sn**	**21 35 06.8**	**-1.0**
	baz=332						
Q23K	**Middleton Isla**	**4.26**	**147**	Pn	**Pn**	**21 34 17.2**	**-1.6**
MID	**Middleton Isla**	**4.26**	**147**	Pn	**Pn**	**21 34 17.8**	**-1.0**
CRQM	**Cirque**	**4.33**	**119**		**Pn**	**21 34 18.6**	**-1.3**
BERG	**Berg Lake**	**4.34**	**125**		**Pn**	**21 34 18.1**	**-1.8**
PTPK	**Patty Peak**	**4.37**	**112**		**Pn**	**21 34 19.5**	**-1.0**
KAIM	**Kayak Island**	**4.42**	**133**	Pn	**Pn**	**21 34 19.6**	**-1.3**
TGL	**Tana Glacier**	**4.45**	**118**		**Pn**	**21 34 19.6**	**-1.8**
BALM	**Baldy**	**4.50**	**113**		**Pn**	**21 34 20.5**	**-1.6**
KIAG	**Kiagna River**	**4.55**	**115**		**Pn**	**21 34 20.8**	**-2.1**
EGAK	**Eagle**	**4.60**	**64**		**Pn**	**21 34 22.6**	**-0.8**
BARN	**Barnard Glacie**	**4.77**	**111**		**Pn**	**21 34 25.0**	**-0.9**
BARK	**Barkley Ridge**	**4.80**	**120**		**Pn**	**21 34 24.7**	**-1.3**
SNH	**Sunshine Point**	**4.80**	**124**		**Pn**	**21 34 24.9**	**-1.3**
YUK2	**White River**	**4.83**	**101**		**Pn**	**21 34 25.8**	**-0.7**
GRNC	**Granite Creek**	**4.90**	**115**		**Pn**	**21 34 25.8**	**-1.9**
CTGM	**Chitina Glacie**	**4.96**	**111**		**Pn**	**21 34 27.5**	**-0.8**
YUK3	**Moose Creek**	**5.00**	**101**		**Pn**	**21 34 28.2**	**-0.7**
BM03	**Burnt Mountain**	**5.08**	**28**		**Pn**	**21 34 28.9**	**-0.9**
BMAR	**Burnt Mountain**	**5.10**	**28**		**Pn**	**21 34 28.6**	**-1.4**
YAH	**Yahtse**	**5.12**	**118**		**Pn**	**21 34 28.9**	**-1.6**
LOGN	**Logan Glacier**	**5.17**	**112**		**Pn**	**21 34 29.8**	**-1.4**
DAWY	**Dawson**	**5.22**	**74**		**Pn**	**21 34 30.5**	**-1.1**
KAKN	**Katmai Knife C**	**5.22**	**205**		**Pn**	**21 34 31.8**	**0.0**
KABU	**Katmai Buttres**	**5.29**	**206**		**Pn**	**21 34 32.6**	**-0.1**
KDAK	**Kodiak Island**	**5.38**	**190**	P	**Pn**	**21 34 31.5**	**-2.4**
	12nm,0.3s,baz=54,slow=6.7,SNR=149					

comp=Z,1.8nm,0.8s,baz=321,slow=8.8,SNR=14
NVAR pP **pP** **21 39 55.2 +1.6**
comp=Z,3.8nm,0.9s,baz=310,slow=8.3,SNR=12
NVAR sP **sP** **21 40 10.3 +1.8**
comp=Z,1.4nm,0.7s,baz=318,slow=9.4,SNR=4.2
NVAR PcP **PcP** **21 42 15.5 +0.6**
comp=Z,0.3nm,0.6s,baz=345,slow=1.0,SNR=2.8
NVAR Mina Array Bea 31.52 126 P **P** **21 39 25.4 0.0**
NV11 Mina Array Sit 31.57 126 P **P** **21 39 25.4 -0.4**
R11A Troy Canyon, C 32.61 123 P **P** **21 39 34.8 -0.1**
PSUT Pine Spring 33.12 120 P **P** **21 39 38.5 -0.8**
RDMU Red Mountain 33.13 113 P **P** **21 39 39.0 -0.5**
MSU Marysvale 33.81 118 P **P** **21 39 45.6 +0.3**
SRU San Rafael Swe 33.97 116 P **P** **21 39 47.2 +0.5**
KNB Kanab 34.84 120 P **P** **21 39 55.5 +1.3**
PV23 Carpenter Ridg 35.15 115 P **P** **21 39 57.3 +0.4**
PV14 Lion Creek, Pa 35.21 115 P **P** **21 39 58.5 +1.1**
PV14 IAmb IAmb 21 39 59.7
comp=Z,16nm,1.7s
PV16 Nyswonger Mesa 35.31 115 P **P** **21 39 59.1 +0.8**
PV16 IAmb IAmb 21 40 00.0
comp=Z,18nm,1.5s
PV07 Paradox Valley 35.31 114 P **P** **21 39 58.8 +0.6**
EYMN Ely 35.40 87 P **P** **21 39 58.7 0.0**
PV02 Paradox Valley 35.47 114 P **P** **21 39 59.9 +0.3**
PV02 IAmb IAmb 21 40 01.4
comp=Z,4.9nm,0.8s
U15A North Rim 35.56 120 P **P** **21 40 00.4 -0.1**
U15A IAmb IAmb 21 40 49.4
comp=Z,17nm,1.9s
ECSD EROS Data Cent 36.27 96 P **P** **21 40 06.5 +0.3**
ECSD IAmb IAmb 21 40 07.5
comp=Z,17nm,1.6s
X16A Lo Mia Camp, P 37.66 121 P **P** **21 40 19.0 +0.9**
X16A IAmb IAmb 21 40 20.9
comp=Z,4.6nm,0.8s
NRIK Noril'sk 41.60 333 P **P** **21 40 49.9 -0.2**
comp=Z,6.7nm,0.7s,baz=42,slow=4.8,SNR=9.3
U38A Gravette 43.17 101 P **P** **21 41 02.7 -0.5**
U38A IAmb IAmb 21 41 03.2
comp=Z,6.0nm,0.7s
MGMO Mountain Grove 43.53 98 P **P** **21 41 05.6 -0.5**
MGMO IAmb IAmb 21 41 06.2
comp=Z,7.9nm,0.8s
X37A Clayton 44.28 103 **S** **21 47 38.5 +2.6**
W41B Gary Mavity, V 45.18 100 P **P** **21 41 19.2 0.0**
W41B IAmb IAmb 21 41 23.0
comp=Z,12nm,1.5s
TX31 Lajitas Ar. Si 45.24 116 P **P** **21 41 21.4 +1.5**
TX31 IAmb IAmb 21 41 22.2
comp=Z,6.0nm,0.8s
TX32 Lajitas Array 45.24 116 P **P** **21 41 21.4 +1.5**
TXAR Lajitas Array 45.24 116 P **P** **21 41 21.1 +1.2**
comp=Z,1.6nm,0.8s,baz=327,slow=5.7,SNR=15
TXAR pP **pP** **21 41 49.6 -0.1**
comp=Z,0.9nm,0.7s,baz=334,slow=7.0,SNR=3.9
TXAR sP **sP** **21 42 06.7 +2.5**
comp=Z,0.7nm,0.8s,baz=334,slow=8.3,SNR=2.8
TXAR Lajitas Array 45.24 116 P **P** **21 41 20.9 +0.9**
M56A Emporium 46.41 82 P **P** **21 41 28.9 +0.1**
U49A Red Boiling Sp 47.00 93 P **P** **21 41 33.8 +0.4**
U49A IAmb IAmb 21 41 34.7
comp=Z,6.5nm,0.8s
T50A Nancy 47.01 91 P **P** **21 41 33.6 +0.1**
T50A IAmb IAmb 21 41 34.5
comp=Z,6.5nm,1.0s
OXF Oxford 47.01 97 P **P** **21 41 34.0 +0.5**
BATG Bathurst New B 47.14 68 P **P** **21 41 34.5 +0.1**
O56A Blue Knob Stat 47.22 83 P **P** **21 41 34.9 -0.3**
PLAL Pickwick Lake 47.22 96 P **P** **21 41 34.6 -0.6**
PLAL IAmb IAmb 21 41 36.1
comp=Z,5.8nm,0.9s
F64A Sherman 47.28 71 P **P** **21 41 35.0 -0.5**
KEV Kevo 47.44 1 P **P** **21 41 36.3 0.0**
ARCES ARCESS Array B 47.64 2 P **P** **21 41 37.1 -0.9**
comp=Z,2.7nm,0.8s,baz=28,slow=8.6,SNR=11
N59A State Game Lan 47.95 80 P **P** **21 41 37.9 -2.9**
TZTN Tazewell 47.99 91 P **P** **21 41 40.9 -0.2**
TZTN IAmb IAmb 21 42 14.9
comp=Z,21nm,1.6s
SWET Sewanee 48.00 94 P **P** **21 41 41.1 -0.1**
SWET IAmb IAmb 21 42 52.4
comp=Z,27nm,2.0s
FPAL Fort Paine 48.71 94 P **P** **21 41 46.8 +0.1**
MJAR Matsushiro Arr 49.64 273 P **P** **21 41 52.3 -1.4**
comp=Z,2.4nm,0.9s,baz=12,slow=7.4,SNR=4.8
KSRS Korea Array 53.53 282 P **P** **21 42 21.9 -0.6**
comp=Z,3.3nm,0.8s,baz=37,slow=7.8,SNR=7.3
ULN Ulaanbaatar 53.55 305 P **P** **21 42 22.7 -0.1**
ULN IAmb IAmb 21 42 24.2
comp=Z,4.1nm,0.8s
KSAR Wonju Array Be 53.55 282 P **P** **21 42 22.7 0.0**
SONM Songino Array 53.82 306 P **P** **21 42 25.5 +0.7**
comp=Z,4.8nm,0.8s,baz=24,slow=7.0,SNR=25
SONM Songino Array 53.82 306 P **P** **21 42 25.5 +0.7**
NB2 NORSAR Subarra 55.45 10 P **P** **21 42 35.2 -1.0**
comp=Z,4.2nm,0.9s,baz=353,slow=7.4
NOA NORSAR Array B 55.45 10 P **P** **21 42 34.8 -1.4**
comp=Z,0.9nm,0.7s,baz=352,slow=6.9,SNR=5.8
ZALV Zalesovo Beam 55.49 324 P **P** **21 42 35.7 -0.8**
comp=Z,7.1nm,0.7s,baz=29,slow=6.7,SNR=36
FIA1 FINESS Array S 55.77 2 P **P** **21 42 37.9 -0.5**
FINES FINESS Array B 55.77 2 P **P** **21 42 37.5 -0.9**
comp=Z,1.3nm,0.6s,baz=0.0,slow=8.0,SNR=10
KLMR Klimovskoe 56.13 354 *eP* **P** **21 42 39.8 -1.1**
KLMR AMP 21 42 42.3
comp=Z,27nm,1.4s
HHC Hu-ho-hao-te 57.68 297 *eP* **P** **21 42 54.7 +2.4**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.6s
ARU Arti 58.66 341 P **P** **21 42 58.2 -0.6**
BRVK Borovoye 59.80 333 P **P** **21 43 06.2 -0.4**
BRVK IAmb IAmb 21 43 06.9
comp=Z,9.9nm,1.1s
KURK Kurchatov 60.05 326 P **P** **21 43 07.5 -0.8**
KURK IAmb IAmb 21 43 08.5
comp=Z,9.1nm,1.0s
OBN Obninsk 62.00 355 P **P** **21 43 21.5 +0.1**
MK31 Makanchi Array 62.65 322 P **P** **21 43 25.6 -0.4**
MK31 IAmb IAmb 21 43 25.7
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 62.65 322 P **P** **21 43 24.8 -1.2**
comp=Z,3.6nm,0.7s,baz=45,slow=6.9,SNR=26
MKAR Makanchi Array 62.65 322 P **P** **21 43 24.9 -1.1**
MAKZ Makanchi 62.73 322 P **P** **21 43 25.6 -0.8**
GTA Gaotai 63.49 305 *eP* **P** **21 43 31.8 0.0**
GTA pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 63.74 316 *eP* **P** **21 43 36.0 +2.8**
ABKAR Akbulak array 65.39 338 P **P** **21 43 43.8 +0.1**
ABKAR IAmb IAmb 21 43 44.2
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 65.39 338 P **P** **21 43 43.8 +0.1**
AKASG Malin Array Be 66.56 360 P **P** **21 43 50.3 -0.9**
comp=Z,1.7nm,0.4s,baz=3.9,slow=6.3,SNR=24
AKBB Malin Array Si 66.56 360 P **P** **21 43 50.8 -0.4**
AKBB IAmb IAmb 21 43 51.1
comp=Z,4.7nm,0.8s
GERES GERESS Array B 67.75 11 P **P** **21 43 59.4 +0.5**
comp=Z,0.2nm,0.3s,baz=326,slow=4.7,SNR=2.9
GERES pP **pP** **21 44 31.5 +0.7**
comp=Z,0.4nm,0.7s,baz=336,slow=2.9,SNR=2.6
USP Ospenovka 68.01 326 P **P** **21 44 00.5 0.0**
SNR=6.8
TKM2 Tokmak 2 68.05 325 P **P** **21 44 01.3 +0.3**
SNR=6.8
CHMS Chumysh 68.20 326 P **P** **21 44 01.8 +0.1**
SNR=7.6
BOOM Boomskoye usch 68.36 325 P **P** **21 44 03.4 +0.5**
KDJ Kajisay 68.36 323 P **P** **21 44 01.4 -1.5**
KBK Karagaybulak 68.47 325 P **P** **21 44 04.0 +0.4**
SNR=6.0
AAK Ala-Archa 68.60 326 P **P** **21 44 04.7 +0.3**
SNR=5.3
EKS2 Erkin-Say 68.76 326 P **P** **21 44 05.5 +0.1**
SNR=15
KK31 Karatay Array 69.14 329 P **P** **21 44 07.6 +0.1**
KKAR Karatay Array 69.14 329 P **P** **21 44 07.1 -0.5**
KKAR Karatay Array 69.14 329 P **P** **21 44 07.2 -0.3**
BUR08 Bucovina Ar. S 69.58 3 P **P** **21 44 09.8 -0.5**
BUR08 IAmb IAmb 21 44 24.7
comp=Z,19nm,1.9s
KBZ Khabaz 72.97 350 P **P** **21 44 30.8 +0.3**
comp=Z,2.8nm,0.8s,baz=342,slow=4.8,SNR=6.8
CHGR Chuyangaron 73.68 328 P **P** **21 44 34.9 -0.1**
ESDC Sonseca Array 74.22 26 P **P** **21 44 37.2 -0.8**
comp=Z,0.7nm,0.8s,baz=0.5,slow=7.3,SNR=4.6
GEYT Alibeck 76.69 337 P **P** **21 44 52.5 +0.4**
comp=Z,2.0nm,0.8s,baz=338,slow=6.4,SNR=6.4
BRTR Keskin Array B 77.48 356 P **P** **21 44 56.4 -0.2**
comp=Z,1.4nm,0.9s,baz=321,slow=1.6,SNR=4.7
RPN Rapa Nui 95.75 144 LR LR 22 20 33.6
comp=Z,199nm,21.5s,baz=358,slow=30
BOSA Boshof 145.43 6 PKPbc **PKPab** **21 52 39.0 +0.7**
comp=Z,4.8nm,1.0s,baz=329,slow=1.9,SNR=3.7

*BJI **02** 21:33:52.7±0.0,9.°04S×158.°19E,h13km,mB5.3/21, mb4.8/38,Ms4.9/5,Ms7 4.7/5*
*IDC **02** 21:33:55.9±0.6,8.°84S×157.°67E,h0km,mb4.4/17, mb1 4.6/21,mb1mx4.5/35,mbtmp4.4/21,ML3.8/4,MS3.9/21, Ms1 3.9/21,ms1mx3.8/33,Error ellipse: s-maj=17.5km s-min=15.3km az=116.0*
*NEIC **02** 21:33:55.8±1.4,8.°91S±0.°06×157.°73E±0.°06,h10km±1km, mb4.9/96,Error ellipse: s-maj=11.0km s-min=9.0km az=161.0*
*GCMT **02** 21:33:57.8±0.3,9.°19S±0.°03×157.°65E±0.°03,h22km±1km, MW4.9/72,Moment Tensor Solution. s22,c22; s72,c92; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.51±.22; Mθθ-1.49±.14; Mφφ-1.02±.13; Mrθ1.12±.24; Mθφ1.28±.08; Mφr-1.53±.22; Best double couple: Mo3.16400×10^16^ NP1:φs138.00000°,δ27.00000°,λ75.00000°. NP2: φs138.00000°,δ63.00000°,λ98.00000°. Principal axes: T 3.1690, Plg71.0000°, Azm64.0000°; N -0.0080, Plg7.0000°, Azm315.0000°; P -3.1600, Plg18.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:33:58.4±0.3,8.°90S±0.°06×157.°76E±0.°05,h23km,n167, σ1°42/154,mb4.8/74,MS4.1/19,1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
HNR	**Honiara**	**2.23**	**104**	Pn	**Pn**	**21 34 33.5**	**-0.3**
	67nm,0.3s,baz=238,slow=5.8,SNR=13						
HNR				Sn	**Sb**	**21 35 09.7**	**+4.6**
	1μm,0.3s,baz=240,slow=17,SNR=14						
HNR				LR	LR	21 35 28.9	
	comp=Z,2μm,19.1s,baz=231,slow=40						
HNR	**Honiara**	**2.23**	**104**	Pn	**Pn**	**21 34 33.4**	**-0.5**
RABL	**Rabaul**	**7.26**	**310**		**Pn**	**21 35 41.5**	**-1.6**
KRVT	**Keravat (AS076**	**7.29**	**308**	Pn	**Pn**	**21 35 44.8**	**+1.2**
	4.2nm,0.3s,baz=44,slow=13,SNR=1.2						
KRVT				Lg	Lg	21 37 43.7	
	5.5nm,0.3s,baz=44,slow=19,SNR=1.4						
KRVT				LR	LR	21 38 11.0	
	comp=Z,235nm,18.4s,baz=134,slow=36						
PMG	**Port Moresby**	**10.48**	**266**	Pn	**Pn**	**21 36 29.6**	**+2.3**
	0.8nm,0.3s,baz=87,slow=13,SNR=3.9						
PMG				LR	LR	21 40 15.4	
	comp=Z,1μm,18.9s,baz=77,slow=36						
PMG	**Port Moresby**	**10.48**	**266**	Pn	**Pn**	**21 36 26.9**	**-0.4**
SANVU	**Saraoutou**	**11.30**	**126**	Pn	**Pn**	**21 36 36.8**	**-1.7**
COEN	**Coen**	**15.15**	**249**		**Pn**	**21 37 29.4**	**-1.7**
COEN				IAmb	IAmb	21 37 39.7	
	comp=Z,50nm,1.1s						
DZM	**Mont Dzumac**	**15.54**	**148**	Pn	**Pn**	**21 37 37.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=332,slow=19,SNR=2.0						
DZM				LR	LR	21 42 02.3	
	comp=Z,345nm,18.6s,baz=38,slow=31						
DZM	**Mont Dzumac**	**15.54**	**148**	*e*Pn	**P**	**21 37 41.6**	**+1.2**
	comp=Z,80nm,1.6s						
DZM				*e*LR	LR	21 41 12.6	
	comp=Z,271nm,23.1s						
DZM	**Mont Dzumac**	**15.54**	**148**		**Pn**	**21 37 34.7**	**-1.5**
PATS	**Pohnpei**	**15.64**	**2**	Pn	**Pn**	**21 37 34.6**	**-2.9**
PATS				IAmb	IAmb	21 37 39.3	
	comp=Z,138nm,1.1s						
CTA	**Charters Tower**	**15.73**	**224**	Pn	**Pn**	**21 37 37.0**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=53,slow=13,SNR=5.7						
CTA				LR	LR	21 43 26.0	
	comp=Z,708nm,20.0s,baz=64,slow=36						
CTAO	**Charters Tower**	**15.73**	**224**		**Pn**	**21 37 37.3**	**-1.4**
EIDS	**Eidsvold**	**17.57**	**200**		**Pn**	**21 37 59.8**	**-2.1**
JAY	**Jayapura**	**18.11**	**289**	P	**Pn**	**21 38 08.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=100,slow=10,SNR=6.2						
JAY	**Jayapura**	**18.11**	**289**	P	**P**	**21 38 11.6**	**+2.8**
	comp=Z,27nm,1.0s						
MSVF	**Nonsavu**	**21.59**	**116**	P	**P**	**21 38 46.2**	**-0.7**
ARMA	**Armidale**	**22.17**	**194**	P	**P**	**21 38 52.5**	**-0.4**
WR0	**Warramunga Arr**	**24.99**	**241**	P	**P**	**21 39 20.3**	**-0.4**
WR0				IAmb	IAmb	21 39 26.4	
	comp=Z,26nm,0.8s						
WB0	**Warramunga Arr**	**25.05**	**242**	P	**P**	**21 39 20.8**	**-0.4**
WB0				IAmb	IAmb	21 39 31.0	
	comp=Z,32nm,1.1s						
WRAB	**Tennant Creek**	**25.15**	**242**	P	**P**	**21 39 22.1**	**0.0**
WRAB				IAmb	IAmb	21 39 27.4	
	comp=Z,19nm,0.7s						
WB2	**Warramunga Arr**	**25.15**	**242**	P	**P**	**21 39 22.0**	**-0.1**
WB2				IAmb	IAmb	21 39 27.5	
	comp=Z,21nm,0.7s						
WRA	**Warramunga Arr**	**25.16**	**242**	P	**P**	**21 39 22.0**	**-0.2**
	comp=Z,13nm,0.6s,baz=68,slow=9.4,SNR=63						
WRA				PcP	**PcP**	**21 42 57.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=53,slow=2.3,SNR=5.9						
WRA				LR	LR	21 48 31.7	
	comp=Z,742nm,21.3s,baz=70,slow=35						
WRA	**Warramunga Arr**	**25.16**	**242**	P	**P**	**21 39 21.2**	**-1.0**
MTN	**Manton Dam**	**26.43**	**259**	P	**P**	**21 39 32.8**	**-1.0**
AS31	**Alice Springs**	**27.13**	**234**	P	**P**	**21 39 39.4**	**-0.6**
ASAR	**Alice Springs**	**27.14**	**234**	P	**P**	**21 39 39.0**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=64,slow=9.0,SNR=28						
ASAR				PcP	**PcP**	**21 43 01.9**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=73,slow=2.4,SNR=4.8						
ASAR				LR	LR	21 50 03.0	
	comp=Z,533nm,18.1s,baz=64,slow=36						
ASAR	**Alice Springs**	**27.14**	**234**	P	**P**	**21 39 37.8**	**-2.3**
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**	**21 39 43.7**	**+1.8**
	comp=Z,25nm,1.1s,baz=44,slow=15,SNR=34						
STKA				LR	LR	21 49 52.2	
	comp=Z,419nm,20.3s,baz=26,slow=35						
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**	**21 39 42.0**	**+0.1**
CAN	**Canberra**	**27.50**	**196**	P	**P**	**21 39 42.3**	**-0.8**
KNRA	**Kununurra**	**29.10**	**254**	P	**P**	**21 39 55.7**	**-1.9**
KNRA				IAmb	IAmb	21 39 58.8	
	comp=Z,13nm,0.8s						
TOO	**Toolangi**	**30.63**	**199**	P	**P**	**21 40 09.8**	**-1.2**
TOO				IAmb	IAmb	21 40 12.9	
	comp=Z,23nm,1.1s						
BBOO	**Buckleboo**	**31.13**	**217**	P	**P**	**21 40 14.5**	**-0.9**
BBOO				IAmb	IAmb	21 40 20.1	
	comp=Z,20nm,1.0s						
FITZ	**Fitzroy Crossi**	**32.49**	**250**	P	**P**	**21 40 26.6**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=100,slow=7.9,SNR=8.7						
FITZ	**Fitzroy Crossi**	**32.49**	**250**	P	**P**	**21 40 26.6**	**-1.0**
MMRI	**Maumere**	**35.10**	**268**	P	**P**	**21 40 51.7**	**+1.4**
	comp=Z,3μmcomp=Z,74nm,1.2s						
MMRI	**Maumere**	**35.10**	**268**	P	**P**	**21 40 49.2**	**-1.0**
EDFI	**Ende, Flores**	**35.63**	**267**	P	**P**	**21 40 54.5**	**-0.5**
	comp=Z,14nm,1.5s						
BFZ	**Birch Farm**	**35.67**	**156**	P	**P**	**21 40 54.0**	**-0.8**
LUWI	**Luwuk**	**35.69**	**281**	P	P	21 40 50.8	-4.6
BHW	**Baring Head**	**35.75**	**158**	P	P	21 40 52.3	-3.2
MSWZ	**Moikau Station**	**35.90**	**157**	P	P	21 40 54.1	-2.7
OXZ	**Oxford**	**36.50**	**162**	P	P	**21 41 01.8**	**-0.2**
BNSI	**Bone**	**37.65**	**274**	P	P	**21 41 16.5**	**+4.5**
	comp=Z,28nm,1.1s						
KAPI	**Kappang**	**37.91**	**273**	P	**P**	**21 41 15.3**	**+1.1**
	comp=Z,20nm,1.1s,baz=43,slow=3.3,SNR=3.9						
KAPI	**Kappang**	**37.91**	**273**	P	**P**	**21 41 13.7**	**-0.6**
KAPI				IAmb	IAmb	21 41 20.6	
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**38.57**	**247**	P	P	21 41 16.9	-2.9
PSA00				IAmb	IAmb	21 41 20.9	
	comp=Z,17nm,1.1s						
BBKI	**Banjar Baru**	**42.98**	**274**	P	P	21 42 03.6	+7.3
JAGI	**Jajag, Banyuwa**	**43.09**	**267**	P	P	**21 41 57.4**	**+0.2**
	comp=Z,61nm,1.1s						
JAGI	**Jajag, Banyuwa**	**43.09**	**267**	P	**P**	**21 41 56.2**	**-0.9**
JMZ	**Minamidaito 2**	**43.09**	**324**	P	**P**	**21 41 53.6**	**-3.3**
JMN	**Monobe**	**48.08**	**333**	P	**P**	**21 42 35.8**	**-0.5**
INU	**Inuyama**	**48.17**	**337**	P	**P**	**21 42 35.9**	**-1.1**
INU				IAmb	IAmb	21 42 38.9	
	comp=Z,19nm,1.0s						
SSLB	**Suanglung**	**48.46**	**313**	P	**P**	**21 42 38.7**	**-0.8**
SSLB				IAmb	IAmb	21 42 53.5	
	comp=Z,10nm,1.0s						
MJAR	**Matsushiro Arr**	**48.79**	**339**	P	**P**	**21 42 40.7**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=97,slow=38,SNR=4.1						
MJAR				LR	LR	22 00 44.4	
	comp=Z,43nm,21.7s,baz=135,slow=33						
MJAR	**Matsushiro Arr**	**48.79**	**339**	IAmb	IAmb	21 42 44.8	
	comp=Z,2.1nm,1.1s						
JNU	**Nakatsue**	**49.00**	**330**	P	**P**	**21 42 43.2**	**-0.3**
JNU				IAmb	IAmb	21 42 45.3	
	comp=Z,23nm,1.1s						
PPT	**Papeete**	**51.85**	**105**	LR	LR	22 02 18.7	
	comp=Z,59nm,18.1s,baz=286,slow=33						
PPT2	**Papeete2**	**51.85**	**105**	*e*LQ	LQ	21 56 05.7	
	comp=Z,298nm,28.8s						
PPT2				*e*LR	LR	21 58 19.7	
	comp=Z,283nm,28.5s						
TBI	**Tubuai**	**52.42**	**113**	*e*LQ	LQ	21 56 19.3	
	comp=Z,506nm,32.2s						
PMOR	**Pomariorio Ree**	**53.41**	**102**	*e*T	T	22 41 20.0	
	comp=Z,6.3nm,0.2s						
KSRS	**Korea Array**	**53.91**	**331**	P	**P**	**21 43 21.4**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=151,slow=6.3,SNR=2.5						
KSRS				LR	LR	22 04 45.4	
	comp=Z,48nm,19.9s,baz=54,slow=34						
ASAJ	**Asahikawa**	**54.52**	**347**	LR	LR	22 04 01.3	
	comp=Z,120nm,20.9s,baz=182,slow=33						
NJ2	**Nanjing**	**55.12**	**319**	*e*P	**P**	**21 43 29.2**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SDSI	**Sungai Dareh**	**56.62**	**275**	P	**P**	**21 43 41.0**	**+0.9**
	comp=Z,19nm,1.5s						
WHN	**Wuhan**	**57.20**	**315**	*e*P	**P**	**21 43 43.9**	**0.0**
USRK	**Ussuriysk Ar.**	**57.77**	**338**	P	**P**	**21 43 47.3**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=134,slow=12,SNR=3.2						
MNSI	**Mandailing Nat**	**58.74**	**276**	P	**P**	**21 43 57.5**	**+2.4**
	comp=Z,21nm,0.8s						
RPSI	**Rantau Prapat**	**59.76**	**278**	P	**P**	**21 44 01.4**	**-0.7**
CN2	**Changchun**	**60.08**	**333**	*e*P	**P**	**21 44 06.0**	**+2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**60.53**	**312**	P	**P**	**21 44 06.1**	**-1.0**
GYA	**Guiyang**	**60.77**	**307**	⇓P	**P**	**21 44 10.6**	**+1.6**
GYA				pP	pP	21 44 14.4	-1.4
GYA				S	**S**	**21 52 33.2**	**+8.0**
GYA				SS	**SS**	**21 56 24.9**	**+0.3**
GYA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SLVN	**Son La**	**60.80**	**300**	P	**P**	**21 44 09.3**	**+0.1**
SLVN				IAmb	IAmb	21 44 18.3	
	comp=Z,4.7nm,0.9s						
GSI	**Gunungsitoli**	**60.81**	**276**	P	P	21 44 14.9	+5.6
	comp=Z,19nm,0.9s						
GSI	**Gunungsitoli**	**60.81**	**276**	P	**P**	**21 44 08.3**	**-1.0**
TAOE	**Nuku Hiva Isla**	**61.28**	**95**	*e*LR	LR	22 02 42.9	
	comp=Z,161nm,25.9s						
PETK	**Petropavlovsk-**	**61.76**	**360**	LR	LR	22 07 08.3	
	comp=Z,132nm,21.4s,baz=159,slow=32						
XAN	**Xi'an**	**62.97**	**315**	P	**P**	**21 44 24.4**	**+0.9**
XAN				pP	pP	21 44 29.1	-1.2
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**62.97**	**315**	P	**P**	**21 44 23.2**	**-0.3**
XAN				IAmb	IAmb	21 44 29.9	
	comp=Z,8.1nm,0.9s						
KMI	**Kunming**	**63.34**	**304**	⇑*e*P	**P**	**21 44 28.1**	**+1.7**
KMI				pP	pP	21 44 30.9	-2.3
KMI				sP	sP	21 44 32.8	-3.2
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMI	**Kunming**	**63.34**	**304**	P	**P**	**21 44 25.7**	**-0.7**
KMI				IAmb	IAmb	21 44 35.0	
	comp=Z,12nm,1.1s						
CM31	**Chiang Mai Arr**	**64.07**	**295**	P	**P**	**21 44 30.4**	**-0.6**
CM31				IAmb	IAmb	21 44 46.7	
	comp=Z,7.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**64.07**	**295**	P	**P**	**21 44 32.6**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=122,slow=5.1,SNR=15						
CMAR				LR	LR	22 12 53.4	
	comp=Z,32nm,19.0s,baz=105,slow=36						
CMAR	**Chiang Mai Arr**	**64.07**	**295**	P	**P**	**21 44 30.4**	**-0.5**
CHTO	**Chiang Mai**	**64.19**	**296**	P	**P**	**21 44 31.7**	**-0.1**
ADK	**Adak**	**64.41**	**17**	P	**P**	**21 44 32.5**	**-0.1**
CD2	**Chengdu**	**65.12**	**310**	P	**P**	**21 44 39.4**	**+1.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC	**Hu-ho-hao-te**	**65.24**	**323**	*e*P	**P**	**21 44 38.9**	**+0.5**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,6.8s						
CASY	**Casey**	**65.67**	**199**	P	**P**	**21 44 40.2**	**-0.3**
NIKH	**Nikolski High**	**67.88**	**21**	P	**P**	**21 44 52.3**	**-2.4**
VNDA	**Vanda**	**68.63**	**179**	P	**P**	**21 45 02.3**	**+3.1**
	comp=Z,2.4nm,0.9s,baz=343,slow=6.5,SNR=9.0						
VNDA	**Vanda**	**68.63**	**179**	P	**P**	**21 44 59.9**	**+0.7**
GTA	**Gaotai**	**71.99**	**316**	*e*P	**P**	**21 45 22.1**	**+1.5**
GTA				pP	pP	21 45 26.4	-1.2
GTA				sP	sP	21 45 29.5	-0.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**72.41**	**326**	P	**P**	**21 45 24.6**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=135,slow=5.9,SNR=6.1						
SONM	**Songino Array**	**72.41**	**326**	P	**P**	**21 45 24.2**	**+1.3**
SHL	**Shillong**	**72.61**	**300**	P	**P**	**21 45 24.8**	**+0.2**
SHL				IAmb	IAmb	21 45 37.5	
	comp=Z,17nm,1.2s						
LSA	**Lhasa**	**74.60**	**304**	P	**P**	**21 45 36.9**	**+0.4**
BILL	**Bilibino**	**76.98**	**3**	P	**P**	**21 45 48.3**	**-0.5**
BILL				IAmb	IAmb	21 45 56.1	
	comp=Z,15nm,1.1s						
TTA	**Tatalina**	**79.86**	**20**	P	**P**	**21 46 03.6**	**-1.3**
TTA				IAmb	IAmb	21 46 07.5	
	comp=Z,10.0nm,1.0s						
WMQ	**Urumqi**	**82.07**	**317**	*e*P	**P**	**21 46 17.6**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				LR	LR		
	comp=Z,310nm,28.9s						
WMQ				LR	LR		
	comp=Z,370nm,28.9s						
WMQ				LR	LR		
	comp=Z,76nm,20.5s						
TRF	**Thorofare Moun**	**82.16**	**21**	P	**P**	**21 46 16.6**	**-0.7**
TRF				IAmb	IAmb	21 46 23.1	
	comp=Z,8.0nm,0.9s						
SCM	**Sheep Creek Mo**	**82.28**	**23**	P	**P**	**21 46 17.3**	**-0.5**
SCM				IAmb	IAmb	21 46 20.0	
	comp=Z,18nm,1.1s						
RND	**Reindeer**	**82.64**	**21**	P	**P**	**21 46 18.6**	**-1.1**
RND				IAmb	IAmb	21 46 26.6	
	comp=Z,7.4nm,1.1s						

HYT	**Haines Junctio**	**85.83**	**26**	P	**P**	**21 46 35.3**	**-0.7**
BMAR	**Burnt Mountain**	**86.43**	**19**	P	**P**	**21 46 38.9**	**+0.2**
MK31	**Makanchi Array**	**86.63**	**318**	P	**P**	**21 46 40.0**	**-0.2**
MKAR	**Makanchi Array**	**86.63**	**318**	P	**P**	**21 46 40.7**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=82,slow=6.1,SNR=7.2						
MKAR	**Makanchi Array**	**86.63**	**318**	P	**P**	**21 46 40.4**	**+0.3**
MAKZ	**Makanchi**	**86.84**	**318**	P	**P**	**21 46 41.2**	**0.0**
ZALV	**Zalesovo Beam**	**87.28**	**326**	P	**P**	**21 46 42.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=106,slow=5.2,SNR=2.4						
EPYK	**Eagle Plains**	**88.60**	**22**	P	**P**	**21 46 48.7**	**-0.5**
AFDM	**Forest Hills D**	**88.81**	**50**	P	**P**	**21 46 50.6**	**-0.2**
PINE	**Pine Mountain**	**89.87**	**46**	P	**P**	**21 46 56.3**	**+0.4**
PINE				IAmb	IAmb	21 46 59.0	
	comp=Z,6.1nm,1.1s						
PNTR	**Pine Nut**	**89.89**	**51**	P	**P**	**21 46 56.8**	**+0.7**
PNTR				IAmb	IAmb	21 46 59.6	
	comp=Z,6.8nm,0.9s						
WAKR	**Walker**	**89.89**	**51**	P	**P**	**21 46 54.5**	**-1.6**
WAKR				IAmb	IAmb	21 47 06.9	
	comp=Z,6.1nm,1.1s						
OMMB	**Old Mammoth Mi**	**90.06**	**52**	P	**P**	**21 46 56.7**	**-0.4**
OMMB				IAmb	IAmb	21 47 00.5	
	comp=Z,5.8nm,1.1s						
PAHR	**Pah Rah Range**	**90.17**	**50**	P	**P**	**21 46 56.3**	**-1.0**
PAHR				IAmb	IAmb	21 47 00.3	
	comp=Z,4.8nm,1.0s						
MWC	**Mount Wilson**	**90.17**	**56**	P	**P**	**21 46 56.3**	**-1.2**
INK	**Inuvik**	**90.53**	**20**	P	**P**	**21 46 58.2**	**+0.1**
RYN	**Ryan**	**90.62**	**51**	P	**P**	**21 47 00.4**	**+1.0**
RYN				IAmb	IAmb	21 47 03.0	
	comp=Z,8.6nm,1.0s						
NVAR	**Mina Array Bea**	**90.75**	**51**	P	**P**	**21 47 02.8**	**+2.7**
	comp=Z,6.6nm,0.9s,baz=243,slow=6.8,SNR=27						
NVAR				LR	LR	22 23 25.4	
	comp=Z,55nm,18.2s,baz=265,slow=33						
NVAR	**Mina Array Bea**	**90.75**	**51**	P	**P**	**21 47 01.5**	**+1.3**
NV11	**Mina Array Sit**	**90.87**	**51**	P	**P**	**21 47 01.2**	**+0.6**
I07A	**Izee**	**90.94**	**46**	P	**P**	**21 46 59.2**	**-1.6**
I07A				IAmb	IAmb	21 47 03.7	
	comp=Z,5.0nm,1.1s						
KVN	**Kaiserville**	**91.03**	**51**	P	**P**	**21 47 01.9**	**+0.5**
KVN				IAmb	IAmb	21 47 04.9	
	comp=Z,12nm,1.1s						
PFO	**Pinyon Flats O**	**91.38**	**56**	LR	LR	22 19 00.0	
	comp=Z,148nm,21.3s,baz=242,slow=30						
PFO	**Pinyon Flats O**	**91.38**	**56**	P	**P**	**21 47 02.3**	**-0.8**
PFO				IAmb	IAmb	21 47 05.9	
	comp=Z,3.7nm,0.9s						
GSC	**Goldstone, Bar**	**91.38**	**55**	P	**P**	**21 47 01.4**	**-1.5**
GSC				IAmb	IAmb	21 47 05.8	
	comp=Z,5.0nm,1.1s						
J08A	**Circle Bar Ran**	**91.54**	**46**	P	**P**	**21 47 03.6**	**0.0**
J08A				IAmb	IAmb	21 47 06.5	
	comp=Z,11nm,1.1s						
G08A	**Pilot Rock**	**91.56**	**45**	P	**P**	**21 47 03.5**	**-0.1**
TPNV	**Topopah Spring**	**92.10**	**53**	P	**P**	**21 47 06.9**	**+0.5**
R11A	**Troy Canyon, C**	**92.84**	**52**	P	**P**	**21 47 10.1**	**+0.3**
R11A				IAmb	IAmb	21 47 13.4	
	comp=Z,7.0nm,1.1s						
SHPR	**Sheep Range**	**92.89**	**54**	P	**P**	**21 47 11.5**	**+1.5**
SHPR				IAmb	IAmb	21 47 26.2	
	comp=Z,5.0nm,1.2s						
PRN	**Pahroc Range**	**93.12**	**53**	P	**P**	**21 47 11.3**	**+0.3**
PRN				IAmb	IAmb	21 47 16.1	
	comp=Z,7.0nm,1.1s						
MFID	**Camas Ranch**	**93.45**	**47**	P	**P**	**21 47 13.1**	**+0.7**
ELK	**Elko**	**93.48**	**49**	LR	LR	22 21 34.2	
	comp=Z,60nm,20.2s,baz=294,slow=31						
ELK	**Elko**	**93.48**	**49**	P	**P**	**21 47 11.3**	**-1.4**
ELK				IAmb	IAmb	21 47 16.3	
	comp=Z,2.9nm,1.1s						
PSUT	**Pine Spring**	**94.22**	**52**	P	**P**	**21 47 15.9**	**-0.2**
HLID	**Hailey**	**94.49**	**47**	P	**P**	**21 47 16.9**	**-0.3**
HLID				IAmb	IAmb	21 47 21.2	
	comp=Z,3.1nm,1.1s						
YKA	**Yellowknife Ar**	**96.73**	**28**	LR	LR	22 24 44.7	
	comp=Z,90nm,21.4s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**97.93**	**48**	P	**P**	**21 47 34.3**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=232,slow=1.7,SNR=4.7						
PDAR				LR	LR	22 24 53.7	
	comp=Z,69nm,21.0s,baz=327,slow=31						
PV18	**Skein Mesa, Pa**	**98.05**	**53**	P	**P**	**21 47 31.9**	**-1.7**
AKASG	**Malin Array Be**	**120.66**	**325**	PKP	**PKPdf**	**21 52 48.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=58,slow=2.8,SNR=1.8						
BRG	**Berggiesshubel**	**128.62**	**331**	*e*PKP	**PKPdf**	**21 53 02.1**	**-1.5**
	comp=Z,6.3nm,1.3s						
GERES	**GERESS Array B**	**130.07**	**330**	PKP	**PKPdf**	**21 53 08.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=58,slow=2.4,SNR=2.1						
BDFB	**Brasilia**	**144.70**	**134**	PKP	**PKPab**	**21 53 34.1**	**+1.0**
	comp=Z,13nm,0.8s,baz=235,slow=3.5,SNR=8.8						
BDFB	**Brasilia**	**144.70**	**134**	PKPdf	**PKPab**	**21 53 34.5**	**+1.4**
ESDC	**Sonseca Array**	**145.27**	**335**	PKPbc	**PKPbc**	**21 53 34.9**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=24,slow=3.5,SNR=7.0						
ESDC	**Sonseca Array**	**145.27**	**335**		**PKPbc**	**21 53 33.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**156.13**	**282**	PKP	**PKPdf**	**21 53 54.6**	**+2.5**
	comp=Z,0.5nm,1.0s,baz=77,slow=1.7,SNR=2.4						

NEIC ***02*** *21:56:11.8±1.2, 8.7S±0.1°×157.48E±0.08, h10km±1km, mb4.4/9, Error ellipse: s-maj=23.4km s-min=12.7km az=193.0*

IDC ***02*** *21:56:11.5±0.9, 8.59S×157.49E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/34, mbtmp3.9/9, ML4.2/1, Error ellipse: s-maj=25.7km s-min=23.2km az=131.0*

ISC 02 21:56:13.1±0.6, 8.7S±0.1°×157.51E±0.07, h16km, n26, σ1§29/27, mb4.2/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.52**	**107**	Pn	**Pn**	**21 56 54.3**	**+0.9**
	46nm,0.3s,baz=297,slow=4.8,SNR=9.5						
HNR				Sn	**Sn**	**21 57 24.1**	**+0.1**
	104nm,0.3s,baz=234,slow=13,SNR=7.2						
HNR	**Honiara**	**2.52**	**107**		**Pn**	**21 56 54.2**	**+0.7**
SANVU	**Saraoutou**	**11.62**	**126**	Pn	**Pn**	**21 58 58.0**	**-0.5**
COEN	**Coen**	**14.99**	**248**	Pn	**Pn**	**21 59 46.4**	**+1.8**
EIDS	**Eidsvold**	**17.69**	**199**	P	**Pn**	**22 00 18.5**	**-0.4**
EIDS				IAmb	IAmb	22 00 22.0	
	comp=Z,42nm,1.9s						
WR0	**Warramunga Arr**	**24.88**	**241**	P	**P**	**22 01 34.0**	**-1.5**
WR0				IAmb	IAmb	22 01 39.9	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**24.93**	**241**	P	**P**	**22 01 35.0**	**-0.9**
WB0				IAmb	IAmb	22 02 03.6	
	comp=Z,25nm,1.8s						
WRAB	**Tennant Creek**	**25.03**	**241**	P	**P**	**22 01 35.4**	**-1.4**
WB2	**Warramunga Arr**	**25.04**	**241**	P	**P**	**22 01 36.1**	**-0.7**
WB2				IAmb	IAmb	22 01 41.6	
	comp=Z,4.3nm,0.7s						
WRA	**Warramunga Arr**	**25.05**	**241**	P	**P**	**22 01 36.4**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=68,slow=9.4,SNR=30						
WRA	**Warramunga Arr**	**25.05**	**241**	P	**P**	**22 01 35.7**	**-1.2**
STKA	**Stephens Creek**	**27.41**	**210**	P	**P**	**22 01 60.0**	**+1.8**
	comp=Z,5.3nm,0.9s,baz=44,slow=13,SNR=8.8						
STKA	**Stephens Creek**	**27.41**	**210**	P	**P**	**22 01 58.3**	**+0.1**
MSWZ	**Moikau Station**	**36.19**	**157**	P	**P**	**22 03 12.8**	**-2.3**
MBWA	**Marble Bar**	**38.44**	**247**	P	**P**	**22 03 33.9**	**-0.6**
KULM	**Kulim**	**58.36**	**282**	P	**P**	**22 06 05.9**	**-2.4**
KULM				IAmb	IAmb	22 06 25.5	
	comp=Z,7.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**63.75**	**295**	P	**P**	**22 06 46.1**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=1.7						
CMAR	**Chiang Mai Arr**	**63.75**	**295**	P	**P**	**22 06 44.7**	**-0.1**
VNDA	**Vanda**	**68.85**	**179**	P	**P**	**22 07 18.7**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=338,slow=6.2,SNR=6.2						
SONM	**Songino Array**	**72.10**	**327**	P	**P**	**22 07 38.7**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=108,slow=4.7,SNR=2.0						
SONM	**Songino Array**	**72.10**	**327**	P	**P**	**22 07 37.1**	**+0.2**
IMAR	**Indian Mountai**	**82.53**	**18**	P	**P**	**22 08 33.7**	**-1.2**
ILAR	**Eielson Array**	**84.04**	**21**	P	**P**	**22 08 41.8**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=273,slow=5.2,SNR=5.0						
MKAR	**Makanchi Array**	**86.31**	**318**	P	**P**	**22 08 55.1**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=94,slow=4.3,SNR=1.5						
MKAR	**Makanchi Array**	**86.31**	**318**	P	**P**	**22 08 54.2**	**-0.3**
NVAR	**Mina Array Bea**	**90.82**	**51**	P	**P**	**22 09 17.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=240,slow=6.3,SNR=7.4						

NEIC ***02*** *22:04:03.0±1.8, 8.8S±0.1°×157.81E±0.07, h10km±1km, mb4.1/8, Error ellipse: s-maj=20.1km s-min=10.3km az=204.0*

IDC ***02*** *22:04:03.1±1.0, 8.85S×157.71E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/34, mbtmp3.8/8, ML3.8/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/27, Error ellipse: s-maj=31.9km s-min=22.8km az=148.0*

ISC 02 22:04:03.4±0.6, 8.75S±0.10×157.77E±0.07, h10km, n31, σ1§52/25, mb3.9/10, MS3.6/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.25**	**108**	Pn	**Pn**	**22 04 41.1**	**+0.4**
	28nm,0.3s,baz=219,slow=5.2,SNR=2.0						
HNR				Sn	**Sg**	**22 05 16.6**	**+0.7**
	189nm,0.3s,baz=220,slow=22,SNR=13						
HNR				LR	LR	22 05 27.6	
	comp=Z,149nm,18.9s,baz=326,slow=37						
HNR	**Honiara**	**2.25**	**108**		**Pn**	**22 04 41.0**	**+0.3**
PMG	**Port Moresby**	**10.50**	**266**	LR	LR	22 10 22.8	
	comp=Z,190nm,18.9s,baz=88,slow=36						
CTAO	**Charters Tower**	**15.84**	**223**	Pn	**Pn**	**22 07 46.8**	**+0.1**
CTAO				IAmb	IAmb	22 07 52.9	
	comp=Z,7.1nm,1.1s						
EIDS	**Eidsvold**	**17.71**	**200**		**P**	**22 08 10.4**	**-0.7**
EIDS				IAmb	IAmb	22 08 18.6	
	comp=Z,8.2nm,1.1s						
WB0	**Warramunga Arr**	**25.13**	**242**	P	**P**	**22 09 29.4**	**+0.7**
WB0				IAmb	IAmb	22 09 29.9	
	comp=Z,3.8nm,0.7s						
WB2	**Warramunga Arr**	**25.23**	**241**	P	**P**	**22 09 29.9**	**+0.2**
WB2				IAmb	IAmb	22 09 32.4	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	**25.24**	**241**	P	**P**	**22 09 29.8**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=68,slow=9.3,SNR=37						
WRA				PcP	**PcP**	**22 13 06.1**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=60,slow=3.2,SNR=2.7						
WRA				LR	LR	22 18 50.4	
	comp=Z,181nm,19.8s,baz=215,slow=35						
WRA	**Warramunga Arr**	**25.24**	**241**	IAmb	IAmb	22 09 37.0	
	comp=Z,0.1nm,0.8s						
ASAR	**Alice Springs**	**27.23**	**234**	P	**P**	**22 09 47.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=64,slow=8.4,SNR=3.1						
ASAR				LR	LR	22 20 01.8	
	comp=Z,153nm,18.1s,baz=104,slow=35						
STKA	**Stephens Creek**	**27.48**	**211**	P	**P**	**22 09 49.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=46,slow=17,SNR=6.2						
STKA				LR	LR	22 18 40.0	
	comp=Z,52nm,20.6s,baz=36,slow=32						
STKA	**Stephens Creek**	**27.48**	**211**	P	**P**	**22 09 50.0**	**0.0**
H11S3	**WAKE ISLAND Hy**	**28.47**	**18**	T	T	22 38 46.6	
	baz=199,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.47**	**18**	T	T	22 38 46.6	
	baz=199,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.49**	**18**	T	T	22 38 47.6	
	baz=199,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.68**	**18**	T	T	22 40 29.0	
	baz=195,slow=74,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**29.69**	**18**	T	T	22 40 22.3	
	baz=195,slow=74,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**29.70**	**18**	T	T	22 40 26.0	
	baz=195						
CMWZ	**Cape Campbell**	**35.93**	**159**	P	**P**	**22 11 01.1**	**-2.9**
LBZ	**Lake Benmore**	**37.10**	**165**	P	**P**	**22 11 12.3**	**-1.7**
LBZ				IAmb	IAmb	22 11 18.6	
	comp=Z,15nm,1.0s						
USRK	**Ussuriysk Ar.**	**57.65**	**338**	P	**P**	**22 13 54.0**	**+0.3**
PETK	**Petropavlovsk-**	**61.62**	**360**	P	**P**	**22 14 18.7**	**-2.4**
CMAR	**Chiang Mai Arr**	**64.02**	**295**	P	**P**	**22 14 40.1**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=124,slow=5.1,SNR=2.0						
CMAR	**Chiang Mai Arr**	**64.02**	**295**	P	**P**	**22 14 37.6**	**-0.1**
VNDA	**Vanda**	**68.77**	**179**	P	**P**	**22 15 09.2**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=349,slow=6.0,SNR=1.8						
TGL	**Tana Glacier**	**83.38**	**25**	P	**P**	**22 16 29.3**	**-1.4**
ILAR	**Eielson Array**	**84.01**	**21**	P	**P**	**22 16 35.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=254,slow=5.0,SNR=2.0						
ILAR	**Eielson Array**	**84.01**	**21**	P	**P**	**22 16 33.9**	**+0.2**
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**22 17 09.7**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=256,slow=7.3,SNR=2.9						
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**22 17 05.5**	**-1.3**
ESDC	**Sonseca Array**	**145.15**	**335**	PKPbc	**PKPbc**	**22 23 39.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=42,slow=2.1,SNR=1.5						

NNC ***02*** *22:14:07.1±1.8, 40.12N×70.05E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=13.9km s-min=7.9km az=17.0*

SOME ***02*** *22:14:07.2, 40.13N×70.12E, h5km*

ISU ***02*** *22:14:07.1, 39.97N×70.02E, h10km*

KRNET ***02*** *22:14:08.3±0.1, 40.09N×70.04E, h16km, mb4.0*

ISC 02 22:14:07.7±1.2, 40.09N±0.03×70.06E±0.02, h2km±10km, n78, σ1§79/109, 30C-20D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.58**	**92**	⇑*i*P	**Pb**	**22 14 19.7**	**-1.0**
	baz=93						
BTK				⇑*i*S	**Sb**	**22 14 28.5**	**-0.9**
	baz=93						
BTK	**Batken**	**0.58**	**92**	*i* P	**Pg**	**22 14 19.2**	**+0.4**
BTK				*i* S	**Sb**	**22 14 28.5**	**-0.9**
GAR	**Garm**	**1.10**	**170**	⇓*i*P	**Pg**	**22 14 28.9**	**+0.1**
	baz=68						
GAR				⇓*i*S	**Sg**	**22 14 43.6**	**+0.5**
	baz=68						
CHMI	**Chimion**	**1.13**	**80**	*i* P	**Pn**	**22 14 30.3**	**-0.4**
CHMI				*i* S	**Sn**	**22 14 46.3**	**-0.6**
TAS	**Tashkent**	**1.37**	**335**	⇓*i*P	**Pn**	**22 14 33.3**	**-0.6**
	baz=36						
TAS				⇓*i*S	**Sg**	**22 14 51.4**	**-0.3**
	baz=36						
TAS	**Tashkent**	**1.37**	**335**	*i* P	**Pb**	**22 14 34.2**	**+0.1**
TAS				*i* S	**Sn**	**22 14 53.0**	**+0.4**
CHMG	**Chimgan**	**1.46**	**358**	*i* P	**Pg**	**22 14 35.9**	**+0.1**
CHMG				*i* S	**Sn**	**22 14 55.4**	**+0.2**
FRG	**Fergana**	**1.47**	**63**	*i* P	**Pg**	**22 14 35.5**	**-0.3**
FRG				*i* S	**Sn**	**22 14 54.3**	**-0.8**
NAM	**Namangan**	**1.52**	**53**	*i* P	**Pg**	**22 14 37.4**	**+0.6**
NAM				*i* S	**Sg**	**22 14 59.8**	**+3.4**
CHGR	**Chuyangaron**	**1.59**	**206**	⇑*i*P	**Pn**	**22 14 37.5**	**+0.5**
	baz=6.0						
CHGR				⇑*i*S	**Sn**	**22 14 58.5**	**+0.4**
	baz=6.0						
DZI	**Dzhizak**	**1.72**	**272**	*i* P	**Pn**	**22 14 39.1**	**+0.4**
DZI				*i* S	**Sn**	**22 15 01.6**	**+0.4**
ANR	**Andizhan**	**1.88**	**68**	*i* P	**Pg**	**22 14 44.7**	**+1.0**
ANR				*i* S	**Sg**	**22 15 10.1**	**+2.1**
IUG	**Iuzhnay**	**2.06**	**359**	*e*P	**Pb**	**22 14 46.0**	**0.0**
	263nm,0.2s						
IUG				*e*S	**Sg**	**22 15 13.5**	**-0.4**
	2μm,0.3s						
IUG	**Iuzhnay**	**2.06**	**359**	Pg	**Pn**	**22 14 44.2**	**+0.7**
	263nm,0.2s						
IUG				Lg	Lg	22 15 13.7	
	2μm,0.3s						
OHH	**Osh**	**2.13**	**77**	⇑*i*P	**Pb**	**22 14 46.2**	**-0.8**
	baz=77						
OHH				⇑*i*S	**Sb**	**22 15 13.5**	**-0.5**
	baz=77						
OHH	**Osh**	**2.13**	**77**	*e*P	**Pb**	**22 14 46.3**	**-0.8**
OHH				*e*S	**Sg**	**22 15 16.6**	**+0.5**
CHM	**Chimkent**	**2.26**	**351**	*e*P	**Pb**	**22 14 49.8**	**+0.6**
	1.2nm,0.3s						
CHM				*e*S	**Sg**	**22 15 20.9**	**+0.6**
	3μm,0.3s						
SAM	**Samarkand**	**2.40**	**261**	*i* P	**Pb**	**22 14 50.7**	**-0.9**
SAM				*i* S	**Sn**	**22 15 18.8**	**+0.7**
BRLS	**Borolday**	**2.95**	**357**	*e*P	**Pn**	**22 14 57.1**	**+1.5**
	48nm,0.2s						
BRLS				*e*S	**Sn**	**22 15 33.0**	**+1.4**
	592nm,0.1s						
BRLS	**Borolday**	**2.95**	**357**	Pg	**Pn**	**22 14 56.1**	**+0.5**
	48nm,0.2s						
BRLS				Lg	Lg	22 15 34.0	
	592nm,0.1s						
DZA	**Taraz**	**2.96**	**18**	*e*P	**Pb**	**22 15 01.2**	**-0.1**
	24nm,0.3s						
DZA				*e*S	**Sb**	**22 15 39.7**	**+1.8**
	714nm,0.2s						
DZA	**Taraz**	**2.96**	**18**	Pg	**Pb**	**22 14 59.0**	**-2.3**
	38nm,0.1s						
DZA				Lg	Lg	22 15 39.8	
	714nm,0.2s						
KK31	**Karatay Array**	**3.04**	**6**	⇓Pn	**Pn**	**22 14 57.3**	**+0.5**
	1.8nm,0.2s,baz=169,slow=11,SNR=205						
KK31				⇑Pg	**Pb**	**22 15 03.5**	**+1.0**
	8.3nm,0.3s,baz=193,slow=18,SNR=12						
KK31				⇓Lg	Lg	22 15 42.8	
	71nm,0.3s,baz=193,slow=33,SNR=17						
AML	**Almayashu**	**3.42**	**52**	⇓*i*P	**Pn**	**22 15 03.5**	**+1.1**
	baz=52						
AML				⇓*i*S	**Sn**	**22 15 44.8**	**+1.0**
	baz=52						
AML	**Almayashu**	**3.42**	**52**	P	**Pn**	**22 15 03.5**	**+1.1**
	SNR=10						
MRKS	**Merke**	**3.57**	**41**	*e*P	**Pb**	**22 15 11.8**	**+0.2**
	40nm,0.2s						
MRKS				*e*S	**Sg**	**22 15 59.0**	**-3.3**
	152nm,0.2s						
MRKS	**Merke**	**3.57**	**41**	Pg	**Pb**	**22 15 08.6**	**-3.0**
	40nm,0.2s						
MRKS				Lg	Lg	22 15 55.9	
	152nm,0.2s						
ARLS	**Aral**	**3.68**	**60**	⇑*i*P	**Pn**	**22 15 07.7**	**+1.9**
	baz=60						
ARLS				⇑*i*S	**Sn**	**22 15 51.0**	**+1.1**
	baz=60						
EKS2	**Erkin-Say**	**3.80**	**46**	⇓*i*P	**Pn**	**22 15 08.9**	**+1.5**
	baz=46						
EKS2				⇓*i*S	**Sn**	**22 15 53.4**	**+0.6**
	baz=46						
EKS2	**Erkin-Say**	**3.80**	**46**	P	**Pn**	**22 15 09.3**	**+1.9**
	SNR=31						
UCH	**Uchtor**	**3.98**	**56**	⇓*i*P	**Pn**	**22 15 11.5**	**+1.3**
	baz=56						
UCH				⇓*i*S	**Sn**	**22 15 58.0**	**+0.2**
	baz=56						
UCH	**Uchtor**	**3.98**	**56**	P	**Pn**	**22 15 11.3**	**+1.1**
	SNR=13						
AAK	**Ala-Archa**	**4.20**	**51**	⇑*i*P	**Pn**	**22 15 14.9**	**+2.0**
	baz=51						
AAK				⇑*i*S	**Sn**	**22 16 03.0**	**+0.4**
	baz=51						
AAK	**Ala-Archa**	**4.20**	**51**	P	**Pn**	**22 15 15.0**	**+2.1**
	SNR=12						
AAK	**Ala-Archa**	**4.20**	**51**	⇑Pn	**Pn**	**22 15 14.7**	**+1.8**
	8.7nm,0.4s						
AAK				⇑Lg	Lg	22 16 19.3	
	17nm,0.5s						
FRU1	**Bishkek**	**4.38**	**50**	⇑*i*P	**Pn**	**22 15 17.4**	**+2.1**
	baz=50						
FRU1				⇑*i*S	**Sn**	**22 16 07.0**	**0.0**
	baz=50						
KZA	**Kyzart**	**4.40**	**61**	⇑*e*P	**Pn**	**22 15 17.7**	**+1.8**
	baz=62						
KZA				⇑*i*S	**Sn**	**22 16 08.1**	**+0.2**
	baz=62						
KBK	**Karagaybulak**	**4.49**	**53**	⇑*i*P	**Pn**	**22 15 18.8**	**+1.9**
	baz=54						
KBK				⇑*i*S	**Sn**	**22 16 09.9**	**+0.2**
	baz=54						
KBK	**Karagaybulak**	**4.49**	**53**	P	**Pn**	**22 15 19.1**	**+2.2**
	SNR=21						
CHMS	**Chumysh**	**4.57**	**49**	⇑*i*P	**Pn**	**22 15 19.6**	**+1.7**
	baz=49						
CHMS				⇑*i*S	**Sn**	**22 16 11.9**	**+0.4**
	baz=49						
CHMS	**Chumysh**	**4.57**	**49**	P	**Pn**	**22 15 19.1**	**+1.2**
	SNR=8.6						
USP	**Ospenovka**	**4.60**	**45**	⇑*i*P	**Pn**	**22 15 20.1**	**+1.8**
	baz=45						
USP				⇑*i*S	**Sn**	**22 16 12.8**	**+0.5**
	baz=45						
USP	**Ospenovka**	**4.60**	**45**	P	**Pn**	**22 15 19.2**	**+0.9**
	SNR=9.9						
SGDS	**Sogindy**	**4.79**	**44**	Pg	**Pb**	**22 15 33.9**	**+1.5**
	11nm,0.2s						
SGDS				Lg	Lg	22 16 38.8	
	35nm,0.3s						
TKM2	**Tokmak 2**	**5.03**	**54**	⇓*i*P	**Pn**	**22 15 25.9**	**+1.5**
	baz=54						
TKM2				⇓*i*S	**Sn**	**22 16 22.6**	**-0.6**
	baz=54						
TKM2	**Tokmak 2**	**5.03**	**54**	P	**Pn**	**22 15 25.4**	**+1.0**
	SNR=14						
TKM2	**Tokmak 2**	**5.03**	**54**	⇓Pn	**Pn**	**22 15 25.2**	**+0.8**
	6.6nm,0.5s						
TKM2				⇓Lg	Lg	22 16 45.8	
	23nm,0.5s						
BOOM	**Boomskoye usch**	**5.04**	**60**	⇑*i*P	**Pn**	**22 15 26.2**	**+1.7**
	baz=60						
BOOM				⇑*i*S	**Sn**	**22 16 23.2**	**-0.1**
	baz=60						
ULHL	**Ulahol**	**5.14**	**63**	⇑*i*P	**Pn**	**22 15 27.6**	**+1.7**
	baz=63						
ULHL				⇑*i*S	**Sn**	**22 16 25.2**	**-0.7**
	baz=63						
KST	**Kastek**	**5.32**	**54**	*e*P	**Pb**	**22 15 43.2**	**+1.7**
	10nm,0.3s						
KST				*e*S	**Sg**	**22 16 53.9**	**-4.8**
	33nm,0.5s						
KST	**Kastek**	**5.32**	**54**	Pg	**Pb**	**22 15 43.2**	**+1.7**
	10nm,0.3s						
KST				Lg	Lg	22 16 55.2	
	33nm,0.5s						
MTBS	**Maitube**	**5.66**	**55**	Pg	**Pb**

PDGK					Lg	Lg	22 18 08.6			
	3.0nm,0.6s									
PDGK	**Podgornoye**	**7.76**	**62**	⇑Pg	**Pg**		**22 16 37.2**	**+0.8**		
	1.9nm,0.7s									
PDGK				⇓Lg	Lg		22 18 13.5			
	16nm,1.0s									
TDK	**Taldyqorghan**	**7.88**	**49**	Pg	Pb		22 16 30.5	+5.5		
	34nm,0.2s									
TDK				Lg	Lg		22 18 16.3			
	45nm,0.2s									
DJR	**Jarkent**	**8.37**	**56**	Pg	Pb		22 16 39.8	+6.4		
	2.4nm,0.8s									
DJR				Lg	Lg		22 18 32.4			
	5.7nm,0.9s									
KTMS	**Ketmen**	**8.39**	**63**	Pg	Pb		22 16 40.0	+6.2		
	0.2nm,0.0s									
KTMS				Lg	Lg		22 18 33.3			
	5.2nm,0.3s									
MK31	**Makanchi Array**	**11.13**	**49**	Pn	**Pn**		**22 16 47.7**	**-0.2**		
	0.6nm,0.6s,baz=236,slow=14,SNR=6.2									
MK31				⇑Lg	Lg		22 20 02.2			
	4.0nm,0.8s,baz=247,slow=25,SNR=3.9									
AB31	**Akbulak array**	**11.65**	**325**	Pn	**Pn**		**22 16 51.5**	**-3.3**		
	0.5nm,0.3s,baz=126,slow=13,SNR=38									
KURBB	**Kurchatov Arra**	**12.09**	**27**	⇓Lg	Lg		22 20 31.2			
	16nm,0.8s									
KURK	**Kurchatov**	**12.20**	**27**	⇑Lg	Lg		22 20 28.4			
	6.8nm,0.7s									

IDC ***02*** *22:15:39.5±1.0, 16°.59S×177°.65W, h381km±9km, mb4.1/29, mb1 4.3/31, mb1mx4.2/38, mbtmp4.8/31, Error ellipse: s-maj=11.4km s-min=8.5km az=142.0*

BJI ***02*** *22:15:39.7±0.0, 15°.99S×177°.67W, h376km, mB5.0/16, mb4.7/23*

NEIC ***02*** *22:15:42.5±1.9, 16°.57S±0°.10×177°.53W±0°.10, h416km±5km, mb4.6/211, Error ellipse: s-maj=14.2km s-min=13.0km az=140.0*

BGR ***02*** *22:15:46.8±0.0, 15°.63S×176°.88W, h400km*

ISC 02 22:15:40.7±0.2, 16°.61S±0°.05×177°.54W±0°.05, h400km, n565, σ1§08/557, mb4.6/132, 17C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**254**		**Pn**	**22 16 59.3**	**+2.8**
AFI	**Afiamalu**	**6.17**	**65**	P	**Pn**	**22 17 15.0**	**-0.3**
	35nm,0.3s,baz=217,slow=5.1,SNR=20						
AFI				S	**S**	**22 18 29.6**	**-2.8**
	6.5nm,0.3s,baz=216,slow=19,SNR=1.8						
AFI	**Afiamalu**	**6.17**	**65**		**Pn**	**22 17 15.2**	**-0.2**
NIUE	**Niue**	**7.65**	**110**		**P**	**22 17 32.3**	**0.0**
FUNA	**Funafuti**	**8.64**	**338**	P	**Pn**	**22 17 41.0**	**-2.2**
RAO	**Raoul Island**	**12.59**	**182**	S	**S**	**22 20 41.1**	**-3.1**
	86nm,0.3s,baz=99,slow=19,SNR=2.5						
SANVU	**Saraoutou**	**14.72**	**272**	P	**P**	**22 18 51.7**	**+1.4**
KNTN	**Kanton**	**14.89**	**23**	P	**P**	**22 18 50.5**	**-1.6**
DZM	**Mont Dzumac**	**16.06**	**248**	P	**P**	**22 19 04.6**	**-0.2**
	0.7nm,0.3s,baz=65,slow=18,SNR=14						
DZM	**Mont Dzumac**	**16.06**	**248**	*eP*	**P**	**22 19 04.8**	**0.0**
	31nm,0.8s						
DZM	**Mont Dzumac**	**16.06**	**248**	P	**P**	**22 19 05.8**	**+1.0**
DZM				IAmb	IAmb	22 19 12.8	
	comp=Z,34nm,1.1s						
RAR	**Rarotonga**	**17.42**	**108**	P	**P**	**22 19 19.5**	**+0.4**
OUZ	**Omahuta**	**20.16**	**201**	P	**P**	**22 19 48.6**	**+2.1**
KUZ	**Kuaotunu**	**20.93**	**195**	P	**P**	**22 19 54.5**	**+0.9**
MXZ	**Matakaoa Point**	**21.20**	**189**	P	**P**	**22 19 55.3**	**-0.7**
HAZ	**Te Kaha**	**21.47**	**190**	P	**P**	**22 19 57.5**	**-0.9**
TGRZ	**Tauranga**	**21.74**	**193**	P	**P**	**22 19 55.5**	**-5.4**
TWGZ	**Tauwhareparae**	**21.85**	**190**	P	**P**	**22 20 02.4**	**+0.5**
URZ	**Urewera**	**22.08**	**191**	P	**P**	**22 20 01.0**	**-2.9**
	comp=Z,47nm,0.6s,baz=357,slow=3.6,SNR=19						
URZ	**Urewera**	**22.08**	**191**	P	**P**	**22 20 01.2**	**-2.7**
URZ	**Urewera**	**22.08**	**191**	P	**P**	**22 20 01.3**	**-2.7**
RAHZ	**Arahi**	**22.72**	**191**	P	**P**	**22 20 09.2**	**-0.6**
KNZ	**Kokohu**	**22.72**	**190**	P	**P**	**22 20 09.4**	**-0.4**
HNR	**Honiara**	**23.05**	**285**	P	**P**	**22 20 12.8**	**-0.4**
	comp=Z,278nm,0.9s,baz=210,slow=12,SNR=6.0						
HNR	**Honiara**	**23.05**	**285**	P	**P**	**22 20 12.7**	**-0.4**
BKZ	**Black Stump Fm**	**23.08**	**192**	P	**P**	**22 20 10.8**	**-2.3**
BKZ				IAmb	IAmb	22 20 17.1	
	comp=Z,21nm,1.1s						
TMVZ	**Te Maari**	**23.19**	**193**	P	**P**	**22 20 13.6**	**-0.6**
OTVZ	**Oturere**	**23.25**	**193**	P	**P**	**22 20 12.7**	**-2.1**
MOVZ	**Moawhango**	**23.46**	**193**	P	**P**	**22 20 14.9**	**-1.7**
BHHZ	**Black Hill Sta**	**23.48**	**193**	P	**P**	**22 20 14.4**	**-2.3**
KRHZ	**Kereru**	**23.56**	**192**	P	**P**	**22 20 16.0**	**-1.4**
BFZ	**Birch Farm**	**24.59**	**191**	P	**P**	**22 20 25.5**	**-1.1**
BFZ				IAmb	IAmb	22 20 29.6	
	comp=Z,36nm,0.9s						
MSWZ	**Moikau Station**	**25.50**	**193**	P	**P**	**22 20 33.9**	**-0.8**
SNZO	**South Karori**	**25.51**	**194**	P	**P**	**22 20 33.7**	**-1.1**
BHW	**Baring Head**	**25.57**	**193**	P	**P**	**22 20 33.2**	**-2.1**
QRZ	**Quartz Range**	**25.62**	**198**	P	**P**	**22 20 35.9**	**+0.1**
PLWZ	**Palliser**	**25.64**	**193**	P	**P**	**22 20 34.6**	**-1.3**
THZ	**Tophouse**	**26.39**	**196**	P	**P**	**22 20 42.3**	**-0.3**
THZ				IAmb	IAmb	22 20 54.3	
	comp=Z,47nm,1.1s						
PPTF	**Pamatai, Papee**	**26.74**	**96**	P	**P**	**22 20 45.4**	**-0.7**
KHZ	**Kahutara**	**26.84**	**195**	P	**P**	**22 20 44.8**	**-1.7**
LTZ	**Lake Taylor**	**27.51**	**196**	P	**P**	**22 20 50.6**	**-1.9**
LTZ				IAmb	IAmb	22 21 01.9	
	comp=Z,20nm,0.9s						
MQZ	**McQueen's Vall**	**28.27**	**195**	P	**P**	**22 20 58.4**	**-0.8**
MQZ				IAmb	IAmb	22 21 16.2	
	comp=Z,27nm,1.0s						
RPZ	**Rata Peaks**	**28.71**	**197**	P	**P**	**22 21 01.2**	**-1.8**
	comp=Z,9.6nm,0.5s,baz=17,slow=14,SNR=1.8						
RPZ	**Rata Peaks**	**28.71**	**197**	P	**P**	**22 21 02.8**	**-0.2**
RPZ				IAmb	IAmb	22 21 14.4	
	comp=Z,23nm,1.1s						
FOZ	**Fox Glacier**	**28.91**	**199**	P	**P**	**22 21 04.4**	**-0.4**
LBZ	**Lake Benmore**	**29.57**	**198**	P	**P**	**22 21 08.9**	**-1.8**
ODZ	**Otahua Downs**	**30.04**	**197**	P	**P**	**22 21 13.9**	**-0.8**
WKZ	**Wanaka**	**30.33**	**199**	P	**P**	**22 21 16.2**	**-1.1**
WKZ				IAmb	IAmb	22 21 19.6	
	comp=Z,27nm,0.8s						
EIDS	**Eidsvold**	**30.51**	**248**	P	**P**	**22 21 19.0**	**0.0**
MLZ	**Mavora Lakes**	**31.10**	**200**	P	**P**	**22 21 24.7**	**+0.8**
ARMA	**Armidale**	**31.32**	**238**	P	**P**	**22 21 26.8**	**+0.6**
KRVT	**Keravat (AS076**	**32.27**	**289**	P	**P**	**22 21 32.0**	**-2.4**
	comp=Z,58nm,0.8s,baz=46,slow=2.8,SNR=6.9						
CTA	**Charters Tower**	**34.50**	**259**	P	**P**	**22 21 52.5**	**-0.9**
	comp=Z,3.6nm,0.3s,baz=87,slow=12,SNR=3.5						
CTAO	**Charters Tower**	**34.50**	**259**	P	**P**	**22 21 53.7**	**+0.3**
PMG	**Port Moresby**	**35.09**	**277**	P	**P**	**22 21 59.3**	**+0.9**
	comp=Z,66nm,0.9s,baz=70,slow=6.7,SNR=10						
PMG	**Port Moresby**	**35.09**	**277**	P	**P**	**22 21 59.7**	**+1.2**
CAN	**Canberra**	**35.16**	**232**	P	**P**	**22 21 58.9**	**+0.1**
COEN	**Coen**	**37.95**	**268**	P	**P**	**22 22 22.9**	**+0.6**
COEN				IAmb	IAmb	22 22 24.5	
	comp=Z,22nm,0.8s						
TOO	**Toolangi**	**38.64**	**230**	P	**P**	**22 22 28.2**	**+0.5**
WAKE	**Wake Island**	**38.91**	**336**	P	**P**	**22 22 29.6**	**-0.4**
STKA	**Stephens Creek**	**39.99**	**240**	P	**P**	**22 22 38.7**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=94,slow=11,SNR=21						
STKA				ScP	**ScP**	**22 27 48.6**	**+3.5**
	comp=Z,1.7nm,0.7s,baz=109,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**39.99**	**240**	P	**P**	**22 22 38.7**	**-0.1**
GENI	**Genyem**	**43.84**	**284**	P	**P**	**22 23 13.2**	**+3.5**
BBOO	**Buckleboo**	**44.77**	**240**	P	**P**	**22 23 16.8**	**0.0**
BBOO				IAmb	IAmb	22 23 18.7	
	comp=Z,21nm,1.0s						
WRA	**Warramunga Arr**	**45.70**	**258**	P	**P**	**22 23 22.9**	**-1.3**
	comp=Z,6.5nm,0.8s,baz=92,slow=7.6,SNR=57						
WRA				PcP	**PcP**	**22 24 54.5**	**+0.1**
	comp=Z,3.9nm,0.5s,baz=87,slow=3.8,SNR=11						
WRA				ScP	**ScP**	**22 28 10.3**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=84,slow=4.8,SNR=6.0						
WRA				S	**S**	**22 29 31.4**	**-5.5**
	comp=Z,1.3nm,0.8s,baz=95,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**45.70**	**258**	P	**P**	**22 23 22.9**	**-1.3**
ASAR	**Alice Springs**	**45.96**	**253**	P	**P**	**22 23 25.3**	**-0.8**
	comp=Z,30nm,0.6s,baz=89,slow=7.9,SNR=333						
ASAR				PcP	**PcP**	**22 24 55.3**	**0.0**
	comp=Z,5.4nm,0.8s,baz=102,slow=3.7,SNR=8.1						
ASAR				ScP	**ScP**	**22 28 11.9**	**+2.3**
	comp=Z,4.7nm,0.8s,baz=99,slow=4.1,SNR=15						
ASAR				S	**S**	**22 29 36.3**	**-4.1**
	comp=Z,6.8nm,0.9s,baz=85,slow=16,SNR=26						
ASAR	**Alice Springs**	**45.96**	**253**	P	**P**	**22 23 24.6**	**-1.5**
MTN	**Manton Dam**	**49.68**	**267**	IAmb	IAmb	22 23 56.1	
	comp=Z,36nm,1.1s						
FORT	**Forrest**	**51.32**	**244**	P	**P**	**22 24 05.7**	**-0.5**
KNRA	**Kununurra**	**51.46**	**263**	IAmb	IAmb	22 24 08.9	
	comp=Z,22nm,0.8s						
SOEI	**Soe**	**56.91**	**269**	P	**P**	**22 24 48.4**	**+1.9**
	comp=Z,93nm,0.9s						
BATI	**Baumata**	**57.39**	**268**	P	**P**	**22 24 50.8**	**+1.1**
	comp=Z,40nm,0.7s						
PSA00	**Pilbara Seismi**	**59.05**	**255**	P	**P**	**22 24 58.5**	**-2.4**
PSA00	**Pilbara Seismi**	**59.05**	**255**	IAmb	IAmb	22 25 01.0	
	comp=Z,18nm,0.7s						
EDFI	**Ende, Flores**	**59.62**	**269**	P	**P**	**22 25 05.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**60.56**	**241**	P	**P**	**22 25 09.9**	**-1.0**
NWAO	**Narrogin (SRO)**	**60.56**	**241**	P	**P**	**22 25 10.1**	**-0.8**
NWAO				IAmb	IAmb	22 25 21.1	
	comp=Z,5.5nm,0.9s						
MORW	**Morawa**	**61.77**	**246**	P	**P**	**22 25 18.4**	**-0.6**
MORW				IAmb	IAmb	22 25 20.1	
	comp=Z,18nm,1.1s						
VNDA	**Vanda**	**61.81**	**185**	P	**P**	**22 25 19.6**	**+1.3**
	comp=Z,6.0nm,0.8s,baz=31,slow=6.2,SNR=13						
VNDA	**Vanda**	**61.81**	**185**	P	**P**	**22 25 19.3**	**+0.9**
JHJ2	**Mitsune**	**64.06**	**321**	P	**P**	**22 25 33.4**	**-0.2**
GIRL	**Giralia**	**64.07**	**253**	P	**P**	**22 25 34.2**	**+0.1**
JGF	**Kuroka**	**67.24**	**321**	IAmb	IAmb	22 25 54.1	
	comp=Z,14nm,0.7s						
MJAR	**Matsushiro Arr**	**67.38**	**322**	P	**P**	**22 25 53.8**	**-0.8**
	comp=Z,13nm,0.8s,baz=158,slow=6.2,SNR=29						
MJAR	**Matsushiro Arr**	**67.38**	**322**	P	**P**	**22 25 53.9**	**-0.6**
MAJO	**Matsushiro**	**67.38**	**322**	P	**P**	**22 25 54.0**	**-0.6**
MAJO				IAmb	IAmb	22 25 54.8	
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**67.38**	**322**	P	**P**	**22 25 53.7**	**-0.9**
MAT				*eS*	**S**	**22 34 18.2**	**+0.7**
JMN	**Monobe**	**68.19**	**318**	P	**P**	**22 26 00.2**	**+0.6**
JMN				IAmb	IAmb	22 26 00.9	
	comp=Z,9.3nm,0.7s						
ADK	**Adak**	**68.20**	**1**	P	**P**	**22 25 58.2**	**-1.0**
ADK				IAmb	IAmb	22 25 58.6	
	comp=Z,22nm,1.0s						
KKM	**Kota Kinabalu**	**69.25**	**283**	P	**P**	**22 26 06.3**	**-0.3**
KKM				IAmb	IAmb	22 26 18.4	
	comp=Z,21nm,1.1s						
JHS	**Saijyo**	**69.47**	**318**	P	**P**	**22 26 07.9**	**+0.5**
JKA	**Kamikawa-asahi**	**70.55**	**331**	P	**P**	**22 26 14.6**	**+1.0**
JKA				IAmb	IAmb	22 26 15.7	
	comp=Z,24nm,1.1s						
PEA0B	**Petropavlovsk-**	**72.64**	**345**	P	**P**	**22 26 25.8**	**+0.1**
PEA0B				IAmb	IAmb	22 26 38.6	
	comp=Z,24nm,1.1s						
PETK	**Petropavlovsk-**	**72.64**	**345**	P	**P**	**22 26 25.8**	**0.0**
	comp=Z,7.0nm,0.5s,baz=110,slow=8.6,SNR=17						
QSPA	**South Pole Qui**	**73.44**	**180**	P	**P**	**22 26 31.3**	**+0.8**
	comp=Z,28nm,0.8s,baz=24,slow=1.2,SNR=45						
QSPA	**South Pole Qui**	**73.44**	**180**	P	**P**	**22 26 31.3**	**+0.8**
KSRS	**Korea Array**	**74.30**	**318**	P	**P**	**22 26 36.7**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=126,slow=7.5,SNR=12						
CHGN	**Chignik**	**74.39**	**11**	P	**P**	**22 26 35.6**	**-0.1**
SCI2	**San Clemente I**	**74.85**	**48**	P	**P**	**22 26 41.1**	**+2.2**
	baz=238						
SAO	**San Andreas Ge**	**74.91**	**44**	P	**P**	**22 26 40.0**	**+0.9**
PKM	**Mcpherson Peak**	**74.98**	**46**	P	**P**	**22 26 41.7**	**+1.9**
	baz=237						
PMPB	**Monarch Peak**	**75.03**	**44**	P	**P**	**22 26 39.3**	**-0.7**
PMPB				IAmb	IAmb	22 26 42.2	
	comp=Z,23nm,1.1s						
HOPS	**Hopland Field**	**75.15**	**41**	P	**P**	**22 26 40.8**	**+0.3**
KMRM	**Mail Ridge**	**75.48**	**40**	P	**P**	**22 26 42.6**	**+0.2**
MWC	**Mount Wilson**	**75.85**	**47**	P	**P**	**22 26 44.6**	**-0.1**
MWC				IAmb	IAmb	22 26 46.9	
	comp=Z,12nm,0.9s						
KHMM	**Horse Mountain**	**75.86**	**39**	P	**P**	**22 26 44.4**	**-0.2**
VES	**Vestal, Richgr**	**75.99**	**46**	P	**P**	**22 26 46.5**	**+1.2**
	baz=237						
USRK	**Ussuriysk Ar.**	**76.02**	**325**	P	**P**	**22 26 46.6**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=165,slow=4.1,SNR=5.6						
USRK	**Ussuriysk Ar.**	**76.02**	**325**	P	**P**	**22 26 45.3**	**+0.1**
O02D	**Mt. Diablo Mer**	**76.02**	**40**	P	**P**	**22 26 47.5**	**+2.1**
	baz=234,SNR=9.1						
BFSC	**Mount Baldy Ra**	**76.14**	**48**	P	**P**	**22 26 47.2**	**+0.9**
	baz=239						
MURC	**Murrieta**	**76.14**	**48**	P	**P**	**22 26 47.1**	**+0.9**
	baz=239						
KRMB	**Red Mountain**	**76.15**	**39**	P	**P**	**22 26 45.8**	**-0.4**
KRMB				IAmb	IAmb	22 26 49.3	
	comp=Z,23nm,1.1s						
EDW2	**Edwards Air Fo**	**76.24**	**47**	P	**P**	**22 26 48.0**	**+1.2**
	baz=238,SNR=13						
ISA	**Isabella, Lake**	**76.32**	**46**	P	**P**	**22 26 48.5**	**+1.3**
	baz=238,SNR=12						
ISA	**Isabella, Lake**	**76.32**	**46**	P	**P**	**22 26 47.7**	**+0.5**
ISA				IAmb	IAmb	22 26 50.6	
	comp=Z,13nm,1.1s						
CMB	**Columbia Colle**	**76.32**	**43**	P	**P**	**22 26 46.5**	**-0.6**
CMB				IAmb	IAmb	22 26 49.4	
	comp=Z,15nm,1.1s						
MONP2	**Monument Peak**	**76.34**	**49**	P	**P**	**22 26 48.8**	**+1.2**
	baz=240,SNR=5.4						
WDC	**Whiskeytown Da**	**76.41**	**40**	P	**P**	**22 26 47.2**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**76.44**	**50**	P	**P**	**22 26 49.5**	**+1.5**
	baz=240						
AFDM	**Forest Hills D**	**76.46**	**42**	P	**P**	**22 26 47.7**	**-0.1**
AFDM				IAmb	IAmb	22 26 50.1	
	comp=Z,14nm,1.1s						
ORV	**Oroville**	**76.47**	**41**	P	**P**	**22 26 47.1**	**-0.8**
ORV				IAmb	IAmb	22 26 50.1	
	comp=Z,13nm,1.1s						
N02D	**Trinity Center**	**76.55**	**40**	P	**P**	**22 26 49.9**	**+1.6**
	baz=234,SNR=8.5						
PFO	**Pinyon Flats O**	**76.67**	**49**	P	**P**	**22 26 50.7**	**+1.5**
	comp=Z,4.6nm,0.9s,baz=244,slow=3.0,SNR=5.9						
PFO	**Pinyon Flats O**	**76.67**	**49**	P	**P**	**22 26 49.2**	**0.0**
M02C	**Callahan**	**76.70**	**39**	P	**P**	**22 26 50.6**	**+1.4**
	baz=233,SNR=6.5						
O03E	**Paynes Creek**	**76.70**	**41**	P	**P**	**22 26 50.2**	**+1.0**
	baz=234,SNR=11						
L02E	**Cave Junction**	**76.72**	**38**	P	**P**	**22 26 50.6**	**+1.4**
	baz=233						
LRMC	**Laurel Mtn Rad**	**76.77**	**46**	P	**P**	**22 26 51.0**	**+1.2**
	baz=238						
SWSC	**Sam W. Stewart**	**76.82**	**50**	P	**P**	**22 26 51.2**	**+1.3**
	baz=240						
KDAK	**Kodiak Island**	**76.95**	**13**	P	**P**	**22 26 51.1**	**+1.1**
	comp=Z,26nm,1.0s,baz=180,slow=7.1,SNR=1.6						
YBH	**Yreka Blue Hor**	**76.99**	**39**	P	**P**	**22 26 52.4**	**+1.6**
	comp=Z,7.2nm,0.9s,baz=198,slow=3.1,SNR=11						
YBH	**Yreka Blue Hor**	**76.99**	**39**	P	**P**	**22 26 51.6**	**+0.8**
YBH				IAmb	IAmb	22 26 53.8	
	comp=Z,16nm,1.1s						
CWC	**Cottonwood Cre**	**77.00**	**45**	P	**P**	**22 26 52.2**	**+1.1**
	baz=238						
K02D	**Willamette Mer**	**77.00**	**38**	P	**P**	**22 26 52.3**	**+1.5**
	baz=233						
OMMB	**Old Mammoth Mi**	**77.01**	**44**	P	**P**	**22 26 51.7**	**+0.5**
OMMB				IAmb	IAmb	22 26 53.8	
	comp=Z,10nm,1.0s						
BELC	**Belle Mtn. Jos**	**77.20**	**48**	P	**P**	**22 26 53.6**	**+1.4**
	baz=240,SNR=7.9						
MPMC	**Manual Prospec**	**77.20**	**46**	P	**P**	**22 26 53.6**	**+1.3**
	baz=238,SNR=17						
WAKR	**Walker**	**77.20**	**43**	P	**P**	**22 26 52.3**	**+0.1**
WAKR				IAmb	IAmb	22 26 54.3	
	comp=Z,15nm,1.2s						
GSC	**Goldstone, Bar**	**77.29**	**47**	P	**P**	**22 26 53.7**	**+1.1**
	baz=239,SNR=8.5						
HUMO	**Hull Mountain**	**77.37**	**38**	P	**P**	**22 26 54.4**	**+1.6**
HUMO				IAmb	IAmb	22 26 55.7	
	comp=Z,12nm,1.1s						
HEC	**Hector,Ludlow**	**77.38**	**48**	P	**P**	**22 26 54.1**	**+1.1**
	baz=239,SNR=5.4						
BC3	**Big Chuckawall**	**77.42**	**49**	P	**P**	**22 26 54.7**	**+1.3**
	baz=240						
PNTR	**Pine Nut**	**77.42**	**43**	P	**P**	**22 26 55.0**	**+1.6**
PNTR				IAmb	IAmb	22 26 55.4	
	comp=Z,20nm,1.0s						
L04D	**Klamath Falls**	**77.52**	**39**	P	**P**	**22 26 54.9**	**+1.1**
	baz=234						
GLA	**Glamis**	**77.58**	**50**	P	**P**	**22 26 55.9**	**+1.7**
	baz=241						
NJ2	**Nanjing**	**77.77**	**309**	*eP*	**P**	**22 26 56.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GRAC	**Grapevine Rang**	**77.78**	**45**	P	**P**	**22 26 56.6**	**+1.5**
	baz=238						
I03D	**Drain, OR**	**77.80**	**37**	P	**P**	**22 26 56.3**	**+1.3**
	baz=233						
GMRC	**Granite Mounta**	**77.83**	**48**	P	**P**	**22 26 56.7**	**+1.1**
	baz=240,SNR=5.1						
FURC	**Furnace Creek,**	**77.85**	**46**	P	**P**	**22 26 57.0**	**+1.5**
	baz=239,SNR=5.4						
RYN	**Ryan**	**77.87**	**43**	P	**P**	**22 26 56.4**	**+0.7**
RYN				IAmb	IAmb	22 26 58.3	
	comp=Z,15nm,1.1s						
IRM	**Iron Mountain**	**77.89**	**49**	P	**P**	**22 26 57.3**	**+1.5**
	baz=240,SNR=8.6						
PAHR	**Pah Rah Range**	**77.90**	**42**	P	**P**	**22 26 55.9**	**0.0**
PAHR				IAmb	IAmb	22 26 58.4	
	comp=Z,14nm,1.0s						
NVAR	**Mina Array Bea**	**77.91**	**44**	P	**P**	**22 26 57.3**	**+1.2**
	comp=Z,9.5nm,0.9s,baz=227,slow=9.0,SNR=56						
TUQ	**Turquoise Moun**	**77.98**	**47**	P	**P**	**22 26 57.5**	**+1.1**
	baz=240						
NV11	**Mina Array Sit**	**78.01**	**44**	IAmb	IAmb	22 26 59.0	
	comp=Z,25nm,1.1s						
113A	**Mohawk Valley,**	**78.22**	**51**	P	**P**	**22 26 58.5**	**+0.9**
113A				IAmb	IAmb	22 26 59.8	
	comp=Z,12nm,1.0s						
J04D	**Umpqua Nationa**	**78.24**	**38**	P	**P**	**22 26 58.9**	**+1.2**
	baz=234						
KVN	**Kaiserville**	**78.38**	**43**	P	**P**	**22 26 59.0**	**+0.5**
KVN				IAmb	IAmb	22 27 00.9	
	comp=Z,16nm,1.0s						
I04A	**Tendick Farm,**	**78.40**	**37**	P	**P**	**22 26 59.4**	**+1.0**
	baz=233						
TPNV	**Topopah Spring**	**78.52**	**46**	P	**P**	**22 27 00.6**	**+1.2**
	baz=239,SNR=13						
TPNV	**Topopah Spring**	**78.52**	**46**	P	**P**	**22 27 00.2**	**+0.9**
TPNV				IAmb	IAmb	22 27 01.2	
	comp=Z,7.3nm,0.7s						
MOD	**Modoc Plateau**	**78.56**	**40**	P	**P**	**22 26 59.9**	**+0.5**
MOD				IAmb	IAmb	22 27 01.8	
	comp=Z,9.6nm,0.9s						
214A	**Organ Pipe Nat**	**78.56**	**52**	P	**P**	**22 27 01.1**	**+1.6**
	baz=242,SNR=5.7						
214A	**Organ Pipe Nat**	**78.56**	**52**	P	**P**	**22 26 59.8**	**+0.4**
214A				IAmb	IAmb	22 27 01.9	
	comp=Z,13nm,1.1s						
H04D	**Lebanon**	**78.64**	**37**	P	**P**	**22 27 01.0**	**+1.4**
	baz=233						
K05A	**Summer Lake**	**78.67**	**39**	P	**P**	**22 27 01.0**	**+1.0**
G03D	**McMinnville, O**	**78.76**	**36**	P	**P**	**22 27 01.6**	**+1.4**
	baz=232						
J05D	**Fort Rock, OR**	**78.79**	**38**	P	**P**	**22 27 02.2**	**+1.6**
	baz=234						
SHPR	**Sheep Range**	**79.05**	**47**	P	**P**	**22 27 02.8**	**+0.6**
H04A	**Detroit Lake**	**79.06**	**37**	P	**P**	**22 27 02.6**	**+0.7**
H04A				IAmb	IAmb	22 27 03.8	
	comp=Z,18nm,1.0s						
BRLK	**Bradley Lake**	**79.12**	**13**	P	**P**	**22 27 01.6**	**-0.2**
BRLK				IAmb	IAmb	22 27 03.4	
	comp=Z,23nm,1.1s						
PINE	**Pine Mountain**	**79.26**	**38**	P	**P**	**22 27 04.1**	**+0.9**
W13A	**Hualapai Mount**	**79.26**	**48**	P	**P**	**22 27 03.9**	**+0.4**
I05D	**Terrebonne, OR**	**79.34**	**37**	P	**P**	**22 27 04.8**	**+1.3**
	baz=234						
Y14A	**Wickenburg**	**79.34**	**50**	P	**P**	**22 27 04.3**	**+0.6**
SVW2	**Sparrevohn**	**79.41**	**11**	P	**P**	**22 27 03.8**	**+0.5**
PRN	**Pahroc Range**	**79.58**	**46**	P	**P**	**22 27 06.3**	**+1.4**
PRN				IAmb	IAmb	22 27 07.1	
	comp=Z,13nm,1.2s						
R11A	**Troy Canyon, C**	**79.69**	**45**	P	**P**	**22 27 06.6**	**+1.0**
	baz=239,SNR=9.7						
R11A	**Troy Canyon, C**	**79.69**	**45**	P	**P**	**22 27 06.5**	**+0.9**
E04D	**Cinebar**	**79.97**	**35**	P	**P**	**22 27 08.0**	**+1.5**
	baz=233						
F05D	**White Salmon**	**80.18**	**36**	P	**P**	**22 27 08.8**	**+1.0**
	baz=234						
TUC	**Tucson**	**80.25**	**52**	P	**P**	**22 27 10.8**	**+2.2**
	baz=243						
I07A	**Izee**	**80.27**	**38**	IAmb	IAmb	22 27 11.0	
	comp=Z,12nm,0.9s						
D03D	**Eldon**	**80.28**	**34**	P	**P**	**22 27 09.6**	**+1.4**
	baz=232						

comp=Z,9.6nm,1.0s
DHY Denali Highway 82.85 13 P P 22 27 21.4 +0.1
DHY IAmb IAmb 22 27 21.9
comp=Z,9.7nm,1.1s
PLID Pearl Lake 82.92 39 IAmb IAmb 22 27 25.2
comp=Z,11nm,1.0s
Q16A Castle Valley 82.98 46 P P 22 27 24.2 +1.5
BPAW Bear Paw Mtn. 83.02 11 P P 22 27 21.4 -0.7
IPM Ipoh 83.09 277 P P 22 27 24.1 +0.6
IPM IAmb IAmb 22 27 24.9
comp=Z,12nm,0.7s
HLID Hailey 83.10 41 P P 22 27 24.5 +1.4
baz=239
HLID Hailey 83.10 41 P P 22 27 24.2 +1.0
HLID IAmb IAmb 22 27 25.9
comp=Z,20nm,1.1s
TMUT Trail Mountain 83.13 46 P P 22 27 24.9 +1.3
PAX Paxson 83.19 14 P P 22 27 22.8 -0.2
SPUT South Promonto 83.25 43 P P 22 27 24.9 +1.0
BELA Belgrano 2 83.34 173 P P 22 27 23.9 +0.3
BJI Beijing 83.45 315 P P 22 27 25.4 +0.7
BJI pmax pmax
comp=Z,8.0nm,1.4s
BJI pmax pmax
comp=Z,95nm,3.9s
JLU Jordanelle 83.58 44 P P 22 27 26.1 +0.4
KULM Kulim 83.69 277 P P 22 27 25.6 -1.0
NEA2 Nenana 83.83 12 P P 22 27 25.4 -0.8
baz=207
TCUT Toone Canyon 83.85 44 P P 22 27 28.2 +1.1
LENM Lemitar 83.93 52 P P 22 27 27.7 +0.2
NEW Newport 83.97 36 P P 22 27 27.6 +0.4
comp=Z,3.7nm,0.6s,baz=199,slow=3.4,SNR=6.5
NEW Newport 83.97 36 P P 22 27 27.6 +0.4
baz=237
NEW Newport 83.97 36 P P 22 27 26.8 -0.5
HWUT Hardware Ranch 83.98 44 P P 22 27 27.7 0.0
RIDG Independent Ri 84.00 14 P P 22 27 27.5 +0.5
RIDG IAmb IAmb 22 27 28.2
comp=Z,18nm,1.0s
HDA Harding Lake 84.11 13 P P 22 27 27.2 -0.3
baz=209
MNTX Cornudas Mount 84.15 55 P P 22 27 30.3 +1.9
baz=246
MNTX Cornudas Mount 84.15 55 P P 22 27 28.4 -0.1
MNTX IAmb IAmb 22 27 31.5
comp=Z,18nm,1.1s
BCAR Beaver Creek A 84.17 16 P P 22 27 27.8 -0.1
BNM Barren Site 84.18 52 P P 22 27 29.5 +0.7
PV10 Paradox Valley 84.22 47 P P 22 27 29.1 +0.1
PV10 IAmb IAmb 22 27 31.0
comp=Z,22nm,1.2s
PV14 Lion Creek, Pa 84.23 47 P P 22 27 29.8 +0.8
PV14 IAmb IAmb 22 27 31.3
comp=Z,18nm,1.1s
PV19 Morning Glory 84.23 47 P P 22 27 30.2 +1.2
PV19 IAmb IAmb 22 27 31.2
comp=Z,19nm,1.2s
PV17 East Wray Mesa 84.24 47 P P 22 27 28.2 -0.8
PV17 IAmb IAmb 22 27 31.3
comp=Z,17nm,1.2s
WHY Whitehorse 84.25 20 P P 22 27 29.6 +1.1
WHY IAmb IAmb 22 27 30.4
comp=Z,14nm,0.9s
PV18 Skein Mesa, Pa 84.26 47 P P 22 27 28.8 -0.3
PV18 IAmb IAmb 22 27 31.3
comp=Z,12nm,1.1s
PV20 West Nyswonger 84.26 47 P P 22 27 29.6 +0.5
PV20 IAmb IAmb 22 27 31.3
comp=Z,15nm,1.1s
IMAR Indian Mountai 84.26 10 P P 22 27 28.9 +0.7
PV23 Carpenter Ridg 84.28 47 P P 22 27 29.8 +0.5
PV23 IAmb IAmb 22 27 31.6
comp=Z,15nm,0.9s
PV13 Radium Mtn., P 84.28 48 P P 22 27 30.1 +0.8
PV13 IAmb IAmb 22 27 31.6
comp=Z,13nm,1.1s
PV16 Nyswonger Mesa 84.28 47 P P 22 27 29.5 +0.3
PV03 Paradox Valley 84.30 47 P P 22 27 29.4 +0.1
PV11 David Mesa, Pa 84.31 47 P P 22 27 30.2 +0.8
PV11 IAmb IAmb 22 27 32.4
comp=Z,9.2nm,0.9s
DLBC Dease Lake 84.31 23 P P 22 27 29.4 +0.7
DLBC IAmb IAmb 22 27 30.8
comp=Z,16nm,1.1s
PV04 Paradox Valley 84.33 47 P P 22 27 30.6 +1.2
PV04 IAmb IAmb 22 27 31.8
comp=Z,13nm,1.1s
TCOL CIGO, UAF Yank 84.33 12 P P 22 27 28.5 0.0
baz=208
PV21 Cone Mtn., Par 84.35 47 P P 22 27 30.3 +0.6
PV21 IAmb IAmb 22 27 31.4
comp=Z,14nm,1.1s
PV02 Paradox Valley 84.36 48 P P 22 27 29.5 -0.2
PV02 IAmb IAmb 22 27 31.9
comp=Z,10nm,1.2s
PV12 Saucer Basin, 84.36 47 P P 22 27 29.5 -0.2
PV12 IAmb IAmb 22 27 32.1
comp=Z,14nm,1.0s
SCRK Sand Creek 84.40 14 P P 22 27 30.1 +1.0
baz=212
ILAR Eielson Array 84.44 13 P P 22 27 29.0 -0.2
comp=Z,9.3nm,0.6s,baz=226,slow=5.3,SNR=74
ILAR Eielson Array 84.44 13 P P 22 27 28.9 -0.2
PV01 Paradox Valley 84.45 48 P P 22 27 30.2 +0.1
PV22 Blue Mesa, Par 84.47 47 P P 22 27 32.7 +2.5
PV07 Paradox Valley 84.53 47 P P 22 27 32.0 +1.6
RPSI Rantau Prapat 84.58 274 P P 22 27 30.4 -0.6
RPSI IAmb IAmb 22 27 31.6
comp=Z,13nm,1.1s
TX31 Lajitas Ar. Si 84.59 57 P P 22 27 31.9 +1.0
TXAR Lajitas Array 84.59 57 P P 22 27 33.3 +2.5
comp=Z,14nm,0.9s,baz=224,slow=5.2,SNR=93
TXAR Lajitas Array 84.59 57 P P 22 27 32.1 +1.3
PV15 Paradox Valley 84.60 48 P P 22 27 31.7 +0.8
PV15 IAmb IAmb 22 27 33.1
comp=Z,9.2nm,1.1s
POKR Poker Plat Res 84.63 12 P P 22 27 29.5 -0.6
baz=209
PMSA Palmer Station 84.67 157 P P 22 27 31.7 +1.3
comp=Z,21nm,0.8s,baz=194,slow=3.3,SNR=4.4
PMSA Palmer Station 84.67 157 P P 22 27 29.5 -0.9
MCMT McKenzie Canyo 84.71 40 P P 22 27 31.9 +0.6
K27K Chicken 84.90 15 P P 22 27 32.7 +1.3
baz=214
MSO Missoula 85.05 38 P P 22 27 33.5 +0.8
baz=240
MSO Missoula 85.05 38 P P 22 27 31.3 -1.4
MSO IAmb IAmb 22 27 34.1
comp=Z,4.8nm,0.6s
GYA Guiyang 85.13 299 *eP* **P 22 27 34.1 +0.6**
GYA pmax pmax
comp=Z,5.0nm,0.9s
GDL2 Guadalupe Moun 85.14 55 P P 22 27 33.8 +0.3
REDW Red Top Meadow 85.27 42 P P 22 27 33.5 -0.5
FXWY Fox Creek 85.29 42 IAmb IAmb 22 27 37.6
comp=Z,10.0nm,1.1s
MAW Mawson 85.36 200 P P 22 27 33.9 +0.2
comp=Z,9.8nm,0.7s,baz=123,slow=6.6,SNR=38
GSI Gunungsitoli 85.47 273 P P 22 27 34.8 -0.6
S22A 4UR Ranch, Cre 85.53 49 P P 22 27 37.0 +1.5
baz=245
S22A 4UR Ranch, Cre 85.53 49 P P 22 27 34.8 -0.7
S22A IAmb IAmb 22 27 38.1
comp=Z,8.3nm,0.9s
O20A White River Ci 85.55 46 P P 22 27 36.5 +1.1
baz=244
DAWY Dawson 85.61 16 P P 22 27 34.0 -0.9
DAWY IAmb IAmb 22 27 36.5
comp=Z,10nm,0.9s
FLWY Flagg Ranch 85.70 42 P P 22 27 36.0 -0.1
YHL Hebgen Lake 85.76 41 P P 22 27 37.2 +0.8
PDAR Pinedale Array 85.84 43 P P 22 27 37.6 +0.8
comp=Z,1.9nm,0.5s,baz=207,slow=3.0,SNR=18
PDAR PP PP 22 31 01.2 -2.1
comp=Z,0.4nm,0.7s,baz=283,slow=7.4,SNR=3.9
PDAR Pinedale Array 85.84 43 P P 22 27 36.6 -0.2
BOZ Bozeman (W) 85.84 40 P P 22 27 37.8 +1.2
baz=241
BOZ Bozeman (W) 85.84 40 IAmb IAmb 22 27 39.1
comp=Z,16nm,1.1s
H17A Grant Village 85.93 41 P P 22 27 39.4 +2.2
baz=242
YHH Holmes Hill 85.94 41 P P 22 27 38.3 +1.0
COLD Coldfoot 85.99 10 P P 22 27 37.3 +0.7
baz=206
COLD Coldfoot 85.99 10 P P 22 27 34.5 -2.1
XAN Xi'an 86.14 307 P P 22 27 39.2 +1.0
XAN pmax pmax
comp=Z,14nm,0.8s
WALA Waterton Lakes 86.20 36 P P 22 27 37.4 -0.8
WALA IAmb IAmb 22 27 40.1
comp=Z,13nm,1.0s
HRY Holter Researc 86.25 39 P P 22 27 38.6 +0.1
SDCO Great Sand Dun 86.48 49 P P 22 27 41.3 +1.2
baz=246
SDCO Great Sand Dun 86.48 49 P P 22 27 40.0 0.0
HHC Hu-ho-hao-te 86.97 314 *eP* **P 22 27 41.7 -0.4**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,100nm,7.6s
T25A Trinidad 87.04 50 P P 22 27 44.2 +1.6
baz=247
RLMT Red Lodge 87.09 41 P P 22 27 44.2 +1.5
baz=243
RLMT Red Lodge 87.09 41 P P 22 27 43.4 +0.7
RLMT IAmb IAmb 22 27 45.3
comp=Z,17nm,1.1s
BMAR Burnt Mountain 87.22 12 P P 22 27 42.5 0.0
TOLK Toolik Lake Re 87.36 10 P P 22 27 43.7 +0.4
baz=207
N23A Red Feather La 87.46 46 P P 22 27 45.8 +1.2
baz=246
K22A Casper 87.80 44 P P 22 27 46.7 +0.7
baz=245
AMTX Amarillo 88.23 53 P P 22 27 49.0 +0.9
baz=248
ABTX Abilene, Hawle 89.01 56 P P 22 27 52.8 +1.1
baz=250
ABTX Abilene, Hawle 89.01 56 P P 22 27 51.5 -0.2
CMAR Chiang Mai Arr 89.24 289 P P 22 27 54.1 +1.0
comp=Z,0.5nm,0.4s,baz=103,slow=3.6,SNR=8.0
LAO LAO Array 89.69 41 P P 22 27 56.4 +1.8
baz=245
RSSD Black Hills 90.05 44 P P 22 27 57.1 +0.5
baz=247
RSSD Black Hills 90.05 44 P P 22 27 57.3 +0.7
INK Inuvik 90.42 15 P P 22 27 58.0 +0.6
comp=Z,0.9nm,0.4s,baz=198,slow=5.4,SNR=2.2
WHTX Lake Whitney, 90.54 57 P P 22 27 59.9 +1.1
baz=251
LZH Lanzhou 90.76 307 *eP* **P 22 28 02.2 +2.2**
LZH pP pP 22 29 28.0 -3.6
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,65nm,4.3s
HKT Hockley 91.20 59 P P 22 28 02.4 +0.5
HKT IAmb IAmb 22 28 11.8
comp=Z,5.0nm,0.9s
PLCA Paso Flores 91.62 133 P P 22 28 05.0 +1.1
comp=Z,6.3nm,0.9s,baz=231,slow=7.1,SNR=8.7
PLCA Paso Flores 91.62 133 P P 22 28 04.4 +0.5
PLCA IAmb IAmb 22 28 06.7
comp=Z,12nm,1.1s
DGMT Dagmar 91.66 40 P P 22 28 05.0 +1.4
baz=247
R32A Long Quarter, 91.71 50 P P 22 28 05.1 +1.0
SNAA Sanae 91.87 178 P P 22 28 04.4 +0.1
SNAA Sanae 91.87 178 P P 22 28 03.6 -0.7
SNAA IAmb IAmb 22 28 04.5
comp=Z,8.8nm,0.9s
VNA3 Neumayer Olymp 91.98 176 P P 22 28 04.9 +0.1
VNA2 Neumayer--Watz 92.43 177 P P 22 28 07.7 +0.9
VNA1 Neumayer--Stat 92.65 176 P P 22 28 08.1 +0.2
YKA Yellowknife Ar 92.81 24 P P 22 28 08.8 +0.3
comp=Z,17nm,0.6s,baz=233,slow=4.1,SNR=4.2
T35A Sooner Cattle 92.86 52 P P 22 28 10.0 +0.6
TUL1 Leonard 93.10 54 P P 22 28 11.7 +1.2
baz=252
SONM Songino Array 93.12 319 P P 22 28 10.8 +0.3
comp=Z,0.2nm,0.4s,baz=121,slow=4.6,SNR=1.9
SONM PP PP 22 31 55.8 -4.6
comp=Z,0.9nm,1.1s,baz=126,slow=7.5,SNR=3.7
SONM Songino Array 93.12 319 IAmb IAmb 22 28 17.3
comp=Z,0.6nm,0.9s
KSU1 Kansas State U 93.48 50 P P 22 28 13.6 +1.3
baz=252
W39A Magazine 94.44 55 P P 22 28 18.7 +2.0
baz=253
ECSD EROS Data Cent 94.93 46 P P 22 28 20.0 +1.3
baz=252
ECSD EROS Data Cent 94.93 46 P P 22 28 18.3 -0.4
U40A Yellville 95.50 54 P P 22 28 23.0 +1.4
baz=254
W41B Gary Mavity, V 95.64 55 P P 22 28 23.3 +1.1
baz=254
W41B Gary Mavity, V 95.64 55 P P 22 28 22.2 +0.1
W41B IAmb IAmb 22 28 25.3
comp=Z,4.8nm,0.9s
ZALV Zalesovo Beam 107.73 322 PKiKP PKiKP 22 33 19.8 -1.1
comp=Z,0.8nm,0.5s,baz=160,slow=4.7,SNR=4.6
MKAR Makanchi Array 108.83 314 PKiKP PKiKP 22 33 22.3 -0.9
comp=Z,1.0nm,0.4s,baz=78,slow=2.2,SNR=33
MKAR PKKPbc **PKKPbc 22 44 33.1 -0.8**
comp=Z,0.6nm,0.4s,baz=266,slow=3.7,SNR=9.8
BRVK Borovoye 116.42 321 PKPdf PKPdf 22 33 37.0 -0.5
KKAR Karatay Array 117.12 310 PKPdf PKPdf 22 33 38.1 -1.1
ARU Arti 122.23 327 PKPdf PKPdf 22 33 48.2 -0.4
ABKAR Akbulak array 123.53 318 PKPdf PKPdf 22 33 50.3 -1.0
ARCES ARCESS Array B 125.18 350 PKP PKPdf 22 33 53.7 -0.2
comp=Z,5.9nm,0.6s,baz=27,slow=1.4,SNR=45
GEYT Alibeck 126.99 305 PKP PKPdf 22 33 57.5 -0.8
comp=Z,3.9nm,0.8s,baz=20,slow=4.6,SNR=6.9
KLMR Klimovskoe 128.48 338 *ePKPdf* **PKPdf 22 33 57.8 -2.5**
KLMR AMP 22 34 01.3
comp=Z,20nm,1.4s
BOSA Boshof 129.93 206 PKP PKPdf 22 34 04.7 +0.3
comp=Z,1.0nm,0.4s,baz=148,slow=1.8,SNR=5.3
FINES FINESS Array B 132.16 345 PKhKP PKPpre 22 33 59.3
comp=Z,1.0nm,0.8s,baz=40,slow=3.2,SNR=5.2
FINES PKP **PKPdf 22 34 06.8 -0.4**
comp=Z,3.0nm,0.6s,baz=51,slow=3.0,SNR=17
FINES SKPbc **SKPab 22 36 57.2 +0.2**
comp=Z,3.4nm,0.6s,baz=62,slow=3.4,SNR=20
NB2 NORSAR Subarra135.18 354 PKP PKiKP 22 34 14.2 -0.5
comp=Z,1.2nm,0.5s,baz=10,slow=4.0
NOA NORSAR Array B 135.18 354 PKP PKPdf 22 34 13.7 +0.6
comp=Z,0.6nm,0.4s,baz=13,slow=4.1,SNR=6.7
NOA SKPbc **SKPbc 22 37 07.8 +2.2**
comp=Z,3.7nm,1.1s,baz=15,slow=4.5,SNR=4.0
AKASG Malin Array Be 139.78 334 PKhKP PKPpre 22 34 17.9
comp=Z,0.6nm,0.3s,baz=37,slow=3.8,SNR=3.8
AKASG PKP **PKiKP 22 34 23.2 -1.1**
comp=Z,0.8nm,0.3s,baz=41,slow=2.2,SNR=7.9
AKASG SKPbc **SKiKP 22 37 21.0 -0.7**
comp=Z,1.0nm,0.5s,baz=43,slow=3.8,SNR=4.5
KMBO Kilima Mbogo 141.42 246 PKhKP PKPpre 22 34 23.5
comp=Z,0.9nm,0.4s,baz=10.0,slow=2.0,SNR=7.7
SORM Soroca 142.07 332 ⇑P PKPdf 22 34 22.6 -3.3
GAZ Gaziantep 143.15 311 *eP* **PKPbc 22 34 26.7 +0.8**
SARI SarD1z-Kayseri 143.18 313 *eP* **PKPdf 22 34 27.7 -0.8**
KWP Kalwaria Pacla 143.20 338 *ePKP* **PKPbc 22 34 25.5 -0.1**
BNN Bunyan 143.38 314 *eP* **PKPbc 22 34 27.4 +0.7**
BURAR Bucovina Array 143.84 334 ⇑P PKPbc 22 34 27.8 0.0
BURAR Bucovina Array 143.84 334 PKPdf PKPab 22 34 27.6 -0.1
KOLS Kolonicke sedl 143.94 338 *ePKP* **PKPab 22 34 27.6 -0.4**
TLCR 143.94 328 ⇑P PKPbc 22 34 28.6 +0.5
ASSE Asse, Remlinge 143.96 351 *ePKPbc* **PKPab 22 34 27.6 -0.2**
baz=14,slow=3.0
BIZ Bicaz 143.97 332 ⇑P PKPbc 22 34 28.3 +0.1
KOZT Kozan 144.01 312 *eP* **PKPab 22 34 28.9 +0.3**
GHRR 144.02 330 ⇓P PKPdf 22 34 29.1 -0.3
KSP Ksiaz 144.09 345 *ePKP* **PKPab 22 34 28.9 +0.5**
IBBN Ibbenburen 144.13 354 *ePKPbc* **PKPab 22 34 28.6 +0.1**
baz=14,slow=3.0
NIE Niedzica 144.21 340 *ePKP* **PKPdf 22 34 29.6 -0.1**
TAHT Tahtakopru-Hat 144.23 310 *eP* **PKPdf 22 34 29.9 -0.2**
CRVS Cervenica-Dubn 144.26 338 *ePKP* **PKPdf 22 34 29.5 -0.3**
CEYT Ceyhan 144.28 311 *eP* **PKPdf 22 34 30.1 -0.1**
CLZ Clausthal 144.29 352 *ePKPbc* **PKPbc 22 34 28.8 -0.2**
baz=14,slow=3.0
CFR Carcaliu 144.29 328 ⇑P PKPab 22 34 29.5 +0.2
CLL Collm 144.37 349 *i PKPdf* **PKPbc 22 34 29.0 -0.3**
comp=Z,20nm,0.9s
CLL *i* SKPbc **SKiKP 22 37 33.5 +2.4**
comp=Z,33nm,1.7s
CLL Collm 144.37 349 *ePKPbc* **PKPbc 22 34 29.3 0.0**
baz=14,slow=3.0
OSTC Ostas 144.37 345 *ePKP* **PKPdf 22 34 30.0 0.0**

CHVC Chvalec 144.38 345 *ePKP* **PKPdf 22 34 30.0 0.0**
ODBI Odobesti 144.41 330 ⇓P PKPdf 22 34 31.5 +1.3
YAYL Yayladag 144.42 309 *eP* **PKPdf 22 34 30.5 -0.2**
BRTR Keskin Array B 144.44 317 PKP PKPab 22 34 30.2 -0.1
comp=Z,14nm,0.9s,baz=95,slow=1.9,SNR=45
BRTR SKPbc **SKiKP 22 37 32.5 +0.6**
comp=Z,1.8nm,0.9s,baz=151,slow=2.8,SNR=4.8
BRTR Keskin Array B 144.44 317 *eP* **PKPbc 22 34 30.1 0.0**
BRTR Keskin Array B 144.44 317 PKPbc 22 34 30.0 -0.1
UPC Upice 144.47 345 *ePKP* **PKPdf 22 34 30.0 -0.1**
VRI Vrincioaia 144.49 330 ⇑P PKPdf 22 34 30.3 0.0
OKC Ostrava-Krasne 144.50 342 *ePKP* **PKPbc 22 34 29.8 0.0**
BMR Baia Mare 144.50 335 ⇑P PKPbc 22 34 28.2 -1.6
CMRD Camardi-Nigde 144.53 313 *eP* **PKPdf 22 34 31.4 +0.6**
DPC Dobruska-Polom 144.53 345 *ePKP* **PKPdf 22 34 30.5 +0.2**
PLOR Plostina 144.53 330 ⇓P PKPab 22 34 30.2 -0.1
BRG Berggiesshubel 144.60 347 *i PKP* **PKPbc 22 34 29.9 -0.1**
comp=Z,39nm,1.4s
BRG *e*SKP 22 37 33.5
comp=Z,16nm,1.6s
BRG Berggiesshubel 144.60 347 *ePKPbc* **PKPbc 22 34 30.1 +0.1**
baz=14,slow=3.0
ARCR ARCALIA 144.62 334 ⇓P PKPab 22 34 30.8 +0.3
GTTG Gottingen 144.63 352 *ePKPbc* **PKPbc 22 34 29.9 -0.2**
baz=14,slow=3.0
KARA Karaisali 144.66 312 *eP* **PKPbc 22 34 30.8 +0.1**
KRLC Kraliky 144.67 344 *ePKP* **PKPab 22 34 30.7 0.0**
FBE Freiberg 144.67 348 *ePKPbc* **PKPbc 22 34 30.3 0.0**
baz=14,slow=3.0
NEUB Neuenburg 144.69 350 *ePKPbc* **PKPbc 22 34 30.2 -0.1**
baz=14,slow=3.0
LANS Liptovska Anna 144.71 341 *ePKP* **PKPab 22 34 31.8 +1.0**
MORC Moravsky Berou 144.73 343 ⇓P PKPab 22 34 31.0 +0.1
MORC Moravsky Berou 144.73 343 *ePKP* **PKPab 22 34 30.9 +0.1**
HARR Harsova 144.74 328 ⇑P PKPbc 22 34 30.2 -0.5
TLBR Tapalu 144.78 328 ⇑P PKPab 22 34 31.5 +0.3
PVCC Panska Ves 144.79 347 *ePKP* **PKPab 22 34 31.3 +0.3**
LOD Lodumlu 144.92 318 *eP* **PKPab 22 34 32.1 +0.1**
KECS Kecovo 144.95 339 *ePKP* **PKPab 22 34 32.2 +0.5**
AFSR Afar-Bala (An 144.96 317 *eP* **PKPab 22 34 32.3 +0.1**
DOPR Dopca 145.03 332 ⇓P PKPab 22 34 32.3 +0.2
BUG Bochum--Univer 145.04 355 *ePKPbc* **PKPbc 22 34 31.3 0.0**
baz=14,slow=3.0
MLR Muntele Rosu 145.13 331 ⇓P PKPbc 22 34 32.0 0.0
MLR Muntele Rosu 145.13 331 PKPdf PKPbc 22 34 32.1 0.0
CJR Cluj-Napoca 145.23 334 ⇑P PKPab 22 34 32.8 -0.1
PRA Prague 145.25 346 *eP* **PKPab 22 34 32.8 +0.1**
MOX Moxa 145.26 350 *ePKPbc* **PKPbc 22 34 32.0 -0.1**
baz=14,slow=3.0
PRU Pruhonice 145.30 346 *ePKP* **PKPdf 22 34 31.8 +0.3**
PLN Plauen 145.31 349 *ePKPbc* **PKPbc 22 34 32.3 0.0**
baz=14,slow=3.0
WERD Werda 145.32 349 *ePKPbc* **PKPbc 22 34 32.4 0.0**
baz=14,slow=3.0
TANN Tannenbergstha 145.32 349 *ePKPbc* **PKPbc 22 34 32.3 -0.1**
baz=14,slow=3.0
YUVA Yuva-Kibriscik 145.33 319 *eP* **PKPbc 22 34 32.8 0.0**
UBBA Unterbreizbach 145.34 352 *ePKPbc* **PKPbc 22 34 31.9 -0.3**
baz=14,slow=3.0
GUNZ Gunzen 145.40 349 *ePKPbc* **PKPbc 22 34 32.4 -0.2**
baz=14,slow=3.0
SECR 145.41 330 ⇓P PKPbc 22 34 33.0 +0.2
VRAC Vranov 145.42 344 ⇑P PKPbc 22 34 32.9 +0.3
VRAC Vranov 145.42 344 *ePKP* **PKPbc 22 34 32.8 +0.1**
WERN Wernitzgruen 145.46 349 *ePKPbc* **PKPbc 22 34 32.8 0.0**
baz=14,slow=3.0
VYHS Vyhne 145.49 341 *ePKP* **PKPab 22 34 33.5 -0.3**
NKC Novy Kostel 145.50 349 *ePKP* **PKPbc 22 34 32.7 -0.2**
JAVC Velka Javorina 145.52 342 *ePKP* **PKPab 22 34 34.0 +0.1**
VOIR 145.59 331 ⇑P PKPab 22 34 34.0 -0.4
MDUB Mudurnu 145.59 320 PKPbc 22 34 34.0 +0.5
PSZ Piszkesteto 145.64 339 ⇓P PKPbc 22 34 33.7 +0.2
PSZ Piszkesteto 145.64 339 PKPbc 22 34 34.4 -0.1
KRUC Moravsky 145.69 344 *ePKP* **PKPbc 22 34 33.2 -0.3**
PBCC Pribram 145.71 347 *ePKP* **PKPab 22 34 34.2 -0.4**
TREC Trest 145.72 345 *ePKP* **PKPbc 22 34 33.7 +0.2**
MANZ Manzenberg 145.80 349 *ePKPbc* **PKPbc 22 34 33.6 -0.2**
baz=14,slow=3.0
ARR Arges 145.83 332 ⇑P PKPbc 22 34 33.6 -0.5
MEM Membach 145.96 356 PKPdf PKPdf 22 34 33.3 +0.6
MEM PKPbc PKPbc 22 34 34.6 +0.4
BTNL Ternell 145.97 356 PKPab PKPbc 22 34 34.6 +0.4
ROTZ Rotzenmuhle 145.99 349 *ePKPbc* **PKPbc 22 34 34.3 0.0**
baz=14,slow=3.0
BSTI Sart Tilman 146.01 356 PKPab PKPbc 22 34 34.4 +0.1
KIZT Kizilcal 146.04 317 *eP* **PKPbc 22 34 34.9 -0.1**
MODS Modra-Piesok 146.07 342 *ePKP* **PKPbc 22 34 34.6 0.0**
TNS Taunus Mts 146.12 353 *ePKPbc* **PKPbc 22 34 34.6 -0.2**
baz=14,slow=3.0
DEV Deva 146.19 334 ⇑P PKPbc 22 34 35.5 +0.5
TEVE Tevekalti-Mers 146.19 312 *eP* **PKPbc 22 34 35.3 -0.1**
BCLA Clavier 146.19 357 PKPab PKPbc 22 34 34.5 -0.3
SRCK Saricakaya, Es 146.20 319 *eP* **PKPab 22 34 36.9 +0.1**
KONT Konya--Tatoy 146.21 315 *eP* **PKPbc 22 34 35.5 +0.1**
BGES Gesves 146.24 357 PKPab PKPbc 22 34 34.7 -0.3
GRF Grafenberg Arr 146.24 350 *ePKPbc* **PKPbc 22 34 35.3 +0.3**
baz=14,slow=3.0
RAZG Razgrad 146.26 328 ⇓P PKPbc 22 34 34.9 -0.4
HUMR Humele 146.31 330 ⇓P PKPbc 22 34 34.4 -0.9
KHC Kasperske Hory 146.32 347 *ePKP* **PKPbc 22 34 33.7 +0.3**
KHC Kasperske Hory 146.32 347 PKPbc 22 34 36.7 +0.4
BMRD Maredsous 146.34 357 PKPab PKPbc 22 34 35.0 -0.2
SIRR Siria 146.38 336 ⇓P PKPbc 22 34 36.0 +0.5
BORA Eskisehir 146.40 319 *eP* **PKPbc 22 34 35.7 -0.2**
WET Wettzell 146.46 348 *ePKPbc* **PKPbc 22 34 36.0 +0.3**
baz=14,slow=3.0
DOU Dourbes 146.55 358 PKPab PKPbc 22 34 35.7 -0.1
TEKE Tekeli-Mersin 146.56 312 *eP* **PKPdf 22 34 31.6 -2.5**
GEC2 GERESS Array S 146.56 346 *ePKPbc* **PKPbc 22 34 36.1 +0.1**
baz=14,slow=3.0
GERES GERESS Array B 146.56 346 PKPbc PKPbc 22 34 36.1 +0.1
comp=Z,5.3nm,0.7s,baz=22,slow=3.1,SNR=39
GERES GERESS Array B 146.56 346 PKPdf PKPdf 22 34 33.5 -0.3
GZR Gura Zlata 146.63 334 ⇑P PKPbc 22 34 36.1 -0.3
AUBOZ BOZOYUK 146.64 320 *eP* **PKPbc 22 34 36.5 0.0**
SEYD Seydisehir-KON 146.84 314 *eP* **PKPbc 22 34 38.0 +0.8**
CONA Conrad Observa 146.88 343 *i P* **PKPbc 22 34 37.7 +0.8**
comp=Z,42nm,1.6s,SNR=11
WLF Walferdange 146.89 356 PKPab PKPbc 22 34 37.1 +0.3
WLF Walferdange 146.89 356 *ePKPbc* **PKPbc 22 34 37.4 +0.6**
baz=14,slow=3.0
CSS Mathiatis 146.93 309 PKPbc 22 34 37.2 -0.2
BZS Buzias 146.93 335 ⇑P PKPbc 22 34 36.6 -0.4
GAZI Gazipasa 147.09 312 *eP* **PKPbc 22 34 36.8 -1.0**
SHUT Suhut-Afyon 147.09 317 *eP* **PKPbc 22 34 38.1 +0.2**
LEF Lefka 147.19 310 *eP* **PKPbc 22 34 37.8 -0.3**
HERR Herculane 147.19 333 ⇓P PKPbc 22 34 37.9 +0.1
TVSB Tavsanli 147.27 319 *eP* **PKPbc 22 34 38.3 0.0**
MBAR Mbarara 147.29 241 PKPbc 22 34 40.0 +0.9
MOA Molln 147.36 345 *i P* **PKPbc 22 34 38.4 +0.2**
comp=Z,17nm,1.0s,SNR=9.8
HRFI Mount Harif 147.37 300 *eP* **PKPbc 22 34 38.9 +0.2**
STU Stuttgart 147.45 352 *ePKPbc* **PKPbc 22 34 38.6 +0.3**
baz=14,slow=3.0
FUR Furstenfeldbru 147.71 349 *ePKPbc* **PKPbc 22 34 39.1 0.0**
baz=14,slow=3.0
BFO Black Forest 148.00 353 *ePKPbc* **PKPbc 22 34 39.8 0.0**
baz=14,slow=3.0
BFO Black Forest 148.00 353 PKPdf PKPdf 22 34 36.4 +0.2
BFO PKPbc PKPbc 22 34 39.8 0.0
FRGS Fruska Gora 148.02 337 ⇓P PKPbc 22 34 39.8 -0.2
SOKA Soboth 148.25 343 *i P* **PKPbc 22 34 40.1 -0.5**
comp=Z,11nm,0.9s,SNR=6.2
BISS Bistriski jare 148.25 343 *i* PKPbc **PKPbc 22 34 40.0 -0.5**
KBA Koelnbreinsper 148.31 346 *i P* **PKPbc 22 34 40.3 -0.5**
comp=Z,7.5nm,0.5s,SNR=6.8
GROS Grobnik 148.32 343 *ePKPbc* **PKPbc 22 34 40.1 -0.7**
WATA Walderalm 148.44 348 *i P* **PKPbc 22 34 41.0 -0.1**
comp=Z,10nm,0.6s,SNR=6.4
RETA Reutte 148.45 349 *i P* **PKPbc 22 34 41.3 +0.3**
comp=Z,7.9nm,0.6s,SNR=6.8
WTTA Wattenberg 148.50 348 *i P* **PKPdf 22 34 37.2 0.0**
comp=Z,7.7nm,1.2s,SNR=7.8
WTTA *e*P **PKPbc 22 34 41.5 +0.1**
comp=Z,8.2nm,0.5s
MOTA Moosalm 148.53 349 *eP* **PKPdf 22 34 37.1 -0.1**
comp=Z,7.5nm,1.3s
MOTA *i* P **PKPbc 22 34 41.6 +0.2**
comp=Z,19nm,1.1s,SNR=8.9
SQTA Sankt Quirin 148.63 349 *eP* **PKPdf 22 34 38.0 +0.7**
comp=Z,6.5nm,1.4s
SQTA *i* P **PKPbc 22 34 41.6 +0.1**
comp=Z,22nm,1.1s,SNR=8.6

TEKS	**Tekeris**	**148.64**	**336**	*eP*		**PKPbc**	**22 34 41.8**	**+0.2**
MYKA	**Terra Mystica**	**148.65**	**345**	*i* P		**PKPbc**	**22 34 41.0**	**-0.5**
	comp=Z,6.8nm,0.5s,SNR=5.2							
CLF	**Chambon-Foret**	**148.67**	**0**	PKPdf		**PKPdf**	**22 34 38.6**	**+1.4**
DAVA	**Damuels**	**148.80**	**350**	*i* P		**PKPbc**	**22 34 42.6**	**+0.5**
	comp=Z,22nm,1.0s,SNR=9.4							
ABTA	**Abfaltersbach**	**148.81**	**347**	*eP*		**PKPdf**	**22 34 37.3**	**-0.3**
	comp=Z,10nm,1.3s							
ABTA				*i* P		**PKPbc**	**22 34 41.4**	**-0.6**
	comp=Z,28nm,1.1s,SNR=6.8							
DIVS	**Divibare**	**148.84**	**335**	*i*P		**PKPbc**	**22 34 42.1**	**-0.1**
DIVS	**Divibare**	**148.84**	**335**			**PKPbc**	**22 34 42.0**	**-0.1**
VNDS	**Vrh nad Dolski**	**148.87**	**343**	*i* PKPbc		**PKPbc**	**22 34 41.7**	**-0.4**
CRES	**Cresnjev**	**148.91**	**342**	*eP*		**PKPbc**	**22 34 41.8**	**-0.3**
FETA	**Feichten**	**148.91**	**349**	*eP*		**PKPdf**	**22 34 38.2**	**+0.3**
	comp=Z,6.3nm,0.9s							
FETA				*i* P		**PKPbc**	**22 34 42.8**	**+0.5**
	comp=Z,34nm,1.2s,SNR=7.0							
EZN	**Ezine**	**148.92**	**323**	*eP*		**PKPbc**	**22 34 42.2**	**-0.1**
LJU	**Ljubljana**	**148.97**	**344**	*i* PKPbc		**PKPbc**	**22 34 42.1**	**-0.2**
LJU	**Ljubljana**	**148.97**	**344**	*eP*		**PKPbc**	**22 34 42.1**	**-0.2**
AKAS	**Kas**	**148.98**	**314**	*eP*		**PKPbc**	**22 34 42.2**	**-0.6**
AKAS	**Kas**	**148.98**	**314**			**PKPbc**	**22 34 42.6**	**-0.2**
VOJS	**Vojsko**	**149.15**	**344**	*i* PKPbc		**PKPbc**	**22 34 42.2**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**149.15**	**319**	*eP*		**PKPbc**	**22 34 43.1**	**-0.1**
HAPS	**Han Pijesak,Bl**	**149.26**	**336**	*eP*		**PKPbc**	**22 34 42.4**	**-0.8**
BBLS	**Lazići**	**149.26**	**336**	⇓*i*P		**PKPbc**	**22 34 43.3**	**+0.1**
CEY	**Cerknica**	**149.28**	**343**	⇓*i*P		**PKPbc**	**22 34 42.6**	**-0.5**
BLY	**Banja Luka**	**149.32**	**339**	⇓*i*P		**PKPbc**	**22 34 43.3**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**149.38**	**349**			**PKPbc**	**22 34 43.9**	**+0.3**
RUDO	**Rudo**	**149.49**	**335**	*eP*		**PKPbc**	**22 34 43.3**	**-0.3**
TURN	**Turunc**	**149.60**	**316**	*eP*		**PKPbc**	**22 34 44.1**	**0.0**
MLSB	**Milas**	**149.61**	**318**	*eP*		**PKiKP**	**22 34 44.6**	**-0.4**
TUE	**Stuetta**	**149.67**	**351**			**PKPbc**	**22 34 44.0**	**-0.2**
STIP	**Stip**	**149.79**	**330**	*i* P		**PKPbc**	**22 34 44.2**	**-0.2**
VAY	**Valandovo**	**149.88**	**329**	*i* P		**PKPbc**	**22 34 43.8**	**-0.8**
SKO	**Skopje**	**149.93**	**331**	*i* P		**PKPbc**	**22 34 44.6**	**-0.1**
UPM	**Unac-Piva**	**150.02**	**336**	*eP*		**PKPbc**	**22 34 44.1**	**-1.1**
BODT	**Bodrum**	**150.05**	**318**	*eP*		**PKPbc**	**22 34 44.7**	**-0.5**
BRY	**Bratogost**	**150.42**	**336**	*eP*		**PKPbc**	**22 34 45.2**	**-0.8**
PDG	**Podgorica**	**150.52**	**334**	⇑P		**PKPbc**	**22 34 46.0**	**-0.1**
PDG	**Podgorica**	**150.52**	**334**	⇓*i*P		**PKPbc**	**22 34 45.7**	**-0.4**
DRME	**Dracevica, Mon**	**150.75**	**334**	*eP*		**PKPbc**	**22 34 46.4**	**-0.2**
OHR	**Ohrid**	**150.90**	**331**	*i* P		**PKPbc**	**22 34 45.3**	**-1.8**
BNI	**Bardonecchia**	**151.42**	**354**			**PKiKP**	**22 34 49.2**	**+0.6**
ESDC	**Sonseca Array**	**156.34**	**12**	PKP		**PKPdf**	**22 34 48.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=342,slow=2.4,SNR=6.1							
ESDC				PKPab		**PKPab**	**22 35 19.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=326,slow=4.3,SNR=4.0							
ESDC	**Sonseca Array**	**156.34**	**12**	PKPdf		**PKPdf**	**22 34 49.1**	**+0.3**
KEST	**Kesra**	**159.99**	**343**	PKPab		**PKPab**	**22 35 35.5**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=52,slow=1.6,SNR=2.5							
LIC	**Lamto**	**167.34**	**144**	*e*PKP1		**PKPdf**	**22 34 59.4**	**-1.1**
	comp=Z,37nm,0.9s							
KIC	**Kosan Boka**	**167.61**	**144**	*e*PKP1		**PKPdf**	**22 35 00.2**	**-0.5**
	comp=Z,32nm,1.0s							
TIC	**Toumodi**	**167.69**	**143**	*e*PKP1		**PKPdf**	**22 34 59.6**	**-1.2**
DBIC	**Dimbokro**	**167.80**	**143**	PKP		**PKPdf**	**22 34 59.4**	**-1.4**
	comp=Z,5.4nm,0.9s,baz=210,slow=5.0,SNR=3.7							
TOA0	**Torodi Ar. Sit**	**176.48**	**168**			**PKPdf**	**22 35 03.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**176.48**	**168**	PKP		**PKPdf**	**22 35 03.8**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=313,slow=1.3,SNR=17							
TORD				PKPab		**PKPab**	**22 36 48.2**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=204,slow=3.4,SNR=9.2							
TORD				PP		**PP**	**22 40 40.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=159,slow=3.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**176.48**	**168**			**PKPdf**	**22 35 03.5**	**-1.1**

GCG ***02*** *22:19:20.5±0.4, 13°.45N×91°.13W, h35km±999km, MD3.5*
SNET ***02*** *22:19:23.7±1.4, 13°.57N×90°.76W, h23km±5km, ML2.6*
ISC 02 22:19:20.7±3.2, 13°.4N±0°.1×90°.82W±0°.10, h9km±12km, n13, σ0s85/23, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.83**	**26**	*e*P	**Pg**	**22 19 38.3**	**+1.6**
FUG	**Fuego 3**	**1.02**	**359**	*e*P	**Pg**	**22 19 39.0**	**-1.4**
NUBE	**Las Nubes**	**1.12**	**64**	*e*P	**Pg**	**22 19 41.8**	**-0.4**
NUBE				*e*S	**Sg**	**22 19 56.3**	**-0.5**
NUBE				IAML		22 19 58.5	
	comp=Z,75nm,0.2s						
RTR	**El Retiro**	**1.23**	**67**	*e*P	**Pg**	**22 19 44.1**	**-0.3**
RTR				*e*S	**Sg**	**22 20 00.0**	**-0.5**
SBLS	**San Blas**	**1.23**	**70**	*e*P	**Pg**	**22 19 43.9**	**-0.5**
SBLS				*e*S	**Sg**	**22 20 00.8**	**+0.3**
NBG	**Las Nubes**	**1.25**	**21**	*e*P	**Pg**	**22 19 44.1**	**-0.6**
NBG				*e*S	**Sg**	**22 20 02.4**	**+1.4**
SNJE	**San Jose**	**1.26**	**69**	*e*P	**Pg**	**22 19 44.3**	**-0.6**
SNJE				*e*S	**Sg**	**22 20 00.9**	**-0.4**
TACO	**Tacachico**	**1.52**	**69**	*e*P	**Pn**	**22 19 48.3**	**+0.1**
TACO				*e*S	**Sn**	**22 20 07.8**	**-0.3**
BOQS	**Boqueron**	**1.53**	**78**	*e*P	**Pn**	**22 19 48.8**	**+0.5**
BOQS				*e*S	**Sn**	**22 20 08.1**	**-0.4**
MTO3	**Montecristo**	**1.72**	**55**	*e*P	**Pn**	**22 19 51.2**	**+0.2**
MTO3				*e*S	**Sn**	**22 20 11.6**	**-1.6**
LFRS	**El Faro**	**1.72**	**83**	*e*P	**Pn**	**22 19 51.9**	**+1.0**
LFRS				*e*S	**Sn**	**22 20 12.9**	**-0.1**
PAVA	**Las Pavas**	**1.85**	**81**	*e*P	**Pn**	**22 19 53.1**	**+0.4**
PAVA				IAML		22 20 25.1	
	comp=Z,90nm,0.4s						
COEG	**Centro de Oper**	**1.90**	**84**	*e*P	**Pn**	**22 19 54.3**	**+1.0**
COEG				*e*S	**Sn**	**22 20 17.9**	**+0.6**
COEG				IAML		22 20 25.3	
	comp=Z,196nm,0.3s						

IDC ***02*** *22:20:29.0±1.4, 62°.65S×158°.20W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/29, mbtmp4.1/6, ML3.8/1, MS3.8/7, Ms1 3.7/7, ms1mx3.5/17, Error ellipse: s-maj=38.1km s-min=26.6km az=37.0*
NEIC ***02*** *22:20:29.9±1.3, 62°.5S±0°.2×158°.0W±0°.3, h10km±1km, mb4.6/11, Error ellipse: s-maj=35.5km s-min=11.0km az=218.0*
ISC 02 22:20:29.8±0.7, 62°.5S±0°.1×158°.0W±0°.1, h10km, n38, σ0s84/17, mb4.2/9, MS3.9/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.64**	**205**	P	**P**	**22 24 58.5**	**+0.4**
	0.3nm,0.3s,baz=74,slow=17,SNR=29						
VNDA				LR	LR	22 30 25.5	
	comp=Z,193nm,20.3s,baz=64,slow=31						
VNDA	**Vanda**	**19.64**	**205**	P	**P**	**22 24 58.4**	**+0.2**
ODZ	**Otahua Downs**	**25.11**	**300**	P	**P**	**22 25 55.0**	**+0.5**
QSPA	**South Pole Qui**	**27.59**	**180**	P	**P**	**22 26 15.6**	**-1.3**
	4.1nm,0.8s,baz=76,slow=4.2,SNR=11						
TBI	**Tubuai**	**39.59**	**12**	*e*T	T	23 10 08.6	
	33nm,0.2s						
TVO	**Taravao**	**45.11**	**12**	*e*T	T	23 17 02.2	
	3.1nm,0.3s						
MEH	**Mehetia**	**45.14**	**13**	*e*T	T	23 17 05.4	
	61nm,0.2s						
PAE	**Paea**	**45.20**	**11**	*e*T	T	23 17 08.9	
	3.6nm,0.3s						
PPT2	**Papeete2**	**45.27**	**11**	*e*S	**S**	**22 35 26.8**	**-0.8**
	50nm,24.5s						
PPT2				*e*LR	LR	22 41 29.8	
	comp=Z,270nm,25.8s						
PPT	**Papeete**	**45.30**	**11**	LR	LR	22 42 16.4	
	comp=Z,120nm,21.2s,baz=180,slow=29						
TIAR	**Tiarei**	**45.33**	**12**	*e*T	T	23 17 18.3	
	3.4nm,0.3s						
DZM	**Mont Dzumac**	**47.10**	**313**	*e*LR	LR	22 42 06.3	
	comp=Z,217nm,30.6s						
VAH	**Vaihoa**	**47.80**	**14**	*e*T	T	23 20 24.6	
	272nm,0.3s						
PMOR	**Pomariorio Ree**	**48.00**	**13**	*e*T	T	23 20 39.6	
	10nm,0.3s						
STKA	**Stephens Creek**	**48.68**	**280**	P	**P**	**22 29 15.0**	**+1.1**
	0.7nm,0.3s,baz=140,slow=11,SNR=2.4						
STKA				LR	LR	22 46 09.6	
	comp=Z,117nm,18.1s,baz=192,slow=32						
STKA	**Stephens Creek**	**48.68**	**280**	IAmb	IAmb	22 29 29.6	
	comp=Z,1.5nm,1.1s						
PLCA	**Paso Flores**	**53.71**	**110**	LR	LR	22 47 20.9	
	comp=Z,64nm,19.6s,baz=160,slow=30						
H03S2	**Juan Fernandez**	**55.63**	**98**	T	T	23 30 45.0	
	baz=211,slow=74,SNR=134						
H03S1	**Juan Fernandez**	**55.64**	**98**	T	T	23 30 51.3	
	baz=211,slow=74,SNR=146						
H03S3	**Juan Fernandez**	**55.65**	**98**	T	T	23 30 47.9	
	baz=211,slow=74,SNR=122						
H03N3	**Juan Fernandez**	**55.95**	**98**	T	T	23 31 10.2	
	baz=213,slow=74,SNR=68						
H03N2	**Juan Fernandez**	**55.96**	**98**	T	T	23 31 16.7	
	baz=213,slow=74,SNR=146						
H03N1	**Juan Fernandez**	**55.97**	**98**	T	T	23 31 18.4	
	baz=213,slow=74,SNR=62						
H01W1	**Cape Leeuwin H**	**58.76**	**254**	T	T	23 34 12.0	
	baz=147,slow=76,SNR=52						
H01W2	**Cape Leeuwin H**	**58.77**	**254**	T	T	23 34 12.3	
	baz=147,slow=76,SNR=63						
H01W3	**Cape Leeuwin H**	**58.78**	**254**	T	T	23 34 13.2	
	baz=147,slow=76,SNR=65						
ASAR	**Alice Springs**	**59.20**	**278**	P	**P**	**22 30 30.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=151,slow=6.6,SNR=8.6						
ASAR				LR	LR	22 52 23.1	
	comp=Z,74nm,19.9s,baz=161,slow=32						
VA01	**Torpederas**	**59.63**	**104**	P	**P**	**22 30 34.2**	**+0.5**
MT02	**Curacav**	**59.66**	**104**	P	**P**	**22 30 33.6**	**-0.3**
MT02				IAmb	IAmb	22 30 45.5	
	comp=Z,5.7nm,1.0s						
WRA	**Warramunga Arr**	**62.23**	**280**	P	**P**	**22 30 50.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=150,slow=6.1,SNR=4.8						
WRA				LR	LR	22 54 34.3	
	comp=Z,40nm,18.4s,baz=185,slow=33						
PB15	**IPOC Station P**	**69.00**	**100**	P	**P**	**22 31 35.5**	**+0.1**
PB15				IAmb	IAmb	22 31 36.7	
	comp=Z,9.9nm,0.9s						
PB06	**IPOC Station P**	**69.39**	**100**	P	**P**	**22 31 37.8**	**0.0**
GO01	**Chusmiza**	**72.19**	**98**	P	**P**	**22 31 56.1**	**+0.8**
GO01				IAmb	IAmb	22 31 56.5	
	comp=Z,4.9nm,1.1s						
LPAZ	**La Paz**	**75.62**	**98**	P	**P**	**22 32 17.4**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=198,slow=3.2,SNR=4.2						
LPAZ	**La Paz**	**75.62**	**98**	P	**P**	**22 32 15.9**	**+0.3**
LPAZ				IAmb	IAmb	22 32 24.5	
	comp=Z,3.3nm,1.1s						
BOSA	**Boshof**	**89.14**	**183**	LR	LR	23 11 26.8	
	comp=Z,56nm,18.3s,baz=202,slow=34						
SBUM	**Sibu**	**92.07**	**271**	P	**P**	**22 33 38.0**	**-1.0**
SBUM				IAmb	IAmb	22 33 45.9	
	comp=Z,4.6nm,0.9s						
MKAR	**Makanchi Array**	**143.31**	**273**	PKP	**PKPdf**	**22 40 03.2**	**0.0**
	comp=Z,0.5nm,0.8s,baz=120,slow=5.2,SNR=2.8						

ISC 02 22:30:30.0±1.2, 43°.90N±0°.04×17°.05E±0°.05, h10km±11km, n8, σ0s80/13, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.41**	**172**	*e*Pg	**Pg**	**22 30 38.1**	**+0.1**
KIJV	**Kijevo**	**0.48**	**283**	*e*Pg	**Pg**	**22 30 39.2**	**-0.2**
KIJV				Sg	**Sg**	**22 30 45.9**	**+0.2**
MAKA	**Makarska**	**0.61**	**182**	*i* Pg	**Pg**	**22 30 41.7**	**-0.1**
MAKA				Sg	**Sb**	**22 30 50.9**	**-0.5**
BLY	**Banja Luka**	**0.85**	**6**	*e*Pg	**Pg**	**22 30 46.4**	**-0.1**
BLY				*e*Sg	**Sg**	**22 30 57.4**	**-0.2**
UDBI	**Udbina**	**1.12**	**305**	*i* Pg	**Pg**	**22 30 51.1**	**-0.5**
UDBI				Sg	**Sn**	**22 31 08.3**	**+0.9**
STON	**Ston**	**1.13**	**155**	*e*Pg	**Pg**	**22 30 50.5**	**-1.2**
STON				Sg	**Sn**	**22 31 07.8**	**+0.3**
LSTV	**Lastovo**	**1.14**	**186**	Sg	**Sn**	**22 31 07.2**	**-0.4**
DBRK	**Dubrovnik**	**1.47**	**147**	Sg	**Sg**	**22 31 18.7**	**+1.6**

MEX ***02*** *22:36:11.5±1.4, 14°.51N×92°.69W, h62km±24km, MD3.4*
GCG ***02*** *22:36:15.8±0.9, 14°.08N×92°.41W, h33km±999km, MD3.8*
ISC 02 22:36:08.2±2.2, 14°.62N±0°.10×92°.58W±0°.08, h2km±15km, n6, σ0s94/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.42**	**47**	*i* P	**Pn**	**22 36 22.9**	**+1.5**
THIG				*i* S	Sb	22 36 32.7	+7.5
PCIG		**1.25**	**330**	*e*P	**Pg**	**22 36 32.2**	**+0.1**
PCIG				*e*S	**Sg**	**22 36 47.5**	**-0.8**
FUG	**Fuego 3**	**1.69**	**95**	*e*P	**Pg**	**22 36 41.5**	**+0.8**
FUG				*e*S	**Sg**	**22 37 02.1**	**-0.5**
CCIG	**Comitan**	**1.71**	**14**	*e*P	**Pg**	**22 36 40.9**	**-0.1**
CCIG				*i* S	**Sg**	**22 37 03.0**	**-0.2**
PCG	**Pacaya**	**1.92**	**96**	*e*P	**Pg**	**22 36 45.0**	**-0.1**
PCG				*e*S	**Sb**	**22 37 08.5**	**-0.4**
IXG	**Ixpaco**	**2.12**	**102**	*e*P	**Pb**	**22 36 47.3**	**-0.3**
IXG				*e*S	**Sn**	**22 37 10.5**	**-1.4**

NEIC ***02*** *22:43:58.6±1.5, 31°.53N±0°.04×115°.49W±0°.05, h2km±4km, Error ellipse: s-maj=6.2km s-min=4.9km az=222.0*
PAS ***02*** *22:43:59.5±1.9, 31°.55N±0°.05×115°.46W±0°.05, h2km±6km, Error ellipse: s-maj=7.6km s-min=4.9km az=214.0*
ECX ***02*** *22:44:00.8±0.4, 31°.54N×115°.48W, h5km±11km, MD2.8, ML3.1*
MEX ***02*** *22:44:01.9±0.9, 31°.46N×115°.43W, h12km, MD3.6*
ISC 02 22:43:58.9±0.8, 31°.53N±0°.02×115°.51W±0°.03, h10km, n39, σ0s87/52, 8C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTX	**Valle De La Tr**	**0.27**	**239**	⇑*i*P	**Pb**	**22 44 06.3**	**+0.4**
VTX				*e*S	**Sb**	**22 44 10.6**	**0.0**
VTX				⇑*e*		22 44 10.9	
VTX				IAML		22 44 10.9	
	comp=N,3μm,0.1s						
ECBX	**El Chinero**	**0.40**	**99**	⇑*i*P	**Pb**	**22 44 07.7**	**-0.3**
ECBX				*e*S	**Sg**	**22 44 12.7**	**+0.8**
SJX	**San Joaquin**	**0.45**	**301**	⇑*e*P	**Pn**	**22 44 11.5**	**+0.2**
SPIG	**San Pedro Mart**	**0.49**	**175**	*e*P	**Pb**	**22 44 09.8**	**+0.1**
SPIG				*e*S	**Sb**	**22 44 16.7**	**-0.3**
SPIG	**San Pedro Mart**	**0.49**	**175**	⇑*e*P	**Pb**	**22 44 09.8**	**+0.1**
SPIG				*e*S	**Sb**	**22 44 16.6**	**-0.2**
SPX	**San Pedro Mart**	**0.50**	**175**	*e*P	**Pg**	**22 44 08.5**	**-0.1**
SPX				*e*S	**Sg**	**22 44 15.7**	**+0.5**
SPX	**San Pedro Mart**	**0.50**	**175**	⇑*e*P	**Pg**	**22 44 08.8**	**+0.2**
SPX				*e*S	**Sg**	**22 44 15.8**	**+0.6**
SFX	**San Felipe**	**0.75**	**131**	*e*P	**Pg**	**22 44 13.3**	**0.0**
SFX				*e*		22 44 25.1	
SFX				IAML		22 44 25.1	
	comp=E,473nm,0.3s						
GUVIX	**Guadalupe Vict**	**0.85**	**26**	*e*P	**Pn**	**22 44 17.1**	**+0.2**
CPBX	**Cerro Prieto**	**0.90**	**11**	*e*P	**Pn**	**22 44 17.9**	**+0.2**
MBIG	**Mexicali**	**0.91**	**17**	*e*P	**Pn**	**22 44 17.6**	**-0.1**
MBIG				*e*P	**Pn**	**22 44 17.6**	**-0.1**
MBIG				*i* S	**Sb**	**22 44 29.6**	**+0.6**
MBIG	**Mexicali**	**0.91**	**17**	*e*P	**Pn**	**22 44 18.1**	**+0.4**
MBIG				*e*S	**Sn**	**22 44 31.8**	**+0.8**
CTLX	**Tlaxcala, TLX**	**0.99**	**18**	*e*P	**Pn**	**22 44 19.1**	**+0.3**
SQX	**San Quintin**	**1.00**	**198**	⇑*e*P	**Pb**	**22 44 18.6**	**+0.3**
SQX				IAML		22 44 35.4	
	comp=N,627nm,0.2s						
SQX				⇓*e*		22 44 35.4	
SGL	**Mount Signal**	**1.13**	**351**		**Pb**	**22 44 20.0**	**-0.5**
SGL					**Sb**	**22 44 35.1**	**-0.2**
YUH	**Yuha Desert**	**1.17**	**343**		**Pb**	**22 44 20.8**	**-0.3**
YUH					**Sn**	**22 44 37.0**	**-0.2**
RMX	**La Rumorosa**	**1.17**	**336**	⇓*e*P	**Pb**	**22 44 20.5**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**1.23**	**336**		**Pn**	**22 44 22.1**	**0.0**
IKP					**Sb**	**22 44 38.0**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**1.23**	**336**	⇑*e*P	**Pn**	**22 44 22.1**	**0.0**
WESC	**Westside Schoo**	**1.24**	**351**	*e*P	**Pg**	**22 44 24.1**	**+1.4**
EMSC	**East Mesa**	**1.28**	**20**	⇓*e*P	**Pg**	**22 44 24.3**	**+0.8**
COK2	**Cook Ranch 2**	**1.33**	**352**		**Pn**	**22 44 23.6**	**+0.1**
TJIG	**Tijuana**	**1.34**	**313**	*e*P	**Pn**	**22 44 24.3**	**+0.3**
CBKC	**Canebrake**	**1.50**	**335**		**Pb**	**22 44 27.2**	**+0.3**
BAR	**Barrett**	**1.51**	**320**		**Pb**	**22 44 27.0**	**0.0**
BAR					**Sb**	**22 44 46.4**	**+0.2**
BAR	**Barrett**	**1.51**	**320**	*e*P	**Pb**	**22 44 27.0**	**0.0**
GLA	**Glamis**	**1.62**	**21**		**Sb**	**22 44 50.1**	**+0.6**
GLA	**Glamis**	**1.62**	**21**	⇓*e*P	**Pg**	**22 44 29.6**	**-0.4**
SDRC	**San Diego Road**	**1.71**	**315**		**Sb**	**22 44 51.8**	**-0.1**
SDRC	**San Diego Road**	**1.71**	**315**	*e*P	**Pb**	**22 44 30.5**	**+0.1**
PIX	**Pinacate**	**1.75**	**89**	*e*P	**Pn**	**22 44 27.0**	**-2.3**
109C	**Camp Elliot, M**	**1.91**	**315**		**Pb**	**22 44 34.3**	**+0.4**
113A	**Mohawk Valley,**	**1.93**	**50**		**Pn**	**22 44 31.7**	**0.0**
PFO	**Pinyon Flats O**	**2.22**	**339**		**Pg**	**22 44 41.0**	**-0.5**
214A	**Organ Pipe Nat**	**2.34**	**79**		**Pn**	**22 44 37.3**	**-0.1**
Y14A	**Wickenburg**	**3.20**	**41**		**Pn**	**22 44 52.3**	**+3.0**
X16A	**Lo Mia Camp, P**	**4.47**	**49**		**Pn**	**22 45 07.8**	**+0.9**
PRN	**Pahroc Range**	**5.87**	**4**		**Pg**	**22 45 49.4**	**-2.0**
R11A	**Troy Canyon, C**	**6.80**	**360**		**Pn**	**22 45 35.8**	**-3.2**

DDA ***02*** *22:46:55.5, 36°.93N×28°.14E, h7km±5km, ML1.3*
ISK 02 22:46:31.9, 35°.51N×27°.83E, h6km, ML2.3/7,

Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.55**	**274**	PG	Pg	22 46 42.9	+0.5
KARP				SG	Sb	22 46 50.9	-1.1
ARG	**Arkhangelos**	**0.74**	**19**	PG	Pg	22 46 46.7	+0.5
ARG				SG	Sb	22 46 57.4	-0.3
DAT	**Datca**	**1.23**	**351**	PN	Pn	22 46 55.8	0.0
DAT				SN	Sn	22 47 13.5	+0.7
DAT	**Datca**	**1.23**	**351**	*i* P	Pn	22 46 56.5	+0.7
DAT				*i* S	Sn	22 47 13.5	+0.7
TURN	**Turunc**	**1.30**	**15**	PN	Pg	22 46 57.2	+0.3
TURN	**Turunc**	**1.30**	**15**	*i* P	Pg	22 46 59.2	+2.3
TURN				*i* S	Sg	22 47 13.9	0.0
DALY	**Dalyan (Mula)**	**1.46**	**27**	PN	Pb	22 46 59.4	-0.1
DALY	**Dalyan (Mula)**	**1.46**	**27**	*i* P	Pg	22 47 04.3	+4.3
BODT	**Bodrum**	**1.60**	**345**	PN	Pb	22 47 01.8	-0.1
YER	**Yerkesik**	**1.66**	**13**	PN	Pn	22 47 02.2	+0.6
MLSB	**Milas**	**1.78**	**359**	PN	Pn	22 47 04.1	+0.8
TAVA	**DENIZLI_Tavas**	**2.14**	**24**	*i* P	Pg	22 47 12.2	-0.7
TAVA				*i* S	Sg	22 47 41.7	+1.1
TAVA				IAML		22 47 51.0	
	comp=E,10nm,1.9s						
AYDN	**Tasoluk**	**2.15**	**1**	*i* P	Pn	22 47 09.2	+0.9
AYDB	**Zeytinkoy-Aydi**	**2.43**	**1**	PN	Pn	22 47 13.2	+0.9

NEIC ***02*** *22:50:49.0±1.0, 37°.24N±0°.02×97°.97W±0°.02, h5km±1km, mb_Lg3.1/91, Error ellipse: s-maj=3.6km s-min=2.9km az=43.0*
ANF ***02*** *22:50:49.1±0.8, 37°.24N×97°.98W, h5km, ML4.0/8, Error ellipse: s-maj=10.5km s-min=8.3km az=84.0*
ISC 02 22:50:48.8±1.0, 37°.24N±0°.03×97°.96W±0°.03, h4km±8km, n72, σ0s65/41, Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN12	**Harper NE Stat**	**0.07**	**333**		**Pg**	**22 50 50.5**	**+0.2**
KAN12				Sg	**Sg**	**22 50 51.7**	**+0.4**
KAN10	**Anthony SW Sta**	**0.16**	**223**		**Pg**	**22 50 52.1**	**+0.2**
KAN10				Sg	**Sg**	**22 50 54.5**	**+0.5**
KAN13	**South Haven SW**	**0.45**	**120**		**Pg**	**22 50 57.5**	**0.0**
KAN13				Sg	**Sg**	**22 51 03.7**	**+0.4**
CROK	**Carrier**	**0.73**	**181**	Pg	**Pg**	**22 51 02.5**	**-0.4**
CROK				Sg	**Sg**	**22 51 12.7**	**+0.3**
U32A	**Winter Ranch,**	**1.20**	**225**		**Pg**	**22 51 11.1**	**-0.7**
U32A				Sg	**Sg**	**22 51 27.3**	**0.0**
T35A	**Sooner Cattle**	**1.20**	**105**		**Pg**	**22 51 11.2**	**-0.7**
R32A	**Long Quarter,**	**1.32**	**334**		**Pn**	**22 51 13.2**	**-1.0**
QUOK	**Quay**	**1.47**	**136**	Pn	**Pn**	**22 51 15.7**	**-0.4**
OK029	**Liberty Lake**	**1.50**	**164**		**Pn**	**22 51 16.2**	**-0.3**
BCOK	**Bluff Creek, N**	**1.60**	**170**		**Pn**	**22 51 18.0**	**0.0**
OK025	**Westminster Rd**	**1.73**	**163**		**Pn**	**22 51 20.1**	**+0.4**
OKCFA	**Oklahoma City**	**1.87**	**167**		**Pn**	**22 51 22.1**	**+0.4**
FNO	**Franklin**	**2.03**	**167**		**Pn**	**22 51 25.0**	**+1.1**
CBKS	**Cedar Bluff**	**2.11**	**319**	P	**Pn**	**22 51 25.2**	**+0.2**
	baz=138						
CBKS				S	**

K22A	**Casper**	**8.51**	**312**	lAmb_Lg		22 55 41.1
	comp=Z,18nm,1.1s					
T47A	**Sharon Grove**	**8.68**	**88**	lAmb_Lg		22 55 38.7
	comp=Z,16nm,1.0s					
I40A	**Norwalk**	**8.68**	**38**	lAmb_Lg		22 55 46.1
	comp=Z,16nm,1.1s					
P46A	**Rosedale**	**8.77**	**71**	lAmb_Lg		22 55 27.7
	comp=Z,19nm,0.8s					
SPMN	**Marine on St.**	**8.87**	**24**	lAmb_Lg		22 55 32.8
	comp=Z,12nm,0.9s					
K43A	**Burlington**	**9.19**	**51**	lAmb_Lg		22 55 43.8
	comp=Z,19nm,0.8s					
BLO	**Bloomington**	**9.21**	**74**	lAmb_Lg		22 55 46.6
	comp=Z,16nm,0.9s					
D32A	**Dogwood Acres,**	**9.91**	**4**	lAmb_Lg		22 56 04.8
	comp=Z,15nm,1.0s					

JMA ***02*** *22:52:14.0, 27°.45N× 128°.66E, h43km± 1km, M3.9*
JMA Felt II J1.
NIED ***02*** *22:52:14.0, 27°.45N× 128°.66E, h43km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 1.21; Mθθ -0.55; Mφφ -0.65; Mrθ 0.85; Mθφ -0.70; Mφr 1.31; Fault plane solution: M◎ 2.00000×10^15 NP1: ϕs 35.00000°, δ 71.00000°, λ 84.00000°. NP2: ϕs 232.00000°, δ 20.00000°, λ 106.00000°.*
IDC ***02*** *22:52:14.9± 3.1, 27°.49N× 128°.49E, h53km± 28km, mb3.6/16, mb1 3.8/18, mb1mx3.7/41, mbtmp3.9/18, ML3.2/2, MS2.9/7, Ms1 3.0/7, ms1mx2.9/46 Error ellipse: s-maj=24.7km s-min=16.0km az=82.0*
NEIC ***02*** *22:52:15.4± 2.0, 27°.45N± 0°.09× 128°.5E± 0°.1, h61km± 8km, mb4.5/14, Error ellipse: s-maj=16.4km s-min=10.4km az=124.0*

ISC 02 22:52:13.1±0.7, 27°.40N±0°.04× 128°.70E±0°.05, h46km±6km, n78, σ1§37/83, mb4.1/22, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.12**	**251**	P	**Pn**	**22 52 21.0**	**+0.4**
JOKE				S	**Sn**	**22 52 25.9**	**0.0**
JYRO	**Yoronjima**	**0.43**	**210**	P	**Pn**	**22 52 24.2**	**+0.8**
JYRO				S	**Sn**	**22 52 31.2**	**+0.6**
JTK	**Tokunoshima**	**0.45**	**30**	P	**Pn**	**22 52 23.9**	**+0.4**
JTK				S	**Sn**	**22 52 30.6**	**-0.3**
JOW	**Kunigami**	**0.68**	**214**	P	**Pn**	**22 52 27.5**	**+1.0**
JOW				S	**Sn**	**22 52 37.3**	**+1.2**
JIH	**Iheya**	**0.74**	**241**	P	**Pn**	**22 52 28.0**	**+0.7**
JIH				*eS*	**Sn**	**22 52 38.2**	**+0.6**
JAMN	**Amaminishikomi**	**0.94**	**27**	P	**Pn**	**22 52 30.4**	**+0.4**
JAMN				*eS*	**Sn**	**22 52 41.9**	**-0.4**
JNTH	**Nagotoyohara**	**1.06**	**215**	P	**Pn**	**22 52 33.2**	**+1.6**
JNTH				*eS*	**Sn**	**22 52 47.0**	**+1.7**
JAM	**Amami Oshima**	**1.29**	**38**	P	**Pn**	**22 52 35.8**	**+1.1**
JAM				S	**Sn**	**22 52 52.0**	**+1.2**
JZK	**Kikaishima**	**1.45**	**51**	P	**Pn**	**22 52 39.1**	**+2.2**
JJT3	**Tamagusuku3**	**1.49**	**213**	P	**Pn**	**22 52 40.0**	**+2.5**
JAGN	**Aguni-jima**	**1.53**	**238**	P	**Pn**	**22 52 39.5**	**+1.5**
JTAJ	**Takarajima**	**1.80**	**14**	P	**Pn**	**22 52 42.1**	**+0.3**
JTAJ				*eS*	**Sn**	**22 53 02.8**	**-0.6**
JKE	**Kume jima 2**	**2.01**	**238**	P	**Pn**	**22 52 46.1**	**+1.5**
JNN	**Nakanoshima**	**2.65**	**23**	P	**Pn**	**22 52 54.0**	**+0.7**
JNN				*eS*	**Sn**	**22 53 24.5**	**+0.3**
JKDJ	**Kitadaitoujima**	**2.74**	**121**	P	**Pn**	**22 52 54.7**	**+0.1**
JKDJ				*eS*	**Sn**	**22 53 24.7**	**-1.8**
JMZ	**Minamidaito 2**	**2.75**	**124**	P	**Pn**	**22 52 54.7**	**-0.1**
JYAK	**Yakushimahirau**	**3.25**	**29**	P	**Pn**	**22 53 02.6**	**+1.1**
JYAK				*eS*	**Sn**	**22 53 39.9**	**+1.0**
JMTN	**Minamitane**	**3.56**	**32**	P	**Pn**	**22 53 08.0**	**+2.2**
JTN	**Tanegashima 3**	**3.81**	**31**	P	**Pn**	**22 53 11.0**	**+1.7**
JTN				*eS*	**Sn**	**22 53 53.6**	**+0.7**
JSU	**Suzuyama**	**4.37**	**20**	Pn	**Pn**	**22 53 20.5**	**+3.5**
JNU	**Nakatsue**	**6.01**	**18**	P	**Pn**	**22 53 41.3**	**+1.8**
	0.6nm,0.3s,baz=157,slow=18,SNR=6.9						
JNU				S	**Sn**	**22 54 48.4**	**+1.4**
	baz=206,slow=17,SNR=0.5						
JNU				LR	LR	22 56 15.7	
	comp=Z,87nm,18.1s,baz=85,slow=40						
JNU	**Nakatsue**	**6.01**	**18**		**Pn**	**22 53 43.8**	**+4.3**
YULB	**Yu-li**	**7.79**	**241**	Pn	**Pn**	**22 54 01.9**	**-2.0**
SSLB	**Suanglung**	**7.86**	**244**	Pn	**Pn**	**22 54 06.1**	**+1.2**
TPUB	**Ta-pu**	**8.36**	**243**	Pn	**Pn**	**22 54 12.5**	**+0.7**
KSAR	**Wonju Array Be**	**10.04**	**356**	Pn	**Pn**	**22 54 34.6**	**0.0**
KSRS	**Korea Array**	**10.05**	**356**	P	**Pn**	**22 54 36.2**	**+1.5**
	0.2nm,0.3s,baz=193,slow=40,SNR=2.0						
KSRS				LR	LR	22 58 08.5	
	comp=Z,82nm,21.0s,baz=242,slow=36						
JHJ	**Hachijo jima 2**	**11.15**	**57**	LR	LR	22 58 51.4	
	comp=Z,54nm,19.4s,baz=54,slow=35						
MJAR	**Matsushiro Arr**	**12.17**	**39**	LR	LR	22 59 47.9	
	comp=Z,51nm,19.3s,baz=5.0,slow=37						
JSD	**Sado**	**13.31**	**35**	Pn	**Pn**	**22 55 21.1**	**+1.8**
USRK	**Ussuriysk Ar.**	**16.97**	**8**	LR	LR	23 02 03.9	
	comp=Z,37nm,21.2s,baz=131,slow=35						
USRK	**Ussuriysk Ar.**	**16.97**	**8**	Pn	**Pn**	**22 56 07.2**	**+0.1**
SONM	**Songino Array**	**26.81**	**325**	P	**P**	**22 57 49.0**	**-0.1**
	1.1nm,1.0s,baz=120,slow=8.5,SNR=2.1						
CHTO	**Chiang Mai**	**28.61**	**259**	P	**P**	**22 58 05.2**	**0.0**
CMAR	**Chiang Mai Arr**	**28.75**	**258**	P	**P**	**22 58 06.0**	**-0.6**
	1.1nm,0.6s,baz=49,slow=7.3,SNR=9.2						
CMAR				LR	LR	23 11 25.6	
	comp=Z,28nm,18.2s,baz=70,slow=40						
CMAR	**Chiang Mai Arr**	**28.75**	**258**	P	**P**	**22 58 06.8**	**+0.3**
SRIT	**Nakonsritamara**	**33.25**	**241**	P	**P**	**22 58 41.4**	**-4.7**
PETK	**Petropavlovsk-**	**33.49**	**32**	LR	LR	23 12 37.1	
	comp=Z,36nm,20.0s,baz=132,slow=36						
WAKE	**Wake Island**	**35.67**	**95**		**P**	**22 59 07.6**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**35.73**	**94**	T	T	23 36 48.5	
	baz=290,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**35.73**	**94**	T	T	23 36 47.4	
	baz=290,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**35.75**	**94**	T	T	23 36 51.4	
	baz=290,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hy**	**35.98**	**96**	T	T	23 37 19.2	
	baz=291,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**35.98**	**96**	T	T	23 37 16.2	
	baz=291,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**35.99**	**96**	T	T	23 37 17.1	
	baz=291,slow=75,SNR=13						
MKAR	**Makanchi Array**	**41.08**	**311**	P	**P**	**22 59 52.1**	**-0.1**
	0.3nm,0.5s,baz=90,slow=10,SNR=6.0						
MKAR				PcP	**PcP**	**23 01 51.7**	**+0.4**
	0.4nm,0.7s,baz=90,slow=4.9,SNR=4.1						
MKAR	**Makanchi Array**	**41.08**	**311**	P	**P**	**22 59 51.0**	**-1.3**
ZALV	**Zalesovo Beam**	**41.58**	**322**	P	**P**	**22 59 54.6**	**-1.6**
	0.5nm,0.5s,baz=132,slow=8.5,SNR=2.6						
KURK	**Kurchatov**	**44.27**	**316**	P	**P**	**23 00 17.4**	**-0.6**
KURK	**Kurchatov**	**44.27**	**316**	lAmb	lAmb	23 00 18.6	
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**44.30**	**316**	P	**P**	**23 00 17.4**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=102,slow=9.0,SNR=33						
WRA	**Warramunga Arr**	**47.38**	**173**	P	**P**	**23 00 44.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=354,slow=8.5,SNR=6.5						
WRA				PcP	**PcP**	**23 02 16.0**	**+3.0**
	comp=Z,0.5nm,0.9s,baz=352,slow=3.5,SNR=2.5						
NRIK	**Noril'sk**	**48.27**	**342**	P	**P**	**23 00 48.5**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=131,slow=7.4,SNR=4.1						
KKAR	**Karatay Array**	**49.08**	**305**	P	**P**	**23 00 56.1**	**+0.2**
KKAR	**Karatay Array**	**49.08**	**305**	P	**P**	**23 00 56.5**	**+0.7**
KKAR				lAmb	lAmb	23 01 00.7	
	comp=Z,7.8nm,1.8s						
BRVK	**Borovoye**	**49.76**	**318**	P	**P**	**23 00 58.3**	**-2.5**
BRVK				lAmb	lAmb	23 01 02.1	
	comp=Z,3.4nm,0.8s						
KBL	**Kabul**	**51.01**	**294**	P	**P**	**23 01 10.3**	**-0.6**
KBL				lAmb	lAmb	23 01 13.1	
	comp=Z,3.8nm,0.7s						
ASAR	**Alice Springs**	**51.02**	**174**	P	**P**	**23 01 11.9**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=5.4,slow=13,SNR=5.0						
ABKAR	**Akbulak array**	**56.16**	**313**	P	**P**	**23 01 47.9**	**-0.1**
ABKAR	**Akbulak array**	**56.16**	**313**	P	**P**	**23 01 47.6**	**-0.4**
ABKAR				lAmb	lAmb	23 01 49.4	
	comp=Z,3.9nm,1.0s						
HRA	**Herat**	**56.56**	**295**	P	**P**	**23 01 50.8**	**-0.6**
IMAR	**Indian Mountai**	**60.26**	**27**	P	**P**	**23 02 16.4**	**0.0**
MDM	**Murphy Dome**	**62.62**	**28**	P	**P**	**23 02 34.2**	**+1.8**
MDM				lAmb	lAmb	23 02 55.2	
	comp=Z,7.8nm,1.1s						
ILAR	**Eielson Array**	**63.22**	**29**	P	**P**	**23 02 37.2**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=297,slow=6.0,SNR=4.5						
BMAR	**Burnt Mountain**	**63.78**	**25**	P	**P**	**23 02 41.8**	**+1.8**
KBZ	**Khabaz**	**68.74**	**309**	P	**P**	**23 03 11.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=0.0,slow=0.0,SNR=3.7						
ARCES	**ARCESS Array B**	**69.07**	**338**	P	**P**		**23 03 13.4**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=44,slow=3.7,SNR=4.9						
FINES	**FINESS Array B**	**72.05**	**330**	P	**P**	**23 03 32.0**	**0.0**
	comp=Z,1.9nm,0.8s,baz=71,slow=4.9,SNR=19						
AKASG	**Malin Array Be**	**74.92**	**319**	P	**P**	**23 03 48.6**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=59,slow=6.3,SNR=2.7						
BR131	**Keskin Array S**	**76.65**	**308**	P	**P**	**23 03 58.6**	**-0.8**
BR131				lAmb	lAmb	23 04 00.6	
	comp=Z,2.4nm,0.9s						
BRTR	**Keskin Array B**	**76.65**	**308**	P	**P**	**23 03 60.0**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=101,slow=5.7,SNR=9.0						
BRTR	**Keskin Array B**	**76.65**	**308**	P	**P**	**23 03 59.2**	**-0.2**
NB2	**NORSAR Subarra**	**78.45**	**334**	P	**P**	**23 04 08.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**78.45**	**334**	P	**P**	**23 04 08.9**	**0.0**
	comp=Z,2.4nm,0.7s,baz=51,slow=5.6,SNR=10						
BUR08	**Bucovina Ar. S**	**78.64**	**318**	P	**P**	**23 04 09.7**	**-0.7**
BUR08				lAmb	lAmb	23 05 08.4	
	comp=Z,12nm,1.7s						
BURAR	**Bucovina Array**	**78.65**	**318**	P	**P**	**23 04 10.2**	**-0.1**
GERES	**GERESS Array B**	**84.52**	**323**	P	**P**	**23 04 41.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=46,slow=5.8,SNR=4.4						
PDG	**Podgorica**	**84.91**	**316**	P	**P**	**23 04 42.4**	**-0.9**

ROM 02 23:07:55.0±0.1, 43°.453N±0°.004× 12°.483E±0°.004, h8km, ML 0.8/2, 2C, Error ellipse: s-maj=0.6km s-min=0.1km az=170.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.06**	**268**	↑P	Pg	23 07 57.2	+0.3
ATPI				S	Sg	23 07 58.5	+0.2
PIEI	**Pieia**	**0.09**	**25**	↑P	Pg	23 07 57.6	+0.3
PIEI				S	Sg	23 07 59.7	+0.7
PIEI				AML	AML		
	comp=E,82μm,0.6s						
PIEI				AML	AML		
	comp=N,83μm,0.1s						
PIEI				AML	AML		
	comp=N,83μm,0.1s						
APEC	**Apecchio**	**0.12**	**337**	P	Pg	23 07 58.0	+0.4
APEC				S	Sg	23 08 00.1	+0.6
APEC				AML	AML		
	comp=E,103μm,0.1s						
APEC				AML	AML		
	comp=N,88μm,0.3s						
APEC				AML	AML		
	comp=E,103μm,0.1s						
APEC				AML	AML		
	comp=N,88μm,0.3s						
NARO	**Abbazia di Nar**	**0.17**	**24**	P	Pg	23 07 58.9	+0.4
BADI	**Badiali**	**0.18**	**288**	P	Pg	23 07 59.5	+0.8
BADI				S	Sg	23 08 02.6	+1.3
FRON	**Frontone**	**0.19**	**70**	P	Pg	23 07 59.4	+0.6
FRON				S	Sg	23 08 02.7	+1.2

NEIC ***02*** *23:28:18.6± 2.9, 7°.67S± 0°.07× 127°.96E± 0°.07, h173km± 10km, mb4.1/11, Error ellipse: s-maj=10.6km s-min=9.6km az=173.0*
IDC ***02*** *23:28:18.7± 1.9, 7°.57S× 127°.84E, h170km± 19km, mb3.6/7, mb1 3.8/11, mb1mx3.4/51, mbtmp4.2/11, Error ellipse: s-maj=18.6km s-min=16.3km az=75.0*
DJA ***02*** *23:28:19.3± 1.1, 8°.S± 4°× 12°.8E±°, h12km± 8km, M4.5/6, mB5.4/1, mb4.3/3, MLv4.5/6, Mw(mB) 4.8/1*

ISC 02 23:28:16.6±0.6, 7°.59S±0°.06× 127°.96E±0°.05, h142km, n50, σ1§54/54, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.33**	**97**	P	**Pn**	**23 29 10.8**	**+2.8**
SAUI				S	**Sn**	**23 29 50.0**	**+2.3**
SAUI	**Saumlaki**	**3.33**	**97**	Pn	Pn	23 29 12.0	+4.0
SOEI	**Soe**	**4.24**	**239**	P	**Pn**	**23 29 22.7**	**+2.7**
SOEI				S	**Sn**	**23 30 11.9**	**+2.7**
SOEI	**Soe**	**4.24**	**239**	Pn	**Pn**	**23 29 23.1**	**+3.1**
BATI	**Baumata**	**4.98**	**238**	P	**Pn**	**23 29 32.1**	**+2.3**
	9.2nm,0.3s,baz=353,slow=6.2,SNR=4.9						
BATI				S	**Sn**	**23 30 27.9**	**+1.2**
	21nm,0.3s,baz=70,slow=2.3,SNR=15						
BATI	**Baumata**	**4.98**	**238**	P	**Pn**	**23 29 31.7**	**+2.0**
BATI				S	**Sn**	**23 30 29.1**	**+2.4**
MTN	**Manton Dam**	**6.08**	**149**		**Pn**	**23 29 46.4**	**+2.0**
MTN				Sn	**Sn**	**23 30 52.6**	**-0.5**
SIJI	**Sorong**	**7.44**	**26**	P	Pn	23 30 04.8	+2.1
	9.5nm,0.3s,baz=213,slow=20,SNR=7.6						
KNRA	**Kununurra**	**8.08**	**174**		**Pn**	**23 30 12.0**	**+0.9**
KNRA				Sn	**Sn**	**23 31 36.9**	**-4.2**
KAPI	**Kappang**	**8.55**	**287**	Pn	**Pn**	**23 30 19.5**	**+2.0**
PLAI	**Plampang**	**10.16**	**262**	P	**Pn**	**23 30 39.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.69**	**192**	P	**Pn**	**23 30 44.4**	**-1.6**
	1.1nm,0.3s,baz=13,slow=10,SNR=29						
FITZ				S	Sn	23 32 34.2	-10
	1.5nm,0.3s,baz=56,slow=23,SNR=3.2						
FITZ	**Fitzroy Crossi**	**10.69**	**192**		**Pn**	**23 30 44.8**	**-1.2**
WB0	**Warramunga Arr**	**13.62**	**153**		**Pn**	**23 31 24.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**13.70**	**265**	Pn	**Pn**	**23 31 24.9**	**-0.3**
WRAB	**Tennant Creek**	**13.75**	**154**	Pn	**Pn**	**23 31 24.2**	**-1.5**
WRA	**Warramunga Arr**	**13.75**	**154**	P	**Pn**	**23 31 25.7**	**-0.1**
	2.3nm,0.3s,baz=334,slow=12,SNR=66						
WRA				S	Sn	23 33 49.5	-8.6
	5.1nm,0.3s,baz=324,slow=24,SNR=14						
WRA	**Warramunga Arr**	**13.75**	**154**	P	**Pn**	**23 31 24.6**	**-1.2**
WB2	**Warramunga Arr**	**13.76**	**154**		**Pn**	**23 31 25.7**	**-0.2**
WC3	**Warramunga Arr**	**13.78**	**154**	Pn	**Pn**	**23 31 24.9**	**-1.3**
WR0	**Warramunga Arr**	**13.86**	**153**	P	**Pn**	**23 31 26.4**	**-0.8**
PSAB2	**Pilbara Seismi**	**15.94**	**209**	P	**Pn**	**23 31 52.6**	**-0.5**
PSAC1	**Pilbara Seismi**	**15.94**	**209**		**Pn**	**23 31 51.6**	**-1.5**
PSAD2	**Pilbara Seismi**	**15.94**	**208**		**P**	**23 31 54.5**	**+0.5**
PSAA2	**Pilbara Seismi**	**15.95**	**209**	P	**Pn**	**23 31 52.8**	**-0.4**
PSA00	**Pilbara Seismi**	**15.96**	**209**	P	**Pn**	**23 31 53.2**	**-0.2**
PSA00				lAmb	lAmb	23 32 10.5	
	comp=Z,7.3nm,0.8s						
PSAA3	**Pilbara Seismi**	**15.96**	**209**	P	**Pn**	**23 31 53.4**	**0.0**
PSAA1	**Pilbara Seismi**	**15.97**	**209**	P	**Pn**	**23 31 53.4**	**0.0**
PSAB1	**Pilbara Seismi**	**15.97**	**209**		**Pn**	**23 31 51.7**	**-1.7**
PSAB3	**Pilbara Seismi**	**15.97**	**208**		**Pn**	**23 31 52.9**	**-0.6**
PSAC3	**Pilbara Seismi**	**16.01**	**209**		**Pn**	**23 31 53.6**	**-0.4**
PSAD3	**Pilbara Seismi**	**16.05**	**209**		**Pn**	**23 31 54.8**	**+0.3**
COEN	**Coen**	**16.23**	**114**	P	**P**	**23 31 57.8**	**+0.7**
COEN				lAmb	lAmb	23 32 01.7	
	comp=Z,7.6nm,0.7s						
AS31	**Alice Springs**	**16.98**	**161**		**Pn**	**23 32 07.2**	**+1.4**
AS31				lAmb	lAmb	23 32 10.0	
	comp=Z,7.3nm,0.5s						
ASAR	**Alice Springs**	**16.98**	**161**	P	**Pn**	**23 32 06.3**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=338,slow=12,SNR=106						
ASAR				S	S	23 35 00.8	-14
	comp=Z,0.4nm,0.3s,baz=329,slow=16,SNR=5.8						
ASAR	**Alice Springs**	**16.98**	**161**		**Pn**	**23 32 07.1**	**+1.4**
SBUM	**Sibu**	**18.60**	**302**	P	**Pn**	**23 32 25.2**	**0.0**
SBUM				lAmb	lAmb	23 32 26.2	
	comp=Z,4.3nm,0.7s						
CTAO	**Charters Tower**	**21.65**	**127**	P	**P**	**23 32 57.1**	**+1.1**
FORT	**Forrest**	**23.07**	**180**	P	**P**	**23 33 10.2**	**+0.3**
MORW	**Morawa**	**24.14**	**206**	P	**P**	**23 33 19.7**	**+0.1**
MORW				lAmb	lAmb	23 33 24.1	
	comp=Z,6.5nm,1.1s						
BBOO	**Buckleboo**	**26.20**	**164**	P	**P**	**23 33 38.3**	**+0.2**
STKA	**Stephens Creek**	**27.30**	**154**	P	**P**	**23 33 48.7**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=326,slow=12,SNR=6.5						
KULM	**Kulim**	**30.10**	**294**	P	**P**	**23 34 12.3**	**-0.8**
KULM				lAmb	lAmb	23 34 12.9	
	comp=Z,3.5nm,0.7s						
RPSI	**Rantau Prapat**	**30.72**	**288**	P	**P**	**23 34 17.6**	**-0.9**
PSI	**Prapat**	**30.75**	**289**	P	**P**	**23 34 17.6**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=88,slow=20,SNR=5.0						
KSRS	**Korea Array**	**44.80**	**360**	P	**P**	**23 36 16.6**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=177,slow=9.5,SNR=3.8						
SONM	**Songino Array**	**58.38**	**343**	P	**P**	**23 37 56.1**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=7.9,SNR=1.8						
MKAR	**Makanchi Array**	**67.62**	**328**	P	**P**	**23 38 55.8**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=122,slow=7.2,SNR=8.7						
KURBB	**Kurchatov Arra**	**71.97**	**329**	P	**P**	**23 39 23.1**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=134,slow=5.4,SNR=2.3						
AKTO	**Aktyubinsk**	**83.31**	**323**	P	**P**	**23 40 25.7**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=76,slow=5.8,SNR=4.5						

TEH ***02*** *23:32:03.6, 33°.05N× 49°.62E, h10km, ML3.8*
IDC ***02*** *23:32:04.3± 1.1, 32°.95N× 49°.47E, h0km, mb3.7/11, mb1 3.7/17, mb1mx3.6/53, mbtmp3.7/17, ML3.3/6, MS3.6/2, Ms1 3.6/2, ms1mx2.8/47, Error ellipse: s-maj=25.4km s-min=14.1km az=171.0*
OMAN ***02*** *23:32:11.3± 0.8, 32°.37N× 49°.28E, h33km, mb4.8/17, ms2.8/2, Error ellipse: s-maj=31.0km s-min=6.7km az=321.0*

ISC 02 23:32:04.8±0.5, 32°.89N±0°.05× 49°.59E±0°.03, h10km, n62, σ1§66/69, mb3.7/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**1.11**	**100**	*e*Pg	**Pg**	**23 32 24.9**	**-1.3**
IPIR				*e*		23 32 49.4	
JHBN	**Jahan bin**	**1.12**	**126**	*e*Pg	**Pg**	**23 32 25.9**	**-0.4**
JHBN				*e*		23 32 53.5	
IKMR	**Kamar-syah**	**1.20**	**302**	*e*Pg	**Pb**	**23 32 25.2**	**-2.3**
IKMR				*e*		23 32 50.4	
ROKH	**ROKH**	**1.33**	**114**	*e*Pg	**Pn**	**23 32 29.9**	**+0.2**
ROKH				*e*		23 32 34.9	
HSAM	**Samen**	**1.56**	**328**	*e*Pg	**Pn**	**23 32 31.0**	**-1.8**
IKLH	**Kolahrood**	**1.72**	**75**	*e*Pg	**Pn**	**23 32 35.1**	**0.0**
IKLH				*e*		23 33 05.0	
AHWZ	**Ahwaz**	**1.75**	**208**	*e*Pg	**Pg**	**23 32 39.8**	**+1.4**
QAM	**Ghamsar**	**1.77**	**60**	*e*Pg	**Pn**	**23 32 36.2**	**+0.4**
DHL1	**Dehloran**	**1.96**	**265**	*e*Pn	**Pb**	**23 32 40.1**	**-0.5**
HAGD	**Aghdareh**	**1.96**	**349**	*e*Pn	**Pn**	**23 32 37.2**	**-1.2**
IGAR	**Gharneh**	**2.12**	**103**	*e*Pn	**Pb**	**23 32 43.1**	**-0.4**
IGAR				*e*		23 32 47.9	
IKOM	**Komasi**	**2.16**	**307**	*e*Pn	**Pn**	**23 32 42.4**	**+1.4**
IKOM				*e*		23 33 41.6	
IZEF	**Zefreh**	**2.30**	**89**	*e*	Sn	23 33 27.7	+16
KRSH	**Karshahi**	**2.38**	**62**	*e*Pn	**Pb**	**23 32 46.6**	**-1.3**
KRSH				*e*		23 33 27.1	
KLNJ	**Kolanjah**	**2.53**	**137**	*e*Pn	**Pb**	**23 32 49.4**	**-1.1**
KER	**Kermanshah**	**2.54**	**307**	*e*Pn	**Pn**	**23 32 47.5**	**+1.3**
IRAM	**Ramesheh**	**2.59**	**114**	*e*Pn	**Pn**	**23 32 49.7**	**+2.6**
QABG	**Abgarm-Qazvin**	**2.81**	**360**	*e*Pn	**Pn**	**23 32 49.6**	**-0.5**
ISAD	**Sadrabad**	**3.59**	**105**	*e*Pn	**Pn**	**23 33 03.3**	**+2.4**
TPRV	**Parvadeh(Tabas**	**5.96**	**87**	*e*Pn	**Pn**	**23 33 35.5**	**+2.2**
GEYT	**Alibeck**	**8.58**	**52**	Pn	**Pn**	**23 34 11.5**	**+2.4**
	0.3nm,0.3s,baz=243,slow=13,SNR=2.3						
GEYT				Lg	Lg	23 36 38.0	
	0.1nm,0.3s,baz=96,slow=40,SNR=1.3						
BANOM	**Banah**	**9.07**	**138**	P	**Pn**	**23 34 19.0**	**+3.1**
	SNR=20						
BANOM				S	**Sn**	**23 35 55.9**	**-2.2**
NAZ	**Nazwa, Dubai**	**9.50**	**144**	P	**Pn**	**23 34 23.9**	**+2.2**
NAZ				S	**Sn**	**23 36 06.3**	**-2.2**
MDH	**Madha**	**9.57**	**141**	P	**Pn**	**23 34 24.0**	**+1.3**
MDH				S	**Sn**	**23 36 07.7**	**-2.6**
UOSS	**Minazif**	**9.80**	**142**	P	**Pn**	**23 34 28.0**	**+2.1**
HATD	**Hatta, Dubai**	**9.87**	**143**	P	**Pn**	**23 34 29.6**	**+2.9**
HATD				S	**Sn**	**23 36 17.4**	**-0.2**
ASHO	**Ashiyiah**	**9.95**	**144**	P	**Pn**	**23 34 30.0**	**+2.1**
	SNR=12						
SOHO	**SOHO**	**10.64**	**143**	P	**Pn**	**23 34 37.3**	**-0.1**
SOHO				S	**Sn**	**23 36 35.3**	**-1.3**
ASF	**Jabal al Asfar**	**10.74**	**270**	Pn	**Pn**	**23 34 36.9**	**-1.9**
	0.2nm,0.3s,baz=25,slow=9.0,SNR=3.8						
ASF				Sn	Sn	23 36 29.5	-10
	0.1nm,0.3s,baz=60,slow=20,SNR=1.1						
ASF				Lg	Lg	23 37 44.2	
	baz=109,slow=21,SNR=1.7						
ARQ	**Araqi**	**11.31**	**146**	P	**Pn**	**23 34 47.4**	**+0.9**
HOQ	**Hoqain**	**11.49**	**142**	P	**Pn**	**23 34 50.3**	**+1.3**

	baz=21								
PRZ				⇓*i*S		**Sb**	**23 33 55.7**	**+0.2**	
	baz=21								
ANVS	**Anan'yevo**	**3.44**	**12**	⇑*i*P		**Pb**	**23 33 18.1**	**+1.2**	
	baz=11								
ANVS				⇑*i*S		**Sb**	**23 34 58.9**	**+0.1**	
	baz=11								
KBK	**Karagaybulak**	**3.47**	**339**	⇓*i*P		**Pb**	**23 33 19.2**	**+1.7**	
KBK	baz=38			⇓*i*S		**Sb**	**23 34 00.9**	**+1.1**	
	baz=38								
AML	**Almayashu**	**3.51**	**321**	⇑*i*P		**Pb**	**23 33 20.1**	**+1.8**	
AML	baz=21			⇑*i*S		**Sb**	**23 34 02.1**	**+0.9**	
	baz=21								
TKM2	**Tokmak 2**	**3.58**	**347**	⇑*i*P		**Pb**	**23 33 20.5**	**+1.2**	
TKM2	baz=46			⇑*i*S		**Sb**	**23 34 03.1**	**+0.2**	
	baz=46								
TKM2	**Tokmak 2**	**3.58**	**347**	⇑Pg		**Pb**	**23 33 20.7**	**+1.4**	
	2.4nm,0.2s								
TKM2				⇑Lg		Lg	23 34 11.1		
	22nm,0.6s								
AAK	**Ala-Archa**	**3.60**	**334**	⇑*i*P		**Pb**	**23 33 20.9**	**+1.3**	
AAK	baz=33			⇑*i*S		**Sb**	**23 34 03.9**	**+0.5**	
	baz=33								
AAK	**Ala-Archa**	**3.60**	**334**	⇑Pg		**Pg**	**23 33 25.0**	**+0.2**	
	6.5nm,0.5s								
AAK				⇑Lg		Lg	23 34 11.8		
	52nm,0.7s								
IZV	**Izvestkoviy**	**3.60**	**359**	*e*P		**Pg**	**23 33 24.3**	**-0.5**	
	7.9nm,0.4s								
IZV				*e*S		**Sg**	**23 34 13.0**	**+1.5**	
	18nm,0.3s								
IZV	**Izvestkoviy**	**3.60**	**359**	Pg		**Pg**	**23 33 24.3**	**-0.5**	
	7.9nm,0.4s								
IZV				Lg		Lg	23 34 13.0		
	18nm,0.3s								
TNSS	**Tian-Shan**	**3.61**	**3**	*e*P		**Pg**	**23 33 23.9**	**-1.1**	
	8.5nm,0.3s								
TNSS				*e*S		**Sg**	**23 34 12.5**	**+0.7**	
	9.5nm,0.5s								
TNSS	**Tian-Shan**	**3.61**	**3**	Pg		**Pg**	**23 33 23.9**	**-1.1**	
	8.5nm,0.3s								
TNSS				Lg		Lg	23 34 12.5		
	9.5nm,0.5s								
KST	**Kastek**	**3.65**	**352**	*e*P		**Pg**	**23 33 24.8**	**-0.9**	
	8.2nm,0.2s								
KST				*e*S		**Sg**	**23 34 13.8**	**+0.8**	
	20nm,0.4s								
KST	**Kastek**	**3.65**	**352**	Pg		**Pg**	**23 33 24.8**	**-0.9**	
	8.2nm,0.2s								
KST				Lg		Lg	23 34 13.8		
	20nm,0.4s								
MTBS	**Maitube**	**3.70**	**357**	*e*P		**Pg**	**23 33 24.9**	**-1.8**	
	3.8nm,0.1s								
MTBS				*e*S		**Sg**	**23 34 13.8**	**-0.9**	
	10.0nm,0.1s								
MTBS	**Maitube**	**3.70**	**357**	Pg		**Pg**	**23 33 24.9**	**-1.8**	
	3.8nm,0.1s								
MTBS				Lg		Lg	23 34 13.8		
	10.0nm,0.1s								
FRU1	**Bishkek**	**3.71**	**336**	⇓*i*P		**Pb**	**23 33 22.6**	**+1.2**	
	baz=35								
FRU1				⇓*i*S		**Sb**	**23 34 06.4**	**-0.1**	
	baz=35								
AAA	**Alma-Ata**	**3.78**	**3**	*e*P		**Pg**	**23 33 26.6**	**-1.7**	
	5.8nm,0.1s								
AAA				*e*S		**Sg**	**23 34 16.6**	**-0.6**	
	19nm,0.1s								
AAA	**Alma-Ata**	**3.78**	**3**	Pg		**Pg**	**23 33 26.6**	**-1.7**	
	5.8nm,0.1s								
AAA				Lg		Lg	23 34 16.6		
	19nm,0.1s								
KNDC	**Almaty**	**3.79**	**3**	⇓Pg		**Pg**	**23 33 30.3**	**+1.8**	
	16nm,0.7s								
KNDC				⇑Lg		Lg	23 34 18.7		
	43nm,0.5s								
KOTS	**Kotyrbulak**	**3.82**	**5**	*e*P		**Pg**	**23 33 28.3**	**-0.6**	
	15nm,0.2s								
KOTS				*e*S		**Sg**	**23 34 19.7**	**+1.3**	
	35nm,0.5s								
KOTS	**Kotyrbulak**	**3.82**	**5**	Pg		**Pg**	**23 33 28.3**	**-0.6**	
	15nm,0.2s								
KOTS				Lg		Lg	23 34 19.7		
	35nm,0.5s								
CHMS	**Chumysh**	**3.85**	**339**	⇓*i*P		**Pb**	**23 33 24.3**	**+0.6**	
	baz=38								
CHMS				⇓*i*S		**Sb**	**23 34 09.4**	**-1.0**	
	baz=38								
SATY	**Saty**	**3.86**	**19**	*e*P		**Pg**	**23 33 28.6**	**-1.1**	
	4.5nm,0.5s								
SATY				*e*S		**Sg**	**23 34 20.7**	**+0.9**	
	20nm,0.5s								
SATY	**Saty**	**3.86**	**19**	Pg		**Pg**	**23 33 28.6**	**-1.1**	
	4.5nm,0.5s								
SATY				Lg		Lg	23 34 20.7		
	20nm,0.5s								
EKS2	**Erkin-Say**	**3.90**	**327**	⇑*i*P		**Pb**	**23 33 25.1**	**+0.5**	
	baz=26								
EKS2				⇑*i*S		**Sb**	**23 34 11.0**	**-0.9**	
	baz=26								
ZHN	**Zhinishke**	**3.97**	**19**	*e*P		**Pg**	**23 33 30.0**	**-1.8**	
	100nm,0.3s								
ZHN				*e*S		**Sg**	**23 34 22.6**	**-0.6**	
	18nm,0.1s								
ZHN	**Zhinishke**	**3.97**	**19**	Pg		**Pg**	**23 33 30.0**	**-1.8**	
	100nm,0.3s								
ZHN				Lg		Lg	23 34 22.7		
	18nm,0.1s								
UZB	**Uzynbulak**	**4.12**	**25**	*e*P		**Pg**	**23 33 32.7**	**-2.0**	
	2.8nm,0.7s								
UZB				*e*S		**Sg**	**23 34 27.2**	**-0.8**	
	11nm,0.7s								
UZB	**Uzynbulak**	**4.12**	**25**	Pg		**Pg**	**23 33 32.7**	**-2.0**	
	2.8nm,0.7s								
UZB				Lg		Lg	23 34 27.2		
	11nm,0.7s								
MRKS	**Merke**	**4.21**	**323**	*e*P		**Pg**	**23 33 34.9**	**-1.4**	
	11nm,0.5s								
MRKS				*e*S		**Sg**	**23 34 31.3**	**+0.4**	
	13nm,0.6s								
MRKS	**Merke**	**4.21**	**323**	Pg		**Pg**	**23 33 34.9**	**-1.4**	
	11nm,0.5s								
MRKS				Lg		Lg	23 34 31.3		
	13nm,0.6s								
KURS	**Kuram**	**4.21**	**15**	*e*P		**Pg**	**23 33 34.6**	**-1.9**	
	4.4nm,0.7s								
KURS				*e*S		**Sg**	**23 34 30.4**	**-0.6**	
	14nm,0.7s								
KURS	**Kuram**	**4.21**	**15**	Pg		**Pg**	**23 33 34.6**	**-1.9**	
	4.4nm,0.7s								
KURS				Lg		Lg	23 34 30.4		
	14nm,0.7s								
KTBS	**Karatobe**	**4.28**	**0**	*e*P		**Pg**	**23 33 36.3**	**-1.5**	
	6.2nm,0.4s								
KTBS				*e*S		**Sg**	**23 34 33.6**	**+0.4**	
	17nm,0.4s								
KTBS	**Karatobe**	**4.28**	**0**	Pg		**Pg**	**23 33 36.3**	**-1.5**	
	6.2nm,0.4s								
KTBS				Lg		Lg	23 34 33.6		
	17nm,0.4s								
SHLS	**Shalkode**	**4.28**	**29**	*e*P		**Pg**	**23 33 38.9**	**+1.1**	
	6.3nm,0.5s								
SHLS				*e*S		**Sg**	**23 34 38.1**	**+4.9**	
	20nm,0.3s								
SHLS	**Shalkode**	**4.28**	**29**	Pg		**Pg**	**23 33 38.9**	**+1.1**	
	6.3nm,0.5s								
SHLS				Lg		Lg	23 34 38.1		
	20nm,0.3s								
SGDS	**Sogindy**	**4.30**	**340**	Pg		**Pg**	**23 33 36.6**	**-1.5**	
	8.7nm,0.4s								
SGDS				Lg		Lg	23 34 33.8		
	9.1nm,0.3s								
KPKS	**Kokpek**	**4.31**	**20**	*e*P		**Pg**	**23 33 36.9**	**-1.5**	
	13nm,0.3s								
KPKS				*e*S		**Sg**	**23 34 34.4**	**+0.2**	
	44nm,0.6s								
CHKK	**Chushkaly**	**4.43**	**3**	*e*P		**Pg**	**23 33 38.7**	**-1.9**	
	6.1nm,0.4s								
CHKK				*e*S		**Sg**	**23 34 37.8**	**-0.1**	
	20nm,0.2s								
CHKK	**Chushkaly**	**4.43**	**3**	Pg		**Pg**	**23 33 38.7**	**-1.9**	
	6.1nm,0.4s								
CHKK				Lg		Lg	23 34 37.8		
	20nm,0.2s								
PDGK	**Podgornoye**	**4.44**	**28**	Pg		**Pg**	**23 33 39.2**	**-1.6**	
	2.0nm,0.5s								
PDGK					Lg	Lg	23 34 38.5		
	4.9nm,0.3s								
PDGK	**Podgornoye**	**4.44**	**28**	⇓Pg		**Pg**	**23 33 40.9**	**0.0**	
	4.2nm,0.8s								
PDGK				⇓Lg		Lg	23 34 38.2		
	7.9nm,0.6s								
KUU	**Kurty**	**4.47**	**357**	*e*P		**Pg**	**23 33 39.5**	**-1.8**	
	3.7nm,0.2s								
KUU				*e*S		**Sg**	**23 34 39.2**	**0.0**	
	12nm,0.2s								
KUU	**Kurty**	**4.47**	**357**	Pg		**Pg**	**23 33 39.6**	**-1.8**	
	3.7nm,0.2s								
KUU				Lg		Lg	23 34 39.2		
	12nm,0.2s								
MNBS	**Baschi**	**4.83**	**15**	*e*P		**Pg**	**23 33 46.4**	**-1.9**	
	5.0nm,0.3s								
MNBS				*e*S		**Sg**	**23 34 50.6**	**-0.1**	
	20nm,0.3s								
MNBS	**Baschi**	**4.83**	**15**	Pg		**Pg**	**23 33 46.4**	**-1.9**	
	5.0nm,0.3s								
MNBS				Lg		Lg	23 34 50.6		
	20nm,0.3s								
ARXS	**Arharly**	**4.86**	**10**	*e*P		**Pg**	**23 33 46.2**	**-2.6**	
	13nm,0.6s								
ARXS				*e*S		**Sg**	**23 34 51.0**	**-0.8**	
	10nm,0.3s								
ARXS	**Arharly**	**4.86**	**10**	Pg		**Pg**	**23 33 46.2**	**-2.6**	
	13nm,0.6s								
ARXS				Lg		Lg	23 34 51.0		
	10nm,0.3s								
KTMS	**Ketmen**	**4.88**	**33**	*e*P		**Pg**	**23 33 46.8**	**-2.5**	
	0.2nm,0.1s								
KTMS				*e*S		**Sg**	**23 34 51.5**	**-1.0**	
	6.9nm,0.3s								
KTMS	**Ketmen**	**4.88**	**33**	Pg		**Pg**	**23 33 46.8**	**-2.5**	
	0.2nm,0.1s								
KTMS				Lg		Lg	23 34 51.5		
	6.9nm,0.3s								
DJR	**Jarkent**	**5.43**	**24**	*e*P		**Pg**	**23 33 56.8**	**-2.9**	
	1.5nm,0.2s								
DJR				*e*S		**Sg**	**23 35 08.9**	**-1.1**	
	4.9nm,0.4s								
DJR	**Jarkent**	**5.43**	**24**	Pg		**Pg**	**23 33 56.8**	**-2.9**	
	1.5nm,0.2s								
DJR				Lg		Lg	23 35 08.9		
	4.9nm,0.4s								
TDK	**Taldyqorghan**	**5.72**	**13**	Pg		**Pg**	**23 34 03.2**	**-2.1**	
	17nm,0.6s								
TDK				Lg		Lg	23 35 19.6		
	33nm,0.9s								
KK31	**Karatay Array**	**5.91**	**310**	⇑Pg		**Pg**	**23 34 07.7**	**-1.2**	
	0.6nm,0.4s,baz=127,slow=17,SNR=7.2								
KK31				⇑Lg		Lg	23 35 24.0		
	0.8nm,0.5s,baz=118,slow=29,SNR=3.9								
BTLS	**Baital**	**5.93**	**342**	Pg		**Pg**	**23 34 07.1**	**-2.3**	
	2.6nm,0.7s								

*IDC **02** 23:32:55.7±5.5,20.38S×177.92W,h505km±61km, mb3.0/7, mb1 3.3/8,mb1mx3.1/41,mbtmp4.0/8,Error ellipse: s-maj=47.6km s-min=24.9km az=169.0*
*NEIC **02** 23:32:56.8±1.7,20.86S±0.08×177.8W±0.1,h528km±11km, mb4.3/14,Error ellipse: s-maj=17.6km s-min=11.5km az=96.0*

ISC 02 23:32:57.4±0.5,**20.84S**±0.10×**177.82W**±0.08,**h550**km, **n38**,σ1§**56**/41,**mb3.8**/11,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.97**	**308**	P	**P**	**23 34 26.4**	**-0.8**
NIUE	**Niue**	**7.63**	**78**	P	**P**	**23 34 50.5**	**-1.0**
NIUE				S	**S**	**23 36 25.1**	**+0.1**
RAO	**Raoul Island**	**8.38**	**181**	P	**P**	**23 34 56.8**	**-2.1**
AFI	**Afiamalu**	**8.98**	**41**	P	**P**	**23 35 02.9**	**-2.4**
DZM	**Mont Dzumac**	**14.70**	**262**	P	**P**	**23 36 04.0**	**+0.1**
SANVU	**Saraoutou**	**15.20**	**288**	P	**P**	**23 36 10.2**	**+1.1**
OUZ	**Omahuta**	**16.20**	**206**	P	**P**	**23 36 18.1**	**-0.5**
OUZ				IAmb	IAmb	23 36 26.1	
	comp=Z,6.9nm,0.8s						
URZ	**Urewera**	**17.91**	**193**	P	**P**	**23 36 38.8**	**+4.6**
	comp=Z,0.5nm,0.3s,baz=115,slow=14,SNR=1.4						
URZ	**Urewera**	**17.91**	**193**	P	**P**	**23 36 36.2**	**+1.9**
URZ				IAmb	IAmb	23 36 51.7	
	comp=Z,23nm,1.1s						
BKZ	**Black Stump Fm**	**18.91**	**194**	P	**P**	**23 36 44.8**	**+1.3**
BKZ				IAmb	IAmb	23 36 46.9	
	comp=Z,18nm,1.2s						
PLWZ	**Palliser**	**21.49**	**194**	P	**P**	**23 37 07.0**	**+0.2**
QRZ	**Quartz Range**	**21.55**	**200**	P	**P**	**23 37 06.8**	**-0.5**
NNZ	**Nelson**	**21.65**	**198**	P	**P**	**23 37 08.1**	**-0.1**
MQZ	**McQueen's Vall**	**24.15**	**197**	P	**P**	**23 37 30.8**	**+0.4**
CTA	**Charters Tower**	**33.62**	**265**	P	**P**	**23 38 53.9**	**+1.0**
	comp=Z,2.2nm,0.4s,baz=68,slow=5.4,SNR=2.2						
PMG	**Port Moresby**	**35.58**	**283**	P	**P**	**23 39 09.7**	**+0.4**
PMG				IAmb	IAmb	23 39 13.4	
	comp=Z,24nm,1.1s						
MCQ	**Macquarie Isla**	**37.94**	**202**	P	**P**	**23 39 28.1**	**0.0**
BBOO	**Buckleboo**	**42.55**	**244**	P	**P**	**23 40 06.4**	**+1.2**
BBOO				IAmb	IAmb	23 40 18.6	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**44.53**	**262**	P	**P**	**23 40 20.4**	**-0.4**
WR0				IAmb	IAmb	23 40 22.9	
	comp=Z,3.6nm,1.1s						
AS31	**Alice Springs**	**44.60**	**257**	P	**P**	**23 40 22.8**	**+1.4**
ASAR	**Alice Springs**	**44.60**	**257**	P	**P**	**23 40 22.8**	**+1.4**
	comp=Z,2.1nm,0.5s,baz=94,slow=7.6,SNR=12						
ASAR				PcP	**pP**	**23 41 54.6**	**-4.9**
	comp=Z,0.7nm,0.6s,baz=97,slow=3.6,SNR=5.4						
WC3	**Warramunga Arr**	**44.69**	**262**	P	**P**	**23 40 22.9**	**+0.9**
WB0	**Warramunga Arr**	**44.70**	**263**	P	**P**	**23 40 23.1**	**+1.0**
WB2	**Warramunga Arr**	**44.71**	**262**	P	**P**	**23 40 22.9**	**+0.7**
WRA	**Warramunga Arr**	**44.72**	**262**	P	**P**	**23 40 22.7**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=98,slow=8.4,SNR=7.3						
WRA	**Warramunga Arr**	**44.72**	**262**	P	**P**	**23 40 22.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.15**	**263**	P	**P**	**23 41 26.3**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=93,slow=17,SNR=1.9						
NVAR	**Mina Array Bea**	**81.16**	**43**	P	**P**	**23 44 17.2**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=234,slow=9.9,SNR=2.8						
TXAR	**Lajitas Array**	**87.10**	**57**	P	**P**	**23 44 47.1**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=215,slow=6.2,SNR=4.0						
IMAR	**Indian Mountai**	**88.46**	**10**	P	**P**	**23 44 52.3**	**+1.5**
MDM	**Murphy Dome**	**88.50**	**12**	P	**P**	**23 44 51.1**	**+0.1**
MDM				IAmb	IAmb	23 44 52.7	
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**88.60**	**13**	P	**P**	**23 44 51.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=224,slow=5.0,SNR=2.7						
AKASG	**Malin Array Be**	**143.38**	**331**	PKP	**PKPdf**	**23 51 28.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=42,slow=4.5,SNR=12						
ASF	**Jabal al Asfar**	**147.07**	**297**	PKPbc	**PKiKP**	**23 51 40.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=35,slow=3.8,SNR=4.0						
BRTR	**Keskin Array B**	**147.19**	**312**	PKPbc	**PKiKP**	**23 51 40.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=128,slow=3.7,SNR=5.3						
MMAI	**Mount Meron Ar**	**148.12**	**299**	PKPbc	**PKPab**	**23 51 44.5**	**-2.5**
	comp=Z,1.4nm,0.5s,baz=72,slow=6.2,SNR=10						
CLL	**Collm**	**148.43**	**347**	*i* PKPbc	**PKiKP**	**23 51 44.0**	**+0.8**
	comp=Z,6.0nm,0.9s						
CLL				*i* PKPab	**PKPab**	**23 51 48.5**	**+1.0**
GERES	**GERESS Array B**	**150.57**	**344**	PKPbc	**PKiKP**	**23 51 49.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=72,slow=4.3,SNR=5.1						

VAO 02 23:55:27.7±1.7,**15.92S**×**72.28W**,**h124**km±7km,**mb4.1**, **Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.00**	**96**	*e*P	Pn	23 56 28.1	+0.2
LVC	**Limon Verde**	**7.37**	**155**	*e*P	Pn	23 57 12.2	-0.9
ETMB	**Extrema**	**8.47**	**45**	*e*P	Pn	23 57 27.4	-0.2
VILB	**Vilhena**	**12.06**	**77**	*e*P	Pn	23 58 15.8	+0.1
CLDB	**Colider**	**16.80**	**75**	*e*P	Pn	23 59 14.9	-0.8
NPGB	**Novo Progresso**	**18.77**	**64**	*e*P	P	23 59 37.8	+0.4
TRCB	**Terra Rica**	**19.74**	**113**	*e*P	P	23 59 47.3	-0.7
ITTB	**Itaituba**	**19.90**	**57**	*e*P	P	23 59 50.0	+0.3
PCMB	**Pacaembu**	**20.68**	**109**	*e*P	P	23 59 57.6	-0.4
SNDB	**Serra Nova Dou**	**20.73**	**82**	*e*P	P	23 59 58.0	-0.7
PTGB	**Pitanga**	**20.86**	**118**	*e*P	P	00 00 00.8	+0.8
ITAB	**Concordia**	**21.82**	**124**	*e*P	P	00 00 10.3	+0.2
CPSB	**Cacapava Do Su**	**22.48**	**133**	*e*P	P	00 00 17.6	+0.7
MALB	**Monte Alegre**	**22.59**	**54**	*e*P	P	00 00 18.2	+0.1
IPMB	**Ipameri, GO**	**23.11**	**99**	*e*P	P	00 00 23.2	+0.1
PLTB	**Pedras Altas**	**23.19**	**136**	*e*P	P	00 00 24.1	+0.4
PEXB	**Peixe**	**23.56**	**84**	*e*P	P	00 00 27.0	-0.3
TIJ01	**Guaruva-PR**	**23.67**	**117**	*e*P	P	00 00 28.0	-0.3
CNLB	**Canela**	**23.79**	**128**	*e*P	P	00 00 29.1	-0.2

*DJA **03** 00:23:56.3±0.5,3.3S×12.8E±°,h11km±8km,M4.0/8, mB5.3/1,mb4.5/2,MLv3.8/8,Mw(mB)4.7/1*
*IDC **03** 00:23:59.5±2.5,3.03S×127.92E,h60km±28km,mb3.6/2, mb1 4.0/6,mb1mx3.5/34,mbtmp4.0/6,ML3.7/4,MS2.8/2, Ms1 2.8/2,ms1mx2.5/35,Error ellipse: s-maj=25.0km s-min=17.2km az=123.0*

ISC 03 00:23:58.1±0.9,**3.06S**±0.06×**127.69E**±0.05,**h42**km,**n15**, σ2§**36**/17,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.61**	**253**	P	**Pn**	**00 24 08.4**	**-2.0**
NLAI				S	**Sn**	**00 24 17.3**	**-1.9**
AAI	**Ambon**	**0.80**	**141**	P	**Pn**	**00 24 14.0**	**+1.0**
MSAI	**Masohi**	**1.27**	**103**	P	**Pn**	**00 24 22.0**	**+2.5**
SANI	**Sanana**	**1.97**	**301**	P	**Pn**	**00 24 26.4**	**-2.7**
LBMI	**Labuha**	**2.41**	**356**	P	**Pn**	**00 24 36.1**	**+0.9**
LBMI				S	**Sn**	**00 25 05.2**	**+1.7**
SIJI	**Sorong**	**4.19**	**59**	P	**Pn**	**00 24 58.7**	**-0.9**
	3.6nm,0.3s,baz=261,slow=19,SNR=2.0						
SIJI				S	**Sn**	**00 25 43.9**	**-3.4**
	3.7nm,0.3s,baz=126,slow=19,SNR=1.4						
LUWI	**Luwuk**	**5.30**	**292**	P	**Pn**	**00 25 13.7**	**-1.2**
	0.4nm3µm92nm,0.7s						
GTOI	**Gorontalo**	**5.94**	**308**	P	**Pn**	**00 25 27.1**	**+3.4**
KAPI	**Kappang**	**8.15**	**256**	P	**Pn**	**00 25 58.5**	**+4.6**
	2.3nm,0.3s,baz=103,slow=14,SNR=4.2						
KAPI				LR	LR	00 29 12.3	
	comp=Z,90nm,20.0s,baz=70,slow=37						
FITZ	**Fitzroy Crossi**	**15.08**	**188**	P	**Pn**	**00 27 30.6**	**+2.2**
	0.1nm,0.3s,baz=0.0,slow=8.1,SNR=2.0						
WRA	**Warramunga Arr**	**17.99**	**159**	P	**Pn**	**00 28 04.4**	**-0.8**
	0.3nm,0.3s,baz=345,slow=12,SNR=34						
ASAR	**Alice Springs**	**21.35**	**164**	P	**P**	**00 28 41.7**	**-0.2**
	4.6nm,0.8s,baz=344,slow=10,SNR=29						
CMAR	**Chiang Mai Ar**	**35.47**	**308**	LR	LR	00 49 29.5	
	comp=Z,7.6nm,18.1s,baz=310,slow=43						
MKAR	**Makanchi Array**	**63.69**	**327**	P	**P**	**00 34 24.9**	**-0.4**
	0.9nm,0.7s,baz=124,slow=7.7,SNR=9.4						
TORD	**Torodi Ar. Bea**	**125.71**	**284**	PKP	**PKPdf**	**00 42 56.1**	**-0.2**
	0.5nm,0.8s,baz=65,slow=1.2,SNR=2.6						

*IDC **03** 00:36:03.8±3.1, 16.67S×174.28W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.8/22,mbtmp3.6/5, Error ellipse: s-maj=179.4km s-min=27.1km az=148.0*
*NEIC **03** 00:36:23.9±2.6, 16.53S±0.10×174.88W±0.09, h165km±8km,mb4.6/14, Error ellipse: s-maj=14.6km s-min=11.3km az=152.0*

ISC 03 00:36:22.4±0.6,**16.54S**±0.08×**174.87W**±0.07,**h150**km, **n24**,σ1§**57**/26,**mb4.3**/11,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.96**	**49**	Pn	**Pn**	**00 37 24.5**	**+2.2**
AFI				Sn	**Sn**	**00 38 08.1**	**-0.7**
NIUE	**Niue**	**5.34**	**119**	Pn	**Pn**	**00 37 42.7**	**+2.4**
NIUE				Sn	**Sn**	**00 38 41.5**	**+0.4**
MSVF	**Nonsavu**	**6.88**	**259**	Pn	**Pn**	**00 38 01.3**	**+0.4**
DZM	**Mont Dzumac**	**18.47**	**250**	P	**P**	**00 40 26.2**	**-0.9**
URZ	**Urewera**	**22.76**	**196**	P	**P**	**00 41 11.6**	**-0.2**
URZ				IAmb	IAmb	00 41 15.7	
	comp=Z,21nm,1.1s						
ODZ	**Otahua Downs**	**30.92**	**200**	P	**P**	**00 42 25.8**	**+0.8**
ODZ				IAmb	IAmb	00 42 28.9	
	comp=Z,26nm,1.1s						
WKZ	**Wanaka**	**31.30**	**202**	P	**P**	**00 42 25.8**	**-2.4**
MLZ	**Mavora Lakes**	**32.09**	**203**	P	**P**	**00 42 32.8**	**-2.5**
MLZ				IAmb	IAmb	00 42 38.5	
	comp=Z,7.3nm,0.9s						
COEN	**Coen**	**40.51**	**268**	P	**P**	**00 43 48.5**	**+1.4**
WRA	**Warramunga Arr**	**48.22**	**258**	P	**P**	**00 44 50.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=101,slow=8.2,SNR=1.8						
WRA	**Warramunga Arr**	**48.22**	**258**	P	**P**	**00 44 48.2**	**0.0**
ASAR	**Alice Springs**	**48.42**	**253**	P	**P**	**00 44 52.0**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=87,slow=8.2,SNR=13						
ASAR	**Alice Springs**	**48.42**	**253**	P	**P**	**00 44 49.9**	**+0.1**
FORT	**Forrest**	**53.65**	**244**	P	**P**	**00 45 29.1**	**+0.5**
FORT				IAmb	IAmb	00 45 30.7	
	comp=Z,20nm,0.9s						
PMPB	**Monarch Peak**	**73.21**	**43**	P	**P**	**00 47 36.6**	**-0.6**
PMPB				IAmb	IAmb	00 47 42.7	
	comp=Z,8.3nm,1.2s						
KEBM	**Edson Butte**	**75.14**	**36**	P	**P**	**00 47 49.0**	**+0.9**
OHAK	**Old Harbor**	**75.65**	**12**	P	**P**	**00 47 51.9**	**+1.3**
PNTR	**Pine Nut**	**75.66**	**41**	P	**P**	**00 47 52.2**	**+0.7**
NVAR	**Mina Array Bea**	**76.11**	**42**	P	**P**	**00 47 52.1**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=224,slow=8.8,SNR=3.1						
CCUT	**Cedar City**	**78.93**	**45**	P	**P**	**00 48 09.2**	**-0.4**
ILAR	**Eielson Array**	**83.83**	**12**	P	**P**	**00 48 34.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=244,slow=5.4,SNR=5.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAPC	**Finca la Perla**	**1.24**	**94**	*i* P	**Pn**	**00 52 48.0**	**-0.6**
LAPC				*i* S	**Sb**	**00 53 05.4**	**+0.8**
BUEV	**Buena Vista**	**1.26**	**92**	*i* P	**Pn**	**00 52 48.8**	**-0.2**
BUEV				*i* S	**Sb**	**00 53 06.4**	**+1.0**
GB1A	**Borinquen Arri**	**1.27**	**91**	*e*P	**Pn**	**00 52 49.0**	**-0.1**
GB1A				*i* S	**Sb**	**00 53 06.8**	**+1.2**
GPS3	**Bodega del ICE**	**1.31**	**94**	*i* P	**Pn**	**00 52 49.2**	**-0.3**
GPS1	**Guardaparques**	**1.32**	**93**	*i* P	**Pn**	**00 52 49.4**	**-0.3**
GPS2	**Hotel Rincn d**	**1.32**	**94**	*i* P	**Pn**	**00 52 49.4**	**-0.4**
BUAI	**Buenos Aires**	**1.33**	**89**	*i* P	**Pn**	**00 52 50.5**	**+0.6**
PLVR	**Palo Verde**	**1.41**	**111**	*e*P	**Pn**	**00 52 49.6**	**-1.5**
GUAB	**Guayabo de Bag**	**1.44**	**96**	*i* P	**Pn**	**00 52 51.3**	**-0.1**
COLC	**Colonia**	**1.47**	**97**	*i* P	**Pn**	**00 52 51.5**	**-0.3**
JTS	**Las Juntas de** 12nm,0.3s,baz=21,slow=15,SNR=23	**1.80**	**108**	Pg	**Pn**	**00 52 55.5**	**-0.8**
JTS				Lg	Lg	00 53 21.1	
	63nm,0.3s,baz=337,slow=14,SNR=5.6						
JTS	**Las Juntas de**	**1.80**	**108**	*e*P	**Pn**	**00 52 55.4**	**-0.9**
ACON	**Acoyapa**	**1.85**	**53**		**Pn**	**00 52 57.6**	**+0.6**
CEDE	**Laguna Cedeo**	**1.99**	**100**	*e*P	**Pn**	**00 52 59.3**	**+0.4**
MATN	**Matagalpa**	**2.19**	**20**		**Pn**	**00 53 02.5**	**+0.7**
CSGN	**Cosiguina Volc**	**2.27**	**338**	Pn	**Pb**	**00 53 05.0**	**-1.7**
CNCH	**Conchagua**	**2.66**	**335**‖	*e*P	**Pn**	**00 53 08.6**	**+0.4**
CNCH	**Conchagua**	**2.66**	**335**‖	*e*P	**Pn**	**00 53 08.6**	**+0.4**
CNCH				*e*S	**Sn**	**00 53 38.1**	**-1.9**
HDC	**Heredia**	**2.67**	**108**	Pn	**Pn**	**00 53 10.1**	**+1.7**
ESPN	**Las Esperanzas**	**2.69**	**60**	Pn	**Pn**	**00 53 10.3**	**+1.7**
LCND	**La Caada**	**2.71**	**334**	*e*P	**Pn**	**00 53 09.3**	**+0.5**
LCND				IAML		00 53 47.5	
	comp=Z,165nm,0.3s						
LCND	**La Caada**	**2.71**	**334**	*e*P	**Pn**	**00 53 09.3**	**+0.5**
LCND				IAML		00 53 47.5	
	comp=Z,165nm,0.3s						
LCR2	**La Lucha 2**	**2.87**	**112**	*e*P	**Pn**	**00 53 12.2**	**+1.0**
BLLM	**Bellamira**	**2.98**	**330**	*e*P	**Pn**	**00 53 12.8**	**+0.1**
BLLM	**Bellamira**	**2.98**	**330**	*e*P	**Pn**	**00 53 12.8**	**+0.1**
BLLM				*e*S	**Sn**	**00 53 45.8**	**-2.3**
CVTR	**Volcan Turrial**	**3.00**	**106**	*e*P	**Pn**	**00 53 15.6**	**+2.4**
TECA	**Tecapa**	**3.17**	**326**	*e*P	**Pn**	**00 53 15.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**3.23**	**350**		**Pn**	**00 53 18.3**	**+2.1**
COEG	**Centro de Oper**	**3.48**	**322**	*e*P	**Pn**	**00 53 19.7**	**+0.2**
COEG				IAML		00 54 10.4	
	comp=Z,99nm,0.4s						
COEG	**Centro de Oper**	**3.48**	**322**	*e*P	**Pn**	**00 53 19.7**	**+0.2**
COEG				IAML		00 54 10.4	
	comp=Z,99nm,0.4s						
LFRS	**El Faro**	**3.60**	**320**	*e*P	**Pn**	**00 53 21.6**	**+0.4**
LFRS	**El Faro**	**3.60**	**320**	*e*P	**Pn**	**00 53 21.6**	**+0.4**
TACO	**Tacachico**	**4.05**	**320**	IAML		00 54 20.9	
	comp=Z,12nm,0.3s						
TACO	**Tacachico**	**4.05**	**320**	IAML		00 54 20.9	
	comp=Z,12nm,0.3s						
NUBE	**Las Nubes**	**4.28**	**315**	*e*P	**Pn**	**00 53 30.8**	**+0.3**
NUBE	**Las Nubes**	**4.28**	**315**	*e*P	**Pn**	**00 53 30.8**	**+0.3**
MTO3	**Montecristo**	**4.38**	**324**		**Pn**	**00 53 33.2**	**+1.1**
ESQI	**Esquipulas**	**4.50**	**325**	Pn	**Pn**	**00 53 36.0**	**+2.4**
CCIG	**Comitan**	**7.56**	**316**	Pn	**Pn**	**00 54 18.1**	**+2.4**
FSCY	**Frank Sound, G**	**9.95**	**32**	Pn	**Pn**	**00 54 44.9**	**-3.4**
656A	**Willston**	**18.83**	**11**		**Pn**	**00 56 46.2**	**+0.7**
PCDR	**Punta Cana, DR**	**19.27**	**65**	P	**Pn**	**00 56 51.6**	**+0.6**
553A	**Crawfordville**	**19.35**	**6**	P	**P**	**00 56 51.4**	**+0.6**
553A				IAmb	IAmb	00 56 59.2	
	comp=Z,21nm,1.0s						
HKT	**Hockley**	**20.82**	**337**	P	Pn	00 57 08.5	-0.7
250A	**Grady**	**21.03**	**1**	P	**P**	**00 57 09.9**	**+0.9**
250A				IAmb	IAmb	00 57 18.1	
	comp=Z,6.3nm,0.7s						
GOGA	**Godfrey**	**22.65**	**7**	P	**P**	**00 57 26.5**	**+0.2**
GOGA				IAmb	IAmb	00 57 28.1	
	comp=Z,7.4nm,1.1s						
Y49A	**Blount Mountai**	**22.90**	**1**	P	**P**	**00 57 29.7**	**+0.6**
Y49A				IAmb	IAmb	00 57 30.7	
	comp=Z,6.5nm,0.8s						
JSC	**Jenkinsville**	**23.84**	**11**	P	**P**	**00 57 38.0**	**-0.4**
W50A	**Signal Mountai**	**24.27**	**3**	P	**P**	**00 57 42.9**	**+0.4**
W50A				IAmb	IAmb	00 57 51.2	
	comp=Z,6.1nm,0.8s						
BG3	**Lake Jocassee**	**24.27**	**8**	P	**P**	**00 57 41.9**	**-0.6**
TXAR	**Lajitas Array**	**24.28**	**322**	P	**P**	**00 57 43.5**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=136,slow=10,SNR=15						
TXAR				PcP	**PcP**	**01 01 24.2**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=161,slow=5.7,SNR=6.2						
TX31	**Lajitas Ar. Si**	**24.28**	**322**	P	**P**	**00 57 43.4**	**+0.7**
TX31				IAmb	IAmb	00 57 44.1	
	comp=Z,11nm,0.9s						
TX32	**Lajitas Array**	**24.28**	**322**	P	**P**	**00 57 43.9**	**+1.2**
UALR	**University of**	**24.36**	**349**	P	**P**	**00 57 42.4**	**-0.9**
UALR				IAmb	IAmb	00 57 44.9	
	comp=Z,5.6nm,0.7s						
X58A	**Rowland**	**24.53**	**15**	P	**P**	**00 57 45.2**	**+0.5**
CPCT	**Cooper Cave**	**24.57**	**4**	P	**P**	**00 57 45.5**	**+0.4**
CPCT				IAmb	IAmb	00 57 47.4	
	comp=Z,8.5nm,0.7s						
TKL	**Tuckaleechee C**	**24.84**	**6**	P	**P**	**00 57 47.5**	**0.0**
	comp=Z,3.1nm,0.6s,baz=179,slow=16,SNR=6.1						
TKL	**Tuckaleechee C**	**24.84**	**6**	IAmb	IAmb	00 57 49.7	
	comp=Z,5.6nm,0.8s						
V51A	**Loudon**	**24.93**	**5**	P	**P**	**00 57 49.0**	**+0.6**
V51A				IAmb	IAmb	00 57 50.6	
	comp=Z,9.0nm,1.1s						
V53A	**Saluda**	**24.95**	**7**	P	**P**	**00 57 49.4**	**+0.7**
V53A				IAmb	IAmb	00 57 57.7	
	comp=Z,6.3nm,0.9s						
FCAR	**Ozark Folk Cen**	**25.41**	**350**	P	**P**	**00 57 54.3**	**+1.6**
PBMO	**Poplar Bluff**	**26.03**	**353**		**PcP**	**01 01 26.0**	**-0.2**
WMOK	**Wichita Mounta**	**26.21**	**337**	P	**P**	**00 58 01.2**	**+1.1**
WMOK				IAmb	IAmb	00 58 03.4	
	comp=Z,6.5nm,0.9s						
PV17	**East Wray Mesa**	**33.81**	**328**	P	**P**	**00 59 08.6**	**+1.0**
PV17				IAmb	IAmb	00 59 09.1	
	comp=Z,4.1nm,0.7s						
PDAR	**Pinedale Array**	**37.52**	**332**	P	**P**	**00 59 37.8**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=121,slow=9.6,SNR=2.2						
NVAR	**Mina Array Bea**	**39.39**	**320**	P	**P**	**00 59 56.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=128,slow=8.2,SNR=6.5						
NVAR				PcP	**PcP**	**01 02 05.3**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=143,slow=3.2,SNR=1.6						
ILAR	**Eielson Array**	**67.77**	**336**	P	**P**	**01 03 21.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=167,slow=5.6,SNR=2.9						
ESDC	**Sonseca Array**	**77.59**	**52**	P	**P**	**01 04 19.1**	**-2.4**
	comp=Z,0.6nm,0.9s,baz=272,slow=4.9,SNR=2.9						

MOS ***03*** *00:57:27.2±0.9, 40.°07N×142.°65E, h22km, mb5.8/141, MS5.2/60, Error ellipse: s-maj=5.2km s-min=3.5km az=102.8*

BJI ***03*** *00:57:27.1±0.0, 40.°07N×142.°72E, h33km, mB5.4/69, mb5.5/84, Ms5.5/89, Ms7 5.3/85*

BGR ***03*** *00:57:27.9±0.0, 39.°51N×143.°23E, h50km, mb5.6*

NIED ***03*** *00:57:30.1, 40.°17N×142.°63E, h28km, MW5.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.97; Mθθ-0.06; Mφφ-1.91; Mrθ1.02; Mθφ-0.66; Mφr1.86; Fault plane solution: M₀2.95000×10¹⁷ NP1:φs26.00000°, δ68.00000°, λ97.00000°. NP2:φs189.00000°, δ23.00000°, λ74.00000°.*

JMA ***03*** *00:57:30.0±0.1, 40.°17N×142.°63E, h28km±1km, M5.7 Broadband fault plane solution: P waves. NP1: φs188.00000°, δ37.00000°, λ69.00000°. NP2:φs34.00000°, δ56.00000°, λ105.00000°. Principal axes: T Plg74.0000°, Azm346.0000°; N Plg13.0000°, Azm205.0000°; P Plg10.0000°, Azm113.0000°;*

JMA Felt IV J1.

NEIC ***03*** *00:57:30.7±1.6, 40.°16N±0.°05×142.°77E±0.°09, h30km±1km, mb5.4/639, Ms_20 5.2/487, Mwb5.5/107, Mww5.5, Mwc5.6(GCMT) Error ellipse: s-maj=12.5km s-min=7.3km az=108.0*

NEIC ***03*** *00:57:31.8, 40.°14N×142.°64E, h23km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.48; Mθθ-0.49; Mφφ-0.98; Mrθ1.05; Mθφ-0.79; Mφr1.24; Fault plane solution: M₀2.23000×10¹⁷ NP1:φs213.40000°, δ21.65000°, λ84.63000°. NP2:φs39.17000°, δ68.45000°, λ92.13000°. Principal axes: T 2.1832, Plg66.0000°, Azm313.0000°; N 0.0894, Plg2.0000°, Azm218.0000°; P -2.2726, Plg23.0000°, Azm128.0000°;*

IDC ***03*** *00:57:31.4±1.9, 40.°15N×142.°62E, h38km±15km, mb5.1/45, mb1 5.2/49, mb1mx5.0/65, mbtmp5.3/49, ML4.8/4, MS5.1/37, Ms1 5.1/37, ms1mx5.1/41 Error ellipse: s-maj=10.6km s-min=7.9km az=108.0*

NEIC ***03*** *00:57:31, 40.°07N×142.°61E, h40km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.87; Mθθ0.02; Mφφ-1.89; Mrθ0.83; Mθφ-0.38; Mφr1.32; Fault plane solution: M₀2.47000×10¹⁷ NP1:φs178.00000°, δ28.00000°, λ66.00000°. NP2:φs24.00000°, δ65.00000°, λ102.00000°. Principal axes: T 2.4772, Plg68.0000°, Azm317.0000°; N -0.0151, Plg11.0000°, Azm199.0000°; P -2.4621, Plg19.0000°, Azm105.0000°;*

GCMT ***03*** *00:57:32.7±0.1, 40.°23N±0.°01×142.°68E±0.°01, h37km, MW5.6/151, Moment Tensor Solution. s139,c267; s151,c323; Duration: 1s6 Moment tensor: Scale 10¹⁷ Nm; Mrr2.76±.04; Mθθ-0.25±.03; Mφφ-2.51±.03; Mrθ1.15±.03; Mθφ-0.81±.02; Mφr1.78±.03; Best double couple: M₀3.48300×10¹⁷ NP1:φs189.00000°, δ27.00000°, λ74.00000°. NP2:φs27.00000°, δ64.00000°, λ98.00000°. Principal axes: T 3.5130, Plg70.0000°, Azm314.0000°; N -0.0560, Plg7.0000°, Azm203.0000°; P -3.4530, Plg18.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *00:57:34, 40.°21N×142.°79E, h40km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.68; Mθθ-0.02; Mφφ-2.66; Mrθ1.15; Mθφ-0.91; Mφr1.76; Fault plane solution: M₀3.52000×10¹⁷ NP1:φs186.00000°, δ28.00000°, λ72.00000°. NP2:φs27.00000°, δ64.00000°, λ100.00000°. Principal axes: T 3.4273, Plg70.0000°, Azm317.0000°; N 0.1733, Plg9.0000°, Azm203.0000°; P -3.6006, Plg18.0000°, Azm110.0000°;*

KEA ***03*** *00:57:36.3±0.0, 40.°90N×142.°40E, h20km, mB5.2/3, MS4.1/3*

ISC 03 00:57:30.4±0.3, 40.°19N±0.°02×142.°66E±0.°03, h33km±1km, h33km:pP-P, n1989, σ1939/1896, mb5.4/522, MS5.2/348, 147C-48D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.66**	**248**	⇓P	**Pn**	**00 57 42.4**	**-1.1**
JTH				S	**Sb**	**00 57 51.5**	**-1.2**
JKEN	**Kujiedanarisaw**	**0.73**	**272**	⇓P	**Pn**	**00 57 43.2**	**-1.2**
JKEN				S	**Sn**	**00 57 53.1**	**-1.3**
MIYJ	**Miyakonagasawa**	**0.89**	**227**	⇓P	**Pn**	**00 57 45.5**	**-1.1**
MIYJ				S	**Sn**	**00 57 56.1**	**-2.3**
JANG	**Nango**	**0.90**	**282**	⇓P	**Pn**	**00 57 46.1**	**-0.6**
JANG				S	**Sn**	**00 57 57.4**	**-1.1**
JKZ	**Kuzumaki**	**1.04**	**259**	⇓P	**Pn**	**00 57 48.2**	**-0.6**
JKZ				*e*S	**Sn**	**00 58 01.7**	**-0.5**
JOM	**Ohasama**	**1.27**	**236**	⇓P	**Pn**	**00 57 51.8**	**-0.1**
JOM				S	**Sn**	**00 58 08.0**	**+0.1**
JARK	**Aomorirokkasho**	**1.28**	**310**	⇓P	**Pn**	**00 57 52.2**	**+0.2**
JARK				S	**Sn**	**00 58 08.3**	**+0.3**
OFUJ	**Ofunato**	**1.35**	**215**	⇓P	**Pn**	**00 57 52.9**	**0.0**
OFUJ				S	**Sn**	**00 58 10.4**	**+0.8**
JTM	**Tenmabayashi**	**1.35**	**297**	⇓P	**Pn**	**00 57 53.5**	**+0.5**
JTM				S	**Sb**	**00 58 12.0**	**-0.2**
JTM	**Tenmabayashi**	**1.35**	**297**	Pn	**Pn**	**00 57 53.6**	**+0.6**
JSZI	**Iwateshizukuis**	**1.39**	**252**	⇓P	**Pn**	**00 57 54.4**	**+0.9**
JAHD	**Aomorihigashid**	**1.47**	**317**	⇓P	**Pn**	**00 57 54.9**	**+0.3**
JAH	**Hinai**	**1.55**	**271**	⇓P	**Pn**	**00 57 56.5**	**+0.8**
JAH				S	**Sn**	**00 58 15.8**	**+1.1**
JKMT	**Kesennumamotoy**	**1.66**	**214**	⇓P	**Pn**	**00 57 57.7**	**+0.6**
JMK	**Ichinoseki**	**1.66**	**223**	⇓P	**Pn**	**00 57 57.9**	**+0.6**
JMK				S	**Sn**	**00 58 18.7**	**+1.2**
JOT	**Ohata**	**1.71**	**315**	⇓P	**Pn**	**00 57 58.5**	**+0.6**
JHHS	**Hirosakihyakuz**	**1.82**	**285**	⇓P	**Pn**	**00 58 01.0**	**+1.6**
ERM	**Erimo**	**1.86**	**11**	*ce*P	**Pn**	**00 58 00.9**	**+1.0**
ERM				pmax	pmax		
	comp=Z,761nm,0.6s						
ERM	**Erimo**	**1.86**	**11**	Pn	**Pn**	**00 58 01.0**	**+1.0**
ERM				Sn	**Sn**	**00 58 23.1**	**+0.8**
JEM	**Erimo**	**1.86**	**11**	⇑P	**Pn**	**00 58 00.8**	**+0.8**
JSI2	**Shiura 2**	**1.92**	**298**	⇓P	**Pn**	**00 58 02.0**	**+1.2**
JIW	**Iwasaki**	**2.07**	**282**	⇓P	**Pn**	**00 58 04.2**	**+1.4**
JKB	**Kayabe**	**2.10**	**325**	⇓P	**Pn**	**00 58 04.1**	**+0.9**
JTHR	**Tokachihiroo**	**2.15**	**13**	⇑P	**Pn**	**00 58 05.1**	**+1.1**
JSR	**Shiriuchi**	**2.17**	**309**	⇓P	**Pn**	**00 58 05.3**	**+1.1**
JOMM	**Oshimamatsumae**	**2.42**	**304**	⇓P	**Pn**	**00 58 08.4**	**+0.8**
JYM2	**Yakumo 2**	**2.59**	**319**	⇓P	**Pn**	**00 58 11.4**	**+1.4**
JMM	**Marumori**	**2.74**	**213**	Pn	**Pn**	**00 58 13.0**	**+0.9**
JEW	**Eniwo**	**2.80**	**341**	Pn	**Pn**	**00 58 14.9**	**+2.0**
JOSM	**Okushiri--Mats**	**3.06**	**309**	P	**Pn**	**00 58 17.2**	**+0.7**
JAW	**Awa shima**	**3.16**	**238**	P	**Pn**	**00 58 19.3**	**+1.4**
JAR	**Ashorobuto**	**3.21**	**15**	⇑P	**Pn**	**00 58 18.8**	**+0.2**
JKHN	**Kushirohamanak**	**3.44**	**32**	⇑P	**Pn**	**00 58 22.3**	**+0.6**
JKK2	**Kamakawa 2**	**3.68**	**1**	⇑P	**Pn**	**00 58 26.0**	**+1.0**
JNK	**Nakash**	**3.73**	**24**	⇑P	**Pn**	**00 58 25.1**	**-0.5**
JSB	**Shiboa**	**3.87**	**215**	⇓P	**Pn**	**00 58 30.0**	**+2.4**
JTKR	**Abashiri--Toko**	**3.89**	**13**	⇑P	**Pn**	**00 58 28.2**	**+0.3**
NMR	**Nemuro--Hokkai**	**3.92**	**35**	*i*P	**Pn**	**00 58 28.0**	**-0.2**
NMR				*i* S	**Sn**	**00 59 10.2**	**-2.8**
NEM2	**Nemuro 2**	**3.92**	**35**	⇑P	**Pn**	**00 58 27.9**	**-0.4**
JKA	**Kamikawa-asahi**	**3.92**	**359**	Pn	**Pn**	**00 58 29.2**	**+0.9**
ASAJ	**Asahikawa**	**3.92**	**359**	Pn	**Pn**	**00 58 30.1**	**+1.7**
	comp=Z,107nm,0.3s,baz=230,slow=11,SNR=37						
ASAJ				Sn	**Sn**	**00 59 15.2**	**+2.0**
	comp=Z,56nm,0.3s,baz=330,slow=20,SNR=1.8						
ASAJ				Lg	Lg	00 59 24.4	
	comp=Z,126nm,0.3s,baz=251,slow=26,SNR=6.4						
ASAJ				LR	LR	01 00 30.1	
	comp=Z,55μm,21.5s,baz=196,slow=45						
JSD	**Sado**	**4.04**	**239**	P	**Pn**	**00 58 31.3**	**+1.3**
JSD	**Sado**	**4.04**	**239**	Pn	**Pn**	**00 58 31.5**	**+1.5**
JIZZ	**Izumozaki**	**4.07**	**231**	⇑P	**Pn**	**00 58 33.5**	**+3.2**
JHK	**Hiroka**	**4.09**	**225**	⇑P	**Pn**	**00 58 32.8**	**+2.1**
JKT	**Katashina**	**4.34**	**219**	P	**Pn**	**00 58 37.0**	**+2.8**
JYT	**Yasato**	**4.41**	**207**	Pn	**Pn**	**00 58 35.1**	**+0.2**
GRPR	**Tuman**	**4.45**	**30**	*e*P	**Pn**	**00 58 35.7**	**+0.2**
GRPR				*i* S	**Sn**	**00 59 24.2**	**-1.9**
GRPR				pmax	pmax		
	comp=Z,4μm,0.4s						
GRPR				pmax	pmax		
	comp=N,2μm,0.3s						
GRPR				pmax	pmax		
	comp=E,2μm,0.3s						
GRPR				smax	smax		
	comp=N,15μm,0.4s						
GRPR				smax	smax		
	comp=E,12μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.52**	**31**	*c i*P	**Pn**	**00 58 36.6**	**+0.1**
YUK				*i* S	**Sn**	**00 59 26.7**	**-1.1**
YUK				pmax	pmax		
	comp=E,461nm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,18μm,0.6s						
YUK				smax	smax		
	comp=N,11μm,0.5s						
JAG	**Ashikaga**	**4.53**	**215**	⇑P	**Pn**	**00 58 38.3**	**+1.7**
JJN	**Nakama**	**4.68**	**230**	P	**Pn**	**00 58 41.9**	**+3.2**
JGK	**Kuni**	**4.81**	**222**	P	**Pn**	**00 58 43.9**	**+3.4**
JSZ	**Suzu**	**4.96**	**238**	⇑P	**Pn**	**00 58 44.6**	**+2.0**
MJAR	**Matsushiro Arr**	**5.05**	**225**	Pn	**Pn**	**00 58 46.1**	**+2.2**
	comp=N,16nm,0.3s,baz=32,slow=13,SNR=810						
MJAR				Sn	**Sn**	**00 59 45.3**	**+4.2**
	comp=N,2.6nm,0.3s,baz=35,slow=12,SNR=4.5						
MJAR				Lg	Lg	00 59 59.6	
	comp=N,1.3nm,0.3s,baz=48,slow=22,SNR=4.1						
MJAR				LR	LR	01 00 56.5	
	comp=N,28μm,20.4s,baz=50,slow=41						
MJB9	**Matsu-Tunnel**	**5.05**	**225**	Pn	**Pn**	**00 58 45.9**	**+2.0**
MAJO	**Matsushiro**	**5.05**	**225**	*c* P	**Pn**	**00 58 46.6**	**+2.7**
MAJO	**Matsushiro**	**5.05**	**225**	Pn	**Pn**	**00 58 46.6**	**+2.7**
MAT	**Matsushiro**	**5.05**	**225**	P	**Pn**	**00 58 46.5**	**+2.7**
MAT				*e*S	**Sn**	**00 59 43.2**	**+2.1**
MAT	**Matsushiro**	**5.05**	**225**	P	**Pn**	**00 58 46.6**	**+2.7**
JRY	**Ryogami san**	**5.11**	**217**	P	**Pn**	**00 58 45.9**	**+1.2**
JNG	**Nsakai**	**5.21**	**225**	⇑P	**Pn**	**00 58 48.6**	**+2.5**
JGN	**Niukaw**	**5.78**	**228**	P	**Pn**	**00 58 56.9**	**+3.0**
JNY	**Yasuok**	**6.14**	**220**	P	**Pn**	**00 59 00.9**	**+2.0**
JGF	**Kuroka**	**6.21**	**224**	Pn	**Pn**	**00 59 02.2**	**+2.4**
KUR	**Kuril'sk**	**6.33**	**36**	*e*P	**Pn**	**00 59 01.8**	**+0.4**
KUR				*i* S	**Sn**	**01 00 10.4**	**-2.1**
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				pmax	pmax		
	comp=N,346nm,0.3s						
KUR				pmax	pmax		
	comp=E,288nm,0.3s						
KUR				smax	smax		
	comp=E,26nm,0.6s						
KUR				smax	smax		
	comp=N,3μm,0.5s						
JSG	**Sagara**	**6.56**	**214**	Pn	**Pn**	**00 59 06.2**	**+1.7**
INU	**Inuyama**	**6.58**	**225**	Pn	**Pn**	**00 59 06.4**	**+1.5**
TEY	**Ternei**	**6.59**	**319**⇑	*i*P	**Pn**	**00 59 08.1**	**+3.2**
TEY				*e*		01 00 27.1	
TEY				pmax	pmax		
	comp=Z,280nm,0.7s						
TEY				pmax	pmax		
	comp=N,270nm,0.6s						
TEY				pmax	pmax		
	comp=E,210nm,0.6s						
TEY				MLR	MLR		
	comp=E,1μm,14.0s						
TEY				MLR	MLR		
	comp=N,1μm,18.0s						
TEY				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.76**	**1**	*α i*P	**Pn**	**00 59 08.6**	**+1.3**
YSS				*e*S	**Sn**	**01 00 23.7**	**+0.6**
YSS				pmax	pmax		
	comp=Z,2μm,5.3s						
YSS	**Yuzh-Sakhalins**	**6.76**	**1**	Pn	**Pn**	**00 59 08.8**	**+1.5**
JHJ2	**Mitsune**	**7.42**	**199**	Pn	**Pn**	**00 59 16.3**	**-0.1**
JHJ	**Hachijo jima 2**	**7.42**	**199**	Pn	**Pn**	**00 59 15.9**	**-0.6**
	comp=Z,151nm,0.3s,baz=112,slow=23,SNR=27						
JHJ				Sn	**Sn**	**01 00 34.8**	**-4.7**
	comp=Z,190nm,0.3s,baz=60,slow=20,SNR=2.2						
JWT	**Wachi**	**7.55**	**232**	Pn	**Pn**	**00 59 20.9**	**+2.7**
VLA	**Vladivostok**	**8.58**	**293**	*i* P	**Pn**	**00 59 32.0**	**-0.3**
USA0B	**Ussuriysk Arra**	**8.88**	**300**	*c i*P	**Pn**	**00 59 37.6**	**+1.3**
USA0B	**Ussuriysk Arra**	**8.88**	**300**	Pn	**Pn**	**00 59 37.2**	**+0.9**
USRK	**Ussuriysk Ar.** baz=100,slow=14,SNR=151	**8.88**	**300**	Pn	**Pn**	**00 59 38.1**	**+1.8**
USRK				LR	LR	01 02 58.2	
	comp=Z,25μm,18.9s,baz=122,slow=37						
USRK	**Ussuriysk Ar.**	**8.88**	**300**	P	**Pn**	**00 59 39.0**	**+2.7**
USRK	**Ussuriysk Ar.**	**8.88**	**300**	Pn	**Pn**	**00 59 39.0**	**+2.7**
UGL	**Uglegorsk**	**8.90**	**357**	*e*P	**Pn**	**00 59 40.1**	**+3.6**
UGL				*e*S	**Sn**	**01 01 17.5**	**+2.0**
UGL				pmax	pmax		
	comp=Z,201nm,0.7s						
UGL				smax	smax		
	comp=E,3μm,4.1s						
JHS	**Saijyo**	**9.18**	**239**	Pn	**Pn**	**00 59 42.2**	**+1.8**
JMN	**Monobe**	**9.54**	**230**	Pn	**Pn**	**00 59 47.2**	**+1.8**
MDJ	**Mudanjiang**	**10.63**	**299**	P	**Pn**	**01 00 04.2**	**+3.9**
MDJ				pmax	pmax		
	comp=E,110nm,1.7s						
MDJ				pmax	pmax		
	comp=E,2μm,3.8s						
MDJ				LR	LR		
	comp=E,11μm,15.0s						
MDJ				LR	LR		
	comp=E,20μm,17.9s						
MDJ				LR	LR		
	comp=E,33μm,16.8s						
MDJ	**Mudanjiang**	**10.63**	**299**	Pn	**Pn**	**01 00 03.2**	**+2.9**
TYV	**Tymovskoe**	**10.68**	**360**	*e*P	**Pn**	**01 00 03.4**	**+2.5**
TYV				*e*S	**Sn**	**01 02 05.3**	**+6.2**
TYV				pmax	pmax		
	comp=Z,45nm,0.6s						
TYV				smax	smax		
	comp=N,47nm,1.3s						
GRNR	**Gornyy**	**11.45**	**340**⇓	*i*P	**Pn**	**01 00 13.4**	**+1.9**
GRNR				*e*S	**Sn**	**01 02 23.6**	**+5.6**
GRNR				pmax	pmax		
	comp=N,20nm,0.8s						
GRNR				pmax	pmax		
	comp=E,20nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
GRNR				smax	smax		
	comp=E,20nm,0.9s						
GRNR				MLR	MLR		
	comp=E,4μm,16.0s						
GRNR				MLR	MLR		
	comp=N,3μm,14.0s						
GRNR				MLR	MLR		
	comp=Z,6μm,15.0s						
HHU	**Hamhung**	**11.60**	**274**	P	**Pn**	**01 00 15.9**	**+2.3**
HHU				pP		01 00 20.6	
HHU				S	**Sn**	**01 02 25.6**	**+3.6**
JNU	**Nakatsue**	**11.80**	**237**	Pn	**Pn**	**01 00 17.5**	**+1.2**
	comp=Z,4.0nm,0.3s,baz=38,slow=2.9,SNR=32						
JNU				LR	LR	01 05 22.0	
	comp=Z,11μm,18.0s,baz=47,slow=40						
**J

	comp=Z,2μm,8.9s								
DL2					LR	LR			
	comp=Z,1μm,13.8s								
DL2					LR	LR			
	comp=Z,5μm,18.2s								
DL2					LR	LR			
	comp=Z,6μm,20.7s								
PEA0B	**Petropavlovsk-**	**16.49**	**33**	*i* P		**Pn**	**01 01 16.9**	**-2.2**	
PEA0B	**Petropavlovsk-**	**16.49**	**33**	Pn		**Pn**	**01 01 17.8**	**-1.3**	
PETK	**Petropavlovsk-**	**16.49**	**33**	Pn		**Pn**	**01 01 15.7**	**-3.4**	
	comp=Z,0.7nm,0.3s,baz=219,slow=10.0,SNR=10								
PETK					LR	LR	01 08 14.2		
	comp=Z,2μm,19.8s,baz=219,slow=39								
PETK	**Petropavlovsk-**	**16.49**	**33**	P		**Pn**	**01 01 15.5**	**-3.6**	
PETK	**Petropavlovsk-**	**16.49**	**33**	P		**Pn**	**01 01 15.5**	**-3.6**	
PET	**Petropavlovsk**	**16.84**	**35**	*e*P		**P**	**01 01 25.6**	**+0.3**	
PET				*e*S		**Sn**	**01 04 31.3**	**+1.8**	
PET					pmax	pmax			
	comp=Z,71nm,0.8s								
PET					MLR	MLR			
	comp=Z,7μm,18.0s								
ZEA	**Zeya**	**17.10**	**328**	*e*P		**Pn**	**01 01 24.4**	**-2.3**	
ZEA				*e*S		**Sn**	**01 04 28.4**	**-7.3**	
ZEA					pmax	pmax			
	comp=E,30nm,0.9s								
ZEA					pmax	pmax			
	comp=N,50nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,110nm,0.8s								
ZEA					pmax	pmax			
	comp=E,800nm,10.1s								
ZEA					pmax	pmax			
	comp=N,800nm,6.8s								
ZEA					pmax	pmax			
	comp=Z,1μm,9.2s								
ZEA					smax	smax			
	comp=E,800nm,7.4s								
ZEA					MLR	MLR			
	comp=N,8μm,14.0s								
JOW	**Kunigami**	**17.89**	**226**			**Sn**	**01 04 58.0**	**+2.7**	
JOW						**PcP**	**01 06 13.0**	**+1.1**	
SSE	**Sheshan**	**19.63**	**249**	P		**P**	**01 01 56.0**	**-0.2**	
SSE				S		**S**	**01 05 34.6**	**-1.3**	
SSE					pmax	pmax			
	comp=N,100nm,1.1s								
SSE					pmax	pmax			
	comp=N,420nm,3.9s								
SSE	**Sheshan**	**19.63**	**249**	P		**Pn**	**01 01 57.1**	**-0.6**	
SSE				IAmb	IAmb		01 01 59.7		
	comp=Z,175nm,0.9s								
MA2	**Magadan**	**20.07**	**12**	P		**P**	**01 01 59.6**	**-1.1**	
MA2					pmax	pmax			
	comp=Z,80nm,0.7s								
MA2					MLR	MLR			
	comp=Z,8μm,18.0s								
MA2	**Magadan**	**20.07**	**12**	P		**P**	**01 01 59.6**	**-1.1**	
MA2				IAmb	IAmb		01 02 17.1		
	comp=Z,80nm,0.7s								
MA2				IAMs_20	IAMs_20		01 10 57.2		
	comp=Z,8μm,18.0s								
BJI	**Beijing**	**20.24**	**278**	P		**P**	**01 02 00.6**	**-2.1**	
BJI				S		**S**	**01 05 42.6**	**-5.3**	
BJI					pmax	pmax			
	comp=Z,88nm,1.6s								
BJI					pmax	pmax			
	comp=Z,790nm,3.5s								
BJI					LR	LR			
	comp=Z,5μm,14.7s								
BJI					LR	LR			
	comp=Z,6μm,20.2s								
BJI					LR	LR			
	comp=Z,5μm,19.8s								
BJT	**Baijiatuau**	**20.25**	**278**	IAmb		IAmb	01 02 07.9		
	comp=Z,147nm,0.8s								
TIA	**Tai'an**	**20.43**	**267**	P		**P**	**01 02 02.6**	**-2.3**	
TIA					pmax	pmax			
	comp=Z,660nm,4.4s								
TIA					LR	LR			
	comp=Z,3μm,13.1s								
TIA					LR	LR			
	comp=Z,8μm,17.2s								
TIA					LR	LR			
	comp=Z,11μm,15.2s								
NJ2	**Nanjing**	**20.83**	**255**	⇓*i* P		**P**	**01 02 08.4**	**-0.8**	
NJ2				pP		Pn	01 02 13.5	+1.7	
NJ2				sP		**sP**	**01 02 23.5**	**+1.8**	
NJ2				PP		**PnPn**	**01 02 34.0**	**+6.0**	
NJ2				S		**S**	**01 05 59.4**	**-0.4**	
NJ2				sS		Sn	01 06 08.6	+2.5	
NJ2				PcP		**PcP**	**01 06 11.2**	**-5.8**	
NJ2					pmax	pmax			
	comp=Z,310nm,0.7s								
NJ2					pmax	pmax			
	comp=Z,610nm,3.5s								
NJ2					LR	LR			
	comp=Z,4μm,14.3s								
NJ2					LR	LR			
	comp=Z,6μm,16.6s								
NJ2					LR	LR			
	comp=Z,8μm,16.3s								
JISG	**Ishigakijimahi**	**21.89**	**230**	P		**P**	**01 02 17.9**	**-2.7**	
CIT	**Chita**	**23.23**	**310**	*e*P		**P**	**01 02 33.0**	**-1.5**	
CIT				*e*			01 02 40.5		
CIT				*e*			01 03 00.9		
CIT				*e*			01 03 13.8		
CIT				*e*S		**S**	**01 06 48.8**	**+4.6**	
CIT					pmax	pmax			
	comp=Z,841nm,2.2s								
YAK	**Yakutsk**	**23.25**	**344**	P		**P**	**01 02 32.1**	**-2.4**	
	comp=Z,129nm,0.6s,baz=31,slow=0.5,SNR=29								
YAK				S		**S**	**01 06 38.5**	**-5.7**	
	comp=Z,14nm,0.3s,baz=52,slow=1.3,SNR=1.8								
YAK	**Yakutsk**	**23.25**	**344**	*e*P		**P**	**01 02 31.6**	**-3.0**	
YAK				*e**PP		**pP**	**01 02 39.3**	**-3.9**	
YAK				*e*			01 06 22.9		
YAK				*e*S		**S**	**01 06 38.3**	**-5.9**	
YAK				*e**SS		**pS**	**01 06 53.2**	**+0.2**	
YAK				*e*			01 13 44.1		
YAK					pmax	pmax			
	comp=Z,139nm,0.8s								
YAK					pmax	pmax			
	comp=N,19nm,0.9s								
YAK					pmax	pmax			
	comp=E,16nm,0.9s								
YAK					smax	smax			
	comp=N,2μm,2.3s								
YAK					smax	smax			
	comp=E,2μm,2.8s								
YAK					MLR	MLR			
	comp=Z,5μm,15.0s								
YAK					MLR	MLR			
	comp=E,2μm,15.0s								
YAK					MLR	MLR			
	comp=N,3μm,14.0s								
YAK	**Yakutsk**	**23.25**	**344**	P		**P**	**01 02 31.9**	**-2.7**	
TATO	**Taipei**	**23.33**	**236**	P		**P**	**01 02 35.4**	**-0.3**	
TATO				IAmb		IAmb	01 02 39.6		
	comp=Z,152nm,0.9s								
TATO	**Taipei**	**23.33**	**236**	IAMs_20		IAMs_20	01 12 47.7		
	comp=Z,7μm,18.0s								
SEY	**Seymchan**	**23.51**	**11**	P		**P**	**01 02 36.4**	**-0.7**	
	comp=Z,71nm,0.7s,baz=194,slow=8.2,SNR=56								
SEY	**Seymchan**	**23.51**	**11**	*i* P		**P**	**01 02 35.7**	**-1.4**	
TIY	**Taiyuan**	**23.59**	**274**	*e*P		**P**	**01 02 37.8**	**-0.4**	
TIY				S		**S**	**01 06 48.1**	**-2.2**	
TIY					pmax	pmax			
	comp=Z,46nm,0.6s								
TIY					pmax	pmax			
	comp=Z,490nm,7.3s								
TIY					LR	LR			
	comp=Z,2μm,13.5s								
TIY					LR	LR			
	comp=Z,2μm,13.8s								
TIY					LR	LR			
	comp=Z,4μm,21.1s								
HHC	**Hu-ho-hao-te**	**23.59**	**282**	*e*P		**P**	**01 02 35.6**	**-2.7**	
HHC				PP		**PnPn**	**01 03 09.5**	**+3.7**	
HHC				S		**S**	**01 06 43.9**	**-6.5**	
HHC					pmax	pmax			
	comp=Z,82nm,0.8s								
HHC					pmax	pmax			
	comp=Z,610nm,4.0s								
HHC					LR	LR			
	comp=Z,2μm,13.8s								
HHC					LR	LR			
	comp=Z,9μm,13.1s								
HHC					LR	LR			
	comp=Z,12μm,12.3s								
YHNB	**Yeheng**	**23.62**	**236**	P		**P**	**01 02 36.0**	**-2.7**	
YHNB				IAmb		IAmb	01 02 46.9		
	comp=Z,94nm,0.7s								
SSLB	**Suanglung**	**24.53**	**235**	P		**P**	**01 02 44.0**	**-2.9**	
SSLB				IAmb		IAmb	01 02 59.4		
	comp=Z,48nm,0.5s								
YULB	**Yu-li**	**24.60**	**234**	IAmb		IAmb	01 03 03.3		
	comp=Z,50nm,0.7s								
BTO	**Baotou**	**24.79**	**282**	*e*P		**P**	**01 02 47.0**	**-2.3**	
WHN	**Wuhan**	**24.92**	**256**	⇓P		**P**	**01 02 50.1**	**-0.4**	
WHN				S		**S**	**01 07 08.6**	**-3.1**	
WHN					pmax	pmax			
	comp=Z,190nm,0.5s								
WHN					pmax	pmax			
	comp=Z,2μm,2.8s								
WHN					LR	LR			
	comp=Z,12μm,15.9s								
WHN					LR	LR			
	comp=Z,9μm,15.2s								
WHN					LR	LR			
	comp=Z,19μm,18.2s								
TPUB	**Ta-pu**	**25.08**	**234**	IAmb		IAmb	01 03 07.5		
	comp=Z,73nm,0.7s								
TWG	**Pinlang**	**25.16**	**233**	P		**P**	**01 02 50.4**	**-2.3**	
TWG				IAmb		IAmb	01 03 05.4		
	comp=Z,112nm,0.7s								
TWG				IAMs_20		IAMs_20	01 12 43.2		
	comp=Z,11μm,21.0s								
QZH	**Quanzhou**	**25.24**	**240**	⇑*i* P		**P**	**01 02 52.7**	**-0.7**	
QZH				S		**S**	**01 07 14.8**	**-2.0**	
QZH					pmax	pmax			
	comp=Z,110nm,1.9s								
QZH					pmax	pmax			
	comp=Z,1μm,3.2s								
QZH					LR	LR			
	comp=Z,3μm,17.1s								
QZH					LR	LR			
	comp=Z,3μm,14.8s								
QZH					LR	LR			
	comp=Z,4μm,14.3s								
BOD	**Bodaibo**	**25.48**	**323**	*e*P		**P**	**01 02 54.1**	**-1.2**	
BOD					pmax	pmax			
	comp=Z,169nm,1.1s								
KNMB	**Chin-men Tao**	**25.70**	**240**	P		**P**	**01 02 55.3**	**-2.3**	
KNMB				IAmb		IAmb	01 03 00.4		
	comp=Z,98nm,0.8s								
ULN	**Ulaanbaatar**	**26.55**	**299**	P		**P**	**01 03 05.2**	**0.0**	
ULN				P		**P**	**01 03 05.2**	**0.0**	
ULN				P		**P**	**01 03 05.2**	**0.0**	
ULN	**Ulaanbaatar**	**26.55**	**299**	*ce*P		**P**	**01 03 05.2**	**0.0**	
ULN					pmax	pmax			
	comp=Z,53nm,0.6s								
ULN					MLR	MLR			
	comp=Z,11μm,16.0s								
ULN	**Ulaanbaatar**	**26.55**	**299**	P		**P**	**01 03 05.0**	**-0.2**	
ULN				IAmb		IAmb	01 03 09.9		
	comp=Z,54nm,0.7s								
GUMO	**Guam**	**26.57**	**175**	LR		LR	01 12 07.3		
	comp=Z,4μm,21.8s,baz=16,slow=33								
SONM	**Songino Array**	**26.98**	**299**	P		**P**	**01 03 09.0**	**-0.1**	
	comp=Z,62nm,0.6s,baz=101,slow=8.6,SNR=160								
SONM				PcP		**PcP**	**01 06 30.6**	**+0.6**	
	comp=Z,3.9nm,0.7s,baz=120,slow=4.6,SNR=1.9								
SONM				LR		LR	01 14 24.1		
	comp=Z,11μm,18.8s,baz=94,slow=38								
SONM	**Songino Array**	**26.98**	**299**	P		**P**	**01 03 08.2**	**-0.9**	
XAN	**Xi'an**	**27.49**	**268**	P		**P**	**01 03 11.8**	**-1.9**	
XAN				pP		pP	01 03 19.0	-4.0	
XAN				S		**S**	**01 07 55.8**	**+3.5**	
XAN					pmax	pmax			
	comp=Z,13nm,0.8s								
XAN					pmax	pmax			
	comp=Z,690nm,6.8s								
XAN					LR	LR			
	comp=Z,2μm,16.9s								
XAN					LR	LR			
	comp=Z,7μm,16.1s								
XAN					LR	LR			
	comp=Z,7μm,17.0s								
XAN	**Xi'an**	**27.49**	**268**	IAmb		IAmb	01 03 21.0		
	comp=Z,54nm,0.6s								
XAN	**Xi'an**	**27.49**	**268**	IAMs_20		IAMs_20	01 14 24.4		
	comp=Z,5μm,18.0s								
ENH	**Enshi**	**28.70**	**260**	IAmb		IAmb	01 03 26.2		
	comp=Z,97nm,0.7s								
ENH				IAMs_20		IAMs_20	01 15 14.4		
	comp=Z,7μm,18.0s								
IRK	**Irkutsk**	**28.82**	**308**	*e*P		**P**	**01 03 25.2**	**-0.2**	
IRK					pmax	pmax			
	comp=Z,154nm,2.3s								
H11N2	**WAKE ISLAND Hy**	**29.10**	**127**	T		T	01 34 18.3		
	baz=318,slow=75,SNR=1177								
H11N1	**WAKE ISLAND Hy**	**29.11**	**127**	T		T	01 34 17.8		
	baz=318,slow=75								
H11N3	**WAKE ISLAND Hy**	**29.12**	**127**	T		T	01 34 22.7		
	baz=318,slow=75,SNR=3935								
TLY	**Talaya**	**29.12**	**306**	P		**P**	**01 03 28.2**	**+0.1**	
	comp=Z,17nm,0.6s,baz=103,slow=6.7,SNR=10.0								
TLY	**Talaya**	**29.12**	**306**	P		**P**	**01 03 28.2**	**+0.1**	
TLY				P		**P**	**01 03 28.2**	**+0.1**	
TLY	**Talaya**	**29.12**	**306**	*c* iP		**P**	**01 03 28.3**	**+0.2**	
TLY				*e*			01 04 17.9		
TLY				*e*PPP		PPP	01 04 28.7		
TLY				*e*S		**S**	**01 08 18.3**	**+0.6**	
TLY					pmax	pmax			
	comp=Z,93nm,1.1s								
TLY					MLR	MLR			
	comp=Z,14μm,15.0s								
TLY	**Talaya**	**29.12**	**306**	P		**P**	**01 03 30.0**	**+1.9**	
TLY				IAmb		IAmb	01 03 48.2		
	comp=Z,34nm,0.7s								
TLY				IAMs_20		IAMs_20	01 15 48.3		
	comp=Z,8μm,18.0s								
ZAK	**Zakamensk**	**29.21**	**304**	*e*P		**P**	**01 03 29.1**	**+0.2**	
ZAK					pmax	pmax			
	comp=Z,58nm,1.6s								
ZAK					pmax	pmax			
	comp=Z,29nm,1.4s								
WAKE	**Wake Island**	**29.30**	**128**	IAMs_20		IAMs_20	01 13 04.4		
	comp=Z,6μm,20.0s								
H11S1	**WAKE ISLAND Hy**	**29.92**	**129**	T		T	01 35 15.3		
	baz=320,slow=76,SNR=297								
H11S3	**WAKE ISLAND Hy**	**29.93**	**129**	T		T	01 35 32.8		
	baz=320,slow=76,SNR=347								
H11S2	**WAKE ISLAND Hy**	**29.94**	**129**	T		T	01 35 15.0		
	baz=320,slow=76,SNR=238								
HKPS	**Hong Kong Po S**	**30.04**	**242**	P		**P**	**01 03 37.3**	**+0.9**	
HKPS				IAmb		IAmb	01 03 49.9		
	comp=Z,47nm,0.7s								
GZH	**Guangzhou**	**30.04**	**244**	P		**P**	**01 03 31.7**	**-4.7**	
GZH				S		**S**	**01 08 23.7**	**-8.7**	
GZH				LR		LR			
	comp=Z,3μm,16.8s								
GZH				LR		LR			
	comp=Z,3μm,17.3s								
ADK	**Adak**	**30.16**	**53**	P		**P**	**01 03 37.1**	**0.0**	
ADK					pmax	pmax			
	comp=Z,35nm,1.0s								
ADK	**Adak**	**30.16**	**53**	P		**P**	**01 03 37.1**	**0.0**	
LZH	**Lanzhou**	**30.64**	**275**	*e*P		**P**	**01 03 42.5**	**+0.7**	
LZH				sP		sP	01 03 54.7	-0.1	
LZH				PP		**PnPn**	**01 04 38.3**	**-3.5**	
LZH				*e*S		**S**	**01 08 41.8**	**-0.2**	
LZH				sS		pS	01 08 54.3	+1.7	
LZH				SS		**SnSn**	**01 10 21.4**	**+0.7**	
LZH					pmax	pmax			
	comp=Z,63nm,1.3s								
LZH					pmax	pmax			
	comp=Z,560nm,6.0s								
LZH					LR	LR			
	comp=Z,3μm,11.7s								
LZH					LR	LR			
	comp=Z,3μm,13.8s								
LZH					LR	LR			
	comp=Z,4μm,17.1s								
BILL	**Bilibino**	**30.73**	**17**	*ce*P		**P**	**01 03 42.2**	**+0.2**	
BILL				*e*			01 04 43.5		
BILL				*e*PPP		PPP	01 04 51.9		
BILL				*e*			01 06 40.8		
BILL				*i* S		**S**	**01 08 42.9**	**+0.4**	
BILL				*e*SS		**ScP**	**01 10 19.2**	**+0.3**	
BILL					pmax	pmax			
	comp=Z,46nm,0.6s								
BILL					MLR	MLR			
	comp=Z,5μm,18.0s								
BILL	**Bilibino**	**30.73**	**17**	P		**P**	**01 03 43.0**	**+1.0**	
BILL				IAmb		IAmb	01 03 45.7		
	comp=Z,51nm,0.6s								
BILL				IAMs_20		IAMs_20	01 17 26.9		
	comp=Z,6μm,20.0s								
MOY	**Mondy**	**30.76**	**306**	*e*P		**P**	**01 03 42.6**	**-0.1**	
MOY					pmax	pmax			
	comp=Z,187nm,3.1s								
GTA	**Gaotai**	**32.70**	**283**	P		**P**	**01 04 00.0**	**+0.2**	
GTA				pP		pP	01 04 09.3	+0.1	
GTA				sP		sP	01 04 13.7	+0.8	
GTA				PcP		**PcP**	**01 06 45.9**	**+1.0**	
GTA				S		**S**	**01 09 11.4**	**-2.6**	
GTA				sS		sS	01 09 27.4	-2.5	
GTA				PcS		**PcS**	**01 10 30.9**	**+0.7**	
GTA				SS		**SnSn**	**01 11 06.2**	**-4.4**	
GTA					pmax	pmax			
	comp=Z,26nm,0.7s								
GTA					pmax	pmax			
	comp=Z,520nm,9.8s								
GTA					LR	LR			
	comp=Z,3μm,19.6s								
GTA					LR	LR			
	comp=Z,8μm,19.3s								
GTA					LR	LR			
	comp=Z,10μm,19.6s								
CD2	**Chengdu**	**32.76**	**266**	⇑*i* P		**P**	**01 03 59.4**	**-1.0**	
CD2				pP		pP	01 04 10.0	+0.3	
CD2				sP		sP	01 04 13.7	+0.3	
CD2				PP		**PP**	**01 05 12.9**	**-1.7**	
CD2				S		**S**	**01 09 14.9**	**-0.1**	
CD2					pmax	pmax			
	comp=Z,80nm,0.6s								
CD2					pmax	pmax			
	comp=Z,580nm,7.5s								
CD2					LR	LR			
	comp=Z,7μm,16.0s								
CD2					LR	LR			
	comp=Z,4μm,20.6s								
CD2					LR	LR			
	comp=Z,5μm,21.1s								
GYA	**Guiyang**	**32.81**	**256**	⇑P		**P**	**01 03 59.8**	**-1.1**	
GYA				sP		sP	01 04 14.0	0.0	
GYA				S		**S**	**01 09 08.6**	**-7.5**	
GYA					pmax	pmax			
	comp=Z,200nm,0.7s								
GYA					pmax	pmax			
	comp=Z,710nm,3.5s								
GYA					LR	LR			
	comp=Z,3μm,17.5s								
GYA					LR	LR			
	comp=Z,4μm,18.5s								
GYA					LR	LR			
	comp=Z,6μm,19.6s								
QIZ	**Qiongzhong**	**35.18**	**243**	P		**P**	**01 04 22.8**	**+1.4**	
QIZ				sP		**sP**	**01 04 35.8**	**+1.3**	
QIZ				PP		**PP**	**01 05 42.7**	**+1.2**	
QIZ				S		**S**	**01 09 55.3**	**+2.8**	
QIZ				sS		**sS**	**01 10 10.0**	**+1.6**	
QIZ					pmax	pmax			
	comp=Z,35nm,2.0s								
QIZ					pmax	pmax			
	comp=Z,440nm,6.9s								
QIZ					LR	LR			
	comp=Z,2μm,19.1s								
QIZ					LR	LR			
	comp=Z,2μm,16.2s								
QIZ					LR	LR			
	comp=Z,2μm,17.2s								
QIZ	**Qiongzhong**	**35.18**	**243**	P		**P**	**01 04 23.2**	**+1.9**	
KMI	**Kunming**	**36.49**	**258**	⇑*i* P		**P**	**01 04 32.7**	**-0.1**	
KMI				pP		pP	01 04 38.0	-4.3	
KMI				sP		sP	01 04 49.4	+3.4	
KMI				PP		**PP**	**01 06 00.5**	**+4.4**	
KMI				S		**S**	**01 10 05.2**	**-7.7**	
KMI					pmax	pmax			
	comp=Z,150nm,1.0s								
KMI					pmax	pmax			
	comp=Z,1μm,4.5s								
KMI					LR	LR			
	comp=Z,6μm,15.9s								
KMI					LR	LR			
	comp=Z,5μm,18.7s								
KMI					LR	LR			
	comp=Z,7μm,17.8s								
KMI	**Kunming**	**36.49**	**258**	P		**P**	**01 04 32.9**	**+0.1**	
KMI					pmax	pmax			
	comp=Z,204nm,1.4s								
SLVN	**Son La**	**37.87**	**252**	P		**P**	**01 04 44.6**	**+0.2**	
SLVN				IAmb		IAmb	01 04 46.6		
	comp=Z,81nm,0.9s								
ANM	**Nome**	**38.41**	**33**	P		**P**	**01 04 49.8**	**+1.4**	
ANM					pmax	pmax			
	comp=Z,49nm,1.1s								
ANM					MLR	MLR			
	comp=Z,2μm,21.0s								
ANM	**Nome**	**38.41**	**33**	P		**P**	**01 04 49.8**	**+1.4**	
ANM				IAmb		IAmb	01 05 05.2		
	comp=Z,49nm,1.1s								
DGZ	**Jazzator, Alta**	**39.42**	**303**	*c* iP		**P**	**01 04 58.0**	**+0.8**	
DGZ					pmax	pmax			
	comp=Z,287nm,0.7s								
RDOG	**Red Dog Mine**	**40.26**	**28**	P		**P**	**01 05 03.5**	**-0.2**	
WMQ	**Urumqi**	**40.38**	**294**	*e*P		**P**	**01 05 06.3**	**+1.2**	
WMQ				sP		sP	01 05 21.6	+3.2	
WMQ				PP		**PnPn**	**01 06 42.7**	**+0.6**	
WMQ				S		**S**	**01 11 12.5**	**+1.5**	
WMQ				sS		sS	01 11 28.9	+1.9	
WMQ					pmax	pmax			
	comp=Z,59nm,1.1s								
WMQ					pmax	pmax			
	comp=Z,750nm,3.8s								
WMQ					LR	LR			
	comp=Z,1μm,14.3s								
WMQ					LR	LR			
	comp=Z,1μm,18.5s								
WMQ	**Urumqi**	**40.38**	**294**	IAmb		IAmb	01 05 12.3		
	comp=Z,100nm,0.8s								
WMQ	**Urumqi**	**40.38**	**294**	IAMs_20		IAMs_20	01 22 41.2		
	comp=Z,4μm,19.0s								
ZAA0	**Zalesovo Array**	**40.58**	**310**	P		**P**	**01 05 06.6**	**0.0**	
ZALV	**Zalesovo Beam**	**40.58**	**310**	P		**P**	**01 05 06.5**	**-0.1**	
	comp=Z,132nm,0.6s,baz=90,slow=8.2,SNR=298								
ZALV					PcP	**PcP**	**01 07 08.7**	**+0.5**	
	comp=Z,18nm,0.7s,baz=98,slow=4.3,SNR=3.3								
ZALV					ScP	**ScP**	**01 10 54.0**	**-1.0**	
	comp=Z,2.7nm,0.7s,baz=127,slow=3.6,SNR=2.8								
ZALV					LR	LR	01 22 45.3		
	comp=Z,8μm,18.9s,baz=79,slow=37								
NRIK	**Noril'sk**	**40.85**	**334**	P		**P**	**01 05 08.6**	**0.0**	
	comp=Z,33nm,0.7s,baz=119,slow=9.4,SNR=25								
NRIK					LR	LR	01 23 08.5		
	comp=Z,10μm,19.2s,baz=103,slow=38								
NRIK	**Noril'sk**	**40.85**	**334**	*ce*P		**P**	**01 05 08.8**	**+0.2**	
NRIK					pmax	pmax			
	comp=Z,24nm,0.8s								
MYLDM	**Lahad Datu**	**41.08**	**218**	P		**P**	**01 05 13.0**	**+1.9**	
MYLDM				IAmb		IAmb	01 05 28.8		
	comp=Z,85nm,1.1s								
DLV	**T Lat**	**41.20**	**237**	P		**P**	**01 05 12.5**	**+0.1**	
KKM	**Kota Kinabalu**	**41.47**	**222**	P		**P**	**01 05 15.0**	**+0.7**	
KKM				IAmb		IAmb	01 05 17.2		
	comp=Z,74nm,1.1s								
ZSN	**Zaisan**	**41.48**	**300**	⇑*i* P		**P**	**01 05 14.7**	**+0.6**	
	comp=Z,381nm,3.0s								
ZSN				*e*S		**S**	**01 11 24.0**	**-3.3**	
ZSN				*e*LR		LR	01 22 44.1		
	comp=Z,2μm,18.5s								
ZSN	**Zaisan**	**41.48**	**300**	*c* iP		**P**	**01 05 14.7**	**+0.6**	
ZSN				*e*S		**S**	**01 11 24.0**	**-3.3**	
ZSN					pmax	pmax			
	comp=Z,381nm,3.0s								
ZSN					MLR	MLR			
	comp=Z,2μm,18.0s								
TNTI	**Ternate**	**41.63**	**203**	P		**P**	**01 05 16.3**	**+0.7**	
TNTI				IAmb		IAmb	01 05 19.5		
	comp=Z,57nm,0.7s								
SIJI	**Sorong**	**42.17**	**197**	P		**P**	**01 05 19.7**	**-0.2**	
	comp=Z,23nm,0.5s,baz=1.8,slow=12,SNR=6.5								
TTA	**Tatalina**	**42.29**	**37**	P		**P**	**01 05 21.3**	**+0.7**	
TTA					pmax	pmax			
	comp=Z,28nm

SVW2 **Sparrevohn** 42.44 39 P **P** 01 05 23.5 +1.7
SVW2 IAmb IAmb 01 05 37.5
comp=Z,51nm,1.1s
JAY **Jayapura** 42.53 183 P **P** 01 05 22.6 -0.4
comp=Z,15nm,0.9s,baz=322,slow=2.7,SNR=15
LSA **Lhasa** 42.98 272 P **P** 01 05 27.9 +0.9
LSA S **S** 01 11 51.1 +0.6
LSA LR LR
comp=Z,7µm,18.5s
LSA LR LR
comp=Z,12µm,18.5s
LSA LR LR
comp=Z,20µm,20.3s
LSA **Lhasa** 42.98 272 *i* P **P** 01 05 28.0 +1.0
SNR=23
LSA **Lhasa** 42.98 272 P **P** 01 05 27.8 +0.7
LSA P **P** 01 05 27.8 +0.7
LSA **Lhasa** 42.98 272 P **P** 01 05 28.7 +1.7
LSA pmax pmax
comp=Z,72nm,0.6s
LSA **Lhasa** 42.98 272 IAmb IAmb 01 05 31.3
comp=Z,56nm,0.7s
CHTO **Chiang Mai** 43.07 253 P **P** 01 05 27.4 +0.1
CHTO P **P** 01 05 27.4 +0.1
CHTO **Chiang Mai** 43.07 253 P **P** 01 05 27.6 +0.3
CHTO pmax pmax
comp=Z,55nm,0.7s
CHTO MLR MLR
comp=Z,1µm,19.0s
CHTO **Chiang Mai** 43.07 253 P **P** 01 05 27.6 +0.3
CHTO IAmb IAmb 01 05 30.1
comp=Z,54nm,0.7s
CM31 **Chiang Mai Arr** 43.30 253 P **P** 01 05 29.9 +0.7
SNR=16
CM31 **Chiang Mai Arr** 43.30 253 P **P** 01 05 30.4 +1.2
CMAR **Chiang Mai Arr** 43.30 253 P **P** 01 05 29.6 +0.4
comp=Z,17nm,0.6s,baz=43,slow=8.3,SNR=84
CMAR PcP **PcP** 01 07 17.3 -0.4
comp=Z,8.6nm,0.8s,baz=336,slow=0.8,SNR=4.1
CMAR ScP **ScP** 01 11 05.7 -0.8
comp=Z,1.4nm,0.3s,baz=20,slow=3.4,SNR=1.5
CMAR LR LR 01 23 25.1
comp=Z,893nm,18.8s,baz=45,slow=36
CMAR **Chiang Mai Arr** 43.30 253 P **P** 01 05 29.0 -0.2
MK31 **Makanchi Array** 43.34 300 *i* P **P** 01 05 29.3 0.0
MK31 **Makanchi Array** 43.34 300 P **P** 01 05 29.3 0.0
MK31 IAmb IAmb 01 05 42.7
comp=Z,70nm,0.7s
MKAR **Makanchi Array** 43.34 300 P **P** 01 05 29.3 0.0
comp=Z,72nm,0.8s,baz=83,slow=9.6,SNR=358
MKAR LR LR 01 24 21.8
comp=Z,6µm,19.9s,baz=79,slow=37
MKAR **Makanchi Array** 43.34 300 P **P** 01 05 29.4 +0.1
IMAR **Indian Mountai** 43.45 32 P **P** 01 05 30.2 +0.3
MAKZ **Makanchi** 43.55 300 P **P** 01 05 31.1 +0.2
MAKZ pmax pmax
comp=Z,105nm,0.7s
MAKZ MLR MLR
comp=Z,7µm,19.0s
MAKZ **Makanchi** 43.55 300 P **P** 01 05 31.1 +0.2
RSO **Redoubt South** 43.84 40 P **P** 01 05 33.9 +0.6
PPLA **Purkeypile** 44.04 37 P **P** 01 05 35.4 +0.6
KDAK **Kodiak Island** 44.13 44 P **P** 01 05 35.9 +0.6
comp=Z,24nm,0.7s,baz=280,slow=5.9,SNR=11
KDAK **Kodiak Island** 44.13 44 P **P** 01 05 36.2 +0.8
KDAK pmax pmax
comp=Z,24nm,0.7s
KDAK **Kodiak Island** 44.13 44 P **P** 01 05 36.2 +0.8
SKT **Skwentna** 44.37 38 P **P** 01 05 38.0 +0.8
SHL **Shillong** 44.49 267 P **P** 01 05 38.5 -0.4
SNR=34
BPAW **Bear Paw Mtn.** 44.57 35 P **P** 01 05 39.7 +0.8
KTH **Kantishna Hill** 44.60 36 IAmb IAmb 01 05 54.7
comp=Z,58nm,0.9s
SUA **Susitna One** 44.77 39 P **P** 01 05 41.2 +0.6
SUA IAmb IAmb 01 05 56.0
comp=Z,40nm,1.0s
KURK **Kurchatov** 44.82 306 P **P** 01 05 40.2 -0.8
KURK P **P** 01 05 40.2 -0.8
KURK **Kurchatov** 44.82 306 *ce* P **P** 01 05 40.8 -0.2
KURK pmax pmax
comp=Z,187nm,0.9s
KURK **Kurchatov** 44.82 306 P **P** 01 05 41.4 +0.4
KURK **Kurchatov** 44.82 306 IAMs_20 IAMs_20 01 25 03.4
comp=Z,3µm,18.0s
BRLK **Bradley Lake** 44.82 41 P **P** 01 05 42.0 +1.0
BRLK IAmb IAmb 01 05 58.1
comp=Z,28nm,0.8s
LUWI **Luwuk** 44.88 209 P **P** 01 05 41.2 -0.6
KURBB **Kurchatov Arra** 44.90 306 P **P** 01 05 42.3 +0.7
baz=79,slow=8.7
KURBB **Kurchatov Arra** 44.90 306 P **P** 01 05 41.6 0.0
COLD **Coldfoot** 44.93 31 P **P** 01 05 43.3 +1.6
baz=268,SNR=15
COLD S **S** 01 12 11.0 -6.2
baz=268
CUT **Chulitna** 44.94 37 P **P** 01 05 42.2 +0.4
baz=273
CUT S **S** 01 12 17.2 -0.2
baz=273
TOLK **Toolik Lake Re** 45.23 29 P **P** 01 05 45.7 +1.6
baz=267,SNR=17
TOLK S **S** 01 12 22.3 +0.7
baz=267
TOLK **Toolik Lake Re** 45.23 29 IAmb IAmb 01 05 47.4
comp=Z,38nm,0.9s
BWN **Browne** 45.23 35 P **P** 01 05 45.3 +1.2
RC01 **Rabbit Creek A** 45.28 39 P **P** 01 05 44.1 -0.4
baz=274
O22K **Cooper Landing** 45.34 40 P **P** 01 05 45.4 +0.4
baz=275
NEA2 **Nenana** 45.39 34 P **P** 01 05 47.0 +1.6
baz=272,SNR=23
NEA2 S **S** 01 12 26.9 +2.9
baz=272
SEW **Seward** 45.51 41 P **P** 01 05 46.5 +0.2
SEW IAmb IAmb 01 05 58.4
comp=Z,57nm,1.0s
RND **Reindeer** 45.54 36 IAmb IAmb 01 06 01.6
comp=Z,49nm,1.0s
GHO **Glory Hole Cre** 45.62 38 P **P** 01 05 47.2 0.0
GHO IAmb IAmb 01 05 58.4
comp=Z,47nm,0.8s
MDM **Murphy Dome** 45.74 34 P **P** 01 05 49.6 +1.4
MDM IAmb IAmb 01 05 51.4
comp=Z,31nm,0.9s
WRH **Wood River Hil** 45.82 34 P **P** 01 05 49.6 +0.9
KNK **Knik Glacier** 45.87 39 P **P** 01 05 50.0 +0.8
KNK IAmb IAmb 01 06 07.3
comp=Z,19nm,0.6s
SML **Sawmill** 45.89 38 P **P** 01 05 50.4 +1.0
SML IAmb IAmb 01 06 00.6
comp=Z,51nm,0.9s
TCOL **CIGO, UAF Yank** 45.90 34 P **P** 01 05 50.7 +1.3
baz=272
TCOL S **S** 01 12 34.2 +3.0
baz=272
COLA **College** 45.90 34 *c* *i*P **P** 01 05 48.7 -0.7
COLA pmax pmax
comp=Z,16nm,0.8s
POKR **Poker Plat Res** 46.07 33 P **P** 01 05 52.7 +1.9
baz=273,SNR=21
POKR S **S** 01 12 36.1 +2.4
baz=273
DHY **Denali Highway** 46.23 36 IAmb IAmb 01 06 10.7
comp=Z,23nm,0.8s
PDGK **Podgornoye** 46.23 296 *i* P **P** 01 05 52.1 -0.3
PDGK pmax pmax
comp=Z,62nm,0.6s
SHLS **Shalkode** 46.30 295⇑ *i*P **P** 01 05 50.4 -2.7
comp=Z,182nm,2.0s
SHLS *e*S **S** 01 12 30.6 -7.3
SHLS *e*LR LR 01 25 28.5
comp=Z,2µm,16.0s
SHLS **Shalkode** 46.30 295 *c* *i*P **P** 01 05 50.3 -2.7
SHLS *e*S **S** 01 12 30.5 -7.3
SHLS pmax pmax
comp=Z,182nm,2.0s
SHLS MLR MLR
comp=Z,2µm,16.0s
HDA **Harding Lake** 46.32 34 P **P** 01 05 53.2 +0.5
baz=274,SNR=23
HDA S **S** 01 12 35.8 -1.4
baz=274
HDA **Harding Lake** 46.32 34 IAmb IAmb 01 05 55.0
comp=Z,24nm,0.7s
IL31 46.32 34 IAmb IAmb 01 05 55.2
comp=Z,37nm,0.7s
ILAR **Eielson Array** 46.32 34 P **P** 01 05 53.4 +0.6
comp=Z,22nm,0.6s,baz=264,slow=5.7,SNR=239
ILAR PcP **PcP** 01 07 27.6 +0.2
comp=Z,6.6nm,0.7s,baz=262,slow=4.2,SNR=1.4
ILAR LR LR 01 26 41.6
comp=Z,1µm,21.5s,baz=282,slow=38
SCM **Sheep Creek Mo** 46.36 38 IAmb IAmb 01 06 11.6
comp=Z,32nm,0.8s
TDK **Taldyqorghan** 46.44 298 *e*P **P** 01 05 54.2 +0.2
TDK *e*S **S** 01 12 37.6 -2.1
TDK *e*LR LR 01 24 55.9
comp=Z,4µm,19.4s
TDK **Taldyqorghan** 46.44 298 *e*P **P** 01 05 54.2 +0.2
TDK *e*S **S** 01 12 37.5 -2.1
TDK MLR MLR
comp=Z,4µm,19.0s
GLI **Glacier Island** 46.58 39 IAmb IAmb 01 05 57.1
comp=Z,25nm,0.7s
SBUM **Sibu** 46.60 224 P **P** 01 05 55.0 -0.4
UZB **Uzynbulak** 46.61 296⇑ *i*P **P** 01 05 55.2 -0.3
comp=Z,108nm,2.1s
UZB *e*S **S** 01 12 42.5 +0.1
UZB *e*LR LR 01 25 44.2
comp=Z,2µm,16.7s
UZB **Uzynbulak** 46.61 296 *c* *i*P **P** 01 05 55.1 -0.3
UZB *e*S **S** 01 12 42.4 +0.1
UZB pmax pmax
comp=Z,108nm,2.1s
UZB MLR MLR
comp=Z,2µm,17.0s
KPKS **Kokpek** 46.74 296⇑ *i*P **P** 01 05 56.5 0.0
comp=Z,126nm,1.4s
KPKS *e*S **S** 01 12 44.5 +0.5
KPKS *e*LR LR 01 25 41.6
comp=Z,3µm,15.4s
KPKS **Kokpek** 46.74 296 *c* *i*P **P** 01 05 56.4 0.0
KPKS *e*S **S** 01 12 44.5 +0.5
KPKS pmax pmax
comp=Z,126nm,1.4s
KPKS MLR MLR
comp=Z,3µm,15.0s
M24K **Tolsona, Glenn** 46.88 38 P **P** 01 05 58.9 +1.8
baz=276
M24K S **S** 01 12 45.2 -0.3
baz=276
M24K **Tolsona, Glenn** 46.88 38 P **P** 01 05 58.0 +0.9
M24K IAmb IAmb 01 06 09.7
comp=Z,72nm,1.1s
FID **Port Fidalgo** 46.90 39 P **P** 01 05 57.5 +0.2
FID IAmb IAmb 01 06 11.2
comp=Z,24nm,0.9s
FYU **Fort Yukon** 46.90 31 P **P** 01 05 59.1 +2.0
SATY **Saty** 47.07 296⇑ *i*P **P** 01 05 58.9 -0.2
comp=Z,134nm,2.2s
SATY *e*S **S** 01 12 48.5 -0.3
SATY *e*LR LR 01 26 01.1
comp=Z,799nm,13.2s
SATY **Saty** 47.07 296 *c* *i*P **P** 01 05 58.8 -0.2
SATY *e*S **S** 01 12 48.5 -0.3
SATY pmax pmax
comp=Z,134nm,2.2s
SATY MLR MLR
comp=Z,799nm,13.0s
KLU **Klutina** 47.07 38 IAmb IAmb 01 06 19.4
comp=Z,32nm,1.0s
PAX **Paxson** 47.10 36 P **P** 01 05 59.5 +0.6
PAX pmax pmax
comp=Z,8.0nm,0.7s
PAX MLR MLR
comp=Z,1µm,20.0s
PAX **Paxson** 47.10 36 P **P** 01 05 59.5 +0.6
BMAR **Burnt Mountain** 47.11 30 P **P** 01 06 00.6 +1.7
EYAK **Cordova Ski Ar** 47.28 40 P **P** 01 06 01.1 +0.8
EYAK IAmb IAmb 01 06 12.9
comp=Z,26nm,0.8s
RIDG **Independent Ri** 47.30 35 P **P** 01 06 01.2 +0.8
RIDG IAmb IAmb 01 06 02.6
comp=Z,25nm,0.8s
SCRK **Sand Creek** 47.65 35 P **P** 01 06 04.0 +0.8
baz=277,SNR=37
DOT **Dot Lake** 47.65 35 P **P** 01 06 03.7 +0.5
DOT IAmb IAmb 01 06 05.3
comp=Z,18nm,0.7s
CHKK **Chushkaly** 47.77 297⇑ *i*P **P** 01 06 03.9 -0.5
CHKK **Chushkaly** 47.77 297 *i*P **P** 01 06 03.8 -0.5
MDOK **Medeo** 47.97 296 *i* P **P** 01 06 06.2 +0.2
MDOK *e*S **S** 01 13 00.3 -1.3
MDOK *e*LR LR 01 26 15.5
comp=Z,3µm,18.6s
MDOK **Medeo** 47.97 296 *i* P **P** 01 06 06.1 +0.1
MDOK *e*S **S** 01 13 00.3 -1.3
MDOK MLR MLR
comp=Z,3µm,19.0s
KNDC **Almaty** 48.01 296 P **P** 01 06 06.6 +0.4
AAA **Alma-Ata** 48.04 296 *e*P **P** 01 06 05.3 -1.2
AAA *e*LR LR 01 26 19.4
comp=Z,3µm,17.0s
AAA **Alma-Ata** 48.04 296 *e*P **P** 01 06 05.3 -1.2
AAA MLR MLR
comp=Z,3µm,17.0s
TNSS **Tian-Shan** 48.08 296⇑ *i*P **P** 01 06 07.5 +0.2
TNSS **Tian-Shan** 48.08 296⇑ *i*P **P** 01 06 07.4 +0.2
GLB **Gilahina Butte** 48.08 38 P **P** 01 06 07.5 +1.0
KUU **Kurty** 48.20 297⇑ *i*P **P** 01 06 07.2 -0.5
comp=Z,134nm,0.8s
KUU *e*S **S** 01 13 04.5 -0.2
KUU *e*LR LR 01 26 39.0
comp=Z,3µm,18.5s
KUU **Kurty** 48.20 297 *c* *i*P **P** 01 06 07.1 -0.5
KUU *e*S **S** 01 13 04.5 -0.2
KUU pmax pmax
comp=Z,134nm,0.8s
KUU MLR MLR
comp=Z,3µm,19.0s
KDJ **Kajisay** 48.24 295 IAmb IAmb 01 06 10.4
comp=Z,58nm,0.9s
VRDI **Verde Repeater** 48.29 39 P **P** 01 06 08.8 +0.6
VRDI IAmb IAmb 01 06 11.5
comp=Z,40nm,1.1s
MTBS **Maitube** 48.40 296 *e*P **P** 01 06 09.4 +0.1
MTBS **Maitube** 48.40 296 *e*P **P** 01 06 09.4 +0.1
KSM **Kuching** 48.45 226 P **P** 01 06 09.9 +0.1
KSM IAmb IAmb 01 06 26.9
comp=Z,26nm,0.7s
MCARA **McCarthy VSAT** 48.46 38 P **P** 01 06 09.6 +0.2
MCARA IAmb IAmb 01 06 24.9
comp=Z,60nm,1.1s
K27K **Chicken** 48.48 35 P **P** 01 06 10.9 +1.4
baz=278
K27K S **S** 01 13 10.9 +3.0
baz=278
CRQM **Cirque** 48.52 39 P **P** 01 06 11.8 +1.7
CRQM IAmb IAmb 01 06 23.0
comp=Z,40nm,0.8s
CRQM IAMs_20 IAMs_20 01 27 52.9
comp=Z,2µm,22.0s
TGL **Tana Glacier** 48.67 39 P **P** 01 06 11.9 +0.8
TGL IAmb IAmb 01 06 30.0
comp=Z,33nm,1.0s
TGL IAMs_20 IAMs_20 01 27 56.3
comp=Z,2µm,22.0s
BRZS **Berezniki** 48.69 306⇑ *i*P **P** 01 06 10.9 -0.4
comp=Z,185nm,1.4s
BRZS *e*LR LR 01 27 12.1
BRZS **Berezniki** 48.69 306 *c* *i*P **P** 01 06 10.9 -0.4
BRZS pmax pmax
comp=Z,185nm,1.4s
BCAR **Beaver Creek A** 48.75 36 P **P** 01 06 12.9 +1.2
EGAK **Eagle** 48.76 34 IAmb IAmb 01 06 30.3
comp=Z,31nm,0.9s
BALM **Baldy** 48.85 39 P **P** 01 06 13.3 +0.8
BALM IAmb IAmb 01 06 15.6
comp=Z,24nm,0.8s
TKM2 **Tokmak 2** 49.05 296 P **P** 01 06 15.1 +0.7
SNR=275
BARN **Barnard Glacie** 49.17 39 P **P** 01 06 15.6 +0.6
BARN IAmb IAmb 01 06 33.5
comp=Z,24nm,0.8s
BVAR **Borovoye Array** 49.22 311 P **P** 01 06 15.7 +0.3
comp=Z,118nm,0.6s,baz=187,slow=3.7,SNR=702
YAH **Yahtse** 49.27 39 P **P** 01 06 16.7 +0.8
YAH IAmb IAmb 01 06 22.8
comp=Z,46nm,1.0s
BRVK **Borovoye** 49.27 311 P **P** 01 06 15.9 +0.2
BRVK P **P** 01 06 15.9 +0.2
BRVK **Borovoye** 49.27 311 P **P** 01 06 16.1 +0.4
BRVK **Borovoye** 49.27 311 P **P** 01 06 16.1 +0.4
CTGM **Chitina Glacie** 49.35 39 P **P** 01 06 16.8 +0.5
CTGM IAmb IAmb 01 06 32.6
comp=Z,29nm,0.7s
BTLS **Baital** 49.36 300⇑ *i*P **P** 01 06 16.0 -0.5
comp=Z,50nm,1.3s
BTLS *e*S **S** 01 13 18.1 -2.8
BTLS *e*LR LR 01 27 18.1
comp=Z,1µm,20.2s
BTLS **Baital** 49.36 300 *c* *i*P **P** 01 06 16.0 -0.5
BTLS *e*S **S** 01 13 18.0 -2.8
BTLS pmax pmax
comp=Z,51nm,1.3s
BTLS MLR MLR
comp=Z,1µm,20.0s
SGDS **Sogindy** 49.52 297⇑ *i*P **P** 01 06 17.6 -0.2
comp=Z,74nm,1.4s
SGDS *e*S **S** 01 13 23.3 -0.1
SGDS *e*LR LR 01 27 32.5
SGDS **Sogindy** 49.52 297 *c* *i*P **P** 01 06 17.6 -0.2
SGDS *e*S **S** 01 13 23.2 -0.1
SGDS pmax pmax
comp=Z,74nm,1.4s
KBK **Karagaybulak** 49.59 296 P **P** 01 06 18.7 +0.2
SNR=97
KZA **Kyzart** 49.59 295 P **P** 01 06 20.0 +1.1
SNR=20
CHMS **Chumysh** 49.60 297 P **P** 01 06 18.6 +0.2
SNR=26
DAWY **Dawson** 49.64 34 P **P** 01 06 19.1 +0.7
KAPI **Kappang** 49.67 211 P **P** 01 06 19.7 +0.6
comp=Z,12nm,0.4s,baz=27,slow=6.4,SNR=10
KAPI **Kappang** 49.67 211 P **P** 01 06 19.2 +0.1
KAPI P **P** 01 06 19.2 +0.1
KAPI P **P** 01 06 19.2 +0.1
KAPI **Kappang** 49.67 211 P **P** 01 06 20.0 +0.9
KAPI pmax pmax
comp=Z,23nm,0.8s
KAPI **Kappang** 49.67 211 P **P** 01 06 20.0 +0.9
KAPI IAmb IAmb 01 06 38.2
comp=Z,23nm,0.8s
USP **Ospenovka** 49.67 297 P **P** 01 06 19.2 +0.2
SNR=67
FRU1 **Bishkek** 49.75 297 IAMs_20 IAMs_20 01 28 11.3
comp=Z,3µm,21.0s
AAK **Ala-Archa** 49.91 296 P **P** 01 06 20.9 0.0
SNR=37
AAK **Ala-Archa** 49.91 296 *i* P **P** 01 06 21.1 +0.2
SNR=57
AAK **Ala-Archa** 49.91 296 P **P** 01 06 21.1 +0.2
AAK P **P** 01 06 21.1 +0.2
AAK P **P** 01 06 21.1 +0.2
AAK **Ala-Archa** 49.91 296 *ce* P **P** 01 06 20.9 0.0
AAK pmax pmax
comp=Z,115nm,0.7s
UCH **Uchtor** 50.05 296 P **P** 01 06 22.8 +0.5
SNR=30
KSH **Kashi** 50.07 292 P **P** 01 06 25.6 +3.5
KSH S **S** 01 13 35.3 +4.1
KSH pmax pmax
comp=Z,64nm,1.0s
KSH pmax pmax
comp=Z,760nm,3.5s
EPYK **Eagle Plains** 50.31 31 P **P** 01 06 25.3 +1.8
baz=281,SNR=29
EPYK **Eagle Plains** 50.31 31 P **P** 01 06 25.0 +1.5
BBKI **Banjar Baru** 50.38 217 P **P** 01 06 25.2 +0.7
comp=Z,47nm,0.6s
EKS2 **Erkin-Say** 50.39 297 P **P** 01 06 24.8 +0.2
SNR=119
AML **Almayashu** 50.65 296 P **P** 01 06 27.5 +0.7
SNR=99
INK **Inuvik** 51.14 28 P **P** 01 06 30.6 +1.0
comp=Z,34nm,0.6s,baz=292,slow=6.7,SNR=104
INK **Inuvik** 51.14 28 IAmb IAmb 01 06 32.7
comp=Z,32nm,0.7s
INK IAMs_20 IAMs_20 01 32 14.7
comp=Z,3µm,19.0s
HYT **Haines Junctio** 51.20 38 P **P** 01 06 32.3 +2.0
IPM **Ipoh** 51.63 238 IAmb IAmb 01 06 49.5
comp=Z,62nm,1.1s
HNR **Honiara** 51.90 158 IAMs_20 IAMs_20 01 26 06.7
comp=Z,3µm,22.0s
MYKOM **Kota Tinggi** 51.93 233 P **P** 01 06 37.1 +0.9
DZA **Taraz** 51.97 298 *e*P **P** 01 06 35.0 -1.2
DZA *e*S **S** 01 13 48.6 -8.6
DZA *e*LR LR 01 28 56.0
comp=Z,578nm,12.9s
DZA **Taraz** 51.97 298 *e*P **P** 01 06 35.0 -1.2
DZA *e*S **S** 01 13 48.5 -8.6
DZA MLR MLR
comp=Z,578nm,13.0s
BWNR **Bhubaneshwar** 52.06 265 *e*P **P** 01 06 36.6 -0.6
BWNR IVmB_BB 01 06 38.2
comp=Z,369nm,0.8s
MMRI **Maumere** 52.12 206 P **P** 01 06 38.5 +1.0
comp=Z,3µmcomp=Z,183nm,1.0s
KK31 **Karatay Array** 52.44 298 *i* P **P** 01 06 39.5 -0.2
KKAR **Karatay Array** 52.44 298 P **P** 01 06 38.8 -0.9
KKAR **Karatay Array** 52.44 298 P **P** 01 06 38.8 -0.9
KKAR **Karatay Array** 52.44 298 IAmb IAmb 01 06 41.3
comp=Z,79nm,0.8s
WHY **Whitehorse** 52.49 38 P **P** 01 06 41.2 +1.3
SOEI **Soe** 52.53 203 P **P** 01 06 40.9 +0.2
SKAG **Skagway** 52.62 40 P **P** 01 06 41.1 +0.3
BRLS **Boroldav** 52.92 299 *e*S **S** 01 14 18.8 +4.6
A36M **Sachs Harbour** 52.97 23 P **P** 01 06 45.1 +1.9
baz=286
A36M **Sachs Harbour** 52.97 23 P **P** 01 06 43.8 +0.6
IUG **luzhnay** 53.15 297⇑ *i*P **P** 01 06 45.1 +0.1
IUG *e*S **S** 01 14 18.9 +5.5
IUG *e*LR LR 01 29 48.1
IUG **luzhnay** 53.15 297 *c* *i*P **P** 01 06 45.1 +0.1
IUG *e*S **S** 01 14 18.9 +5.5
BHK **Bhakra** 53.33 283 *e*P **P** 01 06 48.0 +1.6
BHK *ex* x 01 07 23.2
THN **Thein Dam** 53.36 284 *e*P **P** 01 06 47.5 +0.9
JIS **Juneau Island** 53.46 41 P **P** 01 06 48.4 +1.4
SVE **Sverdlovsk** 53.46 317 *d* *i*P **P** 01 06 48.0 +1.0
SVE *e*S **S** 01 14 21.6 +4.6
SVE pmax pmax
comp=Z,301nm,1.0s
SVE MLR MLR
comp=Z,11µm,15.0s
BTK **Batken** 53.47 295 P **P** 01 06 47.6 +0.1
BTK **Batken** 53.47 295 P **P** 01 06 47.6 +0.1
PPBI **Pangkal Pinang** 53.77 228 P **P** 01 06 51.3 +1.6
MTN **Manton Dam** 53.84 194 P **P** 01 06 50.0 -0.1
COEN **Coen** 53.87 179 P **P** 01 06 51.4 +1.0
COEN IAmb IAmb 01 07 02.2
comp=Z,55nm,1.1s
PLAI **Plampang** 53.93 211 P **P** 01 06 49.6 -1.2
comp=Z,1µmcomp=Z,103nm,0.7s
TAS **Tashkent** 53.99 297 P **P** 01 06 51.7 +0.6
TAS pmax pmax
comp=Z,160nm,1.1s
TAS MLR MLR
comp=Z,3µm,20.0s
TAS **Tashkent** 53.99 297 P **P** 01 06 51.7 +0.6
TAS IAMs_20 IAMs_20 01 30 46.3
comp=Z,3µm,20.0s
NDI **New Delhi** 54.08 279 *e*P **P** 01 06 54.0 +2.0
C36M **Paulatuk** 54.16 26 P **P** 01 06 53.2 +1.2
baz=289,SNR=7.2
C36M **Paulatuk** 54.16 26 P **P** 01 06 52.7 +0.7
C36M IAmb IAmb 01 06 54.8
comp=Z,47nm,0.8s
TWSI **Taliwang, Sumb** 54.20 212 P **P** 01 06 51.0 -1.9
comp=Z,53nm,0.7s
PSI **Prapat** 54.27 238 P **P** 01 06 53.8 +0.2
comp=Z,26nm,0.6s,baz=359,slow=6.0,SNR=24
SRBI **Singaraja** 54.31 214 P **P** 01 06 54.9 +1.2
comp=Z,166nm,1.1s
RPSI **Rantau Prapat** 54.35 238 IAmb IAmb 01 06 55.2
comp=Z,34nm,0.8s
CHLP **Challavanipeta** 54.45 265 *e*P **P** 01 06 55.3 +0.6
CHLP IVmB_BB 01 06 56.4
comp=Z,561nm,1.8s
CHLP IVMs_BB IVMs_BB 01 32 19.6
comp=Z,251nm,26.3s
NIL **Nilore** 54.60 287 P **P** 01 06 56.6 +0.9
NIL P **P** 01 06 56.6 +0.9

NIL Nilore 54.60 287 P P 01 06 56.4 +0.6
NIL pmax pmax
comp=Z,222nm,0.8s
NIL MLR MLR
comp=Z,1μm,19.0s
NIL Nilore 54.60 287 P P 01 06 56.4 +0.6
ARU Arti 54.68 317 *c iP* **P 01 06 56.2 +0.3**
ARU 01 07 59.0
ARU 01 08 57.7
ARU PPP PPP 01 10 10.1
ARU S **S 01 14 37.6 +4.2**
ARU 01 16 45.3
ARU pmax pmax
comp=Z,338nm,1.6s
ARU MLR MLR
comp=Z,10μm,16.0s
ARU Arti 54.68 317 P P 01 06 56.0 +0.1
BKNI Bangkinang 54.81 234 P P 01 06 58.4 +1.0
comp=Z,3μmcomp=Z,194nm,0.6s
BKNI Bangkinang 54.81 234 P P 01 06 58.4 +1.0
MLSI Meulaboh, Aceh 54.85 242 P P 01 06 57.0 -0.7
comp=Z,169nm,0.7s
JBP Jabalpur 54.90 272 *eP* **P 01 06 57.4 -0.5**
TPTI 55.07 240 P P 01 06 58.1 -1.1
comp=Z,10nm,0.6s
MNSI Mandailing Nat 55.37 236 P P 01 07 01.4 0.0
comp=Z,32nm,0.7s
SDSI Sungai Dareh 55.55 233 P P 01 07 03.0 +0.3
comp=Z,160nm,1.0s
DLBC Dease Lake 55.56 40 P P 01 07 03.1 +0.8
comp=Z,5.7nm,0.6s,baz=226,slow=14,SNR=8.6
DLBC Dease Lake 55.56 40 P P 01 07 02.8 +0.4
SMRI Semarang 55.61 220 P P 01 07 03.0 -0.1
PWJI Pagerwojo 55.80 218 P P 01 07 02.7 -1.7
comp=Z,182nm,0.7s
GSI Gunungsitoli 56.27 238 P P 01 07 08.5 +0.6
comp=Z,4μmcomp=Z,162nm,1.6s
UGM Wanagama 56.31 219 P P 01 07 07.8 -0.3
KPJI Karang Pucung 56.60 221 P P 01 07 09.4 -0.7
comp=Z,2μmcomp=Z,133nm,1.2s
LHSI Lahat 56.62 229 P P 01 07 11.1 +0.8
comp=Z,195nm,1.7s
KLSI 56.63 227 P P 01 07 11.1 +0.7
comp=Z,780nmcomp=Z,49nm,1.8s
AB31 Akbulak array 56.69 309 *i P* **P 01 07 10.4 0.0**
ABKAR Akbulak array 56.69 309 P P 01 07 09.6 -0.8
ABKAR Akbulak array 56.69 309 IAmb IAmb 01 07 12.3
comp=Z,122nm,0.7s
NGP Nagpur 56.74 271 *eP* **P 01 07 10.1 -1.1**
NGP *eP* **P 01 07 10.1 -1.1**
NGP IVmB_BB 01 07 12.0
comp=Z,454nm,0.9s
NGP IAML 01 07 12.1
comp=Z,71nm,0.8s
MDSI Maura Dua 56.78 228 P P 01 07 11.5 +0.1
comp=Z,1μmcomp=Z,71nm,1.7s
MASI Maura Aman, Be 56.82 231 P P 01 07 16.3 +4.5
comp=Z,213nm,0.6s
LEM Lembang 56.85 223 P P 01 07 11.2 -0.9
comp=Z,62nm,0.7s,baz=60,slow=4.3,SNR=12
ALE Alert 56.90 4 IAMs_20 IAMs_20 01 32 43.6
comp=Z,3μm,21.0s
PVM Polavaram 57.05 265 *eP* **P 01 07 13.8 +0.4**
PVM IVmB_BB 01 07 14.7
comp=Z,513nm,2.1s
PVM IVMs_BB IVMs_BB 01 32 55.2
comp=Z,240nm,22.4s
KNRA Kununurra 57.06 196 P P 01 07 13.5 +0.2
KBL Kabul 57.24 290 P P 01 07 14.6 -0.3
SNR=115
KBL P **P 01 07 14.6 -0.3**
SNR=115
KBL Kabul 57.24 290 P P 01 07 14.4 -0.4
KBL pmax pmax
comp=Z,288nm,0.9s
KBL MLR MLR
comp=Z,3μm,19.0s
KBL Kabul 57.24 290 P P 01 07 14.4 -0.4
AKTO Aktyubinsk 57.33 311 P P 01 07 14.8 -0.1
CISI Cisompet, Garu 57.36 222 P P 01 07 18.3 +2.7
comp=Z,48μmcomp=Z,134nm,0.5s
KBS Kingsbay 57.72 350 P P 01 07 18.8 +1.5
KBS pmax pmax
comp=Z,49nm,1.0s
KBS MLR MLR
comp=Z,1μm,21.0s
KBS Kingsbay 57.72 350 P P 01 07 18.8 +1.5
KBS IAmb IAmb 01 07 33.6
comp=Z,48nm,0.9s
KBS Kingsbay 57.72 350 *eP* **P 01 07 19.2 +1.9**
KBS Kingsbay 57.72 350 *i P* **P 01 07 18.9 +1.5**
KBS IAmb IAmb 01 07 20.4
comp=Z,64nm,0.8s
GGR Gangavaram 57.80 267 *eP* **P 01 07 18.3 -0.4**
GGR IVmBBB 01 07 19.6
comp=Z,427nm,1.5s
GGR IVMs_BB IVMs_BB 01 35 15.6
comp=Z,183nm,18.2s
RPR Rampur 57.88 268 *eP* **P 01 07 19.2 0.0**
RPR IVmB_BB 01 07 20.3
comp=Z,650nm,1.6s
NOR Nord 57.97 356 *i P* **P 01 07 19.4 +0.4**
NOR pmax pmax
comp=Z,20nm,0.7s
NOR MLR MLR
comp=Z,1μm,16.0s
NOR Nord 57.97 356 *i P* **P 01 07 19.4 +0.4**
comp=Z,20nm,0.7s
comp=Z,1μm,16.0s
NOR Nord 57.97 356 *i P* **P 01 07 19.5 +0.4**
NOR IAmb IAmb 01 07 20.9
comp=Z,20nm,0.7s
NOR IAMs_20 IAMs_20 01 34 00.4
comp=Z,1μm,16.5s
MYLAV Mylavaram 58.11 265 *eP* **P 01 07 21.4 +0.6**
MYLAV IVmB_BB 01 07 22.6
comp=Z,539nm,0.7s
MYLAV IVMs_BB IVMs_BB 01 34 10.9
comp=Z,258nm,18.2s
HSPB Hornsund (broa 58.57 348 *eP* **P 01 07 24.2 +1.0**
HSPB MLR MLR
comp=Z,1μm,18.2s
HSPB Hornsund (broa 58.57 348 *eP* **P 01 07 24.0 +0.8**
PRGR Permogore 58.67 326 *i P* **P 01 07 24.3 +0.2**
PRGR *e**SP **sP 01 07 37.5 -0.2**
PRGR pmax pmax
comp=Z,111nm,0.9s
CUPL Choutuppal 59.09 267 *eP* **P 01 07 27.4 -0.3**
ADKI Addanki 59.16 265 *eP* **P 01 07 28.6 +0.5**
ADKI IVmB_BB 01 07 29.7
comp=Z,519nm,1.8s
ADKI IVMs_BB IVMs_BB 01 34 53.8
comp=Z,268nm,19.5s
NJS Nagarjunasagar 59.24 266 *eP* **P 01 07 28.4 -0.3**
NJS IVmB_BB 01 07 29.5
comp=Z,371nm,2.4s
NJS IVMsBB 01 40 03.8
comp=Z,149nm,15.1s
HYBB Hyderabad (bro 59.30 267 *eP* **P 01 07 28.9 -0.3**
HYBB IVmB_BB 01 07 29.9
comp=Z,491nm,0.9s
HYBB IVMs_BB IVMs_BB 01 39 53.9
comp=Z,180nm,13.7s
HYB Hyderabad 59.30 267 *i P* **P 01 07 28.0 -1.2**
RES Resolute Bay 59.30 15 P P **01 07 28.2 -0.2**
comp=Z,43nm,0.6s,baz=303,slow=7.8,SNR=36
RES Resolute Bay 59.30 15 IAMs_20 IAMs_20 01 36 50.9
comp=Z,2μm,20.0s
LVZ Lovozero 59.65 335 *i P* **P 01 07 31.2 +0.3**
LVZ pmax pmax
comp=Z,43nm,2.0s
LVZ Lovozero 59.65 335 P **P 01 07 31.6 +0.7**
LVZ IAmb IAmb 01 07 40.7
comp=Z,29nm,0.7s
SRLM Srisailam 59.83 266 *eP* **P 01 07 32.3 -0.5**
SRLM IVmBBB 01 07 33.4
comp=Z,338nm,1.8s
SRLM IVMs_BB IVMs_BB 01 34 52.2
comp=Z,167nm,23.3s
SANVU Saraoutou 59.88 152 P P 01 07 34.0 +1.1
CTA Charters Tower 60.06 176 LR LR 01 31 21.5
comp=Z,564nm,22.0s,baz=352,slow=34
CTA Charters Tower 60.06 176 P P 01 07 37.0 +2.9
CTA pmax pmax
comp=Z,26nm,1.9s
CTAO Charters Tower 60.06 176 P P 01 07 34.0 -0.1
CTAO pmax pmax
comp=Z,11nm,1.2s
CTAO Charters Tower 60.06 176 P P 01 07 34.0 -0.1
FITZ Fitzroy Crossi 60.12 199 IAmb IAmb 01 07 50.2
comp=Z,27nm,0.8s
APA Apatity 60.22 335 *i iP* **P 01 07 33.8 -1.0**
APA pmax pmax
comp=Z,20nm,0.7s
APA MLR MLR
comp=Z,2μm,16.0s
WRAB Tennant Creek 60.31 189 *i P* **P 01 07 34.9 -1.0**
WRAB pmax pmax
comp=Z,29nm,1.0s
WRAB Tennant Creek 60.31 189 P P 01 07 35.5 -0.4
WR0 Warramunga Arr 60.31 189 P P 01 07 35.2 -0.6
WRA Warramunga Arr 60.32 189 P P 01 07 35.1 -0.8
comp=Z,20nm,0.7s,baz=8.5,slow=7.2,SNR=120
WRA LR LR 01 33 26.0
comp=Z,557nm,21.6s,baz=5.0,slow=36
WRA PKP2bc 01 37 06.7
comp=Z,1.8nm,0.8s,baz=200,slow=2.3,SNR=12
WRA Warramunga Arr 60.32 189 P P 01 07 34.5 -1.5
KLRI Killari 60.41 269 *eP* **P 01 07 36.3 -0.5**
KLRI IVmB_BB 01 07 37.3
comp=Z,902nm,0.7s
KLRI IVMs_BB IVMs_BB 01 35 29.2
comp=Z,227nm,24.0s
YKA Yellowknife Ar 60.60 31 P P 01 07 37.5 +0.1
comp=Z,9.8nm,0.6s,baz=304,slow=6.1,SNR=24
YKA LR LR 01 35 05.3
comp=Z,528nm,21.7s,baz=0.0,slow=37
SKHT Srikalahasti 60.65 263 *eP* **P 01 07 39.0 +0.6**
SKHT IVmBBB 01 07 40.0
comp=Z,621nm,0.7s
SKHT IVMs_BB IVMs_BB 01 35 16.0
comp=Z,201nm,23.6s
KEV Kevo 60.85 339 P P 01 07 39.8 +0.8
KEV pmax pmax
comp=Z,51nm,1.0s
KEV MLR MLR
comp=Z,2μm,22.0s
KEV Kevo 60.85 339 P P 01 07 39.8 +0.8
KEV IAmb IAmb 01 07 41.1
comp=Z,51nm,1.0s
KEV IAMs_20 IAMs_20 01 36 35.0
comp=Z,2μm,22.0s
HAMF Hammerfest 61.17 341 *eP* **P 01 07 41.0 -0.1**
ARCES ARCESS Array B 61.40 339 P P 01 07 42.9 +0.2
comp=Z,8.5nm,0.5s,baz=35,slow=3.4,SNR=21
ARCES LR LR 01 40 05.1
comp=Z,2μm,18.5s,baz=70,slow=42
KLMR Klimovskoe 61.63 327 *eP* **P 01 07 42.7 -1.7**
KLMR *e* 01 09 58.4
KLMR pmax pmax
comp=Z,144nm,0.9s
KLMR Klimovskoe 61.63 327 *eP* **P 01 07 42.7 -1.7**
KLMR AMP 01 07 59.3
comp=Z,144nm,0.9s
KLMR *e*PP **PP 01 09 58.4 -1.4**
KLMR LQ LQ 01 29 06.8
KLMR LQ LQ 01 29 06.8
KLMR LR LR 01 33 43.0
URV Uravakonda 61.77 266 *eP* **P 01 07 45.9 -0.2**
URV IVmB_BB 01 07 46.7
comp=Z,404nm,2.5s
URV IVMs_BB IVMs_BB 01 36 56.9
comp=Z,180nm,22.5s
TULEG Thule 61.85 8 *i iP* **P 01 07 45.8 +0.2**
TULEG IAmb IAmb 01 07 46.7
comp=Z,80nm,0.7s
HRA Herat 62.17 293 P P 01 07 49.1 +0.3
HRA IAmb IAmb 01 07 50.5
comp=Z,30nm,0.8s
BELG Belogornoye 62.18 316 *c iP* **P 01 07 48.5 +0.3**
POO Poona 62.24 271 *eP* **P 01 07 47.0 -2.2**
SGF Sodankyl 62.43 337 P P 01 07 50.2 +0.5
SGF pmax pmax
comp=Z,99nm,0.9s
MSF Maaselka 62.60 335 P P 01 07 51.5 +0.6
MSF pmax pmax
comp=Z,81nm,2.1s
KAD Karad 62.71 270 ⇑ *iP* **P 01 07 52.0 -0.4**
DAG Danmarks Havn 62.72 355 *i P* **P 01 07 52.0 +0.5**
DAG pmax pmax
comp=Z,43nm,0.9s
DAG Danmarks Havn 62.72 355 *i P* **P 01 07 52.0 +0.5**
comp=Z,43nm,0.9s
DAG Danmarks Havn 62.72 355 *i P* **P 01 07 52.0 +0.5**
DAG IAmb IAmb 01 07 53.3
comp=Z,43nm,0.9s
ASHT Ashkhabad 63.00 298 P P 01 07 54.9 +0.9
ASHT Ashkhabad 63.00 298 P P 01 07 54.9 +0.9
ASHT IAMs_20 IAMs_20 01 36 57.0
comp=Z,1μm,20.0s
TRO Tromso 63.05 341 *eP* **P 01 07 54.1 +0.4**
GEYT Alibeck 63.19 298 P P 01 07 55.3 0.0
comp=Z,71nm,0.7s,baz=29,slow=3.4,SNR=125
GEYT LR LR 01 37 24.4
comp=Z,2μm,18.2s,baz=50,slow=38
GEYT Alibeck 63.19 298 P P 01 07 55.2 0.0
GYA0 ALIBECK ARRAY 63.19 298 P P 01 07 54.6 -0.7
GYA0B ALIBECK ARRAY 63.19 298 P P 01 07 55.5 +0.2
GYA0B IAMs_20 IAMs_20 01 37 04.9
comp=Z,2μm,19.0s
PGC Sidney 63.47 48 IAmb IAmb 01 07 59.6
comp=Z,15nm,0.7s
A04D Lummi Island 63.85 47 P P 01 08 01.3 +1.9
baz=302
NLWA Neilton Lookou 63.89 49 P P 01 08 00.9 +1.1
NLWA IAmb IAmb 01 08 03.4
comp=Z,22nm,0.8s
PALK Pallekele 64.02 257 P P 01 08 01.1 +0.1
PALK P **P 01 08 01.1 +0.1**
PALK Pallekele 64.02 257 P P 01 08 02.0 +1.0
PALK pmax pmax
comp=Z,14nm,0.9s
PALK MLR MLR
comp=Z,1μm,19.0s
PALK Pallekele 64.02 257 P P 01 08 02.0 +1.0
PALK Pallekele 64.02 257 IAMs_20 IAMs_20 01 38 29.2
comp=Z,1μm,19.0s
ASAR Alice Springs 64.05 189 P P 01 08 00.7 -0.2
comp=Z,11nm,0.9s,baz=1.1,slow=5.3,SNR=74
ASAR LR LR 01 35 40.8
comp=Z,836nm,21.9s,baz=358,slow=36
ASAR PKP2bc 01 36 57.7
comp=Z,1.1nm,0.9s,baz=190,slow=2.8,SNR=9.0
OUL Oulu 64.14 335 P **P 01 08 01.4 +0.4**
OUL pmax pmax
comp=Z,77nm,1.0s
D03D Eldon 64.26 49 P P 01 08 04.0 +1.9
baz=302,SNR=21
B05A Bryant 64.44 48 P P 01 08 04.6 +1.3
baz=302,SNR=8.9
E03A Lebam 64.51 50 P P 01 08 04.6 +0.8
E03A IAmb IAmb 01 08 24.0
comp=Z,32nm,0.8s
D04E Lakebay 64.63 49 P P 01 08 06.4 +1.9
baz=302
B06A Marblemount 64.65 47 P P 01 08 05.5 +0.9
B06A IAmb IAmb 01 08 07.2
comp=Z,20nm,0.7s
N2IH Innhavet 65.01 341 *eP* **P 01 08 07.5 +0.9**
PSA00 Pilbara Seismi 65.02 203 P P 01 08 07.3 0.0
PSA00 IAmb IAmb 01 08 08.0
comp=Z,22nm,0.7s
PSA00 Pilbara Seismi 65.02 203 P P 01 08 06.5 -0.8
PSA00 IAmb IAmb 01 08 08.5
comp=Z,16nm,0.8s
D05A Enumclaw 65.08 48 P P 01 08 08.7 +1.2
D05A IAmb IAmb 01 08 11.2
comp=Z,32nm,0.7s
F04D Rainier, OR 65.08 50 P P 01 08 09.1 +1.6
baz=303
E04D Cinebar 65.09 49 P P 01 08 09.6 +2.1
baz=303,SNR=11
STEI Steigen 65.22 341 ⇑ *iP* **P 01 08 08.7 +0.7**
C06D Leavenworth 65.30 47 P P 01 08 10.1 +1.1
baz=303
MOS Moscow 65.31 323 *eP* **P 01 08 07.3 -1.5**
MOS *e* 01 08 20.6
MOS *e* 01 10 32.4
MOS *e*S S 01 17 04.8 +15
MOS pmax pmax
comp=Z,197nm,1.6s
MOS pmax pmax
comp=Z,600nm,2.2s
MOS MLR MLR
comp=N,3μm,16.0s
MOS MLR MLR
comp=E,3μm,16.0s
MOS MLR MLR
comp=Z,6μm,16.0s
G03D McMinnville, O 65.41 51 P **P 01 08 11.5 +1.8**
baz=303
F04A Amboy 65.51 50 P **P 01 08 10.2 -0.1**
F04A IAmb IAmb 01 08 29.2
comp=Z,33nm,1.0s
N2TV Tŷrnvik 65.52 340 *eP* **P 01 08 10.6 +0.7**
N2ST Straumen 65.56 340 *eP* **P 01 08 10.6 +0.4**
SUF Sumiainen 65.61 333 P **P 01 08 10.8 +0.2**
SUF pmax pmax
comp=Z,113nm,0.8s
FAUS Fauske 65.61 340 *eP* **P 01 08 11.0 +0.4**
I02D Swisshome 65.66 52 P **P 01 08 13.1 +1.9**
baz=303
EIDS Eidsvold 65.69 172 IAmb IAmb 01 08 14.6
comp=Z,15nm,0.7s
COR Corvallis 65.72 51 P **P 01 08 14.0 +2.3**
COR pmax pmax
comp=Z,278nm,1.6s
NBB08 Skaug oppvekst 65.78 340 *eP* **P 01 08 12.0 +0.4**
DZM Mont Dzumac 65.79 156 P **P 01 08 12.0 -0.3**
comp=Z,6.2nm,0.7s,baz=330,slow=7.9,SNR=5.7
DZM Mont Dzumac 65.79 156 *eP* **P 01 08 14.4 +2.1**
DZM *e*S **S 01 16 57.9 +1.2**
comp=Z,499nm,25.5s
DZM Mont Dzumac 65.79 156 *e*LR LR 01 28 02.4
comp=Z,3μm,22.4s
DZM Mont Dzumac 65.79 156 P P 01 08 12.8 +0.5
LTY Liberty 65.79 48 IAmb IAmb 01 08 14.4
comp=Z,13nm,0.7s
VRH Novokhopyorsk 65.91 317 *eP* **P 01 08 12.3 -0.4**
VRH *e**SP **sP 01 08 24.6 -1.8**
VRH *e*S **S 01 16 55.6 -1.9**
VRH pmax pmax
comp=Z,170nm,1.2s
VRH pmax pmax
comp=Z,300nm,1.3s
VRH smax smax
comp=N,500nm,2.6s
VRH MLR MLR
comp=Z,9μm,17.0s
B08A Colville Reser 65.93 46 P P 01 08 14.2 +1.2
PUL Pulkovo 65.98 329 *eP* **P 01 08 11.9 -1.1**
PUL pmax pmax
comp=Z,76nm,0.7s
N2VA Vr,y 66.05 341 *eP* **P 01 08 13.5 +0.1**
H04D Lebanon 66.09 51 P **P 01 08 16.1 +2.1**
baz=303
F05D White Salmon 66.10 49 P P 01 08 15.8 +1.7
baz=304
J01E Myrtle Point 66.12 53 P P 01 08 16.2 +2.0
baz=303
OBN Obninsk 66.17 323 *ceP* **P 01 08 14.3 0.0**
OBN *i* 01 08 27.3
OBN *e* 01 08 43.5
OBN *e* 01 10 41.0
OBN *e*PPP PPP 01 12 19.0
OBN *e*S **S 01 17 00.6 +0.2**
OBN pmax pmax
comp=Z,193nm,1.7s
OBN MLR MLR
comp=Z,5μm,16.0s
OBN Obninsk 66.17 323 P P 01 08 14.5 +0.2
I03D Drain, OR 66.18 52 P **P 01 08 16.9 +2.3**
baz=303,SNR=8.0
NBB05 Inndyr 66.20 340 *eP* **P 01 08 15.3 +1.0**
NBB30 Finnes 66.32 340 *eP* **P 01 08 16.1 +0.9**
H04A Detroit Lake 66.33 51 P **P 01 08 15.9 +0.3**
H04A IAmb IAmb 01 08 34.5
comp=Z,38nm,1.0s
MSVF Nonsavu 66.38 143 *i* P **P 01 08 16.3 +0.1**
MSVF pmax pmax
comp=Z,41nm,1.2s
MSVF Nonsavu 66.38 143 P **P 01 08 16.6 +0.4**
MSVF IAmb IAmb 01 08 28.2
comp=Z,26nm,1.0s
MSVF Nonsavu 66.38 143 IAMs_20 IAMs_20 01 33 01.1
comp=Z,2μm,20.0s
NBB17 Glomfjord Bŷr 66.38 340 *eP* **P 01 08 16.8 +1.3**
FIA1 FINESS Array S 66.48 332 P **P 01 08 16.4 +0.2**
FINES FINESS Array B 66.48 332 P **P 01 08 16.3 0.0**
comp=Z,74nm,0.7s,baz=46,slow=8.2,SNR=178
FINES LR LR 01 40 12.2
comp=Z,5μm,18.1s,baz=41,slow=38
LPSR Galich'ya Gora 66.52 320 *eP* **P 01 08 16.8 +0.2**
LPSR *e**SP **sP 01 08 29.6 -0.7**
LPSR *e*S **S 01 17 04.6 -0.2**
LPSR pmax pmax
comp=Z,150nm,0.9s
LPSR pmax pmax
comp=Z,250nm,1.0s
LPSR smax smax
comp=N,790nm,3.3s
LPSR MLR MLR
comp=Z,5μm,16.0s
G05D Wamic, OR 66.54 50 P **P 01 08 18.9 +1.9**
baz=304,SNR=5.8
K02D Willamette Mer 66.54 53 P P 01 08 19.0 +1.9
baz=304
VAF Ylistaro 66.57 335 P P 01 08 17.2 +0.4
VAF pmax pmax
comp=Z,66nm,1.1s
E07A Sunnyside 66.65 48 P P 01 08 18.2 +0.6
E07A IAmb IAmb 01 08 36.5
comp=Z,30nm,1.1s
I04A Tendick Farm, 66.69 52 P P 01 08 19.6 +1.6
baz=304,SNR=22
MOR8 Moi Rana 66.75 340 *eP* **P 01 08 16.8 -1.1**
C09A Chrisman Ranch 66.83 46 P P 01 08 19.4 +0.7
C09A IAmb IAmb 01 08 21.5
comp=Z,32nm,0.7s
KONS Konsvik 66.84 340 *eP* **P 01 08 19.1 +0.7**
NBB40 Tonnes 66.86 340 *eP* **P 01 08 19.2 +0.7**
L02E Cave Junction 66.88 54 P P 01 08 21.3 +2.1
baz=304
D08A Wollman Farm, 66.90 47 P P 01 08 20.0 +0.8
D08A IAmb IAmb 01 08 21.9
comp=Z,22nm,0.7s
VORR Voronezh 66.92 319 *eP* **P 01 08 17.0 -2.2**
VORR pmax pmax
comp=Z,300nm,2.0s
HAWA Hanford 66.92 48 P P 01 08 19.9 +0.5
F07A Phinny Hill Vi 66.98 49 P P 01 08 20.2 +0.5
F07A IAmb IAmb 01 08 23.0
comp=Z,28nm,0.7s
HUMO Hull Mountain 67.02 53 P P 01 08 20.7 +0.6
I05D Terrebonne, OR 67.03 51 P P 01 08 21.8 +1.7
baz=304,SNR=10
E08A Dider Farm, El 67.14 48 P P 01 08 20.5 -0.2
E08A IAmb IAmb 01 08 23.6
comp=Z,21nm,0.7s
J04D Umpqua Nationa 67.19 52 P P 01 08 23.2 +1.9
baz=304,SNR=9.9
NEW Newport 67.20 46 P **P 01 08 22.4 +1.2**
comp=Z,12nm,0.6s,baz=290,slow=6.2,SNR=24
NEW PcP **PcP 01 08 47.7 -1.2**
comp=Z,11nm,0.9s,baz=354,slow=4.5,SNR=5.1
NEW Newport 67.20 46 P P 01 08 22.2 +1.0
baz=305,SNR=15
NEW Newport 67.20 46 P P 01 08 22.4 +1.2
NEW pmax pmax
comp=Z,20nm,0.8s
NEW MLR MLR
comp=Z,600nm,19.0s
NEW Newport 67.20 46 P P 01 08 22.4 +1.2
NEW IAmb IAmb 01 08 23.9
comp=Z,20nm,0.8s
VSR Storozhevoye 67.21 318 *eP* **P 01 08 21.1 0.0**
VSR *e**SP **sP 01 08 33.6 -1.1**
VSR *e*S **S 01 17 10.8 -2.5**
VSR pmax pmax
comp=Z,170nm,1.2s
VSR pmax pmax
comp=Z,280nm,1.0s
VSR smax smax
comp=N,250nm,2.3s
VSR MLR MLR
comp=Z,4μm,19.0s

COCO West Island 67.23 230 P P 01 08 22.4 +0.9
COCO pmax pmax
comp=Z,90nm,0.8s
COCO West Island 67.23 230 P P 01 08 22.4 +0.9
VORD Divnogorie 67.30 318 *e*P **P 01 08 21.6 0.0**
VORD *e**SP **sP 01 08 34.1 -1.2**
VORD pmax pmax
comp=Z,120nm,1.3s
MAK Makhachkala 67.30 308 *e*P **P 01 08 20.1 -1.6**
MAK *e* 01 10 48.9
MAK *e*S **S 01 17 12.2 -2.4**
MAK pmax pmax
comp=Z,310nm,1.6s
MAK MLR MLR
comp=Z,2µm,13.0s
SUMG Summit 67.53 0 P **P 01 08 24.5 +1.2**
SUMG pmax pmax
comp=Z,49nm,0.7s
SUMG Summit 67.53 0 P **P 01 08 24.5 +1.2**
SUMG Summit 67.53 0 *i* P **P 01 08 24.4 +1.2**
comp=Z,113nm,0.7s
SUMG Summit 67.53 0 *i* P **P 01 08 24.5 +1.2**
SUMG IAmb IAmb 01 08 26.0
comp=Z,113nm,0.7s
PINE Pine Mountain 67.58 51 P **P 01 08 24.8 +1.0**
L04D Klamath Falls 67.64 53 P **P 01 08 25.8 +1.6**
baz=304,SNR=12
E09A Wood Farm, Sta 67.64 47 P **P 01 08 24.4 +0.5**
E09A IAmb IAmb 01 08 42.7
comp=Z,36nm,1.1s
YBH Yreka Blue Hor 67.67 54 P **P 01 08 25.2 +1.0**
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH Yreka Blue Hor 67.67 54 P **P 01 08 25.2 +1.0**
J05D Fort Rock, OR 67.69 52 P **P 01 08 26.4 +2.0**
baz=305,SNR=18
K04D Chiloquin, OR 67.75 53 P **P 01 08 26.5 +1.7**
baz=305
M02C Callahan 67.77 54 P **P 01 08 27.1 +2.2**
baz=304,SNR=5.1
G08A Pilot Rock 67.88 49 P **P 01 08 26.9 +1.3**
N02D Trinity Center 68.10 54 P **P 01 08 29.0 +2.0**
baz=305,SNR=6.7
M04C Macdoel 68.17 53 P **P 01 08 29.3 +1.8**
baz=305,SNR=5.9
K05A Summer Lake 68.21 52 P **P 01 08 29.0 +1.2**
K05A IAmb IAmb 01 08 31.5
comp=Z,42nm,0.8s
VSU Vasula 68.24 329 *e*P **P 01 08 27.9 +0.5**
VSU Vasula 68.24 329 *i* P **P 01 08 27.0 -0.4**
VSU pmax pmax
comp=Z,138nm,0.9s
I07A Izee 68.26 50 P **P 01 08 28.4 +0.4**
WDC Whiskeytown Da 68.42 55 P **P 01 08 29.6 +0.7**
WDC pmax pmax
comp=Z,17nm,1.2s
WDC Whiskeytown Da 68.42 55 P **P 01 08 29.6 +0.7**
WALA Waterton Lakes 68.46 43 IAmb IAmb 01 08 32.0
comp=Z,22nm,0.8s
WALA IAMs_20 IAMs_20 01 40 17.7
comp=Z,1µm,22.0s
SEKA Sheki 68.48 306 P **P 01 08 29.4 +0.1**
O02D Mt. Diablo Mer 68.50 55 P **P 01 08 31.6 +2.1**
baz=305,SNR=7.2
NSS Namsos 68.68 339 *e*P **P 01 08 30.9 +0.8**
LGD Lagodekhi 68.71 307 P **P 01 08 30.8 +0.1**
GOF Gofitskoye 68.73 311⇑ *i*P **P 01 08 31.5 +0.7**
GOF *e*S S 01 17 54.7 +23
GOF pmax pmax
comp=Z,152nm,0.7s
GOF smax smax
comp=E,204nm,2.2s
MNGR Mingechevir, A 68.80 306 P **P 01 08 31.8 +0.6**
LKRN Lenkeran, Azer 68.92 303 P **P 01 08 32.6 +0.6**
HOPS Hopland Field 69.00 56 P **P 01 08 33.7 +1.2**
MOD Modoc Plateau 69.04 53 P **P 01 08 33.2 +0.2**
MOD IAmb IAmb 01 08 36.0
comp=Z,16nm,0.7s
O03E Paynes Creek 69.05 55 P **P 01 08 33.8 +0.9**
baz=305,SNR=13
JTMT Jette 69.05 45 P **P 01 08 33.5 +0.7**
JTMT IAmb IAmb 01 08 36.0
comp=Z,29nm,0.7s
BMO Blue Mountains 69.09 49 P **P 01 08 33.9 +0.8**
BMO pmax pmax
comp=Z,14nm,0.9s
BMO Blue Mountains 69.09 49 P **P 01 08 33.9 +0.8**
GDXM Geysers 69.28 56 P **P 01 08 35.5 +1.1**
GDXM IAMs_20 IAMs_20 01 30 58.8
comp=Z,1µm,21.0s
J08A Circle Bar Ran 69.29 50 IAmb IAmb 01 08 55.2
comp=Z,23nm,1.0s
GANJ Ganja 69.35 306 P **P 01 08 35.2 +0.5**
KIV Kislovodsk 69.59 311⇑P **P 01 08 37.1 +0.9**
KIV Kislovodsk 69.59 311 *i* P **P 01 08 36.8 +0.6**
SNR=52
KIV Kislovodsk 69.59 311 *e*P **P 01 08 36.8 +0.6**
KIV Kislovodsk 69.59 311 P **P 01 08 37.1 +0.9**
KIV P **P 01 08 37.1 +0.9**
KIV Kislovodsk 69.59 311 *e*P **P 01 08 36.6 +0.4**
KIV *e*S **S 01 17 42.6 +0.6**
KIV *e*SS **SS 01 22 12.8 +3.4**
KIV pmax pmax
comp=Z,569nm,1.0s
KIV pmax pmax
comp=Z,540nm,3.1s
KIV Kislovodsk 69.59 311 P **P 01 08 37.3 +1.1**
KBZ Khabaz 69.60 310 P **P 01 08 37.0 +0.9**
comp=Z,48nm,0.7s,baz=65,slow=4.3,SNR=124
KBZ LR LR 01 41 38.8
comp=Z,2µm,20.1s,baz=42,slow=38
KBZ Khabaz 69.60 310*c* *i*P **P 01 08 36.4 +0.3**
KBZ pmax pmax
comp=Z,55nm,0.9s
MCCM Marconi Confer 69.61 57 P **P 01 08 36.9 +0.6**
MCCM IAmb IAmb 01 08 38.9
comp=Z,17nm,0.8s
PLID Pearl Lake 69.70 48 IAMs_20 IAMs_20 01 34 47.5
comp=Z,2µm,21.0s
SHA1 Shidzhatmaz 69.73 310*c* *i*P **P 01 08 37.6 +0.3**
MSO Missoula 69.79 45 P **P 01 08 38.4 +0.9**
baz=307,SNR=12
MSO Missoula 69.79 45 IAmb IAmb 01 08 40.0
comp=Z,17nm,0.8s
ONI Oni 69.95 309 P **P 01 08 39.7 +1.3**
TBLU Trondheim 70.16 339 *e*P **P 01 08 38.7 -0.5**
IZAR Zarasai 70.28 327 *e*P **P 01 08 41.0 +0.9**
IDID Didziasalis 70.37 327 *e*P **P 01 08 41.3 +0.7**
MICGM Minsk 70.44 326 *e*P **P 01 08 42.0 +0.9**
MICGM PM 01 08 43.0
comp=Z,0.4nm,1.0s
MICGM *e*LR LR 01 40 08.0
MICGM LRM MLR 01 42 26.0
comp=Z,5.1nm,12.0s
MNK Minsk 70.44 326 *e*P **P 01 08 42.0 +0.9**
MNK pmax pmax
comp=Z,380nm,1.0s
MNK MLR MLR
comp=Z,5µm,12.0s
ILULI Ilulissat 70.44 5 P **P 01 08 40.9 +0.1**
ILULI pmax pmax
comp=Z,47nm,1.0s
ILULI MLR MLR
comp=Z,3µm,20.0s
ILULI Ilulissat 70.44 5 P **P 01 08 40.9 +0.1**
ILULI IAmb IAmb 01 08 46.8
comp=Z,47nm,1.0s
ISAL Salakas 70.45 327 *e*P **P 01 08 41.8 +0.7**
SLIT Slitere, Latvi 70.52 331 *e*P **P 01 08 41.6 +0.1**
FFC Flin Flon 70.53 34 P **P 01 08 42.9 +1.2**
FFC pmax pmax
comp=Z,38nm,0.7s
FFC Flin Flon 70.53 34 P **P 01 08 42.9 +1.2**
FFC IAmb IAmb 01 08 44.0
comp=Z,38nm,0.7s
IIGN Ignalina 70.56 327 *e*P **P 01 08 42.5 +0.7**
AKH Akhalkalaki 70.63 308⇑P **P 01 08 44.1 +1.3**
AKH Akhalkalaki 70.63 308 *e*P **P 01 08 44.1 +1.3**
AKH Akhalkalaki 70.63 308 P **P 01 08 44.0 +1.3**
AKH Akhalkalaki 70.63 308 IAmb IAmb 01 08 45.3
comp=Z,38nm,0.7s
AKH IAMs_20 IAMs_20 01 42 56.1
comp=Z,1µm,18.0s
NACGM Naroch 70.63 327 *e*P **P 01 08 42.0 -0.3**
NACGM *e*LQ LQ 01 38 14.0
NACGM *e*LR LR 01 40 06.0
NACGM LRM MLR 01 42 05.0
comp=Z,8.9nm,20.0s
CHVG Ch'k'valeri 70.68 310⇑P **P 01 08 43.6 +0.8**
NAX Nakhchivan 70.72 305 P **P 01 08 43.7 +0.5**
ARMA Armidale 70.74 172 IAmb IAmb 01 08 55.0
comp=Z,27nm,1.1s
FCC Fort Churchill 70.75 27 P **P 01 08 42.9 0.0**
FCC pmax pmax
comp=Z,44nm,0.8s
FCC MLR MLR
comp=Z,1µm,20.0s
FCC Fort Churchill 70.75 27 P **P 01 08 42.9 0.0**
FCC IAmb IAmb 01 08 44.1
comp=Z,44nm,0.8s
FCC IAMs_20 IAMs_20 01 42 59.9
comp=Z,1µm,20.0s
MFID Camas Ranch 70.80 49 P **P 01 08 43.9 +0.2**
RUBR Rubicon Trail 70.81 55 P **P 01 08 45.3 +1.3**
RUBR IAmb IAmb 01 08 52.3
comp=Z,18nm,0.5s
PAHR Pah Rah Range 70.90 54 P **P 01 08 44.8 +0.4**
PAHR IAmb IAmb 01 09 03.1
comp=Z,26nm,1.1s
WSAR Wadi Sarin 71.01 285 P **P 01 08 45.6 +0.5**
SNR=6.9
TASB TASBURUN-IGDIR 71.02 307 *e*P **P 01 08 46.4 +1.4**
ICESG Greenland Ices 71.03 1 *i* P **P 01 08 45.4 +0.5**
WBK Wadi Bani Khal 71.13 284 P **P 01 08 46.6 +0.8**
SNR=15
WBK P **P 01 08 46.6 +0.8**
SNR=15
PNTR Pine Nut 71.13 55 IAmb IAmb 01 09 05.0
comp=Z,24nm,1.0s
BANOM Banah 71.14 288 *i* P **P 01 08 46.1 +0.2**
SNR=11
SHME Shamm 71.18 288 *i* P **P 01 08 46.2 +0.1**
SNR=25
BIDO Bidbid 71.21 285 P **P 01 08 46.7 +0.4**
SNR=16
BIDO P **P 01 08 46.7 +0.4**
SNR=16
EGMT Eagleton 71.27 43 P **P 01 08 47.4 +1.0**
baz=310,SNR=13
EGMT Eagleton 71.27 43 IAmb IAmb 01 08 49.1
comp=Z,36nm,0.8s
SAO San Andreas Ge 71.34 57 P **P 01 08 46.8 -0.1**
SAO pmax pmax
comp=Z,13nm,1.2s
SAO San Andreas Ge 71.34 57 P **P 01 08 46.8 -0.1**
KARS Kars 71.35 308 *e*P **P 01 08 48.4 +1.4**
KARS Kars 71.35 308 P **P 01 08 48.5 +1.4**
PABE Paberze 71.38 328 *e*P **P 01 08 47.6 +0.9**
YERR Yerington 71.42 54 P **P 01 08 48.7 +1.1**
YERR IAmb IAmb 01 09 07.1
comp=Z,28nm,1.0s
DLMT Dillon 71.43 46 P **P 01 08 48.1 +0.6**
DLMT IAmb IAmb 01 08 50.4
comp=Z,20nm,0.8s
MOL Molde 71.44 340 *e*P **P 01 08 48.1 +1.1**
DOMB Dombas 71.46 339 *e*P **P 01 08 47.3 0.0**
NC303 NORSAR Array S 71.46 337⇑ *i*P **P 01 08 47.5 +0.3**
MDH Madha 71.51 288 P **P 01 08 47.4 -0.7**
HLID Hailey 71.53 48 P **P 01 08 49.5 +1.3**
baz=308,SNR=13
HLID Hailey 71.53 48 P **P 01 08 48.8 +0.7**
SOC Sochi 71.53 312*c* *i*P **P 01 08 47.9 0.0**
SOC *e**PP **pP 01 08 56.8 -1.1**
SOC *e**SP **sP 01 09 01.2 -0.4**
SOC *e* 01 11 25.9
SOC *e*PPP PPP 01 13 09.8
SOC *e*S **S 01 18 05.4 +1.0**
SOC pmax pmax
comp=Z,86nm,1.1s
SOC MLR MLR
comp=Z,2µm,17.0s
SMDO Samad 71.54 285 P **P 01 08 48.7 +0.3**
SNR=15
SMDO P **P 01 08 48.7 +0.3**
SNR=15
MSFE Esma-Masafi 71.58 288 *i* P **P 01 08 48.6 0.0**
SNR=14
WAKR Walker 71.58 55 P **P 01 08 49.8 +1.2**
HFS Hagfors 71.62 336 P **P 01 08 48.2 +0.1**
comp=Z,28nm,0.3s,baz=54,slow=8.6,SNR=187
MCMT McKenzie Canyo 71.62 47 P **P 01 08 50.1 +1.3**
NB2 NORSAR Subarra 71.66 337 P **P 01 08 48.7 +0.3**
comp=Z,84nm,0.8s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.66 337 P **P 01 08 44.7 -3.7**
NB2 pmax pmax
comp=Z,126nm,0.8s
NB2 NORSAR Subarra 71.66 337 P **P 01 08 48.7 +0.3**
baz=38,slow=6.2
NOA NORSAR Array B 71.66 337 P **P 01 08 48.5 +0.1**
comp=Z,37nm,0.7s,baz=38,slow=6.1,SNR=219
ARTV Artvin 71.70 309 IAmb IAmb 01 08 51.6
comp=Z,40nm,0.7s
STKA Stephens Creek 71.71 181 P **P 01 08 49.1 +0.2**
comp=Z,3.3nm,0.6s,baz=2.3,slow=6.0,SNR=12
STKA LR LR 01 42 31.5
comp=Z,398nm,20.4s,baz=13,slow=38
BCA Borcka 71.73 309⇑P **P 01 08 50.0 +0.8**
BCA Borcka 71.73 309 *e*P **P 01 08 49.8 +0.6**
CLDR Caldiran 71.73 306 *e*P **P 01 08 50.7 +1.2**
HOQ Hoqain 71.78 286 P **P 01 08 50.0 +0.2**
SNR=23
HOQ P **P 01 08 50.0 +0.2**
SNR=23
UOSS Minazif 71.79 287 *i* P **P 01 08 49.1 -0.6**
SNR=21
UOSS Minazif 71.79 287 P **P 01 08 49.4 -0.3**
UOSS P **P 01 08 49.4 -0.3**
UOSS Minazif 71.79 287 P **P 01 08 50.1 +0.3**
UOSS Minazif 71.79 287 IAMs_20 IAMs_20 01 44 21.2
comp=Z,1µm,20.0s
NC602 NORSAR Array S 71.80 337 IAmb IAmb 01 09 03.0
comp=Z,21nm,0.9s
NORES NORESS Array B 71.80 337 P **P 01 08 50.9 +1.7**
NORES pmax pmax
comp=Z,10.0nm,0.5s
PBUR Paburge 71.81 329 *e*P **P 01 08 49.9 +0.5**
BOZ Bozeman (W) 71.81 45 P **P 01 08 51.2 +1.4**
baz=309,SNR=47
BOZ Bozeman (W) 71.81 45 IAmb IAmb 01 08 52.7
comp=Z,33nm,0.8s
SENK Senkaya-Erzuru 71.83 308 *e*P **P 01 08 51.1 +1.1**
UMQ Umm Al-Quwin 71.84 288 P **P 01 08 51.0 +1.0**
FORT Forrest 71.90 193 IAmb IAmb 01 09 06.1
comp=Z,50nm,0.8s
AKN Aaknes 71.91 340 *e*P **P 01 08 50.8 +0.9**
NAO01 NORSAR Array S 71.91 337 IAmb IAmb 01 09 03.7
comp=Z,48nm,0.9s
HATD Hatta, Dubai 71.91 287 *i* P **P 01 08 50.3 -0.2**
SNR=32
HATD Hatta, Dubai 71.91 287 P **P 01 08 50.8 +0.3**
SNR=13
HATD P **P 01 08 50.8 +0.3**
SNR=13
JMDO Jabal Madar 71.91 284 P **P 01 08 50.7 +0.1**
SNR=16
JMDO P **P 01 08 50.7 +0.1**
SNR=16
SOHO SOHO 72.03 287 *i* P **P 01 08 50.7 -0.5**
SNR=39
SOHO SOHO 72.03 287 P **P 01 08 51.1 -0.1**
SOHO P **P 01 08 51.1 -0.1**
ASHO Ashiyiah 72.05 287 *i* P **P 01 08 51.3 -0.1**
SNR=30
ASHO Ashiyiah 72.05 287 P **P 01 08 51.6 +0.2**
SNR=16
ANN Anapa 72.05 314 *e*P **P 01 08 48.4 -2.6**
ANN *e**PP **pP 01 08 58.4 -2.6**
ANN *e* 01 09 04.8
ANN *e*S **S 01 18 07.9 -2.5**
ANN pmax pmax
comp=Z,172nm,1.6s
ANN MLR MLR
comp=N,4µm,17.0s
ANN MLR MLR
comp=Z,3µm,16.0s
RYN Ryan 72.08 54 P **P 01 08 52.0 +0.4**
PMPB Monarch Peak 72.09 58 P **P 01 08 50.8 -0.6**
KVN Kaiserville 72.09 54 IAmb IAmb 01 09 10.5
comp=Z,37nm,1.2s
NAZ Nazwa, Dubai 72.16 288 *i* P **P 01 08 51.9 -0.1**
SNR=5.7
NAZ Nazwa, Dubai 72.16 288 P **P 01 08 51.9 -0.1**
SNR=5.5
NAZ P **P 01 08 51.9 -0.1**
SNR=5.5
MDPB Devils Postpil 72.33 56 P **P 01 08 53.0 -0.1**
NVAR Mina Array Bea 72.34 54 P **P 01 08 54.1 +1.0**
comp=Z,4.8nm,0.6s,baz=295,slow=6.5,SNR=34
NVAR LR LR 01 37 16.2
comp=Z,423nm,20.7s,baz=292,slow=33
FAQ Al Faqa, Dubai 72.35 288 P **P 01 08 52.8 -0.3**
BSY Bisya 72.36 285 P **P 01 08 53.6 +0.3**
SNR=22
BSY P **P 01 08 53.6 +0.3**
SNR=22
VANB Van 72.39 306 *e*P **P 01 08 54.7 +1.4**
OMMB Old Mammoth Mi 72.39 56 P **P 01 08 54.3 +0.6**
AKASG Malin Array Be 72.40 322 P **P 01 08 53.0 0.0**
comp=Z,27nm,0.6s,baz=45,slow=6.2,SNR=104
AKASG LR LR 01 43 54.5
comp=Z,3µm,18.0s,baz=45,slow=38
AKASG Malin Array Be 72.40 322 *i* P **P 01 08 53.0 0.0**
AKASG pmax pmax
comp=Z,27nm,0.6s
AKBB Malin Array Si 72.40 322 P **P 01 08 53.1 +0.1**
AKBB pmax pmax
comp=Z,55nm,0.8s
AKBB MLR MLR
comp=Z,3µm,19.0s
AKBB Malin Array Si 72.40 322 P **P 01 08 53.1 +0.1**
CHOM Cayeli-Rize 72.45 309 *e*P **P 01 08 54.4 +0.9**
KOPR Koprukoy-ERZUR 72.48 308 *e*P **P 01 08 55.2 +1.3**
ARQ Araqi 72.51 286 P **P 01 08 54.5 +0.4**
SNR=15
ARQ P **P 01 08 54.5 +0.4**
SNR=15
YHL Hebgen Lake 72.53 46 P **P 01 08 54.4 +0.1**
MLAZ Malazgirt-MUS 72.57 307 *e*P **P 01 08 55.8 +1.3**
ALNE Al Ain 72.64 287 *i* P **P 01 08 55.0 +0.1**
SNR=19
SFJD Kangerlussuaq 72.66 5 P **P 01 08 54.6 +0.3**
comp=Z,25nm,0.8s,baz=303,slow=4.9,SNR=8.5
SFJD Kangerlussuaq 72.66 5 P **P 01 08 55.2 +1.0**
SFJD pmax pmax
comp=Z,39nm,1.0s
SFJD MLR MLR
comp=Z,4µm,22.0s
SFJD Kangerlussuaq 72.66 5 P **P 01 08 55.2 +1.0**
SFJD IAmb IAmb 01 08 56.6
comp=Z,39nm,1.0s
SFJD Kangerlussuaq 72.66 5 *i* P **P 01 08 53.3 -0.9**
SFJD Kangerlussuaq 72.66 5 *i* P **P 01 08 53.4 -0.9**
OSL Oslo 72.69 337 *e*P **P 01 08 55.1 +0.6**
PAGB Antelope Grade 72.73 58 P **P 01 08 55.4 +0.1**
PAGB IAmb IAmb 01 08 58.6
comp=Z,30nm,1.0s
GCMT Greycliff 72.75 44 P **P 01 08 56.6 +1.2**
SUW Suwalki 72.76 327 *e*P **P 01 08 56.0 +0.9**
SUW *e**SP **sP 01 09 08.6 -0.2**
SUW MLR MLR
comp=Z,4µm,20.2s
YMR Madison River 72.77 46 P **P 01 08 56.8 +1.2**
SKAR Skarslia 72.79 338⇑ *i*P **P 01 08 55.4 +0.2**
AKDM Akdamar-Van 72.80 306 *e*P **P 01 08 56.8 +0.9**
MHTO MHTO 72.84 283 P **P 01 08 56.0 0.0**
SNR=66
MHTO P **P 01 08 56.0 0.0**
SNR=66
YNM Yellowstone No 72.87 46 P **P 01 08 57.3 +1.1**
BBOO Buckleboo 72.89 186 P **P 01 08 56.8 +0.8**
BBOO IAmb IAmb 01 09 07.3
comp=Z,30nm,1.1s
YNR Norris Junctio 72.89 46 P **P 01 08 58.1 +1.8**
AJN Ajban 72.90 288 P **P 01 08 56.0 -0.4**
HYA Hoyanger 72.97 340 *e*P **P 01 08 56.5 +0.4**
YNE Yellowstone No 73.07 45 P **P 01 08 57.6 +0.2**
KTUT Trabzon 73.11 310⇓P **P 01 08 57.7 +0.3**
KTUT Trabzon 73.11 310 *e*P **P 01 08 57.7 +0.3**
YPP Pitchstone Pla 73.11 46 P **P 01 08 59.0 +1.3**
LKWY Lake 73.14 46 P **P 01 08 58.9 +1.0**
LKWY pmax pmax
comp=Z,15nm,0.9s
LKWY Lake 73.14 46 P **P 01 08 58.9 +1.0**
H17A Grant Village 73.16 46 P **P 01 09 01.0 +3.1**
baz=310,SNR=5.8
H17A Grant Village 73.16 46 P **P 01 08 59.8 +1.9**
H17A IAmb IAmb 01 09 02.6
comp=Z,26nm,0.9s
YMP Mirror Lake Pl 73.16 45 P **P 01 08 59.0 +1.0**
MORW Morawa 73.21 204 IAmb IAmb 01 08 59.3
comp=Z,29nm,0.8s
VRTB Varto-Mus 73.23 307 *e*P **P 01 09 00.1 +1.8**
GURO Guroymak-BITLI 73.25 306 *e*P **P 01 08 59.7 +1.2**
KONO Kongsberg 73.26 337 P **P 01 08 58.1 +0.2**
KONO pmax pmax
comp=Z,28nm,0.7s
KONO Kongsberg 73.26 337 P **P 01 08 58.1 +0.2**
KONO IAmb IAmb 01 08 59.4
comp=Z,28nm,0.7s
KONO Kongsberg 73.26 337 *e*P **P 01 08 58.4 +0.5**
BAYT Aydintepe-Bayb 73.26 309 *e*P **P 01 08 59.9 +1.4**
IMW Indian Meadow 73.28 46 P **P 01 08 59.0 +0.3**
KOPT Kop Dagi 73.28 308 IAmb IAmb 01 09 03.0
comp=Z,43nm,0.9s
KOPT IAMs_20 IAMs_20 01 47 18.3
comp=Z,2µm,19.0s
FLWY Flagg Ranch 73.29 46 P **P 01 08 59.9 +1.2**
FLWY IAmb IAmb 01 09 17.9
comp=Z,28nm,1.1s
KARO Karliova-Bingo 73.39 308 *e*P **P 01 09 00.3 +1.0**
FXWY Fox Creek 73.39 47 P **P 01 09 00.4 +1.0**
RLMT Red Lodge 73.40 45 P **P 01 09 00.8 +1.5**
baz=311,SNR=9.1
FRB Frobisher Bay 73.48 14 P **P 01 08 59.5 +0.3**
comp=Z,99nm,0.7s,baz=332,slow=6.3,SNR=50
PKM Mcpherson Peak 73.53 58 P **P 01 09 02.0 +1.8**
baz=308
HVU Hansel Valley 73.58 49 P **P 01 09 00.4 0.0**
HVU pmax pmax
comp=Z,14nm,0.7s
HVU Hansel Valley 73.58 49 P **P 01 09 00.4 0.0**
YEDI Yedisu-Bingol 73.61 308 *e*P **P 01 09 01.6 +1.0**
SNOW Snow King Moun 73.66 47 P **P 01 09 02.4 +1.4**
CWC Cottonwood Cre 73.69 56 P **P 01 09 02.3 +1.2**
baz=308
ESPY Espiye-Giresun 73.77 310 *e*P **P 01 09 01.1 -0.2**
SIM Simferopol' 73.77 315*c* *i*P **P 01 09 00.5 -0.7**
SIM S **S 01 18 29.0 -0.9**
SIM pmax pmax
comp=Z,36nm,0.6s
DGMT Dagmar 73.78 40 P **P 01 09 02.1 +0.8**
baz=313,SNR=7.6
DGMT Dagmar 73.78 40 IAmb IAmb 01 09 03.6
comp=Z,42nm,0.7s
DGMT Dagmar 73.78 40 IAMs_20 IAMs_20 01 42 00.2
comp=Z,1µm,22.0s
DQM DQM 73.80 283 P **P 01 09 01.6 -0.1**
SNR=15
DQM P **P 01 09 01.6 -0.1**
SNR=15
GRAC Grapevine Rang 73.80 55 P **P 01 09 03.3 +1.7**
baz=308,SNR=24
ASK Askoy 73.81 340 *e*P **P 01 09 02.0 +1.0**
BNGB Bingl 73.81 307 *e*P **P 01 09 02.9 +1.2**
BER Bergen 73.85 339 *e*P **P 01 09 02.2 +0.8**
ODD1 Odda 73.89 339⇑ *i*P **P 01 09 02.2 +0.5**
AHID Auburn Hatcher 73.91 47 P **P 01 09 02.9 +0.5**
ISA Isabella, Lake 73.92 57 P **P 01 09 02.7 +0.4**
baz=308,SNR=6.9
LAO LASA Array 73.96 42 P **P 01 09 03.2 +0.8**
baz=312
LAO LASA Array 73.96 42 P **P 01 09 03.6 +1.2**
LAO IAmb IAmb 01 09 20.9
comp=Z,36nm,0.7s
BGU Big Grassy Mou 73.98 50 P **P 01 09 03.8 +1.1**
ERZN Erzincan 74.01 308 *e*P **P 01 09 04.4 +1.5**
ARVC Arvin 74.02 57 P **P 01 09 03.5 +0.6**
baz=308
R11A Troy Canyon, C 74.07 53 P **P 01 09 04.7 +1.4**
baz=309,SNR=18
R11A Troy Canyon, C 74.07 53 P **P 01 09 04.2 +0.8**
SPUT South Promonto 74.07 49 P **P 01 09 03.6 +0.4**
MPMC Manual Prospec 74.31 56 P **P 01 09 06.0 +1.2**
baz=308,SNR=15
BLS5 Blasjo 74.35 338 *e*P **P 01 09 05.3 +0.9**
HWUT Hardware Ranch 74.39 49 P **P 01 09 06.7 +1.5**

HWUT IAmb IAmb 01 09 24.2
comp=Z,27nm,1.1s
FURC Furnace Creek, 74.45 55 P **P** **01 09 06.9 +1.6**
baz=309,SNR=14
ANGG Ammassalik, Gr 74.53 0 *eP* **P** **01 09 05.5 +0.2**
TPNV Topopah Spring 74.53 55 P **P** **01 09 07.4 +1.4**
baz=309,SNR=20
TPNV Topopah Spring 74.53 55 IAmb IAmb 01 09 25.9
comp=Z,31nm,1.1s
LRMC Laurel Mtn Rad 74.54 57 P **P** **01 09 06.8 +0.7**
baz=308,SNR=5.8
DUG Dugway, Tooele 74.57 50 P **P** **01 09 07.6 +1.5**
baz=310,SNR=23
DUG Dugway, Tooele 74.57 50 P **P** **01 09 07.9 +1.7**
DUG pmax pmax
comp=Z,39nm,0.9s
SORM Soroca 74.57 321 ⇑P **P** **01 09 05.9 0.0**
SORM Soroca 74.57 321 P **P** **01 09 05.8 0.0**
BORG Borgarnes 74.65 353 P **P** **01 09 08.2 +2.3**
comp=Z,52nm,0.6s,baz=26,slow=3.0,SNR=20
BORG Borgarnes 74.65 353 P **P** **01 09 08.2 +2.3**
BORG pmax pmax
comp=Z,50nm,0.7s
BORG Borgarnes 74.65 353 IAmb IAmb 01 09 09.7
comp=Z,50nm,0.7s
PTK Pertek 74.65 308 *eP* **P** **01 09 08.1 +1.4**
EDW2 Edwards Air Fo 74.71 57 P **P** **01 09 08.1 +1.1**
baz=308,SNR=13
HOMB Homborsund 74.71 337 *eP* **P** **01 09 06.9 +0.5**
HOMB Homborsund 74.71 337 *iP* **P** **01 09 06.9 +0.5**
HOMB IAmb IAmb 01 09 08.2
comp=Z,33nm,0.7s
BW06 Boulder Array 74.77 47 P **P** **01 09 08.2 +0.8**
baz=311,SNR=15
PDAR Pinedale Array 74.77 47 P **P** **01 09 08.2 +0.7**
comp=Z,7.8nm,0.5s,baz=262,slow=1.6,SNR=102
PDAR Pinedale Array 74.77 47 P **P** **01 09 07.5 +0.1**
MARD Mardin 74.80 306 IAMs_20 IAMs_20 01 45 04.7
comp=Z,2µm,21.0s
DECC Green Verdugo 74.88 58 P **P** **01 09 08.4 +0.5**
baz=308
RSDY Resadiye-TOKAT 74.92 310 *eP* **P** **01 09 08.9 +0.9**
PURM Purcari 74.92 319 ⇑P **P** **01 09 09.3 +1.4**
PASC Pasadena Art C 75.03 58 P **P** **01 09 09.2 +0.4**
PASC Pasadena Art C 75.03 58 IAMs_20 IAMs_20 01 34 13.1
comp=Z,2µm,21.0s
SVRC Sivrice-ELAZID 75.03 308 *eP* **P** **01 09 10.3 +1.4**
SNART Snartemo 75.04 337 *eP* **P** **01 09 09.3 +1.0**
SNART Snartemo 75.04 337 ⇓*iP* **P** **01 09 09.3 +1.0**
SNART IAmb IAmb 01 09 10.6
comp=Z,150nm,1.0s
SNART *i* 01 09 21.5
MWC Mount Wilson 75.08 58 P **P** **01 09 10.5 +1.2**
MWC pmax pmax
comp=Z,27nm,1.1s
MWC Mount Wilson 75.08 58 P **P** **01 09 10.4 +1.2**
MWC IAmb IAmb 01 09 27.7
comp=Z,27nm,1.1s
BSD Bornholm Skovb 75.13 332 *iP* **P** **01 09 09.0 +0.1**
BSD *i* 01 09 22.0
BSD pmax pmax
comp=Z,23nm,0.8s
BSD MLR MLR
comp=Z,4µm,21.0s
BSD Bornholm Skovb 75.13 332 *iP* **P** **01 09 09.0 +0.1**
comp=Z,23nm,0.8s
BSD *i* 01 09 22.0
comp=Z,4µm,21.0s
BSD Bornholm Skovb 75.13 332 *iP* **P** **01 09 09.0 +0.1**
BSD IAmb IAmb 01 09 09.9
comp=Z,23nm,0.8s
BSD *i* 01 09 22.1
BSD IAMs_20 IAMs_20 01 44 33.7
comp=Z,4µm,21.2s
KIS Kishinev 75.13 320 ⇑*iP* **P** **01 09 08.0 -1.1**
comp=Z,380nm,4.0s
KIS Kishinev 75.13 320 *e*PcP **PcP** **01 09 21.0 -1.5**
KIS Kishinev 75.13 320 ⇑P **P** **01 09 09.2 +0.1**
KIS Kishinev 75.13 320 *e* **PcP** **01 09 21.0 -1.5**
KIS pmax pmax
comp=Z,400nm,4.0s
KIS Kishinev 75.13 320*c iP* **P** **01 09 08.0 -1.1**
ARPR Arapgir-MALATY 75.16 309 *eP* **P** **01 09 11.1 +1.5**
NLU North Lily Min 75.16 50 P **P** **01 09 10.7 +1.0**
MILM Milestii Mici 75.19 320 ⇓P **P** **01 09 09.6 +0.2**
GSC Goldstone, Bar 75.21 56 P **P** **01 09 10.8 +0.9**
baz=309,SNR=9.4
KVT Kavak 75.22 311 *eP* **P** **01 09 10.9 +1.2**
KVT Kavak 75.22 311 P **P** **01 09 11.4 +1.7**
DIKM Dikmen 75.30 312 ⇑P **P** **01 09 11.5 +1.3**
BFSC Mount Baldy Ra 75.33 58 P **P** **01 09 11.8 +1.2**
baz=309
BEL Belsk 75.34 327 *eP* **P** **01 09 11.2 +1.0**
BEL MLR MLR
comp=Z,4µm,19.4s
RRX Edison Barstow 75.36 57 P **P** **01 09 12.3 +1.6**
baz=309
CAN Canberra 75.37 175 P **P** **01 09 11.6 +1.2**
CAN pmax pmax
comp=Z,6.0nm,0.9s
CAN Canberra 75.37 175 P **P** **01 09 11.6 +1.2**
LVV L'vov 75.41 324 ⇑*iP* **P** **01 09 10.6 0.0**
LVV *i* 01 09 24.5
LVV *eS* **S** **01 18 46.4 -1.7**
LVV *e* 01 19 07.8
LVV pmax pmax
comp=Z,180nm,1.7s
LVV MLR MLR
comp=N,3µm,15.0s
LVV MLR MLR
comp=E,4µm,15.0s
LVV MLR MLR
comp=Z,5µm,16.0s
SVSK Karacayir 75.42 310 *eP* **P** **01 09 12.2 +1.4**
TOKT Tokat 75.42 311 *eP* **P** **01 09 11.9 +0.9**
TOKA Tokat 75.46 311 IAmb IAmb 01 09 25.9
comp=Z,29nm,1.1s
TOKA IAMs_20 IAMs_20 01 46 27.8
comp=Z,1µm,20.0s
SHPR Sheep Range 75.49 54 IAMs_20 IAMs_20 01 35 20.2
comp=Z,956nm,21.0s
GOET G??ttrup 75.51 336 *iP* **P** **01 09 11.9 +0.9**
comp=Z,160nm,0.8s
GOET *i* 01 09 25.7
GOET G??ttrup 75.51 336 *iP* **P** **01 09 12.0 +0.9**
GOET IAmb IAmb 01 09 13.6
comp=Z,160nm,0.8s
GOET *i* 01 09 25.7
COP Copenhagen 75.55 333 IAmb IAmb 01 09 14.4
comp=Z,44nm,0.7s
COP IAMs_20 IAMs_20 01 44 27.7
comp=Z,3µm,22.1s
MALT Malatya 75.60 308 *eP* **P** **01 09 13.6 +1.5**
MALT Malatya 75.60 308 P **P** **01 09 13.5 +1.5**
IAS Iasi 75.61 320 ⇑P **P** **01 09 12.3 +0.4**
IAS Iasi 75.61 320 P **P** **01 09 12.2 +0.4**
IAS pmax pmax
comp=Z,42nm,0.8s
GKP Gorka Klasztor 75.69 330 *eP* **P** **01 09 12.7 +0.6**
GKP MLR MLR
comp=Z,3µm,19.4s
TUQ Turquoise Moun 75.69 56 P **P** **01 09 14.0 +1.4**
baz=309,SNR=13
BBRC Big Bear Solar 75.79 57 P **P** **01 09 14.0 +0.6**
baz=309
TCRU Three Creeks R 75.81 51 P **P** **01 09 13.8 +0.4**
HEC Hector,Ludlow 75.81 56 P **P** **01 09 14.8 +1.5**
baz=309,SNR=8.0
URFA Urfa 75.92 307 *eP* **P** **01 09 15.4 +1.5**
MUD Monsted U'grnd 76.00 335 *iP* **P** **01 09 14.7 +0.9**
MUD *i* 01 09 28.0
MUD pmax pmax
comp=Z,30nm,0.8s
MUD Monsted U'grnd 76.00 335 *iP* **P** **01 09 14.7 +0.9**
comp=Z,30nm,0.8s
MUD *i* 01 09 28.0
MUD Monsted U'grnd 76.00 335 *iP* **P** **01 09 14.8 +0.9**
MUD IAmb IAmb 01 09 16.0
comp=Z,30nm,0.8s
MUD *i* 01 09 28.1
DARE Darende-Malaty 76.00 309 *eP* **P** **01 09 15.9 +1.5**
MURC Murrieta 76.03 58 P **P** **01 09 15.8 +1.3**
baz=309
KWP Kalwaria Pacla 76.14 325 *eP* **P** **01 09 15.8 +1.0**
PRAR RASCA 76.14 321 ⇑P **P** **01 09 15.4 +0.5**
RGN Rugen 76.14 332 *eP* **P** **01 09 15.1 +0.4**
RGN Rugen 76.14 332 *eP* **P** **01 09 15.5 +0.8**
baz=35,slow=5.3
BIR Birlad 76.23 320 ⇑P **P** **01 09 16.2 +0.9**
BIR Birlad 76.23 320 P **P** **01 09 16.2 +0.9**
GMRC Granite Mounta 76.27 56 P **P** **01 09 17.2 +1.3**
baz=310,SNR=19
ULM Lac du Bonnet 76.34 34 P **P** **01 09 16.0 +0.1**
comp=Z,12nm,0.6s,baz=322,slow=6.8,SNR=23
ULM LR LR 01 46 05.0
comp=Z,491nm,18.2s,baz=329,slow=38
ULM Lac du Bonnet 76.34 34 IAmb IAmb 01 09 17.7
comp=Z,28nm,1.0s
Q16A Castle Valley 76.36 50 P **P** **01 09 17.4 +0.9**
VARL Varlezi 76.37 319 ⇑P **P** **01 09 17.5 +1.4**
TLCR 76.38 318 ⇓P **P** **01 09 16.8 +0.5**
TLCR 76.38 318 P **P** **01 09 16.7 +0.5**
SHAO Shalim 76.39 282 *iP* **P** **01 09 16.4 -0.3**
SNR=8.8
SHAO Shalim 76.39 282 P **P** **01 09 16.6 -0.1**
SNR=6.0
SHAO P **P** **01 09 16.6 -0.1**
SNR=6.0
MDND Maddock 76.41 38 P **P** **01 09 17.0 +0.6**
baz=316
MDND Maddock 76.41 38 P **P** **01 09 17.3 +0.9**
MDND IAmb IAmb 01 09 31.3
comp=Z,68nm,1.1s
MDND IAMs_20 IAMs_20 01 43 39.9
comp=Z,1µm,20.0s
BUR08 Bucovina Ar. S 76.43 322 IAmb IAmb 01 09 19.1
comp=Z,48nm,0.8s
BURAR Bucovina Array 76.44 322 ⇑P **P** **01 09 17.1 +0.4**
BURAR Bucovina Array 76.44 322 P **P** **01 09 17.1 +0.4**
BURAR Bucovina Array 76.44 322 P **P** **01 09 16.8 +0.1**
NWAO Narrogin (SRO) 76.46 202 P **P** **01 09 15.6 -1.0**
NWAO Narrogin (SRO) 76.46 202 P **P** **01 09 16.9 +0.3**
NWAO pmax pmax
comp=Z,39nm,1.2s
NWAO Narrogin (SRO) 76.46 202 P **P** **01 09 16.9 +0.3**
NWAO IAmb IAmb 01 09 18.9
comp=Z,39nm,1.1s
GHRR 76.48 320 ⇑P **P** **01 09 17.7 +0.9**
PFO Pinyon Flats O 76.50 57 P **P** **01 09 18.3 +1.0**
PFO pmax pmax
comp=Z,15nm,1.1s
PFO Pinyon Flats O 76.50 57 P **P** **01 09 18.3 +1.0**
BIZ Bicaz 76.50 321 ⇑P **P** **01 09 17.8 +0.9**
XPFO Pion Flat 76.50 57 P **P** **01 09 18.0 +0.7**
K22A Casper 76.52 45 P **P** **01 09 18.0 +0.7**
baz=313,SNR=7.0
109C Camp Elliot, M 76.53 58 P **P** **01 09 17.9 +0.6**
baz=309
109C Camp Elliot, M 76.53 58 P **P** **01 09 18.3 +1.0**
BELC Belle Mtn. Jos 76.55 57 P **P** **01 09 18.1 +0.5**
baz=310,SNR=9.7
ILGA Ilgaz 76.56 313 IAMs_20 IAMs_20 01 47 54.8
comp=Z,1µm,20.0s
CORM Corum 76.62 312 *eP* **P** **01 09 19.2 +1.3**
SCHL Schela 76.66 319 ⇑P **P** **01 09 19.0 +1.2**
CFR Carcaliu 76.73 319 ⇑P **P** **01 09 18.7 +0.5**
SARI SarD1z-Kayseri 76.74 309 *eP* **P** **01 09 19.9 +1.2**
BNN Bunyan 76.79 310 *eP* **P** **01 09 19.9 +1.0**
RWWY Rawlins 76.79 46 P **P** **01 09 19.4 +0.4**
RWWY IAmb IAmb 01 09 36.5
comp=Z,23nm,0.8s
E28A Huff 76.80 39 IAmb IAmb 01 09 21.9
comp=Z,36nm,0.7s
E28A IAMs_20 IAMs_20 01 44 26.2
comp=Z,2µm,22.0s
PETR Petresti 76.81 319 ⇓P **P** **01 09 20.3 +1.7**
RSSD Black Hills 76.84 43 P **P** **01 09 19.9 +0.8**
baz=314
RSSD Black Hills 76.84 43 P **P** **01 09 19.7 +0.5**
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD Black Hills 76.84 43 P **P** **01 09 19.7 +0.5**
KOLS Kolonicke sedl 76.84 324 *eP* **P** **01 09 18.7 -0.1**
KOLS *e* 01 09 32.6
KOLS pmax pmax
comp=Z,45nm,1.3s
KOLS Kolonicke sedl 76.84 324 *eP* **P** **01 09 18.7 -0.1**
KOLS *e* 01 09 32.6
ODBI Odobesti 76.86 320 ⇑P **P** **01 09 20.8 +1.9**
CANT Cankiri 76.91 312 *eP* **P** **01 09 20.4 +1.0**
VRI Vrincioaia 76.95 320 ⇑P **P** **01 09 20.5 +1.0**
VRI Vrincioaia 76.95 320 *eP* **P** **01 09 20.6 +1.1**
VRI Vrincioaia 76.95 320 P **P** **01 09 21.0 +1.5**
VRI pmax pmax
comp=Z,63nm,1.9s
MONP2 Monument Peak 76.97 58 P **P** **01 09 21.1 +1.0**
baz=310
IRM Iron Mountain 76.99 56 P **P** **01 09 21.3 +1.3**
baz=310,SNR=12
PLOR Plostina 77.00 320 ⇑P **P** **01 09 20.7 +0.9**
PLOR Plostina 77.00 320 P **P** **01 09 20.7 +0.9**
KMRS Kahramanmaras 77.04 308 *eP* **P** **01 09 21.4 +1.2**
UZH Uzhgorod 77.05 324 ⇑*iP* **P** **01 09 19.8 -0.2**
UZH *e* 01 09 34.4
UZH *eS* **S** **01 19 04.0 -2.2**
UZH MLR MLR
comp=Z,600nm,15.0s
GAZ Gaziantep 77.07 308 *eP* **P** **01 09 21.7 +1.3**
GAZ Gaziantep 77.07 308 IAMs_20 IAMs_20 01 50 15.8
comp=Z,1µm,19.0s
DMTO 77.08 282 P **P** **01 09 20.4 -0.2**
SNR=8.8
TIRR Tirgusor 77.09 318 ⇑P **P** **01 09 20.9 +0.7**
TIRR Tirgusor 77.09 318 P **P** **01 09 21.0 +0.7**
TIRR pmax pmax
comp=Z,139nm,1.4s
BC3 Big Chuckawall 77.11 57 P **P** **01 09 21.8 +1.0**
baz=310,SNR=8.3
GRER 77.17 319 ⇑P **P** **01 09 21.4 +0.6**
HARR Harsova 77.18 318 ⇑P **P** **01 09 20.6 -0.1**
HARR Harsova 77.18 318 P **P** **01 09 20.6 -0.1**
BISRR Bisoca 77.19 320 ⇓P **P** **01 09 22.2 +1.3**
BMR Baia Mare 77.20 323 ⇑P **P** **01 09 22.1 +1.3**
TLBR Topalu 77.22 318 ⇑P **P** **01 09 21.8 +0.8**
CRVS Cervenica-Dubn 77.22 325 *eP* **P** **01 09 21.7 +0.7**
CRVS *e* 01 09 35.4
CRVS pmax pmax
comp=Z,143nm,1.6s
CRVS Cervenica-Dubn 77.22 325 *eP* **P** **01 09 21.7 +0.7**
CRVS *e* 01 09 35.4
ARCR ARCALIA 77.23 322 ⇑P **P** **01 09 22.8 +1.8**
O20A White River Ci 77.26 48 P **P** **01 09 22.5 +0.9**
baz=312,SNR=9.1
U15A North Rim 77.31 53 IAmb IAmb 01 09 25.5
comp=Z,22nm,0.9s
U15A IAMs_20 IAMs_20 01 36 06.7
comp=Z,985nm,22.0s
IKP In-Ko-Pah, Jac 77.33 58 P **P** **01 09 23.4 +1.5**
baz=310
SKMB Sankelmark Bun 77.34 334 *eP* **P** **01 09 22.6 +1.1**
baz=35,slow=5.3
SWSC Sam W. Stewart 77.34 58 P **P** **01 09 23.1 +1.2**
baz=310
NIE Niedzica 77.35 326 *eP* **P** **01 09 23.0 +1.3**
NIE MLR MLR
comp=Z,2µm,19.5s
CVDA Cernavoda 77.37 318 ⇓P **P** **01 09 22.9 +1.0**
RMX La Rumorosa 77.38 58 P **P** **01 09 23.2 +0.9**
RMX IAMs_20 IAMs_20 01 38 20.0
comp=Z,980nm,22.0s
NEHR Nehoiu 77.48 320 ⇑P **P** **01 09 23.5 +1.0**
BR131 Keskin Array S 77.49 312 P **P** **01 09 23.4 +0.6**
SNR=14
BR131 P **P** **01 09 23.4 +0.6**
SNR=14
BRTR Keskin Array B 77.49 312 P **P** **01 09 23.2 +0.4**
comp=Z,12nm,0.7s,baz=69,slow=3.6,SNR=59
BRTR LR LR 01 47 37.3
comp=Z,604nm,18.4s,baz=50,slow=39
BRTR Keskin Array B 77.49 312 *eP* **P** **01 09 23.2 +0.4**
AMRR Amara 77.54 319 ⇑P **P** **01 09 24.1 +1.4**
DOPR Dopca 77.54 321 ⇑P **P** **01 09 24.3 +1.5**
ISR Istrita 77.58 319 ⇑P **P** **01 09 24.3 +1.3**
ISR Istrita 77.58 319 P **P** **01 09 24.9 +1.8**
ISR pmax pmax
comp=Z,201nm,0.9s
MLR Muntele Rosu 77.61 320 ⇓P **P** **01 09 23.9 +0.6**
MLR Muntele Rosu 77.61 320 P **P** **01 09 24.5 +1.2**
MLR pmax pmax
comp=Z,54nm,1.7s
MLR Muntele Rosu 77.61 320 IAmb IAmb 01 09 40.5
comp=Z,25nm,0.9s
RUE Ruedersdorf 77.62 331 *eP* **P** **01 09 23.7 +0.7**
RUE Ruedersdorf 77.62 331 *eP* **P** **01 09 23.8 +0.8**
baz=35,slow=5.3
RUE *epP* **sP** **01 09 38.4 +1.6**
ICOR Ion Corvin 77.65 318 ⇑P **P** **01 09 24.6 +1.2**
BSEG Bad Segeberg 77.69 333 P **P** **01 09 24.3 +0.9**
BSEG pmax pmax
comp=Z,69nm,1.3s
BSEG Bad Segeberg 77.69 333 *eP* **P** **01 09 24.0 +0.6**
comp=Z,33nm,0.8s,baz=35,slow=5.3
KOZT Kozan 77.70 309 *eP* **P** **01 09 24.9 +1.0**
RBK Rabkut 77.77 283 P **P** **01 09 24.3 -0.3**
SNR=14
RBK P **P** **01 09 24.3 -0.3**
SNR=14
AGMN Agassiz Nation 77.80 36 P **P** **01 09 24.3 +0.2**
baz=318
AGMN Agassiz Nation 77.80 36 IAmb IAmb 01 09 25.7
comp=Z,21nm,0.8s
WHFO Wadi Hawf 77.84 283 P **P** **01 09 24.1 -0.8**
SNR=23
WHFO P **P** **01 09 24.1 -0.8**
SNR=23
ESJX Sierra Juarez 77.85 58 P **P** **01 09 24.6 -0.4**
CJR Cluj-Napoca 77.86 322 ⇑P **P** **01 09 25.9 +1.2**
CJR Cluj-Napoca 77.86 322 P **P** **01 09 25.8 +1.2**
SECR 77.87 320 ⇑P **P** **01 09 26.0 +1.3**
ANTO Ankara 77.88 312 IAMs_20 IAMs_20 01 49 39.7
comp=Z,1µm,19.0s
LOD Lodumlu 77.88 312 *eP* **P** **01 09 25.8 +0.9**
PV21 Cone Mtn., Par 77.89 50 IAmb IAmb 01 09 28.1
comp=Z,26nm,0.7s
LEHL Lehliu 77.89 319 ⇑P **P** **01 09 26.6 +1.9**
MDB Medias 77.90 321 ⇑P **P** **01 09 25.8 +1.1**
GLA Glamis 77.90 57 P **P** **01 09 26.6 +1.5**
baz=310
GLA Glamis 77.90 57 IAmb IAmb 01 09 43.8
comp=Z,27nm,1.0s
LANS Liptovska Anna 77.91 326 *eP* **P** **01 09 26.5 +1.7**
LANS *e* 01 09 40.5
LANS pmax pmax
comp=Z,34nm,1.2s
LANS Liptovska Anna 77.91 326 *eP* **P** **01 09 26.5 +1.7**
LANS *e* 01 09 40.5
YAYX Yaylak 77.92 311 *eP* **P** **01 09 25.5 +0.3**
KSP Ksiaz 77.93 329 *eP* **P** **01 09 25.7 +0.8**
KSP MLR MLR
comp=Z,4µm,18.6s
PV23 Carpenter Ridg 77.94 50 P **P** **01 09 26.1 +0.6**
PV23 IAmb IAmb 01 09 29.7
comp=Z,23nm,0.6s
OKC Ostrava-Krasne 77.95 327 *eP* **P** **01 09 25.9 +0.9**
OKC AMS AMS 01 46 20.0
comp=Z,4µm,21.3s
OKC Ostrava-Krasne 77.95 327 *eP* **P** **01 09 25.9 +0.9**
OKC MLR MLR
comp=Z,4µm,21.3s
KECS Kecovo 77.97 325 *eP* **P** **01 09 25.9 +0.8**
KECS *e* 01 09 39.6
KECS pmax pmax
comp=Z,13nm,1.2s
KECS Kecovo 77.97 325 *eP* **P** **01 09 25.9 +0.8**
KECS *e* 01 09 39.6
PV10 Paradox Valley 77.97 50 P **P** **01 09 26.6 +1.0**
PLAR PLOIESTI 77.98 320 ⇓P **P** **01 09 25.5 +0.3**
PV14 Lion Creek, Pa 77.98 50 IAmb IAmb 01 09 28.6
comp=Z,28nm,0.7s
AFSR Afar-Bala (An 78.00 312 *eP* **P** **01 09 26.5 +0.9**
PV22 Blue Mesa, Par 78.01 49 P **P** **01 09 27.1 +1.3**
PV22 IAmb IAmb 01 09 46.4
comp=Z,32nm,1.2s
PHWY Pilot Hill 78.02 46 P **P** **01 09 24.5 -1.5**
N23A Red Feather La 78.03 46 P **P** **01 09 27.4 +1.5**
baz=313,SNR=9.7
N23A Red Feather La 78.03 46 P **P** **01 09 27.2 +1.3**
SULR 78.03 319 ⇑P **P** **01 09 26.6 +1.1**
PV04 Paradox Valley 78.04 50 IAmb IAmb 01 09 29.0
comp=Z,24nm,0.8s
PV19 Morning Glory 78.05 50 IAmb IAmb 01 09 29.0
comp=Z,43nm,0.7s
CEYT Ceyhan 78.06 308 *eP* **P** **01 09 26.9 +1.1**
CMRD Camardi-Nigde 78.08 309 *eP* **P** **01 09 27.2 +1.1**
PV17 East Wray Mesa 78.08 50 IAmb IAmb 01 09 29.2
comp=Z,43nm,0.7s
VOIR 78.08 320 ⇓P **P** **01 09 26.9 +1.0**
VOIR 78.08 320 P **P** **01 09 26.7 +0.8**
VOIR pmax pmax
comp=Z,45nm,1.9s
PV16 Nyswonger Mesa 78.09 50 IAmb IAmb 01 09 29.2
comp=Z,23nm,0.8s
PV11 David Mesa, Pa 78.12 50 P **P** **01 09 27.4 +1.0**
D32A Dogwood Acres, 78.13 37 P **P** **01 09 26.6 +0.6**
D32A IAmb IAmb 01 09 27.7
comp=Z,41nm,0.7s
PV18 Skein Mesa, Pa 78.14 50 IAmb IAmb 01 09 29.5
comp=Z,26nm,0.7s
YUVA Yuva-Kibriscik 78.14 313 *eP* **P** **01 09 27.2 +0.8**
PV03 Paradox Valley 78.17 50 IAmb IAmb 01 09 29.6
comp=Z,21nm,0.7s
OSTC Ostas 78.19 328 *eP* **P** **01 09 27.1 +0.8**
OSTC AMS AMS 01 46 30.0
comp=Z,3µm,17.8s
TAHT Tahtakopru-Hat 78.22 308 *eP* **P** **01 09 27.9 +1.2**
CHVC Chvalec 78.22 328 *eP* **P** **01 09 27.3 +0.8**
CHVC AMS AMS 01 46 40.0
comp=Z,3µm,16.8s
MORC Moravsky Berou 78.25 327 ⇑P **P** **01 09 27.5 +0.8**
MORC Moravsky Berou 78.25 327 ⇑*iP* **P** **01 09 27.5 +0.8**
MORC Moravsky Berou 78.25 327 P **P** **01 09 27.4 +0.7**
MORC pmax pmax
comp=Z,310nm,1.2s
MORC Moravsky Berou 78.25 327 IAmb IAmb 01 09 42.8
comp=Z,72nm,1.1s
PV13 Radium Mtn., P 78.25 50 IAmb IAmb 01 09 30.2
comp=Z,28nm,0.8s
YURE YUREGIR 78.25 308 *eP* **P** **01 09 28.6 +1.7**
HLG Helgoland 78.29 335 *eP* **P** **01 09 27.1 +0.4**
baz=35,slow=5.3
DPC Dobruska-Polom 78.30 328 *eP* **P** **01 09 28.2 +1.2**
DPC AMS AMS 01 46 40.0
comp=Z,4µm,18.7s
DPC Dobruska-Polom 78.30 328 *eP* **P** **01 09 28.2 +1.2**
DPC MLR MLR
comp=Z,4µm,18.7s
UPC Upice 78.31 328 *eP* **P** **01 09 27.9 +1.0**
UPC AMS AMS 01 46 30.0
comp=Z,4µm,20.4s
UPC Upice 78.31 328 *eP* **P** **01 09 27.9 +1.0**
UPC MLR MLR
comp=Z,4µm,20.4s
KARA Karaisali 78.31 309 *eP* **P** **01 09 28.2 +1.0**
KULU Kulu 78.31 312 *eP* **P** **01 09 28.3 +1.0**
KRLC Kraliky 78.33 328 *eP* **P** **01 09 28.0 +0.9**
KRLC *es*P **sP** **01 09 42.0 +1.1**
KRLC AMS AMS 01 47 40.0
comp=Z,3µm,16.3s
KRLC Kraliky 78.33 328 *eP* **P** **01 09 28.0 +0.9**
KRLC *e* 01 09 42.0
KRLC MLR MLR
comp=Z,3µm,16.3s
ARR Arges 78.34 321 ⇑P **P** **01 09 29.0 +1.7**
MDUB Mudurnu 78.36 314 *eP* **P** **01 09 28.2 +0.6**
PV01 Paradox Valley 78.41 50 IAMs_20 IAMs_20 01 49 36.2
comp=Z,869nm,20.0s
WUAZ Wupatki 78.47 53 P **P** **01 09 30.0 +1.7**
baz=311,SNR=13
WUAZ Wupatki 78.47 53 IAMs_20 IAMs_20 01 37 23.9
comp=Z,1µm,22.0s
YAYL Yayladag 78.49 308 *eP* **P** **01 09 29.5 +1.1**
PRD Provadia 78.50 318 *iP* **P** **01 09 29.9 +1.8**
ABTO Aybut 78.54 283 P **P** **01 09 27.9 -0.9**
SNR=28
ABTO P **P** **01 09 27.9 -0.9**
SNR=28
KRTS Karatas 78.58 308 *eP* **P** **01 09 30.2 +1.6**
SULT Sultanhani-AKS 78.59 311 *eP* **P** **01 09 29.6 +0.8**
PSZ Piszkesteto 78.65 325 ⇑P **P** **01 09 30.2 +1.2**
PSZ Piszkesteto 78.65 325 IAmb IAmb 01 09 31.9
comp=Z,69nm,1.1s
VYHS Vyhne 78.68 326 *eP* **P** **01 09 30.1 +1.0**
VYHS *e* 01 09 43.9
VYHS pmax pmax

comp=Z,71nm,1.5s
VYHS Vyhne 78.68 326 eP P 01 09 30.1 +1.0
VYHS e 01 09 43.9
B35A Bob, Littlefor 78.69 35 IAmb IAmb 01 09 30.9
comp=Z,30nm,0.8s
CHBY Cihanbeyli 78.69 311 eP P 01 09 29.8 +0.4
RAZG Razgrad 78.70 318 ⇓P P 01 09 30.1 +0.8
LOT Lotru 78.70 321 ⇓P P 01 09 29.8 +0.5
YESY Yesilyurt 78.73 310 eP P 01 09 30.4 +0.7
GULT Gulveren 78.77 314 eP P 01 09 30.2 +0.4
HUMR Humele 78.78 320 ⇓P P 01 09 29.9 +0.3
SPX San Pedro Mart 78.78 59 P P 01 09 30.1 -0.2
NRS Narsarsuaq 78.79 4 P P 01 09 29.2 -0.2
NRS pmax pmax
comp=Z,33nm,0.9s
NRS Narsarsuaq 78.79 4 P P 01 09 29.1 -0.2
NRS IAmb IAmb 01 09 35.9
comp=Z,33nm,0.9s
DEV Deva 78.79 322 ⇓P P 01 09 30.6 +0.8
DEV Deva 78.79 322 P P 01 09 30.5 +0.8
DEV pmax pmax
comp=Z,41nm,2.0s
BRG Berggiesshubel 78.83 330 eP P 01 09 30.2 +0.4
comp=Z,66nm,1.5s
BRG i 01 09 44.5
comp=Z,40nm,1.0s
BRG S **SKSac 01 19 39.0 -3.6**
BRG SS **SS 01 24 34.0 +4.9**
comp=N,2μm,12.6s
comp=E,1μm,22.2s
comp=Z,3μm,18.3s
BRG Berggiesshubel 78.83 330 eP P 01 09 30.2 +0.4
BRG i 01 09 44.5
BRG S **SKSac 01 19 39.0 -3.6**
BRG SS **SS 01 24 34.0 +4.9**
BRG pmax pmax
comp=Z,66nm,1.5s
BRG pmax pmax
comp=Z,40nm,1.0s
BRG MLR MLR
comp=N,2μm,12.6s
BRG MLR MLR
comp=E,1μm,22.2s
BRG MLR MLR
comp=Z,3μm,18.3s
BRG Berggiesshubel 78.83 330 eP P 01 09 30.2 +0.4
baz=35,slow=5.3
CLL Collm 78.84 330⇑ iP P 01 09 30.0 +0.1
comp=Z,122nm,1.6s
CLL i pP **sP 01 09 44.6 +1.0**
comp=Z,46nm,0.9s
CLL e 01 12 25.0
CLL ePP **PP 01 12 32.0 +4.1**
CLL eS **SKSac 01 19 37.0 -5.7**
CLL eSKSac **ScS 01 19 48.0 -1.0**
CLL eSP **SPn 01 20 09.0 +3.5**
CLL e(SS) 01 24 54.0
CLL LmV 01 46 00.0
comp=Z,1μm,21.0s
CLL Collm 78.84 330⇑ iP P 01 09 30.0 +0.1
CLL eS **SKSac 01 19 37.0 -5.7**
CLL pmax pmax
comp=Z,122nm,1.6s
CLL MLR MLR
comp=Z,1μm,21.0s
CLL Collm 78.84 330 eP P 01 09 29.8 -0.1
comp=Z,40nm,0.7s,baz=35,slow=5.3
CLL Collm 78.84 330 IAmb IAmb 01 09 45.3
comp=Z,53nm,1.0s
CLL IAMs_20 IAMs_20 01 46 28.7
comp=Z,2μm,19.0s
PVCC Panska Ves 78.86 329 eP P 01 09 31.3 +1.3
PVCC AMS AMS 01 47 10.0
comp=Z,4μm,17.0s
PVCC Panska Ves 78.86 329 eP P 01 09 31.3 +1.3
PVCC MLR MLR
comp=Z,4μm,17.0s
AUSIV SIVRIHISAR 78.88 313 eP P 01 09 30.7 +0.3
SVRH Sivrihisar-ESK 78.88 313 eP P 01 09 30.8 +0.4
MERS Mersin 78.89 309 eP P 01 09 31.1 +0.6
JAVC Velka Javorina 78.90 327⇑ iP P 01 09 32.1 +1.8
NRDL Niedersach Rie 78.94 333 eP P 01 09 30.6 +0.4
comp=Z,31nm,0.9s,baz=35,slow=5.3
COPA Copaceanca 78.94 319 ⇓P P 01 09 30.7 +0.2
ISCO Idaho Springs 78.97 47 P P 01 09 32.5 +1.3
baz=314,SNR=10.0
ISCO Idaho Springs 78.97 47 P P 01 09 32.9 +1.7
ISCO pmax pmax
comp=Z,13nm,1.9s
SRCK Saricakaya, Es 78.97 314 eP P 01 09 31.0 +0.2
VRAC Vranov 79.00 327 ⇑P P 01 09 31.8 +1.0
VRAC Vranov 79.00 327⇑ iP P 01 09 31.8 +1.0
VRAC Vranov 79.00 327 P P 01 09 32.0 +1.2
VRAC pmax pmax
comp=Z,76nm,1.4s
FBE Freiberg 79.02 330 eP P 01 09 31.3 +0.5
baz=35,slow=5.3
KAC Achnashellach 79.02 343 eP P 01 09 31.3 +0.6
ASSE Asse, Remlinge 79.03 332 eP P 01 09 31.1 +0.2
baz=35,slow=5.3
KIZT Kizilcal 79.07 312 eP P 01 09 31.8 +0.3
MVCO Mesa Verde 79.07 50 P P 01 09 33.0 +1.3
baz=312,SNR=18
MVCO Mesa Verde 79.07 50 IAmb IAmb 01 09 34.6
comp=Z,19nm,0.8s
SIRR Siria 79.09 323 ⇑P P 01 09 31.9 +0.5
KAVV Kandilli-Istan 79.12 315 eP P 01 09 31.8 +0.2
X16A Lo Mia Camp, P 79.15 54 P P 01 09 33.4 +1.2
SUSD Miller 79.18 40 P P 01 09 32.4 +0.5
baz=317
SUSD Miller 79.18 40 P P 01 09 32.4 +0.5
SUSD IAmb IAmb 01 09 51.6
comp=Z,47nm,0.8s
SUSD IAMs_20 IAMs_20 01 43 39.3
comp=Z,1μm,20.0s
BORA Eskisehir 79.18 314 eP P 01 09 32.2 +0.1
SFX San Felipe 79.19 59 P P 01 09 32.1 0.0
ADVT Abdulvahap 79.19 314 eP P 01 09 32.4 +0.4
CIFT Cifteler, Eski 79.20 313 eP P 01 09 32.0 -0.2
SZH Strazhica 79.20 318 iP P 01 09 32.5 +0.5
ZIMR 79.21 319 ⇑P P 01 09 31.6 -0.4
GZR Gura Zlata 79.21 322 ⇑P P 01 09 32.6 +0.5
KPL Plockton 79.25 343 eP P 01 09 32.7 +0.8
KPL IAmb IAmb 01 09 34.6
comp=Z,72nm,0.7s
LADK Ladik-KONYA 79.25 311 eP P 01 09 32.8 +0.3
SMOL Smolenice 79.27 326 eP P 01 09 33.7 +1.4
SMOL e 01 09 47.0
SMOL pmax pmax
comp=Z,35nm,1.3s
SMOL Smolenice 79.27 326 eP P 01 09 33.7 +1.4
SMOL e 01 09 47.0
KRUC Moravsky 79.28 327⇑ iP P 01 09 33.1 +0.8
KRUC Moravsky 79.28 327 P P 01 09 33.3 +1.0
KRUC pmax pmax
comp=Z,76nm,1.1s
PRA Prague 79.28 329 eP P 01 09 33.6 +1.3
PRA AMS AMS 01 47 30.0
comp=Z,2μm,15.9s
PRA Prague 79.28 329 eP P 01 09 33.6 +1.3
PRA MLR MLR
comp=Z,2μm,15.9s
CAVI Cavuskoy 79.30 314 eP P 01 09 33.3 +0.7
PRU Pruhonice 79.30 329 eP P 01 09 33.1 +0.7
PRU AMS AMS 01 47 20.0
comp=Z,4μm,19.1s
PRU Pruhonice 79.30 329 eP P 01 09 33.1 +0.7
PRU MLR MLR
comp=Z,4μm,19.1s
BUD Budapest 79.37 325 P P 01 09 34.4 +1.6
BUD pmax pmax
comp=Z,51nm,1.7s
CLZ Clausthal 79.38 332 eP P 01 09 33.5 +0.7
comp=Z,30nm,0.8s,baz=35,slow=5.3
NEUB Neuenburg 79.38 331 eP P 01 09 33.0 +0.2
baz=35,slow=5.3
AUBOZ BOZOYUK 79.39 314 eP P 01 09 33.4 +0.2
KRMN Karaman 79.43 310 eP P 01 09 33.4 -0.1
SRO Srobarova 79.43 326 eP P 01 09 34.2 +1.1
SRO e 01 09 48.3
comp=Z,111nm,1.3s
SRO Srobarova 79.43 326 eP P 01 09 34.2 +1.1
SRO e 01 09 48.3

KONT Konya--Tatoy 79.43 311 eP P 01 09 33.8 +0.4
F33A 5 Mile Ranch, 79.43 38 IAmb IAmb 01 09 35.2
comp=Z,26nm,0.8s
F33A IAMs_20 IAMs_20 01 45 42.7
comp=Z,1μm,22.0s
MODS Modra-Piesok 79.44 326 eP P 01 09 33.6 +0.4
MODS e 01 09 47.4
MODS pmax pmax
comp=Z,62nm,1.2s
MODS Modra-Piesok 79.44 326 eP P 01 09 33.6 +0.4
MODS e 01 09 47.4
JMB Yambol 79.44 317 iP P 01 09 34.6 +1.3
VLAD Vladila 79.44 320 ⇑P P 01 09 34.1 +0.9
TREC Trest 79.47 328 eP P 01 09 34.4 +1.0
TREC AMS AMS 01 47 20.0
comp=Z,3μm,19.5s
TREC Trest 79.47 328 eP P 01 09 34.4 +1.0
TREC MLR MLR
comp=Z,3μm,19.5s
GEMT Gemlik 79.49 315 eP P 01 09 34.3 +0.7
SRE Strehaia 79.55 321 ⇑P P 01 09 35.0 +1.2
SRE Strehaia 79.55 321 P P 01 09 35.0 +1.2
SILI Silifke-Mersin 79.58 309 eP P 01 09 34.5 +0.3
BZS Buzias 79.60 322 ⇑P P 01 09 34.4 +0.3
ZST Bratislava 79.65 326 eP P 01 09 34.6 +0.3
ZST e 01 09 49.1
ZST pmax pmax
comp=Z,124nm,1.3s
ZST Bratislava 79.65 326 eP P 01 09 34.6 +0.3
ZST e 01 09 49.1
KEBE Keben-Mersin 79.65 309 eP P 01 09 34.8 +0.1
S22A 4UR Ranch, Cre 79.68 49 P P 01 09 36.7 +1.6
baz=313,SNR=16
MDNY Mudanya-Bursa 79.70 315 eP P 01 09 35.4 +0.6
INVG Invergeldie, C 79.71 342 eP P 01 09 34.4 -0.1
W18A Petrified Fore 79.73 53 P P 01 09 36.8 +1.5
baz=312
PBCC Pribram 79.75 329 eP P 01 09 35.7 +0.8
HERR Herculane 79.76 321 ⇓P P 01 09 35.2 +0.2
TANN Tannenbergstha 79.77 330 eP P 01 09 35.1 0.0
baz=35,slow=5.3
GTTG Gottingen 79.77 332 eP P 01 09 35.3 +0.4
baz=35,slow=5.3
WERD Werda 79.80 330 eP P 01 09 35.6 +0.4
baz=35,slow=5.3
WERD epP **sP 01 09 49.9 +0.9**
EDRB Edirne 79.80 317 P P 01 09 36.2 +0.9
Q24A Divide 79.80 47 P P 01 09 36.9 +1.1
baz=314
IKL Isikli 79.81 309 eP P 01 09 35.7 +0.3
ESY Stoneypath 79.82 341 eP P 01 09 34.7 -0.4
TEVE Tevekalti-Mers 79.82 309 eP P 01 09 35.9 +0.3
PLN Plauen 79.82 330 eP P 01 09 35.5 +0.3
baz=35,slow=5.3
GUNZ Gunzen 79.86 330 eP P 01 09 36.1 +0.6
baz=35,slow=5.3
MOX Moxa 79.90 331 P P 01 09 36.3 +0.6
MOX pmax pmax
comp=Z,31nm,1.4s
MOX Moxa 79.90 331 eP P 01 09 36.1 +0.4
baz=35,slow=5.3
MOX epP **sP 01 09 50.3 +0.9**
WERN Wernitzgruen 79.90 330 eP P 01 09 36.4 +0.6
baz=35,slow=5.3
IBBN Ibbenburen 79.90 334 eP P 01 09 35.9 +0.3
comp=Z,55nm,0.7s,baz=35,slow=5.3
214A Organ Pipe Nat 79.91 57 P P 01 09 37.3 +1.2
baz=311
214A Organ Pipe Nat 79.91 57 P P 01 09 34.8 -1.3
NKC Novy Kostel 79.92 330 eP P 01 09 36.4 +0.6
NKC Novy Kostel 79.92 330 eP P 01 09 36.4 +0.6
DGAR Diego Garcia 79.93 251 P P 01 09 36.1 -0.2
DGAR pmax pmax
comp=Z,114nm,0.8s
DGAR Diego Garcia 79.93 251 P P 01 09 36.1 -0.2
AKKU Akkuyu-Mersin 79.94 309 eP P 01 09 36.3 +0.2
EYMN Ely 79.96 34 P P 01 09 36.2 +0.1
baz=321,SNR=10
EYMN Ely 79.96 34 IAmb IAmb 01 09 37.9
comp=Z,25nm,0.8s
EAB Aberfoyle 79.99 342 eP P 01 09 37.1 +1.0
EREN Erenkoy 80.00 308 eP P 01 09 36.8 +0.4
BERE Bereket-Mersin 80.01 309 eP P 01 09 36.8 +0.1
TVSB Tavsanli 80.03 314 eP P 01 09 37.1 +0.4
SHUT Suhut-Afyon 80.05 312 eP P 01 09 37.5 +0.7
EBL Broad Law 80.05 341 eP P 01 09 37.5 +1.1
SEYD Seydisehir-KON 80.10 311 eP P 01 09 37.5 +0.4
MAR9 Marsite Statio 80.17 316 eP P 01 09 38.5 +1.2
LAWE Loch Awe, Argy 80.17 343 eP P 01 09 37.5 +0.5
TEKE Tekeli-Mersin 80.21 309 eP P 01 09 37.5 -0.1
MANZ Manzenberg 80.25 330 eP P 01 09 37.7 +0.1
baz=35,slow=5.3
MAR4 Marsite Statio 80.26 316 eP P 01 09 38.9 +1.0
EDC Edincik 80.27 315 eP P 01 09 38.5 +0.6
SOP Sopron 80.28 326 P P 01 09 39.1 +1.3
SOP pmax pmax
comp=Z,75nm,1.1s
GEDZ Gediz 80.34 313 eP P 01 09 39.1 +0.7
UBBA Unterbreizbach 80.35 332 eP P 01 09 38.0 +0.1
baz=35,slow=5.3
KHC Kasperske Hory 80.36 329 eP P 01 09 39.0 +0.8
KHC esP **sP 01 09 54.5 +2.5**
KHC AMS AMS 01 47 50.0
comp=Z,4μm,18.4s
KHC Kasperske Hory 80.36 329 eP P 01 09 39.0 +0.8
KHC MLR MLR
comp=Z,4μm,18.4s
KHC Kasperske Hory 80.36 329 IAmb IAmb 01 09 40.9
comp=Z,21nm,0.8s
KHC IAMs_20 IAMs_20 01 48 02.0
comp=Z,2μm,20.0s
PGBU Glenifferbraes 80.37 342 eP P 01 09 39.3 +1.2
PGBU IAmb IAmb 01 09 41.0
comp=Z,83nm,0.9s
CONA Conrad Observa 80.38 327 iP P 01 09 39.5 +1.1
comp=Z,40nm,1.1s,SNR=26
ROTZ Rotzenmuhle 80.39 330 eP P 01 09 38.7 +0.4
baz=35,slow=5.3
SDCO Great Sand Dun 80.45 48 P P 01 09 40.5 +1.2
baz=314,SNR=11
EKA Eskdalemuir Ar 80.48 341 P P 01 09 39.1 +0.4
comp=Z,17nm,0.6s,baz=28,slow=5.1,SNR=50
EKA PP **PP 01 12 40.2 -1.1**
comp=Z,4.6nm,0.9s,baz=35,slow=7.8,SNR=3.1
EKA LR LR 01 50 21.6
comp=Z,1μm,18.2s,baz=30,slow=39
ESK Eskdalemuir 80.51 341 eP P 01 09 39.3 +0.5
GEC2 GERESS Array S 80.54 329 eP P 01 09 39.4 +0.2
baz=35,slow=5.3
GEC2 epP **sP 01 09 54.0 +1.0**
GEC2 GERESS Array S 80.54 329 IAmb IAmb 01 09 54.9
comp=Z,33nm,1.1s
GERES GERESS Array B 80.54 329 P P 01 09 39.6 +0.4
comp=Z,15nm,0.6s,baz=35,slow=5.6,SNR=125
GERES PP **PP 01 12 41.1 -1.1**
comp=Z,2.6nm,0.8s,baz=39,slow=8.0,SNR=4.5
GERES PKKPbc **PKKPbc 01 28 18.6 -0.1**
comp=Z,0.2nm,0.5s,baz=242,slow=2.1,SNR=4.0
GERES LR LR 01 48 29.0
comp=Z,3μm,20.1s,baz=27,slow=38
GERES GERESS Array B 80.54 329 P P 01 09 39.3 0.0
GERES 01 12 41.1
GERES GERESS Array B 80.54 329 P P 01 09 39.2 0.0
KRBG Karabiga-Canak 80.54 316 eP P 01 09 40.2 +0.9
SIMA Simav-Kutahya 80.55 314 eP P 01 09 39.7 +0.2
ISP Isparta 80.57 312 P P 01 09 39.9 +0.3
ISP pmax pmax
comp=Z,44nm,1.3s
ISP Isparta 80.57 312 IAmb IAmb 01 09 41.4
comp=Z,23nm,0.7s
ISP Isparta 80.57 312 IAMs_20 IAMs_20 01 49 37.7
comp=Z,1μm,21.0s
K31A O'Neill 80.61 41 IAMs_20 IAMs_20 01 47 17.1
comp=Z,1μm,21.0s
PGB Panagyurishte 80.62 319 iP P 01 09 41.2 +1.4
WET Wettzell 80.63 329 P P 01 09 40.6 +1.0
WET pmax pmax
comp=Z,47nm,1.8s
WET Wettzell 80.63 329 eP P 01 09 39.8 +0.2
baz=35,slow=5.3
KDZ Kurdzhali 80.63 318 iP P 01 09 41.1 +1.3
PLD Plovdiv 80.67 318 eP P 01 09 40.9 +1.0
PLD Plovdiv 80.67 318 P P 01 09 42.3 +2.4
PLD pmax pmax
comp=Z,170nm,2.4s

PLD Plovdiv 80.67 318 iP P 01 09 40.5 +0.6
F36A Milaca 80.68 36 IAMs_20 IAMs_20 01 50 16.9
comp=Z,874nm,20.0s
BALB Balikesir 80.77 315 eP P 01 09 40.9 +0.4
BASM Basmaki-Afyon 80.77 312 eP P 01 09 40.7 0.0
FRGS Fruska Gora 80.78 323⇑ iP P 01 09 40.7 +0.2
BUG Bochum--Univer 80.80 334 P P 01 09 41.2 +0.8
BUG pmax pmax
comp=Z,49nm,1.1s
BUG Bochum--Univer 80.80 334 eP P 01 09 40.6 +0.2
baz=35,slow=5.3
GRF Grafenberg Arr 80.82 330 eP P 01 09 40.7 +0.1
comp=Z,61nm,0.7s,baz=35,slow=5.3
ECSD EROS Data Cent 80.84 39 P P 01 09 41.0 +0.1
baz=318,SNR=15
ECSD EROS Data Cent 80.84 39 IAMs_20 IAMs_20 01 47 09.3
comp=Z,820nm,19.0s
ALN Alexandroupoli 80.85 317 P P 01 09 41.4 +0.5
ALN Alexandroupoli 80.85 317 IAmb IAmb 01 09 55.8
comp=Z,31nm,1.1s
CSS Mathiatis 80.89 308 eP P 01 09 41.6 +0.3
CSS Mathiatis 80.89 308 IAmb IAmb 01 09 42.8
comp=Z,46nm,0.7s
CSS IAMs_20 IAMs_20 01 49 51.7
comp=Z,911nm,20.0s
RDO Rodhopi 80.94 317 P P 01 09 42.1 +0.7
RDO Rodhopi 80.94 317 eP P 01 09 42.5 +1.1
TUC Tucson 80.96 55 P P 01 09 43.4 +1.6
baz=312
TUC Tucson 80.96 55 P P 01 09 43.5 +1.7
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 80.96 55 P P 01 09 43.5 +1.7
RZN Rozhen 80.97 318 iP P 01 09 43.1 +1.3
E38A The Farm, Brul 80.98 34 IAmb IAmb 01 09 43.1
comp=Z,27nm,0.8s
VTS Vitosha 81.03 319 iP P 01 09 43.9 +1.8
LEF Lefka 81.04 309 ⇑P P 01 09 42.0 -0.1
LEF Lefka 81.04 309 eP P 01 09 41.9 -0.1
ARSA Arzberg 81.06 327 iP P 01 09 42.9 +0.9
comp=Z,18nm,0.7s,SNR=16
MOA Molln 81.11 328 iP P 01 09 43.0 +0.8
comp=Z,15nm,0.7s,SNR=12
BEHE Becsehely 81.13 325 eP P 01 09 45.4 +3.1
KULA Kula-Manisa 81.13 314 P P 01 09 43.3 +0.7
KULA Kula-Manisa 81.13 314 eP P 01 09 42.8 +0.2
KSCO Kaye Shedlock' 81.17 46 P P 01 09 43.3 +0.4
baz=315
RAR Rarotonga 81.25 127 LR LR 01 43 37.2
comp=Z,128nm,19.8s,baz=324,slow=34
SOCY Socotra 81.25 279 P P 01 09 41.3 -2.3
SNR=8.5
SOCY Socotra 81.25 279 P P 01 09 40.5 -3.1
MMLI Mount Malkishu 81.31 305 eP P 01 09 44.6 +1.0
HPK Haverah Park 81.32 340 eP P 01 09 43.3 +0.2
TEKS Tekeris 81.37 323 eP P 01 09 43.6 -0.1
TNS Taunus Mts 81.40 332 P P 01 09 44.4 +0.6
TNS pmax pmax
comp=Z,34nm,1.2s
TNS Taunus Mts 81.40 332 eP P 01 09 43.7 -0.1
comp=Z,18nm,0.8s,baz=35,slow=5.3
CLGH Cloghs, Cushen 81.42 342 eP P 01 09 44.5 +0.9
T25A Trinidad 81.49 48 P P 01 09 46.0 +1.3
baz=314,SNR=14
T25A Trinidad 81.49 48 IAmb IAmb 01 09 47.5
comp=Z,23nm,0.8s
SPMN Marine on St. 81.50 36 P P 01 09 44.3 0.0
baz=320
SPMN Marine on St. 81.50 36 IAMs_20 IAMs_20 01 50 34.4
comp=Z,903nm,20.0s
DIVS Divibare 81.50 322⇑ iP P 01 09 44.5 0.0
DIVS Divibare 81.50 322 IAmb IAmb 01 09 59.2
comp=Z,33nm,1.0s
DIVS IAMs_20 IAMs_20 01 51 23.7
comp=Z,1μm,18.0s
MMB Musomiste 81.54 318 iP P 01 09 45.6 +0.9
AHRW Bad Neuenahr-A 81.62 333 eP P 01 09 45.1 +0.3
baz=35,slow=5.3
NVR Nevrokopi 81.65 318 P P 01 09 45.7 +0.5
ELL Elmali 81.67 312 P P 01 09 45.9 +0.4
KKB Krupnik 81.67 319 iP P 01 09 46.8 +1.5
PERS Pernice 81.71 326 iP P 01 09 46.0 +0.5
PERS iP **sP 01 10 00.1 +0.8**
SOKA Soboth 81.71 327 iP P 01 09 46.1 +0.6
comp=Z,35nm,0.6s,SNR=28
WACR West Acre 81.78 338 eP P 01 09 46.0 +0.4
WACR IAmb IAmb 01 09 47.6
comp=Z,86nm,0.8s
BGNE Belgrade 81.81 42 P P 01 09 46.1 +0.1
baz=318
BGNE Belgrade 81.81 42 IAMs_20 IAMs_20 01 47 11.8
comp=Z,1μm,22.0s
ANMO Albuquerque 81.82 51 P P 01 09 48.2 +1.7
baz=314
ANMO Albuquerque 81.82 51 P P 01 09 48.1 +1.6
ANMO Albuquerque 81.82 51 P P 01 09 48.1 +1.6
LBWR Ladybower, Pea 81.84 339 eP P 01 09 46.7 +0.7
LBWR IAmb IAmb 01 09 48.3
comp=Z,95nm,0.8s
BEBN Eben Emael 81.88 334 P P 01 09 46.5 +0.3
D41A Chassel 81.89 33 IAmb IAmb 01 09 48.3
comp=Z,20nm,0.8s
BTNL Ternell 81.90 334 P P 01 09 46.8 +0.5
BTNL sP **sP 01 10 00.2 0.0**
MEM Membach 81.93 334 P P 01 09 46.5 0.0
MEM Membach 81.93 334 P P 01 09 46.7 +0.3
MEM pmax pmax
comp=Z,41nm,0.8s
BBLS Lazići 81.95 322⇑ iP P 01 09 47.4 +0.6
SRS Serrai 81.96 318 P P 01 09 46.8 0.0
SRS Serrai 81.96 318 P P 01 09 47.4 +0.6
SRS pmax pmax
comp=Z,84nm,2.1s
AYDB Zeytinkoy-Aydi 81.96 314 eP P 01 09 47.3 +0.3
HAPS Han Pijesak,Bl 81.99 323⇑ iP P 01 09 47.0 -0.1
SCHQ Schefferville 82.04 17 P P 01 09 47.7 +0.7
comp=Z,20nm,0.6s,baz=345,slow=4.8,SNR=37
SCHQ LR LR 01 47 42.1
comp=Z,1μm,21.8s,baz=338,slow=37
SCHQ Schefferville 82.04 17 IAmb IAmb 01 09 49.1
comp=Z,25nm,0.8s
FUR Furstenfeldbru 82.04 330 eP P 01 09 47.2 0.0
comp=Z,82nm,0.7s,baz=35,slow=5.3
OBKA Obir 82.05 327 iP P 01 09 47.6 +0.3
comp=Z,36nm,0.7s,SNR=13
BSTI Sart Tilman 82.10 334 P P 01 09 47.6 +0.3
BSTI sP **sP 01 09 59.9 -1.3**
KBA Koelnbreinsper 82.10 328 iP P 01 09 48.0 +0.4
comp=Z,41nm,0.8s,SNR=29
KBA Koelnbreinsper 82.10 328 P P 01 09 48.2 +0.5
KBA pmax pmax
comp=Z,81nm,0.8s
BLCB Balcova 82.12 314 P P 01 09 47.6 -0.1
BLCB Balcova 82.12 314 eP P 01 09 47.6 -0.1
BHOU Houvegnez 82.14 334 P P 01 09 47.9 +0.3
GMM Mts of Mourne 82.15 342 eP P 01 09 47.8 +0.2
I37A Lemond, Waseca 82.15 37 IAmb IAmb 01 09 50.2
comp=Z,42nm,0.8s
AKAS Kas 82.20 311 eP P 01 09 47.8 -0.5
AKAS Kas 82.20 311 IAmb IAmb 01 10 02.5
comp=Z,30nm,0.7s
AKAS IAMs_20 IAMs_20 01 50 39.2
comp=Z,878nm,22.0s
CRES Cresnjev 82.21 326⇑ iP P 01 09 48.0 0.0
FETY Fethiye 82.22 312 P P 01 09 48.0 -0.3
FETY Fethiye 82.22 312 eP P 01 09 48.2 -0.1
STIP Stip 82.24 319 iP P 01 09 48.0 -0.3
KSL Kastellorizon 82.27 311 P P 01 09 47.9 -0.6
KNT Kendrikon 82.28 319 P P 01 09 48.8 +0.3
KNT Kendrikon 82.28 319 eP P 01 09 49.2 +0.7
KNT Kendrikon 82.28 319 P P 01 09 49.1 +0.6
L34A Svendsen Farm, 82.28 40 IAmb IAmb 01 09 50.2
comp=Z,34nm,0.7s
L34A IAMs_20 IAMs_20 01 47 01.3
comp=Z,1μm,21.0s
KTD Kalmit 82.28 332 P P 01 09 49.9 +1.5
BLY Banja Luka 82.29 324⇑ iP P 01 09 48.3 -0.2
YER Yerkesik 82.32 313 P P 01 09 49.2 +0.4
YER Yerkesik 82.32 313 eP P 01 09 49.3 +0.4
CWF Charnwood Fore 82.32 339 eP P 01 09 48.2 -0.3
BCLA Clavier 82.32 334 P P 01 09 48.6 +0.1
BCLA PcP **PcP 01 09 52.7 -1.0**
VAY Valandovo 82.33 319 iP P 01 09 48.9 +0.2
VAY Valandovo 82.33 319 P P 01 09 49.8 +1.1

VAY pmax pmax
comp=Z,68nm,1.7s
DALY Dalyan (Mula) 82.33 312 *e*P **P 01 09 49.5 +0.7**
MYKA Terra Mystica 82.33 327 *i* P **P 01 09 48.7 -0.1**
comp=Z,30nm,0.6s,SNR=14
STU Stuttgart 82.33 331 P **P 01 09 49.3 +0.7**
STU pmax pmax
comp=Z,87nm,0.7s
STU Stuttgart 82.33 331 *e*P **P 01 09 48.9 +0.3**
comp=Z,50nm,0.7s,baz=35,slow=5.3
SKO Skopje 82.41 320 *i* P **P 01 09 50.3 +1.1**
SKO Skopje 82.41 320 P **P 01 09 51.1 +1.9**
SKO pmax pmax
comp=Z,112nm,2.0s
BGES Gesves 82.43 334 P **P 01 09 49.0 -0.1**
LJU Ljubljana 82.43 326 *i* P **P 01 09 49.3 0.0**
LJU *i* pP **sP 01 10 03.3 +0.3**
LJU Ljubljana 82.43 326 ⇑*i* P **P 01 09 49.2 0.0**
MLSB Milas 82.49 313 *e*P **P 01 09 51.1 +1.4**
319A Douglas 82.53 55 IAmb IAmb 01 10 09.9
comp=Z,33nm,1.1s
319A IAMs_20 IAMs_20 01 39 54.6
comp=Z,876nm,20.0s
RCHB Rochefort 82.57 334 P **P 01 09 50.0 +0.2**
PLG Polygyros 82.58 318 P **P 01 09 50.2 +0.1**
SNF Seneffe 82.58 335 P **P 01 09 50.3 +0.4**
SNF sP **sP 01 10 02.9 -0.8**
MGRS Mrkonjic Grad 82.59 324 *e*P P 01 10 04.3 +14
TURN Turunc 82.59 313 *e*P **P 01 09 50.9 +0.7**
WATA Walderalm 82.60 329 *i* P **P 01 09 50.8 +0.6**
comp=Z,35nm,0.7s,SNR=14
BMRD Maredsous 82.60 334 P **P 01 09 50.1 +0.1**
BMRD PcP **PcP 01 09 54.7 -0.3**
BMRD sP **sP 01 10 03.6 -0.2**
G40A Rib Lake 82.61 35 IAMs_20 IAMs_20 01 50 39.9
comp=Z,743nm,18.0s
WTTA Wattenberg 82.64 329 *i* P **P 01 09 50.9 +0.4**
comp=Z,20nm,0.6s,SNR=16
WTTA Wattenberg 82.64 329 P **P 01 09 51.1 +0.6**
WTTA pmax pmax
comp=Z,84nm,1.3s
THE Thessaloniki 82.64 318 P **P 01 09 50.2 -0.1**
THE Thessaloniki 82.64 318 P **P 01 09 50.1 -0.2**
N33A J Bar K, Exete 82.66 42 P **P 01 09 49.9 -0.6**
N33A IAmb IAmb 01 10 00.7
comp=Z,17nm,0.6s
N33A IAMs_20 IAMs_20 01 47 48.3
comp=Z,2µm,22.0s
ZOU Zoufplan 82.67 328 IAmb IAmb 01 10 09.5
comp=Z,18nm,0.8s
LANF Langenberg 82.67 332 P **P 01 09 51.1 +0.7**
121A Cookes Peak, D 82.68 53 P **P 01 09 52.6 +1.7**
baz=313,SNR=12
121A Cookes Peak, D 82.68 53 P **P 01 09 50.8 -0.1**
121A IAmb IAmb 01 09 54.3
comp=Z,21nm,1.0s
WLF Walferdange 82.68 333 P **P 01 09 51.2 +0.8**
WLF sP **sP 01 10 04.6 +0.3**
WLF Walferdange 82.68 333 P **P 01 09 51.2 +0.8**
WLF pmax pmax
comp=Z,161nm,1.7s
WLF Walferdange 82.68 333 *e*P **P 01 09 51.0 +0.6**
baz=35,slow=5.3
UPM Unac-Piva 82.69 322 *e*P **P 01 09 50.7 -0.2**
FOEL Foel Wylfa 82.69 340 *e*P **P 01 09 51.3 +0.8**
FOEL IAmb IAmb 01 09 53.4
comp=Z,90nm,0.7s
ABTA Abfaltersbach 82.70 328 *i* P **P 01 09 50.6 -0.1**
comp=Z,19nm,0.9s,SNR=10
CEY Cerknica 82.72 326 *i* P **P 01 09 50.6 -0.1**
CEY *i* pP **sP 01 10 04.5 -0.1**
CEY Cerknica 82.72 326 ⇑*i* P **P 01 09 49.2 -1.5**
MOTA Moosalm 82.78 329 *i* P **P 01 09 51.8 +0.6**
comp=Z,68nm,1.0s,SNR=31
RETA Reutte 82.80 329 *i* P **P 01 09 51.8 +0.7**
comp=Z,46nm,0.7s,SNR=29
DOU Dourbes 82.84 334 P **P 01 09 51.2 0.0**
DOU PcP **PcP 01 09 55.0 -0.9**
SQTA Sankt Quirin 82.84 329 *i* P **P 01 09 51.8 +0.3**
comp=Z,24nm,0.7s,SNR=23
CBKS Cedar Bluff 82.88 44 P **P 01 09 51.8 +0.1**
baz=317,SNR=5.3
CBKS Cedar Bluff 82.88 44 IAmb IAmb 01 09 53.3
comp=Z,23nm,0.8s
BODT Bodrum 82.91 313 P **P 01 09 51.1 -0.8**
BODT Bodrum 82.91 313 *e*P **P 01 09 51.7 -0.2**
KZIT Kziot 82.98 305 *e*P **P 01 09 53.0 +0.7**
ELSH Elham, Standar 83.02 337 *e*P **P 01 09 52.0 -0.1**
ELSH IAmb IAmb 01 09 54.0
comp=Z,86nm,0.8s
BFO Black Forest 83.02 331 P **P 01 09 52.4 +0.1**
BFO pmax pmax
comp=Z,24nm,0.7s
BFO Black Forest 83.02 331 *e*P **P 01 09 52.5 +0.3**
baz=35,slow=5.3
BFO *e*pP **sP 01 10 07.1 +1.0**
BFO Black Forest 83.02 331 P **P 01 09 52.4 +0.1**
BFO IAmb IAmb 01 10 07.5
comp=Z,24nm,0.7s
HSIG 83.06 58 P **P 01 09 52.9 +0.2**
ARG Arkhangelos 83.06 312 P **P 01 09 52.8 +0.2**
ARG Arkhangelos 83.06 312 *e*P **P 01 09 53.0 +0.4**
CIMO Cimolais 83.08 328 IAmb IAmb 01 09 53.4
comp=Z,21nm,0.8s
BRY Bratogost 83.09 322 ⇑*i* P **P 01 09 52.4 -0.5**
F42A Maple Grove Fa 83.11 33 P **P 01 09 52.3 -0.4**
F42A IAmb IAmb 01 10 11.1
comp=Z,13nm,0.7s
PHP Peshkopia 83.11 320 P **P 01 09 52.9 0.0**
PDG Podgorica 83.12 322 ⇑P **P 01 09 52.9 +0.1**
PDG Podgorica 83.12 322 ⇑*i* P **P 01 09 52.9 +0.1**
HRFI Mount Harif 83.17 304 *e*P **P 01 09 53.9 +0.6**
DSB Dublin 83.17 342 IAmb IAmb 01 10 09.6
comp=Z,27nm,0.8s
FETA Feichten 83.19 329 *i* P **P 01 09 53.9 +0.5**
comp=Z,42nm,1.4s,SNR=15
LIT Litokhoron 83.28 318 P **P 01 09 53.1 -0.6**
DAVA Damuels 83.30 330 *i* P **P 01 09 54.3 +0.3**
comp=Z,42nm,0.9s,SNR=18
DRME Dracevica, Mon 83.34 321 ⇑*i* P **P 01 09 54.2 +0.2**
OHR Ohrid 83.37 320 *i* P **P 01 09 54.4 +0.2**
STRD Stroud 83.42 339 *e*P **P 01 09 54.9 +0.8**
STRD IAmb IAmb 01 09 56.3
comp=Z,161nm,0.8s
SLE Schleitheim 83.43 331 P **P 01 09 55.0 +0.6**
MCH1 Michaelchurch 83.45 339 *e*P **P 01 09 54.4 +0.1**
MCH1 IAmb IAmb 01 09 56.4
comp=Z,57nm,0.7s
XOR Xorichti 83.46 317 P **P 01 09 54.5 -0.2**
HCY Herceg Novi 83.47 322 ⇑*i* P **P 01 09 54.0 -0.6**
KZN Kozani 83.49 319 P **P 01 09 54.7 -0.2**
K38A Parkersburg 83.50 38 P **P 01 09 55.6 +0.8**
HMNX Herstmonceux 83.51 337 *e*P **P 01 09 55.5 +0.9**
I40A Norwalk 83.52 36 IAmb IAmb 01 09 56.0
comp=Z,12nm,0.6s
I40A IAMs_20 IAMs_20 01 52 10.8
comp=Z,780nm,20.0s
MONM Monmouth 83.54 339 *e*P **P 01 09 55.0 +0.2**
MONM IAmb IAmb 01 09 56.9
comp=Z,54nm,0.8s
ECH Echery 83.55 332 IAmb IAmb 01 09 56.9
comp=Z,32nm,0.8s
SWN1 Swindon 83.55 339 *e*P **P 01 09 55.3 +0.4**
SWN1 IAmb IAmb 01 09 56.9
comp=Z,81nm,0.7s
WOL Wolverton 83.57 338 *e*P **P 01 09 55.4 +0.5**
WOL IAmb IAmb 01 09 56.4
comp=Z,71nm,0.7s
CTI Castel Tesino 83.62 328 IAmb IAmb 01 10 10.0
comp=Z,31nm,0.9s
TIR Tirane 83.65 320 P **P 01 09 55.9 +0.3**
TIR Tirane 83.65 320 P **P 01 09 55.8 +0.2**
TIR pmax pmax
comp=Z,121nm,1.0s
MATQ Matagami 83.66 25 P **P 01 09 55.4 -0.1**
baz=330
R32A Long Quarter, 83.71 44 IAmb IAmb 01 09 57.4
comp=Z,14nm,0.7s
DAVOX Davos/Dischmat 83.72 330 LR LR 01 51 55.5
comp=Z,3µm,18.2s,baz=27,slow=39
NEST Nestorio 83.77 319 P **P 01 09 56.2 -0.2**
SCIA State Center 83.86 38 P **P 01 09 57.1 +0.5**
baz=320
APE Apeiranthos 83.89 314 ⇓P **P 01 09 55.8 -1.2**
APE Apeiranthos 83.89 314 P **P 01 09 55.8 -1.2**
THL Klokotos Trika 83.92 318 P **P 01 09 55.9 -1.1**
HAU Haudompre 84.01 332 *e*P **P 01 09 56.6 -0.8**
HAU pmax pmax
comp=Z,28nm,0.8s
ATAL Atalanti 84.05 317 P **P 01 09 56.7 -1.0**
KARP Karpathos 84.08 312 *e*P **P 01 09 58.6 +0.6**
LKR Lokris 84.09 317 P **P 01 09 57.1 -0.8**
E46A Sault Ste Mari 84.16 31 IAMs_20 IAMs_20 01 53 42.7
comp=Z,1µm,21.0s
AXAR Agios Charalam 84.18 317 P **P 01 09 57.7 -0.7**
URZ Urewera 84.21 153 LR LR 01 45 50.1
comp=Z,900nm,18.3s,baz=358,slow=34
I42A Draeger Farm, 84.27 35 IAmb IAmb 01 10 00.6
comp=Z,20nm,0.8s
MAKR Makrakomi, Fth 84.27 318 P **P 01 09 57.8 -1.1**
KSU1 Kansas State U 84.31 42 P **P 01 09 59.1 +0.1**
baz=319,SNR=7.7
KSU1 Kansas State U 84.31 42 IAmb IAmb 01 10 00.6
comp=Z,28nm,0.8s
KSU1 Kansas State U 84.31 42 IAMs_20 IAMs_20 01 48 52.0
comp=Z,1µm,22.0s
SANT Santorini 84.44 314 P **P 01 09 59.4 -0.4**
SANT IAMs_20 IAMs_20 01 52 18.3
comp=Z,1µm,18.0s
JFWS Jewell Farm 84.45 36 P **P 01 09 59.8 +0.1**
baz=322
JFWS Jewell Farm 84.45 36 IAMs_20 IAMs_20 01 46 05.6
comp=Z,930nm,22.0s
LSQQ Lebel-sur-Quev 84.48 25 P **P 01 09 59.5 -0.2**
baz=331
EVR Evrytania 84.51 318 P **P 01 09 59.0 -1.1**
DSF Desfina 84.52 317 P **P 01 09 58.8 -1.3**
CHGQ Chibougamau 84.55 23 P **P 01 09 59.8 -0.2**
baz=332,SNR=6.4
PMOR Pomariorio Ree 84.57 115 *e*T T 02 43 09.2
comp=Z,51nm,0.2s
AMTX Amarillo 84.65 48 P **P 01 10 02.2 +1.3**
baz=316
AMTX Amarillo 84.65 48 P **P 01 10 01.4 +0.5**
AMTX IAmb IAmb 01 10 03.8
comp=Z,29nm,1.1s
L40A Anamosa 84.67 37 IAmb IAmb 01 10 02.5
comp=Z,26nm,0.9s
L40A IAMs_20 IAMs_20 01 54 13.5
comp=Z,774nm,20.0s
ANX Ano Chora 84.69 317 P **P 01 10 00.8 -0.3**
SRN Sarande 84.70 319 P **P 01 10 00.4 -0.5**
G45A Suttons Bay 84.71 32 P **P 01 10 01.9 +1.0**
G45A IAmb IAmb 01 10 02.8
comp=Z,35nm,0.9s
G45A IAMs_20 IAMs_20 01 50 14.4
comp=Z,815nm,20.0s
MNTX Cornudas Mount 84.72 53 P **P 01 10 02.3 +1.0**
baz=314,SNR=19
HTL Hartland 84.75 340 *e*P **P 01 10 02.1 +1.1**
HTL IAmb IAmb 01 10 03.3
comp=Z,166nm,1.5s
SERG Sergoula 84.76 317 P **P 01 10 00.8 -0.5**
TRIZ Trizonia 84.79 317 P **P 01 10 00.4 -1.0**
IGT Igoumenitsa 84.80 319 P **P 01 10 00.8 -0.7**
IGT Igoumenitsa 84.80 319 P **P 01 10 01.2 -0.3**
IGT pmax pmax
comp=Z,82nm,0.8s
EFP Efpalio 84.83 317 P **P 01 10 01.8 +0.2**
KAN12 Harper NE Stat 84.92 44 P **P 01 10 02.1 -0.1**
KEK Kerkira 84.93 319 P **P 01 10 01.8 -0.3**
ZKR Zakros 84.93 313 *e*P **P 01 10 04.0 +1.8**
GUR Goura 84.97 317 P **P 01 10 01.5 -1.0**
KLV Kalavryta, Ach 84.99 317 P **P 01 10 01.7 -0.8**
KAN10 Anthony SW Sta 85.00 44 P **P 01 10 02.6 +0.1**
U32A Winter Ranch, 85.06 45 IAmb IAmb 01 10 17.2
comp=Z,32nm,1.1s
U32A IAMs_20 IAMs_20 01 44 17.0
comp=Z,936nm,22.0s
DYA Yadsworthy 85.11 339 *e*P **P 01 10 02.8 0.0**
VLDQ Val d'Or 85.15 26 IAmb IAmb 01 10 03.9
comp=Z,30nm,0.8s
TSLK Tsoukalades, L 85.17 318 P **P 01 10 03.5 +0.2**
LKD2 Lefkada island 85.20 318 P **P 01 10 02.9 -0.6**
PPT Papeete 85.20 118 LR LR 01 40 52.3
comp=Z,2µm,21.6s,baz=294,slow=30
PRMA PARMA 85.21 328 P **P 01 10 04.5 +1.1**
PPT2 Papeete2 85.21 118 *e*S **S 01 20 30.3 -1.4**
comp=Z,847nm,25.1s
PPT2 *e*SS **SS 01 26 06.4 -0.4**
comp=Z,324nm,25.5s
PPT2 Papeete2 85.21 118 *e*LR LR 01 36 54.8
comp=Z,5µm,22.5s,baz=316
PPT2 Papeete2 85.21 118 *e*T T 02 43 57.9
comp=Z,23nm,0.3s
NYDR Nydri-Lefkada 85.23 318 P **P 01 10 03.2 -0.4**
PAE Paea 85.26 118 *e*T T 02 44 00.8
comp=Z,3.0nm,0.3s
ZCCA Zocca 85.28 327 IAmb IAmb 01 10 07.1
comp=Z,32nm,0.9s
CABF La Chapelle 85.29 332 *e*P **P 01 10 04.4 +0.5**
CABF pmax pmax
comp=Z,32nm,1.1s
I45A Fountain 85.30 33 P **P 01 10 05.1 +1.3**
SCTE Santa Cesarea 85.31 320 P **P 01 10 03.4 -0.5**
LAST Lasithi 85.31 313 P **P 01 10 04.8 +0.6**
GLMI Grayling 85.31 32 P **P 01 10 04.5 +0.6**
baz=326
GLMI Grayling 85.31 32 P **P 01 10 05.2 +1.3**
GLMI IAMs_20 IAMs_20 01 53 29.2
comp=Z,1µm,20.0s
DRAG Dragano-Lefkad 85.32 318 P **P 01 10 03.8 -0.3**
EVGI Lefkada island 85.33 318 P **P 01 10 03.8 -0.3**
RLS Riolos of Patr 85.33 317 P **P 01 10 04.1 0.0**
TIAR Tiarei 85.35 117 *e*T T 02 44 07.3
comp=Z,7.0nm,0.3s
CLF Chambon-Foret 85.40 335 IAmb IAmb 01 10 12.2
comp=Z,16nm,0.8s
KAN13 South Haven SW 85.41 44 P **P 01 10 04.8 +0.2**
L42A Oliver, Polo 85.43 36 IAmb IAmb 01 10 06.0
comp=Z,21nm,0.8s
L42A IAMs_20 IAMs_20 01 52 03.6
comp=Z,959nm,20.0s
P38A Dawn 85.46 40 IAmb IAmb 01 10 22.3
comp=Z,13nm,0.7s
P38A IAMs_20 IAMs_20 01 55 41.5
comp=Z,774nm,20.0s
K43A Burlington 85.47 35 P **P 01 10 05.2 +0.4**
K43A IAmb IAmb 01 10 06.4
comp=Z,22nm,0.9s
FSK Fiskardo 85.50 318 P **P 01 10 04.2 -0.7**
LOR Lormes 85.52 333 P **P 01 10 05.3 +0.4**
LOR pmax pmax
comp=Z,78nm,0.8s
IDI Anoyia 85.55 313 P **P 01 10 03.8 -1.6**
IDI Anoyia 85.55 313 ⇑P **P 01 10 04.2 -1.2**
IDI Anoyia 85.55 313 IAMs_20 IAMs_20 01 52 45.8
comp=Z,823nm,20.0s
FLN La Foliniere 85.62 337 *e*P **P 01 10 04.8 -0.6**
FLN pmax pmax
comp=Z,16nm,0.7s
VLC Villacollemand 85.68 328 P **P 01 10 07.8 +2.0**
VLC IAmb IAmb 01 10 25.1
comp=Z,22nm,0.9s
VLS Valsamata 85.69 318 P **P 01 10 05.3 -0.7**
MATE Matera 85.71 322 ⇑P **P 01 10 05.6 -0.3**
JSA Saint Aubin 85.74 338 *e*P **P 01 10 06.4 +0.5**
JSA IAmb IAmb 01 10 08.6
comp=Z,89nm,1.1s
ITM Ithomi 85.75 316 P **P 01 10 05.7 -0.5**
ITM Ithomi 85.75 316 *e*P **P 01 10 05.8 -0.5**
DMLN Damoulianata-K 85.76 318 P **P 01 10 05.6 -0.7**
SIVA Sivas 85.79 313 P **P 01 10 06.2 -0.3**
OSSC Osservatorio P 85.84 327 IAmb IAmb 01 10 07.9
comp=Z,23nm,0.9s
AQU L'Aquila 85.86 325 P **P 01 10 07.9 +1.1**
AQU pmax pmax
comp=Z,76nm,1.9s
AQU L'Aquila 85.86 325 ⇑*i* P **P 01 10 06.9 +0.1**
N41A Harden Midland 85.91 38 IAMs_20 IAMs_20 01 46 34.2
comp=Z,944nm,21.0s
IMMV Iera Moni Meta 85.92 314 P **P 01 10 08.2 +1.1**
RODP Rodopos 85.97 314 *e*P **P 01 10 02.7 -4.7**
LPL La Plagne 85.98 331 *e*P **P 01 10 07.2 -0.3**
LPL pmax pmax
comp=Z,48nm,0.8s
LPG La Plagne 85.99 331 *e*P **P 01 10 07.4 -0.3**
LPG pmax pmax
comp=Z,62nm,0.8s
T35A Sooner Cattle 86.00 44 IAmb IAmb 01 10 25.7
comp=Z,26nm,1.1s
T35A IAMs_20 IAMs_20 01 49 43.8
comp=Z,1µm,22.0s
TAOE Nuku Hiva Isla 86.01 105 *e*LR LR 01 37 19.0
comp=Z,3µm,21.1s,baz=316
TAOE Nuku Hiva Isla 86.01 105 *e*T T 02 44 57.9
comp=Z,26nm,0.2s
PYL PYLOS 86.06 316 P **P 01 10 06.8 -1.0**
L44A Lake County Fo 86.08 35 P **P 01 10 07.7 -0.1**
baz=324
L44A Lake County Fo 86.08 35 P **P 01 10 08.2 +0.4**
L44A IAmb IAmb 01 10 21.2
comp=Z,22nm,0.8s
AVF Avril sur Loir 86.11 333 *e*P **P 01 10 06.8 -1.0**
AVF pmax pmax
comp=Z,123nm,0.7s
OK029 Liberty Lake 86.33 45 P **P 01 10 09.9 +0.8**
OK029 IAmb IAmb 01 10 11.2
comp=Z,21nm,0.6s
BCOK Bluff Creek, N 86.35 45 P **P 01 10 10.3 +1.0**
WMOK Wichita Mounta 86.39 46 P **P 01 10 10.1 +0.6**
baz=318,SNR=16
WMOK Wichita Mounta 86.39 46 P **P 01 10 10.4 +0.9**
WMOK pmax pmax
comp=Z,29nm,2.0s
BNI Bardonecchia 86.39 330 P **P 01 10 09.6 +0.1**
BNI pmax pmax
comp=Z,28nm,0.9s
BNI Bardonecchia 86.39 330 IAmb IAmb 01 10 11.7
comp=Z,22nm,1.0s
PAOL Paolisi 86.40 323 P **P 01 10 09.1 -0.3**
PAOL IAmb IAmb 01 10 23.3
comp=Z,18nm,1.2s
HQIL Hanson Quary C 86.41 35 P **P 01 10 09.7 +0.2**
HQIL IAmb IAmb 01 10 24.6
comp=Z,24nm,0.9s
MEH Mehetia 86.44 117 *e*T T 02 45 29.5
comp=Z,189nm,0.3s
QUOK Quay 86.45 44 P **P 01 10 10.7 +0.9**
QUOK IAmb IAmb 01 10 24.6
comp=Z,39nm,1.2s
J47A Sunmer 86.54 33 IAmb IAmb 01 10 12.5
comp=Z,33nm,0.8s
OK025 Westminster Rd 86.55 45 P **P 01 10 10.9 +0.6**
OKCFA Oklahoma City 86.61 45 P **P 01 10 11.2 +0.6**
OKCFA IAmb IAmb 01 10 16.6
comp=Z,16nm,0.8s
M44A Midewin, Midew 86.66 36 P **P 01 10 11.1 +0.5**
M44A IAmb IAmb 01 10 12.6
comp=Z,32nm,0.9s
M44A IAMs_20 IAMs_20 01 50 50.9
comp=Z,772nm,20.0s
HDIL Hopedale 86.75 37 P **P 01 10 11.3 +0.2**
baz=323,SNR=7.0
D55A Sainte-Anne-du 86.76 25 P **P 01 10 11.2 +0.1**
baz=332
FNO Franklin 86.76 45 P **P 01 10 12.7 +1.5**
I49A Point Hope 86.76 31 IAMs_20 IAMs_20 01 54 02.5
comp=Z,1µm,21.0s
ALGO Algonquin Park 86.82 27 P **P 01 10 10.9 -0.4**
baz=330
TIP Timpagrande 86.83 321 ⇑P **P 01 10 11.5 -0.2**
TIP Timpagrande 86.83 321 IAmb IAmb 01 10 17.6
comp=Z,13nm,0.9s
DAMY Dhamar 86.90 286 P **P 01 10 13.3 +0.7**
SNR=10
DAMY Dhamar 86.90 286 IAMs_20 IAMs_20 01 54 07.8
comp=Z,1µm,20.0s
L46A Eue Claire 86.92 34 P **P 01 10 12.2 +0.2**
L46A IAmb IAmb 01 10 14.8
comp=Z,19nm,0.9s
D56A ZEC Mazanza, M 86.96 25 P **P 01 10 12.2 +0.2**
baz=332,SNR=7.7
SSB Saint Sauveur 86.99 332 IAmb IAmb 01 10 14.5
comp=Z,30nm,0.9s
X34A Smith Ranch, M 87.01 46 P **P 01 10 13.1 +0.6**
X34A IAmb IAmb 01 10 20.2
comp=Z,18nm,1.1s
S39A Bolivar 87.05 41 IAmb IAmb 01 10 14.1
comp=Z,19nm,0.8s
S39A IAMs_20 IAMs_20 01 51 13.7
comp=Z,821nm,21.0s
E55A Montcerf-Lytto 87.07 26 P **P 01 10 12.2 -0.3**
baz=331
R40A Maddies Statio 87.12 40 P **P 01 10 13.9 +1.0**
R40A IAMs_20 IAMs_20 01 56 48.3
comp=Z,833nm,20.0s
TUL1 Leonard 87.14 44 P **P 01 10 13.7 +0.6**
baz=319,SNR=5.5
TUL1 Leonard 87.14 44 IAmb IAmb 01 10 33.2
comp=Z,15nm,0.7s
TUL1 IAMs_20 IAMs_20 01 51 37.9
comp=Z,845nm,19.0s
QUIF Quistinic 87.18 338 *e*P **P 01 10 12.8 -0.2**
QUIF pmax pmax
comp=Z,189nm,1.9s
D57A Chemin Vers le 87.27 24 P **P 01 10 13.9 +0.3**
baz=333,SNR=9.6
LATQ La Tuque 87.28 23 P **P 01 10 13.8 +0.3**
baz=334
G54A Lake Saint Pet 87.29 27 P **P 01 10 13.5 -0.1**
baz=330
E56A St. Veronique 87.32 25 P **P 01 10 14.1 +0.3**
baz=332,SNR=6.3
P43A Skaggs, Pawnee 87.38 38 IAmb IAmb 01 10 16.2
comp=Z,30nm,1.1s
P43A IAMs_20 IAMs_20 01 47 52.1
comp=Z,1µm,21.0s
TX31 Lajitas Ar. Si 87.44 53 IAmb IAmb 01 10 32.6
comp=Z,35nm,1.1s
TX32 Lajitas Array 87.44 53 IAmb IAmb 01 10 26.6
comp=Z,18nm,1.1s
TXAR Lajitas Array 87.44 53 P **P 01 10 15.2 +0.4**
comp=Z,2.7nm,0.6s,baz=291,slow=2.9,SNR=39
TXAR PKKPbc **PKKPbc 01 28 04.0 +1.5**
comp=Z,0.4nm,0.6s,baz=155,slow=6.7,SNR=5.9
TXAR LR LR 01 47 22.7
comp=Z,265nm,20.1s,baz=0.0,slow=34
ABTX Abilene, Hawle 87.45 48 P **P 01 10 15.5 +0.8**
baz=317,SNR=5.6
ABTX Abilene, Hawle 87.45 48 IAmb IAmb 01 10 26.5
comp=Z,21nm,1.1s
O44A Mansfield 87.46 37 P **P 01 10 15.2 +0.6**
O44A IAmb IAmb 01 10 16.5
comp=Z,25nm,0.9s
U38A Gravette 87.47 43 IAMs_20 IAMs_20 01 50 49.8
comp=Z,1µm,22.0s
D58A Chemin du LacG 87.51 23 P **P 01 10 14.9 +0.2**
baz=334
I51A Listowel 87.58 30 P **P 01 10 14.7 -0.3**
baz=328
E57A Chemin Saint G 87.72 25 P **P 01 10 15.9 +0.2**
baz=333,SNR=7.0
L48A N Adams 87.77 33 IAmb IAmb 01 10 33.0
comp=Z,20nm,0.8s
L48A IAMs_20 IAMs_20 01 55 35.2
comp=Z,874nm,20.0s
AAM Ann Arbor 87.79 32 P **P 01 10 16.4 +0.3**
baz=326
AAM Ann Arbor 87.79 32 P **P 01 10 16.1 0.0**
AAM pmax pmax
comp=Z,28nm,1.1s
AAM Ann Arbor 87.79 32 P **P 01 10 16.1 0.0**
AAM IAmb IAmb 01 10 18.5
comp=Z,28nm,1.1s
AAM IAMs_20 IAMs_20 01 56 09.9
comp=Z,916nm,20.0s
CCM Cathedral Cave 87.80 40 P **P 01 10 17.0 +0.7**
baz=322
CCM Cathedral Cave 87.80 40 P **P 01 10 16.8 +0.5**
CCM pmax pmax
comp=Z,33nm,0.8s
CCM MLR MLR
comp=Z,700nm,20.0s
CCM Cathedral Cave 87.80 40 P **P 01 10 16.8 +0.5**
CCM Cathedral Cave 87.80 40 IAMs_20 IAMs_20 01 51 24.4
comp=Z,742nm,20.0s
K50A Casco 87.82 32 P **P 01 10 16.9 +0.7**
K50A IAmb IAmb 01 10 34.4
comp=Z,37nm,1.1s
K50A IAMs_20 IAMs_20 01 54 36.5
comp=Z,1µm,19.0s
H53A Bobcaygeon 87.83 28 P **P 01 10 16.4 +0.1**
baz=330
SLM Saint Louis 87.83 39 P **P 01 10 17.4 +1.0**
SLM pmax pmax

comp=Z,50nm,0.8s
SLM Saint Louis 87.83 39 P **P** **01 10 17.4 +1.0**
SFIN Lafayette 87.89 36 P **P** **01 10 17.1 +0.5**
baz=324,SNR=7.8
SFIN Lafayette 87.89 36 IAmb IAmb 01 10 18.8
comp=Z,22nm,0.8s
D59A Saint-Raymond 87.90 23 P **P** **01 10 16.7 +0.2**
baz=334
PLVO Plevna 87.96 27 IAmb IAmb 01 10 34.4
comp=Z,14nm,0.8s
PLVO IAMs_20 IAMs_20 01 56 53.0
comp=Z,902nm,18.0s
CEL Celeste 87.97 321 IAmb IAmb 01 10 31.9
comp=Z,28nm,1.0s
MGMO Mountain Grove 88.00 41 IAmb IAmb 01 10 19.0
comp=Z,23nm,0.8s
MGMO IAMs_20 IAMs_20 01 50 28.7
comp=Z,984nm,21.0s
E58A La Victoria 88.03 24 P **P** **01 10 17.5 +0.3**
baz=333,SNR=5.7
F57A Harrington 88.08 25 P **P** **01 10 17.2 -0.2**
baz=332
N47A Urbana 88.10 35 IAmb IAmb 01 10 19.5
comp=Z,36nm,1.1s
CAF Calviac 88.17 333 *e*P **P** **01 10 18.2 +0.3**
CAF pmax pmax
comp=Z,45nm,1.1s
Q44A Meyer Farm, Va 88.20 38 IAmb IAmb 01 10 20.3
comp=Z,25nm,0.8s
Q44A IAMs_20 IAMs_20 01 54 57.9
comp=Z,1μm,21.0s
D61A St Aubert, Com 88.20 22 P **P** **01 10 18.3 +0.4**
baz=335
DELO Deloro Mine 88.22 28 IAmb IAmb 01 10 19.9
comp=Z,23nm,1.0s
DELO IAMs_20 IAMs_20 01 57 50.0
comp=Z,919nm,18.0s
D60A Saint Jean D'O 88.25 22 P **P** **01 10 18.3 +0.2**
baz=335
Z35A Perchaven, San 88.28 46 P **P** **01 10 19.0 +0.4**
F58A St-Lin Laurent 88.31 25 P **P** **01 10 18.4 -0.1**
baz=333
U40A Yellville 88.32 42 P **P** **01 10 19.2 +0.4**
baz=321,SNR=32
U40A Yellville 88.32 42 IAMs_20 IAMs_20 01 51 08.8
comp=Z,989nm,22.0s
X37A Clayton 88.36 44 P **P** **01 10 19.0 0.0**
E60A Ste Agathe de 88.59 23 P **P** **01 10 20.1 +0.3**
baz=334
G57A Newington 88.61 26 P **P** **01 10 19.7 -0.2**
baz=332
D62A Allapoint, All 88.63 21 P **P** **01 10 20.6 +0.6**
baz=336,SNR=5.4
D62A Allapoint, All 88.63 21 IAmb IAmb 01 10 37.7
comp=Z,19nm,0.7s
D62A IAMs_20 IAMs_20 01 53 43.7
comp=Z,1μm,19.0s
F59A Saint Guilaume 88.65 24 P **P** **01 10 20.8 +0.7**
baz=334
T42A Van Buren 88.68 40 IAMs_20 IAMs_20 01 51 09.7
comp=Z,802nm,22.0s
N49A Columbus Grove 88.72 34 IAmb IAmb 01 10 22.8
comp=Z,33nm,1.0s
W39A Magazine 88.74 43 P **P** **01 10 21.3 +0.6**
baz=326
W39A Magazine 88.74 43 IAmb IAmb 01 10 34.6
comp=Z,14nm,1.1s
W39A IAMs_20 IAMs_20 01 52 28.3
comp=Z,1μm,22.0s
M50A Fremont 88.79 33 P **P** **01 10 21.8 +0.9**
M50A IAmb IAmb 01 10 38.8
comp=Z,12nm,0.7s
M50A IAMs_20 IAMs_20 01 54 22.4
comp=Z,985nm,20.0s
F60A Warwick 88.80 23 P **P** **01 10 21.1 +0.2**
baz=334
E61A Lac Etchemin 88.82 22 P **P** **01 10 21.0 +0.1**
baz=335
G58A Ormstown 88.88 25 P **P** **01 10 21.2 0.0**
baz=333
E62A Clayton Lake 88.92 22 P **P** **01 10 20.8 -0.6**
baz=336
D63A Stockholm 88.93 20 P **P** **01 10 21.8 +0.4**
baz=337
J54A Appleton 88.93 29 P **P** **01 10 21.9 +0.5**
baz=330
J54A Appleton 88.93 29 P **P** **01 10 22.2 +0.7**
J54A IAmb IAmb 01 10 34.5
comp=Z,18nm,1.0s
J54A IAMs_20 IAMs_20 01 57 43.8
comp=Z,1μm,19.0s
JCT Junction City 88.93 50 P **P** **01 10 21.9 +0.1**
baz=317
JCT Junction City 88.93 50 IAmb IAmb 01 10 25.0
comp=Z,15nm,0.8s
JCT IAMs_20 IAMs_20 01 44 50.8
comp=Z,882nm,21.0s
PECO Prince Edward 88.95 27 P **P** **01 10 21.3 -0.2**
PECO IAmb IAmb 01 10 23.4
comp=Z,14nm,0.9s
H57A Richville 89.04 26 P **P** **01 10 22.4 +0.5**
baz=332
S44A Carbondale 89.05 39 IAMs_20 IAMs_20 01 55 20.4
comp=Z,733nm,19.0s
FCAR Ozark Folk Cen 89.06 42 IAmb IAmb 01 10 35.7
comp=Z,33nm,1.1s
F61A St Evariste 89.08 23 P **P** **01 10 23.1 +0.9**
baz=335
MEDO Medina 89.09 29 P **P** **01 10 22.1 -0.1**
MEDO IAmb IAmb 01 10 24.4
comp=Z,32nm,1.1s
MEDO IAMs_20 IAMs_20 01 54 35.1
comp=Z,970nm,21.0s
BLO Bloomington 89.13 36 P **P** **01 10 23.5 +1.0**
BLO Bloomington 89.13 36 P **P** **01 10 23.5 +1.0**
BLO IAmb IAmb 01 10 36.6
comp=Z,14nm,0.9s
WHTX Lake Whitney, 89.16 47 P **P** **01 10 23.5 +0.7**
baz=318
WHTX Lake Whitney, 89.16 47 P **P** **01 10 24.3 +1.6**
WHTX IAmb IAmb 01 10 40.3
comp=Z,11nm,0.9s
WHTX IAMs_20 IAMs_20 01 56 55.8
comp=Z,663nm,18.0s
LONY Lake Ozonia 89.17 26 P **P** **01 10 22.9 +0.3**
baz=332
M51A Elyria 89.20 32 P **P** **01 10 22.6 -0.2**
baz=327
PBMO Poplar Bluff 89.21 40 IAmb IAmb 01 10 25.2
comp=Z,26nm,0.9s
G59A Clarenceville 89.22 25 P **P** **01 10 23.4 +0.6**
baz=333
J55A Hilton 89.24 28 P **P** **01 10 23.5 +0.6**
baz=330
J55A Hilton 89.24 28 IAMs_20 IAMs_20 01 55 28.9
comp=Z,1μm,21.0s
BATG Bathurst New B 89.24 19 P **P** **01 10 23.8 +1.0**
BATG IAmb IAmb 01 10 24.3
comp=Z,18nm,0.9s
O49A Covington 89.26 34 IAmb IAmb 01 10 25.2
comp=Z,24nm,0.9s
FRNY Flat Rock 89.31 25 IAMs_20 IAMs_20 01 56 08.6
comp=Z,1μm,20.0s
TBI Tubuai 89.32 122 *e*SKSac **SKSac** **01 20 50.4 -0.6**
comp=Z,402nm,31.2s
TBI *e*S **S** **01 21 09.2 -1.7**
comp=Z,559nm,26.2s
TBI *e*SS **SS** **01 27 05.5 -1.2**
comp=Z,288nm,27.8s
TBI Tubuai 89.32 122 *e*LR LR 01 38 38.2
comp=Z,2μm,26.2s,baz=315
TBI Tubuai 89.32 122 *e*T T 02 49 05.3
comp=Z,88nm,0.3s
MIAR Mount Ida 89.34 43 P **P** **01 10 24.5 +0.9**
baz=320,SNR=12
MIAR Mount Ida 89.34 43 IAmb IAmb 01 10 26.1
comp=Z,25nm,1.0s
MIAR IAMs_20 IAMs_20 01 52 02.4
comp=Z,1μm,22.0s
M52A Chesterland 89.36 31 P **P** **01 10 24.2 +0.7**
baz=328
M52A Chesterland 89.36 31 IAMs_20 IAMs_20 01 55 49.4
comp=Z,1μm,20.0s
P48A Milroy 89.39 35 IAmb IAmb 01 10 25.6
comp=Z,23nm,1.1s
P48A IAMs_20 IAMs_20 01 49 49.1
comp=Z,737nm,20.0s
E63A Oxbow 89.41 21 P **P** **01 10 24.2 +0.6**
baz=337
ERPA Erie 89.41 30 P **P** **01 10 24.6 +0.8**
baz=329,SNR=5.9
ERPA Erie 89.41 30 IAMs_20 IAMs_20 01 56 15.6
comp=Z,1μm,20.0s
I57A Carthage 89.41 27 P **P** **01 10 23.7 0.0**
baz=332
WHAR Wooly Hollow 89.44 42 P **P** **01 10 24.1 +0.1**
WHAR IAmb IAmb 01 10 26.7
comp=Z,26nm,0.8s
WHAR IAMs_20 IAMs_20 01 52 06.8
comp=Z,928nm,21.0s
H59A Cadyville 89.44 25 P **P** **01 10 24.3 +0.4**
baz=333
L53A Girard 89.44 31 P **P** **01 10 24.9 +1.0**
baz=329,SNR=8.8
F62A Pittston Farm, 89.45 22 P **P** **01 10 24.5 +0.6**
baz=336
N51A Ashland 89.47 32 P **P** **01 10 24.5 +0.4**
baz=327
N51A Ashland 89.47 32 P **P** **01 10 24.2 +0.1**
N51A IAmb IAmb 01 10 25.3
comp=Z,22nm,1.1s
N51A IAMs_20 IAMs_20 01 55 42.4
comp=Z,1μm,20.0s
K54A Basiliko Farm, 89.48 29 P **P** **01 10 24.8 +0.7**
baz=330,SNR=8.1
H58A Gabriels 89.48 25 P **P** **01 10 24.2 +0.1**
baz=333
RAFF Raffo Rosso 89.53 321 P **P** **01 10 25.5 +1.0**
RAFF IAmb IAmb 01 10 34.2
comp=Z,13nm,0.8s
G61A St-Isidore-de- 89.55 23 P **P** **01 10 25.0 +0.7**
baz=334
W41B Gary Mavity, V 89.55 42 P **P** **01 10 24.8 +0.3**
baz=321
W41B Gary Mavity, V 89.55 42 IAmb IAmb 01 10 41.3
comp=Z,14nm,0.8s
W41B IAMs_20 IAMs_20 01 52 10.8
comp=Z,978nm,22.0s
L54A Sinclairville 89.57 30 P **P** **01 10 25.4 +0.9**
baz=329,SNR=7.8
E64A Bridgewater 89.57 21 P **P** **01 10 24.7 +0.2**
baz=337
J56A Wolcott 89.57 28 P **P** **01 10 24.6 +0.1**
baz=331
J56A Wolcott 89.57 28 P **P** **01 10 24.2 -0.2**
J56A IAmb IAmb 01 10 27.2
comp=Z,12nm,0.9s
J56A IAMs_20 IAMs_20 01 57 13.8
comp=Z,1μm,21.0s
Z38A Mt. Pleasant 89.58 45 P **P** **01 10 25.6 +0.9**
Z38A IAmb IAmb 01 10 36.0
comp=Z,25nm,1.0s
USIN University of 89.58 37 P **P** **01 10 25.6 +1.0**
USIN IAMs_20 IAMs_20 01 49 10.5
comp=Z,848nm,22.0s
K55A Perry 89.61 29 P **P** **01 10 25.0 +0.3**
baz=330,SNR=7.3
PARMO Parma 89.63 40 IAMs_20 IAMs_20 01 52 50.8
comp=Z,730nm,21.0s
P49A Miami Univ. Ec 89.64 35 P **P** **01 10 25.3 +0.4**
baz=326,SNR=5.3
P49A Miami Univ. Ec 89.64 35 IAmb IAmb 01 10 27.0
comp=Z,35nm,0.9s
MMNY Mt. Morris Dam 89.67 29 IAMs_20 IAMs_20 01 54 50.7
comp=Z,867nm,21.0s
WVNY West Valley, N 89.69 29 IAMs_20 IAMs_20 01 57 27.9
comp=Z,1μm,21.0s
M53A WI Miller and 89.72 31 P **P** **01 10 26.1 +0.8**
baz=328,SNR=5.2
M53A WI Miller and 89.72 31 IAMs_20 IAMs_20 01 55 08.8
comp=Z,891nm,20.0s
HENM Henderson Moun 89.72 39 IAMs_20 IAMs_20 01 52 53.3
comp=Z,883nm,21.0s
J57A Williamstown 89.76 27 P **P** **01 10 25.9 +0.6**
baz=331,SNR=7.3
J57A Williamstown 89.76 27 IAmb IAmb 01 10 27.5
comp=Z,35nm,1.1s
J57A IAMs_20 IAMs_20 01 58 13.7
comp=Z,1μm,18.0s
X40A Basin Creek Fa 89.78 43 P **P** **01 10 26.3 +0.7**
baz=321,SNR=5.7
X40A Basin Creek Fa 89.78 43 P **P** **01 10 25.9 +0.3**
X40A IAMs_20 IAMs_20 01 52 56.9
comp=Z,1μm,21.0s
ACSO Alum Creek Sta 89.80 33 P **P** **01 10 26.2 +0.6**
baz=327,SNR=12
ACSO Alum Creek Sta 89.80 33 IAMs_20 IAMs_20 01 57 24.0
comp=Z,899nm,19.0s
UALR University of 89.81 42 P **P** **01 10 25.7 -0.1**
UALR IAmb IAmb 01 10 44.0
comp=Z,15nm,1.1s
UALR IAMs_20 IAMs_20 01 52 10.7
comp=Z,1μm,22.0s
H60A Morristown 89.83 24 P **P** **01 10 26.0 +0.3**
baz=334
I58A Old Forge 89.86 26 P **P** **01 10 26.3 +0.4**
baz=332
NCB Newcomb 89.87 26 IAMs_20 IAMs_20 01 55 25.5
comp=Z,1μm,20.0s
F63A Nahmakanta, Br 89.88 22 IAMs_20 IAMs_20 01 51 39.7
comp=Z,1μm,22.0s
T45A Paducah 89.88 39 IAMs_20 IAMs_20 01 56 14.5
comp=Z,835nm,22.0s
G62A West of Eustis 89.91 23 P **P** **01 10 27.0 +1.0**
baz=335
G62A West of Eustis 89.91 23 IAMs_20 IAMs_20 01 56 53.5
comp=Z,1μm,20.0s
K56A Middlesex 89.91 28 P **P** **01 10 26.8 +0.7**
baz=330,SNR=5.4
F64A Sherman 89.94 21 IAMs_20 IAMs_20 01 53 59.4
comp=Z,1μm,21.0s
L55A Hinsdale 89.94 29 P **P** **01 10 26.8 +0.5**
baz=330
HICK Hickman 89.98 39 P **P** **01 10 27.9 +1.4**
435B Jarrell 89.99 48 P **P** **01 10 26.9 +0.3**
baz=318
435B Jarrell 89.99 48 P **P** **01 10 26.9 +0.3**
435B IAmb IAmb 01 10 28.9
comp=Z,15nm,0.8s
WCI Wyandotte Cave 90.00 36 P **P** **01 10 27.4 +0.8**
baz=325
WCI Wyandotte Cave 90.00 36 P **P** **01 10 27.7 +1.1**
WCI pmax pmax
comp=Z,24nm,0.8s
WCI MLR MLR
comp=Z,800nm,21.0s
WCI Wyandotte Cave 90.00 36 P **P** **01 10 27.7 +1.1**
WCI IAmb IAmb 01 10 28.9
comp=Z,24nm,0.8s
WCI IAMs_20 IAMs_20 01 52 01.5
comp=Z,849nm,21.0s
ATD Arta Tunnel 90.02 285 P **P** **01 10 27.4 +0.3**
SNR=7.0
ATD Arta Tunnel 90.02 285 P **P** **01 10 28.0 +0.9**
ATD IAmb IAmb 01 10 40.0
comp=Z,18nm,1.0s
VT1 Waterbury 90.02 25 IAMs_20 IAMs_20 01 53 18.9
comp=Z,1μm,21.0s
O51A Pataskala 90.03 33 P **P** **01 10 27.3 +0.6**
baz=327
J58A Remsen 90.05 27 P **P** **01 10 26.8 +0.1**
baz=332
J58A Remsen 90.05 27 IAmb IAmb 01 10 28.8
comp=Z,23nm,0.8s
J58A IAMs_20 IAMs_20 01 56 30.4
comp=Z,1μm,20.0s
GNAR Gosnell 90.05 40 P **P** **01 10 28.4 +1.5**
M54A Oil Creek Stat 90.06 30 P **P** **01 10 27.3 +0.5**
baz=329,SNR=8.5
M54A Oil Creek Stat 90.06 30 IAMs_20 IAMs_20 01 53 55.7
comp=Z,1μm,21.0s
HBAR Harrisburg 90.06 41 P **P** **01 10 27.9 +1.0**
H61A Lyndonville 90.10 24 P **P** **01 10 27.2 +0.2**
baz=334
I59A Olmsteadville 90.14 26 P **P** **01 10 27.7 +0.5**
baz=333
K57A Scipio Center 90.17 28 P **P** **01 10 28.4 +1.1**
baz=331
N53A Lisbon 90.19 32 P **P** **01 10 28.3 +0.9**
baz=328
N53A Lisbon 90.19 32 IAmb IAmb 01 10 29.9
comp=Z,40nm,1.1s
LPAR Lepanto 90.20 41 P **P** **01 10 28.8 +1.2**
J59A Piesco 90.22 26 P **P** **01 10 28.3 +0.7**
baz=332
PKME Peaks-Kenny Pk 90.22 22 IAMs_20 IAMs_20 01 52 22.9
comp=Z,1μm,21.0s
G63A Kingsbury 90.27 22 P **P** **01 10 28.0 +0.3**
baz=336
I60A Shoreham 90.28 25 P **P** **01 10 28.2 +0.5**
baz=333
H62A Milan 90.30 23 P **P** **01 10 28.8 +0.9**
baz=335,SNR=5.9
L56A Greenwood 90.31 29 P **P** **01 10 28.5 +0.5**
baz=330,SNR=8.1
LBNH Lisbon 90.37 24 P **P** **01 10 29.1 +0.9**
baz=334
O52A Adamsville 90.37 33 P **P** **01 10 28.7 +0.4**
baz=328,SNR=5.6
O52A Adamsville 90.37 33 IAmb IAmb 01 10 30.5
comp=Z,31nm,0.9s
O52A IAMs_20 IAMs_20 01 56 09.1
comp=Z,1μm,20.0s
G64A Maxfield 90.39 22 P **P** **01 10 29.0 +0.8**
baz=336
P51A Williamsport 90.39 34 P **P** **01 10 28.5 +0.1**
baz=327
P51A Williamsport 90.39 34 IAmb IAmb 01 10 30.3
comp=Z,22nm,0.8s
P51A IAMs_20 IAMs_20 01 57 14.7
comp=Z,906nm,21.0s
N54A Moraine State 90.40 31 P **P** **01 10 29.2 +0.8**
baz=329,SNR=6.6
N54A Moraine State 90.40 31 IAMs_20 IAMs_20 01 56 38.7
comp=Z,1μm,20.0s
HALT Halls 90.43 40 IAMs_20 IAMs_20 01 59 17.0
comp=Z,801nm,19.0s
M55A Ridgway 90.44 30 P **P** **01 10 29.5 +0.9**
baz=330,SNR=13
K58A Earlville 90.45 27 P **P** **01 10 29.3 +0.7**
baz=332,SNR=5.3
K58A Earlville 90.45 27 IAMs_20 IAMs_20 01 54 36.0
comp=Z,951nm,20.0s
O53A New Philadelph 90.51 32 P **P** **01 10 29.8 +0.9**
baz=328
O53A New Philadelph 90.51 32 IAmb IAmb 01 10 31.3
comp=Z,33nm,0.9s
O53A IAMs_20 IAMs_20 01 56 28.9
comp=Z,1μm,21.0s
T47A Sharon Grove 90.64 38 IAmb IAmb 01 10 32.0
comp=Z,29nm,0.9s
T47A IAMs_20 IAMs_20 01 49 41.3
comp=Z,1μm,22.0s
M56A Emporium 90.64 29 P **P** **01 10 30.4 +0.8**
baz=330,SNR=8.3
M56A Emporium 90.64 29 IAMs_20 IAMs_20 01 57 59.2
comp=Z,1μm,20.0s
Q51A Peebles 90.65 34 IAmb IAmb 01 10 31.9
comp=Z,24nm,0.8s
Q51A IAMs_20 IAMs_20 01 57 07.6
comp=Z,922nm,20.0s
P52A Corning 90.65 33 P **P** **01 10 29.6 0.0**
baz=327
P52A Corning 90.65 33 IAmb IAmb 01 10 31.5
comp=Z,14nm,0.8s
P52A IAMs_20 IAMs_20 01 56 11.6
comp=Z,1μm,20.0s
L57A Andrews Acres 90.69 28 P **P** **01 10 29.9 +0.2**
baz=331
K59A Cooperstown 90.71 27 P **P** **01 10 30.4 +0.5**
baz=332,SNR=5.2
HNH Hanover 90.73 25 IAMs_20 IAMs_20 01 54 01.4
comp=Z,1μm,21.0s
833A Chaparral WMA, 90.75 51 P **P** **01 10 31.6 +1.3**
baz=318
X43A Marvell 90.76 42 P **P** **01 10 30.9 +0.7**
baz=322
X43A Marvell 90.76 42 P **P** **01 10 31.4 +1.2**
CCAR Cane Creek 90.77 43 P **P** **01 10 31.5 +1.2**
J60A Lant Hill Farm 90.78 25 P **P** **01 10 30.5 +0.4**
baz=333
BINY Binghamton 90.82 28 P **P** **01 10 31.0 +0.6**
baz=331
BINY Binghamton 90.82 28 IAmb IAmb 01 10 32.7
comp=Z,20nm,0.8s
BINY IAMs_20 IAMs_20 01 52 11.9
comp=Z,1μm,21.0s
R50A Paris 90.84 35 P **P** **01 10 30.8 +0.3**
R50A IAmb IAmb 01 10 32.9
comp=Z,21nm,1.1s
ETSF Etsaut 90.85 334 *e*P **P** **01 10 30.7 +0.1**
ETSF pmax pmax
comp=Z,17nm,0.8s
LMN Caledonia Moun 90.88 19 P **P** **01 10 30.8 +0.2**
LMN IAmb IAmb 01 10 32.9
comp=Z,30nm,1.1s
LMN IAMs_20 IAMs_20 01 52 58.1
comp=Z,1μm,21.0s
I62A Tamworth 90.88 24 P **P** **01 10 31.5 +0.9**
baz=335
I62A Tamworth 90.88 24 IAMs_20 IAMs_20 01 54 23.3
comp=Z,1μm,21.0s
NATX Nacogdoches 90.89 46 P **P** **01 10 31.9 +1.0**
baz=320
NATX Nacogdoches 90.89 46 P **P** **01 10 31.9 +1.0**
NATX IAmb IAmb 01 10 46.4
comp=Z,11nm,0.6s
NATX IAMs_20 IAMs_20 01 53 25.6
comp=Z,947nm,19.0s
O54A Avella 90.91 32 P **P** **01 10 31.7 +0.9**
baz=328
O54A Avella 90.91 32 IAmb IAmb 01 10 50.0
comp=Z,15nm,0.8s
N55A Marion Center 90.94 30 P **P** **01 10 31.7 +0.7**
baz=329
I63A Otisfield 90.95 23 P **P** **01 10 32.4 +1.5**
baz=335
J61A Chester 90.97 25 P **P** **01 10 32.1 +1.1**
baz=334
WVT Waverly 90.99 39 P **P** **01 10 31.7 +0.4**
baz=324
WVT Waverly 90.99 39 P **P** **01 10 31.8 +0.6**
WVT pmax pmax
comp=Z,14nm,1.0s
WVT Waverly 90.99 39 P **P** **01 10 31.8 +0.6**
WVT IAmb IAmb 01 10 33.6
comp=Z,14nm,1.0s
WVT IAMs_20 IAMs_20 01 56 36.7
comp=Z,654nm,19.0s
L58A Harry Jones Me 91.01 28 P **P** **01 10 32.1 +0.8**
baz=332,SNR=7.5
P53A Whipple 91.09 33 P **P** **01 10 32.8 +1.2**
baz=328
P53A Whipple 91.09 33 P **P** **01 10 32.7 +1.0**
P53A IAMs_20 IAMs_20 01 56 30.0
comp=Z,1μm,20.0s
N56A West Decatur 91.09 30 P **P** **01 10 32.7 +1.0**
baz=330,SNR=8.2
W45A Hickory Valley 91.11 40 P **P** **01 10 31.9 +0.1**
W45A IAmb IAmb 01 10 46.3
comp=Z,30nm,0.9s
FFD Franklin Falls 91.14 24 IAMs_20 IAMs_20 01 54 23.3
comp=Z,1μm,21.0s
TRY Troy 91.15 26 IAMs_20 IAMs_20 01 56 13.6
comp=Z,1μm,20.0s
L59A Walton 91.16 27 P **P** **01 10 32.7 +0.7**
baz=332,SNR=7.1
L59A Walton 91.16 27 IAMs_20 IAMs_20 01 57 05.9
comp=Z,1μm,20.0s
M57A Sunshine Farm, 91.16 29 P **P** **01 10 33.0 +1.0**
baz=331,SNR=14
K60A Five Rivers En 91.18 26 P **P** **01 10 33.1 +1.1**
baz=333
EMMW East Machias 91.25 21 IAMs_20 IAMs_20 01 53 04.0
comp=Z,1μm,21.0s
735A Kenedy 91.30 50 IAMs_20 IAMs_20 01 46 36.5
comp=Z,985nm,20.0s
O55A Ligonier 91.31 31 P **P** **01 10 33.4 +0.7**
baz=329
K61A Williamstown 91.34 26 P **P** **01 10 33.8 +1.1**
baz=333
P54A Burton 91.36 32 P **P** **01 10 33.6 +0.7**
baz=328
M58A Price's Panora 91.38 28 P **P** **01 10 33.7 +0.7**
baz=331,SNR=9.1
SSPA Standing Stone 91.49 30 P **P** **01 10 34.6 +1.1**
baz=330
SSPA Standing Stone 91.49 30 P **P** **01 10 34.7 +1.3**
SSPA IAmb IAmb 01 10 36.7
comp=Z,13nm,0.8s
SSPA Standing Stone 91.49 30 IAMs_20 IAMs_20 01 58 15.6
comp=Z,757nm,20.0s
OXF Oxford 91.51 41 P **P** **01 10 34.2 +0.5**
OXF pmax pmax

comp=Z,47nm,1.1s
OXF Oxford 91.51 41 P **P** **01 10 34.2 +0.5**
N57A Milroy 91.51 29 P **P** **01 10 34.3 +0.7**
baz=330,SNR=6.7
O56A Blue Knob Stat 91.55 30 P **P** **01 10 34.7 +0.9**
baz=330
O56A Blue Knob Stat 91.55 30 IAmb IAmb 01 10 36.9
O56A comp=Z,9.6nm,0.7s
IAMs_20 IAMs_20 02 00 02.1
comp=Z,940nm,18.0s
Q53A Leroy 91.56 33 P **P** **01 10 34.5 +0.6**
baz=328
MCWV Mont Chateau 91.57 31 P **P** **01 10 34.7 +0.8**
baz=329
MCWV Mont Chateau 91.57 31 P **P** **01 10 34.6 +0.8**
M59A Waymart 91.60 28 P **P** **01 10 34.7 +0.7**
baz=332
HKT Hockley 91.61 48 P **P** **01 10 34.6 +0.5**
HKT pmax pmax
comp=Z,2.0nm,0.8s
HKT Hockley 91.61 48 P **P** **01 10 34.6 +0.5**
L60A Shokan 91.63 27 P **P** **01 10 35.4 +1.3**
baz=333
U49A Red Boiling Sp 91.64 37 IAmb IAmb 01 10 52.5
U49A comp=Z,17nm,1.1s
IAMs_20 IAMs_20 02 00 07.9
comp=Z,644nm,19.0s
T50A Nancy 91.65 36 IAmb IAmb 01 10 36.5
T50A comp=Z,19nm,1.1s
IAMs_20 IAMs_20 01 53 01.2
comp=Z,855nm,22.0s
K62A Royalston 91.68 25 P **P** **01 10 35.1 +0.8**
baz=334
S51A Beattyville 91.70 35 P **P** **01 10 34.2 -0.3**
S51A IAmb IAmb 01 10 51.8
comp=Z,9.9nm,0.8s
P55A Reedsville 91.70 32 P **P** **01 10 35.2 +0.7**
baz=329
CLTN Cedars of Leba 91.73 38 IAMs_20 IAMs_20 01 50 14.2
comp=Z,1µm,22.0s
Q54A Coxs Mills 91.74 32 P **P** **01 10 35.5 +0.8**
baz=328,SNR=7.3
Q54A Coxs Mills 91.74 32 IAmb IAmb 01 10 36.6
Q54A comp=Z,9.5nm,0.7s
IAMs_20 IAMs_20 01 56 59.4
comp=Z,1µm,20.0s
N58A Sunbury 91.75 29 P **P** **01 10 35.5 +0.9**
baz=331
N58A Sunbury 91.75 29 IAmb IAmb 01 10 52.7
N58A comp=Z,20nm,1.0s
IAMs_20 IAMs_20 01 51 43.5
comp=Z,1µm,22.0s
V48A Smith Brothers 91.78 38 IAMs_20 IAMs_20 01 50 26.7
comp=Z,961nm,22.0s
PLAL Pickwick Lake 91.79 40 IAMs_20 IAMs_20 01 54 07.0
comp=Z,653nm,19.0s
R53A Hurricane 91.83 34 P **P** **01 10 36.1 +1.0**
R53A IAmb IAmb 01 10 51.7
comp=Z,8.4nm,0.8s
R53A IAMs_20 IAMs_20 01 57 01.7
comp=Z,1µm,19.0s
143A Socs Landing, 91.91 43 P **P** **01 10 36.6 +1.1**
143A IAMs_20 IAMs_20 01 53 39.4
comp=Z,1µm,22.0s
QUA2 Belchertown 91.99 25 IAMs_20 IAMs_20 01 54 17.8
comp=Z,1µm,21.0s
N59A State Game Lan 92.03 28 P **P** **01 10 36.7 +0.7**
baz=332,SNR=5.1
N59A State Game Lan 92.03 28 P **P** **01 10 36.9 +0.9**
N59A IAMs_20 IAMs_20 02 00 08.8
comp=Z,1µm,19.0s
Q55A Buckhannon 92.04 32 P **P** **01 10 36.9 +0.8**
baz=329
P56A Dayton Farm, R 92.10 31 P **P** **01 10 37.2 +0.9**
baz=330,SNR=7.1
PAGS Pennsylvania G 92.28 29 IAMs_20 IAMs_20 01 57 15.5
comp=Z,860nm,20.0s
O58A Lewisberry 92.30 29 P **P** **01 10 38.0 +0.7**
baz=331
N60A Cedar Hill Far 92.31 28 P **P** **01 10 37.4 +0.2**
baz=332
R54A Victor 92.36 33 P **P** **01 10 38.3 +0.8**
baz=328
Q56A Snyder Ridge, 92.36 31 P **P** **01 10 38.4 +0.8**
baz=329
Q56A Snyder Ridge, 92.36 31 P **P** **01 10 37.8 +0.3**
Q56A IAMs_20 IAMs_20 02 00 03.7
comp=Z,935nm,20.0s
M61A Granite Spring 92.39 27 P **P** **01 10 38.0 +0.4**
baz=333
P57A Homestead Farm 92.44 30 P **P** **01 10 38.7 +0.9**
baz=330
P57A Homestead Farm 92.44 30 P **P** **01 10 37.5 -0.4**
P57A IAMs_20 IAMs_20 02 00 20.3
comp=Z,986nm,19.0s
LUPA Lehigh Univers 92.45 28 IAMs_20 IAMs_20 01 55 31.0
comp=Z,1µm,20.0s
S54A Dingess, Beckl 92.54 33 IAMs_20 IAMs_20 01 57 31.7
comp=Z,1µm,20.0s
PAL Palisades 92.61 27 P **P** **01 10 39.5 +0.9**
baz=333
PAL Palisades 92.61 27 P **P** **01 10 38.0 -0.6**
PAL pmax pmax
comp=Z,7.0nm,0.8s
PAL Palisades 92.61 27 P **P** **01 10 38.0 -0.6**
PAL IAmb IAmb 01 10 51.0
comp=Z,7.2nm,0.8s
PAL IAMs_20 IAMs_20 01 57 55.1
comp=Z,1µm,19.0s
L63A North Scituate 92.61 25 P **P** **01 10 39.5 +0.9**
baz=334
MVL Millersville 92.62 29 IAMs_20 IAMs_20 01 57 25.5
comp=Z,1µm,21.0s
TZTN Tazewell 92.63 36 P **P** **01 10 39.9 +1.1**
baz=326
TZTN Tazewell 92.63 36 P **P** **01 10 39.2 +0.4**
TZTN IAmb IAmb 01 10 58.4
comp=Z,10nm,1.1s
TZTN IAMs_20 IAMs_20 01 53 33.9
comp=Z,738nm,21.0s
SWET Sewanee 92.63 38 IAmb IAmb 01 10 40.5
comp=Z,13nm,0.9s
SWET IAMs_20 IAMs_20 01 57 35.1
comp=Z,871nm,19.0s
R55A Marlinton 92.63 32 P **P** **01 10 39.6 +0.8**
baz=329
R55A Marlinton 92.63 32 IAmb IAmb 01 10 41.2
R55A comp=Z,18nm,0.8s
IAMs_20 IAMs_20 02 00 00.9
comp=Z,1µm,20.0s
Q57A Strasburg 92.67 31 P **P** **01 10 39.6 +0.6**
baz=330
N61A South Mountain 92.70 27 P **P** **01 10 39.4 +0.4**
baz=333
P58A Pank, Wackersv 92.71 30 P **P** **01 10 39.8 +0.8**
baz=330
X48A Hartselle 92.72 39 IAmb IAmb 01 10 40.7
X48A comp=Z,9.3nm,0.8s
IAMs_20 IAMs_20 01 55 28.5
comp=Z,744nm,22.0s
VBMS Vicksburg 92.76 43 P **P** **01 10 41.3 +1.9**
R56A Bull Pasture M 92.81 32 P **P** **01 10 40.7 +1.0**
baz=329
V51A Loudon 92.88 37 IAmb IAmb 01 10 42.0
V51A comp=Z,12nm,0.9s
IAMs_20 IAMs_20 01 57 06.7
comp=Z,873nm,19.0s
M63A Gales Ferry 92.88 25 P **P** **01 10 41.3 +1.4**
baz=334
S55A Lewisburg 92.91 33 P **P** **01 10 41.3 +1.1**
baz=328
W50A Signal Mountai 92.93 38 IAmb IAmb 01 10 42.2
W50A comp=Z,9.0nm,0.8s
IAMs_20 IAMs_20 01 51 14.1
comp=Z,966nm,22.0s
WUPA West Chester U 92.95 28 IAMs_20 IAMs_20 02 00 38.8
comp=Z,806nm,18.0s
Q58A Fox Den Farm, 93.04 30 P **P** **01 10 41.5 +0.9**
baz=330
P60A Greenville 93.05 29 P **P** **01 10 41.6 +1.0**
baz=332
P60A Greenville 93.05 29 P **P** **01 10 40.3 -0.3**
P60A IAmb IAmb 01 10 42.6
comp=Z,11nm,0.8s
T54A Tazewell 93.06 34 P **P** **01 10 42.0 +1.1**
baz=328
KEST Kesra 93.09 324 P **P** **01 10 40.5 -0.5**
comp=Z,5.0nm,0.7s,baz=78,slow=4.0,SNR=9.0
KEST LR LR 01 57 21.9
comp=Z,2µm,18.9s,baz=349,slow=39
KEST Kesra 93.09 324 IAmb IAmb 01 10 42.5
comp=Z,12nm,1.0s
CPCT Cooper Cave 93.09 37 P **P** **01 10 40.5 -0.5**
CPCT IAmb IAmb 01 10 43.0
CPCT comp=Z,8.4nm,0.9s
IAMs_20 IAMs_20 01 53 57.3
comp=Z,665nm,20.0s
146A Union 93.18 42 P **P** **01 10 40.9 -0.5**
146A IAMs_20 IAMs_20 02 00 58.8
comp=Z,676nm,20.0s
V52A Sevierville 93.19 36 P **P** **01 10 41.4 0.0**
TKL Tuckaleechee C 93.26 36 P **P** **01 10 41.9 +0.2**
comp=Z,7.2nm,0.7s,baz=168,slow=2.6,SNR=14
TKL Tuckaleechee C 93.26 36 IAmb IAmb 01 10 43.8
comp=Z,12nm,0.8s
R57A Stanardsville 93.26 31 P **P** **01 10 42.3 +0.6**
baz=330
FPAL Fort Paine 93.33 38 P **P** **01 10 41.6 -0.5**
FPAL IAMs_20 IAMs_20 01 51 14.7
comp=Z,950nm,22.0s
T55A Pulaski 93.34 33 P **P** **01 10 43.1 +0.9**
baz=328
U54A Nelsons Funny 93.41 34 P **P** **01 10 42.4 -0.1**
baz=328
U54A Nelsons Funny 93.41 34 P **P** **01 10 42.4 -0.1**
U54A IAmb IAmb 01 10 44.5
U54A comp=Z,8.4nm,0.8s
IAMs_20 IAMs_20 02 00 02.5
comp=Z,1µm,20.0s
BLA Blacksburg 93.42 33 P **P** **01 10 44.4 +1.9**
BLA pmax pmax
comp=Z,16nm,1.0s
BLA Blacksburg 93.42 33 P **P** **01 10 44.4 +1.9**
BLA IAmb IAmb 01 11 00.5
comp=Z,16nm,1.0s
R58A Rapidan 93.47 31 P **P** **01 10 43.1 +0.5**
baz=330
P61A Hammonton 93.47 28 IAMs_20 IAMs_20 01 56 10.1
comp=Z,1µm,20.0s
Y49A Blount Mountai 93.50 39 IAmb IAmb 01 10 59.9
comp=Z,8.2nm,0.7s
Y49A IAMs_20 IAMs_20 02 01 17.6
comp=Z,757nm,21.0s
S57A Dark Hollow, R 93.55 32 P **P** **01 10 43.2 +0.2**
S57A IAMs_20 IAMs_20 01 56 34.3
comp=Z,971nm,21.0s
W52A Murphy 93.66 37 IAMs_20 IAMs_20 01 57 40.3
comp=Z,760nm,19.0s
X51A Calhoun 93.66 38 P **P** **01 10 44.1 +0.5**
X51A IAmb IAmb 01 10 45.0
X51A comp=Z,8.1nm,0.8s
IAMs_20 IAMs_20 01 51 35.5
comp=Z,942nm,22.0s
Q60A Greensboro 93.68 29 IAMs_20 IAMs_20 01 59 54.6
comp=Z,1µm,20.0s
V53A Saluda 93.68 36 IAMs_20 IAMs_20 01 57 27.9
comp=Z,663nm,19.0s
T56A Rocky Mt 93.73 33 P **P** **01 10 43.9 0.0**
baz=329
CBN Corbin Frederi 93.80 31 IAMs_20 IAMs_20 02 01 28.7
comp=Z,877nm,19.0s
R58B Mineral 93.81 31 IAMs_20 IAMs_20 02 01 26.0
comp=Z,1µm,18.0s
LRAL Lakeview Retre 93.89 40 P **P** **01 10 43.3 -1.4**
LRAL IAMs_20 IAMs_20 01 59 04.5
comp=Z,683nm,21.0s
346A Big Creek Wild 93.96 43 IAMs_20 IAMs_20 01 55 44.6
comp=Z,714nm,20.0s
V54A Nebo 93.97 35 P **P** **01 10 45.7 +0.7**
baz=327
S58A Poland Farm, P 94.04 31 IAMs_20 IAMs_20 02 01 28.2
comp=Z,1µm,18.0s
T57A Hurt 94.08 32 IAMs_20 IAMs_20 01 56 23.4
comp=Z,1µm,20.0s
U56A King 94.17 34 P **P** **01 10 46.5 +0.5**
BG3 Lake Jocassee 94.19 36 IAmb IAmb 01 10 48.3
comp=Z,10nm,1.0s
V55A Taylorsville 94.23 34 P **P** **01 10 45.6 -0.6**
V55A IAMs_20 IAMs_20 02 00 35.4
comp=Z,1µm,20.0s
W54A Cherokee Point 94.45 35 P **P** **01 10 47.6 +0.4**
baz=327
U57A Blanch 94.53 33 P **P** **01 10 48.6 +1.0**
baz=329
Z51A Franklin 94.54 39 IAmb IAmb 01 10 49.3
Z51A comp=Z,8.7nm,0.7s
IAMs_20 IAMs_20 01 58 44.7
comp=Z,835nm,19.0s
V56A Mocksville 94.58 34 P **P** **01 10 48.2 +0.5**
baz=328
Y52A Lilburn 94.61 37 IAMs_20 IAMs_20 02 00 17.6
comp=Z,723nm,20.0s
KMSC Kings Mountain 94.78 35 P **P** **01 10 48.5 -0.2**
KMSC IAMs_20 IAMs_20 02 01 14.9
comp=Z,1µm,20.0s
T59A Double "B" Far 94.79 31 P **P** **01 10 49.2 +0.5**
baz=330
T59A Double "B" Far 94.79 31 IAMs_20 IAMs_20 02 02 06.1
comp=Z,988nm,18.0s
FURI Furi 94.83 286 P **P** **01 10 51.1 +1.5**
FURI IAmb IAmb 01 10 54.6
comp=Z,14nm,0.8s
FURI Furi 94.83 286 IAMs_20 IAMs_20 01 59 14.9
comp=Z,733nm,18.0s
PAULI Pauline 94.84 35 P **P** **01 10 48.5 -0.5**
PAULI IAmb IAmb 01 11 05.1
PAULI comp=Z,9.1nm,1.0s
IAMs_20 IAMs_20 01 58 27.5
comp=Z,1µm,21.0s
ESDC Sonseca Array 94.88 335 P **P** **01 10 48.7 -0.5**
comp=Z,5.2nm,0.7s,baz=18,slow=4.3,SNR=53
ESDC LR LR 01 58 58.0
comp=Z,2µm,18.7s,baz=25,slow=39
ESDC Sonseca Array 94.88 335 P **P** **01 10 49.0 -0.1**
U58A Oxford 94.89 32 P **P** **01 10 50.0 +0.8**
baz=330
T60A Surry 94.97 31 IAMs_20 IAMs_20 01 58 45.8
comp=Z,898nm,20.0s
HODGE Hodges 95.13 36 IAMs_20 IAMs_20 01 58 22.3
comp=Z,733nm,20.0s
V58A Windy Hill, Pi 95.17 33 IAMs_20 IAMs_20 01 56 59.2
comp=Z,1µm,21.0s
U59A Littleton 95.23 32 IAMs_20 IAMs_20 02 02 23.8
comp=Z,824nm,18.0s
152A Waverly Hall 95.29 39 IAMs_20 IAMs_20 01 58 59.6
comp=Z,671nm,19.0s
W57A Gilead 95.35 34 IAMs_20 IAMs_20 01 59 27.0
comp=Z,1µm,20.0s
X56A White Oak 95.46 35 P **P** **01 10 52.0 +0.1**
baz=328
V59A Middlesex 95.56 32 P **P** **01 10 53.6 +1.4**
baz=330
Y55A Saluda 95.56 36 P **P** **01 10 52.5 +0.2**
baz=327
U61A Possum Corner 95.79 31 IAMs_20 IAMs_20 02 01 18.4
comp=Z,1µm,20.0s
V60A Jim Taylor Roa 95.95 32 IAMs_20 IAMs_20 02 02 51.9
comp=Z,888nm,18.0s
154A Montrose 96.10 37 IAMs_20 IAMs_20 01 59 23.9
comp=Z,685nm,21.0s
X58A Rowland 96.14 34 IAMs_20 IAMs_20 02 00 05.8
comp=Z,878nm,20.0s
Y57A Sumter 96.14 35 IAMs_20 IAMs_20 02 00 00.0
comp=Z,1µm,20.0s
CNNC Cliffs of the 96.16 32 IAMs_20 IAMs_20 02 01 01.2
comp=Z,999nm,20.0s
352A Blakely 96.17 39 IAMs_20 IAMs_20 02 02 47.8
comp=Z,625nm,20.0s
V61A Roper 96.21 31 IAMs_20 IAMs_20 02 01 34.1
comp=Z,876nm,20.0s
Z56A Winston 96.30 36 IAMs_20 IAMs_20 01 59 24.1
comp=Z,1µm,21.0s
Y59A Loris 96.82 34 IAMs_20 IAMs_20 02 03 07.9
comp=Z,830nm,19.0s
TIGA Tifton 96.84 38 IAMs_20 IAMs_20 02 00 13.7
comp=Z,960nm,20.0s
255A Hazlehurst 96.96 37 IAMs_20 IAMs_20 01 53 39.8
comp=Z,739nm,21.0s
NHSC New Hope 97.01 35 IAMs_20 IAMs_20 02 00 38.0
comp=Z,1µm,20.0s
Y60A Bolivia 97.08 33 IAMs_20 IAMs_20 02 03 45.9
comp=Z,988nm,18.0s
257A Skidaway Islan 97.59 36 IAMs_20 IAMs_20 02 00 16.3
comp=Z,1µm,20.0s
456A Hilliard 98.18 38 IAMs_20 IAMs_20 01 54 03.0
comp=Z,744nm,21.0s
656A Willston 99.06 39 IAMs_20 IAMs_20 02 03 30.6
comp=Z,666nm,19.0s
060A Indiantown 102.06 38 IAMs_20 IAMs_20 02 06 01.8
comp=Z,681nm,19.0s
KMBO Kilima Mbogo 102.48 279 P **Pdif** **01 11 23.6 -0.3**
comp=Z,2.2nm,0.5s,baz=38,slow=7.1,SNR=11
KMBO Kilima Mbogo 102.48 279 P **Pdif** **01 11 24.3 +0.4**
KMBO MLR MLR
comp=Z,500nm,21.0s
KMBO Kilima Mbogo 102.48 279 Pdif **Pdif** **01 11 24.3 +0.4**
061Z Ochoppi 102.78 40 IAMs_20 IAMs_20 02 04 02.0
comp=Z,891nm,22.0s
TEIG Tepich 103.44 49 IAMs_20 IAMs_20 02 03 34.0
comp=Z,563nm,20.0s
TAM Tamanrasset 105.70 319 IAMs_20 IAMs_20 02 05 01.7
comp=Z,800nm,19.0s
MBAR Mbarara 107.02 284 IAMs_20 IAMs_20 02 06 30.2
comp=Z,706nm,19.0s
TOA0 Torodi Ar. Sit 115.75 317 **PKiKP** **01 16 09.5 -0.4**
TORD Torodi Ar. Bea 115.75 317 PKP **PKiKP** **01 16 08.6 -1.3**
comp=Z,2.5nm,0.6s,baz=4.6,slow=1.7,SNR=29
TORD Torodi Ar. Bea 115.75 317 **PKiKP** **01 16 09.0 -0.9**
KOWA Kowa 117.39 323 PKPdf **PKPdf** **01 16 13.0 0.0**
VNDA Vanda 118.03 175 PKP **PKPdf** **01 16 11.7 -0.7**
comp=Z,1.6nm,0.7s,baz=316,slow=4.3,SNR=23
VNDA PKKPab **PKKPbc** **01 26 33.0 -0.5**
comp=Z,0.7nm,0.9s,baz=242,slow=8.5,SNR=3.7
VNDA Vanda 118.03 175 PKIKP **PKiKP** **01 16 12.5 +0.1**
VNDA Vanda 118.03 175 **PKiKP** **01 16 12.5 +0.1**
ANWB Willy Bob 118.10 27 IAMs_20 IAMs_20 02 06 38.1
comp=Z,961nm,22.0s
LSZ Lusaka 118.33 274 PKIKP **PKiKP** **01 16 15.6 +0.7**
LSZ Lusaka 118.33 274 **PKiKP** **01 16 15.6 +0.7**
BLWY Bulawayo 120.89 269 *i* P **PKPdf** **01 16 17.5 -2.2**
BLWY Bulawayo 120.89 269 *i* P **PKPdf** **01 16 17.5 -2.2**
MATP Matopo 121.14 269 *i* P **PKPdf** **01 16 17.5 -2.7**
MATP Matopo 121.14 269 *i* P **PKPdf** **01 16 17.5 -2.7**
CBOC Ciudad Bolivar 121.99 47 *e*P **PKPdf** **01 16 21.8 -0.3**
SDV Santo Domingo 122.28 40 IAMs_20 IAMs_20 02 18 21.8
comp=Z,558nm,18.0s
PTBC PUERTO BERRIO 122.29 45 *e*P **PKPdf** **01 16 22.1 -0.4**
SOCV Socops 122.69 40 *e*P **PKiKP** **01 16 23.7 +0.3**
MAW Mawson 122.80 207 PKP **PKiKP** **01 16 22.0 +0.1**
comp=Z,4.2nm,0.6s,baz=88,slow=3.0,SNR=22
MAW PKKPbc **PKKPbc** **01 26 15.2 -0.3**
comp=Z,1.2nm,0.6s,baz=232,slow=9.0,SNR=3.7
MAW Mawson 122.80 207 PKIKP **PKiKP** **01 16 22.3 +0.4**
MAW Mawson 122.80 207 PKPdf **PKiKP** **01 16 22.3 +0.4**
GUY2C Guyana, Caldas 122.88 47 *e*P **PKPdf** **01 16 24.2 0.0**
BARC Barichara 122.93 44 *e*P **PKiKP** **01 16 25.3 +1.1**
GR1C Gorgona, Isla 123.05 51 *e*P **PKPdf** **01 16 22.6 -1.4**
SPBC San Pablo de B 123.24 45 *e*P **PKPdf** **01 16 23.9 -0.5**
YOTC Yotoco, Valle 123.33 49 *e*P **PKPdf** **01 16 23.7 -0.9**
TOLC Tolima 123.42 47 *e*P **PKPdf** **01 16 24.9 -0.2**
ANIL Santa Ana 123.46 47 *e*P **PKPdf** **01 16 24.4 -0.7**
RUSC La Rusia 123.57 44 *e*P **PKPdf** **01 16 25.6 0.0**
ROSC El Rosal 123.77 46 PKP **PKPdf** **01 16 25.9 +0.1**
comp=Z,8.0nm,0.4s,baz=122,slow=19,SNR=2.5
ROSC El Rosal 123.77 46 IAMs_20 IAMs_20 02 08 45.6
comp=Z,549nm,20.0s
ORTC Ortega, Tolima 124.02 48 *e*P **PKPdf** **01 16 25.3 -0.6**
CHIC Chingaza 124.27 46 *e*P **PKPdf** **01 16 27.0 +0.2**
POPC Popayan, Colom 124.31 50 *e*P **PKPdf** **01 16 26.3 -0.4**
BBAC Balboa, Cauca 124.38 51 *e*P **PKPdf** **01 16 26.3 -0.5**
PRAC Prado 124.38 47 *e*P **PKPdf** **01 16 26.3 -0.3**
ELOV Elorza 124.47 40 *e*P **PKiKP** **01 16 27.4 +0.4**
MARP Paez Belalcaza 124.48 49 *e*P **PKPdf** **01 16 26.6 -0.4**
DBIC Dimbokro 124.59 320 PKP **PKPdf** **01 16 26.8 -0.1**
comp=Z,10nm,0.6s,baz=12,slow=2.5,SNR=24
DBIC PP **PP** **01 18 11.7 -1.2**
comp=Z,7.1nm,0.7s,baz=21,slow=6.7,SNR=3.8
TIC Toumodi 124.69 320 *e*PKP1 **PKPdf** **01 16 26.7 -0.4**
VILC Villavicencio, 124.72 46 *e*P **PKiKP** **01 16 27.9 +0.2**
KIC Kosan Boka 124.80 319 *e*PKP1 **PKPdf** **01 16 26.5 -0.8**
comp=Z,24nm,0.8s
LIC Lamto 125.06 320 *e*PKP1 **PKPdf** **01 16 27.3 -0.5**
comp=Z,30nm,0.8s
OTAV Otavalo 125.06 53 IAMs_20 IAMs_20 02 20 21.4
comp=Z,476nm,18.0s
GARC Garzon, Huila 125.28 49 *e*P **PKiKP** **01 16 29.0 +0.1**
LBTB Lobatse 125.91 266 PKIKP **PKiKP** **01 16 30.0 +0.4**
LBTB Lobatse 125.91 266 PKPdf **PKiKP** **01 16 30.0 +0.4**
BOSA Boshof 128.04 262 PKP **PKiKP** **01 16 33.9 +0.1**
comp=Z,9.6nm,0.8s,baz=119,slow=1.6,SNR=14
QSPA South Pole Qui 129.93 180 PKPdf **PKPdf** **01 16 35.3 -0.2**
SYO Syowa Base 131.46 208 *e*PKiKP **PKiKP** **01 16 41.6 +2.5**
ETMB Extrema 140.35 48 *e*P **PKPdf** **01 16 57.6 +1.1**
NVL N'lazarevskaya 140.57 203 *e*PKIKP **PKiKP** **01 16 58.1 +0.4**
NVL pmax pmax
comp=Z,8.0nm,0.7s
SAML Samuel 141.30 44 *e*P **PKPdf** **01 16 53.3 -4.8**
SAML Samuel 141.30 44 PKIKP **PKPdf** **01 16 58.6 +0.4**
SAML MLR MLR
comp=Z,700nm,22.0s
SAML Samuel 141.30 44 PKPdf **PKPdf** **01 16 58.6 +0.4**
SAML IAMs_20 IAMs_20 02 18 59.2
comp=Z,737nm,22.0s
BELA Belgrano 2 142.19 181 PKPdf **PKPdf** **01 16 53.0 -4.9**
SNAA Sanae 144.05 198 PKPdf PKPbc 01 16 59.4 0.0
SNAA Sanae 144.05 198 IAMs_20 IAMs_20 02 22 23.7
comp=Z,404nm,20.0s
LPAZ La Paz 144.21 57 PKP PKPbc 01 17 02.2 +0.1
comp=Z,4.5nm,0.5s,baz=291,slow=1.7,SNR=30
LPAZ La Paz 144.21 57 *e*P **PKPab** **01 17 01.3 -0.4**
VNA2 Neumayer--Watz 145.62 197 PKPdf **PKPbc** **01 17 04.5 +0.2**
baz=133,slow=0.5
RCBR Riachuelo 145.76 357 PKP2 **PKPab** **01 17 07.0 +0.1**
RCBR MLR MLR
comp=Z,500nm,20.0s
RCBR Riachuelo 145.76 357 **PKPab** **01 17 07.0 +0.1**
RCBR Riachuelo 145.76 357 IAMs_20 IAMs_20 02 20 33.8
comp=Z,515nm,20.0s
VNA3 Neumayer Olymp 145.86 196 PKPdf **PKPdf** **01 17 04.6 +0.2**
VNA1 Neumayer--Stat 146.01 197 PKPdf **PKPbc** **01 17 05.7 +0.2**
LVC Limon Verde 148.08 66 PKP2 **PKPbc** **01 17 12.8 -0.5**
LVC Limon Verde 148.08 66 **PKPbc** **01 17 12.8 -0.5**
VA01 Torpederas 151.67 86 PKPbc **PKiKP** **01 17 22.2 +0.5**
VA03 San Esteban 152.40 85 PKPbc **PKiKP** **01 17 24.3 +0.9**
BO02 Sierra Bellavi 153.02 89 PKPbc **PKiKP** **01 17 26.0 +1.5**
GO09 Cerro Castillo 153.42 126 **PKiKP** **01 17 26.2 +1.4**
LC01 Cunco 153.43 98 PKPab **PKPab** **01 17 41.0 +3.5**
LL01 San Ignacio de 153.66 106 PKPbc **PKiKP** **01 17 26.8 +1.3**
BDFB Brasilia 153.83 24 PKPbc **PKiKP** **01 17 27.2 +0.5**
comp=Z,11nm,0.7s,baz=195,slow=2.4,SNR=17
BDFB Brasilia 153.83 24 **PKiKP** **01 17 27.6 +0.8**
BDFB PKPab **sPKPbc** **01 17 41.4 +0.5**
PLCA Paso Flores 154.80 102 PKP **PKPdf** **01 17 20.4 +1.0**
comp=Z,1.3nm,0.7s,baz=260,slow=1.9,SNR=4.0
PLCA PKPbc **pPKPdf** **01 17 29.3 -0.6**
comp=Z,3.3nm,0.6s,baz=244,slow=1.5,SNR=16
PLCA Paso Flores 154.80 102 pPKPdf 01 17 29.4 -0.5

TIR ***03*** *01:04:26.7, 41.20N×20.07E, h12km, Md2.7*
SKO ***03*** *01:04:27.7, 41.17N×20.05E, h5km*
PDG ***03*** *01:04:27.5±0.3, 41.19N×19.95E, h13km, ML2.6/13, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*
BEO ***03*** *01:04:28.2±0.5, 41.23N×20.12E, h5km±2km, ML2.2/6*
THE ***03*** *01:04:28.0, 41.22N×20.08E, h0km±2km, ML2.1/5, Error ellipse: s-maj=2.1km s-min=0.6km az=39.0*

ISC 03 01:04:27.9±0.9, 41.21N±0.02×20.05E±0.02, h12km±6km, n64, σ0.893/105, 10C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TIR	**Tirane**	**0.19**	**315**	P		**Pg**	**01 04 31.8**	**-0.4**
TIR				S		**Sg**	**01 04 35.9**	**+0.8**
	1µm,0.4s							
TIR	**Tirane**	**0.19**	**315**	*e*Pg		**Pg**	**01 04 31.7**	**-0.4**
TIR				*e*Sg		**Sg**	**01 04 35.9**	**+0.8**
TIR	**Tirane**	**0.19**	**315**	P		**Pg**	**01 04 31.8**	**-0.4**
	baz=314							
TIR				S		**Sg**	**01 04 35.3**	**+0.2**
	baz=314							
PHP	**Peshkopia**	**0.56**	**32**	P		**Pg**	**01 04 38.0**	**-0.8**
PHP				S		**Sg**	**01 04 46.8**	**+0.6**
PHP	**Peshkopia**	**0.56**	**32**	P		**Pg**	**01 04 38.1**	**-0.8**
	baz=29							
PHP				S		**Sg**	**01 04 46.5**	**+0.3**
	baz=29							
OHR	**Ohrid**	**0.57**	**100**	*i*Pg		**Pg**	**01 04 38.2**	**-0.9**
OHR				*i* Sg		**Sg**	**01 04 46.4**	**-0.4**
OHR				*e*Lg		Lg	01 04 47.8	

	comp=N,52nm,0.3s							
OHR	**Ohrid**	**0.57**	**100**	P		**Pg**	**01 04 38.2**	**-0.9**
	baz=98							
PUK	**Puka**	**0.84**	**352**	P		**Pg**	**01 04 43.4**	**-0.8**
	baz=352							
PUK				S		**Sb**	**01 04 56.6**	**+0.9**
	baz=352							
ULC	**Ulcinj**	**0.96**	**322**	⇑*i*Pg		**Pg**	**01 04 44.9**	**-1.6**
ULC				*i* Sg		**Sb**	**01 04 59.7**	**+0.4**
NEST	**Nestorio**	**1.10**	**136**	P		**Pg**	**01 04 48.5**	**-0.5**
NEST				S		**Sn**	**01 05 05.2**	**+0.9**
	comp=N,58nm,0.7s							
LSK	**Leskovik**	**1.14**	**158**	P		**Pb**	**01 04 47.9**	**-1.7**
	baz=158							
LSK				S		**Sb**	**01 05 04.8**	**+0.4**
	baz=158							
BCI	**Bajram Curri**	**1.16**	**1**	P		**Pb**	**01 04 48.9**	**-0.9**
	baz=0.0							
BCI				S		**Sn**	**01 05 06.5**	**+0.8**
	baz=0.0							
DRME	**Dracevica, Mon**	**1.17**	**327**	⇓*i*Pg		**Pb**	**01 04 48.8**	**-1.2**
DRME				*i* Sg		**Sn**	**01 05 06.9**	**+0.9**
DRME	**Dracevica, Mon**	**1.17**	**327**	*e*Pn		**Pb**	**01 04 48.1**	**-1.9**
SKO	**Skopje**	**1.29**	**53**	*e*Pg		**Pn**	**01 04 51.5**	**-0.2**
SKO				*e*Sg		**Sb**	**01 05 07.9**	**-0.7**
SKO	**Skopje**	**1.29**	**53**	⇑*i*Pg		**Pn**	**01 04 51.7**	**0.0**
SKO				*i* Sg		**Sg**	**01 05 09.6**	**+0.1**
SKO				*e*Lg		Lg	01 05 14.7	
	comp=N,8.7nm,0.4s							
SRN	**Sarande**	**1.33**	**182**	P		**Pn**	**01 04 52.5**	**+0.2**
SRN				S		**Sg**	**01 05 13.6**	**+2.9**
	comp=N,65nm,0.7s							
SRN	**Sarande**	**1.33**	**182**	P		**Pn**	**01 04 52.4**	**+0.2**
	baz=183							
SRN				S		**Sg**	**01 05 10.9**	**+0.2**
	baz=183							
PDG	**Podgorica**	**1.35**	**334**	*e*Pg		**Pn**	**01 04 53.0**	**+0.4**
PDG				*e*Sg		**Sg**	**01 05 11.9**	**+0.4**
PDG	**Podgorica**	**1.35**	**334**	*e*Pn		**Pn**	**01 04 51.3**	**-1.3**
TTG	**Podgorica**	**1.35**	**334**	⇑*i*Pg		**Pn**	**01 04 52.3**	**-0.3**
TTG				*i* Sg		**Sg**	**01 05 13.4**	**+1.9**
PVY	**Plav**	**1.38**	**357**	⇓*i*Pg		**Pn**	**01 04 52.3**	**-0.8**
PVY				*i* Sg		**Sg**	**01 05 14.7**	**+2.2**
BUM	**Brajici-Budva**	**1.39**	**322**	⇑*i*Pg		**Pn**	**01 04 52.8**	**-0.4**
BUM				*i* Sg		**Sg**	**01 05 14.0**	**+1.3**
KEK	**Kerkira**	**1.51**	**187**	P		**Pb**	**01 04 55.6**	**-0.2**
KEK				S		**Sg**	**01 05 16.9**	**+0.5**
	comp=N,55nm,0.5s							
CEME	**Cevo**	**1.58**	**328**	⇑*i*Pg		**Pn**	**01 04 56.0**	**+0.2**
CEME				*i* Sg		**Sg**	**01 05 18.7**	**0.0**
IVA	**Berane**	**1.66**	**356**	⇑*i*Pn		**Pn**	**01 04 57.6**	**+0.7**
IVA				*i* Sn		**Sg**	**01 05 21.5**	**+0.1**
STIP	**Stip**	**1.68**	**73**	⇑*i*Pg		**Pg**	**01 05 00.2**	**+0.1**
KOME	**Kolasin**	**1.69**	**347**	⇑*i*Pn		**Pn**	**01 04 57.7**	**+0.5**
KOME				*i* Sn		**Sg**	**01 05 21.7**	**-0.4**
IGT	**Igoumenitsa**	**1.69**	**173**	P		**Pn**	**01 04 58.0**	**+0.8**
IGT				S		**Sg**	**01 05 21.5**	**-0.7**
	comp=N,50nm,0.5s							
IGT	**Igoumenitsa**	**1.69**	**173**	P		**Pn**	**01 04 58.1**	**+0.9**
	baz=173							
IGT				S		**Sg**	**01 05 22.1**	**-0.1**
	baz=173							
HCY	**Herceg Novi**	**1.70**	**317**	⇓*i*Pn		**Pn**	**01 04 57.5**	**+0.2**
HCY				*i* Sn		**Sb**	**01 05 21.2**	**+0.9**
HCY	**Herceg Novi**	**1.70**	**317**	*e*Pn		**Pn**	**01 04 57.2**	**-0.1**
NKME	**Niksic**	**1.76**	**333**	*e*Pn		**Pn**	**01 04 58.5**	**+0.3**
NKME				*i* Sn		**Sb**	**01 05 23.1**	**+1.0**
NKY	**Niksic**	**1.78**	**334**	*e*Pn		**Pn**	**01 04 58.9**	**+0.3**
NKY				*i* Sn		**Sb**	**01 05 23.8**	**+0.9**
VAY	**Valandovo**	**1.90**	**86**	*i* Pn		**Pb**	**01 05 02.4**	**-0.1**
VAY				*i* Sn		**Sg**	**01 05 28.5**	**-0.6**
VAY				*e*Lg		Lg	01 05 30.9	
	comp=N,13nm,0.2s							
BRY	**Bratogost**	**2.03**	**327**	⇓*i*Pn		**Pn**	**01 05 02.2**	**+0.2**
BRY				*i* Sn		**Sb**	**01 05 29.5**	**-0.5**
BRY	**Bratogost**	**2.03**	**327**	*e*Pn		**Pn**	**01 05 02.7**	**+0.7**
DBRK	**Dubrovnik**	**2.03**	**316**	*e*Pn		**Pb**	**01 05 04.1**	**-0.6**
DBRK				Sn		**Sn**	**01 05 28.4**	**+1.2**
SJES	**Sjenica**	**2.05**	**358**	*e*Pg		**Pb**	**01 05 05.4**	**+0.3**
SJES				*e*Sg		**Sg**	**01 05 33.5**	**-0.3**
SELS	**Selova**	**2.16**	**21**	*e*Pg		**Pn**	**01 05 05.2**	**+1.5**
UPM	**Unac-Piva**	**2.16**	**337**	⇑*i*Pn		**Pn**	**01 05 04.3**	**+0.4**
UPM				*i* Sn		**Sb**	**01 05 33.1**	**-0.9**
UPM	**Unac-Piva**	**2.16**	**337**	*e*Pn		**Pn**	**01 05 05.6**	**+1.7**
PLE	**Pljevlja**	**2.17**	**347**	⇓*i*Pn		**Pn**	**01 05 04.6**	**+0.6**
PLE				*i* Sn		**Sb**	**01 05 33.4**	**-0.7**
BOSS	**Bosilegrad**	**2.22**	**54**	*e*Pg		**Pb**	**01 05 04.8**	**-1.2**
BOSS				*e*Sg		**Sb**	**01 05 37.0**	**+1.5**
IVAS	**Ivanjica**	**2.37**	**2**	*e*Pg		**Pb**	**01 05 10.6**	**+0.2**
STON	**Ston**	**2.41**	**314**	*e*Pn		**Pn**	**01 05 08.4**	**+1.3**
STON				Sn		**Sn**	**01 05 36.4**	**-0.1**
RUDO	**Rudo**	**2.46**	**348**	*e*Pn		**Pn**	**01 05 09.6**	**+1.8**
EVGI	**Lefkada island**	**2.63**	**170**	P		**Pn**	**01 05 11.2**	**+1.1**
BBLS	**Lazići**	**2.70**	**350**	*e*Pn		**Pn**	**01 05 12.4**	**+1.3**
BBLS	**Lazići**	**2.70**	**350**	*e*Pn		**Pb**	**01 05 16.4**	**+0.3**
GRUS	**Gruza**	**2.72**	**10**	*e*Pn		**Pn**	**01 05 12.8**	**+1.4**
ZAPS	**Zavoj**	**2.82**	**42**	*e*Pn		**Pn**	**01 05 13.0**	**+0.3**
LSTV	**Lastovo**	**2.82**	**305**	Sn		**Sn**	**01 05 44.2**	**-2.4**
DIVS	**Divibare**	**2.89**	**359**	*e*Pn		**Pn**	**01 05 14.6**	**+0.9**
DIVS	**Divibare**	**2.89**	**359**	*e*Pn		**Pn**	**01 05 15.0**	**+1.3**
HAPS	**Han Pijesak,Bl**	**2.98**	**345**	*e*Pn		**Pn**	**01 05 15.5**	**+0.4**
HAPS	**Han Pijesak,Bl**	**2.98**	**345**	*e*Pn		**Pn**	**01 05 14.1**	**-1.0**
MAKA	**Makarska**	**3.06**	**314**	Sn		**Sn**	**01 05 53.1**	**+0.5**
ZAGS	**Zajecar**	**3.06**	**31**	*e*Pn		**Pn**	**01 05 16.2**	**+0.2**
RICI	**Ricice**	**3.14**	**318**	*e*Pn		**Pn**	**01 05 17.3**	**+0.1**
RICI				Sn		**Sn**	**01 05 55.6**	**+1.0**
KIJV	**Kijevo**	**3.88**	**317**	*i* Pn		**Pn**	**01 05 27.4**	**+0.1**
KIJV				Sn		**Sn**	**01 06 12.2**	**-0.5**
MORI	**Morici**	**4.16**	**311**	Sn		**Sn**	**01 06 20.6**	**+0.9**
UDBI	**Udbina**	**4.57**	**318**	*e*Pn		**Pn**	**01 05 37.5**	**+0.6**
UDBI				Sn		**Sn**	**01 06 29.1**	**-0.9**
DUGI	**Dugi Otok**	**4.61**	**309**	*i* Pn		**Pn**	**01 05 37.3**	**-0.1**
DUGI				Sn		**Sn**	**01 06 29.5**	**-1.4**

PRU 03 01:06:42.3±0.0,**50.05N**×**18.40E**,**h0**km,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**218**	*e*PG	Pg	01 06 47.8	+0.4
OKC				*e*SG	Sg	01 06 51.8	+0.9
	comp=Z,19nm,0.7s						
MORC	**Moravsky Berou**	**0.62**	**244**	*e*PG	Pg	01 06 54.0	-0.1
MORC				*e*SG	Sg	01 07 02.4	+0.3
KRLC	**Kraliky**	**1.04**	**272**	*e*PG	Pg	01 07 01.0	-1.3
KRLC				*e*SG	Sg	01 07 15.9	+0.1
	comp=Z,6.4nm,0.3s						
LANS	**Liptovska Anna**	**1.14**	**142**	*e*PG	Pg	01 07 03.9	-0.2
LANS				*e*LG	Lg	01 07 22.2	
JAVC	**Velka Javorina**	**1.28**	**202**	*e*PG	Pg	01 07 06.2	-0.7
DPC	**Dobruska-Polom**	**1.37**	**283**	*e*PG	Pg	01 07 07.3	-1.2
DPC				*e*SG	Sg	01 07 26.0	-0.2
	comp=Z,7.3nm,0.5s						
VRAC	**Vranov**	**1.39**	**238**	*e*SG	Sg	01 07 26.7	-0.2
VRAC	**Vranov**	**1.39**	**238**	*e*PG	Pg	01 07 07.8	-1.1
OSTC	**Ostas**	**1.49**	**291**	*e*SG	Sg	01 07 29.8	-0.3
VYHS	**Vyhne**	**1.58**	**169**	*e*PN	Pn	01 07 10.3	-1.3
VYHS				*e*SN	Sn	01 07 32.2	-0.6
CHVC	**Chvalec**	**1.60**	**291**	*e*PG	Pn	01 07 10.7	-1.1
CHVC				*e*SG	Sg	01 07 34.3	+0.7
UPC	**Upice**	**1.60**	**288**	*e*SG	Sg	01 07 34.2	+0.6
KRUC	**Moravsky**	**1.64**	**234**	*e*PN	Pn	01 07 12.0	-0.4
KRUC				*e*SG	Sb	01 07 34.5	0.0
PRU	**Pruhonice**	**2.49**	**270**	*e*SG	Sg	01 08 01.5	-0.7
KHC	**Kasperske Hory**	**3.27**	**255**	*e*SG	Sg	01 08 24.7	-2.6

IDC 03 01:11:08.0±2.7,**4.65N**×**124.16E**,**h0**km,**mb3.7**/3,
mb1 3.9/3,**mb1mx3.5**/29,**mbtmp3.7**/3,**Error ellipse:**
s-maj=341.6km s-min=26.4km az=64.0,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.41**	**158**	P	P	01 16 46.9	+0.3
	0.5nm,0.3s,baz=337,slow=9.9,SNR=8.1						
ASAR	**Alice Springs**	**29.71**	**162**	P	P	01 17 15.6	-0.5
	0.4nm,0.5s,baz=349,slow=7.5,SNR=2.1						
MKAR	**Makanchi Array**	**55.36**	**326**	P	P	01 20 43.8	-0.1
	0.4nm,0.4s,baz=124,slow=8.8,SNR=7.1						

REY ***03*** *01:41:35.0,64.68N*×*17.50W,h4km*

IDC ***03*** *01:41:35.6*±*0.5,64.60N*×*17.59W,h0km,mb4.3/20, mb1 4.4/25,mb1mx4.2/40,mbtmp4.2/25,ML2.8/4,MS4.1/14, Ms1 4.1/14,ms1mx3.9/46,Error ellipse: s-maj=16.4km s-min=9.9km az=17.0*

MOS ***03*** *01:41:35.9*±*1.1,64.68N*×*17.42W,h10km,mb4.7/74,Error ellipse: s-maj=9.2km s-min=4.7km az=114.5*

BJI ***03*** *01:41:35.1*±*0.0,64.77N*×*17.40W,h7km,mB5.2/16, mb4.8/28,Ms4.9/3,Ms7 4.6/3*

NEIC ***03*** *01:41:37.5*±*1.5,64.61N*±*0.08*×*17.52W*±*0.09,h10km*±*1km, mb4.8/178,Error ellipse: s-maj=14.2km s-min=6.1km az=186.0*

GCMT ***03*** *01:41:39.5*±*0.3,64.54N*±*0.03*×*17.24W*±*0.08,h14km*±*1km, MW4.8/96,Moment Tensor Solution. s21,c23; s96,c118; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr=1.94*±*.16; Mθθ 1.03*±*.10; Mϕϕ 0.91*±*.10; Mrθ -1.05*±*.28; Mϕθ -0.10*±*.05; Mϕr~0.01*±*.29; Best double couple: M=1.82900*×*10*^{16} *NP1:*ϕ*=289.00000°,*δ*28.00000°,*λ*=-81.00000°. NP2:* ϕ*=99.00000°,*δ*62.00000°,*λ*=-95.00000°. Principal axes: T 1.3840, Plg17.0000°, Azm192.0000°; N 0.8900, Plg4.0000°, Azm101.0000°; P -2.2740, Plg72.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***03*** *01:41:40.5*±*0.0,65.61N*×*14.84W,h5km,mb4.2*

ISC 03 01:41:37.6±**0.3,64.64N**±**0.03**×**17.46W**±**0.02,h10**km,**n573,**
s18/**37**/521,**mb4.7**/182,**MS4.1**/14,**24C-5D,Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.13**	**283**	P	**Pg**	**01 41 37.6**	**-3.1**
	baz=268						
IDYN	**Dyngjuhals**	**0.15**	**15**	P	**Pg**	**01 41 37.8**	**-3.3**
	baz=26						
IDJK	**Dyngjujokull**	**0.17**	**145**	P	**Pg**	**01 41 39.4**	**-2.0**
	baz=147						
IURH	**Urdarhals**	**0.22**	**37**	P	**Pg**	**01 41 39.6**	**-2.6**
	baz=46						
IGRF	**Grimsfjall**	**0.25**	**161**	P	**Pg**	**01 41 40.7**	**-2.1**
	baz=160						
IKVE	**Kverkfjoll**	**0.34**	**84**	P	**Pg**	**01 41 41.9**	**-2.5**
	baz=90						
IBJK	**Bruarjokull**	**0.35**	**120**	P	**Pg**	**01 41 42.0**	**-2.6**
	baz=123						
IHUS	**Husbondi**	**0.36**	**194**	P	**Pg**	**01 41 42.5**	**-2.2**
	baz=190						
IVOT	**Vottur**	**0.39**	**162**	P	**Pg**	**01 41 43.1**	**-2.2**
	baz=162						
ISKR	**Skrokkalda**	**0.41**	**259**	P	**Pg**	**01 41 42.3**	**-3.3**
	baz=253						
THOR	**Thorvaldshraun**	**0.45**	**49**	P	**Pg**	**01 41 43.3**	**-2.9**
	baz=53						
IJOK	**Jokulheimar**	**0.47**	**225**	P	**Pg**	**01 41 44.2**	**-2.5**
	baz=221						
IKRE	**Kreppuhraun**	**0.48**	**73**	P	**Pg**	**01 41 43.9**	**-3.1**
	baz=77						
IASK	**Askja**	**0.54**	**40**	P	**Pg**	**01 41 44.7**	**-3.3**
	baz=44						
IMKO	**Mokollar**	**0.58**	**55**	S	**Sg**	**01 41 54.4**	**-2.3**
	baz=58						
IMKO				P	**Pg**	**01 41 45.7**	**-3.2**
	baz=58						
IIEY	**Innrieyrar**	**0.62**	**208**	P	**Pg**	**01 41 46.9**	**-2.7**
	baz=205						
ISVA	**Svartarkot**	**0.70**	**7**	P	Pg	01 41 47.0	-4.2
	baz=8.7						
IKAL	**Kalfafell**	**0.71**	**188**	P	**Pg**	**01 41 47.9**	**-3.2**
	baz=187						
IVSH	**V-Sauoahnukur**	**0.76**	**77**	P	**Pg**	**01 41 48.6**	**-3.7**
	baz=79						
IVAT	**Vatnsfell**	**0.78**	**235**	P	**Pg**	**01 41 49.7**	**-2.9**
	baz=232						
IFAG	**Fagurholsmyri**	**0.85**	**155**	P	**Pg**	**01 41 50.9**	**-3.0**
	baz=155						
IADA	**Aoalbol**	**0.89**	**64**	P	Pg	01 41 50.6	-4.1
	baz=66						
IHVE	**Hveravellir**	**0.93**	**285**	P	Pg	01 41 50.8	-4.7
	baz=283						
IMEL	**Melhnausar**	**0.99**	**20**	P	Pg	01 41 52.2	-4.4
	baz=21						
IREN	**Reynihlio**	**1.03**	**13**	P	Pg	01 41 53.0	-4.5
	baz=14						
ISNB	**Snabyli**	**1.05**	**210**	P	**Pg**	**01 41 54.0**	**-3.6**
	baz=208						
IKVO	**Krokottuvotn**	**1.10**	**13**	P	Pb	01 41 53.9	-4.8
	baz=14						
IGRS	**Grimsstaoir**	**1.15**	**29**	P	Pb	01 41 55.0	-4.5
	baz=30						
ISKI	**Skildingahlsh**	**1.25**	**8**	P	Pn	01 41 55.9	-5.1
	baz=9.1						
IGYG	**Gygjarholskot**	**1.25**	**254**	P	**Pn**	**01 41 57.3**	**-3.7**
	baz=253						
IGHA	**Grjothals**	**1.25**	**15**	P	Pn	01 41 56.3	-4.8
	baz=16						
IGRA	**Granastaoir**	**1.28**	**358**	P	Pn	01 41 56.8	-4.7
	baz=358						
IHAU	**Haukadalur**	**1.28**	**239**	P	**Pn**	**01 41 57.9**	**-3.7**
	baz=238						
IDIM	**Dimmadalss**	**1.34**	**9**	P	Pn	01 41 57.7	-4.6
	baz=10						
BORG	**Borgarnes**	**1.67**	**275**	Pg	**Pn**	**01 42 03.4**	**-3.4**
	91nm,0.3s,baz=98,slow=10,SNR=64						
BORG				Lg	Lg	01 42 25.9	
	27nm,0.3s,baz=40,slow=17,SNR=6.4						
BORG	**Borgarnes**	**1.67**	**275**	P	**Pn**	**01 42 04.1**	**-2.7**
BORG						01 42 28.7	
BORG	**Borgarnes**	**1.67**	**275**	Pn	**Pn**	**01 42 04.1**	**-2.7**
BORG				Sg	**Sn**	**01 42 28.7**	**+0.5**
SCO	**Scoresbysund**	**6.11**	**346**	*e*	**Pn**	**01 43 04.6**	**-3.1**
	baz=166,slow=9.3						
SCO				*i* P	**Pn**	**01 43 08.1**	**+0.3**
JMIC	**Jan Mayen**	**7.21**	**24**	LR	LR	01 45 41.3	
	comp=Z,764nm,20.4s,baz=224,slow=34						
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**01 44 24.3**	**-0.5**
	baz=322,slow=13,SNR=20						
ESK	**Eskdalemuir**	**11.73**	**136**	P	**Pn**	**01 44 25.0**	**+0.2**
ESK	**Eskdalemuir**	**11.73**	**136**		**Pn**	**01 44 24.9**	**+0.2**
DAG	**Danmarks Havn**	**12.20**	**359**	*i* P	**Pn**	**01 44 34.7**	**+3.7**
DAG				pmax	pmax		
	comp=Z,20nm,1.3s						
DAG	**Danmarks Havn**	**12.20**	**359**	*i* P	**Pn**	**01 44 34.7**	**+3.7**
	comp=Z,20nm,1.3s						
DAG	**Danmarks Havn**	**12.20**	**359**	*i* P	**Pn**	**01 44 34.8**	**+3.7**
DAG				IAmb	IAmb	01 44 38.3	
	comp=Z,20nm,1.3s						
NC204	**NORSAR Array S**	**13.21**	**92**	Pn	**Pn**	**01 44 45.5**	**+0.5**
NBO00	**NORSAR Array S**	**13.33**	**93**	Pn	**Pn**	**01 44 47.1**	**+0.5**
NB2	**NORSAR Subarra**	**13.52**	**92**	Pn	**Pn**	**01 44 45.7**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=298,slow=14						
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**01 44 48.2**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=5.3						
NC602	**NORSAR Array S**	**13.80**	**93**	Pn	**Pn**	**01 44 51.9**	**-1.1**
GOET	**G??ttrup**	**14.97**	**108**	*i* P	**P**	**01 45 19.1**	**+4.7**
GOET	**G??ttrup**	**14.97**	**108**	*e*P	**P**	**01 45 19.1**	**+4.7**
HFS	**Hagfors**	**15.03**	**93**	Pn	**Pn**	**01 45 08.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=303,slow=14,SNR=4.8						
HFS	**Hagfors**	**15.03**	**93**	P	**Pn**	**01 45 08.0**	**-1.7**
MUD	**Monsted U'grnd**	**15.34**	**110**	*e*P	**P**	**01 45 17.6**	**-0.9**
MUD	**Monsted U'grnd**	**15.34**	**110**	*i* P	**P**	**01 45 17.6**	**-0.9**
MUD	**Monsted U'grnd**	**15.34**	**110**	*e*P	**P**	**01 45 17.7**	**-0.9**
NOR	**Nord**	**17.05**	**0**	*i* P	**P**	**01 45 39.1**	**+1.7**
NOR				pmax	pmax		
	comp=Z,24nm,1.2s						
NOR	**Nord**	**17.05**	**0**	*i* P	**P**	**01 45 39.1**	**+1.7**
	comp=Z,24nm,1.2s						
NOR	**Nord**	**17.05**	**0**	*i* P	**P**	**01 45 39.1**	**+1.7**
NOR				IAmb	IAmb	01 45 40.3	
	comp=Z,24nm,1.2s						
ARCES	**ARCESS Array B**	**17.12**	**55**	P	**Pn**	**01 45 37.3**	**+0.7**
	baz=289,slow=11,SNR=3.8						
ARCES				LR	LR	01 51 08.9	
	comp=Z,690nm,18.3s,baz=250,slow=33						
BSEG	**Bad Segeberg**	**17.61**	**114**	P	**Pn**	**01 45 43.0**	**+0.3**
BSEG				pmax	pmax		
	comp=Z,41nm,1.7s						
BSEG	**Bad Segeberg**	**17.61**	**114**	*e*P	**Pn**	**01 45 42.3**	**-0.4**
	baz=328,slow=11						
IBBN	**Ibbenburen**	**17.90**	**122**	*e*P	**P**	**01 45 48.2**	**+1.2**
	comp=Z,12nm,1.1s,baz=328,slow=11						
ROSF	**Rostrenen**	**18.05**	**148**	*e*P	**P**	**01 45 49.8**	**+1.2**
ROSF				pmax	pmax		
	comp=Z,71nm,1.6s						
SNF	**Seneffe**	**18.20**	**131**	P	**P**	**01 45 50.0**	**-0.2**
SGMF	**Saint Gilles**	**18.29**	**147**	*e*P	**P**	**01 45 51.8**	**+0.5**
SGMF				pmax	pmax		
	comp=Z,57nm,1.6s						
FLN	**La Foliniere**	**18.34**	**142**	*e*P	**Pn**	**01 45 50.8**	**-0.9**
FLN				pmax	pmax		
	comp=Z,35nm,1.4s						
RGN	**Rugen**	**18.36**	**109**	*e*P	**Pn**	**01 45 51.5**	**-0.4**
RGN	**Rugen**	**18.36**	**109**	*e*P	**Pn**	**01 45 47.1**	**-4.9**
	baz=328,slow=11						
RGN	**Rugen**	**18.36**	**109**	Pn	**Pn**	**01 45 49.5**	**-2.5**
BEBN	**Eben Emael**	**18.41**	**128**	P	**P**	**01 45 52.6**	**0.0**
BUG	**Bochum--Univer**	**18.43**	**124**	P	**Pn**	**01 45 53.9**	**+1.1**
BUG				pmax	pmax		
	comp=Z,37nm,1.5s						
BUG	**Bochum--Univer**	**18.43**	**124**	*e*P	**Pn**	**01 45 53.9**	**+1.1**
	comp=Z,13nm,1.0s,baz=328,slow=11						
BMRD	**Maredsous**	**18.53**	**130**	P	**Pn**	**01 45 55.7**	**+1.6**
BGES	**Gesves**	**18.57**	**130**	P	**P**	**01 45 54.0**	**-0.4**
BCLA	**Clavier**	**18.61**	**129**	P	**P**	**01 45 53.8**	**-1.0**
NRDL	**Niedersach Rie**	**18.63**	**118**	*e*P	**P**	**01 45 54.5**	**-0.4**
	comp=Z,14nm,1.1s,baz=328,slow=11						
DOU	**Dourbes**	**18.65**	**131**	P	**P**	**01 45 54.9**	**-0.4**
MEM	**Membach**	**18.69**	**128**	P	**P**	**01 45 54.4**	**-1.2**
BTNL	**Ternell**	**18.75**	**127**	P	**P**	**01 45 55.9**	**-0.4**
RCHB	**Rochefort**	**18.81**	**130**	P	**P**	**01 45 55.8**	**-1.2**
BHOU	**Houvegnez**	**18.90**	**128**	P	**P**	**01 45 56.7**	**-1.3**
AHRW	**Bad Neuenahr-A**	**19.11**	**126**	*e*P	**Pn**	**01 46 01.8**	**+0.7**
	comp=Z,20nm,1.0s,baz=328,slow=11						
ASSE	**Asse, Remlinge**	**19.14**	**118**	*e*P	**P**	**01 46 00.2**	**-0.2**
	baz=328,slow=11						
CLZ	**Clausthal**	**19.25**	**119**	*e*P	**P**	**01 46 01.9**	**+0.1**
	comp=Z,15nm,1.1s,baz=328,slow=11						
WLF	**Walferdange**	**19.54**	**129**	P	**Pn**	**01 46 06.4**	**+0.1**
WLF	**Walferdange**	**19.54**	**129**	P	**P**	**01 46 04.6**	**-0.3**
WLF				pmax	pmax		
	comp=Z,34nm,1.4s						
WLF	**Walferdange**	**19.54**	**129**		**P**	**01 46 04.6**	**-0.3**
FIA1	**FINESS Array S**	**19.69**	**79**	P	**P**	**01 46 06.0**	**-0.5**
FINES	**FINESS Array B**	**19.69**	**79**	P	**P**	**01 46 06.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=336,slow=6.1,SNR=4.9						
FINES				LR	LR	01 54 12.4	
	comp=Z,571nm,19.9s,baz=353,slow=38						
CLF	**Chambon-Foret**	**19.77**	**138**	P	**P**	**01 46 06.1**	**-1.4**
CLF				IAmb	IAmb	01 46 25.7	
	comp=Z,136nm,1.8s						
TNS	**Taunus Mts**	**19.86**	**124**	*e*P	**P**	**01 46 09.0**	**+0.5**
	comp=Z,9.8nm,1.1s,baz=328,slow=11						
UBBA	**Unterbreizbach**	**19.93**	**121**	*e*P	**P**	**01 46 09.8**	**+0.7**
	baz=328,slow=11						
RUE	**Ruedersdorf**	**20.08**	**112**	*e*P	**P**	**01 46 11.0**	**+0.2**
NEUB	**Neuenburg**	**20.29**	**118**	*e*P	**P**	**01 46 13.3**	**+0.2**
	comp=Z,30nm,1.0s,baz=328,slow=11						
MOX	**Moxa**	**20.68**	**119**	P	Pn	01 46 19.0	-0.7
MOX				pmax	pmax		
	comp=Z,20nm,1.4s						
MOX	**Moxa**	**20.68**	**119**	*e*P	**P**	**01 46 17.5**	**+0.2**
	comp=Z,16nm,1.1s,baz=328,slow=11						
CLL	**Collm**	**20.68**	**116**	⇑*i*P	**P**	**01 46 17.8**	**+0.5**
	comp=Z,49nm,1.4s						
CLL				*i* (PP)		01 46 31.7	
CLL	**Collm**	**20.68**	**116**	⇑*i*P	**P**	**01 46 17.8**	**+0.5**
CLL				pmax	pmax		
	comp=Z,49nm,1.4s						
CLL	**Collm**	**20.68**	**116**	*e*P	**P**	**01 46 16.1**	**-1.2**
	comp=Z,33nm,1.4s,baz=328,slow=11						
CLL	**Collm**	**20.68**	**116**	P	**P**	**01 46 16.6**	**-0.8**
CLL				IAmb	IAmb	01 46 19.9	
	comp=Z,48nm,1.4s						
GKP	**Gorka Klasztor**	**20.89**	**107**	P	Pn	01 46 23.4	+1.3
GKP				pmax	pmax		
	comp=Z,47nm,1.1s						
LOR	**Lormes**	**20.92**	**136**	P	**P**	**01 46 20.1**	**+0.1**
LOR				pmax	pmax		
	comp=Z,31nm,1.1s						
CDF	**Champ du Feu**	**21.00**	**129**	*e*P	**P**	**01 46 20.9**	**0.0**
CDF				pmax	pmax		
	comp=Z,41nm,

OSTC Ostas 22.53 113 *e*P P 01 46 36.0 -1.3
CAF Calviac 22.55 142 *e*P P 01 46 36.4 -1.2
CAF pmax pmax
comp=Z,18nm,1.3s
KHC Kasperske Hory 22.65 118 *e*P P 01 46 38.7 +0.1
KHC Kasperske Hory 22.65 118*ce*P P 01 46 39.4 +0.8
KHC pmax pmax
comp=Z,40nm,1.3s
KHC Kasperske Hory 22.65 118 P P 01 46 39.0 +0.4
DPC Dobruska-Polom 22.74 113 *e*P P 01 46 38.8 -0.7
DPC Dobruska-Polom 22.74 113 *e*P P 01 46 38.8 -0.7
SENIN Lac Senin/Sane 22.80 132 P P 01 46 39.5 -0.8
DAVA Damuels 22.85 126 *e*P P 01 46 42.2 +1.3
comp=Z,21nm,1.3s
SSB Saint Sauveur 22.92 137 P P 01 46 41.3 -0.1
SSB pmax pmax
comp=Z,36nm,1.6s
SSB Saint Sauveur 22.92 137 P P 01 46 41.3 -0.1
GEC2 GERESS Array S 22.93 119 *e*P P 01 46 41.9 +0.4
comp=Z,5.2nm,1.0s,baz=328,slow=11
GEC2 GERESS Array S 22.93 119 P P 01 46 42.3 +0.8
GEC2 IAmb IAmb 01 46 48.6
comp=Z,61nm,1.6s
GERES GERESS Array B 22.93 119 P P 01 46 41.6 0.0
comp=Z,4.4nm,1.0s,baz=330,slow=7.7,SNR=16
GERES GERESS Array B 22.93 119 P P 01 46 41.4 -0.1
RETA Reutte 22.99 125 *e*P P 01 46 42.6 +0.4
comp=Z,6.3nm,1.0s
IZAR Zarasai 23.01 92 *e*P P 01 46 41.0 -1.2
ISAL Salakas 23.07 92 *e*P P 01 46 42.5 -0.4
KRLC Kraliky 23.14 113 *e*P P 01 46 43.2 -0.4
KRLC Kraliky 23.14 113 *e*P P 01 46 43.2 -0.4
MOTA Moosalm 23.23 124 *e*P P 01 46 46.3 +1.6
comp=Z,28nm,1.6s
TREC Trest 23.25 116 *e*P P 01 46 44.9 +0.2
TREC Trest 23.25 116 *e*P P 01 46 44.9 +0.2
IIGN Ignalina 23.26 93 *e*P P 01 46 43.4 -1.4
DAVOX Davos/Dischmat 23.29 127 P P 01 46 45.0 -0.3
comp=Z,5.8nm,0.9s,baz=302,slow=10,SNR=7.1
LPL La Plagne 23.37 133 *e*P P 01 46 45.3 -0.9
LPL pmax pmax
comp=Z,9.0nm,1.0s
SQTA Sankt Quirin 23.38 124 *e*P P 01 46 48.2 +2.0
comp=Z,24nm,1.6s
TUE Stuetta 23.38 128 P P 01 46 46.1 -0.2
TUE IAmb IAmb 01 46 54.3
comp=Z,31nm,1.3s
FETA Feichten 23.38 125 *e*P P 01 46 48.6 +2.4
comp=Z,21nm,2.1s
LPG La Plagne 23.39 133 *e*P P 01 46 45.7 -0.8
LPG pmax pmax
comp=Z,13nm,1.2s
WATA Walderalm 23.41 124 *i* P P 01 46 47.5 +1.0
comp=Z,15nm,1.0s,SNR=6.0
WTTA Wattenberg 23.49 124 *i* P P 01 46 48.6 +1.2
comp=Z,22nm,1.4s,SNR=5.9
WTTA Wattenberg 23.49 124 P P 01 46 49.6 +2.2
WTTA pmax pmax
comp=Z,24nm,1.7s
IDID Didziasalis 23.51 92 *e*P P 01 46 44.8 -2.5
FUORN Ofenpass-Fuorn 23.56 127 P P 01 46 46.0 -2.2
ORIF Oris-en-Rattie 23.65 135 *e*P P 01 46 48.6 -0.2
ORIF pmax pmax
comp=Z,21nm,1.2s
VRAC Vranov 23.67 114 P P 01 46 48.9 -0.1
comp=Z,4.0nm,0.9s,baz=323,slow=11,SNR=9.1
VRAC Vranov 23.67 114 ⇓P P 01 46 49.7 +0.8
VRAC Vranov 23.67 114 *e*P P 01 46 48.8 -0.1
MORC Moravsky Berou 23.67 112 ⇑P P 01 46 50.0 +1.0
MORC Moravsky Berou 23.67 112 *e*P P 01 46 48.6 -0.4
MORC Moravsky Berou 23.67 112 P P 01 46 48.8 -0.2
MORC pmax pmax
comp=Z,41nm,1.7s
MORC Moravsky Berou 23.67 112 P P 01 46 48.8 -0.2
MORC IAmb IAmb 01 46 51.8
comp=Z,41nm,1.7s
PBRG Braganca 23.70 160 *e*P P 01 46 55.0 +5.8
comp=Z,42nm,1.8s
BNI Bardonecchia 23.77 134 P P 01 46 50.8 +0.7
BNI pmax pmax
comp=Z,50nm,1.7s
BNI Bardonecchia 23.77 134 P P 01 46 50.8 +0.7
BNI IAmb IAmb 01 47 22.3
comp=Z,50nm,1.7s
KRUC Moravsky 23.79 115 *e*P P 01 46 49.9 -0.2
KRUC Moravsky 23.79 115 P P 01 46 50.2 +0.1
KRUC pmax pmax
comp=Z,19nm,3.0s
EPF Esparros 23.89 146 *e*P P 01 46 52.3 +1.1
EPF pmax pmax
comp=Z,15nm,1.3s
MOA Molln 23.96 119 *e*P P 01 46 53.8 +2.0
comp=Z,14nm,1.3s
MTLF Montolieu 24.07 143 *e*P P 01 46 54.7 +2.0
MTLF pmax pmax
comp=Z,13nm,1.3s
ABTA Abfaltersbach 24.25 123 *e*P P 01 46 56.8 +2.3
comp=Z,11nm,1.2s
KBA Koelnbreinsper 24.27 122 *e*P P 01 46 57.4 +2.6
comp=Z,14nm,1.5s
MVO Moncorvo 24.28 161 *e*P P 01 46 59.8 +5.0
comp=Z,31nm,1.5s
MVO *e*LR LR 01 55 03.4
comp=Z,2µm,18.0s
JAVC Velka Javorina 24.45 113 *e*P P 01 46 57.5 +1.2
CONA Conrad Observa 24.50 117 *e*P P 01 46 57.1 +0.3
comp=Z,13nm,1.0s
CTI Castel Tesino 24.54 125 P P 01 46 58.3 +1.1
CTI pmax pmax
comp=Z,84nm,1.8s
CTI Castel Tesino 24.54 125 P P 01 46 58.3 +1.1
CIMO Cimolais 24.59 124 IAmb IAmb 01 47 33.5
comp=Z,52nm,1.7s
PVIS Viseu 24.60 162 *e*P P 01 46 59.9 +2.2
comp=Z,43nm,1.7s
SMOL Smolenice 24.64 114 *e*P P 01 46 58.7 +0.8
SMOL pmax pmax
comp=Z,8.0nm,1.0s
SMOL Smolenice 24.64 114 *e*P P 01 46 58.7 +0.8
MODS Modra-Piesok 24.69 115 *e*P P 01 46 58.4 0.0
MODS pmax pmax
comp=Z,33nm,1.4s
MODS Modra-Piesok 24.69 115 *e*P P 01 46 58.4 0.0
MYKA Terra Mystica 24.76 122 *e*P P 01 46 59.8 +0.7
comp=Z,16nm,1.4s
ZST Bratislava 24.77 115 *e*P P 01 46 59.0 -0.1
ZST Bratislava 24.77 115 *e*P P 01 46 59.0 -0.1
PRED Cave del Predi 24.89 122 IAmb IAmb 01 47 31.2
comp=Z,61nm,1.9s
ARSA Arzberg 24.94 118 *e*P P 01 47 00.8 +0.2
comp=Z,8.4nm,1.1s
LANS Liptovska Anna 24.94 111 *e*P P 01 47 01.6 +0.9
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 24.94 111 *e*P P 01 47 01.6 +0.9
NIE Niedzica 25.07 109 P P 01 47 03.3 +1.5
FRF La Foret Royal 25.11 136 *e*P P 01 47 02.2 0.0
FRF pmax pmax
comp=Z,9.0nm,1.0s
OBKA Obir 25.19 121 *e*P P 01 47 03.5 +0.5
comp=Z,17nm,1.3s
VYHS Vyhne 25.21 112 *e*P P 01 47 03.0 -0.1
VYHS pmax pmax
comp=Z,45nm,1.7s
VYHS Vyhne 25.21 112 *e*P P 01 47 03.0 -0.1
SOKA Soboth 25.23 120 *e*P P 01 47 02.9 -0.5
comp=Z,17nm,1.6s
PCBR Castelo Branco 25.52 162 *e*P P 01 47 08.4 +2.5
comp=Z,33nm,1.4s
SRO Srobarova 25.55 114 *e*P P 01 47 06.3 +0.2
SRO pmax pmax
comp=Z,20nm,1.2s
SRO Srobarova 25.55 114 *e*P P 01 47 06.3 +0.2
KLMR Klimovskoe 25.59 72 *e*P P 01 47 03.5 -2.9
comp=Z,33nm,1.3s
KLMR Klimovskoe 25.59 72 *e*P P 01 47 03.7 -2.7
KLMR pmax pmax
comp=Z,33nm,1.3s
KLMR Klimovskoe 25.59 72 *e*P P 01 47 03.8 -2.7
KLMR AMP 01 47 07.5
comp=Z,33nm,1.3s
ZCCA Zocca 25.79 128 P P 01 47 09.1 +0.7
KECS Kecovo 25.88 110 *e*P P 01 47 11.1 +1.9
KECS pmax pmax
comp=Z,7.0nm,1.0s
comp=Z,11nm,1.0s
YKA Yellowknife Ar 39.24 313 LR LR 02 04 53.8
comp=Z,242nm,21.5s,baz=0.0,slow=36
E46A Sault Ste Mari 39.79 276 P P 01 49 09.6 -0.7
E46A IAmb IAmb 01 49 13.9
comp=Z,43nm,1.5s
INK Inuvik 39.87 329 P P 01 49 11.1 +0.4
INK pmax pmax
comp=Z,22nm,1.5s
INK Inuvik 39.87 329 P P 01 49 11.1 +0.4
WVNY West Valley, N 40.51 267 P P 01 49 16.5 +0.2
WVNY IAmb IAmb 01 49 18.0
comp=Z,26nm,1.2s
M57A Sunshine Farm, 40.75 265 P P 01 49 19.3 +1.0
baz=35
M57A Sunshine Farm, 40.75 265 IAmb IAmb 01 49 24.3
comp=Z,30nm,1.2s
ARTV Artvin 40.75 96 P P 01 49 17.8 -0.8
L54A Sinclairville 40.95 268 P P 01 49 21.5 +1.5
baz=35
KOPT Kop Dagi 41.10 98 P P 01 49 20.4 -1.1
AKH Akhalkalaki 41.24 94 P P 01 49 23.6 +1.1
AKH pmax pmax
comp=Z,16nm,1.2s
AKH Akhalkalaki 41.24 94 P P 01 49 23.6 +1.1
N56A West Decatur 41.59 265 P P 01 49 26.0 +0.7
baz=34
MALT Malatya 41.65 101 P P 01 49 28.9 +3.0
O58A Lewisberry 41.66 264 P P 01 49 26.7 +0.9
baz=34
M54A Oil Creek Stat 41.70 267 P P 01 49 26.8 +0.7
baz=35
M54A Oil Creek Stat 41.70 267 P P 01 49 26.1 0.0
ABKAR Akbulak array 41.98 73 P P 01 49 27.9 -0.4
GAZ Gaziantep 42.11 104 P P 01 49 29.7 +0.1
GAZ IAmb IAmb 01 49 47.6
comp=Z,25nm,1.6s
EPYK Eagle Plains 42.17 328 P P 01 49 29.7 0.0
baz=34
N54A Moraine State 42.28 267 P P 01 49 31.6 +0.7
baz=34
N54A Moraine State 42.28 267 P P 01 49 31.4 +0.5
TOLK Toolik Lake Re 42.78 336 P P 01 49 35.8 +1.2
baz=28,SNR=8.9
TOLK Toolik Lake Re 42.78 336 P P 01 49 34.6 0.0
TOLK IAmb IAmb 01 49 37.1
comp=Z,21nm,1.1s
M51A Elyria 42.92 269 P P 01 49 37.0 +0.9
baz=35
P56A Dayton Farm, R 42.99 265 P P 01 49 37.9 +1.2
baz=34
O54A Avella 43.09 267 P P 01 49 37.7 +0.3
baz=34
BRVK Borovoye 43.13 62*ce*P P 01 49 36.8 -0.8
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 43.13 62 P P 01 49 37.4 -0.2
AGMN Agassiz Nation 43.14 287 P P 01 49 38.1 +0.3
baz=38
S61A Accomac 43.17 260 P P 01 49 38.4 +0.3
baz=32
Q57A Strasburg 43.20 264 P P 01 49 38.7 +0.3
baz=33
N51A Ashland 43.35 269 P P 01 49 40.2 +0.7
baz=35
L48A N Adams 43.39 272 P P 01 49 40.6 +0.8
L48A IAmb IAmb 01 49 42.3
comp=Z,26nm,1.3s
O53A New Philadelph 43.40 268 P P 01 49 40.9 +1.0
baz=34
MARD Mardin 43.49 100 P P 01 49 41.8 +1.0
MARD IAmb IAmb 01 49 55.2
comp=Z,16nm,1.0s
R58A Rapidan 43.64 263 P P 01 49 42.9 +1.0
baz=33
O52A Adamsville 43.77 268 P P 01 49 43.9 +0.9
baz=34
O52A Adamsville 43.77 268 IAmb IAmb 01 49 48.4
comp=Z,17nm,1.1s
FYU Fort Yukon 43.80 333 P P 01 49 43.8 +1.0
O51A Pataskala 44.08 269 P P 01 49 45.9 +0.5
baz=34,SNR=5.8
P53A Whipple 44.10 267 P P 01 49 46.1 +0.5
baz=34
P53A Whipple 44.10 267 P P 01 49 45.6 0.0
N49A Columbus Grove 44.12 271 P P 01 49 45.2 -0.5
R56A Bull Pasture M 44.15 264 P P 01 49 46.7 +0.6
baz=33
ACSO Alum Creek Sta 44.17 269 P P 01 49 47.1 +0.9
baz=34
ACSO Alum Creek Sta 44.17 269 P P 01 49 45.6 -0.5
ACSO IAmb IAmb 01 49 49.4
comp=Z,14nm,0.9s
S58A Poland Farm, P 44.24 263 P P 01 49 48.0 +1.3
baz=32
Q54A Coxs Mills 44.28 266 P P 01 49 47.7 +0.6
baz=33
P52A Corning 44.30 268 P P 01 49 47.7 +0.5
baz=34
P52A Corning 44.30 268 P P 01 49 46.4 -0.8
TAM Tamanrasset 44.48 149 P P 01 49 48.6 -0.3
TAM pmax pmax
comp=Z,20nm,1.7s
TAM Tamanrasset 44.48 149 P P 01 49 48.6 -0.3
TAM IAmb IAmb 01 50 04.5
comp=Z,20nm,1.7s
Q53A Leroy 44.69 267 P P 01 49 52.0 +1.7
baz=33,SNR=5.8
DAWY Dawson 44.73 328 P P 01 49 51.2 +0.8
DAWY IAmb IAmb 01 50 47.4
comp=Z,35nm,1.9s
R54A Victor 45.02 266 P P 01 49 54.3 +1.3
baz=33
T57A Hurt 45.27 263 P P 01 49 55.6 +0.7
baz=32
F33A 5 Mile Ranch, 45.28 285 P P 01 49 54.4 -0.5
K27K Chicken 45.36 329 P P 01 49 55.7 +0.4
baz=30
S54A Dingess, Beckl 45.48 266 P P 01 49 57.3 +0.7
baz=33
P49A Miami Univ. Ec 45.50 270 P P 01 49 57.4 +0.7
baz=34
P49A Miami Univ. Ec 45.50 270 IAmb IAmb 01 49 59.3
comp=Z,22nm,1.2s
BLA Blacksburg 45.59 265 P P 01 49 58.7 +1.2
baz=32
IL31 45.71 332 IAmb IAmb 01 50 02.8
comp=Z,24nm,1.6s
ILAR Eielson Array 45.71 332 P P 01 49 58.5 +0.4
comp=Z,5.5nm,1.1s,baz=24,slow=6.1,SNR=22
ILAR PcP **PcP** 01 51 35.5 -0.1
comp=Z,2.3nm,1.0s,baz=2.7,slow=3.2,SNR=8.4
ILAR LR LR 02 11 42.8
comp=Z,94nm,19.2s,baz=332,slow=40
ILAR Eielson Array 45.71 332 **PcP** 01 51 35.2 -0.5
U57A Blanch 45.78 263 P P 01 49 59.6 +0.6
baz=32
MDM Murphy Dome 45.81 333 P P 01 49 59.4 +0.5
MDM IAmb IAmb 01 50 02.4
comp=Z,18nm,1.2s
COLA College 45.81 333 *i* P P 01 49 59.1 +0.3
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 45.81 333 P P 01 49 59.6 +0.7
COLA IAmb IAmb 01 50 01.2
comp=Z,13nm,0.9s
SFIN Lafayette 45.82 273 P P 01 49 59.6 +0.4
baz=34
T55A Pulaski 45.83 265 P P 01 49 59.7 +0.3
baz=32
IMAR Indian Mountai 45.88 337 P P 01 50 00.4 +1.0
CCB Clear Creek Bu 46.01 333 IAmb IAmb 01 50 06.2
comp=Z,16nm,1.5s
HDA Harding Lake 46.05 332 P P 01 50 00.9 +0.2
baz=28
HDA Harding Lake 46.05 332 IAmb IAmb 01 50 05.8
comp=Z,22nm,1.6s
BCAR Beaver Creek A 46.14 329 P P 01 50 02.6 +1.1
T54A Tazewell 46.21 265 P P 01 50 02.8 +0.3
baz=32
W60A Pink Hill 46.27 260 P P 01 50 03.2 +0.4
baz=31
NEA2 Nenana 46.30 334 P P 01 50 03.8 +1.0
baz=26,SNR=5.7
U55A TA2, Sparta 46.46 265 P P 01 50 04.6 +0.2
baz=32
S51A Beattyville 46.59 268 IAmb IAmb 01 50 07.4

KECS Kecovo 25.88 110 *e*P P 01 47 11.0 +1.9
PMRV Marv??o 25.94 162 *e*P P 01 47 12.8 +3.1
comp=Z,35nm,1.8s
PMRV *e*LR LR 01 56 59.4
comp=Z,1µm,18.0s
CRVS Cervenica-Dubn 25.94 109 *e*P P 01 47 11.6 +1.9
CRVS Cervenica-Dubn 25.94 109 *e*P P 01 47 11.6 +1.9
LSH Leshukonskoye 25.96 60 *e*P P 01 47 07.8 -1.9
comp=Z,27nm,1.0s
SCHQ Schefferville 26.06 271 P P 01 47 09.5 -1.2
comp=Z,13nm,1.0s,baz=56,slow=11,SNR=5.1
SCHQ Schefferville 26.06 271 IAmb IAmb 01 47 12.8
comp=Z,22nm,1.1s
PSZ Piszkesteto 26.09 112 ⇓P P 01 47 12.4 +1.3
PSZ Piszkesteto 26.09 112 P P 01 47 12.1 +0.9
PSZ pmax pmax
comp=Z,57nm,1.5s
PSZ Piszkesteto 26.09 112 P P 01 47 12.1 +0.9
ESBB Sonseca Array 26.23 156 P P 01 47 12.2 -0.2
ESBB IAmb IAmb 01 47 37.5
comp=Z,52nm,1.9s
ESDC Sonseca Array 26.23 156 P P 01 47 12.2 -0.2
comp=Z,3.7nm,0.9s,baz=348,slow=9.0,SNR=20
ESDC Sonseca Array 26.23 156 P P 01 47 11.7 -0.7
KOLS Kolonicke sedl 26.25 108 *e*P P 01 47 12.2 -0.3
KOLS pmax pmax
comp=Z,23nm,1.3s
KOLS Kolonicke sedl 26.25 108 *e*P P 01 47 12.2 -0.3
LVV L'vov 26.29 104 *e*P P 01 47 12.9 0.0
RES Resolute Bay 26.50 324 LR LR 01 56 50.2
comp=Z,311nm,18.7s,baz=12,slow=34
UZH Uzhgorod 26.50 108 *e*P P 01 47 14.9 +0.2
UZH *i* 01 47 23.1
OSSC Osservatorio P 26.61 129 P P 01 47 16.3 +0.5
OSSC IAmb IAmb 01 47 23.1
comp=Z,23nm,1.0s
TRSU Trosnyk 27.19 108 P P 01 47 20.8 -0.2
PRGR Permogore 27.62 67 *e*P P 01 47 19.0 -5.6
PRGR *e* 01 50 41.3
PRGR pmax pmax
comp=Z,9.0nm,0.9s
HORU Horodok 27.76 103 P P 01 47 26.3 +0.2
KIEV Kiev 27.82 98 P P 01 47 25.0 -1.6
AKASG Malin Array Be 27.82 98 P P 01 47 25.9 -0.6
comp=Z,2.9nm,0.8s,baz=324,slow=9.7,SNR=8.7
AKASG Malin Array Be 27.82 98 P P 01 47 26.0 -0.6
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 27.82 98 IAmb IAmb 01 47 29.8
comp=Z,2.2nm,1.0s
AKBB Malin Array Si 27.82 98*ce*P P 01 47 27.1 +0.5
OBN Obninsk 27.87 84 *e*P P 01 47 26.4 -0.5
OBN *e*PPP PPP 01 48 19.4
OBN *e* 01 50 44.2
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,481nm,19.0s
PVAQ Vaqueiros 27.89 163 *e*LR LR 01 55 32.5
comp=Z,4µm,20.0s
KSV Kosov 27.89 105 P P 01 47 27.6 +0.4
MOS Moscow 27.91 82 *e*P P 01 47 22.6 -4.7
KMPD K-Podol'skiy 28.28 103 P P 01 47 27.0 -3.6
BUR08 Bucovina Ar. S 28.47 106 P P 01 47 31.4 -1.1
BUR08 IAmb IAmb 01 48 07.7
comp=Z,23nm,1.6s
BURAR Bucovina Array 28.50 106 ⇑P P 01 47 34.0 +1.1
BURAR Bucovina Array 28.50 106 P P 01 47 33.9 +1.1
BURAR Bucovina Array 28.50 106 P P 01 47 33.6 +0.8
CJR Cluj-Napoca 28.56 109 ⇑P P 01 47 34.8 +1.5
BZS Buzias 28.66 113 ⇓P P 01 47 35.3 +1.2
BZS Buzias 28.66 113 P P 01 47 35.2 +1.2
GZR Gura Zlata 29.30 112 ⇑P P 01 47 41.1 +1.2
BIZ Bicaz 29.41 106 ⇑P P 01 47 41.8 +1.1
ARR Arges 30.07 109 ⇓P P 01 47 48.1 +1.4
VOIR 30.18 109 ⇑P P 01 47 48.5 +0.8
VOIR 30.18 109 P P 01 47 48.5 +0.8
PLOR Plostina 30.51 107 ⇑P P 01 47 52.3 +1.7
PLOR Plostina 30.51 107 P P 01 47 52.2 +1.7
MLR Muntele Rosu 30.51 108 ⇑P P 01 47 51.8 +1.1
MLR Muntele Rosu 30.51 108 P P 01 47 51.7 +1.1
MILM Milestii Mici 30.55 103 ⇑P P 01 47 50.8 -0.1
LPSR Galich'ya Gora 30.61 86 *e*P P 01 47 49.6 -1.7
LPSR pmax pmax
comp=Z,20nm,1.6s
KIRV Kirov 30.97 69*ce*P P 01 47 54.4 0.0
CFR Carcaliu 31.66 106 ⇑P P 01 48 00.9 +0.3
VSR Storozhevoye 31.72 88 *e*P P 01 48 00.2 -0.8
VSR pmax pmax
comp=Z,20nm,1.7s
VORD Divnogorie 31.95 88 *e*P P 01 48 00.4 -2.7
VORD pmax pmax
comp=Z,10.0nm,1.0s
RAZG Razgrad 32.32 109 ⇓P P 01 48 06.9 +0.5
CORL Corleone 32.35 131 P P 01 48 07.0 +0.1
CHGQ Chibougamau 32.80 271 P P 01 48 11.0 +0.4
baz=42
VRH Novokhopyorsk 32.82 85 *e*P P 01 48 10.1 -0.6
VRH pmax pmax
comp=Z,10.0nm,0.8s
KNT Kendrikon 32.91 116 P P 01 48 15.8 +4.2
KNT pmax pmax
comp=Z,12nm,0.9s
SRS Serrai 33.22 115 P P 01 48 18.0 +3.7
SRS pmax pmax
comp=Z,20nm,1.0s
E61A Lac Etchemin 33.80 263 P P 01 48 19.3 -0.1
baz=38
F62A Pittston Farm, 34.00 262 P P 01 48 21.4 +0.3
baz=38
E60A Ste Agathe de 34.26 264 P P 01 48 23.8 +0.5
baz=38
D58A Chemin du LacG 34.31 266 P P 01 48 24.2 +0.5
baz=39
BELG Belogornoye 34.47 79 *i* P P 01 48 24.7 -0.4
D57A Chemin Vers le 34.80 267 P P 01 48 28.8 +0.8
baz=39
D56A ZEC Mazanza, M 35.15 268 P P 01 48 31.4 +0.3
baz=39
E57A Chemin Saint G 35.39 267 P P 01 48 33.6 +0.5
baz=38
D55A Sainte-Anne-du 35.48 269 P P 01 48 34.3 +0.4
baz=39
G60A Masonville 35.65 264 P P 01 48 35.4 +0.1
baz=37
E56A St. Veronique 35.66 268 P P 01 48 35.7 +0.2
baz=38
ARU Arti 36.08 66 P P 01 48 38.2 -0.6
ARU 01 49 58.3
ARU S S 01 54 19.5 +1.9
ARU SS SnSn 01 56 43.9 +1.9
NRIK Noril'sk 36.47 35 P P 01 48 42.1 +0.1
comp=Z,2.3nm,0.4s,baz=295,slow=7.9,SNR=6.9
NRIK LR LR 02 06 50.1
comp=Z,265nm,18.1s,baz=187,slow=42
NRIK Noril'sk 36.47 35*ce*P P 01 48 42.3 +0.3
NRIK pmax pmax
comp=Z,10.0nm,1.3s
H59A Cadyville 36.59 265 P P 01 48 44.2 +0.8
baz=37
G57A Newington 36.78 266 P P 01 48 45.8 +0.8
baz=37
ALGO Algonquin Park 37.43 270 P P 01 48 51.1 +0.6
baz=38
I57A Carthage 38.00 266 P P 01 48 55.8 +0.4
baz=36
GOF Gofitskoye 38.10 91⇑*e*P P 01 48 57.5 +1.4
GOF pmax pmax
comp=Z,64nm,1.0s
BR131 Keskin Array S 38.46 105 *i* P P 01 48 58.8 -0.6
BRTR Keskin Array B 38.46 105 P P 01 48 59.8 +0.4
comp=Z,4.2nm,1.0s,baz=329,slow=8.5,SNR=6.9
H53A Bobcaygeon 38.75 269 P P 01 49 01.7 +0.1
baz=37
KIV Kislovodsk 38.82 92 *e*P P 01 49 02.7 +0.3
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 38.82 92 P P 01 49 03.3 +0.9
SHA1 Shidzhatmaz 38.99 93 *i* P P 01 49 05.2 +1.3
KBZ Khabaz 39.10 92 P P 01 49 04.8 +0.3
comp=Z,7.6nm,0.9s,baz=312,slow=11,SNR=9.9
KBZ LR LR 02 05 23.9
comp=Z,312nm,21.7s,baz=326,slow=36
KBZ Khabaz 39.10 92*ce*P P 01 49 06.0 +1.5
KBZ pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,16nm,1.3s						
HDIL	**Hopedale**	**46.62**	**275**	P	**P**	**01 50 06.8**	**+1.2**
	baz=34						
T53A	**Wise**	**46.69**	**266**	P	**P**	**01 50 07.1**	**+0.9**
	baz=32						
V56A	**Mocksville**	**46.81**	**264**	P	**P**	**01 50 07.6**	**+0.6**
	baz=32						
V55A	**Taylorsville**	**47.08**	**264**	P	**P**	**01 50 10.3**	**+1.1**
	baz=32						
BPAW	**Bear Paw Mtn.**	**47.11**	**334**	IAmb	IAmb	01 50 10.9	
	comp=Z,9.6nm,1.2s						
ECSD	**EROS Data Cent**	**47.12**	**284**	P	**P**	**01 50 10.3**	**+0.9**
	baz=35						
ECSD	**EROS Data Cent**	**47.12**	**284**	P	**P**	**01 50 09.0**	**-0.5**
ECSD				IAmb	IAmb	01 50 12.7	
	comp=Z,11nm,1.4s						
W57A	**Gilead**	**47.15**	**263**	P	**P**	**01 50 10.2**	**+0.5**
	baz=31						
WCI	**Wyandotte Cave**	**47.26**	**271**	P	**P**	**01 50 10.6**	**0.0**
	baz=33						
WCI	**Wyandotte Cave**	**47.26**	**271**	P	**P**	**01 50 11.4**	**+0.8**
WCI				pmax	pmax		
	comp=Z,14nm,1.0s						
WCI	**Wyandotte Cave**	**47.26**	**271**	P	**P**	**01 50 11.4**	**+0.8**
W56A	**Indian Trail**	**47.42**	**263**	P	**P**	**01 50 12.4**	**+0.6**
	baz=31						
V54A	**Nebo**	**47.46**	**265**	P	**P**	**01 50 12.9**	**+0.8**
	baz=32						
BILL	**Bilibino**	**47.57**	**358**	*e*P	**P**	**01 50 13.1**	**+0.5**
BILL				*e*		01 52 01.4	
BILL				*e*PPP	PPP	01 52 47.9	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZALV	**Zalesovo Beam**	**47.63**	**51**	P	**P**	**01 50 13.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=318,slow=8.6,SNR=5.3						
KMSC	**Kings Mountain**	**47.73**	**264**	P	**P**	**01 50 15.0**	**+0.7**
	baz=31						
KMSC	**Kings Mountain**	**47.73**	**264**	IAmb	IAmb	01 50 17.5	
	comp=Z,10nm,1.1s						
USIN	**University of**	**48.08**	**272**	P	**P**	**01 50 18.1**	**+1.2**
KURK	**Kurchatov**	**48.11**	**58**	*ce*P	**P**	**01 50 15.2**	**-1.8**
KURK				pmax	pmax		
	comp=Z,14nm,1.3s						
KURK	**Kurchatov**	**48.11**	**58**	P	**P**	**01 50 16.6**	**-0.4**
KURK				IAmb	IAmb	01 50 17.7	
	comp=Z,10nm,1.0s						
W54A	**Cherokee Point**	**48.15**	**265**	P	**P**	**01 50 18.1**	**+0.6**
	baz=31						
X56A	**White Oak**	**48.16**	**263**	P	**P**	**01 50 18.1**	**+0.5**
	baz=31						
X55A	**Gracelyn & Ava**	**48.44**	**264**	P	**P**	**01 50 20.5**	**+0.9**
	baz=31						
V51A	**Loudon**	**48.47**	**267**	IAmb	IAmb	01 50 25.9	
	comp=Z,12nm,1.1s						
U49A	**Red Boiling Sp**	**48.48**	**269**	IAmb	IAmb	01 50 23.1	
	comp=Z,12nm,1.3s						
BG3	**Lake Jocassee**	**48.55**	**265**	P	**P**	**01 50 20.5**	**-0.1**
BG3				IAmb	IAmb	01 50 26.4	
	comp=Z,8.2nm,1.2s						
X54A	**Belton**	**48.69**	**264**	P	**P**	**01 50 22.9**	**+1.3**
	baz=31						
EGMT	**Eagleton**	**48.90**	**297**	P	**P**	**01 50 23.7**	**+0.5**
	baz=35,SNR=6.8						
HODGE	**Hodges**	**48.91**	**264**	IAmb	IAmb	01 50 27.1	
	comp=Z,18nm,1.3s						
NHSC	**New Hope**	**48.98**	**261**	P	**P**	**01 50 25.0**	**+1.1**
	baz=30						
Y55A	**Saluda**	**48.99**	**264**	P	**P**	**01 50 25.0**	**+1.1**
	baz=31						
CCM	**Cathedral Cave**	**49.54**	**275**	P	**P**	**01 50 27.8**	**-0.3**
	baz=33						
SWET	**Sewanee**	**49.65**	**268**	P	**P**	**01 50 28.5**	**-0.5**
Y52A	**Lilburn**	**49.99**	**266**	IAmb	IAmb	01 50 37.1	
	comp=Z,15nm,1.2s						
GOGA	**Godfrey**	**50.12**	**265**	P	**P**	**01 50 33.0**	**+0.4**
	baz=31						
T42A	**Van Buren**	**50.33**	**274**	IAmb	IAmb	01 50 39.5	
	comp=Z,15nm,1.4s						
GEYT	**Alibeck**	**50.41**	**84**	P	**P**	**01 50 35.0**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=292,slow=9.0,SNR=5.9						
GEYT	**Alibeck**	**50.41**	**84**	P	**P**	**01 50 35.3**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**50.41**	**84**	P	**P**	**01 50 35.2**	**+0.4**
GYA0B				IAmb	IAmb	01 50 48.7	
	comp=Z,22nm,1.8s						
KSU1	**Kansas State U**	**50.95**	**280**	IAmb	IAmb	01 50 41.0	
	comp=Z,21nm,1.2s						
RLMT	**Red Lodge**	**51.11**	**295**	P	**P**	**01 50 40.8**	**+0.5**
	baz=34						
RLMT	**Red Lodge**	**51.11**	**295**	P	**P**	**01 50 39.8**	**-0.4**
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**01 50 41.6**	**+0.4**
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**01 50 41.6**	**+0.4**
MSO	**Missoula**	**51.48**	**299**	P	**P**	**01 50 43.1**	**+0.3**
	baz=33						
BOZ	**Bozeman (W)**	**51.63**	**297**	P	**P**	**01 50 44.4**	**+0.3**
	baz=33,SNR=9.5						
BOZ	**Bozeman (W)**	**51.63**	**297**	IAmb	IAmb	01 50 47.4	
	comp=Z,16nm,1.2s						
U40A	**Yellville**	**51.66**	**275**	P	**P**	**01 50 44.1**	**-0.1**
	baz=32						
LRAL	**Lakeview Retre**	**51.97**	**268**	P	**P**	**01 50 45.9**	**-0.5**
	baz=31						
DGZ	**Jazzator, Alta**	**52.08**	**53**	*i* P	**P**	**01 50 46.1**	**-1.2**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MAKZ	**Makanchi**	**52.59**	**59**	P	**P**	**01 50 51.2**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MAKZ	**Makanchi**	**52.59**	**59**	P	**P**	**01 50 51.2**	**+0.2**
MK31	**Makanchi Array**	**52.72**	**58**	*ce*P	**P**	**01 50 51.4**	**-0.6**
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**01 50 51.4**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=327,slow=5.8,SNR=14						
MKAR				LR	LR	02 12 48.5	
	comp=Z,159nm,18.6s,baz=315,slow=36						
MKAR	**Makanchi Array**	**52.72**	**58**	*i* P	**P**	**01 50 52.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**01 50 51.7**	**-0.2**
T35A	**Sooner Cattle**	**52.75**	**279**	IAmb	IAmb	01 50 53.9	
	comp=Z,9.4nm,1.0s						
TOA0	**Torodi Ar. Sit**	**53.11**	**156**	P	**P**	**01 50 54.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**01 50 54.0**	**-1.1**
	comp=Z,5.0nm,1.1s,baz=342,slow=9.1,SNR=14						
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**01 50 54.4**	**-0.8**
FRU1	**Bishkek**	**53.16**	**67**	P	**P**	**01 50 55.6**	**+0.3**
FRU1				pmax	pmax		
	comp=Z,16nm,0.5s						
FRU1	**Bishkek**	**53.16**	**67**	P	**P**	**01 50 55.6**	**+0.3**
BW06	**Boulder Array**	**53.20**	**293**	P	**P**	**01 50 55.2**	**-0.6**
	baz=32,SNR=10						
BW06	**Boulder Array**	**53.20**	**293**	IAmb	IAmb	01 51 00.8	
	comp=Z,9.5nm,1.1s						
PD31	**Pinedale Array**	**53.20**	**293**	IAmb	IAmb	01 51 00.8	
	comp=Z,10nm,1.1s						
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	**01 50 55.1**	**-0.7**
	comp=Z,6.0nm,1.1s,baz=55,slow=6.0,SNR=17						
PDAR				LR	LR	02 13 13.9	
	comp=Z,289nm,20.4s,baz=12,slow=36						
REDW	**Red Top Meadow**	**53.21**	**295**	IAmb	IAmb	01 51 02.5	
	comp=Z,12nm,1.4s						
AAK	**Ala-Archa**	**53.25**	**67**	*ce*P	**P**	**01 50 56.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,31nm,1.3s						
N23A	**Red Feather La**	**53.33**	**289**	P	**P**	**01 50 57.1**	**+0.3**
	baz=32,SNR=5.3						
N23A	**Red Feather La**	**53.33**	**289**	IAmb	IAmb	01 51 00.2	
	comp=Z,14nm,1.1s						
MIAR	**Mount Ida**	**53.51**	**275**	P	**P**	**01 50 57.9**	**+0.1**
	baz=31						
ISCO	**Idaho Springs**	**54.12**	**288**	P	**P**	**01 51 02.3**	**-0.3**
ISCO				pmax	pmax		
	comp=Z,18nm,1.8s						
ISCO	**Idaho Springs**	**54.12**	**288**	P	**P**	**01 51 02.3**	**-0.3**
ISCO				IAmb	IAmb	01 51 09.2	
	comp=Z,18nm,1.8s						
BMO	**Blue Mountains**	**54.41**	**300**	IAmb	IAmb	01 51 06.5	
	comp=Z,22nm,1.9s						
HLID	**Hailey**	**54.42**	**297**	P	**P**	**01 51 05.1**	**+0.5**
	baz=32						
GAR	**Garm**	**54.64**	**73**	P	**P**	**01 51 06.6**	**+0.4**
MOY	**Mondy**	**54.66**	**42**	*e*P	**P**	**01 51 07.9**	**+1.7**
MOY				pmax	pmax		
	comp=Z,26nm,1.2s						
O20A	**White River Ci**	**54.90**	**290**	P	**P**	**01 51 08.7**	**+0.5**
	baz=32						
PRZ	**Przheval'sk**	**54.91**	**64**	P	**P**	**01 51 08.7**	**+0.5**
PRZ				pmax	pmax		
	comp=Z,12nm,1.2s						
PRZ	**Przheval'sk**	**54.91**	**64**	P	**P**	**01 51 08.7**	**+0.5**
PRZ				IAmb	IAmb	01 51 14.8	
	comp=Z,12nm,1.1s						
HWUT	**Hardware Ranch**	**54.98**	**294**	IAmb	IAmb	01 51 14.3	
	comp=Z,12nm,1.2s						
TLY	**Talaya**	**55.41**	**40**	*i* P	**P**	**01 51 10.9**	**-0.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMOK	**Wichita Mounta**	**55.56**	**279**	P	**P**	**01 51 13.5**	**+0.7**
	baz=31,SNR=7.9						
WMOK	**Wichita Mounta**	**55.56**	**279**	IAmb	IAmb	01 51 16.8	
	comp=Z,10nm,1.2s						
MA2	**Magadan**	**55.78**	**7**	*e*P	**P**	**01 51 13.7**	**-0.3**
MA2				pmax	pmax		
	comp=Z,16nm,1.2s						
SDCO	**Great Sand Dun**	**55.82**	**287**	P	**P**	**01 51 15.4**	**+0.5**
	baz=31						
S22A	**4UR Ranch, Cre**	**56.36**	**288**	P	**P**	**01 51 19.2**	**+0.3**
	baz=31						
ZAK	**Zakamensk**	**56.47**	**41**	*e*P	**P**	**01 51 19.8**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
PV22	**Blue Mesa, Par**	**56.49**	**290**	IAmb	IAmb	01 52 06.5	
	comp=Z,15nm,1.9s						
AMTX	**Amarillo**	**56.67**	**282**	P	**P**	**01 51 21.9**	**+1.1**
	baz=31						
DUG	**Dugway, Tooele**	**56.67**	**294**	P	**P**	**01 51 21.7**	**+0.9**
	baz=31						
DUG	**Dugway, Tooele**	**56.67**	**294**	IAmb	IAmb	01 51 27.9	
	comp=Z,11nm,1.4s						
PV12	**Saucer Basin,**	**56.68**	**290**	IAmb	IAmb	01 51 37.5	
	comp=Z,10nm,1.3s						
PV03	**Paradox Valley**	**56.75**	**290**	IAmb	IAmb	01 51 27.0	
	comp=Z,12nm,1.2s						
J05D	**Fort Rock, OR**	**57.20**	**302**	P	**P**	**01 51 24.8**	**+0.2**
	baz=30						
WMQ	**Urumqi**	**57.23**	**56**	*e*P	**P**	**01 51 27.7**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.1s						
WMQ				LR	LR		
	comp=Z,120nm,29.2s						
WMQ				LR	LR		
	comp=Z,320nm,28.9s						
WMQ				LR	LR		
	comp=Z,100nm,18.7s						
WHTX	**Lake Whitney,**	**57.36**	**276**	P	**P**	**01 51 26.4**	**+0.8**
	baz=30						
MVCO	**Mesa Verde**	**57.50**	**289**	P	**P**	**01 51 27.4**	**+0.5**
	baz=31						
K05A	**Summer Lake**	**57.56**	**302**	IAmb	IAmb	01 51 32.8	
	comp=Z,18nm,1.4s						
ABTX	**Abilene, Hawle**	**57.74**	**279**	P	**P**	**01 51 29.0**	**+0.6**
	baz=30						
ABTX	**Abilene, Hawle**	**57.74**	**279**	IAmb	IAmb	01 51 32.4	
	comp=Z,12nm,1.2s						
KBL	**Kabul**	**57.92**	**77**	P	**P**	**01 51 30.3**	**+0.5**
KBL				pmax	pmax		
	comp=Z,12nm,1.5s						
KBL	**Kabul**	**57.92**	**77**	P	**P**	**01 51 30.3**	**+0.5**
KBL				IAmb	IAmb	01 51 31.1	
	comp=Z,12nm,1.5s						
J01E	**Myrtle Point**	**58.27**	**304**	P	**P**	**01 51 32.4**	**+0.6**
	baz=29						
DBIC	**Dimbokro**	**58.56**	**165**	P	**P**	**01 51 33.2**	**-0.9**
	comp=Z,8.8nm,1.0s,baz=13,slow=7.1,SNR=4.2						
DBIC				LR	LR	02 16 40.9	
	comp=Z,910nm,20.7s,baz=354,slow=36						
DBIC	**Dimbokro**	**58.56**	**165**	P	**P**	**01 51 33.3**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,46nm,1.8s						
TIC	**Toumodi**	**58.57**	**165**	*e*P	**P**	**01 51 33.5**	**-0.7**
K02D	**Willamette Mer**	**58.59**	**304**	P	**P**	**01 51 34.1**	**-0.1**
	baz=29						
ANMO	**Albuquerque**	**58.61**	**286**	P	**P**	**01 51 35.0**	**+0.4**
	baz=30						
ANMO	**Albuquerque**	**58.61**	**286**	*ce*P	**P**	**01 51 35.2**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ANMO	**Albuquerque**	**58.61**	**286**	P	**P**	**01 51 35.6**	**+1.0**
KIC	**Kosan Boka**	**58.88**	**165**	*e*P	**P**	**01 51 35.5**	**-0.9**
	comp=Z,20nm,1.1s						
LIC	**Lamto**	**58.98**	**166**	*e*P	**P**	**01 51 36.2**	**-0.9**
	comp=Z,30nm,1.1s						
R11A	**Troy Canyon, C**	**59.35**	**295**	P	**P**	**01 51 40.1**	**+0.4**
	baz=30,SNR=5.5						
R11A	**Troy Canyon, C**	**59.35**	**295**	IAmb	IAmb	01 51 43.2	
	comp=Z,9.2nm,1.5s						
PAHR	**Pah Rah Range**	**59.62**	**299**	IAmb	IAmb	01 51 44.9	
	comp=Z,7.8nm,1.4s						
SONM	**Songino Array**	**59.65**	**40**	P	**P**	**01 51 40.8**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=343,slow=4.6,SNR=6.1						
SONM	**Songino Array**	**59.65**	**40**	P	**P**	**01 51 41.5**	**0.0**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**59.65**	**40**	P	**P**	**01 51 41.5**	**0.0**
JCT	**Junction City**	**59.66**	**278**	P	**P**	**01 51 42.2**	**+0.4**
	baz=30						
U15A	**North Rim**	**59.71**	**291**	IAmb	IAmb	01 51 48.0	
	comp=Z,8.7nm,1.2s						
ULN	**Ulaanbaatar**	**59.80**	**40**	*ce*P	**P**	**01 51 41.0**	**-1.6**
ULN				pmax	pmax		
	comp=Z,14nm,2.5s						
ULN	**Ulaanbaatar**	**59.80**	**40**	P	**P**	**01 51 42.7**	**+0.1**
ULN				IAmb	IAmb	01 51 44.2	
	comp=Z,7.0nm,1.2s						
O03E	**Paynes Creek**	**60.01**	**301**	P	**P**	**01 51 44.7**	**+0.6**
	baz=29						
VCNR	**Virginia City**	**60.08**	**299**	P	**P**	**01 51 46.4**	**+1.6**
VCNR				IAmb	IAmb	01 51 50.4	
	comp=Z,14nm,1.6s						
WUAZ	**Wupatki**	**60.13**	**290**	P	**P**	**01 51 45.4**	**+0.3**
	baz=30,SNR=6.1						
WUAZ	**Wupatki**	**60.13**	**290**	P	**P**	**01 51 45.7**	**+0.6**
WUAZ				IAmb	IAmb	01 51 46.6	
	comp=Z,12nm,1.1s						
YERR	**Yerington**	**60.20**	**298**	IAmb	IAmb	01 51 47.2	
	comp=Z,13nm,1.4s						
NVAR	**Mina Array Bea**	**60.33**	**297**	P	**P**	**01 51 46.2**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=52,slow=5.9,SNR=7.1						
NVAR				LR	LR	02 17 33.9	
	comp=Z,338nm,20.1s,baz=20,slow=36						
NVAR	**Mina Array Bea**	**60.33**	**297**	P	**P**	**01 51 46.6**	**+0.1**
NIL	**Nilore**	**60.44**	**74**	P	**P**	**01 51 46.3**	**-0.8**
NIL				pmax	pmax		
	comp=Z,18nm,1.1s						
NIL	**Nilore**	**60.44**	**74**	P	**P**	**01 51 46.3**	**-0.8**
TPNV	**Topopah Spring**	**60.83**	**295**	P	**P**	**01 51 50.3**	**+0.5**
	baz=29						
MNTX	**Cornudas Mount**	**60.97**	**283**	P	**P**	**01 51 51.3**	**+0.7**
	baz=29						
MNTX	**Cornudas Mount**	**60.97**	**283**	P	**P**	**01 51 51.4**	**+0.7**
X16A	**Lo Mia Camp, P**	**61.11**	**290**	IAmb	IAmb	01 51 53.7	
	comp=Z,6.1nm,1.1s						
OMMB	**Old Mammoth Mi**	**61.31**	**298**	IAmb	IAmb	01 51 57.1	
	comp=Z,9.3nm,1.3s						
HIA	**Hailar**	**61.64**	**30**	*i* P	**P**	**01 51 54.5**	**-0.5**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CWC	**Cottonwood Cre**	**61.98**	**296**	P	**P**	**01 51 58.1**	**+0.5**
	baz=29						
MPMC	**Manual Prospec**	**62.09**	**295**	P	**P**	**01 51 58.7**	**+0.3**
	baz=29						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 51 59.8**	**0.0**
	comp=Z,2.3nm,1.0s,baz=47,slow=5.5,SNR=13						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 52 00.0**	**+0.2**
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 51 60.0**	**+0.2**
GMRC	**Granite Mounta**	**62.48**	**293**	P	**P**	**01 52 01.8**	**+0.8**
	baz=29						
LRMC	**Laurel Mtn Rad**	**62.67**	**295**	P	**P**	**01 52 02.8**	**+0.7**
	baz=28						
TUC	**Tucson**	**62.68**	**288**	P	**P**	**01 52 02.7**	**+0.5**
	baz=29						
TUC	**Tucson**	**62.68**	**288**	P	**P**	**01 52 02.9**	**+0.6**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TUC	**Tucson**	**62.68**	**288**	P	**P**	**01 52 02.9**	**+0.6**
TUC				IAmb	IAmb	01 52 06.1	
	comp=Z,8.5nm,1.4s						
HEC	**Hector,Ludlow**	**62.71**	**294**	P	**P**	**01 52 02.9**	**+0.5**
	baz=28						
ISA	**Isabella, Lake**	**62.81**	**296**	P	**P**	**01 52 03.8**	**+0.7**
	baz=28						
ISA	**Isabella, Lake**	**62.81**	**296**	IAmb	IAmb	01 52 16.1	
	comp=Z,11nm,1.5s						
IRM	**Iron Mountain**	**62.83**	**293**	P	**P**	**01 52 03.9**	**+0.7**
	baz=29						
BELC	**Belle Mtn. Jos**	**63.30**	**293**	P	**P**	**01 52 07.6**	**+1.2**
	baz=28						
EDW2	**Edwards Air Fo**	**63.31**	**295**	P	**P**	**01 52 06.9**	**+0.6**
	baz=28						
HHC	**Hu-ho-hao-te**	**67.52**	**40**	*e*P	**P**	**01 52 36.0**	**+2.4**
HHC				S	**S**	**02 01 28.3**	**-1.4**
HHC				pmax	pmax		
	comp=Z,26nm,1.2s						
HHC				pmax	pmax		
	comp=Z,170nm,5.7s						
HHC				LR	LR		
	comp=Z,250nm,17.6s						
HHC				LR	LR		
	comp=Z,300nm,15.7s						
HHC				LR	LR		
	comp=Z,290nm,17.0s						
LZH	**Lanzhou**	**69.63**	**48**	*e*P	**P**	**01 52 48.1**	**+1.2**
LZH				pP	sP	01 52 52.7	+0.6
LZH				sP	pP	01 52 54.8	+4.1
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
ROSC	**El Rosal**	**71.93**	**241**	P	**P**	**01 53 02.6**	**+1.2**
PTGA	**Pitinga**	**72.18**	**225**	P	**P**	**01 53 03.0**	**+0.6**
XAN	**Xi'an**	**73.09**	**44**	P	**P**	**01 53 07.4**	**-0.3**
XAN				pP	pP	01 53 12.2	+0.7
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CD2	**Chengdu**	**74.36**	**50**	*e*P	**P**	**01 53 14.4**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSRS	**Korea Array**	**74.66**	**28**	LR	LR	02 31 05.9	
	comp=Z,59nm,18.1s,baz=350,slow=40						
SHL	**Shillong**	**75.02**	**62**	P	**P**	**01 53 19.1**	**-0.1**
SHL				pmax	pmax		
	comp=Z,12nm,0.3s						
SHL	**Shillong**	**75.02**	**62**	P	**P**	**01 53 19.1**	**-0.1**
OTAV	**Otavalo**	**77.73**	**244**	P	**P**	**01 53 34.6**	**-0.4**
OTAV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
OTAV	**Otavalo**	**77.73**	**244**	P	**P**	**01 53 34.6**	**-0.4**
NJ2	**Nanjing**	**77.75**	**37**	*e*P	**P**	**01 53 34.1**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
SAML	**Samuel**	**80.94**	**226**	P	**P**	**01 53 53.0**	**+1.1**
SAML				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SAML	**Samuel**	**80.94**	**226**	P	**P**	**01 53 53.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P	**P**	**01 54 08.0**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=320,slow=6.3,SNR=8.2						
CMAR				LR	LR	02 34 29.8	
	comp=Z,60nm,19.5s,baz=310,slow=38						
CMAR	**Chiang Mai Arr**	**84.13**	**59**	*i* P	**P**	**01 54 09.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**131.53**	**36**	PKP	**PKPdf**	**02 00 50.5**	**+0.5**
	comp=Z,0.9nm,1.2s,baz=20,slow=1.3,SNR=4.9						
ASAR	**Alice Springs**	**134.97**	**38**	PKP	**PKPdf**	**02 00 56.0**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=298,slow=1.7,SNR=6.0						

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*TIR **03** 01:45:04.2, 41°.21N×20°.07E, h16km±1km, Md2.6*
*SKO **03** 01:45:05.8, 41°.26N×20°.07E, h3km*
*THE **03** 01:45:05.2, 41°.21N×20°.09E, h0km±3km, ML1.8/3, Error ellipse: s-maj=3.0km s-min=0.9km az=154.0*
*BEO **03** 01:45:05.6±0.7, 41°.19N×20°.07E, h2km±3km, ML1.9/5*
ISC 03 01:45:05.1±0.8, **41°.20N**±0°.02×**20°.05E**±0°.02, **h12**km±5km, **n33**, σ1s.14/56, **2C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.20**	**317**	P	**Pg**	**01 45 09.1**	**-0.3**
TIR				S	**Sb**	**01 45 13.4**	**+1.0**
	520nm,0.3s						
TIR	**Tirane**	**0.20**	**317**	*e*Pg	**Pg**	**01 45 09.0**	**-0.3**
TIR				*e*Sg	**Sb**	**01 45 13.4**	**+1.0**
TIR	**Tirane**	**0.20**	**317**	P	**Pg**	**01 45 09.1**	**-0.3**
	baz=311						
TIR				S	**Sg**	**01 45 13.1**	**+0.6**
	baz=311						
PHP	**Peshkopia**	**0.56**	**32**	P	**Pg**	**01 45 15.2**	**-1.0**
PHP				S	**Sb**	**01 45 24.1**	**-0.9**
PHP	**Peshkopia**	**0.56**	**32**	P	**Pg**	**01 45 15.3**	**-0.8**
	baz=30						
PHP				S	**Sg**	**01 45 23.7**	**+0.1**
	baz=30						
OHR	**Ohrid**	**0.58**	**99**⇑	*i*Pg	**Pg**	**01 45 15.7**	**-0.7**
OHR				*i* Sg	**Sg**	**01 45 24.2**	**+0.1**
OHR				*e*Lg	Lg	01 45 24.4	
	comp=N,57nm,0.4s						
OHR	**Ohrid**	**0.58**	**99**	P	**Pg**	**01 45 15.6**	**-0.7**
	baz=100						
OHR				S	**Sg**	**01 45 24.1**	**+0.1**
	baz=100						
PUK	**Puka**	**0.84**	**352**	P	**Pg**	**01 45 20.3**	**-1.2**
	baz=351						
PUK				S	**Sb**	**01 45 33.3**	**+0.2**
	baz=351						
NEST	**Nestorio**	**1.10**	**136**	P	**Pb**	**01 45 25.2**	**-0.9**
NEST				S	**Sn**	**01 45 41.2**	**-0.3**
	comp=N,32nm,0.4s						
LSK	**Leskovik**	**1.14**	**158**	P	**Pb**	**01 45 25.3**	**-1.4**
	baz=159						
LSK				S	**Sn**	**01 45 42.7**	**+0.3**
	baz=159						
BCI	**Bajram Curri**	**1.16**	**1**	P	**Pb**	**01 45 26.1**	**-1.0**
	baz=0.0						
BCI				S	**Sn**	**01 45 43.4**	**+0.4**
	baz=0.0						
SKO	**Skopje**	**1.30**	**53**	*e*Pg	**Pn**	**01 45 28.9**	**-0.1**
SKO				*e*Sg	**Sg**	**01 45 47.1**	**+0.2**
SKO	**Skopje**	**1.30**	**53**	*i* Pg	**Pn**	**01 45 29.0**	**-0.1**
SKO				*i* Sg	**Sg**	**01 45 47.2**	**+0.3**
SKO				*e*Lg	Lg	01 45 49.3	
	comp=E,2.0nm,0.3s						
SKO	**Skopje**	**1.30**	**53**	P	**Pn**	**01 45 28.9**	**-0.1**
	baz=53						
SRN	**Sarande**	**1.32**	**181**	P	**Pg**	**01 45 30.6**	**+0.1**
SRN	**Sarande**	**1.32**	**181**	P	**Pg**	**01 45 30.2**	**-0.3**
	baz=183						
SRN				S	**Sg**	**01 45 48.4**	**+0.6**
	baz=183						
PDG	**Podgorica**	**1.36**	**335**	*e*Pg	**Pb**	**01 45 30.0**	**-0.5**
PDG				*e*Sg	**Sg**	**01 45 50.2**	**+1.3**
KEK	**Kerkira**	**1.50**	**187**	P	**Pb**	**01 45 33.0**	**+0.1**
KEK				S	**Sg**	**01 45 54.5**	**+1.1**
	comp=E,28nm,0.5s						
STIP	**Stip**	**1.68**	**72**⇑	*i*Pg	**Pg**	**01 45 38.0**	**+0.6**
STIP				*i* Sg	**Sg**	**01 46 04.2**	**+5.0**
STIP				*e*Lg	Lg	01 46 06.3	
	comp=N,2.0nm,0.3s						
IGT	**Igoumenitsa**	**1.69**	**172**	P	**Pb**	**01 45 35.4**	**-0.6**
IGT	**Igoumenitsa**	**1.69**	**172**	P	**Pb**	**01 45 35.3**	**-0.8**
	baz=173						
DBRK	**Dubrovnik**	**2.04**	**317**	*e*Pn	**Pn**	**01 45 38.9**	**-0.3**
DBRK				Sn	**Sg**	**01 46 08.6**	**-1.9**
SJES	**Sjenica**	**2.06**	**359**	*e*Pg	**Pb**	**01 45 43.0**	**+0.6**
SJES				*e*Sg	**Sg**	**01 46 11.8**	**+0.6**
SELS	**Selova**	**2.17**	**21**	*e*Pg	**Pb**	**01 45 44.1**	**-0.2**
BOSS	**Bosilegrad**	**2.23**	**54**	*e*Pg	**Pb**	**01 45 44.8**	**-0.5**
IVAS	**Ivanjica**	**2.37**	**2**	*e*Pg	**Pb**	**01 45 48.3**	**+0.5**
STON	**Ston**	**2.41**	**314**	*e*Pn	**Pn**	**01 45 44.0**	**-0.4**
BBLS	**Lazići**	**2.70**	**350**	*e*Pg	**Pb**	**01 45 54.4**	**+1.0**
GRUS	**Gruza**	**2.73**	**10**	*e*Pn	**Pb**	**01 45 51.2**	**-2.6**
RICI	**Ricice**	**3.15**	**318**	*i* Pn	**Pn**	**01 45 54.4**	**0.0**
RICI				Sn	**Sn**	**01 46 34.0**	**+2.1**
KIJV	**Kijevo**	**3.88**	**317**	*i* Pn	**Pn**	**01 46 04.7**	**+0.1**
KIJV				Sn	**Sn**	**01 46 51.2**	**+1.1**
UDBI	**Udbina**	**4.57**	**318**	*e*Pn	**Pn**	**01 46 15.8**	**+1.6**
UDBI				Sn	**Sn**	**01 47 08.9**	**+1.7**
DUGI	**Dugi Otok**	**4.62**	**309**	*i* Pn	**Pn**	**01 46 14.6**	**0.0**
DUGI				Sn	**Sn**	**01 47 07.0**	**-1.2**

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*ISN **03** 01:51:16.4±1.7, 32°.69N×47°.52E, h15km, ML3.2*
*TEH **03** 01:51:16.2, 32°.64N×47°.54E, h12km, ML3.0*
ISC 03 01:51:16.8±1.2, **32°.60N**±0°.07×**47°.50E**±0°.05, **h10**km, **n27**, σ**0s.80**/29, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.20**	**293**	*e*Pg	**Pg**	**01 51 20.7**	**-0.3**

DHL1					*e*Sg	**Sg**	01 51 25.5	+1.7
IKMR	**Kamar-syah**	**1.18**	**39**		*e*Pg	**Pb**	01 51 37.9	-1.3
IKMR					*e*		01 51 57.1	
IDOB	**Doab**	**1.31**	**26**		*e*Pg	**Pn**	01 51 40.0	-1.4
IBDR	**Badra**	**1.41**	**291**		*e*Pg	**Pn**	01 51 41.0	-1.6
	baz=107							
IBDR					*e*Sg	**Sb**	01 52 02.0	+0.7
IBDR					AML	AML	01 52 08.4	
	comp=N,431nm,0.5s							
IBDR					AML	AML	01 52 08.7	
	comp=E,401nm,0.6s							
IKOM	**Komasi**	**1.57**	**0**		*e*Pg	**Pn**	01 51 44.7	-0.1
IKOM					*e*		01 51 45.9	
KCHF	**Cheshme Sefid,**	**1.71**	**347**		*e*Pg	**Pb**	01 51 47.5	-0.9
KER	**Kermanshah**	**1.80**	**350**		*e*Pn	**Pn**	01 51 48.6	+0.5
HSAM	**Samen**	**1.85**	**30**		*e*Pg	**Pn**	01 51 49.0	+0.2
HSAM					*e*		01 52 17.0	
IBZA	**Bozab**	**1.89**	**9**		*e*Pg	**Pn**	01 51 49.3	0.0
IBZA					*e*		01 51 53.1	
IGHG	**Ghaleghazi**	**1.89**	**336**		*e*Pg	**Pb**	01 51 51.1	-0.4
IGHG					*e*		01 52 24.8	
IVIS	**Veis**	**1.99**	**344**		*e*Pn	**Pn**	01 51 51.5	+0.8
IVIS					*e*		01 52 24.5	
IDHR	**Dehrash**	**2.29**	**336**		*e*Pn	**Pn**	01 51 55.4	+0.6
IDHR					*e*		01 52 34.5	
IALM	**Almabolaq**	**2.32**	**14**		*e*Pn	**Pn**	01 51 55.9	+0.6
ILIN	**Lien**	**2.35**	**349**		*e*Pn	**Pn**	01 51 56.0	+0.3
ILIN					*e*		01 52 36.6	
HAGD	**Aghdareh**	**2.60**	**31**		*e*Pn	**Pn**	01 51 59.5	+0.4
HAGD					*e*		01 52 42.2	
JHBN	**Jahan bin**	**2.70**	**97**		*e*Pn	**Pn**	01 52 00.8	+0.2
JHBN					*e*		01 52 56.6	
HSRG	**Sareghieh**	**2.71**	**14**		*e*Pn	**Pn**	01 52 01.8	+1.1
IPIR	**Pirpir**	**2.86**	**87**		*e*Pn	**Pn**	01 52 02.7	-0.1
IPIR					*e*		01 52 47.8	
ROKH	**ROKH**	**3.00**	**94**		*e*Pn	**Pn**	01 52 05.0	+0.4
ROKH					*e*		01 52 53.1	
QAM	**Ghamsar**	**3.50**	**70**		*e*Pn	**Pn**	01 52 12.1	+0.6
IKLH	**Kolahrood**	**3.50**	**77**		*e*Pn	**Pn**	01 52 12.6	+1.1
QABG	**Abgarm-Qazvin**	**3.55**	**29**		*e*Pn	**Pn**	01 52 11.7	-0.4
KLNJ	**Kolanjah**	**3.83**	**113**		*e*Pn	**Pn**	01 52 17.1	+1.0
IZEF	**Zefreh**	**4.08**	**85**		*e*Pn	**Pn**	01 52 19.6	+0.1
KRSH	**Karshahi**	**4.12**	**69**		*e*Pn	**Pn**	01 52 19.9	0.0
QSDN	**Sirdan**	**4.13**	**19**		*e*Pn	**Pn**	01 52 20.7	+0.6
IRAM	**Ramesheh**	**4.21**	**100**		*e*Pn	**Pn**	01 52 21.0	-0.3

IDC 03 01:59:07.5±7.9, 21°.71S×169°.92E, h71km±51km, mb3.5/3, mb1 3.8/4, mb1mx3.4/30, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=144.3km s-min=49.4km az=162.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.25**	**263**	P	Pn	01 59 57.4	+1.3
	10nm,0.3s,baz=113,slow=10,SNR=199						
DZM				S	Sn	02 00 33.4	-0.3
	42nm,0.3s,baz=15,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**33.23**	**260**	P	P	02 05 38.9	+0.8
	2.0nm,0.5s,baz=94,slow=9.2,SNR=35						
WRA	**Warramunga Arr**	**33.26**	**266**	P	P	02 05 37.6	-0.6
	0.5nm,0.7s,baz=103,slow=8.5,SNR=5.8						
FITZ	**Fitzroy Crossi**	**41.68**	**267**	P	P	02 06 50.5	+1.1
	0.4nm,0.5s,baz=101,slow=10,SNR=1.4						
GERES	**GERESS Array B**	**146.96**	**331**	PKPbc	PKPdf	02 18 39.9	0.0
	0.8nm,0.7s,baz=46,slow=4.2,SNR=6.9						

IDC 03 02:09:31.7±13.0, 22°.96S×175°.76W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.0/38, mbtmp4.3/5, Error ellipse: s-maj=328.5km s-min=37.1km az=42.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.39**	**267**	P	P	02 16 30.8	+1.3
	9.8nm,0.4s,baz=93,slow=11,SNR=17						
ASAR	**Alice Springs**	**46.03**	**259**	P	P	02 17 56.9	-0.6
	2.1nm,0.4s,baz=96,slow=7.9,SNR=28						
WRA	**Warramunga Arr**	**46.37**	**264**	P	P	02 17 59.2	-0.9
	2.8nm,0.3s,baz=103,slow=8.3,SNR=49						
FITZ	**Fitzroy Crossi**	**54.79**	**264**	P	P	02 19 03.5	-0.3
	1.4nm,0.6s,baz=93,slow=7.6,SNR=7.8						
VNDA	**Vanda**	**55.67**	**186**	P	P	02 19 09.3	0.0
	0.1nm,0.3s,baz=47,slow=7.4,SNR=3.9						

DJA 03 02:31:13.2±1.9, 2°S±8°×140°E±°, h10km, M2.9/2, MLv2.9/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.31**	**160**	P	Pb	02 31 20.8	-0.1
GENI				S	Sb	02 31 25.3	-0.7
JAY	**Jayapura**	**0.68**	**108**	P	Pg	02 31 26.3	-0.1
JAY				S	Sb	02 31 37.0	+0.3

IDC 03 02:33:48.5±29.0, 8°.23S×156°.87E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/46, mbtmp3.7/3, Error ellipse: s-maj=482.7km s-min=93.4km az=48.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.72**	**240**	P	P	02 39 10.0	-1.8
	1.4nm,0.8s,baz=67,slow=8.9,SNR=6.5						
ASAR	**Alice Springs**	**26.82**	**232**	P	P	02 39 32.6	+1.8
	0.6nm,1.0s,baz=60,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**27.49**	**209**	P	P	02 39 36.7	+0.1
	1.8nm,0.7s,baz=48,slow=13,SNR=4.0						

*IDC **03** 02:36:55.6±2.3, 5°.89S×103°.18E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/51, mbtmp3.8/7, Error ellipse: s-maj=88.9km s-min=19.9km az=56.0*
*NEIC **03** 02:36:58.4±2.0, 6°.07S±0°.08×103°.2E±0°.1, h25km±6km, mb4.0/10, Error ellipse: s-maj=17.8km s-min=8.8km az=59.0*
*DJA **03** 02:37:01.7±3.0, 6°S±6°×10°3E±°, h21km±30km, M4.2/9, MLv4.2/9*

ISC 03 02:37:00.3±0.7, 6°.05S±0°.07×103°.19E±0°.07, h35km, n38, σ1§10/31, mb4.0/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**1.34**	**40**	P	**Pn**	**02 37 21.1**	**-1.5**
MNAI	**Manna**	**1.69**	**352**	P	**Pn**	**02 37 27.7**	**+0.3**
MNAI	**Manna**	**1.69**	**352**		**Pn**	**02 37 28.4**	**+1.0**
MDSI	**Maura Dua**	**1.84**	**33**	P	**Pn**	**02 37 28.2**	**-1.2**
KLSI		**2.04**	**49**	P	**Pn**	**02 37 31.0**	**-1.2**
BLSI	**Bandar Lampung**	**2.16**	**72**	P	**Pn**	**02 37 33.2**	**-0.6**
LHSI	**Lahat**	**2.23**	**9**	P	**Pn**	**02 37 34.3**	**-0.5**
KSI	**Kapahiang**	**2.45**	**346**	P	**Pn**	**02 37 38.7**	**+0.8**
CGJI	**Cibinong**	**2.56**	**103**	P	**Pn**	**02 37 40.1**	**+0.9**
MASI	**Maura Aman, Be**	**3.04**	**342**	P	**Pn**	**02 37 46.7**	**+0.8**
CNJI	**Cibinong**	**4.11**	**108**	P	**Pn**	**02 38 01.8**	**+1.1**
CISI	**Cisompet, Garu**	**4.83**	**108**	P	**Pn**	**02 38 11.6**	**+0.9**
CISI	**Cisompet, Garu**	**4.83**	**108**	Pn	**Pn**	**02 38 10.5**	**-0.1**
CISI					**Sn**	**02 39 08.1**	**+2.5**
XMIS	**Christmas Isla**	**5.04**	**151**	Pn	**Pn**	**02 38 10.8**	**-2.6**
PBA	**Port Blair**	**20.43**	**329**	P	P	02 41 33.9	-0.7
SOEI	**Soe**	**21.20**	**101**	P	**P**	**02 41 42.5**	**-0.7**
H01W3	**Cape Leeuwin H**	**30.43**	**162**	T	T	03 16 18.9	
	baz=338,slow=74,SNR=2.3						
H01W2	**Cape Leeuwin H**	**30.44**	**162**	T	T	03 16 44.8	
	baz=338,slow=74,SNR=3.6						
H01W1	**Cape Leeuwin H**	**30.44**	**162**	T	T	03 15 58.3	
	baz=338,SNR=2.7						
H08S2	**Diego Garcia H**	**30.51**	**265**	T	T	03 14 59.0	
	baz=89,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**30.52**	**265**	T	T	03 14 56.1	
	baz=89,slow=75,SNR=10						
H08S1	**Diego Carcia H**	**30.53**	**265**	T	T	03 15 10.8	
	baz=89,slow=75,SNR=3.9						
DGAR	**Diego Garcia**	**30.55**	**266**	P	**P**	**02 43 10.7**	**-0.1**
WB0	**Warramunga Arr**	**33.25**	**117**	P	**P**	**02 43 34.1**	**-0.4**
WRA	**Warramunga Arr**	**33.26**	**117**	P	**P**	**02 43 35.0**	**+0.4**
	0.2nm,0.4s,baz=301,slow=9.2,SNR=7.5						
WB2	**Warramunga Arr**	**33.27**	**117**	P	**P**	**02 43 33.8**	**-0.9**
ASAR	**Alice Springs**	**34.34**	**124**	P	**P**	**02 43 45.2**	**+1.2**
	0.3nm,0.6s,baz=306,slow=7.9,SNR=5.3						
STKA	**Stephens Creek**	**44.11**	**131**	P	**P**	**02 45 07.0**	**+1.5**
	1.2nm,0.6s,baz=328,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**44.11**	**131**	IAmb	IAmb	02 46 04.3	
	comp=Z,3.2nm,1.6s						
KSRS	**Korea Array**	**49.05**	**26**	P	**P**	**02 45 43.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=230,slow=8.2,SNR=4.3						
SONM	**Songino Array**	**53.73**	**3**	P	**P**	**02 46 18.9**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=188,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**55.78**	**343**	P	**P**	**02 46 33.3**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=147,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**55.78**	**343**	P	**P**	**02 46 33.1**	**-0.7**
MK31	**Makanchi Array**	**55.78**	**343**	P	**P**	**02 46 33.0**	**-0.8**
MK31				IAmb	IAmb	02 47 26.4	
	comp=Z,2.9nm,1.4s						
ZAA0	**Zalesovo Array**	**61.74**	**348**	P	**P**	**02 47 14.1**	**-0.9**
ZALV	**Zalesovo Beam**	**61.74**	**348**	P	**P**	**02 47 13.9**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=134,slow=8.4,SNR=4.8						
ABKAR	**Akbulak array**	**66.70**	**331**	P	**P**	**02 47 47.6**	**-0.1**
TXAR	**Lajitas Array**	**145.66**	**44**	PKPbc	**PKPab**	**02 56 36.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=243,slow=1.3,SNR=8.3						

*DNK **03** 02:44:29.5±5.9, 71°.27N×62°.85W, h15km±55km, ML3.6, Probable volcanic*
*OTT **03** 02:44:29.9±0.4, 71°.16N×62°.85W, h18km, Mw4.4, 225km northeast from Clyde River, Nu Eastern Arctic Background Seismic Zone.*
*IDC **03** 02:44:30.1±0.5, 71°.23N×62°.53W, h0km, mb4.0/22, mb1 4.2/26, mb1mx4.0/48, mbtmp4.1/26, ML3.9/4, MS3.4/6, Ms1 3.5/6, ms1mx3.1/46, Error ellipse: s-maj=15.2km s-min=11.0km az=153.0*
*NEIC **03** 02:44:31.9±1.6, 71°.30N±0°.07×62°.8W±0°.2, h10km±1km, mb4.4/46, Mwr4.4(OTT), Error ellipse: s-maj=12.6km s-min=9.6km az=176.0*

ISC 03 02:44:30.8±0.3, 71°.14N±0°.05×62°.71W±0°.04, h10km, n130, σ2§31/125, mb4.3/38, MS3.7/4, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLRN	**Clyde River**	**2.05**	**254**	PN	**Pn**	**02 45 04.7**	**-0.6**
CLRN				SN	**Sn**	**02 45 28.5**	**-2.4**
CLRN				Trac		02 45 29.8	
	comp=Z,1μm,0.3s						
CLRN	**Clyde River**	**2.05**	**254**	Pn	**Pn**	**02 45 04.7**	**-0.6**
CLRN				Sn	**Sn**	**02 45 28.5**	**-2.4**
UPNV	**Upernavik**	**2.63**	**48**	*e*	**Pn**	**02 45 10.3**	**-2.9**
	baz=213,slow=16						
UPNV				*i* P	Pb	02 45 11.2	-6.7
UPNV				*i* S	**Sn**	**02 45 38.8**	**-6.3**
UPNV				IAML		02 45 42.4	
	comp=Z,279nm,0.4s						
NUUG	**Nuugaatsiaq**	**3.08**	**78**	*i* P	**Pn**	**02 45 17.6**	**-1.9**
NUUG				*i*		02 45 19.1	
NUUG				*i* S	Sn	02 45 49.7	-6.6
NUUG				IAML		02 45 51.5	
	comp=Z,116nm,0.3s						
ILULI	**Ilulissat**	**4.40**	**111**	PN	**Pn**	**02 45 37.5**	**0.0**
ILULI				SN	**Sn**	**02 46 26.2**	**-2.4**
ILULI	**Ilulissat**	**4.40**	**111**		**Pn**	**02 45 37.7**	**+0.3**
ILULI	**Ilulissat**	**4.40**	**111**	*i* P	**Pn**	**02 45 37.8**	**+0.3**
ILULI	**Ilulissat**	**4.40**	**111**	*e*P	**Pn**	**02 45 37.9**	**+0.3**
TULEG	**Thule**	**5.69**	**345**	PN	**Pn**	**02 45 52.8**	**-2.3**
TULEG				SN	Sn	02 46 50.4	-10
TULEG				Trac		02 46 56.2	
	comp=Z,149nm,0.3s						
TULEG	**Thule**	**5.69**	**345**		**Pn**	**02 45 52.1**	**-3.0**
TULEG	**Thule**	**5.69**	**345**	*i* P	**Pn**	**02 45 52.6**	**-2.5**
TULEG				*i* S	Sn	02 46 51.5	-8.9
TULEG				IAML		02 46 56.2	
	comp=Z,126nm,0.4s						
SFJD	**Kangerlussuaq**	**6.00**	**128**	Pn	**Pn**	**02 45 58.3**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=309,slow=14,SNR=6.7						
SFJD				Sn	**Sn**	**02 47 01.4**	**-6.6**
	comp=Z,8.8nm,0.3s,baz=9.2,slow=14,SNR=5.8						
SFJD				LR	LR	02 48 15.3	
	comp=Z,164nm,20.7s,baz=357,slow=38						
SFJD	**Kangerlussuaq**	**6.00**	**128**	PN	**Pn**	**02 45 58.1**	**-1.3**
SFJD				SN	**Sn**	**02 47 02.5**	**-5.4**
SFJD				Trac		02 47 10.4	
	comp=Z,8.2nm,0.8s						
SFJD	**Kangerlussuaq**	**6.00**	**128**	Pn	**Pn**	**02 46 00.1**	**+0.7**
SFJD	**Kangerlussuaq**	**6.00**	**128**	*i* P	**Pn**	**02 45 57.6**	**-1.8**
SFJD	**Kangerlussuaq**	**6.00**	**128**	*i* P	**Pn**	**02 45 57.7**	**-1.8**
SFJD				IAML		02 47 19.1	
	comp=Z,1.6nm,0.3s						
SUMG	**Summit**	**7.68**	**68**	Pn	Pn	02 46 19.7	-3.1
SUMG	**Summit**	**7.68**	**68**	*i* P	Pn	02 46 19.5	-3.3
SUMG				*i* S	Sn	02 47 39.9	-10
SUMG	**Summit**	**7.68**	**68**	*i* P	Pn	02 46 19.5	-3.3
SUMG				*i* S	Sn	02 47 39.9	-10
SUMG				IAML		02 47 43.6	
	comp=Z,51nm,0.4s						
FRB	**Frobisher Bay**	**7.75**	**200**	Pn	**Pn**	**02 46 22.3**	**-1.2**
	comp=Z,7.0nm,0.3s,baz=0.7,slow=13,SNR=36						
FRB				Sn	**Sn**	**02 47 44.8**	**-6.3**
	comp=Z,18nm,0.3s,baz=119,slow=18,SNR=7.1						
FRB				LR	LR	02 48 51.9	
	comp=Z,149nm,21.4s,baz=344,slow=33						
FRB	**Frobisher Bay**	**7.75**	**200**	PN	**Pn**	**02 46 22.2**	**-1.2**
FRB				SN	**Sn**	**02 47 45.9**	**-5.2**
FRB				Trac		02 48 00.9	
	comp=Z,76nm,0.5s						
ICESG	**Greenland Ices**	**8.10**	**94**	*i* P	**Pn**	**02 46 28.4**	**-0.1**
ICESG				*e*S	Sn	02 47 51.8	-8.4
RES	**Resolute Bay**	**10.01**	**305**	Pn	**Pn**	**02 46 52.8**	**-1.6**
	comp=Z,2.8nm,0.3s,baz=92,slow=7.0,SNR=39						
RES				Sn	Sn	02 48 36.2	-10
	comp=Z,1.5nm,0.3s,baz=330,slow=19,SNR=2.9						
RES	**Resolute Bay**	**10.01**	**305**	PN	**Pn**	**02 46 53.0**	**-1.4**
RES				SN	Sn	02 48 36.9	-10
RES	**Resolute Bay**	**10.01**	**305**	Pn	**Pn**	**02 46 51.5**	**-2.8**
KNGQ	**Kangiqsujuaq**	**10.27**	**206**	PN	**Pn**	**02 46 54.9**	**-3.0**
KNGQ				SN	Sn	02 48 41.6	-11
KNGQ				Trac		02 48 58.0	
	comp=Z,4.2nm,0.0s						
EUNU	**Eureka**	**10.58**	**338**	PN	**Pn**	**02 46 59.5**	**-2.7**
EUNU				SN	Sn	02 48 47.9	-13
EUNU	**Eureka**	**10.58**	**338**	Pn	**Pn**	**02 46 59.3**	**-2.9**
ANGG	**Ammassalik, Gr**	**10.71**	**109**	Pn	**Pn**	**02 47 06.6**	**+2.7**
KAJQ	**Kangiqsualujjuq**	**12.57**	**188**	PN	**Pn**	**02 47 27.2**	**-2.1**
KAJQ				SN	Sn	02 49 37.2	-12
DBG	**Daneborg**	**12.79**	**56**	*e*P	Pn	02 47 29.0	-3.3
DBG				IAML		02 50 05.8	
	comp=Z,7.5nm,0.5s						
DAG	**Danmarks Havn**	**13.08**	**45**	*i* P	Pn	02 47 32.1	-4.2
DAG	**Danmarks Havn**	**13.08**	**45**	*i* P	Pn	02 47 32.1	-4.2
DAG				*e*S	Sn	02 49 44.4	-17
DAG				IAML		02 49 54.3	
	comp=Z,25nm,0.4s						
CB02	**Cambridge Bay**	**14.31**	**283**	PN	Pn	02 47 47.9	-5.2
CB31	**Cambridge Bay**	**14.33**	**282**	PN	**Pn**	**02 47 48.6**	**-4.7**
CB31				SN	Sn	02 50 17.5	-15
CB31				Trac		02 50 30.0	
	comp=Z,22nm,0.4s						
NOR	**Nord**	**14.41**	**25**	*i* P	Pn	02 47 47.5	-6.8
NOR	**Nord**	**14.41**	**25**	*e*P	Pn	02 47 47.5	-6.8
NOR				IAML		02 50 19.8	
	comp=Z,15nm,0.4s						
SCHQ	**Schefferville**	**16.47**	**188**	Pn	**Pn**	**02 48 17.8**	**-3.8**
	comp=Z,2.0nm,0.3s,baz=19,slow=8.7,SNR=18						
SCHQ				Sn	Sn	02 51 10.8	-13
	comp=Z,1.2nm,0.3s,baz=101,slow=13,SNR=3.7						
SCHQ	**Schefferville**	**16.47**	**188**	PN	**Pn**	**02 48 17.5**	**-4.1**
SCHQ				SN	Sn	02 51 08.0	-16
SCHQ	**Schefferville**	**16.47**	**188**	Pn	**Pn**	**02 48 17.3**	**-4.3**
SCHQ				IAmb	IAmb	02 48 36.1	
	comp=Z,54nm,1.4s						
KJKQ	**Kuujjuarapik**	**17.20**	**210**	PN	**Pn**	**02 48 26.0**	**-4.8**
KJKQ				SN	Sn	02 51 26.2	-16
FCC	**Fort Churchill**	**17.87**	**242**	PN	**Pn**	**02 48 35.5**	**-3.6**
FCC				SN	Sn	02 51 39.2	-19
KUKN	**Kugluktuk,NWT**	**18.16**	**285**	PN	**Pn**	**02 48 39.5**	**-3.1**
KUKN				SN	Sn	02 51 44.9	-20
LG4Q	**La Grande 4**	**18.29**	**202**	PN	**Pn**	**02 48 39.2**	**-5.0**
LG4Q				SN	Sn	02 51 50.0	-18
DHRN	**Dharma Camp**	**20.00**	**286**	PN	**P**	**02 49 03.4**	**+0.3**
DHRN				SN	S	02 52 30.2	-17
NMSQ	**Nemaska Statio**	**20.41**	**204**	PN	**P**	**02 49 06.0**	**-1.6**
NMSQ				SN	S	02 52 36.4	-19
VIMQ	**Victor Mine**	**20.64**	**218**	PN	**P**	**02 49 09.6**	**-0.4**
VIMQ				SN	S	02 52 44.7	-16
SMQ	**Clarke City**	**21.07**	**187**	PN	**P**	**02 49 15.9**	**+1.2**
YKA	**Yellowknife Ar**	**21.45**	**273**	P	**P**	**02 49 19.3**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=40,slow=12,SNR=8.3						
INK	**Inuvik**	**23.43**	**298**	P	**P**	**02 49 39.5**	**0.0**
	comp=Z,9.0nm,1.0s,baz=42,slow=11,SNR=9.7						
INK	**Inuvik**	**23.43**	**298**	P	**P**	**02 49 37.2**	**-2.3**
INK				IAmb	IAmb	02 49 42.2	
	comp=Z,19nm,1.2s						
FL31	**Flin Flon Arra**	**23.61**	**247**	SN	**S**	**02 53 56.1**	**+0.6**
GTO	**Geraldton**	**24.21**	**221**	PN	**P**	**02 49 52.5**	**+5.3**
GTO				SN	**S**	**02 54 06.6**	**+1.4**
GTO				Trac		02 54 46.8	
	comp=Z,3.5nm,0.4s						
LATQ	**La Tuque**	**24.31**	**197**	P	**P**	**02 49 49.3**	**+1.3**
LATQ				IAmb	IAmb	02 50 05.9	
	comp=Z,5.8nm,0.8s						
EPYK	**Eagle Plains**	**25.64**	**296**	P	**P**	**02 50 01.3**	**+1.2**
ULM	**Lac du Bonnet**	**25.87**	**234**	P	**P**	**02 50 04.4**	**+2.3**
	comp=Z,5.2nm,0.7s,baz=37,slow=7.8,SNR=5.2						
EYMN	**Ely**	**26.92**	**226**	P	**P**	**02 50 13.9**	**+2.2**
EYMN				IAmb	IAmb	02 50 35.5	
	comp=Z,17nm,1.2s						
E46A	**Sault Ste Mari**	**26.92**	**214**	P	**P**	**02 50 14.5**	**+2.8**
ARCES	**ARCESS Array B**	**27.28**	**50**	LR	LR	02 59 52.2	
	comp=Z,184nm,18.1s,baz=255,slow=34						
E43A	**Lone Tree Farm**	**27.43**	**218**	P	**P**	**02 50 18.8**	**+2.5**
SADO	**Sadowa**	**27.64**	**206**	LR	LR	03 02 14.7	
	comp=Z,66nm,19.2s,baz=69,slow=38						
AGMN	**Agassiz Nation**	**27.66**	**232**	P	**P**	**02 50 22.0**	**+3.7**
DAWY	**Dawson**	**28.09**	**295**	P	**P**	**02 50 23.1**	**+1.0**
DAWY				IAmb	IAmb	02 50 25.0	
	comp=Z,10.0nm,1.0s						
F42A	**Maple Grove Fa**	**28.25**	**219**	P	**P**	**02 50 25.9**	**+2.3**
BCAR	**Beaver Creek A**	**29.55**	**295**	P	**P**	**02 50 37.7**	**+2.6**
NOA	**NORSAR Array B**	**29.55**	**71**	P	**P**	**02 50 35.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=313,slow=8.3,SNR=3.5						
ILAR	**Eielson Array**	**29.71**	**301**	P	**P**	**02 50 38.2**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=33,slow=6.3,SNR=5.0						
ILAR				PcP	**PcP**	**02 53 40.9**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=11,slow=2.5,SNR=5.1						
FINES	**FINESS Array B**	**33.63**	**60**	P	**P**	**02 51 11.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=328,slow=4.9,SNR=3.8						
B08A	**Colville Reser**	**34.52**	**259**	P	**P**	**02 51 20.5**	**+1.7**
B08A				IAmb	IAmb	02 51 22.8	
	comp=Z,4.3nm,0.8s						
BOZ	**Bozeman (W)**	**34.57**	**249**	P	**P**	**02 51 21.1**	**+1.7**
BOZ				IAmb	IAmb	02 51 34.6	
	comp=Z,3.6nm,0.8s						
D08A	**Wollman Farm,**	**35.54**	**258**	P	**P**	**02 51 29.7**	**+2.2**
F10A	**Beach Ranch, E**	**35.97**	**255**	P	**P**	**02 51 32.5**	**+1.2**
F10A				IAmb	IAmb	02 51 34.2	
	comp=Z,4.6nm,0.9s						
S44A	**Carbondale**	**36.24**	**217**	P	**P**	**02 51 36.0**	**+2.5**
HAWA	**Hanford**	**36.32**	**258**	P	**P**	**02 51 35.3**	**+1.1**
HAWA				IAmb	IAmb	02 51 36.8	
	comp=Z,4.4nm,0.8s						
PD31	**Pinedale Array**	**36.53**	**245**	P	**P**	**02 51 37.6**	**+1.3**
PDAR	**Pinedale Array**	**36.53**	**245**	P	**P**	**02 51 38.6**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=43,slow=6.6,SNR=13						
PDAR	**Pinedale Array**	**36.53**	**245**	P	**P**	**02 51 38.7**	**+2.4**
S39A	**Bolivar**	**37.08**	**222**	IAmb	IAmb	02 51 51.5	
	comp=Z,7.4nm,0.8s						
T42A	**Van Buren**	**37.25**	**219**	IAmb	IAmb	02 51 45.8	
	comp=Z,5.2nm,0.8s						
MFID	**Camas Ranch**	**37.83**	**252**	P	**P**	**02 51 47.9**	**+0.7**
W50A	**Signal Mountai**	**37.95**	**211**	IAmb	IAmb	02 51 51.3	
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**38.14**	**80**	*e*P	**P**	**02 51 50.0**	**+0.4**
J08A	**Circle Bar Ran**	**38.70**	**255**	IAmb	IAmb	02 52 17.9	
	comp=Z,16nm,1.8s						
DUG	**Dugway, Tooele**	**39.85**	**247**	P	**P**	**02 52 07.3**	**+3.1**
MSU	**Marysvale**	**41.22**	**245**	P	**P**	**02 52 19.4**	**+3.8**
ESDC	**Sonseca Array**	**42.98**	**105**	P	**P**	**02 52 31.1**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=334,slow=8.3,SNR=9.9						
ESDC	**Sonseca Array**	**42.98**	**105**	P	**P**	**02 52 31.0**	**+1.2**
NVAR	**Mina Array Bea**	**43.14**	**251**	P	**P**	**02 52 33.4**	**+2.1**
	comp=Z,1.8nm,0.8s,baz=28,slow=5.1,SNR=16						
NVAR	**Mina Array Bea**	**43.14**	**251**	P	**P**	**02 52 33.1**	**+1.9**
ABTX	**Abilene, Hawle**	**43.38**	**228**	P	**P**	**02 52 34.3**	**+1.2**
WAKR	**Wal

baz=66,slow=28
VRF Varrio 1.63 275 PG **Pn** 03 10 20.3 -0.3
VRF MSG 03 10 40.3
comp=Z,4.8nm,0.2s
VRF SG **Sn** 03 10 40.5 -1.7
KU6 Riekki 2.27 226 PG **Pb** 03 10 31.6 -0.9
baz=45
KU6 MSG 03 10 58.4
comp=Z,3.8nm,0.2s
KU6 SG **Sb** 03 11 01.0 -0.1
MSF Maaselka 2.60 230 PG **Pb** 03 10 36.8 -1.2
baz=43
MSF SG **Sb** 03 11 11.2 +0.8
SGF Sodankyl 2.83 269 PG **Pb** 03 10 41.2 -0.7
SGF SB **Sb** 03 11 15.9 -1.1
RNF Rovaniemi 3.24 255 PN **Pn** 03 10 43.6 +0.9
RNF SN **Sn** 03 11 23.5 +1.5
ARA0 ARCESS Array S 3.60 305 Pn **Pn** 03 10 48.4 +0.7
baz=122,slow=16
ARA0 Pg **Pb** 03 10 56.3 +1.2
baz=119,slow=16
ARA0 Sn **Sn** 03 11 29.2 -1.6
baz=118,slow=28
ARA0 Lg Lg 03 11 40.5
baz=110,slow=37
ARA0 ARCESS Array S 3.60 305 Pn **Pn** 03 10 48.4 +0.7
baz=122,slow=16
ARA0 Pg **Pb** 03 10 56.3 +1.2
baz=119,slow=16
ARA0 Sn **Sn** 03 11 29.2 -1.6
baz=118,slow=28
ARA0 Sg **Sb** 03 11 40.5 +1.3
baz=110,slow=37
ARE0 ARCESS Array S 3.60 305 PN **Pn** 03 10 48.4 +0.8
baz=121
ARE0 SN **Sn** 03 11 29.2 -1.6
TOF Tornio 4.09 252 PG **Pb** 03 11 05.0 +1.6
LANU Lannavaara 4.52 280 PN **Pn** 03 10 59.9 -0.3
LANU SG **Sg** 03 12 12.4 -3.1
KALU Kalix 4.54 251 SG **Sb** 03 12 12.0 +5.8
ERTU Ertsjaerv 4.70 262 SN **Sn** 03 11 56.9 -0.9
TRO Tromso 5.80 297 *eP* **Pn** 03 11 17.9 0.0
TRO IAML 03 12 17.9
comp=Z,2.1nm,0.7s
TRO *eS* **Sn** 03 12 22.4 -2.6
FIA0 FINESS Array S 7.08 212 Pn **Pn** 03 11 35.3 0.0
baz=14,slow=18
FIA0 FINESS Array S 7.08 212 Pn **Pn** 03 11 35.3 0.0
baz=14,slow=18

MOS ***03*** *03:21:11.5±0.7,29°.85N×139°.04E,h394km,mb4.4/33, Error ellipse: s-maj=10.0km s-min=5.7km az=119.2*
JMA ***03*** *03:21:11.5±0.2,29°.88N×139°.45E,h408km±4km,M4.3*
IDC ***03*** *03:21:12.3±0.7,29°.88N×139°.10E,h386km±6km,mb3.8/29, mb1 4.0/34,mb1mx3.8/61,mbtmp4.6/34,Error ellipse: s-maj=10.1km s-min=8.2km az=88.0*
NEIC ***03*** *03:21:12.1±1.5,29°.84N±0°.07×139°.2E±0°.1,h390km±5km, mb4.3/102,Error ellipse: s-maj=13.0km s-min=10.7km az=83.0*

ISC 03 03:21:13.0±0.4,29°.88N±0°.05×139°.23E±0°.05,h400km, n286,σ1$30/281,mb4.3/86,2C-5D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.22**	**9**	P	**Pn**	**03 22 17.3**	**-0.7**
JHCJ				S	**S**	**03 23 07.2**	**-3.5**
JHJ2	**Mitsune**	**3.26**	**9**	P	**Pn**	**03 22 18.1**	**-0.2**
JHJ2	**Mitsune**	**3.26**	**9**		**Pn**	**03 22 16.9**	**-1.5**
JHJ	**Hachijo jima 2**	**3.27**	**8**	P	**Pn**	**03 22 18.2**	**-0.1**
	74nm,0.3s,baz=329,slow=23,SNR=37						
JHJ				S	**S**	**03 23 08.1**	**-3.3**
	144nm,0.3s,baz=71,slow=23,SNR=14						
CBIJ	**Chichi jima**	**3.80**	**136**	P	**Pn**	**03 22 21.2**	**-2.2**
CBIJ				S	**S**	**03 23 15.4**	**-4.9**
JCJ	**Chichijima**	**3.80**	**136**	P	**Pn**	**03 22 21.2**	**-2.1**
	116nm,0.3s,baz=334,slow=4.3,SNR=26						
JCJ				S	**S**	**03 23 15.2**	**-5.1**
	325nm,0.3s,baz=118,slow=23,SNR=23						
JCJ	**Chichijima**	**3.80**	**136**	Pn	**Pn**	**03 22 20.5**	**-2.9**
JMKN	**Mikurajimanish**	**4.01**	**4**	P	**Pn**	**03 22 24.0**	**-1.1**
JHH2	**Haha-jima-NKT2**	**4.15**	**140**	P	**Pn**	**03 22 24.7**	**-1.9**
JHH2				S	**S**	**03 23 21.6**	**-4.7**
JSG	**Sagara**	**4.86**	**350**		**Pn**	**03 22 33.2**	**-0.3**
JIE	**Ise**	**4.98**	**335**	P	**Pn**	**03 22 35.6**	**+0.9**
BSO1	**Boso 1**	**4.99**	**17**	P	**Pn**	**03 22 33.5**	**-0.7**
BSO1				S	**S**	**03 23 37.7**	**-2.7**
JTNC	**Tanabenakahech**	**4.99**	**323**	P	**Pn**	**03 22 35.2**	**+0.3**
JOD2	**Odawara 2**	**5.37**	**359**	P	**Pn**	**03 22 38.2**	**-0.6**
INU	**Inuyama**	**5.76**	**342**		**Pn**	**03 22 42.8**	**-0.2**
JGF	**Kuroka**	**5.92**	**345**	Pn	**Pn**	**03 22 44.0**	**-0.8**
JMN	**Monobe**	**5.95**	**312**	Pn	**Pn**	**03 22 45.7**	**+0.6**
JRY	**Ryogami san**	**6.13**	**358**	P	**Pn**	**03 22 45.7**	**-1.3**
JTO	**Tosashimizu**	**6.25**	**300**	P	**Pn**	**03 22 49.2**	**+0.9**
JWT	**Wachi**	**6.28**	**330**		**Pn**	**03 22 48.5**	**-0.1**
JYT	**Yasato**	**6.38**	**7**		**Pn**	**03 22 47.0**	**-2.7**
MJAR	**Matsushiro Arr**	**6.70**	**353**	P	**Pn**	**03 22 51.5**	**-1.8**
	1.3nm,0.3s,baz=175,slow=11,SNR=45						
MAJO	**Matsushiro**	**6.70**	**353**	*i* P	**Pn**	**03 22 52.3**	**-1.0**
MAJO	**Matsushiro**	**6.70**	**353**		**Pn**	**03 22 52.1**	**-1.2**
MAT	**Matsushiro**	**6.70**	**353**	P	**Pn**	**03 22 51.6**	**-1.7**
MAT				*e*S	**S**	**03 24 11.6**	**-3.5**
MJB9	**Matsu-Tunnel**	**6.71**	**353**	Pn	**Pn**	**03 22 51.5**	**-1.8**
JHS	**Saijyo**	**7.26**	**316**	P	**P**	**03 23 00.7**	**+0.6**
JHS				S	**S**	**03 24 27.5**	**+0.8**
JHS	**Saijyo**	**7.26**	**316**	Pn	**P**	**03 23 00.3**	**+0.2**
JSU	**Suzuyama**	**7.72**	**284**	Pn	**P**	**03 23 05.1**	**-0.2**
JNU	**Nakatsue**	**7.83**	**297**	P	**P**	**03 23 07.3**	**+0.8**
	1.5nm,0.3s,baz=97,slow=5.0,SNR=11						
JNU	**Nakatsue**	**7.83**	**297**		**Pn**	**03 23 05.7**	**-0.3**
JMM	**Marumori**	**8.07**	**9**	Pn	**Pn**	**03 23 06.0**	**-2.7**
JSJ	**Shimokoshiki**	**8.38**	**285**	P	**P**	**03 23 12.8**	**+0.2**
JMK	**Ichinoseki**	**9.20**	**10**	P	**P**	**03 23 20.9**	**-0.7**
JMK				S	**S**	**03 25 02.8**	**-4.5**
JTU	**Tsushima**	**9.53**	**302**	P	**Pn**	**03 23 26.2**	**+0.7**
JTU	**Tsushima**	**9.53**	**302**		**Pn**	**03 23 25.3**	**-0.1**
JOW	**Kunigami**	**10.11**	**255**	P	**Pn**	**03 23 33.9**	**+1.5**
JTM	**Tenmabayashi**	**10.99**	**7**	P	**P**	**03 23 40.8**	**-0.6**
JKE	**Kume jima 2**	**11.54**	**255**	P	**Pn**	**03 23 49.9**	**+1.0**
TJN	**Taejon**	**11.86**	**306**	*i* P	**P**	**03 23 51.5**	**+0.4**
KSRS	**Korea Array**	**12.06**	**312**	P	**Pn**	**03 23 54.0**	**-0.9**
	1.1nm,0.3s,baz=125,slow=11,SNR=45						
KSRS				ScP	**ScP**	**03 31 58.1**	**+1.2**
	baz=166,slow=0.5,SNR=6.3						
KSRS	**Korea Array**	**12.06**	**312**	P	**Pn**	**03 23 54.0**	**-0.9**
KSAR	**Wonju Array Be**	**12.08**	**312**	P	**P**	**03 23 53.7**	**+0.2**
KSAR	**Wonju Array Be**	**12.08**	**312**	P	**P**	**03 23 53.7**	**+0.2**
KS19	**Wonju Array Si**	**12.13**	**312**	P	**P**	**03 23 53.7**	**-0.4**
JOSM	**Okushiri--Mats**	**12.18**	**1**	P	**Pn**	**03 23 56.4**	**+0.3**
ASAJ	**Asahikawa**	**14.46**	**10**	P	**P**	**03 24 20.9**	**+1.4**
	0.7nm,0.3s,baz=177,slow=13,SNR=5.6						
JKA	**Kamikawa-asahi**	**14.46**	**10**	P	**P**	**03 24 20.9**	**+1.4**
USRK	**Ussuriysk Ar.**	**15.41**	**340**	P	**P**	**03 24 30.1**	**+0.4**
	baz=143,slow=11,SNR=5.2						
YSS	**Yuzh-Sakhalins**	**17.27**	**8**	*e*P	**P**	**03 24 51.4**	**+1.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YULB	**Yu-li**	**17.27**	**252**	P	**P**	**03 24 48.5**	**-1.4**
TPUB	**Ta-pu**	**17.86**	**253**	P	**P**	**03 24 56.4**	**+0.1**
BJT	**Baijiatuau**	**21.38**	**304**	P	**P**	**03 25 28.8**	**-1.2**
BJT				pmax	pmax		
	comp=Z,61nm,1.4s						
BJT	**Baijiatuau**	**21.38**	**304**	P	**P**	**03 25 28.8**	**-1.2**
WHN	**Wuhan**	**21.50**	**278**	⇓P	**P**	**03 25 32.4**	**+1.3**
HHC	**Hu-ho-hao-te**	**24.97**	**303**	*e*P	**P**	**03 26 02.3**	**-0.2**
HHC				S	**S**	**03 29 51.9**	**-4.5**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,4.3s						
XAN	**Xi'an**	**26.00**	**287**	P	**P**	**03 26 10.7**	**-0.9**
XAN				pmax	pmax		
	comp=Z,26nm,0.9s						
XAN	**Xi'an**	**26.00**	**287**	P	**P**	**03 26 10.0**	**-1.6**
XAN				pmax	pmax		
	comp=Z,26nm,0.9s						
XAN	**Xi'an**	**26.00**	**287**	P	**P**	**03 26 10.0**	**-1.6**
PETK	**Petropavlovsk-**	**26.86**	**25**	P	**P**	**03 26 20.9**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=191,slow=7.2,SNR=3.8						
GYA	**Guiyang**	**28.85**	**271**	⇑P	**P**	**03 26 36.6**	**-0.4**
GYA				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH	**Lanzhou**	**30.20**	**291**	*e*P	**P**	**03 26 48.0**	**-0.7**
LZH				pP	pP	03 27 56.3	-4.1
LZH				sP	sP	03 28 39.1	-7.3
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
ULN	**Ulaanbaatar**	**30.52**	**315**	*i* P	**P**	**03 26 51.3**	**0.0**
ULN	**Ulaanbaatar**	**30.52**	**315**	P	**P**	**03 26 50.9**	**-0.4**
CD2	**Chengdu**	**30.53**	**281**	⇓*i* P	**P**	**03 26 50.6**	**-0.9**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,190nm,4.0s						
SONM	**Songino Array**	**30.91**	**315**	P	**P**	**03 26 54.6**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=118,slow=7.9,SNR=24						
SONM				ScP	**ScP**	**03 32 44.5**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=64,slow=3.4,SNR=6.1						
SONM	**Songino Array**	**30.91**	**315**	P	**P**	**03 26 54.5**	**-0.1**
SONM					**ScP**	**03 32 44.7**	**+0.9**
KMI	**Kunming**	**32.62**	**271**	⇑*i* P	**P**	**03 27 09.7**	**-0.1**
KMI				pmax	pmax		
	comp=Z,15nm,0.8s						
KMI				pmax	pmax		
	comp=Z,120nm,3.9s						
SLVN	**Son La**	**32.87**	**263**	P	**P**	**03 27 11.2**	**-0.6**
SLVN				IAmb	IAmb	03 27 12.8	
	comp=Z,11nm,0.7s						
GTA	**Gaotai**	**33.56**	**297**	*e*P	**P**	**03 27 16.9**	**-0.7**
GTA				pmax	pmax		
	comp=Z,29nm,0.9s						
ZAK	**Zakamensk**	**33.81**	**318**	*e*P	**P**	**03 27 19.4**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,16nm,1.1s						
TLY	**Talaya**	**34.14**	**320**	*e*P	**P**	**03 27 22.9**	**+0.7**
TLY				pmax	pmax		
	comp=Z,31nm,1.1s						
TLY	**Talaya**	**34.14**	**320**	P	**P**	**03 27 21.9**	**-0.3**
TLY				IAmb	IAmb	03 27 23.7	
	comp=Z,9.1nm,0.7s						
SEY	**Seymchan**	**34.15**	**11**	P	**P**	**03 27 23.3**	**+1.3**
	comp=Z,2.6nm,0.2s,baz=204,slow=4.4,SNR=4.3						
CHTO	**Chiang Mai**	**38.14**	**263**	P	**P**	**03 27 55.5**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s						
CHTO	**Chiang Mai**	**38.14**	**263**	P	**P**	**03 27 55.5**	**-0.6**
CHTO				IAmb	IAmb	03 27 56.8	
	comp=Z,20nm,0.9s						
CM31	**Chiang Mai Arr**	**38.29**	**262**	P	**P**	**03 27 56.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**38.29**	**262**	P	**P**	**03 27 57.3**	**0.0**
	comp=Z,4.7nm,0.7s,baz=49,slow=7.9,SNR=19						
CMAR	**Chiang Mai Arr**	**38.29**	**262**	P	**P**	**03 27 56.4**	**-0.9**
BILL	**Bilibino**	**41.39**	**15**	*e*P	**P**	**03 28 22.9**	**+1.2**
BILL				pmax	pmax		
	comp=Z,14nm,0.9s						
BILL	**Bilibino**	**41.39**	**15**	P	**P**	**03 28 21.0**	**-0.8**
BILL				IAmb	IAmb	03 28 23.8	
	comp=Z,16nm,0.9s						
SHL	**Shillong**	**41.90**	**276**	P	**P**	**03 28 25.7**	**-1.0**
SHL				pmax	pmax		
	comp=Z,14nm,0.8s						
SHL	**Shillong**	**41.90**	**276**	P	**P**	**03 28 25.6**	**-1.0**
SHL				IAmb	IAmb	03 28 27.3	
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**42.85**	**304**	*e*P	**P**	**03 28 35.2**	**+1.3**
DGZ	**Jazzator, Alta**	**43.47**	**312**	*i* P	**P**	**03 28 39.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,23nm,0.8s						
ZALV	**Zalesovo Beam**	**45.69**	**318**	P	**P**	**03 28 55.2**	**-0.5**
	comp=Z,7.7nm,0.6s,baz=98,slow=7.0,SNR=31						
ZALV				ScP	**ScP**	**03 33 39.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=146,slow=1.5,SNR=3.9						
MK31	**Makanchi Array**	**46.71**	**308**	*i* P	**P**	**03 29 03.3**	**-0.5**
MK31	**Makanchi Array**	**46.71**	**308**	P	**P**	**03 29 03.5**	**-0.3**
MKAR	**Makanchi Array**	**46.71**	**308**	P	**P**	**03 29 03.4**	**-0.4**
	comp=Z,8.2nm,0.7s,baz=92,slow=9.2,SNR=84						
MKAR				PcP	**PcP**	**03 30 30.0**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=79,slow=6.3,SNR=5.1						
MKAR				ScP	**ScP**	**03 33 44.3**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=80,slow=5.4,SNR=10						
MKAR	**Makanchi Array**	**46.71**	**308**	P	**P**	**03 29 03.2**	**-0.5**
PSI	**Prapat**	**46.71**	**243**	P	**P**	**03 29 03.7**	**-0.6**
PSI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RPSI	**Rantau Prapat**	**46.78**	**242**	P	**P**	**03 29 03.7**	**-0.9**
MAKZ	**Makanchi**	**46.92**	**308**	P	**P**	**03 29 04.7**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAKZ	**Makanchi**	**46.92**	**308**	P	**P**	**03 29 04.7**	**-0.7**
MAKZ				IAmb	IAmb	03 29 06.8	
	comp=Z,9.5nm,0.7s						
GSI	**Gunungsitoli**	**48.70**	**242**	P	**P**	**03 29 18.5**	**-0.7**
PDGK	**Podgornoye**	**48.83**	**303**	P	**P**	**03 29 18.6**	**-1.4**
NRIK	**Noril'sk**	**49.12**	**338**	P	**P**	**03 29 22.0**	**+0.5**
	comp=Z,4.2nm,0.4s,baz=104,slow=9.7,SNR=6.0						
NRIK	**Noril'sk**	**49.12**	**338**	*i* P	**P**	**03 29 21.8**	**+0.3**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NRIK	**Noril'sk**	**49.12**	**338**	P	**P**	**03 29 22.0**	**+0.5**
KURK	**Kurchatov**	**49.19**	**313**	*i* P	**P**	**03 29 21.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,20nm,1.1s						
KURK	**Kurchatov**	**49.19**	**313**	P	**P**	**03 29 21.8**	**-0.5**
KURK				IAmb	IAmb	03 29 22.7	
	comp=Z,19nm,0.9s						
KURBB	**Kurchatov Arra**	**49.24**	**313**	P	**P**	**03 29 21.1**	**-1.6**
WB0	**Warramunga Arr**	**49.58**	**186**	IAmb	IAmb	03 29 26.6	
	comp=Z,10nm,0.9s						
WRAB	**Tennant Creek**	**49.74**	**186**	*i* P	**P**	**03 29 27.2**	**+0.4**
WRAB	**Tennant Creek**	**49.74**	**186**	P	**P**	**03 29 27.0**	**+0.1**
WB2	**Warramunga Arr**	**49.75**	**186**	P	**P**	**03 29 26.5**	**-0.4**
WRA	**Warramunga Arr**	**49.75**	**186**	P	**P**	**03 29 27.1**	**+0.2**
	comp=Z,7.1nm,0.7s,baz=3.4,slow=8.0,SNR=85						
TARG	**Taragay, Kyrgy**	**50.23**	**301**	IAmb	IAmb	03 29 31.7	
	comp=Z,13nm,0.9s						
KDJ	**Kajisay**	**50.65**	**302**	P	**P**	**03 29 32.9**	**-0.7**
KDJ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KDJ	**Kajisay**	**50.65**	**302**	P	**P**	**03 29 32.9**	**-0.7**
KDJ				IAmb	IAmb	03 29 35.2	
	comp=Z,8.0nm,0.6s						
ULHL	**Ulahol**	**51.32**	**302**	P	**P**	**03 29 38.7**	**+0.2**
	SNR=7.3						
BOOM	**Boomskoye usch**	**51.51**	**302**	P	**P**	**03 29 38.9**	**-1.0**
BOOM				pmax	pmax		
	comp=Z,15nm,0.7s						
BOOM	**Boomskoye usch**	**51.51**	**302**	P	**P**	**03 29 38.9**	**-1.0**
BOOM				IAmb	IAmb	03 29 40.9	
	comp=Z,15nm,0.7s						
TKM2	**Tokmak 2**	**51.71**	**303**	P	**P**	**03 29 41.9**	**+0.5**
	SNR=12						
KBK	**Karagaybulak**	**52.22**	**303**	P	**P**	**03 29 45.3**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**52.55**	**303**	P	**P**	**03 29 46.8**	**-0.7**
	SNR=8.4						
AAK	**Ala-Archa**	**52.55**	**303**	*i* P	**P**	**03 29 47.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,25nm,0.6s						
UCH	**Uchtor**	**52.60**	**302**	P	**P**	**03 29 48.9**	**+0.8**
	SNR=12						
AML	**Almayashu**	**53.21**	**302**	P	**P**	**03 29 53.2**	**+0.7**
	SNR=13						
AS31	**Alice Springs**	**53.48**	**186**	P	**P**	**03 29 54.8**	**+0.7**
ASAR	**Alice Springs**	**53.48**	**186**	P	**P**	**03 29 54.5**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=3.8,slow=7.6,SNR=59						
ASAR	**Alice Springs**	**53.48**	**186**	P	**P**	**03 29 54.2**	**+0.1**
ASAR	**Alice Springs**	**53.48**	**186**	P	**P**	**03 29 54.2**	**+0.1**
KDAK	**Kodiak Island**	**53.75**	**38**	P	**P**	**03 29 56.4**	**+0.9**
	comp=Z,20nm,0.6s,baz=213,slow=1.0,SNR=18						
KDAK	**Kodiak Island**	**53.75**	**38**	P	**P**	**03 29 56.4**	**+0.9**
KDAK				pmax	pmax		
	comp=Z,226nm,1.8s						
BRVK	**Borovoye**	**54.30**	**316**	*i* P	**P**	**03 29 59.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRVK	**Borovoye**	**54.30**	**316**	P	**P**	**03 29 59.1**	**-0.5**
BRVK				IAmb	IAmb	03 30 00.4	
	comp=Z,14nm,0.9s						
RC01	**Rabbit Creek A**	**55.23**	**34**	P	**P**	**03 30 04.8**	**-1.2**
	baz=270						
COLD	**Coldfoot**	**55.32**	**27**	P	**P**	**03 30 07.8**	**+1.2**
	baz=265						
COLD	**Coldfoot**	**55.32**	**27**	P	**P**	**03 30 07.0**	**+0.4**
KK31	**Karatay Array**	**55.36**	**304**	*i* P	**P**	**03 30 06.8**	**-0.5**
KKAR	**Karatay Array**	**55.36**	**304**	P	**P**	**03 30 07.1**	**-0.2**
KKAR	**Karatay Array**	**55.36**	**304**	P	**P**	**03 30 07.1**	**-0.2**
NIL	**Nilore**	**55.37**	**292**	P	**P**	**03 30 07.9**	**+0.4**
NIL				pmax	pmax		
	comp=Z,24nm,0.7s						
NIL	**Nilore**	**55.37**	**292**	P	**P**	**03 30 07.9**	**+0.4**
NEA2	**Nenana**	**55.62**	**30**	P	**P**	**03 30 09.8**	**+1.1**
	baz=268,SNR=8.8						
TOLK	**Toolik Lake Re**	**55.69**	**25**	P	**P**	**03 30 10.4**	**+1.2**
	baz=264						
COLA	**College**	**56.15**	**29**	*i* P	**P**	**03 30 13.9**	**+1.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
POKR	**Poker Plat Res**	**56.33**	**29**	P	**P**	**03 30 14.5**	**+0.8**
	baz=269						
HDA	**Harding Lake**	**56.53**	**30**	P	**P**	**03 30 14.9**	**-0.1**
	baz=270,SNR=5.3						
HDA	**Harding Lake**	**56.53**	**30**	IAmb	IAmb	03 30 16.2	
	comp=Z,7.7nm,0.8s						
IL31		**56.56**	**30**	IAmb	IAmb	03 31 55.9	
	comp=Z,27nm,1.9s						
ILAR	**Eielson Array**	**56.56**	**30**	P	**P**	**03 30 15.3**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=272,slow=5.3,SNR=20						
ILAR	**Eielson Array**	**56.56**	**30**	P	**P**	**03 30 15.1**	**-0.1**
CHGR	**Chuyangaron**	**57.30**	**299**	P	**P**	**03 30 20.3**	**-0.7**
DOT	**Dot Lake**	**57.82**	**31**	P	**P**	**03 30 24.3**	**+0.3**
DOT				IAmb	IAmb	03 30 25.7	
	comp=Z,11nm,0.8s						
SCRK	**Sand Creek**	**57.84**	**30**	P	**P**	**03 30 25.0**	**+0.7**
	baz=273,SNR=7.4						
KBL	**Kabul**	**58.48**	**294**	P	**P**	**03 30 28.5**	**-0.8**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBL	**Kabul**	**58.48**	**294**	P	**P**	**03 30 28.5**	**-0.8**
KBL				IAmb	IAmb	03 30 29.7	
	comp=Z,8.5nm,0.8s						
K27K	**Chicken**	**58.67**	**30**	P	**P**	**03 30 31.0**	**+1.2**
	baz=274						
BCAR	**Beaver Creek A**	**58.88**	**31**	P	**P**	**03 30 32.6**	**+1.3**
ARU	**Arti**	**60.63**	**321**	*d* P	**P**	**03 30 42.6**	**-0.5**
ARU						03 31 20.0	
ARU				S	**S**	**03 38 28.2**	**+1.1**
ARU				SS	**SS**	**03 42 30.7**	**-2.4**
ARU				pmax	pmax		
	comp=Z,21nm,1.5s						
ARU	**Arti**	**60.63**	**321**	P	**P**	**03 30 41.9**	**-1.2**
EPYK	**Eagle Plains**	**60.67**	**27**	P	**P**	**03 30 44.9**	**+1.6**
	baz=278						
EPYK	**Eagle Plains**	**60.67**	**27**	P	**P**	**03 30 43.4**	**+0.2**
AB31	**Akbulak array**	**61.30**	**313**	*i* P	**P**	**03 30 47.0**	**-0.7**
ABKAR	**Akbulak array**	**61.30**	**313**	P	**P**	**03 30 46.9**	**-0.8**
STKA	**Stephens Creek**	**61.46**	**178**	P	**P**	**03 30 49.4**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=350,slow=7.3,SNR=20						
STKA	**Stephens Creek**	**61.46**	**178**	P	**P**	**03 30 49.4**	**+0.6**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.8s						
INK	**Inuvik**	**61.60**	**25**	P	**P**	**03 30 50.1**	**+0.8**
	comp=Z,3.0nm,0.3s,baz=286,slow=4.6,SNR=24						
INK	**Inuvik**	**61.60**	**25**	P	**P**	**03 30 50.1**	**+0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
INK	**Inuvik**	**61.60**	**25**	IAmb	IAmb	03 30 50.9	
	comp=Z,5.8nm,1.0s						
AKTO	**Aktyubinsk**	**62.23**	**314**	P	**P**	**03 30 53.5**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=78,slow=14,SNR=17						
HRA	**Herat**	**63.87**	**296**	P	**P**	**03 31 04.8**	**-0.2**
HRA				IAmb	IAmb	03 31 06.0	
	comp=Z,5.8nm,0.8s						
KIRV	**Kirov**	**64.93**	**325**	P	**P**	**03 31 11.4**	**+0.4**
	comp=Z,10nm,0.5s,baz=84,slow=1.5,SNR=5.3						
KIRV	**Kirov**	**64.93**	**325**	*i* P	**P**	**03 31 11.6**	**+0.6**
GEYT	**Alibeck**	**65.82**	**301**	P	**P**	**03 31 17.4**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=63,slow=6.8,SNR=5.7						
GEYT	**Alibeck**	**65.82**	**301**	IAmb	IAmb	03 31 18.6	
	comp=Z,3.5nm,0.8s						
BELG	**Belogornoye**	**67.86**	**319**	*i* P	**P**	**03 31 29.0**	**-0.5**
ARCES	**ARCESS Array B**	**70.06**	**340**	P	**P**	**03 31 43.3**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=74,slow=9.0,SNR=22						
YKA	**Yellowknife Ar**	**70.93**	**28**	P	**P**	**03 31 48.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=316,slow=6.9,SNR=7.4						
VRH	**Novokhopyorsk**	**71.70**	**319**	*e*P	**P**	**03 31 51.2**	**-1.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPSR	**Galich'ya Gora**	**72.66**	**321**	*e*P	**P**	**03 31 55.2**	**-3.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN	**Obninsk**	**72.76**	**324**	*e*P	**P**	**03 31 59.2**	**+0.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
A04D	**Lummi Island**	**73.10**	**43**	P	**P**	**03 32 02.5**	**+1.6**
	baz=296						
VSR	**Storozhevoye**	**73.15**	**320**	*e*P	**P**	**03 31 59.5**	**-1.6**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
D03D	**Eldon**	**73.39**	**44**	P	**P**	**03 32 04.8**	**+2.2**
	baz=296						
KBZ	**Khabaz**	**74.22**	**312**	P	**P**	**03 32 08.0**	**+0.6**
	comp=Z,8.6nm,0.8s,baz=107,slow=5.7,SNR=15						
KBZ	**Khabaz**	**74.22**	**312**	*i* P	**P**	**03 32 07.6**	**+0.2**
KIV	**Kislovodsk**	**74.25**	**312**	*e*P	**P**	**03 32 08.9**	**+1.2**
KIV				pmax	pmax		
	comp=Z,35nm,1.0s						
KIV	**Kislovodsk**	**74.25**	**312**	P	**P**

NB2	**NORSAR Subarra**	**80.06**	**337**	P		**P**	**03 32 39.2**	**0.0**
	comp=Z,1.6nm,0.5s,baz=47,slow=5.1							
NOA	**NORSAR Array B**	**80.06**	**337**	P		**P**	**03 32 39.2**	**0.0**
	comp=Z,2.3nm,0.6s,baz=46,slow=5.0,SNR=13							
NORES	**NORESS Array B**	**80.17**	**337**	P		**P**	**03 32 39.6**	**-0.1**
NORES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
RYN	**Ryan**	**80.57**	**51**	IAmb	IAmb		03 32 45.2	
	comp=Z,5.6nm,1.0s							
HLID	**Hailey**	**80.65**	**45**	P		**P**	**03 32 44.0**	**+1.1**
	baz=302							
MDPB	**Devils Postpil**	**80.70**	**52**	IAmb	IAmb		03 32 46.0	
	comp=Z,5.2nm,1.2s							
NVAR	**Mina Array Bea**	**80.82**	**51**	P		**P**	**03 32 45.6**	**+1.6**
	comp=Z,3.1nm,0.8s,baz=276,slow=5.7,SNR=29							
NVAR	**Mina Array Bea**	**80.82**	**51**	P		**P**	**03 32 45.0**	**+1.1**
BOZ	**Bozeman (W)**	**81.20**	**42**	P		**P**	**03 32 46.6**	**+0.9**
	baz=304							
BOZ	**Bozeman (W)**	**81.20**	**42**	IAmb	IAmb		03 32 47.6	
	comp=Z,6.4nm,1.2s							
TIN	**Tinemaha, Big**	**81.58**	**52**	P		**P**	**03 32 49.4**	**+1.6**
	baz=301							
CWC	**Cottonwood Cre**	**82.00**	**53**	P		**P**	**03 32 51.0**	**+1.0**
	baz=301							
BR131	**Keskin Array S**	**82.21**	**311**	P		**P**	**03 32 51.0**	**0.0**
BR131				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BR131	**Keskin Array S**	**82.21**	**311**	P		**P**	**03 32 51.0**	**0.0**
BR131				IAmb	IAmb		03 32 51.9	
	comp=Z,5.1nm,0.8s							
BRTR	**Keskin Array B**	**82.21**	**311**	P		**P**	**03 32 51.0**	**0.0**
	comp=Z,6.7nm,0.9s,baz=99,slow=3.7,SNR=26							
BRTR	**Keskin Array B**	**82.21**	**311**	P		**P**	**03 32 50.8**	**-0.2**
BRTR	**Keskin Array B**	**82.21**	**311**	P		**P**	**03 32 50.8**	**-0.2**
MPMC	**Manual Prospec**	**82.61**	**53**	P		**P**	**03 32 54.3**	**+1.2**
	baz=302,SNR=5.2							
R11A	**Troy Canyon, C**	**82.69**	**50**	P		**P**	**03 32 54.8**	**+1.3**
	baz=302,SNR=6.6							
BURAR	**Bucovina Array**	**82.77**	**321**	⇓P		**P**	**03 32 53.7**	**+0.1**
LRMC	**Laurel Mtn Rad**	**82.77**	**53**	P		**P**	**03 32 55.3**	**+1.4**
	baz=302							
FURC	**Furnace Creek,**	**82.82**	**52**	P		**P**	**03 32 55.3**	**+1.4**
	baz=302,SNR=9.2							
RLMT	**Red Lodge**	**82.84**	**42**	P		**P**	**03 32 55.7**	**+1.5**
	baz=306							
EDW2	**Edwards Air Fo**	**82.87**	**54**	P		**P**	**03 32 55.7**	**+1.3**
	baz=302,SNR=7.5							
VRI	**Vrincioaia**	**82.97**	**319**	⇓P		**P**	**03 32 56.2**	**+1.6**
TPNV	**Topopah Spring**	**82.98**	**51**	P		**P**	**03 32 56.2**	**+1.2**
	baz=302,SNR=17							
GSC	**Goldstone, Bar**	**83.47**	**53**	P		**P**	**03 32 58.9**	**+1.5**
	baz=302,SNR=7.2							
GSC	**Goldstone, Bar**	**83.47**	**53**	IAmb	IAmb		03 32 59.9	
	comp=Z,7.5nm,0.9s							
HWUT	**Hardware Ranch**	**83.48**	**45**	P		**P**	**03 32 58.1**	**+0.6**
DUG	**Dugway, Tooele**	**83.48**	**47**	P		**P**	**03 32 59.1**	**+1.7**
	baz=304,SNR=8.9							
DUG	**Dugway, Tooele**	**83.48**	**47**	P		**P**	**03 32 58.8**	**+1.3**
DUG				pmax	pmax			
	comp=Z,12nm,0.8s							
DUG	**Dugway, Tooele**	**83.48**	**47**	IAmb	IAmb		03 33 23.5	
	comp=Z,6.0nm,0.7s							
PRN	**Pahroc Range**	**83.55**	**50**	IAmb	IAmb		03 33 00.6	
	comp=Z,6.7nm,1.0s							
ASF	**Jabal al Asfar**	**83.95**	**304**	P		**P**	**03 33 00.3**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=29,slow=2.8,SNR=7.0							
SHPR	**Sheep Range**	**83.96**	**51**	IAmb	IAmb		03 33 02.2	
	comp=Z,4.7nm,0.9s							
TUQ	**Turquoise Moun**	**84.01**	**53**	P		**P**	**03 33 01.7**	**+1.6**
	baz=302							
PDAR	**Pinedale Array**	**84.04**	**44**	P		**P**	**03 33 01.4**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=270,slow=1.5,SNR=8.3							
HEC	**Hector,Ludlow**	**84.05**	**53**	P		**P**	**03 33 01.5**	**+1.2**
	baz=302							
MURC	**Murrieta**	**84.10**	**55**	P		**P**	**03 33 01.5**	**+1.0**
	baz=302							
GMRC	**Granite Mounta**	**84.55**	**53**	P		**P**	**03 33 04.0**	**+1.2**
	baz=303,SNR=6.9							
PFO	**Pinyon Flats O**	**84.61**	**54**	P		**P**	**03 33 04.0**	**+0.8**
PFO				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PFO	**Pinyon Flats O**	**84.61**	**54**	P		**P**	**03 33 04.0**	**+0.8**
BELC	**Belle Mtn. Jos**	**84.73**	**54**	P		**P**	**03 33 04.9**	**+1.1**
	baz=303,SNR=6.2							
MONP2	**Monument Peak**	**85.02**	**55**	P		**P**	**03 33 06.4**	**+1.1**
	baz=302							
IRM	**Iron Mountain**	**85.24**	**53**	P		**P**	**03 33 07.7**	**+1.6**
	baz=303							
BC3	**Big Chuckawall**	**85.30**	**54**	P		**P**	**03 33 07.7**	**+1.1**
	baz=303,SNR=5.5							
IKP	**In-Ko-Pah, Jac**	**85.38**	**55**	P		**P**	**03 33 08.3**	**+1.4**
	baz=303							
VYHS	**Vyhne**	**85.54**	**325**	*e*P		**P**	**03 33 07.6**	**+0.3**
VYHS	**Vyhne**	**85.54**	**325**	*e*P		**P**	**03 33 07.6**	**+0.3**
U15A	**North Rim**	**85.93**	**50**	IAmb	IAmb		03 34 00.9	
	comp=Z,4.9nm,0.7s							
CLL	**Collm**	**86.35**	**330**	*e*P		**P**	**03 33 12.0**	**+0.9**
WUAZ	**Wupatki**	**87.06**	**50**	P		**P**	**03 33 17.2**	**+2.2**
	baz=305							
N23A	**Red Feather La**	**87.32**	**44**	P		**P**	**03 33 18.2**	**+1.9**
	baz=308							
GERES	**GERESS Array B**	**87.78**	**327**	P		**P**	**03 33 17.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.5,SNR=7.5							
TUC	**Tucson**	**89.30**	**53**	P		**P**	**03 33 27.7**	**+2.3**
	baz=305							
SDCO	**Great Sand Dun**	**89.53**	**46**	P		**P**	**03 33 28.6**	**+1.9**
	baz=308							
T25A	**Trinidad**	**90.59**	**46**	P		**P**	**03 33 33.3**	**+1.8**
	baz=309							
ANMO	**Albuquerque**	**90.64**	**48**	P		**P**	**03 33 33.5**	**+1.7**
	baz=308							
ANMO	**Albuquerque**	**90.64**	**48**	P		**P**	**03 33 32.5**	**+0.7**
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ANMO	**Albuquerque**	**90.64**	**48**	P		**P**	**03 33 32.5**	**+0.7**
BNM	**Barren Site**	**91.01**	**49**	P		**P**	**03 33 34.4**	**+0.8**
TX32	**Lajitas Array**	**95.97**	**51**	IAmb	IAmb		03 33 58.8	
	comp=Z,5.5nm,1.0s							
TXAR	**Lajitas Array**	**95.97**	**51**	P		**P**	**03 33 57.8**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=299,slow=4.0,SNR=17							
TXAR	**Lajitas Array**	**95.97**	**51**	P		**P**	**03 33 57.5**	**+1.4**
TXAR	**Lajitas Array**	**95.97**	**51**	P		**P**	**03 33 57.5**	**+1.4**
TORD	**Torodi Ar. Bea**	**120.80**	**310**	PKP		**PKPdf**	**03 39 18.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=56,slow=0.7,SNR=5.1							
DBIC	**Dimbokro**	**129.90**	**311**	SKPbc	SKPab		03 42 20.9	0.0
	comp=Z,10nm,1.2s,baz=345,slow=5.0,SNR=4.3							
SNAA	**Sanae**	**133.38**	**196**	SKPbc		**SKPbc**	**03 42 31.7**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=78,slow=4.6,SNR=4.8							
PTGA	**Pitinga**	**145.74**	**36**	PKPbc		**PKPbc**	**03 40 07.4**	**+0.7**
	comp=Z,6.2nm,0.7s,baz=335,slow=2.4,SNR=14							
LPAZ	**La Paz**	**151.52**	**68**	PKPbc		**PKiKP**	**03 40 23.4**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=230,slow=2.2,SNR=9.3							
LPAZ	**La Paz**	**151.52**	**68**			**PKiKP**	**03 40 23.6**	**+1.4**
LPAZ						**PKPab**	**03 40 33.3**	**+1.2**
SIV	**San Ignacio**	**156.81**	**58**	PKPab		**PKPab**	**03 40 54.2**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=313,slow=5.1,SNR=9.7							

*NEIC **03** 03:22:50.9±1.0, 37.97S±0.09×179.9E±0.1, h42km±14km, Error ellipse: s-maj=17.5km s-min=1.9km az=139.0*
*WEL **03** 03:22:50.3, 38°S±19'×18°0E±1'3, h33km, M4.3/43, ML4.6/42, MLv4.3/43, Error ellipse: s-maj=0.0km s-min=0.0km az=31.6*
*IDC **03** 03:22:56.9±5.0, 38.34S×179.49E, h83km±33km, mb3.5/2, mb1 3.8/3, mb1mx3.4/36, mbtmp3.9/3, Error ellipse: s-maj=42.2km s-min=31.9km az=69.0*

ISC 03 03:22:49.6±1.8, 37.89S±0.06×180.0E±0.1, h35km, n83, σ1§98/89, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.23**	**273**	P	**Pn**	**03 23 11.5**	**+1.3**
MXZ	**Matakaoa Point**	**1.35**	**284**	P	**Pn**	**03 23 12.8**	**+0.9**
MXZ	**Matakaoa Point**	**1.35**	**284**	Pn	**Pn**	**03 23 12.3**	**+0.3**
PUZ	**Puketiti**	**1.36**	**262**	P	**Pn**	**03 23 13.8**	**+1.8**
CNGZ	**Carnagh Statio**	**1.50**	**246**	P	**Pn**	**03 23 17.2**	**+3.1**
TWGZ	**Tauwhareparae**	**1.59**	**259**	P	**Pn**	**03 23 17.3**	**+2.0**
HAZ	**Te Kaha**	**1.73**	**274**	P	**Pn**	**03 23 18.2**	**+1.1**
TKGZ	**Te Karaka**	**1.75**	**251**	P	**Pn**	**03 23 19.7**	**+2.3**
TKGZ				S	**Sn**	**03 23 40.3**	**+1.8**
RUGZ	**Raukumara Rang**	**1.81**	**267**	P	**Pn**	**03 23 19.7**	**+1.4**
RIGZ	**Rimuhau**	**1.91**	**244**	P	**Pn**	**03 23 22.5**	**+2.8**
PRGZ	**Paritu Road**	**1.93**	**237**	P	**Pn**	**03 23 23.0**	**+3.1**
MWZ	**Matawai**	**1.97**	**256**	P	**Pn**	**03 23 22.1**	**+1.6**
MHGZ	**Mahia Peninsul**	**2.04**	**231**	P	**Pn**	**03 23 24.9**	**+3.4**
RAGZ	**Rawiri**	**2.09**	**253**	P	**Pn**	**03 23 24.5**	**+2.2**
KNZ	**Kokohu**	**2.12**	**237**	P	**Pn**	**03 23 25.0**	**+2.5**
SNGZ	**Shannon Statio**	**2.24**	**246**	P	**Pn**	**03 23 26.5**	**+2.3**
URZ	**Urewera**	**2.28**	**260**	P	**Pn**	**03 23 26.7**	**+2.0**
	52nm,0.3s,baz=268,slow=5.9,SNR=453						
URZ				LR	LR	03 23 49.5	
	comp=Z,173nm,19.9s,baz=162,slow=28						
URZ				S	**Sn**	**03 23 50.6**	**-0.9**
	147nm,0.3s,baz=330,slow=20,SNR=68						
URZ	**Urewera**	**2.28**	**260**	P	**Pn**	**03 23 26.8**	**+2.1**
WHRZ	**Whale Island**	**2.36**	**270**	P	**Pn**	**03 23 28.0**	**+2.2**
WHHZ	**Waihua**	**2.44**	**240**	P	**Pn**	**03 23 29.9**	**+2.9**
RTZ	**Ruatahuna**	**2.45**	**252**	P	**Pn**	**03 23 29.7**	**+2.5**
RAHZ	**Arahi**	**2.48**	**245**	P	**Pn**	**03 23 30.1**	**+2.6**
MTHZ	**Maungataniwha**	**2.63**	**248**	P	**Pn**	**03 23 32.0**	**+2.4**
OPRZ	**Ohinepanea**	**2.69**	**270**	P	**Pn**	**03 23 31.0**	**+0.6**
ARHZ	**Aropaoanui**	**2.70**	**239**	P	**Pn**	**03 23 33.5**	**+3.0**
TARZ	**Mount Tarawera**	**2.75**	**262**	P	**Pn**	**03 23 33.0**	**+1.8**
NMHZ	**Naumai**	**2.75**	**243**	P	**Pn**	**03 23 33.9**	**+2.6**
RRRZ	**Republican Roa**	**2.75**	**260**	P	**Pn**	**03 23 33.1**	**+1.9**
CKHZ	**Cape Kidnapper**	**2.86**	**231**	P	**Pn**	**03 23 35.3**	**+2.6**
ALRZ	**Allen Road**	**2.93**	**256**	P	**Pn**	**03 23 35.4**	**+1.7**
MCHZ	**McNeill Hill**	**2.99**	**238**	P	**Pn**	**03 23 37.0**	**+2.5**
BKZ	**Black Stump Fm**	**3.00**	**244**	P	**Pn**	**03 23 37.0**	**+2.3**
BKZ	**Black Stump Fm**	**3.00**	**244**		**Pn**	**03 23 36.1**	**+1.4**
KAHZ	**Kahuranaki**	**3.07**	**231**	P	**Pn**	**03 23 38.2**	**+2.6**
KWHZ	**Kaweka Forest**	**3.16**	**240**	P	**Pn**	**03 23 39.2**	**+2.2**
PXZ	**Pawanui**	**3.22**	**228**	P	**Pn**	**03 23 39.6**	**+2.0**
KRHZ	**Kereru**	**3.31**	**237**	P	**Pn**	**03 23 39.7**	**+0.8**
BHHZ	**Black Hill Sta**	**3.44**	**241**	P	**Pn**	**03 23 43.0**	**+2.2**
WPHZ	**Waipukurau**	**3.50**	**231**	P	**Pn**	**03 23 43.6**	**+2.2**
TOZ	**Tahuroa Road**	**3.53**	**271**	P	**Pn**	**03 23 42.9**	**+1.0**
TMVZ	**Te Maari**	**3.56**	**249**	P	**Pn**	**03 23 44.0**	**+1.6**
ETVZ	**East Tongariro**	**3.56**	**248**	P	**Pn**	**03 23 44.0**	**+1.6**
PNHZ	**Pukenui**	**3.56**	**234**	P	**Pn**	**03 23 43.9**	**+1.5**
KUZ	**Kuaotunu**	**3.57**	**287**	P	**Pn**	**03 23 42.3**	**-0.1**
OTVZ	**Oturere**	**3.60**	**248**	P	**Pn**	**03 23 44.5**	**+1.5**
MOVZ	**Moawhango**	**3.62**	**244**	P	**Pn**	**03 23 45.0**	**+1.7**
WNVZ	**Wahianoa**	**3.71**	**246**	P	**Pn**	**03 23 46.1**	**+1.6**
TSZ	**Takapari Road**	**3.79**	**234**	P	**Pn**	**03 23 47.3**	**+1.7**
GRZ	**Great Barrier**	**3.96**	**293**	P	**Pn**	**03 23 48.0**	**+0.2**
BFZ	**Birch Farm**	**4.01**	**225**	P	**Pn**	**03 23 49.5**	**+1.0**
BFZ	**Birch Farm**	**4.01**	**225**	Pn	**Pn**	**03 23 49.2**	**+0.7**
BFZ					**Sn**	**03 24 33.3**	**-0.9**
HIZ	**Hauiti**	**4.07**	**260**	P	**Pn**	**03 23 51.5**	**+2.2**
PRWZ	**Pori Road**	**4.08**	**228**	P	**Pn**	**03 23 51.3**	**+1.8**
POWZ	**Post Office Ro**	**4.10**	**231**	P	**Pn**	**03 23 52.0**	**+2.2**
ETAZ	**East Tamaki Re**	**4.11**	**282**	P	**Pn**	**03 23 51.2**	**+1.3**
MBAZ	**Motutapu North**	**4.19**	**284**	P	**Pn**	**03 23 52.0**	**+1.1**
VRZ	**Vera Road**	**4.26**	**252**	P	**Pn**	**03 23 54.2**	**+2.2**
EPAZ	**Eden Park BICE**	**4.28**	**282**	P	**Pn**	**03 23 53.7**	**+1.5**
WAZ	**Wanganui**	**4.31**	**243**	P	**Pn**	**03 23 55.2**	**+2.6**
AWAZ	**Awhitu Peninsu**	**4.31**	**279**	P	**Pn**	**03 23 53.9**	**+1.3**
MRZ	**Mangatainoka R**	**4.38**	**230**	P	**Pn**	**03 23 54.8**	**+1.1**
OGWZ	**Otaki Gorge**	**4.72**	**230**	P	**Pn**	**03 23 59.5**	**+1.2**
WCZ	**Waipu Caves**	**4.90**	**292**	P	**Pn**	**03 24 01.6**	**+0.8**
CAW	**Cannon Point**	**4.96**	**228**	P	**Pn**	**03 24 02.4**	**+0.8**
MSWZ	**Moikau Station**	**5.06**	**224**	Pn	**Pn**	**03 24 02.4**	**-0.6**
MSWZ					**Sn**	**03 24 58.0**	**-2.2**
PLWZ	**Palliser**	**5.16**	**223**	Pn	**Pn**	**03 24 03.7**	**-0.6**
PLWZ					**Sn**	**03 25 01.1**	**-1.5**
BHW	**Baring Head**	**5.27**	**227**	Pn	**Pn**	**03 24 05.0**	**-0.8**
SNZO	**South Karori**	**5.30**	**228**	Pn	**Pn**	**03 24 04.2**	**-2.0**
DUWZ	**D'Urville Isla**	**5.51**	**236**	P	**Pn**	**03 24 10.1**	**+1.0**
OUZ	**Omahuta**	**5.78**	**296**	P	**Pn**	**03 24 13.9**	**+1.1**
TUWZ	**Tuamarina**	**5.83**	**231**	Pn	**Pn**	**03 24 13.6**	**0.0**
BSWZ	**Blackbirch Sta**	**6.04**	**229**	Pn	**Pn**	**03 24 17.4**	**+1.0**
CTZ	**Chatham Island**	**6.39**	**157**	P	Pn	03 24 29.0	+7.8
QRZ	**Quartz Range**	**6.46**	**241**	P	**Pn**	**03 24 23.1**	**+0.9**
THZ	**Tophouse**	**6.66**	**232**	Pn	**Pn**	**03 24 25.0**	**0.0**
THZ					**Sn**	**03 25 38.1**	**-1.6**
KHZ	**Kahutara**	**6.68**	**225**	Pn	**Pn**	**03 24 25.6**	**+0.5**
GVZ	**Greta Valley S**	**7.32**	**224**	P	**Pn**	**03 24 35.3**	**+1.4**
LTZ	**Lake Taylor**	**7.63**	**228**	Pn	**Pn**	**03 24 37.8**	**-0.6**
OXZ	**Oxford**	**8.11**	**226**	Pn	**Pn**	**03 24 46.0**	**+1.2**
RPZ	**Rata Peaks**	**8.91**	**226**	P	**Pn**	**03 24 55.2**	**-0.6**
	0.3nm,0.3s,baz=82,slow=7.1,SNR=2.9						
RPZ				S	**Sn**	**03 26 27.0**	**-7.9**
	5.5nm,0.3s,baz=148,slow=23,SNR=18						
ASAR	**Alice Springs**	**41.62**	**276**	P	**P**	**03 30 34.4**	**-0.1**
	0.7nm,0.6s,baz=122,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**43.29**	**281**	P	**P**	**03 30 47.9**	**-0.2**
	1.2nm,0.5s,baz=120,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**151.37**	**334**	PKPbc	**PKiKP**	**03 42 40.7**	**+1.6**
	5.3nm,1.2s,baz=65,slow=7.8,SNR=4.3						

*PRU **03** 03:24:05.9±0.0, 43.48N×12.31E, h0km*
*STR **03** 03:24:06.6±1.1, 43°N±6'×1'3E±', h0km, mb3.7/7, MLv3.4/11, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*BEO **03** 03:24:08.6±0.8, 43.66N×12.06E, h9km, ML3.7/6*
*ROM **03** 03:24:08.9±0.1, 43.571N±0.004×12.344E±0.004, h8km, ML3.5/79, Mw3.4, Error ellipse: s-maj=0.4km s-min=0.0km az=17.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr-0.45; Mθθ0.49; Mϕϕ-0.04; Mrθ 1.24; Mθϕ-1.07; Mϕr-0.05; Fault plane solution: M0 1.69211×10^{14} NP1:ϕs170.00000°, δ39.00000°, λ-15.00000°. NP2:ϕs272.00000°, δ80.00000°, λ-128.00000°.*
*IDC **03** 03:24:08.1±1.8, 43.54N×12.78E, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.4/51, mbtmp3.6/5, ML3.5/4, MS3.2/3, Ms1 3.2/3, ms1mx2.7/49 Error ellipse: s-maj=45.5km s-min=16.5km az=100.0*
*LDG **03** 03:24:10.5±0.1, 43.49N×12.38E, h2km, Ml3.2/28, Error ellipse: s-maj=2.6km s-min=2.0km az=174.0*

ISC 03 03:24:09.4±0.6, 43.57N±0.02×12.32E±0.01, h11km±3km, n245, σ1§57/310, 16C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APEC	**Apecchio**	**0.07**	**95**	P	**Pg**	**03 24 11.1**	**-0.7**
APEC				S	**Sg**	**03 24 12.7**	**-1.0**
APEC				AML	AML		
	comp=E,82900µm,0.9s						
APEC				AML	AML		
	comp=N,86800µm,0.3s						
APEC				AML	AML		
APEC				AML	AML		
BADI	**Badiali**	**0.08**	**225**	⇑P	**Pg**	**03 24 11.8**	**-0.1**
BADI				S	**Sg**	**03 24 13.8**	**+0.1**
BADI				AML	AML		
	comp=E,99450µm,0.5s						
BADI				AML	AML		
	comp=E,99950µm,0.5s						
BADI				AML	AML		
	comp=E,99950µm,0.5s						
BADI				AML	AML		
PARC	**Parchiule**	**0.10**	**325**	⇑P	**Pg**	**03 24 11.8**	**-0.4**
PARC				S	**Sg**	**03 24 14.1**	**-0.2**
PARC				AML	AML		
	comp=E,69550µm,0.3s						
PARC				AML	AML		
	comp=N,63900µm,0.6s						
PARC				AML	AML		
	comp=E,69550µm,0.3s						
PARC				AML	AML		
	comp=N,63900µm,0.6s						
CDCA	**Citt' di Caste**	**0.12**	**210**	⇑P	**Pg**	**03 24 12.6**	**+0.2**
CDCA				S	**Sg**	**03 24 15.6**	**+0.9**
CDCA				AML	AML		
	comp=E,97300µm,0.5s						
CDCA				AML	AML		
	comp=E,44900µm,1.0s						
CDCA				AML	AML		
	comp=N,57350µm,0.4s						
CDCA				AML	AML		
	comp=E,97250µm,0.5s						
CDCA				AML	AML		
	comp=E,44950µm,1.0s						
CDCA				AML	AML		
	comp=E,44950µm,1.0s						
CDCA				AML	AML		
	comp=N,57350µm,0.4s						
CDCA				AML	AML		
ATPI	**Pietralunga -**	**0.13**	**152**	P	**Pg**	**03 24 12.4**	**-0.2**
ATPI				S	**Sg**	**03 24 15.0**	**+0.1**
ATPI				AML	AML		
	comp=N,75800µm,0.4s						
ATPI				AML	AML		
	comp=E,63900µm,0.9s						
ATPI				AML	AML		
	comp=N,75800µm,0.4s						
ATPI				AML	AML		
	comp=E,63900µm,0.9s						
SSP9	**Sansepolcro**	**0.14**	**274**	⇑P	**Pg**	**03 24 12.8**	**+0.1**
SSP9				S	**Sg**	**03 24 16.0**	**+1.0**
SSP9				AML	AML		
	comp=E,19800µm,1.4s						
SSP9				AML	AML		
	comp=E,19800µm,1.4s						
SSP9				AML	AML		
	comp=N,26550µm,0.5s						
PIEI	**Pieia**	**0.16**	**100**	⇓P	**Pg**	**03 24 12.5**	**-0.5**
PIEI				S	**Sg**	**03 24 15.6**	**0.0**
PIEI				AML	AML		
	comp=N,21300µm,0.4s						
PIEI				AML	AML		
	comp=E,43700µm,0.4s						
PIEI				AML	AML		
	comp=E,43700µm,0.4s						
PE3	**Peglio**	**0.18**	**44**	⇑P	**Pg**	**03 24 13.0**	**-0.4**
PE3				S	**Sg**	**03 24 16.4**	**+0.1**
PE3				AML	AML		
PE3				AML	AML		
	comp=N,81300µm,1.1s						
PE3				AML	AML		
	comp=N,81350µm,1.1s						
PE3				AML	AML		
	comp=N,81300µm,1.1s						
PE3				AML	AML		
NARO	**Abbazia di Nar**	**0.20**	**76**	P	**Pg**	**03 24 13.0**	**-0.7**
NARO				S	**Sg**	**03 24 16.0**	**-0.5**
NARO				AML	AML		
	comp=E,14450µm,0.8s						
NARO				AML	AML		
	comp=N,24150µm,0.7s						
NARO				AML	AML		
	comp=N,24150µm,0.7s						
ATMI	**Monte Miggiano**	**0.23**	**189**	⇑P	**Pg**	**03 24 14.5**	**+0.3**
ATMI				S	**Sg**	**03 24 19.1**	**+1.5**
ATMI				AML	AML		
	comp=N,73350µm,0.5s						
ATMI				AML	AML		
	comp=N,73350µm,0.5s						
ATMI				AML	AML		
	comp=E,67500µm,0.3s						
ATFO	**Monte Foce - G**	**0.27**	**137**	⇓P	**Pg**	**03 24 14.7**	**-0.3**
ATFO				S	**Sg**	**03 24 19.5**	**+0.8**
ATFO				AML	AML		
	comp=E,60550µm,0.6s						
ATFO				AML	AML		
	comp=E,60550µm,0.6s						
ATFO				AML	AML		
	comp=N,38250µm,0.7s						
CRE	**Caprese Michel**	**0.27**	**282**	⇑P	**Pg**	**03 24 15.1**	**+0.1**
CRE				S	**Sg**	**03 24 19.8**	**+0.9**
CRE				AML	AML		
	comp=N,11060µm,1.3s						
CRE				AML	AML		
	comp=E,10195µm,0.4s						
FRON	**Frontone**	**0.30**	**99**	⇓P	**Pb**	**03 24 15.0**	**-1.8**
FRON				S	**Sb**	**03 24 19.8**	**-1.9**
FRON				AML	AML		
	comp=N,14100µm,0.4s						
FRON				AML	AML		
	comp=E,13250µm,0.6s						
MPAG	**Monte Paganucc**	**0.33**	**78**	P	**Pb**	**03 24 15.5**	**-1.7**
MPAG				AML	AML		
	comp=E,9155µm,0.3s						
MPAG				AML	AML		
	comp=N,15850µm,0.6s						
MPAG				AML	AML		
	comp=E,8990µm,0.3s						
MPAG				AML	AML		
	comp=E,9130µm,0.4s						
MPAG				AML	AML		
	comp=N,15850µm,0.6s						
MPAG				AML	AML		
	comp=N,16100µm,0.6s						
MPAG				AML	AML		
	comp=E,8980µm,0.3s						
MURB	**Monte Urbino**	**0.34**	**154**	P	**Pb**	**03 24 16.2**	**-1.2**
MURB				S	**Sb**	**03 24 22.4**	**-0.4**
MURB				AML	AML		
	comp=N,56200µm,0.8s						
MURB				AML	AML		
	comp=E,97500µm,0.3s						
MURB				AML	AML		
	comp=E,89300µm,0.8s						
MURB				AML	AML		
	comp=N,71500µm,0.2s						
MURB				AML	AML		
	comp=E,89300µm,0.8s						
MURB				AML	AML		
	comp=N,56250µm,0.8s						
CAFI	**Castiglion Fio**	**0.35**	**228**	⇑P	**Pb**	**03 24 16.8**	**-0.8**
CAFI				S	**Sb**	**03 24 22.9**	**-0.2**
CAFI				AML	AML		
	comp=E,8395µm,0.6s						
CAFI				AML	AML		
	comp=N,8625µm,0.3s						
CAFI				AML	AML		
	comp=E,8945µm,0.6s						
CAFI				AML	AML		
	comp=N,8630µm,0.3s						
CAFI				AML	AML		
	comp=E,8940µm,0.6s						
CAFI				AML	AML		
	comp=N,9070µm,0.3s						
FSSB	**Fossombrone**

ARVD				S	**Sb**	**03 24 25.4**	**-0.9**		
ARVD				AML	AML				
	comp=N,7340µm,0.6s								
ARVD				AML	AML				
	comp=E,5960µm,0.9s								
SFI	**Santa Sofia**	**0.48**	**315**	⇑P	**Pg**	**03 24 18.6**	**-0.2**		
SFI				S	**Sg**	**03 24 27.1**	**+1.8**		
SFI				AML	AML				
	comp=E,3445µm,0.5s								
SFI				AML	AML				
	comp=N,2165µm,0.5s								
SFI				AML	AML				
	comp=N,3590µm,0.6s								
SFI				AML	AML				
	comp=E,2785µm,0.2s								
PESA	**Pesaro**	**0.53**	**45**	⇑P	**Pg**	**03 24 19.5**	**-0.3**		
PESA				S	**Sb**	**03 24 28.5**	**+0.1**		
PESA				AML	AML				
	comp=N,14250µm,0.5s								
PESA				AML	AML				
	comp=E,16000µm,0.2s								
SNTG	**Esanatoglia**	**0.55**	**124**	⇓P	**Pb**	**03 24 19.5**	**-1.5**		
SNTG				S	**Sb**	**03 24 29.0**	**+0.1**		
SNTG				AML	AML				
	comp=E,824µm,0.8s								
SNTG				AML	AML				
	comp=N,718µm,0.2s								
SNTG				AML	AML				
	comp=N,714µm,0.2s								
SNTG				AML	AML				
	comp=E,6275µm,0.8s								
SNTG				AML	AML				
	comp=N,5985µm,0.2s								
SNTG				AML	AML				
	comp=E,824µm,0.8s								
ASSB	**Assisi San Ben**	**0.58**	**154**	⇓P	**Pb**	**03 24 20.3**	**-1.2**		
ASSB				AML	AML				
	comp=E,5870µm,1.0s								
ASSB				AML	AML				
	comp=N,6550µm,0.9s								
EL6	**Elcito**	**0.62**	**112**	P	**Pb**	**03 24 20.8**	**-1.4**		
EL6				S	**Sb**	**03 24 31.4**	**+0.5**		
EL6				AML	AML				
	comp=N,8250µm,0.7s								
EL6				AML	AML				
	comp=E,8295µm,0.5s								
EL6				AML	AML				
	comp=N,8215µm,0.7s								
RUFI	**Rufina**	**0.65**	**295**	P	**Pg**	**03 24 21.7**	**-0.3**		
RUFI				AML	AML				
	comp=E,2275µm,0.5s								
RUFI				AML	AML				
	comp=N,2545µm,0.5s								
RUFI				AML	AML				
	comp=E,2265µm,0.5s								
RUFI				AML	AML				
	comp=N,2550µm,0.5s								
CING	**Cingoli**	**0.67**	**106**	⇓P	**Pb**	**03 24 21.7**	**-1.3**		
CING				AML	AML				
	comp=N,2880µm,0.8s								
CING				AML	AML				
	comp=E,2820µm,1.1s								
MGAB	**Montegabbione**	**0.67**	**193**	⇑P	**Pb**	**03 24 22.4**	**-0.7**		
MGAB				AML	AML				
	comp=E,15000µm,0.4s								
MGAB				AML	AML				
	comp=N,10605µm,0.3s								
MGAB				AML	AML				
	comp=E,15050µm,0.4s								
MGAB				AML	AML				
	comp=E,16750µm,0.4s								
MGAB				AML	AML				
	comp=N,10570µm,0.3s								
MGAB				AML	AML				
	comp=N,12100µm,0.5s								
LMD	**Lutirano**	**0.68**	**319**	P	**Pg**	**03 24 22.0**	**-0.6**		
LMD				S	**Sb**	**03 24 33.6**	**+1.0**		
LMD				AML	AML				
	comp=N,1850µm,1.3s								
LMD				AML	AML				
	comp=E,2575µm,1.4s								
SENI	**Senigallia**	**0.68**	**78**	P	**Pb**	**03 24 22.9**	**-0.3**		
SENI				AML	AML				
	comp=E,28100µm,0.4s								
SENI				AML	AML				
	comp=N,24950µm,0.5s								
SENI				AML	AML				
	comp=E,4885µm,0.4s								
SENI				AML	AML				
	comp=N,6295µm,1.0s								
SENI				AML	AML				
	comp=E,28050µm,0.4s								
SENI				AML	AML				
	comp=N,25000µm,0.5s								
SENI				AML	AML				
	comp=E,28050µm,0.4s								
SENI				AML	AML				
	comp=E,4895µm,0.4s								
CESI	**CESI - Serrava**	**0.70**	**142**	P	**Pb**	**03 24 22.4**	**-1.3**		
CESI				AML	AML				
	comp=E,942µm,0.5s								
CESI				AML	AML				
	comp=N,2350µm,0.5s								
CESI				AML	AML				
	comp=E,942µm,0.5s								
CSNT	**Castellina Chi**	**0.75**	**263**	P	**Pg**	**03 24 23.7**	**-0.2**		
CSNT				AML	AML				
	comp=E,2175µm,0.5s								
CSNT				AML	AML				
	comp=N,2670µm,0.7s								
CSNT				AML	AML				
	comp=E,2180µm,0.5s								
FDMO	**Fiordimonte**	**0.77**	**133**	⇓P	**Pb**	**03 24 23.5**	**-1.3**		
FDMO				AML	AML				
	comp=E,2900µm,1.0s								
FDMO				AML	AML				
	comp=N,3175µm,0.8s								
SACS	**San Casciano d**	**0.78**	**203**	P	**Pb**	**03 24 24.3**	**-0.6**		
SACS				AML	AML				
	comp=N,5030µm,1.0s								
SACS				AML	AML				
	comp=E,3845µm,0.3s								
SACS				AML	AML				
	comp=N,4875µm,1.0s								
SACS				AML	AML				
	comp=E,4035µm,0.3s								
MOMA	**Monte Martano**	**0.78**	**166**	⇓P	**Pb**	**03 24 24.1**	**-1.0**		
MOMA				AML	AML				
	comp=E,7345µm,0.4s								
MOMA				AML	AML				
	comp=N,4860µm,0.4s								
MOMA				AML	AML				
	comp=E,7800µm,0.5s								
MOMA				AML	AML				
	comp=N,4795µm,0.4s								
MOMA				AML	AML				
	comp=E,7340µm,0.4s								
OSSC	**Osservatorio P**	**0.78**	**267**	P	**Pg**	**03 24 24.6**	**+0.1**		
OSSC				AML	AML				
	comp=E,2385µm,0.4s								
OSSC				AML	AML				
	comp=N,2920µm,0.7s								
OSSC				AML	AML				
	comp=E,2395µm,0.4s								
OSSC				AML	AML				
	comp=N,2925µm,0.6s								
OSSC				AML	AML				
	comp=E,2385µm,0.5s								
OSSC				AML	AML				
	comp=N,2905µm,0.7s								
CSP1	**Cessapalombo**	**0.80**	**126**	⇓P	**Pb**	**03 24 24.1**	**-1.3**		
CSP1				AML	AML				
	comp=E,3940µm,0.6s								
CSP1				AML	AML				
	comp=N,7000µm,0.7s								
CSP1				AML	AML				
	comp=N,6936µm,0.7s								
CSP1				AML	AML				
	comp=E,3950µm,0.6s								
BRIS	**BRISIGHELLA**	**0.83**	**315**	P	**Pg**	**03 24 24.3**	**-1.1**		
BRIS				AML	AML				
	comp=E,2500µm,0.6s								
BRIS				AML	AML				
	comp=E,2495µm,0.6s								
BRIS				AML	AML				
	comp=N,2530µm,0.4s								
NRCA	**Norcia**	**0.93**	**141**	⇓P	**Pb**	**03 24 26.4**	**-1.2**		
NRCA				AML	AML				
	comp=E,2940µm,1.1s								
NRCA				AML	AML				
	comp=N,2445µm,0.6s								
NRCA				AML	AML				
	comp=N,2360µm,0.6s								
NRCA				AML	AML				
	comp=E,3060µm,1.1s								
ARCI	**Arcidosso**	**0.94**	**221**	P	**Pb**	**03 24 27.5**	**-0.3**		
PP3	**Marolino**	**0.96**	**101**	P	**Pn**	**03 24 28.0**	**-0.7**		
PP3				AML	AML				
	comp=N,4520µm,0.7s								
PP3				AML	AML				
	comp=E,5435µm,0.7s								
PP3				AML	AML				
	comp=E,6830µm,0.7s								
PP3				AML	AML				
	comp=N,5830µm,0.6s								
CESX	**Cesi**	**0.97**	**169**	P	**Pb**	**03 24 27.5**	**-0.7**		
CESX				AML	AML				
	comp=N,6025µm,0.5s								
CESX				AML	AML				
	comp=E,4905µm,0.5s								
CRMI	**Carmignano**	**1.00**	**283**	P	**Pg**	**03 24 28.8**	**0.0**		
CRMI				AML	AML				
	comp=N,2040µm,1.1s								
CRMI				AML	AML				
	comp=E,513µm,0.9s								
CRMI				AML	AML				
	comp=N,834µm,1.1s								
CRMI				AML	AML				
	comp=E,1225µm,0.9s								
MTRZ	**Monterenzio**	**1.02**	**323**	P	**Pg**	**03 24 29.0**	**0.0**		
MTRZ				AML	AML				
	comp=E,3600µm,0.6s								
MTRZ				AML	AML				
	comp=N,2820µm,0.5s								
MTRZ				AML	AML				
	comp=N,2885µm,0.5s								
MTRZ				AML	AML				
	comp=E,3745µm,0.6s								
ARRO	**Arrone**	**1.04**	**161**	⇑P	**Pn**	**03 24 29.2**	**-0.7**		
ARRO				AML	AML				
	comp=E,1835µm,1.5s								
ARRO				AML	AML				
	comp=N,1580µm,0.6s								
LNSS	**Leonessa**	**1.10**	**151**	⇓P	**Pb**	**03 24 29.4**	**-1.0**		
LNSS				AML	AML				
	comp=N,3370µm,0.9s								
LNSS				AML	AML				
	comp=E,2910µm,0.4s								
OFFI	**Offida**	**1.18**	**122**	P	**Pn**	**03 24 32.1**	**+0.3**		
OFFI				AML	AML				
	comp=E,7030µm,0.5s								
OFFI				AML	AML				
	comp=N,8285µm,0.7s								
SMA1	**SAN MARTINO**	**1.19**	**141**	P	**Pb**	**03 24 31.1**	**-0.9**		
SMA1				AML	AML				
	comp=N,3190µm,1.6s								
SMA1				AML	AML				
	comp=E,3545µm,0.7s								
RM33	**Pellescritta (**	**1.24**	**148**	P	**Pb**	**03 24 31.9**	**-1.0**		
RM33				AML	AML				
	comp=E,2640µm,1.1s								
RM33				AML	AML				
	comp=N,2015µm,0.7s								
GUMA	**Gualdo di Mace**	**1.28**	**112**	P	Pg	03 24 26.1	-8.0		
GUMA				AML	AML				
	comp=E,9415µm,0.4s								
GUMA				AML	AML				
	comp=N,9255µm,0.5s								
GUMA				AML	AML				
	comp=E,10155µm,1.2s								
GUMA				AML	AML				
	comp=N,9285µm,0.4s								
CAMP	**Campotosto**	**1.30**	**142**	P	**Pb**	**03 24 33.1**	**-0.8**		
CAMP				AML	AML				
	comp=E,1475µm,0.9s								
CAMP				AML	AML				
	comp=N,1390µm,0.5s								
PII	**Pisa**	**1.31**	**278**	P	**Pn**	**03 24 33.8**	**+0.2**		
PII				AML	AML				
	comp=E,1144µm,0.4s								
PII				AML	AML				
	comp=N,1315µm,0.8s								
TERO	**Teramo**	**1.33**	**135**	P	**Pb**	**03 24 33.3**	**-1.1**		
TERO				AML	AML				
	comp=E,728µm,1.6s								
TERO				AML	AML				
	comp=N,1075µm,0.8s								
TERO				AML	AML				
	comp=E,1845µm,1.6s								
TERO				AML	AML				
	comp=N,2600µm,0.7s								
BDI	**Bagni Di Lucca**	**1.34**	**292**	P	**Pn**	**03 24 33.6**	**-0.5**		
BDI				AML	AML				
	comp=E,1001µm,1.2s								
BDI				AML	AML				
	comp=N,849µm,0.7s								
BDI				AML	AML				
	comp=N,718µm,0.6s								
BDI				AML	AML				
	comp=E,848µm,1.3s								
MAIM	**Mastiano**	**1.37**	**285**	P	**Pn**	**03 24 34.5**	**+0.1**		
MAIM	**Mastiano**	**1.37**	**285**	P	**Pn**	**03 24 34.2**	**-0.2**		
MAIM				AML	AML				
	comp=N,570µm,0.6s								
MAIM				AML	AML				
	comp=E,588µm,0.6s								
CARD	**Cardoso**	**1.41**	**290**	P	**Pn**	**03 24 34.8**	**-0.1**		
CARD				S	**Sg**	**03 24 54.9**	**+0.2**		
CARD	**Cardoso**	**1.41**	**290**	P	**Pn**	**03 24 34.7**	**-0.3**		
CARD				AML	AML				
	comp=N,687µm,0.5s								
CARD				AML	AML				
	comp=E,632µm,0.6s								
FIAM	**Fiamignano**	**1.42**	**155**	P	**Pn**	**03 24 34.9**	**-0.3**		
FIAM				AML	AML				
	comp=N,1425µm,0.9s								
FIAM				AML	AML				
	comp=E,1690µm,1.3s								
AQU	**L'Aquila**	**1.45**	**146**	P	**Pb**	**03 24 35.6**	**-0.8**		
AQU				AML	AML				
	comp=E,1770µm,1.5s								
AQU				AML	AML				
	comp=E,1760µm,1.4s								
AQU				AML	AML				
	comp=N,2335µm,0.8s								
AQU				AML	AML				
	comp=N,2275µm,0.8s								
AQU	**L'Aquila**	**1.45**	**146**	*e*Pn	**Pn**	**03 24 35.3**	**-0.2**		
TOLF	**Tolfa**	**1.52**	**189**	P	**Pn**	**03 24 36.3**	**-0.1**		
TOLF				AML	AML				
	comp=N,558µm,0.7s								
TOLF				AML	AML				
	comp=E,656µm,0.6s								
SARO	**Sassorosso**	**1.52**	**295**	P	**Pn**	**03 24 36.2**	**-0.3**		
SARO	**Sassorosso**	**1.52**	**295**	P	**Pn**	**03 24 36.2**	**-0.3**		
SARO				AML	AML				
	comp=E,240µm,0.6s								
SARO				AML	AML				
	comp=N,399µm,0.6s								
MTCE	**Montecelio**	**1.57**	**168**	P	**Pn**	**03 24 36.9**	**-0.3**		
MTCE				AML	AML				
	comp=N,600µm,0.6s								
MTCE				AML	AML				
	comp=E,890µm,1.1s								
FAGN	**Fagnano**	**1.60**	**144**	P	**Pb**	**03 24 37.8**	**-1.1**		
FAGN				AML	AML				
	comp=E,3550µm,0.6s								
FAGN				AML	AML				
	comp=N,2020µm,0.6s								
VCEL	**Villa Celiera**	**1.62**	**136**	P	**Pg**	**03 24 38.5**	**-1.9**		
EQUI	**Equi**	**1.68**	**292**	P	**Pn**	**03 24 38.5**	**-0.2**		
EQUI	**Equi**	**1.68**	**292**	P	**Pn**	**03 24 38.1**	**-0.6**		
EQUI				AML	AML				
	comp=E,254µm,0.6s								
EQUI				AML	AML				
	comp=N,384µm,0.6s								
CERT	**Certeto**	**1.69**	**163**	P	**Pn**	**03 24 38.8**	**-0.1**		
CERT				AML	AML				
	comp=E,996µm,0.6s								
CERT				AML	AML				
	comp=N,578µm,1.5s								
PTQR	**Pietraquaria**	**1.73**	**152**	P	**Pg**	**03 24 40.9**	**-1.7**		
PLMA	**Palmaria, Port**	**1.85**	**286**	P	**Pn**	**03 24 40.9**	**-0.1**		
PLMA				AML	AML				
	comp=N,240µm,0.7s								
PLMA				AML	AML				
	comp=E,166µm,0.4s								
GRAM	**Graiana**	**1.87**	**300**	P	**Pn**	**03 24 42.8**	**+1.4**		
GRAM				AML	AML				
	comp=E,672µm,1.0s								
GRAM				AML	AML				
	comp=N,582µm,0.5s								
INTR	**Introdacqua**	**1.94**	**143**	P	**Pb**	**03 24 43.8**	**-1.0**		
DUGI	**Dugi Otok**	**2.03**	**77**	*i* Pn	**Pn**	**03 24 44.3**	**+0.8**		
NVLJ	**Novalja**	**2.09**	**61**	*i* Pn	**Pn**	**03 24 44.8**	**+0.5**		
NVLJ				Sn	**Sn**	**03 25 11.1**	**+0.8**		
MSSA	**Maissana**	**2.16**	**291**	P	**Pn**	**03 24 45.6**	**+0.2**		
MSSA				AML	AML				
	comp=E,264µm,0.8s								
MSSA				AML	AML				
	comp=N,218µm,0.8s								
ROVR	**Rover Verones**	**2.27**	**337**	P	**Pn**	**03 24 48.3**	**+1.5**		
SKDS	**Skadanscina**	**2.32**	**31**	*i* Pn	**Pn**	**03 24 46.9**	**-0.6**		
SKDS				*i* Sn	**Sn**	**03 25 15.6**	**-0.5**		
	comp=Z,165nm,0.5s								
RIY	**Rijeka**	**2.34**	**41**	*e*Pn	**Pn**	**03 24 48.8**	**+0.9**		
RIY				Sn	**Sn**	**03 25 17.7**	**+1.1**		
SALO	**Salr**	**2.42**	**329**	P	**Pn**	**03 24 51.0**	**+2.1**		
MORI	**Morici**	**2.48**	**82**	*e*Pn	**Pn**	**03 24 50.6**	**+1.0**		
MORI				Sn	**Sn**	**03 25 21.6**	**+1.9**		
MAGA	**Magasa**	**2.52**	**332**	P	**Pn**	**03 24 51.8**	**+1.4**		
SABO	**M.te Sabotino**	**2.58**	**20**	P	**Pn**	**03 24 50.9**	**-0.2**		
SABO				AML	AML				
	comp=E,592µm,0.7s								
SABO				AML	AML				
	comp=N,868µm,0.6s								
PGF	**Pioggiola**	**2.64**	**248**	*e*Pn	**Pn**	**03 24 52.5**	**+0.6**		
PGF				*e*Sn	**Sn**	**03 25 23.3**	**-0.6**		
	comp=N,28nm,0.6s								
PGF	**Pioggiola**	**2.64**	**248**	Pn	**Pn**	**03 24 52.3**	**+0.4**		
PGF				Sn	**Sn**	**03 25 26.8**	**+2.9**		
JAVS	**Javornik**	**2.64**	**28**	*i* Pn	**Pn**	**03 24 51.5**	**-0.5**		
CEY	**Cerknica**	**2.64**	**34**	*e*Pn	**Pn**	**03 24 51.7**	**-0.3**		
CEY				*e*Sn	**Sn**	**03 25 24.3**	**+0.3**		
CEY	**Cerknica**	**2.64**	**34**	*i* Pn	**Pn**	**03 24 51.7**	**-0.3**		
CEY				*e*Sn	**Sn**	**03 25 23.9**	**-0.1**		
CEY	**Cerknica**	**2.64**	**34**	*e*Pn	**Pn**	**03 24 51.6**	**-0.3**		
UDBI	**Udbina**	**2.66**	**68**	*i* Pn	**Pn**	**03 24 54.3**	**+2.0**		
UDBI				Sn	**Sn**	**03 25 26.6**	**+2.1**		
SMPL	**Sampolo**	**2.67**	**238**	Pn	**Pn**	**03 24 53.8**	**+1.5**		
SMPL				Sn	**Sn**	**03 25 27.1**	**+2.4**		
GEPF	**Gemona**	**2.77**	**12**	P	**Pn**	**03 24 53.4**	**-0.3**		
GEPF				AML	AML				
	comp=E,183µm,0.6s								
GEPF				AML	AML				
	comp=N,230µm,0.6s								
VINO	**Villanova**	**2.78**	**14**	⇑P	**Pn**	**03 24 53.6**	**-0.2**		
BOJS	**Bojanci**	**2.86**	**46**	*e*Pn	**Pn**	**03 24 55.7**	**+0.9**		
BOJS				*e*Sn	**Sn**	**03 25 31.0**	**+1.8**		
PTCC	**Patocco-Chiusa**	**2.93**	**14**	AML	AML				
	comp=E,140µm,0.7s								
PTCC				AML	AML				
	comp=N,160µm,0.6s								
LJU	**Ljubljana**	**2.94**	**32**	*e*Pn	**Pn**	**03 24 55.9**	**0.0**		
LJU				*e*Sn	**Sn**	**03 25 31.3**	**+0.1**		
LJU	**Ljubljana**	**2.94**	**32**	AML	AML				
	comp=E,517µm,0.5s								
LJU				AML	AML				
	comp=N,618µm,0.5s								
LJU	**Ljubljana**	**2.94**	**32**	*e*Pn	**Pn**	**03 24 56.2**	**+0.3**		
KOSI	**Kohlern**	**2.97**	**347**	AML	AML				
	comp=N,244µm,0.7s								
KOSI				AML	AML				
	comp=E,336µm,0.6s								
KIJV	**Kijevo**	**2.99**	**80**	*e*Pn	**Pn**	**03 24 58.2**	**+1.5**		
KIJV				Sn	**Sn**	**03 25 35.0**	**+2.5**		
OZLJ	**Ozalj**	**3.04**	**47**	*i* Pn	**Pn**	**03 24 57.4**	**+0.1**		
OZLJ				Sn	**Sn**	**03 25 35.0**	**+1.3**		
ACOM	**Acomizza, Ital**	**3.10**	**15**	AML	AML				
	comp=N,282µm,0.8s								
ACOM				AML	AML				
	comp=E,461µm,0.9s								
SGRT	**San Giovanni R**	**3.11**	**124**	AML	AML				
	comp=E,198µm,0.8s								
SGRT				AML	AML				
	comp=N,192µm,0.8s								
CRES	**Cresnjev**	**3.18**	**44**	*e*Pn	**Pn**	**03 24 59.8**	**+0.5**		
ABTA	**Abfaltersbach**	**3.19**	**2**	*i* Pn	**Pn**	**03 25 00.7**	**+1.2**		
	comp=N,16nm,0.5s,SNR=12								
ABTA				*e*Sn	**Sn**	**03 25 38.4**	**+1.0**		
	comp=N,66nm,0.7s								
MYKA	**Terra Mystica**	**3.21**	**17**	*e*Pn	**Pn**	**03 25 00.5**	**+0.8**		
	comp=N,1.6nm,0.1s								
MYKA				*e*Sn	**Sn**	**03 25 41.5**	**+3.6**		
	comp=N,28nm,0.6s								
MGRO	**Montegrosso**	**3.30**	**280**	AML	AML				
	comp=E,92µm,0.5s								
MGRO				AML	AML				
	comp=N,73µm,1.1s								
GBOS	**Grotte di Boss**	**3.31**	**283**	P	**Pn**	**03 25 01.5**	**+0.4**		
GBOS	**Grotte di Boss**	**3.31**	**283**	AML	AML				
	comp=E,43µm,0.5s								
GBOS				AML	AML				
	comp=N,53µm,0.7s								
OBKA	**Obir**	**3.34**	**27**	*e*Pn	**Pn**	**03 25 02.0**	**+0.4**		
	comp=N,6.7nm,0.3s								
OBKA				*e*Sn	**Sg**	**03 25 59.6**	**+2.9**		
	comp=N,217nm,0.9s								
PRIJ	**Prijedor**	**3.46**	**64**	*e*Pn	**Pb**	**03 25 07.1**	**-3.5**		
SAOF	**Saorge**	**3.48**	**279**	Pn	**Pn**	**03 25 04.6**	**+1.2**		
PTJ	**Puntijarka**	**3.50**	**47**	*e*Pn	**Pn**	**03 25 06.6**	**+2.9**		
SBF	**Sospel**	**3.55**	**276**	*e*Pn	**Pn**	**03 25 05.2**	**+0.7**		
SBF				*e*Sn	**Sn**	**03 25 46.9**	**+0.4**		
	comp=N,67nm,0.5s								
KBA	**Koelnbreinsper**	**3.59**	**11**	*i* Pn	**Pn**	**03 25 06.4**	**+1.3**		
	comp=N,2.6nm,0.2s,SNR=15								
KBA				*e*Sn	**Sn**	**03 25 48.9**	**+1.4**		
	comp=N,9.4nm,0.4s								
TURF	**col de Turini**	**3.59**	**278**	Pn	**Pn**	**03 25 06.5**	**+1.4**		
TURF				Sn	**Sn**	**03 25 48.9**	**+1.3**		
FETA	**Feichten**	**3.63**	**343**	*i* Pn	**Pn**	**03 25 08.3**	**+2.6**		
	comp=N,34nm,0.7s,SNR=23								
FETA				*e*Sn	**Sb**	**03 25 56.0**	**-1.9**		
	comp=N,30nm,1.0s								
DAVOX	**Davos/Dischmat**	**3.65**	**333**	Pn	**Pn**	**03 25 08.6**	**+2.7**		
	comp=N,7.6nm,0.3s,baz=161,slow=16,SNR=62								
DAVOX				Sn	**Sn**	**03 25 54.6**	**+5.6**		
	comp=N,0.8nm,0.3s,baz=267,slow=23,SNR=4.1								
SOKA	**Soboth**	**3.66**	**31**	*e*Pn	**Pn**	**03 25 05.9**	**-0.1**		
	comp=N,1.2nm,0.3s								
SOKA				*e*Sn	**Sg**	**03 26 07.7**	**+0.9**		
	comp=N,17nm,0.5s								
BLY	**Banja Luka**	**3.70**	**70**	*e*Pn	**Pn**	**03 25 08.6**	**+2.2**		
BLY				*e*Sn	**Sn**	**03 25 52.7**	**+2.8**		
BLY	**Banja Luka**	**3.70**	**70**	*e*Pn	**Pn**	**03 25 05.9**	**-0.5**		
WTTA	**Wattenberg**	**3.73**	**353**	*e*Pn	**Pn**	**03 25 09.4**	**+2.4**		
	comp=N,3.3nm,0.2s								
WTTA				*e*Sn	**Sb**	**03 26 01.1**	**+0.5**		
	comp=N,41nm,0.6s								
SQTA	**Sankt Quirin**	**3.74**	**348**	*i* Pn	**Pn**	**03 25 09.4**	**+2.3**		
	comp=N,5.3nm,0.2s,SNR=17								
SQTA				*e*Sn	**Sn**	**03 25 53.7**	**+2.6**		
	comp=N,42nm,0.7s								
MOSL	**Moslavina**	**3.77**	**56**	*e*Pn	**Pn**	**03 25 09.5**	**+2.1**		
WATA	**Walderalm**	**3.81**	**352**	*i* Pn	**Pn**	**03 25 10.3**	**+2.2**		
	comp=N,5.6nm,0.2s,SNR=12								
WATA				*e*Sn	**Sn**	**03 25 57.3**	**+4.4**		
	comp=N,18nm,0.5s								
ISO	**Isola**	**3.86**	**281**	Pn	**Pn**	**03 25 10.4**	**+1.7**		
MOTA	**Moosalm**	**3.88**	**348**	*i* Pn	**Pn**	**03 25 12.0**	**+3.0**		
	comp=N,12nm,0.4s,SNR=10								
MOTA				*e*Sn	**Sn**	**03 25 58.2**	**+3.7**		
	comp=N,25nm,0.6s								
CALF	**Calern**	**3.92**	**275**	Pn	**Pn**	**03 25 10.6**	**+1.0**		
RETA	**Reutte**	**4.07**	**345**	*i* Pn	**Pn**	**03 25 14.6**	**+3.0**		
	comp=N,4.0nm,0.3s,SNR=11								
RETA				*e*Sn	**Sn**	**03 26 01.1**	**+1.8**		
	comp=N,15nm,0.5s								
SURF	**Saint Ours**	**4.08**	**285**	Pn	**Pn**	**03 25 12.8**	**+1.0**		
DAVA	**Damuels**	**4.10**	**336**	*i* Pn	**Pn**	**03 25 15.4**	**+3.3**		
	comp=N,14nm,0.5s,SNR=12								
DAVA				*e*Sn	**Sn**	**03 26 02.4**	**+2.4**		
	comp=N,17nm,0.4s								
FRF	**La Foret Royal**	**4.12**	**272**	*e*Pn	**Pn**	**03 25 12.5**	**+0.3**		
FRF				*e*Sn	**Sn**	**03 26 00.2**	**-0.2**		
	comp=N,22nm,0.7s								
MBDF	**Montbardon**	**4.16**	**288**	*e*Pn	**Pn**	**03 25 13.1**	**+0.2**		
MBDF				*e*Sn	**Sn**	**03 26 01.9**	**+0.4**		

comp=N,40nm,0.6s
LMR La Mourre 4.24 269 *e*Pn **Pn 03 25 14.3 +0.5**
LMR *e*Sn **Sn 03 26 02.8 -0.4**
comp=N,4.7nm,0.4s
BEHE Becsehely 4.29 46 *e*Pn **Pb 03 25 21.9 -2.9**
ARSA Arzberg 4.32 30 *e*Pn **Pn 03 25 14.4 -0.6**
comp=N,3.4nm,0.3s
ARSA *e*Sn **Sn 03 26 05.0 -0.4**
comp=N,7.8nm,0.5s
REMY Saint-Rhmy-en 4.33 303 AML AML
comp=E,148µm,0.9s
REMY AML AML
comp=N,160µm,0.6s
LPG La Plagne 4.42 298 *e*Pn **Pn 03 25 18.7 +2.0**
LPG *e*Sn **Sn 03 26 08.3 0.0**
comp=N,12nm,0.6s
LPL La Plagne 4.45 298 *e*Pn **Pn 03 25 18.8 +1.9**
LPL *e*Sn **Sn 03 26 07.7 -1.0**
comp=N,9.5nm,0.5s
MOA Mollin 4.50 17 *i* Pn **Pn 03 25 18.5 +1.0**
comp=N,2.7nm,0.1s,SNR=11
MOA *e*Sn **Sn 03 26 11.8 +2.2**
comp=N,18nm,0.5s
BLAF les Blancs 4.56 277 Pn **Pn 03 25 19.7 +1.4**
RSL Roselend 4.58 300 Pn **Pn 03 25 21.5 +2.7**
BRY Bratogost 4.59 96 *e*Pn **Pn 03 25 20.1 +1.3**
HCY Herceg Novi 4.66 102 *e*Pn **Pn 03 25 19.3 -0.4**
ARTF Artigues 4.73 273 Pn **Pn 03 25 22.2 +1.5**
UPM Unac-Piva 4.81 92 *e*Pn **Pn 03 25 24.1 +2.2**
ORIF Oris-en-Rattie 4.82 289 *e*Pn **Pn 03 25 22.6 +0.7**
ORIF *e*Sn **Sn 03 26 16.8 -1.0**
comp=N,22nm,0.6s
ORIF Oris-en-Rattie 4.82 289 Pn **Pn 03 25 24.2 +2.3**
HAPS Han Pijesak,Bl 4.83 82 *e*Pn **Pn 03 25 22.7 +0.7**
HAPS Han Pijesak,Bl 4.83 82 *e*Pn **Pn 03 25 21.9 -0.1**
BSTF la Bastide-des 4.85 276 Pn **Pn 03 25 24.0 +1.8**
SMRF Simiane la Rot 4.90 277 *e*Pn **Pn 03 25 24.3 +1.3**
SMRF *e*Sn **Sn 03 26 17.9 -1.8**
comp=N,8.3nm,0.7s
RUSF Rustrel 4.97 277 Pn **Pn 03 25 25.6 +1.8**
GRN Grenoble 5.00 292 Pn **Pn 03 25 27.3 +2.9**
CONA Conrad Observa 5.02 28 *e*Pn **Pn 03 25 24.6 0.0**
comp=N,2.6nm,0.4s
CONA *e*Sn **Sn 03 26 22.7 +0.1**
comp=N,6.7nm,0.4s
RUDO Rudo 5.12 87 *e*Pn **Pn 03 25 27.2 +1.2**
BBLS Lazići 5.14 84 *e*Pn **Pn 03 25 28.4 +2.0**
BBLS Lazići 5.14 84 *e*Pn **Pn 03 25 27.8 +1.4**
OGSM Saint Maurice 5.15 296 Pn **Pn 03 25 28.6 +2.2**
PDG Podgorica 5.21 100 *e*Pn **Pn 03 25 29.0 +1.8**
PDG *e*Sn **Sn 03 26 30.0 +2.8**
PDG Podgorica 5.21 100 *e*Pn **Pn 03 25 28.7 +1.5**
DRME Dracevica, Mon 5.23 103 *e*Pn **Pn 03 25 28.5 +1.0**
CABF La Chapelle 5.36 307 *e*Pn **Pn 03 25 30.9 +1.6**
CABF La Chapelle 5.36 307 *e*P Pn 03 25 34.9 +5.6
CABF *e*Sn **Sn 03 26 30.5 -0.6**
comp=N,19nm,0.8s
KIZ Kirchzarten 5.36 327 Pn **Pn 03 25 31.3 +2.0**
GERES GERESS Array B 5.37 10 Pn **Pn 03 25 29.1 -0.4**
comp=N,0.9nm,0.3s,baz=184,slow=13,SNR=27
GERES Sn **Sn 03 26 32.2 +1.0**
comp=N,1.5nm,0.3s,baz=182,slow=22,SNR=5.4
GERES LR LR 03 27 37.3
comp=N,55nm,21.6s,baz=256,slow=39
CHMF Charmoille 5.43 315 Pn **Pn 03 25 32.2 +1.9**
DIVS Divibare 5.58 82 *e*Pn **Pn 03 25 33.0 +0.7**
DIVS *e*Sn **Sn 03 26 36.6 +0.2**
DIVS Divibare 5.58 82 *e*Pn **Pn 03 25 31.1 -1.2**
SJES Sjenica 5.58 90 *e*Pn **Pn 03 25 34.2 +1.8**
FRGS Fruska Gora 5.60 71 *e*Pn **Pn 03 25 33.4 +0.8**
FRGS Fruska Gora 5.60 71 *e*Pn **Pn 03 25 29.9 -2.7**
MOF Molkenrain 5.62 322 Pn **Pn 03 25 35.0 +2.2**
KHC Kasperske Hory 5.64 8 *e*PN **Pn 03 25 32.8 -0.3**
KHC *ex* x 03 26 02.0
KHC *e*SN **Sn 03 26 36.7 -1.0**
VIVF Saint-Julien-l 5.65 286 *e*Pn **Pn 03 25 34.0 +0.8**
VIVF *e*Sn **Sn 03 26 36.8 -1.2**
comp=N,1.8nm,0.4s
IVAS Ivanjica 5.69 87 *e*Pn **Pn 03 25 34.5 +0.6**
ZST Bratislava 5.71 34 *e*PN **Pn 03 25 30.9 -3.1**
HINF Hinteralfeld 5.72 320 *e*Pn **Pn 03 25 35.8 +1.6**
HINF *e*Sn **Sn 03 26 38.4 -1.5**
comp=N,12nm,0.5s
TRUS Trudelj 5.88 81 *e*Pn **Pn 03 25 37.1 +0.7**
ECH Echery 5.88 324 Pn **Pn 03 25 38.4 +2.0**
MODS Modra-Piesok 5.92 34 *e*PN **Pn 03 25 33.6 -3.4**
WLS Welschbruch 5.96 326 Pn **Pn 03 25 39.5 +2.0**
CDF Champ du Feu 5.99 326 *e*Pn **Pn 03 25 39.6 +1.7**
CDF Champ du Feu 5.99 326 *e*P Pn 03 25 43.5 +5.6
CDF *e*Sn **Sn 03 26 45.3 -1.2**
comp=N,29nm,0.8s
TRBF Trabuc cave 6.07 278 Pn **Pn 03 25 40.8 +1.8**
GRUS Gruza 6.09 84 *e*Pn **Pn 03 25 40.8 +1.5**
SMOL Smolenice 6.09 34 *e*PN **Pn 03 25 40.1 +0.8**
HAU Haudompre 6.09 319 *e*Pn **Pn 03 25 40.9 +1.6**
HAU Haudompre 6.09 319 *e*P Pn 03 25 45.2 +5.9
HAU *e*Sn **Sn 03 26 48.8 -0.2**
comp=N,44nm,0.7s
LASF Ste Croix 6.14 278 *e*Pn **Pn 03 25 41.0 +1.0**
LASF *e*Sn **Sn 03 26 47.7 -2.6**
comp=N,1.6nm,0.5s
KRUC Moravsky 6.18 26 *e*PN **Pn 03 25 40.1 -0.4**
SELS Selova 6.42 90 *e*Pn **Pn 03 25 44.6 +0.8**
VRAC Vranov 6.46 26 *e*PN **Pn 03 25 44.1 -0.2**
PRU Pruhonice 6.60 13 *e*PN **Pn 03 25 45.9 -0.4**
PRU *e*SN **Sn 03 26 59.1 -2.4**
NKC Novy Kostel 6.67 1 *e*SN **Sn 03 26 59.5 -3.7**
VYHS Vyhne 6.70 40 *e*PN **Pn 03 25 47.6 0.0**
SMF Signal de Mont 6.74 300 *e*Pn **Pn 03 25 49.2 +1.0**
SMF Signal de Mont 6.74 300 *e*P Pn 03 25 53.8 +5.6
SMF *e*Sn **Sn 03 27 02.8 -2.2**
comp=N,7.9nm,0.7s
OHR Ohrid 6.74 108 *i* Pn **Pn 03 25 50.5 +2.1**
PAGF Fort de Pagny 6.78 320 *e*Pn **Pn 03 25 50.2 +1.5**
PAGF *e*Sn **Sn 03 27 04.0 -1.8**
comp=N,3.5nm,0.4s
SFTF Sexfontaines 6.88 315 *e*Pn **Pn 03 25 51.9 +1.8**
baz=133
SFTF Sexfontaines 6.88 315 *e*P Pn 03 25 56.1 +6.0
SFTF *e*Sn **Sn 03 27 06.9 -1.4**
comp=N,5.3nm,0.5s
LOR Lormes 7.01 305 *e*Pn **Pn 03 25 53.0 +1.1**
baz=124
LOR Lormes 7.01 305 *e*P **Pn 03 25 56.6 +4.7**
LOR *e*Sn **Sn 03 27 09.5 -2.1**
comp=N,9.4nm,0.5s
MEZF Maizieres J'vi 7.07 317 *e*Pn **Pn 03 25 53.8 +1.2**
baz=136
MEZF Maizieres J'vi 7.07 317 *e*P Pn 03 25 59.0 +6.4
MEZF *e*Sn **Sn 03 27 10.4 -2.5**
comp=N,5.2nm,0.5s
AVF Avril sur Loir 7.11 300 *e*Pn **Pn 03 25 53.5 +0.3**
AVF Avril sur Loir 7.11 300 *e*P Pn 03 25 59.1 +5.9
AVF *e*Sn **Sn 03 27 11.8 -2.2**
comp=N,1.5nm,0.4s
SSF Saint Saulge 7.13 302 *e*Pn **Pn 03 25 54.2 +0.7**
SSF Saint Saulge 7.13 302 *e*P Pn 03 25 59.1 +5.6
SSF *e*Sn **Sn 03 27 12.0 -2.4**
comp=N,5.0nm,0.6s
ZAGS Zajecar 7.19 85 *e*Pn **Pn 03 25 55.9 +1.5**
KRLC Kraliky 7.20 24 *e*PN **Pn 03 25 54.0 -0.5**
DPC Dobruska-Polom 7.32 21 *e*PN **Pn 03 25 55.1 -1.1**
BGF Bois d'Agland 7.34 297 *e*Pn **Pn 03 25 57.4 +0.9**
BGF Bois d'Agland 7.34 297 *e*P Pn 03 26 02.1 +5.6
BGF *e*Sn **Sn 03 27 17.8 -2.0**
comp=N,4.0nm,0.4s
MTLF Montolieu 7.36 272 *e*Pn **Pn 03 25 57.5 +0.9**
MTLF *e*Sn **Sn 03 27 16.8 -3.3**
comp=N,1.0nm,0.6s
BRG Berggiesshubel 7.39 8 PN **Pn 03 25 56.4 -0.8**
BRG *e* 03 27 12.8
BRG Berggiesshubel 7.39 8 SG Sg 03 28 17.5 +11
comp=N,7.6nm,0.8s
CHVC Chvalec 7.47 19 *e*PN **Pn 03 25 56.9 -1.4**
OSTC Ostas 7.48 19 *e*PN **Pn 03 25 57.6 -0.8**
CAF Calviac 7.49 284 *e*Pn **Pn 03 25 59.4 +0.9**
CAF Calviac 7.49 284 *e*P **Pn 03 26 03.3 +4.8**
STIP Stip 7.51 101 *i* Pn **Pn 03 26 01.6 +2.8**
ZAPS Zavoj 7.52 89 *e*Pn **Pn 03 26 00.8 +1.9**
TCF Toulx Ste Croi 7.67 294 *e*Pn **Pn 03 26 01.9 +0.9**
TCF *e*Sn **Sn 03 27 24.9 -3.0**
comp=N,1.1nm,0.4s
CLL Collm 7.76 3 *i* Pn **Pn 03 26 01.8 -0.4**
comp=Z,3.0nm,0.4s
CLL *e*Sn **Sn 03 27 35.0 +5.0**
CLL *e*Sg Sg 03 28 30.0 +12
comp=Z,16nm,1.3s
VAY Valandovo 7.91 103 *i* Pn **Pn 03 26 04.3 +0.2**
KEST Kesra 8.15 197 LR LR 03 28 31.5
comp=Z,138nm,19.1s,baz=354,slow=32
BAIF Baives 8.55 322 *e*Pn **Pn 03 26 14.3 +1.3**
EPF Esparros 8.76 271 *e*P Pn 03 26 22.0 +6.1
MFF Saint Martin d 9.33 293 *e*Pn **Pn 03 26 24.8 +1.2**
ETSF Etsaut 9.43 270 *e*P Pn 03 26 30.8 +5.7
LDF La Druitiere 10.00 305 *e*Pn **Pn 03 26 33.1 +0.3**
LDF *e*Sn **Sn 03 28 20.6 -4.3**
comp=Z,0.9nm,0.4s
SGMF Saint Gilles 11.37 300 *e*Pn **Pn 03 26 51.4 -0.2**
QUIF Quistinic 11.66 297 *e*Pn **Pn 03 26 55.8 +0.3**
ROSF Rostrenen 11.85 299 *e*Pn **Pn 03 26 58.6 +0.4**
EKA Eskdalemuir Ar 15.45 325 Pn **Pn 03 27 49.7 +2.7**
baz=137,slow=13,SNR=3.1
FINES FINESS Array B 19.69 20 P **P 03 28 38.7 +0.4**
comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=2.4
TORD Torodi Ar. Bea 31.66 200 P **P 03 30 34.1 +1.4**
comp=Z,0.6nm,0.6s,baz=18,slow=8.0,SNR=5.3
USRK Ussuriysk Ar. 77.39 40 LR LR 04 16 09.7
comp=Z,58nm,18.8s,baz=317,slow=40

TAP 03 03:24:25.1, 24°44N×121°72E, h55km±1km, ML2.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.02**	**115**	*e*P		Pn	03 24 33.8	+0.4
	baz=110							
ENA				*e*S		Sn	03 24 40.1	+0.8
	baz=110							
ENTT	**Nioudou**	**0.25**	**325**	*i* P		Pn	03 24 34.1	-0.2
	baz=326							
ENTT				*i* S		Sn	03 24 41.3	+0.4
	baz=326							
NDT	**Datong Townshi**	**0.25**	**311**	*e*P		Pn	03 24 34.8	+0.4
	baz=311							
NDT				*i* S		Sn	03 24 41.6	+0.6
	baz=311							
NACB	**Ninganchiao**	**0.29**	**204**	P		Pn	03 24 35.0	+0.4
	baz=203							
NACB				*e*S		Sn	03 24 41.8	+0.3
	baz=203							
NACB	**Ninganchiao**	**0.29**	**204**	P		Sn	03 24 42.2	+0.8
NNSB	**Datong**	**0.31**	**269**	*e*P		Pn	03 24 35.4	+0.4
	baz=268							
NNSB				*i* S		Sn	03 24 43.1	+1.1
	baz=268							
NNSH	**Datong**	**0.31**	**269**	*e*P		Pn	03 24 35.4	+0.4
	baz=268							
NNSH				S		Sn	03 24 43.0	+0.9
	baz=268							
ETLH	**Xiulin Townshi**	**0.32**	**224**	*e*P		Pn	03 24 36.5	+1.6
	baz=223							
ETLH				S		Sn	03 24 42.6	+0.5
	baz=223							
YHNB	**Yeheng**	**0.39**	**306**	*e*P		Pn	03 24 35.9	+0.3
	baz=306							
YHNB				*e*S		Sn	03 24 42.4	-0.9
	baz=306							
FUSS	**Fushou**	**0.47**	**247**	P		Pn	03 24 36.9	+0.2
	baz=246							
FUSS				S		Sn	03 24 45.4	+0.4
	baz=246							
WHF	**Hehuan Shan**	**0.51**	**235**	*e*P		Pn	03 24 37.8	+0.6
	baz=234							
WHF				S		Sn	03 24 45.7	-0.3
	baz=234							
TIPB	**Shuangxi**	**0.54**	**10**	*e*P		Pn	03 24 38.0	+0.8
	baz=10.0							
TDCB	**Techi**	**0.55**	**251**	*e*S		Sn	03 24 46.3	+0.1
	baz=250							

*ATH **03** 03:25:10.2, 36°.28N×28°.95E, h38km±4km, ML2.2/2, Error ellipse: s-maj=7.1km s-min=1.4km az=182.0*
*DDA **03** 03:25:10.1, 36°.23N×28°.95E, h22km±1km, ML2.3*
*ISK **03** 03:25:10.4, 36°.23N×28°.89E, h17km, ML2.5/13*
*THE **03** 03:25:10.6, 36°.26N×28°.91E, h0km, ML2.1/2, Error ellipse: s-maj=1.0km s-min=0.6km az=165.0*

ISC 03 03:25:10.9±1.2, 36°.26N±0°.03×28°.96E±0°.02, h25km±11km, n38, σ1°11/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.39**	**15**	P		Pb	03 25 19.2	-0.2
FETY				S		Sn	03 25 26.0	-1.7
FETY	**Fethiye**	**0.39**	**15**	PG		Pb	03 25 19.4	0.0
FETY				SG		Sn	03 25 26.3	-1.4
FETY	**Fethiye**	**0.39**	**15**	*i* P		Pb	03 25 18.6	-0.8
FETY				*i* S		Sb	03 25 25.5	+0.3
FETY				IAML			03 25 26.0	
	comp=N,284nm,0.4s							
FETY				IAML			03 25 27.0	
	comp=E,186nm,0.4s							
KSL	**Kastellorizon**	**0.52**	**102**	P		Pn	03 25 22.2	-0.5
KSL				S		Sn	03 25 31.8	+1.0
	comp=E,192nm,0.7s							
KSL	**Kastellorizon**	**0.52**	**102**	P		Pn	03 25 21.8	-0.9
KSL				S		Sn	03 25 30.3	-0.5
KSL				AML	AML		03 25 34.0	
	comp=E,515µm,0.6s							
KSL				AML	AML		03 25 35.7	
	comp=N,254µm,0.7s							
AKAS	**Kas**	**0.53**	**92**	PG		Pb	03 25 21.8	+0.1
AKAS				SG		Sn	03 25 30.9	-0.2
AKAS	**Kas**	**0.53**	**92**	*i* P		Pb	03 25 20.9	-0.8
DALY	**Dalyan (Mula)**	**0.61**	**337**	PG		Pb	03 25 22.5	-0.5
DALY				SG		Sn	03 25 31.9	-1.1
DALY	**Dalyan (Mula)**	**0.61**	**337**	*i* P		Pb	03 25 22.3	-0.7
DALY				*i* S		Sn	03 25 32.0	-1.1
DALY				IAML			03 25 33.0	
	comp=E,186nm,0.5s							
DALY				IAML			03 25 34.0	
	comp=N,213nm,0.6s							
ARG	**Arkhangelos**	**0.67**	**267**	P		Pb	03 25 23.4	-0.5
ARG				S		Sn	03 25 34.4	-0.1
	comp=N,245nm,0.4s							
ARG	**Arkhangelos**	**0.67**	**267**	P		Pb	03 25 23.5	-0.5
ARG				S		Sn	03 25 34.4	-0.1
ARG				AML	AML		03 25 35.1	
	comp=N,432µm,0.4s							
ARG				AML	AML		03 25 38.1	
	comp=E,566µm,0.4s							
ARG	**Arkhangelos**	**0.67**	**267**	PG		Pb	03 25 22.9	-1.1
TURN	**Turunc**	**0.77**	**312**	PG		Pb	03 25 25.4	-0.3
TURN	**Turunc**	**0.77**	**312**	*i* P		Pn	03 25 25.6	-0.5
TURN				*i* S		Sn	03 25 36.8	-0.2
TURN				IAML			03 25 40.0	
	comp=N,64nm,0.5s							
TURN				IAML			03 25 42.0	
	comp=E,62nm,0.4s							
ELL	**Elmali**	**0.91**	**57**	PG		Pn	03 25 29.7	+1.4
YER	**Yerkesik**	**1.03**	**329**	P		Pn	03 25 30.6	+0.8
YER				S		Sn	03 25 45.6	+2.1
YER	**Yerkesik**	**1.03**	**329**	PG		Pn	03 25 30.6	+0.8
YER				SG		Sn	03 25 45.3	+1.8
GOLH	**Golhisar**	**1.09**	**26**	*i* P		Pb	03 25 31.2	0.0
GOLH				*i* S		Sn	03 25 48.3	+3.1
GOLH				IAML			03 25 51.0	
	comp=N,49nm,0.4s							
AKUM	**Antalya-Kumluc**	**1.12**	**86**	*i* P		Pb	03 25 31.8	+0.2
AKUM				*i* S		Sn	03 25 48.0	+2.4
DATC	**Datca-Mugla**	**1.16**	**296**	PN		Pb	03 25 32.0	-0.2
DAT	**Datca**	**1.21**	**293**	P		Pb	03 25 32.9	-0.2
DAT				S		Sn	03 25 50.1	+2.2
DAT	**Datca**	**1.21**	**293**	PN		Pb	03 25 32.8	-0.3
DAT				SN		Sn	03 25 48.9	+1.0
DAT	**Datca**	**1.21**	**293**	*i* P		Pb	03 25 32.9	-0.2
DAT				*i* S		Sn	03 25 48.9	+1.0
DAT				IAML			03 25 53.0	
	comp=N,46nm,0.9s							
TAVA	**DENIZLI_Tavas**	**1.21**	**358**	*i* P		Pb	03 25 33.5	+0.3
TAVA				*i* S		Sn	03 25 49.2	+1.2
TAVA				IAML			03 25 51.0	
	comp=E,54nm,0.3s							
TAVA				IAML			03 25 51.0	
	comp=N,69nm,0.4s							
MLSB	**Milas**	**1.40**	**318**	PN		Pb	03 25 35.8	-0.7
BODT	**Bodrum**	**1.55**	**302**	P		Pn	03 25 37.1	+0.2
BODT				S		Sb	03 25 58.5	+0.4
BODT	**Bodrum**	**1.55**	**302**	PN		Pn	03 25 37.0	+0.2
KARP	**Karpathos**	**1.62**	**245**	P		Pn	03 25 38.1	+0.2
KARP	**Karpathos**	**1.62**	**245**	P		Pn	03 25 38.1	+0.2
AYDN	**Tasoluk**	**1.65**	**329**	*i* P		Pb	03 25 39.5	-1.1
AYDN				*i* S		Sn	03 25 58.2	-0.4
AYDN				IAML			03 26 06.0	
	comp=N,29nm,0.5s							
AYDN				IAML			03 26 10.0	
	comp=Z,20nm,0.5s							
BCK	**Bucak**	**1.78**	**47**	PN		Pb	03 25 42.2	-0.7
BASM	**Basmaki-Afyon**	**1.88**	**27**	PN		Pb	03 25 43.5	-1.1
AYDB	**Zeytinkoy-Aydi**	**1.89**	**334**	PN		Pb	03 25 42.9	-1.9
KZIL	**AFYON_Kizioren**	**2.21**	**25**	*i* P		Pb	03 25 48.2	-2.1
KEPZ	**Antalya-Kepez**	**2.23**	**72**	*i* P		Pn	03 25 47.0	+0.8
SMG	**Samos**	**2.23**	**311**	P		Pn	03 25 46.5	+0.2
DGB	**zmir**	**2.44**	**318**	*i* P		Pn	03 25 48.8	-0.3
DGB				IAML			03 26 05.0	
	comp=E,19nm,2.7s							
DGB				*i* S		Sn	03 26 18.2	+0.1
SEYD	**Seydisehir-KON**	**2.58**	**63**	PN		Pb	03 25 53.8	-2.8

*IDC **03** 03:38:13.9±3.6, 31°.75S×71°.08W, h0km, mb3.8/2, mb1 3.8/6, mb1mx3.7/25, mbtmp3.8/6, ML3.8/4, MS2.9/2, Ms1 2.9/2, ms1mx2.8/18, Error ellipse: s-maj=104.6km s-min=29.1km az=97.0*
*SJA **03** 03:38:16.8±0.6, 31°.79S×71°.64W, h74km±5km, ML4.2, MW4.0*
*NEIC **03** 03:38:17.6±1.9, 31°.71S±0°.04×71°.66W±0°.07, h51km±12km, Error ellipse: s-maj=9.1km s-min=6.4km az=90.0*
*GUC **03** 03:38:17.5±0.8, 31°.77S×71°.40W, h45km±6km, ML4.1*

ISC 03 03:38:17.9±0.9, 31°.72S±0°.03×71°.64W±0°.05, h49km±13km, n80, σ1°40/83, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.75**	**47**	*i* P		Pn	03 38 32.1	-0.3
CO02				*i* S		Sn	03 38 42.0	-0.8
CO02	**Combarbal**	**0.75**	**47**			Pn	03 38 31.7	-0.7
CO03	**El Pedregal**	**1.20**	**43**	⇑*i*P		Pn	03 38 38.1	-0.3
CO03				*i* S		Sn	03 38 52.9	-0.7
CO03				IAML			03 38 53.4	
	comp=E,10µm,0.3s							
CO03	**El Pedregal**	**1.20**	**43**			Pn	03 38 37.8	-0.6
VA01	**Torpederas**	**1.30**	**180**	*e*P		Pn	03 38 39.9	+0.2
VA01				*i* S		Sn	03 38 57.1	+1.2
VA01				IAML			03 39 01.5	
	comp=E,4µm,0.3s							
VA01	**Torpederas**	**1.30**	**180**			Pn	03 38 39.7	0.0
ROCH	**El Roble**	**1.36**	**157**	⇑*i*P		Pn	03 38 40.9	+0.2
ROCH				*i* S		Sn	03 38 57.9	+0.2
ROCH				IAML			03 38 59.6	
	comp=N,6µm,0.4s							
ROC1	**El Roble**	**1.36**	**157**			Pn	03 38 39.8	-0.9
ROC1	**El Roble**	**1.36**	**157**	*e*P		Pn	03 38 40.8	0.0
VA03	**San Esteban**	**1.39**	**139**	⇑*i*P		Pn	03 38 40.5	-0.6
VA03				*i* S		Sn	03 38 57.0	-1.3
VA03				IAML			03 38 59.2	
	comp=E,8µm,0.3s							
VA03	**San Esteban**	**1.39**	**139**			Pn	03 38 40.4	-0.6
MT02	**Curacav**	**1.59**	**165**	⇑*i*P		Pn	03 38 43.6	0.0
MT02				*i* S		Sn	03 39 03.6	+0.5
MT02				IAML			03 39 06.1	
	comp=N,2µm,0.2s							
MT02	**Curacav**	**1.59**	**165**			Pn	03 38 43.7	0.0
PEL	**Peldehue**	**1.63**	**151**	*e*P		Pn	03 38 43.9	-0.4
PEL				*i* S		Sn	03 39 03.9	-0.3
PEL				IAML			03 39 05.4	
	comp=N,2µm,0.5s							
PEL	**Peldehue**	**1.63**	**151**			Pn	03 38 43.8	-0.5
PEL	**Peldehue**	**1.63**	**151**	*e*P		Pn	03 38 44.7	+0.4
PEL				eS		Sn	03 39 04.9	+0.7
GO04	**Tololo Observa**	**1.70**	**25**	Pn		Pn	03 38 45.9	+0.5
MT05	**Renca**	**1.83**	**156**	*e*P		Pn	03 38 46.8	-0.2
MT05				*i* S		Sn	03 39 09.4	+0.3
MT05				IAML			03 39 15.9	
	comp=N,3µm,0.2s							
MT05	**Renca**	**1.83**	**156**			Pn	03 38 46.9	-0.1
AUSP	**Uspallata**	**1.98**	**105**	*e*P		Pn	03 38 49.6	+0.3
AUSP				eS		Sn	03 39 13.2	+0.2
RTLS	**Leoncito**	**2.00**	**93**	*e*P		Pn	03 38 49.9	+0.5
RTLS				eS		Sn	03 39 13.4	0.0
RTLS				IAML			03 39 16.9	
	comp=Z,1µm,0.5s							
MT03	**Universidad Ad**	**2.01**	**152**	*e*P		Pn	03 38 49.8	+0.4
MT03				*i* S		Sn	03 39 14.1	+0.6
MT03				IAML			03 39 18.8	
	comp=N,4µm,0.2s							
CO01	**Juntas del Tor**	**2.19**	**38**	*e*P		Pn	03 38 53.1	+1.1
CO01				IAML			03 39 21.4	
	comp=E,2µm,0.2s							
CO01	**Juntas del Tor**	**2.19**	**38**			Pn	03 38 52.5	+0.4
AROD	**Rodeo**	**2.42**	**51**	*e*P		Pn	03 38 57.4	+2.1
AROD				eS		Sn	03 39 27.4	+3.5
LMEL	**Las Melosas**	**2.44**	**151**	*e*P		Pn	03 38 56.1	+0.7
LMEL				*i* S		Sn	03 39 25.1	+0.9
LMEL				IAML			03 39 31.6	
	comp=N,2µm,0.2s							
ACCO	**Cerro Coronel**	**2.48**	**64**	*e*P		Pn	03 38 58.1	+2.0
ACCO				eS		Sn	03 39 28.9	+3.6
ACCO				IAML			03 39 30.5	
	comp=Z,592nm,0.3s							
ZON	**Zonda**	**2.53**	**87**			Pn	03 38 57.5	+0.9
ZON	**Zonda**	**2.53**	**87**	*e*P		Pn	03 38 58.5	+1.9
ZON				eS		Sn	03 39 30.5	+4.3
ASAL	**Salagasta**	**2.53**	**111**	*e*P		Pn	03 38 58.4	+1.8
ASAL				eS		Sn	03 39 34.0	+7.7
ARCO	**CERRO ARCO**	**2.55**	**117**	*e*P		Pn	03 38 59.4	+2.4
ARCO				eS		Sn	03 39 13.7	-13
ARCO				IAML			03 39 36.7	
	comp=Z,574nm,0.4s							
RTCV	**Cerro Valdivia**	**2.64**	**94**	*e*P		Pn	03 38 59.3	+1.2
RTCV				eS		Sn	03 39 17.8	-11
ACDV	**Cuesta del Vie**	**2.66**	**55**	*e*P		Pn	03 39 00.7	+2.2
RTLL	**Cerro Villicun**	**2.73**	**83**	*e*P		Pn	03 39 00.4	+1.1
RTLL				eS		Sn	03 39 38.7	+7.6
RTLL				IAML			03 39 42.1	
	comp=Z,2µm,0.9s							
AAGR	**Agrelo**	**2.74**	**121**	*e*P		Pn	03 39 01.5	+2.0
AAGR				eS		Sn	03 39 18.6	-13
AAGR				IAML			03 39 39.7	
	comp=Z,425nm,0.4s							
AC05	**El Transito**	**3.11**	**23**	Pn		Pn	03 39 05.5	+0.9
BO02	**Sierra Bellavi**	**3.15**	**167**	*e*P		Pn	03 39 05.8	+0.8
BO02	**Sierra Bellavi**	**3.15**	**167**			Pn	03 39 05.4	+0.3
GO05	**Huala**	**3.29**	**184**	Pn		Pn	03 39 06.0	-0.9
GO05	**Huala**	**3.29**	**184**	*e*P		Pn	03 39 07.1	+0.2
GO05				eS		Sn	03 39 43.0	-1.0
AGUA	**GUANDACOL**	**3.51**	**51**	eS		Sn	03 40 00.5	+10
AGUA				IAML			03 40 02.2	
	comp=Z,434nm,0.3s							
AC04	**Llanos de Chal**	**3.54**	**8**	IAML			03 40 06.4	
	comp=E,521nm,0.6s							
AC04	**Llanos de Chal**	**3.54**	**8**	Pn		Pn	03 39 10.9	+0.6
VCA	**Vinchina**	**4.20**	**46**	*e*P		Pn	03 39 21.9	+2.3
VCA

H03N1	**Juan Fernandez**	**6.37**	**252**	Pn		**Pn**	**03 39 53.0**	**+4.0**
	baz=158,slow=79,SNR=24							
H03N1				T		T	03 46 37.6	
	baz=78,slow=73,SNR=1250							
H03N3	**Juan Fernandez**	**6.39**	**252**	Pn		**Pn**	**03 39 52.9**	**+3.8**
	baz=158,slow=79,SNR=17							
H03N3				T		T	03 46 36.9	
	baz=78,slow=73,SNR=1501							
H03N2	**Juan Fernandez**	**6.39**	**252**	Pn		**Pn**	**03 39 53.0**	**+3.9**
	baz=158,slow=79,SNR=18							
H03N2				T		T	03 46 38.6	
	baz=78,slow=73,SNR=1771							
H03S3	**Juan Fernandez**	**6.47**	**249**	Pn		**Pn**	**03 39 53.6**	**+3.3**
	SNR=4.3							
H03S3				T		T	03 46 34.3	
	baz=82,slow=75,SNR=20							
H03S1	**Juan Fernandez**	**6.47**	**249**	T		T	03 46 33.0	
	baz=82,slow=75,SNR=18							
H03S2	**Juan Fernandez**	**6.49**	**249**	T		T	03 46 36.1	
	baz=82,slow=75,SNR=28							
GO02	**Mina Guanaco**	**6.78**	**16**	Pn		**Pn**	**03 39 53.9**	**-1.2**
PB14	**IPOC Station P**	**7.15**	**9**	Pn		**Pn**	**03 39 58.6**	**-1.6**
PB14	**IPOC Station P**	**7.15**	**9**	*e*P		**Pn**	**03 39 59.8**	**-0.4**
PB14				IAML			03 41 51.3	
	comp=Z,119nm,0.7s							
LC01	**Cunco**	**7.17**	**181**			**Pn**	**03 39 59.5**	**-0.6**
PLCA	**Paso Flores**	**9.04**	**175**	Pn		**Pn**	**03 40 26.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=9.5							
PLCA				LR		LR	03 43 22.5	
	comp=Z,43nm,20.7s,baz=338,slow=34							
LVC	**Limon Verde**	**9.39**	**16**	Pn		**Pn**	**03 40 29.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=198,slow=9.6,SNR=5.2							
LPAZ	**La Paz**	**15.69**	**13**	Pn		**Pn**	**03 41 57.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=196,slow=4.8,SNR=5.1							
LPAZ	**La Paz**	**15.69**	**13**	Pn		**Pn**	**03 41 54.8**	**-1.5**
LPAZ				IAmb		IAmb	03 42 20.4	
	comp=Z,4.7nm,0.9s							
SIV	**San Ignacio**	**18.38**	**34**	P		**P**	**03 42 27.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=218,slow=9.3,SNR=10							
SIV				LR		LR	03 49 07.6	
	comp=Z,68nm,19.2s,baz=128,slow=36							
BDFB	**Brasilia**	**26.82**	**59**	P		**P**	**03 43 53.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=189,slow=11,SNR=3.1							
BDFB	**Brasilia**	**26.82**	**59**	IAmb		IAmb	03 43 56.8	
	comp=Z,47nm,1.9s							
TOA0	**Torodi Ar. Sit**	**83.12**	**70**	P		**P**	**03 50 37.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**83.12**	**70**	P		**P**	**03 50 38.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=231,slow=5.2,SNR=4.1							
H11S2	**WAKE ISLAND Hyl**	**26.11**	**271**	T		T	06 16 19.9	
	baz=117,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hyl**	**26.12**	**271**	T		T	06 16 21.3	
	baz=117,slow=75,SNR=40							
H11S3	**WAKE ISLAND Hyl**	**26.13**	**271**	T		T	06 16 19.7	
	baz=117,slow=75,SNR=25							
H11N3	**WAKE ISLAND Hyl**	**26.47**	**272**	T		T	06 16 44.3	
	baz=116,slow=75,SNR=59							
H11N1	**WAKE ISLAND Hyl**	**26.48**	**272**	T		T	06 16 44.9	
	baz=116,slow=75,SNR=18							
H11N2	**WAKE ISLAND Hyl**	**26.48**	**272**	T		T	06 16 45.0	
	baz=116,slow=75,SNR=77							

BJI 03 03:42:07.1±0.0, 27.70N×119.96E, h4km, ML4.1/11, 1C,
Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.01**	**204**	Pn	Pn	03 42 53.8	-1.7
QZH				Pg	Pb	03 43 01.5	+0.3
QZH				Sn	Sn	03 43 27.1	-4.9
QZH				Sg	Sb	03 43 38.7	+0.4
QZH				smax	smax		
	comp=N,370nm,0.5s						
QZH				smax	smax		
	comp=E,620nm,0.7s						
NJ2	**Nanjing**	**4.44**	**348**	*e*Pn	Pn	03 43 13.3	-1.9
NJ2				Pg	Pb	03 43 28.0	+2.3
NJ2				Sn	Sn	03 44 05.5	-1.9
NJ2				Sg	Sb	03 44 24.4	+4.8
NJ2				smax	smax		
	comp=N,350nm,0.8s						
NJ2				smax	smax		
	comp=E,180nm,0.5s						
WHN	**Wuhan**	**5.67**	**301**	Pn	Pn	03 43 30.5	-1.6
WHN				Sn	Sn	03 44 42.3	+4.7
WHN				smax	smax		
	comp=N,780nm,1.1s						
WHN				smax	smax		
	comp=E,450nm,0.8s						
GYA	**Guiyang**	**11.91**	**267**	⇑P	Pn	03 45 00.9	+3.0
GYA				S	Sn	03 47 17.0	+5.6
KMI	**Kunming**	**15.64**	**264**	P	P	03 45 55.6	+2.7
KMI				pP	sP	03 45 56.9	+2.1
KMI				sP	pP	03 46 01.2	+7.0
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,150nm,5.5s						
KMI				LR	LR		
	comp=N,180nm,6.8s						
KMI				LR	LR		
	comp=E,120nm,6.3s						
KMI				LR	LR		
	comp=Z,100nm,6.0s						
WMQ	**Urumqi**	**30.49**	**310**	*e*P	P	03 48 21.2	0.0

*IDC **03** 03:48:40.3±2.1, 10.42N×91.99E, h0km, mb4.3/4, mb1 4.4/5, mb1mx3.7/41, mbtmp4.2/5, ML4.4/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/39, Error ellipse: s-maj=71.1km s-min=25.3km az=68.0*

*NEIC **03** 03:48:44.9±1.3, 10.5N±0.1×92.1E±0.1, h31km±6km, mb4.3/10, Error ellipse: s-maj=16.7km s-min=14.0km az=214.0*

*NDI **03** 03:48:49.8±3.4, 11.04N×91.95E, h30km±62km, ML3.7, mb4.3(NEIC)*

ISC 03 03:48:46.5±0.9, 10.6N±0.1×92.3E±0.1, h35km, n32,
σ1s17/24, mb4.4/6, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.09**	**22**	*e*P	Pn	03 49 08.3	+2.9
PBA				*e*S	Sn	03 49 22.3	+3.0
PBA				IAML		03 49 23.2	
	comp=N,3μm,0.3s						
PBA				IAML		03 49 23.4	
	comp=E,2μm,0.3s						
PBA	**Port Blair**	**1.09**	**22**		Pn	03 49 07.3	+1.9
DGPR	**DIGLIPUR**	**2.59**	**13**	⇓*i*P	**Pn**	**03 49 27.0**	**+1.0**
DGPR				*ex*	x	03 49 38.4	
DGPR				*ex*	x	03 49 46.5	
CMAR	**Chiang Mai Arr**	**10.07**	**39**	Pn	**Pn**	**03 51 11.8**	**+2.9**
	comp=E,0.8nm,0.3s,baz=232,slow=14,SNR=6.7						
CMAR				LR	LR	03 54 33.0	
	comp=E,39nm,20.6s,baz=214,slow=34						
CHTO	**Chiang Mai**	**10.35**	**37**	Pn	**Pn**	**03 51 14.4**	**+1.8**
VIS	**Vishakhapatnam**	**11.20**	**310**	*e*S	Sn	03 53 09.2	-19
SAIH	**SAIHA**	**11.80**	**3**	*ex*	**Pn**	**03 51 33.2**	**+0.6**
SAIH				*ex*	x	03 51 33.3	
MDRS	**Chennai**	**12.06**	**283**	*e*P	**Pn**	**03 51 37.7**	**+1.7**
MDRS				*e*S	Sn	03 53 36.7	-13
SHL	**Shillong**	**14.86**	**358**		**Pn**	**03 52 13.3**	**-0.9**
KOHI	**KOHIMA**	**15.10**	**6**	*e*P	**Pn**	**03 52 15.8**	**-1.6**
TEZP	**TEZPUR**	**15.90**	**2**	*e*P	**Pn**	**03 52 26.5**	**-1.2**
GTK	**Tadong**	**16.96**	**349**	*e*P	**Pn**	**03 52 40.6**	**-0.7**
GTK				*ex*	x	03 52 41.7	
LSA	**Lhasa**	**19.00**	**357**	P	**P**	**03 53 04.7**	**-1.1**
LSA				IAmb	IAmb	03 53 09.7	
	comp=Z,8.6nm,0.8s						
H08S3	**Diego Garcia H**	**26.82**	**228**	T	T	04 22 11.1	
	baz=47,slow=76,SNR=364						
H08S2	**Diego Garcia H**	**26.82**	**228**	T	T	04 22 14.7	
	baz=47,slow=76,SNR=468						
H08S1	**Diego Carcia H**	**26.83**	**228**	T	T	04 22 18.0	
	baz=47,slow=76,SNR=198						
GAR	**Garm**	**34.40**	**329**	P	**P**	**03 55 29.4**	**-1.2**
GAR				IAmb	IAmb	03 56 22.0	
	comp=Z,7.4nm,0.9s						
MK31	**Makanchi Array**	**37.03**	**349**	P	**P**	**03 55 53.1**	**+0.2**
MK31				IAmb	IAmb	03 55 57.0	
	comp=Z,6.3nm,1.8s						
MKAR	**Makanchi Array**	**37.03**	**349**	P	**P**	**03 55 53.1**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=171,slow=8.3,SNR=5.5						
KKAR	**Karatay Array**	**37.50**	**333**	P	**P**	**03 55 56.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.56**	**131**	P	**P**	**03 56 46.0**	**-1.4**
ABKAR	**Akbulak array**	**46.96**	**331**	P	**P**	**03 57 13.6**	**-0.3**
WB0	**Warramunga Arr**	**51.28**	**126**	P	**P**	**03 57 46.9**	**-0.6**
WRA	**Warramunga Arr**	**51.33**	**126**	P	**P**	**03 57 47.3**	**-0.5**
	comp=Z,6.7nm,0.5s,baz=306,slow=8.7,SNR=209						
WRA	**Warramunga Arr**	**51.33**	**126**	IAmb	IAmb	03 57 47.8	
	comp=Z,0.2nm,0.6s						
WB2	**Warramunga Arr**	**51.34**	**126**	P	**P**	**03 57 47.0**	**-0.9**
WR0	**Warramunga Arr**	**51.50**	**126**	P	**P**	**03 57 48.8**	**-0.3**
AS31	**Alice Springs**	**53.06**	**130**	P	**P**	**03 58 00.7**	**0.0**
ASAR	**Alice Springs**	**53.06**	**130**	P	**P**	**03 58 00.3**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=307,slow=7.3,SNR=41						
ASAR	**Alice Springs**	**53.06**	**130**	P	**P**	**03 58 00.6**	**0.0**
STKA	**Stephens Creek**	**63.30**	**134**	P	**P**	**03 59 12.5**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=304,slow=5.9,SNR=5.5						
STKA	**Stephens Creek**	**63.30**	**134**	IAmb	IAmb	04 00 52.7	
	comp=Z,4.8nm,1.9s						

ISC 03 04:29:58.7±1.2, 43.93N±0.04×17.04E±0.05, h9km±11km,
n8, σ1s15/14, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.44**	**171**	*i* Pg	**Pg**	**04 30 07.3**	**0.0**
RICI				Sg	**Sg**	**04 30 12.9**	**-0.1**
KIJV	**Kijevo**	**0.46**	**280**	Sg	**Sb**	**04 30 15.5**	**-0.6**
MAKA	**Makarska**	**0.64**	**181**	*e*Pg	**Pg**	**04 30 10.4**	**-0.6**
MAKA				Sg	**Sb**	**04 30 20.2**	**-0.8**
BLY	**Banja Luka**	**0.83**	**7**	*e*Pg	**Pb**	**04 30 15.7**	**+0.4**
BLY				*e*Sg	**Sg**	**04 30 25.9**	**+0.4**
MORI	**Morici**	**0.96**	**267**	*e*Pg	**Pg**	**04 30 16.0**	**-1.3**
MORI				Sg	**Sn**	**04 30 31.6**	**-0.7**
UDBI	**Udbina**	**1.10**	**304**	*e*Pg	**Pg**	**04 30 18.6**	**-1.2**
UDBI				Sg	**Sn**	**04 30 36.4**	**+0.7**
STON	**Ston**	**1.16**	**155**	Sg	**Sn**	**04 30 37.1**	**+0.1**
DUGI	**Dugi Otok**	**1.43**	**273**	*e*Pn	**Pn**	**04 30 25.2**	**+0.3**
DUGI				Sg	**Sg**	**04 30 47.5**	**+2.7**

IDC 03 04:30:45.8±1.6, 27.51N×101.17E, h0km, mb3.4/4,
mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, MS2.9/3, Ms1 2.9/3,
ms1mx2.7/33, Error ellipse: s-maj=73.7km
s-min=26.0km az=61.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.24**	**193**	LR	LR	04 36 56.4	
	comp=Z,40nm,19.3s,baz=84,slow=40						
SONM	**Songino Array**	**20.70**	**10**	P	P	04 35 27.4	-0.2
	0.6nm,0.5s,baz=185,slow=10,SNR=2.5						
TLY	**Talaya**	**24.21**	**4**	LR	LR	04 46 43.1	
	comp=Z,61nm,18.8s,baz=152,slow=40						
MKAR	**Makanchi Array**	**24.32**	**327**	P	P	04 36 03.9	-1.3
	1.1nm,0.7s,baz=130,slow=9.8,SNR=8.2						
KSRS	**Korea Array**	**24.58**	**59**	LR	LR	04 45 31.8	
	comp=Z,17nm,19.1s,baz=230,slow=36						
KURBB	**Kurchatov Arra**	**28.79**	**329**	P	P	04 36 46.7	+1.4
	0.6nm,0.8s,baz=139,slow=9.5,SNR=5.4						
WRA	**Warramunga Arr**	**57.07**	**142**	P	P	04 40 34.0	-0.1
	0.6nm,0.6s,baz=331,slow=7.8,SNR=5.2						

*IDC **03** 04:46:40.7±1.0, 7.71N×73.16W, h140km±15km, mb3.3/3, mb1 3.6/7, mb1mx3.3/40, mbtmp3.9/7, MS3.3/2, Ms1 3.3/2, ms1mx2.9/18, Error ellipse: s-maj=28.2km s-min=8.9km az=132.0*

*RSNC **03** 04:46:40.1±2.2, 7.75N×73.33W, h113km±9km, ML3.5, Mw3.7, Fault plane solution: NP1:φs117.00000°, δ52.00000°, λ-142.00000°.*

ISC 03 04:46:38.9±0.8, 7.76N±0.02×73.33W±0.03, h120km±6km,
n47, σ1s53/81, mb3.3/3, 5C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.47**	**1**	⇓*i*P	**Pn**	**04 46 57.6**	**+0.6**
OCAC				*e*S	**Sn**	**04 47 10.7**	**+0.1**
OCAC				*i*		04 47 14.5	
	comp=Z,1μm,0.4s						
PAMC	**Pamplona, Colo**	**0.75**	**124**	⇓*i*P	**Pn**	**04 47 00.5**	**+1.3**
PAMC				*e*S	**Sn**	**04 47 14.1**	**-0.4**
PAMC				*i*		04 47 17.4	
	comp=Z,683nm,0.3s						
BRRC	**Barranca, Sant**	**0.76**	**211**	⇓*i*P	**Pn**	**04 46 58.8**	**0.0**
BRRC				*e*S	**Sn**	**04 47 13.0**	**-0.7**
BRRC				*i*		04 47 17.9	
	comp=Z,338nm,0.2s						
BARC	**Barichara**	**1.17**	**173**	*i* P	**Pn**	**04 47 03.4**	**+0.4**
BARC				*e*S	**Sn**	**04 47 21.0**	**-0.2**
BARC				*i*		04 47 22.0	
	comp=Z,884nm,0.4s						
SMLC	**San Martn de**	**1.27**	**324**	*e*P	**Pn**	**04 47 03.8**	**0.0**
SMLC				*e*S	**Sn**	**04 47 22.0**	**-0.6**
SMLC				*i*		04 47 28.8	
	comp=Z,855nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.54**	**260**	⇑*e*P	**Pn**	**04 47 07.0**	**+0.1**
ZARC				*e*S	**Sn**	**04 47 28.2**	**0.0**
ZARC				*i*		04 47 31.5	
	comp=Z,813nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.65**	**223**	⇓*i*P	**Pn**	**04 47 07.7**	**-0.6**
PTBC				*i*		04 47 09.6	
	comp=Z,395nm,0.3s						
PTBC				*e*S	**Sn**	**04 47 29.4**	**-1.1**
RUSC	**La Rusia**	**1.87**	**173**	⇓*i*P	**Pn**	**04 47 11.1**	**-0.3**
RUSC				*e*S	**Sn**	**04 47 34.8**	**-1.2**
RUSC				*i*		04 47 41.3	
	comp=Z,112nm,0.5s						
TAMC	**Tame, Arauca**	**2.01**	**131**	⇓*i*P	**Pn**	**04 47 13.8**	**+1.1**
TAMC				*e*S	**Sn**	**04 47 38.3**	**-0.1**
TAMC				*i*		04 47 39.4	
	comp=Z,166nm,0.5s						
UREC	**San Jos de Ur**	**2.19**	**270**	*e*P	**Pn**	**04 47 13.8**	**-1.0**
UREC				*e*S	**Sn**	**04 47 40.2**	**-2.0**
UREC				*i*		04 47 51.3	
	comp=Z,282nm,0.3s						
SPBC	**San Pablo de B**	**2.22**	**200**	*e*P	**Pn**	**04 47 15.3**	**0.0**
SPBC				*e*S	**Sn**	**04 47 43.6**	**+0.4**
SPBC				*i*		04 47 49.5	
	comp=Z,220nm,0.3s						
ARGC	**Ariguani, Magd**	**2.27**	**336**	*e*P	**Pn**	**04 47 17.6**	**+1.7**
ARGC				*e*S	**Sn**	**04 47 45.7**	**+1.5**
ARGC				*i*		04 47 50.5	
	comp=Z,187nm,0.3s						
SOCV	**Socops**	**2.50**	**78**	⇑*i*P	**Pn**	**04 47 20.4**	**+1.6**
SOCV				*e*S	**Sn**	**04 47 48.9**	**-0.4**
CVALL	**Valledupar, Ce**	**2.73**	**1**	*e*P	**Pn**	**04 47 22.3**	**+0.5**
CVALL				*e*S	**Sn**	**04 47 55.1**	**+0.4**
CVALL				*i*		04 47 59.6	
	comp=Z,413nm,0.3s						
SJCC	**San Jacinto, C**	**2.80**	**319**	*e*P	**Pn**	**04 47 22.6**	**-0.1**
SJCC				*e*S	**Sn**	**04 47 54.9**	**-1.6**
SJCC				*i*		04 48 04.7	
	comp=Z,135nm,0.4s						
SDV	**Santo Domingo**	**2.89**	**67**	P	**Pn**	**04 47 25.7**	**+1.7**
	comp=Z,35nm,0.3s,baz=271,slow=6.4,SNR=13						
SDV				S	**Sn**	**04 47 58.9**	**+0.3**
	comp=Z,17nm,0.3s,baz=251,slow=13,SNR=5.6						
SDV	**Santo Domingo**	**2.89**	**67**	⇑*i*P	**Pn**	**04 47 25.7**	**+1.7**
SDV				*e*S	**Sn**	**04 47 55.6**	**-3.1**
SDV				*i*		04 48 01.9	
	comp=Z,124nm,0.2s						
DBBC	**Dabeiba**	**2.96**	**256**	*e*P	**Pn**	**04 47 24.5**	**-0.3**
ROSC	**El Rosal**	**3.07**	**199**	P	**Pn**	**04 47 30.1**	**+3.6**
	comp=Z,22nm,0.3s,baz=296,slow=6.2,SNR=35						
ROSC				S	**Sn**	**04 48 06.4**	**+3.2**
	comp=Z,37nm,0.3s,baz=183,slow=21,SNR=8.1						
ROSC	**El Rosal**	**3.07**	**199**	⇑*e*P	**Pn**	**04 47 28.0**	**+1.5**
ROSC				*e*S	**Sn**	**04 48 03.5**	**+0.4**
ROSC				*i*		04 48 11.8	
	comp=Z,104nm,0.4s						
CHIC	**Chingaza**	**3.14**	**187**	*e*P	**Pn**	**04 47 28.5**	**+1.0**
CHIC				*e*S	**Sn**	**04 48 05.2**	**+0.4**
CHIC				*i*		04 48 18.4	
	comp=Z,78nm,0.4s						
LCBC	**Los crdobas,**	**3.20**	**290**	*e*P	**Pn**	**04 47 27.4**	**-0.5**
LCBC				*e*S	**Sn**	**04 48 05.3**	**-0.4**
LCBC				*i*		04 48 14.9	
	comp=Z,81nm,0.6s						
GUY2C	**Guyana, Caldas**	**3.23**	**219**	*e*P	**Pn**	**04 47 29.2**	**+0.4**
GUY2C				*e*S	**Sn**	**04 48 07.9**	**+0.7**
GUY2C				*i*		04 48 16.2	
	comp=Z,160nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.27**	**235**	⇑*e*P	**Pn**	**04 47 29.7**	**+0.8**
CBOC				*e*S	**Sn**	**04 48 07.2**	**-0.3**
CBOC				*i*		04 48 20.4	
	comp=Z,125nm,0.5s						
RREF	**El Recreo**	**3.48**	**215**	*e*P	**Pn**	**04 47 29.3**	**-2.9**
RREF				*e*S	**Sn**	**04 48 10.9**	**-2.4**
RREF				*i*		04 48 17.1	
	comp=Z,90nm,0.3s						
SMRC	**Santa Marta, M**	**3.50**	**345**	*e*P	**Pn**	**04 47 32.6**	**+0.8**
SMRC				*e*S	**Sn**	**04 48 10.5**	**-2.2**
SMRC				*i*		04 48 18.6	
	comp=Z,86nm,0.4s						
VILC	**Villavicencio,**	**3.64**	**186**	*e*P	**Pn**	**04 47 34.4**	**+0.5**
VILC				*e*S	**Sn**	**04 48 16.7**	**+0.3**
VILC				*i*		04 48 26.1	
	comp=Z,120nm,0.4s						
TOLC	**Tolima**	**3.73**	**212**	*e*P	**Pn**	**04 47 36.4**	**+1.2**
TOLC				*e*S	**Sn**	**04 48 19.3**	**+0.6**
PTGC	**Puerto Gaitan,**	**3.73**	**161**	*e*P	**Pn**	**04 47 34.2**	**-0.8**
PTGC				*e*S	**Sn**	**04 48 15.5**	**-2.9**
PTGC				*i*		04 48 31.2	
	comp=Z,31nm,0.4s						
ANIL	**Santa Ana**	**3.85**	**213**	*e*P	**Pn**	**04 47 38.0**	**+1.2**
ANIL				*e*S	**Sn**	**04 48 22.9**	**+1.3**
ELOV	**Elorza**	**3.88**	**101**	*e*P	**Pn**	**04 47 37.7**	**+0.7**
ELOV				*e*S	**Sn**	**04 48 18.3**	**-3.6**
DABV	**Dabajuro**	**4.11**	**40**	*e*P	**Pn**	**04 47 40.8**	**+0.8**
DABV				*e*S	**Sn**	**04 48 26.9**	**-0.5**
URIC	**Uribia, Colomb**	**4.13**	**18**	*e*P	**Pn**	**04 47 39.8**	**-0.4**
URIC				*e*S	**Sn**	**04 48 24.7**	**-3.1**
URIC				*i*		04 48 32.6	
	comp=Z,39nm,0.4s						
ORTC	**Ortega, Tolima**	**4.28**	**207**	*e*P	**Pn**	**04 47 43.4**	**+1.1**
ORTC				*e*S	**Sn**	**04 48 32.1**	**+0.7**
ORTC				*i*		04 48 43.9	
	comp=Z,71nm,0.4s						
PRAC	**Prado**	**4.31**	**201**	*e*P	**Pn**	**04 47 43.0**	**+0.2**
PRAC				*e*S	**Sn**	**04 48 32.7**	**+0.4**
PRAC				*i*		04 48 44.8	
	comp=Z,82nm,0.3s						
YOTC	**Yotoco, Valle**	**4.81**	**219**	*e*P	**Pn**	**04 47 48.7**	**-0.8**
GUVC	**San Jose del G**	**5.23**	**172**	*e*P	**Pn**	**04 47 54.1**	**-0.9**
GUVC				*e*S	**Sn**	**04 48 52.9**	**-1.4**
MACC	**Macarena, Meta**	**5.60**	**185**	*e*P	**Pn**	**04 47 59.3**	**-0.8**
MACC				*e*S	**Sn**	**04 48 56.6**	**-6.8**
MACC				*i*		04 49 26.0	
	comp=Z,29nm,0.5s						
PCRV	**Puerto La Cruz**	**8.91**	**74**	P	**Pn**	**04 48 45.9**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=294,slow=4.7,SNR=7.7						
TEIG	**Tepich**	**19.06**	**312**	P	**Pn**	**04 50 54.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=235,slow=6.9,SNR=3.2						
SIV	**San Ignacio**	**26.54**	**153**	LR	LR	05 02 54.0	
	comp=Z,70nm,22.0s,baz=236,slow=37						
TXAR	**Lajitas Array**	**35.69**	**311**	P	**P**	**04 53 26.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=123,slow=9.2,SNR=4.2						
YKA	**Yellowknife Ar**	**62.32**	**340**	P	**P**	**04 56 48.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=128,slow=7.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**73.75**	**79**	LR	LR	05 33 06.9	
	comp=Z,20nm,18.1s,baz=230,slow=38						
ILAR	**Eielson Array**	**76.03**	**335**	P	**P**	**04 58 13.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=107,slow=4.8,SNR=3.6						
ASAR	**Alice Springs**	**149.48**	**236**	PKPbc	**PKPbc**	**05 06 14.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=100,slow=3.2,SNR=3.8						
WRA	**Warramunga Arr**	**150.60**	**243**	PKPbc	**PKPbc**	**05 06 17.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=105,slow=2.7,SNR=5.1						

IDC 03 04:50:31.1±1.9, 1.30S×133.37E, h0km, mb3.2/2,
mb1 3.5/5, mb1mx3.4/34, mbtmp3.4/5, ML3.5/3, Error
ellipse: s-maj=40.5km s-min=22.5km az=61.0, Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.15**	**281**	Pn	Pn	04 51 07.4	-0.9
	21nm,0.3s,baz=230,slow=24,SNR=68						
SIJI					Sb	04 51 38.6	+0.4
	11nm,0.3s,baz=315,slow=23,SNR=3.2						
FITZ	**Fitzroy Crossi**	**18.34**	**204**	P	P	04 54 47.8	+0.5
	0.2nm,0.3s,baz=31,slow=10,SNR=7.8						
WRA	**Warramunga Arr**	**18.56**	**177**	P	P	04 54 49.4	-0.3
	0.1nm,0.3s,baz=355,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**22.24**	**179**	P	P	04 55 29.6	-0.1
	0.4nm,0.6s,baz=6.3,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**65.47**	**324**	P	P	05 01 16.2	+0.1
	0.3nm,0.7s,baz=110,slow=8.0,SNR=3.1						

*NEIC **03** 04:52:32.6±1.9, 31.676N±0.008×94.06W±0.04, h5km±2km, mb_Lg3.1/109, Error ellipse: s-maj=6.1km s-min=3.1km az=275.0*

*ANF **03** 04:52:33.2±1.6, 31.73N×94.01W, h5km, ML3.6/8, Error ellipse: s-maj=23.4km s-min=8.6km az=153.0*

ISC 03 04:52:32.6±1.7, 31.71N±0.05×94.04W±0.04, h3km±14km,
n111, σ0s80/100, Louisiana-Texas border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETX02	**Prairie Street**	**0.37**	**302**	Pg	**Pg**	**04 52 40.0**	**+0.3**
NATX	**Nacogdoches**	**0.53**	**275**	P	**Pb**	**04 52 44.6**	**0.0**
	baz=95						
NATX	**Nacogdoches**	**0.53**	**275**	Pg	**Pb**	**04 52 44.6**	**0.0**
441A	**DeRidder**	**1.21**	**143**	Pg	**Pb**	**04 52 56.0**	**0.0**
441A				Sg	**Sn**	**04 53 14.4**	**+1.3**
342A	**Flagon Creek P**	**1.50**	**103**	Pn	**Pb**	**04 53 00.8**	**-0.3**
342A				IAmb_Lg		04 53 20.1	
	comp=Z,101nm,0.9s						
**

X43A	Marvell	3.85	43	Pn	Pn	04 53 32.7	0.0		
X43A	comp=Z,61nm,0.8s			lAmb_Lg		04 54 46.8			
WHAR	Wooly Hollow	3.85	22		Pn	04 53 32.6	-0.2		
346A	Big Creek Wild	3.92	94	Pn	Pn	04 53 33.0	-0.7		
346A	comp=Z,37nm,0.9s			lAmb_Lg		04 54 46.2			
W35A	Tecumseh	4.17	326		Pn	04 53 38.0	+0.9		
X34A	Smith Ranch, M	4.29	313	Pn	Pn	04 53 38.0	-0.8		
X34A	comp=Z,41nm,0.9s			lAmb_Lg		04 55 01.8			
146A	Union	4.32	76	Pn	Pn	04 53 40.4	+1.1		
146A	comp=Z,32nm,0.7s			lAmb_Lg		04 54 48.9			
Y45A	Yeager Farm, C	4.35	59	Pn	Pn	04 53 39.7	+0.1		
TUL1	Leonard	4.43	341		Pn	04 53 40.7	-0.1		
FCAR	Ozark Folk Cen	4.46	20		Pn	04 53 41.5	+0.4		
FNO	Franklin	4.51	322	Pn	Pn	04 53 42.6	+0.8		
HHAR	Hobbs	4.56	1		Pn	04 53 42.3	-0.1		
OKCSW	OKLAHOMA CITY	4.65	323	Pn	Pn	04 53 45.2	+1.5		
OKCFA	Oklahoma City	4.66	323	Pn	Pn	04 53 44.9	+1.0		
U38A	Gravette	4.72	357	Pn	Pn	04 53 44.6	-0.1		
U40A	Yellville	4.73	12		Pn	04 53 45.2	+0.4		
U40A	comp=Z,30nm,0.7s			lAmb_Lg		04 55 13.1			
OK025	Westminster Rd	4.74	325	Pn	Pn	04 53 44.7	-0.3		
HBAR	Harrisburg	4.76	35	Pn	Pn	04 53 44.8	-0.4		
ABTX	Abilene, Hawle	4.84	282		Pn	04 53 46.9	+0.6		
ABTX	comp=Z,28nm,1.0s			lAmb_Lg		04 55 16.1			
BCOK	Bluff Creek, N	4.93	324	Pn	Pn	04 53 49.1	+1.5		
LCAR	Lake Charles	4.96	28	Pn	Pn	04 53 48.6	+0.6		
LCAR	comp=Z,34nm,0.9s			lAmb_Lg		04 55 24.8			
QUOK	Quay	4.97	334	Pn	Pn	04 53 47.5	-0.6		
WMOK	Wichita Mounta	4.99	308	Pn	Pn	04 53 47.9	-0.5		
JCT	Junction City	5.09	258	Pn	Pn	04 53 50.4	+0.5		
Z47A	Carrollton	5.26	72	Pn	Pn	04 53 52.7	+0.6		
W45A	Hickory Valley	5.31	48	Pn	Pn	04 53 51.6	-1.2		
GNAR	Gosnell	5.40	37	Pn	Pn	04 53 53.9	-0.2		
GNAR	comp=Z,42nm,0.8s			lAmb_Lg		04 55 39.1			
T35A	Sooner Cattle	5.58	339	Pn	Pn	04 53 56.2	-0.3		
T35A	comp=Z,27nm,0.8s			lAmb_Lg		04 55 38.4			
PEBM	Pemiscott Bayo	5.59	37	lAmb_Lg		04 55 29.8			
PEBM	comp=Z,32nm,0.7s								
MGMO	Mountain Grove	5.62	15		Pn	04 53 58.1	+1.0		
833A	Chaparral WMA,	5.74	235	Pn	Pn	04 53 58.6	-0.1		
LNXT	Lenox	5.78	40	Pn	Pn	04 54 00.4	+1.1		
CROK	Carrier	5.79	327	Pn	Pn	04 54 01.4	+2.0		
T42A	Van Buren	5.83	24		Pn	04 54 01.0	+1.0		
PBMO	Poplar Bluff	5.87	30	Pn	Pn	04 54 01.3	+0.8		
PBMO	comp=Z,24nm,0.7s			lAmb_Lg		04 55 53.4			
PLAL	Pickwick Lake	5.96	55	Pn	Pn	04 54 03.3	+1.6		
PLAL	comp=Z,23nm,0.8s			lAmb_Lg		04 55 56.2			
S39A	Bolivar	5.99	5		Pn	04 54 03.6	+1.4		
KAN13	South Haven SW	6.00	333	Pn	Pn	04 54 01.5	-0.8		
PARMO	Parma	6.08	35	Pn	Pn	04 54 02.7	-0.7		
PARMO	comp=Z,32nm,0.9s			lAmb_Lg		04 56 01.0			
KAN10	Anthony SW Sta	6.35	329	Pn	Pn	04 54 07.6	+0.5		
KAN12	Harper NE Stat	6.46	331		Pn	04 54 08.5	0.0		
X48A	Hartselle	6.47	63	Pn	Pn	04 54 09.1	+0.3		
CCM	Cathedral Cave	6.73	19	Pn	Pn	04 54 12.1	-0.2		
CCM	comp=Z,21nm,0.9s			lAmb_Lg		04 56 16.2			
Y49A	Blount Mountai	6.77	70	Pn	Pn	04 54 13.4	+0.6		
Y49A	comp=Z,19nm,0.9s			lAmb_Lg		04 56 22.1			
WVT	Waverly	6.78	48	lAmb_Lg		04 56 24.1			
T45A	Paducah	6.92	39	Pn	Pn	04 54 16.2	+1.3		
AMTX	Amarillo	7.14	298		Pn	04 54 19.5	+1.5		
AMTX	comp=Z,26nm,0.9s			lAmb_Lg		04 56 40.2			
S44A	Carbondale	7.15	32		Pn	04 54 17.9	-0.1		
S44A	comp=Z,17nm,0.7s			lAmb_Lg		04 56 40.2			
V48A	Smith Brothers	7.23	54	Pn	Pn	04 54 18.2	-1.0		
V48A	comp=Z,16nm,0.7s			lAmb_Lg		04 56 38.4			
SLM	Saint Louis	7.57	23	lAmb_Lg		04 56 46.0			
FPAL	comp=Z,22nm,1.1s Fort Paine	7.61	66	lAmb_Lg		04 56 48.2			
Z51A	comp=Z,15nm,0.8s Franklin	7.66	76	Pn	Pn	04 54 24.6	-0.4		
KSU1	Kansas State U	7.66	345	Pn	Pn	04 54 24.5	-0.6		
KSU1	comp=Z,21nm,0.8s			lAmb_Lg		04 56 54.8			
R32A	Long Quarter,	7.71	332	Pn	Pn	04 54 25.0	-0.8		
CLTN	Cedars of Leba	7.75	54	Pn	Pn	04 54 26.6	+0.3		
T47A	Sharon Grove	7.78	46	Pn	Pn	04 54 27.0	+0.3		
T47A	comp=Z,24nm,1.0s			lAmb_Lg		04 56 52.0			
P38A	Dawn	7.91	3	lAmb_Lg		04 56 57.8			
P40A	comp=Z,16nm,1.0s Paris	7.96	11	Pn	Pn	04 54 29.6	+0.4		
W50A	Signal Mountai	8.08	62	lAmb_Lg		04 57 06.6			
X51A	comp=Z,22nm,0.9s Calhoun	8.21	67	Pn	Pn	04 54 30.9	-1.7		
Q44A	Meyer Farm, Va	8.26	28	Pn	Pn	04 54 33.7	+0.4		
U49A	Red Boiling Sp	8.35	53	Pn	Pn	04 54 34.1	-0.4		
U49A	comp=Z,16nm,0.8s			lAmb_Lg		04 57 11.1			
CBKS	Cedar Bluff	8.48	328	lAmb_Lg		04 57 22.1			
OLIL	comp=Z,17nm,0.9s Olney	8.52	33	Pn	Pn	04 54 37.0	+0.1		
TXAR	Lajitas Array	8.64	257	Pn	Pn	04 54 38.4	-0.2		
TX31	Lajitas Ar. Si	8.64	257	Pn	Pn	04 54 38.9	+0.3		
TX32	Lajitas Array	8.64	257	Pn	Pn	04 54 38.4	-0.2		
P43A	Skaggs, Pawnee	8.72	24	Pn	Pn	04 54 40.0	+0.4		
CPCT	Cooper Cave	8.77	62	Pn	Pn	04 54 40.9	+0.6		
GDL2	Guadalupe Moun	8.79	276	Pn	Pn	04 54 40.6	0.0		
GOGA	Godfrey	9.08	76	lAmb_Lg		04 57 36.8			
N38A	comp=Z,16nm,1.2s Joes South For	9.08	4	Pn	Pn	04 54 44.7	+0.1		
WCI	Wyandotte Cave	9.09	42	lAmb_Lg		04 57 44.9			
W52A	comp=Z,21nm,0.9s Murphy	9.10	66	lAmb_Lg		04 57 47.1			
N35A	comp=Z,14nm,0.8s Tabor	9.22	352	Pn	Pn	04 54 46.1	-0.3		
T50A	Nancy	9.26	53	Pn	Pn	04 54 45.7	-1.3		
T50A	comp=Z,15nm,0.8s			lAmb_Lg		04 57 39.1			
N41A	Harden Midland	9.34	15	lAmb_Lg		04 57 55.8			
TKL	comp=Z,15nm,0.7s Tuckaleechee C	9.41	63	lAmb_Lg		04 57 45.9			
O44A	comp=Z,13nm,0.9s Mansfield	9.55	27	lAmb_Lg		04 57 54.8			
V52A	comp=Z,14nm,0.8s Sevierville	9.62	62	lAmb_Lg		04 57 50.6			
BLO	comp=Z,17nm,1.0s Bloomington	9.64	37	lAmb_Lg		04 57 54.1			
P46A	comp=Z,17nm,0.8s Rosedale	9.64	33	lAmb_Lg		04 58 06.1			
R49A	comp=Z,14nm,0.8s Shelbyville	9.79	45	lAmb_Lg		04 57 58.5			
TZTN	comp=Z,15nm,1.1s Tazewell	9.94	58	lAmb_Lg		04 58 18.7			
	comp=Z,15nm,0.8s								

NEIC ***03*** *04:57:28.3±3.0, 9.22S±0.07×110.39E±0.06, h10km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=72.0*
NEIC ***03*** *04:57:28.6±2.0, 9.20S±0.08×110.35E±0.07, h46km±6km, mb4.4/20, Error ellipse: s-maj=11.3km s-min=9.7km az=169.0*
DJA ***03*** *04:57:29.4±0.3, 9.3S×11.0E, h51km±5km, M4.7/21, mB5.3/5, mb4.9/9, MLv4.6/21, Mw(mB)4.7/5*
IDC ***03*** *04:57:32.9±2.6, 9.07S×110.45E, h78km±24km, mb4.0/14, mb1 4.1/17, mb1mx3.9/40, mbtmp4.3/17, MS3.4/12, Ms1 3.4/12, ms1mx3.2/44, Error ellipse: s-maj=21.5km s-min=12.3km az=60.0*

ISC 03 04:57:27.8±0.6, **9.28S**±0.06×**110.34E**±0.06, **h35km, n81,** σ1°**56**/73, **mb4.5**/21, **MS3.4**/9, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.38	8	P	Pn	04 57 51.5	+0.9
UGM				S	Sn	04 58 09.0	+1.4
UGM	Wanagama	1.38	8	Pn	Pn	04 57 50.1	-0.5
YOGI	Yogyakarta	1.46	358	P	Pn	04 57 52.8	+1.1
YOGI				S	Sn	04 58 11.3	+1.7
WOJI	Wonogiri, Jawa	1.55	22	P	Pn	04 57 53.6	+0.7
WOJI				S	Sn	04 58 13.0	+1.2
PWJI	Pagerwojo	1.92	49	P	Pn	04 57 58.5	+0.5
SMRI	Semarang	2.22	3	P	Pn	04 58 03.5	+1.3
SMRI	Semarang	2.22	3		Pn	04 58 04.4	+2.1
KPJI	Karang Pucung	2.39	324	P	Pn	04 58 06.0	+1.5
CMJI	Cimerak	2.39	308	P	Pn	04 58 05.8	+1.3
TBJI	Tambak Boyo	2.87	32	P	Pn	04 58 12.4	+1.3
CISI	Cisompet, Garu	3.03	304	P	Pn	04 58 15.2	+1.8
CISI	Cisompet, Garu	3.03	304	Pn	Pn	04 58 14.7	+1.3
GRJI	Gresik	3.17	42	P	Pn	04 58 16.5	+1.3
GMJI	Gumukmas	3.23	72	P	Pn	04 58 17.7	+1.6
BLJI	Banyuglugur	3.57	65	P	Pn	04 58 21.8	+1.1
LEM	Lembang	3.64	312	P	Pn	04 58 25.0	+3.2
LEM	14nm,0.3s,baz=123,slow=10,SNR=16			LR	LR	05 00 09.5	
LEM	comp=Z,399nm,18.6s,baz=215,slow=44	3.64	312	P	Pn	04 58 23.7	+1.9
CNJI	Cibinong	3.73	301	P	Pn	04 58 25.1	+2.1
JAGI	Jajag, Banyuwa	3.85	78	P	Pn	04 58 25.8	+1.1
JAGI	Jajag, Banyuwa	3.85	78		Pn	04 58 25.3	+0.6
ABJI	Asem Bagus	4.13	69	P	Pn	04 58 29.5	+1.1
XMIS	Christmas Isla	4.77	255	Pn	Pn	04 58 37.4	+0.1
SRBI	Singaraja	4.96	76	P	Pn	04 58 41.2	+1.3
CGJI	Cibinong	5.31	300	P	Pn	04 58 46.6	+1.9
TWSI	0.2nm944nm56nm,0.5s Taliwang, Sumb	6.49	86	P	Pn	04 59 01.9	+1.0
BBKI	Banjar Baru	7.31	38	P	Pn	04 59 17.5	+5.3
PLAI	Plampang	7.36	87	P	Pn	04 59 13.6	+0.7
MDSI	0.5nm2µm133nm,0.7s Maura Dua	7.75	308	P	Pn	04 59 19.5	+1.2
WSI	0.1nm1µm22nm,1.1s Waingapu	9.83	93	P	Pn	04 59 46.7	-0.1
KAPI	74µm5µm,0.4s Kappang	10.26	66	P	Pn	04 59 55.7	+3.1
KAPI	1.0nm,0.3s,baz=240,slow=18,SNR=6.5			LR	LR	05 04 23.9	
KAPI	comp=Z,156nm,19.7s,baz=279,slow=41	10.26	66		Pn	04 59 52.2	-0.5
BKSI	Bulukumba	10.47	69	P	Pn	04 59 58.3	+2.7
LUWI	Luwuk	14.84	57	Pn	Pn	05 00 54.4	-0.8
FITZ	Fitzroy Crossi	17.25	122	P	P	05 01 29.5	+2.2
FITZ	0.4nm,0.3s,baz=288,slow=7.3,SNR=4.2			S	Sn	05 04 21.6	-15
FITZ	0.4nm,0.3s,baz=218,slow=17,SNR=4.0			LR	LR	05 07 35.6	
KNRA	comp=Z,86nm,19.5s,baz=321,slow=35	19.07	111	P	P	05 01 46.0	-1.4
NWAO	Kununurra Narrogin (SRO)	24.38	166	LR	LR	05 12 01.1	
WRA	comp=Z,152nm,21.2s,baz=334,slow=35 Warramunga Arr	25.49	117	P	P	05 02 53.1	0.0
WRA	4.6nm,0.9s,baz=290,slow=12,SNR=13			LR	LR	05 13 53.9	
WR0	comp=Z,43nm,19.6s,baz=130,slow=38 Warramunga Arr	25.67	117	P	P	05 02 54.9	+0.2
WR0	comp=Z,12nm,1.3s			lAmb	lAmb	05 03 08.2	
ASAR	Alice Springs	26.68	125	P	P	05 03 06.8	+2.9
ASAR	comp=Z,1.6nm,0.7s,baz=302,slow=9.2,SNR=9.7			LR	LR	05 16 01.9	
AS31	comp=Z,75nm,18.0s,baz=293,slow=42 Alice Springs	26.68	125	P	P	05 03 04.1	+0.3
CMAR	Chiang Mai Arr	29.77	338	P	P	05 03 32.7	+1.3
CMAR	comp=Z,1.0nm,0.4s,baz=173,slow=8.1,SNR=5.5			LR	LR	05 16 19.8	
STKA	comp=Z,109nm,18.2s,baz=189,slow=38 Stephens Creek	36.67	132	P	P	05 04 32.5	+1.1
STKA	comp=Z,1.4nm,0.5s,baz=310,slow=8.4,SNR=4.7			LR	LR	05 19 28.8	
STKA	comp=Z,71nm,20.5s,baz=205,slow=36 Stephens Creek	36.67	132	lAmb	lAmb	05 05 50.7	
H08S2	comp=Z,4.0nm,1.6s Diego Garcia H	37.46	270	T	T	05 44 47.8	
H08S3	baz=95,slow=75,SNR=9.6 Diego Garcia H	37.47	270	T	T	05 44 40.5	
H08S1	baz=95,slow=75,SNR=11 Diego Garcia H	37.48	270	T	T	05 44 40.2	
GUMO	baz=95,slow=75,SNR=8.5 Guam	41.12	57	LR	LR	05 21 16.4	
NJ2	comp=Z,19nm,21.9s,baz=161,slow=35 Nanjing	41.90	11	eP	P	05 05 17.4	+2.4
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
XAN	Xi'an	43.10	358	P	P	05 05 23.6	-1.2
JNU	Nakatsue	46.49	24	P	P	05 05 49.9	-1.9
KSRS	comp=Z,14nm,0.9s,baz=187,slow=1.8,SNR=6.7 Korea Array	49.33	18	P	P	05 06 12.4	-1.1
KSRS	comp=Z,4.4nm,0.8s,baz=198,slow=8.3,SNR=8.0			LR	LR	05 28 15.7	
HHC	comp=Z,23nm,18.1s,baz=220,slow=38 Hu-ho-hao-te	49.90	1	eP	P	05 06 19.3	+1.3
HHC	comp=Z,31nm,1.1s			pmax	pmax		
HHC	comp=Z,110nm,5.2s			pmax	pmax		
JWT	Wachi	50.26	27	P	P	05 06 19.1	-1.6
INU	Inuyama	51.05	28	P	P	05 06 26.1	-0.6
MAT	Matsushiro	52.58	28	P	P	05 06 35.3	-2.8
MJAR	Matsushiro Arr	52.58	28	P	P	05 06 35.8	-2.4
MJAR	comp=Z,10nm,0.8s,baz=202,slow=7.8,SNR=19 Matsushiro Arr	52.58	28	P	P	05 06 35.8	-2.4
NIL	Nilore	55.36	322	P	P	05 06 56.4	-2.1
WMQ	Urumqi	56.72	341	eP	P	05 07 10.2	+2.1
USRK	Ussuriysk Ar.	56.73	19	P	P	05 07 06.6	-1.5
USRK	comp=Z,11nm,0.8s,baz=210,slow=5.9,SNR=5.0 Ussuriysk Ar.	56.73	19	P	P	05 07 06.3	-1.8
ULN	Ulaanbaatar	56.97	357	P	P	05 07 07.5	-2.4
ULN	comp=Z,4.0nm,0.7s			lAmb	lAmb	05 07 09.7	
SONM	Songino Array	56.97	357	P	P	05 07 09.1	-0.8
SONM	comp=Z,2.0nm,0.6s,baz=184,slow=7.3,SNR=8.0 Songino Array	56.97	357	P	P	05 07 09.2	-0.7
KBL	Kabul	58.55	320	P	P	05 07 19.8	-1.5
KBL	comp=Z,2.9nm,0.7s			lAmb	lAmb	05 07 41.7	
GAR	Garm	60.76	325	P	P	05 07 33.7	-2.6
MK31	Makanchi Array	61.18	338	P	P	05 07 37.6	-1.3
MK31	comp=Z,2.2nm,0.8s			lAmb	lAmb	05 07 38.8	
MKAR	Makanchi Array	61.18	338	P	P	05 07 38.2	-0.8
KK31	comp=Z,1.9nm,0.5s,baz=152,slow=7.5,SNR=17 Karatay Array	63.51	328	P	P	05 07 53.7	-0.9
KK31	comp=Z,7.6nm,1.9s			lAmb	lAmb	05 08 58.6	
KKAR	Karatay Array	63.51	328	P	P	05 07 53.4	-1.2
KURK	Kurchatov	65.79	339	P	P	05 08 07.5	-1.8
MAW	Mawson	66.19	198	P	P	05 08 13.4	+1.7
MAW	comp=Z,0.9nm,0.6s,baz=56,slow=7.0,SNR=3.6 Mawson	66.19	198	lAmb	lAmb	05 08 14.1	
ZALV	comp=Z,1.1nm,1.3s Zalesovo Beam	66.59	344	P	P	05 08 13.1	-1.3
ABKAR	comp=Z,2.5nm,0.6s,baz=126,slow=4.0,SNR=9.2 Akbulak array	73.07	328	P	P	05 08 53.7	-0.7
VNDA	Vanda	73.14	170	P	P	05 08 54.9	+0.6
MATP	comp=Z,0.9nm,0.8s,baz=296,slow=7.5,SNR=6.1 Matopo	79.22	251	LR	LR	05 41 26.9	
BOSA	comp=Z,36nm,19.0s,baz=115,slow=33 Boshof	81.33	242	LR	LR	05 39 40.1	
BRTR	comp=Z,45nm,18.5s,baz=101,slow=31 Keskin Array B	85.81	311	P	P	05 10 04.6	+0.5
MGMO	comp=Z,1.2nm,0.7s,baz=125,slow=6.2,SNR=7.2 Mountain Grove	145.53	33		PKPab	05 17 02.1	-1.1
WVT	Waverly	148.58	29	PKPbc	PKiKP	05 17 11.8	-1.3

NEIC ***03*** *05:26:29.9±1.4, 9.43S±0.07×110.33E±0.03, h61km±9km, mb4.5/25, Error ellipse: s-maj=9.9km s-min=4.1km az=167.0*
DJA ***03*** *05:26:29.2±0.4, 9.5S×11.0E, h10km, M4.4/20, mB5.0/4, mb4.5/7, MLv4.4/20, Mw(mB)4.2/4*
IDC ***03*** *05:26:33.1±3.1, 9.09S×110.51E, h64km±31km, mb3.8/12, mb1 3.9/14, mb1mx3.7/49, mbtmp4.1/14, ML3.9/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/45, Error ellipse: s-maj=30.6km s-min=14.3km az=53.0*

ISC 03 05:26:28.6±0.5, **9.43S**±0.06×**110.41E**±0.06, **h35km, n80,** σ1°**66**/74, **mb4.3**/21, **MS3.3**/4, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.51	4	P	Pn	05 26 52.3	-0.9
UGM	Wanagama	1.51	4		Pn	05 26 52.7	-0.6
YOGI	Yogyakarta	1.60	356	P	Pn	05 26 54.7	+0.2
WOJI	Wonogiri, Jawa	1.66	18	P	Pn	05 26 55.7	+0.4
PWJI	Pagerwojo	1.96	45	P	Pn	05 26 59.7	+0.3
SMRI	Semarang	2.36	1	P	Pn	05 27 05.6	+0.6
SMRI	Semarang	2.36	1		Pn	05 27 06.7	+1.7
CMJI	Cimerak	2.53	310	P	Pn	05 27 06.6	-0.7
KPJI	Karang Pucung	2.54	325	P	Pn	05 27 08.2	+0.8
CISI	Cisompet, Garu	3.17	306	P	Pn	05 27 16.8	+0.7
CISI	Cisompet, Garu	3.17	306		Pn	05 27 16.8	+0.7
GMJI	Gumukmas	3.21	69	P	Pn	05 27 18.5	+1.9
GRJI	Gresik	3.23	40	P	Pn	05 27 18.3	+1.4
BLJI	Banyuglugur	3.57	62	P	Pn	05 27 23.7	+2.2
JCJI	Jatiwangi	3.60	324	P	Pn	05 27 20.2	-1.8
LEM	Lembang	3.78	313	P	Pn	05 27 27.2	+2.6
LEM	16nm,0.3s,baz=97,slow=11,SNR=14 10nm,0.3s,baz=155,slow=24,SNR=4.0			S	Sn	05 28 13.1	+5.1
LEM	comp=Z,334nm,21.2s,baz=167,slow=41			LR	LR	05 29 02.1	
JAGI	Jajag, Banyuwa	3.82	76	P	Pn	05 27 27.7	+2.7
JAGI	Jajag, Banyuwa	3.82	76		Pn	05 27 27.5	+2.5
CNJI	Cibinong	3.87	303	P	Pn	05 27 27.3	+1.7
ABJI	Asem Bagus	4.12	67	P	Pn	05 27 31.8	+2.7
XMIS	Christmas Isla	4.80	257	Pn	Pn	05 27 38.6	+0.1
CGJI	Cibinong	5.44	301	P	Pn	05 27 49.0	+1.7
TWSI	0.4nm2µm52nm,0.6s Taliwang, Sumb	6.43	84	P	Pn	05 28 04.2	+3.3
PLAI	0.1nm697nm28nm,0.7s Plampang	7.30	86	P	Pn	05 28 15.8	+2.9
BBKI	0.3nm876nm60nm,0.7s Banjar Baru	7.38	37	P	Pn	05 28 16.4	+2.4
MDSI	0.5nm33nm,1.0s Maura Dua	7.89	308	P	Pn	05 28 23.7	+2.7
MNAI	Manna	8.95	304	Pn	Pn	05 28 34.9	-0.6
KAPI	Kappang	10.25	65	LR	LR	05 33 14.1	
GIRL	comp=Z,113nm,21.3s,baz=288,slow=40 Giralia	13.64	165	Pn	Pn	05 29 39.8	0.0
SOEI	Soe	13.67	93	Pn	Pn	05 29 41.7	+1.4
PSA00	Pilbara Seismi	15.11	144	Pn	Pn	05 30 00.1	+0.5
KKM	Kota Kinabalu	16.42	21	Pn	Pn	05 30 16.8	+0.1
KKM	comp=Z,27nm,1.1s			lAmb	lAmb	05 30 42.6	
GSI	Gunungsitoli	16.64	309		Pn	05 30 19.4	+0.1
GSI	comp=Z,35nm,1.2s			lAmb	lAmb	05 30 40.5	
FITZ	Fitzroy Crossi	17.11	122	P	P	05 30 27.8	+1.1
FITZ	comp=Z,0.2nm,0.3s,baz=303,slow=12,SNR=8.9			S	Sn	05 33 24.2	-10
FITZ	comp=Z,0.2nm,0.3s,baz=28,slow=22,SNR=6.1						
FITZ	Fitzroy Crossi	17.11	122	P	P	05 30 27.5	+0.8
KNRA	Kununurra	18.95	111	P	P	05 30 47.7	+0.7
KNRA	comp=Z,41nm,19.4s,baz=159,slow=40			lAmb	lAmb	05 30 51.8	
NWAO	Narrogin (SRO)	24.22	166	LR	LR	05 40 43.7	
WB0	comp=Z,120nm,21.0s,baz=202,slow=35 Warramunga Arr	25.35	117	P	P	05 31 52.1	-0.5
WB0	comp=Z,5.2nm,1.1s			lAmb	lAmb	05 32 05.2	
WRA	Warramunga Arr	25.36	117	P	P	05 31 55.0	+2.3
WRAB	comp=Z,1.6nm,0.8s,baz=292,slow=11,SNR=30 Tennant Creek	25.37	117	P	P	05 31 53.1	+0.3
WRAB	comp=Z,3.9nm,0.6s			lAmb	lAmb	05 32 10.9	
WB2	Warramunga Arr	25.38	117	P	P	05 31 53.5	+0.7
WR0	Warramunga Arr	25.55	117	P	P	05 31 55.3	+0.9
WR0	comp=Z,12nm,1.5s			lAmb	lAmb	05 32 20.6	
ASAR	Alice Springs	26.54	125	P	P	05 32 06.7	+3.2
ASAR	comp=Z,0.9nm,0.7s,baz=302,slow=9.0,SNR=11 Alice Springs	26.54	125	P	P	05 32 01.5	-1.9
AS31	Alice Springs	26.54	125	P	P	05 32 03.7	+0.3
FORT	Forrest	26.87	145	P	P	05 32 04.4	-1.8
FORT	comp=Z,28nm,1.2s			lAmb	lAmb	05 32 09.1	
CMAR	Chiang Mai Arr	29.93	338	P	P	05 32 34.6	+1.0
CMAR	comp=Z,0.8nm,0.3s,baz=164,slow=7.0,SNR=4.5 Chiang Mai Arr	29.93	338	P	P	05 32 32.8	-0.8
YULB	Yu-li	34.31	18	P	P	05 33 11.1	-0.9
SSLB	Suanglung	34.58	17	P	P	05 33 13.6	-0.8
SSLB	comp=Z,15nm,0.6s			lAmb	lAmb	05 33 26.6	
NACB	Ninganchiao	35.14	18	P	P	05 33 18.1	-0.9
YHNB	Yeheng	35.54	17	P	P	05 33 21.6	-1.0
STKA	Stephens Creek	36.52	132	LR	LR	05 48 51.8	
STKA	comp=Z,76nm,18.7s,baz=233,slow=36 Stephens Creek	36.52	132	P	P	05 33 29.8	-1.2
H08S2	Diego Garcia H	37.52	270	T	T	06 13 43.3	
H08S3	baz=95,slow=75,SNR=9.7 Diego Garcia H	37.54	270	T	T	06 13 41.5	
H08S1	baz=95,slow=75,SNR=9.6 Diego Garcia H	37.54	270	T	T	06 13 39.9	
SSE	baz=95,slow=75,SNR=11 Sheshan	41.59	14	P	P	05 34 12.2	-1.1
JHS	Saijyo	49.13	25	P	P	05 35 11.6	-1.4
JHS	comp=Z,16nm,1.0s			lAmb	lAmb	05 35 21.9	
KSAR	Wonju Array Be	49.41	18	P	P	05 35 13.5	-1.6
KSRS	Korea Array	49.44	18	P	P	05 35 14.6	-0.7
JWT	comp=Z,2.2nm,0.6s,baz=195,slow=8.0,SNR=6.3 Wachi	50.35	27	P	P	05 35 21.4	-0.9
JWT	comp=Z,10nm,0.8s			lAmb	lAmb	05 35 22.3	
JGF	Kuroka	51.50	28	P	P	05 35 29.1	-1.9
JGF	comp=Z,23nm,1.3s			lAmb	lAmb	05 35 31.2	
MJAR	Matsushiro Arr	52.67	28	P	P	05 35 37.7	-1.9
USRK	comp=Z,4.8nm,0.6s,baz=194,slow=7.8,SNR=12 Ussuriysk Ar.	56.85	18	P	P	05 36 08.6	-1.2
USRK	comp=Z,8.1nm,0.9s,baz=205,sl

BRBA	**Barentsburg A**	**3.73**	**13**	Pn		**Pn**	**05 28 41.6**	**+0.2**
BRBA				Sn		**Sn**	**05 29 24.2**	**-1.0**
BRBA	**Barentsburg A**	**3.73**	**13**	Pn		**Pn**	**05 28 41.6**	**+0.2**
BRBA				Sn		**Sn**	**05 29 24.2**	**-1.0**
BRBB	**Barentsburg B**	**3.76**	**13**	Pn		**Pn**	**05 28 42.0**	**+0.2**
BRBB				Sn		**Sn**	**05 29 25.3**	**-0.7**
BRBB	**Barentsburg B**	**3.76**	**13**	Pn		**Pn**	**05 28 42.0**	**+0.2**
BRBB				Sn		**Sn**	**05 29 25.3**	**-0.7**
HOPEN	**Hopen**	**4.23**	**54**	Pn		**Pn**	**05 28 50.9**	**+2.7**
HOPEN				Sn		**Sn**	**05 29 37.5**	**-0.1**
HOPEN	**Hopen**	**4.23**	**54**	*eP*		**Pn**	**05 28 51.0**	**+2.8**
HOPEN				*eS*		**Sn**	**05 29 38.3**	**+0.8**
HOPEN				IAML			05 29 42.4	
	comp=Z,10nm,0.3s							
KBS	**Kingsbay**	**4.50**	**4**	Pn		**Pn**	**05 28 50.8**	**-1.1**
KBS	**Kingsbay**	**4.50**	**4**	*eP*		**Pn**	**05 28 51.5**	**-0.4**
KBS				*eS*		**Sn**	**05 29 41.0**	**-3.2**
KBS				IAML			05 29 42.1	
	comp=Z,4.2nm,0.5s							
TRO	**Tromso**	**5.54**	**147**	*eP*		Pn	05 29 11.7	+5.5
TRO				*eS*		**Sn**	**05 30 08.0**	**-1.8**
HAMF	**Hammerfest**	**5.56**	**127**	*eP*		**Pn**	**05 29 09.1**	**+2.6**
HAMF				*eS*		**Sn**	**05 30 08.0**	**-2.3**
JMIC	**Jan Mayen**	**6.57**	**247**	LR		LR	05 30 41.1	
	comp=Z,58nm,18.2s,baz=58,slow=27							
ARA0	**ARCESS Array S**	**6.82**	**129**	Pn		**Pn**	**05 29 24.6**	**+0.9**
	baz=327,slow=14							
ARA0				Sn		**Sn**	**05 30 38.1**	**-3.2**
	baz=319,slow=22							
ARA0	**ARCESS Array S**	**6.82**	**129**	Pn		**Pn**	**05 29 24.6**	**+0.9**
	baz=327,slow=14							
ARA0				Sn		**Sn**	**05 30 38.1**	**-3.2**
	baz=319,slow=22							
ARCES	**ARCESS Array B**	**6.82**	**129**	Pn		**Pn**	**05 29 24.7**	**+0.9**
	baz=321,slow=8.9,SNR=11							
ARCES				Sn		**Sn**	**05 30 38.9**	**-2.4**
	baz=328,slow=20,SNR=7.3							
ARCES				LR		LR	05 32 37.3	
	comp=Z,41nm,19.7s,baz=230,slow=43							
FINES	**FINESS Array B**	**14.27**	**148**	Pn		**Pn**	**05 31 04.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=3.9							
ARU	**Arti**	**25.80**	**108**	P		**P**	**05 33 18.6**	**+4.0**
	comp=Z,2.4nm,0.2s,baz=331,slow=19,SNR=3.8							
ARU				LR		LR	05 45 06.7	
	comp=Z,52nm,18.0s,baz=244,slow=40							
ILAR	**Eielson Array**	**40.21**	**345**	P		**P**	**05 35 21.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=5.8,slow=6.7,SNR=4.1							

IDC ***03*** *05:36:14.7±1.1,4.˚10S×142.˚44E,h129km±11km,mb4.0/9, mb1 4.3/15,mb1mx3.9/46,mbtmp4.6/15,MS3.5/5, Ms1 3.5/5,ms1mx3.0/34,Error ellipse: s-maj=14.2km s-min=11.7km az=32.0*

NEIC ***03*** *05:36:14.1±1.2,4.˚16S±0.˚07×142.˚43E±0.˚05,h126km±8km, mb4.9/42,Error ellipse: s-maj=12.4km s-min=3.3km az=211.0*

DJA ***03*** *05:36:15.2±0.5,5.˚S±6.˚×14.˚2E±.˚,h76km±6km,M4.9/17, mb4.8/17,mB5.3/9,MLv5.2/6,Mw(mB)4.8/9*

ISC 03 05:36:13.6±0.4,4.˚21S±0.˚05×142.˚44E±0.˚06,h115km,n83, σ1§61/85,mb4.7/27,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**314**	Op P		**Pn**	**05 36 52.3**	**+0.2**
	157nm,0.3s,baz=164,slow=8.4,SNR=227							
JAY				S		**Sn**	**05 37 23.0**	**+1.3**
	41nm,0.3s,baz=284,slow=20,SNR=6.1							
JAY	**Jayapura**	**2.41**	**314**	P		**Pn**	**05 36 52.4**	**+0.2**
GENI	**Genyem**	**2.78**	**305**	P		**Pn**	**05 36 58.6**	**+1.7**
SRPI	**Serui, Papua**	**6.61**	**290**	P		**Pn**	**05 37 50.6**	**+2.3**
	5.5nm14µm540nm,0.4s							
PMG	**Port Moresby**	**6.97**	**138**	P		**Pn**	**05 37 54.9**	**+1.7**
	7.5nm,0.3s,baz=290,slow=13,SNR=39							
PMG				LR		LR	05 40 44.0	
	comp=Z,216nm,20.6s,baz=127,slow=38							
PMG	**Port Moresby**	**6.97**	**138**	Pn		**Pn**	**05 37 54.9**	**+1.7**
PMG				Sn		**Sn**	**05 39 13.8**	**+2.7**
BAKI	**Biak**	**7.00**	**295**	P		**Pn**	**05 37 56.1**	**+2.5**
	0.6nm124nm,0.7s							
KRVT	**Keravat (AS076**	**9.56**	**91**	P		**Pn**	**05 38 31.0**	**+2.7**
	4.6nm,0.3s,baz=101,slow=9.9,SNR=6.0							
COEN	**Coen**	**9.71**	**176**	Pn		**Pn**	**05 38 31.0**	**+0.6**
COEN				Sn		**Sn**	**05 40 17.5**	**-0.3**
SIJI	**Sorong**	**11.64**	**286**	P		**Pn**	**05 38 58.0**	**+1.6**
	4.4nm,0.3s,baz=75,slow=9.8,SNR=5.5							
SAUI	**Saumlaki**	**11.69**	**251**	Pn		**Pn**	**05 38 55.9**	**-1.1**
MTN	**Manton Dam**	**14.09**	**232**	Pn		**Pn**	**05 39 27.4**	**-0.8**
CTA	**Charters Tower**	**16.22**	**167**	P		**P**	**05 39 57.0**	**+1.2**
	0.9nm,0.3s,baz=337,slow=13,SNR=7.2							
WB0	**Warramunga Arr**	**17.34**	**206**	P		**P**	**05 40 08.2**	**-0.2**
WB0				IAmb		IAmb	05 40 11.6	
	comp=Z,170nm,1.4s							
WR0	**Warramunga Arr**	**17.45**	**206**	P		**P**	**05 40 09.6**	**+0.1**
WRAB	**Tennant Creek**	**17.51**	**206**	P		**P**	**05 40 10.3**	**+0.2**
WRAB				IAmb		IAmb	05 40 13.8	
	comp=Z,77nm,0.8s							
WB2	**Warramunga Arr**	**17.52**	**206**	P		**P**	**05 40 10.3**	**+0.1**
WB2				IAmb		IAmb	05 40 14.0	
	comp=Z,93nm,0.8s							
WRA	**Warramunga Arr**	**17.52**	**206**	P		**P**	**05 40 10.2**	**0.0**
	comp=Z,6.3nm,0.3s,baz=26,slow=13,SNR=107							
WRA				S		**Sn**	**05 43 22.0**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=23,slow=22,SNR=8.2							
WRA				LR		LR	05 47 36.8	
	comp=Z,78nm,18.7s,baz=45,slow=39							
WRA	**Warramunga Arr**	**17.52**	**206**	P		**P**	**05 40 08.2**	**-2.0**
KNRA	**Kununurra**	**17.63**	**229**	P		**P**	**05 40 11.4**	**-0.1**
SOEI	**Soe**	**18.85**	**252**	P		**Pn**	**05 40 27.9**	**+1.0**
	comp=Z,2µmcomp=Z,124nm,0.9s							
SOEI	**Soe**	**18.85**	**252**	P		**P**	**05 40 23.2**	**-1.9**
SOEI				IAmb		IAmb	05 40 40.3	
	comp=Z,91nm,0.8s							
PATS	**Pohnpei**	**19.27**	**55**	P		**P**	**05 40 27.7**	**-1.8**
BATI	**Baumata**	**19.55**	**251**	P		**Pn**	**05 40 35.6**	**+0.7**
	comp=Z,46nm,0.6s							
GTOI	**Gorontalo**	**20.00**	**283**	P		Pn	05 40 44.7	+4.5
	comp=Z,511nmcomp=Z,48nm,0.5s							
AS31	**Alice Springs**	**21.03**	**202**	P		**P**	**05 40 48.1**	**-0.2**
ASAR	**Alice Springs**	**21.03**	**202**	P		**P**	**05 40 48.2**	**-0.1**
	comp=Z,14nm,0.7s,baz=29,slow=9.4,SNR=44							
ASAR				S		**S**	**05 44 33.7**	**-2.5**
	comp=Z,1.8nm,0.7s,baz=19,slow=23,SNR=3.2							
ASAR				LR		LR	05 49 19.5	
	comp=Z,80nm,21.1s,baz=12,slow=37							
EDFI	**Ende, Flores**	**21.10**	**257**	P		**P**	**05 40 54.4**	**+5.1**
	comp=Z,2µmcomp=Z,9.8nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.47**	**229**	P		**P**	**05 40 52.2**	**-0.8**
	comp=Z,14nm,0.8s,baz=48,slow=9.1,SNR=29							
FITZ				S		**S**	**05 44 46.7**	**+2.1**
	comp=Z,13nm,0.9s,baz=160,slow=11,SNR=5.2							
FITZ	**Fitzroy Crossi**	**21.47**	**229**	P		**P**	**05 40 52.9**	**-0.1**
FITZ				IAmb		IAmb	05 41 06.2	
	comp=Z,22nm,0.8s							
BKSI	**Bulukumba**	**22.27**	**266**	P		P	05 41 09.7	+8.2
EIDS	**Eidsvold**	**22.62**	**159**	P		**P**	**05 41 06.3**	**+1.3**
ARMA	**Armidale**	**27.48**	**163**	P		**P**	**05 41 46.1**	**-3.1**
STKA	**Stephens Creek**	**27.54**	**182**	P		**P**	**05 41 51.2**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=13,SNR=3.7							
STKA	**Stephens Creek**	**27.54**	**182**	P		**P**	**05 41 50.5**	**+0.9**
PSA00	**Pilbara Seismi**	**27.91**	**230**	P		**P**	**05 41 52.8**	**-0.3**
PSA00				IAmb		IAmb	05 41 55.2	
	comp=Z,15nm,0.9s							
BBOO	**Buckleboo**	**29.07**	**191**	P		**P**	**05 42 03.2**	**-0.1**
BBOO				IAmb		IAmb	05 42 29.1	
	comp=Z,20nm,1.2s							
DZM	**Mont Dzumac**	**29.27**	**129**	P		**P**	**05 42 06.0**	**+0.7**
	comp=Z,9.3nm,0.7s,baz=254,slow=13,SNR=9.4							
DZM	**Mont Dzumac**	**29.27**	**129**	P		**P**	**05 42 05.7**	**+0.4**
DZM				IAmb		IAmb	05 42 06.7	
	comp=Z,14nm,0.9s							
FORT	**Forrest**	**29.71**	**206**	P		**P**	**05 42 09.1**	**+0.2**
FORT				IAmb		IAmb	05 42 10.6	
	comp=Z,19nm,0.8s							
JCJ	**Chichijima**	**31.12**	**360**	P		**P**	**05 42 20.7**	**-0.7**
CAN	**Canberra**	**31.55**	**170**	P		**P**	**05 42 25.2**	**+0.1**
CAN				IAmb		IAmb	05 42 41.9	
	comp=Z,33nm,1.5s							
GIRL	**Giralia**	**32.87**	**234**	P		**P**	**05 42 36.0**	**-0.8**
NACB	**Ninganchiao**	**34.75**	**325**	P		**P**	**05 42 51.9**	**-1.2**
NACB				IAmb		IAmb	05 43 16.8	
	comp=Z,34nm,1.3s							
MORW	**Morawa**	**35.19**	**222**	P		**P**	**05 42 56.4**	**-0.4**
MORW				IAmb		IAmb	05 42 59.3	
	comp=Z,19nm,1.1s							

NWAO	**Narrogin (SRO)**	**37.03**	**216**	P		**P**	**05 43 13.5**	**+1.1**
	comp=Z,6.2nm,0.6s,baz=78,slow=1.8,SNR=3.5								
NWAO	**Narrogin (SRO)**	**37.03**	**216**	P		**P**	**05 43 11.8**	**-0.6**
NWAO				IAmb		IAmb	05 43 14.0		
	comp=Z,31nm,1.2s								
NWAO	**Narrogin (SRO)**	**37.03**	**216**	P		**P**	**05 43 11.8**	**-0.6**
NWAO				IAmb		IAmb	05 43 14.0		
	comp=Z,25nm,1.2s								
MSVF	**Nonsavu**	**37.36**	**114**	P		**P**	**05 43 13.7**	**-1.8**
MSVF				IAmb		IAmb	05 43 31.5		
	comp=Z,20nm,1.4s								
JTU	**Tsushima**	**40.44**	**343**	P		**P**	**05 43 40.0**	**-0.7**
OUZ	**Omahuta**	**42.21**	**141**	P		**P**	**05 43 56.0**	**+0.7**
NJ2	**Nanjing**	**42.47**	**330**	*eP*		**P**	**05 43 58.8**	**+1.4**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
QRZ	**Quartz Range**	**45.39**	**148**	P		**P**	**05 44 20.5**	**-0.2**
AFI	**Afiamalu**	**46.15**	**105**	LR		LR	06 01 57.7		
	comp=Z,91nm,18.4s,baz=100,slow=33								
URZ	**Urewera**	**46.32**	**142**	P		**P**	**05 44 27.6**	**-0.4**
URZ				IAmb		IAmb	05 44 34.6		
	comp=Z,50nm,1.2s								
BSWZ	**Blackbirch Sta**	**46.73**	**148**	P		**P**	**05 44 31.0**	**-0.2**
MLZ	**Mavora Lakes**	**46.74**	**155**	P		**P**	**05 44 31.7**	**+0.4**
MLZ				IAmb		IAmb	05 44 41.1		
	comp=Z,59nm,1.4s								
KHZ	**Kahutara**	**47.05**	**148**	P		**P**	**05 44 33.6**	**0.0**
KHZ				IAmb		IAmb	05 44 45.0		
	comp=Z,52nm,1.4s								
BHW	**Baring Head**	**47.06**	**147**	P		**P**	**05 44 33.7**	**0.0**
MSWZ	**Moikau Station**	**47.27**	**146**	P		**P**	**05 44 35.4**	**0.0**
BFZ	**Birch Farm**	**47.35**	**145**	P		**P**	**05 44 36.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**48.41**	**299**	P		**P**	**05 44 44.0**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=130,slow=7.0,SNR=6.4								
CD2	**Chengdu**	**50.81**	**316**	P		**P**	**05 45 02.9**	**+0.3**
CD2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**52.99**	**331**	*eP*		**P**	**05 45 21.8**	**+3.1**
HHC				S		**S**	**05 52 35.2**	**-4.5**
HHC				pmax		pmax			
	comp=Z,18nm,1.0s								
HHC				pmax		pmax			
	comp=Z,190nm,5.7s								
SHL	**Shillong**	**57.25**	**304**	P		**P**	**05 45 48.6**	**-1.0**
WMQ	**Urumqi**	**68.50**	**321**	*eP*		**P**	**05 47 05.7**	**+1.9**
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.8s								
WMQ				pmax		pmax			
	comp=Z,97nm,6.3s								
WMQ				LR		LR			
	comp=N,480nm,29.0s								
WMQ				LR		LR			
	comp=E,470nm,29.3s								
WMQ				LR		LR			
	comp=Z,38nm,21.7s								
MKAR	**Makanchi Array**	**73.25**	**322**	P		**P**	**05 47 31.5**	**-0.9**
MAKZ	**Makanchi**	**73.45**	**321**	P		**P**	**05 47 32.5**	**-1.1**
MAKZ				IAmb		IAmb	05 47 42.0		
	comp=Z,9.3nm,0.9s								
VNDA	**Vanda**	**73.99**	**176**	P		**P**	**05 47 36.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=330,slow=6.6,SNR=7.5								
NIL	**Nilore**	**75.20**	**306**	P		**P**	**05 47 43.1**	**-0.9**
MDM	**Murphy Dome**	**85.19**	**24**	P		**P**	**05 48 34.3**	**-2.6**
CCB	**Clear Creek Bu**	**85.25**	**24**	P		**P**	**05 48 35.1**	**-2.0**
CCB				IAmb		IAmb	05 48 36.3		
	comp=Z,5.1nm,0.7s								
RAGM	**Ragged Mountai**	**85.27**	**28**	P		**P**	**05 48 34.7**	**-2.7**
HDA	**Harding Lake**	**85.52**	**24**	P		**P**	**05 48 36.7**	**-1.8**
HDA				IAmb		IAmb	05 49 01.9		
	comp=Z,25nm,1.5s								
IL31		**85.66**	**24**	P		**P**	**05 48 37.2**	**-1.9**
ILAR	**Eielson Array**	**85.66**	**24**	P		**P**	**05 48 37.0**	**-2.2**
	comp=Z,3.8nm,0.6s,baz=258,slow=4.9,SNR=45								
ILAR	**Eielson Array**	**85.66**	**24**	P		**P**	**05 48 37.4**	**-1.9**
QSPA	**South Pole Qui**	**85.75**	**180**	P		**P**	**05 48 39.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=345,slow=0.5,SNR=15								
QSPA	**South Pole Qui**	**85.75**	**180**	P		**P**	**05 48 39.7**	**-0.1**
TOLK	**Toolik Lake Re**	**86.04**	**20**	P		**P**	**05 48 39.2**	**-1.8**
KBZ	**Khabaz**	**99.79**	**313**	LR		LR	06 39 40.0		
	comp=Z,53nm,20.1s,baz=290,slow=38								
LPAZ	**La Paz**	**143.55**	**125**	PKP		PKPbc	05 55 34.1	-0.1	
	comp=Z,1.0nm,0.4s,baz=320,slow=4.5,SNR=6.6								
SIV	**San Ignacio**	**149.28**	**131**	PKPbc		**PKPbc**	**05 55 49.7**	**-0.2**	
	comp=Z,3.4nm,0.8s,baz=267,slow=5.4,SNR=13								

IDC ***03*** *05:37:16.8±0.6,4.˚70N×82.˚58W,h0km,mb4.5/19, mb1 4.8/24,mb1mx4.7/37,mbtmp4.6/24,ML4.3/5,MS4.4/22, Ms1 4.4/22,ms1mx4.3/28,Error ellipse: s-maj=22.2km s-min=11.2km az=59.0*

UPA ***03*** *05:37:16.5±1.8,4.˚76N×82.˚78W,h1km±17km,MW5.0*

NEIC ***03*** *05:37:18.0±1.4,4.˚74N±0.˚06×82.˚61W±0.˚07,h10km±1km, mb4.9/275,Mww5.3,Mwc5.3(GCMT),Error ellipse: s-maj=11.9km s-min=9.1km az=249.0*

NEIC ***03*** *05:37:22,4.˚66N×82.˚68W,h19km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr~0.03; Mθθ0.02; Mθφ0.01; Mrθ-0.01; Mθφ1.21; Mφr-0.01; Fault plane solution: M₀1.21000×10¹⁷ NP1:φ₁180.00000°, δ89.00000°,λ,179.00000°. NP2:φ₂270.00000°,δ89.00000°, λ1.00000°. Principal axes: T 1.2253, Plg1.0000°, Azm135.0000°; N -0.0302, Plg90.0000°, Azm-47.0000°; P -1.1950, Plg0.0000°, Azm45.0000°;*

GCMT ***03*** *05:37:22.0±0.1,4.˚69N±0.˚01×82.˚67W±0.˚01,h18km, MW5.3/141,Moment Tensor Solution. s103,c161; s141,c273; Duration: 1§1 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.03±.01; Mθθ0.02±.01; Mφφ0.00±.01; Mrθ0.06±.03; Mθφ1.10±.01; Mφr0.14±.03; Best double couple: M₀1.11100×10¹⁷ NP1:φ₁90.00000°,δ83.00000°, λ3.00000°. NP2:φ₂360.00000°,δ87.00000°,λ173.00000°. Principal axes: T 1.1320, Plg7.0000°, Azm315.0000°; N -0.0430, Plg82.0000°, Azm159.0000°; P -1.0900, Plg3.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***03*** *05:37:22.9±0.0,6.˚59N×84.˚35W,h33km,mb4.6*

NEIC ***03*** *05:37:23,4.˚66N×82.˚67W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.10; Mθθ0.05; Mθφ0.05; Mrθ0.18; Mθφ0.99; Mφr-0.06; Fault plane solution: M₀1.01000×10¹⁷ NP1:φ₁0.00000°, δ79.00000°,λ-175.00000°. NP2:φ₂270.00000°, δ85.00000°,λ-10.00000°. Principal axes: T 1.0503, Plg4.0000°, Azm315.0000°; N -0.0751, Plg78.0000°, Azm67.0000°; P -0.9752, Plg11.0000°, Azm225.0000°;*

ISC 03 05:37:17.9±0.3,4.˚69N±0.˚04×82.˚63W±0.˚05,h10km,n828, σ1§36/829,mb4.9/151,MS4.5/24,21C-11D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**3.18**	**34**	Op *i*	*P*	**Pn**	**05 38 05.6**	**-2.4**
CACAO					IAmb	IAmb	05 38 06.5	
	comp=Z,12µm,0.1s							
CACAO				*eS*		**Sn**	**05 38 46.3**	**+0.4**
PEDE3	**Pedregal, Chir**	**3.68**	**3**	*i*	P	**Pn**	**05 38 11.1**	**-3.8**
PEDE3				*i*	S	**Sn**	**05 38 55.6**	**-2.7**
BAGA3	**Bagala, Chiriq**	**3.76**	**2**	*i*	P	**Pn**	**05 38 14.2**	**-1.7**
AZU	**Azuero**	**3.88**	**37**	*i*	P	**Pn**	**05 38 17.3**	**-0.2**
AZU				*eS*		**Sn**	**05 39 03.4**	**+0.2**
AZU	**Azuero**	**3.88**	**37**	*eP*		**Pn**	**05 38 15.8**	**-1.8**
PTJ1	**Puerto Jimnez**	**3.88**	**350**	*eP*		**Pn**	**05 38 14.4**	**-3.2**
PTJ1				*eS*		**Sn**	**05 39 01.3**	**-2.0**
CNAZ3	**Canazas, Verag**	**3.91**	**21**	*i*	P	**Pn**	**05 38 16.7**	**-1.2**
CNAZ3				*eS*		**Sn**	**05 39 03.5**	**-0.4**
CHIT3	**Chitre**	**3.92**	**34**	*i*	P	**Pn**	**05 38 16.9**	**-1.3**
CHIT3				*eS*		**Sn**	**05 39 05.1**	**+0.8**
BCO2	**Palmira**	**4.01**	**1**	*i*	P	**Pn**	**05 38 18.2**	**-1.3**
BCO2				*i*	S	**Sn**	**05 39 05.4**	**-1.3**
BRU2	**Volcan**	**4.08**	**359**	*i*	P	**Pn**	**05 38 18.6**	**-1.9**
BRU2				*i*	S	**Sn**	**05 39 07.3**	**-1.2**
BRU2	**Volcan**	**4.08**	**359**	*eP*		**Pn**	**05 38 17.6**	**-2.9**
BC3P	**Paso Ancho**	**4.10**	**0**	*i*	P	**Pn**	**05 38 19.0**	**-1.9**
BC3P				*eS*		**Sn**	**05 39 07.6**	**-1.4**
EDSV	**San Vito**	**4.12**	**355**	*eP*		**Pn**	**05 38 19.1**	**-1.9**
CHGR2	**Aguacate**	**4.25**	**7**	*i*	P	**Pn**	**05 38 21.6**	**-1.1**
CHGR2				*eS*		**Sn**	**05 39 11.6**	**-0.9**
EDPN	**Palmar Norte**	**4.33**	**349**	*eP*		**Pn**	**05 38 21.0**	**-2.7**
PNME	**Penonome**	**4.42**	**31**	*eP*		**Pn**	**05 38 24.1**	**-0.9**
EDBA	**Buenos Aires**	**4.49**	**352**	*eP*		**Pn**	**05 38 24.2**	**-1.9**
EDLM	**Las Mercedes**	**4.66**	**348**	*eP*		**Pn**	**05 38 26.2**	**-2.2**

EDDO	**Dominical**	**4.70**	**345**	*eP*		**Pn**	**05 38 25.8**	**-3.0**
TUMC	**Tumaco**	**4.83**	**126**	*eP*		**Pn**	**05 38 29.5**	**-1.1**
CHOR3	**La Chorrera**	**5.06**	**34**	*i*	P	**Pn**	**05 38 33.9**	**0.0**
CHOR3				*eS*		**Sn**	**05 39 31.6**	**-0.9**
ARRA3	**Arraijan, Pana**	**5.18**	**35**	*i*	P	**Pn**	**05 38 36.2**	**+0.8**
LCR2	**La Lucha 2**	**5.20**	**345**	*eP*		**Pn**	**05 38 33.4**	**-2.7**
FLAM	**Flamenco Islan**	**5.20**	**36**	*eP*		**Pn**	**05 38 37.0**	**+1.2**
FLAM				*eS*		**Sn**	**05 39 35.4**	**-0.6**
BCIP	**Isla Barro Col**	**5.25**	**32**	*i*	*eP*	**Pn**	**05 38 35.9**	**-0.5**
BCIP					*i*		05 38 37.7	
	comp=Z,190nm,0.5s							
BCIP	**Isla Barro Col**	**5.25**	**32**	*i*	P	**Pn**	**05 38 36.1**	**-0.3**
BCIP				*eS*		**Sn**	**05 39 35.7**	**-1.3**
BCIP	**Isla Barro Col**	**5.25**	**32**	Pn		**Pn**	**05 38 36.4**	**0.0**
BCIP				Sn		**Sn**	**05 39 35.7**	**-1.3**
UPA	**Univ. de Panam**	**5.26**	**36**	*eP*		**Pn**	**05 38 35.0**	**-1.6**
UPA	**Univ. de Panam**	**5.26**	**36**	*i*	P	**Pn**	**05 38 35.8**	**-0.8**
UPA	**Univ. de Panam**	**5.26**	**36**	*eP*		**Pn**	**05 38 35.4**	**-1.2**
PIZC	**Pizarro, Choco**	**5.26**	**87**	*eP*		**Pn**	**05 38 36.0**	**-0.6**
GAMB1	**Gamboa**	**5.28**	**33**	*eP*		**Pn**	**05 38 37.5**	**+0.7**
MALC	**Bahia Malaga**	**5.33**	**97**	*eP*		**Pn**	**05 38 37.5**	**-0.1**
MALC				*eS*		**Sn**	**05 39 33.5**	**-5.5**
FRIJ	**El Hiral**	**5.35**	**32**	*i*	P	**Pn**	**05 38 38.2**	**+0.4**
PTAC	**Punta Ardita,**	**5.39**	**63**	*eP*		**Pn**	**05 38 38.3**	**-0.1**
MAD3	**Madden Dam**	**5.40**	**34**	*eP*		**Pn**	**05 38 39.2**	**+0.6**
SOLC	**Bahia Solano**	**5.42**	**73**	*eP*		Pn	05 38 33.5	-5.3
HDC	**Heredia**	**5.48**	**345**	*i*	P	**Pn**	**05 38 38.2**	**-1.6**
HDC				*eS*		**Sn**	**05 39 41.3**	**-1.7**
HDC	**Heredia**	**5.48**	**345**	*eP*		**Pn**	**05 38 37.5**	**-2.3**
HDC	**Heredia**	**5.48**	**345**			**Pn**	**05 38 38.1**	**-1.6**
HDC				Sn		**Sn**	**05 39 42.8**	**-0.2**
CHPO	**Chepo, Panama**	**5.66**	**38**	*i*	P	**Pn**	**05 38 42.3**	**+0.2**
CHPO				*eS*		**Sn**	**05 39 47.3**	**+0.1**
SRA1	**San Ramn**	**5.67**	**341**	*eP*		**Pn**	**05 38 39.3**	**-3.0**
PAC1	**Pacto, Paraso**	**5.83**	**139**	*eP*		**Pn**	**05 38 42.5**	**-2.1**
UPD2	**Meteti**	**5.98**	**50**	*i*	P	**Pn**	**05 38 48.9**	**+2.4**
BBAC	**Balboa, Cauca**	**5.99**	**116**	*eP*		**Pn**	**05 38 45.4**	**-1.5**
BBAC					*i*		05 38 47.7	
	comp=Z,195nm,0.4s							
BBAC				*eS*		**Sn**	**05 39 48.4**	**-7.4**
JTS	**Las Juntas de**	**6.02**	**338**	Pn		**Pn**	**05 38 44.1**	**-3.0**
	comp=Z,287nm,0.3s,baz=116,slow=6.9,SNR=275								
JTS				Sn		**Sn**	**05 39 51.9**	**-4.3**
	comp=Z,81nm,0.3s,baz=11,slow=22,SNR=6.7								
JTS	**Las Juntas de**	**6.02**	**338**	*eP*		**Pn**	**05 38 44.0**	**-3.1**
JTS				*eS*		**Sn**	**05 39 50.9**	**-5.3**
JTS	**Las Juntas de**	**6.02**	**338**	*i*	P	**Pn**	**05 38 44.5**	**-2.7**
JTS				*i*	S	**Sn**	**05 39 52.6**	**-3.6**
JTS	**Las Juntas de**	**6.02**	**338**	*eP*		**Pn**	**05 38 43.6**	**-3.5**
JTS	**Las Juntas de**	**6.02**	**338**	Pn		**Pn**	**05 38 45.2**	**-1.9**
JTS				Sn		**Sn**	**05 39 55.9**	**-0.3**
CUSE	**Cuicocha Este**	**6.07**	**136**	*eP*		**Pn**	**05 38 46.5**	**-1.6**
CMBC	**Cumbal**	**6.08**	**128**	*eP*		**Pn**	**05 38 47.5**	**-0.7**
CASO	**Castillo**	**6.08**	**340**	*eP*		**Pn**	**05 38 46.3**	**-1.6**
OTAV	**Otavalo**	**6.08**	**136**	*eP*		**Pn**	**05 38 46.3**	**-2.0**
OTAV	**Otavalo**	**6.08**	**136**	Pn		**Pn**	**05 38 47.2**	**-1.1**

LFRS El Faro 10.91 325 *e*P P **P** 05 39 56.3 +2.0
PAVA Las Pavas 10.91 326 *e*P P **P** 05 39 56.8 +2.4
TAMC Tame, Arauca 10.93 80 *e*P P **P** 05 39 56.5 +2.0
LBRS Las Brisas 10.99 325 *e*P P **P** 05 39 58.1 +2.7
SNET Serv Nac Est T 11.06 324 *e*P P **P** 05 39 58.8 +2.4
SNET Serv Nac Est T 11.06 324 Pn **P** 05 39 58.6 +2.2
BOQS Boqueron 11.13 324 *e*P P **P** 05 40 00.1 +2.8
CEDA San Andres 11.25 324 *e*P P **P** 05 40 01.1 +2.3
TACO Tacachico 11.36 325 *i* P P **P** 05 40 03.1 +2.7
SBLS San Blas 11.41 323 *e*P P **P** 05 40 04.6 +3.4
NUBE Las Nubes 11.55 323 *e*P P **P** 05 40 05.5 +2.4
MTO3 Montecristo 11.71 326 *e*P P **P** 05 40 07.7 +2.4
MTO3 Montecristo 11.71 326 Pn **P** 05 40 07.2 +1.9
ESQI Esquipulas 11.83 327 *i*j *i*P P **P** 05 40 09.9 +3.1
ESQI Esquipulas 11.83 327 Pn **P** 05 40 09.4 +2.6
IXG Ixpaco 12.17 321 *e*P Pn 05 40 15.5
SOCV Socopo 12.23 72 *e*P P **P** 05 40 13.7 +1.3
NBG Las Nubes 12.43 323 *e*P P **P** 05 40 20.1
MRL Marmol 12.44 327 *e*P Pn 05 40 19.3
ATAH Atahualpa 12.48 160 Pn **Pn** 05 40 18.0 +1.9
comp=Z,4.2nm,0.3s,baz=19,slow=9.1,SNR=21
ATAH LR LR 05 44 36.6
comp=Z,7μm,21.4s,baz=336,slow=35
SDV Santo Domingo 12.62 70 Pn **Pn** 05 40 19.0 +1.2
comp=Z,2.7nm,0.3s,baz=240,slow=11,SNR=19
SDV LR LR 05 45 11.3
comp=Z,1μm,21.5s,baz=242,slow=38
SDV Santo Domingo 12.62 70 *e*P **P** 05 40 17.4 -0.4
SDV Santo Domingo 12.62 70 **P** 05 40 19.0 +1.2
SDV Santo Domingo 12.62 70 Pn **Pn** 05 40 19.4 +1.6
SDV Santo Domingo 12.62 70 *e*P **Pn** 05 40 19.3 +1.4
URIC Uribia, Colomb 12.62 56 *e*P **Pn** 05 40 18.4 +0.7
FUG Fuego 3 12.63 321 *e*S P 05 40 39.8
FUG Fuego 3 12.63 321 *e*P Pn 05 40 23.4
RTAL Retalhuleu 13.24 318 Pn **Pn** 05 40 29.8 +3.7
ELOV Elorza 13.28 79 *e*P **Pn** 05 40 26.0 -0.6
HUEH Huehuetenango 13.70 321 Pn **Pn** 05 40 36.2 +3.6
PETF Flores 14.07 330 **Pn** 05 40 39.1 +1.7
CCIG Comitan 14.83 322 Pn **Pn** 05 40 47.2 -0.7
LCCY Blossom Villag 15.10 9 Pn **Pn** 05 40 49.3 -2.1
CBCY The Bluff, Cay 15.22 10 **Pn** 05 40 51.9 -1.1
CZSB Cruzeiro do Su 15.82 141 *e*P **Pn** 05 40 58.6 -2.3
TEIG Tepich 16.39 341 Pn **Pn** 05 41 09.0 +0.8
comp=Z,0.6nm,0.3s,baz=150,slow=11,SNR=5.3
TEIG LR LR 05 46 51.2
comp=Z,3μm,19.7s,baz=141,slow=35
TEIG Tepich 16.39 341 *e*P **Pn** 05 41 09.0 +0.8
TEIG Tepich 16.39 341 Pn **Pn** 05 41 05.2 -3.0
GTBY Guantanamo Bay 16.83 25 **Pn** 05 41 10.3 -3.4
GTBY IAmb IAmb 05 41 19.3
comp=Z,132nm,1.3s
LGNH Logne 16.88 35 **Pn** 05 41 11.6 -2.8
PAPH Port-au-Prince 17.06 35 P **P** 05 41 18.0 -0.5
NNA Nana 17.54 161 P **Pn** 05 41 22.6 -0.1
comp=Z,3.6nm,0.3s,baz=341,slow=14,SNR=14
NNA LR LR 05 47 38.7
comp=Z,962nm,21.7s,baz=320,slow=36
NNA Nana 17.54 161 **P** 05 41 24.0 +0.2
NNA IAmb IAmb 05 41 28.6
comp=Z,103nm,1.1s
SDDR Presa de Saban 18.02 37 P **P** 05 41 29.5 +0.4
SDDR IAmb IAmb 05 41 51.1
comp=Z,89nm,1.0s
BANI BANI 18.15 40 P **Pn** 05 41 27.6 -2.8
PCRV Puerto La Cruz 18.66 72 P **P** 05 41 35.4 -0.8
comp=Z,0.7nm,0.3s,baz=283,slow=5.9,SNR=13
SC01 Santiago de lo 18.69 37 P **P** 05 41 34.0 -2.5
PLCV Puerto La Cruz 18.70 72 P **P** 05 41 35.4 -1.2
DR12 Loma Pena Alta 19.08 42 P **P** 05 41 39.5 -1.2
PCDR Punta Cana, DR 19.57 44 P **P** 05 41 45.2 -0.8
GRTK Grand Turk 20.11 33 **P** 05 41 50.8 -1.2
GRTK IAmb IAmb 05 41 56.3
comp=Z,107nm,1.0s
CRPR Cabo Rojo, PR 20.14 48 P **P** 05 41 52.7 +0.3
MLPR Magueyes Islan 20.17 48 P **P** 05 41 52.9 +0.3
TLIG Tlapa 20.18 311 P **P** 05 41 53.5 +0.6
TLIG IAmb IAmb 05 42 12.4
comp=Z,42nm,0.6s
MPR Mayaguez 20.25 47 P **P** 05 41 53.1 -0.4
AGPR Aguadilla, PR 20.44 47 P **P** 05 41 54.6 -1.0
ICMP Isla Caja de M 20.50 49 **P** 05 41 54.4 -1.9
OBIP Obispado Ponce 20.54 48 P **P** 05 41 54.5 -2.2
AOPR Arecibo Observ 20.62 48 P **P** 05 41 57.5 -0.1
EMPR Esperanza - Ma 20.87 48 P **P** 05 42 00.7 +0.4
PDPR Patillas Dam, 20.97 49 P **P** 05 42 01.2 -0.1
GCPR Guaynabo City 21.10 49 P **P** 05 42 02.9 +0.2
HUMP Col San Antoni 21.17 49 P **P** 05 42 03.5 -0.1
CBYP Canovanas 21.24 49 P **P** 05 42 04.2 -0.1
MTP Monte Pirata 21.37 50 P **P** 05 42 06.0 +0.4
CUPR Culebra, Puert 21.70 50 P **P** 05 42 08.4 -0.7
CDVI St. Croix 21.78 52 P **P** 05 42 09.2 -0.9
ETMB Extrema 21.80 131 *e*P **P** 05 42 09.8 -0.5
SVB Belmont 22.76 67 P **P** 05 42 19.3 -1.4
TOSP Speyside 22.84 72 P **P** 05 42 19.2 -2.2
MACA Manacapuru-AM 23.28 109 *e*P **P** 05 42 25.6 -0.3
PTGA Pitinga 23.28 103 P **P** 05 42 25.8 -0.2
comp=Z,62nm,1.3s,baz=288,slow=11,SNR=29
PTGA LR LR 05 51 00.7
comp=Z,1μm,21.9s,baz=284,slow=36
PTGA Pitinga 23.28 103 IAmb IAmb 05 42 36.5
comp=Z,64nm,1.1s
SMRT St. Maarten 23.29 54 P **P** 05 42 24.6 -1.4
SAML Samuel 23.65 125 P **P** 05 42 28.4 -1.3
LPAZ La Paz 25.30 146 P **P** 05 42 46.1 +0.6
comp=Z,28nm,0.6s,baz=337,slow=7.9,SNR=105
LPAZ LR LR 05 54 06.9
comp=Z,2μm,20.6s,baz=304,slow=40
LPAZ La Paz 25.30 146 *e*P **P** 05 42 45.8 +0.3
LPAZ La Paz 25.30 146 P **P** 05 42 45.6 +0.1
553A Crawfordville 25.42 356 P **P** 05 42 45.0 -0.8
553A IAmb IAmb 05 42 49.7
comp=Z,48nm,1.1s
PB16 IPOC Station P 26.28 151 P **P** 05 42 55.8 +1.5
TIGA Tifton 26.63 358 P **P** 05 42 57.3 +0.6
baz=178
BRAL Brewton 26.67 352 P **P** 05 42 58.0 +0.9
baz=170
352A Blakely 26.74 356 P **P** 05 42 58.5 +0.8
MNMC Minye Minye 26.93 152 P **P** 05 43 01.1 +1.3
PSGCX Pisagua 27.09 153 P **P** 05 43 02.0 +0.9
250A Grady 27.36 353 P **P** 05 43 03.2 -0.1
250A IAmb IAmb 05 43 12.4
comp=Z,42nm,1.4s
PB11 IPOC Station P 27.44 153 P **P** 05 43 04.8 +0.4
GO01 Chusmiza 27.58 152 P **P** 05 43 07.5 +1.5
154A Montrose 27.79 359 P **P** 05 43 07.4 +0.3
157A Early Branch 27.89 3 P **P** 05 43 08.2 +0.2
baz=183
152A Waverly Hall 27.91 356 P **P** 05 43 07.5 -0.7
TA01 Diego Aracena 27.92 154 P **P** 05 43 09.4 +1.0
PB08 IPOC Station P 28.00 152 P **P** 05 43 09.4 -0.3
PB08 IAmb IAmb 05 43 20.2
comp=Z,35nm,1.0s
HKT Hockley 28.05 335 P **P** 05 43 09.4 -0.1
HKT IAmb IAmb 05 43 18.2
comp=Z,32nm,1.5s
PATCX Punta Patache 28.15 155 P **P** 05 43 10.3 -0.3
ITTB Itaituba 28.34 108 *e*P **P** 05 43 12.5 +0.2
VILB Vilhena 28.35 128 *e*P **P** 05 43 12.6 +0.2
NHSC New Hope 28.37 4 P **P** 05 43 12.9 +0.6
baz=185
833A Chaparral WMA, 28.40 328 P **P** 05 43 13.7 +1.0
baz=143
833A Chaparral WMA, 28.40 328 P **P** 05 43 13.1 +0.4
833A IAmb IAmb 05 43 24.3
comp=Z,16nm,0.8s
LRAL Lakeview Retre 28.50 352 P **P** 05 43 13.5 0.0
baz=171,SNR=7.5
LRAL Lakeview Retre 28.50 352 P **P** 05 43 13.5 0.0
Z56A Williston 28.52 2 P **P** 05 43 13.8 +0.2
baz=183
Z57A Bowman 28.52 3 P **P** 05 43 13.7 +0.1
baz=184
Z51A Franklin 28.58 356 P **P** 05 43 12.7 -1.5
GOGA Godfrey 28.59 359 P **P** 05 43 14.5 +0.2
baz=178
Z58A St. Stephen 28.62 5 P **P** 05 43 15.0 +0.4
baz=186,SNR=6.0
PB01 IPOC Station P 28.64 154 P **P** 05 43 15.7 +0.8
PB01 IAmb IAmb 05 43 16.6
comp=Z,21nm,0.9s
Z47A Carrollton 28.82 351 P **P** 05 43 15.9 -0.4
Z47A IAmb IAmb 05 43 23.7
comp=Z,26nm,0.8s
Y56A Pelion 28.99 2 P **P** 05 43 18.8 +1.0
baz=183
PB07 IPOC Station P 29.07 155 P **P** 05 43 19.4 +0.5
MALB Monte Alegre 29.08 102 *e*P **P** 05 43 19.1 +0.2
Y55A Saluda 29.11 1 P **P** 05 43 19.3 +0.3
baz=182
NATX Nacogdoches 29.20 339 P **P** 05 43 20.5 +0.7
baz=155
NATX Nacogdoches 29.20 339 P **P** 05 43 19.0 -0.7
NATX IAmb IAmb 05 43 25.2
comp=Z,47nm,1.4s
Y57A Sumter 29.26 4 P **P** 05 43 21.2 +1.0
baz=184
Y59A Loris 29.36 6 P **P** 05 43 21.5 +0.4
baz=188
Y59A Loris 29.36 6 P **P** 05 43 20.9 -0.2
HODGE Hodges 29.40 1 P **P** 05 43 22.0 +0.5
HODGE IAmb IAmb 05 43 24.4
comp=Z,25nm,1.3s
Y60A Bolivia 29.46 7 P **P** 05 43 22.2 +0.3
baz=189
NPGB Novo Progresso 29.61 113 *e*P **P** 05 43 22.7 -0.9
SIV San Ignacio 29.62 134 P **P** 05 43 23.5 -0.1
comp=Z,22nm,1.0s,baz=316,slow=8.6,SNR=64
SIV LR LR 05 55 37.0
comp=Z,4μm,18.0s,baz=318,slow=37
X55A Gracelyn & Ava 29.65 2 P **P** 05 43 23.9 +0.2
baz=182
X56A White Oak 29.70 3 P **P** 05 43 24.7 +0.7
baz=183
X54A Belton 29.71 0 P **P** 05 43 25.1 +0.8
baz=180
X57A Johnson Farm, 29.72 4 P **P** 05 43 25.3 +1.0
baz=185
FPAL Fort Paine 29.83 355 P **P** 05 43 25.6 +0.2
BIRD Birdtown, Kers 29.88 4 P **P** 05 43 25.8 +0.1
MDP Montagnes des 29.89 88 LR LR 05 55 35.8
comp=Z,667nm,20.9s,baz=276,slow=37
X60A Albert Glenn T 30.05 8 P **P** 05 43 28.2 +1.0
baz=189
BG3 Lake Jocassee 30.16 360 P **P** 05 43 27.7 -0.5
W54A Cherokee Point 30.25 1 P **P** 05 43 29.9 +0.9
baz=181
LVC Limon Verde 30.27 154 P **P** 05 43 30.7 +1.0
W52A Murphy 30.28 358 P **P** 05 43 29.5 +0.2
KMSC Kings Mountain 30.33 2 P **P** 05 43 30.2 +0.5
baz=182
KMSC Kings Mountain 30.33 2 P **P** 05 43 29.8 +0.1
KMSC IAmb IAmb 05 43 32.9
comp=Z,16nm,1.1s
JCT Junction City 30.34 330 P **P** 05 43 30.8 +0.9
baz=144
JCT Junction City 30.34 330 P **P** 05 43 29.7 -0.2
JCT IAmb IAmb 05 43 33.3
comp=Z,24nm,1.5s
W58A Raeford 30.35 6 P **P** 05 43 29.9 +0.1
baz=187
W56A Indian Trail 30.36 3 P **P** 05 43 30.7 +0.8
baz=184
W57A Gilead 30.41 4 P **P** 05 43 30.9 +0.5
baz=185
W57A Gilead 30.41 4 P **P** 05 43 30.0 -0.4
W57A IAmb IAmb 05 43 33.2
comp=Z,23nm,1.1s
W50A Signal Mountai 30.46 356 P **P** 05 43 31.0 +0.1
WHTX Lake Whitney, 30.51 335 P **P** 05 43 31.6 +0.2
baz=150
W60A Pink Hill 30.56 8 P **P** 05 43 32.2 +0.5
baz=190
PB15 IPOC Station P 30.56 156 P **P** 05 43 32.3 +0.2
PB15 IAmb IAmb 05 43 34.0
comp=Z,18nm,1.0s
CPCT Cooper Cave 30.66 357 P **P** 05 43 32.8 +0.1
Z38A Mt. Pleasant 30.67 339 P **P** 05 43 32.9 +0.2
Z38A IAmb IAmb 05 43 40.1
comp=Z,23nm,0.9s
PTLB Pontes e Lacer 30.69 131 *e*P **P** 05 43 33.2 +0.2
CNNC Cliffs of the 30.72 8 P **P** 05 43 33.4 +0.3
baz=189
TKL Tuckaleechee C 30.84 358 P **P** 05 43 34.6 +0.4
comp=Z,6.3nm,0.9s,baz=169,slow=14,SNR=7.4
TKL Tuckaleechee C 30.84 358 P **P** 05 43 34.3 +0.1
CLDB Colider 30.86 120 *e*P **P** 05 43 32.8 -1.9
W45A Hickory Valley 30.92 350 P **P** 05 43 34.1 -0.8
W45A IAmb IAmb 05 43 41.1
comp=Z,23nm,0.8s
V54A Nebo 30.95 1 P **P** 05 43 35.5 +0.3
baz=181
MCPB Macapa, AP 30.95 99 *e*P **P** 05 43 35.6 +0.1
H06E1 SOCORRO T-PHAS 30.97 299 T T 06 16 18.1
SNR=32
V51A Loudon 31.01 357 P **P** 05 43 35.4 -0.2
V51A IAmb IAmb 05 43 47.2
comp=Z,16nm,1.1s
V56A Mocksville 31.04 3 P **P** 05 43 36.3 +0.3
baz=184
V58A Windy Hill, Pi 31.13 6 P **P** 05 43 36.7 0.0
baz=187,SNR=8.1
V58A Windy Hill, Pi 31.13 6 P **P** 05 43 36.4 -0.3
V58A IAmb IAmb 05 43 38.0
comp=Z,16nm,0.8s
V48A Smith Brothers 31.14 353 P **P** 05 43 35.9 -1.0
V48A IAmb IAmb 05 43 44.0
comp=Z,14nm,0.8s
V57A Coltrane Farms 31.16 4 P **P** 05 43 37.1 +0.1
baz=185
V59A Middlesex 31.19 7 P **P** 05 43 37.5 +0.2
baz=188
UALR University of 31.26 344 P **P** 05 43 37.7 -0.2
UALR IAmb IAmb 05 43 44.8
comp=Z,19nm,1.4s
V60A Jim Taylor Roa 31.32 8 P **P** 05 43 39.1 +0.6
baz=190
V60A Jim Taylor Roa 31.32 8 P **P** 05 43 38.4 0.0
MIAR Mount Ida 31.40 342 P **P** 05 43 38.9 -0.3
baz=159
MIAR Mount Ida 31.40 342 P **P** 05 43 38.3 -0.8
CLTN Cedars of Leba 31.44 354 P **P** 05 43 38.7 -0.8
CLTN IAmb IAmb 05 43 44.1
comp=Z,11nm,1.0s
PB14 IPOC Station P 31.47 158 P **P** 05 43 41.0 +0.8
PB14 IPOC Station P 31.47 158 *i* P **P** 05 43 42.1 +1.8
U56A King 31.58 3 P **P** 05 43 40.9 +0.2
baz=184
U56A King 31.58 3 P **P** 05 43 41.0 +0.2
U56A IAmb IAmb 05 43 44.1
comp=Z,29nm,1.1s
TXAR Lajitas Array 31.58 323 P **P** 05 43 41.7 +0.7
comp=Z,1.4nm,0.9s,baz=150,slow=9.7,SNR=8.6
TXAR PcP **PcP** 05 46 36.0 +2.5
comp=Z,0.9nm,0.7s,baz=146,slow=5.8,SNR=4.5
TXAR LR LR 05 56 23.1
comp=Z,428nm,21.0s,baz=0.0,slow=36
TXAR Lajitas Array 31.58 323 P **P** 05 43 41.5 +0.5
TX31 Lajitas Ar. Si 31.59 323 P **P** 05 43 41.2 +0.2
TX31 IAmb IAmb 05 43 48.5
comp=Z,28nm,1.4s
TX32 Lajitas Array 31.59 323 P **P** 05 43 41.2 +0.2
W41B Gary Mavity, V 31.61 345 P **P** 05 43 40.8 -0.2
baz=162
WVT Waverly 31.66 352 P **P** 05 43 41.1 -0.2
baz=170
WVT Waverly 31.66 352 P **P** 05 43 40.4 -1.0
WVT IAmb IAmb 05 43 47.2
comp=Z,10nm,0.8s
U54A Nelsons Funny 31.69 1 P **P** 05 43 42.1 +0.3
baz=182
U55A TA2, Sparta 31.70 2 P **P** 05 43 42.1 +0.3
baz=183
TZTN Tazewell 31.72 359 P **P** 05 43 42.0 0.0
baz=178
TZTN Tazewell 31.72 359 P **P** 05 43 41.7 -0.3
TZTN IAmb IAmb 05 43 45.7
comp=Z,16nm,1.1s
WHAR Wooly Hollow 31.73 345 P **P** 05 43 41.8 -0.3
WHAR IAmb IAmb 05 43 48.3
comp=Z,15nm,1.1s
U57A Blanch 31.74 5 P **P** 05 43 42.4 +0.3
baz=186
U58A Oxford 31.78 6 P **P** 05 43 42.7 +0.2
baz=188
U49A Red Boiling Sp 31.80 355 P **P** 05 43 41.9 -0.8
U49A IAmb IAmb 05 43 45.2
comp=Z,31nm,1.4s
U59A Littleton 31.83 7 P **P** 05 43 43.4 +0.5
baz=189
U59A Littleton 31.83 7 P **P** 05 43 41.8 -1.1
U61A Possum Corner 32.00 9 P **P** 05 43 44.1 -0.3
baz=192
ABTX Abilene, Hawle 32.02 332 P **P** 05 43 44.7 -0.1
baz=147
U60A Pendleton 32.03 8 P **P** 05 43 45.2 +0.5
baz=190
W39A Magazine 32.06 343 P **P** 05 43 45.2 +0.2
baz=159
W39A Magazine 32.06 343 P **P** 05 43 45.0 0.0
W39A IAmb IAmb 05 43 51.6
comp=Z,11nm,0.9s
T54A Tazewell 32.23 2 P **P** 05 43 46.5 -0.1
baz=182
T50A Nancy 32.24 357 P **P** 05 43 45.6 -0.9
T50A IAmb IAmb 05 43 49.0
comp=Z,21nm,1.4s
FCAR Ozark Folk Cen 32.26 345 P **P** 05 43 45.7 -1.0
FCAR IAmb IAmb 05 43 50.7
comp=Z,16nm,1.4s
GO02 Mina Guanaco 32.27 157 P **P** 05 43 48.4 +1.2
T56A Rocky Mt 32.28 4 P **P** 05 43 47.1 +0.2
baz=185
T57A Hurt 32.31 5 P **P** 05 43 46.8 -0.3
T57A IAmb IAmb 05 43 50.1
comp=Z,19nm,1.1s
T55A Pulaski 32.32 3 P **P** 05 43 47.6 +0.3
baz=183
T58A Grand View Acr 32.33 6 P **P** 05 43 47.3 +0.1
baz=188
T47A Sharon Grove 32.41 353 P **P** 05 43 47.2 -0.7
T47A IAmb IAmb 05 43 52.8
comp=Z,18nm,1.1s
BLA Blacksburg 32.43 3 P **P** 05 43 49.0 +0.7
baz=184
BLA Blacksburg 32.43 3 P **P** 05 43 47.5 -0.7
BLA IAmb IAmb 05 43 51.5
comp=Z,34nm,1.3s
T59A Double "B" Far 32.47 8 P **P** 05 43 48.7 +0.2
baz=189
T59A Double "B" Far 32.47 8 P **P** 05 43 48.2 -0.3
T59A IAmb IAmb 05 43 51.8
comp=Z,32nm,1.3s
T45A Paducah 32.65 351 P **P** 05 43 49.0 -1.0
RCRC Randolf Colleg 32.74 5 P **P** 05 43 50.3 -0.5
S51A Beattyville 32.81 359 P **P** 05 43 51.0 -0.5
S51A IAmb IAmb 05 43 52.0
comp=Z,13nm,0.8s
U40A Yellville 32.89 345 P **P** 05 43 52.1 -0.2
baz=161
U40A Yellville 32.89 345 P **P** 05 43 52.1 -0.2
U40A IAmb IAmb 05 43 58.2
comp=Z,16nm,1.2s
LPIG La Paz 32.90 309 LR LR 05 54 26.4
comp=Z,605nm,21.6s,baz=102,slow=31
X34A Smith Ranch, M 32.93 337 P **P** 05 43 52.7 0.0
X34A IAmb IAmb 05 44 00.0
comp=Z,15nm,0.9s
S55A Lewisburg 32.99 3 P **P** 05 43 54.0 +0.9
baz=184
S58A Poland Farm, P 33.04 7 P **P** 05 43 54.5 +1.0
baz=188
S57A Dark Hollow, R 33.09 5 P **P** 05 43 54.4 +0.4
baz=187
S59A Mechanicsville 33.28 8 P **P** 05 43 56.2 +0.7
baz=190
FNO Franklin 33.34 338 P **P** 05 43 56.1 -0.1
TUL1 Leonard 33.36 340 P **P** 05 43 56.0 -0.3
baz=156
TUL1 Leonard 33.36 340 P **P** 05 43 55.4 -1.0
TUL1 IAmb IAmb 05 43 56.1
comp=Z,18nm,1.1s
R54A Victor 33.37 2 P **P** 05 43 56.6 +0.2
baz=183
R58B Mineral 33.41 7 P **P** 05 43 56.4 -0.3
baz=189
S44A Carbondale 33.41 350 P **P** 05 43 56.0 -0.7
S44A IAmb IAmb 05 44 00.9
comp=Z,19nm,1.1s
WMOK Wichita Mounta 33.44 335 P **P** 05 43 57.0 0.0
baz=150
USIN University of 33.44 353 P **P** 05 43 56.1 -0.9
S61A Accomac 33.45 10 P **P** 05 43 57.0 -0.1
baz=193
R50A Paris 33.48 358 P **P** 05 43 57.2 -0.1
R50A IAmb IAmb 05 44 01.9
comp=Z,10nm,0.9s
R53A Hurricane 33.49 1 P **P** 05 43 57.4 -0.1
baz=181
MGMO Mountain Grove 33.50 346 P **P** 05 43 57.2 -0.4
MGMO IAmb IAmb 05 44 01.9
comp=Z,27nm,1.2s
R49A Shelbyville 33.53 356 P **P** 05 43 57.3 -0.5
R49A IAmb IAmb 05 44 02.0
comp=Z,16nm,0.8s
WCI Wyandotte Cave 33.55 355 P **P** 05 43 58.6 +0.6
baz=173
WCI Wyandotte Cave 33.55 355 P **P** 05 43 57.3 -0.6
SLA San Lorenzo 33.65 151 *i* P **P** 05 44 01.0 +1.8
R57A Stanardsville 33.66 6 P **P** 05 43 59.3 +0.3
baz=187
R58A Rapidan 33.72 7 P **P** 05 43 59.8 +0.3
baz=188
AC02 Maricunga 33.95 158 P **P** 05 44 03.8 +1.7
Q53A Leroy 34.03 2 P **P** 05 44 02.3 +0.1
baz=182
Q52A Bidwell 34.12 1 P **P** 05 44 02.6 -0.3
baz=181
CCM Cathedral Cave 34.13 348 P **P** 05 44 02.4 -0.6
baz=165
Q54A Coxs Mills 34.18 2 P **P** 05 44 03.1 -0.3
baz=183
Q51A Peebles 34.19 359 P **P** 05 44 03.3 -0.2
Q51A IAmb IAmb 05 44 04.0
comp=Z,16nm,0.7s
Q55A Buckhannon 34.23 4 P **P** 05 44 04.5 +0.6
baz=184,SNR=5.7
OLIL Olney 34.25 352 P **P** 05 44 03.4 -0.7
OLIL IAmb IAmb 05 44 06.0
comp=Z,28nm,1.1s
S39A Bolivar 34.27 345 P **P** 05 44 03.6 -0.7
MNTX Cornudas Mount 34.32 324 P **P** 05 44 05.6 +0.8
baz=137,SNR=17
MNTX Cornudas Mount 34.32 324 P **P** 05 44 05.2 +0.5
Q58A Fox Den Farm, 34.39 7 P **P** 05 44 05.2 0.0
baz=189
Q57A Strasburg 34.41 6 P **P** 05 44 05.4 0.0
baz=187
Q59A Harwood 34.45 8 P **P** 05 44 06.2 +0.4
baz=190
PRPB Parauapebas 34.50 108 *e*P **P** 05 44 05.7 -0.9
T35A Sooner Cattle 34.51 340 P **P** 05 44 05.4 -1.0
T35A IAmb IAmb 05 44 06.9
comp=Z,19nm,0.9s
R40A Maddies Statio 34.58 347 P **P** 05 44 06.2 -0.7
R40A IAmb IAmb 05 44 08.6
comp=Z,19nm,1.5s
P53A Whipple 34.66 2 P **P** 05 44 07.5 -0.1
baz=182
CROK Carrier 34.67 338 P **P** 05 44 07.0 -0.7
CROK IAmb IAmb 05 44 21.7
comp=Z,16nm,0.8s
Q61A Milford 34.68 10 P **P** 05 44 07.5 -0.2
baz=193
P48A Milroy 34.71 356 P **P** 05 44 06.7 -1.3
P48A IAmb IAmb 05 44 11.6
comp=Z,24nm,0.9s
Q60A Greensboro 34.71 9 P **P** 05 44 09.0 +1.0
baz=192
P49A Miami Univ. Ec 34.74 357 P **P** 05 44 08.1 -0.2
baz=176
P54A Burton 34.81 3 P **P** 05 44 09.2 +0.3
baz=184
P56A Dayton Farm, R 34.83 5 P **P** 05 44 09.6 +0.5
baz=187
AMTX Amarillo 34.84 332 P **P** 05 44 10.7 +1.3
baz=145
AMTX Amarillo 34.84 332 P **P** 05 44 09.6 +0.2
P57A Homestead Farm 34.89 6 P **P** 05 44 11.1 +1.6
baz=188
P57A Homestead Farm 34.89 6 P **P** 05 44 09.5 0.0
P57A IAmb IAmb 05 44 13.5
comp=Z,28nm,1.3s
U32A Winter Ranch, 34.95 337 P **P** 05 44 10.0 -0.1
U32A IAmb IAmb 05 44 16.9

comp=Z,21nm,0.9s
P58A Pank, Wackersv 34.98 7 P P 05 44 10.3 0.0
baz=189
P59A Jarrettsville 35.22 8 P P 05 44 12.8 +0.4
baz=191
O51A Pataskala 35.30 0 P P 05 44 12.6 -0.6
baz=180
P43A Skaggs, Pawnee 35.35 351 P P 05 44 12.8 -0.7
P43A IAmb IAmb 05 44 17.5
comp=Z,31nm,1.1s
AC05 El Transito 35.39 161 P P 05 44 14.3 +0.2
ACSO Alum Creek Sta 35.39 360 P P 05 44 13.3 -0.5
baz=179
O53A New Philadelph 35.43 2 P P 05 44 14.0 -0.2
baz=182
O55A Ligonier 35.49 4 P P 05 44 14.8 +0.1
baz=186
P60A Greenville 35.53 9 P P 05 44 15.0 -0.1
baz=192
MVL Millersville 35.61 8 P P 05 44 15.6 -0.2
MVL IAmb IAmb 05 44 19.5
comp=Z,31nm,1.2s
O56A Blue Knob Stat 35.61 5 P P 05 44 16.7 +0.8
baz=187
O56A Blue Knob Stat 35.61 5 P P 05 44 15.6 -0.2
O56A IAmb IAmb 05 44 20.3
comp=Z,16nm,1.1s
O57A Amberson 35.65 7 P P 05 44 16.9 +0.7
baz=188
O58A Lewisberry 35.65 8 P P 05 44 17.0 +0.8
baz=190
WUPA West Chester U 35.66 9 P P 05 44 15.0 -1.1
O44A Mansfield 35.70 352 P P 05 44 15.3 -1.2
O44A IAmb IAmb 05 44 18.1
comp=Z,26nm,1.1s
P40A Paris 35.72 347 P P 05 44 15.9 -0.8
P40A IAmb IAmb 05 44 34.9
comp=Z,7.7nm,0.5s
SFIN Lafayette 35.76 354 P P 05 44 16.7 -0.4
baz=172
PAGS Pennsylvania G 35.78 8 P P 05 44 17.1 -0.2
PAGS IAmb IAmb 05 44 20.2
comp=Z,24nm,1.1s
O59A Robesonia 35.94 8 P P 05 44 19.4 +0.8
baz=191
VCA Vinchina 36.01 158 *i* **P P 05 44 21.7 +2.2**
SSPA Standing Stone 36.04 6 P P 05 44 19.8 +0.3
baz=188
SSPA Standing Stone 36.04 6 P P 05 44 19.6 +0.1
SSPA IAmb IAmb 05 44 24.7
comp=Z,21nm,1.1s
O60A Telford 36.07 9 P P 05 44 20.4 +0.7
baz=192
N55A Marion Center 36.09 5 P P 05 44 20.4 +0.5
baz=186
P38A Dawn 36.15 346 P P 05 44 20.2 -0.2
P38A IAmb IAmb 05 44 22.1
comp=Z,11nm,0.8s
N57A Milroy 36.20 7 P P 05 44 20.1 -0.7
baz=188
HDIL Hopedale 36.21 351 P P 05 44 19.9 -1.0
baz=169
N56A West Decatur 36.28 6 P P 05 44 21.0 -0.5
baz=187
121A Cookes Peak, D 36.34 323 P P 05 44 24.2 +1.9
baz=134,SNR=11
GO04 Tololo Observa 36.47 163 P P 05 44 23.7 +0.1
319A Douglas 36.49 320 P P 05 44 22.5 -1.1
319A IAmb IAmb 05 44 26.1
comp=Z,16nm,0.8s
KSU1 Kansas State U 36.53 342 P P 05 44 23.2 -0.4
baz=156,SNR=7.2
KSU1 Kansas State U 36.53 342 P P 05 44 23.4 -0.2
KSU1 IAmb IAmb 05 44 24.1
comp=Z,24nm,0.8s
N59A State Game Lan 36.59 9 P P 05 44 25.2 +1.0
baz=191
N41A Harden Midland 36.62 349 P P 05 44 22.9 -1.5
N41A IAmb IAmb 05 44 25.8
comp=Z,19nm,0.8s
ARAG Araguaiana, MT 36.63 124 *eP* **P 05 44 23.9 -0.9**
R32A Long Quarter, 36.63 339 P P 05 44 24.0 -0.6
R32A IAmb IAmb 05 44 25.7
comp=Z,30nm,1.2s
N61A South Mountain 36.68 11 P P 05 44 26.6 +1.7
baz=194
CYA Choya 36.71 155 *i* **P P 05 44 26.2 +0.8**
M55A Ridgway 36.79 5 P P 05 44 25.9 +0.1
baz=186
BNM Barren Site 36.82 326 P P 05 44 27.7 +1.2
M57A Sunshine Farm, 36.82 7 P P 05 44 26.4 +0.3
baz=189
M56A Emporium 36.85 6 P P 05 44 26.5 +0.1
M56A IAmb IAmb 05 44 34.3
comp=Z,17nm,0.8s
AROD Rodeo 36.88 161 *i* **P P 05 44 29.1 +2.0**
M58A Price's Panora 36.94 8 P P 05 44 27.9 +0.7
baz=190
LENM Lemitar 37.03 325 P P 05 44 27.9 -0.3
ACLC CERRO LA CRUZ 37.11 157 *i* **P P 05 44 30.0 +1.1**
M60A Port Jervis 37.18 10 P P 05 44 29.8 +0.6
baz=193
N38A Joes South Fir 37.19 347 P P 05 44 28.7 -0.5
HQIL Hanson Quary C 37.25 354 P P 05 44 28.8 -0.9
M59A Waymart 37.26 9 P P 05 44 30.8 +0.9
baz=192
ANMO Albuquerque 37.32 327 P P 05 44 32.0 +1.3
baz=138
ANMO Albuquerque 37.32 327 P P 05 44 32.0 +1.3
ANMO IAmb IAmb 05 44 39.9
comp=Z,16nm,1.0s
CO02 Combarbal 37.38 163 P P 05 44 32.1 +1.0
ACCO Cerro Coronel 37.40 161 *i* **P P 05 44 33.0 +1.4**
SMTB Santa Maria do 37.44 111 *eP* **P 05 44 31.5 -0.3**
L54A Sinclairville 37.51 4 P P 05 44 32.5 +0.5
baz=185
L57A Andrews Acres 37.51 7 P P 05 44 32.4 +0.4
baz=189
L55A Hinsdale 37.52 5 P P 05 44 31.8 -0.3
baz=187
L56A Greenwood 37.56 6 P P 05 44 33.3 +0.8
baz=188
M62A Hamden 37.62 12 P P 05 44 33.6 +0.7
baz=196
L58A Harry Jones Me 37.69 8 P P 05 44 34.3 +0.8
baz=191
M63A Gales Ferry 37.77 13 P P 05 44 34.2 +0.1
baz=197
BINY Binghamton 37.82 8 P P 05 44 35.4 +0.8
baz=191
N35A Tabor 37.87 344 P P 05 44 33.5 -1.5
N35A IAmb IAmb 05 44 40.4
comp=Z,17nm,0.9s
L60A Shokan 37.89 10 P P 05 44 36.8 +1.6
baz=194
L59A Walton 37.95 9 P P 05 44 36.2 +0.4
baz=192
T25A Trinidad 37.96 331 P P 05 44 37.1 +1.0
baz=143
T25A Trinidad 37.96 331 P P 05 44 38.0 +1.9
T25A IAmb IAmb 05 44 38.6
comp=Z,21nm,1.1s
L40A Anamosa 38.00 350 P P 05 44 34.7 -1.3
TUC Tucson 38.06 320 P P 05 44 38.1 +1.2
baz=130
TUC Tucson 38.06 320 P P 05 44 37.8 +0.9
H03N2 Juan Fernandez 38.08 175 T T 06 24 59.2
baz=354,slow=76,SNR=17
H03N1 Juan Fernandez 38.08 175 T T 06 24 55.9
baz=354,slow=76,SNR=18
H03N3 Juan Fernandez 38.10 175 T T 06 24 54.7
baz=354,slow=76,SNR=129
APLL PUNTA DE LOS L 38.14 157 *i* **P P 05 44 38.2 +0.8**
K56A Middlesex 38.14 6 P P 05 44 38.3 +0.9
baz=188
L61A Hillsdale 1, H 38.22 11 P P 05 44 39.3 +1.4
baz=195
K57A Scipio Center 38.27 7 P P 05 44 38.5 0.0
baz=190
N33A J Bar K, Exete 38.29 342 P P 05 44 38.7 +0.2
ZON Zonda 38.41 161 P P 05 44 40.5 +0.8
ZON IAmb IAmb 05 44 42.2
comp=Z,55nm,1.3s
ZON Zonda 38.41 161 *i* **P P 05 44 41.0 +1.3**
K58A Earlville 38.42 8 P P 05 44 40.4 +0.7
baz=191

RTLS Leoncito 38.44 162 *i* **P P 05 44 41.9 +1.6**
L61B Northampton 38.63 12 P P 05 44 42.2 +0.8
baz=196
RTCV Cerro Valdivia 38.75 161 *i* **P P 05 44 43.8 +1.3**
J56A Wolcott 38.77 7 P P 05 44 42.6 +0.1
baz=189
J56A Wolcott 38.77 7 P P 05 44 42.1 -0.4
J56A IAmb IAmb 05 44 43.4
comp=Z,27nm,0.8s
AUSP Uspallata 38.81 162 *i* **P P 05 44 45.0 +1.6**
K38A Parkersburg 38.86 348 P P 05 44 41.9 -1.5
K38A IAmb IAmb 05 44 42.6
comp=Z,11nm,0.6s
SDCO Great Sand Dun 38.97 331 P P 05 44 46.5 +1.8
baz=142,SNR=37
SDCO Great Sand Dun 38.97 331 P P 05 44 46.1 +1.4
SDCO IAmb IAmb 05 44 53.9
comp=Z,28nm,1.1s
VA03 San Esteban 38.97 164 P P 05 44 45.0 +0.5
VA03 IAmb IAmb 05 44 46.1
comp=Z,31nm,0.8s
ROC1 El Roble 39.04 164 P P 05 44 45.6 +0.3
J58A Remsen 39.06 9 P P 05 44 45.7 +0.7
baz=192
K63A Dunstable 39.11 13 P P 05 44 45.6 +0.2
baz=198
214A Organ Pipe Nat 39.18 317 P P 05 44 47.7 +1.5
baz=128,SNR=6.0
214A Organ Pipe Nat 39.18 317 P P 05 44 45.7 -0.5
J60A Lant Hill Farm 39.26 11 P P 05 44 47.9 +1.3
baz=194
J59A Piesco 39.28 9 P P 05 44 47.7 +0.8
baz=193
PEL Peldehue 39.29 164 P P 05 44 47.7 +0.6
PEL IAmb IAmb 05 44 55.0
comp=Z,28nm,1.1s
W18A Petrified Fore 39.30 324 P P 05 44 48.8 +1.4
baz=134
W18A Petrified Fore 39.30 324 P P 05 44 47.6 +0.3
W18A IAmb IAmb 05 44 50.7
comp=Z,45nm,1.0s
ASAL Salagasta 39.32 161 *i* **P P 05 44 49.1 +1.6**
I58A Old Forge 39.43 9 P P 05 44 48.5 +0.3
baz=192
I42A Draeger Farm, 39.44 353 P P 05 44 48.0 -0.1
MT05 Renca 39.51 164 P P 05 44 48.9 0.0
MT05 IAmb IAmb 05 44 50.1
comp=Z,35nm,1.1s
ARCO CERRO ARCO 39.52 162 *i* **P P 05 44 50.9 +1.7**
I57A Carthage 39.57 8 P P 05 44 49.4 +0.2
baz=191
S22A 4UR Ranch, Cre 39.63 329 P P 05 44 52.0 +1.8
baz=140,SNR=16
S22A 4UR Ranch, Cre 39.63 329 P P 05 44 51.2 +1.0
I59A Olmsteadville 39.71 10 P P 05 44 51.1 +0.7
baz=194
TCA Tanti 39.74 156 *i* **P P 05 44 51.0 0.0**
Q24A Divide 39.77 332 P P 05 44 52.5 +1.1
baz=143
Q24A Divide 39.77 332 P P 05 44 51.8 +0.4
AAGR Agrelo 39.78 162 *i* **P P 05 44 52.7 +1.4**
BDFB Brasilia 39.78 121 P P 05 44 50.8 -0.7
comp=Z,11nm,0.9s,baz=280,slow=5.5,SNR=8.3
BDFB LR LR 06 01 49.6
comp=Z,1µm,18.6s,baz=291,slow=37
X16A Lo Mia Camp, P 39.85 322 P P 05 44 52.3 +0.3
I60A Shoreham 39.86 11 P P 05 44 53.3 +1.6
baz=195
ITRB Iturama 39.94 128 *eP* **P 05 44 52.3 -0.3**
TRCB Terra Rica 40.07 134 *eP* **P 05 44 52.7 -1.0**
MVCO Mesa Verde 40.10 327 P P 05 44 55.7 +1.6
baz=138,SNR=17
MVCO Mesa Verde 40.10 327 P P 05 44 53.9 -0.2
MVCO IAmb IAmb 05 45 03.1
comp=Z,22nm,0.8s
H57A Richville 40.12 8 P P 05 44 54.7 +0.9
baz=191
I61A Oroboro, Fairl 40.15 12 P P 05 44 54.9 +0.8
baz=196
113A Mohawk Valley, 40.31 318 P P 05 44 55.8 +0.2
PCMB Pacaembu 40.34 132 *eP* **P 05 44 54.9 -1.1**
K31A O'Neill 40.41 342 P P 05 44 56.2 -0.1
VT1 Waterbury 40.43 11 P P 05 44 55.9 -0.5
VT1 IAmb IAmb 05 45 08.1
comp=Z,21nm,0.9s
PLVO Plevna 40.49 6 P P 05 44 56.5 -0.3
PLVO IAmb IAmb 05 45 04.2
comp=Z,15nm,0.7s
Y14A Wickenburg 40.53 320 P P 05 44 59.0 +1.4
WUAZ Wupatki 40.55 323 P P 05 45 00.0 +2.3
baz=133,SNR=32
WUAZ Wupatki 40.55 323 P P 05 44 58.9 +1.1
WUAZ IAmb IAmb 05 45 00.8
comp=Z,34nm,0.8s
H59A Cadyville 40.57 10 P P 05 44 59.1 +1.6
baz=194
I63A Otisfield 40.62 13 P P 05 44 59.7 +1.8
baz=199
ISCO Idaho Springs 40.65 333 P P 05 44 60.0 +1.3
baz=143,SNR=11
ISCO Idaho Springs 40.65 333 P P 05 44 56.8 -1.9
H60A Morristown 40.66 11 P P 05 44 59.4 +1.1
baz=195
IPMB Ipameri, GO 40.75 124 *eP* **P 05 44 58.3 -1.2**
GO05 Huala 40.75 166 *i* **P P 05 44 59.4 +0.2**
ECSD EROS Data Cent 40.80 344 P P 05 44 58.4 -1.1
baz=158
G57A Newington 40.81 8 P P 05 44 59.9 +0.4
baz=192
PV01 Paradox Valley 40.82 328 P P 05 44 59.1 -0.9
BO02 Sierra Bellavi 40.83 165 P P 05 44 59.7 -0.2
PV15 Paradox Valley 40.93 328 P P 05 45 00.5 -0.5
PV15 IAmb IAmb 05 45 05.9
comp=Z,26nm,1.0s
SDBA SAO DESIDERIO 41.17 115 *eP* **P 05 45 02.4 -0.6**
GLA Glamis 41.20 317 P P 05 45 04.2 +1.2
baz=126
G60A Manonville 41.25 11 P P 05 45 03.8 +0.7
baz=196
ALGO Algonquin Park 41.30 5 P P 05 45 02.9 -0.7
baz=187
SPMN Marine on St. 41.35 349 P P 05 45 03.7 -0.2
ESJX Sierra Juarez 41.37 315 P P 05 45 03.6 -0.9
RFA San Rafael 41.45 162 *i* **P P 05 45 05.9 +0.9**
N23A Red Feather La 41.68 333 P P 05 45 08.3 +1.2
baz=144,SNR=6.1
N23A Red Feather La 41.68 333 P P 05 45 07.2 +0.1
PTGB Pitanga 41.69 136 *eP* **P 05 45 06.2 -1.0**
G62A West of Eustis 41.74 13 P P 05 45 08.8 +1.7
baz=198
G62A West of Eustis 41.74 13 P P 05 45 07.0 -0.1
G62A IAmb IAmb 05 45 16.4
comp=Z,29nm,0.9s
PHWY Pilot Hill 41.80 334 P P 05 45 07.1 -0.9
SWSC Sam W. Stewart 41.80 316 P P 05 45 08.9 +1.0
baz=125
W13A Hualapai Mount 41.83 320 P P 05 45 09.7 +1.3
IKP In-Ko-Pah, Jac 41.85 316 P P 05 45 09.6 +1.2
baz=124
BC3 Big Chuckawall 41.98 317 P P 05 45 10.8 +1.3
baz=126,SNR=5.8
IRM Iron Mountain 42.07 318 P P 05 45 11.3 +1.2
baz=127,SNR=8.7
BB19B Bebedouro 42.12 129 *eP* **P 05 45 09.9 -0.7**
F60A Warwick 42.16 11 P P 05 45 11.5 +0.9
baz=196
O20A White River Ci 42.17 330 P P 05 45 12.1 +1.1
baz=140,SNR=8.2
O20A White River Ci 42.17 330 P P 05 45 10.8 -0.2
MONP2 Monument Peak 42.20 316 P P 05 45 11.6 +0.2
baz=124
E57A Chemin Saint G 42.21 9 P P 05 45 11.2 +0.1
baz=193
E56A St. Veronique 42.21 8 P P 05 45 11.3 +0.3
baz=191
BI03 Tigo 42.28 169 P P 05 45 11.8 +0.1
BI03 IAmb IAmb 05 45 13.0
comp=Z,22nm,0.7s
KNB Kanab 42.42 323 P P 05 45 14.3 +1.2
E38A The Farm, Brul 42.47 351 P P 05 45 11.7 -1.4
E38A IAmb IAmb 05 45 20.4
comp=Z,24nm,0.6s
BI02 San Fabin de 42.48 166 P P 05 45 13.6 +0.1
BI02 IAmb IAmb 05 45 16.2
comp=Z,27nm,1.2s

BELC Belle Mtn. Jos 42.55 317 P P 05 45 15.4 +1.3
baz=126,SNR=10
SRU San Rafael Swe 42.58 327 P P 05 45 15.0 +0.6
D55A Sainte-Anne-du 42.62 7 P P 05 45 15.0 +0.6
baz=190
PFO Pinyon Flats O 42.63 317 LR LR 06 02 08.7
comp=Z,671nm,18.8s,baz=130,slow=35
PFO Pinyon Flats O 42.63 317 P P 05 45 13.5 -1.3
E60A Ste Agathe de 42.64 11 P P 05 45 15.6 +1.2
baz=196
LCMT Little Creek M 42.67 323 P P 05 45 15.3 +0.3
109C Camp Elliot, M 42.67 315 P P 05 45 15.6 +0.6
baz=124
JANB Januaria 42.74 118 *eP* **P 05 45 15.2 -0.6**
GMRC Granite Mounta 42.78 319 P P 05 45 17.2 +1.2
baz=127
D57A Chemin Vers le 42.84 9 P P 05 45 16.4 +0.3
baz=193
RWWY Rawlins 42.89 333 P P 05 45 16.7 -0.3
RWWY IAmb IAmb 05 45 24.6
comp=Z,19nm,0.8s
P17A Butcher Ranch, 42.96 328 P P 05 45 18.1 +0.7
SZCU Shurtz Canyon 42.96 324 P P 05 45 17.7 +0.2
D58A Chemin du LacG 43.08 10 P P 05 45 18.9 +0.8
baz=194
TMUT Trail Mountain 43.08 327 P P 05 45 17.2 -1.3
CCUT Cedar City 43.10 324 P P 05 45 20.3 +1.7
MURC Murrieta 43.13 316 P P 05 45 18.9 +0.1
baz=124
RDMU Red Mountain 43.16 330 P P 05 45 19.7 +0.6
HEC Hector,Ludlow 43.26 318 P P 05 45 21.3 +1.5
baz=126
K22A Casper 43.35 334 P P 05 45 21.4 +0.9
baz=144,SNR=7.2
E64A Bridgewater 43.51 15 P P 05 45 23.1 +1.5
baz=202
RSSD Black Hills 43.56 338 P P 05 45 23.1 +0.9
baz=148
MC01 Montes Claros 43.75 120 *eP* **P 05 45 23.4 -0.6**
EYMN Ely 43.77 351 P P 05 45 22.1 -1.5
baz=167
BFSC Mount Baldy Ra 43.81 317 P P 05 45 25.3 +0.9
baz=124
D62A Allapoint, All 43.83 13 P P 05 45 25.3 +1.2
baz=200
GSC Goldstone, Bar 43.85 318 P P 05 45 25.9 +1.4
baz=126,SNR=7.5
GSC Goldstone, Bar 43.85 318 P P 05 45 25.7 +1.1
SHOC Shoshone, Teco 43.86 320 P P 05 45 25.9 +1.4
baz=127,SNR=9.2
CIS Catalina Islan 43.87 315 P P 05 45 25.7 +0.9
baz=123
PRN Pahroc Range 44.02 322 P P 05 45 26.9 +0.9
PSUT Pine Spring 44.04 324 P P 05 45 27.8 +1.6
JLU Jordanelle 44.15 328 P P 05 45 27.8 +0.7
CTU Camp Tracy 44.37 328 P P 05 45 30.0 +1.2
VAO Valinhos 44.39 130 *eP* **P 05 45 28.3 -0.8**
EDW2 Edwards Air Fo 44.40 317 P P 05 45 29.6 +0.6
baz=124,SNR=8.0
LSQQ Lebel-sur-Quev 44.47 5 P P 05 45 28.9 -0.3
baz=188
TPNV Topopah Spring 44.48 321 P P 05 45 31.1 +1.4
baz=128,SNR=15
TPNV Topopah Spring 44.48 321 P P 05 45 30.6 +0.9
TPNV IAmb IAmb 05 45 38.2
comp=Z,20nm,1.2s
LC01 Cunco 44.49 168 P P 05 45 29.7 +0.1
LC01 IAmb IAmb 05 45 30.3
comp=Z,31nm,1.2s
TCUT Toone Canyon 44.50 329 P P 05 45 31.2 +1.3
LRMC Laurel Mtn Rad 44.53 318 P P 05 45 31.3 +1.2
baz=125,SNR=9.7
E28A Huff 44.56 342 P P 05 45 30.0 -0.1
FURC Furnace Creek, 44.58 320 P P 05 45 31.9 +1.7
baz=127,SNR=14
DUG Dugway, Tooele 44.59 327 P P 05 45 31.7 +1.2
baz=134
DUG Dugway, Tooele 44.59 327 P P 05 45 30.6 +0.1
MPMC Manual Prospec 44.74 319 P P 05 45 32.4 +0.6
baz=126,SNR=7.0
PD31 Pinedale Array 44.82 332 P P 05 45 32.2 -0.2
PDAR Pinedale Array 44.82 332 P P 05 45 32.5 +0.1
comp=Z,2.1nm,0.8s,baz=125,slow=10,SNR=19
PDAR LR LR 06 06 20.7
comp=Z,651nm,19.5s,baz=148,slow=39
PDAR Pinedale Array 44.82 332 P P 05 45 31.8 -0.6
BW06 Boulder Array 44.82 332 P P 05 45 32.8 +0.4
baz=140,SNR=7.5
BW06 Boulder Array 44.82 332 P P 05 45 32.6 +0.2
HWUT Hardware Ranch 44.94 329 P P 05 45 33.6 +0.2
HWUT IAmb IAmb 05 45 37.1
comp=Z,22nm,1.1s
R11A Troy Canyon, C 44.95 323 P P 05 45 34.8 +1.3
baz=130,SNR=26
R11A Troy Canyon, C 44.95 323 P P 05 45 33.5 +0.1
ARVC Arvin 45.11 317 P P 05 45 35.6 +1.1
baz=124
MATQ Matagami 45.11 5 P P 05 45 34.3 0.0
baz=187
ISA Isabella, Lake 45.17 318 P P 05 45 36.3 +1.3
baz=125
ISA Isabella, Lake 45.17 318 P P 05 45 36.4 +1.3
SPUT South Promonto 45.18 328 P P 05 45 35.1 -0.1
GRAC Grapevine Rang 45.22 320 P P 05 45 36.9 +1.4
baz=127,SNR=6.8
BGU Big Grassy Mou 45.22 327 P P 05 45 36.1 +0.5
CWC Cottonwood Cre 45.35 319 P P 05 45 37.7 +1.0
baz=126
AHID Auburn Hatcher 45.56 331 P P 05 45 37.7 -0.5
AHID IAmb IAmb 05 45 43.0
comp=Z,28nm,1.4s
PLTB Pedras Altas 45.59 145 *eP* **P 05 45 38.0 -0.4**
CHGQ Chibougamau 45.60 7 P P 05 45 38.8 +0.6
baz=192
PKM Mcpherson Peak 45.65 316 P P 05 45 40.5 +1.4
baz=123
VES Vestal, Richgr 45.68 318 P P 05 45 40.4 +1.4
baz=124,SNR=8.3
HVU Hansel Valley 45.69 328 P P 05 45 40.0 +0.7
REDW Red Top Meadow 45.89 331 P P 05 45 40.1 -0.8
REDW IAmb IAmb 05 45 46.8
comp=Z,18nm,1.2s
ECR Eagle Creek 45.91 331 P P 05 45 41.7 +0.6
SNOW Snow King Moun 45.92 331 P P 05 45 41.5 +0.3
SNOW IAmb IAmb 05 45 47.5
comp=Z,14nm,1.1s
LOHW Long Hollow 45.96 332 P P 05 45 41.1 -0.3
SMMC Simmler 46.01 316 P P 05 45 43.2 +1.5
baz=123,SNR=6.2
TPAW Teton Pass 46.03 331 P P 05 45 42.6 +0.6
TPAW IAmb IAmb 05 45 47.9
comp=Z,11nm,0.9s
FXWY Fox Creek 46.18 331 P P 05 45 43.4 +0.2
ELK Elko 46.31 326 P P 05 45 44.9 +0.6
ELK IAmb IAmb 05 45 47.1
comp=Z,9.7nm,0.8s
IMW Indian Meadow 46.33 332 P P 05 45 44.0 -0.4
FLWY Flagg Ranch 46.36 332 P P 05 45 43.6 -1.0
FLWY IAmb IAmb 05 45 56.1
comp=Z,11nm,1.1s
GDU01 Guandu, BA 46.48 114 *eP* **P 05 45 43.5 -2.1**
RLMT Red Lodge 46.52 334 P P 05 45 46.3 +0.5
baz=142
RLMT Red Lodge 46.52 334 P P 05 45 45.9 +0.1
RLMT IAmb IAmb 05 45 53.0
comp=Z,16nm,1.3s
PLCA Paso Flores 46.54 167 P P 05 45 45.9 +0.1
comp=Z,10nm,0.9s,baz=344,slow=9.4,SNR=12
PLCA Paso Flores 46.54 167 P P 05 45 45.7 -0.1
PLCA Paso Flores 46.54 167 *eP* **P 05 45 46.2 +0.4**
LAO LASA Array 46.55 338 P P 05 45 46.2 +0.4
baz=147
LAO LASA Array 46.55 338 P P 05 45 46.2 +0.4
LAO IAmb IAmb 05 45 46.9
comp=Z,12nm,0.9s
NV11 Mina Array Sit 46.58 321 P P 05 45 47.2 +0.9
OMMB Old Mammoth Mi 46.63 320 P P 05 45 47.6 +0.7
OMMB IAmb IAmb 05 45 49.3
comp=Z,14nm,1.0s
NVAR Mina Array Bea 46.67 321 P P 05 45 48.5 +1.4
comp=Z,10.0nm,0.7s,baz=136,slow=7.6,SNR=98
NVAR Mina Array Bea 46.67 321 P P 05 45 48.1 +0.9
MDPB Devils Postpil 46.69 320 P P 05 45 47.6 +0.2
MDPB IAmb IAmb 05 45 49.7
comp=Z,16nm,0.9s

ULM	Lac du Bonnet	46.76	348	P	P	05 45 45.9	-1.4
	comp=Z,4.6nm,0.8s,baz=157,slow=7.4,SNR=4.9						
ULM	Lac du Bonnet	46.76	348	P	P	05 45 45.5	-1.8
ULM				IAmb	IAmb	05 45 48.6	
	comp=Z,9.5nm,1.0s						
YNE	Yellowstone No	46.76	333	P	P	05 45 47.7	0.0
KVN	Kaiserville	46.92	322	P	P	05 45 49.9	+0.9
KVN				IAmb	IAmb	05 45 50.5	
	comp=Z,9.7nm,0.9s						
RYN	Ryan	46.93	321	P	P	05 45 48.4	-0.6
RYN				IAmb	IAmb	05 45 51.4	
	comp=Z,11nm,1.0s						
YMR	Madison River	46.93	332	P	P	05 45 50.1	+1.0
YHH	Holmes Hill	46.97	333	P	P	05 45 48.7	-0.7
YHL	Hebgen Lake	47.17	332	P	P	05 45 50.0	-1.0
GCMT	Greycliff	47.22	334	P	P	05 45 50.4	-0.8
QLMT	Earthquake Lak	47.27	332	P	P	05 45 50.9	-0.7
DGMT	Dagmar	47.35	341	P	P	05 45 53.0	+1.0
	baz=150,SNR=6.4						
DGMT	Dagmar	47.35	341	P	P	05 45 51.4	-0.6
WAKR	Walker	47.43	320	P	P	05 45 52.7	-0.4
WAKR				IAmb	IAmb	05 45 55.6	
	baz=116						
YERR	Yerington	47.59	321	P	P	05 45 53.6	-0.6
YERR				IAmb	IAmb	05 46 02.6	
	comp=Z,9.5nm,0.6s						
LL01	San Ignacio de	47.76	170	P	P	05 45 54.5	-0.6
HLID	Hailey	47.81	329	P	P	05 45 56.5	+0.6
	baz=135,SNR=12						
HLID	Hailey	47.81	329	P	P	05 45 55.7	-0.2
HLID				IAmb	IAmb	05 46 05.7	
	comp=Z,5.8nm,0.8s						
PNTR	Pine Nut	47.88	321	P	P	05 45 55.8	-0.7
PNTR				IAmb	IAmb	05 46 00.7	
	comp=Z,8.4nm,0.8s						
MCMT	McKenzie Canyo	47.94	331	P	P	05 45 56.7	-0.2
BOZ	Bozeman (W)	47.94	333	P	P	05 45 57.6	+0.7
	baz=139,SNR=13						
BOZ	Bozeman (W)	47.94	333	P	P	05 45 56.6	-0.2
BOZ				IAmb	IAmb	05 46 06.7	
	comp=Z,8.9nm,0.8s						
VCNR	Virginia City	48.03	321	P	P	05 45 57.3	-0.4
VCNR				IAmb	IAmb	05 45 59.3	
	comp=Z,11nm,1.4s						
PAHR	Pah Rah Range	48.11	322	P	P	05 45 57.8	-0.4
DLMT	Dillon	48.22	332	P	P	05 45 57.7	-1.3
MFID	Camas Ranch	48.44	328	P	P	05 46 00.0	-0.6
MFID				IAmb	IAmb	05 46 09.2	
	comp=Z,14nm,1.4s						
HRY	Holter Researc	48.88	334	P	P	05 46 02.7	-1.3
EGMT	Eagleton	49.03	336	P	P	05 46 05.8	+0.7
	baz=143						
ORV	Oroville	49.35	320	P	P	05 46 07.7	+0.1
ORV				IAmb	IAmb	05 46 10.2	
	comp=Z,18nm,1.1s						
PLID	Pearl Lake	49.69	329	P	P	05 46 10.2	-0.1
J08A	Circle Bar Ran	49.85	326	P	P	05 46 11.6	+0.2
J08A				IAmb	IAmb	05 46 19.0	
	comp=Z,9.8nm,0.7s						
MSO	Missoula	49.93	332	P	P	05 46 12.7	+0.6
	baz=137						
MSO	Missoula	49.93	332	P	P	05 46 12.5	+0.5
O03E	Paynes Creek	49.96	321	P	P	05 46 12.2	-0.1
	baz=125						
MOD	Modoc Plateau	49.99	323	P	P	05 46 12.5	0.0
BMO	Blue Mountains	50.20	328	P	P	05 46 13.6	-0.5
O02D	Mt. Diablo Mer	50.52	320	P	P	05 46 16.3	-0.2
	baz=124						
M04C	Macdoel	50.84	322	P	P	05 46 19.5	+0.5
	baz=126						
I07A	Izee	50.88	326	P	P	05 46 19.2	-0.1
N02D	Trinity Center	50.91	321	P	P	05 46 20.0	+0.5
	baz=124						
F10A	Beach Ranch, E	50.92	329	P	P	05 46 19.4	-0.1
KMRM	Mail Ridge	51.13	320	P	P	05 46 19.6	-1.6
M02C	Callahan	51.24	321	P	P	05 46 21.7	-0.2
	baz=124						
K04D	Chiloquin, OR	51.28	323	P	P	05 46 22.8	+0.5
	baz=125						
YBH	Yreka Blue Hor	51.34	322	P	P	05 46 22.1	-0.7
G08A	Pilot Rock	51.37	328	P	P	05 46 23.1	+0.2
G08A				IAmb	IAmb	05 46 29.8	
	comp=Z,18nm,1.3s						
J05D	Fort Rock, OR	51.37	324	P	P	05 46 23.7	+0.7
	baz=127,SNR=5.1						
L04D	Klamath Falls	51.37	323	P	P	05 46 23.5	+0.4
	baz=126						
SCHQ	Schefferville	51.61	12	P	P	05 46 25.7	+1.3
	comp=Z,11nm,0.7s,baz=216,slow=6.6,SNR=5.4						
SCHQ				LR	LR	06 07 32.4	
	comp=Z,324nm,22.0s,baz=212,slow=35						
SCHQ	Schefferville	51.61	12	P	P	05 46 24.2	-0.2
E09A	Wood Farm, Sta	51.76	329	P	P	05 46 25.9	+0.2
E09A				IAmb	IAmb	05 46 34.2	
	comp=Z,33nm,1.3s						
J04D	Umpqua Nationa	51.86	324	P	P	05 46 27.1	+0.4
	baz=126,SNR=7.1						
KRMB	Red Mountain	51.97	321	P	P	05 46 26.9	-0.5
I05D	Terrebonne, OR	52.07	325	P	P	05 46 28.9	+0.8
	baz=128,SNR=7.9						
E08A	Dider Farm, El	52.21	329	P	P	05 46 29.1	+0.1
F07A	Phinny Hill Vi	52.28	328	P	P	05 46 29.7	+0.2
F07A				IAmb	IAmb	05 46 38.7	
	comp=Z,33nm,1.5s						
I04A	Tendick Farm,	52.36	324	P	P	05 46 30.5	+0.2
	baz=126						
HAWA	Hanford	52.39	328	P	P	05 46 30.2	-0.2
NEW	Newport	52.46	332	P	P	05 46 31.6	+0.7
	baz=135						
NEW	Newport	52.46	332	P	P	05 46 30.7	-0.2
K02D	Willamette Mer	52.47	322	P	P	05 46 31.9	+0.7
	baz=124						
D08A	Wollman Farm,	52.52	329	P	P	05 46 30.7	-0.6
G05D	Wamic, OR	52.62	326	P	P	05 46 33.4	+1.3
	baz=128						
E07A	Sunnyside	52.67	328	P	P	05 46 32.8	+0.3
E07A				IAmb	IAmb	05 46 40.5	
	comp=Z,12nm,0.7s						
C09A	Chrisman Ranch	52.70	330	P	P	05 46 32.4	-0.2
H04A	Detroit Lake	52.76	325	P	P	05 46 33.2	0.0
I03D	Drain, OR	52.86	324	P	P	05 46 34.5	+0.6
	baz=125						
J01E	Myrtle Point	52.90	323	P	P	05 46 35.6	+1.4
	baz=124						
H04D	Lebanon	52.98	325	P	P	05 46 36.0	+1.2
	baz=126						
F05D	White Salmon	53.10	327	P	P	05 46 36.5	+0.9
	baz=129,SNR=11						
I02D	Swisshome	53.39	324	P	P	05 46 38.5	+0.8
	baz=125						
LTY	Liberty	53.55	329	P	P	05 46 39.1	+0.1
LTY				IAmb	IAmb	05 46 56.2	
	comp=Z,15nm,1.2s						
B08A	Colville Reser	53.60	330	P	P	05 46 38.5	-0.8
G03D	McMinnville, O	53.69	325	P	P	05 46 40.3	+0.3
	baz=126						
LON	Longmire	53.83	327	P	P	05 46 40.1	-1.0
LON				IAmb	IAmb	05 46 48.7	
	comp=Z,8.8nm,0.8s						
E04D	Cinebar	54.12	327	P	P	05 46 43.6	+0.6
	baz=128						
D05A	Enumclaw	54.20	328	P	P	05 46 43.0	-0.6
E03A	Lebam	54.66	326	P	P	05 46 46.2	-0.7
E03A				IAmb	IAmb	05 46 58.0	
	comp=Z,19nm,1.0s						
B05A	Bryant	54.93	329	P	P	05 46 49.5	+0.6
	baz=129						
D03D	Eldon	55.00	328	P	P	05 46 50.1	+0.7
	baz=128						
NLWA	Neilton Lookou	55.33	327	P	P	05 46 51.3	-0.6
NLWA				IAmb	IAmb	05 47 00.5	
	comp=Z,16nm,1.1s						
A04D	Lummi Island	55.53	329	P	P	05 46 53.9	+0.6
	baz=129,SNR=7.6						
GO09	Cerro Castillo	56.43	172	P	P	05 47 00.4	+0.8
TAOE	Nuku Hiva Isla	58.90	257	*e*S	S	05 55 17.4	-6.9
	comp=Z,101nm,26.0s						
TAOE				*e*LQ	LQ	06 02 06.2	
	comp=Z,1μm,30.7s						
TAOE				*e*LR	LR	06 04 35.2	
	comp=Z,568nm,25.3s						
YKA	Yellowknife Ar	62.33	344	P	P	05 47 39.8	-0.4
	comp=Z,2.8nm,0.8s,baz=136,slow=6.8,SNR=6.0						
YKA				LR	LR	06 15 57.4	
	comp=Z,166nm,20.3s,baz=0.0,slow=37						
PPT2	Papeete2	69.64	249	*e*S	S	05 57 32.7	-4.5
	comp=Z,109nm,24.0s						
PPT2				*e*LQ	LQ	06 06 42.0	
	comp=Z,601nm,27.0s						
PPT2				*e*LR	LR	06 09 32.5	
	comp=Z,767nm,29.8s,baz=86						
TBI	Tubuai	70.82	243	*e*S	S	05 57 44.7	-6.0
	comp=Z,166nm,27.8s						
TBI				*e*LQ	LQ	06 07 11.3	
	comp=Z,713nm,33.0s						
TBI				*e*LR	LR	06 10 10.5	
	comp=Z,2μm,27.2s,baz=79						
DAWY	Dawson	71.75	337	P	P	05 48 40.1	-0.1
DAWY				IAmb	IAmb	05 48 48.0	
	comp=Z,8.2nm,0.9s						
EPYK	Eagle Plains	71.94	340	P	P	05 48 41.8	+0.5
	baz=122						
INK	Inuvik	72.00	342	P	P	05 48 41.1	-0.4
INK				IAmb	IAmb	05 48 49.9	
	comp=Z,18nm,0.9s						
BCAR	Beaver Creek A	72.24	336	P	P	05 48 43.0	-0.2
K27K	Chicken	72.78	337	P	P	05 48 47.7	+1.4
	baz=116						
SUMG	Summit	72.98	13	P	P	05 48 48.1	+0.3
SUMG	Summit	72.98	13	*i* P	P	05 48 47.0	-0.8
	comp=Z,46nm,0.8s						
SUMG	Summit	72.98	13	*i* P	P	05 48 47.0	-0.8
SUMG				IAmb	IAmb	05 48 55.1	
	comp=Z,46nm,0.8s						
PCAS	Casmilo, Conde	74.86	50	*e*P	P	05 49 00.3	+1.3
	comp=Z,74nm,1.5s						
HDA	Harding Lake	74.89	336	P	P	05 48 59.3	+0.6
	baz=112						
COI	Coimbra	74.94	50	*e*P	P	05 49 01.3	+1.9
	comp=Z,61nm,1.6s						
PMTG	Montargil	74.96	51	*e*P	P	05 49 02.6	+3.0
	comp=Z,28nm,1.6s						
ILAR	Eielson Array	75.00	336	P	P	05 48 59.5	+0.2
	comp=Z,4.1nm,0.8s,baz=131,slow=3.0,SNR=8.8						
PVIS	Viseu	75.39	49	*e*P	P	05 49 02.0	-0.1
	comp=Z,38nm,1.7s						
CUT	Chulitna	75.61	334	P	P	05 49 04.6	+1.8
	baz=108						
PCBR	Castelo Branco	75.62	50	*e*P	P	05 49 03.6	+0.3
	comp=Z,23nm,1.9s						
PMRV	Marv??o	75.64	51	*e*P	P	05 49 04.2	+0.7
	comp=Z,24nm,0.8s						
MVO	Mocorvo	76.10	49	*e*P	P	05 49 06.9	+0.8
	comp=Z,27nm,1.5s						
TIC	Toumodi	77.19	84	*e*P	P	05 49 16.5	+3.7
LIC	Lamto	77.21	85	*e*P	P	05 49 13.8	+0.9
	comp=Z,12nm,0.8s						
TOLK	Toolik Lake Re	77.38	340	P	P	05 49 14.7	+1.9
	baz=110						
KIC	Kosan Boka	77.48	85	*e*P	P	05 49 15.0	+0.6
	comp=Z,11nm,0.9s						
IMAR	Indian Mountai	78.11	337	P	P	05 49 17.0	+0.2
ESDC	Sonseca Array	78.30	51	P	P	05 49 19.1	+0.6
	comp=Z,3.9nm,1.0s,baz=276,slow=5.5,SNR=12						
ESDC	Sonseca Array	78.30	51	P	P	05 49 18.6	0.0
TOA0	Torodi Ar. Sit	83.44	77	P	P	05 49 45.3	-1.1
TOA0				IAmb	IAmb	05 50 11.8	
	comp=Z,13nm,1.4s						
TORD	Torodi Ar. Bea	83.44	77	P	P	05 49 47.5	+1.1
	comp=Z,1.2nm,0.7s,baz=301,slow=5.9,SNR=5.4						
TORD				LR	LR	06 24 01.3	
	comp=Z,109nm,21.1s,baz=295,slow=34						
TORD	Torodi Ar. Bea	83.44	77	P	P	05 49 46.0	-0.4
ECH	Echery	86.40	42	P	P	05 49 59.4	-1.3
ECH				IAmb	IAmb	05 50 08.5	
	comp=Z,17nm,1.3s						
NOA	NORSAR Array B	87.80	29	P	P	05 50 07.0	-0.2
	comp=Z,2.8nm,1.1s,baz=274,slow=4.4,SNR=2.6						
NOA				LR	LR	06 25 18.1	
	comp=Z,111nm,21.8s,baz=270,slow=33						
GRF	Grafenberg Arr	88.96	40	*e*P	P	05 50 16.0	+3.1
	comp=Z,3.0nm,0.7s,baz=269,slow=5.2						
VNA3	Neumayer Olymp	88.99	162	P	P	05 50 12.0	-0.5
VNA1	Neumayer--Stat	89.26	161	P	P	05 50 14.0	+0.2
CLL	Collm	89.90	39	*e*P	P	05 50 18.0	+0.7
	comp=Z,31nm,1.9s						
CLL				L	L	06 23 00.0	
	comp=Z,300nm,21.9s						
BRG	Berggiesshubel	90.55	39	*e*(P)	P	05 50 22.5	+2.2
	comp=Z,4.0nm,1.0s						
GERES	GERESS Array B	90.67	41	P	P	05 50 20.7	-0.4
	comp=Z,1.1nm,0.8s,baz=316,slow=3.7,SNR=5.1						
GERES				LR	LR	06 24 34.2	
	comp=Z,153nm,21.4s,baz=278,slow=31						
GERES	GERESS Array B	90.67	41	P	P	05 50 19.7	-1.4
SNAA	Sanae	91.21	162	P	P	05 50 22.1	-0.9
SNAA	Sanae	91.21	162	P	P	05 50 22.3	-0.7
	comp=Z,1.2nm,0.8s,baz=304,slow=1.3,SNR=8.6						
QSPA	South Pole Qui	94.70	180	P	P	05 50 39.6	+0.4
	comp=Z,8.7nm,1.1s,baz=139,slow=1.8,SNR=9.6						
FINES	FINESS Array B	94.73	27	LR	LR	06 35 38.8	
	comp=Z,114nm,18.4s,baz=284,slow=37						
VNDA	Vanda	99.94	191	LR	LR	06 27 53.9	
	comp=Z,142nm,19.4s,baz=114,slow=30						
AKASG	Malin Array Be	99.98	37	LR	LR	06 36 38.1	
	comp=Z,85nm,18.5s,baz=300,slow=36						
SYO	Syowa Base	105.50	162	⇑*e*pPKiKP	PKiKP	05 55 44.1	+3.3
H11N3	WAKE ISLAND Hyl	107.51	292	T	T	07 51 53.2	
	baz=79,slow=75,SNR=205						
H11N2	WAKE ISLAND Hyl	107.52	292	T	T	07 51 58.1	
	baz=79,slow=75,SNR=160						
H11N1	WAKE ISLAND Hyl	107.53	292	T	T	07 51 54.5	
	baz=79,slow=75,SNR=187						
H11S2	WAKE ISLAND Hyl	107.95	291	T	T	07 52 27.5	
	baz=76,slow=76,SNR=13						
H11S1	WAKE ISLAND Hyl	107.95	291	T	T	07 52 27.6	
	baz=76,slow=76,SNR=17						
H11S3	WAKE ISLAND Hyl	107.96	291	T	T	07 52 31.8	
	baz=76,slow=76,SNR=14						
DZM	Mont Dzumac	111.13	248	*e*LR	LR	06 28 47.2	
	comp=Z,306nm,30.1s						
MKAR	Makanchi Array	127.03	13	PKP	PKiKP	05 56 23.7	+0.6
	comp=Z,0.8nm,0.7s,baz=336,slow=2.7,SNR=6.6						
SONM	Songino Array	127.10	352	PKP	PKiKP	05 56 24.6	+1.3
	comp=Z,0.8nm,0.6s,baz=122,slow=2.3,SNR=4.1						
WMQ	Urumqi	130.93	9	*e*P	PKPdf	05 56 30.1	-0.1
WMQ				pmax	pmax		
	comp=Z,80nm,7.1s						
WMQ				LR	LR		
	comp=N,310nm,29.0s						
WMQ				LR	LR		
	comp=E,370nm,28.8s						
WMQ				LR	LR		
	comp=Z,100nm,26.1s						
HHC	Hu-ho-hao-te	132.85	345	*e*PKP	PKiKP	05 56 35.9	+0.8
HHC				PP	PP	05 58 59.4	+1.8
HHC				PKS	PKSdf	06 00 10.1	-0.3
HHC	Hu-ho-hao-te	132.85	345	SS	SS	06 16 36.2	-2.3
HHC				AMB	AMB		
	comp=Z,160nm,8.5s						
HHC				LR	LR		
	comp=N,160nm,20.8s						
HHC				LR	LR		
	comp=E,200nm,19.4s						
HHC				LR	LR		
	comp=Z,210nm,20.8s						
NJ2	Nanjing	138.13	332	*e*P	PKPdf	05 56 42.2	-1.6
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
ASAR	Alice Springs	140.05	238	PKhKP	PKPpre	05 56 36.1	
	comp=Z,0.4nm,1.0s,baz=178,slow=6.3,SNR=3.1						
ASAR				PKP	PKPdf	05 56 46.3	-1.3
	comp=Z,1.1nm,0.8s,baz=116,slow=3.4,SNR=9.0						
WRA	Warramunga Arr	140.95	244	PKhKP	PKPpre	05 56 44.7	
	comp=Z,0.9nm,0.8s,baz=119,slow=2.4,SNR=8.9						
CD2	Chengdu	144.08	351	PKP	PKPdf	05 56 54.6	-0.1
H01W1	Cape Leeuwin H	146.16	205	T	T	08 40 50.9	
	baz=150,slow=76,SNR=15						
H01W2	Cape Leeuwin H	146.16	205	T	T	08 40 55.5	
	baz=150,slow=76,SNR=25						
H01W3	Cape Leeuwin H	146.18	205	T	T	08 40 50.0	
	baz=150,slow=76,SNR=17						
GYA	Guiyang	147.76	344	*e*P	PKPab	05 57 10.0	+3.8
GYA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FITZ	Fitzroy Crossi	149.31	242		PKiKP	05 57 09.7	+0.5

NNC 03 05:41:37.8±11.0, 36.95N×70.54E, h151km±198km, mb2.8, mpv3.6, 5C-3D, Error ellipse: s-maj=104.8km s-min=69.1km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.14	360	⇑P	Pn	05 43 08.8	+2.4
	1.1nm,0.3s,baz=181,slow=13,SNR=11						
KK31				⇑S	Sn	05 44 18.3	+2.5
	4.7nm,0.6s,baz=186,slow=24,SNR=7.9						
AAK	Ala-Archa	6.44	27	⇑P	Pn	05 43 10.3	-0.2
	1.5nm,0.4s						
AAK				⇑S	Sn	05 44 24.4	+1.3
	8.9nm,0.8s						
TKM2	Tokmak 2	7.12	32	⇓P	Pn	05 43 18.4	-1.1
	7.5nm,0.6s						
TKM2				⇓S	Sn	05 44 36.7	-2.6
	3.0nm,0.7s						
AB31	Akbulak array	14.51	331	⇑P	P	05 44 58.3	0.0
	0.1nm,0.3s,baz=170,slow=11,SNR=8.6						
AKTO	Aktyubinsk	16.20	330	⇓P	Pn	05 45 15.7	-1.1
	0.6nm,0.4s						

*TEH **03** 05:47:23.8, 34.10N×47.04E, h10km, ML2.7*
*ISN **03** 05:47:24.5±1.6, 34.05N×47.07E, h15km, ML2.5*
ISC 03 05:47:24.0±1.0, 34.10N±0.05×47.04E±0.04, h10km, n13, σ0.46/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCHF	Cheshme Sefid,	0.18	1	*e*Pg	Pg	05 47 28.3	+0.3
KER	Kermanshah	0.30	15	*e*Pg	Pg	05 47 30.3	+0.1
KER				*e*		05 47 31.7	
IKOM	Komasi	0.40	78	*e*Pg	Pg	05 47 31.9	-0.1
IGHG	Ghaleghazi	0.45	301	*e*Pg	Pg	05 47 33.1	+0.1
IVIS	Veis	0.46	340	*e*Pg	Pg	05 47 32.8	-0.2
IVIS				*e*		05 47 41.1	
IBZA	Bozab	0.78	61	*e*Pg	Pg	05 47 38.5	-0.6
IBZA				*e*		05 47 52.7	
IDHR	Dehrash	0.81	319	*e*Pg	Pg	05 47 39.6	-0.1
IDHR				*e*Sg	Sb	05 47 51.9	+0.5
IDHR				*e*		05 47 53.5	
ILIN	Lien	0.82	356	*e*Pg	Pb	05 47 40.8	+0.2
ILIN				*e*		05 47 52.5	
IDOB	Doab	1.00	108	*e*Pg	Pb	05 47 43.6	+0.1
IDOB				*e*		05 48 04.6	
IKMR	Kamar-syah	1.26	117	*e*Pg	Pn	05 47 47.5	-0.2
IKMR				*e*		05 48 12.0	
HSAM	Samen	1.30	84	*e*Pg	Pg	05 47 49.8	+0.7
IBDR	Badra	1.35	224	*e*Pg	Pn	05 47 48.0	-0.9
	baz=45						
IBDR				*e*Sg	Sg	05 48 08.0	+0.6
IBDR				AML	AML	05 48 14.8	
	comp=E,98nm,0.6s						
IBDR				AML	AML	05 48 18.0	
	comp=N,81nm,0.4s						
HSRG	Sareghieh	1.54	41	*e*Pg	Pb	05 47 52.6	-0.2
HSRG				*e*		05 47 58.2	

*NEIC **03** 05:50:19.8±1.0, 32.04S±0.07×178.7W±0.2, h24km±4km, mb4.7/20, Error ellipse: s-maj=20.3km s-min=7.4km az=109.0*
*IDC **03** 05:50:24.9±2.3, 31.83S×178.67W, h64km±21km, mb4.0/7, mb1 4.2/8, mb1mx4.0/29, mbtmp4.4/8, MS3.7/5, Ms1 3.7/5, ms1mx3.3/27, Error ellipse: s-maj=23.0km s-min=15.7km az=111.0*
ISC 03 05:50:22.1±0.5, 32.03S±0.05×178.7W±0.1, h45km, n105, σ1.51/105, mb4.7/16, MS3.7/5, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	2.83	13	P	Pn	05 51 04.3	-0.4
GLKZ				S	Sn	05 51 34.6	-2.9
RAO	Raoul Island	2.84	13	P	Pn	05 51 05.6	+0.7
	109nm,0.3s,baz=174,slow=23,SNR=4.4						
RAO				S	Sn	05 51 36.6	-1.2
	226nm,0.3s,baz=37,slow=22,SNR=6.1						
RAO	Raoul Island	2.84	13		Pn	05 51 04.7	-0.1
RAO					Sn	05 51 37.2	-0.6
RIZ	Raoul Island	2.84	13	P	Pn	05 51 05.4	+0.5
RIZ				S	Sn	05 51 37.2	-0.7
MXZ	Matakaoa Point	6.06	204	P	Pn	05 51 51.1	+2.0
MXZ				S	Sn	05 52 58.3	+1.1
MXZ	Matakaoa Point	6.06	204	Pn	Pn	05 51 47.6	-1.5
MXZ				Sn	Sn	05 52 56.5	-0.7
HAZ	Te Kaha	6.42	206	P	Pn	05 51 54.1	+0.1
HAZ				S	Sn	05 53 07.6	+1.6
PUZ	Puketiti	6.54	202	P	Pn	05 51 55.0	-0.7
PUZ				S	Sn	05 53 08.3	-0.7
RUGZ	Raukumara Rang	6.65	206	P	Pn	05 51 57.4	+0.2
RUGZ				S	Sn	05 53 12.2	+0.5
TKGZ	Te Karaka	7.01	203	P	Pn	05 52 01.0	-1.1
TKGZ				S	Sn	05 53 19.0	-1.4
OPRZ	Ohinepanea	7.01	213	P	Pn	05 52 05.0	+2.9
MWZ	Matawai	7.03	205	P	Pn	05 52 00.2	-2.2
MWZ				S	Sn	05 53 18.2	-2.8
URZ	Urewera	7.12	208	P	Pn	05 52 02.8	-0.8
	18nm,0.3s,baz=323,slow=2.7,SNR=64						
URZ				LR	LR	05 54 32.8	
	comp=Z,289nm,19.0s,baz=45,slow=34						
URZ	Urewera	7.12	208	P	Pn	05 52 02.8	-0.8
URZ				S	Sn	05 53 21.8	-1.4
URZ	Urewera	7.12	208	Pn	Pn	05 52 02.9	-0.8
URZ				Sn	Sn	05 53 22.0	-1.2
TOZ	Tahuroa Road	7.45	219	P	Pn	05 52 13.2	+5.1
KNZ	Kokohu	7.59	202	P	Pn	05 52 07.6	-2.5
KNZ				S	Sn	05 53 29.8	-5.0
RAHZ	Arahi	7.70	206	P	Pn	05 52 11.6	-0.1
NMHZ	Naumai	7.97	206	P	Pn	05 52 14.0	-1.2
NMHZ				S	Sn	05 53 42.3	-1.8
ARHZ	Aropaoanui	8.04	205	P	Pn	05 52 14.5	-1.7
ARHZ				S	Sn	05 53 44.4	-1.4
BKZ	Black Stump Fm	8.15	208	P	Pn	05 52 16.1	-1.6
BKZ				S	Sn	05 53 47.9	-0.5
BKZ	Black Stump Fm	8.15	208	Pn	Pn	05 52 16.1	-1.6
MCHZ	McNeill Hill	8.31	206	P	Pn	05 52 18.9	-1.1
MCHZ				S	Sn	05 53 51.5	-0.9
HIZ	Hauiti	8.37	218	Pn	Pn	05 52 19.2	-1.5
OTVZ	Oturere	8.49	211	P	Pn	05 52 16.4	-6.2
KRHZ	Kereru	8.61	207	P	Pn	05 52 20.4	-3.6
BFZ	Birch Farm	9.56	204	Pn	Pn	05 52 35.0	-2.2
MSWZ	Moikau Station	10.57	206	Pn	Pn	05 52 48.4	-2.4
SNZO	South Karori	10.69	208	Pn	Pn	05 52 51.2	-1.2
PLWZ	Palliser	10.70	205	Pn	Pn	05 52 50.3	-2.4
BH

BBOO					IAmb	IAmb	05 57 46.3		
	comp=Z,12nm,1.1s								
COEN	**Coen**		**39.22**	**288**	P	**P**	**05 57 46.9**	**+0.7**	
COEN					IAmb	IAmb	05 57 49.2		
	comp=Z,20nm,1.0s								
AS31	**Alice Springs**		**42.49**	**269**	P	**P**	**05 58 13.2**	**0.0**	
ASAR	**Alice Springs**		**42.49**	**269**	P	**P**	**05 58 13.8**	**+0.7**	
	comp=Z,8.2nm,0.7s,baz=104,slow=7.3,SNR=54								
ASAR					LR	LR	06 15 46.5		
	comp=Z,66nm,18.5s,baz=142,slow=36								
ASAR	**Alice Springs**		**42.49**	**269**	P	**P**	**05 58 12.6**	**-0.5**	
WR0	**Warramunga Arr**		**43.45**	**274**	P	**P**	**05 58 20.8**	**-0.1**	
WR0					IAmb	IAmb	05 58 35.3		
	comp=Z,4.4nm,0.7s								
WB2	**Warramunga Arr**		**43.62**	**274**	P	**P**	**05 58 22.3**	**0.0**	
WB2					IAmb	IAmb	05 58 23.4		
	comp=Z,11nm,0.6s								
WRA	**Warramunga Arr**		**43.63**	**274**	P	**P**	**05 58 22.5**	**+0.2**	
	comp=Z,7.4nm,0.5s,baz=114,slow=7.8,SNR=62								
WRA					LR	LR	06 14 57.3		
	comp=Z,111nm,21.4s,baz=140,slow=34								
WRA	**Warramunga Arr**		**43.63**	**274**	P	**P**	**05 58 22.2**	**-0.1**	
WB0	**Warramunga Arr**		**43.66**	**274**	P	**P**	**05 58 22.5**	**-0.1**	
WB0					IAmb	IAmb	05 58 23.7		
	comp=Z,9.7nm,0.7s								
FORT	**Forrest**		**45.11**	**257**	P	**P**	**05 58 33.5**	**-0.6**	
VNDA	**Vanda**		**46.43**	**186**	P	**P**	**05 58 46.6**	**+2.8**	
	comp=Z,0.8nm,0.8s,baz=3.6,slow=8.1,SNR=5.9								
VNDA	**Vanda**		**46.43**	**186**	P	**P**	**05 58 45.1**	**+1.3**	
JOHN	**Johnston Islan**		**49.26**	**12**	P	**P**	**05 59 06.3**	**0.0**	
MTN	**Manton Dam**		**49.71**	**281**	P	**P**	**05 59 09.9**	**0.0**	
FITZ	**Fitzroy Crossi**		**51.82**	**271**	P	**P**	**05 59 25.8**	**0.0**	
FITZ					IAmb	IAmb	05 59 27.5		
	comp=Z,12nm,1.2s								
CASY	**Casey**		**53.45**	**208**	P	**P**	**05 59 36.6**	**-0.5**	
CASY					IAmb	IAmb	05 59 38.0		
	comp=Z,6.3nm,0.7s								
QSPA	**South Pole Qui**		**58.09**	**180**	P	**P**	**06 00 13.2**	**+2.6**	
	comp=Z,6.9nm,0.8s,baz=202,slow=2.8,SNR=25								
QSPA	**South Pole Qui**		**58.09**	**180**	P	**P**	**06 00 12.4**	**+1.8**	
QSPA					IAmb	IAmb	06 00 24.9		
	comp=Z,8.2nm,0.8s								
BELA	**Belgrano 2**		**68.25**	**172**	P	**P**	**06 01 18.0**	**+0.4**	
MAW	**Mawson**		**70.59**	**201**	P	**P**	**06 01 32.9**	**+0.8**	
	comp=Z,2.8nm,0.7s,baz=100,slow=6.6,SNR=8.5								
MAW	**Mawson**		**70.59**	**201**	P	**P**	**06 01 32.2**	**+0.1**	
SYO	**Syowa Base**		**75.41**	**193**	*i*P	P	06 02 00.0	-0.6	
SYO	**Syowa Base**		**75.41**	**193**	*e*pP	P	06 02 07.4	+6.8	
SNAA	**Sanae**		**76.55**	**179**	P	**P**	**06 02 08.1**	**+0.9**	
SNAA	**Sanae**		**76.55**	**179**	P	**P**	**06 02 07.9**	**+0.7**	
SNAA					IAmb	IAmb	06 02 13.6		
	comp=Z,5.8nm,0.9s								
VNA3	**Neumayer Olymp**		**76.72**	**176**	P	**P**	**06 02 08.4**	**+0.3**	
VNA2	**Neumayer--Watz**		**77.15**	**177**	P	**P**	**06 02 09.8**	**-0.6**	
VNA1	**Neumayer--Stat**		**77.38**	**177**	P	**P**	**06 02 12.8**	**+1.0**	
H03S2	**Juan Fernandez**		**80.03**	**124**	T	T	07 30 58.0		
	baz=236,slow=74,SNR=184								
H03S1	**Juan Fernandez**		**80.04**	**124**	T	T	07 31 02.1		
	baz=236,slow=74,SNR=162								
H03S3	**Juan Fernandez**		**80.05**	**124**	T	T	07 31 01.1		
	baz=236,slow=74,SNR=177								
H03N3	**Juan Fernandez**		**80.23**	**123**	T	T	07 31 19.5		
	baz=241,slow=72,SNR=264								
H03N2	**Juan Fernandez**		**80.24**	**123**	T	T	07 31 08.1		
	baz=241,slow=72,SNR=273								
H03N1	**Juan Fernandez**		**80.25**	**123**	T	T	07 31 08.6		
	baz=241,slow=72,SNR=509								
NVAR	**Mina Array Bea**		**89.81**	**43**	P	**P**	**06 03 17.2**	**+1.2**	
	comp=Z,1.7nm,1.0s,baz=211,slow=8.1,SNR=8.6								
NVAR	**Mina Array Bea**		**89.81**	**43**	P	**P**	**06 03 16.5**	**+0.5**	
BVAR	**Borovoye Array**		**127.17**	**315**	PKP	**PKiKP**	**06 09 20.4**	**-1.0**	
	comp=Z,0.7nm,0.4s,baz=208,slow=11,SNR=4.1								
H10N3	**ASCENSION HYDR**		**37.56**	**156**	T	T	08 43 56.6		
	baz=203,slow=75,SNR=18								
H10N1	**ASCENSION HYDR**		**37.57**	**156**	T	T	08 43 57.1		
	baz=203,slow=75,SNR=13								
H10N2	**ASCENSION HYDR**		**37.58**	**156**	T	T	08 43 58.5		
	baz=203,slow=75,SNR=15								
ARCES	**ARCESS Array B**		**140.05**	**347**	PKP	**PKiKP**	**06 09 46.3**	**-0.7**	
	comp=Z,0.7nm,0.4s,baz=67,slow=2.4,SNR=8.5								
KBZ	**Khabaz**		**145.52**	**302**	PKPbc	**PKPab**	**06 09 55.7**	**+0.2**	
	comp=Z,2.6nm,0.7s,baz=313,slow=5.2,SNR=3.7								
FINES	**FINESS Array B**		**146.46**	**339**	PKPbc	**PKPbc**	**06 09 56.7**	**-0.7**	
	comp=Z,5.1nm,0.5s,baz=50,slow=4.4,SNR=48								
FINES	**FINESS Array B**		**146.46**	**339**		**PKPbc**	**06 09 56.9**	**-0.6**	
NB2	**NORSAR Subarra**		**150.26**	**350**	PKP	**PKPbc**	**06 10 07.0**	**-0.5**	
	comp=Z,1.3nm,0.5s,baz=15,slow=2.6								
NOA	**NORSAR Array B**		**150.26**	**350**	PKPbc	**PKPbc**	**06 10 07.0**	**-0.5**	
	comp=Z,1.7nm,0.5s,baz=16,slow=4.1,SNR=8.9								
AKASG	**Malin Array Be**		**152.22**	**320**	PKPbc	**PKPbc**	**06 10 11.7**	**-0.6**	
	comp=Z,1.2nm,0.5s,baz=50,slow=2.4,SNR=5.9								
BRTR	**Keskin Array B**		**152.84**	**296**	PKPbc	**PKPbc**	**06 10 13.5**	**-0.8**	
	comp=Z,1.6nm,0.8s,baz=141,slow=4.1,SNR=6.6								
BRTR					PKPab	**pPKPbc**	**06 10 25.7**	**-1.7**	
	comp=Z,0.7nm,0.7s,baz=132,slow=2.5,SNR=4.8								
GERES	**GERESS Array B**		**160.79**	**335**	PKP	**PKPdf**	**06 10 17.0**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=194,slow=8.3,SNR=4.0								
TORD	**Torodi Ar. Bea**		**161.21**	**181**	PKP	**PKPdf**	**06 10 17.6**	**-0.6**	
	comp=Z,1.2nm,1.1s,baz=259,slow=3.0,SNR=3.6								
TORD					PKPab	**PKPab**	**06 11 01.9**	**+0.3**	
	comp=Z,2.7nm,0.8s,baz=176,slow=3.2,SNR=11								
TORD	**Torodi Ar. Bea**		**161.21**	**181**		**PKPdf**	**06 10 17.9**	**-0.4**	
TORD						**PKPab**	**06 11 02.4**	**+0.8**	

*ATH **03** 06:01:36.4,36°.03N×27°.04E,h27km±1km,ML3.2/13,Error ellipse: s-maj=1.7km s-min=0.8km az=84.0*
*ISK **03** 06:01:37.3,35°.95N×27°.04E,h26km,ML3.1/16*
*DDA **03** 06:01:38.4,35°.93N×27°.28E,h10km±1km,ML2.6*
*THE **03** 06:01:38.0,35°.98N×27°.10E,h10km±2km,ML3.3/7,Error ellipse: s-maj=2.2km s-min=0.6km az=124.0*
*NIC **03** 06:01:39.2±0.0,35°.92N×27°.22E,h16km±1km,MI3.7/3*
ISC 03 06:01:35.8±1.2,36°.01N±0°.02×27°.06E±0°.02,h6km±10km,n66,σ0s59/97,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	**Karpathos**	**0.46**	**170**	P		**Pb**	**06 01 46.6**	**+0.2**
KARP				S		**Sb**	**06 01 53.3**	**-0.3**
	4μm,0.2s							
KARP	**Karpathos**	**0.46**	**170**	P		**Pb**	**06 01 46.6**	**+0.2**
KARP				S		**Sb**	**06 01 53.6**	**0.0**
KARP				AML	AML		06 01 53.8	
	comp=E,8981μm,0.2s							
KARP				AML	AML		06 01 58.2	
	comp=N,7818μm,0.2s							
KARP	**Karpathos**	**0.46**	**170**	PG		**Pb**	**06 01 46.6**	**+0.2**
KARP				SG		**Sb**	**06 01 53.6**	**0.0**
KARP	**Karpathos**	**0.46**	**170**	P		**Pb**	**06 01 46.6**	**+0.2**
KARP				S		**Sb**	**06 01 53.4**	**-0.3**
KARP				AML	AML		06 01 53.4	
	comp=N,8.9nm,0.2s							
KARP				AML	AML		06 01 53.4	
	comp=N,8.9nm,0.2s							
KARP				AML	AML		06 01 53.4	
	comp=N,6.5nm,0.1s							
KARP				AML	AML		06 01 53.4	
	comp=N,6.5nm,0.1s							
NISR	**Nisiros**	**0.61**	**5**	P		**Pg**	**06 01 47.8**	**+0.2**
NISR				S		**Sb**	**06 01 57.0**	**-0.7**
NISR				AML	AML		06 02 04.0	
	comp=E,3229μm,0.4s							
NISR				AML	AML		06 02 06.6	
	comp=N,2201μm,0.5s							
KOSK	**Kos Island**	**0.75**	**355**	P		**Pn**	**06 01 53.0**	**0.0**
KOSK				S		**Sn**	**06 02 03.8**	**-0.8**
KOSK	**Kos Island**	**0.75**	**355**	PG		**Pn**	**06 01 53.4**	**+0.4**
DAT	**Datca**	**0.83**	**30**	P		**Pn**	**06 01 54.4**	**+0.1**
DAT				S		**Sn**	**06 02 06.6**	**-0.4**
DAT	**Datca**	**0.83**	**30**	PG		**Pn**	**06 01 54.5**	**+0.1**
DAT	**Datca**	**0.83**	**30**	*i* P		**Pn**	**06 01 54.3**	**+0.1**
DAT				*i* S		**Sn**	**06 02 06.1**	**-0.9**
DAT				IAML			06 02 08.0	
	comp=E,138nm,0.7s							
DAT				IAML			06 02 10.0	
	comp=N,178nm,1.0s							
ARG	**Arkhangelos**	**0.89**	**76**	P		**Pn**	**06 01 54.5**	**-0.4**
ARG				S		**Sb**	**06 02 06.4**	**+0.6**
	comp=N,2μm,0.8s							
ARG	**Arkhangelos**	**0.89**	**76**	P		**Pb**	**06 01 54.3**	**+0.6**
ARG				S		**Sb**	**06 02 06.5**	**+0.7**
ARG				AML	AML		06 02 10.0	
	comp=N,2391μm,0.8s							
ARG				AML	AML		06 02 10.0	
	comp=E,4642μm,0.6s							
ARG	**Arkhangelos**	**0.89**	**76**	PG		**Pn**	**06 01 54.5**	**-0.4**
ARG	**Arkhangelos**	**0.89**	**76**	P		**Pn**	**06 01 54.5**	**-0.4**
ARG				S		**Sb**	**06 02 05.9**	**+0.1**
DATC	**Datca-Mugla**	**0.90**	**33**	PG		**Pn**	**06 01 55.5**	**+0.5**
BODT	**Bodrum**	**1.07**	**11**	P		**Pb**	**06 01 57.0**	**+0.1**
BODT				S		**Sn**	**06 02 13.7**	**+0.9**
BODT	**Bodrum**	**1.07**	**11**	PN		**Pn**	**06 01 57.9**	**+0.4**
ANAF	**Anafi Island**	**1.10**	**289**	P		**Pn**	**06 01 58.6**	**+0.8**
ANAF				S		**Sn**	**06 02 13.4**	**0.0**
	comp=E,4μm,0.3s							
ANAF	**Anafi Island**	**1.10**	**289**	P		**Pg**	**06 01 57.0**	**+0.1**
ANAF				S		**Sb**	**06 02 12.7**	**+0.8**
ZKR	**Zakros**	**1.12**	**218**	P		**Pn**	**06 01 58.9**	**+0.8**
ZKR				S		**Sn**	**06 02 13.9**	**0.0**
	comp=E,1μm,0.5s							
ZKR	**Zakros**	**1.12**	**218**	P		**Pn**	**06 01 58.7**	**+0.5**
ZKR				S		**Sn**	**06 02 14.0**	**0.0**
ZKR				AML	AML		06 02 18.0	
	comp=N,2235μm,0.6s							
ZKR				AML	AML		06 02 20.9	
	comp=E,3112μm,0.5s							
ZKR	**Zakros**	**1.12**	**218**	PG		**Pg**	**06 01 57.3**	**-0.1**
STIA	**Sitia Lasithi**	**1.12**	**225**	P		**Pn**	**06 01 58.9**	**+0.8**
TURN	**Turunc**	**1.23**	**51**	PN		**Pn**	**06 02 00.1**	**+0.6**
TURN	**Turunc**	**1.23**	**51**	*i* P		**Pn**	**06 01 59.7**	**+0.2**
TURN				*i* S		**Sb**	**06 02 16.2**	**+0.7**
TURN				IAML			06 02 19.0	
	comp=E,222nm,0.6s							
TURN				IAML			06 02 20.0	
	comp=N,167nm,0.6s							
AMGA	**Amorgos Island**	**1.25**	**312**	P		**Pg**	**06 01 59.9**	**+0.1**
AMGA				S		**Sn**	**06 02 18.7**	**+1.6**
	comp=N,1μm,0.7s							
AMGA	**Amorgos Island**	**1.25**	**312**	P		**Pg**	**06 01 59.3**	**-0.5**
AMGA				S		**Sg**	**06 02 16.3**	**+0.3**
AMGA				AML	AML		06 02 21.4	
	comp=E,2521μm,0.7s							
AMGA				AML	AML		06 02 21.5	
	comp=N,1817μm,0.6s							
SANT	**Santorini**	**1.35**	**286**	P		**Pn**	**06 02 01.4**	**+0.1**
SANT				S		**Sg**	**06 02 18.7**	**-0.3**
SANT				AML	AML		06 02 23.9	
	comp=E,1775μm,0.5s							
SANT				AML	AML		06 02 27.6	
	comp=N,848μm,0.7s							
SANT	**Santorini**	**1.35**	**286**	PN		**Pn**	**06 02 01.0**	**-0.2**
SAP1	**Santorini-Akro**	**1.39**	**285**	P		**Pb**	**06 02 02.2**	**-0.1**
SAP1				AML	AML		06 02 28.6	
	comp=E,4674μm,0.4s							
SAP1				AML	AML		06 02 30.3	
	comp=N,5589μm,0.6s							
NPS	**Neapolis**	**1.39**	**238**	P		**Pb**	**06 02 02.2**	**-0.1**
NPS				S		**Sb**	**06 02 20.3**	**0.0**
	comp=N,1μm,0.5s							
NPS	**Neapolis**	**1.39**	**238**	P		**Pb**	**06 02 02.2**	**-0.1**
NPS				S		**Sb**	**06 02 19.9**	**-0.5**
NPS				AML	AML		06 02 20.9	
	comp=N,2292μm,0.3s							
NPS				AML	AML		06 02 26.9	
	comp=E,2141μm,0.6s							
THR3	**Thira Island,**	**1.40**	**287**	P		**Pn**	**06 02 02.0**	**+0.1**
MLSB	**Milas**	**1.41**	**24**	PN		**Pb**	**06 02 02.8**	**+0.2**
CMBO	**Columbo, Santo**	**1.42**	**290**	P		**Pb**	**06 02 02.5**	**-0.1**
CMBO				AML	AML		06 02 26.7	
	comp=E,4198μm,0.7s							
CMBO				AML	AML		06 02 27.9	
	comp=N,5048μm,0.6s							
YER	**Yerkesik**	**1.50**	**41**	PN		**Pb**	**06 02 04.1**	**0.0**
DALY	**Dalyan (Mula)**	**1.52**	**57**	PN		**Pb**	**06 02 04.3**	**-0.1**
DALY	**Dalyan (Mula)**	**1.52**	**57**	*i* P		**Pg**	**06 02 05.6**	**+0.6**
DALY				IAML			06 02 35.0	
	comp=E,85nm,0.7s							
DALY				IAML			06 02 38.0	
	comp=N,137nm,0.7s							
LAST	**Lasithi**	**1.54**	**237**	P		**Pb**	**06 02 04.4**	**-0.4**
LAST				S		**Sn**	**06 02 23.8**	**-0.5**
	comp=N,468nm,0.6s							
LAST	**Lasithi**	**1.54**	**237**	P		**Pn**	**06 02 04.2**	**+0.3**
LAST				S		**Sn**	**06 02 24.1**	**-0.2**
LAST				AML	AML		06 02 37.5	
	comp=N,1151μm,0.7s							
LAST				AML	AML		06 02 40.4	
	comp=E,703μm,0.6s							
APE	**Apeiranthos**	**1.63**	**311**	P		**Pn**	**06 02 04.9**	**-0.2**
APE	**Apeiranthos**	**1.63**	**311**	P		**Pn**	**06 02 04.8**	**-0.2**
APE	**Apeiranthos**	**1.63**	**311**	PN		**Pn**	**06 02 04.6**	**-0.5**
SMG	**Samos**	**1.71**	**354**	P		**Pn**	**06 02 04.9**	**-1.3**
FETY	**Fethiye**	**1.75**	**68**	PN		**Pn**	**06 02 07.5**	**+0.7**
FETY	**Fethiye**	**1.75**	**68**	*i* P		**Pg**	**06 02 09.1**	**-0.3**
AYDN	**Tasoluk**	**1.78**	**21**	*i* P		**Pg**	**06 02 10.9**	**+1.0**
AYDN				IAML			06 02 42.0	
	comp=E,48nm,0.6s							
AYDN				IAML			06 02 55.0	
	comp=N,65nm,0.6s							
IDI	**Anoyia**	**1.91**	**249**	P		**Pn**	**06 02 09.5**	**+0.5**
IDI	**Anoyia**	**1.91**	**249**	P		**Pn**	**06 02 09.3**	**+0.3**
IDI				S		**Sn**	**06 02 32.7**	**-0.7**
IDI				AML	AML		06 02 34.1	
	comp=E,473μm,0.5s							
IDI				AML	AML		06 02 41.6	
	comp=N,490μm,0.6s							
DGB	**zmir**	**2.05**	**356**	*i* P		**Pn**	**06 02 10.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**19**	PN		**Pn**	**06 02 12.1**	**+1.1**
KSL	**Kastellorizon**	**2.05**	**85**	P		**Pn**	**06 02 12.2**	**+1.3**
KSL				AML	AML		06 02 50.1	
	comp=E,261μm,0.5s							
KSL				AML	AML		06 03 03.4	
	comp=N,270μm,1.1s							
KSL	**Kastellorizon**	**2.05**	**85**	P		**Pb**	**06 02 12.6**	**-0.9**
AKAS	**Kas**	**2.07**	**83**	PN		**Pn**	**06 02 11.7**	**+0.4**
AKAS	**Kas**	**2.07**	**83**	*i* P		**Pb**	**06 02 13.7**	**-0.3**
AKAS				*i* S		**Sb**	**06 02 38.9**	**-1.1**
AKAS				IAML			06 02 52.0	
	comp=E,52nm,0.5s							
TAVA	**DENIZLI_Tavas**	**2.08**	**45**	*i* P		**Pb**	**06 02 12.9**	**-1.2**
TAVA				*i* S		**Sg**	**06 02 42.7**	**-0.1**
SIVA	**Sivas**	**2.08**	**242**	P		**Pn**	**06 02 11.1**	**-0.3**
SIVA				AML	AML		06 02 46.6	
	comp=E,1022μm,0.5s							
SIVA				AML	AML		06 02 51.5	
	comp=N,708μm,0.6s							
GOLH	**Golhisar**	**2.36**	**58**	*i* P		**Pb**	**06 02 18.4**	**-0.4**
GOLH				*i* S		**Sg**	**06 02 50.5**	**-1.1**
GOLH				IAML			06 02 58.0	
	comp=N,58nm,0.8s							
URLA	**Izmir**	**2.38**	**351**	PN		**Pn**	**06 02 16.4**	**+1.0**
ELL	**Elmali**	**2.42**	**71**	PN		**Pn**	**06 02 16.8**	**+0.8**
CHOS	**Chios island**	**2.51**	**342**	P		**Pn**	**06 02 17.3**	**0.0**
IMMV	**Iera Moni Meta**	**2.56**	**259**	P		**Pn**	**06 02 18.4**	**+0.5**
IMMV				S		**Sn**	**06 02 48.8**	**-0.7**
GVD	**Gavdhos**	**2.69**	**245**	P		**Pn**	**06 02 20.8**	**+1.1**
OSC1	**CSNet OBS 1**	**4.28**	**125**	S		**Sn**	**06 03 30.5**	**-1.2**
AKMS	**Akamas**	**4.41**	**101**	P		**Pn**	**06 02 43.8**	**+0.4**
AKMS				S		**Sn**	**06 03 34.9**	**-0.2**
AKMS				AML	AML		06 03 36.9	
	comp=N,0.3nm,0.6s							
AKMS				AML	AML		06 03 36.9	
	comp=N,0.3nm,0.6s							
AKMS				AML	AML		06 03 38.1	
	comp=N,0.3nm,0.5s							
AKMS				AML	AML		06 03 38.1	
	comp=N,0.3nm,0.5s							
ALFC	**Alefka**	**4.59**	**99**	P		**Pn**	**06 02 46.9**	**+1.0**
ALFC				S		**Sn**	**06 03 39.6**	**0.0**
ALFC				AML	AML		06 03 41.1	
	comp=N,0.2nm,0.5s							
ALFC				AML	AML		06 03 41.1	
	comp=N,0.2nm,0.5s							
ALFC				AML	AML		06 03 42.8	
	comp=N,0.2nm,0.6s							
ALFC				AML	AML		06 03 42.8	
	comp=N,0.2nm,0.6s							

*TEH **03** 06:04:08.5,32°.91N×46°.67E,h10km,ML2.7*
*ISN **03** 06:04:08.6±0.5,32°.91N×46°.64E,h15km,ML2.1*
ISC 03 06:04:06.1±1.6,32°.8N±0°.1×46°.52E±0°.07,h10km,n7,σ0s13/9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBDR	**Badra**	**0.58**	**302**	*e*Pg		**Pn**	**06 04 20.5**	**0.0**
	baz=109							
IBDR				*e*Sg		**Sn**	**06 04 30.0**	**-0.1**
IBDR				AML		AML	06 04 52.7	
	comp=E,119nm,0.6s							
IBDR				AML		AML	06 04 57.4	
	comp=N,83nm,0.4s							
DHL1	**Dehloran**	**0.65**	**100**	*e*Pg		**Pb**	**06 04 19.6**	**0.0**
DHL1				*e*Sg		**Sb**	**06 04 28.6**	**-0.1**
DHL1				*e*			06 04 33.8	
IKOM	**Komasi**	**1.60**	**31**	*e*Pg		**Pg**	**06 04 37.0**	**+0.1**
IKOM				*e*			06 04 43.1	
KER	**Kermanshah**	**1.66**	**18**	*e*Pg		**Pg**	**06 04 38.0**	**0.0**
KER				*e*			06 05 09.1	
IDOB	**Doab**	**1.70**	**54**	*e*Pg		**Pb**	**06 04 37.5**	**-0.2**
IDOB				*e*			06 05 05.9	
IKMR	**Kamar-syah**	**1.72**	**65**	*e*Pg		**Pb**	**06 04 37.9**	**+0.1**
IKMR				*e*			06 05 03.0	
IDHR	**Dehrash**	**1.90**	**357**	*e*Pg		**Pg**	**06 04 42.7**	**+0.1**
IDHR				*e*			06 05 12.2	

JMA 03 06:16:38.6±0.1,33°.27N×132°.13E,h43km±1km,M0.2,Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNA	**Nagahama**	**0.41**	**45**	*e*S		Sn	06 16 54.9	-0.3
UWA2	**Uwa jima 2**	**0.42**	**98**	P		Pn	06 16 48.1	-0.4
UWA2				*e*S		Sn	06 16 55.3	-0.1
JSKE	**Saikikamae**	**0.51**	**202**	*e*S		Sn	06 16 57.1	-0.2

IDC 03 06:18:36.4±1.4,26°.06N×143°.98E,h0km,mb3.7/3,mb1 3.9/3,mb1mx3.4/31,mbtmp3.7/3,Error ellipse: s-maj=34.5km s-min=26.2km az=60.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**1.92**	**303**	Pn		Pn	06 19 11.0	+0.7
	17nm,0.3s,baz=273,slow=22,SNR=12							
JCJ				Sn		Sn	06 19 34.2	-0.9
	82nm,0.3s,baz=282,slow=24,SNR=11							
H11N2	**WAKE ISLAND Hy**	**22.01**	**102**	T		T	06 46 05.2	
	baz=291,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**22.01**	**102**	T		T	06 46 04.9	
	baz=291,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**22.03**	**102**	T		T	06 46 14.7	
	baz=291,slow=75,SNR=14							
H11S3	**WAKE ISLAND Hy**	**22.30**	**105**	T		T	06 46 29.0	
	baz=294,slow=75,SNR=36							
H11S1	**WAKE ISLAND Hy**	**22.30**	**105**	T		T	06 46 27.1	
	baz=294,slow=75,SNR=20							
H11S2	**WAKE ISLAND Hy**	**22.31**	**105**	T		T	06 46 27.8	
	baz=294,slow=75,SNR=27							
WRA	**Warramunga Arr**	**46.67**	**193**	P		P	06 27 06.7	-0.2
	0.2nm,0.5s,baz=12,slow=8.6,SNR=3.4							
ILAR	**Eielson Array**	**57.86**	**28**	P		P	06 28 29.3	-0.3
	0.5nm,0.8s,baz=259,slow=5.1,SNR=5.7							
FINES	**FINESS Array B**	**79.58**	**334**	P		P	06 30 45.3	+0.3
	1.7nm,1.0s,baz=45,slow=6.1,SNR=3.6							

*NEIC **03** 06:46:38.4±1.9,6°.46S±0°.06×129°.80E±0°.05,h111km±12km,mb4.2/5,Error ellipse: s-maj=10.8km s-min=3.7km az=144.0*
*IDC **03** 06:46:39.7±2.9,6°.48S×129°.75E,h114km±39km,mb3.4/1,mb1 3.7/5,mb1mx3.3/39,mbtmp4.0/5,Error ellipse: s-maj=71.6km s-min=21.3km az=89.0*
ISC 03 06:46:39.4±0.8,6°.54S±0°.06×130°.00E±0°.09,h146km,n23,σ2s78/28,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.93**	**138**	Pn		**Pn**	**06 47 13.3**	**-0.2**
SAUI				Sn		**Sn**	**06 47 39.5**	**-0.1**
SIJI	**Sorong**	**5.77**	**13**	P		**Pn**	**06 48 03.1**	**+0.1**
	6.2nm,0.3s,baz=98,slow=23,SNR=15							
SIJI				S		**Sn**	**06 49 01.8**	**-6.7**
	6.8nm,0.3s,baz=230,slow=23,SNR=5.9							
MTN	**Manton Dam**	**6.37**	**170**			**Pn**	**06 48 12.4**	**+1.4**
SOEI	**Soe**	**6.51**	**240**	Pn		**Pn**	**06 48 09.5**	**-3.6**
KNRA	**Kununurra**	**9.16**	**188**			**Pn**	**06 48 50.0**	**+1.6**
KNRA						**Sn**	**06 50 30.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.25**	**200**	P		**Pn**	**06 49 30.7**	**+1.6**
	0.4nm,0.3s,baz=30,slow=13,SNR=24							
FITZ				S		**Sn**	**06 51 39.3**	**-5.3**
	0.8nm,0.3s,baz=108,slow=17,SNR=6.9							
FITZ	**Fitzroy Crossi**	**12.25**	**200**			**Pn**	**06 49 29.9**	**+0.8**
WB0	**Warramunga Arr**	**13.83**	**162**	Pn		**Pn**	**06 49 50.1**	**+0.7**
WRAB	**Tennant Creek**	**13.97**	**163**	Pn		**Pn**	**06 49 51.1**	**-0.

comp=Z,615nm,0.7s
BAUV El Baul 4.53 150 eP Pn 06 49 30.1 +3.4
BAUV El Baul 4.53 150 eS Sn 06 50 24.4 +5.0
SOCV Socops 4.60 186 ⇑iP Pn 06 49 29.8 +2.0
SOCV eS Sn 06 50 20.0 -1.2
ARGC Ariguani, Magd 4.86 232 eP Pn 06 49 33.7 +2.4
ARGC eS Sn 06 50 28.5 +0.8
ARGC i 06 50 53.2
comp=Z,466nm,0.8s
SMLC San Martn de 5.46 222 eP Pn 06 49 39.7 +0.2
SMLC eS Sn 06 50 37.8 -4.7
SMLC i 06 50 44.1
comp=Z,317nm,0.6s
OCAC Ocana 5.46 213 eP Pn 06 49 39.9 +0.2
OCAC eS Sn 06 50 39.1 -3.6
BANI BANI 5.47 360 Pn 06 49 41.6 +1.8
SDD Santo Domingo 5.55 4 Pn Pn 06 49 42.0 +1.2
SJCC San Jacinto, C 5.59 238 eP Pn 06 49 42.1 +0.7
SJCC eS Sn 06 50 41.7 -4.0
SJCC i 06 50 57.2
comp=Z,293nm,0.6s
PCDR Punta Cana, DR 5.91 18 Pn Pn 06 49 46.6 +0.9
PCDR Punta Cana, DR 5.91 18 iP Pn 06 49 45.8 +0.1
PCDR eS Sn 06 50 52.5 -0.9
PCDR IAML 06 51 02.3
comp=Z,165nm,0.7s
PAPH Port-au-Prince 5.91 342 Pn 06 49 48.0 +2.4
PAPH Port-au-Prince 5.91 342 i P Pn 06 49 48.1 +2.4
ELOV Elorza 5.91 172 ⇑iP Pn 06 49 47.5 +1.8
ELOV eS Sn 06 50 50.1 -3.4
DR12 Loma Pena Alta 5.94 9 Pn Pn 06 49 47.2 +1.0
CRPR Cabo Rojo, PR 5.97 31 Pn Pn 06 49 45.8 -0.7
MLPR Magueyes Islan 5.97 32 Pn Pn 06 49 45.8 -0.8
PAMC Pamplona, Colo 5.98 203 eP Pn 06 49 48.5 +1.4
PAMC i 06 49 50.7
comp=Z,390nm,0.5s
PAMC eS Sn 06 50 51.6 -4.2
LGNH Logne 6.00 339 Pn Pn 06 49 49.3 +2.4
LGNH Logne 6.00 339 i P Pn 06 49 49.3 +2.4
SDDR Presa de Saban 6.13 352 Pn Pn 06 49 51.8 +3.1
SDDR Presa de Saban 6.13 352 iP Pn 06 49 51.8 +3.1
SDDR IAML 06 51 10.5
comp=Z,50nm,0.6s
MPR Mayaguez 6.13 30 Pn 06 49 47.8 -0.9
MPR Mayaguez 6.13 30 i P Pn 06 49 48.2 -0.5
MPR eS Sn 06 50 56.7 -2.2
MPR IAML 06 51 04.1
comp=Z,96nm,2.0s
ICMP Isla Caja de M 6.19 36 Pn 06 49 48.8 -0.7
PCRV Puerto La Cruz 6.21 115 Pn Pn 06 49 53.0 +3.1
comp=Z,8.2nm,0.3s,baz=320,slow=1.0,SNR=26
PCRV Sn Sn 06 51 04.0 +2.9
comp=Z,8.9nm,0.3s,baz=93,slow=20,SNR=4.0
PCRV LR LR 06 53 06.1
comp=Z,1µm,20.4s,slow=45
OBIP Obispado Ponce 6.27 35 Pn 06 49 50.3 -0.3
AGPR Aguadilla, PR 6.37 29 Pn 06 49 51.6 -0.3
AGPR Aguadilla, PR 6.37 29 i P Pn 06 49 51.7 -0.3
AGPR eS Sn 06 51 02.0 -2.7
AGPR IAML 06 51 04.6
comp=Z,174nm,1.4s
AOPR Arecibo Observ 6.44 32 Pn Pn 06 49 52.1 -0.9
IGPR InterUniversit 6.50 38 Pn 06 49 53.1 -0.7
SC01 Santiago de lo 6.51 357 Pn 06 49 54.1 +0.1
TAMC Tame, Arauca 6.57 193 eP Pn 06 49 56.0 +1.2
TAMC eS Sn 06 51 06.3 -3.4
TAMC i 06 51 54.5
comp=Z,175nm,0.6s
PDPR Patillas Dam, 6.59 39 Pn Pn 06 49 53.7 -1.3
BRRC Barranca, Sant 6.63 210 ⇑eP Pn 06 49 56.0 +0.4
BRRC i 06 50 00.8
comp=Z,203nm,0.4s
BRRC eS Sn 06 51 08.2 -3.1
EMPR Esperanza - Ma 6.67 33 Pn 06 49 56.5 +0.4
GCPR Guaynabo City 6.78 37 Pn 06 49 56.8 -0.8
HUMP Col San Antoni 6.79 39 Pn 06 49 56.4 -1.4
BARC Barichara 6.85 204 eP Pn 06 49 60.0 +1.1
BARC i 06 52 02.4
comp=Z,424nm,0.5s
CBYP Canovanas 6.88 38 Pn 06 49 57.8 -1.4
MTP Monte Pirata 6.94 41 Pn Pn 06 50 00.3 +0.4
ZARC Zaragoza, Cauc 6.96 220 eP Pn 06 49 59.7 -0.4
ZARC eS Sn 06 51 14.2 -5.2
ZARC i 06 51 24.4
comp=Z,344nm,0.6s
UREC San Jos de Ur 7.21 225 eP Pn 06 50 04.8 +1.1
UREC i 06 51 30.5
comp=Z,111nm,0.3s
CDVI St. Croix 7.24 47 Pn Pn 06 50 04.0 0.0
CUPR Culebra, Puert 7.27 42 Pn Pn 06 50 04.1 -0.3
RUSC La Rusia 7.46 201 ⇑iP Pn 06 50 08.0 +0.7
RUSC i 06 50 14.8
comp=Z,111nm,0.5s
RUSC eS Sn 06 51 24.3 -7.9
PTBC PUERTO BERRIO, 7.49 213 eP Pn 06 50 06.4 -1.1
PTBC eS Sn 06 51 27.6 -5.0
PTBC i 06 51 42.1
comp=Z,213nm,0.6s
SPBC San Pablo de B 8.07 207 ⇑iP Pn 06 50 15.9 +0.4
SPBC i 06 50 19.3
comp=Z,110nm,0.4s
SPBC eS Sn 06 51 42.0 -5.0
DBBC Dabeiba 8.20 225 eP Pn 06 50 18.7 +1.4
SABA Saba 8.32 55 eP Pn 06 50 16.9 -1.9
SABA Saba 8.32 55 eS Sn 06 51 51.2 -1.6
GTBY Guantanamo Bay 8.36 328 eP Pn 06 50 20.2 +0.9
GTBY Guantanamo Bay 8.36 328 Pn Pn 06 50 20.4 +1.1
SEUS St. Eustatius 8.46 56 eP Pn 06 50 14.9 -5.8
SEUS St. Eustatius 8.46 56 eS Sn 06 51 51.9 -4.4
GRGR Grenville 8.53 94 eP Pn 06 50 23.1 +1.5
GRGR Grenville 8.53 94 eS Sn 06 51 52.4 -5.5
GRGR Grenville 8.53 94 Pn Pn 06 50 20.6 -1.0
SKOC St. Kitts, UWI 8.56 58 eP Pn 06 50 20.9 -1.3
SKOC St. Kitts, UWI 8.56 58 eS Sn 06 51 54.5 -4.2
SKI Saint Kitts 8.58 58 eP Pn 06 50 22.9 +0.5
SKI Saint Kitts 8.58 58 eS Sn 06 51 55.9 -3.3
GRTK Grand Turk 8.61 355 Pn Pn 06 50 23.8 +1.1
SMRT St. Maarten 8.69 53 eP Pn 06 50 12.2 -12
SMRT St. Maarten 8.69 53 eS Sn 06 51 49.2 -13
GCMP Grenada, Carri 8.72 92 eP Pn 06 50 23.5 -0.8
GCMP Grenada, Carri 8.72 92 eS Sn 06 51 54.7 -8.0
PTGC Puerto Gaitan, 8.81 192 ⇓iP Pn 06 50 26.0 +0.4
PTGC i 06 50 27.8
comp=Z,178nm,0.4s
PTGC eS Sn 06 51 59.3 -5.7
CHIC Chingaza 8.86 202 ⇑iP Pn 06 50 26.9 +0.3
CHIC i 06 50 40.0
comp=Z,97nm,0.4s
CHIC eS Sn 06 52 03.3 -3.4
ROSC El Rosal 8.90 206 Pn Pn 06 50 28.7 +1.5
comp=Z,16nm,0.3s,baz=78,slow=11,SNR=28
ROSC Sn Sn 06 52 09.6 +1.8
comp=Z,7.3nm,0.3s,baz=218,slow=23,SNR=3.4
ROSC LR LR 06 54 30.1
comp=Z,3µm,18.8s,baz=20,slow=42
ROSC El Rosal 8.90 206 eP Pn 06 50 29.2 +2.0
ROSC i 06 50 51.9
comp=Z,100nm,0.6s
ROSC eS Sn 06 52 04.5 -3.3
TBG Guadaloupe-3 8.94 70 eP Pn 06 50 29.8 +2.5
TBG Guadaloupe-3 8.94 70 eS Sn 06 52 01.9 -6.1
CBOC Ciudad Bolivar 8.94 219 eP Pn 06 50 28.5 +1.0
CBOC eS Sn 06 52 04.6 -3.7
CBOC i 06 52 29.2
comp=Z,68nm,0.6s
TDBA Terre de Bas, 8.94 70 eP Pn 06 50 28.2 +0.9
TDBA Terre de Bas, 8.94 70 eS Sn 06 52 04.0 -4.2
MDN Morne-Daniel 9.02 73 eP Pn 06 50 31.0 +2.5
MDN Morne-Daniel 9.02 73 eS Sn 06 52 05.1 -4.9
DSLB Salisbury 9.02 73 eP Pn 06 50 31.3 +2.8
DSLB Salisbury 9.02 73 eS Sn 06 52 05.1 -5.1
CBE Ff, Capester 9.04 68 eP Pn 06 50 18.2 -11
CBE Ff, Capester 9.04 68 eS Sn 06 51 56.5 -14
TRN Trinidad (W) 9.04 103 eP Pn 06 50 34.0 +5.3
TRN Trinidad (W) 9.04 103 eS Sn 06 52 09.1 -1.4
GUY2C Guyana, Caldas 9.08 213 eP Pn 06 50 31.2 +1.5
GUY2C i 06 50 37.1
comp=Z,179nm,0.5s
GUY2C eS Sn 06 52 05.8 -6.4
CVER Cruz Verde, Cu 9.09 204 eP Pn 06 50 32.6 +2.8
FDF Fort de France 9.12 77 eP Pn 06 50 30.1 +0.2
FDF Fort de France 9.12 77 eS Sn 06 52 07.5 -5.2
FDF Fort de France 9.12 77 Pn Pn 06 50 30.1 +0.2
BIM Bigot 9.16 79 eP Pn 06 50 31.5 +1.1
BIM Bigot 9.16 79 eS Sn 06 52 09.2 -4.5
BPA Boggy Peak 9.19 62 eP Pn 06 50 30.8 0.0
BPA Boggy Peak 9.19 62 eS Sn 06 52 06.5 -7.8
SLBI Saint Lucia, B 9.19 82 eP Pn 06 50 29.5 -1.3
SLBI Saint Lucia, B 9.19 82 eS Sn 06 52 09.0 -5.3
SLAC Saint Lucia, A 9.26 83 eS Sn 06 52 03.9 -12
ANBD Bethesda, Anti 9.27 62 eP Pn 06 50 28.8 -3.0
ANBD Bethesda, Anti 9.27 62 eS Sn 06 52 12.5 -3.7
ABD La Joyeuse, An 9.29 66 eP Pn 06 50 42.1 +10
ABD La Joyeuse, An 9.29 66 eS Sn 06 52 12.1 -4.5
MAGL Barre de l'ile 9.30 70 eP Pn 06 50 32.8 +0.6
MAGL Barre de l'ile 9.30 70 eS Sn 06 52 12.5 -4.4
VILC Villavicencio, 9.32 201 eP Pn 06 50 32.8 0.0
VILC eS Sn 06 52 13.1 -4.7
MPOM Morne Pois Mar 9.36 79 eP Pn 06 50 32.9 -0.1
MPOM Morne Pois Mar 9.36 79 eS Sn 06 52 12.6 -5.7
ANWB Willy Bob 9.53 59 eP Pn 06 50 27.5 -7.9
ANWB Willy Bob 9.53 59 eS Sn 06 52 15.8 -6.8
TOLC Tolima 9.60 211 eP Pn 06 50 37.9 +1.3
TOLC eS Sn 06 52 21.5 -3.3
SOLC Bahia Solano 9.60 227 eP Pn 06 50 38.0 +1.6
ANIL Santa Ana 9.72 211 ⇑eP Pn 06 50 38.0 -0.3
ANIL i 06 50 55.0
comp=Z,17nm,0.5s
ANIL eS Sn 06 52 23.1 -4.6
TOSP Speyside 9.73 98 eP Pn 06 50 44.3 +6.2
TOSP Speyside 9.73 98 eS Sn 06 52 32.7 +5.2
BCIP Isla Barro Col 10.02 249 Pn Pn 06 50 44.8 +2.6
ORTC Ortega, Tolima 10.15 209 eP Pn 06 50 44.8 +0.8
ORTC i 06 50 57.3
comp=Z,70nm,0.7s
ORTC eS Sn 06 52 33.8 -4.1
PRAC Prado 10.16 207 eP Pn 06 50 44.1 0.0
PRAC i 06 50 59.1
comp=Z,73nm,0.6s
PRAC eS Sn 06 52 32.8 -5.3
GUVC San Jose del G 10.52 193 eP Pn 06 50 47.3 -1.8
YOTC Yotoco, Valle 10.65 214 eP Pn 06 50 49.7 -1.1
MACC Macarena, Meta 11.22 198 eP Pn 06 50 56.5 -2.1
BETC Betania 11.32 207 eP Pn 06 51 00.8 +0.8
GARC Garzon, Huila 11.79 206 eP Pn 06 51 06.1 -0.5
POPC Popayan, Colom 12.04 212 eP Pn 06 51 09.0 -1.0
FSCY Frank Sound, G 12.21 303 Pn Pn 06 51 11.7 -0.4
FLOC Florencia 12.40 205 eP Pn 06 51 13.6 -1.2
PTLC Puerto Leguiza 13.38 200 eP Pn 06 51 30.6 +2.4
JTS Las Juntas de 14.54 261 LR LR 06 57 10.9
comp=Z,370nm,21.5s,baz=136,slow=36
OTAV Otavalo 14.91 213 Pn Pn 06 51 50.0 +0.4
OTAV Otavalo 14.91 213 eP Pn 06 51 49.2 -0.3
PTGA Pitinga 17.00 142 P P 06 52 18.1 +0.1
comp=Z,1.0nm,0.3s,baz=324,slow=15,SNR=18
PTGA LR LR 06 59 05.6
comp=Z,1µm,19.8s,baz=326,slow=38
PTGA Pitinga 17.00 142 IAmb IAmb 06 52 22.2
comp=Z,31nm,1.1s
MACA Manacapuru-AM 18.61 148 eP Pn 06 52 37.4 +1.4
TEIG Tepich 18.66 295 LR LR 07 00 15.0
comp=Z,684nm,19.0s,baz=184,slow=38
MDP Montagnes des 19.11 112 P Pn 06 52 43.0 +0.8
comp=Z,0.4nm,0.3s,baz=304,slow=13,SNR=4.3
MDP LR LR 07 01 01.1
comp=Z,568nm,21.3s,baz=286,slow=40
CZSB Cruzeiro do Su 20.62 187 eP P 06 52 56.7 -0.9
CCIG Comitan 21.35 282 P P 06 53 06.5 +0.7
CCIG IAmb IAmb 06 53 21.9
comp=Z,39nm,1.4s
ATAH Atahualpa 21.44 202 P P 06 53 07.2 +0.2
comp=Z,29nm,0.9s,baz=2.7,slow=12,SNR=11
ATAH LR LR 07 03 32.3
comp=Z,1µm,18.3s,baz=25,slow=42
553A Crawfordville 21.59 325 P P 06 53 08.8 +0.7
553A IAmb IAmb 06 53 15.3
comp=Z,37nm,1.0s
MALB Monte Alegre 21.66 131 eP P 06 53 09.7 +0.7
MALB eS S 06 57 07.1 -1.9
CSU Charleston Sou 21.89 338 P P 06 53 11.8 +0.5
TIGA Tifton 22.12 329 P P 06 53 15.1 +1.3
Y59A Loris 22.39 341 P P 06 53 16.4 -0.2
MCPB Macapa, AP 22.41 125 eP P 06 53 18.1 +1.1
ITTB Itaituba 22.46 139 eP P 06 53 18.5 +0.9
Z56A Williston 22.70 335 P P 06 53 20.1 +0.2
Z56A IAmb IAmb 06 53 47.3
comp=Z,25nm,1.1s
SAML Samuel 22.83 161 P P 06 53 20.2 -1.2
SAML Samuel 22.83 161 eP P 06 53 20.0 -1.4
154A Montrose 22.85 331 P P 06 53 21.1 -0.3
352A Blakely 22.86 326 P P 06 53 23.1 +1.5
ETMB Extrema 22.93 169 eP P 06 53 20.6 -1.8
X58A Rowland 23.06 341 P P 06 53 24.8 +1.1
X58A IAmb IAmb 06 53 49.0
comp=Z,24nm,1.2s
CNNC Cliffs of the 23.28 344 P P 06 53 26.2 +0.3
CNNC IAmb IAmb 06 53 44.1
comp=Z,29nm,1.1s
152A Waverly Hall 23.68 329 P P 06 53 31.3 +1.4
152A IAmb IAmb 06 53 34.9
comp=Z,14nm,0.9s
HODGE Hodges 23.85 335 P P 06 53 32.1 +0.6
HODGE IAmb IAmb 06 53 39.5
comp=Z,23nm,1.5s
PAULI Pauline 24.18 336 P P 06 53 34.1 -0.6
Y52A Lilburn 24.33 331 P P 06 53 36.6 +0.6
Z51A Franklin 24.43 329 P P 06 53 37.0 +0.1
Z51A IAmb IAmb 06 53 40.2
comp=Z,14nm,1.0s
NPGB Novo Progresso 24.78 142 eP P 06 53 40.8 +0.5
BG3 Lake Jocassee 24.78 335 P P 06 53 39.5 -0.6
V55A Taylorsville 24.88 339 P P 06 53 41.7 +0.7
LRAL Lakeview Retre 25.17 326 P P 06 53 44.5 +0.8
LRAL IAmb IAmb 06 54 03.2
comp=Z,23nm,1.1s
V53A Saluda 25.32 336 P P 06 53 45.4 +0.4
V53A IAmb IAmb 06 53 50.4
comp=Z,18nm,0.9s
Y49A Blount Mountai 25.49 328 P P 06 53 46.4 -0.1
Y49A IAmb IAmb 06 53 59.1
comp=Z,14nm,0.9s
NNA Nana 25.54 195 LR LR 07 06 08.5
comp=Z,719nm,20.5s,baz=356,slow=42
FPAL Fort Paine 25.62 330 P P 06 53 48.5 +0.8
FPAL IAmb IAmb 06 53 58.7
comp=Z,10nm,0.9s
TKL Tuckaleechee C 25.71 334 LR LR 07 04 31.1
comp=Z,687nm,19.0s,baz=148,slow=38
TKL Tuckaleechee C 25.71 334 P P 06 53 49.1 +0.6
TKL IAmb IAmb 06 53 53.4
comp=Z,26nm,1.4s
VWCC Virginia Weste 25.74 342 P P 06 53 48.4 -0.5
CPCT Cooper Cave 25.86 333 P P 06 53 51.1 +1.3
X48A Hartselle 26.28 328 P P 06 53 53.3 -0.4
X48A IAmb IAmb 06 54 05.8
comp=Z,9.7nm,0.8s
SWET Sewanee 26.32 330 P P 06 53 54.3 +0.2
SWET IAmb IAmb 06 53 59.6
comp=Z,11nm,1.1s
TMAB Tom-Au,PA,Br 26.80 123 eP P 06 54 00.2 +1.7
V48A Smith Brothers 27.18 330 P P 06 54 01.6 -0.2
CLTN Cedars of Leba 27.22 331 P P 06 54 01.9 -0.3
PLAL Pickwick Lake 27.23 327 P P 06 54 01.3 -1.0
VILB Vilhena 27.57 158 eP P 06 54 06.5 +1.0
OXF Oxford 27.61 324 P P 06 54 05.0 -0.7
CLDB Colider 27.68 148 eP P 06 54 05.6 -0.8
PRPB Parauapebas 27.84 132 eP P 06 54 09.8 +1.8
LPAZ La Paz 29.07 176 P P 06 54 19.3 -0.2
comp=Z,13nm,0.5s,baz=25,slow=6.0,SNR=36
LPAZ LR LR 07 07 14.1
comp=Z,2µm,18.0s,baz=1.0,slow=39
LPAZ La Paz 29.07 176 P P 06 54 18.3 -1.2
LPAZ La Paz 29.07 176 eP P 06 54 19.4 -0.2
PBMO Poplar Bluff 29.84 326 P P 06 54 25.6 +0.1
SIV San Ignacio 30.12 162 P P 06 54 28.3 +0.1
comp=Z,9.2nm,0.5s,baz=347,slow=7.9,SNR=69
SIV LR LR 07 07 35.8
comp=Z,1µm,18.3s,baz=322,slow=38
PTLB Pontes e Lacer 30.26 158 eP P 06 54 28.9 -0.5
T42A Van Buren 30.38 326 P P 06 54 30.0 -0.3
T42A IAmb IAmb 06 54 40.4
comp=Z,7.5nm,0.8s
ROSB Rosrio 30.40 119 eP P 06 54 32.3 +1.6
P46A Rosedale 30.50 334 P P 06 54 31.3 0.0
W39A Magazine 30.69 320 P P 06 54 33.2 +0.1
U40A Yellville 30.90 323 P P 06 54 35.2 +0.2
U40A IAmb IAmb 06 54 44.5
comp=Z,8.4nm,0.9s
SNDB Serra Nova Dou 31.11 142 eP P 06 54 38.2 +1.3
MGMO Mountain Grove 31.12 325 P P 06 54 36.1 -0.7
MGMO IAmb IAmb 06 54 53.7
comp=Z,13nm,1.1s
SMTB Santa Maria do 31.27 133 eP P 06 54 39.8 +1.4
ARAG Araguaiana, MT 33.82 147 eP P 06 55 01.1 +0.5
NBMO Morrinhos-CE 34.13 116 eP P 06 55 04.8 +1.3
TXAR Lajitas Array 34.96 303 P P 06 55 11.0 +0.4
comp=Z,0.5nm,0.7s,baz=138,slow=8.3,SNR=5.8
TXAR Lajitas Array 34.96 303 P P 06 55 11.1 +0.5
LVC Limon Verde 35.31 178 eP P 06 55 12.8 -1.0
SDBA SAO DESIDERIO 35.62 134 eP P 06 55 17.0 +0.7
BDFB Brasilia 35.94 141 P P 06 55 20.4 +1.2
comp=Z,7.7nm,0.8s,baz=342,slow=6.6,SNR=9.9
BDFB LR LR 07 10 52.1
comp=Z,694nm,20.0s,baz=323,slow=38
BDFB Brasilia 35.94 141 P P 06 55 19.6 +0.5
BDFB IAmb IAmb 06 55 23.0
comp=Z,7.4nm,0.8s
AQDB Aquidauana 36.15 156 eP P 06 55 20.9 +0.2
MNTX Cornudas Mount 37.20 306 P P 06 55 31.1 +1.4
PB14 IPOC Station P 37.28 180 P P 06 55 30.2 -0.4
IPMB Ipameri, GO 37.66 144 eP P 06 55 34.4 +0.7
JANB Januaria 37.89 136 eP P 06 55 36.1 +0.5
ITRB Iturama 37.90 148 eP P 06 55 36.2 +0.6
RCBR Riachuelo 38.95 116 P P 06 55 46.4 +1.7
comp=Z,16nm,0.8s,baz=296,slow=9.8,SNR=5.2
RCBR Riachuelo 38.95 116 eP P 06 55 46.8 +2.2
PCMB Pacaembu 39.07 151 eP P 06 55 45.9 +0.5
EYMN Ely 39.15 337 P P 06 55 45.9 0.0
MC01 Montes Claros 39.32 138 eP P 06 55 48.4 +0.7
AC02 Maricunga 39.50 178 P P 06 55 49.0 -0.5
AC02 IAmb IAmb 06 55 50.3
comp=Z,17nm,0.8s
BB19B Bebedouro 39.98 147 eP P 06 55 53.4 +0.3
GDU01 Guandu, BA 40.36 130 eP P 06 55 56.3 0.0
AGMN Agassiz Nation 41.18 334 P P 06 56 03.3 +0.6
AGMN IAmb IAmb 06 56 05.2
comp=Z,15nm,0.9s
FRTB Fartura 41.36 150 eP P 06 56 04.5 +0.1
AC05 El Transito 41.48 180 P P 06 56 05.1 -0.4
AC05 IAmb IAmb 06 56 17.1
comp=Z,15nm,0.9s
SCHQ Schefferville 41.94 3 LR LR 07 12 06.9
comp=Z,194nm,20.3s,baz=208,slow=34
BSCB Bom Sucesso 42.02 143 eP P 06 56 10.4 +0.4
PV02 Paradox Valley 42.38 313 P P 06 56 13.2 +0.2
PV02 IAmb IAmb 06 56 25.3
comp=Z,12nm,1.3s
VAO Valinhos 42.39 147 eP P 06 56 13.4 +0.4
PV13 Radium Mtn., P 42.42 313 P P 06 56 13.2 -0.1
CO01 Juntas del Tor 42.62 180 P P 06 56 14.1 -0.8
ULM Lac du Bonnet 42.71 336 P P 06 56 16.1 +0.9
comp=Z,4.4nm,0.7s,baz=137,slow=9.0,SNR=5.2
ULM LR LR 07 15 12.1
comp=Z,209nm,18.7s,baz=134,slow=38
ULM Lac du Bonnet 42.71 336 P P 06 56 15.5 +0.3
ULM IAmb IAmb 06 56 44.3
comp=Z,24nm,1.4s
RIB01 Linhares ES 43.53 137 eP P 06 56 22.5 +0.4
ZON Zonda 44.21 178 P P 06 56 26.5 -1.0
P17A Butcher Ranch, 44.34 314 P P 06 56 27.9 -0.8
PD31 Pinedale Array 45.06 319 P P 06 56 33.6 -0.9
PDAR Pinedale Array 45.06 319 P P 06 56 35.1 +0.6
comp=Z,0.8nm,0.6s,baz=119,slow=11,SNR=8.0
PDAR LR LR 07 17 15.4
comp=Z,309nm,18.1s,baz=114,slow=38
PDAR Pinedale Array 45.06 319 P P 06 56 33.6 -0.9
VA03 San Esteban 45.39 180 P P 06 56 36.4 -0.6
CTU Camp Tracy 45.56 315 P P 06 56 38.5 0.0
DUG Dugway, Tooele 46.09 314 P P 06 56 43.4 +0.8
DUG IAmb IAmb 06 57 05.0
comp=Z,6.7nm,1.2s
SNOW Snow King Moun 46.17 319 P P 06 56 43.9 +0.6
SNOW IAmb IAmb 06 56 53.4
comp=Z,7.1nm,0.9s
REDW Red Top Meadow 46.18 319 P P 06 56 43.5 +0.1
REDW IAmb IAmb 06 56 52.9
comp=Z,9.5nm,1.0s
PSUT Pine Spring 46.20 312 P P 06 56 44.0 +0.5
TPAW Teton Pass 46.30 319 P P 06 56 43.4 -1.0
TPAW IAmb IAmb 06 56 59.5
comp=Z,6.7nm,1.1s
FXWY Fox Creek 46.42 319 P P 06 56 46.3 +1.1
FXWY IAmb IAmb 06 56 50.3
comp=Z,8.4nm,1.5s
H17A Grant Village 46.51 320 P P 06 56 45.2 -0.7
BGU Big Grassy Mou 46.54 315 P P 06 56 46.9 +0.8
YHL Hebgen Lake 47.11 321 P P 06 56 50.2 -0.5
PLTB Pedras Altas 47.21 160 eP P 06 56 52.2 +1.0
QLMT Earthquake Lak 47.25 320 P P 06 56 52.8 +1.1
BO02 Sierra Bellavi 47.42 180 P P 06 56 52.2 -0.6
BOZ Bozeman (W) 47.75 321 P P 06 56 55.8 +0.3
BOZ IAmb IAmb 06 57 17.9
comp=Z,8.6nm,1.4s
MCMT McKenzie Canyo 48.14 320 P P 06 57 00.1 +1.4
BCYI Bear Canyon 48.26 319 P P 06 56 58.6 -0.9
HRY Holter Researc 48.43 322 P P 06 57 01.8 +1.1
NVAR Mina Array Bea 49.45 310 P P 06 57 10.1 +1.3
comp=Z,0.9nm,0.8s,baz=125,slow=7.6,SNR=8.7
NVAR LR LR 07 21 02.2
comp=Z,331nm,18.3s,baz=127,slow=40
NVAR Mina Array Bea 49.45 310 P P 06 57 08.5 -0.3
KVN Kaiserville 49.49 311 P P 06 57 09.3 +0.2
YERR Yerington 50.32 310 P P 06 57 14.6 -0.8
YERR IAmb IAmb 06 57 32.5
comp=Z,14nm,1.3s
PNTR Pine Nut 50.61 310 P P 06 57 17.7 +0.1
PNTR IAmb IAmb 06 57 21.6
comp=Z,4.1nm,0.7s
LC01 Cunco 51.53 182 P P 06 57 23.2 -0.9
LC01 IAmb IAmb 06 57 25.5
comp=Z,8.9nm,0.8s
PLCA Paso Flores 53.35 180 P P 06 57 38.8 +1.2
comp=Z,10nm,0.7s,baz=360,slow=8.8,SNR=21
PLCA LR LR 07 23 14.5
comp=Z,200nm,20.4s,baz=360,slow=39
PLCA Paso Flores 53.35 180 P P 06 57 36.8 -0.8
PLCA Paso Flores 53.35 180 eP P 06 57 36.1 -1.5
SFJD Kangerlussuaq 55.63 9 LR LR 07 19 13.8
comp=Z,267nm,21.4s,baz=202,slow=33
YKA Yellowknife Ar 58.63 338 P P 06 58 15.6 +0.5
comp=Z,3.0nm,0.8s,baz=120,slow=7.3,SNR=8.7
YKA LR LR 07 24 40.3
comp=Z,244nm,18.7s,baz=0.0,slow=37
ESDC Sonseca Array 63.74 52 LR LR 07 20 48.2
comp=Z,62nm,21.7s,baz=265,slow=30
ESDC Sonseca Array 63.74 52 P P 06 58 50.1 -0.2
DBIC Dimbokro 64.70 89 P P 06 58 58.6 +1.7
comp=Z,3.0nm,0.7s,baz=283,slow=8.3,SNR=4.3
DBIC LR LR 07 27 20.0
comp=Z,52nm,18.6s,baz=269,slow=36
INK Inuvik 68.33 339 P P 06 59 19.8 +0.7
comp=Z,1.5nm,0.8s,baz=100,slow=6.3,SNR=4.0
INK Inuvik 68.33 339 P P 06 59 19.4 +0.3
INK IAmb IAmb 06 59 39.8
comp=Z,4.9nm,1.2s
TORD Torodi Ar. Bea 69.95 81 P P 06 59 30.6 +0.4
comp=Z,2.1nm,1.0s,baz=292,slow=6.8,SNR=7.4
TORD Torodi Ar. Bea 69.95 81 P P 06 59 29.5 -0.7
BCAR Beaver Creek A 70.20 333 P P 06 59 29.9 -1.1
EGAK Eagle 70.27 335 P P 06 59 32.0 +0.8
BMAR Burnt Mountain 72.14 337 P P 06 59 42.4 -0.2
ILAR Eielson Array 72.69 334 P P 06 59 44.6 -1.3
comp=Z,0.4nm,0.7s,baz=101,slow=5.3,SNR=4.4
ILAR LR LR 07 32 21.9
comp=Z,132nm,21.2s,baz=125,slow=36
ILAR Eielson Array 72.69 334 P P 06 59 46.2 +0.4
TOLK Toolik Lake Re 74.16 338 P P 06 59 54.9 +0.4
COLD Coldfoot 74.28 337 P P 06 59 55.0 -0.2
COLD IAmb IAmb 07 00 11.3
comp=Z,11nm,1.5s
NOA NORSAR Array B 74.74 30 LR LR 07 27 58.9
comp=Z,56nm,21.4s,baz=0.0,slow=32
GERES GERESS Array B 76.52 43 LR LR 07 35 59.1
comp=Z,44nm,18.1s,baz=283,slow=37
FINES FINESS Array B 81.84 29 LR LR 07 30 06.7
comp=Z,116nm,20.9s,baz=286,slow=31
AKASG Malin Array Be 86.11 39 LR LR 07 34 25.7
comp=Z,60nm,21.9s,baz=295,slow=32
VNA3 Neumayer Olymp 93.17 164 P P 07 01 32.9 +0.9

VNA1	Neumayer--Stat	93.26	163	P		P	07 01 33.8	+1.5
NRIK	Noril'sk	96.52	8	LR		LR	07 47 27.2	
	comp=Z,110nm,18.8s,baz=17,slow=37							
STKA	Stephens Creek	145.13	232	PKPbc		PKPbc	07 07 56.2	+0.4
	comp=Z,5.7nm,1.1s,baz=79,slow=6.8,SNR=6.9							
CMAR	Chiang Mai Arr	147.11	19	PKPbc		PKPbc	07 08 01.6	-0.7
	comp=Z,1.8nm,0.5s,baz=323,slow=3.8,SNR=6.7							
ASAR	Alice Springs	154.64	242	PKPbc		PKPbc	07 08 19.7	-0.5
	comp=Z,1.0nm,0.9s,baz=105,slow=1.5,SNR=9.6							
WRA	Warramunga Arr	155.32	250	PKP		PKPdf	07 08 12.9	+0.3
	comp=Z,0.4nm,0.8s,baz=122,slow=0.8,SNR=4.6							
WRA				PKPbc		sPKPdf	07 08 21.6	+4.1
	comp=Z,1.0nm,0.9s,baz=50,slow=0.1,SNR=8.4							

*JMA **03** 06:56:40.9±0.1, 40.°90N×142.°14E, h50km±3km, M3.4*
JMA Felt I J1.
*IDC **03** 06:56:43.8±2.3, 40.°94N×142.°38E, h88km±19km, mb3.4/3, mb1 3.4/6, mb1mx3.2/61, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=38.6km s-min=16.2km az=100.0*
ISC 03 06:56:41.4±1.0, 40.°87N±0.°03×142.°07E±0.°05, h52km±10km, n25, σ1s08/34, mb3.5/3, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JARK	Aomorirokkasho	0.55	285	⇓P		Pn	06 56 53.3	0.0
JARK				eS		Sn	06 57 01.9	0.0
JANG	Nango	0.65	221	⇓P		Pn	06 56 54.8	+0.3
JANG				S		Sn	06 57 04.5	+0.4
JAHD	Aomorihigashid	0.68	306	⇓P		Pn	06 56 54.6	-0.3
JKEN	Kujiedanarisaw	0.71	203	⇑P		Pn	06 56 55.5	+0.1
JKEN				S		Sn	06 57 05.8	+0.3
JTM	Tenmabayashi	0.76	264	⇓P		Pn	06 56 56.2	+0.2
JTM				S		Sn	06 57 07.0	+0.4
JOT	Ohata	0.93	304	⇓P		Pn	06 56 57.7	-0.4
JOT				S		Sn	06 57 10.1	-0.4
JKB	Kayabe	1.28	323	⇓P		Pn	06 57 02.5	-0.4
JKB				eS		Sn	06 57 18.4	-0.6
JAH	Hinai	1.28	239	⇓P		Pn	06 57 03.7	+0.7
JAH				S		Sn	06 57 20.5	+1.4
JEM	Erimo	1.41	35	P		Pn	06 57 08.1	+1.0
JIAM	Iburiatsuma	1.76	356	P		Pn	06 57 10.7	+1.3
JIAM				S		Sn	06 57 33.0	+2.4
JNB	Noboribetsu	1.78	335	P		Pn	06 57 08.8	-0.9
JNB				eS		Sn	06 57 30.1	-1.0
ASAJ	Asahikawa	3.27	7	P		Pn	06 57 30.7	+0.6
	2.8nm,0.3s,baz=239,slow=18,SNR=5.7							
ASAJ				S		Sn	06 58 09.2	+1.4
	2.5nm,0.3s,baz=320,slow=28,SNR=3.8							
MJAR	Matsushiro Arr	5.27	216	P		Pn	06 58 04.2	+6.6
	0.0nm,0.3s,baz=37,slow=12,SNR=3.8							
USRK	Ussuriysk Ar.	8.15	297	P		Pn	06 58 40.7	+3.6
	baz=99,slow=16,SNR=5.4							
GUMO	Guam	27.29	174	LR		LR	07 12 28.3	
	comp=Z,46nm,21.1s,baz=110,slow=35							
H11N2	WAKE ISLAND Hy	29.87	127	T		T	07 34 18.0	
	baz=320,slow=75,SNR=16							
H11N1	WAKE ISLAND Hy	29.88	127	T		T	07 34 22.5	
	baz=320,slow=75,SNR=23							
H11N3	WAKE ISLAND Hy	29.89	127	T		T	07 34 20.5	
	baz=320,slow=75,SNR=15							
MKAR	Makanchi Array	42.62	299	P		P	07 04 31.9	-0.5
	0.4nm,0.4s,baz=87,slow=10,SNR=9.4							
WRA	Warramunga Arr	60.92	188	P		P	07 06 47.7	-1.2
	0.1nm,0.4s,baz=7.8,slow=7.7,SNR=6.4							
FINES	FINESS Array B	65.67	332	P		P	07 07 19.2	-0.7
	1.3nm,0.5s,baz=44,slow=9.1,SNR=9.4							

*SOME **03** 06:57:07.1, 40.°97N×69.°72E, h0km*
*NNC **03** 06:57:09.8±3.2, 41.°00N×69.°78E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=21.7km s-min=12.9km az=34.0*
ISC 03 06:57:05.6±4.5, 40.°9N±0.°2×69.°9E±0.°1, h10km, n15, σ1s10/23, 2C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IUG	luzhnay	1.28	5	eP		Pg	06 57 30.4	+0.1
	87nm,0.1s							
IUG				eS		Sb	06 57 46.9	+0.5
	136nm,0.4s							
IUG	luzhnay	1.28	5	P		Pg	06 57 30.4	+0.1
	87nm,0.1s							
IUG				S		Sb	06 57 46.9	+0.5
	136nm,0.4s							
KK31	Karatay Array	2.28	12	Pn		Pg	06 57 48.5	-0.8
	7.5nm,0.6s,baz=198,slow=16,SNR=40							
KK31				Sn		Sg	06 58 18.8	-0.1
	19nm,0.5s,baz=196,slow=29,SNR=20							
MRKS	Merke	3.13	52	eP		Pg	06 58 04.6	-0.9
	6.8nm,0.6s							
MRKS				eS		Sg	06 58 45.1	-1.0
	12nm,0.6s							
MRKS	Merke	3.13	52	Pg		Pg	06 58 04.6	-0.9
	6.8nm,0.6s							
MRKS				Lg		Lg	06 58 45.1	
	12nm,0.6s							
AAK	Ala-Archa	3.88	61	⇑Pg		Pg	06 58 21.9	+1.9
	2.5nm,0.6s							
AAK				⇑Lg		Lg	06 59 14.6	
	5.8nm,0.7s							
SGDS	Sogindy	4.38	52	Pg		Pg	06 58 27.8	-1.7
	2.3nm,0.5s							
SGDS				Lg		Lg	06 59 24.8	
	4.5nm,0.6s							
KST	Kastek	5.03	62	eP		Pg	06 58 42.0	0.0
	6.6nm,1.2s							
KST				eS		Sg	06 59 49.2	+2.0
	8.4nm,0.6s							
KST	Kastek	5.03	62	Pg		Pg	06 58 42.0	0.0
	6.6nm,1.2s							
KST				Lg		Lg	06 59 49.2	
	8.4nm,0.6s							
KRBS	Karabastau	5.15	55	eP		Pg	06 58 43.2	-0.9
	1.6nm,0.6s							
KRBS				eS		Sg	06 59 52.0	+1.2
	3.9nm,0.5s							
KRBS	Karabastau	5.15	55	Pg		Pg	06 58 43.2	-0.9
	1.6nm,0.6s							
KRBS				Lg		Lg	06 59 52.0	
	3.9nm,0.5s							
BTLS	Baital	5.17	35	eP		Pg	06 58 44.0	-0.6
	1.1nm,0.3s							
BTLS				eS		Sg	06 59 52.6	+1.0
	2.9nm,0.6s							
BTLS	Baital	5.17	35	Pg		Pg	06 58 44.0	-0.6
	2.0nm,0.3s							
BTLS				Lg		Lg	06 59 52.6	
	4.7nm,0.5s							
KTBS	Karatobe	5.79	58	eP		Pg	06 58 54.9	-1.6
	2.1nm,0.6s							
KTBS				eS		Sg	07 00 11.2	-0.4
	6.7nm,0.7s							
KTBS	Karatobe	5.79	58	Pg		Pg	06 58 54.9	-1.6
	2.1nm,0.6s							
KTBS				Lg		Lg	07 00 11.2	
	6.7nm,0.7s							

IDC 03 06:58:51.1±1.9, 1.°15N×125.°51E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/49, mbtmp3.5/3, MS3.9/2, Ms1 3.9/2, ms1mx2.8/31, Error ellipse: s-maj=169.6km s-min=25.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.68	158	P		P	07 03 54.1	-0.3
	0.5nm,0.3s,baz=337,slow=11,SNR=22							
ASAR	Alice Springs	25.98	162	P		P	07 04 25.9	+0.1
	0.4nm,0.4s,baz=334,slow=11,SNR=8.5							
CTA	Charters Tower	29.31	137	LR		LR	07 17 59.8	
	comp=Z,281nm,21.0s,baz=58,slow=39							
MKAR	Makanchi Array	59.00	327	P		P	07 08 52.7	0.0
	0.3nm,0.4s,baz=124,slow=7.9,SNR=4.7							
AKTO	Aktyubinsk	74.92	322	LR		LR	07 44 35.6	
	comp=Z,64nm,21.7s,baz=322,slow=37							

*NNC **03** 07:37:45.7±0.5, 50.°03N×78.°76E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=13.7km s-min=1.9km az=70.0, Suspected Mining explosion.*
*IDC **03** 07:37:46.2±1.2, 50.°04N×78.°69E, h0km, mb1 3.2/2, mb1mx3.1/51, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=14.7km s-min=7.5km az=66.0*
ISC 03 07:37:46.4±1.9, 50.°01N±0.°07×78.°6E±0.°3, h0km, n16, σ0s55/26, 15C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.58	357	⇑P		Pg	07 37 57.1	-0.3
KUR07				⇓S		Sg	07 38 05.8	+0.8
KUR06	Kurchatov Arra	0.60	357	⇑P		Pg	07 37 57.4	-0.4
KUR06				⇑S		Sg	07 38 06.1	+0.6
KUR14	Kurchatov Arra	0.61	1	⇑P		Pg	07 37 57.2	-0.9
KUR14				⇑S		Sg	07 38 05.7	-0.2
KUR15	Kurchatov Arra	0.61	360	⇓P		Pg	07 37 57.3	-0.8
KUR15				⇑S		Sg	07 38 05.9	-0.1
KURBB	Kurchatov Arra	0.62	358	Pg		Pg	07 37 57.6	-0.6
	3.9nm,0.3s,baz=167,slow=18,SNR=80							
KURBB				Lg		Lg	07 38 06.1	
	6.4nm,0.3s,baz=170,slow=32,SNR=42							
KURBB	Kurchatov Arra	0.62	358	⇑P		Pg	07 37 57.6	-0.6
	29nm,0.4s							
KURBB				⇑S		Sg	07 38 06.3	+0.1
	139nm,0.5s							
KUR16	Kurchatov Arra	0.62	356	⇓P		Pg	07 37 57.7	-0.5
KUR16				⇑S		Sg	07 38 06.5	+0.2
KUR17	Kurchatov Arra	0.63	354	⇓P		Pg	07 37 58.0	-0.4
KUR17				⇓S		Sg	07 38 07.0	+0.5
KUR05	Kurchatov Arra	0.64	358	⇓P		Pg	07 37 58.0	-0.5
KUR05				⇑S		Sg	07 38 07.0	+0.2
KUR04	Kurchatov Arra	0.66	359	⇓P		Pg	07 37 58.3	-0.6
KUR04				⇑S		Sg	07 38 07.5	+0.1
KURK	Kurchatov	0.71	3	⇑P		Pg	07 37 59.0	-1.0
	7.7nm,0.3s							
KURK				⇓S		Sg	07 38 09.2	+0.1
	14nm,0.3s							
MAKZ	Makanchi	3.92	143	⇑Pg		Pb	07 38 57.0	+0.6
	1.6nm,0.3s							
MAKZ				⇓Lg		Lg	07 39 46.9	
	5.8nm,0.5s							
MK31	Makanchi Array	4.06	141	⇑Pn		Pn	07 38 50.0	+0.3
	0.2nm,0.2s,baz=323,slow=10,SNR=30							
MK31				⇑Pg		Pb	07 38 58.2	-0.5
	1.2nm,0.3s,baz=321,slow=13,SNR=10							
MK31				⇓Lg		Lg	07 39 51.3	
	5.6nm,0.5s,baz=325,slow=26,SNR=15							
MKAR	Makanchi Array	4.06	141	Pn		Pn	07 38 49.9	+0.1
	0.7nm,0.3s,baz=321,slow=10,SNR=33							
MKAR				Lg		Lg	07 39 51.9	
	4.5nm,0.3s,baz=324,slow=28,SNR=6.7							
ZALV	Zalesovo Beam	5.52	42	Pn		Pn	07 39 10.4	+0.7
	1.4nm,0.3s,baz=232,slow=14,SNR=8.6							
I46RU	ZALESOVO INFRA	5.52	42	*i*			08 08 40.0	
	baz=226,slow=321,SNR=0.7							

*NEIC **03** 07:37:49.1±1.4, 20.°7S±0.°1×177.°7W±0.°1, h497km±7km, mb4.3/40, Error ellipse: s-maj=18.3km s-min=15.7km az=132.0*
*IDC **03** 07:37:53.6±3.5, 20.°61S×177.°91W, h539km±38km, mb3.5/12, mb1 3.6/13, mb1mx3.5/41, mbtmp4.4/13, Error ellipse: s-maj=21.4km s-min=16.9km az=124.0*
ISC 03 07:37:49.4±0.5, 20.°60S±0.°09×177.°69W±0.°09, h500km, n73, σ0s92/72, mb4.2/31, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.94	305	P		P	07 39 17.2	+1.3
NIUE	Niue	7.46	80	P		P	07 39 39.6	-0.7
AFI	Afiamalu	8.72	41	P		P	07 39 51.0	-2.5
	9.7nm,0.3s,baz=214,slow=2.4,SNR=12							
AFI	Afiamalu	8.72	41	P		P	07 39 51.0	-2.5
DZM	Mont Dzumac	14.86	261	P		P	07 40 58.2	-0.1
	1.3nm,0.3s,baz=327,slow=19,SNR=14							
DZM	Mont Dzumac	14.86	261	P		P	07 40 58.4	+0.1
SANVU	Saraoutou	15.26	287	P		P	07 41 02.0	-0.3
URZ	Urewera	18.17	193	P		P	07 41 29.6	-1.5
NNZ	Nelson	21.91	198	P		P	07 42 03.8	-1.3
EIDS	Eidsvold	29.10	255	P		P	07 43 08.9	-0.2
EIDS					IAmb	IAmb	07 43 37.3	
	comp=Z,7.7nm,1.2s							
CTA	Charters Tower	33.77	264	P		P	07 43 49.5	+0.3
	comp=Z,8.3nm,0.4s,baz=90,slow=10,SNR=22							
CTAO	Charters Tower	33.77	264	P		P	07 43 49.5	+0.3
STKA	Stephens Creek	38.01	244	P		P	07 44 24.1	-0.1
	comp=Z,2.2nm,0.8s,baz=110,slow=10,SNR=5.1							
STKA	Stephens Creek	38.01	244	P		P	07 44 24.0	-0.2
BBOO	Buckleboo	42.77	244	P		P	07 45 01.8	-0.6
BBOO					IAmb	IAmb	07 45 26.3	
	comp=Z,16nm,1.4s							
AS31	Alice Springs	44.78	257	P		P	07 45 17.6	-0.6
ASAR	Alice Springs	44.78	257	P		P	07 45 17.6	-0.6
	comp=Z,4.1nm,0.5s,baz=94,slow=7.8,SNR=88							
ASAR				PcP		pP	07 46 49.5	-0.2
	comp=Z,1.3nm,0.6s,baz=107,slow=3.5,SNR=9.4							
ASAR	Alice Springs	44.78	257	P		P	07 45 17.5	-0.7
WB0	Warramunga Arr	44.86	262	P		P	07 45 17.9	-0.9
WB0					IAmb	IAmb	07 45 18.6	
	comp=Z,9.2nm,0.8s							
WB2	Warramunga Arr	44.87	262	P		P	07 45 18.2	-0.7
WB2					IAmb	IAmb	07 45 19.3	
	comp=Z,12nm,1.1s							
WRA	Warramunga Arr	44.88	262	P		P	07 45 17.9	-1.1
	comp=Z,3.9nm,0.6s,baz=98,slow=8.6,SNR=45							
WRA	Warramunga Arr	44.88	262	P		P	07 45 17.6	-1.4
FORT	Forrest	49.52	247	P		P	07 45 52.9	-0.9
FORT					IAmb	IAmb	07 46 14.1	
	comp=Z,26nm,1.1s							
KNRA	Kununurra	50.95	266	P		P	07 46 04.2	-0.2
KNRA					IAmb	IAmb	07 46 09.0	
	comp=Z,13nm,1.2s							
FITZ	Fitzroy Crossi	53.31	262	P		P	07 46 21.6	+0.2
VNDA	Vanda	57.84	185	P		P	07 46 53.3	+1.3
	comp=Z,0.4nm,0.5s,baz=352,slow=6.6,SNR=5.9							
VNDA	Vanda	57.84	185	P		P	07 46 52.9	+0.9
PSA00	Pilbara Seismi	57.93	257	P		P	07 46 52.8	-0.8
PSA00					IAmb	IAmb	07 46 53.4	
	comp=Z,8.4nm,0.9s							
CASY	Casey	64.00	205	P		P	07 47 32.9	+0.1
CASY					IAmb	IAmb	07 47 33.4	
	comp=Z,9.2nm,1.4s							
QSPA	South Pole Qui	69.47	180	P		P	07 48 07.7	+0.8
QSPA					IAmb	IAmb	07 48 08.1	
	comp=Z,3.9nm,0.6s							
MJAR	Matsushiro Arr	70.46	324	P		P	07 48 13.4	+0.3
	comp=Z,4.4nm,0.6s,baz=154,slow=6.1,SNR=11							
MJAR	Matsushiro Arr	70.46	324	P		P	07 48 13.3	+0.3
MAT	Matsushiro	70.47	324	P		P	07 48 13.5	+0.4
PETK	Petropavlovsk-	76.44	345	P		P	07 48 46.9	+0.1
USRK	Ussuriysk Ar.	79.21	326	P		P	07 49 03.3	+1.3
	comp=Z,1.6nm,0.8s,baz=133,slow=13,SNR=6.0							
BELA	Belgrano 2	79.42	173	P		P	07 49 02.5	-0.2
YBH	Yreka Blue Hor	80.18	38	P		P	07 49 09.5	+2.2
	comp=Z,3.1nm,0.7s,baz=217,slow=3.2,SNR=9.4							
YBH	Yreka Blue Hor	80.18	38	P		P	07 49 08.1	+0.8
NVAR	Mina Array Bea	80.89	43	P		P	07 49 12.5	+1.2
	comp=Z,1.5nm,0.8s,baz=222,slow=9.4,SNR=13							
KVN	Kaiserville	81.38	43	P		P	07 49 15.0	+1.2
MAW	Mawson	81.57	200	P		P	07 49 14.1	+0.2
	comp=Z,1.1nm,0.6s,baz=175,slow=3.8,SNR=4.3							
MOD	Modoc Plateau	81.71	39	P		P	07 49 15.5	+0.2
K05A	Summer Lake	81.86	39	P		P	07 49 18.0	+1.9
K05A					IAmb	IAmb	07 49 18.5	
	comp=Z,5.5nm,0.7s							
PRN	Pahroc Range	82.45	46	P		P	07 49 20.7	+1.5
PINE	Pine Mountain	82.48	38	P		P	07 49 20.8	+1.6
PINE					IAmb	IAmb	07 49 22.2	
	comp=Z,7.3nm,0.8s							
I07A	Izee	83.48	38	P		P	07 49 25.6	+1.5
U15A	North Rim	83.81	48	P		P	07 49 27.5	+1.3
U15A					IAmb	IAmb	07 49 29.0	
	comp=Z,3.4nm,0.7s							
SUA	Susitna One	84.59	13	P		P	07 49 28.8	-0.4
PMR	Palmer	85.05	13	P		P	07 49 31.2	-0.1
GHO	Glory Hole Cre	85.25	13	P		P	07 49 32.9	+0.5
SCM	Sheep Creek Mo	85.66	14	P		P	07 49 35.1	+0.7
F10A	Beach Ranch, E	85.90	37	P		P	07 49 36.5	+0.6
F10A					IAmb	IAmb	07 49 37.7	
	comp=Z,6.5nm,0.8s							
TRF	Thorofare Moun	86.48	12	P		P	07 49 38.3	-0.1
TRF					IAmb	IAmb	07 49 40.4	
	comp=Z,12nm,1.2s							
WRH	Wood River Hil	87.83	12	P		P	07 49 44.7	+0.2
WRH					IAmb	IAmb	07 49 45.2	
	comp=Z,4.7nm,0.8s							
HDA	Harding Lake	88.01	13	P		P	07 49 45.5	+0.2
HDA					IAmb	IAmb	07 49 46.6	
	comp=Z,7.3nm,1.0s							
CCB	Clear Creek Bu	88.05	12	P		P	07 49 45.3	-0.2
IMAR	Indian Mountai	88.20	10	P		P	07 49 46.6	+0.5
MDM	Murphy Dome	88.24	12	P		P	07 49 46.1	-0.3
MDM					IAmb	IAmb	07 49 46.3	
	comp=Z,4.0nm,1.1s							
ILAR	Eielson Array	88.34	13	P		P	07 49 46.6	-0.3
	comp=Z,1.3nm,0.5s,baz=215,slow=5.4,SNR=19							
ILAR	Eielson Array	88.34	13	P		P	07 49 46.9	0.0
PDAR	Pinedale Array	88.83	43	P		P	07 49 50.8	+0.8
	comp=Z,1.3nm,0.8s,baz=214,slow=4.6,SNR=10							
DAWY	Dawson	89.47	16	P		P	07 49 53.0	+0.8
DAWY					IAmb	IAmb	07 49 53.7	
	comp=Z,3.8nm,0.8s							
EGAK	Eagle	89.62	15	P		P	07 49 53.4	+0.6
EGAK					IAmb	IAmb	07 49 56.5	
	comp=Z,4.8nm,1.1s							
MKAR	Makanchi Array	111.48	313	PKiKP		PKiKP	07 55 25.3	-1.1
	comp=Z,0.7nm,0.6s,baz=118,slow=0.7,SNR=7.5							
KURBB	Kurchatov Arra	114.32	317	PKP		PKPdf	07 55 30.9	-0.7
	comp=Z,0.7nm,0.3s,baz=88,slow=1.7,SNR=5.2							
BVAR	Borovoye Array	119.34	320	PKP		PKPdf	07 55 40.7	-0.6
	comp=Z,0.9nm,0.4s,baz=209,slow=9.1,SNR=8.5							
AKTO	Aktyubinsk	127.34	318	PKP		PKPdf	07 55 56.9	+0.3
	comp=Z,0.5nm,0.3s,baz=76,slow=3.6,SNR=4.1							
ARCES	ARCESS Array B	129.07	350	PKP		PKPdf	07 55 59.4	0.0
	comp=Z,0.7nm,0.5s,baz=19,slow=0.8,SNR=11							
AKASG	Malin Array Be	143.24	331	PKP		PKPab	07 56 23.4	-0.5
	comp=Z,2.5nm,0.4s,baz=43,slow=4.5,SNR=19							
BRTR	Keskin Array B	147.12	312	PKPbc		PKPbc	07 56 36.0	-0.3
	comp=Z,1.5nm,0.6s,baz=142,slow=5.2,SNR=7.5							
CLL	Collm	148.22	347			PKPbc	07 56 38.3	-0.2
GERES	GERESS Array B	150.37	345	PKPbc		PKPbc	07 56 44.0	+0.1
	comp=Z,1.2nm,0.5s,baz=14,slow=2.8,SNR=9.7							
TORD	Torodi Ar. Bea	172.57	175	PKP		PKPdf	07 57 00.7	-0.8
	comp=Z,0.9nm,0.8s,baz=180,slow=0.9,SNR=4.7							

*IDC **03** 07:40:11.0±2.5, 15.°27S×173.°94W, h0km, mb3.8/3, mb1 4.3/4, mb1mx3.8/49, mbtmp4.0/4, ML4.7/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/35, Error ellipse: s-maj=142.0km s-min=21.4km az=150.0*
*NEIC **03** 07:40:12.3±1.7, 15.°98S±0.°10×173.°18W±0.°06, h42km±9km, mb4.5/8, Error ellipse: s-maj=14.6km s-min=6.5km az=160.0*
ISC 03 07:40:10.3±0.6, 15.°85S±0.°09×173.°16W±0.°08, h26km, n40, σ0s78/20, mb4.5/9, MS3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.35	35	Pn		Pb	07 40 50.7	-1.2
	149nm,0.3s,baz=198,slow=3.0,SNR=100							
AFI				Sn		Sn	07 41 16.3	+1.1
	270nm,0.3s,baz=54,slow=21,SNR=9.3							
AFI				LR		LR	07 41 36.4	
	comp=Z,429nm,21.2s,baz=282,slow=34							
AFI	Afiamalu	2.35	35			Pb	07 40 51.0	-0.9
NIUE	Niue	4.46	137			Pn	07 41 16.6	+0.4
MSVF	Nonsavu	8.62	256	Pn		Pn	07 42 14.1	+0.6
MSVF				Sn		Sn	07 43 50.1	+0.1
DZM	Mont Dzumac	20.25	249	eLR		LR	07 49 22.5	
	comp=Z,267nm,28.0s							
PAE	Paea	22.65	98	*e*T		T	08 09 49.7	
	4.4nm,0.2s							
PPT2	Papeete2	22.66	98	*e*LQ		LQ	07 50 09.8	
	543nm,27.8s							
PPT2				*e*LR		LR	07 50 56.8	
	comp=Z,92nm,25.5s							
PPT2	Papeete2	22.66	98	*e*T		T	08 09 50.6	
	3.6nm,0.2s							
TVO	Taravao	22.97	98	*e*T		T	08 10 13.3	
	1.3nm,0.3s							
TBI	Tubuai	23.52	112	*e*LQ		LQ	07 50 38.6	
	370nm,29.0s							
TBI	Tubuai	23.52	112	*e*T		T	08 11 14.9	
	7.3nm,0.2s							
URZ	Urewera	23.92	199	LR		LR	07 54 03.8	
	comp=Z,268nm,18.9s,baz=192,slow=34							
PMOR	Pomariorio Ree	24.37	91	*e*T		T	08 11 47.7	
	3.5nm,0.2s							
TAOE	Nuku Hiva Isla	32.96	82	*e*LR		LR	07 55 38.0	
	comp=Z,98nm,27.6s							
KRVT	Keravat (AS076	36.07	285	LR		LR	08 00 06.5	
	comp=Z,34nm,21.8s,baz=51,slow=34							
H11S2	WAKE ISLAND Hy	39.46	329	T		T	08 27 46.3	
	baz=149,slow=76,SNR=70							
H11S3	WAKE ISLAND Hy	39.47	329	T		T	08 27 48.9	
	baz=149,slow=76,SNR=79							
H11S1	WAKE ISLAND Hy	39.48	329	T		T	08 27 47.6	
	baz=149,slow=76,SNR=116							
H11N3	WAKE ISLAND Hy	40.41	330	T		T	08 28 59.9	
	baz=150,slow=76,SNR=99							
H11N1	WAKE ISLAND Hy	40.41	330	T		T	08 29 01.1	
	baz=150,slow=76,SNR=222							
H11N2	WAKE ISLAND Hy	40.42	330	T		T	08 28 59.2	
	baz=150,slow=76,SNR=97							
BBOO	Buckleboo	48.79	240	P		P	07 48 52.3	-1.0
BBOO					IAmb	IAmb	07 49 03.7	
	comp=Z,8.3nm,1.1s							
WB0	Warramunga Arr	49.93	257	P		P	07 49 01.4	-0.9
WB0					IAmb	IAmb	07 49 02.1	
	comp=Z,4.2nm,0.8s							
WB2	Warramunga Arr	49.95	257	P		P	07 49 02.1	-0.4
WB2					IAmb	IAmb	07 49 02.9

DAV	**Davao City (W)**	**1.80**	**333**	Pg		**Pn**	**07 51 21.3**	**+0.2**
	149nm,0.3s,baz=182,slow=0.9,SNR=9.3							
DAV				Lg		Lg	07 51 45.4	
	343nm,0.3s,baz=216,slow=13,SNR=13							
DAV				LR		LR	07 52 14.5	
	comp=Z,2μm,19.3s,baz=134,slow=50							
DAV	**Davao City (W)**	**1.80**	**333**	Pn		**Pn**	**07 51 21.9**	**+0.7**
DAV				Sn		**Sn**	**07 51 44.3**	**+1.4**
KCP	**Kidapawan**	**2.02**	**320**	*iP*		**Pn**	**07 51 23.6**	**-0.5**
KCP				*i* S		**Sn**	**07 51 52.4**	**+4.1**
SKMP	**Bagumbayan, Su**	**2.13**	**300**	*eP*		**Pn**	**07 51 25.6**	**0.0**
SKMP				*eS*		**Sn**	**07 51 57.1**	**+6.2**
BUKP	**Musuan**	**2.75**	**331**	*eP*		**Pn**	**07 51 34.2**	**+0.1**
BUKP				*eS*		**Sn**	**07 52 08.0**	**+1.7**
CGP	**Cagayan de Oro**	**3.43**	**331**	*eP*		**Pn**	**07 51 46.6**	**+3.2**
CGP				*eS*		**Sn**	**07 52 31.5**	**+8.7**
GLSP	**General Luna,**	**4.31**	**356**	*eP*		**Pn**	**07 51 58.1**	**+2.6**
GLSP				*eS*		**Sn**	**07 52 51.0**	**+6.5**
TNTI	**Ternate**	**4.75**	**168**	P		**Pn**	**07 51 58.7**	**-2.8**
TNTI	**Ternate**	**4.75**	**168**	Pn		**Pn**	**07 52 04.4**	**+2.9**
TNTI				Sn		**Sn**	**07 52 58.6**	**+3.3**
KMSI	**Cibinong**	**5.41**	**207**	P		**Pn**	**07 52 11.3**	**+0.7**
	0.9nm157nm,0.5s							
GTOI	**Gorontalo**	**5.86**	**215**	P		**Pn**	**07 52 17.5**	**+0.8**
	0.2nm633nm60nm,0.6s							
SANI	**Sanana**	**7.46**	**183**	P		**Pn**	**07 52 37.1**	**-1.6**
	0.2nm32nm,1.1s							
MPSI	**Mapaga**	**8.24**	**232**	P		**Pn**	**07 52 48.2**	**-1.2**
	12nm,1.0s							
SBUM	**Sibu**	**14.46**	**259**	Pn		**Pn**	**07 54 12.5**	**-1.6**
SOEI	**Soe**	**15.26**	**188**	Pn		**Pn**	**07 54 25.7**	**+1.1**
KSM	**Kuching**	**16.54**	**257**	P		**P**	**07 54 42.5**	**-0.1**
TWSI	**Taliwang, Sumb**	**16.99**	**214**	P		**P**	**07 54 52.0**	**+4.3**
MTN	**Manton Dam**	**18.77**	**166**	P		**P**	**07 55 06.1**	**-1.2**
KNRA	**Kununurra**	**21.12**	**174**			**P**	**07 55 32.0**	**-0.8**
KNRA				IAmb		IAmb	07 55 43.0	
	comp=Z,26nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.41**	**182**	P		**P**	**07 55 56.6**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=21,slow=6.8,SNR=8.4							
FITZ	**Fitzroy Crossi**	**23.41**	**182**			**P**	**07 55 55.9**	**-0.9**
FITZ				IAmb		IAmb	07 56 14.4	
	comp=Z,40nm,1.4s							
MDSI	**Maura Dua**	**24.29**	**246**	P		**P**	**07 56 10.9**	**+6.0**
	comp=Z,8.5nm,0.9s							
IPM	**Ipoh**	**25.30**	**269**	P		**P**	**07 56 12.7**	**-1.5**
PMG	**Port Moresby**	**25.41**	**125**	P		**P**	**07 56 16.2**	**+1.0**
	comp=Z,22nm,0.8s,baz=203,slow=7.9,SNR=4.0							
COEN	**Coen**	**25.48**	**139**	P		**P**	**07 56 15.5**	**-0.2**
KULM	**Kulim**	**25.64**	**271**	P		**P**	**07 56 16.0**	**-1.2**
SDSI	**Sungai Dareh**	**25.73**	**256**	P		**P**	**07 56 23.7**	**+5.6**
WB0	**Warramunga Arr**	**26.27**	**163**			**P**	**07 56 23.8**	**+1.0**
WB0				IAmb		IAmb	07 56 35.0	
	comp=Z,19nm,0.8s							
WRAB	**Tennant Creek**	**26.41**	**163**	P		**P**	**07 56 25.8**	**+1.7**
WRAB				IAmb		IAmb	07 56 48.2	
	comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**26.42**	**163**	P		**P**	**07 56 23.8**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=343,slow=10,SNR=32							
WRA				PcP		**PcP**	**07 59 49.0**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=340,slow=3.0,SNR=6.6							
WRA				ScP		**ScP**	**08 03 27.4**	**+3.2**
	comp=Z,1.7nm,0.9s,baz=343,slow=3.3,SNR=7.0							
WRA	**Warramunga Arr**	**26.42**	**163**	P		**P**	**07 56 25.5**	**+1.4**
WB2	**Warramunga Arr**	**26.42**	**163**			**P**	**07 56 24.7**	**+0.5**
WR0	**Warramunga Arr**	**26.49**	**163**	P		**P**	**07 56 26.1**	**+1.2**
WR0				IAmb		IAmb	07 56 37.2	
	comp=Z,20nm,1.1s							
PSA00	**Pilbara Seismi**	**27.61**	**193**	P		**P**	**07 56 33.8**	**-1.1**
PSA00				IAmb		IAmb	07 56 52.1	
	comp=Z,16nm,1.0s							
CMAR	**Chiang Mai Arr**	**29.75**	**298**	PcP		**PcP**	**07 59 58.1**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=128,slow=0.8,SNR=8.2							
CMAR				ScP		**ScP**	**08 03 38.9**	**+4.4**
	comp=Z,0.8nm,0.3s,baz=148,slow=0.9,SNR=6.3							
AS31	**Alice Springs**	**29.85**	**166**			**P**	**07 56 55.0**	**+0.2**
ASAR	**Alice Springs**	**29.85**	**166**	P		**P**	**07 56 54.2**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=345,slow=7.3,SNR=14							
ASAR				PcP		**PcP**	**07 59 57.2**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=350,slow=2.5,SNR=28							
ASAR				ScP		**ScP**	**08 03 37.5**	**+2.7**
	comp=Z,1.9nm,0.9s,baz=352,slow=2.8,SNR=9.2							
ASAR	**Alice Springs**	**29.85**	**166**	P		**P**	**07 56 54.3**	**-0.5**
KSRS	**Korea Array**	**31.88**	**2**	P		**P**	**07 57 14.6**	**+2.1**
	comp=Z,2.1nm,0.8s,baz=195,slow=8.0,SNR=4.8							
XAN	**Xi'an**	**32.74**	**333**	P		**P**	**07 57 18.7**	**-1.5**
XAN				IAmb		IAmb	07 57 24.0	
	comp=Z,7.8nm,0.7s							
BJT	**Baijiatuan**	**35.63**	**346**	P		**P**	**07 57 44.1**	**-0.9**
BJT				IAmb		IAmb	07 57 47.1	
	comp=Z,12nm,0.9s							
MORW	**Morawa**	**35.74**	**196**	P		**P**	**07 57 45.4**	**-0.7**
MORW				IAmb		IAmb	07 57 58.3	
	comp=Z,14nm,1.1s							
FORT	**Forrest**	**36.06**	**178**	P		**P**	**07 57 47.2**	**-1.6**
SHL	**Shillong**	**38.61**	**305**	P		**P**	**07 58 09.1**	**-1.7**
USRK	**Ussuriysk Ar.**	**38.90**	**6**	P		**P**	**07 58 12.5**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=203,slow=8.3,SNR=9.7							
BBOO	**Buckleboo**	**39.14**	**167**	P		**P**	**07 58 15.2**	**+0.3**
BBOO				IAmb		IAmb	07 58 32.3	
	comp=Z,9.6nm,0.9s							
NWAO	**Narrogin (SRO)**	**39.15**	**192**	P		**P**	**07 58 15.2**	**+0.3**
STKA	**Stephens Creek**	**39.85**	**160**	P		**P**	**07 58 21.5**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=334,slow=8.4,SNR=11							
STKA				PcP		**PcP**	**08 00 26.2**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=326,slow=4.7,SNR=6.3							
STKA	**Stephens Creek**	**39.85**	**160**	P		**P**	**07 58 20.8**	**0.0**
ASAJ	**Asahikawa**	**41.06**	**18**	P		**P**	**07 58 31.1**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=198,slow=18,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**41.37**	**68**	T		T	08 42 30.0	
	baz=257,slow=75,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**41.39**	**68**	T		T	08 42 31.9	
	baz=257,slow=75,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**41.39**	**68**	T		T	08 42 26.0	
	baz=257,slow=75,SNR=8.2							
H11N1	**WAKE ISLAND Hy**	**41.85**	**66**	T		T	08 42 59.9	
	baz=254,slow=75,SNR=7.3							
H11N2	**WAKE ISLAND Hy**	**41.86**	**66**	T		T	08 43 04.3	
	baz=254,slow=75,SNR=6.9							
H11N3	**WAKE ISLAND Hy**	**41.87**	**66**	T		T	08 43 01.3	
	baz=254,slow=75,SNR=11							
ARMA	**Armidale**	**43.08**	**147**	P		**P**	**07 58 47.8**	**+0.4**
ARMA				IAmb		IAmb	07 59 08.9	
	comp=Z,22nm,1.4s							
ULN	**Ulaanbaatar**	**45.39**	**342**			**P**	**07 59 05.0**	**-0.7**
ULN				IAmb		IAmb	07 59 06.8	
	comp=Z,8.8nm,0.8s							
SONM	**Songino Array**	**45.57**	**341**	P		**P**	**07 59 06.8**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=162,slow=8.8,SNR=10							
SONM				PcP		**PcP**	**08 00 45.3**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=158,slow=4.3,SNR=12							
SONM	**Songino Array**	**45.57**	**341**			**P**	**07 59 05.3**	**-1.8**
TLY	**Talaya**	**49.80**	**342**	P		**P**	**07 59 39.4**	**-0.3**
TLY				IAmb		IAmb	07 59 48.9	
	comp=Z,5.5nm,0.8s							
PEA0B	**Petropavlovsk-**	**53.97**	**23**	P		**P**	**08 00 11.2**	**+0.5**
PETK	**Petropavlovsk-**	**53.97**	**23**	P		**P**	**08 00 11.2**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=197,slow=4.4,SNR=3.2							
PETK	**Petropavlovsk-**	**53.97**	**23**	P		**P**	**08 00 10.9**	**+0.2**
MK31	**Makanchi Array**	**55.97**	**325**	P		**P**	**08 00 24.3**	**-1.0**
MK31				IAmb		IAmb	08 00 25.1	
	comp=Z,5.2nm,0.7s							
MKAR	**Makanchi Array**	**55.97**	**325**	P		**P**	**08 00 24.5**	**-0.7**
	comp=Z,7.0nm,0.7s,baz=123,slow=8.9,SNR=16							
MKAR				PcP		**PcP**	**08 01 22.7**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=116,slow=4.4,SNR=5.1							
MKAR				ScP		**ScP**	**08 05 19.8**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=116,slow=5.5,SNR=4.5							
YAK	**Yakutsk**	**56.51**	**2**	P		**P**	**08 00 29.0**	**+0.3**
NIL	**Nilore**	**56.63**	**307**	P		**P**	**08 00 28.9**	**-1.3**
KDJ	**Kajisay**	**56.85**	**318**	P		**P**	**08 00 30.8**	**-1.0**
KDJ				IAmb		IAmb	08 00 32.1	
	comp=Z,4.8nm,0.8s							
ZALV	**Zalesovo Beam**	**58.91**	**333**	P		**P**	**08 00 44.2**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=125,slow=5.8,SNR=4.4							
ZALV				PcP		**PcP**	**08 01 33.0**	**-1.6**
	comp=Z,7.9nm,1.1s,baz=146,slow=2.9,SNR=4.4							
ZALV	**Zalesovo Beam**	**58.91**	**333**			**P**	**08 00 44.0**	**-1.8**
KURBB	**Kurchatov Arra**	**60.12**	**327**	P		**P**	**08 00 52.8**	**-1.4**
	comp=Z,6.0nm,0.5s,baz=124,slow=6.5,SNR=22							
KURK	**Kurchatov**	**60.12**	**327**	P		**P**	**08 00 52.9**	**-1.3**
KBL	**Kabul**	**60.23**	**307**	P		**P**	**08 00 53.5**	**-2.1**
KBL				IAmb		IAmb	08 00 55.0	
	comp=Z,5.3nm,0.8s							
GAR	**Garm**	**60.53**	**312**	P		**P**	**08 00 55.8**	**-1.6**
KK31	**Karatay Array**	**61.76**	**317**	P		**P**	**08 01 04.5**	**-1.1**
KK31				IAmb		IAmb	08 01 05.1	
	comp=Z,6.8nm,1.0s							
KKAR	**Karatay Array**	**61.76**	**317**	P		**P**	**08 01 04.5**	**-1.0**
KKAR				IAmb		IAmb	08 01 05.1	
	comp=Z,6.8nm,1.0s							
KKAR	**Karatay Array**	**61.76**	**317**	P		**P**	**08 01 04.2**	**-1.4**
NRIK	**Noril'sk**	**68.69**	**346**	P		**P**	**08 01 50.1**	**+0.3**
	comp=Z,20nm,0.8s,baz=129,slow=6.3,SNR=28							
GEYT	**Allbeck**	**69.57**	**308**	P		**P**	**08 01 55.6**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=74,slow=12,SNR=3.9							
ABKAR	**Akbulak array**	**70.62**	**320**	P		**P**	**08 02 01.0**	**-1.2**
ABKAR				IAmb		IAmb	08 02 01.5	
	comp=Z,4.7nm,0.8s							
ABKAR	**Akbulak array**	**70.62**	**320**	P		**P**	**08 02 00.6**	**-1.6**
ILAR	**Eielson Array**	**83.70**	**25**	P		**P**	**08 03 13.7**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=237,slow=5.1,SNR=14							
KLMR	**Klimovskoe**	**83.75**	**331**	*eP*		**P**	**08 03 13.6**	**-1.9**
KLMR				AMP			08 03 15.3	
	comp=Z,21nm,1.1s							
BMAR	**Burnt Mountain**	**84.63**	**23**	P		**P**	**08 03 19.6**	**-0.3**
VNDA	**Vanda**	**85.17**	**173**	P		**P**	**08 03 22.9**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=320,slow=5.9,SNR=26							
VNDA	**Vanda**	**85.17**	**173**	P		**P**	**08 03 23.0**	**+0.7**
VNDA				IAmb		IAmb	08 03 23.4	
	comp=Z,4.2nm,0.8s							
MAW	**Mawson**	**85.25**	**200**	P		**P**	**08 03 23.5**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=39,slow=6.9,SNR=4.1							
BRTR	**Keskin Array B**	**88.68**	**310**	P		**P**	**08 03 38.7**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=298,slow=5.3,SNR=3.8							
ARCES	**ARCESS Array B**	**88.73**	**340**	P		**P**	**08 03 38.9**	**-0.8**
	comp=Z,9.7nm,0.8s,baz=77,slow=5.5,SNR=16							
FINES	**FINESS Array B**	**90.17**	**332**	P		**P**	**08 03 45.3**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=50,slow=6.1,SNR=14							
FINES	**FINESS Array B**	**90.17**	**332**	P		**P**	**08 03 45.9**	**-0.8**
AKASG	**Malin Array Be**	**90.36**	**321**	P		**P**	**08 03 46.0**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=75,slow=3.9,SNR=4.1							
SYO	**Syowa Base**	**93.90**	**201**	*eP*		**P**	**08 04 02.6**	**-1.1**
NB2	**NORSAR Subarra**	**97.11**	**334**	P		**P**	**08 04 16.8**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**97.11**	**334**	P			**08 04 16.8**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=65,slow=4.7,SNR=4.4							
GERES	**GERESS Array B**	**100.54**	**322**	P		**Pdif**	**08 04 33.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=70,slow=4.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**122.06**	**289**	PKP		**PKPdf**	**08 09 41.4**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=61,slow=1.9,SNR=10							

IDC ***03*** *08:01:15.4±1.2,55°.82S×27°.82W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/19,mbtmp3.9/3, Error ellipse: s-maj=61.4km s-min=28.6km az=89.0*

NEIC ***03*** *08:01:27.1±0.9,55°.9S±0°.1×27°.7W±0°.2,h93km±8km, mb4.4/8, Error ellipse: s-maj=18.2km s-min=14.0km az=47.0*

ISC 03 08:01:27.9±0.8, 56°.0S±0°.1×27°.8W±0°.1, h100km, n20, σ0°69/21, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.29**	**285**		Pn		**Pn**	**08 02 44.3**	**-0.1**
HOPE							**Sn**	**08 03 43.2**	**-0.9**
VNA1	**Neumayer--Stat**	**16.97**	**158**		P		**Pn**	**08 05 18.7**	**+0.1**
VNA3	**Neumayer Olymp**	**17.15**	**160**		P		**Pn**	**08 05 20.2**	**-0.7**
VNA2	**Neumayer--Watz**	**17.37**	**157**		P		**P**	**08 05 23.4**	**0.0**
SNAA	**Sanae**	**18.93**	**156**		P		**P**	**08 05 40.0**	**-0.5**
SNAA	**Sanae**	**18.93**	**156**		P		**P**	**08 05 40.2**	**-0.3**
SNAA					IAmb		IAmb	08 05 40.8	
	comp=Z,14nm,0.5s								
BELA	**Belgrano 2**	**22.11**	**184**		P		**P**	**08 06 14.2**	**-0.4**
QSPA	**South Pole Qui**	**34.26**	**180**		P		**P**	**08 08 04.1**	**+0.1**
QSPA					IAmb		IAmb	08 08 07.6	
	comp=Z,7.2nm,1.4s								
MT02	**Curacav**	**37.47**	**289**		P		**P**	**08 08 33.7**	**+2.2**
ROC1	**El Roble**	**37.62**	**289**		P		**P**	**08 08 33.4**	**+0.3**
MAW	**Mawson**	**40.38**	**144**		P		**P**	**08 08 55.1**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=225,slow=8.3,SNR=5.5								
MAW	**Mawson**	**40.38**	**144**		P		**P**	**08 08 55.5**	**+0.2**
VNDA	**Vanda**	**46.62**	**183**		P		**P**	**08 09 46.2**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=188,slow=7.0,SNR=15								
VNDA	**Vanda**	**46.62**	**183**		P		**P**	**08 09 44.9**	**-0.3**
VNDA					IAmb		IAmb	08 09 46.4	
	comp=Z,3.8nm,1.4s								
LPAZ	**La Paz**	**50.08**	**306**		P		**P**	**08 10 12.8**	**-0.5**
CASY	**Casey**	**54.07**	**161**		P		**P**	**08 10 41.8**	**+0.3**
CASY					IAmb		IAmb	08 11 09.7	
	comp=Z,9.4nm,1.4s								
TOA0	**Torodi Ar. Sit**	**73.16**	**30**		P		**P**	**08 12 47.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.16**	**30**		P		**P**	**08 12 47.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=198,slow=6.5,SNR=7.6								
TORD	**Torodi Ar. Bea**	**73.16**	**30**		P		**P**	**08 12 47.4**	**-0.1**
ILAR	**Eielson Array**	**149.84**	**312**		PKPbc		**PKPbc**	**08 21 04.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=126,slow=3.9,SNR=10								

BJI ***03*** *08:05:42.7±0.0,10°.92N×122°.14E,h38km,mB5.4/63, mb5.1/79,Ms5.4/85,Ms7 5.2/80*

MOS ***03*** *08:05:43.4±1.3,11°.29N×122°.12E,h25km,mb5.5/58, MS4.8/19,Error ellipse: s-maj=7.4km s-min=4.0km az=112.7*

IDC ***03*** *08:05:44.0±3.8,11°.29N×122°.22E,h18km±23km,mb4.8/30, mb1 4.9/33,mb1mx4.9/37,mbtmp4.9/33,ML4.4/3,MS4.9/35, Ms1 4.9/35,ms1mx4.8/40,Error ellipse: s-maj=14.2km s-min=9.0km az=77.0*

NEIC ***03*** *08:05:44.3±1.3,11°.33N±0°.06×122°.12E±0°.07,h19km±3km, mb5.4/140,Mwb5.5/17,Mwc5.5(GCMT), Error ellipse: s-maj=10.2km s-min=7.9km az=67.0*

MAN ***03*** *08:05:44.1,11°.44N×122°.12E,h13km,mb6.1,ML5.2, MS5.7*

MAN Intensity VI - Culasi Antique; Intensity V - Kalibo Aklan; Sebaste Pandan; Lauaan and Libertad Antique; Intensity IV - San Jose Sibalom Dao Anini-y Hamtic Tobias Fornier and San Remigio Antique Intensity III - Silay City; La Carlota City; Roxas City; Iloilo City; Bacolod City; Hinoba-an Negros Occidental; Intensity II - Cebu City; Guihulngan City, Negros Oriental; Cuyo Palawan; Intensity I - Zamboanga City; Masbate City; Dumaguete City.

NEIC ***03*** *08:05:45.1,11°.33N×122°.07E,h23km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.40; Mθθ1.62; Mθφ-2.01; Mrθ-0.64; Mθλ0.61; Mφr-0.29; Fault plane solution: Mo2.07000×10¹⁷ NP1:φ₁213.29000°, δ77.02000°,λ160.27000°. NP2:φ₂307.90000°,δ70.80000°, λ13.75000°. Principal axes: T 2.0076, Plg23.0000°, Azm170.0000°; N 0.1181, Plg67.0000°, Azm1.0000°; P -2.1257, Plg4.0000°, Azm261.0000°;*

GCMT ***03*** *08:05:46.3±0.1,11°.43N±0°.01×122°.11E±0°.01,h24km, MW5.5/149,Moment Tensor Solution. s123,c210; s149,c300; Duration: 1¤4 Moment tensor: Scale 10¹⁷ Nm; Mrr0.49±.02; Mθθ1.55±.02; Mθφ-2.04±.02; Mrθ-0.89±.03; Mθλ0.18±.02; Mφr-0.86±.03; Best double couple: Mo2.22400×10¹⁷ NP1:φ₁315.00000°,δ54.00000°, λ11.00000°. NP2:φ₂218.00000°,δ81.00000°,λ144.00000°. Principal axes: T 2.1430, Plg32.0000°, Azm170.0000°; N 0.1610, Plg53.0000°, Azm26.0000°; P -2.3050, Plg17.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *08:05:46,11°.44N×122°.12E,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.54; Mθθ1.72; Mθφ-2.26; Mrθ-0.89; Mθλ0.20; Mφr-0.54; Fault plane solution: Mo2.30000×10¹⁷ NP1:φ₁315.00000°, δ62.00000°,λ14.00000°. NP2:φ₂218.00000°,δ77.00000°, λ151.00000°. Principal axes: T 2.2423, Plg29.0000°, Azm174.0000°; N 0.1190, Plg59.0000°, Azm17.0000°; P -2.3612, Plg10.0000°, Azm269.0000°;*

DJA ***03*** *08:05:49.6±0.4,11°.N±3°×12°.2E±°,h62km±4km,M5.4/96, mB5.9/78,mb5.4/96,MLv6.1/2,Mw(mB)5.5/78,Mwp5.5/28*

KLM ***03*** *08:05:51.0,11°.22N×122°.26E,h48km,mb5.5*

BGR ***03*** *08:05:53.8±0.0,11°.31N×122°.33E,h33km,mb5.0*

ISC 03 08:05:44.6±0.6, 11°.37N±0°.02×122°.15E±0°.02, h18km±3km, n917, σ1¤78/979, mb5.4/192, MS4.9/74, 32C-28D, Panay

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.65**	**198**		*iP*		**Pg**	**08 05 57.3**	**-0.2**
JAP					*i* S		**Sg**	**08 06 07.5**	**+1.2**
GUIM	**Jordan**	**0.86**	**150**		*eP*		**Pg**	**08 06 00.5**	**-0.9**
GUIM					*eS*		**Sn**	**08 06 17.5**	**+3.6**

OTRP	**Odiongan**	**0.99**	**353**	*eP*		**Pb**	**08 06 02.3**	**-0.9**
OTRP				*eS*		**Sn**	**08 06 17.1**	**0.0**
CUYO	**Cuyo Island**	**1.23**	**245**	*eP*		**Pn**	**08 06 05.6**	**-1.2**
CUYO				*eS*		**Sg**	**08 06 26.0**	**+1.6**
SJMP	**San Jose**	**1.48**	**317**	*eP*		**Pn**	**08 06 09.3**	**-0.9**
SJMP				*eS*		**Sg**	**08 06 32.7**	**+0.3**
LLP	**Lapu-Lapu**	**2.07**	**120**	*iP*		**Pn**	**08 06 19.8**	**+1.4**
LLP				*i* S		**Sn**	**08 06 47.1**	**+3.2**
BOAC	**Boac**	**2.09**	**352**	*eP*		**Pn**	**08 06 18.6**	**-0.2**
BOAC				*eS*		**Sb**	**08 06 45.7**	**-2.0**
TBP	**Tagbilaran**	**2.38**	**135**	*iP*		**Pb**	**08 06 27.5**	**+0.7**
TBP				*i* S		**Sb**	**08 06 57.7**	**+1.9**
PGP	**Puerto Galera**	**2.42**	**331**	*eP*		**Pn**	**08 06 22.2**	**-1.0**
OCLP	**Ormoc**	**2.44**	**97**	*eP*		**Pn**	**08 06 25.0**	**+1.6**
OCLP				*eS*		**Sb**	**08 06 57.2**	**-0.4**
GQP	**Guinayangan**	**2.53**	**7**	*eP*		**Pn**	**08 06 25.5**	**+0.7**
GQP				*eS*		**Sg**	**08 07 04.2**	**-1.9**
ENPP	**El Nido**	**2.68**	**267**	*eP*		**Pn**	**08 06 26.1**	**-0.7**
ENPP				*eS*		**Sn**	**08 06 56.8**	**-1.9**
CNP	**Catarman**	**2.71**	**65**	*eP*		**Pn**	**08 06 28.0**	**+0.8**
CNP				*eS*		**Sg**	**08 07 11.0**	**-0.8**
LQP	**Lukban**	**2.79**	**348**	*eP*		**Pn**	**08 06 28.9**	**+0.5**
LQP				*i* S		**Sg**	**08 07 14.6**	**+0.4**
MSLP	**Maasin**	**2.94**	**115**	*eP*		**Pn**	**08 06 32.3**	**+1.9**
MSLP				*eS*		**Sn**	**08 07 09.0**	**+3.8**
PVCP	**Virac**	**2.95**	**41**	*eP*		**Pn**	**08 06 32.2**	**+1.7**
PVCP				*eS*		Sg	08 07 29.1	+9.5
TGY	**Tagaytay City**	**2.96**	**337**	Pn		**Pn**	**08 06 31.1**	**+0.4**
	156nm,0.3s,baz=239,slow=2.0,SNR=32							
TGY	**Tagaytay City**	**2.96**	**337**	*eP*		**Pb**	**08 06 33.6**	**-3.2**
LUBP	**Lubang**	**2.99**	**322**	*eP*		**Pn**	**08 06 31.3**	**+0.2**
LUBP				*eS*		**Sn**	**08 07 05.8**	**-0.7**
BESP	**Borongan**	**3.23**	**86**	*eP*		**Pn**	**08 06 36.3**	**+1.9**
BESP				*eS*		**Sn**	**08 07 16.1**	**+3.7**
POLP	**Polilio Island**	**3.34**	**357**	*eP*		**Pn**	**08 06 36.8**	**+0.9**
POLP				*eS*		**Sn**	**08 07 16.9**	**+1.8**
PAGZ	**Pagadian**	**3.71**	**161**	*eP*		**Pn**	**08 06 42.8**	**+1.8**
PAGZ				*eS*		**Sn**	**08 07 29.4**	**+5.2**
CGP	**Cagayan de Oro**	**3.83**	**139**	*iP*		**Pn**	**08 06 43.7**	**+1.0**
GLSP	**General Luna,**	**4.22**	**112**	*eP*		**Pn**	**08 06 49.7**	**+1.7**
GLSP				*eS*		**Sg**	**08 07 57.1**	**-3.1**
BALP	**Baler**	**4.38**	**353**	*eP*		**Pn**	**08 06 51.5**	**+1.4**
BUKP	**Musuan**	**4.51**	**140**	*eP*		**Pn**	**08 06 53.9**	**+1.9**
BUKP				*eS*		**Sn**	**08 07 52.2**	**+8.1**
SMPP	**San Manuel, Pa**	**4.96**	**343**	*eP*		**Pn**	**08 06 59.1**	**+0.9**
SMPP				*eS*		Sg	08 08 31.8	+8.0
KCP	**Kidapawan**	**5.22**	**146**	*eP*		**Pn**	**08 07 03.4**	**+1.6**
SKMP	**Bagumbayan, Su**	**5.37**	**154**	*eP*		**Pn**	**08 07 05.6**	**+1.7**
SKMP				*eS*		**Sb**	**08 08 22.5**	**+0.4**
BOLP	**Bolinao**	**5.43**	**337**	*eP*		**Pn**	**08 07 07.1**	**+2.5**
BOLP				*eS*		**Sg**	**08 08 40.1**	**+1.2**
DAV	**Davao City (W)**	**5.46**	**141**	Pn		**Pn**	**08 07 08.3**	**+3.2**
	73nm,0.3s,baz=7.3,slow=2.4,SNR=31							
DAV				LR		LR	08 09 33.7

EDFI Ende, Flores 20.00 181 P **P** **08 10 16.9 +0.5**
comp=Z,4μmcomp=Z,3μmcomp=Z,203nm,0.8s
KMMI Kalianget 20.03 204 P Pn 08 10 20.1 +1.6
comp=Z,5μmcomp=Z,330nm,0.9s
SLVN Son La 20.09 302 P Pn 08 10 19.6 +0.3
TPI Tanjungpandan 20.12 227 P Pn 08 10 20.4 +0.8
comp=Z,3μmcomp=Z,162nm,1.5s
WHN Wuhan 20.40 340 ⇓P Pn 08 10 22.4 -0.3
WHN pmax pmax
comp=Z,180nm,1.2s
WHN LR LR
comp=Z,16μm,17.2s
WHN LR LR
comp=Z,8μm,13.4s
WHN LR LR
comp=Z,20μm,16.9s
MYKOM Kota Tinggi 20.50 244 P **P** **08 10 21.4 -0.4**
MYKOM Kota Tinggi 20.50 244 P Pn 08 10 30.0 +6.0
SRBI Singaraja 20.52 200 P Pn 08 10 24.4 +0.1
comp=Z,6μmcomp=Z,7μmcomp=Z,534nm,1.6s
PLAI Plampang 20.54 192 P **P** **08 10 23.6 +1.4**
comp=Z,5μmcomp=Z,11μmcomp=Z,506nm,0.8s
GRJI Gresik 20.56 208 P Pn 08 10 25.5 +0.8
comp=Z,351nmcomp=Z,6μmcomp=Z,811nm,1.0s
ABJI Asem Bagus 20.61 203 P Pn 08 10 25.5 +0.3
comp=Z,5μmcomp=Z,249nm,0.9s
TWSI Taliwang, Sumb 20.66 195 P **P** **08 10 24.7 +1.2**
TBJI Tambak Boyo 20.78 210 P Pn 08 10 27.9 +0.7
comp=Z,4μmcomp=Z,6μmcomp=Z,516nm,1.2s
NJ2 Nanjing 20.80 352 ⇑P Pn 08 10 28.5 +1.1
NJ2 pP sP 08 10 37.6 +5.0
NJ2 sP pP 08 10 42.5 +12
NJ2 PP PnPn 08 10 55.9 +12
NJ2 S Sn 08 14 18.9 -3.0
NJ2 sS pS 08 14 33.1 +5.0
NJ2 pmax pmax
comp=Z,110nm,1.9s
NJ2 pmax pmax
comp=Z,2μm,4.3s
NJ2 LR LR
comp=Z,3μm,23.7s
NJ2 LR LR
comp=Z,4μm,22.7s
NJ2 LR LR
comp=Z,5μm,21.3s
BLJI Banyuglugur 20.81 205 P Pn 08 10 27.4 -0.2
comp=Z,3μmcomp=Z,135nm,1.0s
PPBI Pangkal Pinang 20.84 231 P Pn 08 10 33.1 +5.1
GYA Guiyang 20.93 318 ⇓P **P** **08 10 28.0 +1.4**
GYA sP sP 08 10 42.9 +8.4
GYA S Sn 08 14 21.6 -3.8
GYA sS pS 08 14 29.8 -0.7
GYA SS **SnSn** **08 14 47.6 +7.1**
GYA pmax pmax
comp=Z,67nm,1.4s
GYA LR LR
comp=Z,5μm,18.8s
GYA LR LR
comp=Z,5μm,14.4s
GYA LR LR
comp=Z,7μm,16.6s
WSI Waingapu 20.99 185 P **P** **08 10 26.2 -0.8**
comp=Z,59μmcomp=Z,1μm,0.5s
DSRI Dabo 21.06 237 P **P** **08 10 31.6 +3.7**
comp=Z,2μmcomp=Z,2μmcomp=Z,63nm,1.5s
SOEI Soe 21.10 174 P **P** **08 10 28.7 +0.3**
comp=Z,7μmcomp=Z,400nm,1.6s
SOEI Soe 21.10 174 **P** **08 10 26.8 -1.6**
JAGI Jajag, Banyuwa 21.26 202 P **P** **08 10 33.7 +3.7**
comp=Z,5μmcomp=Z,290nm,1.1s
JAGI Jajag, Banyuwa 21.26 202 P **P** **08 10 29.1 -0.9**
GMJI Gumukmas 21.35 204 P **P** **08 10 34.1 +3.1**
comp=Z,3μmcomp=Z,164nm,1.1s
BATI Baumata 21.49 176 P **P** **08 10 31.9 -0.6**
comp=Z,638nm,1.0s,baz=243,slow=0.6,SNR=34
BATI LR LR 08 21 26.2
comp=Z,4μm,18.5s,baz=346,slow=44
BATI Baumata 21.49 176 P **P** **08 10 32.6 +0.1**
comp=Z,3μmcomp=Z,4μmcomp=Z,446nm,1.1s
BASI Baing, Sumba 21.51 184 P **P** **08 10 33.9 +1.3**
comp=Z,3μmcomp=Z,231nm,1.1s
SMRI Semarang 21.70 213 P **P** **08 10 38.0 +3.3**
comp=Z,6μmcomp=Z,8μmcomp=Z,455nm,1.7s
SMRI Semarang 21.70 213 P **P** **08 10 34.9 +0.2**
PWJI Pagerwojo 21.84 209 P **P** **08 10 37.8 +1.5**
comp=Z,14μmcomp=Z,4μmcomp=Z,380nm,1.0s
IPM Ipoh 22.00 254 P **P** **08 10 37.2 -0.8**
IPM Ipoh 22.00 254 P **P** **08 10 39.0 +1.0**
IPM Ipoh 22.00 254 P **P** **08 10 39.0 +1.0**
KULM Kulim 22.10 256 P **P** **08 10 39.5 +0.4**
KULM IAmb IAmb 08 11 02.4
comp=Z,237nm,1.3s
KULM Kulim 22.10 256 P **P** **08 10 40.0 +0.9**
WOJI Wonogiri, Jawa 22.11 211 P **P** **08 10 41.2 +2.1**
comp=Z,3μmcomp=Z,271nm,1.3s
ENH Enshi 22.18 330 P **P** **08 10 39.9 +0.1**
ENH IAmb IAmb 08 10 42.9
comp=Z,188nm,1.2s
GUMO Guam 22.29 82 LR LR 08 17 59.1
comp=Z,2μm,21.1s,baz=252,slow=33
UGM Wanagama 22.38 212 P **P** **08 10 40.6 -1.5**
GENI Genyem 22.67 127 P **P** **08 10 45.5 +0.4**
comp=Z,7μmcomp=Z,11μmcomp=Z,674nm,1.6s
KPJI Karang Pucung 22.77 216 P **P** **08 10 48.7 +2.6**
comp=Z,5μmcomp=Z,225nm,1.1s
KMI Kunming 22.91 309 ⇓*e*P **P** **08 10 49.4 +1.6**
KMI pP sP 08 10 55.9 0.0
KMI sP pP 08 11 00.2 +7.1
KMI PP **PnPn** **08 11 18.5 +6.0**
KMI S **S** **08 14 55.2 -2.0**
KMI pmax pmax
comp=Z,140nm,1.3s
KMI pmax pmax
comp=Z,540nm,3.5s
KMI LR LR
comp=Z,2μm,14.3s
KMI LR LR
comp=Z,3μm,18.0s
KMI LR LR
comp=Z,5μm,17.1s
KMI Kunming 22.91 309 P **P** **08 10 48.8 +1.0**
KMI pmax pmax
comp=Z,149nm,1.0s
KMI Kunming 22.91 309 P **P** **08 10 48.8 +1.0**
KMI IAmb IAmb 08 10 51.0
comp=Z,149nm,1.0s
JAY Jayapura 23.04 126 P **P** **08 10 47.6 -1.5**
comp=Z,83nm,0.9s,baz=261,slow=4.7,SNR=9.6
JAY LR LR 08 20 52.1
comp=Z,3μm,18.1s,baz=317,slow=40
JAY Jayapura 23.04 126 P **P** **08 10 48.9 -0.2**
comp=Z,1μmcomp=Z,73nm,1.1s
LEM Lembang 23.15 219 P **P** **08 10 50.7 +0.4**
comp=Z,128nm,0.8s,baz=74,slow=9.2,SNR=14
LEM LR LR 08 22 06.0
comp=Z,2μm,18.9s,baz=48,slow=42
CBJI Citeko 23.33 221 P **P** **08 10 57.4 +5.5**
comp=Z,7μmcomp=Z,193nm,1.0s
ANA2 Anatahan 23.40 75 P **P** **08 10 53.3 +0.7**
CMJI Cimerak 23.41 216 P **P** **08 10 55.5 +2.8**
comp=Z,4μmcomp=Z,166nm,1.8s
CM31 Chiang Mai Arr 23.49 290 P **P** **08 10 54.3 +0.7**
SNR=66
CM31 Chiang Mai Arr 23.49 290 P **P** **08 10 54.2 +0.7**
CM31 IAmb IAmb 08 10 55.8
comp=Z,309nm,1.5s
CMAR Chiang Mai Arr 23.49 290 P **P** **08 10 54.1 +0.6**
comp=Z,28nm,0.8s,baz=112,slow=7.8,SNR=160
CMAR LR LR 08 20 10.8
comp=Z,3μm,18.6s,baz=147,slow=37
CMAR Chiang Mai Arr 23.49 290 P **P** **08 10 53.8 +0.3**
KLSI 23.56 228 P **P** **08 10 56.7 +2.5**
comp=Z,824nmcomp=Z,34nm,1.8s
CHTO Chiang Mai 23.57 291 P **P** **08 10 54.4 0.0**
CHTO pmax pmax
comp=Z,146nm,1.3s
CHTO Chiang Mai 23.57 291 P **P** **08 10 54.4 0.0**
CHTO IAmb IAmb 08 10 56.1
comp=Z,146nm,1.3s
CISI Cisompet, Garu 23.60 218 P **P** **08 10 57.8 +3.1**
comp=Z,5μmcomp=Z,8μmcomp=Z,442nm,1.5s
CISI Cisompet, Garu 23.60 218 P **P** **08 10 53.1 -1.6**
BKNI Bangkinang 23.66 244 P **P** **08 11 00.8 +5.5**
comp=Z,3μmcomp=Z,6μmcomp=Z,186nm,1.2s
BKNI Bangkinang 23.66 244 P **P** **08 10 54.6 -0.6**
CNJI Cibinong 23.83 220 P **P** **08 10 59.1 +2.3**
comp=Z,9μmcomp=Z,529nm,1.7s
MDSI Maura Dua 23.83 230 P **P** **08 10 58.0 +1.2**
comp=Z,2μmcomp=Z,66nm,1.4s
LHSI Lahat 23.90 232 P **P** **08 11 00.4 +2.9**
comp=Z,6μmcomp=Z,167nm,1.9s
SDSI Sungai Dareh 23.95 241 P **P** **08 11 00.2 +2.2**
comp=Z,11μmcomp=Z,36nm,1.9s
SKJI Sukabumi 23.96 221 P **P** **08 11 04.7 +6.6**
CGJI Cibinong 24.24 223 P **P** **08 11 01.9 +1.3**
comp=Z,4μmcomp=Z,228nm,1.7s
LWLI Liwa 24.27 229 P **P** **08 11 07.6 +6.5**
JCJ Chichijima 24.49 47 P **P** **08 11 01.8 -1.0**
comp=Z,122nm,0.8s,baz=328,slow=13,SNR=4.0
JCJ Chichijima 24.49 47 IAmb IAmb 08 11 08.9
comp=Z,735nm,1.5s
MASI Maura Aman, Be 24.50 235 P **P** **08 11 08.2 +5.1**
comp=Z,11μmcomp=Z,611nm,1.1s
KSI Kapahiang 24.52 234 P **P** **08 11 07.1 +3.8**
comp=Z,4μmcomp=Z,7μmcomp=Z,203nm,1.7s
PSI Prapat 24.55 251 P **P** **08 11 04.5 +0.8**
comp=Z,36nm,0.8s,baz=1.4,slow=2.0,SNR=20
PSI PcP **PcP** **08 14 41.6 -0.3**
comp=Z,9.1nm,0.8s,baz=254,slow=8.3,SNR=4.0
PSI LR LR 08 22 11.6
comp=Z,1μm,21.1s,baz=90,slow=40
PSI Prapat 24.55 251 P **P** **08 11 04.5 +0.8**
PSI pmax pmax
comp=Z,88nm,0.9s
RPSI Rantau Prapat 24.59 251 P **P** **08 11 03.3 -0.6**
RPSI IAmb IAmb 08 11 12.9
comp=Z,88nm,0.9s
RPSI Rantau Prapat 24.59 251 P **P** **08 11 04.5 +0.6**
MNSI Mandailing Nat 24.75 246 P **P** **08 11 06.6 +1.3**
comp=Z,142nm,0.8s
TIA Tai'an 25.14 350 P **P** **08 11 09.4 +0.7**
TIA pmax pmax
comp=Z,25nm,0.9s
TIA pmax pmax
comp=Z,980nm,4.7s
TIA LR LR
comp=Z,3μm,14.9s
TIA LR LR
comp=Z,2μm,15.7s
TIA LR LR
comp=Z,3μm,14.5s
TJN Taejon 25.34 10 ⇓*e*P **P** **08 11 14.4 +4.0**
XAN Xi'an 25.59 334 P **P** **08 11 12.1 -0.8**
XAN S **S** **08 15 45.2 +5.1**
XAN sS sS 08 16 00.7 +11
XAN pmax pmax
comp=Z,63nm,0.9s
XAN pmax pmax
comp=Z,250nm,4.9s
XAN LR LR
comp=Z,6μm,15.4s
XAN LR LR
comp=Z,4μm,15.7s
XAN LR LR
comp=Z,11μm,17.1s
XAN Xi'an 25.59 334 P **P** **08 11 11.6 -1.3**
XAN pmax pmax
comp=Z,60nm,0.8s
XAN Xi'an 25.59 334 P **P** **08 11 11.6 -1.3**
XAN IAmb IAmb 08 11 13.1
comp=Z,60nm,0.8s
MTN Manton Dam 25.66 159 P **P** **08 11 11.0 -2.5**
MTN IAmb IAmb 08 11 46.1
comp=Z,96nm,1.2s
CD2 Chengdu 25.85 322 ⇑*i*P **P** **08 11 15.3 +0.1**
CD2 pP sP 08 11 24.6 +1.1
CD2 sP pP 08 11 30.1 +9.1
CD2 S **S** **08 15 44.0 -0.2**
CD2 sS sS 08 16 00.9 +7.2
CD2 SS **SnSn** **08 16 48.5 +7.8**
CD2 pmax pmax
comp=Z,120nm,0.7s
CD2 pmax pmax
comp=Z,860nm,9.2s
CD2 LR LR
comp=Z,9μm,16.9s
CD2 LR LR
comp=Z,6μm,14.7s
CD2 LR LR
comp=Z,9μm,16.9s
SISI Saibi 26.16 243 P P 08 11 25.8 +7.6
GSI Gunungsitoli 26.36 249 P **P** **08 11 24.8 +4.8**
comp=Z,120nm,1.0s
GSI Gunungsitoli 26.36 249 P **P** **08 11 17.9 -2.0**
GSI IAmb IAmb 08 11 36.3
comp=Z,176nm,1.2s
KSAR Wonju Array Be 26.46 10 P **P** **08 11 21.0 +0.4**
KSAR Wonju Array Be 26.46 10 P **P** **08 11 21.0 +0.4**
KSRS Korea Array 26.48 10 P **P** **08 11 21.6 +0.8**
comp=Z,10.0nm,1.0s,baz=187,slow=9.9,SNR=14
KSRS PcP **PcP** **08 14 45.8 +0.1**
comp=Z,3.2nm,0.7s,baz=191,slow=2.2,SNR=7.1
KSRS LR LR 08 20 39.2
comp=Z,1μm,21.6s,baz=184,slow=34
JWT Wachi 26.67 25 P **P** **08 11 23.1 +0.6**
JWT IAmb IAmb 08 11 30.7
comp=Z,121nm,1.4s
JHJ Hachijo jima 2 27.02 34 LR LR 08 20 18.3
comp=Z,2μm,19.0s,baz=250,slow=32
DL2 Dalian 27.42 359 P **P** **08 11 32.3 +3.1**
DL2 S **S** **08 16 09.2 +0.5**
DL2 pmax pmax
comp=Z,32nm,1.0s
DL2 pmax pmax
comp=Z,680nm,7.8s
DL2 LR LR
comp=Z,1μm,31.0s
DL2 LR LR
comp=Z,3μm,21.4s
DL2 LR LR
comp=Z,3μm,17.5s
TIY Taiyuan 27.64 343 *e*P **P** **08 11 32.2 +0.9**
TIY S **S** **08 16 16.8 +4.4**
TIY SS **SnSn** **08 17 32.9 +8.6**
TIY pmax pmax
comp=Z,26nm,0.5s
TIY pmax pmax
comp=Z,310nm,7.7s
TIY LR LR
comp=Z,2μm,14.5s
TIY LR LR
comp=Z,2μm,15.4s
TIY LR LR
comp=Z,5μm,20.8s
KNRA Kununurra 27.66 166 P **P** **08 11 29.1 -2.4**
KNRA IAmb IAmb 08 12 13.6
comp=Z,75nm,0.9s
MAJO Matsushiro 28.95 27 *de*P **P** **08 11 45.2 +2.3**
MAJO pmax pmax
comp=Z,28nm,1.6s
MAT Matsushiro 28.95 27 P **P** **08 11 43.0 +0.1**
MAT S **S** **08 16 37.8 +4.9**
MJAR Matsushiro Arr 28.95 27 P **P** **08 11 41.6 -1.4**
comp=Z,3.1nm,0.8s,baz=193,slow=7.9,SNR=6.4
MJAR PcP **PcP** **08 14 51.8 +0.1**
comp=Z,5.4nm,0.9s,baz=204,slow=2.8,SNR=5.8
MJAR LR LR 08 22 11.6
comp=Z,2μm,19.0s,baz=215,slow=34
BJT Baijiatuau 29.02 351 P **P** **08 11 43.6 +0.1**
BJT pmax pmax
comp=Z,51nm,1.2s
BJT Baijiatuau 29.02 351 P **P** **08 11 43.6 +0.1**
BJI Beijing 29.04 351 P **P** **08 11 44.6 +1.0**
BJI S **S** **08 16 31.9 -2.2**
BJI pmax pmax
comp=Z,13nm,1.0s
BJI LR LR
comp=Z,1μm,26.4s
BJI LR LR
comp=Z,2μm,25.1s
BJI LR LR
comp=Z,2μm,27.6s
FITZ Fitzroy Crossi 29.49 173 P **P** **08 11 45.8 -2.0**
comp=Z,44nm,0.8s,baz=2.9,slow=9.1,SNR=80
FITZ PcP **PcP** **08 14 53.0 -0.2**
comp=Z,20nm,0.6s,baz=342,slow=2.3,SNR=14
FITZ LR LR 08 23 27.5
comp=Z,500nm,21.6s,baz=12,slow=36
FITZ Fitzroy Crossi 29.49 173 P **P** **08 11 45.3 -2.5**
LZH Lanzhou 29.66 329 *e*P **P** **08 11 50.1 +0.7**
LZH pP sP 08 11 59.9 +2.3
LZH sP pP 08 12 03.1 +7.9
LZH *e*S **S** **08 16 47.5 +3.2**
LZH sS sS 08 17 04.6 +10
LZH SS ScP 08 18 24.3 -11
LZH pmax pmax
comp=Z,58nm,1.2s
LZH pmax pmax
comp=Z,550nm,4.9s
LZH LR LR
comp=Z,4μm,13.6s
LZH LR LR
comp=Z,6μm,13.0s
LZH LR LR
comp=Z,8μm,18.4s
KOHI KOHIMA 30.08 302 ⇓*i*P **P** **08 11 52.2 -1.1**
KOHI IAmb IAmb 08 11 59.6
comp=Z,134nm,1.4s
SNY Shenyang 30.36 2 ⇑P **P** **08 11 57.6 +2.3**
SNY S S 08 17 06.0 +11
SNY pmax pmax
comp=Z,38nm,1.3s
SNY pmax pmax
comp=Z,390nm,2.6s
SNY LR LR
comp=Z,2μm,17.5s
SNY LR LR
comp=Z,2μm,15.1s
SNY LR LR
comp=Z,3μm,18.0s
JORH JORHAT 30.38 304 *e*P **P** **08 11 55.5 -0.2**
JORH IAmb IAmb 08 11 57.4
comp=Z,168nm,0.9s
HHC Hu-ho-hao-te 30.81 344 *e*P **P** **08 12 00.7 +1.3**
HHC S **S** **08 17 07.0 +4.8**
HHC pmax pmax
comp=Z,43nm,1.0s
HHC pmax pmax
comp=Z,640nm,4.2s
HHC LR LR
comp=Z,4μm,12.3s
HHC LR LR
comp=Z,3μm,12.2s
HHC LR LR
comp=Z,5μm,12.8s
BTO Baotou 31.02 342 *e*P **P** **08 12 02.2 +0.9**
ZIRO ZIRO 31.03 305 *e*P **P** **08 12 02.2 +0.5**
ZIRO IAmb IAmb 08 12 05.6
comp=Z,38nm,0.8s
TEZP TEZPUR 31.51 303 *e*P **P** **08 12 05.3 -0.4**
TEZP IAmb IAmb 08 12 07.4
comp=Z,37nm,0.8s
SHL Shillong 31.89 300 ⇓*i*P **P** **08 12 09.0 -0.2**
SHL IAmb IAmb 08 12 16.3
comp=Z,53nm,1.0s
SHL *ex* x 08 18 15.9
SHL Shillong 31.89 300 P **P** **08 12 09.3 0.0**
SNR=34
SHL Shillong 31.89 300 P **P** **08 12 09.1 -0.2**
SHL pmax pmax
comp=Z,139nm,0.8s
SHL Shillong 31.89 300 P **P** **08 12 09.1 -0.2**
CN2 Changchun 32.44 4 *e*P **P** **08 12 09.2 -4.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
COEN Coen 32.68 140 P **P** **08 12 14.7 -1.3**
PSA00 Pilbara Seismi 32.82 184 P **P** **08 12 15.3 -1.8**
PSA00 Pilbara Seismi 32.82 184 P **P** **08 12 15.3 -1.8**
WB0 Warramunga Arr 33.21 159 P **P** **08 12 17.2 -3.4**
WB0 IAmb IAmb 08 13 11.7
comp=Z,46nm,1.2s
WRAB Tennant Creek 33.35 159 ⇑*e*P **P** **08 12 18.6 -3.2**
WRAB pmax pmax
comp=Z,47nm,1.1s
WRAB Tennant Creek 33.35 159 P **P** **08 12 18.4 -3.5**
WRAB IAmb IAmb 08 12 21.1
comp=Z,28nm,0.5s
WRA Warramunga Arr 33.35 159 P **P** **08 12 18.6 -3.3**
comp=Z,20nm,0.5s,baz=340,slow=9.3,SNR=283
WRA PcP **PcP** **08 15 02.5 -1.1**
comp=Z,30nm,0.8s,baz=339,slow=3.0,SNR=26
WRA LR LR 08 28 29.6
comp=Z,1μm,20.6s,baz=340,slow=41
WRA Warramunga Arr 33.35 159 P **P** **08 12 19.7 -2.2**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 33.35 159 P **P** **08 12 19.7 -2.2**
WB2 Warramunga Arr 33.36 159 P **P** **08 12 19.5 -2.4**
WB2 IAmb IAmb 08 12 21.1
comp=Z,37nm,0.6s
WR0 Warramunga Arr 33.44 159 P **P** **08 12 20.2 -2.4**
MDJ Mudanjiang 33.74 10 P **P** **08 12 25.7 +0.7**
MDJ pmax pmax
comp=Z,29nm,1.3s
MDJ pmax pmax
comp=Z,210nm,3.0s
MDJ LR LR
comp=Z,860nm,21.0s
MDJ LR LR
comp=Z,2μm,22.8s
MDJ LR LR
comp=Z,2μm,22.9s
MDJ Mudanjiang 33.74 10 P **P** **08 12 24.8 -0.1**
USA0B Ussuriysk Arra 33.79 13 *de*P **P** **08 12 26.8 +1.4**
USA0B Ussuriysk Arra 33.79 13 P **P** **08 12 25.8 +0.4**
USA0B IAmb IAmb 08 12 42.0
comp=Z,45nm,0.9s
USRK Ussuriysk Ar. 33.79 13 P **P** **08 12 26.3 +0.8**
comp=Z,21nm,0.7s,baz=198,slow=8.0,SNR=42
USRK PcP **PcP** **08 15 04.0 -0.4**
comp=Z,3.6nm,0.6s,baz=197,slow=2.6,SNR=4.2
USRK LR LR 08 26 09.9
comp=Z,1μm,20.2s,baz=179,slow=36
USRK Ussuriysk Ar. 33.79 13 P **P** **08 12 26.0 +0.6**
USRK Ussuriysk Ar. 33.79 13 P **P** **08 12 26.0 +0.6**
LSA Lhasa 34.11 307 P **P** **08 12 29.6 +0.6**
LSA S **S** **08 17 52.3 -2.4**
LSA LR LR
comp=Z,5μm,18.5s
LSA LR LR
comp=Z,5μm,19.2s
LSA LR LR
comp=Z,10μm,19.9s
LSA Lhasa 34.11 307 P **P** **08 12 29.9 +0.9**
LSA Lhasa 34.11 307 P **P** **08 12 28.7 -0.3**
LSA pmax pmax
comp=Z,34nm,0.7s
LSA Lhasa 34.11 307 P **P** **08 12 28.7 -0.3**
LSA IAmb IAmb 08 12 31.8
comp=Z,34nm,0.7s
GTA Gaotai 34.25 328 P **P** **08 12 29.8 +0.1**
GTA pP sP 08 12 39.4 +1.5
GTA sP pP 08 12 43.0 +7.5
GTA S **S** **08 17 56.9 +1.0**
GTA sS sS 08 18 13.6 +8.0
GTA SS **SS** **08 20 14.0 -10**
GTA pmax pmax
comp=Z,29nm,1.2s
GTA pmax pmax
comp=Z,280nm,7.6s
GTA LR LR
comp=Z,4μm,17.5s
GTA LR LR
comp=Z,6μm,20.7s
GTA LR LR
comp=Z,8μm,20.0s
GIRL Giralia 34.69 193 P **P** **08 12 32.1 -1.3**
GTK Tadong 35.25 302 *e*P **P** **08 12 39.5 +1.0**
GTK IAmb IAmb 08 12 46.4
comp=Z,74nm,0.9s
TEY Ternei 35.76 18 ⇑*e*P **P** **08 12 46.0 +3.6**
TEY pmax pmax
comp=Z,10.0nm,3.1s
BWNR Bhubaneshwar 36.00 289 *ex* **P** **08 12 42.5 -2.3**
BWNR IAmb IAmb 08 12 53.7
comp=Z,15nm,0.8s
BOK Bokaro 36.59 295 *e*P **P** **08 12 51.1 +1.2**
BOK IAmb IAmb 08 13 01.7
comp=Z,40nm,1.1s
AS31 Alice Springs 36.67 162 P **P** **08 12 48.2 -2.3**
ASAR Alice Springs 36.67 162 P **P** **08 12 48.2 -2.3**
comp=Z,30nm,0.6s,baz=343,slow=7.1,SNR=368
ASAR PcP **PcP** **08 15 12.6 -0.7**
comp=Z,34nm,0.8s,baz=350,slow=2.4,SNR=23
ASAR S **S** **08 18 27.6 -5.6**
comp=Z,2.7nm,0.8s,baz=343,slow=12,SNR=4.8
ASAJ Asahikawa 37.09 25 P **P** **08 12 54.1 +0.3**

ASAJ pmax pmax
comp=Z,62nm,1.3s
JKA Kamikawa-asahi 37.09 25 P **P** **08 12 54.0 +0.3**
JKA IAmb IAmb 08 13 00.9
comp=Z,62nm,1.3s
YUK Yuzh-Kuril'sk 38.44 28 *e*P **P** **08 13 05.1 -0.1**
YUK *i* S **S** **08 18 59.8 +0.3**
YUK MLR MLR
comp=Z,947nm,18.0s
YUK MLR MLR
comp=Z,851nm,19.0s
ULN Ulaanbaatar 38.52 344*d i*P **P** **08 13 06.4 +0.3**
ULN pmax pmax
comp=Z,62nm,1.7s
ULN Ulaanbaatar 38.52 344 P **P** **08 13 06.4 +0.3**
SONM Songino Array 38.68 343 P **P** **08 13 07.6 +0.3**
comp=Z,20nm,0.9s,baz=162,slow=9.8,SNR=54
SONM PcP **PcP** **08 15 19.0 -0.2**
comp=Z,1.6nm,0.5s,baz=164,slow=3.4,SNR=4.1
SONM Songino Array 38.68 343 P **P** **08 13 07.4 +0.1**
SONM pmax pmax
comp=Z,21nm,0.8s
SONM Songino Array 38.68 343 P **P** **08 13 07.4 +0.1**
CTA Charters Tower 39.25 143 P **P** **08 13 10.3 -2.0**
CTA pmax pmax
comp=Z,22nm,1.5s
CTAO Charters Tower 39.25 143 P **P** **08 13 09.8 -2.5**
CTAO pmax pmax
comp=Z,38nm,1.4s
CTAO Charters Tower 39.25 143 P **P** **08 13 09.8 -2.5**
YSS Yuzh-Sakhalins 39.51 22 *e*P **P** **08 13 17.4 +3.3**
YSS *e* 08 14 51.9
YSS pmax pmax
comp=Z,100nm,6.4s
MORW Morawa 40.63 188 P **P** **08 13 22.3 -1.4**
MORW IAmb IAmb 08 13 23.8
comp=Z,127nm,0.9s
MDRS Chennai 40.95 277 *e*P **P** **08 13 28.6 +2.0**
MDRS IAmb IAmb 08 13 36.0
comp=Z,41nm,1.0s
GRNR Gornyy 40.99 14 *e*P P 08 13 31.1 +4.7
GRNR MLR MLR
comp=N,460nm,15.0s
GRNR MLR MLR
comp=Z,660nm,15.0s
ZAK Zakamensk 41.88 342 *e*P **P** **08 13 33.7 -0.1**
ZAK *e* 08 15 25.5
ZAK pmax pmax
comp=Z,15nm,1.2s
ZAK pmax pmax
comp=Z,8.0nm,1.3s
FORT Forrest 42.29 172 P **P** **08 13 35.4 -1.9**
NGP Nagpur 42.38 289 *e*P **P** **08 13 38.0 -0.2**
NGP Nagpur 42.38 289 *e*P **P** **08 13 37.8 -0.4**
NGP Nagpur 42.38 289 *e*P **P** **08 13 37.7 -0.6**
NGP IAmb IAmb 08 13 44.9
comp=Z,159nm,1.9s
ZEA Zeya 42.45 4 *e*P **P** **08 13 42.1 +3.8**
ZEA *e* 08 15 22.5
ZEA *e*S **S** **08 19 51.3 -7.8**
ZEA pmax pmax
comp=Z,20nm,1.9s
ZEA pmax pmax
comp=N,200nm,5.2s
ZEA pmax pmax
comp=Z,400nm,8.3s
ZEA pmax pmax
comp=N,300nm,4.7s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA smax smax
comp=E,200nm,7.1s
HYB Hyderabad 42.58 283 *i* P **P** **08 13 40.0 +0.1**
HYB *e*S **S** **08 20 04.0 +1.9**
TYV Tymovskoe 42.81 19 *e*P **P** **08 13 42.2 +1.0**
TYV pmax pmax
comp=Z,21nm,2.0s
TYV pmax pmax
comp=Z,300nm,2.8s
TLY Talaya 42.92 343 *e*P **P** **08 13 42.7 +0.5**
TLY *e* 08 15 30.0
TLY *e*PPP PPP 08 15 55.3
TLY *e*S **S** **08 20 10.5 +4.3**
TLY *e*SS **SnSn** **08 23 35.0 +1.1**
TLY pmax pmax
comp=Z,198nm,2.0s
TLY MLR MLR
comp=Z,7µm,20.0s
TLY Talaya 42.92 343 P **P** **08 13 42.7 +0.5**
IRK Irkutsk 43.25 344 *e*P **P** **08 13 44.6 -0.2**
IRK pmax pmax
comp=Z,90nm,1.4s
MOY Mondy 43.71 341 *e*P **P** **08 13 49.3 +0.7**
MOY pmax pmax
comp=Z,103nm,3.1s
WMQ Urumqi 43.91 324 *e*P **P** **08 13 51.0 +0.7**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,260nm,7.1s
WMQ LR LR
comp=Z,4µm,18.9s
WMQ LR LR
comp=Z,2µm,16.5s
WMQ LR LR
comp=Z,2µm,20.7s
BHPL Bhopal 44.13 292 *e*P **P** **08 13 53.1 +0.8**
BHPL IAmb IAmb 08 14 02.1
comp=Z,91nm,1.6s
NKL Nikolayevsk 44.24 16 *e*P P 08 13 57.8 +5.1
NKL pmax pmax
comp=N,11nm,1.5s
NKL pmax pmax
comp=Z,83nm,1.5s
NKL pmax pmax
comp=Z,95nm,2.0s
NKL MLR MLR
comp=N,134nm,12.0s
NKL MLR MLR
comp=Z,938nm,17.0s
NWAO Narrogin (SRO) 44.30 186 P **P** **08 13 52.7 -0.7**
NWAO pmax pmax
comp=Z,423nm,1.4s
NWAO Narrogin (SRO) 44.30 186 P **P** **08 13 52.9 -0.5**
NWAO Narrogin (SRO) 44.30 186 P **P** **08 13 52.7 -0.7**
NWAO IAmb IAmb 08 13 54.3
comp=Z,423nm,1.4s
SONA Sohna 45.31 299 *e*P **P** **08 14 01.3 -0.3**
SONA IAmb IAmb 08 14 02.9
comp=Z,45nm,0.7s
KUDL Kundal 45.80 298 *e*P **P** **08 14 04.7 -0.8**
BBOO Buckleboo 45.90 164 P **P** **08 14 04.1 -2.1**
SMLA Simla 45.92 302|| *i*P **P** **08 14 06.8 +0.3**
SMLA IAmb IAmb 08 14 10.0
comp=Z,119nm,0.9s
EIDS Eidsvold 46.14 143 P **P** **08 14 05.6 -2.5**
EIDS IAmb IAmb 08 14 06.8
comp=Z,50nm,1.4s
BHK Bhakra 46.62 303 *ex* **P** **08 14 13.2 +1.2**
BOD Bodaibo 46.76 354 *e*P **P** **08 14 12.8 +0.2**
BOD pmax pmax
comp=Z,35nm,2.2s
STKA Stephens Creek 46.87 157 P **P** **08 14 11.8 -2.0**
comp=Z,19nm,0.6s,baz=333,slow=8.2,SNR=60
STKA LR LR 08 37 01.4
comp=Z,1µm,19.2s,baz=333,slow=40
STKA Stephens Creek 46.87 157 P **P** **08 14 11.8 -2.0**
STKA pmax pmax
comp=Z,5.0nm,0.7s
STKA Stephens Creek 46.87 157 P **P** **08 14 11.8 -2.0**
DHRM DHARAMSHALA 46.93 304|| *e*P **P** **08 14 14.0 -0.7**
DHRM IAmb IAmb 08 14 19.6
comp=Z,62nm,0.7s
POO Poona 47.09 285 *e*P **P** **08 14 16.9 +1.1**
POO IAmb IAmb 08 14 19.4
comp=Z,16nm,0.7s
ZSN Zaisan 47.67 326 *e*P **P** **08 14 18.2 -1.7**
ZSN *e*S **S** **08 21 22.9 +7.9**
ZSN *e*LR LR 08 34 40.6
comp=Z,650nm,13.9s
ZSN Zaisan 47.67 326 *e*P **P** **08 14 18.2 -1.7**
ZSN *e*S **S** **08 21 22.8 +7.9**
ZSN MLR MLR
comp=Z,650nm,14.0s
DGZ Jazzator, Alta 47.75 330|| *e*P **P** **08 14 20.9 +0.2**
DGZ pmax pmax
comp=Z,25nm,1.1s
SKR Severo-Kuril's 48.05 29 *e*P **P** **08 14 25.1 +2.4**
SKR *e*S **S** **08 21 24.2 +4.1**
SKR *e*SS **SS** **08 24 41.0 -8.1**
SKR pmax pmax
comp=Z,200nm,14.2s
SKR MLR MLR
comp=Z,500nm,20.0s
MNCY Minicoy 48.45 271 IAmb IAmb 08 15 01.6
comp=Z,96nm,1.3s
SHLS Shalkode 48.62 319 *e*P **P** **08 14 24.2 -3.4**
SHLS *e*LR LR 08 35 01.9
comp=Z,254nm,10.4s
SHLS Shalkode 48.62 319 *e*P **P** **08 14 24.1 -3.4**
SHLS MLR MLR
comp=Z,254nm,10.0s
PDGK Podgornoye 48.68 319 P **P** **08 14 27.2 -0.8**
MK31 Makanchi Array 48.73 324 *e*P **P** **08 14 27.7 -0.4**
MK31 Makanchi Array 48.73 324 P **P** **08 14 27.8 -0.4**
MKAR Makanchi Array 48.73 324 P **P** **08 14 27.8 -0.4**
comp=Z,2.0nm,0.6s,baz=128,slow=8.7,SNR=23
MKAR PcP **PcP** **08 15 53.4 +0.3**
comp=Z,2.9nm,0.6s,baz=127,slow=3.4,SNR=5.8
MKAR ScP **ScP** **08 19 46.0 -1.4**
comp=Z,3.0nm,1.1s,baz=122,slow=4.6,SNR=4.3
MKAR LR LR 08 36 43.6
comp=Z,3µm,18.6s,baz=112,slow=38
MKAR Makanchi Array 48.73 324 *i* P **P** **08 14 28.1 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 48.73 324 P **P** **08 14 27.2 -1.0**
UZB Uzynbulak 48.90 318 *e*P **P** **08 14 28.9 -0.8**
UZB Uzynbulak 48.90 318 *e*P **P** **08 14 28.9 -0.8**
MAKZ Makanchi 48.92 324 P **P** **08 14 28.9 -0.7**
MAKZ Makanchi 48.92 324 P **P** **08 14 28.6 -1.0**
TARG Taragay, Kyrgy 49.09 316 P **P** **08 14 30.5 -0.9**
SATY Saty 49.27 318 *e*P **P** **08 14 29.9 -2.6**
SATY Saty 49.27 318 *e*P **P** **08 14 29.8 -2.6**
KPKS Kokpek 49.27 319 *e*P **P** **08 14 30.3 -2.1**
KPKS Kokpek 49.27 319 *e*P **P** **08 14 30.3 -2.1**
KSH Kashi 49.50 313 P **P** **08 14 36.0 +1.7**
KSH pmax pmax
comp=Z,19nm,1.4s
KDJ Kajisay 49.68 316 P **P** **08 14 35.4 -0.3**
KDJ pmax pmax
comp=Z,17nm,0.9s
KDJ Kajisay 49.68 316 P **P** **08 14 35.4 -0.3**
NIL Nilore 49.77 305 P **P** **08 14 35.7 -0.6**
NIL pmax pmax
comp=Z,98nm,1.0s
NIL Nilore 49.77 305 P **P** **08 14 35.7 -0.6**
TDK Taldygorghan 50.16 320 *e*LR LR 08 35 56.6
comp=Z,2µm,16.9s
MDOK Medeo 50.20 318 *e*P **P** **08 14 39.1 -0.5**
MDOK *e*LR LR 08 35 43.6
comp=Z,754nm,21.6s
MDOK Medeo 50.20 318 *e*P **P** **08 14 39.1 -0.5**
MDOK MLR MLR
comp=Z,754nm,22.0s
TNSS Tian-Shan 50.22 317 *e*P **P** **08 14 39.3 -0.8**
TNSS Tian-Shan 50.22 317 *e*P **P** **08 14 39.2 -0.8**
ARMA Armidale 50.31 146 P **P** **08 14 39.4 -1.1**
ARMA IAmb IAmb 08 15 15.8
comp=Z,50nm,1.2s
AAA Alma-Ata 50.31 318 *e*LR LR 08 35 56.6
comp=Z,988nm,22.7s
ULHL Ulahol 50.36 316 P **P** **08 14 41.3 +0.3**
SNR=11
PEA0B Petropavlovsk- 50.41 27|| *e*P **P** **08 14 41.8 +1.0**
PEA0B Petropavlovsk- 50.41 27 P **P** **08 14 41.2 +0.5**
PETK Petropavlovsk- 50.41 27 P **P** **08 14 41.8 +1.0**
comp=Z,20nm,1.0s,baz=188,slow=3.6,SNR=37
PETK Petropavlovsk- 50.41 27 P **P** **08 14 41.5 +0.7**
PETK Petropavlovsk- 50.41 27 P **P** **08 14 41.5 +0.7**
BOOM Boomskoye usch 50.67 316 P **P** **08 14 42.4 -0.8**
BOOM pmax pmax
comp=Z,18nm,1.2s
BOOM Boomskoye usch 50.67 316 P **P** **08 14 42.4 -0.8**
PET Petropavlovsk 50.78 28 *e*P **P** **08 14 45.0 +1.4**
PET *e*S **S** **08 21 58.0 -0.3**
PET pmax pmax
comp=Z,56nm,1.4s
PET MLR MLR
comp=Z,900nm,19.0s
YAK Yakutsk 50.87 5 *e*P **P** **08 14 46.0 +2.0**
YAK *e**PP sP 08 14 59.3 +7.0
YAK *e* 08 15 59.7
YAK *e* 08 16 46.7
YAK *e*S **S** **08 22 03.3 +4.0**
YAK *e* 08 24 30.9
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,47nm,1.3s
YAK pmax pmax
comp=E,16nm,1.5s
YAK pmax pmax
comp=Z,247nm,3.5s
YAK pmax pmax
comp=N,136nm,3.5s
YAK pmax pmax
comp=E,66nm,3.4s
YAK smax smax
comp=N,171nm,2.9s
YAK smax smax
comp=E,58nm,2.3s
YAK MLR MLR
comp=Z,1µm,18.0s
YAK MLR MLR
comp=N,781nm,18.0s
YAK MLR MLR
comp=E,788nm,18.0s
KUU Kurty 50.98 318 *e*P **P** **08 14 43.9 -1.4**
KUU Kurty 50.98 318 *e*P **P** **08 14 43.9 -1.4**
TKM2 Tokmak 2 51.07 317 P **P** **08 14 46.5 +0.2**
SNR=6.5
UCH Uchtor 51.54 316 P **P** **08 14 50.9 +0.8**
SNR=12
AAK Ala-Archa 51.71 316 P **P** **08 14 52.2 +1.3**
ZAA0 Zalesovo Array 51.76 333 P **P** **08 14 50.4 -0.5**
ZALV Zalesovo Beam 51.76 333 P **P** **08 14 50.1 -0.8**
comp=E,5.6nm,0.9s,baz=132,slow=8.2,SNR=11
ZALV LR LR 08 38 19.4
comp=E,3µm,18.4s,baz=134,slow=38
ZALV Zalesovo Beam 51.76 333 *i* P **P** **08 14 50.5 -0.4**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 51.76 333 P **P** **08 14 49.5 -1.4**
SGDS Sogindy 51.93 317 *e*P **P** **08 14 55.6 +3.1**
SGDS Sogindy 51.93 317 *e*P **P** **08 14 55.6 +3.1**
AML Almayashu 52.07 315 P **P** **08 14 54.7 +0.7**
SNR=5.8
EKS2 Erkin-Say 52.21 316 P **P** **08 14 55.3 +0.7**
SNR=5.6
MA2 Magadan 52.65 18|| *e*P **P** **08 14 58.5 +1.1**
MA2 pmax pmax
comp=Z,58nm,1.5s
KURBB Kurchatov Arra 52.90 327 PKPPKP PKPPKPbc 08 45 38.6
comp=Z,1.3nm,1.0s,baz=298,slow=3.2,SNR=4.4
KURK Kurchatov 52.90 327*d i*P **P** **08 14 59.0 -0.4**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 52.90 327 P **P** **08 14 59.3 -0.1**
KURK IAmb IAmb 08 15 28.4
comp=Z,78nm,1.2s
CAN Canberra 52.94 152 P **P** **08 15 00.6 +0.6**
BTLS Baital 52.95 319 *e*P **P** **08 14 59.0 -1.0**
BTLS *e*LR LR 08 38 43.5
comp=Z,722nm,16.8s
BTLS Baital 52.95 319 *e*P **P** **08 14 58.9 -1.0**
BTLS MLR MLR
comp=Z,722nm,17.0s
KBL Kabul 53.38 305 P **P** **08 15 03.8 +0.3**
SNR=24
KBL P **P** **08 15 03.8 +0.3**
SNR=24
KBL Kabul 53.38 305 P **P** **08 15 03.5 0.0**
KBL pmax pmax
comp=Z,42nm,1.1s
KBL Kabul 53.38 305 P **P** **08 15 03.5 0.0**
KBL IAmb IAmb 08 15 05.6
comp=Z,42nm,1.1s
TOO Toolangi 53.39 157 P **P** **08 15 02.2 -1.0**
TOO pmax pmax
comp=Z,38nm,1.2s
TOO Toolangi 53.39 157 P **P** **08 15 02.1 -1.0**
TOO IAmb IAmb 08 15 04.4
comp=Z,38nm,1.1s
GAR Garm 53.49 310 P **P** **08 15 04.2 +0.1**
CHGR Chuyangaron 54.26 310 P **P** **08 15 10.0 +0.2**
CHGR IAmb IAmb 08 15 31.0
comp=Z,52nm,0.8s
KK31 Karatay Array 54.61 315 *i* P **P** **08 15 11.3 -0.8**
KK31 Karatay Array 54.61 315 P **P** **08 15 12.3 +0.2**
KKAR Karatay Array 54.61 315 P **P** **08 15 12.2 0.0**
KKAR Karatay Array 54.61 315 P **P** **08 15 12.0 -0.1**
KKAR Karatay Array 54.61 315 P **P** **08 15 12.2 0.0**
IUG luzhnay 54.63 314 *e*P **P** **08 15 12.3 -0.2**
IUG *e*LR LR 08 39 26.7
IUG luzhnay 54.63 314 *e*P **P** **08 15 12.2 -0.2**
DZM Mont Dzumac 54.70 127 *e*P **P** **08 15 12.2 -1.0**
comp=Z,86nm,1.4s
DZM *e*S **S** **08 22 51.5 -1.5**
comp=Z,432nm,31.0s
DZM *e*LQ LQ 08 28 51.2
comp=Z,3µm,33.2s
DZM *e*LR LR 08 31 11.8
comp=Z,2µm,31.4s
DZM Mont Dzumac 54.70 127 P **P** **08 15 12.0 -1.2**
DZM IAmb IAmb 08 15 23.7
comp=Z,29nm,1.0s
SEY Seymchan 55.82 16|| *e*P **P** **08 15 21.1 +0.6**
BRZS Berezniki 55.87 324 *e*P **P** **08 15 20.0 -1.2**
BRZS *e*LR LR 08 40 09.2
comp=Z,945nm,17.5s
BRZS Berezniki 55.87 324 *e*P **P** **08 15 19.9 -1.2**
BRZS MLR MLR
comp=Z,945nm,18.0s
BRVK Borovoye 58.55 326*de*P **P** **08 15 39.5 -0.5**
BRVK pmax pmax
comp=Z,17nm,1.1s
BRVK Borovoye 58.55 326 P **P** **08 15 39.4 -0.5**
BRVK IAmb IAmb 08 16 02.8
comp=Z,39nm,1.1s
TAU Tasmania Unive 58.73 159 P **P** **08 15 39.9 -1.3**
TAU pmax pmax
comp=Z,73nm,1.3s
TAU Tasmania Unive 58.73 159 P **P** **08 15 39.9 -1.3**
TAU IAmb IAmb 08 16 04.1
comp=Z,73nm,1.2s
AMKA Amchitka 60.92 37 P **P** **08 15 56.3 0.0**
WBK Wadi Bani Khal 61.07 290 P **P** **08 15 57.7 -0.2**
SNR=5.4
WBK P **P** **08 15 57.7 -0.2**
SNR=5.4
WSAR Wadi Sarin 61.37 290 P **P** **08 15 59.8 -0.2**
comp=Z,25nm,0.7s,baz=142,slow=5.4,SNR=40
WSAR Wadi Sarin 61.37 290 P **P** **08 15 59.8 -0.2**
SNR=6.7
BIDO Bidbid 61.83 291 P **P** **08 16 03.2 +0.2**
SNR=9.2
BIDO P **P** **08 16 03.2 +0.2**
SNR=9.2
NRIK Noril'sk 61.99 347 P **P** **08 16 03.5 +0.2**
comp=Z,35nm,0.9s,baz=133,slow=6.1,SNR=37
NRIK LR LR 08 44 55.0
comp=Z,2µm,18.7s,baz=157,slow=38
NRIK Noril'sk 61.99 347*d i*P **P** **08 16 03.4 +0.2**
NRIK pmax pmax
comp=Z,57nm,0.9s
MHTO MHTO 62.04 288 P **P** **08 16 04.1 -0.3**
SNR=26
MHTO P **P** **08 16 04.1 -0.3**
SNR=26
MSVF Nonsavu 62.31 117 P **P** **08 16 06.3 -0.1**
MSVF pmax pmax
comp=Z,101nm,1.2s
MSVF Nonsavu 62.31 117 P **P** **08 16 06.3 -0.1**
DQM DQM 62.48 287 P **P** **08 16 07.4 -0.1**
SNR=12
DQM P **P** **08 16 07.4 -0.1**
SNR=12
HOQ Hoqain 62.58 291 P **P** **08 16 09.0 +1.0**
SNR=14
HOQ P **P** **08 16 09.0 +1.0**
SNR=14
GEYT Alibeck 62.65 307 P **P** **08 16 09.0 +0.7**
comp=Z,19nm,0.9s,baz=114,slow=3.7,SNR=15
GEYT LR LR 08 46 28.6
comp=Z,1µm,20.7s,baz=70,slow=39
GEYT Alibeck 62.65 307 P **P** **08 16 08.1 -0.1**
GYA0B ALIBECK ARRAY 62.65 307 P **P** **08 16 08.0 -0.3**
GYA0B IAmb IAmb 08 16 18.7
comp=Z,56nm,1.1s
BSY Bisya 62.70 290 P **P** **08 16 10.0 +1.1**
SNR=14
BSY P **P** **08 16 10.0 +1.1**
SNR=14
SOHO SOHO 63.28 291 *i* P **P** **08 16 12.3 -0.4**
SNR=9.3
ARQ Araqi 63.31 290 P **P** **08 16 14.0 +1.1**
SNR=8.1
ARQ P **P** **08 16 14.0 +1.1**
SNR=8.1
AB31 Akbulak array 63.41 320 *i* P **P** **08 16 12.2 -0.8**
ABKAR Akbulak array 63.41 320 P **P** **08 16 12.4 -0.6**
ABKAR IAmb IAmb 08 16 48.6
comp=Z,39nm,1.4s
ADK Adak 63.46 37 P **P** **08 16 13.1 -0.2**
ADK pmax pmax
comp=Z,69nm,1.0s
ADK Adak 63.46 37 P **P** **08 16 13.1 -0.2**
BANOM Banah 63.48 293 P **P** **08 16 13.8 -0.2**
BILL Bilibino 63.49 17 *e*P **P** **08 16 13.8 +0.5**
BILL *e* 08 16 48.4
BILL *e* 08 18 34.3
BILL *e*PPP PPP 08 20 02.8
BILL *e*S **S** **08 24 39.7 -5.7**
BILL *e*SS **SS** **08 28 53.6 +1.2**
BILL pmax pmax
comp=Z,40nm,1.3s
BILL MLR MLR
comp=Z,819nm,19.0s
UOSS Minazif 63.57 292 P **P** **08 16 13.3 -1.3**
UOSS Minazif 63.57 292 P **P** **08 16 13.6 -1.0**
UOSS IAmb IAmb 08 16 44.4
comp=Z,22nm,1.1s
MSFE Esma-Masafi 63.61 293 P **P** **08 16 14.8 -0.1**
SHME Shamm 63.62 293 P **P** **08 16 12.2 -2.7**
HATD Hatta, Dubai 63.64 292 P **P** **08 16 14.9 -0.1**
ASHO Ashiyiah 63.71 292 P **P** **08 16 15.1 -0.5**
ALNE Al Ain 64.00 291 *i* P **P** **08 16 17.6 +0.1**
SNR=7.2
SHAO Shalim 64.41 285 *i* P **P** **08 16 21.0 +0.8**
SNR=8.7
SHAO Shalim 64.41 285 P **P** **08 16 21.0 +0.8**
SNR=8.6
SHAO P **P** **08 16 21.0 +0.8**
SNR=8.6
AKTO Aktyubinsk 64.90 321 LR LR 08 46 35.9
comp=Z,3µm,20.4s,baz=102,slow=38
ATKA Atka Island 65.02 37 P **P** **08 16 23.7 +0.1**
SVE Sverdlovsk 65.11 328 *e*P **P** **08 16 24.2 +0.1**
SVE pmax pmax
comp=Z,36nm,1.1s
SVE MLR MLR
comp=Z,2µm,20.0s
RBK Rabkut 65.80 284 P **P** **08 16 31.0 +1.7**
SNR=18
RBK P **P** **08 16 31.0 +1.7**
SNR=18
ARU Arti 66.09 327 LR LR 08 47 16.4
comp=Z,1µm,19.8s,baz=98,slow=38
ARU Arti 66.09 327*d i*P **P** **08 16 29.3 -1.1**
ARU 08 16 56.7
ARU 08 18 51.4
ARU S **S** **08 25 18.2 +0.4**
ARU SS **SS** **08 29 37.6 +4.3**
ARU pmax pmax
comp=Z,24nm,1.6s
ARU MLR MLR
comp=Z,1µm,20.0s
ARU Arti 66.09 327 P **P** **08 16 29.3 -1.1**
ARU IAmb IAmb 08 16 36.8
comp=Z,25nm,1.1s
WHFO Wadi Hawf 66.17 285 P **P** **08 16 31.2 -0.5**
SNR=7.4
WHFO P **P** **08 16 31.2 -0.5**
SNR=7.4
SOCY Socotra 66.56 278 P **P** **08 16 34.7 +0.4**

SNR=5.1
SOCY Socotra 66.56 278 P **P** **08 16 33.4 -0.8**
SOCY IAmb IAmb 08 16 56.6
comp=Z,42nm,0.9s
ABTO Aybut 66.67 284 P **P** **08 16 35.3 +0.3**
SNR=20
ABTO P **P** **08 16 35.3 +0.3**
SNR=20
NIKH Nikolski High 68.37 37 P **P** **08 16 44.7 -0.2**
MAK Makhachkala 71.11 312 *e*P **P** **08 16 58.5 -3.5**
MAK *e*PPP PPP 08 21 23.3
MAK *e*S **S** **08 26 15.0 -2.9**
MAK *e*SS **SS** **08 30 50.6 -0.8**
MAK pmax pmax
comp=Z,115nm,1.3s
MAK MLR MLR
comp=Z,639nm,19.0s
BKZ Black Stump Fm 71.27 138 P **P** **08 17 01.7 -1.3**
BKZ IAmb IAmb 08 17 05.8
comp=Z,68nm,1.2s
KIRV Kirov 71.37 328 LR LR 08 50 44.6
comp=Z,2µm,19.8s,baz=99,slow=38
PRGR Permogore 73.66 331 *e*P **P** **08 17 16.8 0.0**
PRGR pmax pmax
comp=Z,32nm,1.0s
ZEI Tsey 73.76 311 *e*P **P** **08 17 17.0 -1.1**
ZEI pmax pmax
comp=Z,26nm,1.3s
RDOG Red Dog Mine 73.90 22 P **P** **08 17 17.5 -0.7**
RDOG IAmb IAmb 08 17 25.9
comp=Z,50nm,1.5s
AKH Akhalkalaki 74.08 310 P **P** **08 17 22.3 +2.3**
ONI Oni 74.09 311 P **P** **08 17 22.8 +2.9**
KBZ Khabaz 74.48 312 P **P** **08 17 22.1 +0.1**
comp=Z,10nm,1.2s,baz=62,slow=1.1,SNR=7.4
KBZ LR LR 08 54 43.6
comp=Z,1µm,18.1s,baz=68,slow=39
KBZ Khabaz 74.48 312⇑ *e*P **P** **08 17 22.2 +0.2**
KBZ pmax pmax
comp=Z,13nm,1.4s
KIV Kislovodsk 74.63 313 *e*P **P** **08 17 23.3 +0.3**
KIV pmax pmax
comp=Z,113nm,1.0s
KIV MLR MLR
comp=Z,2µm,18.0s
VRH Novokhopyorsk 75.23 320 *e*P **P** **08 17 25.7 -0.5**
VRH pmax pmax
comp=Z,50nm,1.4s
ARTV Artvin 75.27 310 P **P** **08 17 25.6 -1.3**
TTA Tatalina 76.24 28 P **P** **08 17 31.0 -0.8**
TTA pmax pmax
comp=Z,28nm,1.2s
TTA Tatalina 76.24 28 P **P** **08 17 31.0 -0.8**
MARD Mardin 76.37 306 P **P** **08 17 31.3 -1.9**
MARD IAmb IAmb 08 18 19.4
comp=Z,27nm,1.0s
KLMR Klimovskoe 76.56 330 *e*P **P** **08 17 31.9 -1.6**
KLMR pmax pmax
comp=Z,84nm,1.2s
KLMR Klimovskoe 76.56 330 *e*P **P** **08 17 32.0 -1.6**
KLMR AMP 08 17 39.8
comp=Z,84nm,1.2s
KLMR LQ LQ 08 44 44.9
KLMR LQ LQ 08 44 44.9
KLMR LR LR 08 49 55.7
VORD Divnogorie 76.77 320 *e*P **P** **08 17 36.4 +1.4**
VORD pmax pmax
comp=Z,50nm,1.9s
SOC Sochi 76.79 312 *e*P **P** **08 17 35.2 -0.1**
SOC *e* 08 20 31.4
SOC *e*PPP PPP 08 22 16.3
SOC *e*S **S** **08 27 23.8 +1.9**
SOC *e*SS **SS** **08 32 16.5 -1.4**
SOC *e*SSS SSS 08 35 35.2
SOC MLR MLR
comp=Z,899nm,14.0s
VSR Storozhevoye 76.84 320 *e*P **P** **08 17 36.2 +0.8**
VSR pmax pmax
comp=Z,40nm,1.6s
LPSR Galich'ya Gora 76.94 322 *e*P **P** **08 17 34.4 -1.5**
LPSR pmax pmax
comp=Z,80nm,1.9s
IMAR Indian Mountai 77.29 25 P **P** **08 17 37.3 -0.3**
ATD Arta Tunnel 77.45 279 P **P** **08 17 36.2 -3.3**
MOS Moscow 77.61 325 *e*P **P** **08 17 40.1 +0.5**
MOS pmax pmax
comp=Z,61nm,1.1s
MOS MLR MLR
comp=Z,2µm,19.0s
RSO Redoubt South 77.78 30 P **P** **08 17 39.5 -1.2**
CASY Casey 77.91 185 P **P** **08 17 39.2 -1.7**
CASY IAmb IAmb 08 17 40.9
comp=Z,50nm,0.9s
MALT Malatya 78.15 307 P **P** **08 17 45.2 +2.1**
OBN Obninsk 78.24 324 LR LR 08 54 18.2
comp=Z,590nm,19.2s,baz=70,slow=37
OBN Obninsk 78.24 324 *e*P **P** **08 17 43.2 +0.1**
OBN *e* 08 17 51.7
OBN *e* 08 20 41.1
OBN *e*PPP PPP 08 22 28.0
OBN *e*S **S** **08 27 32.5 -4.6**
OBN *e*SS **SS** **08 32 40.8 +1.7**
OBN pmax pmax
comp=Z,58nm,1.3s
OBN MLR MLR
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 78.49 27 P **P** **08 17 44.3 -0.1**
CNPM China Poot 78.58 31 P **P** **08 17 44.5 -0.4**
CNPM IAmb IAmb 08 18 30.2
comp=Z,69nm,1.4s
COLD Coldfoot 78.69 23 P **P** **08 17 46.1 +0.7**
baz=272,SNR=12
COLD Coldfoot 78.69 23 P **P** **08 17 45.5 +0.1**
COLD IAmb IAmb 08 17 54.5
comp=Z,27nm,1.0s
SUA Susitna One 78.72 29 P **P** **08 17 45.3 -0.5**
SUA IAmb IAmb 08 17 47.1
comp=Z,43nm,0.8s
BRLK Bradley Lake 78.74 31 P **P** **08 17 45.0 -0.9**
BRLK IAmb IAmb 08 17 51.5
comp=Z,56nm,1.1s
TRF Thorofare Moun 78.83 27 P **P** **08 17 45.6 -0.8**
TRF IAmb IAmb 08 17 54.9
comp=Z,46nm,1.3s
TOLK Toolik Lake Re 78.87 22 P **P** **08 17 47.0 +0.6**
baz=273,SNR=7.0
TOLK Toolik Lake Re 78.87 22 P **P** **08 17 46.9 +0.5**
TOLK IAmb IAmb 08 17 54.1
comp=Z,38nm,1.3s
APA Apatity 79.09 337⇓ *i*P **P** **08 17 49.8 +2.2**
APA pmax pmax
comp=Z,16nm,1.0s
AIN Ainahou 79.21 72 P **P** **08 17 50.2 +0.7**
RC01 Rabbit Creek A 79.23 30 P **P** **08 17 48.2 -0.3**
baz=274
O22K Cooper Landing 79.28 30 P **P** **08 17 48.4 -0.3**
baz=274
NEA2 Nenana 79.30 26 P **P** **08 17 48.5 -0.3**
baz=274,SNR=15
SEW Seward 79.44 31 P **P** **08 17 49.4 -0.2**
RND Reindeer 79.47 27 P **P** **08 17 48.9 -1.0**
RND pmax pmax
comp=Z,58nm,1.4s
RND Reindeer 79.47 27 P **P** **08 17 48.9 -1.0**
RND IAmb IAmb 08 17 50.6
comp=Z,58nm,1.4s
PMR Palmer 79.48 29 P **P** **08 17 49.1 -0.7**
PMR pmax pmax
comp=Z,34nm,0.9s
PMR Palmer 79.48 29 P **P** **08 17 49.1 -0.7**
PMR IAmb IAmb 08 17 50.4
comp=Z,34nm,0.9s
MDM Murphy Dome 79.63 26 P **P** **08 17 50.0 -0.6**
WRH Wood River Hil 79.73 26 P **P** **08 17 50.5 -0.6**
WRH IAmb IAmb 08 17 57.6
comp=Z,48nm,1.5s
ABPO Ambohimpanom 79.75 248 P **P** **08 17 51.8 -0.5**
ABPO pmax pmax
comp=Z,18nm,1.1s
ABPO Ambohimpanom 79.75 248 P **P** **08 17 51.8 -0.5**
TCOL CIGO, UAF Yank 79.79 26 P **P** **08 17 51.4 0.0**
baz=275
COLA College 79.80 26⇓ *i*P **P** **08 17 51.4 0.0**
COLA pmax pmax
comp=Z,17nm,1.4s

CCB Clear Creek Bu 79.83 26 P **P** **08 17 50.7 -1.0**
SML Sawmill 79.84 29 P **P** **08 17 51.7 -0.1**
SML IAmb IAmb 08 17 52.9
comp=Z,58nm,1.1s
POKR Poker Plat Res 79.95 25 P **P** **08 17 52.4 +0.1**
baz=275
DHY Denali Highway 80.17 28 P **P** **08 17 52.6 -1.1**
IL31 80.22 26 P **P** **08 17 52.5 -1.2**
ILAR Eielson Array 80.22 26 P **P** **08 17 52.0 -1.8**
comp=Z,5.0nm,0.8s,baz=234,slow=5.1,SNR=38
ILAR PKKPbc **PKKPbc** **08 36 35.8 -3.6**
comp=Z,0.9nm,0.8s,baz=113,slow=1.4,SNR=7.4
ILAR LR LR 08 54 01.6
comp=Z,130nm,20.8s,baz=296,slow=36
ILAR Eielson Array 80.22 26 P **P** **08 17 52.5 -1.3**
ILAR Eielson Array 80.22 26 P **P** **08 17 52.5 -1.3**
HDA Harding Lake 80.22 26 P **P** **08 17 52.7 -1.1**
baz=276,SNR=8.2
HDA Harding Lake 80.22 26 P **P** **08 17 52.7 -1.1**
FYU Fort Yukon 80.70 24 P **P** **08 17 55.6 -0.6**
FYU IAmb IAmb 08 18 04.2
comp=Z,61nm,1.3s
M24K Tolsona, Glenn 80.83 28 P **P** **08 17 57.3 +0.1**
baz=277
BMAR Burnt Mountain 80.84 23 P **P** **08 17 57.5 +0.3**
PAX Paxson 81.04 28 P **P** **08 17 58.2 -0.2**
PAX pmax pmax
comp=Z,15nm,1.0s
PAX Paxson 81.04 28 P **P** **08 17 58.1 -0.2**
PAX **P** **08 17 58.6 +0.2**
KEV Kevo 81.19 339 P **P** **08 17 58.6 -0.3**
KEV pmax pmax
comp=Z,29nm,1.0s
KEV Kevo 81.19 339 P **P** **08 17 58.6 -0.3**
KEV IAmb IAmb 08 18 05.2
comp=Z,29nm,1.0s
RIDG Independent Ri 81.22 27 P **P** **08 17 58.4 -0.8**
RIDG IAmb IAmb 08 18 37.7
comp=Z,45nm,1.1s
SCRK Sand Creek 81.56 26 P **P** **08 18 01.2 0.0**
baz=278
DOT Dot Lake 81.58 27 P **P** **08 18 00.5 -0.7**
DOT IAmb IAmb 08 18 07.8
comp=Z,30nm,1.2s
BR131 Keskin Array S 81.70 309 P **P** **08 18 00.6 -1.8**
BR131 pmax pmax
comp=Z,11nm,1.3s
BR131 Keskin Array S 81.70 309 P **P** **08 18 00.6 -1.8**
BRTR Keskin Array B 81.70 309 P **P** **08 18 01.6 -0.8**
comp=Z,3.9nm,0.9s,baz=115,slow=5.2,SNR=7.9
BRTR LR LR 08 59 24.6
comp=Z,295nm,20.7s,baz=75,slow=39
BRTR Keskin Array B 81.70 309 P **P** **08 18 01.4 -0.9**
ARCES ARCESS Array B 81.75 339 P **P** **08 18 01.9 +0.1**
comp=Z,3.8nm,0.7s,baz=51,slow=3.9,SNR=15
ARCES PKKPbc **PKKPbc** **08 36 33.7 -2.3**
comp=Z,1.5nm,0.8s,baz=284,slow=4.9,SNR=4.8
ARCES LR LR 08 58 29.3
comp=Z,2µm,18.1s,baz=80,slow=39
GLB Gilahina Butte 82.03 29 P **P** **08 18 03.1 -0.5**
GLB IAmb IAmb 08 18 05.2
comp=Z,30nm,1.1s
K27K Chicken 82.39 26 P **P** **08 18 06.4 +1.1**
baz=280
CSS Mathiatis 82.62 304 P **P** **08 18 06.7 -0.5**
CSS IAmb IAmb 08 18 35.1
comp=Z,40nm,1.0s
EGAK Eagle 82.64 25 P **P** **08 18 06.6 0.0**
BCAR Beaver Creek A 82.69 27 P **P** **08 18 07.6 +0.7**
KBS Kingsbay 82.72 349 P **P** 08 18 12.7 +5.9
KBS Kingsbay 82.72 349 *i* P **P** **08 18 09.6 +2.8**
KBS IAmb IAmb 08 18 13.3
comp=Z,91nm,1.2s
FIA1 FINESS Array S 82.99 331 P **P** **08 18 08.0 -0.5**
FIA1 IAmb IAmb 08 18 14.2
comp=Z,21nm,1.0s
FINES FINESS Array B 82.99 331 P **P** **08 18 07.5 -1.0**
comp=Z,2.4nm,0.5s,baz=54,slow=4.6,SNR=12
FINES PKKPbc **PKKPbc** **08 36 30.4 -2.5**
comp=Z,1.4nm,0.8s,baz=169,slow=1.9,SNR=8.2
FINES LR LR 08 58 35.7
comp=Z,2µm,20.0s,baz=78,slow=38
FINES FINESS Array B 82.99 331 *i* P **P** **08 18 08.6 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.5s
BARN Barnard Glacie 83.12 29 P **P** **08 18 08.7 -0.8**
BARN IAmb IAmb 08 18 12.3
comp=Z,40nm,0.8s
AKASG Malin Array Be 83.14 320 P **P** **08 18 08.5 -1.0**
comp=Z,1.3nm,0.5s,baz=64,slow=4.5,SNR=4.9
AKASG LR LR 08 59 05.3
comp=Z,919nm,18.8s,baz=50,slow=38
AKASG Malin Array Be 83.14 320 P **P** **08 18 07.7 -1.8**
AKASG pmax pmax
comp=Z,9.0nm,1.2s
AKASG Malin Array Be 83.14 320 P **P** **08 18 07.7 -1.8**
KIEV Kiev 83.15 320 P **P** **08 18 14.0 +4.5**
YAH Yahtse 83.21 30 P **P** **08 18 08.7 -1.2**
YAH IAmb IAmb 08 20 15.3
comp=Z,55nm,1.2s
VSU Vasula 83.22 328⇓ *e*P **P** **08 18 10.8 +1.1**
VSU pmax pmax
comp=Z,195nm,1.5s
CTGM Chitina Glacie 83.30 29 P **P** **08 18 10.6 +0.4**
MICGM Minsk 83.30 324 *e*P **P** **08 18 11.0 +0.8**
MICGM *e*S **S** **08 28 26.0 -4.0**
MICGM *e*LR LR 08 56 12.0
MNK Minsk 83.30 324 *e*P **P** **08 18 11.0 +0.8**
MNK *e*S **S** **08 28 26.0 -4.0**
MDUB Mudurnu 83.44 310 P **P** **08 18 10.3 -1.1**
DAWY Dawson 83.54 26 P **P** **08 18 11.8 +0.4**
DAWY IAmb IAmb 08 18 18.9
comp=Z,42nm,1.4s
NACGM Naroch 83.86 325 *e* P 08 18 23.0 +10
NACGM *e*LQ LQ 08 55 14.0
NACGM *e*LR LR 08 56 18.0
PCA Pinnacle 83.99 30 P **P** **08 18 14.9 +1.1**
EPYK Eagle Plains 84.09 23 P **P** **08 18 14.4 +0.3**
baz=285
EPYK Eagle Plains 84.09 23 P **P** **08 18 14.2 +0.1**
EPYK IAmb IAmb 08 18 21.2
comp=Z,48nm,1.2s
SORM Soroca 84.15 318⇑ P **P** **08 18 13.5 -1.2**
SORM Soroca 84.15 318⇑ P **P** **08 18 13.5 -1.2**
ISP Isparta 84.40 307 P **P** **08 18 15.4 -0.9**
ISP pmax pmax
comp=Z,32nm,1.0s
ISP Isparta 84.40 307 P **P** **08 18 15.4 -0.9**
ISP IAmb IAmb 08 18 35.6
comp=Z,32nm,1.0s
KIBK Kibwezi 84.68 267 P **P** **08 18 19.5 +1.3**
SNR=12
INK Inuvik 84.74 21 P **P** **08 18 16.9 -0.3**
INK pmax pmax
comp=Z,59nm,1.3s
INK Inuvik 84.74 21 P **P** **08 18 16.9 -0.3**
INK IAmb IAmb 08 18 21.2
comp=Z,59nm,1.3s
CFR Carcaliu 84.84 315⇑ P **P** **08 18 21.2 +3.0**
CFR Carcaliu 84.84 315⇑ P **P** **08 18 21.2 +3.0**
ELL Elmali 85.07 306 P **P** **08 18 18.8 -1.0**
ELL pmax pmax
comp=Z,119nm,1.1s
ELL Elmali 85.07 306 P **P** **08 18 18.8 -1.0**
NOR Nord 85.11 354 *i* P **P** **08 18 19.5 +0.6**
NOR pmax pmax
comp=Z,45nm,1.4s
NOR Nord 85.11 354 *i* P **P** **08 18 19.5 +0.6**
comp=Z,45nm,1.4s
NOR Nord 85.11 354 *i* P **P** **08 18 19.5 +0.6**
NOR IAmb IAmb 08 18 24.7
comp=Z,45nm,1.4s
HYT Haines Junctio 85.15 29 P **P** **08 18 19.8 +0.1**
HYT IAmb IAmb 08 18 22.0
comp=Z,39nm,0.9s
KMBO Kilima Mbogo 85.22 268 P **P** **08 18 23.7 +2.6**
comp=Z,6.4nm,0.8s,baz=64,slow=5.6,SNR=15
KMBO LR LR 08 56 42.0
comp=Z,588nm,18.0s,baz=90,slow=36
KMBO Kilima Mbogo 85.22 268 *i* P **P** **08 18 22.3 +1.2**
SNR=9.6
KMBO Kilima Mbogo 85.22 268 P **P** **08 18 19.0 -2.1**
KMBO pmax pmax
comp=Z,19nm,1.2s
KMBO Kilima Mbogo 85.22 268 P **P** **08 18 19.0 -2.1**

KMPD K-Podol'skiy 85.30 318 P **P** **08 18 20.0 -0.5**
VRI Vrincioaia 85.67 316⇑ P **P** **08 18 22.7 +0.2**
VRI Vrincioaia 85.67 316⇑ P **P** **08 18 22.7 +0.2**
PLOR Plostina 85.73 316⇑ P **P** **08 18 22.6 -0.2**
PLOR Plostina 85.73 316⇑ P **P** **08 18 22.6 -0.2**
BISRR Bisoca 85.75 315⇑ P **P** **08 18 23.6 +0.7**
BIZ Bicaz 85.87 317⇑ P **P** **08 18 22.4 -1.0**
NEHR Nehoiu 86.06 315⇓ P **P** **08 18 25.1 +0.7**
LODK Lodwar 86.19 273 P **P** **08 18 27.1 +1.4**
SNR=15
MLR Muntele Rosu 86.29 316⇑ P **P** **08 18 25.0 -0.7**
MLR Muntele Rosu 86.29 316⇑ P **P** **08 18 25.0 -0.7**
MLR Muntele Rosu 86.29 316 P **P** **08 18 25.0 -0.7**
MLR IAmb IAmb 08 19 16.4
comp=Z,22nm,0.9s
WHY Whitehorse 86.44 29 P **P** **08 18 25.2 -0.9**
WHY IAmb IAmb 08 18 28.4
comp=Z,41nm,0.9s
DOPR Dopca 86.56 316⇑ P **P** **08 18 26.1 -0.8**
SKAG Skagway 86.57 30 P **P** **08 18 25.6 -0.9**
SKAG IAmb IAmb 08 18 28.9
comp=Z,37nm,1.0s
LVV L'vov 86.58 320 *e*P **P** **08 18 30.6 +3.8**
VOIR 86.91 316⇑ P **P** **08 18 28.9 +0.2**
VOIR 86.91 316⇑ P **P** **08 18 28.9 +0.2**
ARR Arges 87.22 316⇓ P **P** **08 18 29.0 -1.1**
EUNU Eureka 87.52 5 P **P** **08 18 30.9 0.0**
EUNU IAmb IAmb 08 19 03.8
comp=Z,22nm,1.2s
C36M Paulatuk 87.54 19 P **P** **08 18 31.1 +0.1**
baz=296
UZH Uzhgorod 87.98 319⇑ *i*P **P** **08 18 34.1 +0.5**
UZH *e* 08 18 37.9
UZH *e* 08 18 44.8
CRVS Cervenica-Dubn 88.44 320 *e*P **P** **08 18 36.0 +0.2**
CRVS Cervenica-Dubn 88.44 320 *e*P **P** **08 18 36.0 +0.2**
GZR Gura Zlata 88.48 316⇑ P **P** **08 18 31.9 -4.2**
DAG Danmarks Havn 89.10 352 *i* P P 08 18 43.8 +5.5
DAG Danmarks Havn 89.10 352 *i* P P 08 18 43.8 +5.5
DAG Danmarks Havn 89.10 352 *i* P P 08 18 43.8 +5.5
MAW Mawson 89.37 199 P **P** **08 18 38.2 -1.4**
comp=Z,3.1nm,0.9s,baz=53,slow=9.8,SNR=7.8
MAW PKKPbc **PKKPdf** **08 36 15.6 +1.6**
comp=Z,1.9nm,0.8s,baz=340,slow=6.0,SNR=4.9
MAW LR LR 08 59 37.8
comp=Z,99nm,18.0s,baz=59,slow=36
MAW Mawson 89.37 199 P **P** **08 18 38.1 -1.5**
MAW Mawson 89.37 199 P **P** **08 18 38.1 -1.5**
NC405 NORSAR Array S 89.71 333 P **P** **08 18 41.1 -0.4**
NB2 NORSAR Subarra 89.96 333 P **P** **08 18 41.8 -0.9**
comp=Z,45nm,1.7s,baz=68,slow=4.6
NB2 NORSAR Subarra 89.96 333 P **P** **08 18 41.8 -0.9**
baz=68,slow=4.6
NOA NORSAR Array B 89.96 333 P **P** **08 18 43.1 +0.3**
comp=Z,5.2nm,1.0s,baz=68,slow=4.6,SNR=5.9
NOA PKKPbc **PKKPdf** **08 36 13.3 +2.0**
comp=Z,1.0nm,0.6s,baz=257,slow=2.2,SNR=4.3
NOA LR LR 09 03 44.3
comp=Z,1µm,18.4s,baz=70,slow=39
VNDA Vanda 91.56 172 P **P** **08 18 48.5 -1.2**
comp=Z,15nm,0.7s,baz=319,slow=6.3,SNR=130
VNDA PKKPbc **PKKPdf** **08 36 11.8 +1.5**
comp=Z,0.8nm,0.8s,baz=222,slow=3.1,SNR=4.8
VNDA LR LR 09 01 04.4
comp=Z,206nm,20.0s,baz=338,slow=36
VNDA Vanda 91.56 172 P **P** **08 18 47.9 -1.7**
VNDA pmax pmax
comp=Z,22nm,0.9s
VNDA Vanda 91.56 172 P **P** **08 18 47.9 -1.7**
VNDA IAmb IAmb 08 18 51.1
comp=Z,22nm,0.8s
PPT Papeete 91.76 107 LR LR 08 53 59.5
comp=Z,267nm,21.2s,baz=272,slow=32
PPT2 Papeete2 91.76 107 *e*S **S** **08 29 47.9 -4.7**
comp=Z,302nm,26.8s
PPT2 Papeete2 91.76 107 *e*LQ LQ 08 44 24.0
comp=Z,966nm,31.8s
PPT2 *e*LR LR 08 48 20.3
comp=Z,552nm,23.5s
BRG Berggiesshubel 92.44 323 *e*P **P** **08 18 54.7 +0.3**
comp=Z,16nm,1.4s
BRG *e* 08 18 59.3
comp=Z,16nm,1.4s
comp=N,1µm,11.9s
comp=E,1µm,18.9s
comp=Z,2µm,19.0s
BRG Berggiesshubel 92.44 323 *e*P **P** **08 18 54.7 +0.3**
BRG *e* 08 18 59.3
BRG pmax pmax
comp=Z,16nm,1.4s
BRG pmax pmax
comp=Z,16nm,1.4s
BRG MLR MLR
comp=N,1µm,11.9s
BRG MLR MLR
comp=E,1µm,18.9s
BRG MLR MLR
comp=Z,2µm,19.0s
CLL Collm 92.83 324 *i* (pP) **pP** **08 19 00.7 -1.8**
comp=Z,45nm,2.0s
CLL *e*SKSac **SKSac** **08 29 28.0 -1.2**
CLL *e*S **SKKSac** **08 29 54.0 +6.5**
CLL *e*PS PnS 08 31 18.0 +2.2
CLL *e*SS SS 08 36 30.0 +17
CLL Collm 92.83 324 *i* P **pP** **08 19 00.7 -1.8**
CLL *e* 08 29 28.0
CLL pmax pmax
comp=Z,45nm,2.0s
CLL MLR MLR
comp=Z,1µm,22.7s
TBI Tubuai 92.98 113 *e*S **S** **08 29 56.0 -7.1**
comp=Z,504nm,30.0s
TBI Tubuai 92.98 113 *e*LQ LQ 08 45 04.9
comp=Z,560nm,42.0s
TBI *e*LR LR 08 49 01.0
comp=Z,880nm,25.0s
KHC Kasperske Hory 93.29 321 *e*P **P** **08 19 00.0 +1.6**
KHC Kasperske Hory 93.29 321 *e*P **P** **08 19 00.0 +1.6**
GERES GERESS Array B 93.32 321 P **P** **08 18 59.2 +0.5**
comp=Z,1.4nm,0.9s,baz=64,slow=6.2,SNR=8.5
GERES LR LR 09 03 37.2
comp=Z,822nm,19.1s,baz=66,slow=37
GERES GERESS Array B 93.32 321 P **P** **08 18 59.4 +0.8**
GERES GERESS Array B 93.32 321 P **P** **08 18 59.4 +0.8**
YKA Yellowknife Ar 94.36 23 P **P** **08 19 02.9 -0.1**
comp=Z,6.6nm,0.9s,baz=312,slow=4.9,SNR=12
YKA LR LR 09 04 54.3
comp=Z,177nm,21.1s,baz=0.0,slow=38
YKA Yellowknife Ar 94.36 23 *i* P **P** **08 19 03.4 +0.4**
YKA pmax pmax
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 94.50 323 *e*P **P** **08 19 04.9 +1.0**
comp=Z,8.1nm,1.2s,baz=69,slow=4.3
SUMG Summit 95.27 354 *e*P **P** **08 19 10.7 +3.2**
SUMG Summit 95.27 354 *i* P **P** **08 19 10.7 +3.2**
SUMG Summit 95.27 354 *e*P **P** **08 19 10.7 +3.2**
A04D Lummi Island 97.42 37 P **P** **08 19 17.3 +0.1**
baz=296
D03D Eldon 97.71 38 P **P** **08 19 18.6 0.0**
baz=296
SYO Syowa Base 97.87 201⇑ *e*X **P** **08 19 15.0 -3.6**
B05A Bryant 97.99 37 P **P** **08 19 19.9 +0.1**
baz=297
H04D Lebanon 99.25 41 P **Pdif** **08 19 25.3 -0.2**
baz=296
I05D Terrebonne, OR 100.23 41 P **Pdif** **08 19 29.6 -0.3**
baz=297
L04D Klamath Falls 100.54 43 P **Pdif** **08 19 31.3 -0.3**
baz=296
J05D Fort Rock, OR 100.78 42 P **Pdif** **08 19 32.5 0.0**
baz=297
NEW Newport 100.90 36 P **Pdif** **08 19 33.0 +0.1**
baz=301
O02D Mt. Diablo Mer 101.09 45 P **Pdif** **08 19 34.2 +0.2**
baz=295
O03E Paynes Creek 101.72 45 P **Pdif** **08 19 37.1 +0.3**
baz=296
HLID Hailey 104.97 39 P **Pdif** **08 19 51.7 +0.5**
baz=302
NVAR Mina Array Bea 104.98 45 Pdiff **Pdif** **08 19 52.0 +0.5**
comp=Z,1.2nm,0.8s,baz=279,slow=6.7,SNR=11
NVAR PP PP 08 24 03.6 -7.9
comp=Z,0.5nm,0.9s,baz=252,slow=8.1,SNR=2.7
R11A Troy Canyon, C 106.89 44 P **PKiKP** **08 24 09.9 0.0**
baz=300
PDAR Pinedale Array 108.36 38 PP PP 08 24 26.2 -10

comp=Z,0.6nm,0.8s,baz=264,slow=3.0,SNR=4.2
PDAR PKKP PKKPdf 08 35 34.8 -3.3
comp=Z,0.9nm,0.7s,baz=108,slow=4.8,SNR=7.4
ESDC Sonseca Array 108.75 319 PKKP PKKPdf 08 35 34.5 -2.5
comp=Z,0.3nm,0.4s,baz=242,slow=2.8,SNR=4.3
MONP2 Monument Peak 108.92 49 P PKiKP 08 24 13.5 -0.3
baz=298
SNAA Sanae 111.33 196 PKiKP PKiKP 08 24 15.9 -1.1
VNA2 Neumayer--Watz 112.97 196 PKiKP PKiKP 08 24 19.4 -0.6
EYMN Ely 113.82 24 P PKiKP 08 24 21.8 -0.6
baz=324
ECSD EROS Data Cent 114.79 30 P PKiKP 08 24 24.2 -0.2
baz=318
TORD Torodi Ar. Bea 116.09 291 PKP PKPdf 08 24 26.5 -1.2
comp=Z,1.4nm,0.7s,baz=46,slow=1.9,SNR=8.3
TORD PP PP 08 25 23.7 -8.6
comp=Z,2.0nm,0.8s,baz=67,slow=5.1,SNR=6.6
TORD PKKPbc PKKPbc 08 34 56.0 -1.5
comp=Z,2.7nm,0.9s,baz=255,slow=2.7,SNR=8.4
TORD Torodi Ar. Bea 116.09 291 PKPdf 08 24 26.9 -0.7
MATQ Matagami 116.70 14 P PKPdf 08 24 27.0 -0.8
baz=338
CHGQ Chibougamau 117.28 12 P PKPdf 08 24 28.8 -0.2
baz=342
MNTX Cornudas Mount 117.51 45 P PKPdf 08 24 29.8 -0.2
baz=306
MNTX Cornudas Mount 117.51 45 PKPdf PKPdf 08 24 29.5 -0.5
KSU1 Kansas State U 118.16 34 P PKPdf 08 24 30.3 -0.7
baz=316
JFWS Jewell Farm 118.38 27 P PKPdf 08 24 30.3 -1.0
baz=323
KAN10 Anthony SW Sta 118.72 36 PKPdf PKPdf 08 24 32.4 +0.2
P38A Dawn 119.39 31 PKPdf PKPdf 08 24 33.0 -0.4
D55A Sainte-Anne-du 119.77 14 P PKPdf 08 24 33.5 -0.4
baz=340
D56A ZEC Mazanza, M 119.91 13 P PKPdf 08 24 33.7 -0.4
baz=341
WMOK Wichita Mounta 119.94 39 P PKPdf 08 24 34.1 -0.4
baz=312
LATQ La Tuque 120.01 12 P PKPdf 08 24 33.8 -0.5
baz=343
TX31 Lajitas Ar. Si 120.08 46 PKPdf 08 24 34.4 -0.7
TX32 Lajitas Array 120.08 46 PKPdf 08 24 34.7 -0.4
TXAR Lajitas Array 120.09 46 PKP PKPdf 08 24 35.1 -0.1
comp=Z,2.7nm,0.8s,baz=156,slow=0.4,SNR=14
TXAR PKKPbc PKKPbc 08 34 42.9 -0.8
comp=Z,0.7nm,0.9s,baz=126,slow=6.4,SNR=4.4
TXAR Lajitas Array 120.09 46 PKPdf 08 24 35.0 -0.1
D57A Chemin Vers le 120.13 13 P PKPdf 08 24 34.0 -0.6
baz=342
E55A Montcerf-Lytto 120.16 14 P PKPdf 08 24 33.6 -1.0
baz=339
P40A Paris 120.20 30 PKPdf 08 24 34.4 -0.5
D58A Chemin du LacG 120.26 12 P PKPdf 08 24 34.0 -0.8
baz=343
E56A St. Veronique 120.32 14 P PKPdf 08 24 34.2 -0.8
baz=340
G54A Lake Saint Pet 120.61 16 P PKPdf 08 24 34.8 -0.7
baz=337
E57A Chemin Saint G 120.65 13 P PKPdf 08 24 35.1 -0.5
baz=342
HDIL Hopedale 120.70 28 P PKPdf 08 24 35.3 -0.5
baz=324
KOWA Kowa 120.78 294 PKKPbc PKKPbc 08 34 38.3 -2.3
comp=Z,1.8nm,0.4s,baz=220,slow=3.2,SNR=5.9
ABTX Abilene, Hawle 120.79 41 P PKPdf 08 24 35.8 -0.5
baz=311
ABTX Abilene, Hawle 120.79 41 PKPdf 08 24 35.6 -0.6
W35A Tecumseh 120.80 37 PKPdf PKPdf 08 24 36.2 0.0
E58A La Victoria 120.87 12 P PKPdf 08 24 35.5 -0.4
baz=342
TUL1 Leonard 120.89 36 P PKPdf 08 24 35.8 -0.5
baz=316
S39A Bolivar 120.95 32 PKPdf 08 24 36.1 -0.3
R40A Maddies Statio 121.04 31 PKPdf 08 24 36.4 -0.2
H53A Bobcaygeon 121.23 17 P PKPdf 08 24 36.1 -0.6
baz=336
U38A Gravette 121.30 34 PKPdf 08 24 36.7 -0.5
P43A Skaggs, Pawnee 121.33 28 PKPdf 08 24 36.5 -0.5
E61A Lac Etchemin 121.35 10 P PKPdf 08 24 36.9 -0.1
baz=346
F60A Warwick 121.53 11 P PKPdf 08 24 36.9 -0.3
baz=344
L48A N Adams 121.58 23 PKPdf 08 24 37.4 -0.1
HHAR Hobbs 121.66 34 PKPdf 08 24 37.3 -0.5
G57A Newington 121.69 14 P PKPdf 08 24 37.2 -0.3
baz=340
F61A St Evariste 121.70 11 P PKPdf 08 24 37.1 -0.5
baz=345
CCM Cathedral Cave 121.74 31 P PKPdf 08 24 37.0 -0.9
baz=321
E64A Bridgewater 121.78 8 P PKPdf 08 24 37.1 -0.6
baz=349
SFIN Lafayette 121.82 26 P PKPdf 08 24 37.4 -0.6
baz=326
Z35A Perchaven, San 121.82 39 PKPdf PKPdf 08 24 38.6 +0.4
G58A Ormstown 121.86 13 P PKPdf 08 24 37.7 -0.2
baz=341
MGMO Mountain Grove 121.90 32 PKPdf 08 24 37.4 -0.9
F62A Pittston Farm, 121.96 10 P PKPdf 08 24 37.7 -0.4
baz=346
JCT Junction City 122.05 43 P PKPdf 08 24 38.1 -0.7
baz=310
JCT Junction City 122.05 43 PKIKP PKPdf 08 24 38.5 -0.3
JCT Junction City 122.05 43 PKPdf 08 24 38.5 -0.3
X37A Clayton 122.07 36 PKPdf 08 24 38.7 0.0
G59A Clarenceville 122.12 13 P PKPdf 08 24 37.8 -0.6
baz=342
H57A Richville 122.19 15 P PKPdf 08 24 37.7 -0.8
baz=340
U40A Yellville 122.19 33 P PKPdf 08 24 37.7 -1.1
baz=318,SNR=11
U40A Yellville 122.19 33 PKPdf 08 24 38.3 -0.5
LONY Lake Ozonia 122.24 14 P PKPdf 08 24 38.4 -0.3
baz=341
F64A Sherman 122.25 9 P PKPdf 08 24 38.2 -0.5
baz=348
F63A Nahmakanta, Br 122.29 9 P PKPdf 08 24 38.6 -0.2
baz=347
H58A Gabriels 122.53 14 P PKPdf 08 24 38.8 -0.5
baz=341
W39A Magazine 122.54 35 P PKPdf 08 24 39.0 -0.5
baz=317
T42A Van Buren 122.61 31 PKPdf 08 24 39.0 -0.5
I57A Carthage 122.61 15 P PKPdf 08 24 38.8 -0.7
baz=339
J55A Hilton 122.65 17 P PKPdf 08 24 39.2 -0.3
baz=337
PKME Peaks-Kenny Pk 122.69 10 P PKPdf 08 24 39.6 +0.1
baz=347
OLIL Olney 122.71 28 PKPdf 08 24 39.8 0.0
H60A Morristown 122.72 13 P PKPdf 08 24 39.6 0.0
baz=343
G63A Kingsbury 122.78 10 P PKPdf 08 24 39.4 -0.3
baz=346
G64A Maxfield 122.78 9 P PKPdf 08 24 39.3 -0.4
baz=347
J56A Wolcott 122.91 16 P PKPdf 08 24 39.5 -0.5
baz=338
H61A Lyndonville 122.91 12 P PKPdf 08 24 40.2 +0.2
baz=344
K54A Basiliko Farm, 122.98 18 P PKPdf 08 24 39.8 -0.4
baz=336
G65A Princeton 123.01 8 P PKPdf 08 24 39.5 -0.6
baz=349
ERPA Erie 123.02 20 P PKPdf 08 24 39.8 -0.5
baz=334
J57A Williamstown 123.02 16 P PKPdf 08 24 39.9 -0.3
baz=339
I58A Old Forge 123.02 15 P PKPdf 08 24 39.8 -0.5
baz=340
BLO Bloomington 123.06 26 PKIKP PKPdf 08 24 40.1 -0.3
BLO Bloomington 123.06 26 PKPdf PKPdf 08 24 40.1 -0.3
K55A Perry 123.06 18 P PKPdf 08 24 39.9 -0.5
baz=336
M52A Chesterland 123.07 21 P PKPdf 08 24 40.2 -0.1
baz=332
L53A Girard 123.07 20 P PKPdf 08 24 40.1 -0.2
baz=334
L54A Sinclairville 123.13 19 P PKPdf 08 24 40.1 -0.4
baz=335
MIAR Mount Ida 123.13 35 P PKPdf 08 24 39.9 -0.8
baz=317,SNR=7.1
MIAR Mount Ida 123.13 35 PKIKP PKPdf 08 24 40.7 0.0
MIAR Mount Ida 123.13 35 PKPdf 08 24 40.7 0.0
PBMO Poplar Bluff 123.14 31 PKPdf 08 24 39.9 -0.7
H63A New Sharon 123.15 10 P PKPdf 08 24 40.1 -0.3
baz=346
I59A Olmsteadville 123.19 14 P PKPdf 08 24 40.3 -0.2
baz=341
LBNH Lisbon 123.19 12 P PKPdf 08 24 40.7 +0.1
baz=344
N51A Ashland 123.25 22 P PKPdf 08 24 40.2 -0.5
baz=331
J58A Remsen 123.25 15 P PKPdf 08 24 40.7 0.0
baz=340
I60A Shoreham 123.28 13 P PKPdf 08 24 40.4 -0.3
baz=342
LCAR Lake Charles 123.31 32 PKPdf 08 24 40.8 -0.2
K56A Middlesex 123.31 17 P PKPdf 08 24 39.9 -1.0
baz=337
J59A Piesco 123.35 14 P PKPdf 08 24 39.7 -1.2
baz=340,SNR=6.2
J59A Piesco 123.35 14 PKPdf 08 24 40.5 -0.3
M53A Wi Miller and 123.39 20 P PKPdf 08 24 40.2 -0.8
baz=333
H65A Eastbrook 123.41 9 P PKPdf 08 24 40.2 -0.6
baz=348
L55A Hinsdale 123.45 18 P PKPdf 08 24 40.5 -0.6
baz=336
H66A Whiting 123.45 8 P PKPdf 08 24 40.6 -0.4
baz=349
K57A Scipio Center 123.51 16 P PKPdf 08 24 40.4 -0.8
baz=328
P49A Miami Univ. Ec 123.52 25 P PKPdf 08 24 40.4 -0.9
baz=328
N52A McGinn's Farm, 123.59 22 P PKPdf 08 24 40.9 -0.5
baz=332
ACSO Alum Creek Sta 123.61 23 P PKPdf 08 24 41.0 -0.5
baz=330
ACSO Alum Creek Sta 123.61 23 PKPdf 08 24 40.9 -0.5
M54A Oil Creek Stat 123.67 20 P PKPdf 08 24 40.8 -0.7
baz=334
M54A Oil Creek Stat 123.67 20 PKPdf 08 24 41.2 -0.4
833A Chaparral WMA, 123.68 45 P PKPdf 08 24 41.5 -0.4
baz=309
833A Chaparral WMA, 123.68 45 PKPdf 08 24 42.0 +0.1
K58A Earlville 123.71 16 P PKPdf 08 24 41.0 -0.6
baz=339
L56A Greenwood 123.76 18 P PKPdf 08 24 41.0 -0.8
baz=337
O51A Pataskala 123.83 23 P PKPdf 08 24 40.7 -1.2
baz=330,SNR=5.9
N53A Lisbon 123.90 21 P PKPdf 08 24 41.6 -0.4
baz=333
K59A Cooperstown 123.91 15 P PKPdf 08 24 41.2 -0.8
baz=340
J61A Chester 123.91 13 P PKPdf 08 24 41.2 -0.7
baz=343
WCI Wyandotte Cave 123.94 27 P PKPdf 08 24 41.6 -0.5
baz=326
WCI Wyandotte Cave 123.94 27 PKIKP PKPdf 08 24 42.1 0.0
WCI Wyandotte Cave 123.94 27 PKPdf 08 24 42.1 0.0
M55A Ridgway 124.00 19 P PKPdf 08 24 41.4 -0.8
baz=335
N54A Moraine State 124.05 20 P PKPdf 08 24 41.9 -0.4
baz=334
L57A Andrews Acres 124.09 17 P PKPdf 08 24 41.5 -0.9
baz=337
O52A Adamsville 124.15 22 P PKPdf 08 24 42.1 -0.4
baz=331
BINY Binghamton 124.15 16 P PKPdf 08 24 42.0 -0.4
baz=338
M56A Emporium 124.17 18 P PKPdf 08 24 42.2 -0.3
baz=336
M56A Emporium 124.17 18 PKPdf 08 24 42.5 0.0
P51A Williamsport 124.23 23 PKPdf 08 24 42.1 -0.5
O53A New Philadelph 124.26 22 P PKPdf 08 24 42.1 -0.6
baz=332
DBIC Dimbokro 124.31 286 PKP PKPdf 08 24 43.2 -0.3
comp=Z,3.8nm,0.9s,baz=159,slow=3.4,SNR=4.3
L58A Harry Jones Me 124.33 16 P PKPdf 08 24 42.5 -0.3
baz=339
P52A Corning 124.46 23 P PKPdf 08 24 41.5 -1.6
baz=331,SNR=5.6
P52A Corning 124.46 23 PKPdf 08 24 42.5 -0.6
N55A Marion Center 124.55 19 P PKPdf 08 24 42.4 -0.9
baz=335
O54A Avella 124.61 21 P PKPdf 08 24 43.4 0.0
baz=333
O54A Avella 124.61 21 PKPdf 08 24 43.7 +0.3
M57A Sunshine Farm, 124.62 18 P PKPdf 08 24 43.1 -0.3
baz=337
K62A Royalston 124.63 13 P PKPdf 08 24 43.5 +0.2
baz=343
N56A West Decatur 124.64 19 P PKPdf 08 24 42.9 -0.6
baz=336
L61B Northampton 124.74 13 P PKPdf 08 24 43.6 +0.1
baz=342
R50A Paris 124.74 25 PKPdf 08 24 43.4 -0.3
K63A Dunstable 124.76 12 P PKPdf 08 24 43.6 +0.1
baz=344
M58A Price's Panora 124.78 17 P PKPdf 08 24 43.2 -0.4
baz=338
P53A Whipple 124.86 22 P PKPdf 08 24 42.8 -1.1
baz=332,SNR=6.0
P53A Whipple 124.86 22 PKPdf 08 24 43.7 -0.1
M59A Waymart 124.91 16 P PKPdf 08 24 43.3 -0.7
baz=339
WVT Waverly 124.94 30 P PKPdf 08 24 43.6 -0.5
baz=323
WVT Waverly 124.94 30 PKIKP PKPdf 08 24 43.9 -0.2
WVT Waverly 124.94 30 PKPdf 08 24 43.9 -0.2
O55A Ligonier 124.96 20 P PKPdf 08 24 43.4 -0.7
baz=334
Q52A Bidwell 124.99 23 P PKPdf 08 24 43.5 -0.7
baz=330
N57A Milroy 125.02 18 P PKPdf 08 24 43.6 -0.5
baz=336
SSPA Standing Stone 125.03 19 P PKPdf 08 24 43.7 -0.4
baz=336
SSPA Standing Stone 125.03 19 PKPdf 08 24 44.0 -0.1
P54A Burton 125.09 21 P PKPdf 08 24 43.9 -0.5
baz=333
O56A Blue Knob Stat 125.15 19 P PKPdf 08 24 44.3 -0.2
baz=335
N58A Sunbury 125.20 17 P PKPdf 08 24 43.9 -0.5
baz=337
M60A Port Jervis 125.33 15 P PKPdf 08 24 44.5 -0.2
baz=340
Q53A Leroy 125.36 23 P PKPdf 08 24 44.5 -0.3
baz=331
N59A State Game Lan 125.40 17 P PKPdf 08 24 44.6 -0.2
baz=338
P55A Reedsville 125.41 21 P PKPdf 08 24 44.6 -0.4
baz=333
OXF Oxford 125.42 32 PKIKP PKPdf 08 24 45.1 +0.1
OXF Oxford 125.42 32 PKPdf 08 24 45.1 +0.1
O57A Amberson 125.50 19 P PKPdf 08 24 44.7 -0.3
baz=336
Q54A Coxs Mills 125.51 22 P PKPdf 08 24 44.8 -0.3
baz=332
M61A Penns Spring 125.56 15 P PKPdf 08 24 44.8 -0.3
baz=341
T50A Nancy 125.59 27 PKPdf 08 24 45.3 -0.1
U49A Red Boiling Sp 125.59 28 PKPdf 08 24 44.3 -1.0
S51A Beattyville 125.59 25 PKPdf 08 24 45.0 -0.3
N60A Cedar Hill Far 125.63 16 P PKPdf 08 24 45.0 -0.3
baz=339
R53A Hurricane 125.66 23 P PKPdf 08 24 45.1 -0.4
baz=331
CLTN Cedars of Leba 125.68 28 PKPdf 08 24 45.3 -0.2
PLAL Pickwick Lake 125.73 31 PKPdf 08 24 45.0 -0.7
P56A Dayton Farm, R 125.75 20 P PKPdf 08 24 44.5 -1.0
baz=334,SNR=6.3
Q55A Buckhannon 125.77 21 P PKPdf 08 24 44.8 -0.9
baz=333,SNR=6.1
O58A Lewisberry 125.80 18 P PKPdf 08 24 44.8 -0.8
baz=337
PAL Palisades 125.81 15 P PKPdf 08 24 45.4 -0.2
baz=341
O59A Robesonia 125.84 17 P PKPdf 08 24 45.4 -0.3
baz=338
Y45A Yeager Farm, C 125.84 33 PKPdf 08 24 46.3 +0.4
M63A Gales Ferry 125.88 13 P PKPdf 08 24 44.9 -0.9
baz=343
P57A Homestead Farm 126.04 19 P PKPdf 08 24 45.7 -0.5
baz=335
Q56A Snyder Ridge, 126.04 21 P PKPdf 08 24 45.7 -0.5
baz=334
Q56A Snyder Ridge, 126.04 21 PKPdf 08 24 46.0 -0.2
O60A Telford 126.06 17 P PKPdf 08 24 45.4 -0.6
baz=339
MVL Millersville 126.08 18 PKPdf 08 24 46.3 +0.2
baz=346
S53A Williamson 126.16 24 P PKPdf 08 24 45.8 -0.7
baz=330
R54A Victor 126.16 23 P PKPdf 08 24 45.7 -0.8
baz=332
P58A Pank, Wackersv 126.26 19 P PKPdf 08 24 46.0 -0.6
baz=336
Q57A Strasburg 126.31 20 P PKPdf 08 24 46.2 -0.5
baz=335
S54A Dingess, Beckl 126.37 23 P PKPdf 08 24 46.6 -0.2
baz=331
S54A Dingess, Beckl 126.37 23 PKPdf 08 24 46.6 -0.2
R55A Marlinton 126.39 22 P PKPdf 08 24 46.6 -0.4
baz=333
P59A Jarrettsville 126.41 18 P PKPdf 08 24 46.4 -0.5
baz=337
P60A Greenville 126.46 17 P PKPdf 08 24 46.1 -0.8
baz=338
R56A Bull Pasture M 126.54 21 P PKPdf 08 24 46.8 -0.4
baz=334
TZTN Tazewell 126.54 26 P PKPdf 08 24 46.8 -0.4
baz=328
TZTN Tazewell 126.54 26 PKPdf 08 24 47.4 +0.2
T53A Wise 126.59 25 P PKPdf 08 24 46.7 -0.6
baz=330
Q58A Fox Den Farm, 126.64 19 P PKPdf 08 24 46.9 -0.4
baz=336
V51A Loudon 126.82 27 PKPdf 08 24 47.5 -0.2
T54A Tazewell 126.91 24 P PKPdf 08 24 47.5 -0.5
baz=331
R57A Stanardsville 126.94 20 P PKPdf 08 24 47.7 -0.2
baz=334
R58A Rapidan 127.11 20 P PKPdf 08 24 48.0 -0.2
baz=335
S56A Natural Bridge 127.13 22 P PKPdf 08 24 47.7 -0.6
baz=333
Q60A Greensboro 127.15 18 P PKPdf 08 24 48.0 -0.2
baz=338
T55A Pulaski 127.17 23 P PKPdf 08 24 47.9 -0.5
baz=332
BLA Blacksburg 127.22 23 P PKPdf 08 24 47.8 -0.7
baz=332
S57A Dark Hollow, R 127.27 21 P PKPdf 08 24 48.3 -0.2
baz=334
CBN Corbin Frederi 127.41 19 P PKPdf 08 24 48.8 +0.1
baz=336
R58B Mineral 127.46 20 P PKPdf 08 24 48.8 0.0
baz=335
R59A King George, V 127.49 19 P PKPdf 08 24 48.8 -0.1
baz=336
T56A Rocky Mt 127.53 22 P PKPdf 08 24 48.6 -0.4
baz=332
U55A TA2, Sparta 127.60 24 P PKPdf 08 24 48.9 -0.4
baz=331
S58A Poland Farm, P 127.72 20 P PKPdf 08 24 49.1 -0.3
baz=335
LRAL Lakeview Retre 127.81 31 P PKPdf 08 24 49.3 -0.3
baz=323
S59A Mechanicsville 127.83 20 P PKPdf 08 24 49.4 -0.2
baz=336
T57A Hurt 127.84 22 P PKPdf 08 24 49.3 -0.3
baz=333
V54A Nebo 127.87 25 P PKPdf 08 24 49.7 0.0
baz=330
U56A King 128.00 23 P PKPdf 08 24 49.4 -0.6
baz=332
S60A Water View 128.09 19 P PKPdf 08 24 49.9 -0.2
baz=336
V55A Taylorsville 128.10 24 P PKPdf 08 24 49.8 -0.3
baz=330
BG3 Lake Jocassee 128.12 26 PKPdf 08 24 50.2 -0.1
T58A Grand View Acr 128.15 21 P PKPdf 08 24 50.0 -0.2
baz=334
U57A Blanch 128.32 22 P PKPdf 08 24 50.6 0.0
baz=333
W54A Cherokee Point 128.36 26 P PKPdf 08 24 50.7 0.0
baz=329
V56A Mocksville 128.43 24 P PKPdf 08 24 50.3 -0.5
baz=331
T59A Double "B" Far 128.47 20 P PKPdf 08 24 50.4 -0.4
baz=335
T60A Surry 128.58 19 P PKPdf 08 24 50.8 -0.2
baz=336
V57A Coltrane Farms 128.63 23 P PKPdf 08 24 50.9 -0.2
baz=332
U58A Oxford 128.64 21 P PKPdf 08 24 50.9 -0.2
baz=334
KMSC Kings Mountain 128.67 25 P PKPdf 08 24 51.1 -0.2
baz=330
KMSC Kings Mountain 128.67 25 PKPdf 08 24 51.1 -0.2
X54A Belton 128.74 26 P PKPdf 08 24 51.8 +0.4
baz=329
W56A Indian Trail 128.98 24 P PKPdf 08 24 51.7 -0.1
baz=331
U60A Pendleton 129.05 20 P PKPdf 08 24 51.8 -0.1
baz=336
HODGE Hodges 129.06 26 PKPdf 08 24 52.4 +0.3
X55A Gracelyn & Ava 129.12 25 P PKPdf 08 24 51.9 -0.3
baz=330
W57A Gilead 129.20 23 P PKPdf 08 24 52.2 0.0
baz=332
GOGA Godfrey 129.21 28 P PKPdf 08 24 52.6 +0.3
baz=327
V59A Middlesex 129.31 21 P PKPdf 08 24 52.3 -0.1
baz=334
X56A White Oak 129.35 25 P PKPdf 08 24 52.5 0.0
baz=330
Y55A Saluda 129.48 26 P PKPdf 08 24 53.0 +0.2
baz=329
W58A Raeford 129.61 23 P PKPdf 08 24 53.0 0.0
baz=332
V60A Jim Taylor Roa 129.66 21 P PKPdf 08 24 53.0 -0.1
baz=335
V61A Roper 129.86 20 P PKPdf 08 24 54.2 +0.7
baz=336
W60A Pink Hill 130.14 21 P PKPdf 08 24 54.1 +0.1
baz=334
Z57A Bowman 130.52 25 P PKPdf 08 24 55.0 +0.2
baz=330
Z58A St. Stephen 130.86 24 P PKPdf 08 24 55.6 +0.2
baz=331
GRTK Grand Turk 144.81 22 PKPbc 08 25 20.6 +0.3
ESPN Las Esperanzas 144.82 49 PKPab 08 25 20.6 +0.2
JTS Las Juntas de 145.52 52 PKP2 PKPdf 08 25 21.9 -0.9
JTS Las Juntas de 145.52 52 PKPdf PKPdf 08 25 21.9 -0.9
LL01 San Ignacio de 146.60 160 PKPdf 08 25 24.2 +0.5
SDDR Presa de Saban 147.06 24 PKPbc 08 25 27.7 +0.4
DR12 Loma Pena Alta 147.94 21 PKPbc 08 25 30.9 +1.1
PLCA Paso Flores 148.69 161 PKPbc PKPbc 08 25 30.9 -0.2
comp=Z,86nm,0.9s,baz=205,slow=2.9,SNR=100
PLCA Paso Flores 148.69 161 eP PKPbc 08 25 30.4 -0.7
AGPR Aguadilla, PR 148.97 17 PKPbc 08 25 33.1 +0.7
EMPR Esperanza - Ma 149.13 16 PKPbc 08 25 33.0 +0.3
AOPR Arecibo Observ 149.19 17 PKPbc 08 25 32.5 -0.5
MPR Mayaguez 149.21 17 PKPbc 08 25 32.6 -0.3
GCPR Guaynabo City 149.41 16 PKPbc 08 25 32.9 -0.6
CRPR Cabo Rojo, PR 149.41 18 PKPbc 08 25 33.5 +0.1
MLPR Magueyes Islan 149.46 17 PKPbc 08 25 33.7 +0.1
CBYP Canovanas 149.50 15 PKPbc 08 25 33.0 -0.8
OBIP Obispado Ponce 149.52 17 PKPbc 08 25 33.2 -0.6
CUPR Culebra, Puert 149.61 14 PKPbc 08 25 33.5 -0.5
ICMP Isla Caja de M 149.69 17 PKPbc 08 25 34.0 -0.2
PDPR Patillas Dam, 149.70 16 PKPbc 08 25 34.0 -0.2
MTP Monte Pirata 149.75 15 PKPbc 08 25 34.1 -0.2
BCIP Isla Barro Col 150.09 48 PKIKP PKPbc 08 25 35.2 -0.1
BCIP Isla Barro Col 150.09 48 PKPbc 08 25 35.2 -0.1
CDVI St. Croix 150.26 13 PKPbc 08 25 35.3 -0.2
SMRT St. Maarten 150.31 10 PKPbc 08 25 35.3 -0.4
H03N3 Juan Fernandez 150.75 142 PKPbc PKPbc 08 25 36.6 +0.6
baz=168,slow=20,SNR=6.4
H03N2 Juan Fernandez 150.76 142 PKPbc PKPbc 08 25 36.8 +0.8
baz=168,slow=20,SNR=7.1
H03N1 Juan Fernandez 150.77 142 PKPbc PKPbc 08 25 36.6 +0.6
baz=168,slow=20,SNR=4.6
BI03 Tigo 151.19 154 PKPbc 08 25 37.3 0.0
SJCC San Jacinto, C 152.74 40 eP PKPdf 08 25 35.4 +1.1
UREC San Jos de Ur 154.11 44 eP PKPdf 08 25 37.6 +1.3
DBBC Dabeiba 154.16 46 eP PKPdf 08 25 36.5 +0.1
SMLC San Martn de 154.27 39 eP PKPdf 08 25 33.3 -3.3
ZARC Zaragoza, Cauc 154.75 43 eP PKPdf 08 25 36.7 -0.5
CBOC Ciudad Bolivar 155.10 47 eP PKPdf 08 25 30.4 -7.6
PTBC PUERTO BERRIO 155.72 44 eP PKPdf 08 25 36.7 -1.8
BRRC Barranca, Sant 155.79 41 eP PKPdf 08 25 37.7 -0.9
GUY2C Guyana, Caldas 156.01 47 eP PKPdf 08 25 38.7 -0.8
YOTC Yotoco, Valle 156.10 51 eP PKPdf 08 25 38.1 -1.1
SDV Santo Domingo 156.19 33 PKP PKPdf 08 25 38.7 -0.7
comp=Z,20nm,0.8s,baz=8.3,slow=3.3,SNR=9.3

SDV				PKPab	**PKPab**	**08 26 07.1**	**+0.2**	
	comp=Z,14nm,0.5s,baz=293,slow=4.5,SNR=4.7							
TOLC	**Tolima**	**156.47**	**49**	*e*P	**PKPdf**	**08 25 38.7**	**-1.3**	
OTAV	**Otavalo**	**156.51**	**62**	*e*P	**PKPdf**	**08 25 39.8**	**-0.4**	
OTAV	**Otavalo**	**156.51**	**62**	PKIKP	**PKPdf**	**08 25 41.7**	**+1.5**	
OTAV	**Otavalo**	**156.51**	**62**	*e*P	**PKPdf**	**08 25 41.2**	**+1.1**	
BARC	**Barichara**	**156.52**	**41**	*e*P	**PKPdf**	**08 25 35.5**	**-4.3**	
BBAC	**Balboa, Cauca**	**156.57**	**57**	*e*P	**PKPdf**	**08 25 38.6**	**-1.4**	
SPBC	**San Pablo de B**	**156.62**	**44**	*e*P	**PKPdf**	**08 25 34.4**	**-5.5**	
POPC	**Popayan, Colom**	**156.73**	**55**	*e*P	**PKPdf**	**08 25 38.4**	**-1.8**	
ORTC	**Ortega, Tolima**	**156.98**	**50**	*e*P	**PKPdf**	**08 25 37.4**	**-2.8**	
PCON	**Cinco Dias**	**157.08**	**55**	*e*P	**PKPdf**	**08 25 34.7**	**-6.3**	
RUSC	**La Rusia**	**157.11**	**42**	*e*P	PKPdf	08 25 32.7	-8.2	
CHIC	**Chingaza**	**157.59**	**46**	*e*P	**PKPdf**	**08 25 38.6**	**-2.9**	
PUAC	**Puerto Asis, P**	**157.95**	**59**	*e*P	**PKPdf**	**08 25 39.2**	**-2.2**	
FLOC	**Florencia**	**158.12**	**55**	*e*P	**PKPdf**	**08 25 35.3**	**-6.3**	
MACC	**Macarena, Meta**	**159.18**	**51**	*e*P	**PKPdf**	**08 25 39.9**	**-3.0**	
PTLC	**Puerto Leguiza**	**159.63**	**57**	*e*P	PKPdf	08 25 30.6	-13	
LVC	**Limon Verde**	**164.63**	**138**	PKIKP	**PKPdf**	**08 25 53.4**	**+4.8**	
LPAZ	**La Paz**	**168.89**	**117**	PKP	**PKPdf**	**08 25 52.3**	**0.0**	
	comp=Z,5.9nm,0.8s,baz=20,slow=2.9,SNR=16							
PTGA	**Pitinga**	**169.22**	**11**	PKP	**PKPdf**	**08 25 51.1**	**-0.8**	
	comp=Z,1.5nm,0.5s,baz=36,slow=7.3,SNR=4.9							
PTGA				PKPab	**PKPab**	**08 27 02.2**	**-1.3**	
	comp=Z,5.0nm,0.9s,baz=347,slow=9.8,SNR=4.7							
SAML	**Samuel**	**174.22**	**66**	PKIKP	**PKPdf**	**08 25 53.7**	**-0.5**	
SAML						08 27 25.5		
SAML	**Samuel**	**174.22**	**66**		**PKPdf**	**08 25 53.7**	**-0.5**	
SAML				PKPab	**PKPab**	**08 27 25.5**	**-0.7**	

EST 03 08:14:22.7±0.1, 59°23N×27°86E, *h*0km, ML1.0(HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VSU	**Vasula**	**0.96**	**218**	*e*P		Pg	08 14 40.0	-1.2
VJF	**Virojoki**	**1.33**	**353**	*e*PB		Pg	08 14 46.7	-1.4
VJF				*e*SB		Sg	08 15 03.8	-1.4
VJF				MSG			08 15 09.4	
	comp=Z,0.7nm,0.1s							
PVF	**Pernaja**	**1.66**	**324**	*e*PG		Pn	08 14 52.7	-0.4
PVF				*e*SG		Sn	08 15 14.1	-1.0
PVF				MSG			08 15 16.9	
	comp=Z,0.7nm,0.1s							
MEF	**Metsahovi**	**2.02**	**301**	*e*P		Pn	08 14 59.1	+1.1
MEF				AML		AML	08 15 00.7	
	comp=E,1.9nm,0.6s							
MEF				*e*S		Sn	08 15 24.3	+0.5
MEF				AML		AML	08 15 25.7	
	comp=N,2.5nm,0.2s							
MEF				AML		AML	08 15 33.5	
	comp=Z,1.9nm,0.5s							
MEF	**Metsahovi**	**2.02**	**301**	*e*PG		Pn	08 14 59.0	+1.1
MEF				*e*SG		Sn	08 15 24.4	+0.6
MEF				MSG			08 15 25.4	
	comp=Z,0.9nm,0.1s							
FIA0	**FINESS Array S**	**2.40**	**339**	*e*PB		Pn	08 15 04.1	+1.0
FIA0				*e*SG		Sb	08 15 36.2	-0.5
FIA0				MSG			08 15 37.5	
	comp=Z,0.6nm,0.1s							
FIA1	**FINESS Array S**	**2.40**	**339**	*e*PB		Pn	08 15 04.1	+1.0
FIA1				*e*SG		Sb	08 15 36.3	-0.4

LVSN 03 08:14:30.5±3.3, 58°49N×23°74E, *h*0km±90km, ML0.9, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**1.16**	**222**	*e*S		Sg	08 15 05.9	-1.7
VSU	**Vasula**	**1.58**	**90**	*e*S		Sn	08 15 17.9	-2.9

*NEIC **03** 08:58:39.5, 41°.90N×126°.18W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.57; $M_{\theta\theta}$=-3.21; $M_{\phi\phi}$=2.64; $M_{r\theta}$=0.61; $M_{r\phi}$=-1.85; $M_{\theta\phi}$=-0.96; Fault plane solution: M_0=3.67000×10^{15} NP1:ϕ_0=211.00000°, δ=73.00000°, λ=11.00000°. NP2:ϕ_0=117.00000°, δ=79.00000°, λ=162.00000°. Principal axes: T 3.5767, Plg20.0000°, Azm73.0000°; N 0.1936, Plg69.0000°, Azm266.0000°; P -3.7702, Plg4.0000°, Azm165.0000°;*

*NEIC **03** 08:58:39.4±2.1, 41°.88N±0°.05×126°.2W±0°.1, h31km±8km Error ellipse: s-maj=12.5km s-min=7.1km az=85.0*

*NCEDC **03** 08:58:39.5±2.3, 41°.90N±0°.05×126°.2W±0°.1, h25km±7km, Mwr4.3/4, mb4.4/37(NEIC), Error ellipse: s-maj=11.4km s-min=6.7km az=84.0*

*IDC **03** 08:58:40.7±1.9, 42°.06N×125°.75W, h0km, mb3.7/4, mb1 4.0/9, mb1mx3.8/39, mbtmp3.7/9, ML3.5/5, MS3.4/4, Ms1 3.4/4, ms1mx3.0/57, Error ellipse: s-maj=26.4km s-min=12.1km az=49.0*

*ANF **03** 08:58:42.5±0.9, 41°.94N×125°.86W, h31km±13km, ML3.7/21, Error ellipse: s-maj=12.9km s-min=2.9km az=76.0*

ISC 03 08:58:41.6±1.1, 41°92N±0°.04×126°04W±0°.09, h35km, n231, σ1s08/245, mb4.4/16, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KBO	**Bosley Butte**	**1.38**	**77**			**Pn**	**08 59 03.1**	**-1.4**
KEBM	**Edson Butte**	**1.58**	**52**			**Pn**	**08 59 05.8**	**-1.4**
KEBM						**Sn**	**08 59 27.0**	**+0.5**
KSXB	**Camp Six Broad**	**1.62**	**92**			**Pn**	**08 59 06.4**	**-1.4**
KRMB	**Red Mountain**	**1.65**	**103**			**Pn**	**08 59 06.9**	**-1.2**
KRMB						**Sn**	**08 59 29.0**	**+0.9**
KRPM	**Rodgers**	**1.69**	**116**			**Pn**	**08 59 07.3**	**-1.4**
KRPM						**Sn**	**08 59 28.7**	**-0.6**
L02E	**Cave Junction**	**1.83**	**82**	P		**Pn**	**08 59 09.4**	**-1.2**
	baz=263,SNR=544							
L02E	**Cave Junction**	**1.83**	**82**			**Pn**	**08 59 09.4**	**-1.2**
JCC	**Jacoby Creek,**	**1.87**	**125**	Pn		**Pn**	**08 59 09.5**	**-1.6**
K02D	**Willamette Mer**	**1.93**	**65**	P		**Pn**	**08 59 10.5**	**-1.4**
	baz=248,SNR=260							
KCTM	**Capetown**	**1.93**	**138**			**Pn**	**08 59 10.5**	**-1.5**
KTRM	**Thompson Ridge**	**1.99**	**89**			**Pn**	**08 59 11.4**	**-1.5**
J01E	**Myrtle Point**	**1.99**	**51**	P		**Pn**	**08 59 11.2**	**-1.5**
	baz=234,SNR=86							
J01E				S		**Sn**	**08 59 35.3**	**-1.1**
	baz=234							
KHMM	**Horse Mountain**	**2.03**	**120**			**Pn**	**08 59 12.3**	**-1.1**
KOMM	**Orleans Mounta**	**2.04**	**107**			**Pn**	**08 59 13.0**	**-0.6**
KMPM	**Mount Pierce**	**2.09**	**135**			**Pn**	**08 59 12.5**	**-1.7**
KSMM	**Slide Mountain**	**2.23**	**140**			**Pn**	**08 59 14.2**	**-2.0**
KCRM	**Chalk Rock**	**2.25**	**131**			**Pn**	**08 59 15.0**	**-1.4**
KCSM	**Cold Springs**	**2.35**	**125**			**Pn**	**08 59 17.0**	**-0.9**
DBO	**Dodson Butte**	**2.39**	**59**			**Pn**	**08 59 17.3**	**-1.1**
HUMO	**Hull Mountain**	**2.39**	**72**	Pn		**Pn**	**08 59 17.3**	**-1.0**
M02C	**Callahan**	**2.45**	**101**	P		**Pn**	**08 59 18.6**	**-0.5**
	baz=283,SNR=334							
M02C				S		**Sn**	**08 59 47.0**	**-0.8**
	baz=283							
M02C	**Callahan**	**2.45**	**101**			**Pn**	**08 59 18.6**	**-0.5**
KMRM	**Mail Ridge**	**2.45**	**133**			**Pn**	**08 59 18.2**	**-0.9**
KHBM	**Hayfork Bally**	**2.47**	**120**			**Pn**	**08 59 18.6**	**-0.9**
YBH	**Yreka Blue Hor**	**2.50**	**93**	Pn		**Pn**	**08 59 19.9**	**+0.1**
	19nm,0.3s,baz=285,slow=14,SNR=432							
YBH						**Sn**	**08 59 50.3**	**+1.2**
	11nm,0.3s,baz=13,slow=20,SNR=3.3							
YBH				LR		LR	09 00 03.1	
	comp=Z,236nm,20.0s,baz=316,slow=36							
YBH	**Yreka Blue Hor**	**2.50**	**93**	Pn		**Pn**	**08 59 19.5**	**-0.3**
YBH						**Sn**	**08 59 49.8**	**+0.8**
KPPM	**Pickett Peak**	**2.56**	**127**			**Pn**	**08 59 20.1**	**-0.7**
LGPM	**Granite Peak**	**2.62**	**112**			**Pn**	**08 59 20.6**	**-0.9**
I03D	**Drain, OR**	**2.66**	**47**	P		**Pn**	**08 59 20.7**	**-1.3**
	baz=230,SNR=401							
I03D				S		**Sn**	**08 59 51.8**	**-1.2**
	baz=230							
BBOR	**Butler Butte**	**2.67**	**68**			**Pn**	**08 59 21.9**	**-0.4**
LBKM	**Bonanza King**	**2.67**	**107**			**Pn**	**08 59 21.6**	**-0.6**
N02D	**Trinity Center**	**2.68**	**110**	P		**Pn**	**08 59 21.4**	**-0.9**
	baz=291,SNR=47							
N02D				S		**Sn**	**08 59 53.3**	**-0.3**
	baz=291							
N02D	**Trinity Center**	**2.68**	**110**			**Pn**	**08 59 21.6**	**-0.7**
B040	**Montague**	**2.71**	**91**			**Pn**	**08 59 22.6**	**-0.1**
I02D	**Swisshome**	**2.71**	**36**	P		**Pn**	**08 59 21.6**	**-1.1**
	baz=219,SNR=196							
I02D				S		**Sn**	**08 59 53.2**	**-1.0**
	baz=219							
KBSM	**Bell Springs**	**2.73**	**136**			**Pn**	**08 59 21.8**	**-1.2**
LCSM	**College of the**	**2.78**	**99**			**Pn**	**08 59 24.1**	**+0.4**
L04D	**Klamath Falls**	**2.80**	**83**	P		**Pn**	**08 59 24.2**	**+0.2**
	baz=265,SNR=175							
L04D	**Klamath Falls**	**2.80**	**83**			**Pn**	**08 59 24.1**	**+0.2**
KIPM	**Iron Peak**	**2.87**	**137**			**Pn**	**08 59 23.8**	**-1.1**
LHEM	**Herd Peak**	**2.87**	**95**			**Pn**	**08 59 25.6**	**+0.4**
LBPM	**Beegum Peak**	**2.87**	**123**			**Pn**	**08 59 24.6**	**-0.4**
KCPM	**Cahto Peak**	**2.91**	**139**	Pn		**Pn**	**08 59 24.0**	**-1.5**
LMPM	**Military Pass**	**2.94**	**97**			**Pn**	**08 59 27.4**	**+1.4**
LGBM	**Gray Butte**	**2.94**	**100**			**Pn**	**08 59 26.7**	**+0.7**
KBNM	**Bluenose Ridge**	**2.96**	**132**			**Pn**	**08 59 25.8**	**-0.5**
WDC	**Whiskeytown Da**	**2.96**	**116**	Pn		**Pn**	**08 59 25.9**	**-0.2**
M03C	**McCloud**	**3.01**	**101**			**Pn**	**08 59 27.4**	**+0.5**
O02D	**Mt. Diablo Mer**	**3.01**	**124**	P		**Pn**	**08 59 26.2**	**-0.7**
	baz=305,SNR=12							
O02D				S		**Sn**	**09 00 01.8**	**0.0**
	baz=305							
KFPM	**Farley Peak**	**3.02**	**138**			**Pn**	**08 59 25.6**	**-1.5**
M04C	**Macdoel**	**3.14**	**91**	P		**Pn**	**08 59 29.2**	**+0.5**
	baz=274,SNR=82							
M04C	**Macdoel**	**3.14**	**91**			**Pn**	**08 59 29.2**	**+0.5**
GTC	**Three Chop Rid**	**3.15**	**142**			**Pn**	**08 59 27.0**	**-1.7**
LGMM	**Garner Mountai**	**3.16**	**94**			**Pn**	**08 59 29.7**	**+0.7**
LBFM	**Black Fox Moun**	**3.16**	**99**			**Pn**	**08 59 30.5**	**+1.4**
J04D	**Umpqua Nationa**	**3.19**	**64**	P		**Pn**	**08 59 29.6**	**+0.2**
	baz=247,SNR=40							
K04D	**Chiloquin, OR**	**3.26**	**76**	P		**Pn**	**08 59 29.8**	**-0.5**
	baz=259,SNR=32							
K04D	**Chiloquin, OR**	**3.26**	**76**			**Pn**	**08 59 30.1**	**-0.3**
I04A	**Tendick Farm,**	**3.26**	**54**	P		**Pn**	**08 59 30.1**	**-0.2**
	baz=237,SNR=46							
I04A				S		**Sn**	**09 00 07.8**	**-0.1**
	baz=237							
GNAM	**Navarro Ridge**	**3.28**	**145**			**Pn**	**08 59 28.6**	**-1.9**
COR	**Corvallis**	**3.33**	**36**	Pn		**Pn**	**08 59 31.1**	**-0.1**
GVV	**Valley View**	**3.33**	**129**			**Pn**	**08 59 31.1**	**-0.3**
LASM	**Arnica Sink**	**3.35**	**94**			**Pn**	**08 59 31.9**	**+0.1**
GHOM	**Hamilton Openi**	**3.45**	**146**			**Pn**	**08 59 30.9**	**-1.9**
LTIM	**Timbered Crate**	**3.50**	**101**			**Pn**	**08 59 33.9**	**+0.3**
H04D	**Lebanon**	**3.55**	**42**	P		**Pn**	**08 59 33.9**	**-0.2**
	baz=225,SNR=44							
H04D				S		**Sn**	**09 00 15.3**	**+0.4**
	baz=225							
O03E	**Paynes Creek**	**3.59**	**115**	P		**Pn**	**08 59 34.5**	**-0.4**
	baz=297,SNR=91							
O03E				S		**Sn**	**09 00 15.7**	**-0.4**
	baz=297							
GHLM	**Highland Sprin**	**3.69**	**140**			**Pn**	**08 59 34.5**	**-1.6**
HOPS	**Hopland Field**	**3.70**	**141**	Pn		**Pn**	**08 59 34.7**	**-1.5**
J05D	**Fort Rock, OR**	**3.80**	**67**	P		**Pn**	**08 59 37.5**	**-0.3**
	baz=251,SNR=36							
G03D	**McMinnville, O**	**3.86**	**31**	P		**Pn**	**08 59 38.6**	**+0.2**
	baz=214,SNR=21							
G03D				S		**Sn**	**09 00 21.5**	**-1.1**
	baz=214							
K05A	**Summer Lake**	**3.90**	**76**	Pn		**Pn**	**08 59 38.8**	**-0.4**
H04A	**Detroit Lake**	**3.94**	**44**	Pn		**Pn**	**08 59 39.4**	**-0.3**
GDXM	**Geysers**	**3.98**	**140**			**Pn**	**08 59 39.9**	**-0.2**
FTR	**Fort Ross**	**4.05**	**146**			**Pn**	**08 59 39.5**	**-1.6**
ORV	**Oroville**	**4.18**	**123**	Pn		**Pn**	**08 59 43.6**	**+0.7**
PINE	**Pine Mountain**	**4.19**	**62**	Pn		**Pn**	**08 59 43.5**	**+0.4**
I05D	**Terrebonne, OR**	**4.21**	**53**	P		**Pn**	**08 59 43.1**	**-0.2**
	baz=237,SNR=25							
MOD	**Modoc Plateau**	**4.28**	**88**	Pn		**Pn**	**08 59 44.1**	**-0.3**
MCCM	**Marconi Confer**	**4.48**	**146**	Pn		**Pn**	**08 59 45.6**	**-1.4**
F04D	**Rainier, OR**	**4.70**	**27**	S		**Sn**	**09 00 44.9**	**+1.7**
	baz=210							
G05D	**Wamic, OR**	**4.78**	**44**	P		**Pn**	**08 59 51.3**	**+0.3**
	baz=228,SNR=38							
F04A	**Amboy**	**4.79**	**32**			**Pn**	**08 59 52.0**	**+0.8**
AFDM	**Forest Hills D**	**4.88**	**126**	Pn		**Pn**	**08 59 52.7**	**+0.2**
E03A	**Lebam**	**4.96**	**20**	Pn		**Pn**	**08 59 54.4**	**+0.9**
I07A	**Izee**	**5.26**	**64**	Pn		**Pn**	**08 59 58.4**	**+0.6**
E04D	**Cinebar**	**5.26**	**27**	P		**Pn**	**08 59 59.2**	**+1.5**
	baz=210,SNR=59							
E04D				S		**Sn**	**09 00 56.5**	**-0.6**
	baz=210							
RUBR	**Rubicon Trail**	**5.32**	**121**			**Pn**	**08 59 60.0**	**+1.2**
RUBR						**Sn**	**09 00 59.3**	**+0.3**
PAHR	**Pah Rah Range**	**5.51**	**111**	Pn		**Pn**	**09 00 02.2**	**+0.9**
VCNR	**Virginia City**	**5.53**	**116**			**Pn**	**09 00 02.7**	**+1.1**
PNTR	**Pine Nut**	**5.67**	**118**			**Pn**	**09 00 04.6**	**+1.1**
NLWA	**Neilton Lookou**	**5.69**	**15**			**Pn**	**09 00 03.7**	**+0.1**
LON	**Longmire**	**5.70**	**31**			**Pn**	**09 00 04.9**	**+1.1**
D04E	**Lakebay**	**5.75**	**23**	S		**Sn**	**09 01 10.5**	**+1.4**
	baz=206							
J08A	**Circle Bar Ran**	**5.76**	**73**	Pn		**Pn**	**09 00 04.0**	**-0.7**
CMB	**Columbia Colle**	**5.82**	**130**			**Pn**	**09 00 06.2**	**+0.7**
F07A	**Phinny Hill Vi**	**5.94**	**46**			**Pn**	**09 00 07.9**	**+0.9**
YERR	**Yerington**	**5.96**	**117**			**Pn**	**09 00 08.3**	**+0.9**
D03D	**Eldon**	**5.99**	**20**	P		**Pn**	**09 00 08.3**	**+0.6**
	baz=202,SNR=20							
D03D				S		**Sn**	**09 01 13.1**	**-2.0**
	baz=202							
D05A	**Enumclaw**	**6.01**	**27**			**Pn**	**09 00 09.3**	**+1.3**
WAKR	**Walker**	**6.10**	**122**			**Pn**	**09 00 10.6**	**+1.2**
G08A	**Pilot Rock**	**6.14**	**54**	Pn		**Pn**	**09 00 10.8**	**+0.9**
SAO	**San Andreas Ge**	**6.26**	**144**	Pn		**Pn**	**09 00 11.3**	**-0.1**
E07A	**Sunnyside**	**6.42**	**42**	Pn		**Pn**	**09 00 14.2**	**+0.6**
HAWA	**Hanford**	**6.47**	**44**	Pn		**Pn**	**09 00 14.7**	**+0.4**
LTY	**Liberty**	**6.57**	**34**			**Pn**	**09 00 16.7**	**+1.0**
RYN	**Ryan**	**6.62**	**117**			**Pn**	**09 00 17.0**	**+0.4**
KVN	**Kaiserville**	**6.70**	**113**	Pn		**Pn**	**09 00 18.4**	**+0.8**
NVAR	**Mina Array Bea**	**6.87**	**118**	Pn		**Pn**	**09 00 21.0**	**+0.9**
	0.6nm,0.3s,baz=295,slow=14,SNR=15							
NVAR						**Sn**	**09 01 40.3**	**+3.1**
	0.6nm,0.3s,baz=302,slow=22,SNR=6.8							
NVAR	**Mina Array Bea**	**6.87**	**118**	Pn		**Pn**	**09 00 19.3**	**-0.8**
OMMB	**Old Mammoth Mi**	**6.92**	**126**	Pn		**Pn**	**09 00 21.4**	**+0.6**
B05A	**Bryant**	**6.93**	**22**	P		**Pn**	**09 00 21.7**	**+1.1**
	baz=206							
B05A				S		**Sn**	**09 01 36.6**	**-1.4**
	baz=206							
PMPB	**Monarch Peak**	**7.00**	**143**	Pn		**Pn**	**09 00 20.2**	**-1.6**
BMO	**Blue Mountains**	**7.00**	**62**	Pn		**Pn**	**09 00 21.6**	**-0.1**
D08A	**Wollman Farm,**	**7.23**	**42**	Pn		**Pn**	**09 00 24.4**	**-0.3**
E09A	**Wood Farm, Sta**	**7.30**	**48**			**Pn**	**09 00 26.1**	**+0.5**
B06A	**Marblemount**	**7.34**	**24**			**Pn**	**09 00 26.5**	**+0.4**
F10A	**Beach Ranch, E**	**7.54**	**55**			**Pn**	**09 00 29.6**	**+0.5**
PAGB	**Antelope Grade**	**7.66**	**142**	Pn		**Pn**	**09 00 28.7**	**-2.0**
MFID	**Camas Ranch**	**7.67**	**75**	Pn		**Pn**	**09 00 31.5**	**+0.6**
PLID	**Pearl Lake**	**7.96**	**63**	Pn		**Pn**	**09 00 35.6**	**+0.7**
B08A	**Colville Reser**	**7.99**	**34**	Pn		**Pn**	**09 00 35.8**	**+0.6**
ELK	**Elko**	**8.21**	**95**	Pn		**Pn**	**09 00 41.4**	**+2.9**
	0.3nm,0.3s,baz=288,slow=13,SNR=43							
ELK						LR	LR	09 04 12.4
	comp=Z,336nm,20.1s,baz=289,slow=41							
ELK	**Elko**	**8.21**	**95**	Pn		**Pn**	**09 00 39.6**	**+1.1**
ISA	**Isabella, Lake**	**8.60**	**134**	Pn		**Pn**	**09 00 43.9**	**+0.3**
HLID	**Hailey**	**8.71**	**75**	Pn		**Pn**	**09 00 45.5**	**+0.3**
R11A	**Troy Canyon, C**	**8.77**	**111**	Pn		**Pn**	**09 00 47.5**	**+1.5**
NEW	**Newport**	**8.94**	**42**	Pn		**Pn**	**09 00 49.5**	**+1.3**
	0.1nm,0.3s,baz=195,slow=16,SNR=3.7							
NEW						LR	LR	09 04 24.3
	comp=Z,273nm,18.4s,baz=317,slow=40							
NEW	**Newport**	**8.94**	**42**			**Pn**	**09 00 47.9**	**-0.3**
BCYI	**Bear Canyon**	**9.54**	**71**	Pn		**Pn**	**09 00 58.3**	**+1.6**
PRN	**Pahroc Range**	**9.60**	**114**	Pn		**Pn**	**09 00 58.5**	**+1.2**
BGU	**Big Grassy Mou**	**9.83**	**91**	Pn		**Pn**	**09 01 00.5**	**0.0**
PSUT	**Pine Spring**	**9.91**	**106**	Pn		**Pn**	**09 01 03.1**	**+1.3**
MSO	**Missoula**	**9.95**	**56**	Pn		**Pn**	**09 01 02.4**	**+0.2**
MCMT	**McKenzie Canyo**	**10.04**	**69**	Pn		**Pn**	**09 01 04.1**	**+0.6**
DUG	**Dugway, Tooele**	**10.14**	**95**	Pn		**Pn**	**09 01 05.5**	**+0.7**
SPUT	**South Promonto**	**10.20**	**89**			**Pn**	**09 01 06.2**	**+0.6**
LRM	**Limekiln Ridge**	**10.56**	**64**	Pn		**Pn**	**09 01 11.7**	**+1.2**
CCUT	**Cedar City**	**10.69**	**110**	Pn		**Pn**	**09 01 13.0**	**+0.6**
HWUT	**Hardware Ranch**	**10.82**	**87**	Pn		**Pn**	**09 01 14.9**	**+0.8**
BOZ	**Bozeman (W)**	**11.05**	**66**			**Pn**	**09 01 17.4**	**+0.2**
AHID	**Auburn Hatcher**	**11.09**	**81**			**Pn**	**09 01 19.6**	**+1.8**
MSU	**Marysvale**	**11.13**	**103**	Pn		**Pn**	**09 01 19.8**	**+1.3**
YHL	**Hebgen Lake**	**11.20**	**70**			**Pn**	**09 01 20.8**	**+1.4**
TPAW	**Teton Pass**	**11.22**	**77**	Pn		**Pn**	**09 01 21.2**	**+1.6**
HRY	**Holter Researc**	**11.25**	**60**			**Pn**	**09 01 21.6**	**+1.7**
IMW	**Indian Meadow**	**11.25**	**75**	Pn		**Pn**	**09 01 21.3**	**+1.1**
REDW	**Red Top Meadow**	**11.28**	**78**			**Pn**	**09 01 20.8**	**+0.3**
SNOW	**Snow King Moun**	**11.36**	**77**			**Pn**	**09 01 23.2**	**+1.6**
YHH	**Holmes Hill**	**11.43**	**70**	Pn		**Pn**	**09 01 24.4**	**+1.9**
LOHW	**Long Hollow**	**11.48**	**76**			**Pn**	**09 01 24.3**	**+1.2**
H17A	**Grant Village**	**11.56**	**72**			**Pn**	**09 01 25.8**	**+1.4**
TMUT	**Trail Mountain**	**11.58**	**98**			**Pn**	**09 01 26.6**	**+2.0**
W13A	**Hualapai Mount**	**11.70**	**122**			**Pn**	**09 01 24.5**	**-1.7**
Q16A	**Castle Valley**	**11.72**	**100**			**Pn**	**09 01 26.3**	**-0.3**
P17A	**Butcher Ranch,**	**11.87**	**97**			**Pn**	**09 01 28.5**	**0.0**
U15A	**North Rim**	**11.99**	**113**			**Pn**	**09 01 29.8**	**-0.5**
SRU	**San Rafael Swe**	**12.14**	**98**			**Pn**	**09 01 33.3**	**+1.2**
PD31	**Pinedale Array**	**12.23**	**81**			**Pn**	**09 01 33.2**	**-0.2**
PDAR	**Pinedale Array**	**12.23**	**81**	Pn		**Pn**	**09 01 35.2**	**+1.8**
	0.1nm,0.3s,baz=278,slow=10.0,SNR=8.0							
PDAR				LR		LR	09 05 56.5	
	comp=Z,266nm,19.9s,baz=334,slow=36							
PDAR	**Pinedale Array**	**12.23**	**81**			**Pn**	**09 01 33.2**	**-0.2**
GCMT	**Greycliff**	**12.43**	**66**	Pn		**Pn**	**09 01 35.5**	**-0.6**
RDMU	**Red Mountain**	**12.47**	**91**			**Pn**	**09 01 37.0**	**+0.2**
PV21	**Cone Mtn., Par**	**13.46**	**99**			**Pn**	**09 01 50.8**	**+0.5**
PV23	**Carpenter Ridg**	**13.47**	**99**			**Pn**	**09 01 50.4**	**-0.1**
PV14	**Lion Creek, Pa**	**13.49**	**100**			**Pn**	**09 01 50.6**	**-0.1**
PV19	**Morning Glory**	**13.54**	**100**	Pn		**Pn**	**09 01 51.4**	**0.0**
PV17	**East Wray Mesa**	**13.57**	**100**			**Pn**	**09 01 50.8**	**-1.0**
PV04	**Paradox Valley**	**13.57**	**99**			**Pn**	**09 01 50.6**	**-1.1**
PV16	**Nyswonger Mesa**	**13.59**	**100**	Pn		**Pn**	**09 01 50.8**	**-1.2**
PV22	**Blue Mesa, Par**	**13.61**	**99**			**Pn**	**09 01 51.3**	**-0.9**
PV18	**Skein Mesa, Pa**	**13.62**	**100**	Pn		**Pn**	**09 01 52.1**	**-0.3**
PV11	**David Mesa, Pa**	**13.63**	**100**			**Pn**	**09 01 51.8**	**-0.7**
PV03	**Paradox Valley**	**13.66**	**100**			**Pn**	**09 01 52.7**	**-0.3**
PV12	**Saucer Basin,**	**13.67**	**100**			**Pn**	**09 01 53.8**	**+0.6**
PV13	**Radium Mtn., P**	**13.72**	**100**			**Pn**	**09 01 54.4**	**+0.6**
PV07	**Paradox Valley**	**13.75**	**99**			**Pn**	**09 01 55.3**	**+1.1**
PV02	**Paradox Valley**	**13.76**	**100**			**Pn**	**09 01 55.5**	**+1.1**
PV15	**Paradox Valley**	**13.90**	**99**			**Pn**	**09 01 55.4**	**-0.9**
PV01	**Paradox Valley**	**13.91**	**100**			**Pn**	**09 01 55.7**	**-0.7**
W18A	**Petrified Fore**	**14.45**	**113**	Pn		**Pn**	**09 02 03.4**	**-0.3**
K22A	**Casper**	**14.47**	**81**	Pn		**Pn**	**09 02 03.1**	**-0.8**
LAO	**LASA Array**	**14.96**	**65**	Pn		**Pn**	**09 02 09.2**	**-1.2**
LAO						IAmb	09 02 33.7	
	comp=Z,9.9nm,0.8s							
N23A	**Red Feather La**	**15.12**	**87**	Pn		**Pn**	**09 02 12.4**	**-0.3**
S22A	**4UR Ranch, Cre**	**15.33**	**99**			**Pn**	**09 02 16.5**	**+0.9**
PHWY	**Pilot Hill**	**15.41**	**85**			**Pn**	**09 02 15.7**	**-0.9**
ISCO

BTAM	**Cotopaxi Volca**	**2.09**	**347**	P	**Pn**	09 07 46.9	**+1.4**
GONZ	**Gonzanam**	**2.10**	**224**	P	**Pb**	09 07 48.0	**-0.1**
BREF	**Cotopaxi Volca**	**2.10**	**346**	P	**Pn**	09 07 47.1	**+1.3**
BNAS	**Cotopaxi Volca**	**2.11**	**345**	P	**Pb**	09 07 47.7	**-0.6**
VC1	**Cotopaxi 1**	**2.12**	**347**	P	**Pn**	09 07 47.7	**+1.8**
ANTM	**Antisana-La Mi**	**2.19**	**352**	P	**Pn**	09 07 48.4	**+1.5**
ANTS	**Antisana-Sarah**	**2.22**	**354**	P	**Pn**	09 07 48.9	**+1.5**
ANTG	**Antisana-Guama**	**2.23**	**352**	P	**Pn**	09 07 48.7	**+1.3**
ISPG	**Isla Puna-Puer**	**2.25**	**264**	P	**Pb**	09 07 50.1	**-0.3**
ANTI	**Antisana**	**2.27**	**354**	P	**Pn**	09 07 49.2	**+1.1**
ARNL	**Arenillas**	**2.28**	**249**	P	**Pn**	09 07 48.4	**+0.7**
MORR	**Playas El Morr**	**2.41**	**272**	P	**Pb**	09 07 51.4	**-1.6**
MCRA	**Macar, Loja**	**2.60**	**231**	P	**Pn**	09 07 52.9	**+0.8**
REVS	**Reventador Sur**	**2.62**	**7**	P	**Pb**	09 07 56.1	**-0.7**
LAV4	**Lava4-Reventad**	**2.63**	**7**	P	**Pn**	09 07 55.9	**+3.2**
PINO	**Pino**	**2.64**	**345**	P	**Pb**	09 07 57.4	**0.0**
YANA	**Yana**	**2.67**	**346**	P	**Pb**	09 07 57.6	**-0.2**
OTAV	**Otavalo**	**2.99**	**350**	*e*P	**Pn**	09 08 00.8	**+3.0**
OTAV	**Otavalo**	**2.99**	**350**	P	**Pb**	09 08 02.0	**-1.3**
FLF1	**Flavio Alfaro-**	**3.03**	**321**	P	**Pn**	09 08 00.5	**+2.5**
FLFR	**Flavio Alfaro**	**3.03**	**321**	P	**Pn**	09 08 00.7	**+2.7**
CUSE	**Cuicocha Este**	**3.04**	**351**	*e*P	**Pb**	09 08 04.2	**0.0**
CUSE	**Cuicocha Este**	**3.04**	**351**	P	**Pb**	09 08 04.4	**+0.2**
PPLP	**Puerto Lpez**	**3.07**	**292**	P	**Pn**	09 07 58.2	**-0.4**
PAC1	**Pacto, Paraso**	**3.09**	**344**	*e*P	**Pb**	09 08 03.5	**-1.4**
PAC1	**Pacto, Paraso**	**3.09**	**344**	P	**Pb**	09 08 05.0	**+0.2**
URCU	**Urcuqui**	**3.16**	**354**	P	**Pb**	09 08 06.7	**+0.6**
CAB1	**Cabo Pasado-Ma**	**3.41**	**313**	P	**Pn**	09 08 03.9	**+0.7**
CABP	**Cabo Pasado**	**3.41**	**313**	P	**Pn**	09 08 04.2	**+1.0**
PUAC	**Puerto Asis, P**	**3.52**	**23**	*e*P	**Pn**	09 08 05.3	**+0.5**
GCUF	**Volcan Galeras**	**3.97**	**9**	*e*P	**Pb**	09 08 17.0	**-3.0**
PTLC	**Puerto Leguiza**	**4.25**	**48**	*e*P	**Pn**	09 08 12.0	**-2.9**
BBAC	**Balboa, Cauca**	**4.76**	**8**	*e*P	Pb	09 08 28.9	-4.5
FLOC	**Florencia**	**4.85**	**28**	*e*P	**Pn**	09 08 21.9	**-1.1**
PCON	**Cinco Dias**	**5.25**	**17**	*e*P	Pb	09 08 36.8	-5.1
POPC	**Popayan, Colom**	**5.38**	**14**	*e*P	Pn	09 08 36.0	+5.5
GARC	**Garzon, Huila**	**5.45**	**27**	*e*P	**Pn**	09 08 31.4	**-0.2**
MARP	**Paez Belalcaza**	**5.87**	**20**	*e*P	**Pb**	09 08 54.6	**+2.3**
BETC	**Betania**	**5.92**	**25**	*e*P	**Pb**	09 08 56.3	**+3.3**
MACC	**Macarena, Meta**	**6.33**	**40**	*e*P	**Pn**	09 08 40.6	**-2.8**
PRAC	**Prado**	**7.08**	**25**	*e*P	Pb	09 09 05.5	-7.4
ORTC	**Ortega, Tolima**	**7.11**	**22**	*e*P	Pn	09 09 04.3	+10
CHIC	**Chingaza**	**8.42**	**30**	*e*P	Pn	09 09 23.5	+11
RUSC	**La Rusia**	**9.83**	**29**	*e*P	**Pn**	**09 09 29.9**	**-2.1**

NEIC ***03*** *09:22:18.1±1.8,31.58N±0.03×115.61W±0.02,h11km±4km, Error ellipse: s-maj=3.8km s-min=2.5km az=205.0*
PAS ***03*** *09:22:18.5±1.9,31.60N±0.02×115.58W±0.02,h8km±4km, Error ellipse: s-maj=3.2km s-min=2.2km az=49.0*
ECX ***03*** *09:22:19.4±0.8,31.62N×115.59W,h5km±4km,MD2.9, ML3.1,Fault plane solution: NP1:φs48.33000°, δ60.00000°,λ0.00000°.*
MEX ***03*** *09:22:20.4±1.0,31.54N×115.59W,h9km±26km,MD3.6*

ISC 03 09:22:17.3±1.0,**31.58N**±0.02×**115.56W**±0.02,**h8**km±9km, **n72**,σ0**99**/103,**6C-4D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.27**	**225**	⇑*e*P	**Pg**	**09 22 23.7**	**+0.9**
VTX				*e*S	**Sg**	**09 22 27.5**	**+1.1**
VTX				⇑*e*		09 22 28.3	
VTX				IAML		09 22 28.3	
	comp=N,6μm,0.1s						
SJX	**San Joaquin**	**0.39**	**298**	⇓*e*P	**Pb**	**09 22 28.2**	**+1.8**
SJX				*e*S	**Sb**	**09 22 34.5**	**+2.0**
SJX				IAML		09 22 35.2	
	comp=N,1μm,0.1s						
SJX				⇑*e*		09 22 35.2	
ECBX	**El Chinero**	**0.45**	**104**	⇑*e*P	**Pb**	**09 22 28.3**	**+0.8**
ECBX				⇑*e*P	**Pb**	**09 22 28.3**	**+0.8**
ECBX				*e*S	**Sb**	**09 22 34.6**	**+0.4**
ECBX				*e*S	**Sb**	**09 22 34.6**	**+0.4**
ESJX	**Sierra Juarez**	**0.54**	**322**		**Pg**	**09 22 28.1**	**+0.4**
ESJX	**Sierra Juarez**	**0.54**	**322**		**Sg**	**09 22 34.6**	**-0.2**
SPIG	**San Pedro Mart**	**0.54**	**171**	*i* P	**Pb**	**09 22 30.0**	**+0.7**
SPIG				*i* S	**Sb**	**09 22 38.0**	**+0.7**
SPIG	**San Pedro Mart**	**0.54**	**171**	*e*P	**Pb**	**09 22 29.9**	**+0.6**
SPIG				*e*S	**Sb**	**09 22 37.8**	**+0.5**
SPX	**San Pedro Mart**	**0.55**	**172**	*e*P	**Pb**	**09 22 28.8**	**-0.7**
SPX				*i* S	**Sb**	**09 22 37.3**	**-0.3**
SPX	**San Pedro Mart**	**0.55**	**172**		**Pb**	**09 22 29.0**	**-0.4**
SPX	**San Pedro Mart**	**0.55**	**172**	⇓*e*P	**Pb**	**09 22 29.0**	**-0.4**
SPX				*e*S	**Sb**	**09 22 36.9**	**-0.7**
SPX				IAML		09 22 41.4	
	comp=N,596nm,0.1s						
SFX	**San Felipe**	**0.81**	**132**		**Pb**	**09 22 33.8**	**0.0**
SFX					**Sb**	**09 22 45.2**	**+0.3**
SFX	**San Felipe**	**0.81**	**132**	*e*P	**Pb**	**09 22 33.8**	**0.0**
GUVIX	**Guadalupe Vict**	**0.83**	**30**		**Pb**	**09 22 34.2**	**+0.2**
GUVIX					**Sb**	**09 22 45.0**	**-0.3**
CPBX	**Cerro Prieto**	**0.86**	**14**	Pg	**Pb**	**09 22 34.9**	**+0.3**
MBIG	**Mexicali**	**0.88**	**20**	*e*P	**Pb**	**09 22 34.8**	**0.0**
MBIG				*i* P	**Pn**	**09 22 36.0**	**+0.1**
MBIG				*i* S	**Sn**	**09 22 48.0**	**-0.9**
MBIG				*i* S	**Sb**	**09 22 48.2**	**+1.5**
CCX	**Cicese**	**0.98**	**287**		**Pg**	**09 22 36.4**	**+0.2**
CCX	**Cicese**	**0.98**	**287**		**Sg**	**09 22 48.4**	**-0.6**
CCX	**Cicese**	**0.98**	**287**	⇑*e*P	**Pg**	**09 22 36.4**	**+0.2**
CCX				*e*S	**Sg**	**09 22 48.7**	**-0.3**
SQX	**San Quintin**	**1.04**	**195**	⇓*e*P	**Pn**	**09 22 38.1**	**-0.1**
UABX	**UABC, Campus M**	**1.05**	**5**		**Pb**	**09 22 38.0**	**+0.2**
UABX	**UABC, Campus M**	**1.05**	**5**		**Sn**	**09 22 52.9**	**-0.3**
UABX	**UABC, Campus M**	**1.05**	**5**	*e*P	**Pn**	**09 22 38.8**	**+0.5**
SGL	**Mount Signal**	**1.07**	**353**		**Pg**	**09 22 37.5**	**-0.5**
SGL					**Sg**	**09 22 51.3**	**-0.6**
YUH	**Yuha Desert**	**1.11**	**344**		**Pg**	**09 22 38.0**	**-0.6**
YUH					**Sg**	**09 22 52.5**	**-0.5**
RMX	**La Rumorosa**	**1.11**	**337**		**Pg**	**09 22 37.2**	**-1.4**
RMX					**Sg**	**09 22 50.1**	**-3.0**
RMX	**La Rumorosa**	**1.11**	**337**	*e*P	**Pg**	**09 22 37.3**	**-1.4**
RMX				*e*S	**Sg**	**09 22 50.1**	**-3.0**
IKP	**In-Ko-Pah, Jac**	**1.16**	**336**		**Pg**	**09 22 39.2**	**-0.5**
IKP					**Sg**	**09 22 53.6**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**1.16**	**336**	⇓*e*P	**Pg**	**09 22 39.2**	**-0.5**
WESC	**Westside Schoo**	**1.18**	**353**		**Pg**	**09 22 40.0**	**-0.1**
WESC					**Sg**	**09 22 55.5**	**+0.1**
DREC	**Desert Rsrch C**	**1.22**	**4**		**Pg**	**09 22 40.4**	**-0.4**
DREC					**Sn**	**09 22 58.9**	**+1.5**
EMSC	**East Mesa**	**1.25**	**23**		**Pg**	**09 22 40.5**	**+1.4**
EMSC					**Sn**	**09 22 59.7**	**+1.8**
COK2	**Cook Ranch 2**	**1.27**	**354**		**Pn**	**09 22 41.6**	**+0.2**
COK2					**Sn**	**09 22 59.9**	**+1.2**
TJIG	**Tijuana**	**1.27**	**312**	*i* P	**Pn**	**09 22 40.8**	**-0.7**
TJIG				*e*S	**Sg**	**09 22 56.3**	**-2.0**
SNR	**Schaffner Ranc**	**1.28**	**5**		**Pb**	**09 22 42.0**	**+0.4**
TKX	**Tecate**	**1.33**	**318**		**Pn**	**09 22 41.7**	**-0.5**
TKX					**Sg**	**09 22 58.0**	**-2.0**
COA	**Coachella**	**1.33**	**16**		**Pg**	**09 22 43.5**	**+0.7**
CRR	**Carrizo Plain**	**1.35**	**345**		**Pn**	**09 22 42.3**	**-0.1**
CRR					**Sn**	**09 23 01.1**	**+0.7**
SWSC	**Sam W. Stewart**	**1.37**	**352**		**Pg**	**09 22 43.6**	**-0.2**
CBKC	**Canebrake**	**1.44**	**336**		**Pn**	**09 22 43.4**	**-0.3**
BAR	**Barrett**	**1.45**	**319**		**Pn**	**09 22 43.7**	**-0.1**
BAR	**Barrett**	**1.45**	**319**		**Sn**	**09 23 01.4**	**-1.6**
RUN	**Ruthven**	**1.47**	**19**		**Sg**	**09 23 05.3**	**+0.6**
MONP2	**Monument Peak**	**1.50**	**331**		**Pn**	**09 22 44.6**	**-0.1**
MONP2					**Sn**	**09 23 03.6**	**-0.9**
OLP	**Otay Lakes Par**	**1.55**	**312**		**Sn**	**09 23 04.7**	**-0.8**
GLA	**Glamis**	**1.59**	**23**		**Sg**	**09 23 08.3**	**-0.2**
SDRC	**San Diego Road**	**1.64**	**315**		**Pn**	**09 22 46.8**	**+0.3**
SDRC					**Sn**	**09 23 07.0**	**-0.8**
SLH	**Sleepy Hollow**	**1.71**	**340**		**Pb**	**09 22 49.5**	**+0.5**
PIX	**Pinacate**	**1.79**	**90**		**Pb**	**09 22 49.7**	**-0.7**
DPP	**Dos Picos Cty**	**1.83**	**321**		**Pn**	**09 22 49.6**	**+0.4**
DPP					**Sn**	**09 23 13.2**	**+0.7**
109C	**Camp Elliot, M**	**1.85**	**315**		**Pn**	**09 22 49.6**	**+0.3**
CPE	**Camp Elliot**	**1.85**	**315**		**Sn**	**09 23 13.4**	**+0.5**
MATG	**Mataguay Scout**	**1.86**	**331**		**Pb**	**09 22 51.5**	**0.0**
HWB	**Hans Werner Br**	**1.86**	**321**		**Pn**	**09 22 50.8**	**+1.2**
113A	**Mohawk Valley,**	**1.93**	**52**	Pn	**Pn**	**09 22 50.9**	**+0.5**
PLM	**Palomar**	**2.08**	**328**		**Pb**	**09 22 55.2**	**-0.3**
FRD	**Ford Ranch, An**	**2.10**	**335**		**Pb**	**09 22 56.3**	**+0.6**
FRD	**Ford Ranch, An**	**2.10**	**335**		**Pb**	**09 22 56.4**	**+0.6**
GORC	**Green Oak Ranc**	**2.11**	**318**		**Pb**	**09 22 54.8**	**-1.0**
BZNA	**Buzz No.'s Pla**	**2.12**	**334**		**Pb**	**09 22 56.7**	**+0.5**
SNDA	**J Saunders Pla**	**2.15**	**336**		**Pb**	**09 22 57.5**	**+0.8**
PFO	**Pinyon Flats O**	**2.16**	**340**		**Pn**	**09 22 54.5**	**+0.8**
DNR	**Dunn Ranch,Anz**	**2.17**	**336**		**Pb**	**09 22 58.0**	**+0.9**
CRY	**Cary Ranch**	**2.21**	**334**		**Pb**	**09 22 57.9**	**+0.3**
214A	**Organ Pipe Nat**	**2.37**	**80**	*i* P	**Pn**	**09 22 56.2**	**-0.4**
214A				*i* S	**Sn**	**09 23 24.4**	**-1.5**
214A	**Organ Pipe Nat**	**2.37**	**80**		**Pn**	**09 22 56.2**	**-0.4**
HMTC	**Hemet**	**2.44**	**330**		**Pb**	**09 23 01.1**	**-0.5**
EW2	**E Wide Canyon**	**2.46**	**343**		**Pg**	**09 23 03.3**	**-1.1**
Y14A	**Wickenburg**	**3.19**	**42**		**Pn**	**09 23 08.6**	**+0.8**
WTT2	**Watts, South G**	**3.27**	**317**		**Pn**	**09 23 06.6**	**-2.4**
MWC	**Mount Wilson**	**3.37**	**322**	Pn	**Pn**	**09 23 12.5**	**+2.0**
GSC	**Goldstone, Bar**	**3.85**	**345**	Pn	**Pn**	**09 23 19.8**	**+2.8**
X16A	**Lo Mia Camp, P**	**4.47**	**50**		**Pn**	**09 23 26.0**	**+0.4**

NORS ***03*** *09:30:58.9±0.0,42.88N×47.01E,h2km,MPVA4.1*
DRS ***03*** *09:30:59.9±0.0,43.10N×47.01E,h15km*
MOS ***03*** *09:31:00.3±1.7,43.02N×47.02E,h2km,mb3.9/1,Error ellipse: s-maj=5.5km s-min=4.7km az=97.2*

ISC 03 09:31:01.4±0.9,**43.00N**±0.03×**47.01E**±0.02,**h10**km±6km, **n62**,σ1**9**/108,**2C-10D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.13**	**278**	*e*Pg	**Pg**	**09 31 04.1**	**-0.4**
DBC				*e*Sg	**Sg**	**09 31 06.9**	**+0.2**
DBC	**Dubki**	**0.13**	**278**	*e*PG	**Pg**	**09 31 04.1**	**-0.4**
KRNR	**Karanay**	**0.19**	**203**	*e*Pg	**Pg**	**09 31 05.0**	**-0.5**
	461nm,0.0s						
KRNR				*e*Sg	**Sg**	**09 31 09.0**	**+0.8**
KRNR	**Karanay**	**0.19**	**203**	*e*PG	**Pg**	**09 31 05.0**	**-0.5**
KRNR				*e*S	**Sg**	**09 31 09.0**	**+0.8**
BUJR	**Buynaksk**	**0.19**	**158**	⇓*i*PG	**Pg**	**09 31 05.4**	**0.0**
BUJR				*e*		09 31 09.7	
BUJR				pmax	pmax		
	comp=Z,721nm,0.5s						
BUJR				smax	smax		
	comp=N,7μm,0.5s						
UNCR	**Uncukul**	**0.33**	**209**	*e*Pg	**Pg**	**09 31 07.5**	**-0.5**
UNCR				*e*Sg	**Sb**	**09 31 13.5**	**-1.3**
UNCR	**Uncukul**	**0.33**	**209**	*e*PG	**Pg**	**09 31 07.5**	**-0.5**
UNCR				*e*S	**Sb**	**09 31 13.5**	**-1.3**
MAK	**Makhachkala**	**0.37**	**96**	*e*PG	**Pg**	**09 31 07.9**	**-0.7**
MAK				*e*		09 31 13.1	
MAK				pmax	pmax		
	comp=Z,155nm,0.4s						
MAK				smax	smax		
	comp=E,4μm,0.3s						
MAK				smax	smax		
	comp=E,5μm,0.4s						
ARKR	**Arakani**	**0.40**	**182**	*e*Pg	**Pb**	**09 31 09.0**	**-1.6**
ARKR				*i* Sg	**Sg**	**09 31 15.0**	**+0.5**
ARKR	**Arakani**	**0.40**	**182**	*e*PG	**Pb**	**09 31 09.0**	**-1.6**
ARKR				*i* S	**Sg**	**09 31 15.0**	**+0.5**
XNZR	**Khunzakh**	**0.51**	**206**	*e*PG	**Pb**	**09 31 11.3**	**-1.3**
XNZR				*e*S	**Sb**	**09 31 18.7**	**-1.5**
GNBR	**Gunib**	**0.61**	**183**	*d*iPG	**Pb**	**09 31 12.9**	**-1.4**
GNBR				*e*S	**Sb**	**09 31 23.0**	**0.0**
GNBR				pmax	pmax		
	comp=Z,172nm,0.8s						
GNBR				smax	smax		
	comp=Z,542nm,0.6s						
DVE	**Vedeno**	**0.65**	**266**	*i* Pg	**Pb**	**09 31 14.2**	**-0.7**
DVE				*e*Sg	**Sb**	**09 31 24.7**	**+0.6**
DVE	**Vedeno**	**0.65**	**266**	*de*PG	**Pb**	**09 31 14.1**	**-0.8**
DVE				*e*S	**Sb**	**09 31 24.4**	**+0.3**
DVE				pmax	pmax		
	comp=Z,124nm,0.6s						
DVE				smax	smax		
	comp=Z,615nm,0.6s						
BTLR	**Botlikh**	**0.67**	**240**	*i* Pg	**Pb**	**09 31 14.7**	**-0.5**
BTLR				*e*Sg	**Sb**	**09 31 25.4**	**+0.7**
BTLR	**Botlikh**	**0.67**	**240**	*e*PG	**Pb**	**09 31 14.5**	**-0.8**
BTLR				*e*S	**Sb**	**09 31 25.4**	**+0.7**
URKR	**Urkarakh**	**0.95**	**151**	⇑*e*PG	**Pn**	**09 31 20.4**	**-0.6**
URKR				*e*		09 31 35.3	
URKR				pmax	pmax		
	comp=Z,148nm,0.3s						
URKR				smax	smax		
	comp=N,428nm,0.7s						
LGD	**Lagodekhi**	**1.30**	**206**	⇓*e*PG	**Pn**	**09 31 25.2**	**-0.4**
LGD				*e*S	**Sn**	**09 31 43.2**	**+0.1**
LGD	**Lagodekhi**	**1.30**	**206**	P	**Pg**	**09 31 24.8**	**-1.5**
LGD				S	**Sn**	**09 31 44.0**	**+0.9**
DRN	**Derbent**	**1.38**	**134**	*e*Pg	**Pb**	**09 31 26.6**	**-0.7**
DRN				*e*Sg	**Sn**	**09 31 46.3**	**+1.4**
DRN	**Derbent**	**1.38**	**134**	⇑*i*PG	**Pb**	**09 31 26.5**	**-0.7**
DRN				*e*		09 31 46.7	
DRN				pmax	pmax		
	comp=Z,115nm,0.7s						
DRN				smax	smax		
	comp=N,295nm,0.7s						
ZKTA	**Zakatala**	**1.39**	**192**	PG	**Pb**	**09 31 27.2**	**-0.4**
KMGR	**Komgaron**	**1.57**	**273**	*e*Pg	**Pg**	**09 31 31.5**	**-0.1**
KMGR				*e*Sg	**Sg**	**09 31 55.9**	**+3.9**
KMGR	**Komgaron**	**1.57**	**273**	*e*PG	**Pg**	**09 31 31.0**	**-0.6**
KMGR				*e*S	**Sg**	**09 31 55.9**	**+3.9**
AKT	**Akhty**	**1.61**	**160**	*i* Pg	**Pb**	**09 31 30.5**	**-0.8**
AKT				*e*Sg	**Sg**	**09 31 53.0**	**-0.2**
AKT	**Akhty**	**1.61**	**160**	⇓*i*PN	**Pb**	**09 31 30.4**	**-0.9**
AKT				*e*S	**Sg**	**09 31 53.0**	**-0.2**
KSMR	**Kasumkent**	**1.62**	**149**	*e*Pg	**Pb**	**09 31 31.0**	**-0.5**
KSMR				*e*Sg	**Sg**	**09 31 54.0**	**+0.3**
KSMR	**Kasumkent**	**1.62**	**149**	*e*PN	**Pb**	**09 31 31.0**	**-0.5**
KSMR				*e*S	**Sg**	**09 31 54.0**	**+0.3**
VLKR	**Vladikavkaz**	**1.71**	**272**	*e*Pg	**Pg**	**09 31 34.4**	**+0.2**
VLKR				*e*Sg	**Sg**	**09 32 00.1**	**+3.7**
VLKR	**Vladikavkaz**	**1.71**	**272**	*e*PN	**Pg**	**09 31 34.3**	**+0.1**
VLKR				*e*S	**Sg**	**09 31 59.9**	**+3.5**
SEKA	**Sheki**	**1.80**	**175**	PN	**Pg**	**09 31 35.5**	**-0.4**
PNSH	**Pansheti**	**1.80**	**259**	P	**Pb**	**09 31 33.8**	**-0.8**
PNSH				S	**Sg**	**09 31 59.0**	**-0.2**
TRKR	**Terskaya**	**1.81**	**294**	*e*Pg	**Pg**	**09 31 36.0**	**-0.1**
TRKR				*e*Sg	**Sg**	**09 32 02.1**	**+2.5**
TRKR	**Terskaya**	**1.81**	**294**	*e*PN	**Pb**	**09 31 33.0**	**-1.7**
TRKR				*e*S	**Sg**	**09 31 57.5**	**-2.1**
BTKR	**Batakoyurt**	**1.84**	**282**	*e*PN	**Pg**	**09 31 35.8**	**-0.9**
BTKR				*e*S	**Sg**	**09 32 00.4**	**-0.2**
LACR	**Lac**	**2.00**	**266**	*e*Pg	**Pb**	**09 31 36.1**	**-1.9**
LACR				*e*Sg	**Sg**	**09 32 04.0**	**-1.7**
LACR	**Lac**	**2.00**	**266**	*e*PN	**Pb**	**09 31 36.1**	**-1.9**
LACR				*e*S	**Sb**	**09 32 03.0**	**0.0**
ARNR	**Ardon**	**2.00**	**276**	*e*Pg	**Pg**	**09 31 38.4**	**-1.4**
ARNR				*e*Sg	**Sg**	**09 32 08.2**	**+2.4**
ARNR	**Ardon**	**2.00**	**276**	*e*PN	**Pn**	**09 31 35.0**	**-0.4**
PRTR	**Priterechnaya**	**2.12**	**292**	*e*PN	**Pn**	**09 31 34.8**	**-2.2**
PRTR				*e*S	**Sg**	**09 32 07.2**	**-2.5**
KORR	**Kora**	**2.16**	**273**	*e*Pg	**Pg**	**09 31 43.4**	**+0.6**
KORR				*e*Sg	**Sg**	**09 32 14.3**	**+3.5**
KORR	**Kora**	**2.16**	**273**	*e*PN	**Pg**	**09 31 42.1**	**-0.7**
KORR				*e*S	**Sb**	**09 32 05.9**	**-1.6**
STDR	**Stavd-Durt**	**2.19**	**281**	*e*Pg	**Pg**	**09 31 42.1**	**-1.3**
STDR				*e*Sg	**Sg**	**09 32 13.0**	**+1.4**
STDR	**Stavd-Durt**	**2.19**	**281**	*e*PN	**Pg**	**09 31 42.0**	**-1.3**
STDR				*e*S	**Sn**	**09 32 04.9**	**-0.1**
LSNR	**Lesken**	**2.35**	**278**	*e*Pn	**Pb**	**09 31 43.5**	**-0.4**
LSNR				*e*Sn	**Sg**	**09 32 17.3**	**+0.5**
LSNR	**Lesken**	**2.35**	**278**	*e*PN	**Pg**	**09 31 44.2**	**-2.2**
LSNR				*e*S	**Sb**	**09 32 10.7**	**-2.2**
GANJ	**Ganja**	**2.41**	**193**	PN	**Pn**	**09 31 42.0**	**+1.0**
DIGR	**Digorskoe uzhe**	**2.52**	**269**	*e*Pn	**Pb**	**09 31 46.2**	**-0.7**
DIGR				*e*Sn	**Sg**	**09 32 19.9**	**-2.5**
DIGR	**Digorskoe uzhe**	**2.52**	**269**	*e*PN	**Pn**	**09 31 43.5**	**+0.9**
TRLG	**Trialeti**	**2.61**	**237**	P	**Pb**	**09 31 48.1**	**-0.3**
TRLG				S	**Sg**	**09 32 25.4**	**+0.3**
ONI	**Oni**	**2.65**	**262**	*e*PN	**Pb**	**09 31 47.9**	**-1.1**
ONI				*e*S	**Sb**	**09 32 20.6**	**-1.0**
ONI	**Oni**	**2.65**	**262**	P	**Pg**	**09 31 49.5**	**-2.6**
ONI				S	**Sb**	**09 32 23.0**	**+1.4**
DMNI	**Dmanisi**	**2.68**	**232**	P	**Pn**	**09 31 46.4**	**+1.6**
DMNI				S	**Sb**	**09 32 22.3**	**-0.3**
AKH	**Akhalkalaki**	**3.06**	**240**	*e*PN	**Pn**	**09 31 47.9**	**-2.1**
AKH				*e*S	**Sn**	**09 32 26.9**	**+0.1**
KBZ	**Khabaz**	**3.08**	**285**	*e*PN	**Pn**	**09 31 49.5**	**-0.7**
KBZ				*e*S	**Sn**	**09 32 26.1**	**-1.0**
BEYR	**Belyy Ugol+**	**3.21**	**290**	*e*PN	**Pn**	**09 31 51.5**	**-0.5**
BEYR				*e*S	**Sn**	**09 32 28.9**	**-1.5**
SHA1	**Shidzhatmaz**	**3.26**	**285**	*de*PN	**Pn**	**09 31 52.3**	**-0.5**
DOMR	**Dombai**	**3.95**	**276**	⇓*e*PN	**Pn**	**09 32 04.6**	**+2.3**
ARXR	**Arkhyz**	**4.22**	**280**	⇓*e*PN	**Pn**	**09 32 08.0**	**+2.0**
OBN	**Obninsk**	**13.90**	**334**	⇓*e*P	**Pn**	**09 34 19.3**	**+1.0**
BRVK	**Borovoye**	**18.45**	**49**	⇓*e*P	**P**	**09 35 17.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**25.14**	**69**	*i* P	**P**	**09 36 28.5**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

NSSP ***03*** *09:45:05.9,41.27N×45.43E,h8km,Ms3.8*
TIF ***03*** *09:45:06.2,41.24N×45.45E,h5km±1km*
AZER ***03*** *09:45:06.2,41.25N×45.57E,h8km,ML4.1*
DDA ***03*** *09:45:07.7,41.30N×45.41E,h16km±1km,ML3.7*
ISK ***03*** *09:45:07.4,41.35N×45.60E,h20km,ML3.9/9*
MOS ***03*** *09:45:08.1±1.0,41.21N×45.51E,h11km,mb4.3/12,Error ellipse: s-maj=5.3km s-min=3.8km az=109.3*
NEIC ***03*** *09:45:09.1±2.1,41.03N±0.09×45.55E±0.08,h34km±7km, mb4.0/15,Error ellipse: s-maj=12.9km s-min=8.7km az=179.0*
IDC ***03*** *09:45:12.4±2.8,41.36N×45.60E,h35km±28km,mb3.7/7, mb1 3.8/11,mb1mx3.6/57,mbtmp3.8/11,ML3.3/4,MS3.2/8, Ms1 3.2/8,ms1mx2.9/48,Error ellipse: s-maj=21.5km s-min=13.6km az=169.0*
DRS ***03*** *09:45:25.7±0.0,41.66N×46.02E,h36km*

ISC 03 09:45:07.9±0.8,**41.25N**±0.01×**45.53E**±0.01,**h17**km±6km, **n190**,σ1**9**/**65**/271,**mb4.1**/13,**MS3.3**/3,**21C-15D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZX	**Qazax, Azerbai**	**0.23**	**211**	P	**Pg**	**09 45 12.9**	**-0.2**
	SNR=918						
QZX				S	**Sg**	**09 45 17.3**	**+0.6**
GDB	**GEDABAY**	**0.56**	**162**	P	**Pg**	**09 45 18.3**	**-0.7**
	SNR=826						
GDB				S	**Sg**	**09 45 26.2**	**-0.3**
BTNK	**Botanikuri**	**0.70**	**308**	PG	**Pg**	**09 45 20.6**	**-0.9**
BTNK	**Botanikuri**	**0.70**	**308**	P	**Pg**	**09 45 20.7**	**-0.9**
BTNK				S	**Sg**	**09 45 30.7**	**-0.1**
LGD	**Lagodekhi**	**0.79**	**42**	*i* PG	**Pg**	**09 45 23.3**	**0.0**
LGD	**Lagodekhi**	**0.79**	**42**	P	**Pg**	**09 45 23.4**	**0.0**
LGD				S	**Sn**	**09 45 35.5**	**-0.2**
GANJ	**Ganja**	**0.85**	**135**	PG	**Pb**	**09 45 23.3**	**-0.9**
GANJ	**Ganja**	**0.85**	**135**	P	**Pb**	**09 45 23.3**	**-0.9**
	SNR=84						
GANJ				S	**Sb**	**09 45 35.1**	**-0.3**
KZRT	**Kazreti**	**0.86**	**279**	*i* P	**Pb**	**09 45 23.1**	**-1.4**
KZRT				*i* S	**Sb**	**09 45 33.9**	**-1.7**
KZRT	**Kazreti**	**0.86**	**279**	PG	**Pb**	**09 45 23.0**	**-1.4**
KZRT	**Kazreti**	**0.86**	**279**	P	**Pb**	**09 45 23.0**	**-1.4**
KZRT				S	**Sb**

VLKR				*e*S		**Sg**	**09 46 10.2 +1.1**
ZRD	**Zardab**	**1.91**	**120**	Pn		**Pb**	**09 45 42.2 0.0**
	SNR=10						
ZRD				Sn		**Sg**	**09 46 10.3 +1.1**
ZEI	**Tsey**	**1.96**	**322**	*e*PN		**Pb**	**09 45 42.5 -0.7**
ZEI				pmax	pmax		
	comp=Z,314nm,0.4s						
KARS	**Kars**	**1.96**	**252**	PN		**Pn**	**09 45 41.5 +1.1**
KARS				SN		**Sb**	**09 46 06.4 -0.9**
KARS	**Kars**	**1.96**	**252**	PN		**Pb**	**09 45 43.1 0.0**
XNQ	**Khinaliq**	**1.97**	**91**	Pn		**Pb**	**09 45 42.2 -1.3**
	SNR=53						
XNQ				Sn		**Sg**	**09 46 10.5 -0.9**
KSMR	**Kasumkent**	**1.99**	**79**	*i* Pg		**Pb**	**09 45 43.0 -0.6**
KSMR				*e*Sg		**Sg**	**09 46 12.0 +0.2**
KSMR	**Kasumkent**	**1.99**	**79⇑**	*i*PN		**Pb**	**09 45 43.0 -0.6**
KSMR				*e*S		**Sg**	**09 46 12.0 +0.2**
DBC	**Dubki**	**2.02**	**28**	*e*PN		**Pb**	**09 45 44.2 +0.1**
DBC				*e*S		**Sg**	**09 46 12.6 -0.1**
ONI	**Oni**	**2.05**	**312**	*e*PN		**Pb**	**09 45 43.4 -1.2**
ONI	**Oni**	**2.05**	**312**	P		**Pb**	**09 45 43.5 -1.2**
ONI				S		**Sb**	**09 46 11.5 +1.7**
IML	**Ismayilli**	**2.06**	**102**	Pn		**Pb**	**09 45 43.5 -1.3**
	SNR=31						
IML				Sn		**Sg**	**09 46 11.8 -2.4**
QSAR	**Qusar**	**2.08**	**82**	Pn		**Pb**	**09 45 44.9 -0.2**
	SNR=19						
QSAR				Sn		**Sg**	**09 46 12.9 -1.8**
NAX	**Nakhchivan**	**2.08**	**181**	PN		**Pb**	**09 45 45.5 +0.4**
NAX	**Nakhchivan**	**2.08**	**181**	Pn		**Pb**	**09 45 45.6 +0.4**
	SNR=18						
NAX				Sn		**Sg**	**09 46 14.1 -0.6**
EPOS	**Posof**	**2.12**	**278**	*i* P		**Pb**	**09 45 45.8 -0.2**
EPOS				*i* S		**Sb**	**09 46 11.9 -0.2**
KORR	**Kora**	**2.13**	**330**	*e*PN		**Pb**	**09 45 44.9 -1.1**
KORR				*e*S		**Sg**	**09 46 15.3 -1.1**
ARNR	**Ardon**	**2.14**	**335**	*e*PN		**Pb**	**09 45 46.5 +0.4**
ARNR				pmax	pmax		
	comp=Z,347nm,0.5s						
BLQ	**Beylaqan**	**2.18**	**134**	Pn		**Pb**	**09 45 46.2 -0.6**
	SNR=29						
BLQ				Sn		**Sb**	**09 46 14.5 +1.0**
TKB	**Tkibuli**	**2.19**	**301**	⇓PN		**Pn**	**09 45 45.2 +1.7**
TKB				S		**Sb**	**09 46 14.1 +0.2**
TKB	**Tkibuli**	**2.19**	**301**	P		**Pn**	**09 45 45.3 +1.7**
TKB				S		**Sb**	**09 46 14.1 +0.2**
DIGR	**Digorskoe uzhe**	**2.19**	**319**	*e*PN		**Pb**	**09 45 46.7 -0.5**
DIGR				*e*S		**Sg**	**09 46 16.9 -1.6**
KDMR	**Kurdemir**	**2.20**	**113**	Pn		**Pb**	**09 45 46.3 -0.8**
	SNR=11						
KDMR				Sn		**Sg**	**09 46 16.2 -2.3**
DRN	**Derbent**	**2.24**	**69**	*ce*PN		**Pg**	**09 45 49.0 -1.8**
DRN				*i* S		**Sg**	**09 46 23.2 +3.3**
DRN				pmax	pmax		
	comp=Z,806nm,1.1s						
DRN				smax	smax		
	comp=Z,756nm,1.4s						
QRD	**Qoradiz**	**2.25**	**142**	Pn		**Pb**	**09 45 46.8 -1.3**
	SNR=51						
QRD				Sn		**Sb**	**09 46 16.9 +1.3**
MAK	**Makhachkala**	**2.25**	**40**	*e*PN		**Pb**	**09 45 48.4 +0.3**
MAK				*e*			09 45 53.2
MAK				*e*			09 46 17.9
MAK				*e*			09 46 22.8
MAK				*e*			09 46 28.0
MAK				pmax	pmax		
	comp=Z,189nm,0.3s						
MAK				smax	smax		
	comp=N,1μm,0.6s						
MAK				smax	smax		
	comp=N,995nm,0.6s						
MAK				MLR	MLR		
	comp=Z,842nm,2.0s						
ORD	**Ordubad**	**2.35**	**171**	Pn		**Pb**	**09 45 50.0 +0.2**
	SNR=28						
ORD				Sn		**Sb**	**09 46 20.2 +1.7**
PQL	**Pirkuli**	**2.37**	**100**	Pn		**Pb**	**09 45 48.7 -1.4**
	SNR=19						
PQL				Sn		**Sb**	**09 46 19.2 +0.1**
STDR	**Stavd-Durt**	**2.38**	**333**	*e*PN		**Pb**	**09 45 48.7 -1.5**
STDR				*e*S		**Sg**	**09 46 24.3 0.0**
LSNR	**Lesken**	**2.39**	**329**	*e*PN		**Pb**	**09 45 48.4 -2.0**
LSNR				*e*S		**Sg**	**09 46 21.8 -2.8**
CLDR	**Caldiran**	**2.44**	**211**	PN		**Pn**	**09 45 48.9 +1.7**
SENK	**Senkaya-Erzuru**	**2.50**	**255**	PN		**Pn**	**09 45 49.4 +1.4**
TRKR	**Terskaya**	**2.54**	**347**	*e*PN		**Pb**	**09 45 51.9 -1.1**
TRKR				*e*S		**Sb**	**09 46 24.8 +0.9**
SIZA	**Siyzn**	**2.55**	**93**	Pn		**Pb**	**09 45 51.6 -1.6**
	SNR=27						
SIZA				Sn		**Sb**	**09 46 24.4 +0.1**
SAAT	**Saatly**	**2.61**	**121**	Pn		**Pn**	**09 45 50.6 +1.4**
	SNR=8.3						
SAAT				Sn		**Sb**	**09 46 26.0 +0.2**
ATGJ	**Altiaghaj**	**2.61**	**97**	Pg		**Pb**	**09 45 53.0 -1.3**
	SNR=15						
ATGJ				Sn		**Sb**	**09 46 25.4 -0.7**
PRTR	**Priterechnaya**	**2.66**	**340**	*e*PN		**Pb**	**09 45 54.4 -0.7**
PRTR				*e*S		**Sg**	**09 46 30.2 -3.2**
GBS	**Qobustan**	**2.69**	**104**	Pn		**Pn**	**09 45 52.6 +2.3**
	SNR=6.9						
GBS				Sn		**Sb**	**09 46 28.1 -0.1**
EATA	**Eleskirt**	**2.70**	**240**	*i* P		**Pb**	**09 45 54.0 -1.8**
ARTV	**Artvin**	**2.72**	**270**	*i* P		**Pn**	**09 45 53.2 +2.3**
ARTV				*i* S		**Sb**	**09 46 31.4 +2.1**
ARTV	**Artvin**	**2.72**	**270**	Pn		**Pn**	**09 45 53.2 +2.3**
DAGI	**Agillar**	**2.73**	**268**	*i* P		**Pn**	**09 45 53.5 +2.4**
DAGI				*i* S		**Sg**	**09 46 33.7 -2.0**
DDEM	**Demirkent**	**2.88**	**264**	*i* P		**Pn**	**09 45 54.9 +1.8**
DDEM				*i* S		**Sb**	**09 46 36.5 +2.7**
DDEM				IAML			09 46 46.0
	comp=E,253nm,0.7s						
DDEM				IAML			09 46 46.0
	comp=N,331nm,0.7s						
BATM	**Batumi**	**2.90**	**278**	PN		**Pn**	**09 45 54.5 +1.2**
BATM	**Batumi**	**2.90**	**278**	PN		**Pb**	**09 45 58.7 -0.5**
BATM				S		**Sb**	**09 46 36.0 +1.6**
BATM	**Batumi**	**2.90**	**278**	P		**Pb**	**09 45 58.8 -0.5**
BATM				S		**Sb**	**09 46 36.1 +1.6**
DBAD	**Bademkaya**	**2.90**	**267**	*i* P		**Pn**	**09 45 55.9 +2.5**
DBAD				*i* S		**Sb**	**09 46 37.7 +3.2**
DBAD				IAML			09 46 39.0
	comp=N,227nm,0.6s						
DBAD				IAML			09 46 48.0
	comp=E,224nm,0.7s						
DBOC	**Borcka**	**2.91**	**273**	*i* P		**Pb**	**09 45 59.8 +0.5**
DBOC				*i* S		**Sb**	**09 46 36.7 +2.1**
BCA	**Borcka**	**2.95**	**275**	PN		**Pn**	**09 45 55.2 +1.3**
ALIB	**Äli-Bayra**	**2.95**	**115**	Pg		**Pb**	**09 45 58.2 -1.7**
	SNR=5.2						
CHVG	**Ch'k'valeri**	**2.96**	**301**	P		**Pn**	**09 45 56.3 +2.3**
CHVG				S		**Sb**	**09 46 38.4 +2.5**
GLBA	**Clilabad**	**2.97**	**132**	Pn		**Pn**	**09 45 56.6 +2.3**
	SNR=8.0						
GLBA				Sn		**Sb**	**09 46 33.7 -2.7**
KOPR	**Koprukoy-ERZUR**	**3.07**	**247**	PN		**Pn**	**09 45 57.5 +1.8**
YRD	**Yardimli**	**3.13**	**137**	Pn		**Pn**	**09 45 58.6 +2.0**
	SNR=12						
YRD				Sn		**Sb**	**09 46 39.9 -1.1**
KBZ	**Khabaz**	**3.15**	**323**	Pn		**Pb**	**09 46 01.6 -1.7**
	comp=E,7.2nm,0.3s,baz=137,slow=7.3,SNR=33						
KBZ				Lg		Lg	09 46 50.7
	comp=E,5.7nm,0.3s,baz=306,slow=11,SNR=5.9						
KBZ	**Khabaz**	**3.15**	**323**	*de*PN		**Pb**	**09 46 01.9 -1.4**
SHA1	**Shidzhatmaz**	**3.27**	**320**	*de*PN		**Pb**	**09 46 02.1 -3.4**
LRK	**Lerik**	**3.39**	**139**	Pn		**Pn**	**09 46 02.4 +2.4**
	SNR=16						
LRK				Sn		**Sb**	**09 46 45.8 -2.7**
BEYR	**Belyy Ugol+**	**3.41**	**325**	*e*PN		**Pb**	**09 46 05.8 -2.0**
BEYR				*e*S		**Sb**	**09 46 47.7 -1.2**
KIV	**Kislovodsk**	**3.42**	**323**	PN		**Pn**	**09 46 03.1 +2.6**
KIV	**Kislovodsk**	**3.42**	**323**	Pn		**Pn**	**09 46 03.1 +2.6**
DOMR	**Dombai**	**3.54**	**306**	*e*PN		**Pn**	**09 46 04.9 +2.7**
DOMR				*e*S		**Sb**	**09 46 49.5 -3.4**
CHOM	**Cayeli-Rize**	**3.60**	**269**	PN		**Pn**	**09 46 04.8 +1.9**
ASTR	**Astara**	**3.68**	**136**	Pn		**Pn**	**09 46 06.1 +2.2**
	SNR=3.9						
ASTR				Sn		**Sb**	**09 46 51.9 -4.8**
ARXR	**Arkhyz**	**3.90**	**308⇑**	*i*PN		**Pn**	**09 46 09.8 +2.6**
KOPT	**Kop Dagi**	**4.02**	**254**	Pn		**Pn**	**09 46 08.4 -0.5**
GOF	**Gofitskoye**	**4.22**	**335⇑**	*e*PN		**Pb**	**09 46 24.0 +2.5**
GOF				*e*S		**Sg**	**09 47 19.6 -3.6**
GOF				pmax	pmax		
	comp=Z,120nm,0.8s						
GOF				smax	smax		
	comp=E,135nm,0.9s						
GOF				smax	smax		
	comp=N,124nm,0.9s						
YEDI	**Yedisu-Bingol**	**4.22**	**246**	PN		**Pn**	**09 46 13.8 +2.3**
MARD	**Mardin**	**5.39**	**225**	Pn		**Pn**	**09 46 24.3 -3.3**
BRTR	**Keskin Array B**	**9.19**	**264**	Pn		**Pn**	09 47 27.0 +7.3
	comp=N,0.0nm,0.3s,baz=71,slow=14,SNR=3.3						
BRTR				LR		LR	09 50 50.3
	comp=N,52nm,18.7s,baz=74,slow=36						
GEYT	**Alibeck**	**10.27**	**105**	Pn		**Pn**	**09 47 36.3 +1.9**
	comp=N,0.6nm,0.3s,baz=304,slow=14,SNR=6.1						
GEYT	**Alibeck**	**10.27**	**105**			**Pn**	**09 47 33.0 -1.4**
MMAI	**Mount Meron Ar**	**11.52**	**228**	Pn		**Pn**	09 48 00.6 +9.0
	comp=N,0.8nm,0.3s,baz=54,slow=14,SNR=5.5						
MMAI				LR		LR	09 52 52.2
	comp=N,68nm,19.1s,baz=340,slow=40						
AKTO	**Aktyubinsk**	**12.64**	**39**	Pn		**Pn**	**09 48 05.2 -1.5**
	comp=N,0.4nm,0.3s,baz=234,slow=13,SNR=8.8						
AKTO				LR		LR	09 54 18.3
	comp=N,160nm,18.2s,baz=252,slow=44						
ABKAR	**Akbulak array**	**12.91**	**47**	Pn		**Pn**	**09 48 08.3 -2.2**
ABKAR	**Akbulak array**	**12.91**	**47**	Pn		**Pn**	**09 48 09.1 -1.4**
EIL	**Elat**	**14.40**	**220**	LR		LR	09 54 28.7
	comp=N,41nm,18.6s,baz=95,slow=38						
KIEV	**Kiev**	**14.73**	**315**	P		**P**	**09 48 40.0 -1.3**
MLR	**Muntele Rosu**	**14.85**	**293**	LR		LR	09 56 49.1
	comp=N,113nm,18.2s,baz=60,slow=47						
MLR	**Muntele Rosu**	**14.85**	**293**	⇓P		**P**	**09 48 46.0 +3.1**
BIZ	**Bicaz**	**15.05**	**299**	⇑P		**P**	**09 48 47.6 +2.7**
OBN	**Obninsk**	**15.08**	**340⇓**	*e*P		**Pn**	**09 48 42.3 +2.3**
OBN				pmax	pmax		
	comp=E,54nm,2.4s						
OBN				MLR	MLR		
	comp=E,110nm,14.0s						
KMPD	**K-Podol'skiy**	**15.34**	**305**	P		**P**	**09 48 49.0 +1.0**
VOIR		**15.47**	**293**	⇓P		**P**	**09 48 54.2 +4.6**
ARR	**Arges**	**15.75**	**292**	⇑P		**P**	**09 48 52.8 +0.1**
BURAR	**Bucovina Array**	**15.82**	**301**	⇑P		**P**	**09 48 56.0 +2.5**
BURAR	**Bucovina Array**	**15.82**	**301**	P		**Pn**	**09 48 49.8 0.0**
BUR08	**Bucovina Ar. S**	**15.84**	**301**	P		**Pn**	**09 48 50.6 +0.5**
BUR08				IAmb	IAmb		09 48 57.1
	comp=E,6.4nm,0.8s						
ARU	**Arti**	**17.39**	**25**	*d*iP		**Pn**	**09 49 07.2 -2.4**
ARU				S		**Sn**	**09 52 18.4 -4.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHGR	**Chuyangaron**	**18.29**	**90**			**Pn**	**09 49 19.1 -1.7**
CHGR				IAmb	IAmb		09 49 47.9
	comp=Z,12nm,0.9s						
KK31	**Karatay Array**	**18.59**	**76**	P		**P**	**09 49 23.6 -0.6**
KK31				pmax	pmax		
	comp=E,5.0nm,0.8s						
KK31	**Karatay Array**	**18.59**	**76**			**P**	**09 49 23.6 -0.6**
KKAR	**Karatay Array**	**18.59**	**76**	P		**P**	**09 49 23.7 -0.4**
KKAR				pmax	pmax		
	comp=E,5.0nm,0.8s						
KKAR	**Karatay Array**	**18.59**	**76**			**P**	**09 49 23.7 -0.4**
DIVS	**Divibare**	**18.97**	**287**	P		**P**	**09 49 27.6 -0.7**
DIVS				IAmb	IAmb		09 49 42.0
	comp=Z,13nm,1.5s						
GAR	**Garm**	**19.07**	**89**			**P**	**09 49 28.9 -0.7**
GAR				IAmb	IAmb		09 49 35.3
	comp=Z,13nm,0.9s						
KLMR	**Klimovskoe**	**19.97**	**351**	P		**P**	**09 49 37.9 -1.1**
KLMR				pmax	pmax		
	comp=Z,17nm,1.5s						
KLMR	**Klimovskoe**	**19.97**	**351**	Pn		**P**	**09 49 38.0 -1.1**
KLMR				AMP			09 49 39.7
	comp=Z,17nm,1.5s						
PRGR	**Permogore**	**20.41**	**0**	*e*P		**P**	**09 49 42.8 -1.0**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRVK	**Borovoye**	**20.45**	**46⇓**	*e*P		Pn	09 49 48.5 +2.1
BRVK				pmax	pmax		
	comp=E,8.0nm,0.8s						
BRVK	**Borovoye**	**20.45**	**46**			**P**	**09 49 43.4 -0.8**
BRVK				IAmb	IAmb		09 49 50.6
	comp=Z,7.1nm,0.8s						
BVAR	**Borovoye Array**	**20.49**	**47**	P		**P**	**09 49 45.5 +0.7**
	comp=Z,1.4nm,0.5s,baz=234,slow=20,SNR=6.1						
MODS	**Modra-Piesok**	**21.19**	**299**	*e*P		**P**	**09 49 54.1 +1.8**
MODS	**Modra-Piesok**	**21.19**	**299**	*e*P		**P**	**09 49 54.1 +1.8**
BOOM	**Boomskoye usch**	**22.63**	**77**	P		**P**	**09 50 07.1 -0.9**
BOOM				pmax	pmax		
	comp=E,6.0nm,0.7s						
BOOM	**Boomskoye usch**	**22.63**	**77**	P		**P**	**09 50 07.1 -0.9**
BOOM				IAmb	IAmb		09 50 19.4
	comp=Z,6.0nm,0.7s						
NIL	**Nilore**	**23.21**	**100**	P		**P**	**09 50 13.1 -0.9**
NIL				pmax	pmax		
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**23.21**	**100**	P		**P**	**09 50 13.1 -0.9**
FINES	**FINESS Array B**	**23.41**	**336**	P		**P**	**09 50 16.2 +0.6**
	comp=Z,4.8nm,0.8s,baz=146,slow=12,SNR=6.5						
FINES	**FINESS Array B**	**23.41**	**336**	*i* P		**P**	**09 50 21.3 +5.7**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**23.41**	**336**	P		**P**	**09 50 16.5 +0.8**
KDJ	**Kajisay**	**23.59**	**77**	P		**P**	**09 50 18.8 +1.0**
KDJ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KDJ	**Kajisay**	**23.59**	**77**	P		**P**	**09 50 18.8 +1.0**
KDJ				IAmb	IAmb		09 50 25.7
	comp=Z,7.8nm,1.4s						
GERES	**GERESS Array B**	**23.60**	**300**	P		**P**	**09 50 18.9 +1.1**
	comp=Z,1.0nm,0.7s,baz=112,slow=8.8,SNR=6.3						
GERES	**GERESS Array B**	**23.60**	**300**	P		**P**	**09 50 18.7 +0.9**
KHC	**Kasperske Hory**	**23.72**	**300⇓**	*e*P		**P**	**09 50 21.5 +2.6**
KHC				pmax	pmax		
	comp=Z,27nm,4.0s						
CLL	**Collm**	**24.44**	**305**	*i* P		**P**	**09 50 28.3 +2.8**
	comp=Z,8.0nm,1.0s						
CLL	**Collm**	**24.44**	**305**	*i* P		**P**	**09 50 28.3 +2.8**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL	**Collm**	**24.44**	**305**	P		**P**	**09 50 26.2 +0.8**
KURBB	**Kurchatov Arra**	**24.61**	**56**	P		**P**	**09 50 28.9 +1.8**
	comp=Z,7.0nm,0.8s,baz=265,slow=9.1,SNR=20						
KURK	**Kurchatov**	**24.68**	**56⇓**	*e*P		**P**	**09 50 29.5 +1.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**24.68**	**56**	P		**P**	**09 50 29.6 +1.9**
KURK				IAmb	IAmb		09 50 34.6
	comp=Z,5.2nm,0.9s						
MAKZ	**Makanchi**	**26.62**	**66**	P		**P**	**09 50 50.4 +5.1**
MK31	**Makanchi Array**	**26.84**	**66⇓**	*e*P		**P**	**09 50 49.2 +1.9**
MK31	**Makanchi Array**	**26.84**	**66**	P		**P**	**09 50 48.5 +1.3**
MK31				IAmb	IAmb		09 50 52.6
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**26.84**	**66**	P		**P**	**09 50 49.1 +1.8**
	comp=Z,1.9nm,0.7s,baz=276,slow=7.8,SNR=14						
MKAR				LR		LR	10 02 30.9
	comp=Z,81nm,18.3s,baz=304,slow=39						
MKAR	**Makanchi Array**	**26.84**	**66**	P		**P**	**09 50 48.3 +1.0**
NOA	**NORSAR Array B**	**28.73**	**325**	LR		LR	10 03 09.2
	comp=Z,29nm,19.9s,baz=5.0,slow=38						
ZAA0	**Zalesovo Array**	**28.98**	**51**	P		**P**	**09 51 06.9 +0.5**
ZALV	**Zalesovo Beam**	**28.98**	**51**	P		**P**	**09 51 07.6 +1.3**
	comp=Z,2.0nm,0.6s,baz=246,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**28.98**	**51**	P		**P**	**09 51 06.5 +0.2**
DGZ	**Jazzator, Alta**	**30.24**	**59⇓**	*e*P		**P**	**09 51 22.1 +4.4**
DGZ				pmax	pmax		
	comp=Z,8.0nm,2.7s						
SONM	**Songino Array**	**42.89**	**60**	LR		LR	10 13 12.7
	comp=Z,108nm,18.5s,baz=28,slow=39						
CMAR	**Chiang Mai Arr**	**50.71**	**100**	P		**P**	**09 54 08.0 +1.3**
	comp=Z,1.0nm,0.7s,baz=304,slow=8.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**50.71**	**100**	*i* P		P	09 54 12.1 +5.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NEIC ***03*** *09:57:48.9±1.9, 12.°01N±0.°08×88.°08W±0.°07, h10km±2km, mb4.4/16, Error ellipse: s-maj=15.0km s-min=9.8km az=217.0*

INET ***03*** *09:57:50.2, 11.°95N×88.°27W, h15km, ML3.2*

SNET ***03*** *09:57:52.5±0.8, 12.°12N×88.°17W, h22km±13km, ML3.4*

UCR ***03*** *09:57:52.5±1.7, 12.°11N×88.°20W, h22km±29km, ML3.4, mb4.4(NEIC)*

ISC 03 09:57:51.9±1.1, 11.°99N±0.°08×88.°12W±0.°07, h35km, n43, σ0°70/47, mb4.3/7, 8C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**1.26**	**56**	Pn		**Pn**	**09 58 13.7**	**+0.5**
LCND	**La Caada**	**1.33**	**10⇑**	*e*P		**Pn**	**09 58 14.0**	**-0.1**
LCND				IAML			09 58 38.0	
	comp=Z,882nm,0.4s							
LCND	**La Caada**	**1.33**	**10⇑**	*e*P		**Pn**	**09 58 14.0**	**-0.1**
LCND				IAML			09 58 38.0	
	comp=Z,882nm,0.4s							
ALJI	**Alcalda de J**	**1.40**	**342⇑**	*i*P		**Pn**	**09 58 14.8**	**-0.3**
ALJI				*e*S		**Sn**	**09 58 32.4**	**0.0**
ALJI				IAML			09 58 38.8	
	comp=Z,642nm,0.4s							
ALJI	**Alcalda de J**	**1.40**	**342⇑**	*i*P		**Pn**	**09 58 14.8**	**-0.3**
ALJI				*e*S		**Sn**	**09 58 32.4**	**0.0**
ALJI				IAML			09 58 38.8	
	comp=Z,642nm,0.4s							
COEB	**Comit de Eme**	**1.56**	**345⇑**	*i*P		**Pn**	**09 58 16.9**	**-0.4**
COEB				*e*S		**Sn**	**09 58 36.1**	**-0.2**
COEB				IAML			09 58 41.5	
	comp=Z,536nm,0.4s							
COEB	**Comit de Eme**	**1.56**	**345⇑**	*i*P		**Pn**	**09 58 16.9**	**-0.4**
COEB				*e*S		**Sn**	**09 58 36.1**	**-0.2**
COEB				IAML			09 58 41.5	
	comp=Z,536nm,0.4s							
FAGO	**Alcalda de S**	**1.70**	**0**	*e*P		**Pn**	**09 58 19.2**	**+0.1**
FAGO	**Alcalda de S**	**1.70**	**0**	*e*P		**Pn**	**09 58 19.2**	**+0.1**
COEG	**Centro de Oper**	**1.79**	**335**	*e*P		**Pn**	**09 58 19.8**	**-0.6**
COEG				IAML			09 58 50.5	
	comp=Z,492nm,0.4s							
COEG	**Centro de Oper**	**1.79**	**335**	*e*P		**Pn**	**09 58 19.8**	**-0.6**
COEG				IAML			09 58 50.5	
	comp=Z,492nm,0.4s							
PAVA	**Las Pavas**	**1.89**	**335**	*e*P		**Pn**	**09 58 21.7**	**-0.2**
PAVA	**Las Pavas**	**1.89**	**335**	*e*P		**Pn**	**09 58 21.7**	**-0.2**
UEES	**Universidad Ev**	**2.04**	**328**	*e*P		**Pn**	**09 58 24.1**	**+0.2**
UEES	**Universidad Ev**	**2.04**	**328**	*e*P		**Pn**	**09 58 24.1**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.22**	**22**	Pn		**Pn**	**09 58 27.1**	**+0.7**
TACO	**Tacachico**	**2.31**	**329⇑**	*i*P		**Pn**	**09 58 27.6**	**+0.1**
TACO	**Tacachico**	**2.31**	**329⇑**	*i*P		**Pn**	**09 58 27.6**	**+0.1**
MATN	**Matagalpa**	**2.34**	**66**	Pn		**Pn**	**09 58 27.8**	**-0.3**
NUBE	**Las Nubes**	**2.50**	**320**	*e*P		**Pn**	**09 58 30.1**	**-0.2**
NUBE	**Las Nubes**	**2.50**	**320**	*e*P		**Pn**	**09 58 30.1**	**-0.2**
MTO3	**Montecristo**	**2.69**	**333**	Pn		**Pn**	**09 58 33.2**	**+0.3**
ESQI	**Esquipulas**	**2.82**	**335**			**Pn**	**09 58 35.5**	**+0.8**
ACON	**Acoyapa**	**2.88**	**90**			**Pn**	**09 58 34.1**	**-1.2**
JTS	**Las Juntas de**	**3.54**	**118**	Pn		**Pn**	**09 58 45.5**	**+1.1**
PETF	**Flores**	**5.18**	**341**	Pn		**Pn**	**09 59 08.8**	**+1.7**
833A	**Chaparral WMA,**	**19.37**	**329**	P		**P**	**10 02 14.3**	**-0.4**
833A				IAmb	IAmb		10 02 17.3	
	comp=Z,15nm,0.7s							
344A	**Westbrook Farm**	**19.52**	**353**	P		**P**	**10 02 16.8**	**+0.4**
344A				IAmb	IAmb		10 02 25.0	
	comp=Z,40nm,1.4s							
OXF	**Oxford**	**22.45**	**357**	P		**P**	**10 02 47.9**	**-0.1**
TXAR	**Lajitas Array**	**22.53**	**322**	P		**P**	**10 02 46.4**	**-2.6**
TX31	**Lajitas Ar. Si**	**22.53**	**322**	P		**P**	**10 02 50.1**	**+1.1**
TX31				IAmb	IAmb		10 02 54.4	
	comp=Z,9.7nm,0.8s							
TX32	**Lajitas Array**	**22.53**	**322**	P		**P**	**10 02 50.4**	**+1.4**
Z35A	**Perchaven, San**	**22.83**	**340**	P		**P**	**10 02 52.0**	**-0.1**
MIAR	**Mount Ida**	**23.00**	**348**	P		**P**	**10 02 54.3**	**+0.6**
ABTX	**Abilene, Hawle**	**23.11**	**335**	P		**P**	**10 02 54.7**	**-0.1**
ABTX				IAmb	IAmb		10 02 56.8	
	comp=Z,12nm,1.3s							
X34A	**Smith Ranch, M**	**24.19**	**340**	P		**P**	**10 03 06.1**	**+1.0**
FNO	**Franklin**	**24.65**	**342**	P		**P**	**10 03 09.6**	**+0.3**
S39A	**Bolivar**	**26.02**	**351**	P		**P**	**10 03 21.8**	**+0.1**
S39A				IAmb	IAmb		10 03 22.5	
	comp=Z,6.5nm,0.7s							
U32A	**Winter Ranch,**	**26.20**	**340**	P		**P**	**10 03 23.8**	**+0.4**
U32A				IAmb	IAmb		10 03 26.6	
	comp=Z,4.8nm,0.6s							
R55A	**Marlinton**	**27.14**	**14**	P		**P**	**10 03 32.1**	**+0.1**
R55A				IAmb	IAmb		10 03 59.0	
	comp=Z,7.4nm,1.1s							
P52A	**Corning**	**28.04**	**10**	P		**P**	**10 03 39.1**	**-0.8**
P52A				IAmb	IAmb		10 03 51.5	
	comp=Z,6.3nm,0.8s							
W18A	**Petrified Fore**	**30.24**	**323**	P		**P**	**10 03 59.2**	**-0.5**
W18A				IAmb	IAmb		10 04 27.9	
	comp=Z,4.6nm,0.6s							
PTGA	**Pitinga**	**30.68**	**112**	P		**P**

PS4A Pavlof South-4 1.73 27 Pb 10 03 37.2 -1.2
PVV Pavlof Volcano 1.77 28 Pb 10 03 38.1 -1.1
UNV Unalaska Valle 1.93 272 Pb 10 03 40.7 -1.3
UNV Unalaska Valle 1.93 272 Sg 10 04 06.3 -2.8
MNAT Makushin Natee 2.04 273 Pb 10 03 42.1 -1.7
MNAT Sg 10 04 09.0 -3.5
MREP Makushin Rep't 2.08 271 Pb 10 03 43.3 -1.2
MSW Makushin Switc 2.10 274 Pb 10 03 43.2 -1.6
MSW Sg 10 04 11.8 -2.6
MGOD Makushin Gods 2.15 271 Pb 10 03 44.2 -1.6
MGOD Sb 10 04 11.5 -0.8
MAPS Pakushin South 2.19 271 Pb 10 03 44.7 -1.7
MAPS Sb 10 04 12.2 -1.2
SDPT Sand Point 2.22 45 Pn Pn 10 05 43.0 -0.4
SDPT Sn 10 04 09.5 -1.1
OKFG Magazine Ridge 2.81 263 Pn 10 03 53.6 +2.2
OKFG Sb 10 04 31.4 +0.2
OKSP Okmok Steeple 3.06 261 Pn 10 03 57.3 +2.3
VNWF Veniaminof 8 3.15 41 Pn 10 03 58.9 +2.6
VNHG Veniaminof 1 3.36 43 Pn 10 04 01.6 +2.5
NIKH Nikolski High 3.47 258 Pn Pn 10 04 02.1 +1.6
CHGN Chignik 3.73 46 Pn 10 04 05.4 +1.4
CHGN Sn 10 04 46.6 -1.0
CHIR Chirikof Islan 4.84 62 Pn Pn 10 04 20.8 +1.4
CHIR Sn 10 05 13.3 -1.8
SPIA Saint Paul Isl 5.21 313 Pn Pn 10 04 26.3 +2.0
SII Sitkinak Islan 5.87 59 Pn Pn 10 04 36.1 +2.7
KABU Katmai Buttres 6.30 42 Pn 10 04 41.3 +1.8
OHAK Old Harbor 6.60 55 Pn Pn 10 04 43.5 +0.1
KOFP Korovin Flat P 6.73 261 Pn 10 04 49.0 +3.8
ATKA Atka Island 6.81 261 Pn Pn 10 04 48.2 +1.9
KDAK Kodiak Island 7.20 52 Pn Pn 10 04 50.6 -1.0
3.7nm,0.3s,baz=230,slow=7.7,SNR=21
KDAK Sn **Sn 10 06 07.9 -5.2**
0.7nm,0.3s,baz=97,slow=14,SNR=3.1
GSTR Great Sitkin T 7.93 263 Pn Pn 10 05 05.4 +3.6
GSTD Great Sitkin T 7.99 262 Pn 10 05 07.1 +4.4
ADAG Mount Adagdak 8.29 263 Pn 10 05 10.6 +4.0
ILS Iliamna Low So 8.29 38 Pn 10 05 10.4 +3.7
ADK Adak 8.37 262 Pn Pn 10 05 10.0 +2.3
SVW2 Sparrevohn 8.38 26 Pn Pn 10 05 09.1 +1.2
KIKV Kanaga Island 8.65 263 Pn 10 05 16.1 +4.4
RED Redoubt Volcan 8.72 37 Pn 10 05 17.0 +4.4
KIMD Kanaga Island 8.73 262 Pn 10 05 15.9 +3.2
CNPM China Poot 8.73 44 Pn Pn 10 05 13.8 +1.1
RSO Redoubt South 8.76 36 Pn 10 05 15.8 +2.6
BRLK Bradley Lake 9.02 44 Pn Pn 10 05 16.7 +0.1
TASE Tanaga Southea 9.18 263 Pn 10 05 22.6 +3.8
SPNN North Nagishla 9.44 33 Pn 10 05 25.8 +3.4
SPBG Spurr Blockage 9.46 34 Pn 10 05 26.1 +3.4
GAEA Gareloi East 9.61 264 Pn 10 05 28.6 +3.8
SEW Seward 9.80 45 Pn Pn 10 05 27.6 +0.3
TTA Tatalina 9.88 20 Pn Pn 10 05 29.7 +1.2
SUA Susitna One 10.16 36 Pn Pn 10 05 33.0 +0.7
SKT Skwentna 10.27 33 Pn Pn 10 05 36.5 +2.8
PPLA Purkeypile 10.77 28 Pn 10 05 43.2 +2.5
PMR Palmer 10.82 38 Pn Pn 10 05 40.7 -0.6
GAMB Gambell 10.89 340 Pn Pn 10 05 44.3 +2.2
AMKA Amchitka 10.89 264 Pn 10 05 43.1 +0.8
KNK Knik Glacier 10.96 40 Pn Pn 10 05 43.1 -0.2
GHO Glory Hole Cre 11.02 38 Pn Pn 10 05 43.6 -0.4
GLI Glacier Island 11.20 44 Pn Pn 10 05 44.7 -1.8
HIN Hinchinbrook I 11.21 47 Pn Pn 10 05 47.1 +0.4
SML Sawmill 11.26 39 Pn 10 05 46.5 -0.8
FID Port Fidalgo 11.40 46 Pn Pn 10 05 49.1 -0.1
EYAK Cordova Ski Ar 11.61 48 Pn Pn 10 05 51.4 -0.7
KTH Kantishna Hill 11.65 28 Pn Pn 10 05 53.6 +1.0
SCM Sheep Creek Mo 11.65 40 Pn Pn 10 05 50.8 -1.9
TRF Thorofare Moun 11.75 30 Pn Pn 10 05 53.7 -0.5
KLU Klutina 12.01 43 Pn Pn 10 05 56.5 -1.2
RAGM Ragged Mountai 12.02 49 Pn Pn 10 05 58.4 +0.7
BPAW Bear Paw Mtn. 12.06 26 Pn Pn 10 05 59.3 +1.0
M24K Tolsona, Glenn 12.25 41 Pn Pn 10 05 59.9 -1.0
DHY Denali Highway 12.41 35 Pn Pn 10 06 01.5 -1.7
CRQM Cirque 12.86 49 Pn Pn 10 06 07.8 -1.6
GLB Gilahina Butte 12.87 46 Pn Pn 10 06 09.1 -0.2
VRDI Verde Repeater 12.92 47 Pn Pn 10 06 09.0 -1.2
TGL Tana Glacier 13.00 50 Pn Pn 10 06 09.7 -1.5
PAX Paxson 13.02 38 Pn Pn 10 06 10.4 -1.0
IMAR Indian Mountai 13.07 17 Pn 10 06 11.8 -0.2
WRH Wood River Hil 13.16 30 Pn Pn 10 06 13.4 +0.2
MCARA McCarthy VSAT 13.18 47 Pn Pn 10 06 15.6 +2.2
BALM Baldy 13.33 49 Pn Pn 10 06 16.8 +1.2
YAH Yahtse 13.36 52 Pn Pn 10 06 16.8 +0.7
CCB Clear Creek Bu 13.37 30 Pn Pn 10 06 11.5 -4.5
HDA Harding Lake 13.46 32 Pn Pn 10 06 17.0 -0.3
BARN Barnard Glacie 13.65 49 Pn Pn 10 06 22.1 +2.0
MENT Mentasta 13.66 40 Pn Pn 10 06 20.0 -0.1
RIDG Independent Ri 13.71 36 Pn Pn 10 06 20.4 -0.4
IL31 13.74 31 Pn Pn 10 06 20.1 -0.9
ILAR Eielson Array 13.74 31 Pn Pn 10 06 19.5 -1.5
0.1nm,0.3s,baz=217,slow=14,SNR=6.6
ILAR LR LR 10 11 59.2
comp=Z,455nm,20.4s,baz=232,slow=39
ILAR Eielson Array 13.74 31 Pn Pn 10 06 23.9 +2.8
CTGM Chitina Glacie 13.76 50 Pn Pn 10 06 22.3 +0.8
DOT Dot Lake 13.94 37 Pn Pn 10 06 26.0 +2.1
PCA Pinnacle 13.98 54 Pn Pn 10 06 24.8 +0.3
RDOG Red Dog Mine 14.28 1 Pn Pn 10 06 29.5 +1.0
BCAR Beaver Creek A 14.48 42 Pn 10 06 32.5 +1.1
COLD Coldfoot 14.85 20 Pn Pn 10 06 36.5 +0.4
HYT Haines Junctio 15.49 53 Pn Pn 10 06 46.9 +2.0
EGAK Eagle 15.63 37 Pn P 10 06 48.8 -1.9
DAWY Dawson 15.91 40 Pn Pn 10 06 49.7 -0.5
TOLK Toolik Lake Re 16.19 18 Pn P 10 06 55.3 -1.6
BMAR Burnt Mountain 16.32 26 Pn 10 06 55.1 -0.4
WHY Whitehorse 16.70 54 Pn Pn 10 07 01.3 +0.9
EPYK Eagle Plains 18.05 36 Pn Pn 10 07 16.3 -0.7
INK Inuvik 20.11 32 P P 10 07 38.1 -1.8
3.8nm,0.7s,baz=197,slow=13,SNR=8.8
INK Inuvik 20.17 32 P P 10 07 40.5 +0.6
PEA0B Petropavlovsk- 23.07 284 P P 10 08 12.2 +0.5
PETK Petropavlovsk- 23.07 284 P P 10 08 11.3 -0.5
20nm,0.6s,baz=78,slow=14,SNR=110
PETK LR LR 10 17 27.8
comp=Z,262nm,19.9s,baz=82,slow=37
PETK Petropavlovsk- 23.07 284 P P 10 08 11.1 -0.6
A36M Sachs Harbour 24.40 28 P P 10 08 23.9 -0.4
SEY Seymchan 24.50 310 P P 10 08 24.5 -0.9
5.0nm,0.8s,baz=114,slow=7.3,SNR=7.9
YKA Yellowknife Ar 26.47 51 P P 10 08 44.7 +1.5
1.7nm,0.6s,baz=320,slow=17,SNR=11
YKA LR LR 10 20 07.5
comp=Z,239nm,19.2s,baz=0.0,slow=38
D05A Enumclaw 26.76 87 P P 10 08 47.3 +1.3
D05A IAmb IAmb 10 08 59.5
comp=Z,19nm,1.2s
HAWA Hanford 28.62 87 P P 10 09 05.0 +2.4
HAWA IAmb IAmb 10 09 18.6
comp=Z,4.5nm,0.7s
YBH Yreka Blue Hor 29.39 98 P P 10 09 12.5 +2.9
comp=Z,1.7nm,0.7s,baz=305,slow=6.4,SNR=6.2
G08A Pilot Rock 29.54 88 P P 10 09 11.7 +0.8
K05A Summer Lake 29.86 94 P P 10 09 13.7 -0.2
K05A IAmb IAmb 10 09 18.8
comp=Z,9.6nm,1.2s
I07A Izee 29.89 91 P P 10 09 13.8 -0.2
MOD Modoc Plateau 30.70 95 P P 10 09 24.0 +2.6
MOD IAmb IAmb 10 09 36.5
comp=Z,7.8nm,1.1s
J08A Circle Bar Ran 30.92 91 P P 10 09 24.3 +1.2
J08A IAmb IAmb 10 09 31.0
comp=Z,4.5nm,0.7s
MFID Camas Ranch 32.45 89 P P 10 09 39.4 +2.7
MFID IAmb IAmb 10 09 52.5
comp=Z,5.2nm,0.8s
PAHR Pah Rah Range 32.63 98 P P 10 09 39.6 +1.3
PAHR IAmb IAmb 10 09 50.5
comp=Z,14nm,1.5s
VCNR Virginia City 32.74 98 P P 10 09 38.4 -0.9
VCNR IAmb IAmb 10 09 48.9
comp=Z,4.4nm,0.8s
PNTR Pine Nut 32.90 99 P P 10 09 41.5 +0.7
PNTR IAmb IAmb 10 09 57.6
comp=Z,9.3nm,1.0s
LRM Limekiln Ridge 33.10 83 P P 10 09 43.9 +1.4
YERR Yerington 33.18 98 P P 10 09 43.7 +0.5
YERR IAmb IAmb 10 09 59.7
comp=Z,7.1nm,1.1s
HLID Hailey 33.20 88 P P 10 09 44.5 +1.2
WAKR Walker 33.38 99 P P 10 09 46.8 +1.8

MCMT McKenzie Canyo 33.41 85 P P 10 09 46.7 +1.6
KVN Kaiserville 33.81 97 P P 10 09 50.8 +2.1
KVN IAmb IAmb 10 10 02.5
comp=Z,6.6nm,1.2s
RYN Ryan 33.84 98 P P 10 09 49.4 +0.5
RYN IAmb IAmb 10 10 08.8
comp=Z,5.8nm,1.0s
NVAR Mina Array Bea 34.10 98 P P 10 09 53.1 +1.9
comp=Z,3.2nm,0.7s,baz=301,slow=8.6,SNR=22
NVAR LR LR 10 21 05.5
comp=Z,190nm,21.2s,baz=274,slow=31
NVAR Mina Array Bea 34.10 98 P P 10 09 51.1 -0.1
MDPB Devils Postpil 34.18 100 P P 10 09 52.7 +0.8
MDPB IAmb IAmb 10 10 06.9
comp=Z,4.2nm,0.7s
NV11 Mina Array Sit 34.18 98 P P 10 09 52.6 +0.8
OMMB Old Mammoth Mi 34.24 100 P P 10 09 52.7 +0.2
ELK Elko 34.41 92 P P 10 09 54.2 +0.3
YHH Holmes Hill 34.61 83 P P 10 09 57.8 +2.2
EUNU Eureka 35.26 17 P P 10 10 00.8 +0.2
EUNU IAmb IAmb 10 10 05.5
comp=Z,5.9nm,0.9s
R11A Troy Canyon, C 35.75 96 P P 10 10 07.4 +2.0
R11A IAmb IAmb 10 10 24.6
comp=Z,9.3nm,1.1s
ISA Isabella, Lake 35.89 102 P P 10 10 06.4 0.0
ISA IAmb IAmb 10 10 18.3
comp=Z,8.7nm,1.4s
JKA Kamikawa-asahi 36.03 277 P P 10 10 07.6 +0.1
JKA IAmb IAmb 10 10 09.4
comp=Z,22nm,1.0s
ASAJ Asahikawa 36.03 277 P P 10 10 07.5 0.0
comp=Z,12nm,0.8s,baz=55,slow=9.2,SNR=14
SPR3 Spring Creek 3 36.07 94 P P 10 10 10.2 +2.0
SPR3 IAmb IAmb 10 10 21.9
comp=Z,10nm,1.3s
DUG Dugway, Tooele 36.20 91 P P 10 10 11.1 +1.9
TPNV Topopah Spring 36.30 98 P P 10 10 11.9 +1.9
TPNV IAmb IAmb 10 10 29.9
comp=Z,9.2nm,0.8s
PDAR Pinedale Array 36.55 85 P P 10 10 15.3 +3.0
comp=Z,0.2nm,0.5s,baz=292,slow=3.6,SNR=3.7
PDAR LR LR 10 24 31.2
comp=Z,84nm,18.1s,baz=27,slow=35
PDAR Pinedale Array 36.55 85 P P 10 10 12.6 +0.3
PSUT Pine Spring 36.65 94 P P 10 10 14.0 +0.9
PRN Pahroc Range 36.69 97 P P 10 10 14.9 +1.5
PRN IAmb IAmb 10 10 27.1
comp=Z,11nm,1.0s
GSC Goldstone, Bar 37.11 101 P P 10 10 19.1 +2.2
MWC Mount Wilson 37.15 103 P P 10 10 18.1 +0.7
SHPR Sheep Range 37.24 98 P P 10 10 18.7 +0.6
TCRU Three Creeks R 37.44 93 P P 10 10 21.8 +1.9
CCUT Cedar City 37.59 95 P P 10 10 23.1 +1.9
MSU Marysvale 37.66 93 P P 10 10 23.8 +2.1
TMUT Trail Mountain 37.72 91 P P 10 10 24.2 +1.8
Q16A Castle Valley 37.99 91 P P 10 10 26.2 +1.7
LCMT Little Creek M 38.02 95 P P 10 10 25.5 +0.8
SRU San Rafael Swe 38.25 91 P P 10 10 27.5 +0.9
KNB Kanab 38.27 95 P P 10 10 29.2 +2.4
PFO Pinyon Flats O 38.51 102 P P 10 10 30.9 +2.1
W13A Hualapai Mount 38.96 98 P P 10 10 33.8 +1.1
U15A North Rim 38.98 95 P P 10 10 33.8 +0.9
PV21 Cone Mtn., Par 39.52 90 P P 10 10 38.3 +0.9
PV13 Radium Mtn., P 39.88 90 P P 10 10 39.8 -0.5
PV01 Paradox Valley 40.04 90 P P 10 10 42.3 +0.6
WUAZ Wupatki 40.15 96 P P 10 10 44.1 +1.6
WUAZ IAmb IAmb 10 10 54.8
comp=Z,10nm,1.1s
ULM Lac du Bonnet 40.19 67 LR LR 10 28 02.6
comp=Z,148nm,18.1s,baz=297,slow=37
Y14A Wickenburg 40.29 99 P P 10 10 44.1 +0.6
X16A Lo Mia Camp, P 40.87 97 P P 10 10 50.3 +1.8
H11N2 WAKE ISLAND Hy 41.01 226 T T 10 54 45.4
baz=26,slow=76,SNR=1323
H11N3 WAKE ISLAND Hy 41.02 226 T T 10 54 45.8
baz=26,slow=76,SNR=2299
H11N1 WAKE ISLAND Hy 41.03 226 T T 10 54 46.8
baz=26,slow=76,SNR=1540
USRK Ussuriysk Ar. 42.16 284 P P 10 10 56.7 -2.0
comp=Z,3.0nm,0.7s,baz=49,slow=9.3,SNR=9.6
USRK LR LR 10 29 30.7
comp=Z,131nm,19.6s,baz=42,slow=38
USRK Ussuriysk Ar. 42.16 284 P P 10 10 57.0 -1.8
H11S1 WAKE ISLAND Hy 42.18 225 T T 10 55 60.0
baz=26,slow=76,SNR=1914
H11S2 WAKE ISLAND Hy 42.20 225 T T 10 56 20.1
baz=26,slow=76,SNR=1139
H11S3 WAKE ISLAND Hy 42.20 225 T T 10 56 18.7
baz=26,slow=76,SNR=876
F33A 5 Mile Ranch, 42.43 72 P P 10 11 02.0 +1.1
F33A IAmb IAmb 10 11 17.4
comp=Z,34nm,1.1s
MJAR Matsushiro Arr 43.40 271 P P 10 11 09.0 0.0
comp=Z,6.5nm,0.9s,baz=31,slow=5.6,SNR=12
MJAR Matsushiro Arr 43.40 271 P P 10 11 08.1 -0.8
MAJO Matsushiro 43.40 271 P P 10 11 08.4 -0.6
MAJO IAmb IAmb 10 11 11.2
comp=Z,18nm,0.8s
MAT Matsushiro 43.40 271 P P 10 11 08.6 -0.3
ECSD EROS Data Cent 43.51 75 P P 10 11 09.3 -0.5
JGF Kuroka 44.55 271 P P 10 11 18.6 +0.4
JGF IAmb IAmb 10 11 20.2
comp=Z,16nm,0.8s
JWT Wachi 45.93 272 P P 10 11 29.7 +0.6
JWT IAmb IAmb 10 11 32.1
comp=Z,15nm,0.9s
CN2 Changchun 46.13 288 eP P 10 11 29.5 -1.1
CN2 pmax pmax
comp=Z,50nm,0.6s
MNTX Cornudas Mount 46.38 94 P P 10 11 34.5 +1.9
MNTX IAmb IAmb 10 11 45.2
comp=Z,4.2nm,1.0s
NRIK Noril'sk 46.87 333 P P 10 11 35.6 -0.4
comp=Z,2.5nm,0.4s,baz=85,slow=7.8,SNR=4.7
NRIK LR LR 10 31 57.8
comp=Z,102nm,20.6s,baz=17,slow=37
JCJ Chichijima 47.84 259 LR LR 10 30 09.8
comp=Z,82nm,19.6s,baz=126,slow=34
WMOK Wichita Mounta 48.14 86 P P 10 11 47.5 +1.1
SUMG Summit 48.24 19 P P 10 11 46.3 -0.9
SUMG Summit 48.24 19 *i* P P 10 11 46.8 -0.3
comp=Z,41nm,0.7s
SUMG Summit 48.24 19 *i* P P 10 11 46.9 -0.3
SUMG IAmb IAmb 10 11 47.9
comp=Z,41nm,0.7s
P40A Paris 48.83 77 P P 10 11 51.1 -0.5
P40A IAmb IAmb 10 12 05.5
comp=Z,8.7nm,0.8s
KS19 Wonju Array Si 48.85 280 P P 10 11 52.0 +0.1
KSRS Korea Array 48.85 280 P P 10 11 52.5 +0.7
comp=Z,11nm,0.6s,baz=49,slow=7.0,SNR=41
KSRS LR LR 10 31 14.4
comp=Z,48nm,21.6s,baz=52,slow=34
KSAR Wonju Array Be 48.88 280 P P 10 11 50.8 -1.2
TX31 Lajitas Ar. Si 49.11 95 P P 10 11 53.9 0.0
TX31 IAmb IAmb 10 11 59.0
comp=Z,13nm,0.9s
TX32 Lajitas Array 49.11 95 P P 10 11 54.8 +0.9
TX32 IAmb IAmb 10 11 59.0
comp=Z,4.6nm,0.9s
TXAR Lajitas Array 49.11 95 P P 10 11 54.9 +1.0
comp=Z,3.6nm,0.7s,baz=303,slow=5.5,SNR=23
TXAR LR LR 10 31 34.1
comp=Z,141nm,18.1s,baz=0.0,slow=35
TXAR Lajitas Array 49.11 95 P P 10 11 54.8 +0.9
SFJD Kangerlussuaq 49.39 29 *i* P P 10 11 55.4 -0.1
SFJD Kangerlussuaq 49.39 29 *i* P P 10 11 55.5 -0.1
R40A Maddies Statio 49.53 78 P P 10 11 57.3 +0.3
R40A IAmb IAmb 10 12 16.3
comp=Z,4.2nm,0.7s
HDIL Hopedale 49.73 74 P P 10 11 58.0 -0.4
JNU Nakatsue 50.11 273 LR LR 10 30 55.9
comp=Z,70nm,20.7s,baz=88,slow=33
JCT Junction City 50.56 91 P P 10 12 05.5 +0.6
JCT IAmb IAmb 10 12 16.0
comp=Z,4.7nm,0.8s
SCHQ Schefferville 51.79 47 LR LR 10 36 55.9
comp=Z,129nm,18.1s,baz=326,slow=39
TLY Talaya 52.40 308 P P 10 12 18.6 +0.1
comp=Z,6.9nm,0.6s,baz=21,slow=2.9,SNR=6.6
TLY Talaya 52.40 308 P P 10 12 17.8 -0.6
TLY IAmb IAmb 10 12 19.2
comp=Z,12nm,0.8s
ULN Ulaanbaatar 53.31 303 P P 10 12 24.9 -0.5

ULN IAmb IAmb 10 12 25.8
comp=Z,12nm,0.7s
T47A Sharon Grove 53.40 76 P P 10 12 26.1 +0.1
T47A IAmb IAmb 10 12 45.3
comp=Z,8.2nm,1.1s
WVT Waverly 53.59 77 P P 10 12 27.2 -0.1
WVT IAmb IAmb 10 12 44.9
comp=Z,5.2nm,0.7s
SONM Songino Array 53.66 303 P P 10 12 27.5 -0.4
comp=Z,10nm,1.0s,baz=50,slow=7.9,SNR=19
SONM PcP **PcP 10 13 34.4 +0.3**
comp=Z,2.3nm,0.7s,baz=359,slow=1.1,SNR=3.8
SONM Songino Array 53.66 303 P P 10 12 27.5 -0.4
HHC Hu-ho-hao-te 55.78 294 eP P 10 12 43.8 +0.5
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,170nm,6.2s
HHC LR LR
comp=Z,280nm,15.0s
HHC LR LR
comp=Z,250nm,15.1s
HHC LR LR
comp=Z,220nm,14.4s
TIA Tai'an 55.95 286 P P 10 12 44.5 0.0
TIA pmax pmax
comp=Z,15nm,0.8s
KEV Kevo 56.51 356 P P 10 12 46.8 -1.1
ARCES ARCESS Array B 56.79 356 P P 10 12 48.2 -1.7
comp=Z,5.2nm,0.6s,baz=24,slow=7.1,SNR=19
ARCES PcP **PcP 10 13 45.7 +0.1**
comp=Z,3.2nm,0.6s,baz=32,slow=4.7,SNR=5.0
ARCES LR LR 10 36 20.3
comp=Z,56nm,22.0s,baz=270,slow=35
NJ2 Nanjing 57.94 282 eP P 10 12 57.5 -1.1
NJ2 pmax pmax
comp=Z,20nm,0.6s
ZALV Zalesovo Beam 58.76 320 P P 10 13 03.3 -0.7
comp=Z,3.4nm,0.5s,baz=30,slow=7.9,SNR=12
ZALV LR LR 10 39 60.0
comp=Z,161nm,19.3s,baz=57,slow=38
ZALV Zalesovo Beam 58.76 320 P P 10 13 03.8 -0.2
XAN Xi'an 62.14 290 P P 10 13 27.4 -0.1
XAN pP pP 10 13 32.3 +0.4
XAN pmax pmax
comp=Z,13nm,0.9s
XAN Xi'an 62.14 290 P P 10 13 27.1 -0.4
XAN IAmb IAmb 10 13 29.0
comp=Z,6.9nm,0.9s
SSLB Suanglung 62.86 274 P P 10 13 32.6 +0.2
GTA Gaotai 63.02 300 eP P 10 13 33.0 -0.4
GTA pP pP 10 13 37.2 -0.6
GTA sP sP 10 13 40.0 +0.6
GTA pmax pmax
comp=Z,9.0nm,0.8s
LZH Lanzhou 63.39 295 eP P 10 13 36.2 +0.2
LZH pP sP 10 13 46.2 +4.2
LZH sP pP 10 13 50.2 +10
LZH pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 63.65 321 P P 10 13 36.6 -0.5
KLMR Klimovskoe 64.24 348 eP P 10 13 38.6 -2.3
KLMR AMP 10 13 41.3
comp=Z,19nm,1.2s
BVAR Borovoye Array 64.57 327 P P 10 13 42.8 -0.4
comp=Z,15nm,0.7s,baz=129,slow=12,SNR=67
BRVK Borovoye 64.57 327 P P 10 13 41.4 -1.9
ENH Enshi 64.64 287 P P 10 13 42.3 -1.7
FIA1 FINESS Array S 64.84 355 P P 10 13 43.7 -1.1
FINES FINESS Array B 64.84 355 P P 10 13 43.6 -1.2
comp=Z,9.2nm,0.5s,baz=20,slow=8.0,SNR=58
FINES PcP **PcP 10 14 17.8 -0.3**
comp=Z,4.3nm,0.7s,baz=8.5,slow=3.9,SNR=4.2
FINES FINESS Array B 64.84 355 P P 10 13 43.7 -1.1
FINES PcP **PcP 10 14 17.6 -0.5**
KIRV Kirov 64.88 342 P P 10 13 44.3 -0.7
comp=Z,18nm,0.6s,baz=47,slow=4.1,SNR=5.0
ARU Arti 64.91 336 P P 10 13 44.3 -1.1
comp=Z,4.2nm,0.6s,baz=8.9,slow=5.0,SNR=11
ARU PcP **PcP 10 14 18.7 +0.2**
comp=Z,1.5nm,0.3s,baz=12,slow=2.6,SNR=4.3
ARU Arti 64.91 336 P P 10 13 44.2 -1.1
ARU PcP **PcP 10 14 18.6 +0.2**
NC204 NORSAR Array S 65.15 3 P P 10 13 46.4 -0.5
MK31 Makanchi Array 65.39 317 P P 10 13 47.6 -1.0
MK31 IAmb IAmb 10 13 48.6
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 65.39 317 P P 10 13 47.6 -1.1
comp=Z,6.3nm,0.7s,baz=46,slow=5.9,SNR=56
MKAR LR LR 10 44 57.1
comp=Z,106nm,18.3s,baz=13,slow=38
MKAR Makanchi Array 65.39 317 P P 10 13 47.5 -1.2
NB2 NORSAR Subarra 65.40 3 P P 10 13 47.6 -0.9
comp=Z,2.7nm,0.7s,baz=358,slow=6.9
NOA NORSAR Array B 65.40 3 P P 10 13 48.0 -0.6
comp=Z,5.4nm,0.8s,baz=357,slow=6.6,SNR=12
TAOE Nuku Hiva Isla 65.43 155 eLR LR 10 33 18.3
comp=Z,99nm,22.1s
WMQ Urumqi 65.45 311 eP P 10 13 48.9 -0.3
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,110nm,5.9s
WMQ LR LR
comp=Z,300nm,29.2s
WMQ LR LR
comp=Z,570nm,29.1s
MAKZ Makanchi 65.51 317 P P 10 13 48.4 -1.0
MAKZ IAmb IAmb 10 13 49.4
comp=Z,6.6nm,0.7s
CD2 Chengdu 67.36 292 ||| *i* P P 10 14 02.2 +0.7
CD2 pmax pmax
comp=Z,30nm,0.6s
VSU Vasula 67.78 354 eP P 10 14 03.1 -0.6
GYA Guiyang 69.14 286 eP P 10 14 13.3 +0.4
GYA pmax pmax
comp=Z,15nm,0.8s
PMOR Pomariorio Ree 69.80 164 eT T 11 30 38.9
comp=Z,91nm,0.2s
AKTO Aktyubinsk 70.48 333 P P 10 14 20.3 -0.3
comp=Z,13nm,0.8s,baz=35,slow=5.6,SNR=41
IZAR Zarasai 70.51 354 eP P 10 14 20.2 -0.4
ISAL Salakas 70.70 354 eP P 10 14 20.5 -1.3
PABE Paberze 70.87 356 eP P 10 14 22.2 -0.7
IIGN Ignalina 70.91 354 eP P 10 14 20.7 -2.4
IDID Didziasalis 70.92 354 eP P 10 14 21.4 -1.8
ABKAR Akbulak array 71.03 332 P P 10 14 23.6 -0.3
TKM2 Tokmak 2 71.27 318 P P 10 14 26.0 +0.2
SNR=14
KDJ Kajisay 71.31 317 P P 10 14 26.0 0.0
TARG Taragay, Kyrgy 71.39 316 P P 10 14 26.4 -0.3
TARG IAmb IAmb 10 14 27.4
comp=Z,7.9nm,0.6s
USP Ospenovka 71.41 319 P P 10 14 26.8 +0.4
SNR=12
BOOM Boomskoye usch 71.50 318 P P 10 14 27.2 +0.1
CHMS Chumysh 71.54 319 P P 10 14 28.0 +0.8
SNR=8.5
ULHL Ulahol 71.58 318 P P 10 14 28.1 +0.4
SNR=6.3
KBK Karagaybulak 71.75 319 P P 10 14 29.5 +0.9
SNR=12
AAK Ala-Archa 71.94 319 P P 10 14 30.2 +0.4
SNR=15
PPT Papeete 72.06 166 LR LR 10 38 50.9
comp=Z,83nm,21.9s,baz=346,slow=30
PPT2 Papeete2 72.08 166 eLR LR 10 36 27.7
comp=Z,118nm,22.5s
EKS2 Erkin-Say 72.20 319 P P 10 14 32.2 +0.9
SNR=24
UCH Uchtor 72.28 319 P P 10 14 33.0 +0.8
SNR=12
KMI Kunming 72.40 288 ||| eP P 10 14 34.5 +1.7
KMI pP pP 10 14 35.8 -1.5
KMI sP sP 10 14 40.7 +2.3
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,140nm,4.6s
KMI LR LR
comp=Z,150nm,6.4s
KMI LR LR
comp=Z,140nm,6.9s
KMI LR LR
comp=Z,160nm,8.3s
AML Almayashu 72.69 319 P P 10 14 35.7 +1.2

SNR=6.2
KK31 **Karatay Array** 73.05 322 P P 10 14 35.9 -0.3
KKAR **Karatay Array** 73.05 322 P P 10 14 35.9 -0.3
KKAR **Karatay Array** 73.05 322 P P 10 14 35.5 -0.7
SLVN **Son La** 74.71 285 P P 10 14 46.8 +0.6
SLVN IAmb IAmb 10 14 57.4
comp=Z,12nm,0.9s
CLL **Collm** 75.19 2 *i* P P 10 14 48.3 -0.2
comp=Z,6.0nm,0.7s
CLL **Collm** 75.19 2 P P 10 14 48.1 -0.4
CLL IAmb IAmb 10 14 49.0
comp=Z,5.6nm,0.7s
AKASG **Malin Array Be** 75.32 352 P P 10 14 47.9 -1.4
comp=Z,8.9nm,0.5s,baz=11,slow=5.8,SNR=22
AKASG LR LR 10 51 09.4
comp=Z,50nm,18.4s,baz=325,slow=38
AKASG **Malin Array Be** 75.32 352 P P 10 14 48.3 -1.0
AKBB **Malin Array Si** 75.32 352 P P 10 14 48.1 -1.2
BRG **Berggiesshubel** 75.65 2 *eP* P 10 14 50.7 -0.5
comp=Z,14nm,1.4s
BMRD **Maredsous** 75.76 8 P P 10 14 52.0 +0.2
DPC **Dobruska-Polom** 76.20 0 *eP* P 10 14 54.5 +0.1
NKC **Novy Kostel** 76.25 3 *eP* P 10 14 54.9 +0.2
KRLC **Kraliky** 76.47 360 *eP* P 10 14 56.1 +0.2
GAR **Garm** 76.68 320 P P 10 14 57.3 -0.1
GRF **Grafenberg Arr** 76.75 4 *eP* P 10 14 58.0 +0.5
comp=Z,13nm,1.2s,baz=359,slow=5.1
LANS **Liptovska Anna** 77.38 358 *eP* P 10 15 00.6 -0.4
KHC **Kasperske Hory** 77.39 2 *eP* P 10 15 01.4 +0.3
KHC **Kasperske Hory** 77.39 2 P P 10 15 01.0 -0.1
KHC IAmb IAmb 10 15 03.1
comp=Z,11nm,1.3s
CHGR **Chuyangaron** 77.42 321 P P 10 15 01.2 -0.4
CRVS **Cervenica-Dubn** 77.57 357 *eP* P 10 15 02.0 -0.1
GERES **GERESS Array B** 77.67 2 P P 10 15 02.6 -0.2
comp=Z,1.6nm,0.7s,baz=349,slow=4.1,SNR=12
GERES **GERESS Array B** 77.67 2 P P 10 15 02.3 -0.5
CLF **Chambon-Foret** 77.78 10 P P 10 15 03.7 +0.4
BFO **Black Forest** 77.97 6 P P 10 15 04.0 -0.3
BFO IAmb IAmb 10 15 05.3
comp=Z,13nm,1.4s
SHL **Shillong** 77.98 297 P P 10 15 06.8 +1.8
SHL IAmb IAmb 10 15 20.5
comp=Z,6.2nm,0.7s
ECH **Echery** 78.01 7 P P 10 15 04.1 -0.4
VYHS **Vyhne** 78.04 359 *eP* P 10 15 05.1 +0.4
PSZ **Piszkesteto** 78.60 358 P P 10 15 08.4 +0.5
PSZ IAmb IAmb 10 15 09.6
comp=Z,17nm,1.5s
CONA **Conrad Observa** 78.62 1 *eP* P 10 15 08.3 +0.3
comp=Z,6.7nm,1.0s
BUR08 **Bucovina Ar. S** 78.66 354 P P 10 15 07.8 -0.5
BUR08 IAmb IAmb 10 15 09.7
comp=Z,5.8nm,1.1s
MOA **Molln** 78.68 2 *eP* P 10 15 08.2 -0.1
comp=Z,2.5nm,0.6s
BURAR **Bucovina Array** 78.68 354 ⇑P P 10 15 08.0 -0.4
BURAR **Bucovina Array** 78.68 354 P P 10 15 07.2 -1.2
RETA **Reutte** 78.94 4 *eP* P 10 15 09.7 -0.1
comp=Z,2.8nm,0.6s
MOTA **Moosalm** 79.09 4 *eP* P 10 15 10.8 +0.1
comp=Z,5.9nm,0.8s
DAVA **Damuels** 79.10 5 *eP* P 10 15 11.1 +0.3
comp=Z,2.4nm,0.6s
WATA **Walderalm** 79.12 4 *eP* P 10 15 10.7 -0.1
comp=Z,4.8nm,0.5s
WTTA **Wattenberg** 79.19 4 *eP* P 10 15 11.2 -0.1
comp=Z,8.6nm,0.6s
SQTA **Sankt Quirin** 79.22 4 *eP* P 10 15 11.0 -0.4
comp=Z,13nm,1.0s
ARSA **Arzberg** 79.30 1 *eP* P 10 15 12.2 +0.6
comp=Z,6.1nm,1.0s
FETA **Feichten** 79.40 4 *eP* P 10 15 11.8 -0.6
comp=Z,6.1nm,0.7s
KBA **Koelnbreinsper** 79.43 2 *eP* P 10 15 13.3 +0.7
comp=Z,5.8nm,0.5s
ABTA **Abfaltersbach** 79.74 3 *eP* P 10 15 13.0 -1.1
comp=Z,9.8nm,1.2s
CM31 **Chiang Mai Arr** 79.81 287 P P 10 15 15.2 +0.4
CM31 IAmb IAmb 10 15 16.5
comp=Z,13nm,1.1s
CMAR **Chiang Mai Arr** 79.81 287 P P 10 15 14.8 0.0
comp=Z,12nm,1.1s,baz=14,slow=5.5,SNR=34
CMAR LR LR 10 54 07.5
comp=Z,53nm,18.2s,baz=94,slow=38
SOKA **Soboth** 79.86 1 *eP* P 10 15 15.6 +0.8
comp=Z,18nm,1.4s
TUE **Stuetta** 79.88 5 P P 10 15 15.6 +0.5
TUE IAmb IAmb 10 15 33.1
comp=Z,16nm,1.5s
MYKA **Terra Mystica** 79.89 2 *eP* P 10 15 15.3 +0.3
comp=Z,2.4nm,0.5s
DZM **Mont Dzumac** 79.98 208 *e*LR LR 10 40 01.2
comp=Z,121nm,22.6s
OBKA **Obir** 80.03 2 *eP* P 10 15 16.1 +0.4
comp=Z,10nm,0.5s
PRED **Cave del Predi** 80.07 2 P P 10 15 15.0 -0.9
PRED IAmb IAmb 10 15 22.1
comp=Z,12nm,1.3s
NIL **Nilore** 80.14 315 P P 10 15 16.7 +0.2
SIRR **Siria** 80.20 357 ⇑P P 10 15 17.5 +1.0
KBZ **Khabaz** 80.28 341 P P 10 15 17.7 +0.8
comp=Z,1.2nm,0.4s,baz=342,slow=4.2,SNR=6.1
KBZ LR LR 10 55 47.9
comp=Z,53nm,18.4s,baz=7.0,slow=39
DOPR **Dopca** 80.31 354 ⇑P P 10 15 16.7 -0.5
BZS **Buzias** 80.85 357 ⇑P P 10 15 19.9 -0.1
VOIR 80.86 354 ⇓P P 10 15 19.0 -1.2
ARR **Arges** 80.96 354 ⇑P P 10 15 21.5 +0.8
GZR **Gura Zlata** 81.03 356 ⇑P P 10 15 21.0 -0.1
KBL **Kabul** 81.08 319 P P 10 15 20.4 -1.3
KBL IAmb IAmb 10 15 21.2
comp=Z,8.1nm,0.7s
TEOL **Teolo** 81.10 4 P P 10 15 21.3 0.0
BNI **Bardonecchia** 81.12 7 P P 10 15 22.3 +0.6
BNI IAmb IAmb 10 15 24.2
comp=Z,20nm,1.5s
GEYT **Alibeck** 81.89 328 P P 10 15 26.0 +0.2
comp=Z,7.0nm,0.8s,baz=320,slow=4.4,SNR=9.0
GEYT LR LR 10 55 09.6
comp=Z,94nm,18.8s,baz=10.0,slow=38
GEYT **Alibeck** 81.89 328 P P 10 15 26.1 +0.4
GYA0B **ALIBECK ARRAY** 81.89 328 P P 10 15 26.0 +0.2
GYA0B IAmb IAmb 10 15 27.1
comp=Z,15nm,1.1s
MSSA **Maissana** 82.04 5 P P 10 15 26.6 +0.1
VLC **Villacollemand** 82.24 5 P P 10 15 27.7 +0.2
DIVS **Divibare** 82.42 358 P P 10 15 27.9 -0.6
DIVS IAmb IAmb 10 15 29.3
comp=Z,11nm,1.4s
PCAB **Cabril** 82.48 18 *eP* P 10 15 29.8 +1.0
comp=Z,21nm,1.9s
PBRG **Braganca** 82.63 17 *eP* P 10 15 30.4 +0.8
ARTV **Artvin** 82.92 341 P P 10 15 31.6 +0.3
ARTV IAmb IAmb 10 15 32.8
comp=Z,9.7nm,1.5s
PVRL **Vila Real** 82.96 18 *eP* P 10 15 32.5 +1.2
comp=Z,42nm,1.9s
MVO **Moncorvo** 83.20 18 *eP* P 10 15 33.5 +1.0
comp=Z,19nm,1.7s
PVIS **Viseu** 83.47 19 *eP* P 10 15 34.7 +0.8
comp=Z,29nm,1.3s
HRA **Herat** 83.74 324 P P 10 15 35.2 -0.4
HRA IAmb IAmb 10 15 37.2
comp=Z,8.6nm,1.1s
PCAS **Casmilo, Conde** 84.00 19 *eP* P 10 15 37.6 +1.0
comp=Z,58nm,1.9s
PDG **Podgorica** 84.10 358 ⇑P P 10 15 36.7 -0.3
PCBR **Castelo Branco** 84.40 19 *eP* P 10 15 38.9 +0.3
comp=Z,21nm,1.9s
SBUM **Sibu** 84.80 267 P P 10 15 42.3 +1.4
SBUM IAmb IAmb 10 15 43.0
comp=Z,5.9nm,0.9s
ESDC **Sonseca Array** 85.18 16 P P 10 15 42.5 -0.1
comp=Z,3.6nm,0.7s,baz=343,slow=4.6,SNR=17
ESDC **Sonseca Array** 85.18 16 P P 10 15 43.7 +1.1
BR131 **Keskin Array S** 85.69 347 P P 10 15 45.5 +0.1
BRTR **Keskin Array B** 85.69 347 P P 10 15 45.4 +0.1
comp=Z,6.7nm,0.9s,baz=36,slow=1.9,SNR=22
BRTR **Keskin Array B** 85.69 347 P P 10 15 44.6 -0.7
MATE **Matera** 85.90 0 ⇓P P 10 15 46.4 +0.3
MTN **Manton Dam** 86.52 243 P P 10 15 49.8 +0.4
TIP **Timpagrande** 87.37 360 ⇑P P 10 15 54.1 +0.7
KEST **Kesra** 90.58 6 P P 10 16 09.0 +0.4
comp=Z,2.5nm,0.6s,baz=287,slow=7.0,SNR=5.6
KEST **Kesra** 90.58 6 P P 10 16 09.4 +0.8
KEST IAmb IAmb 10 16 17.1
comp=Z,9.9nm,1.2s
WRA **Warramunga Arr** 90.85 237 P P 10 16 09.4 -0.4
comp=Z,0.7nm,0.5s,baz=33,slow=5.7,SNR=15
WRA **Warramunga Arr** 90.85 237 P P 10 16 09.5 -0.3
FITZ **Fitzroy Crossi** 93.79 244 P P 10 16 23.4 0.0
comp=Z,2.9nm,0.8s,baz=57,slow=4.4,SNR=5.8
FITZ **Fitzroy Crossi** 93.79 244 P P 10 16 22.9 -0.5
FITZ IAmb IAmb 10 16 24.6
comp=Z,10nm,1.2s
ASAR **Alice Springs** 94.21 235 P P 10 16 25.2 -0.1
comp=Z,1.7nm,0.9s,baz=30,slow=3.9,SNR=15
ASAR **Alice Springs** 94.21 235 P P 10 16 25.3 0.0
H03N2 **Juan Fernandez** 113.11 115 T T 12 25 05.3
baz=323,slow=78,SNR=104
H03N1 **Juan Fernandez** 113.13 115 T T 12 25 03.2
baz=323,slow=78,SNR=82
H03N3 **Juan Fernandez** 113.13 115 T T 12 25 04.5
baz=323,slow=78,SNR=114
BOSA **Boshof** 154.05 343 PKPbc **PKPbc** 10 23 05.5 -0.4
comp=Z,1.6nm,0.7s,baz=45,slow=4.3,SNR=3.8
MAW **Mawson** 154.33 220 PKPbc **PKPbc** 10 23 05.1 0.0
comp=Z,1.5nm,0.7s,baz=64,slow=2.3,SNR=8.9
MAW **Mawson** 154.33 220 PKPdf **PKPdf** 10 22 56.8 0.0
MAW PKPbc **sPKPdf** 10 23 04.9 +2.5
MAW PKPab **PKPab** 10 23 20.4 +1.0

*IDC **03** 10:11:50.6±0.6, 6.76N×72.98W, h161km±7km, mb3.4/9, mb1 3.8/13, mb1mx3.6/28, mbtmp4.1/13, Error ellipse: s-maj=15.1km s-min=7.1km az=127.0*
*RSNC **03** 10:11:51.6±1.1, 6.81N×73.15W, h150km±4km, ML4.0, Mw4.3, Fault plane solution: NP1:φs38.00000°, δ38.00000°, λ18.00000°.*
*NEIC **03** 10:11:51.6±1.5, 6.77N±0.09×73.0W±0.1, h169km±8km, mb4.3/49, Error ellipse: s-maj=16.2km s-min=10.6km az=122.0*

ISC 03 10:11:50.6±0.6, **6.83N**±0.03×**73.13W**±0.04, **h154**km±5km, **n109**,σ1**33**/145, **mb4.3**/30, **7C-11D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**193**	⇑*iP*	**Pn**	**10 12 12.0**	**+0.2**
BARC				*eS*	**Sn**	**10 12 27.2**	**-0.7**
BRRC	**Barranca, Sant**	**0.64**	**296**	⇑*iP*	**Pn**	**10 12 13.8**	**+0.7**
BRRC				*eS*	**Sn**	**10 12 30.9**	**+0.7**
BRRC				*i*		10 12 35.0	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇑*iP*	**Pn**	**10 12 14.8**	**+0.9**
PAMC				*eS*	**Sn**	**10 12 31.9**	**+0.4**
PAMC				*i*		10 12 34.2	
	comp=Z,1μm,0.4s						
RUSC	**La Rusia**	**0.93**	**177**	⇓*iP*	**Pn**	**10 12 15.8**	**+0.1**
RUSC				*eS*	**Sn**	**10 12 34.4**	**-0.6**
RUSC				*i*		10 12 35.9	
	comp=Z,2μm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	⇓*iP*	**Pn**	**10 12 18.3**	**-0.6**
PTBC				*eS*	**Sn**	**10 12 39.7**	**-0.9**
PTBC				*i*		10 12 41.8	
	comp=Z,886nm,0.5s						
TAMC	**Tame, Arauca**	**1.39**	**106**	⇑*iP*	**Pn**	**10 12 20.3**	**+1.0**
TAMC				*eS*	**Sn**	**10 12 41.8**	**+0.5**
TAMC				*i*		10 12 42.5	
	comp=Z,656nm,0.2s						
OCAC	**Ocana**	**1.41**	**352**	⇑*iP*	**Pn**	**10 12 20.0**	**+0.3**
OCAC				*eS*	**Sn**	**10 12 42.2**	**+0.1**
OCAC				*i*		10 12 47.3	
	comp=Z,1μm,0.6s						
SPBC	**San Pablo de B**	**1.50**	**219**	⇓*iP*	**Pn**	**10 12 20.6**	**+0.1**
SPBC				*eS*	**Sn**	**10 12 42.4**	**-1.0**
SPBC				*i*		10 12 47.6	
	comp=Z,2μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*eP*	**Pn**	**10 12 23.9**	**-0.2**
ZARC				*eS*	**Sn**	**10 12 50.2**	**+0.4**
ZARC				*i*		10 12 56.3	
	comp=Z,1μm,0.4s						
SMLC	**San Martn de**	**2.17**	**335**	⇓*iP*	**Pn**	**10 12 28.0**	**+0.1**
SMLC				*eS*	**Sn**	**10 12 56.8**	**+0.1**
SMLC				*i*		10 13 04.9	
	comp=Z,1μm,0.2s						
CHIC	**Chingaza**	**2.27**	**195**	⇓*iP*	**Pn**	**10 12 29.7**	**+0.2**
CHIC				*eS*	**Sn**	**10 12 59.3**	**-0.1**
CHIC				*i*		10 13 02.9	
	comp=Z,757nm,0.4s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**10 12 31.7**	**+1.8**
	comp=Z,235nm,0.3s,baz=259,slow=21,SNR=524						
ROSC				S	**Sn**	**10 13 01.7**	**+1.5**
	comp=Z,310nm,0.3s,baz=117,slow=17,SNR=17						
ROSC	**El Rosal**	**2.30**	**211**	⇓*iP*	**Pn**	**10 12 31.5**	**+1.6**
ROSC				*eS*	**Sn**	**10 13 02.4**	**+2.2**
ROSC				*i*		10 13 09.6	
	comp=Z,2μm,0.3s						
ROSC	**El Rosal**	**2.30**	**211**		**Pn**	**10 12 31.4**	**+1.4**
UREC	**San Jos de Ur**	**2.55**	**291**	*eP*	**Pn**	**10 12 31.8**	**-0.8**
UREC				*eS*	**Sn**	**10 13 03.0**	**-2.0**
UREC				*i*		10 13 13.3	
	comp=Z,471nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.73**	**234**	*eP*	**Pn**	**10 12 35.7**	**+0.4**
GUY2C				*eS*	**Sn**	**10 13 10.3**	**+0.6**
GUY2C				*i*		10 13 24.1	
	comp=Z,639nm,0.6s						
VILC	**Villavicencio,**	**2.76**	**192**	⇓*eP*	**Pn**	**10 12 35.0**	**-0.2**
VILC				*eS*	**Sn**	**10 13 09.5**	**-0.2**
VILC				*i*		10 13 19.6	
	comp=Z,1μm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*iP*	**Pn**	**10 12 34.9**	**-0.6**
PTGC				*eS*	**Sn**	**10 13 08.2**	**-2.1**
PTGC				*i*		10 13 10.2	
	comp=Z,244nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*eP*	**Pn**	**10 12 39.5**	**+1.0**
CBOC				*eS*	**Sn**	**10 13 15.2**	**-0.4**
CBOC				*i*		10 13 24.4	
	comp=Z,148nm,0.3s						
DBBC	**Dabeiba**	**3.06**	**274**	⇑*eP*	**Pn**	**10 12 39.3**	**+0.3**
DBBC				*eS*	**Sn**	**10 13 15.4**	**-1.0**
DBBC				*i*		10 13 19.5	
	comp=Z,1μm,0.5s						
TOLC	**Tolima**	**3.12**	**224**	*eP*	**Pn**	**10 12 40.1**	**+0.2**
TOLC				*eS*	**Sn**	**10 13 19.1**	**+1.1**
ARGC	**Ariguani, Magd**	**3.21**	**340**	⇓*iP*	**Pn**	**10 12 41.9**	**+1.2**
ARGC				*eS*	**Sn**	**10 13 20.4**	**+0.7**
ARGC				*i*		10 13 30.1	
	comp=Z,362nm,0.5s						
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**10 12 41.3**	**+0.4**
	comp=Z,148nm,0.3s,baz=209,slow=3.7,SNR=99						
SDV				S	**Sn**	**10 13 18.8**	**-1.2**
	comp=Z,52nm,0.3s,baz=239,slow=23,SNR=15						
SDV	**Santo Domingo**	**3.21**	**50**	⇑*eP*	**Pn**	**10 12 41.3**	**+0.4**
SDV				*eS*	**Sn**	**10 13 18.4**	**-1.5**
SDV				*i*		10 13 22.4	
	comp=Z,110nm,0.4s						
ANIL	**Santa Ana**	**3.24**	**224**	*eP*	**Pn**	**10 12 42.1**	**+0.6**
ANIL				*eS*	**Sn**	**10 13 21.5**	**+0.6**
ANIL				*i*		10 13 25.8	
	comp=Z,192nm,0.4s						
PRAC	**Prado**	**3.55**	**210**	⇓*iP*	**Pn**	**10 12 44.9**	**-0.3**
PRAC				*eS*	**Sn**	**10 13 27.2**	**-0.4**
PRAC				*i*		10 13 33.8	
	comp=Z,805nm,0.4s						
ORTC	**Ortega, Tolima**	**3.58**	**216**	*eP*	**Pn**	**10 12 45.7**	**+0.1**
ORTC				*eS*	**Sn**	**10 13 28.7**	**+0.4**
ORTC				*i*		10 13 35.4	
	comp=Z,509nm,0.6s						
SJCC	**San Jacinto, C**	**3.66**	**327**	⇓*iP*	**Pn**	**10 12 45.5**	**-1.1**
SJCC				*eS*	**Sn**	**10 13 27.0**	**-3.1**
SJCC				*i*		10 13 34.3	
	comp=Z,251nm,0.3s						
GUVC	**San Jose del G**	**4.29**	**173**	*eP*	**Pn**	**10 12 53.0**	**-1.7**
GUVC				*eS*	**Sn**	**10 13 43.9**	**-0.8**
GUVC				*i*		10 13 48.7	
	comp=Z,265nm,0.3s						
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*	**Pn**	**10 12 56.6**	**-0.1**
SMRC				*eS*	**Sn**	**10 13 45.1**	**-3.2**
SMRC				*i*		10 13 47.5	
	comp=Z,131nm,0.4s						
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*	**Pn**	**10 12 58.5**	**-1.7**
MACC				*eS*	**Sn**	**10 13 49.5**	**-5.1**
BETC	**Betania**	**4.72**	**209**	*eP*	**Pn**	**10 12 58.8**	**-1.7**
BETC				*eS*	**Sn**	**10 13 50.4**	**-4.5**
MARP	**Paez Belalcaza**	**4.86**	**216**	*eP*	**Pn**	**10 13 02.4**	**-0.1**
MARP				*eS*	Sn	10 13 51.5	-7.1
URIC	**Uribia, Colomb**	**4.97**	**13**	*eP*	**Pn**	**10 13 02.3**	**-1.4**
URIC				*eS*	**Sn**	**10 13 55.5**	**-5.3**
URIC				*i*		10 14 04.9	
	comp=Z,52nm,0.5s						
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*	**Pn**	**10 13 05.8**	**-0.9**
GARC				*eS*	**Sn**	**10 14 02.2**	**-3.8**
GARC				*i*		10 14 08.0	
	comp=Z,168nm,0.3s						
PCON	**Cinco Dias**	**5.53**	**216**	*eP*	**Pn**	**10 13 12.5**	**+0.8**
PCON				*eS*	**Sn**	**10 14 14.1**	**-0.9**
PCON				*i*		10 14 21.3	
	comp=Z,58nm,0.4s						
FLOC	**Florencia**	**5.79**	**206**	*eP*	**Pn**	**10 13 14.2**	**-0.3**
FLOC				*eS*	**Sn**	**10 14 19.2**	**-1.0**
FLOC				*i*		10 14 53.0	
	comp=Z,35nm,0.4s						
BBAC	**Balboa, Cauca**	**6.30**	**221**	*eP*	**Pn**	**10 13 21.1**	**-0.4**
BBAC				*eS*	**Sn**	**10 14 29.4**	**-3.3**
BBAC				*i*		10 14 33.9	
	comp=Z,30nm,0.4s						
BCIP	**Isla Barro Col**	**7.04**	**290**	Pn	**Pn**	**10 13 29.4**	**-1.8**
OTAV	**Otavalo**	**8.43**	**219**		**Pn**	**10 13 50.9**	**+0.8**
PCRV	**Puerto La Cruz**	**9.04**	**68**	P	**Pn**	**10 13 57.6**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=295,slow=0.4,SNR=15						
PLCV	**Puerto La Cruz**	**9.07**	**68**		**Pn**	**10 13 57.6**	**-0.7**
CBYP	**Canovanas**	**13.40**	**31**	Pn	**Pn**	**10 14 53.5**	**-1.4**
MTP	**Monte Pirata**	**13.42**	**33**	Pn	**Pn**	**10 14 55.6**	**+0.6**
CDVI	**St. Croix**	**13.58**	**36**	Pn	**Pn**	**10 14 57.3**	**+0.2**
SAML	**Samuel**	**18.55**	**148**	P	**P**	**10 15 54.6**	**-1.1**
TEIG	**Tepich**	**19.83**	**314**	P	**P**	**10 16 11.3**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=295,slow=0.8,SNR=13						
TEIG	**Tepich**	**19.83**	**314**	P	**P**	**10 16 11.2**	**+1.8**
TEIG				IAmb	IAmb	10 16 24.2	
	comp=Z,26nm,1.2s						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**10 16 46.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=0.3,slow=12,SNR=5.7						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**10 16 45.6**	**-1.8**
SIV	**San Ignacio**	**25.62**	**152**	P	**P**	**10 17 04.2**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=352,slow=9.3,SNR=4.2						
HODGE	**Hodges**	**28.55**	**344**	P	**P**	**10 17 31.4**	**-0.5**
HODGE				IAmb	IAmb	10 17 37.2	
	comp=Z,7.7nm,1.4s						
Y49A	**Blount Mountai**	**29.57**	**337**	P	**P**	**10 17 42.8**	**+1.7**
Y49A				IAmb	IAmb	10 17 56.2	
	comp=Z,11nm,1.4s						
CPCT	**Cooper Cave**	**30.35**	**341**	P	**P**	**10 17 49.3**	**+1.4**
CPCT				IAmb	IAmb	10 17 50.4	
	comp=Z,15nm,1.5s						
W50A	**Signal Mountai**	**30.38**	**340**	P	**P**	**10 17 49.8**	**+1.7**
W50A				IAmb	IAmb	10 17 50.5	
	comp=Z,3.9nm,0.9s						
PLAL	**Pickwick Lake**	**31.22**	**336**	P	**P**	**10 17 57.5**	**+2.0**
PLAL				IAmb	IAmb	10 17 57.6	
	comp=Z,4.0nm,0.8s						
V48A	**Smith Brothers**	**31.40**	**338**	P	**P**	**10 17 58.4**	**+1.3**
V48A				IAmb	IAmb	10 17 59.5	
	comp=Z,10nm,0.9s						
W45A	**Hickory Valley**	**31.83**	**335**	P	**P**	**10 18 01.8**	**+0.9**
WVT	**Waverly**	**32.12**	**337**	P	**P**	**10 18 04.3**	**+1.0**
WVT				IAmb	IAmb	10 18 04.6	
	comp=Z,3.8nm,0.7s						
T47A	**Sharon Grove**	**32.62**	**339**	P	**P**	**10 18 09.2**	**+1.5**
T47A				IAmb	IAmb	10 18 09.5	
	comp=Z,6.4nm,0.7s						
W41B	**Gary Mavity, V**	**33.24**	**331**	P	**P**	**10 18 14.2**	**+1.1**
W41B				IAmb	IAmb	10 18 24.9	
	comp=Z,5.9nm,1.4s						
WHAR	**Wooly Hollow**	**33.36**	**331**	P	**P**	**10 18 14.9**	**+0.8**
WHAR				IAmb	IAmb	10 18 15.8	
	comp=Z,5.9nm,1.0s						
FCAR	**Ozark Folk Cen**	**33.76**	**332**	P	**P**	**10 18 18.1**	**+0.5**
FCAR				IAmb	IAmb	10 18 18.2	
	comp=Z,4.0nm,0.5s						
T42A	**Van Buren**	**34.23**	**334**	P	**P**	**10 18 22.2**	**+0.5**
T42A				IAmb	IAmb	10 18 23.0	
	comp=Z,3.7nm,0.6s						
U40A	**Yellville**	**34.48**	**331**	P	**P**	**10 18 24.7**	**+0.8**
M56A	**Emporium**	**34.80**	**353**	P	**P**	**10 18 28.3**	**+1.7**
M56A				IAmb	IAmb	10 18 28.6	
	comp=Z,12nm,1.2s						
HHAR	**Hobbs**	**34.96**	**330**	P	**P**	**10 18 27.8**	**-0.2**
HHAR				IAmb	IAmb	10 18 33.3	
	comp=Z,10nm,1.5s						
CCM	**Cathedral Cave**	**35.16**	**335**	P	**P**	**10 18 30.3**	**+0.6**
SFIN	**Lafayette**	**35.67**	**342**	P	**P**	**10 18 34.2**	**+0.2**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**10 18 41.4**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=125,slow=8.9,SNR=7.0						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**10 18 41.7**	**+0.8**
TX31	**Lajitas Ar. Si**	**36.45**	**312**	P	**P**	**10 18 41.8**	**+0.9**
TX31				IAmb	IAmb	10 18 42.4	
	comp=Z,4.6nm,0.9s						
TX32	**Lajitas Array**	**36.45**	**312**	P	**P**	**10 18 41.1**	**+0.2**
WMOK	**Wichita Mounta**	**36.47**	**323**	P	**P**	**10 18 40.6**	**-0.3**
P40A	**Paris**	**36.74**	**335**	P	**P**	**10 18 43.5**	**+0.4**
P40A				IAmb	IAmb	10 18 43.8	
	comp=Z,6.3nm,0.7s						
P38A	**Dawn**	**37.45**	**334**	P	**P**	**10 18 49.4**	**+0.3**
KSU1	**Kansas State U**	**38.48**	**330**	P	**P**	**10 18 57.4**	**-0.3**
MNTX	**Cornudas Mount**	**38.96**	**314**	P	**P**	**10 19 02.5**	**+0.6**
JFWS	**Jewell Farm**	**38.98**	**340**	P	**P**	**10 19 02.1**	**+0.2**
ECSD	**EROS Data Cent**	**42.14**	**334**	P	**P**	**10 19 27.2**	**-0.6**
ECSD				IAmb	IAmb	10 19 27.8	
	comp=Z,4.4nm,1.1s						
SDCO	**Great Sand Dun**	**42.54**	**321**	P	**P**	**10 19 31.7**	**+0.2**
F36A	**Milaca**	**42.70**	**339**	P	**P**	**10 19 31.8**	**-0.4**
EYMN	**Ely**	**43.86**	**342**	P	**P**	**10 19 41.6**	**+0.1**
EYMN				IAmb	IAmb	10 19 42.0	
	comp=Z,8.1nm,0.6s						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**10 20 07.7**	**-0.6**
	comp=Z,2.8nm,0.4s,baz=146,slow=8.6,SNR=8.8						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**10 20 07.9**	**-0.4**
ULM				IAmb	IAmb	10 20 33.6	
	comp=Z,11nm,1.1s						
MSU	**Marysvale**	**47.29**	**318**	P	**P**	**10 20 10.4**	**+1.5**
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**10 20 15.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=124,slow=9.1,SNR=7.0						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**10 20 14.8**	**-0.1**
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**10 20 15.2**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=190,slow=6.4,SNR=6.3						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**10 20 14.6**	**-0.2**
SCHQ				IAmb	IAmb	10 20 26.2	
	comp=Z,20nm,1.4s						
TCUT	**Toone Canyon**	**48.22**	**321**	P	**P**	**10 20 16.8**	**+0.8**
BGU	**Big Grassy Mou**	**49.13**	**320**	P	**P**	**10 20 23.1**	**+0.2**
DGMT	**Dagmar**	**49.14**	**333**	P	**P**	**10 20 23.3**	**+0.6**
SNOW	**Snow King Moun**	**49.19**	**324**	P	**P**	**10 20 25.3**	**+1.9**
LOHW	**Long Hollow**	**49.19**	**324**	P	**P**	**10 20 24.1**	**+0.7**
BOZ	**Bozeman (W)**	**50.97**	**326**	P	**P**	**10 20 37.6**	**+0.9**
MCMT	**McKenzie Canyo**	**51.21**	**324**	P	**P**	**10 20 39.8**	**+1.2**
NVAR	**Mina Array Bea**	**51.47**	**315**	P	**P**	**10 20 41.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=121,slow=7.1,SNR=3.8						
I07A	**Izee**	**54.86**	**320**	P	**P**	**10

MTVR	**Mutnovka**	**2.20**	**331**	*e*P	Pn	10 36 17.9 +1.9
MTVR				eS	Sn	10 36 44.9 +2.8
ASAK	**Asacha**	**2.21**	**326**	*e*P	Pn	10 36 18.5 +2.4
ASAK				eS	Sn	10 36 45.7 +3.4
GRL	**Gorelyy**	**2.29**	**330**	*e*P	Pn	10 36 20.0 +2.8
GRL				eS	Sn	10 36 47.3 +2.9
SKR	**Severo-Kuril's**	**2.42**	**274**	*e*P	Pn	10 36 20.9 +2.0
SKR				eS	Sn	10 36 49.1 +1.7
KRMR	**Karymshinskiy**	**2.52**	**334**	*e*P	Pn	10 36 24.0 +3.8
KRMR				eS	Sn	10 36 53.7 +4.0
SPN	**Mys Shipunski**	**2.53**	**1**	*e*P	Pn	10 36 21.6 +1.3
SPN				eS	Sn	10 36 51.0 +1.1
DALK	**Dalny**	**2.56**	**344**	*e*S	Sn	10 36 52.7 +1.9
PET	**Petropavlovsk**	**2.58**	**343**	*e*S	Sn	10 36 52.9 +1.8
MIPR	**Malaya Ipel'ka**	**2.61**	**312**	*e*P	Pn	10 36 24.6 +3.1
NLC	**Nalytchevo**	**2.62**	**352**	*e*S	Sn	10 36 55.4 +3.1
UGLR	**Uglovaya**	**2.72**	**346**	*e*S	Sn	10 36 57.5 +2.6
SMAR	**Somma**	**2.78**	**346**	*e*P	Pn	10 36 28.0 +4.0
AVH	**Avacha**	**2.79**	**345**	*e*P	Pn	10 36 27.0 +3.0
AVH				eS	Sn	10 36 59.8 +3.3
ALID	**Alaid**	**2.79**	**278**	*e*P	Pn	10 36 26.9 +2.8
KRER	**Koryakskii**	**2.83**	**346**	*e*P	Pn	10 36 28.6 +4.0
KOK	**Koryaka**	**2.83**	**344**	*e*P	Pn	10 36 27.9 +3.3
KRX	**Arik**	**2.90**	**345**	*e*P	Pn	10 36 27.9 +2.4
KRX				eS	Sn	10 37 04.8 +5.6
GNL	**Ganaly**	**3.35**	**339**	*e*P	Pn	10 36 35.9 +4.2
GNL				eS	Sn	10 37 16.0 +5.7
KZV	**Kizimen**	**4.55**	**3**	*e*P	Pn	10 36 51.4 +3.3
KZV				eS	Sn	10 37 42.2 +2.5
TUMD	**Tumrok D**	**4.64**	**3**	*e*P	Pn	10 36 51.7 +2.4
TUMD				eS	Sn	10 37 43.1 +1.3
TUMR	**Tumrok**	**4.72**	**2**	*e*P	Pn	10 36 53.7 +3.3
ZLN	**Zelenaya**	**5.48**	**5**	*e*P	Pn	10 37 04.9 +4.2

*SJA **03** 10:41:50.2±1.2,31°.39S×69°.01W,h118$^{km}_{\pm}$4km,ML4.1, MW4.2*
*IDC **03** 10:41:51.5±0.6,31°.35S×68°.94W,h114$^{km}_{\pm}$5km,mb4.1/12, mb1 4.1/15,mb1mx4.0/29,mbtmp4.4/15,Error ellipse: s-maj=20.4km s-min=13.0km az=78.0*
*GUC **03** 10:41:51.1±0.7,31°.38S×69°.24W,h140$^{km}_{\pm}$11km,ML4.5*
*NEIC **03** 10:41:52.4±2.5,31°.39S±0°.05×69°.0W±0°.1,h125$^{km}_{\pm}$2km, Error ellipse: s-maj=13.4km s-min=7.6km az=86.0*
ISC 03 10:41:50.5±0.5,31°.36S±0°.03×69°.00W±0°.04,h108$^{km}_{\pm}$4km, n229,σ1$24/262,mb4.5/62,9C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.34**	**124**		**Pn**	**10 42 07.7**	**+1.4**
ZON	**Zonda**	**0.34**	**124**	*i* P	**Pn**	**10 42 07.5**	**+1.2**
ZON				*i* S	**Sn**	**10 42 20.2**	**+2.1**
ZON				IAML		10 42 22.1	
	comp=Z,4μm,0.4s						
RTLS	**Leoncito**	**0.51**	**209**	*e*P	**Pn**	**10 42 09.0**	**+1.4**
RTLS				IAML		10 42 22.9	
	comp=Z,3μm,0.7s						
RTLS				*i* S	**Sn**	**10 42 23.0**	**+2.6**
RTCV	**Cerro Valdivia**	**0.64**	**142**	*i* P	**Pn**	**10 42 09.7**	**+1.4**
RTCV				IAML		10 42 31.8	
	comp=Z,835nm,0.8s						
ACCO	**Cerro Coronel**	**0.77**	**356**	*i* P	**Pn**	**10 42 11.6**	**+1.9**
ACCO				IAML		10 42 30.5	
	comp=Z,2μm,3.1s						
AUSP	**Uspallata**	**0.92**	**201**	*i* P	**Pn**	**10 42 12.1**	**+1.0**
ACDV	**Cuesta del Vie**	**1.19**	**355**	*i* P	**Pn**	**10 42 15.4**	**+1.6**
ACDV				*i* S	**Sn**	**10 42 34.3**	**+3.0**
ACDV				IAML		10 42 34.7	
	comp=Z,2μm,0.8s						
ASAL	**Salagasta**	**1.24**	**173**	*i* P	**Pn**	**10 42 15.7**	**+1.4**
ASAL				IAML		10 42 38.5	
	comp=Z,1μm,1.4s						
AROD	**Rodeo**	**1.25**	**341**	*e*P	**Pn**	**10 42 16.7**	**+2.0**
ARCO	**CERRO ARCO**	**1.48**	**178**	*i* P	**Pn**	**10 42 18.7**	**+1.5**
ARCO				*i* S	**Sn**	**10 42 39.2**	**+1.8**
ARCO				IAML		10 42 40.9	
	comp=Z,4μm,0.3s						
CO03	**El Pedregal**	**1.54**	**289**	⇑*i* P	**Pn**	**10 42 19.2**	**+1.5**
CO03				*i* S	**Sn**	**10 42 40.9**	**+2.5**
CO03				IAML		10 42 42.2	
	comp=E,6μm,0.6s						
CO03	**El Pedregal**	**1.54**	**289**		**Pn**	**10 42 19.2**	**+1.5**
CO01	**Juntas del Tor**	**1.67**	**325**	⇑*i* P	**Pn**	**10 42 22.2**	**+2.7**
CO01				*i* S	**Sn**	**10 42 45.4**	**+3.9**
CO01				IAML		10 42 46.4	
	comp=E,4μm,0.4s						
CO01	**Juntas del Tor**	**1.67**	**325**		**Pn**	**10 42 22.2**	**+2.7**
CO02	**Combarbal**	**1.72**	**275**	⇑*i* P	**Pn**	**10 42 21.0**	**+1.0**
CO02				*e*S	**Sn**	**10 42 44.1**	**+1.7**
CO02				IAML		10 42 47.2	
	comp=E,10μm,0.6s						
CO02	**Combarbal**	**1.72**	**275**	Pn	**Pn**	**10 42 21.0**	**+1.0**
AAGR	**Agrelo**	**1.73**	**175**	*i* P	**Pn**	**10 42 21.5**	**+1.4**
AAGR				IAML		10 42 48.6	
	comp=Z,1μm,2.3s						
ACAN	**Cantantal**	**1.80**	**121**	*i* P	**Pn**	**10 42 22.6**	**+1.7**
ACAN				*i* S	**Sn**	**10 42 45.1**	**+1.0**
ACAN				IAML		10 42 46.1	
	comp=Z,1μm,1.2s						
AGUA	**GUANDACOL**	**1.92**	**14**	*i* P	**Pn**	**10 42 24.4**	**+2.0**
AGUA				*i* S	**Sn**	**10 42 49.8**	**+2.9**
AGUA				IAML		10 42 50.4	
	comp=Z,2μm,0.6s						
VA03	**San Esteban**	**1.92**	**223**	⇑*i* P	**Pn**	**10 42 23.8**	**+1.3**
VA03				*e*S	**Sn**	**10 42 48.5**	**+1.6**
VA03				IAML		10 42 50.1	
	comp=N,5μm,0.5s						
VA03	**San Esteban**	**1.92**	**223**		**Pn**	**10 42 23.8**	**+1.3**
GO04	**Tololo Observa**	**1.94**	**307**	⇑*i* P	**Pn**	**10 42 23.9**	**+0.9**
GO04				*i* S	**Sn**	**10 42 49.5**	**+1.9**
GO04				IAML		10 42 54.7	
	comp=N,7μm,0.4s						
GO04	**Tololo Observa**	**1.94**	**307**		**Pn**	**10 42 23.9**	**+0.9**
PEL	**Peldehue**	**2.28**	**218**	*e*P	**Pn**	**10 42 27.7**	**+0.6**
PEL				*i* S	**Sn**	**10 42 55.9**	**+0.8**
PEL	**Peldehue**	**2.28**	**218**		**Pn**	**10 42 27.8**	**+0.6**
PEL	**Peldehue**	**2.28**	**218**	*i* P	**Pn**	**10 42 28.3**	**+1.2**
APLL	**PUNTA DE LOS L**	**2.33**	**66**	*i* P	**Pn**	**10 42 28.8**	**+1.0**
ROCH	**El Roble**	**2.34**	**226**	⇑*i* P	**Pn**	**10 42 28.3**	**+0.3**
ROCH				*i* S	**Sn**	**10 42 57.3**	**+0.5**
ROCH				IAML		10 42 59.7	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**2.35**	**226**		**Pn**	**10 42 28.3**	**+0.2**
ROC1	**El Roble**	**2.35**	**226**	*i* P	**Pn**	**10 42 28.4**	**+0.3**
MT03	**Universidad Ad**	**2.48**	**210**	*e*P	**Pn**	**10 42 31.1**	**+1.3**
MT03				*i* S	**Sn**	**10 43 01.1**	**+1.2**
MT03				IAML		10 43 04.5	
	comp=N,1μm,0.4s						
MT05	**Renca**	**2.50**	**215**	⇑*i* P	**Pn**	**10 42 30.9**	**+0.9**
MT05				*i* S	**Sn**	**10 43 01.4**	**+1.1**
MT05				IAML		10 43 03.7	
	comp=N,3μm,0.4s						
MT05	**Renca**	**2.50**	**215**		**Pn**	**10 42 30.8**	**+0.8**
ACLC	**CERRO LA CRUZ**	**2.62**	**43**	*i* P	**Pn**	**10 42 32.7**	**+1.1**
ACLC				IAML		10 43 34.8	
	comp=Z,927nm,0.5s						
MT02	**Curacav**	**2.62**	**223**	*e*P	**Pn**	**10 42 31.3**	**-0.2**
MT02				*e*S	**Sn**	**10 43 02.4**	**-0.5**
MT02				IAML		10 43 04.1	
	comp=E,433nm,0.5s						
MT02	**Curacav**	**2.62**	**223**	Pn	**Pn**	**10 42 31.3**	**-0.2**
LMEL	**Las Melosas**	**2.68**	**202**	*e*P	**Pn**	**10 42 34.3**	**+1.9**
LMEL				*i* S	**Sn**	**10 43 06.8**	**+2.2**
VCA	**Vinchina**	**2.70**	**15**	*i* P	**Pn**	**10 42 34.8**	**+2.1**
VCA				IAML		10 43 42.9	
	comp=Z,651nm,1.0s						
AC05	**El Transito**	**2.74**	**336**	⇑*i* P	**Pn**	**10 42 35.4**	**+2.1**
AC05				*i* S	**Sn**	**10 43 08.5**	**+2.5**
AC05				IAML		10 43 10.5	
	comp=E,3μm,0.6s						
AC05	**El Transito**	**2.74**	**336**		**Pn**	**10 42 35.3**	**+2.1**
VA01	**Torpederas**	**2.79**	**233**	*e*P	**Pn**	**10 42 32.9**	**-0.7**
VA01				*e*S	**Sn**	**10 43 06.1**	**-0.7**
VA01				IAML		10 43 12.8	
	comp=E,674nm,0.7s						
VA01	**Torpederas**	**2.79**	**233**		**Pn**	**10 42 32.9**	**-0.7**
MRA	**San Martin**	**2.99**	**112**	*i* P	**Pn**	**10 42 37.2**	**+0.8**
MRA				IAML		10 43 31.5	
	comp=Z,932nm,0.6s						
RFA	**San Rafael**	**3.44**	**173**	*i* P	**Pn**	**10 42 42.2**	**-0.1**
RFA				IAML		10 43 25.1	
	comp=Z,571nm,0.6s						
LAMA	**Las Malvinas**	**3.57**	**183**	*i* P	**Pn**	**10 42 44.4**	**+0.3**
AC04	**Llanos de Chal**	**3.62**	**330**	*e*P	**Pn**	**10 42 45.0**	**+0.2**
AC04				*i* S	**Sn**	**10 43 27.1**	**+0.4**
AC04	**Llanos de Chal**	**3.62**	**330**	Pn	**Pn**	**10 42 44.7**	**0.0**
BO02	**Sierra Bellavi**	**3.74**	**203**	*e*P	**Pn**	**10 42 46.5**	**+0.1**
BO02				*i* S	**Sn**	**10 43 29.8**	**+0.2**
BO02	**Sierra Bellavi**	**3.74**	**203**		**Pn**	**10 42 46.5**	**+0.1**
TCA	**Tanti**	**3.77**	**91**	*i* P	**Pn**	**10 42 47.4**	**+0.5**
TCA				IAML		10 43 47.1	
	comp=Z,729nm,1.3s						
COIS	**El Sosneado**	**3.77**	**187**	*i* P	**Pn**	**10 42 47.2**	**+0.3**
GO03	**Copiap**	**3.90**	**344**	*e*P	**Pn**	**10 42 49.5**	**+0.9**
GO03	**Copiap**	**3.90**	**344**		**Pn**	**10 42 49.3**	**+0.7**
GO03	**Copiap**	**3.90**	**344**	*i* P	**Pn**	**10 42 49.5**	**+0.9**
CYA	**Choya**	**4.02**	**45**	*i* P	**Pn**	**10 42 50.3**	**+0.1**
CYA				IAML		10 44 18.8	
	comp=Z,248nm,0.6s						
PUMA	**Malargue**	**4.15**	**185**	*i* P	**Pn**	**10 42 52.3**	**+0.5**
GO05	**Huala**	**4.39**	**213**	Pn	**Pn**	**10 42 56.2**	**+1.1**
EDS3	**Malargue**	**4.42**	**184**	*i* P	**Pn**	**10 42 56.7**	**+1.1**
AC02	**Maricunga**	**4.51**	**359**	Pn	**Pn**	**10 42 58.6**	**+1.5**
AC01	**Pan de Azucar**	**5.38**	**345**	Pn	**Pn**	**10 43 08.5**	**0.0**
BI02	**San Fabin de**	**5.62**	**199**	Pn	**Pn**	**10 43 10.4**	**-1.4**
GO02	**Mina Guanaco**	**6.19**	**355**		**Pn**	**10 43 19.5**	**-0.3**
PB14	**IPOC Station P**	**6.82**	**349**		**Pn**	**10 43 26.3**	**-2.0**
LC01	**Cunco**	**7.88**	**197**		**Pn**	**10 43 37.7**	**-4.7**
PB15	**IPOC Station P**	**8.13**	**357**		**Pn**	**10 43 44.3**	**-1.6**
VA04	**Juan Fernndez**	**8.61**	**252**	Pn	**Pn**	**10 43 51.2**	**-1.0**
PB06	**IPOC Station P**	**8.63**	**357**	Pn	**Pn**	**10 43 51.4**	**-1.4**
H03N1	**Juan Fernandez**	**8.63**	**253**	P	**Pn**	**10 43 52.2**	**-0.1**
	baz=109,slow=19,SNR=8.8						
H03N1				T	T	10 50 50.5	
	baz=88,slow=73,SNR=73						
H03N3	**Juan Fernandez**	**8.64**	**253**	P	**Pn**	**10 43 52.3**	**-0.2**
	baz=109,slow=19,SNR=7.3						
H03N3				T	T	10 50 55.6	
	baz=88,slow=73,SNR=92						
H03N2	**Juan Fernandez**	**8.65**	**253**	P	**Pn**	**10 43 52.6**	**+0.1**
	baz=109,slow=19,SNR=14						
H03N2				T	T	10 50 56.8	
	baz=88,slow=73,SNR=74						
LVC	**Limon Verde**	**8.71**	**1**	P	**Pn**	**10 43 52.1**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=202,slow=10.0,SNR=12						
LVC				S	**Sn**	**10 45 26.4**	**-4.4**
	comp=Z,1.3nm,0.3s,baz=28,slow=21,SNR=2.3						
PB04	**IPOC Station P**	**9.04**	**353**	Pn	**Pn**	**10 43 56.0**	**-2.5**
PLCA	**Paso Flores**	**9.44**	**187**	P	**Pn**	**10 44 03.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=6.8,slow=10,SNR=6.3						
PLCA	**Paso Flores**	**9.44**	**187**	Pn	**Pn**	**10 44 03.2**	**-0.4**
PB09	**IPOC Station P**	**9.52**	**359**	Pn	**Pn**	**10 44 03.1**	**-1.8**
PB07	**IPOC Station P**	**9.62**	**355**	Pn	**Pn**	**10 44 04.1**	**-2.2**
PB01	**IPOC Station P**	**10.28**	**357**	Pn	**Pn**	**10 44 14.0**	**-1.1**
PATCX	**Punta Patache**	**10.54**	**354**	Pn	**Pn**	**10 44 17.8**	**-0.9**
GO01	**Chusmiza**	**11.64**	**359**	Pn	**Pn**	**10 44 32.3**	**-1.5**
MNMC	**Minye Minye**	**12.19**	**357**	Pn	**Pn**	**10 44 40.4**	**-0.4**
PB16	**IPOC Station P**	**12.97**	**358**	Pn	**Pn**	**10 44 50.0**	**-1.4**
LPAZ	**La Paz**	**15.02**	**3**	P	**P**	**10 45 20.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=208,slow=9.1,SNR=9.0						
LPAZ	**La Paz**	**15.02**	**3**	P	**P**	**10 45 19.8**	**-0.8**
SIV	**San Ignacio**	**16.92**	**27**	P	**P**	**10 45 41.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=237,slow=12,SNR=27						
SAML	**Samuel**	**22.95**	**15**	P	**P**	**10 46 45.8**	**+0.1**
BELA	**Belgrano 2**	**49.05**	**171**	P	**P**	**10 50 27.1**	**+1.0**
MTO3	**Montecristo**	**49.52**	**334**	P	**P**	**10 50 32.2**	**+1.6**
MTO3				IAmb	IAmb	10 50 40.1	
	comp=Z,5.5nm,1.3s						
VNA3	**Neumayer Olymp**	**50.87**	**159**	P	**P**	**10 50 40.5**	**+0.6**
VNA1	**Neumayer--Stat**	**51.13**	**158**	P	**P**	**10 50 42.8**	**+1.0**
VNA2	**Neumayer--Watz**	**51.48**	**158**	P	**P**	**10 50 45.1**	**+0.6**
SNAA	**Sanae**	**53.09**	**159**	P	**P**	**10 50 56.7**	**+0.3**
SNAA	**Sanae**	**53.09**	**159**	P	**P**	**10 50 56.9**	**+0.5**
	comp=Z,6.8nm,0.8s,baz=287,slow=7.9,SNR=50						
SNAA	**Sanae**	**53.09**	**159**	P	**P**	**10 50 56.8**	**+0.3**
TEIG	**Tepich**	**54.52**	**338**	P	**P**	**10 51 07.2**	**-0.2**
QSPA	**South Pole Qui**	**58.88**	**180**	P	**P**	**10 51 38.5**	**+0.7**
352A	**Blakely**	**64.29**	**345**	P	**P**	**10 52 14.2**	**-0.2**
Z47A	**Casilton**	**66.69**	**343**	P	**P**	**10 52 29.3**	**-0.5**
VNDA	**Vanda**	**67.17**	**191**	P	**P**	**10 52 33.8**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=128,slow=6.4,SNR=13						
X51A	**Calhoun**	**67.25**	**346**	P	**P**	**10 52 33.8**	**+0.5**
SYO	**Syowa Base**	**67.37**	**158**	⇑*e*P	**P**	**10 52 31.6**	**-2.1**
V58A	**Windy Hill, Pi**	**67.47**	**351**	P	**P**	**10 52 34.6**	**0.0**
V58A				IAmb	IAmb	10 52 35.4	
	comp=Z,5.8nm,0.6s						
W52A	**Murphy**	**67.57**	**347**	P	**P**	**10 52 35.8**	**+0.5**
W52A				IAmb	IAmb	10 52 36.2	
	comp=Z,6.7nm,0.9s						
X48A	**Hartselle**	**67.63**	**344**	P	**P**	**10 52 35.8**	**+0.1**
X48A				IAmb	IAmb	10 52 36.7	
	comp=Z,9.5nm,0.8s						
W50A	**Signal Mountai**	**67.96**	**346**	P	**P**	**10 52 38.0**	**+0.2**
CPCT	**Cooper Cave**	**68.04**	**346**	P	**P**	**10 52 38.5**	**+0.3**
CPCT				IAmb	IAmb	10 52 38.9	
	comp=Z,5.5nm,0.7s						
JCT	**Junction City**	**68.10**	**332**	P	**P**	**10 52 40.0**	**+1.3**
JCT				IAmb	IAmb	10 52 40.1	
	comp=Z,5.5nm,0.7s						
SWET	**Sewanee**	**68.11**	**345**	P	**P**	**10 52 39.2**	**+0.5**
V52A	**Sevierville**	**68.23**	**347**	P	**P**	**10 52 39.0**	**-0.4**
V52A				IAmb	IAmb	10 52 42.9	
	comp=Z,14nm,1.5s						
PLAL	**Pickwick Lake**	**68.38**	**343**	P	**P**	**10 52 40.2**	**-0.2**
PLAL				IAmb	IAmb	10 52 40.6	
	comp=Z,4.1nm,0.8s						
U54A	**Nelsons Funny**	**68.58**	**349**	P	**P**	**10 52 41.5**	**-0.2**
TX31	**Lajitas Ar. Si**	**68.78**	**328**	P	**P**	**10 52 44.3**	**+1.2**
TX31				IAmb	IAmb	10 52 44.4	
	comp=Z,4.7nm,0.7s						
TX32	**Lajitas Array**	**68.78**	**328**	P	**P**	**10 52 44.3**	**+1.2**
TXAR	**Lajitas Array**	**68.78**	**328**	P	**P**	**10 52 43.9**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=154,slow=8.8,SNR=11						
V48A	**Smith Brothers**	**68.81**	**345**	P	**P**	**10 52 43.2**	**+0.2**
CLTN	**Cedars of Leba**	**69.04**	**345**	P	**P**	**10 52 44.6**	**+0.2**
CLTN				IAmb	IAmb	10 52 45.1	
	comp=Z,7.1nm,0.8s						
WVT	**Waverly**	**69.42**	**344**	P	**P**	**10 52 46.3**	**-0.4**
R58B	**Mineral**	**69.46**	**353**	P	**P**	**10 52 47.4**	**+0.4**
R58B				IAmb	IAmb	10 52 48.8	
	comp=Z,20nm,1.5s						
GNAR	**Gosnell**	**69.81**	**342**	P	**P**	**10 52 48.0**	**-1.2**
GLAT	**Glass**	**69.91**	**343**	P	**P**	**10 52 48.4**	**-1.4**
ABTX	**Abilene, Hawle**	**69.92**	**333**	P	**P**	**10 52 50.2**	**+0.3**
ABTX				IAmb	IAmb	10 52 51.5	
	comp=Z,5.8nm,0.9s						
S51A	**Beattyville**	**69.98**	**348**	P	**P**	**10 52 50.2**	**+0.1**
S51A				IAmb	IAmb	10 53 14.0	
	comp=Z,10nm,1.1s						
R55A	**Marlinton**	**70.05**	**351**	P	**P**	**10 52 51.7**	**+1.0**
R55A				IAmb	IAmb	10 52 52.9	
	comp=Z,12nm,0.8s						
T47A	**Sharon Grove**	**70.07**	**345**	P	**P**	**10 52 50.6**	**-0.1**
T47A				IAmb	IAmb	10 52 51.2	
	comp=Z,5.3nm,0.8s						
PENMO	**Penman**	**70.17**	**342**	P	**P**	**10 52 52.4**	**+1.1**
W39A	**Magazine**	**70.18**	**339**	P	**P**	**10 52 51.8**	**+0.4**
W39A				IAmb	IAmb	10 52 52.9	
	comp=Z,9.5nm,0.8s						
LCAR	**Lake Charles**	**70.22**	**341**	P	**P**	**10 52 52.2**	**+0.5**
PARMO	**Parma**	**70.40**	**342**	P	**P**	**10 52 53.5**	**+0.7**
PBMO	**Poplar Bluff**	**70.69**	**342**	P	**P**	**10 52 54.8**	**+0.3**
U40A	**Yellville**	**70.97**	**340**	P	**P**	**10 52 56.7**	**+0.5**
U40A				IAmb	IAmb	10 52 57.4	
	comp=Z,8.1nm,0.8s						
P57A	**Homestead Farm**	**70.98**	**353**	P	**P**	**10 52 57.2**	**+1.1**
P57A				IAmb	IAmb	10 52 58.0	
	comp=Z,13nm,0.9s						
WCI	**Wyandotte Cave**	**71.08**	**346**	P	**P**	**10 52 56.5**	**-0.3**
WCI				IAmb	IAmb	10 52 57.0	
	comp=Z,8.2nm,0.9s						
HHAR	**Hobbs**	**71.23**	**339**	P	**P**	**10 52 57.6**	**-0.2**
HHAR				IAmb	IAmb	10 52 58.9	
	comp=Z,6.8nm,0.9s						
TUL1	**Leonard**	**71.48**	**337**	P	**P**	**10 52 59.7**	**+0.4**
TUL1				IAmb	IAmb	10 53 00.4	
	comp=Z,9.2nm,0.8s						
U38A	**Gravette**	**71.52**	**339**	P	**P**	**10 52 59.5**	**-0.1**
GDL2	**Guadalupe Moun**	**71.53**	**329**	P	**P**	**10 53 00.7**	**+0.9**
MGMO	**Mountain Grove**	**71.55**	**341**	P	**P**	**10 53 00.1**	**+0.4**
MGMO				IAmb	IAmb	10 53 01.0	
	comp=Z,7.2nm,0.9s						
MNTX	**Cornudas Mount**	**71.56**	**328**	P	**P**	**10 52 59.8**	**-0.1**
P51A	**Williamsport**	**71.68**	**349**	P	**P**	**10 53 00.1**	**-0.3**
P51A				IAmb	IAmb	10 53 00.5	
	comp=Z,8.1nm,0.8s						
OK025	**Westminster Rd**	**71.71**	**336**	P	**P**	**10 53 00.1**	**-0.6**
DBIC	**Dimbokro**	**71.89**	**70**	P	**P**	**10 53 02.4**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=211,slow=7.0,SNR=7.8						
DBIC	**Dimbokro**	**71.89**	**70**	P	**P**	**10 53 01.8**	**-0.5**
DBIC				IAmb	IAmb	10 53 06.1	
	comp=Z,17nm,1.4s						
P48A	**Milroy**	**72.09**	**347**	P	**P**	**10 53 02.4**	**-0.5**
CCM	**Cathedral Cave**	**72.11**	**342**	P	**P**	**10 53 03.7**	**+0.7**
CCM				IAmb	IAmb	10 53 04.1	
	comp=Z,13nm,1.1s						
S39A	**Bolivar**	**72.35**	**340**	P	**P**	**10 53 04.7**	**+0.3**
S39A				IAmb	IAmb	10 53 05.8	
	comp=Z,14nm,1.1s						
R40A	**Maddies Statio**	**72.61**	**341**	P	**P**	**10 53 06.4**	**+0.4**
P46A	**Rosedale**	**72.61**	**345**	P	**P**	**10 53 05.6**	**-0.3**
P46A				IAmb	IAmb	10 53 06.0	
	comp=Z,12nm,0.9s						
CROK	**Carrier**	**72.77**	**336**	P	**P**	**10 53 06.0**	**-1.0**
CROK				IAmb	IAmb	10 53 08.6	
	comp=Z,13nm,0.8s						
KAN13	**South Haven SW**	**73.05**	**336**	P	**P**	**10 53 08.2**	**-0.5**
319A	**Douglas**	**73.14**	**325**	P	**P**	**10 53 08.9**	**-0.6**
319A				IAmb	IAmb	10 53 11.9	
	comp=Z,6.7nm,0.8s						
P43A	**Skaggs, Pawnee**	**73.16**	**344**	P	**P**	**10 53 08.6**	**-0.6**
P43A				IAmb	IAmb	10 53 09.4	
	comp=Z,9.5nm,0.7s						
O44A	**Mansfield**	**73.40**	**345**	P	**P**	**10 53 10.2**	**-0.5**
O44A				IAmb	IAmb	10 53 10.7	
	comp=Z,10nm,0.7s						
P40A	**Paris**	**73.71**	**342**	P	**P**	**10 53 12.6**	**+0.2**
P38A	**Dawn**	**74.21**	**341**	P	**P**	**10 53 15.4**	**+0.1**
P38A				IAmb	IAmb	10 53 17.7	
	comp=Z,5.7nm,0.7s						
MAW	**Mawson**	**74.96**	**163**	P	**P**	**10 53 19.6**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=211,slow=7.2,SNR=14						
MAW	**Mawson**	**74.96**	**163**	P	**P**	**10 53 19.8**	**+0.4**
L40A	**Anamosa**	**75.87**	**343**	P	**P**	**10 53 24.5**	**-0.3**
SADO	**Sadowa**	**76.32**	**353**	P	**P**	**10 53 27.4**	**+0.1**
	comp=Z,6.2nm,0.6s,baz=166,slow=5.0,SNR=4.7						
SADO	**Sadowa**	**76.32**	**353**	P	**P**	**10 53 26.5**	**-0.8**
SADO				IAmb	IAmb	10 53 38.5	
	comp=Z,12nm,1.1s						
X16A	**Lo Mia Camp, P**	**76.67**	**325**	P	**P**	**10 53 30.8**	**+1.0**
SDCO	**Great Sand Dun**	**76.73**	**331**	P	**P**	**10 53 31.0**	**+0.8**
S22A	**4UR Ranch, Cre**	**77.29**	**330**	P	**P**	**10 53 34.9**	**+1.6**
WUAZ	**Wupatki**	**77.52**	**326**	P	**P**	**10 53 35.8**	**+1.3**
MVCO	**Mesa Verde**	**77.57**	**329**	P	**P**	**10 53 36.2**	**+1.4**
I37A	**Lemond, Waseca**	**78.25**	**342**	P	**P**	**10 53 37.9**	**-0.3**
PV03	**Paradox Valley**	**78.59**	**329**	P	**P**	**10 53 40.5**	**+0.1**
PV03				IAmb	IAmb	10 53 42.4	
	comp=Z,8.1nm,1.4s						
XPFO	**Pion Flat**	**78.61**	**321**	P	**P**	**10 53 42.4**	**+1.9**
PFO	**Pinyon Flats O**	**78.61**	**321**	P	**P**	**10 53 41.9**	**+1.3**
U15A	**North Rim**	**78.69**	**326**	P	**P**	**10 53 43.0**	**+1.9**
ECSD	**EROS Data Cent**	**78.88**	**340**	P	**P**	**10 53 41.8**	**+0.1**
ECSD				IAmb	IAmb	10 53 42.6	
	comp=Z,14nm,1.1s						
BOSA	**Boshof**	**79.00**	**117**	P	**P**	**10 53 43.0**	**0.0**
	comp=Z,2.6nm,0.8s,baz=256,slow=4.1,SNR=5.0						
KNB	**Kanab**	**79.42**	**326**	P	**P**	**10 53 46.5**	**+1.6**
PHWY	**Pilot Hill**	**79.75**	**333**	P	**P**	**10 53 47.7**	**+1.0**
PHWY				IAmb	IAmb	10 53 48.6	
	comp=Z,6.2nm,0.9s						
SZCU	**Sh

WRA			PKKPbc	**PKKPbc**	**11 10 20.2**	**-0.8**
	comp=Z,0.5nm,1.1s,baz=340,slow=4.6,SNR=4.6						
WRA	**Warramunga Arr**	**124.29 207**		**PKPdf**	**11 00 35.5**	**-1.8**
ZALV	**Zalesovo Beam**	**150.63 32**	PKPbc	**PKPbc**	**11 01 29.3**	**0.0**
	comp=Z,12nm,0.8s,baz=300,slow=3.2,SNR=26						
ZALV			pPKPbc	**sPKPdf**	**11 02 00.5**	**-4.8**
	comp=Z,3.9nm,0.7s,baz=312,slow=2.2,SNR=6.9						
MKAR	**Makanchi Array**	**153.10 47**	PKP	**PKPdf**	**11 01 28.1**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=296,slow=3.9,SNR=3.7						
MKAR			PKPbc	**PKPbc**	**11 01 35.0**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=291,slow=2.1,SNR=18						
MKAR			PKPab	**PKPab**	**11 01 47.2**	**0.0**
	comp=Z,2.1nm,0.6s,baz=297,slow=4.3,SNR=16						
MKAR			pPKPbc	**sPKPdf**	**11 02 05.9**	**-3.5**
	comp=Z,0.6nm,0.7s,baz=334,slow=1.3,SNR=2.9						
MKAR	**Makanchi Array**	**153.10 47**		**PKPdf**	**11 01 27.4**	**-0.4**
MKAR				**PKPbc**	**11 01 34.6**	**-0.6**
MKAR				**PKPab**	**11 01 47.1**	**-0.1**
MJAR	**Matsushiro Arr**	**156.88 290**	PKP	**PKPdf**	**11 01 34.1**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=216,slow=5.2,SNR=5.3						
MJAR			PKPab	**PKPab**	**11 02 04.3**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=96,slow=3.8,SNR=4.8						

*NEIC **03** 11:10:01.5±1.0, 19°.00S×0°.09×169°.4E±0°.1, h258km±7km, mb4.2/17, Error ellipse: s-maj=14.7km s-min=13.3km az=89.0*

*IDC **03** 11:10:01.5±2.9, 19°.02S×169°.39E, h255km±27km, mb3.6/9, mb1 3.7/10, mb1mx3.4/42, mbtmp4.1/10, Error ellipse: s-maj=30.6km s-min=19.8km az=157.0*

ISC 03 11:10:01.0±0.6, **19°.01S**±0°.08×**169°.35E**±0°.09, **h250**km, **n34**, **s0**°**82/34**, **mb4.1/15**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.08 221**		P	**Pn**	**11 11 06.5**	**+0.6**
	3.7nm,0.3s,baz=295,slow=21,SNR=32						
DZM	**Mont Dzumac**	**4.08 221**			**Pn**	**11 11 06.8**	**+1.0**
SANVU	**Saraoutou**	**4.09 330**		Pn	**Pn**	**11 11 05.9**	**0.0**
MSVF	**Nonsavu**	**8.36 83**		Pn	**Pn**	**11 11 59.8**	**+0.8**
EIDS	**Eidsvold**	**18.05 246**		P	**Pn**	**11 13 56.3**	**-0.9**
EIDS				IAmb	IAmb	11 13 58.8	
	comp=Z,17nm,1.4s						
BKZ	**Black Stump Fm**	**21.02 164**		P	**P**	**11 14 24.9**	**-0.8**
CTA	**Charters Tower**	**21.79 263**		P	**P**	**11 14 34.3**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=88,slow=11,SNR=7.9						
CTAO	**Charters Tower**	**21.79 263**		P	**P**	**11 14 33.1**	**0.0**
CTAO				IAmb	IAmb	11 14 38.3	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**28.05 237**		P	**P**	**11 15 30.6**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=61,slow=9.1,SNR=8.6						
STKA	**Stephens Creek**	**28.05 237**		P	**P**	**11 15 29.7**	**+0.3**
TAU	**Tasmania Unive**	**30.23 213**		P	**P**	**11 15 48.5**	**+0.1**
BBOO	**Buckleboo**	**32.79 239**		P	**P**	**11 16 10.9**	**-0.1**
BBOO				IAmb	IAmb	11 16 36.8	
	comp=Z,9.9nm,1.2s						
WR0	**Warramunga Arr**	**32.79 262**		P	**P**	**11 16 10.6**	**-0.6**
WR0				IAmb	IAmb	11 16 11.9	
	comp=Z,9.8nm,1.5s						
WB0	**Warramunga Arr**	**32.95 263**		P	**P**	**11 16 12.1**	**-0.4**
WB0				IAmb	IAmb	11 16 13.0	
	comp=Z,8.2nm,1.1s						
WB2	**Warramunga Arr**	**32.97 262**		P	**P**	**11 16 12.4**	**-0.3**
WB2				IAmb	IAmb	11 16 18.2	
	comp=Z,5.8nm,1.2s						
WRAB	**Tennant Creek**	**32.97 262**		P	**P**	**11 16 12.5**	**-0.3**
WRAB				IAmb	IAmb	11 16 21.4	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**32.98 262**		P	**P**	**11 16 12.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=86,slow=6.8,SNR=76						
WRA	**Warramunga Arr**	**32.98 262**		P	**P**	**11 16 11.6**	**-1.3**
AS31	**Alice Springs**	**33.28 256**		P	**P**	**11 16 15.5**	**+0.1**
ASAR	**Alice Springs**	**33.28 256**		P	**P**	**11 16 15.5**	**+0.1**
	comp=Z,13nm,0.5s,baz=82,slow=8.9,SNR=336						
ASAR	**Alice Springs**	**33.28 256**		P	**P**	**11 16 15.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.37 264**		P	**P**	**11 17 24.1**	**+1.0**
	comp=Z,3.5nm,0.5s,baz=90,slow=7.1,SNR=30						
FITZ	**Fitzroy Crossi**	**41.37 264**		P	**P**	**11 17 24.3**	**+1.3**
FITZ				IAmb	IAmb	11 17 24.7	
	comp=Z,5.0nm,0.7s						
PSA00	**Pilbara Seismi**	**46.35 258**		P	**P**	**11 18 02.4**	**-0.2**
VNDA	**Vanda**	**58.66 182**		P	**P**	**11 19 31.8**	**0.0**
	comp=Z,0.5nm,0.9s,baz=337,slow=2.6,SNR=2.6						
VNDA	**Vanda**	**58.66 182**		P	**P**	**11 19 31.7**	**-0.1**
QSPA	**South Pole Qui**	**71.04 180**		P	**P**	**11 20 51.5**	**-0.2**
QSPA				IAmb	IAmb	11 20 53.4	
	comp=Z,4.8nm,1.3s						
PETK	**Petropavlovsk-**	**72.52 353**		P	**P**	**11 21 01.4**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=152,slow=9.6,SNR=3.5						
PETK	**Petropavlovsk-**	**72.52 353**		P	**P**	**11 21 01.7**	**+1.4**
BELA	**Belgrano 2**	**82.32 175**		P	**P**	**11 21 53.0**	**-1.2**
NVAR	**Mina Array Bea**	**88.57 48**		P	**P**	**11 22 26.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=234,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**89.98 17**		P	**P**	**11 22 30.2**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=234,slow=5.4,SNR=4.8						
ARCES	**ARCESS Array B**	**124.87 345**		PKP	**PKPdf**	**11 28 29.5**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=67,slow=2.3,SNR=5.5						
GERES	**GERESS Array B**	**144.34 332**		PKP	**PKPdf**	**11 29 06.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=318,slow=1.8,SNR=3.8						

*NEIC **03** 11:29:49.9±1.9, 18°.91N±0°.08×145°.2E±0°.1, h192km±7km, mb4.4/49, Error ellipse: s-maj=18.7km s-min=10.5km az=74.0*

*IDC **03** 11:29:55.5±4.5, 18°.88N×145°.40E, h248km±44km, mb3.6/17, mb1 3.7/18, mb1mx3.6/36, mbtmp4.2/18, Error ellipse: s-maj=19.3km s-min=11.8km az=99.0*

ISC 03 11:29:50.9±0.5, **18°.90N**±0°.07×**145°.3E**±0°.1, **h200**km, **n87**, **s1**°**13/87**, **mb4.2/36**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.58 172**		Pn	**Pn**	**11 30 33.4**	**-2.4**
GUMO	**Guam**	**5.30 185**		Pn	**Pn**	**11 31 09.0**	**-0.3**
PATS	**Pohnpei**	**17.43 132**		Pn	**Pn**	**11 33 43.2**	**+0.9**
JYT	**Yasato**	**17.84 346**			**Pn**	**11 33 46.3**	**-0.7**
JYT				IAmb	IAmb	11 33 48.5	
	comp=Z,22nm,0.8s						
INU	**Inuyama**	**17.96 337**		P	**Pn**	**11 33 47.4**	**-1.0**
INU				IAmb	IAmb	11 33 50.3	
	comp=Z,9.5nm,1.0s						
JGF	**Kuroka**	**18.06 339**		P	**Pn**	**11 33 48.9**	**-0.8**
JGF				IAmb	IAmb	11 33 51.2	
	comp=Z,7.7nm,0.8s						
JWT	**Wachi**	**18.53 334**		P	**P**	**11 33 51.4**	**-1.1**
JWT				IAmb	IAmb	11 34 03.6	
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**18.65 342**		P	**P**	**11 33 54.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=10						
MJAR	**Matsushiro Arr**	**18.65 342**		P	**P**	**11 33 54.7**	**+0.8**
MAJO	**Matsushiro**	**18.65 342**		P	**P**	**11 33 54.4**	**+0.6**
MAJO				IAmb	IAmb	11 34 00.1	
	comp=Z,7.1nm,0.7s						
JMM	**Marumori**	**19.30 349**		P	**Pn**	**11 34 04.1**	**-0.1**
JTM	**Tenmabayashi**	**22.11 351**		P	**P**	**11 34 31.7**	**+1.6**
KSRS	**Korea Array**	**23.94 324**		P	**P**	**11 34 47.7**	**+1.0**
	comp=Z,4.4nm,0.8s,baz=152,slow=11,SNR=8.8						
JKA	**Kamikawa-asahi**	**25.24 355**		P	**P**	**11 35 00.5**	**+2.0**
JKA				IAmb	IAmb	11 35 02.6	
	comp=Z,16nm,0.9s						
ASAJ	**Asahikawa**	**25.24 355**		P	**P**	**11 35 00.0**	**+1.6**
	comp=Z,10.0nm,0.8s,baz=196,slow=10,SNR=8.7						
PEA0B	**Petropavlovsk-**	**35.47 13**		P	**P**	**11 36 29.4**	**+1.3**
PETK	**Petropavlovsk-**	**35.47 13**		P	**P**	**11 36 29.6**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=187,slow=7.0,SNR=6.6						
PETK	**Petropavlovsk-**	**35.47 13**		P	**P**	**11 36 29.8**	**+1.6**
WB0	**Warramunga Arr**	**39.90 196**		P	**P**	**11 37 05.7**	**+0.1**
WR0	**Warramunga Arr**	**40.04 196**		P	**P**	**11 37 06.6**	**-0.2**
WRAB	**Tennant Creek**	**40.07 196**		P	**P**	**11 37 07.0**	**+0.1**
WRAB				IAmb	IAmb	11 37 34.3	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**40.08 196**		P	**P**	**11 37 06.8**	**-0.2**
WRA	**Warramunga Arr**	**40.08 196**		P	**P**	**11 37 06.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=23,slow=8.9,SNR=34						
WRA	**Warramunga Arr**	**40.08 196**		P	**P**	**11 37 06.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**41.55 209**		P	**P**	**11 37 18.5**	**-0.5**
SONM	**Songino Array**	**42.76 321**		P	**P**	**11 37 29.3**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=134,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**43.75 195**		P	**P**	**11 37 36.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=14,slow=7.0,SNR=6.5						
ASAR	**Alice Springs**	**43.75 195**		P	**P**	**11 37 37.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**43.84 277**		P	**P**	**11 37 39.2**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=65,slow=7.9,SNR=6.4						
UNV	**Unalaska Valle**	**50.69 35**		P	**P**	**11 38 29.9**	**0.0**
AKUT	**Akutan**	**51.20 35**		P	**P**	**11 38 33.9**	**+0.2**
SDPT	**Sand Point**	**54.51 35**		P	**P**	**11 38 58.5**	**+0.7**
ZALV	**Zalesovo Beam**	**57.63 322**		P	**P**	**11 39 19.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=114,slow=8.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**57.63 322**		P	**P**	**11 39 18.8**	**-1.3**
MK31	**Makanchi Array**	**58.06 314**		P	**P**	**11 39 21.8**	**-1.4**
MKAR	**Makanchi Array**	**58.06 314**		P	**P**	**11 39 23.7**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=91,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**58.06 314**		P	**P**	**11 39 22.8**	**-0.4**
MAKZ	**Makanchi**	**58.28 314**		P	**P**	**11 39 25.0**	**+0.3**
KURK	**Kurchatov**	**60.88 318**		P	**P**	**11 39 42.0**	**-0.4**
PPLA	**Purkeypile**	**60.88 28**		P	**P**	**11 39 42.7**	**+0.4**
PPLA				IAmb	IAmb	11 39 49.5	
	comp=Z,16nm,1.4s						
SKT	**Skwentna**	**60.93 29**		P	**P**	**11 39 41.6**	**-0.9**
SKT				IAmb	IAmb	11 40 11.0	
	comp=Z,8.3nm,1.0s						
IMAR	**Indian Mountai**	**61.18 24**		P	**P**	**11 39 45.1**	**+1.0**
NRIK	**Noril'sk**	**61.30 340**		P	**P**	**11 39 44.2**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=107,slow=8.9,SNR=5.2						
BPAW	**Bear Paw Mtn.**	**61.73 27**		P	**P**	**11 39 48.2**	**+0.4**
BPAW				IAmb	IAmb	11 39 48.8	
	comp=Z,5.3nm,0.8s						
TRF	**Thorofare Moun**	**61.86 27**		P	**P**	**11 39 48.1**	**-0.8**
TRF				IAmb	IAmb	11 39 53.6	
	comp=Z,12nm,1.3s						
TOLK	**Toolik Lake Re**	**63.54 22**		P	**P**	**11 40 00.2**	**+0.5**
TOLK				IAmb	IAmb	11 40 01.2	
	comp=Z,6.5nm,1.1s						
ILAR	**Eielson Array**	**63.62 26**		P	**P**	**11 39 58.8**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=262,slow=5.0,SNR=20						
ILAR	**Eielson Array**	**63.62 26**		P	**P**	**11 39 58.6**	**-1.7**
RIDG	**Independent Ri**	**64.30 28**		P	**P**	**11 40 00.8**	**-4.0**
GLB	**Gillahina Bute**	**64.44 30**		P	**P**	**11 40 02.4**	**-3.4**
VRDI	**Verde Repeater**	**64.58 30**		P	**P**	**11 40 05.9**	**-1.0**
BMAR	**Burnt Mountain**	**65.07 24**		P	**P**	**11 40 10.3**	**+0.6**
BALM	**Baldy**	**65.09 31**		P	**P**	**11 40 08.7**	**-1.3**
BALM				IAmb	IAmb	11 40 30.4	
	comp=Z,19nm,1.2s						
BCAR	**Beaver Creek A**	**65.57 29**		P	**P**	**11 40 13.0**	**-0.1**
BFZ	**Birch Farm**	**65.89 155**		P	**P**	**11 40 17.8**	**+2.6**
EGAK	**Eagle**	**66.04 27**		P	**P**	**11 40 16.2**	**+0.3**
EGAK				IAmb	IAmb	11 40 39.7	
	comp=Z,7.6nm,1.4s						
KKAR	**Karatay Array**	**66.36 310**		P	**P**	**11 40 18.4**	**+0.1**
DAWY	**Dawson**	**66.74 28**		P	**P**	**11 40 20.3**	**-0.1**
HYT	**Haines Junctio**	**67.44 31**		P	**P**	**11 40 26.5**	**+1.5**
HYT				IAmb	IAmb	11 40 26.6	
	comp=Z,7.9nm,1.0s						
EPYK	**Eagle Plains**	**68.02 25**		P	**P**	**11 40 28.1**	**-0.3**
EPYK				IAmb	IAmb	11 40 43.4	
	comp=Z,15nm,1.5s						
INK	**Inuvik**	**69.32 23**		P	**P**	**11 40 35.7**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=289,slow=6.3,SNR=5.0						
INK	**Inuvik**	**69.32 23**		P	**P**	**11 40 35.6**	**-0.7**
INK				IAmb	IAmb	11 40 48.2	
	comp=Z,6.9nm,1.2s						
ABKAR	**Akbulak array**	**72.95 317**		P	**P**	**11 40 57.9**	**-0.6**
E03A	**Lebam**	**77.27 45**		P	**P**	**11 41 22.9**	**-0.2**
E03A				IAmb	IAmb	11 41 26.1	
	comp=Z,24nm,1.4s						
EUNU	**Eureka**	**77.57 8**		P	**P**	**11 41 24.2**	**-0.2**
EUNU				IAmb	IAmb	11 41 49.7	
	comp=Z,5.3nm,1.2s						
YKA	**Yellowknife Ar**	**77.97 28**		P	**P**	**11 41 26.2**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=291,slow=5.0,SNR=7.8						
KCPM	**Cahto Peak**	**79.00 52**		P	**P**	**11 41 33.3**	**+0.3**
KCPM				IAmb	IAmb	11 41 40.3	
	comp=Z,14nm,1.2s						
LTY	**Liberty**	**79.01 44**		P	**P**	**11 41 32.7**	**-0.1**
LTY				IAmb	IAmb	11 41 36.2	
	comp=Z,5.1nm,1.3s						
B08A	**Colville Reser**	**79.56 42**		P	**P**	**11 41 35.7**	**-0.1**
B08A				IAmb	IAmb	11 41 36.7	
	comp=Z,9.6nm,1.4s						
NEW	**Newport**	**81.00 42**		P	**P**	**11 41 43.3**	**-0.2**
NEW				IAmb	IAmb	11 41 44.3	
	comp=Z,6.3nm,1.4s						
PNTR	**Pine Nut**	**82.13 51**		P	**P**	**11 41 49.4**	**-0.4**
PNTR				IAmb	IAmb	11 41 50.9	
	comp=Z,4.7nm,0.7s						
ARCES	**ARCESS Array B**	**82.19 342**		P	**P**	**11 41 49.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=70,slow=7.1,SNR=6.3						
RYN	**Ryan**	**83.07 52**		P	**P**	**11 41 54.1**	**-0.5**
RYN				IAmb	IAmb	11 41 55.1	
	comp=Z,2.6nm,0.7s						
KVN	**Kaiserville**	**83.25 51**		P	**P**	**11 41 55.3**	**-0.2**
NVAR	**Mina Array Bea**	**83.29 52**		P	**P**	**11 41 55.8**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=270,slow=5.6,SNR=36						
NVAR	**Mina Array Bea**	**83.29 52**		P	**P**	**11 41 55.3**	**-0.5**
ELK	**Elko**	**84.76 49**		P	**P**	**11 42 02.5**	**-0.6**
BCYI	**Bear Canyon**	**84.76 45**		P	**P**	**11 42 03.0**	**-0.2**
LRM	**Limekiln Ridge**	**84.84 43**		P	**P**	**11 42 02.3**	**-1.1**
HRY	**Holter Researc**	**84.91 42**		P	**P**	**11 42 03.0**	**-0.6**
MCMT	**McKenzie Canyo**	**84.94 44**		P	**P**	**11 42 04.0**	**0.0**
FINES	**FINESS Array B**	**86.55 335**		P	**P**	**11 42 08.8**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=62,slow=4.3,SNR=12						
FINES	**FINESS Array B**	**86.55 335**		P	**P**	**11 42 08.4**	**-2.8**
PDAR	**Pinedale Array**	**87.94 45**		P	**P**	**11 42 17.4**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=171,slow=2.2,SNR=5.3						
PDAR	**Pinedale Array**	**87.94 45**		P	**P**	**11 42 17.1**	**-1.5**
LPAZ	**La Paz**	**148.03 91**	PKPbc	**PKPbc**	**11 49 14.1**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=348,slow=11,SNR=2.7						
LPAZ	**La Paz**	**148.03 91**		**PKPbc**	**11 49 14.5**	**0.0**

DJA 03 11:30:06.6±0.5, **9°S**±4°×**117°0E**±°, **h10**km, **M3.7**/12, **mb3.8**/1, **MLv3.6**/12, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.34**	**8**	P	Pn	11 30 29.9	-1.5
UGM				S	Sg	11 30 49.6	-0.2
YOGI	**Yogyakarta**	**1.43**	**358**	P	Pn	11 30 32.3	-0.3
YOGI				S	Sb	11 30 51.8	+0.3
WOJI	**Wonogiri, Jawa**	**1.52**	**22**	P	Pn	11 30 32.5	-1.3
WOJI				S	Sb	11 30 54.0	-0.2
PWJI	**Pagerwojo**	**1.89**	**50**	P	Pn	11 30 38.6	-0.4
SMRI	**Semarang**	**2.19**	**3**	P	Pn	11 30 43.0	-0.1
KPJI	**Karang Pucung**	**2.36**	**324**	P	Pn	11 30 45.9	+0.5
CMJI	**Cimerak**	**2.37**	**308**	P	Pn	11 30 44.6	-1.0
CISI	**Cisompet, Garu**	**3.01**	**304**	P	Pn	11 30 54.9	+0.4
GRJI	**Gresik**	**3.14**	**43**	P	Pn	11 30 56.4	+0.2
GMJI	**Gumukmas**	**3.22**	**73**	P	Pn	11 30 57.5	+0.3
CNJI	**Cibinong**	**3.72**	**301**	P	Pn	11 31 04.7	+0.6
JAGI	**Jajag, Banyuwa**	**3.85**	**79**	P	Pn	11 31 06.4	+0.5
TWSI	**Taliwang, Sumb**	**6.48**	**86**	P	Pn	11 31 42.3	+0.1

IDC 03 11:55:11.8±3.1, **13°.54S**×**66°.91E**, **h0**km, **mb3.5**/4, **mb1 3.6**/4, **mb1mx3.4**/30, **mbtmp3.5**/4, **Error ellipse: s-maj=117.8km s-min=36.8km az=55.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**8.02**	**44**	T	T	12 05 54.0	
	baz=226,slow=75,SNR=565						
H08S2	**Diego Garcia H**	**8.03**	**44**	T	T	12 05 55.0	
	baz=226,slow=75,SNR=539						
H08S3	**Diego Garcia H**	**8.04**	**44**	T	T	12 05 55.6	
	baz=226,slow=75,SNR=715						
H01W3	**Cape Leeuwin H**	**47.51**	**125**	T	T	12 55 20.5	
	baz=283,slow=75,SNR=50						
H01W2	**Cape Leeuwin H**	**47.51**	**125**	T	T	12 55 23.2	
	baz=283,slow=75,SNR=37						
H01W1	**Cape Leeuwin H**	**47.53**	**125**	T	T	12 55 29.5	
	baz=283,slow=75,SNR=42						
MKAR	**Makanchi Array**	**61.63**	**12**	P	P	12 05 31.9	+0.6
	0.3nm,0.7s,baz=199,slow=5.9,SNR=2.9						
ASAR	**Alice Springs**	**63.81**	**110**	P	P	12 05 44.9	-1.5
	0.1nm,0.6s,baz=270,slow=6.1,SNR=1.5						
WRA	**Warramunga Arr**	**64.53**	**106**	P	P	12 05 52.7	+1.5
	0.4nm,0.9s,baz=267,slow=6.1,SNR=2.0						
ZALV	**Zalesovo Beam**	**68.94**	**11**	P	P	12 06 17.6	-1.0
	0.5nm,0.4s,baz=197,slow=4.5,SNR=1.5						
PDAR	**Pinedale Array**	**150.72**	**355**	PKPbc	PKPbc	12 15 06.7	0.0
	0.4nm,0.6s,baz=17,slow=0.9,SNR=6.1						

IDC 03 12:00:21.1±5.0, **36°.20S**×**52°.91E**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.5**/38, **mbtmp3.7**/3, **Error ellipse: s-maj=592.9km s-min=32.5km az=25.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**45.42 202**		P	P	12 08 30.2	-11
VNA3	**Neumayer Olymp**	**47.40 203**		P	P	12 08 45.9	-11
H01W2	**Cape Leeuwin H**	**49.09 108**		T	T	13 01 53.5	
	baz=248,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**49.10 108**		T	T	13 01 54.1	
	baz=248,slow=75,SNR=28						
H01W1	**Cape Leeuwin H**	**49.10 108**		T	T	13 01 56.0	
	baz=248,slow=75,SNR=25						
TORD	**Torodi Ar. Bea**	**68.86 306**		P	P	12 11 27.8	0.0
	0.4nm,0.8s,baz=118,slow=4.6,SNR=4.4						
ASAR	**Alice Springs**	**69.47 105**		P	P	12 11 32.4	+0.7
	0.4nm,0.6s,baz=230,slow=6.0,SNR=11						
WRA	**Warramunga Arr**	**71.77 102**		P	P	12 11 44.9	-0.9
	0.6nm,0.7s,baz=233,slow=5.3,SNR=5.4						

IDC 03 12:26:34.3±2.2, **2°.26N**×**126°.25E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/37, **mbtmp3.4**/3, **Error ellipse: s-maj=193.1km s-min=27.3km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.45 161**		P	P	12 31 45.4	-0.2
	1.4nm,0.7s,baz=339,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.82 164**		P	P	12 32 16.5	0.0
	0.1nm,0.6s,baz=342,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**58.49 326**		P	P	12 36 32.5	+0.1
	0.2nm,0.3s,baz=120,slow=8.7,SNR=3.7						

DRS 03 12:37:43.1±0.0, **41°.57N**×**47°.69E**, **h23**km, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARKR	**Arakani**	**1.15 334**		*e*Pg	Pn	12 38 00.5	-3.4
	50nm,0.2s						
ARKR				*e*Sg	Sn	12 38 25.0	+6.0
	101nm,0.3s						
UNCR	**Uncukul**	**1.32 330**		*e*Pg	Pn	12 38 03.0	-3.2
	41nm,0.3s						
UNCR				*e*Sg	Sb	12 38 29.0	+5.2
	151nm,0.0s						
KRNR	**Karanay**	**1.38 335**		*e*Pg	Pn	12 38 04.0	-3.1
	29nm,0.4s						
KRNR				*e*Sg	Sb	12 38 34.0	+8.4
	39nm,0.5s						

*AZER **03** 12:38:30.9, 41°.21N×47°.26E, h9km, ML3.0*

*NSSP **03** 12:38:31.2, 41°.13N×47°.25E, h10km, Ms3.0*

ISC 03 12:38:30.4±3.1, **41°.15N**±0°.07×**47°.3E**±0°.1, **h3**km±16km, **n8**, **s0**°**87/14**, **2C-1D**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**1.02 312**		P	**Pn**	**12 38 52.0**	**+0.4**
GRS	**Goris**	**1.80 203**	⇑	*i*P	**Pn**	**12 39 03.0**	**+0.6**
GRS			⇑	*i*S	**Sn**	**12 39 25.0**	**-0.7**
BTNK	**Botanikuri**	**1.92 287**		P	**Pb**	**12 39 06.0**	**0.0**
BTNK				S	**Sg**	**12 39 32.4**	**+0.3**
KAPZ	**Kaputan**	**2.11 248**		*e*P	**Pg**	**12 39 10.5**	**-0.3**
KAPZ			⇓	S	**Sg**	**12 39 39.3**	**+1.1**
STE	**Stepanavan**	**2.19 267**		*e*P	**Pb**	**12 39 10.3**	**-0.3**
STE				S	**Sg**	**12 39 40.2**	**-0.4**
DMNI	**Dmanisi**	**2.32 275**		P	**Pn**	**12 39 11.2**	**+1.7**
DMNI				S	**Sb**	**12 39 41.9**	**0.0**
TRLG	**Trialeti**	**2.41 280**		P	**Pb**	**12 39 13.4**	**-1.0**
TRLG				S	**Sb**	**12 39 43.6**	**-0.8**
PNSH	**Pansheti**	**2.46 308**		P	**Pb**	**12 39 15.1**	**-0.3**

*IDC **03** 12:39:19.9±1.3, 17°.65S×178°.96W, h518km±15km, mb3.8/18, mb1 4.0/21, mb1mx3.8/36, mbtmp4.7/21, Error ellipse: s-

PSA00	Pilbara Seismi	57.47	255	P		P		12 48 19.5	-0.2
JYT	Yasato	65.97	325	P		P		12 49 15.0	+0.4
JMM	Marumori	66.85	326	P		P		12 49 20.6	+0.5
JGF	Kuroka	67.13	322	P		P		12 49 22.3	+0.4
JGF				IAmb	IAmb			12 49 45.6	
	comp=Z,23nm,1.4s								
MJAR	Matsushiro Arr	67.31	324	P		P		12 49 22.8	-0.2
	comp=Z,10nm,0.7s,baz=159,slow=5.9,SNR=27								
MJAR	Matsushiro Arr	67.31	324	P		P		12 49 22.8	-0.2
MAJO	Matsushiro	67.31	324	P		P		12 49 23.3	+0.3
MAJO				IAmb	IAmb			12 49 23.8	
	comp=Z,12nm,0.8s								
MAT	Matsushiro	67.31	324	P		P		12 49 22.9	-0.1
JKA	Kamikawa-asahi	70.71	332	P		P		12 49 44.8	+1.6
JKA	Kamikawa-asahi	70.71	332	IAmb	IAmb			12 49 52.5	
	comp=Z,27nm,1.3s								
ASAJ	Asahikawa	70.72	332	P		P		12 49 44.8	+1.6
	comp=Z,7.5nm,0.5s,baz=218,slow=3.8,SNR=17								
PETK	Petropavlovsk-	73.21	346	P		P		12 49 57.6	+0.1
	comp=Z,8.7nm,0.6s,baz=129,slow=9.2,SNR=34								
PETK	Petropavlovsk-	73.21	346	P		P		12 49 57.4	-0.1
KSRS	Korea Array	74.08	319	P		P		12 50 04.0	+1.2
	comp=Z,1.2nm,0.9s,baz=134,slow=6.3,SNR=2.4								
USRK	Ussuriysk Ar.	76.03	326	P		P		12 50 14.6	+1.1
	comp=Z,2.0nm,0.6s,baz=135,slow=5.4,SNR=8.4								
USRK	Ussuriysk Ar.	76.03	326	P		P		12 50 14.8	+1.3
MCCM	Marconi Confer	76.40	42	P		P		12 50 13.6	-2.1
KMRM	Mail Ridge	77.10	40	P		P		12 50 19.2	-0.4
KMRM				IAmb	IAmb			12 50 22.0	
	comp=Z,16nm,0.8s								
OHAK	Old Harbor	77.53	14	P		P		12 50 21.5	+0.1
MDJ	Mudanjiang	77.59	325	P		P		12 50 22.0	-0.1
MDJ				IAmb	IAmb			12 50 24.4	
	comp=Z,13nm,0.8s								
CMB	Columbia Colle	77.96	44	P		P		12 50 25.1	+0.8
ISA	Isabella, Lake	77.97	46	P		P		12 50 25.2	+0.7
AFDM	Forest Hills D	78.09	43	P		P		12 50 24.3	-0.7
ORV	Oroville	78.09	42	P		P		12 50 24.0	-0.9
YBH	Yreka Blue Hor	78.60	39	P		P		12 50 28.9	+1.2
MDPB	Devils Postpil	78.61	44	P		P		12 50 28.9	+0.8
OMMB	Old Mammoth Mi	78.65	45	P		P		12 50 29.4	+1.0
WAKR	Walker	78.84	44	P		P		12 50 29.1	-0.1
WAKR				IAmb	IAmb			12 50 31.4	
	comp=Z,7.0nm,0.8s								
HUMO	Hull Mountain	78.97	39	P		P		12 50 30.9	+1.3
PNTR	Pine Nut	79.06	43	P		P		12 50 31.2	+0.9
PNTR				IAmb	IAmb			12 50 32.4	
	comp=Z,14nm,0.8s								
VCNR	Virginia City	79.14	43	P		P		12 50 31.9	+1.2
YERR	Yerington	79.23	43	P		P		12 50 32.2	+0.9
YERR				IAmb	IAmb			12 50 33.0	
	comp=Z,9.9nm,0.7s								
GLA	Glamis	79.25	50	P		P		12 50 31.0	-0.3
RYN	Ryan	79.51	44	P		P		12 50 33.4	+0.7
PAHR	Pah Rah Range	79.53	43	P		P		12 50 33.5	+0.7
NVAR	Mina Array Bea	79.55	44	P		P		12 50 34.0	+1.0
	comp=Z,4.5nm,0.7s,baz=225,slow=8.7,SNR=38								
NVAR	Mina Array Bea	79.55	44	P		P		12 50 33.7	+0.7
NV11	Mina Array Sit	79.65	44	P		P		12 50 34.5	+1.0
KVN	Kaiserville	80.02	44	P		P		12 50 35.8	+0.3
KVN				IAmb	IAmb			12 50 36.6	
	comp=Z,5.0nm,0.6s								
MOD	Modoc Plateau	80.17	40	P		P		12 50 36.8	+0.8
MOD				IAmb	IAmb			12 50 37.8	
	comp=Z,6.5nm,0.7s								
TPNV	Topopah Spring	80.17	46	P		P		12 50 37.1	+0.9
K05A	Summer Lake	80.28	39	P		P		12 50 37.8	+1.1
K05A				IAmb	IAmb			12 50 38.4	
	comp=Z,7.2nm,0.6s								
H04A	Detroit Lake	80.64	37	P		P		12 50 38.4	0.0
H04A				IAmb	IAmb			12 50 39.2	
	comp=Z,4.2nm,0.6s								
PINE	Pine Mountain	80.86	38	P		P		12 50 40.5	+0.9
PINE				IAmb	IAmb			12 50 41.8	
	comp=Z,9.4nm,0.9s								
PRN	Pahroc Range	81.23	46	P		P		12 50 42.1	+0.4
PRN				IAmb	IAmb			12 50 44.0	
	comp=Z,6.8nm,0.8s								
I07A	Izee	81.88	39	P		P		12 50 45.2	+0.4
I07A				IAmb	IAmb			12 50 46.7	
	comp=Z,6.1nm,0.8s								
J08A	Circle Bar Ran	82.10	40	P		P		12 50 46.6	+0.7
J08A				IAmb	IAmb			12 50 47.8	
	comp=Z,16nm,1.3s								
TTA	Tatalina	82.23	10	P		P		12 50 46.3	+0.2
TTA				IAmb	IAmb			12 50 47.4	
	comp=Z,15nm,1.2s								
GLI	Glacier Island	82.26	15	P		P		12 50 45.2	-1.0
LCMT	Little Creek M	82.29	47	P		P		12 50 46.3	-0.8
X16A	Lo Mia Camp, P	82.38	50	P		P		12 50 47.1	-0.5
X16A				IAmb	IAmb			12 50 50.2	
	comp=Z,6.2nm,0.8s								
RAGM	Ragged Mountai	82.47	16	P		P		12 50 47.5	+0.2
CCUT	Cedar City	82.47	47	P		P		12 50 49.4	+1.3
SPR3	Spring Creek 3	82.51	45	P		P		12 50 48.5	+0.1
KNB	Kanab	82.59	48	P		P		12 50 49.8	+1.2
GHO	Glory Hole Cre	82.60	14	P		P		12 50 47.9	-0.1
PSUT	Pine Spring	82.61	46	P		P		12 50 49.7	+1.0
SZCU	Shurtz Canyon	82.68	47	P		P		12 50 49.5	+0.4
U15A	North Rim	82.69	48	P		P		12 50 49.2	-0.1
U15A				IAmb	IAmb			12 50 51.8	
	comp=Z,9.5nm,0.9s								
ELK	Elko	82.78	43	P		P		12 50 50.2	+0.6
G08A	Pilot Rock	82.87	38	P		P		12 50 49.6	-0.2
G08A				IAmb	IAmb			12 50 51.5	
	comp=Z,9.4nm,1.1s								
WUAZ	Wupatki	82.93	49	P		P		12 50 50.9	+0.6
LTY	Liberty	83.00	36	P		P		12 50 50.4	+0.1
SCM	Sheep Creek Mo	83.03	15	P		P		12 50 50.1	0.0
E07A	Sunnyside	83.06	37	P		P		12 50 51.5	+0.9
E07A				IAmb	IAmb			12 50 52.3	
	comp=Z,14nm,1.2s								
HAWA	Hanford	83.15	37	P		P		12 50 49.5	-1.5
HAWA				IAmb	IAmb			12 50 52.3	
	comp=Z,6.0nm,0.6s								
VRDI	Verde Repeater	83.50	16	P		P		12 50 52.5	-0.1
VRDI				IAmb	IAmb			12 51 00.1	
	comp=Z,24nm,1.3s								
M24K	Tolsona, Glenn	83.54	15	P		P		12 50 52.0	-0.7
GLB	Gilahina Butte	83.58	16	P		P		12 50 53.0	+0.1
GLB				IAmb	IAmb			12 50 53.5	
	comp=Z,13nm,0.6s								
BMO	Blue Mountains	83.61	39	P		P		12 50 53.1	-0.4
BALM	Baldy	83.65	17	P		P		12 50 53.1	-0.1
MCARA	McCarthy VSAT	83.75	17	P		P		12 50 54.3	+0.7
KTH	Kantishna Hill	83.75	12	P		P		12 50 52.6	-1.0
KTH				IAmb	IAmb			12 50 53.7	
	comp=Z,9.4nm,0.8s								
MFID	Camas Ranch	83.77	41	P		P		12 50 54.2	-0.1
TRF	Thorofare Moun	83.79	13	P		P		12 50 53.3	-0.7
BARN	Barnard Glacie	83.86	17	P		P		12 50 54.4	0.0
BARN				IAmb	IAmb			12 50 55.2	
	comp=Z,19nm,0.9s								
CTGM	Chitina Glacie	83.87	17	P		P		12 50 54.4	-0.1
CTGM				IAmb	IAmb			12 50 55.2	
	comp=Z,14nm,0.8s								
D08A	Wollman Farm,	83.87	37	P		P		12 50 55.0	+0.4
D08A				IAmb	IAmb			12 50 56.2	
	comp=Z,6.5nm,0.9s								
RND	Reindeer	84.06	13	P		P		12 50 54.9	-0.3
RND				IAmb	IAmb			12 50 55.8	
	comp=Z,16nm,0.8s								
DHY	Denali Highway	84.09	14	P		P		12 50 55.0	-0.4
DHY				IAmb	IAmb			12 50 56.7	
	comp=Z,5.4nm,0.6s								
F10A	Beach Ranch, E	84.26	38	P		P		12 50 56.9	+0.3
F10A				IAmb	IAmb			12 50 57.9	
	comp=Z,9.1nm,1.0s								
B08A	Colville Reser	84.37	35	P		P		12 50 56.8	-0.3
B08A				IAmb	IAmb			12 50 57.5	
	comp=Z,5.0nm,0.7s								
HLID	Hailey	84.73	41	P		P		12 50 59.9	+0.8
SRU	San Rafael Swe	85.17	47	P		P		12 51 01.2	-0.1
HDA	Harding Lake	85.35	13	P		P		12 51 00.8	-0.6
HDA				IAmb	IAmb			12 51 01.6	
	comp=Z,7.2nm,0.7s								
CCB	Clear Creek Bu	85.37	13	P		P		12 51 00.6	-0.9
CCB				IAmb	IAmb			12 51 02.7	
	comp=Z,7.0nm,0.8s								
DOT	Dot Lake	85.37	15	P		P		12 51 01.1	-0.4
DOT				IAmb	IAmb			12 51 02.1	
	comp=Z,8.7nm,0.7s								
IMAR	Indian Mountai	85.44	10	P		P		12 51 01.3	-0.4
BCAR	Beaver Creek A	85.46	16	P		P		12 51 01.3	-0.7
MDM	Murphy Dome	85.55	13	P		P		12 51 01.2	-1.2
MDM				IAmb	IAmb			12 51 18.5	
	comp=Z,17nm,1.2s								
XAN	Xi'an	85.62	308	P		P		12 51 03.6	+0.1
XAN				IAmb	IAmb			12 51 05.6	
	comp=Z,12nm,1.0s								
IL31		85.67	13	P		P		12 51 01.8	-1.1
IL31				IAmb	IAmb			12 51 16.7	
	comp=Z,15nm,1.3s								
ILAR	Eielson Array	85.67	13	P		P		12 51 01.9	-1.0
	comp=Z,2.7nm,0.4s,baz=226,slow=5.3,SNR=62								
ILAR	Eielson Array	85.67	13	P		P		12 51 01.8	-1.1
MNTX	Cornudas Mount	85.82	55	P		P		12 51 05.5	+1.0
BNM	Barren Site	85.85	52	P		P		12 51 04.5	-0.3
TX31	Lajitas Ar. Si	86.27	58	P		P		12 51 07.2	+0.5
TX31				IAmb	IAmb			12 51 09.7	
	comp=Z,12nm,0.9s								
TX32	Lajitas Array	86.27	58	P		P		12 51 06.4	-0.4
TX32				IAmb	IAmb			12 51 09.7	
	comp=Z,3.9nm,0.9s								
TXAR	Lajitas Array	86.27	58	P		P		12 51 08.6	+1.9
	comp=Z,3.0nm,0.8s,baz=216,slow=5.9,SNR=25								
TXAR	Lajitas Array	86.27	58	P		P		12 51 06.0	-0.8
ANMO	Albuquerque	86.31	52	P		P		12 51 05.7	-1.2
MCMT	McKenzie Canyo	86.33	41	P		P		12 51 04.6	-2.3
TPAW	Teton Pass	86.90	43	P		P		12 51 09.5	-0.1
TPAW				IAmb	IAmb			12 51 11.6	
	comp=Z,4.4nm,0.9s								
REDW	Red Top Meadow	86.90	43	P		P		12 51 08.1	-1.4
REDW				IAmb	IAmb			12 51 11.5	
	comp=Z,6.4nm,0.9s								
FXWY	Fox Creek	86.92	42	P		P		12 51 09.8	+0.2
SNOW	Snow King Moun	87.01	43	P		P		12 51 10.0	-0.1
SNOW				IAmb	IAmb			12 51 12.2	
	comp=Z,6.6nm,0.9s								
IMW	Indian Meadow	87.09	42	P		P		12 51 10.5	0.0
IMW				IAmb	IAmb			12 51 12.6	
	comp=Z,6.9nm,0.8s								
COLD	Coldfoot	87.17	11	P		P		12 51 09.2	-0.8
COLD				IAmb	IAmb			12 51 10.8	
	comp=Z,5.7nm,0.6s								
LOHW	Long Hollow	87.18	43	P		P		12 51 08.2	-2.7
LOHW				IAmb	IAmb			12 51 12.6	
	comp=Z,3.2nm,0.8s								
S22A	4UR Ranch, Cre	87.19	49	P		P		12 51 11.4	+0.3
FLWY	Flagg Ranch	87.33	42	P		P		12 51 10.8	-0.7
FLWY				IAmb	IAmb			12 51 13.9	
	comp=Z,7.0nm,1.0s								
YHL	Hebgen Lake	87.38	41	P		P		12 51 13.4	+1.5
YMR	Madison River	87.43	41	P		P		12 51 11.2	-0.9
BW06	Boulder Array	87.47	44	P		P		12 51 11.8	-0.5
BW06				IAmb	IAmb			12 51 13.5	
	comp=Z,11nm,1.4s								
PD31	Pinedale Array	87.47	44	P		P		12 51 11.6	-0.7
PD31				IAmb	IAmb			12 51 13.5	
	comp=Z,9.3nm,1.4s								
PDAR	Pinedale Array	87.47	44	P		P		12 51 12.8	+0.5
	comp=Z,2.1nm,0.5s,baz=217,slow=3.3,SNR=25								
PDAR	Pinedale Array	87.47	44	P		P		12 51 11.9	-0.4
H17A	Grant Village	87.55	42	P		P		12 51 12.3	-0.4
H17A				IAmb	IAmb			12 51 15.7	
	comp=Z,4.8nm,0.8s								
YNE	Yellowstone No	88.19	41	P		P		12 51 16.9	+1.3
CMAR	Chiang Mai Arr	88.26	290	P		P		12 51 16.9	+0.8
	comp=Z,0.4nm,0.3s,baz=92,slow=3.7,SNR=4.3								
CMAR	Chiang Mai Arr	88.26	290	P		P		12 51 16.3	+0.1
LAO	LASA Array	91.31	41	P		P		12 51 30.8	+1.0
KAN13	South Haven SW	93.83	53	P		P		12 51 39.3	-2.2
YKA	Yellowknife Ar	94.25	25	P		P		12 51 42.6	-0.1
	comp=Z,1.8nm,0.7s,baz=249,slow=3.6,SNR=6.9								
ZALV	Zalesovo Beam	107.63	322	PKiKP		PKiKP		12 56 46.4	-0.7
	comp=Z,0.5nm,0.5s,baz=176,slow=1.6,SNR=4.1								
MKAR	Makanchi Array	108.51	314	PKiKP		PKiKP		12 56 48.2	-0.8
	comp=Z,0.7nm,0.5s,baz=212,slow=0.8,SNR=10								
ARCES	ARCESS Array B	125.88	350	PKP		PKPdf		12 57 20.8	-0.8
	comp=Z,1.6nm,0.7s,baz=29,slow=2.8,SNR=8.8								
FINES	FINESS Array B	132.71	344	PKhKP		PKPpre		12 57 28.0	
	comp=Z,1.1nm,0.7s,baz=40,slow=2.4,SNR=4.6								
FINES				PKP		PKPdf		12 57 34.9	+0.2
	comp=Z,1.9nm,0.7s,baz=72,slow=4.5,SNR=5.2								
FINES	FINESS Array B	132.71	344			PKPdf		12 57 34.8	0.0
KMBO	Kilima Mbogo	139.78	246	PKhKP		PKPpre		12 57 34.6	
	comp=Z,5.1nm,0.5s,baz=29,slow=21,SNR=13								
AKASG	Malin Array Be	140.00	332	PKP		PKPdf		12 57 49.7	+1.1
	comp=Z,1.0nm,0.3s,baz=43,slow=2.8,SNR=3.2								
AKASG	Malin Array Be	140.00	332	PKPdf		PKiKP		12 57 51.2	0.0
KWP	Kalwaria Pacla	143.54	336			PKPab		12 57 53.5	0.0
BUR08	Bucovina Ar. S	144.04	332			PKPab		12 57 56.0	+0.4
BURAR	Bucovina Array	144.05	332	⇓P		PKPdf		12 57 56.3	+0.3
BURAR	Bucovina Array	144.05	332			PKPbc		12 57 55.6	+0.2
BR131	Keskin Array S	144.15	315			PKPbc		12 57 55.3	-0.8
BRTR	Keskin Array B	144.16	315	PKP		PKPbc		12 57 56.3	+0.2
	comp=Z,1.0nm,0.5s,baz=211,slow=33,SNR=9.6								
BRTR	Keskin Array B	144.16	315			PKPbc		12 57 56.0	-0.1
CFR	Carcaliu	144.35	326	P		PKPbc		12 57 56.0	-0.3
VRI	Vrincioaia	144.60	328	⇑P		PKPdf		12 57 56.9	-0.1
PLOR	Plostina	144.65	328	⇑P		PKPab		12 57 58.2	+0.3
BISRR	Bisoca	144.83	328	⇑P		PKPab		12 57 58.7	+0.1
OSTC	Ostas	144.90	343	*e*PKP		PKPbc		12 57 58.6	+0.7
CHVC	Chvalec	144.92	343	*e*PKP		PKPbc		12 57 58.5	+0.6
UPC	Upice	145.00	343	*e*PKP		PKPbc		12 57 58.8	+0.6
CLL	Collm	145.01	347	*i* PKPbc		PKPbc		12 57 58.3	+0.2
	comp=Z,59nm,1.5s								
CLL				*i* PKiKP		sPKPab		13 00 51.3	-3.1
CLL	Collm	145.01	347	PKPbc		PKPbc		12 57 58.1	0.0
DPC	Dobruska-Polom	145.06	343	*e*PKP		PKPbc		12 57 59.2	+0.8
KRLC	Kraliky	145.17	342	*e*PKP		PKPbc		12 57 59.2	+0.5
DOPR	Dopca	145.19	330	⇑P		PKPab		12 57 60.0	0.0
BRG	Berggiesshubel	145.20	346	*i* PKP		PKPbc		12 57 59.0	+0.2
	comp=Z,12nm,0.8s								
MORC	Moravsky Berou	145.21	341	⇑P		PKPbc		12 57 59.4	+0.6
MORC				⇑P		PKPab		12 57 59.8	-0.1
MORC	Moravsky Berou	145.21	341	PKPbc		PKPdf		12 57 58.5	+0.6
ISR	Istrita	145.22	328	P		PKPab		12 58 01.1	+1.0
MLR	Muntele Rosu	145.26	329	P		PKPbc		12 57 59.3	+0.1
MLR	Muntele Rosu	145.26	329	PKPbc		PKPdf		12 57 59.0	+0.8
PVCC	Panska Ves	145.37	345	*e*PKP		PKPbc		12 58 00.0	+0.8
VOIR		145.73	329	⇑P		PKPbc		12 58 01.4	+0.9
PRU	Pruhonice	145.87	344	*e*PKP		PKPbc		12 58 01.2	+0.5
GOPC	GO Pecny, Ondr	145.87	344	*e*PKP		PKPbc		12 58 01.3	+0.6
VRAC	Vranov	145.91	342	PKPbc		PKPbc		12 58 01.4	+0.6
	comp=Z,5.1nm,0.7s,baz=80,slow=1.0,SNR=5.1								
VRAC	Vranov	145.91	342	⇑P		PKPab		12 58 02.1	-0.5
ARR	Arges	145.99	330	⇑P		PKPab		12 58 03.0	-0.2
NKC	Novy Kostel	146.14	347	*e*PKP		PKPbc		12 58 02.0	+0.5
MEM	Membach	146.79	354	PKiKP		PKPbc		12 58 03.9	+0.8
GZR	Gura Zlata	146.84	331	⇑P		PKPbc		12 58 03.4	-0.1
KHC	Kasperske Hory	146.90	345	*e*PKP		PKPbc		12 58 04.1	+0.5
KHC	Kasperske Hory	146.90	345			PKPbc		12 58 04.2	+0.5
GEC2	GERESS Array S	147.14	345			PKPbc		12 58 03.7	-0.6
GERES	GERESS Array B	147.14	345	PKPbc		PKPbc		12 58 04.5	+0.2
	comp=Z,7.6nm,0.7s,baz=22,slow=3.1,SNR=44								
BZS	Buzias	147.18	333	⇑P		PKPbc		12 58 04.4	0.0
BMRD	Maredsous	147.20	356	PKiKP		PKPbc		12 58 04.3	+0.1
CONA	Conrad Observa	147.37	341	*i* P		PKPbc		12 58 05.7	+0.8
	comp=Z,11nm,0.7s,SNR=6.6								
HERR	Herculane	147.39	331	⇑P		PKPbc		12 58 05.1	+0.2
DOU	Dourbes	147.42	356	PKiKP		PKPbc		12 58 05.2	+0.4
WLF	Walferdange	147.71	354	PKiKP		PKPbc		12 58 06.4	+0.8
MOA	Molln	147.90	343	*e*P		PKiKP		12 58 07.2	-0.4
	comp=Z,2.7nm,0.6s								
ARSA	Arzberg	148.07	341	*e*P		PKiKP		12 58 08.2	+0.2
	comp=Z,2.2nm,0.6s								
BFO	Black Forest	148.74	351			PKPbc		12 58 07.0	-1.2
SOKA	Soboth	148.74	341	*e*P		PKPbc		12 58 08.0	-0.4
	comp=Z,4.1nm,0.7s								
KBA	Koelnbreinsper	148.86	344	*e*P		PKPbc		12 58 08.2	-0.6
	comp=Z,5.2nm,0.5s								
OBKA	Obir	149.03	342	*e*P		PKPbc		12 58 07.1	-2.1
	comp=Z,11nm,1.4s								
WATA	Walderalm	149.06	346	*i* P		PKPbc		12 58 09.3	0.0
	comp=Z,6.2nm,0.5s								
DIVS	Divibare	149.09	333			PKPbc		12 58 09.1	-0.3
RETA	Reutte	149.10	347	*e*P		PKPbc		12 58 09.3	0.0
	comp=Z,4.5nm,0.5s								
WTTA	Wattenberg	149.11	346	*i* P		PKPbc		12 58 09.3	-0.1
	comp=Z,8.7nm,0.4s,SNR=5.5								
MOTA	Moosalm	149.16	347	*e*P		PKPbc		12 58 09.5	0.0
	comp=Z,8.8nm,0.9s								
MYKA	Terra Mystica	149.19	343	*e*P		PKPbc		12 58 08.7	-0.8
	comp=Z,7.1nm,0.5s								
SQTA	Sankt Quirin	149.25	346	*e*P		PKPbc		12 58 09.4	-0.3
	comp=Z,12nm,0.6s								
VNDS	Vrh nad Dolski	149.35	341	*i* PKPbc		PKPbc		12 58 09.7	-0.1
PRED	Cave del Predi	149.38	343	PKPbc		PKPbc		12 58 08.3	-1.6
PRED						PKiKP		12 58 14.1	+3.3
ABTA	Abfaltersbach	149.38	344	*i* P		PKPbc		12 58 09.4	-0.6
	comp=Z,12nm,0.6s,SNR=6.8								
LJU	Ljubljana	149.46	341	*i* PKPbc		PKPbc		12 58 10.1	+0.1
DAVA	Damuels	149.47	348	*e*P		PKPdf		12 58 07.8	+2.7
	comp=Z,7.1nm,0.7s								
FETA	Feichten	149.55	347	*e*P		PKPbc		12 58 10.7	+0.3
	comp=Z,7.2nm,0.9s								
GBAS	Gorenja Brezov	149.58	341	*i* PKPbc		PKPbc		12 58 10.3	-0.1
STAL	STALIGIAL	149.78	344			PKPbc		12 58 09.3	-1.6
CIMO	Cimolais	149.81	344			PKPbc		12 58 10.3	-0.6
DAVOX	Davos/Dischmat	149.96	348	PKPbc		PKPbc		12 58 11.9	+0.5
	comp=Z,20nm,0.6s,baz=241,slow=3.5,SNR=18								
CTI	Castel Tesino	150.25	345			PKPbc		12 58 11.9	-0.1
TUE	Stuetta	150.36	348			PKPbc		12 58 12.4	-0.1
ESDC	Sonseca Array	157.54	10	PKPab		PKPab		12 58 51.6	-0.2
	comp=Z,1.7nm,1.1s,baz=345,slow=4.1,SNR=8.1								
ESDC	Sonseca Array	157.54	10			PKPab		12 58 51.1	-0.8
KEST	Kesra	160.45	339	PKPab		PKPab		12 59 05.3	+0.7
	comp=Z,1.9nm,0.7s,baz=339,slow=11,SNR=4.2								
TORD	Torodi Ar. Bea	175.56	188	PKP		PKPdf		12 58 29.7	-0.9
	comp=Z,0.5nm,0.7s,baz=348,slow=1.6,SNR=3.7								
TORD	Torodi Ar. Bea	175.56	188			PKPdf		12 58 29.4	-1.3

REY ***03*** *12:42:52.5, 64.67N× 17.45W, h8km*
IDC ***03*** *12:42:53.0±0.5, 64.61N× 17.58W, h0km, mb4.2/21, mb1 4.4/25, mb1mx4.2/44, mbtmp4.2/25, ML2.9/3, MS3.6/24, Ms1 3.6/24, ms1mx3.4/58, Error ellipse: s-maj=15.6km s-min=8.5km az=15.0*
MOS ***03*** *12:42:53.1±1.0, 64.63N× 17.52W, h10km, mb4.7/83, Error ellipse: s-maj=9.6km s-min=4.4km az=112.5*
NEIC ***03*** *12:42:54.7±1.5, 64.61N±0.08× 17.6W±0.1, h10km±1km, mb4.7/139, Error ellipse: s-maj=13.5km s-min=10.4km az=195.0*

ISC 03 12:42:54.5±0.3, 64.64N±0.02× 17.51W±0.02, h10km, n422, σ1°33/405, mb4.6/160, MS3.6/24, 7C-13D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.11	288	P		Pg	12 42 55.3	-2.0
	baz=271							
IDYN	Dyngjuhals	0.17	21	P		Pg	12 42 55.5	-2.7
	baz=17							
IDJK	Dyngjujokull	0.18	139	P		Pg	12 42 56.5	-1.9
	baz=151							
IURH	Urdarhals	0.24	40	P		Pg	12 42 56.8	-2.7
	baz=41							
IGRF	Grimsfjall	0.25	156	P		Pg	12 42 58.0	-1.7
	baz=163							
IHUS	Husbondi	0.35	191	P		Pg	12 43 00.1	-1.3
	baz=193							
IKVE	Kverkfjoll	0.36	83	P		Pg	12 42 59.1	-2.6
	baz=88							
IBJK	Bruarjokull	0.37	117	P		Pg	12 42 59.2	-2.6
	baz=124							
ISKR	Skrokkalda	0.39

QUIF pmax pmax
comp=Z,52nm,1.5s
BAIF Baives 18.57 132 *e*P **Pn 12 47 11.9 +0.4**
BAIF pmax pmax
comp=Z,23nm,1.2s
GRR Gorron 18.59 143 *e*P **P 12 47 11.4 -0.1**
GRR pmax pmax
comp=Z,28nm,1.0s
LDF La Druitiere 18.60 142 *e*P **P 12 47 11.1 -0.5**
LDF pmax pmax
comp=Z,22nm,1.3s
MEM Membach 18.70 128 P **P 12 47 11.5 -1.1**
MEM pP **Pn 12 47 14.0 +1.0**
MEM Membach 18.70 128 P **Pn 12 47 13.6 +0.6**
MEM pmax pmax
comp=Z,25nm,1.3s
BTNL Ternell 18.76 127 P **P 12 47 13.1 -0.2**
BTNL pP **Pn 12 47 15.4 +1.6**
FINES FINESS Array B 19.71 79 P **P 12 47 25.2 +1.5**
comp=Z,0.1nm,0.3s,baz=316,slow=8.0,SNR=6.8
FINES FINESS Array B 19.71 79 P **P 12 47 23.9 +0.2**
CLF Chambon-Foret 19.78 138 P **P 12 47 24.8 +0.3**
CLF lAmb lAmb 12 47 29.1
comp=Z,74nm,1.4s
TNS Taunus Mts 19.87 124 P **Pn 12 47 28.0 +0.8**
TNS pmax pmax
comp=Z,17nm,1.5s
APA Apatity 20.35 59 *i*P Pn 12 47 33.0 +0.5
APA MLR MLR
comp=Z,1μm,10.0s
MFF Saint Martin d 20.43 144 *e*P **P 12 47 32.5 +0.9**
MFF pmax pmax
comp=Z,28nm,1.3s
MOX Moxa 20.69 119 P **P 12 47 35.3 +0.9**
MOX pmax pmax
comp=Z,20nm,1.4s
CLL Collm 20.70 116⇑ *i*P **P 12 47 34.8 +0.4**
CLL comp=Z,37nm,1.4s
Lm MLR 12 54 00.0
comp=Z,200nm,19.5s
CLL Collm 20.70 116⇑ *i*P **P 12 47 34.8 +0.4**
CLL pmax pmax
comp=Z,37nm,1.4s
CLL Collm 20.70 116 P **P 12 47 34.6 +0.2**
LOR Lormes 20.93 136 P **P 12 47 37.2 +0.2**
LOR pmax pmax
comp=Z,23nm,1.1s
CDF Champ du Feu 21.01 129 *e*P **P 12 47 38.4 +0.5**
CDF pmax pmax
comp=Z,16nm,1.1s
SSF Saint Saulge 21.01 137 *e*P **P 12 47 37.3 -0.6**
SSF pmax pmax
comp=Z,40nm,1.2s
HAU Haudompre 21.05 131 *e*P **P 12 47 38.7 +0.3**
HAU pmax pmax
comp=Z,26nm,1.0s
ECH Echery 21.14 129 P **P 12 47 38.9 -0.3**
ECH pmax pmax
comp=Z,16nm,1.0s
ECH Echery 21.14 129 P **P 12 47 38.9 -0.3**
AVF Avril sur Loir 21.21 137 *e*P **P 12 47 39.3 -0.7**
AVF pmax pmax
comp=Z,28nm,1.2s
BGF Bois d'Agland 21.28 139 *e*P **P 12 47 40.1 -0.6**
BGF pmax pmax
comp=Z,10.0nm,0.4s
GRA1 Grafenberg Arr 21.32 121 P **P 12 47 40.8 -0.4**
GRA1 lAmb lAmb 12 47 54.8
comp=Z,33nm,1.2s
GRF Grafenberg Arr 21.32 121 P **P 12 47 40.8 -0.4**
GRF pmax pmax
comp=Z,33nm,1.2s
GRF Grafenberg Arr 21.32 121 *e*P **P 12 47 42.4 +1.2**
comp=Z,13nm,1.4s,baz=326,slow=9.5
GRF Grafenberg Arr 21.32 121 *e*P **P 12 47 42.1 +0.9**
comp=Z,44nm,1.4s,baz=327,slow=9.9
NKC Novy Kostel 21.34 118 *e*P **P 12 47 43.9 +2.5**
NKC Novy Kostel 21.34 118 *e*P **P 12 47 43.9 +2.5**
TCF Toulx Ste Croi 21.34 140 *e*P **P 12 47 41.1 -0.4**
TCF pmax pmax
comp=Z,36nm,1.1s
STU Stuttgart 21.36 125 P **P 12 47 42.6 +1.0**
STU pmax pmax
comp=Z,63nm,1.4s
STU Stuttgart 21.36 125 P **P 12 47 42.5 +1.0**
STU lAmb lAmb 12 47 47.5
comp=Z,63nm,1.4s
HINF Hinteralfeld 21.38 130 *e*P **P 12 47 42.2 +0.3**
HINF pmax pmax
comp=Z,18nm,1.1s
BRG Berggiesshubel 21.40 115 *i*P **P 12 47 42.2 +0.2**
comp=Z,17nm,1.0s
BRG Berggiesshubel 21.40 115 *i*P **P 12 47 42.2 +0.2**
BRG pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 21.43 127 P **P 12 47 42.9 +0.4**
BFO pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 21.43 127 P **P 12 47 42.9 +0.4**
SMF Signal de Mont 21.49 137 *e*P **P 12 47 42.4 -0.6**
SMF pmax pmax
comp=Z,36nm,1.2s
VSU Vasula 21.57 86 *e*P **P 12 47 43.9 +0.1**
VSU Vasula 21.57 86⇑ *i*P **P 12 47 43.2 -0.6**
VSU pmax pmax
comp=Z,98nm,1.1s
FRB Frobisher Bay 21.76 291 LR LR 12 55 01.8
comp=Z,70nm,19.1s,baz=106,slow=34
SLE Schleitheim 21.98 128 P **P 12 47 49.7 +1.4**
SLE pmax pmax
comp=Z,22nm,1.1s
RJF Les Rejaudoux 22.07 142 *e*P **P 12 47 48.8 -0.4**
RJF pmax pmax
comp=Z,41nm,1.2s
SLVR Solovky 22.08 65 *e*P **P 12 47 47.3 -1.9**
CABF La Chapelle 22.20 133 *e*P **P 12 47 51.9 +1.1**
CABF pmax pmax
comp=Z,23nm,1.2s
LFF La Frestale 22.20 144 *e*P **P 12 47 52.1 +1.4**
LFF pmax pmax
comp=Z,59nm,1.2s
PABE Paberze 22.21 95 *e*P **P 12 47 50.8 +0.1**
PRU Pruhonice 22.34 116 P **P 12 47 53.9 +1.8**
KSP Ksiaz 22.36 112 P **P 12 47 53.1 +0.8**
CHVC Chvalec 22.46 113 *e*P **P 12 47 55.0 +1.6**
GOPC GO Pecny, Ondr 22.49 115 *e*P **P 12 47 54.2 +0.4**
GOPC GO Pecny, Ondr 22.49 115 *e*P **P 12 47 54.2 +0.4**
OSTC Ostas 22.55 113 *e*P **P 12 47 56.6 +2.2**
CAF Calviac 22.56 142 *e*P **P 12 47 53.9 -0.7**
CAF pmax pmax
comp=Z,29nm,1.4s
KHC Kasperske Hory 22.66 118 *e*P **P 12 47 55.5 -0.1**
KHC Kasperske Hory 22.66 118⇓ *e*P **P 12 47 54.6 -1.0**
KHC pmax pmax
comp=Z,26nm,1.0s
KHC Kasperske Hory 22.66 118 P **P 12 47 56.2 +0.6**
DPC Dobruska-Polom 22.75 113 *e*P **P 12 47 56.8 +0.2**
DPC Dobruska-Polom 22.75 113 *e*P **P 12 47 56.8 +0.2**
SENIN Lac Senin/Sane 22.81 131 P **P 12 47 57.5 +0.2**
DAVA Damuels 22.87 126 *e*P **P 12 47 58.9 +1.0**
comp=Z,4.4nm,0.5s
SUW Suwalki 22.88 98 P **P 12 47 56.7 -1.1**
SUW pmax pmax
comp=Z,36nm,0.7s
SUW Suwalki 22.88 98 P **P 12 47 56.7 -1.1**
SSB Saint Sauveur 22.93 137 P **P 12 47 59.5 +1.1**
SSB pmax pmax
comp=Z,14nm,1.2s
SSB Saint Sauveur 22.93 137 P **P 12 47 59.5 +1.1**
GEC2 GERESS Array S 22.94 119 P **P 12 47 58.4 -0.3**
GERES GERESS Array B 22.94 119 P **P 12 47 59.1 +0.4**
comp=Z,3.9nm,1.0s,baz=325,slow=8.1,SNR=17
GERES LR LR 12 57 05.4
comp=Z,170nm,21.2s,baz=310,slow=37
GERES GERESS Array B 22.94 119 P **P 12 47 58.2 -0.5**
RETA Reutte 23.00 125 *e*P **P 12 48 01.1 +1.9**
comp=Z,5.6nm,0.7s
IZAR Zarasai 23.03 92 *e*P **P 12 47 59.6 +0.3**
ISAL Salakas 23.09 92 *e*P **P 12 48 00.5 +0.5**
MOTA Moosalm 23.25 124 *e*P **P 12 48 03.7 +1.9**
comp=Z,9.4nm,1.3s
IIGN Ignalina 23.28 93 *e*P **P 12 48 02.1 +0.2**
DAVOX Davos/Dischmat 23.30 127 P **P 12 48 03.5 +1.0**
comp=Z,4.1nm,0.8s,baz=333,slow=8.0,SNR=4.6
VIVF Saint-Julien-l 23.36 137 *e*P **P 12 48 00.3 -2.5**

VIVF pmax pmax
comp=Z,16nm,1.1s
TMCR Tamitsa 23.36 66 *e*P **P 12 48 02.7 +0.1**
comp=Z,50nm,1.1s
TMCR Tamitsa 23.36 66 *e*P **P 12 48 02.7 +0.1**
TMCR pmax pmax
comp=Z,51nm,1.0s
TUE Stuetta 23.39 128 P **P 12 48 03.8 +0.5**
TUE lAmb lAmb 12 48 26.9
comp=Z,14nm,0.8s
SQTA Sankt Quirin 23.39 124 *e*P **P 12 48 04.5 +1.3**
comp=Z,7.0nm,0.9s
FETA Feichten 23.39 125 *e*P **P 12 48 05.0 +1.7**
comp=Z,5.7nm,1.0s
LPG La Plagne 23.40 133 *e*P **P 12 48 04.2 +0.7**
LPG pmax pmax
comp=Z,28nm,1.4s
WATA Walderalm 23.42 124 *e*P **P 12 48 05.2 +1.6**
comp=Z,15nm,1.1s
WTTA Wattenberg 23.50 124 *e*P **P 12 48 05.0 +0.6**
comp=Z,18nm,1.2s
IDID Didziasalis 23.53 92 *e*P **P 12 48 04.4 +0.1**
FUORN Ofenpass-Fuorn 23.57 127 P **P 12 48 05.2 0.0**
ORIF Oris-en-Rattie 23.66 135 *e*P **P 12 48 07.1 +1.3**
ORIF pmax pmax
comp=Z,21nm,1.2s
VRAC Vranov 23.68 114 P **P 12 48 06.8 +0.9**
comp=Z,1.4nm,0.3s,baz=340,slow=10,SNR=5.6
VRAC Vranov 23.68 114 *e*P **P 12 48 06.6 +0.6**
MORC Moravsky Berou 23.69 112 *e*P **P 12 48 06.3 +0.2**
MORC Moravsky Berou 23.69 112 P **P 12 48 06.0 -0.1**
MORC pmax pmax
comp=Z,16nm,1.3s
MORC Moravsky Berou 23.69 112 **P 12 48 06.0 -0.1**
EUNU Eureka 23.70 336 P **P 12 48 06.2 +0.3**
EUNU lAmb lAmb 12 48 15.8
comp=Z,33nm,1.4s
BNI Bardonecchia 23.78 134 P **P 12 48 08.5 +1.4**
BNI pmax pmax
comp=Z,29nm,1.5s
BNI Bardonecchia 23.78 134 P **P 12 48 08.5 +1.4**
BNI lAmb lAmb 12 48 31.1
comp=Z,29nm,1.5s
KRUC Moravsky 23.80 115 *e*P **P 12 48 06.9 -0.2**
ETSF Etsaut 23.81 148 *e*P **P 12 48 05.2 -2.1**
ETSF pmax pmax
comp=Z,7.0nm,0.8s
EPF Esparros 23.90 146 *e*P **P 12 48 08.7 +0.6**
EPF pmax pmax
comp=Z,17nm,1.4s
MOA Molln 23.98 119 *e*P **P 12 48 09.6 +0.8**
comp=Z,14nm,1.2s
MTLF Montolieu 24.08 143 *e*P **P 12 48 12.0 +2.3**
MTLF pmax pmax
comp=Z,32nm,1.6s
MBDF Montbardon 24.10 134 *e*P **P 12 48 10.6 +0.5**
MBDF pmax pmax
comp=Z,15nm,1.2s
OJC Ojcow 24.25 109 P **P 12 48 09.9 -1.5**
OJC pmax pmax
comp=Z,18nm,1.4s
OJC Ojcow 24.25 109 P **P 12 48 09.9 -1.5**
ABTA Abfaltersbach 24.26 123 *e*P **P 12 48 14.1 +2.6**
comp=Z,11nm,1.7s
KBA Koelnbreinsper 24.28 122 *e*P **P 12 48 12.8 +1.0**
comp=Z,9.9nm,1.4s
JAVC Velka Javorina 24.47 113 *e*P **P 12 48 14.7 +1.3**
CONA Conrad Observa 24.52 117 *e*P **P 12 48 14.2 +0.3**
comp=Z,8.6nm,0.9s
CTI Castel Tesino 24.55 125 P **P 12 48 14.1 -0.1**
CTI pmax pmax
comp=Z,16nm,1.1s
CTI Castel Tesino 24.55 125 P **P 12 48 14.1 -0.1**
CTI lAmb lAmb 12 48 32.0
comp=Z,16nm,1.1s
ZOU Zoufplan 24.59 123 P **P 12 48 14.8 +0.2**
ZOU lAmb lAmb 12 48 28.9
comp=Z,25nm,1.4s
CIMO Cimolais 24.61 124 P **P 12 48 15.7 +1.1**
SMOL Smolenice 24.65 114 *e*P **P 12 48 16.0 +1.0**
SMOL pmax pmax
comp=Z,9.0nm,1.2s
SMOL Smolenice 24.65 114 *e*P **P 12 48 16.0 +1.0**
MODS Modra-Piesok 24.71 114 *e*P **P 12 48 16.0 +0.5**
MODS pmax pmax
comp=Z,25nm,1.5s
MODS Modra-Piesok 24.71 114 *e*P **P 12 48 16.0 +0.5**
MYKA Terra Mystica 24.77 122 *e*P **P 12 48 18.2 +2.0**
comp=Z,8.1nm,1.0s
PRED Cave del Predi 24.90 122 P **P 12 48 18.5 +1.2**
ARSA Arzberg 24.95 118 *e*P **P 12 48 18.9 +1.2**
comp=Z,6.5nm,1.2s
LANS Liptovska Anna 24.96 111 *e*P **P 12 48 18.7 +1.0**
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 24.96 111 *e*P **P 12 48 18.7 +1.0**
NIE Niedzica 25.08 109 P **P 12 48 20.0 +1.1**
OBKA Obir 25.21 121 *e*P **P 12 48 21.2 +1.2**
comp=Z,8.0nm,1.1s
VYHS Vyhne 25.23 112 *e*P **P 12 48 20.9 +0.8**
VYHS pmax pmax
comp=Z,22nm,1.4s
VYHS Vyhne 25.23 112 *e*P **P 12 48 20.9 +0.8**
SOKA Soboth 25.25 120 *e*P **P 12 48 21.2 +0.8**
comp=Z,8.3nm,1.2s
KLMR Klimovskoe 25.61 72 *e*P **P 12 48 22.3 -1.2**
comp=Z,33nm,1.3s
KLMR Klimovskoe 25.61 72 *e*P **P 12 48 22.3 -1.2**
KLMR *e* 12 51 53.4
KLMR pmax pmax
comp=Z,33nm,1.3s
KLMR Klimovskoe 25.61 72 *e*P **P 12 48 22.4 -1.2**
KLMR AMP 12 48 25.3
comp=Z,33nm,1.3s
KLMR *e*PcP **PcP 12 51 53.4 -0.4**
KWP Kalwaria Pacla 25.91 106 P **P 12 48 26.9 +0.6**
KWP pmax pmax
comp=Z,94nm,1.4s
KWP Kalwaria Pacla 25.91 106 P **P 12 48 26.9 +0.6**
CRVS Cervenica-Dubn 25.96 109 *e*P **P 12 48 26.2 -0.6**
CRVS pmax pmax
comp=Z,31nm,1.5s
CRVS Cervenica-Dubn 25.96 109 *e*P **P 12 48 26.2 -0.6**
LSH Leshukonskoye 25.98 60 *e*P **P 12 48 24.7 -2.1**
comp=Z,32nm,1.0s
SCHQ Schefferville 26.04 271 P **P 12 48 27.5 0.0**
comp=Z,12nm,0.9s,baz=51,slow=9.8,SNR=5.7
SCHQ LR LR 12 57 35.6
comp=Z,83nm,18.7s,baz=92,slow=34
SCHQ Schefferville 26.04 271 lAmb lAmb 12 48 30.0
comp=Z,15nm,0.9s
DRLN Deer Lake 26.11 253 P **P 12 48 27.8 -0.3**
DRLN lAmb lAmb 12 48 46.8
comp=Z,20nm,1.1s
PSZ Piszkesteto 26.11 112 P **P 12 48 27.4 -0.8**
PSZ pmax pmax
comp=Z,37nm,1.5s
PSZ Piszkesteto 26.11 112 P **P 12 48 27.4 -0.8**
PSZ lAmb lAmb 12 48 46.7
comp=Z,37nm,1.5s
ESBB Sonseca Array 26.23 156 P **P 12 48 29.8 +0.5**
ESDC Sonseca Array 26.23 156 P **P 12 48 30.3 +1.0**
comp=Z,3.3nm,0.9s,baz=348,slow=9.2,SNR=17
ESDC LR LR 12 58 30.3
comp=Z,55nm,19.2s,baz=325,slow=36
ESDC Sonseca Array 26.23 156 P **P 12 48 29.5 +0.2**
KOLS Kolonicke sedl 26.27 108 *e*P **P 12 48 30.5 +0.9**
KOLS pmax pmax
comp=Z,21nm,1.3s
KOLS Kolonicke sedl 26.27 108 *e*P **P 12 48 30.5 +0.9**
LVV L'vov 26.31 104 *e*P **P 12 48 29.9 0.0**
UZH Uzhgorod 26.51 108 *e*P **P 12 48 31.4 -0.4**
UZH *e* 12 48 38.7
OSSC Osservatorio P 26.62 129 P **P 12 48 33.4 +0.5**
OSSC lAmb lAmb 12 48 45.0
comp=Z,12nm,0.8s
PGF Pioggiola 26.76 133 *e*P **P 12 48 36.9 +2.7**
PGF pmax pmax
comp=Z,21nm,1.0s
AKASG Malin Array Be 27.84 98 P **P 12 48 43.2 -0.5**
comp=Z,1.2nm,0.6s,baz=324,slow=9.6,SNR=6.2
AKASG Malin Array Be 27.84 98 P **P 12 48 43.3 -0.4**
AKBB Malin Array Si 27.84 98*e*P **P 12 48 41.9 -1.8**
OBN Obninsk 27.89 84 *e*P **P 12 48 44.1 +0.1**
OBN *e*PPP PPP 12 49 40.3

OBN pmax pmax
comp=Z,47nm,1.7s
BURAR Bucovina Array 28.52 106 P **P 12 48 50.4 +0.5**
BURAR Bucovina Array 28.52 106 P **P 12 48 50.4 +0.5**
KIRV Kirov 30.99 69*e*P **P 12 49 11.7 +0.2**
KEST Kesra 33.14 138 P **P 12 49 30.9 +0.3**
comp=Z,1.4nm,0.8s,baz=7.4,slow=12,SNR=2.3
KEST Kesra 33.14 138 lAmb lAmb 12 49 45.7
comp=Z,17nm,1.4s
BELG Belogornoye 34.49 79⇓ *e*P **P 12 49 41.2 -1.0**
ARU Arti 36.10 66 LR LR 13 04 06.1
comp=Z,159nm,18.7s,baz=328,slow=35
ARU Arti 36.10 66*d i*P **P 12 49 55.5 -0.4**
ARU S **S 12 55 36.8 +2.0**
ARU SS **SnSn 12 58 00.1 +0.7**
ARU pmax pmax
comp=Z,8.0nm,1.3s
NRIK Noril'sk 36.48 35 P **P 12 49 59.4 +0.3**
comp=Z,2.8nm,0.5s,baz=288,slow=8.7,SNR=5.3
NRIK Noril'sk 36.48 35*d i*P **P 12 49 59.7 +0.6**
NRIK pmax pmax
comp=Z,11nm,1.1s
GOF Gofitskoye 38.12 91⇑ *e*P **P 12 50 14.6 +1.4**
BR131 Keskin Array S 38.48 105 P **P 12 50 17.3 +0.9**
BR131 pmax pmax
comp=Z,6.0nm,1.1s
BR131 Keskin Array S 38.48 105 P **P 12 50 17.3 +0.9**
BRTR Keskin Array B 38.48 105 P **P 12 50 17.2 +0.7**
comp=Z,0.9nm,0.8s,baz=141,slow=26,SNR=9.0
BRTR LR LR 13 07 33.0
comp=Z,24nm,20.0s,baz=309,slow=38
BRTR Keskin Array B 38.48 105 P **P 12 50 16.4 -0.1**
KIV Kislovodsk 38.84 92 *e*P **P 12 50 21.0 +1.5**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,216nm,16.0s
KBZ Khabaz 39.12 92 P **P 12 50 23.1 +1.5**
comp=Z,6.4nm,0.9s,baz=236,slow=3.2,SNR=7.2
KBZ LR LR 13 06 27.1
comp=Z,155nm,19.1s,baz=311,slow=36
KBZ Khabaz 39.12 92⇓ *i*P **P 12 50 22.8 +1.2**
YKA Yellowknife Ar 39.23 313 P **P 12 50 22.5 +0.2**
comp=Z,2.2nm,0.9s,baz=41,slow=8.5,SNR=4.8
YKA LR LR 13 06 09.8
comp=Z,116nm,18.2s,baz=0.0,slow=36
ELL Elmali 39.49 112 P **P 12 50 26.8 +1.8**
ELL pmax pmax
comp=Z,60nm,1.3s
ELL Elmali 39.49 112 P **P 12 50 26.8 +1.8**
INK Inuvik 39.87 329 LR LR 13 07 53.0
comp=Z,102nm,19.2s,baz=358,slow=38
AKTO Aktyubinsk 40.30 73 LR LR 13 07 07.6
comp=Z,139nm,19.4s,baz=338,slow=36
KOPT Kop Dagi 41.12 98 P **P 12 50 38.9 +0.3**
KOPT lAmb lAmb 12 50 46.1
comp=Z,14nm,1.2s
AKH Akhalkalaki 41.26 94 P **P 12 50 40.8 +1.2**
AKH pmax pmax
comp=Z,13nm,1.1s
AKH Akhalkalaki 41.26 94 P **P 12 50 40.8 +1.2**
AKH lAmb lAmb 12 50 44.0
comp=Z,13nm,1.1s
MALT Malatya 41.67 101 P **P 12 50 46.5 +3.6**
ABKAR Akbulak array 42.00 73 P **P 12 50 45.8 +0.4**
ABKAR Akbulak array 42.00 73 P **P 12 50 45.1 -0.3**
TOLK Toolik Lake Re 42.77 336 P **P 12 50 52.7 +1.2**
TOLK lAmb lAmb 12 50 54.3
comp=Z,25nm,1.1s
BRVK Borovoye 43.15 62⇑ *i*P **P 12 50 55.4 +0.7**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 43.15 62 P **P 12 50 55.4 +0.7**
MARD Mardin 43.51 100 P **P 12 50 59.7 +1.8**
MARD lAmb lAmb 12 51 04.4
comp=Z,27nm,1.3s
FYU Fort Yukon 43.80 333 P **P 12 51 01.5 +1.8**
COLD Coldfoot 44.14 336 P **P 12 51 03.9 +1.4**
TAM Tamanrasset 44.49 149 P **P 12 51 06.7 +0.8**
TAM pmax pmax
comp=Z,5.0nm,1.2s
TAM Tamanrasset 44.49 149 P **P 12 51 06.7 +0.8**
EGAK Eagle 44.51 329 P **P 12 51 05.6 +0.2**
EGAK lAmb lAmb 12 51 15.0
comp=Z,14nm,1.3s
U61A Possum Corner 44.62 260 P **P 12 51 05.3 -1.3**
DAWY Dawson 44.72 328 P **P 12 51 08.4 +1.2**
DAWY lAmb lAmb 12 51 09.3
comp=Z,19nm,1.4s
ILAR Eielson Array 45.71 332 P **P 12 51 16.3 +1.3**
comp=Z,5.9nm,1.1s,baz=23,slow=6.1,SNR=19
ILAR PcP **PcP 12 52 52.8 +0.1**
comp=Z,2.2nm,0.9s,baz=352,slow=3.2,SNR=6.7
ILAR LR LR 13 11 44.2
comp=Z,48nm,19.9s,baz=42,slow=38
ILAR Eielson Array 45.71 332 P **P 12 51 15.9 +0.9**
ILAR **PcP 12 52 52.7 +0.1**
MDM Murphy Dome 45.81 333 P **P 12 51 17.4 +1.6**
COLA College 45.81 333⇓ *i*P **P 12 51 16.9 +1.2**
COLA pmax pmax
comp=Z,14nm,1.1s
COLA College 45.81 333 P **P 12 51 16.7 +1.0**
S51A Beattyville 46.58 268 P **P 12 51 23.1 +1.0**
ZAA0 Zalesovo Array 47.65 51 P **P 12 51 30.7 +0.3**
ZALV Zalesovo Beam 47.65 51 P **P 12 51 30.1 -0.2**
comp=Z,7.2nm,1.2s,baz=332,slow=9.1,SNR=11
ZALV PcP **PcP 12 53 00.6 +1.0**
comp=Z,0.3nm,0.3s,baz=316,slow=4.1,SNR=4.9
ZALV Zalesovo Beam 47.65 51 *i*P **P 12 51 30.7 +0.4**
ZALV pmax pmax
comp=Z,7.0nm,1.2s
ZALV Zalesovo Beam 47.65 51 **PcP 12 53 00.2 +0.6**
KMSC Kings Mountain 47.71 264 P **P 12 51 31.7 +0.7**
KMSC lAmb lAmb 12 51 33.0
comp=Z,7.6nm,0.9s
KURK Kurchatov 48.13 58*de*P **P 12 51 33.7 -0.4**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 48.13 58 P **P 12 51 34.2 +0.2**
PAULI Pauline 48.19 264 P **P 12 51 35.1 +0.4**
JSC Jenkinsville 48.42 263 P **P 12 51 37.8 +1.3**
JSC pmax pmax
comp=Z,9.0nm,1.3s
JSC Jenkinsville 48.42 263 P **P 12 51 37.8 +1.3**
JSC lAmb lAmb 12 51 38.6
comp=Z,9.4nm,1.3s
U49A Red Boiling Sp 48.46 269 P **P 12 51 36.9 +0.1**
U49A lAmb lAmb 12 51 38.4
comp=Z,12nm,1.2s
T47A Sharon Grove 48.63 270 P **P 12 51 39.2 +1.1**
EGMT Eagleton 48.88 297 P **P 12 51 41.0 +0.9**
HODGE Hodges 48.89 264 P **P 12 51 40.3 +0.3**
HODGE lAmb lAmb 12 51 43.6
comp=Z,14nm,1.2s
CLTN Cedars of Leba 49.06 269 P **P 12 51 41.3 -0.1**
CLTN lAmb lAmb 12 51 43.1
comp=Z,10nm,1.2s
W50A Signal Mountai 49.37 268 P **P 12 51 44.0 +0.1**
W50A lAmb lAmb 12 51 45.8
comp=Z,14nm,1.1s
Y52A Lilburn 49.97 266 P **P 12 51 49.6 +1.2**
Y52A lAmb lAmb 12 51 53.2
comp=Z,17nm,1.2s
GOGA Godfrey 50.10 265 P **P 12 51 50.3 +0.9**
GOGA pmax pmax
comp=Z,7.0nm,1.0s
GOGA Godfrey 50.10 265 P **P 12 51 50.3 +0.9**
GOGA lAmb lAmb 12 51 51.7
comp=Z,7.2nm,1.0s
GEYT Alibeck 50.43 84 LR LR 13 14 38.5
comp=Z,40nm,18.8s,baz=140,slow=38
GCMT Greycliff 50.70 295 P **P 12 51 54.5 +0.5**
SVW2 Sparrevohn 50.72 335 P **P 12 51 55.4 +1.7**
HRY Holter Researc 50.77 298 P **P 12 51 54.9 +0.5**
RLMT Red Lodge 51.10 295 P **P 12 51 57.9 +0.8**
KK31 Karatay Array 51.29 70 P **P 12 51 59.5 +1.2**
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KK31 Karatay Array 51.29 70 P **P 12 51 59.5 +1.2**
KK31 lAmb lAmb 12 52 00.3
comp=Z,8.2nm,1.1s
KKAR Karatay Array 51.29 70 P **P 12 51 59.1 +0.8**
KKAR 12 51 59.6
KKAR pmax pmax
comp=Z,8.0nm,1.2s

KKAR	Karatay Array	51.29	70	P		P		12 51 59.1	+0.8
KKAR	Karatay Array	51.29	70	P		P		12 51 59.6	+1.4
KKAR				IAmb		IAmb		12 52 00.4	
	comp=Z,8.2nm,1.1s								
NEW	Newport	51.44	303	LR		LR		13 13 32.8	
	comp=Z,107nm,19.0s,baz=6.0,slow=36								
YNE	Yellowstone No	51.48	295	P		P		12 52 00.6	+0.7
BOZ	Bozeman (W)	51.62	297	P		P		12 52 01.9	+1.1
BOZ				pmax		pmax			
	comp=Z,10.0nm,1.1s								
BOZ	Bozeman (W)	51.62	297	P		P		12 52 01.9	+1.1
BOZ				IAmb		IAmb		12 52 03.4	
	comp=Z,10.0nm,1.1s								
YMP	Mirror Lake Pl	51.76	295	P		P		12 52 03.0	+0.9
K22A	Casper	52.07	291	P		P		12 52 03.7	-0.6
K22A				IAmb		IAmb		12 52 10.0	
	comp=Z,7.7nm,1.1s								
DGZ	Jazzator, Alta	52.10	53	‖ *e*	P	P		12 52 05.3	+0.9
DGZ				pmax		pmax			
	comp=Z,9.0nm,1.1s								
SEY	Seymchan	52.51	6	LR		LR		13 14 33.6	
	comp=Z,34nm,18.6s,baz=58,slow=36								
MAKZ	Makanchi	52.62	59	P		P		12 52 08.4	+0.3
MAKZ				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MAKZ	Makanchi	52.62	59	P		P		12 52 08.4	+0.3
MCMT	McKenzie Canyo	52.73	297	P		P		12 52 08.9	-0.4
MK31	Makanchi Array	52.74	58	*d*	*i* P	P		12 52 08.6	-0.4
MK31	Makanchi Array	52.74	58	P		P		12 52 08.6	-0.4
MKAR	Makanchi Array	52.74	58	P		P		12 52 08.5	-0.5
	comp=Z,2.9nm,0.9s,baz=325,slow=5.9,SNR=21								
MKAR	Makanchi Array	52.74	58	*i* P		P		12 52 09.1	+0.1
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MKAR	Makanchi Array	52.74	58	P		P		12 52 08.9	-0.2
PHWY	Pilot Hill	52.77	289	P		P		12 52 09.2	-0.5
PHWY				IAmb		IAmb		12 52 11.0	
	comp=Z,13nm,1.3s								
IMW	Indian Meadow	52.78	295	P		P		12 52 10.1	+0.5
LOHW	Long Hollow	52.88	295	P		P		12 52 10.1	-0.3
LOHW				IAmb		IAmb		12 52 12.5	
	comp=Z,12nm,1.4s								
FXWY	Fox Creek	53.03	295	P		P		12 52 11.2	-0.3
TOA0	Torodi Ar. Sit	53.12	156	P		P		12 52 11.6	-0.4
TORD	Torodi Ar. Bea	53.12	156	P		P		12 52 11.1	-0.9
	comp=Z,5.0nm,1.1s,baz=338,slow=7.0,SNR=13								
TORD	Torodi Ar. Bea	53.12	156	P		P		12 52 10.9	-1.1
TPAW	Teton Pass	53.12	295	P		P		12 52 11.5	-0.7
TPAW				IAmb		IAmb		12 52 18.6	
	comp=Z,13nm,1.4s								
BW06	Boulder Array	53.19	293	P		P		12 52 12.6	0.0
PD31	Pinedale Array	53.19	293	P		P		12 52 12.3	-0.3
PDAR	Pinedale Array	53.19	293	P		P		12 52 12.7	+0.1
	comp=Z,6.6nm,1.0s,baz=53,slow=5.7,SNR=25								
PDAR				LR		LR		13 14 08.3	
	comp=Z,91nm,20.0s,baz=24,slow=35								
PDAR	Pinedale Array	53.19	293	P		P		12 52 12.1	-0.5
REDW	Red Top Meadow	53.19	295	P		P		12 52 12.8	+0.1
REDW				IAmb		IAmb		12 52 19.6	
	comp=Z,13nm,1.3s								
N23A	Red Feather La	53.31	289	P		P		12 52 14.3	+0.7
N23A				IAmb		IAmb		12 52 20.6	
	comp=Z,16nm,1.1s								
BOOM	Boomskoye usch	53.97	66	P		P		12 52 19.2	+0.9
BOOM				pmax		pmax			
	comp=Z,8.0nm,1.1s								
BOOM	Boomskoye usch	53.97	66	P		P		12 52 19.2	+0.9
BOOM				IAmb		IAmb		12 52 20.7	
	comp=Z,7.7nm,1.1s								
BTK	Batken	53.97	72	P		P		12 52 18.5	+0.3
BTK				pmax		pmax			
	comp=Z,34nm,1.3s								
BTK	Batken	53.97	72	P		P		12 52 18.5	+0.3
BMO	Blue Mountains	54.39	300	P		P		12 52 21.0	-0.2
BMO				pmax		pmax			
	comp=Z,5.0nm,1.2s								
BMO	Blue Mountains	54.39	300	P		P		12 52 21.0	-0.2
CHGR	Chuyangaron	54.48	74	P		P		12 52 22.6	+0.6
GAR	Garm	54.66	73	P		P		12 52 24.3	+1.0
MOY	Mondy	54.68	42	*e* P		P		12 52 25.1	+1.8
MOY				pmax		pmax			
	comp=Z,38nm,1.3s								
KDJ	Kajisay	54.76	65	P		P		12 52 24.1	0.0
KDJ				pmax		pmax			
	comp=Z,7.0nm,1.2s								
KDJ	Kajisay	54.76	65	P		P		12 52 24.1	0.0
KDJ				IAmb		IAmb		12 52 25.4	
	comp=Z,6.7nm,1.1s								
O20A	White River Ci	54.88	290	P		P		12 52 25.0	0.0
O20A				IAmb		IAmb		12 52 31.8	
	comp=Z,16nm,1.4s								
HWUT	Hardware Ranch	54.96	294	P		P		12 52 24.9	-0.7
RDMU	Red Mountain	55.05	292	P		P		12 52 25.6	-0.6
TCUT	Toone Canyon	55.31	294	P		P		12 52 29.2	+1.0
TARG	Taragay, Kyrgy	55.35	65	P		P		12 52 28.4	-0.2
TARG				IAmb		IAmb		12 52 30.4	
	comp=Z,7.2nm,0.9s								
TLY	Talaya	55.42	40	‖ *e*	P	P		12 52 29.4	+0.9
TLY				pmax		pmax			
	comp=Z,6.0nm,0.9s								
WMOK	Wichita Mounta	55.55	279	P		P		12 52 29.5	-0.1
WMOK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
WMOK	Wichita Mounta	55.55	279	P		P		12 52 29.5	-0.1
WMOK				IAmb		IAmb		12 52 32.9	
	comp=Z,8.3nm,1.2s								
MA2	Magadan	55.79	7	‖ *e*	P	P		12 52 31.0	0.0
MA2				pmax		pmax			
	comp=Z,37nm,1.3s								
T25A	Trinidad	55.87	285	P		P		12 52 32.3	+0.2
T25A				IAmb		IAmb		12 52 39.0	
	comp=Z,16nm,1.5s								
BGU	Big Grassy Mou	56.12	295	P		P		12 52 35.1	+1.3
S22A	4UR Ranch, Cre	56.34	288	P		P		12 52 35.3	-0.4
P17A	Butcher Ranch,	56.45	292	P		P		12 52 36.4	+0.2
ZAK	Zakamensk	56.48	41	*e* P		P		12 52 36.8	+0.6
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
PV21	Cone Mtn., Par	56.52	290	P		P		12 52 36.9	0.0
PV21				IAmb		IAmb		12 52 38.2	
	comp=Z,7.1nm,1.0s								
DUG	Dugway, Tooele	56.66	294	P		P		12 52 39.2	+1.6
DUG				pmax		pmax			
	comp=Z,11nm,1.4s								
DUG	Dugway, Tooele	56.66	294	P		P		12 52 39.2	+1.6
DUG				IAmb		IAmb		12 52 45.0	
	comp=Z,11nm,1.4s								
SRU	San Rafael Swe	56.68	292	P		P		12 52 38.5	+0.7
SRU	San Rafael Swe	56.68	292	P		P		12 52 38.5	+0.7
PV14	Lion Creek, Pa	56.70	290	P		P		12 52 38.4	+0.3
PV14				IAmb		IAmb		12 52 43.6	
	comp=Z,6.5nm,0.9s								
PV18	Skein Mesa, Pa	56.77	290	P		P		12 52 37.8	-0.7
PV18				IAmb		IAmb		12 52 40.1	
	comp=Z,11nm,1.0s								
TMUT	Trail Mountain	56.79	292	P		P		12 52 39.6	+0.8
PV13	Radium Mtn., P	56.80	290	P		P		12 52 38.6	-0.3
ELK	Elko	57.13	296	P		P		12 52 41.3	+0.2
ELK				pmax		pmax			
	comp=Z,6.0nm,1.5s								
ELK	Elko	57.13	296	P		P		12 52 41.2	+0.2
WMQ	Urumqi	57.25	56	*e* P		P		12 52 45.4	+3.7
WMQ				pmax		pmax			
	comp=Z,12nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,72nm,4.1s								
WMQ				LR		LR			
	comp=N,340nm,29.3s								
WMQ				LR		LR			
	comp=E,470nm,29.3s								
WMQ				LR		LR			
	comp=Z,56nm,29.3s								
K05A	Summer Lake	57.55	302	P		P		12 52 44.3	+0.3
K05A				IAmb		IAmb		12 52 49.9	
	comp=Z,14nm,1.4s								
MSU	Marysvale	57.85	293	P		P		12 52 47.2	+1.0
MSU	Marysvale	57.85	293	P		P		12 52 47.2	+1.0
PSUT	Pine Spring	58.49	294	P		P		12 52 50.8	+0.1
DBIC	Dimbokro	58.56	165	P		P		12 52 49.3	-1.7
	comp=Z,8.8nm,1.1s,baz=332,slow=7.3,SNR=5.3								
DBIC				LR		LR		13 17 34.8	
	comp=Z,34nm,19.5s,baz=342,slow=36								
DBIC	Dimbokro	58.56	165	P		P		12 52 49.3	-1.7
DBIC				pmax		pmax			
	comp=Z,13nm,1.1s								
DBIC	Dimbokro	58.56	165	IAmb		IAmb		12 52 51.7	
	comp=Z,13nm,1.1s								
TIC	Toumodi	58.57	165	*e* P		P		12 52 50.5	-0.6
ANMO	Albuquerque	58.59	286	‖ *i* P		P		12 52 52.3	+0.9
ANMO				pmax		pmax			
	comp=Z,10.0nm,2.5s								
ANMO	Albuquerque	58.59	286	P		P		12 52 51.7	+0.3
KIC	Kosan Boka	58.88	165	*e* P		P		12 52 52.9	-0.4
	comp=Z,33nm,1.3s								
LIC	Lamto	58.98	165	*e* P		P		12 52 53.2	-0.8
	comp=Z,42nm,1.3s								
SZCU	Shurtz Canyon	59.00	293	P		P		12 52 54.3	+0.1
CCUT	Cedar City	59.15	293	P		P		12 52 55.6	+0.3
R11A	Troy Canyon, C	59.33	295	P		P		12 52 57.6	+1.2
R11A				IAmb		IAmb		12 52 58.7	
	comp=Z,7.4nm,1.3s								
KNB	Kanab	59.40	292	P		P		12 52 57.6	+0.7
KNB				pmax		pmax			
	comp=Z,10.0nm,1.4s								
KNB	Kanab	59.40	292	P		P		12 52 57.6	+0.7
LCMT	Little Creek M	59.57	293	P		P		12 52 57.4	-0.6
PAHR	Pah Rah Range	59.61	299	P		P		12 52 58.1	-0.2
PAHR				IAmb		IAmb		12 53 00.4	
	comp=Z,8.3nm,1.3s								
JCT	Junction City	59.65	278	P		P		12 52 58.7	+0.1
JCT				pmax		pmax			
	comp=Z,23nm,1.3s								
JCT	Junction City	59.65	278	P		P		12 52 58.7	+0.1
SONM	Songino Array	59.66	40	P		P		12 52 57.3	-1.3
	comp=Z,0.5nm,0.3s,baz=329,slow=10,SNR=5.1								
SONM	Songino Array	59.66	40	P		P		12 52 58.5	-0.1
SONM				pmax		pmax			
	comp=Z,3.0nm,1.2s								
SONM	Songino Array	59.66	40	P		P		12 52 58.5	-0.1
KVN	Kaiserville	59.69	298	P		P		12 52 59.6	+0.6
KVN				pmax		pmax			
	comp=Z,6.0nm,1.2s								
KVN	Kaiserville	59.69	298	P		P		12 52 59.6	+0.6
KVN				IAmb		IAmb		12 53 00.6	
	comp=Z,5.8nm,1.2s								
U15A	North Rim	59.70	291	P		P		12 52 58.7	-0.4
U15A				IAmb		IAmb		12 53 00.3	
	comp=Z,8.4nm,1.1s								
ULN	Ulaanbaatar	59.82	40	‖ *e* P		P		12 53 00.2	+0.5
ULN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PRN	Pahroc Range	59.94	294	P		P		12 52 59.8	-0.9
PRN				IAmb		IAmb		12 53 08.4	
	comp=Z,6.5nm,1.3s								
VCNR	Virginia City	60.07	299	P		P		12 53 02.5	+1.0
WUAZ	Wupatki	60.12	290	P		P		12 53 01.4	-0.4
YERR	Yerington	60.19	298	P		P		12 53 03.5	+1.2
NVAR	Mina Array Bea	60.31	297	P		P		12 53 03.5	+0.3
	comp=Z,1.2nm,1.0s,baz=62,slow=5.0,SNR=5.9								
NVAR	Mina Array Bea	60.31	297	P		P		12 53 03.7	+0.4
NIL	Nilore	60.46	73	P		P		12 53 04.4	+0.3
NIL				pmax		pmax			
	comp=Z,24nm,1.2s								
NIL	Nilore	60.46	73	P		P		12 53 04.4	+0.3
SHPR	Sheep Range	60.77	294	P		P		12 53 07.1	+0.8
SHPR				IAmb		IAmb		12 53 08.8	
	comp=Z,8.3nm,1.3s								
MNTX	Cornudas Mount	60.95	283	P		P		12 53 08.2	+0.8
MNTX				IAmb		IAmb		12 53 08.6	
	comp=Z,9.1nm,1.5s								
X16A	Lo Mia Camp, P	61.10	290	P		P		12 53 08.4	-0.2
X16A				IAmb		IAmb		12 53 10.9	
	comp=Z,9.6nm,1.2s								
OMMB	Old Mammoth Mi	61.29	297	P		P		12 53 10.7	+0.6
OMMB				IAmb		IAmb		12 53 14.2	
	comp=Z,7.0nm,1.3s								
MDPB	Devils Postpil	61.31	298	P		P		12 53 11.5	+1.4
MDPB				IAmb		IAmb		12 53 12.5	
	comp=Z,8.4nm,1.4s								
TX31	Lajitas Ar. Si	62.29	280	P		P		12 53 16.8	+0.3
TX32	Lajitas Array	62.29	280	P		P		12 53 17.0	+0.4
TXAR	Lajitas Array	62.29	280	P		P		12 53 17.4	+0.8
	comp=Z,21nm,1.0s,baz=36,slow=17,SNR=8.5								
TXAR				LR		LR		13 18 56.3	
	comp=Z,72nm,19.0s,baz=0.0,slow=35								
TXAR	Lajitas Array	62.29	280	P		P		12 53 16.5	-0.1
TUC	Tucson	62.66	288	P		P		12 53 20.6	+1.6
TUC				pmax		pmax			
	comp=Z,11nm,1.4s								
TUC	Tucson	62.66	288	P		P		12 53 20.6	+1.6
TUC				IAmb		IAmb		12 53 25.6	
	comp=Z,11nm,1.4s								
ISA	Isabella, Lake	62.80	296	P		P		12 53 20.9	+1.0
ISA				pmax		pmax			
	comp=Z,8.0nm,1.3s								
ISA	Isabella, Lake	62.80	296	P		P		12 53 20.9	+1.0
ISA				IAmb		IAmb		12 53 22.2	
	comp=Z,7.7nm,1.2s								
319A	Douglas	62.86	286	P		P		12 53 19.9	-0.5
GTA	Gaotai	65.32	49	*e* P		P		12 53 37.0	+0.5
GTA				pP		pP		12 53 41.1	+0.8
GTA				sP		sP		12 53 44.2	+2.5
GTA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SDV	Santo Domingo	66.81	239	LR		LR		13 25 00.6	
	comp=Z,25nm,18.2s,baz=57,slow=38								
HHC	Hu-ho-hao-te	67.54	40	*e* P		P		12 53 53.1	+2.5
HHC				pmax		pmax			
	comp=Z,30nm,1.2s								
HHC				pmax		pmax			
	comp=Z,170nm,5.9s								
HHC				LR		LR			
	comp=N,210nm,17.5s								
HHC				LR		LR			
	comp=E,150nm,17.7s								
HHC				LR		LR			
	comp=Z,220nm,17.1s								
MTO3	Montecristo	69.33	260	P		P		12 54 00.1	-2.1
LZH	Lanzhou	69.65	48	*e* P		P		12 54 05.0	+1.1
LZH				pP		sP		12 54 10.0	+0.8
LZH				sP		pP		12 54 12.6	+4.8
LZH				pmax		pmax			
	comp=Z,14nm,1.1s								
CD2	Chengdu	74.38	50	P		P		12 54 33.2	+1.0
KSRS	Korea Array	74.68	28	LR		LR		13 27 55.2	
	comp=Z,13nm,21.5s,baz=140,slow=36								
NJ2	Nanjing	77.76	37	*e* P		P		12 54 51.2	-0.2
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
SLVN	Son La	83.27	53	P		P		12 55 21.1	-0.1
CHTO	Chiang Mai	83.82	59	P		P		12 55 23.9	-0.1
CHTO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
CHTO	Chiang Mai	83.82	59	P		P		12 55 23.9	-0.1
CHTO				IAmb		IAmb		12 55 24.7	
	comp=Z,4.7nm,0.9s								
CMAR	Chiang Mai Arr	84.15	59	P		P		12 55 25.8	+0.2
	comp=Z,2.2nm,0.9s,baz=315,slow=6.0,SNR=14								
CMAR	Chiang Mai Arr	84.15	59	P		P		12 55 25.9	+0.3
WRA	Warramunga Arr	131.55	36	PKP		PKPdf		13 02 06.7	-0.3
	comp=Z,1.1nm,1.0s,baz=358,slow=3.3,SNR=4.7								
ASAR	Alice Springs	134.99	38	PKP		PKPdf		13 02 13.3	-0.1
	comp=Z,0.9nm,0.9s,baz=337,slow=2.3,SNR=7.0								
ASAR	Alice Springs	134.99	38			PKPdf		13 02 13.1	-0.2
VNA1	Neumayer--Stat	135.17	176	Pdiff		Pdif		12 59 22.6	+8.1
VNA3	Neumayer Olymp	135.72	176	Pdiff		Pdif		12 59 17.7	+0.7
SNAA	Sanae	136.41	173	Pdiff		Pdif		12 59 23.8	+3.6
STKA	Stephens Creek	144.75	32	PKP		PKPab		13 02 28.8	-0.8
	comp=Z,0.5nm,0.3s,baz=321,slow=12,SNR=3.7								

*IDC **03** 12:47:33.2±1.3, 15°.51N×147°.38E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.8/40, mbtmp3.9/10, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/35, Error ellipse: s-maj=40.1km s-min=20.2km az=105.0*

*NEIC **03** 12:47:37.0±1.4, 15°.36N±0°.07×147°.40E±0°.06, h32km±7km, mb4.4/13, Error ellipse: s-maj=11.5km s-min=4.7km az=215.0*

ISC 03 12:47:36.8±0.7, **15°.36N**±0°.08×**147°.41E**±0°.10, **h29**km, **n37,** σ0**99**/31, **mb4.2**/15, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	Anatahan	1.91	301	Pn	Pn	12 48 07.8	+0.3
GUMO	Guam	3.03	235	Pn	Pn	12 48 22.9	0.0
GUMO	11nm,0.3s,baz=0.2,slow=19,SNR=2.3			Sn	Sn	12 48 55.9	-2.3
	30nm,0.3s,baz=350,slow=22,SNR=7.6						
PATS	Pohnpei	13.63	127	Pn	Pn	12 50 47.4	-1.0
H11S3	WAKE ISLAND Hy	18.70	78	T	T	13 11 16.0	
	baz=263,slow=74,SNR=24						
H11S1	WAKE ISLAND Hy	18.71	78	T	T	13 11 17.4	
	baz=263,slow=74,SNR=12						
H11S2	WAKE ISLAND Hy	18.72	78	T	T	13 11 21.2	
	baz=263,slow=74,SNR=12						
H11N1	WAKE ISLAND Hy	19.07	74	T	T	13 11 43.5	
	baz=266,slow=75						
H11N2	WAKE ISLAND Hy	19.08	74	T	T	13 11 50.7	
	baz=266						
H11N3	WAKE ISLAND Hy	19.09	74	T	T	13 11 51.1	
	baz=266,slow=75						
SIJI	Sorong	22.69	226	P	P	12 52 38.7	+2.4
	5.2nm,0.5s,baz=88,slow=8.8,SNR=4.1						
WR0	Warramunga Arr	37.31	200	P	P	12 54 48.4	+1.7
WR0				IAmb	IAmb	12 55 04.2	
	comp=Z,4.4nm,1.2s						
WB2	Warramunga Arr	37.35	201	P	P	12 54 46.3	-0.8
WB2				IAmb	IAmb	12 55 04.2	
	comp=Z,6.5nm,1.2s						
WRA	Warramunga Arr	37.36	201	P	P	12 54 48.1	+1.0
	comp=Z,0.6nm,0.8s,baz=20,slow=8.9,SNR=4.5						
WRA	Warramunga Arr	37.36	201	P	P	12 54 46.9	-0.2
FITZ	Fitzroy Crossi	39.57	214	P	P	12 55 06.6	+0.9
ASAR	Alice Springs	40.97	199	P	P	12 55 19.0	+1.7
	comp=Z,0.2nm,0.7s,baz=19,slow=13,SNR=1.7						
ASAR	Alice Springs	40.97	199	P	P	12 55 18.1	+0.8
MA2	Magadan	44.22	2	LR	LR	13 16 08.7	
	comp=Z,15nm,18.6s,baz=314,slow=39						
CMAR	Chiang Mai Arr	46.37	281	P	P	12 56 01.4	+0.4
	comp=Z,1.8nm,0.7s,baz=79,slow=6.9,SNR=11						
SVW2	Sparrevohn	60.97	28	P	P	12 57 48.4	+1.2
ZALV	Zalesovo Beam	61.66	323	P	P	12 57 51.2	-0.7
	comp=Z,1.0nm,0.6s,baz=83,slow=12,SNR=4.9						
MK31	Makanchi Array	61.96	315	P	P	12 57 53.6	-0.6
MKAR	Makanchi Array	61.96	315	P	P	12 57 54.2	0.0
	comp=Z,1.8nm,0.6s,baz=93,slow=8.3,SNR=16						
MKAR	Makanchi Array	61.96	315	P	P	12 57 53.6	-0.6
MAKZ	Makanchi	62.18	315	P	P	12 57 55.5	-0.2
MAKZ				IAmb	IAmb	12 57 56.5	
	comp=Z,3.6nm,0.8s						
KURK	Kurchatov	64.85	319	P	P	12 58 12.8	-0.4
KURK				IAmb	IAmb	12 58 14.2	
	comp=Z,14nm,1.4s						
ILAR	Eielson Array	65.93	25	P	P	12 58 20.7	+0.8
	comp=Z,0.3nm,0.6s,baz=254,slow=5.9,SNR=2.6						
FYU	Fort Yukon	67.06	24	P	P	12 58 26.6	-0.5
BALM	Baldy	67.13	30	P	P	12 58 27.4	-0.4
KK31	Karatay Array	70.17	311	P	P	12 58 46.6	-0.3
KK31				IAmb	IAmb	12 58 47.9	
	comp=Z,1.8nm,0.8s						
KKAR	Karatay Array	70.17	311	P	P	12 58 47.0	0.0
KKAR	Karatay Array	70.17	311	P	P	12 58 46.1	-0.9
KKAR				IAmb	IAmb	12 58 47.9	
	comp=Z,1.8nm,0.8s						
ABKAR	Akbulak array	76.90	318	P	P	12 59 25.9	-0.5
ABKAR	Akbulak array	76.90	318	P	P	12 59 26.0	-0.4
ARCES	ARCESS Array B	86.16	343	P	P	13 00 15.2	+0.2
	comp=Z,2.6nm,0.9s,baz=81,slow=8.3,SNR=3.7						
FINES	FINESS Array B	90.59	336	P	P	13 00 35.6	-0.6
	comp=Z,1.1nm,0.8s,baz=98,slow=4.2,SNR=1.4						
FINES	FINESS Array B	90.59	336	P	P	13 00 35.3	-0.8

*IDC **03** 12:54:34.8±1.3, 62°.52S×59°.71W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, ML4.2/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/21, Error ellipse: s-maj=48.8km s-min=24.7km az=100.0*

*NEIC **03** 12:54:36.5±2.3, 62°.56S±0°.10×59°.8W±0°.3, h10km±2km, mb4.4/9, Error ellipse: s-maj=22.8km s-min=13.9km az=296.0*

ISC 03 12:54:36.3±0.7, **62°.57S**±0°.08×**59°.7W**±0°.1, **h10**km, **n20,** σ1**912**/21, **mb4.1/8**, **South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	Palmer Station	2.96	219	Pn	Pn	12 55 23.1	-0.2
	29nm,0.3s,baz=33,slow=11,SNR=30						
PMSA				Sn	Sn	12 55 59.5	+0.7
	32nm,0.3s,baz=131,slow=23,SNR=11						
PMSA	Palmer Station	2.96	219		Pn	12 55 21.6	-1.7
PMSA					Sn	12 55 59.1	+0.4
HOPE	Hope Point	14.62	66	Pn	Pn	12 58 03.0	0.0
BELA	Belgrano 2	17.26	162		Pn	12 58 35.1	-1.9
PLCA	Paso Flores	22.82	338	P	P	12 59 38.4	-0.9
	3.3nm,1.0s,baz=165,slow=7.7,SNR=4.6						
PLCA				LR	LR	13 07 29.4	
	comp=Z,114nm,18.1s,baz=158,slow=34						
PLCA	Paso Flores	22.82	338	P	P	12 59 38.8	-0.4
SNAA	Sanae	22.94	137	P	P	12 59 40.6	+0.4
SNAA				IAmb	IAmb	13 00 05.1	
	comp=Z,10nm,1.3s						
QSPA	South Pole Qui	27.66	180	P	P	13 00 23.5	-0.5
	comp=Z,2.6nm,0.9s,baz=156,slow=6.4,SNR=6.9						
QSPA	South Pole Qui	27.66	180	P	P	13 00 24.2	+0.2
QSPA				IAmb	IAmb	13 00 28.0	
	comp=Z,5.8nm,1.2s						
CO02	Combarbal	32.22	342	P	P	13 01 04.9	+0.4
CO02				IAmb	IAmb	13 01 27.0	
	comp=Z,12nm,1.1s						
CO03	El Pedregal	32.53	342	P	P	13 01 08.1	+0.8
CO03				IAmb	IAmb	13 01 14.5	
	comp=Z,6.0nm,1.0s						
AC04	Llanos de Chal	35.17	342	P	P	13 01

JAK	**Akkeshi**	**1.78**	**83**	*e*S		**Sn**	**13 01 01.7**	**-1.3**
ZALV	**Zalesovo Beam**	**38.74**	**307**	P		**P**	**13 07 17.6**	**+0.6**
	0.4nm,0.3s,baz=85,slow=4.9,SNR=2.4							
MKAR	**Makanchi Array**	**41.86**	**297**	P		**P**	**13 07 43.5**	**+0.7**
	0.3nm,0.6s,baz=81,slow=8.9,SNR=3.1							
KURBB	**Kurchatov Arra**	**43.18**	**303**	P		**P**	**13 07 54.1**	**+0.8**
	0.9nm,0.5s,baz=76,slow=9.0,SNR=8.9							
FINES	**FINESS Array B**	**64.05**	**331**	P		**P**	**13 10 24.1**	**-0.9**
	1.8nm,0.9s,baz=57,slow=8.4,SNR=5.0							
HFS	**Hagfors**	**69.12**	**335**	P		**P**	**13 10 57.2**	**0.0**
	1.0nm,0.5s,baz=65,slow=11,SNR=1.7							

*IDC **03** 13:00:25.4±1.1,32.72N×138.99E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/52, mbtmp3.5/4, ML2.3/1, Error ellipse: s-maj=27.8km s-min=15.8km az=134.0*
*JMA **03** 13:00:26.0±0.2,33.36N×140.98E, h60km, M3.2*
ISC 03 13:00:26.1±1.4,33°31N±0.07×140°98E±0.10, h48km, n20, σ1°05/19, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.99**	**259**	P	**Pn**	**13 00 44.3**	**+0.7**
JHJ2				*e*S	**Sn**	**13 00 57.9**	**+1.3**
JHCJ	**Hachijojimakas**	**1.02**	**257**	P	**Pn**	**13 00 44.5**	**+0.5**
JHJ	**Hachijo jima 2**	**1.02**	**259**	Pn	**Pn**	**13 00 44.4**	**+0.4**
	145nm,0.3s,baz=323,slow=6.8,SNR=241						
JHJ				Sn	**Sn**	**13 00 56.3**	**-0.9**
	178nm,0.3s,baz=132,slow=23,SNR=16						
JMKN	**Mikurajimanish**	**1.29**	**297**	P	**Pn**	**13 00 48.1**	**+0.4**
BSO1	**Boso 1**	**1.34**	**0**	P	**Pn**	**13 00 48.5**	**+0.6**
BSO3	**Boso 3**	**1.54**	**346**	P	**Pn**	**13 00 51.1**	**+0.3**
JIM2	**Oshima 3**	**1.90**	**318**	P	**Pn**	**13 00 56.3**	**+0.2**
JIZS	**Izushimoda**	**2.24**	**309**	P	**Pn**	**13 01 01.7**	**+1.1**
KTJ3	**Kamata3**	**2.26**	**316**	P	**Pn**	**13 01 01.7**	**+0.4**
KTJ3				S	**Sn**	**13 01 27.2**	**-0.5**
JOD2	**Odawara 2**	**2.50**	**322**	P	**Pn**	**13 01 04.7**	**+0.5**
JOD2				*e*S	**Sn**	**13 01 32.5**	**-1.0**
MJAR	**Matsushiro Arr**	**3.94**	**326**	Pn	**Pn**	**13 01 26.8**	**+2.7**
	0.2nm,0.3s,baz=178,slow=9.4,SNR=12						
MJAR				Sn	**Sn**	**13 02 09.6**	**+0.6**
	0.2nm,0.3s,baz=228,slow=14,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**26.76**	**114**	T	T	13 34 59.8	
	baz=306,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**26.77**	**114**	T	T	13 34 57.6	
	baz=306,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**26.78**	**114**	T	T	13 35 09.2	
	baz=306,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**27.34**	**116**	T	T	13 35 44.6	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**27.34**	**116**	T	T	13 35 44.5	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**27.35**	**116**	T	T	13 35 46.6	
	baz=310						
KURBB	**Kurchatov Arra**	**48.08**	**311**	P	**P**	**13 08 59.0**	**-1.7**
	0.2nm,0.4s,baz=83,slow=7.6,SNR=1.7						
WRA	**Warramunga Arr**	**53.33**	**188**	P	**P**	**13 09 40.5**	**0.0**
	0.8nm,0.6s,baz=4.2,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**57.06**	**188**	P	**P**	**13 10 08.0**	**+0.6**
	0.4nm,0.4s,baz=3.9,slow=6.0,SNR=20						

*IDC **03** 13:11:57.5±0.9, 15.50N×46.82W, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/40, mbtmp4.2/8, ML4.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=29.9km s-min=20.0km az=155.0*
ISC 03 13:11:58.9±1.0, 15°5N±0.2×46°8W±0.2, h10km, n15, σ0°78/8, mb4.0/6, MS3.4/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**11.79**	**210**	Pn	**Pn**	**13 14 46.9**	**-0.4**
	4.4nm,0.3s,baz=17,slow=16,SNR=33						
MDP				Sn	Sn	13 16 46.6	-12
	1.6nm,0.3s,baz=59,slow=24,SNR=6.7						
PTGA	**Pitinga**	**20.69**	**220**	P	**P**	**13 16 39.3**	**-0.1**
	5.9nm,0.7s,baz=41,slow=13,SNR=11						
RCBR	**Riachuelo**	**23.78**	**152**	LR	LR	13 24 06.6	
	comp=Z,76nm,18.5s,baz=318,slow=31						
SDV	**Santo Domingo**	**24.15**	**257**	P	**P**	**13 17 16.7**	**+1.0**
	16nm,0.7s,baz=42,slow=7.0,SNR=8.2						
BDFB	**Brasilia**	**30.95**	**182**	LR	LR	13 29 07.6	
	comp=Z,83nm,21.0s,baz=68,slow=33						
LPAZ	**La Paz**	**37.93**	**215**	P	**P**	**13 19 17.9**	**+0.4**
	2.0nm,0.8s,baz=22,slow=7.1,SNR=4.9						
H10N3	**ASCENSION HYDR**	**39.54**	**124**	T	T	14 01 22.9	
	baz=306,slow=75,SNR=33						
H10N2	**ASCENSION HYDR**	**39.54**	**124**	T	T	14 01 26.1	
	baz=306,slow=75,SNR=34						
H10N1	**ASCENSION HYDR**	**39.56**	**124**	T	T	14 01 29.6	
	baz=306,slow=75,SNR=40						
KOWA	**Kowa**	**41.32**	**86**	P	**P**	**13 19 45.5**	**+0.2**
	1.6nm,0.6s,baz=288,slow=7.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**47.00**	**86**	P	**P**	**13 20 30.4**	**-0.4**
	5.1nm,1.3s,baz=279,slow=7.9,SNR=7.2						
ULM	**Lac du Bonnet**	**52.47**	**322**	LR	LR	13 43 32.6	
	comp=Z,53nm,18.1s,baz=134,slow=36						
TXAR	**Lajitas Array**	**53.85**	**295**	P	**P**	**13 21 21.5**	**-1.1**
	0.3nm,0.6s,baz=102,slow=8.4,SNR=3.5						
PDAR	**Pinedale Array**	**59.68**	**311**	LR	LR	13 44 34.2	
	comp=Z,27nm,21.8s,baz=358,slow=33						
ILAR	**Eielson Array**	**80.36**	**335**	P	**P**	**13 24 10.8**	**+0.5**
	1.4nm,0.8s,baz=75,slow=4.7,SNR=14						

*JMA **03** 13:12:29.7,32.64N×132.22E,h35km±1km,M3.9 Broadband fault plane solution: P waves. NP1: ϕs40.00000°,δ19.00000°,λ-82.00000°. NP2:ϕ211.00000°, δ71.00000°,λ-93.00000°. Principal axes: T Plg26.0000°, Azm303.0000°; N Plg3.0000°, Azm212.0000°; P Plg64.0000°, Azm116.0000°;*
JMA Felt II J1.
*NIED **03** 13:12:29.7,32.64N×132.22E,h35km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.39; Mθθ3.60; Mϕϕ-0.21; Mrθ4.30; Mθϕ2.28; Mϕr6.69; Fault plane solution: M08.98000×10¹⁴ NP1: ϕs217.00000°,δ79.00000°,λ-106.00000°. NP2: ϕs93.00000°,δ20.00000°,λ-36.00000°.*
*IDC **03** 13:12:31.1±1.2,32.74N×132.31E,h49km±15km, mb3.4/6, mb1 3.7/9, mb1mx3.4/47, mbtmp3.7/9, ML3.4/3, MS3.2/9, Ms1 3.2/9, ms1mx3.0/28 Error ellipse: s-maj=22.7km s-min=9.8km az=8.0*
ISC 03 13:12:29.6±1.0, 32°64N±0.05×132°23E±0.03, h33km±6km, n25, σ0°70/31, mb3.7/6, MS3.4/5, 4C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSKE	**Saikikamae**	**0.32**	**299**	↓P	**Pb**	**13 12 37.5**	**-0.1**
JSKE				*e*S	**Sb**	**13 12 43.0**	**+0.1**
JTO	**Tosashimizu**	**0.53**	**66**	↓P	**Pb**	**13 12 40.7**	**0.0**
JTO				*e*S	**Sb**	**13 12 48.3**	**+0.1**
JHHC	**Hyugahichiya**	**0.54**	**248**	P	**Pb**	**13 12 40.4**	**-0.4**
JHHC				*e*S	**Sb**	**13 12 48.4**	**-0.1**
JUS	**Usuki**	**0.58**	**316**	↑P	**Pb**	**13 12 41.3**	**-0.2**
JUS				*e*S	**Sb**	**13 12 49.5**	**-0.2**
UWA2	**Uwa jima 2**	**0.66**	**30**	↓P	**Pn**	**13 12 42.4**	**-0.3**
UWA2				*e*S	**Sb**	**13 12 51.5**	**-0.3**
JTSN	**Tsuno**	**0.73**	**237**	↑P	**Pn**	**13 12 43.3**	**-0.4**
JTSN				*e*S	**Sb**	**13 12 53.9**	**+0.2**
JNA	**Nagahama**	**0.93**	**13**	↑P	**Pn**	**13 12 46.4**	**-0.1**
JNA				*e*S	**Sn**	**13 12 58.4**	**-0.4**
JKU	**Kubokawa**	**0.96**	**46**	↓P	**Pn**	**13 12 46.9**	**0.0**
JKU				*e*S	**Sn**	**13 12 59.0**	**-0.6**
JIU3	**Izumi3**	**1.20**	**266**	↑P	**Pn**	**13 12 50.9**	**+0.8**
JIU3				S	**Sb**	**13 13 06.9**	**-0.1**
JNU	**Nakatsue**	**1.23**	**293**	P	**Pn**	**13 12 51.6**	**+1.0**
	412nm,0.3s,baz=58,slow=3.3,SNR=1387						
JNU				S	**Sb**	**13 13 08.4**	**+0.4**
	383nm,0.3s,baz=216,slow=22,SNR=22						
JNU				LR	LR	13 13 37.2	
	comp=Z,631nm,18.4s,baz=122,slow=52						
JET	**Tanbara**	**1.32**	**31**	P	**Pn**	**13 12 52.9**	**+1.0**
KSRS	**Korea Array**	**5.96**	**325**	P	**Pn**	**13 13 56.3**	**+0.8**
	0.6nm,0.3s,baz=142,slow=14,SNR=8.0						
KSRS				LR	LR	13 16 44.8	
	comp=Z,154nm,18.6s,baz=134,slow=43						
MJAR	**Matsushiro Arr**	**6.28**	**50**	P	**Pn**	**13 14 01.3**	**+1.3**
	0.3nm,0.3s,baz=250,slow=14,SNR=10.0						
JHJ	**Hachijo jima 2**	**6.37**	**84**	P	**Pn**	**13 14 02.1**	**+0.8**
	15nm,0.3s,baz=62,slow=15,SNR=4.6						
JHJ				S	**Sn**	**13 15 12.1**	**-0.8**
	7.5nm,0.3s,baz=54,slow=22,SNR=1.7						
JHJ				LR	LR	13 16 41.5	
	comp=Z,81nm,18.1s,baz=310,slow=40						
USRK	**Ussuriysk Ar.**	**11.54**	**359**	LR	LR	13 19 08.0	
	comp=Z,92nm,19.2s,baz=216,slow=35						
ASAJ	**Asahikawa**	**14.03**	**32**	LR	LR	13 22 00.3	
	comp=Z,37nm,18.4s,baz=182,slow=41						
SONM	**Songino Array**	**24.72**	**315**	P	**P**	**13 17 47.5**	**-0.6**
	0.9nm,0.8s,baz=134,slow=10,SNR=3.9						
SONM				LR	LR	13 27 15.7	
	comp=Z,49nm,21.9s,baz=214,slow=36						
TLY	**Talaya**	**28.19**	**321**	LR	LR	13 30 47.9	
	comp=Z,57nm,19.1s,baz=106,slow=39						
ZALV	**Zalesovo Beam**	**39.60**	**317**	LR	LR	13 36 28.8	
	comp=Z,58nm,19.1s,baz=56,slow=36						
MKAR	**Makanchi Array**	**40.26**	**306**	P	**P**	**13 20 04.4**	**+1.0**
	0.3nm,0.6s,baz=89,slow=12,SNR=1.8						
MKAR				LR	LR	13 38 18.3	
	comp=Z,70nm,18.1s,baz=356,slow=38						
KURBB	**Kurchatov Arra**	**42.95**	**311**	P	**P**	**13 20 23.3**	**-2.0**
	0.1nm,0.3s,baz=94,slow=9.4,SNR=2.0						
WRA	**Warramunga Arr**	**52.33**	**177**	P	**P**	**13 21 38.2**	**-0.1**
	1.5nm,0.7s,baz=353,slow=8.3,SNR=16						
ASAR	**Alice Springs**	**56.02**	**178**	P	**P**	**13 22 05.8**	**+0.5**
	1.0nm,0.8s,baz=9.7,slow=6.6,SNR=10.0						
STKA	**Stephens Creek**	**64.78**	**171**	P	**P**	**13 23 05.5**	**+0.5**
	1.1nm,0.5s,baz=340,slow=8.9,SNR=6.1						
KBZ	**Khabaz**	**67.86**	**308**	LR	LR	13 54 26.9	
	comp=Z,39nm,18.4s,baz=28,slow=37						

*IDC **03** 13:54:07.8±1.6, 11.43S×118.39E, h0km, mb4.0/2, mb1 4.0/6, mb1mx3.6/49, mbtmp3.9/6, ML3.6/4, Error ellipse: s-maj=50.1km s-min=21.1km az=39.0*
ISC 03 13:54:11.0±1.4, 11°0S±0.1×119°26E±0.09, h10km, n6, σ2°46/10, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.40**	**80**	Pn	**Pb**	**13 55 30.3**	**+1.8**
	3.3nm,0.3s,baz=259,slow=5.2,SNR=2.3						
BATI				Sn	**Sg**	**13 56 30.8**	**-1.6**
	4.5nm,0.3s,baz=91,slow=23,SNR=2.5						
FITZ	**Fitzroy Crossi**	**9.36**	**139**	Pn	**Pn**	**13 56 27.2**	**+1.2**
	0.7nm,0.3s,baz=317,slow=11,SNR=37						
FITZ				Sn	**Sn**	**13 58 09.6**	**-1.7**
	0.7nm,0.3s,baz=32,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**17.01**	**123**	P	**P**	**13 58 11.8**	**+0.7**
	0.1nm,0.3s,baz=306,slow=14,SNR=7.6						
WRA				S	**Sn**	**14 01 17.7**	**-0.8**
	0.1nm,0.3s,baz=290,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**18.77**	**134**	P	**Pn**	**13 58 34.0**	**+3.0**
	0.2nm,0.3s,baz=302,slow=12,SNR=25						
ASAR				S	**Sn**	**14 01 57.2**	**-4.1**
	0.1nm,0.3s,baz=310,slow=21,SNR=4.7						
MKAR	**Makanchi Array**	**66.37**	**333**	P	**P**	**14 04 58.6**	**-1.5**
	1.0nm,0.6s,baz=140,slow=7.4,SNR=11						
ZALV	**Zalesovo Beam**	**71.01**	**339**	P	**P**	**14 05 27.1**	**-1.7**
	1.0nm,0.5s,baz=135,slow=4.9,SNR=4.6						

*IDC **03** 14:10:05.7±3.3, 3.11S×102.81E, h182km±32km, mb3.3/8, mb1 3.4/9, mb1mx3.1/44, mbtmp3.8/9, Error ellipse: s-maj=52.6km s-min=12.9km az=59.0*
*DJA **03** 14:10:09.1±0.5, 3°S±7°×10°3E±°, h194km±6km, M3.8/11, MLv3.8/11*
ISC 03 14:10:08.2±0.7, 2°99S±0.10×103°0E±0.1, h200km, n20, σ1°08/24, mb3.5/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**0.78**	**212**	P	**Pn**	**14 10 37.4**	**+0.7**
MASI	**Maura Aman, Be**	**0.78**	**259**	P	**Pn**	**14 10 37.6**	**+1.0**
MASI				S	**Sn**	**14 10 58.7**	**+0.1**
LHSI	**Lahat**	**0.98**	**148**	P	**Pn**	**14 10 38.2**	**+0.4**
LHSI				S	**Sn**	**14 11 00.7**	**-0.2**
KRJI	**Kerinci**	**1.78**	**300**	P	**Pn**	**14 10 46.4**	**+1.8**
MDSI	**Maura Dua**	**1.89**	**142**	P	**Pn**	**14 10 45.6**	**0.0**
LWLI	**Liwa**	**2.27**	**153**	P	**Pn**	**14 10 50.3**	**+0.6**
KLSI		**2.41**	**135**	P	**Pn**	**14 10 51.6**	**+0.5**
SDSI	**Sungai Dareh**	**2.58**	**322**	P	**Pn**	**14 10 53.4**	**+0.4**
BLSI	**Bandar Lampung**	**3.25**	**137**	P	**Pn**	**14 11 01.4**	**+0.5**
BKNI	**Bangkinang**	**3.83**	**329**	P	**Pn**	**14 11 09.2**	**+1.3**
SISI	**Saibi**	**4.25**	**293**	P	**Pn**	**14 11 12.9**	**-0.2**
PSI	**Prapat**	**7.05**	**325**	P	**Pn**	**14 11 45.4**	**-3.8**
	1.1nm,0.3s,baz=186,slow=15,SNR=2.7						
CMAR	**Chiang Mai Arr**	**21.68**	**350**	P	**P**	**14 14 43.9**	**+0.5**
	0.6nm,0.4s,baz=182,slow=8.9,SNR=4.5						
WRA	**Warramunga Arr**	**34.91**	**121**	P	**P**	**14 16 40.7**	**-0.4**
	0.2nm,0.5s,baz=312,slow=9.1,SNR=8.0						
WRA				PcP	**PcP**	**14 19 08.8**	**-0.5**
	0.3nm,0.6s,baz=320,slow=2.1,SNR=6.1						
ASAR	**Alice Springs**	**36.26**	**127**	P	**P**	**14 16 52.2**	**-0.4**
	0.5nm,0.6s,baz=301,slow=8.0,SNR=13						
ASAR				PcP	**PcP**	**14 19 13.2**	**0.0**
	0.5nm,0.8s,baz=327,slow=2.4,SNR=6.0						
STKA	**Stephens Creek**	**46.27**	**133**	P	**P**	**14 18 13.9**	**+0.1**
	0.4nm,0.3s,baz=326,slow=7.3,SNR=3.0						
SONM	**Songino Array**	**50.70**	**3**	P	**P**	**14 18 47.3**	**-0.1**
	1.4nm,0.5s,baz=169,slow=8.9,SNR=6.2						
MKAR	**Makanchi Array**	**52.83**	**342**	P	**P**	**14 19 03.0**	**-0.1**
	0.6nm,0.5s,baz=154,slow=8.7,SNR=12						
USRK	**Ussuriysk Ar.**	**53.67**	**26**	P	**P**	**14 19 10.2**	**+0.9**
	2.6nm,0.7s,baz=220,slow=5.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**58.73**	**348**	P	**P**	**14 19 43.9**	**-0.9**
	1.2nm,0.3s,baz=156,slow=7.3,SNR=6.6						

IDC 03 14:16:58.9±3.0, 1°35S×127°88E, h0km, mb3.2/1, mb1 3.4/2, mb1mx3.2/38, mbtmp3.1/2, ML3.1/1, Error ellipse: s-maj=152.3km s-min=43.1km az=84.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.52**	**162**	P	P	14 21 28.1	+0.1
	0.1nm,0.3s,baz=340,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**22.94**	**166**	P	P	14 22 05.0	+0.1
	0.4nm,0.4s,baz=345,slow=12,SNR=13						
TXAR	**Lajitas Array**	**123.66**	**55**	PKP	PKPdf	14 35 59.1	-0.3
	0.4nm,0.6s,baz=256,slow=2.7,SNR=3.8						

*IDC **03** 14:18:42.1±1.2, 4.39S×137.66E, h0km, mb3.6/3, mb1 4.1/9, mb1mx3.9/34, mbtmp4.0/9, ML3.9/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=30.6km s-min=15.2km az=103.0*
*DJA **03** 14:18:45.2±0.3, 5°S±4°×13°8E±°, h10km, M4.5/6, mb4.6/6, MLv4.5/4*
*NEIC **03** 14:18:47.3±2.6, 4.6S±0.1×138.0E±0.1, h44km±16km, mb4.4/12, Error ellipse: s-maj=17.4km s-min=13.1km az=134.0*
ISC 03 14:18:46.5±0.7, 4°58S±0.06×138°00E±0.07, h35km, n32, σ2°24/36, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAMI	**Wamena**	**0.99**	**46**	P	**Pn**	**14 19 04.1**	**+0.1**
WAMI				S	**Sn**	**14 19 15.5**	**-1.3**
GENI	**Genyem**	**2.93**	**48**	P	**Pn**	**14 19 32.2**	**+1.5**
SRPI	**Serui, Papua**	**3.22**	**327**	P	Pn	14 19 40.9	+6.3
JAY	**Jayapura**	**3.39**	**53**	Pn	**Pn**	**14 19 37.3**	**+0.2**
	1.0nm,0.3s,baz=234,slow=9.9,SNR=5.1						
JAY				Sn	**Sn**	**14 20 16.8**	**+0.6**
	6.4nm,0.3s,baz=128,slow=5.3,SNR=4.7						
JAY				LR	LR	14 21 36.2	
	comp=Z,200nm,18.9s,baz=196,slow=49						
JAY	**Jayapura**	**3.39**	**53**	P	**Pn**	**14 19 37.0**	**-0.1**
PMG	**Port Moresby**	**10.28**	**118**	Pn	**Pn**	**14 21 14.2**	**+2.6**
	0.8nm,0.3s,baz=333,slow=14,SNR=1.4						
PMG				Sn	**Sn**	**14 23 00.9**	**-4.8**
	0.8nm,0.3s,baz=201,slow=14,SNR=1.6						
PMG	**Port Moresby**	**10.28**	**118**		**Pn**	**14 21 10.2**	**-1.4**
COEN	**Coen**	**10.62**	**152**	Pn	**Pn**	**14 21 18.1**	**+1.8**
MTN	**Manton Dam**	**10.65**	**219**		**Pn**	**14 21 18.9**	**+2.2**
KNRA	**Kununurra**	**14.28**	**219**		**Pn**	**14 22 07.4**	**+1.0**
SOEI	**Soe**	**14.56**	**249**	P	**P**	**14 22 14.3**	**-2.1**
	27nm,1.1s						
WB0	**Warramunga Arr**	**15.50**	**193**		**Pn**	**14 22 22.5**	**-0.1**
WB0				IAmb	IAmb	14 22 30.6	
	comp=Z,23nm,0.6s						
WR0	**Warramunga Arr**	**15.65**	**192**		**Pn**	**14 22 24.3**	**-0.3**
WR0				IAmb	IAmb	14 22 39.3	
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**15.67**	**193**	Pn	**Pn**	**14 22 24.9**	**+0.1**
WRAB				IAmb	IAmb	14 22 32.6	
	comp=Z,27nm,0.7s						
WB2	**Warramunga Arr**	**15.68**	**193**		**Pn**	**14 22 25.1**	**+0.2**
WB2				IAmb	IAmb	14 22 32.7	
	comp=Z,30nm,0.6s						
WRA	**Warramunga Arr**	**15.68**	**193**	Pn	**Pn**	**14 22 25.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=7.7,slow=13,SNR=24						
WRA				Sn	**Sn**	**14 25 12.0**	**-5.7**
	comp=Z,0.4nm,0.3s,baz=15,slow=22,SNR=4.8						
WRA				Lg	Lg	14 27 00.1	
	comp=Z,0.8nm,0.3s,baz=17,slow=31,SNR=4.5						
WRA	**Warramunga Arr**	**15.68**	**193**		**Pn**	**14 22 23.5**	**-1.5**
CTA	**Charters Tower**	**17.38**	**153**	P	**P**	**14 22 49.7**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=312,slow=15,SNR=3.0						
CTA				Lg	Lg	14 28 01.3	
	comp=Z,0.5nm,0.3s,baz=210,slow=20,SNR=1.5						
CTAO	**Charters Tower**	**17.38**	**153**	Pn	**Pn**	**14 22 45.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.07**	**221**	P	**Pn**	**14 22 54.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=46,slow=11,SNR=15						
FITZ				S	**Sn**	**14 26 11.3**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=94,slow=4.9,SNR=3.2						
FITZ				LR	LR	14 30 08.3	
	comp=Z,75nm,19.8s,baz=87,slow=38						
FITZ	**Fitzroy Crossi**	**18.07**	**221**	P		**14 22 54.9**	**-0.1**
AS31	**Alice Springs**	**19.38**	**191**		**Pn**	**14 23 13.6**	**+2.8**
AS31				IAmb	IAmb	14 23 19.6	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**19.38**	**191**	P	**Pn**	**14 23 12.8**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=17,slow=10,SNR=119						
ASAR				S	**Sn**	**14 26 51.4**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=16,slow=24,SNR=3.0						
ASAR				Lg	Lg	14 28 57.8	
	comp=Z,0.2nm,0.3s,baz=11,slow=30,SNR=1.7						
ASAR	**Alice Springs**	**19.38**	**191**		**Pn**	**14 23 13.5**	**+2.6**
KKM	**Kota Kinabalu**	**24.18**	**296**	P	**P**	**14 23 59.9**	**-0.2**
STKA	**Stephens Creek**	**27.36**	**173**	P	**P**	**14 24 32.8**	**+4.3**
	comp=Z,0.4nm,0.3s,baz=336,slow=10.0,SNR=1.7						
FORT	**Forrest**	**27.69**	**199**	P	**P**	**14 24 33.0**	**+1.5**
BBOO	**Buckleboo**	**28.14**	**183**	P	**P**	**14 24 36.2**	**+0.7**
BBOO				IAmb	IAmb	14 24 43.6	
	comp=Z,5.3nm,1.1s						
MORW	**Morawa**	**32.04**	**218**	P	**P**	**14 25 10.1**	**+0.1**
MORW				IAmb	IAmb	14 25 14.3	
	comp=Z,6.3nm,0.8s						
KSRS	**Korea Array**	**42.86**	**348**	LR	LR	14 42 27.1	
	comp=Z,28nm,21.2s,baz=135,slow=34						
MKAR	**Makanchi Array**	**70.84**	**323**	P	**P**	**14 30 00.1**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=136,slow=7.0,SNR=1.6						
ILAR	**Eielson Array**	**87.82**	**24**	P	**P**	**14 31 31.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=275,slow=4.9,SNR=5.8						

*IDC **03** 14:28:14.9±1.1, 29.14S×179.67W, h470km±17km, mb2.7/2, mb1 3.2/4, mb1mx2.9/21, mbtmp4.1/4, Error ellipse: s-maj=37.6km s-min=28.1km az=103.0*
ISC 03 14:28:16.3±1.0, 29°17S±0.09×179°8W±0.1, h450km, n40, σ1°66/49, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**1.65**	**93**	P	**P**	**14 29 15.8**	**+0.8**
GLKZ	**Green Lake**	**1.66**	**94**	P	**P**	**14 29 15.1**	**+0.2**
GLKZ				S	**S**	**14 30 02.5**	**0.0**
RAO	**Raoul Island**	**1.66**	**93**	P	**P**	**14 29 16.1**	**+1.1**
	156nm,0.3s,baz=107,slow=13,SNR=10						
RAO				S	**S**	**14 30 03.4**	**+0.8**
	42nm,0.3s,baz=44,slow=22,SNR=2.2						
OUZ	**Omahuta**	**8.22**	**221**	P	**P**	**14 30 16.9**	**+3.0**
WCZ	**Waipu Caves**	**8.36**	**215**	P	**P**	**14 30 19.2**	**+3.8**
OPRZ	**Ohinepanea**	**9.17**	**198**	P	**P**	**14 30 27.2**	**+3.1**
TOZ	**Tahuroa Road**	**9.39**	**203**	P	**P**	**14 30 30.6**	**+4.0**
MWZ	**Matawai**	**9.41**	**193**	P	**P**	**14 30 27.3**	**+0.5**
MWZ				S	**S**	**14 32 14.5**	**+0.3**
URZ	**Urewera**	**9.42**	**195**	P	**P**	**14 30 26.8**	**-0.1**
	12nm,0.3s,baz=267,slow=4.2,SNR=122						
URZ				S	**S**	**14 32 13.6**	**-0.8**
	3.3nm,0.3s,baz=24,slow=23,SNR=10						
URZ	**Urewera**	**9.42**	**195**	P	**P**	**14 30 26.5**	**-0.4**
URZ				S	**S**	**14 32 12.3**	**-2.1**
RRRZ	**Republican Roa**	**9.64**	**198**	P	**P**	**14 30 31.7**	**+2.3**
TLZ	**Tolley Road**	**9.92**	**202**	P	**P**	**14 30 36.2**	**+3.8**
KNZ	**Kokohu**	**10.

KDMR				S	Sn	14 42 32.1	+2.5
PQL	**Pirkuli**	**1.06**	**111**	P	Pg	14 42 15.4	+0.4
	SNR=7.4						
PQL				S	Sn	14 42 31.0	+1.0
AGDM	**Agdam**	**1.08**	**188**	P	Pn	14 42 15.1	-0.4
	SNR=17						
AGDM				S	Sg	14 42 32.3	+2.8
SIZA	**Siyzn**	**1.21**	**95**	P	Pg	14 42 17.9	0.0
	SNR=16						
SIZA				S	Sg	14 42 35.0	+1.3
GDB	**GEDABAY**	**1.26**	**249**	P	Pn	14 42 16.4	-1.8
	SNR=32						
GDB				S	Sb	14 42 33.9	-0.6
ATGJ	**Altiaghaj**	**1.28**	**104**	P	Pg	14 42 19.3	+0.1
	SNR=11						
ATGJ				S	Sg	14 42 38.6	+2.7
GBS	**Qobustan**	**1.41**	**117**	Pn	Pb	14 42 20.6	-0.2
	SNR=3.8						
GBS				Sn	Sg	14 42 40.7	+0.9
ARKR	**Arakani**	**1.44**	**351**	*e*Pg	Pg	14 42 22.0	-0.2
	47nm,0.4s						
ARKR				*e*Sg	Sg	14 42 45.0	+4.2
	98nm,0.5s						
QZX	**Qazax, Azerbai**	**1.46**	**266**	Pn	Pn	14 42 20.4	-0.3
	SNR=34						
QZX				Sg	Sn	14 42 39.6	-0.2
BLQ	**Beylaqan**	**1.47**	**172**	Pn	Pb	14 42 21.3	-0.6
	SNR=7.8						
BLQ				Sn	Sg	14 42 42.1	+0.1
UNCR	**Uncukul**	**1.57**	**346**	*e*Pg	Pg	14 42 25.0	+0.2
	84nm,0.0s						
UNCR				*e*Sg	Sg	14 42 48.0	+2.7
	191nm,0.8s						
KRNR	**Karanay**	**1.67**	**350**	*e*Pg	Pg	14 42 26.5	-0.1
	34nm,0.3s						
KRNR				*e*Sg	Sg	14 42 53.0	+4.7
	39nm,0.5s						
QRD	**Qoradiz**	**1.72**	**179**	Pn	Pn	14 42 24.5	+0.2
	SNR=5.4						
QRD				Sn	Sb	14 42 47.7	0.0
ALIB	**Äli-Bayra**	**1.79**	**133**	Pn	Pn	14 42 25.5	+0.3
ALIB				Sn	Sg	14 42 50.6	-1.4
GRS	**Goris**	**1.84**	**204**	⇑*i*P	Pn	14 42 24.0	-2.0
GRS				⇑*i*S	Sn	14 42 48.0	-1.3
GLBA	**Clilabad**	**2.11**	**156**	Pn	Pb	14 42 30.7	-2.1
	SNR=8.1						
GLBA				Sn	Sg	14 43 00.8	-1.7
KZRT	**Kazreti**	**2.19**	**276**	P	Pn	14 42 32.0	+1.1
KZRT				S	Sn	14 42 57.9	-0.1
STE	**Stepanavan**	**2.22**	**266**	⇑*i*P	Pb	14 42 33.4	-1.3
STE				⇑*i*S	Sb	14 43 01.7	-0.5
SBZ	**Shahbuz**	**2.23**	**217**	Pn	Pb	14 42 34.0	-0.8
	SNR=10.0						
SBZ				Sn	Sb	14 43 03.8	+1.4
NRKZ	**NAREK**	**2.33**	**240**	*i* P	Pb	14 42 36.0	-0.6
NRKZ				*i* S	Sb	14 43 06.6	+1.3
DMNI	**Dmanisi**	**2.35**	**275**	P	Pn	14 42 33.4	+0.3
DMNI				S	Sb	14 43 04.2	-1.7
YRD	**Yardimli**	**2.38**	**162**	Pn	Pn	14 42 33.9	+0.4
	SNR=7.2						
YRD				Sn	Sb	14 43 04.6	-2.2
TRLG	**Trialeti**	**2.43**	**279**	P	Pn	14 42 35.4	+1.2
TRLG				S	Sn	14 43 05.7	+1.7
ORD	**Ordubad**	**2.46**	**204**	Pn	Pn	14 42 36.2	+1.6
	SNR=11						
ORD				Sn	Sb	14 43 09.9	+0.7
PNSH	**Pansheti**	**2.47**	**307**	P	Pb	14 42 37.2	-1.8
PNSH				S	Sb	14 43 07.7	-1.9
LRK	**Lerik**	**2.66**	**162**	Pn	Pn	14 42 38.3	+0.9
	SNR=3.7						
LRK				Sn	Sb	14 43 13.0	-1.8
LKRN	**Lenkeran, Azer**	**2.72**	**155**	Pn	Pn	14 42 39.0	+1.0
LKRN				Sn	Sb	14 43 13.1	-3.3
ASTR	**Astara**	**2.86**	**156**	Pn	Pn	14 42 40.5	+0.6
ASTR				Sn	Sn	14 43 15.9	+1.6

*NSSP **03** 14:45:22.5, 41°.13N×47°.20E, h10km, Ms3.2*
*AZER **03** 14:45:23.2, 41°.22N×47°.29E, h10km, ML3.3*
*DRS **03** 14:45:31.5±0.0, 41°.42N×47°.45E, h18km*
ISC 03 14:45:24.6±1.2, **41°.18N**±0°.02×**47°.31E**±0°.02, **h0**km±10km, **n47**, σ1**s57**/92, **2C**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SEKA	**Sheki**	**0.09**	**288**	P	**Pg**		**14 45 26.3**	**0.0**
	SNR=3590							
SEKA				S	**Sg**		**14 45 28.0**	**+0.4**
MNGR	**Mingechevir, A**	**0.44**	**203**	P	**Pg**		**14 45 34.3**	**+1.3**
	SNR=27							
MNGR				Sg	**Sg**		**14 45 39.7**	**+1.0**
QBL	**Gabala**	**0.46**	**120**	P	**Pg**		**14 45 34.1**	**+0.8**
	SNR=257							
QBL				S	**Sb**		**14 45 43.5**	**+0.6**
XNQ	**Khinaliq**	**0.62**	**90**	P	**Pb**		**14 45 37.4**	**-1.0**
	SNR=274							
XNQ				S	**Sn**		**14 45 48.6**	**-3.1**
ZKTA	**Zakatala**	**0.69**	**312**	P	**Pg**		**14 45 37.5**	**-0.4**
	SNR=63							
ZKTA				S	**Sb**		**14 45 48.2**	**-1.5**
KSMR	**Kasumkent**	**0.74**	**55**	*i* Pg	**Pb**		**14 45 40.0**	**-0.4**
	146nm,0.3s							
KSMR				*e*Sg	**Sb**		**14 45 49.0**	**-2.2**
	768nm,0.3s							
IML	**Ismayilli**	**0.76**	**120**	P	**Pb**		**14 45 40.3**	**-0.4**
	SNR=36							
IML				S	**Sn**		**14 45 52.9**	**-2.0**
QSAR	**Qusar**	**0.79**	**65**	P	**Pn**		**14 45 41.2**	**-1.8**
	SNR=48							
QSAR				S	**Sn**		**14 45 53.5**	**-2.0**
BRDA	**Brd**	**0.92**	**186**	P	**Pg**		**14 45 43.2**	**+0.9**
	SNR=12							
BRDA				S	**Sn**		**14 45 59.0**	**+0.3**
GANJ	**Ganja**	**0.92**	**235**	Pg	**Pg**		**14 45 40.8**	**-1.4**
	SNR=19							
GANJ				Sg	**Sg**		**14 45 53.2**	**-0.9**
ZRD	**Zardab**	**0.94**	**163**	P	**Pb**		**14 45 43.8**	**+0.1**
	SNR=3.2							
ZRD				S	**Sn**		**14 45 59.9**	**+0.7**
LGD	**Lagodekhi**	**1.04**	**309**	P	**Pg**		**14 45 44.0**	**-0.5**
LGD				S	**Sb**		**14 45 59.9**	**+0.3**
KDMR	**Kurdemir**	**1.04**	**140**	P	**Pb**		**14 45 45.2**	**-0.2**
KDMR				S	**Sn**		**14 46 02.2**	**+0.6**
PQL	**Pirkuli**	**1.04**	**112**	P	**Pb**		**14 45 45.3**	**-0.3**
	SNR=14							
PQL				S	**Sn**		**14 46 02.1**	**+0.2**
AGDM	**Agdam**	**1.08**	**188**	P	**Pg**		**14 45 45.4**	**+0.1**
	SNR=12							
AGDM				S	**Sg**		**14 46 01.8**	**+2.5**
SIZA	**Siyzn**	**1.20**	**94**	P	**Pb**		**14 45 47.6**	**-0.7**
	SNR=20							
SIZA				S	**Sn**		**14 46 04.9**	**-0.9**
GDB	**GEDABAY**	**1.27**	**249**	Pg	**Pg**		**14 45 46.1**	**-2.8**
	SNR=77							
GDB				Sg	**Sg**		**14 46 04.3**	**-1.0**
ATGJ	**Altiaghaj**	**1.27**	**104**	P	**Pn**		**14 45 49.6**	**-0.1**
	SNR=19							
ATGJ				S	**Sn**		**14 46 08.9**	**+1.5**
GBS	**Qobustan**	**1.39**	**117**	Pn	**Pb**		**14 45 51.2**	**-0.3**
GBS				Sn	**Sb**		**14 46 09.1**	**-0.8**
ARKR	**Arakani**	**1.44**	**351**	*e*Pg	**Pb**		**14 45 52.0**	**-0.3**
	47nm,0.4s							
ARKR				*e*Sg	**Sn**		**14 46 17.0**	**+5.3**
	117nm,0.5s							
BLQ	**Beylaqan**	**1.47**	**173**	Pn	**Pn**		**14 45 51.3**	**-1.0**
	SNR=22							
BLQ				Sn	**Sb**		**14 46 12.2**	**+0.3**
QZX	**Qazax, Azerbai**	**1.47**	**266**	Pn	**Pn**		**14 45 49.8**	**-2.6**
	SNR=102							
QZX				Sn	**Sg**		**14 46 09.3**	**-2.5**
SAAT	**Saatly**	**1.56**	**147**	Sn	**Sn**		**14 46 15.1**	**+0.5**
UNCR	**Uncukul**	**1.58**	**346**	*e*Pg	**Pg**		**14 45 54.5**	**-0.4**
	66nm,0.5s							
UNCR				*e*Sg	**Sg**		**14 46 18.0**	**+2.6**
	100nm,1.0s							
KRNR	**Karanay**	**1.67**	**350**	*e*Pg	**Pg**		**14 45 56.0**	**-0.6**
	34nm,0.3s							
KRNR				*e*Sg	**Sg**		**14 46 23.0**	**+4.7**
	87nm,0.5s							
QRD	**Qoradiz**	**1.72**	**180**	Pn	**Pn**		**14 45 55.0**	**-0.7**
	SNR=7.8							
QRD				Sn	**Sn**		**14 46 18.3**	**0.0**
ALIB	**Äli-Bayra**	**1.77**	**133**	Pn	**Pn**		**14 45 55.2**	**-1.2**
	SNR=2.9							
ALIB				Sn	**Sb**		**14 46 21.1**	**+0.3**

GRS	**Goris**	**1.84**	**204**	⇑*i*P	**Pn**	**14 45 54.0**	**-3.5**
GRS				⇑*i*S	**Sn**	**14 46 18.0**	**-3.5**
SEAG	**Tbilisi Sea**	**1.98**	**288**	P	**Pn**	**14 45 59.5**	**+0.2**
SEAG				S	**Sn**	**14 46 25.0**	**+0.2**
GLBA	**Clilabad**	**2.10**	**157**	Pn	**Pn**	**14 46 01.0**	**0.0**
	SNR=12						
GLBA				Sn	**Sn**	**14 46 28.8**	**+0.9**
KZRT	**Kazreti**	**2.21**	**276**	P	**Pn**	**14 46 01.7**	**-0.8**
KZRT				S	**Sn**	**14 46 29.9**	**-0.6**
SBZ	**Shahbuz**	**2.23**	**218**	Pn	**Pn**	**14 46 02.4**	**-0.5**
SBZ				Sn	**Sn**	**14 46 33.7**	**+2.5**
STE	**Stepanavan**	**2.23**	**266**	*e*P	**Pn**	**14 46 03.4**	**+0.5**
STE				*e*S	**Sb**	**14 46 34.1**	**0.0**
NRKZ	**NAREK**	**2.34**	**241**	*i* P	**Pn**	**14 46 05.4**	**+1.0**
NRKZ				*i* S	**Sn**	**14 46 36.6**	**+2.7**
DMNI	**Dmanisi**	**2.36**	**275**	P	**Pn**	**14 46 03.2**	**-1.4**
DMNI				S	**Sn**	**14 46 34.2**	**-0.2**
YRD	**Yardimli**	**2.37**	**162**	Pn	**Pn**	**14 46 04.2**	**-0.7**
	SNR=7.0						
YRD				Sn	**Sn**	**14 46 34.5**	**-0.2**
HYR	**Heyderabad**	**2.38**	**233**	Sg	**Sb**	**14 46 38.4**	**+0.2**
NAX	**Nakhchivan**	**2.44**	**215**	Pn	**Pn**	**14 46 05.9**	**+0.1**
	SNR=3.9						
NAX				Sg	**Sb**	**14 46 41.2**	**+1.2**
TRLG	**Trialeti**	**2.44**	**280**	P	**Pn**	**14 46 04.3**	**-1.6**
TRLG				S	**Sn**	**14 46 36.4**	**-0.1**
ORD	**Ordubad**	**2.47**	**205**	Pn	**Pn**	**14 46 06.3**	**+0.2**
	SNR=24						
ORD				Sn	**Sn**	**14 46 39.1**	**+2.1**
PNSH	**Pansheti**	**2.48**	**307**	P	**Pn**	**14 46 06.8**	**+0.4**
PNSH				S	**Sn**	**14 46 38.3**	**+0.7**
LRK	**Lerik**	**2.65**	**162**	Pn	**Pn**	**14 46 08.6**	**-0.2**
LRK				Sn	**Sn**	**14 46 42.8**	**+1.1**
LKRN	**Lenkeran, Azer**	**2.71**	**155**	Pn	**Pn**	**14 46 09.9**	**+0.5**
LKRN				Sn	**Sn**	**14 46 43.3**	**+0.5**
ASTR	**Astara**	**2.85**	**156**	Pn	**Pn**	**14 46 10.7**	**-0.6**
ASTR				Sn	**Sn**	**14 46 46.7**	**+0.3**
VNNZ	**Vanand**	**2.87**	**249**	*i* P	**Pb**	**14 46 15.8**	**-0.8**
VNNZ				*i* S	**Sb**	**14 46 54.4**	**+2.1**
ONI	**Oni**	**3.21**	**297**	P	**Pn**	**14 46 16.3**	**0.0**
ONI				S	**Sn**	**14 46 58.3**	**+3.1**
TKB	**Tkibuli**	**3.44**	**291**	P	**Pn**	**14 46 22.4**	**+3.0**
TKB				S	**Sb**	**14 47 05.8**	**-2.8**

*IGQ **03** 14:53:06.6±0.3, 4°.S±2°.×8°.0W±°, h47km, M4.9*
ISC 03 14:53:05.9±1.6, **3°.58S**±0°.05×**79°.88W**±0°.06, **h67**km±10km, **n70**, σ0**s99**/**77**, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.19**	**278**	P	**Pn**		**14 53 16.4**	**+0.2**
ARNL				S	**Sn**		**14 53 22.6**	**-1.1**
ACH2	**Ecuador-Machal**	**0.32**	**12**	P	**Pn**		**14 53 16.5**	**-0.4**
ACH2				S	**Sn**		**14 53 24.3**	**-0.7**
ISPG	**Isla Puna-Puer**	**0.67**	**334**	P	**Pn**		**14 53 21.2**	**+0.9**
ISPG				S	**Sn**		**14 53 33.8**	**+2.8**
MCRA	**Macar, Loja**	**0.79**	**186**	P	**Pn**		**14 53 22.0**	**+0.2**
MCRA				S	**Sn**		**14 53 33.8**	**+0.3**
GONZ	**Gonzanam**	**0.81**	**144**	P	**Pn**		**14 53 22.6**	**+0.3**
GONZ				S	**Sn**		**14 53 35.0**	**+0.5**
MORR	**Playas El Morr**	**1.04**	**334**	P	**Pn**		**14 53 24.9**	**+0.1**
MORR				S	**Sn**		**14 53 38.5**	**-0.2**
COHC	**Cochancay**	**1.27**	**29**	P	**Pn**		**14 53 27.1**	**-0.6**
BOSC	**San Juan Bosco**	**1.44**	**73**	P	**Pn**		**14 53 30.9**	**+0.7**
AMIL	**Milagro (Trans**	**1.46**	**11**	P	**Pn**		**14 53 29.5**	**-0.7**
AGUAY	**Guayaquil**	**1.51**	**357**	P	**Pn**		**14 53 29.8**	**-1.2**
SALI	**Salinas**	**1.77**	**321**	P	**Pn**		**14 53 34.2**	**-0.2**
SANGA	**Volcan Sangay**	**2.13**	**45**	P	**Pn**		**14 53 40.0**	**+0.3**
PPLP	**Puerto Lpez**	**2.21**	**336**	P	**Pn**		**14 53 39.0**	**-1.4**
IGUA	**Igualata**	**2.41**	**31**	P	**Pn**		**14 53 43.9**	**+0.3**
BMAS	**Trigal station**	**2.49**	**34**	P	**Pn**		**14 53 45.0**	**+0.5**
ARRY	**Arrayan**	**2.50**	**35**	P	**Pn**		**14 53 44.9**	**+0.2**
BPAT	**Tungurahua Vol**	**2.51**	**35**	P	**Pn**		**14 53 42.5**	**-2.4**
BBIL	**Ulba Tungurahu**	**2.53**	**33**	P	**Pn**		**14 53 45.6**	**+0.7**
RETU	**Refugio**	**2.55**	**34**	P	**Pn**		**14 53 45.9**	**+0.5**
JUI6	**Juive**	**2.56**	**33**	P	**Pn**		**14 53 45.8**	**+0.4**
BULB	**Ulba Tungurahu**	**2.58**	**35**	P	**Pn**		**14 53 46.2**	**+0.4**
RUN5	**Runtun**	**2.59**	**34**	P	**Pn**		**14 53 46.7**	**+0.9**
BRUN	**Tungurahua Vol**	**2.59**	**34**	P	**Pn**		**14 53 45.9**	**0.0**
PUYO	**Puyo, Santa Ro**	**2.78**	**42**	P	**Pn**		**14 53 48.2**	**+0.1**
PIS1	**Pisayambo**	**2.91**	**31**	P	**Pn**		**14 53 51.1**	**+0.7**
PKYU	**Pakayacu**	**2.98**	**50**	P	**Pn**		**14 53 50.7**	**-0.1**
ILLI	**Illinizas Sur**	**3.06**	**22**	P	**Pn**		**14 53 53.6**	**+1.2**
VCES	**Cotopaxi**	**3.13**	**28**	P	**Pn**		**14 53 54.5**	**+1.1**
BMOR	**Cotopaxi Volca**	**3.16**	**27**	P	**Pn**		**14 53 55.0**	**+1.2**
FLF1	**Flavio Alfaro-**	**3.20**	**1**	P	**Pn**		**14 53 53.2**	**-0.6**
FLFR	**Flavio Alfaro**	**3.20**	**1**	P	**Pn**		**14 53 53.2**	**-0.6**
BNAS	**Cotopaxi Volca**	**3.21**	**26**	P	**Pn**		**14 53 55.5**	**+1.1**
CAB1	**Cabo Pasado-Ma**	**3.21**	**350**	P	**Pn**		**14 53 54.6**	**+0.5**
CABP	**Cabo Pasado**	**3.22**	**350**	P	**Pn**		**14 53 54.6**	**+0.6**
BREF	**Cotopaxi Volca**	**3.22**	**26**	P	**Pn**		**14 53 56.4**	**+1.6**
TAMB	**Tambo**	**3.23**	**28**	P	**Pn**		**14 53 55.8**	**+1.0**
BTAM	**Cotopaxi Volca**	**3.24**	**27**	P	**Pn**		**14 53 55.8**	**+0.9**
VC1	**Cotopaxi 1**	**3.27**	**27**	P	**Pn**		**14 53 56.1**	**+0.9**
ARDO	**Archidona, Ten**	**3.30**	**39**	P	**Pn**		**14 53 54.8**	**-0.5**
JAMA	**Jama**	**3.31**	**354**	P	**Pn**		**14 53 54.5**	**-0.9**
ANTG	**Antisana-Guama**	**3.46**	**28**	P	**Pn**		**14 53 58.5**	**+0.6**
MAG1	**Magdalena**	**3.48**	**2**	P	**Pn**		**14 53 57.4**	**-0.3**
ANTI	**Antisana**	**3.55**	**29**	P	**Pn**		**14 53 59.7**	**+0.6**
GGPC	**Guagua Pichinc**	**3.61**	**21**	P	**Pn**		**14 54 00.9**	**+1.0**
TERV	**Terraza Guagua**	**3.61**	**21**	P	**Pn**		**14 54 00.7**	**+0.8**
PINO	**Pino**	**3.62**	**21**	P	**Pn**		**14 54 01.0**	**+0.8**
YANA	**Yana**	**3.67**	**21**	P	**Pn**		**14 54 01.3**	**+0.5**
PULU	**Pululahua**	**3.83**	**21**	P	**Pn**		**14 54 03.3**	**+0.5**
PAC1	**Pacto, Paraso**	**3.97**	**16**	*e*P	**Pn**		**14 54 04.4**	**0.0**
PAC1	**Pacto, Paraso**	**3.97**	**16**	P	**Pn**		**14 54 04.2**	**-0.3**
OTAV	**Otavalo**	**4.05**	**21**	*e*P	**Pn**		**14 54 06.7**	**+0.8**
OTAV	**Otavalo**	**4.05**	**21**	P	**Pn**		**14 54 05.8**	**0.0**
REVS	**Reventador Sur**	**4.12**	**33**	P	**Pn**		**14 54 06.8**	**+0.2**
LAV4	**Lava4-Reventad**	**4.12**	**33**	P	**Pn**		**14 54 06.8**	**0.0**
CUSE	**Cuicocha Este**	**4.13**	**21**	*e*P	**Pn**		**14 54 08.5**	**+1.6**
CUSE				*e*S	**Sn**		**14 54 56.0**	**+1.8**
CUSE	**Cuicocha Este**	**4.13**	**21**	P	**Pn**		**14 54 08.4**	**+1.4**
CONE	**Cono NE Rev Vo**	**4.14**	**33**	P	**Pn**		**14 54 07.2**	**+0.2**
CUIC	**Cuicocha-Domo**	**4.14**	**21**	P	**Pn**		**14 54 08.0**	**+0.9**
URCU	**Urcuqui**	**4.30**	**22**	P	**Pn**		**14 54 10.2**	**+0.9**
TULM	**Tulcn-Chalpat**	**4.75**	**26**	P	**Pn**		**14 54 15.7**	**+0.2**
PUAC	**Puerto Asis, P**	**5.26**	**39**	*e*P	**Pn**		**14 54 20.4**	**-1.7**
GCUF	**Volcan Galeras**	**5.40**	**28**	*e*P	**Pn**		**14 54 24.6**	**+0.2**
BBAC	**Balboa, Cauca**	**6.15**	**25**	*e*P	**Pn**		**14 54 33.6**	**-0.8**
BBAC				*e*S	**Sn**		**14 55 43.1**	**-0.4**
BBAC				*i*			14 55 57.0	
	comp=Z,60nm,0.4s							
PTLC	**Puerto Leguiza**	**6.29**	**54**	*e*P		Pn	14 54 30.3	-5.9
FLOC	**Florencia**	**6.64**	**40**	*e*P	**Pn**		**14 54 38.6**	**-2.3**
PCON	**Cinco Dias**	**6.82**	**31**	*e*P	**Pn**		**14 54 44.3**	**+0.5**
POPC	**Popayan, Colom**	**6.87**	**28**	*e*P	**Pn**		**14 54 45.2**	**+1.0**
GARC	**Garzon, Huila**	**7.21**	**37**	*e*P	**Pn**		**14 54 47.0**	**-2.0**
MARP	**Paez Belalcaza**	**7.48**	**32**	*e*P	**Pn**		**14 54 52.1**	**-0.6**
PRAC	**Prado**	**8.79**	**35**	*e*P	**Pn**		**14 55 08.2**	**-2.2**

MAN 03 14:55:30.4, 19°.81N×121°.79E, h23km, mb4.9, ML3.9, MS3.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.65**	**15**	*e*P		Pb	14 55 43.6	+0.4
BBP				*e*S		Sn	14 55 54.9	+1.1
APYP	**Conner**	**2.00**	**195**	*e*P		Pn	14 56 03.0	+0.1
APYP				*e*S		Sn	14 56 28.7	+1.4
ABRA	**Dolores**	**2.38**	**206**	*e*P		Pn	14 56 06.6	-1.4

*NEIC **03** 14:55:41.2±2.0, 61°.65S±0°.10×56°.9W±0°.3, h10km±2km, mb4.1/6, Error ellipse: s-maj=21.8km s-min=15.5km az=252.0*
*IDC **03** 14:55:41.6±1.1, 61°.89S×57°.28W, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/26, mbtmp4.1/7, MS3.3/2, Ms1 3.3/2, ms1mx3.1/23, Error ellipse: s-maj=50.9km s-min=23.5km az=82.0*
ISC 03 14:55:41.6±0.7, **61°.76S**±0°.08×**57°.3W**±0°.2, **h10**km, **n22**, σ1**s98**/**20**, **mb4.1/7**, **South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**4.29**	**222**	P		Pn	**14 56 46.2**	**-0.5**
EFI	**East Falkland**	**10.12**	**357**	P		Pn	**14 58 02.5**	**-4.2**
BELA	**Belgrano 2**	**17.73**	**164**	P		Pn	**14 59 43.7**	**-4.4**

VNA3	**Neumayer Olymp**	**20.62**	**137**	P	**P**	**15 00 19.2**	**-1.4**
PLCA	**Paso Flores**	**22.53**	**333**	LR	LR	15 08 03.7	
	comp=Z,84nm,21.2s,baz=159,slow=33						
SNAA	**Sanae**	**22.80**	**138**	P	**P**	**15 00 42.2**	**-1.8**
SNAA	**Sanae**	**22.80**	**138**	P	**P**	**15 00 44.4**	**+0.3**
	4.1nm,0.8s,baz=261,slow=11,SNR=15						
SNAA				LR	LR	15 08 05.0	
	comp=Z,95nm,20.5s,baz=234,slow=33						
SNAA	**Sanae**	**22.80**	**138**	P	**P**	**15 00 42.8**	**-1.3**
QSPA	**South Pole Qui**	**28.47**	**180**	P	**P**	**15 01 37.2**	**+0.7**
	2.7nm,0.7s,baz=169,slow=9.2,SNR=12						
QSPA	**South Pole Qui**	**28.47**	**180**	P	**P**	**15 01 37.7**	**+1.2**
QSPA				IAmb	IAmb	15 01 51.6	
	comp=Z,3.2nm,1.0s						
AC02	**Maricunga**	**35.80**	**342**	P	**P**	**15 02 41.3**	**-0.1**
MAW	**Mawson**	**43.88**	**151**	P	**P**	**15 03 47.6**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=246,slow=5.8,SNR=5.2						
MAW	**Mawson**	**43.88**	**151**	P	**P**	**15 03 49.4**	**+1.9**
SIV	**San Ignacio**	**45.78**	**355**	P	**P**	**15 04 05.9**	**+2.7**
	comp=Z,1.8nm,0.7s,baz=49,slow=19,SNR=4.4						
TORD	**Torodi Ar. Bea**	**87.72**	**57**	P	**P**	**15 08 32.7**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=213,slow=4.9,SNR=3.7						
ASAR	**Alice Springs**	**94.40**	**190**	P	**P**	**15 09 02.8**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=165,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**94.40**	**190**	P	**P**	**15 09 01.7**	**+0.2**
AS31	**Alice Springs**	**94.40**	**190**	P	**P**	**15 09 01.9**	**+0.3**
AS31				IAmb	IAmb	15 09 04.3	
	comp=Z,1.3nm,1.4s						
WRA	**Warramunga Arr**	**98.05**	**191**	P	Pdif	15 09 18.8	+0.6
	comp=Z,0.4nm,0.7s,baz=177,slow=3.8,SNR=6.9						
ILAR	**Eielson Array**	**142.48**	**315**	PKP	**PKPdf**	**15 15 13.8**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=114,slow=1.1,SNR=3.4						
ARCES	**ARCESS Array B**	**143.37**	**36**	PKP	**PKPdf**	**15 15 13.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=299,slow=0.9,SNR=5.6						
MKAR	**Makanchi Array**	**152.63**	**104**	PKPbc	**PKiKP**	**15 15 38.5**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=256,slow=4.5,SNR=6.9						

*ANF **03** 14:58:12.5±0.6, 48°.24N×152°.33E, h30km, Error ellipse: s-maj=14.9km s-min=9.8km az=25.0*
*SKHL **03** 14:58:27.3±0.2, 48°.43N×153°.79E, h161km±3km, mb5.6/9, msh6.1/3*
*NEIC **03** 14:58:29.0±2.2, 48°.6N±0°.1×153°.4E±0°.2, h154km±7km, mb4.5/45, Error ellipse: s-maj=20.1km s-min=10.7km az=138.0*
*MOS **03** 14:58:28.3±1.1, 48°.52N×153°.54E, h165km, mb4.3/22, Error ellipse: s-maj=9.1km s-min=6.0km az=60.9*
*IDC **03** 14:58:30.8±0.6, 48°.67N×153°.34E, h166km±4km, mb3.8/27, mb1 4.0/32, mb1mx3.9/66, mbtmp4.3/32, MS3.3/2, Ms1 3.3/2, ms1mx2.6/52, Error ellipse: s-maj=11.8km s-min=7.3km az=140.0*
ISC 03 14:58:29.1±0.5, **48°.40N**±0°.05×**153°.55E**±0°.04, **h162**km±3km, **h161**km:**pP-P**, **n308**, σ1**s77**/**329**, **mb4.3**/57, **8C-16D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.83**	**35**	*e*P		**Pn**	**14 59 12.5**	**-2.2**
SKR				AMB		AMB	14 59 13.0	
	400nm,0.3s							
SKR				*e*S		**Sn**	**14 59 47.6**	**-2.5**
SKR				A		A	14 59 50.5	
	252nm,0.3s							
SKR				A		A	14 59 50.5	
	440nm,0.3s							
SKR	**Severo-Kuril's**	**2.83**	**35**	*e*PN		**Pn**	**14 59 12.8**	**-1.9**
SKR				*e*S		**Sn**	**14 59 45.5**	**-4.6**
SKR				pmax		pmax		
	comp=Z,728nm,1.0s							
SKR				pmax		pmax		
	comp=Z,200nm,3.4s							
SKR				smax		smax		
	comp=N,768nm,0.7s							
SKR				smax		smax		
	comp=E,619nm,0.2s							
SKR				MLR		MLR		
	comp=Z,200nm,20.0s							
PAU	**Pauzhetka**	**3.72**	**33**	*e*P		**Pn**	**14 59

TYV eS **Sn** **15 01 42.0 +2.6**
TYV Tymovskoe 7.49 293 ePN **Pn** **15 00 16.2 +0.6**
TYV eS **Sn** **15 01 41.1 +1.7**
TYV pmax pmax
comp=Z,34nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.2s
TYV smax smax
comp=N,11nm,1.3s
UGL Uglegorsk 7.63 279 eP **Pn** **15 00 19.0 +1.6**
UGL AMB AMB 15 00 22.0
comp=N,67nm,1.1s
UGL eS **Sn** **15 01 45.2 +2.6**
UGL Uglegorsk 7.63 279 ePN **Pn** **15 00 19.4 +2.0**
UGL S **Sn** **15 01 41.2 -1.4**
UGL pmax pmax
comp=Z,67nm,1.1s
JNK Nakash 7.81 235 P **Pn** **15 00 19.9 0.0**
JTKR Abashiri--Toko 8.03 240 P **Pn** **15 00 24.0 +1.3**
JAK Akkeshi 8.22 232 P **Pn** **15 00 23.8 -1.5**
JAK eS **Sn** **15 01 51.3 -5.7**
JMP Maruseppu 8.32 242 P **Pn** **15 00 27.8 +1.1**
OKH Okha 8.45 312 eP **Pn** **15 00 25.9 -2.3**
JAR Ashorobuto 8.52 237 P **Pn** **15 00 30.3 +1.0**
JKA Kamikawa-asahi 8.71 245 eP **Pn** **15 00 34.4 +2.6**
JKA Kamikawa-asahi 8.71 245 Pn **Pn** **15 00 34.1 +2.3**
ASAJ Asahikawa 8.72 245 P **Pn** **15 00 34.4 +2.5**
comp=Z,10nm,0.3s,baz=86,slow=15,SNR=107
ASAJ Asahikawa 8.72 245 P **Pn** **15 00 34.2 +2.3**
JOB Onbets 8.75 235 P **Pn** **15 00 31.0 -1.3**
JOB eS **Sn** **15 02 04.1 -5.5**
JKK2 Kamakawa 2 8.76 243 P **Pn** **15 00 33.9 +1.4**
JSS Shosan 9.02 248 P **Pn** **15 00 39.6 +3.7**
JRBN Rebuntou 9.05 255 P **Pn** **15 00 39.2 +2.9**
JCH Churui 9.20 235 P **Pn** **15 00 36.5 -1.8**
JCH eS **Sn** **15 02 13.1 -7.3**
JFR Furan 9.28 240 P **Pn** **15 00 39.3 0.0**
JAB Ashibetsu 9.29 242 P **Pn** **15 00 40.7 +1.3**
JBT2 Biratori 2 9.65 238 P **Pn** **15 00 43.3 -0.9**
JEM Erimo 9.72 233 eS **Sn** **15 02 24.9 -8.1**
ERM Erimo 9.72 233 ePN **Pn** **15 00 43.8 -1.4**
ERM Erimo 9.72 233 **Pn** **15 00 43.1 -2.1**
JNBK Urakawa-nobuka 9.76 235 P **Pn** **15 00 42.8 -2.8**
JNBK eS Sn 15 02 24.6 -9.3
JEW Eniwo 10.14 241 P **Pn** **15 00 49.9 -0.7**
JEW Eniwo 10.14 241 **Pn** **15 00 50.5 -0.2**
JNB Noboribetsu 10.60 241 P **Pn** **15 00 54.5 -2.2**
JNB eS **Sn** **15 02 48.5 -5.7**
JKB Kayabe 10.98 238 P **Pn** **15 00 58.2 -3.4**
JKB eS Sn 15 02 53.0 -10
JSH Shimam 11.08 244 P **Pn** **15 01 02.9 -0.1**
JYM2 Yakumo 2 11.21 241 P **Pn** **15 01 02.5 -2.2**
MA2 Magadan 11.31 353 LR LR 15 05 32.8
comp=Z,83nm,20.2s,baz=162,slow=38
JSR Shiriuchi 11.56 238 P **Pn** **15 01 06.3 -2.9**
JTM Tenmabayashi 11.70 234 eS Sn 15 03 07.2 -13
JTM Tenmabayashi 11.70 234 P **Pn** **15 01 06.9 -4.2**
JOSM Okushiri--Mats 11.76 243 P **Pn** **15 01 09.5 -2.3**
JANG Nango 11.76 231 eS Sn 15 03 07.7 -14
JANG Nango 11.76 231 P **Pn** **15 01 07.1 -4.8**
JTH Tanohata 11.91 229 eS Sn 15 03 14.1 -11
JTH Tanohata 11.91 229 P **Pn** **15 01 10.1 -3.6**
TEY Ternei 12.11 260 eP **Pn** **15 01 17.5 +1.2**
TEY AMB AMB 15 01 23.0
comp=Z,40nm,0.1s
TEY Ternei 12.11 260 ePN **P** **15 01 22.0 -0.2**
TEY pmax pmax
comp=E,30nm,0.9s
TEY pmax pmax
comp=Z,40nm,1.0s
SMY Shemya 13.74 64 P **P** **15 01 40.0 -0.3**
SMY Shemya 13.74 64 P **P** **15 01 40.0 -0.3**
EKMR Ekimchan 13.84 297 eP **Pn** **15 01 38.9 +0.5**
EKMR AMB AMB 15 01 43.6
comp=Z,16nm,0.9s
JMM Marumori 14.04 226 P **Pn** **15 01 39.2 -1.7**
SEY Seymchan 14.58 358 P **Pn** **15 01 46.7 -0.7**
comp=Z,0.2nm,0.3s,baz=95,slow=23,SNR=5.6
JFY Yanaizu 14.93 228 P **Pn** **15 01 50.6 -1.5**
JSD Sado 15.19 233 **Pn** **15 01 54.4 -0.8**
USA0B Ussuriysk Arra 15.47 262 deP **P** **15 02 00.3 +0.7**
USA0B Ussuriysk Arra 15.47 262 P **P** **15 02 00.4 +0.9**
USA0B IAmb IAmb 15 02 01.5
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 15.47 262 P **P** **15 02 00.3 +0.8**
baz=61,slow=13,SNR=29
USRK Ussuriysk Ar. 15.47 262 P **P** **15 02 00.4 +0.9**
JYT Yasato 15.64 224 P **P** **15 02 04.6 +3.1**
JYT IAmb IAmb 15 02 05.1
comp=Z,34nm,0.9s
MAJO Matsushiro 16.35 229 *d iP* **Pn** **15 02 10.1 +0.6**
MAJO pmax pmax
comp=Z,39nm,0.7s
MAJO Matsushiro 16.35 229 **Pn** **15 02 10.5 +1.0**
MAT Matsushiro 16.35 229 P **Pn** **15 02 09.6 +0.1**
MJAR Matsushiro Arr 16.35 229 P **Pn** **15 02 10.3 +0.8**
comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=49
MJAR Matsushiro Arr 16.35 229 P **Pn** **15 02 10.4 +0.9**
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 16.35 229 **Pn** **15 02 10.4 +0.9**
BMKR Bomnak 16.56 302 eP **P** **15 02 10.0 -1.5**
BMKR AMB AMB 15 02 13.5
comp=Z,8.0nm,1.0s
MDJ Mudanjiang 16.90 266 P **P** **15 02 14.5 -0.8**
MDJ pmax pmax
comp=Z,16nm,1.3s
MDJ pmax pmax
comp=Z,180nm,4.0s
ZEA Zeya 17.32 298 eP **P** **15 02 20.2 +0.4**
ZEA AMB AMB 15 02 22.0
comp=Z,10.0nm,1.0s
ZEA AMB AMB 15 02 22.0
comp=Z,63nm,1.0s
ZEA AMB AMB 15 02 55.4
comp=Z,100nm,4.0s
ZEA Zeya 17.32 298 eP **P** **15 02 20.2 +0.4**
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZEA pmax pmax
comp=Z,100nm,4.2s
JGF Kuroka 17.52 229 **Pn** **15 02 24.1 +0.6**
KROS Kirovskiy 17.58 300 eP **Pn** **15 02 25.2 +1.2**
KROS AMB AMB 15 02 27.9
comp=Z,3.0nm,0.5s
INU Inuyama 17.89 229 P **Pn** **15 02 27.3 -0.5**
JWT Wachi 18.77 232 P **Pn** **15 02 37.4 -0.7**
JWT IAmb IAmb 15 02 40.6
comp=Z,19nm,0.7s
YAK Yakutsk 19.12 324 eP **Pn** **15 02 40.6 -1.4**
YAK Yakutsk 19.12 324 eP **Pn** **15 02 40.5 -1.4**
YAK eS **S** **15 06 09.9 +2.7**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK smax smax
comp=E,62nm,2.4s
YAK smax smax
comp=N,49nm,1.6s
CN2 Changchun 19.97 267 eP **P** **15 02 46.7 -2.0**
CN2 pmax pmax
comp=Z,20nm,0.7s
JHS Saijyo 20.22 236 P **P** **15 02 52.5 +1.0**
KSRS Korea Array 21.62 249 P **P** **15 03 07.7 +1.3**
comp=Z,11nm,0.6s,baz=49,slow=10,SNR=27
KS19 Wonju Array Si 21.63 249 P **P** **15 03 07.7 +1.3**
KS19 IAmb IAmb 15 03 10.6
comp=Z,18nm,0.9s
KSAR Wonju Array Be 21.65 249 P **P** **15 03 06.1 -0.6**
KSAR Wonju Array Be 21.65 249 P **P** **15 03 06.1 -0.6**
TJN Taejon 22.65 248 eP **P** **15 03 19.4 +3.0**
JNU Nakatsue 22.86 236 P **P** **15 03 20.2 +1.8**
comp=Z,13nm,0.9s,baz=11,slow=8.1,SNR=12
JNU Nakatsue 22.86 236 P **P** **15 03 20.1 +1.7**
JNU IAmb IAmb 15 03 32.4
comp=Z,20nm,0.9s
H11N2 WAKE ISLAND Hy 30.57 155 T T 15 36 48.8
baz=342,slow=76,SNR=107
H11N1 WAKE ISLAND Hy 30.58 155 T T 15 36 54.6
baz=342,slow=76,SNR=174
H11N3 WAKE ISLAND Hy 30.59 155 T T 15 36 51.7
baz=342,slow=76,SNR=106
ULN Ulaanbaatar 30.67 287 eP **P** **15 04 27.7 -0.7**
ULN Ulaanbaatar 30.67 287 eP **P** **15 04 27.7 -0.7**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 31.10 287 P **P** **15 04 31.3 -0.8**
comp=Z,2.7nm,0.9s,baz=61,slow=12,SNR=8.5
SONM pP **pP** **15 05 06.0 +1.0**
comp=Z,1.5nm,0.8s,baz=79,slow=7.7,SNR=2.4
H11S1 WAKE ISLAND Hy 31.68 156 T T 15 38 11.9
baz=344,slow=76,SNR=596
H11S3 WAKE ISLAND Hy 31.68 156 T T 15 38 12.6
baz=344,slow=76,SNR=600
H11S2 WAKE ISLAND Hy 31.69 156 T T 15 38 11.7
baz=344,slow=76,SNR=343
TLY Talaya 31.72 295 eP **P** **15 04 37.8 +0.5**
TLY Talaya 31.72 295 eP **P** **15 04 37.8 +0.5**
TLY pmax pmax
comp=Z,5.0nm,1.3s
IMAR Indian Mountai 32.27 38 P **P** **15 04 41.6 -0.3**
OHAK Old Harbor 32.54 54 P **P** **15 04 44.2 -0.2**
OHAK IAmb IAmb 15 04 57.8
comp=Z,13nm,1.0s
BRLK Bradley Lake 33.51 49 P **P** **15 04 51.4 -1.4**
TRF Thorofare Moun 33.61 42 P **P** **15 04 54.5 +0.7**
TRF IAmb IAmb 15 04 56.4
comp=Z,7.1nm,1.0s
COLD Coldfoot 33.80 36 P **P** **15 04 55.8 +0.6**
baz=266
BWN Browne 33.97 41 P **P** **15 04 57.9 +1.2**
NEA2 Nenana 34.14 40 P **P** **15 04 58.9 +0.7**
baz=271,SNR=5.4
TOLK Toolik Lake Re 34.19 33 P **P** **15 04 59.1 +0.5**
baz=264
TOLK Toolik Lake Re 34.19 33 P **P** **15 04 57.7 -0.9**
TOLK IAmb IAmb 15 05 00.2
comp=Z,7.2nm,1.1s
GHO Glory Hole Cre 34.30 45 P **P** **15 04 59.3 -0.4**
GHO IAmb IAmb 15 05 14.5
comp=Z,18nm,1.2s
MDM Murphy Dome 34.50 40 P **P** **15 05 02.1 +0.8**
WRH Wood River Hil 34.57 41 P **P** **15 05 01.5 -0.3**
SML Sawmill 34.58 45 P **P** **15 05 01.6 -0.4**
WHN Wuhan 34.66 254 P **P** **15 05 04.0 +1.0**
COLA College 34.66 40 *i P* **P** **15 05 03.5 +0.9**
COLA pmax pmax
comp=Z,9.0nm,0.8s
CCB Clear Creek Bu 34.69 40 P **P** **15 05 02.9 +0.1**
POKR Poker Flat Res 34.84 39 P **P** **15 05 05.1 +0.9**
baz=271,SNR=5.8
DHY Denali Highway 34.94 43 P **P** **15 05 05.1 -0.1**
SCM Sheep Creek Mo 35.05 45 P **P** **15 05 06.8 +0.7**
SCM pmax pmax
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 35.05 45 P **P** **15 05 06.8 +0.7**
SCM IAmb IAmb 15 05 08.3
comp=Z,14nm,1.0s
HDA Harding Lake 35.06 41 P **P** **15 05 05.9 -0.2**
baz=273,SNR=5.2
HDA Harding Lake 35.06 41 P **P** **15 05 06.1 0.0**
HDA IAmb IAmb 15 05 07.4
comp=Z,7.3nm,1.1s
IL31 35.08 40 P **P** **15 05 06.4 +0.3**
ILAR Eielson Array 35.08 40 P **P** **15 05 06.2 0.0**
comp=Z,1.1nm,0.3s,baz=261,slow=4.9,SNR=54
ILAR pP **pP** **15 05 40.3 -0.3**
comp=Z,1.0nm,0.9s,baz=248,slow=9.5,SNR=2.8
ILAR Eielson Array 35.08 40 P **P** **15 05 05.7 -0.5**
ILAR Eielson Array 35.08 40 P **P** **15 05 05.7 -0.5**
M24K Tolsona, Glenn 35.57 45 P **P** **15 05 11.3 +0.8**
M24K IAmb IAmb 15 05 12.8
comp=Z,10nm,0.8s
BMAR Burnt Mountain 35.99 35 P **P** **15 05 14.9 +0.9**
DOT Dot Lake 36.38 42 P **P** **15 05 15.8 -1.5**
SCRK Sand Creek 36.38 41 P **P** **15 05 17.5 0.0**
baz=276
GLB Gilahina Butte 36.77 45 P **P** **15 05 20.5 -0.2**
VRDI Verde Repeater 36.97 46 P **P** **15 05 22.2 -0.3**
BCAR Beaver Creek A 37.47 43 P **P** **15 05 27.9 +1.3**
EGAK Eagle 37.53 40 P **P** **15 05 27.0 +0.1**
EGAK IAmb IAmb 15 05 27.9
comp=Z,5.0nm,0.7s
GTA Gaotai 39.03 277 eP **P** **15 05 39.9 -0.1**
GTA pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 40.10 33 P **P** **15 05 47.7 -0.5**
comp=Z,1.9nm,0.3s,baz=277,slow=7.9,SNR=8.1
INK Inuvik 40.10 33 P **P** **15 05 47.3 -1.0**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 40.10 33 P **P** **15 05 47.3 -1.0**
INK IAmb IAmb 15 05 49.8
comp=Z,6.9nm,1.1s
CD2 Chengdu 41.34 264 P **P** **15 06 00.0 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.6s
ZALV Zalesovo Beam 41.90 304 P **P** **15 06 01.5 -1.7**
comp=Z,0.8nm,0.3s,baz=63,slow=7.6,SNR=6.2
ZALV pP **pwP** **15 06 39.5 -1.3**
comp=Z,0.9nm,0.7s,baz=71,slow=6.8,SNR=2.5
ZALV PcP **PcP** **15 07 54.9 -0.7**
comp=Z,0.7nm,0.4s,baz=358,slow=4.3,SNR=5.3
DGZ Jazzator, Alta 42.08 298 eP **P** **15 06 05.0 +0.1**
DGZ pmax pmax
comp=Z,4.0nm,1.3s
GYA Guiyang 42.38 256 P **P** **15 06 08.2 +0.7**
GYA pmax pmax
comp=Z,14nm,0.9s
DLBC Dease Lake 44.24 47 P **P** **15 06 23.7 +1.8**
comp=Z,4.9nm,0.9s,baz=261,slow=5.6,SNR=5.1
MK31 Makanchi Array 46.46 296 *d iP* **P** **15 06 38.7 -0.9**
MK31 Makanchi Array 46.46 296 P **P** **15 06 38.9 -0.7**
MKAR Makanchi Array 46.46 296 P **P** **15 06 38.7 -0.9**
comp=Z,5.2nm,0.9s,baz=65,slow=8.2,SNR=27
MKAR pP **pP** **15 07 15.4 +0.9**
comp=Z,1.5nm,0.9s,baz=57,slow=8.8,SNR=2.5
MKAR PcP **PcP** **15 08 11.5 +0.1**
comp=Z,0.5nm,0.7s,baz=64,slow=3.9,SNR=1.9
MKAR Makanchi Array 46.46 296 eP **P** **15 06 38.6 -1.0**
MKAR Makanchi Array 46.46 296 P **P** **15 06 38.6 -1.0**
KURK Kurchatov 46.71 303 eP **P** **15 06 40.4 -1.0**
KURK Kurchatov 46.71 303 *i iP* **P** **15 06 40.4 -1.0**
KURK pmax pmax
comp=Z,11nm,1.3s
RES Resolute Bay 49.17 19 P **P** **15 06 60.0 0.0**
comp=Z,5.9nm,1.1s,baz=345,slow=4.7,SNR=1.6
RES Resolute Bay 49.17 19 P **P** **15 07 00.0 0.0**
YKA Yellowknife Ar 49.43 38 P **P** **15 07 02.8 +0.8**
comp=Z,2.9nm,0.8s,baz=300,slow=7.6,SNR=5.9
BRVK Borovoye 50.09 309 eP **P** **15 07 06.1 -1.1**
BRVK Borovoye 50.09 309 eP **P** **15 07 06.1 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 52.80 256 P **P** **15 07 28.2 +0.5**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 52.80 256 P **P** **15 07 28.2 +0.5**
CHTO IAmb IAmb 15 07 30.5
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 53.06 255 P **P** **15 07 31.6 +1.9**
comp=Z,3.8nm,0.8s,baz=28,slow=7.4,SNR=29
CMAR Chiang Mai Arr 53.06 255 *i P* **P** **15 07 32.0 +2.3**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
D03D Eldon 53.09 57 P **P** **15 07 31.2 +1.7**
baz=305
B05A Bryant 53.23 56 P **P** **15 07 32.4 +1.9**
baz=305
ARU Arti 54.00 317 eP **P** **15 07 34.5 -1.5**
ARU Arti 54.00 317 *c iP* **P** **15 07 34.5 -1.5**
ARU *PP **pP** **15 08 12.9 +0.8**
ARU S **S** **15 14 57.2 -1.7**
ARU SS **SS** **15 18 39.2 -2.6**
ARU pmax pmax
comp=Z,7.0nm,1.8s
K02D Willamette Mer 55.56 62 P **P** **15 07 49.4 +1.9**
baz=307
I04A Tendick Farm, 55.64 61 P **P** **15 07 50.1 +2.1**
baz=307
I05D Terrebonne, OR 55.94 60 P **P** **15 07 51.8 +1.7**
baz=307
NEW Newport 55.95 54 P **P** **15 07 51.8 +1.7**
baz=307
J04D Umpqua Nationa 56.15 61 P **P** **15 07 54.3 +2.4**
baz=307
ARCES ARCESS Array B 56.39 341 P **P** **15 07 52.0 -0.9**
comp=Z,2.2nm,0.8s,baz=26,slow=9.0,SNR=3.8
J05D Fort Rock, OR 56.63 61 P **P** **15 07 57.6 +2.4**
baz=308
L04D Klamath Falls 56.65 62 P **P** **15 07 57.5 +2.1**
baz=308
K05A Summer Lake 57.17 61 P **P** **15 07 59.9 +0.9**
K05A IAmb IAmb 15 08 02.6
comp=Z,11nm,1.1s
N02D Trinity Center 57.18 64 P **P** **15 08 01.0 +2.0**
baz=308
M04C Macdoel 57.19 62 P **P** **15 08 01.0 +1.9**
baz=308
ABKAR Akbulak array 57.60 309 P **P** **15 08 00.2 -1.5**
O02D Mt. Diablo Mer 57.62 64 P **P** **15 08 04.3 +2.2**
baz=309
O03E Paynes Creek 58.14 64 P **P** **15 08 07.2 +1.5**
baz=309
MSO Missoula 58.53 54 P **P** **15 08 09.5 +1.1**
baz=309,SNR=5.1
HRY Holter Researc 59.73 53 P **P** **15 08 18.4 +1.8**
LRM Limekiln Ridge 59.97 54 P **P** **15 08 19.6 +1.2**
EGMT Eagleton 59.97 50 P **P** **15 08 19.4 +1.3**
baz=311
HLID Hailey 60.34 57 P **P** **15 08 22.6 +1.7**
baz=310
BOZ Bozeman (W) 60.55 53 P **P** **15 08 23.8 +1.5**
baz=311,SNR=12
BOZ Bozeman (W) 60.55 53 P **P** **15 08 24.1 +1.8**
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 60.55 53 P **P** **15 08 24.1 +1.8**
NVAR Mina Array Bea 61.41 63 P **P** **15 08 30.1 +1.9**
comp=Z,2.1nm,0.6s,baz=293,slow=7.5,SNR=20
NVAR Mina Array Bea 61.41 63 P **P** **15 08 29.9 +1.7**
H17A Grant Village 61.90 54 P **P** **15 08 34.9 +3.4**
baz=312
RLMT Red Lodge 62.12 53 P **P** **15 08 35.1 +2.2**
baz=312
FXWY Fox Creek 62.16 55 P **P** **15 08 31.3 -1.9**
FINES FINESS Array B 62.67 335 P **P** **15 08 34.3 -1.7**
comp=Z,1.7nm,0.4s,baz=33,slow=7.4,SNR=37
FINES pP **pwP** **15 09 15.3 -1.4**
comp=Z,3.6nm,1.0s,baz=16,slow=7.2,SNR=2.8
FINES FINESS Array B 62.67 335 *i* P **P** **15 08 34.7 -1.3**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 62.67 335 P **P** **15 08 34.1 -1.9**
PKM Mcpherson Peak 62.82 67 P **P** **15 08 40.0 +2.3**
baz=312
CWC Cottonwood Cre 62.85 65 P **P** **15 08 39.9 +2.0**
baz=312
R11A Troy Canyon, C 63.08 62 P **P** **15 08 40.3 +1.0**
baz=312,SNR=7.6
DUG Dugway, Tooele 63.45 59 P **P** **15 08 43.7 +2.1**
baz=312
MPMC Manual Prospec 63.46 65 P **P** **15 08 43.5 +1.7**
baz=312
BW06 Boulder Array 63.54 55 P **P** **15 08 43.4 +1.1**
baz=313,SNR=9.8
PD31 Pinedale Array 63.54 55 P **P** **15 08 42.6 +0.3**
PD31 IAmb IAmb 15 08 44.8
comp=Z,6.7nm,0.9s
PDAR Pinedale Array 63.54 55 P **P** **15 08 43.5 +1.2**
comp=Z,5.2nm,0.9s,baz=323,slow=2.2,SNR=30
PDAR pP **pP** **15 09 23.5 +3.3**
comp=Z,0.9nm,0.8s,baz=304,slow=4.9,SNR=2.5
FURC Furnace Creek, 63.57 64 P **P** **15 08 44.3 +2.0**
baz=312
TPNV Topopah Spring 63.61 63 P **P** **15 08 44.6 +1.9**
baz=312,SNR=5.1
TPNV Topopah Spring 63.61 63 P **P** **15 08 43.3 +0.5**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 63.61 63 P **P** **15 08 43.3 +0.5**
TPNV IAmb IAmb 15 08 45.4
comp=Z,5.8nm,0.9s
LRMC Laurel Mtn Rad 63.73 65 P **P** **15 08 44.8 +1.2**
baz=312
EDW2 Edwards Air Fo 63.94 66 P **P** **15 08 46.2 +1.3**
baz=312
BATI Baumata 64.06 213 LR LR 15 39 10.6
comp=Z,35nm,19.2s,baz=210,slow=38
OBN Obninsk 64.12 325 eP **P** **15 08 46.3 +0.8**
OBN Obninsk 64.12 325 eP **P** **15 08 46.3 +0.8**
OBN *PP **PcP** **15 09 20.6 +1.4**
OBN *SP **sP** **15 09 40.6 +0.8**
OBN *e* 15 11 09.2
OBN pmax pmax
comp=Z,4.0nm,1.0s
TUQ Turquoise Moun 64.82 64 P **P** **15 08 52.1 +1.4**
baz=313
HEC Hector,Ludlow 64.98 65 P **P** **15 08 53.2 +1.6**
baz=313
GMRC Granite Mounta 65.42 65 P **P** **15 08 56.0 +1.5**
baz=313
O20A White River Ci 66.06 56 P **P** **15 09 00.4 +1.8**
baz=314
IRM Iron Mountain 66.16 65 P **P** **15 09 00.6 +1.5**
baz=314
NB2 NORSAR Subarra 66.76 341 P **P** **15 09 01.5 -1.0**
comp=Z,1.3nm,0.5s,baz=29,slow=6.5
NOA NORSAR Array B 66.76 341 P **P** **15 09 01.2 -1.3**
comp=Z,0.5nm,0.6s,baz=28,slow=6.6,SNR=7.8
PV13 Radium Mtn., P 67.11 58 P **P** **15 09 06.6 +1.3**
PV13 IAmb IAmb 15 09 07.8
comp=Z,8.5nm,0.8s
WUAZ Wupatki 67.47 62 P **P** **15 09 09.7 +2.1**
baz=314
ISCO Idaho Springs 67.73 55 P **P** **15 09 11.7 +2.3**
baz=316
MVCO Mesa Verde 67.95 59 P **P** **15 09 11.9 +1.3**
baz=315
S22A 4UR Ranch, Cre 68.51 57 P **P** **15 09 16.3 +2.1**
baz=316,SNR=8.0
SDCO Great Sand Dun 69.25 56 P **P** **15 09 20.5 +1.7**
baz=316
ECSD EROS Data Cent 69.53 47 P **P** **15 09 20.6 +0.6**
baz=319
WB0 Warramunga Arr 69.99 199 P **P** **15 09 22.6 -0.3**
WB0 IAmb IAmb 15 09 25.5
comp=Z,11nm,1.0s
WR0 Warramunga Arr 70.14 199 P **P** **15 09 24.5 +0.6**
WR0 IAmb IAmb 15 09 26.4
comp=Z,8.0nm,1.0s
WRAB Tennant Creek 70.16 199 eP **P** **15 09 25.8 +1.8**
WRAB pmax pmax
comp=Z,53nm,4.0s
WRAB Tennant Creek 70.16 199 P **P** **15 09 23.9 -0.1**
WB2 Warramunga Arr 70.17 199 P **P** **15 09 24.7 +0.6**
WB2 IAmb IAmb 15 09 27.3
comp=Z,5.5nm,0.8s
WRA Warramunga Arr 70.17 199 P **P** **15 09 25.9 +1.8**
comp=Z,5.6nm,0.9s,baz=16,slow=6.7,SNR=25
WRA Warramunga Arr 70.17 199 P **P** **15 09 24.5 +0.4**
T25A Trinidad 70.29 56 P **P** **15 09 27.1 +2.1**
baz=317
AKASG Malin Array Be 70.34 326 P **P** **15 09 23.4 -1.4**
comp=Z,0.6nm,0.3s,baz=32,slow=5.6,SNR=3.6
ANMO Albuquerque 70.72 59 P **P** **15 09 29.6 +2.0**
baz=316
ANMO Albuquerque 70.72 59 eP **P** **15 09 29.2 +1.6**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
FITZ Fitzroy Crossi 70.74 208 P **P** **15 09 29.0 +1.5**
comp=Z,4.7nm,0.7s,baz=29,slow=4.1,SNR=12
FITZ Fitzroy Crossi 70.74 208 P **P** **15 09 28.8 +1.3**
SCHQ Schefferville 71.67 23 P **P** **15 09 32.3 -0.5**
comp=Z,4.4nm,0.8s,baz=302,slow=8.8,SNR=7.1
AMTX Amarillo 73.45 56 P **P** **15 09 45.3 +1.6**
baz=318
MNTX Cornudas Mount 73.69 61 P **P** **15 09 46.8 +1.8**
baz=318
ASAR Alice Springs 73.87 199 P **P** **15 09 48.2 +2.2**
comp=Z,2.0nm,0.8s,baz=12,slow=5.3,SNR=29
ASAR pP **pP** **15 10 27.8 +2.8**
comp=Z,0.9nm,0.7s,baz=10.0,slow=5.4,SNR=3.6
ASAR Alice Springs 73.87 199 P **P** **15 09 47.3 +1.3**
ASAR Alice Springs 73.87 199 P **P** **15 09 47.3 +1.3**
CLL Collm 75.08 336 eP **P** **15 09 52.0 -0.7**
WMOK Wichita Mounta 75.14 54 P **P** **15 09 54.5 +1.1**
baz=319
D55A Sainte-Anne-du 75.83 32 P **P** **15 09 56.9 -0.2**
baz=329
MLR Muntele Rosu 75.88 325 P **P** **15 09 57.5 0.0**

comp=Z,1.3nm,0.3s,baz=357,slow=17,SNR=1.9
D57A Chemin Vers le **76.39 31** P **P** **15 10 00.1 -0.1**
baz=330
TX31 Lajitas Ar. Si **76.42 61** P **P** **15 10 02.1 +1.2**
TX32 Lajitas Array **76.42 61** **P** **15 10 01.9 +1.0**
TX32 IAmb IAmb 15 10 03.3
comp=Z,6.5nm,1.1s
TXAR Lajitas Array **76.43 61** P **P** **15 10 02.4 +1.5**
comp=Z,1.5nm,0.4s,baz=297,slow=4.5,SNR=26
TXAR pP **pP** **15 10 41.7 +1.7**
comp=Z,0.5nm,0.7s,baz=319,slow=4.0,SNR=2.5
TXAR Lajitas Array **76.43 61** P **P** **15 10 01.8 +0.9**
TXAR Lajitas Array **76.43 61** P **P** **15 10 01.8 +0.9**
CCM Cathedral Cave **76.48 47** P **P** **15 10 01.6 +0.7**
baz=322
SFIN Lafayette **76.61 43** P **P** **15 10 01.8 +0.2**
baz=324
H53A Bobcaygeon **76.75 35** P **P** **15 10 02.4 +0.1**
baz=328
KHC Kasperske Hory **76.88 334**⇓ *e*P **P** **15 10 02.7 -0.3**
KHC pmax pmax
comp=Z,24nm,2.5s
U40A Yellville **77.01 49** P **P** **15 10 04.4 +0.5**
baz=322
GERES GERESS Array B **77.10 334** P **P** **15 10 03.6 -0.7**
comp=Z,0.5nm,0.4s,baz=32,slow=5.3,SNR=7.7
E58A La Victoria **77.16 31** P **P** **15 10 04.6 +0.1**
baz=331
BRTR Keskin Array B **77.39 317** P **P** **15 10 06.3 +0.2**
comp=Z,0.7nm,0.7s,baz=332,slow=4.2,SNR=4.0
BRTR Keskin Array B **77.39 317** *i* P **P** **15 10 07.0 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
W39A Magazine **77.44 51** P **P** **15 10 07.0 +0.7**
baz=322
MIAR Mount Ida **78.05 51** P **P** **15 10 10.3 +0.6**
baz=322
W41B Gary Mavity, V **78.24 50** P **P** **15 10 10.9 +0.2**
baz=322
X40A Basin Creek Fa **78.48 51** P **P** **15 10 13.3 +1.2**
baz=322
O51A Pataskala **78.79 40** P **P** **15 10 14.5 +0.8**
baz=326
N55A Marion Center **79.78 38** P **P** **15 10 19.4 +0.3**
baz=328
P54A Burton **80.15 39** P **P** **15 10 22.1 +1.0**
baz=328
Q53A Leroy **80.33 40** P **P** **15 10 23.1 +1.1**
baz=327
N57A Milroy **80.39 37** P **P** **15 10 22.8 +0.5**
baz=329
P55A Reedsville **80.51 39** P **P** **15 10 23.7 +0.7**
baz=328
Q55A Buckhannon **80.83 39** P **P** **15 10 25.1 +0.4**
baz=328
P56A Dayton Farm, R **80.92 38** P **P** **15 10 26.1 +1.0**
baz=328
K63A Dunstable **80.98 32** P **P** **15 10 25.9 +0.6**
baz=332
TZTN Tazewell **81.34 43** P **P** **15 10 27.7 +0.3**
baz=326
T54A Tazewell **81.80 42** P **P** **15 10 30.5 +0.6**
baz=327
MMAI Mount Meron Ar **81.94 312** P **P** **15 10 30.5 -0.2**
comp=Z,0.9nm,0.4s,baz=49,slow=6.7,SNR=4.9
U55A TA2, Sparta **82.50 41** P **P** **15 10 34.4 +0.9**
baz=327
LRAL Lakeview Retre **82.57 48** P **P** **15 10 34.5 +0.7**
baz=325
V54A Nebo **82.70 43** P **P** **15 10 35.4 +0.9**
baz=327
V56A Mocksville **83.32 41** P **P** **15 10 38.3 +0.6**
baz=328
X54A Belton **83.53 43** P **P** **15 10 40.0 +1.2**
baz=327
U58A Oxford **83.67 40** P **P** **15 10 40.1 +0.7**
baz=329
V58A Windy Hill, Pi **83.94 41** P **P** **15 10 41.6 +0.8**
baz=328
Y55A Saluda **84.27 43** P **P** **15 10 43.7 +1.2**
baz=327
V59A Middlesex **84.34 40** P **P** **15 10 43.6 +0.8**
baz=329
EIL Elat **84.86 310** P **P** **15 10 45.2 -0.4**
comp=Z,2.2nm,0.6s,baz=69,slow=8.6,SNR=2.9
H03N2 Juan Fernandez **138.44 89** T T 17 51 29.4
baz=309,slow=77
H03N1 Juan Fernandez **138.45 89** T T 17 51 30.6
baz=309,slow=77
H03N3 Juan Fernandez **138.46 89** T T 17 51 35.8
baz=309,slow=77
PLCA Paso Flores **148.03 93** PKPbc **PKiKP** **15 17 55.9 -0.8**
comp=Z,5.0nm,1.0s,baz=269,slow=1.6,SNR=8.3

*BJI **03** 15:02:33.0±0.0,23˚.40S×176˚.60W,h11km,mB5.6/10, mb4.9/12,Ms5.3/2,Ms7 5.3/1*
*NEIC **03** 15:02:41.1±2.2,23˚.29S±0˚.08×176˚.6W±0˚.1,h57km±3km, mb4.9/49,Error ellipse: s-maj=16.2km s-min=8.9km az=125.0*
*BGR **03** 15:02:41.9±0.0,22˚.19S×175˚.94W,h33km*
*IDC **03** 15:02:42.1±2.6,23˚.37S×176˚.68W,h52km±22km,mb4.4/20, mb1 4.6/24,mb1mx4.4/42,mbtmp4.7/24,ML4.8/3,MS3.5/11, Ms1 3.5/11,ms1mx3.3/36,Error ellipse: s-maj=14.7km s-min=13.4km az=127.0*
ISC 03 15:02:44.6±0.3, 23˚.43S±0˚.05×176˚.58W±0˚.07, h86km, n201,σ1§69/184, mb4.8/38, 16C-8D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**5.92**	**191**	P		**Pn**	**15 04 09.6**	**-0.1**
	68nm,0.3s,baz=121,slow=19,SNR=2.2			S		**Sn**	**15 05 16.1**	**0.0**
	96nm,0.3s,baz=88,slow=22,SNR=2.2							
RAO	**Raoul Island**	**5.92**	**191**	Pn		**Pn**	**15 04 09.8**	**+0.1**
NIUE	**Niue**	**7.57**	**56**	P		Pn	15 04 22.2	-10
	baz=7.0,SNR=21			S		Sn	15 05 42.0	-14
NIUE	baz=7.0							
NIUE	**Niue**	**7.57**	**56**			**Pn**	**15 04 28.4**	**-3.9**
MSVF	**Nonsavu**	**7.58**	**317**			Pn	15 04 38.5	+6.1
AFI	**Afiamalu**	**10.51**	**26**	P		**Pn**	**15 05 08.7**	**-3.7**
	6.1nm,0.3s,baz=195,slow=7.0,SNR=16							
AFI				S		Sn	15 06 55.4	-13
	5.6nm,0.3s,baz=178,slow=22,SNR=1.8							
AFI	**Afiamalu**	**10.51**	**26**	Pn		Pn	15 05 07.2	-5.2
RAR	**Rarotonga**	**15.71**	**85**	P		**Pn**	**15 06 21.8**	**+0.8**
	1.4nm,0.3s,baz=265,slow=7.2,SNR=11							
RAR				S		Sn	15 08 58.2	-16
	2.1nm,0.3s,baz=68,slow=18,SNR=3.0							
RAR				LR		LR	15 13 17.2	
	comp=Z,52nm,18.1s,baz=254,slow=40							
RAR	**Rarotonga**	**15.71**	**85**			**Pn**	**15 06 20.2**	**-0.8**
RAR				IAmb		IAmb	15 06 26.7	
	comp=Z,71nm,1.1s							
DZM	**Mont Dzumac**	**15.72**	**272**	LR		LR	15 10 22.1	
	comp=Z,110nm,18.6s,baz=156,slow=29							
DZM	**Mont Dzumac**	**15.72**	**272**	*e*P		**P**	**15 06 27.4**	**+3.9**
	comp=Z,146nm,1.1s							
DZM				*e*LQ		LQ	15 09 37.0	
	comp=Z,222nm,23.6s							
DZM				*e*LR		LR	15 10 18.7	
	comp=Z,250nm,31.4s							
DZM	**Mont Dzumac**	**15.72**	**272**			**P**	**15 06 23.0**	**-0.5**
DZM				IAmb		IAmb	15 06 30.7	
	comp=Z,56nm,0.9s							
URZ	**Urewera**	**15.74**	**199**	P		**Pn**	**15 06 20.1**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=318,slow=18,SNR=3.5							
URZ				S		Sn	15 08 59.3	-16
	comp=Z,2.4nm,0.3s,baz=179,slow=23,SNR=10							
URZ	**Urewera**	**15.74**	**199**	Pn		**Pn**	**15 06 20.6**	**-0.5**
BKZ	**Black Stump Fm**	**16.76**	**199**	P		**Pn**	**15 06 31.3**	**-2.7**
SANVU	**Saraoutou**	**17.22**	**295**			**Pn**	**15 06 37.8**	**-1.9**
SANVU				IAmb		IAmb	15 06 48.3	
	comp=Z,98nm,0.9s							
BFZ	**Birch Farm**	**18.23**	**198**	P		**P**	**15 06 47.0**	**-4.0**
MSWZ	**Moikau Station**	**19.20**	**199**	P		**P**	**15 06 58.4**	**-3.1**
QRZ	**Quartz Range**	**19.61**	**205**	P		**P**	**15 07 04.1**	**-2.0**
QRZ				IAmb		IAmb	15 07 08.4	
	comp=Z,122nm,1.4s							
TUWZ	**Tuamarina**	**19.63**	**202**	P		**P**	**15 06 59.6**	**-6.5**
NNZ	**Nelson**	**19.63**	**203**	P		**P**	**15 07 02.7**	**-3.6**
NNZ				IAmb		IAmb	15 07 15.5	
	comp=Z,77nm,1.3s							
BSWZ	**Blackbirch Sta**	**19.90**	**201**	P		**P**	**15 07 06.7**	**-2.5**
THZ	**Tophouse**	**20.28**	**203**	P		**P**	**15 07 10.4**	**-3.0**
THZ				IAmb		IAmb	15 07 23.7	
	comp=Z,89nm,1.5s							
KHZ	**Kahutara**	**20.64**	**201**	P		**P**	**15 07 12.9**	**-4.2**
KHZ				IAmb		IAmb	15 07 21.5	
	comp=Z,38nm,1.0s							
KNTN	**Kanton**	**21.07**	**14**	P		**P**	**15 07 21.1**	**-0.8**
LTZ	**Lake Taylor**	**21.40**	**203**	P		**P**	**15 07 20.2**	**-5.2**
OXZ	**Oxford**	**21.96**	**203**	P		**P**	**15 07 26.7**	**-4.6**
OXZ				IAmb		IAmb	15 07 34.6	
	comp=Z,28nm,0.8s							
RPZ	**Rata Peaks**	**22.65**	**204**	P		**P**	**15 07 38.7**	**+0.1**
	comp=Z,27nm,1.0s,baz=228,slow=0.4,SNR=8.9							
RPZ				S		S	15 11 29.1	-11
	comp=Z,25nm,1.1s,baz=44,slow=14,SNR=2.7							
RPZ	**Rata Peaks**	**22.65**	**204**	P		**P**	**15 07 33.4**	**-5.3**
RPZ				IAmb		IAmb	15 07 43.4	
	comp=Z,57nm,1.4s							
FOZ	**Fox Glacier**	**22.98**	**206**	P		**P**	**15 07 38.5**	**-3.3**
LHI	**Lord Howe Isla**	**23.03**	**244**	P		**P**	**15 07 41.2**	**-1.3**
LHI				IAmb		IAmb	15 07 43.7	
	comp=Z,93nm,1.1s							
LBZ	**Lake Benmore**	**23.55**	**204**	P		**P**	**15 07 44.4**	**-2.9**
LBZ				IAmb		IAmb	15 07 47.5	
	comp=Z,40nm,1.2s							
ODZ	**Otahua Downs**	**23.95**	**203**	P		**P**	**15 07 47.0**	**-3.8**
WKZ	**Wanaka**	**24.37**	**205**	P		**P**	**15 07 51.2**	**-3.4**
WKZ				IAmb		IAmb	15 08 07.2	
	comp=Z,73nm,1.2s							
TBI	**Tubuai**	**24.88**	**95**	*e*LR		LR	15 13 57.4	
	comp=Z,171nm,34.5s							
TBI	**Tubuai**	**24.88**	**95**	*e*T		T	15 33 10.5	
	comp=Z,13nm,0.3s							
MLZ	**Mavora Lakes**	**25.18**	**206**	P		**P**	**15 07 57.9**	**-4.1**
MLZ				IAmb		IAmb	15 08 06.2	
	comp=Z,112nm,1.5s							
PAE	**Paea**	**25.91**	**82**	*e*T		T	15 33 53.7	
	comp=Z,5.8nm,0.2s							
PPT2	**Papeete2**	**25.93**	**82**	*e*LR		LR	15 14 35.0	
	comp=Z,315nm,29.5s							
PPT2	**Papeete2**	**25.93**	**82**	*e*T		T	15 34 10.8	
	comp=Z,4.9nm,0.3s							
PPT	**Papeete**	**25.94**	**82**	LR		LR	15 18 20.0	
	comp=Z,76nm,18.0s,baz=233,slow=36							
HNR	**Honiara**	**26.41**	**298**	LR		LR	15 17 50.2	
	comp=Z,70nm,20.0s,baz=145,slow=34							
MEH	**Mehetia**	**27.22**	**84**	*e*T		T	15 35 58.2	
	comp=Z,27nm,0.2s							
ARMA	**Armidale**	**29.12**	**249**	P		**P**	**15 08 40.4**	**+2.8**
	baz=30,SNR=3.9							
ARMA	**Armidale**	**29.12**	**249**	P		**P**	**15 08 37.1**	**-0.5**
EIDS	**Eidsvold**	**29.48**	**260**	P		**P**	**15 08 41.8**	**+1.1**
	baz=30,SNR=3.9							
EIDS	**Eidsvold**	**29.48**	**260**	P		**P**	**15 08 41.2**	**+0.6**
MGCD	**Mangrove Creek**	**29.96**	**244**	P		**P**	**15 08 47.2**	**+2.3**
	baz=31,SNR=8.8							
RMQ	**Roma**	**31.52**	**257**	P		**P**	**15 09 00.5**	**+1.8**
	baz=32,SNR=6.4							
CNB	**Canberra Magne**	**31.80**	**240**	P		**P**	**15 09 03.0**	**+1.8**
	baz=32,SNR=5.5							
CAN	**Canberra**	**32.09**	**240**	P		**P**	**15 09 04.9**	**+1.2**
	baz=33							
CAN	**Canberra**	**32.09**	**240**	P		**P**	**15 09 03.6**	**-0.1**
CAN				IAmb		IAmb	15 09 05.5	
	comp=Z,14nm,1.0s							
YNG	**Young**	**32.38**	**243**	P		**P**	**15 09 08.2**	**+2.0**
	baz=33,SNR=6.6							
CMSA	**Cobar Meteorol**	**34.30**	**248**	P		**P**	**15 09 23.0**	**+0.2**
	baz=35,SNR=39							
CTAO	**Charters Tower**	**34.62**	**268**	P		**P**	**15 09 26.6**	**+0.9**
TOO	**Toolangi**	**35.34**	**238**	P		**P**	**15 09 32.6**	**+0.8**
	baz=36,SNR=4.7							
TOO	**Toolangi**	**35.34**	**238**	P		**P**	**15 09 31.8**	**0.0**
TOO				IAmb		IAmb	15 09 33.8	
	comp=Z,7.9nm,0.8s							
QLP	**Quilpie**	**35.56**	**257**	P		**P**	**15 09 34.1**	**+0.4**
	baz=36,SNR=7.1							
TAU	**Tasmania Unive**	**35.56**	**228**	P		**P**	**15 09 33.1**	**-0.4**
MTSU	**Mount Surprise**	**36.86**	**271**	P		**P**	**15 09 44.8**	**-0.1**
	baz=38,SNR=7.3							
PMG	**Port Moresby**	**37.34**	**286**	P		**P**	**15 09 49.4**	**+0.4**
	comp=Z,82nm,0.9s,baz=86,slow=6.3,SNR=14							
PMG	**Port Moresby**	**37.34**	**286**	P		**P**	**15 09 49.1**	**0.0**
STKA	**Stephens Creek**	**37.80**	**248**	P		**P**	**15 09 52.7**	**-0.1**
	comp=Z,5.8nm,0.5s,baz=98,slow=11,SNR=21							
STKA				PcP		**PcP**	**15 12 09.4**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=21,slow=8.6,SNR=2.2							
STKA				LR		LR	15 23 01.8	
	comp=Z,87nm,18.9s,baz=35,slow=32							
STKA	**Stephens Creek**	**37.80**	**248**	P		**P**	**15 09 52.7**	**-0.1**
	baz=38,SNR=18							
STKA	**Stephens Creek**	**37.80**	**248**	P		**P**	**15 09 52.5**	**-0.3**
ARPS	**Mount Arapiles**	**38.06**	**240**	P		**P**	**15 09 56.2**	**+1.3**
	baz=39,SNR=7.5							
PATS	**Pohnpei**	**38.82**	**318**	P		**P**	**15 10 01.4**	**0.0**
COEN	**Coen**	**39.16**	**277**	P		**P**	**15 10 05.6**	**+1.3**
	baz=40,SNR=4.3							
COEN	**Coen**	**39.16**	**277**	P		**P**	**15 10 04.7**	**+0.4**
COEN				IAmb		IAmb	15 10 08.9	
	comp=Z,15nm,0.8s							
HTT	**Hallett**	**40.12**	**245**	P		**P**	**15 10 11.6**	**-0.5**
	baz=41,SNR=26							
JOHN	**Johnston Islan**	**40.51**	**10**	P		**P**	**15 10 11.3**	**-4.0**
QIS	**Mount Isa**	**40.61**	**265**	P		**P**	**15 10 18.6**	**+2.3**
	baz=41,SNR=3.4							
BBOO	**Buckleboo**	**42.51**	**246**	P		**P**	**15 10 30.4**	**-1.3**
	baz=43,SNR=9.2							
BBOO	**Buckleboo**	**42.51**	**246**	P		**P**	**15 10 29.9**	**-1.7**
BBOO				IAmb		IAmb	15 10 34.3	
	comp=Z,25nm,1.3s							
AS31	**Alice Springs**	**45.20**	**259**	P		**P**	**15 10 52.9**	**-0.5**
ASAR	**Alice Springs**	**45.20**	**259**	P		**P**	**15 10 52.7**	**-0.7**
	comp=Z,5.1nm,0.5s,baz=95,slow=7.4,SNR=57							
ASAR				PcP		**PcP**	**15 12 33.7**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=108,slow=4.0,SNR=5.7							
ASAR				LR		LR	15 27 59.4	
	comp=Z,71nm,18.1s,baz=124,slow=34							
ASAR	**Alice Springs**	**45.20**	**259**	P		**P**	**15 10 52.0**	**-1.4**
WR0	**Warramunga Arr**	**45.38**	**265**	P		**P**	**15 10 53.5**	**-1.3**
WR0				IAmb		IAmb	15 10 56.1	
	comp=Z,8.4nm,0.7s							
WB2	**Warramunga Arr**	**45.56**	**265**	P		**P**	**15 10 55.0**	**-1.2**
WB2				IAmb		IAmb	15 10 57.9	
	comp=Z,18nm,0.7s							
WB0	**Warramunga Arr**	**45.56**	**265**	P		**P**	**15 10 55.2**	**-1.0**
WB0				IAmb		IAmb	15 10 57.9	
	comp=Z,20nm,0.7s							
WRAB	**Tennant Creek**	**45.56**	**265**	P		**P**	**15 10 54.4**	**-1.8**
WRAB				IAmb		IAmb	15 10 57.8	
	comp=Z,15nm,0.7s							
WRA	**Warramunga Arr**	**45.57**	**265**	P		**P**	**15 10 55.3**	**-1.0**
	comp=Z,13nm,0.6s,baz=103,slow=8.2,SNR=95							
WRA				PcP		**PcP**	**15 12 34.9**	**+1.3**
	comp=Z,4.7nm,1.0s,baz=97,slow=3.3,SNR=5.8							
WRA	**Warramunga Arr**	**45.57**	**265**	P		**P**	**15 10 55.3**	**-1.0**
JAY	**Jayapura**	**46.25**	**290**	P		**P**	**15 11 01.9**	**+0.1**
	comp=Z,24nm,0.8s,baz=125,slow=3.9,SNR=6.8							
JAY	**Jayapura**	**46.25**	**290**	P		**P**	**15 11 01.3**	**-0.4**
	comp=Z,17nm,0.9s							
GENI	**Genyem**	**46.68**	**290**	P		**P**	**15 11 05.3**	**+0.3**
KDU	**Kakadu**	**49.38**	**273**	P		**P**	**15 11 25.3**	**-0.6**
	baz=50,SNR=11							
FORT	**Forrest**	**49.41**	**249**	P		**P**	**15 11 24.5**	**-1.4**
WRKA	**Warakurna**	**49.99**	**256**	P		**P**	**15 11 29.4**	**-1.1**
	baz=51,SNR=28							
MTN	**Manton Dam**	**50.55**	**272**	P		**P**	**15 11 34.1**	**-0.6**
	baz=51,SNR=8.2							
KNRA	**Kununurra**	**51.83**	**268**	P		**P**	**15 11 43.9**	**-0.4**
	baz=52,SNR=12							
KNRA	**Kununurra**	**51.83**	**268**	P		**P**	**15 11 43.8**	**-0.5**
KNRA				IAmb		IAmb	15 11 45.4	
	comp=Z,14nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.99**	**264**	P		**P**	**15 12 00.5**	**+0.3**
	comp=Z,8.2nm,0.6s,baz=125,slow=8.3,SNR=32							
FITZ	**Fitzroy Crossi**	**53.99**	**264**	P		**P**	**15 12 00.0**	**-0.2**
	baz=55,SNR=18							
FITZ	**Fitzroy Crossi**	**53.99**	**264**	P		**P**	**15 11 59.1**	**-1.1**
FITZ				IAmb		IAmb	15 12 01.2	
	comp=Z,7.8nm,0.7s							
VNDA	**Vanda**	**55.13**	**186**	P		**P**	**15 12 09.9**	**+2.3**
	comp=Z,1.3nm,0.8s,baz=316,slow=5.8,SNR=4.1							
SIJI	**Sorong**	**55.29**	**286**	P		**P**	**15 12 10.8**	**+1.2**
	comp=Z,60nm,0.7s,baz=83,slow=6.5,SNR=24							
SOEI	**Soe**	**57.94**	**273**	P		**P**	**15 12 28.5**	**-0.1**
KLBR	**Kellerberrin**	**58.05**	**246**	P		**P**	**15 12 27.7**	**-1.3**
	baz=59,SNR=9.2							
BATI	**Baumata**	**58.33**	**272**	P		**P**	**15 12 32.1**	**+0.9**
	comp=Z,37nm,0.6s,baz=153,slow=2.5,SNR=12							
BLDU	**Ballidu**	**59.11**	**247**	P		**P**	**15 12 35.0**	**-1.4**
	baz=60,SNR=8.1							
MUN	**Mundaring**	**59.29**	**246**	P		**P**	**15 12 37.0**	**-0.6**
	baz=60,SNR=3.4							
MORW	**Morawa**	**59.97**	**249**	P		**P**	**15 12 41.3**	**-1.0**
	baz=61,SNR=3.8							
MMRI	**Maumere**	**60.21**	**273**	P		**P**	**15 12 42.5**	**-1.6**
CASY	**Casey**	**61.90**	**206**	P		**P**	**15 12 54.1**	**-0.6**
QSPA	**South Pole Qui**	**66.65**	**180**	P		**P**	**15 13 27.7**	**+1.7**
	comp=Z,12nm,0.7s,baz=27,slow=1.3,SNR=94							
QSPA	**South Pole Qui**	**66.65**	**180**	P		**P**	**15 13 27.0**	**+1.0**
QSPA				IAmb		IAmb	15 13 28.6	
	comp=Z,14nm,0.8s							
MJAR	**Matsushiro Arr**	**73.34**	**323**	P		**P**	**15 14 07.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=164,slow=5.4,SNR=5.1							
KSM	**Kuching**	**75.13**	**278**	P		**P**	**15 14 18.1**	**+0.1**
KSM				IAmb		IAmb	15 14 21.1	
	comp=Z,8.9nm,0.8s							
BELA	**Belgrano 2**	**76.50**	**172**	P		**P**	**15 14 24.9**	**+0.1**
MAW	**Mawson**	**79.26**	**200**	P		**P**	**15 14 41.7**	**+1.6**
	comp=Z,7.6nm,0.6s,baz=132,slow=5.6,SNR=25							
MAW	**Mawson**	**79.26**	**200**	P		**P**	**15 14 40.6**	**+0.5**
	baz=79,SNR=14							
MAW	**Mawson**	**79.26**	**200**	P		**P**	**15 14 41.1**	**+0.9**
PETK	**Petropavlovsk-**	**79.43**	**345**	P		**P**	**15 14 42.1**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=117,slow=8.1,SNR=6.4							
PETK	**Petropavlovsk-**	**79.43**	**345**	P		**P**	**15 14 40.3**	**-0.8**
LPIG	**La Paz**	**79.79**	**58**	LR		LR	15 44 29.3	
	comp=Z,52nm,18.9s,baz=232,slow=31							
PFO	**Pinyon Flats O**	**80.56**	**47**	LR		LR	15 49 05.3	
	comp=Z,46nm,18.4s,baz=212,slow=34							
YBH	**Yreka Blue Hor**	**81.77**	**38**	LR		LR	15 44 10.8	
	comp=Z,56nm,18.1s,baz=264,slow=30							
USRK	**Ussuriysk Ar.**	**82.11**	**325**	P		**P**	**15 14 57.1**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=141,slow=3.5,SNR=6.1							
USRK	**Ussuriysk Ar.**	**82.11**	**325**	P		**P**	**15 14 54.8**	**-0.8**
NVAR	**Mina Array Bea**	**82.27**	**42**	P		**P**	**15 14 58.2**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=219,slow=8.4,SNR=8.9							
NJ2	**Nanjing**	**82.75**	**309**	*e*P		**P**	**15 15 01.2**	**+2.0**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
NJ2				LR		LR		
	comp=Z,940nm,19.2s							
NJ2				LR		LR		
	comp=Z,730nm,17.8s							
NJ2				LR		LR		
	comp=Z,1μm,20.8s							
H03S2	**Juan Fernandez**	**83.26**	**124**	T		T	16 46 55.7	
	baz=245,slow=74,SNR=179							
H03S1	**Juan Fernandez**	**83.28**	**124**	T		T	16 46 53.9	
	baz=245,slow=74,SNR=201							
H03S3	**Juan Fernandez**	**83.28**	**124**	T		T	16 46 50.8	
	baz=245,slow=74,SNR=247							
H03N2	**Juan Fernandez**	**83.42**	**123**	T		T	16 47 00.0	
	baz=250,slow=72,SNR=179							
H03N3	**Juan Fernandez**	**83.42**	**123**	T		T	16 47 01.2	
	baz=250,slow=72,SNR=351							
H03N1	**Juan Fernandez**	**83.43**	**123**	T		T	16 46 50.9	
	baz=250,slow=72,SNR=110							
SYO	**Syowa Base**	**84.17**	**192**⇓	*e*P		P	15 15 15.6	+10
SNAA	**Sanae**	**85.06**	**178**	P		**P**	**15 15 10.2**	**-0.3**
SNAA	**Sanae**	**85.06**	**178**	P		**P**	**15 15 11.0**	**+0.6**
VNA3	**Neumayer Olymp**	**85.14**	**176**	P		**P**	**15 15 10.9**	**0.0**
ELK	**Elko**	**85.55**	**42**	LR		LR	15 47 48.6	
	comp=Z,20nm,18.4s,baz=216,slow=32							
VNA2	**Neumayer--Watz**	**85.60**	**176**	P		**P**	**15 15 14.0**	**+0.9**
VNA1	**Neumayer--Stat**	**85.82**	**176**	P		**P**	**15 15 15.0**	**+0.9**
TXAR	**Lajitas Array**	**87.54**	**57**	P		**P**	**15 15 26.3**	**+2.9**
	comp=Z,1.0nm,0.9s,baz=205,slow=5.5,SNR=6.3							
NEW	**Newport**	**88.98**	**35**	LR		LR	15 46 15.2	
	comp=Z,31nm,21.1s,baz=278,slow=29							
PDAR	**Pinedale Array**	**90.20**	**43**	P		**P**	**15 15 37.6**	**+1.9**
	comp=Z,1.2nm,1.0s,baz=260,slow=4.4,SNR=5.4							
ILAR	**Eielson Array**	**90.88**	**12**	P		**P**	**15 15 38.9**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=219,slow=5.5,SNR=9.2							
ILAR	**Eielson Array**	**90.88**	**12**	P		**P**	**15 15 37.7**	**-0.3**
KMI	**Kunming**	**91.84**	**296**⇓	*e*P		**P**	**15 15 44.6**	**+0.9**
KMI				pP		PcP	15 15 46.4	+1.9
KMI				pmax		pmax		
	comp=Z,14nm,0.5s							
KMI				pmax		pmax		
	comp=Z,180nm,5.2s							
CMAR	**Chiang Mai Arr**	**92.32**	**289**	P		**P**	**15 15 47.5**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=134,slow=2.8,SNR=10							
HHC	**Hu-ho-hao-te**	**92.33**	**314**	*e*P		**P**	**15 15 46.1**	**+0.6**
HHC				pmax		pmax		
	comp=Z,31nm,1.3s							
HHC				pmax		pmax		
	comp=Z,210nm,7.3s							
HHC				LR		LR		
	comp=Z,290nm,17.9s							
HHC				LR		LR		
	comp=Z,280nm,17.5s							
ARCES	**ARCESS Array B**	**132.03**	**350**	PKP		**PKiKP**	**15 21 48.1**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=98,slow=1.8,SNR=2.6							
BCA	**Borcka**	**143.45**	**309**⇓	P		PKPbc	15 22 07.5	+0.8
KTUT	**Trabzon**	**144.92**	**309**⇑	P		**PKPdf**	**15 22 12.2**	**+0.4**
MARD	**Mardin**	**145.16**	**302**			**PKPdf**	**15 22 13.7**	**+1.2**
AKASG	**Malin Array Be**	**146.20**	**330**	PKPbc		**PKPab**	**15 22 15.3**	**-0.4**
	comp=Z,7.9nm,0.5s,baz=43,slow=4.4,SNR=22							
AKASG	**Malin Array Be**	**146.20**	**330**	PKPdf		**PKPab**	**15 22 15.7**	**0.0**
AKBB	**Malin Array Si**	**146.20**	**330**	PKPdf		**PKPab**	**15 22 15.3**	**-0.4**
SORM	**Soroca**	**148.38**	**327**⇑	P		**PKiKP**	**15 22 21.7**	**-0.8**
BSEG	**Bad Segeberg**	**149.10**	**352**	*e*PKPbc		**PKiKP**	**15 22 24.2**	**+0.4**
	baz=

WERN	**Wernitzgruen**	**152.29**	**348**	*e*PKPbc	**PKiKP**	**15**	**22**	**31.9**	**+1.3**
	baz=14,slow=2.4								
MANZ	**Manzenberg**	**152.63**	**348**	*e*PKPbc	**PKiKP**	**15**	**22**	**32.6**	**+1.3**
	baz=14,slow=2.4								
TNS	**Taunus Mts**	**152.97**	**353**	*e*PKPbc	**PKiKP**	**15**	**22**	**33.3**	**+1.3**
	baz=14,slow=2.4								
KHC	**Kasperske Hory**	**153.12**	**345**⇑	*e*PKP	**PKPbc**	**15**	**22**	**32.0**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**15**	**22**	**45.6**	**+1.6**
GEC2	**GERESS Array S**	**153.36**	**345**	*e*PKPbc	**PKiKP**	**15**	**22**	**34.3**	**+1.4**
	baz=14,slow=2.4								
GERES	**GERESS Array B**	**153.36**	**345**	PKPbc	**PKiKP**	**15**	**22**	**33.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=70,slow=4.4,SNR=6.5								
GERES				PKPab	**PKPab**	**15**	**22**	**46.4**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=23,slow=4.4,SNR=4.7								
BZS	**Buzias**	**153.39**	**331**	⇑P	**PKiKP**	**15**	**22**	**33.2**	**+0.2**
STU	**Stuttgart**	**154.30**	**351**	*e*PKPbc	**PKiKP**	**15**	**22**	**36.6**	**+1.8**
	baz=14,slow=2.4								
KOWA	**Kowa**	**168.67**	**140**	PKPab	**PKPab**	**15**	**23**	**53.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=255,slow=2.0,SNR=5.3								
TORD	**Torodi Ar. Bea**	**169.64**	**171**	PKP	**PKPdf**	**15**	**22**	**42.7**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=22,slow=0.2,SNR=4.2								
TORD				PKPab	**PKPab**	**15**	**23**	**57.7**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=192,slow=3.5,SNR=9.5								

BGR ***03*** *15:11:58.6± 0.0, 36.57N× 21.26E, h33km*
TIR ***03*** *15:12:02.2, 37.44N× 21.20E, h7km± 31km, Ml4.8*
BJI ***03*** *15:12:06.3± 0.0, 37.46N× 21.39E, h29km, mB5.1/18, mb4.7/30, Ms5.0/5, Ms7 4.7/5*
IDC ***03*** *15:12:08.9± 0.4, 38.00N× 21.87E, h0km, mb4.4/34, mb1 4.5/49, mb1mx4.4/62, mbtmp4.4/49, ML4.2/15, MS3.8/33, Ms1 3.8/33, ms1mx3.7/48, Error ellipse: s-maj=9.7km s-min=8.6km az=94.0*
ATH ***03*** *15:12:10.5, 37.95N× 21.77E, h30km, ML4.6/22, Error ellipse: s-maj=0.8km s-min=0.5km az=6.0*
PDG ***03*** *15:12:11.1± 0.7, 37.97N× 21.74E, h24km, ML4.5/14, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
THE ***03*** *15:12:11.7, 37.94N× 21.77E, h18km, ML4.7/18, Error ellipse: s-maj=0.9km s-min=0.5km az=29.0*
MED_RC ***03*** *15:12:11.0± 0.4, 37.92N× 21.79E, h35km± 1km, MW4.8/16, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s16,c25; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr-0.88±.22; Mθθ2.39±.13; Mϕϕ-1.51±.13; Mrθ-0.04±.11; Mθϕ-0.11±.10; Mϕr0.43±.12; Best double couple: M☉2.06000×10^16 NP1:ϕs230.00000°, δ71.00000°, λ-161.00000°. NP2:ϕs133.00000°, δ72.00000°, λ-20.00000°. Principal axes: T 2.3900, Plg1.0000°, Azm182.0000°; N -0.6700, Plg63.0000°, Azm273.0000°; P -1.7300, Plg27.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
MOS ***03*** *15:12:12.7± 1.1, 38.04N× 21.75E, h42km, mb5.0/30 Error ellipse: s-maj=4.3km s-min=2.5km az=82.7*
HLW ***03*** *15:12:13.2, 37.71N× 22.42E, h11km± 13km, Ml4.9*
GII ***03*** *15:12:16.9± 0.0, 37.20N× 22.26E, h2km, mb4.4/2, MD4.3/2*
ISC 03 15:12:11.8± 0.5, 37.94N± 0.02× 21.78E± 0.02, h23km± 3km, n505, σt1s76/595, mb4.7/77, MS3.9/27, 28C-35D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
RLS	**Riolos of Patr**	**0.28**	**296**	P		**Pb**		**15**	**12**	**17.7**	**-0.6**
RLS				S		**Sb**		**15**	**12**	**22.8**	**+0.1**
	234μm,0.5s										
RLS	**Riolos of Patr**	**0.28**	**296**	P		**Pb**		**15**	**12**	**17.8**	**-0.6**
RLS				S		**Sb**		**15**	**12**	**22.6**	**-0.1**
RLS				AML		AML		15	12	23.3	
RLS				AML		AML		15	12	23.4	
KLV	**Kalavryta, Ach**	**0.31**	**70**	P		**Pb**		**15**	**12**	**18.6**	**-0.2**
KLV				S		**Sb**		**15**	**12**	**24.2**	**+0.6**
	308μm,0.4s										
KLV	**Kalavryta, Ach**	**0.31**	**70**	P		**Pb**		**15**	**12**	**18.6**	**-0.2**
KLV				S		**Sb**		**15**	**12**	**24.2**	**+0.6**
KLV				AML		AML		15	12	24.9	
KLV				AML		AML		15	12	25.4	
ALIK	**Aliki, Aigiali**	**0.41**	**39**	P		**Pb**		**15**	**12**	**20.1**	**-0.4**
ALIK				S		**Sb**		**15**	**12**	**27.2**	**+0.9**
GUR	**Goura**	**0.44**	**90**	P		**Pb**		**15**	**12**	**20.4**	**-0.6**
GUR				S		**Sb**		**15**	**12**	**27.9**	**+0.6**
	436μm,0.5s										
GUR	**Goura**	**0.44**	**90**	P		**Pb**		**15**	**12**	**20.5**	**-0.6**
GUR				S		**Sb**		**15**	**12**	**27.9**	**+0.6**
GUR				AML		AML		15	12	29.0	
GUR				AML		AML		15	12	29.2	
VTN	**Vitineika**	**0.47**	**268**	P		**Pb**		**15**	**12**	**21.1**	**-0.4**
VTN	**Vitineika**	**0.47**	**268**	P		**Pb**		**15**	**12**	**21.1**	**-0.4**
TRIZ	**Trizonia**	**0.48**	**28**	P		**Pb**		**15**	**12**	**21.1**	**-0.6**
TRIZ				S		**Sb**		**15**	**12**	**28.8**	**+0.4**
	198μm,0.5s										
EFP	**Efpalio**	**0.50**	**11**	P		**Pb**		**15**	**12**	**21.2**	**-0.7**
EFP				S		**Sb**		**15**	**12**	**29.1**	**+0.3**
	49μm,0.4s										
EFP	**Efpalio**	**0.50**	**11**	P		**Pb**		**15**	**12**	**21.2**	**-0.7**
EFP				AML		AML		15	12	32.8	
	comp=N,77347μm,0.4s										
EFP				AML		AML		15	12	33.4	
SERG	**Sergoula**	**0.52**	**24**	P		**Pb**		**15**	**12**	**21.7**	**-0.6**
SERG				S		**Sb**		**15**	**12**	**30.5**	**+1.0**
	comp=N,203μm,0.4s										
SERG	**Sergoula**	**0.52**	**24**	P		**Pb**		**15**	**12**	**21.8**	**-0.6**
SERG				S		**Sb**		**15**	**12**	**29.1**	**-0.4**
SERG				AML		AML		15	12	31.2	
SERG				AML		AML		15	12	31.8	
TRIP	**Tripoli**	**0.56**	**137**	P		**Pb**		**15**	**12**	**22.6**	**-0.5**
TRIP				S		**Sn**		**15**	**12**	**31.2**	**-1.9**
	comp=N,114μm,0.8s										
ANX	**Ano Chora**	**0.66**	**9**	P		**Pb**		**15**	**12**	**23.8**	**-1.0**
ANX				S		**Sb**		**15**	**12**	**34.3**	**+0.7**
ANX	**Ano Chora**	**0.66**	**9**	P		**Pb**		**15**	**12**	**23.7**	**-1.0**
ANX				AML		AML		15	12	38.4	
	comp=N,90272μm,0.4s										
ANX				AML		AML		15	12	39.5	
	comp=E,96789μm,0.5s										
ZAK2	**Zakynthos**	**0.71**	**258**	P		**Pb**		**15**	**12**	**24.9**	**-0.7**
VLX	**Vlachokerasia**	**0.74**	**140**	P		**Pb**		**15**	**12**	**25.3**	**-0.7**
VLX				S		**Sn**		**15**	**12**	**36.6**	**-0.9**
	comp=E,142μm,0.5s										
VLX	**Vlachokerasia**	**0.74**	**140**	P		**Pb**		**15**	**12**	**25.5**	**-0.6**
VLX				S		**Sn**		**15**	**12**	**36.5**	**-0.9**
VLX				AML		AML		15	12	40.4	
VLX				AML		AML		15	12	41.2	
DSF	**Desfina**	**0.75**	**51**	P		**Pb**		**15**	**12**	**25.3**	**-1.0**
DSF				S		**Sn**		**15**	**12**	**37.2**	**-0.6**
	comp=E,44μm,0.5s										
DSF	**Desfina**	**0.75**	**51**	P		**Pb**		**15**	**12**	**25.4**	**-0.8**
DSF				S		**Sn**		**15**	**12**	**36.9**	**-0.9**
DSF				AML		AML		15	12	38.5	
DSF				AML		AML		15	12	39.3	
	comp=E,69582μm,0.5s										
ITM	**Ithomi**	**0.77**	**171**	P		**Pn**		**15**	**12**	**25.8**	**-1.4**
ITM				S		**Sn**		**15**	**12**	**38.3**	**+0.2**
	comp=E,36μm,0.5s										
ITM	**Ithomi**	**0.77**	**171**	P		**Pn**		**15**	**12**	**25.9**	**-1.3**
ITM				S		**Sn**		**15**	**12**	**37.2**	**-0.9**
ITM				AML		AML		15	12	40.7	
	comp=N,76466μm,0.8s										
ITM				AML		AML		15	12	41.0	
	comp=E,65986μm,0.3s										
DLFA	**Delphi**	**0.78**	**46**	P		**Pb**		**15**	**12**	**26.0**	**-0.6**
DLFA				S		**Sn**		**15**	**12**	**37.7**	**-0.8**
DLFA				AML		AML		15	12	38.8	
DLFA				AML		AML		15	12	39.8	
AST1	**Astakos**	**0.81**	**318**	P		**Pb**		**15**	**12**	**26.5**	**-0.7**
AST1				S		**Sn**		**15**	**12**	**38.0**	**-1.2**
VLMS	**Volimes, Zakyn**	**0.89**	**266**	P		**Pb**		**15**	**12**	**27.4**	**-1.1**
VLMS				S		**Sn**		**15**	**12**	**39.9**	**-1.3**
VLMS				AML		AML		15	12	47.6	
	comp=N,50289μm,0.6s										
VLMS				AML		AML		15	12	49.2	
	comp=E,54478μm,0.4s										
LTK	**Loutraki**	**0.94**	**84**	P		**Pn**		**15**	**12**	**29.0**	**-0.6**
LTK				S		**Sn**		**15**	**12**	**43.3**	**+1.0**
	comp=E,33μm,1.0s										
LTK	**Loutraki**	**0.94**	**84**	P		**Pn**		**15**	**12**	**29.2**	**-0.4**
LTK				S		**Sn**		**15**	**12**	**42.4**	**+0.1**
LTK				AML		AML		15	12	44.9	
	comp=E,58594μm,0.4s										
LTK				AML		AML		15	12	46.1	
	comp=N,54018μm,0.5s										
LOUT	**Loutraki**	**0.94**	**87**	P		**Pb**		**15**	**12**	**29.1**	**-0.3**
LOUT				S		**Sn**		**15**	**12**	**43.4**	**+1.0**
	comp=N,46μm,0.8s										
VLS	**Valsamata**	**0.97**	**285**	P		**Pn**		**15**	**12**	**28.1**	**-2.0**
VLS	**Valsamata**	**0.97**	**285**	P		**Pn**		**15**	**12**	**28.7**	**-1.4**
VLS				AML		AML		15	12	48.6	
	comp=E,15890μm,0.3s										
VLS				AML		AML		15	12	49.5	
	comp=N,24099μm,0.5s										
VLS	**Valsamata**	**0.97**	**285**	P		**Pn**		**15**	**12**	**28.3**	**-1.8**
EVR	**Evrytania**	**0.98**	**1**	P		**Pn**		**15**	**12**	**29.1**	**-1.1**
EVR				AML		AML		15	12	56.2	
	comp=E,39831μm,0.5s										
EVR				AML		AML		15	12	57.5	
	comp=N,37794μm,0.8s										
PYL	**PYLOS**	**1.04**	**182**	P		**Pb**		**15**	**12**	**30.0**	**-1.1**
PYL	**PYLOS**	**1.04**	**182**	P		**Pb**		**15**	**12**	**30.9**	**-0.3**
ARGA	**Argostoli. Kep**	**1.06**	**283**	P		**Pn**		**15**	**12**	**30.0**	**-1.2**
ARGA				AML		AML		15	12	53.5	
	comp=E,35575μm,0.5s										
ARGA				AML		AML		15	12	55.6	
	comp=N,41352μm,0.7s										
AXAR	**Agios Charalam**	**1.08**	**39**	P		**Pn**		**15**	**12**	**31.1**	**-0.4**
KEF5	**Kardakata, Kep**	**1.09**	**288**	P		**Pn**		**15**	**12**	**30.7**	**-1.0**
KEF5				S		**Sn**		**15**	**12**	**46.2**	**+0.1**
FSK	**Fiskardo**	**1.09**	**299**	P		**Pn**		**15**	**12**	**30.4**	**-1.3**
FSK				S		**Sn**		**15**	**12**	**47.2**	**+1.1**
	comp=N,17μm,0.4s										
FSK	**Fiskardo**	**1.09**	**299**	P		**Pb**		**15**	**12**	**31.0**	**-1.1**
FSK				AML		AML		15	12	49.5	
	comp=N,25321μm,0.2s										
FSK				AML		AML		15	12	50.0	
	comp=E,37889μm,0.3s										
EPID	**Epidavros**	**1.11**	**107**	P		**Pb**		**15**	**12**	**31.8**	**-0.4**
EPID				S		**Sb**		**15**	**12**	**47.2**	**+1.0**
	comp=E,28μm,0.3s										
MAKR	**Makrakomi, Fth**	**1.11**	**14**	P		**Pb**		**15**	**12**	**31.7**	**-0.6**
MAKR				S		**Sb**		**15**	**12**	**46.9**	**+0.6**
	comp=E,19μm,1.8s										
EVGI	**Lefkada island**	**1.12**	**308**	P		**Pn**		**15**	**12**	**31.2**	**-0.9**
EVGI	**Lefkada island**	**1.12**	**308**	P		**Pn**		**15**	**12**	**31.1**	**-0.9**
KEF4	**Livadi, Kephal**	**1.12**	**287**	P		**Pn**		**15**	**12**	**31.1**	**-1.0**
KEF4				S		**Sb**		**15**	**12**	**47.3**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.15**	**313**	P		**Pn**		**15**	**12**	**31.4**	**-1.1**
NYDR				S		**Sb**		**15**	**12**	**48.5**	**+1.0**
	comp=E,11μm,0.8s										
DMLN	**Damoulianata-K**	**1.15**	**286**	P		**Pn**		**15**	**12**	**31.4**	**-1.1**
KEF3	**Kipouria, Keph**	**1.16**	**284**	P		**Pb**		**15**	**12**	**32.0**	**-1.2**
LKR	**Lokris**	**1.19**	**53**	P		**Pb**		**15**	**12**	**33.5**	**-0.2**
LKR				S		**Sb**		**15**	**12**	**48.8**	**+0.1**
LKR				AML		AML		15	12	52.9	
	comp=E,74500μm,0.6s										
LKR				AML		AML		15	12	53.2	
	comp=N,42190μm,0.6s										
DRAG	**Dragano-Lefkad**	**1.21**	**308**	P		**Pn**		**15**	**12**	**32.5**	**-0.8**
KRND	**KRANIDI**	**1.22**	**117**	P		**Pb**		**15**	**12**	**34.2**	**+0.1**
KRND	**KRANIDI**	**1.22**	**117**	P		**Pb**		**15**	**12**	**33.5**	**-0.6**
KRND				AML		AML		15	12	53.4	
	comp=N,62672μm,0.7s										
KRND				AML		AML		15	13	00.4	
	comp=E,55254μm,0.5s										
LKD2	**Lefkada island**	**1.23**	**314**	P		**Pn**		**15**	**12**	**33.0**	**-0.6**
LKD2				S		**Sb**		**15**	**12**	**51.3**	**+1.6**
	comp=E,15μm,0.9s										
LKD2	**Lefkada island**	**1.23**	**314**	P		**Pn**		**15**	**12**	**33.0**	**-0.6**
LKD2				AML		AML		15	12	56.4	
	comp=N,34123μm,0.7s										
LKD2				AML		AML		15	12	59.1	
	comp=E,27977μm,0.4s										
TSLK	**Tsoukalades, L**	**1.25**	**315**	P		**Pb**		**15**	**12**	**33.9**	**-0.9**
DSL	**Palaion Diasel**	**1.31**	**336**	P		**Pb**		**15**	**12**	**34.6**	**-1.1**
VLI	**Veliai**	**1.53**	**143**	P		**Pb**		**15**	**12**	**38.1**	**-1.3**
ATH	**Athens Observa**	**1.53**	**88**	P		**Pn**		**15**	**12**	**37.6**	**-0.1**
ATH				S		**Sb**		**15**	**12**	**57.2**	**-1.1**
	comp=E,26μm,0.8s										
ATH	**Athens Observa**	**1.53**	**88**	P		**Pn**		**15**	**12**	**37.8**	**+0.1**
ATH				AML		AML		15	13	02.9	
	comp=E,66322μm,0.7s										
ATH				AML		AML		15	13	03.2	
	comp=N,33227μm,0.7s										
ATH	**Athens Observa**	**1.53**	**88**	P		**Pn**		**15**	**12**	**37.6**	**-0.1**
VLY	**Voula,Athens**	**1.59**	**92**	P		**Pn**		**15**	**12**	**38.6**	**0.0**
MNVA	**Monemvasia**	**1.60**	**141**	P		**Pb**		**15**	**12**	**39.2**	**-1.4**
THL	**Klokotos Trika**	**1.63**	**6**	P		**Pb**		**15**	**12**	**40.7**	**-0.5**
THL	**Klokotos Trika**	**1.63**	**6**	P		**Pn**		**15**	**12**	**39.5**	**+0.4**
PTL	**Penteli**	**1.65**	**86**	P		**Pn**		**15**	**12**	**39.4**	**0.0**
PTL				AML		AML		15	13	06.1	
	comp=N,32963μm,0.5s										
PTL				AML		AML		15	13	08.8	
	comp=E,33342μm,0.5s										
VOL2	**Volos**	**1.69**	**32**	P		**Pb**		**15**	**12**	**41.6**	**-0.6**
VOL3	**Nea Ionia, Vol**	**1.69**	**32**	P		**Pn**		**15**	**12**	**38.9**	**-1.1**
DION	**Dionisos Attik**	**1.70**	**85**	P		**Pn**		**15**	**12**	**40.3**	**+0.2**
DION				AML		AML		15	13	08.0	
	comp=E,66201μm,0.4s										
DION				AML		AML		15	13	10.4	
	comp=N,63474μm,0.7s										
NEO	**Neokhori**	**1.77**	**39**	P		**Pn**		**15**	**12**	**41.0**	**0.0**
XOR	**Xorichti**	**1.80**	**37**	P		**Pn**		**15**	**12**	**41.5**	**0.0**
KYMI	**Kymi, Euboea I**	**1.95**	**68**	P		**Pn**		**15**	**12**	**43.6**	**+0.1**
IGT	**Igoumenitsa**	**1.96**	**325**	P		**Pb**		**15**	**12**	**44.8**	**-1.9**
ALNA	**Alonissos**	**2.03**	**53**	P		**Pn**		**15**	**12**	**45.1**	**+0.5**
KASA	**Kassiopi**	**2.31**	**322**	P		**Pn**		**15**	**12**	**49.0**	**+0.5**
KEK	**Kerkira**	**2.35**	**319**	P		**Pn**		**15**	**12**	**48.8**	**-0.3**
SKY	**Skiros Island**	**2.37**	**66**	P		**Pn**		**15**	**12**	**50.1**	**+0.9**
SRN	**Sarande**	**2.39**	**325**	P		**Pn**		**15**	**12**	**50.6**	**+1.2**
	baz=340										
SRN				S		**Sb**		**15**	**13**	**24.6**	**+1.6**
	baz=340										
SRN				AMP							
	comp=E,5.7nm,0.9s,baz=340										
LSK	**Leskovik**	**2.39**	**338**	P		**Pb**		**15**	**12**	**52.0**	**-2.2**
	baz=351										
LSK				S		**Sb**		**15**	**13**	**27.1**	**+3.8**
	baz=351										
ANKY	**Antikythira Is**	**2.40**	**149**	P		**Pn**		**15**	**12**	**50.6**	**+0.9**
PAIG	**Paliouri**	**2.48**	**36**	P		**Pn**		**15**	**12**	**50.9**	**+0.2**
PLG	**Polygyros**	**2.75**	**27**	P		**Pn**		**15**	**12**	**54.2**	**-0.4**
THE	**Thessaloniki**	**2.84**	**18**	P		**Pn**		**15**	**12**	**55.0**	**-0.7**
THE	**Thessaloniki**	**2.84**	**18**	P		**Pn**		**15**	**12**	**55.0**	**-0.7**
THE	**Thessaloniki**	**2.84**	**18**	P		**Pb**		**15**	**13**	**00.5**	**-1.3**
	baz=22										
THE				S		Sb		15	13	45.2	+9.1
	baz=22										
OUR	**Ouranopolis**	**2.94**	**35**	P		**Pn**		**15**	**12**	**59.3**	**+2.2**
EFSA	**Agios Efstrati**	**2.97**	**56**	P		**Pn**		**15**	**12**	**58.1**	**+0.5**
GRG	**Griva**	**3.05**	**9**	P		**Pn**		**15**	**12**	**59.9**	**+1.2**
APE	**Apeiranthos**	**3.10**	**105**	P		**Pn**		**15**	**12**	**59.7**	**+0.3**
APE	**Apeiranthos**	**3.10**	**105**	⇓P		**Pn**		**15**	**12**	**59.8**	**+0.3**
APE	**Apeiranthos**	**3.10**	**105**	⇑S		**Sb**		**15**	**13**	**39.6**	**-4.1**
APE	**Apeiranthos**	**3.10**	**105**	*d*iP		**Pn**		**15**	**12**	**59.6**	**+0.2**
SOH	**Sokhos**	**3.13**	**22**	P		**Pn**		**15**	**13**	**00.5**	**+0.8**
VAM	**Vamos**	**3.19**	**142**	P		**Pn**		**15**	**13**	**02.5**	**+2.0**
OHR	**Ohrid**	**3.26**	**347**	*i* Pn		**Pn**		**15**	**13**	**03.6**	**+2.1**
OHR				*e*Sn		**Sb**		**15**	**13**	**46.2**	**-2.0**
OHR	**Ohrid**	**3.26**	**347**	P		**Pn**		**15**	**13**	**03.4**	**+1.8**
SANT	**Santorini**	**3.33**	**117**	⇑P		**Pn**		**15**	**13**	**03.5**	**+1.1**
KNT	**Kendrikon**	**3.33**	**15**	P		**Pn**		**15**	**13**	**04.1**	**+1.6**
VAY	**Valandovo**	**3.43**	**10**	*e*Pn		**Pn**		**15**	**13**	**05.9**	**+2.0**
VAY				*e*Sn		**Sn**		**15**	**13**	**46.6**	**+2.7**
VAY	**Valandovo**	**3.43**	**10**	P		**Pn**		**15**	**13**	**05.4**	**+1.5**
SRS	**Serrai**	**3.47**	**23**	P		**Pn**		**15**	**13**	**04.7**	**+0.3**
IDI	**Anoyia**	**3.64**	**136**	Pn		**Pn**		**15**	**13**	**07.2**	**+0.4**
	comp=E,20nm,0.3s,baz=316,slow=17,SNR=64										
IDI				Sn		**Sn**		**15**	**13**	**50.3**	**+1.2**
	comp=E,67nm,0.3s,baz=47,slow=18,SNR=6.6										
IDI	**Anoyia**	**3.64**	**136**	⇓P		**Pn**		**15**	**13**	**07.2**	**+0.4**
IDI	**Anoyia**	**3.64**	**136**	⇓S		**Sn**		**15**	**13**	**50.8**	**+1.8**
TIR	**Tirane**	**3.71**	**337**	P		**Pn**		**15**	**13**	**08.5**	**+0.8**
TIR	**Tirane**	**3.71**	**337**	P		**Pn**		**15**	**13**	**08.9**	**+1.1**
	baz=346										
TIR				S		**Sb**		**15**	**14**	**01.2**	**0.0**
	baz=346										
TIR				AMP							
	comp=E,3.1nm,1.1s,baz=346										
PRK	**Paraskevi**	**3.75**	**68**	P		**Pn**		**15**	**13**	**11.1**	**+2.9**
STIP	**Stip**	**3.76**	**5**	*i* Pn		**Pn**		**15**	**13**	**11.0**	**+2.6**
PHP	**Peshkopia**	**3.88**	**345**	P		**Pn**		**15**	**13**	**12.7**	**+2.6**
	baz=353										
PHP				S		**Sb**		**15**	**14**	**06.4**	**+0.3**
	baz=353										
PHP				AMP							
	comp=N,4.8nm,0.9s,baz=353										
MMB	**Musomiste**	**3.94**	**22**	P		**Pn**		**15**	**13**	**11.8**	**+0.9**
MMB	**Musomiste**	**3.94**	**22**	*i* P		**Pn**		**15**	**13**	**11.1**	**+0.2**
EZN	**Ezine**	**4.01**	**61**	P		**Pn**		**15**	**13**	**12.1**	**+0.3**
SKO	**Skopje**	**4.04**	**356**	*i* Pn		**Pn**		**15**	**13**	**13.7**	**+1.5**
SKO	**Skopje**	**4.04**	**356**	P		**Pn**		**15**	**13**	**12.9**	**+0.7**
KKB	**Krupnik**	**4.05**	**14**	P		**Pn**		**15**	**13**	**13.4**	**+1.0**
KKB	**Krupnik**	**4.05**	**14**	*i* P		**Pn**		**15**	**13**	**13.7**	**+1.3**
TIP	**Timpagrande**	**4.13**	**289**	⇓P		**Pn**		**15**	**13**	**13.5**	**-0.1**
TIP	**Timpagrande**	**4.13**	**289**	⇓S		**Sn**		**15**	**14**	**03.1**	**+1.9**
CGL1	**Ceglie Messapi**	**4.30**	**310**	*i* Pn		**Pn**		**15**	**13**	**15.9**	**0.0**
TAR1	**Taranto**	**4.34**	**308**	⇓P		**Pn**		**15**	**13**	**16.7**	**+0.3**
PUK	**Puka**	**4.35**	**341**	P		**Pn**		**15**	**13**	**17.8**	**+1.3**
	baz=349										
PUK				S		**Sb**		**15**	**14**	**17.1**	**-2.4**
	baz=349										
PUK				AMP							
	comp=E,2.1nm,1.1s,baz=349										
RZN	**Rozhen**	**4.37**	**30**	P		**Pn**		**15**	**13**	**18.5**	**+1.5**
RZN	**Rozhen**	**4.37**	**30**	*i* P		**Pn**		**15**	**13**	**17.5**	**+0.5**
ALN	**Alexandroupoli**	**4.43**	**47**	P		**Pn**		**15**	**13**	**18.0**	**+0.4**
ULC	**Ulcinj**	**4.47**	**335**	P		**Pn**		**15**	**13**	**18.3**	**+0.2**
ULC	**Ulcinj**	**4.47**	**335**	*e*Pn		**Pn**		**15**	**13**	**18.1**	**0.0**
ULC				*i* Sn		**Sn**		**15**	**14**	**06.2**	**-3.2**
BCI	**Bajram Curri**	**4.61**	**344**	P		**Pn**		**15**	**13**	**22.0**	**+1.9**
	baz=351										
BCI				S		**Sb**		**15**	**14**	**25.7**	**-1.5**
	baz=351										
KDZ	**Kurdzhali**	**4.64**	**36**	P		**Pn**		**15**	**13**	**20.9**	**+0.4**
KDZ	**Kurdzhali**	**4.64**	**36**	*i* P		**Pn**		**15**	**13**	**21.5**	**+1.0**
DRME	**Dracevica, Mon**	**4.69**	**336**	*i* Pn		**Pn**		**15**	**13**	**21.3**	**+0.2**
DRME				*i* Sn		**Sn**		**15**	**14**	**11.5**	**-3.3**
DRME	**Dracevica, Mon**	**4.69**	**336**	*e*Pn		**Pn**		**15**	**13**	**21.0**	**-0.1**
PLD	**Plovdiv**	**4.73**	**27**	P		**Pn**		**15**	**13**	**24.4**	**+2.8**
MATE	**Matera**	**4.78**	**306**	⇑P		**Pn**		**15**	**13**	**22.5**	**+0.1**
VTS	**Vitosha**	**4.80**	**13**	P		**Pn**		**15**	**13**	**24.2**	**+1.3**
VTS	**Vitosha**	**4.80**	**13**	*i* P		**Pn**		**15**	**13**	**24.4**	**+1.5**
PVY	**Plav**	**4.86**	**344**	⇑*i* Pn		**Pn**		**15**	**13**	**23.8**	**+0.2**
PVY				*i* Sn		**Sn**		**15**	**14**	**15.4**	**-3.7**
PDG	**Podgorica**	**4.89**	**337**	⇓P		**Pn**		**15**	**13**	**24.1**	**+0.2**
PDG	**Podgorica**	**4.89**	**337**	*e*Pn		**Pn**		**15**	**13**	**24.0**	**+0.2**
TTG	**Podgorica**	**4.89**	**337**	⇑*i* Pn		**Pn**		**15**	**13**	**24.2**	**+0.4**
TTG				*i* Sn		**Sn**		**15**	**14**	**16.2**	**-3.5**
BUM	**Brajici-Budva**	**4.89**	**334**	⇑*i* Pn		**Pn**	

comp=Z,227nm,19.5s,baz=346,slow=39
ARSA Arzberg 10.38 336 *e*Pn **Pn** **15 14 37.3 -2.0**
comp=Z,8.8nm,0.6s
ARSA *e*Sn **Sn** **15 16 31.9 -2.9**
comp=Z,5.7nm,0.7s
MYKA Terra Mystica 10.57 328 *i* Pn **Pn** **15 14 41.4 -0.5**
comp=Z,3.4nm,0.4s,SNR=4.6
MYKA *e*Sn **Sn** **15 16 37.4 -2.1**
comp=Z,8.1nm,0.5s
UZH Uzhgorod 10.70 2 *e*P Pn 15 14 50.2 +6.7
VYHS Vyhne 10.77 349 *e*P **Pn** **15 14 43.2 -1.3**
VYHS Vyhne 10.77 349 *e*PN **Pn** **15 14 43.2 -1.3**
CONA Conrad Observa 10.88 338 *e*Pn **Pn** **15 14 46.2 0.0**
comp=Z,1.6nm,0.4s
CONA *e*Sn **Sn** **15 16 44.8 -2.4**
comp=Z,5.7nm,0.9s
MODS Modra-Piesok 10.93 344 *e*P **Pn** **15 14 46.0 -0.8**
MODS *e* 15 16 43.4
MODS Modra-Piesok 10.93 344 *e*PN **Pn** **15 14 46.0 -0.8**
MODS *e*SN **Sn** **15 16 43.4 -5.0**
CRVS Cervenica-Dubn 10.96 359 *e*P **Pn** **15 14 47.6 +0.4**
CRVS Cervenica-Dubn 10.96 359 *e*PN **Pn** **15 14 47.6 +0.4**
KOLS Kolonicke sedl 11.00 2 *e*P **Pn** **15 14 48.0 +0.4**
KOLS Kolonicke sedl 11.00 2 *e*PN **Pn** **15 14 48.0 +0.4**
HMYD Mayadein 11.04 135 P **Pn** **15 14 46.0 -2.4**
baz=136
KBA Koelnbreinsper 11.05 328 *i* Pn **Pn** **15 14 46.8 -1.7**
comp=Z,2.2nm,0.3s
KBA *e*Sn **Sn** **15 16 50.6 -0.8**
comp=Z,15nm,0.7s
KBA Koelnbreinsper 11.05 328 P **Pn** **15 14 48.3 -0.2**
KBA pmax pmax
comp=Z,25nm,1.0s
CTI Castel Tesino 11.06 320 P **Pn** **15 14 46.1 -2.5**
ABTA Abfaltersbach 11.15 325 *e*Pn **Pn** **15 14 48.7 -1.2**
comp=Z,5.8nm,0.4s,SNR=4.0
ABTA *e*Sn **Sn** **15 16 48.2 -5.6**
comp=Z,40nm,0.8s
JAVC Velka Javorina 11.32 346 *e*PN **Pn** **15 14 50.3 -1.8**
MOA Molln 11.33 333 *e*Pn **Pn** **15 14 51.6 -0.6**
comp=Z,5.8nm,0.3s,SNR=16
MOA *i* Sn **Sn** **15 16 55.3 -2.8**
comp=Z,7.7nm,0.5s
KOT Kottamia 11.54 131 S Sn 15 16 53.8 -10
baz=132
KOT AMP 15 17 00.0
baz=132
HSAF As Saff 11.61 133 P **Pn** **15 14 54.4 -1.8**
baz=134
HHAG Hagoal 11.69 130 P **Pn** **15 14 54.4 -2.8**
baz=131
HHAG S Sn 15 16 53.0 -14
baz=131
HHAG AMP 15 17 00.0
baz=131
GLL Jalalah 11.73 132 P **Pn** **15 14 55.6 -2.1**
baz=133
KRUC Moravsky 11.78 342 *e*PN **Pn** **15 14 57.0 -1.4**
KRUC Moravsky 11.78 342 P **Pn** **15 14 57.4 -1.0**
KRUC pmax pmax
comp=Z,8.0nm,1.6s
WTTA Wattenberg 11.94 325 *e*Pn **Pn** **15 15 00.2 -0.5**
comp=Z,5.6nm,0.3s,SNR=5.2
WTTA *e*Sn **Sn** **15 17 08.6 -4.5**
comp=Z,29nm,0.6s
WTTA Wattenberg 11.94 325 P **Pn** **15 15 00.2 -0.5**
WTTA pmax pmax
comp=Z,25nm,0.8s
VRAC Vranov 11.97 343 Pn **Pn** **15 14 59.8 -1.1**
comp=Z,0.4nm,0.3s,baz=170,slow=15,SNR=3.5
VRAC LR LR 15 21 06.6
comp=Z,655nm,18.4s,baz=162,slow=45
VRAC Vranov 11.97 343 *e*PN **Pn** **15 14 57.6 -3.3**
VRAC Vranov 11.97 343 P **Pn** **15 15 00.1 -0.8**
VRAC pmax pmax
comp=Z,13nm,1.7s
LVV L'vov 11.99 7 *e*P Pn 15 15 06.5 +5.3
LVV *e*S **Sn** **15 17 19.6 +5.5**
LVV pmax pmax
comp=Z,120nm,1.4s
WATA Walderalm 12.02 325 *e*Pn **Pn** **15 15 01.6 -0.1**
comp=Z,7.8nm,0.4s,SNR=5.5
WATA *e*Sn **Sn** **15 17 09.2 -5.8**
comp=Z,22nm,0.7s
RSH 12.06 122 P **Pn** **15 14 59.5 -2.7**
baz=122
HFRF Wahat Farafira 12.08 151 P **Pn** **15 15 00.9 -1.7**
baz=153
SQTA Sankt Quirin 12.10 323 *i* Pn **Pn** **15 15 02.5 -0.4**
comp=Z,7.2nm,0.3s
SQTA *e*Sn **Sn** **15 17 12.3 -4.8**
comp=Z,20nm,0.7s
MMA0 Mount Meron ar 12.14 110 Pn **Pn** **15 15 03.4 0.0**
MMA0 Sn **Sn** **15 17 13.6 -4.4**
MMA0B Mount Meron ar 12.14 110 Pn **Pn** **15 15 03.4 0.0**
MMAI Mount Meron Ar 12.14 110 Pn **Pn** **15 15 02.2 -1.2**
comp=Z,5.2nm,0.3s,baz=298,slow=11,SNR=20
MMAI Sn **Sn** **15 17 12.8 -5.2**
comp=Z,4.6nm,0.3s,baz=311,slow=26,SNR=7.1
MMAI LR LR 15 20 58.1
comp=Z,147nm,19.1s,baz=315,slow=44
FETA Feichten 12.19 322 *e*Pn **Pn** **15 15 05.3 +1.1**
comp=Z,5.3nm,0.7s
FETA Sn **Sn** **15 17 15.3 -4.1**
comp=Z,17nm,0.7s
MORC Moravsky Berou 12.22 347 *e*PN **Pn** **15 15 03.4 -1.0**
MORC Moravsky Berou 12.22 347 P **Pn** **15 15 03.3 -1.1**
TREC Trest 12.23 340 AMS AMS 15 20 20.0
comp=Z,1μm,19.1s
GEM Giv'at Ha'Em 12.24 108 Pn **Pn** **15 15 04.1 -0.6**
MOTA Moosalm 12.24 324 Pn **Pn** **15 15 04.9 0.0**
comp=Z,15nm,0.7s,SNR=6.0
MOTA *e*Sn **Sn** **15 17 16.2 -4.4**
comp=Z,20nm,0.7s
SLTI Sal'it 12.25 114 Pn **Pn** **15 15 04.3 -0.6**
NATI Neve Ativ 12.27 108 Pn **Pn** **15 15 04.7 -0.4**
GERES GERESS Array B 12.38 334 Pn **Pn** **15 15 06.0 -0.6**
comp=Z,1.5nm,0.3s,baz=159,slow=14,SNR=34
GERES Sn **Sn** **15 17 18.1 -5.7**
comp=Z,0.6nm,0.3s,baz=148,slow=22,SNR=5.1
GERES PcP **PcP** **15 20 49.3 +2.6**
comp=Z,0.1nm,0.3s,baz=140,slow=3.2,SNR=1.9
GERES LR LR 15 20 54.6
comp=Z,821nm,19.3s,baz=153,slow=43
DAVOX Davos/Dischmat 12.46 319 Pn **Pn** **15 15 08.8 +0.9**
comp=Z,1.1nm,0.3s,baz=84,slow=9.5,SNR=5.7
AMAZ Amatzia 12.54 117 Pn **Pn** **15 15 08.1 -0.8**
KZIT Kziot 12.55 120 Pn **Pn** **15 15 07.4 -1.5**
HMDT Nahal Hemdat 12.60 113 Pn **Pn** **15 15 09.3 -0.3**
KRLC Kraliky 12.65 345 *e*P **Pn** **15 15 10.3 0.0**
KRLC Kraliky 12.65 345 *e*P **Pn** **15 15 10.3 0.0**
KHC Kasperske Hory 12.66 335 *e*P **Pn** **15 15 10.9 +0.5**
KHC *ex* x 15 15 21.5
KHC *ex* x 15 17 23.5
KHC Kasperske Hory 12.66 335‖ *e*P **Pn** **15 15 10.8 +0.4**
YTIR Yattir 12.78 117 Pn **Pn** **15 15 10.4 -1.8**
YTIR Sn **Sn** **15 17 28.2 -5.6**
TAMRE El Minia 12.78 140 P **Pn** **15 15 09.8 -2.3**
baz=142
DSI Dead Sea 12.85 116 Pn **Pn** **15 15 12.2 -0.9**
WET Wettzell 12.92 333 P **Pn** **15 15 14.7 +0.8**
WET pmax pmax
comp=Z,12nm,1.3s
GOPC GO Pecny, Ondr 12.98 339 AMS AMS 15 20 40.0
comp=Z,1μm,16.9s
DPC Dobruska-Polom 13.01 344 *e*P **Pn** **15 15 17.2 +2.0**
DPC Dobruska-Polom 13.01 344 *e*P **Pn** **15 15 17.2 +2.0**
PRU Pruhonice 13.12 339 AMS AMS 15 20 40.0
comp=Z,1μm,22.8s
GHAJ Ghor Haditha 13.13 116 Pn **Pn** **15 15 16.4 -0.5**
PRA Prague 13.22 339 AMS AMS 15 21 00.0
comp=Z,600nm,20.3s
UPC Upice 13.22 344 AMS AMS 15 21 20.0
comp=Z,900nm,20.4s
KRMI Paran Flat 13.26 122 Pn **Pn** **15 15 16.1 -2.6**
KRMI Sn **Sn** **15 17 36.4 -9.0**
ZFRI Zfri 13.30 120 Pn **Pn** **15 15 17.0 -2.1**
ZFRI Sn **Sn** **15 17 38.9 -7.3**
PRNI Paran 13.30 121 Pn **Pn** **15 15 16.3 -2.9**
BNI Bardonecchia 13.36 307 P **Pn** **15 15 20.7 +0.7**
HRFI Mount Harif 13.52 122 Pn **Pn** **15 15 20.3 -1.9**
MBRI Mt Berech 13.59 123 Pn **Pn** **15 15 21.1 -2.1**
ANN Anapa 13.59 55 *e*P **Pn** **15 15 22.1 -1.0**
ANN *e*S **Sn** **15 17 53.6 +0.3**
ANN pmax pmax
comp=Z,54nm,1.4s
ASF Jabal al Asfar 13.65 110 Pn **Pn** **15 15 24.8 +0.8**
comp=Z,0.7nm,0.3s,baz=225,slow=4.3,SNR=9.9
ASF Sn **Sn** **15 17 50.9 -4.0**
comp=Z,0.3nm,0.3s,baz=333,slow=18,SNR=2.2
EIL Elat 13.70 123 Pn **Pn** **15 15 23.2 -1.3**
comp=Z,3.2nm,0.3s,baz=250,slow=4.9,SNR=38
EIL Sn Sn 15 17 45.4 -11
comp=Z,2.0nm,0.3s,baz=233,slow=20,SNR=5.2
EIL Elat 13.70 123 Pn **Pn** **15 15 22.4 -2.2**
EIL Sn **Sn** **15 17 48.6 -7.4**
AQBJ Aqaba 13.72 123 Pn **Pn** **15 15 22.6 -2.4**
AKASG Malin Array Be 13.82 20 Pn **Pn** **15 15 25.9 -0.2**
comp=Z,1.3nm,0.3s,baz=209,slow=12,SNR=8.5
AKASG PcP **PcP** **15 20 49.9 +1.5**
comp=Z,0.6nm,0.3s,baz=223,slow=0.7,SNR=4.4
AKASG ScP **ScP** **15 24 22.5 +2.1**
comp=Z,1.1nm,0.3s,baz=229,slow=1.0,SNR=5.5
AKASG Malin Array Be 13.82 20 *i* P **Pn** **15 15 27.6 +1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 13.82 20 P **Pn** **15 15 25.3 -0.8**
GRF Grafenberg Arr 13.99 330 P **Pn** **15 15 29.9 +1.4**
GRF Grafenberg Arr 13.99 330 *e*P **P** **15 15 37.4 +1.1**
comp=Z,3.1nm,0.9s,baz=147,slow=11
BRG Berggiesshubel 14.08 339 *e*P **P** **15 15 35.1 -2.2**
comp=Z,8.4nm,1.2s
BRG Berggiesshubel 14.08 339 *e*P **P** **15 15 35.1 -2.2**
BRG pmax pmax
comp=Z,8.0nm,1.2s
STU Stuttgart 14.16 324 P **Pn** **15 15 29.7 -1.1**
BFO Black Forest 14.27 321 P **Pn** **15 15 31.7 -0.7**
MOX Moxa 14.62 334 P **P** **15 15 42.2 -1.1**
MOX pmax pmax
comp=Z,12nm,1.3s
SOC Sochi 14.71 62 *e*P **P** **15 15 44.3 +0.1**
SOC MLR MLR
comp=Z,109nm,7.0s
CLL Collm 14.74 338 *i* sP **P** **15 15 45.4 +0.8**
comp=Z,45nm,1.7s
CLL *i* sPP 15 15 52.5
CLL Collm 14.74 338 P **Pn** **15 15 37.1 -1.6**
ECH Echery 14.80 319 P **Pn** **15 15 39.2 -0.4**
WLF Walferdange 16.23 321 P **Pn** **15 15 58.1 -0.1**
WLF pmax pmax
comp=Z,49nm,1.2s
KIV Kislovodsk 16.88 63 *e*P **Pn** **15 16 06.3 -0.3**
KIV pmax pmax
comp=Z,70nm,1.1s
KIV MLR MLR
comp=Z,289nm,14.0s
KVAR Kislovodsk Arr 16.89 63 Pn **Pn** **15 16 06.7 0.0**
baz=90,slow=20,SNR=1.3
KBZ Khabaz 16.98 63 Pn **P** **15 16 08.6 -0.8**
comp=Z,0.2nm,0.3s,baz=274,slow=8.5,SNR=26
KBZ Khabaz 16.98 63*de*P **P** **15 16 11.7 +2.3**
KBZ pmax pmax
comp=Z,35nm,1.0s
ONI Oni 17.17 67 P **P** **15 16 14.4 +2.8**
NACGM Naroch 17.31 10 *e* **P** **15 16 12.0 -1.0**
GOF Gofitskoye 17.41 59‖ *e*P **P** **15 16 16.2 +1.9**
GOF pmax pmax
comp=Z,38nm,0.6s
ZEI Tsey 17.52 67 *e*P **P** **15 16 18.3 +2.6**
ZEI pmax pmax
comp=Z,26nm,1.1s
PABE Paberze 17.64 4 *e*P **Pn** **15 16 14.3 -1.5**
PABE IAmb IAmb 15 16 15.0
comp=Z,73nm,0.8s
IIGN Ignalina 17.68 8 *e*P **P** **15 16 16.4 -0.7**
IDID Didziasalis 17.70 9 *e*P **P** **15 16 16.9 -0.5**
IDID IAmb IAmb 15 16 19.7
comp=Z,7.7nm,0.8s
KZRT Kazreti 17.74 72 P **P** **15 16 20.9 +2.9**
BSD Bornholm Skovb 17.80 347 *i* P **Pn** **15 16 16.8 -1.0**
BSD pmax pmax
comp=Z,14nm,0.8s
BSD Bornholm Skovb 17.80 347 *i* P **Pn** **15 16 16.8 -1.0**
comp=Z,14nm,0.8s
BSD Bornholm Skovb 17.80 347 *i* P **Pn** **15 16 16.8 -1.0**
BSD IAmb IAmb 15 16 17.5
comp=Z,14nm,0.8s
BSEG Bad Segeberg 17.84 337 P **P** **15 16 20.9 +2.1**
BSEG pmax pmax
comp=Z,20nm,0.8s
ISAL Salakas 17.88 8 *e*P **Pn** **15 16 16.2 -2.7**
ISAL IAmb IAmb 15 16 23.8
comp=Z,8.8nm,0.4s
VORD Divnogorie 17.99 38 *e*P **P** **15 16 20.3 -0.3**
VORD pmax pmax
comp=Z,30nm,1.6s
VSR Storozhevoye 18.09 37 *e*P **P** **15 16 21.2 -0.5**
VSR *e*S **Sn** **15 19 43.8 +1.3**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR smax smax
comp=N,50nm,1.1s
NAX Nakhchivan 18.58 79 P **Pn** **15 16 29.7 +2.1**
LPSR Galich'ya Gora 18.91 34 *e*P **Pn** **15 16 31.7 +0.3**
LPSR *e*S **S** **15 20 02.8 -1.2**
LPSR pmax pmax
comp=Z,50nm,0.8s
LPSR smax smax
comp=E,70nm,1.9s
GROC Groznyy 18.96 66 *e*P **Pn** **15 16 32.3 +0.3**
GROC pmax pmax
comp=Z,52nm,1.1s
LGD Lagodekhi 19.15 71 P **Pn** **15 16 35.4 +1.0**
GANJ Ganja 19.17 74 P **Pn** **15 16 35.1 +0.4**
VRH Novokhopyorsk 19.35 40 *e*P **Pn** **15 16 35.8 -0.9**
VRH *e*S **S** **15 20 10.4 -2.5**
VRH pmax pmax
comp=Z,30nm,0.5s
VRH smax smax
comp=E,570nm,4.1s
ZKTA Zakatala 19.42 71 P **Pn** **15 16 38.2 +0.5**
SLIT Slitere, Latvi 19.70 1 *e*P **P** **15 16 38.9 -0.4**
MNGR Mingechevir, A 19.75 74 P **Pn** **15 16 42.1 +0.6**
OBN Obninsk 19.89 26 P **Pn** **15 16 42.3 -0.8**
comp=E,2.0nm,0.3s,baz=256,slow=17,SNR=4.8
OBN LR LR 15 24 51.7
comp=E,130nm,18.7s,baz=184,slow=38
OBN Obninsk 19.89 26 *e*P **Pn** **15 16 42.2 -0.8**
OBN pmax pmax
comp=Z,66nm,1.3s
OBN MLR MLR
comp=Z,432nm,17.0s
ESDC Sonseca Array 20.12 283 P Pn 15 16 45.3 -0.7
comp=Z,5.8nm,0.7s,baz=76,slow=11,SNR=36
ESDC LR LR 15 24 30.3
comp=Z,155nm,19.7s,baz=80,slow=37
GUD Guadarrama 20.23 286 P Pn 15 16 48.4 +1.0
GUD pmax pmax
comp=Z,20nm,1.4s
AKT Akhty 20.25 72 *e*P Pn 15 16 47.0 -0.5
AKT *e* 15 17 03.2
AKT pmax pmax
comp=Z,133nm,1.4s
MUD Monsted U'grnd 20.35 340 *i* P Pn 15 16 50.0 +1.6
MUD Monsted U'grnd 20.35 340 *i* P Pn 15 16 50.0 +1.6
MUD Monsted U'grnd 20.35 340 *i* P Pn 15 16 50.0 +1.6
TAM Tamanrasset 20.56 227 P Pn 15 16 49.9 -1.5
TAM pmax pmax
comp=Z,23nm,1.4s
MOS Moscow 20.75 26 *e*P **P** **15 16 50.7 0.0**
MOS *e*S **S** **15 20 43.2 +2.0**
MOS pmax pmax
comp=Z,72nm,0.7s
VSU Vasula 20.79 7 *e*P **P** **15 16 50.8 -0.3**
VSU IAmb IAmb 15 16 53.9
comp=Z,374nm,0.6s
VSU Vasula 20.79 7‖ *e*P **P** **15 16 50.4 -0.7**
VSU pmax pmax
comp=Z,184nm,0.5s
MDT Midelt 22.08 265 LR LR 15 26 02.2
comp=Z,88nm,18.8s,baz=4.5,slow=38
PBRG Braganca 22.18 289 *e*P **P** **15 17 10.7 +4.4**
comp=Z,25nm,1.3s
PBRG *e*pP **sP** **15 17 16.7 +0.8**
MVO Moncorvo 22.41 287 *e*P **P** **15 17 09.7 +1.0**
comp=Z,31nm,1.6s
MVO *e*pP **sP** **15 17 19.4 +1.1**
SNART Snartemo 22.52 340 *i* P **P** **15 17 12.0 +2.3**
PUL Pulkovo 22.53 11‖ *e*P **P** **15 17 12.7 +3.0**
PUL pmax pmax
comp=Z,93nm,0.5s
PMRV Marv??o 22.78 283 *e*P **P** **15 17 13.0 +0.3**
comp=Z,27nm,1.7s
PMRV *e*pP **sP** **15 17 24.4 +2.1**
HFS Hagfors 22.80 350 P **P** **15 17 11.7 -1.0**
comp=Z,17nm,0.5s,baz=146,slow=12,SNR=33
HFS LR LR 15 27 45.8
comp=Z,386nm,19.0s,baz=171,slow=41
PCBR Castelo Branco 22.81 284 *e*P **P** **15 17 13.2 +0.2**
comp=Z,18nm,1.6s
PVIS Viseu 23.08 286 *e*P **P** **15 17 15.4 -0.4**
comp=Z,19nm,2.0s
BELG Belogornoye 23.09 43*de*P **P** **15 17 16.3 +0.6**
KONO Kongsberg 23.09 344‖ *e*P **P** **15 17 13.9 -1.7**
KONO pmax pmax
comp=Z,54nm,1.7s
PVAQ Vaqueiros 23.32 278 *e*P **P** **15 17 13.3 -4.9**
comp=Z,39nm,2.1s
EVO Evora 23.37 281 *e*P **P** **15 17 18.6 -0.1**
comp=Z,20nm,1.2s
EVO *e*pP **pP** **15 17 24.4 -0.9**
PMTG Montargil 23.47 282 *e*P **P** **15 17 19.1 -0.5**
comp=Z,21nm,2.2s
PBDV Barranco-do-Ve 23.52 278 *e*pP pP 15 17 25.9 -0.9
FINES FINESS Array B 23.68 5 P **P** **15 17 19.9 -1.6**
comp=Z,2.7nm,0.4s,baz=178,slow=11,SNR=24
FINES PcP **PcP** **15 21 06.8 +1.7**
comp=Z,2.7nm,0.6s,baz=143,slow=3.5,SNR=5.5
FINES ScP **ScP** **15 24 45.4 +3.5**
comp=Z,3.8nm,1.0s,baz=336,slow=3.0,SNR=4.7
FINES LR LR 15 27 50.7
comp=Z,277nm,21.3s,baz=189,slow=40
NORES NORESS Array B 23.72 347 P **P** **15 17 21.4 -0.4**
NORES pmax pmax
comp=Z,4.0nm,0.4s
NB2 NORSAR Subarra 24.06 347 P **P** **15 17 23.9 -1.2**
comp=Z,10nm,0.6s,baz=162,slow=11
NOA NORSAR Array B 24.06 347 P **P** **15 17 24.3 -0.8**
comp=Z,0.7nm,0.4s,baz=164,slow=11,SNR=24
NOA LR LR 15 28 31.8
comp=Z,303nm,20.3s,baz=165,slow=41
EKA Eskdalemuir Ar 24.20 324 P **P** **15 17 26.6 +0.2**
comp=Z,12nm,0.6s,baz=121,slow=8.5,SNR=25
SUF Sumiainen 24.95 5 P **P** **15 17 35.5 +2.4**
SUF pmax pmax
comp=Z,16nm,0.8s
VAF Ylistaro 25.14 1 P **P** **15 17 35.2 +0.4**
VAF pmax pmax
comp=Z,37nm,0.8s
KLMR Klimovskoe 25.51 20 *e*P **P** **15 17 38.6 +0.4**
KLMR pmax pmax
comp=Z,43nm,0.9s
KLMR Klimovskoe 25.51 20 *e*P **P** **15 17 38.7 +0.5**
KLMR AMP 15 17 46.0
comp=Z,43nm,0.9s
KIRV Kirov 27.32 32 P **P** **15 17 54.4 -0.1**
comp=Z,16nm,0.5s,baz=226,slow=0.9,SNR=7.1
KIRV LR LR 15 29 54.9
comp=Z,205nm,18.8s,baz=243,slow=39
KIRV Kirov 27.32 32*ce*P **P** **15 17 54.8 +0.2**
PRGR Permogore 27.96 24 *e*P **P** **15 17 59.9 -0.3**
PRGR pmax pmax
comp=Z,18nm,0.6s
TMCR Tamitsa 28.00 15 *e*P **P** **15 17 57.3 -3.3**
TMCR pmax pmax
comp=Z,42nm,1.4s
AKTO Aktyubinsk 28.53 52 P **P** **15 18 04.5 -1.1**
comp=Z,1.9nm,0.5s,baz=259,slow=11,SNR=7.8
AKTO LR LR 15 32 38.4
comp=Z,73nm,21.4s,baz=268,slow=43
GEYT Alibeck 28.55 79 P **P** **15 18 05.2 -0.6**
comp=Z,2.2nm,0.7s,baz=259,slow=13,SNR=2.7
GEYT PcP **PcP** **15 21 18.6 +1.8**
comp=Z,2.5nm,0.5s,baz=321,slow=3.7,SNR=4.1
AB31 Akbulak array 29.56 55 *i* P **P** **15 18 13.8 -0.8**
TORD Torodi Ar. Bea 30.49 221 P **P** **15 18 23.0 -0.2**
comp=Z,5.7nm,0.6s,baz=35,slow=9.0,SNR=33
ARU Arti 30.58 41 P **P** **15 18 22.5 -1.1**
comp=Z,1.3nm,0.4s,baz=253,slow=11,SNR=7.2
ARU Arti 30.58 41 P **P** **15 18 24.0 +0.4**
ARU 15 19 19.2
ARU S **S** **15 23 26.4 +2.4**
ARU SS **ScP** **15 25 02.7 0.0**
UMQ Umm Al-Quwin 31.19 103 P **P** **15 18 29.3 +0.1**
UMQ Umm Al-Quwin 31.19 103 P **P** **15 18 30.8 +1.6**
SHME Shamm 31.29 102 P **P** **15 18 29.8 -0.4**
NAZ Nazwa, Dubai 31.47 104 *i* P **P** **15 18 31.5 -0.2**
SNR=8.3
NAZ Nazwa, Dubai 31.47 104 P **P** **15 18 31.6 -0.2**
BANOM Banah 31.47 102 P **P** **15 18 31.4 -0.4**
BANOM Banah 31.47 102 P **P** **15 18 32.4 +0.5**
BANOM P **P** **15 18 32.4 +0.5**
MSFE Esma-Masafi 31.66 103 P **P** **15 18 33.2 -0.3**
ARCES ARCESS Array B 31.72 2 P **P** **15 18 32.2 -1.3**
comp=Z,1.8nm,0.4s,baz=185,slow=6.1,SNR=22
ARCES PcP **PcP** **15 21 25.8 +1.3**
comp=Z,3.8nm,1.0s,baz=191,slow=1.7,SNR=6.5
MDH Madha 31.80 103 P **P** **15 18 32.5 -2.1**
SVE Sverdlovsk 31.80 41 *e*P **P** **15 18 34.4 +0.1**
SVE *e*S **S** **15 23 40.5 -2.5**
SVE pmax pmax
comp=Z,21nm,0.9s
UOSS Minazif 31.91 104 *i* P **P** **15 18 34.9 -0.8**
SNR=5.8
UOSS Minazif 31.91 104 P **P** **15 18 35.5 -0.2**
UOSS P **P** **15 18 35.5 -0.2**
HATD Hatta, Dubai 31.92 104 *i* P **P** **15 18 35.5 -0.2**
SNR=6.8
HATD Hatta, Dubai 31.92 104 P **P** **15 18 35.8 +0.1**
HATD P **P** **15 18 35.8 +0.1**
ASHO Ashiyiah 31.94 104 *i* P **P** **15 18 35.4 -0.5**
SNR=15
ASHO Ashiyiah 31.94 104 P **P** **15 18 35.8 -0.1**
ASHO P **P** **15 18 35.8 -0.1**
ALNE Al Ain 32.05 106 *i* P **P** **15 18 36.6 -0.2**
SNR=19
SOHO SOHO 32.60 105 *i* P **P** **15 18 41.5 -0.2**
SNR=14
SOHO SOHO 32.60 105 P **P** **15 18 41.7 +0.1**
SOHO P **P** **15 18 41.7 +0.1**
KOWA Kowa 32.67 231 P **P** **15 18 42.8 +0.4**
comp=Z,2.2nm,0.6s,baz=40,slow=9.6,SNR=6.3
KOWA PcP **PcP** **15 21 30.7 +2.8**
comp=Z,3.7nm,0.6s,baz=32,slow=4.1,SNR=5.9
ARQ Araqi 33.03 106 P **P** **15 18 45.2 -0.2**
HOQ Hoqain 33.49 105 P **P** **15 18 49.0 -0.6**
BSY Bisya 33.88 106 P **P** **15 18 53.0 +0.1**
BSY P **P** **15 18 53.0 +0.1**
BIDO Bidbid 34.15 104 P **P** **15 18 55.7 +0.5**
WHFO Wadi Hawf 34.34 117 P **P** **15 18 56.3 -0.6**
SMDO Samad 34.35 105 P **P** **15 18 57.2 +0.1**
SNR=6.4
ABTO Aybut 34.38 118 P **P** **15 18 57.4 0.0**
SNR=10.0
WSAR Wadi Sarin 34.69 104 P **P** **15 18 59.4 -0.6**
comp=Z,3.7nm,0.5s,baz=325,slow=17,SNR=13
JMDO Jabal Madar 34.78 106 P **P** **15 19 00.4 -0.2**
SNR=12
JMDO P **P** **15 19 00.4 -0.2**
SNR=12
RBK Rabkut 34.92 117 P **P** **15 19 01.9 -0.1**
SNR=9.7
WBK Wadi Bani Khal 35.30 105 P **P** **15 19 06.1 +0.9**
DMTO DMTO 35.31 116 P **P** **15 19 04.6 -0.6**
SNR=12
DMTO P **P** **15 19 04.6 -0.6**
SNR=12
MHTO MHTO 35.48 108 P **P** **15 19 07.0 +0.4**
SNR=23
DQM DQM 35.79 110 P **P** **15 19 09.4 0.0**
JLN Jalan Bani Buh 35.90 105 P **P** **15 19 11.2 +0.9**
BRVK Borovoye 36.45 50‖ *e*P **P** **15 19 14.9 +0.2**
BRVK pmax pmax
comp=Z,25nm,1.7s
LODK Lodwar 36.53 157 P **P** **15 19 17.4 +1.7**
SNR=6.7
KK31 Karatay Array 36.98 66 *i* P **P** **15 19 19.4 0.0**
KKAR Karatay Array 36.98 66 P **P** **15 19 19.0 -0.4**
DBIC Dimbokro 39.41 225 P **P** **15 19 40.2 +0.2**
comp=Z,10nm,0.7s,baz=11,slow=9.3,SNR=20
EKS2 Erkin-Say 39.42 66 P **P** **15 19 41.0 +0.9**
SNR=15
TIC Toumodi 39.52 225 *e*P **P** **15 19 41.2 +0.3**
KIC Kosan Boka 39.60 224 *e*P **P** **15 19 41.0 -0.6**
comp=Z,42nm,1.1s
LIC Lamto 39.87 224 *e*P **P** **15 19 43.6 -0.2**

comp=Z,59nm,1.0s
AAK Ala-Archa 39.94 66 P P 15 19 45.4 +1.0
SNR=9.7
AAK Ala-Archa 39.94 66 P P 15 19 44.7 +0.3
AAK Ala-Archa 39.94 66 P P 15 19 44.4 0.0
CHMS Chumysh 40.06 66 P P 15 19 45.9 +0.6
SNR=7.2
KBK Karagaybulak 40.27 66 P P 15 19 48.2 +1.0
SNR=6.9
SPITS Spitsbergen Ar 40.41 358 P P 15 19 47.5 -0.2
comp=Z,2.2nm,0.4s,baz=161,slow=10,SNR=8.9
TKM2 Tokmak 2 40.68 65 P P 15 19 51.0 +0.4
SNR=6.2
TKM2 Tokmak 2 40.68 65 P P 15 19 45.4 -5.2
BOOM Boomskoye usch 41.02 66 P P 15 19 52.9 -0.5
BOOM pmax pmax
comp=Z,7.0nm,0.8s
ULHL Ulahol 41.29 66 P P 15 19 57.1 +1.5
SNR=7.3
KMBO Kilima Mbogo 41.42 156 P P 15 19 58.8 +1.9
comp=Z,2.3nm,0.7s,baz=17,slow=8.7,SNR=5.6
NIL Nilore 41.54 80 P P 15 19 56.3 -1.2
NIL pmax pmax
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 41.57 53 P P 15 19 56.4 -1.1
KURK Kurchatov 41.62 53 *de***P P 15 19 57.8 -0.1**
KURK pmax pmax
comp=Z,31nm,1.3s
KDJ Kajisay 42.00 66 P P 15 20 00.2 -1.2
KDJ pmax pmax
comp=Z,9.0nm,0.9s
PDGK Podgornoye 43.38 64 P P 15 20 12.1 -0.4
MAKZ Makanchi 44.36 58 P P 15 20 19.0 -1.3
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 44.58 58 *eP* **P 15 20 21.2 -0.8**
MKAR Makanchi Array 44.58 58 P P 15 20 22.1 +0.1
comp=Z,20nm,0.5s,baz=280,slow=5.7,SNR=246
MKAR PcP **PP**
comp=Z,3.9nm,0.7s,baz=285,slow=4.6,SNR=3.6
MKAR ScP **ScP 15 25 57.5 +2.1**
comp=Z,0.8nm,0.7s,baz=248,slow=5.3,SNR=4.7
MKAR LR LR 15 41 05.4
comp=Z,74nm,21.1s,baz=278,slow=39
MKAR Makanchi Array 44.58 58 *ceP* **P 15 20 21.1 -0.9**
MKAR pmax pmax
comp=Z,20nm,0.5s
ZALV Zalesovo Beam 45.11 48 P P 15 20 25.1 -0.9
comp=Z,51nm,0.7s,baz=275,slow=8.7,SNR=139
ZALV LR LR 15 39 57.9
comp=Z,58nm,19.1s,baz=258,slow=37
ZALV Zalesovo Beam 45.11 48 *i* **P P 15 20 25.1 -0.9**
ZALV pmax pmax
comp=Z,52nm,0.7s
NOR Nord 45.84 353 *i* P P 15 20 31.0 -0.5
NOR pmax pmax
comp=Z,3.0nm,0.4s
NOR Nord 45.84 353 *i* P P 15 20 31.0 -0.5
comp=Z,3.3nm,0.4s
NOR Nord 45.84 353 *i* P P 15 20 31.0 -0.5
NOR IAmb IAmb 15 20 32.0
comp=Z,3.3nm,0.4s
NRIK Noril'sk 46.56 26 P P 15 20 37.6 +0.3
comp=Z,7.2nm,0.9s,baz=250,slow=5.0,SNR=10.0
NRIK LR LR 15 41 44.5
comp=Z,229nm,19.8s,baz=244,slow=38
NRIK Noril'sk 46.56 26 *eP* **P 15 20 38.4 +1.1**
NRIK pmax pmax
comp=Z,11nm,1.0s
DGZ Jazzator, Alta 47.37 54 *iP* **P 15 20 42.6 -1.5**
DGZ pmax pmax
comp=Z,7.0nm,0.4s
SFJD Kangerlussuaq 48.94 330 LR LR 15 42 37.5
comp=Z,230nm,19.1s,baz=84,slow=37
WMQ Urumqi 49.00 61 *eP* **P 15 20 57.6 +0.9**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,140nm,7.3s
WMQ LR LR
comp=Z,220nm,29.3s
WMQ LR LR
comp=Z,620nm,29.3s
LSZ Lusaka 53.27 172 P P 15 21 30.6 +1.7
comp=Z,1.4nm,0.4s,baz=3.3,slow=7.4,SNR=3.7
MOY Mondy 55.17 48 *eP* **P 15 21 43.6 +1.1**
TLY Talaya 56.72 48 *eP* **P 15 21 55.2 +1.8**
TLY pmax pmax
comp=Z,11nm,1.4s
ZAK Zakamensk 56.96 49 *eP* **P 15 21 54.7 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TSUM Tsumeb 56.97 185 P P 15 21 56.8 +1.2
comp=Z,1.9nm,0.8s,baz=338,slow=7.7,SNR=5.6
LSA Lhasa 57.03 76 P P 15 21 55.9 -0.6
LSA Lhasa 57.03 76 P P 15 21 56.2 -0.3
LSA pmax pmax
comp=Z,7.0nm,0.5s
GTA Gaotai 59.06 62 *eP* **P 15 22 09.1 -1.1**
GTA pmax pmax
comp=Z,2.0nm,0.8s
SCHQ Schefferville 59.31 318 LR LR 15 47 08.0
comp=Z,84nm,18.6s,baz=84,slow=35
SHL Shillong 59.61 80 P P 15 22 11.8 -2.5
SHL pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 59.84 51 P P 15 22 15.7 +0.2
comp=Z,7.0nm,0.9s,baz=284,slow=9.1,SNR=23
SONM LR LR 15 50 37.9
comp=Z,80nm,18.7s,baz=275,slow=39
BOD Bodaibo 59.95 38 *eP* **P 15 22 14.3 -1.6**
BOD pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 60.23 51 *de***P P 15 22 17.9 -0.3**
ULN pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 64.83 30 *eP* **P 15 22 47.7 -0.7**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.0s
BOSA Boshof 66.28 177 P P 15 22 58.7 +0.4
comp=N,3.3nm,0.5s,baz=5.7,slow=5.2,SNR=11
BOSA LR LR 15 57 24.7
comp=N,104nm,19.2s,baz=359,slow=41
HHC Hu-ho-hao-te 66.35 56 *eP* **P 15 22 59.2 +0.4**
HHC pmax pmax
comp=N,24nm,1.1s
HHC pmax pmax
comp=N,160nm,5.4s
HHC LR LR
comp=N,290nm,16.8s
HHC LR LR
comp=N,180nm,16.4s
HHC LR LR
comp=N,170nm,16.3s
ZEA Zeya 68.45 38 *eP* **P 15 23 13.1 +1.4**
ZEA pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 68.73 82 P P 15 23 12.9 -1.1
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 68.93 83 P P 15 23 14.6 -0.7
comp=Z,4.7nm,0.6s,baz=302,slow=7.8,SNR=36
CMAR LR LR 16 00 34.1
comp=Z,40nm,18.7s,baz=355,slow=42
BILL Bilibino 71.02 13 *eP* **P 15 23 27.4 +0.1**
BILL pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 72.47 351 P P 15 23 36.4 +0.4
comp=Z,1.9nm,0.7s,baz=152,slow=5.1,SNR=4.5
YKA Yellowknife Ar 73.95 341 P P 15 23 45.9 +1.1
comp=Z,1.4nm,0.6s,baz=30,slow=5.3,SNR=6.9
MA2 Magadan 74.11 24 *eP* **P 15 23 47.5 +1.7**
MA2 pmax pmax
comp=Z,46nm,1.7s
NJ2 Nanjing 76.07 60 *eP* **P 15 23 55.1 -2.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ULM Lac du Bonnet 76.48 324 P P 15 24 01.5 +1.9
comp=Z,4.5nm,0.6s,baz=17,slow=4.8,SNR=8.6
ULM LR LR 15 57 51.7
comp=Z,109nm,20.4s,baz=14,slow=36
USRK Ussuriysk Ar. 76.77 44 P P 15 24 01.0 -0.3
comp=Z,4.5nm,0.7s,baz=289,slow=4.4,SNR=15
USRK LR LR 16 01 44.4
comp=Z,96nm,18.1s,baz=247,slow=39
ILAR Eielson Array 77.24 355 P P 15 24 05.3 +1.7
comp=Z,0.9nm,0.6s,baz=344,slow=3.2,SNR=23
ILAR LR LR 16 00 55.4
comp=Z,38nm,19.4s,baz=12,slow=38
PSI Prapat 78.14 96 P P 15 24 09.1 -0.5
comp=Z,11nm,0.6s,baz=1.5,slow=6.1,SNR=6.4
KSAR Wonju Array Be 78.69 51 P P 15 24 11.3 -0.9
KSRS Korea Array 78.71 51 P P 15 24 12.1 -0.2
comp=Z,6.0nm,0.7s,baz=313,slow=4.9,SNR=17
KSRS LR LR 16 03 38.7
comp=Z,64nm,19.2s,baz=336,slow=39
MNSI Mandailing Nat 79.89 97 P P 15 24 16.9 -2.1
PETK Petropavlovsk- 81.60 25 LR LR 16 04 59.6
comp=Z,109nm,19.0s,baz=304,slow=39
SDSI Sungai Dareh 82.40 97 P P 15 24 31.5 -0.9
comp=Z,22nm,0.7s
BDFB Brasilia 84.32 245 LR LR 16 04 05.7
comp=Z,74nm,18.2s,baz=115,slow=37
KSI Kapahiang 84.99 99 P P 15 24 49.2 +3.5
MJAR Matsushiro Arr 85.44 46 P P 15 24 47.9 +0.2
comp=Z,3.4nm,0.8s,baz=307,slow=3.8,SNR=6.5
MJAR LR LR 16 07 30.8
comp=Z,44nm,18.8s,baz=250,slow=39
LHSI Lahat 85.83 98 P P 15 24 50.2 +0.4
PDAR Pinedale Array 88.30 326 P P 15 25 02.3 +0.5
comp=Z,0.5nm,0.5s,baz=83,slow=4.8,SNR=5.4
PDAR LR LR 16 05 51.8
comp=Z,123nm,18.2s,baz=29,slow=36
NVAR Mina Array Bea 95.59 330 P P 15 25 36.8 +1.2
comp=Z,0.2nm,0.7s,baz=34,slow=6.7,SNR=1.8
NVAR LR LR 16 10 08.8
comp=Z,165nm,19.9s,baz=28,slow=36
TXAR Lajitas Array 95.86 314 P P 15 25 38.2 +1.4
comp=Z,0.4nm,0.8s,baz=73,slow=3.1,SNR=3.0
TXAR LR LR 16 08 26.7
comp=Z,93nm,20.1s,baz=0.0,slow=35
SYO Syowa Base 107.45 173 *eP* **Pdif 15 26 32.8 +5.6**
WRA Warramunga Arr 119.53 93 PKP PKiKP 15 31 00.8 +0.8
comp=Z,1.7nm,0.7s,baz=317,slow=1.8,SNR=24
ASAR Alice Springs 121.16 97 PKP PKiKP 15 31 04.0 +0.9
comp=Z,2.5nm,0.6s,baz=306,slow=1.6,SNR=45
QSPA South Pole Qui 127.79 180 PKP PKiKP 15 31 15.0 0.0
comp=Z,1.6nm,0.6s,baz=292,slow=2.4,SNR=7.7
STKA Stephens Creek 131.01 102 PKP PKiKP 15 31 22.0 -0.5
comp=Z,0.8nm,0.3s,baz=350,slow=4.9,SNR=4.1
STKA Stephens Creek 131.01 102 PKIKP PKiKP 15 31 22.0 -0.5
DZM Mont Dzumac 145.79 73 PKPbc PKiKP 15 31 51.2 -1.8
comp=Z,30nm,0.8s,baz=257,slow=8.1,SNR=27

*THE **03** 15:20:33.8, 37.92N×21.79E, h26km±1km, ML2.5/10, Error ellipse: s-maj=1.3km s-min=0.4km az=35.0*
ATH 03 15:20:33.3, 37.93N×21.80E, h28km±1km, ML2.4/13, Error ellipse: s-maj=1.1km s-min=0.6km az=258.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.29**	**297**	P	Pb	15 20 40.5	+0.1
RLS				S	Sb	15 20 45.9	+0.6
	3µm,0.3s						
RLS	**Riolos of Patr**	**0.29**	**297**	P	Pb	15 20 40.3	-0.1
RLS				S	Sb	15 20 46.1	+0.8
RLS				AML	AML	15 20 46.5	
	comp=N,7530µm,0.3s						
RLS				AML	AML	15 20 46.6	
	comp=E,2514µm,0.3s						
KLV	**Kalavryta, Ach**	**0.30**	**67**	P	Pb	15 20 40.7	+0.1
KLV				S	Sb	15 20 46.0	+0.4
	comp=E,622nm,0.3s						
KLV	**Kalavryta, Ach**	**0.30**	**67**	P	Pb	15 20 40.7	0.0
KLV				S	Sb	15 20 46.0	+0.3
KLV				AML	AML	15 20 46.7	
	comp=N,1182µm,0.3s						
KLV				AML	AML	15 20 46.9	
	comp=E,1032µm,0.3s						
ALIK	**Aliki, Aigiali**	**0.42**	**36**	P	Pb	15 20 42.5	+0.2
GUR	**Goura**	**0.43**	**88**	P	Pb	15 20 42.4	-0.1
GUR				S	Sb	15 20 49.5	+0.6
	comp=E,2µm,0.5s						
GUR	**Goura**	**0.43**	**88**	P	Pb	15 20 42.5	-0.1
GUR				S	Sb	15 20 49.3	+0.4
GUR				AML	AML	15 20 51.1	
	comp=N,4564µm,0.5s						
GUR				AML	AML	15 20 53.1	
	comp=E,2067µm,0.4s						
VTN	**Vitineika**	**0.48**	**269**	P	Pn	15 20 44.0	-0.3
TRIZ	**Trizonia**	**0.49**	**26**	P	Pb	15 20 43.6	+0.2
TRIZ				S	Sn	15 20 51.8	-0.2
	comp=E,985nm,0.3s						
TRIZ	**Trizonia**	**0.49**	**26**	P	Pb	15 20 43.6	+0.1
TRIZ				S	Sb	15 20 50.9	+0.5
EFP	**Efpalio**	**0.51**	**9**	P	Pb	15 20 43.9	+0.2
EFP				S	Sn	15 20 52.0	-0.5
	comp=E,1µm,0.5s						
EFP	**Efpalio**	**0.51**	**9**	P	Pb	15 20 43.9	+0.1
EFP				S	Sn	15 20 52.1	-0.4
EFP				AML	AML	15 20 53.1	
	comp=E,2864µm,0.6s						
EFP				AML	AML	15 20 54.5	
	comp=N,1064µm,0.3s						
SERG	**Sergoula**	**0.53**	**22**	P	Pb	15 20 44.2	+0.1
SERG				S	Sn	15 20 52.8	-0.2
	comp=N,1µm,0.5s						
SERG	**Sergoula**	**0.53**	**22**	P	Pb	15 20 44.4	+0.3
SERG				S	Sb	15 20 52.2	+0.8
SERG				AML	AML	15 20 53.4	
	comp=N,1339µm,0.4s						
SERG				AML	AML	15 20 53.6	
	comp=E,2418µm,0.3s						
TRIP	**Tripoli**	**0.55**	**137**	P	Pb	15 20 44.5	+0.1
TRIP				S	Sn	15 20 53.7	+0.2
	comp=E,305nm,0.4s						
TRIP	**Tripoli**	**0.55**	**137**	P	Pb	15 20 44.5	+0.2
TRIP				S	Sn	15 20 52.9	-0.6
TRIP				AML	AML	15 20 55.7	
	comp=N,604µm,0.4s						
TRIP				AML	AML	15 20 55.9	
	comp=E,644µm,0.3s						
ANX	**Ano Chora**	**0.68**	**8**	P	Pb	15 20 46.5	-0.1
ANX				S	Sn	15 20 56.9	+0.1
	comp=E,760nm,0.4s						
ANX	**Ano Chora**	**0.68**	**8**	P	Pb	15 20 46.6	0.0
ANX				S	Sn	15 20 56.9	+0.1
ANX				AML	AML	15 20 58.1	
	comp=N,1654µm,0.5s						
ANX				AML	AML	15 20 59.1	
	comp=E,1379µm,0.4s						
VLX	**Vlachokerasia**	**0.72**	**140**	P	Pb	15 20 47.0	-0.3
VLX				S	Sn	15 20 58.2	+0.4
	comp=E,355nm,0.5s						
VLX	**Vlachokerasia**	**0.72**	**140**	P	Pn	15 20 47.7	+0.1
VLX				AML	AML	15 21 00.0	
	comp=N,539µm,0.4s						
VLX				AML	AML	15 21 02.7	
	comp=E,800µm,0.4s						
ITM	**Ithomi**	**0.75**	**172**	P	Pn	15 20 47.9	-0.1
ITM				S	Sn	15 20 59.0	+0.5
	comp=E,152nm,0.3s						
ITM	**Ithomi**	**0.75**	**172**	P	Pn	15 20 47.9	-0.1
ITM				S	Sn	15 20 58.9	+0.5
ITM				AML	AML	15 21 02.2	
	comp=N,337µm,0.3s						
ITM				AML	AML	15 21 03.1	
	comp=E,283µm,0.4s						
DSF	**Desfina**	**0.75**	**50**	P	Pb	15 20 47.6	-0.2
DSF				S	Sn	15 20 59.5	+0.9
DSF				AML	AML	15 21 02.1	
	comp=N,202µm,0.2s						
DSF				AML	AML	15 21 02.3	
	comp=E,204µm,0.4s						
LTK	**Loutraki**	**0.93**	**84**	P	Pb	15 20 51.3	+0.5
LTK				S	Sn	15 21 04.7	+1.9
LTK				AML	AML	15 21 06.1	
	comp=E,203µm,0.4s						
LTK				AML	AML	15 21 09.7	
	comp=N,280µm,0.3s						
LOUT	**Loutraki**	**0.93**	**86**	P	Pb	15 20 51.6	+0.8
LOUT				S	Sn	15 21 04.6	+1.6
EVR	**Evrytania**	**0.99**	**0**	P	Pb	15 20 52.5	+0.6
EVR				S	Sb	15 21 06.0	+1.4
EVR				AML	AML	15 21 09.1	
	comp=N,178µm,0.5s						
EVR				AML	AML	15 21 11.6	
	comp=E,173µm,0.3s						
PYL	**PYLOS**	**1.03**	**183**	P	Pb	15 20 53.2	+0.8
PYL				S	Sb	15 21 07.4	+1.9
PYL				AML	AML	15 21 13.0	
	comp=E,451µm,0.9s						
PYL				AML	AML	15 21 13.0	
	comp=N,390µm,0.4s						
AXAR	**Agios Charalam**	**1.08**	**39**	P	Pb	15 20 53.9	+0.6
AXAR				S	Sb	15 21 09.5	+2.5
EPID	**Epidavros**	**1.09**	**106**	P	Pb	15 20 53.9	+0.4
EPID				S	Sb	15 21 09.7	+2.3
MAKR	**Makrakomi, Fth**	**1.12**	**13**	P	Pb	15 20 54.7	+0.7
MAKR				S	Sb	15 21 10.0	+1.8
ATAL	**Atalanti**	**1.23**	**51**	P	Pb	15 20 56.1	+0.2
ATAL				S	Sb	15 21 13.0	+1.7

ATA 03 15:21:51.0±1.8, 40.40N×40.38E, h50km±98km, ML2.0, MW3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRIK	**Erzurum-spir**	**0.42**	**98**	*e*P	Pn	15 22 02.8	+1.2
KRIK				*e*S	Sn	15 22 11.2	+2.0
EMRE	**Erzurum,Aziziy**	**0.58**	**128**	*e*P	Pn	15 22 05.8	+2.3
EMRE				IAML		15 22 12.0	
	comp=Z,47nm,0.7s						
ATA5	**Erzurum, Merke**	**0.82**	**126**	*i* P	Pn	15 22 14.9	+8.3
ATA5				*i* P	Pn	15 22 14.9	+8.3
EUZM	**Uzumlu**	**0.86**	**217**	*e*P	Pn	15 22 09.1	+2.1
TNCL	**Tunceli-Merkez**	**1.43**	**207**	*e*P	Pn	15 22 15.2	+0.5
TNCL				IAML		15 22 20.4	
	comp=Z,9.4nm,0.6s						
REFA	**Refahiye_ERZN**	**1.59**	**232**	*e*P	Pn	15 22 15.2	-1.8
REFA				IAML		15 22 18.7	
	comp=Z,14nm,0.6s						

*IDC **03** 15:22:38.2±1.1, 38.04N×21.59E, h0km, mb3.8/8, mb1 3.8/13, mb1mx3.6/50, mbtmp3.7/13, ML3.6/5, Error ellipse: s-maj=20.6km s-min=20.0km az=15.0*
*ATH **03** 15:22:40.3, 37.95N×21.77E, h30km, ML3.6/17, Error ellipse: s-maj=0.9km s-min=0.7km az=49.0*
*THE **03** 15:22:41.6, 37.96N×21.78E, h18km±1km, ML3.6/15, Error ellipse: s-maj=1.1km s-min=0.7km az=358.0*
ISC 03 15:22:41.5±0.8, 37.95N±0.02×21.78E±0.02, h25km±6km, n95, σt1s38/120, mb3.8/8, 4C-9D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.27**	**293**	P	**Pb**	**15 22 47.5**	**-0.5**
RLS				S	**Sb**	**15 22 52.5**	**0.0**
	14µm,0.7s						
RLS	**Riolos of Patr**	**0.27**	**293**	P	**Pb**	**15 22 47.5**	**-0.5**
RLS				S	**Sn**	**15 22 53.0**	**-2.3**
RLS				AML	AML	15 22 53.2	
	comp=E,24296µm,0.4s						
RLS				AML	AML	15 22 53.2	
	comp=N,15664µm,0.3s						
KLV	**Kalavryta, Ach**	**0.31**	**72**	P	**Pb**	**15 22 48.0**	**-0.6**
KLV				S	**Sb**	**15 22 53.6**	**+0.1**
	comp=N,16µm,0.2s						
KLV	**Kalavryta, Ach**	**0.31**	**72**	P	**Pb**	**15 22 48.1**	**-0.6**
KLV				S	**Sb**	**15 22 53.8**	**+0.3**
KLV				AML	AML	15 22 54.5	
	comp=N,28957µm,0.1s						
KLV				AML	AML	15 22 54.8	
	comp=E,30578µm,0.3s						
ALIK	**Aliki, Aigiali**	**0.40**	**40**	P	**Pb**	**15 22 49.6**	**-0.5**
ALIK				S	**Sn**	**15 22 56.6**	**-1.9**
GUR	**Goura**	**0.44**	**92**	P	**Pb**	**15 22 49.9**	**-0.9**
GUR				S	**Sb**	**15 22 57.0**	**-0.2**
	comp=E,23µm,0.5s						
GUR	**Goura**	**0.44**	**92**	P	**Pb**	**15 22 50.0**	**-0.9**
GUR				S	**Sn**	**15 22 57.4**	**-2.3**
GUR				AML	AML	15 22 57.6	
	comp=E,23954µm,0.4s						
GUR				AML	AML	15 22 58.3	
	comp=N,58932µm,0.6s						
VTN	**Vitineika**	**0.47**	**266**	P	**Pn**	**15 22 51.5**	**-1.2**
VTN	**Vitineika**	**0.47**	**266**	P	**Pn**	**15 22 50.6**	**-2.1**
TRIZ	**Trizonia**	**0.47**	**29**	P	**Pb**	**15 22 50.5**	**-0.7**
TRIZ	**Trizonia**	**0.47**	**29**	P	**Pb**	**15 22 50.5**	**-0.7**
TRIZ				S	**Sn**	**15 22 58.5**	**-1.7**
EFP	**Efpalio**	**0.48**	**12**	P	**Pb**	**15 22 50.8**	**-0.7**
EFP				S	**Sn**	**15 22 58.4**	**-2.2**
	comp=N,16µm,0.5s						
EFP	**Efpalio**	**0.48**	**12**	P	**Pb**	**15 22 50.8**	**-0.7**
EFP				S	**Sn**	**15 22 58.4**	**-2.2**
EFP				AML	AML	15 22 59.4	
	comp=N,22376µm,0.4s						
EFP				AML	AML	15 22 59.6	
	comp=E,39338µm,0.6s						
SERG	**Sergoula**	**0.51**	**25**	P	**Pb**	**15 22 51.2**	**-0.7**
SERG	**Sergoula**	**0.51**	**25**	P	**Pb**	**15 22 51.3**	**-0.7**
SERG				S	**Sn**	**15 22 59.0**	**-2.3**
SERG				AML	AML	15 23 00.4	
	comp=E,71596µm,0.4s						
SERG				AML	AML	15 23 01.0	
	comp=N,58190µm,0.3s						
TRIP	**Tripoli**	**0.57**	**137**	P	**Pb**	**15 22 52.1**	**-0.9**
TRIP				S	**Sn**	**15 23 01.7**	**-1.2**
	comp=N,8µm,0.5s						
TRIP	**Tripoli**	**0.57**	**137**	P	**Pb**	**15 22 52.1**	**-0.9**
TRIP				S	**Sn**	**15 23 01.1**	**-1.8**
TRIP				AML	AML	15 23 03.2	
	comp=N,16334µm,0.7s						
TRIP				AML	AML	15 23 03.7	
	comp=E,14429µm,0.4s						
ANX	**Ano Chora**	**0.65**	**10**	P	**Pb**	**15 22 53.4**	**-0.9**
ANX				S	**Sn**	**15 23 03.0**	**-1.8**
	comp=E,9µm,0.4s						
ANX	**Ano Chora**	**0.65**	**10**	P	**Pb**	**15 22 53.4**	**-0.9**
ANX				S	**Sn**	**15 23 03.8**	**-1.0**
ANX				AML	AML	15 23 07.2	
	comp=E,16475µm,0.2s						
ANX				AML	AML	15 23 08.1	
	comp=N,17363µm,0.4s						
DSF	**Desfina**	**0.75**	**52**	P	**Pn**	**15 22 54.9**	**-1.6**
DSF				S	**Sn**	**15 23 05.6**	**-1.5**
	comp=N,4µm,0.2s						
DSF	**Desfina**	**0.75**	**52**	P	**Pn**	**15 22 54.9**	**-1.6**
DSF				S	**Sn**	**15 23 06.7**	**-0.4**
DSF				AML	AML	15 23 08.3	
	comp=N,7983µm,0.2s						
DSF				AML	AML	15 23 08.4	
	comp=E,6491µm,0.2s						
VLX	**Vlachokerasia**	**0.75**	**141**	P	**Pn**	**15 22 54.9**	**-1.7**
VLX				S	**Sn**	**15 23 06.2**	**-1.0**
	comp=E,7µm,0.8s						
VLX	**Vlachokerasia**	**0.75**	**141**	P	**Pb**	**15 22 55.3**	**-0.6**
VLX				S	**Sn**	**15 23 06.4**	**-0.9**
VLX				AML	AML	15 23 10.8	
	comp=E,16181µm,0.4s						
VLX				AML	AML	15 23 11.8	
	comp=N,10911µm,0.6s						
DLFA	**Delphi**	**0.77**	**47**	P	**Pb**	**15 22 55.5**	**-0.7**
DLFA				AML	AML	15 23 07.5	
	comp=E,4754µm,0.4s						
DLFA				AML	AML	15 23 08.6	
	comp=N,4249µm,0.4s						
ITM	**Ithomi**	**0.78**	**171**	P	**Pb**	**15 22 55.5**	**-1.0**
ITM				S	**Sn**	**15 23 08.1**	**+0.2**
	comp=N,2µm,0.6s						
ITM	**Ithomi**	**0.78**	**171**	P	**Pb**	**15 22 55.4**	**-1.0**
ITM				S	**Sn**	**15 23 07.3**	**-0.5**
ITM				AML	AML	15 23 10.4	
	comp=N,2478µm,0.4s						
ITM				AML	AML	15 23 12.9	
	comp=E,3127µm,0.8s						
KRI1	**kERI**	**0.82**	**250**	P	**Pb**	**15 22 56.8**	**-0.2**
LTK	**Loutraki**	**0.94**	**85**	P	**Pb**	**15 22 58.7**	**-0.4**
LTK				S	**Sb**	**15 23 11.4**	**+0.2**
	comp=E,2µm,0.4s						
LTK	**Loutraki**	**0.94**	**85**	P	**Pb**	**15 22 58.8**	**-0.4**
LOUT	**Loutraki**	**0.94**	**87**	P	**Pb**	**15 22 58.9**	**-0.3**
LOUT	**Loutraki**	**0.94**	**87**	P	**Pb**	**15 22 59.0**	**-0.3**
LOUT				AML	AML	15 23 19.2	
	comp=N,716µm,0.3s						
LOUT				AML	AML	15 23 19.5	
	comp=E,1188µm,0.6s						
EVR	**Evrytania**	**0.96**	**1**	P	**Pb**	**15 22 59.0**	**-0.6**
EVR	**Evrytania**	**0.96**	**1**	P	**Pb**	**15 22 58.9**	**-0.7**

EVR				AML	AML	15 23 21.6	
	comp=E,5946µm,0.5s						
EVR				AML	AML	15 23 22.3	
	comp=N,4377µm,0.5s						
VLS	**Valsamata**	**0.97**	**284**	P	**Pb**	**15 22 58.4**	**-1.2**
VLS				S	**Sb**	**15 23 14.3**	**+2.3**
	comp=N,1µm,0.7s						
PYL	**PYLOS**	**1.05**	**182**	P	**Pb**	**15 23 00.3**	**-0.8**
PYL	**PYLOS**	**1.05**	**182**	P	**Pb**	**15 23 00.7**	**-0.4**
AXAR	**Agios Charalam**	**1.07**	**40**	P	**Pb**	**15 23 00.7**	**-0.6**
AXAR				S	**Sb**	**15 23 16.5**	**+1.7**
	comp=N,9µm,0.3s						
AXAR	**Agios Charalam**	**1.07**	**40**	P	**Pb**	**15 23 00.9**	**-0.4**
AXAR				S	**Sb**	**15 23 16.1**	**+1.3**
AXAR				AML	AML	15 23 19.8	
	comp=E,18395µm,0.4s						
AXAR				AML	AML	15 23 21.6	
	comp=N,18332µm,0.3s						
KEF5	**Kardakata, Kep**	**1.08**	**288**	P	**Pb**	**15 23 00.4**	**-1.2**
FSK	**Fiskardo**	**1.09**	**298**	P	**Pb**	**15 23 00.6**	**-1.0**
FSK	**Fiskardo**	**1.09**	**298**	P	**Pb**	**15 23 00.7**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.09**	**14**	P	**Pb**	**15 23 01.4**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.09**	**14**	P	**Pb**	**15 23 01.4**	**-0.4**
MAKR				AML	AML	15 23 20.6	
	comp=E,3565µm,0.3s						
MAKR				AML	AML	15 23 24.6	
	comp=N,2739µm,0.4s						
EVGI	**Lefkada island**	**1.11**	**307**	P	**Pb**	**15 23 00.3**	**-1.7**
EVGI	**Lefkada island**	**1.11**	**307**	P	**Pb**	**15 23 01.1**	**-0.9**
EPID	**Epidavros**	**1.11**	**107**	P	**Pb**	**15 23 01.6**	**-0.5**
EPID				S	**Sb**	**15 23 17.7**	**+1.6**
	comp=N,2µm,0.6s						
EPID	**Epidavros**	**1.11**	**107**	P	**Pb**	**15 23 01.6**	**-0.5**
KEF4	**Livadi, Kephal**	**1.11**	**286**	P	**Pb**	**15 23 01.0**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.14**	**312**	P	**Pb**	**15 23 01.1**	**-1.4**
KEF3	**Kipouria, Keph**	**1.16**	**283**	P	**Pb**	**15 23 02.1**	**-0.7**
LKR	**Lokris**	**1.19**	**54**	P	**Pb**	**15 23 02.9**	**-0.4**
LKR	**Lokris**	**1.19**	**54**	P	**Pb**	**15 23 02.6**	**-0.7**
VIL2	**Platees**	**1.20**	**77**	P	**Pb**	**15 23 03.3**	**-0.3**
LKD2	**Lefkada island**	**1.22**	**314**	P	**Pb**	**15 23 02.8**	**-1.0**
ATAL	**Atalanti**	**1.22**	**52**	P	**Pb**	**15 23 02.8**	**-1.2**
ATAL				S	**Sb**	**15 23 20.1**	**+0.8**
	comp=N,1µm,0.5s						
ATAL	**Atalanti**	**1.22**	**52**	P	**Pb**	**15 23 02.8**	**-1.2**
ATAL				AML	AML	15 23 24.4	
	comp=N,3442µm,0.4s						
ATAL				AML	AML	15 23 26.6	
	comp=E,2110µm,0.6s						
KRND	**KRANIDI**	**1.23**	**117**	P	**Pb**	**15 23 03.8**	**-0.2**
VILL	**Villia**	**1.23**	**80**	P	**Pb**	**15 23 04.0**	**0.0**
ATH	**Athens Observa**	**1.53**	**89**	P	**Pb**	**15 23 07.8**	**-1.4**
VLI	**Veliai**	**1.54**	**143**	P	**Pb**	**15 23 09.0**	**-0.3**
ATHU	**Athens Univers**	**1.58**	**89**	P	**Pb**	**15 23 08.2**	**-1.9**
ATHU				AML	AML	15 23 36.8	
	comp=E,453µm,0.5s						
ATHU				AML	AML	15 23 37.8	
	comp=N,922µm,0.3s						
THL	**Klokotos Trika**	**1.62**	**6**	P	**Pb**	**15 23 10.1**	**-0.6**
DION	**Dionisos Attik**	**1.70**	**85**	P	**Pb**	**15 23 10.3**	**-1.9**
KARY	**Karystos**	**2.10**	**87**	P	**Pn**	**15 23 15.6**	**+0.5**
APE	**Apeiranthos**	**3.11**	**105**	⇓P	**Pn**	**15 23 29.8**	**+0.8**
APE	**Apeiranthos**	**3.11**	**105**	⇑S	**Sn**	**15 24 04.9**	**-0.5**
OHR	**Ohrid**	**3.25**	**347**	*e*Pn	**Pb**	**15 23 41.6**	**+3.1**
VAY	**Valandovo**	**3.42**	**10**	*e*Pn	**Pb**	**15 23 37.6**	**-3.8**
IDI	**Anoyia**	**3.65**	**136**	Pn	**Pn**	**15 23 38.5**	**+2.0**
	comp=N,3.9nm,0.3s,baz=287,slow=22,SNR=14						
IDI				Sn	**Sn**	**15 24 21.2**	**+2.4**
	comp=N,8.1nm,0.3s,baz=302,slow=16,SNR=5.9						
IDI	**Anoyia**	**3.65**	**136**	⇓P	**Pn**	**15 23 37.8**	**+1.3**
IDI	**Anoyia**	**3.65**	**136**	⇓S	**Sn**	**15 24 20.1**	**+1.3**
TIR	**Tirane**	**3.70**	**337**	⇓P	**Pn**	**15 23 40.1**	**+3.0**
STIP	**Stip**	**3.75**	**5**	*e*Pn	**Pn**	**15 23 40.8**	**+3.0**
SKO	**Skopje**	**4.02**	**355**	*e*Pn	**Pn**	**15 23 44.4**	**+2.8**
TIP	**Timpagrande**	**4.12**	**289**	⇓P	**Pn**	**15 23 45.5**	**+2.5**
MATE	**Matera**	**4.77**	**306**	⇓P	**Pn**	15 23 55.8	+4.1
PDG	**Podgorica**	**4.87**	**337**	⇓P	**Pn**	**15 23 55.7**	**+2.5**
BLKB	**Belogradchik**	**5.71**	**7**	⇓S	**Sn**	**15 25 12.3**	**+2.9**
VOIR		**7.87**	**17**	⇑P	**Pn**	**15 24 35.5**	**+1.1**
MLR	**Muntele Rosu**	**8.15**	**21**	Pn	**Pn**	**15 24 40.0**	**+1.7**
	comp=N,0.4nm,0.3s,baz=225,slow=11,SNR=2.0						
MLR	**Muntele Rosu**	**8.15**	**21**	⇓P	**Pn**	**15 24 39.4**	**+1.1**
PLOR	**Plostina**	**8.69**	**23**	⇑P	**Pn**	**15 24 45.9**	**+0.4**
VRI	**Vrincioaia**	**8.72**	**23**	⇑P	**Pn**	**15 24 47.1**	**+1.0**
BRTR	**Keskin Array B**	**9.42**	**76**	Pn	Pn	15 24 59.1	+3.3
	comp=N,0.1nm,0.3s,baz=264,slow=28,SNR=1.8						
GERES	**GERESS Array B**	**12.36**	**334**	Pn	**Pn**	**15 25 36.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=160,slow=14,SNR=2.6						
ESDC	**Sonseca Array**	**20.12**	**283**	P	Pn	15 27 13.6	-1.9
	comp=N,0.1nm,0.3s,baz=75,slow=11,SNR=11						
HFS	**Hagfors**	**22.79**	**350**	P	**P**	**15 27 40.2**	**-1.8**
	comp=N,2.3nm,0.8s,baz=138,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**23.67**	**5**	P	**P**	**15 27 49.3**	**-1.5**
	comp=N,0.4nm,0.4s,baz=174,slow=7.7,SNR=6.5						
NB2	**NORSAR Subarra**	**24.05**	**347**	P	**P**	**15 27 55.4**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**24.05**	**347**		**P**	**15 27 54.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=163,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**30.50**	**221**	P	**P**	**15 28 52.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=28,slow=8.9,SNR=3.0						
ARCES	**ARCESS Array B**	**31.71**	**2**	P	**P**	**15 29 02.1**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=206,slow=9.8,SNR=2.0						
MKAR	**Makanchi Array**	**44.57**	**58**	P	**P**	**15 30 52.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=278,slow=7.2,SNR=9.0						
ZALV	**Zalesovo Beam**	**45.10**	**48**	P	**P**	**15 30 56.8**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=271,slow=11,SNR=4.5						
SCHQ	**Schefferville**	**59.30**	**318**	P	**P**	**15 32 38.6**	**-2.3**
	comp=Z,4.8nm,0.6s,baz=8.3,slow=8.5,SNR=3.6						

*DJA **03** 15:50:25.0±0.6,6°S±5°×12°E±°, h428km±12km, M4.2/12, mb4.2/12, mB4.9/6, MLv4.3/6, Mw(mB)4.1/6, Mwp5.4/1*
*IDC **03** 15:50:35.4±2.3,6°S±5°×129°E±°, h146km±26km, mb3.3/2, mb1 3.4/7, mb1mx3.2/31, mbtmp3.8/7, MS3.8/1, Ms1 3.8/1, ms1mx2.6/21, Error ellipse: s-maj=33.0km s-min=18.9km az=83.0*

ISC 03 15:50:34.3±0.9, 6°65S±0.07°×129°80E±0.09, h200km, n17, σ2§64/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.99**	**132**	P	**Pn**	**15 51 11.9**	**-0.9**
SIJI	**Sorong**	**5.93**	**14**	P	**Pn**	**15 52 03.0**	**+2.2**
	0.7nm,0.3s,baz=281,slow=24,SNR=1.4						
SIJI				S	**Sn**	**15 53 06.6**	**-2.5**
	4.2nm,0.3s,baz=251,slow=23,SNR=15						
SOEI	**Soe**	**6.28**	**240**	P	**Pn**	**15 52 07.9**	**+2.5**
	0.2nm11µm25nm,0.6s						
BATI	**Baumata**	**7.02**	**239**	P	**Pn**	**15 52 17.4**	**+2.5**
	13nm,0.3s,baz=115,slow=3.9,SNR=11						
BATI				S	**Sn**	**15 53 32.9**	**-1.8**
	4.7nm,0.3s,baz=146,slow=18,SNR=2.5						
BATI	**Baumata**	**7.02**	**239**	P	Pn	15 52 09.0	-5.9
	0.1nm28nm,0.5s						
WSI	**Waingapu**	**9.87**	**252**	P	**Pn**	**15 52 52.7**	**+0.7**
	32µm3µm,0.7s						
BNSI	**Bone**	**9.90**	**283**	P	**Pn**	**15 52 54.0**	**+1.6**
	3µm96nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.08**	**199**	P	**Pn**	**15 53 20.6**	**+0.3**
	0.2nm,0.3s,baz=28,slow=12,SNR=13						
FITZ				S	Sn	15 55 24.7	-10
	1.1nm,0.3s,baz=271,slow=18,SNR=9.9						
WRA	**Warramunga Arr**	**13.93**	**162**	P	**Pn**	**15 53 42.9**	**-0.6**
	0.3nm,0.3s,baz=336,slow=13,SNR=18						
WRA				S	S	15 56 07.8	-11
	0.5nm,0.3s,baz=334,slow=21,SNR=6.1						
ASAR	**Alice Springs**	**17.37**	**167**	P	**Pn**	**15 54 27.1**	**+2.0**
	0.6nm,0.3s,baz=347,slow=10,SNR=81						
ASAR				S	**S**	**15 57 33.4**	**-0.5**
	0.1nm,0.3s,baz=3.3,slow=28,SNR=4.6						
KPJI	**Karang Pucung**	**20.72**	**267**	P	Pn	15 55 09.4	+4.1
CISI	**Cisompet, Garu**	**21.83**	**266**	P	**P**	**15 55 10.8**	**-0.4**
CNJI	**Cibinong**	**22.51**	**267**	P	**P**	**15 55 13.3**	**-4.2**
DBJI	**Dramaga**	**22.90**	**269**	P	**P**	**15 55 15.3**	**-5.7**
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**15 56 03.8**	**+2.3**
	0.3nm,0.3s,baz=0.0,slow=10,SNR=2.9						
JCJ	**Chichijima**	**35.63**	**19**	LR	LR	16 10 36.4	
	comp=Z,173nm,21.2s,baz=128,slow=34						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	16 01 19.6	+8.7
	0.4nm,0.4s,baz=125,slow=7.8,SNR=6.2						

*IDC **03** 16:06:40.1±3.2,8°50S×110°89E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/38, mbtmp3.1/3, Error ellipse: s-maj=164.7km s-min=30.5km az=49.0*

*DJA **03** 16:06:45.3±2.2,9°S±19°×11°0E±°, h10km, M3.3/7, MLv3.3/7*
ISC 03 16:06:39.6±1.5, 9°2S±0°1×110°2E±0°1, h10km, n9, σ0§91/9, mb3.1/3, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.34**	**15**	P	**Pg**	**16 07 05.8**	**+0.5**
YOGI	**Yogyakarta**	**1.39**	**5**	P	**Pg**	**16 07 07.1**	**+0.7**
WOJI	**Wonogiri, Jawa**	**1.55**	**29**	P	**Pb**	**16 07 08.1**	**-0.4**
PWJI	**Pagerwojo**	**2.00**	**54**	P	**Pn**	**16 07 14.0**	**+0.5**
SMRI	**Semarang**	**2.17**	**7**	P	**Pg**	**16 07 20.7**	**-0.5**
KPJI	**Karang Pucung**	**2.23**	**327**	P	**Pg**	**16 07 22.9**	**+0.4**
WRA	**Warramunga Arr**	**25.67**	**117**	P	**P**	**16 12 08.8**	**-1.2**
	0.4nm,0.9s,baz=292,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**26.86**	**125**	P	**P**	**16 12 21.9**	**+1.2**
	0.2nm,0.6s,baz=306,slow=9.8,SNR=5.1						
MKAR	**Makanchi Array**	**61.05**	**338**	P	**P**	**16 16 53.0**	**-0.6**
	0.2nm,0.4s,baz=160,slow=8.7,SNR=2.5						

*IDC **03** 16:23:03.6±3.5,36°24N×70°11E, h124km±36km, mb3.2/6, mb1 3.4/12, mb1mx3.1/64, mbtmp3.8/12, Error ellipse: s-maj=23.7km s-min=20.5km az=161.0*
*NEIC **03** 16:23:04.6±2.4,36°32N±0°07×70°05E±0°09, h140km±10km, mb4.0/2, Error ellipse: s-maj=12.6km s-min=8.2km az=224.0*
*NNC **03** 16:23:08.6±5.8,36°63N×70°26E, h156km±65km, mb3.6, mpv4.4, Error ellipse: s-maj=52.7km s-min=35.1km az=169.0*

ISC 03 16:23:04.5±0.5, 36°36N±0°05×70°11E±0°06, h150km, n58, σ2§20/65, mb3.3/5, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.01**	**206**	Pn	**Pn**	**16 23 40.0**	**-0.1**
CHGR	**Chuyangaron**	**2.41**	**342**	Pn	**Pn**	**16 23 45.0**	**+0.3**
GAR	**Garm**	**2.64**	**3**	Pn	**Pn**	**16 23 48.1**	**+0.6**
CEP	**Cherat**	**2.93**	**149**	P	**Pn**	**16 23 51.3**	**+0.2**
CEP				S	**Sn**	**16 24 26.0**	**-1.1**
NIL	**Nilore**	**3.74**	**135**	Pn	**Pn**	**16 24 01.9**	**+0.5**
THW	**Thamme Wali**	**3.80**	**159**	P	**Pn**	**16 24 01.9**	**-0.4**
THW	**Thamme Wali**	**3.80**	**159**	P	**Pn**	**16 24 01.8**	**-0.5**
AML	**Almayashu**	**6.40**	**25**	P	**Pn**	**16 24 37.4**	**+0.6**
	SNR=27						
DHRM	**DHARAMSHALA**	**6.56**	**127**	*e*P	**Pn**	**16 24 37.7**	**-1.2**
DHRM				*e*S	**Sn**	**16 25 47.9**	**-4.9**
DHRM				IAML		16 25 51.9	
	comp=N,406nm,0.7s						
HRA	**Herat**	**6.72**	**255**	Pn	**Pn**	**16 24 40.5**	**-0.6**
KK31	**Karatay Array**	**6.74**	**2**	⇑P	**Pn**	**16 24 41.6**	**+0.6**
	comp=N,15nm,0.5s,baz=190,slow=14,SNR=299						
KK31				⇓S	**Sn**	**16 25 56.1**	**-0.6**
	comp=N,7.3nm,0.4s,baz=193,slow=21,SNR=6.7						
KK31	**Karatay Array**	**6.74**	**2**	Pn	**Pn**	**16 24 41.7**	**+0.6**
KKAR	**Karatay Array**	**6.74**	**2**	Pn	**Pn**	**16 24 41.8**	**+0.7**
KKAR	**Karatay Array**	**6.74**	**2**	Pn	**Pn**	**16 24 41.4**	**+0.3**
UCH	**Uchtor**	**6.78**	**29**	P	**Pn**	**16 24 42.1**	**+0.1**
	SNR=46						
EKS2	**Erkin-Say**	**6.90**	**23**	P	**Pn**	**16 24 44.3**	**+1.0**
	SNR=37						
AAK	**Ala-Archa**	**7.12**	**27**	P	**Pn**	**16 24 47.3**	**+1.0**
	SNR=37						
AAK	**Ala-Archa**	**7.12**	**27**	⇑P	**Pn**	**16 24 47.1**	**+0.8**
	comp=N,31nm,0.9s						
AAK				⇓S	**Sn**	**16 26 03.5**	**-2.6**
	comp=N,32nm,0.9s						
BHK	**Bhakra**	**7.20**	**131**	*e*S	**Sn**	**16 26 04.0**	**-3.8**
KBK	**Karagaybulak**	**7.31**	**29**	P	**Pn**	**16 24 50.2**	**+1.4**
	SNR=14						
CHMS	**Chumysh**	**7.53**	**27**	P	**Pn**	**16 24 52.2**	**+0.6**
	SNR=26						
ULHL	**Ulahol**	**7.56**	**37**	P	**Pn**	**16 24 53.6**	**+1.5**
	SNR=11						
BOOM	**Boomskoye usch**	**7.60**	**35**	Pn	**Pn**	**16 24 52.8**	**+0.1**
USP	**Ospenovka**	**7.68**	**25**	P	**Pn**	**16 24 54.4**	**+0.8**
	SNR=17						
TKM2	**Tokmak 2**	**7.80**	**31**	P	**Pn**	**16 24 55.3**	**0.0**
	SNR=31						
TKM2	**Tokmak 2**	**7.80**	**31**	⇑P	**Pn**	**16 24 55.2**	**-0.1**
	comp=N,20nm,0.8s						
TKM2				⇑S	**Sn**	**16 26 19.5**	**-2.9**
	comp=N,20nm,0.9s						
SMLA	**Simla**	**7.86**	**130**	*e*P	**Pn**	**16 24 54.1**	**-1.9**
SMLA				*e*S	**Sn**	**16 26 17.3**	**-6.3**
SMLA				IAML		16 26 21.6	
	comp=E,153nm,0.4s						
SMLA				IAML		16 26 21.9	
	comp=N,92nm,0.5s						
KDJ	**Kajisay**	**7.95**	**41**	Pn	**Pn**	**16 24 57.1**	**-0.3**
TARG	**Taragay, Kyrgy**	**8.03**	**46**		**Pn**	**16 24 59.6**	**+1.0**
GEYT	**Alibeck**	**9.70**	**283**	P	**Pn**	**16 25 19.6**	**-0.9**
	comp=N,1.6nm,0.3s,baz=88,slow=12,SNR=9.8						
GEYT				S	**Sn**	**16 27 03.8**	**-4.3**
	comp=N,1.9nm,0.3s,baz=78,slow=14,SNR=3.1						
GEYT	**Alibeck**	**9.70**	**283**	Pn	**Pn**	**16 25 18.9**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**9.70**	**283**	Pn	**Pn**	**16 25 19.1**	**-1.5**
KUDL	**Kundal**	**9.81**	**145**	*e*P	**Pn**	**16 25 20.1**	**-1.9**
KUDL				*e*S	Sn	16 27 00.2	-10
SONA	**Sohna**	**10.01**	**142**	*e*S	Sn	16 27 05.7	-10
MAKZ	**Makanchi**	**13.69**	**37**	⇑P	**Pn**	**16 26 09.9**	**-2.4**
	comp=N,8.4nm,0.9s						
MK31	**Makanchi Array**	**13.83**	**37**	⇓P	**Pn**	**16 26 15.1**	**+1.0**
	comp=N,4.3nm,0.7s,baz=213,slow=11,SNR=6.0						
MK31	**Makanchi Array**	**13.83**	**37**	Pn	**Pn**	**16 26 15.5**	**+1.4**
MKAR	**Makanchi Array**	**13.83**	**37**	P	**Pn**	**16 26 14.9**	**+0.8**
	comp=N,0.4nm,0.3s,baz=228,slow=14,SNR=23						
MKAR	**Makanchi Array**	**13.83**	**37**		**Pn**	**16 26 16.2**	**+2.1**
BHPL	**Bhopal**	**14.53**	**152**	*e*P	**P**	**16 26 28.6**	**+3.0**
BHPL				*e*S	Sn	16 28 52.4	-12
AB31	**Akbulak array**	**14.87**	**333**	⇑P	**Pn**	**16 26 28.1**	**+0.9**
	comp=N,4.4nm,0.6s,baz=152,slow=12,SNR=70						
ABKAR	**Akbulak array**	**14.87**	**333**		**P**	**16 26 28.9**	**-0.2**
ABKAR	**Akbulak array**	**14.87**	**333**	P	**P**	**16 26 28.9**	**-0.2**
KURBB	**Kurchatov Arra**	**15.49**	**20**	P	**Pn**	**16 26 34.5**	**-0.3**
	comp=N,0.1nm,0.3s,baz=212,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**15.49**	**20**	⇑P	**Pn**	**16 26 33.7**	**-1.1**
	comp=N,5.6nm,0.7s						
WSAR	**Wadi Sarin**	**16.42**	**220**	P	**P**	**16 26 46.7**	**+0.3**
	comp=N,0.3nm,0.3s,baz=54,slow=5.3,SNR=4.4						
AKTO	**Aktyubinsk**	**16.55**	**332**	P	**P**	**16 26 48.5**	**+0.8**
	comp=N,0.1nm,0.3s,baz=52,slow=4.8,SNR=2.5						
AKTO				S	**S**	**16 29 42.7**	**-8.9**
	comp=N,0.2nm,0.3s,baz=150,slow=17,SNR=3.9						
AKTO	**Aktyubinsk**	**16.55**	**332**	⇑P	**Pn**	**16 26 50.0**	**+2.3**
	comp=N,1.4nm,0.6s						
BVAR	**Borovoye Array**	**16.66**	**1**	P	**Pn**	**16 26 52.0**	**+3.0**
	comp=N,0.5nm,0.3s,baz=221,slow=17,SNR=7.0						
BRVK	**Bovoye**	**16.70**	**0**	⇓P	**Pn**	**16 26 51.6**	**+2.2**
	comp=N,5.7nm,0.9s						
BRVK	**Borovoye**	**16.70**	**0**	P	**Pn**	**16 26 51.8**	**+2.3**
BRVK				IAmb	IAmb	16 26 54.1	
	comp=Z,4.8nm,0.8s						
ZAA0	**Zalesovo Array**	**20.34**	**26**	P	**P**	**16 27 31.5**	**+2.7**
ZAA0				IAmb	IAmb	16 27 34.6	
	comp=Z,5.7nm,0.7s						
ZALV	**Zalesovo Beam**	**20.34**	**26**	P	**P**	**16 27 31.5**	**+2.6**
	comp=Z,5.5nm,0.5s,baz=223,slow=11,SNR=23						
CMAR	**Chiang Mai Arr**	**31.02**	**117**	P	**P**	**16 29 10.3**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=313,slow=8.4,SNR=2.4						
NOA	**NORSAR Array B**	**44.06**	**323**	P	**P**	**16 31 00.2**	**+3.0**
	comp=Z,0.4nm,0.6s,baz=97,slow=7.8,SNR=1.3						
TORD	**Torodi Ar. Bea**	**65.00**	**268**	P	**P**	**16 33 30.3**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=43,slow=6.5,SNR=2.0						
WRA	**Warramunga Arr**	**82.53**	**121**	P	**P**	**16 35 11.4**	**+0.7**
	comp=Z,0.6nm,1.1s,baz=327,slow=4.8,SNR=2.1						
ASAR	**Alice Springs**	**84.77**	**124**	P	**P**	**16 35 22.9**	**+0.9**
	comp=Z,0.3nm,1.1s,baz=324,slow=4.6,SNR=1.6						

IDC 03 16:23:15.3±3.7, 20°52N×146°08E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/59, mbtmp3.5/4, Error ellipse: s-maj=163.2km s-min=29.3km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.82**	**197**	P	P	16 31 06.8	-0.3
	0.3nm,0.6s,baz=15,slow=8.6,SNR=6.5						
ASAR	**Alice Springs**	**45.49**	**196**	P	P	16 31 36.6	0.0
	0.2nm,0.7s,baz=18,slow=6.7,SNR=7.1						
MKAR	**Makanchi Array**	**57.48**	**313**	P	P	16 33 06.7	+0.4
	0.2nm,0.5s,baz=88,slow=10,SNR=2.0						
FINES	**FINESS Array B**	**85.39**	**335**	P	P	16 35 53.9	-0.4
	2.5nm,1.1s,baz=75,slow=5.9,SNR=1.9						

*NEIC **03** 16:30:22.0±0.5, 18°9N±0°1×145°6E±0°3, h236km±11km, mb3.7/7, Error ellipse: s-maj=40.1km s-min=16.7km az=96.0*
*IDC **03** 16:30:23.0±3.1, 18°82N×145°71E, h249km±31km, mb3.1/9, mb1 3.3/10, mb1mx3.0/53, mbtmp3.8/10, Error ellipse: s-maj=41.9km s-min=14.6km az=87.0*

ISC 03 16:30:20.3±1.0, 18°88N±0°08×145°6E±0°3, h214km, n19, σ1§46/19, mb3.6/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.53**	**177**	Pn	**Pn**	**16 31 08.2**	**+2.7**
GUMO	**Guam**	**5.30**	**187**	P	**Pn**	**16 31 40.8**	**+1.9**
	5.6nm,0.3s,baz=17,slow=19,SNR=1.9						
GUMO				S	**S**	**16 32 38.9**	**-2.1**
	5.1nm,0.3s,baz=306,slow=16,SNR=1.8						
JGF	**Kuroka**	**18.16**	**338**	P	**P**	**16 34 17.8**	**+0.8**
KSRS	**Korea Array**	**24.09**	**324**	P	**P**	**16 35 19.2**	**+2.9**
	1.1nm,0.7s,baz=153,slow=9.2,SNR=4.0						
WB0	**Warramunga Arr**	**39.94**	**196**	P	**P**	**16 37 33.7**	**-0.3**
WB0				IAmb	IAmb	16 37 44.8	
	comp=Z,3.6nm,1.1s						
WR0	**Warramunga Arr**	**40.08**	**196**	P	**P**	**16 37 34.6**	**-0.6**
WRAB	**Tennant Creek**	**40.11**	**196**	P	**P**	**16 37 35.0**	**-0.4**
WRAB				IAmb	IAmb	16 37 43.8	
	comp=Z,3.1nm,1.1s						
WB2	**Warramunga Arr**	**40.12**	**196**	P	**P**	**16 37 35.1**	**-0.3**
WB2				IAmb	IAmb	16 37 41.4	
	comp=Z,3.2nm,1.1s						
WRA	**Warramunga Arr**	**40.12**	**196**	P	**P**	**16 37 34.8**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=22,slow=8.7,SNR=13						
WRA	**Warramunga Arr**	**40.12**	**196**	P	**P**	**16 37 34.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**41.63**	**209**	P	**P**	**16 37 47.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=32,slow=6.7,SNR=7.9						
ASAR	**Alice Springs**	**43.79**	**196**	P	**P**	**16 38 04.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=11,slow=7.0,SNR=6.4						
MKAR	**Makanchi Array**	**58.24**	**314**	P	**P**	**16 39 52.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=90,slow=6.8,SNR=3.3						
KURK	**Kurchatov**	**61.04**	**318**	P	**P**	**16 40 11.3**	**0.0**
KURK	**Kurchatov**	**61.04**	**318**	IAmb	IAmb	16 40 22.8	
	comp=Z,1.9nm,1.1s						
KURBB	**Kurchatov Arra**	**61.09**	**318**	P	**P**	**16 40 11.3**	**-0.4**
	comp=Z,1.5nm,0.2s,baz=96,slow=7.5,SNR=7.1						
ILAR	**Eielson Array**	**63.54**	**26**	P	**P**	**16 40 27.4**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=280,slow=5.4,SNR=2.5						
BVAR	**Borovoye Array**	**66.25**	**320**	P	**P**	**16 40 44.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=168,slow=7.4,SNR=6.0						
FINES	**FINESS Array B**	**86.66**	**335**	P	**P**	**16 42 37.2**	**-2.4**
	comp=Z,1.7nm,1.0s,baz=84,slow=5.9,SNR=5.9						

*JMA **03** 16:44:10.8, 33°39N×134°89E, h37km±2km, M3.8*
JMA Felt II J1.
*NIED **03** 16:44:10.8, 33°39N×134°89E, h37km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.22; $M_{\theta\theta}$-4.75; $M_{\phi\phi}$2.53; $M_{r\theta}$0.28; $M_{\theta\phi}$-1.89; $M_{\phi r}$-2.24; Fault plane solution: $M_0$5.06000×10^{14} NP1: ϕ_s219.00000°, δ65.00000°, λ32.00000°. NP2: ϕ_s114.00000°, δ61.00000°, λ151.00000°.*
*IDC **03** 16:44:12.6±1.2, 33°85N×134°51E, h0km,

VA01	**Torpederas**	**30.33 335**	P	**P**	**17 07 26.1**	**+0.5**
SYO	**Syowa Base**	**36.72 143**⇑	*e*P	**P**	**17 08 18.9**	**-2.0**
SYO	**Syowa Base**	**36.72 143**⇑	*e*pP	**P**	**17 08 20.4**	**-0.5**
VNDA	**Vanda**	**38.86 193**	LR	LR	17 24 06.5	
	comp=Z,83nm,21.0s,baz=146,slow=35					
MAW	**Mawson**	**43.74 151**	P	**P**	**17 09 19.1**	**+0.1**
	comp=Z,5.8nm,1.0s,baz=223,slow=8.5,SNR=8.8					
MAW			LR	LR	17 27 06.7	
	comp=Z,216nm,18.2s,baz=236,slow=36					
MAW	**Mawson**	**43.74 151**	IAmb	IAmb	17 09 20.1	
	comp=Z,2.0nm,1.1s					
PB12	**IPOC Station P**	**44.18 342**	P	**P**	**17 09 22.4**	**-0.7**
PB12			IAmb	IAmb	17 11 05.4	
	comp=Z,26nm,1.1s					
PB16	**IPOC Station P**	**44.33 343**	P	P	17 09 31.3	+6.3
PB16			IAmb	IAmb	17 09 32.9	
	comp=Z,6.2nm,0.7s					
LPAZ	**La Paz**	**46.17 345**	LR	LR	17 30 17.9	
	comp=Z,116nm,18.1s,baz=152,slow=38					
LPAZ	**La Paz**	**46.17 345**	P	**P**	**17 09 40.6**	**+1.0**
LPAZ			IAmb	IAmb	17 10 04.1	
	comp=Z,12nm,1.8s					
SAML	**Samuel**	**52.97 352**	P	**P**	**17 10 33.4**	**+2.6**
BOSA	**Boshof**	**61.59 98**	P	**P**	**17 11 31.9**	**+0.2**
	comp=Z,8.2nm,1.0s,baz=172,slow=7.1,SNR=5.7					
BOSA			LR	LR	17 33 22.4	
	comp=Z,27nm,18.5s,baz=177,slow=31					
BOSA	**Boshof**	**61.59 98**	IAmb	IAmb	17 11 35.7	
	comp=Z,10nm,1.0s					
H10N3	**ASCENSION HYDR**	**62.21 49**	T	T	18 18 56.4	
	baz=206					
H10N1	**ASCENSION HYDR**	**62.22 49**	T	T	18 19 40.9	
	baz=206					
H10N2	**ASCENSION HYDR**	**62.23 49**	T	T	18 19 26.8	
	baz=206					
LBTB	**Lobatse**	**64.79 96**	P	**P**	**17 11 53.2**	**+0.3**
TSUM	**Tsumeb**	**65.97 86**	P	**P**	**17 12 01.2**	**+0.5**
TSUM			IAmb	IAmb	17 12 03.3	
	comp=Z,18nm,1.5s					
PAYG	**Puerto Ayora**	**65.99 323**	P	**P**	**17 12 01.2**	**+0.5**
ROSC	**El Rosal**	**67.81 341**	LR	LR	17 44 20.3	
	comp=Z,140nm,18.0s,baz=188,slow=38					
LSZ	**Lusaka**	**74.38 93**	P	**P**	**17 12 51.8**	**-0.5**
LSZ			IAmb	IAmb	17 12 54.6	
	comp=Z,11nm,1.2s					
TORD	**Torodi Ar. Bea**	**87.62 56**	P	**P**	**17 14 03.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=205,slow=5.1,SNR=4.0					
TORD	**Torodi Ar. Bea**	**87.62 56**	IAmb	IAmb	17 14 07.8	
	comp=Z,1.3nm,1.0s					
ASAR	**Alice Springs**	**94.36 190**	P	**P**	**17 14 33.6**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=174,slow=6.2,SNR=6.8					
WRA	**Warramunga Arr**	**98.01 191**	P	**P**	**17 14 50.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=178,slow=4.0,SNR=9.8					
TXAR	**Lajitas Array**	**98.33 320**	LR	LR	17 52 47.8	
	comp=Z,36nm,19.2s,baz=0.0,slow=32					
CMAR	**Chiang Mai Arr**	**133.49 148**	PKP	**PKPdf**	**17 20 30.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=215,slow=3.0,SNR=1.3					
ILAR	**Eielson Array**	**142.65 315**	PKP	**PKPdf**	**17 20 45.1**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=158,slow=1.0,SNR=4.1					
ARCES	**ARCESS Array B**	**143.33 36**	PKP	PKPbc	17 20 45.2	+1.1
	comp=Z,2.2nm,0.9s,baz=270,slow=1.8,SNR=4.6					
MKAR	**Makanchi Array**	**152.45 104**	PKPbc	**PKPbc**	**17 21 09.3**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=193,slow=2.1,SNR=6.9					
MKAR	**Makanchi Array**	**152.45 104**		**PKPbc**	**17 21 08.9**	**-0.6**
MJAR	**Matsushiro Arr**	**152.96 208**	PKPab	**PKPab**	**17 21 22.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=173,slow=4.3,SNR=2.6					
SONM	**Songino Array**	**163.10 138**	PKPab	**PKPab**	**17 22 06.3**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=193,slow=5.9,SNR=3.5					

*IDC **03** 17:27:26.2±2.2,3°.74S×134°.60E,h0km,mb3.6/2, mb1 3.8/6,mb1mx3.5/25,mbtmp3.6/6,ML3.5/4,Error ellipse: s-maj=75.5km s-min=24.8km az=78.0*

ISC 03 17:27:28.5±1.9,3°.8S±0°.1×134°.3E±0°.3,h10km,n6,σ1§15/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.20**	**314**	Pn	**Pn**	**17 28 33.5**	**+0.9**
	3.4nm,0.3s,baz=138,slow=16,SNR=15						
SIJI				Sn	**Sn**	**17 29 20.5**	**-1.4**
	4.0nm,0.3s,baz=226,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**16.01**	**180**	Pn	**Pn**	**17 31 12.5**	**-1.4**
	0.1nm,0.3s,baz=2.5,slow=13,SNR=2.1						
WRA				Sn	Sn	17 33 59.8	-12
	0.1nm,0.3s,baz=3.7,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**16.50**	**210**	Pn	**Pn**	**17 31 20.4**	**+0.2**
	0.2nm,0.3s,baz=30,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**19.72**	**181**	P	**Pn**	**17 31 59.9**	**+0.1**
	0.5nm,0.3s,baz=6.5,slow=12,SNR=70						
MKAR	**Makanchi Array**	**68.04**	**324**	P	**P**	**17 38 28.8**	**+0.5**
	0.4nm,0.6s,baz=108,slow=5.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**70.74**	**332**	P	**P**	**17 38 44.4**	**-0.4**
	0.3nm,0.6s,baz=141,slow=7.4,SNR=1.7						

JMA 03 17:28:46.6±0.1,24°.92N×123°.38E,h25km,M2.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**216**	P	Pb	17 28 57.6	-0.3
YOJ				*e*S	Sb	17 29 05.4	-0.2
IRIF	**Iriomote-Funau**	**0.66**	**151**	P	Pb	17 28 59.1	-0.5
IRIF				*e*S	Sb	17 29 08.3	-0.1
JIJ	**Ishigaki jima**	**0.89**	**128**	P	Pb	17 29 02.7	-0.7
JIJ				*e*S	Sb	17 29 14.3	-0.5
JKRS	**Kuro-shima**	**0.89**	**140**	P	Pb	17 29 03.1	-0.3
JKRS				S	Sb	17 29 15.0	+0.2
JISG	**Ishigakijimahi**	**0.91**	**111**	P	Pb	17 29 03.4	-0.3
JISG				*e*S	Sb	17 29 15.1	-0.3
HATJ	**Hateruma jima**	**0.94**	**156**	S	Sb	17 29 15.9	-0.5

TAP 03 17:28:52.1,23°.14N×122°.55E,h4km±1km,ML2.4,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**1.09**	**289**	P	Pb	17 29 13.6	-0.1
	baz=288						
HGSD				*e*S	Sb	17 29 28.2	-0.1
	baz=288						
LDUT	**Ludao**	**1.10**	**245**	*e*P	Pb	17 29 13.7	-0.1
	baz=244						
EYUL	**Yuli**	**1.15**	**280**	*i* P	Pn	17 29 15.0	0.0
	baz=280						
EYUL				*i* S	Sn	17 29 31.7	+0.4
	baz=280						
EGFH	**Guangfu**	**1.16**	**297**	*i* P	Pn	17 29 15.1	-0.1
	baz=296						
EGFH				*i* S	Sn	17 29 32.1	+0.7
	baz=296						
FULB	**Fuli**	**1.16**	**273**	P	Pg	17 29 14.6	+0.2
	baz=272						
FULB				*e*S	Sg	17 29 29.8	+0.3
	baz=272						
EDH	**Donghe**	**1.16**	**262**	*e*P	Pg	17 29 14.1	-0.3
	baz=261						
EDH				*e*S	Sg	17 29 29.5	-0.1
	baz=261						
TWF1	**Yuli**	**1.17**	**280**	*e*P	Pb	17 29 15.2	+0.2
	baz=280						
TWF1				*e*S	Sn	17 29 31.6	-0.3
	baz=280						
YULB	**Yu-li**	**1.18**	**282**	*e*P	Pn	17 29 15.6	+0.1
	baz=282						
YULB				*i* S	Sn	17 29 32.5	+0.5
	baz=282						
EHY	**Hungye**	**1.19**	**288**	P	Pb	17 29 15.3	+0.1
	baz=287						
EHY				*e*S	Sn	17 29 32.4	+0.2
	baz=287						
ESL	**Shilin**	**1.23**	**303**	P	Pg	17 29 15.4	-0.3
	baz=303						
LONT	**Longtian**	**1.33**	**260**	P	Pb	17 29 17.8	+0.1
	baz=259						
NACB	**Ninganchiao**	**1.35**	**320**	*e*P	Pn	17 29 17.2	-0.6
	baz=319						
NACB				*e*S	Sg	17 29 34.8	-0.8
	baz=319						
TWGBT	**Beinan**	**1.40**	**257**	P	Pn	17 29 18.6	+0.1
	baz=256						
TWGBT				*e*S	Sb	17 29 37.0	0.0
	baz=256						
TWG	**Pinlang**	**1.40**	**257**	*i* P	Pn	17 29 18.6	+0.1
	baz=256						
TWG				*e*S	Sb	17 29 36.8	-0.4
	baz=256						
ELDTW	**Lidau**	**1.41**	**272**	*e*P	Pn	17 29 18.8	0.0
	baz=271						
VWDT	**VWDT**	**1.43**	**295**	P	Pg	17 29 19.6	0.0
	baz=295						
ETLH	**Xiulin Townshi**	**1.44**	**317**	*i* P	Pn	17 29 19.4	+0.2
	baz=317						
ETLH				*e*S	Sb	17 29 38.0	-0.4
	baz=317						
ENA	**Nanau**	**1.48**	**330**	*e*P	Pg	17 29 21.0	+0.5
	baz=330						
ENA				S	Sg	17 29 40.3	+0.6
	baz=330						
WHF	**Hehuan Shan**	**1.54**	**310**	*e*P	Pn	17 29 21.1	+0.2
	baz=310						
WHF				S	Sn	17 29 41.7	0.0
	baz=310						
CHGB	**Renai**	**1.56**	**306**	P	Pn	17 29 20.5	-0.4
	baz=305						
SSLB	**Suanglung**	**1.60**	**294**	P	Pn	17 29 21.7	+0.4
	baz=293						
FUSS	**Fushou**	**1.63**	**313**	*e*P	Pn	17 29 22.3	+0.5
	baz=312						
ALS	**Alishan**	**1.65**	**283**	*e*P	Pg	17 29 23.5	-0.2
	baz=282						
STYT	**Tauyuan**	**1.65**	**271**	*e*P	Pb	17 29 23.2	0.0
	baz=270						
STYT				*e*S	Sn	17 29 43.8	0.0
	baz=270						
NNSB	**Datong**	**1.67**	**320**	*e*P	Pn	17 29 22.4	+0.1
	baz=320						
NNSB				S	Sn	17 29 44.2	0.0
	baz=320						
TWT	**Tachien**	**1.68**	**311**	*e*P	Pb	17 29 23.4	-0.3
	baz=310						
TWT				*e*S	Sb	17 29 45.0	-0.3
	baz=310						
SMLT	**Sun Moon Lake**	**1.69**	**296**	*e*P	Pb	17 29 23.5	-0.3
	baz=295						
TDCB	**Techi**	**1.69**	**311**	*e*P	Pb	17 29 23.5	-0.4
	baz=310						
TYC	**Yuchr**	**1.73**	**296**	*e*P	Pb	17 29 24.1	-0.4
	baz=296						
NDT	**Datong Townshi**	**1.74**	**327**	*e*P	Pb	17 29 24.3	-0.3
	baz=326						
NDT				*e*S	Sn	17 29 45.9	+0.2
	baz=326						
SLGT	**Liugui**	**1.76**	**265**	*e*P	Pb	17 29 24.6	-0.5
	baz=265						
TPUB	**Ta-pu**	**1.78**	**275**	P	Pg	17 29 25.8	-0.4
	baz=275						
TPUB				S	Sg	17 29 49.3	+0.1
	baz=275						
WTP	**Ta-pu**	**1.79**	**274**	*e*P	Pb	17 29 25.9	+0.4
	baz=273						
WTP				*e*S	Sg	17 29 50.1	+0.5
	baz=273						
CHN4	**Tsaushan**	**1.81**	**277**	*e*P	Pb	17 29 26.2	+0.3
	baz=276						
SGST	**Jiashian**	**1.81**	**268**	*e*P	Pb	17 29 26.2	+0.3
	baz=268						
SSD	**Sandimen**	**1.81**	**258**	*e*P	Pn	17 29 24.8	+0.6
	baz=257						
MASBT	**Mashibuluo**	**1.85**	**254**	P	Pn	17 29 25.1	+0.4
	baz=253						
YHNB	**Yeheng**	**1.86**	**325**	*e*P	Pn	17 29 25.7	+0.8
	baz=324						
YHNB				*e*S	Sn	17 29 48.9	-0.1
	baz=324						
CHN1	**Nanshi**	**1.86**	**272**	*e*P	Pg	17 29 27.6	-0.3
	baz=271						
CHN1				*e*S	Sg	17 29 52.5	+0.4
	baz=271						
WNT	**Mingjian**	**1.86**	**293**	*e*P	Pg	17 29 27.7	-0.1
	baz=293						
NWLT	**Wulai**	**1.89**	**330**	*e*P	Pn	17 29 26.0	+0.8
	baz=329						
NWLT				*e*S	Sn	17 29 49.2	-0.4
	baz=329						
SNST	**Tainan City**	**1.89**	**273**	*e*P	Pb	17 29 27.6	+0.4
	baz=272						
TWK	**Hsinying**	**1.90**	**274**	*e*P	Pb	17 29 27.8	+0.3
	baz=273						

IDC 03 17:31:26.4±2.5,6°.59S×130°.73E,h105km±28km,mb3.1/2, mb1 3.4/6,mb1mx3.2/28,mbtmp3.7/6,Error ellipse: s-maj=41.1km s-min=23.4km az=87.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.71**	**5**	P	Pn	17 32 49.1	+0.2
	3.1nm,0.3s,baz=205,slow=19,SNR=22						
SIJI				S	Sn	17 33 49.6	-3.5
	2.5nm,0.3s,baz=260,slow=23,SNR=10						
BATI	**Baumata**	**7.86**	**242**	P	Pn	17 33 18.1	+0.1
	2.8nm,0.3s,baz=75,slow=9.5,SNR=2.7						
BATI				S	Sn	17 34 38.2	-7.2
	5.1nm,0.3s,baz=194,slow=20,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.47**	**203**	P	Pn	17 34 16.4	-3.8
	baz=32,slow=13,SNR=1.5						
FITZ				S	Sn	17 36 23.2	-14
	0.4nm,0.3s,baz=287,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**13.73**	**166**	P	Pn	17 34 35.6	-1.1
	0.1nm,0.3s,baz=350,slow=14,SNR=2.0						
WRA				S	Sn	17 36 59.0	-8.8
	1.2nm,0.3s,baz=340,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.25**	**170**	P	Pn	17 35 21.5	+0.7
	0.3nm,0.3s,baz=354,slow=12,SNR=24						
ASAR				S	Sn	17 38 25.6	-7.4
	0.3nm,0.3s,baz=357,slow=24,SNR=5.9						
CMAR	**Chiang Mai Arr**	**40.03**	**309**	P	P	17 38 50.6	-0.9
	0.3nm,0.5s,baz=126,slow=6.7,SNR=4.6						
MKAR	**Makanchi Array**	**68.29**	**326**	P	P	17 42 16.6	+0.5
	0.3nm,0.5s,baz=126,slow=7.8,SNR=5.2						

ROM 03 17:33:44.0±0.3,39°.86N±0°.01×16°.16E±0°.02,h29km±2km, Md2.0/9,6C-1D,Error ellipse: s-maj=1.5km s-min=1.4km az=251.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMN	**Mormanno**	**0.14**	**283**	⇑P	Pb	17 33 47.6	-1.8
MMN				AML	AML		
	comp=E,422μm,0.2s						
MMN				AML	AML		
	comp=N,998μm,0.7s						
MMN				AML	AML		
	comp=E,422μm,0.2s						
MMN				AML	AML		
	comp=N,998μm,0.7s						
MMN				AML	AML		
	comp=E,422μm,0.2s						
MMN				AML	AML		
	comp=N,998μm,0.7s						
SALB	**San Lorenzo Be**	**0.14**	**83**	P	Pb	17 33 48.7	-0.9
SALB				S	Sb	17 33 54.2	+0.8
SALB				END			
SALB	**San Lorenzo Be**	**0.14**	**83**	⇑P	Pb	17 33 48.8	-0.8
SALB				AML	AML		
	comp=E,323μm,0.2s						
SALB				AML	AML		
	comp=N,163μm,0.6s						
SALB				AML	AML		
	comp=E,323μm,0.2s						
SALB				AML	AML		
	comp=N,163μm,0.6s						
T0702	**Acquaformosa (**	**0.15**	**203**	P	Pb	17 33 49.0	-0.6
T0702				S	Sb	17 33 54.3	+0.8
T0702				END			
T0702	**Acquaformosa (**	**0.15**	**203**	⇑P	Pb	17 33 49.0	-0.6
T0721	**Laino Castello**	**0.16**	**298**	P	Pb	17 33 48.0	-1.6
TDS	**Terranova Siba**	**0.24**	**146**	⇑P	Pn	17 33 52.7	+1.0
TDS				AML	AML		
	comp=E,29μm,1.0s						
TDS				AML	AML		
	comp=N,31μm,0.4s						
TDS				AML	AML		
	comp=E,29μm,1.0s						
TDS				AML	AML		
	comp=N,31μm,0.4s						
ORI	**Oriolo Calabro**	**0.30**	**47**	P	Pn	17 33 52.0	-0.5
ORI				END			
SCHR	**S. Chirico Rap**	**0.34**	**349**	P	Pb	17 33 52.2	+0.1
SCHR				END			
SCHR	**S. Chirico Rap**	**0.34**	**349**	⇑P	Pb	17 33 52.2	+0.1
SCHR	**S. Chirico Rap**	**0.34**	**349**	⇑P	Pb	17 33 52.2	+0.1
CET2	**Cetraro**	**0.37**	**206**	P	Pb	17 33 52.8	+0.5
CET2				S	Sb	17 33 58.6	+0.6
CET2				END			
SIRI	**Monte Sirino -**	**0.39**	**325**	P	Pb	17 33 52.6	-0.2
SIRI				END			
MTSN	**Montesano sull**	**0.51**	**322**	P	Pb	17 33 54.7	0.0
MTSN				END			
MCEL	**Monticello**	**0.54**	**329**	P	Pb	17 33 55.0	0.0
MCEL				S	Sb	17 34 03.2	+0.6
MCEL				END			
MCEL	**Monticello**	**0.54**	**329**	⇓P	Pb	17 33 55.1	0.0
MGR	**Morigerati**	**0.54**	**301**	P	Pb	17 33 55.4	+0.3
MGR				END			
MGR	**Morigerati**	**0.54**	**301**	S	Pn	17 33 56.0	+0.2

ROM 03 17:34:23.7±0.1,43°.141N±0°.004×12°.831E±0°.004, h11km,ML0.8/2,1C-1D,Error ellipse: s-maj=0.4km s-min=0.3km az=329.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNTG	**Esanatoglia**	**0.14**	**35**	P	Pg	17 34 27.4	+0.3
SNTG				S	Sg	17 34 30.4	+1.0
SNTG				AML	AML		
	comp=E,36μm,1.1s						
SNTG				AML	AML		
	comp=N,42μm,1.4s						
ATCC	**AVT- Casa Cast**	**0.15**	**287**	⇓P	Pg	17 34 27.6	+0.5
ATCC				S	Sg	17 34 30.8	+1.2
CESI	**CESI - Serrava**	**0.15**	**158**	P	Pg	17 34 27.5	+0.4
CESI				S	Sg	17 34 30.5	+1.0
ASSB	**Assisi San Ben**	**0.16**	**232**	⇑P	Pg	17 34 27.7	+0.4
ASSB				S	Sg	17 34 31.0	+1.1
ASSB				AML	AML		
	comp=N,80μm,0.3s						
ASSB				AML	AML		
	comp=E,78μm,0.2s						
FDMO	**Fiordimonte**	**0.21**	**119**	P	Pg	17 34 28.6	+0.4
FDMO				S	Sg	17 34 32.8	+1.5
EL6	**Elcito**	**0.27**	**46**	P	Pg	17 34 29.6	+0.3
EL6				S	Sb	17 34 34.5	-0.9
CSP1	**Cessapalombo**	**0.28**	**100**	P	Pg	17 34 29.7	+0.3
CSP1				S	Sb	17 34 34.6	-1.0

*NEIC **03** 18:28:24.9±1.9,21°.01S±0°.08×174°.20W±0°.10,h5km±2km, mb5.3/181,Error ellipse: s-maj=14.3km s-min=10.7km az=122.0*

*IDC **03** 18:28:24.7±0.4,20°.95S×174°.27W,h0km,mb5.0/25, mb1 5.1/26,mb1mx5.1/31,mbtmp5.0/26,ML4.6/1,MS4.4/28, Ms1 4.4/28,ms1mx4.3/37,Error ellipse: s-maj=15.6km s-min=12.5km az=148.0*

*BJI **03** 18:28:26.5±0.0,20°.65S×174°.12W,h15km,mB5.8/30, mb5.4/49,Ms5.3/19,Ms7 5.0/18*

*MOS **03** 18:28:29.8±1.1,20°.93S×174°.40W,h42km,mb5.5/26, Error ellipse: s-maj=9.7km s-min=8.8km az=147.1*

*GCMT **03** 18:28:29.9±0.1,21°.07S±0°.01×173°.75W±0°.01,h18km, MW5.2/125,Moment Tensor Solution. s77,c117; s125,c217; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.65±.02; Mθθ0.03±.01; Mφφ-0.68±.01; Mrθ0.17±.03; Mθφ-0.17±.01; Mφr0.37±.03; Best double couple: M0.80100×10^17 NP1:ϕs185.00000°,δ30.00000°, λ78.00000°. NP2:ϕs20.00000°,δ61.00000°,λ97.00000°. Principal axes: T 0.7690, Plg73.0000°, Azm308.0000°; N 0.0640, Plg6.0000°, Azm196.0000°; P -0.8320, Plg15.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **03** 18:28:41.6±0.0,20°.42S×174°.24W,h33km*

ISC 03 18:28:25.7±0.5,21°.01S±0°.05×174°.10W±0°.05,h10km±2km, h10km:pP-P,n723,σ1§31/695,mb5.3/164,MS4.6/32, 51C-18D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.37**	**65**	P	Pn	18 29 26.3	-5.8
	baz=4.0,SNR=148						
NIUE				S	Sn	18 30 11.4	-12
	baz=4.0						
NIUE	**Niue**	**4.37**	**65**		Pn	18 29 26.5	-5.7
NIUE					Sn	18 30 08.8	-14
AFI	**Afiamalu**	**7.40**	**18**	Pn	Pn	18 30 08.2	-5.8
	26nm,0.3s,baz=217,slow=2.3,SNR=22						
AFI				Sn	Sn	18 31 22.1	-16
	21nm,0.3s,baz=167,slow=18,SNR=3.7						
AFI	**Afiamalu**	**7.40**	**18**		Pn	18 30 08.3	-5.6
MSVF	**Nonsavu**	**8.10**	**292**		Pn	18 30 29.9	+6.5
RAO	**Raoul Island**	**8.90**	**202**	Sn	**Sn**	**18 32 12.6**	**-2.2**
	57nm,0.3s,baz=78,slow=23,SNR=1.7						
RAO				LR	LR	18 34 08.4	
	comp=Z,1μm,18.6s,baz=359,slow=39						
RAO	**Raoul Island**	**8.90**	**202**	Pn	**Pn**	**18 30 31.9**	**-2.5**
RAR	**Rarotonga**	**13.37**	**93**	Pn	Pn	18 31 29.2	-6.4
	11nm,0.3s,baz=252,slow=10,SNR=20						
RAR				Sn	Sn	18 33 45.0	-19
	2.7nm,0.3s,baz=283,slow=19,SNR=1.4						
RAR				LR	LR	18 37 04.0	
	comp=Z,1μm,18.0s,baz=216,slow=38						
RAR	**Rarotonga**	**13.37**	**93**	Pn	Pn	18 31 29.5	-6.1
OUZ	**Omahuta**	**17.81**	**215**	P	**P**	**18 32 35.4**	**+0.9**
OUZ				IAmb	IAmb	18 32 56.0	
	comp=Z,298nm,1.8s						
DZM	**Mont Dzumac**	**18.13**	**263**	P	**P**	**18 32 40.2**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=80,slow=17,SNR=17						
DZM				LR	LR	18 38 42.4	
	comp=Z,3μm,19.9s,baz=95,slow=34						
DZM	**Mont Dzumac**	**18.13**	**263**	*e*P	**P**	**18 32 40.2**	**+2.0**
	comp=Z,163nm,0.9s						
DZM				*e*S	**Sn**	**18 36 00.0**	**-0.4**
	comp=Z,566nm,22.7s						
DZM				*e*LR	LR	18 36 57.9	
	comp=Z,3μm,22.4s						
DZM	**Mont Dzumac**	**18.13**	**263**	P	**Pn**	**18 32 36.4**	**-1.5**
KNTN	**Kanton**	**18.28**	**8**	P	**Pn**	**18 32 39.5**	**0.0**
KNTN				IAmb	IAmb	18 32 59.5	
	comp=Z,251nm,1.3s						
SANVU	**Saraoutou**	**18.60**	**284**	P	**Pn**	**18 32 44.6**	**+1.2**
SANVU				IAmb	IAmb	18 32 47.6	
	comp=Z,245nm,1.1s						
URZ	**Urewera**	**18.79**	**202**	P	**P**	**18 32 44.4**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=5.1,slow=7.7,SNR=15						
URZ				S	Sn	18 35 59.1	-17
	comp=Z,0.4nm,0.3s,baz=353,slow=22,SNR=1.8						
URZ	**Urewera**	**18.79**	**202**	P	**Pn**	**18 32 47.3**	**+1.6**
BKZ	**Black Stump Fm**	**19.82**	**202**	P	**P**	**18 32 56.8**	**+0.3**
HIZ	**Hauiti**	**19.87**	**206**	P	**Pn**	**18 33 01.4**	**+2.8**
HIZ				IAmb	IAmb	18 33 03.2	
	comp=Z,128nm,0.9s						
WAZ	**Wanganui**	**20.89**	**204**	P	Pn	18 33 18.0	+7.4
PRWZ	**Pori Road**	**21.24**	**201**	P	**P**	**18 33 12.6**	**+0.8**
BFZ	**Birch Farm**	**21.26**	**201**	P	**P**	**18 33 14.9**	**+2.9**
BFZ				IAmb	IAmb	18 33 19.7	
	comp=Z,91nm,0.9s						
MRZ	**Mangatainoka R**	**21.47**	**202**	P	**P**	**18 33 08.2**	**-6.1**
HOWZ	**Holdsworth Sta**	**21.70**	**202**	P	P	18 33 09.1	-7.7
OGWZ	**Otaki Gorge**	**21.75**	**202**	P	P	18 33 05.0	-12
TMWZ	**Te Maipa**	**21.76**	**201**	P	**P**	**18 33 14.8**	**-2.7**
CAW	**Cannon Point**	**22.04**	**202**	P	P	18 33 07.3	-13
MSWZ	**Moikau Station**	**22.25

PPT2 eS S 18 37 39.5 -8.7
comp=Z,1µm,27.0s
PPT2 eLR LR 18 39 05.7
comp=Z,3µm,28.0s,baz=257
PPT2 Papeete2 23.39 86 eT T 18 57 39.0
comp=Z,11nm,0.2s
PPT Papeete 23.39 86 P **P 18 33 35.1 +0.2**
comp=Z,42nm,0.8s,baz=246,slow=20,SNR=2.3
PPT LR LR 18 41 14.5
comp=Z,561nm,18.6s,baz=260,slow=33
PPT Papeete 23.39 86 P **P 18 33 34.4 -0.4**
PPTF Pamatai, Papee 23.40 86 P **P 18 33 34.6 -0.4**
THZ Tophouse 23.42 205 P **P 18 33 37.0 +2.0**
TVO Taravao 23.65 86 eP **P 18 33 36.2 -1.3**
comp=Z,66nm,1.3s
KHZ Kahutara 23.74 203 P **P 18 33 39.7 +1.7**
KHZ Kahutara 23.74 203 P **P 18 33 36.6 -1.4**
KHZ IAmb IAmb 18 33 53.6
comp=Z,56nm,1.0s
DSZ Denniston Nort 23.85 207 P **P 18 33 43.6 +4.4**
GVZ Greta Valley S 24.40 203 P **P 18 33 45.0 +0.7**
LTZ Lake Taylor 24.53 205 P **P 18 33 50.3 +4.8**
LTZ Lake Taylor 24.53 205 P **P 18 33 45.7 +0.2**
LTZ IAmb IAmb 18 33 54.6
comp=Z,106nm,0.8s
INZ Inchbonnie 24.82 206 P **P 18 33 51.4 +3.4**
OXZ Oxford 25.09 204 P **P 18 33 55.6 +5.2**
OXZ Oxford 25.09 204 P **P 18 33 50.0 -0.4**
PMOR Pomariorio Ree 25.61 81 eP **P 18 33 54.5 -0.9**
comp=Z,196nm,1.2s
RPZ Rata Peaks 25.80 205 P **P 18 33 57.0 +0.1**
comp=Z,40nm,0.7s,baz=117,slow=14,SNR=14
RPZ LR LR 18 43 49.7
comp=Z,2µm,19.1s,baz=24,slow=36
RPZ Rata Peaks 25.80 205 P **P 18 33 57.5 +0.6**
RPZ IAmb IAmb 18 34 07.4
comp=Z,65nm,0.8s
FOZ Fox Glacier 26.16 207 P **P 18 33 59.4 -0.8**
HNR Honiara 27.51 291 P **P 18 34 10.8 -1.8**
comp=Z,46nm,0.7s,baz=204,slow=12,SNR=1.6
HNR Honiara 27.51 291 P **P 18 34 10.8 -1.8**
HNR pmax pmax
comp=Z,107nm,0.9s
ARMA Armidale 32.16 246 P **P 18 34 54.0 +0.1**
baz=32,SNR=9.1
ARMA Armidale 32.16 246 P **P 18 34 53.8 0.0**
ARMA IAmb IAmb 18 34 55.4
comp=Z,87nm,2.0s
EIDS Eidsvold 32.24 256 P **P 18 34 54.2 -0.2**
baz=33,SNR=15
EIDS Eidsvold 32.24 256 P **P 18 34 53.1 -1.4**
EIDS IAmb IAmb 18 34 54.9
comp=Z,22nm,0.8s
RMQ Roma 34.35 254 P **P 18 35 12.8 -0.1**
baz=35,SNR=61
TAOE Nuku Hiva Isla 34.87 75 eS S 18 40 41.8 -7.3
comp=Z,205nm,26.6s
TAOE eLR LR 18 44 18.7
comp=Z,2µm,29.1s
TAOE Nuku Hiva Isla 34.87 75 eT T 19 11 48.4
comp=Z,30nm,0.4s
CNB Canberra Magne 35.01 238 P **P 18 35 18.8 +0.2**
baz=35,SNR=5.5
CAN Canberra 35.30 238 P **P 18 35 19.2 -1.8**
CAN pmax pmax
comp=Z,42nm,1.3s
CAN Canberra 35.30 238 P **P 18 35 19.2 -1.8**
CAN IAmb IAmb 18 35 27.5
comp=Z,42nm,1.3s
KRVT Keravat (AS076 36.86 292 LR LR 18 49 24.4
comp=Z,272nm,21.4s,baz=103,slow=34
CTA Charters Tower 37.07 264 P **P 18 35 36.1 -0.2**
CTA pmax pmax
comp=Z,24nm,0.8s
CTAO Charters Tower 37.07 264 P **P 18 35 34.7 -1.6**
CTAO pmax pmax
comp=Z,17nm,0.8s
CTAO Charters Tower 37.07 264 P **P 18 35 34.7 -1.6**
CMSA Cobar Meteorol 37.37 245 P **P 18 35 39.0 +0.3**
baz=38,SNR=31
QLP Quilpie 38.40 253 P **P 18 35 46.4 -1.1**
baz=39,SNR=29
TOO Toolangi 38.58 236 P **P 18 35 49.0 +0.1**
baz=39,SNR=5.7
TOO Toolangi 38.58 236 P **P 18 35 48.9 -0.1**
TOO pmax pmax
comp=Z,15nm,1.0s
TOO Toolangi 38.58 236 P **P 18 35 48.9 -0.1**
TAU Tasmania Unive 38.88 227 P **P 18 35 52.0 +0.7**
TAU pmax pmax
comp=Z,73nm,1.5s
TAU Tasmania Unive 38.88 227 P **P 18 35 52.0 +0.7**
TAU IAmb IAmb 18 35 59.9
comp=Z,73nm,1.5s
PMG Port Moresby 39.02 281 LR LR 18 50 01.1
comp=Z,670nm,18.4s,baz=183,slow=33
PMG Port Moresby 39.02 281 c iP **P 18 35 51.3 -1.5**
PMG pmax pmax
comp=Z,53nm,0.8s
PMG Port Moresby 39.02 281 P **P 18 35 51.4 -1.4**
PMG IAmb IAmb 18 35 54.2
comp=Z,55nm,0.9s
MTSU Mount Surprise 39.21 267 P **P 18 35 53.5 -0.9**
baz=40,SNR=9.5
STKA Stephens Creek 40.87 245 P **P 18 36 06.9 -1.1**
comp=Z,15nm,0.9s,baz=88,slow=9.9,SNR=31
STKA PcP **PcP 18 38 10.8 +2.0**
comp=Z,3.9nm,0.9s,baz=45,slow=3.7,SNR=2.9
STKA LR LR 18 51 55.0
comp=Z,907nm,18.4s,baz=73,slow=35
STKA Stephens Creek 40.87 245 P **P 18 36 07.3 -0.7**
baz=41,SNR=11
STKA Stephens Creek 40.87 245 P **P 18 36 06.8 -1.2**
COEN Coen 41.26 273 P **P 18 36 10.5 -0.9**
baz=42,SNR=12
COEN Coen 41.26 273 P **P 18 36 10.5 -0.9**
COEN IAmb IAmb 18 36 19.5
comp=Z,50nm,1.3s
ARPS Mount Arapiles 41.27 238 P **P 18 36 10.9 -0.3**
baz=42,SNR=7.0
QIS Mount Isa 43.17 262 P **P 18 36 27.6 +0.7**
baz=44,SNR=3.3
HTT Hallett 43.24 243 P **P 18 36 26.6 -0.8**
baz=44,SNR=15
BBOO Buckleboo 45.60 244 P **P 18 36 45.4 -0.8**
baz=46,SNR=9.4
BBOO Buckleboo 45.60 244 P **P 18 36 44.5 -1.8**
JAY Jayapura 47.68 287 P **P 18 37 01.4 -1.4**
comp=Z,51nm,0.7s,baz=156,slow=4.1,SNR=5.5
JAY Jayapura 47.68 287 P **P 18 37 02.0 -0.8**
comp=Z,508nmcomp=Z,40nm,0.8s
AS31 Alice Springs 47.95 257 P **P 18 37 03.4 -1.5**
WR0 Warramunga Arr 47.95 262 P **P 18 37 03.0 -1.9**
WR0 IAmb IAmb 18 37 12.5
comp=Z,23nm,1.2s
WR0 PcP **PcP 18 38 34.0 +0.8**
ASAR Alice Springs 47.95 257 P **P 18 37 03.5 -1.4**
comp=Z,25nm,0.7s,baz=99,slow=7.7,SNR=339
ASAR PcP **PcP 18 38 34.0 +0.7**
comp=Z,4.4nm,0.8s,baz=91,slow=7.6,SNR=2.1
ASAR LR LR 18 54 47.6
comp=Z,528nm,21.6s,baz=104,slow=33
ASAR Alice Springs 47.95 257 P **P 18 37 03.1 -1.8**
ASAR Alice Springs 47.95 257 P **P 18 37 03.1 -1.8**
ASAR PcP **PcP 18 38 33.7 +0.5**
WB0 Warramunga Arr 48.12 262 P **P 18 37 04.2 -2.0**
WB0 IAmb IAmb 18 37 09.0
comp=Z,22nm,0.8s
WB0 PcP **PcP 18 38 34.5 +0.7**
GENI Genyem 48.13 286 P **P 18 37 07.4 +1.2**
comp=Z,2µmcomp=Z,111nm,0.9s
WB2 Warramunga Arr 48.13 262 P **P 18 37 04.4 -1.9**
WB2 IAmb IAmb 18 37 06.0
comp=Z,22nm,0.8s
WB2 PcP **PcP 18 38 36.0 +2.1**
WRAB Tennant Creek 48.13 262 ceP **P 18 37 04.0 -2.3**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRAB Tennant Creek 48.13 262 P **P 18 37 04.5 -1.8**
WRAB IAmb IAmb 18 37 23.1
comp=Z,18nm,0.8s
WRAB PcP **PcP 18 38 35.6 +1.8**
WRA Warramunga Arr 48.14 262 P **P 18 37 04.0 -2.3**
comp=Z,16nm,0.8s,baz=98,slow=7.7,SNR=83
WRA PcP **PcP 18 38 34.3 +0.4**
comp=Z,7.1nm,0.9s,baz=102,slow=3.4,SNR=5.3
WRA LR LR 18 56 57.4
comp=Z,662nm,18.6s,baz=85,slow=36
WRA Warramunga Arr 48.14 262 P **P 18 37 04.5 -1.9**
WRA PcP **PcP 18 38 35.4 +1.5**
KDU Kakadu 51.61 270 P **P 18 37 31.1 -1.6**
baz=52,SNR=11
BAKI Biak 52.38 285 P **P 18 37 39.0 +0.5**
comp=Z,76nm,0.8s
FORT Forrest 52.45 247 P **P 18 37 37.9 -0.9**
baz=53,SNR=11
FORT Forrest 52.45 247 P **P 18 37 37.5 -1.3**
MTN Manton Dam 52.81 270 P **P 18 37 39.9 -1.8**
baz=53,SNR=9.1
MTN Manton Dam 52.81 270 P **P 18 37 40.0 -1.8**
MTN IAmb IAmb 18 37 43.0
comp=Z,23nm,0.9s
WRKA Warakurna 52.84 254 P **P 18 37 40.3 -1.5**
baz=53,SNR=93
KNRA Kununurra 54.26 265 P **P 18 37 51.1 -1.2**
baz=55,SNR=11
KNRA Kununurra 54.26 265 P **P 18 37 50.7 -1.7**
FITZ Fitzroy Crossi 56.57 262 P **P 18 38 07.7 -1.2**
comp=Z,3.4nm,0.5s,baz=118,slow=5.8,SNR=22
FITZ Fitzroy Crossi 56.57 262 P **P 18 38 08.0 -1.0**
baz=57,SNR=15
FITZ Fitzroy Crossi 56.57 262 P **P 18 38 07.6 -1.4**
SIJI Sorong 56.90 283 P **P 18 38 10.6 -0.8**
comp=Z,83nm,0.8s,baz=74,slow=6.1,SNR=32
VNDA Vanda 57.76 186 P **P 18 38 16.8 +0.4**
comp=Z,3.4nm,0.9s,baz=357,slow=5.9,SNR=11
VNDA LR LR 19 03 06.6
comp=Z,186nm,18.4s,baz=8.0,slow=36
VNDA Vanda 57.76 186 P **P 18 38 19.0 +2.6**
NLAI Namlea 59.79 279 P **P 18 38 31.4 -0.1**
comp=Z,42nm,0.9s
SOEI Soe 60.16 271 P **P 18 38 34.9 +0.6**
comp=Z,128nm,1.2s
SOEI Soe 60.16 271 P **P 18 38 33.8 -0.5**
BATI Baumata 60.58 270 P **P 18 38 36.8 -0.2**
comp=Z,44nm,0.8s,baz=206,slow=2.6,SNR=12
BATI Baumata 60.58 270 P **P 18 38 40.2 +3.2**
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 61.10 256 P **P 18 38 39.0 -1.4**
PSA00 IAmb IAmb 18 38 45.5
comp=Z,20nm,0.9s
PSA00 Pilbara Seismi 61.10 256 P **P 18 38 37.4 -3.0**
PSA00 IAmb IAmb 18 38 53.7
comp=Z,9.6nm,0.6s
TNTI Ternate 61.13 283 P **P 18 38 41.0 +0.3**
comp=Z,90nm,1.1s
TNTI Ternate 61.13 283 P **P 18 38 39.9 -0.8**
KLBR Kellerberrin 61.14 245 P **P 18 38 40.6 0.0**
baz=61,SNR=12
MEEK Meekatharra 61.19 250 P **P 18 38 39.9 -1.1**
baz=62,SNR=4.6
SANI Sanana 61.27 280 P **P 18 38 40.8 -0.8**
comp=Z,76nm,1.0s
NWAO Narrogin (SRO) 61.40 243 P **P 18 38 43.1 +0.8**
baz=62,SNR=5.2
NWAO Narrogin (SRO) 61.40 243 P **P 18 38 42.5 +0.2**
NWAO pmax pmax
comp=Z,38nm,0.9s
NWAO Narrogin (SRO) 61.40 243 P **P 18 38 42.5 +0.2**
NWAO IAmb IAmb 18 38 44.1
comp=Z,38nm,0.9s
BLDU Ballidu 62.18 246 P **P 18 38 47.4 -0.2**
baz=62,SNR=9.3
MUN Mundaring 62.39 244 P **P 18 38 49.6 +0.6**
baz=63,SNR=22
MMRI Mamere 62.42 271 P **P 18 38 50.2 +0.8**
comp=Z,54nm,1.0s
MMRI Maumere 62.42 271 P **P 18 38 47.3 -2.1**
EDFI Ende, Flores 62.89 271 P **P 18 38 51.8 -0.9**
comp=Z,300nmcomp=Z,20nm,0.8s
MORW Morawa 63.01 247 P **P 18 38 52.9 -0.2**
baz=63,SNR=12
MORW Morawa 63.01 247 P **P 18 38 52.6 -0.5**
MORW IAmb IAmb 18 38 55.3
comp=Z,27nm,0.8s
KMSI Cibinong 64.14 281 P **P 18 39 01.0 +0.2**
comp=Z,790nmcomp=Z,108nm,0.8s
LUWI Luwuk 64.62 279 P **P 18 39 04.3 +0.3**
comp=Z,1µmcomp=Z,118nm,0.9s
LUWI Luwuk 64.62 279 P **P 18 39 03.4 -0.5**
GTOI Gorontalo 65.05 281 P **P 18 39 08.4 +1.6**
comp=Z,46nm,0.8s
CASY Casey 65.07 206 P **P 18 39 07.0 +1.0**
CASY IAmb IAmb 18 39 18.5
comp=Z,22nm,0.9s
BKSI Bulukumba 65.51 274 P **P 18 39 13.0 +3.2**
comp=Z,19nm,1.0s
SPSI Sidrap Palu 66.32 275 P **P 18 39 14.9 -0.1**
comp=Z,18nm,0.9s
PLAI Plampang 66.52 269 P **P 18 39 17.5 +1.2**
comp=Z,631nmcomp=Z,57nm,0.7s
TWSI Taliwang, Sumb 67.39 269 P **P 18 39 23.2 +1.4**
comp=Z,28nm,0.9s
MPSI Mapaga 67.80 279 P **P 18 39 23.7 -0.7**
comp=Z,57nm,0.9s
QSPA South Pole Qui 69.06 180 P **P 18 39 33.7 +2.1**
MYLDM Lahad Datu 71.00 283 P **P 18 39 45.4 +1.2**
MYLDM IAmb IAmb 18 40 03.5
comp=Z,37nm,0.9s
BBKI Banjar Baru 71.09 274 P P 18 39 55.2 +10
JYT Yasato 71.47 322 P **P 18 39 46.3 -0.2**
MTKI Muara Teweh, K 71.95 276 P **P 18 39 50.4 +0.4**
comp=Z,20nm,1.1s
JMM Marumori 72.30 324 P **P 18 39 51.0 -0.5**
PWJI Pagerwojo 72.37 268 P P 18 39 56.8 +4.4
comp=Z,31nm,1.0s
JGF Kuroka 72.69 320 P **P 18 39 53.7 -0.2**
JGF IAmb IAmb 18 39 59.1
comp=Z,26nm,1.0s
TGY Tagaytay City 72.70 293 P **P 18 39 53.2 -1.2**
comp=Z,121nm,0.4s,baz=79,slow=19,SNR=4.6
MJAR Matsushiro Arr 72.83 321 P **P 18 39 54.0 -0.8**
comp=Z,30nm,0.8s,baz=158,slow=6.0,SNR=62
MJAR LR LR 19 11 31.2
comp=Z,108nm,18.3s,baz=120,slow=36
MJAR Matsushiro Arr 72.83 321 P **P 18 39 54.0 -0.8**
MJAR Matsushiro Arr 72.83 321 P **P 18 39 54.2 -0.6**
MAJO Matsushiro 72.84 321 c iP **P 18 39 54.5 -0.2**
MAJO pmax pmax
comp=Z,41nm,0.8s
MAJO Matsushiro 72.84 321 P **P 18 39 54.2 -0.6**
MAJO IAmb IAmb 18 39 55.5
comp=Z,38nm,0.8s
MAT Matsushiro 72.84 321 P **P 18 39 54.4 -0.3**
MAT eS **S 18 49 24.8 +3.8**
MJB9 Matsu-Tunnel 72.84 321 P **P 18 39 54.9 +0.1**
JMN Monobe 73.61 317 P **P 18 40 00.2 +0.8**
JHS Saijyo 74.91 317 P **P 18 40 07.2 +0.3**
JNU Nakatsue 75.19 315 P **P 18 40 08.3 -0.4**
JNU IAmb IAmb 18 40 10.0
comp=Z,56nm,1.0s
KPJI Karang Pucung 75.28 268 P P 18 40 21.9 +12
JEW Eniwo 75.58 328 P **P 18 40 10.3 -0.3**
SBUM Sibu 75.69 278 P **P 18 40 10.5 -1.4**
SBUM Sibu 75.69 278 P **P 18 40 12.0 +0.1**
PKM Mcpherson Peak 75.80 44 P **P 18 40 13.8 +1.6**
baz=232
SAO San Andreas Ge 75.95 41 P **P 18 40 12.6 -0.3**
SAO pmax pmax
comp=Z,18nm,1.1s
SAO San Andreas Ge 75.95 41 P **P 18 40 12.6 -0.3**
SAO IAmb IAmb 18 40 22.1
comp=Z,18nm,1.1s
JKA Kamikawa-asahi 75.97 329 P **P 18 40 13.3 +0.6**
JKA IAmb IAmb 18 40 24.3
comp=Z,27nm,0.9s
ASAJ Asahikawa 75.97 329 P **P 18 40 13.3 +0.5**
ASAJ pmax pmax
comp=Z,27nm,0.9s
ESJX Sierra Juarez 76.65 48 P **P 18 40 16.7 -0.4**
LEM Lembang 76.67 268 P **P 18 40 18.1 +0.4**
comp=Z,89nm,0.8s,baz=78,slow=5.7,SNR=24
LEM LR LR 19 14 19.9
comp=Z,421nm,19.3s,baz=125,slow=36
MURC Murrieta 76.73 46 P **P 18 40 19.3 +1.9**
baz=234
BFSC Mount Baldy Ra 76.81 45 P **P 18 40 20.6 +2.6**
baz=233
MONP2 Monument Peak 76.84 47 P **P 18 40 20.5 +2.3**
baz=234
IKP In-Ko-Pah, Jac 76.92 47 P **P 18 40 20.7 +2.2**
baz=234
EDW2 Edwards Air Fo 76.97 44 P **P 18 40 20.1 +1.3**
baz=233
KSM Kuching 77.10 277 P **P 18 40 19.5 -0.4**
KSM Kuching 77.10 277 P **P 18 40 20.0 +0.1**
ISA Isabella, Lake 77.14 44 P **P 18 40 21.0 +1.3**
baz=232
ISA Isabella, Lake 77.14 44 P **P 18 40 20.5 +0.8**
ISA pmax pmax
comp=Z,34nm,1.4s
ISA Isabella, Lake 77.14 44 P **P 18 40 20.5 +0.8**
ISA IAmb IAmb 18 40 43.8
comp=Z,34nm,1.4s
PFO Pinyon Flats O 77.24 46 P **P 18 40 20.9 +0.5**
PFO pmax pmax
comp=Z,29nm,1.6s
PFO Pinyon Flats O 77.24 46 P **P 18 40 20.9 +0.5**
PFO IAmb IAmb 18 40 44.3
comp=Z,29nm,1.6s
SWSC Sam W. Stewart 77.30 47 P **P 18 40 22.0 +1.5**
baz=234
KHMM Horse Mountain 77.32 37 P **P 18 40 21.1 +0.4**
TPUB Ta-pu 77.34 301 P **P 18 40 19.0 -2.0**
O02D Mt. Diablo Mer 77.39 38 P **P 18 40 23.5 +2.5**
baz=228
CMB Columbia Colle 77.41 41 P **P 18 40 22.6 +1.4**
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 77.41 41 P **P 18 40 22.6 +1.4**
PET Petropavlovsk 77.43 344 eP **P 18 40 22.2 +1.4**
PET eS **S 18 50 08.1 -3.2**
PET pmax pmax
comp=Z,200nm,19.0s
CBJI Citeko 77.53 268 P **P 18 40 22.4 +0.1**
comp=Z,85nm,0.8s
LRMC Laurel Mtn Rad 77.54 44 P **P 18 40 23.4 +1.4**
baz=233
DBJI Dramaga 77.58 268 P **P 18 40 23.4 +0.8**
comp=Z,48nm,0.9s
AFDM Forest Hills D 77.64 40 P **P 18 40 24.0 +1.6**
KRMB Red Mountain 77.66 36 P **P 18 40 23.7 +1.2**
KRMB IAmb IAmb 18 40 27.2
comp=Z,20nm,1.2s
ORV Oroville 77.72 39 P **P 18 40 23.8 +1.0**
ORV pmax pmax
comp=Z,13nm,1.3s
ORV Oroville 77.72 39 P **P 18 40 23.8 +1.0**
PEA0B Petropavlovsk- 77.76 343 ‖ eP **P 18 40 22.2 -0.5**
PETK Petropavlovsk- 77.76 343 P **P 18 40 22.4 -0.3**
comp=Z,19nm,0.7s,baz=136,slow=8.6,SNR=37
PETK LR LR 19 07 52.6
comp=Z,192nm,21.6s,baz=170,slow=30
PETK Petropavlovsk- 77.76 343 P **P 18 40 22.3 -0.4**
BELC Belle Mtn. Jos 77.78 46 P **P 18 40 24.5 +1.1**
baz=234
WDC Whiskeytown Da 77.79 38 P **P 18 40 24.7 +1.5**
WDC pmax pmax
comp=Z,18nm,1.3s
WDC Whiskeytown Da 77.79 38 P **P 18 40 24.7 +1.5**
WDC IAmb IAmb 18 40 51.2
comp=Z,18nm,1.3s
CWC Cottonwood Cre 77.86 43 P **P 18 40 24.4 +0.5**
baz=232
BC3 Big Chuckawall 77.94 47 P **P 18 40 25.4 +1.1**
baz=235
N02D Trinity Center 77.96 37 P **P 18 40 25.6 +1.5**
baz=228
MDPB Devils Postpil 77.97 42 P **P 18 40 25.5 +0.9**
MDPB IAmb IAmb 18 40 34.2
comp=Z,19nm,1.1s
OMMB Old Mammoth Mi 78.00 42 P **P 18 40 25.8 +1.0**
OMMB IAmb IAmb 18 40 34.5
comp=Z,21nm,1.3s
GSC Goldstone, Bar 78.00 45 P **P 18 40 25.4 +0.9**
baz=234
MPMC Manual Prospec 78.01 44 P **P 18 40 25.5 +0.7**
baz=233
O03E Paynes Creek 78.03 38 P **P 18 40 25.8 +1.2**
baz=229
HEC Hector,Ludlow 78.03 45 P **P 18 40 26.2 +1.4**
baz=234
YSS Yuzh-Sakhalins 78.04 331 eP **P 18 40 25.2 +0.9**
YSS e 18 40 28.8
YSS pmax pmax
comp=Z,50nm,0.7s
YSS Yuzh-Sakhalins 78.04 331 P **P 18 40 24.2 -0.2**
M02C Callahan 78.16 37 P **P 18 40 26.5 +1.3**
baz=228
L02E Cave Junction 78.26 36 P **P 18 40 29.1 +3.4**
baz=227
WAKR Walker 78.29 41 P **P 18 40 27.0 +0.7**
WAKR IAmb IAmb 18 40 50.4
comp=Z,38nm,1.4s
IRM Iron Mountain 78.44 46 P **P 18 40 28.6 +1.6**
baz=235
GMRC Granite Mounta 78.46 46 P **P 18 40 28.5 +1.3**
baz=234
YBH Yreka Blue Hor 78.46 37 P **P 18 40 27.3 +0.3**
YBH pmax pmax
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 78.46 37 P **P 18 40 27.3 +0.3**
CGJI Cibinong 78.54 267 P P 18 40 33.0 +5.1
comp=Z,19µmcomp=Z,87nm,0.7s
PNTR Pine Nut 78.56 40 P **P 18 40 28.4 +0.6**
PNTR IAmb IAmb 18 40 37.5
comp=Z,40nm,1.1s
BELA Belgrano 2 78.56 172 P **P 18 40 26.8 -0.2**
GRAC Grapevine Rang 78.65 43 P **P 18 40 30.2 +2.1**
baz=233
LHV Little Huntoon 78.70 41 P **P 18 40 28.9 +0.6**
LHV IAmb IAmb 18 40 38.5
comp=Z,45nm,1.2s
SHOC Shoshone, Teco 78.70 44 P **P 18 40 31.1 +2.7**
baz=234
YERR Yerington 78.71 41 P **P 18 40 29.0 +0.5**
YERR IAmb IAmb 18 40 38.1
comp=Z,29nm,1.2s
214A Organ Pipe Nat 78.83 49 P **P 18 40 31.3 +2.1**
baz=237
HUMO Hull Mountain 78.91 36 P **P 18 40 31.2 +1.8**
RYN Ryan 78.93 41 P **P 18 40 30.5 +0.8**
RYN IAmb IAmb 18 40 38.8
comp=Z,25nm,1.3s
NVAR Mina Array Bea 78.94 41 P **P 18 40 30.9 +1.1**
comp=Z,7.9nm,0.7s,baz=224,slow=8.1,SNR=58
NVAR LR LR 19 10 29.1
comp=Z,464nm,18.2s,baz=246,slow=32
NVAR Mina Array Bea 78.94 41 P **P 18 40 30.5 +0.6**
M04C Macdoel 78.98 37 P **P 18 40 31.5 +1.6**
baz=229
L04D Klamath Falls 79.01 36 P **P 18 40 31.0 +1.0**
baz=228
NV11 Mina Array Sit 79.03 42 IAmb IAmb 18 40 39.5
comp=Z,23nm,1.1s
PAHR Pah Rah Range 79.08 40 P **P 18 40 31.3 +0.8**
PAHR IAmb IAmb 18 40 40.1
comp=Z,19nm,1.1s
TPNV Topopah Spring 79.34 44 P **P 18 40 33.3 +1.3**
baz=234
TPNV Topopah Spring 79.34 44 P **P 18 40 32.8 +0.8**
TPNV pmax pmax
comp=Z,14nm,1.0s
TPNV Topopah Spring 79.34 44 P **P 18 40 32.8 +0.8**
TPH Tonopah 79.40 42 P **P 18 40 33.1 +0.8**
TPH pmax pmax
comp=Z,144nm,1.3s
TPH Tonopah 79.40 42 P **P 18 40 33.1 +0.8**
KVN Kaiserville 79.45 41 P **P 18 40 33.3 +0.7**
KVN pmax pmax
comp=Z,17nm,1.1s
KVN Kaiserville 79.45 41 P **P 18 40 33.3 +0.7**
PPBI Pangkal Pinang 79.67 272 P **P 18 40 36.8 +2.6**
comp=Z,2µmcomp=Z,2µmcomp=Z,40nm,0.8s
KSRS Korea Array 79.72 317 P **P 18 40 35.0 +1.2**
comp=Z,22nm,1.0s,baz=138,slow=6.2,SNR=35
KSRS LR LR 19 11 06.4
comp=Z,187nm,19.7s,baz=130,slow=32
KSRS Korea Array 79.72 317 P **P 18 40 35.0 +1.2**
KSAR Wonju Array Be 79.74 317 P **P 18 40 33.3 -0.6**
KSAR Wonju Array Be 79.74 317 P **P 18 40 33.3 -0.6**
KS19 Wonju Array Si 79.79 317 IAmb IAmb 18 40 50.5
comp=Z,64nm,1.4s
SHPR Sheep Range 79.79 45 P **P 18 40 35.5 +1.1**
SHPR IAmb IAmb 18 40 58.9
comp=Z,27nm,1.3s
J04D Umpqua Nationa 79.80 36 P **P 18 40 36.3 +1.9**
baz=228

W13A Hualapai Mount 79.83 46 P P 18 40 35.0 +0.2
K05A Summer Lake 80.13 37 P P 18 40 36.4 +0.2
K05A IAmb IAmb 18 40 55.4
comp=Z,29nm,1.2s
J05D Fort Rock, OR 80.31 36 P P 18 40 38.8 +1.7
baz=229
PRN Pahroc Range 80.39 44 P P 18 40 38.5 +0.8
PRN IAmb IAmb 18 40 48.0
comp=Z,22nm,1.2s
TUC Tucson 80.46 50 P P 18 40 39.1 +1.0
baz=238
INCN Inchon 80.57 316 P P 18 40 38.5 0.0
INCN pmax pmax
comp=Z,60nm,1.1s
INCN Inchon 80.57 316 P P 18 40 38.5 0.0
INCN IAmb IAmb 18 40 40.6
comp=Z,60nm,1.1s
R11A Troy Canyon, C 80.59 43 P P 18 40 40.7 +1.9
baz=234
LWLI Liwa 80.62 268 P P 18 40 43.8 +4.4
comp=Z,71nm,0.8s
MDSI Maura Dua 80.69 269 P P 18 40 39.4 -0.2
comp=Z,28nm,0.9s
H04A Detroit Lake 80.72 35 P P 18 40 40.4 +1.3
PINE Pine Mountain 80.80 36 P P 18 40 40.2 +0.4
PINE IAmb IAmb 18 40 49.7
comp=Z,23nm,1.0s
I05D Terrebonne, OR 80.94 35 P P 18 40 42.2 +1.9
baz=229
TYV Tymovskoe 81.05 334 *e*P P 18 40 36.7 -3.9
TYV pmax pmax
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 81.48 324 P P 18 40 43.7 +0.6
comp=Z,11nm,1.0s,baz=107,slow=3.9,SNR=12
USRK LR LR 19 12 47.8
comp=Z,268nm,20.6s,baz=125,slow=33
USRK Ussuriysk Ar. 81.48 324 P P 18 40 43.5 +0.4
USRK Ussuriysk Ar. 81.48 324 P P 18 40 43.5 +0.4
LHSI Lahat 81.53 269 P P 18 40 44.9 +0.8
comp=Z,37nm,1.1s
KNB Kanab 81.62 45 P P 18 40 45.9 +1.6
KNB pmax pmax
comp=Z,40nm,1.5s
KNB Kanab 81.62 45 P P 18 40 45.9 +1.6
U15A North Rim 81.65 46 IAmb IAmb 18 41 09.4
comp=Z,34nm,1.6s
NLWA Neilton Lookou 81.69 32 P P 18 40 46.2 +2.0
NLWA IAmb IAmb 18 41 14.9
comp=Z,51nm,1.9s
E04D Cinebar 81.77 33 P P 18 40 46.6 +2.0
baz=228
I07A Izee 81.78 36 P P 18 40 46.4 +1.5
J08A Circle Bar Ran 81.90 37 P P 18 40 46.6 +1.1
J08A IAmb IAmb 18 40 50.3
comp=Z,22nm,1.4s
D03D Eldon 82.17 32 P P 18 40 49.7 +3.0
baz=227
ELK Elko 82.22 41 P P 18 40 48.1 +0.7
ELK pmax pmax
comp=Z,12nm,1.3s
ELK Elko 82.22 41 P P 18 40 48.1 +0.7
MAW Mawson 82.29 199 P P 18 40 48.9 +1.8
comp=Z,6.5nm,0.9s,baz=129,slow=6.6,SNR=19
MAW LR LR 19 16 26.6
comp=Z,326nm,18.4s,baz=78,slow=35
MAW Mawson 82.29 199 P P 18 40 49.2 +2.1
baz=82,SNR=10
MAW Mawson 82.29 199 P P 18 40 48.0 +0.9
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 82.29 199 P P 18 40 48.0 +0.9
KSI Kapahiang 82.46 269 P P 18 40 49.1 0.0
comp=Z,106nm,0.9s
H03S2 Juan Fernandez 82.68 123 T T 20 13 24.8
baz=248,slow=75,SNR=9.9
H03S1 Juan Fernandez 82.69 123 T T 20 13 25.1
baz=248,slow=75,SNR=20
H03S3 Juan Fernandez 82.69 123 T T 20 13 07.7
baz=248,slow=75,SNR=29
121A Cookes Peak, D 82.75 51 P P 18 40 51.7 +1.4
baz=240
121A Cookes Peak, D 82.75 51 P P 18 40 51.1 +0.8
121A IAmb IAmb 18 41 14.1
comp=Z,19nm,1.4s
H03N2 Juan Fernandez 82.81 123 T T 20 13 15.2
baz=261,slow=74
H03N3 Juan Fernandez 82.81 123 T T 20 13 09.0
baz=261,slow=74
H03N1 Juan Fernandez 82.82 123 T T 20 13 20.5
baz=261,slow=74
G08A Pilot Rock 82.85 36 IAmb IAmb 18 40 60.0
comp=Z,14nm,1.0s
MVU Marysvale 82.85 44 P P 18 40 51.5 +0.7
NJ2 Nanjing 83.04 308 ⇓*i*P P 18 40 52.9 +1.3
NJ2 pmax pmax
comp=Z,35nm,0.9s
MDJ Mudanjiang 83.07 323 P P 18 40 52.3 +0.9
MDJ pmax pmax
comp=Z,25nm,1.2s
MDJ pmax pmax
comp=Z,330nm,5.1s
MDJ Mudanjiang 83.07 323 IAmb IAmb 18 40 54.6
comp=Z,30nm,0.9s
B05A Bryant 83.16 32 P P 18 40 53.4 +1.6
baz=228
A04D Lummi Island 83.17 31 P P 18 40 52.4 +0.6
baz=227
E07A Sunnyside 83.18 34 IAmb IAmb 18 41 01.7
comp=Z,14nm,0.9s
LTY Liberty 83.21 33 P P 18 40 53.0 +0.8
MYKOM Kota Tinggi 83.22 275 IAmb IAmb 18 40 55.3
comp=Z,29nm,0.8s
MYKOM Kota Tinggi 83.22 275 P P 18 40 55.0 +2.1
HAWA Hanford 83.25 35 IAmb IAmb 18 41 02.0
comp=Z,28nm,1.2s
DUG Dugway, Tooele 83.42 43 P P 18 40 54.8 +1.3
baz=236
MFID Camas Ranch 83.46 39 P P 18 40 53.9 +0.3
MFID IAmb IAmb 18 41 03.1
comp=Z,16nm,1.1s
BMO Blue Mountains 83.49 37 IAmb IAmb 18 41 02.5
comp=Z,13nm,1.2s
TMUT Trail Mountain 83.94 44 P P 18 40 57.8 +1.3
D08A Wollman Farm, 83.99 34 IAmb IAmb 18 41 05.7
comp=Z,17nm,1.0s
E09A Wood Farm, Sta 84.06 35 IAmb IAmb 18 41 05.6
comp=Z,11nm,1.0s
MNTX Cornudas Mount 84.11 53 P P 18 40 58.4 +1.3
baz=241
MNTX Cornudas Mount 84.11 53 P P 18 40 57.8 +0.7
LENM Lemitar 84.15 50 P P 18 40 57.5 0.0
F10A Beach Ranch, E 84.22 36 IAmb IAmb 18 41 06.9
comp=Z,26nm,0.9s
TX31 Lajitas Ar. Si 84.29 56 P P 18 40 59.4 +1.2
TX31 IAmb IAmb 18 41 09.3
comp=Z,36nm,1.4s
TXAR Lajitas Array 84.29 56 P P 18 40 59.1 +0.9
comp=Z,3.6nm,1.0s,baz=214,slow=4.2,SNR=13
TXAR LR LR 19 12 25.9
comp=Z,226nm,19.0s,baz=0.0,slow=31
TXAR Lajitas Array 84.29 56 P P 18 40 58.3 +0.1
TXAR Lajitas Array 84.29 56 P P 18 40 58.2 +0.1
HLID Hailey 84.38 39 P P 18 41 00.1 +1.7
baz=234
HLID Hailey 84.38 39 IAmb IAmb 18 41 08.8
comp=Z,13nm,0.9s
QIZ Qiongzhong 84.41 293 P P 18 40 59.3 +0.4
QIZ S SKSac 18 51 22.8 -0.4
QIZ LR LR
comp=Z,190nm,13.1s
QIZ LR LR
comp=Z,190nm,13.5s
SDSI Sungai Dareh 84.51 271 P P 18 40 59.4 -0.1
comp=Z,14nm,1.0s
B08A Colville Reser 84.61 33 P P 18 40 60.0 +0.7
DL2 Dalian 84.64 315 P P 18 41 00.6 +1.0
DL2 pmax pmax
comp=Z,31nm,0.9s
TCUT Toone Canyon 84.82 42 P P 18 41 01.2 +0.4
TTA Tatalina 84.87 8 P P 18 41 01.3 +1.0
TTA pmax pmax
comp=Z,23nm,1.0s
TTA Tatalina 84.87 8 P P 18 41 01.2 +1.0
TTA IAmb IAmb 18 41 13.3
comp=Z,23nm,1.0s
ANMO Albuquerque 84.91 50 P P 18 41 02.7 +1.4
baz=240
ANMO Albuquerque 84.91 50 *ce*P P 18 41 03.0 +1.7
ANMO pmax pmax
comp=Z,19nm,1.7s
ANMO Albuquerque 84.91 50 P P 18 41 02.4 +1.0
ANMO IAmb IAmb 18 41 06.5
comp=Z,11nm,1.1s
CN2 Changchun 84.97 321 *e*P P 18 41 01.8 +0.7
CN2 pmax pmax
comp=Z,20nm,1.1s
HWUT Hardware Ranch 84.99 42 IAmb IAmb 18 41 27.8
comp=Z,21nm,1.5s
CUT Chulitna 85.27 11 P P 18 41 01.9 -0.3
baz=202
BCYI Bear Canyon 85.40 39 P P 18 41 03.8 +0.2
N25K Chitina, Valde 85.67 14 P P 18 41 05.1 +0.8
baz=208
WHN Wuhan 85.71 305 ⇑P P 18 41 06.1 +1.0
M24K Tolsona, Glenn 85.78 13 P P 18 41 05.9 +1.0
baz=206
BARN Barnard Glacie 85.87 15 IAmb IAmb 18 41 15.8
comp=Z,28nm,1.2s
S22A 4UR Ranch, Cre 86.05 47 P P 18 41 08.6 +1.5
baz=240
LC01 Cunco 86.07 130 P P 18 41 10.9 +4.0
LC01 IAmb IAmb 18 41 38.2
comp=Z,17nm,1.2s
KTH Kantishna Hill 86.22 10 P P 18 41 06.4 -0.6
KTH IAmb IAmb 18 41 18.5
comp=Z,20nm,0.9s
PLCA Paso Flores 86.25 132 P P 18 41 10.8 +2.9
comp=Z,1.9nm,1.0s,baz=336,slow=12,SNR=2.3
PLCA LR LR 19 13 40.5
comp=Z,147nm,18.3s,baz=224,slow=31
PLCA Paso Flores 86.25 132 P P 18 41 10.8 +2.9
PLCA pmax pmax
comp=Z,66nm,2.0s
PLCA Paso Flores 86.25 132 IAmb IAmb 18 41 21.4
comp=Z,66nm,2.0s
TIA Tai'an 86.34 311 P P 18 41 08.9 +0.7
TIA pmax pmax
comp=Z,26nm,1.1s
DHY Denali Highway 86.42 12 IAmb IAmb 18 41 22.8
comp=Z,15nm,1.0s
RND Reindeer 86.44 11 P P 18 41 07.8 -0.3
RND pmax pmax
comp=Z,87nm,1.0s
RND Reindeer 86.44 11 P P 18 41 07.8 -0.3
DLMT Dillon 86.48 38 P P 18 41 09.6 +0.8
MCK McKinley 86.73 11 P P 18 41 09.9 +0.4
baz=204
IPM Ipoh 86.82 276 P P 18 41 12.0 +0.9
MNSI Mandailing Nat 86.85 272 P P 18 41 10.9 -0.3
comp=Z,96nm,0.8s
PDAR Pinedale Array 86.87 42 P P 18 41 11.1 +0.1
comp=Z,3.0nm,0.9s,baz=211,slow=5.2,SNR=17
PDAR LR LR 19 15 41.0
comp=Z,282nm,18.5s,baz=280,slow=33
PDAR Pinedale Array 86.87 42 P P 18 41 10.5 -0.4
SYO Syowa Base 87.00 192 ⇑*i*P P 18 41 10.6 -0.2
SYO Syowa Base 87.00 192 ⇑*i*pP pP 18 41 14.0 +1.0
YHL Hebgen Lake 87.02 39 P P 18 41 13.0 +1.3
MENT Mentasta 87.04 13 IAmb IAmb 18 41 24.6
comp=Z,25nm,1.1s
BOZ Bozeman (W) 87.17 39 P P 18 41 12.8 +0.6
baz=236
BOZ Bozeman (W) 87.17 39 IAmb IAmb 18 41 24.1
comp=Z,15nm,1.6s
VNA3 Neumayer Olymp 87.35 175 P P 18 41 14.1 +1.5
SNAA Sanae 87.36 177 P P 18 41 13.3 +0.5
SNAA Sanae 87.36 177 ⇓*e*P P 18 41 13.2 +0.5
SNAA pmax pmax
comp=Z,23nm,1.7s
SNAA Sanae 87.36 177 P P 18 41 13.5 +0.8
SNAA IAmb IAmb 18 41 26.7
comp=Z,13nm,1.1s
T25A Trinidad 87.43 49 P P 18 41 15.0 +1.3
baz=241
KULM Kulim 87.46 277 P P 18 41 15.0 +0.9
NEA2 Nenana 87.50 11 P P 18 41 13.6 +0.4
baz=203
RIDG Independent Ri 87.52 13 IAmb IAmb 18 41 26.5
comp=Z,33nm,1.1s
DOT Dot Lake 87.60 13 IAmb IAmb 18 41 26.9
comp=Z,33nm,1.0s
HDA Harding Lake 87.71 11 P P 18 41 14.6 +0.4
baz=205
HDA Harding Lake 87.71 11 P P 18 41 14.2 0.0
HDA IAmb IAmb 18 41 27.0
comp=Z,28nm,1.0s
SEY Seymchan 87.75 345 ⇓*i*P P 18 41 14.6 +0.3
SCRK Sand Creek 87.90 13 P P 18 41 16.1 +0.8
baz=208
TCOL CIGO, UAF Yank 87.97 11 P P 18 41 16.2 +0.8
baz=204
COLA College 87.97 11 ⇓*e*P P 18 41 16.0 +0.7
COLA pmax pmax
comp=Z,30nm,1.4s
VNA1 Neumayer--Stat 88.04 175 P P 18 41 17.8 +2.0
ILAR Eielson Array 88.05 11 P P 18 41 15.8 +0.1
comp=Z,2.8nm,0.7s,baz=209,slow=5.2,SNR=19
ILAR LR LR 19 14 36.9
comp=Z,127nm,19.6s,baz=212,slow=32
ILAR Eielson Array 88.05 11 P P 18 41 15.3 -0.5
ILAR Eielson Array 88.05 11 P P 18 41 15.3 -0.5
IMAR Indian Mountai 88.09 8 P P 18 41 15.4 -0.5
PSI Prapat 88.17 274 LR LR 19 21 22.3
comp=Z,152nm,20.1s,baz=91,slow=36
POKR Poker Flat Res 88.27 11 P P 18 41 16.8 0.0
baz=205
K27K Chicken 88.36 14 P P 18 41 18.6 +1.4
baz=210
BJI Beijing 88.85 314 P P 18 41 21.8 +1.7
BJI pmax pmax
comp=Z,11nm,2.5s
BJI pmax pmax
comp=Z,190nm,3.5s
ABTX Abilene, Hawle 88.85 54 P P 18 41 20.6 +0.3
baz=244
GSI Gunungsitoli 88.90 272 P P 18 41 22.6 +1.6
comp=Z,188nm,0.9s
EGAK Eagle 89.20 13 P P 18 41 21.9 +0.7
EGAK IAmb IAmb 18 41 34.8
comp=Z,28nm,1.1s
COLD Coldfoot 89.76 9 P P 18 41 24.7 +1.0
baz=202
ZEA Zeya 89.89 330 *e*P P 18 41 25.4 +0.8
ZEA *e* 18 45 03.5
ZEA *e*S SKKSac 18 52 06.1 -2.2
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA pmax pmax
comp=Z,100nm,8.3s
ZEA smax smax
comp=N,100nm,5.4s
ZEA smax smax
comp=E,100nm,9.7s
BILL Bilibino 89.96 353 *e*P P 18 41 24.6 -0.1
BILL *e* 18 44 58.8
BILL *e*PPP PPP 18 46 55.7
BILL pmax pmax
comp=Z,12nm,0.8s
GYA Guiyang 90.09 298 ⇑P P 18 41 27.2 +0.8
GYA pP pwP 18 41 36.3 +2.9
GYA S S 18 52 16.2 -4.1
GYA SS SS 18 58 19.0 -0.4
GYA pmax pmax
comp=Z,15nm,1.0s
GYA pmax pmax
comp=Z,220nm,4.0s
MTO3 Montecristo 90.29 75 IAmb IAmb 18 41 48.0
comp=Z,17nm,1.3s
TIY Taiyuan 90.36 311 *e*P P 18 41 30.5 +3.1
TIY pmax pmax
comp=Z,21nm,0.5s
SLVN Son La 90.44 293 IAmb IAmb 18 41 40.1
comp=Z,42nm,1.4s
BMAR Burnt Mountain 90.86 11 P P 18 41 29.5 +0.6
LHMI Lhok Sumawe 90.88 275 P P 18 41 32.8 +2.6
comp=Z,146nm,0.9s
MLSI Meulaboh, Aceh 91.04 274 P P 18 41 32.4 +1.4
comp=Z,179nm,1.0s
XAN Xi'an 91.37 306 P P 18 41 33.5 +1.4
XAN pP pwP 18 41 40.6 +1.5
XAN pmax pmax
comp=Z,55nm,1.1s
HHC Hu-ho-hao-te 92.35 313 *e*P P 18 41 35.2 -1.4
HHC PP PP 18 45 21.8 +4.2
HHC pmax pmax
comp=Z,16nm,1.3s
HHC pmax pmax
comp=Z,160nm,6.6s
HHC LR LR
comp=Z,190nm,18.0s
HHC LR LR
comp=Z,320nm,18.4s
HHC LR LR
comp=Z,260nm,17.7s
NNA Nana 92.40 104 ⇓*e*P P 18 41 35.6 -1.8
NNA pmax pmax
comp=Z,101nm,1.5s
KMI Kunming 92.85 296 ⇑*i*P P 18 41 41.3 +1.9
KMI pP pwP 18 41 47.0 +0.7
KMI sP sP 18 41 52.7 +11
KMI pmax pmax
comp=Z,260nm,5.8s
KMI LR LR
comp=Z,210nm,8.7s
KMI LR LR
comp=Z,330nm,15.9s
KMI LR LR
comp=Z,510nm,19.3s
DGMT Dagmar 93.00 39 P P 18 41 41.6 +2.3
baz=242
CM31 Chiang Mai Arr 93.73 288 P P 18 41 44.1 +0.8
CMAR Chiang Mai Arr 93.73 288 P P 18 41 45.0 +1.6
comp=Z,26nm,0.9s,baz=122,slow=2.8,SNR=161
CMAR LR LR 19 25 42.4
comp=Z,70nm,18.1s,baz=168,slow=37
CMAR Chiang Mai Arr 93.73 288 *i* P P 18 41 45.0 +1.6
CMAR pmax pmax
comp=Z,26nm,0.9s
CMAR Chiang Mai Arr 93.73 288 P P 18 41 44.2 +0.9
CHTO Chiang Mai 93.86 289 P P 18 41 44.6 +0.7
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO Chiang Mai 93.86 289 P P 18 41 44.5 +0.7
YAK Yakutsk 93.98 337 ⇓*e*P P 18 41 42.9 -0.5
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 93.98 337 P P 18 41 41.7 -1.7
YAK IAmb IAmb 18 41 54.2
comp=Z,7.7nm,0.7s
CD2 Chengdu 94.16 301 *e*P P 18 41 44.0 -1.1
CD2 LR LR
comp=Z,490nm,15.6s
YKA Yellowknife Ar 95.48 24 P P 18 41 50.1 -0.1
comp=Z,1.7nm,0.8s,baz=243,slow=3.1,SNR=3.6
YKA LR LR 19 20 34.3
comp=Z,83nm,18.9s,baz=0.0,slow=33
ECSD EROS Data Cent 95.67 45 P P 18 41 52.3 +0.6
baz=246
ECSD EROS Data Cent 95.67 45 P P 18 41 51.3 -0.3
LZH Lanzhou 96.00 306 *e*P P 18 41 56.1 +2.6
LZH pP pwP 18 42 04.0 +3.5
LZH sP sP 18 42 06.7 +10
LZH pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 98.16 318 ⇓*e*P Pdif 18 42 04.3 +1.3
ULN pmax pmax
comp=Z,3.0nm,1.1s
LPAZ La Paz 98.48 111 LR LR 19 19 42.6
comp=Z,200nm,18.5s,baz=248,slow=31
SONM Songino Array 98.56 318 P P 18 42 03.6 -1.1
comp=Z,0.5nm,0.4s,baz=79,slow=7.6,SNR=4.3
SONM PP PP 18 46 13.1 +7.4
comp=Z,0.6nm,0.9s,baz=115,slow=6.7,SNR=3.8
SONM LR LR 19 22 55.1
comp=Z,92nm,20.7s,baz=118,slow=33
SONM Songino Array 98.56 318 P P 18 42 03.2 -1.6
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 98.56 318 P P 18 42 03.2 -1.6
ULM Lac du Bonnet 98.68 39 LR LR 19 23 07.8
comp=Z,367nm,18.6s,baz=268,slow=33
GTA Gaotai 100.14 308 *e*P Pdif 18 42 13.3 +1.3
GTA pP pwP 18 42 17.8 -1.2
GTA sP sP 18 42 20.9 +6.0
GTA pmax pmax
comp=Z,2.0nm,0.7s
DGZ Jazzator, Alta 111.13 316 ⇑*i*PKIKP PKiKP 18 47 00.0 +0.4
NRIK Noril'sk 112.42 338 ⇓*i*PKIKP PKiKP 18 47 03.4 +2.1
ZALV Zalesovo Beam 113.19 321 PKiKP PKiKP 18 47 02.9 -0.3
comp=Z,4.8nm,0.7s,baz=152,slow=1.5,SNR=29
ZALV PP PP 18 47 56.9 +3.6
comp=Z,1.9nm,0.9s,baz=92,slow=7.4,SNR=3.9
ZALV Zalesovo Beam 113.19 321 *i* PKIKP PKiKP 18 47 02.5 -0.7
ZALV Zalesovo Beam 113.19 321 PKiKP PKiKP 18 47 02.5 -0.7
MK31 Makanchi Array 114.21 313 *d* PKIKP PKPdf 18 47 05.3 -0.1
MKAR Makanchi Array 114.21 313 PKiKP PKPdf 18 47 05.2 -0.2
comp=Z,3.8nm,0.8s,baz=74,slow=3.1,SNR=18
MKAR Makanchi Array 114.21 313 PKiKP PKPdf 18 47 05.0 -0.4
MAKZ Makanchi 114.43 313 PKIKP PKPdf 18 47 04.8 -1.0
PDGK Podgornoye 115.87 309 PKIKP PKPdf 18 47 07.6 -1.3
KURK Kurchatov 116.85 317 *c* PKIKP PKPdf 18 47 09.8 -0.5
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 116.85 317 PKPdf PKPdf 18 47 10.0 -0.4
ULHL Ulahol 118.18 308 P PKiKP 18 47 14.3 +0.8
SNR=5.9
TKM2 Tokmak 2 118.69 308 P PKPdf 18 47 14.3 -0.1
SNR=13
TKM2 Tokmak 2 118.69 308 PKIKP PKPdf 18 47 13.5 -0.9
KBK Karagaybulak 119.15 308 P PKiKP 18 47 15.8 +0.5
SNR=7.2
CHMS Chumysh 119.31 308 P PKiKP 18 47 15.4 0.0
SNR=9.5
UCH Uchtor 119.46 307 P PKiKP 18 47 17.1 +0.8
SNR=7.7
AAK Ala-Archa 119.49 308 *d* PKIKP PKiKP 18 47 16.3 +0.3
AAK pmax pmax
comp=Z,13nm,0.8s
USP Ospenovka 119.50 309 P PKiKP 18 47 16.1 +0.2
SNR=11
EKS2 Erkin-Say 120.02 308 P PKiKP 18 47 17.3 +0.3
SNR=9.8
BVAR Borovoye Array 121.81 320 PKP PKiKP 18 47 20.0 0.0
comp=Z,8.5nm,0.8s,baz=148,slow=14,SNR=31
BVAR Borovoye Array 121.81 320 PKIKP PKiKP 18 47 20.0 0.0
BRVK Borovoye 121.87 320 *d* PKIKP PKiKP 18 47 20.1 0.0
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 121.87 320 PKPdf PKPdf 18 47 19.6 -0.3
KK31 Karatay Array 122.42 308 *i* PKIKP PKPdf 18 47 20.6 -0.7
KK31 Karatay Array 122.42 308 PKPdf PKPdf 18 47 20.6 -0.7
KKAR Karatay Array 122.42 308 PKIKP PKPdf 18 47 20.6 -0.7
KKAR Karatay Array 122.42 308 PKPdf PKPdf 18 47 20.6 -0.7
SPITS Spitsbergen Ar 122.57 357 PKP PKPdf 18 47 20.6 0.0
comp=Z,14nm,0.9s,baz=107,slow=14,SNR=4.5
KBL Kabul 123.34 298 PKIKP PKPdf 18 47 23.3 -0.3
KBL Kabul 123.34 298 PKPdf PKPdf 18 47 23.3 -0.3
SVE Sverdlovsk 126.47 326 *e*PKIKP PKiKP 18 47 29.2 +0.1
SVE pmax pmax
comp=Z,19nm,0.9s
ARU Arti 127.68 326 PKP PKPdf 18 47 30.5 -0.4
comp=Z,5.4nm,0.8s,baz=350,slow=1.3,SNR=23
ARU Arti 127.68 326 *i* PKIKP PKPdf 18 47 30.9 0.0
ARU 18 49 28.9
ARU 18 54 39.2
ARU SS SS 19 06 32.3 -12
ARU Arti 127.68 326 PKPdf PKPdf 18 47 30.2 -0.7
AB31 Akbulak array 128.96 317 *i* PKIKP PKPdf 18 47 33.3 -0.3
ABKAR Akbulak array 128.96 317 PKPdf PKPdf 18 47 33.9 +0.3
AKTO Aktyubinsk 129.86 319 PKP PKiKP 18 47 35.9 -0.2
comp=Z,4.4nm,0.8s,baz=49,slow=2.8,SNR=18
ARCES ARCESS Array B 130.03 351 PKP PKPdf 18 47 35.0 -0.1
comp=Z,6.6nm,0.9s,baz=17,slow=1.3,SNR=9.5
ARCES ARCESS Array B 130.03 351 PKIKP PKPdf 18 47 35.0 -0.1
KIRV Kirov 131.19 331 *c* PKIKP PKiKP 18 47 39.4 +1.0
GEYT Alibeck 132.13 303 PKP PKPdf 18 47 39.2 -0.9
comp=Z,6.2nm,0.8s,baz=28,slow=6.5,SNR=6.5
GEYT Alibeck 132.13 303 PKPdf PKPdf 18 47 40.0 -0.1
KLMR Klimovskoe 133.77 338 *e*PKIKP PKPdf 18 47 42.3 0.0
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 133.77 338 *e*PKPdf PKPdf 18 47 42.3 0.0
KLMR AMP 18 47 48.7
comp=Z,19nm,1.5s
KLMR *e* 18 50 45.8

KLMR eSKP 18 51 19.5
KLMR e 18 54 59.6
FINES FINESS Array B 137.22 346 PKP **PKPdf 18 47 48.0 -0.8**
comp=Z,3.6nm,0.9s,baz=29,slow=4.4,SNR=6.3
FINES FINESS Array B 137.22 346 PKIKP **PKPdf 18 47 48.0 -0.8**
OBN Obninsk 138.89 334 ePKIKP **PKiKP 18 47 53.6 -0.6**
OBN e 18 50 46.0
OBN ePPP PPP 18 53 50.3
OBN pmax pmax
comp=Z,7.0nm,1.0s
VRH Novokhopyorsk 138.91 326 ePKIKP **PKPdf 18 47 52.2 0.0**
VRH pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 139.49 329 ePKIKP **PKPdf 18 47 52.6 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
VSU Vasula 139.66 343↓ePKIKP **PKPdf 18 47 53.9 +0.6**
NB2 NORSAR Subarra 139.83 356 PKP PKPpre 18 47 44.2
comp=Z,12nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 139.83 356 PKhKP PKPpre 18 47 47.6
comp=Z,0.5nm,0.8s,baz=15,slow=2.4,SNR=2.6
NOA PKP **PKPdf 18 47 53.5 -0.1**
comp=Z,2.5nm,1.0s,baz=43,slow=0.6,SNR=4.4
VSR Storozhevoye 140.22 327 ePKIKP **PKPdf 18 47 54.3 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.6s
HFS Hagfors 140.53 354 PKhKP PKPpre 18 47 48.6
comp=Z,4.4nm,0.8s,baz=297,slow=6.3,SNR=3.6
ZEI Tsey 141.56 313 *i* PKIKP **PKPdf 18 47 53.3 -4.3**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 141.86 315 PKhKP **PKPdf 18 47 53.4 -4.3**
comp=Z,1.5nm,0.8s,baz=150,slow=6.7,SNR=2.7
KIV Kislovodsk 141.90 315 *i* PKIKP **PKiKP 18 48 01.0 +0.1**
KIV pmax pmax
comp=Z,24nm,1.1s
KMBO Kilima Mbogo 142.26 238 PKP **PKPdf 18 47 58.3 -1.5**
comp=Z,1.4nm,0.4s,baz=36,slow=2.1,SNR=6.9
KMBO Kilima Mbogo 142.26 238 PKIKP **PKPdf 18 47 57.0 -2.7**
KMBO Kilima Mbogo 142.26 238 PKPdf **PKPdf 18 47 57.0 -2.7**
NACGM Naroch 142.67 340 *e* **PKPdf 18 47 55.0 -3.9**
SENK Senkaya-Erzuru 143.46 311 *eP* **PKPdf 18 47 59.6 -1.4**
BCA Borcka 143.64 312 *P* PKPbc 18 47 59.0 +0.5
GURO Guroymak-BITLI 144.38 307 *eP* **PKPab 18 48 00.1 -0.6**
SIRT Sirnak 144.40 306 *eP* **PKPab 18 47 59.0 -1.8**
SUW Suwalki 144.52 342 ePKP PKPbc 18 48 01.3 +0.6
SUW Suwalki 144.52 342 ePKIKP PKPbc 18 48 01.3 +0.6
MUD Monsted U'grnd 144.52 357 *i* PKIKP **PKPab 18 48 00.5 +0.1**
MUD pmax pmax
comp=Z,40nm,1.0s
MUD Monsted U'grnd 144.52 357 *i* P **PKPab 18 48 00.5 +0.1**
comp=Z,40nm,1.0s
MUD Monsted U'grnd 144.52 357 *i* P **PKPab 18 48 00.5 +0.1**
MUD IAmb IAmb 18 48 02.4
comp=Z,40nm,1.0s
VRTB Varto-Mus 144.60 309 *eP* **PKPdf 18 48 04.1 +1.1**
EKA Eskdalemuir Ar 145.06 9 PKPbc **PKPbc 18 48 01.3 -1.1**
comp=Z,9.4nm,0.8s,baz=324,slow=3.7,SNR=12
SVAN Silvan-Diyarba 145.13 307 *eP* **PKPdf 18 48 04.0 +0.2**
AKASG Malin Array Be 145.16 334 PKPbc **PKPbc 18 48 02.5 -0.4**
comp=Z,28nm,0.7s,baz=41,slow=4.4,SNR=131
AKASG Malin Array Be 145.16 334 PKIKP **PKPbc 18 48 02.3 -0.6**
AKASG Malin Array Be 145.16 334 PKPbc 18 48 02.3 -0.6
BNGB Bingl 145.23 309 *eP* **PKPdf 18 48 05.2 +1.2**
BSD Bornholm Skovb 145.28 351 *i* PKIKP **PKPbc 18 48 02.9 -0.2**
BSD pmax pmax
comp=Z,29nm,0.8s
BSD Bornholm Skovb 145.28 351 *i* P **PKPbc 18 48 02.9 -0.2**
comp=Z,29nm,0.8s
BSD Bornholm Skovb 145.28 351 *i* P **PKPbc 18 48 03.0 -0.2**
BSD IAmb IAmb 18 48 03.8
comp=Z,29nm,0.8s
MARD Mardin 145.72 306 PKPab 18 48 05.8 +0.2
ESPY Espiye-Giresun 145.85 313 *eP* **PKPab 18 48 06.3 +0.4**
PTK Pertek 146.20 309 *eP* **PKPab 18 48 08.6 +1.1**
SKMB Sankelmark Bun 146.24 356 ePKPbc **PKPab 18 48 07.9 +1.1**
baz=10,slow=2.5
SVRC Sivrice-ELAZID 146.45 308 *eP* **PKPab 18 48 09.4 +0.9**
GKP Gorka Klasztor 146.64 348 ePKP **PKPab 18 48 08.4 0.0**
GKP Gorka Klasztor 146.64 348 ePKP2 **PKPab 18 48 08.4 0.0**
BSEG Bad Segeberg 146.96 355 ePKPbc **PKPab 18 48 09.5 -0.1**
baz=10,slow=2.5
MALT Malatya 147.12 309 *eP* **PKPab 18 48 10.9 -0.1**
BEL Belsk 147.12 343 ePKP **PKPab 18 48 10.0 -0.4**
BEL Belsk 147.12 343 ePKP2 **PKPab 18 48 10.0 -0.4**
URFA Urfa 147.15 307 *eP* **PKPab 18 48 10.9 -0.2**
SORM Soroca 147.47 332↑P **PKPbc 18 48 08.8 -1.1**
SORM Soroca 147.47 332↑PKP2 **PKPbc 18 48 08.8 -1.1**
SVSK Karacayir 147.47 312 *eP* **PKPab 18 48 12.1 0.0**
MBAR Mbarara 147.58 232 PKP2 **PKPbc 18 48 12.3 +0.8**
MBAR Mbarara 147.58 232 PKPbc 18 48 12.3 +0.8
TOKT Tokat 147.60 313 *eP* **PKPdf 18 48 07.4 -0.5**
DARE Darende-Malaty 147.70 310 *eP* **PKiKP 18 48 12.8 -0.2**
LVV L'vov 147.86 338 ePKP2 **PKPbc 18 48 11.7 +0.8**
RUE Ruedersdorf 148.00 351 ePKPbc **PKiKP 18 48 12.4 -0.6**
baz=10,slow=2.5
MILM Milestii Mici 148.15 330↓P **PKiKP 18 48 12.6 -0.9**
NRDL Niedersach Rie 148.41 355 ePKPbc **PKiKP 18 48 13.6 -0.2**
baz=10,slow=2.5
GAZ Gaziantep 148.44 308 *eP* **PKiKP 18 48 14.3 -0.2**
GAZ Gaziantep 148.44 308 PKPdf **PKPdf 18 48 08.8 -0.7**
GAZ PKPbc **PKiKP 18 48 14.4 -0.2**
SARI SarD1z-Kayseri 148.53 310 *eP* **PKiKP 18 48 14.7 -0.1**
ASSE Asse, Remlinge 148.72 354 ePKPbc **PKiKP 18 48 14.4 0.0**
baz=10,slow=2.5
IBBN Ibbenburen 148.73 358 ePKPbc **PKiKP 18 48 14.5 -0.1**
baz=10,slow=2.5
BNN Bunyan 148.74 311 *eP* **PKiKP 18 48 14.9 -0.3**
OJC Ojcow 148.85 343 ePKP **PKPbc 18 48 14.1 +0.6**
OJC Ojcow 148.85 343 ePKP2 **PKPbc 18 48 14.1 +0.6**
CORM Corum 148.96 314 *eP* **PKiKP 18 48 16.0 +0.4**
CLZ Clausthal 149.03 355 ePKPbc **PKiKP 18 48 15.3 +0.1**
baz=10,slow=2.5
ILGA Ilgaz 149.11 317 PKPdf **PKPdf 18 48 10.4 -0.1**
KSP Ksiaz 149.13 347 ePKP **PKiKP 18 48 15.4 0.0**
KSP Ksiaz 149.13 347 ePKP2 **PKiKP 18 48 15.4 0.0**
BURAR Bucovina Array 149.21 334↓P **PKPbc 18 48 13.4 -1.2**
BURAR Bucovina Array 149.21 334↓PKP2 **PKPbc 18 48 13.4 -1.2**
BURAR Bucovina Array 149.21 334 PKPdf **PKPdf 18 48 10.1 -0.2**
BURAR PKPbc **PKiKP 18 48 15.9 0.0**
KOLS Kolonicke sedl 149.22 339 ePKP2 **PKPbc 18 48 14.7 +0.2**
KOLS Kolonicke sedl 149.22 339 ePKP **PKPbc 18 48 14.7 +0.2**
CLL Collm 149.26 351 ePKPdf **PKPdf 18 48 11.0 +0.8**
CLL ↑*i*PKPbc **PKiKP 18 48 15.2 -0.4**
comp=Z,48nm,0.9s
CLL Collm 149.26 351↑*i*PKP2 **PKiKP 18 48 15.2 -0.4**
CLL pmax pmax
comp=Z,4.0nm,0.9s
KOZT Kozan 149.34 309 *eP* **PKiKP 18 48 16.1 -0.2**
VARL Varlezi 149.35 329↑P **PKPbc 18 48 14.9 0.0**
GTTG Gottingen 149.36 355 ePKPbc **PKiKP 18 48 16.1 +0.2**
baz=10,slow=2.5
BIZ Bicaz 149.37 332↓P **PKPbc 18 48 14.5 -0.4**
TLCR 149.39 327↓P **PKiKP 18 48 16.3 +0.2**
TLCR 149.39 327↑PKP2 **PKiKP 18 48 16.0 -0.1**
CANT Cankiri 149.41 316 *eP* **PKiKP 18 48 16.7 +0.3**
OSTC Ostas 149.41 347↑ePKP **PKiKP 18 48 16.4 +0.3**
OSTC ePKPAB **sPKPab 18 48 26.2 +3.5**
CHVC Chvalec 149.42 347↑ePKP **PKiKP 18 48 16.5 +0.4**
NIE Niedzica 149.42 341 ePKP **PKiKP 18 48 16.6 +0.5**
NIE Niedzica 149.42 341 ePKP2 **PKiKP 18 48 16.6 +0.5**
GHRR 149.44 330↑P **PKPbc 18 48 15.1 0.0**
TESR Tescani 149.46 331↑P **PKPbc 18 48 15.1 0.0**
UZH Uzhgorod 149.47 338 ePKP2 **PKiKP 18 48 15.7 -0.5**
NEUB Neuenburg 149.51 353 ePKPbc **PKiKP 18 48 16.4 +0.2**
baz=10,slow=2.5
CRVS Cervenica-Dubn 149.51 340 ePKP2 **PKiKP 18 48 16.5 +0.2**
CRVS Cervenica-Dubn 149.51 340 ePKP **PKiKP 18 48 16.5 +0.2**
CRVS *e* 18 48 20.0
BRG Berggiesshubel 149.53 350 ePKP **PKPdf 18 48 11.1 +0.4**
comp=Z,5.2nm,1.1s
BRG Berggiesshubel 149.53 350 *i* PKP **PKiKP 18 48 16.1 -0.2**
comp=Z,31nm,0.9s
BRG Berggiesshubel 149.53 350 ePKHKP **PKPdf 18 48 11.1 +0.4**
BRG *i* 18 48 16.1
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,31nm,0.9s
BRG Berggiesshubel 149.53 350 ePKPbc **PKiKP 18 48 16.6 +0.3**
baz=10,slow=2.5
FBE Freiberg 149.58 351 ePKPbc **PKiKP 18 48 16.6 +0.3**
baz=10,slow=2.5

DPC Dobruska-Polom 149.59 347↑*i*ePKP **PKiKP 18 48 16.6 +0.2**
DPC ↑ePKP **PKiKP 18 48 16.6 +0.2**
DPC Dobruska-Polom 149.59 347 ePKP2 **PKiKP 18 48 16.6 +0.2**
BUG Bochum--Univer 149.61 358 ePKPbc **PKiKP 18 48 16.5 +0.1**
baz=10,slow=2.5
OKC Ostrava-Krasne 149.64 344↑ePKP **PKiKP 18 48 16.6 +0.1**
OKC Ostrava-Krasne 149.64 344 ePKP2 **PKiKP 18 48 16.6 +0.1**
CFR Carcaliu 149.73 328↑P **PKiKP 18 48 16.4 -0.4**
KRLC Kraliky 149.74 346↑ePKP **PKiKP 18 48 17.0 +0.2**
PVCC Panska Ves 149.76 349↑ePKP **PKiKP 18 48 17.1 +0.4**
MORC Moravsky Berou 149.84 345 ePKP **PKiKP 18 48 17.0 0.0**
MORC Moravsky Berou 149.84 345 PKPbc 18 48 14.5 -1.5
BR131 Keskin Array S 149.85 314 PKP2 **PKPbc 18 48 16.5 0.0**
BR131 Keskin Array S 149.85 314 PKPdf **PKPdf 18 48 11.6 -0.1**
BR131 PKPbc **PKPbc 18 48 16.5 0.0**
BRTR Keskin Array B 149.85 314 PKP **PKPdf 18 48 11.2 -0.5**
comp=Z,2.2nm,0.9s,baz=45,slow=2.2,SNR=9.3
BRTR PKPbc **pPKPbc 18 48 16.9 -1.7**
comp=Z,16nm,0.8s,baz=138,slow=3.2,SNR=42
BRTR Keskin Array B 149.85 314 PKPdf **PKPdf 18 48 11.1 -0.6**
BRTR **PKPbc 18 48 16.7 +0.2**
VRI Vrincioaia 149.91 330↑P **PKPbc 18 48 16.4 +0.1**
LANS Liptovska Anna 149.91 342 ePKP **PKiKP 18 48 18.3 +1.2**
PLOR Plostina 149.95 330↑P **PKiKP 18 48 16.9 -0.4**
ARCR ARCALIA 149.99 334↑P **PKiKP 18 48 17.3 0.0**
KARA Karaisali 149.99 309 *eP* **PKiKP 18 48 18.4 +0.8**
UBBA Unterreizbach 150.08 355 ePKPbc **PKiKP 18 48 17.2 0.0**
baz=10,slow=2.5
MOX Moxa 150.09 353 ePKPbc **PKiKP 18 48 17.9 +0.5**
baz=10,slow=2.5
BISRR Bisoca 150.15 330↑P **PKiKP 18 48 18.1 +0.3**
HARR Harsova 150.18 327↑P **PKiKP 18 48 18.5 +0.7**
WERD Werda 150.19 352 ePKPbc **PKiKP 18 48 18.2 +0.5**
baz=10,slow=2.5
KECS Kecovo 150.19 340 ePKP **PKiKP 18 48 18.5 +0.8**
TANN Tannenbergstha 150.20 352 ePKPbc **PKiKP 18 48 18.3 +0.6**
baz=10,slow=2.5
PRA Prague 150.23 349 ePKP **PKiKP 18 48 18.2 +0.5**
ASF Jabal al Asfar 150.24 298 PKP **PKPdf 18 48 12.4 -0.1**
comp=Z,0.7nm,0.6s,baz=340,slow=7.8,SNR=2.2
ASF PKPbc **PKiKP 18 48 18.4 -0.1**
comp=Z,18nm,0.9s,baz=52,slow=1.5,SNR=48
GUNZ Gunzen 150.27 352 ePKPbc **PKiKP 18 48 18.6 +0.8**
baz=10,slow=2.5
PRU Pruhonice 150.28 349↑ePKP **PKiKP 18 48 18.2 +0.4**
PRU ePKPAB **sPKPab 18 48 28.8 +2.6**
MFTR Murfatlar 150.29 326↑P **PKiKP 18 48 18.6 +0.6**
GOPC GO Pecny, Ondr 150.31 348↑ePKP **PKiKP 18 48 18.4 +0.5**
GOPC ePKPAB **sPKPab 18 48 29.0 +2.6**
WERN Wernitzgruen 150.34 352 ePKPbc **PKiKP 18 48 18.9 +0.9**
baz=10,slow=2.5
LOD Lodumlu 150.34 315 *eP* **PKiKP 18 48 18.7 +0.3**
AFSR Afar-Bala (An 150.37 314 *eP* **PKiKP 18 48 19.0 +0.5**
NKC Novy Kostel 150.38 351↑ePKP **PKiKP 18 48 18.6 +0.5**
DOPR Dopca 150.43 332↑P **PKiKP 18 48 19.1 +0.7**
MEM Membach 150.46 360 PKiKP **PKiKP 18 48 17.9 -0.2**
BTNL Ternell 150.49 360 PKiKP **PKPbc 18 48 17.2 -0.3**
BSTI Sart Tilman 150.49 0 PKiKP **PKiKP 18 48 18.4 +0.2**
VRAC Vranov 150.51 346 PKP **PKPdf 18 48 11.9 -0.4**
comp=Z,0.8nm,0.3s,baz=297,slow=4.5,SNR=1.7
VRAC PKPbc **PKiKP 18 48 18.8 +0.5**
comp=Z,17nm,0.9s,baz=39,slow=1.3,SNR=17
VRAC Vranov 150.51 346↑P **PKiKP 18 48 18.9 +0.5**
VRAC Vranov 150.51 346 ePKP **PKiKP 18 48 18.4 +0.1**
AHRW Bad Neuenahr-A 150.52 358 ePKPbc **PKiKP 18 48 19.9 +1.6**
baz=10,slow=2.5
MERS Mersin 150.54 309 *eP* **PKiKP 18 48 18.9 0.0**
SNF Seneffe 150.54 2 PKiKP **PKiKP 18 48 18.1 -0.1**
MLR Muntele Rosu 150.55 331 PKPbc **PKiKP 18 48 18.4 -0.3**
comp=Z,30nm,0.9s,baz=356,slow=6.4,SNR=20
MLR Muntele Rosu 150.55 331↑P **PKiKP 18 48 19.0 +0.3**
CJR Cluj-Napoca 150.59 335↑P **PKiKP 18 48 18.4 -0.3**
BCLA Clavier 150.65 1 PKiKP **PKPbc 18 48 18.1 +0.3**
JAVC Velka Javorina 150.66 344 ePKP **PKiKP 18 48 19.5 +0.8**
SULT Sultanhani-AKS 150.67 312 *eP* **PKPbc 18 48 16.7 -1.7**
MANZ Manzenberg 150.67 352 ePKPbc **PKiKP 18 48 19.5 +0.8**
baz=10,slow=2.5
PBCC Pribram 150.67 349↑ePKP **PKiKP 18 48 19.1 +0.4**
VYHS Vyhne 150.68 342 ePKP **PKiKP 18 48 19.2 +0.5**
YESY Yesilyurt 150.70 311 *eP* **PKPbc 18 48 18.2 -0.4**
BMRD Maredsous 150.76 1 PKiKP **PKiKP 18 48 18.6 -0.1**
TREC Trest 150.76 347↑ePKP **PKiKP 18 48 19.4 +0.5**
TNS Taunus Mts 150.78 357 ePKPbc **PKiKP 18 48 20.4 +1.5**
baz=10,slow=2.5
KRUC Moravsky 150.78 346 ePKP **PKiKP 18 48 18.8 -0.1**
SECR 150.84 330↑P **PKiKP 18 48 19.7 +0.5**
ROTZ Rotzenmuhle 150.87 352 ePKPbc **PKiKP 18 48 19.9 +0.8**
baz=10,slow=2.5
PSZ Piszkesteto 150.88 340↑P **PKiKP 18 48 19.5 +0.3**
CHBY Cihanbeyli 150.92 313 *eP* **PKPbc 18 48 18.9 -0.1**
DOU Dourbes 150.96 2 PKiKP **PKiKP 18 48 19.3 +0.1**
KIZK Mersin 150.97 308 *eP* **PKiKP 18 48 20.4 +0.7**
VOIR 151.00 332↑P **PKiKP 18 48 20.3 +0.8**
MDUB Mudurnu 151.03 318 *eP* **PKiKP 18 48 20.5 +0.7**
SMOL Smolenice 151.04 344 ePKP **PKiKP 18 48 20.6 +1.1**
GRA1 Grafenberg Arr 151.07 353 PKPdf **PKPdf 18 48 13.3 +0.2**
GRA1 **sPKPbc 18 48 20.0 -1.8**
GRF Grafenberg Arr 151.07 353 PKIKP **PKPdf 18 48 13.3 +0.2**
GRF 18 48 20.0
GRF Grafenberg Arr 151.07 353 ePKPbc **PKiKP 18 48 20.4 +0.9**
baz=10,slow=2.5
SILI Silifke-Mersin 151.18 308 *eP* **PKPbc 18 48 19.1 -0.5**
MODS Modra-Piesok 151.21 344 ePKP **PKiKP 18 48 20.0 +0.2**
MMAI Mount Meron Ar 151.23 301 PKPbc **PKiKP 18 48 21.1 +0.7**
comp=Z,36nm,0.8s,baz=60,slow=4.0,SNR=66
ARR Arges 151.23 332↑P **PKiKP 18 48 21.1 +1.1**
KHC Kasperske Hory 151.28 349 ePKPDF **PKPdf 18 48 13.0 -0.5**
KHC ↑ePKP **sPKPbc 18 48 20.3 -2.0**
KHC Kasperske Hory 151.28 349 ePKIKP **PKPdf 18 48 13.0 -0.5**
KHC *e* 18 48 20.3
KHC Kasperske Hory 151.28 349 PKPdf **PKPdf 18 48 12.4 -1.1**
KHC PKPbc **sPKPbc 18 48 20.4 -1.9**
KEBE Keben-Mersin 151.30 308 *eP* **PKiKP 18 48 20.2 -0.3**
EREN Erenkoy 151.33 306 *eP* **PKiKP 18 48 20.2 -0.2**
WET Wettzell 151.38 350 ePKPbc **PKiKP 18 48 20.9 +0.8**
baz=10,slow=2.5
WLF Walferdange 151.41 360 PKiKP **PKiKP 18 48 20.3 +0.2**
WLF Walferdange 151.41 360 ePKPbc **PKiKP 18 48 21.5 +1.4**
baz=10,slow=2.5
WLF Walferdange 151.41 360 PKiKP 18 48 20.6 +0.4
IKL Isikli 151.41 308 *eP* **PKiKP 18 48 20.7 +0.1**
SAUV Serdivan-Sakar 151.42 319 *eP* **PKiKP 18 48 21.3 +0.8**
ZST Bratislava 151.42 344 ePKP **PKiKP 18 48 20.2 0.0**
KIZT Kizilcal 151.45 314 *eP* **PKiKP 18 48 20.9 +0.1**
LADK Ladik-KONYA 151.46 313 *eP* **PKiKP 18 48 20.6 -0.2**
TEVE Tevekalti-Mers 151.51 309 *eP* **PKiKP 18 48 21.3 +0.4**
GEC2 GERESS Array S 151.54 349 ePKPbc **PKiKP 18 48 21.4 +0.8**
baz=10,slow=2.5
GERES GERESS Array B 151.54 349 PKP **PKPdf 18 48 14.7 +0.7**
comp=Z,7.7nm,1.0s,baz=333,slow=1.8,SNR=9.9
GERES PKPbc **sPKPbc 18 48 21.1 -2.0**
comp=Z,14nm,0.9s,baz=42,slow=2.2,SNR=63
GERES GERESS Array B 151.54 349 PKIKP **PKPdf 18 48 13.1 -0.9**
GERES 18 48 20.7
GERES GERESS Array B 151.54 349 PKPdf 18 48 13.1 -0.9
GERES PKPbc **PKiKP 18 48 20.7 +0.1**
DEV Deva 151.55 335↑P **PKiKP 18 48 21.4 +0.9**
KONT Konya--Tatoy 151.59 312 *eP* **PKiKP 18 48 20.8 -0.2**
BERE Bereket-Mersin 151.70 309 *eP* **PKiKP 18 48 21.7 +0.3**
CIFT Cifteler, Eski 151.74 316 *eP* **PKiKP 18 48 21.5 +0.2**
HRT Hereke 151.77 320 *eP* PKPdf 18 48 06.5 -8.0
TEKE Tekeli-Mersin 151.87 308 *eP* **PKiKP 18 48 21.4 -0.1**
CONA Conrad Observa 151.97 346 *eP* **PKiKP 18 48 22.0 +0.5**
comp=Z,30nm,0.9s,SNR=13
GZR Gura Zlata 152.00 334↑P **PKiKP 18 48 21.6 0.0**
CSS Mathiatis 152.19 306 PKPbc 18 48 21.8 -0.2
MOA Molln 152.39 348 *i* P **PKiKP 18 48 22.8 +0.5**
comp=Z,17nm,1.0s
GAZI Gazipasa 152.41 309 *eP* **PKPdf 18 48 17.9 +2.3**
EIL Elat 152.43 294 PKP **PKPdf 18 48 14.6 -1.1**
comp=Z,2.4nm,0.8s,baz=104,slow=8.9,SNR=2.5
EIL PKPbc **sPKPbc 18 48 23.7 -1.8**
comp=Z,14nm,0.9s,baz=347,slow=2.6,SNR=12
SHUT Suhut-Afyon 152.51 315 *eP* **PKiKP 18 48 23.7 +0.7**
FUR Furstenfeldbru 152.57 352 ePKPbc **PKiKP 18 48 23.3 +0.6**
baz=10,slow=2.5
BFO Black Forest 152.68 356 ePKPbc **PKiKP 18 48 23.8 +0.9**
baz=10,slow=2.5
BFO Black Forest 152.68 356 PKPbc 18 48 22.7 +0.1
ARSA Arzberg 152.69 346 *eP* **PKiKP 18 48 23.4 +0.4**
comp=Z,9.9nm,1.0s
CLF Chambon-Foret 152.89 5 PKiKP 18 48 23.5 +0.3
RETA Reutte 153.30 353 *i* P **PKiKP 18 48 24.8 +0.6**
comp=Z,12nm,1.0s,SNR=5.0
KBA Koelnbreinsper 153.30 349 *eP* **PKiKP 18 48 24.8 +0.4**
comp=Z,16nm,1.0s
SOKA Soboth 153.34 346 *eP* **PKiKP 18 48 24.7 +0.4**
comp=Z,16nm,0.9s
WATA Walderalm 153.34 351 *eP* **PKiKP 18 48 24.9 +0.4**
comp=Z,16nm,0.9s
MOTA Mooslm 153.40 352 *eP* **PKPbc 18 48 24.1 -0.3**
comp=Z,20nm,1.0s,SNR=7.7
WTTA Wattenberg 153.40 351 *eP* **PKiKP 18 48 25.3 +0.7**
comp=Z,30nm,0.9s,SNR=8.1
SQTA Sankt Quirin 153.50 352 *eP* **PKiKP 18 48 25.5 +0.7**
comp=Z,17nm,0.9s,SNR=5.0
DAVA Damuels 153.59 354 *eP* **PKiKP 18 48 25.8 +0.9**
comp=Z,21nm,1.0s,SNR=6.7
OBKA Obir 153.61 346 *eP* **PKPbc 18 48 24.1 -0.8**
comp=Z,12nm,1.4s
MYKA Terra Mystica 153.68 348 *i* P **PKPbc 18 48 24.9 0.0**
comp=Z,15nm,1.0s
FETA Feichten 153.76 353 *i* P **PKPbc 18 48 25.2 -0.1**
comp=Z,19nm,1.0s,SNR=6.8
ABTA Abfaltersbach 153.77 350 *eP* **PKPbc 18 48 24.8 -0.3**
comp=Z,28nm,1.0s,SNR=8.2
PRED Cave del Predi 153.87 348 PKPdf **PKPdf 18 48 16.5 -0.9**
PRED **PKPbc 18 48 25.4 0.0**
DAVOX Davos/Dischmat 154.09 354 PKP **PKPdf 18 48 18.2 +0.3**
comp=Z,2.3nm,0.8s,baz=260,slow=11,SNR=2.7
DAVOX PKPbc **sPKPbc 18 48 27.1 -1.7**
comp=Z,8.9nm,0.9s,baz=29,slow=7.9,SNR=3.6
DIVS Divibare 154.17 336 PKPdf **PKPdf 18 48 18.2 +0.3**
CIMO Cimolais 154.21 350 PKPbc 18 48 26.1 +0.1
PDG Podgorica 155.87 335 PKPab **PKPab 18 48 46.6 -0.3**
NRCA Norcia 157.42 346 PKPab 18 48 51.1 -2.5
ESDC Sonseca Array 159.57 22 PKP **PKPdf 18 48 24.1 -0.9**
comp=Z,0.3nm,0.6s,baz=291,slow=2.2,SNR=2.6
ESDC PKPab **PKPab 18 49 03.6 +0.6**
comp=Z,0.2nm,0.5s,baz=342,slow=4.2,SNR=2.5
LIC Lamto 161.88 143 *eP* PKPab 18 49 24.9 +11
comp=Z,23nm,1.1s
KIC Kosan Boka 162.15 143 *eP* PKPab 18 49 26.3 +11
comp=Z,13nm,1.0s
TIC Toumodi 162.23 142 *eP* PKPab 18 49 26.6 +11
DBIC Dimbokro 162.34 142 PKPab **PKPab 18 49 16.7 +1.0**
comp=Z,3.0nm,0.9s,baz=277,slow=8.1,SNR=3.2
TORD Torodi Ar. Bea 171.21 152 PKP **PKPdf 18 48 24.1 -0.9**
comp=Z,1.7nm,1.1s,baz=207,slow=1.7,SNR=7.3
TORD PKPab **sPKPab 18 49 56.0 -1.7**
comp=Z,0.9nm,0.6s,baz=182,slow=3.1,SNR=2.7
TORD Torodi Ar. Bea 171.21 152 PKPdf 18 48 34.3 -1.0
TORD PKPab **PKPab 18 49 55.2 +0.5**

ISC 03 18:29:46.5±1.3,**43°90N**±0°04×**17°07E**±0°05,**h9**km±13km,
n7,σ0°80/12,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.41**	**174**	*eP*g	**Pg**	**18 29 54.8**	**+0.3**
RICI				Sg	**Sg**	**18 29 59.4**	**-0.4**
KIJV	**Kijevo**	**0.49**	**282**	*eP*g	**Pg**	**18 29 55.4**	**-0.7**
KIJV				Sg	**Sg**	**18 30 03.1**	**+0.6**
MAKA	**Makarska**	**0.61**	**183**	*eP*g	**Pg**	**18 29 58.2**	**-0.1**
MAKA				Sg	**Sb**	**18 30 07.7**	**-0.4**
BLY	**Banja Luka**	**0.85**	**5**	*eP*g	**Pg**	**18 30 03.0**	**+0.1**
BLY				*eS*g	**Sg**	**18 30 13.6**	**-0.4**
MORI	**Morici**	**0.99**	**268**	*eP*g	**Pg**	**18 30 04.4**	**-1.0**
MORI				Sg	**Sb**	**18 30 19.2**	**+0.4**
LSTV	**Lastovo**	**1.14**	**187**	Sg	**Sn**	**18 30 24.3**	**0.0**
DUGI	**Dugi Otok**	**1.46**	**274**	Sg	**Sg**	**18 30 34.9**	**+1.6**

*TAP **03** 18:41:34.9,23°.93N×122°.67E,h47km±1km,ML3.6,D*
*JMA **03** 18:41:34.9±0.1,23°.95N×122°.58E,h28km,M3.2*

ISC 03 18:41:34.4±1.1,**23°90N**±0°02×**122°60E**±0°02,**h23**km±13km,
n107,σ0°81/184,**2C-4D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**30**	P	**Pb**	**18 41 46.6**	**-0.3**
JYNG				*eS*	**Sb**	**18 41 54.1**	**-1.3**
YOJ	**Yonaguni jima**	**0.68**	**34**	*eP*	**Pb**	**18 41 47.6**	**0.0**
	baz=30						
YOJ				*eS*	**Sb**	**18 41 55.7**	**-0.8**
	baz=30						
YOJ	**Yonaguni jima**	**0.68**	**34**	P	**Pb**	**18 41 47.5**	**0.0**
YOJ				*eS*	**Sb**	**18 41 55.6**	**-0.9**
ENAH	**Nanao**	**0.90**	**308**	*eP*	**Pb**	**18 41 51.7**	**+0.3**
	baz=304						
ENAH				*eS*	**Sn**	**18 42 05.0**	**+1.0**
	baz=304						
TWD	**Chiawan**	**0.93**	**281**	*eP*	**Pn**	**18 41 51.8**	**-0.2**
	baz=279						
TWD				*eS*	**Sn**	**18 42 04.1**	**-0.6**
	baz=279						
ENA	**Nanau**	**0.94**	**304**↑	*iP*	**Pb**	**18 41 53.0**	**+1.0**
	baz=302						
ENA				*eS*	**Sn**	**18 42 07.1**	**+2.1**
	baz=302						
NACB	**Ninganchiao**	**0.95**	**287**	P	**Pn**	**18 41 52.2**	**-0.2**
	baz=275						
NACB				*eS*	**Sn**	**18 42 04.5**	**-0.8**
	baz=275						
TWC	**Suao**	**0.98**	**316**	P	**Pb**	**18 41 52.4**	**-0.3**
	baz=314						
TWC				*eS*	**Sn**	**18 42 06.0**	**0.0**
	baz=314						
ETLH	**Xiulin Townshi**	**1.06**	**287**	*eP*	**Pn**	**18 41 53.8**	**-0.1**
	baz=276						
ETLH				*eS*	**Sb**	**18 42 07.9**	**+0.3**
	baz=276						
ESL	**Shilin**	**1.07**	**266**	*eP*	**Pn**	**18 41 53.5**	**-0.5**
	baz=256						
EGFH	**Guangfu**	**1.09**	**258**	*eP*	**Pn**	**18 41 54.6**	**+0.3**
	baz=247						
EGFH				*eS*	**Sb**	**18 42 08.8**	**+0.3**
	baz=247						
HATJ	**Hateruma jima**	**1.12**	**82**	S	**Sb**	**18 42 10.3**	**+1.2**
IRIF	**Iriomote-Funau**	**1.12**	**67**	P	**Pn**	**18 41 54.8**	**+0.1**
IRIF				*eS*	**Sn**	**18 42 09.3**	**-0.2**
HGSD	**Ruisui**	**1.15**	**250**	*eP*	**Pn**	**18 41 54.8**	**-0.2**
	baz=248						
HGSD				*eS*	**Sn**	**18 42 09.4**	**-0.6**
	baz=248						
ILA	**Ilan**	**1.16**	**318**	*eS*	**Sb**	**18 42 12.4**	**+2.0**
	baz=316						
TWE	**Neicheng**	**1.18**	**314**	P	**Pb**	**18 41 56.0**	**-0.1**
	baz=312						
TWE				*eS*	**Sb**	**18 42 12.0**	**+1.1**
	baz=312						
NTC	**Toucheng**	**1.18**	**324**	*eP*	**Pb**	**18 41 56.5**	**+0.4**
	baz=322						
NTC				*eS*	**Sb**	**18 42 11.9**	**+1.0**
	baz=322						
ENTT	**Nio

TIPB				*e*S		**Sb**	**18 42 15.2**	**+1.4**
	baz=325								
FUSS	**Fushou**	**1.28 286**	P		**Pb**	**18 41 57.5**	**-0.5**
	baz=285								
FUSS				S		**Sb**	**18 42 14.1**	**-0.1**
	baz=285								
EYUL	**Yuli**	**1.29 245**	*e*P		**Pn**	**18 41 57.4**	**+0.3**
	baz=236								
EYUL				*e*S		**Sn**	**18 42 13.5**	**-0.1**
	baz=236								
YULB	**Yu-li**	**1.29 247** ⇓	*i*P		**Pn**	**18 41 57.5**	**+0.4**
	baz=238								
YULB				*e*S		**Sn**	**18 42 14.1**	**+0.4**
	baz=238								
TWF1	**Yuli**	**1.31 246** ⇑	*i*P		**Pn**	**18 41 57.6**	**+0.3**
	baz=243								
TWF1				*e*S		**Sb**	**18 42 15.3**	**+0.6**
	baz=243								
CHGB	**Renai**	**1.31 277**	P		**Pn**	**18 41 57.9**	**+0.4**
	baz=275								
CHGB				*e*S		**Sn**	**18 42 14.3**	**0.0**
	baz=275								
NWLT	**Wulai**	**1.33 312**	P		**Pb**	**18 41 58.4**	**-0.2**
	baz=310								
NWLT				*e*S		**Sb**	**18 42 15.4**	**+0.2**
	baz=310								
JKRS	**Kuro-shima**	**1.34 75**	P		**Pb**	**18 41 59.0**	**+0.3**
JKRS				S		**Sb**	**18 42 16.7**	**+1.3**
VWDT	**VWDT**	**1.34 264**	P		**Pn**	**18 41 58.4**	**+0.7**
	baz=261								
VWDT				*e*S		**Sn**	**18 42 14.8**	**+0.1**
	baz=261								
TWT	**Tachien**	**1.34 286**	P		**Pb**	**18 41 59.0**	**0.0**
	baz=284								
TWT				*e*S		**Sb**	**18 42 16.6**	**+0.8**
	baz=284								
YHNB	**Yeheng**	**1.35 305**	P		**Pb**	**18 41 58.7**	**-0.3**
	baz=292								
TDCB	**Techi**	**1.36 285**	P		**Pb**	**18 41 58.8**	**-0.4**
	baz=274								
TDCB				*e*S		**Sn**	**18 42 15.3**	**-0.2**
	baz=274								
CHKT	**Chengkung**	**1.38 235**	*e*S		**Sn**	**18 42 14.7**	**-1.0**
	baz=226								
FULB	**Fuli**	**1.38 240**	P		**Pn**	**18 41 58.1**	**-0.2**
	baz=229								
FULB				*e*S		**Sn**	**18 42 15.9**	**0.0**
	baz=229								
NWF	**Wu-fen Shan**	**1.38 328**	*e*P		**Pb**	**18 41 58.5**	**-1.1**
	baz=326								
NWF				*e*S		**Sb**	**18 42 17.6**	**+0.7**
	baz=326								
WFSB	**Wu-fen Shan**	**1.38 328**	*e*P		**Pb**	**18 41 58.6**	**-0.9**
	baz=326								
WFSB				*e*S		**Sb**	**18 42 17.5**	**+0.7**
	baz=326								
TWA	**Mucha**	**1.42 320**	*e*P		**Pb**	**18 41 59.5**	**-0.6**
	baz=332								
TWA				*e*S		**Sb**	**18 42 18.6**	**+0.8**
	baz=332								
TATO	**Taipei**	**1.47 317**	*e*P		**Pb**	**18 42 00.2**	**-0.9**
	baz=329								
TATO				*e*S		**Sb**	**18 42 19.9**	**+0.6**
	baz=329								
JIJ	**Ishigaki jima**	**1.49 72**	P		**Pn**	**18 41 59.6**	**-0.1**
JIJ				*e*S		**Sn**	**18 42 18.6**	**+0.1**
EDH	**Donghe**	**1.50 232**	*e*P		**Pn**	**18 41 59.7**	**-0.2**
	baz=225								
EDH				*e*S		**Sn**	**18 42 17.7**	**-1.1**
	baz=225								
SSLB	**Suanglung**	**1.51 266**	*e*P		**Pn**	**18 42 00.8**	**+0.8**
	baz=254								
SSLB				*e*S		**Sb**	**18 42 21.9**	**+1.5**
	baz=254								
SMLT	**Sun Moon Lake**	**1.55 270**	*e*P		**Pb**	**18 42 02.1**	**-0.4**
	baz=267								
SMLT				*e*S		**Sb**	**18 42 21.5**	**-0.2**
	baz=267								
WHP	**Taichung City**	**1.55 284**	*e*P		**Pb**	**18 42 02.2**	**-0.3**
	baz=283								
WHP				*e*S		**Sb**	**18 42 22.3**	**+0.5**
	baz=283								
YM01	**YM01**	**1.56 323**	*e*P		**Pb**	**18 42 01.4**	**-1.2**
	baz=321								
YM10	**YM10**	**1.57 323**	*e*P		**Pb**	**18 42 02.4**	**-0.4**
	baz=321								
YM11	**YM11**	**1.57 324**	*e*P		**Pb**	**18 42 01.9**	**-0.9**
	baz=321								
YM05	**YM05**	**1.57 324**	*e*P		**Pn**	**18 42 00.9**	**-0.1**
	baz=321								
YM08	**YM08**	**1.58 325**	*e*P		**Pb**	**18 42 02.5**	**-0.4**
	baz=322								
YM04	**YM04**	**1.58 323**	*e*P		**Pn**	**18 42 01.4**	**+0.4**
	baz=320								
YM03	**YM03**	**1.60 323**	*e*P		**Pb**	**18 42 02.8**	**-0.4**
	baz=321								
LDUT	**Ludao**	**1.60 221**	*e*P		**Pn**	**18 42 00.8**	**-0.4**
	baz=220								
LDUT				*e*S		**Sn**	**18 42 19.4**	**-1.7**
	baz=220								
WHYT	**Xinyi Township**	**1.61 263**	*e*P		**Pb**	**18 42 03.2**	**-0.2**
	baz=261								
ELDTW	**Lidau**	**1.61 244** ⇓	*i*P		**Pn**	**18 42 01.6**	**+0.1**
	baz=241								
ELDTW				*e*S		**Sn**	**18 42 21.4**	**-0.2**
	baz=241								
ANP	**Anpu**	**1.61 323**	*e*P		**Pb**	**18 42 02.8**	**-0.7**
	baz=321								
LIOB	**Emei**	**1.62 298**	*e*P		**Pb**	**18 42 03.5**	**-0.2**
	baz=297								
LIOB				*e*S		**Sb**	**18 42 23.8**	**+0.1**
	baz=297								
NSTT	**Nanjuang**	**1.63 297**	*e*P		**Pb**	**18 42 03.3**	**-0.4**
	baz=296								
NSTT				*e*S		**Sb**	**18 42 23.7**	**-0.1**
	baz=296								
NTST	**Danshui**	**1.64 321**	*e*P		**Pb**	**18 42 03.4**	**-0.5**
	baz=329								
LONT	**Longtian**	**1.67 234**	*e*P		**Pn**	**18 42 02.7**	**+0.5**
	baz=226								
LONT				*e*S		**Sn**	**18 42 23.5**	**+0.6**
	baz=226								
ALS	**Alishan**	**1.69 257**	*e*P		**Pb**	**18 42 04.2**	**-0.7**
	baz=253								
ALS				*e*S		**Sb**	**18 42 25.2**	**-0.6**
	baz=253								
JISG	**Ishigakijimahi**	**1.71 66**	P		**Pn**	**18 42 01.9**	**-0.9**
JISG				S		**Sn**	**18 42 23.6**	**-0.3**
WJS	**Zhushan**	**1.71 268**	*e*P		**Pb**	**18 42 05.3**	**+0.2**
	baz=265								
WJS				*e*S		**Sb**	**18 42 27.5**	**+1.3**
	baz=265								
TWQ1	**Liyutan**	**1.72 285**	*e*P		**Pb**	**18 42 05.3**	**-0.1**
	baz=285								
TWQ1				*e*S		**Sb**	**18 42 27.1**	**+0.5**
	baz=285								
WNT	**Mingjian**	**1.75 270**	*e*P		**Pb**	**18 42 06.0**	**+0.2**
	baz=266								
WNT				*e*S		**Sb**	**18 42 27.1**	**-0.2**
	baz=266								
TWGBT	**Beinan**	**1.76 233**	*e*P		**Pn**	**18 42 03.8**	**+0.3**
	baz=225								
TWGBT				*e*S		**Sn**	**18 42 25.0**	**-0.1**
	baz=225								
TWG	**Pinlang**	**1.76 233**	*e*P		**Pn**	**18 42 03.8**	**+0.3**
	baz=225								
TWG				*e*S		**Sn**	**18 42 24.9**	**-0.4**
	baz=225								
NMLH	**Miaoli**	**1.77 292**	*e*P		**Pb**	**18 42 05.3**	**-0.7**
	baz=290								
STYT	**Tauyuan**	**1.84 247**	*e*P		**Pn**	**18 42 05.6**	**+1.0**
	baz=238								
STYT				*e*S		**Sn**	**18 42 28.2**	**+1.1**
	baz=238								
WDJ	**Dajia District**	**1.84 284**	*e*S		**Sb**	**18 42 30.4**	**+0.4**
	baz=283								
WCHH	**Zhanghua**	**1.87 276**	*e*P		**Pb**	**18 42 07.6**	**-0.3**
	baz=288								
WCHH				*e*S		**Sb**	**18 42 31.2**	**+0.4**
	baz=288								
WGK	**Gukeng**	**1.87 264**	*e*P		**Pb**	**18 42 07.1**	**-0.8**
	baz=261								
WGK				*e*S		**Sb**	**18 42 31.8**	**+0.9**
	baz=261								
WDLH	**Douliu**	**1.90 264**	*e*P		**Pb**	**18 42 07.7**	**-0.6**
	baz=261								
WDLH				*e*S		**Sb**	**18 42 31.6**	**+0.1**
	baz=261								
TPUB	**Ta-pu**	**1.90 252**	*e*P		**Pb**	**18 42 07.7**	**-0.6**
	baz=241								
TPUB				*e*S		**Sb**	**18 42 31.8**	**+0.2**
	baz=241								
CHN4	**Tsaushan**	**1.92 254**	*e*P		**Pb**	**18 42 08.1**	**-0.5**
	baz=250								
CHN4				*e*S		**Sb**	**18 42 31.6**	**-0.5**
	baz=250								
WTP	**Ta-pu**	**1.93 251**	*e*P		**Pb**	**18 42 07.9**	**-1.0**
	baz=242								
WTP				*e*S		**Sb**	**18 42 33.5**	**+0.9**
	baz=242								
ECL	**Taimali**	**1.99 230**	*e*P		**Pn**	**18 42 06.6**	**0.0**
	baz=237								
ECL				*e*S		**Sn**	**18 42 30.0**	**-0.8**
	baz=237								
SLGT	**Liugui**	**2.00 244**	*e*P		**Pn**	**18 42 08.7**	**+1.9**
	baz=234								
SLGT				*e*S		**Sb**	**18 42 34.1**	**-0.6**
	baz=234								
SGST	**Jiashian**	**2.02 247**	*e*P		**Pb**	**18 42 09.6**	**-0.7**
	baz=236								
SGST				*e*S		**Sn**	**18 42 33.7**	**+2.1**
	baz=236								
CHN1	**Nanshi**	**2.02 250**	*e*P		**Pb**	**18 42 09.7**	**-0.8**
	baz=255								
CHN1				*e*S		**Sb**	**18 42 36.5**	**+1.2**
	baz=255								
CHY	**Chiayi**	**2.03 259**	*e*S		**Sb**	**18 42 35.3**	**-0.1**
	baz=255								
TWK	**Hsinying**	**2.03 252**	P		**Pb**	**18 42 09.8**	**-0.9**
	baz=248								
TWK				*e*S		**Sb**	**18 42 34.2**	**-1.3**
	baz=248								
WTK	**Tuku**	**2.03 265**	*e*P		**Pb**	**18 42 10.5**	**-0.1**
	baz=260								
WTK				*e*S		**Sb**	**18 42 35.8**	**+0.3**
	baz=260								
SNST	**Tainan City**	**2.04 251**	*e*P		**Pb**	**18 42 10.2**	**-0.6**
	baz=247								
SNST				*e*S		**Sb**	**18 42 35.2**	**-0.5**
	baz=247								
RLNB	**Erlin**	**2.05 270**	*e*P		**Pb**	**18 42 09.9**	**-0.9**
	baz=281								
RLNB				*e*S		**Sb**	**18 42 36.2**	**+0.3**
	baz=281								
JTJ	**Tarama**	**2.06 69**	P		**Pn**	**18 42 08.4**	**+0.8**
SSD	**Sandimen**	**2.14 238**	*e*P		**Pb**	**18 42 11.4**	**-1.0**
	baz=231								
WLGB	**Puzi**	**2.15 259**	*e*S		**Sb**	**18 42 37.1**	**-1.6**
	baz=254								
TSMG	**Majia**	**2.15 237**	*e*P		**Pn**	**18 42 10.1**	**+1.3**
	baz=232								
TSMG				*e*S		**Sn**	**18 42 35.1**	**+0.3**
	baz=232								
SCST	**Cishan**	**2.18 243**	*e*P		**Pn**	**18 42 10.2**	**+1.0**
	baz=233								
SCST				*e*S		**Sb**	**18 42 38.8**	**-0.8**
	baz=233								
WSF	**Szhu**	**2.19 264**	*e*S		**Sb**	**18 42 39.5**	**-0.5**
	baz=258								
ICHU	**Yijhu**	**2.19 256**	*e*P		**Pb**	**18 42 11.7**	**-1.5**
	baz=251								
ICHU				*e*S		**Sb**	**18 42 38.6**	**-1.4**
	baz=251								
EAST	**Anshuo**	**2.20 227**	*e*P		**Pn**	**18 42 10.0**	**+0.4**
	baz=231								
EAST				*e*S		**Sn**	**18 42 37.0**	**+0.8**
	baz=231								
MASBT	**Mashibuluo**	**2.21 235**	*e*P		**Pn**	**18 42 10.8**	**+1.1**
	baz=228								
CHN8	**Yiju**	**2.25 256**	*e*S		**Sb**	**18 42 40.2**	**-1.6**
	baz=251								
SLIU	**Shizi**	**2.35 225**	*e*P		**Pn**	**18 42 12.0**	**+0.4**
	baz=223								
SLIU				*e*S		**Sn**	**18 42 40.2**	**+0.4**
	baz=223								
SCZT	**Fangliau**	**2.37 231**	*e*P		**Pn**	**18 42 14.1**	**+2.2**
	baz=225								
HEN	**Hengchun**	**2.54 223**	*e*S		**Sn**	**18 42 46.5**	**+2.0**
	baz=221								
TWKBT	**Hengchun**	**2.55 221**	*e*P		**Pn**	**18 42 15.0**	**+0.7**
	baz=220								
PHUB	**P'eng-hu**	**2.80 263**	*e*S		**Sn**	**18 42 52.0**	**+1.2**
	baz=271								
PNG	**Penghu**	**2.81 264**	*e*S		**Sn**	**18 42 51.8**	**+0.8**
	baz=273								
PTTC	**Pingtan**	**3.02 302**	*e*P		**Pn**	**18 42 20.9**	**+0.1**
	baz=303								
PTTC				*e*S		**Sn**	**18 42 54.1**	**-2.3**
	baz=303								
VWUC	**VWUC**	**3.07 291**	*e*P		**Pn**	**18 42 21.6**	**+0.1**
	baz=292								
VWUC				*e*S		**Sn**	**18 42 55.8**	**-1.7**
	baz=292								
MATB	**Ma-tsu**	**3.29 314**	*e*S		**Sn**	**18 43 01.3**	**-1.6**
	baz=315								

PRU 03 18:45:26.2±0.0, 51°.42N×16°.10E, *h*0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**168**	*e*Pg	Pg	18 45 37.3	-0.2
KSP				*e*Sg	Sg	18 45 45.6	+0.5
CHVC	**Chvalec**	**0.83**	**182**	*e*PG	Pg	18 45 42.1	0.0
CHVC				*e*SG	Sg	18 45 53.4	+0.5
OSTC	**Ostas**	**0.87**	**175**	*e*PG	Pg	18 45 42.8	0.0
OSTC				*e*SG	Sg	18 45 54.6	+0.6
UPC	**Upice**	**0.92**	**184**	*e*PG	Pg	18 45 43.7	0.0
UPC				*e*SG	Sg	18 45 56.0	+0.4
	comp=Z,10nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	Pg	18 45 46.2	-0.7
DPC				*e*SG	Sg	18 46 00.2	-0.7
PVCC	**Panska Ves**	**1.32**	**228**	*e*PG	Pg	18 45 50.6	-0.8
PVCC				*e*SG	Sg	18 46 08.5	0.0
	comp=Z,11nm,0.2s						
KRLC	**Kraliky**	**1.41**	**162**	*e*PG	Pn	18 45 51.9	-1.3
KRLC				*e*SG	Sg	18 46 11.1	-0.5
	comp=Z,5.8nm,0.5s						
BRG	**Berggiesshubel**	**1.47**	**249**	PG	Pn	18 45 53.2	-0.6
BRG				SG	Sg	18 46 12.8	-0.5
	6.6nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.72**	**209**	*e*SG	Sb	18 46 20.8	-0.1
PRU	**Pruhonice**	**1.74**	**215**	*e*SG	Sg	18 46 21.8	-0.3
MORC	**Moravsky Berou**	**1.89**	**150**	*e*PN	Pn	18 45 58.6	-1.1
MORC				*e*SG	Sn	18 46 24.5	+0.3
CLL	**Collm**	**1.94**	**268**	*e*Pg	Pb	18 46 02.0	-0.5
CLL				*i*		18 46 05.5	
CLL				*e*Sg	Sg	18 46 28.0	-0.6
VRAC	**Vranov**	**2.14**	**171**	*e*SG	Sg	18 46 34.7	-0.1
KRUC	**Moravsky**	**2.37**	**175**	*e*SG	Sg	18 46 41.5	-0.7
NKC	**Novy Kostel**	**2.60**	**244**	*e*SG	Sg	18 46 49.6	-0.2
	comp=Z,5.4nm,0.4s						
KHC	**Kasperske Hory**	**2.81**	**216**	*e*SG	Sg	18 46 54.6	-1.7

*REY **03** 18:49:30.9, 64°.68N×17°.46W, h5km*
*IDC **03** 18:49:31.0±0.7, 64°.68N×17°.57W, h0km, mb3.7/15, mb1 3.9/16, mb1mx3.7/46, mbtmp3.7/16, ML4.2/1, Error ellipse: s-maj=22.0km s-min=9.8km az=10.0*
*NEIC **03** 18:49:32.7±1.2, 64°.68N±0°.09×17°.5W±0°.1, h8km±4km, mb4.5/17, Error ellipse: s-maj=13.4km s-min=8.2km az=189.0*

ISC 03 18:49:32.0±0.4, 64°.68N±0°.02×17°.48W±0°.02, h10km, n78, σ1°84/93, mb3.9/24, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**267**	P	**Pg**	**18 49 33.5**	**-1.4**
	baz=269						
IVON				S	**Sg**	**18 49 36.2**	**-0.9**
	baz=269						
IDYN	**Dyngjuhals**	**0.12**	**23**	P	**Pg**	**18 49 33.7**	**-1.4**
	baz=20						
IDYN				S	**Sg**	**18 49 36.5**	**-0.7**
	baz=20						
IURH	**Urdarhals**	**0.20**	**45**	P	**Pg**	**18 49 35.0**	**-1.3**
	baz=43						
IDJK	**Dyngjujokull**	**0.20**	**149**	P	**Pg**	**18 49 35.1**	**-1.3**
	baz=150						
IGRF	**Grimsfjall**	**0.29**	**162**	P	**Pg**	**18 49 36.4**	**-1.5**
	baz=162						
IKVE	**Kverkfjoll**	**0.34**	**90**	P	**Pg**	**18 49 37.5**	**-1.4**
	baz=89						
IKVE				S	**Sg**	**18 49 42.8**	**-0.7**
	baz=89						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**18 49 37.7**	**-1.8**
	baz=124						
IHUS	**Husbondi**	**0.39**	**192**	P	**Pg**	**18 49 38.4**	**-1.4**
	baz=192						
IHUS				S	**Sg**	**18 49 44.2**	**-0.8**
	baz=192						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**18 49 38.6**	**-1.5**
	baz=254						
THOR	**Thorvaldshraun**	**0.43**	**53**	P	**Pg**	**18 49 38.6**	**-1.8**
	baz=52						
THOR				S	**Sg**	**18 49 45.6**	**-0.5**
	baz=52						
IVOT	**Vottur**	**0.43**	**163**	P	**Pg**	**18 49 38.8**	**-1.7**
	baz=163						
IKRE	**Kreppuhraun**	**0.48**	**77**	P	**Pg**	**18 49 39.4**	**-2.0**
	baz=76						
IKRE				S	**Sg**	**18 49 46.6**	**-1.2**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**222**	P	**Pg**	**18 49 39.7**	**-1.8**
	baz=223						
IJOK				S	**Sg**	**18 49 47.1**	**-0.9**
	baz=223						
IMKO	**Mokollar**	**0.57**	**58**	P	**Pg**	**18 49 41.2**	**-2.0**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**206**	P	**Pg**	**18 49 42.3**	**-2.3**
	baz=206						
IIEY				S	**Sg**	**18 49 52.2**	**-0.9**
	baz=206						
ISVA	**Svartarkot**	**0.67**	**8**	P	**Pg**	**18 49 42.9**	**-2.0**
	baz=7.5						
ISVA				S	**Sg**	**18 49 52.8**	**-0.9**
	baz=7.5						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**18 49 42.3**	**-2.8**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**18 49 44.1**	**-2.2**
	baz=188						
IKAL				S	**Sb**	**18 49 55.2**	**-1.9**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P	**Pg**	**18 49 44.0**	**-2.7**
	baz=79						
IVSH				S	**Sg**	**18 49 54.6**	**-2.0**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**18 49 45.1**	**-2.2**
	baz=233						
IADA	**Aoalbol**	**0.88**	**66**	P	**Pg**	**18 49 46.0**	**-3.0**
	baz=66						
IADA				S	**Sg**	**18 49 58.6**	**-1.8**
	baz=66						
IFAG	**Fagurholsmyri**	**0.88**	**156**	P	**Pg**	**18 49 46.4**	**-2.6**
	baz=156						
IFAG				S	**Sg**	**18 49 57.9**	**-2.6**
	baz=156						
IHVE	**Hveravellir**	**0.92**	**283**	P	**Pg**	**18 49 46.8**	**-2.9**
	baz=283						
IHVE				S	**Sg**	**18 49 59.9**	**-1.7**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**18 49 47.6**	**-2.9**
	baz=20						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**18 49 48.5**	**-2.8**
	baz=13						
IKVO	**Krokottuvotn**	**1.07**	**13**	P	**Pg**	**18 49 49.7**	**-2.9**
	baz=13						
ISNB	**Snabyli**	**1.07**	**209**	P	**Pg**	**18 49 49.6**	**-3.0**
	baz=209						
ISNB				S	**Sg**	**18 50 03.9**	**-2.6**
	baz=209						
ISLY	**Slysaalda**	**1.12**	**221**	P	**Pb**	**18 49 50.5**	**-3.0**
	baz=221						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**18 49 50.3**	**-3.2**
	baz=30						
IRJU	**Rjupnafell**	**1.19**	**207**	P	**Pb**	**18 49 51.6**	**-3.0**
	baz=207						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pn**	**18 49 51.8**	**-3.2**
	baz=8.5						
IMJO	**Mjoaskard**	**1.22**	**233**	P	**Pb**	**18 49 51.9**	**-3.2**
	baz=233						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**18 49 51.5**	**-3.6**
	baz=16						
IGRA	**Granastaoir**	**1.25**	**358**	P	**Pn**	**18 49 52.4**	**-3.1**
	baz=358						
IGRA				S	**Sb**	**18 50 09.5**	**-2.1**
	baz=358						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**18 49 58.5**	**-2.6**
	19nm,0.3s,baz=96,slow=12,SNR=37						
BORG				Lg	Lg	18 50 22.0	
	21nm,0.3s,baz=96,slow=18,SNR=13						
BORG	**Borgarnes**	**1.66**	**274**		**Pn**	**18 49 58.9**	**-2.1**
SCO	**Scoresbysund**	**6.08**	**346**	Pn	**Pn**	**18 51 03.3**	**+1.6**
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn	**Pn**	**18 51 35.0**	**-0.4**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**18 52 20.6**	**+0.9**
	baz=322,slow=13,SNR=11						
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**18 52 21.3**	**+1.6**
SPB1	**Spitsbergen Ar**	**16.86**	**23**	P	**P**	**18 53 29.9**	**+0.1**
CLL	**Collm**	**20.70**	**116**	*e*P	Pn	18 54 13.0	-1.4
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**18 54 20.7**	**+1.1**
	7.2nm,1.2s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**18 54 20.2**	**0.0**
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**18 54 34.8**	**+1.5**
GEC2B	**GERESS ARRAY S**	**22.95**	**119**	P	**P**	**18 54 37.5**	**+1.2**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**18 54 37.8**	**+1.5**
	0.9nm,0.9s,baz=333,slow=8.2,SNR=4.5						
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**18 55 06.5**	**+1.5**
	5.2nm,0.8s,baz=358,slow=3.5,SNR=3.0						
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**18 55 07.0**	**+1.2**
PSZ				IAmb	IAmb	18 55 21.1	
	comp=Z,13nm,1.4s						
ESDC	**Sonseca Array**	**26.26**	**156**	P	**P**	**18 55 08.6**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=346,slow=8.6,SNR=4.2						
MURB	**Monte Urbino**	**27.30**	**127**	P	**P**	**18 55 18.9**	**+2.3**
MURB				IAmb	IAmb	18 55 38.3	
	comp=Z,8.9nm,1.0s						
AKASG	**Malin Array Be**	**27.83**	**98**	P	**P**	**18 55 20.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=317,slow=9.1,SNR=1.5						
DELO	**Deloro Mine**	**38.37**	**268**	P	**P**	**18 56 53.5**	**+0.6**
DELO				IAmb	IAmb	18 57 05.5	
	comp=Z,14nm,1.0s						
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**18 56 54.2**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=337,slow=14,SNR=3.2						
KBZ	**Khabaz**	**39.11**	**92**	P	**P**	**18 57 00.5**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=262,slow=7.1,SNR=2.5						
YKA	**Yellowknife Ar**	**39.21**	**313**	P	**P**	**18 56 59.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=11,slow=6.9,SNR=2.3						
K50A	**Casco**	**41.93**	**271**	P	**P**	**18 57 23.7**	**+1.3**
AB05	**Akbulak array**	**41.96**	**73**	P	**P**	**18 57 23.9**	**+1.2**
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**18 57 24.0**	**+1.3**
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**18 57 23.4**	**+0.7**
ABKAR				IAmb	IAmb	18 57 27.4	
	comp=Z,6.8nm,1.5s						
Q60A	**Greensboro**	**42.13**	**261**	P	**P**	**18 57 24.9**	**+0.9**
BVAR	**Borovoye Array**	**43.18**	**62**	P	**P**	**18 57 34.0**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=285,slow=10,SNR=5.4						
IL18	**Eielson Array**	**45.67**	**332**	P	**P**	**18 57 54.1**	**+1.8**
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**18 57 53.1**	**+0.8**
	comp=Z,2.5nm,1.2s,baz=29,slow=5.0,SNR=8.8				

mb2.6/2,**mb1 2.9**/3,**mb1mx2.7**/20,**mbtmp3.6**/3,**Error ellipse: s-maj=108.4km s-min=43.4km az=8.0,**
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.94**	**196**	P	P	18 51 59.0	+0.6
	1.3nm,0.3s,baz=90,slow=20,SNR=20						
URZ				S	S	18 53 24.0	-0.2
	1.4nm,0.3s,baz=73,slow=23,SNR=8.9						
ASAR	**Alice Springs**	**40.93**	**269**	P	P	18 57 14.8	+0.1
	0.2nm,0.4s,baz=108,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**42.03**	**275**	P	P	18 57 23.1	-0.3
	0.4nm,0.3s,baz=111,slow=8.1,SNR=22						
FINES	**FINESS Array B**	**145.47**	**338**	PKPbc	PKPdf	19 08 57.3	+0.2
	0.9nm,0.8s,baz=19,slow=4.7,SNR=4.5						

*NNC **03** 18:57:16.9±5.1,37.°72N×71.°35E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=51.9km s-min=25.6km az=153.0*
ISC 03 18:57:16.9±3.6,37.°4N±0.°2×71.°5E±0.°1,h109km,n12, σ0s59/15,3C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.05**	**19**	P	**Pn**	**18 58 31.0**	**+0.4**
	SNR=6.9						
UCH	**Uchtor**	**5.38**	**24**	P	**Pn**	**18 58 35.3**	**+0.2**
	SNR=6.6						
EKS2	**Erkin-Say**	**5.57**	**17**	P	**Pn**	**18 58 38.0**	**+0.6**
	SNR=6.2						
AAK	**Ala-Archa**	**5.74**	**22**	P	**Pn**	**18 58 40.3**	**+0.5**
	SNR=7.1						
AAK	**Ala-Archa**	**5.74**	**22**	⇑P	**Pn**	**18 58 40.2**	**+0.5**
	6.5nm,0.3s						
AAK				⇓S	**Sn**	**18 59 44.1**	**-0.3**
	12nm,0.8s						
KK31	**Karatay Array**	**5.79**	**353**	⇓P	**Pn**	**18 58 41.4**	**+1.1**
	0.7nm,0.2s,baz=172,slow=12,SNR=55						
KK31				⇑S	**Sn**	**18 59 44.6**	**-0.9**
	3.5nm,0.3s,baz=175,slow=22,SNR=4.5						
CHMS	**Chumysh**	**6.15**	**23**	P	**Pn**	**18 58 45.3**	**+0.2**
	SNR=9.0						
USP	**Ospennovka**	**6.32**	**20**	P	**Pn**	**18 58 47.1**	**-0.4**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.37**	**28**	P	**Pn**	**18 58 48.3**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**6.37**	**28**	⇓P	**Pn**	**18 58 48.1**	**-0.2**
	5.9nm,0.6s						
TKM2				⇑S	**Sn**	**19 00 00.4**	**+0.8**
	2.0nm,0.6s						
AB31	**Akbulak array**	**14.56**	**328**	P	**Pn**	**19 00 37.0**	**-0.4**
	0.2nm,0.3s,baz=75,slow=11,SNR=13						
AKTO	**Aktyubinsk**	**16.27**	**328**	⇓P	**Pn**	**19 00 58.5**	**-0.3**
	1.2nm,0.6s						

*ISK **03** 19:03:12.3,37.°41N×42.°38E,h3km,ML2.1/5*
*DDA **03** 19:03:12.3,37.°40N×42.°40E,h30km±2km,ML2.5*
ISC 03 19:03:12.1±1.4,37.°39N±0.°06×42.°41E±0.°03,h12km±8km, n16,σ0s77/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.12**	**12**	PG	**Pg**	**19 03 14.9**	**-0.5**
SRTM	**Siirt_Merkez**	**0.72**	**328**	*i* P	**Pb**	**19 03 26.1**	**-0.5**
SRTM				*i* S	**Sg**	**19 03 34.6**	**-0.9**
BTMN	**Batman**	**1.04**	**300**	*i* P	**Pg**	**19 03 32.0**	**-0.1**
BTMN				*i* S	**Sn**	**19 03 46.3**	**-0.6**
BTMN				IAML		19 03 49.0	
	comp=E,89nm,0.3s						
AKDM	**Akdamar-Van**	**1.04**	**25**	PG	**Pg**	**19 03 32.9**	**+0.6**
AKDM				SG	**Sn**	**19 03 47.9**	**+0.6**
HAKT	**HAKKARI**	**1.05**	**80**	*i* P	**Pb**	**19 03 31.9**	**-0.4**
HAKT				*i* S	**Sb**	**19 03 45.6**	**-0.5**
BLIS	**Bitlis-Merkez**	**1.05**	**347**	*i* P	**Pg**	**19 03 33.3**	**+0.8**
BLIS				*i* S	**Sn**	**19 03 46.5**	**-1.0**
GEVA	**Gevas**	**1.06**	**29**	*i* P	**Pb**	**19 03 32.4**	**-0.1**
GEVA				*i* S	**Sn**	**19 03 47.1**	**-0.6**
GURO	**Guroymak-BITLI**	**1.20**	**346**	PN	**Pg**	**19 03 35.5**	**+0.2**
GURO				SN	**Sg**	**19 03 52.5**	**+1.6**
SVAN	**Silvan-Diyarba**	**1.23**	**309**	PN	**Pg**	**19 03 35.8**	**+0.1**
SVAN				SN	**Sg**	**19 03 53.2**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.23**	**309**	*i* P	**Pg**	**19 03 35.6**	**-0.1**
SVAN				*i* S	**Sn**	**19 03 50.9**	**-0.7**
MARD	**Mardin**	**1.30**	**267**	*i* P	**Pb**	**19 03 36.6**	**0.0**
MARD				*i* S	**Sn**	**19 03 53.1**	**-0.5**
MARD				IAML		19 03 56.0	
	comp=E,106nm,0.4s						
MARD				IAML		19 03 57.0	
	comp=N,174nm,0.7s						
MUSM	**Mu-Merkez**	**1.51**	**332**	*i* P	**Pb**	**19 03 39.8**	**-0.4**
MUSM				*i* S	**Sb**	**19 03 58.5**	**-0.9**
DYBB	**Diyarbakir**	**1.89**	**288**	PN	**Pb**	**19 03 46.1**	**-0.4**
DYBB				SN	**Sb**	**19 04 10.6**	**+0.5**
HANI	**Diyarbakir_Han**	**1.89**	**303**	*i* P	**Pb**	**19 03 46.5**	**-0.2**
HANI				*i* S	**Sb**	**19 04 09.6**	**-0.7**
BNGB	**Bingl**	**2.10**	**320**	PN	**Pb**	**19 03 49.2**	**-1.1**
ELZG	**Elazig**	**2.93**	**293**	*i* P	**Pn**	**19 03 59.0**	**+0.4**
ELZG				*i* S	**Sb**	**19 04 41.3**	**+1.2**

*IDC **03** 19:13:14.6±0.9,8.°82S×157.°66E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.8/36,mbtmp3.8/10,ML3.8/2,MS3.5/1, Ms1 3.5/1,ms1mx2.7/32,Error ellipse: s-maj=24.0km s-min=15.3km az=179.0*
*NEIC **03** 19:13:15.5±2.9,8.°8S±0.°1×157.°73E±0.°10,h7km±5km, mb4.3/9,Error ellipse: s-maj=20.7km s-min=13.5km az=179.0*
ISC 03 19:13:16.1±0.7,8.°8S±0.°1×157.°7E±0.°1,h10km,n20, σ1s47/18,mb4.0/12,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.27**	**106**	Pn	**Pn**	**19 13 52.9**	**-0.8**
	23nm,0.3s,baz=247,slow=7.7,SNR=10						
HNR				Lg	Lg	19 14 29.3	
	37nm,0.3s,baz=262,slow=23,SNR=2.4						
DZM	**Mont Dzumac**	**15.63**	**149**	LR	LR	19 20 58.9	
	comp=Z,178nm,19.7s,baz=220,slow=30						
CTA	**Charters Tower**	**15.79**	**223**	Pn	**Pn**	**19 16 58.5**	**-0.2**
	0.2nm,0.3s,baz=48,slow=14,SNR=1.3						
CTAO	**Charters Tower**	**15.79**	**223**	Pn	**Pn**	**19 16 58.6**	**-0.2**
ARMA	**Armidale**	**22.26**	**194**	P	**P**	**19 18 13.3**	**-0.2**
ARMA				IAmb	IAmb	19 18 14.9	
	comp=Z,24nm,1.6s						
WR0	**Warramunga Arr**	**25.02**	**241**		**P**	**19 18 39.4**	**-1.2**
WR0				IAmb	IAmb	19 18 54.7	
	comp=Z,9.4nm,1.3s						
WB0	**Warramunga Arr**	**25.08**	**242**		**P**	**19 18 39.8**	**-1.3**
WB0				IAmb	IAmb	19 19 04.5	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**25.18**	**241**	P	**P**	**19 18 40.8**	**-1.3**
WB2				IAmb	IAmb	19 19 01.2	
	comp=Z,7.2nm,1.2s						
WRA	**Warramunga Arr**	**25.19**	**241**	P	**P**	**19 18 40.8**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=67,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**27.18**	**234**	P	**P**	**19 18 58.0**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=66,slow=9.2,SNR=7.8						
ASAR	**Alice Springs**	**27.18**	**234**	P	**P**	**19 19 02.3**	**+2.2**
STKA	**Stephens Creek**	**27.43**	**211**	P	**P**	**19 19 03.2**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=38,slow=14,SNR=10						
STKA	**Stephens Creek**	**27.43**	**211**	IAmb	IAmb	19 19 08.6	
	comp=Z,0.7nm,0.8s						
TOO	**Toolangi**	**30.72**	**199**	P	**P**	**19 19 34.8**	**+3.4**
JAGI	**Jajag, Banyuwa**	**43.08**	**267**	P	**P**	**19 21 16.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**64.01**	**295**	P	**P**	**19 23 51.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=111,slow=5.2,SNR=2.5						
SONM	**Songino Array**	**72.32**	**326**	P	**P**	**19 24 42.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=108,slow=3.3,SNR=1.9						
ILAR	**Eielson Array**	**84.06**	**21**	P	**P**	**19 25 47.6**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=261,slow=4.5,SNR=4.2						
MKAR	**Makanchi Array**	**86.55**	**318**	P	**P**	**19 25 58.5**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=120,slow=7.2,SNR=2.0						
NVAR	**Mina Array Bea**	**90.71**	**51**	P	**P**	**19 26 20.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=245,slow=7.4,SNR=5.1						

IDC 03 19:30:19.9±182.0,45.°88N×152.°08E,h0km,Error ellipse: s-maj=406.5km s-min=16.3km az=121.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**28.80**	**150**	H	H	20 06 23.3	
	baz=338,slow=76,SNR=47						
H11N1	**WAKE ISLAND Hy**	**28.82**	**150**	H	H	20 06 25.5	
	baz=338,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.82**	**150**	H	H	20 06 25.0	
	baz=338,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.87**	**151**	H	H	20 07 45.1	
	baz=339,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.88**	**151**	H	H	20 07 44.5	
	baz=339,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.89**	**151**	H	H	20 07 47.6	
	baz=339,slow=76,SNR=15						
H03N2	**Juan Fernandez**	**139.46**	**91**	H	H	22 24 49.4	
	baz=299,slow=78,SNR=59						
H03N1	**Juan Fernandez**	**139.48**	**91**	H	H	22 24 51.9	
	baz=299,slow=78,SNR=42						
H03N3	**Juan Fernandez**	**139.48**	**91**	H	H	22 24 53.5	
	baz=299,slow=78,SNR=57						

*MAN **03** 19:32:57.0,13.°00N×124.°30E,h110km,mb5.0,ML4.0, MS4.0*
*IDC **03** 19:32:58.9±0.7,12.°75N×124.°11E,h113km±6km,mb3.8/12, mb1 3.9/14,mb1mx3.7/41,mbtmp4.2/14,Error ellipse: s-maj=17.3km s-min=9.2km az=60.0*
*NEIC **03** 19:32:59.4±1.2,12.°81N±0.°07×124.°12E±0.°09, h117km±3km,mb4.5/36,Error ellipse: s-maj=13.5km s-min=9.3km az=68.0*
ISC 03 19:32:59.0±0.5,12.°89N±0.°04×124.°24E±0.°04,h117km±4km, h117km:pP-P,n90,σ1s55/107,mb4.4/31,4C-3D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.56**	**132**	*e*P	**Pn**	**19 33 16.5**	**-0.5**
CNP				*e*S	**Sn**	**19 33 30.2**	**-0.4**
PVCP	**Virac**	**0.71**	**354**	*e*P	**Pn**	**19 33 17.1**	**-1.1**
PVCP				*e*S	**Sn**	**19 33 30.7**	**-1.8**
BESP	**Borongan**	**1.74**	**137**	*e*P	**Pn**	**19 33 28.8**	**-0.3**
BESP				*e*S	**Sn**	**19 33 51.8**	**-0.3**
OCLP	**Ormoc**	**1.86**	**169**	*e*P	**Pn**	**19 33 30.5**	**-0.1**
OCLP				*e*S	**Sn**	**19 33 58.4**	**+3.7**
GQP	**Guinayangan**	**2.01**	**300**	⇑P	**Pn**	**19 33 31.4**	**-1.1**
GQP				*e*S	**Sn**	**19 33 56.0**	**-2.1**
OTRP	**Odiongan**	**2.23**	**257**	*e*P	**Pn**	**19 33 34.6**	**-0.5**
BOAC	**Boac**	**2.40**	**284**	*e*P	**Pn**	**19 33 37.0**	**-0.4**
BOAC				*e*S	**Sn**	**19 34 07.3**	**+0.5**
LLP	**Lapu-Lapu**	**2.57**	**186**	⇑*e*P	**Pn**	**19 33 39.4**	**-0.2**
LLP				*i* S	**Sn**	**19 34 10.7**	**-0.2**
MSLP	**Maasin**	**2.81**	**167**	*e*P	**Pn**	**19 33 42.9**	**+0.2**
MSLP				*e*S	**Sn**	**19 34 11.7**	**-4.6**
POLP	**Polilio Island**	**2.88**	**310**	*e*P	**Pn**	**19 33 42.4**	**-1.3**
POLP				*e*S	**Sn**	**19 34 16.7**	**-1.4**
LQP	**Lukban**	**2.89**	**295**	⇑*e*P	**Pn**	**19 33 43.4**	**-0.6**
LQP				*i* S	**Sn**	**19 34 17.8**	**-0.8**
JAP	**San Jose, Anti**	**3.09**	**227**	⇑*e*P	**Pn**	**19 33 48.6**	**+2.2**
PGP	**Puerto Galera**	**3.25**	**281**	⇓*e*P	**Pn**	**19 33 48.7**	**0.0**
CNOP	**Candoni, Negro**	**3.42**	**207**	*e*P	**Pn**	**19 33 51.2**	**+0.3**
CNOP				*e*S	**Sn**	**19 34 32.6**	**+1.8**
TGY	**Tagaytay City**	**3.43**	**291**	P	**Pn**	**19 33 51.2**	**+0.3**
	75nm,0.3s,baz=111,slow=2.7,SNR=13						
TGY				S	**Sn**	**19 34 28.6**	**-2.5**
	69nm,0.3s,baz=148,slow=19,SNR=3.2						
GLSP	**General Luna,**	**3.60**	**149**	*e*P	**Pn**	**19 33 51.7**	**-1.5**
GLSP				*e*S	**Sn**	**19 34 32.2**	**-2.9**
BALP	**Baler**	**3.83**	**318**	*e*P	**Pn**	**19 33 53.4**	**-2.9**
BALP				*e*S	**Sn**	**19 34 36.8**	**-3.9**
CGP	**Cagayan de Oro**	**4.43**	**174**	⇓*e*P	**Pn**	**19 34 05.0**	**+0.7**
BUKP	**Musuan**	**5.04**	**171**	*e*P	**Pn**	**19 34 14.2**	**+1.6**
KCP	**Kidapawan**	**5.90**	**172**	⇓*e*P	**Pn**	**19 34 26.0**	**+1.7**
DAV	**Davao City (W)**	**5.93**	**167**	P	**Pn**	**19 34 26.9**	**+2.4**
	40nm,0.3s,baz=270,slow=10,SNR=1.9						
MYLDM	**Lahad Datu**	**9.53**	**217**	Pn	Pn	19 35 16.5	+3.3
TWG	**Pinlang**	**10.33**	**343**		**Pn**	**19 35 25.5**	**+1.5**
YULB	**Yu-li**	**10.81**	**345**	Pn	**Pn**	**19 35 30.6**	**0.0**
TPUB	**Ta-pu**	**10.91**	**342**	Pn	**Pn**	**19 35 34.6**	**+2.7**
SSLB	**Suanglung**	**11.28**	**344**		**Pn**	**19 35 39.0**	**+2.2**
NACB	**Ninganchiao**	**11.50**	**348**	Pn	**Pn**	**19 35 38.5**	**-1.2**
YHNB	**Yeheng**	**12.03**	**347**	Pn	**Pn**	**19 35 49.1**	**+2.3**
LUWI	**Luwuk**	**13.92**	**186**	P	**P**	**19 36 15.0**	**-0.6**
SIJI	**Sorong**	**15.35**	**152**	P	**Pn**	**19 36 29.0**	**-0.5**
	3.0nm,0.3s,baz=340,slow=12,SNR=6.6						
SBUM	**Sibu**	**15.78**	**230**	P	**P**	**19 36 35.4**	**-1.0**
ENH	**Enshi**	**22.03**	**324**	P	**P**	**19 37 44.8**	**+0.6**
ENH				IAmb	IAmb	19 37 46.4	
	comp=Z,12nm,0.8s						
BATI	**Baumata**	**22.95**	**181**	P	**P**	**19 37 52.2**	**-1.3**
	comp=Z,10nm,0.6s,baz=23,slow=3.0,SNR=6.3						
JWT	**Wachi**	**24.48**	**22**	P	**P**	**19 38 08.3**	**+1.1**
JWT				IAmb	IAmb	19 38 13.5	
	comp=Z,62nm,1.6s						
KSRS	**Korea Array**	**24.68**	**7**	P	**P**	**19 38 10.3**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=184,slow=9.6,SNR=2.7						
CM31	**Chiang Mai Arr**	**24.96**	**286**	P	**P**	**19 38 11.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**24.96**	**286**	P	**P**	**19 38 11.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=96,slow=7.6,SNR=19						
CMAR				pP	**pP**	**19 38 35.9**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=102,slow=8.3,SNR=6.4						
CHTO	**Chiang Mai**	**25.02**	**287**	P	**P**	**19 38 11.4**	**-0.9**
XAN	**Xi'an**	**25.25**	**329**		**P**	**19 38 14.0**	**-0.3**
XAN				IAmb	IAmb	19 38 15.0	
	comp=Z,6.8nm,0.7s						
CISI	**Cisompet, Garu**	**26.05**	**220**	P	**P**	**19 38 21.0**	**-0.7**
KNRA	**Kununurra**	**28.73**	**171**	P	**P**	**19 38 44.2**	**-1.4**
KNRA				IAmb	IAmb	19 39 09.7	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.82**	**177**	P	**P**	**19 39 02.4**	**-1.6**
FITZ				IAmb	IAmb	19 39 40.3	
	comp=Z,13nm,1.6s						
USRK	**Ussuriysk Ar.**	**31.90**	**11**	P	**P**	**19 39 14.4**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=213,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**34.11**	**163**	P	**P**	**19 39 31.2**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=343,slow=9.1,SNR=30						
WRA				pP	**pP**	**19 39 58.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=343,slow=9.2,SNR=3.0						
WRA				PcP	**PcP**	**19 42 07.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=342,slow=2.7,SNR=1.8						
WRA				S	**S**	**19 44 43.9**	**-6.4**
	comp=Z,0.6nm,0.8s,baz=345,slow=15,SNR=4.0						
WB2	**Warramunga Arr**	**34.11**	**163**	P	**P**	**19 39 31.6**	**-1.1**
WB2				IAmb	IAmb	19 39 35.6	
	comp=Z,11nm,1.4s						
WB2				pP	**pP**	**19 40 00.7**	**+2.0**
WC3	**Warramunga Arr**	**34.13**	**163**	P	**P**	**19 39 31.6**	**-1.3**
WC3				pP	**pP**	**19 40 00.9**	**+2.1**
WR0	**Warramunga Arr**	**34.18**	**163**	P	**P**	**19 39 32.0**	**-1.4**
WR0				IAmb	IAmb	19 40 09.6	
	comp=Z,11nm,1.6s						
LSA	**Lhasa**	**34.90**	**304**	P	**P**	**19 39 40.8**	**+0.7**
LSA				IAmb	IAmb	19 39 42.7	
	comp=Z,4.0nm,0.5s						
AS31	**Alice Springs**	**37.54**	**165**	P	**P**	**19 40 01.4**	**-0.6**
AS31				IAmb	IAmb	19 40 02.1	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**37.54**	**165**	P	**P**	**19 40 01.4**	**-0.7**
	comp=Z,4.0nm,0.5s,baz=346,slow=7.3,SNR=70						
ASAR				pP	**pP**	**19 40 26.4**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=348,slow=7.6,SNR=2.2						
ASAR				S	**S**	**19 45 38.7**	**-4.0**
	comp=Z,0.8nm,0.9s,baz=338,slow=12,SNR=4.7						
ULN	**Ulaanbaatar**	**37.71**	**341**	P	**P**	**19 40 04.3**	**+1.0**
ULN				IAmb	IAmb	19 40 05.4	
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**37.89**	**340**	P	**P**	**19 40 05.7**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=160,slow=11,SNR=12						
SONM				pP	**pP**	**19 40 30.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=152,slow=8.5,SNR=4.4						
SONM				sP	**sP**	**19 40 44.7**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=148,slow=8.7,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**41.18**	**77**	T	T	20 24 26.5	
	baz=270,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**41.19**	**77**	T	T	20 24 29.8	
	baz=270,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**41.19**	**77**	T	T	20 24 37.9	
	baz=270,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**41.41**	**75**	T	T	20 24 47.9	
	baz=267,slow=74,SNR=71						
H11N2	**WAKE ISLAND Hy**	**41.42**	**75**	T	T	20 24 48.2	
	baz=267,slow=74,SNR=40						
H11N3	**WAKE ISLAND Hy**	**41.43**	**75**	T	T	20 24 49.2	
	baz=267,slow=74,SNR=71						
MORW	**Morawa**	**42.45**	**191**	P	**P**	**19 40 41.8**	**-0.7**
MORW				IAmb	IAmb	19 40 49.3	
	comp=Z,23nm,1.4s						
NWAO	**Narrogin (SRO)**	**46.05**	**188**	P	**P**	**19 41 09.5**	**-1.5**
NWAO				IAmb	IAmb	19 41 34.7	
	comp=Z,16nm,1.1s						
EIDS	**Eidsvold**	**46.16**	**145**	P	**P**	**19 41 12.1**	**0.0**
EIDS				IAmb	IAmb	19 41 12.7	
	comp=Z,10.0nm,0.8s						
BBOO	**Buckleboo**	**46.83**	**166**	P	**P**	**19 41 16.9**	**-0.3**
STKA	**Stephens Creek**	**47.52**	**160**	P	**P**	**19 41 22.0**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=344,slow=7.2,SNR=8.2						
STKA	**Stephens Creek**	**47.52**	**160**	IAmb	IAmb	19 41 27.0	
	comp=Z,1.8nm,1.3s						
PEA0B	**Petropavlovsk-**	**48.14**	**27**	P	**P**	**19 41 28.8**	**+1.6**
PETK	**Petropavlovsk-**	**48.14**	**27**	P	**P**	**19 41 28.8**	**+1.6**
	comp=Z,3.3nm,0.8s,baz=182,slow=3.2,SNR=6.5						
PETK	**Petropavlovsk-**	**48.14**	**27**	PcP	**PcP**	**19 42 53.5**	**+0.6**
MK31	**Makanchi Array**	**48.75**	**322**	P	**P**	**19 41 32.3**	**+0.4**
MKAR	**Makanchi Array**	**48.75**	**322**	P	**P**	**19 41 33.4**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=105,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**48.75**	**322**	P	**P**	**19 41 31.8**	**-0.2**
MKAR				PcP	**PcP**	**19 42 55.9**	**+0.7**
NIL	**Nilore**	**50.63**	**303**	P	**P**	**19 41 46.7**	**+0.2**
NIL				IAmb	IAmb	19 41 47.6	
	comp=Z,5.9nm,0.6s						
ZAA0	**Zalesovo Array**	**51.39**	**331**	P	**P**	**19 41 51.5**	**-0.2**
ZAA0				IAmb	IAmb	19 42 10.5	
	comp=Z,6.2nm,1.6s						
ZALV	**Zalesovo Beam**	**51.39**	**331**	P	**P**	**19 41 52.2**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=119,slow=8.3,SNR=8.0						
ZALV	**Zalesovo Beam**	**51.39**	**331**	P	**P**	**19 41 51.4**	**-0.3**
KURK	**Kurchatov**	**52.79**	**325**		**P**	**19 42 02.8**	**+0.7**
KURK				IAmb	IAmb	19 42 04.4	
	comp=Z,5.3nm,0.8s						
CAN	**Canberra**	**53.38**	**155**	P	**P**	**19 42 07.3**	**+0.6**
TOO	**Toolangi**	**54.02**	**159**	P	**P**	**19 42 11.6**	**+0.3**
GAR	**Garm**	**54.10**	**309**	P	**P**	**19 42 12.5**	**+0.4**
KBL	**Kabul**	**54.23**	**303**	P	**P**	**19 42 13.5**	**+0.3**
KBL				IAmb	IAmb	19 42 14.6	
	comp=Z,2.8nm,0.7s						
CHGR	**Chuyangaron**	**54.91**	**308**	P	**P**	**19 42 18.3**	**+0.4**
CHGR				IAmb	IAmb	19 42 20.1	
	comp=Z,8.9nm,0.7s						
KK06	**Karatay Array**	**54.99**	**314**	P	**P**	**19 42 19.9**	**+1.5**
KK31	**Karatay Array**	**55.01**	**314**	P	**P**	**19 42 19.0**	**+0.5**
KKAR	**Karatay Array**	**55.01**	**314**	P	**P**	**19 42 19.0**	**+0.5**
LHI	**Lord Howe Isla**	**55.37**	**144**	P	**P**	**19 42 21.7**	**+0.6**
BRVK	**Borovoye**	**58.46**	**325**		**P**	**19 42 43.2**	**+0.5**
BRVK				IAmb	IAmb	19 42 44.4	
	comp=Z,2.8nm,0.7s						
ABKAR	**Akbulak array**	**63.60**	**319**	P	**P**	**19 43 17.7**	**+0.2**
ABKAR	**Akbulak array**	**63.60**	**319**	P	**P**	**19 43 17.4**	**0.0**
ABKAR				IAmb	IAmb	19 43 36.4	
	comp=Z,1.8nm,1.2s						
IMAR	**Indian Mountai**	**75.07**	**25**	P	**P**	**19 44 29.3**	**+1.5**
FINES	**FINESS Array B**	**82.65**	**331**	P	**P**	**19 45 09.2**	**0.0**
	comp=Z,2.4nm,1.0s,baz=88,slow=8.5,SNR=2.6						
PLCA	**Paso Flores**	**149.38**	**158**	PKPbc	**PKPbc**	**19 52 34.6**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=227,slow=0.8,SNR=3.3						

*IDC **03** 20:00:24.1±1.1,2.°35N×122.°76E,h480km±13km,mb3.4/22, mb1 3.5/27,mb1mx3.4/45,mbtmp4.3/27,Error ellipse: s-maj=13.6km s-min=7.4km az=72.0*
*DJA **03** 20:00:24.7±0.3,2.°N±5.°×12.°3E±.°,h460km±4km,M4.2/21, mb4.3/21,mB4.7/12,MLv4.6/12,Mw(mB)3.9/12*
*NEIC **03** 20:00:24.2±1.8,2.°35N±0.°08×122.°77E±0.°09,h483km±3km, mb4.4/66,Error ellipse: s-maj=13.9km s-min=10.6km az=50.0*
ISC 03 20:00:23.5±0.6,2.°34N±0.°05×122.°77E±0.°07,h473km±7km, n134,σ1s27/144,mb4.2/54,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.71**	**172**	P	**P**	**20 01 23.5**	**-1.3**
KMSI	**Cibinong**	**2.13**	**145**	P	**P**	**20 01 26.4**	**-0.5**
SGSI	**Sangihe**	**3.06**	**64**	P	**P**	**20 01 33.0**	**+0.2**
LUWI	**Luwuk**	**3.36**	**180**	P	**P**	**20 01 33.4**	**-1.6**
LUWI				S	**S**	**20 02 28.6**	**-4.5**
LUWI	**Luwuk**	**3.36**	**180**	P	**P**	**20 01 33.5**	**-1.6**
MPSI	**Mapaga**	**3.50**	**235**	P	**P**	**20 01 35.7**	**-0.4**
TNTI	**Ternate**	**4.85**	**109**	P	**P**	**20 01 47.3**	**-0.4**
TNTI	**Ternate**	**4.85**	**

comp=Z,9.4nm,0.7s
WR0 Warramunga Arr 24.99 153 P P 20 05 07.9 -0.8
GSI Gunungsitoli 25.21 268 P P 20 05 09.8 -0.9
GSI IAmb IAmb 20 05 28.8
comp=Z,25nm,1.2s
GIRL Giralia 26.19 198 P P 20 05 19.7 +0.5
AS31 Alice Springs 28.03 158 P P 20 05 35.4 -0.1
ASAR Alice Springs 28.03 158 P P 20 05 35.4 -0.1
comp=Z,2.0nm,0.6s,baz=338,slow=7.3,SNR=54
ASAR PcP **PcP 20 08 35.6 -0.1**
comp=Z,1.1nm,0.6s,baz=342,slow=2.5,SNR=9.9
ASAR ScP **ScP 20 11 30.9 -0.6**
comp=Z,0.7nm,0.5s,baz=340,slow=3.0,SNR=9.4
ASAR Alice Springs 28.03 158 P P 20 05 35.1 -0.4
CMAR Chiang Mai Arr 28.32 306 P P 20 05 38.7 +0.6
comp=Z,0.2nm,0.5s,baz=129,slow=7.1,SNR=2.3
CMAR PcP **PcP 20 08 37.4 +0.8**
comp=Z,1.0nm,0.8s,baz=197,slow=1.0,SNR=8.0
KMI Kunming 29.77 321 P P 20 05 49.7 -1.1
KMI IAmb IAmb 20 05 58.4
comp=Z,7.8nm,0.4s
KRVT Keravat (AS076 29.97 103 P P 20 05 52.6 +0.1
comp=Z,20nm,0.4s,baz=63,slow=21,SNR=7.1
ENH Enshi 30.50 337 P P 20 05 57.8 +0.8
ENH IAmb IAmb 20 05 59.9
comp=Z,11nm,1.0s
MORW Morawa 31.89 191 P P 20 06 08.7 -0.2
MORW IAmb IAmb 20 06 18.8
comp=Z,6.1nm,0.9s
JMN Monobe 32.91 17 P P 20 06 17.3 -0.3
FORT Forrest 33.32 172 P P 20 06 21.2 +0.2
KSRS Korea Array 35.27 7 P P 20 06 37.7 +0.4
comp=Z,0.6nm,0.6s,baz=189,slow=9.5,SNR=2.1
NWAO Narrogin (SRO) 35.46 188 P P 20 06 39.0 -0.1
NWAO IAmb IAmb 20 06 40.4
comp=Z,12nm,1.1s
NWAO Narrogin (SRO) 35.46 188 P P 20 06 38.6 -0.5
NWAO IAmb IAmb 20 06 40.4
comp=Z,14nm,1.1s
MJAR Matsushiro Arr 36.90 21 P P 20 06 50.0 -1.0
comp=Z,1.6nm,0.5s,baz=191,slow=9.0,SNR=5.1
MJAR Matsushiro Arr 36.90 21 IAmb IAmb 20 06 54.8
comp=Z,4.9nm,1.4s
BBOO Buckleboo 37.15 161 P P 20 06 53.3 +0.2
BBOO IAmb IAmb 20 06 54.6
comp=Z,40nm,1.4s
STKA Stephens Creek 38.44 154 P P 20 07 04.5 +0.9
comp=Z,5.7nm,0.4s,baz=320,slow=8.5,SNR=21
STKA Stephens Creek 38.44 154 P P 20 07 04.5 +0.9
EIDS Eidsvold 38.87 137 P P 20 07 06.9 -0.4
EIDS IAmb IAmb 20 07 25.4
comp=Z,7.1nm,1.2s
JMM Marumori 39.03 23 P P 20 07 07.6 -0.8
JMM IAmb IAmb 20 07 13.3
comp=Z,22nm,1.1s
HHC Hu-ho-hao-te 39.65 347 *eP* **P 20 07 15.5 +2.0**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,78nm,4.6s
JTM Tenmabayashi 41.69 21 P P 20 07 28.4 -1.4
PALK Pallekele 42.19 278 P P 20 07 33.4 -0.8
PALK IAmb IAmb 20 07 40.9
comp=Z,6.9nm,1.0s
GTA Gaotai 42.41 333 *eP* **P 20 07 36.9 +1.3**
GTA pmax pmax
comp=Z,3.0nm,0.9s
USA0B Ussuriysk Arra 42.48 10 P P 20 07 36.2 +0.4
USA0B IAmb IAmb 20 07 50.5
comp=Z,9.3nm,1.2s
USRK Ussuriysk Ar. 42.48 10 P P 20 07 36.6 +0.7
comp=Z,1.2nm,0.5s,baz=201,slow=6.3,SNR=8.7
USRK Ussuriysk Ar. 42.48 10 P P 20 07 35.0 -0.8
ARMA Armidale 42.65 142 P P 20 07 39.2 +1.6
ARMA IAmb IAmb 20 07 39.9
comp=Z,26nm,1.4s
CAN Canberra 44.79 149 P P 20 07 56.0 +1.8
CAN IAmb IAmb 20 07 56.5
comp=Z,11nm,0.6s
TOO Toolangi 44.95 154 P P 20 07 57.2 +1.8
TOO IAmb IAmb 20 07 58.5
comp=Z,21nm,1.4s
ASAJ Asahikawa 45.16 20 P P 20 07 57.3 +0.5
comp=Z,6.6nm,0.6s,baz=266,slow=13,SNR=4.8
JKA Kamikawa-asahi 45.16 20 IAmb IAmb 20 07 58.0
comp=Z,22nm,1.0s
SONM Songino Array 47.48 345 P P 20 08 14.8 +0.1
comp=Z,2.8nm,0.7s,baz=161,slow=8.7,SNR=18
SONM PcP **PcP 20 09 35.1 -0.8**
comp=Z,0.3nm,0.4s,baz=159,slow=4.5,SNR=3.3
SONM Songino Array 47.48 345 P P 20 08 15.0 +0.4
WMQ Urumqi 51.70 328 *eP* **P 20 08 47.8 +2.0**
NIL Nilore 55.71 310 P P 20 09 14.8 +0.2
NIL IAmb IAmb 20 09 15.3
comp=Z,5.4nm,0.6s
TARG Taragay, Kyrgy 56.22 320 P P 20 09 18.5 +0.1
MK31 Makanchi Array 56.52 328 P P 20 09 20.4 +0.5
MK31 IAmb IAmb 20 09 20.6
comp=Z,5.3nm,0.7s
MK31 PcP **PcP 20 10 09.5 -0.5**
MKAR Makanchi Array 56.52 328 P P 20 09 20.3 +0.4
comp=Z,3.9nm,0.4s,baz=127,slow=8.1,SNR=77
MKAR PcP **PcP 20 10 09.4 -0.6**
comp=Z,0.8nm,0.4s,baz=177,slow=3.7,SNR=5.3
MAKZ Makanchi 56.70 328 P P 20 09 21.3 +0.1
MAKZ IAmb IAmb 20 09 22.0
comp=Z,28nm,1.3s
MAKZ PcP **PcP 20 10 10.0 -0.8**
KDJ Kajisay 56.83 321 P P 20 09 23.3 +1.0
PETK Petropavlovsk- 58.25 24 P P 20 09 32.3 +0.7
comp=Z,1.1nm,0.6s,baz=180,slow=1.5,SNR=4.7
KBL Kabul 59.28 309 P P 20 09 39.3 +0.1
KBL IAmb IAmb 20 09 39.9
comp=Z,6.6nm,0.7s
GAR Garm 60.01 314 P P 20 09 43.9 0.0
GAR IAmb IAmb 20 09 44.7
comp=Z,10nm,0.6s
BTK Batken 60.09 316 P P 20 09 44.8 +0.4
ZALV Zalesovo Beam 60.11 335 P P 20 09 43.1 -0.9
comp=Z,1.0nm,0.5s,baz=128,slow=4.3,SNR=6.1
CHGR Chuyangaron 60.71 314 P P 20 09 48.3 -0.2
CHGR IAmb IAmb 20 09 49.1
comp=Z,7.6nm,0.8s
KURBB Kurchatov Array 60.84 329 P P 20 09 49.1 +0.1
comp=Z,3.8nm,0.7s,baz=128,slow=6.2,SNR=28
KURK Kurchatov 60.85 330 P P 20 09 48.8 -0.2
KURK IAmb IAmb 20 09 49.7
comp=Z,9.2nm,0.6s
KK31 Karatay Array 61.61 319 P P 20 09 54.4 +0.2
KKAR Karatay Array 61.61 319 P P 20 09 56.5 +2.2
KKAR Karatay Array 61.61 319 P P 20 09 54.3 +0.1
KKAR IAmb IAmb 20 09 55.2
comp=Z,2.6nm,0.8s
THZ Tophouse 63.11 140 P P 20 10 05.3 +1.3
NNZ Nelson 63.14 139 P P 20 10 04.3 +0.1
TUWZ Tuamarina 63.62 139 P P 20 10 07.8 +0.6
KHZ Kahutara 63.85 140 P P 20 10 08.6 -0.1
SNZO South Karori 64.06 139 P P 20 10 09.7 -0.4
BKZ Black Stump Fm 64.27 136 P P 20 10 11.9 +0.4
PLWZ Palliser 64.54 139 P P 20 10 13.3 +0.1
HRA Herat 64.58 307 P P 20 10 12.1 -1.8
GEYT Alibeck 68.72 310 P P 20 10 39.8 +0.5
comp=Z,2.8nm,0.7s,baz=167,slow=7.1,SNR=3.2
GEYT Alibeck 68.72 310 P P 20 10 39.4 +0.1
SOCY Socotra 68.78 282 P P 20 10 38.3 -1.8
SOCY IAmb IAmb 20 10 49.3
comp=Z,15nm,1.2s
CASY Casey 69.03 185 P P 20 10 40.5 +0.1
ABKAR Akbulak array 70.76 322 P P 20 10 50.7 -0.5
ABKAR Akbulak array 70.76 322 P P 20 10 50.6 -0.7
ABKAR IAmb IAmb 20 10 51.5
comp=Z,2.1nm,0.8s
AKTO Aktyubinsk 72.32 323 P P 20 10 58.9 -1.5
comp=Z,3.5nm,0.6s,baz=114,slow=5.8,SNR=13
ARU Arti 74.03 329 P P 20 11 08.9 -1.1
comp=Z,0.5nm,0.3s,baz=304,slow=2.8,SNR=4.8
ARU Arti 74.03 329 IAmb IAmb 20 11 09.7
comp=Z,2.7nm,0.9s
ABPO Ambohimpanom 77.13 250 P P 20 11 27.9 -0.4
ABPO IAmb IAmb 20 11 34.5
comp=Z,17nm,1.4s
MAW Mawson 81.11 200 P P 20 11 48.5 +0.2
comp=Z,1.2nm,0.6s,baz=7.3,slow=5.8,SNR=4.0
MAW Mawson 81.11 200 P P 20 11 48.6 +0.4
KHU Kahuku 81.31 71 P P 20 11 50.3 -0.3
ARTV Artvin 81.57 311 P P 20 11 53.2 +1.6
VNDA Vanda 82.58 172 P P 20 11 55.6 -0.1
comp=Z,1.4nm,0.7s,baz=314,slow=6.1,SNR=16
VNDA Vanda 82.58 172 P P 20 11 55.5 -0.1
ASF Jabal al Asfar 85.27 302 P P 20 12 10.6 +0.5
comp=Z,1.1nm,0.6s,baz=97,slow=2.4,SNR=7.0
BRTR Keskin Array B 87.85 309 P P 20 12 19.8 -2.5
comp=Z,0.9nm,0.9s,baz=348,slow=4.7,SNR=4.7
ILAR Eielson Array 88.05 25 P P 20 12 21.1 -1.3
comp=Z,0.2nm,0.6s,baz=234,slow=5.5,SNR=1.9
ARCES ARCESS Array B 90.37 340 P P 20 12 31.5 -1.6
comp=Z,2.3nm,0.9s,baz=113,slow=6.9,SNR=4.2
FINES FINESS Array B 91.17 331 P P 20 12 34.8 -2.2
comp=Z,1.1nm,0.8s,baz=72,slow=4.5,SNR=1.8
TORD Torodi Ar. Bea 119.56 286 PKP PKPdf 20 18 18.9 -1.1
comp=Z,1.0nm,0.8s,baz=63,slow=1.6,SNR=11

*TRN **03** 20:00:36.0, 18°.76N×64°.41W, h40km, MD4.1*
*RSPR **03** 20:00:37.7, 18°.84N×64°.36W, h22km±17km, MD3.3/8*
*NEIC **03** 20:00:38.1±1.2, 18°.77N±0°.08×64°.43W±0°.05, h42km±15km, Error ellipse: s-maj=12.2km s-min=7.4km az=181.0*
ISC 03 20:00:37.5±1.6, 18°.79N±0°.08×64°.41W±0°.03, h33km±7km, n73, σ0°60/101, 23C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.41**	**208**	*ePn*		**Pb**	**20 00 46.4**	**-0.4**
TBVI				*eS*		**Sb**	**20 00 53.6**	**+0.5**
TBVI	**Tortola**	**0.41**	**208**	*ePn*		**Pb**	**20 00 46.4**	**-0.4**
TBVI	**Tortola**	**0.41**	**208**			**Pb**	**20 00 46.4**	**-0.4**
TBVI						**Sb**	**20 00 53.6**	**+0.5**
CUPR	**Culebra, Puert**	**0.95**	**240**	*ePn*		**Pn**	**20 00 53.8**	**-0.8**
CUPR	**Culebra, Puert**	**0.95**	**240**	*eS*		**Sn**	**20 01 07.3**	**+0.3**
CUPR	**Culebra, Puert**	**0.95**	**240**			**Pn**	**20 00 53.8**	**-0.8**
CUPR	**Culebra, Puert**	**0.95**	**240**	Sn		**Sn**	**20 01 06.3**	**-0.7**
CDVI	**St. Croix**	**1.08**	**198**	*ePn*		**Pn**	**20 00 56.6**	**+0.2**
CDVI				*eS*		**Sn**	**20 01 11.7**	**+1.4**
CDVI	**St. Croix**	**1.08**	**198**			**Pn**	**20 00 56.6**	**+0.2**
MTP	**Monte Pirata**	**1.28**	**238**	*ePn*		**Pn**	**20 00 58.8**	**-0.4**
MTP				*eS*		**Sn**	**20 01 15.2**	**0.0**
MTP	**Monte Pirata**	**1.28**	**238**	*ePn*		**Pn**	**20 00 58.8**	**-0.4**
MTP	**Monte Pirata**	**1.28**	**238**			**Pn**	**20 00 58.8**	**-0.4**
MTP						**Sn**	**20 01 15.2**	**0.0**
CBYP	**Canovanas**	**1.46**	**250**	*ePn*		**Pn**	**20 01 01.3**	**-0.4**
CBYP				*eS*		**Sn**	**20 01 19.4**	**-0.4**
CBYP	**Canovanas**	**1.46**	**250**	*ePn*		**Pn**	**20 01 01.3**	**-0.4**
CBYP	**Canovanas**	**1.46**	**250**			**Pn**	**20 01 01.3**	**-0.4**
CBYP						**Sn**	**20 01 19.4**	**-0.4**
HUMP	**Col San Antoni**	**1.51**	**245**	*ePn*		**Pn**	**20 01 01.7**	**-0.5**
HUMP				*eS*		**Sn**	**20 01 20.6**	**-0.2**
HUMP	**Col San Antoni**	**1.51**	**245**	*ePn*		**Pn**	**20 01 01.7**	**-0.5**
HUMP	**Col San Antoni**	**1.51**	**245**			**Pn**	**20 01 01.7**	**-0.5**
HUMP						**Sn**	**20 01 20.6**	**-0.2**
SABA	**Saba**	**1.61**	**136**	*ePn*		**Pn**	**20 01 05.0**	**+1.3**
SABA				*eS*		**Sn**	**20 01 24.6**	**+1.3**
SABA	**Saba**	**1.61**	**136**	Pn		**Pn**	**20 01 04.5**	**+0.8**
GCPR	**Guaynabo City**	**1.65**	**254**	*ePn*		**Pn**	**20 01 03.7**	**-0.6**
GCPR	**Guaynabo City**	**1.65**	**254**	*eS*		**Sn**	**20 01 24.2**	**-0.2**
GCPR	**Guaynabo City**	**1.65**	**254**			**Pn**	**20 01 03.7**	**-0.6**
GCPR						**Sn**	**20 01 24.2**	**-0.2**
PDPR	**Patillas Dam,**	**1.71**	**244**	*ePn*		**Pn**	**20 01 05.0**	**0.0**
PDPR	**Patillas Dam,**	**1.71**	**244**	*eS*		**Sn**	**20 01 26.2**	**+0.5**
PDPR	**Patillas Dam,**	**1.71**	**244**			**Pn**	**20 01 05.0**	**0.0**
PDPR						**Sn**	**20 01 26.2**	**+0.5**
IGPR	**InterUniversit**	**1.80**	**243**	*ePn*		**Pn**	**20 01 06.5**	**+0.1**
IGPR	**InterUniversit**	**1.80**	**243**	*eS*		**Sn**	**20 01 28.4**	**+0.4**
IGPR	**InterUniversit**	**1.80**	**243**			**Pn**	**20 01 06.6**	**+0.3**
SEUS	**St. Eustatius**	**1.87**	**133**	*ePn*		**Pn**	**20 01 07.5**	**+0.2**
SEUS				*eS*		**Sn**	**20 01 30.4**	**+0.6**
EMPR	**Esperanza - Ma**	**2.03**	**262**	*ePn*		**Pn**	**20 01 09.4**	**0.0**
EMPR	**Esperanza - Ma**	**2.03**	**262**	*eS*		**Sn**	**20 01 33.9**	**+0.2**
EMPR	**Esperanza - Ma**	**2.03**	**262**			**Pn**	**20 01 09.4**	**0.0**
EMPR						**Sn**	**20 01 33.9**	**+0.2**
SKI	**Saint Kitts**	**2.15**	**132**	*ePn*		**Pn**	**20 01 11.1**	**-0.1**
SKI	**Saint Kitts**	**2.15**	**132**	Pn		**Pn**	**20 01 11.1**	**-0.1**
CELP	**Cerrillos**	**2.17**	**251**	*ePn*		**Pn**	**20 01 11.3**	**-0.2**
CELP				*eS*		**Sn**	**20 01 37.1**	**-0.1**
CELP	**Cerrillos**	**2.17**	**251**	*ePn*		**Pn**	**20 01 11.3**	**-0.2**
CELP	**Cerrillos**	**2.17**	**251**			**Pn**	**20 01 11.3**	**-0.2**
CELP						**Sn**	**20 01 37.1**	**-0.1**
ICMP	**Isla Caja de M**	**2.20**	**246**	*ePn*		**Pn**	**20 01 12.4**	**+0.7**
ICMP	**Isla Caja de M**	**2.20**	**246**	*eS*		**Sn**	**20 01 38.4**	**+0.6**
ICMP	**Isla Caja de M**	**2.20**	**246**			**Pn**	**20 01 12.4**	**+0.7**
ICMP						**Sn**	**20 01 38.4**	**+0.6**
OBIP	**Obispado Ponce**	**2.21**	**251**	*ePn*		**Pn**	**20 01 12.1**	**+0.1**
OBIP				*eS*		**Sn**	**20 01 38.2**	**0.0**
OBIP	**Obispado Ponce**	**2.21**	**251**	*ePn*		**Pn**	**20 01 12.1**	**+0.1**
OBIP	**Obispado Ponce**	**2.21**	**251**			**Pn**	**20 01 12.1**	**+0.1**
OBIP						**Sn**	**20 01 38.2**	**0.0**
AOPR	**Arecibo Observ**	**2.26**	**259**	*ePn*		**Pn**	**20 01 12.6**	**-0.1**
AOPR				*eS*		**Sn**	**20 01 40.2**	**+0.7**
AOPR	**Arecibo Observ**	**2.26**	**259**	*ePn*		**Pn**	**20 01 12.6**	**-0.1**
AOPR	**Arecibo Observ**	**2.26**	**259**			**Pn**	**20 01 12.6**	**-0.1**
AGPR	**Aguadilla, PR**	**2.58**	**263**	*ePn*		**Pn**	**20 01 16.6**	**-0.3**
AGPR	**Aguadilla, PR**	**2.58**	**263**	*ePn*		**Pn**	**20 01 16.6**	**-0.3**
AGPR	**Aguadilla, PR**	**2.58**	**263**			**Pn**	**20 01 16.6**	**-0.3**
LSP	**Las Mesas**	**2.61**	**257**	*ePn*		**Pn**	**20 01 17.8**	**+0.4**
LSP				*eS*		**Sn**	**20 01 47.7**	**-0.3**
LSP	**Las Mesas**	**2.61**	**257**	*ePn*		**Pn**	**20 01 17.8**	**+0.4**
LSP	**Las Mesas**	**2.61**	**257**			**Pn**	**20 01 17.8**	**+0.4**
LSP						**Sn**	**20 01 47.7**	**-0.3**
MLPR	**Magueyes Islan**	**2.63**	**252**	*ePn*		**Pn**	**20 01 18.1**	**+0.4**
MLPR	**Magueyes Islan**	**2.63**	**252**	*eS*		**Sn**	**20 01 49.2**	**+0.8**
MLPR	**Magueyes Islan**	**2.63**	**252**			**Pn**	**20 01 18.1**	**+0.4**
MLPR						**Sn**	**20 01 49.2**	**+0.8**
MPR	**Mayaguez**	**2.65**	**258**			**Pn**	**20 01 18.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.67**	**254**			**Pn**	**20 01 18.5**	**+0.2**
ANWB	**Willy Bob**	**2.73**	**114**	*ePn*		**Pn**	**20 01 19.4**	**+0.3**
ANWB				*eS*		**Sn**	**20 01 52.0**	**+0.9**
ANWB	**Willy Bob**	**2.73**	**114**	Pn		**Pn**	**20 01 20.2**	**+1.1**
MLYT	**Lee's Yard**	**2.95**	**134**	*ePn*		**Pn**	**20 01 22.4**	**+0.2**
MLYT				*eS*		**Sn**	**20 01 54.8**	**-1.7**
BPA	**Boggy Peak**	**2.99**	**125**	*ePn*		**Pn**	**20 01 22.3**	**-0.4**
BPA				*eS*		**Sn**	**20 01 56.1**	**-1.3**
ANBD	**Bethesda, Anti**	**3.06**	**124**	*ePn*		**Pn**	**20 01 23.2**	**-0.4**
ANBD				*eS*		**Sn**	**20 01 58.0**	**-1.0**
ABD	**La Joyeuse, An**	**3.62**	**129**	*ePn*		**Pn**	**20 01 31.9**	**+0.7**
ABD				*eS*		**Sn**	**20 02 10.9**	**-1.9**
PCDR	**Punta Cana, DR**	**3.77**	**267**	Pn		**Pn**	**20 01 34.8**	**+1.4**
CBE	**Ff, Capester**	**3.81**	**135**	*ePn*		**Pn**	**20 01 33.8**	**-0.1**
TBG	**Guadaloupe-3**	**3.94**	**137**	*ePn*		**Pn**	**20 01 35.5**	**-0.2**
TDBA	**Terre de Bas,**	**3.95**	**137**	*ePn*		**Pn**	**20 01 35.6**	**-0.3**
MAGL	**Barre de l'Ile**	**4.11**	**133**	*ePn*		**Pn**	**20 01 37.7**	**-0.4**
DSLB	**Salisbury**	**4.39**	**139**	*ePn*		**Pn**	**20 01 41.8**	**-0.2**
DR12	**Loma Pena Alta**	**4.71**	**271**	Pn		**Pn**	**20 01 46.7**	**+0.4**
BIM	**Bigot**	**5.32**	**142**	*eP*		**Pn**	**20 01 53.7**	**-1.0**
GRTK	**Grand Turk**	**6.87**	**294**	Pn		**Pn**	**20 02 15.0**	**-1.0**

*NEIC **03** 20:39:52.9±3.0, 31°.83N±0°.08×50°.20E±0°.06, h8km±4km, mb4.3/24, mb_Lg4.1(TEH), Error ellipse: s-maj=11.0km s-min=7.0km az=184.0*
*TEH **03** 20:39:53.5, 32°.03N×50°.28E, h8km, ML4.1*
*THR **03** 20:39:55.9±0.7, 32°.00N×50°.25E, h14km±9km, ML4.2*
*SGS **03** 20:39:56.6, 32°.19N×49°.99E, h7km, Ml3.6*
*IDC **03** 20:39:57.5±3.9, 31°.98N×50°.12E, h34km±32km, mb3.5/17, mb1 3.7/25, mb1mx3.6/49, mbtmp3.8/25, ML3.7/8, MS3.1/2, Ms1 3.1/2, ms1mx2.6/38, Error ellipse: s-maj=22.1km s-min=14.5km az=173.0*
*DSN **03** 20:39:58.4±1.8, 31°.68N×50°.52E, h10km, ML4.6/8, Error ellipse: s-maj=40.4km s-min=16.7km az=48.0*
*OMAN **03** 20:40:00.1±1.0, 31°.78N×50°.52E, h33km±309km, mb5.5/25, Error ellipse: s-maj=42.3km s-min=4.9km az=33.0*
ISC 03 20:39:53.5±0.4, 31°.89N±0°.04×50°.22E±0°.03, h10km, n167, σ1°92/183, mb3.9/20, 8C-6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**0.51**	**48**	*ePg*		**Pg**	**20 40 01.9**	**-1.6**
ROKH	**ROKH**	**0.83**	**57**	*ePg*		Pg	20 40 07.6	-1.9
IBRJ	**Brojen**	**0.89**	**89**	*ePg*		**Pg**	**20 40 10.3**	**-0.4**
IBRJ	**Brojen**	**0.89**	**89**	Pg		**Pg**	**20 40 10.2**	**-0.4**
IPIR	**Pirpir**	**0.97**	**36**	*e*			20 40 25.5	
IPIR				*ePg*		Pg	20 40 09.6	-2.7
AHWZ	**Ahwaz**	**1.45**	**248**	*ePg*		**Pg**	**20 40 23.7**	**+2.3**
KLNJ	**Kolanjah**	**1.47**	**126**	*ePg*		**Pb**	**20 40 22.7**	**+1.6**
KLNJ				*e*			20 40 57.0	
IGAR	**Gharneh**	**1.63**	**71**	*ePg*		**Pn**	**20 40 22.8**	**+0.3**
IGAR				*e*			20 40 50.3	
IKLH	**Kolahrood**	**1.83**	**39**	*ePg*		**Pn**	**20 40 25.1**	**-0.1**
IKLH				*e*			20 40 58.3	
IRAM	**Ramesheh**	**1.84**	**92**	*ePn*		**Pn**	**20 40 27.6**	**+2.2**
KHMZ	**Khomeyn**	**1.85**	**353**	*ePg*		**Pn**	**20 40 27.7**	**+2.1**
KHMZ				*eSg*		**Sn**	**20 40 51.6**	**+2.4**
KHMZ	**Khomeyn**	**1.85**	**353**	*ePg*		**Pn**	**20 40 27.7**	**+2.1**
IZEF	**Zefreh**	**2.05**	**60**	*ePn*		**Pn**	**20 40 29.4**	**+1.1**
QAM	**Ghamsar**	**2.13**	**29**	*ePn*		**Pn**	**20 40 29.9**	**+0.6**
IKMR	**Kamar-syah**	**2.24**	**317**	*ePn*		**Pn**	**20 40 32.0**	**+1.4**
IKMR				*e*			20 41 14.3	
IDOB	**Doab**	**2.55**	**318**	*ePn*		**Pn**	**20 40 36.1**	**+0.9**
IKFM	**Kafar-mosalman**	**2.58**	**310**	*ePn*		**Pn**	**20 40 37.0**	**+1.8**
IKFM				*e*			20 41 16.4	
DHL1	**Dehloran**	**2.61**	**288**	*ePn*		**Pb**	**20 40 38.4**	**-1.9**
KRSH	**Karshahi**	**2.63**	**37**	*ePn*		**Pn**	**20 40 36.9**	**+0.8**
KRSH				*e*			20 41 25.4	
ASAO	**Ashtian**	**2.65**	**357**	*ePn*		**Pn**	**20 40 39.1**	**+2.6**
ASAO	**Ashtian**	**2.65**	**357**	*ePn*		**Pn**	**20 40 39.1**	**+2.6**
HSAM	**Samen**	**2.68**	**330**	*ePn*		**Pn**	**20 40 38.4**	**+1.4**
HSAM				*e*			20 40 40.9	
GHVR	**GHOM**	**2.73**	**19**	*ePn*		**Pn**	**20 40 40.1**	**+2.6**
GHVR	**GHOM**	**2.73**	**19**	*ePn*		**Pn**	**20 40 40.1**	**+2.6**
ISAD	**Sadrabad**	**2.95**	**89**	*ePn*		**Pn**	**20 40 44.0**	**+3.3**
ISAD				*e*			20 40 54.4	
SHI	**Shiraz**	**2.99**	**138**	*ePn*		**Pn**	**20 40 44.6**	**+3.5**
SHI				*e*			20 41 28.0	
HAGD	**Aghdareh**	**3.06**	**343**	*ePn*		**Pn**	**20 40 43.4**	**+1.3**
AHBU	**AHRAM**	**3.16**	**163**	*ePn*		**Pn**	**20 40 48.4**	**-1.3**
IKOM	**Komasi**	**3.22**	**316**	*ePn*		**Pn**	**20 40 45.7**	**+1.5**
IKOM				*e*			20 41 54.2	
ANAR	**Anarak**	**3.24**	**66**	*ePn*		**Pn**	**20 40 46.7**	**+2.2**
IBZA	**Bozab**	**3.24**	**323**	*ePn*		**Pn**	**20 40 45.3**	**+0.6**
IBZA	**Bozab**	**3.24**	**323**	Pn		**Pn**	**20 40 45.3**	**+0.6**
IALM	**Almabolaq**	**3.42**	**330**	*ePn*		**Pn**	**20 40 48.3**	**+1.2**
KCHF	**Cheshme Sefid,**	**3.57**	**313**	*ePn*		**Pn**	**20 40 49.9**	**+0.8**
ICHK	**Chekchek**	**3.58**	**83**	*ePn*		**Pn**	**20 40 51.7**	**+2.5**
KER	**Kermanshah**	**3.59**	**315**	*ePn*		**Pn**	**20 40 50.4**	**+1.1**
IHSB	**Hasanabad**	**3.65**	**14**	*ePn*		**Pn**	**20 40 51.3**	**+1.2**
HSRG	**Sareghieh**	**3.71**	**335**	*ePn*		**Pn**	**20 40 51.5**	**+0.3**
YZKH	**Yazd**	**3.74**	**81**	*ePn*		**Pn**	**20 40 54.9**	**+3.5**
YZKH	**Yazd**	**3.74**	**81**	*ePn*		**Pn**	**20 40 54.9**	**+3.5**
IMEH	**Mehriz**	**3.78**	**96**	*ePn*		**Pn**	**20 40 54.3**	**+2.2**
IVIS	**Veis**	**3.86**	**314**	*ePn*		**Pn**	**20 40 53.7**	**+0.7**
IGHG	**Ghaleghazi**	**3.91**	**309**	*ePn*		**Pn**	**20 40 54.6**	**+0.8**
IDMV	**Damavand**	**3.97**	**22**	*ePn*		**Pn**	**20 40 55.3**	**+0.5**
ILIN	**Lien**	**4.06**	**319**	*ePn*		**Pn**	**20 40 57.2**	**+1.2**
ILAS	**Lasjerd**	**4.17**	**33**	*ePn*		**Pn**	**20 40 58.7**	**+1.4**
IDHR	**Dehrash**	**4.26**	**312**	*ePn*		**Pn**	**20 40 58.6**	**0.0**
IFIR	**Firoozkooh**	**4.29**	**29**	*ePn*		**Pn**	**20 41 00.5**	**+1.3**
QALM	**Alamut, Qazvin**	**4.54**	**4**	*ePn*		**Pn**	**20 41 03.4**	**+0.9**
IBAF	**Bafgh**	**4.57**	**92**	*ePn*		**Pn**	**20 41 06.0**	**+3.1**
IBAF	**Bafgh**	**4.57**	**92**	Pn		**Pn**	**20 41 05.9**	**+3.1**
ISHM	**Shahmirzad**	**4.67**	**32**	*ePn*		**Pn**	**20 41 05.1**	**+0.8**
QYSM	**Um Kedad**	**4.96**	**217**	P		**Pn**	**20 41 11.6**	**+3.5**
KHGB	**Koh Gabri**	**5.58**	**104**	*ePn*		**Pn**	**20 41 18.7**	**+2.0**
TPRV	**Parvadeh(Tabas**	**5.58**	**77**	*ePn*		**Pn**	**20 41 18.8**	**+2.1**
TNSJ	**Nastanj**	**5.76**	**67**	*ePn*		**Pn**	**20 41 20.1**	**+1.0**
RQBS	**RQBS**	**5.86**	**220**	P		**Pn**	**20 41 23.0**	**+2.6**
SMAN	**Sihmah**	**6.00**	**199**	S		**Sn**	**20 42 33.9**	**+2.8**
SMAN				P		Pn	20 41 26.3	+4.0
NGRK	**Negar Kerman**	**6.04**	**110**	*ePn*		**Pn**	**20 41 26.8**	**+3.6**
TKDS	**Koohdasht(Taba**	**6.07**	**72**	*ePn*		**Pn**	**20 41 25.0**	**+1.7**
TABS	**Tabas**	**6.07**	**71**	*ePn*		**Pn**	**20 41 26.3**	**+2.9**
TABS	**Tabas**	**6.07**	**71**	*ePn*		**Pn**	**20 41 26.3**	**+2.9**
MAHB	**Mahabad**	**6.13**	**324**	*ePn*		**Pn**	**20 41 25.8**	**+1.6**
ISRB	**Sarab**	**6.28**	**341**	*ePn*		**Pn**	**20 41 26.9**	**+0.6**
BNDS	**Bandar-Abbas** comp=N,28nm,0.4s	**6.85**	**129**	IAML			20 43 11.2	
GENO	**Geno**	**6.85**	**129**	*ePn*		**Pn**	**20 41 36.3**	**+2.1**
NHRD	**Haradh**	**7.22**	**189**	P		Pn	20 41 43.6	+4.4
ITEG	**Tejag**	**7.29**	**80**	*ePn*		**Pn**	**20 41 42.3**	**+2.1**
IKOO	**Kooshah**	**7.47**	**84**	*ePn*		**Pn**	**20 41 44.8**	**+2.0**
SHME	**Shamm**	**7.80**	**137**	P		**Pn**	**20 41 46.8**	**-0.2**
BANOM	**Banah** SNR=24	**7.99**	**137**	*i* P		**Pn**	**20 41 49.9**	**+0.3**
BANOM	**Banah** SNR=33	**7.99**	**137**	P		**Pn**	**20 41 50.6**	**+0.9**
BANOM	SNR=9.4			S		**Sn**	**

JMDO S Sn 20 44 50.2 -3.5
WBK Wadi Bani Khal 12.08 138 P Pn 20 42 45.0 -0.8
SNR=12
MMAI Mount Meron Ar 12.56 279 Pn Pn 20 42 52.3 -0.1
comp=N,0.4nm,0.3s,baz=90,slow=16,SNR=6.6
MMAI LR LR 20 48 50.4
comp=N,80nm,18.7s,baz=70,slow=43
MHTO MHTO 12.88 146 P Pn 20 42 58.0 +1.3
SNR=24
MHTO S Sn 20 45 16.0 -4.3
SNR=21
EIL Elat 13.31 264 Pn Pn 20 43 04.2 +1.6
comp=N,0.2nm,0.3s,baz=27,slow=14,SNR=1.5
KVAR Kislovodsk Arr 13.42 336 Pn Pn 20 43 08.2 +4.2
baz=270,slow=20,SNR=1.7
DQM DQM 13.61 149 P Pn 20 43 06.5 -0.1
SNR=6.5
DQM S Sn 20 45 33.4 -4.5
SNR=8.3
WHFO Wadi Hawf 14.28 166 P Pn 20 43 16.2 +0.3
SNR=20
SHAO Shalim 14.65 159 *i* P Pn 20 43 19.7 -1.2
SNR=9.2
SHAO Shalim 14.65 159 P Pn 20 43 21.0 +0.1
SNR=13
ABTO Aybut 14.74 168 P Pn 20 43 22.6 +0.4
SNR=9.8
DMTO DMTO 14.75 162 P Pn 20 43 21.7 -0.5
SNR=16
RBK Rabkut 14.77 165 P Pn 20 43 23.0 +0.4
SNR=12
BR131 Keskin Array S 15.54 305 P P 20 43 37.2 0.0
BRTR Keskin Array B 15.54 305 Pn P 20 43 37.1 -0.1
comp=N,0.2nm,0.3s,baz=133,slow=12,SNR=13
KBL Kabul 15.98 75 Pn 20 43 40.8 +2.2
ISP Isparta 17.20 296 P 20 43 56.9 +1.3
ISP IAmb IAmb 20 44 02.5
comp=Z,8.6nm,0.9s
ELL Elmali 17.45 292 P 20 43 58.6 +0.2
ELL IAmb IAmb 20 44 07.4
comp=Z,110nm,1.7s
MDUB Mudurnu 17.55 304 P Pn 20 43 57.3 -1.1
AKAS Kas 17.61 290 Pn Pn 20 43 58.6 -0.5
AKAS IAmb IAmb 20 44 40.5
comp=Z,15nm,1.2s
ABKAR Akbulak array 18.82 20 P P 20 44 13.7 +0.5
ABKAR Akbulak array 18.82 20 P P 20 44 13.4 +0.2
ABKAR IAmb IAmb 20 44 54.8
comp=Z,7.0nm,1.6s
AKTO Aktyubinsk 19.41 15 P P 20 44 19.0 -0.7
comp=Z,0.1nm,0.3s,baz=204,slow=18,SNR=2.5
NIL Nilore 19.45 79 P P 20 44 22.4 +2.1
NIL IAmb IAmb 20 44 59.4
comp=Z,20nm,1.8s
KARP Karpathos 19.51 287 P P 20 44 19.1 -1.9
KARP IAmb IAmb 20 45 15.4
comp=Z,51nm,1.1s
SOCY Socotra 19.92 169 P P 20 44 20.4 -5.1
SOCY IAmb IAmb 20 44 26.5
comp=Z,14nm,1.2s
IDI Anoyia 21.35 286 P P 20 44 42.4 +1.5
comp=Z,4.4nm,0.4s,baz=60,slow=9.5,SNR=8.4
IDI Anoyia 21.35 286 IAmb IAmb 20 45 18.6
comp=Z,33nm,1.2s
ALN Alexandroupoli 21.38 302 P P 20 44 42.1 +1.0
ALN IAmb IAmb 20 45 38.5
comp=Z,36nm,1.4s
CFR Carcaliu 21.69 314 ⇓P P 20 44 43.4 -1.0
MILM Milestii Mici 22.23 319 ⇓P P 20 44 48.2 -2.0
VRI Vrincioaia 22.89 314 ⇓P P 20 44 55.9 -1.4
PLOR Plostina 22.93 314 ⇓P P 20 44 56.7 -1.0
NEHR Nehoiu 22.95 313 ⇑P P 20 44 57.8 -0.1
BOOM Boomskoye usch 22.98 55 P P 20 44 60.0 +1.6
BOOM IAmb IAmb 20 45 49.4
comp=Z,11nm,1.2s
SORM Soroca 23.19 321 ⇑P P 20 44 57.7 -2.6
MLR Muntele Rosu 23.20 313 P P 20 44 59.0 -1.5
comp=Z,2.7nm,0.7s,baz=117,slow=9.0,SNR=2.3
MLR Muntele Rosu 23.20 313 ⇓P P 20 44 59.5 -1.0
VOIR 23.73 312 ⇑P P 20 45 06.5 +0.7
DOPR Dopca 23.76 313 ⇑P P 20 45 06.2 +0.2
ARR Arges 23.97 311 ⇓P P 20 45 07.3 -0.8
AKASG Malin Array Be 24.39 327 P P 20 45 10.7 -1.1
comp=Z,0.6nm,0.4s,baz=136,slow=8.8,SNR=5.1
BURAR Bucovina Array 24.67 317 ⇑P P 20 45 15.0 +0.5
BURAR Bucovina Array 24.67 317 P P 20 45 14.6 +0.1
BUR08 Bucovina Ar. S 24.69 317 P P 20 45 13.9 -0.8
BUR08 IAmb IAmb 20 46 13.6
comp=Z,9.6nm,1.4s
GZR Gura Zlata 25.18 310 ⇑P P 20 45 19.8 +0.7
ARU Arti 25.21 11 P P 20 45 19.2 +0.1
comp=Z,0.6nm,0.6s,baz=338,slow=19,SNR=1.9
ARU Arti 25.21 11 IAmb IAmb 20 46 15.3
comp=Z,12nm,1.5s
HERR Herculane 25.22 309 ⇑P P 20 45 20.3 +0.9
BVAR Borovoye Array 25.67 29 P P 20 45 24.5 +1.1
comp=Z,0.4nm,0.4s,baz=242,slow=8.0,SNR=1.9
BZS Buzias 26.01 310 ⇑P P 20 45 27.0 +0.4
MK31 Makanchi Array 28.69 49 P P 20 45 52.4 +1.8
MKAR Makanchi Array 28.69 49 P P 20 45 52.7 +2.1
comp=Z,0.4nm,0.6s,baz=251,slow=7.3,SNR=1.8
GERES GERESS Array B 32.19 312 P P 20 46 21.4 -0.2
comp=Z,0.2nm,0.5s,baz=120,slow=13,SNR=1.7
ZALV Zalesovo Beam 33.08 38 P P 20 46 31.5 +2.3
comp=Z,0.5nm,0.3s,baz=262,slow=10.0,SNR=4.2
FINES FINESS Array B 33.48 339 P P 20 46 31.8 -0.8
comp=Z,0.5nm,0.3s,baz=146,slow=9.9,SNR=9.3
NOA NORSAR Array B 38.65 331 P P 20 47 14.7 -2.1
comp=Z,1.4nm,1.1s,baz=67,slow=9.2,SNR=4.1
ARCES ARCESS Array B 40.19 347 P P 20 47 29.4 -0.2
comp=Z,1.5nm,0.8s,baz=149,slow=5.0,SNR=5.2
ESDC Sonseca Array 44.07 296 P P 20 48 01.6 -0.1
comp=Z,0.2nm,0.5s,baz=76,slow=8.0,SNR=2.7
SONM Songino Array 44.97 52 P P 20 48 10.0 +1.2
comp=Z,0.3nm,0.4s,baz=276,slow=9.5,SNR=2.6
TORD Torodi Ar. Bea 48.11 259 P P 20 48 34.9 +1.0
comp=Z,0.5nm,0.5s,baz=54,slow=7.5,SNR=7.0
SPITS Spitsbergen Ar 48.69 351 P P 20 48 36.7 -0.7
comp=Z,1.1nm,0.4s,baz=151,slow=18,SNR=4.0
USRK Ussuriysk Ar. 63.07 53 P P 20 50 19.9 -1.1
comp=Z,0.2nm,0.2s,baz=136,slow=36,SNR=1.5
UGM Wanagama 69.79 114 P P 20 51 02.7 -1.7
WRA Warramunga Arr 95.53 110 P P 20 53 19.1 -0.1
comp=Z,0.2nm,0.7s,baz=272,slow=5.5,SNR=1.4

*BGS **03** 20:49:06.9±0.6, 49°.04N×2°.30W, h8km±37km, ML2.0*
*STR **03** 20:49:06.7±0.4, 49°.N±2°×√2, h6km±4km, MLv2.6/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*LDG **03** 20:49:08.0±0.1, 48°.95N×2°.37W, h2km, Md2.8/1, Ml2.8/21, Error ellipse: s-maj=1.4km s-min=0.8km az=158.0*
ISC 03 20:49:04.5±0.8, **48°.96N**±0°.02×**2°.42W**±0°.02, **h7**km±8km, **n59,** σ1§**58**/102, **2C, France**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JSA	**Saint Aubin**	**0.28**	**36**	⇑*iP*	**Pg**		**20 49 10.9**	**+1.0**
JSA				*eS*	**Sg**		**20 49 13.2**	**-0.4**
JSA				IAML			20 49 14.0	
	comp=N,255nm,0.3s							
JSA				IAML			20 49 14.0	
	comp=E,313nm,0.2s							
JSA	**Saint Aubin**	**0.28**	**36**	⇑*iP*	**Pg**		**20 49 10.9**	**+1.0**
JSA				*eS*	**Sg**		**20 49 13.2**	**-0.4**
JSA				IAML			20 49 14.0	
	comp=N,255nm,0.3s							
JSA				IAML			20 49 14.0	
	comp=E,313nm,0.2s							
JSA	**Saint Aubin**	**0.28**	**36**	Pg	**Pg**		**20 49 10.9**	**+1.0**
JSA				Sg	**Sg**		**20 49 13.6**	**0.0**
SGMF	**Saint Gilles**	**0.72**	**188**	*eP*g	**Pn**		**20 49 21.4**	**+0.3**
SGMF				*eS*g	**Sb**		**20 49 30.6**	**+1.2**
	comp=E,42nm,0.2s							
ROSF	**Rostrenen**	**0.85**	**222**	*eP*	**Pn**		**20 49 24.4**	**+1.5**
ROSF				*eS*	**Sn**		**20 49 36.7**	**+1.2**
ROSF	**Rostrenen**	**0.85**	**222**	*eP*g	**Pn**		**20 49 24.1**	**+1.2**
ROSF	**Rostrenen**	**0.85**	**222**	*eP*n	**Pn**		**20 49 25.5**	**+2.6**
ROSF				*eS*g	**Sn**		**20 49 35.4**	**-0.2**
	comp=E,60nm,0.4s							
ROSF	**Rostrenen**	**0.85**	**222**	*eP*	**Pn**		**20 49 24.4**	**+1.5**
ROSF				*eS*	**Sn**		**20 49 36.7**	**+1.2**
ROSF	**Rostrenen**	**0.85**	**222**	Pg	**Pn**		**20 49 24.3**	**+1.4**
ROSF				Sg	**Sn**		**20 49 37.2**	**+1.6**
RENF	**Rennes**	**0.99**	**148**	*eP*	**Pn**		**20 49 27.6**	**+2.8**
RENF				*eS*	**Sn**		**20 49 41.5**	**+2.4**
RENF	**Rennes**	**0.99**	**148**	*eP*n	**Pn**		**20 49 27.6**	**+2.8**
RENF				*eS*	**Sn**		**20 49 41.5**	**+2.4**
RENF	**Rennes**	**0.99**	**148**	Pg	**Pn**		**20 49 27.8**	**+3.0**
RENF				Sg	**Sn**		**20 49 42.0**	**+2.9**
QUIF	**Quistinic**	**1.16**	**206**	*eP*n	**Pn**		**20 49 29.5**	**+2.3**
QUIF				*eS*g	**Sn**		**20 49 44.8**	**+1.5**
	comp=E,62nm,0.4s							
GRR	**Gorron**	**1.18**	**119**	*eP*g	**Pn**		**20 49 29.5**	**+2.0**
GRR				*eS*g	**Sn**		**20 49 44.3**	**+0.5**
	comp=E,64nm,0.3s							
FLN	**La Foliniere**	**1.29**	**98**	*eP*n	**Pn**		**20 49 30.8**	**+1.8**
FLN	**La Foliniere**	**1.29**	**98**	*eP*g	**Pn**		**20 49 31.6**	**+2.6**
	baz=281							
FLN				*eS*g	**Sn**		**20 49 47.8**	**+1.2**
	comp=E,45nm,0.3s,baz=283							
LDF	**La Druitiere**	**1.56**	**103**	*eP*n	**Pb**		**20 49 34.6**	**+0.9**
LDF	**La Druitiere**	**1.56**	**103**	*eP*g	**Pg**		**20 49 36.1**	**+1.7**
LDF				*eS*g	**Sg**		**20 49 56.2**	**+1.5**
	comp=E,20nm,0.3s							
DYA	**Yadsworthy**	**1.77**	**327**	*eP*	**Pn**		**20 49 37.0**	**+1.5**
DYA				*eS*	**Sn**		**20 49 58.7**	**+0.3**
DYA				IAML			20 50 01.6	
	comp=E,27nm,0.3s							
DYA				IAML			20 50 02.0	
	comp=N,23nm,0.2s							
DYA	**Yadsworthy**	**1.77**	**327**	*eP*	**Pn**		**20 49 37.0**	**+1.5**
DYA				*eS*	**Sn**		**20 49 58.7**	**+0.3**
DYA				IAML			20 50 01.6	
	comp=E,27nm,0.3s							
DYA				IAML			20 50 02.0	
	comp=N,23nm,0.2s							
DYA	**Yadsworthy**	**1.77**	**327**	Pn	**Pn**		**20 49 35.2**	**-0.4**
DYA				Pg	**Pb**		**20 49 37.4**	**0.0**
DYA				Sn	**Sn**		**20 49 58.7**	**+0.3**
CCA1	**Carnmenellis**	**2.20**	**305**	*eP*	**Pn**		**20 49 42.4**	**+0.9**
CCA1	**Carnmenellis**	**2.20**	**305**	*eP*	**Pn**		**20 49 42.4**	**+0.9**
CCA1	**Carnmenellis**	**2.20**	**305**	Pn	**Pn**		**20 49 40.8**	**-0.7**
HTL	**Hartland**	**2.43**	**327**	Pn	**Pn**		**20 49 43.6**	**-1.0**
MFF	**Saint Martin d**	**2.82**	**146**	*eP*n	**Pn**		**20 49 52.7**	**+2.7**
MFF	**Saint Martin d**	**2.82**	**146**	*eP*g	**Pg**		**20 49 59.4**	**+1.0**
MFF				*eS*n	**Sn**		**20 50 23.8**	**-0.3**
MFF				*eS*g	**Sg**		**20 50 35.4**	**+0.5**
	comp=N,5.6nm,0.3s							
MFF	**Saint Martin d**	**2.82**	**146**	Pn	**Pn**		**20 49 52.6**	**+2.7**
CHIF	**Chize**	**3.14**	**154**	Pn	**Pn**		**20 49 56.8**	**+2.4**
HYF	**Humbligny**	**3.79**	**115**	*eP*	**Pb**		**20 50 09.1**	**-2.6**
HYF				*eS*n	**Sn**		**20 50 46.7**	**-1.4**
HYF				*eS*g	**Sg**		**20 51 06.3**	**+0.2**
TCF	**Toulx Ste Croi**	**4.12**	**129**	*eP*n	**Pn**		**20 50 09.6**	**+1.7**
TCF	**Toulx Ste Croi**	**4.12**	**129**	*eP*g	**Pg**		**20 50 23.7**	**+0.3**
TCF				*eS*n	**Sn**		**20 50 55.0**	**-1.3**
TCF				*eS*g	**Sg**		**20 51 16.0**	**-0.7**
	comp=N,2.0nm,0.3s							
BGF	**Bois d'Agland**	**4.29**	**122**	*eP*n	**Pn**		**20 50 11.7**	**+1.5**
BGF				*eS*n	**Sn**		**20 50 59.2**	**-1.3**
BGF				*eS*g	**Sg**		**20 51 21.1**	**-1.1**
	comp=N,16nm,0.5s							
SSF	**Saint Saulge**	**4.41**	**113**	*eP*n	**Pn**		**20 50 13.7**	**+1.9**
SSF	**Saint Saulge**	**4.41**	**113**	*eP*g	**Pg**		**20 50 29.4**	**+0.5**
SSF				*eS*n	**Sn**		**20 51 01.6**	**-1.8**
SSF				*eS*g	**Sg**		**20 51 25.2**	**-0.8**
	comp=N,3.5nm,0.3s							
AVF	**Avril sur Loir**	**4.45**	**117**	*eP*n	**Pn**		**20 50 13.7**	**+1.3**
AVF	**Avril sur Loir**	**4.45**	**117**	*eP*	Pn		20 50 17.8	+5.4
AVF	**Avril sur Loir**	**4.45**	**117**	*eP*g	**Pg**		**20 50 29.7**	**0.0**
AVF				*eS*n	**Sn**		**20 51 02.9**	**-1.5**
AVF				*eS*g	**Sg**		**20 51 26.2**	**-1.1**
	comp=N,1.1nm,0.3s							
BAIF	**Baives**	**4.45**	**73**	*eP*n	**Pn**		**20 50 14.1**	**+1.7**
BAIF	**Baives**	**4.45**	**73**	*eP*g	**Pg**		**20 50 29.7**	**-0.1**
BAIF				*eS*n	**Sn**		**20 51 03.0**	**-1.5**
BAIF				*eS*g	**Sg**		**20 51 27.5**	**+0.1**
	comp=N,1.2nm,0.3s							
LOR	**Lormes**	**4.53**	**110**	*eP*n	**Pn**		**20 50 14.8**	**+1.2**
LOR	**Lormes**	**4.53**	**110**	*eP*g	**Pg**		**20 50 31.0**	**-0.3**
	baz=289							
LOR				*eS*n	**Sn**		**20 51 05.3**	**-1.2**
	baz=289							
LOR				*eS*g	**Sg**		**20 51 29.2**	**-0.8**
	comp=N,3.0nm,0.3s							
RJF	**Les Rejaudoux**	**4.54**	**142**	*eP*n	**Pn**		**20 50 15.4**	**+1.8**
RJF	**Les Rejaudoux**	**4.54**	**142**	*eP*	Pn		20 50 18.5	+4.9
RJF	**Les Rejaudoux**	**4.54**	**142**	*eP*g	**Pg**		**20 50 31.3**	**-0.1**
RJF				*eS*n	**Sn**		**20 51 04.7**	**-1.9**
RJF				*eS*g	**Sg**		**20 51 29.1**	**-1.1**
	comp=N,5.1nm,0.3s							
LFF	**La Frestale**	**4.57**	**151**	*eP*n	**Pn**		**20 50 15.8**	**+1.8**
LFF				*eS*n	**Sn**		**20 51 05.8**	**-1.6**
LFF				*eS*g	**Sg**		**20 51 30.0**	**-1.2**
	comp=N,7.5nm,0.4s							
SMF	**Signal de Mont**	**4.81**	**116**	*eP*n	**Pn**		**20 50 18.9**	**+1.5**
SMF	**Signal de Mont**	**4.81**	**116**	*eP*g	**Pg**		**20 50 36.6**	**-0.1**
SMF				*eS*n	**Sn**		**20 51 11.9**	**-1.5**
SMF				*eS*g	**Sg**		**20 51 37.8**	**-1.2**
	comp=N,1.8nm,0.3s							
MEZF	**Maizieres J'vi**	**4.96**	**93**	*eP*n	**Pn**		**20 50 20.7**	**+1.3**
CAF	**Calviac**	**5.07**	**141**	*eP*n	**Pn**		**20 50 22.9**	**+1.9**
CAF	**Calviac**	**5.07**	**141**	*eP*g	**Pg**		**20 50 41.3**	**-0.3**
CAF				*eS*n	**Sn**		**20 51 17.6**	**-2.2**
CAF				*eS*g	**Sg**		**20 51 45.9**	**-1.4**
	comp=N,2.6nm,0.4s							
SJPF	**Ste Jean**	**5.91**	**171**	*eP*n	**Pn**		**20 50 33.7**	**+1.2**
SJPF				*eS*n	**Sn**		**20 51 37.4**	**-3.1**
	comp=N,1.0nm,0.4s							
CABF	**La Chapelle**	**6.20**	**109**	*eP*n	**Pn**		**20 50 37.7**	**+1.2**
ETSF	**Etsaut**	**6.20**	**167**	*eP*n	**Pn**		**20 50 37.4**	**+0.8**
ETSF	**Etsaut**	**6.20**	**167**	*eP*g	**Pg**		**20 51 02.8**	**-0.5**
EPF	**Esparros**	**6.24**	**161**	*eP*n	**Pn**		**20 50 38.3**	**+1.3**
EPF	**Esparros**	**6.24**	**161**	*eP*	Pn		20 50 42.5	+5.5
EPF				*eS*n	**Sn**		**20 51 45.8**	**-2.7**
	comp=N,0.9nm,0.3s							
CDF	**Champ du Feu**	**6.44**	**91**	*eP*n	**Pn**		**20 50 42.4**	**+2.6**
MTLF	**Montolieu**	**6.48**	**149**	*eP*n	**Pn**		**20 50 41.6**	**+1.3**
MTLF				*eS*n	**Sn**		**20 51 50.9**	**-3.5**
	comp=N,0.5nm,0.2s							

*BJI **03** 21:00:49.6±0.0, 10°.22S×161°.87E, h79km, mB5.1/18, mb4.6/24*
*IDC **03** 21:00:51.4±0.5, 10°.30S×161°.58E, h66km±4km, mb4.1/20, mb1 4.2/20, mb1mx4.1/37, mbtmp4.4/20, MS3.5/5, Ms1 3.5/5, ms1mx3.0/29, Error ellipse: s-maj=12.5km s-min=8.9km az=38.0*
*NEIC **03** 21:00:53.2±1.8, 10°.26S±0°.09×161°.51E±0°.09, h83km±7km, mb4.8/35, Error ellipse: s-maj=15.5km s-min=9.7km az=219.0*
ISC 03 21:00:52.9±0.4, **10°.23S**±0°.06×**161°.52E**±0°.07, **h85**km, **n84,** σ1§**80**/**88**, **mb4.7**/44, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**1.74**	**297**	*P*	**Pn**		**21 01 21.2**	**-0.4**
	140nm,0.3s,baz=155,slow=1.7,SNR=70							
HNR				*S*	**Sn**		**21 01 43.5**	**+0.2**
	190nm,0.3s,baz=93,slow=18,SNR=5.9							
HNR				LR	LR		21 02 14.5	
	comp=Z,473nm,21.6s,baz=104,slow=46							
HNR	**Honiara**	**1.74**	**297**	Pn	**Pn**		**21 01 21.2**	**-0.4**
HNR				Sn	**Sn**		**21 01 43.1**	**-0.2**
SANVU	**Saraoutou**	**7.59**	**134**		**Pn**		**21 02 39.7**	**-1.2**
DZM	**Mont Dzumac**	**12.69**	**159**	P	**Pn**		**21 03 51.6**	**+1.3**
	0.9nm,0.3s,baz=117,slow=24,SNR=12							
DZM				LR	LR		21 07 26.5	
	comp=Z,127nm,20.1s,baz=26,slow=31							
DZM	**Mont Dzumac**	**12.69**	**159**	Pn	**Pn**		**21 03 50.8**	**+0.6**
PMG	**Port Moresby**	**14.17**	**272**	LR	LR		21 09 14.2	
	comp=Z,207nm,20.9s,baz=88,slow=35							
PATS	**Pohnpei**	**17.25**	**349**		**P**		**21 04 48.9**	**0.0**
PATS				IAmb	IAmb		21 05 22.8	
	comp=Z,164nm,1.4s							
CTA	**Charters Tower**	**17.68**	**235**	P	**Pn**		**21 04 56.7**	**+3.0**
	comp=Z,0.8nm,0.3s,baz=60,slow=12,SNR=18							
CTAO	**Charters Tower**	**17.68**	**235**	P	**P**		**21 04 54.8**	**+1.4**
JAY	**Jayapura**	**22.04**	**289**	P	**P**		**21 05 42.0**	**+1.1**
	comp=Z,3.5nm,0.6s,baz=93,slow=7.7,SNR=4.1							
JAY	**Jayapura**	**22.04**	**289**	P	**P**		**21 05 37.9**	**-3.0**
	comp=Z,8.0nm,1.6s							
GENI	**Genyem**	**22.52**	**288**	P	**P**		**21 05 40.6**	**-5.3**
SRPI	**Serui, Papua**	**26.45**	**287**	P	P		21 06 16.1	-6.1
BAKI	**Biak**	**26.80**	**288**	P	P		21 06 19.2	-6.2
	comp=Z,27nm,0.7s							

WR0 Warramunga Arr 27.74 246 P **P** **21 06 34.0 +0.3**
WB0 Warramunga Arr 27.82 247 P **P** **21 06 35.0 +0.5**
WB0 IAmb IAmb 21 06 35.7
comp=Z,19nm,0.7s
WRAB Tennant Creek 27.91 247 P **P** **21 06 35.4 +0.2**
WRAB IAmb IAmb 21 06 36.4
comp=Z,14nm,0.8s
WB2 Warramunga Arr 27.91 247 P **P** **21 06 35.6 +0.3**
WB2 IAmb IAmb 21 06 36.5
comp=Z,14nm,0.9s
WRA Warramunga Arr 27.92 247 P **P** **21 06 35.6 +0.3**
comp=Z,11nm,0.7s,baz=77,slow=9.0,SNR=100
WRA pP **pP** **21 06 52.9 -0.8**
comp=Z,3.3nm,0.6s,baz=76,slow=9.2,SNR=5.3
WRA Warramunga Arr 27.92 247 P **P** **21 06 34.6 -0.7**
STKA Stephens Creek 28.35 218 P **P** **21 06 40.2 +1.2**
comp=Z,2.0nm,0.7s,baz=52,slow=14,SNR=5.9
STKA LR LR 21 16 34.9
comp=Z,116nm,19.7s,baz=27,slow=33
GUMO Guam 28.86 325 LR LR 21 16 54.7
comp=Z,57nm,21.1s,baz=240,slow=33
ASAR Alice Springs 29.52 240 P **P** **21 06 49.0 -0.5**
comp=Z,2.4nm,0.8s,baz=62,slow=9.9,SNR=35
ASAR LR LR 21 17 11.2
comp=Z,174nm,19.9s,baz=84,slow=33
ASAR Alice Springs 29.52 240 P **P** **21 06 47.6 -1.9**
SAUI Saumlaki 29.91 272 P **P** **21 06 51.2 -1.9**
comp=Z,238nm,1.1s
URZ Urewera 31.22 156 P **P** **21 07 05.5 +1.2**
comp=Z,12nm,0.8s,baz=28,slow=18,SNR=2.3
URZ Urewera 31.22 156 IAmb IAmb 21 07 18.8
comp=Z,66nm,1.3s
KNRA Kununurra 32.35 257 P **P** **21 07 13.8 -0.7**
KNRA IAmb IAmb 21 07 15.9
comp=Z,26nm,0.7s
BBOO Buckleboo 32.48 222 P **P** **21 07 15.5 0.0**
BBOO IAmb IAmb 21 08 05.5
comp=Z,23nm,1.4s
TUWZ Tuamarina 32.95 163 P **P** **21 07 19.7 +0.3**
MSAI Masohi 33.05 280 P P 21 07 14.9 -5.8
comp=Z,15nm,1.0s
NLAI Namlea 34.85 279 P P 21 07 32.2 -4.1
comp=Z,20nm,0.9s
FITZ Fitzroy Crossi 35.60 253 P **P** **21 07 42.8 +0.2**
FITZ IAmb IAmb 21 07 43.4
comp=Z,9.7nm,0.8s
TNTI Ternate 35.69 286 P P 21 07 36.8 -6.7
comp=Z,30nm,1.2s
SANI Sanana 36.21 281 P P 21 07 43.5 -4.4
comp=Z,17nm,1.0s
MORW Morawa 46.41 240 P **P** **21 09 11.0 -0.2**
MORW IAmb IAmb 21 09 12.7
comp=Z,12nm,1.0s
JMN Monobe 51.01 330 P **P** **21 09 47.7 +1.3**
MJAR Matsushiro Arr 51.44 336 P **P** **21 09 49.0 -0.5**
comp=Z,2.7nm,0.6s,baz=169,slow=8.8,SNR=7.7
MJAR pP **pP** **21 10 08.3 -1.7**
comp=Z,1.1nm,0.6s,baz=112,slow=13,SNR=2.1
MJAR Matsushiro Arr 51.44 336 P **P** **21 09 47.6 -1.9**
MAT Matsushiro 51.44 336 P **P** **21 09 49.7 -0.4**
YHNB Yeheng 52.31 312 P **P** **21 09 56.7 +0.4**
LEM Lembag 53.36 269 P **P** **21 10 04.1 -0.3**
comp=Z,15nm,0.6s,baz=294,slow=20,SNR=2.1
JTM Tenmabayashi 54.16 341 P **P** **21 10 09.5 0.0**
HKPS Hong Kong Po S 56.57 305 P **P** **21 10 27.1 -0.1**
JKA Kamikawa-asahi 56.75 344 P **P** **21 10 29.5 +1.5**
ASAJ Asahikawa 56.76 344 P **P** **21 10 29.6 +1.6**
comp=Z,12nm,0.6s,baz=204,slow=6.1,SNR=9.6
ASAJ pP **pP** **21 10 47.4 -1.3**
comp=Z,9.6nm,0.8s,baz=289,slow=10,SNR=2.8
KSRS Korea Array 56.93 328 P **P** **21 10 30.6 +1.2**
comp=Z,3.8nm,1.0s,baz=139,slow=7.8,SNR=5.1
NJ2 Nanjing 58.57 318 *eP* **P** **21 10 43.3 +2.3**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
USRK Ussuriysk Ar. 60.44 336 P **P** **21 10 55.0 +1.4**
comp=Z,12nm,0.9s,baz=130,slow=5.4,SNR=18
USRK pP **pP** **21 11 12.8 -1.7**
comp=Z,4.3nm,0.7s,baz=194,slow=6.2,SNR=5.6
USRK Ussuriysk Ar. 60.44 336 P **P** **21 10 54.7 +1.1**
USA0B Ussuriysk Arra 60.44 336 P **P** **21 10 54.3 +0.7**
USA0B IAmb IAmb 21 10 55.9
comp=Z,8.4nm,0.8s
PETK Petropavlovsk- 63.17 357 P **P** **21 11 12.1 +0.3**
comp=Z,2.6nm,0.8s,baz=229,slow=13,SNR=3.7
CASY Casey 65.66 200 P **P** **21 11 27.8 0.0**
PTCN Pitcairn Islan 66.23 113 P **P** **21 11 30.6 -1.7**
XAN Xi'an 66.54 314 P **P** **21 11 34.6 +0.5**
XAN IAmb IAmb 21 11 35.4
comp=Z,5.9nm,0.6s
VNDA Vanda 67.27 180 P **P** **21 11 38.9 +1.0**
comp=Z,1.1nm,0.7s,baz=342,slow=5.7,SNR=9.6
VNDA pP **pP** **21 11 55.1 -4.6**
comp=Z,1.5nm,0.8s,baz=336,slow=7.3,SNR=6.4
VNDA Vanda 67.27 180 P **P** **21 11 39.0 +1.0**
CMAR Chiang Mai Arr 67.99 295 P **P** **21 11 44.1 +0.6**
comp=Z,0.6nm,0.6s,baz=132,slow=4.7,SNR=5.8
HHC Hu-ho-hao-te 68.56 321 *eP* **P** **21 11 46.5 -0.3**
HHC PP PP 21 14 27.7 +8.3
HHC ScS **SKiKP** **21 21 39.6 +7.5**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.6s
LZH Lanzhou 71.16 314 *eP* **P** **21 12 03.8 +0.9**
LZH pP pwP 21 12 27.3 +0.4
LZH sP sP 21 12 35.3 +1.9
LZH pmax pmax
comp=Z,12nm,1.0s
SDPT Sand Point 72.66 22 P **P** **21 12 11.9 +0.8**
ULN Ulaanbaatar 75.24 325 P **P** **21 12 28.1 +1.4**
GTA Gaotai 75.53 315 *eP* **P** **21 12 29.5 +1.0**
GTA pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 75.59 325 P **P** **21 12 29.8 +1.1**
comp=Z,4.8nm,0.6s,baz=142,slow=5.9,SNR=34
SONM pP **pP** **21 12 47.5 -2.8**
comp=Z,2.0nm,0.8s,baz=137,slow=5.9,SNR=4.1
SONM Songino Array 75.59 325 P **P** **21 12 29.7 +1.1**
YAK Yakutsk 76.20 345 P **P** **21 12 31.8 +0.2**
YAK IAmb IAmb 21 12 33.1
comp=Z,16nm,0.7s
QSPA South Pole Qui 79.77 180 P **P** **21 12 51.5 -0.1**
QSPA IAmb IAmb 21 12 53.2
comp=Z,7.2nm,0.8s
SUA Susitna One 80.62 21 P **P** **21 12 56.4 +0.3**
IMAR Indian Mountai 82.81 17 P **P** **21 13 08.9 +1.5**
MAW Mawson 83.90 202 P **P** **21 13 14.3 +1.3**
comp=Z,1.1nm,0.7s,baz=97,slow=10,SNR=4.0
MAW pP **pP** **21 13 30.6 -4.9**
comp=Z,7.0nm,0.9s,baz=84,slow=5.2,SNR=10
ILAR Eielson Array 84.11 20 P **P** **21 13 14.7 +0.6**
comp=Z,3.1nm,1.0s,baz=259,slow=4.5,SNR=12
ILAR pP **pP** **21 13 32.6 -3.6**
comp=Z,1.9nm,0.8s,baz=258,slow=4.5,SNR=5.6
ILAR Eielson Array 84.11 20 P **P** **21 13 13.6 -0.5**
DOT Dot Lake 84.40 21 P **P** **21 13 16.9 +1.2**
DOT IAmb IAmb 21 13 18.6
comp=Z,8.4nm,0.9s
WMQ Urumqi 85.60 316 *eP* **P** **21 13 24.2 +2.1**
EGAK Eagle 86.09 21 P **P** **21 13 26.4 +2.4**
EGAK IAmb IAmb 21 13 27.1
comp=Z,8.

*BJI **03** 21:22:17.8±0.0,5˚.14S×152˚.36E, h54km, mB5.2/19, mb4.8/31, Ms4.9/5, Ms7 4.6/5*
*NEIC **03** 21:22:19.6±1.6,5˚.44S±0˚.05×152˚.02E±0˚.08, h56km±5km, mb4.7/82, Error ellipse: s-maj=11.7km s-min=7.0km az=93.0*
*IDC **03** 21:22:20.3±1.3,5˚.56S×152˚.00E, h58km±10km, mb4.2/21, mb1 4.3/23, mb1mx4.2/34, mbtmp4.5/23, MS4.1/2, Ms1 4.1/2, ms1mx3.4/31, Error ellipse: s-maj=17.6km s-min=8.3km az=113.0*
*DJA **03** 21:22:21.6±0.6,6˚S±4˚×15˚2E±˚, h59km±6km, M5.0/17, mb4.7/17, mB4.8/2, MLv5.1/2, Mw(mB)4.0/2*

ISC 03 21:22:18.7±0.4,5˚.54S±0˚.05×152˚.05E±0˚.08, h45km, n141, s1♀23/137, mb4.7/62, MS4.2/3, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.23**	**359**	P	**Pn**		**Pn**	**21 22 39.7**	**+0.2**
	2µm,0.3s,baz=76,slow=0.2,SNR=458								
KRVT				S	**Sn**		**Sn**	**21 22 57.9**	**+3.0**
	1µm,0.3s,baz=307,slow=20,SNR=6.7								
RABL	**Rabaul**	**1.34**	**5**	Pn	**Pn**		**Pn**	**21 22 41.1**	**0.0**
PMG	**Port Moresby**	**6.19**	**231**	P	**Pn**		**Pn**	**21 23 49.3**	**+1.7**
	6.4nm,0.3s,baz=41,slow=9.4,SNR=18								
PMG				S	**Sn**		**Sn**	**21 24 58.0**	**+0.9**
	20nm,0.3s,baz=299,slow=22,SNR=7.5								
PMG	**Port Moresby**	**6.19**	**231**	Pn	**Pn**		**Pn**	**21 23 49.5**	**+1.9**
COEN	**Coen**	**12.10**	**226**	Pn	**Pn**		**Pn**	**21 25 08.1**	**-0.5**
PATS	**Pohnpei**	**13.79**	**27**	Pn	**Pn**		**Pn**	**21 25 32.9**	**+1.2**
CTA	**Charters Tower**	**15.52**	**201**	P	**Pn**		**Pn**	**21 25 55.9**	**+1.2**
	0.2nm,0.3s,baz=54,slow=17,SNR=4.1								
CTAO	**Charters Tower**	**15.52**	**201**	Pn	**P**		**P**	**21 25 57.5**	**-0.9**
BAKI	**Biak**	**16.49**	**285**	P	Pn		Pn	21 25 54.0	-13
EIDS	**Eidsvold**	**19.74**	**183**	P	**Pn**		**Pn**	**21 26 46.2**	**-0.3**
EIDS				IAmb	IAmb		IAmb	21 26 49.6	
	comp=Z,28nm,0.9s								
SIJI	**Sorong**	**21.26**	**282**	P	**P**		**P**	**21 27 00.6**	**-0.8**
	comp=Z,13nm,1.0s,baz=119,slow=19,SNR=2.3								
DZM	**Mont Dzumac**	**21.54**	**141**	P	**P**		**P**	**21 27 05.4**	**+1.0**
	comp=Z,7.0nm,1.0s,baz=315,slow=19,SNR=1.9								
MTN	**Manton Dam**	**21.88**	**249**				**P**	**21 27 08.8**	**+0.8**
MTN				IAmb	IAmb		IAmb	21 27 17.6	
	comp=Z,27nm,0.8s								
TARA	**Tarawa**	**21.94**	**72**	P	**P**		**P**	**21 27 07.6**	**-1.1**
WB0	**Warramunga Arr**	**22.25**	**229**				**P**	**21 27 11.8**	**-0.2**
WB0				IAmb	IAmb		IAmb	21 27 21.4	
	comp=Z,36nm,0.8s								
WR0	**Warramunga Arr**	**22.26**	**228**				**P**	**21 27 12.8**	**+0.7**
WR0				IAmb	IAmb		IAmb	21 27 21.6	
	comp=Z,28nm,1.0s								
WRAB	**Tennant Creek**	**22.39**	**229**	P	**P**		**P**	**21 27 14.3**	**+0.9**
WRAB				IAmb	IAmb		IAmb	21 27 22.6	
	comp=Z,30nm,0.8s								
WB2	**Warramunga Arr**	**22.39**	**229**				**P**	**21 27 13.5**	**0.0**
WB2				IAmb	IAmb		IAmb	21 27 22.7	
	comp=Z,29nm,0.9s								
WRA	**Warramunga Arr**	**22.40**	**229**	P	**P**		**P**	**21 27 13.2**	**-0.4**
	comp=Z,5.7nm,0.6s,baz=53,slow=9.7,SNR=49								
WRA	**Warramunga Arr**	**22.40**	**229**	P	**P**		**P**	**21 27 14.1**	**+0.5**
KNRA	**Kununurra**	**24.98**	**244**	P	**P**		**P**	**21 27 39.5**	**+1.1**
AS31	**Alice Springs**	**25.10**	**222**	P	**P**		**P**	**21 27 41.8**	**+2.3**
ASAR	**Alice Springs**	**25.10**	**222**	P	**P**		**P**	**21 27 39.4**	**-0.1**
	comp=Z,20nm,0.8s,baz=54,slow=9.4,SNR=117								
ASAR	**Alice Springs**	**25.10**	**222**	P	**P**		**P**	**21 27 39.8**	**+0.3**
TNTI	**Ternate**	**25.44**	**284**	P	**P**		**P**	**21 27 39.5**	**-3.1**
TNTI				IAmb	IAmb		IAmb	21 27 42.2	
	comp=Z,25nm,1.0s								
SOEI	**Soe**	**27.85**	**260**	P	**P**		**P**	**21 28 07.4**	**+2.9**
SOEI	**Soe**	**27.85**	**260**				**P**	**21 28 04.3**	**-0.1**
SOEI				IAmb	IAmb		IAmb	21 28 14.1	
	comp=Z,19nm,0.9s								
STKA	**Stephens Creek**	**27.97**	**199**	P	**P**		**P**	**21 28 05.9**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=14,slow=11,SNR=7.3								
STKA	**Stephens Creek**	**27.97**	**199**	P	**P**		**P**	**21 28 06.0**	**+0.7**
BATI	**Baumata**	**28.49**	**259**	P	**P**		**P**	**21 28 11.1**	**+0.9**
	comp=Z,31nm,0.7s,baz=75,slow=2.3,SNR=9.5								
BATI	**Baumata**	**28.49**	**259**	P	**P**		**P**	**21 28 11.0**	**+0.9**
	comp=Z,26nm,0.9s								
FITZ	**Fitzroy Crossi**	**28.65**	**242**	P	**P**		**P**	**21 28 11.0**	**-0.4**
	comp=Z,11nm,0.6s,baz=82,slow=8.3,SNR=24								
FITZ	**Fitzroy Crossi**	**28.65**	**242**	P	**P**		**P**	**21 28 11.2**	**-0.3**
FITZ				IAmb	IAmb		IAmb	21 28 21.8	
	comp=Z,13nm,0.9s								
MMRI	**Maumere**	**29.74**	**262**	P	**P**		**P**	**21 28 19.3**	**-1.9**
MBWA	**Marble Bar**	**34.96**	**241**	P	**P**		**P**	**21 29 08.4**	**+1.6**
PSA00	**Pilbara Seismi**	**35.02**	**240**	P	**P**		**P**	**21 29 07.7**	**+0.4**
RAO	**Raoul Island**	**36.90**	**133**	LR	LR			21 42 12.5	
	comp=Z,296nm,21.1s,baz=291,slow=32								
NJ2	**Nanjing**	**48.96**	**322**	*e*P	**P**		**P**	**21 31 00.7**	**-0.1**
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.5s								
KULM	**Kulim**	**52.44**	**281**	P	**P**		**P**	**21 31 26.1**	**-1.3**
KULM				IAmb	IAmb		IAmb	21 31 28.6	
	comp=Z,13nm,1.1s								
USRK	**Ussuriysk Ar.**	**52.71**	**342**	P	**P**		**P**	**21 31 30.5**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=132,slow=6.0,SNR=1.9								
USRK	**Ussuriysk Ar.**	**52.71**	**342**	P	**P**		**P**	**21 31 29.8**	**+1.0**
ENH	**Enshi**	**54.12**	**314**	P	**P**		**P**	**21 31 39.5**	**0.0**
ENH				IAmb	IAmb		IAmb	21 31 40.1	
	comp=Z,13nm,1.1s								
KMI	**Kunming**	**56.79**	**305**	↓*e*P			**P**	**21 32 02.5**	**+3.5**
KMI				pmax	pmax				
	comp=Z,5.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,100nm,5.7s								
CMAR	**Chiang Mai Arr**	**57.52**	**296**	P	**P**		**P**	**21 32 04.4**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=129,slow=5.4,SNR=22								
CMAR	**Chiang Mai Arr**	**57.52**	**296**	P	**P**		**P**	**21 32 03.7**	**-0.4**
CHTO	**Chiang Mai**	**57.64**	**296**	P	**P**		**P**	**21 32 04.4**	**-0.5**
CHTO				IAmb	IAmb		IAmb	21 32 14.1	
	comp=Z,5.3nm,1.1s								
PETK	**Petropavlovsk-**	**58.62**	**4**	P	**P**		**P**	**21 32 11.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=96,slow=6.0,SNR=4.8								
PETK	**Petropavlovsk-**	**58.62**	**4**	P	**P**		**P**	**21 32 10.1**	**-1.0**
HHC	**Hu-ho-hao-te**	**59.22**	**325**	*e*P	**P**		**P**	**21 32 14.6**	**-1.0**
HHC				pmax	pmax				
	comp=Z,17nm,1.1s								
HHC				pmax	pmax				
	comp=Z,150nm,5.6s								
HHC				LR	LR				
	comp=Z,380nm,15.2s								
HHC				LR	LR				
	comp=Z,290nm,15.5s								
HHC				LR	LR				
	comp=Z,350nm,17.6s								
LZH	**Lanzhou**	**61.24**	**316**	*e*P	**P**		**P**	**21 32 32.0**	**+2.4**
LZH				pP	sP			21 32 48.6	+0.5
LZH				sP	pP			21 32 55.0	+12
LZH				pmax	pmax				
	comp=Z,12nm,1.0s								
GTA	**Gaotai**	**65.70**	**318**	*e*P	**P**		**P**	**21 32 59.0**	**0.0**
GTA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ULN	**Ulaanbaatar**	**66.23**	**329**	P	**P**		**P**	**21 33 01.9**	**-0.4**
SONM	**Songino Array**	**66.56**	**328**	P	**P**		**P**	**21 33 04.6**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=147,slow=4.8,SNR=29								
SONM	**Songino Array**	**66.56**	**328**	P	**P**		**P**	**21 33 04.1**	**-0.2**
LSA	**Lhasa**	**68.05**	**305**	P	**P**		**P**	**21 33 14.1**	**-0.5**
LSA				IAmb	IAmb		IAmb	21 33 22.6	
	comp=Z,5.3nm,0.7s								
VNDA	**Vanda**	**72.12**	**178**	P	**P**		**P**	**21 33 38.3**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=330,slow=6.6,SNR=6.5								
VNDA	**Vanda**	**72.12**	**178**	P	**P**		**P**	**21 33 39.1**	**+1.1**
WMQ	**Urumqi**	**75.78**	**318**	*e*P	**P**		**P**	**21 34 00.3**	**+0.2**
KDAK	**Kodiak Island**	**77.17**	**27**	P	**P**		**P**	**21 34 06.0**	**-1.5**
CNPM	**China Poot**	**78.70**	**26**	P	**P**		**P**	**21 34 14.8**	**-1.3**
TTA	**Tatalina**	**78.73**	**22**	P	**P**		**P**	**21 34 16.1**	**-0.1**
TTA				IAmb	IAmb		IAmb	21 34 18.1	
	comp=Z,7.2nm,0.8s								
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**		**P**	**21 34 25.3**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=100,slow=6.3,SNR=9.5								
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**		**P**	**21 34 23.8**	**-1.8**
BPAW	**Bear Paw Mtn.**	**81.25**	**22**	P	**P**		**P**	**21 34 29.3**	**-0.5**
IMAR	**Indian Mountai**	**81.33**	**20**	P	**P**		**P**	**21 34 30.7**	**+0.6**
ZALV	**Zalesovo Beam**	**81.35**	**327**	P	**P**		**P**	**21 34 29.3**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=112,slow=6.1,SNR=15								
ZALV				LR	LR			22 12 25.0	
	comp=Z,113nm,20.4s,baz=76,slow=37								
ZALV	**Zalesovo Beam**	**81.35**	**327**	P	**P**		**P**	**21 34 28.9**	**-1.5**
TARG	**Taragay, Kyrgy**	**82.03**	**313**	P	**P**		**P**	**21 34 33.5**	**-1.4**
WRH	**Wood River Hil**	**82.52**	**22**	P	**P**		**P**	**21 34 35.0**	**-1.4**
WRH				IAmb	IAmb		IAmb	21 34 37.0	
	comp=Z,8.8nm,1.0s								
KDJ	**Kajisay**	**82.58**	**314**	P	**P**		**P**	**21 34 35.9**	**-1.6**
KDJ				IAmb	IAmb		IAmb	21 34 39.2	
	comp=Z,13nm,1.1s								
MDM	**Murphy Dome**	**82.71**	**22**	P	**P**		**P**	**21 34 35.6**	**-1.9**
CCB	**Clear Creek Bu**	**82.72**	**22**	IAmb	IAmb		IAmb	21 34 37.6	
	comp=Z,5.8nm,0.8s								
GLB	**Gilahina Butte**	**82.85**	**26**	P	**P**		**P**	**21 34 37.7**	**-0.6**
IL31		**83.12**	**22**	IAmb	IAmb		IAmb	21 34 39.6	
	comp=Z,5.2nm,0.8s								
ILAR	**Eielson Array**	**83.12**	**22**	P	**P**		**P**	**21 34 38.9**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=245,slow=5.2,SNR=37								
ILAR	**Eielson Array**	**83.12**	**22**	P	**P**		**P**	**21 34 38.3**	**-1.2**
BOOM	**Boomskoye usch**	**83.56**	**314**	P	**P**		**P**	**21 34 41.2**	**-1.3**
BOOM				IAmb	IAmb		IAmb	21 34 50.3	
	comp=Z,10.0nm,1.1s								
NIL	**Nilore**	**83.78**	**305**	P	**P**		**P**	**21 34 43.5**	**-0.2**
NIL				IAmb	IAmb		IAmb	21 34 44.1	
	comp=Z,8.5nm,0.8s								
KURK	**Kurchatov**	**83.89**	**322**	P	**P**		**P**	**21 34 43.3**	**-0.5**
KURK				IAmb	IAmb		IAmb	21 34 44.0	
	comp=Z,5.9nm,0.8s								
TKM2	**Tokmak 2**	**83.91**	**314**	P	**P**		**P**	**21 34 44.3**	**0.0**
	SNR=7.7								
BCAR	**Beaver Creek A**	**84.39**	**25**	P	**P**		**P**	**21 34 46.8**	**+0.7**
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**		**P**	**21 34 47.4**	**+1.0**
CHMS	**Chumysh**	**84.53**	**314**	P	**P**		**P**	**21 34 47.1**	**-0.2**
	SNR=6.8								
UCH	**Uchtor**	**84.53**	**313**	P	**P**		**P**	**21 34 48.8**	**+1.0**
	SNR=9.7								
MAW	**Mawson**	**84.60**	**203**	P	**P**		**P**	**21 34 46.9**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=92,slow=4.5,SNR=6.6								
MAW	**Mawson**	**84.60**	**203**	IAmb	IAmb			21 34 54.6	
	comp=Z,0.7nm,0.9s								
USP	**Ospenovka**	**84.77**	**314**	P	**P**		**P**	**21 34 48.4**	**-0.1**
	SNR=14								
AML	**Almayashu**	**85.11**	**313**	P	**P**		**P**	**21 34 51.7**	**+1.0**
	SNR=8.8								
EKS2	**Erkin-Say**	**85.16**	**314**	P	**P**		**P**	**21 34 51.3**	**+0.7**
	SNR=18								
BMAR	**Burnt Mountain**	**85.19**	**20**	P	**P**		**P**	**21 34 51.0**	**+1.0**
HYT	**Haines Junctio**	**85.43**	**28**	P	**P**		**P**	**21 34 50.6**	**-0.9**
DAWY	**Dawson**	**85.76**	**24**	P	**P**		**P**	**21 34 52.0**	**-1.0**
DAWY				IAmb	IAmb		IAmb	21 34 54.7	
	comp=Z,7.0nm,1.1s								
NRIK	**Noril'sk**	**86.42**	**341**	P	**P**		**P**	**21 34 57.0**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=121,slow=5.9,SNR=1.6								
WHY	**Whitehorse**	**86.60**	**28**	P	**P**		**P**	**21 34 55.4**	**-1.8**
WRAK	**Wrangell Islan**	**86.69**	**33**	P	**P**		**P**	**21 34 54.7**	**-2.9**
BTK	**Batken**	**86.85**	**311**	P	**P**		**P**	**21 34 57.6**	**-1.3**
BTK				IAmb	IAmb		IAmb	21 35 06.3	
	comp=Z,4.1nm,1.1s								
GAR	**Garm**	**87.06**	**309**	P	**P**		**P**	**21 34 59.1**	**-0.9**
GAR				IAmb	IAmb		IAmb	21 35 00.5	
	comp=Z,6.0nm,1.1s								
KK31	**Karatay Array**	**87.60**	**314**	P	**P**		**P**	**21 35 00.9**	**-1.5**
KK31				IAmb	IAmb		IAmb	21 35 04.9	
	comp=Z,4.7nm,1.1s								
KKAR	**Karatay Array**	**87.60**	**314**	P	**P**		**P**	**21 35 00.9**	**-1.5**
KKAR				IAmb	IAmb		IAmb	21 35 04.9	
	comp=Z,4.7nm,1.1s								
KKAR	**Karatay Array**	**87.60**	**314**	P	**P**		**P**	**21 35 01.5**	**-0.9**
CHGR	**Chuyangaron**	**87.89**	**309**	P	**P**		**P**	**21 35 02.2**	**-1.8**
CHGR				IAmb	IAmb		IAmb	21 35 05.2	
	comp=Z,6.4nm,0.8s								
DLBC	**Dease Lake**	**88.40**	**31**	P	**P**		**P**	**21 35 05.3**	**-0.6**
INK	**Inuvik**	**89.41**	**21**	P	**P**		**P**	**21 35 08.3**	**-2.0**
INK				IAmb	IAmb		IAmb	21 35 27.0	
	comp=Z,3.3nm,0.9s								
HUMO	**Hull Mountain**	**90.03**	**47**	P	**P**		**P**	**21 35 13.5**	**-0.4**
YBH	**Yreka Blue Hor**	**90.10**	**48**	P	**P**		**P**	**21 35 13.4**	**-0.9**
E03A	**Lebam**	**90.12**	**43**	P	**P**		**P**	**21 35 11.8**	**-2.4**
PGC	**Sidney**	**90.49**	**41**	P	**P**		**P**	**21 35 15.6**	**-0.2**
PGC				IAmb	IAmb		IAmb	21 35 29.3	
	comp=Z,3.7nm,0.9s								
F04A	**Amboy**	**90.83**	**44**	P	**P**		**P**	**21 35 17.2**	**-0.3**
H04A	**Detroit Lake**	**90.84**	**45**	P	**P**		**P**	**21 35 16.3**	**-1.3**
H04A				IAmb	IAmb		IAmb	21 35 25.0	
	comp=Z,2.6nm,0.8s								
AFDM	**Forest Hills D**	**91.09**	**51**	P	**P**		**P**	**21 35 18.2**	**-0.7**
K05A	**Summer Lake**	**91.56**	**47**	P	**P**		**P**	**21 35 20.6**	**-0.6**
PINE	**Pine Mountain**	**91.63**	**46**	P	**P**		**P**	**21 35 20.9**	**-0.6**
OMMB	**Old Mammoth Mi**	**92.51**	**53**	P	**P**		**P**	**21 35 24.9**	**-1.0**
I07A	**Izee**	**92.69**	**46**	P	**P**		**P**	**21 35 26.0**	**-0.3**
I07A				IAmb	IAmb		IAmb	21 35 28.8	
	comp=Z,5.1nm,1.1s								
ISA	**Isabella, Lake**	**92.76**	**55**	P	**P**		**P**	**21 35 26.7**	**-0.1**
HAWA	**Hanford**	**92.88**	**44**	P	**P**		**P**	**21 35 26.6**	**-0.3**
HAWA				IAmb	IAmb		IAmb	21 35 30.1	
	comp=Z,3.7nm,0.9s								
HRA	**Herat**	**92.93**	**304**	P	**P**		**P**	**21 35 24.7**	**-3.0**
HRA				IAmb	IAmb		IAmb	21 35 25.2	
	comp=Z,1.6nm,0.5s								
LHV	**Little Huntoon**	**92.95**	**52**	P	**P**		**P**	**21 35 27.5**	**0.0**
NVAR	**Mina Array Bea**	**93.12**	**52**	P	**P**		**P**	**21 35 30.3**	**+1.7**
	comp=Z,1.6nm,0.9s,baz=253,slow=6.2,SNR=11								
NVAR	**Mina Array Bea**	**93.12**	**52**	P	**P**		**P**	**21 35 29.0**	**+0.4**
G08A	**Pilot Rock**	**93.18**	**45**	P	**P**		**P**	**21 35 25.9**	**-2.6**
G08A				IAmb	IAmb		IAmb	21 35 31.5	
	comp=Z,2.8nm,1.0s								
NV11	**Mina Array Sit**	**93.24**	**52**	P	**P**		**P**	**21 35 27.4**	**-1.6**
NV11				IAmb	IAmb		IAmb	21 35 42.3	
	comp=Z,2.3nm,0.9s								
KVN	**Kaiserville**	**93.33**	**51**	P	**P**		**P**	**21 35 28.8**	**-0.7**
KVN				IAmb	IAmb		IAmb	21 35 32.1	
	comp=Z,2.8nm,1.0s								
E09A	**Wood Farm, Sta**	**93.84**	**44**	P	**P**		**P**	**21 35 31.1**	**-0.3**
E09A				IAmb	IAmb		IAmb	21 35 33.5	
	comp=Z,3.0nm,0.7s								
TPH	**Tonopah**	**93.95**	**52**	P	**P**		**P**	**21 35 30.9**	**-1.4**
BMO	**Blue Mountains**	**94.32**	**46**	P	**P**		**P**	**21 35 33.8**	**0.0**
BMO				IAmb	IAmb		IAmb	21 35 41.2	
	comp=Z,2.5nm,0.9s								
F10A	**Beach Ranch, E**	**94.44**	**44**	P	**P**		**P**	**21 35 32.4**	**-1.9**
F10A				IAmb	IAmb		IAmb	21 35 39.3	
	comp=Z,4.0nm,1.1s								
TPNV	**Topopah Spring**	**94.65**	**53**	P	**P**		**P**	**21 35 35.6**	**0.0**
R11A	**Troy Canyon, C**	**95.25**	**52**	P	**P**		**P**	**21 35 36.4**	**-1.9**
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**		**P**	**21 35 42.1**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=262,slow=9.5,SNR=2.2								
GEYT	**Alibeck**	**96.47**	**307**	P	**P**		**P**	**21 35 42.7**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=84,slow=4.5,SNR=2.0								
GEYT	**Alibeck**	**96.47**	**307**	IAmb	IAmb		IAmb	21 35 43.3	
	comp=Z,1.4nm,0.8s								
PDAR	**Pinedale Array**	**99.89**	**48**	P	**Pdif**		**Pdif**	**21 35 59.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=248,slow=1.6,SNR=4.0								
CLL	**Collm**	**123.13**	**331**	*e*(PKPdf)			**PKiKP**	**21 41 14.0**	**+3.3**
GERES	**GERESS Array B**	**124.29**	**328**	PKP			**PKiKP**	**21 41 13.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=71,slow=2.9,SNR=9.5								
PTGA	**Pitinga**	**147.42**	**100**	PKPbc			**PKPbc**	**21 41 58.1**	**-0.8**
	comp=Z,5.5nm,0.7s,baz=229,slow=2.8,SNR=11								
TORD	**Torodi Ar. Bea**	**149.82**	**287**	PKPbc			**PKPbc**	**21 42 04.8**	**-0.2**
	comp=Z,15nm,0.9s,baz=66,slow=2.9,SNR=57								
KIC	**Kosan Boka**	**156.90**	**273**	*e*P			**PKPab**	**21 42 40.1**	**-0.4**
	comp=Z,10nm,0.8s								
DBIC	**Dimbokro**	**157.01**	**274**	PKPab			**PKPab**	**21 42 41.1**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=76,slow=6.9,SNR=4.4								
TIC	**Toumodi**	**157.18**	**274**	*e*P			**PKPab**	**21 42 41.3**	**-0.4**
LIC	**Lamto**	**157.19**	**273**	*e*P			**PKPab**	**21 42 41.5**	**-0.2**
	comp=Z,14nm,0.7s								

*NNC **03** 21:25:07.1±0.5, 47˚.38N×82˚.19E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=4.4km s-min=2.2km az=67.0*
*SOME **03** 21:25:08.8, 47˚.35N×81˚.83E, h5km*
*ASRS **03** 21:25:13.4±0.4, 47˚N±6˚×8˚3E±˚, h2km, MLh3.8/13, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 03 21:25:02.8±1.0, 47˚.41N±0˚.03×82˚.09E±0˚.03, h12km±11km, n67, s1♀62/105, 17C-17D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.61**	**187**	Pg	**Pn**		**Pn**	**21 25 19.0**	**+1.7**
MAKZ				Sg	**Sn**		**Sn**	**21 25 27.2**	**0.0**
MAKZ	**Makanchi**	**0.61**	**187**	P	**Pn**		**Pn**	**21 25 19.0**	**+1.7**
MAKZ				S	**Sn**		**Sn**	**21 25 27.2**	**0.0**
MK05	**Makanchi Array**	**0.63**	**167**	↓P	**Pn**		**Pn**	**21 25 18.8**	**+1.1**
MK05				↑S	**Sn**		**Sn**	**21 25 26.8**	**-0.9**
MK31	**Makanchi Array**	**0.63**	**167**	↓P	**Pn**		**Pn**	**21 25 18.8**	**+1.1**
	9.1nm,0.1s,baz=326,slow=13,SNR=5769								
MK31				↓S	**Sn**		**Sn**	**21 25 27.0**	**-0.8**
	32nm,0.2s,baz=302,slow=31,SNR=6.0								
MKAR	**Makanchi Array**	**0.63**	**167**	Pg	**Pn**		**Pn**	**21 25 18.7**	**+1.0**
MKAR				Sg	**Sn**		**Sn**	**21 25 27.1**	**-0.7**
MK09	**Makanchi Array**	**0.65**	**169**	↓P	**Pn**		**Pn**	**21 25 19.1**	**+1.2**
MK09				↓S	**Sn**		**Sn**	**21 25 27.5**	**-0.7**
MK04	**Makanchi Array**	**0.66**	**168**	↑P	**Pn**		**Pn**	**21 25 19.2**	**+1.2**
MK04				↑S	**Sn**		**Sn**	**21 25 27.8**	**-0.5**
MK06	**Makanchi Array**	**0.66**	**166**	↓P	**Pn**		**Pn**	**21 25 19.1**	**+1.1**
MK06				↑S	**Sn**		**Sn**	**21 25 27.4**	**-0.9**
MK01	**Makanchi Array**	**0.66**	**167**	↑P	**Pn**		**Pn**	**21 25 19.2**	**+1.2**
MK01				↑S	**Sn**		**Sn**	**21 25 27.9**	**-0.5**
MK02	**Makanchi Array**	**0.66**	**167**	↑P	**Pn**		**Pn**	**21 25 19.2**	**+1.1**
MK02				↑S	**Sn**		**Sn**	**21 25 27.9**	**-0.6**
MK03	**Makanchi Array**	**0.66**	**167**	↓P	**Pn**		**Pn**	**21 25 19.3**	**+1.2**
MK03				↑S	**Sn**		**Sn**	**21 25 28.2**	**-0.2**
MK08	**Makanchi Array**	**0.67**	**168**	↑P	**Pn**		**Pn**	**21 25 19.5**	**+1.3**
MK08				↑S	**Sn**		**Sn**	**21 25 28.3**	**-0.4**
MK07	**Makanchi Array**	**0.68**	**167**	↓P	**Pn**		**Pn**	**21 25 19.5**	**+1.2**
MK07				↓S	**Sn**		**Sn**	**21 25 27.7**	**-1.1**
ZSN	**Zaisan**	**1.89**	**88**	*e*P			**Pg**	**21 25 42.0**	**+3.1**
	51nm,0.2s								
ZSN				*e*S			**Sg**	**21 26 05.9**	**+2.6**
	224nm,0.3s								
DJR	**Jarkent**	**3.48**	**208**	*e*P			**Pg**	**21 26 10.5**	**+1.2**
	11nm,0.2s								
DJR				*e*S			**Sg**	**21 26 54.9**	**+0.5**
	14nm,0.4s								
DJR	**Jarkent**	**3.48**	**208**	Pg			**Pg**	**21 26 10.5**	**+1.2**
	11nm,0.2s								
DJR				Lg			Lg	21 26 54.9	
	14nm,0.4s								
TDK	**Taldyqorghan**	**3.52**	**228**	*e*P			**Pg**	**21 26 12.8**	**+2.7**
	44nm,0.5s								
TDK				*e*S			**Sg**	**21 26 58.3**	**+2.7**
	64nm,0.4s								
TDK	**Taldyqorghan**	**3.52**	**228**	Pg			**Pg**	**21 26 12.2**	**+2.1**
	44nm,0.5s								
TDK				Lg			Lg	21 26 58.3	
	64nm,0.4s								
TUNR	**Tungur**	**3.93**	**44**	Pn			**Pb**	**21 26 10.6**	**-1.4**
TUNR				Pg			**Pg**	**21 26 20.5**	**+2.6**
TUNR				Sg			**Sg**	**21 27 04.7**	**-4.1**
UKR	**Ust'-Kan**	**3.94**

AAA				Lg	Lg	21 28 03.1		
	5.4nm,0.1s							
TNSS	**Tian-Shan**	**5.69**	**222**	*e*P	**Pg**	**21 26 53.3**	**+1.6**	
	3.5nm,0.5s							
TNSS				*e*S	**Sg**	**21 28 07.5**	**+2.2**	
	3.9nm,0.4s							
TNSS	**Tian-Shan**	**5.69**	**222**	Pg	**Pg**	**21 26 53.3**	**+1.6**	
	3.5nm,0.5s							
TNSS				Lg	Lg	21 28 07.4		
	3.9nm,0.4s							
MTBS	**Maitube**	**5.86**	**225**	*e*P	**Pg**	**21 26 55.4**	**+0.5**	
	3.3nm,0.3s							
MTBS				*e*S	**Sg**	**21 28 11.3**	**+0.7**	
	15nm,0.4s							
MTBS	**Maitube**	**5.86**	**225**	Pg	**Pg**	**21 26 55.4**	**+0.5**	
MTBS				Lg	Lg	21 28 11.3		
	14nm,0.4s							
BTLS	**Baital**	**6.06**	**250**	*e*P	**Pg**	**21 26 58.4**	**-0.4**	
	1.9nm,0.2s							
BTLS				*e*S	**Sg**	**21 28 17.3**	**0.0**	
	2.2nm,0.4s							
BTLS	**Baital**	**6.06**	**250**	Pg	**Pg**	**21 26 58.4**	**-0.4**	
	2.5nm,0.2s							
BTLS				Lg	Lg	21 28 17.3		
	5.6nm,0.5s							
KST	**Kastek**	**6.15**	**227**	*e*P	**Pg**	**21 27 00.9**	**+0.4**	
	4.5nm,0.5s							
KST				*e*S	**Sg**	**21 28 20.8**	**+0.8**	
	3.8nm,0.5s							
KST	**Kastek**	**6.15**	**227**	Pg	**Pg**	**21 27 00.9**	**+0.4**	
	5.9nm,0.6s							
KST				Lg	Lg	21 28 21.0		
	6.7nm,0.6s							
TKM2	**Tokmak 2**	**6.42**	**228**	⇑Pn	Pn	21 26 45.7	+8.3	
	2.2nm,0.6s							
TKM2				⇑Sn	Sn	21 28 00.5	+10	
	1.2nm,0.4s							
TKM2				⇓Lg	Lg	21 28 33.0		
	2.4nm,0.4s							
SGDS	**Sogindy**	**6.57**	**236**	Pg	**Pg**	**21 27 08.9**	**+0.3**	
	3.6nm,0.5s							
SGDS				Lg	Lg	21 28 35.0		
	5.6nm,0.4s							
BRZS	**Berezniki**	**6.74**	**296**	Pg	**Pg**	**21 27 10.2**	**-1.5**	
	2.3nm,0.2s							
BRZS				Lg	Lg	21 28 38.1		
	19nm,0.6s							
ZAA0	**Zalesovo Array**	**6.77**	**14**	⇑Pn	Pn	21 26 47.8	+5.9	
	0.3nm,0.6s							
ZAA0				⇑Sn	**Sn**	**21 28 03.3**	**+4.4**	
	0.6nm,0.3s							
ZAA0				⇓Lg	Lg	21 28 39.3		
	0.9nm,0.5s							
AAK	**Ala-Archa**	**7.19**	**231**	⇓Lg	Lg	21 28 56.3		
	4.6nm,0.7s							
KK31	**Karatay Array**	**9.23**	**246**	Pn	Pn	21 27 22.4	+6.7	
	0.4nm,0.3s,baz=58,slow=14,SNR=20							
KK31				⇑Lg	Lg	21 30 03.2		
	2.7nm,0.6s,baz=57,slow=27,SNR=4.2							

*BJI **03** 21:25:20.2±0.0,5.38S×152.32E,h21km,mB5.2/25, mb4.8/40,Ms4.9/6,Ms7 4.6/3*
*NEIC **03** 21:25:26.7±1.9,5.44S±0.06×152.05E±0.07,h50km±5km, mb4.9/84,Error ellipse: s-maj=10.0km s-min=8.4km az=110.0*
*DJA **03** 21:25:26.9±0.7,6°S±3°×15°E±°,h53km±6km,M5.1/19, mb4.9/19,mB5.3/7,MLv5.4/2,Mw(mB)4.8/7*
*GCMT **03** 21:25:27.7±0.3,5.71S±0.02×152.01E±0.03,h30km, MW5.0/71,Moment Tensor Solution. s48,c59; s71,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.92±.22; Mθθ-3.44±.13; Mϕϕ-0.47±.13; Mrθ1.62±.17; Mrϕ-0.64±.10; Mθϕ-0.35±.22; Best double couple: Mo4.09100×10^16^ NP1:ϕs87.00000°,δ57.00000°,λ99.00000°. NP2: ϕs87.00000°,δ57.00000°,λ77.00000°. Principal axes: T 4.3080, Plg76.0000°, Azm25.0000°; N -0.4330, Plg7.0000°, Azm262.0000°; P -3.8740, Plg11.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **03** 21:25:28.5±1.2,5.53S×151.92E,h58km±10km,mb4.2/23, mb1 4.4/25,mb1mx4.4/33,mbtmp4.5/25,MS4.1/18, Ms1 4.1/18,ms1mx4.0/31 Error ellipse: s-maj=16.5km s-min=7.9km az=116.0*

ISC 03 21:25:26.4±0.3,5.49S±0.04×152.03E±0.05,h45km,n168, σ1§40/170,mb4.8/69,MS4.1/20,1C-3D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.18**	**360**	P	**Pn**	**21 25 47.3**	**+0.8**
	743nm,0.3s,baz=131,slow=2.2,SNR=34						
KRVT				S	**Sn**	**21 26 05.4**	**+4.0**
	2µm,0.3s,baz=3.5,slow=21,SNR=6.9						
RABL	**Rabaul**	**1.30**	**6**	Pn	**Pn**	**21 25 48.8**	**+0.6**
PMG	**Port Moresby**	**6.20**	**231**	P	**Pn**	**21 26 57.2**	**+1.8**
	13nm,0.3s,baz=66,slow=9.5,SNR=9.4						
PMG				S	**Sn**	**21 28 04.2**	**-0.9**
	32nm,0.3s,baz=146,slow=19,SNR=8.5						
PMG				LR	LR	21 28 43.8	
	comp=Z,466nm,19.6s,baz=34,slow=32						
PMG	**Port Moresby**	**6.20**	**231**	Pn	**Pn**	**21 26 57.0**	**+1.6**
HNR	**Honiara**	**8.77**	**117**	*S*	**Sn**	**21 29 13.1**	**+4.8**
	1.0nm,0.3s,baz=226,slow=21,SNR=2.1						
HNR				LR	LR	21 30 27.5	
	comp=Z,879nm,21.1s,baz=290,slow=34						
HNR	**Honiara**	**8.77**	**117**	Pn	**Pn**	**21 27 31.2**	**+0.5**
COEN	**Coen**	**12.12**	**225**	Pn	**Pn**	**21 28 16.9**	**+0.3**
CTA	**Charters Tower**	**15.56**	**201**	P	**P**	**21 29 04.4**	**-2.0**
	0.2nm,0.3s,baz=27,slow=14,SNR=6.3						
CTA				LR	LR	21 34 29.7	
	comp=Z,952nm,20.1s,baz=25,slow=35						
CTAO	**Charters Tower**	**15.56**	**201**	Pn	**P**	**21 29 04.6**	**-1.9**
BAKI	**Biak**	**16.46**	**284**	P	**P**	**21 29 19.5**	**+3.0**
	1µm50nm,1.0s						
SANVU	**Saraoutou**	**17.88**	**125**	Pn	**Pn**	**21 29 29.4**	**-2.6**
EIDS	**Eidsvold**	**19.78**	**183**	P	**P**	**21 29 53.0**	**+0.1**
EIDS				IAmb	IAmb	21 29 56.8	
	comp=Z,54nm,0.9s						
GUMO	**Guam**	**20.25**	**339**	P	**P**	**21 29 57.2**	**-0.9**
SIJI	**Sorong**	**21.23**	**282**	P	**P**	**21 30 09.9**	**+1.2**
	comp=Z,31nm,0.3s,baz=258,slow=2.1,SNR=13						
SIJI				LR	LR	21 39 51.0	
	comp=Z,556nm,20.1s,baz=95,slow=41						
DZM	**Mont Dzumac**	**21.59**	**141**	P	**P**	**21 30 13.5**	**+0.9**
	comp=Z,4.4nm,0.7s,baz=331,slow=18,SNR=2.1						
DZM				LR	LR	21 37 54.4	
	comp=Z,953nm,19.2s,baz=236,slow=34						
DZM	**Mont Dzumac**	**21.59**	**141**	*e*P	**P**	**21 30 13.4**	**+0.8**
	comp=Z,12nm,0.7s						
DZM				*e*LR	LR	21 35 28.3	
	comp=Z,2µm,24.0s						
DZM	**Mont Dzumac**	**21.59**	**141**	P	**P**	**21 30 10.4**	**-2.1**
MTN	**Manton Dam**	**21.87**	**249**	P	**P**	**21 30 15.1**	**-0.5**
MTN				IAmb	IAmb	21 30 25.8	
	comp=Z,47nm,0.9s						
MTN					**PcP**	**21 34 11.5**	**-2.7**
WB0	**Warramunga Arr**	**22.27**	**229**	P	**P**	**21 30 20.9**	**+1.0**
WB0				IAmb	IAmb	21 30 29.1	
	comp=Z,62nm,0.8s						
WR0	**Warramunga Arr**	**22.27**	**228**	P	**P**	**21 30 21.0**	**+1.1**
WR0				IAmb	IAmb	21 30 29.2	
	comp=Z,47nm,0.9s						
WRAB	**Tennant Creek**	**22.40**	**229**	P	**P**	**21 30 23.3**	**+2.0**
WRAB				IAmb	IAmb	21 30 30.3	
	comp=Z,52nm,0.8s						
WRAB					**S**	**21 34 23.5**	**-1.2**
WB2	**Warramunga Arr**	**22.41**	**229**	P	**P**	**21 30 21.9**	**+0.6**
WB2				IAmb	IAmb	21 30 30.5	
	comp=Z,48nm,0.8s						
WRA	**Warramunga Arr**	**22.41**	**229**	P	**P**	**21 30 21.1**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=53,slow=11,SNR=14						
WRA				S	**S**	**21 34 23.4**	**-1.6**
	comp=Z,15nm,1.2s,baz=55,slow=18,SNR=10.0						
WRA				LR	LR	21 39 13.1	
	comp=Z,694nm,19.6s,baz=65,slow=37						
WRA	**Warramunga Arr**	**22.41**	**229**	P	**P**	**21 30 22.2**	**+0.8**
WRA					**S**	**21 34 23.9**	**-1.1**
ARMA	**Armidale**	**24.80**	**181**	P	**P**	**21 30 44.4**	**0.0**
KNRA	**Kununurra**	**24.98**	**244**	P	**P**	**21 30 47.3**	**+1.2**
AS31	**Alice Springs**	**25.12**	**222**	P	**P**	**21 30 49.0**	**+1.6**
ASAR	**Alice Springs**	**25.12**	**222**	P	**P**	**21 30 47.9**	**+0.5**
	comp=Z,31nm,0.9s,baz=55,slow=9.1,SNR=29						
ASAR				S	**S**	**21 35 11.2**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=49,slow=10.0,SNR=2.2						
ASAR				LR	LR	21 42 06.3	
	comp=Z,377nm,18.5s,baz=42,slow=40						
SOEI	**Soe**	**27.84**	**260**	P	**P**	**21 31 12.1**	**+0.1**
SOEI				IAmb	IAmb	21 31 29.1	
	comp=Z,35nm,0.9s						
STKA	**Stephens Creek**	**28.01**	**199**	P	**P**	**21 31 12.7**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=20,slow=11,SNR=5.3						
STKA				LR	LR	21 42 31.5	
	comp=Z,578nm,19.8s,baz=35,slow=37						
STKA	**Stephens Creek**	**28.01**	**199**	P	**P**	**21 31 13.2**	**0.0**
BATI	**Baumata**	**28.48**	**259**	P	**P**	**21 31 18.5**	**+0.8**
	comp=Z,40nm,0.8s,baz=191,slow=2.2,SNR=7.6						
BATI				LR	LR	21 44 24.2	
	comp=Z,779nm,21.0s,baz=100,slow=40						
BATI	**Baumata**	**28.48**	**259**	P	**P**	**21 31 18.8**	**+1.1**
	comp=Z,52nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.66**	**242**	P	**P**	**21 31 18.3**	**-0.9**
	comp=Z,23nm,0.9s,baz=66,slow=8.4,SNR=7.9						
FITZ				S	**S**	**21 36 11.5**	**+6.4**
	comp=Z,1.9nm,0.6s,baz=169,slow=16,SNR=1.5						
FITZ	**Fitzroy Crossi**	**28.66**	**242**	IAmb	IAmb	21 31 26.1	
	comp=Z,22nm,0.8s						
DAV	**Davao City (W)**	**29.20**	**295**	LR	LR	21 42 35.0	
	comp=Z,495nm,18.0s,baz=106,slow=35						
EDFI	**Ende, Flores**	**30.27**	**262**	P	**P**	**21 31 32.7**	**-1.0**
	comp=Z,11nm,1.0s						
PSA00	**Pilbara Seismi**	**35.02**	**240**	P	**P**	**21 32 14.6**	**-0.4**
PSA00	**Pilbara Seismi**	**35.02**	**240**	P	**P**	**21 32 16.4**	**+1.4**
PSA00				IAmb	IAmb	21 32 24.6	
	comp=Z,26nm,1.2s						
MORW	**Morawa**	**41.32**	**231**	P	**P**	**21 33 08.5**	**+0.6**
MJAR	**Matsushiro Arr**	**43.77**	**344**	P	**P**	**21 33 28.7**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=183,slow=10,SNR=2.5						
MJAR				LR	LR	21 50 27.5	
	comp=Z,166nm,20.7s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**43.77**	**344**	P	**P**	**21 33 25.5**	**-2.2**
QIZ	**Qiongzhong**	**48.17**	**301**	P	**P**	**21 34 03.8**	**+1.2**
QIZ				S	**S**	**21 41 00.5**	**+1.6**
QIZ				LR	LR		
	comp=Z,130nm,19.9s						
QIZ				LR	LR		
	comp=Z,170nm,21.5s						
KSRS	**Korea Array**	**48.28**	**334**	P	**P**	**21 34 02.6**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=149,slow=5.7,SNR=3.1						
KSRS				LR	LR	21 52 42.6	
	comp=Z,87nm,20.6s,baz=192,slow=34						
NJ2	**Nanjing**	**48.91**	**322**	*e*P	**P**	**21 34 08.9**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.66**	**342**	P	**P**	**21 34 36.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=176,slow=12,SNR=2.7						
USRK				LR	LR	21 55 16.8	
	comp=Z,88nm,18.8s,baz=135,slow=34						
ENH	**Enshi**	**54.07**	**314**	P	**P**	**21 34 45.5**	**-1.3**
GYA	**Guiyang**	**54.21**	**308**	⇓P	**P**	**21 34 46.7**	**-1.3**
GYA				pmax	pmax		
	comp=Z,7.0nm,2.3s						
XAN	**Xi'an**	**56.60**	**317**	P	**P**	**21 35 04.4**	**-0.6**
XAN				pP	pP	21 35 09.6	-8.4
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN	**Xi'an**	**56.60**	**317**	P	**P**	**21 35 03.6**	**-1.3**
KMI	**Kunming**	**56.74**	**305**	⇓*i*P	**P**	**21 35 08.1**	**+1.7**
KMI				pP	pP	21 35 14.2	-5.2
KMI				sP	sP	21 35 22.4	-2.3
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI				pmax	pmax		
	comp=Z,90nm,6.3s						
CM31	**Chiang Mai Arr**	**57.48**	**296**	P	**P**	**21 35 11.4**	**-0.1**
CM31				IAmb	IAmb	21 35 14.8	
	comp=Z,8.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P	**P**	**21 35 12.2**	**+0.7**
	comp=Z,4.7nm,1.0s,baz=121,slow=5.2,SNR=17						
CMAR				LR	LR	22 00 17.7	
	comp=Z,82nm,18.1s,baz=164,slow=36						
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P	**P**	**21 35 11.7**	**+0.2**
CHTO	**Chiang Mai**	**57.60**	**296**	P	**P**	**21 35 12.8**	**+0.6**
CHTO				IAmb	IAmb	21 35 14.5	
	comp=Z,13nm,1.2s						
PPT	**Papeete**	**58.25**	**107**	LR	LR	21 54 47.6	
	comp=Z,54nm,21.7s,baz=308,slow=30						
PPT2	**Papeete2**	**58.25**	**107**	*e*LR	LR	21 52 33.3	
	comp=Z,94nm,22.0s						
PETK	**Petropavlovsk-**	**58.58**	**4**	P	**P**	**21 35 20.1**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=223,slow=5.9,SNR=2.4						
PETK				LR	LR	21 56 00.9	
	comp=Z,191nm,20.8s,baz=227,slow=31						
PETK	**Petropavlovsk-**	**58.58**	**4**	P	**P**	**21 35 17.9**	**-0.5**
TBI	**Tubuai**	**58.97**	**114**	*e*LR	LR	21 52 56.3	
	comp=Z,199nm,31.2s						
HHC	**Hu-ho-hao-te**	**59.17**	**325**	*e*P	**P**	**21 35 24.2**	**+1.3**
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,6.4s						
HHC				LR	LR		
	comp=Z,380nm,16.9s						
HHC				LR	LR		
	comp=Z,260nm,17.4s						
HHC				LR	LR		
	comp=Z,340nm,17.8s						
LZH	**Lanzhou**	**61.20**	**316**	*e*P	**P**	**21 35 38.4**	**+1.4**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
GTA	**Gaotai**	**65.65**	**318**	*e*P	**P**	**21 36 07.1**	**+0.8**
GTA				pP	pP	21 36 12.9	-6.6
GTA				sP	sP	21 36 16.0	-8.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SHL	**Shillong**	**66.00**	**301**	P	**P**	**21 36 08.7**	**-0.3**
SHL				IAmb	IAmb	21 36 09.6	
	comp=Z,12nm,0.6s						
ULN	**Ulaanbaatar**	**66.18**	**329**	P	**P**	**21 36 09.4**	**-0.2**
ULN				IAmb	IAmb	21 36 11.3	
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**21 36 12.1**	**+0.4**
	comp=Z,7.8nm,1.0s,baz=145,slow=4.6,SNR=21						
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**21 36 11.7**	**0.0**
LSA	**Lhasa**	**68.00**	**305**	P	**P**	**21 36 21.7**	**-0.2**
TLY	**Talaya**	**70.30**	**330**	P	**P**	**21 36 33.4**	**-1.7**
VNDA	**Vanda**	**72.17**	**178**	P	**P**	**21 36 47.3**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=335,slow=8.0,SNR=4.7						
VNDA				LR	LR	22 05 55.5	
	comp=Z,105nm,19.0s,baz=320,slow=34						
VNDA	**Vanda**	**72.17**	**178**	P	**P**	**21 36 47.0**	**+1.0**
WMQ	**Urumqi**	**75.73**	**318**	*e*P	**P**	**21 37 07.7**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.5s						
WMQ				LR	LR		
	comp=Z,930nm,29.1s						
WMQ				LR	LR		
	comp=Z,960nm,18.1s						
HYB	**Hyderabad**	**76.00**	**289**	*i* P	**P**	**21 37 09.5**	**0.0**
CNPM	**China Poot**	**78.67**	**26**	P	**P**	**21 37 23.5**	**-0.1**
DGAR	**Diego Garcia**	**79.00**	**264**	P	**P**	**21 37 21.6**	**-4.8**
MK31	**Makanchi Array**	**80.34**	**319**	P	**P**	**21 37 32.8**	**-0.2**
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**21 37 33.1**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=107,slow=6.5,SNR=9.9						
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**21 37 32.4**	**-0.6**
GHO	**Glory Hole Cre**	**80.81**	**24**	P	**P**	**21 37 34.1**	**-1.1**
GHO				IAmb	IAmb	21 37 36.7	
	comp=Z,22nm,1.0s						
KTH	**Kantishna Hill**	**80.94**	**22**		**P**	**21 37 34.7**	**-1.2**
KTH				IAmb	IAmb	21 37 36.3	
	comp=Z,10nm,0.9s						
SML	**Sawmill**	**81.07**	**25**	P	**P**	**21 37 36.6**	**0.0**
SML				IAmb	IAmb	21 37 37.9	
	comp=Z,21nm,0.9s						
SHLS	**Shalkode**	**81.18**	**315**	*e*P	**P**	**21 37 35.4**	**-2.3**
IMAR	**Indian Mountai**	**81.29**	**20**	P	**P**	**21 37 37.0**	**-0.6**
ZAA0	**Zalesovo Array**	**81.31**	**327**	P	**P**	**21 37 36.0**	**-1.9**
ZALV	**Zalesovo Beam**	**81.31**	**327**	P	**P**	**21 37 37.2**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=106,slow=4.8,SNR=15						
ZALV	**Zalesovo Beam**	**81.31**	**327**	P	**P**	**21 37 36.6**	**-1.3**
UZB	**Uzynbulak**	**81.48**	**315**	*e*P	**P**	**21 37 37.9**	**-1.4**
RND	**Reindeer**	**81.66**	**23**	P	**P**	**21 37 38.9**	**-0.8**
KPKS	**Kokpek**	**81.81**	**315**	*e*P	**P**	**21 37 40.1**	**-0.8**
SATY	**Saty**	**81.90**	**315**	*e*P	**P**	**21 37 40.0**	**-1.5**
KLU	**Klutina**	**81.93**	**25**	P	**P**	**21 37 41.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**81.98**	**313**	P	**P**	**21 37 41.3**	**-1.0**
TDK	**Taldyqorghan**	**82.41**	**317**	*e*P	**P**	**21 37 42.4**	**-1.6**
WRH	**Wood River Hil**	**82.49**	**22**	P	**P**	**21 37 42.4**	**-1.5**
WRH				IAmb	IAmb	21 37 45.0	
	comp=Z,16nm,1.2s						
KDJ	**Kajisay**	**82.53**	**314**	P	**P**	**21 37 44.6**	**-0.3**
KDJ				IAmb	IAmb	21 37 47.0	
	comp=Z,18nm,1.0s						
CCB	**Clear Creek Bu**	**82.68**	**22**	P	**P**	**21 37 43.3**	**-1.6**
CCB				IAmb	IAmb	21 37 45.5	
	comp=Z,11nm,1.2s						
KSH	**Kashi**	**82.81**	**311**	P	**P**	**21 37 48.3**	**+2.0**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDOK	**Medeo**	**82.88**	**315**	*e*P	**P**	**21 37 46.2**	**-0.5**
TNSS	**Tian-Shan**	**82.92**	**314**	*e*P	**P**	**21 37 46.7**	**-0.5**
TGL	**Tana Glacier**	**82.95**	**27**	P	**P**	**21 37 43.8**	**-2.7**
IL31		**83.09**	**22**	P	**P**	**21 37 45.9**	**-1.0**
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**21 37 46.6**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=254,slow=5.3,SNR=18						
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**21 37 46.1**	**-0.9**
RIDG	**Independent Ri**	**83.39**	**24**	P	**P**	**21 37 48.1**	**-0.6**
RIDG				IAmb	IAmb	21 37 51.5	
	comp=Z,9.9nm,1.0s						
KUU	**Kurty**	**83.56**	**315**	*e*P	**P**	**21 37 47.6**	**-2.4**
DOT	**Dot Lake**	**83.67**	**24**	P	**P**	**21 37 50.3**	**+0.2**
DOT				IAmb	IAmb	21 37 53.0	
	comp=Z,13nm,1.0s						
CTGM	**Chitina Glacie**	**83.71**	**27**	P	**P**	**21 37 49.3**	**-1.2**
NIL	**Nilore**	**83.74**	**305**	P	**P**	**21 37 51.3**	**+0.2**
NIL				IAmb	IAmb	21 37 51.9	
	comp=Z,14nm,1.0s						
KURK	**Kurchatov**	**83.84**	**322**	P	**P**	**21 37 49.9**	**-1.3**
KURK				IAmb	IAmb	21 37 51.9	
	comp=Z,9.2nm,1.0s						
TKM2	**Tokmak 2**	**83.86**	**314**	P	**P**	**21 37 52.0**	**+0.3**
	SNR=8.9						
BCAR	**Beaver Creek A**	**84.35**	**25**	P	**P**	**21 37 53.0**	**-0.6**
QSPA	**South Pole Qui**	**84.47**	**180**	P	**P**	**21 37 54.1**	**-0.2**
	comp=Z,2.5nm,1.1s,baz=350,slow=0.6,SNR=3.9						
QSPA	**South Pole Qui**	**84.47**	**180**	IAmb	IAmb	21 38 03.6	
	comp=Z,9.3nm,1.0s						
CHMS	**Chumysh**	**84.48**	**314**	P	**P**	**21 37 55.3**	**+0.6**
	SNR=11						
UCH	**Uchtor**	**84.48**	**313**	P	**P**	**21 37 56.7**	**+1.5**
	SNR=8.0						
FRU1	**Bishkek**	**84.53**	**314**	P	**P**	**21 37 54.2**	**-0.7**
FRU1				IAmb	IAmb	21 37 57.2	
	comp=Z,17nm,1.1s						
AAK	**Ala-Archa**	**84.59**	**314**	P	**P**	**21 37 56.0**	**+0.6**
	SNR=7.2						
MAW	**Mawson**	**84.64**	**203**	P	**P**	**21 37 56.6**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=96,slow=9.2,SNR=2.4						
MAW				LR	LR	22 13 37.5	
	comp=Z,162nm,19.6s,baz=63,slow=34						
SGDS	**Sogindy**	**84.67**	**314**	*e*P	**P**	**21 37 54.5**	**-1.1**
USP	**Ospenovka**	**84.72**	**314**	P	**P**	**21 37 56.2**	**+0.3**
	SNR=20						
AML	**Almayashu**	**85.06**	**313**	P	**P**	**21 38 00.0**	**+1.9**
	SNR=10						
EKS2	**Erkin-Say**	**85.11**	**314**	P	**P**	**21 37 58.6**	**+0.7**
	SNR=27						
BMAR	**Burnt Mountain**	**85.16**	**20**	P	**P**	**21 37 58.4**	**+0.9**
EGAK	**Eagle**	**85.30**	**23**	P	**P**	**21 37 59.0**	**+0.8**
EGAK				IAmb	IAmb	21 38 10.9	
	comp=Z,10.0nm,1.1s						
HYT	**Haines Junctio**	**85.40**	**28**	P	**P**	**21 37 58.8**	**-0.3**
BTLS	**Baital**	**85.42**	**316**	*e*P	**P**	**21 37 57.8**	**-1.5**
DAWY	**Dawson**	**85.73**	**24**	P	**P**	**21 38 00.2**	**-0.3**
DAWY				IAmb	IAmb	21 38 03.5	
	comp=Z,16nm,1.2s						
NRIK	**Noril'sk**	**86.37**	**341**	P	**P**	**21 38 02.7**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=71,slow=2.3,SNR=3.6						
WHY	**Whitehorse**	**86.57**	**28**	P	**P**	**21 38 04.2**	**-0.6**
WRAK	**Wrangell Islan**	**86.66**	**33**	P	**P**	**21 38 04.6**	**-0.5**
BTK	**Batken**	**86.81**	**311**	P	**P**	**21 38 05.8**	**-0.5**
BTK				IAmb	IAmb	21 38 07.4	
	comp=Z,8.0nm,1.1s						
DZA	**Taraz**	**86.92**	**313**	*e*P	**P**	**21 38 06.0**	**-0.9**
KK31	**Karatay Array**	**87.55**	**314**	P	**P**	**21 38 09.0**	**-0.8**
KK31				IAmb	IAmb	21 38 11.7	
	comp=Z,11nm,1.3s						
KKAR	**Karatay Array**	**87.55**	**314**	P	**P**	**21 38 09.9**	**+0.1**
KKAR				IAmb	IAmb	21 38 11.7	
	comp=Z,11nm,1.3s						
KKAR	**Karatay Array**	**87.55**	**314**	P	**P**	**21 38 09.4**	**-0.5**
IUG	**Iuzhnay**	**87.74**	**313**	*e*P	**P**	**21 38 10.2**	**-0.7**
CHGR	**Chuyangaron**	**87.85**	**309**	P	**P**	**21 38 11.0**	**-0.4**
DLBC	**Dease Lake**	**88.37**	**31**	P	**P**	**21 38 13.8**	**+0.4**
BRVK	**Borovoye**	**89.41**	**323**	P	**P**	**21 38 16.1**	**-2.2**
BRVK				IAmb	IAmb	21 38 18.3	
	comp=Z,7.3nm,1.4s						
HUMO	**Hull Mountain**	**90.01**	**47**	P	**P**	**21 38 20.1**	**-1.4**
HUMO				IAmb	IAmb	21 38 24.7	
	comp=Z,9.9nm,1.1s						
YBH	**Yreka Blue Hor**	**90.08**	**48**	P	**P**	**21 38 22.3**	**+0.4**
YBH				IAmb	IAmb	21 38 25.2	
	comp=Z,8.7nm,1.4s						
K05A	**Summer Lake**	**91.54**	**47**	P	**P**	**21 38 26.4**	**-2.4**
PINE	**Pine Mountain**	**91.62**	**46**	P	**P**	**21 38 27.9**	**-1.2**
MOD	**Modoc Plateau**	**91.89**

0.7nm,0.3s,baz=308,slow=7.1,SNR=20
LPAZ LR LR 21 33 50.9
comp=Z,108nm,21.5s,baz=330,slow=40
LVC Limon Verde 10.61 138 Lg Lg 21 33 52.7
0.2nm,0.3s,baz=105,slow=16,SNR=2.1
LVC LR LR 21 34 42.7
comp=Z,15nm,20.1s,baz=300,slow=36
SIV San Ignacio 15.00 96 LR LR 21 38 09.8
comp=Z,216nm,18.4s,baz=290,slow=39
MDP Montagnes des 30.91 52 LR LR 21 47 24.2
comp=Z,100nm,19.9s,baz=204,slow=37
TORD Torodi Ar. Bea 82.30 74 P P 21 40 47.7 -1.1
1.5nm,0.7s,baz=268,slow=5.0,SNR=8.1
SONM Songino Array 147.00 356 PKPbc PKPbc 21 48 09.4 -0.1
0.5nm,0.5s,baz=357,slow=1.5,SNR=3.9

IDC ***03*** *21:30:21.1±4.4,5˚.59S×152˚.50E,h53km±31km,mb3.6/8, mb1 3.8/8,mb1mx3.5/30,mbtmp3.9/8,Error ellipse: s-maj=48.5km s-min=16.5km az=106.0*
NEIC ***03*** *21:30:22.3±2.7,5˚.57S±0˚.06×152˚.2E±0˚.1,h63km±9km, mb4.1/12,Error ellipse: s-maj=15.6km s-min=8.1km az=108.0*

ISC 03 21:30:20.2±0.7,5˚.61S±0˚.06×152˚.20E±0˚.10,h35km,n28, σ1§51/30,mb4.0/14,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.31**	**352**	P		**Pn**	**21 30 42.6**	**+0.6**
	506nm,0.3s,baz=147,slow=2.0,SNR=71						
KRVT				S		**Sn**	**21 31 01.0**	**+2.7**
	545nm,0.3s,baz=31,slow=21,SNR=15						
RABL	**Rabaul**	**1.41**	**358**	Pn		**Pn**	**21 30 44.0**	**+0.5**
RABL				Sn		**Sn**	**21 31 02.5**	**+1.6**
PMG	**Port Moresby**	**6.26**	**233**	S		**Sn**	**21 33 02.2**	**+1.7**
	2.7nm,0.3s,baz=172,slow=20,SNR=1.9						
PMG	**Port Moresby**	**6.26**	**233**	Pn		**Pn**	**21 31 51.5**	**+1.4**
PMG						**Sn**	**21 33 00.4**	**-0.1**
HNR	**Honiara**	**8.56**	**117**	Pn		**Pn**	**21 32 23.8**	**+2.0**
MTN	**Manton Dam**	**21.99**	**249**	P		**P**	**21 35 11.7**	**+0.2**
WB0	**Warramunga Arr**	**22.32**	**229**	P		**P**	**21 35 16.2**	**+1.2**
WB0				IAmb	IAmb		21 35 21.4	
	comp=Z,8.4nm,1.1s						
WR0	**Warramunga Arr**	**22.32**	**229**	P		**P**	**21 35 16.4**	**+1.3**
WRAB	**Tennant Creek**	**22.45**	**229**	P		**P**	**21 35 17.4**	**+1.0**
WRAB				IAmb	IAmb		21 35 29.9	
	comp=Z,6.8nm,1.1s						
WB2	**Warramunga Arr**	**22.46**	**229**	P		**P**	**21 35 17.9**	**+1.4**
WB2				IAmb	IAmb		21 35 25.2	
	comp=Z,8.6nm,1.1s						
WRA	**Warramunga Arr**	**22.46**	**229**	P		**P**	**21 35 18.1**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=52,slow=9.9,SNR=1.6						
KNRA	**Kununurra**	**25.09**	**245**	P		**P**	**21 35 44.2**	**+2.5**
AS31	**Alice Springs**	**25.15**	**223**	P		**P**	**21 35 44.3**	**+2.0**
ASAR	**Alice Springs**	**25.15**	**223**	P		**P**	**21 35 43.7**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=58,slow=9.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**28.75**	**242**	P		**P**	**21 36 17.3**	**+2.6**
	comp=Z,2.0nm,0.6s,baz=59,slow=12,SNR=6.6						
FITZ	**Fitzroy Crossi**	**28.75**	**242**	P		**P**	**21 36 13.8**	**-0.9**
FITZ				IAmb	IAmb		21 36 22.8	
	comp=Z,5.1nm,1.1s						
CAN	**Canberra**	**29.71**	**185**	P		**P**	**21 36 21.4**	**-1.7**
CAN				IAmb	IAmb		21 36 31.2	
	comp=Z,5.7nm,1.0s						
BBOO	**Buckleboo**	**30.96**	**207**	P		**P**	**21 36 33.5**	**-0.7**
MORW	**Morawa**	**41.38**	**231**	P		**P**	**21 38 02.5**	**-0.8**
MORW				IAmb	IAmb		21 38 08.8	
	comp=Z,4.7nm,1.0s						
PETK	**Petropavlovsk-**	**58.68**	**4**	P		**P**	**21 40 12.3**	**-1.8**
	comp=Z,3.9nm,1.0s,baz=216,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**66.69**	**328**	P		**P**	**21 41 07.3**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=145,slow=5.4,SNR=4.9						
SONM	**Songino Array**	**66.69**	**328**	IAmb	IAmb		21 41 08.8	
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**80.55**	**319**	P		**P**	**21 42 28.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=107,slow=5.1,SNR=1.7						
MAKZ	**Makanchi**	**80.75**	**319**	P		**P**	**21 42 28.4**	**-1.7**
MAKZ				IAmb	IAmb		21 42 33.8	
	comp=Z,3.4nm,1.1s						
ZALV	**Zalesovo Beam**	**81.50**	**327**	P		**P**	**21 42 32.2**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=101,slow=7.5,SNR=2.0						
ILAR	**Eielson Array**	**83.13**	**22**	P		**P**	**21 42 41.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=237,slow=5.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.98**	**287**	PKPbc		**PKPbc**	**21 50 07.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=83,slow=2.6,SNR=8.7						
DBIC	**Dimbokro**	**157.17**	**274**	PKPab		**PKPab**	**21 50 44.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=326,slow=17,SNR=1.7						

IDC 03 21:31:49.1±2.7,28˚.27S×73˚.10E,h0km,mb4.1/7, mb1 4.2/7,mb1mx3.8/39,mbtmp4.1/7,Error ellipse: s-maj=81.4km s-min=29.7km az=43.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.52**	**358**	T	T	21 57 21.8	
	baz=178,slow=76,SNR=180						
H08S1	**Diego Garcia H**	**20.52**	**358**	T	T	21 57 25.4	
	baz=178,slow=76,SNR=111						
H08S3	**Diego Garcia H**	**20.54**	**358**	T	T	21 57 27.7	
	baz=178,slow=76,SNR=205						
H01W2	**Cape Leeuwin H**	**35.39**	**111**	T	T	22 15 49.0	
	baz=269,slow=75,SNR=8.7						
H01W3	**Cape Leeuwin H**	**35.39**	**111**	T	T	22 15 54.3	
	baz=269,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**35.41**	**111**	T	T	22 15 59.3	
	baz=269,slow=75,SNR=11						
CMAR	**Chiang Mai Arr**	**52.76**	**31**	P	P	21 41 06.5	+0.5
	3.3nm,1.0s,baz=217,slow=7.1,SNR=19						
ASAR	**Alice Springs**	**54.37**	**100**	P	P	21 41 18.3	+0.2
	2.4nm,1.0s,baz=245,slow=6.5,SNR=10						
WRA	**Warramunga Arr**	**56.02**	**96**	P	P	21 41 29.4	-0.6
	3.0nm,1.0s,baz=254,slow=7.6,SNR=9.0						
MKAR	**Makanchi Array**	**75.17**	**7**	P	P	21 43 31.6	-1.6
	1.3nm,0.8s,baz=193,slow=5.8,SNR=4.3						
SONM	**Songino Array**	**81.46**	**22**	P	P	21 44 08.5	+0.4
	3.3nm,1.1s,baz=204,slow=5.4,SNR=14						
ZALV	**Zalesovo Beam**	**82.50**	**7**	P	P	21 44 12.8	-0.4
	0.3nm,0.3s,baz=207,slow=4.8,SNR=4.0						
AKASG	**Malin Array Be**	**87.67**	**334**	P	P	21 44 40.0	+0.8
	0.3nm,0.3s,baz=138,slow=4.3,SNR=4.7						

CNRM ***03*** *21:49:37.1±2.0,36˚.09N×8˚.10W,h2km±23km,Error ellipse: s-maj=12.4km s-min=6.4km az=127.0*
LDG ***03*** *21:49:41.0±0.2,35˚.97N×8˚.09W,h30km,Ml3.3/7,Error ellipse: s-maj=4.9km s-min=3.9km az=64.0*
SFS ***03*** *21:49:42.0,36˚.26N×7˚.99W,h7km,ML3.1,GOLFO DE CADIZ*
INMG ***03*** *21:49:42.8±1.7,36˚.06N×8˚.09W,h31km±8km,ML2.7,Error ellipse: s-maj=3.7km s-min=2.4km az=70.0*
IGIL ***03*** *21:49:42.4,36˚.06N×8˚.08W,h32km,ML2.7*
MDD ***03*** *21:49:42.2±0.9,36˚.13N×8˚.03W,h21km±11km,mbLg3.1/55, Error ellipse: s-maj=12.0km s-min=3.8km az=33.0, PRXIMO*

ISC 03 21:49:39.2±0.9,36˚.09N±0˚.04×8˚.01W±0˚.04,h35km,n144, σ2§52/260,4C-7D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**1.16**	**3**	P		**Pn**	**21 50 01.7**	**+2.8**
PBDV				S		**Sn**	**21 50 16.6**	**+3.1**
	52nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.16**	**3**	*i*P		**Pn**	**21 50 01.7**	**+2.8**
PBDV				*e*S		**Sn**	**21 50 16.6**	**+3.1**
PBDV				A	A		21 50 21.1	
	52nm,0.5s						
PFVI	**Vila Bisbo**	**1.23**	**328**	⇓P		**Pn**	**21 50 01.9**	**+2.0**
	14nm,0.1s,SNR=18						
PFVI				S		**Sn**	**21 50 16.4**	**+1.1**
	130nm,0.1s,SNR=14						
PFVI	**Vila Bisbo**	**1.23**	**328**	P		**Pn**	**21 50 01.8**	**+1.9**
PFVI				S		**Sn**	**21 50 15.9**	**+0.6**
PFVI	**Vila Bisbo**	**1.23**	**328**	P		**Pn**	**21 50 01.8**	**+1.9**
PFVI				S		**Sn**	**21 50 15.9**	**+0.6**
PFVI	**Vila Bisbo**	**1.23**	**328**	⇓*i*P		**Pn**	**21 50 01.9**	**+2.0**
PFVI				*e*S		**Sn**	**21 50 16.6**	**+1.3**
PFVI				A	A		21 50 19.9	
	89nm,0.1s						
MORF	**Marmelete**	**1.32**	**337**	*e*P		**Pn**	**21 50 03.5**	**+2.3**
MORF				*e*S		**Sn**	**21 50 18.9**	**+1.3**
MORF				AML	AML		21 50 20.3	
	comp=N,106nm,0.1s						
MORF	**Marmelete**	**1.32**	**337**	P		**Pn**	**21 50 03.5**	**+2.3**
MORF				S		**Sn**	**21 50 18.9**	**+1.3**
	comp=N,106nm,0.1s						
MORF	**Marmelete**	**1.32**	**337**	*e*P		**Pn**	**21 50 03.5**	**+2.3**
MORF				*e*S		**Sn**	**21 50 19.8**	**+2.2**
MORF				A	A		21 50 22.4	
	comp=N,130nm,0.1s						
PVAQ	**Vaqueiros**	**1.34**	**10**	P		**Pn**	**21 50 04.2**	**+2.9**
PVAQ				S		**Sn**	**21 50 20.1**	**+2.2**
	comp=N,81nm,0.1s						
PVAQ	**Vaqueiros**	**1.34**	**10**	P		**Pn**	**21 50 03.8**	**+2.4**
PVAQ				S		**Sn**	**21 50 19.9**	**+2.1**
PVAQ	**Vaqueiros**	**1.34**	**10**	P		**Pn**	**21 50 03.8**	**+2.4**
PVAQ				S		**Sn**	**21 50 19.9**	**+2.1**
PVAQ	**Vaqueiros**	**1.34**	**10**	*e*P		**Pn**	**21 50 04.2**	**+2.9**
PVAQ				*e*S		**Sn**	**21 50 20.1**	**+2.2**
PVAQ				A	A		21 50 21.5	
	comp=N,81nm,0.1s						
EGRO	**El Granado**	**1.51**	**16**	⇓P		**Pn**	**21 50 06.8**	**+3.1**
	comp=N,30nm,0.1s,SNR=18						
EGRO				S		**Sn**	**21 50 24.1**	**+2.0**
	comp=N,74nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**1.54**	**359**	P		**Pn**	**21 50 07.2**	**+3.0**
PCVE				S		**Sn**	**21 50 25.3**	**+2.3**
	comp=N,33nm,0.3s						
PCVE	**Castro Verde**	**1.54**	**359**	⇓*i*P		**Pn**	**21 50 07.2**	**+3.0**
PCVE				*e*S		**Sn**	**21 50 25.3**	**+2.3**
PCVE				A	A		21 50 27.5	
	comp=N,33nm,0.3s						
PTEO	**Sao Teotonio**	**1.56**	**339**	P		**Pn**	**21 50 07.2**	**+2.7**
PTEO				S		**Sn**	**21 50 25.6**	**+2.1**
	comp=N,24nm,0.4s						
PTEO	**Sao Teotonio**	**1.56**	**339**	*e*P		**Pn**	**21 50 07.2**	**+2.7**
PTEO				*e*S		**Sn**	**21 50 25.6**	**+2.1**
PTEO				A	A		21 50 26.6	
	comp=N,48nm,0.4s						
ESPR	**Espera**	**1.91**	**65**	⇑P		**Pn**	**21 50 12.4**	**+3.2**
	comp=N,2.7nm,0.1s,SNR=18						
ESPR				S		**Sn**	**21 50 34.2**	**+2.2**
	comp=N,372nm,0.4s,SNR=11						
PBEJ	**Beja**	**1.94**	**3**	P		**Pn**	**21 50 12.4**	**+2.8**
PBEJ				S		**Sn**	**21 50 35.0**	**+2.2**
	comp=N,14nm,0.3s						
PBEJ	**Beja**	**1.94**	**3**	⇑*e*Pn		**Pn**	**21 50 12.4**	**+2.8**
PBEJ				*e*Sn		**Sn**	**21 50 35.0**	**+2.2**
PBEJ				A	A		21 50 44.9	
	comp=N,27nm,0.3s						
EMIN	**Mina Concepcio**	**1.99**	**32**	⇓P		**Pn**	**21 50 13.2**	**+2.8**
	comp=N,4.2nm,0.1s,SNR=18						
EMIN				S		**Sn**	**21 50 35.3**	**+1.2**
	comp=N,38nm,0.2s,SNR=21						
PNCL	**Nicolau / Gran**	**2.06**	**349**	P		**Pn**	**21 50 13.8**	**+2.5**
PNCL				S		**Sn**	**21 50 36.9**	**+1.1**
	comp=N,29nm,0.2s						
PNCL	**Nicolau / Gran**	**2.06**	**349**	⇓*e*Pn		**Pn**	**21 50 13.8**	**+2.5**
PNCL				*e*Sn		**Sn**	**21 50 36.9**	**+1.1**
PNCL				A	A		21 50 38.9	
	comp=N,29nm,0.2s						
ECEU	**Ceuta**	**2.15**	**94**	P		**Pn**	**21 50 16.4**	**+3.9**
	comp=N,3.6nm,0.1s,SNR=14						
ECEU				S		**Sn**	**21 50 43.1**	**+5.2**
	comp=N,10nm,0.1s,SNR=7.9						
CEU	**Ceuta**	**2.15**	**94**	P		**Pn**	**21 50 17.1**	**+4.6**
CEU				S		**Sn**	**21 50 42.0**	**+4.0**
CEU	**Ceuta**	**2.15**	**94**	⇑*i*P		**Pn**	**21 50 17.1**	**+4.6**
CEU				*e*S		**Sn**	**21 50 42.0**	**+4.0**
PBAR	**Barrancos**	**2.23**	**20**	P		**Pn**	**21 50 16.5**	**+2.9**
PBAR				S		**Sn**	**21 50 41.7**	**+1.9**
	comp=N,28nm,0.6s						
PBAR	**Barrancos**	**2.23**	**20**	*e*Pn		**Pn**	**21 50 16.5**	**+2.9**
PBAR				*e*Sn		**Sn**	**21 50 41.7**	**+1.9**
PBAR				A	A		21 50 55.2	
	comp=N,28nm,0.6s						
EVO	**Evora**	**2.44**	**0**	P		**Pn**	**21 50 18.9**	**+2.3**
EVO				S		**Sn**	**21 50 46.1**	**+0.9**
EVO	**Evora**	**2.44**	**0**	*e*P		**Pn**	**21 50 18.9**	**+2.3**
EVO				*e*S		**Sn**	**21 50 46.1**	**+0.9**
EVO	**Evora**	**2.44**	**0**	⇑*i*Pn		**Pn**	**21 50 19.3**	**+2.8**
EVO				*e*Sn		**Sn**	**21 50 46.3**	**+1.1**
EVO				A	A		21 50 49.7	
	comp=N,38nm,0.1s						
LIS	**Lisbon**	**2.78**	**341**	S		**Sn**	**21 50 55.7**	**+2.3**
LIS	**Lisbon**	**2.78**	**341**	*e*Sn		**Sn**	**21 50 55.7**	**+2.3**
HORN	**Hornachuelos**	**2.82**	**51**	P		**Pn**	**21 50 24.4**	**+2.7**
HORN	**Hornachuelos**	**2.82**	**51**	P		**Pn**	**21 50 24.4**	**+2.7**
HORN				S		**Sn**	**21 50 54.7**	**+0.2**
AVE	**Averroes**	**2.83**	**170**	P		**Pn**	**21 50 23.9**	**+2.1**
AVE	**Averroes**	**2.83**	**170**	P		**Pn**	**21 50 23.9**	**+2.1**
AVE				S		**Sn**	**21 50 54.3**	**-0.3**
AVE	**Averroes**	**2.83**	**170**	*e*P		**Pn**	**21 50 24.0**	**+2.2**
AVE				*e*S		**Sn**	**21 50 54.5**	**-0.2**
ECAB	**El Cabril**	**2.87**	**46**	P		**Pn**	**21 50 25.2**	**+2.7**
	comp=N,4.0nm,0.1s,SNR=143						
ECAB				S		**Sn**	**21 50 56.0**	**+0.2**
	comp=N,74nm,0.1s,SNR=15						
SICH	**Sidi Chahed**	**2.97**	**131**	P		Pn	21 50 28.7	+4.9
SICH				S		**Sn**	**21 50 58.7**	**+0.6**
EMAL	**Malaga-Limoner**	**2.97**	**76**	*e*P		**Pn**	**21 50 27.1**	**+3.4**
EMAL				*e*S		**Sn**	**21 50 58.6**	**+0.4**
PMTG	**Montargil**	**2.98**	**357**	P		**Pn**	**21 50 26.5**	**+2.5**
PMTG				S		**Sn**	**21 50 59.2**	**+0.7**
	comp=N,28nm,0.2s						
PMTG	**Montargil**	**2.98**	**357**	*e*Pn		**Pn**	**21 50 26.5**	**+2.5**
PMTG				*e*Sn		**Sn**	**21 50 59.2**	**+0.7**
PMTG				A	A		21 51 01.8	
	comp=N,28nm,0.2s						
PMAFR	**Mafra**	**3.04**	**341**	P		**Pn**	**21 50 27.6**	**+2.9**
	comp=N,17nm,0.1s,SNR=32						
PMAFR				S		**Sn**	**21 51 01.3**	**+1.5**
	comp=N,65nm,0.2s,SNR=16						
PMAFR	**Mafra**	**3.04**	**341**	*e*Pn		**Pn**	**21 50 27.7**	**+2.9**
PMAFR				*e*Sn		**Sn**	**21 51 01.7**	**+1.9**
PMAFR				A	A		21 51 02.5	
	comp=N,79nm,0.2s						
PVLZ	**Peæn de**	**3.16**	**106**	P		**Pn**	**21 50 28.4**	**+2.1**
PVLZ				S		**Sn**	**21 51 05.4**	**+2.6**
PVLZ	**Peæn de**	**3.16**	**106**	*e*P		**Pn**	**21 50 28.4**	**+2.1**
PVLZ				*e*S		**Sn**	**21 51 05.4**	**+2.6**
EGOR	**Sierra Gorda,**	**3.30**	**71**	P		**Pn**	**21 50 32.2**	**+3.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
EGOR				S		**Sn**	**21 51 09.0**	**+2.3**
	comp=N,22nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**3.37**	**8**	P		**Pn**	**21 50 32.1**	**+2.7**
PMRV				S		**Sn**	**21 51 09.9**	**+1.7**
	comp=N,8.4nm,0.3s						
PMRV	**Marv??o**	**3.37**	**8**	*e*Pn		**Pn**	**21 50 32.1**	**+2.7**
PMRV				*e*Sn		**Sn**	**21 51 09.9**	**+1.7**
PMRV				A	A		21 51 35.9	
	comp=N,8.4nm,0.3s						
EADA	**Adamuz**	**3.44**	**52**	P		**Pn**	**21 50 33.5**	**+3.2**
	comp=N,6.6nm,0.1s,SNR=98						
EADA				S		**Sn**	**21 51 09.9**	**0.0**
	comp=N,65nm,0.1s,SNR=9.9						
PSBE	**So Bento**	**3.48**	**350**	*e*Pn		**Pn**	**21 50 35.0**	**+4.2**
PSBE				*e*Sn		**Sn**	**21 51 13.0**	**+2.2**
PSBE				A	A		21 51 15.6	
	comp=N,18nm,0.2s						
IFR	**Ifrane**	**3.50**	**136**	*e*P		**Pn**	**21 50 32.8**	**+1.6**
IFR				*e*S		**Sn**	**21 51 08.9**	**-2.5**
ELGU	**Los Guajares,**	**3.62**	**76**	P		**Pn**	**21 50 35.0**	**+2.1**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELGU				S		**Sn**	**21 51 15.9**	**+1.5**
	comp=N,14nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.77**	**6**	P		**Pn**	**21 50 37.7**	**+2.9**
PCBR				S		**Sn**	**21 51 19.4**	**+1.5**
	comp=N,4.9nm,0.2s						
PCBR	**Castelo Branco**	**3.77**	**6**	*e*Pn		**Pn**	**21 50 37.7**	**+2.9**
PCBR				*e*Sn		**Sn**	**21 51 19.4**	**+1.5**
PCBR				A	A		21 51 20.8	
	comp=N,9.9nm,0.2s						
EQUE	**Quentar**	**3.84**	**72**	P		**Pn**	**21 50 39.7**	**+3.8**
	comp=N,0.6nm,0.1s,SNR=9.0						
EQUE				S		**Sn**	**21 51 20.9**	**+1.0**
	comp=N,8.6nm,0.2s,SNR=7.4						
PCAS	**Casmilo, Conde**	**3.98**	**355**	P		**Pn**	**21 50 40.4**	**+2.7**
PCAS				S		**Sn**	**21 51 23.5**	**+0.4**
	comp=N,12nm,0.4s						
PCAS	**Casmilo, Conde**	**3.98**	**355**	*e*Pn		**Pn**	**21 50 40.4**	**+2.7**
PCAS				*e*Sn		**Sn**	**21 51 23.5**	**+0.4**
PCAS				A	A		21 51 25.2	
	comp=N,12nm,0.4s						
COI	**Coimbra**	**4.13**	**356**	P		**Pn**	**21 50 42.5**	**+2.8**
COI				S		**Sn**	**21 51 27.3**	**+0.6**
COI	**Coimbra**	**4.13**	**356**	*e*Pn		**Pn**	**21 50 42.5**	**+2.8**
COI				*e*Sn		**Sn**	**21 51 27.3**	**+0.6**
MD31	**MD31**	**4.19**	**139**	P		**Pn**	**21 50 42.3**	**+1.6**
MD31	**MD31**	**4.19**	**139**	P		**Pn**	**21 50 42.3**	**+1.6**
MD31				S		**Sn**	**21 51 26.3**	**-2.2**
EBER	**Berja**	**4.21**	**77**	P		**Pn**	**21 50 44.6**	**+3.6**
	comp=N,0.2nm,0.1s,SNR=6.1						
EBER				S		**Sn**	**21 51 29.0**	**0.0**
	comp=N,11nm,0.5s,SNR=5.4						
GORA	**Gorafe**	**4.23**	**69**	P		**Pn**	**21 50 45.3**	**+4.2**
	comp=N,5.1nm,0.1s,SNR=4.0						
GORA				S		**Sn**	**21 51 30.5**	**+1.2**
	comp=N,11nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.25**	**20**	P		**Pn**	**21 50 44.1**	**+2.7**
	comp=N,1.5nm,0.1s,SNR=80						
EPLA				S		**Sn**	**21 51 29.5**	**-0.5**
	comp=N,6.9nm,0.1s,SNR=7.9						
MDT	**Midelt**	**4.31**	**138**	P		**Pn**	**21 50 44.1**	**+1.8**
MDT	**Midelt**	**4.31**	**138**	P		**Pn**	**21 50 44.1**	**+1.8**
MDT				S		**Sn**	**21 51 29.5**	**-2.0**
EQES	**Quesada**	**4.31**	**65**	P		**Pn**	**21 50 45.4**	**+3.0**
	comp=N,0.7nm,0.1s,SNR=25						
EQES				S		**Sn**	**21 51 31.1**	**-0.4**
	comp=N,5.7nm,0.1s,SNR=11						
EAH	**EAH**	**4.62**	**197**	P		**Pn**	**21 50 47.6**	**+1.1**
EAH	**EAH**	**4.62**	**197**	P		**Pn**	**21 50 47.6**	**+1.1**
EAH				S		**Sn**	**21 51 37.4**	**-1.4**
PVIS	**Viseu**	**4.62**	**1**	P		**Pn**	**21 50 49.3**	**+2.7**
PVIS				S		**Sn**	**21 51 40.3**	**+1.3**
	comp=N,2.6nm,0.1s						
PVIS	**Viseu**	**4.62**	**1**	*e*Pn		**Pn**	**21 50 49.3**	**+2.7**
PVIS				*e*Sn		**Sn**	**21 51 40.3**	**+1.3**
PVIS				A	A		21 51 41.5	
	comp=N,5.1nm,0.1s						
ESDC	**Sonseca Array**	**4.80**	**41**	P		**Pn**	**21 50 51.9**	**+2.8**
	comp=N,0.5nm,0.3s,baz=227,slow=13,SNR=25						
ESDC				S		**Sn**	**21 51 41.3**	**-2.2**
	baz=225,slow=23,SNR=7.9						
SESP	**Santiago Espad**	**4.82**	**63**	P		**Pn**	**21 50 51.8**	**+2.5**
	comp=N,1.2nm,0.1s,SNR=7.9						
SESP				S		**Sn**	**21 51 42.8**	**-1.2**
	comp=N,15nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**4.82**	**63**	P		**Pn**	**21 50 52.2**	**+2.9**
SESP	**Santiago Espad**	**4.82**	**63**	P		**Pn**	**21 50 52.2**	**+2.9**
SESP				S		**Sn**	**21 51 43.2**	**-0.8**
OUK	**Oukaimeden**	**4.87**	**179**	P		**Pn**	**21 50 51.5**	**+1.2**
OUK	**Oukaimeden**	**4.87**	**179**	P		**Pn**	**21 50 51.5**	**+1.2**
OUK				S		**Sn**	**21 51 42.5**	**-3.1**
GOLM	**Goulmima**	**5.06**	**149**	P		**Pn**	**21 50 57.1**	**+4.5**
GOLM	**Goulmima**	**5.06**	**149**	P		**Pn**	**21 50 57.1**	**+4.5**
GOLM				S		**Sn**	**21 51 49.1**	**-0.9**
MVO	**Moncorvo**	**5.13**	**8**	P		**Pn**	**21 50 56.0**	**+2.5**
	comp=N,4.4nm,0.1s,SNR=31						
MVO				S		**Sn**	**21 51 50.3**	**-1.3**
	comp=N,5.9nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.13**	**8**	*e*Pn		**Pn**	**21 50 56.0**	**+2.5**
MVO				*e*Sn		**Sn**	**21 51 51.4**	**-0.1**
MVO				A	A		21 51 52.3	
	comp=N,5.5nm,0.2s						
PVRL	**Vila Real**	**5.19**	**2**	P		**Pn**	**21 50 56.8**	**+2.5**
PVRL				S		**Sn**	**21 51 52.5**	**-0.4**
	comp=N,8.3nm,0.1s						
PVRL	**Vila Real**	**5.19**	**2**	*e*Pn		**Pn**	**21 50 56.8**	**+2.5**
PVRL				*e*Sn		**Sn**	**21 51 52.5**	**-0.4**
PVRL				A	A		21 51 55.1	
	comp=N,17nm,0.1s						
OUZM	**OUZ**	**5.27**	**168**	P		**Pn**	**21 50 57.4**	**+1.8**
OUZM	**OUZ**	**5.27**	**168**	P		**Pn**	**21 50 57.4**	**+1.8**
OUZM				S		**Sn**	**21 51 52.2**	**-2.9**
GUD	**Guadarrama**	**5.47**	**33**	P		**Pn**	**21 51 01.3**	**+3.1**
	comp=N,1.4nm,0.1s,SNR=35						
GUD				S		**Sn**	**21 51 59.8**	**-0.2**
	comp=N,3.3nm,0.3s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**5.54**	**184**	P		Pn	21 50 56.9	-2.3
TTIG				S		Sn	21 51 51.9	-10
PCAB	**Cabril**	**5.62**	**360**	P		**Pn**	**21 51 02.8**	**+2.6**
PCAB				S		**Sn**	**21 52 02.3**	**-1.2**
	comp=N,2.3nm,0.1s						
PCAB	**Cabril**	**5.62**	**360**	*e*Pn		**Pn**	**21 51 02.8**	**+2.6**
PCAB				*e*Sn		**Sn**	**21 52 02.3**	**-1.2**
PCAB				A	A		21 52 06.1	
	comp=N,4.6nm,0.1s						
TZRR	**Tazzarine**	**5.67**	**158**	P		**Pn**	**21 51 03.3**	**+2.3**
TZRR

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,4.9nm,0.5s						
SJPF	**Ste Jean**	**8.76**	**35**	P	**Pn**	**21 51 45.8**	**+2.6**
SJPF				S	**Sn**	**21 53 17.8**	**-2.9**
	comp=N,2.5nm,0.5s						
ETSF	**Etsaut**	**8.91**	**38**	*e*Pn	**Pn**	**21 51 47.3**	**+1.9**
ETSF				*e*Sn	**Sn**	**21 53 22.1**	**-2.5**
	comp=N,1.5nm,0.4s						
ETSF	**Etsaut**	**8.91**	**38**	P	**Pn**	**21 51 47.3**	**+1.9**
ETSF				S	**Sn**	**21 53 22.1**	**-2.5**
	comp=N,0.8nm,0.4s						
ATE	**Arette**	**8.98**	**37**	P	**Pn**	**21 51 49.5**	**+3.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
ATE				S	**Sn**	**21 53 23.3**	**-2.9**
	comp=N,2.5nm,0.4s,SNR=7.9						
ECHI	**Chisagues Biel**	**9.14**	**42**	P	**Pn**	**21 51 51.6**	**+3.0**
	comp=N,0.1nm,0.0s,SNR=7.9						
ECHI				S	**Sn**	**21 53 27.1**	**-3.1**
	comp=N,1.2nm,0.3s,SNR=7.9						
EPF	**Esparros**	**9.47**	**40**	*e*Pn	**Pn**	**21 51 55.2**	**+2.2**
EPF				*e*Sn	**Sn**	**21 53 35.3**	**-2.9**
	comp=N,2.0nm,0.4s						
EPF	**Esparros**	**9.47**	**40**	P	**Pn**	**21 51 55.2**	**+2.2**
EPF				S	**Sn**	**21 53 35.3**	**-2.9**
	comp=N,1.0nm,0.4s						
CSOR	**Sort**	**9.47**	**46**	P	**Pn**	**21 51 56.8**	**+3.6**
	comp=N,0.5nm,0.1s,SNR=5.9						
CSOR				S	**Sn**	**21 53 34.5**	**-3.9**
	comp=N,0.9nm,0.4s,SNR=4.0						
CLLI	**Llivia**	**10.03**	**47**	P	**Pn**	**21 52 04.8**	**+3.9**
	comp=N,0.1nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**21 53 48.5**	**-3.7**
	comp=N,0.1nm,0.2s,SNR=4.0						
MTLF	**Montolieu**	**10.70**	**44**	*e*Pn	**Pn**	**21 52 11.7**	**+1.8**
MTLF				*e*Sn	**Sn**	**21 54 05.3**	**-3.0**
	comp=N,0.3nm,0.3s						
MTLF	**Montolieu**	**10.70**	**44**	P	**Pn**	**21 52 11.7**	**+1.8**
MTLF				S	**Sn**	**21 54 05.3**	**-3.0**
	comp=N,0.2nm,0.3s						
LFF	**La Frestale**	**11.06**	**34**	*e*Pn	**Pn**	**21 52 16.7**	**+1.9**
LFF	**La Frestale**	**11.06**	**34**	P	**Pn**	**21 52 16.7**	**+1.9**
CAF	**Calviac**	**11.69**	**38**	*e*Pn	**Pn**	**21 52 25.7**	**+2.3**
CAF	**Calviac**	**11.69**	**38**	P	**Pn**	**21 52 25.7**	**+2.3**
RJF	**Les Rejaudoux**	**11.70**	**35**	*e*Pn	**Pn**	**21 52 25.2**	**+1.7**
RJF	**Les Rejaudoux**	**11.70**	**35**	P	**Pn**	**21 52 25.2**	**+1.7**
QUIF	**Quistinic**	**12.36**	**15**	*e*Pn	**Pn**	**21 52 33.7**	**+1.3**
QUIF				*e*Sn	**Sn**	**21 54 44.2**	**-4.6**
	comp=N,0.6nm,0.3s						
QUIF	**Quistinic**	**12.36**	**15**	P	**Pn**	**21 52 33.7**	**+1.3**
QUIF				S	**Sn**	**21 54 44.2**	**-4.6**
	comp=N,0.3nm,0.3s						
ROSF	**Rostrenen**	**12.73**	**14**	*e*Pn	**Pn**	**21 52 38.8**	**+1.2**
ROSF				*e*Sn	**Sn**	**21 54 53.4**	**-4.6**
	comp=N,1.0nm,0.3s						
ROSF	**Rostrenen**	**12.73**	**14**	P	**Pn**	**21 52 38.8**	**+1.2**
ROSF				S	**Sn**	**21 54 53.4**	**-4.6**
	comp=N,0.0nm,0.3s						
TCF	**Toulx Ste Croi**	**12.76**	**34**	*e*Pn	**Pn**	**21 52 40.0**	**+1.9**
TCF	**Toulx Ste Croi**	**12.76**	**34**	P	**Pn**	**21 52 40.0**	**+1.9**
SSF	**Saint Saulge**	**13.93**	**35**	*e*Pn	**Pn**	**21 52 55.1**	**+1.1**
SSF				*e*Sn	**Sn**	**21 55 21.8**	**-5.5**
	comp=N,0.4nm,0.3s						
SSF	**Saint Saulge**	**13.93**	**35**	P	**Pn**	**21 52 55.1**	**+1.1**
SSF				S	**Sn**	**21 55 21.8**	**-5.5**
	comp=N,0.2nm,0.3s						

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*IDC **03** 22:02:46.1±1.4, 64.25N×18.27W, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.3/53, mbtmp3.5/5, ML4.3/1, Error ellipse: s-maj=48.4km s-min=25.1km az=40.0*

*NEIC **03** 22:02:47.9±2.1, 64.3N±0.1×18.2W±0.2, h15km±1km, mb4.5/19, Error ellipse: s-maj=15.8km s-min=9.8km az=201.0*

ISC 03 22:02:46.9±0.6**, 64.3N**±0.1×**18.27W**±0.07**, h10km, n27,** σ**1.17**/26**, mb4.5**/13**, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.40**	**290**	Pn	**Pn**	**22 03 12.7**	**+0.3**
SCO	**Scoresbysund**	**6.37**	**349**	Pn	**Pn**	**22 04 21.3**	**+0.7**
EKA	**Eskdalemuir Ar**	**11.74**	**133**	Pn	**Pn**	**22 05 33.9**	**-0.3**
	baz=320,slow=13,SNR=13						
FINES	**FINESS Array B**	**20.11**	**78**	P	**P**	**22 07 21.0**	**+0.7**
	0.6nm,0.7s,baz=307,slow=14,SNR=1.6						
PSZ	**Piszkesteto**	**26.30**	**110**	P	**P**	**22 08 22.5**	**+0.1**
INTR	**Introdacqua**	**28.94**	**125**	P	**P**	**22 08 46.7**	**+0.7**
INTR				IAmb	IAmb	22 09 04.2	
	comp=Z,6.4nm,1.0s						
VSL	**Villasalto**	**29.66**	**133**	P	**P**	**22 08 52.5**	**+0.1**
VSL				IAmb	IAmb	22 09 04.5	
	comp=Z,8.8nm,1.0s						
G65A	**Princeton**	**33.12**	**259**	P	**P**	**22 09 24.9**	**+2.1**
G65A				IAmb	IAmb	22 09 28.5	
	comp=Z,13nm,1.1s						
VT1	**Waterbury**	**36.05**	**263**	P	**P**	**22 09 50.0**	**+1.9**
VT1				IAmb	IAmb	22 09 53.7	
	comp=Z,9.1nm,0.8s						
KIV	**Kislovodsk**	**39.16**	**91**	P	**P**	**22 10 14.8**	**+0.3**
TOKA	**Tokat**	**39.42**	**101**	P	**P**	**22 10 16.1**	**-0.6**
I49A	**Point Hope**	**40.74**	**272**	P	**P**	**22 10 27.9**	**+0.4**
D41A	**Chassel**	**40.78**	**280**	P	**P**	**22 10 25.8**	**-2.0**
ABKAR	**Akbulak array**	**42.42**	**72**	P	**P**	**22 10 40.6**	**-0.6**
P52A	**Corning**	**43.94**	**268**	P	**P**	**22 10 54.4**	**+0.8**
P52A				IAmb	IAmb	22 11 06.7	
	comp=Z,12nm,1.1s						
T57A	**Hurt**	**44.88**	**263**	P	**P**	**22 11 00.1**	**-1.1**
T57A				IAmb	IAmb	22 11 17.7	
	comp=Z,5.5nm,1.1s						
F33A	**5 Mile Ranch,**	**45.03**	**285**	P	**P**	**22 11 03.3**	**+1.1**
RDOG	**Red Dog Mine**	**45.55**	**342**	P	**P**	**22 11 04.9**	**-1.2**
RDOG				IAmb	IAmb	22 11 20.7	
	comp=Z,9.2nm,1.0s						
ILAR	**Eielson Array**	**45.86**	**332**	P	**P**	**22 11 09.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=11,slow=6.4,SNR=4.3						
TKL	**Tuckaleechee C**	**47.97**	**266**	P	**P**	**22 11 24.9**	**-0.6**
TKL				IAmb	IAmb	22 11 25.8	
	comp=Z,4.8nm,1.1s						
MCARA	**McCarthy VSAT**	**48.00**	**328**	P	**P**	**22 11 26.1**	**+0.7**
MCARA				IAmb	IAmb	22 11 26.6	
	comp=Z,4.1nm,1.0s						
GLB	**Gilahina Butte**	**48.13**	**328**	P	**P**	**22 11 24.9**	**-1.5**
GLB				IAmb	IAmb	22 11 40.9	
	comp=Z,2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**52.94**	**155**	P	**P**	**22 12 03.7**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=338,slow=8.6,SNR=1.9						
TORD	**Torodi Ar. Bea**	**52.94**	**155**	IAmb	IAmb	22 12 09.7	
	comp=Z,0.7nm,1.1s						
PDAR	**Pinedale Array**	**53.01**	**293**	P	**P**	**22 12 04.7**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=46,slow=7.0,SNR=4.3						
KMRM	**Mail Ridge**	**60.66**	**302**	P	**P**	**22 12 56.5**	**-1.3**
TEIG	**Tepich**	**63.30**	**261**	P	**P**	**22 13 13.3**	**-2.4**

IDC 03 22:03:34.6±1.6**, 4.91S**×**150.88E, h0km, mb2.9**/2**, mb1 3.3**/2**, mb1mx3.1**/29**, mbtmp3.0**/2**, Error ellipse: s-maj=93.9km s-min=13.6km az=148.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.28**	**62**	Pg	Pg	22 03 58.2	-1.0
	84nm,0.3s,baz=158,slow=1.5,SNR=40						
KRVT				Lg	Lg	22 04 16.8	
	76nm,0.3s,baz=47,slow=18,SNR=9.8						
WRA	**Warramunga Arr**	**21.97**	**226**	P	P	22 08 32.3	+2.0
	0.3nm,0.8s,baz=50,slow=9.7,SNR=2.2						
ASAR	**Alice Springs**	**24.82**	**220**	P	P	22 08 57.4	-1.2
	0.5nm,0.8s,baz=53,slow=9.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.52**	**287**	PKPbc	PKPbc	22 23 24.0	-0.5
	0.2nm,0.7s,baz=70,slow=3.1,SNR=1.4						

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*BGR **03** 22:20:27.3±0.0, 33.08N×27.18E, h33km, mb4.4, Ms4.1*

*BJI **03** 22:20:40.7±0.0, 34.25N×25.89E, h15km, mB5.3/40, mb5.0/59, Ms5.0/18, Ms7 4.6/13*

*NIC **03** 22:20:42.2±0.0, 34.36N×26.10E, h18km±9km, Ml5.2/5*

*PDG **03** 22:20:43.8±0.9, 34.36N×26.43E, h3km±2km, ML4.7/14, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0*

*MOS **03** 22:20:44.2±1.1, 34.47N×26.32E, h16km, mb5.1/58, MS4.3/19, Error ellipse: s-maj=4.0km s-min=2.3km az=98.3*

*IDC **03** 22:20:44.2±0.4, 34.63N×26.31E, h0km, mb4.8/37, mb1 4.8/45, mb1mx4.8/47, mbtmp4.8/45, ML4.3/8, MS4.2/31, Ms1 4.2/31, ms1mx4.0/56, Error ellipse: s-maj=9.9km s-min=8.3km az=151.0*

*NEIC **03** 22:20:45.5±1.6, 34.44N±0.06×26.30E±0.06, h15km±3km, mb5.1/262, Mww5.1, ML4.8(ATH), Error ellipse: s-maj=9.7km s-min=6.9km az=208.0*

*GCMT **03** 22:20:45.5±0.2, 34.50N±0.01×26.42E±0.02, h12km, MW5.0/95, Moment Tensor Solution. s35,c38; s95,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.43±.08; Mθθ-3.35±.06; Mϕϕ0.91±.07; Mrθ0.47±.19; Mθϕ0.33±.07; Mϕr1.89±.32; Best double couple: M0 3.57600×10^{16} NP1:ϕs303.00000°, δ51.00000°, λ136.00000°. NP2: ϕs65.00000°, δ57.00000°, λ48.00000°. Principal axes: T 3.7550, Plg56.0000°, Azm278.0000°; N -0.3640, Plg34.0000°, Azm90.0000°; P -3.3960, Plg4.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*HLW **03** 22:20:46.3, 34.55N×26.48E, h20km±8km, Ml5.0*

*ATH **03** 22:20:46.2, 34.58N×26.38E, h17km±1km, ML4.8/6, Error ellipse: s-maj=3.0km s-min=1.2km az=342.0*

*MED_RC **03** 22:20:46.0±0.3, 34.43N×26.34E, h17km, MW5.0/32, Moment Tensor Solution. Body waves: s5,c5;Mantle waves: s32,c53; Duration: 1.4 Moment tensor: Scale 10^{16}Nm; Mrr2.51±.22; Mθθ-3.91±.13; Mϕϕ1.40±.12; Mrθ1.05±.23; Mθϕ-0.10±.10; Mϕr1.87±.35; Best double couple: M0 4.05000×10^{16} NP1:ϕs300.00000°, δ46.00000°, λ142.00000°. NP2:ϕs59.00000°, δ64.00000°, λ51.00000°. Principal axes: T 3.9800, Plg54.0000°, Azm280.0000°; N 0.1300, Plg34.0000°, Azm78.0000°; P -4.1100, Plg10.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

*NEIC **03** 22:20:47, 34.35N×26.27E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; Mrr2.24; Mθθ-2.86; Mϕϕ0.62; Mrθ5.54; Mθϕ-0.40; Mϕr0.56; Fault plane solution: M0 6.16000×10^{16} NP1:ϕs262.00000°, δ12.00000°, λ88.00000°. NP2:ϕs84.00000°, δ78.00000°, λ90.00000°. Principal axes: T 5.7961, Plg57.0000°, Azm355.0000°; N 0.6696, Plg0.0000°, Azm264.0000°; P -6.4656, Plg33.0000°, Azm174.0000°;*

*THE **03** 22:20:47.9, 34.62N×26.28E, h0km±1km, ML4.7/8 Error ellipse: s-maj=3.1km s-min=1.3km az=158.0*

*ISK **03** 22:20:47.5, 34.60N×26.35E, h14km, ML4.9/16*

*GII **03** 22:20:51.3±0.4, 34.37N×26.73E, h50km, mb4.6/5, MD4.5/5*

ISC 03 22:20:45.8±0.4**, 34.51N**±0.02×**26.35E**±0.02**, h14km**±2km**, h13km:pP-P, n1242,** σ**1.62**/1345**, mb5.0**/247**, MS4.2**/32**, 32C-43D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.61**	**350**	P	**Pg**	**22 20 56.8**	**-1.0**
ZKR				S	**Sg**	**22 21 06.6**	**+0.8**
	60µm,0.7s						
ZKR	**Zakros**	**0.61**	**350**	P	**Pg**	**22 20 56.7**	**-1.0**
ZKR				S	**Sg**	**22 21 06.0**	**+0.2**
ZKR				AML	AML	22 21 12.9	
ZKR				AML	AML	22 21 13.6	
	comp=N,74960µm,0.6s						
ZKR	**Zakros**	**0.61**	**350**	PG	**Pg**	**22 20 57.2**	**-0.5**
ZKR				SG	**Sg**	**22 21 05.6**	**-0.2**
FRMA	**Ierapetra Chan**	**0.71**	**315**	P	**Pg**	**22 20 58.2**	**-1.5**
FRMA				S	**Sg**	**22 21 07.6**	**-1.5**
	comp=N,49µm,0.5s						
STIA	**Sitia Lasithi**	**0.72**	**343**	P	**Pg**	**22 20 58.9**	**-0.9**
STIA				S	**Sg**	**22 21 09.8**	**+0.5**
NPS	**Neapolis**	**0.96**	**321**	P	**Pb**	**22 21 03.6**	**-0.7**
NPS				S	**Sn**	**22 21 18.0**	**-0.5**
	comp=N,83µm,0.6s						
NPS	**Neapolis**	**0.96**	**321**	P	**Pb**	**22 21 04.0**	**-0.3**
NPS				S	**Sb**	**22 21 16.0**	**-0.9**
NPS				AML	AML	22 21 22.0	
NPS				AML	AML	22 21 22.1	
NPS	**Neapolis**	**0.96**	**321**	P	**Pb**	**22 21 03.9**	**-0.3**
LAST	**Lasithi**	**0.96**	**312**	P	**Pb**	**22 21 03.4**	**-1.0**
LAST				S	**Sn**	**22 21 18.4**	**-0.2**
	comp=N,63µm,1.1s						
LAST	**Lasithi**	**0.96**	**312**	P	**Pb**	**22 21 04.0**	**-0.4**
LAST				S	**Sn**	**22 21 18.4**	**-0.2**
LAST				AML	AML	22 21 26.9	
LAST				AML	AML	22 21 28.0	
KARP	**Karpathos**	**1.23**	**33**	P	**Pn**	**22 21 08.4**	**-0.2**
KARP				S	**Sg**	**22 21 27.5**	**+2.1**
	comp=N,27µm,0.7s						
KARP	**Karpathos**	**1.23**	**33**	P	**Pn**	**22 21 08.2**	**-0.4**
KARP				S	**Sb**	**22 21 23.9**	**-0.6**
KARP				AML	AML	22 21 41.8	
	comp=E,35290µm,0.6s						
KARP				AML	AML	22 21 44.1	
	comp=N,54272µm,0.8s						
KARP	**Karpathos**	**1.23**	**33**	PN	**Pg**	**22 21 09.7**	**+0.3**
KARP	**Karpathos**	**1.23**	**33**	⇑P	**Pn**	**22 21 08.3**	**-0.3**
KARP				S	**Sg**	**22 21 27.2**	**+1.8**
KARP				AML	AML	22 21 43.3	
	comp=N,54nm,0.8s						
KARP				AML	AML	22 21 43.3	
	comp=N,54nm,0.8s						
KARP				AML	AML	22 21 44.1	
	comp=N,52nm,0.7s						
KARP				AML	AML	22 21 44.1	
	comp=N,52nm,0.7s						
KARP	**Karpathos**	**1.23**	**33**	Pn	**Pn**	**22 21 08.5**	**0.0**
HRKL	**Herakleio**	**1.30**	**308**	P	**Pb**	**22 21 10.4**	**+0.4**
HRKL	**Herakleio**	**1.30**	**308**	PN	**Pg**	**22 21 11.1**	**+0.3**
KSTL	**Kastelli Herak**	**1.31**	**307**	P	**Pn**	**22 21 05.9**	**-3.8**
KSTL				S	**Sb**	**22 21 22.3**	**-4.7**
IACM	**Heraklion**	**1.32**	**307**	P	**Pb**	**22 21 10.7**	**+0.4**
IACM	**Heraklion**	**1.32**	**307**	P	**Pg**	**22 21 11.4**	**+0.3**
SIVA	**Sivas**	**1.36**	**292**	P	**Pb**	**22 21 11.2**	**+0.1**
SIVA				S	**Sb**	**22 21 29.1**	**+0.7**
	comp=N,46µm,0.9s						
SIVA	**Sivas**	**1.36**	**292**	P	**Pb**	**22 21 11.5**	**+0.3**
SIVA				S	**Sg**	**22 21 29.6**	**-0.2**
SIVA				AML	AML	22 21 42.6	
	comp=N,87906µm,0.6s						
SIVA				AML	AML	22 21 49.2	
	comp=E,91020µm,1.1s						
TMBK	**Timbaki Herakl**	**1.42**	**294**	P	**Pb**	**22 21 12.5**	**+0.5**
IDI	**Anoyia**	**1.43**	**303**	Pn	**Pb**	**22 21 12.2**	**-0.1**
	comp=E,49nm,0.3s,baz=133,slow=14,SNR=184						
IDI				Sn	**Sg**	**22 21 34.5**	**+2.7**
	comp=E,686nm,0.3s,baz=203,slow=23,SNR=7.3						
IDI	**Anoyia**	**1.43**	**303**	P	**Pb**	**22 21 11.9**	**-0.3**
IDI	**Anoyia**	**1.43**	**303**	P	**Pg**	**22 21 13.3**	**0.0**
IDI	**Anoyia**	**1.43**	**303**	PN	**Pg**	**22 21 13.3**	**0.0**
IDI				SN	**Sg**	**22 21 32.1**	**+0.3**
IDI	**Anoyia**	**1.43**	**303**	Pn	**Pn**	**22 21 11.6**	**+0.2**
GVDS	**Gavdos**	**1.89**	**281**	P	**Pb**	**22 21 20.4**	**+0.3**
GVDS				S	**Sb**	**22 21 44.4**	**+0.8**
	comp=E,14µm,0.4s						
GVDS	**Gavdos**	**1.89**	**281**	PN	**Pb**	**22 21 20.6**	**+0.5**
GVD	**Gavdhos**	**1.89**	**280**	P	**Pb**	**22 21 19.9**	**-0.2**
GVD	**Gavdhos**	**1.89**	**280**	P	**Pb**	**22 21 20.7**	**+0.5**
GVD				S	**Sg**	**22 21 46.1**	**-0.7**
GVD				AML	AML	22 21 55.7	
	comp=N,37235µm,0.3s						
GVD				AML	AML	22 21 56.4	
	comp=E,43868µm,0.4s						
GVD	**Gavdhos**	**1.89**	**280**	PN	**Pb**	**22 21 20.2**	**+0.1**
ANAF	**Anafi Island**	**1.90**	**346**	P	**Pb**	**22 21 19.3**	**-0.9**
ANAF	**Anafi Island**	**1.90**	**346**	P	**Pb**	**22 21 19.3**	**-0.9**
ANAF				S	**Sb**	**22 21 44.5**	**+0.7**
VAM	**Vamos**	**1.98**	**297**	P	**Pb**	**22 21 21.2**	**-0.4**
VAM	**Vamos**	**1.98**	**297**	P	**Pb**	**22 21 21.5**	**-0.2**
VAM				S	**Sb**	**22 21 46.3**	**+0.1**
VAM	**Vamos**	**1.98**	**297**	P	**Pb**	**22 21 21.4**	**-0.2**
SANT	**Santorini**	**1.99**	**339**	P	**Pn**	**22 21 20.5**	**+1.4**
SANT	**Santorini**	**1.99**	**339**	PN	**Pb**	**22 21 20.7**	**-1.1**
SANT				SN	**Sb**	**22 21 45.5**	**-1.0**
SANT	**Santorini**	**1.99**	**339**	Pn	**Pn**	**22 21 19.9**	**+0.8**
THR6	**Thira Island,**	**2.00**	**337**	P	**Pb**	**22 21 20.8**	**-1.1**
THR6	**Thira Island,**	**2.00**	**337**	P	**Pb**	**22 21 21.4**	**-0.5**
SAP1	**Santorini-Akro**	**2.00**	**337**	P	**Pb**	**22 21 20.8**	**-1.1**
THR9	**Santorini-Faro**	**2.01**	**336**	P	**Pn**	**22 21 19.8**	**+0.5**
THR9	**Santorini-Faro**	**2.01**	**336**	P	**Pn**	**22 21 20.8**	**+1.5**
THR8	**Santorini-Mono**	**2.02**	**340**	P	**Pb**	**22 21 21.4**	**-0.9**
SAP2K	**Karterados**	**2.03**	**339**	P	**Pb**	**22 21 21.9**	**-0.6**
SNT5	**Nea Kammeni, S**	**2.04**	**338**	P	**Pn**	**22 21 21.3**	**+1.6**
THR3	**Thira Island,**	**2.04**	**338**	P	**Pn**	**22 21 21.2**	**+1.4**
THR3	**Thira Island,**	**2.04**	**338**	P	**Pb**	**22 21 21.6**	**-1.1**
THR7	**Fira-Santorini**	**2.05**	**339**	P	**Pb**	**22 21 21.6**	**-1.2**
THT2	**Imerovigli**	**2.06**	**339**	PN	**Pn**	**22 21 21.6**	**+1.6**
THR2	**Thira island,**	**2.07**	**339**	P	**Pb**	**22 21 21.8**	**-1.3**
THR5	**Thira Island,**	**2.07**	**337**	P	**Pn**	**22 21 21.3**	**+1.2**
THR5	**Thira Island,**	**2.07**	**337**	P	**Pn**	**22 21 21.6**	**+1.5**
SAP3	**Santorini-Thir**	**2.09**	**337**	P	**Pn**	**22 21 22.0**	**+1.6**
SAP3	**Santorini-Thir**	**2.09**	**337**	P	**Pb**	**22 21 22.5**	**-0.9**
CMBO	**Columbo, Santo**	**2.10**	**339**	P	**Pb**	**22 21 22.6**	**-1.0**
SAP4	**Santorini-Oia**	**2.11**	**338**	P	**Pn**	**22 21 21.8**	**+1.1**
IMMV	**Iera Moni Meta**	**2.16**	**297**	P	**Pb**	**22 21 24.4**	**-0.3**
IMMV	**Iera Moni Meta**	**2.16**	**297**	PN	**Pb**	**22 21 23.8**	**-0.9**
NISR	**Nisiros**	**2.19**	**17**	P	**Pb**	**22 21 23.9**	**-1.2**
ARG	**Arkhangelos**	**2.23**	**40**	P	**Pb**	**22 21 25.0**	**-0.9**
ARG				S	**Sb**	**22 21 53.0**	**-0.4**
	comp=E,7µm,1.1s						
ARG	**Arkhangelos**	**2.23**	**40**	P	**Pb**	**22 21 24.7**	**-1.2**
ARG	**Arkhangelos**	**2.23**	**40**	PN	**Pb**	**22 21 24.5**	**-1.4**
ARG	**Arkhangelos**	**2.23**	**40**	P	**Pb**	**22 21 24.7**	**-1.2**
ARG	**Arkhangelos**	**2.23**	**40**	⇑P	**Pb**	**22 21 24.6**	**-1.3**
KOSK	**Kos Island**	**2.29**	**13**	PN	**Pn**	**22 21 24.9**	**+1.8**
KNDR	**Palaiochora Ch**	**2.31**	**289**	PN	**Pb**	**22 21 26.5**	**-0.7**
AMGA	**Amorgos Island**	**2.34**	**351**	P	**Pn**	**22 21 25.1**	**+1.2**
IOSP	**Ios island**	**2.37**	**339**	P	**Pn**	**22 21 25.9**	**+1.6**
RODP	**Rodopos**	**2.37**	**297**	PN	**Pb**	**22 21 26.7**	**-1.6**
DAT	**Datca**	**2.42**	**24**	PN	**Pn**	**22 21 26.8**	**+1.7**
DATC	**Datca-Mugla**	**2.48**	**25**	PN	**Pn**	**22 21 27.5**	**+1.7**
APE	**Apeiranthos**	**2.63**	**346**	P	**Pn**	**22 21 28.9**	**+0.9**
APE	**Apeiranthos**	**2.63**	**346**	⇑P	**Pn**	**22 21 29.6**	**+1.7**
APE				⇓S	**Sb**	**22 22 06.3**	**+1.3**
APE	**Apeiranthos**	**2.63**	**346**	PN	**Pn**	**22 21 29.7**	**+1.7**
APE	**Apeiranthos**	**2.63**	**346**	*ce*P	**Pn**	**22 21 29.5**	**+1.5**
BODT	**Bodrum**	**2.66**	**17**	PN	**Pn**	**22 21 30.0**	**+1.7**
MHLO	**Agia Marina, M**	**2.69**	**324**	P	**Pn**	**22 21 29.9**	**+1.3**
YKAV	**Yalikavak-Bodr**	**2.71**	**16**	PN	**Pn**	**22 21 30.7**	**+1.8**
MHLA	**Plaka, Milos I**	**2.73**	**325**	P	**Pb**	**22 21 32.1**	**-2.2**
TURN	**Turunc**	**2.73**	**34**	PN	**Pn**	**22 21 31.3**	**+2.1**
ANKY	**Antikythira Is**	**2.84**	**299**	P	**Pn**	**22 21 32.7**	**+2.0**
DIDI	**Didim-Aydin**	**2.95**	**14**	PN	**Pn**	**22 21 34.2**	**+2.0**
MLSB	**Milas**	**3.01**	**22**	PN	**Pn**	**22 21 34.9**	**+1.9**
YER	**Yerkesik**	**3.05**	**30**	PN	**Pn**	**22 21 35.7**	**+2.0**
YER	**Yerkesik**	**3.05**	**30**	P	**Pn**	**22 21 34.7**	**+1.0**
KSL	**Kastellorizon**	**3.10**	**57**	P	**Pn**	**22 21 35.5**	**+1.2**
KSL	**Kastellorizon**	**3.10**	**57**	P	**Pn**	**22 21 35.7**	**+1.3**
KSL				S	**Sb**	**22 22 15.0**	**-3.5**
AKAS	**Kas**	**3.16**	**56**	Pn	**Pn**	**22 21 36.3**	**+1.0**
SLUM	**Salum**	**3.16**	**198**	P	**Pn**	**22 21 35.5**	**+0.4**
	baz=200						
SLUM				AMP		22 22 00.0	
	baz=200						
KTHA	**Kythira Island**	**3.20**	**304**	P	**Pn**	**22 21 37.3**	**+1.6**
KTHA	**Kythira Island**	**3.20**	**304**	PN	**Pn**	**22 21 38.2**	**+2.5**
SMG	**Samos**	**3.21**	**7**	P	**Pn**	**22 21 37.3**	**+1.4**
VLI	**Veliai**	**3.55**	**309**	P	**Pn**	**22 21 41.2**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.64**	**20**	PN	**Pn**	**22 21 44.0**	**+2.1**
ELL	**Elmali**	**3.66**	**51**	P	**Pn**	**22 21 44.2**	**+2.1**
ELL	**Elmali**	**3.66**	**51**	P	**Pn**	**22 21 43.6**	**+1.6**
ELL	**Elmali**	**3.66**	**51**	Pn	**Pn**	**22 21 44.2**	**+2.1**
URLA	**Izmir**	**3.84**	**3**	PN	**Pn**	**22 21 47.0**	**+2.5**
CHOS	**Chios island**	**3.87**	**357**	P	**Pn**	**22 21 46.8**	**+1.8**
CHOS	**Chios island**	**3.87**	**357**	PN	**Pn**	**22 21 47.3**	**+2.3**
BLCB	**Balcova**	**3.90**	**8**	PN	**Pn**	**22 21 47.9**	**+2.6**
VLY	**Voula,Athens**	**3.92**	**329**	P	**Pn**	**22 21 47.2**	**+1.7**
ATHU	**Athens Univers**	**4.02**	**330**	P	**Pn**	**22 21 48.5**	**+1.5**
EPID	**Epidavros**	**4.05**	**321**	P	**Pn**	**22 21 48.4**	**+1.0**
ATH	**Athens Observa**	**4.05**	**329**	P	**Pn**	**22 21 50.3**	**+2.9**
DION	**Dionisos Attik**	**4.06**	**332**	P	**Pn**	**22 21 48.4**	**+0.9**
OSC1	**CSNet OBS 1**	**4.21**	**103**	P	**Pn**	**22 21 48.8**	**-0.8**
OSC1				S	**Sn**	**22 22 39.9**	**+1.3**
VLX	**Vlachokerasia**	**4.30**	**313**	P	**Pn**	**22 21 52.3**	**+1.3**
MANT	**Manisa**	**4.35**	**23**	Pn	**Pn**	**22 21 53.9**	**+2.2**
TRIP	**Tripoli**	**4.47**	**313**	P	**Pn**	**22 21 54.8**	**+1.6**
ITM	**Ithomi**	**4.47**	**308**	P	**Pn**	**22 21 54.6**	**+1.5**
ITM	**Ithomi**	**4.47**	**308**	PN	**Pn**	**22 21 56.2**	**+3.0**
ITM	**Ithomi**	**4.47**	**308**	Pn	**Pn**	**22 21 54.0**	**+0.9**
ISP	**Isparta**	**4.72**	**44**	P	**Pn**	**22 21 56.8**	**+0.1**
ISP	**Isparta**	**4.72**	**44**	Pn	**Pn**	**22 21 59.5**	**+2.8**
ISP	**Isparta**	**4.72**	**44**	Pn	**Pn**	**22 21 56.8**	**+0.1**
AKMS	**Akamas**	**4.95**	**82**	P	**Pn**	**22 21 59.2**	**-0.5**
AKMS				AML	AML	22 23 01.9	
	comp=E,4.6nm,0.4s						
AKMS				AML	AML	22 23 03.5	
	comp=E,3.7nm,0.7s						
OSC2	**CSNet OBS 4**	**5.13**	**105**	P	**Pn**	**22 22 01.6**	**-0.6**
OSC2				S	**Sn**	**22 23 03.6**	**+2.4**
NATA	**Nata**	**5.13**	**85**	P	**Pn**	**22 22 02.0**	**-0.2**
NATA				AML	AML	22 23 01.3	
	comp=E,6.2nm,0.6s						
NATA				AML	AML	22 23 04.1	
	comp=E,6.0nm,0.6s						
ALFC	**Alefka**	**5.18**	**81**	⇑P	**Pn**	**22 22 02.8**	**-0.1**
ALFC				AML	AML	22 23 04.1	
	comp=E,3.6nm,0.5s						
ALFC				AML	AML	22 23 05.0	
	comp=E,4.8nm,0.6s						
SWA2		**5.31**	**188**	P	**Pn**	**22 22 05.2**	**+0.5**
	baz=190						
SWA2				AMP		22 23 00.0	
	baz=190						
SZAC	**Souni**	**5.39**	**86**	⇓P	**Pn**	**22 22 05.9**	**+0.1**
SZAC				AML	AML	22 23 08.9	
	comp=E,3.6nm,1.0s						
SZAC				AML	AML	22 23 14.8	
	comp=E,3.7nm,0.5s						
ASGA	**Asgata**	**5.69**	**85**	P	**Pn**	**22 22 10.1**	**+0.2**
CSS	**Mathiatis**	**5.76**	**84**	Pn	**Pn**	**22 22 10.4**	**-0.5**
CSS	**Mathiatis**	**5.76**	**84**	⇑P	**Pn**	**22 22 10.6**	**-0.4**
CSS	**Mathiatis**	**5.76**	**84**	Pn	**Pn**	**22 22 10.5**	**-0.4**
PAIG	**Paliouri**	**5.81**	**339**	P	**Pn**	**22 22 15.0**	**+3.5**
PAIG				pmax	pmax		
	comp=Z,107nm,0.7s						
ATHAL	**Athalassa**	**5.83**	**82**	S	**Sn**	**22 23 22.6**	**+4.2**
MVOU	**Mavrovouni**	**6.01**	**83**	⇑P	**Pn**	**22 22 14.5**	**+0.2**
HNAT	**Natroun**	**6.07**	**142**	AMP		22 23 00.0	
	baz=143						
OUR	**Ouranopolis**	**6.11**	**343**	P	**Pn**	**22 22 13.5**	**-2.1**
PARAL	**Paralimni**	**6.35**	**84**	P	**Pn**	**22 22 20.3**	**+1.4**
RYAN	**Fayoum**	**6.36**	**147**	P	**Pn**	**22 22 19.4**	**+0.2**
	baz=148						
LIT	**Litokhoron**	**6.37**	**332**	P	**Pn**	**22 22 19.8**	**+0.6**
LIT	**Litokhoron**	**6.37**	**332**	Pn	**Pn**	**22 22 19.8**	**+0.6**
ALN	**Alexandroupoli**	**6.38**	**358**	P	**Pn**	**22 22 20.1**	**+0.8**
ALN	**Alexandroupoli**	**6.38**	**358**		**Pn**	**22 22 20.1**	**+0.8**
KOT	**Kottamia**	**6.51**	**133**	P	**Pn**	**22 22 20.2**	**-1.1**
	baz=134						
KOT				S	**Sn**	**22 23 29.7**	**-5.8**
	baz=134						
HHAG	**Hagoal**	**6.66**	**131**	P	**Pn**	**22 22 23.4**	**+0.1**
	baz=132						
HHAG				S	**Sn**	**22 23 32.8**	**-6.2**
	baz=132						
THE	**Thessaloniki**	**6.67**	**337**	P	**Pn**	**22 22 27.9**	**+4.5**
THE				pmax	pmax		
	comp=Z,109nm,1.0s						
GLL	**Jalalah**	**6.70**	**136**	P	**Pn**	**22 22 22.4**	**-1.4**
	baz=136						
SOH	**Sokhos**	**6.73**	**340**	P	**Pn**	**22 22 28.1**	**+3.9**
SOH				pmax	pmax		
	comp=Z,86nm,1.1s						
MDUB	**Mudurnu**	**7.08**	**32**		**Pn**	**22 22 30.6**	**+1.5**
GRG	**Griva**	**7.15**	**335**	P	**Pn**	**22 22 27.9**	**-2.1**
GRG				pmax	pmax		
	comp=Z,67nm,0.9s						
KNT	**Kendrikon**	**7.18**	**339**	P	**Pn**	**22 22 34.2**	**+3.9**
KNT				pmax	pmax		
	comp=Z,153nm,1.2s						
RZN	**Rozhen**	**7.28**	**350**	*i* P	**Pn**	**22 22 36.4**	**+4.6**
BR231	**Keskin MP Arra**	**7.38**	**42**		**Pn**	**22 22 34.7**	**+1.4**
VAY	**Valandovo**	**7.42**	**337**	*i* Pn	**Pn**	**22 22 38.1**	**+4.4**
OFRI	**`Ofer**	**7.45**	**102**	Pn	**Pn**	**22 22 33.3**	**-0.8**
OFRI				Sn	**Sn**	**22 23 52.8**	**-5.6**
HNTI	**Hanita**	**7.48**	**99**	Pn	**Pn**	**22 22 34.9**	**+0.4**
HFRF	**Wahat Farafira**	**7.53**	**167**	P	**Pn**	**22 22 34.4**	**-0.9**
	baz=167						
BLGI	**Bet Lehem HaGe**	**7.58**	**101**	Pn	**Pn**	**22 22 35.1**	**-0.8**
SLTI	**Sal'it**	**7.61**	**105**	Pn	**Pn**	**22 22 34.5**	**-1.8**
SLTI				Sn	**Sn**	**22 23 55.6**	**-6.8**
KZIT	**Kziot**	**7.67**	**116**	Pn	**Pn**	**22 22 35.7**	**-1.5**
MMA0B	**Mount Meron ar**	**7.68**	**99**	Pn	**Pn**	**22 22 37.3**	**-0.1**
MMAI	**Mount Meron Ar**	**7.68**	**99**	Pn	**Pn**	**22 22 36.5**	**-0.9**
	comp=Z,13nm,0.3s,baz=301,slow=11,SNR=69						
MMAI				Sn	**Sn**	**22 24 00.1**	**-4.1**

comp=Z,17nm,0.3s,baz=297,slow=22,SNR=3.2
DQRL Deir Qamar 7.69 93 *e*P **Pn** 22 22 37.6 +0.2
PLD Plovdiv 7.69 351 P Pn 22 22 43.4 +6.1
PLD pmax pmax
comp=Z,292nm,1.1s
PLD Plovdiv 7.69 351 *i* P Pn 22 22 44.1 +6.8
BHL Bhannes 7.73 92 *e*P **Pn** 22 22 36.9 -1.1
KKB Krupnik 7.78 342 *i* P **Pn** 22 22 42.4 +3.8
AMAZ Amatzia 7.78 110 Pn **Pn** 22 22 37.1 -1.6
BR131 Keskin Array S 7.80 46 P **Pn** 22 22 41.8 +2.8
SNR=12
BR131 Keskin Array S 7.80 46 *de*P **Pn** 22 22 41.3 +2.2
BR131 Keskin Array S 7.80 46 Pn **Pn** 22 22 40.8 +1.7
BRTR Keskin Array B 7.80 46 Pn **Pn** 22 22 41.5 +2.4
comp=Z,0.7nm,0.3s,baz=220,slow=14,SNR=22
BRTR Sn **Sn** 22 24 06.9 -0.4
baz=206,slow=16,SNR=1.4
BRTR Keskin Array B 7.80 46 *i* P **Pn** 22 22 41.5 +2.4
BRTR pmax pmax
comp=Z,2.0nm,0.3s
BRTR Keskin Array B 7.80 46 Pn **Pn** 22 22 41.3 +2.2
QRWL Qaraoun 7.81 94 *e*P **Pn** 22 22 38.2 -0.8
GEM Giv'at Ha'Em 7.85 97 Pn **Pn** 22 22 38.7 -0.9
GEM Sn **Sn** 22 24 04.0 -4.3
TAMRE El Minia 7.85 149 P **Pn** 22 22 39.8 +0.2
baz=149
TAMRE AMP 22 24 00.0
baz=149
TAMRE S **Sn** 22 24 06.5 -1.8
baz=149
MMLI Mount Malkishu 7.86 103 Pn **Pn** 22 22 38.8 -0.9
MMLI Sn **Sn** 22 24 02.0 -6.4
STIP Stip 7.88 337 *i* Pn **Pn** 22 22 54.2 +4.2
SHBL Chebaa 7.89 96 *e*P **Pn** 22 22 39.3 -1.0
NATI Neve Ativ 7.90 96 Pn **Pn** 22 22 39.4 -0.9
NATI Sn **Sn** 22 24 05.8 -3.7
OHR Ohrid 7.92 328 *i* Pn Pn 22 22 47.0 +6.6
HWQ Hawqa 7.93 89 *e*P **Pn** 22 22 40.5 -0.4
RCY Rachaya 7.94 95 *e*P **Pn** 22 22 39.9 -1.0
HMDT Nahal Hemdat 8.00 104 Pn **Pn** 22 22 40.2 -1.4
HMDT Sn **Sn** 22 24 05.4 -6.4
YTIR Yattir 8.01 111 Pn **Pn** 22 22 40.4 -1.4
YTIR Sn **Sn** 22 24 06.8 -5.5
UJAP Al Uja 8.05 106 Pn **Pn** 22 22 41.0 -1.3
UJAP Sn **Sn** 22 24 07.2 -5.9
DSI Dead Sea 8.13 109 Pn **Pn** 22 22 41.8 -1.6
DSI Sn **Sn** 22 24 09.6 -5.5
SCTE Santa Cesarea 8.38 314 Pn **Pn** 22 22 46.7 -0.1
GHAJ Ghor Haditha 8.38 110 Pn **Pn** 22 22 46.1 -0.7
SKO Skopje 8.39 334 *i* Pn Pn 22 22 54.3 +7.4
PRNI Paran 8.41 117 Pn **Pn** 22 22 46.1 -1.2
PRNI Sn **Sn** 22 24 15.8 -6.2
ZFRI Zfri 8.43 115 Pn **Pn** 22 22 45.9 -1.6
VTS Vitosha 8.45 344 *i* P **Pn** 22 22 52.1 +4.2
TIR Tirane 8.53 325 P **Pn** 22 22 49.2 +0.4
TIR Tirane 8.53 325 Pn **Pn** 22 22 49.2 +0.4
HRFI Mount Harif 8.60 119 Pn **Pn** 22 22 49.4 -0.5
HRFI Sn **Sn** 22 24 21.1 -5.7
MBRI Mt Berech 8.65 121 Pn **Pn** 22 22 50.5 -0.1
EIL Elat 8.75 121 Pn **Pn** 22 22 51.1 -0.7
comp=Z,6.3nm,0.3s,baz=243,slow=7.3,SNR=50
EIL Sn **Sn** 22 24 21.4 -8.9
comp=Z,3.7nm,0.3s,baz=283,slow=21,SNR=1.8
EIL Elat 8.75 121 Pn **Pn** 22 22 51.0 -0.9
EIL Sn **Sn** 22 24 25.4 -4.9
TIP Timpagrande 8.99 304 ⇑P **Pn** 22 22 54.9 -0.3
TIP Timpagrande 8.99 304 Pn **Pn** 22 22 53.8 -1.4
RAZG Razgrad 9.04 1 ⇓P **Pn** 22 22 59.7 +3.9
MPEP Malo Peshtene 9.06 348 *i* P **Pn** 22 22 59.9 +3.8
ASF Jabal al Asfar 9.13 102 Pn **Pn** 22 22 56.2 -1.0
comp=Z,1.1nm,0.3s,baz=235,slow=10,SNR=39
ASF Sn **Sn** 22 24 35.5 -4.2
comp=Z,2.0nm,0.3s,baz=84,slow=8.9,SNR=3.7
ULC Ulcinj 9.30 325 ⇓*i*Pn **Pn** 22 23 01.1 +1.6
ULC *i* Sn **Sn** 22 24 40.3 -3.6
HDK1 Dakhla 9.32 163 P **Pn** 22 23 00.5 +0.6
baz=163
CGL1 Ceglie Messapi 9.33 314 ⇑*i*Pn **Pn** 22 22 58.4 -1.5
TAR1 Taranto 9.37 312 ⇓*i*Pn **Pn** 22 23 00.3 -0.1
PVY Plav 9.49 330 ⇑*i*Pn **Pn** 22 23 04.3 +2.1
PVY *i* Sn **Sn** 22 24 44.8 -3.9
DRME Dracevica, Mon 9.50 326 ⇑*i*Pn **Pn** 22 23 04.3 +2.1
DRME *i* Sn **Sn** 22 24 45.2 -3.6
DRME Dracevica, Mon 9.50 326 *e*Pn **Pn** 22 23 00.5 -1.7
VLAD Vladila 9.59 352 ⇑P **Pn** 22 23 06.8 +3.4
COPA Copaceanca 9.65 355 ⇑P **Pn** 22 23 07.0 +2.9
PDG Podgorica 9.66 327 *e*Pn **Pn** 22 23 02.9 -1.4
PDG Podgorica 9.66 327 Pn **Pn** 22 23 03.1 -1.2
TTG Podgorica 9.66 327 ⇓*i*Pn **Pn** 22 23 06.4 +2.1
TTG *i* Sn **Sn** 22 24 48.9 -3.8
BUM Brajici-Budva 9.73 325 ⇓*i*Pn **Pn** 22 23 07.2 +1.9
BUM *i* Sn **Sn** 22 24 50.6 -3.8
IVA Berane 9.75 331 ⇓*i*Pn **Pn** 22 23 07.9 +2.2
IVA *i* Sn **Sn** 22 24 51.1 -3.9
MATE Matera 9.80 311 ⇓P **Pn** 22 23 06.1 -0.2
KOME Kolasin 9.89 329 ⇓*i*Pn **Pn** 22 23 09.8 +2.2
KOME *i* Sn **Sn** 22 24 54.4 -4.0
CEME Cevo 9.91 326 *e*Pn **Pn** 22 23 07.8 0.0
CEME *i* Sn **Sn** 22 24 54.2 -4.6
TOKA Tokat 9.92 51 Pn **Pn** 22 23 08.2 +0.3
SG1 Sgolgore (BA) 9.93 312 *e*Pn **Pn** 22 23 07.5 -0.6
BAI Bari 9.97 314 ⇓*i*Pn **Pn** 22 23 08.0 -0.6
HCY Herceg Novi 10.03 324 *e*Pn **Pn** 22 23 10.9 +1.5
HCY *i* Sn **Sn** 22 24 56.4 -5.3
HCY Herceg Novi 10.03 324 *e*Pn **Pn** 22 23 07.5 -1.9
HUMR Humele 10.06 354 ⇑P **Pn** 22 23 13.5 +3.7
TIRR Tirgusor 10.06 8 ⇑P **Pn** 22 23 13.6 +3.8
TIRR Tirgusor 10.06 8 P **Pn** 22 23 07.6 -2.2
TIRR Tirgusor 10.06 8 Pn **Pn** 22 23 07.6 -2.2
NKME Niksic 10.06 327 *e*Pn **Pn** 22 23 12.2 +2.3
NKME *i* Sn **Sn** 22 24 58.7 -3.9
NKY Niksic 10.08 327 *e*Pn **Pn** 22 23 07.0 +1.8
NKY *i* Sn **Sn** 22 24 59.2 -4.0
VAE Valguarnera 10.12 290 Pn **Pn** 22 23 11.2 +0.6
comp=Z,3.9nm,0.3s,baz=179,slow=0.8,SNR=35
VAE Sn **Sn** 22 24 57.5 -6.5
comp=Z,1.5nm,0.3s,baz=115,slow=10,SNR=1.5
PLE Pljevlja 10.34 330 ⇓*i*Pn **Pn** 22 23 15.8 +2.1
PLE *i* Sn **Sn** 22 25 05.1 -4.3
BRY Bratogost 10.36 326 *e*Pn **Pn** 22 23 15.9 +1.9
BRY *i* Sn **Sn** 22 25 04.8 -5.2
BRY Bratogost 10.36 326 *e*Pn **Pn** 22 23 14.1 +0.1
UPM Unac-Piva 10.43 328 ⇓*i*Pn **Pn** 22 23 15.5 +0.4
UPM *i* Sn **Sn** 22 25 06.5 -5.4
UPM Unac-Piva 10.43 328 *e*Pn **Pn** 22 23 13.7 -1.4
MALT Malatya 10.44 65 P **Pn** 22 23 15.1 +2.2
CFR Carcaliu 10.74 7 ⇓P **Pn** 22 23 22.3 +3.3
CFR Carcaliu 10.74 7 P Pn 22 23 24.6 +5.5
CFR pmax pmax
comp=Z,37nm,2.1s
DIVS Divibare 10.76 335 *e*Pn **Pn** 22 23 19.9 +0.4
DIVS Divibare 10.76 335 **Pn** 22 23 19.8 +0.4
BBLS Lazići 10.78 332 *e*Pn **Pn** 22 23 16.7 -3.0
HERR Herculane 10.79 345 ⇓P **Pn** 22 23 23.0 +3.2
TLCR 10.82 9 ⇑P **Pn** 22 23 24.1 +3.8
TLCR 10.82 9 P **Pn** 22 23 24.0 +3.8
MDVR Moldovita 10.86 342 ⇓P **Pn** 22 23 23.9 +3.1
NEHR Nehoiu 10.90 360 ⇓P **Pn** 22 23 24.9 +3.5
ARR Arges 10.92 354 ⇑P **Pn** 22 23 24.5 +2.9
VOIR 10.96 355 ⇓P **Pn** 22 23 23.4 +1.3
VOIR 10.96 355 P **Pn** 22 23 23.8 +1.6
VOIR pmax pmax
comp=Z,25nm,1.1s
MLR Muntele Rosu 10.97 358 Pn **Pn** 22 23 24.5 +2.2
comp=Z,0.3nm,0.3s,baz=168,slow=6.9,SNR=10
MLR LR LR 22 28 22.9
comp=Z,2µm,18.4s,baz=198,slow=42
MLR Muntele Rosu 10.97 358 ⇑P **Pn** 22 23 24.9 +2.6
MLR Muntele Rosu 10.97 358 P **Pn** 22 23 23.5 +1.1
MLR Muntele Rosu 10.97 358 **Pn** 22 23 23.5 +1.1
CLTB Caltabellotta 11.06 290 Pn **Pn** 22 23 23.1 -0.6
CORL Corleone 11.07 292 **Pn** 22 23 23.1 -0.6
HAPS Han Pijesak,BI 11.14 331 *e*Pn **Pn** 22 23 21.6 -3.1
GZP Gura Zlata 11.21 347 ⇑P **Pn** 22 23 24.4 +2.9
PLOR Plostina 11.33 1 ⇑P **Pn** 22 23 30.6 +3.3
PLOR Plostina 11.33 1 P **Pn** 22 23 30.5 +3.3
VRI Vrincioaia 11.34 1 ⇑P **Pn** 22 23 29.9 +2.5
VRI Vrincioaia 11.34 1 P **Pn** 22 23 29.3 +1.9
VRI pmax pmax
comp=Z,32nm,0.9s
PAOL Paolisi 11.36 308 **Pn** 22 23 26.7 -1.1

DOPR Dopca 11.46 357 ⇓P **Pn** 22 23 32.4 +3.3
BZS Buzias 11.66 343 ⇑P **Pn** 22 23 33.6 +1.9
BZS Buzias 11.66 343 P **Pn** 22 23 33.9 +2.1
BZS pmax pmax
comp=Z,26nm,1.5s
FRGS Fruska Gora 11.75 337 *e*Pn **Pn** 22 23 29.9 -3.1
MARD Mardin 12.03 72 **Pn** 22 23 37.1 +0.2
MGRS Mrkonjic Grad 12.20 327 *e*Pn **P** 22 23 52.2 +0.5
INTR Introdacqua 12.31 311 Pn **Pn** 22 23 39.9 -0.8
CJR Cluj-Napoca 12.36 351 ⇑P **Pn** 22 23 45.0 +3.7
BLY Banja Luka 12.42 328 *e*Pn **Pn** 22 23 38.7 -3.3
MILM Milestii Mici 12.53 8 ⇑P **Pn** 22 23 46.1 +3.0
KOPT Kop Dagi 12.53 60 **Pn** 22 23 43.7 -0.2
IAS Iasi 12.70 4 P Pn 22 23 50.9 +5.0
IAS pmax pmax
comp=Z,10.0nm,0.8s
AQU L'Aquila 12.81 311 P **Pn** 22 23 47.8 +0.3
AQU L'Aquila 12.81 311 *e*Pn **Pn** 22 23 45.5 -2.0
AQU L'Aquila 12.81 311 **Pn** 22 23 47.8 +0.3
BURAR Bucovina Array 13.12 357 ⇓P **Pn** 22 23 54.9 +3.2
BURAR Bucovina Array 13.12 357 P **Pn** 22 23 52.5 +0.8
BURAR Bucovina Array 13.12 357 Pn **Pn** 22 23 52.5 +0.8
BUR08 Bucovina Ar. S 13.15 357 Pn **Pn** 22 23 52.4 +0.2
ANN Anapa 13.34 36 *e*P **Pn** 22 23 53.7 -1.0
ANN *e*S **Sn** 22 26 24.8 +2.1
ANN pmax pmax
comp=Z,47nm,0.9s
SORM Soroca 13.69 6 ⇓P **Pn** 22 24 03.6 +4.2
SORM Soroca 13.69 6 P **Pn** 22 24 03.6 +4.2
SOC Sochi 13.76 45 *e*P **Pn** 22 24 02.4 +2.0
SOC *e* 22 26 39.1
SOC pmax pmax
comp=Z,13nm,0.8s
SOC MLR MLR
comp=Z,883nm,11.0s
TRSU Trosnyk 13.80 350 P **P** 22 24 07.6 -1.8
MURB Monte Urbino 13.85 313 **Pn** 22 24 00.4 -1.3
KEST Kesra 13.97 280 Pn **Pn** 22 24 04.1 +0.6
comp=Z,0.1nm,0.3s,baz=59,slow=16,SNR=8.1
KEST Sn **Sn** 22 26 37.9 -0.5
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=1.3
KEST LR LR 22 30 24.8
comp=Z,726nm,21.9s,baz=1.5,slow=42
KEST Kesra 13.97 280 **Pn** 22 24 02.9 -0.6
GEVA Gevas 13.98 69 **Pn** 22 24 03.9 +0.3
ARTV Artvin 13.98 57 **Pn** 22 24 05.6 +1.9
CRES Cresnjev 14.02 327 *e*Pn **Pn** 22 24 01.3 -2.7
KMPD K-Podol'skiy 14.04 0 P **P** 22 24 11.0 -1.0
PSZ Piszkesteto 14.24 342 ⇓P **Pn** 22 24 10.1 +3.1
PSZ Piszkesteto 14.24 342 P **Pn** 22 24 07.7 +0.7
PSZ Piszkesteto 14.24 342 **Pn** 22 24 07.7 +0.7
UZH Uzhgorod 14.43 349 *e*P **Pn** 22 24 10.5 +1.0
UZH *i* S **Sn** 22 26 51.4 +2.3
CEY Cerknica 14.43 325 *e*Pn **Pn** 22 24 09.1 -0.6
VSL Villasalto 14.44 295 **Pn** 22 24 09.1 -0.7
LJU Ljubljana 14.61 326 *e*Pn **Pn** 22 24 09.6 -2.4
MORS Morshin 14.72 354 P **P** 22 24 18.8 -0.8
KOLS Kolonicke sedl 14.72 349 *e*P **Pn** 22 24 16.0 +2.4
KOLS Kolonicke sedl 14.72 349 *e*PN **Pn** 22 24 16.0 +2.4
OSSC Osservatorio P 14.77 312 **Pn** 22 24 14.3 0.0
SOKA Soboth 14.86 328 *e*Pn **Pn** 22 24 17.2 +1.7
comp=Z,9.9nm,0.5s
OBKA Obir 14.95 327 Pn **Pn** 22 24 18.1 +1.4
comp=Z,9.5nm,0.6s
VYHS Vyhne 15.05 340 *e*P **Pn** 22 24 18.9 +1.0
VYHS Vyhne 15.05 340 *e*PN **Pn** 22 24 18.9 +1.0
ARSA Arzberg 15.11 331 *e*Pn **Pn** 22 24 19.8 +1.0
comp=Z,6.9nm,0.5s
KWP Kalwaria Pacla 15.34 351 *e*P **P** 22 24 27.8 +1.3
KWP Kalwaria Pacla 15.34 351 *e*P **P** 22 24 27.8 +1.3
PRED Cave del Predi 15.36 325 **Pn** 22 24 20.8 -1.3
LVV L'vov 15.39 354 *e*P **P** 22 24 26.4 -0.6
LVV *e*S **Sn** 22 27 17.5 +4.9
LVV MLR MLR
comp=E,1µm,10.0s
LVV MLR MLR
comp=N,2µm,11.0s
LVV MLR MLR
comp=Z,3µm,12.0s
ZCCA Zocca 15.39 314 P **Pn** 22 24 21.4 -1.1
MODS Modra-Piesok 15.41 337 *e*P **P** 22 24 28.0 +0.7
MODS Modra-Piesok 15.41 337 *e*P **P** 22 24 28.0 +0.7
MYKA Terra Mystica 15.46 325 *i* Pn **Pn** 22 24 23.0 -0.4
comp=Z,5.1nm,0.4s
LANS Liptovska Anna 15.49 343 *e*P **P** 22 24 30.2 +2.0
LANS Liptovska Anna 15.49 343 *e*P **P** 22 24 30.2 +2.0
ABSA Djebel Ababsia 15.49 282 P P 22 25 30.3 +62
CONA Conrad Observa 15.53 333 *e*Pn **Pn** 22 24 24.4 +0.1
comp=Z,8.0nm,0.7s,SNR=6.4
NIE Niedzica 15.55 345 *e*P **P** 22 24 28.6 -0.2
NIE *e*S **S** 22 27 31.3 -0.8
NIE Niedzica 15.55 345 *e*P **P** 22 24 28.6 -0.2
CMAH Djebel Manchou 15.55 283 P P 22 25 28.6 +60
VLC Villacollemand 15.64 313 Pn **Pn** 22 24 26.8 +1.0
JAVC Velka Javorina 15.71 338 *e*PN **Pn** 22 24 26.7 0.0
PGF Pioggiola 15.75 306 P **Pn** 22 24 27.9 +0.6
PGF pmax pmax
comp=Z,38nm,0.9s
KIV Kislovodsk 15.76 48 *i* P **P** 22 24 30.9 -0.4
SNR=16
KIV Kislovodsk 15.76 48 P **P** 22 24 30.9 -0.4
KIV Kislovodsk 15.76 48 *e*P **P** 22 24 30.2 -1.1
KIV *e*S **Sn** 22 27 28.2 +6.4
KIV pmax pmax
comp=Z,323nm,0.9s
KIV MLR MLR
comp=Z,1µm,12.0s
KIV Kislovodsk 15.76 48 **P** 22 24 30.0 -1.2
KIV IAmb IAmb 22 24 37.9
comp=Z,114nm,1.0s
KVAR Kislovodsk Arr 15.76 48 LR LR 22 32 23.3
comp=Z,835nm,21.6s,baz=82,slow=44
KBZ Khabaz 15.77 49 Pn **P** 22 24 30.9 -0.4
comp=Z,0.8nm,0.3s,baz=256,slow=7.0,SNR=28
KBZ Khabaz 15.77 49 *ce*P **P** 22 24 30.8 -0.5
KBA Koelnbreinsper 15.93 326 *e*Pn **Pn** 22 24 29.9 +0.3
comp=Z,16nm,0.7s,SNR=11
KBA Koelnbreinsper 15.93 326 P **P** 22 24 34.8 +1.6
KBA pmax pmax
comp=Z,37nm,1.2s
ZEI Tsey 15.99 54 *e*P **Pn** 22 24 31.1 +0.7
ZEI pmax pmax
comp=Z,93nm,1.1s
CAEH 'Ain El Ouahch 16.02 284 P P 22 25 32.9 +59
ABTA Abfaltersbach 16.08 324 *e*Pn **Pn** 22 24 32.9 +1.3
comp=Z,34nm,0.8s,SNR=26
MOA Molln 16.10 329 *e*Pn **Pn** 22 24 32.7 +1.0
comp=Z,8.4nm,0.7s
CKFL Kef-Lekhel 16.11 282 P P 22 25 34.3 +59
MSSA Maissana 16.25 312 P **Pn** 22 24 32.9 -0.8
CASM Ain Smara 16.29 282 P P 22 25 39.0 +62
KRUC Moravsky 16.30 336 *e*PN **P** 22 24 36.4 -0.7
KRUC Moravsky 16.30 336 P **P** 22 24 36.7 -0.4
KRUC pmax pmax
comp=Z,27nm,0.9s
AKASG Malin Array Be 16.31 7 Pn **P** 22 24 36.0 -1.3
comp=Z,13nm,0.3s,baz=193,slow=11,SNR=28
AKASG Sn **Sn** 22 27 40.9 +5.8
baz=190,slow=21,SNR=14
AKASG LR LR 22 31 13.5
comp=Z,919nm,19.1s,baz=180,slow=39
AKASG Malin Array Be 16.31 7 ⇓*e*P **P** 22 24 36.0 -1.3
AKASG pmax pmax
comp=Z,12nm,0.4s
AKASG Malin Array Be 16.31 7 **Pn** 22 24 35.8 +1.4
AKBB Malin Array Si 16.31 7 ⇓*e*P **Pn** 22 24 34.4 +0.1
AKBB Malin Array Si 16.31 7 P **Pn** 22 24 35.1 +0.8
SALO Salr 16.39 317 P **Pn** 22 24 35.6 +0.2
SALO IAmb IAmb 22 24 54.6
comp=Z,142nm,0.9s
OJC Ojcow 16.41 345 *e*P **P** 22 24 37.7 -0.7
OJC Ojcow 16.41 345 *e*P **P** 22 24 37.7 -0.7
VRAC Vranov 16.45 337 Pn **Pn** 22 24 35.5 -0.6
comp=Z,1.3nm,0.3s,baz=130,slow=12,SNR=18
VRAC LR LR 22 31 01.5
comp=Z,556nm,19.9s,baz=144,slow=38
VRAC Vranov 16.45 337 ⇓P **P** 22 24 37.8 -1.0
VRAC Vranov 16.45 337 *e*PN **Pn** 22 24 35.6 -0.5
VRAC Vranov 16.45 337 P **Pn** 22 24 35.9 -0.2
VRAC pmax pmax
comp=Z,46nm,1.0s
OKC Ostrava-Krasne 16.46 341 *e*P **Pn** 22 24 36.9 +0.7
OKC AMS AMS 22 32 20.0
comp=Z,3µm,9.7s
OKC Ostrava-Krasne 16.46 341 *e*P **Pn** 22 24 36.9 +0.7
OKC MLR MLR
comp=Z,3µm,9.7s
GOF Gofitskoye 16.57 46 ⇑*e*P **P** 22 24 41.5 +1.4
GOF pmax pmax
comp=Z,163nm,1.1s
MORC Moravsky Berou 16.57 340 ⇑P **Pn** 22 24 38.1 +0.4
MORC Moravsky Berou 16.57 340 *e*PN **Pn** 22 24 37.9 +0.2
MORC Moravsky Berou 16.57 340 P **Pn** 22 24 38.3 +0.6
MORC pmax pmax
comp=Z,22nm,0.9s
DFRA Djebel Bou Aff 16.79 283 P P 22 25 43.6 +61
TREC Trest 16.81 335 *e*P **P** 22 24 43.5 +0.7
TREC AMS AMS 22 32 50.0
comp=Z,2µm,8.7s
TREC Trest 16.81 335 *e*P **P** 22 24 43.5 +0.7
TREC MLR MLR
comp=Z,2µm,8.7s
WTTA Wattenberg 16.87 323 *e*Pn **P** 22 24 42.8 -0.9
comp=Z,18nm,0.6s,SNR=10.0
WTTA Wattenberg 16.87 323 P **P** 22 24 44.1 +0.4
WTTA pmax pmax
comp=Z,65nm,1.1s
WATA Walderalm 16.95 323 *e*Pn **P** 22 24 43.8 -0.8
comp=Z,26nm,0.7s,SNR=9.8
SQTA Sankt Quirin 17.06 323 *e*Pn **Pn** 22 24 44.4 +0.5
comp=Z,14nm,0.5s,SNR=11
KRLC Kraliky 17.06 339 *e*P **Pn** 22 24 44.3 +0.4
KRLC *e*pP **pP** 22 24 48.0 -0.5
KRLC Kraliky 17.06 339 *e*P **Pn** 22 24 44.3 +0.4
CKHR Kef el Ahmar 17.09 281 P P 22 25 45.7 +60
GEC2 GERESS Array S 17.12 331 *e*P **P** 22 24 45.6 -0.8
baz=139,slow=11
GEC2 GERESS Array S 17.12 331 **P** 22 24 45.5 -0.8
GERES GERESS Array B 17.12 331 Pn **Pn** 22 24 44.5 -0.1
comp=Z,0.6nm,0.3s,baz=144,slow=11,SNR=33
GERES Sn **S** 22 28 03.5 -0.8
comp=Z,0.1nm,0.3s,baz=139,slow=18,SNR=1.0
FUORN Ofenpass-Fuorn 17.15 320 P **Pn** 22 24 44.7 -0.6
FETA Feichten 17.17 321 *e*Pn **P** 22 24 46.6 -0.4
comp=Z,35nm,0.9s,SNR=14
FETA *e*Sn **Sn** 22 27 55.6 -0.5
comp=Z,28nm,1.3s
SET Setif 17.18 282 P P 22 25 50.0 +63
MOTA Moosalm 17.19 323 *e*Pn **Pn** 22 24 45.7 +0.1
comp=Z,12nm,0.7s,SNR=9.4
MOTA *e*S S 22 28 25.8 +20
comp=Z,40nm,1.2s
SAOF Saorge 17.33 309 P **Pn** 22 24 47.7 +0.5
SAOF pmax pmax
comp=Z,64nm,1.1s
SBF Sospel 17.35 308 *e*P **Pn** 22 24 47.5 -0.1
SBF pmax pmax
comp=Z,38nm,0.7s
KHC Kasperske Hory 17.40 331 *e*P **Pn** 22 24 48.5 +0.5
KHC *ex* x 22 24 58.0
KHC *ex* x 22 25 23.0
KHC AMS AMS 22 33 10.0
comp=Z,1µm,10.0s
KHC Kasperske Hory 17.40 331 ⇓*e*P **Pn** 22 24 48.3 +0.3
KHC pmax pmax
comp=Z,66nm,2.5s
GROC Groznyy 17.42 54 *e*P **Pn** 22 24 48.3 -0.1
GROC pmax pmax
comp=Z,68nm,1.2s
DPC Dobruska-Polom 17.44 338 *e*P **Pn** 22 24 48.5 -0.1
DPC *ep*P **pP** 22 24 52.1 -0.7
DPC AMS AMS 22 35 10.0
comp=Z,1µm,10.1s
DPC Dobruska-Polom 17.44 338 *e*P **Pn** 22 24 48.5 -0.1
DPC MLR MLR
comp=Z,1µm,10.1s
DAVOX Davos/Dischmat 17.46 319 P **P** 22 24 51.4 +1.2
comp=Z,2.6nm,0.3s,baz=172,slow=5.5,SNR=28
DAVOX S **Sn** 22 27 57.2 -6.0
comp=Z,0.1nm,0.3s,baz=299,slow=19,SNR=2.6
DAVOX LR LR 22 32 57.2
comp=Z,516nm,21.4s,baz=124,slow=42
RETA Reutte 17.46 323 *e*Pn **Pn** 22 24 48.3 -0.6
comp=Z,12nm,0.5s
RETA *e*S S 22 28 29.5 +18
comp=Z,16nm,1.4s
TUE Stuetta 17.56 318 **P** 22 24 51.1 -0.2
GOPC GO Pecny, Ondr 17.58 335 *e*P **Pn** 22 24 49.4 -0.9
GOPC GO Pecny, Ondr 17.58 335 *e*P **Pn** 22 24 49.4 -0.9
OSTC Ostas 17.66 338 *e*P **Pn** 22 24 51.7 +0.4
UPC Upice 17.68 338 *e*P **Pn** 22 24 51.8 +0.3
UPC AMS AMS 22 35 20.0
comp=Z,1µm,9.9s
UPC Upice 17.68 338 *e*P **Pn** 22 24 51.8 +0.3
UPC MLR MLR
comp=Z,1µm,9.9s
FUR Furstenfeldbru 17.68 325 P **P** 22 24 52.9 +0.5
FUR pmax pmax
comp=Z,49nm,1.0s
WET Wettzell 17.69 330 P **Pn** 22 24 52.1 +0.4
WET pmax pmax
comp=Z,23nm,0.8s
WET Wettzell 17.69 330 *e*P **Pn** 22 24 51.8 +0.1
baz=139,slow=11
PRU Pruhonice 17.73 334 *e*P **Pn** 22 24 51.8 -0.3
PRU AMS AMS 22 33 30.0
comp=Z,2µm,11.6s
PRU Pruhonice 17.73 334 *e*P **Pn** 22 24 51.8 -0.3
PRU MLR MLR
comp=Z,2µm,11.6s
CHVC Chvalec 17.73 338 *e*P **Pn** 22 24 52.5 +0.3
CHVC *ex* x 22 24 55.9
FRF La Foret Royal 17.74 306 *e*P **Pn** 22 24 52.4 +0.1
FRF pmax pmax
comp=Z,17nm,0.8s
ISO Isola 17.74 309 P **P** 22 24 53.6 +0.4
ISO pmax pmax
comp=Z,47nm,1.1s
BEL Belsk 17.77 349 *e*P **P** 22 24 56.5 +3.1
BEL Belsk 17.77 349 *e*P **P** 22 24 56.5 +3.1
DAVA Damuels 17.78 321 *e*Pn **P** 22 24 53.5 -0.2
comp=Z,34nm,0.8s,SNR=7.5
DAVA *e*S S 22 28 35.3 +17
comp=Z,14nm,1.3s
PRA Prague 17.84 334 *e*P **P** 22 24 54.9 +0.8
PRA Prague 17.84 334 *e*P **P** 22 24 54.9 +0.8
KSP Ksiaz 17.89 339 *e*P **Pn** 22 24 53.3 -0.8
KSP Ksiaz 17.89 339 *e*P **Pn** 22 24 53.3 -0.8
PVCC Panska Ves 18.17 335 *e*P **P** 22 24 58.7 +0.9
PVCC AMS AMS 22 33 40.0
comp=Z,1µm,8.6s
PVCC Panska Ves 18.17 335 *e*P **P** 22 24 58.7 +0.9
PVCC MLR MLR
comp=Z,1µm,8.6s
AKT Akhty 18.20 61 *e*P **P** 22 25 00.4 +2.0
AKT pmax pmax
comp=Z,24nm,1.4s
BNI Bardonecchia 18.38 311 P **P** 22 24 59.6 -0.7
BNI pmax pmax
comp=Z,38nm,1.1s
BNI Bardonecchia 18.38 311 P **P** 22 24 59.6 -0.7
ROTZ Rotzenmuhle 18.45 330 *e*P **P** 22 25 00.6 -0.3
comp=Z,5.0nm,0.7s,baz=139,slow=11
MAK Makhachkala 18.50 57 *e*P **P** 22 25 01.3 -0.1
MAK *e*S **S** 22 28 30.7 -1.4
MAK pmax pmax
comp=Z,246nm,1.2s
MAK MLR MLR
comp=Z,573nm,17.0s
LPG La Plagne 18.55 312 *e*P **P** 22 25 01.5 -0.8
LPG pmax pmax
comp=Z,24nm,0.9s
MANZ Manzenberg 18.66 330 *e*P **P** 22 25 02.3 -0.9
baz=139,slow=11
SENIN Lac Senin/Sane 18.66 315 P **P** 22 25 03.0 -0.5
BRG Berggiesshubel 18.68 335 *e*P **P** 22 25 02.9 -0.5
comp=Z,14nm,0.9s
comp=N,782nm,17.5s
comp=E,936nm,18.7s
comp=Z,926nm,16.2s
BRG Berggiesshubel 18.68 335 *e*P **P** 22 25 02.9 -0.5
BRG pmax pmax
comp=Z,14nm,0.9s
BRG MLR MLR
comp=N,782nm,17.5s
BRG MLR MLR
comp=E,936nm,18.7s
BRG MLR MLR

comp=Z,926nm,16.2s
BRG Berggiesshubel 18.68 335 *e*P **P** 22 25 02.3 -1.1
comp=Z,14nm,0.9s,baz=139,slow=11
RSL Roseland 18.72 312 P **Pn** 22 25 05.4 +1.0
RSL pmax pmax
comp=Z,54nm,0.9s
NKC Novy Kostel 18.72 331 *e*P **P** 22 25 03.4 -0.4
NKC *e*pP **pwP** 22 25 10.0 -1.3
NKC AMS AMS 22 35 00.0
comp=Z,1µm,11.0s
NKC Novy Kostel 18.72 331 *e*P **P** 22 25 03.4 -0.4
NKC MLR MLR
comp=Z,1µm,11.0s
WERN Wernitzgruen 18.79 331 *e*P **P** 22 25 03.9 -0.8
comp=Z,7.7nm,0.7s,baz=139,slow=11
SLE Schleitheim 18.81 320 P **P** 22 25 04.3 -0.6
SLE pmax pmax
comp=Z,51nm,0.9s
GRA1 Grafenberg Arr 18.81 328 P **P** 22 25 04.2 -0.7
GRF Grafenberg Arr 18.81 328 P **P** 22 25 04.2 -0.7
GRF pmax pmax
comp=Z,30nm,0.9s
GRF Grafenberg Arr 18.81 328 *e*P **P** 22 25 04.3 -0.6
baz=139,slow=11
GRF *e*L L 22 33 50.0
comp=Z,725nm,20.9s
TANN Tannenbergstha 18.86 332 *e*P **P** 22 25 05.0 -0.4
baz=139,slow=11
GUNZ Gunzen 18.87 331 *e*P **P** 22 25 05.6 +0.1
comp=Z,9.5nm,0.7s,baz=139,slow=11
FBE Freiberg 18.93 334 *e*P **P** 22 25 04.6 -1.5
comp=Z,15nm,0.9s,baz=139,slow=11
VORD Divnogorie 18.94 26 *e*P **Pn** 22 25 06.8 -0.1
VORD pmax pmax
comp=Z,20nm,0.8s
STU Stuttgart 19.10 323 P **Pn** 22 25 08.6 -0.3
STU pmax pmax
comp=Z,59nm,0.8s
STU Stuttgart 19.10 323 *e*P **P** 22 25 08.1 +0.1
baz=139,slow=11
VSR Storozhevoye 19.11 25 *e*P **Pn** 22 25 09.1 +0.2
VSR *e*S **S** 22 28 44.4 +0.1
VSR pmax pmax
comp=Z,20nm,0.5s
VSR smax smax
comp=N,100nm,1.1s
BFO Black Forest 19.25 321 P **P** 22 25 09.2 -0.5
BFO pmax pmax
comp=Z,34nm,0.8s
BFO Black Forest 19.25 321 *e*P **P** 22 25 08.5 -1.3
baz=139,slow=11
BFO Black Forest 19.25 321 P **P** 22 25 09.2 -0.5
CLL Collm 19.37 334 *i* P **P** 22 25 11.3 +0.3
comp=Z,16nm,0.8s
CLL pmax pmax
comp=Z,27nm,1.1s
CLL *i* 22 25 24.1
comp=Z,52nm,1.3s
CLL *e*S **S** 22 28 59.0 +9.4
CLL LmV 22 35 00.0
comp=Z,600nm,18.5s
CLL Collm 19.37 334 *i* P **P** 22 25 11.3 +0.3
CLL pmax pmax
comp=Z,16nm,0.8s
CLL MLR MLR
comp=Z,600nm,18.5s
CLL Collm 19.37 334 *e*P **P** 22 25 09.4 -1.6
comp=Z,12nm,0.8s,baz=139,slow=11
MOX Moxa 19.37 331 P **Pn** 22 25 11.8 -0.3
MOX pmax pmax
comp=Z,33nm,0.8s
MOX Moxa 19.37 331 *e*P **P** 22 25 11.0 0.0
baz=139,slow=11
MOX *e*L L 22 34 21.4
comp=Z,764nm,18.4s
VORR Voronezh 19.50 25 *e*P **Pn** 22 25 15.0 +1.4
VORR pmax pmax
comp=Z,250nm,1.6s
SUW Suwalki 19.62 354 *e*P **Pn** 22 25 15.7 +0.6
SUW *e*S **S** 22 28 50.7 -3.9
SUW Suwalki 19.62 354 *e*P **Pn** 22 25 15.7 +0.6
SUW *e*S **S** 22 28 50.7 -3.9
NEUB Neuenburg 19.75 332 *e*P **P** 22 25 14.2 -0.9
comp=Z,38nm,0.8s,baz=139,slow=11
ECH Echery 19.80 320 P **P** 22 25 15.5 -0.2
ECH pmax pmax
comp=Z,31nm,0.9s
ECH Echery 19.80 320 P **P** 22 25 15.5 -0.2
SSB Saint Sauveur 19.83 309 P **P** 22 25 15.9 -0.2
SSB pmax pmax
comp=Z,19nm,0.9s
SSB Saint Sauveur 19.83 309 P **P** 22 25 15.9 -0.2
GKP Gorka Klasztor 19.84 344 *e*P **P** 22 25 15.5 -0.5
GKP *e*S **Sn** 22 29 02.0 +1.9
GKP Gorka Klasztor 19.84 344 *e*P **P** 22 25 15.5 -0.5
GKP *e*S **Sn** 22 29 02.1 +1.9
MICGM Minsk 20.01 3 *e*P **P** 22 25 16.0 -1.9
MICGM *e*S **S** 22 28 56.0 -6.4
MNK Minsk 20.01 3 *e*P **P** 22 25 16.0 -1.9
MNK *e*S **S** 22 28 56.0 -6.4
VRH Novokhopyorsk 20.06 29 *e*P **P** 22 25 18.9 +0.5
VRH *e*S **S** 22 29 03.2 -0.2
VRH pmax pmax
comp=Z,180nm,0.7s
VRH smax smax
comp=E,80nm,0.9s
RUE Ruedersdorf 20.09 337 *e*P **P** 22 25 19.3 +0.6
RUE IAmb IAmb 22 25 28.2
comp=Z,63nm,0.9s
RUE Ruedersdorf 20.09 337 *e*P **P** 22 25 16.5 -2.3
comp=Z,32nm,0.8s,baz=139,slow=11
HAU Haudompre 20.12 318 *e*P **P** 22 25 18.4 -0.8
HAU pmax pmax
comp=Z,22nm,0.6s
UBBA Unterbreizbach 20.18 329 *e*P **P** 22 25 19.6 0.0
baz=139,slow=11
LPSR Galich'ya Gora 20.19 23 *e*P **P** 22 25 20.2 +0.3
LPSR *e*S **S** 22 29 03.5 -2.5
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR smax smax
comp=N,40nm,1.4s
NACGM Naroch 20.39 1 *e*P **P** 22 25 21.0 -1.0
NACGM *e*S **S** 22 29 05.0 -4.9
TNS Taunus Mts 20.44 326 P **P** 22 25 23.2 +0.5
TNS pmax pmax
comp=Z,43nm,0.7s
TNS Taunus Mts 20.44 326 *e*P **P** 22 25 22.7 0.0
baz=139,slow=11
MTLF Montolieu 20.69 302 P **P** 22 25 25.5 +0.1
MTLF pmax pmax
comp=Z,30nm,1.2s
GTTG Gottingen 20.73 330 *e*P **P** 22 25 25.8 0.0
comp=Z,56nm,0.9s,baz=139,slow=11
CLZ Clausthal 20.79 331 *e*P **P** 22 25 26.1 -0.4
comp=Z,12nm,0.9s,baz=139,slow=11
IDID Didziasalis 20.80 1 *e*P **P** 22 25 25.7 -0.7
IIGN Ignalina 20.84 360 *e*P **P** 22 25 26.4 -0.4
IIGN *e*S **S** 22 29 17.4 -1.4
ASSE Asse, Remlinge 20.90 332 *e*P **P** 22 25 27.3 -0.2
baz=139,slow=11
PABE Paberze 21.05 356 *e*P **P** 22 25 28.7 -0.5
PABE IAmb IAmb 22 25 37.9
comp=Z,53nm,0.7s
ISAL Salakas 21.06 360 *e*P **P** 22 25 29.0 -0.2
ISAL IAmb IAmb 22 25 38.4
comp=Z,35nm,1.1s
ISAL *e*S **S** 22 29 22.8 -0.4
LOR Lormes 21.16 314 P **P** 22 25 30.1 -0.3
LOR pmax pmax
comp=Z,31nm,0.7s
WLF Walferdange 21.20 322 P **P** 22 25 30.6 -0.3
WLF Walferdange 21.20 322 P **P** 22 25 30.6 -0.3
WLF pmax pmax
comp=Z,56nm,0.7s
WLF Walferdange 21.20 322 *e*P **P** 22 25 29.4 -1.5
baz=139,slow=11
WLF Walferdange 21.20 322 P **P** 22 25 30.6 -0.3
WLF IAmb IAmb 22 25 41.0
comp=Z,56nm,0.7s
IZAR Zarasai 21.24 360 *e*P **P** 22 25 32.5 +1.3
IZAR *e*S **S** 22 29 24.2 -2.5
AVF Avril sur Loir 21.24 312 *e*P **P** 22 25 31.3 0.0
AVF pmax pmax
comp=Z,27nm,1.0s

CAF Calviac 21.30 306 *e*P **P** 22 25 30.2 -1.9
CAF pmax pmax
comp=Z,13nm,0.8s
AHRW Bad Neuenahr-A 21.31 325 *e*P **P** 22 25 30.8 -1.1
comp=Z,16nm,0.7s,baz=139,slow=11
NRDL Niedersach Rie 21.40 332 *e*P **P** 22 25 32.8 -0.1
comp=Z,5.5nm,0.8s,baz=139,slow=11
TAM Tamanrasset 21.64 243 P **P** 22 25 37.3 +1.3
TAM pmax pmax
comp=Z,45nm,0.7s
TAM Tamanrasset 21.64 243 P **P** 22 25 37.3 +1.3
TAM IAmb IAmb 22 25 43.9
comp=Z,45nm,0.7s
BHOU Houvegnez 21.71 323 P **P** 22 25 36.9 +0.5
PBUR Paburge 21.73 353 *e*P **P** 22 25 35.9 -0.5
PBUR *e*S **S** 22 29 33.2 -3.1
OBN Obninsk 21.79 16 P **P** 22 25 36.0 -1.0
comp=Z,6.8nm,0.5s,baz=29,slow=16,SNR=8.7
OBN S **S** 22 29 32.2 -5.3
comp=Z,2.5nm,0.4s,baz=0.0,slow=20,SNR=2.2
OBN LR LR 22 34 41.1
comp=Z,183nm,19.8s,baz=199,slow=39
OBN Obninsk 21.79 16 *e*P **P** 22 25 38.3 +1.2
OBN *e* 22 26 01.0
OBN *e*PPP PPP 22 26 08.2
OBN *e* 22 29 36.4
OBN pmax pmax
comp=Z,45nm,0.9s
OBN MLR MLR
comp=Z,716nm,15.0s
OBN Obninsk 21.79 16 P **P** 22 25 36.7 -0.3
OBN IAmb IAmb 22 25 45.1
comp=Z,42nm,0.6s
BTNL Ternell 21.80 324 P **P** 22 25 37.4 +0.2
RJF Les Rejaudoux 21.80 307 *e*P **P** 22 25 36.6 -0.8
RJF pmax pmax
comp=Z,37nm,1.0s
BUG Bochum--Univer 21.82 327 P **P** 22 25 37.5 0.0
BUG pmax pmax
comp=Z,31nm,0.8s
BUG Bochum--Univer 21.82 327 *e*P **P** 22 25 37.4 0.0
comp=Z,21nm,0.9s,baz=139,slow=11
MEM Membach 21.87 324 P **P** 22 25 37.0 -1.0
MEM x x 22 25 46.0
MEM PnPn **PnPn** 22 25 57.7 -1.7
MEM Membach 21.87 324 P **P** 22 25 38.3 +0.3
MEM pmax pmax
comp=Z,128nm,1.1s
RCHB Rochefort 21.98 322 P **P** 22 25 38.3 -0.8
BSTI Sart Tilman 22.07 323 P **P** 22 25 40.5 +0.4
BSTI PnPn **PnPn** 22 26 01.3 -0.8
BSD Bornholm Skovb 22.08 342 *i* P **P** 22 25 39.2 -1.0
BSD Bornholm Skovb 22.08 342 *i* P **P** 22 25 39.2 -1.0
BSD Bornholm Skovb 22.08 342 *i* P **P** 22 25 39.3 -1.0
BCLA Clavier 22.10 322 P **P** 22 25 40.5 0.0
GIVF Givet 22.16 321 *e*P **P** 22 25 39.7 -1.4
GIVF pmax pmax
comp=Z,33nm,0.7s
BGES Gesves 22.19 322 P **P** 22 25 41.0 -0.4
IBBN Ibbenburen 22.22 329 *e*P **P** 22 25 41.3 -0.5
baz=139,slow=11
DOU Dourbes 22.27 321 P **P** 22 25 41.7 -0.6
DOU PnPn **PnPn** 22 26 01.4 -3.5
DOU Dourbes 22.27 321 P **P** 22 25 43.4 +1.1
DOU pmax pmax
comp=Z,108nm,1.1s
BMRD Maredsous 22.30 322 P **P** 22 25 41.6 -1.0
BMRD PnPn **PnPn** 22 26 02.7 -2.7
BSEG Bad Segeberg 22.46 335 *e*P **P** 22 25 43.8 -0.5
comp=Z,12nm,0.8s,baz=139,slow=11
CLF Chambon-Foret 22.47 314 P **P** 22 25 44.4 0.0
CLF IAmb IAmb 22 25 58.2
comp=Z,84nm,1.1s
MOS Moscow 22.61 17 *e*P **P** 22 25 44.3 -1.5
MOS *e*S **S** 22 29 47.3 -5.7
MOS pmax pmax
comp=Z,115nm,1.2s
MOS smax smax
comp=E,500nm,2.3s
MOS smax smax
comp=N,500nm,2.4s
MOS MLR MLR
comp=N,600nm,15.0s
MOS MLR MLR
comp=Z,600nm,15.0s
MOS MLR MLR
comp=E,410nm,14.0s
SNF Seneffe 22.68 322 P **P** 22 25 46.5 -0.1
UCC Uccle 22.81 322 P **P** 22 25 47.7 -0.3
UCC Uccle 22.81 322 P **P** 22 25 47.6 -0.4
UCC pmax pmax
comp=Z,76nm,0.9s
UCC Uccle 22.81 322 P **P** 22 25 47.6 -0.4
UCC IAmb IAmb 22 26 04.3
comp=Z,76nm,0.9s
SLIT Slitere, Latvi 23.28 354 *e*P **P** 22 25 52.1 -0.7
SLIT IAmb IAmb 22 25 56.7
comp=Z,190nm,0.5s
VSU Vasula 23.96 0 *e*P **P** 22 25 58.8 -0.5
VSU Vasula 23.96 0‖ *e*P **P** 22 25 57.6 -1.8
VSU pmax pmax
comp=Z,150nm,1.7s
FLN La Foliniere 24.43 314 *e*P **P** 22 26 02.6 -1.3
FLN pmax pmax
comp=Z,42nm,1.0s
GRR Gorron 24.50 313 *e*P **P** 22 26 03.3 -1.2
GRR pmax pmax
comp=Z,23nm,0.8s
ESBB Sonseca Array 24.66 291 P **P** 22 26 06.5 +0.3
ESDC Sonseca Array 24.66 291 P **P** 22 26 06.4 +0.3
comp=Z,7.5nm,0.9s,baz=80,slow=8.9,SNR=57
ESDC PcP **PcP** 22 29 44.3 +1.0
comp=Z,2.0nm,1.1s,baz=45,slow=2.0,SNR=4.8
ESDC Sonseca Array 24.66 291 P **P** 22 26 06.0 -0.1
GUD Guadarrama 24.86 293 P **P** 22 26 09.5 +1.4
GUD pmax pmax
comp=Z,54nm,0.9s
MUD Monsted U'grnd 24.89 337 *i* P **P** 22 26 07.8 -0.1
MUD Monsted U'grnd 24.89 337 *i* P **P** 22 26 07.8 -0.1
MUD Monsted U'grnd 24.89 337 *i* P **P** 22 26 07.8 -0.1
PUL Pulkovo 25.40 5‖ *e*P **P** 22 26 14.6 +2.1
PUL pmax pmax
comp=Z,167nm,0.9s
DAMY Dhamar 25.68 136 P **P** 22 26 20.3 +4.6
SNR=5.2
DAMY Dhamar 25.68 136 P **P** 22 26 16.2 +0.5
QUIF Quistinic 25.75 310 *e*P **P** 22 26 15.6 -0.2
QUIF pmax pmax
comp=Z,25nm,0.8s
MDT Midelt 25.78 275 P **P** 22 26 17.4 +1.0
comp=Z,13nm,0.9s,baz=91,slow=11,SNR=17
MDT LR LR 22 39 34.4
comp=Z,418nm,18.8s,baz=87,slow=44
GEYT Alibeck 25.79 73 P **P** 22 26 17.8 +1.5
comp=Z,17nm,0.5s,baz=270,slow=9.7,SNR=22
GEYT Alibeck 25.79 73 P **P** 22 26 17.5 +1.2
GYA0B ALIBECK ARRAY 25.79 73 IAmb IAmb 22 26 28.5
comp=Z,40nm,0.7s
PBRG Braganca 26.90 296 *e*P **P** 22 26 26.5 +0.1
comp=Z,34nm,1.1s
HFS Hagfors 26.93 346 P **P** 22 26 24.2 -2.1
comp=Z,10nm,0.6s,baz=137,slow=11,SNR=20
HFS LR LR 22 38 27.4
comp=Z,722nm,19.3s,baz=153,slow=40
FINES FINESS Array B 26.95 360 P **P** 22 26 25.1 -1.4
comp=Z,25nm,0.9s,baz=164,slow=9.9,SNR=33
FINES PcP **PcP** 22 29 47.9 -0.1
comp=Z,4.7nm,0.9s,baz=160,slow=6.1,SNR=4.4
FINES S **S** 22 31 02.2 -0.8
comp=Z,2.5nm,0.8s,baz=175,slow=20,SNR=2.1
FINES LR LR 22 37 31.4
comp=Z,669nm,19.2s,baz=152,slow=38
FIA1 FINESS Array S 26.95 360 P **P** 22 26 25.4 -1.1
FIA1 IAmb IAmb 22 26 35.4
comp=Z,34nm,0.9s
SHME Shamm 27.00 100 P **P** 22 26 29.0 +1.6
SNART Snartemo 27.04 338 *i* P **P** 22 26 28.6 +1.2
MVO Moncorvo 27.07 294 *e*P **P** 22 26 28.3 +0.3
comp=Z,66nm,1.1s
NAZ Nazwa, Dubai 27.08 103 P **P** 22 26 29.8 +1.7
SNR=6.2
NAZ P **P** 22 26 29.8 +1.7
SNR=6.2
BANOM Banah 27.18 100 P **P** 22 26 29.9 +0.8
BANOM Banah 27.18 100 P **P** 22 26 30.6 +1.6

BANOM P **P** 22 26 30.6 +1.6
PMRV Marv??o 27.30 290 *e*P **P** 22 26 29.8 -0.2
comp=Z,30nm,2.1s
MSFE Esma-Masafi 27.31 101 P **P** 22 26 31.0 +0.7
PCBR Castelo Branco 27.37 291 *e*P **P** 22 26 34.5 +3.9
comp=Z,26nm,1.4s
ATD Arta Tunnel 27.38 143 LR LR 22 36 46.5
comp=Z,202nm,21.0s,baz=330,slow=35
ATD Arta Tunnel 27.38 143 P **P** 22 26 31.5 +0.6
OSL Oslo 27.41 343 *e*P **P** 22 26 29.5 -1.2
KONO Kongsberg 27.45 341 *e*P **P** 22 26 30.8 -0.2
MDH Madha 27.45 101 P **P** 22 26 31.5 +0.1
MDH Madha 27.45 101 P **P** 22 26 31.9 +0.5
MDH P **P** 22 26 31.9 +0.5
HATD Hatta, Dubai 27.53 102 P **P** 22 26 32.9 +0.7
HATD Hatta, Dubai 27.53 102 P **P** 22 26 32.7 +0.6
HATD P **P** 22 26 32.7 +0.6
UOSS Minazif 27.54 102 P **P** 22 26 32.7 +0.5
UOSS Minazif 27.54 102 P **P** 22 26 33.0 +0.8
UOSS P **P** 22 26 33.0 +0.8
UOSS Minazif 27.54 102 P **P** 22 26 33.1 +0.9
ASHO Ashiyiah 27.54 103 P **P** 22 26 33.1 +0.8
ASHO Ashiyiah 27.54 103 P **P** 22 26 33.9 +1.7
SNR=5.7
ASHO P **P** 22 26 33.9 +1.7
SNR=5.7
ALNE Al Ain 27.59 104 P **P** 22 26 33.6 +0.9
PVRL Vila Real 27.59 294 *e*P **P** 22 26 34.8 +2.2
comp=Z,30nm,2.3s
PVAQ Vaqueiros 27.64 286 *e*P **P** 22 26 33.0 0.0
comp=Z,65nm,1.4s
PVAQ Vaqueiros 27.64 286 IAmb IAmb 22 26 33.7
comp=Z,31nm,0.9s
KLMR Klimovskoe 27.70 14 *e*P **P** 22 26 31.9 -1.3
KLMR *e*S **S** 22 31 13.9 -0.9
KLMR pmax pmax
comp=Z,47nm,0.8s
KLMR MLR MLR
comp=Z,369nm,7.0s
KLMR Klimovskoe 27.70 14 *e*P **P** 22 26 31.9 -1.3
KLMR AMP 22 26 35.9
comp=Z,47nm,0.8s
KLMR *e*S **S** 22 31 13.9 -0.9
KLMR *e*S **S** 22 31 13.9 -0.9
KLMR LQ LQ 22 35 06.5
KLMR LQ LQ 22 35 06.5
KLMR LR LR 22 37 18.8
KLMR AMP 22 38 34.1
comp=Z,369nm,7.2s
PVIS Viseu 27.71 293 *e*P **P** 22 26 35.7 +2.1
comp=Z,24nm,2.0s
PBEJ Beja 27.72 287 *e*P **P** 22 26 34.0 +0.3
comp=Z,38nm,1.4s
EVO Evora 27.81 288 *e*P **P** 22 26 35.6 +1.1
comp=Z,30nm,1.1s
PBDV Barranco-do-Ve 27.82 286 *e*P **P** 22 26 35.0 +0.3
comp=Z,95nm,2.3s
PCAB Cabril 27.85 295 *e*P **P** 22 26 36.3 +1.4
comp=Z,45nm,1.7s
PCVE Castro Verde 27.88 286 *e*P **P** 22 26 35.2 0.0
comp=Z,49nm,1.6s
NC602 NORSAR Array S 27.93 344 IAmb IAmb 22 26 43.0
comp=Z,22nm,0.7s
NORES NORESS Array B 27.93 344 P **P** 22 26 37.8 +2.4
NORES pmax pmax
comp=Z,4.0nm,0.4s
PMTG Montargil 27.96 290 *e*P **P** 22 26 36.0 +0.2
comp=Z,29nm,1.5s
AKTO Aktyubinsk 27.98 46 P **P** 22 26 36.2 +0.2
comp=Z,6.6nm,0.8s,baz=256,slow=11,SNR=13
AKTO LR LR 22 41 23.9
comp=Z,102nm,20.1s,baz=246,slow=44
PGAV Gavieira, Arco 28.05 296 *e*P **P** 22 26 38.0 +1.2
comp=Z,42nm,1.3s
NAO01 NORSAR Array S 28.18 344 IAmb IAmb 22 26 44.5
comp=Z,42nm,0.8s
SOHO SOHO 28.18 103 *i* P **P** 22 26 39.0 +1.1
SNR=18
SOHO SOHO 28.18 103 P **P** 22 26 39.1 +1.2
SOHO P **P** 22 26 39.1 +1.2
SUF Sumiainen 28.23 360 P **P** 22 26 37.1 -0.8
SUF pmax pmax
comp=Z,31nm,0.8s
NC405 NORSAR Array S 28.23 345 P **P** 22 26 36.9 -1.1
PNCL Nicolau / Gran 28.23 288 *e*P **P** 22 26 38.3 0.0
comp=Z,38nm,1.6s
NB201 NORSAR Array S 28.27 345 P **P** 22 26 35.4 -3.0
NB2 NORSAR Subarra 28.28 344 P **P** 22 26 36.9 -1.6
comp=Z,2.9nm,0.6s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.28 344 P **P** 22 26 36.9 -1.6
baz=156,slow=9.3
NOA NORSAR Array B 28.28 344 P **P** 22 26 36.5 -2.0
comp=Z,3.4nm,1.0s,baz=151,slow=8.7,SNR=10
NOA PcP **PcP** 22 29 51.2 -0.1
comp=Z,1.0nm,0.7s,baz=174,slow=2.5,SNR=2.3
NOA LR LR 22 39 21.0
comp=Z,202nm,19.0s,baz=160,slow=40
NBO00 NORSAR Array S 28.37 344 P **P** 22 26 37.8 -1.4
NBO00 IAmb IAmb 22 26 51.1
comp=Z,39nm,1.1s
NC303 NORSAR Array S 28.41 345 P **P** 22 26 40.2 +0.6
PFVI Vila Bisbo 28.55 286 P **P** 22 26 41.6 +0.5
PFVI IAmb IAmb 22 26 45.1
comp=Z,31nm,0.9s
KIRV Kirov 28.55 25 P **P** 22 26 40.4 -0.4
comp=Z,45nm,0.6s,baz=304,slow=0.5,SNR=20
NC204 NORSAR Array S 28.59 344 P **P** 22 26 40.1 -1.2
NC204 IAmb IAmb 22 26 54.4
comp=Z,44nm,1.1s
VAF Ylistaro 28.64 357 P **P** 22 26 41.3 -0.3
VAF pmax pmax
comp=Z,49nm,1.2s
SKAR Skarslia 28.67 341 *e*P **P** 22 26 43.3 +1.3
ABKAR Akbulak array 28.74 49 P **P** 22 26 43.2 +0.5
ABKAR Akbulak array 28.74 49 P **P** 22 26 42.9 +0.2
HOQ Hoqain 29.07 104 P **P** 22 26 46.7 +0.8
HOQ P **P** 22 26 46.7 +0.8
EKA Eskdalemuir Ar 29.13 325 P **P** 22 26 45.0 -1.1
comp=Z,1.1nm,0.3s,baz=108,slow=9.0,SNR=3.7
ESK Eskdalemuir 29.14 325 P **P** 22 26 46.7 +0.5
ESK pmax pmax
comp=Z,32nm,1.0s
ESK Eskdalemuir 29.14 325 P **P** 22 26 46.7 +0.5
ESK IAmb IAmb 22 27 01.7
comp=Z,32nm,0.9s
BSY Bisya 29.39 105 P **P** 22 26 51.7 +2.9
SNR=9.2
BSY P **P** 22 26 51.7 +2.9
SNR=9.2
WHFO Wadi Hawf 29.50 117 P **P** 22 26 50.7 +0.9
HRA Herat 29.50 80 P **P** 22 26 50.7 +0.8
ABTO Aybut 29.52 119 P **P** 22 26 51.0 +1.1
DOMB Dombas 29.65 344 *e*P **P** 22 26 48.0 -2.6
PRGR Permogore 29.80 18‖ *e*P **P** 22 26 51.4 -0.5
PRGR *e*S **S** 22 31 45.1 -2.7
PRGR pmax pmax
comp=Z,97nm,0.9s
SMDO Samad 29.91 104 P **P** 22 26 53.3 -0.1
SNR=5.0
SMDO P **P** 22 26 53.3 -0.1
SNR=5.0
RBK Rabkut 30.08 117 P **P** 22 26 56.3 +1.4
WSAR Wadi Sarin 30.29 103 P **P** 22 26 58.0 +1.3
comp=Z,5.8nm,0.9s,baz=326,slow=10,SNR=4.4
JMDO Jabal Madar 30.30 105 P **P** 22 26 56.7 -0.1
JMDO P **P** 22 26 56.7 -0.1
DMTO DMTO 30.50 116 P **P** 22 26 59.5 +1.0
OUL Oulu 30.60 360 P **P** 22 26 57.9 -1.1
OUL pmax pmax
comp=Z,39nm,1.0s
TOA0 Torodi Ar. Sit 30.85 232 P **P** 22 27 02.9 +1.2
SNR=10
TOA0 Torodi Ar. Sit 30.85 232 P **P** 22 27 02.5 +0.9
TORD Torodi Ar. Bea 30.85 232 P **P** 22 27 01.8 +0.1
comp=Z,43nm,0.8s,baz=36,slow=8.4,SNR=110
TORD PcP **PcP** 22 29 58.5 -0.1
comp=Z,1.9nm,0.9s,baz=37,slow=3.5,SNR=2.9
TORD LR LR 22 41 28.9
comp=Z,660nm,19.3s,baz=30,slow=40
TORD Torodi Ar. Bea 30.85 232 P **P** 22 27 01.8 +0.1
WBK Wadi Bani Khal 30.87 104 P **P** 22 27 01.6 -0.2
WBK P **P** 22 27 01.6 -0.2
MHTO MHTO 30.91 108 P **P** 22 27 03.9 +1.7
SNR=8.3
MHTO P **P** 22 27 03.9 +1.7

SNR=8.3
ARU Arti 31.00 35 P **P 22 27 03.0 +0.4**
comp=Z,2.1nm,0.5s,baz=222,slow=12,SNR=11
ARU LR LR 22 42 20.6
comp=Z,258nm,19.0s,baz=225,slow=42
ARU Arti 31.00 35*c i*P **P 22 27 02.5 -0.1**
ARU 22 27 59.3
ARU S **S 22 32 11.8 +4.9**
ARU SS **SnSn 22 33 50.6 +3.3**
ARU pmax pmax
comp=Z,27nm,1.3s
ARU Arti 31.00 35 P **P 22 27 02.0 -0.6**
ARU IAmb IAmb 22 27 18.7
comp=Z,22nm,1.1s
NSS Namsos 31.30 348 *e*P **P 22 27 04.0 -1.2**
JLN Jalan Bani Buh 31.46 104 P **P 22 27 07.7 +0.7**
JLN P **P 22 27 07.7 +0.7**
SVE Sverdlovsk 32.20 36 *e*P **P 22 27 13.3 +0.2**
SVE pmax pmax
comp=Z,37nm,0.9s
MOR8 Moi Rana 32.47 351 *e*P **P 22 27 13.8 -1.7**
KONS Konsvik 32.96 350 *e*P **P 22 27 18.9 -0.7**
SGF Sodankyl 32.97 0 P **P 22 27 19.7 -0.1**
SGF pmax pmax
comp=Z,30nm,0.8s
NBB17 Glomfjord BYr 33.15 351 *e*P **P 22 27 20.8 -0.5**
APA Apatity 33.35 5U*i*P **P 22 27 22.6 -0.5**
APA *i* S **S 22 32 38.0 -5.1**
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,1μm,14.0s
FAUS Fauske 33.53 352 *e*P **P 22 27 24.5 -0.2**
SOCY Socotra 33.53 125 P **P 22 27 22.5 -2.8**
LVZ Lovozero 33.77 6U*e*P **P 22 27 28.5 +1.7**
LVZ pmax pmax
comp=Z,105nm,2.2s
LVZ Lovozero 33.77 6 P **P 22 27 27.3 +0.5**
LVZ IAmb IAmb 22 27 32.5
comp=Z,27nm,1.0s
KOWA Kowa 33.86 241 P **P 22 27 28.6 +0.5**
comp=Z,19nm,0.8s,baz=41,slow=8.4,SNR=37
KOWA PcP **PcP 22 30 07.9 +1.0**
comp=Z,4.9nm,0.8s,baz=76,slow=2.3,SNR=3.3
KOWA Kowa 33.86 241 P **P 22 27 28.7 +0.6**
KOWA IAmb IAmb 22 27 31.9
comp=Z,22nm,0.8s
N2IH Innhavet 34.03 353 *e*P **P 22 27 27.4 -1.6**
STEI Steigen 34.06 353 *e*P **P 22 27 28.5 -0.7**
CHGR Chuyangaron 34.39 70 IAmb IAmb 22 27 35.4
comp=Z,19nm,0.8s
IUG Iuzhnay 34.80 64 *e*P **P 22 27 36.0 -0.1**
comp=Z,15nm,1.2s
IUG Iuzhnay 34.80 64 *e*P **P 22 27 36.0 -0.1**
IUG pmax pmax
comp=Z,15nm,1.2s
KBL Kabul 34.98 78 P **P 22 27 38.9 +1.0**
SNR=6.6
KBL P **P 22 27 38.9 +1.0**
SNR=6.6
KBL Kabul 34.98 78 P **P 22 27 38.9 +1.0**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 34.98 78 P **P 22 27 38.9 +1.0**
ARCES ARCESS Array B 35.08 359 P **P 22 27 37.5 -0.5**
comp=Z,15nm,0.7s,baz=176,slow=8.4,SNR=32
ARCES LR LR 22 44 05.1
comp=Z,409nm,18.0s,baz=225,slow=40
KK31 Karatay Array 35.12 62 IAmb IAmb 22 27 47.9
comp=Z,33nm,1.1s
KKAR Karatay Array 35.12 62 P **P 22 27 39.2 +0.4**
KKAR Karatay Array 35.12 62 P **P 22 27 39.2 +0.4**
KKAR Karatay Array 35.12 62 IAmb IAmb 22 27 47.9
comp=Z,33nm,1.1s
GAR Garm 35.25 70 P **P 22 27 39.9 -0.2**
KEV Kevo 35.30 0 P **P 22 27 40.9 +1.0**
KEV pmax pmax
comp=Z,27nm,1.1s
KEV Kevo 35.30 0 P **P 22 27 40.9 +1.0**
KEV IAmb IAmb 22 27 59.4
comp=Z,27nm,1.1s
TRO Tromso 35.41 356 *e*P **P 22 27 40.2 -0.7**
DZA Taraz 35.73 63 *e*P **P 22 27 44.1 +0.1**
DZA Taraz 35.73 63 *e*P **P 22 27 44.1 +0.1**
BRVK Borovoye 36.04 45U*i*P **P 22 27 47.4 +0.9**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 36.04 45 P **P 22 27 48.1 +1.6**
BRVK IAmb IAmb 22 28 03.8
comp=Z,18nm,0.9s
BVAR Borovoye Array 36.09 45 P **P 22 27 47.9 +0.9**
comp=Z,11nm,1.0s,baz=179,slow=9.6,SNR=26
KMBO Kilima Mbogo 36.90 162 P **P 22 27 57.3 +2.8**
comp=Z,0.7nm,0.6s,baz=39,slow=13,SNR=1.5
KMBO LR LR 22 43 02.1
comp=Z,612nm,19.5s,baz=298,slow=36
MACI Morro de la Ar 36.91 272 P **P 22 27 52.1 -2.4**
BRZS Berezniki 36.98 51 *e*P **P 22 27 53.9 -0.8**
BRZS Berezniki 36.98 51 *e*P **P 22 27 53.8 -0.8**
EKS2 Erkin-Say 37.54 63 P **P 22 28 00.5 +0.9**
SNR=28
BTLS Baital 37.64 59 *e*P **P 22 28 00.7 +0.4**
comp=Z,7.7nm,1.1s
BTLS Baital 37.64 59 *e*P **P 22 28 00.7 +0.4**
BTLS pmax pmax
comp=Z,8.0nm,1.1s
AAK Ala-Archa 38.07 63 P **P 22 28 06.0 +1.9**
SNR=13
AAK Ala-Archa 38.07 63 *i* P **P 22 28 05.5 +1.4**
SNR=18
AAK Ala-Archa 38.07 63*ce*P **P 22 28 05.2 +1.1**
AAK pmax pmax
comp=Z,64nm,1.3s
UCH Uchtor 38.12 64 P **P 22 28 06.4 +1.5**
SNR=8.0
SGDS Sogindy 38.12 62 *e*P **P 22 28 03.3 -1.1**
SGDS Sogindy 38.12 62 *e*P **P 22 28 03.3 -1.1**
FRU1 Bishkek 38.16 63 P **P 22 28 05.1 +0.4**
FRU1 pmax pmax
comp=Z,22nm,0.9s
FRU1 Bishkek 38.16 63 P **P 22 28 05.1 +0.4**
FRU1 IAmb IAmb 22 28 14.6
comp=Z,22nm,0.9s
CHMS Chumysh 38.23 62 P **P 22 28 06.8 +1.4**
SNR=16
KBK Karagaybulak 38.40 63 P **P 22 28 08.8 +1.9**
SNR=16
NIL Nilore 38.58 78 P **P 22 28 08.2 -0.2**
NIL pmax pmax
comp=Z,21nm,0.8s
NIL Nilore 38.58 78 P **P 22 28 08.2 -0.2**
NIL IAmb IAmb 22 28 18.1
comp=Z,21nm,0.8s
KZA Kyzart 38.67 64 P **P 22 28 11.1 +1.6**
SNR=11
TKM2 Tokmak 2 38.86 62 P **P 22 28 12.2 +1.4**
SNR=15
TKM2 Tokmak 2 38.86 62 *i* P **P 22 28 09.6 -1.2**
TKM2 pmax pmax
comp=Z,11nm,0.9s
BOOM Boomskoye usch 39.15 63 P **P 22 28 12.5 -0.7**
BOOM pmax pmax
comp=Z,19nm,1.1s
BOOM Boomskoye usch 39.15 63 P **P 22 28 12.5 -0.7**
KUU Kurty 39.33 61 *e*P **P 22 28 13.3 -1.2**
KUU Kurty 39.33 61 *e*P **P 22 28 13.3 -1.2**
ULHL Ulahol 39.39 63 P **P 22 28 17.4 +2.2**
SNR=7.2
KSH Kashi 39.53 68 P **P 22 28 15.6 -0.8**
KSH pP pP 22 28 20.2 +0.7
KSH sP sP 22 28 22.5 +1.7
KSH S **S 22 34 14.5 -4.0**
KSH pmax pmax
comp=Z,16nm,1.2s
KSH pmax pmax
comp=Z,150nm,5.5s
KSH LR LR
comp=Z,220nm,6.8s
KSH LR LR
comp=Z,200nm,4.9s
AAA Alma-Ata 39.80 62 *e*P **P 22 28 19.1 +0.6**
AAA Alma-Ata 39.80 62 *e*P **P 22 28 19.0 +0.6**
CHKK Chushkaly 39.80 61 *e*P **P 22 28 18.7 +0.3**
CHKK Chushkaly 39.80 61 *e*P **P 22 28 18.7 +0.3**
TNSS Tian-Shan 39.84 62 *e*P **P 22 28 19.7 +0.5**
TNSS Tian-Shan 39.84 62 *e*P **P 22 28 19.6 +0.5**
MDOK Medeo 39.90 62 *e*P **P 22 28 19.2 -0.3**
MDOK Medeo 39.90 62 *e*P **P 22 28 19.1 -0.3**
DBIC Dimbokro 39.95 233 P **P 22 28 20.5 +0.6**
comp=Z,25nm,0.8s,baz=26,slow=9.4,SNR=14
DBIC LR LR 22 47 32.7
comp=Z,613nm,18.1s,baz=24,slow=40
DBIC Dimbokro 39.95 233 P **P 22 28 18.7 -1.1**
DBIC IAmb IAmb 22 28 23.8
comp=Z,34nm,0.9s
TIC Toumodi 40.08 233 *e*P **P 22 28 20.6 -0.4**
KDJ Kajisay 40.10 64 P **P 22 28 21.1 0.0**
KDJ pmax pmax
comp=Z,16nm,0.8s
KDJ Kajisay 40.10 64 P **P 22 28 21.1 0.0**
KIC Kosan Boka 40.10 233 *e*P **P 22 28 20.9 -0.3**
comp=Z,135nm,1.1s
LIC Lamto 40.39 233 *e*P **P 22 28 23.2 -0.4**
comp=Z,172nm,1.1s
TARG Taragay, Kyrgy 40.61 64 P **P 22 28 24.7 -0.9**
TDK Taldyqorghan 40.73 59 *e*P **P 22 28 25.4 -0.7**
TDK Taldyqorghan 40.73 59 *e*P **P 22 28 25.4 -0.7**
KURBB Kurchatov Arra 40.77 50 P **P 22 28 27.4 +1.1**
comp=Z,16nm,0.8s,baz=276,slow=8.8,SNR=61
KURBB PcP **PcP 22 30 28.1 +0.8**
comp=Z,6.3nm,1.0s,baz=275,slow=4.3,SNR=3.4
KURBB S **S 22 34 37.2 +0.8**
comp=Z,0.5nm,1.0s,baz=284,slow=12,SNR=4.2
KURK Kurchatov 40.83 50U*i*P **P 22 28 26.8 0.0**
KURK pmax pmax
comp=Z,27nm,1.0s
KURK Kurchatov 40.83 50 P **P 22 28 27.7 +0.9**
KURK IAmb IAmb 22 28 40.4
comp=Z,27nm,0.9s
SATY Saty 40.90 62 *e*P **P 22 28 28.6 +1.0**
comp=Z,8.4nm,0.8s
SATY Saty 40.90 62 *e*P **P 22 28 28.6 +1.0**
SATY pmax pmax
comp=Z,8.0nm,0.8s
KPKS Kokpek 41.06 61 *e*P **P 22 28 30.0 +1.0**
KPKS Kokpek 41.06 61 *e*P **P 22 28 29.9 +1.0**
UZB Uzynbulak 41.34 62 *e*P **P 22 28 31.2 -0.1**
UZB Uzynbulak 41.34 62 *e*P **P 22 28 31.2 -0.1**
CMLA Cha da Macela 41.58 290 P **P 22 28 31.3 -1.9**
CMLA pmax pmax
comp=Z,39nm,1.2s
CMLA Cha da Macela 41.58 290 P **P 22 28 31.3 -1.9**
CMLA IAmb IAmb 22 28 44.5
comp=Z,39nm,1.2s
SHLS Shalkode 41.66 62 *e*P **P 22 28 37.0 +3.0**
SHLS Shalkode 41.66 62 *e*P **P 22 28 36.9 +3.0**
PDGK Podgornoye 41.66 61 *i* P **P 22 28 33.5 -0.4**
PDGK pmax pmax
comp=Z,9.0nm,0.7s
BHK Bhakra 41.78 80 *ex* **P 22 28 37.0 +2.1**
MAKZ Makanchi 43.10 56 P **P 22 28 46.6 +1.1**
MAKZ pmax pmax
comp=Z,19nm,1.2s
MAKZ Makanchi 43.10 56 P **P 22 28 46.6 +1.1**
MK31 Makanchi Array 43.32 56 *i* P **P 22 28 47.7 +0.5**
MK31 pmax pmax
comp=Z,14nm,0.6s
MKAR Makanchi Array 43.32 56 P **P 22 28 47.8 +0.6**
comp=Z,16nm,0.6s,baz=277,slow=6.0,SNR=63
MKAR PcP **PcP 22 30 37.5 +1.6**
comp=Z,5.0nm,0.9s,baz=266,slow=5.8,SNR=1.9
MKAR LR LR 22 48 34.5
comp=Z,227nm,19.5s,baz=269,slow=39
ROSA Rosais 43.48 292 P **P 22 28 46.8 -1.8**
ROSA IAmb IAmb 22 28 59.2
comp=Z,25nm,0.9s
SPA0 Spitsbergen Ar 43.98 357 P **P 22 28 53.7 +1.5**
SPA0 IAmb IAmb 22 29 09.5
comp=Z,44nm,1.0s
SPA0 Spitsbergen Ar 43.98 357 *e*P **P 22 28 52.7 +0.6**
SPITS Spitsbergen Ar 43.98 357 P **P 22 28 52.9 +0.8**
comp=Z,5.7nm,0.5s,baz=144,slow=9.3,SNR=15
ZAA0 Zalesovo Array 44.75 46 IAmb IAmb 22 29 11.3
comp=Z,25nm,0.6s
ZALV Zalesovo Beam 44.75 46 P **P 22 28 58.8 +0.2**
comp=Z,15nm,0.5s,baz=269,slow=9.3,SNR=31
ZALV S **S 22 35 36.2 +1.4**
comp=Z,0.8nm,0.7s,baz=324,slow=14,SNR=1.9
ZALV LR LR 22 52 39.5
comp=Z,222nm,19.0s,baz=266,slow=43
ZALV Zalesovo Beam 44.75 46 *i* P **P 22 28 58.7 +0.2**
ZALV pmax pmax
comp=Z,24nm,0.7s
ZALV Zalesovo Beam 44.75 46 P **P 22 28 58.4 -0.2**
ZSN Zaisan 45.01 55 *e*P **P 22 29 01.4 +0.5**
comp=Z,11nm,1.0s
ZSN Zaisan 45.01 55 *e*P **P 22 29 01.3 +0.5**
ZSN pmax pmax
comp=Z,11nm,1.0s
DGZ Jazzator, Alta 46.51 52*de*P **P 22 29 13.9 +1.2**
DGZ pmax pmax
comp=Z,17nm,0.9s
WMQ Urumqi 47.48 60 *e*P **P 22 29 21.9 +1.6**
WMQ sP pwP 22 29 29.0 +0.5
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ pmax pmax
comp=Z,100nm,3.7s
WMQ LR LR
comp=Z,2μm,22.7s
WMQ LR LR
comp=Z,1μm,20.9s
WMQ Urumqi 47.48 60 P **P 22 29 21.3 +1.0**
WMQ pmax pmax
comp=Z,41nm,1.1s
WMQ Urumqi 47.48 60 P **P 22 29 21.3 +1.0**
NRIK Noril'sk 48.05 25 P **P 22 29 25.7 +1.4**
comp=Z,7.7nm,0.8s,baz=244,slow=1.3,SNR=9.4
NRIK LR LR 22 52 36.5
comp=Z,172nm,18.7s,baz=208,slow=40
NRIK Noril'sk 48.05 25*de*P **P 22 29 27.0 +2.7**
NRIK pmax pmax
comp=Z,12nm,1.2s
HYB Hyderabad 49.38 96 *i* P **P 22 29 35.0 -0.3**
LSZ Lusaka 49.55 178 P **P 22 29 37.6 +1.1**
comp=Z,5.5nm,0.3s,baz=1.8,slow=0.3,SNR=8.8
NOR Nord 49.71 352 *i* P **P 22 29 35.5 -1.3**
NOR Nord 49.71 352 *i* P **P 22 29 35.5 -1.3**
NOR Nord 49.71 352 *i* P **P 22 29 35.5 -1.3**
SUMG Summit 49.93 339 P **P 22 29 38.9 -0.2**
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 49.93 339 P **P 22 29 38.9 -0.2**
SUMG Summit 49.93 339 *i* P **P 22 29 39.1 0.0**
comp=Z,81nm,0.9s
SUMG Summit 49.93 339 *i* P **P 22 29 39.1 0.0**
SUMG IAmb IAmb 22 29 42.1
comp=Z,81nm,0.9s
NRS Narsarsuaq 51.79 324 P **P 22 29 51.8 -1.0**
NRS pmax pmax
comp=Z,24nm,1.0s
NRS Narsarsuaq 51.79 324 P **P 22 29 51.8 -1.0**
NRS IAmb IAmb 22 30 10.5
comp=Z,24nm,1.0s
SFJD Kangerlussuaq 53.72 332 LR LR 22 55 24.5
comp=Z,180nm,18.1s,baz=84,slow=39
TSUM Tsumeb 54.07 190 P **P 22 30 08.6 -1.5**
TSUM IAmb IAmb 22 30 14.4
comp=Z,12nm,0.8s
LSA Lhasa 54.27 76 P **P 22 30 12.4 +0.2**
LSA pmax pmax
comp=Z,32nm,1.1s
LSA Lhasa 54.27 76 P **P 22 30 12.3 +0.2**
LSA Lhasa 54.27 76 P **P 22 30 12.0 -0.1**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 54.27 76 P **P 22 30 12.0 -0.1**
LSA IAmb IAmb 22 30 21.3
comp=Z,12nm,0.8s
MOY Mondy 54.73 47 *e*P **P 22 30 16.5 +1.8**
MOY pmax pmax
comp=Z,37nm,2.0s
TLY Talaya 56.33 47 *e*P **P 22 30 28.5 +2.4**
TLY *e* 22 32 32.1
TLY *e*S **S 22 38 23.9 +8.1**
TLY *e*SS **SS 22 41 57.4 -4.8**
TLY pmax pmax
comp=Z,48nm,1.4s
TLY MLR MLR
comp=Z,567nm,20.0s
TLY Talaya 56.33 47 P **P 22 30 26.4 +0.4**
TLY IAmb IAmb 22 30 36.1
comp=Z,16nm,1.1s
ZAK Zakamensk 56.44 48 *e*P **P 22 30 27.8 +0.8**
ZAK pmax pmax
comp=Z,19nm,1.2s
IRK Irkutsk 56.56 46 *e*P **P 22 30 27.8 +0.1**
IRK pmax pmax
comp=Z,39nm,2.4s
SHL Shillong 56.56 80 P **P 22 30 27.0 -1.3**
SHL pmax pmax
comp=Z,19nm,0.9s
SHL Shillong 56.56 80 P **P 22 30 27.0 -1.3**
SHL IAmb IAmb 22 30 35.8
comp=Z,19nm,0.9s
GTA Gaotai 57.40 62 *e*P **P 22 30 34.7 +0.6**
GTA pP sP 22 30 39.1 +0.6
GTA pmax pmax
comp=Z,17nm,0.9s
GTA pmax pmax
comp=Z,97nm,6.5s
GTA LR LR
comp=Z,150nm,12.0s
GTA LR LR
comp=Z,160nm,13.8s
TULEG Thule 57.94 344 *i* P **P 22 30 35.6 -1.4**
TULEG IAmb IAmb 22 30 38.9
comp=Z,39nm,0.8s
SONM Songino Array 59.14 51 P **P 22 30 47.3 +1.2**
comp=Z,8.0nm,0.8s,baz=277,slow=8.5,SNR=37
SONM LR LR 23 00 23.1
comp=Z,355nm,18.8s,baz=296,slow=40
SONM Songino Array 59.14 51 P **P 22 30 46.7 +0.6**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 59.14 51 P **P 22 30 46.7 +0.6**
LBTB Lobatse 59.21 181 P **P 22 30 45.5 -1.1**
LBTB pmax pmax
comp=Z,15nm,1.2s
LBTB Lobatse 59.21 181 P **P 22 30 45.5 -1.1**
LBTB IAmb IAmb 22 30 52.2
comp=Z,14nm,1.1s
ULN Ulaanbaatar 59.55 50*c i*P **P 22 30 49.4 +0.5**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 59.55 50 P **P 22 30 50.2 +1.3**
ULN IAmb IAmb 22 30 58.1
comp=Z,14nm,0.8s
EUNU Eureka 60.01 349 P **P 22 30 51.8 +0.3**
EUNU IAmb IAmb 22 30 54.8
comp=Z,14nm,0.9s
BOD Bodaibo 60.36 38 *e*P **P 22 30 53.2 -0.9**
BOD pmax pmax
comp=Z,12nm,1.0s
DRLN Deer Lake 61.05 312 P **P 22 30 58.5 -0.5**
LZH Lanzhou 61.60 64 *e*P **P 22 31 04.5 +1.4**
LZH pP pwP 22 31 10.1 -1.3
LZH sP sP 22 31 14.0 +6.4
LZH pmax pmax
comp=Z,27nm,1.3s
BOSA Boshof 62.80 181 P **P 22 31 12.2 +1.2**
comp=Z,6.0nm,0.7s,baz=349,slow=5.7,SNR=12
BOSA LR LR 23 00 46.5
comp=Z,377nm,18.8s,baz=1.5,slow=38
BOSA Boshof 62.80 181 P **P 22 31 11.1 +0.2**
BOSA IAmb IAmb 22 31 13.2
comp=Z,12nm,0.9s
CD2 Chengdu 63.70 69 P **P 22 31 17.2 +0.1**
CD2 sP pwP 22 31 25.8 +0.5
CD2 S **S 22 39 49.2 -2.1**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,210nm,3.9s
BTO Baotou 64.22 57 *e*P **P 22 31 18.4 -2.0**
SCHQ Schefferville 64.31 320 P **P 22 31 20.3 -0.3**
comp=Z,17nm,0.5s,baz=50,slow=4.3,SNR=26
SCHQ LR LR 22 57 36.6
comp=Z,96nm,21.9s,baz=79,slow=34
SCHQ Schefferville 64.31 320 P **P 22 31 20.5 -0.1**
GBN Guysborough 65.04 309 P **P 22 31 25.9 +0.4**
HHC Hu-ho-hao-te 65.18 56 *e*P **P 22 31 28.0 +1.3**
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,250nm,5.0s
HHC LR LR
comp=Z,380nm,16.5s
HHC LR LR
comp=Z,350nm,17.0s
HHC LR LR
comp=Z,250nm,16.9s
CHTO Chiang Mai 65.49 83 P **P 22 31 29.1 +0.2**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 65.49 83 P **P 22 31 29.1 +0.2**
CHTO IAmb IAmb 22 31 33.5
comp=Z,10nm,1.0s
KMI Kunming 65.52 75U*e*P **P 22 31 29.7 +0.4**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,140nm,3.5s
KMI LR LR
comp=Z,250nm,7.6s
KMI LR LR
comp=Z,180nm,8.2s
KMI LR LR
comp=Z,220nm,8.2s
CM31 Chiang Mai Arr 65.67 84 P **P 22 31 30.7 +0.6**
SNR=7.7
CM31 Chiang Mai Arr 65.67 84 P **P 22 31 30.9 +0.8**
CM31 IAmb IAmb 22 31 42.4
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 65.67 84 P **P 22 31 30.2 +0.2**
comp=Z,5.0nm,0.8s,baz=299,slow=8.0,SNR=32
CMAR Chiang Mai Arr 65.67 84 P **P 22 31 29.8 -0.2**
YAK Yakutsk 65.94 30 *e*P **P 22 31 32.8 +1.7**
YAK pmax pmax
comp=Z,9.0nm,0.9s
XAN Xi'an 66.24 64 P **P 22 31 34.0 +0.5**
XAN pmax pmax
comp=Z,9.0nm,1.0s
BATG Bathurst New B 67.08 312 P **P 22 31 38.0 -0.6**
GYA Guiyang 68.00 72 U*i*P **P 22 31 44.8 -0.2**
GYA pP pwP 22 31 53.1 -0.2
GYA pmax pmax
comp=Z,16nm,1.4s
SLVN Son La 68.29 78 P **P 22 31 46.3 -0.4**
D63A Stockholm 68.44 313 P **P 22 31 48.5 +1.4**
baz=62
GGN Saint George 68.55 311 P **P 22 31 45.8 -2.1**
E64A Bridgewater 68.55 312 P **P 22 31 49.1 +1.1**
baz=62
BJI Beijing 68.69 55 P **P 22 31 49.4 +0.5**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI pmax pmax
comp=Z,160nm,4.3s
BJT Baijiatuau 68.70 56 P **P 22 31 49.1 +0.1**
BJT pmax pmax
comp=Z,17nm,0.9s
BJT Baijiatuau 68.70 56 P **P 22 31 49.1 +0.1**
BJT IAmb IAmb 22 31 57.9
comp=Z,17nm,0.9s
E63A Oxbow 68.92 312 P **P 22 31 47.9 -2.3**
E63A IAmb IAmb 22 32 02.5
comp=Z,14nm,0.9s
G65A Princeton 68.96 311 P **P 22 31 51.3 +0.8**
baz=62
D62A Allapoint, All 68.98 313 P **P 22 31 52.3 +1.8**
baz=62
D62A Allapoint, All 68.98 313 P **P 22 31 49.8 -0.8**
H66A Whiting 69.00 310 P **P 22 31 52.3 +1.6**
baz=62
F64A Sherman 69.13 312 P **P 22 31 52.7 +1.1**
baz=62
E62A Clayton Lake 69.49 313 P **P 22 31 54.7 +1.0**
baz=61
E62A Clayton Lake 69.49 313 P **P 22 31 53.7 -0.1**
D61A St Aubert, Com 69.61 314 P **P 22 31 55.7 +1.3**
baz=61
H65A Eastbrook 69.63 311 P **P 22 31 56.2 +1.6**
baz=61
G64A Maxfield 69.68 311 P **P 22 31 56.5 +1.6**
baz=61

F62A **Pittston Farm,** 70.11 312 P **P** 22 31 58.9 +1.3
baz=61
CHGQ **Chibougamau** 70.67 318 P **P** 22 32 01.7 +0.8
baz=59
RCBR **Riachuelo** 71.00 249 P **P** 22 32 02.1 -1.4
RCBR pmax pmax
comp=Z,10.0nm,1.0s
RCBR **Riachuelo** 71.00 249 P **P** 22 32 02.1 -1.4
RCBR **Riachuelo** 71.00 249 *e*P **P** 22 32 05.6 +2.2
RCBR *ep*P **sP** 22 32 07.8 -0.1
LATQ **La Tuque** 71.05 315 P **P** 22 32 04.1 +0.8
baz=60
TIA **Tai'an** 71.17 59 P **P** 22 32 04.9 +0.7
TIA pmax pmax
comp=Z,12nm,0.9s
D58A **Chemin du LacG** 71.26 315 P **P** 22 32 05.2 +0.6
baz=59
F60A **Warwick** 71.28 313 P **P** 22 32 05.3 +0.7
baz=60
G61A **St-Isidore-de-** 71.36 312 P **P** 22 32 06.6 +1.3
baz=60
H62A **Milan** 71.50 312 P **P** 22 32 07.6 +1.6
baz=60
E58A **La Victoria** 71.86 314 P **P** 22 32 09.2 +1.0
baz=59
D57A **Chemin Vers le** 71.89 315 P **P** 22 32 09.9 +1.6
baz=59
A36M **Sachs Harbour** 71.94 351 P **P** 22 32 07.6 -0.6
H61A **Lyndonville** 71.99 312 P **P** 22 32 10.3 +1.3
baz=59
LBNH **Lisbon** 72.14 312 P **P** 22 32 11.4 +1.4
baz=59
LBNH **Lisbon** 72.14 312 P **P** 22 32 09.3 -0.6
LBNH pmax pmax
comp=Z,16nm,0.9s
LBNH **Lisbon** 72.14 312 P **P** 22 32 09.3 -0.6
LBNH IAmb IAmb 22 32 14.6
comp=Z,16nm,0.9s
E57A **Chemin Saint G** 72.36 314 P **P** 22 32 12.4 +1.2
baz=58,SNR=8.5
D56A **ZEC Mazanza, M** 72.38 315 P **P** 22 32 12.5 +1.2
baz=58
H60A **Morristown** 72.45 312 P **P** 22 32 13.2 +1.4
baz=59
MATQ **Matagami** 72.55 319 P **P** 22 32 13.3 +1.0
baz=57
J62A **Henniker** 72.59 311 P **P** 22 32 14.1 +1.5
baz=59
HNH **Hanover** 72.64 311 P **P** 22 32 13.3 +0.4
WES **Weston** 72.72 310 P **P** 22 32 13.3 -0.1
WES pmax pmax
comp=Z,29nm,1.0s
WES **Weston** 72.72 310 P **P** 22 32 13.2 -0.1
WES IAmb IAmb 22 32 16.1
comp=Z,29nm,1.0s
D55A **Sainte-Anne-du** 72.81 315 P **P** 22 32 15.2 +1.3
baz=58
FRNY **Flat Rock** 72.85 313 P **P** 22 32 14.0 -0.1
FRNY IAmb IAmb 22 32 26.6
comp=Z,11nm,0.8s
G58A **Ormstown** 72.96 313 P **P** 22 32 16.1 +1.4
baz=58
J61A **Chester** 72.99 311 P **P** 22 32 16.2 +1.2
baz=58
H59A **Cadyville** 73.01 313 P **P** 22 32 16.8 +1.7
baz=58
K62A **Royalston** 73.15 310 P **P** 22 32 14.6 -1.3
K62A IAmb IAmb 22 32 25.0
comp=Z,20nm,1.1s
L63A **North Scituate** 73.17 309 P **P** 22 32 17.3 +1.3
baz=59
I60A **Shoreham** 73.19 312 P **P** 22 32 17.7 +1.6
baz=58
VLDQ **Val d'Or** 73.35 317 P **P** 22 32 17.9 +0.9
VLDQ IAmb IAmb 22 32 21.5
comp=Z,26nm,1.1s
H58A **Gabriels** 73.43 313 P **P** 22 32 18.2 +0.6
baz=58
BILL **Bilibino** 73.44 15 *e*P **P** 22 32 17.1 -0.1
BILL *e* 22 32 32.6
BILL *e* 22 35 00.0
BILL pmax pmax
comp=Z,9.0nm,0.5s
G57A **Newington** 73.55 314 P **P** 22 32 19.1 +0.9
baz=58
LONY **Lake Ozonia** 73.56 313 P **P** 22 32 19.8 +1.4
baz=58
LONY **Lake Ozonia** 73.56 313 P **P** 22 32 17.6 -0.8
LONY IAmb IAmb 22 32 21.0
comp=Z,25nm,1.1s
J60A **Lant Hill Farm** 73.58 311 P **P** 22 32 19.6 +1.1
baz=58
ACCN **Adirondack Com** 73.66 312 P **P** 22 32 18.8 -0.1
ACCN IAmb IAmb 22 32 21.6
comp=Z,21nm,1.1s
M63A **Gales Ferry** 73.69 309 P **P** 22 32 20.6 +1.5
baz=58
SEY **Seymchan** 73.78 23⇓ *e*P **P** 22 32 20.4 +1.1
K61A **Williamstown** 73.79 311 P **P** 22 32 20.5 +0.8
baz=58
PSI **Prapat** 74.07 98 P **P** 22 32 21.0 -0.9
PSI pmax pmax
comp=Z,14nm,1.1s
KULM **Kulim** 74.09 95 P **P** 22 32 21.0 -0.8
KULM IAmb IAmb 22 32 35.8
comp=Z,15nm,1.0s
H57A **Richville** 74.13 313 P **P** 22 32 22.9 +1.2
baz=57
J59A **Piesco** 74.13 312 P **P** 22 32 23.6 +1.9
baz=58
RPSI **Rantau Prapat** 74.13 98 P **P** 22 32 21.0 -1.1
C36M **Paulatuk** 74.18 350 P **P** 22 32 20.8 -0.7
C36M IAmb IAmb 22 32 30.0
comp=Z,15nm,0.7s
M62A **Hamden** 74.21 310 P **P** 22 32 23.2 +1.0
baz=58
L61A **Hillsdale 1, H** 74.22 310 P **P** 22 32 23.9 +1.6
baz=58
I58A **Old Forge** 74.30 312 P **P** 22 32 24.4 +1.6
baz=57
NJ2 **Nanjing** 74.50 62 *e*P **P** 22 32 23.8 -0.2
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
I57A **Carthage** 74.58 313 P **P** 22 32 25.9 +1.6
baz=57
J58A **Remsen** 74.67 312 P **P** 22 32 26.4 +1.5
baz=57
J58A **Remsen** 74.67 312 P **P** 22 32 23.8 -1.1
J58A IAmb IAmb 22 32 29.4
comp=Z,27nm,1.1s
K59A **Cooperstown** 74.72 312 P **P** 22 32 27.0 +1.8
baz=57
ALGO **Algonquin Park** 74.88 316 P **P** 22 32 27.4 +1.4
baz=56
J57A **Williamstown** 75.08 313 P **P** 22 32 28.8 +1.6
baz=57
J57A **Williamstown** 75.08 313 P **P** 22 32 26.6 -0.6
J57A IAmb IAmb 22 32 30.9
comp=Z,28nm,1.1s
L59A **Walton** 75.16 311 P **P** 22 32 29.6 +1.9
baz=57,SNR=5.2
L59A **Walton** 75.16 311 P **P** 22 32 28.1 +0.3
GRNR **Gornyy** 75.18 38⇓ *i*P **P** 22 32 30.8 +3.1
GRNR pmax pmax
comp=Z,9.0nm,1.3s
GRNR MLR MLR
comp=N,100nm,14.0s
TRNY **Table Rock, Ra** 75.21 310 P **P** 22 32 27.2 -0.9
TRNY IAmb IAmb 22 32 30.1
comp=Z,13nm,1.1s
G54A **Lake Saint Pet** 75.22 315 P **P** 22 32 29.8 +1.8
baz=56
K58A **Earlville** 75.22 312 P **P** 22 32 29.4 +1.4
baz=57
K58A **Earlville** 75.22 312 P **P** 22 32 26.5 -1.6
K58A IAmb IAmb 22 32 30.9
comp=Z,26nm,1.1s
M60A **Port Jervis** 75.37 310 P **P** 22 32 30.6 +1.7
baz=57
DELO **Deloro Mine** 75.43 314 P **P** 22 32 28.9 -0.3
DELO IAmb IAmb 22 32 42.4
comp=Z,29nm,1.1s
ODNJ **Ogdensburg** 75.49 310 P **P** 22 32 29.0 -0.6
ODNJ IAmb IAmb 22 32 34.1
comp=Z,20nm,1.0s
J56A **Wolcott** 75.67 313 P **P** 22 32 32.2 +1.6
baz=56
J56A **Wolcott** 75.67 313 P **P** 22 32 29.9 -0.7
ROSB **Rosrio** 75.68 256 *e*P **P** 22 32 32.6 +1.5
BINY **Binghamton** 75.74 311 P **P** 22 32 32.7 +1.6
baz=56,SNR=5.4
BINY **Binghamton** 75.74 311 P **P** 22 32 31.8 +0.8
BINY IAmb IAmb 22 32 34.0
comp=Z,25nm,0.9s
L58A **Harry Jones Me** 75.74 311 P **P** 22 32 32.1 +1.1
baz=56
M59A **Waymart** 75.76 311 P **P** 22 32 32.5 +1.3
baz=56
K57A **Scipio Center** 75.77 312 P **P** 22 32 32.5 +1.3
baz=56
N60A **Cedar Hill Far** 75.92 310 P **P** 22 32 33.9 +1.8
baz=56
KSPA **Keystone Colle** 75.96 311 P **P** 22 32 32.5 +0.2
H53A **Bobcaygeon** 75.97 315 P **P** 22 32 33.3 +1.0
baz=55
K56A **Middlesex** 76.28 312 P **P** 22 32 35.4 +1.3
baz=56,SNR=5.6
N59A **State Game Lan** 76.31 310 P **P** 22 32 35.9 +1.5
baz=56
N59A **State Game Lan** 76.31 310 P **P** 22 32 34.7 +0.3
N59A IAmb IAmb 22 32 36.7
comp=Z,17nm,0.9s
L57A **Andrews Acres** 76.38 312 P **P** 22 32 36.0 +1.3
baz=56,SNR=7.3
INK **Inuvik** 76.39 352 P **P** 22 32 34.0 -0.2
comp=Z,5.1nm,0.9s,baz=32,slow=10,SNR=5.1
INK **Inuvik** 76.39 352 P **P** 22 32 33.5 -0.7
O60A **Telford** 76.42 310 P **P** 22 32 35.8 +0.9
baz=56
M58A **Price's Panora** 76.49 311 P **P** 22 32 36.5 +1.1
baz=56,SNR=8.8
USA0B **Ussuriysk Arra** 76.60 45 P **P** 22 32 35.2 -0.6
USA0B pmax pmax
comp=Z,13nm,0.8s
USA0B **Ussuriysk Arra** 76.60 45 P **P** 22 32 35.2 -0.6
USA0B IAmb IAmb 22 32 44.6
comp=Z,13nm,0.8s
USRK **Ussuriysk Ar.** 76.60 45 P **P** 22 32 36.1 +0.3
comp=Z,7.7nm,0.7s,baz=294,slow=5.3,SNR=14
USRK **Ussuriysk Ar.** 76.60 45 P **P** 22 32 35.6 -0.2
PSUB **Penn St. - Bra** 76.66 309 P **P** 22 32 34.2 -2.0
PSUB IAmb IAmb 22 32 38.0
comp=Z,14nm,1.0s
K55A **Perry** 76.72 313 P **P** 22 32 37.4 +0.8
baz=55
L56A **Greenwood** 76.74 312 P **P** 22 32 37.9 +1.1
baz=55,SNR=6.4
L56A **Greenwood** 76.74 312 P **P** 22 32 36.6 -0.2
J54A **Appleton** 76.75 314 P **P** 22 32 37.6 +0.9
baz=55
P60A **Greenville** 76.84 309 P **P** 22 32 38.5 +1.1
baz=56
P60A **Greenville** 76.84 309 P **P** 22 32 37.0 -0.3
P60A IAmb IAmb 22 32 53.8
comp=Z,17nm,1.1s
O59A **Robesonia** 76.92 310 P **P** 22 32 38.8 +1.1
baz=56,SNR=6.0
M57A **Sunshine Farm,** 76.93 311 P **P** 22 32 39.1 +1.3
baz=56,SNR=5.2
M57A **Sunshine Farm,** 76.93 311 P **P** 22 32 37.3 -0.5
M57A IAmb IAmb 22 32 40.2
comp=Z,22nm,0.9s
N58A **Sunbury** 76.95 311 P **P** 22 32 39.0 +1.1
baz=56,SNR=9.0
N58A **Sunbury** 76.95 311 P **P** 22 32 37.9 0.0
TOLK **Toolik Lake Re** 77.11 358 P **P** 22 32 38.6 +0.2
baz=3.5
TOLK **Toolik Lake Re** 77.11 358 P **P** 22 32 37.5 -0.9
VLA **Vladivostok** 77.16 46 *de*P **P** 22 32 40.2 +1.2
VLA pmax pmax
comp=Z,23nm,0.9s
MVL **Millersville** 77.19 310 P **P** 22 32 39.5 +0.2
MVL IAmb IAmb 22 32 42.0
comp=Z,22nm,1.0s
L55A **Hinsdale** 77.25 313 P **P** 22 32 40.8 +1.2
baz=55
Q60A **Greensboro** 77.43 309 P **P** 22 32 41.5 +0.9
baz=55
P59A **Jarrettsville** 77.47 309 P **P** 22 32 41.7 +0.9
baz=56
O58A **Lewisberry** 77.49 310 P **P** 22 32 41.8 +0.9
baz=55
M56A **Emporium** 77.50 312 P **P** 22 32 42.3 +1.3
baz=55,SNR=7.4
M56A **Emporium** 77.50 312 P **P** 22 32 41.0 0.0
N57A **Milroy** 77.52 311 P **P** 22 32 42.1 +1.0
baz=55,SNR=7.6
L54A **Sinclairville** 77.75 313 P **P** 22 32 43.0 +0.6
baz=54
SSPA **Standing Stone** 77.80 311 P **P** 22 32 42.3 -0.4
SSPA IAmb IAmb 22 32 44.9
comp=Z,30nm,1.1s
SDMD **Soldier's Deli** 77.84 310 P **P** 22 32 42.7 -0.2
SDMD IAmb IAmb 22 32 44.8
comp=Z,15nm,0.9s
M55A **Ridgway** 77.86 312 P **P** 22 32 44.1 +1.1
baz=55,SNR=6.8
M55A **Ridgway** 77.86 312 P **P** 22 32 42.1 -1.0
M55A IAmb IAmb 22 32 47.1
comp=Z,26nm,0.9s
KSAR **Wonju Array Be** 77.87 53 P **P** 22 32 42.7 -0.4
KSAR **Wonju Array Be** 77.87 53 P **P** 22 32 42.7 -0.4
O57A **Amberson** 77.89 311 P **P** 22 32 44.2 +1.0
baz=55
N56A **West Decatur** 77.89 311 P **P** 22 32 44.3 +1.1
baz=55,SNR=6.7
KSRS **Korea Array** 77.89 53 P **P** 22 32 44.0 +0.8
comp=Z,7.6nm,0.9s,baz=304,slow=4.7,SNR=9.7
KSRS LR LR 23 10 56.9
comp=Z,159nm,19.7s,baz=308,slow=39
P58A **Pank, Wackersv** 78.09 310 P **P** 22 32 45.0 +0.7
baz=55,SNR=5.9
BMAR **Burnt Mountain** 78.14 356 P **P** 22 32 44.4 +0.3
ERPA **Erie** 78.23 313 P **P** 22 32 46.0 +0.9
baz=54
SDSI **Sungai Dareh** 78.26 99 P **P** 22 32 46.4 +0.8
YKA **Yellowknife Ar** 78.36 343 P **P** 22 32 45.3 0.0
comp=Z,4.1nm,0.8s,baz=41,slow=5.7,SNR=5.9
YKA LR LR 23 11 29.4
comp=Z,80nm,18.3s,baz=0.0,slow=39
YKA **Yellowknife Ar** 78.36 343 *ce*P **P** 22 32 45.7 +0.4
YKA pmax pmax
comp=Z,4.0nm,0.8s
M54A **Oil Creek Stat** 78.39 313 P **P** 22 32 47.2 +1.2
baz=54
N55A **Marion Center** 78.40 312 P **P** 22 32 47.0 +1.0
baz=54,SNR=5.7
O56A **Blue Knob Stat** 78.44 311 P **P** 22 32 47.4 +1.1
baz=54
O56A **Blue Knob Stat** 78.44 311 P **P** 22 32 45.5 -0.7
O56A IAmb IAmb 22 32 48.2
comp=Z,13nm,0.9s
COLD **Coldfoot** 78.54 359 P **P** 22 32 46.9 +0.6
baz=3.0
COLD **Coldfoot** 78.54 359 P **P** 22 32 46.2 -0.1
P57A **Homestead Farm** 78.54 310 P **P** 22 32 47.6 +0.8
baz=55,SNR=6.3
P57A **Homestead Farm** 78.54 310 P **P** 22 32 45.7 -1.1
P57A IAmb IAmb 22 32 49.3
comp=Z,25nm,1.0s
TMAB **Tom-Au,PA,Br** 78.58 259 *e*P **P** 22 32 48.8 +1.5
Q58A **Fox Den Farm,** 78.64 309 P **P** 22 32 48.0 +0.6
baz=55
R59A **King George, V** 78.71 309 P **P** 22 32 48.3 +0.6
baz=55
CBN **Corbin Frederi** 78.87 309 P **P** 22 32 49.1 +0.5
baz=55
N54A **Moraine State** 78.91 312 P **P** 22 32 49.6 +0.7
baz=54
N54A **Moraine State** 78.91 312 P **P** 22 32 47.9 -0.9
N54A IAmb IAmb 22 32 50.8
comp=Z,22nm,1.0s
O55A **Ligonier** 78.93 311 P **P** 22 32 49.9 +0.9
baz=54,SNR=8.2
P56A **Dayton Farm, R** 79.05 310 P **P** 22 32 50.2 +0.6
baz=54,SNR=7.4
Q57A **Strasburg** 79.05 310 P **P** 22 32 50.5 +0.9
baz=54
S59A **Mechanicsville** 79.07 308 P **P** 22 32 50.7 +1.0
baz=55
GLMI **Grayling** 79.28 317 P **P** 22 32 51.4 +0.6
baz=52
R58B **Mineral** 79.33 309 P **P** 22 32 51.7 +0.5
baz=54,SNR=6.9
R58B **Mineral** 79.33 309 P **P** 22 32 50.8 -0.4
R58B IAmb IAmb 22 32 52.9
comp=Z,16nm,0.9s
N53A **Lisbon** 79.52 312 P **P** 22 32 53.1 +1.0
baz=53
Q56A **Snyder Ridge,** 79.54 310 P **P** 22 32 52.2 -0.1
R57A **Stanardsville** 79.55 309 P **P** 22 32 52.9 +0.5
baz=54,SNR=7.6
MCWV **Mont Chateau** 79.59 311 P **P** 22 32 53.7 +1.1
baz=54
MCWV **Mont Chateau** 79.59 311 P **P** 22 32 51.6 -1.0
O54A **Avella** 79.61 312 P **P** 22 32 52.9 +0.3
baz=54
S58A **Poland Farm, P** 79.65 309 P **P** 22 32 53.7 +0.8
baz=54,SNR=6.4
P55A **Reedsville** 79.67 311 P **P** 22 32 54.0 +1.0
baz=54
T59A **Double "B" Far** 79.70 308 P **P** 22 32 54.2 +1.0
baz=54
T59A **Double "B" Far** 79.70 308 P **P** 22 32 52.9 -0.2
T59A IAmb IAmb 22 32 54.9
comp=Z,14nm,0.9s
IMAR **Indian Mountai** 79.83 0 P **P** 22 32 52.5 -0.8
P54A **Burton** 80.02 311 P **P** 22 32 55.1 +0.2
baz=53
R56A **Bull Pasture M** 80.05 310 P **P** 22 32 56.1 +0.9
baz=54,SNR=6.2
O53A **New Philadelph** 80.08 312 P **P** 22 32 55.6 +0.4
baz=53
O53A **New Philadelph** 80.08 312 P **P** 22 32 55.5 +0.3
O53A IAmb IAmb 22 32 59.5
comp=Z,27nm,1.1s
Q55A **Buckhannon** 80.13 311 P **P** 22 32 56.7 +1.1
baz=54
S57A **Dark Hollow, R** 80.14 309 P **P** 22 32 56.1 +0.5
baz=54
U59A **Littleton** 80.21 307 P **P** 22 32 56.5 +0.6
baz=54,SNR=7.6
U59A **Littleton** 80.21 307 P **P** 22 32 54.6 -1.4
U59A IAmb IAmb 22 32 58.0
comp=Z,23nm,0.9s
T58A **Grand View Acr** 80.35 308 P **P** 22 32 57.4 +0.7
baz=54,SNR=6.6
N51A **Ashland** 80.38 313 P **P** 22 32 57.7 +0.9
baz=52
O52A **Adamsville** 80.54 312 P **P** 22 32 58.2 +0.5
baz=53
O52A **Adamsville** 80.54 312 P **P** 22 32 58.1 +0.5
RCRC **Randolf Colleg** 80.54 309 P **P** 22 32 57.6 -0.1
EGAK **Eagle** 80.55 355 P **P** 22 32 56.3 -1.0
POKR **Poker Plat Res** 80.58 357 P **P** 22 32 58.1 +0.7
baz=5.2
R55A **Marlinton** 80.58 310 P **P** 22 32 58.9 +0.9
baz=53
R55A **Marlinton** 80.58 310 P **P** 22 32 58.4 +0.3
R55A IAmb IAmb 22 33 06.9
comp=Z,19nm,1.1s
Q54A **Coxs Mills** 80.61 311 P **P** 22 32 58.8 +0.8
baz=53
P53A **Whipple** 80.65 312 P **P** 22 32 59.0 +0.7
baz=53
P53A **Whipple** 80.65 312 P **P** 22 32 58.2 -0.1
P53A IAmb IAmb 22 33 02.3
comp=Z,22nm,0.8s
MCPB **Macapa, AP** 80.65 263 *e*P **P** 22 33 00.2 +1.6
FFC **Flin Flon** 80.66 333 P **P** 22 32 57.1 -0.9
FFC pmax pmax
comp=Z,18nm,1.0s
FFC **Flin Flon** 80.66 333 P **P** 22 32 57.1 -0.9
FFC IAmb IAmb 22 32 59.1
comp=Z,18nm,0.9s
U58A **Oxford** 80.68 308 P **P** 22 32 59.2 +0.7
baz=54,SNR=8.5
MLY **Manley** 80.76 359 P **P** 22 32 59.2 +0.7
baz=2.5
MDM **Murphy Dome** 80.76 358 P **P** 22 32 57.9 -0.6
MDM IAmb IAmb 22 33 06.6
comp=Z,19nm,1.1s
T57A **Hurt** 80.79 309 P **P** 22 32 60.0 +0.9
baz=54
COLA **College** 80.83 357⇓ *e*P **P** 22 32 59.4 +0.7
COLA pmax pmax
comp=Z,10.0nm,1.0s
V59A **Middlesex** 80.85 307 P **P** 22 33 00.4 +1.0
baz=54
EYMN **Ely** 80.90 323 P **P** 22 33 00.0 +0.6
baz=48
IL31 80.90 357 P **P** 22 32 59.6 +0.6
ILAR **Eielson Array** 80.90 357 P **P** 22 32 59.0 -0.1
comp=Z,4.4nm,0.8s,baz=358,slow=3.8,SNR=23
ILAR **Eielson Array** 80.90 357 P **P** 22 32 58.5 -0.7
COWI **Conover** 80.92 321 P **P** 22 32 59.0 -0.6
COWI IAmb IAmb 22 33 01.0
comp=Z,19nm,0.9s
O51A **Pataskala** 80.99 313 P **P** 22 33 00.5 +0.4
baz=52
P52A **Corning** 81.02 312 P **P** 22 33 00.2 0.0
baz=52
P52A **Corning** 81.02 312 P **P** 22 32 58.3 -2.0
P52A IAmb IAmb 22 33 04.1
comp=Z,22nm,1.1s
CDVI **St. Croix** 81.05 285 P **P** 22 33 01.0 +0.3
VWCC **Virginia Weste** 81.10 309 P **P** 22 33 00.2 -0.6
Q53A **Leroy** 81.11 311 P **P** 22 33 00.9 +0.2
baz=53
S55A **Lewisburg** 81.12 310 P **P** 22 33 01.4 +0.5
baz=53
NEA2 **Nenana** 81.16 358 P **P** 22 33 00.0 -0.5
baz=3.9
ACSO **Alum Creek Sta** 81.17 313 P **P** 22 33 01.4 +0.4
baz=52
ACSO **Alum Creek Sta** 81.17 313 P **P** 22 33 00.8 -0.3
U57A **Blanch** 81.17 308 P **P** 22 33 01.7 +0.5
baz=54,SNR=7.2
R54A **Victor** 81.19 310 P **P** 22 33 01.9 +0.6
baz=53
HDA **Harding Lake** 81.26 357 P **P** 22 33 01.4 +0.3
baz=5.6
HDA **Harding Lake** 81.26 357 IAmb IAmb 22 33 10.6
comp=Z,14nm,0.7s
T56A **Rocky Mt** 81.27 309 P **P** 22 33 02.3 +0.6
baz=53,SNR=6.7
ULM **Lac du Bonnet** 81.39 327 P **P** 22 33 01.8 -0.2
comp=Z,7.3nm,0.8s,baz=38,slow=6.9,SNR=4.0
ULM LR LR 23 11 54.4
comp=Z,165nm,18.0s,baz=70,slow=38
ULM **Lac du Bonnet** 81.39 327 IAmb IAmb 22 33 02.6
comp=Z,16nm,1.1s
V58A **Windy Hill, Pi** 81.41 308 P **P** 22 33 03.4 +1.1
baz=54
N49A **Columbus Grove** 81.46 314 P **P** 22 33 00.9 -1.7
N49A IAmb IAmb 22 33 04.0
comp=Z,18nm,0.9s
Q52A **Bidwell** 81.51 312 P **P** 22 33 03.0 +0.2
baz=52
SCRK **Sand Creek** 81.54 356 P **P** 22 33 03.5 +0.7
baz=8.1
GRGR **Grenville** 81.61 279 P **P** 22 33 00.8 -2.9
S54A **Dingess, Beckl** 81.62 310 P **P** 22 33 04.2 +0.7
baz=53
CBYP **Canovanas** 81.63 286 P **P** 22 33 03.7 -0.2
CBYP IAmb IAmb 22 33 14.0
comp=Z,17nm,0.9s
BPAW **Bear Paw Mtn.** 81.69 359 IAmb IAmb 22 33 06.1
comp=Z,13nm,1.0s
T55A **Pulaski** 81.70 309 P **P** 22 33 04.7 +0.8
baz=53
R53A **Hurricane** 81.70 311 P **P** 22 33 04.8 +0.9
baz=52
R53A **Hurricane** 81.70 311 P **P** 22 33 04.0 +0.1
HUMP **Col San Antoni** 81.70 286 P **P** 22 33 03.0 -1.2
V57A **Coltrane Farms** 81.78 308 P **P** 22 33 04.7 +0.3
baz=53,SNR=7.5
RIDG **Independent Ri** 81.83 356 P **P** 22 33 03.8 -0.4
RIDG IAmb IAmb 22 33 14.3
comp=Z,15nm,0.9s
NAN01 **Guarapari, ES** 81.83 242 *e*P **P** 22 33 06.2 +1.5
Y60A **Bolivia** 81.87 306 P **P** 22 33 05.4 +0.6
baz=54
DOT **Dot Lake** 81.87 356 P **P** 22 33 04.1 -0.2
DOT IAmb IAmb 22 33 14.6
comp=Z,8.6nm,0.7s
PDPR **Patillas Dam,** 81.90 286 P **P** 22 33 05.5 +0.3
U56A **King** 81.90 309 P **P** 22 33 05.4 +0.4
baz=53
W58A **Raeford** 81.94 307 P **P** 22 33 05.4 +0.2
baz=53

SMTB	**Santa Maria do**	**81.99 254**	*eP*	**P**	**22 33 07.0**	**+1.3**
O49A	**Covington**	**82.01 314**	P	**P**	**22 33 04.5**	**-1.0**
SDBA	**SAO DESIDERIO**	**82.02 249**	*eP*	**P**	**22 33 07.0**	**+1.1**
Q51A	**Peebles**	**82.13 312**	P	**P**	**22 33 05.6**	**-0.5**
PRPB	**Parauapebas**	**82.18 257**	*eP*	**P**	**22 33 08.1**	**+1.3**
T54A	**Tazewell**	**82.23 310**	P	**P**	**22 33 07.3**	**+0.5**
	baz=52,SNR=10					
U55A	**TA2, Sparta**	**82.23 309**	P	**P**	**22 33 07.3**	**+0.5**
	baz=53,SNR=12					
I42A	**Draeger Farm,**	**82.25 319**	P	**P**	**22 33 05.6**	**-1.1**
I42A			IAmb	IAmb	22 33 08.1	
	comp=Z,22nm,0.9s					
BCAR	**Beaver Creek A**	**82.29 355**	P	**P**	**22 33 06.8**	**+0.2**
V56A	**Mocksville**	**82.30 308**	P	**P**	**22 33 07.6**	**+0.5**
	baz=53					
TRF	**Thorofare Moun**	**82.33 358**	P	**P**	**22 33 06.0**	**-0.9**
TRF			IAmb	IAmb	22 33 16.0	
	comp=Z,11nm,0.9s					
W57A	**Gilead**	**82.36 308**	P	**P**	**22 33 07.7**	**+0.3**
	baz=53,SNR=5.4					
W57A	**Gilead**	**82.36 308**	P	**P**	**22 33 06.5**	**-1.0**
W57A			IAmb	IAmb	22 33 09.1	
	comp=Z,14nm,1.1s					
N47A	**Urbana**	**82.37 315**	P	**P**	**22 33 07.0**	**-0.4**
DHY	**Denali Highway**	**82.61 357**	P	**P**	**22 33 08.4**	**-0.1**
P49A	**Miami Univ. Ec**	**82.64 313**	P	**P**	**22 33 09.5**	**+0.7**
	baz=51					
P49A	**Miami Univ. Ec**	**82.64 313**	P	**P**	**22 33 08.4**	**-0.4**
P49A			IAmb	IAmb	22 33 12.2	
	comp=Z,23nm,1.1s					
U54A	**Nelsons Funny**	**82.72 310**	P	**P**	**22 33 09.7**	**+0.3**
	baz=52					
U54A	**Nelsons Funny**	**82.72 310**	P	**P**	**22 33 09.1**	**-0.3**
V55A	**Taylorsville**	**82.74 309**	P	**P**	**22 33 10.1**	**+0.8**
	baz=52					
V55A	**Taylorsville**	**82.74 309**	P	**P**	**22 33 09.5**	**+0.1**
W56A	**Indian Trail**	**82.76 308**	P	**P**	**22 33 10.2**	**+0.7**
	baz=53					
RIB01	**Linhares ES**	**82.97 241**	*eP*	**P**	**22 33 12.3**	**+1.6**
PETK	**Petropavlovsk-**	**83.04 27**	P	**P**	**22 33 10.4**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=337,slow=2.3,SNR=6.6					
PETK			LR	LR	23 13 04.3	
	comp=Z,100nm,20.9s,baz=260,slow=38					
P48A	**Milroy**	**83.12 314**	P	**P**	**22 33 10.5**	**-0.7**
S51A	**Beattyville**	**83.14 311**	P	**P**	**22 33 11.4**	**0.0**
S51A			IAmb	IAmb	22 33 15.5	
	comp=Z,12nm,0.8s					
JANB	**Januaria**	**83.19 247**	*eP*	**P**	**22 33 13.4**	**+1.5**
R50A	**Paris**	**83.19 312**	P	**P**	**22 33 11.9**	**+0.2**
R50A			IAmb	IAmb	22 33 13.3	
	comp=Z,12nm,0.8s					
KMSC	**Kings Mountain**	**83.25 308**	P	**P**	**22 33 12.7**	**+0.6**
	baz=52					
V54A	**Nebo**	**83.25 309**	P	**P**	**22 33 12.6**	**+0.6**
	baz=52,SNR=8.2					
MALB	**Monte Alegre**	**83.31 263**	*eP*	**P**	**22 33 13.6**	**+1.0**
F36A	**Milaca**	**83.34 322**	P	**P**	**22 33 11.4**	**-0.9**
F36A			IAmb	IAmb	22 33 13.7	
	comp=Z,12nm,0.9s					
SPMN	**Marine on St.**	**83.41 322**	P	**P**	**22 33 13.7**	**+1.0**
	baz=46					
X56A	**White Oak**	**83.44 307**	P	**P**	**22 33 13.9**	**+0.9**
	baz=52					
SFIN	**Lafayette**	**83.51 315**	P	**P**	**22 33 13.4**	**+0.2**
	baz=50					
JFWS	**Jewell Farm**	**83.62 319**	P	**P**	**22 33 14.4**	**+0.6**
	baz=48					
R49A	**Shelbyville**	**83.70 313**	P	**P**	**22 33 14.3**	**0.0**
JSC	**Jenkinsville**	**83.72 307**	P	**P**	**22 33 14.6**	**+0.1**
JSC			pmax	pmax		
	comp=Z,5.0nm,1.0s					
JSC	**Jenkinsville**	**83.72 307**	P	**P**	**22 33 14.6**	**+0.1**
TZTN	**Tazewell**	**83.80 310**	P	**P**	**22 33 15.8**	**+0.9**
	baz=51					
TZTN	**Tazewell**	**83.80 310**	P	**P**	**22 33 14.0**	**-0.9**
TZTN			IAmb	IAmb	22 33 17.4	
	comp=Z,20nm,1.1s					
SKT	**Skwentna**	**83.83 359**	IAmb	IAmb	22 33 18.7	
	comp=Z,13nm,0.8s					
W54A	**Cherokee Point**	**83.83 309**	P	**P**	**22 33 16.3**	**+1.3**
	baz=52					
X55A	**Gracelyn & Ava**	**83.85 308**	P	**P**	**22 33 16.1**	**+0.9**
	baz=52					
V53A	**Saluda**	**83.87 309**	P	**P**	**22 33 14.4**	**-1.0**
V53A			IAmb	IAmb	22 33 31.0	
	comp=Z,11nm,1.1s					
MC01	**Montes Claros**	**83.93 245**	*eP*	**P**	**22 33 17.2**	**+1.5**
MC01			*ep*	**sP**	**22 33 20.9**	**+0.6**
Z57A	**Bowman**	**83.95 306**	P	**P**	**22 33 16.0**	**+0.3**
	baz=52					
V52A	**Sevierville**	**84.27 310**	P	**P**	**22 33 16.5**	**-0.8**
V52A			IAmb	IAmb	22 33 18.9	
	comp=Z,11nm,1.1s					
X54A	**Belton**	**84.28 308**	P	**P**	**22 33 17.5**	**+0.2**
	baz=52					
T50A	**Nancy**	**84.30 311**	P	**P**	**22 33 17.4**	**0.0**
Y55A	**Saluda**	**84.32 307**	P	**P**	**22 33 18.2**	**+0.7**
	baz=52					
HODGE	**Hodges**	**84.41 308**	P	**P**	**22 33 17.4**	**-0.5**
WCI	**Wyandotte Cave**	**84.42 313**	P	**P**	**22 33 18.6**	**+0.6**
	baz=50					
WCI	**Wyandotte Cave**	**84.42 313**	P	**P**	**22 33 18.3**	**+0.3**
WCI			pmax	pmax		
	comp=Z,28nm,1.0s					
WCI	**Wyandotte Cave**	**84.42 313**	P	**P**	**22 33 18.3**	**+0.3**
O44A	**Mansfield**	**84.46 316**	P	**P**	**22 33 17.0**	**-1.1**
PEXB	**Peixe**	**84.48 251**	*eP*	**P**	**22 33 20.4**	**+1.9**
PEXB			*ep*	**sP**	**22 33 23.3**	**+0.2**
TKL	**Tuckaleechee C**	**84.49 310**	P	**P**	**22 33 18.1**	**-0.3**
TKL			pmax	pmax		
	comp=Z,14nm,1.0s					
TKL	**Tuckaleechee C**	**84.49 310**	P	**P**	**22 33 18.1**	**-0.3**
TKL			IAmb	IAmb	22 33 20.1	
	comp=Z,14nm,0.9s					
HDIL	**Hopedale**	**84.66 316**	P	**P**	**22 33 19.5**	**+0.4**
	baz=48					
CRQM	**Cirque**	**84.68 355**	P	**P**	**22 33 18.1**	**-1.0**
CRQM			IAmb	IAmb	22 33 29.7	
	comp=Z,15nm,0.8s					
RC01	**Rabbit Creek A**	**84.69 358**	P	**P**	**22 33 18.9**	**0.0**
	baz=3.3					
L40A	**Anamosa**	**84.73 318**	P	**P**	**22 33 18.9**	**-0.6**
V51A	**Loudon**	**84.77 310**	P	**P**	**22 33 19.6**	**-0.2**
V51A			IAmb	IAmb	22 33 33.3	
	comp=Z,11nm,0.9s					
MAJO	**Matsushiro**	**85.02 49**	||| *eP*	**P**	**22 33 21.0**	**-0.1**
MAJO			pmax	pmax		
	comp=Z,23nm,1.4s					
MAT	**Matsushiro**	**85.02 49**	P	**P**	**22 33 21.3**	**+0.2**
MJAR	**Matsushiro Arr**	**85.02 49**	P	**P**	**22 33 21.8**	**+0.8**
	comp=Z,8.4nm,1.0s,baz=303,slow=4.6,SNR=15					
MJAR	**Matsushiro Arr**	**85.02 49**	P	**P**	**22 33 21.6**	**+0.5**
MJAR			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MJAR	**Matsushiro Arr**	**85.02 49**	P	**P**	**22 33 21.6**	**+0.5**
CPCT	**Cooper Cave**	**85.10 310**	P	**P**	**22 33 21.5**	**0.0**
U49A	**Red Boiling Sp**	**85.21 312**	P	**P**	**22 33 21.9**	**0.0**
SBUM	**Sibu**	**85.22 90**	P	**P**	**22 33 22.5**	**+0.1**
DLBC	**Dease Lake**	**85.31 348**	P	**P**	**22 33 20.3**	**-1.9**
P43A	**Skaggs, Pawnee**	**85.40 316**	P	**P**	**22 33 22.9**	**0.0**
Q44A	**Meyer Farm, Va**	**85.60 315**	P	**P**	**22 33 23.7**	**-0.1**
SEW	**Seward**	**85.66 358**	P	**P**	**22 33 23.5**	**-0.2**
SEW			IAmb	IAmb	22 33 27.2	
	comp=Z,20nm,1.1s					
GOGA	**Godfrey**	**85.70 308**	P	**P**	**22 33 25.4**	**+0.9**
	baz=51					
GOGA	**Godfrey**	**85.70 308**	P	**P**	**22 33 24.4**	**-0.1**
GOGA			pmax	pmax		
	comp=Z,12nm,1.0s					
GOGA	**Godfrey**	**85.70 308**	P	**P**	**22 33 24.4**	**-0.1**
GOGA			IAmb	IAmb	22 33 26.5	
	comp=Z,12nm,0.9s					
T47A	**Sharon Grove**	**85.72 313**	P	**P**	**22 33 23.8**	**-0.7**
W50A	**Signal Mountai**	**85.75 310**	P	**P**	**22 33 25.2**	**+0.5**
Y52A	**Lilburn**	**85.80 309**	P	**P**	**22 33 25.4**	**+0.3**
CLTN	**Cedars of Leba**	**85.82 311**	P	**P**	**22 33 25.3**	**+0.3**
CLTN			IAmb	IAmb	22 33 27.3	
	comp=Z,18nm,0.9s					
ITTB	**Itaituba**	**85.95 262**	*eP*	**P**	**22 33 27.5**	**+1.6**
ITTB			*ep*	**sP**	**22 33 30.9**	**+0.4**
V48A	**Smith Brothers**	**86.35 311**	P	**P**	**22 33 26.7**	**-1.0**
FPAL	**Fort Paine**	**86.36 310**	P	**P**	**22 33 28.4**	**+0.6**
BDFB	**Brasilia**	**86.37 248**	P	**P**	**22 33 28.4**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=71,slow=5.7,SNR=5.5					
BDFB			LR	LR	23 13 22.2	
	comp=Z,160nm,19.0s,baz=62,slow=37					
BDFB	**Brasilia**	**86.37 248**	IAmb	IAmb	22 33 30.6	
	comp=Z,9.2nm,1.0s					
ECSD	**EROS Data Cent**	**86.40 322**	P	**P**	**22 33 28.4**	**+0.6**
	baz=44					
ECSD	**EROS Data Cent**	**86.40 322**	P	**P**	**22 33 26.8**	**-1.0**
ECSD			IAmb	IAmb	22 33 29.0	
	comp=Z,11nm,1.1s					
S44A	**Carbondale**	**86.54 314**	P	**P**	**22 33 28.4**	**-0.2**
WVT	**Waverly**	**86.72 312**	P	**P**	**22 33 29.6**	**+0.2**
	baz=49					
WVT	**Waverly**	**86.72 312**	P	**P**	**22 33 29.4**	**0.0**
WVT			pmax	pmax		
	comp=Z,14nm,0.8s					
WVT	**Waverly**	**86.72 312**	P	**P**	**22 33 29.4**	**0.0**
WVT			IAmb	IAmb	22 33 30.2	
	comp=Z,14nm,0.8s					
P40A	**Paris**	**86.92 317**	P	**P**	**22 33 30.0**	**-0.3**
TIGA	**Tifton**	**87.02 306**	P	**P**	**22 33 31.8**	**+0.9**
	baz=51					
NPGB	**Novo Progresso**	**87.17 260**	*eP*	**P**	**22 33 33.0**	**+1.0**
NPGB			*eS*	**S**	**22 44 13.9**	**+2.4**
BSCB	**Bom Sucesso**	**87.21 242**	*eP*	**P**	**22 33 33.2**	**+1.2**
Y49A	**Blount Mountai**	**87.31 310**	P	**P**	**22 33 32.6**	**+0.2**
X48A	**Hartselle**	**87.33 311**	P	**P**	**22 33 31.5**	**-0.9**
X48A			IAmb	IAmb	22 33 34.5	
	comp=Z,12nm,0.9s					
CCM	**Cathedral Cave**	**87.46 316**	P	**P**	**22 33 33.5**	**+0.5**
	baz=47					
CCM	**Cathedral Cave**	**87.46 316**	P	**P**	**22 33 33.5**	**+0.5**
CCM			pmax	pmax		
	comp=Z,22nm,0.8s					
CCM	**Cathedral Cave**	**87.46 316**	P	**P**	**22 33 33.5**	**+0.5**
PLAL	**Pickwick Lake**	**87.62 312**	IAmb	IAmb	22 33 34.6	
	comp=Z,14nm,1.1s					
P38A	**Dawn**	**87.68 318**	P	**P**	**22 33 33.0**	**-1.0**
P38A			IAmb	IAmb	22 33 35.5	
	comp=Z,13nm,0.8s					
R40A	**Maddies Statio**	**87.89 316**	P	**P**	**22 33 35.2**	**+0.1**
T42A	**Van Buren**	**88.07 315**	P	**P**	**22 33 35.6**	**-0.3**
LRAL	**Lakeview Retre**	**88.22 310**	P	**P**	**22 33 37.2**	**+0.5**
	baz=49					
250A	**Grady**	**88.43 308**	P	**P**	**22 33 38.1**	**+0.4**
LAO	**LASA Array**	**88.59 330**	P	**P**	**22 33 39.9**	**+1.5**
	baz=38					
MGMO	**Mountain Grove**	**88.67 315**	P	**P**	**22 33 39.3**	**+0.5**
MGMO			IAmb	IAmb	22 33 40.0	
	comp=Z,7.7nm,0.9s					
LCAR	**Lake Charles**	**88.76 314**	P	**P**	**22 33 38.8**	**-0.5**
LCAR			IAmb	IAmb	22 33 47.6	
	comp=Z,8.1nm,1.0s					
S39A	**Bolivar**	**88.91 316**	P	**P**	**22 33 39.1**	**-0.8**
EGMT	**Eagleton**	**88.94 332**	P	**P**	**22 33 39.9**	**0.0**
EGMT			IAmb	IAmb	22 33 50.7	
	comp=Z,10nm,0.9s					
Y45A	**Yeager Farm, C**	**89.27 312**	P	**P**	**22 33 40.9**	**-0.8**
ARAG	**Araguaiana, MT**	**89.35 251**	*eP*	**P**	**22 33 44.3**	**+2.1**
ARAG			*ep*	**sP**	**22 33 47.6**	**+0.8**
CHGN	**Chignik**	**89.45 3**	P	**P**	**22 33 39.1**	**-2.9**
WALA	**Waterton Lakes**	**89.59 335**	P	**P**	**22 33 41.9**	**-1.2**
WALA			IAmb	IAmb	22 33 45.8	
	comp=Z,14nm,0.8s					
CLDB	**Colider**	**89.71 257**	*eP*	**P**	**22 33 44.6**	**+0.7**
CLDB			*ep*	**sP**	**22 33 48.3**	**-0.2**
W41B	**Gary Mavity, V**	**90.02 314**	P	**P**	**22 33 45.5**	**+0.4**
	baz=46					
SDV	**Santo Domingo**	**90.73 281**	*eP*	**P**	**22 33 49.8**	**+0.8**
SDV			*ep*	**sP**	**22 33 53.4**	**-0.1**
JTMT	**Jette**	**90.84 335**	P	**P**	**22 33 48.7**	**-0.2**
X40A	**Basin Creek Fa**	**90.84 314**	P	**P**	**22 33 49.5**	**+0.5**
	baz=46					
RLMT	**Red Lodge**	**91.12 330**	P	**P**	**22 33 51.4**	**+1.1**
	baz=35					
MIAR	**Mount Ida**	**91.24 314**	P	**P**	**22 33 51.9**	**+1.0**
	baz=46					
MIAR	**Mount Ida**	**91.24 314**	P	**P**	**22 33 48.5**	**-2.4**
MIAR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
MIAR	**Mount Ida**	**91.24 314**	P	**P**	**22 33 48.5**	**-2.4**
MIAR			IAmb	IAmb	22 33 52.7	
	comp=Z,10nm,1.0s					
T35A	**Sooner Cattle**	**91.25 318**	P	**P**	**22 33 49.5**	**-1.4**
NEW	**Newport**	**91.36 337**	P	**P**	**22 33 52.1**	**+0.8**
	baz=29					
NEW	**Newport**	**91.36 337**	P	**P**	**22 33 51.1**	**-0.1**
NEW			pmax	pmax		
	comp=Z,13nm,0.8s					
NEW	**Newport**	**91.36 337**	P	**P**	**22 33 51.1**	**-0.1**
MSO	**Missoula**	**91.50 334**	P	**P**	**22 33 51.9**	**0.0**
	baz=32					
MSO	**Missoula**	**91.50 334**	P	**P**	**22 33 51.4**	**-0.6**
YNE	**Yellowstone No**	**91.51 331**	P	**P**	**22 33 52.7**	**+0.4**
TUL1	**Leonard**	**91.56 317**	P	**P**	**22 33 52.3**	**0.0**
	baz=44					
BOZ	**Bozeman (W)**	**91.67 332**	P	**P**	**22 33 53.4**	**+0.6**
	baz=34					
BOZ	**Bozeman (W)**	**91.67 332**	P	**P**	**22 33 52.7**	**-0.2**
BOZ			pmax	pmax		
	comp=Z,4.0nm,1.1s					
BOZ	**Bozeman (W)**	**91.67 332**	P	**P**	**22 33 52.6**	**-0.2**
LRM	**Limekiln Ridge**	**91.79 333**	P	**P**	**22 33 53.7**	**+0.1**
DLMT	**Dillon**	**92.23 332**	P	**P**	**22 33 54.6**	**-0.8**
X37A	**Clayton**	**92.26 315**	P	**P**	**22 33 53.5**	**-2.1**
X37A			IAmb	IAmb	22 34 04.1	
	comp=Z,12nm,1.1s					
YPP	**Pitchstone Pla**	**92.44 331**	P	**P**	**22 33 57.0**	**+0.4**
KSCO	**Kaye Shedlock'**	**92.93 323**	P	**P**	**22 33 59.3**	**+0.5**
	baz=40					
N23A	**Red Feather La**	**93.06 326**	P	**P**	**22 33 59.7**	**+0.2**
	baz=38					
PDAR	**Pinedale Array**	**93.16 329**	P	**P**	**22 33 59.5**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=57,slow=4.1,SNR=8.7					
PDAR			LR	LR	23 18 44.3	
	comp=Z,186nm,18.0s,baz=3.0,slow=37					
PDAR	**Pinedale Array**	**93.16 329**	P	**P**	**22 33 58.4**	**-1.5**
ISCO	**Idaho Springs**	**93.77 325**	P	**P**	**22 34 02.7**	**-0.1**
	baz=38					
ISCO	**Idaho Springs**	**93.77 325**	P	**P**	**22 34 03.1**	**+0.2**
ISCO			pmax	pmax		
	comp=Z,3.0nm,1.3s					
HAWA	**Hanford**	**93.79 337**	P	**P**	**22 34 02.6**	**+0.2**
HAWA			IAmb	IAmb	22 34 04.0	
	comp=Z,7.8nm,0.9s					
D03D	**Eldon**	**93.84 340**	P	**P**	**22 34 03.4**	**+0.8**
	baz=25					
WMOK	**Wichita Mounta**	**94.09 318**	P	**P**	**22 34 04.5**	**+0.4**
	baz=43					
WMOK	**Wichita Mounta**	**94.09 318**	P	**P**	**22 34 04.4**	**+0.3**
WMOK			pmax	pmax		
	comp=Z,7.0nm,1.4s					
E04D	**Cinebar**	**94.58 339**	P	**P**	**22 34 06.5**	**+0.5**
	baz=25					
SAML	**Samuel**	**94.62 262**	*eP*	**P**	**22 34 07.4**	**+0.7**
O20A	**White River Ci**	**94.72 327**	P	**P**	**22 34 07.2**	**+0.1**
	baz=36					
O20A	**White River Ci**	**94.72 327**	P	**P**	**22 34 06.3**	**-0.8**
O20A			IAmb	IAmb	22 34 09.9	
	comp=Z,5.8nm,1.0s					
E03A	**Lebam**	**94.88 340**	P	**P**	**22 34 07.0**	**-0.3**
E03A			IAmb	IAmb	22 34 12.0	
	comp=Z,9.4nm,1.0s					
HWUT	**Hardware Ranch**	**94.96 330**	IAmb	IAmb	22 34 10.6	
	comp=Z,6.5nm,0.8s					
MFID	**Camas Ranch**	**95.11 333**	P	**P**	**22 34 08.1**	**-0.6**
MFID			IAmb	IAmb	22 34 17.3	
	comp=Z,4.4nm,0.8s					
T25A	**Trinidad**	**95.27 323**	P	**P**	**22 34 09.3**	**-0.4**
	baz=39					
SDCO	**Great Sand Dun**	**95.33 324**	P	**P**	**22 34 09.7**	**-0.3**
	baz=38					
SDCO	**Great Sand Dun**	**95.33 324**	P	**P**	**22 34 08.4**	**-1.6**
I07A	**Izee**	**95.83 336**	P	**P**	**22 34 11.1**	**-0.8**
S22A	**4UR Ranch, Cre**	**95.98 324**	P	**P**	**22 34 13.5**	**+0.5**
	baz=37					
ABTX	**Abilene, Hawle**	**96.14 317**	P	**P**	**22 34 14.2**	**+0.7**
	baz=42					
H04A	**Detroit Lake**	**96.15 338**	P	**P**	**22 34 13.1**	**-0.2**
H04A			IAmb	IAmb	22 34 15.8	
	comp=Z,4.4nm,0.8s					
I05D	**Terrebonne, OR**	**96.20 337**	P	**P**	**22 34 14.5**	**+1.0**
	baz=26					
PINE	**Pine Mountain**	**96.56 337**	P	**P**	**22 34 14.9**	**-0.4**
PINE			IAmb	IAmb	22 34 25.0	
	comp=Z,5.4nm,0.8s					
DUG	**Dugway, Tooele**	**96.66 330**	P	**P**	**22 34 16.4**	**+0.6**
	baz=33					
DUG	**Dugway, Tooele**	**96.66 330**	P	**P**	**22 34 13.5**	**-2.3**
DUG			pmax	pmax		
	comp=Z,3.0nm,0.9s					
DUG	**Dugway, Tooele**	**96.66 330**	P	**P**	**22 34 13.5**	**-2.3**
I04A	**Tendick Farm,**	**97.03 338**	P	Pdif	22 34 18.0	+0.7
	baz=26					
J05D	**Fort Rock, OR**	**97.11 337**	P	Pdif	22 34 18.8	+0.9
	baz=26					
J04D	**Umpqua Nationa**	**97.43 337**	P	Pdif	22 34 20.6	+1.2
	baz=26					
K05A	**Summer Lake**	**97.49 336**	P	**P**	**22 34 17.3**	**-2.3**
K05A			IAmb	IAmb	22 34 21.9	
	comp=Z,3.8nm,1.0s					
L04D	**Klamath Falls**	**98.41 337**	P	**P**	**22 34 23.4**	**-0.2**
	baz=26					
L02E	**Cave Junction**	**98.88 338**	P	Pdif	22 34 26.8	+1.2
	baz=25					
MNTX	**Cornudas Mount**	**100.00 320**	P	**Pdif**	**22 34 29.9**	**-0.9**
	baz=39					
NVAR	**Mina Array Bea**	**100.36 332**	P	**Pdif**	**22 34 32.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=41,slow=4.7,SNR=4.9					
NVAR	**Mina Array Bea**	**100.36 332**		**Pdif**	**22 34 32.0**	**-0.5**
TXAR	**Lajitas Array**	**100.88 317**	P	**Pdif**	**22 34 35.6**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=56,slow=3.2,SNR=6.3					
SYO	**Syowa Base**	**103.68 175**	*ep*	Pdif	pPdif	22 34 50.0	+0.6
WRA	**Warramunga Arr**	**115.54 97**	PKP	**PKPdf**	**22 39 26.9**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=315,slow=1.6,SNR=10					
ASAR	**Alice Springs**	**116.97 101**	PKP	**PKPdf**	**22 39 30.2**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=319,slow=1.2,SNR=7.0					
ASAR	**Alice Springs**	**116.97 101**	PKIKP	**PKPdf**	**22 39 29.9**	**-0.6**
ASAR	**Alice Springs**	**116.97 101**		**PKPdf**	**22 39 29.9**	**-0.6**
QSPA	**South Pole Qui**	**124.37 180**		**PKiKP**	**22 39 44.0**	**+0.2**
VNDA	**Vanda**	**132.74 168**	PKP	**PKPdf**	**22 39 58.3**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=255,slow=4.6,SNR=4.1					

IDC ***03*** *22:40:43.5±2.0, 5.57S×152.15E, h64km±12km, mb4.0/14, mb1 4.2/15, mb1mx3.9/53, mbtmp4.3/15, MS3.8/9, Ms1 3.8/9, ms1mx3.5/33, Error ellipse: s-maj=30.1km s-min=9.6km az=114.0*

DJA ***03*** *22:40:43.6±0.7, 6.3S±4.3×15.2E±9.1, h51km±6km, M4.8/13, mb4.7/13, mB5.1/3, MLv4.8/2, Mw(mB)4.4/3*

NEIC ***03*** *22:40:44.1±1.5, 5.35S±0.08×151.97E±0.07, h63km±7km, mb4.5/35, Error ellipse: s-maj=14.9km s-min=4.5km az=140.0*

ISC 03 22:40:41.8±0.6, 5.46S±0.06×152.03E±0.09, h45km, n73, σ1.9 60/72, mb4.5/30, MS3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.15**	**360**	P	**Pn**	**22 41 03.1**	**+1.6**
	626nm,0.3s,baz=11,slow=0.4,SNR=285						
KRVT				S	**Sn**	**22 41 21.9**	**+5.8**
	781nm,0.3s,baz=179,slow=20,SNR=6.8						
RABL	**Rabaul**	**1.27**	**6**	P	**Pn**	**22 41 04.5**	**+1.4**
PMG	**Port Moresby**	**6.22**	**231**	P	**Pn**	**22 42 13.5**	**+2.4**
	5.3nm,0.3s,baz=38,slow=8.7,SNR=15						
PMG				S	**Sn**	**22 43 23.5**	**+2.4**
	16nm,0.3s,baz=149,slow=20,SNR=7.0						
HNR	**Honiara**	**8.78**	**117**	LR	LR	22 45 43.0	
	comp=Z,386nm,20.2s,baz=280,slow=35						
COEN	**Coen**	**12.14**	**225**	Pn	**Pn**	**22 43 34.6**	**+2.3**
GENI	**Genyem**	**12.17**	**283**	P	**Pn**	**22 43 33.7**	**+1.0**
SANVU	**Saraoutou**	**17.90**	**125**	P	**P**	**22 44 48.4**	**+0.6**
EIDS	**Eidsvold**	**19.82**	**183**	P	**Pn**	**22 45 09.9**	**-0.7**
EIDS				IAmb	IAmb	22 45 13.2	
	comp=Z,25nm,0.9s						
GUMO	**Guam**	**20.22**	**339**	LR	LR	22 54 10.9	
	comp=Z,93nm,18.4s,baz=135,slow=40						
DZM	**Mont Dzumac**	**21.61**	**141**	LR	LR	22 53 10.5	
	comp=Z,319nm,19.5s,baz=218,slow=35						
WB0	**Warramunga Arr**	**22.29**	**229**	P	**P**	**22 45 37.1**	**+1.6**
WR0	**Warramunga Arr**	**22.30**	**228**	P	**P**	**22 45 37.7**	**+2.1**
WR0				IAmb	IAmb	22 45 45.2	
	comp=Z,26nm,1.0s						
WRAB	**Tennant Creek**	**22.42**	**229**	P	**P**	**22 45 38.8**	**+1.9**
WRAB				IAmb	IAmb	22 45 46.2	
	comp=Z,21nm,0.8s						
WRAB				S		**22 49 40.4**	**-0.1**
WB2	**Warramunga Arr**	**22.43**	**229**	P	**P**	**22 45 38.5**	**+1.5**
WB2				IAmb	IAmb	22 45 46.4	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**22.44**	**229**	P	**P**	**22 45 37.4**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=53,slow=9.8,SNR=49						
WRA				S	**S**	**22 49 38.0**	**-2.8**
	comp=Z,5.0nm,1.1s,baz=55,slow=19,SNR=6.3						
WRA				LR	LR	22 54 50.6	
	comp=Z,191nm,19.9s,baz=55,slow=38						
WRA	**Warramunga Arr**	**22.44**	**229**	P	**P**	**22 45 39.6**	**+2.5**
KNRA	**Kununurra**	**25.00**	**244**	P	**P**	**22 46 03.4**	**+1.8**
AS31	**Alice Springs**	**25.15**	**222**	P	**P**	**22 46 05.2**	**+2.2**
AS31				IAmb	IAmb	22 46 12.2	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**25.15**	**222**	P	**P**	**22 46 02.5**	**-0.6**
	comp=Z,11nm,0.8s,baz=56,slow=9.0,SNR=79						
ASAR				S	**S**	**22 50 30.1**	**+5.0**
	comp=Z,1.1nm,0.9s,baz=42,slow=18,SNR=2.3						
ASAR				LR	LR	22 57 31.4	
	comp=Z,216nm,18.8s,baz=54,slow=40						
ASAR	**Alice Springs**	**25.15**	**222**	P	**P**	**22 46 03.8**	**+0.8**
STKA	**Stephens Creek**	**28.04**	**199**	P	**P**	**22 46 29.5**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=26,slow=16,SNR=2.3

	comp=Z,6.2nm,0.9s							
KURK	**Kurchatov**	**83.82**	**322**	P		**P**	**22 53 06.3**	**-0.1**
KURK				IAmb		IAmb	22 53 07.6	
	comp=Z,5.1nm,1.1s							
KURBB	**Kurchatov Arra**	**83.85**	**322**	P		**P**	**22 53 06.4**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=110,slow=4.2,SNR=12							
BCAR	**Beaver Creek A**	**84.33**	**25**	P		**P**	**22 53 09.5**	**+0.6**
BMAR	**Burnt Mountain**	**85.13**	**20**	P		**P**	**22 53 11.5**	**-1.3**
BTK	**Batken**	**86.78**	**311**	P		**P**	**22 53 20.9**	**-0.8**
KKAR	**Karatay Array**	**87.53**	**314**	P		**P**	**22 53 25.1**	**-0.1**
KKAR	**Karatay Array**	**87.53**	**314**	P		**P**	**22 53 24.8**	**-0.4**
KKAR				IAmb		IAmb	22 53 27.9	
	comp=Z,2.7nm,1.1s							
CHGR	**Chuyangaron**	**87.83**	**309**	P		**P**	**22 53 26.7**	**-0.1**
CHGR				IAmb		IAmb	22 53 40.3	
	comp=Z,4.6nm,1.0s							
HUMO	**Hull Mountain**	**89.99**	**47**	P		**P**	**22 53 35.4**	**-1.4**
HUMO				IAmb		IAmb	22 53 40.3	
	comp=Z,3.1nm,0.8s							
H04A	**Detroit Lake**	**90.80**	**45**	P		**P**	**22 53 41.6**	**+1.1**
H04A				IAmb		IAmb	22 53 49.1	
	comp=Z,3.9nm,1.2s							
I07A	**Izee**	**92.65**	**46**	P		**P**	**22 53 49.3**	**+0.1**
I07A				IAmb		IAmb	22 53 51.7	
	comp=Z,3.1nm,1.1s							
HAWA	**Hanford**	**92.83**	**44**	P		**P**	**22 53 50.4**	**+0.6**
HAWA				IAmb		IAmb	22 53 51.9	
	comp=Z,2.1nm,0.9s							
HRA	**Herat**	**92.87**	**304**	P		**P**	**22 53 47.8**	**-2.7**
NVAR	**Mina Array Bea**	**93.09**	**52**	P		**P**	**22 53 51.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=256,slow=5.1,SNR=9.1							
NVAR	**Mina Array Bea**	**93.09**	**52**	P		**P**	**22 53 52.0**	**+0.5**
YKA	**Yellowknife Ar**	**96.36**	**28**	LR		LR	23 34 15.2	
	comp=Z,63nm,19.9s,baz=0.0,slow=33							
GERES	**GERESS Array B**	**124.21**	**328**	PKP		**PKiKP**	**22 59 37.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=80,slow=1.5,SNR=6.4							
TORD	**Torodi Ar. Bea**	**149.78**	**287**	PKPbc		**PKPbc**	**23 00 28.3**	**+0.3**
	comp=Z,11nm,1.0s,baz=68,slow=2.4,SNR=39							
TORD	**Torodi Ar. Bea**	**149.78**	**287**			**PKPbc**	**23 00 27.9**	**-0.1**
DBIC	**Dimbokro**	**156.99**	**274**	PKPab		**PKPab**	**23 01 04.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=269,slow=1.1,SNR=3.7							

*JMA **03** 22:46:21.9±0.2, 24.°55N×122.°30E, h65km±3km, M2.4*
*TAP **03** 22:46:22.5, 24.°61N×122.°27E, h58km±1km, ML3.1, D*

ISC 03 22:46:22.9±1.3, 24.°59N±0.°04×122.°32E±0.°02, h54km±10km, n49, σ0°70/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.43**	**273**	*i* P			**Pn**	**22 46 33.5**	**-0.1**
TWC	baz=269			*i* S			**Sn**	**22 46 41.4**	**+0.1**
ENAH	**Nanao**	**0.48**	**254**	*e*P			**Pn**	**22 46 34.2**	**0.0**
ENAH	baz=249			*e*S			**Sn**	**22 46 42.9**	**+0.6**
NTC	**Toucheng**	**0.52**	**301**	*e*P			**Pn**	**22 46 34.7**	**+0.1**
NTC	baz=301			*e*S			**Sn**	**22 46 43.2**	**+0.1**
ENA	**Nanau**	**0.55**	**253**	*i* P			**Pn**	**22 46 34.9**	**-0.1**
ENA	baz=248			S			**Sn**	**22 46 44.6**	**+0.9**
JYNG	**Yonagunijimaku**	**0.59**	**103**	P			**Pn**	**22 46 35.3**	**-0.1**
JYNG				S			**Sn**	**22 46 45.4**	**+0.9**
TIPB	**Shuangxi**	**0.59**	**311**	P			**Pn**	**22 46 35.2**	**-0.3**
TIPB	baz=311			*e*S			**Sn**	**22 46 44.4**	**-0.2**
TWE	**Neicheng**	**0.61**	**283**	P			**Pn**	**22 46 35.5**	**-0.1**
TWE	baz=281			S			**Sn**	**22 46 44.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.65**	**101**	P			**Pn**	**22 46 36.2**	**+0.1**
YOJ				*e*S			**Sn**	**22 46 46.4**	**+0.7**
ENTT	**Nioudou**	**0.69**	**275**	P			**Pn**	**22 46 37.2**	**+0.5**
ENTT	baz=272			*e*S			**Sn**	**22 46 46.9**	**+0.2**
NWF	**Wu-fen Shan**	**0.69**	**315**	P			**Pn**	**22 46 36.5**	**-0.2**
NWF	baz=315			S			**Sn**	**22 46 46.8**	**0.0**
WFSB	**Wu-fen Shan**	**0.69**	**315**	*e*P			**Pn**	**22 46 36.5**	**-0.1**
WFSB	baz=315			*e*S			**Sn**	**22 46 46.5**	**-0.1**
NDT	**Datong Townshi**	**0.73**	**271**	P			**Pn**	**22 46 37.8**	**+0.5**
NDT	baz=269			S			**Sn**	**22 46 48.1**	**+0.5**
NWLT	**Wulai**	**0.76**	**285**	P			**Pn**	**22 46 37.6**	**0.0**
NWLT	baz=283			S			**Sn**	**22 46 48.0**	**-0.5**
NACB	**Ninganchiao**	**0.78**	**238**	*e*P			**Pn**	**22 46 37.2**	**-0.6**
NACB	baz=234			*e*S			**Sn**	**22 46 48.1**	**-0.6**
TWD	**Chiawan**	**0.83**	**233**	*e*S			**Sn**	**22 46 49.8**	**-0.1**
ETLH	**Xiulin Townshi**	**0.85**	**244**	*e*P			**Pn**	**22 46 38.2**	**-0.7**
ETLH	baz=240			*e*S			**Sn**	**22 46 50.0**	**-0.5**
YHNB	**Yeheng**	**0.86**	**276**	P			**Pn**	**22 46 39.1**	**+0.1**
YHNB	baz=274			S			**Sn**	**22 46 50.6**	**-0.1**
NNSB	**Datong**	**0.86**	**260**	*e*P			**Pn**	**22 46 38.8**	**-0.3**
NNSB	baz=257			*e*S			**Sn**	**22 46 50.6**	**-0.3**
NNSH	**Datong**	**0.86**	**260**	*e*P			**Pn**	**22 46 38.9**	**-0.1**
NNSH	baz=257			*e*S			**Sn**	**22 46 50.9**	**0.0**
NNS	**Nan Shan**	**0.87**	**261**	*e*P			**Pn**	**22 46 37.6**	**-1.6**
NNS	baz=258			*e*S			**Sn**	**22 46 51.7**	**+0.7**
YM05	**YM05**	**0.89**	**310**	*e*P			**Pn**	**22 46 38.9**	**-0.6**
YM05	baz=310			*e*S			**Sn**	**22 46 51.0**	**-0.5**
YM04	**YM04**	**0.91**	**309**	*e*P			**Pn**	**22 46 39.2**	**-0.4**
YM04	baz=309			*e*S			**Sn**	**22 46 51.1**	**-0.7**
FUSS	**Fushou**	**1.03**	**251**	*e*P			**Pn**	**22 46 41.3**	**-0.1**
FUSS	baz=248			*e*S			**Sn**	**22 46 54.8**	**-0.2**
WHF	**Hehuan Shan**	**1.05**	**246**	P			**Pn**	**22 46 41.3**	**-0.6**
WHF	baz=242			S			**Sn**	**22 46 54.7**	**-1.1**
TDCB	**Techi**	**1.11**	**253**	*e*P			**Pn**	**22 46 42.1**	**-0.2**
TDCB	baz=250			*e*S			**Sn**	**22 46 55.8**	**-0.9**
ESL	**Shilin**	**1.11**	**227**	*e*S			**Sn**	**22 46 55.2**	**-1.4**
CHGB	**Renai**	**1.17**	**244**	*e*P			**Pn**	**22 46 43.1**	**-0.1**
CHGB	baz=241			*e*S			**Sn**	**22 46 57.5**	**-0.7**
LIOB	**Emei**	**1.19**	**273**	*e*P			**Pn**	**22 46 43.2**	**0.0**
NSTT	**Nanjuang**	**1.20**	**272**	*e*P			**Pn**	**22 46 43.3**	**-0.1**
NSTT	baz=270			*e*S			**Sn**	**22 46 59.2**	**+0.5**
EGFH	**Guangfu**	**1.22**	**222**	*e*P			**Pn**	**22 46 43.3**	**-0.5**
EGFH	baz=219			*e*S			**Sn**	**22 46 57.8**	**-1.4**
WHP	**Taichung City**	**1.29**	**256**	*e*P			**Pn**	**22 46 45.4**	**+0.7**
WHP	baz=254			*e*S			**Sn**	**22 47 01.3**	**+0.4**
IRIF	**Iriomote-Funau**	**1.31**	**101**	P			**Pn**	**22 46 44.5**	**-0.4**
IRIF				*e*S			**Sn**	**22 47 01.6**	**+0.2**
VWDT	**VWDT**	**1.36**	**233**	*e*P			**Pn**	**22 46 45.4**	**-0.1**
	baz=230								
VWDT				*e*S			**Sn**	**22 47 01.2**	**-1.3**
	baz=230								
SMLT	**Sun Moon Lake**	**1.47**	**242**	*e*P			**Pn**	**22 46 48.0**	**+0.8**
	baz=239								
SSLB	**Suanglung**	**1.48**	**238**	*e*P			**Pn**	**22 46 47.3**	**+0.1**
	baz=235								
SSLB				*e*S			**Sn**	**22 47 04.8**	**-0.6**
	baz=235								
TYC	**Yuchr**	**1.50**	**243**	*e*P			**Pn**	**22 46 48.2**	**+0.8**
	baz=241								
TYC				*e*S			**Sn**	**22 47 07.2**	**+1.4**
	baz=241								
YULB	**Yu-li**	**1.51**	**218**	*e*P			**Pn**	**22 46 45.7**	**-1.9**
	baz=216								
EYUL	**Yuli**	**1.53**	**217**	*e*P			**Pn**	**22 46 47.1**	**-0.8**
	baz=214								
TWF1	**Yuli**	**1.54**	**217**	*e*P			**Pn**	**22 46 46.8**	**-1.3**
	baz=215								
JKRS	**Kuro-shima**	**1.58**	**102**	P			**Pn**	**22 46 48.9**	**+0.3**
JKRS				*e*S			**Sn**	**22 47 08.3**	**+0.4**
FULB	**Fuli**	**1.67**	**214**	*e*P			**Pn**	**22 46 49.0**	**-0.8**
	baz=212								
JIJ	**Ishigaki jima**	**1.68**	**97**	P			**Pn**	**22 46 49.5**	**-0.4**
JIJ				S			**Sn**	**22 47 09.9**	**-0.4**
ALS	**Alishan**	**1.75**	**233**	*e*P			**Pn**	**22 46 52.0**	**+0.8**
	baz=230								
ALS				*e*S			**Sn**	**22 47 12.7**	**+0.3**
	baz=230								
JISG	**Ishigakijimahi**	**1.82**	**90**	P			**Pn**	**22 46 51.5**	**-0.3**
JISG				*e*S			**Sn**	**22 47 13.4**	**-0.3**
CHN4	**Tsaushan**	**2.00**	**232**	*e*P			**Pn**	**22 46 55.4**	**+1.1**
	baz=230								
CHN4				*e*S			**Sn**	**22 47 19.6**	**+1.4**
	baz=230								
TPUB	**Ta-pu**	**2.00**	**231**	*e*S			**Sn**	**22 47 19.5**	**+1.2**
	baz=229								
TWK	**Hsinying**	**2.13**	**232**	*e*P			**Pn**	**22 46 56.5**	**+0.4**
	baz=230								
TWK				*e*S			**Sn**	**22 47 22.5**	**+1.1**
	baz=230								
CHN1	**Nanshi**	**2.15**	**230**	*e*P			**Pn**	**22 46 57.4**	**+1.0**
	baz=228								
CHN1				*e*S			**Sn**	**22 47 23.6**	**+1.7**
	baz=228								
JTJ	**Tarama**	**2.17**	**88**	P			**Pn**	**22 46 56.4**	**-0.2**

*IDC **03** 22:47:50.6±3.3, 5.°53S×152.°05E, h30km±19km, mb3.7/11, mb1 3.9/11, mb1mx3.8/38, mbtmp3.9/11, Error ellipse: s-maj=41.1km s-min=16.5km az=116.0*
*NEIC **03** 22:47:54.0±1.6, 5.°41S±0.°08×152.°0E±0.°1, h54km±8km, mb4.4/27, Error ellipse: s-maj=18.1km s-min=8.9km az=113.0*

ISC 03 22:47:53.0±0.6, 5.°42S±0.°07×152.°0E±0.°1, h45km, n50, σ1°25/48, mb4.1/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.10**	**0**	Pg			**Pn**	**22 48 13.1**	**+1.0**
KRVT	787nm,0.3s,baz=197,slow=1.5,SNR=188			Lg			Lg	22 48 30.5	
	619nm,0.3s,baz=20,slow=19,SNR=7.2								
RABL	**Rabaul**	**1.23**		P			**Pn**	**22 48 15.2**	**+1.4**
PMG	**Port Moresby**	**6.24**	**230**	Pn			**Pn**	**22 49 24.1**	**+1.6**
	4.4nm,0.3s,baz=47,slow=17,SNR=4.2								
PMG				Sn			**Sn**	**22 50 32.9**	**+0.3**
	3.9nm,0.3s,baz=163,slow=16,SNR=3.3								
PMG	**Port Moresby**	**6.24**	**230**				**Pn**	**22 49 24.0**	**+1.4**
COEN	**Coen**	**12.16**	**225**	Pn			**Pn**	**22 50 43.3**	**-0.4**
SANVU	**Saraoutou**	**17.94**	**125**	P			**P**	**22 51 59.7**	**+0.3**
SANVU				IAmb		IAmb	IAmb	22 52 17.6	
	comp=Z,25nm,0.8s								
EIDS	**Eidsvold**	**19.86**	**182**	P			**P**	**22 52 19.6**	**-0.8**
WB0	**Warramunga Arr**	**22.31**	**229**	P			**P**	**22 52 46.7**	**-0.2**
WB0				IAmb		IAmb	IAmb	22 52 55.0	
	comp=Z,5.9nm,0.8s								
WR0	**Warramunga Arr**	**22.31**	**228**	P			**P**	**22 52 47.5**	**+0.5**
WR0				IAmb		IAmb	IAmb	22 52 48.3	
	comp=Z,9.3nm,1.1s								
WRAB	**Tennant Creek**	**22.44**	**228**	P			**P**	**22 52 48.0**	**-0.3**
WB2	**Warramunga Arr**	**22.44**	**228**	P			**P**	**22 52 48.6**	**+0.2**
WRA	**Warramunga Arr**	**22.45**	**228**	P			**P**	**22 52 47.2**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=53,slow=9.9,SNR=21								
WRA	**Warramunga Arr**	**22.45**	**228**	P			**P**	**22 52 47.4**	**-1.1**
KNRA	**Kununurra**	**25.00**	**244**				**P**	**22 53 14.9**	**+2.0**
AS31	**Alice Springs**	**25.17**	**222**				**P**	**22 53 15.2**	**+0.8**
ASAR	**Alice Springs**	**25.17**	**222**	P			**P**	**22 53 13.3**	**-1.1**
	comp=Z,4.3nm,0.7s,baz=54,slow=9.4,SNR=41								
ASAR	**Alice Springs**	**25.17**	**222**				**P**	**22 53 14.4**	**0.0**
FITZ	**Fitzroy Crossi**	**28.68**	**242**	P			**P**	**22 53 43.9**	**-2.1**
	comp=Z,1.5nm,0.4s,baz=70,slow=8.3,SNR=9.0								
FITZ	**Fitzroy Crossi**	**28.68**	**242**	P			**P**	**22 53 44.8**	**-1.1**
FITZ				IAmb		IAmb	IAmb	22 53 56.0	
	comp=Z,4.2nm,0.9s								
FORT	**Forrest**	**33.82**	**219**	P			**P**	**22 54 29.4**	**-1.7**
MORW	**Morawa**	**41.35**	**231**	P			**P**	**22 55 36.6**	**+1.7**
MORW				IAmb		IAmb	IAmb	22 55 53.7	
	comp=Z,7.3nm,1.1s								
KHZ	**Kahutara**	**41.51**	**156**	P			**P**	**22 55 36.6**	**+0.8**
KHZ				IAmb		IAmb	IAmb	22 55 41.4	
	comp=Z,21nm,1.0s								
JEM	**Erimo**	**47.90**	**351**	P			P	22 56 43.2	+17
KSRS	**Korea Array**	**48.21**	**334**	P			**P**	**22 56 30.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=196,slow=22,SNR=1.6								
CMAR	**Chiang Mai Arr**	**57.44**	**296**	P			**P**	**22 57 38.8**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=112,slow=6.2,SNR=4.7								
SONM	**Songino Array**	**66.44**	**328**	P			**P**	**22 58 38.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=151,slow=5.4,SNR=4.5								
SONM	**Songino Array**	**66.44**	**328**			IAmb	IAmb	22 58 39.6	
	comp=Z,0.8nm,0.7s								
OHAK	**Old Harbor**	**76.45**	**27**	P			**P**	**22 59 38.1**	**+0.3**
OHAK				IAmb		IAmb	IAmb	22 59 45.1	
	comp=Z,14nm,1.2s								
CNPM	**China Poot**	**78.61**	**26**	P			**P**	**22 59 50.8**	**+1.0**
BRLK	**Bradley Lake**	**78.88**	**26**	P			**P**	**22 59 51.7**	**+0.3**
BRLK				IAmb		IAmb	IAmb	22 59 56.7	
	comp=Z,5.2nm,0.9s								
MKAR	**Makanchi Array**	**80.28**	**319**	P			**P**	**22 59 59.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=115,slow=7.5,SNR=2.9								
SML	**Sawmill**	**81.00**	**25**	P			**P**	**23 00 03.4**	**+0.5**
TRF	**Thorofare Moun**	**81.06**	**23**	P			**P**	**23 00 03.5**	**+0.3**
TRF				IAmb		IAmb	IAmb	23 00 13.2	
	comp=Z,4.8nm,1.1s								
IMAR	**Indian Mountai**	**81.22**	**20**	P			**P**	**23 00 04.8**	**+1.0**
ZALV	**Zalesovo Beam**	**81.23**	**327**	P			**P**	**23 00 02.7**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=126,slow=6.7,SNR=2.6								
FID	**Port Fidalgo**	**81.28**	**26**	P			**P**	**23 00 03.8**	**-0.5**
MDM	**Murphy Dome**	**82.61**	**22**	P			**P**	**23 00 13.1**	**+1.9**
CCB	**Clear Creek Bu**	**82.62**	**22**	P			**P**	**23 00 10.4**	**-0.7**
PAX	**Paxson**	**82.73**	**24**	P			**P**	**23 00 10.5**	**-1.5**
PAX				IAmb		IAmb	IAmb	23 00 11.9	
	comp=Z,4.5nm,0.7s								
ILAR	**Eielson Array**	**83.02**	**22**	P			**P**	**23 00 12.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=242,slow=5.2,SNR=10								
ILAR	**Eielson Array**	**83.02**	**22**	P			**P**	**23 00 13.0**	**-0.3**
KURK	**Kurchatov**	**83.78**	**322**	P			**P**	**23 00 16.9**	**-0.6**
KURK	**Kurchatov**	**83.78**	**322**	IAmb			IAmb	23 00 17.7	
	comp=Z,2.4nm,1.1s								
KURBB	**Kurchatov Arra**	**83.81**	**322**	P			**P**	**23 00 16.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=112,slow=4.2,SNR=2.7								
QSPA	**South Pole Qui**	**84.55**	**180**	P			**P**	**23 00 20.9**	**-0.4**
QSPA				IAmb		IAmb	IAmb	23 00 21.5	
	comp=Z,2.3nm,1.1s								
HYT	**Haines Junctio**	**85.34**	**28**	P			**P**	**23 00 26.6**	**+1.2**
HYT				IAmb		IAmb	IAmb	23 00 45.6	
	comp=Z,4.9nm,1.1s								
NVAR	**Mina Array Bea**	**93.08**	**52**	P			**P**	**23 01 03.0**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=264,slow=4.4,SNR=1.7								
GERES	**GERESS Array B**	**124.17**	**328**	PKP			**PKiKP**	**23 06 48.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=64,slow=2.3,SNR=2.2								
TORD	**Torodi Ar. Bea**	**149.75**	**287**	PKPbc			**PKPbc**	**23 07 38.5**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=79,slow=2.8,SNR=11								
DBIC	**Dimbokro**	**156.97**	**274**	PKPab			**PKPab**	**23 08 10.3**	**-4.7**
	comp=Z,1.4nm,0.6s,baz=198,slow=6.4,SNR=1.7								

*TEH **03** 22:54:50.9, 32.°68N×47.°70E, h10km, ML3.5*
*ISN **03** 22:54:51.2±1.9, 32.°65N×47.°67E, h15km, ML3.1*

ISC 03 22:54:51.7±1.0, 32.°65N±0.°04×47.°68E±0.°04, h10km, n34, σ1°21/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.34**	**275**	*e*Pg			**Pg**	**22 54 58.2**	**-0.3**
IKFM	**Kafar-mosalman**	**0.88**	**9**	*e*Pg			**Pg**	**22 55 07.0**	**-1.6**
IKMR	**Kamar-syah**	**1.04**	**34**	*e*Pg			**Pg**	**22 55 10.1**	**-1.6**
IKMR				*e*				22 55 31.6	
IDOB	**Doab**	**1.20**	**20**	*e*Pg			**Pb**	**22 55 12.9**	**-1.8**
IKOM	**Komasi**	**1.52**	**355**	*e*Pg			**Pn**	**22 55 19.9**	**+0.7**
IKOM				*e*				22 55 21.7	
IBDR	**Badra**	**1.54**	**288**	*e*Pg			**Pn**	**22 55 18.0**	**-1.3**
	baz=107								
IBDR				*e*Sg			**Sb**	**22 55 41.0**	**+1.0**
IBDR				AML			AML	22 55 46.2	
	comp=N,330nm,0.3s								
IBDR				AML			AML	22 55 50.5	
	comp=E,253nm,0.9s								
AHWZ	**Ahwaz**	**1.55**	**148**	*e*Pg			**Pn**	**22 55 20.2**	**+0.8**
AHWZ				*e*Sg			**Sg**	**22 55 42.8**	**+1.2**
KCHF	**Cheshme Sefid,**	**1.70**	**342**	*e*Pg			**Pn**	**22 55 23.0**	**+1.3**
KCHF				*e*				22 55 49.2	
HSAM	**Samen**	**1.73**	**26**	*e*Pg			**Pn**	**22 55 23.2**	**+1.1**
HSAM				*e*				22 55 24.9	
KER	**Kermanshah**	**1.79**	**345**	*e*Pg			**Pn**	**22 55 23.7**	**+0.9**
IBZA	**Bozab**	**1.82**	**5**	*e*Pg			**Pb**	**22 55 25.4**	**+0.2**
IBZA				*e*				22 55 28.0	
IGHG	**Ghaleghazi**	**1.91**	**331**	*e*Pg			**Pn**	**22 55 26.0**	**+1.4**
IGHG				*e*				22 55 59.8	
IVIS	**Veis**	**1.99**	**340**	*e*Pn			**Pn**	**22 55 26.1**	**+0.5**
IVIS				*e*				22 56 02.3	
IALM	**Almabolaq**	**2.24**	**10**	*e*Pn			**Pn**	**22 55 30.5**	**+1.4**
IDHR	**Dehrash**	**2.31**	**332**	*e*Pn			**Pn**	**22 55 30.8**	**+0.8**
IDHR				*e*				22 56 11.3	
ILIN	**Lien**	**2.34**	**345**	*e*Pn			**Pn**	**22 55 31.6**	**+1.2**
HAGD	**Aghdareh**	**2.48**	**29**	*e*Pn			**Pn**	**22 55 33.7**	**+1.3**
HAGD				*e*				22 56 12.7	
JHBN	**Jahan bin**	**2.56**	**99**	*e*Pn			**Pn**	**22 55 34.0**	**+0.5**
JHBN				*e*				22 56 21.4	
HSRG	**Sareghieh**	**2.63**	**11**	*e*Pn			**Pn**	**22 55 36.9**	**+2.4**
IPIR	**Pirpir**	**2.71**	**89**	*e*Pn			**Pn**	**22 55 36.6**	**+1.0**
IPIR				*e*				22 56 24.9	
ROKH	**ROKH**	**2.85**	**95**	*e*Pn			**Pn**	**22 55 38.3**	**+0.8**
ROKH				*e*				22 55 46.5	
QAM	**Ghamsar**	**3.34**	**70**	*e*Pn			**Pn**	**22 55 46.2**	**+2.1**
IKLH	**Kolahrood**	**3.34**	**78**	*e*Pn			**Pn**	**22 55 45.5**	**+1.3**
IGAR	**Gharneh**	**3.69**	**93**	*e*Pn			**Pn**	**22 55 49.4**	**+0.4**
KLNJ	**Kolanjah**	**3.71**	**115**	*e*Pn			**Pn**	**22 55 50.0**	**+0.6**
IZEF	**Zefreh**	**3.92**	**85**	*e*Pn			**Pn**	**22 55 53.0**	**+0.8**
KRSH	**Karshahi**	**3.95**	**69**	*e*Pn			**Pn**	**22 55 53.6**	**+1.0**
IRAM	**Rameseh**	**4.07**	**101**	*e*Pn			**Pn**	**22 55 54.0**	**-0.2**
MAHB	**Mahabad**	**4.41**	**339**	*e*Pn			**Pn**	**22 55 59.8**	**+0.9**
IDMV	**Damavand**	**4.64**	**50**	*e*Pn			**Pn**	**22 56 02.9**	**+0.8**
ISAD	**Sadrabad**	**5.14**	**97**	*e*Pn			**Pn**	**22 56 09.1**	**+0.1**
IFIR	**Firoozkooh**	**5.15**	**53**	*e*Pn			**Pn**	**22 56 10.0**	**+0.8**
ISRB	**Sarab**	**5.16**	**360**	*e*Pn			**Pn**	**22 56 10.1**	**+0.9**
ISHM	**Shahmirzad**	**5.61**	**54**	*e*Pn			**Pn**	**22 56 17.4**	**+1.9**

*IDC **03** 23:05:05.5±0.6, 5.°11S×133.°83E, h0km, mb4.4/12, mb1 4.5/17, mb1mx4.3/32, mbtmp4.4/17, ML3.6/4, MS3.5/8, Ms1 3.5/8, ms1mx3.3/37, Error ellipse: s-maj=22.7km s-min=13.9km az=72.0*
*DJA **03** 23:05:07.6±0.2, 5.°3S±2.°×13.°4E±.°, h10km, M4.7/24, mb4.6/24, mB5.3/8, MLv4.7/9, Mw(mB)4.7/8*
*NEIC **03** 23:05:09.3±1.7, 5.°08S±0.°07×133.°85E±0.°06, h31km±4km, mb4.5/42, Error ellipse: s-maj=9.6km s-min=8.7km az=166.0*

ISC 03 23:05:09.5±0.4, 5.°17S±0.°05×133.°83E±0.°05, h35km, n109, σ1°66/105, mb4.5/40, MS4.1/4, 1C, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.76**	**222**	Pn			**Pn**	**23 06 06.8**	**+1.7**
BNDI	**Bandanaira**	**3.96**	**279**	P			**Pn**	**23 06 09.8**	**+1.9**
BAKI	**Biak**	**4.56**	**30**	P			**Pn**	**23 06 15.2**	**-0.9**
SIJI	**Sorong**	**4.98**	**329**	Pn			**Pn**	**23 06 21.0**	**-0.9**
	3.6nm,0.3s,baz=204,slow=23,SNR=21								
SIJI				Sn			**Sn**	**23 07 12.8**	**-5.5**
	7.8nm,0.3s,baz=214,slow=23,SNR=8.5								
MSAI	**Masohi**	**5.21**	**290**	P			**Pn**	**23 06 24.5**	**-0.5**
	0.2nm38nm,0.6s								
GENI	**Genyem**	**6.82**	**68**	P			Pn	23 06 40.4	-6.8
NLAI	**Namlea**	**6.98**	**286**	P			**Pn**	**23 06 53.0**	**+3.7**
	0.5nm1µm40nm,0.5s								
JAY	**Jayapura**	**7.35**	**69**	Pn			**Pn**	**23 06 53.4**	**-1.0**
	2.1nm,0.3s,baz=191,slow=8.8,SNR=8.6								
JAY				Sn			**Sn**	**23 08 13.8**	**-2.9**
	1.8nm,0.3s,baz=74,slow=15,SNR=2.8								
JAY	**Jayapura**	**7.35**	**69**	P			**Pn**	**23 06 53.5**	**-1.0**
	0.1nm22nm,0.8s								
MTN	**Manton Dam**	**8.08**	**199**				**Pn**	**23 07 05.3**	**+0.9**
SANI	**Sanana**	**8.42**	**291**	P			**Pn**	**23 07 08.3**	**-0.8**
	30nm,1.0s								
SOEI	**Soe**	**10.52**	**244**	P			**Pn**	**23 07 37.5**	**-0.5**
	75nm,1.1s								
SOEI	**Soe**	**10.52**	**244**				**Pn**	**23 07 38.6**	**+0.6**
BATI	**Baumata**	**11.25**	**243**	Pn			**Pn**	**23 07 48.9**	**+1.0**
	10nm,0.3s,baz=117,slow=6.2,SNR=6.1								
BATI				Sn			**Sn**	**23 09 47.9

NJ2			pmax	pmax		
	comp=Z,13nm,0.6s					
WHN	**Wuhan**	**40.11 333**	⇑P	**P**	**23 12 43.6**	**+1.6**
GYA	**Guiyang**	**41.00 321**	*e*P	P	23 12 56.1	+6.5
GYA			pmax	pmax		
	comp=Z,6.0nm,1.4s					
CM31	**Chiang Mai Arr**	**41.64 305**	P	**P**	**23 12 55.1**	**+0.3**
CM31			IAmb	IAmb	23 12 56.6	
	comp=Z,8.2nm,0.9s					
CMAR	**Chiang Mai Arr**	**41.64 305**	P	**P**	**23 12 56.0**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=132,slow=7.2,SNR=26					
CMAR			PcP	**PcP**	**23 14 53.1**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=152,slow=3.0,SNR=5.8					
CMAR	**Chiang Mai Arr**	**41.64 305**	P	**P**	**23 12 55.3**	**+0.5**
CHTO	**Chiang Mai**	**41.82 306**	P	**P**	**23 12 55.8**	**-0.5**
ENH	**Enshi**	**42.26 328**	P	**P**	**23 12 59.2**	**-0.5**
ENH			IAmb	IAmb	23 13 00.8	
	comp=Z,7.4nm,0.8s					
KSRS	**Korea Array**	**42.76 353**	P	**P**	**23 13 04.9**	**+1.3**
	comp=Z,6.5nm,1.0s,baz=177,slow=9.8,SNR=11					
XAN	**Xi'an**	**45.55 331**	P	**P**	**23 13 25.5**	**-0.7**
XAN			IAmb	IAmb	23 13 27.0	
	comp=Z,9.8nm,1.0s					
BJT	**Baijiatuan**	**47.82 342**	P	**P**	**23 13 43.5**	**-0.1**
BJI	**Beijing**	**47.84 342**	P	**P**	**23 13 44.3**	**+0.5**
BJI			pmax	pmax		
	comp=Z,10.0nm,1.2s					
BJI			pmax	pmax		
	comp=Z,230nm,3.5s					
USRK	**Ussuriysk Ar.**	**49.17 358**	P	**P**	**23 13 54.9**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=193,slow=6.1,SNR=8.0					
USRK	**Ussuriysk Ar.**	**49.17 358**	P	**P**	**23 13 54.6**	**+0.6**
LZH	**Lanzhou**	**49.74 328**	*e*P	**P**	**23 14 00.0**	**+1.3**
LZH			pP	pP	23 14 06.1	-2.2
LZH			sP	sP	23 14 10.2	-1.9
LZH			pmax	pmax		
	comp=Z,15nm,1.1s					
HHC	**Hu-ho-hao-te**	**50.14 338**	*e*P	**P**	**23 14 02.7**	**+1.1**
HHC			pmax	pmax		
	comp=Z,37nm,1.0s					
HHC			pmax	pmax		
	comp=Z,260nm,6.3s					
HHC			LR	LR		
	comp=N,400nm,15.3s					
HHC			LR	LR		
	comp=E,300nm,15.7s					
HHC			LR	LR		
	comp=Z,250nm,15.7s					
SHL	**Shillong**	**50.90 309**	P	**P**	**23 14 06.7**	**-1.1**
BSWZ	**Blackbirch Sta**	**50.94 142**	P	**P**	**23 14 07.5**	**-0.1**
GTA	**Gaotai**	**54.34 328**	*e*P	**P**	**23 14 34.0**	**+1.1**
GTA			pP	pP	23 14 38.2	-4.2
GTA			sP	sP	23 14 41.7	-4.4
GTA			pmax	pmax		
	comp=Z,8.0nm,1.3s					
ULN	**Ulaanbaatar**	**57.82 339**	P	**P**	**23 14 58.1**	**+0.4**
SONM	**Songino Array**	**58.03 339**	P	**P**	**23 15 00.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=146,slow=8.2,SNR=4.8					
SONM	**Songino Array**	**58.03 339**	P	**P**	**23 14 59.3**	**+0.2**
JOHN	**Johnston Islan**	**60.06 67**	P	**P**	**23 15 12.5**	**-1.1**
PETK	**Petropavlovsk-**	**61.47 16**	P	**P**	**23 15 22.4**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=172,slow=4.5,SNR=4.2					
WMQ	**Urumqi**	**64.03 325**	*e*P	**P**	**23 15 41.5**	**+1.6**
WMQ			pP	pP	23 15 50.6	+1.1
WMQ			sP	pwP	23 15 54.4	+0.4
WMQ			pmax	pmax		
	comp=Z,16nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,120nm,4.7s					
WMQ			LR	LR		
	comp=N,1μm,26.5s					
WMQ			LR	LR		
	comp=E,1μm,23.3s					
WMQ			LR	LR		
	comp=Z,92nm,29.9s					
MK31	**Makanchi Array**	**68.86 325**	P	**P**	**23 16 11.5**	**+0.8**
MK31			IAmb	IAmb	23 16 12.8	
	comp=Z,7.4nm,1.1s					
MKAR	**Makanchi Array**	**68.86 325**	P	**P**	**23 16 11.7**	**+1.1**
	comp=Z,5.4nm,0.8s,baz=117,slow=7.9,SNR=36					
MKAR	**Makanchi Array**	**68.86 325**	P	**P**	**23 16 11.4**	**+0.8**
NIL	**Nilore**	**68.97 309**	P	**P**	**23 16 12.4**	**+0.7**
MAKZ	**Makanchi**	**69.05 325**	P	**P**	**23 16 12.7**	**+0.9**
TARG	**Taragay, Kyrgy**	**69.07 318**	P	**P**	**23 16 12.4**	**-0.1**
TARG			IAmb	IAmb	23 16 22.2	
	comp=Z,2.7nm,0.7s					
KDJ	**Kajisay**	**69.67 318**	P	**P**	**23 16 16.6**	**+0.6**
KDJ			IAmb	IAmb	23 16 18.6	
	comp=Z,5.0nm,0.9s					
BOOM	**Boomskoye usch**	**70.65 318**	P	**P**	**23 16 22.2**	**+0.2**
BOOM			IAmb	IAmb	23 16 23.9	
	comp=Z,6.2nm,1.0s					
ZAA0	**Zalesovo Array**	**71.70 332**	P	**P**	**23 16 27.4**	**-0.4**
ZAA0			IAmb	IAmb	23 16 28.5	
	comp=Z,2.7nm,0.8s					
ZALV	**Zalesovo Beam**	**71.70 332**	P	**P**	**23 16 27.9**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=107,slow=5.1,SNR=9.6					
ZALV	**Zalesovo Beam**	**71.70 332**	P	**P**	**23 16 27.5**	**-0.3**
KBL	**Kabul**	**72.56 308**	P	**P**	**23 16 33.1**	**-0.6**
KBL			IAmb	IAmb	23 16 34.9	
	comp=Z,3.3nm,0.8s					
KURK	**Kurchatov**	**73.01 327**	P	**P**	**23 16 36.4**	**+0.7**
KURK			IAmb	IAmb	23 16 37.4	
	comp=Z,7.7nm,1.1s					
BTK	**Batken**	**73.17 314**	P	**P**	**23 16 37.0**	**0.0**
BTK			IAmb	IAmb	23 16 40.3	
	comp=Z,5.9nm,1.1s					
VNDA	**Vanda**	**73.82 174**	P	**P**	**23 16 41.4**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=320,slow=7.0,SNR=13					
VNDA	**Vanda**	**73.82 174**	P	**P**	**23 16 41.6**	**+1.5**
CHGR	**Chuyangaron**	**73.86 313**	P	**P**	**23 16 40.6**	**-0.6**
CHGR			IAmb	IAmb	23 16 42.6	
	comp=Z,7.3nm,1.0s					
KK31	**Karatay Array**	**74.54 317**	P	**P**	**23 16 45.5**	**+0.6**
KK31			IAmb	IAmb	23 16 46.9	
	comp=Z,5.4nm,0.9s					
KKAR	**Karatay Array**	**74.54 317**	P	**P**	**23 16 45.6**	**+0.8**
KKAR	**Karatay Array**	**74.54 317**	P	**P**	**23 16 45.8**	**+0.9**
KKAR			IAmb	IAmb	23 16 46.9	
	comp=Z,5.4nm,0.9s					
HRA	**Herat**	**77.89 307**	P	**P**	**23 17 04.7**	**+0.4**
MAW	**Mawson**	**78.04 202**	P	**P**	**23 17 05.7**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=59,slow=7.0,SNR=6.7					
MAW	**Mawson**	**78.04 202**	P	**P**	**23 17 05.8**	**+1.5**
BRVK	**Borovoye**	**78.67 327**	P	**P**	**23 17 08.2**	**+0.2**
BRVK			IAmb	IAmb	23 17 09.6	
	comp=Z,5.6nm,0.8s					
GEYT	**Alibeck**	**81.98 309**	P	**P**	**23 17 28.1**	**+1.9**
	comp=Z,4.0nm,0.8s,baz=123,slow=5.5,SNR=6.2					
GEYT	**Alibeck**	**81.98 309**	P	**P**	**23 17 26.8**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**81.98 309**	P	**P**	**23 17 26.6**	**+0.4**
GYA0B			IAmb	IAmb	23 17 28.8	
	comp=Z,9.6nm,1.1s					
ABKAR	**Akbulak array**	**83.48 321**	P	**P**	**23 17 33.8**	**+0.1**
ABKAR	**Akbulak array**	**83.48 321**	P	**P**	**23 17 33.5**	**-0.2**
ABKAR			IAmb	IAmb	23 17 44.0	
	comp=Z,1.5nm,0.7s					
QSPA	**South Pole Qui**	**84.79 180**	P	**P**	**23 17 41.5**	**+1.2**
QSPA			IAmb	IAmb	23 17 42.0	
	comp=Z,4.2nm,0.9s					
IMAR	**Indian Mountai**	**87.62 23**	P	**P**	**23 17 54.4**	**+0.5**
ILAR	**Eielson Array**	**90.09 25**	P	**P**	**23 18 07.2**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=270,slow=2.7,SNR=4.4					
ILAR	**Eielson Array**	**90.09 25**	P	**P**	**23 18 05.0**	**-0.5**
BMAR	**Burnt Mountain**	**91.51 22**	P	**P**	**23 18 12.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**132.15 283**	PKP	**PKiKP**	**23 24 21.6**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=76,slow=1.5,SNR=4.9					
LPAZ	**La Paz**	**149.56 135**	PKPbc	**PKiKP**	**23 24 59.0**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=128,slow=1.3,SNR=10					
LPAZ	**La Paz**	**149.56 135**		**PKiKP**	**23 24 59.5**	**+1.3**

*IDC **03** 23:08:11.6±0.9, 4.°99S×133.°96E, h0km, mb4.1/6, mb1 4.3/11, mb1mx4.1/31, mbtmp4.2/11, ML3.9/5, Error ellipse: s-maj=27.5km s-min=19.4km az=72.0*
*NEIC **03** 23:08:12.7±2.3, 5.°07S±0.°07×133.°91E±0.°03, h10km±6km, mb4.4/9, Error ellipse: s-maj=9.8km s-min=3.9km az=189.0*

ISC 03 23:08:16.1±0.6, 5.°11S±0.°06×133.°83E±0.°07, h35km, n29, σ2s05/32, mb4.2/10, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.80**	**221**	Pn	**Pn**	**23 09 12.6**	**+0.3**
SIJI	**Sorong**	**4.93**	**329**	Pn	**Pn**	**23 09 27.1**	**-0.7**
	2.9nm,0.3s,baz=114,slow=20,SNR=2.2						
SIJI				Sn	**Sn**	**23 10 21.1**	**-2.6**
	4.2nm,0.3s,baz=137,slow=23,SNR=7.1						
JAY	**Jayapura**	**7.33**	**70**	Pn	**Pn**	**23 09 58.2**	**-2.5**
	0.3nm,0.3s,baz=312,slow=22,SNR=2.4						
JAY				Sn	**Sn**	**23 11 21.0**	**-1.8**
	1.2nm,0.3s,baz=157,slow=15,SNR=2.4						
MTN	**Manton Dam**	**8.13**	**199**	Pn	**Pn**	**23 10 12.4**	**+0.6**
SOEI	**Soe**	**10.55**	**244**	Pn	**Pn**	**23 10 45.2**	**+0.2**
BATI	**Baumata**	**11.28**	**243**	Pn	**Pn**	**23 10 56.8**	**+1.8**
	4.9nm,0.3s,baz=90,slow=4.0,SNR=1.6						
BATI				Sn	**Sn**	**23 12 56.7**	**-3.1**
	2.6nm,0.3s,baz=129,slow=17,SNR=1.9						
KNRA	**Kununurra**	**11.62**	**205**	Pn	**Pn**	**23 10 58.0**	**-1.6**
WRA	**Warramunga Arr**	**14.75**	**178**	Pn	**Pn**	**23 11 42.7**	**+0.4**
	0.8nm,0.3s,baz=356,slow=14,SNR=2.6						
FITZ	**Fitzroy Crossi**	**15.19**	**211**	Pn	**Pn**	**23 11 45.6**	**-2.5**
	3.5nm,0.3s,baz=42,slow=15,SNR=3.9						
FITZ				Sn	**Sn**	**23 14 27.7**	**-7.6**
	0.3nm,0.3s,baz=188,slow=18,SNR=2.6						
FITZ	**Fitzroy Crossi**	**15.19**	**211**		**Pn**	**23 11 47.1**	**-1.0**
MYLDM	**Lahad Datu**	**18.41**	**304**	P	**P**	**23 12 27.9**	**-0.6**
MYLDM				IAmb	IAmb	23 12 37.6	
	comp=Z,17nm,1.1s						
AS31	**Alice Springs**	**18.45**	**180**		**P**	**23 12 28.8**	**-0.1**
ASAR	**Alice Springs**	**18.45**	**180**	P	**Pn**	**23 12 30.1**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=3.0,slow=12,SNR=7.5						
PSA00	**Pilbara Seismi**	**21.25**	**218**	P	**P**	**23 13 00.1**	**+0.7**
PSA00				IAmb	IAmb	23 13 01.0	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**26.11**	**191**	P	**P**	**23 13 47.3**	**+0.5**
GSI	**Gunungsitoli**	**36.77**	**279**	P	**P**	**23 15 21.8**	**+1.0**
JNU	**Nakatsue**	**38.13**	**356**	P	**P**	**23 15 33.3**	**+1.3**
JNU				IAmb	IAmb	23 15 33.9	
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.61**	**305**	P	**P**	**23 16 01.5**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=136,slow=6.6,SNR=7.2						
MK31	**Makanchi Array**	**68.82**	**325**	P	**P**	**23 19 18.6**	**+1.7**
MK31				IAmb	IAmb	23 19 19.9	
	comp=Z,2.5nm,1.1s						
MKAR	**Makanchi Array**	**68.82**	**325**	P	**P**	**23 19 18.4**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=114,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**68.82**	**325**	P	**P**	**23 19 18.1**	**+1.2**
MAKZ	**Makanchi**	**69.01**	**325**	P	**P**	**23 19 19.4**	**+1.3**
MAKZ				IAmb	IAmb	23 19 20.3	
	comp=Z,5.4nm,1.1s						
ZALV	**Zalesovo Beam**	**71.65**	**332**	P	**P**	**23 19 34.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=126,slow=2.5,SNR=4.2						
VNDA	**Vanda**	**73.88**	**174**	P	**P**	**23 19 48.3**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=319,slow=6.3,SNR=6.5						
KKAR	**Karatay Array**	**74.50**	**317**	P	**P**	**23 19 50.6**	**-0.7**
MAW	**Mawson**	**78.10**	**202**	P	**P**	**23 20 13.6**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=297,slow=8.6,SNR=4.2						
MAW	**Mawson**	**78.10**	**202**	IAmb	IAmb	23 20 14.0	
	comp=Z,0.6nm,1.0s						
GEYT	**Alibeck**	**81.94**	**309**	P	**P**	**23 20 33.6**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=64,slow=3.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**132.14**	**283**	PKP	**PKPdf**	**23 27 28.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=70,slow=1.9,SNR=1.8						

*HEL **03** 23:23:17.3, 67.°88N×20.°05E, h0km, ML1.7, Explosion*
UPP 03 23:23:17.9±0.2, 67.°82N×20.°20E, h1km±5km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	23 23 20.8	+0.2
KUA				S	Sg	23 23 22.8	+0.4
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	23 23 20.8	+0.2
KUA				*i* S	Sg	23 23 22.8	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	23 23 22.5	+0.1
RATU	**Laukkuluspa**	**0.23**	**271**	*i* P	Pg	23 23 22.5	+0.1
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 23 25.6	0.0
KOVU				S	Sg	23 23 30.9	+0.1
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	23 23 25.6	0.0
KOVU				*i* S	Sg	23 23 30.9	+0.1
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	23 23 31.2	-0.3
LANU	**Lannavaara**	**0.71**	**70**	*e*P	Pg	23 23 31.0	-0.5
	baz=259						
LANU				*e*S	Sg	23 23 40.6	-0.1
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23 23 31.2	-0.4
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	23 23 31.2	-0.4
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 23 32.6	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	23 23 32.6	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 23 32.8	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 23 32.8	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*e*P	Pg	23 23 32.7	-0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	23 23 41.1	+0.1
	baz=185						
KIF				MSG		23 23 53.9	
	comp=Z,5.9nm,0.2s						
KIF				*e*SB	Sg	23 23 57.1	+0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pb	23 23 41.6	+0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 23 43.0	-1.3
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 23 43.0	-1.3
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	23 23 44.9	-0.9
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PG	Pn	23 23 45.3	-0.5
ERTU				*e*SB	Sg	23 23 46.2	-0.5
HARU	**Harads**	**1.69**	**169**	P	Pn	23 23 49.1	+0.6
HARU	**Harads**	**1.69**	**169**	*e*P	Pn	23 23 49.1	+0.6
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	23 23 59.5	+1.5
	baz=321						
TOF				MSG		23 24 30.4	
	comp=Z,2.9nm,0.2s						
TOF				*e*SG	Sb	23 24 31.7	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	23 24 00.8	-1.8
	baz=273						
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 24 02.6	+2.0
RNF				*e*SG	Sb	23 24 36.5	-0.2
BURU	**Burvik**	**3.29**	**171**	*e*P	Pn	23 24 12.4	+2.0
	baz=360						
OUL	**Oulu**	**3.57**	**138**	*e*P	Pn	23 24 14.9	+0.5

UPP 03 23:23:33.2±0.0, 67.°83N×20.°19E, h0km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	23 23 36.2	+0.3
KUA				S	Sg	23 23 38.2	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 23 37.8	+0.3
KOVU	**Salmi**	**0.40**	**359**	P	Pg	23 23 41.0	+0.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	23 23 46.9	-0.1
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	23 23 48.0	-0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 23 58.4	-1.3

*BJI **04** 00:11:55.4±0.0, 37.°24N×21.°78E, h5km, mB5.2/12, mb4.8/24*
*IDC **04** 00:11:59.5±0.4, 37.°39N×22.°23E, h0km, mb4.4/33, mb1 4.4/47, mb1mx4.3/62, mbtmp4.3/47, ML4.1/12, MS3.4/10, Ms1 3.4/10, ms1mx3.0/47, Error ellipse: s-maj=9.7km s-min=9.4km az=10.0*
*MOS **04** 00:12:00.5±1.2, 37.°39N×22.°24E, h12km, mb4.8/34, Error ellipse: s-maj=4.1km s-min=2.4km az=90.0*
*ISK **04** 00:12:00.8, 37.°42N×22.°16E, h18km, ML4.3/16*
*NEIC **04** 00:12:01.8, 37.°37N×22.°23E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.37; Mθθ2.08; Mφφ-1.70; Mrθ0.66; Mrφ-2.29; Mθφ0.06; Fault plane solution: M0 3.06000×10^15^ NP1:φs70.30000°, δ89.29000°, λ167.86000°. NP2:φs160.45000°, δ77.86000°, λ0.73000°. Principal axes: T 3.2514, Plg9.0000°, Azm25.0000°; N -0.4176, Plg78.0000°, Azm247.0000°; P -2.8338, Plg8.0000°, Azm116.0000°;*
*THE **04** 00:12:01.9, 37.°40N×22.°22E, h5km, ML4.3/42 Error ellipse: s-maj=0.7km s-min=0.4km az=319.0*
*PDG **04** 00:12:01.9±0.6, 37.°45N×22.°21E, h13km, ML4.4/13, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*MED_RC **04** 00:12:01.0±0.5, 37.°36N×22.°02E, h13km±2km, MW4.5/15, Moment Tensor Solution.Mantle waves: s15,c19; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr-4.15±.82; Mθθ5.85±.55; Mφφ-1.70±.40; Mrθ-1.98±.80; Mθφ-1.67±.31; Mrφ3.02±1.05; Best double couple: M0 6.54000×10^15^ NP1:φs253.00000°, δ40.00000°, λ-139.00000°. NP2:φs129.00000°, δ65.00000°, λ-58.00000°. Principal axes: T 6.8400, Plg14.0000°, Azm196.0000°; N -0.6100, Plg29.0000°, Azm294.0000°;*

P -6.2300, Plg57.0000°, Azm83.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
*NEIC **04** 00:12:01.8±1.8, 37.°39N±0.°03×22.°20E±0.°06, h10km±1km, mb4.5/71, Mwr4.3/14, ML4.4(ATH) Error ellipse: s-maj=8.1km s-min=4.6km az=294.0*
*ATH **04** 00:12:01.3, 37.°41N×22.°20E, h20km, ML4.4/16, Error ellipse: s-maj=0.8km s-min=0.6km az=141.0*
*GII **04** 00:12:03.5±0.0, 36.°58N×22.°16E, h10km*
*BEO **04** 00:12:24.5±1.3, 39.°02N×21.°78E, h0km, ML3.3/3*

ISC 04 00:12:01.5±0.6, 37.°40N±0.°01×22.°20E±0.°01, h12km±3km, n763, σ1s60/872, mb4.6/86, MS3.4/5, 33C-26D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIP	**Tripoli**	**0.14**	**25**	P	**Pg**	**00 12 04.5**	**-0.5**
TRIP				S	**Sg**	**00 12 07.2**	**-0.3**
	418μm,0.4s						
TRIP	**Tripoli**	**0.14**	**25**	P	**Pb**	**00 12 05.8**	**-0.2**
TRIP				S	**Sg**	**00 12 08.0**	**+0.4**
TRIP				AML	AML	00 12 08.9	
TRIP				AML	AML	00 12 09.9	
VLX	**Vlachokerasia**	**0.15**	**102**	P	**Pg**	**00 12 04.7**	**-0.4**
VLX				S	**Sg**	**00 12 07.0**	**-0.7**
	219μm,0.5s						
VLX	**Vlachokerasia**	**0.15**	**102**	P	**Pb**	**00 12 05.9**	**-0.3**
VLX				S	**Sg**	**00 12 08.3**	**+0.6**
VLX				AML	AML	00 12 09.2	
VLX				AML	AML	00 12 12.0	
ITM	**Ithomi**	**0.31**	**224**	P	**Pg**	**00 12 06.8**	**-1.0**
ITM				S	**Sg**	**00 12 12.2**	**+0.3**
	101μm,0.5s						
ITM	**Ithomi**	**0.31**	**224**	P	**Pg**	**00 12 07.9**	**+0.2**
ITM				S	**Sg**	**00 12 12.3**	**+0.3**
ITM				AML	AML	00 12 13.3	
ITM				AML	AML	00 12 13.9	
ITM	**Ithomi**	**0.31**	**224**	PG	**Pg**	**00 12 07.7**	**-0.1**
ITM				SG	**Sg**	**00 12 12.6**	**+0.6**
ITM	**Ithomi**	**0.31**	**224**		**Pg**	**00 12 08.0**	**+0.2**
ITM				Sg	**Sg**	**00 12 12.3**	**+0.3**
GUR	**Goura**	**0.55**	**12**	P	**Pg**	**00 12 12.1**	**-0.1**
GUR				S	**Sg**	**00 12 20.0**	**+0.5**
	65μm,0.3s						
GUR	**Goura**	**0.55**	**12**	P	**Pg**	**00 12 12.2**	**-0.1**
GUR				S	**Sg**	**00 12 19.2**	**-0.3**
GUR				AML	AML	00 12 22.7	
GUR				AML	AML	00 12 27.0	
PYL	**PYLOS**	**0.62**	**216**	P	**Pg**	**00 12 13.2**	**-0.4**
PYL				S	**Sb**	**00 12 22.9**	**0.0**
	47μm,0.4s						
PYL	**PYLOS**	**0.62**	**216**	P	**Pg**	**00 12 13.3**	**-0.4**
PYL				S	**Sg**	**00 12 22.3**	**+0.5**
KLV	**Kalavryta, Ach**	**0.64**	**357**	P	**Pg**	**00 12 13.5**	**-0.5**
KLV				S	**Sb**	**00 12 23.8**	**+0.2**
	16μm,0.3s						
KLV	**Kalavryta, Ach**	**0.64**	**357**	P	**Pg**	**00 12 13.5**	**-0.5**
KLV				S	**Sg**	**00 12 23.2**	**+0.7**
KRND	**KRANIDI**	**0.76**	**91**	P	**Pb**	**00 12 16.8**	**+0.2**
KRND				S	**Sb**	**00 12 26.9**	**0.0**
KRND	**KRANIDI**	**0.76**	**91**	P	**Pb**	**00 12 16.8**	**+0.2**
KRND				S	**Sg**	**00 12 26.4**	**+0.3**
KRND				AML	AML	00 12 30.9	
	comp=E,42377μm,0.4s						
KRND				AML	AML	00 12 31.9	
	comp=N,39947μm,0.6s						
EPID	**Epidavros**	**0.76**	**74**	P	**Pg**	**00 12 16.6**	**+0.3**
EPID				S	**Sb**	**00 12 27.9**	**+0.8**
	comp=N,21μm,0.5s						
EPID	**Epidavros**	**0.76**	**74**	P	**Pg**	**00 12 16.5**	**+0.3**
EPID				S	**Sb**	**00 12 27.1**	**+0.1**
LOUT	**Loutraki**	**0.85**	**46**	P	**Pg**	**00 12 17.9**	**0.0**
LOUT				S	**Sb**	**00 12 29.5**	**0.0**
	comp=N,22μm,0.5s						
LOUT	**Loutraki**	**0.85**	**46**	P	**Pg**	**00 12 18.2**	**+0.2**
LOUT				S	**Sb**	**00 12 29.9**	**+0.3**
ALIK	**Aliki, Aigiali**	**0.86**	**356**	P	**Pg**	**00 12 17.3**	**-0.8**
ALIK				S	**Sn**	**00 12 31.4**	**-0.4**
LTK	**Loutraki**	**0.87**	**44**	P	**Pg**	**00 12 18.2**	**-0.1**
LTK				S	**Sg**	**00 12 30.0**	**+0.3**
	comp=N,21μm,0.6s						
LTK	**Loutraki**	**0.87**	**44**	P	**Pg**	**00 12 18.1**	**-0.2**
RLS	**Riolos of Patr**	**0.87**	**319**	P	**Pg**	**00 12 17.6**	**-0.8**
RLS				S	**Sn**	**00 12 32.4**	**+0.2**
	comp=N,18μm,0.5s						
RLS	**Riolos of Patr**	**0.87**	**319**	P	**Pg**	**00 12 17.4**	**-0.9**
RLS				S	**Sb**	**00 12 30.3**	**+0.1**
RLS				AML	AML	00 12 35.9	
	comp=N,39032μm,0.4s						
RLS				AML	AML	00 12 39.3	
	comp=E,33669μm,0.5s						
VLI	**Veliai**	**0.90**	**139**	P	**Pg**	**00 12 18.9**	**0.0**
VLI				S	**Sn**	**00 12 33.1**	**+0.2**
	comp=E,18μm,0.6s						
VLI	**Veliai**	**0.90**	**139**	P	**Pg**	**00 12 18.9**	**0.0**
VLI				S	**Sn**	**00 12 32.0**	**-0.9**
VTN	**Vitineika**	**0.95**	**303**	P	**Pn**	**00 12 20.5**	**-0.1**
VTN	**Vitineika**	**0.95**	**303**	P	**Pb**	**00 12 19.9**	**+0.1**
TRIZ	**Trizonia**	**0.97**	**354**	P	**Pb**	**00 12 19.1**	**-1.1**
TRIZ				S	**Sn**	**00 12 33.9**	**-0.6**
	comp=E,20μm,0.6s						
TRIZ	**Trizonia**	**0.97**	**354**	P	**Pb**	**00 12 18.9**	**-1.3**
TRIZ				S	**Sn**	**00 12 34.0**	**-0.5**
MNVA	**Monemvasia**	**0.98**	**136**	P	**Pb**	**00 12 20.3**	**0.0**

KTHA	Kythira Island	1.34	148	P		Pb	00 12 26.2	-0.3
KTHA				S		Sg	00 12 44.7	+0.2
	comp=N,18µm,0.7s							
KTHA	Kythira Island	1.34	148	P		Pb	00 12 26.4	0.0
KTHA				S		Sg	00 12 45.1	+0.6
KTHA				AML	AML		00 12 53.8	
	comp=N,24869µm,1.1s							
KTHA				AML	AML		00 12 57.3	
	comp=E,44676µm,0.7s							
VLY	Voula,Athens	1.35	70	P		Pb	00 12 26.4	-0.2
VLY				S		Sn	00 12 44.4	+0.5
	comp=E,14µm,0.5s							
VLY	Voula,Athens	1.35	70	P		Pb	00 12 26.8	+0.2
VLY				S		Sn	00 12 44.3	+0.5
VLY				AML	AML		00 12 50.3	
	comp=E,27768µm,0.5s							
VLY				AML	AML		00 12 50.6	
	comp=N,28537µm,0.4s							
ATHU	Athens Univers	1.38	65	P		Pb	00 12 27.2	0.0
ATHU				S		Sb	00 12 45.3	+0.5
	comp=N,4µm,0.6s							
ATHU	Athens Univers	1.38	65	P		Pb	00 12 27.2	0.0
ATHU				S		Sg	00 12 45.6	-0.3
LKR	Lokris	1.40	27	P		Pn	00 12 26.5	-0.3
LKR				S		Sb	00 12 46.0	+0.7
	comp=N,9µm,0.6s							
LKR	Lokris	1.40	27	P		Pb	00 12 27.7	+0.1
AXAR	Agios Charalam	1.41	15	P		Pn	00 12 26.9	-0.1
AXAR				S		Sg	00 12 48.0	+1.1
	comp=N,29µm,0.5s							
AXAR	Agios Charalam	1.41	15	P		Pn	00 12 26.9	-0.1
AST1	Astakos	1.44	323	P		Pb	00 12 28.0	-0.1
AST1				S		Sg	00 12 47.4	-0.3
	comp=N,14µm,0.6s							
ATAL	Atalanti	1.45	27	P		Pn	00 12 27.2	-0.2
ATAL				S		Sb	00 12 47.2	+0.6
	comp=N,7µm,0.7s							
ATAL	Atalanti	1.45	27	P		Pb	00 12 28.3	0.0
ATAL				AML	AML		00 12 52.6	
	comp=N,15994µm,0.7s							
ATAL				AML	AML		00 12 54.5	
	comp=E,12514µm,0.8s							
PTL	Penteli	1.47	63	P		Pb	00 12 28.4	-0.4
PTL				S		Sb	00 12 47.9	+0.4
	comp=E,7µm,0.5s							
PTL	Penteli	1.47	63	P		Pb	00 12 28.7	-0.1
PTL				S		Sb	00 12 48.2	+0.8
VLS	Valsamata	1.49	302	P		Pb	00 12 29.4	+0.3
VLS	Valsamata	1.49	302	P		Pb	00 12 29.3	+0.2
VLS	Valsamata	1.49	302	P		Pb	00 12 29.4	+0.3
DION	Dionisos Attik	1.53	63	P		Pb	00 12 29.5	-0.3
DION				S		Sb	00 12 49.8	+0.6
	comp=E,17µm,0.6s							
DION	Dionisos Attik	1.53	63	P		Pb	00 12 29.6	-0.3
DION				S		Sb	00 12 49.5	+0.3
EVR	Evrytania	1.54	349	P		Pb	00 12 29.6	-0.4
EVR				S		Sb	00 12 50.3	+0.7
	comp=E,10µm,1.0s							
EVR	Evrytania	1.54	349	P		Pb	00 12 29.7	-0.3
EVR				S		Sb	00 12 49.5	0.0
EVR				AML	AML		00 13 02.7	
	comp=N,26390µm,0.8s							
EVR				AML	AML		00 13 03.9	
	comp=E,23784µm,1.2s							
ARG2	Argostoli	1.56	300	P		Pb	00 12 30.9	+0.7
MAKR	Makrakomi, Fth	1.61	358	P		Pn	00 12 30.4	+0.7
MAKR				S		Sg	00 12 53.1	-0.2
	comp=E,6µm,1.2s							
MAKR	Makrakomi, Fth	1.61	358	P		Pb	00 12 31.4	+0.3
MAKR				S		Sb	00 12 51.1	-0.3
MAKR				AML	AML		00 13 02.4	
	comp=E,9467µm,0.8s							
MAKR				AML	AML		00 13 11.9	
	comp=N,13951µm,1.6s							
KEF5	Kardakata, Kep	1.62	303	P		Pb	00 12 31.6	+0.2
KEF4	Livadi, Kephal	1.64	302	P		Pb	00 12 32.0	+0.4
DMLN	Damoulianata-K	1.67	301	P		Pb	00 12 32.4	+0.3
DMLN				S		Sg	00 12 55.7	+0.6
	comp=N,10µm,0.8s							
KEF3	Kipouria, Keph	1.67	299	P		Pb	00 12 32.3	+0.2
FSK	Fiskardo	1.67	310	P		Pb	00 12 31.8	-0.3
FSK				S		Sg	00 12 54.7	-0.5
	comp=N,4µm,0.8s							
FSK	Fiskardo	1.67	310	P		Pb	00 12 31.9	-0.2
EVGI	Lefkada island	1.72	316	P		Pb	00 12 32.5	-0.5
EVGI				S		Sg	00 12 56.0	-0.9
	comp=N,3µm,0.9s							
EVGI	Lefkada island	1.72	316	P		Pb	00 12 33.0	0.0
NYDR	Nydri-Lefkada	1.77	318	P		Pb	00 12 33.2	-0.5
NYDR				S		Sb	00 12 55.5	-0.3
	comp=N,6µm,1.0s							
ANKY	Antikythira Is	1.77	150	P		Pb	00 12 34.3	+0.5
ANKY	Antikythira Is	1.77	150	P		Pb	00 12 34.0	+0.2
DRAG	Dragano-Lefkad	1.81	316	P		Pb	00 12 34.0	-0.5
DRAG				S		Sb	00 12 58.2	+1.0
	comp=N,10µm,0.5s							
LKD2	Lefkada island	1.84	319	P		Pb	00 12 34.3	-0.8
LKD2				S		Sb	00 12 58.1	0.0
	comp=N,8µm,0.8s							
LKD2	Lefkada island	1.84	319	P		Pb	00 12 34.4	-0.7
SERI	Serifos	1.84	97	P		Pn	00 12 33.6	+0.8
SERI	Serifos	1.84	97	P		Pn	00 12 33.7	+0.8
TSLK	Tsoukalades, L	1.87	320	P		Pb	00 12 34.9	-0.6
TSLK	Tsoukalades, L	1.87	320	P		Pb	00 12 35.3	-0.3
KARY	Karystos	1.89	70	P		Pn	00 12 34.4	+0.9
KARY				S		Sn	00 12 57.9	+0.8
	comp=N,4µm,0.8s							
KARY	Karystos	1.89	70	P		Pn	00 12 34.6	+1.1
KARY				S		Sn	00 12 57.3	+0.2
KARY				AML	AML		00 13 05.0	
	comp=N,8854µm,0.8s							
KARY				AML	AML		00 13 09.5	
	comp=E,6754µm,0.7s							
MHLA	Plaka, Milos I	1.90	110	P		Pn	00 12 33.8	+0.2
MHLO	Agia Marina, M	1.90	111	P		Pb	00 12 35.0	-1.1
MHLO	Agia Marina, M	1.90	111	P		Pn	00 12 34.6	+0.9
KYMI	Kymi, Euboea I	1.94	50	P		Pn	00 12 35.2	+1.0
KYMI				S		Sn	00 12 59.6	+1.0
	comp=E,4µm,0.6s							
KYMI	Kymi, Euboea I	1.94	50	P		Pn	00 12 35.3	+1.0
VOL2	Volos	2.05	17	P		Pb	00 12 38.4	-0.2
VOL3	Nea Ionia, Vol	2.05	16	P		Pn	00 12 35.3	-0.5
NEO	Neokhori	2.07	23	P		Pn	00 12 36.0	0.0
NEO				S		Sn	00 13 02.1	+0.4
	comp=E,5µm,0.5s							
NEO	Neokhori	2.07	23	P		Pn	00 12 37.2	+1.2
XOR	Xorichti	2.11	21	P		Pn	00 12 37.6	+1.0
THL	Klokotos Trika	2.17	356	P		Pn	00 12 38.3	+1.0
THL	Klokotos Trika	2.17	356	P		Pn	00 12 38.5	+1.2
RODP	Rodopos	2.23	145	P		Pb	00 12 40.6	-1.0
LRSO	Larissa Observ	2.27	4	P		Pn	00 12 39.8	+1.0
TNSA	Tinos	2.37	86	P		Pn	00 12 41.1	+1.1
SKY	Skiros Island	2.37	51	P		Pn	00 12 40.1	0.0
CHAN	Chania	2.40	141	P		Pn	00 12 41.8	+1.3
IMMV	Iera Moni Meta	2.41	143	P		Pn	00 12 42.7	+2.0
IMMV	Iera Moni Meta	2.41	143	P		Pb	00 12 43.0	-1.8
KNDR	Palaiochora Ch	2.48	150	P		Pn	00 12 43.6	+2.1
VAM	Vamos	2.56	140	P		Pn	00 12 44.3	+1.5
VAM	Vamos	2.56	140	P		Pn	00 12 44.4	+1.5
VAM	Vamos	2.56	140	P		Pn	00 12 44.3	+1.5
IGT	Igoumenitsa	2.58	326	P		Pb	00 12 45.5	-2.2
IGT	Igoumenitsa	2.58	326	*e*Pg		Pb	00 12 45.8	-1.9
IGT				*e*Sg		Sn	00 13 04.5	-10
IGT	Igoumenitsa	2.58	326	P		Pb	00 12 45.5	-2.2
APE	Apeiranthos	2.68	96	P		Pn	00 12 44.8	+0.3
APE	Apeiranthos	2.68	96	P		Pn	00 12 45.1	+0.7
APE	Apeiranthos	2.68	96	⇓P		Pn	00 12 45.3	+0.8
APE	Apeiranthos	2.68	96	PN		Pn	00 12 44.9	+0.4
APE				SN		Sn	00 13 16.8	-0.1
APE	Apeiranthos	2.68	96	*d* iP		Pn	00 12 45.1	+0.7
SAP3	Santorini-Thir	2.70	110	P		Pn	00 12 46.3	+1.6
LIT	Litokhoron	2.71	5	P		Pn	00 12 45.2	+0.4
LIT	Litokhoron	2.71	5	P		Pn	00 12 45.2	+0.4
THR5	Thira Island,	2.71	110	P		Pn	00 12 46.2	+1.4
CMBO	Columbo, Santo	2.73	109	P		Pn	00 12 46.7	+1.6
SNT5	Nea Kammeni, S	2.75	110	P		Pn	00 12 47.1	+1.8
THR3	Thira Island,	2.75	110	P		Pn	00 12 47.2	+1.8
PRNS	Prines Rethymn	2.75	137	P		Pn	00 12 46.7	+1.3
THR2	Thira island,	2.77	109	P		Pn	00 12 47.0	+1.4
SAP1	Santorini-Akro	2.77	111	P		Pn	00 12 47.3	+1.7
THR6	Thira Island,	2.77	111	P		Pn	00 12 47.4	+1.8
PAIG	Paliouri	2.78	24	P		Pn	00 12 46.3	+0.6
PAIG	Paliouri	2.78	24	P		Pn	00 12 46.3	+0.6
SANT	Santorini	2.81	110	P		Pn	00 12 47.9	+1.7
SANT	Santorini	2.81	110			Pn	00 12 46.6	+0.3
PENT	Pentalofos	2.91	344	P		Pn	00 12 50.5	+2.8
KZN	Kozani	2.92	354	P		Pn	00 12 49.0	+1.2
KZN	Kozani	2.92	354	P		Pn	00 12 49.0	+1.2
GVDS	Gavdos	2.98	148	P		Pb	00 12 51.5	-2.9
KEK	Kerkira	2.98	322	P		Pn	00 12 50.7	+2.3
KEK	Kerkira	2.98	322	P		Pn	00 12 50.8	+2.3
GVD	Gavdhos	2.98	149	P		Pb	00 12 51.9	-2.6
KTI	Kastanea	2.99	359	P		Pn	00 12 50.0	+1.2
SRN	Sarande	3.01	326	P		Pn	00 12 51.6	+2.6
IDI	Anoyia	3.03	133	Pn		Pn	00 12 49.3	+0.1
	comp=E,11nm,0.3s,baz=273,slow=9.3,SNR=55							
IDI				Pg		Pb	00 12 53.6	-1.8
	comp=E,18nm,0.3s,baz=299,slow=18,SNR=13							
IDI				Sn		Sn	00 13 25.6	+0.2
	comp=E,49nm,0.3s,baz=88,slow=6.3,SNR=6.1							
IDI				Lg		Lg	00 13 32.4	
	comp=E,83nm,0.3s,baz=74,slow=20,SNR=5.7							
IDI	Anoyia	3.03	133	P		Pn	00 12 49.3	+0.1
IDI	Anoyia	3.03	133	P		Pn	00 12 49.5	+0.2
IDI	Anoyia	3.03	133	⇑P		Pn	00 12 49.5	+0.2
IDI	Anoyia	3.03	133			Pn	00 12 49.6	+0.2
ANAF	Anafi Island	3.05	109	P		Pn	00 12 51.2	+1.7
ANAF	Anafi Island	3.05	109	P		Pn	00 12 51.1	+1.7
TMBK	Timbaki Herakl	3.12	137	P		Pn	00 12 53.0	+2.6
KSTL	Kastelli Herak	3.12	131	P		Pb	00 12 55.2	-1.7
PLG	Polygyros	3.12	18	P		Pn	00 12 51.0	+0.5
PLG	Polygyros	3.12	18	P		Pn	00 12 51.0	+0.5
HRKL	Herakleio	3.14	131	P		Pn	00 12 52.9	+2.2
NEST	Nestorio	3.14	344	P		Pb	00 12 54.2	-3.0
SIVA	Sivas	3.18	138	P		Pn	00 12 53.7	+2.4
CHOS	Chios island	3.21	71	P		Pn	00 12 52.2	+0.5
CHOS	Chios island	3.21	71	PN		Pn	00 12 52.4	+0.7
OUR	Ouranopolis	3.24	25	P		Pn	00 12 52.0	-0.1
OUR	Ouranopolis	3.24	25	PN		Pn	00 12 52.6	+0.5
OUR	Ouranopolis	3.24	25	P		Pn	00 12 52.0	-0.1
HORT	Hortiatis	3.27	12	P		Pn	00 12 52.8	+0.2
HORT	Hortiatis	3.27	12	PN		Pn	00 12 52.6	0.0
HORT				SN		Sn	00 13 30.2	-1.2
THE	Thessaloniki	3.28	10	P		Pn	00 12 52.7	+0.1
THE	Thessaloniki	3.28	10	P		Pn	00 12 52.7	+0.1
SIGR	SIGRI	3.40	57	P		Pn	00 12 55.2	+0.9
SIGR	SIGRI	3.40	57	PN		Pn	00 12 54.9	+0.6
LIA	Limnos Island	3.42	42	P		Pn	00 12 55.1	+0.6
LAST	Lasithi	3.47	129	P		Pn	00 12 56.4	+1.1
NPS	Neapolis	3.49	127	P		Pn	00 12 55.2	-0.3
NPS	Neapolis	3.49	127	P		Pn	00 12 55.2	-0.3
SOH	Sokhos	3.53	14	P		Pn	00 12 57.4	+1.2
SOH	Sokhos	3.53	14	P		Pn	00 12 57.4	+1.2
GRG	Griva	3.55	3	PN		Pn	00 12 53.6	-2.8
GRG	Griva	3.55	3	P		Pn	00 12 54.7	-1.7
URLA	Izmir	3.61	73	PN		Pn	00 12 58.2	+1.0
PRK	Paraskevi	3.70	59	P		Pn	00 13 00.3	+2.0
SMG	Samos	3.70	84	P		Pn	00 12 59.6	+1.2
FRMA	Ierapetra Chan	3.72	129	P		Pn	00 13 01.7	+3.0
KNT	Kendrikon	3.79	8	P		Pn	00 13 00.6	+0.9
KNT	Kendrikon	3.79	8	PN		Pn	00 13 00.7	+1.0
KNT	Kendrikon	3.79	8	P		Pn	00 13 00.6	+0.9
OHR	Ohrid	3.86	344	*i* Pn		Pn	00 13 01.9	+3.3
OHR				*e*Sn		Sn	00 13 42.6	-3.4
OHR	Ohrid	3.86	344	P		Pb	00 13 05.7	-3.8
SRS	Serrai	3.87	16	P		Pn	00 13 01.1	+0.4
SRS	Serrai	3.87	16	*e*Pg		Pb	00 13 08.6	-1.0
SRS				*e*Sn		Sn	00 13 37.7	-8.3
SRS	Serrai	3.87	16	P		Pn	00 13 01.1	+0.4
BOZC	Bozcaada	3.88	50	PN		Pn	00 13 01.6	+0.7
VAY	Valandovo	3.93	4	*i* Pn		Pn	00 13 04.3	+2.9
VAY				*e*Sg		Sn	00 13 48.7	+1.3
VAY	Valandovo	3.93	4	P		Pn	00 13 04.4	+2.9
SCTE	Santa Cesarea	3.95	314			Pn	00 13 03.5	+1.7
BLCB	Balcova	3.96	74	P		Pn	00 13 03.7	+1.8
BLCB	Balcova	3.96	74	PN		Pn	00 13 03.3	+1.4
ZKR	Zakros	3.97	124	P		Pn	00 13 04.1	+2.0
GADA	Gvkgeada	4.02	45	P		Pn	00 13 03.2	+0.5
GADA	Gvkgeada	4.02	45	PN		Pn	00 13 03.5	+0.8
KAVA	Kavala	4.02	26	P		Pn	00 13 02.9	+0.2
SMTH	Samothraki Isl	4.02	39	P		Pn	00 13 02.8	0.0
EZN	Ezine	4.04	52	P		Pn	00 13 03.6	+0.5
EZN	Ezine	4.04	52	PN		Pn	00 13 04.3	+1.2
EZN	Ezine	4.04	52	P		Pn	00 13 03.6	+0.5
DKL	Dikili	4.07	64	PN		Pn	00 13 04.5	+1.1
NVR	Nevrokopi	4.15	18	P		Pn	00 13 05.3	+0.7
STIP	Stip	4.29	360	*i* Pn		Pn	00 13 08.3	+1.8
TIR	Tirane	4.33	336	P		Pn	00 13 10.2	+3.1
TIR	Tirane	4.33	336	*e*Pn		Pn	00 13 10.1	+3.0
TIR				*e*Sn		Sn	00 13 43.1	-14
TIR	Tirane	4.33	336	P		Pn	00 13 09.7	+2.5
TIR	Tirane	4.33	336	Pn		Pn	00 13 09.7	+2.5
MMB	Musomiste	4.35	15	P		Pn	00 13 08.2	+0.9
MMB	Musomiste	4.35	15	*i* P		Pn	00 13 08.4	+1.1
KARP	Karpathos	4.41	113	P		Pn	00 13 10.6	+2.4
KARP	Karpathos	4.41	113			Pn	00 13 10.2	+2.1
GELI	Tayfur-Gelibol	4.48	47	PN		Pn	00 13 10.1	+1.0
PHP	Peshkopia	4.49	343	P		Pn	00 13 11.4	+2.1
PHP	Peshkopia	4.49	343	P		Pn	00 13 11.4	+2.1
KKB	Krupnik	4.51	8	P		Pn	00 13 10.6	+1.0
KKB	Krupnik	4.51	8	*i* P		Pn	00 13 10.4	+0.8
ENEZ	Enez	4.54	42	PN		Pn	00 13 10.5	+0.6
RDO	Rodhopi	4.55	34	P		Pn	00 13 10.1	0.0
RDO	Rodhopi	4.55	34	PN		Pn	00 13 10.1	0.0
ALN	Alexandroupoli	4.60	39	P		Pn	00 13 10.9	+0.2
ALN	Alexandroupoli	4.60	39	PN		Pn	00 13 10.9	+0.2
ALN	Alexandroupoli	4.60	39	P		Pn	00 13 11.1	+0.4
ALN	Alexandroupoli	4.60	39	Pn		Pn	00 13 11.1	+0.4
SKO	Skopje	4.60	353	*e*Pn		Pn	00 13 13.8	+3.0
SKO	Skopje	4.60	353	*i* Pn		Pn	00 13 14.1	+3.3
SKO				*e*Sg		Sn	00 14 07.1	+3.0
SKO	Skopje	4.60	353	P		Pn	00 13 14.1	+3.3
TIP	Timpagrande	4.63	294	⇓P		Pn	00 13 13.0	+1.8
TIP	Timpagrande	4.63	294			Pn	00 13 12.1	+0.8
LPK	Lapseki	4.63	49	PN		Pn	00 13 12.7	+1.4
ERIK	Erikli-Kesan	4.63	49	PN		Pn	00 13 12.9	+0.5
RZN	Rozhen	4.70	24	*i* P		Pn	00 13 13.4	+1.0
ARG	Arkhangelos	4.90	102	P		Pn	00 13 17.5	+2.6
ARG	Arkhangelos	4.90	102	P		Pn	00 13 17.5	+2.6
CGL1	Ceglie Messapi	4.91	313	⇑*i* Pn		Pn	00 13 16.6	+1.6
CGL1				Sn		Sn	00 14 14.8	+3.2
KDZ	Kurdzhali	4.92	29	*i* P		Pn	00 13 15.1	-0.1
CELE	Celeste	5.06	282			Pn	00 13 18.4	+1.3
PLD	Plovdiv	5.08	22	P		Pn	00 13 19.0	+1.6
PLD	Plovdiv	5.08	22	*i* P		Pn	00 13 19.5	+2.1
ULC	Ulcinj	5.09	334	⇓*i* Pn		Pn	00 13 19.2	+1.6
ULC				*i* Sn		Sn	00 14 14.8	-1.5
BOSS	Bosilegrad	5.09	2	*e*Pn		Pn	00 13 20.0	+2.4
VTS	Vitosha	5.27	8	*i* P		Pn	00 13 21.4	+1.3
DIM	Dimitrovgrad	5.31	28	P		Pn	00 13 21.5	+1.0
DIM	Dimitrovgrad	5.31	28	*i* Pn		Pn	00 13 21.8	+1.3
DRME	Dracevica, Mon	5.31	335	⇑*i* Pn		Pn	00 13 22.0	+1.4
DRME				*i* Sn		Sn	00 14 19.8	+4.9
DRME	Dracevica, Mon	5.31	335	*e*Pn		Pn	00 13 22.3	+1.7
SOF	Sofiya	5.35	9	P		Pn	00 13 24.6	+3.5
PGB	Panagyurishte	5.36	16	P		Pn	00 13 23.3	+2.0
MATE	Matera	5.37	309	⇑P		Pn	00 13 22.5	+1.3
BARS	Barje	5.42	357	*e*Pn		Pg	00 13 42.2	-3.0
PVY	Plav	5.46	342	*e*Pn		Pn	00 13 24.0	+1.2
PVY				*i* Sn		Sn	00 14 23.3	-2.3
SG1	Sgolgore (BA)	5.49	310	⇑*i* Pn		Pn	00 13 24.5	+1.4
PDG	Podgorica	5.51	337	*e*Pn		Pn	00 13 24.6	+1.4
PDG	Podgorica	5.51	337	⇑P		Pn	00 13 24.7	+1.5
PDG	Podgorica	5.51	337	*e*Pn		Pn	00 13 24.6	+1.4
PDG	Podgorica	5.51	337			Pn	00 13 24.7	+1.4
TTG	Podgorica	5.51	337	⇑*i* Pn		Pn	00 13 24.7	+1.5
TTG				*i* Sn		Sn	00 14 24.6	-1.8
BUM	Brajici-Budva	5.51	334	⇑*i* Pn		Pn	00 13 24.8	+1.4
BUM				*i* Sn		Sn	00 14 24.8	-1.9
BAI	Bari	5.54	314	⇑*i* Pn		Pn	00 13 25.0	+1.3
BAI				Sn		Sn	00 13 29.6	+2.3
FETY	Fethiye	5.56	96	P		Pn	00 13 28.6	+4.5
CEME	Cevo	5.72	335	⇑*i* Pn		Pn	00 13 27.5	+1.2
CEME				*i* Sn		Sn	00 14 29.6	-2.3
IVA	Berane	5.74	343	*e*Pn		Pn	00 13 27.7	+1.2
IVA				*i* Sn		Sn	00 14 29.9	-2.5
HCY	Herceg Novi	5.79	332	⇑*i* Pn		Pn	00 13 27.8	+0.7
HCY				*i* Sn		Sn	00 14 31.3	-2.1
HCY	Herceg Novi	5.79	332	*e*Pn		Pn	00 13 27.7	+0.7
KOME	Kolasin	5.82	340	*e*Pn		Pn	00 13 28.8	+1.2
KOME				*i* Sn		Sn	00 14 31.8	-2.4
SELS	Selova	5.87	352	*e*Pn		Pn	00 13 29.8	+1.6
ZAPS	Zavoj	5.88	3	*e*Pn		Pn	00 13 30.6	+2.3
NKME	Niksic	5.91	336	*e*Pn		Pn	00 13 30.2	+1.4
NKME				*i* Sn		Sn	00 14 34.0	-2.4
NKY	Niksic	5.94	337	*e*Pn		Pn	00 13 30.4	+1.2
NKY				*i* Sn		Sn	00 14 34.6	-2.6
AKAS	Kas	6.06	99	Pn		Pn	00 13 32.9	+2.0
KSL	Kastellorizon	6.06	100	P		Pn	00 13 34.6	+3.8
MPEP	Malo Peshtene	6.06	11	*i* P		Pn	00 13 32.9	+2.0
SJES	Sjenica	6.09	345	*e*Pn		Pn	00 13 33.3	+1.9
BRY	Bratogost	6.17	334	*e*Pn		Pn	00 13 33.3	+0.9
BRY				*i* Sn		Sn	00 14 41.8	-1.1
BRY	Bratogost	6.17	334	*e*Pn		Pn	00 13 32.8	+0.4
VAE	Valguarnera	6.20	273	Pn		Pn	00 13 34.0	+1.3
	comp=E,1.0nm,0.3s,baz=99,slow=2.0,SNR=13							
VAE				Sn		Sn	00 14 44.8	+1.2
	comp=E,3.3nm,0.3s,baz=340,slow=21,SNR=1.3							
ELL	Elmali	6.20	94	P		Pn	00 13 35.9	+3.0
ELL	Elmali	6.20	94	Pn		Pn	00 13 35.9	+3.0
BOVS	Bovan	6.24	357	*e*Pn		Pn	00 13 35.3	+2.0
RAFF	Raffo Rosso	6.25	271			Pn	00 13 32.8	-0.6
PLE	Pljevlja	6.30	341	*e*Pn		Pn	00 13 35.9	+1.7
PLE				*i* Sn		Sn	00 14 44.4	-1.7
UPM	Unac-Piva	6.32	338	*e*Pn		Pn	00 13 36.3	+1.8
UPM				*i* Sn		Sn	00 14 45.0	-1.7
UPM	Unac-Piva	6.32	338	*e*Pn		Pn	00 13 37.1	+2.6
IVAS	Ivanjica	6.36	346	*e*Pn		Pn	00 13 36.5	+1.5
ZAGS	Zajecar	6.41	0	*e*Pn		Pn	00 13 38.2	+2.6
RUDO	Rudo	6.57	342	*e*Pn		Pn	00 13 38.5	+0.6
GRUS	Gruza	6.58	351	*e*Pn		Pn	00 13 39.7	+1.8
SGRT	San Giovanni R	6.61	313	Pn		Pn	00 13 39.4	+0.9
ISP	Isparta	6.62	84	P		Pn	00 13 38.7	0.0
ISP	Isparta	6.62	84	Pn		Pn	00 13 38.7	0.0
BBLS	Lazići	6.80	343	*e*Pn		Pn	00 13 42.5	+1.5
BBLS	Lazići	6.80	343	*e*Pn		Pn	00 13 42.2	+1.2
VLAD	Vladila	6.80	14	⇓P		Pn	00 13 42.6	+1.7
DIVS	Divibare	6.90	347	*e*Pn		Pn	00 13 44.1	+1.7
DIVS	Divibare	6.90	347	*e*Pn		Pn	00 13 43.5	+1.1
DIVS	Divibare	6.90	347	Pn		Pn	00 13 43.1	+0.7
PAOL	Paolisi	6.94	304			Pn	00 13 44.9	+1.9
TRUS	Trudelj	6.95	349	*e*Pn		Pn	00 13 45.2	+2.2
RAZG	Razgrad	6.98	27	⇑P		Pn	00 13 44.2	+0.8
KUBS	Kucevo	7.01	357	*e*Pn		Pn	00 13 46.2	+2.2
PRD	Provadia	7.03	33	P		Pn	00 13 45.9	+1.9
ORH	Orhaniye	7.03	58	P		Pn	00 13 36.7	-7.4
CORL	Corleone	7.07	277	Pn		Pn	00 13 46.4	+1.6
COPA	Copaceanca	7.11	18	⇑P		Pn	00 13 46.9	+1.7
HAPS	Han Pijesak,Bl	7.12	341	*e*Pn		Pn	00 13 45.2	-0.3
CLTB	Caltabellotta	7.14	274	Pn		Pn	00 13 47.3	+1.5
MDVR	Moldovita	7.38	357	⇓P		Pn	00 13 51.0	+1.9

comp=Z,3.0nm,0.4s
MYKA Sn **Sn** **00 16 45.6 -0.7**
comp=Z,1.3nm,0.2s
TEOL Teolo 11.21 318 Pn 00 14 41.9 +0.5
STAL STALIGIAL 11.32 324 Pn 00 14 44.0 +1.0
VYHS Vyhne 11.36 349 *eP* **Pn 00 14 42.8 -0.6**
VYHS Vyhne 11.36 349 *ePN* **Pn 00 14 42.8 -0.6**
ZOU Zoufplan 11.43 326 Pn 00 14 45.5 +0.9
CIMO Cimolais 11.49 324 Pn Pn **00 14 45.5 +0.2**
CONA Conrad Observa 11.50 338 *ePn* **Pn 00 14 46.4 +0.9**
comp=Z,1.3nm,0.5s
CONA *eSn* **Sn** **00 16 52.5 -1.4**
comp=Z,3.7nm,0.8s
CRVS Cervenica-Dubn 11.51 358 *eP* **Pn 00 14 46.9 +1.4**
CRVS Cervenica-Dubn 11.51 358 *ePN* **Pn 00 14 46.9 +1.4**
TOKA Tokat 11.51 71 Pn 00 14 46.8 +1.2
OFRI `Ofer 11.52 111 Pn Pn **00 14 44.7 -1.0**
KOLS Kolonicke sedl 11.53 0 *eP* **Pn 00 14 47.9 +2.1**
KOLS Kolonicke sedl 11.53 0 *ePN* **Pn 00 14 47.9 +2.1**
MODS Modra-Piesok 11.54 343 *eP* **Pn 00 14 47.1 +1.1**
MODS Modra-Piesok 11.54 343 *ePN* **Pn 00 14 47.1 +1.1**
MODS Modra-Piesok 11.54 343 *eSN* **Sn 00 16 48.0 -6.7**
KMPD K-Podol'skiy 11.58 14 P Pn 00 14 52.0 +5.5
SORM Soroca 11.64 21 ⇓P **Pn 00 14 48.1 +0.8**
SORM Soroca 11.64 21 P **Pn 00 14 48.0 +0.8**
MMA0B Mount Meron ar 11.65 108 Pn **Pn 00 14 47.0 -0.6**
MMA0B Sn **Sn** **00 16 55.9 -1.8**
MMAI Mount Meron Ar 11.65 108 Pn **Pn 00 14 45.4 -2.2**
comp=Z,2.4nm,0.3s,baz=297,slow=12,SNR=32
MMAI Sn **Sn** **00 16 53.2 -4.5**
comp=Z,1.5nm,0.3s,baz=283,slow=26,SNR=3.3
MMAI LR LR 00 20 45.3
comp=Z,76nm,19.9s,baz=245,slow=45
KBA Koelnbreinsper 11.68 329 *i* Pn **Pn 00 14 49.2 +1.2**
comp=Z,2.4nm,0.3s,SNR=6.6
KBA *eSn* **Sn** **00 16 54.7 -3.6**
comp=Z,5.0nm,0.4s
KBA Koelnbreinsper 11.68 329 P **Pn 00 14 50.4 +2.4**
KBA pmax pmax
comp=Z,8.0nm,0.8s
CTI Castel Tesino 11.68 321 P **Pn 00 14 48.7 +0.7**
CTI Castel Tesino 11.68 321 Pn **Pn 00 14 48.7 +0.7**
SLTI Sal'it 11.74 112 Pn **Pn 00 14 47.5 -1.2**
GEM Giv'at Ha'Em 11.77 107 Pn **Pn 00 14 48.5 -0.6**
ABTA Abfaltersbach 11.78 325 *ePn* **Pn 00 14 50.3 +1.0**
comp=Z,1.9nm,0.3s,SNR=9.4
ABTA *eSn* **Sn** **00 16 56.1 -4.6**
comp=Z,9.8nm,0.5s
JAVC Velka Javorina 11.92 345 *ePN* **Pn 00 14 52.5 +1.4**
JAVC Velka Javorina 11.92 345 *eSN* **Sn 00 16 58.7 -5.3**
MOA Molln 11.96 333 *i* Pn **Pn 00 14 53.5 +1.8**
comp=Z,3.9nm,0.4s,SNR=11
MOA *eSn* **Sn** **00 17 03.5 -1.4**
comp=Z,3.1nm,0.3s
GAZ Gaziantep 11.96 87 Pn 00 14 54.0 +2.2
SALO Salr 11.99 317 Pn **Pn 00 14 53.7 +1.6**
KZIT Kziot 12.00 119 Pn **Pn 00 14 50.1 -2.2**
AMAZ Amatzia 12.01 115 Pn **Pn 00 14 51.0 -1.5**
AMAZ Sn **Sn** **00 17 04.2 -3.2**
HMDT Nahal Hemdat 12.09 111 Pn **Pn 00 14 52.3 -1.3**
HMDT Sn **Sn** **00 17 05.7 -2.6**
HORU Horodok 12.20 13 P **Pn 00 14 59.0 +4.1**
YTIR Yattir 12.25 116 Pn **Pn 00 14 53.4 -2.4**
DSI Dead Sea 12.33 114 Pn **Pn 00 14 54.7 -2.1**
DSI Sn **Sn** **00 17 10.5 -3.6**
KRUC Moravsky 12.39 342 *ePN* **Pn 00 14 59.0 +1.4**
KRUC Moravsky 12.39 342 *eSN* **Sn 00 17 14.8 -0.7**
KRUC Moravsky 12.39 342 P Pn 00 15 02.8 +5.2
KRUC pmax pmax
comp=Z,2.0nm,2.0s
LVV L'vov 12.48 6 *eP* P 00 15 05.3 -5.3
WTTA Wattenberg 12.56 325 *ePn* **Pn 00 15 01.4 +1.3**
comp=Z,9.3nm,0.5s,SNR=14
WTTA *eSn* **Sn** **00 17 14.4 -5.5**
comp=Z,23nm,0.9s
WTTA Wattenberg 12.56 325 P **Pn 00 15 02.5 +2.4**
WTTA pmax pmax
comp=Z,14nm,1.1s
VRAC Vranov 12.57 343 Pn **Pn 00 15 00.7 +0.6**
comp=Z,0.4nm,0.3s,baz=174,slow=13,SNR=5.7
VRAC LR LR 00 21 06.5
comp=Z,86nm,20.9s,baz=177,slow=43
VRAC Vranov 12.57 343 ⇑P **Pn 00 15 01.0 +0.9**
VRAC Vranov 12.57 343 *ePN* **Pn 00 15 00.9 +0.9**
VRAC Vranov 12.57 343 *eSN* **Sn 00 17 16.7 -3.3**
GHAJ Ghor Haditha 12.61 115 Pn **Pn 00 14 59.9 -0.6**
WATA Walderalm 12.64 325 *ePn* **Pn 00 15 03.0 +1.9**
comp=Z,7.9nm,0.4s,SNR=11
WATA *eSn* **Sn** **00 17 18.0 -3.9**
comp=Z,14nm,0.7s
KRMI Paran Flat 12.70 121 Pn **Pn 00 14 59.3 -2.6**
SQTA Sankt Quirin 12.73 324 *ePn* **Pn 00 15 03.8 +1.5**
comp=Z,7.8nm,0.4s,SNR=11
SQTA Sn **Sn** **00 17 18.3 -5.7**
comp=Z,7.0nm,0.5s
PRNI Paran 12.75 120 Pn **Pn 00 15 00.0 -2.5**
PRNI Sn **Sn** **00 17 16.7 -7.7**
ZFRI Zfri 12.75 119 Pn **Pn 00 15 00.7 -1.8**
FUORN Ofenpass-Fuorn 12.78 320 Pn **Pn 00 15 04.8 +1.7**
FETA Feichten 12.82 322 *ePn* **Pn 00 15 06.4 +2.9**
comp=Z,4.7nm,0.7s
FETA *eSn* **Sn** **00 17 26.1 -0.1**
comp=Z,5.2nm,0.6s
MORC Moravsky Berou 12.82 346 ⇓P **Pn 00 15 06.1 +2.7**
MORC Moravsky Berou 12.82 346 *ePN* **Pn 00 15 05.5 +2.1**
MORC Moravsky Berou 12.82 346 *eSN* **Sn 00 17 25.9 -0.1**
MORC Moravsky Berou 12.82 346 P **Pn 00 15 04.8 +1.3**
MORC Moravsky Berou 12.82 346 Pn **Pn 00 15 04.8 +1.3**
MOTA Moosalm 12.87 324 *ePn* **Pn 00 15 05.3 +1.0**
comp=Z,5.8nm,0.7s,SNR=9.0
MOTA *eSn* **Sn** **00 17 23.8 -3.6**
comp=Z,8.8nm,0.6s
HRFI Mount Harif 12.96 121 Pn **Pn 00 15 02.7 -2.8**
GEC2 GERESS Array S 13.00 334 *eP* **P 00 15 18.7 +2.2**
baz=143,slow=11
GEC2 GERESS Array S 13.00 334 Pn **Pn 00 15 07.3 +1.3**
GERES GERESS Array B 13.00 334 Pn **Pn 00 15 05.9 -0.1**
comp=Z,0.7nm,0.3s,baz=156,slow=14,SNR=25
GERES Sn **Sn** **00 17 25.9 -4.6**
comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=3.4
GERES LR LR 00 20 01.9
comp=Z,124nm,18.6s,baz=168,slow=37
GERES GERESS Array B 13.00 334 Pn 00 15 07.1 +1.1
MBRI Mt Berech 13.03 122 Pn **Pn 00 15 04.6 -1.8**
DAVOX Davos/Dischmat 13.08 320 Pn **Pn 00 15 07.8 +0.7**
comp=Z,0.2nm,0.3s,baz=149,slow=18,SNR=4.7
DAVOX Sn Sn 00 17 21.9 -11
comp=Z,0.2nm,0.3s,baz=167,slow=18,SNR=1.6
DAVOX LR LR 00 21 11.0
comp=Z,189nm,19.8s,baz=116,slow=42
EIL Elat 13.13 122 Pn **Pn 00 15 05.7 -2.0**
comp=Z,0.6nm,0.3s,baz=335,slow=14,SNR=17
EIL Sn **Sn** **00 17 27.2 -6.5**
comp=Z,1.2nm,0.3s,baz=94,slow=19,SNR=3.9
EIL Elat 13.13 122 Pn **Pn 00 15 05.1 -2.7**
RETA Reutte 13.13 324 *i* Pn **Pn 00 15 09.6 +1.9**
comp=Z,0.5nm,0.2s
RETA *eSn* **Sn** **00 17 29.3 -4.4**
comp=Z,5.2nm,0.5s
ASF Jabal al Asfar 13.16 109 Pn **Pn 00 15 07.6 -0.6**
comp=Z,0.2nm,0.3s,baz=247,slow=10,SNR=12
TUE Stuetta 13.16 318 Pn **Pn 00 15 08.7 +0.4**
KRLC Kraliky 13.26 345 *eP* **Pn 00 15 11.2 +1.8**
KRLC Kraliky 13.26 345 *eP* **Pn 00 15 11.2 +1.8**
KHC Kasperske Hory 13.29 335 *eP* **Pn 00 15 10.6 +0.8**
KHC *ex* x 00 15 20.5
KHC *ex* x 00 17 35.5
KHC Kasperske Hory 13.29 335 *eP* **Pn 00 15 10.6 +0.8**
KHC *e* 00 17 35.5
DAVA Damuels 13.42 321 *ePn* **Pn 00 15 13.1 +1.3**
comp=Z,2.8nm,0.5s
DAVA *eSn* **Sn** **00 17 38.0 -2.9**
comp=Z,6.7nm,0.6s
WET Wettzell 13.54 333 P **P 00 15 18.3 -4.2**
WET pmax pmax
comp=Z,22nm,1.1s
DPC Dobruska-Polom 13.61 344 *eP* **Pn 00 15 14.8 +0.5**
DPC Dobruska-Polom 13.61 344 *eP* **Pn 00 15 14.8 +0.5**
PBCC Pribram 13.63 337 *eP* **Pn 00 15 14.6 +0.1**
MBDF Montbardon 13.73 307 *eP* **P 00 15 21.6 -3.1**
MBDF pmax pmax
comp=Z,6.0nm,0.8s
PRU Pruhonice 13.74 339 *eP* **Pn 00 15 13.6 -2.3**
PRU *ex* x 00 15 26.1

PRU Pruhonice 13.74 339 *eP* **Pn 00 15 13.6 -2.3**
OSTC Ostas 13.83 344 *eP* **P 00 15 22.0 -3.6**
CHVC Chvalec 13.90 344 *eP* **P 00 15 22.7 -3.7**
BNI Bardonecchia 13.94 308 P **Pn 00 15 21.1 +2.2**
BNI Bardonecchia 13.94 308 Pn **Pn 00 15 21.1 +2.2**
LPG La Plagne 14.11 310 *eP* **P 00 15 26.9 -2.2**
LPG pmax pmax
comp=Z,2.0nm,0.5s
LPL La Plagne 14.13 310 *eP* **P 00 15 25.7 -3.5**
LPL pmax pmax
comp=Z,12nm,1.3s
AKASG Malin Array Be 14.21 18 Pn **Pn 00 15 21.6 -0.8**
comp=Z,1.5nm,0.3s,baz=205,slow=12,SNR=6.6
AKBB Malin Array Si 14.21 18 P **Pn 00 15 25.0 +2.6**
AKBB Malin Array Si 14.21 18 Pn **Pn 00 15 25.0 +2.6**
PVCC Panska Ves 14.21 340 *eP* **P 00 15 31.9 +2.1**
PVCC Panska Ves 14.21 340 P **P 00 15 29.4 -0.4**
PVCC pmax pmax
comp=Z,9.0nm,0.8s
SENIN Lac Senin/Sane 14.24 314 Pn 00 15 24.4 +1.3
SLE Schleitheim 14.44 320 P **P 00 15 33.1 +0.7**
SLE pmax pmax
comp=Z,14nm,1.5s
KOPT Kop Dagi 14.53 74 Pn **Pn 00 15 28.6 +1.5**
NKC Novy Kostel 14.61 334 P **P 00 15 38.8 +4.5**
GRA1 Grafenberg Arr 14.62 331 Pn 00 15 29.2 +1.2
GRF Grafenberg Arr 14.62 331 P **Pn 00 15 29.2 +1.2**
GRF Grafenberg Arr 14.62 331 *eP* **P 00 15 35.9 +1.6**
baz=143,slow=11
BRG Berggiesshubel 14.70 339 *i* P **P 00 15 37.0 +1.7**
comp=Z,7.2nm,0.9s
BRG Berggiesshubel 14.70 339 P **P 00 15 38.2 +3.0**
BRG Berggiesshubel 14.70 339 *eP* **P 00 15 36.9 +1.7**
baz=143,slow=11
MARD Mardin 14.78 85 Pn 00 15 32.1 +1.7
STU Stuttgart 14.79 324 P **Pn 00 15 31.6 +1.3**
STU Stuttgart 14.79 324 Pn **Pn 00 15 31.6 +1.3**
BFO Black Forest 14.90 322 P **Pn 00 15 32.8 +1.0**
BFO Black Forest 14.90 322 Pn 00 15 32.8 +1.0
FBE Freiberg 14.91 338 *eP* **P 00 15 40.6 +2.9**
baz=143,slow=11
CABF La Chapelle 15.08 313 *eP* **P 00 15 40.2 +0.6**
CABF pmax pmax
comp=Z,12nm,1.1s
MOX Moxa 15.25 334 P **P 00 15 44.6 +3.3**
MOX pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 15.36 338 *eP* **P**
CLL ⇑*i* 00 15 45.0
comp=Z,28nm,0.9s
CLL *i* PP **sP** **00 15 47.5 -0.5**
CLL LmV 00 22 00.0
comp=Z,100nm,20.5s
CLL Collm 15.36 338 P **Pn 00 15 39.6 +1.7**
CLL pmax pmax
comp=Z,26nm,0.9s
CLL Collm 15.36 338 *eP* **P 00 15 44.1 +1.5**
baz=143,slow=11
CLL Collm 15.36 338 Pn 00 15 39.6 +1.7
CLL IAmb IAmb 00 15 48.8
comp=Z,26nm,0.9s
SSB Saint Sauveur 15.40 306 P **Pn 00 15 39.4 +0.9**
SSB pmax pmax
comp=Z,4.0nm,1.1s
SSB Saint Sauveur 15.40 306 Pn **Pn 00 15 39.4 +0.9**
ECH Echery 15.42 319 P **Pn 00 15 39.4 +0.7**
ECH pmax pmax
comp=Z,8.0nm,1.0s
ECH Echery 15.42 319 Pn 00 15 39.4 +0.7
HAU Haudompre 15.72 317 *eP* **P 00 15 45.4 -1.2**
HAU pmax pmax
comp=Z,5.0nm,0.5s
ARTV Artvin 15.73 70 Pn 00 15 43.1 0.0
TNS Taunus Mts 16.17 327 P **P 00 15 53.7 +2.0**
TNS pmax pmax
comp=Z,16nm,0.7s
RUE Ruedersdorf 16.19 341 *eP* **P 00 15 53.8 +2.0**
SMF Signal de Mont 16.44 310 *eP* **P 00 15 54.9 +0.3**
SMF pmax pmax
comp=Z,6.0nm,0.8s
LOR Lormes 16.73 312 P **P 00 15 59.2 +1.4**
LOR pmax pmax
comp=Z,12nm,1.6s
AVF Avril sur Loir 16.80 310 *eP* **P 00 15 59.3 +0.7**
AVF pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 16.85 61 P **P 00 16 01.6 +2.4**
KIV Kislovodsk 16.85 61 P **P 00 16 02.3 +3.1**
KIV Kislovodsk 16.85 61 *eP* **Pn 00 15 55.4 -1.7**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,115nm,13.0s
KIV Kislovodsk 16.85 61 P 00 15 58.3 -0.9
KVAR Kislovodsk Arr 16.85 61 Pn **P 00 15 58.8 -0.5**
baz=39,slow=12,SNR=1.7
WLF Walferdange 16.86 322 P **P 00 15 59.1 -0.1**
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 16.86 322 P 00 15 59.1 -0.1
AKH Akhalkalaki 16.93 70 P **Pn 00 15 59.3 +1.0**
AKH pmax pmax
comp=Z,12nm,0.9s
AKH Akhalkalaki 16.93 70 Pn 00 15 59.3 +1.0
KBZ Khabaz 16.93 62 Pn **P 00 16 00.6 +0.6**
comp=Z,0.9nm,0.3s,baz=256,slow=8.9,SNR=22
RJF Les Rejaudoux 17.39 303 *eP* **P 00 16 05.2 +0.1**
RJF pmax pmax
comp=Z,11nm,1.3s
ZEI Tsey 17.44 65 *eP* **P 00 16 08.7 +2.8**
ZEI pmax pmax
comp=Z,14nm,0.9s
BUG Bochum--Univer 17.58 328 P **P 00 16 09.8 +2.7**
BUG pmax pmax
comp=Z,15nm,0.9s
NACGM Naroch 17.79 9 *e* **Pn 00 16 09.0 +0.4**
DOU Dourbes 17.91 321 P **P 00 16 11.9 +1.1**
BAIF Baives 18.08 320 *eP* **P 00 16 14.3 +1.6**
BAIF pmax pmax
comp=Z,4.0nm,0.5s
PABE Paberze 18.15 3 *eP* **P 00 16 13.9 +0.6**
PABE IAmb IAmb 00 16 20.5
comp=Z,32nm,0.9s
IIGN Ignalina 18.16 7 *eP* **P 00 16 14.7 +1.2**
IDID Didziasalis 18.18 8 *eP* **P 00 16 14.3 +0.6**
VSR Storozhevoye 18.33 36 *eP* **P 00 16 15.8 +0.4**
VSR pmax pmax
comp=Z,20nm,1.2s
NAX Nakhchivan 18.37 77 P **P 00 16 19.0 +2.9**
ISAL Salakas 18.37 7 *eP* **Pn 00 16 16.1 +0.3**
BSD Bornholm Skovb 18.40 347 *i* P **Pn 00 16 16.5 +0.4**
BSD pmax pmax
comp=Z,15nm,0.7s
BSD Bornholm Skovb 18.40 347 *i* P **Pn 00 16 16.5 +0.4**
comp=Z,15nm,0.7s
BSD Bornholm Skovb 18.40 347 *i* P **Pn 00 16 16.5 +0.4**
BSD IAmb IAmb 00 16 18.0
comp=Z,15nm,0.7s
BSEG Bad Segeberg 18.46 337 P **Pn 00 16 19.0 +2.1**
IZAR Zarasai 18.56 7 *eP* **P 00 16 17.4 -0.5**
PBUR Paburge 18.63 360 *eP* **P 00 16 18.3 -0.4**
GROC Groznyy 18.88 65 *eP* **P 00 16 19.5 -2.1**
GROC pmax pmax
comp=Z,14nm,1.2s
GANJ Ganja 19.01 73 P **Pn 00 16 26.1 +2.4**
LPSR Galich'ya Gora 19.19 32 *eP* **Pn 00 16 25.5 -0.2**
LPSR pmax pmax
comp=Z,40nm,1.1s
ZKTA Zakatala 19.29 70 P **Pn 00 16 29.9 +2.8**
VRH Novokhopyorsk 19.55 39 *eP* **P 00 16 29.2 +0.4**
VRH pmax pmax
comp=Z,40nm,0.6s
MNGR Mingechevir, A 19.59 72 P **Pn 00 16 32.7 +2.0**
SEKA Sheki 19.70 71 P **Pn 00 16 34.0 +2.0**
GRR Gorron 20.07 310 *eP* Pn 00 16 36.5 +0.2
GRR pmax pmax
comp=Z,14nm,1.0s
AKT Akhty 20.11 70 *eP* Pn 00 16 38.3 +1.3
AKT *e* 00 16 54.7
AKT pmax pmax
comp=Z,24nm,0.9s
SLIT Slitere, Latvi 20.24 0 *eP* **P 00 16 36.6 +0.4**
SLIT IAmb IAmb 00 16 42.2
comp=Z,119nm,0.5s

OBN Obninsk 20.24 24 P **P 00 16 36.2 -0.1**
comp=Z,2.7nm,0.4s,baz=223,slow=19,SNR=2.5
OBN Obninsk 20.24 24⇑*eP* **P 00 16 36.9 +0.6**
OBN *e* 00 16 52.8
OBN *eS* Sn 00 20 29.2 +3.4
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,99nm,14.0s
OBN Obninsk 20.24 24 IAmb IAmb 00 16 43.7
comp=Z,22nm,0.5s
TAM Tamanrasset 20.45 229 P **P 00 16 39.1 +0.1**
TAM pmax pmax
comp=Z,3.0nm,0.7s
TAM Tamanrasset 20.45 229 P **P 00 16 39.1 +0.1**
ESBB Sonseca Array 20.57 284 P **P 00 16 41.1 +1.1**
ESDC Sonseca Array 20.57 284 P **P 00 16 40.6 +0.6**
comp=Z,5.2nm,0.9s,baz=78,slow=11,SNR=37
ESDC Sonseca Array 20.57 284 P **P 00 16 40.8 +0.7**
GUD Guadarrama 20.70 287 P **P 00 16 42.8 +1.2**
GUD pmax pmax
comp=Z,38nm,1.0s
LKRN Lenkeran, Azer 20.95 78 P Pn 00 16 47.5 +0.8
MUD Monsted U'grnd 20.97 340 *eP* Pn 00 16 46.2 -0.5
MUD Monsted U'grnd 20.97 340 *i* P Pn 00 16 46.2 -0.5
MUD Monsted U'grnd 20.97 340 *eP* Pn 00 16 46.2 -0.4
SGMF Saint Gilles 21.06 309 *eP* **P 00 16 47.5 +2.3**
SGMF pmax pmax
comp=Z,52nm,1.6s
MOS Moscow 21.10 25 *eP* **P 00 16 45.5 -0.1**
MOS *e* 00 17 08.3
MOS *eS* **S** **00 20 41.7 +1.7**
MOS pmax pmax
comp=Z,55nm,1.0s
VSU Vasula 21.28 7 *eP* **P 00 16 47.6 +0.1**
VSU Vasula 21.28 7⇓*iP* **P 00 16 47.0 -0.5**
VSU pmax pmax
comp=Z,109nm,0.9s
QUIF Quistinic 21.32 308 *eP* **P 00 16 50.3 +2.3**
QUIF pmax pmax
comp=Z,19nm,1.0s
ROSF Rostrenen 21.53 309 *eP* **P 00 16 52.6 +2.3**
ROSF pmax pmax
comp=Z,68nm,1.5s
MDT Midelt 22.37 266 P **P 00 16 59.3 -0.3**
comp=Z,6.1nm,1.0s,baz=81,slow=12,SNR=8.4
PBRG Braganca 22.67 290 *eP* **P 00 17 03.6 +0.9**
comp=Z,14nm,1.8s
MVO Moncorvo 22.88 289 *eP* **P 00 17 04.2 -0.7**
comp=Z,18nm,1.7s
SNART Snartemo 23.13 340 *eP* **P 00 17 10.4 +3.3**
HFS Hagfors 23.39 349 P **P 00 17 08.8 -1.1**
comp=Z,7.6nm,0.5s,baz=156,slow=11,SNR=28
KONO Kongsberg 23.69 344 *eP* **P 00 17 11.9 -0.8**
PVAQ Vaqueiros 23.72 279 *eP* **P 00 17 13.7 +0.4**
comp=Z,40nm,1.6s
OSL Oslo 23.72 346 *eP* **P 00 17 12.6 -0.4**
PBDV Barranco-do-Ve 23.91 279 *eP* **P 00 17 15.4 +0.2**
comp=Z,38nm,1.6s
FINES FINESS Array B 24.19 5 P **P 00 17 16.2 -1.2**
comp=Z,3.9nm,0.6s,baz=172,slow=10,SNR=36
FINES PcP **PcP** **00 20 57.7 +0.1**
comp=Z,1.4nm,0.6s,baz=172,slow=1.8,SNR=3.9
FINES ScP **ScP** **00 24 36.3 +0.4**
comp=Z,1.6nm,0.7s,baz=323,slow=4.8,SNR=4.8
FINES LR LR 00 28 51.4
comp=Z,103nm,18.1s,baz=180,slow=42
FINES FINESS Array B 24.19 5 *i* P **P 00 17 16.7 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 24.19 5 P **P 00 17 16.5 -0.9**
NC602 NORSAR Array S 24.31 347 *eP* **P 00 17 19.1 +0.5**
NORES NORESS Array B 24.31 347 P **P 00 17 20.1 +1.5**
NORES pmax pmax
comp=Z,2.0nm,0.2s
NAO01 NORSAR Array S 24.53 347 P **P 00 17 20.9 +0.3**
NC405 NORSAR Array S 24.64 348 P **P 00 17 21.6 0.0**
NC405 IAmb IAmb 00 17 38.3
comp=Z,19nm,1.0s
NB201 NORSAR Array S 24.65 347 IAmb IAmb 00 17 23.4
comp=Z,25nm,1.1s
NB2 NORSAR Subarra 24.65 347 P **P 00 17 21.7 -0.1**
comp=Z,10nm,1.0s,baz=156,slow=9.3
NB2 NORSAR Subarra 24.65 347 P **P 00 17 21.7 -0.1**
baz=156,slow=9.3
NOA NORSAR Array B 24.65 347 P **P 00 17 22.1 +0.3**
comp=Z,4.1nm,0.8s,baz=160,slow=9.1,SNR=24
EKA Eskdalemuir Ar 24.83 324 P **P 00 17 24.1 +0.7**
comp=Z,4.6nm,0.4s,baz=125,slow=9.5,SNR=12
ESK Eskdalemuir 24.84 324 P **P 00 17 24.7 +1.3**
ESK pmax pmax
comp=Z,18nm,0.8s
ESK Eskdalemuir 24.84 324 P **P 00 17 24.7 +1.3**
SKAR Skarslia 24.91 344 *eP* **P 00 17 25.0 +0.9**
DSB Dublin 25.35 318 P **P 00 17 24.5 -3.5**
DSB IAmb IAmb 00 17 29.0
comp=Z,14nm,1.0s
KLMR Klimovskoe 25.90 19 *eP* **P 00 17 32.0 -0.9**
KLMR pmax pmax
comp=Z,17nm,0.8s
KLMR Klimovskoe 25.90 19 *eP* **P 00 17 32.1 -0.9**
KLMR AMP 00 17 41.4
comp=Z,17nm,0.8s
DOMB Dombas 25.98 346 *eP* **P 00 17 33.7 0.0**
KIRV Kirov 27.61 31 P **P 00 17 48.0 -0.4**
comp=Z,8.3nm,0.6s,baz=230,slow=5.7,SNR=4.3
KIRV Kirov 27.61 31*cP* **P 00 17 48.5 +0.2**
NSS Namsos 27.84 351 *eP* **P 00 17 50.9 +0.5**
PRGR Permogore 28.32 24 *eP* **P 00 17 54.0 +0.6**
PRGR *eS* **S** **00 22 36.2 -4.3**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
GEYT Alibeck 28.33 78 P **P 00 17 55.5 +0.4**
comp=Z,1.9nm,0.4s,baz=288,slow=8.3,SNR=5.4
GEYT Alibeck 28.33 78 IAmb IAmb 00 18 02.9
comp=Z,1.7nm,0.7s
GYA0B ALIBECK ARRAY 28.33 78 P **P 00 17 53.5 -1.7**
AKTO Aktyubinsk 28.61 51 P **P 00 17 57.1 -0.3**
comp=Z,2.5nm,0.5s,baz=253,slow=9.6,SNR=7.6
MOR8 Moi Rana 29.16 354 *eP* **P 00 18 02.7 +0.5**
ABKAR Akbulak array 29.60 54 P **P 00 18 06.4 +0.2**
ABKAR Akbulak array 29.60 54 IAmb IAmb 00 18 11.5
comp=Z,1.4nm,0.7s
NBB40 Tonnes 29.63 353 *eP* **P 00 18 06.5 +0.2**
NBB17 Glomfjord BYr 29.84 353 *eP* **P 00 18 08.6 +0.5**
NBB30 Finnes 30.01 353 *eP* **P 00 18 10.4 +0.8**
NBB28 Valnes 30.16 354 *eP* **P 00 18 11.7 +0.8**
FAUS Fauske 30.29 355 *eP* **P 00 18 12.1 +0.1**
TOA0 Torodi Ar. Sit 30.31 223 P **P 00 18 13.2 +0.4**
TOA0 IAmb IAmb 00 18 23.5
comp=Z,2.8nm,0.7s
TORD Torodi Ar. Bea 30.31 223 P **P 00 18 12.8 +0.1**
comp=Z,2.3nm,0.7s,baz=34,slow=9.3,SNR=33
TORD PcP **PcP** **00 21 12.9 -0.1**
comp=Z,0.7nm,1.1s,baz=23,slow=4.1,SNR=2.0
TORD Torodi Ar. Bea 30.31 223 P **P 00 18 13.1 +0.4**
ARU Arti 30.78 40 P **P 00 18 16.3 -0.2**
comp=Z,1.0nm,0.4s,baz=249,slow=9.6,SNR=7.2
ARU LR LR 00 30 18.9
comp=Z,81nm,18.2s,baz=174,slow=36
ARU Arti 30.78 40*c iP* **P 00 18 16.5 0.0**
ARU S **S** **00 23 23.2 +3.9**
ARU SS **SnSn** **00 24 57.8 +0.1**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU Arti 30.78 40 P **P 00 18 16.7 +0.2**
ARU IAmb IAmb 00 18 21.2
comp=Z,9.7nm,1.1s
N2IH Innhavet 30.82 355 *eP* **P 00 18 17.4 +0.6**
STEI Steigen 30.83 355 *eP* **P 00 18 17.1 +0.3**
SHME Shamm 30.86 102 P **P 00 18 16.9 -0.7**
NAZ Nazwa, Dubai 31.02 104 *i* P **P 00 18 20.0 +1.0**
SNR=6.5
NAZ Nazwa, Dubai 31.02 104 P **P 00 18 19.6 +0.6**
BANOM Banah 31.04 102 P **P 00 18 19.4 +0.1**
BANOM Banah 31.04 102 P **P 00 18 19.9 +0.7**
UOSS Minazif 31.46 103 P **P 00 18 23.3 +0.4**
UOSS Minazif 31.46 103 P **P 00 18 23.8 +0.9**
UOSS IAmb IAmb 00 18 24.2
comp=Z,8.6nm,0.9s
HATD Hatta, Dubai 31.47 104 P **P 00 18 23.2 +0.1**
HATD Hatta, Dubai 31.47 104 P **P 00 18 24.2 +1.2**
ASHO Ashiyiah 31.49 104 P **P 00 18 23.1 -0.1**
ASHO Ashiyiah 31.49 104 P **P 00 18 24.0 +0.8**
ALNE Al Ain 31.59 105 *i* P **P 00 18 24.5 +0.5**

SNR=13
SVE Sverdlovsk 31.99 40 eP P 00 18 27.9 +0.7
SVE pmax pmax
comp=Z,16nm,1.1s
SOHO SOHO 32.15 104 iP P 00 18 28.7 -0.2
SNR=13
SOHO SOHO 32.15 104 P P 00 18 29.5 +0.6
ARCES ARCESS Array B 32.24 2 P P 00 18 29.3 0.0
comp=Z,2.6nm,0.5s,baz=190,slow=10.0,SNR=31
ARCES PcP **PcP 00 21 17.3 -0.1**
comp=Z,1.9nm,0.6s,baz=176,slow=2.7,SNR=2.9
ARCES LR LR 00 31 55.2
comp=Z,199nm,18.5s,baz=130,slow=37
HRA Herat 32.41 83 P P 00 18 32.0 +0.6
HRA IAmb IAmb 00 18 33.1
comp=Z,4.9nm,0.8s
KEV Kevo 32.52 3 P P 00 18 31.9 +0.2
KEV pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 32.52 3 P P 00 18 31.9 +0.2
KEV IAmb IAmb 00 18 32.7
comp=Z,9.9nm,1.0s
ARQ Araqi 32.57 106 P P 00 18 33.4 +0.7
KOWA Kowa 32.60 233 P P 00 18 33.8 +0.8
KOWA IAmb IAmb 00 18 50.4
comp=Z,3.3nm,0.8s
BSY Bisya 33.42 106 P P 00 18 40.3 +0.2
WHFO Wadi Hawf 33.81 116 P P 00 18 44.0 +0.4
SNR=11
ABTO Aybut 33.84 118 P P 00 18 44.8 +1.0
SMDO Samad 33.90 105 P P 00 18 44.9 +0.5
JMDO Jabal Madar 34.32 106 P P 00 18 48.0 +0.1
RBK Rabkut 34.39 116 P P 00 18 49.4 +0.8
DMTO DMTO 34.78 115 P P 00 18 52.2 +0.3
SNR=11
WBK Wadi Bani Khal 34.85 105 P P 00 18 53.3 +0.8
MHTO MHTO 35.00 108 P P 00 18 55.0 +1.2
SNR=7.5
SHAO Shalim 35.07 114 P P 00 18 54.6 +0.2
DQM DQM 35.30 110 P P 00 18 56.9 +0.5
BRVK Borovoye 36.55 49 eP P 00 19 07.6 +0.8
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 36.55 49 P P 00 19 06.9 +0.2
BRVK IAmb IAmb 00 19 14.9
comp=Z,5.2nm,0.7s
BVAR Borovoye Array 36.61 49 P P 00 19 07.3 0.0
comp=Z,1.9nm,0.5s,baz=236,slow=16,SNR=10
KK31 Karatay Array 36.90 66 IAmb IAmb 00 19 11.4
comp=Z,4.2nm,0.9s
KKAR Karatay Array 36.90 66 P P 00 19 09.6 -0.3
KKAR Karatay Array 36.90 66 P P 00 19 09.6 -0.3
KKAR Karatay Array 36.90 66 IAmb IAmb 00 19 11.4
comp=Z,4.2nm,0.9s
GAR Garm 37.50 72 P P 00 19 15.9 +0.7
GAR IAmb IAmb 00 19 16.7
comp=Z,14nm,1.1s
KBL Kabul 37.72 80 P P 00 19 17.8 +0.6
KBL pmax pmax
comp=Z,2.0nm,0.6s
KBL Kabul 37.72 80 P P 00 19 17.8 +0.6
SOCY Socotra 37.94 123 P P 00 19 18.2 -0.8
DBIC Dimbokro 39.26 226 P P 00 19 29.9 0.0
comp=Z,4.4nm,0.6s,baz=16,slow=10,SNR=8.2
DBIC Dimbokro 39.26 226 P P 00 19 30.0 0.0
DBIC Dimbokro 39.26 226 IAmb IAmb 00 19 30.8
comp=Z,7.6nm,0.8s
TIC Toumodi 39.37 226 eP P 00 19 31.2 +0.2
KIC Kosan Boka 39.45 225 eP P 00 19 30.9 -0.7
comp=Z,17nm,1.0s
LIC Lamto 39.72 225 eP P 00 19 33.8 -0.1
comp=Z,22nm,0.7s
AAK Ala-Archa 39.86 66 P P 00 19 35.2 +0.1
AAK Ala-Archa 39.86 66 eP P 00 19 35.8 +0.8
AAK pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 40.79 157 P P 00 19 42.7 -0.3
comp=Z,0.9nm,0.4s,baz=255,slow=2.1,SNR=2.4
KMBO Kilima Mbogo 40.79 157 P P 00 19 42.7 -0.3
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 40.79 157 IAmb IAmb 00 19 46.4
comp=Z,2.5nm,1.1s
BOOM Boomskoye usch 40.94 66 IAmb IAmb 00 19 46.2
comp=Z,4.9nm,0.6s
SPA0 Spitsbergen Ar 40.96 358 P P 00 19 45.0 +1.6
NIL Nilore 41.31 79 P P 00 19 47.6 +0.7
NIL pmax pmax
comp=Z,10.0nm,1.2s
NIL Nilore 41.31 79 P P 00 19 47.6 +0.7
NIL IAmb IAmb 00 19 48.3
comp=Z,10nm,1.1s
KURBB Kurchatov Arra 41.63 53 P P 00 19 49.3 +0.1
comp=Z,7.5nm,0.4s,baz=280,slow=8.7,SNR=61
KURBB PcP **PcP 00 21 46.4 +0.4**
comp=Z,2.5nm,0.7s,baz=276,slow=4.2,SNR=6.5
KURK Kurchatov 41.68 53 dP P 00 19 49.6 -0.1
KURK pmax pmax
comp=Z,17nm,1.7s
KURK Kurchatov 41.68 53 P P 00 19 49.7 +0.1
KURK IAmb IAmb 00 19 50.3
comp=Z,7.1nm,0.7s
KDJ Kajisay 41.91 66 P P 00 19 51.7 -0.3
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KDJ Kajisay 41.91 66 P P 00 19 51.7 -0.3
KDJ IAmb IAmb 00 19 53.5
comp=Z,5.0nm,0.9s
TARG Taragay, Kyrgy 42.46 66 P P 00 19 56.1 -0.5
MAKZ Makanchi 44.37 58 P P 00 20 11.5 0.0
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 44.37 58 P P 00 20 11.5 0.0
MAKZ IAmb IAmb 00 20 12.1
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 44.58 58 cP P 00 20 13.0 -0.3
MK31 Makanchi Array 44.58 58 IAmb IAmb 00 20 13.7
comp=Z,5.6nm,0.7s
MKAR Makanchi Array 44.58 58 P P 00 20 13.0 -0.3
comp=Z,5.1nm,0.5s,baz=273,slow=7.4,SNR=65
MKAR PcP **PcP 00 21 56.3 +0.2**
comp=Z,3.2nm,0.6s,baz=275,slow=4.3,SNR=6.0
MKAR ScP **ScP 00 25 47.4 -0.6**
comp=Z,0.6nm,0.8s,baz=267,slow=2.9,SNR=3.6
MKAR Makanchi Array 44.58 58 ceP P 00 20 13.0 -0.3
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 44.58 58 P P 00 20 12.7 -0.6
ZALV Zalesovo Beam 45.23 48 P P 00 20 17.8 -0.4
comp=Z,8.8nm,0.5s,baz=274,slow=8.7,SNR=44
ZALV Zalesovo Beam 45.23 48 iP P 00 20 18.0 -0.2
ZALV pmax pmax
comp=Z,9.0nm,0.4s
ZALV Zalesovo Beam 45.23 48 P P 00 20 18.2 -0.1
NRIK Noril'sk 46.90 26 P P 00 20 31.1 -0.1
comp=Z,4.1nm,0.8s,baz=254,slow=3.3,SNR=5.3
NRIK Noril'sk 46.90 26 eP P 00 20 31.9 +0.7
DGZ Jazzator, Alta 47.42 53 deP P 00 20 35.7 -0.1
DGZ pmax pmax
comp=Z,4.0nm,0.5s
WMQ Urumqi 48.98 61 eP P 00 20 50.8 +3.0
GTA Gaotai 59.02 62 eP P 00 22 01.0 -0.3
GTA pP pP 00 22 04.7 -0.8
GTA sP sP 00 22 07.1 +0.1
GTA pmax pmax
comp=Z,7.0nm,0.7s
SONM Songino Array 59.92 51 P P 00 22 06.8 -0.5
comp=Z,1.7nm,0.7s,baz=286,slow=8.6,SNR=9.4
SONM PcP **PcP 00 22 53.4 -0.3**
comp=Z,2.6nm,0.8s,baz=259,slow=4.2,SNR=6.5
SONM Songino Array 59.92 51 P P 00 22 06.8 -0.5
SCHQ Schefferville 59.93 318 P P 00 22 07.4 +0.3
comp=Z,1.5nm,0.3s,baz=74,slow=7.4,SNR=2.0
SCHQ Schefferville 59.93 318 P P 00 22 07.9 +0.8
SCHQ IAmb IAmb 00 22 24.2
comp=Z,6.8nm,1.0s
ULN Ulaanbaatar 60.31 51 eP P 00 22 09.6 -0.5
ULN pmax pmax
comp=Z,3.0nm,1.7s
PALK Pallekele 60.74 104 P P 00 22 11.7 -1.6
PALK pmax pmax
comp=Z,11nm,0.9s
PALK Pallekele 60.74 104 P P 00 22 11.7 -1.6
LZH Lanzhou 63.36 64 eP P 00 22 35.1 +4.3
LZH pP sP 00 22 40.1 +3.6
LZH sP pP 00 22 43.0 +7.9
LZH pmax pmax
comp=Z,25nm,1.0s
YAK Yakutsk 65.13 30 eP P 00 22 42.8 +1.1
YAK pmax pmax
comp=Z,20nm,0.5s
BOSA Boshof 65.73 177 P P 00 22 46.1 +0.1
comp=Z,1.4nm,0.7s,baz=359,slow=9.3,SNR=5.1
BOSA LR LR 00 52 08.2
comp=Z,57nm,18.8s,baz=358,slow=37
BOSA Boshof 65.73 177 IAmb IAmb 00 22 53.1
comp=Z,1.4nm,0.6s
CD2 Chengdu 65.82 69 P P 00 22 46.3 -0.5
CD2 pmax pmax
comp=Z,20nm,0.5s
HHC Hu-ho-hao-te 66.38 56 eP P 00 22 51.6 +1.3
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.7s
CHTO Chiang Mai 68.48 82 P P 00 23 03.3 -0.5
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 68.48 82 P P 00 23 03.3 -0.5
CHTO IAmb IAmb 00 23 04.0
comp=Z,5.1nm,0.8s
CMAR Chiang Mai Ar 68.68 83 P P 00 23 04.6 -0.4
comp=Z,4.8nm,0.7s,baz=303,slow=8.0,SNR=28
CMAR Chiang Mai Ar 68.68 83 P P 00 23 04.2 -0.8
BILL Bilibino 71.47 13 eP P 00 23 21.8 +0.5
BILL e 00 25 57.6
BILL pmax pmax
comp=Z,9.0nm,0.9s
SEY Seymchan 72.38 22 P P 00 23 27.0 +0.2
comp=Z,1.9nm,0.2s,baz=340,slow=7.0,SNR=3.7
NJ2 Nanjing 76.05 60 eP P 00 23 47.7 -1.1
NJ2 pmax pmax
comp=Z,33nm,0.5s
USRK Ussuriysk Ar. 76.92 44 P P 00 23 52.9 -0.7
comp=Z,4.7nm,0.7s,baz=270,slow=5.0,SNR=11
ULM Lac du Bonnet 77.11 324 P P 00 23 55.2 +0.7
comp=Z,6.8nm,1.1s,baz=60,slow=8.1,SNR=1.7
ULM Lac du Bonnet 77.11 324 IAmb IAmb 00 24 02.7
comp=Z,6.5nm,0.9s
PSI Prapat 77.76 96 P P 00 23 56.4 -2.5
comp=Z,5.1nm,0.5s,baz=280,slow=20,SNR=3.5
ILAR Eielson Array 77.80 355 P P 00 23 58.2 +0.1
comp=Z,1.6nm,0.9s,baz=356,slow=3.9,SNR=9.6
HDA Harding Lake 78.16 355 P P 00 24 00.9 +0.8
HDA IAmb IAmb 00 24 01.2
comp=Z,6.7nm,0.8s
WRH Wood River Hil 78.17 356 P P 00 24 01.1 +0.9
KSRS Korea Array 78.79 51 P P 00 24 03.5 -0.5
comp=Z,3.9nm,0.6s,baz=308,slow=4.7,SNR=11
MJAR Matsushiro Arr 85.57 47 P P 00 24 39.5 -0.2
comp=Z,2.5nm,0.7s,baz=296,slow=4.7,SNR=7.1
MJAR Matsushiro Arr 85.57 47 P P 00 24 40.2 +0.5
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 85.57 47 P P 00 24 40.2 +0.5
JTMT Jetta 86.76 332 P P 00 24 47.1 +1.6
T35A Sooner Cattle 86.84 315 P P 00 24 47.8 +1.8
NEW Newport 87.34 334 IAmb IAmb 00 24 50.1
comp=Z,5.7nm,1.1s
FXWY Fox Creek 88.86 328 IAmb IAmb 00 24 58.2
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 88.93 327 P P 00 24 56.8 +0.6
comp=Z,0.8nm,0.7s,baz=72,slow=5.3,SNR=8.1
PDAR Pinedale Array 88.93 327 P P 00 24 56.0 -0.1
WMOK Wichita Mounta 89.68 315 P P 00 25 01.5 +2.0
WMOK pmax pmax
comp=Z,5.0nm,1.0s
WMOK Wichita Mounta 89.68 315 P P 00 25 01.5 +2.0
WMOK IAmb IAmb 00 25 08.1
comp=Z,4.7nm,0.9s
RDMU Red Mountain 90.70 325 P P 00 25 04.9 +0.5
HWUT Hardware Ranch 90.74 327 P P 00 25 04.9 +0.3
SDCO Great Sand Dun 90.99 321 IAmb IAmb 00 25 07.8
comp=Z,2.7nm,1.1s
S22A 4UR Ranch, Cre 91.65 322 IAmb IAmb 00 25 10.7
comp=Z,2.4nm,0.9s
DUG Dugway, Tooele 92.44 327 IAmb IAmb 00 25 13.9
comp=Z,1.9nm,0.8s
NVAR Mina Array Bea 96.21 330 P P 00 25 30.9 +1.0
comp=Z,0.4nm,0.6s,baz=52,slow=5.2,SNR=5.3
TXAR Lajitas Array 96.47 315 P P 00 25 30.7 -0.3
comp=Z,0.6nm,0.8s,baz=46,slow=6.4,SNR=3.5
WRA Warramunga Arr 119.17 94 PKP PKPdf 00 30 49.9 -0.8
comp=Z,0.6nm,0.5s,baz=213,slow=10,SNR=4.7
ASAR Alice Springs 120.76 98 PKP PKPdf 00 30 53.2 -0.4
comp=Z,1.2nm,0.6s,baz=310,slow=1.4,SNR=14
ASAR Alice Springs 120.76 98 PKPdf 00 30 52.9 -0.8

*IDC **04** 00:13:17.7±0.8,56.°07N×164.°40E,h0km,mb3.7/12,*
mb1 3.9/13,mb1mx3.6/58,mbtmp3.7/13,ML2.4/1,MS3.0/2,
Ms1 3.0/2,ms1mx2.5/39,Error ellipse: s-maj=29.8km
s-min=16.1km az=147.0

*KRSC **04** 00:13:21.0±1.3,55.°86N×164.°19E,h16km±31km,ML4.1*
ISC 04 00:13:18.9±1.5,56.12N±0.°05×164.°31E±0.°04,h8km±9km,
n54,σ1°53/58,mb3.6/12,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.84**	**277**	*eP*	**Pn**	**00 13 36.2**	**-0.8**
KBTR				*eS*	**Sn**	**00 13 48.3**	**-1.2**
KBG	**Krutoberegovo**	**0.91**	**279**	*eP*	**Pn**	**00 13 37.6**	**-0.3**
KBG				*eS*	**Sn**	**00 13 50.2**	**-1.0**
BKI	**Bering**	**1.31**	**133**	*eP*	**Pg**	**00 13 44.6**	**+0.5**
BKI				*eS*	**Sn**	**00 14 00.3**	**-0.9**
SMKR	**Semkarok**	**1.65**	**288**	*eP*	**Pb**	**00 13 49.5**	**-0.1**
SMKR				*eS*	**Sg**	**00 14 11.8**	**0.0**
BDR	**Baidarnaya**	**1.78**	**286**	*eP*	**Pb**	**00 13 51.8**	**-0.1**
BDR				*eS*	**Sg**	**00 14 16.0**	**-0.2**
SRKR	**Sorokina**	**1.83**	**288**	*eP*	**Pb**	**00 13 52.2**	**-0.4**
ZLN	**Zelenaya**	**1.97**	**269**	*eP*	**Pb**	**00 13 54.8**	**-0.2**
CIRR	**Tsirk**	**1.99**	**271**	*eP*	**Pb**	**00 13 55.3**	**-0.2**
LGNR	**Loginova**	**2.03**	**271**	*eP*	**Pb**	**00 13 55.8**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**2.04**	**267**	*eP*	**Pb**	**00 13 55.6**	**-0.6**
KLY	**Klyuchi**	**2.05**	**277**	*eP*	**Pn**	**00 13 54.0**	**+0.3**
KLY				*eS*	**Sn**	**00 14 19.5**	**+0.1**
KRSR	**Krestovskiy**	**2.10**	**274**	*eP*	**Pb**	**00 13 56.0**	**-1.2**
BZWR	**Bezymyannyi-We**	**2.15**	**267**	*eP*	**Pb**	**00 13 57.2**	**-0.9**
KIRR	**Kirishev**	**2.23**	**267**	*eP*	**Pb**	**00 13 58.8**	**-0.8**
KIRR				*eS*	**Sb**	**00 14 27.5**	**+0.1**
KMNR	**Kamenistaya**	**2.32**	**263**	*eP*	**Pb**	**00 13 59.8**	**-1.2**
TUMD	**Tumrok D**	**2.40**	**249**	*eP*	**Pb**	**00 14 00.1**	**-2.2**
KOZ	**Kozyrevsk**	**2.49**	**270**	*eP*	**Pb**	**00 14 02.9**	**-0.9**
KZV	**Kizimen**	**2.49**	**248**	*eP*	**Pb**	**00 14 02.0**	**-1.9**
TUMR	**Tumrok**	**2.50**	**252**	*eP*	**Pb**	**00 14 02.3**	**-1.8**
SRDR	**Sredinnyy**	**2.57**	**276**	*eP*	**Pb**	**00 14 03.5**	**-1.8**
KII	**Karymskiy**	**3.49**	**235**	*eS*	**Sn**	**00 14 56.0**	**+1.1**
SPN	**Mys Shipunski**	**3.92**	**221**	*eP*	**Pn**	**00 14 18.5**	**-0.8**
SPN				*eS*	**Sn**	**00 15 01.6**	**-3.9**
NLC	**Nalytchevo**	**4.13**	**226**	*eS*	**Sn**	**00 15 09.9**	**-0.6**
SDLR	**Sedlovina**	**4.24**	**230**	*eP*	**Pn**	**00 14 26.3**	**+2.4**
KRER	**Koryakskii**	**4.28**	**231**	*eP*	**Pn**	**00 14 26.7**	**+2.2**
KRX	**Arik**	**4.29**	**232**	*eP*	**Pn**	**00 14 26.2**	**+1.6**
SMAR	**Somma**	**4.29**	**230**	*eP*	**Pn**	**00 14 26.4**	**+1.8**
SMAR				*eS*	**Sn**	**00 15 14.7**	**-0.2**
AVH	**Avacha**	**4.31**	**231**	*eP*	**Pn**	**00 14 27.2**	**+2.4**
KOK	**Koryaka**	**4.34**	**232**	*eP*	**Pn**	**00 14 27.4**	**+2.2**
GNL	**Ganaly**	**4.40**	**239**	*eP*	**Pn**	**00 14 28.7**	**+2.6**
PETK	**Petropavlovsk-** 0.7nm,0.3s,baz=66,slow=16,SNR=13	**4.88**	**235**	Pn	**Pn**	**00 14 33.4**	**+0.8**
PETK				Sn	**Sn**	**00 15 33.9**	**+4.6**
	0.5nm,0.3s,baz=69,slow=21,SNR=1.1						
RUS	**Russkaya**	**5.01**	**225**	*eP*	**Pn**	**00 14 35.6**	**+1.2**
RUS				*eS*	**Sn**	**00 15 30.2**	**-2.3**
GRL	**Gorelyy**	**5.11**	**228**	*eP*	**Pn**	**00 14 38.4**	**+2.7**
ASAK	**Asacha**	**5.30**	**228**	*eP*	**Pn**	**00 14 41.3**	**+2.9**
KDTR	**Khodutka, Kamc**	**5.67**	**223**	*eP*	**Pn**	**00 14 44.1**	**+0.7**
MA2	**Magadan** comp=Z,34nm,18.4s,baz=130,slow=43	**8.01**	**301**	LR	LR	00 19 06.7	
KDAK	**Kodiak Island** 6.8nm,0.7s,baz=309,slow=5.9,SNR=4.5	**23.28**	**68**	P	**P**	**00 18 26.2**	**-0.4**
ILAR	**Eielson Array** 0.9nm,0.3s,baz=45,slow=8.8,SNR=4.0	**24.96**	**50**	P	**P**	**00 18 42.6**	**+0.2**
MJAR	**Matsushiro Arr** 2.3nm,0.7s,baz=260,slow=6.1,SNR=3.0	**26.34**	**233**	P	**P**	**00 18 54.9**	**-0.3**
INK	**Inuvik** comp=Z,82nm,20.4s,baz=188,slow=36	**29.97**	**41**	P	**P**	**00 19 26.3**	**-0.9**
TLY	**Talaya**	**35.00**	**289**	LR	LR	00 34 37.4	
SONM	**Songino Array** 0.3nm,0.4s,baz=44,slow=8.5,SNR=2.4	**35.65**	**282**	P	**P**	**00 20 16.5**	**-0.7**
H11N2	**WAKE ISLAND Hy** baz=359	**36.38**	**176**	T	T	00 59 18.4	
H11N3	**WAKE ISLAND Hy** baz=359,slow=74	**36.40**	**176**	T	T	00 59 19.4	
H11N1	**WAKE ISLAND Hy** baz=359,slow=74	**36.40**	**176**	T	T	00 59 24.8	
ARU	**Arti** 0.5nm,0.5s,baz=16,slow=20,SNR=2.1	**52.81**	**318**	P	**P**	**00 22 35.1**	**+0.8**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=353,slow=1.2,SNR=3.8	**53.96**	**65**	P	**P**	**00 22 43.0**	**-0.2**
NOA	**NORSAR Array B** 0.6nm,0.5s,baz=18,slow=6.9,SNR=3.8	**61.27**	**345**	P	**P**	**00 23 34.6**	**+0.5**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=300,slow=4.5,SNR=4.5	**67.26**	**71**	P	**P**	**00 24 13.9**	**0.0**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=11,slow=5.8,SNR=2.3	**79.89**	**209**	P	**P**	**00 25 26.9**	**-1.0**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=16,slow=4.8,SNR=2.7	**83.56**	**208**	P	**P**	**00 25 47.9**	**+0.7**
ESDC	**Sonseca Array** 0.2nm,0.6s,baz=2.1,slow=5.1,SNR=4.7	**84.06**	**351**	P	**P**	**00 25 51.0**	**+1.1**
NWAO	**Narrogin (SRO)** 4.1nm,0.7s,baz=22,slow=5.4,SNR=1.7	**97.32**	**218**	P	Pdif	00 26 53.0	+0.9
NWAO	**Narrogin (SRO)**	**97.32**	**218**	P	Pdif	00 26 53.1	+0.9

*NCEDC **04** 00:14:43.8±1.7,37.°68N±0.°03×121.°73W±0.°02,h3km±6km,*
Md3.0/152,Error ellipse: s-maj=4.6km s-min=2.7km
az=178.0
NEIC 04 00:14:44.6±2.2,37.72N±0.°01×121.°64W±0.°02,h1km±6km,
Error ellipse: s-maj=2.7km s-min=1.7km az=122.0,
Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WENL	**Wente Vineyard**	**0.13**	**225**		Pg	00 14 46.5	-0.6
WENL					Sg	00 14 48.8	0.0
CMOB	**Morgan Territo**	**0.16**	**307**		Pg	00 14 47.6	-0.1
CVLM	**Vallecito**	**0.18**	**240**		Pg	00 14 47.1	-0.8
CMLM	**Mount Lewis**	**0.24**	**182**		Pg	00 14 49.5	+0.3
CNIC	**Niles Canyon**	**0.28**	**248**		Pg	00 14 49.1	-0.8
CMMM	**Mount Mocho**	**0.28**	**156**		Pg	00 14 51.0	+1.0
BDM	**Black Diamond**	**0.30**	**323**		Pg	00 14 51.0	+0.7
CRHM	**Round Hill Res**	**0.31**	**297**		Pg	00 14 50.6	0.0
CLCB	**Lake Chabot**	**0.34**	**274**		Pg	00 14 50.6	-0.4
BGC	**Bolinger Road**	**0.35**	**287**		Pg	00 14 51.0	-0.3
MHC	**Mount Hamilton**	**0.37**	**180**		Pg	00 14 52.1	+0.4
ARN	**Arnold Ranch**	**0.38**	**167**		Pg	00 14 52.4	+0.6
CSLM	**San Leandro Hi**	**0.38**	**272**		Pg	00 14 51.2	-0.6
SMCB	**Saint Mary's C**	**0.39**	**289**		Pg	00 14 51.8	-0.4
CMCM	**Mills College**	**0.43**	**279**		Pg	00 14 52.5	-0.3
CTAM	**Taylor**	**0.43**	**316**		Pg	00 14 53.3	+0.4
CMPM	**Mikes Peak**	**0.44**	**144**		Pg	00 14 54.0	+1.1
BRIB	**Briones**	**0.45**	**297**		Pg	00 14 53.1	-0.2
CCOB	**Coe Ranch Numb**	**0.46**	**183**		Pg	00 14 53.6	+0.3
CVPM	**Vollmer Peak**	**0.49**	**290**		Pg	00 14 53.7	-0.3
BKS	**Berkeley--Byer**	**0.50**	**289**		Pg	00 14 53.6	-0.5
VAK	**Adit at Lawren**	**0.51**	**289**		Pg	00 14 53.9	-0.4
BL67	**Building 67, L**	**0.51**	**288**		Pg	00 14 53.8	-0.6
BRK	**Berkeley--Havi**	**0.52**	**288**		Pg	00 14 53.8	-0.5
JSTM	**Santa Teresa H**	**0.52**	**194**		Pg	00 14 54.4	+0.1
JSFB	**Stanford Teles**	**0.53**	**234**		Pg	00 14 53.9	-0.7
CPIM	**Pinole Ridge**	**0.53**	**301**		Pg	00 14 54.7	0.0
CADM	**Anderson Res.**	**0.55**	**179**		Pg	00 14 55.7	+0.6
JCPM	**Coyote Point**	**0.56**	**257**		Pg	00 14 54.3	-0.9
JFP	**Foothills Park**	**0.56**	**231**		Pg	00 14 54.5	-0.8
JLAB	**Laurel Hill**	**0.56**	**188**		Pg	00 14 55.5	+0.1
JRSC	**Jasper Ridge**	**0.57**	**237**		Pg	00 14 54.4	-1.1
NLHM	**Lake Herman**	**0.57**	**315**		Pg	00 14 54.2	-1.3
AMC	**Almaden**	**0.58**	**197**		Pg	00 14 55.5	-0.2
CYBM	**Yerba Buena Is**	**0.58**	**280**		Pg	00 14 54.6	-1.1
JJRM	**Joaquin Road**	**0.58**	**231**		Pg	00 14 55.0	-0.7
CSPM	**San Pablo Ridg**	**0.58**	**295**		Pg	00 14 55.2	-0.5
JUMM	**Mount Umunhum**	**0.59**	**200**		Pg	00 14 55.6	-0.2
HSPM	**Sheep**	**0.61**	**171**		Pg	00 14 56.6	+0.5
JCHM	**Cahill Ridge**	**0.62**	**252**		Pg	00 14 55.4	-1.0
JHLM	**Holstrom Ranch**	**0.62**	**194**		Pg	00 14 56.3	-0.2
SAC	**San Andreas**	**0.63**	**258**		Pg	00 14 56.6	-1.1
GHS	**Gilroy Hot Spr**	**0.64**	**166**		Pg	00 14 57.2	+0.4
CPMM	**Point Molate**	**0.65**	**291**		Pg	00 14 56.3	-0.7
JPRM	**Presidio of Sa**	**0.67**	**277**		Pg	00 14 56.1	-1.2
JMGM	**Milagra Ridge**	**0.67**	**264**		Pg	00 14 56.2	-1.1
HLPM	**Lions Peak**	**0.67**	**179**		Pg	00 14 57.9	+0.5
HPCM	**Pacheco Lake**	**0.71**	**156**		Pg	00 14 58.7	+0.5
JBNB	**Ben Lomond Mou**	**0.72**	**215**		Pg	00 14 57.6	-0.8
SLD	**San Luis Dam**	**0.72**	**152**		Pg	00 14 59.0	+0.6
JRGM	**Rodeo Gulch Ro**	**0.72**	**201**		Pg	00 14 58.5	+0.1
HFEM	**San Felipe**	**0.76**	**165**		Pg	00 14 59.4	+0.3
PACP	**Pacheco Peak**	**0.76**	**158**		Pg	00 14 59.7	+0.6
SFJWR	**San Luis Fatjo**	**0.76**	**151**		Pg	00 14 59.8	+0.7
JPSM		**0.76**	**228**		Pg	00 14 58.3	-0.9
CBC	**Chamberlain**	**0.78**	**181**		Pg	00 14 59.6	+0.1
MNHB	**New Hogan Dam**	**0.78**	**56**		Pg	00 15 00.0	+0.4
NADM	**Allendale**	**0.79**	**341**		Pg	00 14 59.2	-0.5
SNT	**Bears Point**	**0.79**	**306**		Pg	00 14 59.2	-0.6
JELB	**Ellicott, Sant**	**0.80**	**191**		Pg	00 15 00.0	+0.1
HCOM	**Corn Cob Canyo**	**0.83**	**184**		Pb	00 15 01.4	-0.4
AASM	**Arroyo Seco**	**0.83**	**30**		Pg	00 15 00.2	-0.3
MCUB	**Copperopolis B**	**0.85**	**72**		Pg	00 15 01.3	+0.5
HBTM	**San Juan Bauti**	**0.87**	**175**		Pb	00 15 02.6	+0.2
HTUM	**Tustin Road**	**0.89**	**180**		Pg	00 15 01.5	0.0
CVS	**Carmenet Viney**	**0.90**	**315**		Pg	00 15 00.9	-1.0
HERM	**Elkhorn Road**	**0.92**	**184**		Pg	00 15 02.5	+0.4
HJGM	**San Juan Grade**	**0.92**	**177**		Pg	00 15 02.1	0.0
HJSM	**John Smith Roa**	**0.94**	**163**		Pb	00 15 03.3	-0.3
SAO	**San Andreas Ge**	**0.96**	**171**		Pg	00 15 03.1	+0.1
BSLM	**Silva Ranch**	**0.97**	**166**		Pb	00 15 04.1	0.0
FRP	**Fremont Peak**	**0.97**	**173**		Pg	00 15 02.3	-0.8
NOLM	**Olema**	**0.97**	**290**		Pg	00 15 01.5	-1.6
BVYM	**Vineyard**	**0.98**	**169**		Pg	00 15 03.5	+0.2
MYLM	**Yosemite Lake**	**1.02**	**108**		Pg	00 15 04.0	-0.2
BHRM	**Hodges Ranch**	**1.03**	**163**		Pb	00 15 04.8	-0.4
BCGM	**Cienega Road**	**1.03**	**167**		Pb	00 15 05.4	+0.1
CMB	**Columbia Colle**	**1.04**	**72**		Pg	00 15 04.6	+0.1
NBPM	**Berryessa Peak**	**1.05**	**336**		Pg	00 15 03.8	-0.9
BSRM	**Salinas Radio**	**1.05**	**175**		Pg	00 15 03.5	-1.2
NTYM	**Taylor**	**1.05**	**310**		Pg	00 15 03.2	-1.5
MCCM	**Marconi Confer**	**1.07**	**294**		Pg	00 15 03.1	-2.0
FARB	**Farallon Islan**	**1.08**	**270**		Pg	00 15 03.3	-1.9
BLRM	**Lewis Ranch**	**1.09**	**164**		Pn	00 15 06.6	-0.3
BRMM	**Rolling Bench**	**1.09**	**143**		Pb	00 15 06.2	-0.1
MOBB	**Monterey Bay O**	**1.10**	**202**		Pg	00 15 05.1	-0.6
NSHM	**Saint Helena R**	**1.11**	**317**		Pg	00 15 03.9	-1.9
BEHM	**Elkhorn Ranch**	**1.11**	**160**		Pn	00 15 07.6	+0.3
NPRM	**Point Reyes**	**1.12**	**285**		Pg	00 15 03.8	-2.3
SCZ	**Santa Cruz**	**1.13**	**170**		Pg	00 15 06.2	-0.1
HMOM	**Monterey**	**1.13**	**191**		Pg	00 15 05.7	-0.6
BEMM	**Emmet**	**1.14**	**157**		Pg

ORV	**Oroville**	**1.84**	**3**		Pn	00 15 15.1	-2.2
WAKR	**Walker**	**1.91**	**65**		Pb	00 15 19.9	-0.5
DONR	**Donner Summit**	**1.94**	**32**		Pn	00 15 18.3	-0.5
BFC	**Buffalo Canyon**	**1.99**	**53**		Pn	00 15 20.5	+1.0
GHOM	**Hamilton Openi**	**2.00**	**312**		Pn	00 15 17.4	-2.1
IND	**Independence**	**2.02**	**31**		Pn	00 15 20.0	+0.1
MPK	**Martis Peak**	**2.02**	**38**		Pn	00 15 20.3	+0.2
MDPB	**Devils Postpil**	**2.03**	**92**		Pn	00 15 20.8	+0.6
MDCM	**Deadman Creek**	**2.06**	**89**		Pn	00 15 21.1	+0.5
MDYM	**Dry Creek**	**2.09**	**91**		Pn	00 15 22.0	+1.0
OMMB	**Old Mammoth Mi**	**2.10**	**92**		Pb	00 15 22.4	-1.2
KBF	**Kyburz Flat**	**2.11**	**32**		Pn	00 15 21.3	+0.1
PNTR	**Pine Nut**	**2.11**	**49**		Pn	00 15 22.2	+1.0
LOY	**Loyalton**	**2.23**	**29**		Pn	00 15 23.0	+0.2
BABR	**Babbit Peak**	**2.23**	**32**		Pn	00 15 23.3	+0.3
PEAR	**Peavine Mounta**	**2.30**	**34**		Pn	00 15 24.4	+0.5
PTRM	**Twissleman Ran**	**2.35**	**150**		Pb	00 15 26.3	-1.6
BENR	**Benton**	**2.43**	**89**		Pn	00 15 27.4	+1.7
KCPM	**Cahto Peak**	**2.49**	**323**		Pg	00 15 35.5	+3.3
LHV	**Little Huntoon**	**2.54**	**77**		Pb	00 15 31.1	+0.2
BMRR	**Black Mountain**	**2.61**	**23**		Pn	00 15 28.5	+0.4
PAHR	**Pah Rah Range**	**2.66**	**41**		Pg	00 15 36.5	+0.9
NVAR	**Mina Array Bea**	**2.73**	**74**		Pb	00 15 35.0	+0.7
LMEM	**Manzanita Entr**	**2.82**	**1**		Pn	00 15 33.1	+2.1
KVN	**Kaiserville**	**3.09**	**63**	Pn	Pb	00 15 38.5	-1.8
ISA	**Isabella, Lake**	**3.27**	**128**	Pn	Pn	00 15 38.4	+1.4
TPH	**Tonopah**	**3.51**	**83**		Pg	00 15 52.2	+0.3
MOD	**Modoc Plateau**	**4.31**	**13**		Pg	00 16 05.5	-1.6

IDC 04 00:23:06.8±8.2, 7.73S×119.31E, h296km±96km, mb2.8/2, mb1 2.8/4, mb1mx2.6/38, mbtmp3.4/4, Error ellipse: s-maj=147.1km s-min=33.9km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.01**	**150**	P	Pn	00 25 49.9	+0.4
	0.1nm,0.3s,baz=324,slow=14,SNR=2.1						
FITZ				S	S	00 28 04.7	+1.5
	0.1nm,0.3s,baz=196,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**18.96**	**131**	P	P	00 27 06.6	-0.4
	0.1nm,0.3s,baz=302,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**21.14**	**140**	P	P	00 27 29.5	+0.1
	0.5nm,0.3s,baz=315,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**63.48**	**332**	P	P	00 33 05.8	0.0
	0.2nm,0.5s,baz=155,slow=8.0,SNR=4.2						

*AZER **04** 00:25:37.8, 41.24N×47.24E, h9km, ML3.1*
*IDC **04** 00:25:38.0±3.5, 40.88N×47.37E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/43, mbtmp3.3/5, ML2.5/2, Error ellipse: s-maj=62.3km s-min=22.3km az=179.0*
*NSSP **04** 00:25:38.4, 41.13N×47.20E, h10km, Ms2.9*
*DRS **04** 00:25:46.1±0.0, 41.35N×47.21E, h18km*

ISC 04 00:25:40.2±0.8, 41.14N±0.02×47.20E±0.02, h7km±6km, n53, σ1s55/101, mb3.2/3, 2C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEKA	**Sheki**	**0.07**	**356**	P	**Pg**	**00 25 41.9**	**-0.2**
SEKA				S	**Sg**	**00 25 43.4**	**0.0**
MNGR	**Mingechevir, A**	**0.38**	**194**	P	**Pb**	**00 25 50.0**	**+0.8**
	SNR=20						
MNGR				S	**Sb**	**00 25 58.2**	**+2.8**
QBL	**Gabala**	**0.52**	**112**	P	**Pg**	**00 25 50.0**	**-0.2**
	SNR=90						
QBL				S	**Sb**	**00 25 59.5**	**+0.1**
ZKTA	**Zakatala**	**0.66**	**319**	P	**Pg**	**00 25 53.0**	**+0.1**
	SNR=248						
ZKTA				S	**Sb**	**00 26 03.8**	**+0.3**
XNQ	**Khinaliq**	**0.71**	**87**	P	**Pg**	**00 25 53.2**	**-0.7**
	SNR=188						
XNQ				S	**Sg**	**00 26 04.2**	**+1.1**
IML	**Ismayilli**	**0.82**	**115**	P	**Pg**	**00 25 56.0**	**0.0**
	SNR=41						
IML				S	**Sb**	**00 26 08.7**	**+0.6**
GANJ	**Ganja**	**0.83**	**234**	P	**Pb**	**00 25 56.4**	**-0.6**
	SNR=64						
GANJ				S	**Sb**	**00 26 08.9**	**+0.5**
KSMR	**Kasumkent**	**0.83**	**56**	*i* Pg	**Pg**	**00 25 56.0**	**-0.2**
	101nm,0.2s						
KSMR				*e*Sg	**Sg**	**00 26 06.5**	**-0.6**
	612nm,0.2s						
BRDA	**Brd**	**0.88**	**181**	P	**Pn**	**00 25 58.9**	**-0.1**
	SNR=26						
BRDA				S	**Sn**	**00 26 14.7**	**+2.7**
QSAR	**Qusar**	**0.88**	**65**	P	**Pg**	**00 25 56.9**	**-0.2**
	SNR=43						
QSAR				S	**Sg**	**00 26 06.9**	**-1.7**
ZRD	**Zardab**	**0.94**	**157**	P	**Pn**	**00 25 59.5**	**-0.3**
	SNR=95						
ZRD				S	**Sn**	**00 26 14.6**	**+1.2**
LGD	**Lagodekhi**	**1.00**	**314**	P	**Pb**	**00 25 59.4**	**-0.5**
LGD				S	**Sn**	**00 26 15.7**	**+0.6**
AGDM	**Agdam**	**1.04**	**184**	P	**Pb**	**00 26 00.7**	**+0.3**
	SNR=171						
AGDM				S	**Sn**	**00 26 17.8**	**+1.9**
KDMR	**Kurdemir**	**1.07**	**135**	P	**Pg**	**00 26 01.0**	**+0.3**
	SNR=18						
KDMR				S	**Sn**	**00 26 18.0**	**+1.4**
PQL	**Pirkuli**	**1.11**	**108**	P	**Pg**	**00 26 01.2**	**-0.3**
	SNR=20						
PQL				S	**Sn**	**00 26 18.5**	**+0.5**
GDB	**GEDABAY**	**1.18**	**249**	P	**Pg**	**00 26 01.8**	**-1.0**
	SNR=126						
GDB				S	**Sn**	**00 26 18.8**	**-0.8**
SIZA	**Siyzn**	**1.28**	**92**	P	**Pn**	**00 26 03.5**	**-1.1**
	SNR=29						
SIZA				S	**Sg**	**00 26 21.7**	**+0.3**
ATGJ	**Altiaghaj**	**1.34**	**102**	P	**Pn**	**00 26 04.4**	**-1.1**
	SNR=5.5						
ATGJ				S	**Sn**	**00 26 25.1**	**+1.4**
QZX	**Qazax, Azerbai**	**1.39**	**267**	P	**Pn**	**00 26 05.4**	**-0.6**
	SNR=77						
QZX				S	**Sn**	**00 26 24.9**	**+0.2**
BLQ	**Beylaqan**	**1.45**	**169**	Pn	**Pn**	**00 26 07.1**	**+0.3**
	SNR=18						
BLQ				Sn	**Sg**	**00 26 28.2**	**+1.5**
GBS	**Qobustan**	**1.45**	**114**	P	**Pn**	**00 26 07.5**	**+0.6**
GBS				S	**Sg**	**00 26 28.3**	**+1.4**
ARKR	**Arakani**	**1.47**	**354**	*e*Pg	**Pg**	**00 26 08.0**	**-0.4**
	47nm,0.4s						
ARKR				*e*Sg	**Sg**	**00 26 32.0**	**+4.6**
	98nm,0.5s						
SAAT	**Saatly**	**1.58**	**144**	Pn	**Pn**	**00 26 07.5**	**-1.1**
	SNR=5.0						
SAAT				Sn	**Sb**	**00 26 30.7**	**+0.8**
UNCR	**Uncukul**	**1.60**	**349**	*e*Pg	**Pb**	**00 26 10.0**	**-0.1**
	68nm,0.3s						
UNCR				*e*Sg	**Sg**	**00 26 33.0**	**+1.4**
	226nm,0.0s						
QRD	**Qoradiz**	**1.68**	**177**	Pn	**Pn**	**00 26 10.3**	**+0.3**
	SNR=10						
QRD				Sn	**Sb**	**00 26 33.6**	**+0.7**
KRNR	**Karanay**	**1.70**	**353**	*e*Pg	**Pb**	**00 26 12.0**	**+0.2**
	34nm,0.3s						
KRNR				*e*Sg	**Sg**	**00 26 40.5**	**+5.7**
	43nm,0.4s						
GRS	**Goris**	**1.77**	**202**	⇑*i* P	**Pg**	**00 26 14.0**	**-0.1**
GRS				⇑*i* S	**Sg**	**00 26 38.0**	**+0.9**
ALIB	**Äli-Bayra**	**1.81**	**130**	Pn	**Pn**	**00 26 11.9**	**+0.1**
	SNR=3.5						
ALIB				Sg	**Sg**	**00 26 38.4**	**-0.1**
SEAG	**Tbilisi Sea**	**1.91**	**290**	P	**Pg**	**00 26 18.6**	**+1.8**
SEAG				S	**Sg**	**00 26 39.8**	**-1.7**
GLBA	**Clilabad**	**2.11**	**154**	Pn	**Pn**	**00 26 16.2**	**+0.4**
	SNR=12						
GLBA				Sn	**Sb**	**00 26 45.3**	**+0.3**
STE	**Stepanavan**	**2.15**	**267**	*e*P	**Pb**	**00 26 17.8**	**-1.7**
STE				*e*S	**Sg**	**00 26 47.8**	**-1.4**
SBZ	**Shahbuz**	**2.15**	**216**	Pg	**Pb**	**00 26 18.6**	**-1.0**
	SNR=16						
SBZ				Sn	**Sg**	**00 26 48.3**	**-1.1**
NRKZ	**NAREK**	**2.25**	**240**	*i* P	**Pb**	**00 26 21.4**	**+0.2**
NRKZ				*i* S	**Sg**	**00 26 52.0**	**-0.5**
DMNI	**Dmanisi**	**2.28**	**276**	P	**Pn**	**00 26 19.1**	**+0.7**
DMNI				S	**Sb**	**00 26 50.1**	**-0.1**
HYR	**Heyderabad**	**2.29**	**232**	Pg	**Pb**	**00 26 20.4**	**-1.4**
	SNR=6.1						
HYR				Sg	**Sg**	**00 26 53.5**	**-0.2**
NAX	**Nakhchivan**	**2.36**	**214**	Pg	**Pb**	**00 26 22.0**	**-1.2**
	SNR=3.5						
NAX				Sg	**Sg**	**00 26 56.4**	**+0.3**
YRD	**Yardimli**	**2.36**	**160**	Pn	**Pn**	**00 26 19.4**	**-0.2**
	SNR=20						
YRD				Sn	**Sn**	**00 26 50.8**	**+1.8**
TRLG	**Trialeti**	**2.37**	**281**	P	**Pn**	**00 26 19.8**	**+0.2**
TRLG				S	**Sb**	**00 26 50.4**	**-2.4**
ORD	**Ordubad**	**2.40**	**203**	Pg	**Pb**	**00 26 22.5**	**-1.3**
ORD				Sn	**Sb**	**00 26 54.7**	**+1.1**
PNSH	**Pansheti**	**2.44**	**309**	P	**Pb**	**00 26 22.7**	**-1.8**
PNSH				S	**Sb**	**00 26 54.2**	**-0.7**
ARUZ	**Aruch**	**2.52**	**251**	*i* P	**Pb**	**00 26 26.4**	**+0.6**
ARUZ				*i* S	**Sg**	**00 27 00.4**	**-0.7**
LRK	**Lerik**	**2.65**	**160**	Pn	**Pn**	**00 26 23.9**	**+0.5**
	SNR=3.8						
LRK				Sn	**Sb**	**00 27 00.2**	**-0.6**
LKRN	**Lenkeran, Azer**	**2.71**	**153**	Sn	**Sn**	**00 26 58.4**	**+1.1**
VNNZ	**Vanand**	**2.77**	**249**	*i* P	**Pb**	**00 26 31.2**	**+1.0**
VNNZ				*i* S	**Sg**	**00 27 08.3**	**-1.0**
AKH	**Akhalkalaki**	**2.81**	**277**	P	**Pb**	**00 26 28.9**	**-2.0**
AKH				S	**Sb**	**00 27 05.3**	**-0.2**
BKRG	**Bakuriani**	**2.83**	**284**	P	**Pn**	**00 26 26.8**	**+0.7**
BKRG				S	**Sb**	**00 27 06.4**	**+0.2**
ASTR	**Astara**	**2.85**	**154**	Pg	**Pb**	**00 26 30.3**	**-1.2**
ASTR				Sn	**Sn**	**00 27 03.0**	**+2.3**
TKB	**Tkibuli**	**3.37**	**292**	P	**Pg**	**00 26 44.2**	**-0.7**
TKB				S	**Sb**	**00 27 23.2**	**+1.6**
KBZ	**Khabaz**	**4.10**	**310**	Pn	**Pn**	**00 26 47.0**	**+3.7**
	0.1nm,0.3s,baz=135,slow=7.1,SNR=1.1						
KBZ				Lg	Lg	00 27 47.1	
	0.2nm,0.3s,baz=296,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**11.96**	**35**	Pn	**Pn**	**00 28 30.2**	**-0.8**
	0.1nm,0.3s,baz=229,slow=12,SNR=1.6						
AKTO				Sn	**Sn**	**00 30 37.6**	**-7.0**
	0.1nm,0.3s,baz=51,slow=8.0,SNR=1.3						
FINES	**FINESS Array B**	**24.03**	**335**	P	**P**	**00 30 58.7**	**+3.2**
	0.8nm,0.8s,baz=130,slow=18,SNR=3.7						
GERES	**GERESS Array B**	**24.76**	**299**	P	**P**	**00 31 04.2**	**+1.8**
	0.3nm,0.5s,baz=100,slow=9.3,SNR=4.2						
MKAR	**Makanchi Array**	**25.73**	**65**	P	**P**	**00 31 09.0**	**-2.2**
	0.3nm,0.6s,baz=266,slow=8.4,SNR=1.3						

*BGR **04** 00:33:53.1±0.0, 44.92N×147.92E, h33km, mb5.8*
*BJI **04** 00:33:58.1±0.0, 44.62N×148.01E, h97km, mB5.2/43, mb5.4/66*
*MOS **04** 00:33:59.3±0.9, 44.58N×147.97E, h103km, mb5.4/95, Error ellipse: s-maj=5.4km s-min=3.7km az=112.5*
MOS Felt (II-III) at Malokuril'skoye.
*IDC **04** 00:34:00.4±0.5, 44.67N×147.92E, h100km±4km, mb4.7/30, mb1 4.8/37, mb1mx4.8/40, mbtmp5.1/37, MS3.5/27, Ms1 3.5/27, ms1mx3.4/41, Error ellipse: s-maj=10.1km s-min=7.8km az=152.0*
*NEIC **04** 00:34:00.4±1.5, 44.61N±0.07×147.95E±0.07, h98km±4km, mb5.0/367, Error ellipse: s-maj=10.6km s-min=6.7km az=167.0*
*JMA **04** 00:34:00.7±0.3, 44.22N×148.10E, h94km, M4.8*
JMA Felt I J1.
*SKHL **04** 00:34:00.0±0.1, 44.54N×148.00E, h104km±3km, mb5.7/4, msh5.4/3*
SKHL Felt (III-IV) at Gornyy, Goryachie Kluchi; (II-III) at Kuril'sk, Reidovo, Malokuril'skoye.
*NIED **04** 00:34:00.8, 44.22N×148.10E, h94km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr-0.83; Mθθ1.32; Mφφ-0.49; Mrθ1.28; Mθφ0.40; Mφr1.58; Fault plane solution: M0 2.37000×10^16 NP1: ϕs225.00000°, δ79.00000°, λ-113.00000°. NP2: ϕs110.00000°, δ25.00000°, λ-26.00000°.*
*GCMT **04** 00:34:02.4±0.3, 44.67N±0.02×148.13E±0.03, h99km±5km, MW4.9/95, Moment Tensor Solution. s25,c27; s95,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.43±.14; Mθθ0.81±.15; Mφφ-1.24±.14; Mrθ1.45±.07; Mθφ0.68±.11; Mφr1.88±.06; Best double couple: M0 2.67700×10^16 NP1:ϕs128.00000°, δ28.00000°, λ9.00000°. NP2: ϕs29.00000°, δ86.00000°, λ118.00000°. Principal axes: T 2.8760, Plg43.0000°, Azm326.0000°; N -0.3940, Plg28.0000°, Azm207.0000°; P -2.4790, Plg35.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 00:33:59.9±0.4, 44.52N±0.03×148.01E±0.03, h99km±2km, h99km:pP-P, n1296, σ1s25/1271, mb5.2/362, 119C-59D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.72**	**352**	*i* P	**Pn**	**00 34 17.8**	**+0.5**
KUR				AMB	AMB	00 34 18.0	
	23μm,0.6s						
KUR				*i* S	**Sn**	**00 34 31.2**	**+0.8**
KUR				A	A	00 34 36.0	
	56μm,0.7s						
KUR				A	A	00 34 36.0	
	20μm,0.7s						
KUR	**Kuril'sk**	**0.72**	**352**	*i* PN	**Pn**	**00 34 17.8**	**+0.5**
KUR				*i* S	**Sn**	**00 34 31.4**	**+1.0**
KUR				pmax	pmax		
	comp=N,5μm,0.6s						
KUR				pmax	pmax		
	comp=Z,23μm,0.6s						
KUR				pmax	pmax		
	comp=E,6μm,0.4s						
KUR				smax	smax		
	comp=N,56μm,0.7s						
KUR				smax	smax		
	comp=E,20μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.62**	**253**	*i* P	**Pn**	**00 34 28.0**	**+0.5**
YUK				AMB	AMB	00 34 29.0	
	comp=E,20μm,0.5s						
YUK				*i* S	**Sn**	**00 34 48.9**	**+0.5**
YUK				A	A	00 34 53.0	
	comp=E,39μm,0.5s						
YUK				A	A	00 34 53.0	
	comp=E,26μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.62**	**253**	⇓*i* PN	**Pn**	**00 34 28.3**	**+0.8**
YUK				*i* S	**Sn**	**00 34 48.5**	**+0.1**
YUK				pmax	pmax		
	comp=E,5μm,0.5s						
YUK				pmax	pmax		
	comp=Z,20μm,0.5s						
YUK				pmax	pmax		
	comp=N,3μm,0.2s						
YUK				smax	smax		
	comp=N,39μm,0.5s						
YUK				smax	smax		
	comp=E,26μm,0.5s						
GRPR	**Tuman**	**1.69**	**253**	*i* P	**Pn**	**00 34 28.7**	**+0.3**
GRPR				AMB	AMB	00 34 30.0	
	comp=E,15μm,0.3s						
GRPR				*i* S	**Sn**	**00 34 50.4**	**+0.3**
GRPR				A	A	00 34 55.0	
	comp=E,34μm,0.5s						
GRPR				A	A	00 34 55.0	
	comp=E,14μm,0.5s						
GRPR	**Tuman**	**1.69**	**253**	⇓*i* PN	**Pn**	**00 34 29.1**	**+0.7**
GRPR				*i* S	**Sn**	**00 34 50.2**	**+0.1**
GRPR				pmax	pmax		
	comp=Z,15μm,0.3s						
GRPR				pmax	pmax		
	comp=N,2μm,0.2s						
GRPR				pmax	pmax		
	comp=E,6μm,0.5s						
GRPR				smax	smax		
	comp=E,14μm,0.2s						
GRPR				smax	smax		
	comp=N,34μm,0.4s						
GLVR	**Golovnino**	**1.96**	**247**	*i* P	**Pn**	**00 34 32.0**	**+0.2**
GLVR				AMB	AMB	00 34 36.0	
	comp=N,5μm,0.4s						
GLVR				*i* S	**Sn**	**00 34 56.0**	**-0.1**
GLVR				A	A	00 34 59.0	
	comp=N,28μm,0.6s						
GLVR				A	A	00 34 59.0	
	comp=N,27μm,0.6s						
GLVR	**Golovnino**	**1.96**	**247**	⇑*i* PN	**Pn**	**00 34 32.6**	**+0.8**
GLVR				*i* S	**Sn**	**00 34 56.9**	**+0.8**
GLVR				pmax	pmax		
	comp=Z,5μm,0.4s						
GLVR				pmax	pmax		
	comp=N,2μm,0.3s						
GLVR				pmax	pmax		
	comp=E,1μm,0.3s						
GLVR				smax	smax		
	comp=E,27μm,0.5s						
GLVR				smax	smax		
	comp=N,28μm,0.6s						
NEM2	**Nemuro 2**	**2.00**	**236**	P	**Pn**	**00 34 32.2**	**-0.2**
NEM2				*e*S	**Sn**	**00 34 55.4**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.01**	**236**	*i* P	**Pn**	**00 34 32.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**2.01**	**236**	⇓*i* PN	**Pn**	**00 34 32.3**	**-0.2**
NMR				*e*S	**Sn**	**00 34 55.2**	**-2.2**
JRA	**Rausu**	**2.15**	**255**	P	**Pn**	**00 34 35.7**	**+1.3**
JRA				*e*S	**Sn**	**00 35 02.9**	**+2.2**
JNSB	**Nemuroshibetsu**	**2.29**	**252**	P	**Pn**	**00 34 37.7**	**+1.6**
JNSB				*e*S	**Sn**	**00 35 05.6**	**+1.8**
JKHN	**Kushirohamanak**	**2.51**	**236**	P	**Pn**	**00 34 39.1**	**0.0**
JKHN				*e*S	**Sn**	**00 35 07.5**	**-1.7**
JNK	**Nakash**	**2.55**	**250**	P	**Pn**	**00 34 40.6**	**+1.0**
JNK				*e*S	**Sn**	**00 35 10.5**	**+0.5**
JAK	**Akkeshi**	**2.84**	**239**	P	**Pn**	**00 34 43.2**	**-0.2**
JAK				*e*S	**Sn**	**00 35 15.3**	**-1.7**
JTKR	**Abashiri--Toko**	**3.00**	**261**	P	**Pn**	**00 34 47.1**	**+1.6**
JAR	**Ashorobuto**	**3.30**	**250**	P	**Pn**	**00 34 51.2**	**+1.7**
JAR				*e*S	**Sn**	**00 35 29.7**	**+1.8**
JKK2	**Kamakawa 2**	**3.84**	**262**	P	**Pn**	**00 34 58.9**	**+2.1**
JCH	**Churui**	**3.88**	**242**	P	**Pn**	**00 34 57.4**	**+0.1**
JCH				*e*S	**Sn**	**00 35 40.0**	**-1.8**
JSE	**Soyaes**	**3.89**	**278**	P	**Pn**	**00 34 59.5**	**+2.1**
JKA	**Kamikawa-asahi**	**3.90**	**266**	*e*P	**Pn**	**00 34 59.6**	**+1.9**
JKA	**Kamikawa-asahi**	**3.90**	**266**		**Pn**	**00 34 59.9**	**+2.2**
ASAJ	**Asahikawa**	**3.90**	**266**	P	**Pn**	**00 34 59.6**	**+1.9**
	comp=N,54nm,0.3s,baz=76,slow=20,SNR=133						
ASAJ				S	**Sn**	**00 35 43.8**	**+1.2**
	comp=N,13nm,0.3s,baz=64,slow=18,SNR=1.2						
ASAJ				LR	LR	00 36 29.9	
	comp=N,1μm,18.8s,baz=116,slow=39						
JFR	**Furan**	**4.14**	**253**	P	**Pn**	**00 35 02.8**	**+1.8**
JEM	**Erimo**	**4.34**	**236**	Pn	**Pn**	**00 35 01.8**	**-1.7**
ERM	**Erimo**	**4.34**	**236**	*de*PN	**Pn**	**00 35 04.9**	**+1.4**
ERM	**Erimo**	**4.34**	**236**		**Pn**	**00 35 04.7**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.41**	**305**	*i* P	**Pn**	**00 35 06.0**	**+1.5**
YSS				AMB	AMB	00 35 08.0	
	comp=N,700nm,2.0s						
YSS				AMB	AMB	00 35 08.0	
	comp=N,300nm,0.6s						
YSS				*e*S	**Sn**	**00 35 55.4**	**+0.8**
YSS				A	A	00 35 57.0	
	comp=N,2μm,2.0s						
YSS				A	A	00 35 57.0	
	comp=N,780nm,0.8s						
YSS				A	A	00 35 57.0	
	comp=N,560nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.41**	**305**	⇑*i* PN	**Pn**	**00 35 06.4**	**+1.9**
YSS				*e*S	**Sn**	**00 35 54.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,700nm,2.1s						
YSS				pmax	pmax		
	comp=Z,300nm,0.6s						
YSS				smax	smax		
	comp=N,780nm,0.8s						
YSS				smax	smax		
	comp=E,950μm,0.8s						
YSS				smax	smax		
	comp=N,2μm,2.4s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.41**	**305**		**Pn**	**00 35 05.9**	**+1.5**
JWK2	**Keihoku**	**4.41**	**283**	P	**Pn**	**00 35 07.9**	**+3.4**
JNBK	**Urakawa-nobuka**	**4.44**	**241**	P	**Pn**	**00 35 04.6**	**-0.3**
JNBK				*e*S	**Sn**	**00 35 52.1**	**-3.3**
JHR	**Hokuryu**	**4.59**	**262**	P	**Pn**	**00 35 09.4**	**+2.5**
JYG	**Yagishiri**	**4.71**	**271**	P	**Pn**	**00 35 11.3**	**+2.7**
JRBN	**Rebuntou**	**5.01**	**283**	P	**Pn**	**00 35 15.1**	**+2.5**
JEW	**Eniwo**	**5.04**	**253**	P	**Pn**	**00 35 15.0**	**+1.9**
JEW				*e*S	**Sn**	**00 36 11.7**	**+1.6**
JEW	**Eniwo**	**5.04**	**253**		**Pn**	**00 35 14.8**	**+1.7**
JKB	**Kayabe**	**5.74**	**245**	P	**Pn**	**00 35 22.7**	**+0.2**
JKB				*e*S	**Sn**	**00 36 23.3**	**-3.6**
JOT	**Ohata**	**5.99**	**241**	P	**Pn**	**00 35 25.3**	**-0.7**
JOT				*e*S	**Sn**	**00 36 26.9**	**-6.3**
UGL	**Uglegorsk**	**6.11**	**320**	*e*PN	**Pn**	**00 35 29.0**	**+1.4**
UGL				*e*S	**Sn**	**00 36 37.4**	**+1.4**
UGL				pmax	pmax		
	comp=Z,661nm,0.8s						
UGL				pmax	pmax		
	comp=Z,1μm,2.8s						
UGL				smax	smax		
	comp=N,298nm,1.3s						
UGL				smax	smax		
	comp=E,348nm,0.6s						
UGL				pmax	pmax		
	comp=N,3μm,3.5s						
JTM	**Tenmabayashi**	**6.33**	**236**	Pn	**Pn**	**00 35 29.9**	**-0.7**
JANG	**Nango**	**6.34**	**231**	P	**Pn**	**00 35 28.6**	**-2.2**
JOMM	**Oshimamatsumae**	**6.58**	**246**	P	**Pn**	**00 35 33.9**	**-0.1**
JOMM				*e*S	**Sn**	**00 36 41.8**	**-5.8**
JOSM	**Okushiri--Mats**	**6.69**	**252**	P	**Pn**	**00 35 35.8**	**+0.4**
JOSM				*e*S	**Sn**	**00 36 47.1**	**-2.9**
TYV	**Tymovskoe**	**7.30**	**332**	*i* P	**Pn**	**00 35 45.0**	**+1.3**
TYV				AMB	AMB	00 35 46.3	
	comp=N,600nm,3.0s						
TYV				*e*S	**Sn**	**00 37 06.4**	**+1.6**
TYV				A	A	00 37 09.8	
	comp=N,330nm,0.7s						
TYV				A	A	00 37 09.8	
	comp=N,450nm,0.7s						
TYV	**Tymovskoe**	**7.30**	**332**	*e*PN	**Pn**	**00 35 45.5**	**+1.8**
TYV				*e*S	**Sn**	**00 37 08.9**	**+4.1**
TYV				pmax	pmax		
	comp=Z,62nm,1.6s						
TYV				pmax	pmax		
	comp=Z,600nm,2.8s						
TYV				smax	smax		
	comp=N,33nm,0.8s						
TEY	**Ternei**	**8.13**	**278**	*i* P	**Pn**	**00 35 55.7**	**+0.7**
TEY				AMB	AMB	00 35 56.7	
	comp=N,20nm,1.0s						
TEY				AMB	AMB	00 35 56.7	
	comp=N,10.0nm,1.0s						
TEY	**Ternei**	**8.13**	**278**	⇑*e*PN	**Pn**	**00 35 53.2**	**-1.8**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TEY				pmax	pmax		
	comp=N,20nm,1.3s						
SKR	**Severo-Kuril's**	**8.24**	**39**	*e*P	**Pn**	**00 35 55.7**	**-0.8**
SKR				AMB	AMB	00 35 57.0	
	comp=N,2μm,0.7s						
SKR				AMB	AMB	00 35 57.0	
	comp=N,1μm,2.5s						
SKR				*e*S	**Sn**	**00 37 27.7**	**-0.1**
SKR				A	A	00 37 30.0	
	comp=N,420nm,3.0s						
SKR				A	A	00

comp=E,60nm,0.9s
GRNR pmax pmax
comp=Z,80nm,0.9s
GRNR smax smax
comp=E,9.0nm,0.8s
PEA0B Petropavlovsk- 10.70 33*c i*PN **Pn 00 36 29.3 -0.6**
PEA0B Petropavlovsk- 10.70 33 Pn 00 36 28.8 -1.1
PETK Petropavlovsk- 10.70 33 P **Pn 00 36 28.6 -1.3**
comp=E,6.1nm,0.3s,baz=198,slow=12,SNR=62
PETK LR LR 00 40 47.6
comp=E,171nm,19.3s,baz=226,slow=38
PETK Petropavlovsk- 10.70 33 Pn **Pn 00 36 28.3 -1.6**
MAJO Matsushiro 10.91 226‖*e*PN **Pn 00 36 29.7 -3.2**
MAJO Matsushiro 10.91 226 Pn 00 36 31.3 -1.6
MAT Matsushiro 10.91 226 P **Pn 00 36 31.2 -1.7**
MAT S **Sn 00 38 26.3 -6.6**
MJAR Matsushiro Arr 10.91 226 P **Pn 00 36 31.2 -1.6**
comp=E,0.3nm,0.3s,baz=29,slow=13,SNR=20
MJAR S **Sn 00 38 26.5 -6.4**
comp=E,0.2nm,0.3s,baz=46,slow=14,SNR=1.2
MJAR LR LR 00 41 10.9
comp=E,127nm,19.9s,baz=50,slow=39
MJAR Matsushiro Arr 10.91 226 PN **Pn 00 36 31.7 -1.2**
MJAR Matsushiro Arr 10.91 226 Pn **Pn 00 36 31.7 -1.2**
MJB9 Matsu-Tunnel 10.91 226 Pn 00 36 31.8 -1.1
PET Petropavlovsk 11.02 36 *e*PN **Pn 00 36 31.6 -2.6**
PET pmax pmax
comp=Z,58nm,0.9s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 11.02 36 Pn 00 36 31.9 -2.3
USA0B Ussuriysk Arra 11.48 274*c i*PN **Pn 00 36 40.8 +0.4**
USA0B Ussuriysk Arra 11.48 274 Pn 00 36 41.2 +0.8
USRK Ussuriysk Ar. 11.48 274 P **Pn 00 36 40.8 +0.4**
baz=88,slow=13,SNR=70
USRK LR LR 00 41 06.3
comp=Z,237nm,18.8s,baz=76,slow=37
USRK Ussuriysk Ar. 11.48 274 Pn **Pn 00 36 40.7 +0.2**
JHJ Hachijo jima 2 13.06 212 S Sn 00 39 15.7 -9.3
comp=Z,32nm,0.3s,baz=79,slow=20,SNR=2.7
JHJ LR LR 00 42 54.6
comp=Z,41nm,18.7s,baz=53,slow=41
EKMR Ekimchan 13.08 316 *e*P **Pn 00 37 00.5 -1.2**
EKMR AMB AMB 00 37 03.0
comp=Z,69nm,1.0s
MDJ Mudanjiang 13.13 277 P **Pn 00 37 01.6 -0.8**
MDJ S **Sn 00 39 25.2 -1.6**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.3s
MDJ Mudanjiang 13.13 277 P 00 37 06.0 -2.8
MA2 Magadan 15.17 5 P **Pn 00 37 28.4 -0.1**
comp=Z,4.8nm,0.3s,baz=168,slow=14,SNR=11
MA2 Magadan 15.17 5‖*e*P **Pn 00 37 28.4 -0.1**
MA2 pmax pmax
comp=Z,76nm,0.7s
MA2 Magadan 15.17 5 IAmb IAmb 00 37 31.9
comp=Z,91nm,0.7s
BMKR Bomnak 16.02 316 *e*P **P 00 37 40.0 -0.7**
BMKR AMB AMB 00 37 44.0
comp=Z,59nm,0.5s
CN2 Changchun 16.20 275 ⇑P **P 00 37 43.0 +0.2**
CN2 *es*P sP 00 38 10.8 -2.8
CN2 *e*S **Sn 00 40 38.1 -2.8**
CN2 pmax pmax
comp=Z,90nm,0.8s
CN2 pmax pmax
comp=Z,110nm,3.0s
ZEA Zeya 16.36 312 *e*P **Pn 00 37 43.3 -0.2**
ZEA AMB AMB 00 37 43.8
comp=Z,24nm,0.8s
ZEA AMB AMB 00 37 43.8
comp=Z,47nm,0.8s
ZEA AMB AMB 00 37 43.8
comp=Z,58nm,0.8s
ZEA AMB AMB 00 37 46.3
comp=Z,100nm,9.0s
ZEA AMB AMB 00 37 46.3
comp=Z,200nm,9.0s
ZEA Zeya 16.36 312 *e*P **Pn 00 37 43.3 -0.2**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.6s
ZEA pmax pmax
comp=E,100nm,8.7s
ZEA pmax pmax
comp=Z,200nm,9.7s
KSRS Korea Array 16.70 252 P **Pn 00 37 47.0 -0.7**
comp=Z,1.3nm,0.3s,baz=60,slow=11,SNR=22
KSRS LR LR 00 43 49.4
comp=Z,86nm,18.9s,baz=62,slow=35
KS19 Wonju Array Si 16.72 252 P **P 00 37 49.1 +0.5**
KSAR Wonju Array Be 16.74 252 P **Pn 00 37 48.5 +0.3**
KSAR Wonju Array Be 16.74 252 Pn 00 37 48.5 +0.3
JNU Nakatsue 17.50 235 P **Pn 00 37 57.9 +0.3**
comp=Z,1.4nm,0.3s,baz=47,slow=7.6,SNR=13
JNU LR LR 00 45 42.4
comp=Z,136nm,19.9s,baz=47,slow=40
JNU Nakatsue 17.50 235 Pn 00 38 00.2 +2.6
INCN Inchon 17.57 254 P **Pn 00 37 58.5 +0.1**
INCN pmax pmax
comp=Z,40nm,1.0s
INCN Inchon 17.57 254 P **Pn 00 37 58.5 +0.1**
TJN Taejon 17.66 250‖*e*P **Pn 00 38 00.5 +1.1**
SEY Seymchan 18.62 6 P **P 00 38 08.4 -0.8**
comp=Z,2.0nm,0.3s,baz=184,slow=9.7,SNR=27
SEY Seymchan 18.62 6‖*e*P **P 00 38 09.1 -0.1**
DL2 Dalian 20.43 263 P **P 00 38 29.7 +0.6**
DL2 pmax pmax
comp=Z,140nm,0.7s
YAK Yakutsk 20.55 335 P **P 00 38 27.4 -2.7**
comp=Z,346nm,0.6s,baz=128,slow=0.4,SNR=64
YAK LR LR 00 46 47.4
comp=Z,64nm,18.0s,baz=123,slow=38
YAK Yakutsk 20.55 335 *e*P **P 00 38 27.3 -2.8**
YAK *e**PP **pP 00 38 49.7 +1.4**
YAK *e*S **S 00 42 08.9 -5.2**
YAK *e**SS **sS 00 42 42.6 -2.8**
YAK *e* 00 49 39.3
YAK pmax pmax
comp=Z,457nm,0.9s
YAK pmax pmax
comp=N,30nm,0.8s
YAK pmax pmax
comp=E,35nm,0.8s
YAK smax smax
comp=N,216nm,2.8s
YAK smax smax
comp=E,178nm,2.7s
YAK Yakutsk 20.55 335 P **P 00 38 27.4 -2.7**
AMKA Amchitka 21.93 61 P **P 00 38 44.9 -0.1**
BJI Beijing 23.89 270 P **P 00 39 04.6 +0.4**
BJI pmax pmax
comp=E,93nm,0.9s
BJI pmax pmax
comp=E,350nm,3.5s
BJT Baijiatuau 23.90 270 IAmb IAmb 00 39 06.8
comp=Z,78nm,0.9s
ADK Adak 24.47 60 P **P 00 39 09.6 +0.3**
ADK pmax pmax
comp=Z,55nm,0.9s
ADK Adak 24.47 60 P **P 00 39 09.6 +0.3**
ADK IAmb IAmb 00 39 12.1
comp=Z,54nm,0.8s
BOD Bodaibo 24.82 315 *e*P **P 00 39 08.8 -3.6**
BOD pmax pmax
comp=Z,31nm,0.8s
TIA Tai'an 24.84 261 P **P 00 39 13.6 +0.7**
TIA pmax pmax
comp=Z,150nm,0.7s
GSTR Great Sitkin T 24.87 59 P **P 00 39 12.4 -0.6**
BILL Bilibino 25.45 16*de*P **P 00 39 17.2 -0.8**
BILL *e**PP **pP 00 39 42.5 +2.5**
BILL *e* 00 39 54.8
BILL *e*S **S 00 43 41.1 +3.7**
BILL pmax pmax
comp=Z,40nm,1.3s
BILL Bilibino 25.45 16 P **P 00 39 17.3 -0.8**
NJ2 Nanjing 25.90 251 *e*P **P 00 39 23.6 +1.1**
NJ2 pmax pmax
comp=Z,56nm,0.7s

HHC Hu-ho-hao-te 26.90 275⇓*i*P **P 00 39 33.0 +1.5**
HHC pmax pmax
comp=Z,80nm,1.1s
HHC pmax pmax
comp=Z,500nm,4.9s
TIY Taiyuan 27.49 268 *e*P **P 00 39 39.3 +2.5**
TIY pmax pmax
comp=Z,96nm,1.2s
BTO Baotou 28.08 275 *e*P **P 00 39 42.6 +0.5**
ULN Ulaanbaatar 28.31 291 P **P 00 39 43.8 -0.3**
ULN Ulaanbaatar 28.31 291*c i*P **P 00 39 43.0 -1.1**
ULN pmax pmax
comp=Z,50nm,1.7s
ULN Ulaanbaatar 28.31 291 P **P 00 39 44.2 0.0**
ULN IAmb IAmb 00 39 45.7
comp=Z,19nm,0.6s
SONM Songino Array 28.75 292 P **P 00 39 47.6 -0.4**
comp=Z,7.8nm,0.4s,baz=77,slow=8.5,SNR=53
SONM LR LR 00 51 39.4
comp=Z,153nm,19.9s,baz=92,slow=37
SONM Songino Array 28.75 292 P **P 00 39 47.6 -0.4**
H11N2 WAKE ISLAND Hy 29.30 141 T T 01 10 54.3
baz=332,slow=76,SNR=2019
H11N1 WAKE ISLAND Hy 29.31 141 T T 01 11 00.2
baz=332,slow=76,SNR=2975
H11N3 WAKE ISLAND Hy 29.32 141 T T 01 10 56.4
baz=332,slow=76,SNR=1839
TLY Talaya 30.09 300 P **P 00 39 59.3 -0.3**
comp=Z,9.8nm,0.7s,baz=315,slow=5.4,SNR=8.8
TLY Talaya 30.09 300 *e*P **P 00 39 59.9 +0.2**
TLY Talaya 30.09 300 P **P 00 39 58.2 -1.5**
TLY Talaya 30.09 300 *e*P **P 00 40 01.1 +1.4**
TLY *e*PPP PPP 00 41 09.8
TLY *e*S **S 00 44 59.1 +8.2**
TLY *e*SS **SnSn 00 46 40.1 +6.1**
TLY pmax pmax
comp=Z,17nm,0.6s
TLY MLR MLR
comp=Z,145nm,13.0s
TLY Talaya 30.09 300 P **P 00 39 59.4 -0.3**
H11S1 WAKE ISLAND Hy 30.29 143 T T 01 12 04.4
baz=333,slow=76,SNR=629
H11S3 WAKE ISLAND Hy 30.30 143 T T 01 12 07.4
baz=333,slow=76,SNR=453
H11S2 WAKE ISLAND Hy 30.31 143 T T 01 12 00.1
baz=333,slow=76,SNR=3304
ZAK Zakamensk 30.44 297 *e*P **P 00 40 00.3 -2.6**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
TPUB Ta-pu 30.81 236 P **P 00 40 06.5 +0.2**
TPUB IAmb IAmb 00 40 08.6
comp=Z,38nm,0.8s
XAN Xi'an 31.74 264 P **P 00 40 14.7 +0.3**
XAN pmax pmax
comp=Z,25nm,0.9s
XAN Xi'an 31.74 264 P **P 00 40 14.8 +0.3**
XAN pmax pmax
comp=Z,18nm,0.7s
XAN Xi'an 31.74 264 P **P 00 40 14.8 +0.3**
XAN IAmb IAmb 00 40 15.6
comp=Z,18nm,0.7s
ENH Enshi 33.42 258 IAmb IAmb 00 40 39.7
comp=Z,18nm,0.8s
LZH Lanzhou 34.37 271⇑*i*P **P 00 40 38.8 +1.4**
LZH pP pP 00 40 58.4 -1.4
LZH sP sP 00 41 09.7 -1.6
LZH pmax pmax
comp=Z,38nm,1.0s
GTA Gaotai 35.78 279 ⇑P **P 00 40 50.7 +1.2**
GTA pP pP 00 41 14.8 +2.8
GTA sP sP 00 41 25.8 +2.4
GTA PcP **PcP 00 43 16.8 +1.7**
GTA S **S 00 46 18.4 -1.0**
GTA pmax pmax
comp=Z,110nm,0.8s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,150nm,18.2s
GTA LR LR
comp=Z,100nm,17.5s
GTA LR LR
comp=Z,110nm,18.5s
TTA Tatalina 36.44 40 P **P 00 40 55.6 +0.9**
TTA pmax pmax
comp=Z,9.0nm,0.8s
TTA Tatalina 36.44 40 P **P 00 40 55.6 +0.9**
TTA IAmb IAmb 00 41 02.1
comp=Z,8.9nm,0.8s
CD2 Chengdu 37.10 264 P **P 00 41 01.6 +0.9**
CD2 S **S 00 46 40.1 +0.5**
CD2 pmax pmax
comp=Z,960nm,4.5s
GYA Guiyang 37.71 255 ⇑P **P 00 41 06.1 +0.1**
GYA pmax pmax
comp=Z,26nm,0.9s
PPLA Purkeypile 38.19 40 P **P 00 41 09.8 +0.2**
PPLA IAmb IAmb 00 41 25.8
comp=Z,17nm,1.1s
KDAK Kodiak Island 38.27 48 P **P 00 41 09.9 -0.2**
comp=Z,37nm,0.8s,baz=276,slow=6.0,SNR=20
KDAK Kodiak Island 38.27 48 P **P 00 41 09.9 -0.2**
KDAK pmax pmax
comp=Z,29nm,0.7s
KDAK Kodiak Island 38.27 48 IAmb IAmb 00 41 12.1
comp=Z,29nm,0.7s
BPAW Bear Paw Mtn. 38.73 38 P **P 00 41 14.5 +0.5**
KTH Kantishna Hill 38.76 39 P **P 00 41 15.0 +0.8**
KTH IAmb IAmb 00 41 17.7
comp=Z,21nm,0.8s
MLY Manley 38.85 36 P **P 00 41 16.3 +1.3**
baz=269
NRIK Noril'sk 38.88 331 P **P 00 41 12.9 -2.2**
comp=Z,6.6nm,0.5s,baz=95,slow=4.9,SNR=18
NRIK PcP **PcP 00 43 22.4 -1.4**
comp=Z,4.8nm,0.5s,baz=77,slow=2.3,SNR=4.2
NRIK Noril'sk 38.88 331⇓*i*P **P 00 41 12.0 -3.1**
NRIK pmax pmax
comp=Z,26nm,1.5s
TRF Thorofare Moun 39.05 39 P **P 00 41 17.7 +0.9**
TRF IAmb IAmb 00 41 25.4
comp=Z,16nm,1.2s
COLD Coldfoot 39.17 33 P **P 00 41 18.8 +1.3**
baz=267,SNR=13
COLD Coldfoot 39.17 33 P **P 00 41 17.8 +0.2**
COLD IAmb IAmb 00 41 20.3
comp=Z,23nm,1.1s
BWN Browne 39.40 38 P **P 00 41 20.2 +0.7**
BWN IAmb IAmb 00 41 24.9
comp=Z,54nm,1.1s
RC01 Rabbit Creek A 39.42 43 P **P 00 41 20.3 +0.7**
baz=274
TOLK Toolik Lake Re 39.51 31 P **P 00 41 21.4 +1.0**
baz=265,SNR=15
TOLK Toolik Lake Re 39.51 31 P **P 00 41 21.0 +0.6**
TOLK IAmb IAmb 00 41 22.7
comp=Z,12nm,0.7s
NEA2 Nenana 39.57 37 P **P 00 41 21.8 +1.0**
baz=271,SNR=8.6
MCK McKinley 39.65 38 P **P 00 41 23.3 +1.8**
baz=272
GHO Glory Hole Cre 39.75 42 P **P 00 41 22.9 +0.3**
GHO IAmb IAmb 00 41 33.3
comp=Z,12nm,0.6s
MDM Murphy Dome 39.92 37 P **P 00 41 23.8 0.0**
WRH Wood River Hil 39.99 37 P **P 00 41 24.8 +0.4**
WRH IAmb IAmb 00 41 32.1
comp=Z,20nm,1.0s
KNK Knik Glacier 40.01 42 P **P 00 41 25.7 +1.1**
KNK IAmb IAmb 00 41 34.2
comp=Z,17nm,0.6s
SML Sawmill 40.03 41 P **P 00 41 25.6 +0.8**
SML IAmb IAmb 00 41 34.0
comp=Z,34nm,1.0s
TCOL CIGO, UAF Yank 40.08 37 P **P 00 41 26.9 +1.8**
baz=272
COLA College 40.08 37*d i*P **P 00 41 26.3 +1.2**
COLA pmax pmax
comp=Z,20nm,0.9s
COLA College 40.08 37 P **P 00 41 24.8 -0.3**
COLA IAmb IAmb 00 41 29.3
comp=Z,26nm,0.9s
CCB Clear Creek Bu 40.11 37 P **P 00 41 25.2 -0.1**
POKR Poker Plat Res 40.26 36 P **P 00 41 28.5 +1.9**
baz=272,SNR=15
DHY Denali Highway 40.38 39 P **P 00 41 28.0 +0.3**
DHY IAmb IAmb 00 41 34.1
comp=Z,12nm,0.6s
HDA Harding Lake 40.49 37 P **P 00 41 28.9 +0.4**
baz=273,SNR=13
HDA Harding Lake 40.49 37 IAmb IAmb 00 41 29.9
comp=Z,13nm,0.6s
IL31 40.50 37 IAmb IAmb 00 41 35.6
comp=Z,12nm,0.6s
ILAR Eielson Array 40.50 37 P **P 00 41 28.6 0.0**
comp=Z,9.9nm,0.8s,baz=264,slow=8.5,SNR=46
ILAR ScP **ScP 00 47 07.9 -1.4**
comp=Z,2.0nm,0.8s,baz=293,slow=4.3,SNR=11
DGZ Jazzator, Alta 40.57 300*de*P **P 00 41 30.6 +1.1**
DGZ pmax pmax
comp=Z,14nm,0.7s
M24K Tolsona, Glenn 41.02 41 P **P 00 41 34.6 +1.7**
baz=276
M24K Tolsona, Glenn 41.02 41 P **P 00 41 34.0 +1.1**
M24K IAmb IAmb 00 41 40.3
comp=Z,15nm,0.6s
ZAA0 Zalesovo Array 41.03 307 P **P 00 41 31.8 -1.2**
ZAA0 IAmb IAmb 00 41 35.3
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 41.03 307 P **P 00 41 31.8 -1.2**
comp=Z,18nm,0.6s,baz=66,slow=7.2,SNR=42
ZALV PcP **PcP 00 43 31.2 +0.2**
comp=Z,16nm,0.6s,baz=86,slow=3.3,SNR=16
ZALV ScP **ScP 00 47 10.5 -1.0**
comp=Z,1.8nm,0.8s,baz=74,slow=6.3,SNR=4.6
ZALV LR LR 00 58 42.8
comp=Z,104nm,18.7s,baz=45,slow=36
ZALV Zalesovo Beam 41.03 307 P **P 00 41 32.5 -0.5**
FID Port Fidalgo 41.03 43 P **P 00 41 33.4 +0.4**
FID IAmb IAmb 00 41 38.9
comp=Z,37nm,1.2s
HIN Hinchinbrook I 41.07 43 P **P 00 41 34.3 +1.0**
HIN IAmb IAmb 00 41 38.5
comp=Z,25nm,1.0s
FYU Fort Yukon 41.12 34 P **P 00 41 35.1 +1.6**
FYU IAmb IAmb 00 41 39.8
comp=Z,33nm,0.7s
KMI Kunming 41.29 257⇑*i*P **P 00 41 36.6 +0.8**
KMI pmax pmax
comp=Z,44nm,0.7s
KMI pmax pmax
comp=Z,170nm,5.4s
KMI Kunming 41.29 257 P **P 00 41 35.9 +0.1**
KMI pmax pmax
comp=Z,43nm,0.6s
KMI Kunming 41.29 257 P **P 00 41 35.9 +0.1**
BMAR Burnt Mountain 41.35 33 P **P 00 41 36.1 +0.5**
RIDG Independent Ri 41.46 38 P **P 00 41 37.0 +0.5**
RIDG IAmb IAmb 00 41 42.4
comp=Z,12nm,0.5s
SCRK Sand Creek 41.81 38 P **P 00 41 40.2 +0.7**
baz=276,SNR=13
DOT Dot Lake 41.82 38 P **P 00 41 39.6 +0.2**
DOT IAmb IAmb 00 41 46.8
comp=Z,9.4nm,0.6s
MENT Mentasta 42.05 39 P **P 00 41 41.3 0.0**
MENT IAmb IAmb 00 41 48.8
comp=Z,14nm,0.5s
WMQ Urumqi 42.39 291 *e*P **P 00 41 45.3 +0.9**
WMQ sP sP 00 42 15.4 -3.3
WMQ pmax pmax
comp=Z,59nm,0.9s
WMQ pmax pmax
comp=Z,180nm,3.6s
WMQ LR LR
comp=Z,3μm,28.8s
WMQ LR LR
comp=Z,3μm,28.8s
WMQ LR LR
comp=Z,71nm,29.1s
WMQ Urumqi 42.39 291 P **P 00 41 45.2 +0.9**
WMQ pmax pmax
comp=Z,101nm,0.8s
WMQ Urumqi 42.39 291 P **P 00 41 45.2 +0.8**
K27K Chicken 42.65 38 P **P 00 41 47.6 +1.5**
baz=278,SNR=15
CRQM Cirque 42.65 43 P **P 00 41 47.3 +0.9**
CRQM IAmb IAmb 00 41 50.1
comp=Z,45nm,0.9s
ZSN Zaisan 42.90 297 *e*P **P 00 41 48.7 +0.2**
comp=Z,14nm,0.8s
ZSN Zaisan 42.90 297 *e*P **P 00 41 48.6 +0.2**
ZSN pmax pmax
comp=Z,13nm,0.8s
EGAK Eagle 42.94 36 P **P 00 41 49.1 +0.6**
EGAK IAmb IAmb 00 41 55.9
comp=Z,14nm,0.8s
SLVN Son La 42.98 252 P **P 00 41 50.4 +1.0**
SLVN IAmb IAmb 00 41 52.5
comp=Z,17nm,0.8s
BALM Baldy 42.99 42 P **P 00 41 48.1 -0.9**
BALM IAmb IAmb 00 41 52.9
comp=Z,12nm,0.8s
CTGM Chitina Glacie 43.48 42 P **P 00 41 53.2 +0.1**
CTGM IAmb IAmb 00 41 56.6
comp=Z,19nm,0.9s
MK31 Makanchi Array 44.78 297 *i*P **P 00 42 03.1 -0.3**
MKAR Makanchi Array 44.78 297 P **P 00 42 02.7 -0.7**
comp=Z,65nm,0.8s,baz=77,slow=7.3,SNR=265
MKAR PcP **PcP 00 43 43.3 -0.5**
comp=Z,8.5nm,0.6s,baz=74,slow=3.6,SNR=5.5
MKAR ScP **ScP 00 47 26.3 -0.6**
comp=Z,1.1nm,0.9s,baz=73,slow=4.8,SNR=3.0
MKAR LR LR 01 00 44.3
comp=Z,96nm,20.5s,baz=68,slow=36
MKAR Makanchi Array 44.78 297 *e*P **P 00 42 02.6 -0.8**
MKAR Makanchi Array 44.78 297 *i*P **P 00 42 02.7 -0.7**
MKAR pmax pmax
comp=Z,63nm,0.8s
MKAR Makanchi Array 44.78 297 P **P 00 42 03.5 0.0**
MAKZ Makanchi 44.97 297 P **P 00 42 04.8 -0.1**
MAKZ pmax pmax
comp=Z,65nm,0.9s
MAKZ Makanchi 44.97 297 P **P 00 42 04.8 -0.1**
HYT Haines Junctio 45.34 42 P **P 00 42 08.3 +0.5**
HYT IAmb IAmb 00 42 12.2
comp=Z,31nm,0.8s
INK Inuvik 45.42 31 P **P 00 42 08.0 -0.1**
comp=Z,15nm,0.4s,baz=299,slow=6.5,SNR=61
INK Inuvik 45.42 31 P **P 00 42 08.4 +0.2**
INK pmax pmax
comp=Z,20nm,0.6s
INK Inuvik 45.42 31 P **P 00 42 08.4 +0.2**
INK IAmb IAmb 00 42 10.3
comp=Z,20nm,0.6s
KURK Kurchatov 45.61 304 P **P 00 42 08.7 -1.2**
KURK Kurchatov 45.61 304*ce*P **P 00 42 08.2 -1.7**
KURK pmax pmax
comp=Z,52nm,0.6s
KURK Kurchatov 45.61 304 P **P 00 42 08.2 -1.7**
KURBB Kurchatov Arra 45.70 304 P **P 00 42 08.7 -1.9**
ZIRO ZIRO 46.11 267 *e*P **P 00 42 15.5 +1.1**
LSA Lhasa 46.78 272 P **P 00 42 21.1 +1.2**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 46.78 272 P **P 00 42 21.1 +1.2**
LSA IAmb IAmb 00 42 22.6
comp=Z,19nm,0.6s
DLV T Lat 46.87 239 P **P 00 42 21.0 +0.7**
DLV IAmb IAmb 00 42 24.1
comp=Z,18nm,1.1s
KOHI KOHIMA 47.02 265 *e*P **P 00 42 21.9 +0.5**
JAY Jayapura 47.28 190 P **P 00 42 24.6 +1.3**
comp=Z,5.0nm,0.7s,baz=347,slow=9.2,SNR=3.6
KKM Kota Kinabalu 47.33 225 P **P 00 42 22.6 -1.2**
A36M Sachs Harbour 47.41 25 P **P 00 42 23.9 +0.2**
baz=284
A36M Sachs Harbour 47.41 25 P **P 00 42 23.4 -0.2**
JIS Juneau Island 47.59 44 P **P 00 42 24.6 -0.7**
JIS IAmb IAmb 00 42 35.5
comp=Z,14nm,0.7s
TDK Taldyqorghan 47.98 296 *e*P **P 00 42 29.0 +0.4**
comp=Z,104nm,0.6s
TDK Taldyqorghan 47.98 296 *e*P **P 00 42 28.9 +0.4**
TDK pmax pmax
comp=Z,104nm,0.6s
PDGK Podgornoye 48.01 294 P **P 00 42 27.9 -1.0**
CHTO Chiang Mai 48.09 254 P **P 00 42 30.6 +1.0**
CHTO Chiang Mai 48.09 254 P **P 00 42 30.4 +0.8**
CHTO pmax pmax
comp=Z,26nm,1.0s
CHTO Chiang Mai 48.09 254 P **P 00 42 30.4 +0.8**

CHTO IAmb IAmb 00 42 31.7
comp=Z,26nm,0.9s
SHLS Shalkode 48.11 294 *e*P **P 00 42 27.6 -2.1**
comp=Z,44nm,0.6s
SHLS Shalkode 48.11 294 *e*P **P 00 42 27.5 -2.1**
SHLS pmax pmax
comp=Z,44nm,0.6s
CMAR Chiang Mai Arr 48.34 254 P P **00 42 32.0 +0.5**
comp=Z,6.3nm,0.7s,baz=37,slow=7.5,SNR=34
CMAR pP **pP 00 42 55.1 +0.1**
comp=Z,2.9nm,0.5s,baz=33,slow=8.9,SNR=3.1
CMAR ScP **ScP 00 47 42.9 +0.7**
comp=Z,1.4nm,0.5s,baz=32,slow=3.5,SNR=5.8
CMAR LR LR 01 04 06.4
comp=Z,45nm,18.9s,baz=112,slow=37
CMAR Chiang Mai Arr 48.34 254 *i*P **P 00 42 32.9 +1.4**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 48.34 254 P **P 00 42 32.3 +0.8**
UZB Uzynbulak 48.40 294⇑ *i*P **P 00 42 32.0 0.0**
comp=Z,36nm,0.7s
UZB Uzynbulak 48.40 294*c i*P **P 00 42 31.9 0.0**
UZB pmax pmax
comp=Z,36nm,0.7s
KPKS Kokpek 48.48 295⇑ *i*P **P 00 42 32.7 +0.3**
comp=Z,83nm,0.7s
KPKS Kokpek 48.48 295*c i*P **P 00 42 32.7 +0.3**
KPKS pmax pmax
comp=Z,83nm,0.7s
C36M Paulatuk 48.51 28 P **P 00 42 32.4 +0.3**
baz=288
SHL Shillong 48.70 267 *e*P **P 00 42 34.0 -0.4**
SHL Shillong 48.70 267 P **P 00 42 35.0 +0.6**
SNR=16
SATY Saty 48.84 294⇑ *i*P **P 00 42 35.7 +0.4**
comp=Z,42nm,0.7s
SATY *e*pP **pP 00 42 59.5 +0.6**
SATY Saty 48.84 294*c i*P **P 00 42 35.7 +0.4**
SATY *e**PP **pP 00 42 59.5 +0.6**
SATY pmax pmax
comp=Z,42nm,0.7s
CHKK Chushkaly 49.40 296 *e*P **P 00 42 39.5 +0.1**
CHKK Chushkaly 49.40 296 *e*P **P 00 42 39.5 +0.1**
BRZS Berezniki 49.41 305⇑ *i*P **P 00 42 37.9 -1.4**
comp=Z,29nm,0.5s
BRZS Berezniki 49.41 305*c i*P **P 00 42 37.9 -1.4**
BRZS pmax pmax
comp=Z,29nm,0.5s
BRVK Borovoye 49.54 309 *e*P **P 00 42 38.8 -1.4**
BRVK Borovoye 49.54 309*ce*P **P 00 42 38.8 -1.4**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 49.54 309 P **P 00 42 39.1 -1.1**
BRVK IAmb IAmb 00 42 42.1
comp=Z,8.9nm,0.6s
MDOK Medeo 49.68 295 *e*P **P 00 42 42.2 +0.6**
MDOK Medeo 49.68 295 *e*P **P 00 42 42.2 +0.6**
KNDC Almaty 49.71 295 P **P 00 42 40.9 -0.9**
AAA Alma-Ata 49.74 295 *e*P **P 00 42 42.3 +0.2**
AAA Alma-Ata 49.74 295 *e*P **P 00 42 42.2 +0.2**
AAA Alma-Ata 49.74 295 *e*P **P 00 42 42.2 +0.2**
KUU Kurty 49.80 296⇑ *i*P **P 00 42 42.3 -0.1**
comp=Z,82nm,0.6s
KUU Kurty 49.80 296*c i*P **P 00 42 42.3 -0.1**
KUU pmax pmax
comp=Z,82nm,0.6s
TNSS Tian-Shan 49.80 295 *e*P **P 00 42 43.8 +0.8**
TNSS Tian-Shan 49.80 295 *e*P **P 00 42 43.7 +0.8**
TARG Taragay, Kyrgy 49.85 293 P **P 00 42 43.3 0.0**
GTK Tadong 49.99 271 *e*P **P 00 42 45.2 +1.0**
KDJ Kajisay 50.08 294 P **P 00 42 45.5 +0.8**
KDJ pmax pmax
comp=Z,154nm,1.0s
KDJ Kajisay 50.08 294 P **P 00 42 45.5 +0.8**
MTBS Maitube 50.10 295 *e*P **P 00 42 45.7 +1.0**
MTBS Maitube 50.10 295 *e*P **P 00 42 45.7 +1.0**
DIB Dawson Inlet, 50.47 50 P **P 00 42 47.8 +0.5**
DIB IAmb IAmb 00 42 49.6
comp=Z,29nm,1.0s
ULHL Ulahol 50.63 294 P **P 00 42 50.1 +1.2**
SNR=19
BOOM Boomskoye usch 50.72 295 P **P 00 42 49.9 +0.4**
BOOM pmax pmax
comp=Z,166nm,0.8s
BOOM Boomskoye usch 50.72 295 P **P 00 42 49.9 +0.4**
TKM2 Tokmak 2 50.73 295 P **P 00 42 50.4 +0.7**
SNR=110
BTLS Baital 50.73 298 *e*P **P 00 42 49.4 -0.1**
comp=Z,19nm,1.0s
BTLS Baital 50.73 298 *e*P **P 00 42 49.3 -0.1**
BTLS pmax pmax
comp=Z,19nm,1.0s
CHMS Chumysh 51.24 296 P **P 00 42 53.6 +0.4**
SNR=34
USP Ospenovka 51.28 296 P **P 00 42 54.1 +0.6**
SNR=183
KBK Karagaybulak 51.28 295 P **P 00 42 54.5 +0.8**
SNR=153
KZA Kyzart 51.36 294 P **P 00 42 56.4 +1.8**
SNR=13
FRU1 Bishkek 51.41 296 P **P 00 42 54.6 0.0**
FRU1 pmax pmax
comp=Z,103nm,0.7s
FRU1 Bishkek 51.41 296 P **P 00 42 54.6 0.0**
AAK Ala-Archa 51.58 295 P **P 00 42 57.0 +1.0**
SNR=6.1
AAK Ala-Archa 51.58 295 *i*P **P 00 42 56.5 +0.5**
SNR=99
AAK Ala-Archa 51.58 295 *e*P **P 00 42 56.4 +0.5**
AAK Ala-Archa 51.58 295 P **P 00 42 56.5 +0.5**
AAK Ala-Archa 51.58 295*c i*P **P 00 42 56.4 +0.5**
AAK pmax pmax
comp=Z,354nm,1.3s
UCH Uchtor 51.77 295 P **P 00 42 58.2 +0.5**
SNR=42
EUNU Eureka 51.99 10 P **P 00 42 56.8 -1.5**
EUNU IAmb IAmb 00 42 59.5
comp=Z,16nm,0.6s
EKS2 Erkin-Say 52.03 296 P **P 00 43 00.2 +0.9**
SNR=28
KSH Kashi 52.15 291 P **P 00 43 04.5 +4.3**
KSH S **S 00 50 19.5 +2.4**
KSH pmax pmax
comp=Z,180nm,2.6s
AML Almayashu 52.34 295 P **P 00 43 03.6 +1.7**
SNR=18
SVE Sverdlovsk 53.00 317 *e*P **P 00 43 04.6 -1.4**
SVE pmax pmax
comp=Z,47nm,0.6s
DZA Taraz 53.48 297 *e*P **P 00 43 08.7 -1.1**
DZA Taraz 53.48 297 *e*P **P 00 43 08.7 -1.1**
KK31 Karatay Array 53.90 298 P **P 00 43 12.5 -0.3**
KKAR Karatay Array 53.90 298 P **P 00 43 13.6 +0.8**
KKAR pmax pmax
comp=Z,112nm,0.9s
KKAR Karatay Array 53.90 298 P **P 00 43 13.6 +0.8**
RES Resolute Bay 54.05 17 P **P 00 43 12.7 -0.7**
comp=Z,48nm,0.6s,baz=332,slow=4.2,SNR=42
RES Resolute Bay 54.05 17 P **P 00 43 12.9 -0.5**
RES pmax pmax
comp=Z,58nm,0.7s
RES Resolute Bay 54.05 17 P **P 00 43 12.9 -0.5**
BOK Bokaro 54.07 269 *e*P **P 00 43 15.1 +0.8**
KBS Kingsbay 54.12 350 P **P 00 43 12.0 -1.9**
KBS pmax pmax
comp=Z,26nm,0.7s
ARU Arti 54.21 317*c i*P **P 00 43 12.8 -2.0**
ARU 00 44 17.6
ARU S **S 00 50 41.7 -2.4**
ARU SS **SS 00 54 24.1 -2.4**
ARU pmax pmax
comp=Z,46nm,0.6s
ARU Arti 54.21 317 P **P 00 43 13.5 -1.4**
IUG Iuzhnay 54.69 297⇑ *i*P **P 00 43 19.5 +0.7**
comp=Z,73nm,1.0s
IUG Iuzhnay 54.69 297*c i*P **P 00 43 19.4 +0.7**
IUG pmax pmax
comp=Z,73nm,1.0s
YKA Yellowknife Ar 54.82 34 P **P 00 43 19.7 +0.6**
comp=Z,7.5nm,0.7s,baz=307,slow=7.0,SNR=10
YKA PKP2ab 01 14 08.3
comp=Z,2.6nm,0.7s,baz=82,slow=4.4,SNR=3.7
YKA Yellowknife Ar 54.82 34 *i*P **P 00 43 20.1 +1.0**
YKA pmax pmax
comp=Z,9.0nm,0.7s

TAS Tashkent 55.59 296 P **P 00 43 26.3 +1.2**
TAS pmax pmax
comp=Z,300nm,0.8s
DHRM DHARAMSHALA 55.85 284 *e*P **P 00 43 26.9 -0.4**
GAR Garm 56.16 294 P **P 00 43 30.3 +1.0**
BHK Bhakra 56.25 283 *ex* **P 00 43 32.0 +2.1**
KULM Kulim 56.87 241 P **P 00 43 35.3 +0.9**
KULM IAmb IAmb 00 43 36.8
comp=Z,19nm,0.7s
AB31 Akbulak array 57.06 309 *e*P **P 00 43 34.9 -0.5**
ABKAR Akbulak array 57.06 309 P **P 00 43 34.5 -0.9**
ABKAR Akbulak array 57.06 309 IAmb IAmb 00 43 36.3
comp=Z,70nm,0.6s
NIL Nilore 57.16 287 P **P 00 43 37.3 +0.9**
NIL Nilore 57.16 287 P **P 00 43 37.4 +1.1**
NIL pmax pmax
comp=Z,145nm,1.2s
NIL Nilore 57.16 287 P **P 00 43 37.4 +1.1**
PRGR Permogore 57.27 326 *e*P **P 00 43 34.1 -2.5**
PRGR *e* 00 43 55.6
PRGR pmax pmax
comp=Z,28nm,0.7s
LVZ Lovozero 57.35 336⇓ *e*P **P 00 43 35.0 -2.1**
LVZ pmax pmax
comp=Z,42nm,1.0s
LVZ Lovozero 57.35 336 P **P 00 43 35.1 -2.1**
KIRV Kirov 57.37 322 *de*P **P 00 43 36.1 -1.2**
APA Apatity 57.93 336 *i*P **P 00 43 39.5 -1.6**
A04D Lummi Island 58.03 51 P **P 00 43 43.2 +1.1**
baz=303
NLWA Neilton Lookou 58.09 53 P **P 00 43 43.8 +1.2**
NLWA IAmb IAmb 00 43 45.1
comp=Z,20nm,0.8s
KEV Kevo 58.21 339 P **P 00 43 41.1 -1.9**
KEV pmax pmax
comp=Z,35nm,0.8s
KEV Kevo 58.21 339 P **P 00 43 41.1 -1.9**
D03D Eldon 58.45 53 P **P 00 43 46.9 +1.8**
baz=303,SNR=14
B05A Bryant 58.62 52 P **P 00 43 47.3 +1.0**
baz=303,SNR=5.5
DAG Danmarks Havn 58.69 356 *i*P **P 00 43 43.0 -3.3**
DAG Danmarks Havn 58.69 356 *i*P **P 00 43 43.0 -3.3**
DAG Danmarks Havn 58.69 356 *i*P **P 00 43 43.0 -3.3**
E03A Lebam 58.72 54 P **P 00 43 47.4 +0.5**
E03A IAmb IAmb 00 43 49.5
comp=Z,24nm,1.0s
ARCES ARCESS Array B 58.74 340 P **P 00 43 44.8 -2.0**
comp=Z,19nm,0.8s,baz=50,slow=7.9,SNR=50
ARCES LR LR 01 11 27.7
comp=Z,26nm,19.3s,baz=255,slow=38
E04D Cinebar 59.29 53 P **P 00 43 52.7 +1.8**
baz=304,SNR=7.8
C06D Leavenworth 59.48 51 P **P 00 43 53.5 +1.3**
baz=304
KBL Kabul 59.51 290 P **P 00 43 52.3 -0.6**
SNR=46
KBL Kabul 59.51 290 P **P 00 43 52.3 -0.6**
KBL pmax pmax
comp=Z,95nm,0.8s
KBL Kabul 59.51 290 P **P 00 43 52.3 -0.6**
G03D McMinnville, O 59.63 55 P **P 00 43 54.7 +1.4**
baz=304
I02D Swisshome 59.91 56 P **P 00 43 57.3 +2.1**
baz=304
B08A Colville Reser 60.10 50 IAmb IAmb 00 43 57.8
comp=Z,12nm,0.7s
KLMR Klimovskoe 60.11 328 *e*P **P 00 43 53.3 -3.0**
KLMR *e* 00 44 38.9
KLMR pmax pmax
comp=Z,26nm,0.8s
KLMR Klimovskoe 60.11 328 *e*P **P 00 43 53.3 -3.0**
KLMR AMP 00 43 56.8
comp=Z,26nm,0.8s
KLMR *e*PcP **PcP 00 44 39.0 -2.1**
TRO Tromso 60.22 342 *e*P **P 00 43 55.0 -1.9**
F05D White Salmon 60.30 54 P **P 00 43 59.7 +1.8**
baz=305
KEBM Edson Butte 60.32 58 P **P 00 43 59.6 +1.5**
KEBM IAmb IAmb 00 44 00.9
comp=Z,32nm,1.2s
H04D Lebanon 60.33 55 P **P 00 43 60.0 +1.9**
baz=305
J01E Myrtle Point 60.40 57 P **P 00 44 00.6 +2.0**
baz=305
I03D Drain, OR 60.44 56 P **P 00 44 00.8 +2.0**
baz=305,SNR=5.7
BHPL Bhopal 60.47 274 *e*P **P 00 43 59.5 +0.2**
BHPL IAmb IAmb 00 44 02.9
comp=Z,70nm,1.1s
H04A Detroit Lake 60.56 55 IAmb IAmb 00 44 01.5
comp=Z,12nm,0.8s
NGP Nagpur 60.63 271 *e*P **P 00 44 00.2 -0.2**
NGP IAmb IAmb 00 44 02.1
comp=Z,31nm,0.7s
NGP *i* pP **sP 00 44 31.5 -4.3**
G05D Wamic, OR 60.75 54 P **P 00 44 02.7 +1.7**
baz=305,SNR=8.5
KBO Bosley Butte 60.76 58 P **P 00 44 02.8 +1.6**
KBO IAmb IAmb 00 44 10.1
comp=Z,12nm,1.0s
K02D Willamette Mer 60.82 58 P **P 00 44 03.3 +1.7**
baz=305,SNR=6.9
E07A Sunnyside 60.83 52 P **P 00 44 02.8 +1.3**
E07A IAmb IAmb 00 44 03.7
comp=Z,19nm,1.1s
I04A Tendick Farm, 60.94 56 P **P 00 44 03.6 +1.3**
baz=305,SNR=10
C09A Chrisman Ranch 61.00 50 IAmb IAmb 00 44 04.3
comp=Z,16nm,0.7s
D08A Wollman Farm, 61.07 51 P **P 00 44 03.8 +0.7**
D08A IAmb IAmb 00 44 04.4
comp=Z,9.3nm,0.6s
HAWA Hanford 61.11 52 IAmb IAmb 00 44 05.5
comp=Z,13nm,1.1s
L02E Cave Junction 61.17 58 P **P 00 44 05.5 +1.7**
baz=306
I05D Terrebonne, OR 61.26 55 P **P 00 44 05.9 +1.5**
baz=306,SNR=5.3
KRMB Red Mountain 61.35 59 P **P 00 44 06.2 +0.9**
NEW Newport 61.36 49 P **P 00 44 06.1 +1.0**
baz=306,SNR=12
NEW Newport 61.36 49 IAmb IAmb 00 44 06.9
comp=Z,18nm,0.9s
J04D Umpqua Nationa 61.44 56 P **P 00 44 07.4 +1.6**
baz=306,SNR=14
JCC Jacoby Creek, 61.69 59 P **P 00 44 08.4 +1.1**
JCC IAmb IAmb 00 44 09.6
comp=Z,9.0nm,0.8s
BELG Belogornoye 61.76 317 *de*P **P 00 44 07.2 -0.3**
PINE Pine Mountain 61.81 55 IAmb IAmb 00 44 11.0
comp=Z,18nm,0.8s
E09A Wood Farm, Sta 61.82 51 IAmb IAmb 00 44 10.2
comp=Z,20nm,0.9s
KHMM Horse Mountain 61.84 59 P **P 00 44 10.6 +2.0**
KHMM IAmb IAmb 00 44 11.3
comp=Z,14nm,0.9s
L04D Klamath Falls 61.92 57 P **P 00 44 10.6 +1.5**
baz=306,SNR=15
J05D Fort Rock, OR 61.93 56 P **P 00 44 10.8 +1.7**
baz=306,SNR=5.8
YBH Yreka Blue Hor 61.96 58 P **P 00 44 10.8 +1.6**
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 61.96 58 P **P 00 44 10.8 +1.6**
K04D Chiloquin, OR 62.01 57 P **P 00 44 11.2 +1.6**
baz=306
M02C Callahan 62.07 58 P **P 00 44 11.8 +1.8**
baz=306,SNR=7.6
N2IH Innhavet 62.21 342 *e*P **P 00 44 08.4 -1.9**
KMRM Mail Ridge 62.23 60 P **P 00 44 11.9 +0.8**
KMRM IAmb IAmb 00 44 13.9
comp=Z,9.3nm,0.9s
N2VI Vinje 62.30 342 *e*P **P 00 44 10.4 -0.5**
STEI Steigen 62.39 342 *e*P **P 00 44 09.4 -2.1**
N02D Trinity Center 62.41 59 P **P 00 44 14.0 +1.8**
baz=306,SNR=14
M04C Macdoel 62.46 58 P **P 00 44 14.1 +1.4**
baz=306,SNR=7.4
K05A Summer Lake 62.47 56 P **P 00 44 14.5 +1.8**
K05A IAmb IAmb 00 44 15.5
comp=Z,26nm,1.1s
WALA Waterton Lakes 62.60 47 P **P 00 44 14.4 +1.0**
WALA IAmb IAmb 00 44 15.3
comp=Z,18nm,0.8s
LOF Lofoten 62.60 342 *e*P **P 00 44 10.7 -2.3**

KCPM Cahto Peak 62.63 60 P **P 00 44 15.2 +1.4**
KCPM IAmb IAmb 00 44 15.7
comp=Z,15nm,0.7s
WDC Whiskeytown Da 62.74 59 IAmb IAmb 00 44 16.5
comp=Z,9.7nm,0.9s
FAUS Fauske 62.83 341 *e*P **P 00 44 12.5 -1.9**
O02D Mt. Diablo Mer 62.83 59 P **P 00 44 16.7 +1.7**
baz=307,SNR=10
SUMG Summit 63.12 2 P **P 00 44 16.2 -0.6**
SUMG pmax pmax
comp=Z,76nm,1.1s
SUMG Summit 63.12 2 P **P 00 44 16.2 -0.6**
SUMG Summit 63.12 2 *i*P **P 00 44 15.7 -1.1**
comp=Z,78nm,0.7s
SUMG Summit 63.12 2 *i*P **P 00 44 15.7 -1.1**
SUMG IAmb IAmb 00 44 19.2
comp=Z,78nm,0.7s
N2VA Vr_y 63.17 342 *e*P **P 00 44 14.8 -1.9**
JTMT Jette 63.20 49 IAmb IAmb 00 44 19.2
comp=Z,13nm,0.6s
MOD Modoc Plateau 63.31 57 IAmb IAmb 00 44 19.9
comp=Z,8.4nm,0.7s
HOPS Hopland Field 63.36 61 P **P 00 44 18.6 +0.2**
O03E Paynes Creek 63.36 59 P **P 00 44 19.2 +0.6**
baz=307,SNR=11
HYB Hyderabad 63.41 269 *i*P **P 00 44 18.0 -1.1**
NBB17 Glomfjord BÞr 63.59 341 *e*P **P 00 44 17.9 -1.7**
PLID Pearl Lake 63.88 52 IAmb IAmb 00 44 23.3
comp=Z,10nm,0.6s
MSO Missoula 63.95 49 P **P 00 44 23.3 +1.0**
baz=308,SNR=15
MSO Missoula 63.95 49 IAmb IAmb 00 44 24.2
comp=Z,19nm,0.9s
MOR8 Moi Rana 64.01 341 *e*P **P 00 44 19.3 -3.0**
KONS Konsvik 64.04 342 *e*P **P 00 44 21.2 -1.2**
HRA Herat 64.12 294 P **P 00 44 24.7 +0.9**
MOS Moscow 64.19 324 *e*P **P 00 44 20.7 -2.9**
PUL Pulkovo 64.24 330 *e*P **P 00 44 22.9 -1.0**
PUL Pulkovo 64.24 330⇓ *e*P **P 00 44 22.9 -1.0**
PUL pmax pmax
comp=Z,72nm,1.0s
FIA1 FINESS Array S 64.47 333 P **P 00 44 23.7 -1.6**
FINES FINESS Array B 64.47 333 P **P 00 44 23.6 -1.7**
comp=Z,73nm,0.5s,baz=40,slow=7.3,SNR=815
FINES LR LR 01 13 27.0
comp=Z,44nm,21.4s,baz=18,slow=37
FINES FINESS Array B 64.47 333 *i*P **P 00 44 23.7 -1.6**
FINES pmax pmax
comp=Z,73nm,0.5s
FINES FINESS Array B 64.47 333 P **P 00 44 23.7 -1.6**
GEYT Alibeck 64.61 299 P **P 00 44 27.1 +0.4**
comp=Z,74nm,0.8s,baz=10,slow=3.3,SNR=120
GEYT LR LR 01 12 40.5
comp=Z,86nm,20.1s,baz=55,slow=36
GEYT Alibeck 64.61 299 P **P 00 44 27.4 +0.7**
FFC Flin Flon 64.71 37 P **P 00 44 28.2 +1.2**
FFC pmax pmax
comp=Z,12nm,0.8s
FFC Flin Flon 64.71 37 P **P 00 44 28.2 +1.2**
FFC IAmb IAmb 00 44 36.0
comp=Z,12nm,0.8s
FCC Fort Churchill 65.04 31 P **P 00 44 30.6 +1.5**
FCC pmax pmax
comp=Z,56nm,1.1s
FCC Fort Churchill 65.04 31 P **P 00 44 30.6 +1.5**
OBN Obninsk 65.06 324 *e*P **P 00 44 28.1 -1.1**
OBN Obninsk 65.06 324 *de*P **P 00 44 28.1 -1.1**
OBN *e*S **S 00 53 02.7 -0.7**
OBN pmax pmax
comp=Z,22nm,0.8s
WB0 Warramunga Arr 65.18 194 P **P 00 44 30.9 +0.5**
PAHR Pah Rah Range 65.19 58 IAmb IAmb 00 44 32.5
comp=Z,16nm,1.1s
VCNR Virginia City 65.29 59 P **P 00 44 31.6 +0.3**
VCNR IAmb IAmb 00 44 33.4
comp=Z,14nm,0.8s
WR0 Warramunga Arr 65.34 194 P **P 00 44 31.6 +0.2**
WRAB Tennant Creek 65.35 194*c i*P **P 00 44 31.7 +0.2**
WRAB pmax pmax
comp=Z,28nm,2.5s
WRAB Tennant Creek 65.35 194 P **P 00 44 33.4 +1.9**
WB2 Warramunga Arr 65.36 194 P **P 00 44 32.1 +0.6**
VRH Novokhopyorsk 65.36 318 *e*P **P 00 44 30.2 -1.1**
VRH pmax pmax
comp=Z,90nm,0.9s
WRA Warramunga Arr 65.36 194 P **P 00 44 31.7 +0.1**
comp=Z,3.8nm,0.9s,baz=12,slow=6.4,SNR=28
WRA pP **pP 00 44 56.8 +0.6**
comp=Z,4.0nm,0.7s,baz=12,slow=6.7,SNR=6.0
WRA LR LR 01 13 12.9
comp=Z,17nm,19.3s,baz=130,slow=36
WRA Warramunga Arr 65.36 194 P **P 00 44 32.0 +0.5**
WRA Warramunga Arr 65.36 194 P **P 00 44 32.0 +0.5**
EGMT Eagleton 65.41 46 P **P 00 44 32.7 +0.9**
baz=310,SNR=13
EGMT Eagleton 65.41 46 IAmb IAmb 00 44 33.6
comp=Z,24nm,0.7s
PNTR Pine Nut 65.44 59 IAmb IAmb 00 44 34.5
comp=Z,15nm,0.8s
CMB Columbia Colle 65.61 60 IAmb IAmb 00 44 35.1
comp=Z,10.0nm,0.8s
HLID Hailey 65.71 52 P **P 00 44 35.1 +1.2**
baz=309,SNR=10.0
LPSR Galich'ya Gora 65.72 321 *e*P **P 00 44 32.8 -0.8**
LPSR pmax pmax
comp=Z,60nm,1.0s
YERR Yerington 65.73 59 IAmb IAmb 00 44 36.2
comp=Z,26nm,1.1s
SAO San Andreas Ge 65.73 62 P **P 00 44 34.6 +0.6**
SAO pmax pmax
comp=Z,10.0nm,1.1s
SAO San Andreas Ge 65.73 62 P **P 00 44 34.6 +0.6**
WAKR Walker 65.91 59 IAmb IAmb 00 44 37.5
comp=Z,13nm,1.0s
NSS Namsos 65.96 341 *e*P **P 00 44 34.1 -0.8**
BOZ Bozeman (W) 65.97 49 P **P 00 44 36.7 +1.2**
baz=310,SNR=41
BOZ Bozeman (W) 65.97 49 IAmb IAmb 00 44 37.5
comp=Z,20nm,0.7s
POO Poona 66.05 273 *e*P **P 00 44 36.1 -0.1**
POO Poona 66.05 273 *ex* x 00 44 35.0
KVN Kaiserville 66.38 58 IAmb IAmb 00 44 40.4
comp=Z,19nm,0.9s
RYN Ryan 66.39 59 IAmb IAmb 00 44 40.4
comp=Z,12nm,0.8s
VSU Vasula 66.47 331 *e*P **P 00 44 36.5 -1.7**
VSU Vasula 66.47 331*c i*P **P 00 44 36.9 -1.3**
VSU pmax pmax
comp=Z,82nm,0.6s
VSR Storozhevoye 66.55 320 *e*P **P 00 44 38.5 -0.4**
VSR pmax pmax
comp=Z,140nm,1.2s
LHV Little Huntoon 66.64 59 IAmb IAmb 00 44 42.4
comp=Z,29nm,0.9s
NVAR Mina Array Bea 66.65 59 P **P 00 44 40.9 +0.9**
comp=Z,12nm,0.7s,baz=294,slow=7.1,SNR=62
NVAR Mina Array Bea 66.65 59 P **P 00 44 41.0 +0.9**
VORD Divnogorie 66.66 319 *e*P **P 00 44 39.4 -0.2**
VORD pmax pmax
comp=Z,50nm,0.6s
OMMB Old Mammoth Mi 66.73 60 P **P 00 44 41.3 +0.6**
GCMT Greycliff 66.89 48 P **P 00 44 42.5 +1.1**
YHH Holmes Hill 66.91 49 P **P 00 44 42.5 +0.7**
YNE Yellowstone No 67.22 49 P **P 00 44 45.0 +1.4**
H17A Grant Village 67.31 50 P **P 00 44 47.2 +3.0**
baz=311,SNR=7.6
H17A Grant Village 67.31 50 P **P 00 44 46.9 +2.7**
H17A IAmb IAmb 00 44 48.0
comp=Z,21nm,1.0s
YMP Mirror Lake Pl 67.32 49 P **P 00 44 44.8 +0.4**
TBLU Trondheim 67.44 341 *e*P **P 00 44 42.1 -2.3**
RLMT Red Lodge 67.55 48 P **P 00 44 47.0 +1.3**
baz=311
TPAW Teton Pass 67.70 51 IAmb IAmb 00 44 49.5
comp=Z,19nm,0.8s
HVU Hansel Valley 67.78 53 P **P 00 44 47.2 +0.1**
HVU pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 67.91 8 *i*P **P 00 44 46.4 -0.8**
SFJD Kangerlussuaq 67.91 8 P **P 00 44 47.0 -0.2**
SFJD IAmb IAmb 00 44 47.7
comp=Z,16nm,0.8s
SFJD Kangerlussuaq 67.91 8 *i*P **P 00 44 46.4 -0.8**
SFJD Kangerlussuaq 67.91 8 *i*P **P 00 44 46.4 -0.8**
DGMT Dagmar 67.91 43 P **P 00 44 48.4 +0.8**

baz=313,SNR=6.7
DGMT Dagmar 67.91 43 P **P** **00 44 48.4 +0.8**
PKM Mcpherson Peak 67.94 62 P **P** **00 44 49.3 +1.0**
baz=310
CWC Cottonwood Cre 68.04 60 P **P** **00 44 49.6 +0.8**
baz=310
GOA Goa 68.07 270 *e*P **P** **00 44 49.0 0.0**
GOA IAmb IAmb 00 44 50.4
comp=Z,16nm,0.5s
LAO LASA Array 68.10 46 P **P** **00 44 50.2 +1.3**
baz=312,SNR=10
LAO LASA Array 68.10 46 P **P** **00 44 49.9 +1.0**
LAO IAmb IAmb 00 44 51.0
comp=Z,19nm,0.9s
GRAC Grapevine Rang 68.13 59 P **P** **00 44 50.7 +1.4**
baz=310,SNR=27
BGU Big Grassy Mou 68.19 54 P **P** **00 44 49.9 +0.2**
SPUT South Promonto 68.27 53 P **P** **00 44 50.7 +0.5**
ISA Isabella, Lake 68.29 61 P **P** **00 44 50.5 +0.2**
baz=310
R11A Troy Canyon, C 68.35 57 P **P** **00 44 51.6 +0.9**
baz=310,SNR=21
DZM Mont Dzumac 68.38 162 *e*P **P** **00 44 53.3 +2.5**
comp=Z,34nm,1.1s
DZM Mont Dzumac 68.38 162 P **P** **00 44 53.1 +2.3**
DZM IAmb IAmb 00 45 00.7
comp=Z,11nm,0.9s
GROC Groznyy 68.53 310 *e*P **P** **00 44 50.8 -0.7**
GROC *e* 00 45 14.3
GROC *e**PP **PcP** **00 45 15.6 -0.4**
GROC *e**SP **sP** **00 45 28.1 +0.8**
GROC pmax pmax
comp=Z,92nm,0.7s
AKT Akhty 68.58 307 *e*P **P** **00 44 52.7 +0.7**
AKT *e* 00 45 16.5
AKT *e**PP **pP** **00 45 19.5 +2.5**
AKT *e**SP **sP** **00 45 30.0 +2.2**
AKT pmax pmax
comp=Z,192nm,0.7s
SLIT Slitere, Latvi 68.63 332 *e*P **P** **00 44 50.5 -1.3**
MPMC Manual Prospec 68.65 60 P **P** **00 44 53.5 +0.9**
baz=310,SNR=18
MOL Molde 68.66 342 *e*P **P** **00 44 51.6 -0.4**
IZAR Zarasai 68.69 329 *e*P **P** **00 44 52.0 -0.3**
DOMB Dombas 68.77 341 *e*P **P** **00 44 51.4 -1.3**
GOF Gofitskoye 68.77 313⇑*i*P **P** **00 44 53.9 +0.9**
GOF pmax pmax
comp=Z,533nm,0.7s
FURC Furnace Creek, 68.78 59 P **P** **00 44 54.4 +1.3**
baz=310,SNR=23
DUG Dugway, Tooele 68.79 54 P **P** **00 44 54.6 +1.2**
baz=311,SNR=20
DUG Dugway, Tooele 68.79 54 IAmb IAmb 00 44 55.5
comp=Z,13nm,0.9s
PALK Pallekele 68.80 259 P **P** **00 44 54.0 +0.4**
PALK pmax pmax
comp=Z,13nm,1.0s
PALK Pallekele 68.80 259 P **P** **00 44 54.0 +0.4**
PALK IAmb IAmb 00 44 58.8
comp=Z,13nm,1.0s
IDID Didziasalis 68.83 328 *e*P **P** **00 44 52.9 -0.3**
TPNV Topopah Spring 68.84 59 P **P** **00 44 54.7 +0.8**
baz=310,SNR=18
TPNV Topopah Spring 68.84 59 IAmb IAmb 00 44 55.8
comp=Z,15nm,0.9s
ISAL Salakas 68.87 329 *e*P **P** **00 44 53.1 -0.2**
LRMC Laurel Mtn Rad 68.91 61 P **P** **00 44 54.8 +0.7**
baz=310
BW06 Boulder Array 68.94 50 P **P** **00 44 55.1 +0.7**
baz=312,SNR=16
PDAR Pinedale Array 68.94 50 P **P** **00 44 55.0 +0.6**
comp=Z,7.8nm,0.7s,baz=277,slow=1.8,SNR=68
PDAR pP **pP** **00 45 19.1 -0.2**
comp=Z,2.2nm,0.6s,baz=294,slow=1.5,SNR=3.8
PDAR Pinedale Array 68.94 50 P **P** **00 44 54.8 +0.4**
IIGN Ignalina 69.00 329 *e*P **P** **00 44 53.9 -0.3**
MICGM Minsk 69.01 327 *e* **P** **00 44 59.0 +4.7**
MNK Minsk 69.01 327 *e*P **P** **00 44 59.0 +4.7**
ASAR Alice Springs 69.07 194 P **P** **00 44 56.0 +1.1**
comp=Z,1.9nm,0.6s,baz=10,slow=5.7,SNR=40
ASAR pP **pP** **00 45 22.1 +2.2**
comp=Z,2.3nm,0.7s,baz=9.1,slow=5.3,SNR=4.3
ASAR PKP2bc 01 13 05.7
comp=Z,0.4nm,0.9s,baz=209,slow=28,SNR=4.1
EDW2 Edwards Air Fo 69.10 61 P **P** **00 44 56.4 +1.1**
baz=310,SNR=9.2
NB2 NORSAR Subarra 69.10 339 P **P** **00 44 53.6 -1.2**
comp=Z,42nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.10 339 P **P** **00 44 53.6 -1.2**
baz=31,slow=6.5
NOA NORSAR Array B 69.10 339 P **P** **00 44 53.7 -1.2**
comp=Z,30nm,0.5s,baz=31,slow=6.6,SNR=346
NOA LR LR 01 19 07.1
comp=Z,20nm,18.1s,baz=30,slow=39
NACGM Naroch 69.13 328 *e* **P** **00 44 53.0 -2.0**
AKN Aaknes 69.13 342 *e*P **P** **00 44 54.2 -0.8**
PRN Pahroc Range 69.28 58 P **P** **00 44 56.6 +0.1**
NC602 NORSAR Array S 69.28 339 IAmb IAmb 00 44 55.8
comp=Z,48nm,1.1s
NORES NORESS Array B 69.28 339 P **P** **00 44 54.3 -1.6**
NORES pmax pmax
comp=Z,11nm,0.4s
SHOC Shoshone, Teco 69.51 60 P **P** **00 44 58.7 +1.0**
baz=311
GSC Goldstone, Bar 69.57 60 P **P** **00 44 59.0 +0.8**
baz=311,SNR=6.8
MPU Maple Canyon 69.59 54 P **P** **00 44 55.3 -3.1**
EIDS Eidsvold 69.61 177 P **P** **00 44 59.6 +1.4**
PABE Paberze 69.70 330 *e*P **P** **00 44 57.7 -0.8**
KIV Kislovodsk 69.71 312⇑P **P** **00 44 59.7 +0.8**
KIV Kislovodsk 69.71 312 *i* P **P** **00 44 60.0 +1.1**
SNR=101
KIV Kislovodsk 69.71 312 *e*P **P** **00 44 59.7 +0.8**
KIV Kislovodsk 69.71 312 P **P** **00 45 00.0 +1.1**
KIV Kislovodsk 69.71 312 *e*P **P** **00 44 59.7 +0.8**
KIV pmax pmax
comp=Z,1μm,1.0s
KIV MLR MLR
comp=Z,186nm,17.0s
KIV Kislovodsk 69.71 312 P **P** **00 44 59.8 +0.8**
BFSC Mount Baldy Ra 69.72 62 P **P** **00 45 00.1 +0.9**
baz=311,SNR=6.6
KBZ Khabaz 69.75 312 P **P** **00 45 00.0 +1.0**
comp=Z,167nm,0.8s,baz=54,slow=5.2,SNR=309
KBZ LR LR 01 20 22.3
comp=Z,86nm,19.2s,baz=36,slow=40
KBZ Khabaz 69.75 312*c* *i*P **P** **00 45 00.0 +1.0**
KBZ pmax pmax
comp=Z,186nm,0.8s
SHPR Sheep Range 69.80 58 P **P** **00 45 00.1 +0.4**
ZEI Tsey 69.84 310 *e*P **P** **00 44 58.0 -1.9**
ZEI pmax pmax
comp=Z,128nm,0.8s
PBUR Paburge 70.02 331 *e*P **P** **00 44 59.4 -1.0**
TUQ Turquoise Moun 70.03 60 P **P** **00 45 02.0 +1.0**
baz=311,SNR=12
FOO Floro 70.08 342 *e*P **P** **00 44 59.6 -1.1**
ANGG Ammassalik, Gr 70.11 2 P **P** **00 44 59.7 -1.1**
ANGG IAmb IAmb 00 45 00.7
comp=Z,19nm,0.6s
SKAR Skarslia 70.14 340 *e*P **P** **00 45 00.2 -1.0**
HEC Hector,Ludlow 70.17 60 P **P** **00 45 02.8 +1.0**
baz=311,SNR=7.4
OSL Oslo 70.17 339 *e*P **P** **00 45 01.1 -0.2**
CCUT Cedar City 70.20 57 P **P** **00 45 03.2 +1.0**
HYA Hoyanger 70.21 341 *e*P **P** **00 45 00.6 -0.9**
MVU Marysvale 70.25 55 P **P** **00 45 03.2 +0.7**
MSU Marysvale 70.27 55 P **P** **00 45 03.5 +0.9**
MSU Marysvale 70.27 55 P **P** **00 45 03.5 +0.9**
TMUT Trail Mountain 70.31 54 P **P** **00 45 03.6 +0.6**
MURC Murrieta 70.43 62 P **P** **00 45 04.2 +0.7**
baz=311
P17A Butcher Ranch, 70.46 54 P **P** **00 45 04.7 +0.9**
ULM Lac du Bonnet 70.51 38 P **P** **00 45 03.9 +0.3**
comp=Z,4.7nm,0.7s,baz=27,slow=6.1,SNR=2.7
ULM Lac du Bonnet 70.51 38 P **P** **00 45 03.9 +0.3**
ULM pmax pmax
comp=Z,8.0nm,1.0s
ULM Lac du Bonnet 70.51 38 IAmb IAmb 00 45 11.4
comp=Z,7.9nm,0.9s
MDND Maddock 70.55 41 P **P** **00 45 05.3 +1.4**
baz=316
Q16A Castle Valley 70.58 54 P **P** **00 45 05.8 +1.3**
GMRC Granite Mounta 70.61 60 P **P** **00 45 05.6 +0.9**
baz=311,SNR=8.9

LCMT Little Creek M 70.62 57 P **P** **00 45 05.1 +0.4**
SUE Sulen 70.62 342 *e*P **P** **00 45 03.2 -0.9**
K22A Casper 70.67 49 P **P** **00 45 05.5 +0.6**
baz=313,SNR=10
K22A Casper 70.67 49 P **P** **00 45 05.7 +0.8**
K22A IAmb IAmb 00 45 06.6
comp=Z,13nm,0.6s
KONO Kongsberg 70.71 339 P **P** **00 45 04.2 -0.4**
KONO pmax pmax
comp=Z,15nm,1.0s
KONO Kongsberg 70.71 339 P **P** **00 45 04.2 -0.4**
KONO IAmb IAmb 00 45 06.6
comp=Z,15nm,1.0s
KONO Kongsberg 70.71 339 *e*P **P** **00 45 03.5 -1.1**
BORG Borgarnes 70.75 355 P **P** **00 45 05.1 +0.4**
BORG pmax pmax
comp=Z,54nm,1.0s
BORG Borgarnes 70.75 355 P **P** **00 45 05.1 +0.4**
CHVG Ch'k'valeri 70.87 311⇑P **P** **00 45 06.5 +0.6**
PFO Pinyon Flats O 70.89 62 P **P** **00 45 07.0 +0.7**
baz=311,SNR=5.5
PFO Pinyon Flats O 70.89 62 *i* P **P** **00 45 05.7 -0.6**
PFO Pinyon Flats O 70.89 62 P **P** **00 45 07.0 +0.7**
BELC Belle Mtn. Jos 70.92 61 P **P** **00 45 06.7 +0.2**
baz=311,SNR=5.4
E28A Huff 70.93 43 IAmb IAmb 00 45 07.7
comp=Z,26nm,0.7s
RWWY Rawlins 70.95 50 IAmb IAmb 00 45 07.3
comp=Z,15nm,0.9s
RSSD Black Hills 70.98 46 P **P** **00 45 07.3 +0.5**
baz=314
RSSD Black Hills 70.98 46 P **P** **00 45 07.3 +0.5**
RSSD pmax pmax
comp=Z,15nm,0.7s
RSSD Black Hills 70.98 46 P **P** **00 45 07.3 +0.5**
RSSD IAmb IAmb 00 45 08.1
comp=Z,15nm,0.7s
AKH Akhalkalaki 71.00 310⇑P **P** **00 45 08.5 +1.5**
ASK Askoy 71.04 342 *e*P **P** **00 45 06.2 -0.4**
BER Bergen 71.10 341 *e*P **P** **00 45 07.4 +0.5**
SUW Suwalki 71.16 329 *e*P **P** **00 45 06.2 -1.2**
SUW Suwalki 71.16 329 *e*P **P** **00 45 06.2 -1.2**
ODD1 Odda 71.22 341 *e*P **P** **00 45 08.0 +0.3**
AKASG Malin Array Be 71.32 324 P **P** **00 45 07.8 -0.7**
comp=Z,18nm,0.4s,baz=39,slow=6.4,SNR=109
AKASG Malin Array Be 71.32 324 *i* P **P** **00 45 07.8 -0.7**
AKASG pmax pmax
comp=Z,19nm,0.4s
AKASG Malin Array Be 71.32 324 P **P** **00 45 07.9 -0.6**
AKBB Malin Array Si 71.32 324*c* *i*P **P** **00 45 07.6 -0.8**
IRM Iron Mountain 71.35 60 P **P** **00 45 09.8 +0.8**
baz=312,SNR=9.8
O20A White River Ci 71.44 52 P **P** **00 45 10.5 +0.8**
baz=313,SNR=8.0
O20A White River Ci 71.44 52 P **P** **00 45 09.0 -0.7**
O20A IAmb IAmb 00 45 11.7
comp=Z,9.7nm,0.7s
BC3 Big Chuckawall 71.49 61 P **P** **00 45 10.3 +0.4**
baz=312,SNR=5.0
W13A Hualapai Mount 71.50 59 P **P** **00 45 10.2 0.0**
SOC Sochi 71.52 313 *e*P **P** **00 45 09.3 -0.5**
SOC *e**PP **pP** **00 45 34.4 -0.5**
SOC *e*PPP PPP 00 49 35.2
SOC *e*S **S** **00 54 20.4 -0.2**
SOC *e**SS **ScS** **00 55 05.7 0.0**
SOC *e*SS **SS** **00 59 00.0 +3.5**
SOC pmax pmax
comp=Z,113nm,0.7s
TASB TASBURUN-IGDIR 71.55 308 *e*P **P** **00 45 11.9 +1.7**
U15A North Rim 71.58 57 P **P** **00 45 10.4 -0.3**
BLS5 Blasjo 71.69 340 *e*P **P** **00 45 11.3 +0.8**
IKP In-Ko-Pah, Jac 71.74 62 P **P** **00 45 12.0 +0.6**
baz=312
SWSC Sam W. Stewart 71.74 62 P **P** **00 45 11.4 +0.2**
baz=312
ANN Anapa 71.83 315 *e*P **P** **00 45 11.7 +0.1**
ANN *e*S **S** **00 54 22.8 -1.3**
ANN pmax pmax
comp=Z,83nm,0.5s
BCA Borcka 72.00 311⇑P **P** **00 45 13.4 +0.7**
ARTV Artvin 72.01 310 P **P** **00 45 12.7 -0.4**
ARTV IAmb IAmb 00 45 14.7
comp=Z,14nm,0.9s
N23A Red Feather La 72.19 50 P **P** **00 45 15.6 +1.4**
baz=314,SNR=6.9
N23A Red Feather La 72.19 50 P **P** **00 45 15.1 +0.9**
HOMB Homborsund 72.19 339 *e*P **P** **00 45 13.5 0.0**
HOMB Homborsund 72.19 339 *i* P **P** **00 45 14.9 +1.4**
SENK Senkaya-Erzuru 72.21 310 *e*P **P** **00 45 15.6 +1.4**
GLA Glamis 72.28 61 P **P** **00 45 15.7 +1.1**
baz=312
CLDR Caldiran 72.31 308 *e*P **P** **00 45 16.9 +2.0**
SNART Snartemo 72.46 340 *e*P **P** **00 45 15.5 +0.4**
SNART Snartemo 72.46 340 *i* P **P** **00 45 14.7 -0.4**
CHOM Cayeli-Rize 72.70 311 *e*P **P** **00 45 18.1 +1.2**
WUAZ Wupatki 72.75 57 P **P** **00 45 18.5 +1.1**
baz=313,SNR=5.6
WUAZ Wupatki 72.75 57 P **P** **00 45 17.5 +0.1**
VANB Van 72.98 308 *e*P **P** **00 45 21.7 +2.9**
BSD Bornholm Skovb 73.07 334 *i* P **P** **00 45 18.0 -0.8**
BSD pmax pmax
comp=Z,42nm,0.7s
BSD Bornholm Skovb 73.07 334 *i* P **P** **00 45 18.0 -0.8**
comp=Z,42nm,0.7s
BSD Bornholm Skovb 73.07 334 *i* P **P** **00 45 18.0 -0.8**
BSD IAmb IAmb 00 45 19.1
comp=Z,42nm,0.7s
MLAZ Malazgirt-MUS 73.08 308 *e*P **P** **00 45 21.4 +2.0**
GOET G??ttrup 73.08 338 *i* P **P** **00 45 19.3 +0.5**
comp=Z,100nm,0.7s
GOET G??ttrup 73.08 338 *i* P **P** **00 45 19.4 +0.5**
GOET IAmb IAmb 00 45 19.9
comp=Z,101nm,0.7s
113A Mohawk Valley, 73.13 61 P **P** **00 45 19.6 0.0**
ISCO Idaho Springs 73.14 51 P **P** **00 45 20.9 +1.0**
baz=314,SNR=11
MVCO Mesa Verde 73.29 54 P **P** **00 45 21.6 +0.8**
baz=314,SNR=6.1
MVCO Mesa Verde 73.29 54 P **P** **00 45 19.5 -1.2**
COP Copenhagen 73.34 336⇓*i*P **P** **00 45 20.6 +0.3**
COP pmax pmax
comp=Z,54nm,0.7s
COP Copenhagen 73.34 336⇓*i*P **P** **00 45 20.6 +0.3**
comp=Z,54nm,0.7s
COP Copenhagen 73.34 336⇓*i*P **P** **00 45 20.7 +0.3**
COP IAmb IAmb 00 45 21.1
comp=Z,54nm,0.7s
X16A Lo Mia Camp, P 73.45 58 P **P** **00 45 21.7 0.0**
X16A IAmb IAmb 00 45 24.0
comp=Z,12nm,0.8s
BANOM Banah 73.46 290 P **P** **00 45 22.1 +0.5**
BANOM Banah 73.46 290 P **P** **00 45 22.5 +0.9**
SNR=8.3
SHME Shamm 73.49 290 *i* P **P** **00 45 22.1 +0.3**
SNR=9.2
KOPT Kop Dagi 73.60 310 P **P** **00 45 23.8 +1.2**
KOPT IAmb IAmb 00 45 27.4
comp=Z,36nm,0.9s
MUD Monsted U'grnd 73.61 338 *i* P **P** **00 45 21.7 -0.2**
MUD pmax pmax
comp=Z,24nm,0.7s
MUD Monsted U'grnd 73.61 338 *i* P **P** **00 45 21.7 -0.2**
comp=Z,24nm,0.7s
MUD Monsted U'grnd 73.61 338 *i* P **P** **00 45 21.7 -0.2**
MUD IAmb IAmb 00 45 22.6
comp=Z,24nm,0.7s
SORM Soroca 73.64 323⇑P **P** **00 45 21.8 -0.4**
SORM Soroca 73.64 323 P **P** **00 45 21.8 -0.4**
WSAR Wadi Sarin 73.66 287 P **P** **00 45 24.2 +1.3**
VRTB Varto-Mus 73.68 309 *e*P **P** **00 45 24.8 +1.9**
BEL Belsk 73.77 329 *e*P **P** **00 45 23.4 +0.5**
BEL Belsk 73.77 329 *e*P **P** **00 45 23.4 +0.5**
BIDO Bidbid 73.82 287 P **P** **00 45 25.3 +1.6**
WBK Wadi Bani Khal 73.85 286 P **P** **00 45 25.3 +1.3**
SNR=7.6
GKP Gorka Klasztor 73.85 332 *i* P **P** **00 45 23.1 -0.3**
GKP Gorka Klasztor 73.85 332⇑*i*P **P** **00 45 23.1 -0.3**
MDH Madha 73.88 290 P **P** **00 45 23.9 -0.2**
S22A 4UR Ranch, Cre 73.88 53 P **P** **00 45 25.8 +1.5**
baz=314,SNR=9.6
S22A 4UR Ranch, Cre 73.88 53 P **P** **00 45 24.9 +0.6**
MSFE Esma-Masafi 73.93 290 P **P** **00 45 24.8 +0.3**
Q24A Divide 73.97 51 P **P** **00 45 25.8 +1.0**
baz=315

Q24A Divide 73.97 51 P **P** **00 45 24.4 -0.4**
RGN Rugen 74.05 334 *e*P **P** **00 45 24.1 -0.4**
RGN Rugen 74.05 334 *e*P **P** **00 45 24.7 +0.2**
comp=Z,176nm,1.1s,baz=30,slow=5.6
RGN Rugen 74.05 334 P **P** **00 45 23.9 -0.6**
LVV L'vov 74.13 326 *e*P **P** **00 45 24.9 -0.2**
UMQ Umm Al-Quwin 74.16 290 P **P** **00 45 25.9 +0.3**
UOSS Minazif 74.18 289 *i* P **P** **00 45 26.1 +0.4**
SNR=11
UOSS Minazif 74.18 289 P **P** **00 45 26.2 +0.4**
UOSS Minazif 74.18 289 P **P** **00 45 25.5 -0.3**
UOSS IAmb IAmb 00 45 28.6
comp=Z,34nm,0.7s
BNGB Bingl 74.22 309 *e*P **P** **00 45 27.8 +1.8**
214A Organ Pipe Nat 74.27 61 P **P** **00 45 26.2 -0.1**
baz=313
214A Organ Pipe Nat 74.27 61 P **P** **00 45 25.8 -0.5**
SIRT Sirnak 74.28 307 *e*P **P** **00 45 27.6 +1.3**
KIS Kishinev 74.30 322 *i* P **P** **00 45 26.0 -0.1**
comp=Z,220nm,0.7s
KIS Kishinev 74.30 322⇑P **P** **00 45 26.4 +0.2**
KIS Kishinev 74.30 322 *i* P **P** **00 45 26.0 -0.1**
KIS pmax pmax
comp=Z,200nm,0.7s
HATD Hatta, Dubai 74.31 289 *i* P **P** **00 45 27.0 +0.4**
SNR=22
HATD Hatta, Dubai 74.31 289 P **P** **00 45 27.3 +0.8**
HOQ Hoqain 74.33 288 P **P** **00 45 27.5 +0.7**
MILM Milestii Mici 74.36 322⇑P **P** **00 45 26.1 -0.3**
ASHO Ashiyiah 74.45 289 *i* P **P** **00 45 27.9 +0.5**
SNR=10
ASHO Ashiyiah 74.45 289 P **P** **00 45 28.1 +0.7**
SOHO SOHO 74.50 289 *i* P **P** **00 45 27.8 +0.2**
SNR=14
SOHO SOHO 74.50 289 P **P** **00 45 28.0 +0.4**
NAZ Nazwa, Dubai 74.51 290 *i* P **P** **00 45 28.0 +0.3**
SNR=10
NAZ Nazwa, Dubai 74.51 290 P **P** **00 45 28.2 +0.4**
SVAN Silvan-Diyarba 74.53 308 *e*P **P** **00 45 29.3 +1.6**
JMDO Jabal Madar 74.60 286 P **P** **00 45 29.2 +0.9**
SNR=11
SDCO Great Sand Dun 74.63 52 P **P** **00 45 29.6 +1.0**
baz=315,SNR=7.9
SDCO Great Sand Dun 74.63 52 P **P** **00 45 28.8 +0.1**
IAS Iasi 74.70 322⇓P **P** **00 45 28.9 +0.4**
IAS Iasi 74.70 322 P **P** **00 45 28.8 +0.4**
KWP Kalwaria Pacla 74.80 327 *i* P **P** **00 45 29.7 +0.7**
KWP Kalwaria Pacla 74.80 327⇑*i*P **P** **00 45 29.7 +0.7**
BSY Bisya 74.97 287 P **P** **00 45 31.5 +1.0**
SNR=6.4
ECSD EROS Data Cent 74.98 43 P **P** **00 45 30.3 +0.1**
baz=318,SNR=8.1
ECSD EROS Data Cent 74.98 43 P **P** **00 45 29.9 -0.3**
PTK Pertek 75.00 310 *e*P **P** **00 45 32.4 +1.8**
VASR Vaslui 75.02 322⇓P **P** **00 45 31.2 +0.9**
RSDY Resadiye-TOKAT 75.04 312 *e*P **P** **00 45 32.0 +1.4**
SKMB Sankelmark Bun 75.05 337 *e*P **P** **00 45 31.0 +0.7**
comp=Z,126nm,1.1s,baz=30,slow=5.6
ALNE Al Ain 75.08 289 *i* P **P** **00 45 31.6 +0.5**
SNR=26
PRAR RASCA 75.15 323⇑P **P** **00 45 31.0 -0.1**
DIKM Dikmen 75.21 314⇓P **P** **00 45 33.1 +1.6**
DIKM Dikmen 75.21 314 *e*P **P** **00 45 33.5 +2.0**
KVT Kavak 75.21 314 *e*P **P** **00 45 33.2 +1.6**
AJN Ajban 75.25 290 P **P** **00 45 31.8 -0.2**
TUC Tucson 75.29 59 P **P** **00 45 33.2 +1.0**
baz=314
BURAR Bucovina Array 75.38 324⇑P **P** **00 45 32.8 +0.3**
BURAR Bucovina Array 75.38 324 P **P** **00 45 32.8 +0.3**
BURAR Bucovina Array 75.38 324 P **P** **00 45 32.6 +0.1**
BIR Birlad 75.39 322⇓P **P** **00 45 33.9 +1.4**
BIR Birlad 75.39 322 P **P** **00 45 33.8 +1.4**
SVRC Sivrice-ELAZID 75.42 310 *e*P **P** **00 45 34.9 +1.9**
MAZI Mazidag 75.44 308 *e*P **P** **00 45 34.3 +1.3**
OJC Ojcow 75.44 329 *i* P **P** **00 45 33.1 +0.4**
OJC Ojcow 75.44 329⇑*i*P **P** **00 45 33.1 +0.4**
BSEG Bad Segeberg 75.48 336 *e*P **P** **00 45 32.9 +0.2**
comp=Z,79nm,1.0s,baz=30,slow=5.6
TOKT Tokat 75.51 313 *e*P **P** **00 45 34.6 +1.3**
BIZ Bicaz 75.53 323⇑P **P** **00 45 33.9 +0.6**
KOLS Kolonicke sedl 75.53 326 *e*P **P** **00 45 32.2 -1.0**
KOLS pmax pmax
comp=Z,57nm,0.9s
KOLS Kolonicke sedl 75.53 326 *e*P **P** **00 45 32.2 -1.0**
TOKA Tokat 75.54 313 IAmb IAmb 00 45 35.1
comp=Z,15nm,0.7s
SVSK Karacayir 75.56 312 *e*P **P** **00 45 34.8 +1.3**
VARL Varlezi 75.57 321⇓P **P** **00 45 34.5 +1.1**
BZK Bozkurt 75.61 315⇑P **P** **00 45 34.6 +0.8**
MHTO MHTO 75.62 285 P **P** **00 45 35.1 +1.0**
SNR=12
TESR Tescani 75.62 322⇓P **P** **00 45 34.4 +0.6**
GHRR 75.64 322⇓P **P** **00 45 35.3 +1.5**
RUE Ruedersdorf 75.66 333 *e*P **P** **00 45 33.2 -0.6**
RUE Ruedersdorf 75.66 333 *e*P **P** **00 45 33.9 +0.1**
comp=Z,132nm,1.1s,baz=30,slow=5.6
T25A Trinidad 75.67 52 P **P** **00 45 35.2 +0.6**
baz=316
TLCR 75.68 320⇓P **P** **00 45 34.8 +0.7**
TLCR 75.68 320 P **P** **00 45 34.7 +0.7**
UZH Uzhgorod 75.77 326⇓*i*P **P** **00 45 34.2 -0.3**
UZH *e* 00 45 41.0
CRVS Cervenica-Dubn 75.88 327 *e*P **P** **00 45 35.7 +0.5**
CRVS pmax pmax
comp=Z,94nm,1.0s
CRVS Cervenica-Dubn 75.88 327 *e*P **P** **00 45 35.7 +0.5**
SCHL Schela 75.88 321⇑P **P** **00 45 36.2 +1.0**
NIE Niedzica 75.91 328 *i* P **P** **00 45 36.4 +1.0**
NIE Niedzica 75.91 328⇑*i*P **P** **00 45 36.4 +1.0**
KAC Achnashellach 75.93 346 *e*P **P** **00 45 35.2 0.0**
MALT Malatya 75.94 310 *e*P **P** **00 45 37.3 +1.4**
PETR Petresti 75.98 322⇑P **P** **00 45 37.4 +1.6**
CFR Carcaliu 76.00 321⇑P **P** **00 45 36.0 +0.1**
BMR Baia Mare 76.05 325⇑P **P** **00 45 36.5 +0.3**
ANMO Albuquerque 76.05 55 P **P** **00 45 37.9 +1.2**
baz=315
ANMO Albuquerque 76.05 55⇑*i*P **P** **00 45 37.2 +0.5**
ANMO pmax pmax
comp=Z,8.0nm,1.7s
ANMO Albuquerque 76.05 55 P **P** **00 45 36.7 0.0**
VRI Vrincioaia 76.09 322⇑P **P** **00 45 37.1 +0.6**
VRI Vrincioaia 76.09 322 P **P** **00 45 37.0 +0.6**
PLOR Plostina 76.14 322⇑P **P** **00 45 37.3 +0.5**
PLOR Plostina 76.14 322 P **P** **00 45 37.3 +0.5**
KPL Plockton 76.14 346 *e*P **P** **00 45 36.2 -0.3**
KPL IAmb IAmb 00 45 37.3
comp=Z,81nm,0.7s
ARCR ARCALIA 76.16 324⇓P **P** **00 45 38.4 +1.6**
STKA Stephens Creek 76.26 186 P **P** **00 45 38.8 +1.5**
comp=Z,2.7nm,0.6s,baz=342,slow=8.2,SNR=6.8
STKA LR LR 01 21 13.4
comp=Z,19nm,18.0s,baz=27,slow=37
DARE Darende-Malaty 76.27 311 *e*P **P** **00 45 39.6 +1.9**
LENM Lemitar 76.30 56 P **P** **00 45 38.5 +0.5**
I37A Lemond, Waseca 76.30 41 P **P** **00 45 37.9 +0.2**
I37A IAmb IAmb 00 45 39.3
comp=Z,37nm,0.8s
URFA Urfa 76.36 309 *e*P **P** **00 45 39.3 +1.1**
OKC Ostrava-Krasne 76.37 329⇑*e*P **P** **00 45 38.4 +0.5**
OKC Ostrava-Krasne 76.37 329 *e*P **P** **00 45 38.4 +0.5**
L34A Svendsen Farm, 76.41 44 **P** **00 45 37.6 -0.7**
L34A IAmb IAmb 00 45 49.1
comp=Z,27nm,0.6s
TIRR Tirgusor 76.42 320⇓P **P** **00 45 39.1 +0.7**
TIRR Tirgusor 76.42 320 P **P** **00 45 39.0 +0.7**
LANS Liptovska Anna 76.44 328 *e*P **P** **00 45 39.9 +1.5**
LANS pmax pmax
comp=Z,78nm,0.8s
LANS Liptovska Anna 76.44 328 *e*P **P** **00 45 39.9 +1.5**
OSTC Ostas 76.46 331⇑*i*P **P** **00 45 38.8 +0.3**
HARR Harsova 76.46 321 *e*P **P** **00 45 38.9 +0.4**
CHVC Chvalec 76.49 331⇑*i*P **P** **00 45 39.1 +0.4**
TLBR Topalu 76.52 320⇓P **P** **00 45 39.8 +0.9**
UPC Upice 76.57 331⇑*e*P **P** **00 45 39.5 +0.4**
UPC Upice 76.57 331 *e*P **P** **00 45 39.5 +0.4**
DOPR Dopca 76.60 323⇓P **P** **00 45 40.3 +1.0**
DPC Dobruska-Polom 76.60 331⇑*e*P **P** **00 45 40.0 +0.7**
DPC Dobruska-Polom 76.60 331 *e*P **P** **00 45 40.0 +0.7**
KECS Kecovo 76.60 327 *e*P **P** **00 45 39.8 +0.5**
KECS pmax pmax
comp=Z,29nm,0.8s
KECS Kecovo 76.60 327 *e*P **P** **00 45 39.8 +0.5**
CORM Corum 76.61 314 *e*P **P** **00 45 39.9 +0.3**

NEHR **Nehoiu** 76.62 322 ⇑P P 00 45 40.0 +0.5
MORC **Moravsky Berou** 76.64 330 ⇑P P 00 45 40.1 +0.6
MORC **Moravsky Berou** 76.64 330 ⇑*iP* P 00 45 40.1 +0.6
KRLC **Kraliky** 76.66 330 ⇑*iP* P 00 45 40.2 +0.5
KRLC **Kraliky** 76.66 330 ⇑*iP* P 00 45 40.2 +0.5
SCHQ **Schefferville** 76.69 20 P P 00 45 40.0 +0.3
comp=Z,19nm,0.9s,baz=338,slow=6.0,SNR=11
SCHQ **Schefferville** 76.69 20 P P 00 45 40.2 +0.6
SCHQ IAmb IAmb 00 45 41.9
comp=Z,16nm,0.8s
INVG **Invergeldie, C** 76.71 344 *eP* P 00 45 39.2 -0.5
MLR **Muntele Rosu** 76.73 322 LR LR 01 25 25.5
comp=Z,72nm,18.1s,baz=51,slow=40
MLR **Muntele Rosu** 76.73 322 ⇑P P 00 45 41.6 +1.4
CJR **Cluj-Napoca** 76.77 324 ⇑P P 00 45 41.4 +1.0
NRDL **Niedersach Rie** 76.79 335 *eP* P 00 45 40.3 +0.2
comp=Z,68nm,1.1s,baz=30,slow=5.6
AMRR **Amara** 76.80 321 ⇑P P 00 45 40.3 -0.1
319A **Douglas** 76.86 59 P P 00 45 42.5 +1.3
319A IAmb IAmb 00 45 43.2
comp=Z,18nm,0.8s
ESY **Stoneypath** 76.90 344 *eP* P 00 45 40.9 +0.1
CLL **Collm** 76.91 333 ⇑*iP* P 00 45 40.8 -0.2
comp=Z,204nm,1.0s
CLL **Collm** 76.91 333 ⇑*iP* P 00 45 40.8 -0.2
CLL pmax pmax
comp=Z,204nm,1.0s
CLL **Collm** 76.91 333 *eP* P 00 45 40.6 -0.3
comp=Z,204nm,1.0s,baz=30,slow=5.6
ASSE **Asse, Remlinge** 76.94 335 *eP* P 00 45 41.2 +0.2
comp=Z,66nm,1.0s,baz=30,slow=5.6
BNN **Bunyan** 76.94 312 *eP* P 00 45 42.8 +1.2
121A **Cookes Peak, D** 76.96 57 P P 00 45 43.2 +1.4
baz=315,SNR=8.0
ICOR **Ion Corvin** 76.97 320 ⇓P P 00 45 42.9 +1.5
SARI **SarD1z-Kayseri** 76.97 311 *eP* P 00 45 43.3 +1.6
BRG **Berggiesshubel** 76.97 332 ⇑*iP* P 00 45 41.1 -0.2
comp=Z,43nm,0.9s
BRG *e* 00 45 49.3
comp=Z,12nm,1.0s
BRG **Berggiesshubel** 76.97 332 *iP* P 00 45 41.1 -0.2
BRG *e* 00 45 49.3
BRG pmax pmax
comp=Z,43nm,0.9s
BRG **Berggiesshubel** 76.97 332 *eP* P 00 45 41.2 -0.1
comp=Z,45nm,1.0s,baz=30,slow=5.6
EAB **Aberfoyle** 76.99 345 *eP* P 00 45 40.8 -0.5
SECR 77.03 322 ⇑P P 00 45 42.7 +0.9
PVCC **Panska Ves** 77.05 332 ⇑*eP* P 00 45 42.3 +0.5
PVCC **Panska Ves** 77.05 332 *eP* P 00 45 42.3 +0.5
LAWE **Loch Awe, Argy** 77.12 345 *eP* P 00 45 41.2 -0.8
LAWE IAmb IAmb 00 45 43.1
comp=Z,44nm,0.9s
FBE **Freiberg** 77.13 332 *eP* P 00 45 42.4 +0.2
comp=Z,106nm,1.0s,baz=30,slow=5.6
VOIR 77.16 323 ⇓P P 00 45 43.6 +1.0
VYHS **Vyhne** 77.22 328 *eP* P 00 45 43.6 +0.8
VYHS pmax pmax
comp=Z,59nm,0.5s
VYHS **Vyhne** 77.22 328 *eP* P 00 45 43.6 +0.8
SULR 77.23 322 ⇑P P 00 45 43.4 +0.6
CLZ **Clausthal** 77.28 335 *eP* P 00 45 43.5 +0.4
comp=Z,204nm,1.3s,baz=30,slow=5.6
PSZ **Piszkesteto** 77.29 327 ⇑P P 00 45 43.8 +0.6
JAVC **Velka Javorina** 77.35 329 ⇑*iP* P 00 45 44.9 +1.3
KMRS **Kahramanmaras** 77.36 311 *eP* P 00 45 45.3 +1.5
PGBU **Glenifferbraes** 77.37 345 *eP* P 00 45 43.6 +0.2
PGBU IAmb IAmb 00 45 44.9
comp=Z,137nm,1.1s
VRAC **Vranov** 77.37 330 ⇑P P 00 45 44.3 +0.7
VRAC **Vranov** 77.37 330 ⇑*iP* P 00 45 44.3 +0.7
VRAC **Vranov** 77.37 330 P P 00 45 44.3 +0.7
NEUB **Neuenburg** 77.39 334 *eP* P 00 45 43.6 -0.1
comp=Z,172nm,1.1s,baz=30,slow=5.6
ARR **Arges** 77.39 323 ⇑P P 00 45 45.4 +1.5
GAZ **Gaziantep** 77.44 310 *eP* P 00 45 45.8 +1.5
GAZ **Gaziantep** 77.44 310 P P 00 45 45.2 +1.0
GAZ IAmb IAmb 00 45 46.2
comp=Z,16nm,0.8s
BR131 **Keskin Array S** 77.45 314 P P 00 45 45.4 +0.9
SNR=12
BR131 **Keskin Array S** 77.45 314 IAmb IAmb 00 45 46.9
comp=Z,16nm,0.7s
BRTR **Keskin Array B** 77.45 314 P P 00 45 44.8 +0.4
comp=Z,18nm,0.6s,baz=105,slow=2.1,SNR=115
BRTR LR LR 01 25 30.8
comp=Z,17nm,18.5s,baz=54,slow=40
BRTR **Keskin Array B** 77.45 314 *iP* P 00 45 45.0 +0.6
BRTR pmax pmax
comp=Z,21nm,0.6s
BRTR **Keskin Array B** 77.45 314 P P 00 45 44.6 +0.2
PRA **Prague** 77.49 331 ⇑*eP* P 00 45 44.8 +0.6
PRA **Prague** 77.49 331 *eP* P 00 45 44.8 +0.6
GOPC **GO Pecny, Ondr** 77.50 331 ⇑*eP* P 00 45 44.9 +0.6
GOPC **GO Pecny, Ondr** 77.50 331 *eP* P 00 45 44.9 +0.6
PRU **Pruhonice** 77.52 331 ⇑*eP* P 00 45 44.6 +0.2
PRU **Pruhonice** 77.52 331 *eP* P 00 45 44.6 +0.2
ESK **Eskdalemuir** 77.58 344 *eP* P 00 45 44.6 0.0
ESK **Eskdalemuir** 77.58 344 P P 00 45 45.0 +0.4
ESK pmax pmax
comp=Z,37nm,0.7s
ESK **Eskdalemuir** 77.58 344 P P 00 45 45.0 +0.4
BUC1 **Bucharest** 77.59 321 ⇓P P 00 45 44.9 0.0
N35A **Tabor** 77.61 44 IAmb IAmb 00 45 46.2
comp=Z,23nm,0.7s
KRUC **Moravsky** 77.65 330 ⇑*iP* P 00 45 45.6 +0.5
KRUC **Moravsky** 77.65 330 P P 00 45 45.7 +0.6
IBBN **Ibbenburen** 77.65 336 *eP* P 00 45 45.0 0.0
comp=Z,110nm,0.9s,baz=30,slow=5.6
STFAR **Stefanesti-Arg** 77.65 322 ⇓P P 00 45 46.0 +0.8
GTTG **Gottingen** 77.67 335 *eP* P 00 45 45.5 +0.3
comp=Z,120nm,1.0s,baz=30,slow=5.6
SGRR **Singureni** 77.71 321 ⇑P P 00 45 45.2 -0.3
SMOL **Smolenice** 77.73 329 *eP* P 00 45 46.7 +1.1
SMOL pmax pmax
comp=Z,39nm,0.8s
SMOL **Smolenice** 77.73 329 *eP* P 00 45 46.7 +1.1
TREC **Trest** 77.78 330 ⇑*eP* P 00 45 46.4 +0.5
TREC **Trest** 77.78 330 *eP* P 00 45 46.4 +0.5
TREC MLR MLR
comp=Z,2µm,8.6s
LOD **Lodumlu** 77.78 315 *eP* P 00 45 47.3 +1.2
TANN **Tannenbergstha** 77.85 333 *eP* P 00 45 46.4 +0.1
comp=Z,53nm,0.9s,baz=30,slow=5.6
WERD **Werda** 77.88 333 *eP* P 00 45 46.4 0.0
comp=Z,37nm,0.9s,baz=30,slow=5.6
PLN **Plauen** 77.89 333 *eP* P 00 45 46.6 +0.2
comp=Z,60nm,1.1s,baz=30,slow=5.6
MODS **Modra-Piesok** 77.90 329 *eP* P 00 45 46.7 +0.1
MODS pmax pmax
comp=Z,88nm,1.0s
MODS **Modra-Piesok** 77.90 329 *eP* P 00 45 46.7 +0.1
HUMR **Humele** 77.91 322 ⇑P P 00 45 46.4 -0.2
SIRR **Siria** 77.92 325 ⇓P P 00 45 47.5 +0.7
MOX **Moxa** 77.93 333 P P 00 45 46.8 +0.1
MOX **Moxa** 77.93 333 *eP* P 00 45 46.8 +0.1
comp=Z,92nm,1.2s,baz=30,slow=5.6
GUNZ **Gunzen** 77.94 333 *eP* P 00 45 46.9 +0.1
comp=Z,62nm,1.0s,baz=30,slow=5.6
AFSR **Afar-Bala (An** 77.95 314 *eP* P 00 45 48.5 +1.4
KOZT **Kozan** 77.96 311 *eP* P 00 45 48.4 +1.3
PBCC **Pribram** 77.97 331 ⇑*eP* P 00 45 47.1 +0.2
NEWG **New Galloway** 77.97 344 *eP* P 00 45 46.0 -0.8
SRO **Srobarova** 77.98 328 *eP* P 00 45 48.4 +1.4
SRO pmax pmax
comp=Z,85nm,0.9s
SRO **Srobarova** 77.98 328 *eP* P 00 45 48.4 +1.4
BUD **Budapest** 77.98 327 P P 00 45 48.1 +1.1
BUD pmax pmax
comp=Z,81nm,1.1s
RAZG **Razgrad** 77.98 321 ⇓P P 00 45 47.8 +0.7
WERN **Wernitzgruen** 77.98 333 *eP* P 00 45 47.3 +0.2
comp=Z,92nm,1.1s,baz=30,slow=5.6
SCIA **State Center** 78.00 42 P P 00 45 48.1 +0.9
baz=320
NKC **Novy Kostel** 78.02 333 ⇑*eP* P 00 45 47.4 +0.2
NKC **Novy Kostel** 78.02 333 *eP* P 00 45 47.4 +0.2
SERE **Sereflikochisa** 78.07 313 *eP* P 00 45 49.6 +1.8
COPA **Copaceanca** 78.11 322 ⇑P P 00 45 47.6 -0.2
ZST **Bratislava** 78.11 329 *eP* P 00 45 47.8 +0.1
ZST pmax pmax
comp=Z,156nm,1.1s
ZST **Bratislava** 78.11 329 *eP* P 00 45 47.8 +0.1
GZR **Gura Zlata** 78.17 324 ⇑P P 00 45 48.2 0.0

KESW **Keswick, Cumbr** 78.25 343 *eP* P 00 45 48.2 -0.2
KESW IAmb IAmb 00 45 49.4
comp=Z,86nm,0.9s
UBBA **Unterbreizbach** 78.29 334 *eP* P 00 45 48.8 +0.3
comp=Z,30nm,0.7s,baz=30,slow=5.6
MANZ **Manzenberg** 78.34 333 *eP* P 00 45 49.1 +0.1
comp=Z,48nm,1.0s,baz=30,slow=5.6
CEYT **Ceyhan** 78.35 311 *eP* P 00 45 50.4 +1.2
CLGH **Cloghs, Cushen** 78.36 345 *eP* P 00 45 48.8 -0.2
CLGH IAmb IAmb 00 45 49.9
comp=Z,57nm,0.7s
KSU1 **Kansas State U** 78.44 46 P P 00 45 49.5 -0.2
baz=319
KSU1 **Kansas State U** 78.44 46 IAmb IAmb 00 45 50.1
comp=Z,15nm,0.7s
BZS **Buzias** 78.47 325 ⇑P P 00 45 49.8 +0.1
BZS **Buzias** 78.47 325 P P 00 45 49.2 -0.5
BZS pmax pmax
comp=Z,68nm,1.0s
SZH **Strazhica** 78.48 321 *iP* P 00 45 50.0 +0.2
ROTZ **Rotzenmuhle** 78.50 333 *eP* P 00 45 50.3 +0.5
comp=Z,67nm,1.0s,baz=30,slow=5.6
GULT **Gulveren** 78.50 316 *eP* P 00 45 50.9 +0.8
HPK **Haverah Park** 78.52 342 *eP* P 00 45 50.0 +0.2
HPK IAmb IAmb 00 45 50.9
comp=Z,121nm,0.7s
BUG **Bochum-Univer** 78.56 336 *eP* P 00 45 50.0 0.0
comp=Z,104nm,1.1s,baz=30,slow=5.6
SRE **Strehaia** 78.57 323 ⇓P P 00 45 50.7 +0.3
SRE **Strehaia** 78.57 323 P P 00 45 50.6 +0.3
KHC **Kasperske Hory** 78.58 331 ⇑*eP* P 00 45 50.8 +0.4
KHC *ex* x 00 46 29.5
KHC **Kasperske Hory** 78.58 331 *cP* P 00 45 50.7 +0.4
KHC pmax pmax
comp=Z,351nm,1.3s
KHC **Kasperske Hory** 78.58 331 IAmb IAmb 00 45 52.0
comp=Z,41nm,0.8s
VLAD **Vladila** 78.58 322 ⇓P P 00 45 51.1 +0.8
SULT **Sultanhani-AKS** 78.66 313 *eP* P 00 45 52.1 +1.1
CHBY **Cihanbeyli** 78.69 314 *eP* P 00 45 51.2 0.0
HERR **Herculane** 78.73 324 ⇓P P 00 45 51.0 -0.2
SVRH **Sivrihisar-ESK** 78.74 315 *eP* P 00 45 51.9 +0.4
SOP **Sopron** 78.75 329 P P 00 45 52.2 +1.0
SOP pmax pmax
comp=Z,121nm,1.0s
GEC2 **GERESS Array S** 78.78 331 *eP* P 00 45 51.6 +0.1
comp=Z,53nm,1.0s,baz=30,slow=5.6
GERES **GERESS Array B** 78.78 331 P P 00 45 51.5 +0.1
comp=Z,25nm,0.5s,baz=36,slow=6.0,SNR=252
GERES LR LR 01 25 08.7
comp=Z,39nm,18.1s,baz=24,slow=39
GERES **GERESS Array B** 78.78 331 P P 00 45 51.4 -0.1
CONA **Conrad Observa** 78.79 329 *iP* P 00 45 52.5 +0.9
comp=Z,60nm,0.7s,SNR=44
WET **Wettzell** 78.81 332 P P 00 45 52.1 +0.6
WET **Wettzell** 78.81 332 *eP* P 00 45 52.2 +0.6
comp=Z,123nm,1.1s,baz=30,slow=5.6
AMTX **Amarillo** 78.83 52 P P 00 45 53.0 +1.0
baz=317
AMTX **Amarillo** 78.83 52 IAmb IAmb 00 45 53.9
comp=Z,16nm,0.9s
N38A **Joes South For** 78.84 43 IAmb IAmb 00 45 52.9
comp=Z,15nm,0.7s
YESY **Yesilyurt** 78.85 313 *eP* P 00 45 53.0 +0.9
IOMK **Kirk Michael** 78.85 344 *eP* P 00 45 51.1 -0.5
ADVT **Abdulvahap** 78.88 317 *eP* P 00 45 51.6 -0.5
GRF **Grafenberg Arr** 78.88 333 *eP* P 00 45 52.5 +0.6
comp=Z,196nm,0.9s,baz=30,slow=5.6
CHGQ **Chibougamau** 78.96 26 P P 00 45 52.3 0.0
baz=331
WIM **Isle of Man** 78.98 344 *eP* P 00 45 52.2 -0.1
MNTX **Cornudas Mount** 78.98 56 P P 00 45 53.7 +0.9
baz=316,SNR=12
KIZT **Kizilcal** 78.99 314 *eP* P 00 45 53.4 +0.5
PUNG **Punghina** 78.99 323 ⇑P P 00 45 52.5 -0.1
CIFT **Ciftceler, Eski** 79.04 315 *eP* P 00 45 53.4 +0.3
LBWR **Ladybower, Pea** 79.06 342 *eP* P 00 45 53.0 +0.1
LBWR IAmb IAmb 00 45 53.9
comp=Z,142nm,0.8s
MDVR **Moldovita** 79.11 324 ⇓P P 00 45 53.1 -0.2
WACR **West Acre** 79.15 340 *eP* P 00 45 53.5 +0.3
SHAO **Shalim** 79.25 285 *iP* P 00 45 54.4 0.0
SNR=9.6
SHAO **Shalim** 79.25 285 P P 00 45 55.1 +0.7
LADK **Ladik-KONYA** 79.25 314 *eP* P 00 45 55.0 +0.7
TNS **Taunus Mts** 79.29 335 *eP* P 00 45 54.4 +0.2
comp=Z,62nm,0.9s,baz=30,slow=5.6
MPEP **Malo Peshtene** 79.38 322 *iP* P 00 45 55.2 +0.4
AHRW **Bad Neuenahr-A** 79.42 336 *eP* P 00 45 55.0 +0.2
comp=Z,94nm,1.1s,baz=30,slow=5.6
MOA **Molln** 79.43 330 *iP* P 00 45 55.4 +0.4
comp=Z,29nm,0.8s,SNR=17
KONT **Konya--Tatoy** 79.45 314 *eP* P 00 45 55.5 +0.2
ARSA **Arzberg** 79.49 329 *iP* P 00 45 56.2 +0.9
comp=Z,13nm,0.5s,SNR=14
VLDQ **Val d'Or** 79.49 29 IAmb IAmb 00 46 00.6
comp=Z,18nm,0.8s
FRGS **Fruska Gora** 79.58 326 ⇑*iP* P 00 45 55.9 +0.1
CWF **Charnwood Fore** 79.59 342 *eP* P 00 45 55.2 -0.4
CWF IAmb IAmb 00 45 57.4
comp=Z,32nm,1.0s
BEBN **Eben Emael** 79.59 337 P P 00 45 55.7 0.0
P38A **Dawn** 79.59 44 IAmb IAmb 00 45 57.1
comp=Z,13nm,0.7s
WME **Myndd Eilian** 79.61 344 *eP* P 00 45 55.2 -0.6
BTNL **Ternell** 79.65 336 P P 00 45 56.1 0.0
MEM **Membach** 79.66 337 P P 00 45 56.1 -0.1
MEM **Membach** 79.66 337 *eP* P 00 45 56.3 +0.2
BEHE **Becsehely** 79.68 328 ⇑*iP* P 00 45 58.9 +2.6
WLF1 **Llynfaes** 79.73 344 *eP* P 00 45 55.8 -0.6
TVSB **Tavsanli** 79.77 316 *eP* P 00 45 57.9 +0.8
SILI **Silifke-Mersin** 79.81 312 *eP* P 00 45 57.6 +0.4
BSTI **Sart Tilman** 79.81 337 P P 00 45 57.3 +0.3
KEBE **Keben-Mersin** 79.86 312 *eP* P 00 45 57.9 +0.3
BHOU **Houvegnez** 79.89 336 P P 00 45 57.6 +0.2
SHUT **Suhut-Afyon** 79.91 315 *eP* P 00 45 59.0 +1.1
DMTO **DMTO** 79.92 285 P P 00 45 58.0 -0.1
PLD **Plovdiv** 79.95 321 P P 00 45 59.3 +1.5
PLD pmax pmax
comp=Z,119nm,1.4s
UCC **Uccle** 79.95 338 IAmb IAmb 00 45 58.5
comp=Z,32nm,1.1s
IKL **Isikli** 80.03 312 *eP* P 00 45 58.8 +0.4
BCLA **Clavier** 80.03 337 P P 00 45 58.1 0.0
comp=Z,47nm,0.7s
N41A **Harden Midland** 80.05 41 IAmb IAmb 00 45 59.4
comp=Z,17nm,0.7s
KRBG **Karabiga-Canak** 80.09 318 *eP* P 00 45 59.3 +0.7
BGES **Gesves** 80.12 337 ⇑P P 00 45 58.4 -0.2
comp=Z,45nm,0.8s
T35A **Sooner Cattle** 80.14 47 IAmb IAmb 00 46 00.3
comp=Z,24nm,0.8s
HLM1 **Long Mynd** 80.14 342 *eP* P 00 45 58.1 -0.6
SOKA **Soboth** 80.15 329 *iP* P 00 45 59.2 +0.2
comp=Z,66nm,1.1s,SNR=36
PERS **Pernice** 80.16 329 *iP* P 00 45 59.2 +0.2
AKKU **Akkuyu-Mersin** 80.16 312 *eP* P 00 45 59.5 +0.4
GROS **Grobnik** 80.16 329 *iP* P 00 45 59.1 0.0
FUR **Furstenfeldbru** 80.19 332 P P 00 45 59.7 +0.6
FUR **Furstenfeldbru** 80.19 332 *eP* P 00 45 59.6 +0.6
comp=Z,135nm,0.9s,baz=30,slow=5.6
TEKS **Tekeris** 80.19 325 *eP* P 00 45 58.8 -0.4
VTS **Vitosha** 80.19 322 *iP* P 00 46 00.0 +0.6
BERE **Bereket-Mersin** 80.20 312 *eP* P 00 45 59.8 +0.3
SNF **Seneffe** 80.24 337 ⇑P P 00 45 59.4 +0.2
ALN **Alexandroupoli** 80.29 319 IAmb IAmb 00 46 02.1
comp=Z,31nm,1.0s
BMRD **Maredsous** 80.29 337 P P 00 45 58.8 -0.7
comp=Z,69nm,1.1s
RCHB **Rochefort** 80.29 337 P P 00 45 59.4 -0.1
comp=Z,40nm,1.4s
RDO **Rodhopi** 80.33 320 P P 00 46 00.7 +0.8
RDO **Rodhopi** 80.33 320 P P 00 46 00.7 +0.8
STU **Stuttgart** 80.33 334 P P 00 46 00.4 +0.6
STU **Stuttgart** 80.33 334 *eP* P 00 46 00.0 +0.2
comp=Z,84nm,0.9s,baz=30,slow=5.6
DIVS **Divibare** 80.38 325 ⇑*iP* P 00 45 59.9 -0.3
DIVS **Divibare** 80.38 325 IAmb IAmb 00 46 01.5
comp=Z,29nm,0.7s
P40A **Paris** 80.40 43 IAmb IAmb 00 46 01.5
comp=Z,20nm,1.1s
BALB **Balikesir** 80.40 317 *eP* P 00 45 59.9 -0.4
TEKE **Tekeli-Mersin** 80.41 312 *eP* P 00 46 00.5 +0.1
KBA **Koelnbreinsper** 80.42 330 *iP* P 00 46 01.2 +0.7
comp=Z,108nm,0.9s,SNR=54
KBA **Koelnbreinsper** 80.42 330 P P 00 46 01.3 +0.8
WLF **Walferdange** 80.47 336 P P 00 45 59.9 -0.6
WLF **Walferdange** 80.47 336 IAmb IAmb 00 46 03.1
comp=Z,26nm,1.0s
OBKA **Obir** 80.47 329 *i* P P 00 46 00.7 0.0
comp=Z,31nm,0.8s,SNR=15
ELSH **Elham, Standar** 80.48 340 *eP* P 00 46 00.8 +0.3
ELSH IAmb IAmb 00 46 01.6
comp=Z,128nm,0.8s
OK029 **Liberty Lake** 80.48 49 IAmb IAmb 00 46 02.3
comp=Z,26nm,0.7s
DOU **Dourbes** 80.52 337 ⇑P P 00 46 00.5 -0.3
comp=Z,24nm,1.3s
IGLA **Glengowla, Co** 80.53 347 *eP* P 00 45 59.3 -1.4
WMOK **Wichita Mounta** 80.55 50 P P 00 46 01.8 +0.5
baz=318,SNR=8.6
LANF **Langenberg** 80.58 335 P P 00 46 01.6 +0.5
RBK **Rabkut** 80.58 285 P P 00 46 01.5 -0.1
WHFO **Wadi Hawf** 80.60 286 P P 00 46 01.6 -0.2
MCH1 **Michaelchurch** 80.65 342 *eP* P 00 46 01.4 -0.1
MCH1 IAmb IAmb 00 46 02.5
comp=Z,58nm,0.8s
BAIF **Baives** 80.66 337 *eP* P 00 46 00.7 -0.8
BAIF pmax pmax
comp=Z,51nm,1.2s
STRD **Stroud** 80.68 342 *eP* P 00 46 02.0 +0.4
STRD IAmb IAmb 00 46 02.6
comp=Z,88nm,0.9s
MYKA **Terra Mystica** 80.70 330 *iP* P 00 46 01.5 -0.3
comp=Z,32nm,1.0s,SNR=11
CRES **Cresnjev** 80.72 329 ⇑*iP* P 00 46 01.6 -0.3
BCK **Bucak** 80.73 314 *eP* P 00 46 02.9 +0.7
GAZI **Gazipasa** 80.76 312 *eP* P 00 46 01.4 -0.9
OKCFA **Oklahoma City** 80.77 49 P P 00 46 01.8 -0.5
OKCFA IAmb IAmb 00 46 03.9
comp=Z,25nm,0.7s
MMB **Musomiste** 80.80 321 *iP* P 00 46 03.0 +0.5
BBLS **Lazići** 80.81 325 ⇑*iP* P 00 46 02.8 +0.3
WATA **Walderalm** 80.81 332 *iP* P 00 46 02.9 +0.4
comp=Z,57nm,0.5s,SNR=25
HAPS **Han Pijesak,Bl** 80.81 325 ⇑*iP* P 00 46 02.0 -0.6
SWN1 **Swindon** 80.84 341 *eP* P 00 46 02.8 +0.4
WTTA **Wattenberg** 80.85 332 *iP* P 00 46 03.4 +0.6
comp=Z,80nm,0.5s,SNR=45
KKB **Krupnik** 80.86 322 *iP* P 00 46 03.5 +0.7
LJU **Ljubljana** 80.88 329 *eP* P 00 46 02.1 -0.6
LJU **Ljubljana** 80.88 329 *eP* P 00 46 02.1 -0.6
PRED **Cave del Predi** 80.88 330 IAmb IAmb 00 46 03.5
comp=Z,30nm,0.6s
NVR **Nevrokopi** 80.93 321 P P 00 46 03.5 +0.3
NVR **Nevrokopi** 80.93 321 P P 00 46 03.5 +0.3
HMNX **Herstmonceux** 80.93 340 *eP* P 00 46 03.6 +0.7
RETA **Reutte** 80.95 332 *iP* P 00 46 03.5 +0.3
comp=Z,75nm,1.3s,SNR=20
MOTA **Moosalm** 80.96 332 *iP* P 00 46 03.7 +0.4
comp=Z,113nm,1.2s,SNR=40
BLY **Banja Luka** 80.96 327 ⇑*iP* P 00 46 02.7 -0.5
ABTA **Abfaltersbach** 80.99 331 *iP* P 00 46 02.9 -0.5
comp=Z,18nm,0.8s,SNR=8.5
BFO **Black Forest** 81.00 334 P P 00 46 03.3 -0.1
BFO pmax pmax
comp=Z,37nm,0.9s
BFO **Black Forest** 81.00 334 *eP* P 00 46 03.5 +0.1
comp=Z,51nm,1.0s,baz=30,slow=5.6
BFO **Black Forest** 81.00 334 P P 00 46 03.3 -0.1
BFO IAmb IAmb 00 46 04.6
comp=Z,37nm,0.9s
RUDO **Rudo** 81.03 325 *eP* P 00 46 03.6 0.0
SQTA **Sankt Quirin** 81.03 332 *iP* P 00 46 04.2 +0.4
comp=Z,65nm,0.7s,SNR=32
IWEX **Carrickbyrne,** 81.06 345 *eP* P 00 46 03.7 +0.1
BOJS **Bojanci** 81.07 328 *iP* P 00 46 03.6 -0.1
D55A **Sainte-Anne-du** 81.11 28 P P 00 46 03.9 0.0
baz=330
CEY **Cerknica** 81.17 329 ⇑*iP* P 00 46 03.8 -0.6
SRS **Serrai** 81.24 321 P P 00 46 04.9 +0.1
SRS **Serrai** 81.24 321 P P 00 46 04.9 +0.1
SRS **Serrai** 81.24 321 P P 00 46 05.3 +0.5
SRS pmax pmax
comp=Z,39nm,0.9s
R40A **Maddies Statio** 81.25 44 IAmb IAmb 00 46 05.7
comp=Z,12nm,0.7s
PLE **Pljevlja** 81.26 325 P P 00 46 06.1 +1.1
PLE **Pljevlja** 81.26 325 ⇑*iP* P 00 46 00.8 -4.2
W35A **Tecumseh** 81.27 49 P P 00 46 05.0 -0.1
TUL1 **Leonard** 81.28 47 P P 00 46 05.5 +0.4
baz=320
TUL1 **Leonard** 81.28 47 IAmb IAmb 00 46 06.3
comp=Z,16nm,0.7s
MGRS **Mrkonjic Grad** 81.28 327 *eP* P 00 46 18.6 +14
ABTO **Aybut** 81.31 286 P P 00 46 05.6 0.0
D56A **ZÉC Mazanza, M** 81.33 28 P P 00 46 05.4 +0.3
baz=331
FETA **Feichten** 81.37 332 *iP* P 00 46 05.8 +0.3
comp=Z,27nm,0.7s,SNR=16
CIMO **Cimolais** 81.40 331 IAmb IAmb 00 46 05.7
comp=Z,15nm,0.6s
STIP **Stip** 81.40 322 ⇑*iP* P 00 46 04.9 -0.7
DAVA **Damuels** 81.42 333 *iP* P 00 46 06.0 +0.2
comp=Z,57nm,0.8s,SNR=23
IVA **Berane** 81.42 324 ⇑*iP* P 00 46 02.9 -2.9
SLE **Schleitheim** 81.45 334 P P 00 46 05.8 0.0
ECH **Echery** 81.46 335 P P 00 46 06.1 +0.3
ECH **Echery** 81.46 335 IAmb IAmb 00 46 06.9
comp=Z,38nm,0.9s
MMAI **Mount Meron Ar** 81.49 308 LR LR 01 26 52.9
comp=Z,35nm,18.2s,baz=330,slow=39
SKO **Skopje** 81.50 323 ⇑*iP* P 00 46 06.9 +0.8
SKO **Skopje** 81.50 323 P P 00 46 07.2 +1.1
SKO pmax pmax
comp=Z,56nm,1.0s
KNT **Kendrikon** 81.52 321 P P 00 46 06.3 +0.1
KNT **Kendrikon** 81.52 321 P P 00 46 06.3 +0.1
VAY **Valandovo** 81.53 322 *iP* P 00 46 06.8 +0.5
VAY **Valandovo** 81.53 322 P P 00 46 07.1 +0.8
VAY pmax pmax
comp=Z,61nm,0.9s
UPM **Unac-Piva** 81.56 325 ⇓*iP* P 00 46 02.2 -4.5
UPM **Unac-Piva** 81.56 325 *eP* P 00 46 05.8 -0.9
KOME **Kolasin** 81.60 324 ⇓*iP* P 00 46 03.7 -3.0
PVY **Plav** 81.62 324 ⇓*iP* P 00 46 04.1 -2.8
D57A **Chemin Vers le** 81.65 28 P P 00 46 07.1 +0.3
baz=331
SIGR **SIGRI** 81.71 318 P P 00 46 07.0 -0.2
SIGR **SIGRI** 81.71 318 P P 00 46 07.0 -0.2
TX32 **Lajitas Array** 81.71 57 IAmb IAmb 00 46 09.2
comp=Z,14nm,0.7s
TXAR **Lajitas Array** 81.71 57 P P 00 46 08.3 +0.7
comp=Z,11nm,0.6s,baz=297,slow=4.0,SNR=199
TXAR pP pP 00 46 33.0 -0.2
comp=Z,7.1nm,0.8s,baz=299,slow=4.1,SNR=5.1
TXAR LR LR 01 20 31.9
comp=Z,17nm,19.7s,baz=0.0,slow=34
MOF **Molkenrain** 81.79 335 P P 00 46 07.9 +0.2
NKY **Niksic** 81.85 325 ⇓*iP* P 00 46 04.5 -3.6
HAU **Haudompre** 81.89 335 *eP* P 00 46 07.4 -0.7
HAU pmax pmax
comp=Z,67nm,1.4s
NKME **Niksic** 81.90 325 ⇓*iP* P 00 46 04.9 -3.4
PLG **Polygyros** 81.90 321 P P 00 46 08.1 -0.2
PLG **Polygyros** 81.90 321 P P 00 46 08.1 -0.2
CCM **Cathedral Cave** 81.94 43 P P 00 46 08.7 +0.2
baz=322
CCM **Cathedral Cave** 81.94 43 P P 00 46 09.0 +0.5
CCM pmax pmax
comp=Z,12nm,0.8s
CCM **Cathedral Cave** 81.94 43 P P 00 46 09.0 +0.5
CCM IAmb IAmb 00 46 09.6
comp=Z,12nm,0.8s
HHAR **Hobbs** 81.96 46 IAmb IAmb 00 46 09.4
comp=Z,10nm,0.7s
BRY **Bratogost** 81.96 325 ⇑*iP* P 00 46 04.7 -4.0
BRY **Bratogost** 81.96 325 ⇑*iP* P 00 46 07.7 -1.0
PDG **Podgorica** 82.05 324 ⇑P P 00 46 08.8 -0.2
PDG **Podgorica** 82.05 324 ⇑*iP* P 00 46 08.6 -0.4
TTG **Podgorica** 82.05 324 ⇓*iP* P 00 46 06.2 -2.8
E57A **Chemin Saint G** 82.09 28 P P 00 46 09.2 0.0
baz=331
CEME **Cevo** 82.10 325 ⇓*iP* P 00 46 06.2 -3.1
FETY **Fethiye** 82.13 315 P P 00 46 10.0 +0.4
FETY **Fethiye** 82.13 315 P P 00 46 10.0 +0.4
YER **Yerkesik** 82.15 316 P P 00 46 10.4 +0.7
YER **Yerkesik** 82.15 316 P P 00 46 10.4 +0.7

PHP	Peshkopia	82.17	323	P		P	00 46 09.6	-0.1	
PHP	Peshkopia	82.17	323	P		P	00 46 09.6	-0.1	
AKAS	Kas	82.18	314	IAmb		IAmb	00 46 16.4		
	comp=Z,21nm,1.0s								
CHOS	Chios island	82.26	318	P		P	00 46 10.7	+0.4	
CHOS	Chios island	82.26	318	P		P	00 46 10.7	+0.4	
DRME	Dracevica, Mon	82.28	324	⇓*i*P		P	00 46 07.3	-2.9	
DRME	Dracevica, Mon	82.28	324	⇑*i*P		P	00 46 10.1	-0.1	
BUM	Brajici-Budva	82.31	324	⇓*i*P		P	00 46 07.3	-3.2	
DYA	Yadsworthy	82.33	342	*e*P		P	00 46 10.2	-0.1	
DYA				IAmb		IAmb	00 46 11.2		
	comp=Z,58nm,1.0s								
HCY	Herceg Novi	82.36	325	⇓*i*P		P	00 46 07.6	-3.0	
HCY	Herceg Novi	82.36	325	⇑*i*P		P	00 46 09.6	-1.0	
FVM	French Village	82.39	43	P		P	00 46 10.3	-0.6	
FVM				pmax		pmax			
	comp=Z,12nm,1.2s								
FVM	French Village	82.39	43	P		P	00 46 10.3	-0.6	
E58A	La Victoria	82.41	27	P		P	00 46 10.8	0.0	
	baz=332								
SMG	Samos	82.42	317	P		P	00 46 10.2	-0.8	
SMG	Samos	82.42	317	P		P	00 46 10.2	-0.8	
Z35A	Perchaven, San	82.44	50	P		P	00 46 11.0	-0.2	
Z35A				IAmb		IAmb	00 46 12.1		
	comp=Z,25nm,1.1s								
ULC	Ulcinj	82.44	324	⇓*i*P		P	00 46 07.9	-3.2	
U40A	Yellville	82.46	45	P		P	00 46 11.4	+0.2	
	baz=321								
U40A	Yellville	82.46	45	IAmb		IAmb	00 46 12.2		
	comp=Z,22nm,0.7s								
OHR	Ohrid	82.48	323	*i* P		P	00 46 11.3	0.0	
OHR	Ohrid	82.48	323	P		P	00 46 11.6	+0.3	
OHR				pmax		pmax			
	comp=Z,110nm,0.7s								
P46A	Rosedale	82.61	40	IAmb		IAmb	00 46 22.0		
	comp=Z,16nm,0.7s								
TIR	Tirane	82.69	323	P		P	00 46 12.6	+0.3	
TIR	Tirane	82.69	323	P		P	00 46 12.6	+0.3	
TIR	Tirane	82.69	323	P		P	00 46 12.8	+0.5	
TIR				pmax		pmax			
	comp=Z,118nm,0.6s								
TIR	Tirane	82.69	323	P		P	00 46 12.8	+0.5	
BODT	Bodrum	82.69	316	P		P	00 46 12.7	+0.3	
BODT	Bodrum	82.69	316	P		P	00 46 12.7	+0.3	
T42A	Van Buren	82.82	44	P		P	00 46 13.4	+0.3	
DAT	Datca	82.82	316	P		P	00 46 13.2	0.0	
DAT	Datca	82.82	316	P		P	00 46 13.2	0.0	
W39A	Magazine	82.88	47	P		P	00 46 13.7	+0.3	
	baz=321								
W39A	Magazine	82.88	47	P		P	00 46 13.9	+0.5	
NEST	Nestorio	82.94	322	P		P	00 46 12.7	-1.1	
NEST	Nestorio	82.94	322	P		P	00 46 12.7	-1.1	
ARG	Arkhangelos	82.94	315	P		P	00 46 14.3	+0.6	
ARG	Arkhangelos	82.94	315	P		P	00 46 14.3	+0.6	
PMOR	Pomariorio Ree	82.98	119	*e*T		T	02 17 35.4		
	comp=Z,71nm,0.2s								
CLF	Chambon-Foret	83.05	338	P		P	00 46 14.6	+0.6	
CLF				IAmb		IAmb	00 46 17.0		
	comp=Z,32nm,0.9s								
SENIN	Lac Senin/Sane	83.07	334	IAmb		IAmb	00 46 15.9		
	comp=Z,19nm,0.8s								
PENT	Pentalofos	83.08	322	P		P	00 46 14.2	-0.3	
PENT	Pentalofos	83.08	322	P		P	00 46 14.2	-0.3	
FLN	La Foliniere	83.08	340	*e*P		P	00 46 13.7	-0.5	
FLN				pmax		pmax			
	comp=Z,29nm,0.6s								
JSA	Saint Aubin	83.10	341	*e*P		P	00 46 14.5	+0.3	
JSA				IAmb		IAmb	00 46 15.5		
	comp=Z,48nm,1.0s								
D62A	Allapoint, All	83.11	25	P		P	00 46 14.4	+0.1	
	baz=334								
D62A	Allapoint, All	83.11	25	P		P	00 46 13.7	-0.7	
JCT	Junction City	83.14	54	P		P	00 46 14.8	-0.1	
	baz=318								
S44A	Carbondale	83.19	42	IAmb		IAmb	00 46 16.3		
	comp=Z,13nm,0.7s								
FCAR	Ozark Folk Cen	83.19	45	IAmb		IAmb	00 46 15.7		
	comp=Z,14nm,0.7s								
LOR	Lormes	83.29	336	*e*P		P	00 46 14.7	-0.7	
LOR				pmax		pmax			
	comp=Z,22nm,0.6s								
E62A	Clayton Lake	83.38	25	P		P	00 46 15.9	+0.1	
ATAL	Atalanti	83.45	320	P		P	00 46 15.8	-0.5	
ATAL	Atalanti	83.45	320	P		P	00 46 15.8	-0.5	
MIAR	Mount Ida	83.48	47	P		P	00 46 17.1	+0.5	
	baz=321								
MIAR	Mount Ida	83.48	47	IAmb		IAmb	00 46 18.1		
	comp=Z,16nm,0.7s								
LKR	Lokris	83.49	320	P		P	00 46 15.6	-0.9	
LKR	Lokris	83.49	320	P		P	00 46 15.6	-0.9	
LCAR	Lake Charles	83.54	44	P		P	00 46 16.8	0.0	
AXAR	Agios Charalam	83.56	320	P		P	00 46 16.3	-0.6	
AXAR	Agios Charalam	83.56	320	P		P	00 46 16.3	-0.6	
APE	Apeiranthos	83.56	317	⇓*e*P		P	00 46 15.5	-1.5	
APE				pmax		pmax			
	comp=Z,163nm,2.1s								
WHAR	Wooly Hollow	83.57	46	IAmb		IAmb	00 46 18.1		
	comp=Z,15nm,0.8s								
MAKR	Makrakomi, Fth	83.60	321	P		P	00 46 18.7	+1.6	
MAKR	Makrakomi, Fth	83.60	321	P		P	00 46 18.7	+1.6	
W41B	Gary Mavity, V	83.69	46	P		P	00 46 17.8	+0.2	
	baz=322								
W41B	Gary Mavity, V	83.69	46	P		P	00 46 18.6	+1.1	
W41B				IAmb		IAmb	00 46 18.7		
	comp=Z,11nm,1.0s								
VILL	Villia	83.74	319	P		P	00 46 16.3	-1.6	
VILL	Villia	83.74	319	P		P	00 46 16.3	-1.6	
BATG	Bathurst New B	83.78	23	P		P	00 46 18.4	+0.5	
BATG				IAmb		IAmb	00 46 21.7		
	comp=Z,23nm,1.1s								
EVR	Evrytania	83.82	321	P		P	00 46 17.7	-0.6	
EVR	Evrytania	83.82	321	P		P	00 46 17.7	-0.6	
SRN	Sarande	83.84	322	P		P	00 46 18.0	-0.2	
SRN	Sarande	83.84	322	P		P	00 46 18.0	-0.2	
AVF	Avril sur Loir	83.87	336	*e*P		P	00 46 17.9	-0.4	
AVF				pmax		pmax			
	comp=Z,58nm,1.0s								
E63A	Oxbow	83.89	24	P		P	00 46 18.4	0.0	
E63A				IAmb		IAmb	00 46 31.5		
	comp=Z,11nm,1.0s								
PPT	Papeete	83.90	122	LR		LR	01 14 33.4		
	comp=Z,24nm,21.4s,baz=360,slow=29								
DSF	Desfina	83.90	320	P		P	00 46 17.0	-1.7	
DSF	Desfina	83.90	320	P		P	00 46 17.0	-1.7	
PPT2	Papeete2	83.91	122	*e*LR		LR	01 12 54.2		
	comp=Z,194nm,30.2s								
PPT2	Papeete2	83.91	122	*e*T		T	02 18 46.2		
	comp=Z,7.6nm,0.3s								
X40A	Basin Creek Fa	83.92	47	P		P	00 46 19.7	+0.9	
	baz=321								
G61A	St-Isidore-de-	83.95	27	P		P	00 46 19.4	+0.7	
	baz=333								
PAE	Paea	83.97	122	*e*T		T	02 18 49.5		
	comp=Z,1.8nm,0.3s								
DRLN	Deer Lake	83.98	16	P		P	00 46 19.2	+0.4	
DRLN				IAmb		IAmb	00 46 21.5		
	comp=Z,18nm,1.1s								
IGT	Igoumenitsa	83.98	322	P		P	00 46 18.3	-0.7	
IGT	Igoumenitsa	83.98	322	P		P	00 46 18.3	-0.7	
IGT	Igoumenitsa	83.98	322	P		P	00 46 18.2	-0.7	
IGT				pmax		pmax			
	comp=Z,38nm,0.9s								
VLC	Villacollemand	83.98	331	P		P	00 46 20.1	+1.2	
MURB	Monte Urbino	84.00	329	P		P	00 46 19.9	+0.8	
LPL	La Plagne	84.00	334	*e*P		P	00 46 19.5	+0.2	
LPL				pmax		pmax			
	comp=Z,37nm,0.8s								
LPG	La Plagne	84.01	334	*e*P		P	00 46 19.7	+0.3	
LPG				pmax		pmax			
	comp=Z,41nm,0.7s								
TIAR	Tiarei	84.03	122	*e*T		T	02 18 53.9		
	comp=Z,5.7nm,0.3s								
ANX	Ano Chora	84.03	320	P		P	00 46 18.9	-0.5	
ANX	Ano Chora	84.03	320	P		P	00 46 18.9	-0.5	
SGRT	San Giovanni R	84.05	326	P		P	00 46 18.4	-1.1	
SGRT				IAmb		IAmb	00 46 19.3		
	comp=Z,23nm,1.1s								
KEK	Kerkira	84.06	322	P		P	00 46 18.9	-0.5	
KEK	Kerkira	84.06	322	P		P	00 46 18.9	-0.5	
KALE	Kalithea	84.10	320	P		P	00 46 18.9	-0.8	
KALE	Kalithea	84.10	320	P		P	00 46 18.9	-0.8	
SERG	Sergoula	84.12	320	P		P	00 46 18.7	-1.1	
SERG	Sergoula	84.12	320	P		P	00 46 18.7	-1.1	
MSSA	Maissana	84.15	331	IAmb		IAmb	00 46 22.2		
	comp=Z,32nm,1.0s								
NRCA	Norcia	84.15	328	P		P	00 46 20.8	+0.9	
TRIZ	Trizonia	84.15	320	P		P	00 46 18.9	-0.9	
TRIZ	Trizonia	84.15	320	P		P	00 46 18.9	-0.9	
EFP	Efpalio	84.18	320	P		P	00 46 20.6	+0.6	
EFP	Efpalio	84.18	320	P		P	00 46 20.6	+0.6	
OSSC	Osservatorio P	84.23	330	IAmb		IAmb	00 46 21.9		
	comp=Z,20nm,0.6s								
G62A	West of Eustis	84.33	26	P		P	00 46 21.6	+0.9	
F63A	Nahmakanta, Br	84.33	25	P		P	00 46 21.2	+0.5	
J58A	Remsen	84.36	30	P		P	00 46 20.5	-0.4	
GUR	Goura	84.37	320	P		P	00 46 20.1	-1.1	
GUR	Goura	84.37	320	P		P	00 46 20.1	-1.1	
KLV	Kalavryta, Ach	84.38	320	P		P	00 46 20.3	-0.8	
KLV	Kalavryta, Ach	84.38	320	P		P	00 46 20.3	-0.8	
WLAR	White Oak Lake	84.39	47	P		P	00 46 22.2	+1.1	
WLAR				IAmb		IAmb	00 46 22.8		
	comp=Z,17nm,0.6s								
SOCY	Socotra	84.40	281	IAmb		IAmb	00 46 21.6		
	comp=Z,30nm,1.0s								
F64A	Sherman	84.42	25	P		P	00 46 21.2	+0.1	
F64A				IAmb		IAmb	00 46 24.8		
	comp=Z,12nm,1.0s								
BNI	Bardonecchia	84.43	334	P		P	00 46 21.8	+0.4	
BNI	Bardonecchia	84.43	334	IAmb		IAmb	00 46 27.1		
	comp=Z,20nm,0.7s								
LKD2	Lefkada island	84.44	321	P		P	00 46 20.7	-0.7	
LKD2	Lefkada island	84.44	321	P		P	00 46 20.7	-0.7	
AQU	L'Aquila	84.45	328	P		P	00 46 23.1	+1.7	
AQU				pmax		pmax			
	comp=Z,37nm,0.7s								
AQU	L'Aquila	84.45	328	⇑*i*P		P	00 46 21.3	-0.1	
AQU	L'Aquila	84.45	328	P		P	00 46 23.1	+1.7	
QUIF	Quistinic	84.52	341	*e*P		P	00 46 21.4	-0.1	
QUIF				pmax		pmax			
	comp=Z,23nm,0.6s								
J59A	Piesco	84.54	30	P		P	00 46 21.4	-0.4	
EVGI	Lefkada island	84.58	321	P		P	00 46 21.3	-0.8	
EVGI	Lefkada island	84.58	321	P		P	00 46 21.3	-0.8	
M55A	Ridgway	84.67	33	P		P	00 46 23.3	+0.8	
RLS	Riolos of Patr	84.68	320	P		P	00 46 22.4	-0.1	
RLS	Riolos of Patr	84.68	320	P		P	00 46 22.4	-0.1	
H62A	Milan	84.70	27	P		P	00 46 23.5	+1.0	
	baz=333								
H62A	Milan	84.70	27	IAmb		IAmb	00 46 24.0		
	comp=Z,16nm,0.8s								
ZKR	Zakros	84.77	316	P		P	00 46 23.5	+0.4	
ZKR	Zakros	84.77	316	P		P	00 46 23.5	+0.4	
T47A	Sharon Grove	84.78	41	IAmb		IAmb	00 46 24.6		
	comp=Z,8.3nm,0.7s								
SSB	Saint Sauveur	84.89	335	P		P	00 46 24.3	+0.7	
SSB				pmax		pmax			
	comp=Z,24nm,0.7s								
SSB	Saint Sauveur	84.89	335	P		P	00 46 24.3	+0.7	
SSB				IAmb		IAmb	00 46 25.5		
	comp=Z,24nm,0.7s								
VLS	Valsamata	84.98	321	P		P	00 46 23.7	-0.4	
K59A	Cooperstown	85.02	30	P		P	00 46 24.0	-0.2	
	baz=331								
DMLN	Damoulianata-K	85.02	321	P		P	00 46 23.8	-0.5	
DMLN	Damoulianata-K	85.02	321	P		P	00 46 23.8	-0.5	
MEH	Mehetia	85.05	121	*e*T		T	02 20 10.8		
	comp=Z,33nm,0.2s								
FRMA	Ierapetra Chan	85.09	316	P		P	00 46 24.8	+0.2	
LAST	Lasithi	85.10	316	P		P	00 46 24.6	-0.2	
LAST	Lasithi	85.10	316	P		P	00 46 24.6	-0.2	
ITM	Ithomi	85.18	320	P		P	00 46 24.3	-0.8	
ITM	Ithomi	85.18	320	P		P	00 46 24.3	-0.8	
VIVF	Saint-Julien-l	85.23	335	*e*P		P	00 46 26.2	+0.9	
VIVF				pmax		pmax			
	comp=Z,30nm,0.8s								
IDI	Anoyia	85.29	317	P		P	00 46 24.8	-0.9	
IDI	Anoyia	85.29	317	P		P	00 46 24.8	-0.9	
IDI	Anoyia	85.29	317	⇓P		P	00 46 25.4	-0.3	
I63A	Otisfield	85.35	27	P		P	00 46 25.8	0.0	
I63A				IAmb		IAmb	00 46 31.5		
	comp=Z,14nm,0.9s								
M57A	Sunshine Farm,	85.42	32	P		P	00 46 26.3	+0.1	
	baz=330								
M57A	Sunshine Farm,	85.42	32	P		P	00 46 26.6	+0.4	
M57A				IAmb		IAmb	00 46 29.5		
	comp=Z,9.0nm,0.8s								
LMN	Caledonia Moun	85.44	22	P		P	00 46 26.4	+0.2	
LMN				IAmb		IAmb	00 46 31.7		
	comp=Z,18nm,0.8s								
L59A	Walton	85.46	31	P		P	00 46 26.3	-0.1	
PYL	PYLOS	85.50	320	P		P	00 46 25.6	-1.1	
PYL	PYLOS	85.50	320	P		P	00 46 25.6	-1.1	
P54A	Burton	85.56	35	P		P	00 46 27.8	+0.9	
	baz=328								
IMMV	Iera Moni Meta	85.59	317	P		P	00 46 27.0	-0.2	
IMMV	Iera Moni Meta	85.59	317	P		P	00 46 27.0	-0.2	
RJF	Les Rejaudoux	85.75	337	*e*P		P	00 46 27.4	-0.4	
RJF				pmax		pmax			
	comp=Z,10.0nm,0.6s								
N57A	Milroy	85.76	33	P		P	00 46 28.4	+0.5	
	baz=329								
FRF	La Foret Royal	85.78	333	*e*P		P	00 46 27.3	-0.6	
FRF				pmax		pmax			
	comp=Z,28nm,1.2s								
U49A	Red Boiling Sp	85.78	41	P		P	00 46 29.1	+1.0	
U49A				IAmb		IAmb	00 46 37.8		
	comp=Z,7.9nm,0.7s								
T50A	Nancy	85.81	40	IAmb		IAmb	00 46 31.5		
	comp=Z,7.2nm,0.8s								
TIP	Timpagrande	85.81	324	⇑P		P	00 46 28.3	0.0	
TIP	Timpagrande	85.81	324	IAmb		IAmb	00 46 31.3		
	comp=Z,19nm,0.9s								
CLTN	Cedars of Leba	85.87	41	P		P	00 46 28.5	0.0	
P55A	Reedsville	85.91	35	P		P	00 46 29.7	+1.0	
	baz=328								
Q54A	Coxs Mills	85.94	36	P		P	00 46 30.1	+1.4	
	baz=328								
CAF	Calviac	85.94	336	*e*P		P	00 46 28.9	+0.1	
CAF				pmax		pmax			
	comp=Z,19nm,0.8s								
Y45A	Yeager Farm, C	86.09	45	P		P	00 46 30.5	+0.9	
Y45A				IAmb		IAmb	00 46 31.5		
	comp=Z,17nm,0.8s								
Q55A	Buckhannon	86.24	36	P		P	00 46 31.7	+1.3	
	baz=328								
P56A	Dayton Farm, R	86.32	34	P		P	00 46 32.1	+1.5	
	baz=329								
SWET	Sewanee	86.77	42	IAmb		IAmb	00 46 34.0		
	comp=Z,7.1nm,0.8s								
V52A	Sevierville	87.34	40	IAmb		IAmb	00 46 44.6		
	comp=Z,7.9nm,0.9s								
MTLF	Montolieu	87.35	336	*e*P		P	00 46 36.5	+0.9	
MTLF				pmax		pmax			
	comp=Z,18nm,0.8s								
TBI	Tubuai	88.40	125	*e*LR		LR	01 14 28.5		
	comp=Z,123nm,34.0s								
TBI	Tubuai	88.40	125	*e*T		T	02 24 22.2		
	comp=Z,6.9nm,0.3s								
SJPF	Ste Jean	88.52	338	*e*P		P	00 46 43.2	+2.0	
SJPF				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KEST	Kesra	91.76	327	P		P	00 46 56.2	-0.3	
	comp=Z,4.7nm,0.6s,baz=359,slow=1.6,SNR=21								
KEST				LR		LR	01 33 16.2		
	comp=Z,38nm,18.5s,baz=245,slow=39								
KEST	Kesra	91.76	327	IAmb		IAmb	00 46 57.1		
	comp=Z,5.8nm,0.8s								
ESBB	Sonseca Array	92.46	339	IAmb		IAmb	00 47 03.1		
	comp=Z,4.3nm,0.9s								
ESDC	Sonseca Array	92.46	339	P		P	00 46 59.0	-0.6	
	comp=Z,3.4nm,0.7s,baz=14,slow=4.0,SNR=43								
ESDC				LR		LR	01 34 06.4		
	comp=Z,45nm,18.5s,baz=285,slow=39								
ESDC	Sonseca Array	92.46	339	P		P	00 46 59.4	-0.3	
TORD	Torodi Ar. Bea	114.95	323	PKP		PKiKP	00 52 28.6	-0.9	
	comp=Z,1.1nm,0.5s,baz=16,slow=2.0,SNR=28								
TORD				PP		PP	00 53 23.4	-5.3	
	comp=Z,2.4nm,0.8s,baz=26,slow=7.8,SNR=6.9								
TORD	Torodi Ar. Bea	114.95	323			PKiKP	00 52 29.1	-0.4	
VNDA	Vanda	122.07	176	PKP		PKiKP	00 52 41.6	+0.2	
	comp=Z,1.0nm,0.6s,baz=319,slow=5.2,SNR=14								
VNDA				pPKP		pPKPdf	00 53 09.6	+1.3	
	comp=Z,1.0nm,0.7s,baz=304,slow=3.7,SNR=3.8								
DBIC	Dimbokro	123.48	327	PKP		PKPdf	00 52 45.5	-0.4	
	comp=Z,5.7nm,0.8s,baz=7.8,slow=2.2,SNR=6.8								
BOSA	Boshof	132.31	269	PKP		PKPdf	00 53 02.0	-0.3	
	comp=Z,3.0nm,1.0s,baz=90,slow=4.0,SNR=2.3								
SYO	Syowa Base	137.16	210	⇑*e*P		PKPdf	00 53 00.2	-10	
LPAZ	La Paz	138.55	59	PKP		PKPdf	00 53 14.6	-0.3	
	comp=Z,1.1nm,0.6s,baz=330,slow=4.6,SNR=3.1								
H03N2	Juan Fernandez	142.34	89	T		T	03 32 10.9		
	baz=304								
H03N3	Juan Fernandez	142.35	89	T		T	03 32 11.9		
	baz=304,slow=74								
H03N1	Juan Fernandez	142.36	89	T		T	03 32 12.2		
	baz=304,slow=74								
AC04	Llanos de Chal	144.95	76			PKPdf	00 53 25.3	0.0	
NVL	N'lazarevskaya	146.13	204	*e*PKP2		PKiKP	00 53 35.7	+5.5	
NVL				pmax		pmax			
	comp=Z,18nm,0.8s								
SDBA	SAO DESIDERIO	146.14	23	*e*P		PKPdf	00 53 26.0	-1.8	
BELA	Belgrano 2	146.52	179	PKPdf		PKPbc	00 53 28.4	+0.3	
BDFB	Brasilia	148.17	30	PKPbc		PKPbc	00 53 39.3	-0.6	
	comp=Z,5.0nm,0.7s,baz=59,slow=5.0,SNR=5.3								
SNAA	Sanae	149.38	198	PKPbc		PKPbc	00 53 36.5	+0.5	
SNAA	Sanae	149.38	198	PKP2		PKiKP	00 53 36.7	-0.3	
SNAA	Sanae	149.38	198			PKiKP	00 53 36.7	-0.3	
MC01	Montes Claros	150.50	24	*e*P		PKPdf	00 53 33.9	-0.9	
VNA2	Neumayer--Watz	150.90	196	PKPbc		PKiKP	00 53 40.4	+0.3	
	baz=138,slow=3.6								
VNA3	Neumayer Olymp	151.08	195	PKPbc		PKiKP	00 53 40.3	-0.1	
VNA1	Neumayer--Stat	151.29	196	PKPbc		PKiKP	00 53 41.4	+0.6	
PLCA	Paso Flores	151.56	96	PKPbc		PKiKP	00 53 42.8	+0.3	
	comp=Z,7.0nm,0.5s,baz=260,slow=1.9,SNR=28								
PLCA				pPKPbc		pPKPbc	00 54 10.9	+1.8	
	comp=Z,4.4nm,0.7s,baz=300,slow=3.5,SNR=4.0								
BSCB	Bom Sucesso	154.26	28	*e*P		PKPdf	00 53 38.6	-1.8	

*IDC **04** 01:11:28.1±1.1,31°.40N×56°.15E, h0km, mb3.6/9, mb1 3.6/12, mb1mx3.5/39, mbtmp3.6/12, ML3.0/3, Error ellipse: s-maj=22.5km s-min=18.9km az=116.0*
*TEH **04** 01:11:29.4,31°.50N×56°.21E, h10km, ML3.8*
*THR **04** 01:11:30.2±0.8, 31°.51N×56°.24E, h14km±8km, ML3.7*
ISC 04 01:11:30.2±0.6, 31°.48N±0°.04×56°.22E±0°.03, h10km, n59, σ1s74/62, mb3.6/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBAF	Bafgh	0.57	281	*e*Pg		Pg	01 11 40.3	-0.9
IBAF				*e*Sg		Sg	01 11 47.7	-1.0
KHGB	Koh Gabri	1.13	169	*e*Pg		Pg	01 11 50.9	-0.9
IMEH	Mehriz	1.38	267	*e*Pg		Pn	01 11 55.5	-0.1
IMEH				*e*			01 12 18.0	
TVBK	TV Kerman	1.56	162	*e*Pg		Pn	01 11 59.6	+1.3
TVBK				*e*			01 12 25.4	
KRBR	Kerman	1.57	163	*e*Pg		Pn	01 11 59.5	+1.2
KRBR				*e*Sg		Sb	01 12 20.9	+1.4
KRBR				IAML			01 12 25.3	
	comp=N,2μm,0.5s							
KRBR	Kerman	1.57	163	*e*Pg		Pn	01 11 59.5	+1.2
TPRV	Parvadeh(Tabas	1.59	14	*e*Pg		Pn	01 11 59.5	+1.0
YZKH	Yazd	1.65	304	*e*Pg		Pn	01 12 00.2	+0.9
YZKH				*e*Sg		Sn	01 12 22.9	+2.2
YZKH				IAML			01 12 27.1	
	comp=N,427nm,0.4s							
YZKH	Yazd	1.65	304	*e*Pg		Pn	01 12 00.2	+0.9
ICHK	Chekchek	1.72	297	*e*Pn		Pn	01 12 01.4	+1.1
ICHK				*e*			01 12 29.0	
NGRK	Negar Kerman	1.89	166	*e*			01 12 32.5	
NGRK				*e*Pg		Pn	01 12 04.6	+1.8
CHMN	Cheshme madani	1.98	145	*e*			01 12 35.3	
CHMN				*e*Pn		Pn	01 12 05.7	+1.7
ISAD	Sadrabad	2.20	282	*e*			01 12 43.6	
ISAD				*e*Pn		Pn	01 12 08.4	+1.4
TKDS	Koohdasht(Taba	2.26	20	*e*			01 12 18.6	
TKDS				*e*Pn		Pn	01 12 09.1	+1.4
TABS	Tabas	2.29	19	*e*Pn		Pn	01 12 09.3	+1.2
TABS	Tabas	2.29	19	*e*Pn		Pn	01 12 09.3	+1.2
TNSJ	Nastanj	2.49	7	*e*Pn		Pn	01 12 12.5	+1.6
BSRN	Basiran	2.52	78	*e*Pn		Pn	01 12 12.5	+1.1
BSRN				IAML			01 12 57.5	
	comp=N,342nm,0.6s							
BSRN	Basiran	2.52	78	*e*Pn		Pn	01 12 12.5	+1.1
IKOO	Kooshah	2.55	68	*e*Pn		Pn	01 12 12.7	+0.9
IKOO				*e*			01 12 52.8	
ITEG	Tejag	2.57	56	*e*Pn		Pn	01 12 12.9	+0.9
ITEG				*e*			01 12 56.7	
ANAR	Anarak	2.71	310	*e*Pn		Pn	01 12 13.3	+1.4
KBAM	BAM	3.04	140	*e*Pn		Pn	01 12 20.0	+1.7
AFRZ	Afriz	3.06	50

CTLX	Tlaxcala, TLX	0.29	34	iP		Pg	01 24 26.2	-0.3
CTLX				eS		Sb	01 24 31.6	0.0
UABX	UABC, Campus M	0.41	347			Pg	01 24 28.5	-0.1
UABX						Sg	01 24 35.2	+1.0
UABX	UABC, Campus M	0.41	347	iP		Pg	01 24 28.4	-0.1
UABX				eS		Sg	01 24 35.1	+1.0
SGL	Mount Signal	0.53	321			Pg	01 24 30.2	-0.7
SGL						Sg	01 24 37.4	-0.5
ESJX	Sierra Juarez	0.57	247			Pg	01 24 31.8	+0.2
DREC	Desert Rsrch C	0.58	350			Pg	01 24 31.5	-0.2
DREC						Sb	01 24 41.1	+1.1
DREC	Desert Rsrch C	0.58	350	eP		Pg	01 24 31.5	-0.2
DREC				eS		Sb	01 24 40.9	+0.8
EMSC	East Mesa	0.58	30			Pg	01 24 31.4	-0.5
EMSC						Sb	01 24 40.6	+0.4
EMSC	East Mesa	0.58	30	eP		Pg	01 24 31.3	-0.5
EMSC				eS		Sg	01 24 39.9	+0.3
WESC	Westside Schoo	0.62	327			Pg	01 24 31.9	-0.7
WESC						Sg	01 24 41.6	+0.7
WESC	Westside Schoo	0.62	327	eS		Sg	01 24 41.6	+0.7
SNR	Schaffner Ranc	0.63	352			Pg	01 24 32.2	-0.5
SNR						Sb	01 24 42.4	+0.8
YUH	Yuha Desert	0.65	310			Pg	01 24 32.1	-0.9
YUH						Sg	01 24 40.8	-0.9
COA	Coachella	0.65	16			Pg	01 24 32.5	-0.6
COA						Sg	01 24 42.2	+0.4
COK2	Cook Ranch 2	0.70	332			Pg	01 24 33.5	-0.5
COK2						Sg	01 24 44.0	+0.7
SJX	San Joaquin	0.71	229	eP		Pg	01 24 31.8	-2.4
SJX				IAML			01 24 41.8	
	comp=N,704nm,0.1s							
SJX				↓	e		01 24 41.8	
RMX	La Rumorosa	0.73	300			Pg	01 24 32.9	-1.7
IKP	In-Ko-Pah, Jac	0.78	303			Pg	01 24 34.7	-0.8
IKP						Sg	01 24 45.0	-0.7
IKP	In-Ko-Pah, Jac	0.78	303	eP		Pg	01 24 34.6	-0.8
RUN	Ruthven	0.80	22			Pg	01 24 33.8	-2.0
RUN						Sg	01 24 44.8	-1.5
ECBX	El Chinero	0.80	162	eP		Pg	01 24 35.5	-0.3
ECBX				eS		Sg	01 24 47.2	+1.0
SWSC	Sam W. Stewart	0.81	331			Pg	01 24 34.6	-1.4
SWSC						Sg	01 24 46.6	-0.3
SWSC	Sam W. Stewart	0.81	331	eP		Pg	01 24 34.7	-1.4
WEMD	Westmorland, C	0.83	345			Sb	01 24 48.1	+0.8
CRR	Carrizo Plain	0.84	321			Pg	01 24 35.8	-1.0
CRR						Sg	01 24 47.2	-0.7
GLA	Glamis	0.92	27			Pg	01 24 36.0	-2.2
GLA	Glamis	0.92	27			Sg	01 24 47.9	-2.4
GLA	Glamis	0.92	27			Pg	01 24 36.6	-1.6
GLA	Glamis	0.92	27	eP		Pg	01 24 36.0	-2.2
VTX	Valle De La Tr	0.92	205	eP		Pg	01 24 38.5	+0.3
VTX				eS		Sg	01 24 51.4	+1.0
CBKC	Canebrake	1.02	311			Pg	01 24 39.0	-1.0
TKX	Tecate	1.13	288	Pg		Pg	01 24 41.6	-0.5
TKX	Tecate	1.13	288	eP		Pg	01 24 41.2	-1.0
TKX				eS		Sg	01 24 56.0	-0.9
MONP2	Monument Peak	1.13	306			Pg	01 24 40.9	-1.2
MONP2						Sg	01 24 55.8	-1.2
MONP2	Monument Peak	1.13	306	eP		Pg	01 24 41.0	-1.2
TJIG	Tijuana	1.15	280	eP		Pb	01 24 41.4	-0.5
TJIG				eS		Sg	01 24 56.3	-1.3
CCX	Cicese	1.19	252	Pg		Pb	01 24 42.2	-0.2
SPIG	San Pedro Mart	1.19	186	eP		Pg	01 24 42.2	-1.1
SPX	San Pedro Mart	1.20	185			Pb	01 24 41.3	-1.6
SPX	San Pedro Mart	1.20	185	eP		Pb	01 24 41.2	-1.6
BAR	Barrett	1.22	292			Pn	01 24 42.3	-0.3
BAR	Barrett	1.22	292			Sb	01 24 58.4	-0.1
BAR	Barrett	1.22	292	eP		Pn	01 24 42.4	-0.3
BAR				eS		Sb	01 24 58.2	-0.3
SLH	Sleepy Hollow	1.23	321			Pn	01 24 42.5	-0.5
SLH						Sb	01 24 59.6	+0.7
SLH	Sleepy Hollow	1.23	321	eP		Pn	01 24 42.4	-0.5
SLH				eS		Sb	01 24 59.6	+0.7
SFX	San Felipe	1.26	161			Pn	01 24 43.1	-0.1
SFX	San Felipe	1.26	161	eP		Pn	01 24 42.9	-0.4
OLP	Otay Lakes Par	1.40	286	eP		Pn	01 24 45.8	+0.6
113A	Mohawk Valley,	1.43	68			Pn	01 24 44.3	-1.3
SDRC	San Diego Road	1.45	291			Sn	01 25 05.4	+0.8
SDRC	San Diego Road	1.45	291	eP		Pn	01 24 46.4	+0.6
MATG	Mataguay Scout	1.47	311			Pn	01 24 47.8	+1.6
MATG						Sn	01 25 06.5	+1.4
MATG	Mataguay Scout	1.47	311	eP		Pn	01 24 47.1	+0.9
DPP	Dos Picos Cty	1.56	300			Sn	01 25 08.6	+1.4
109C	Camp Elliot, M	1.63	294			Pn	01 24 49.4	+1.0
CPE	Camp Elliot	1.63	294			Pn	01 24 49.5	+1.1
CPE						Sn	01 25 10.5	+1.4
PFO	Pinyon Flats O	1.67	326			Pn	01 24 48.4	-0.6
SQX	San Quintin	1.72	196	eP		Pn	01 24 50.4	+0.9
PIX	Pinacate	1.73	112	Pn		Pn	01 24 51.2	+1.5
POB	Polly Butte	1.97	318			Pb	01 24 56.5	+0.6
214A	Organ Pipe Nat	2.16	97	Pn		Pn	01 24 55.4	-0.3
Y14A	Wickenburg	2.59	48	Pn		Pn	01 25 02.6	+1.0
W13A	Hualapai Mount	3.10	23	Pn		Pn	01 25 09.9	+1.1

*IDC **04** 01:42:05.9±1.2,51°.20N×179°.98E, h0km, mb3.5/11, mb1 3.8/12, mb1mx3.7/38, mbtmp3.6/12, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/36, Error ellipse: s-maj=35.8km s-min=20.3km az=178.0*
*AEIC **04** 01:42:10±2.7, 50°.98N±0°.06×179°.92W±0°.05, h13km±4km, ML3.4, Error ellipse: s-maj=8.6km s-min=3.9km az=196.0*
*NEIC **04** 01:42:12.5±1.8, 51°.02N±0°.06×179°.89W±0°.06, h41km±8km, Error ellipse: s-maj=9.3km s-min=4.7km az=200.0*

ISC 04 01:42:11.1±0.8, 50°.97N±0°.10×179°.91W±0°.04, h39km, n38, σ1s41/34, mb3.8/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AMKA	Amchitka	0.64	310			Pn	01 42 23.1	-0.6
AMKA						Sn	01 42 32.2	-0.5
CERAA	Semis' Rag'd T	0.97	345			Pn	01 42 29.0	+0.8
CESW	Semis' Southwe	0.99	341			Pn	01 42 29.2	+0.8
CERB	Semis' Cerberu	1.00	343			Pn	01 42 29.6	+1.0
CERB						Sn	01 42 43.6	+2.0
CETU	Semis' Tuman	1.06	340			Pn	01 42 30.7	+1.3
GALAA	Gareloi Lava P	1.06	42			Pn	01 42 30.3	+0.8
CEAP	Semis' Anvil P	1.08	343			Pn	01 42 30.9	+1.2
LSPA	Little Sitkin	1.37	317			Pn	01 42 35.2	+1.6
LSSA	Little Sitkin	1.39	315			Pn	01 42 35.3	+1.4
LSNW	Little Sitkin	1.40	316			Pn	01 42 35.5	+1.3
LSNW						Sn	01 42 54.2	+2.8
TAFP	Tanaga Falls P	1.52	52			Pn	01 42 36.0	+0.2
TAFP						Sn	01 42 55.5	+1.1
KIMD	Kanaga Island	1.85	64			Pn	01 42 41.4	+1.1
ADK	Adak	2.21	64			Pn	01 42 46.2	+0.9
GSTD	Great Sitkin T	2.59	64			Pn	01 42 52.1	+1.6
GSMY	Great Sitkin M	2.63	65			Pn	01 42 52.6	+1.6
GSTR	Great Sitkin T	2.65	63	Pn		Pn	01 42 53.0	+1.6
ATKA	Atka Island	3.77	69			Pn	01 43 08.6	+1.9
SMY	Shemya	4.11	298	Pn		Pn	01 43 13.1	+1.8
PETK	Petropavlovsk-	13.94	288	LR		LR	01 50 52.6	
	comp=Z,41nm,18.9s,baz=267,slow=38							
KDAK	Kodiak Island	17.23	56	P		Pn	01 46 05.8	-2.7
	0.3nm,0.3s,baz=254,slow=5.6,SNR=8.7							
ILAR	Eielson Array	22.00	39	P		P	01 47 00.2	-1.3
	0.2nm,0.5s,baz=235,slow=10,SNR=1.8							
H11N2	WAKE ISLAND Hy	32.88	203	T		T	02 24 14.5	
	baz=17,slow=75,SNR=3.7							
H11N3	WAKE ISLAND Hy	32.88	203	T		T	02 24 15.2	
	baz=17,slow=75,SNR=2.4							
H11N1	WAKE ISLAND Hy	32.89	203	T		T	02 24 15.7	
	baz=17,slow=75,SNR=3.1							
H11S1	WAKE ISLAND Hy	34.10	203	T		T	02 25 42.8	
	baz=16							
H11S2	WAKE ISLAND Hy	34.11	203	T		T	02 25 46.9	
	baz=16							
H11S3	WAKE ISLAND Hy	34.11	203	T		T	02 25 46.6	
	baz=16							
YKA	Yellowknife Ar	36.02	46	P		P	01 49 07.3	-0.6
	1.0nm,0.6s,baz=280,slow=7.5,SNR=1.5							
RES	Resolute Bay	40.40	24	LR		LR	02 11 07.0	
	comp=Z,57nm,18.4s,baz=93,slow=43							
NVAR	Mina Array Bea	44.30	82	P		P	01 50 18.4	+1.3
	0.1nm,0.6s,baz=307,slow=8.9,SNR=1.5							
SONM	Songino Array	46.20	296	P		P	01 50 32.8	+0.8
	0.4nm,0.4s,baz=44,slow=6.7,SNR=2.5							
PDAR	Pinedale Array	47.10	71	P		P	01 50 39.8	+0.6
	0.8nm,0.6s,baz=305,slow=4.1,SNR=6.3							
TXAR	Lajitas Array	59.41	80	P		P	01 52 09.8	+0.2
	0.1nm,0.5s,baz=316,slow=6.3,SNR=2.3							
MKAR	Makanchi Array	59.74	308	P		P	01 52 10.2	-1.4
	0.7nm,0.7s,baz=49,slow=5.7,SNR=5.1							
FINES	FINESS Array B	66.02	347	P		P	01 52 51.2	-1.8
	1.2nm,0.8s,baz=21,slow=6.9,SNR=4.2							
NOA	NORSAR Array B	67.98	354	P		P	01 53 04.4	-1.2
	0.5nm,0.6s,baz=6.7,slow=6.3,SNR=3.5							
AKASG	Malin Array Be	75.71	341	P		P	01 53 52.1	+0.1
	0.5nm,0.4s,baz=22,slow=6.5,SNR=1.8							
WRA	Warramunga Arr	81.24	223	P		P	01 54 23.7	+0.8
	0.6nm,1.2s,baz=28,slow=5.7,SNR=1.5							

IDC 04 01:53:23.6±59.0, 21°.38S×178°.24W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/28, mbtmp4.0/3, Error ellipse: s-maj=1081.0km s-min=163.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
STKA	Stephens Creek	37.21	245	P		P	02 00 35.5	-1.4
	1.8nm,0.6s,baz=83,slow=8.1,SNR=4.0							
ASAR	Alice Springs	44.10	258	P		P	02 01 33.9	-0.1
	1.2nm,0.5s,baz=98,slow=7.4,SNR=15							
WRA	Warramunga Arr	44.26	263	P		P	02 01 36.0	+0.7
	1.0nm,0.3s,baz=94,slow=8.3,SNR=41							

*IDC **04** 02:05:32.3±1.7, 34°.98N×25°.05E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/37, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=50.8km s-min=24.9km az=143.0*
*ISK **04** 02:05:38.1, 34°.78N×25°.10E, h21km, ML3.5/12*
*ATH **04** 02:05:38.9, 34°.82N×25°.02E, h39km±1km, ML3.2/6, Error ellipse: s-maj=3.2km s-min=1.3km az=356.0*
*THE **04** 02:05:39.6, 34°.74N×25°.03E, h16km, ML3.0/16, Error ellipse: s-maj=1.5km s-min=0.5km az=1.0*
*HLW **04** 02:05:40.9, 34°.32N×25°.31E, h14km±12km, Ml3.7*
*GII **04** 02:05:43.2±0.0, 34°.54N×25°.68E, h26km*

ISC 04 02:05:37.5±1.0, 34°.70N±0°.04×25°.12E±0°.03, h32km±8km, n75, σ1s91/109, Crete

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SIVA	Sivas	0.40	321	P		Pb	02 05 46.8	+0.2
SIVA				S		Sb	02 05 52.0	-0.9
	9µm,0.6s							
SIVA	Sivas	0.40	321	P		Pb	02 05 47.0	+0.4
SIVA				S		Sb	02 05 52.3	-0.6
SIVA				AML		AML	02 05 53.9	
	comp=E,22407µm,0.5s							
SIVA				AML		AML	02 05 54.2	
	comp=N,15183µm,0.7s							
TMBK	Timbaki Herakl	0.47	322	P		Pb	02 05 47.7	+0.1
TMBK				S		Sb	02 05 54.3	-0.2
	comp=N,3µm,0.5s							
LAST	Lasithi	0.55	33	P		Pb	02 05 50.2	+1.3
LAST				S		Sn	02 05 59.0	+1.8
	comp=N,2µm,0.6s							
LAST	Lasithi	0.55	33	P		Pb	02 05 50.1	+1.2
LAST				S		Sn	02 05 58.8	+1.6
LAST				AML		AML	02 06 03.1	
	comp=E,4072µm,0.6s							
LAST				AML		AML	02 06 04.2	
	comp=N,2679µm,0.6s							
FRMA	Ierapetra Chan	0.59	58	P		Pn	02 05 53.7	+4.0
FRMA				S		Sn	02 06 04.3	+6.0
	comp=N,878nm,0.7s							
KSTL	Kastelli Herak	0.60	356	P		Pb	02 05 49.6	-0.1
KSTL				S		Sb	02 05 58.3	+0.2
IACM	Heraklion	0.60	356	P		Pb	02 05 50.8	+1.0
IACM				S		Sn	02 05 59.7	+1.2
	comp=N,7µm,0.8s							
HRKL	Herakleio	0.61	359	P		Pb	02 05 50.3	+0.5
HRKL				S		Sn	02 05 59.5	+0.9
	comp=N,3µm,0.6s							
HRKL	Herakleio	0.61	359	PG		Pb	02 05 49.8	0.0
IDI	Anoyia	0.61	342	P		Pb	02 05 49.3	-0.7
IDI				S		Sb	02 05 58.0	-0.5
	comp=N,1µm,0.6s							
IDI	Anoyia	0.61	342	P		Pb	02 05 49.3	-0.7
IDI				S		Sb	02 05 57.9	-0.6
IDI	Anoyia	0.61	342	PG		Pb	02 05 48.9	-1.1
NPS	Neapolis	0.69	36	P		Pb	02 05 52.7	+1.5
NPS				S		Sn	02 06 04.3	+3.6
	comp=N,1µm,0.6s							
PRNS	Prines Rethymn	0.83	323	P		Pb	02 05 53.6	0.0
PRNS				S		Sn	02 06 05.1	+0.9
GVDS	Gavdos	0.86	280	P		Pb	02 05 54.7	+0.7
GVDS				S		Sb	02 06 06.1	+0.9
	comp=N,2µm,0.5s							
GVDS	Gavdos	0.86	280	PG		Pb	02 05 55.3	+1.3
GVDS				SG		Sn	02 06 07.8	+3.0
GVD	Gavdhos	0.86	279	P		Pb	02 05 54.4	+0.4
GVD				S		Sb	02 06 05.8	+0.6
	comp=N,2µm,0.4s							
GVD	Gavdhos	0.86	279	P		Pb	02 05 54.2	+0.2
GVD				S		Sb	02 06 04.6	-0.7
GVD				AML		AML	02 06 10.4	
	comp=E,5342µm,0.4s							
GVD				AML		AML	02 06 12.1	
	comp=N,4932µm,0.4s							
GVD	Gavdhos	0.86	279	PG		Pb	02 05 54.9	+0.9
GVD				SG		Sn	02 06 07.1	+2.3
STIA	Sitia Lasithi	0.94	58	P		Pn	02 05 58.1	+3.6
STIA				S		Sn	02 06 10.8	+3.9
ZKR	Zakros	0.99	65	P		Pn	02 05 58.8	+3.6
ZKR				S		Sn	02 06 12.2	+4.1
	comp=N,802nm,0.9s							
ZKR	Zakros	0.99	65	P		Pn	02 05 58.5	+3.3
ZKR				S		Sn	02 06 12.1	+3.9
ZKR				AML		AML	02 06 21.2	
	comp=N,804µm,0.4s							
ZKR				AML		AML	02 06 21.3	
	comp=E,2336µm,0.8s							
ZKR	Zakros	0.99	65	PG		Pb	02 05 57.2	+1.0
ZKR				SG		Sn	02 06 11.1	+3.0
VAM	Vamos	1.03	313	P		Pb	02 05 56.3	-0.5
VAM				S		Sb	02 06 09.7	-0.4
	comp=E,1µm,0.5s							
VAM	Vamos	1.03	313	P		Pb	02 05 56.4	-0.5
VAM				S		Sb	02 06 08.6	-1.5
VAM				AML		AML	02 06 13.3	
	comp=E,2618µm,0.6s							
VAM				AML		AML	02 06 15.6	
	comp=N,2514µm,0.4s							
CHAN	Chania	1.20	313	P		Pn	02 05 59.1	+1.0
CHAN				S		Sb	02 06 14.7	-0.2
	comp=N,378nm,1.1s							
IMMV	Iera Moni Meta	1.20	309	P		Pn	02 05 59.0	+1.0
IMMV				S		Sb	02 06 15.1	+0.2
	comp=N,1µm,1.0s							
IMMV	Iera Moni Meta	1.20	309	P		Pn	02 05 58.6	+0.6
IMMV				S		Sb	02 06 13.7	-1.3
IMMV				AML		AML	02 06 20.9	
	comp=E,2704µm,0.9s							
IMMV				AML		AML	02 06 24.3	
	comp=N,1840µm,0.7s							
IMMV	Iera Moni Meta	1.20	309	PN		Pn	02 05 59.1	+1.0
IMMV				SN		Sb	02 06 14.9	0.0
KNDR	Palaiochora Ch	1.29	295	P		Pn	02 06 00.7	+1.4
KNDR				S		Sb	02 06 18.4	+0.9
	comp=N,292nm,0.6s							
KNDR	Palaiochora Ch	1.29	295	PN		Pn	02 06 01.6	+2.3
RODP	Rodopos	1.41	308	P		Pn	02 06 02.7	+1.8
RODP				S		Sn	02 06 19.8	+1.4
	comp=N,165nm,0.7s							
RODP	Rodopos	1.41	308	PN		Pn	02 06 01.9	+1.0
SANT	Santorini	1.69	9	PN		Pn	02 06 05.9	+1.1
KARP	Karpathos	1.88	63	PN		Pn	02 06 09.7	+2.3
KTHA	Kythira Island	2.29	313	PN		Pn	02 06 15.4	+2.4
KTHR	Kythira	2.32	313	P		Pn	02 06 14.6	+1.1
APE	Apeiranthos	2.39	8	PN		Pn	02 06 15.1	+0.7
ARG	Arkhangelos	2.88	58	PN		Pn	02 06 23.2	+2.0
SLUM	Salum	3.20	179	P		Pn	02 06 27.8	+2.2
	baz=182							
TURN	Turunc	3.28	50	PN		Pn	02 06 29.6	+3.0
MLSB	Milas	3.37	39	PN		Pn	02 06 30.6	+2.7
YER	Yerkesik	3.53	46	PN		Pn	02 06 32.3	+2.1
DALY	Dalyan (Mula)	3.57	53	PN		Pn	02 06 32.5	+1.9
MATC	Matruh	3.79	151	P		Pn	02 06 35.9	+2.2
	baz=150							
AYDB	Zeytinkoy-Aydi	3.94	34	PN		Pn	02 06 37.9	+2.1
SWA2		5.45	177	P		Pn	02 06 58.2	+1.7
	baz=178							
CSS	Mathiatis	6.76	85	Pn		Pn	02 07 14.3	-0.2
KOT	Kottamia	7.41	128	P		Pn	02 07 25.3	+1.8
	baz=126							
KOT				S		Sn	02 08 40.5	-5.9
	baz=126							
HSAF	As Saff	7.45	131	P		Pn	02 07 24.9	+0.9
	baz=129							
GLL	Jalalah	7.57	131	P		Pn	02 07 26.7	+1.1
	baz=129							
HFRF	Wahat Farafira	8.01	159	P		Pn	02 07 32.1	+0.4
	baz=159							
HFRF				S		Sn	02 08 57.3	-3.9
	baz=159							
HFRF				AMP			02 09 00.0	
	baz=159							
BRTR	Keskin Array B	8.44	51	Pn		Pn	02 07 35.9	-1.8
	comp=N,0.0nm,0.3s,baz=237,slow=13,SNR=2.0							
TAMRE	El Minia	8.58	143	P		Pn	02 07 40.8	+1.3
	baz=142							
SLTI	Sal'it	8.64	104	Pn		Pn	02 07 40.0	-0.4
SLTI				Sn		Sn	02 09 11.9	-4.9
KZIT	Kziot	8.68	113	Pn		Pn	02 07 40.8	0.0
MMA1	Mount Meron ar	8.72	98	Pn		Pn	02 07 43.0	+1.5
MMA1				Sn		Sn	02 09 14.4	-4.3
AMAZ	Amatzia	8.80	108	Pn		Pn	02 07 41.5	-1.1
AMAZ				Sn		Sn	02 09 14.4	-6.3
GEM	Giv'at Ha'Em	8.89	97	Pn		Pn	02 07 43.4	-0.3
NATI	Neve Ativ	8.94	96	Pn		Pn	02 07 43.5	-0.8
NATI				Sn		Sn	02 09 19.1	-4.7
YTIR	Yattir	9.03	109	Pn		Pn	02 07 45.0	-0.7
YTIR				Sn		Sn	02 09 20.6	-5.7
HMDT	Nahal Hemdat	9.03	103	Pn		Pn	02 07 46.3	+0.7
HMDT				Sn		Sn	02 09 22.9	-3.3
DSI	Dead Sea	9.15	107	Pn		Pn	02 07 47.1	-0.2
DSI				Sn		Sn	02 09 25.1	-4.2
KRMI	Paran Flat	9.32	117	Pn		Pn	02 07 49.8	+0.2
GHAJ	Ghor Haditha	9.40	108	Pn		Pn	02 07 51.5	+0.7
PRNI	Paran	9.40	115	Pn		Pn	02 07 51.3	+0.5
ZFRI	Zfri	9.44	113	Pn		Pn	02 07 51.0	-0.2
HRFI	Mount Harif	9.59	116	Pn		Pn	02 07 53.5	+0.1
MBRI	Mt Berech	9.63	118	Pn		Pn	02 07 53.8	-0.1
MBRI				Sn		Sn	02 09 36.1	-4.9
EIL	Elat	9.72	118	Pn		Pn	02 07 55.0	-0.2
KBZ	Khabaz	16.44	51	Pn		Pn	02 09 24.6	-1.1
	comp=N,0.1nm,0.3s,baz=248,slow=18,SNR=1.4							
GERES	GERESS Array B	16.47	333	Pn		Pn	02 09 22.0	-4.2
	comp=N,0.1nm,0.3s,baz=146,slow=14,SNR=1.9							
TORD	Torodi Ar. Bea	30.17	230	P		P	02 11 45.4	+0.5
	comp=N,0.6nm,0.6s,baz=35,slow=8.8,SNR=4.8							
MKAR	Makanchi Array	44.06	56	P		P	02 13 41.2	-1.1
	comp=N,0.3nm,0.5s,baz=277,slow=7.9,SNR=3.1							

*CNRM **04** 02:12:57.3, 34°.94N×4°.58W, h6km*
*MDD **04** 02:12:58.0±1.1, 34°.87N×4°.33W, h10km±4km, mbLg2.4/23, Error ellipse: s-maj=8.6km s-min=5.1km az=12.0, PRXIMO*
*INMG **04** 02:12:59.5±1.9, 34°.94N×4°.35W, h16km±10km, ML2.2, Error ellipse: s-maj=4.4km s-min=3.7km az=67.0*
*SFS **04** 02:13:00.0, 35°.27N×4°.29W, ML3.2, TORRES DE ALCALA (MARRUECOS)*

ISC 04 02:12:58.2±1.0, 34°.97N±0°.02×4°.39W±0°.03, h21km±2km, n75, σ1s99/133, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PVLZ	Peæn de	0.21	20	P		Pn	02 13 03.9	-0.2
PVLZ				S		Sb	02 13 07.8	-0.3
PVLZ	Peæn de	0.21	20	iP		Pb	02 13 03.9	-0.2
PVLZ				eS		Sb	02 13 07.8	-0.3
EMEL	Melilla	1.22	74	P		Pn	02 13 20.2	+0.2
	47nm,0.1s,SNR=19							
EMEL				S		Sn	02 13 35.6	-0.4
	111nm,0.2s,SNR=7.9							
CEU	Ceuta	1.22	319	P		Pn	02 13 17.2	-2.8
CEU				S		Sn	02 13 29.8	-6.1
CEU	Ceuta	1.22	319	eP		Pn	02 13 17.2	-2.8
CEU				eS		Sn	02 13 29.8	-6.1
ECEU	Ceuta	1.23	319	P		Pn	02 13 18.6	-1.5
	5.5nm,0.2s,SNR=12							
ECEU				S		Sn	02 13 32.0	-4.0
	13nm,0.1s,SNR=7.9							
MELI	Melilla	1.24	74	P		Pn	02 13 20.4	+0.1
	11nm,0.1s,SNR=4.0							
MELI				S		Sn	02 13 36.0	-0.3
	84nm,0.4s,SNR=4.0							
MELI	Melilla	1.24	74	eP		Pn	02 13 20.2	0.0
MELI				eS		Sb	02 13 38.1	+1.8
EALB	Alboran	1.47	49	P		Pn	02 13 22.0	-1.4
	8.2nm,0.2s,SNR=13							
EALB				S		Sn	02 13 38.0	-4.0
	28nm,0.3s,SNR=7.9							
IFR	Ifrane	1.57	203	eP		Pn	02 13 24.5	-0.5
IFR				eS		Sn	02 13 43.8	-1.1
EMAL	Malaga-Limoner	1.79	359	eP		Pn	02 13 27.3	-0.5
EMAL				eS		Sn	02 13 48.5	-1.4
ELGU	Los Guajares,	1.99	18	P		Pn	02 13 30.4	-0.3
	3.5nm,0.2s,SNR=7.9							
ELGU				S		Sn	02 13 54.5	-0.6
	14nm,0

	5.1nm,0.3s							
PVAQ	**Vaqueiros**	**3.62**	**313**	P	**Pn**	**02 13 54.6**	**+1.5**
PVAQ				S	**Sn**	**02 14 36.3**	**+1.1**
PVAQ	**Vaqueiros**	**3.62**	**313**	*e*Pn	**Pn**	**02 13 54.6**	**+1.5**
PVAQ	**Vaqueiros**	**3.62**	**313**	*e*Pg	**Pn**	**02 13 57.0**	**+3.9**
PVAQ				*e*Sn	**Sn**	**02 14 36.3**	**+1.1**
PVAQ				A	A	02 14 37.9	
	5.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.65**	**309**	P	**Pn**	**02 13 54.8**	**+1.3**
PBDV				S	**Sn**	**02 14 37.1**	**+1.1**
	4.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.65**	**309**	*e*Pn	**Pn**	**02 13 54.8**	**+1.3**
PBDV				*e*Sn	**Sn**	**02 14 37.1**	**+1.1**
PBDV				A	A	02 14 39.1	
	4.0nm,0.3s						
PCVE	**Castro Verde**	**3.96**	**313**	P	**Pn**	**02 14 00.0**	**+2.2**
PCVE				S	**Sn**	**02 14 44.3**	**+0.7**
	2.8nm,0.4s						
PCVE	**Castro Verde**	**3.96**	**313**	*e*Pn	**Pn**	**02 14 00.0**	**+2.2**
PCVE				*e*Sn	**Sn**	**02 14 44.3**	**+0.7**
PCVE				A	A	02 14 50.6	
	2.8nm,0.4s						
PBEJ	**Beja**	**4.14**	**318**	P	**Pn**	**02 14 03.2**	**+3.0**
PBEJ				S	**Sn**	**02 14 50.0**	**+2.1**
PBEJ	**Beja**	**4.14**	**318**	*e*Pn	**Pn**	**02 14 03.2**	**+3.0**
PBEJ				*e*Sn	**Sn**	**02 14 50.0**	**+2.1**
MORF	**Marmelete**	**4.16**	**305**	P	**Pn**	**02 14 03.6**	**+3.1**
MORF				S	**Sn**	**02 14 51.5**	**+3.0**
MORF	**Marmelete**	**4.16**	**305**	*e*Pn	**Pn**	**02 14 03.6**	**+3.1**
MORF				*e*Sn	**Sn**	**02 14 51.5**	**+3.0**
PFVI	**Vila Bisbo**	**4.19**	**302**	*e*Pn	**Pn**	**02 14 03.4**	**+2.5**
PFVI				*e*Sn	**Sn**	**02 14 54.5**	**+5.3**
TZRR	**Tazzarine**	**4.29**	**194**	P	**Pn**	**02 14 02.9**	**+0.6**
ETOB	**Tobarra**	**4.32**	**31**	P	**Pn**	**02 14 05.3**	**+2.6**
	1.5nm,0.2s,SNR=17						
ETOB				S	**Sn**	**02 14 55.6**	**+3.1**
	0.8nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.34**	**308**	P	**Pn**	**02 14 04.8**	**+1.9**
PTEO				S	**Sn**	**02 14 53.9**	**+1.0**
PTEO	**Sao Teotonio**	**4.34**	**308**	*e*Pn	**Pn**	**02 14 04.8**	**+1.9**
PTEO				*e*Sn	**Sn**	**02 14 53.9**	**+1.0**
OUZM	**OUZ**	**4.51**	**207**	P	**Pn**	**02 14 06.0**	**+0.6**
OUZM				S	**Sn**	**02 14 57.6**	**+0.3**
PNCL	**Nicolau / Gran**	**4.57**	**314**	P	**Pn**	**02 14 08.1**	**+2.0**
PNCL				S	**Sn**	**02 14 59.0**	**+0.4**
	2.2nm,0.4s						
PNCL	**Nicolau / Gran**	**4.57**	**314**	*e*Pn	**Pn**	**02 14 08.1**	**+2.0**
PNCL				*e*Sn	**Sn**	**02 14 59.0**	**+0.4**
PNCL				A	A	02 15 10.7	
	2.2nm,0.4s						
EVO	**Evora**	**4.59**	**322**	P	**Pn**	**02 14 08.6**	**+2.3**
EVO				S	**Sn**	**02 14 58.6**	**-0.4**
EVO	**Evora**	**4.59**	**322**	*e*P	**Pn**	**02 14 08.6**	**+2.3**
EVO				*e*S	**Sn**	**02 14 58.6**	**-0.4**
EVO	**Evora**	**4.59**	**322**	*e*Pn	**Pn**	**02 14 08.9**	**+2.5**
EVO				*e*Sn	**Sn**	**02 14 59.6**	**+0.5**
ESDC	**Sonseca Array**	**4.71**	**4**	P	**Pn**	**02 14 10.0**	**+2.0**
	0.9nm,0.5s,baz=183,slow=12,SNR=6.1						
ESDC				S	**Sn**	**02 15 03.0**	**+0.9**
	baz=187,slow=22,SNR=7.9						
OUK	**Oukaimeden**	**4.75**	**219**	P	Pn	02 14 05.9	-3.0
OUK				S	**Sn**	**02 15 02.7**	**-0.8**
ZGR	**Zagora**	**4.95**	**192**	P	**Pn**	**02 14 11.9**	**+0.5**
PMRV	**Marv??o**	**5.05**	**333**	P	**Pn**	**02 14 13.8**	**+1.1**
PMRV				S	**Sn**	**02 15 09.4**	**-1.1**
	1.2nm,0.7s						
PMRV	**Marv??o**	**5.05**	**333**	*e*Pn	**Pn**	**02 14 13.8**	**+1.1**
PMRV				*e*Sn	**Sn**	**02 15 09.4**	**-1.1**
PMRV				A	A	02 15 30.1	
	1.2nm,0.7s						
PMTG	**Montargil**	**5.11**	**324**	P	**Pn**	**02 14 14.7**	**+1.2**
PMTG				S	**Sn**	**02 15 11.4**	**-0.5**
	1.5nm,0.4s						
PMTG	**Montargil**	**5.11**	**324**	*e*Pn	**Pn**	**02 14 14.7**	**+1.2**
PMTG				*e*Sn	**Sn**	**02 15 11.4**	**-0.5**
PMTG				A	A	02 15 31.4	
	1.5nm,0.4s						
EPLA	**Plasencia**	**5.26**	**346**	S	**Sn**	**02 15 13.7**	**-1.8**
	SNR=7.9						
PCBR	**Castelo Branco**	**5.45**	**334**	P	**Pn**	**02 14 19.9**	**+1.8**
PCBR				S	**Sn**	**02 15 19.8**	**-0.3**
PCBR	**Castelo Branco**	**5.45**	**334**	*e*Pn	**Pn**	**02 14 19.9**	**+1.8**
PCBR				*e*Sn	**Sn**	**02 15 19.8**	**-0.3**
PSBE	**So Bento**	**5.74**	**324**	*e*Pn	Pn	02 14 27.0	+4.9
PSBE				*e*Sn	**Sn**	**02 15 28.7**	**+1.4**
PCAS	**Casmilo, Conde**	**6.03**	**328**	S	**Sn**	**02 15 34.4**	**-0.2**
PCAS	**Casmilo, Conde**	**6.03**	**328**	*e*Sn	**Sn**	**02 15 34.4**	**-0.2**
PVIS	**Viseu**	**6.37**	**335**	S	**Sn**	**02 15 42.2**	**-0.7**
PVIS	**Viseu**	**6.37**	**335**	*e*Sn	**Sn**	**02 15 42.2**	**-0.7**
MVO	**Moncorvo**	**6.52**	**342**	*e*Pn	**Pn**	**02 14 35.3**	**+2.3**
PVRL	**Vila Real**	**6.82**	**338**	S	**Sn**	**02 15 51.8**	**-2.2**
PVRL	**Vila Real**	**6.82**	**338**	*e*Sn	**Sn**	**02 15 51.8**	**-2.2**
PBRG	**Braganca**	**7.07**	**346**	P	**Pn**	**02 14 40.7**	**+0.3**
PBRG	**Braganca**	**7.07**	**346**	*e*Pn	**Pn**	**02 14 40.7**	**+0.3**

IDC 04 02:15:40.7±3.2, 33°15S×178°75W, *h*0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=72.7km s-min=36.7km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.11**	**212**	Pn	Pn	02 17 12.5	+0.2
	1.6nm,0.3s,baz=35,slow=7.0,SNR=17						
URZ				Sn	Sn	02 18 21.6	-1.2
	1.3nm,0.3s,baz=195,slow=20,SNR=1.5						
ASAR	**Alice Springs**	**42.40**	**270**	P	P	02 23 37.6	+0.4
	0.4nm,0.7s,baz=108,slow=7.8,SNR=5.5						
WRA	**Warramunga Arr**	**43.64**	**275**	P	P	02 23 46.8	-0.4
	0.5nm,0.5s,baz=115,slow=7.6,SNR=7.7						
H03N3	**Juan Fernandez**	**79.69**	**123**	T	T	03 56 26.3	
	baz=237						
H03N2	**Juan Fernandez**	**79.69**	**123**	T	T	03 56 23.1	
	baz=237						
H03N1	**Juan Fernandez**	**79.71**	**123**	T	T	03 56 27.9	
	baz=237						
FINES	**FINESS Array B**	**147.47**	**338**	PKPbc	PKPbc	02 35 25.0	-0.9
	0.7nm,0.7s,baz=29,slow=3.2,SNR=4.4						

*IDC **04** 02:19:56.3±1.7, 37°.22N×22°.25E, *h*0km, mb3.4/4, mb1 3.4/6, mb1mx3.2/50, mbtmp3.3/6, ML3.0/2, Error ellipse: s-maj=31.8km s-min=27.7km az=119.0*
*ATH **04** 02:19:58.4, 37°.41N×22°.18E, *h*20km±1km, ML3.1/12, Error ellipse: s-maj=1.2km s-min=0.8km az=124.0*
*THE **04** 02:19:59.0, 37°.40N×22°.20E, *h*0km±1km, ML3.0/24, Error ellipse: s-maj=1.3km s-min=0.4km az=210.0*
ISC 04 02:19:59.2±0.8, 37°41N±0°.02×22°18E±0°.02, h11km±5km, n82, σ0§95/128, mb3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIP	**Tripoli**	**0.14**	**30**	P	**Pg**	**02 20 01.6**	**-0.9**
TRIP				S	**Sg**	**02 20 04.8**	**-0.1**
TRIP	**Tripoli**	**0.14**	**30**	P	**Pg**	**02 20 02.8**	**+0.3**
TRIP				S	**Sg**	**02 20 05.2**	**+0.3**
TRIP				AML	AML	02 20 05.9	
TRIP				AML	AML	02 20 06.9	
	comp=E,42813μm,0.5s						
VLX	**Vlachokerasia**	**0.16**	**103**	P	**Pg**	**02 20 02.1**	**-0.7**
VLX				S	**Sg**	**02 20 04.6**	**-0.8**
VLX	**Vlachokerasia**	**0.16**	**103**	P	**Pg**	**02 20 03.0**	**+0.1**
ITM	**Ithomi**	**0.31**	**222**	P	**Pg**	**02 20 04.9**	**-0.4**
ITM				S	**Sg**	**02 20 09.4**	**-0.1**
	comp=E,7μm,0.2s						
ITM	**Ithomi**	**0.31**	**222**	P	**Pg**	**02 20 04.9**	**-0.4**
ITM				S	**Sg**	**02 20 08.9**	**-0.5**
ITM				AML	AML	02 20 10.3	
	comp=E,14723μm,0.2s						
ITM				AML	AML	02 20 11.1	
	comp=N,11729μm,0.3s						
GUR	**Goura**	**0.54**	**13**	P	**Pg**	**02 20 09.2**	**-0.6**
GUR				S	**Sg**	**02 20 17.3**	**+0.3**
	comp=N,3μm,0.3s						
GUR	**Goura**	**0.54**	**13**	P	**Pg**	**02 20 09.0**	**-0.8**
GUR				S	**Sg**	**02 20 17.1**	**+0.2**
GUR				AML	AML	02 20 22.3	
	comp=N,6621μm,0.3s						
GUR				AML	AML	02 20 24.0	
	comp=E,6265μm,0.3s						
PYL	**PYLOS**	**0.62**	**215**	P	**Pg**	**02 20 10.4**	**-0.8**
PYL				S	**Sb**	**02 20 20.3**	**-0.5**
	comp=E,4μm,0.3s						
PYL	**PYLOS**	**0.62**	**215**	P	**Pg**	**02 20 10.5**	**-0.8**
KLV	**Kalavryta, Ach**	**0.64**	**358**	P	**Pg**	**02 20 10.5**	**-1.0**
KLV				S	**Sb**	**02 20 21.0**	**-0.3**
	comp=E,1μm,0.3s						
KLV	**Kalavryta, Ach**	**0.64**	**358**	P	**Pg**	**02 20 10.8**	**-0.8**
KLV				S	**Sg**	**02 20 19.0**	**-0.9**
KLV				AML	AML	02 20 23.1	
	comp=E,2991μm,0.3s						
KLV				AML	AML	02 20 23.4	
	comp=N,1932μm,0.3s						
KRND	**KRANIDI**	**0.77**	**92**	P	**Pb**	**02 20 13.8**	**-0.7**
KRND				S	**Sb**	**02 20 24.0**	**-1.1**
	comp=N,850nm,0.3s						
KRND	**KRANIDI**	**0.77**	**92**	P	**Pb**	**02 20 13.9**	**-0.7**
EPID	**Epidavros**	**0.77**	**74**	P	**Pg**	**02 20 13.6**	**-0.5**
EPID				S	**Sb**	**02 20 24.2**	**-1.0**
	comp=N,1μm,0.4s						
EPID	**Epidavros**	**0.77**	**74**	P	**Pg**	**02 20 13.7**	**-0.4**
EPID				S	**Sg**	**02 20 23.5**	**-0.7**
ALIK	**Aliki, Aigiali**	**0.85**	**356**	P	**Pg**	**02 20 14.6**	**-1.0**
ALIK				S	**Sb**	**02 20 28.4**	**+0.9**
LOUT	**Loutraki**	**0.85**	**47**	P	**Pg**	**02 20 15.1**	**-0.5**
LOUT				S	**Sb**	**02 20 28.0**	**+0.5**
	comp=N,998nm,0.4s						
LOUT	**Loutraki**	**0.85**	**47**	P	**Pg**	**02 20 15.2**	**-0.4**
RLS	**Riolos of Patr**	**0.86**	**319**	P	**Pg**	**02 20 14.7**	**-1.1**
RLS				S	**Sb**	**02 20 28.2**	**+0.5**
	comp=N,932nm,0.4s						
RLS	**Riolos of Patr**	**0.86**	**319**	P	**Pg**	**02 20 14.8**	**-1.1**
LTK	**Loutraki**	**0.87**	**45**	P	**Pg**	**02 20 15.3**	**-0.7**
LTK				S	**Sb**	**02 20 28.3**	**+0.2**
	comp=N,825nm,0.6s						
LTK	**Loutraki**	**0.87**	**45**	P	**Pg**	**02 20 15.5**	**-0.5**
LTK				S	**Sg**	**02 20 27.1**	**-0.3**
LTK				AML	AML	02 20 31.9	
	comp=E,1570μm,0.4s						
LTK				AML	AML	02 20 34.1	
	comp=N,1490μm,0.7s						
VLI	**Veliai**	**0.92**	**139**	P	**Pg**	**02 20 16.0**	**-0.8**
VLI				S	**Sn**	**02 20 30.2**	**-0.9**
VLI	**Veliai**	**0.92**	**139**	P	**Pg**	**02 20 15.9**	**-0.8**
VTN	**Vitineika**	**0.94**	**303**	P	**Pb**	**02 20 17.6**	**+0.1**
VTN				S	**Sb**	**02 20 31.1**	**+1.1**
VTN	**Vitineika**	**0.94**	**303**	P	**Pg**	**02 20 17.0**	**-0.2**
TRIZ	**Trizonia**	**0.96**	**355**	P	**Pg**	**02 20 16.4**	**-1.2**
TRIZ				S	**Sb**	**02 20 31.6**	**+1.1**
TRIZ	**Trizonia**	**0.96**	**355**	P	**Pg**	**02 20 16.5**	**-1.2**
TRIZ				S	**Sb**	**02 20 30.4**	**-0.2**
KALE	**Kalithea**	**0.98**	**358**	P	**Pg**	**02 20 16.7**	**-1.4**
KALE				S	**Sn**	**02 20 32.7**	**-0.2**
	comp=N,2μm,0.5s						
KALE	**Kalithea**	**0.98**	**358**	P	**Pg**	**02 20 16.9**	**-1.2**
KALE				S	**Sb**	**02 20 31.7**	**+0.5**
KALE				AML	AML	02 20 35.4	
	comp=N,4283μm,0.4s						
KALE				AML	AML	02 20 36.9	
	comp=E,2058μm,0.5s						
SERG	**Sergoula**	**1.01**	**354**	P	**Pg**	**02 20 17.3**	**-1.3**
SERG				S	**Sn**	**02 20 34.1**	**+0.6**
	comp=E,2μm,0.2s						
SERG	**Sergoula**	**1.01**	**354**	P	**Pg**	**02 20 17.6**	**-1.0**
SERG				S	**Sg**	**02 20 30.8**	**-0.9**
SERG				AML	AML	02 20 37.2	
	comp=E,3333μm,0.3s						
SERG				AML	AML	02 20 37.6	
	comp=N,2639μm,0.2s						
DSF	**Desfina**	**1.04**	**15**	P	**Pg**	**02 20 18.0**	**-1.2**
DSF				S	**Sn**	**02 20 34.7**	**+0.4**
	comp=N,572nm,0.5s						
EFP	**Efpalio**	**1.04**	**348**	P	**Pg**	**02 20 17.8**	**-1.4**
EFP				S	**Sn**	**02 20 34.1**	**-0.2**
	comp=N,962nm,0.3s						
KRI1	**kERI**	**1.11**	**284**	P	**Pg**	**02 20 19.7**	**-0.9**
KRI1				S	**Sn**	**02 20 37.0**	**+0.9**
	comp=N,1μm,0.2s						
VILL	**Villia**	**1.17**	**49**	P	**Pg**	**02 20 20.8**	**-0.9**
VILL				S	**Sn**	**02 20 38.6**	**+1.0**
VIL2	**Platees**	**1.18**	**47**	P	**Pg**	**02 20 20.9**	**-0.9**
VIL2				S	**Sg**	**02 20 36.0**	**-1.1**
VIL2				AML	AML	02 20 41.9	
	comp=N,1472μm,0.6s						
VIL2				AML	AML	02 20 45.5	
	comp=E,2828μm,0.6s						
ANX	**Ano Chora**	**1.20**	**350**	P	**Pg**	**02 20 20.7**	**-1.6**
ANX				S	**Sn**	**02 20 39.7**	**+1.3**
	comp=E,1μm,0.5s						
ANX	**Ano Chora**	**1.20**	**350**	P	**Pg**	**02 20 20.6**	**-1.6**
VLMS	**Volimes, Zakyn**	**1.29**	**292**	P	**Pn**	**02 20 22.8**	**-0.4**
KTHR	**Kythira**	**1.32**	**150**	P	**Pg**	**02 20 23.7**	**-0.8**
KTHR				S	**Sn**	**02 20 43.5**	**+2.3**
	comp=E,752nm,0.5s						
ATH	**Athens Observa**	**1.34**	**65**	P	**Pb**	**02 20 23.8**	**-0.5**
ATH				S	**Sn**	**02 20 42.9**	**+1.3**
	comp=E,440nm,0.6s						
ATH	**Athens Observa**	**1.34**	**65**	P	**Pb**	**02 20 24.0**	**-0.3**
KTHA	**Kythira Island**	**1.35**	**148**	P	**Pg**	**02 20 24.2**	**-0.8**
KTHA				S	**Sn**	**02 20 45.1**	**+3.2**
	comp=E,668nm,0.8s						
VLY	**Voula,Athens**	**1.35**	**70**	P	**Pn**	**02 20 23.9**	**-0.1**
VLY				S	**Sg**	**02 20 42.9**	**+0.1**
VLY	**Voula,Athens**	**1.35**	**70**	P	**Pn**	**02 20 23.9**	**-0.1**
VLY				S	**Sg**	**02 20 42.7**	**-0.1**
VLY				AML	AML	02 20 43.7	
	comp=E,1062μm,0.3s						
VLY				AML	AML	02 20 46.2	
	comp=N,1234μm,0.5s						
ATHU	**Athens Univers**	**1.39**	**66**	P	**Pn**	**02 20 24.1**	**-0.4**
ATHU				S	**Sg**	**02 20 44.2**	**+0.4**
ATHU				AML	AML	02 20 46.4	
	comp=N,353μm,0.5s						
ATHU				AML	AML	02 20 47.5	
	comp=E,202μm,0.7s						
LKR	**Lokris**	**1.40**	**27**	P	**Pn**	**02 20 24.4**	**-0.2**
LKR	**Lokris**	**1.40**	**27**	P	**Pn**	**02 20 24.6**	**-0.1**
AXAR	**Agios Charalam**	**1.41**	**15**	P	**Pn**	**02 20 24.7**	**-0.1**
AXAR	**Agios Charalam**	**1.41**	**15**	P	**Pn**	**02 20 24.9**	**+0.2**
ATAL	**Atalanti**	**1.44**	**27**	P	**Pn**	**02 20 25.4**	**+0.1**
ATAL	**Atalanti**	**1.44**	**27**	P	**Pn**	**02 20 25.3**	**0.0**
VLS	**Valsamata**	**1.48**	**302**	P	**Pn**	**02 20 25.7**	**0.0**
PTL	**Penteli**	**1.48**	**64**	P	**Pn**	**02 20 25.6**	**-0.1**
PTL				S	**Sb**	**02 20 45.5**	**0.0**
PTL				AML	AML	02 20 46.9	
	comp=E,562μm,0.4s						
PTL				AML	AML	02 20 48.0	
	comp=N,645μm,0.3s						
EVR	**Evrytania**	**1.54**	**349**	P	**Pn**	**02 20 26.6**	**0.0**
EVR	**Evrytania**	**1.54**	**349**	P	**Pn**	**02 20 26.9**	**+0.3**
EVR				S	**Sb**	**02 20 47.5**	**+0.2**
EVR				AML	AML	02 20 59.6	
	comp=N,1162μm,0.9s						
EVR				AML	AML	02 20 59.9	
	comp=E,905μm,0.7s						
DION	**Dionisos Attik**	**1.54**	**64**	P	**Pb**	**02 20 26.9**	**-0.8**
DION				S	**Sb**	**02 20 47.5**	**+0.2**
	comp=E,688nm,0.4s						
DION	**Dionisos Attik**	**1.54**	**64**	P	**Pn**	**02 20 26.6**	**0.0**
MAKR	**Makrakomi, Fth**	**1.60**	**359**	P	**Pb**	**02 20 28.2**	**-0.6**
MAKR				S	**Sg**	**02 20 50.7**	**-0.1**
	comp=E,222nm,0.4s						
MAKR	**Makrakomi, Fth**	**1.60**	**359**	P	**Pb**	**02 20 28.4**	**-0.4**
KEF5	**Kardakata, Kep**	**1.61**	**303**	P	**Pb**	**02 20 27.8**	**+0.3**
DMLN	**Damoulianata-K**	**1.66**	**301**	P	**Pb**	**02 20 29.2**	**-0.5**
DMLN				S	**Sg**	**02 20 51.6**	**-0.8**
	comp=E,502nm,0.5s						
KEF3	**Kipouria, Keph**	**1.66**	**299**	P	**Pn**	**02 20 28.2**	**0.0**
FSK	**Fiskardo**	**1.66**	**310**	P	**Pb**	**02 20 29.1**	**-0.6**
FSK				S	**Sg**	**02 20 51.9**	**-0.5**
	comp=E,232nm,0.3s						
FSK	**Fiskardo**	**1.66**	**310**	P	**Pn**	**02 20 28.8**	**+0.7**
EVGI	**Lefkada island**	**1.71**	**316**	P	**Pb**	**02 20 30.1**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.75**	**318**	P	**Pb**	**02 20 30.9**	**-0.4**
NYDR				S	**Sg**	**02 20 54.5**	**-1.0**
	comp=E,298nm,0.6s						
DRAG	**Dragano-Lefkad**	**1.80**	**316**	P	**Pb**	**02 20 31.5**	**-0.6**
LKD2	**Lefkada island**	**1.83**	**319**	P	**Pb**	**02 20 31.6**	**-1.1**
LKD2				S	**Sb**	**02 20 56.8**	**+1.2**
	comp=E,345nm,0.5s						
TSLK	**Tsoukalades, L**	**1.86**	**320**	P	**Pb**	**02 20 32.6**	**-0.5**
THL	**Klokotos Trika**	**2.16**	**357**	P	**Pn**	**02 20 35.7**	**+0.6**
VAY	**Valandovo**	**3.92**	**4**	*e*Pn	**Pn**	**02 20 57.0**	**-2.2**
STIP	**Stip**	**4.28**	**0**	*e*Pn	**Pn**	**02 21 05.6**	**+1.3**
BRTR	**Keskin Array B**	**9.27**	**72**	Pn	**Pn**	**02 22 15.3**	**+2.5**
	comp=E,0.1nm,0.3s,baz=257,slow=14,SNR=2.9						
GERES	**GERESS Array B**	**12.99**	**334**	Pn	**Pn**	**02 23 07.7**	**+4.0**
	comp=E,0.1nm,0.3s,baz=149,slow=14,SNR=1.4						
HFS	**Hagfors**	**23.38**	**349**	P	**P**	**02 25 08.3**	**+0.7**
	comp=E,1.8nm,0.6s,baz=187,slow=8.3,SNR=2.7						
FINES	**FINESS Array B**	**24.18**	**5**	P	**P**	**02 25 15.0**	**-0.3**
	comp=E,0.7nm,0.8s,baz=191,slow=6.7,SNR=1.4						
NOA	**NORSAR Array B**	**24.65**	**347**	P	**P**	**02 25 19.3**	**-0.2**
	comp=E,0.3nm,0.7s,baz=160,slow=9.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**30.31**	**223**	P	**P**	**02 26 08.8**	**-1.8**
	comp=E,0.8nm,1.2s,baz=30,slow=7.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**41.63**	**53**	P	**P**	**02 27 45.9**	**-1.3**
	comp=E,3.0nm,0.2s,baz=277,slow=8.1,SNR=1.5						

*REY **04** 02:24:31.1, 64°.62N×17°.39W, *h*1km*
*MOS **04** 02:24:32.4±1.1, 64°.43N×17°.80W, *h*11km, mb4.7/52, Error ellipse: s-maj=11.2km s-min=5.5km az=115.9*
*IDC **04** 02:24:32.2±0.5, 64°.48N×17°.65W, *h*0km, mb4.1/23, mb1 4.3/28, mb1mx4.1/56, mbtmp4.1/28, ML2.6/4, MS3.8/32, Ms1 3.8/32, ms1mx3.7/45, Error ellipse: s-maj=16.3km s-min=8.4km az=14.0*
*BGS **04** 02:24:33.9±2.8, 64°.36N×17°.74W, *h*5km, mb4.7(NEIC)*
*NEIC **04** 02:24:33.7±1.7, 64°.36N±0°.08×17°.7W±0°.1, *h*8km±4km, mb4.7/102, Error ellipse: s-maj=12.5km s-min=8.2km az=197.0*
*GCMT **04** 02:24:34.7±0.3, 64°.80N±0°.03×17°.2W±0°.1, *h*19km±1km, MW4.8/87, Moment Tensor Solution. s11,c11; s87,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.10±.17; $M_{\theta\theta}$1.33±.10; $M_{\phi\phi}$0.76±.09; $M_{r\theta}$0.64±.24; $M_{\theta\phi}$-0.03±.05; $M_{\phi r}$-0.31±.26; Best double couple: $M_0$1.85100×10^{16} NP1:ϕ_s91.00000°,δ34.00000°,λ-98.00000°. NP2: ϕ_s281.00000°,δ56.00000°,λ-85.00000°. Principal axes: T 1.4560, Plg11.0000°, Azm7.0000°; N 0.7810, Plg4.0000°, Azm98.0000°; P -2.2460, Plg78.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 02:24:35.4±0.0, 64°.81N×17°.45W, *h*33km, mb4.5*
ISC 04 02:24:34.0±0.3, 64°49N±0°.03×17°63W±0°.03, h10km, n314, σ1§40/290, mb4.6/117, MS3.8/28, 10C-7D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.17**	**85**	P	Pg	02 24 34.2	-3.5
	baz=149						
IDJK				S	**Sg**	**02 24 37.0**	**-3.4**
	baz=149						
IGRF	**Grimsfjall**	**0.18**	**118**	P	**Pg**	**02 24 36.0**	**-1.9**
	baz=166						
IVON	**Vonarskard**	**0.19**	**343**	P	**Pg**	**02 24 34.9**	**-3.1**
	baz=290						
IHUS	**Husbondi**	**0.20**	**184**	P	**Pg**	**02 24 37.9**	**-0.2**
	baz=200						
IVOT	**Vottur**	**0.29**	**139**	P	**Pg**	**02 24 38.2**	**-1.7**
	baz=165						
IJOK	**Jokulheimar**	**0.31**	**236**	P	**Pg**	**02 24 40.0**	**-0.3**
	baz=230						
IJOK				S	**Sg**	**02 24 46.7**	**+2.3**
	baz=230						
IDYN	**Dyngjuhals**	**0.32**	**20**	P	Pg	02 24 34.8	-5.6
	baz=3.8						
IDYN				S	Sg	02 24 37.6	-7.1
	baz=3.8						
IBJK	**Bruarjokull**	**0.38**	**93**	P	Pg	02 24 37.3	-4.2
	baz=118						
IURH	**Urdarhals**	**0.39**	**32**	P	Pg	02 24 35.8	-5.8
	baz=27						
IKVE	**Kverkfjoll**	**0.45**	**65**	P	Pg	02 24 37.8	-5.0
	baz=79						
IKVE				S	Sg	02 24 41.9	-6.8
	baz=79						
IIEY	**Innrieyrar**	**0.45**	**209**	P	**Pb**	**02 24 42.2**	**-1.8**
	baz=212						
IKAL	**Kalfafell**	**0.55**	**183**	P	**Pg**	**02 24 43.6**	**-0.9**
	baz=191						
IKAL				S	**Sb**	**02 24 53.7**	**+0.3**
	baz=191						
IKSK	**Karasker**	**0.60**	**123**	P	**Pg**	**02 24 41.7**	**-3.9**
	baz=138						
THOR	**Thorvaldshraun**	**0.60**	**42**	P	Pg	02 24 39.9	-5.8
	baz=44						
IKRE	**Kreppuhraun**	**0.61**	**61**	P	Pg	02 24 40.0	-5.8
	baz=69						
IKRE				S	Sg	02 24 47.2	-6.6
	baz=69						
IVAT	**Vatnsfell**	**0.64**	**242**	P	**Pb**	**02 24 45.6**	**-1.6**
	baz=238						
IVAT				S	**Sn**	**02 24 57.0**	**-2.3**
	baz=238						
IMKO	**Mokollar**	**0.74**	**48**	P	Pg	02 24 42.0	-6.2
	baz=51						
IFAG	**Fagurholsmyri**	**0.75**	**145**	P	**Pg**	**02 24 45.7**	**-2.7**
	baz=156						
ISVA	**Svartarkot**	**0.86**	**10**	P	Pg	02 24 44.2	-6.4
	baz=4.6						
ISNB	**Snabyli**	**0.88**	**211**	P	**Pb**	**02 24 49.6**	**-1.6**
	baz=212						
ISNB				S	**Sn**	**02 25 04.0**	**-1.0**
	baz=212						
IVSH	**V-Sauoahnukur**	**0.88**	**68**	P	Pg	02 24 44.9

UCC Uccle 17.93 129 P **Pn** **02 28 42.4 -0.7**
UCC pmax pmax
comp=Z,42nm,1.8s
UCC Uccle 17.93 129 **Pn** **02 28 42.4 -0.7**
BUG Bochum--Univer 18.41 123 P **Pn** **02 28 51.2 +2.3**
BUG pmax pmax
comp=Z,24nm,2.1s
BMRD Maredsous 18.49 130 P **P** **02 28 49.2 -0.6**
GRR Gorron 18.50 143 *eP* **P** **02 28 49.1 -0.9**
GRR pmax pmax
comp=Z,31nm,1.2s
BAIF Baives 18.51 131 *eP* **Pn** **02 28 51.5 +1.3**
BAIF pmax pmax
comp=Z,25nm,1.2s
MEM Membach 18.65 127 P **P** **02 28 51.2 -0.3**
MEM Membach 18.65 127 P **Pn** **02 28 52.2 +0.3**
MEM pmax pmax
comp=Z,17nm,1.8s
BTNL Ternell 18.71 127 P **Pn** **02 28 54.2 +1.5**
comp=Z,147nm,2.4s
FINES FINESS Array B 19.79 79 P **P** **02 29 03.6 -0.4**
comp=Z,0.0nm,0.3s,baz=317,slow=12,SNR=3.9
FINES LR LR 02 36 15.4
comp=Z,248nm,19.8s,baz=299,slow=36
FINES FINESS Array B 19.79 79 P **P** **02 29 05.3 +1.3**
FINES FINESS Array B 19.79 79 P **P** **02 29 05.3 +1.3**
FIA1 FINESS Array S 19.79 79 P **Pn** **02 29 06.3 +0.8**
FIA1 IAmb IAmb 02 29 25.2
comp=Z,76nm,1.9s
MOX Moxa 20.67 118 P Pn 02 29 15.5 -0.4
MOX pmax pmax
comp=Z,15nm,1.5s
CLL Collm 20.68 115⇑ *iP* **P** **02 29 13.6 -0.1**
comp=Z,26nm,1.2s
CLL LmV 02 37 00.0
comp=Z,200nm,20.2s
CLL Collm 20.68 115 P **P** **02 29 15.2 +1.5**
CLL pmax pmax
comp=Z,30nm,1.3s
CLL Collm 20.68 115 P **P** **02 29 15.2 +1.5**
LOR Lormes 20.86 136 P **P** **02 29 16.5 +0.8**
LOR pmax pmax
comp=Z,22nm,1.3s
HAU Haudompre 21.00 130 *eP* **P** **02 29 17.4 +0.2**
HAU pmax pmax
comp=Z,20nm,1.1s
PBUR Paburge 21.04 95 *eP* **P** **02 29 17.1 -0.4**
ECH Echery 21.08 129 P **P** **02 29 17.6 -0.5**
ECH pmax pmax
comp=Z,18nm,1.1s
ECH Echery 21.08 129 P **P** **02 29 17.6 -0.5**
AVF Avril sur Loir 21.14 137 *eP* **P** **02 29 18.0 -0.7**
AVF pmax pmax
comp=Z,19nm,1.2s
BGF Bois d'Agland 21.20 138 *eP* **P** **02 29 18.7 -0.7**
BGF pmax pmax
comp=Z,20nm,1.0s
GRA1 Grafenberg Arr 21.29 120 P **P** **02 29 21.8 +1.5**
GRA1 IAmb IAmb 02 29 34.8
comp=Z,29nm,1.1s
GRF Grafenberg Arr 21.29 120 P **P** **02 29 21.8 +1.5**
GRF pmax pmax
comp=Z,29nm,1.1s
GRF Grafenberg Arr 21.29 120 *eP* **P** **02 29 19.9 -0.4**
comp=Z,42nm,1.5s,baz=323,slow=10
NKC Novy Kostel 21.32 118 *eP* **P** **02 29 22.2 +1.6**
NKC Novy Kostel 21.32 118 *eP* **P** **02 29 22.2 +1.6**
STU Stuttgart 21.32 125 P **P** **02 29 21.8 +1.2**
STU pmax pmax
comp=Z,28nm,0.9s
STU Stuttgart 21.32 125 P **P** **02 29 21.8 +1.2**
STU IAmb IAmb 02 29 24.3
comp=Z,28nm,0.9s
HINF Hinteralfeld 21.33 130 *eP* **P** **02 29 21.9 +1.1**
HINF pmax pmax
comp=Z,39nm,1.8s
BFO Black Forest 21.39 127 P **P** **02 29 22.3 +0.9**
BFO pmax pmax
comp=Z,42nm,1.5s
BFO Black Forest 21.39 127 P **P** **02 29 22.3 +0.9**
BFO IAmb IAmb 02 29 25.1
comp=Z,42nm,1.5s
BRG Berggiesshubel 21.39 115 *i* P **P** **02 29 21.0 -0.3**
comp=Z,40nm,1.5s
BRG *e* 02 29 29.5
comp=Z,41nm,1.4s
BRG Berggiesshubel 21.39 115 *i* P **P** **02 29 21.0 -0.3**
BRG *e* 02 29 29.5
BRG pmax pmax
comp=Z,40nm,1.5s
BRG pmax pmax
comp=Z,41nm,1.4s
SMF Signal de Mont 21.41 136 *eP* **P** **02 29 21.1 -0.6**
SMF pmax pmax
comp=Z,21nm,1.1s
VSU Vasula 21.64 85 *eP* **P** **02 29 23.9 0.0**
VSU Vasula 21.64 85⇓ *eP* **P** **02 29 24.4 +0.5**
VSU pmax pmax
comp=Z,53nm,0.9s
PVCC Panska Ves 21.91 114 P **P** **02 29 27.3 +0.4**
PVCC pmax pmax
comp=Z,10.0nm,2.1s
SLE Schleitheim 21.93 127 P **P** **02 29 30.1 +2.9**
SLE pmax pmax
comp=Z,17nm,1.7s
RJF Les Rejaudoux 21.98 142 *eP* **P** **02 29 27.5 -0.3**
RJF pmax pmax
comp=Z,25nm,1.1s
PABE Paberze 22.25 94 *eP* **P** **02 29 30.7 +0.2**
PRU Pruhonice 22.32 115 *eP* **P** **02 29 31.0 -0.4**
PRU Pruhonice 22.32 115 *eP* **P** **02 29 31.0 -0.4**
WET Wettzell 22.36 119 P **P** **02 29 34.5 +2.6**
WET pmax pmax
comp=Z,9.0nm,1.8s
CHVC Chvalec 22.45 112 *eP* **P** **02 29 33.1 +0.3**
CAF Calviac 22.48 141 *eP* **P** **02 29 35.8 +2.7**
CAF pmax pmax
comp=Z,59nm,1.8s
GOPC GO Pecny, Ondr 22.48 115 *eP* **P** **02 29 32.4 -0.7**
GOPC GO Pecny, Ondr 22.48 115 *eP* **P** **02 29 32.4 -0.7**
UPC Upice 22.50 112 *eP* **P** **02 29 34.1 +0.8**
UPC Upice 22.50 112 *eP* **P** **02 29 34.1 +0.8**
OSTC Ostas 22.54 112 *eP* **P** **02 29 34.9 +1.2**
KHC Kasperske Hory 22.64 118 *eP* **P** **02 29 33.8 -1.0**
KHC Kasperske Hory 22.64 118⇓ *eP* **P** **02 29 37.9 +3.1**
KHC pmax pmax
comp=Z,21nm,1.0s
KHC Kasperske Hory 22.64 118 **P** **02 29 35.6 +0.8**
DPC Dobruska-Polom 22.74 112 *eP* **P** **02 29 35.5 -0.4**
DPC Dobruska-Polom 22.74 112 *eP* **P** **02 29 35.5 -0.4**
SENIN Lac Senin/Sane 22.75 131 P **P** **02 29 37.0 +0.8**
SENIN IAmb IAmb 02 29 53.5
comp=Z,28nm,1.5s
DAVA Damuels 22.82 126 *eP* **P** **02 29 36.2 -0.7**
comp=Z,17nm,1.5s
SSB Saint Sauveur 22.86 137 P **P** **02 29 36.9 -0.2**
SSB pmax pmax
comp=Z,37nm,1.6s
SSB Saint Sauveur 22.86 137 P **P** **02 29 36.9 -0.2**
SSB IAmb IAmb 02 29 45.9
comp=Z,37nm,1.6s
GEC2 GERESS Array S 22.92 118 P **P** **02 29 37.3 -0.5**
GERES GERESS Array B 22.92 118 P **P** **02 29 37.7 -0.2**
comp=Z,3.5nm,1.0s,baz=331,slow=7.9,SNR=11
GERES LR LR 02 39 35.0
comp=Z,246nm,18.4s,baz=328,slow=39
RETA Reutte 22.96 124 *eP* **P** **02 29 40.3 +2.0**
comp=Z,13nm,1.2s
RETA *i* P **PcP** **02 33 29.0 +1.2**
comp=Z,1.3nm,0.6s
IZAR Zarasai 23.08 91 *eP* **P** **02 29 37.9 -1.4**
ISAL Salakas 23.14 92 *eP* **P** **02 29 39.5 -0.5**
KRLC Kraliky 23.14 112 *eP* **P** **02 29 39.7 -0.4**
KRLC Kraliky 23.14 112 *eP* **P** **02 29 39.7 -0.4**
MOTA Moosalm 23.21 124 *eP* **P** **02 29 42.8 +1.9**
comp=Z,20nm,1.3s
MOTA *eP* **PcP** **02 33 27.1 -1.4**
comp=Z,4.1nm,0.8s
TREC Trest 23.25 115 P **P** **02 29 41.5 +0.4**
TREC pmax pmax
comp=Z,9.0nm,1.2s
LPL La Plagne 23.32 133 *eP* **P** **02 29 43.5 +1.4**
LPL pmax pmax
comp=Z,35nm,1.8s
IIGN Ignalina 23.33 92 *eP* **P** **02 29 41.5 -0.3**

TUE Stuetta 23.34 128 P **P** **02 29 40.8 -1.4**
TUE IAmb IAmb 02 29 58.2
comp=Z,57nm,1.9s
LPG La Plagne 23.34 133 *eP* **P** **02 29 45.1 +2.7**
LPG pmax pmax
comp=Z,21nm,1.4s
FETA Feichten 23.35 125 *eP* **P** **02 29 44.1 +1.8**
comp=Z,13nm,1.4s
SQTA Sankt Quirin 23.35 124 *eP* **P** **02 29 44.2 +2.0**
comp=Z,24nm,1.4s
SQTA *i* P **PcP** **02 33 26.4 -2.3**
comp=Z,5.7nm,0.7s
WATA Walderalm 23.38 123 *eP* **P** **02 29 42.8 +0.1**
comp=Z,12nm,1.3s
WATA *i* P **PcP** **02 33 24.6 -4.2**
comp=Z,3.2nm,0.9s
WTTA Wattenberg 23.47 123 *eP* **P** **02 29 42.7 -0.8**
comp=Z,14nm,1.6s
VRAC Vranov 23.67 114 P **P** **02 29 45.2 -0.1**
comp=Z,4.4nm,0.9s,baz=332,slow=11,SNR=7.8
VRAC Vranov 23.67 114 *eP* **P** **02 29 44.9 -0.4**
MORC Moravsky Berou 23.68 112 *eP* **P** **02 29 44.9 -0.5**
MORC Moravsky Berou 23.68 112 P **P** **02 29 45.9 +0.4**
MORC pmax pmax
comp=Z,44nm,2.0s
MORC Moravsky Berou 23.68 112 P **P** **02 29 45.9 +0.4**
MORC IAmb IAmb 02 29 49.5
comp=Z,44nm,2.0s
BNI Bardonecchia 23.72 134 P **P** **02 29 44.4 -1.5**
BNI pmax pmax
comp=Z,57nm,1.9s
BNI Bardonecchia 23.72 134 P **P** **02 29 44.4 -1.5**
KRUC Moravsky 23.79 114 *eP* **P** **02 29 45.7 -0.7**
KRUC Moravsky 23.79 114 P **P** **02 29 44.0 -2.4**
KRUC pmax pmax
comp=Z,10.0nm,2.9s
EUNU Eureka 23.81 336 P **P** **02 29 47.3 +0.9**
EUNU IAmb IAmb 02 30 41.1
comp=Z,43nm,1.6s
NACGM Naroch 23.86 93 *e* **P** **02 29 46.0 -1.1**
MOA Mori 23.95 119 *eP* **P** **02 29 49.0 +0.9**
comp=Z,20nm,1.9s
ABTA Abfaltersbach 24.22 123 *eP* **P** **02 29 52.6 +2.0**
comp=Z,8.9nm,1.5s
KBA Koelnbreinsper 24.25 121 P **P** **02 29 53.6 +2.6**
comp=Z,7.1nm,1.1s
JAVC Velka Javorina 24.46 113 *eP* **P** **02 29 53.4 +0.7**
CONA Conrad Observa 24.50 117 *eP* **P** **02 29 52.9 -0.3**
comp=Z,6.7nm,1.0s
CTI Castel Tesino 24.51 125 P **P** **02 29 54.0 +0.7**
CTI pmax pmax
comp=Z,46nm,1.8s
CTI Castel Tesino 24.51 125 P **P** **02 29 54.0 +0.7**
ZOU Zoufplan 24.55 122 P **P** **02 29 55.5 +1.7**
CIMO Cimolais 24.57 123 P **P** **02 29 54.0 +0.3**
CIMO IAmb IAmb 02 30 23.0
comp=Z,35nm,1.9s
SMOL Smolenice 24.64 114 *eP* **P** **02 29 55.3 +1.0**
SMOL pmax pmax
comp=Z,10.0nm,1.2s
SMOL Smolenice 24.64 114 *eP* **P** **02 29 55.3 +1.0**
MODS Modra-Piesok 24.69 114 *eP* **P** **02 29 55.1 +0.3**
MODS Modra-Piesok 24.69 114 *eP* **P** **02 29 55.1 +0.3**
MYKA Terra Mystica 24.74 121 *eP* **P** **02 29 56.7 +1.5**
comp=Z,5.9nm,1.0s
ARSA Arzberg 24.93 118 *eP* **P** **02 29 57.1 +0.2**
comp=Z,3.7nm,1.1s
LANS Liptovska Anna 24.95 110 *eP* **P** **02 29 59.2 +2.0**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 24.95 110 *eP* **P** **02 29 59.2 +2.0**
TEOL Teolo 25.11 126 P **P** **02 29 58.9 +0.3**
TEOL IAmb IAmb 02 30 04.0
comp=Z,14nm,0.9s
SOKA Soboth 25.22 119 *eP* **P** **02 30 00.7 +1.1**
comp=Z,9.7nm,1.2s
VYHS Vyhne 25.22 112 *eP* **P** **02 29 59.4 -0.1**
VYHS pmax pmax
comp=Z,20nm,1.5s
VYHS Vyhne 25.22 112 *eP* **P** **02 29 59.4 -0.1**
KLMR Klimovskoe 25.71 71 *eP* **P** **02 30 02.9 -0.9**
KLMR pmax pmax
comp=Z,21nm,1.5s
KLMR Klimovskoe 25.71 71 *eP* **P** **02 30 03.0 -0.9**
KLMR AMP 02 30 14.8
comp=Z,21nm,1.5s
SCHQ Schefferville 25.99 272 P **P** **02 30 06.4 -0.1**
comp=Z,4.1nm,0.4s,baz=59,slow=12,SNR=2.6
SCHQ LR LR 02 39 31.7
comp=Z,139nm,18.4s,baz=31,slow=35
PSZ Piszkesteto 26.10 111 P **P** **02 30 08.6 +1.0**
PSZ pmax pmax
comp=Z,31nm,1.4s
PSZ Piszkesteto 26.10 111 P **P** **02 30 08.6 +1.0**
ESDC Sonseca Array 26.11 156 P **P** **02 30 07.0 -0.8**
comp=Z,2.5nm,0.9s,baz=352,slow=8.0,SNR=15
ESDC LR LR 02 40 35.9
comp=Z,287nm,18.0s,baz=345,slow=37
ESDC Sonseca Array 26.11 156 P **P** **02 30 08.0 +0.2**
KOLS Kolonicke sedl 26.27 107 *eP* **P** **02 30 09.5 +0.4**
KOLS Kolonicke sedl 26.27 107 *eP* **P** **02 30 09.5 +0.4**
LVV L'vov 26.32 104 *eP* **P** **02 30 10.5 +1.0**
UZH Uzhgorod 26.52 108 *eP* **P** **02 30 11.4 +0.1**
UZH *e* 02 30 20.7
OSSC Osservatorio P 26.57 128 P **P** **02 30 11.5 -0.3**
OSSC IAmb IAmb 02 30 19.3
comp=Z,24nm,1.2s
AKASG Malin Array Be 27.87 97 P **P** **02 30 22.6 -0.8**
comp=Z,0.5nm,0.5s,baz=320,slow=10,SNR=6.0
AKASG LR LR 02 42 11.4
comp=Z,140nm,18.3s,baz=310,slow=38
AKASG Malin Array Be 27.87 97 *iP* **P** **02 30 23.8 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 27.87 97 P **P** **02 30 23.3 -0.1**
AKBB Malin Array Si 27.87 97⇓ *eP* **P** **02 30 22.1 -1.3**
AKBB Malin Array Si 27.87 97 P **P** **02 30 23.0 -0.4**
AKBB IAmb IAmb 02 30 28.5
comp=Z,32nm,1.9s
MLR Muntele Rosu 30.53 107 P **P** **02 30 46.3 -0.9**
comp=Z,2.6nm,0.9s,baz=271,slow=19,SNR=1.9
MLR Muntele Rosu 30.53 107 P **P** **02 30 46.3 -0.9**
MLR pmax pmax
comp=Z,21nm,1.4s
KIRV Kirov 31.09 69 LR LR 02 42 48.0
comp=Z,198nm,20.5s,baz=326,slow=35
VSR Storozhevoye 31.80 87 *eP* **P** **02 30 58.2 +0.1**
VSR pmax pmax
comp=Z,6.0nm,1.0s
CORL Conleone 32.31 130 P **P** **02 31 01.9 -1.0**
KEST Kesra 33.06 137 P **P** **02 31 09.4 0.0**
comp=Z,4.1nm,1.1s,baz=315,slow=5.7,SNR=2.2
KEST LR LR 02 44 08.4
comp=Z,162nm,18.1s,baz=287,slow=36
KEST Kesra 33.06 137 IAmb IAmb 02 31 13.0
comp=Z,22nm,1.5s
BELG Belogornoye 34.57 79⇓ *eP* **P** **02 31 23.4 +1.1**
ARU Arti 36.20 66 *ciP* **P** **02 31 37.0 +0.7**
ARU S S **02 37 17.5 +1.6**
ARU SS **SnSn** **02 39 36.9 -4.5**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 36.20 66 P **P** **02 31 37.5 +1.2**
ARU IAmb IAmb 02 31 38.3
comp=Z,27nm,1.9s
NRIK Noril'sk 36.63 35 P **P** **02 31 40.4 +0.6**
comp=Z,1.0nm,0.4s,baz=24,slow=10.0,SNR=1.8
NRIK LR LR 02 48 21.6
comp=Z,183nm,18.1s,baz=17,slow=39
BRYW Bryant College 37.79 260 P **P** **02 31 52.5 +2.6**
GOF Gofitskoye 38.17 91⇑ *eP* **P** **02 31 54.9 +1.8**
BRTR Keskin Array B 38.49 105 P **P** **02 31 56.1 +0.1**
comp=Z,2.7nm,0.7s,baz=324,slow=6.1,SNR=10
BRTR LR LR 02 48 40.3
comp=Z,40nm,19.5s,baz=310,slow=38
BRTR Keskin Array B 38.49 105 *ceP* **P** **02 31 57.0 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 38.49 105 P **P** **02 31 56.6 +0.6**
KIV Kislovodsk 38.89 92 *eP* P 02 31 53.2 -6.1
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,194nm,16.0s
KVAR Kislovodsk Arr 38.89 92 LR LR 02 48 07.0
comp=Z,167nm,19.4s,baz=297,slow=36
KBZ Khabaz 39.16 92 P **P** **02 32 01.9 +0.5**
comp=Z,2.7nm,0.9s,baz=328,slow=12,SNR=4.3
KBZ LR LR 02 49 32.0
comp=Z,51nm,18.9s,baz=326,slow=38
KBZ Khabaz 39.16 92 *ceP* **P** **02 32 04.0 +2.6**
KBZ pmax pmax
comp=Z,11nm,1.6s
YKA Yellowknife Ar 39.29 313 LR LR 02 47 54.2
comp=Z,107nm,18.5s,baz=0.0,slow=36
AKTO Aktyubinsk 40.39 73 P **P** **02 32 11.7 +0.1**
comp=Z,1.6nm,0.8s,baz=330,slow=11,SNR=4.1
AKTO LR LR 02 48 45.8
comp=Z,199nm,18.5s,baz=321,slow=36
AKH Akhalkalaki 41.30 94 P **P** **02 32 20.1 +0.7**
AKH pmax pmax
comp=Z,13nm,1.3s
AKH Akhalkalaki 41.30 94 P **P** **02 32 20.1 +0.7**
ULM Lac du Bonnet 41.61 289 LR LR 02 49 22.8
comp=Z,125nm,18.0s,baz=56,slow=36
ABKAR Akbulak array 42.09 73 P **P** **02 32 26.9 +1.3**
SDMD Soldier's Deli 42.13 263 P **P** **02 32 23.3 -2.7**
SDMD IAmb IAmb 02 33 56.9
comp=Z,21nm,1.6s
GAZ Gaziantep 42.14 103 P **P** **02 32 27.2 +0.9**
TOLK Toolik Lake Re 42.89 336 P **P** **02 32 33.7 +1.8**
TOLK IAmb IAmb 02 32 39.9
comp=Z,18nm,1.1s
BRVK Borovoye 43.26 62⇑ *eP* **P** **02 32 35.8 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
TAM Tamanrasset 44.39 149 P **P** **02 32 45.3 +0.7**
TAM pmax pmax
comp=Z,10.0nm,1.5s
TAM Tamanrasset 44.39 149 P **P** **02 32 45.3 +0.7**
ILAR Eielson Array 45.82 332 P **P** **02 32 54.9 -0.4**
comp=Z,1.8nm,0.9s,baz=34,slow=6.6,SNR=11
ILAR PcP **PcP** **02 34 31.9 -0.5**
comp=Z,1.1nm,0.9s,baz=352,slow=2.4,SNR=6.4
ILAR LR LR 02 53 23.9
comp=Z,117nm,20.8s,baz=354,slow=38
ILAR Eielson Array 45.82 332 P **P** **02 32 56.4 +1.1**
ILAR Eielson Array 45.82 332 P **P** **02 32 56.4 +1.1**
MDM Murphy Dome 45.91 333 P **P** **02 32 57.9 +1.8**
MDM IAmb IAmb 02 33 03.9
comp=Z,12nm,1.3s
COLA College 45.92 333⇑ *eP* **P** **02 32 57.8 +1.8**
COLA pmax pmax
comp=Z,25nm,2.5s
IMAR Indian Mountai 46.00 337 P **P** **02 32 58.1 +1.4**
BCAR Beaver Creek A 46.23 329 P **P** **02 33 00.6 +2.0**
EIL Eilat 47.70 111 P **P** **02 33 09.7 -0.8**
comp=Z,4.2nm,1.0s,baz=342,slow=6.4,SNR=3.1
ZAA0 Zalesovo Array 47.79 51 P **P** **02 33 12.7 +1.9**
ZAA0 IAmb IAmb 02 33 14.8
comp=Z,6.1nm,1.3s
ZALV Zalesovo Beam 47.79 51 LR LR 02 52 49.0
comp=Z,66nm,19.0s,baz=322,slow=36
KURK Kurchatov 48.25 58⇓ *eP* **P** **02 33 14.3 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 48.25 58 P **P** **02 33 15.0 +0.5**
KURBB Kurchatov Arra 48.30 58 P **P** **02 33 14.1 -0.7**
comp=Z,1.1nm,0.5s,baz=323,slow=7.4,SNR=8.5
T47A Sharon Grove 48.58 270 P **P** **02 33 16.3 -0.9**
GEYT Alibeck 50.50 83 LR LR 02 55 42.1
comp=Z,76nm,18.4s,baz=260,slow=37
KK31 Karatay Array 51.39 70 P **P** **02 33 38.9 +0.4**
KK31 pmax pmax
comp=Z,18nm,1.8s
KK31 Karatay Array 51.39 70 P **P** **02 33 38.9 +0.4**
KK31 IAmb IAmb 02 33 44.9
comp=Z,18nm,1.8s
KKAR Karatay Array 51.39 70 P **P** **02 33 38.5 +0.1**
KKAR Karatay Array 51.39 70 P **P** **02 33 38.5 +0.1**
DGZ Jazzator, Alta 52.23 52⇑ *eP* **P** **02 33 46.8 +2.0**
DGZ pmax pmax
comp=Z,13nm,2.9s
YPP Pitchstone Pla 52.43 295 P **P** **02 33 45.6 -0.9**
SEY Seymchan 52.67 6⇑ *eP* **P** **02 33 49.1 +1.5**
MAKZ Makanchi 52.74 58 P **P** **02 33 49.7 +1.3**
MAKZ pmax pmax
comp=Z,5.0nm,1.4s
MAKZ Makanchi 52.74 58 P **P** **02 33 49.7 +1.3**
MCMT McKenzie Canyo 52.75 297 P **P** **02 33 49.0 +0.1**
IMW Indian Meadow 52.79 295 IAmb IAmb 02 33 57.4
comp=Z,18nm,2.0s
MK31 Makanchi Array 52.86 58⇓ *eP* **P** **02 33 50.6 +1.2**
MK31 Makanchi Array 52.86 58 P **P** **02 33 50.1 +0.7**
MKAR Makanchi Array 52.86 58 P **P** **02 33 48.9 -0.5**
comp=Z,1.3nm,1.0s,baz=320,slow=6.6,SNR=5.3
MKAR LR LR 02 57 04.0
comp=Z,52nm,19.9s,baz=328,slow=37
MKAR Makanchi Array 52.86 58 *ceP* **P** **02 33 50.2 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 52.86 58 P **P** **02 33 49.9 +0.5**
TOA0 Torodi Ar. Sit 53.00 156 P **P** **02 33 49.6 -1.0**
TOA0 IAmb IAmb 02 33 50.9
comp=Z,23nm,2.0s
TORD Torodi Ar. Bea 53.00 156 P **P** **02 33 50.7 +0.1**
comp=Z,3.1nm,1.0s,baz=344,slow=7.3,SNR=11
TORD Torodi Ar. Bea 53.00 156 P **P** **02 33 50.7 +0.1**
BW06 Boulder Array 53.20 293 IAmb IAmb 02 33 54.7
comp=Z,6.2nm,0.9s
PDAR Pinedale Array 53.20 293 P **P** **02 33 51.9 -0.2**
comp=Z,3.4nm,0.8s,baz=56,slow=5.8,SNR=22
PDAR LR LR 02 55 59.3
comp=Z,98nm,18.4s,baz=16,slow=36
PDAR Pinedale Array 53.20 293 P **P** **02 33 52.1 0.0**
REDW Red Top Meadow 53.21 295 IAmb IAmb 02 34 00.9
comp=Z,24nm,2.0s
N23A Red Feather La 53.31 289 IAmb IAmb 02 34 00.7
comp=Z,9.6nm,1.1s
AAK Ala-Archa 53.38 67⇓ *eP* **P** **02 33 56.2 +2.8**
AAK pmax pmax
comp=Z,29nm,1.7s
PLID Pearl Lake 53.73 300 P **P** **02 33 55.5 -0.6**
BTK Batken 54.07 71 P **P** **02 33 58.2 -0.2**
BTK pmax pmax
comp=Z,15nm,1.3s
BTK Batken 54.07 71 P **P** **02 33 58.2 -0.2**
BMO Blue Mountains 54.42 300 IAmb IAmb 02 34 09.4
comp=Z,18nm,1.9s
HLID Hailey 54.42 297 P **P** **02 34 01.0 -0.1**
HLID IAmb IAmb 02 34 08.1
comp=Z,18nm,2.0s
CHGR Chuyangaron 54.57 74 P **P** **02 34 02.9 +0.9**
KDJ Kajisay 54.87 65 P **P** **02 34 05.2 +0.9**
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ Kajisay 54.87 65 P **P** **02 34 05.2 +0.9**
O20A White River Ci 54.89 290 P **P** **02 34 04.2 -0.3**
HWUT Hardware Ranch 54.97 294 P **P** **02 34 04.6 -0.5**
WMOK Wichita Mounta 55.52 279 P **P** **02 34 06.9 -2.0**
WMOK pmax pmax
comp=Z,8.0nm,1.3s
WMOK Wichita Mounta 55.52 279 P **P** **02 34 06.9 -2.0**
WMOK IAmb IAmb 02 34 12.3
comp=Z,7.7nm,1.3s
SDCO Great Sand Dun 55.79 287 P **P** **02 34 10.3 -0.8**
SDCO IAmb IAmb 02 34 16.5
comp=Z,14nm,1.9s
KSH Kashi 56.62 68 P **P** **02 34 18.5 +1.7**
KSH pP sP 02 34 24.7 +2.7
KSH S **S** **02 42 08.0 -0.6**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=N,120nm,6.4s
KSH LR LR
comp=E,200nm,5.1s
ELK Elko 57.15 296 P **P** **02 34 20.5 -0.2**
ELK pmax pmax
comp=Z,11nm,1.8s
ELK Elko 57.15 296 P **P** **02 34 20.5 -0.2**
ELK IAmb IAmb 02 34 27.6
comp=Z,11nm,1.8s
WMQ Urumqi 57.38 56 *eP* **P** **02 34 26.0 +4.0**
DBIC Dimbokro 58.43 165 P **P** **02 34 29.4 -0.2**
comp=Z,5.0nm,0.9s,baz=4.7,slow=7.6,SNR=4.6
DBIC LR LR 03 00 26.7
comp=Z,63nm,19.2s,baz=332,slow=37

DBIC	**Dimbokro**	**58.43**	**165**	P	**P**	**02 34 29.4**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,36nm,1.8s						
TIC	**Toumodi**	**58.44**	**165**	*e*P	**P**	**02 34 29.3**	**-0.4**
ANMO	**Albuquerque**	**58.59**	**286**	P	**P**	**02 34 30.3**	**-0.5**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ANMO	**Albuquerque**	**58.59**	**286**	P	**P**	**02 34 30.3**	**-0.5**
ANMO				IAmb	IAmb	02 34 33.1	
	comp=Z,8.7nm,1.7s						
KIC	**Kosan Boka**	**58.75**	**165**	*e*P	**P**	**02 34 27.3**	**-4.6**
	comp=Z,21nm,1.1s						
LIC	**Lamto**	**58.85**	**165**	*e*P	**P**	**02 34 30.6**	**-2.0**
	comp=Z,13nm,0.4s						
R11A	**Troy Canyon, C**	**59.35**	**295**	IAmb	IAmb	02 34 42.6	
	comp=Z,8.0nm,1.4s						
U15A	**North Rim**	**59.70**	**291**	IAmb	IAmb	02 34 42.4	
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**59.81**	**40**	P	**P**	**02 34 39.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=331,slow=5.6,SNR=5.0						
SONM	**Songino Array**	**59.81**	**40**	P	**P**	**02 34 39.6**	**+0.6**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**59.81**	**40**	P	**P**	**02 34 39.6**	**+0.6**
PRN	**Pahroc Range**	**59.95**	**294**	P	**P**	**02 34 39.8**	**-0.4**
WUAZ	**Wupatki**	**60.12**	**290**	P	**P**	**02 34 40.8**	**-0.6**
YERR	**Yerington**	**60.21**	**298**	P	**P**	**02 34 42.4**	**+0.4**
YERR				IAmb	IAmb	02 34 45.4	
	comp=Z,5.9nm,1.2s						
NVAR	**Mina Array Bea**	**60.34**	**297**	P	**P**	**02 34 43.4**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=50,slow=4.5,SNR=5.9						
NVAR				LR	LR	03 00 55.3	
	comp=Z,257nm,19.5s,baz=26,slow=36						
NVAR	**Mina Array Bea**	**60.34**	**297**	P	**P**	**02 34 42.4**	**-0.4**
NIL	**Nilore**	**60.55**	**73**	P	**P**	**02 34 45.0**	**+0.8**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NIL	**Nilore**	**60.55**	**73**	P	**P**	**02 34 45.0**	**+0.8**
NIL				IAmb	IAmb	02 34 46.1	
	comp=Z,7.6nm,1.0s						
WAKR	**Walker**	**60.70**	**298**	P	**P**	**02 34 45.2**	**-0.1**
WAKR				IAmb	IAmb	02 35 01.5	
	comp=Z,13nm,1.8s						
X16A	**Lo Mia Camp, P**	**61.10**	**290**	IAmb	IAmb	02 34 51.9	
	comp=Z,5.2nm,1.1s						
TXAR	**Lajitas Array**	**62.26**	**280**	P	**P**	**02 34 56.0**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=60,slow=3.8,SNR=9.5						
TXAR				LR	LR	03 00 54.2	
	comp=Z,99nm,19.5s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**62.26**	**280**	P	**P**	**02 34 55.2**	**-0.7**
GSC	**Goldstone, Bar**	**62.48**	**294**	P	**P**	**02 34 57.1**	**-0.1**
GSC				pmax	pmax		
	comp=Z,9.0nm,1.6s						
GSC	**Goldstone, Bar**	**62.48**	**294**	P	**P**	**02 34 57.1**	**-0.1**
GSC				IAmb	IAmb	02 35 02.4	
	comp=Z,9.3nm,1.6s						
WSAR	**Wadi Sarin**	**63.37**	**92**	LR	LR	03 06 00.9	
	comp=Z,68nm,19.9s,baz=1.0,slow=39						
SDV	**Santo Domingo**	**66.69**	**239**	P	**P**	**02 35 25.0**	**0.0**
	comp=Z,4.1nm,0.4s,baz=4.9,slow=13,SNR=3.7						
HHC	**Hu-ho-hao-te**	**67.68**	**39**	*e*P	**P**	**02 35 33.9**	**+2.9**
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,5.4s						
USRK	**Ussuriysk Ar.**	**69.05**	**23**	LR	LR	03 05 54.8	
	comp=Z,26nm,19.1s,baz=342,slow=36						
ASAJ	**Asahikawa**	**70.62**	**15**	LR	LR	03 07 23.6	
	comp=Z,38nm,18.9s,baz=295,slow=36						
LSA	**Lhasa**	**71.15**	**61**	P	**P**	**02 35 54.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LSA	**Lhasa**	**71.15**	**61**	P	**P**	**02 35 54.1**	**+1.1**
XAN	**Xi'an**	**73.25**	**44**	P	**P**	**02 36 05.4**	**+0.3**
XAN				pmax	pmax		
	comp=Z,26nm,1.8s						
XAN	**Xi'an**	**73.25**	**44**	P	**P**	**02 36 05.4**	**+0.3**
KSAR	**Wonju Array Be**	**74.83**	**28**	P	**P**	**02 36 16.7**	**+2.6**
KSAR	**Wonju Array Be**	**74.83**	**28**	P	**P**	**02 36 16.7**	**+2.6**
KMBO	**Kilima Mbogo**	**76.62**	**123**	LR	LR	03 14 23.7	
	comp=Z,47nm,18.4s,baz=279,slow=39						
NJ2	**Nanjing**	**77.91**	**37**	*e*P	**P**	**02 36 31.7**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BDFB	**Brasilia**	**83.20**	**209**	LR	LR	03 09 59.8	
	comp=Z,83nm,18.8s,baz=184,slow=33						
CHTO	**Chiang Mai**	**83.94**	**58**	P	**P**	**02 37 04.7**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CHTO	**Chiang Mai**	**83.94**	**58**	P	**P**	**02 37 04.7**	**+0.6**
CHTO				IAmb	IAmb	02 37 09.5	
	comp=Z,7.8nm,1.2s						
CMAR	**Chiang Mai Arr**	**84.27**	**59**	P	**P**	**02 37 05.5**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=325,slow=4.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**84.27**	**59**	*i* P	**P**	**02 37 09.0**	**+3.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**84.27**	**59**	P	**P**	**02 37 06.6**	**+0.9**
BOSA	**Boshof**	**98.65**	**143**	LR	LR	03 24 53.6	
	comp=Z,114nm,18.4s,baz=358,slow=37						
ASAR	**Alice Springs**	**135.14**	**38**	PKP	**PKPdf**	**02 43 52.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=347,slow=3.8,SNR=3.0						

*NEIC **04** 02:26:12.0±3.2, 28°.41N±0°.08×52°.96E±0°.06, h9km±5km, Error ellipse: s-maj=11.7km s-min=6.6km az=200.0*
*IDC **04** 02:26:11.1±1.1, 28°.39N×52°.93E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.7/43, mbtmp3.8/19, ML3.5/5, MS2.8/2, Ms1 2.8/2, ms1mx2.6/39, Error ellipse: s-maj=23.5km s-min=17.8km az=16.0*
*TEH **04** 02:26:12.8, 28°.50N×53°.01E, h9km, ML3.9*
*THR **04** 02:26:12.2±0.4, 28°.51N×52°.90E, h0km±7km, ML3.6*
*OMAN **04** 02:26:14.4±1.0, 28°.43N×52°.60E, h33km, mb5.0/13, ml3.9/8, ms2.4/1, Error ellipse: s-maj=18.1km s-min=8.3km az=263.0*
*DSN **04** 02:26:15.9±1.3, 28°.27N×52°.93E, h10km, ML4.0/7, Error ellipse: s-maj=24.1km s-min=8.6km az=22.0*

ISC 04 02:26:12.7±0.5, 28°.51N±0°.04×52°.97E±0°.03, h10km, n137, σ1s97/141, mb3.8/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GHIR	**Ghir-Karzin**	**0.22**	**176**	*e*Pg		**Pg**	**02 26 17.1**	**-0.3**
GHIR	**Ghir-Karzin**	**0.22**	**176**	*e*Pg		**Pg**	**02 26 17.1**	**-0.3**
GHIR	**Ghir-Karzin**	**0.22**	**176**	Pg		**Pg**	**02 26 17.0**	**-0.3**
JHRM	**Jahrom**	**0.53**	**90**	*e*Pg		**Pg**	**02 26 22.1**	**-1.0**
JHRM	**Jahrom**	**0.53**	**90**	Pg		**Pg**	**02 26 22.1**	**-1.0**
LMD1	**Lamerd**	**1.18**	**172**	*e*Pg		**Pn**	**02 26 36.2**	**+0.9**
LMD1				*e*			02 27 07.1	
SHI	**Shiraz**	**1.20**	**341**	*e*Pg		**Pb**	**02 26 36.3**	**+0.6**
LAR1	**LAR**	**1.50**	**124**	*e*Pg		**Pn**	**02 26 41.0**	**+1.3**
AHBU	**AHRAM**	**1.52**	**284**	*e*Pg		**Pg**	**02 26 42.0**	**+0.2**
KAZ1	**Kazerun**	**1.61**	**314**	*e*Pg		**Pg**	**02 26 44.4**	**+0.7**
KAZ1				*e*			02 27 35.2	
KLNJ	**Kolanjah**	**2.77**	**335**	*e*Pn		**Pn**	**02 26 59.2**	**+1.7**
BNDS	**Bandar-Abbas**	**3.04**	**111**	*e*Pn		**Pn**	**02 27 04.7**	**+3.6**
BNDS	**Bandar-Abbas**	**3.04**	**111**	*e*Pn		**Pn**	**02 27 04.7**	**+3.6**
GENO	**Geno**	**3.04**	**111**	*e*Pn		**Pn**	**02 27 04.5**	**+3.4**
GENO				*e*			02 28 16.7	
IMEH	**Mehriz**	**3.21**	**26**	*e*Pn		**Pn**	**02 27 05.4**	**+2.0**
IRAM	**Ramesheh**	**3.33**	**351**	*e*Pn		**Pn**	**02 27 07.8**	**+2.7**
ISAD	**Sadrabad**	**3.45**	**10**	*e*Pn		**Pn**	**02 27 09.5**	**+2.7**
NGRK	**Negar Kerman**	**3.48**	**70**	*e*Pn		**Pn**	**02 27 08.6**	**+1.3**
KHGB	**Koh Gabri**	**3.58**	**58**	*e*Pn		**Pn**	**02 27 10.4**	**+1.9**
KHGB				*e*			02 28 17.0	
KRBR	**Kerman**	**3.62**	**65**	*e*Pn		**Pn**	**02 27 12.7**	**+3.5**
KRBR				IAML			02 28 19.7	
	comp=N,99nm,0.8s							
KRBR	**Kerman**	**3.62**	**65**	*e*Pn		**Pn**	**02 27 12.7**	**+3.5**
KRBR	**Kerman**	**3.62**	**65**	Pn		**Pn**	**02 27 12.7**	**+3.5**
TVBK	**TV Kerman**	**3.62**	**65**	*e*		Sg	02 28 22.1	+13
SHME	**Shamm**	**3.73**	**130**	P		**Pn**	**02 27 12.4**	**+2.0**
SHME	**Shamm**	**3.73**	**130**	*e*Pn		**Pn**	**02 27 12.1**	**+1.6**
IBAF	**Bafgh**	**3.81**	**36**	*e*Pn		**Pn**	**02 27 13.6**	**+2.0**
UMQ	**Umm Al-Quwin**	**3.82**	**140**	P		**Pn**	**02 27 13.5**	**+1.9**
BANOM	**Banah**	**3.92**	**130**	*i* P		**Pn**	**02 27 15.2**	**+2.1**
	SNR=18							
BANOM				S		**Sn**	**02 28 00.6**	**+1.3**
BANOM	**Banah**	**3.92**	**130**	P		**Pn**	**02 27 16.4**	**+3.2**
BANOM				S		**Sn**	**02 28 04.0**	**+4.7**
BANOM	**Banah**	**3.92**	**130**	*e*Pn		**Pn**	**02 27 16.0**	**+2.9**
ICHK	**Chekchek**	**3.93**	**18**	*e*Pn		**Pn**	**02 27 16.2**	**+2.9**
YZKH	**Yazd**	**4.12**	**19**	*e*Pn		**Pn**	**02 27 18.9**	**+3.1**
YZKH	**Yazd**	**4.12**	**19**	*e*Pn		**Pn**	**02 27 18.9**	**+3.1**
JHBN	**Jahan bin**	**4.21**	**332**	*e*Pn		**Pn**	**02 27 20.1**	**+2.7**
JHBN	**Jahan bin**	**4.21**	**332**	Pn		**Pn**	**02 27 20.0**	**+2.7**
CHMN	**Cheshme madani**	**4.22**	**70**	*e*Pn		**Pn**	**02 27 20.3**	**+2.8**
CHMN	**Cheshme madani**	**4.22**	**70**	Pn		**Pn**	**02 27 20.2**	**+2.8**
MSFE	**Esma-Masafi**	**4.23**	**137**	*i* P		**Pn**	**02 27 18.3**	**+0.9**
	SNR=14							
MSFE	**Esma-Masafi**	**4.23**	**137**	*e*Pn		**Pn**	**02 27 19.3**	**+1.9**
SLWS		**4.24**	**210**	P		**Pn**	**02 27 19.6**	**+2.2**
SLWS		**4.24**	**210**	*e*Pn		**Pn**	**02 27 19.6**	**+2.2**
NAZ	**Nazwa, Dubai**	**4.25**	**145**	*i* P		**Pn**	**02 27 19.4**	**+1.8**
	SNR=11							
NAZ	**Nazwa, Dubai**	**4.25**	**145**	*e*Pn		**Pn**	**02 27 19.7**	**+2.1**
AJN	**Ajban**	**4.32**	**155**	P		**Pn**	**02 27 20.3**	**+1.8**
AJN				S		**Sn**	**02 28 11.6**	**+2.6**
AJN	**Ajban**	**4.32**	**155**	*e*Pn		**Pn**	**02 27 19.4**	**+0.8**
MDH	**Madha**	**4.36**	**136**	P		**Pn**	**02 27 19.9**	**+0.8**
MDH	**Madha**	**4.36**	**136**	P		**Pn**	**02 27 21.0**	**+1.9**
MDH	**Madha**	**4.36**	**136**	*e*Pn		**Pn**	**02 27 20.8**	**+1.7**
IZEF	**Zefreh**	**4.41**	**353**	*e*Pn		**Pn**	**02 27 22.2**	**+2.2**
GHWR	**Ruwais**	**4.53**	**181**	*e*Pn		**Pn**	**02 27 22.9**	**+1.6**
IPIR	**Pirpir**	**4.53**	**337**	*e*Pn		**Pn**	**02 27 23.4**	**+1.7**
UOSS	**Minazif**	**4.58**	**140**	P		**Pn**	**02 27 22.8**	**+0.8**
UOSS	**Minazif**	**4.58**	**140**	P		**Pn**	**02 27 23.5**	**+1.5**
UOSS				S		**Sn**	**02 28 16.8**	**+1.5**
UOSS	**Minazif**	**4.58**	**140**	*e*Pn		**Pn**	**02 27 23.4**	**+1.3**
UOSS	**Minazif**	**4.58**	**140**	Pn		**Pn**	**02 27 22.2**	**+0.1**
HATD	**Hatta, Dubai**	**4.63**	**142**	P		**Pn**	**02 27 24.3**	**+1.5**
HATD	**Hatta, Dubai**	**4.63**	**142**	P		**Pn**	**02 27 24.3**	**+1.5**
HATD	**Hatta, Dubai**	**4.63**	**142**	*e*Pn		**Pn**	**02 27 24.9**	**+2.1**
ANAR	**Anarak**	**4.71**	**8**	*e*Pn		**Pn**	**02 27 27.2**	**+3.2**
MZWR	**Madinat Zayed**	**4.80**	**170**	*e*Pn		**Pn**	**02 27 26.2**	**+1.1**
KBAM	**BAM**	**4.85**	**81**	*e*Pn		**Pn**	**02 27 28.0**	**+2.1**
SMAN	**Sihmah**	**4.94**	**243**	P		**Pn**	**02 27 29.2**	**+2.1**
IKLH	**Kolahrood**	**4.94**	**346**	*e*Pn		**Pn**	**02 27 30.0**	**+2.7**
ALNE	**Al Ain**	**5.09**	**150**	P		**Pn**	**02 27 30.1**	**+1.0**
ALNE	**Al Ain**	**5.09**	**150**	*e*Pn		**Pn**	**02 27 30.7**	**+1.6**
NHRD	**Haradh**	**5.17**	**224**	P		**Pn**	**02 27 33.1**	**+2.8**
NHRD	**Haradh**	**5.17**	**224**	S		**Sn**	**02 28 32.1**	**+2.1**
SOHO	**SOHO**	**5.40**	**143**	*i* P		**Pn**	**02 27 33.7**	**+0.3**
	SNR=12							
SOHO	**SOHO**	**5.40**	**143**	P		**Pn**	**02 27 34.6**	**+1.2**
SOHO				S		**Sn**	**02 28 36.2**	**+0.5**
SOHO	**SOHO**	**5.40**	**143**	*e*Pn		**Pn**	**02 27 34.0**	**+0.6**
KRSH	**Karshahi**	**5.49**	**353**	*e*Pn		**Pn**	**02 27 37.1**	**+2.3**
TPRV	**Parvadeh(Tabas**	**5.52**	**34**	*e*Pn		**Pn**	**02 27 37.2**	**+2.0**
ARQ	**Araqi**	**6.06**	**147**	P		**Pn**	**02 27 43.4**	**+0.9**
UMZA	**Um Al Zommool**	**6.10**	**161**	*e*Pn		**Pn**	**02 27 43.7**	**+0.7**
TKDS	**Koohdasht(Taba**	**6.21**	**34**	*e*Pn		**Pn**	**02 27 46.4**	**+1.8**
TNSJ	**Nastanj**	**6.27**	**29**	*e*Pn		**Pn**	**02 27 47.5**	**+2.1**
HOQ	**Hoqain**	**6.27**	**141**	P		**Pn**	**02 27 47.0**	**+1.7**
RQBS	**RQBS**	**6.31**	**261**	P		**Pn**	**02 27 46.4**	**+0.6**
IKMR	**Kamar-syah**	**6.36**	**323**	*e*Pn		**Pn**	**02 27 48.0**	**+1.5**
IKFM	**Kafar-mosalman**	**6.66**	**320**	*e*Pn		**Pn**	**02 27 52.0**	**+1.4**
IDOB	**Doab**	**6.68**	**323**	*e*Pn		**Pn**	**02 27 51.9**	**+0.8**
BIDO	**Bidbid**	**6.79**	**136**	P		**Pn**	**02 27 53.9**	**+1.4**
BIDO	**Bidbid**	**6.79**	**136**	*e*Pn		**Pn**	**02 27 53.9**	**+1.4**
HSAM	**Samen**	**6.80**	**328**	*e*Pn		**Pn**	**02 27 53.9**	**+1.0**
BSY	**Bisya**	**6.89**	**145**	P		**Pn**	**02 27 54.6**	**+0.7**
	SNR=12							
IANJ	**Anjilo**	**6.99**	**6**	*e*Pn		**Pn**	**02 27 58.5**	**+3.2**
SMDO	**Samad**	**7.10**	**139**	P		**Pn**	**02 27 58.0**	**+1.2**
	SNR=28							
WSAR	**Wadi Sarin**	**7.31**	**135**	Pn		**Pn**	**02 28 00.0**	**+0.3**
	comp=N,3.4nm,0.3s,baz=309,slow=8.7,SNR=32							
WSAR				Sn		**Sn**	**02 29 18.9**	**-3.9**
	comp=N,0.6nm,0.3s,baz=295,slow=17,SNR=1.4							
WSAR				LR		LR	02 31 30.9	
	comp=N,61nm,19.1s,baz=319,slow=44							
WSAR	**Wadi Sarin**	**7.31**	**135**	P		**Pn**	**02 28 00.5**	**+0.8**
	SNR=32							
IKOM	**Komasi**	**7.33**	**322**	*e*Pn		**Pn**	**02 28 01.1**	**+1.1**
JMDO	**Jabal Madar**	**7.67**	**142**	P		**Pn**	**02 28 06.0**	**+1.4**
HSRG	**Sareghieh**	**7.81**	**330**	*e*Pn		**Pn**	**02 28 09.0**	**+2.3**
WBK	**Wadi Bani Khal**	**7.99**	**136**	P		**Pn**	**02 28 09.2**	**+0.2**
	SNR=15							
WBK				P		**Pn**	**02 28 09.2**	**+0.2**
	SNR=15							
IDHR	**Dehrash**	**8.34**	**319**	*e*Pn		**Pn**	**02 28 15.0**	**+1.0**
JLN	**Jalan Bani Buh**	**8.60**	**136**	P		**Pn**	**02 28 18.2**	**+0.9**
MHTO	**MHTO**	**8.76**	**148**	P		**Pn**	**02 28 20.0**	**+0.6**
	SNR=11							
GEYT	**Alibeck**	**10.34**	**23**	LR		LR	02 33 47.1	
	comp=N,60nm,18.0s,baz=260,slow=44							
WHFO	**Wadi Hawf**	**10.56**	**176**	P		**Pn**	**02 28 43.5**	**-0.8**
	SNR=10							
DMTO	**DMTO**	**10.89**	**170**	P		**Pn**	**02 28 48.2**	**-0.5**
RBK	**Rabkut**	**11.01**	**174**	P		**Pn**	**02 28 49.3**	**-1.2**
	SNR=6.1							
ABTO	**Aybut**	**11.11**	**178**	P		**Pn**	**02 28 51.0**	**-0.8**
	SNR=8.6							
MARD	**Mardin**	**13.48**	**314**	Pn		**Pn**	**02 29 21.9**	**-2.3**
ASF	**Jabal al Asfar**	**14.35**	**289**	Pn		**Pn**	**02 29 36.0**	**-0.2**
	comp=N,0.2nm,0.3s,baz=38,slow=7.6,SNR=2.1							
ASF				Sn		**Sn**	**02 32 07.4**	**-8.0**
	comp=N,0.1nm,0.3s,baz=68,slow=19,SNR=1.6							
KBL	**Kabul**	**14.96**	**62**	Pn		**Pn**	**02 29 42.8**	**-1.7**
MMAI	**Mount Meron Ar**	**15.75**	**291**	Pn		**Pn**	**02 29 55.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=100,slow=15,SNR=4.1							
KBZ	**Khabaz**	**17.21**	**335**	P		**Pn**	**02 30 13.6**	**+0.4**
	comp=N,0.1nm,0.3s,baz=146,slow=11,SNR=2.6							
BR131	**Keskin Array B**	**19.49**	**310**			**P**	**02 30 37.9**	**-2.2**
BRTR	**Keskin Array B**	**19.49**	**310**	P		**P**	**02 30 41.1**	**+1.1**
	comp=N,0.1nm,0.3s,baz=131,slow=12,SNR=10							
BRTR	**Keskin Array B**	**19.49**	**310**			**P**	**02 30 38.4**	**-1.7**
KK07	**Karatay Array**	**20.28**	**40**	P		**P**	**02 30 48.0**	**-0.5**
KK31	**Karatay Array**	**20.30**	**40**	IAmb		IAmb	02 30 55.6	
	comp=Z,4.2nm,0.8s							
KKAR	**Karatay Array**	**20.30**	**40**	P		**P**	**02 30 45.6**	**-3.1**
AB08	**Akbulak array**	**21.38**	**13**	P		**P**	**02 30 59.1**	**-1.2**
ABKAR	**Akbulak array**	**21.40**	**13**	P		**P**	**02 30 59.5**	**-1.0**
AKTO	**Aktyubinsk**	**22.23**	**9**	P		**P**	**02 31 10.8**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=192,slow=11,SNR=11							
MLR	**Muntele Rosu**	**27.26**	**316**	P		**P**	**02 32 00.7**	**+3.4**
	comp=Z,1.2nm,0.5s,baz=165,slow=12,SNR=1.3							
MLR	**Muntele Rosu**	**27.26**	**316**	P		**P**	**02 31 56.3**	**-0.9**
BVAR	**Borovoye Array**	**27.67**	**23**	P		**P**	**02 32 02.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=197,slow=9.0,SNR=1.5							
AKASG	**Malin Array Be**	**28.51**	**328**	P		**P**	**02 32 08.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=122,slow=9.9,SNR=1.3							
AKBB	**Malin Array Si**	**28.51**	**328**	P		**P**	**02 32 07.5**	**-0.7**
MKAR	**Makanchi Array**	**29.28**	**43**	P		**P**	**02 32 15.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=236,slow=7.8,SNR=2.0							
KURBB	**Kurchatov Arra**	**29.34**	**34**	P		**P**	**02 32 17.7**	**+2.2**
	comp=Z,2.2nm,0.2s,baz=233,slow=9.7,SNR=2.7							
KURK	**Kurchatov**	**29.44**	**34**	P		**P**	**02 32 17.7**	**+1.3**
KURK	**Kurchatov**	**29.44**	**34**	IAmb		IAmb	02 33 19.6	
	comp=Z,17nm,1.9s							
ZALV	**Zalesovo Beam**	**34.42**	**33**	P		**P**	**02 33 00.8**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=238,slow=8.3,SNR=6.1							
ZALV	**Zalesovo Beam**	**34.42**	**33**	P		**P**	**02 33 00.4**	**+0.2**
GEC2B	**GERESS ARRAY S**	**36.24**	**315**	P		**P**	**02 33 16.4**	**+0.4**
GERES	**GERESS Array B**	**36.24**	**315**	P		**P**	**02 33 16.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=96,slow=8.0,SNR=2.1							
FINES	**FINESS Array B**	**37.48**	**339**	P		**P**	**02 33 26.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=140,slow=9.2,SNR=10.0							
DAVOX	**Davos/Dischmat**	**38.13**	**311**	P		**P**	**02 33 32.2**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=91,slow=8.5,SNR=4.6							
NOA	**NORSAR Array B**	**42.75**	**331**	P		**P**	**02 34 09.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=121,slow=8.2,SNR=3.2							
TAM	**Tamanrasset**	**42.93**	**274**	P		**P**	**02 34 13.7**	**+1.6**
TAM				IAmb		IAmb	02 34 32.0	
	comp=Z,3.6nm,1.3s							
TORD	**Torodi Ar. Bea**	**49.94**	**263**	P		**P**	**02 35 06.8**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=55,slow=7.5,SNR=7.5							
TORD	**Torodi Ar. Bea**	**49.94**	**263**	P		**P**	**02 35 07.7**	**+0.6**
ILAR	**Eielson Array**	**85.74**	**8**	P		**P**	**02 38 52.7**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=309,slow=4.4,SNR=2.4							
WRA	**Warramunga Arr**	**92.10**	**111**	P		**P**	**02 39 21.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=316,slow=3.8,SNR=2.8							
ASAR	**Alice Springs**	**93.58**	**115**	P		**P**	**02 39 28.4**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=282,slow=4.6,SNR=2.1							

*GUC **04** 02:27:20.0±2.8, 15°.17S×75°.97W, h1km±20km, ML4.2, MW4.1*
*IDC **04** 02:27:20.5±1.4, 14°.85S×75°.78W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.7/26, mbtmp3.7/7, ML3.8/3, MS3.1/5, Ms1 3.1/5, ms1mx2.9/22, Error ellipse: s-maj=43.7km s-min=22.3km az=47.0*
*NEIC **04** 02:27:26.7±1.9, 14°.81S±0°.10×75°.6W±0°.1, h48km±6km, mb4.1/4, Error ellipse: s-maj=19.8km s-min=7.8km az=50.0*

ISC 04 02:27:26.3±0.8, 14°.78S±0°.08×75°.6W±0°.1, h35km, n43, σ1s71/32, mb4.0/3, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**3.02**	**337**	Pn		**Pn**	**02 28 11.2**	**-0.5**
	14nm,0.3s,baz=100,slow=9.7,SNR=12							
NNA				Sn		**Sn**	**02 28 47.7**	**+1.0**
	28nm,0.3s,baz=181,slow=11,SNR=5.9							
NNA				LR		LR	02 29 22.2	
	comp=Z,112nm,20.5s,baz=145,slow=40							
NNA	**Nana**	**3.02**	**337**			**Pn**	**02 28 11.7**	**0.0**
PB16	**IPOC Station P**	**6.84**	**122**			**Pn**	**02 29 05.5**	**+0.8**
PSCSCX	**Pisagua**	**7.11**	**133**			**Pn**	**02 29 07.4**	**-0.6**
MNMC	**Minye Minye**	**7.21**	**128**			**Pn**	**02 29 09.4**	**-0.1**
LPAZ	**La Paz**	**7.37**	**103**	Pn		Pn	02 29 17.7	+5.6
	4.2nm,0.3s,baz=284,slow=8.2,SNR=109							
LPAZ				LR		LR	02 32 10.1	
	comp=Z,57nm,20.4s,baz=258,slow=39							
LPAZ	**La Paz**	**7.37**	**103**	*e*P		Pn	02 29 18.0	+6.0
LPAZ	**La Paz**	**7.37**	**103**			**Pn**	**02 29 11.3**	**-0.7**
PB11	**IPOC Station P**	**7.55**	**132**			**Pn**	**02 29 14.4**	**+0.3**
GO01	**Chusmiza**	**7.83**	**129**			**Pn**	**02 29 18.4**	**+0.2**
ATAH	**Atahualpa**	**8.07**	**340**	Pn		**Pn**	**02 29 22.8**	**+1.4**
	0.2nm,0.3s,baz=162,slow=6.4,SNR=1.8							
ATAH				Sn		**Sn**	**02 30 54.8**	**+3.1**
	0.5nm,0.3s,baz=5.1,slow=23,SNR=2.3							
PB08	**IPOC Station P**	**8.15**	**132**			**Pn**	**02 29 22.0**	**-0.6**
PB01	**IPOC Station P**	**8.54**	**138**			**Pn**	**02 29 26.1**	**-1.4**
LVC	**Limon Verde**	**10.05**	**142**	Pn		**Pn**	**02 29 48.2**	**-0.3**
	1.5nm,0.3s,baz=319,slow=11,SNR=9.8							
LVC				Sn		**Sn**	**02 31 37.5**	**-2.8**
	0.8nm,0.3s,baz=123,slow=21,SNR=5.7							
LVC				LR		LR	02 33 55.0	
	comp=Z,59nm,18.4s,baz=244,slow=39							
LVC	**Limon Verde**	**10.05**	**142**			**Pn**	**02 29 46.2**	**-2.4**
GO02	**Mina Guanaco**	**11.78**	**152**			**Sn**	**02

KRBR **Kerman** 6.38 193 IAML 02 44 47.0
comp=N,11nm,0.7s
CHMN **Cheshme madani** 6.39 187 *e*Pn **Pn** **02 42 51.1 +0.9**
IRAM **Rameshe'h** 6.68 230 *e*Pn **Pn** **02 42 54.8 +0.7**
IPIR **Pirpir** 7.16 243 *e*Pn **Pn** **02 43 02.6 +1.8**
ISRB **Sarab** 8.76 284 *e*Pn **Pn** **02 43 23.2 +0.6**
IHRS **Heris** 9.32 286 *e*Pn **Pn** **02 43 30.5 +0.2**
KK31 **Karatay Array** 11.56 50 ⇑Pn **Pn** **02 43 60.0 -0.8**
comp=N,0.8nm,0.5s,baz=242,slow=16,SNR=12
KK31 ⇓Sn **Sn** **02 46 06.9 -3.1**
comp=N,1.4nm,0.6s
AB31 **Akbulak array** 13.07 4 ⇓Pn **Pn** **02 44 23.9 +2.6**
comp=N,0.8nm,0.7s,baz=185,slow=12,SNR=4.1
AB31 ⇑Sn **Sn** **02 46 51.5 +4.7**
comp=N,1.4nm,0.8s,baz=191,slow=24,SNR=4.1
AKTO **Aktyubinsk** 14.21 359 Pn **Pn** **02 44 33.3 -3.6**
comp=N,0.2nm,0.3s,baz=153,slow=9.0,SNR=1.7
AKTO Sn **Sn** **02 47 06.3 -8.2**
comp=N,0.0nm,0.3s,baz=100,slow=23,SNR=1.5
AKTO **Aktyubinsk** 14.21 359 ⇑Pn **Pn** **02 44 34.6 -2.3**
comp=N,2.7nm,0.9s
AKTO ⇑Sn **Sn** **02 47 16.6 +2.1**
comp=N,2.9nm,0.8s
BVAR **Borovoye Array** 18.79 23 P **Pn** **02 45 36.8 +1.3**
comp=N,0.2nm,0.3s,baz=201,slow=16,SNR=2.4
BRTR **Keskin Array B** 19.84 288 P **P** **02 45 46.5 -0.3**
comp=N,0.0nm,0.3s,baz=110,slow=7.8,SNR=3.5
KURBB **Kurchatov Arra** 20.41 39 P Pn 02 45 55.7 +0.9
comp=N,3.2nm,0.2s,baz=235,slow=11,SNR=2.1
MKAR **Makanchi Array** 20.68 52 P Pn 02 45 59.5 +1.5
comp=N,0.3nm,0.4s,baz=249,slow=10.0,SNR=4.2
AKASG **Malin Array Be** 25.46 314 P **P** **02 46 44.1 +0.4**
comp=N,0.5nm,0.3s,baz=118,slow=8.7,SNR=2.3
FINES **FINESS Array B** 32.41 331 P **P** **02 47 46.5 +1.0**
comp=N,0.8nm,0.6s,baz=110,slow=10,SNR=7.0
NOA **NORSAR Array B** 38.62 325 P **P** **02 48 38.9 0.0**
comp=N,1.3nm,1.1s,baz=113,slow=8.0,SNR=2.2
ESDC **Sonseca Array** 48.45 294 P **P** **02 49 58.6 +0.3**
comp=N,0.4nm,0.8s,baz=71,slow=7.9,SNR=1.5
TORD **Torodi Ar. Bea** 55.60 261 P **P** **02 50 49.6 -2.2**
comp=N,0.1nm,0.4s,baz=53,slow=5.5,SNR=4.7

*SKHL **04** 02:53:24.0±0.4, 42.°98N×147.°92E, h35km±5km, mb4.5/2*
*JMA **04** 02:53:38.3±0.2, 43.°47N×147.°33E, h60km, M3.7*
ISC 04 02:53:27.6±2.3**, 43.°46N**±0.°08×**147.°73E**±0.°09**, h20**km±5km**, n15**, σ1**°58**/26**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.45**	**267**	P		**Pg**	**02 53 58.7**	**+3.1**
NEM2				*e*S		**Sg**	**02 54 14.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.46**	**267**	*i* S		**Sn**	**02 54 10.0**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**1.47**	**294**	*e*P		**Pn**	**02 53 52.4**	**-0.6**
YUK				AMB		AMB	02 53 56.0	
	280nm,0.5s							
YUK				*e*S		**Sg**	**02 54 14.0**	**-1.2**
YUK				A		A	02 54 16.3	
	670nm,0.4s							
YUK				A		A	02 54 16.3	
	410nm,0.4s							
GRPR	**Tuman**	**1.52**	**291**	*e*P		**Pn**	**02 53 53.0**	**-0.6**
GRPR				*e*S		**Sg**	**02 54 15.0**	**-1.6**
GRPR				A		A	02 54 17.0	
	99nm,0.4s							
GRPR				A		A	02 54 17.0	
	790nm,0.4s							
GLVR	**Golovnino**	**1.63**	**281**	*e*S		**Sb**	**02 54 16.4**	**-0.7**
KUR	**Kuril'sk**	**1.78**	**3**	*e*P		**Pb**	**02 53 59.0**	**-0.6**
KUR				AMB		AMB	02 54 03.2	
	140nm,0.7s							
KUR				*e*S		**Sg**	**02 54 25.0**	**-0.1**
KUR				A		A	02 54 26.0	
	320nm,0.4s							
KUR				A		A	02 54 26.0	
	250nm,0.4s							
JKHN	**Kushirohamanak**	**1.91**	**260**	P		**Pg**	**02 54 05.7**	**+1.3**
JKHN				*e*S		**Sb**	**02 54 25.6**	**+0.4**
JRA	**Rausu**	**1.95**	**285**	P		**Pg**	**02 54 05.6**	**+0.5**
JRA				*e*S		**Sb**	**02 54 26.3**	**0.0**
JNSB	**Nemuroshibetsu**	**2.00**	**280**	P		**Pg**	**02 54 06.7**	**+0.6**
JNSB				*e*S		**Sb**	**02 54 27.7**	**-0.2**
JNK	**Nakash**	**2.19**	**274**	*e*S		**Sn**	**02 54 30.9**	**+1.4**
JAK	**Akkeshi**	**2.26**	**259**	P		**Pg**	**02 54 10.0**	**-1.1**
JAK				*e*S		**Sn**	**02 54 33.1**	**+1.9**
JAR	**Ashorobuto**	**2.89**	**268**	P		**Pb**	**02 54 19.0**	**+0.5**
JAR				*e*S		**Sn**	**02 54 49.4**	**+2.7**
JOB	**Onbets**	**2.90**	**260**	P		**Pb**	**02 54 18.9**	**+0.2**
JOB				*e*S		**Sn**	**02 54 49.2**	**+2.3**
JCH	**Churui**	**3.31**	**257**	P		**Pb**	**02 54 24.3**	**-1.3**
JCH				*e*S		**Sn**	**02 54 59.0**	**+2.0**
JNBK	**Urakawa-nobuka**	**3.84**	**254**	P		**Pb**	**02 54 31.6**	**-3.1**

*IDC **04** 03:02:53.8±1.3, 38.°25N×89.°17E, h0km, mb3.7/7,*
mb1 3.8/11, mb1mx3.5/47, mbtmp3.6/11, ML3.3/4, MS3.7/3,
Ms1 3.7/3, ms1mx2.9/44, Error ellipse: s-maj=47.1km
s-min=22.6km az=54.0
*BJI **04** 03:02:53.5±0.0, 38.°15N×88.°79E, h5km, mb3.9/2, ML3.6/7*
*NEIC **04** 03:02:54.9±2.1, 38.°24N±0.°10×88.°9E±0.°1, h10km±1km,*
mb4.8/5, Error ellipse: s-maj=16.7km s-min=15.4km
az=214.0
ISC 04 03:02:56.1±0.9**, 38.°20N**±0.°09×**88.°67E**±0.°09**, h10**km**, n29**,**
σ1°82/29, **mb3.7**/8, **MS4.0**/3**, 2C-2D**, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.67**	**353**	*e*Pn		**Pn**	**03 04 20.6**	**+0.2**
WMQ				Sn		**Sn**	**03 05 27.7**	**+2.1**
WMQ				smax		smax		
	comp=N,59nm,0.9s							
WMQ				smax		smax		
	comp=E,50nm,1.1s							
WMQ	**Urumqi**	**5.67**	**353**	Pn		**Pn**	**03 04 18.7**	**-1.7**
GTA	**Gaotai**	**8.79**	**79**	*e*P		**Pn**	**03 05 04.8**	**+1.5**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
GTA				smax		smax		
	comp=N,8.0nm,1.0s							
GTA				smax		smax		
	comp=E,9.0nm,1.1s							
PRZ	**Przheval'sk**	**8.93**	**302**	Pn		**Pn**	**03 05 05.1**	**-0.3**
TARG	**Taragay, Kyrgy**	**9.06**	**296**	Pn		**Pn**	**03 05 07.7**	**+0.4**
MK31	**Makanchi Array**	**9.79**	**333**	⇑Pn		**Pn**	**03 05 15.0**	**-2.0**
	0.6nm,0.3s,baz=146,slow=14,SNR=30							
MK31				⇓Lg		Lg	03 07 04.6	
	2.7nm,0.7s,baz=148,slow=25,SNR=2.6							
MK31	**Makanchi Array**	**9.79**	**333**			**Pn**	**03 05 16.5**	**-0.5**
MKAR	**Makanchi Array**	**9.79**	**333**	Pn		**Pn**	**03 05 15.5**	**-1.5**
	0.7nm,0.3s,baz=145,slow=13,SNR=24							
MKAR				Sn		**Sn**	**03 07 05.6**	**-1.4**
	0.4nm,0.3s,baz=150,slow=22,SNR=5.1							
MKAR	**Makanchi Array**	**9.79**	**333**			**Pn**	**03 05 16.1**	**-0.9**
MAKZ	**Makanchi**	**9.92**	**332**	⇓Pn		**Pn**	**03 05 16.3**	**-2.5**
	1.7nm,0.5s							
MAKZ				⇑Lg		Lg	03 07 05.5	
	2.0nm,0.9s							
MAKZ	**Makanchi**	**9.92**	**332**	Pn		**Pn**	**03 05 17.9**	**-0.8**
NIL	**Nilore**	**13.29**	**255**	Pn		**Pn**	**03 06 04.6**	**-0.3**
KURBB	**Kurchatov Arra**	**14.36**	**333**	Pn		**Pn**	**03 06 14.9**	**-4.4**
	0.1nm,0.3s,baz=158,slow=12,SNR=4.6							
KURK	**Kurchatov**	**14.41**	**334**			**Pn**	**03 06 20.3**	**+0.3**
CHGR	**Chuyangaron**	**15.30**	**278**	Pn		**Pn**	**03 06 32.1**	**-0.2**
CHGR				IAmb		IAmb	03 06 40.9	
	comp=Z,7.3nm,0.7s							
ZAA0	**Zalesovo Array**	**15.97**	**352**	Pn		**Pn**	**03 06 38.5**	**-2.3**
ZALV	**Zalesovo Beam**	**15.97**	**352**	Pn		**Pn**	**03 06 37.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=183,slow=16,SNR=2.5							
BVAR	**Borovoye Array**	**19.49**	**325**	P		**P**	**03 07 23.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=169,slow=10,SNR=2.6							
CMAR	**Chiang Mai Arr**	**21.62**	**153**	LR		LR	03 16 55.8	
	comp=Z,43nm,21.0s,baz=8.5,slow=39							
AKTO	**Aktyubinsk**	**24.92**	**309**	P		**P**	**03 08 19.3**	**0.0**
	comp=Z,1.2nm,0.7s,baz=80,slow=9.2,SNR=3.6							
FINES	**FINESS Array B**	**44.41**	**322**	P		**P**	**03 11 08.8**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=98,slow=9.8,SNR=7.2							
ARCES	**ARCESS Array B**	**45.45**	**334**	P		**P**	**03 11 14.5**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=76,slow=5.1,SNR=6.5							
ARCES				LR		LR	03 32 28.1	
	comp=Z,176nm,18.1s,baz=230,slow=39							
NB2	**NORSAR Subarra**	**51.59**	**323**	P		**P**	**03 12 04.6**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=79,slow=7.4							
NOA	**NORSAR Array B**	**51.59**	**323**	P		**P**	**03 12 04.3**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=80,slow=7.2,SNR=4.1							
SIJI	**Sorong**	**55.20**	**125**	LR		LR	03 36 19.1	
	comp=Z,124nm,19.5s,baz=258,slow=36							
ILAR	**Eielson Array**	**68.57**	**22**	P		**P**	**03 13 56.9**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=328,slow=2.0,SNR=3.8							
SKT	**Skwentna**	**69.03**	**26**	P		**P**	**03 14 01.8**	**+0.2**
SKT					IAmb	IAmb	03 14 06.8	
	comp=Z,25nm,0.8s							
WRA	**Warramunga Arr**	**71.99**	**135**	P		**P**	**03 14 17.7**	**-2.5**
	comp=Z,0.4nm,0.7s,baz=334,slow=6.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**79.65**	**279**	P		**P**	**03 15 05.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=51,slow=3.7,SNR=2.2							

*VAO **04** 03:22:04.5±0.5, 6.°63N×77.°77W, h10km, mb4.6*
*UPA **04** 03:22:13.9±1.1, 5.°43N×77.°77W, h39km±999km, MW4.0*
*RSNC **04** 03:22:14.9±1.4, 5.°58N×77.°71W, h32km±5km, ML3.5,*
Mw4.2, Fault plane solution: NP1:φ±10.00000°,
δ68.00000°, λ-122.00000°.
*IDC **04** 03:22:18.8±1.9, 5.°49N×77.°55W, h48km±19km, mb4.0/15,*
mb1 4.2/20, mb1mx4.1/29, mbtmp4.3/20, ML3.6/5, MS3.5/16,
Ms1 3.5/16, ms1mx3.3/33, Error ellipse: s-maj=16.5km
s-min=11.8km az=50.0
*NEIC **04** 03:22:18.3±2.3, 5.°41N±0.°08×77.°70W±0.°07, h44km±7km,*
mb4.5/78, Error ellipse: s-maj=11.8km s-min=10.5km
az=212.0
ISC 04 03:22:13.7±1.3**, 5.°53N**±0.°02×**77.°73W**±0.°03**, h13**km±8km**,**
n169, **σ2°15/188**, **mb4.5**/47**, MS3.4**/10**, 21C-3D**, Near west**
coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.67**	**147**	*i*Pg		**Pg**	**03 22 26.8**	**+0.1**
PIZC				*e*Sg		**Sb**	**03 22 37.2**	**+0.7**
SOLC	**Bahia Solano**	**0.76**	**25**	*e*Pg		**Pg**	**03 22 27.6**	**-0.9**
SOLC				*e*Sg		**Sg**	**03 22 37.4**	**-1.1**
SOLC				*i*			03 22 38.6	
	comp=Z,3μm,0.3s							
MALC	**Bahia Malaga**	**1.56**	**165**	⇑*i*P		**Pn**	**03 22 40.4**	**-0.8**
MALC				*e*S		**Sn**	**03 22 59.9**	**-1.4**
MALC				*i*			03 23 04.7	
	comp=Z,608nm,0.3s							
PTAC	**Punta Ardita,**	**1.61**	**357**	*e*P		**Pn**	**03 22 39.8**	**-2.1**
PTAC				*e*S		**Sn**	**03 22 58.2**	**-4.4**
CBOC	**Ciudad Bolivar**	**1.74**	**79**	⇑*i*P		**Pn**	**03 22 41.7**	**-2.1**
CBOC				*e*S		**Sn**	**03 23 00.6**	**-5.4**
CBOC				*i*			03 23 03.5	
	comp=Z,522nm,0.5s							
YOTC	**Yotoco, Valle**	**2.06**	**138**	⇑*i*P		**Pn**	**03 22 46.4**	**-1.8**
YOTC				*e*S		**Sn**	**03 23 09.7**	**-4.2**
YOTC				*i*			03 23 23.4	
	comp=Z,153nm,0.5s							
DBBC	**Dabeiba**	**2.11**	**45**	⇑*e*P		**Pn**	**03 22 48.0**	**-0.9**
DBBC				*e*S		**Sn**	**03 23 11.0**	**-4.2**
DBBC				*i*			03 23 20.4	
	comp=Z,1μm,0.6s							
GUY2C	**Guyana, Caldas**	**2.37**	**97**	⇑*i*P		**Pn**	**03 22 51.8**	**-1.0**
GUY2C				*e*S		**Sn**	**03 23 19.5**	**-2.6**
GUY2C				*i*			03 23 32.4	
	comp=Z,362nm,0.6s							
RREF	**El Recreo**	**2.45**	**105**	⇑*i*P		**Pn**	**03 22 49.6**	**-4.5**
RREF				*e*S		**Sn**	**03 23 17.9**	**-6.4**
ANIL	**Santa Ana**	**2.54**	**114**	⇑*e*P		**Pn**	**03 22 54.2**	**-0.7**
ANIL				*e*S		**Sn**	**03 23 23.5**	**-2.3**
GR1C	**Gorgona, Isla**	**2.55**	**190**	*e*P		**Pn**	**03 22 53.0**	**-1.8**
TOLC	**Tolima**	**2.57**	**111**	⇑*e*P		**Pn**	**03 22 54.8**	**-0.7**
TOLC				*e*S		**Sn**	**03 23 24.8**	**-2.1**
ORTC	**Ortega, Tolima**	**2.95**	**123**	⇑*i*P		**Pn**	**03 23 00.9**	**+0.5**
ORTC				*e*S		**Sn**	**03 23 34.5**	**-1.3**
ORTC				*i*			03 23 45.6	
	comp=Z,187nm,0.6s							
UPD2	**Meteti**	**3.01**	**355**	*e*P		**Pn**	**03 23 01.5**	**+0.3**
UPD2				*e*S		**Sn**	**03 23 33.7**	**-3.6**
UPD2				*i*			03 23 43.9	
	comp=Z,252nm,0.4s							
UPD2	**Meteti**	**3.01**	**355**	*e*P		**Pn**	**03 23 01.8**	**+0.6**
UPD2				*e*S		**Sn**	**03 23 35.6**	**-1.6**
UREC	**San Jos de Ur**	**3.10**	**45**	*e*P		**Pn**	**03 23 02.8**	**+0.3**
UREC				*e*S		**Sn**	**03 23 37.3**	**-2.2**
UREC				*i*			03 23 43.5	
	comp=Z,108nm,0.4s							
CAPC	**Capurgana**	**3.11**	**7**	*e*P		**Pn**	**03 23 02.1**	**-0.4**
CAPC				*e*S		**Sn**	**03 23 35.6**	**-4.0**
CAPC				*i*			03 23 52.8	
	comp=Z,94nm,0.2s							
CAP2	**Capurgana**	**3.12**	**7**	*e*P		**Pn**	**03 23 02.4**	**-0.3**
CAP2				*e*S		**Sn**	**03 23 37.8**	**-2.1**
POPC	**Popayan, Colom**	**3.15**	**161**	⇑*e*P		**Pn**	**03 23 02.5**	**-0.8**
POPC				*i*			03 23 19.5	
	comp=Z,54nm,0.4s							
MARP	**Paez Belalcaza**	**3.20**	**146**	*e*P		**Pn**	**03 23 04.1**	**0.0**
TOSI3	**Tonosi**	**3.28**	**305**	*e*P		**Pn**	**03 23 02.1**	**-2.8**
TOSI3				*e*S		**Sn**	**03 23 40.9**	**-2.9**
PRAC	**Prado**	**3.36**	**122**	⇑*i*P		**Pn**	**03 23 06.7**	**+0.7**
PRAC				*e*S		**Sn**	**03 23 43.3**	**-2.5**
PRAC				*i*			03 23 51.4	
	comp=Z,142nm,0.4s							
AZU	**Azuero**	**3.38**	**312**	⇓*i*P		**Pn**	**03 23 04.5**	**-1.8**
AZU				*e*S		**Sn**	**03 23 42.6**	**-3.8**
AZU				*i*			03 23 48.8	
	comp=Z,510nm,0.6s							
AZU	**Azuero**	**3.38**	**312**	⇓*i*P		**Pn**	**03 23 04.6**	**-1.8**
AZU				*e*S		**Sn**	**03 23 43.4**	**-3.0**
PTBC	**PUERTO BERRIO,**	**3.40**	**73**	⇑*e*P		**Pn**	**03 23 07.3**	**+0.7**
PTBC				*i*			03 23 09.9	
	comp=Z,99nm,0.7s							
PTBC				*e*S		**Sn**	**03 23 42.6**	**-4.3**
PCON	**Cinco Dias**	**3.45**	**157**	⇑*e*P		**Pn**	**03 23 08.2**	**+0.5**
ZARC	**Zaragoza, Cauc**	**3.45**	**55**	⇑*e*P		**Pn**	**03 23 08.3**	**+1.0**
ZARC				*e*S		**Sn**	**03 23 44.0**	**-4.2**
ZARC				*i*			03 23 51.1	
	comp=Z,124nm,0.5s							
ROSC	**El Rosal**	**3.46**	**101**	P		**Pn**	**03 23 09.3**	**+1.6**
	comp=Z,19nm,0.3s,baz=33,slow=4.3,SNR=22							
ROSC				LR		LR	03 24 45.4	
	comp=Z,687nm,20.6s,baz=248,slow=45							
ROSC	**El Rosal**	**3.46**	**101**	Pn		**Pn**	**03 23 10.6**	**+2.8**
BBAC	**Balboa, Cauca**	**3.52**	**172**	*e*P		**Pn**	**03 23 06.5**	**-1.9**
BBAC				*i*			03 23 25.9	
	comp=Z,62nm,0.3s							
CTAB	**Cerro Tablazo,**	**3.55**	**98**	*e*P		**Pn**	**03 23 11.3**	**+2.3**
LCBC	**Los crdobas,**	**3.57**	**22**	⇓*i*P		**Pn**	**03 23 10.8**	**+1.9**
LCBC				*i*			03 23 11.3	
	comp=Z,76nm,0.3s							
LCBC				*e*S		**Sn**	**03 23 52.3**	**+1.3**
CACAO	**El Cacao, Vera**	**3.60**	**300**	*e*P		**Pn**	**03 23 07.1**	**-2.2**
CACAO				*e*S		**Sn**	**03 23 47.9**	**-3.8**
CHIT3	**Chitre**	**3.60**	**312**	*e*S		**Sn**	**03 23 48.9**	**-2.8**
BETC	**Betania**	**3.63**	**141**	*e*P		**Pn**	**03 23 10.5**	**+0.7**
SPBC	**San Pablo de B**	**3.64**	**88**	⇑*e*P		**Pn**	**03 23 10.5**	**+0.6**
SPBC				*i*			03 23 23.6	
	comp=Z,48nm,0.3s							
TABO3	**Taboga, Panama**	**3.72**	**331**	*e*S		**Sn**	**03 23 53.3**	**-1.3**
CVER	**Cruz Verde, Cu**	**3.77**	**105**	*e*P		**Pn**	**03 23 14.2**	**+2.0**
CNTA3	**Canitas, Panam**	**3.84**	**343**	*e*S		**Sn**	**03 23 55.1**	**-2.7**
UPA	**Univ. de Panam**	**3.87**	**333**	*e*P		**Pn**	**03 23 11.3**	**-1.7**
UPA				*e*S		**Sn**	**03 23 54.8**	**-3.6**
UPA				*i*			03 24 01.5	
	comp=Z,40nm,0.6s							
UPA	**Univ. de Panam**	**3.87**	**333**	*e*P		**Pn**	**03 23 10.9**	**-2.1**
UPA				*e*S		**Sn**	**03 23 56.2**	**-2.2**
CHPO	**Chepo, Panama**	**3.87**	**339**	*e*P		**Pn**	**03 23 11.2**	**-1.8**
CHPO				*e*S		**Sn**	**03 23 53.4**	**-5.0**
VTON	**El Valle, Cocl**	**3.87**	**322**	*e*P		**Pn**	**03 23 12.0**	**-1.1**
VTON				*e*S		**Sn**	**03 23 55.4**	**-3.1**
PNME	**Penonome**	**3.91**	**319**	⇑*i*P		**Pn**	**03 23 12.6**	**-0.9**
PNME				*e*S		**Sn**	**03 23 56.3**	**-3.1**
PNME				*i*			03 24 02.9	
	comp=Z,191nm,0.2s							
PNME	**Penonome**	**3.91**	**319**	*e*P		**Pn**	**03 23 12.6**	**-0.9**
PNME				*e*S		**Sn**	**03 23 58.6**	**-0.8**
CHOR3	**La Chorrera**	**3.91**	**329**	*e*P		**Pn**	**03 23 13.2**	**-0.4**
CHOR3				*e*S		**Sn**	**03 23 58.6**	**-0.8**
GARC	**Garzon, Huila**	**4.00**	**146**	⇑*e*P		**Pn**	**03 23 16.1**	**+1.1**
GARC				*i*			03 23 18.4	
	comp=Z,173nm,0.3s							
GARC				*e*S		**Sn**	**03 23 59.9**	**-2.1**
CRUC	**La Cruz**	**4.01**	**169**	*e*P		**Pn**	**03 23 15.6**	**+0.3**
CHIC	**Chingaza**	**4.08**	**102**	*e*P		**Pn**	**03 23 18.4**	**+2.2**
CHIC				*i*			03 23 49.9	
	comp=Z,50nm,0.6s							
BCIP	**Isla Barro Col**	**4.18**	**330**	*e*P		**Pn**	**03 23 15.6**	**-1.6**
BCIP				*e*S		**Sn**	**03 24 02.8**	**-3.2**
BCIP				*i*			03 24 20.3	
	comp=Z,64nm,0.8s							
BCIP	**Isla Barro Col**	**4.18**	**330**	*e*P		**Pn**	**03 23 15.4**	**-1.8**
BCIP				*e*S		**Sn**	**03 24 03.4**	**-2.6**
BCIP	**Isla Barro Col**	**4.18**	**330**	Pn		**Pn**	**03 23 16.5**	**-0.7**
VILC	**Villavicencio,**	**4.26**	**109**	*e*P		**Pn**	**03 23 19.7**	**+1.2**
BRRC	**Barranca, Sant**	**4.29**	**68**	⇑*e*P		**Pn**	**03 23 19.5**	**+0.8**
BRRC				*i*			03 23 43.3	
	comp=Z,34nm,0.4s							
BRRC				*e*S		**Sn**	**03 24 12.9**	**+4.1**
GCUF	**Volcan Galeras**	**4.29**	**175**	*e*P		**Pn**	**03 23 19.7**	**+0.4**
MIRA3	**Miramar, Colon**	**4.32**	**339**	*e*S		**Sn**	**03 24 07.0**	**-2.6**
FLOC	**Florencia**	**4.43**	**152**	⇑*e*P		**Pn**	**03 23 21.6**	**+0.8**
FLOC				*i*			03 23 46.3	
	comp=Z,38nm,0.7s							
RUSC	**La Rusia**	**4.63**	**85**	*e*P		**Pn**	**03 23 26.2**	**+2.2**
BARC	**Barichara**	**4.64**	**77**	*e*P		**Pn**	**03 23 25.0**	**+1.2**
BARC				*e*S		**Sn**	**03 24 18.4**	**+0.6**
BARC				*i*			03 24 22.5	
	comp=Z,130nm,0.5s							
SJCC	**San Jacinto, C**	**5.02**	**30**	*e*P		**Pn**	**03 23 30.9**	**+2.0**
SJCC				*e*S		**Sn**	**03 24 18.9**	**-8.0**
MACC	**Macarena, Meta**	**5.13**	**131**	⇑*e*P		**Pn**	**03 23 30.3**	**0.0**
OCAC	**Ocana**	**5.14**	**58**	*e*P		**Pn**	**03 23 31.8**	**+1.2**
OTAV	**Otavalo**	**5.31**	**188**			**Pn**	**03 23 32.4**	**-0.8**
PAMC	**Pamplona, Colo**	**5.31**	**70**	*e*P		**Pn**	**03 23 34.9**	**+1.7**
GUVC	**San Jose del G**	**5.89**	**120**	*e*P		**Pn**	**03 23 40.6**	**-0.1**
PTLC	**Puerto Leguiza**	**6.07**	**151**	*e*P		**Pn**	**03 23 47.5**	**+4.2**
SDV	**Santo Domingo**	**7.79**	**64**	P		**Pn**	**03 24 09.5**	**+2.5**
	comp=Z,3.2nm,0.3s,baz=254,slow=10,SNR=7.0							
SDV				S		**Sn**	**03 25 34.6**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=250,slow=17,SNR=1.6							
SDV				LR		LR	03 27 17.5	
	comp=Z,350nm,21.1s,baz=180,slow=39							
SDV	**Santo Domingo**	**7.79**	**64**	Pn		**Pn**	**03 24 09.2**	**+2.2**
ELOV	**Elorza**	**8.32**	**79**	*e*P		**Pn**	**03 24 13.5**	**-0.8**
JTS	**Las Juntas de**	**8.58**	**304**	P		**Pn**	**03 24 20.8**	**+3.1**
	comp=Z,1.1nm,0.3s,baz=309,slow=14,SNR=5.8							
JTS				LR		LR	03 27 46.0	
	comp=Z,373nm,18.5s,baz=174,slow=37							
ATAH	**Atahualpa**	**12.60**	**183**	LR		LR	03 31 08.1	
	comp=Z,266nm,21.3s,baz=353,slow=42							
CZSB	**Cruzeiro do Su**	**14.09**	**159**	*e*P		**P**	**03 25 39.3**	**-1.7**
MTO3	**Montecristo**	**14.45**	**308**	Pn		**Pn**	**03 25 38.8**	**+0.4**
SDDR	**Presa de Saban**	**14.77**	**25**	Pn		**Pn**	**03 25 44.8**	**+2.2**
NNA	**Nana**	**17.42**	**177**	P		**P**	**03 26 18.4**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=359,slow=10,SNR=7.2							
NNA				LR		LR	03 34 36.3	
	comp=Z,175nm,21.6s,baz=352,slow=42							
NNA	**Nana**	**17.42**	**177**	Pn		**Pn**	**03 26 14.4**	**-2.4**
PTGA	**Pitinga**	**18.80**	**109**	P		**P**	**03 26 31.3**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=297,slow=16,SNR=32							
PTGA				LR		LR	03 34 16.0	
	comp=Z,117nm,20.2s,baz=300,slow=38							
PTGA	**Pitinga**	**18.80**	**109**	IAmb		IAmb	03 26 33.6	
	comp=Z,30nm,1.4s							
MACA	**Manacapuru-AM**	**19.09**	**116**	*e*P		**P**	**03 26 34.2**	**-2.1**
SAML	**Samuel**	**20.42**	**135**	P		**P**	**03 26 49.1**	**-1.8**
SAML	**Samuel**	**20.42**	**135**	*e*P		**P**	**03 26 49.5**	**-1.4**
TLIG	**Tlapa**	**23.63**	**302**	P		**P**	**03 27 27.0**	**+2.0**
TLIG				IAmb		IAmb	03 27 30.7	
	comp=Z,36nm,1.7s							
LPAZ	**La Paz**	**23.67**	**156**	P		**P**	**03 27 24.4**	**-1.5**
	comp=Z,5.5nm,0.6s,baz=347,slow=13,SNR=28							
LPAZ				LR		LR	03 37 38.6	
	comp=Z,103nm,21.3s,baz=310,slow=39							
LPAZ	**La Paz**	**23.67**	**156**	P		**P**	**03 27 24.7**	**-1.2**
LPAZ	**La Paz**	**23.67**	**156**	*e*P		**P**	**03 27 25.3**	**-0.6**
ITTB	**Itaituba**	**24.06**	**114**	*e*P	

HWUT IAmb IAmb 03 30 46.5
comp=Z,5.1nm,0.8s
ULM Lac du Bonnet 47.11 344 P **P** **03 30 44.8 -0.6**
comp=Z,4.5nm,0.7s,baz=323,slow=21,SNR=2.4
ULM LR LR 03 51 26.0
comp=Z,28nm,18.3s,baz=70,slow=37
R11A Troy Canyon, C 47.38 319 IAmb IAmb 03 30 52.3
comp=Z,10nm,1.8s
LOHW Long Hollow 47.70 328 IAmb IAmb 03 30 53.1
comp=Z,3.5nm,0.8s
TPAW Teton Pass 47.80 327 IAmb IAmb 03 30 53.6
comp=Z,3.8nm,0.7s
FXWY Fox Creek 47.94 328 IAmb IAmb 03 30 54.6
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 49.23 318 P **P** **03 31 04.7 +2.3**
comp=Z,1.7nm,0.6s,baz=127,slow=6.8,SNR=22
NVAR PcP **PcP** **03 32 26.7 +1.2**
comp=Z,0.4nm,0.6s,baz=101,slow=4.7,SNR=2.7
NVAR Mina Array Bea 49.23 318 P **P** **03 31 04.2 +1.8**
MDPB Devils Postpil 49.35 316 IAmb IAmb 03 31 06.7
comp=Z,3.4nm,1.0s
BOZ Bozeman (W) 49.59 329 IAmb IAmb 03 31 07.0
comp=Z,2.3nm,0.7s
HLID Hailey 49.76 325 IAmb IAmb 03 31 08.8
comp=Z,3.2nm,0.7s
WAKR Walker 50.03 317 IAmb IAmb 03 31 12.2
comp=Z,7.7nm,1.4s
MFID Camas Ranch 50.48 324 IAmb IAmb 03 31 14.3
comp=Z,4.0nm,0.8s
ORV Oroville 51.95 317 IAmb IAmb 03 31 26.8
comp=Z,6.2nm,1.1s
G08A Pilot Rock 53.40 325 IAmb IAmb 03 31 36.0
comp=Z,4.8nm,1.2s
E09A Wood Farm, Sta 53.66 326 IAmb IAmb 03 31 37.2
comp=Z,5.9nm,1.1s
SUMG Summit 71.13 12 *i* P **P** **03 33 32.9 +0.8**
comp=Z,21nm,0.9s
SUMG Summit 71.13 12 *i* P **P** **03 33 32.9 +0.8**
SUMG IAmb IAmb 03 33 34.0
comp=Z,21nm,0.9s
TIC Toumodi 72.25 85 *e*P **P** **03 33 38.8 -0.7**
LIC Lamto 72.27 85 *e*P **P** **03 33 39.0 -0.6**
comp=Z,25nm,1.0s
DBIC Dimbokro 72.41 85 P **P** **03 33 39.0 -1.5**
comp=Z,7.5nm,1.0s,baz=260,slow=5.5,SNR=6.4
DBIC LR LR 04 03 21.3
comp=Z,53nm,18.7s,baz=228,slow=34
DBIC Dimbokro 72.41 85 IAmb IAmb 03 33 41.0
comp=Z,13nm,1.1s
KIC Kosan Boka 72.54 85 *e*P **P** **03 33 40.9 -0.4**
comp=Z,22nm,1.0s
KOWA Kowa 72.89 77 P **P** **03 33 44.1 +0.8**
KOWA IAmb IAmb 03 33 44.4
comp=Z,4.2nm,0.8s
BCAR Beaver Creek A 73.53 335 P **P** **03 33 47.9 +1.7**
ESDC Sonseca Array 74.00 50 P **P** **03 33 48.6 -0.9**
comp=Z,1.2nm,1.0s,baz=258,slow=6.9,SNR=5.6
ESDC Sonseca Array 74.00 50 IAmb IAmb 03 33 51.1
comp=Z,5.4nm,1.2s
ILAR Eielson Array 76.22 336 P **P** **03 34 02.4 +0.7**
comp=Z,1.1nm,0.7s,baz=114,slow=4.3,SNR=12
TORD Torodi Ar. Bea 78.48 78 P **P** **03 34 15.0 -0.3**
comp=Z,1.5nm,1.0s,baz=280,slow=6.8,SNR=12
TORD Torodi Ar. Bea 78.48 78 P **P** **03 34 15.3 -0.1**
GERES GERESS Array B 86.82 41 P **P** **03 34 59.0 +0.7**
comp=Z,0.6nm,0.6s,baz=267,slow=4.9,SNR=7.8
ARCES ARCESS Array B 89.46 20 P **P** **03 35 09.3 -0.9**
comp=Z,4.6nm,1.0s,baz=325,slow=9.5,SNR=5.3
ASAR Alice Springs 144.62 236 PKP **PKPab** **03 41 49.5 -0.2**
comp=Z,2.2nm,0.7s,baz=122,slow=3.9,SNR=30
ASAR Alice Springs 144.62 236 **PKPab** **03 41 48.8 -0.9**
WRA Warramunga Arr 145.69 242 PKPbc **PKPdf** **03 41 53.0 0.0**
comp=Z,2.1nm,0.7s,baz=97,slow=2.8,SNR=21
WRA Warramunga Arr 145.69 242 **PKPbc** **03 41 53.2 -0.1**

UPA ***04*** *03:36:32.5±0.7, 6.˚89N×73.˚40W, h0km±37km, MW4.8*
VAO ***04*** *03:36:32.3±0.6, 6.˚89N×73.˚21W, h175km±6km, mb4.1*
IDC ***04*** *03:36:32.5±0.5, 6.˚76N±0.˚04×72.˚97W±0.˚08, h167km±5km, mb3.9/20, mb1 4.1/25, mb1mx4.0/32, mbtmp4.4/25, MS3.1/1, Ms1 3.1/1, ms1mx2.5/28, Error ellipse: s-maj=9.3km s-min=7.2km az=131.0*
NEIC ***04*** *03:36:33.2± 1.9, 6.˚76N±0.˚04×72.˚97W±0.˚08, h167km±5km, mb4.7/208, Error ellipse: s-maj=11.5km s-min=4.7km az=109.0*
RSNC ***04*** *03:36:34.7±21.0, 6.˚81N×73.˚20W, h136km±88km, ML4.4, Mw4.5, Fault plane solution: NP1:φs12.00000°, δ40.00000°, λ138.00000°.*
ISC 04 03:36:32.1±0.5, 6.˚83N±0.˚03×73.˚10W±0.˚03, h154km±4km, n459, σt93/496, mb4.7/104, 18C-21D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**199**	⇓*i*P		**Pn**		**03 36 53.7**	**+0.4**
BARC				*e*S		**Sn**		**03 37 07.7**	**-1.7**
BARC				*i*				03 37 11.3	
	comp=Z,12μm,0.3s								
PAMC	**Pamplona, Colo**	**0.65**	**38**	⇓*i*P		**Pn**		**03 36 56.5**	**+1.3**
PAMC				*e*S		**Sn**		**03 37 13.1**	**+0.2**
PAMC				*i*				03 37 14.3	
	comp=Z,4μm,0.3s								
BRRC	**Barranca, Sant**	**0.67**	**295**	⇑*i*P		**Pn**		**03 36 55.6**	**+0.8**
BRRC				*e*S		**Sn**		**03 37 11.7**	**-0.4**
BRRC				*i*				03 37 15.9	
	comp=Z,6μm,0.2s								
RUSC	**La Rusia**	**0.93**	**179**	⇑*i*P		**Pn**		**03 36 57.5**	**+0.2**
RUSC				*i*				03 36 58.6	
	comp=Z,2μm,0.2s								
RUSC				*e*S		**Sn**		**03 37 15.4**	**-1.1**
TAMC	**Tame, Arauca**	**1.36**	**107**	⇑*i*P		**Pn**		**03 37 01.9**	**+1.3**
TAMC				*i*				03 37 02.1	
	comp=Z,2μm,0.2s								
TAMC				*e*S		**Sn**		**03 37 22.6**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	⇑*i*P		**Pn**		**03 37 00.2**	**-0.5**
PTBC				*e*S		**Sn**		**03 37 21.0**	**-1.7**
PTBC				*i*				03 37 27.6	
	comp=Z,3μm,0.2s								
OCAC	**Ocana**	**1.42**	**351**	⇓*i*P		**Pn**		**03 37 01.9**	**+0.6**
OCAC				*e*S		**Sn**		**03 37 23.2**	**-0.6**
OCAC				*i*				03 37 28.5	
	comp=Z,4μm,0.3s								
SPBC	**San Pablo de B**	**1.52**	**220**	⇑*i*P		**Pn**		**03 37 02.6**	**+0.4**
SPBC				*e*S		**Sn**		**03 37 24.9**	**-0.5**
SPBC				*i*				03 37 31.4	
	comp=Z,5μm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	⇓*i*P		**Pn**		**03 37 06.2**	**+0.3**
ZARC				*e*S		**Sn**		**03 37 31.6**	**-0.3**
ZARC				*i*				03 37 37.9	
	comp=Z,6μm,0.6s								
CTAB	**Cerro Tablazo,**	**2.11**	**211**	*i* P		**Pn**		**03 37 10.8**	**+1.5**
CTAB				*e*S		**Sn**		**03 37 37.0**	**-0.9**
SMLC	**San Martn de**	**2.18**	**334**	*e*P		**Pn**		**03 37 09.7**	**+0.1**
SMLC				*e*S		**Sn**		**03 37 37.8**	**-0.8**
SMLC				*i*				03 37 41.0	
	comp=Z,2μm,0.3s								
CHIC	**Chingaza**	**2.27**	**196**	⇑*i*P		**Pn**		**03 37 11.6**	**+0.5**
CHIC				*e*S		**Sn**		**03 37 40.5**	**-0.7**
CHIC				*i*				03 37 47.0	
	comp=Z,1μm,0.2s								
ROSC	**El Rosal**	**2.32**	**212**	P		**Pn**		**03 37 13.5**	**+1.8**
	comp=Z,399nm,0.3s,baz=296,slow=22,SNR=626								
ROSC				S		**Sn**		**03 37 43.3**	**+1.3**
	comp=Z,314nm,0.3s,baz=123,slow=13,SNR=6.7								
ROSC				LR		LR		03 38 25.2	
	comp=Z,378nm,19.1s,baz=220,slow=48								
ROSC	**El Rosal**	**2.32**	**212**	⇑*i*P		**Pn**		**03 37 13.3**	**+1.7**
ROSC				*e*S		**Sn**		**03 37 41.8**	**-0.3**
ROSC				*i*				03 37 51.3	
	comp=Z,4μm,0.4s								
CVER	**Cruz Verde, Cu**	**2.49**	**203**	*i* P		**Pn**		**03 37 15.0**	**+1.2**
CVER				*e*S		**Sn**		**03 37 45.5**	**-0.4**
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P		**Pn**		**03 37 13.9**	**-0.5**
UREC				*e*S		**Sn**		**03 37 43.2**	**-3.9**
UREC				*i*				03 37 59.4	
	comp=Z,2μm,0.2s								
SOCV	**Socops**	**2.65**	**57**	⇓*i*P		**Pn**		**03 37 16.4**	**+1.1**
SOCV				*e*S		**Sn**		**03 37 47.8**	**-1.0**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	⇓*e*P		**Pn**		**03 37 17.6**	**+0.5**
GUY2C				*e*S		**Sn**		**03 37 50.6**	**-1.1**
GUY2C				*i*				03 38 00.4	
	comp=Z,4μm,0.4s								
VILC	**Villavicencio,**	**2.76**	**192**	⇑*i*P		**Pn**		**03 37 16.8**	**0.0**
VILC				*e*S		**Sn**		**03 37 50.4**	**-1.0**
VILC				*i*				03 37 58.2	
	comp=Z,2μm,0.4s								
PTGC	**Puerto Gaitan,**	**2.78**	**160**	⇑*i*P		**Pn**		**03 37 16.6**	**-0.3**
PTGC				*i*				03 37 17.1	
	comp=Z,3μm,0.2s								
PTGC				*e*S		**Sn**		**03 37 49.4**	**-2.3**
RREF	**El Recreo**	**2.94**	**230**	*e*P		**Pn**		**03 37 15.9**	**-3.7**
RREF				*e*S		**Sn**		**03 37 51.0**	**-5.1**
RREF				*i*				03 38 01.3	
	comp=Z,3μm,0.3s								
CBOC	**Ciudad Bolivar**	**3.05**	**252**	⇓*i*P		**Pn**		**03 37 21.2**	**+0.8**
CBOC				*e*S		**Sn**		**03 37 55.4**	**-2.4**
CBOC				*i*				03 38 10.4	
	comp=Z,1μm,0.6s								
DBBC	**Dabeiba**	**3.09**	**274**	⇓*e*P		**Pn**		**03 37 21.2**	**+0.3**
DBBC				*e*S		**Sn**		**03 37 57.0**	**-1.6**
TOLC	**Tolima**	**3.14**	**225**	*e*P		**Pn**		**03 37 22.0**	**+0.3**
TOLC				*e*S		**Sn**		**03 37 59.9**	**-0.2**
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**		**03 37 23.2**	**+1.0**
	comp=Z,266nm,0.3s,baz=232,slow=9.5,SNR=435								
SDV				S		**Sn**		**03 37 59.9**	**-1.1**
	comp=Z,76nm,0.3s,baz=50,slow=23,SNR=11								
SDV	**Santo Domingo**	**3.19**	**50**	*i* P		**Pn**		**03 37 23.1**	**+1.0**
SDV				*i*				03 37 23.8	
	comp=Z,739nm,0.2s								
SDV				*e*S		**Sn**		**03 37 59.6**	**-1.3**
SDV	**Santo Domingo**	**3.19**	**50**	Pn		**Pn**		**03 37 23.0**	**+0.8**
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**		**03 37 23.2**	**+1.0**
ARGC	**Ariguani, Magd**	**3.22**	**339**	⇑*i*P		**Pn**		**03 37 24.0**	**+1.7**
ARGC				*e*S		**Sn**		**03 38 00.8**	**-0.6**
ARGC				*i*				03 38 13.4	
	comp=Z,550nm,0.3s								
ANIL	**Santa Ana**	**3.26**	**225**	*e*P		**Pn**		**03 37 24.0**	**+0.8**
ANIL				*e*S		**Sn**		**03 38 01.8**	**-1.1**
ANIL				*i*				03 38 10.3	
	comp=Z,545nm,0.4s								
PRAC	**Prado**	**3.57**	**210**	⇑*e*P		**Pn**		**03 37 26.4**	**-0.5**
PRAC				*e*S		**Sn**		**03 38 08.3**	**-1.2**
PRAC				*i*				03 38 16.1	
	comp=Z,2μm,0.3s								
ELOV	**Elorza**	**3.60**	**87**	⇓*i*P		**Pn**		**03 37 27.6**	**+0.4**
ELOV				*e*S		**Sn**		**03 38 07.5**	**-2.6**
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P		**Pn**		**03 37 27.4**	**0.0**
ORTC				*e*S		**Sn**		**03 38 09.3**	**-1.0**
ORTC				*i*				03 38 17.7	
	comp=Z,1μm,0.5s								
CVALL	**Valledupar, Ce**	**3.66**	**358**	*e*P		**Pn**		**03 37 27.8**	**-0.3**
CVALL				*e*S		**Sn**		**03 38 07.2**	**-4.4**
CVALL				*i*				03 38 22.8	
	comp=Z,451nm,0.5s								
SJCC	**San Jacinto, C**	**3.68**	**326**	⇑*e*P		**Pn**		**03 37 27.7**	**-0.6**
SJCC				*e*S		**Sn**		**03 38 08.3**	**-3.7**
SJCC				*i*				03 38 13.8	
	comp=Z,1μm,0.5s								
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P		**Pn**		**03 37 28.1**	**-0.3**
SJCC				*e*S		**Sn**		**03 38 09.8**	**-2.2**
LCBC	**Los crdobas,**	**3.81**	**302**	⇓*e*P		**Pn**		**03 37 29.9**	**-0.1**
LCBC				*e*S		**Sn**		**03 38 13.6**	**-1.4**
LCBC				*i*				03 38 20.0	
	comp=Z,736nm,0.2s								
GUVC	**San Jose del G**	**4.28**	**174**	*e*P		**Pn**		**03 37 35.1**	**-1.0**
GUVC				*e*S		**Sn**		**03 38 22.6**	**-3.5**
GUVC				*i*				03 38 29.1	
	comp=Z,610nm,0.7s								
YOTC	**Yotoco, Valle**	**4.29**	**229**	⇓*e*P		**Pn**		**03 37 36.3**	**-0.1**
YOTC				*i*				03 37 40.9	
	comp=Z,226nm,0.4s								
YOTC				*e*S		**Sn**		**03 38 25.2**	**-1.2**
SOLC	**Bahia Solano**	**4.32**	**262**	*e*P		**Pn**		**03 37 36.8**	**+0.1**
SOLC				*e*S		**Sn**		**03 38 24.8**	**-2.2**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P		**Pn**		**03 37 38.2**	**-0.1**
SMRC				*e*S		**Sn**		**03 38 26.0**	**-4.0**
SMRC				*i*				03 38 36.6	
	comp=Z,298nm,0.5s								
CAPC	**Capurgana**	**4.58**	**293**	*e*P		**Pn**		**03 37 38.2**	**-1.9**
CAPC				*e*S		**Sn**		**03 38 24.4**	**-8.6**
CAP2	**Capurgana**	**4.59**	**293**	*e*P		**Pn**		**03 37 38.8**	**-1.4**
CAP2				*e*S		**Sn**		**03 38 29.3**	**-4.1**
PIZC	**Pizarro, Choco**	**4.62**	**247**	⇓*e*P		**Pn**		**03 37 42.0**	**+1.3**
PIZC				*i*				03 37 44.1	
	comp=Z,461nm,0.5s								
PIZC				*e*S		**Sn**		**03 38 32.3**	**-1.8**
PTAC	**Punta Ardita,**	**4.68**	**274**	*e*P		**Pn**		**03 37 41.3**	**-0.1**
MACC	**Macarena, Meta**	**4.71**	**189**	⇑*i*P		**Pn**		**03 37 40.4**	**-1.5**
MACC				⇑*i*P		**Pn**		**03 37 40.4**	**-1.5**
MACC				*i*				03 37 41.1	
	comp=Z,359nm,0.4s								
MACC				*i*				03 37 41.1	
	comp=Z,359nm,0.4s								
MACC				*e*S		**Sn**		**03 38 30.8**	**-5.5**
MACC				*e*S		**Sn**		**03 38 30.8**	**-5.5**
BETC	**Betania**	**4.74**	**210**	⇓*e*P		**Pn**		**03 37 41.1**	**-1.0**
BETC				*e*S		**Sn**		**03 38 32.8**	**-4.0**
DABV	**Dabajuro**	**4.74**	**31**	*e*P		**Pn**		**03 37 42.0**	**-0.2**
DABV				*e*P		**Pn**		**03 37 42.0**	**-0.2**
DABV				*e*S		**Sn**		**03 38 32.3**	**-4.6**
DABV				*e*S		**Sn**		**03 38 32.3**	**-4.6**
MARP	**Paez Belalcaza**	**4.88**	**216**	*e*P		**Pn**		**03 37 44.0**	**-0.2**
MARP				*e*P		**Pn**		**03 37 44.0**	**-0.2**
MARP				*e*S		**Sn**		**03 38 39.4**	**-1.1**
MARP				*e*S		**Sn**		**03 38 39.4**	**-1.1**
URIC	**Uribia, Colomb**	**4.96**	**13**	⇓*i*P		**Pn**		**03 37 44.2**	**-0.9**
URIC				⇓*i*P		**Pn**		**03 37 44.2**	**-0.9**
URIC				*e*S		**Sn**		**03 38 38.0**	**-4.2**
URIC				*e*S		**Sn**		**03 38 38.0**	**-4.2**
URIC				*i*				03 38 43.2	
	comp=Z,111nm,0.6s								
URIC				*i*				03 38 43.2	
	comp=Z,111nm,0.6s								
MALC	**Bahia Malaga**	**5.06**	**237**	⇓*e*P		**Pn**		**03 37 47.9**	**+1.5**
MALC				⇓*e*P		**Pn**		**03 37 47.9**	**+1.5**
MALC				*i*				03 37 51.0	
	comp=Z,419nm,0.3s								
MALC				*i*				03 37 51.0	
	comp=Z,419nm,0.3s								
MALC				*e*S		**Sn**		**03 38 42.4**	**-2.0**
MALC				*e*S		**Sn**		**03 38 42.4**	**-2.0**
UPD2	**Meteti**	**5.16**	**290**	*e*P		**Pn**		**03 37 46.6**	**-1.2**
UPD2				*e*P		**Pn**		**03 37 46.6**	**-1.2**
UPD2				*e*S		**Sn**		**03 38 42.6**	**-4.1**
UPD2				*e*S		**Sn**		**03 38 42.6**	**-4.1**
UPD2	**Meteti**	**5.16**	**290**	*e*P		**Pn**		**03 37 46.0**	**-1.7**
UPD2				*e*S		**Sn**		**03 38 43.4**	**-3.4**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P		**Pn**		**03 37 47.7**	**-0.7**
GARC				*e*P		**Pn**		**03 37 47.7**	**-0.7**
GARC				*i*				03 37 50.4	
	comp=Z,467nm,0.2s								
GARC				*i*				03 37 50.4	
	comp=Z,467nm,0.2s								
GARC				*e*S		**Sn**		**03 38 42.9**	**-5.1**
GARC				*e*S		**Sn**		**03 38 42.9**	**-5.1**
PCON	**Cinco Dias**	**5.55**	**216**	*e*P		**Pn**		**03 37 54.5**	**+1.1**
PCON				*e*P		**Pn**		**03 37 54.5**	**+1.1**
PCON				*i*				03 39 07.7	
	comp=Z,164nm,0.4s								
PCON				*i*				03 39 07.7	
	comp=Z,164nm,0.4s								
POPC	**Popayan, Colom**	**5.55**	**220**	⇓*i*P		**Pn**		**03 37 53.2**	**0.0**
POPC				⇓*i*P		**Pn**		**03 37 53.2**	**0.0**
POPC				*i*				03 38 00.4	
	comp=Z,77nm,0.4s								
POPC				*i*				03 38 00.4	
	comp=Z,77nm,0.4s								
POPC				*e*S		**Sn**		**03 38 51.1**	**-5.5**
POPC				*e*S		**Sn**		**03 38 51.1**	**-5.5**
FLOC	**Florencia**	**5.80**	**206**	*e*P		**Pn**		**03 37 55.7**	**-0.6**
FLOC				*e*P		**Pn**		**03 37 55.7**	**-0.6**
FLOC				*e*S		**Sn**		**03 38 59.9**	**-2.2**
FLOC				*e*S		**Sn**		**03 38 59.9**	**-2.2**
FLOC				*i*				03 39 37.8	
	comp=Z,119nm,0.5s								
FLOC				*i*				03 39 37.8	
	comp=Z,119nm,0.5s								
SOTA	**Rioblanco**	**5.83**	**217**	*e*P		**Pn**		**03 37 58.1**	**+1.1**
SOTA				*e*P		**Pn**		**03 37 58.1**	**+1.1**
CNTA3	**Canitas, Panam**	**6.21**	**293**	*e*S		**Sn**		**03 39 09.3**	**-2.4**
BBAC	**Balboa, Cauca**	**6.32**	**221**	*e*P		**Pn**		**03 38 03.0**	**-0.3**
BBAC				*e*P		**Pn**		**03 38 03.0**	**-0.3**
BBAC				*e*S		**Sn**		**03 39 10.7**	**-4.0**
BBAC				*e*S		**Sn**		**03 39 10.7**	**-4.0**
BBAC				*i*				03 39 19.4	
	comp=Z,147nm,0.4s								
BBAC				*i*				03 39 19.4	
	comp=Z,147nm,0.4s								
GR1C	**Gorgona, Isla**	**6.32**	**233**	*e*P		**Pn**		**03 38 01.6**	**-1.5**
GR1C				*e*P		**Pn**		**03 38 01.6**	**-1.5**
GR1C				*e*S		**Sn**		**03 39 10.6**	**-3.8**
GR1C				*e*S		**Sn**		**03 39 10.6**	**-3.8**
CHPO	**Chepo, Panama**	**6.39**	**292**	*e*P		**Pn**		**03 38 02.8**	**-1.3**
CHPO				*e*S		Sn		03 39 06.8	-9.4
CRUC	**La Cruz**	**6.49**	**216**	*e*P		**Pn**		**03 38 07.7**	**+2.0**
CRUC				*e*P		**Pn**		**03 38 07.7**	**+2.0**
UPA	**Univ. de Panam**	**6.72**	**289**	*e*P		**Pn**		**03 38 06.6**	**-1.8**
UPA				*e*S		**Sn**		**03 39 18.7**	**-5.3**
GCUF	**Volcan Galeras**	**6.99**	**217**	*e*P		**Pn**		**03 38 13.3**	**+0.7**
GCUF				*e*P		**Pn**		**03 38 13.3**	**+0.7**
GCUF				*e*S		**Sn**		**03 39 26.6**	**-4.7**
GCUF				*e*S		**Sn**		**03 39 26.6**	**-4.7**
BCIP	**Isla Barro Col**	**7.06**	**290**	Pn		**Pn**		**03 38 12.3**	**-0.7**
VTON	**El Valle, Cocl**	**7.17**	**285**	*e*P		**Pn**		**03 38 15.3**	**+0.7**
VTON				*e*S		**Sn**		**03 39 31.9**	**-3.1**
AZU	**Azuero**	**7.18**	**278**	⇓*e*P		**Pn**		**03 38 14.4**	**-0.2**
AZU				*e*S		**Sn**		**03 39 31.7**	**-3.4**
CMBC	**Cumbal**	**7.51**	**219**	*e*P		**Pn**		**03 38 19.6**	**+0.1**
CMBC				*e*P		**Pn**		**03 38 19.6**	**+0.1**
CACAO	**El Cacao, Vera**	**7.72**	**274**	*e*P		**Pn**		**03 38 22.2**	**+0.4**
CACAO				*e*S		**Sn**		**03 39 44.7**	**-3.3**
CALO3	**Calobre, Verag**	**7.81**	**281**	*e*P		**Pn**		**03 38 22.9**	**-0.2**
OTAV	**Otavalo**	**8.45**	**219**			**Pn**		**03 38 31.5**	**-0.4**
OTAV	**Otavalo**	**8.45**	**219**	*e*P		**Pn**		**03 38 32.2**	**+0.2**
OTAV				*e*S		**Sn**		**03 40 05.8**	**-0.5**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P		**Pn**		**03 38 37.0**	**-1.9**
	comp=Z,6.3nm,0.3s,baz=298,slow=0.7,SNR=24								
PLCV	**Puerto La Cruz**	**9.05**	**68**			**Pn**		**03 38 37.0**	**-2.4**
HDC	**Heredia**	**11.34**	**287**	Pn		**Pn**		**03 39 11.7**	**+1.8**
HOJ	**Hope**	**11.66**	**343**	*i* P		**Pn**		**03 39 17.3**	**+3.4**
CMJ	**Castle Mountai**	**11.68**	**344**	⇑*i*P		**Pn**		**03 39 17.1**	**+2.9**
STH	**Stony Hill**	**11.75**	**342**	⇓*i*P		**Pn**		**03 39 18.9**	**+3.8**
MCJ	**Malvern**	**11.90**	**338**	⇑*i*P		**Pn**		**03 39 20.3**	**+3.2**
MCJ				⇑*i*P		**P**		**03 39 21.4**	**-2.3**
BNJ	**Bonny Gate**	**12.02**	**342**	*i* P		**Pn**		**03 39 20.8**	**+2.2**
BBJ	**Bamboo Saint A**	**12.18**	**341**	⇑*i*P		**Pn**		**03 39 24.6**	**+3.9**
SDDR	**Presa de Saban**	**12.21**	**8**			**Pn**		**03 39 22.8**	**+1.7**
JTS	**Las Juntas de**	**12.21**	**287**	P		**P**		**03 39 25.7**	**-1.5**
	comp=Z,3.1nm,0.3s,baz=266,slow=2.5,SNR=15								
PDPR	**Patillas Dam,**	**13.09**	**31**	Pn		**Pn**		**03 39 32.0**	**-0.3**
GTBY	**Guantanamo Bay**	**13.16**	**352**	Pn		**Pn**		**03 39 34.1**	**+0.8**
HUMP	**Col San Antoni**	**13.28**	**31**	Pn		**Pn**		**03 39 34.4**	**-0.4**
GCPR	**Guaynabo City**	**13.30**	**30**			**Pn**		**03 39 34.4**	**-0.6**
MATN	**Matagalpa**	**14.01**	**297**	Pn		**Pn**		**03 39 44.9**	**+0.7**
CZSB	**Cruzeiro do Su**	**14.47**	**178**	*e*P		**Pn**		**03 39 49.4**	**-0.4**
ATAH	**Atahualpa**	**14.84**	**201**	P		**P**		**03 39 57.8**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=27,slow=14,SNR=3.8								
PTGA	**Pitinga**	**15.11**	**119**	P		**Pn**		**03 39 56.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=305,slow=19,SNR=3.4								
PTGA				S		**Sn**		**03 42 38.3**	**-7.6**
	comp=Z,0.7nm,0.3s,baz=344,slow=15,SNR=5.3								
MACA	**Manacapuru-AM**	**15.88**	**128**	*e*P		**P**		**03 40 09.4**	**+1.5**
MTO3	**Montecristo**	**17.65**	**297**	P		**P**		**03 40 28.4**	**+0.7**
ETMB	**Extrema**	**17.90**	**157**	*e*P		**P**		**03 40 30.2**	**0.0**
SAML	**Samuel**	**18.53**	**148**	P		**P**		**03 40 37.1**	**+0.1**
SAML	**Samuel**	**18.53**	**148**	*e*P		**P**		**03 40 36.5**	**-0.5**
PETF	**Flores**	**19.21**	**303**	P		**Pn**		**03 40 49.6**	**+2.7**
PETF					IAmb	IAmb		03 40 51.7	
	comp=Z,17nm,1.0s								
TEIG	**Tepich**	**19.85**	**314**	P		**P**		**03 40 53.3**	**+2.0**
	comp=Z,40nm,0.5s,baz=36,slow=0.8,SNR=41								
TEIG	**Tepich**	**19.85**	**314**			**P**		**03 40 52.6**	**+1.4**
MDP	**Montagnes des**	**20.42**	**94**	P		**P**		**03 40 58.4**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=264,slow=10,SNR=2.5								
ITTB	**Itaituba**	**20.60**	**122**	*e*P		**P**		**03 41 00.7**	**+1.4**
MALB	**Monte Alegre**	**20.68**	**114**	*e*P		**P**		**03 41 00.2**	**0.0**
MCPB	**Macapa, AP**	**22.18**	**108**	*e*P		**P**		**03 41 16.4**	**+0.5**
NPGB	**Novo Progresso**	**22.43**	**128**	*e*P		**P**		**03 41 18.1**	**-0.3**
VILB	**Vilhena**	**23.46**	**147**	*e*P		**P**		**03 41 27.1**	**-0.8**
LPAZ	**La Paz**	**23.49**	**168**	P		**P**		**03 41 27.9**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=342,slow=3.7,SNR=7.8								
LPAZ				pP		**pP**		**03 41 59.7**	**+0.9**
	comp=

CPCT **Cooper Cave** 30.36 341 IAmb IAmb 03 42 32.7
comp=Z,10.0nm,0.8s
T58A **Grand View Acr** 30.38 351 P **P** **03 42 31.4 +1.8**
baz=169,SNR=6.1
T57A **Hurt** 30.55 350 P **P** **03 42 32.7 +1.6**
baz=168
T57A **Hurt** 30.55 350 IAmb IAmb 03 42 33.5
comp=Z,11nm,0.8s
U54A **Nelsons Funny** 30.61 346 P **P** **03 42 34.2 +2.5**
baz=163,SNR=8.4
V51A **Loudon** 30.63 342 IAmb IAmb 03 42 35.0
comp=Z,17nm,0.8s
T56A **Rocky Mt** 30.72 349 P **P** **03 42 34.8 +2.3**
baz=166
ARAG **Araguaiana, MT** 30.76 137 *e*P **P** **03 42 32.4 -0.7**
Y45A **Yeager Farm, C** 30.91 333 P **P** **03 42 35.6 +1.4**
T55A **Pulaski** 30.95 348 P **P** **03 42 37.2 +2.5**
baz=165
PEXB **Peixe** 31.02 127 *e*P **P** **03 42 35.0 -0.5**
T54A **Tazewell** 31.07 347 P **P** **03 42 38.0 +2.3**
baz=164,SNR=6.2
TZTN **Tazewell** 31.08 344 P **P** **03 42 37.9 +2.1**
baz=160
T53A **Wise** 31.22 345 P **P** **03 42 39.5 +2.4**
baz=162
PLAL **Pickwick Lake** 31.23 336 P **P** **03 42 38.3 +1.3**
PLAL IAmb IAmb 03 42 39.9
comp=Z,17nm,0.8s
S57A **Dark Hollow, R** 31.25 351 P **P** **03 42 39.1 +1.9**
baz=169
S57A **Dark Hollow, R** 31.25 351 IAmb IAmb 03 42 39.8
comp=Z,10nm,0.7s
S55A **Lewisburg** 31.53 349 P **P** **03 42 42.2 +2.5**
baz=166
CLTN **Cedars of Leba** 31.55 339 IAmb IAmb 03 42 42.5
comp=Z,9.1nm,0.5s
S54A **Dingess, Beckl** 31.72 348 P **P** **03 42 43.9 +2.5**
baz=164
T50A **Nancy** 31.90 342 IAmb IAmb 03 42 46.2
comp=Z,10nm,1.0s
NATX **Nacogdoches** 31.94 324 P **P** **03 42 45.2 +1.9**
baz=136
R56A **Bull Pasture M** 31.95 351 P **P** **03 42 46.3 +2.9**
baz=168
R55A **Marlinton** 31.95 350 P **P** **03 42 46.2 +2.7**
baz=167
AQDB **Aquidauana** 32.08 148 *e*P **P** **03 42 43.8 -0.9**
WVT **Waverly** 32.13 337 P **P** **03 42 46.7 +1.7**
baz=152
WVT **Waverly** 32.13 337 P **P** **03 42 46.2 +1.3**
WLAR **White Oak Lake** 32.52 328 P **P** **03 42 47.1 -1.3**
WLAR IAmb IAmb 03 42 50.8
comp=Z,34nm,1.5s
Q55A **Buckhannon** 32.64 350 P **P** **03 42 52.1 +2.7**
baz=167
Q54A **Coxs Mills** 32.77 349 P **P** **03 42 53.0 +2.6**
baz=166
Q53A **Leroy** 32.78 348 P **P** **03 42 53.0 +2.4**
baz=164
R50A **Paris** 32.92 344 IAmb IAmb 03 42 55.2
comp=Z,16nm,0.8s
P56A **Dayton Farm, R** 32.94 352 P **P** **03 42 54.4 +2.5**
baz=169
X40A **Basin Creek Fa** 33.00 329 P **P** **03 42 54.1 +1.5**
baz=142,SNR=11
X40A **Basin Creek Fa** 33.00 329 IAmb IAmb 03 42 54.5
comp=Z,10nm,0.7s
Q52A **Bidwell** 33.04 347 P **P** **03 42 55.2 +2.3**
baz=163
W41B **Gary Mavity, V** 33.26 331 P **P** **03 42 56.1 +1.3**
baz=144
W41B **Gary Mavity, V** 33.26 331 IAmb IAmb 03 42 56.4
comp=Z,36nm,1.7s
P54A **Burton** 33.30 350 P **P** **03 42 57.5 +2.4**
baz=166
O58A **Lewisberry** 33.33 355 P **P** **03 42 57.9 +2.6**
baz=173
P53A **Whipple** 33.36 348 P **P** **03 42 58.0 +2.4**
baz=165
Q51A **Peebles** 33.36 345 IAmb IAmb 03 42 58.9
comp=Z,17nm,0.7s
WHAR **Wooly Hollow** 33.37 331 IAmb IAmb 03 42 58.4
comp=Z,15nm,0.7s
BDFB **Brasilia** 33.41 132 P **P** **03 42 56.2 -0.2**
comp=Z,2.2nm,0.5s,baz=311,slow=14,SNR=4.3
MIAR **Mount Ida** 33.43 328 P **P** **03 42 56.9 +0.7**
baz=141
MIAR **Mount Ida** 33.43 328 P **P** **03 42 56.0 -0.3**
MIAR IAmb IAmb 03 43 45.0
comp=Z,25nm,1.8s
WCI **Wyandotte Cave** 33.47 341 P **P** **03 42 58.5 +2.0**
baz=156
WCI **Wyandotte Cave** 33.47 341 P **P** **03 42 57.3 +0.7**
LCAR **Lake Charles** 33.47 333 IAmb IAmb 03 42 58.9
comp=Z,12nm,0.6s
O57A **Amberson** 33.48 354 P **P** **03 42 59.5 +2.8**
baz=172
O56A **Blue Knob Stat** 33.65 352 P **P** **03 43 00.8 +2.6**
baz=170
P52A **Corning** 33.66 347 P **P** **03 43 00.5 +2.3**
baz=164,SNR=6.4
USIN **University of** 33.70 339 P **P** **03 42 60.0 +1.4**
O55A **Ligonier** 33.70 351 P **P** **03 43 01.3 +2.7**
baz=169
P51A **Williamsport** 33.72 346 P **P** **03 43 01.0 +2.3**
baz=162
FCAR **Ozark Folk Cen** 33.77 332 IAmb IAmb 03 43 00.9
comp=Z,22nm,1.0s
SDBA **SAO DESIDERIO** 33.93 124 *e*P **P** **03 43 00.3 -0.6**
SSPA **Standing Stone** 33.93 353 P **P** **03 43 03.0 +2.4**
baz=171
N60A **Cedar Hill Far** 33.94 357 P **P** **03 43 02.7 +2.1**
baz=176
N57A **Milroy** 34.02 354 P **P** **03 43 03.4 +2.1**
baz=172
N59A **State Game Lan** 34.03 356 P **P** **03 43 03.4 +2.0**
baz=175
PAL **Palisades** 34.04 359 P **P** **03 43 03.2 +1.8**
baz=178
W39A **Magazine** 34.04 329 P **P** **03 43 03.1 +1.5**
baz=141,SNR=10.0
O52A **Adamsville** 34.06 348 P **P** **03 43 04.1 +2.4**
baz=164
O52A **Adamsville** 34.06 348 IAmb IAmb 03 43 04.7
comp=Z,16nm,0.8s
O53A **New Philadelph** 34.06 349 P **P** **03 43 03.9 +2.2**
baz=166
N55A **Marion Center** 34.21 352 P **P** **03 43 05.6 +2.6**
baz=170
O51A **Pataskala** 34.25 347 P **P** **03 43 06.0 +2.6**
baz=163
N56A **West Decatur** 34.26 353 P **P** **03 43 05.8 +2.4**
baz=171
M60A **Port Jervis** 34.38 358 P **P** **03 43 06.4 +2.0**
baz=177
BLO **Bloomington** 34.40 341 P **P** **03 43 05.4 +0.8**
ACSO **Alum Creek Sta** 34.42 347 P **P** **03 43 07.1 +2.4**
baz=162
U40A **Yellville** 34.50 331 P **P** **03 43 07.0 +1.5**
baz=144,SNR=36
M58A **Price's Panora** 34.53 356 P **P** **03 43 07.8 +2.1**
baz=174
N54A **Moraine State** 34.54 351 P **P** **03 43 08.4 +2.6**
baz=168
M57A **Sunshine Farm,** 34.55 355 P **P** **03 43 08.5 +2.6**
baz=173
M59A **Waymart** 34.63 357 P **P** **03 43 08.7 +2.2**
baz=176
N52A **McGinn's Farm,** 34.70 349 P **P** **03 43 09.6 +2.4**
baz=165
M56A **Emporium** 34.80 353 P **P** **03 43 10.3 +2.2**
baz=171,SNR=5.1
M55A **Ridgway** 34.86 353 P **P** **03 43 10.8 +2.2**
baz=170
MGMO **Mountain Grove** 34.87 333 IAmb IAmb 03 43 10.3
comp=Z,10nm,0.8s
HHAR **Hobbs** 34.97 330 IAmb IAmb 03 43 10.9
comp=Z,9.4nm,0.7s
M54A **Oil Creek Stat** 35.02 351 P **P** **03 43 12.3 +2.3**
baz=168
L58A **Harry Jones Me** 35.15 356 P **P** **03 43 13.3 +2.3**
baz=175
CCM **Cathedral Cave** 35.17 335 P **P** **03 43 12.7 +1.4**
baz=148
CCM **Cathedral Cave** 35.17 335 P **P** **03 43 12.2 +0.9**
L57A **Andrews Acres** 35.18 355 P **P** **03 43 13.5 +2.2**
baz=173
L61A **Hillsdale 1, H** 35.22 359 P **P** **03 43 13.6 +2.0**
baz=179
U38A **Gravette** 35.32 330 IAmb IAmb 03 43 13.7
comp=Z,10nm,1.0s
BINY **Binghamton** 35.32 356 P **P** **03 43 14.8 +2.3**
baz=175
L56A **Greenwood** 35.38 354 P **P** **03 43 15.2 +2.1**
baz=172
L55A **Hinsdale** 35.52 353 P **P** **03 43 16.5 +2.3**
baz=171
ABTX **Abilene, Hawle** 35.61 320 P **P** **03 43 16.2 +1.1**
baz=130,SNR=6.5
ABTX **Abilene, Hawle** 35.61 320 IAmb IAmb 03 43 17.1
comp=Z,13nm,0.8s
TUL1 **Leonard** 35.64 327 P **P** **03 43 15.9 +0.7**
baz=139,SNR=6.2
TUL1 **Leonard** 35.64 327 IAmb IAmb 03 43 16.6
comp=Z,14nm,0.7s
SFIN **Lafayette** 35.68 342 P **P** **03 43 17.2 +1.7**
baz=156,SNR=9.7
S39A **Bolivar** 35.80 332 IAmb IAmb 03 43 18.8
comp=Z,12nm,0.6s
X34A **Smith Ranch, M** 35.83 324 IAmb IAmb 03 43 19.2
comp=Z,12nm,0.5s
K58A **Earlville** 35.86 357 P **P** **03 43 18.9 +1.8**
baz=176
K57A **Scipio Center** 35.88 356 P **P** **03 43 18.9 +1.6**
baz=174
TXAR **Lajitas Array** 36.47 312 P **P** **03 43 23.7 +1.1**
comp=Z,3.2nm,0.5s,baz=127,slow=9.2,SNR=70
TXAR PcP **PcP** **03 45 44.8 +1.5**
comp=Z,1.3nm,0.6s,baz=134,slow=6.1,SNR=11
TX31 **Lajitas Ar. Si** 36.47 312 P **P** **03 43 23.3 +0.7**
TX31 IAmb IAmb 03 43 24.6
comp=Z,13nm,0.7s
TX31 **PcP** **03 45 44.7 +1.5**
TX32 **Lajitas Array** 36.47 312 P **P** **03 43 23.9 +1.3**
TX32 PcP **PcP** **03 45 45.2 +1.9**
WMOK **Wichita Mounta** 36.48 323 P **P** **03 43 22.9 +0.4**
baz=134,SNR=11
WMOK **Wichita Mounta** 36.48 323 IAmb IAmb 03 43 23.5
comp=Z,8.2nm,0.7s
J57A **Williamstown** 36.52 356 P **P** **03 43 24.4 +1.8**
baz=175
AAM **Ann Arbor** 36.54 347 P **P** **03 43 25.8 +3.0**
baz=162
HDIL **Hopedale** 36.58 339 P **P** **03 43 23.5 +0.4**
baz=152,SNR=6.9
I58A **Old Forge** 36.75 358 P **P** **03 43 26.6 +2.0**
baz=177,SNR=5.3
T35A **Sooner Cattle** 36.78 328 IAmb IAmb 03 43 26.2
comp=Z,10nm,0.7s
H58A **Gabriels** 37.45 359 P **P** **03 43 31.4 +0.9**
baz=178
I51A **Listowel** 37.48 351 P **P** **03 43 32.8 +2.0**
baz=167
H57A **Richville** 37.54 357 P **P** **03 43 33.1 +1.9**
baz=176
G57A **Newington** 38.16 358 P **P** **03 43 38.2 +1.8**
baz=177
G58A **Ormstown** 38.18 359 P **P** **03 43 38.7 +2.1**
baz=178
G62A **West of Eustis** 38.31 3 P **P** **03 43 40.0 +2.3**
baz=184
AMTX **Amarillo** 38.36 321 P **P** **03 43 39.9 +1.5**
baz=130
AMTX **Amarillo** 38.36 321 IAmb IAmb 03 43 40.4
comp=Z,23nm,1.0s
KSU1 **Kansas State U** 38.49 330 P **P** **03 43 39.6 +0.3**
baz=141,SNR=7.3
G65A **Princeton** 38.53 6 P **P** **03 43 41.4 +1.9**
baz=189
L40A **Anamosa** 38.59 338 IAmb IAmb 03 43 41.1
comp=Z,17nm,0.7s
G54A **Lake Saint Pet** 38.66 354 P **P** **03 43 42.3 +1.6**
baz=172
MNTX **Cornudas Mount** 38.98 314 P **P** **03 43 44.9 +1.3**
baz=123,SNR=24
MNTX **Cornudas Mount** 38.98 314 P **P** **03 43 44.8 +1.3**
MNTX IAmb IAmb 03 43 46.4
comp=Z,11nm,0.8s
JFWS **Jewell Farm** 38.99 340 P **P** **03 43 44.3 +0.8**
baz=152,SNR=8.9
ALGO **Algonquin Park** 39.21 355 P **P** **03 43 46.8 +1.6**
baz=172
SCIA **State Center** 39.23 336 P **P** **03 43 46.4 +1.0**
baz=147
E57A **Chemin Saint G** 39.45 359 P **P** **03 43 49.0 +1.8**
baz=178
LMN **Caledonia Moun** 39.53 9 P **P** **03 43 49.4 +1.5**
LMN IAmb IAmb 03 43 49.9
comp=Z,20nm,0.8s
E56A **St. Veronique** 39.60 358 P **P** **03 43 49.8 +1.4**
baz=177
E63A **Oxbow** 39.65 5 P **P** **03 43 50.7 +1.9**
baz=187
E64A **Bridgewater** 39.70 6 P **P** **03 43 50.9 +1.7**
baz=188
E62A **Clayton Lake** 39.76 4 P **P** **03 43 51.9 +2.1**
baz=185
CBKS **Cedar Bluff** 39.90 327 P **P** **03 43 51.8 +0.7**
baz=136
D57A **Chemin Vers le** 40.05 359 P **P** **03 43 53.9 +1.8**
baz=179
D55A **Sainte-Anne-du** 40.09 357 P **P** **03 43 53.9 +1.4**
baz=176
D56A **ZEC Mazanza, M** 40.10 358 P **P** **03 43 54.0 +1.5**
baz=177
D62A **Allapoint, All** 40.26 4 P **P** **03 43 55.8 +2.0**
baz=186
D62A **Allapoint, All** 40.26 4 P **P** **03 43 55.9 +2.1**
D62A IAmb IAmb 03 43 56.5
comp=Z,14nm,0.8s
D63A **Stockholm** 40.29 5 P **P** **03 43 56.1 +2.1**
baz=188
LATQ **La Tuque** 40.41 0 P **P** **03 43 57.6 +2.6**
baz=180
BATG **Bathurst New B** 40.75 7 P **P** **03 43 59.6 +1.8**
BATG IAmb IAmb 03 44 00.0
comp=Z,18nm,0.8s
BGNE **Belgrade** 41.02 331 P **P** **03 44 00.6 +0.5**
baz=140
121A **Cows Peak, D** 41.15 313 P **P** **03 44 03.9 +2.3**
baz=121
T25A **Trinidad** 41.50 321 P **P** **03 44 06.5 +2.1**
baz=129,SNR=5.3
ANMO **Albuquerque** 41.52 317 P **P** **03 44 06.5 +1.9**
baz=125
ANMO **Albuquerque** 41.52 317 P **P** **03 44 06.5 +1.9**
KSCO **Kaye Shedlock'** 41.65 325 IAmb IAmb 03 44 07.5
comp=Z,9.7nm,0.6s
ECSD **EROS Data Cent** 42.15 334 P **P** **03 44 09.0 -0.3**
baz=144,SNR=8.3
ECSD **EROS Data Cent** 42.15 334 P **P** **03 44 08.7 -0.6**
ECSD IAmb IAmb 03 44 10.2
comp=Z,13nm,1.1s
SDCO **Great Sand Dun** 42.55 321 P **P** **03 44 15.1 +2.0**
baz=128,SNR=19
MATQ **Matagami** 42.95 356 P **P** **03 44 17.3 +1.6**
baz=173
TUC **Tucson** 43.26 311 P **P** **03 44 20.2 +1.7**
baz=118
S22A **4UR Ranch, Cre** 43.39 320 P **P** **03 44 21.8 +2.0**
baz=127,SNR=13
F33A **5 Mile Ranch,** 43.73 337 IAmb IAmb 03 44 22.9
comp=Z,18nm,1.2s
SUSD **Miller** 43.74 333 P **P** **03 44 22.5 +0.4**
baz=141,SNR=6.2
EYMN **Ely** 43.87 342 P **P** **03 44 23.7 +0.7**
baz=153,SNR=6.0
W18A **Petrified Fore** 43.87 315 P **P** **03 44 25.6 +2.0**
baz=121,SNR=7.8
W18A **Petrified Fore** 43.87 315 IAmb IAmb 03 44 26.6
comp=Z,12nm,0.8s
ISCO **Idaho Springs** 43.91 323 P **P** **03 44 25.8 +1.8**
baz=130,SNR=9.4
MVCO **Mesa Verde** 44.16 318 P **P** **03 44 27.6 +1.7**
baz=124,SNR=7.2
MVCO **Mesa Verde** 44.16 318 P **P** **03 44 26.4 +0.5**
MVCO IAmb IAmb 03 44 28.7
comp=Z,17nm,1.4s
214A **Organ Pipe Nat** 44.64 309 P **P** **03 44 31.3 +1.8**
baz=116
N23A **Red Feather La** 44.81 324 P **P** **03 44 32.9 +1.9**
baz=130,SNR=5.6
N23A **Red Feather La** 44.81 324 IAmb IAmb 03 44 33.7
comp=Z,26nm,1.6s
B35A **Bob, Littlefor** 44.94 341 IAmb IAmb 03 44 32.4
comp=Z,18nm,0.7s
WUAZ **Wupatki** 45.23 315 P **P** **03 44 36.3 +2.0**
baz=120,SNR=18
WUAZ **Wupatki** 45.23 315 IAmb IAmb 03 44 37.7
comp=Z,20nm,0.9s
AGMN **Agassiz Nation** 45.62 339 P **P** **03 44 37.7 +0.8**
baz=148,SNR=6.8
AGMN **Agassiz Nation** 45.62 339 IAmb IAmb 03 44 38.3
comp=Z,15nm,0.7s
Y14A **Wickenburg** 45.66 312 IAmb IAmb 03 44 40.0
comp=Z,8.6nm,0.7s
O20A **White River Ci** 45.70 322 P **P** **03 44 39.7 +1.7**
baz=127,SNR=5.6
RSSD **Black Hills** 45.94 329 P **P** **03 44 41.3 +1.5**
baz=135
K22A **Casper** 46.28 326 P **P** **03 44 43.4 +1.0**
baz=131
MDND **Maddock** 46.70 336 P **P** **03 44 46.5 +1.1**
baz=142
KNB **Kanab** 46.99 316 P **P** **03 44 49.8 +1.8**
ULM **Lac du Bonnet** 47.28 340 P **P** **03 44 50.0 +0.2**
comp=Z,22nm,0.5s,baz=146,slow=7.0,SNR=50
IRM **Iron Mountain** 47.35 311 P **P** **03 44 52.4 +1.7**
baz=115
GMRC **Granite Mounta** 48.00 311 P **P** **03 44 57.4 +1.6**
baz=116
BW06 **Boulder Array** 48.08 324 P **P** **03 44 57.3 +0.9**
baz=128,SNR=8.4
PDAR **Pinedale Array** 48.08 324 P **P** **03 44 57.1 +0.7**
comp=Z,4.0nm,0.6s,baz=127,slow=9.1,SNR=36
PDAR PcP **PcP** **03 46 21.7 -0.1**
comp=Z,0.6nm,0.6s,baz=131,slow=4.9,SNR=2.9
PDAR **Pinedale Array** 48.08 324 P **P** **03 44 57.0 +0.5**
SCHQ **Schefferville** 48.13 5 P **P** **03 44 57.5 +1.2**
comp=Z,15nm,0.7s,baz=205,slow=6.1,SNR=14
SCHQ **Schefferville** 48.13 5 P **P** **03 44 56.5 +0.2**
SCHQ IAmb IAmb 03 44 58.2
comp=Z,16nm,0.7s
TUQ **Turquoise Moun** 48.48 312 P **P** **03 45 00.9 +1.4**
baz=116,SNR=8.8
HWUT **Hardware Ranch** 48.61 322 IAmb IAmb 03 45 02.6
comp=Z,7.1nm,0.6s
DUG **Dugway, Tooele** 48.62 319 P **P** **03 45 02.2 +1.7**
baz=122,SNR=6.6
LAO **LASA Array** 48.84 330 P **P** **03 45 02.8 +0.8**
baz=134,SNR=6.2
LAO **LASA Array** 48.84 330 IAmb IAmb 03 45 03.1
comp=Z,7.2nm,0.6s
SHOC **Shoshone, Teco** 48.94 313 P **P** **03 45 04.7 +1.9**
baz=116
AHID **Auburn Hatcher** 48.99 323 IAmb IAmb 03 45 05.0
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 49.07 312 P **P** **03 45 05.7 +1.7**
baz=115,SNR=5.7
BGU **Big Grassy Mou** 49.15 320 P **P** **03 45 05.1 +0.5**
DGMT **Dagmar** 49.15 333 P **P** **03 45 06.0 +1.7**
baz=137,SNR=20
REDW **Red Top Meadow** 49.20 324 IAmb IAmb 03 45 07.1
comp=Z,14nm,0.7s
SNOW **Snow King Moun** 49.20 324 IAmb IAmb 03 45 08.0
comp=Z,13nm,1.1s
LOHW **Long Hollow** 49.20 324 IAmb IAmb 03 45 07.1
comp=Z,7.8nm,0.6s
TPAW **Teton Pass** 49.33 324 IAmb IAmb 03 45 08.5
comp=Z,7.8nm,0.6s
TPNV **Topopah Spring** 49.38 314 P **P** **03 45 08.2 +1.9**
baz=117,SNR=9.2
RLMT **Red Lodge** 49.38 327 P **P** **03 45 07.2 +0.9**
baz=130,SNR=6.0
R11A **Troy Canyon, C** 49.55 316 P **P** **03 45 09.4 +1.7**
baz=118,SNR=8.4
IMW **Indian Meadow** 49.57 324 P **P** **03 45 08.1 +0.2**
IMW IAmb IAmb 03 45 09.7
comp=Z,7.7nm,0.6s
FURC **Furnace Creek,** 49.61 313 P **P** **03 45 09.9 +2.1**
baz=116,SNR=5.4
EDW2 **Edwards Air Fo** 49.79 311 P **P** **03 45 10.8 +1.4**
baz=114
LRMC **Laurel Mtn Rad** 49.80 311 P **P** **03 45 11.0 +1.4**
baz=114
MPMC **Manual Prospec** 49.89 312 P **P** **03 45 11.2 +0.9**
baz=115
ISA **Isabella, Lake** 50.46 311 P **P** **03 45 15.9 +1.4**
baz=114
CWC **Cottonwood Cre** 50.49 312 P **P** **03 45 16.3 +1.6**
baz=115
BOZ **Bozeman (W)** 50.99 326 P **P** **03 45 19.6 +1.4**
baz=127,SNR=11
VES **Vestal, Richgr** 50.99 311 P **P** **03 45 20.3 +2.1**
baz=113
HLID **Hailey** 51.44 322 P **P** **03 45 23.0 +1.2**
baz=123,SNR=13
SMMC **Simmler** 51.47 310 P **P** **03 45 23.6 +1.7**
baz=112
NVAR **Mina Array Bea** 51.49 315 P **P** **03 45 23.6 +1.4**
comp=Z,2.3nm,0.6s,baz=120,slow=7.1,SNR=31
NVAR PcP **PcP** **03 46 35.4 +1.0**
comp=Z,1.5nm,0.6s,baz=135,slow=4.8,SNR=10
NVAR **Mina Array Bea** 51.49 315 P **P** **03 45 23.1 +0.9**
EGMT **Eagleton** 51.51 329 P **P** **03 45 23.2 +1.1**
baz=131
EGMT **Eagleton** 51.51 329 IAmb IAmb 03 45 29.7
comp=Z,41nm,1.9s
MFID **Camas Ranch** 52.23 321 P **P** **03 45 27.9 +0.3**
MFID IAmb IAmb 03 45 30.5
comp=Z,8.5nm,0.6s
YERR **Yerington** 52.39 315 IAmb IAmb 03 45 32.5
comp=Z,6.8nm,0.7s
MSO **Missoula** 53.01 326 P **P** **03 45 33.9 +0.8**
baz=126
JTMT **Jette** 53.73 327 IAmb IAmb 03 45 40.8
comp=Z,9.4nm,0.8s
ORV **Oroville** 54.22 315 P **P** **03 45 42.5 +0.5**
MOD **Modoc Plateau** 54.39 318 IAmb IAmb 03 45 45.3
comp=Z,12nm,1.6s
F10A **Beach Ranch, E** 54.43 323 IAmb IAmb 03 45 44.8
comp=Z,8.2nm,0.6s
O03E **Paynes Creek** 54.73 315 P **P** **03 45 46.4 +0.6**
baz=114,SNR=5.5
I07A **Izee** 54.87 320 IAmb IAmb 03 45 48.8
comp=Z,6.2nm,0.8s
G08A **Pilot Rock** 55.12 322 IAmb IAmb 03 45 50.4
comp=Z,12nm,0.7s
K05A **Summer Lake** 55.15 318 P **P** **03 45 49.8 +0.9**
E09A **Wood Farm, Sta** 55.25 324 IAmb IAmb 03 45 51.6
comp=Z,19nm,1.4s
M04C **Macdoel** 55.38 317 P **P** **03 45 51.4 +1.0**
baz=115
O02D **Mt. Diablo Mer** 55.38 315 P **P** **03 45 50.2 -0.2**
baz=113
NEW **Newport** 55.60 326 P **P** **03 45 52.2 +0.5**
baz=123
J05D **Fort Rock, OR** 55.62 319 P **P** **03 45 53.6 +1.4**
baz=116,SNR=14
N02D **Trinity Center** 55.64 316 P **P** **03 45 51.6 -0.6**
baz=114
L04D **Klamath Falls** 55.87 317 P **P** **03 45 54.6 +0.6**
baz=115,SNR=6.9
M02C **Callahan** 55.91 316 P **P** **03 45 54.1 -0.1**
baz=114
YBH **Yreka Blue Hor** 55.95 317 P **P** **03 45 53.7 -0.8**
YBH IAmb IAmb 03 45 54.7
comp=Z,3.8nm,0.6s
C09A **Chrisman Ranch** 56.00 325 IAmb IAmb 03 45 56.5
comp=Z,12nm,0.7s
KMRM **Mail Ridge** 56.05 314 IAmb IAmb 03 45 57.6
comp=Z,14nm,0.8s
J04D **Umpqua Nationa** 56.18 318 P **P** **03 45 57.6 +1.4**
baz=116,SNR=8.5
KHMM **Horse Mountain** 56.31 315 IAmb IAmb 03 45 59.3
comp=Z,9.5nm,0.8s
G05D **Wamic, OR** 56.56 321 P **P** **03 45 59.6 +0.9**
baz=118
I04A **Tendick Farm,** 56.61 319 P **P** **03 45 59.6 +0.5**
baz=116
L02E **Cave Junction** 56.73 317 P **P** **03 46 00.2 +0.3**
baz=114
H04A **Detroit Lake** 56.86 320 IAmb IAmb 03 46 05.1
comp=Z,9.4nm,0.8s
B08A **Colville Reser** 56.90 325 IAmb IAmb 03 46 02.5
comp=Z,6.9nm,0.8s
F05D **White Salmon** 56.95 321 P **P** **03 46 02.8 +1.5**
baz=118
K02D **Willamette Mer** 56.99 317 P **P** **03 46 02.3 +0.5**
baz=114
LTY **Liberty** 57.12 323 IAmb IAmb 03 46 04.7
comp=Z,7.4nm,0.7s
I03D **Drain, OR** 57.19 318 P **P** **03 46 04.1 +1.0**
baz=115

J01E	**Myrtle Point**	**57.35**	**318**	P	**P**	**03 46 05.8**	**+1.6**
	baz=114						
I02D	**Swisshome**	**57.69**	**319**	P	**P**	**03 46 08.3**	**+1.8**
	baz=115						
D04E	**Lakebay**	**58.35**	**322**	P	**P**	**03 46 12.4**	**+1.3**
	baz=117						
B05A	**Bryant**	**58.45**	**324**	P	**P**	**03 46 11.5**	**-0.3**
	baz=118						
E03A	**Lebam**	**58.55**	**321**	IAmb	IAmb	03 46 14.6	
	comp=Z,12nm,0.9s						
D03D	**Eldon**	**58.70**	**323**	P	**P**	**03 46 14.0**	**+0.5**
	baz=117						
A04D	**Lummi Island**	**59.02**	**324**	P	**P**	**03 46 16.3**	**+0.7**
	baz=118						
NLWA	**Neilton Lookou**	**59.11**	**322**	IAmb	IAmb	03 46 19.0	
	comp=Z,13nm,1.3s						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**03 46 44.4**	**+0.4**
	comp=Z,11nm,0.6s,baz=131,slow=6.9,SNR=30						
TIC	**Toumodi**	**67.55**	**86**	*e*P	**P**	**03 47 10.8**	**-1.7**
LIC	**Lamto**	**67.58**	**86**	*e*P	**P**	**03 47 11.0**	**-1.7**
	comp=Z,30nm,0.9s						
DBIC	**Dimbokro**	**67.71**	**86**	P	**P**	**03 47 12.4**	**-1.1**
	comp=Z,5.9nm,0.7s,baz=257,slow=6.2,SNR=14						
DBIC	**Dimbokro**	**67.71**	**86**	P	**P**	**03 47 11.7**	**-1.8**
DBIC				IAmb	IAmb	03 48 33.8	
	comp=Z,30nm,1.6s						
KIC	**Kosan Boka**	**67.85**	**86**	*e*P	**P**	**03 47 13.0**	**-1.4**
	comp=Z,25nm,0.8s						
KOWA	**Kowa**	**68.11**	**77**	P	**P**	**03 47 15.2**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=284,slow=6.2,SNR=7.6						
KOWA	**Kowa**	**68.11**	**77**	IAmb	IAmb	03 48 44.0	
	comp=Z,19nm,1.8s						
SUMG	**Summit**	**68.98**	**11**	P	**P**	**03 47 20.7**	**-0.1**
SUMG	**Summit**	**68.98**	**11**	*i* P	**P**	**03 47 21.2**	**+0.5**
	comp=Z,60nm,0.7s						
SUMG	**Summit**	**68.98**	**11**	*i* P	**P**	**03 47 21.2**	**+0.5**
SUMG				IAmb	IAmb	03 47 22.3	
	comp=Z,60nm,0.7s						
ESDC	**Sonseca Array**	**69.63**	**50**	P	**P**	**03 47 23.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=265,slow=5.9,SNR=2.2						
A36M	**Sachs Harbour**	**72.43**	**345**	P	**P**	**03 47 41.9**	**+0.7**
	baz=125						
INK	**Inuvik**	**73.03**	**340**	P	**P**	**03 47 45.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P	**P**	**03 47 48.1**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=282,slow=6.2,SNR=17						
TORD	**Torodi Ar. Bea**	**73.72**	**78**	IAmb	IAmb	03 47 48.2	
	comp=Z,0.9nm,0.9s						
BCAR	**Beaver Creek A**	**74.36**	**334**	P	**P**	**03 47 54.2**	**+1.5**
K27K	**Chicken**	**74.76**	**335**	P	**P**	**03 47 57.0**	**+2.1**
	baz=106						
DOT	**Dot Lake**	**75.51**	**334**	P	**P**	**03 48 00.2**	**+0.9**
DOT				IAmb	IAmb	03 48 01.6	
	comp=Z,12nm,0.7s						
SCRK	**Sand Creek**	**75.56**	**335**	P	**P**	**03 48 01.1**	**+1.5**
	baz=104						
RIDG	**Independent Ri**	**75.87**	**334**	IAmb	IAmb	03 48 03.6	
	comp=Z,12nm,0.9s						
BMAR	**Burnt Mountain**	**76.66**	**338**	P	**P**	**03 48 06.8**	**+1.1**
HDA	**Harding Lake**	**76.92**	**335**	P	**P**	**03 48 07.9**	**+0.8**
	baz=102						
HDA	**Harding Lake**	**76.92**	**335**	IAmb	IAmb	03 48 08.7	
	comp=Z,7.2nm,0.7s						
IL31		**76.96**	**335**	IAmb	IAmb	03 49 45.4	
	comp=Z,28nm,2.0s						
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**03 48 07.8**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=109,slow=4.6,SNR=23						
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**03 48 07.7**	**+0.3**
NEA2	**Nenana**	**77.85**	**335**	P	**P**	**03 48 13.1**	**+0.7**
	baz=100						
SUA	**Susitna One**	**78.13**	**331**	P	**P**	**03 48 13.4**	**-0.7**
BPAW	**Bear Paw Mtn.**	**78.60**	**334**	IAmb	IAmb	03 48 18.1	
	comp=Z,35nm,1.6s						
MLY	**Manley**	**78.63**	**335**	P	**P**	**03 48 17.3**	**+0.6**
	baz=98						
COLD	**Coldfoot**	**78.75**	**337**	P	**P**	**03 48 19.1**	**+1.8**
	baz=99						
NB2	**NORSAR Subarra**	**81.31**	**29**	P	**P**	**03 48 30.1**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=268,slow=5.3						
NOA	**NORSAR Array B**	**81.31**	**29**	P	**P**	**03 48 30.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=266,slow=5.4,SNR=4.1						
GERES	**GERESS Array B**	**82.80**	**42**	P	**P**	**03 48 39.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=270,slow=2.7,SNR=9.9						
ARCES	**ARCESS Array B**	**86.66**	**20**	P	**P**	**03 48 57.8**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=293,slow=3.4,SNR=7.9						
FINES	**FINESS Array B**	**88.42**	**28**	P	**P**	**03 49 06.3**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=284,slow=7.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**116.66**	**14**	PKP	**PKPdf**	**03 54 56.8**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=273,slow=1.3,SNR=6.8						
ZALV	**Zalesovo Beam**	**116.66**	**14**		**PKPdf**	**03 54 57.8**	**-0.2**
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**03 55 08.7**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=295,slow=3.0,SNR=18						
SONM	**Songino Array**	**125.57**	**0**	PKP	**PKPdf**	**03 55 15.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=98,slow=1.4,SNR=4.2						
SHL	**Shillong**	**144.64**	**24**	PKPbc	**PKPab**	**03 55 49.4**	**-1.0**
AS31	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPdf**	**03 56 01.7**	**+2.8**
ASAR	**Alice Springs**	**149.13**	**234**	PKP	**PKPdf**	**03 55 58.6**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=111,slow=1.6,SNR=9.6						
ASAR				PKPbc	**PKPbc**	**03 56 02.4**	**-0.8**
	comp=Z,4.5nm,0.5s,baz=117,slow=3.7,SNR=20						
ASAR				pPKPbc	**pPKPab**	**03 56 44.7**	**-3.1**
	comp=Z,1.1nm,0.7s,baz=129,slow=3.0,SNR=2.7						
ASAR	**Alice Springs**	**149.13**	**234**	PKPdf	**PKPdf**	**03 55 58.8**	**0.0**
ASAR				PKPbc	**PKPbc**	**03 56 01.4**	**-1.7**
WRA	**Warramunga Arr**	**150.36**	**241**	PKP	**PKPdf**	**03 56 00.7**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=109,slow=2.6,SNR=137						
WRA				PKPbc	**PKPbc**	**03 56 05.5**	**-0.7**
	comp=Z,5.0nm,0.5s,baz=110,slow=2.6,SNR=38						
WRA				pPKPbc	**pPKPbc**	**03 56 47.6**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=112,slow=2.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**153.68**	**17**	PKPbc	**PKPbc**	**03 56 14.1**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=326,slow=3.4,SNR=10						

*NEIC **04** 03:57:54.4±1.0,21.7°N±0.1×143.4°E±0.2,h202km±7km, mb4.2/6, Error ellipse: s-maj=27.7km s-min=18.6km az=64.0*
*IDC **04** 03:57:56.5±6.3,21.7°N×143.47°E,h219km±59km,mb3.4/9, mb1 3.7/9,mb1mx3.3/43,mbtmp4.0/9, Error ellipse: s-maj=28.4km s-min=18.5km az=92.0*

ISC 04 03:57:54.3±0.9,21.7°N±0.2°×143.5°E±0.2°,h200km,n17,
σ0.75/17,mb3.9/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.64**	**323**	P	**P**	**04 02 20.2**	**+1.8**
	2.6nm,0.8s,baz=145,slow=8.4,SNR=7.9						
WRA	**Warramunga Arr**	**42.37**	**193**	P	**P**	**04 05 29.0**	**-0.1**
	0.2nm,0.3s,baz=16,slow=9.2,SNR=6.7						
ZAA0	**Zalesovo Array**	**54.34**	**322**	P	**P**	**04 06 59.9**	**-0.2**
ZAA0				IAmb	IAmb	04 08 19.1	
	comp=Z,12nm,1.9s						
ZALV	**Zalesovo Beam**	**54.34**	**322**	P	**P**	**04 06 59.6**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=111,slow=8.1,SNR=3.7						
MKAR	**Makanchi Array**	**54.86**	**313**	P	**P**	**04 07 04.2**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=93,slow=8.6,SNR=9.7						
IL31		**61.89**	**27**	P	**P**	**04 07 51.9**	**-0.3**
ILAR	**Eielson Array**	**61.89**	**27**	P	**P**	**04 07 51.2**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=264,slow=5.5,SNR=11						
KK31	**Karatay Array**	**63.23**	**308**	P	**P**	**04 08 01.4**	**-0.1**
KK31				IAmb	IAmb	04 09 29.9	
	comp=Z,9.2nm,2.0s						
KKAR	**Karatay Array**	**63.23**	**308**	P	**P**	**04 08 01.6**	**+0.1**
BTK	**Batken**	**63.32**	**305**	P	**P**	**04 08 01.8**	**-0.5**
INK	**Inuvik**	**67.43**	**24**	P	**P**	**04 08 27.6**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=250,slow=5.7,SNR=2.3						
ABKAR	**Akbulak array**	**69.70**	**316**	P	**P**	**04 08 41.6**	**-0.7**
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**04 09 21.0**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=296,slow=4.7,SNR=3.1						
NVAR	**Mina Array Bea**	**82.92**	**52**	P	**P**	**04 09 57.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=278,slow=5.0,SNR=8.9						
FINES	**FINESS Array B**	**83.26**	**335**	P	**P**	**04 09 57.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=72,slow=8.2,SNR=5.8						
PLCA	**Paso Flores**	**145.59**	**131**	PKPbc	**PKPdf**	**04 17 09.9**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=333,slow=2.3,SNR=4.1						
LPAZ	**La Paz**	**149.68**	**85**	PKPbc	**PKPbc**	**04 17 22.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=329,slow=2.6,SNR=8.8						

*DJA **04** 04:05:05.7±0.4,3°S±2°×13°0E±°,h12km±3km,M4.8/24, mB5.5/7,mb4.8/24,MLv4.6/13,Mw(mB)5.0/7*
*NEIC **04** 04:05:07.3±2.1,2.2°S±0.6°×129.54E±0.6°,h33km±5km, mb4.3/24,Error ellipse: s-maj=9.0km s-min=8.7km az=167.0*
*IDC **04** 04:05:07.7±5.2,2.89°S×129.64E,h31km±39km,mb4.1/12, mb1 4.3/14,mb1mx4.1/28,mbtmp4.3/14,ML4.4/3,MS3.4/12, Ms1 3.4/12,ms1mx3.3/32,Error ellipse: s-maj=23.0km s-min=13.6km az=84.0*

ISC 04 04:05:07.1±0.4,2.92°S±0.05°×129.56E±0.05°,h28km,n87,
σ1.63/81,mb4.4/20,MS3.2/9,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.77**	**236**	P	**Pb**	**04 05 22.2**	**+0.3**
AAI	**Ambon**	**1.57**	**241**	P	**Pb**	**04 05 35.6**	**+0.1**
BNDI	**Bandanaira**	**1.63**	**168**	P	**Pb**	**04 05 39.0**	**+2.4**
NLAI	**Namlea**	**2.48**	**262**	P	**Pn**	**04 05 47.0**	**+1.3**
SIJI	**Sorong**	**2.65**	**40**	Pn	**Pn**	**04 05 47.3**	**-0.8**
	188nm,0.3s,baz=276,slow=22,SNR=251						
SIJI				Sn	**Sn**	**04 06 19.1**	**-0.3**
	126nm,0.3s,baz=49,slow=21,SNR=24						
FAKI	**Fak Fak**	**2.68**	**90**	P	**Pn**	**04 05 49.3**	**+0.8**
FAKI	**Fak Fak**	**2.68**	**90**		**Pn**	**04 05 49.5**	**+1.0**
LBMI	**Labuha**	**3.06**	**318**	P	**Pn**	**04 05 52.5**	**-1.2**
SANI	**Sanana**	**3.67**	**283**	P	**Pn**	**04 06 01.1**	**-1.0**
TNTI	**Ternate**	**4.27**	**329**	P	**Pn**	**04 06 09.4**	**-0.9**
TNTI	**Ternate**	**4.27**	**329**	Pn	**Pn**	**04 06 09.2**	**-1.1**
RKPI	**Ransiki, Papua**	**4.82**	**73**	P	**Pn**	**04 06 17.8**	**0.0**
SAUI	**Saumlaki**	**5.32**	**161**	P	**Pn**	**04 06 26.8**	**+2.0**
	1.2nm290nm,0.9s						
KMSI	**Cibinong**	**6.57**	**302**	P	**Pn**	**04 06 41.8**	**-0.1**
	1.1nm5μm117nm,0.4s						
BAKI	**Biak**	**6.76**	**75**	P	**Pn**	**04 06 44.5**	**-0.1**
	0.5nm2μm131nm,0.6s						
LUWI	**Luwuk**	**7.04**	**285**	P	**Pn**	**04 06 48.3**	**-0.1**
	0.6nm3μm125nm,1.1s						
LUWI	**Luwuk**	**7.04**	**285**	Pn	**Pn**	**04 06 48.3**	**-0.1**
SOEI	**Soe**	**8.59**	**218**	Pn	**Pn**	**04 07 09.5**	**-0.4**
BATI	**Baumata**	**9.32**	**219**	LR	LR	04 11 00.9	
	comp=Z,490nm,19.2s,baz=108,slow=38						
BNSI	**Bone**	**9.55**	**261**	P	**Pn**	**04 07 23.8**	**+0.9**
	22nm,0.8s						
BSSI	**Bau Bau, Buton**	**9.60**	**250**	P	**Pn**	**04 07 26.5**	**+3.0**
	1μm134nm,0.8s						
BKSI	**Bulukumba**	**9.71**	**255**	P	Pn	04 07 31.7	+6.6
EDFI	**Ende, Flores**	**9.74**	**233**	P	Pn	04 07 30.7	+5.1
SPSI	**Sidrap Palu**	**9.83**	**264**	P	Pn	04 07 41.0	+14
MTN	**Manton Dam**	**9.99**	**171**	Pn	**Pn**	**04 07 31.4**	**+2.6**
KAPI	**Kappang**	**10.01**	**258**	Pn	**Pn**	**04 07 31.7**	**+2.6**
	2.7nm,0.3s,baz=92,slow=6.0,SNR=8.3						
KAPI	**Kappang**	**10.01**	**258**	Pn	**Pn**	**04 07 33.1**	**+4.0**
MPSI	**Mapaga**	**10.19**	**288**	P	**Pn**	**04 07 31.1**	**-0.5**
	19nm,0.6s						
DAV	**Davao City (W)**	**10.69**	**338**	LR	LR	04 12 22.5	
	comp=Z,308nm,21.9s,baz=334,slow=41						
JAY	**Jayapura**	**11.14**	**88**	Pn	**Pn**	**04 07 48.1**	**+3.4**
	1.5nm,0.3s,baz=260,slow=17,SNR=4.0						
KNRA	**Kununurra**	**12.71**	**184**	Pn	**Pn**	**04 08 08.7**	**+2.7**
PLAI	**Plampang**	**13.11**	**243**	P	**Pn**	**04 08 13.1**	**+1.5**
	26nm,0.8s						
MYLDM	**Lahad Datu**	**13.67**	**306**	Pn	**Pn**	**04 08 23.1**	**+3.9**
FITZ	**Fitzroy Crossi**	**15.57**	**194**	Pn	**Pn**	**04 08 43.6**	**-1.2**
COEN	**Coen**	**17.35**	**130**	Pn	**Pn**	**04 09 05.5**	**-2.0**
COEN				IAmb	IAmb	04 09 24.9	
	comp=Z,20nm,1.1s						
WB0	**Warramunga Arr**	**17.40**	**165**	Pn	**Pn**	**04 09 05.6**	**-2.5**
WB0				IAmb	IAmb	04 09 11.5	
	comp=Z,19nm,1.1s						
GRJI	**Gresik**	**17.48**	**256**	P	**P**	**04 09 10.1**	**+0.1**
	comp=Z,38nm,0.6s						
WRAB	**Tennant Creek**	**17.55**	**165**	P	**Pn**	**04 09 09.5**	**-0.3**
WRAB				IAmb	IAmb	04 09 13.2	
	comp=Z,25nm,1.1s						
WRA	**Warramunga Arr**	**17.55**	**165**	P	**Pn**	**04 09 08.8**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=343,slow=13,SNR=36						
WRA				S	**Sn**	**04 12 18.8**	**-6.0**
	comp=Z,0.5nm,0.3s,baz=345,slow=24,SNR=3.0						
WRA				LR	LR	04 17 04.3	
	comp=Z,61nm,19.0s,baz=120,slow=41						
WB2	**Warramunga Arr**	**17.56**	**165**	Pn	**Pn**	**04 09 08.1**	**-1.9**
WB2				IAmb	IAmb	04 09 13.3	
	comp=Z,25nm,1.1s						
WR0	**Warramunga Arr**	**17.62**	**164**	Pn	**Pn**	**04 09 07.0**	**-3.8**
SBUM	**Sibu**	**18.14**	**287**	P	**P**	**04 09 18.9**	**+1.5**
PWJI	**Pagerwojo**	**18.39**	**253**	P	**Pn**	**04 09 21.5**	**+1.3**
	comp=Z,29nm,1.1s						
KSM	**Kuching**	**19.74**	**283**	P	**Pn**	**04 09 36.1**	**-0.4**
KSM				IAmb	IAmb	04 09 38.7	
	comp=Z,18nm,1.0s						
PSA00	**Pilbara Seismi**	**20.82**	**206**	P	**P**	**04 09 44.5**	**-2.0**
PSA00				IAmb	IAmb	04 09 57.9	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**21.05**	**169**	P	**P**	**04 09 48.6**	**-0.5**
AS31				IAmb	IAmb	04 10 00.1	
	comp=Z,11nm,0.8s						
ASAR	**Alice Springs**	**21.05**	**169**	P	**P**	**04 09 49.5**	**+0.4**
	comp=Z,18nm,0.5s,baz=345,slow=10,SNR=154						
ASAR				S	**S**	**04 13 40.1**	**-2.2**
	comp=Z,3.2nm,0.7s,baz=352,slow=22,SNR=7.0						
ASAR				LR	LR	04 20 01.4	
	comp=Z,96nm,18.3s,baz=348,slow=42						
ASAR	**Alice Springs**	**21.05**	**169**	P	**P**	**04 09 48.7**	**-0.5**
MDSI	**Maura Dua**	**25.38**	**266**	P	**P**	**04 10 33.4**	**+1.1**
	comp=Z,827nmcomp=Z,13nm,0.8s						
KSI	**Kapahiang**	**26.94**	**268**	P	**P**	**04 10 48.3**	**+1.8**
	comp=Z,7μmcomp=Z,158nm,0.5s						
FORT	**Forrest**	**27.75**	**183**	P	**P**	**04 10 53.1**	**-0.4**
MNSI	**Mandailing Nat**	**30.20**	**277**	P	**P**	**04 11 16.5**	**+1.0**
	comp=Z,2μmcomp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**30.95**	**160**	P	**P**	**04 11 22.4**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=337,slow=11,SNR=5.2						
STKA				LR	LR	04 25 26.9	
	comp=Z,110nm,18.6s,baz=5.7,slow=39						
CMAR	**Chiang Mai Arr**	**36.88**	**306**	P	**P**	**04 12 14.8**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=136,slow=7.6,SNR=13						
CMAR				LR	LR	04 28 35.1	
	comp=Z,41nm,20.2s,baz=110,slow=38						
CMAR	**Chiang Mai Arr**	**36.88**	**306**	P	**P**	**04 12 13.3**	**-0.3**
CHTO	**Chiang Mai**	**37.07**	**307**	P	**P**	**04 12 14.1**	**-1.1**
MJAR	**Matsushiro Arr**	**40.07**	**11**	P	**P**	**04 12 40.4**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=171,slow=8.3,SNR=1.7						
MJAR				LR	LR	04 27 28.4	
	comp=Z,40nm,21.1s,baz=190,slow=34						
MJAR	**Matsushiro Arr**	**40.07**	**11**	IAmb	IAmb	04 12 49.9	
	comp=Z,2.8nm,1.0s						
KSRS	**Korea Array**	**40.19**	**358**	LR	LR	04 32 45.1	
	comp=Z,24nm,18.1s,baz=184,slow=41						
SHL	**Shillong**	**46.19**	**310**	P	**P**	**04 13 29.8**	**-0.2**
HHC	**Hu-ho-hao-te**	**46.56**	**341**	*e*P	**P**	**04 13 32.4**	**-0.2**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,240nm,5.5s						
USRK	**Ussuriysk Ar.**	**46.95**	**2**	LR	LR	04 32 04.7	
	comp=Z,26nm,21.1s,baz=181,slow=34						
ASAJ	**Asahikawa**	**48.26**	**13**	LR	LR	04 34 34.5	
	comp=Z,32nm,18.3s,baz=178,slow=37						
SONM	**Songino Array**	**54.46**	**341**	P	**P**	**04 14 32.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=133,slow=6.5,SNR=3.2						
SONM				PcP	**PcP**	**04 15 36.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=160,slow=4.6,SNR=2.6						
SONM	**Songino Array**	**54.46**	**341**	P	**P**	**04 14 30.4**	**-1.8**
WMQ	**Urumqi**	**59.77**	**326**	*e*P	**P**	**04 15 11.4**	**+1.6**
PETK	**Petropavlovsk-**	**60.62**	**19**	P	**P**	**04 15 15.7**	**+0.4**
	comp=Z,5.9nm,0.9s,baz=188,slow=9.7,SNR=4.3						
PETK				LR	LR	04 43 26.5	
	comp=Z,21nm,19.0s,baz=272,slow=38						
MK31	**Makanchi Array**	**64.60**	**326**	P	**P**	**04 15 41.5**	**-0.6**
MKAR	**Makanchi Array**	**64.60**	**326**	P	**P**	**04 15 41.8**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=120,slow=8.4,SNR=28						
MKAR	**Makanchi Array**	**64.60**	**326**	P	**P**	**04 15 40.8**	**-1.3**
CASY	**Casey**	**64.65**	**188**	P	**P**	**04 15 40.6**	**-1.4**
ZAA0	**Zalesovo Array**	**67.76**	**333**	P	**P**	**04 16 00.1**	**-2.0**
ZALV	**Zalesovo Beam**	**67.76**	**333**	P	**P**	**04 16 01.4**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=110,slow=6.4,SNR=17						
ZALV	**Zalesovo Beam**	**67.76**	**333**	P	**P**	**04 16 01.0**	**-1.1**
KBL	**Kabul**	**67.84**	**309**	P	**P**	**04 16 02.2**	**-1.2**
KURK	**Kurchatov**	**68.83**	**328**	P	**P**	**04 16 08.2**	**-0.7**
KK31	**Karatay Array**	**70.02**	**318**	P	**P**	**04 16 16.4**	**-0.1**
KK31				IAmb	IAmb	04 16 16.5	
	comp=Z,3.2nm,1.2s						
KKAR	**Karatay Array**	**70.02**	**318**	P	**P**	**04 16 16.1**	**-0.4**
KKAR				IAmb	IAmb	04 16 16.5	
	comp=Z,3.2nm,1.2s						
BRVK	**Borovoye**	**74.47**	**327**	P	**P**	**04 16 42.9**	**0.0**
BRVK				IAmb	IAmb	04 16 43.6	
	comp=Z,3.6nm,0.9s						
VNDA	**Vanda**	**76.53**	**173**	P	**P**	**04 16 54.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=324,slow=7.4,SNR=14						
VNDA				LR	LR	04 49 27.1	
	comp=Z,48nm,19.3s,baz=164,slow=35						
NRIK	**Noril'sk**	**77.52**	**346**	P	**P**	**04 16 59.8**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=131,slow=9.6,SNR=2.3						
MAW	**Mawson**	**78.58**	**201**	P	**P**	**04 17 05.7**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=117,slow=7.5,SNR=4.1						
MAW	**Mawson**	**78.58**	**201**	IAmb	IAmb	04 17 07.2	
	comp=Z,0.7nm,1.0s						
ABKAR	**Akbulak array**	**79.06**	**321**	P	**P**	**04 17 08.5**	**-0.3**
ILAR	**Eielson Array**	**89.86**	**25**	P	**P**	**04 18 01.7**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=245,slow=4.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**127.49**	**284**	PKP	**PKiKP**	**04 24 12.2**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=76,slow=3.1,SNR=1.7						
LPAZ	**La Paz**	**154.12**	**138**	PKPbc	**PKiKP**	**04 25 08.0**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=270,slow=4.0,SNR=2.9						

*SFS **04** 04:25:13.0,36.73N×9.77W,h25km,ML2.5,LIBRILLA (MURCIA)*
*MDD **04** 04:25:13.9±1.2,36.74N×9.75W,h26km±42km,mbLg2.3/25, Error ellipse: s-maj=40.5km s-min=8.1km az=43.0, PRXIMO*
*IGIL **04** 04:25:14.8,36.79N×9.67W,h16km,ML1.9*
*INMG **04** 04:25:14.5±1.5,36.77N×9.67W,h16km±4km,ML2.0,Error ellipse: s-maj=5.4km s-min=3.9km az=43.0*
*CNRM **04** 04:25:15.1±1.5,36.46N×9.26W,h22km±20km,Error ellipse: s-maj=26.4km s-min=6.3km az=105.0*

ISC 04 04:25:11.3±2.0,36.68N±0.07°×9.80W±0.08°,h35km,n56,
σ1.76/111,6C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.90**	**60**	↑P	**Pn**	**04 25 28.8**	**+1.4**
	6.3nm,0.1s,SNR=18						
PFVI				S	**Sn**	**04 25 39.6**	**+0.4**
	16nm,0.1s,SNR=12						
PFVI	**Vila Bisbo**	**0.90**	**60**	P	**Pn**	**04 25 28.4**	**+0.9**
PFVI				S	**Sn**	**04 25 39.9**	**+0.6**
PFVI	**Vila Bisbo**	**0.90**	**60**	↑*i*P	**Pn**	**04 25 28.8**	**+1.4**
PFVI				*e*S	**Sn**	**04 25 39.1**	**-0.1**
PFVI				A	A	04 25 40.7	
	19nm,0.4s						
MORF	**Marmelete**	**1.11**	**55**	*e*P	**Pn**	**04 25 31.8**	**+1.4**
MORF				*e*S	**Sn**	**04 25 44.1**	**-0.4**
MORF				AML	AML	04 25 45.3	
	comp=N,28nm,0.3s						
MORF	**Marmelete**	**1.11**	**55**	P	**Pn**	**04 25 31.8**	**+1.4**
MORF				S	**Sn**	**04 25 44.9**	**+0.4**
	comp=N,23nm,0.4s						
MORF	**Marmelete**	**1.11**	**55**	↑*e*P	**Pn**	**04 25 31.8**	**+1.4**
MORF				*e*S	**Sn**	**04 25 44.9**	**+0.4**
MORF				A	A	04 25 45.8	
	comp=N,23nm,0.4s						
PTEO	**Sao Teotonio**	**1.22**	**45**	P	**Pn**	**04 25 33.3**	**+1.5**
PTEO				S	**Sn**	**04 25 47.2**	**+0.1**
	comp=N,5.5nm,0.7s						
PTEO	**Sao Teotonio**	**1.22**	**45**	↑*e*P	**Pn**	**04 25 33.3**	**+1.5**
PTEO				*e*S	**Sn**	**04 25 47.2**	**+0.1**
PTEO				A	A	04 25 55.5	
	comp=N,11nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.60**	**69**	P	**Pn**	**04 25 38.7**	**+1.6**
PBDV				S	**Sn**	**04 25 56.7**	**+0.2**
	comp=N,4.8nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.60**	**69**	↑*i*P	**Pn**	**04 25 38.7**	**+1.6**
PBDV				*e*S	**Sn**	**04 25 56.7**	**+0.2**
PBDV				A	A

comp=N,0.3nm,0.1s,SNR=7.9

EADA					S		Sn	04 27 05.1	-0.9
	comp=N,1.0nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**4.47**	**40**		P		**Pn**	**04 26 17.9**	**+1.4**
	comp=N,0.1nm,0.1s,SNR=7.9								
EPLA					S		**Sn**	**04 27 05.1**	**-2.1**
	comp=N,2.2nm,0.1s,SNR=8.7								
MVO	**Moncorvo**	**4.97**	**25**		P		**Pn**	**04 26 24.6**	**+1.1**
	comp=N,0.0nm,0.1s,SNR=7.9								
MVO					S		**Sn**	**04 27 17.7**	**-2.0**
	comp=N,1.3nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**4.97**	**25**	*e*	Pn		**Pn**	**04 26 24.9**	**+1.4**
MVO				*e*	Sn		**Sn**	**04 27 17.7**	**-2.0**
MVO					A		A	04 27 20.0	
	comp=N,2.4nm,0.8s								
PCAB	**Cabril**	**5.21**	**15**		P		**Pn**	**04 26 27.9**	**+1.2**
PCAB					S		**Sn**	**04 27 23.3**	**-2.2**
PCAB	**Cabril**	**5.21**	**15**	*e*	Pn		**Pn**	**04 26 27.9**	**+1.2**
PCAB				*e*	Sn		**Sn**	**04 27 23.3**	**-2.2**
ELOB	**Lobios**	**5.35**	**14**		P		**Pn**	**04 26 29.7**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=7.9								
ELOB					S		**Sn**	**04 27 25.4**	**-3.7**
	comp=N,1.9nm,0.3s,SNR=5.7								
PGAV	**Gavieira, Arco**	**5.41**	**12**		P		**Pn**	**04 26 30.7**	**+1.2**
PGAV					S		**Sn**	**04 27 27.0**	**-3.6**
	comp=N,2.4nm,1.1s								
PGAV	**Gavieira, Arco**	**5.41**	**12**	*e*	Pn		**Pn**	**04 26 30.7**	**+1.2**
PGAV				*e*	Sn		**Sn**	**04 27 27.0**	**-3.6**
PGAV					A		A	04 27 31.0	
	comp=N,2.4nm,1.1s								
ESDC	**Sonseca Array**	**5.48**	**55**		P		**Pn**	**04 26 31.8**	**+1.3**
	comp=N,0.4nm,0.2s,baz=241,slow=14,SNR=12								
ESDC					S		**Sn**	**04 27 30.6**	**-1.8**
	comp=N,0.3nm,0.3s,baz=242,slow=23,SNR=6.2								
EQES	**Quesada**	**5.48**	**76**		P		**Pn**	**04 26 31.2**	**+0.7**
	comp=N,0.0nm,0.1s,SNR=7.9								
EQES					S		**Sn**	**04 27 30.2**	**-2.2**
	comp=N,0.5nm,0.2s,SNR=7.9								
MD31	**MD31**	**5.63**	**131**		P		**Pn**	**04 26 33.2**	**+0.7**
MD31					S		**Sn**	**04 27 30.8**	**-5.2**
MDT	**Midelt**	**5.76**	**131**		P		**Pn**	**04 26 34.9**	**+0.6**
MDT					S		**Sn**	**04 27 33.8**	**-5.4**
ECAL	**Calabor**	**5.76**	**23**		P		**Pn**	**04 26 35.4**	**+1.1**
	comp=N,0.1nm,0.1s,SNR=4.0								
ECAL					S		**Sn**	**04 27 36.3**	**-3.0**
	comp=N,1.5nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**5.93**	**46**		P		**Pn**	**04 26 38.5**	**+1.8**
	comp=N,0.0nm,0.0s,SNR=7.9								
GUD					S		**Sn**	**04 27 41.4**	**-2.0**
	comp=N,1.0nm,0.3s,SNR=5.8								
OUZM	**OUZ**	**6.29**	**155**		P		**Pn**	**04 26 42.5**	**+0.9**
OUZM					S		**Sn**	**04 27 48.7**	**-3.6**
ETOR	**Torete**	**7.33**	**53**		S		**Sn**	**04 28 13.9**	**-3.9**
	comp=N,2.2nm,0.3s,SNR=7.9								

*ATH **04** 04:40:50.8,34.°50N×26.°39E,h12km±3km,ML3.0/7, Error ellipse: s-maj=5.3km s-min=2.3km az=343.0*
*HLW **04** 04:40:52.4,34.°25N×26.°49E,h2km±4km,Ml3.2*
*THE **04** 04:40:54.0,34.°66N×26.°38E,h0km±1km,ML2.8/6,Error ellipse: s-maj=3.0km s-min=1.5km az=154.0*
*DDA **04** 04:40:58.5,34.°89N×27.°01E,h7km±2km,ML2.6*

ISC 04 04:40:51.0±1.2,34.°51N±0.°04×26.°40E±0.°03,h18km±9km, n37,σ2°19/59,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.63**	**346**	P	**Pg**	**04 41 02.9**	**-0.5**
ZKR				S	**Sg**	**04 41 11.2**	**-0.6**
	1µm,0.4s						
ZKR	**Zakros**	**0.63**	**346**	P	**Pg**	**04 41 02.8**	**-0.6**
ZKR				S	**Sb**	**04 41 12.2**	**+0.2**
ZKR				AML	AML	04 41 17.6	
	comp=N,1614µm,0.3s						
ZKR				AML	AML	04 41 19.6	
	comp=E,3430µm,0.5s						
STIA	**Sitia Lasithi**	**0.74**	**340**	P	**Pg**	**04 41 05.0**	**-0.5**
STIA				S	**Sb**	**04 41 16.3**	**+1.1**
FRMA	**Ierapetra Chan**	**0.75**	**313**	P	**Pg**	**04 41 04.1**	**-1.6**
FRMA				S	**Sg**	**04 41 14.5**	**-1.1**
	comp=E,602nm,0.6s						
NPS	**Neapolis**	**0.99**	**320**	P	**Pb**	**04 41 10.2**	**+0.4**
NPS				S	**Sn**	**04 41 24.8**	**+1.0**
	comp=E,1µm,0.8s						
NPS	**Neapolis**	**0.99**	**320**	P	**Pg**	**04 41 09.9**	**-0.4**
NPS				AML	AML	04 41 30.4	
	comp=N,1512µm,0.7s						
NPS				AML	AML	04 41 30.7	
	comp=E,2488µm,0.8s						
LAST	**Lasithi**	**1.00**	**311**	P	**Pg**	**04 41 09.0**	**-1.5**
LAST				S	**Sb**	**04 41 24.0**	**+1.2**
LAST				AML	AML	04 41 32.2	
	comp=N,1128µm,0.6s						
LAST				AML	AML	04 41 33.1	
	comp=E,1742µm,0.6s						
KARP	**Karpathos**	**1.21**	**31**	P	**Pg**	**04 41 14.8**	**+0.3**
KARP				S	**Sn**	**04 41 31.2**	**+2.0**
KARP	**Karpathos**	**1.21**	**31**	P	**Pg**	**04 41 14.2**	**-0.2**
KARP				AML	AML	04 41 41.5	
	comp=E,597µm,0.2s						
KARP				AML	AML	04 41 45.2	
	comp=N,1231µm,0.4s						
SIVA	**Sivas**	**1.41**	**292**	P	**Pg**	**04 41 18.9**	**+0.8**
SIVA				S	**Sg**	**04 41 37.4**	**+0.9**
	comp=N,635nm,0.7s						
SIVA	**Sivas**	**1.41**	**292**	P	**Pb**	**04 41 17.3**	**+0.5**
SIVA				AML	AML	04 41 49.2	
	comp=N,1277µm,0.7s						
SIVA				AML	AML	04 41 56.0	
	comp=E,1650µm,0.5s						
IDI	**Anoyia**	**1.47**	**303**	P	**Pg**	**04 41 19.1**	**-0.2**
IDI				S	**Sg**	**04 41 39.5**	**+1.1**
	comp=E,135nm,0.6s						
IDI	**Anoyia**	**1.47**	**303**	P	**Pg**	**04 41 18.9**	**-0.4**
IDI				AML	AML	04 41 52.6	
	comp=N,357µm,0.6s						
IDI				AML	AML	04 41 54.3	
	comp=E,385µm,0.7s						
GVD	**Gavdhos**	**1.94**	**281**	P	**Pb**	**04 41 26.0**	**+0.2**
GVD				S	**Sg**	**04 41 52.0**	**-1.4**
	comp=E,360nm,0.4s						
GVD	**Gavdhos**	**1.94**	**281**	P	**Pb**	**04 41 25.5**	**-0.3**
GVD				AML	AML	04 42 00.8	
	comp=N,607µm,0.3s						
GVD				AML	AML	04 42 01.4	
	comp=E,874µm,0.3s						
THR6	**Thira Island,**	**2.02**	**336**	P	**Pb**	**04 41 26.3**	**-0.9**
VAM	**Vamos**	**2.02**	**297**	P	**Pb**	**04 41 27.4**	**+0.2**
THR3	**Thira Island,**	**2.07**	**337**	P	**Pg**	**04 41 29.7**	**-1.0**
THR5	**Thira Island,**	**2.09**	**336**	P	**Pn**	**04 41 27.1**	**+1.9**
THR5	**Thira Island,**	**2.09**	**336**	P	**Pn**	**04 41 26.9**	**+1.7**
IMMV	**Iera Moni Meta**	**2.20**	**296**	P	**Pb**	**04 41 30.1**	**-0.3**
ARG	**Arkhangelos**	**2.21**	**39**	P	**Pb**	**04 41 30.8**	**+0.2**
ARG	**Arkhangelos**	**2.21**	**39**	P	**Pb**	**04 41 30.7**	**+0.2**
TURN	**Turunc**	**2.72**	**33**	*i* P	**Pb**	**04 41 37.9**	**-1.2**
TURN				*i* S	**Sb**	**04 42 13.1**	**+1.0**
DALY	**Dalyan (Mula)**	**2.95**	**38**	*i* P	**Pn**	**04 41 40.5**	**+3.6**
DALY				*i* S	**Sn**	**04 42 11.7**	**-0.2**
DALY				IAML		04 42 43.0	
	comp=N,28nm,1.0s						
FETY	**Fethiye**	**3.05**	**45**	*i* P	**Pn**	**04 41 41.7**	**+3.3**
FETY				*i* S	**Sn**	**04 42 12.1**	**-2.4**
AKAS	**Kas**	**3.13**	**56**	*i* P	**Pn**	**04 41 42.6**	**+2.9**
AKAS				*i* S	**Sn**	**04 42 14.0**	**-2.8**
SLUM	**Salum**	**3.17**	**199**	P	**Pn**	**04 41 41.1**	**+1.1**
	baz=202						
SLUM				S	**Sn**	**04 42 16.3**	**-1.0**
	baz=202						
AYDN	**Tasoluk**	**3.37**	**20**	*i* P	**Pb**	**04 41 47.2**	**-3.0**
AYDN				*i* S	**Sn**	**04 42 17.1**	**-5.3**
TAVA	**DENIZLI_Tavas**	**3.59**	**34**	*i* P	**Pn**	**04 41 48.9**	**+3.0**
TAVA				*i* S	**Sn**	**04 42 27.2**	**-0.6**
AKUM	**Antalya-Kumluc**	**3.69**	**59**	*i* P	**Pn**	**04 41 50.3**	**+3.0**
AKUM				*i* S	**Sn**	**04 42 26.0**	**-4.4**
AKUM				IAML		04 42 40.0	
	comp=N,18nm,1.3s						
AKUM				IAML		04 42 57.0	
	comp=E,15nm,1.6s						
GOLH	**Golhisar**	**3.74**	**42**	*i* P	**Pn**	**04 41 51.0**	**+3.0**
GOLH				IAML		04 42 29.0	
	comp=E,2µm,1.1s						
GOLH				*i* S	**Sn**	**04 42 30.1**	**-1.6**
GOLH				IAML		04 43 19.0	
	comp=N,24nm,2.2s						

MANT	**Manisa**	**4.34**	**23**	*i* P		**Pn**		**04 41 59.9**	**+3.5**
MANT				*i* S		**Sn**		**04 42 43.2**	**-3.4**
MANT				IAML				04 43 05.0	
	comp=N,11nm,2.3s								
MANT				IAML				04 43 30.0	
	comp=E,9.1nm,2.2s								
KEPZ	**Antalya-Kepez**	**4.86**	**59**	*i* P		**Pn**		**04 42 06.3**	**+3.0**
KEPZ				*i* S		**Sn**		**04 42 52.8**	**-6.4**
KEPZ				IAML				04 43 15.0	
	comp=E,7.7nm,0.9s								
SWA2		**5.31**	**189**	P		**Pn**		**04 42 10.7**	**+1.2**
	baz=191								
GLL	**Jalalah**	**6.67**	**136**	P		**Pn**		**04 42 29.5**	**+1.3**
	baz=135								
HFRF	**Wahat Farafira**	**7.51**	**167**	P		**Pn**		**04 42 40.3**	**+0.5**
	baz=167								
HFRF				S		**Sn**		**04 43 59.9**	**-4.6**
	baz=167								
HFRF				AMP				04 44 00.0	
	baz=167								

*IDC **04** 04:52:09.4±0.8,15.°02S×166.°93E,h0km,mb4.0/8, mb1 4.2/9,mb1mx3.9/36,mbtmp4.0/9,ML3.7/1,MS3.5/2, Ms1 3.5/2,ms1mx3.0/31,Error ellipse: s-maj=30.4km s-min=21.0km az=111.0*
*NEIC **04** 04:52:10.7±2.3, 14.°90S±0.°07×166.°9E±0.°1,h8km±4km, mb4.5/11,Error ellipse: s-maj=15.9km s-min=7.2km az=60.0*

ISC 04 04:52:14.7±0.6,15.°13S±0.°07×166.°97E±0.°10,h35km,n29, σ1°39/30,mb4.2/10,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.39**	**145**		**Pn**	**04 52 22.9**	**-0.9**
DZM	**Mont Dzumac**	**6.92**	**184**	Pn	**Pn**	**04 53 54.5**	**+0.8**
	1.3nm,0.3s,baz=128,slow=23,SNR=49						
DZM				Sn	**Sn**	**04 55 11.9**	**+0.5**
	1.8nm,0.3s,baz=301,slow=21,SNR=1.8						
DZM				LR	LR	04 56 21.9	
	comp=Z,275nm,21.0s,baz=30,slow=36						
DZM	**Mont Dzumac**	**6.92**	**184**	*e*Pn	**Pn**	**04 53 55.0**	**+1.2**
	24nm,0.4s						
DZM				*e*Sn	**Sn**	**04 55 07.2**	**-4.2**
	51nm,0.6s						
DZM				*e*LR	LR	04 55 20.8	
DZM	**Mont Dzumac**	**6.92**	**184**		**Pn**	**04 53 54.0**	**+0.3**
MSVF	**Nonsavu**	**10.94**	**105**	Pn	**Pn**	**04 54 49.6**	**+0.7**
WR0	**Warramunga Arr**	**31.26**	**256**	P	**P**	**04 58 29.8**	**-1.6**
WB2	**Warramunga Arr**	**31.44**	**256**	P	**P**	**04 58 33.4**	**+0.4**
WB2				IAmb	IAmb	04 59 39.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**31.45**	**256**	P	**P**	**04 58 31.9**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=87,slow=9.1,SNR=10						
WRA				LR	LR	05 10 50.3	
	comp=Z,122nm,18.3s,baz=65,slow=36						
ASAR	**Alice Springs**	**32.26**	**250**	P	**P**	**04 58 39.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=74,slow=9.2,SNR=8.9						
PPT2	**Papeete2**	**41.70**	**100**	*e*LR	LR	05 11 45.5	
	comp=Z,69nm,24.5s						
KSM	**Kuching**	**58.40**	**281**	P	**P**	**05 02 06.6**	**-0.7**
VNDA	**Vanda**	**62.46**	**181**	P	**P**	**05 02 34.4**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=15,slow=4.5,SNR=17						
VNDA	**Vanda**	**62.46**	**181**	P	**P**	**05 02 35.1**	**+1.2**
PETK	**Petropavlovsk-**	**68.42**	**354**	P	**P**	**05 03 13.0**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=127,slow=4.9,SNR=4.5						
MDJ	**Mudanjiang**	**68.50**	**332**	P	**P**	**05 03 12.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**74.85**	**294**	P	**P**	**05 03 53.2**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=123,slow=4.5,SNR=4.6						
CHTO	**Chiang Mai**	**74.98**	**295**	P	**P**	**05 03 52.2**	**-0.7**
CHTO				IAmb	IAmb	05 05 11.2	
	comp=Z,3.6nm,1.1s						
MAW	**Mawson**	**81.41**	**202**	P	**P**	**05 04 30.0**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=146,slow=11,SNR=2.0						
BPAW	**Bear Paw Mtn.**	**85.30**	**17**	P	**P**	**05 04 46.5**	**-1.1**
IL31		**86.99**	**18**	P	**P**	**05 04 54.5**	**-1.3**
ILAR	**Eielson Array**	**86.99**	**18**	P	**P**	**05 04 54.3**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=238,slow=4.9,SNR=28						
NVAR	**Mina Array Bea**	**87.75**	**49**	P	**P**	**05 05 00.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=243,slow=8.0,SNR=3.6						
G08A	**Pilot Rock**	**89.81**	**43**	P	**P**	**05 05 09.4**	**-0.4**
PRN	**Pahroc Range**	**89.81**	**51**	P	**P**	**05 05 08.8**	**-1.3**
ARCES	**ARCESS Array B**	**120.56**	**345**	PKP	**PKPdf**	**05 11 02.7**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=56,slow=2.2,SNR=4.8						
SENIN	**Lac Senin/Sane**	**144.51**	**336**		**PKPab**	**05 11 48.4**	**+2.2**
BNI	**Bardonecchia**	**145.84**	**335**		**PKPdf**	**05 11 51.1**	**+1.1**
KEST	**Kesra**	**151.33**	**320**	PKPbc	**PKPbc**	**05 12 05.9**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=352,slow=3.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**165.58**	**264**	PKPab	**PKPab**	**05 13 14.7**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=95,slow=4.9,SNR=4.2						

*BGR **04** 04:59:30.8±0.0, 42.°04N×50.°46E, h33km,mb4.7*
*BJI **04** 04:59:31.8±0.0, 41.°24N×47.°74E, h11km,mB5.1/26, mb4.8/40,Ms4.8/8, Ms7 4.4/8*
*AZER **04** 04:59:32.7, 41.°11N×47.°94E, h6km, ML5.0*
*NSSP **04** 04:59:33.2, 41.°12N×47.°88E, h8km, Ms4.9*
*MOS **04** 04:59:33.0±1.3, 41.°10N×48.°07E, h13km, mb5.0/42, MS3.7/13, Error ellipse: s-maj=4.2km s-min=3.0km az=40.4*
*THR **04** 04:59:34.2±0.4, 41.°03N×48.°02E, h18km±9km, ML4.6*
*IDC **04** 04:59:35.0±2.3, 41.°10N×47.°94E, h19km±14km, mb4.4/25, mb1 4.5/36, mb1mx4.4/45, mbtmp4.5/36, ML4.1/9, MS4.0/33, Ms1 4.0/33, ms1mx3.9/55, Error ellipse: s-maj=9.9km s-min=7.1km az=175.0*
*NNC **04** 04:59:38.9±5.5, 41.°28N×48.°31E, h23km±49km, mb4.7, Error ellipse: s-maj=34.7km s-min=17.2km az=67.0*
*NEIC **04** 04:59:39.0±2.0, 41.°14N±0.°07×47.°94E±0.°09, h50km±5km, mb4.8/110, Error ellipse: s-maj=11.0km s-min=8.7km az=221.0*
*ATA **04** 04:59:49.0±0.4, 40.°76N×46.°26E, h0km±817km, ML4.1, MW5.4*

ISC 04 04:59:34.9±0.8,41.°18N±0.°02×47.°97E±0.°02,h17km±4km, n630,σ1°82/665,mb4.8/132,MS4.1/23,59C-40D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNQ	**Khinaliq**	**0.13**	**95**	P	**Pb**	**04 59 39.5**	**+0.5**
	SNR=6781						
XNQ				S	**Sg**	**04 59 42.8**	**+1.0**
QBL	**Gabala**	**0.26**	**203**	P	**Pg**	**04 59 39.6**	**-1.1**
	SNR=1939						
QBL				S	**Sg**	**04 59 43.1**	**-1.5**
AKT	**Akhty**	**0.35**	**329**	⇓*i* PG	**Pb**	**04 59 43.0**	**+0.3**
AKT				*e*		04 59 48.5	
AKT				pmax	pmax		
	comp=Z,10µm,0.2s						
AKT				smax	smax		
	comp=N,248µm,0.4s						
QSAR	**Qusar**	**0.40**	**33**	P	**Pn**	**04 59 45.0**	**-0.9**
	SNR=1538						
QSAR				S	**Sn**	**04 59 52.1**	**-1.0**
IML	**Ismayilli**	**0.42**	**158**	P	**Pg**	**04 59 43.1**	**-0.4**
	SNR=1387						
IML				S	**Sb**	**04 59 49.6**	**-0.3**
SEKA	**Sheki**	**0.58**	**273**	PG	**Pg**	**04 59 45.7**	**-0.8**
SEKA	**Sheki**	**0.58**	**273**	P	**Pg**	**04 59 45.7**	**-0.8**
	SNR=414						
SEKA				S	**Sg**	**04 59 54.1**	**-0.2**
PQL	**Pirkuli**	**0.61**	**130**	P	**Pb**	**04 59 47.2**	**-0.1**
	SNR=232						
PQL				S	**Sn**	**04 59 57.4**	**-1.1**
SIZA	**Siyzn**	**0.71**	**98**	P	**Pn**	**04 59 49.9**	**-0.3**
	SNR=676						
SIZA				S	**Sn**	**05 00 02.5**	**+1.7**
MNGR	**Mingechevir, A**	**0.79**	**239**	PG	**Pb**	**04 59 49.8**	**-0.2**
MNGR	**Mingechevir, A**	**0.79**	**239**	P	**Pb**	**04 59 49.8**	**-0.2**
	SNR=339						
MNGR				S	**Sn**	**05 00 01.9**	**-0.6**
ATGJ	**Altiaghaj**	**0.80**	**113**	P	**Pg**	**04 59 50.9**	**+0.4**
	SNR=217						
ATGJ				S	**Sn**	**05 00 03.0**	**0.0**
KDMR	**Kurdemir**	**0.82**	**169**	P	**Pb**	**04 59 50.4**	**-0.3**
	SNR=996						
KDMR				S	**Sn**	**05 00 02.9**	**-0.4**
DRN	**Derbent**	**0.89**	**18**	*c i* PG	**Pn**	**04 59 53.3**	**+0.7**
DRN				pmax	pmax		
	comp=Z,8µm,0.5s						
ZRD	**Zardab**	**0.93**	**194**	P	**Pb**	**04 59 52.3**	**-0.2**
	SNR=1035						
ZRD				S	**Sn**	**05 00 06.8**	**+0.8**

GBS	**Qobustan**	**0.98**	**131**	P		**Pg**		**04 59 55.0**	**+1.1**
GBS				S		**Sn**		**05 00 10.6**	**+3.2**
BRDA	**Brd**	**1.10**	**213**	P		**Pb**		**04 59 55.2**	**-0.2**
BRDA				S		**Sg**		**05 00 12.1**	**+1.6**
ZKTA	**Zakatala**	**1.11**	**295**	PG		**Pn**		**04 59 55.7**	**0.0**
ZKTA	**Zakatala**	**1.11**	**295**	P		**Pn**		**04 59 55.7**	**0.0**
ZKTA				S		**Sg**		**05 00 12.1**	**+1.1**
AGDM	**Agdam**	**1.26**	**212**	P		**Pn**		**04 59 56.9**	**-0.7**
AGDM				S		**Sg**		**05 00 14.8**	**-0.8**
GANJ	**Ganja**	**1.36**	**247**	PG		**Pn**		**04 59 57.8**	**-1.2**
GANJ	**Ganja**	**1.36**	**247**	P		**Pn**		**04 59 57.9**	**-1.2**
GANJ				S		**Sn**		**05 00 15.6**	**-1.1**
SAAT	**Saatly**	**1.36**	**165**	P		**Pn**		**04 59 58.2**	**-0.9**
SAAT				S		**Sn**		**05 00 16.8**	**+0.1**
GNBR	**Gunib**	**1.42**	**328**	*de*	PG	**Pg**		**05 00 02.2**	**-0.1**
LGD	**Lagodekhi**	**1.45**	**297**	*c i*	PG	**Pb**		**05 00 01.2**	**-0.2**
LGD	**Lagodekhi**	**1.45**	**297**	P		**Pb**		**05 00 02.1**	**+0.7**
LGD				S		**Sg**		**05 00 21.8**	**+0.1**
ALIB	**Äli-Bayra**	**1.46**	**147**	Pn		**Pg**		**05 00 02.6**	**-0.3**
ALIB				Sn		**Sb**		**05 00 20.0**	**+0.3**
BLQ	**Beylaqan**	**1.49**	**192**	Pn		**Pn**		**04 59 59.8**	**-1.1**
BLQ				Sn		**Sn**		**05 00 19.9**	**-0.1**
GOBA	**Gobu**	**1.55**	**120**	Pn		**Pg**		**05 00 05.3**	**+0.6**
GOBA				Sn		**Sg**		**05 00 25.1**	**+0.2**
NDR	**Nardaran**	**1.64**	**111**	Pn		**Pn**		**05 00 03.5**	**+0.6**
NDR				Sn		**Sb**		**05 00 25.7**	**+0.6**
GDB	**GEDABAY**	**1.74**	**255**	Pg		**Pn**		**05 00 03.9**	**-0.5**
GDB				Sg		**Sn**		**05 00 26.4**	**+0.1**
QRD	**Qoradiz**	**1.79**	**196**	Pn		**Pn**		**05 00 04.0**	**-1.0**
QRD				Sn		**Sn**		**05 00 27.2**	**-0.1**
MAK	**Makhachkala**	**1.81**	**349**	*e*	PN	**Pg**		**05 00 09.3**	**-0.4**
MAK				*e*				05 00 36.4	
MAK				pmax	pmax				
	comp=Z,3µm,0.3s								
MAK				smax	smax				
	comp=E,15µm,0.8s								
GLBA	**Clilabad**	**1.96**	**170**	Pn		**Pn**		**05 00 06.8**	**-0.6**
GLBA				Sn		**Sb**		**05 00 33.0**	**-1.4**
QZX	**Qazax, Azerbai**	**1.97**	**267**	Pn		**Pn**		**05 00 07.8**	**+0.4**
QZX				Sn		**Sb**		**05 00 33.1**	**-1.4**
BTLR	**Botlikh**	**1.97**	**319**	*c i*	PN	**Pb**		**05 00 11.5**	**+1.1**
BTLR				pmax	pmax				
	comp=Z,3µm,0.5s								
DBC	**Dubki**	**2.02**	**336**	*e*	PN	**Pg**		**05 00 13.2**	**-0.5**
DBC				pmax	pmax				
	comp=Z,5µm,0.6s								
DVE	**Vedeno**	**2.24**	**323**	*c i*	PN	**Pb**		**05 00 15.6**	**+0.7**
DVE				pmax	pmax				
	comp=Z,2µm,0.4s								
YRD	**Yardimli**	**2.27**	**175**	Pn		**Pn**		**05 00 10.8**	**-1.0**
YRD				Sn		**Sn**		**05 00 40.5**	**+0.9**
GRMI	**Germi**	**2.37**	**181**	*e*	Pn	**Pn**		**05 00 12.0**	**-1.1**
GRMI				*e*	Sg	**Sb**		**05 00 44.0**	**-2.2**
GRMI				IAML				05 00 51.8	
	comp=E,3µm,0.6s								
GRMI				IAML				05 00 55.7	
	comp=N,3µm,0.8s								
BTNK	**Botanikuri**	**2.44**	**283**	PN		**Pn**		**05 00 15.0**	**+1.1**
SEAG	**Tbilisi Sea**	**2.45**	**285**	PN		**Pn**		**05 00 15.6**	**+1.5**
SEAG	**Tbilisi Sea**	**2.45**	**285**	P		**Pn**		**05 00 15.6**	**+1.5**
SEAG				S		**Sb**		**05 00 47.7**	**-0.7**
LKRN	**Lenkeran, Azer**	**2.55**	**166**	Pn		**Pn**		**05 00 15.0**	**-0.4**
LKRN				Sn		**Sn**		**05 00 47.8**	**+1.9**
LRK	**Lerik**	**2.55**	**173**	Pn		**Pn**		**05 00 15.0**	**-0.7**
LRK				Sn		**Sn**		**05 00 48.8**	**+2.5**
SBZ	**Shahbuz**	**2.57**	**227**	Pn		**Pn**		**05 00 16.3**	**+0.5**
SBZ				Sn		**Sb**		**05 00 50.8**	**-1.1**
GROC	**Groznyy**	**2.58**	**322**	*e*	PN	**Pb**		**05 00 20.2**	**-0.5**
GROC				*e*				05 00 57.6	
GROC				pmax	pmax				
	comp=Z,1µm,0.5s								
GROC				smax	smax				
	comp=N,8µm,0.6s								
GROC				smax	smax				
	comp=N,7µm,0.6s								
GROC				smax	smax				
	comp=E,3µm,0.6s								
GROC				MLR	MLR				
	comp=Z,11µm,2.0s								
ASTR	**Astara**	**2.69**	**166**	Pn		**Pn**		**05 00 17.1**	**-0.3**
ASTR				Sn		**Sn**		**05 00 50.8**	**+1.2**
KZRT	**Kazreti**	**2.70**	**276**	*e*	P	**Pn**		**05 00 18.9**	**+1.3**
KZRT				IAML				05 01 03.2	
	comp=Z,704nm,0.4s								
KZRT	**Kazreti**	**2.70**	**276**	PN		**Pn**		**05 00 19.1**	**+1.5**
KZRT	**Kazreti**	**2.70**	**276**	P		**Pn**		**05 00 19.0**	**+1.5**
KZRT				S		**Sn**		**05 00 51.5**	**+1.7**
ORD	**Ordubad**	**2.71**	**215**	Pn		**Pn**		**05 00 18.0**	**+0.2**
ORD				Sn		**Sn**		**05 00 51.9**	**+1.7**
STE	**Stepanavan**	**2.73**	**267**	*i* P		**Pn**		**05 00 20.4**	**+2.4**
STE				S		**Sb**		**05 00 57.8**	**+1.4**
NAX	**Nakhchivan**	**2.76**	**224**	PN		**Pn**		**05 00 19.2**	**+0.8**
NAX	**Nakhchivan**	**2.76**	**224**	Pn		**Pn**		**05 00 19.2**	**+0.8**
NA

BATM **Batumi** 4.74 277 ⇑P Pn 05 00 50.1 +4.5
BATM **Batumi** 4.74 277 PN Pn 05 00 50.0 +4.5
BATM **Batumi** 4.74 277 P Pb 05 00 51.7 -5.8
GEVA **Gevas** 4.75 234 Pn Pn 05 00 48.2 +2.4
KVAR **Kislovodsk Arr** 4.78 307 Pn Pn 05 00 49.3 +3.1
baz=75,slow=19,SNR=6.8
KVAR Sn Sn 05 01 44.6 +3.4
baz=288,slow=17,SNR=2.6
KVAR LR LR 05 03 03.7
comp=Z,1μm,19.0s,baz=44,slow=43
KIV **Kislovodsk** 4.79 307 ⇑P Pn 05 00 49.1 +2.9
KIV **Kislovodsk** 4.79 307 *i* P Pn 05 00 49.7 +3.5
SNR=13
KIV **Kislovodsk** 4.79 307 *e*PN Pn 05 00 48.7 +2.5
KIV *e*S Sn 05 01 46.8 +5.5
KIV pmax pmax
comp=Z,430nm,0.9s
KIV MLR MLR
comp=Z,716nm,8.0s
KIV **Kislovodsk** 4.79 307 Pn 05 00 48.0 +1.8
AKDM **Akdamar-Van** 4.79 235 *e*P Pb 05 00 59.1 +0.7
BCA **Borcka** 4.79 275 ⇑P Pn 05 00 49.6 +3.4
KOPR **Koprukoy-ERZUR** 4.81 258 *e*P Pb 05 01 00.2 +1.5
GURO **Guroymak-BITLI** 5.27 242 *e*P Pb 05 01 04.4 -2.2
GOF **Gofitskoye** 5.29 319 ⇑P Pn 05 00 55.2 +2.1
GOF *i* S Sn 05 01 59.0 +5.4
GOF pmax pmax
comp=Z,398nm,1.2s
GOF smax smax
comp=E,492nm,0.6s
GOF smax smax
comp=N,2μm,1.3s
VRTB **Varto-Mus** 5.38 250 *e*P Pn 05 01 00.8 +6.3
ARXR **Arkhyz** 5.50 298 *ce*P Pn 05 00 59.7 +3.6
ARXR MLR MLR
comp=Z,654nm,12.0s
SIRT **Sirnak** 5.65 231 *e*P Pn 05 01 00.8 +2.7
KOPT **Kop Dagi** 5.81 261 Pn 05 01 04.5 +4.1
CHTH **Charan** 5.82 154 *e*Pn Pn 05 01 00.0 -0.6
BNGB **Bingl** 6.00 251 *e*P Pn 05 01 11.0 +8.0
SVAN **Silvan-Diyarba** 6.04 242 *e*P Pn 05 01 08.9 +5.5
DAMV **Damavand** 6.37 149 *e*Pn Pn 05 01 07.9 -0.3
SOC **Sochi** 6.56 294 *e*P Pn 05 01 10.3 -0.3
SOC *e* 05 02 28.5
SOC pmax pmax
comp=Z,23nm,0.9s
SOC MLR MLR
comp=Z,637nm,13.0s
MARD **Mardin** 6.79 238 Pn 05 01 17.0 +3.2
DYBB **Diyarbakir** 6.86 244 *e*P Pn 05 01 18.7 +4.1
PTK **Pertek** 6.97 254 *e*P Pn 05 01 20.8 +4.5
GHVR **GHOM** 7.19 157 *e*Pn Pn 05 01 18.4 -0.9
SVRC **Sivrice-ELAZID** 7.24 250 *e*P Pn 05 01 24.6 +4.6
BJRD **Bojnurd** 8.09 112 *e*Pn Pn 05 01 32.1 +0.5
RSDY **Resadiye-TOKAT** 8.11 268 *e*P Pn 05 01 36.9 +5.0
SVSK **Karacayir** 8.45 265 *e*P Pn 05 01 41.3 +4.9
GEYT **Alibeck** 8.48 109 Pn Pn 05 01 36.1 -0.9
comp=Z,60nm,0.3s,baz=297,slow=15,SNR=1.1
GEYT Sn Sn 05 03 08.3 -4.0
baz=279,slow=19,SNR=2.7
GYA0B **ALIBECK ARRAY** 8.48 109 ⇓P Pn 05 01 36.3 -0.7
GYA0B ⇑S Sn 05 03 09.1 -3.2
GYA0B **ALIBECK ARRAY** 8.48 109 Pn Pn 05 01 36.2 -0.7
ANN **Anapa** 8.53 299 *e*P Pn 05 01 40.2 +2.7
ANN *e*S Sn 05 03 19.9 +6.7
ANN pmax pmax
comp=Z,92nm,1.5s
ANN MLR MLR
comp=Z,268nm,7.0s
ASHT **Ashkhabad** 8.67 109 P Pn 05 01 38.5 -1.0
ASHT **Ashkhabad** 8.67 109 Pn Pn 05 01 38.5 -1.0
TOKA **Tokat** 8.77 268 Pn 05 01 43.8 +2.9
GAZ **Gaziantep** 9.26 248 *e*P Pn 05 01 48.2 +0.5
GAZ **Gaziantep** 9.26 248 Pn Pn 05 01 51.2 +3.5
SARI **SarD1z-Kayseri** 9.31 256 *e*P Pn 05 01 54.0 +5.5
BNN **Bunyan** 9.59 260 *e*P Pn 05 01 58.0 +5.8
ILGA **Ilgaz** 10.76 274 Pn Pn 05 02 10.9 +2.7
VRH **Novokhopyorsk** 10.91 339 *e*P Pn 05 02 11.1 +1.0
VRH pmax pmax
comp=Z,40nm,0.5s
VRH MLR MLR
comp=Z,500nm,9.0s
BR131 **Keskin Array S** 11.02 267 P Pn 05 02 16.5 +4.7
SNR=8.3
BR131 **Keskin Array S** 11.02 267 P Pn 05 02 15.1 +3.3
BR131 **Keskin Array S** 11.02 267 Pn Pn 05 02 15.1 +3.3
BRTR **Keskin Array B** 11.02 267 Pn Pn 05 02 16.1 +4.3
comp=Z,0.1nm,0.3s,baz=93,slow=12,SNR=27
BRTR LR LR 05 07 29.6
comp=Z,142nm,18.2s,baz=69,slow=43
BRTR **Keskin Array B** 11.02 267 *i* P Pn 05 02 16.1 +4.3
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR **Keskin Array B** 11.02 267 Pn Pn 05 02 14.9 +3.1
BELG **Belogornoye** 11.22 359 *de*P Pn 05 02 16.0 +1.7
VORD **Divnogorie** 11.48 331 *e*P Pn 05 02 19.5 +1.6
VORD pmax pmax
comp=Z,10.0nm,0.6s
AKTO **Aktyubinsk** 11.60 34 Pn Pn 05 02 18.9 -0.6
comp=Z,5.3nm,0.3s,baz=213,slow=12,SNR=115
AKTO Sn Sn 05 04 26.1 -2.5
comp=Z,3.3nm,0.3s,baz=324,slow=20,SNR=3.7
AKTO LR LR 05 08 03.6
comp=Z,785nm,18.6s,baz=218,slow=44
AKTO **Aktyubinsk** 11.60 34 ⇓P Pn 05 02 18.5 -1.0
comp=Z,50nm,0.7s
AKTO ⇓S Sn 05 04 25.8 -2.7
comp=Z,70nm,0.8s
BR231 **Keskin MP Arra** 11.65 268 Pn Pn 05 02 22.4 +2.1
AB31 **Akbulak array** 11.67 42 ⇓P Pn 05 02 20.4 -0.1
comp=Z,44nm,0.8s,baz=221,slow=13,SNR=201
AB31 ⇑S Sn 05 04 26.3 -4.0
comp=Z,19nm,0.5s,baz=47,slow=30,SNR=3.6
AB31 **Akbulak array** 11.67 42 *e*P Pn 05 02 20.3 -0.1
AB31 S Sn 05 04 26.3 -4.0
ABKAR **Akbulak array** 11.67 42 Pn Pn 05 02 19.9 -0.6
ABKAR **Akbulak array** 11.67 42 Pn Pn 05 02 19.1 -1.4
VSR **Storozhevoye** 11.73 332 *e*P Pn 05 02 19.9 -1.4
VSR pmax pmax
comp=Z,20nm,0.5s
VSR MLR MLR
comp=Z,760nm,10.0s
VORR **Voronezh** 12.10 333 P Pn 05 02 30.0 +3.7
VORR pmax pmax
comp=Z,250nm,0.8s
ASF **Jabal al Asfar** 12.63 228 Pn Pn 05 02 36.2 +2.4
comp=Z,0.1nm,0.3s,baz=46,slow=7.0,SNR=4.9
MMAI **Mount Meron Ar** 12.91 235 Pn Pn 05 02 41.0 +3.3
baz=335,slow=19,SNR=4.4
MMAI LR LR 05 08 22.4
comp=Z,1μm,18.8s,baz=50,slow=41
LPSR **Galich'ya Gora** 12.97 335 *e*P Pn 05 02 38.5 +0.2
LPSR pmax pmax
comp=Z,120nm,0.8s
LPSR MLR MLR
comp=Z,430nm,10.0s
CSS **Mathiatis** 13.09 246 Pn 05 02 41.5 +1.4
HRA **Herat** 13.16 116 Pn Pn 05 02 40.1 -1.1
ISP **Isparta** 13.88 262 P Pn 05 02 53.0 +2.1
ISP **Isparta** 13.88 262 Pn Pn 05 02 53.0 +2.1
PURM **Purcari** 14.10 298 ⇑P Pn 05 02 56.4 +2.7
TLCR 14.53 292 ⇓P Pn 05 03 02.5 +2.9
ELL **Elmali** 14.73 258 P Pn 05 03 04.2 +1.7
ELL **Elmali** 14.73 258 Pn Pn 05 03 04.2 +1.7
TLBR **Topalu** 14.99 290 ⇑P P 05 03 08.8 -2.4
CFR **Carcaliu** 15.01 292 ⇑P P 05 03 08.7 -2.6
HARR **Harsova** 15.09 290 ⇑P Pn 05 03 09.6 +2.5
MANT **Manisa** 15.15 266 Pn Pn 05 03 08.1 -0.2
MANT IAmb IAmb 05 03 15.7
comp=Z,49nm,1.0s
AKAS **Kas** 15.16 257 Pn Pn 05 03 09.7 +1.4
VASR **Vaslui** 15.52 297 ⇑P P 05 03 15.1 -1.9
SORM **Soroca** 15.57 303 ⇑P Pn 05 03 14.0 +0.6
EIL **Elat** 15.62 227 Pn Pn 05 03 13.8 -0.4
comp=Z,0.1nm,0.3s,baz=352,slow=6.3,SNR=3.9
EIL LR LR 05 10 03.4
comp=Z,540nm,19.0s,baz=70,slow=40
IAS **Iasi** 15.80 299 ⇑P Pn 05 03 17.4 +0.9
OBN **Obninsk** 15.85 335 Pn Pn 05 03 14.6 -2.4
comp=Z,1.7nm,0.3s,baz=187,slow=2.4,SNR=8.5
OBN LR LR 05 10 09.5
comp=Z,176nm,19.5s,baz=142,slow=40
OBN **Obninsk** 15.85 335 IAmb IAmb 05 03 34.0
comp=Z,79nm,0.9s

TAS **Tashkent** 16.04 82 P Pn 05 03 16.3 -3.2
TAS pmax pmax
comp=Z,46nm,0.7s
TAS **Tashkent** 16.04 82 Pn Pn 05 03 16.3 -3.2
TAS IAmb IAmb 05 03 41.7
comp=Z,46nm,0.7s
MOS **Moscow** 16.07 338 *e*P Pn 05 03 17.1 -2.7
MOS *e*S Sn 05 06 15.9 -1.6
MOS pmax pmax
comp=Z,145nm,0.9s
VRI **Vrincioaia** 16.09 294 ⇑P P 05 03 22.0 -1.4
VRI **Vrincioaia** 16.09 294 P P 05 03 23.5 +0.1
VRI pmax pmax
comp=Z,39nm,1.4s
AKASG **Malin Array Be** 16.10 313 Pn Pn 05 03 19.2 -1.1
comp=Z,2.2nm,0.3s,baz=118,slow=13,SNR=43
AKASG LR LR 05 10 23.7
comp=Z,400nm,18.5s,baz=110,slow=40
AKBB **Malin Array Si** 16.10 313 ⇓*e*P P 05 03 21.9 -1.6
AKBB pmax pmax
comp=Z,11nm,0.6s
AKBB MLR MLR
comp=Z,452nm,12.0s
PLOR **Plostina** 16.14 294 ⇑P Pn 05 03 22.4 +1.5
PLOR **Plostina** 16.14 294 P Pn 05 03 22.3 +1.5
NEHR **Nehoiu** 16.33 292 ⇑P P 05 03 26.1 0.0
BRLS **Borolday** 16.33 76 *e*S Sn 05 06 18.4 -5.6
CHGR **Chuyangaron** 16.45 92 Pn Pn 05 03 21.9 -2.9
CHGR IAmb IAmb 05 03 29.7
comp=Z,68nm,0.8s
ALN **Alexandroupoli** 16.54 276 P Pn 05 03 26.2 +0.2
ALN pmax pmax
comp=Z,34nm,1.0s
ALN **Alexandroupoli** 16.54 276 Pn Pn 05 03 26.1 +0.2
SHME **Shamm** 16.54 153 P P 05 03 28.1 -0.4
MLR **Muntele Rosu** 16.58 292 Pn P 05 03 28.5 -0.5
comp=Z,0.7nm,0.3s,baz=116,slow=3.6,SNR=17
MLR LR LR 05 11 34.4
comp=Z,360nm,21.9s,baz=99,slow=43
MLR **Muntele Rosu** 16.58 292 ⇑P P 05 03 28.6 -0.4
MLR **Muntele Rosu** 16.58 292 Pn Pn 05 03 26.6 +0.1
BANOM **Banah** 16.71 153 *i* P P 05 03 30.5 0.0
SNR=7.8
BANOM **Banah** 16.71 153 P P 05 03 31.3 +0.9
BIZ **Bicaz** 16.71 297 ⇓P Pn 05 03 29.2 +1.1
PRAR **RASCA** 16.73 299 ⇑P P 05 03 29.4 -1.1
ARU **Arti** 16.75 21 Pn Pn 05 03 24.9 -3.5
comp=Z,0.0nm,0.3s,baz=196,slow=8.4,SNR=28
ARU Sn Sn 05 06 28.1 -5.7
comp=Z,0.0nm,0.3s,baz=324,slow=22,SNR=2.3
ARU LR LR 05 12 01.5
comp=Z,835nm,18.2s,baz=205,slow=44
ARU **Arti** 16.75 21 *d* iP Pn 05 03 24.8 -3.6
ARU S Sn 05 06 29.3 -4.5
ARU pmax pmax
comp=Z,23nm,0.6s
ARU MLR MLR
comp=Z,849nm,15.0s
ARU **Arti** 16.75 21 Pn Pn 05 03 24.9 -3.6
ARU IAmb IAmb 05 03 31.6
comp=Z,67nm,0.6s
KK31 **Karatay Array** 16.82 76 ⇑P Pn 05 03 29.0 -0.5
comp=Z,8.6nm,0.5s,baz=280,slow=14,SNR=95
KK31 ⇓S Sn 05 06 34.9 -1.1
comp=Z,29nm,1.1s,baz=278,slow=28,SNR=4.5
KK31 **Karatay Array** 16.82 76 *i* P Pn 05 03 28.8 -0.7
KK31 **Karatay Array** 16.82 76 Pn Pn 05 03 27.0 -2.5
KKAR **Karatay Array** 16.82 76 P Pn 05 03 26.3 -3.2
KKAR **Karatay Array** 16.82 76 Pn Pn 05 03 26.3 -3.2
UMQ **Umm Al-Quwin** 16.87 155 P P 05 03 31.9 -0.3
DOPR **Dopca** 17.03 294 ⇑P P 05 03 34.7 +0.8
VOIR 17.20 292 ⇑P P 05 03 37.0 +1.2
VOIR 17.20 292 P P 05 03 37.9 +2.1
VOIR pmax pmax
comp=Z,48nm,0.9s
GAR **Garm** 17.23 90 IAmb IAmb 05 04 21.2
comp=Z,58nm,0.7s
KARP **Karpathos** 17.25 258 Pn Pn 05 03 34.6 -0.3
MDH **Madha** 17.29 154 P P 05 03 36.7 -0.1
MDH **Madha** 17.29 154 P P 05 03 37.4 +0.6
NAZ **Nazwa, Dubai** 17.38 156 *i* P P 05 03 37.6 -0.1
SNR=14
NAZ **Nazwa, Dubai** 17.38 156 P P 05 03 38.8 +1.0
SNR=5.8
KIRV **Kirov** 17.45 3 Pn Pn 05 03 33.8 -3.3
comp=Z,4.0nm,0.3s,baz=178,slow=16,SNR=16
KIRV Sn Sn 05 06 46.1 -4.6
comp=Z,1.5nm,0.3s,baz=314,slow=20,SNR=2.1
KIRV LR LR 05 12 11.7
comp=Z,986nm,18.8s,baz=185,slow=43
KIRV **Kirov** 17.45 3 *d* iP Pn 05 03 34.0 -3.1
BURAR **Bucovina Array** 17.45 299 ⇑P Pn 05 03 37.9 +0.4
BURAR **Bucovina Array** 17.45 299 P Pn 05 03 37.8 +0.4
BURAR **Bucovina Array** 17.45 299 Pn Pn 05 03 36.4 -1.1
BUR08 **Bucovina Ar. S** 17.47 299 Pn Pn 05 03 37.3 -0.3
ARR **Arges** 17.48 292 ⇑P P 05 03 40.4 +1.5
AJN **Ajban** 17.58 158 P P 05 03 40.4 +0.4
AJN **Ajban** 17.58 158 P P 05 03 40.6 +0.6
FAQ **Al Faqa, Dubai** 17.58 156 P P 05 03 41.4 +1.4
UOSS **Minazif** 17.59 155 *i* P Pn 05 03 39.5 +0.3
SNR=7.0
UOSS **Minazif** 17.59 155 P P 05 03 39.9 -0.2
UOSS **Minazif** 17.59 155 Pn Pn 05 03 38.9 -0.3
UOSS IAmb IAmb 05 03 56.2
comp=Z,68nm,1.1s
HATD **Hatta, Dubai** 17.68 155 *i* P P 05 03 40.7 -0.4
SNR=11
HATD **Hatta, Dubai** 17.68 155 P P 05 03 41.5 +0.5
SNR=5.5
SVE **Sverdlovsk** 17.68 23 *e*P Pn 05 03 37.6 -2.4
SVE *e*S Sn 05 06 50.9 -5.5
SVE pmax pmax
comp=Z,208nm,1.4s
ASHO **Ashiyiah** 17.78 155 *i* P Pn 05 03 41.8 +0.2
SNR=19
ASHO **Ashiyiah** 17.78 155 P P 05 03 42.2 -0.1
SNR=5.9
KBL **Kabul** 17.89 105 P P 05 03 45.0 +1.3
SNR=22
KBL **Kabul** 17.89 105 P P 05 03 43.7 0.0
KBL pmax pmax
comp=Z,46nm,1.2s
KBL **Kabul** 17.89 105 P 05 03 43.7 0.0
ARCR **ARCALIA** 17.92 297 ⇓P P 05 03 44.8 +1.2
LOT **Lotru** 18.10 292 ⇑P P 05 03 47.8 +2.1
ALNE **Al Ain** 18.28 157 *i* P P 05 03 48.0 +0.2
SNR=11
CJR **Cluj-Napoca** 18.37 296 ⇓P Pn 05 03 50.5 +1.8
SOHO **SOHO** 18.45 155 *i* P Pn 05 03 49.8 +0.1
SNR=8.7
SOHO **SOHO** 18.45 155 P Pn 05 03 49.9 +0.1
DEV **Deva** 18.74 293 ⇑P Pn 05 03 54.4 +1.2
GZR **Gura Zlata** 18.79 291 ⇑P Pn 05 03 54.4 +0.6
LVV **L'vov** 18.81 305 *e*P Pn 05 03 53.9 0.0
MICGM **Minsk** 18.86 322 *e*P P 05 03 51.0 -3.0
MNK **Minsk** 18.86 322 *e*P P 05 03 51.0 -3.0
HERR **Herculane** 19.02 290 ⇑P Pn 05 03 56.3 -0.2
IDI **Anoyia** 19.04 259 P P 05 03 54.8 -1.3
comp=Z,1.5nm,0.3s,baz=121,slow=16,SNR=6.1
BRVK **Borovoye** 19.18 44 ⇑P Pn 05 03 58.2 -0.3
comp=Z,67nm,0.8s
BRVK **Borovoye** 19.18 44 *c* iP Pn 05 03 58.4 -0.1
BRVK pmax pmax
comp=Z,61nm,0.7s
BRVK **Borovoye** 19.18 44 P P 05 03 56.2 -1.3
BRVK IAmb IAmb 05 03 59.6
comp=Z,63nm,0.8s
ARQ **Araqi** 19.19 155 P P 05 03 57.7 -0.1
SNR=11
BVAR **Borovoye Array** 19.22 44 P Pn 05 03 58.7 -0.3
comp=Z,5.8nm,0.3s,baz=180,slow=16,SNR=85
BVAR S Sn 05 07 25.5 -8.4
comp=Z,0.5nm,0.3s,baz=234,slow=27,SNR=2.3
EKS2 **Erkin-Say** 19.24 77 P Pn 05 04 00.2 +0.9
SNR=17
BRZS **Berezniki** 19.33 55 *e*P P 05 03 59.5 +0.3
BRZS *e*LR LR 05 12 27.5
comp=Z,416nm,15.5s
BRZS **Berezniki** 19.33 55 *e*P P 05 03 59.4 +0.3
BRZS MLR MLR
comp=Z,416nm,16.0s
BTLS **Baital** 19.39 70 *e*P P 05 03 60.0 +0.1
BTLS *e*LR LR 05 12 22.8
comp=Z,124nm,14.8s
BTLS **Baital** 19.39 70 *e*P P 05 03 59.9 +0.1
BTLS MLR MLR
comp=Z,124nm,15.0s
MDVR **Moldovita** 19.51 289 ⇑P Pn 05 04 02.1 -0.4
BIDO **Bidbid** 19.56 151 P P 05 04 01.8 -0.1
KWP **Kalwaria Pacla** 19.57 304 *e*P Pn 05 04 02.8 -0.4
KWP **Kalwaria Pacla** 19.57 304 *e*P Pn 05 04 02.8 -0.4
UZH **Uzhgorod** 19.59 301 *e*P P 05 04 02.6 +0.6
NACGM **Naroch** 19.62 322 *e*P P 05 04 01.0 -1.2
NACGM *e*S S 05 07 34.0 -8.8
BZS **Buzias** 19.62 292 ⇑P Pn 05 04 03.1 -0.6
SIRR **Siria** 19.64 294 ⇑P Pn 05 04 03.9 0.0
KOLS **Kolonicke sedl** 19.67 302 *e*P P 05 04 02.9 0.0
KOLS pmax pmax
comp=Z,16nm,0.8s
KOLS **Kolonicke sedl** 19.67 302 *e*P P 05 04 02.9 0.0
USP **Ospenovka** 19.73 75 P Pn 05 04 04.7 -0.4
SNR=8.0
AAK **Ala-Archa** 19.77 77 P Pn 05 04 07.8 +2.0
SNR=11
AAK **Ala-Archa** 19.77 77 P Pn 05 04 05.4 -0.4
AAK **Ala-Archa** 19.77 77 P Pn 05 04 05.1 -0.6
comp=Z,41nm,1.4s
SGDS **Sogindy** 19.82 75 *e*P Pn 05 04 05.5 -0.7
comp=Z,10nm,1.4s
SGDS **Sogindy** 19.82 75 *e*P Pn 05 04 05.4 -0.7
SGDS pmax pmax
comp=Z,10.0nm,1.4s
UCH **Uchtor** 19.82 78 P Pn 05 04 07.9 +1.3
SNR=8.5
FRU1 **Bishkek** 19.86 76 P P 05 04 02.7 -2.3
FRU1 pmax pmax
comp=Z,39nm,0.8s
FRU1 **Bishkek** 19.86 76 P P 05 04 02.7 -2.3
FRU1 IAmb IAmb 05 04 14.9
comp=Z,39nm,0.8s
IDID **Didziasalis** 19.88 322 *e*P Pn 05 04 06.5 -0.3
BANR **Banloc** 19.94 291 ⇓P Pn 05 04 07.6 0.0
BSY **Bisya** 19.96 154 P P 05 04 05.5 -0.7
SNR=11
SMDO **Samad** 19.96 152 P P 05 04 06.5 +0.3
WSAR **Wadi Sarin** 20.01 150 P Pn 05 04 09.4 +0.9
comp=Z,1.4nm,0.3s,baz=334,slow=9.3,SNR=16
KBK **Karagaybulak** 20.10 77 P Pn 05 04 09.5 -0.1
SNR=13
IIGN **Ignalina** 20.14 322 *e*P P 05 04 07.9 0.0
CRVS **Cervenica-Dubn** 20.19 301 *e*P Pn 05 04 09.6 -0.8
CRVS pmax pmax
comp=Z,117nm,1.1s
CRVS **Cervenica-Dubn** 20.19 301 *e*P Pn 05 04 09.6 -0.8
ISAL **Salakas** 20.31 323 *e*P P 05 04 09.8 +0.1
IZAR **Zarasai** 20.36 323 *e*P Pn 05 04 11.7 -0.8
IZAR IAmb IAmb 05 04 43.9
comp=Z,22nm,0.8s
KLMR **Klimovskoe** 20.37 348 *e*P P 05 04 10.6 +0.3
KLMR pmax pmax
comp=Z,77nm,0.8s
KLMR **Klimovskoe** 20.37 348 *e*P P 05 04 10.7 +0.4
KLMR AMP 05 04 21.3
comp=Z,77nm,0.8s
KLMR LQ LQ 05 10 59.0
KLMR LQ LQ 05 10 59.0
KLMR LR LR 05 12 08.1
BEO **Beograd** 20.40 289 P Pn 05 04 15.0 +2.1
PRGR **Permogore** 20.53 357 ⇓*i* P P 05 04 11.3 -0.8
PRGR *e*S S 05 07 56.7 -4.2
PRGR pmax pmax
comp=Z,94nm,0.6s
ITM **Ithomi** 20.55 267 P P 05 04 13.5 +0.9
TKM2 **Tokmak 2** 20.56 76 P P 05 04 13.7 +0.9
SNR=12
TKM2 **Tokmak 2** 20.56 76 ⇓P P 05 04 13.0 +0.2
comp=Z,22nm,1.2s
JMDO **Jabal Madar** 20.61 152 P P 05 04 13.7 +0.4
SNR=7.9
WBK **Wadi Bani Khal** 20.71 150 P P 05 04 14.7 +0.4
SNR=5.1
KECS **Kecovo** 20.74 300 *e*P P 05 04 15.6 +1.1
KECS pmax pmax
comp=Z,24nm,0.7s
KECS **Kecovo** 20.74 300 *e*P P 05 04 15.6 +1.1
DIVS **Divibare** 20.75 287 *e*P P 05 04 15.8 +1.1
DIVS **Divibare** 20.75 287 IAmb IAmb 05 04 20.7
comp=Z,27nm,0.8s
BOOM **Boomskoye usch** 20.85 77 P P 05 04 16.5 +0.6
BOOM pmax pmax
comp=Z,27nm,1.0s
BOOM **Boomskoye usch** 20.85 77 P P 05 04 16.5 +0.6
FRGS **Fruska Gora** 20.87 290 *e*P Pn 05 04 17.7 -0.8
SUW **Suwalki** 20.94 316 *e*P Pn 05 04 18.4 -0.8
SUW **Suwalki** 20.94 316 *e*P Pn 05 04 18.4 -0.7
PSZ **Piszkesteto** 21.04 298 ⇑P P 05 04 19.1 +1.3
PSZ **Piszkesteto** 21.04 298 P P 05 04 18.9 +1.1
PSZ pmax pmax
comp=Z,124nm,1.5s
PSZ **Piszkesteto** 21.04 298 P P 05 04 18.9 +1.1
KUU **Kurty** 21.04 73 *e*P P 05 04 17.7 -0.1
KUU **Kurty** 21.04 73 *e*P P 05 04 17.6 -0.1
NIE **Niedzica** 21.04 302 *e*P P 05 04 18.9 +1.1
NIE **Niedzica** 21.04 302 *e*P P 05 04 18.9 +1.1
TEKS **Tekeris** 21.07 289 *e*P P 05 04 18.6 +0.5
IGT **Igoumenitsa** 21.09 275 P P 05 04 19.1 +0.7
IGT pmax pmax
comp=Z,25nm,1.0s
BBLS **Lazići** 21.18 287 *e*P P 05 04 21.0 +1.7
JLN **Jalan Bani Buh** 21.29 150 P P 05 04 22.0 +1.4
SNR=5.5
PABE **Paberze** 21.29 320 *e*P P 05 04 20.4 0.0
PABE IAmb IAmb 05 04 40.9
comp=Z,110nm,1.0s
KSH **Kashi** 21.37 85 P P 05 04 19.3 -2.2
KSH S S 05 08 11.6 -6.6
KSH pmax pmax
comp=Z,24nm,0.6s
KSH pmax pmax
comp=Z,280nm,6.0s
NIL **Nilore** 21.39 102 P P 05 04 22.2 +0.5
NIL pmax pmax
comp=Z,87nm,1.0s
NIL **Nilore** 21.39 102 P P 05 04 22.2 +0.5
PDG **Podgorica** 21.40 283 ⇑P P 05 04 22.7 +1.1
PDG **Podgorica** 21.40 283 *e*P P 05 04 22.5 +0.9
PDG **Podgorica** 21.40 283 P P 05 04 23.0 +1.3
PDG IAmb IAmb 05 04 32.4
comp=Z,44nm,1.0s
DRME **Dracevica, Mon** 21.48 282 *e*P P 05 04 25.5 +3.0
CHKK **Chushkaly** 21.51 73 *e*P P 05 04 23.5 +0.6
CHKK **Chushkaly** 21.51 73 *e*P P 05 04 23.4 +0.6
LANS **Liptovska Anna** 21.52 301 *e*P P 05 04 24.7 +1.8
LANS pmax pmax
comp=Z,13nm,1.0s
LANS **Liptovska Anna** 21.52 301 *e*P P 05 04 24.7 +1.8
TNSS **Tian-Shan** 21.53 75 *e*P P 05 04 25.0 +1.4
TNSS **Tian-Shan** 21.53 75 *e*P P 05 04 24.9 +1.4
OJC **Ojcow** 21.54 304 *e*P P 05 04 22.9 -0.2
OJC **Ojcow** 21.54 304 *e*P P 05 04 22.9 -0.2
BUD **Budapest** 21.56 297 P P 05 04 25.7 +2.4
BUD pmax pmax
comp=Z,46nm,1.4s
UPM **Unac-Piva** 21.59 285 *e*P P 05 04 24.8 +1.0
MDOK **Medeo** 21.60 75 *e*P P 05 04 25.5 +1.5
MDOK **Medeo** 21.60 75 *e*P P 05 04 25.4 +1.5
PUL **Pulkovo** 21.61 335 ⇓*e*P P 05 04 28.5 +4.8
PUL pmax pmax
comp=Z,85nm,0.7s
KDJ **Kajisay** 21.80 78 P P 05 04 27.5 +1.3
KDJ pmax pmax
comp=Z,25nm,0.9s
KDJ **Kajisay** 21.80 78 P P 05 04 27.5 +1.3
KDJ IAmb IAmb 05 04 49.5
comp=Z,25nm,0.9s
VYHS **Vyhne** 21.82 299 *e*P P 05 04 27.6 +1.5
VYHS pmax pmax
comp=Z,96nm,1.7s
VYHS **Vyhne** 21.82 299 *e*P P 05 04 27.6 +1.5
MHTO **MHTO** 21.85 154 P P 05 04 26.4 -0.1
SNR=16
BRY **Bratogost** 21.88 284 *e*P P 05 04 28.0 +1.1
VSU **Vasula** 21.90 329 *e*P P 05 04 26.2 -0.6
VSU IAmb IAmb 05 04 55.1
comp=Z,189nm,0.7s
VSU **Vasula** 21.90 329 ⇑*e*P P 05 04 26.1 -0.7
HCY **Herceg Novi** 21.96 283 *e*P P 05 04 28.6 +0.9
TARG **Taragay, Kyrgy** 22.32 79 IAmb IAmb 05 04 55.1
comp=Z,28nm,1.0s

PBUR **Paburge** 22.55 320 *eP* P 05 04 34.5 +0.7
SATY **Saty** 22.60 75 *eP* P 05 04 35.3 +0.7
SATY **Saty** 22.60 75 *eP* P 05 04 35.3 +0.7
JAVC **Velka Javorina** 22.64 300 *eP* P 05 04 37.6 +2.7
PRZ **Przheval'sk** 22.66 77 P P 05 04 35.6 +0.3
PRZ pmax pmax
comp=Z,25nm,0.9s
PRZ **Przheval'sk** 22.66 77 P P 05 04 35.6 +0.3
PRZ IAmb IAmb 05 05 00.1
comp=Z,25nm,0.8s
BLY **Banja Luka** 22.74 289 *eP* P 05 04 36.9 +0.9
SMOL **Smolenice** 22.75 299 *eP* P 05 04 37.7 +1.6
SMOL pmax pmax
comp=Z,9.0nm,0.9s
SMOL **Smolenice** 22.75 299 *eP* P 05 04 37.7 +1.6
MGRS **Mrkonjic Grad** 22.82 288 *eP* P 05 04 51.0 +14
MODS **Modra-Piesok** 22.83 299 *eP* P 05 04 37.5 +0.6
MODS pmax pmax
comp=Z,76nm,1.3s
MODS **Modra-Piesok** 22.83 299 *eP* P 05 04 37.5 +0.6
MORC **Moravsky Berou** 22.87 302 ⇓P P 05 04 37.4 +0.1
MORC **Moravsky Berou** 22.87 302 *eP* P 05 04 36.5 -0.9
MORC **Moravsky Berou** 22.87 302 P P 05 04 37.4 +0.1
MORC pmax pmax
comp=Z,45nm,1.5s
MORC **Moravsky Berou** 22.87 302 P P 05 04 37.4 +0.1
MORC IAmb IAmb 05 04 51.7
comp=Z,45nm,1.5s
ZST **Bratislava** 22.93 298 *eP* P 05 04 37.9 0.0
ZST pmax pmax
comp=Z,261nm,1.9s
ZST **Bratislava** 22.93 298 *eP* P 05 04 37.9 0.0
UZB **Uzynbulak** 23.04 75 *eP* P 05 04 40.7 +1.5
UZB **Uzynbulak** 23.04 75 *eP* P 05 04 40.7 +1.5
KURBB **Kurchatov Arra** 23.12 56 P P 05 04 40.9 +0.9
comp=Z,22nm,0.8s,baz=260,slow=11,SNR=97
KURBB S S 05 08 52.4 +2.1
comp=Z,0.6nm,0.5s,baz=256,slow=29,SNR=1.8
KURBB **Kurchatov Arra** 23.12 56 ⇓P P 05 04 40.8 +0.9
comp=Z,49nm,1.0s
KURBB **Kurchatov Arra** 23.12 56 P P 05 04 40.7 +0.8
KURK **Kurchatov** 23.20 55 ⇑P P 05 04 41.4 +0.8
comp=Z,66nm,1.4s
KURK **Kurchatov** 23.20 55*c* *iP* P 05 04 41.8 +1.2
KURK pmax pmax
comp=Z,61nm,1.3s
KURK **Kurchatov** 23.20 55 P P 05 04 41.0 +0.4
KURK IAmb IAmb 05 04 46.7
comp=Z,33nm,0.7s
SLIT **Slitere, Latvi** 23.23 324 *eP* P 05 04 40.1 -0.8
SLIT IAmb IAmb 05 04 54.3
comp=Z,161nm,0.8s
SHLS **Shalkode** 23.36 75 *eP* P 05 04 46.7 +4.3
SHLS **Shalkode** 23.36 75 *eP* P 05 04 46.7 +4.3
PDGK **Podgornoye** 23.36 74 ⇓P P 05 04 42.0 -0.5
comp=Z,26nm,1.4s
KOGS **Kog** 23.39 294 *i* P P 05 04 43.6 +1.0
VRAC **Vranov** 23.41 301 P P 05 04 43.5 +0.8
comp=Z,6.2nm,0.8s,baz=85,slow=9.9,SNR=6.7
VRAC LR LR 05 15 17.4
comp=Z,333nm,19.2s,baz=48,slow=40
VRAC **Vranov** 23.41 301 ⇑P P 05 04 42.8 0.0
VRAC **Vranov** 23.41 301 *eP* P 05 04 43.2 +0.4
KRLC **Kraliky** 23.41 303 *eP* P 05 04 42.8 0.0
KRLC **Kraliky** 23.41 303 *eP* P 05 04 42.8 0.0
KRUC **Moravsky** 23.50 300 *eP* P 05 04 44.9 +1.2
MATE **Matera** 23.57 279 ⇓P P 05 04 43.8 -0.6
WHFO **Wadi Hawf** 23.71 166 P P 05 04 44.5 -1.5
SNR=12
CONA **Conrad Observa** 23.73 297 *eP* P 05 04 47.6 +1.5
comp=Z,25nm,1.5s
DPC **Dobruska-Polom** 23.75 303 *eP* P 05 04 46.5 +0.3
DPC *ex* x 05 04 51.8
DPC **Dobruska-Polom** 23.75 303 *eP* P 05 04 46.5 +0.3
DPC *e* 05 04 51.8
TIP **Timpagrande** 23.87 276 P P 05 04 46.4 -1.1
ARSA **Arzberg** 23.92 296 *eP* P 05 04 48.7 +0.9
comp=Z,17nm,0.8s,SNR=6.9
CRES **Cresnjev** 23.94 292 *eP* P 05 04 47.1 -0.8
CHVC **Chvalec** 23.96 304 *eP* P 05 04 49.0 +0.9
UPC **Upice** 23.97 304 *eP* P 05 04 48.9 +0.7
UPC **Upice** 23.97 304 *eP* P 05 04 48.9 +0.7
SHAO **Shalim** 24.00 162 *iP* P 05 04 48.0 -0.7
SNR=18
SHAO **Shalim** 24.00 162 P P 05 04 47.5 -1.2
SNR=9.2
DMTO **DMTO** 24.14 164 P P 05 04 49.4 -0.6
SNR=9.2
ABTO **Aybut** 24.19 168 P P 05 04 49.2 -1.2
SNR=8.6
RBK **Rabkut** 24.20 165 P P 05 04 50.1 -0.5
SNR=18
SOKA **Soboth** 24.23 294 *eP* P 05 04 51.5 +0.7
comp=Z,27nm,0.8s,SNR=18
FIA1 **FINESS Array S** 24.25 334 P P 05 04 49.9 -0.7
FINES **FINESS Array B** 24.25 334 P P 05 04 50.4 -0.2
comp=Z,30nm,0.6s,baz=142,slow=9.4,SNR=320
FINES S S 05 09 09.7 +1.5
comp=Z,18nm,1.0s,baz=138,slow=20,SNR=5.2
FINES LR LR 05 15 11.8
comp=Z,773nm,18.6s,baz=137,slow=38
FINES **FINESS Array B** 24.25 334 P P 05 04 50.0 -0.6
OBKA **Obir** 24.57 294 *eP* P 05 04 54.8 +1.0
comp=Z,23nm,0.8s
LJU **Ljubljana** 24.58 293 *iP* P 05 04 54.5 +0.7
LJU **Ljubljana** 24.58 293 *eP* P 05 04 54.2 +0.3
GOPC **GO Pecny, Ondr** 24.66 302 *eP* P 05 04 57.3 +2.8
GOPC **GO Pecny, Ondr** 24.66 302 *eP* P 05 04 57.3 +2.8
CEY **Cerknica** 24.66 292 *eP* P 05 04 55.2 +0.6
MOA **Molln** 24.80 297 *eP* P 05 04 54.8 -1.0
comp=Z,13nm,1.1s
PRU **Pruhonice** 24.82 302 *eP* P 05 04 57.4 +1.4
PRU **Pruhonice** 24.82 302 *eP* P 05 04 57.4 +1.4
PVCC **Panska Ves** 24.89 303 *eP* P 05 04 57.3 +0.8
PVCC **Panska Ves** 24.89 303 *eP* P 05 04 57.3 +0.8
MAKZ **Makanchi** 24.97 66 P P 05 04 58.5 +1.1
MAKZ **Makanchi** 24.97 66 P P 05 04 56.4 -1.0
MAKZ IAmb IAmb 05 05 06.3
comp=Z,16nm,0.8s
MK31 **Makanchi Array** 25.19 66 ⇑P P 05 05 00.5 +1.1
comp=Z,19nm,0.7s,baz=269,slow=6.3,SNR=117
MK31 **Makanchi Array** 25.19 66 *iP* P 05 05 00.1 +0.8
MK31 **Makanchi Array** 25.19 66 IAmb IAmb 05 05 08.1
comp=Z,16nm,0.8s
MKAR **Makanchi Array** 25.19 66 P P 05 05 00.5 +1.1
comp=Z,8.6nm,0.6s,baz=273,slow=7.7,SNR=71
MKAR LR LR 05 16 49.5
comp=Z,176nm,19.3s,baz=260,slow=41
MKAR **Makanchi Array** 25.19 66 P P 05 04 59.7 +0.3
MYKA **Terra Mystica** 25.19 294 *eP* P 05 05 00.4 +1.0
comp=Z,15nm,0.7s
GEC2 **GERESS Array S** 25.24 299 P P 05 05 00.4 +0.5
GERES **GERESS Array B** 25.24 299 P P 05 04 59.5 -0.4
comp=Z,7.0nm,0.6s,baz=98,slow=9.3,SNR=40
GERES LR LR 05 16 35.9
comp=Z,245nm,18.9s,baz=108,slow=40
GERES **GERESS Array B** 25.24 299 P P 05 04 59.7 -0.2
GERES **GERESS Array B** 25.24 299 P P 05 04 59.6 -0.2
PRED **Cave del Predi** 25.25 294 IAmb IAmb 05 05 08.2
comp=Z,21nm,0.8s
BRG **Berggiesshubel** 25.33 304 *iP* P 05 05 02.8 +2.2
comp=Z,7.4nm,0.9s
BRG **Berggiesshubel** 25.33 304 *i* P P 05 05 02.8 +2.2
BRG pmax pmax
comp=Z,7.0nm,0.9s
KHC **Kasperske Hory** 25.35 300 *eP* P 05 05 00.5 -0.3
KHC *esP* sP 05 05 20.5 +11
KHC **Kasperske Hory** 25.35 300⇓ *eP* P 05 05 02.6 +1.8
KHC pmax pmax
comp=Z,11nm,1.0s
KBA **Koelnbreinsper** 25.40 295 *eP* P 05 05 02.4 +1.0
comp=Z,50nm,1.0s,SNR=17
KBA **Koelnbreinsper** 25.40 295 P P 05 05 01.9 +0.5
AQU **L'Aquila** 25.71 284 *eP* P 05 05 05.8 +1.7
AQU **L'Aquila** 25.71 284 IAmb IAmb 05 05 16.1
comp=Z,29nm,0.8s
RUE **Ruedersdorf** 25.73 308 *eP* P 05 05 04.5 +0.4
BSD **Bornholm Skovb** 25.80 314 *eP* P 05 04 59.7 -5.0
BSD **Bornholm Skovb** 25.80 314 *iP* P 05 04 59.7 -5.0
BSD **Bornholm Skovb** 25.80 314 *eP* P 05 04 59.7 -5.0
NRCA **Norcia** 25.85 285 IAmb IAmb 05 05 18.1
comp=Z,28nm,1.2s
ABTA **Abfaltersbach** 25.97 294 *eP* P 05 05 06.9 +0.4
comp=Z,20nm,1.3s

ABTA *eP* PcP 05 08 34.6 0.0
comp=Z,6.3nm,1.1s
CLL **Collm** 25.99 305 *eP* P 05 05 06.0 -0.5
comp=Z,12nm,0.9s
CLL LmV 05 15 00.0
comp=Z,200nm,19.7s
CLL **Collm** 25.99 305 *eP* P 05 05 06.0 -0.5
CLL pmax pmax
comp=Z,12nm,0.9s
CIMO **Cimolais** 26.03 293 IAmb IAmb 05 05 19.6
comp=Z,31nm,1.3s
VAE **Valguarnera** 26.13 273 P P 05 05 09.8 +1.9
comp=Z,14nm,0.6s,baz=353,slow=8.7,SNR=4.0
WTTA **Wattenberg** 26.57 296 P P 05 05 12.1 +0.1
comp=Z,16nm,0.8s
WTTA *iP* PcP 05 08 36.8 +0.8
comp=Z,5.6nm,0.5s
WATA **Walderalm** 26.61 296 *eP* P 05 05 13.4 +1.0
comp=Z,10nm,0.7s
WATA *iP* PcP 05 08 36.6 +0.5
comp=Z,3.6nm,0.5s
SQTA **Sankt Quirin** 26.86 295 *eP* P 05 05 15.2 +0.7
comp=Z,12nm,0.7s,SNR=6.8
SQTA *iP* PcP 05 08 37.4 +0.7
comp=Z,3.4nm,0.6s
NDI **New Delhi** 26.89 108 *eP* P 05 05 17.0 +2.1
MOTA **Moosalm** 26.93 296 *eP* P 05 05 14.6 -0.6
comp=Z,8.4nm,0.7s
MOTA *eP* PcP 05 08 37.1 +0.3
comp=Z,6.2nm,0.8s
GRF **Grafenberg Arr** 26.93 301 *eP* P 05 05 19.3 +4.2
comp=Z,25nm,1.9s,baz=99,slow=8.7
OSSC **Osservatorio P** 27.10 287 IAmb IAmb 05 05 26.4
comp=Z,41nm,1.2s
RETA **Reutte** 27.16 296 *eP* P 05 05 17.8 +0.6
comp=Z,2.2nm,0.5s
RETA *eP* PcP 05 08 37.7 +0.4
comp=Z,1.6nm,0.5s
FETA **Feichten** 27.19 295 *eP* P 05 05 18.8 +1.2
comp=Z,8.7nm,0.7s
FETA *eP* PcP 05 08 38.0 +0.5
comp=Z,3.0nm,0.7s
ZAA0 **Zalesovo Array** 27.61 50 ⇓P P 05 05 20.3 -0.8
comp=Z,0.9nm,0.8s
ZALV **Zalesovo Beam** 27.61 50 P P 05 05 21.2 +0.1
comp=Z,2.2nm,0.3s,baz=259,slow=9.6,SNR=15
ZALV LR LR 05 18 05.5
comp=Z,515nm,18.1s,baz=258,slow=40
ZALV **Zalesovo Beam** 27.61 50 P P 05 05 21.0 -0.1
APA **Apatity** 27.61 348⇑ *iP* P 05 05 24.2 +3.2
APA pmax pmax
comp=Z,11nm,0.7s
LVZ **Lovozero** 27.73 349*ce* P P 05 05 23.8 +1.7
LVZ **Lovozero** 27.73 349 P P 05 05 22.1 0.0
DAVA **Damuels** 27.76 296 *eP* P 05 05 23.0 +0.3
comp=Z,4.8nm,0.5s
DAVA *iP* PcP 05 08 39.7 +0.8
comp=Z,6.6nm,1.1s
DAVOX **Davos/Dischmat** 27.78 295 P P 05 05 22.9 0.0
comp=Z,3.9nm,0.7s,baz=85,slow=13,SNR=9.5
HFS **Hagfors** 28.35 324 P P 05 05 26.6 -1.0
comp=Z,2.1nm,0.3s,baz=107,slow=9.9,SNR=21
DGZ **Jazzator, Alta** 28.69 59⇑ *eP* P 05 05 32.2 +1.2
DGZ pmax pmax
comp=Z,8.0nm,0.9s
WMQ **Urumqi** 29.21 71 *eP* P 05 05 37.8 +2.2
SOCY **Socotra** 29.36 168 P P 05 05 33.3 -3.8
SOCY IAmb IAmb 05 05 34.8
comp=Z,16nm,0.9s
NC602 **NORSAR Array S** 29.57 324 *eP* P 05 05 37.0 -1.5
SENIN **Lac Senin/Sane** 29.58 294 P P 05 05 37.3 -1.7
SENIN IAmb IAmb 05 05 50.1
comp=Z,9.4nm,0.7s
NB2 **NORSAR Subarra** 29.85 324 P P 05 05 39.6 -1.4
comp=Z,2.1nm,0.8s,baz=114,slow=8.6
NB2 **NORSAR Subarra** 29.85 324 P P 05 05 39.6 -1.4
baz=114,slow=8.6
NOA **NORSAR Array B** 29.85 324 P P 05 05 39.5 -1.4
comp=Z,2.0nm,0.7s,baz=122,slow=8.8,SNR=14
NOA LR LR 05 18 27.3
comp=Z,318nm,19.1s,baz=105,slow=38
ATD **Arta Tunnel** 29.88 190 LR LR 05 18 44.9
comp=Z,210nm,20.2s,baz=356,slow=39
LPG **La Plagne** 30.05 292 *eP* P 05 05 42.8 -0.4
LPG pmax pmax
comp=Z,4.0nm,0.6s
KONO **Kongsberg** 30.05 321 *eP* P 05 05 42.9 +0.1
LPL **La Plagne** 30.06 292 *eP* P 05 05 42.8 -0.4
LPL pmax pmax
comp=Z,13nm,0.9s
HAU **Haudompre** 30.12 297 *eP* P 05 05 42.6 -0.9
HAU pmax pmax
comp=Z,12nm,0.8s
BNI **Bardonecchia** 30.15 291 P P 05 05 43.6 -0.3
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI **Bardonecchia** 30.15 291 P P 05 05 43.6 -0.3
KEST **Kesra** 30.55 272 P P 05 05 48.4 +0.9
comp=Z,11nm,0.9s,baz=259,slow=3.1,SNR=13
KEST **Kesra** 30.55 272 IAmb IAmb 05 06 10.3
comp=Z,28nm,1.4s
ARCES **ARCESS Array B** 30.75 345 P P 05 05 49.0 +0.2
comp=Z,1.9nm,0.4s,baz=150,slow=9.2,SNR=29
ARCES LR LR 05 19 52.7
comp=Z,554nm,19.5s,baz=155,slow=40
MOR8 **Moi Rana** 31.24 334 *eP* P 05 05 52.8 -0.4
N2ST **Straumen** 31.61 337 *eP* P 05 05 56.3 0.0
SSB **Saint Sauveur** 31.62 292 IAmb IAmb 05 06 05.6
comp=Z,17nm,1.0s
FAUS **Fauske** 31.72 337 *eP* P 05 05 57.4 +0.1
STOK **Stokkvaagen** 31.80 334 *eP* P 05 05 58.2 +0.2
NBB28 **Valnes** 31.85 336 *eP* P 05 05 57.7 -0.8
KONS **Konsvik** 31.86 334 *eP* P 05 05 59.0 +0.4
N2TV **Tѓrnvik** 31.89 337 *eP* P 05 05 59.1 +0.3
NBB05 **Inndyr** 31.89 336 *eP* P 05 05 58.6 -0.2
N2IH **Innhavet** 31.91 338 *eP* P 05 05 59.0 0.0
NBB40 **Tonnes** 31.91 334 *eP* P 05 05 58.9 -0.1
NBB30 **Finnes** 31.95 335 *eP* P 05 05 59.5 +0.2
HAMF **Hammerfest** 32.02 345 *eP* P 05 06 00.7 +0.7
STEI **Steigen** 32.08 337 *eP* P 05 06 00.7 +0.2
AKN **Aaknes** 32.15 325 *eP* P 05 06 01.6 +0.4
TRO **Tromso** 32.28 341 *eP* P 05 06 01.1 -1.1
N2VI **Vinje** 32.64 337 *eP* P 05 06 05.8 +0.5
N2VA **Vr,y** 32.68 336 *eP* P 05 06 05.0 -0.8
LOF **Lofoten** 32.71 337 *eP* P 05 06 04.8 -1.2
NRIK **Noril'sk** 34.95 23 P P 05 06 26.2 +0.8
comp=Z,4.7nm,0.8s,baz=254,slow=5.8,SNR=5.7
NRIK LR LR 05 24 00.7
comp=Z,515nm,19.1s,baz=201,slow=42
NRIK **Noril'sk** 34.95 23⇓ *eP* P 05 06 26.9 +1.5
NRIK pmax pmax
comp=Z,16nm,1.3s
MOY **Mondy** 37.25 55 *eP* P 05 06 47.2 +1.7
ZAK **Zakamensk** 38.84 57 *eP* P 05 07 00.6 +1.7
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ESDC **Sonseca Array** 39.08 285 P P 05 06 59.8 -1.2
comp=Z,6.8nm,0.8s,baz=66,slow=8.3,SNR=46
ESDC LR LR 05 27 30.2
comp=Z,74nm,18.5s,baz=45,slow=43
ESDC **Sonseca Array** 39.08 285 P P 05 06 59.8 -1.2
SHL **Shillong** 39.41 99 P P 05 07 04.9 +0.9
SNR=8.5
SHL **Shillong** 39.41 99 P P 05 07 03.6 -0.4
SHL pmax pmax
comp=Z,36nm,0.7s
SHL **Shillong** 39.41 99 P P 05 07 03.6 -0.4
TAM **Tamanrasset** 39.95 256 P P 05 07 09.1 +0.6
TAM pmax pmax
comp=Z,11nm,0.8s
TAM **Tamanrasset** 39.95 256 P P 05 07 09.1 +0.6
TAM IAmb IAmb 05 07 10.3
comp=Z,11nm,0.8s
PBRG **Braganca** 40.39 290 *eP* P 05 07 13.1 +1.2
comp=Z,22nm,1.3s
SONM **Songino Array** 41.32 60 P P 05 07 20.1 +0.5
comp=Z,0.4nm,0.3s,baz=268,slow=10,SNR=3.8
SONM LR LR 05 27 01.0
comp=Z,94nm,18.6s,baz=318,slow=40
SONM **Songino Array** 41.32 60 P P 05 07 20.1 +0.5
SONM pmax pmax
comp=Z,1.0nm,0.7s
PCAB **Cabril** 41.34 290 *eP* P 05 07 23.1 +3.5
comp=Z,22nm,1.5s
PGAV **Gavieira, Arco** 41.43 290 *eP* P 05 07 21.2 +0.7
comp=Z,42nm,1.5s

PCBR **Castelo Branco** 41.57 287 *eP* P 05 07 21.7 +0.2
comp=Z,18nm,1.5s
PVIS **Viseu** 41.57 289 *eP* P 05 07 21.9 +0.3
comp=Z,33nm,1.9s
PMRV **Marv??o** 41.65 286 *eP* P 05 07 22.4 +0.2
comp=Z,22nm,1.3s
ULN **Ulaanbaatar** 41.75 60*ce* P P 05 07 24.2 +1.1
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN **Ulaanbaatar** 41.75 60 P P 05 07 23.9 +0.8
ULN IAmb IAmb 05 07 30.6
comp=Z,10nm,0.7s
COI **Coimbra** 42.11 288 *eP* P 05 07 26.8 +0.8
comp=Z,60nm,1.4s
MDT **Midelt** 42.27 276 P P 05 07 27.9 +0.4
comp=Z,2.4nm,1.0s,baz=98,slow=7.6,SNR=3.9
PMTG **Montargil** 42.38 286 *eP* P 05 07 28.1 -0.1
comp=Z,30nm,2.1s
PSBE **So Bento** 42.63 287 *eP* P 05 07 32.3 +2.0
comp=Z,34nm,1.6s
PVAQ **Vaqueiros** 42.64 284 *eP* P 05 07 30.0 -0.3
comp=Z,39nm,1.7s
PCVE **Castro Verde** 42.79 284 *eP* P 05 07 31.3 -0.2
PBDV **Barranco-do-Ve** 42.86 284 *eP* P 05 07 31.7 -0.5
comp=Z,59nm,1.6s
PNCL **Nicolau / Gran** 42.96 285 *eP* P 05 07 33.3 +0.4
KMBO **Kilima Mbogo** 43.22 196 P P 05 07 37.0 +1.5
comp=Z,1.7nm,0.3s,baz=24,slow=10,SNR=3.8
KMBO LR LR 05 26 42.1
comp=Z,237nm,19.2s,baz=82,slow=38
KMBO **Kilima Mbogo** 43.22 196 *iP* P 05 07 38.5 +3.0
KMBO pmax pmax
comp=Z,2.0nm,0.3s
KMBO **Kilima Mbogo** 43.22 196 P P 05 07 34.8 -0.6
LZH **Lanzhou** 43.31 78 *eP* P 05 07 38.6 +2.7
LZH pmax pmax
comp=Z,16nm,1.1s
PTEO **Sao Teotonio** 43.33 284 *eP* P 05 07 38.0 +2.2
comp=Z,47nm,1.5s
BOD **Bodaibo** 44.09 45 *eP* P 05 07 42.0 +0.2
BOD pmax pmax
comp=Z,11nm,1.0s
MBAR **Mbarara** 44.44 205*ce* P P 05 07 45.7 +0.6
MBAR pmax pmax
comp=Z,6.0nm,1.0s
MBAR **Mbarara** 44.44 205 P P 05 07 44.3 -0.8
DAG **Danmarks Havn** 44.98 343 *iP* P 05 07 49.0 +0.4
DAG pmax pmax
comp=Z,9.0nm,0.8s
DAG **Danmarks Havn** 44.98 343 *i* P P 05 07 49.0 +0.4
comp=Z,9.1nm,0.8s
DAG **Danmarks Havn** 44.98 343 *i* P P 05 07 49.0 +0.4
DAG IAmb IAmb 05 07 49.7
comp=Z,9.1nm,0.8s
CD2 **Chengdu** 45.57 84 P P 05 07 55.4 +1.5
CD2 pmax pmax
comp=Z,20nm,0.9s
HHC **Hu-ho-hao-te** 47.00 68 *eP* P 05 08 07.6 +2.5
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.9s
KMI **Kunming** 47.80 92⇑ *iP* P 05 08 13.0 +1.3
KMI pP sP 05 08 21.7 +1.2
KMI sP pP 05 08 25.8 +7.7
KMI pmax pmax
comp=Z,27nm,0.8s
KMI pmax pmax
comp=Z,150nm,6.3s
KMI LR LR
comp=Z,330nm,6.9s
KMI LR LR
comp=Z,170nm,9.0s
KMI LR LR
comp=Z,190nm,6.8s
XAN **Xi'an** 47.95 78 P P 05 08 14.3 +1.8
XAN pP pP 05 08 19.0 +0.1
XAN pmax pmax
comp=Z,15nm,0.8s
XAN **Xi'an** 47.95 78 P P 05 08 14.4 +1.9
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN **Xi'an** 47.95 78 P P 05 08 14.4 +1.9
XAN IAmb IAmb 05 08 14.8
comp=Z,9.7nm,0.8s
CHTO **Chiang Mai** 48.66 101 P P 05 08 18.1 0.0
CHTO pmax pmax
comp=Z,28nm,1.3s
CHTO **Chiang Mai** 48.66 101 P P 05 08 18.1 0.0
CM31 **Chiang Mai Arr** 48.88 102 P P 05 08 21.5 +1.7
SNR=6.9
CM31 **Chiang Mai Arr** 48.88 102 P P 05 08 20.3 +0.5
CMAR **Chiang Mai Arr** 48.88 102 P P 05 08 20.4 +0.5
comp=Z,6.2nm,0.7s,baz=300,slow=7.8,SNR=39
TOA0 **Torodi Ar. Sit** 48.97 249 P P 05 08 19.4 -1.1
TORD **Torodi Ar. Bea** 48.97 249 P P 05 08 19.4 -1.1
comp=Z,8.2nm,0.7s,baz=49,slow=6.3,SNR=56
TORD **Torodi Ar. Bea** 48.97 249 P P 05 08 19.1 -1.4
GYA **Guiyang** 50.04 88 ⇑P P 05 08 29.4 +0.7
GYA PP PP 05 10 20.8 -2.9
GYA S S 05 15 46.2 +7.1
GYA pmax pmax
comp=Z,10.0nm,0.9s
SUMG **Summit** 50.23 337 *iP* P 05 08 31.0 +1.1
SUMG pmax pmax
comp=Z,42nm,1.0s
SUMG **Summit** 50.23 337 P P 05 08 30.5 +0.6
SUMG IAmb IAmb 05 08 31.7
comp=Z,13nm,1.0s
SUMG **Summit** 50.23 337 *iP* P 05 08 31.0 +1.1
comp=Z,42nm,1.0s
SUMG **Summit** 50.23 337 *iP* P 05 08 31.0 +1.1
SUMG IAmb IAmb 05 08 32.0
comp=Z,42nm,1.0s
SLVN **Son La** 50.84 95 P P 05 08 35.3 +0.5
SLVN IAmb IAmb 05 08 37.0
comp=Z,5.3nm,0.8s
YAK **Yakutsk** 50.97 37⇓ *eP* P 05 08 36.7 +1.6
YAK MLR MLR
comp=Z,145nm,17.0s
KOWA **Kowa** 52.16 255 P P 05 08 44.0 -0.7
CN2 **Changchun** 55.19 59 *eP* P 05 09 08.1 +1.6
NJ2 **Nanjing** 56.20 75 *eP* P 05 09 13.1 -0.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
DBIC **Dimbokro** 58.08 249 P P 05 09 26.2 -1.1
comp=Z,4.4nm,0.4s,baz=27,slow=8.2,SNR=26
TIC **Toumodi** 58.21 249 *eP* P 05 09 27.0 -1.3
KIC **Kosan Boka** 58.22 248 *eP* P 05 09 27.1 -1.3
comp=Z,14nm,0.7s
LIC **Lamto** 58.52 249 *eP* P 05 09 29.2 -1.2
comp=Z,48nm,0.6s
LSZ **Lusaka** 59.09 202 P P 05 09 34.8 +0.4
LSZ pmax pmax
comp=Z,10.0nm,0.8s
LSZ **Lusaka** 59.09 202 P P 05 09 34.8 +0.4
USRK **Ussuriysk Ar.** 59.18 56 P P 05 09 34.7 0.0
comp=Z,0.9nm,0.7s,baz=308,slow=7.1,SNR=2.5
USRK LR LR 05 37 44.2
comp=Z,160nm,19.9s,baz=245,slow=39
PSI **Prapat** 59.55 116 P P 05 09 36.6 -1.1
comp=Z,5.3nm,0.6s,baz=76,slow=15,SNR=4.6
KSRS **Korea Array** 59.87 65 P P 05 09 40.1 +0.6
comp=Z,1.6nm,0.6s,baz=301,slow=6.7,SNR=4.7
KSRS LR LR 05 38 22.3
comp=Z,92nm,19.9s,baz=302,slow=39
SEY **Seymchan** 60.17 31 *iP* P 05 09 43.2 +2.0
BILL **Bilibino** 61.76 22 P P 05 09 53.5 +1.6
BILL pmax pmax
comp=Z,19nm,0.4s
BILL **Bilibino** 61.76 22 P P 05 09 53.5 +1.6
TSUM **Tsumeb** 66.37 211 P P 05 10 22.4 -0.4
TSUM IAmb IAmb 05 10 23.4
comp=Z,11nm,0.9s
MAJO **Matsushiro** 67.27 61⇓ *eP* P 05 10 29.1 +0.6
MAJO pmax pmax
comp=Z,47nm,2.2s
MJAR **Matsushiro Arr** 67.27 61 LR LR 05 42 10.4
comp=Z,220nm,18.9s,baz=250,slow=38
PETK **Petropavlovsk-** 68.30 38 LR LR 05 43 58.1
comp=Z,83nm,18.7s,baz=247,slow=39
RDOG **Red Dog Mine** 68.63 12 P P 05 10 37.5 +1.0
LBTB **Lobatse** 69.06 202 P P 05 10 39.4 -0.3
LBTB pmax pmax
comp=Z,20nm,0.8s
LBTB **Lobatse** 69.06 202 P P 05 10 39.4 -0.3

SBUM	**Sibu**	**69.18**	**106**	P	**P**	**05 10 41.9**	**+1.2**			
SCHQ	**Schefferville**	**69.40**	**326**	P	**P**	**05 10 41.5**	**0.0**			
	comp=Z,4.4nm,0.8s,baz=97,slow=10,SNR=3.7									
SCHQ				LR	LR	05 39 34.7				
	comp=Z,108nm,21.1s,baz=348,slow=34									
TOLK	**Toolik Lake Re**	**69.72**	**7**	IAmb	IAmb	05 10 51.8				
	comp=Z,17nm,1.1s									
COLD	**Coldfoot**	**71.03**	**7**	IAmb	IAmb	05 11 05.8				
	comp=Z,6.7nm,0.8s									
BMAR	**Burnt Mountain**	**71.30**	**5**	P	**P**	**05 10 54.3**	**+1.4**			
IMAR	**Indian Mountai**	**71.85**	**9**	P	**P**	**05 10 55.4**	**-0.8**			
BOSA	**Boshof**	**72.56**	**201**	P	**P**	**05 10 59.9**	**-1.1**			
	comp=Z,16nm,0.6s,baz=17,slow=5.2,SNR=42									
BOSA				LR	LR	05 44 56.6				
	comp=Z,209nm,19.2s,baz=357,slow=38									
BOSA	**Boshof**	**72.56**	**201**	P	**P**	**05 11 00.4**	**-0.6**			
BOSA				pmax	pmax					
	comp=Z,17nm,0.7s									
BOSA	**Boshof**	**72.56**	**201**	P	**P**	**05 11 00.4**	**-0.6**			
MDM	**Murphy Dome**	**73.44**	**7**	IAmb	IAmb	05 11 14.3				
	comp=Z,16nm,1.2s									
COLA	**College**	**73.55**	**7**	*ce*P	**P**	**05 11 07.1**	**+0.8**			
COLA				pmax	pmax					
	comp=Z,30nm,2.8s									
COLA	**College**	**73.55**	**7**	P	**P**	**05 11 06.5**	**+0.2**			
COLA				IAmb	IAmb	05 11 14.6				
	comp=Z,16nm,0.9s									
IL31		**73.74**	**7**	IAmb	IAmb	05 11 16.3				
	comp=Z,28nm,1.8s									
ILAR	**Eielson Array**	**73.74**	**7**	P	**P**	**05 11 08.1**	**+0.6**			
	comp=Z,1.1nm,0.6s,baz=328,slow=3.9,SNR=22									
ILAR				PP	**PP**	**05 13 51.5**	**+0.3**			
	comp=Z,1.0nm,1.0s,baz=347,slow=5.8,SNR=4.3									
ILAR				LR	LR	05 47 46.2				
	comp=Z,82nm,18.2s,baz=352,slow=39									
ILAR	**Eielson Array**	**73.74**	**7**	P	**P**	**05 11 07.9**	**+0.5**			
CCB	**Clear Creek Bu**	**73.78**	**7**	IAmb	IAmb	05 11 15.5				
	comp=Z,7.7nm,1.0s									
EGAK	**Eagle**	**74.14**	**4**	IAmb	IAmb	05 11 17.8				
	comp=Z,24nm,1.5s									
DAWY	**Dawson**	**74.93**	**3**	IAmb	IAmb	05 11 22.4				
	comp=Z,11nm,0.9s									
PPLA	**Purkeypile**	**75.02**	**9**	P	**P**	**05 11 15.0**	**-0.1**			
DOT	**Dot Lake**	**75.07**	**6**	IAmb	IAmb	05 11 24.5				
	comp=Z,10nm,0.7s									
YKA	**Yellowknife Ar**	**75.72**	**352**	LR	LR	05 49 33.5				
	comp=Z,101nm,18.3s,baz=0.0,slow=40									
BCAR	**Beaver Creek A**	**75.81**	**5**	P	**P**	**05 11 20.4**	**+0.9**			
PAL	**Palisades**	**82.70**	**320**	P	**P**	**05 11 58.3**	**+0.8**			
PAL				pmax	pmax					
	comp=Z,54nm,1.5s									
PAL	**Palisades**	**82.70**	**320**	P	**P**	**05 11 58.3**	**+0.8**			
ULM	**Lac du Bonnet**	**83.59**	**338**	LR	LR	05 48 37.7				
	comp=Z,137nm,18.7s,baz=44,slow=35									
SOEI	**Soe**	**86.23**	**106**	P	**P**	**05 12 17.3**	**+1.5**			
LAO	**LASA Array**	**89.54**	**343**	P	**P**	**05 12 30.5**	**-0.7**			
NEW	**Newport**	**89.96**	**350**	P	**P**	**05 12 33.0**	**-0.1**			
NEW				pmax	pmax					
	comp=Z,10.0nm,1.3s									
NEW	**Newport**	**89.96**	**350**	P	**P**	**05 12 33.0**	**-0.1**			
JTMT	**Jette**	**90.06**	**348**	P	**P**	**05 12 33.2**	**-0.5**			
RSSD	**Black Hills**	**91.43**	**340**	P	**P**	**05 12 41.7**	**+1.4**			
RSSD				pmax	pmax					
	comp=Z,3.0nm,0.7s									
RSSD	**Black Hills**	**91.43**	**340**	P	**P**	**05 12 41.7**	**+1.4**			
RSSD				IAmb	IAmb	05 12 42.4				
	comp=Z,3.2nm,0.7s									
E09A	**Wood Farm, Sta**	**91.81**	**350**	IAmb	IAmb	05 12 50.8				
	comp=Z,7.0nm,1.2s									
F10A	**Beach Ranch, E**	**92.22**	**350**	IAmb	IAmb	05 12 47.0				
	comp=Z,3.8nm,0.8s									
FITZ	**Fitzroy Crossi**	**92.82**	**112**	P	**P**	**05 12 46.8**	**+0.1**			
PDAR	**Pinedale Array**	**94.00**	**344**	LR	LR	05 58 54.2				
	comp=Z,108nm,18.9s,baz=16,slow=38									
WRA	**Warramunga Arr**	**100.22**	**107**	P	**Pdif**	**05 13 19.8**	**-0.4**			
	comp=Z,3.2nm,0.6s,baz=319,slow=4.2,SNR=57									
WRA				PP	**PP**	**05 17 25.1**	**-1.3**			
	comp=Z,1.4nm,1.1s,baz=312,slow=7.5,SNR=4.8									
WRA				PKKPbc	**PKKPdf**	**05 29 39.1**	**-2.4**			
	comp=Z,0.2nm,0.7s,baz=129,slow=2.6,SNR=4.6									
WRAB	**Tennant Creek**	**100.22**	**107**	⇑*i*P	**Pdif**	**05 13 19.8**	**-0.4**			
WRAB				pmax	pmax					
	comp=Z,4.0nm,0.6s									
WB2	**Warramunga Arr**	**100.23**	**107**	Pdif	**Pdif**	**05 13 19.9**	**-0.3**			
ASAR	**Alice Springs**	**102.28**	**111**	P	**Pdif**	**05 13 29.1**	**-0.2**			
	comp=Z,0.3nm,0.4s,baz=311,slow=4.9,SNR=6.2									
LPAZ	**La Paz**	**120.12**	**274**	PKP	**PKPdf**	**05 18 25.7**	**-0.1**			
	comp=Z,0.7nm,0.6s,baz=111,slow=7.2,SNR=5.4									

NIC ***04*** *05:23:44.7±0.0, 34.01°N×25.79°E, h15km±31km, Ml4.4/3*
IDC ***04*** *05:23:47.1±0.6, 34.24°N×25.16°E, h0km, mb4.3/20, mb1 4.3/29, mb1mx4.2/51, mbtmp4.2/29, ML4.1/8, MS3.2/5, Ms1 3.2/5, ms1mx2.9/36, Error ellipse: s-maj=13.2km s-min=11.5km az=136.0*
ISK ***04*** *05:23:47.9, 34.17°N×25.08°E, h5km, ML4.1/9*
MOS ***04*** *05:23:48.0±1.1, 34.15°N×25.21°E, h14km, mb4.6/28, Error ellipse: s-maj=6.0km s-min=3.7km az=94.7*
THE ***04*** *05:23:49.9, 34.20°N×25.07°E, h0km±2km, ML3.7/13, Error ellipse: s-maj=4.6km s-min=1.3km az=173.0*
MED_RC ***04*** *05:23:49.0±0.7, 34.17°N×25.14°E, h20km±3km, MW4.2/9, Moment Tensor Solution.Mantle waves: s9,c10; Duration: 1!0 Moment tensor: Scale 10[15]Nm; Mrr0.77±.77; Mθθ-1.08±.56; Mφφ0.31±.85; Mrθ0.93±.60; Mθφ-2.09±.34; Mφr-0.31±.41; Best double couple: Mo2.47000×10[15] NP1:ϕs95.0000°, δ77.0000°, λ152.00000°. NP2: ϕs192.00000°, δ62.00000°, λ15.00000°. Principal axes: T 2.2600, Plg29.0000°, Azm50.0000°; N 0.4300, Plg59.0000°, Azm253.0000°; P -2.6900, Plg10.0000°, Azm146.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***04*** *05:23:50.4±1.5, 34.21°N±0.04×25.07°E±0.07, h24km±6km Error ellipse: s-maj=9.0km s-min=5.6km az=107.0*
ATH ***04*** *05:23:50.1, 34.29°N×25.06°E, h21km±1km, ML3.6/13, Error ellipse: s-maj=2.7km s-min=1.0km az=356.0*
HLW ***04*** *05:23:52.7, 33.76°N×25.22°E, h4km±8km, Ml4.2*
GII ***04*** *05:23:54.3±0.0, 33.99°N×25.73°E, h2km, mb4.1/3, MD3.9/3*
DDA ***04*** *05:23:57.0, 34.51°N×25.34°E, h49km±154km, MW4.0*

ISC 04 05:23:50.3±0.4, **34.12N**±0.04×**25.13E**±0.03, **h22**km±3km, **n351**,σ1**s60**/405, **mb4.4**/49, **30C-2D**, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.94**	**344**	P	**Pb**	**05 24 05.2**	**-2.6**
SIVA				S	**Sb**	**05 24 19.4**	**-0.4**
	28μm,0.6s						
SIVA	**Sivas**	**0.94**	**344**	P	**Pb**	**05 24 05.1**	**-2.7**
SIVA				S	**Sb**	**05 24 16.1**	**-3.7**
SIVA				AML	AML	05 24 23.8	
	comp=N,43279μm,0.7s						
SIVA				AML	AML	05 24 24.1	
	comp=E,67646μm,0.6s						
TMBK	**Timbaki Herakl**	**1.00**	**343**	P	**Pb**	**05 24 06.7**	**-2.2**
TMBK				S	**Sb**	**05 24 21.8**	**+0.2**
	comp=E,6μm,0.5s						
FRMA	**Ierapetra Chan**	**1.02**	**29**	P	**Pn**	**05 24 09.6**	**+0.2**
FRMA				S	**Sn**	**05 24 25.9**	**+2.8**
	comp=E,1μm,0.6s						
LAST	**Lasithi**	**1.08**	**15**	P	**Pn**	**05 24 08.4**	**-1.9**
LAST				S	**Sb**	**05 24 21.6**	**-2.5**
LAST				AML	AML	05 24 29.6	
	comp=N,6177μm,1.1s						
LAST				AML	AML	05 24 30.1	
	comp=E,7176μm,1.3s						
GVD	**Gavdhos**	**1.12**	**310**	P	**Pn**	**05 24 08.6**	**-2.1**
GVD				S	**Sn**	**05 24 26.3**	**+0.8**
	comp=E,9μm,0.4s						
GVD	**Gavdhos**	**1.12**	**310**	P	**Pn**	**05 24 08.7**	**-2.0**
GVD				S	**Sb**	**05 24 22.9**	**-2.2**
GVD				AML	AML	05 24 27.9	
	comp=E,21084μm,0.4s						
GVD				AML	AML	05 24 28.1	
	comp=N,16363μm,0.4s						
GVD	**Gavdhos**	**1.12**	**310**	PG	**Pn**	**05 24 08.7**	**-2.0**
GVD				SG	**Sn**	**05 24 25.3**	**-0.2**
GVDS	**Gavdos**	**1.12**	**311**	P	**Pn**	**05 24 08.9**	**-1.8**
GVDS				S	**Sn**	**05 24 25.7**	**+0.2**
	comp=N,6μm,0.3s						
GVDS	**Gavdos**	**1.12**	**311**	PN	**Pn**	**05 24 09.0**	**-1.8**
GVDS				SN	**Sn**	**05 24 26.1**	**+0.6**
IDI	**Anoyia**	**1.18**	**351**	Pn	**Pn**	**05 24 09.3**	**-2.4**
	comp=N,125nm,0.3s,baz=178,slow=16,SNR=226						
IDI				Sn	**Sb**	**05 24 27.0**	**0.0**
	comp=N,185nm,0.3s,baz=179,slow=22,SNR=6.8						
IDI				LR	LR	05 24 37.2	
	comp=N,448nm,21.6s,baz=148,slow=47						
IDI	**Anoyia**	**1.18**	**351**	P	**Pn**	**05 24 09.3**	**-2.4**
IDI				S	**Sb**	**05 24 25.4**	**-1.6**
	comp=N,3μm,0.5s						
IDI	**Anoyia**	**1.18**	**351**	P	**Pn**	**05 24 09.4**	**-2.2**
IDI				S	**Sb**	**05 24 22.6**	**-4.4**
IDI				AML	AML	05 24 29.8	
	comp=N,4559μm,0.6s						
IDI				AML	AML	05 24 32.1	
	comp=E,5760μm,0.5s						
IDI	**Anoyia**	**1.18**	**351**	⇑P	**Pn**	**05 24 09.8**	**-1.9**
IDI	**Anoyia**	**1.18**	**351**	⇑S	**Sb**	**05 24 26.8**	**-0.3**
IDI	**Anoyia**	**1.18**	**351**	PN	**Pn**	**05 24 09.1**	**-2.6**
IDI				SN	**Sn**	**05 24 27.3**	**+0.1**
IDI	**Anoyia**	**1.18**	**351**		**Pn**	**05 24 09.1**	**-2.6**
IDI				Sn	**Sb**	**05 24 24.6**	**-2.5**
KSTL	**Kastelli Herak**	**1.18**	**358**	P	**Pn**	**05 24 08.8**	**-2.8**
KSTL				S	**Sb**	**05 24 24.2**	**-2.8**
IACM	**Heraklion**	**1.19**	**358**	P	**Pn**	**05 24 08.8**	**-2.8**
HRKL	**Herakleio**	**1.19**	**359**	P	**Pn**	**05 24 10.5**	**-1.2**
HRKL				S	**Sb**	**05 24 27.0**	**-0.2**
	comp=E,9μm,1.5s						
HRKL	**Herakleio**	**1.19**	**359**	PN	**Pn**	**05 24 10.9**	**-0.8**
HRKL				SN	**Sn**	**05 24 27.7**	**+0.5**
NPS	**Neapolis**	**1.21**	**19**	P	**Pn**	**05 24 10.8**	**-1.2**
NPS				S	**Sn**	**05 24 29.6**	**+1.9**
	comp=E,3μm,0.9s						
NPS	**Neapolis**	**1.21**	**19**	P	**Pn**	**05 24 10.5**	**-1.5**
NPS				AML	AML	05 24 37.3	
	comp=N,3551μm,0.5s						
NPS				AML	AML	05 24 37.5	
	comp=E,6787μm,1.0s						
NPS	**Neapolis**	**1.21**	**19**	P	**Pn**	**05 24 10.8**	**-1.2**
ZKR	**Zakros**	**1.34**	**42**	P	**Pn**	**05 24 13.5**	**-0.3**
ZKR				S	**Sb**	**05 24 33.8**	**+2.3**
	comp=E,2μm,0.5s						
ZKR	**Zakros**	**1.34**	**42**	P	**Pn**	**05 24 13.8**	**0.0**
ZKR				S	**Sn**	**05 24 31.1**	**+0.2**
ZKR				AML	AML	05 24 40.6	
	comp=N,2465μm,0.4s						
ZKR				AML	AML	05 24 44.8	
	comp=E,5475μm,0.6s						
ZKR	**Zakros**	**1.34**	**42**	PN	**Pb**	**05 24 14.4**	**-0.3**
ZKR				SN	**Sb**	**05 24 33.7**	**+2.3**
STIA	**Sitia Lasithi**	**1.34**	**36**	P	**Pb**	**05 24 14.5**	**-0.3**
STIA				S	**Sb**	**05 24 32.3**	**+0.8**
PRNS	**Prines Rethymn**	**1.35**	**338**	P	**Pn**	**05 24 12.6**	**-1.2**
PRNS				S	**Sb**	**05 24 31.3**	**-0.3**
VAM	**Vamos**	**1.50**	**330**	P	**Pn**	**05 24 14.7**	**-1.2**
VAM				S	**Sb**	**05 24 35.5**	**-0.4**
	comp=E,3μm,0.4s						
VAM	**Vamos**	**1.50**	**330**	P	**Pn**	**05 24 14.7**	**-1.2**
VAM				AML	AML	05 24 44.4	
	comp=N,6338μm,0.4s						
VAM				AML	AML	05 24 47.3	
	comp=E,6654μm,0.4s						
VAM	**Vamos**	**1.50**	**330**	P	**Pn**	**05 24 14.7**	**-1.2**
KNDR	**Palaiochora Ch**	**1.63**	**314**	P	**Pn**	**05 24 16.5**	**-1.2**
KNDR				S	**Sb**	**05 24 41.4**	**+1.7**
	comp=E,758nm,1.1s						
KNDR	**Palaiochora Ch**	**1.63**	**314**	PN	**Pb**	**05 24 18.6**	**-1.0**
KNDR				SN	**Sb**	**05 24 41.0**	**+1.3**
IMMV	**Iera Moni Meta**	**1.64**	**325**	P	**Pn**	**05 24 17.1**	**-0.8**
IMMV				S	**Sn**	**05 24 37.6**	**-0.7**
	comp=E,3μm,0.6s						
IMMV	**Iera Moni Meta**	**1.64**	**325**	P	**Pn**	**05 24 17.1**	**-0.8**
IMMV				AML	AML	05 24 52.2	
	comp=N,4382μm,0.7s						
IMMV				AML	AML	05 24 52.3	
	comp=E,6294μm,0.6s						
IMMV	**Iera Moni Meta**	**1.64**	**325**	PN	**Pn**	**05 24 18.3**	**+0.4**
IMMV				SN	**Sb**	**05 24 40.2**	**+0.2**
CHAN	**Chania**	**1.66**	**328**	P	**Pb**	**05 24 19.2**	**-1.0**
CHAN				S	**Sb**	**05 24 40.1**	**-0.5**
	comp=E,808nm,1.0s						
RODP	**Rodopos**	**1.83**	**322**	P	**Pb**	**05 24 21.9**	**-1.2**
RODP	**Rodopos**	**1.83**	**322**	PN	**Pn**	**05 24 20.9**	**+0.4**
RODP				SN	**Sb**	**05 24 44.8**	**-0.7**
KARP	**Karpathos**	**2.20**	**49**	P	**Pb**	**05 24 27.7**	**-1.7**
KARP	**Karpathos**	**2.20**	**49**	P	**Pb**	**05 24 27.6**	**-1.8**
KARP				AML	AML	05 25 21.1	
	comp=E,2082μm,0.6s						
KARP				AML	AML	05 25 26.5	
	comp=N,682μm,0.3s						
KARP	**Karpathos**	**2.20**	**49**	PN	**Pn**	**05 24 26.9**	**+1.3**
KARP	**Karpathos**	**2.20**	**49**	S	**Sb**	**05 24 55.8**	**-0.4**
KARP				AML	AML	05 25 08.9	
	comp=N,1.4nm,0.6s						
KARP				AML	AML	05 25 20.2	
	comp=N,1.8nm,1.0s						
KARP	**Karpathos**	**2.20**	**49**	Pn	**Pn**	**05 24 26.6**	**+1.0**
THR6	**Thira Island,**	**2.24**	**6**	P	**Pn**	**05 24 26.8**	**+0.6**
THR6	**Thira Island,**	**2.24**	**6**	P	**Pn**	**05 24 26.3**	**+0.1**
SANT	**Santorini**	**2.27**	**7**	P	**Pn**	**05 24 26.0**	**-0.5**
SANT				AML	AML	05 25 07.6	
	comp=N,667μm,0.5s						
SANT				AML	AML	05 25 08.3	
	comp=E,1875μm,0.7s						
SANT	**Santorini**	**2.27**	**7**	⇑P	**Pn**	**05 24 25.5**	**-1.0**
SANT	**Santorini**	**2.27**	**7**	PN	**Pn**	**05 24 27.3**	**+0.8**
SANT	**Santorini**	**2.27**	**7**	*i*P	**Pn**	**05 24 26.4**	**-0.1**
SANT				*i*S	**Sb**	**05 25 03.6**	**+5.5**
SANT	**Santorini**	**2.27**	**7**		**Pn**	**05 24 25.1**	**-1.4**
ANAF	**Anafi Island**	**2.30**	**13**	P	**Pn**	**05 24 27.2**	**+0.3**
THR3	**Thira Island,**	**2.30**	**6**	P	**Pn**	**05 24 27.3**	**+0.4**
THR3	**Thira Island,**	**2.30**	**6**	P	**Pn**	**05 24 27.2**	**+0.4**
ANKY	**Antikythira Is**	**2.30**	**320**	P	**Pn**	**05 24 27.6**	**+0.7**
ANKY				AML	AML	05 25 05.9	
	comp=E,1771μm,0.6s						
ANKY				AML	AML	05 25 11.6	
	comp=N,1079μm,1.3s						
THR5	**Thira Island,**	**2.30**	**4**	P	**Pn**	**05 24 27.7**	**+0.7**
THR5	**Thira Island,**	**2.30**	**4**	P	**Pn**	**05 24 27.6**	**+0.6**
SAP3	**Santorini-Thir**	**2.32**	**4**	P	**Pn**	**05 24 27.6**	**+0.4**
THT2	**Imerovigli**	**2.33**	**6**	PN	**Pn**	**05 24 28.2**	**+0.9**
THR2	**Thira island,**	**2.34**	**6**	P	**Pn**	**05 24 27.6**	**+0.1**
THR2	**Thira island,**	**2.34**	**6**	P	**Pn**	**05 24 27.6**	**+0.1**
IOSP	**Ios island**	**2.60**	**3**	P	**Pn**	**05 24 31.2**	**+0.1**
IOSP	**Ios island**	**2.60**	**3**	P	**Pn**	**05 24 31.1**	**-0.1**
SLUM	**Salum**	**2.62**	**178**	P	**Pn**	**05 24 33.2**	**+1.9**
	baz=181						
MHLO	**Agia Marina, M**	**2.63**	**347**	P	**Pn**	**05 24 30.7**	**-0.8**
MHLA	**Plaka, Milos I**	**2.68**	**348**	P	**Pn**	**05 24 32.3**	**0.0**
KTHA	**Kythira Island**	**2.72**	**322**	P	**Pn**	**05 24 33.5**	**+0.7**
KTHA				AML	AML	05 25 31.7	
	comp=E,1355μm,0.7s						
KTHA				AML	AML	05 25 36.0	
	comp=N,589μm,0.8s						
KTHA	**Kythira Island**	**2.72**	**322**	PN	**Pn**	**05 24 33.9**	**+1.1**
KTHR	**Kythira**	**2.76**	**321**	P	**Pn**	**05 24 34.0**	**+0.8**
AMGA	**Amorgos Island**	**2.78**	**13**	P	**Pn**	**05 24 34.1**	**+0.5**
APE	**Apeiranthos**	**2.96**	**6**	P	**Pn**	**05 24 35.7**	**-0.4**
APE	**Apeiranthos**	**2.96**	**6**	⇑P	**Pn**	**05 24 36.1**	**0.0**
APE				⇑S	**Sn**	**05 25 10.5**	**-0.5**
APE	**Apeiranthos**	**2.96**	**6**	PN	**Pn**	**05 24 37.2**	**+1.1**
APE	**Apeiranthos**	**2.96**	**6**	*i*P	**Pn**	**05 24 35.6**	**-0.6**
APE				*i*S	**Sn**	**05 25 07.6**	**-3.4**
APE	**Apeiranthos**	**2.96**	**6**	*i*P	**Pn**	**05 24 36.0**	**-0.1**
APE	**Apeiranthos**	**2.96**	**6**	P	**Pn**	**05 24 35.1**	**-1.1**
APE				S	**Sn**	**05 25 10.4**	**-0.7**
VLI	**Veliai**	**3.15**	**326**	P	**Pn**	**05 24 39.0**	**+0.3**
ARG	**Arkhangelos**	**3.23**	**49**	P	**Pn**	**05 24 41.1**	**+1.4**
ARG	**Arkhangelos**	**3.23**	**49**	P	**Pn**	**05 24 41.3**	**+1.6**
ARG				AML	AML	05 25 28.7	
	comp=E,279μm,0.5s						
ARG				AML	AML	05 25 59.0	
	comp=N,744μm,1.5s						
ARG	**Arkhangelos**	**3.23**	**49**	PN	**Pn**	**05 24 41.6**	**+1.9**
ARG	**Arkhangelos**	**3.23**	**49**	P	**Pn**	**05 24 41.1**	**+1.4**
ARG	**Arkhangelos**	**3.23**	**49**	⇑P	**Pn**	**05 24 40.7**	**+1.0**
ARG				S	**Sn**	**05 25 20.4**	**+2.9**
DAT	**Datca**	**3.29**	**37**	PN	**Pn**	**05 24 42.4**	**+1.8**
BODT	**Bodrum**	**3.44**	**31**	PN	**Pn**	**05 24 44.2**	**+1.6**
KRND	**KRANIDI**	**3.63**	**334**	P	**Pn**	**05 24 45.1**	**-0.2**
TURN	**Turunc**	**3.67**	**43**	*i*P	**Pn**	**05 24 46.5**	**+0.7**
TURN				*i*S	**Sn**	**05 25 23.6**	**-4.9**
SMG	**Samos**	**3.84**	**21**	P	**Pn**	**05 24 48.4**	**+0.2**
EPID	**Epidavros**	**3.85**	**336**	P	**Pn**	**05 24 48.1**	**-0.2**
VLY	**Voula,Athens**	**3.88**	**344**	P	**Pn**	**05 24 47.9**	**-0.8**
PYL	**PYLOS**	**3.91**	**316**	P	**Pn**	**05 24 50.2**	**+1.1**
YER	**Yerkesik**	**3.96**	**40**	P	**Pn**	**05 24 50.9**	**+1.1**
YER	**Yerkesik**	**3.96**	**40**	P	**Pn**	**05 24 50.9**	**+1.1**
ATHU	**Athens Univers**	**3.99**	**345**	P	**Pn**	**05 24 49.2**	**-1.0**
ITM	**Ithomi**	**4.02**	**320**	P	**Pn**	**05 24 50.3**	**-0.3**
ITM	**Ithomi**	**4.02**	**320**	PN	**Pn**	**05 24 52.0**	**+1.4**
ITM	**Ithomi**	**4.02**	**320**		**Pn**	**05 24 48.2**	**-2.4**
DION	**Dionisos Attik**	**4.07**	**347**	P	**Pn**	**05 24 50.7**	**-0.6**
TRIP	**Tripoli**	**4.12**	**327**	P	**Pn**	**05 24 52.0**	**-0.1**
KSL	**Kastellorizon**	**4.18**	**60**	P	**Pn**	**05 24 53.3**	**+0.6**
KSL	**Kastellorizon**	**4.18**	**60**	⇑P	**Pn**	**05 24 52.5**	**-0.2**
KSL				S	**Sn**	**05 25 44.6**	**+3.8**
AYDN	**Tasoluk**	**4.18**	**32**	*i*P	**Pn**	**05 24 54.0**	**+1.1**
AYDN				*i*S	**Sn**	**05 25 35.4**	**-5.8**
AKAS	**Kas**	**4.23**	**59**	*i*P	**Pn**	**05 24 54.0**	**+0.4**
AKAS				*i*S	**Sn**	**05 25 37.1**	**-5.3**
AKAS				IAML		05 25 48.0	
	comp=E,63nm,0.7s						
AKAS	**Kas**	**4.23**	**59**	Pn	**Pn**	**05 24 53.5**	**-0.2**
LTK	**Loutraki**	**4.27**	**336**	P	**Pn**	**05 24 53.6**	**-0.5**
CHOS	**Chios island**	**4.33**	**10**	P	**Pn**	**05 24 55.2**	**+0.4**
VIL2	**Platees**	**4.35**	**340**	P	**Pn**	**05 24 53.5**	**-1.7**
URLA	**Izmir**	**4.40**	**15**	*i*P	**Pn**	**05 24 54.4**	**-1.4**
URLA				*i*S	Sn	05 25 30.6	-16
TAVA	**DENIZLI_Tavas**	**4.54**	**42**	*i*P	**Pn**	**05 24 58.5**	**+0.6**
TAVA				*i*S	**Sn**	**05 25 45.0**	**-5.1**
GOLH	**Golhisar**	**4.76**	**48**	*i*P	**Pn**	**05 25 01.7**	**+0.7**
GOLH				*i*S	**Sn**	**05 25 54.6**	**-1.0**
AKUM	**Antalya-Kumluc**	**4.80**	**61**	*i*P	**Pn**	**05 25 01.7**	**+0.4**
AKUM				*i*S	**Sn**	**05 25 51.6**	**-4.7**
AKUM				IAML		05 25 58.0	
	comp=N,40nm,0.7s						
AKUM				IAML		05 26 12.0	
	comp=E,39nm,0.6s						
SWA2		**4.87**	**177**	P	**Pn**	**05 25 03.7**	**+1.5**
	baz=177						
OSC1	**CSNet OBS 1**	**5.16**	**95**	P	**Pn**	**05 25 06.1**	**-0.1**
MANT	**Manisa**	**5.17**	**31**	*i*P	**Pn**	**05 25 06.7**	**+0.1**
MANT				*i*S	**Sn**	**05 26 01.3**	**-4.4**
AKHS	**Akhisar**	**5.22**	**24**	*i*P	**Pn**	**05 25 07.2**	**+0.1**
AKHS				*i*S	**Sn**	**05 26 01.3**	**-5.4**
AKHS				IAML		05 26 52.0	
	comp=E,9.7nm,1.5s						
ISP	**Isparta**	**5.73**	**48**	P	**Pn**	**05 25 14.5**	**+0.3**
ISP	**Isparta**	**5.73**	**48**	Pn	**Pn**	**05 25 14.5**	**+0.3**
BALY	**Balya**	**5.96**	**19**	*i*P	**Pn**	**05 25 15.5**	**-1.8**
BALY				*i*S	**Sn**	**05 26 24.1**	**-0.8**
AKMS	**Akamas**	**6.01**	**79**	P	**Pn**	**05 25 17.7**	**-0.3**
AKMS				AML	AML	05 26 23.4	
	comp=E,0.4nm,0.3s						
AKMS				AML	AML	05 26 23.8	
	comp=E,0.6nm,0.4s						
OSC2	**CSNet OBS 4**	**6.05**	**98**	P	**Pn**	**05 25 17.6**	**-0.9**
NATA	**Nata**	**6.18**	**82**	P	**Pn**	**05 25 20.4**	**+0.1**
ALFC	**Alefka**	**6.25**	**78**	⇑P	**Pn**	**05 25 21.1**	**-0.1**
ALFC				AML	AML	05 26 28.9	
	comp=E,0.5nm,0.3s						
ALFC				AML	AML	05 26 30.5	
	comp=E,0.5nm,0.5s						
LIT	**Litokhoron**	**6.33**	**341**	P	**Pn**	**05 25 21.9**	**-0.5**
LIT	**Litokhoron**	**6.33**	**341**	Pn	**Pn**	**05 25 21.9**	**-0.5**
SZAC	**Souni**	**6.44**	**82**	⇑P	**Pn**	**05 25 24.1**	**+0.2**
HMYD	**Mayadein**	**6.46**	**130**	P	**Pn**	**05 25 25.3**	**+1.1**
	baz=128						
LEF	**Lefka**	**6.48**	**79**	⇑P	**Pn**	**05 25 22.4**	**-1.9**
ASGA	**Asgata**	**6.74**	**82**	P	**Pn**	**05 25 28.7**	**+0.7**
CSS	**Mathiatis**	**6.82**	**81**	Pn	**Pn**	**05 25 29.0**	**-0.1**
CSS				Sn	**Sn**	**05 26 42.9**	**-3.2**
CSS	**Mathiatis**	**6.82**	**81**	⇑P	**Pn**	**05 25 29.7**	**+0.6**
CSS	**Mathiatis**	**6.82**	**81**		**Pn**	**05 25 28.7**	**-0.4**
KOT	**Kottamia**	**7.06**	**124**	P	**

ARTV	**Artvin**	**15.05**	**57**	Pn		**Pn**	**05 27 21.0**	**-0.8**
ARTV				IAmb		IAmb	05 27 24.4		
	comp=Z,17nm,1.3s								
GEVA	**Gevas**	**15.06**	**69**			**Pn**	**05 27 21.6**	**-0.4**
GEVA				IAmb		IAmb	05 27 30.4		
	comp=Z,23nm,1.1s								
VYHS	**Vyhne**	**15.11**	**344**	*eP*		**P**	**05 27 27.6**	**+0.1**
VYHS	**Vyhne**	**15.11**	**344**	*eP*		**P**	**05 27 27.6**	**+0.1**
MODS	**Modra-Piesok**	**15.40**	**340**	*eP*		**P**	**05 27 33.1**	**+2.4**
MODS	**Modra-Piesok**	**15.40**	**340**	*eP*		**P**	**05 27 33.1**	**+2.4**
ZOU	**Zoufplan**	**15.47**	**327**			**Pn**	**05 27 25.2**	**-2.1**
ZOU				IAmb		IAmb	05 27 34.4		
	comp=Z,8.8nm,0.7s								
KBA	**Koelnbreinsper**	**15.71**	**329**	P		**P**	**05 27 33.4**	**-0.9**
	comp=Z,4.7nm,0.8s								
KBA	**Koelnbreinsper**	**15.71**	**329**	P		**P**	**05 27 38.7**	**+4.4**
ABTA	**Abfaltersbach**	**15.83**	**327**	*eP*		**P**	**05 27 34.9**	**-0.6**
	comp=Z,8.6nm,0.8s								
MOA	**Molln**	**15.96**	**333**	*eP*		**P**	**05 27 36.4**	**-0.5**
	comp=Z,6.1nm,0.7s								
KRUC	**Moravsky**	**16.28**	**339**	P		**Pn**	**05 27 38.8**	**+1.3**
KRUC				pmax		pmax			
	comp=Z,5.0nm,1.0s								
VRAC	**Vranov**	**16.44**	**340**	Pn		**Pn**	**05 27 40.8**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=122,slow=11,SNR=4.1								
VRAC	**Vranov**	**16.44**	**340**	P		**P**	**05 27 42.0**	**-0.2**
VRAC				pmax		pmax			
	comp=Z,8.0nm,1.0s								
WTTA	**Wattenberg**	**16.61**	**326**	*eP*		**Pn**	**05 27 43.0**	**+1.1**
	comp=Z,7.0nm,0.9s								
WTTA	**Wattenberg**	**16.61**	**326**	P		**Pn**	**05 27 43.0**	**+1.1**
WTTA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SHA1	**Shidzhatmaz**	**16.66**	**50**	*i* P		**Pn**	**05 27 42.8**	**+0.3**
WATA	**Walderalm**	**16.69**	**326**	P		**P**	**05 27 44.2**	**-1.0**
	comp=Z,5.5nm,0.7s								
KIV	**Kislovodsk**	**16.78**	**49**	*eP*		**P**	**05 27 46.3**	**+0.2**
KIV				pmax		pmax			
	comp=Z,63nm,1.1s								
KIV	**Kislovodsk**	**16.78**	**49**	P		**Pn**	**05 27 44.8**	**+0.8**
KIV				IAmb		IAmb	05 27 48.3		
	comp=Z,15nm,0.8s								
KVAR	**Kislovodsk Arr**	**16.79**	**49**	Pn		**P**	**05 27 46.8**	**+0.6**
	baz=270,slow=19,SNR=3.5								
KBZ	**Khabaz**	**16.80**	**50**	Pn		**Pn**	**05 27 44.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=272,slow=10,SNR=30								
KBZ	**Khabaz**	**16.80**	**50**	*ceP*		**P**	**05 27 45.3**	**-0.9**
KBZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SBF	**Sospel**	**16.82**	**311**	*eP*		**P**	**05 27 47.3**	**+0.8**
SBF				pmax		pmax			
	comp=Z,14nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**16.82**	**322**	P		**Pn**	**05 27 44.3**	**-0.3**
FUORN				IAmb		IAmb	05 28 08.6		
	comp=Z,22nm,1.4s								
KIEV	**Kiev**	**16.83**	**9**	P		**Pn**	**05 27 43.0**	**-1.5**
AKASG	**Malin Array Be**	**16.84**	**9**	Pn		**Pn**	**05 27 43.6**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=200,slow=11,SNR=11								
AKASG				Sn		**Sn**	**05 30 48.2**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=194,slow=20,SNR=5.4								
AKASG	**Malin Array Be**	**16.84**	**9**	*ceP*		**Pn**	**05 27 44.2**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,6.0nm,0.5s								
AKASG	**Malin Array Be**	**16.84**	**9**	Pn		**Pn**	**05 27 42.6**	**-2.0**
AKBB	**Malin Array Si**	**16.84**	**9**	*ceP*		**Pn**	**05 27 44.1**	**-0.5**
AKBB	**Malin Array Si**	**16.84**	**9**			**Pn**	**05 27 43.4**	**-1.2**
FETA	**Feichten**	**16.87**	**324**	*eP*		**P**	**05 27 46.5**	**-0.6**
	comp=Z,6.1nm,0.8s								
MOTA	**Moosalm**	**16.92**	**326**	*eP*		**P**	**05 27 47.5**	**-0.2**
	comp=Z,4.5nm,1.1s								
GEC2	**GERESS Array S**	**16.99**	**333**	P		**Pn**	**05 27 46.7**	**+0.1**
GEC2				IAmb		IAmb	05 27 51.1		
	comp=Z,13nm,0.8s								
GERES	**GERESS Array B**	**16.99**	**333**	Pn		**P**	**05 27 47.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=147,slow=12,SNR=31								
GERES				LR		LR	05 36 27.0		
	comp=Z,110nm,19.9s,baz=102,slow=45								
GERES	**GERESS Array B**	**16.99**	**333**	P		**Pn**	**05 27 46.8**	**+0.1**
GERES	**GERESS Array B**	**16.99**	**333**	P		**Pn**	**05 27 46.8**	**+0.1**
ZEI	**Tsey**	**17.04**	**54**	*eP*		**Pn**	**05 27 46.8**	**-0.6**
ZEI				pmax		pmax			
	comp=Z,17nm,1.0s								
KRLC	**Kraliky**	**17.09**	**341**	*eP*		**Pn**	**05 27 47.5**	**-0.3**
KRLC	**Kraliky**	**17.09**	**341**	*eP*		**Pn**	**05 27 47.5**	**-0.3**
DAVOX	**Davos/Dischmat**	**17.13**	**322**	P		**P**	**05 27 50.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=137,slow=11,SNR=4.2								
RETA	**Reute**	**17.18**	**325**	*eP*		**P**	**05 27 50.1**	**-0.4**
	comp=Z,2.3nm,0.5s								
TUE	**Stuetta**	**17.20**	**321**	P		**Pn**	**05 27 48.3**	**-1.0**
KHC	**Kasperske Hory**	**17.27**	**334**	*eP*		**Pn**	**05 27 50.4**	**+0.3**
KHC	**Kasperske Hory**	**17.27**	**334**	*ceP*		**Pn**	**05 27 50.7**	**+0.6**
KHC				pmax		pmax			
	comp=Z,22nm,1.3s								
KHC	**Kasperske Hory**	**17.27**	**334**	P		**Pn**	**05 27 49.4**	**-0.7**
DPC	**Dobruska-Polom**	**17.46**	**341**	*eP*		**P**	**05 27 53.7**	**+0.2**
DPC	**Dobruska-Polom**	**17.46**	**341**	*eP*		**P**	**05 27 53.7**	**+0.2**
WET	**Wettzell**	**17.55**	**332**	P		**P**	**05 27 54.8**	**+0.3**
WET				pmax		pmax			
	comp=Z,11nm,1.0s								
MBDF	**Montbardon**	**17.66**	**312**	*eP*		**P**	**05 27 56.7**	**+0.8**
MBDF				pmax		pmax			
	comp=Z,36nm,2.1s								
LPL	**La Plagne**	**18.10**	**314**	*eP*		**P**	**05 28 04.3**	**+3.5**
LPL				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SENIN	**Lac Senin/Sane**	**18.25**	**317**	P		**Pn**	**05 28 01.3**	**-1.1**
ORIF	**Oris-en-Rattie**	**18.31**	**312**	*eP*		**P**	**05 28 03.6**	**+0.7**
ORIF				pmax		pmax			
	comp=Z,8.0nm,1.2s								
BRG	**Berggiesshubel**	**18.63**	**337**	*eP*		Pn	05 28 16.9	+10	
	comp=Z,5.4nm,1.0s								
BRG	**Berggiesshubel**	**18.63**	**337**	*eP*		Pn	05 28 16.9	+10	
BRG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BFO	**Black Forest**	**18.95**	**324**	*ceP*		**P**	**05 28 09.9**	**0.0**
CABF	**La Chapelle**	**19.08**	**317**	*eP*		**Pn**	**05 28 13.2**	**+1.0**
CABF				pmax		pmax			
	comp=Z,40nm,1.8s								
MOX	**Moxa**	**19.25**	**333**	P		**P**	**05 28 13.3**	**+0.2**
MOX				pmax		pmax			
	comp=Z,9.0nm,1.6s								
CLL	**Collm**	**19.31**	**336**	*eP*		**Pn**	**05 28 15.0**	**+0.2**
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	**19.31**	**336**	*eP*		**Pn**	**05 28 15.0**	**+0.2**
CLL				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	**19.31**	**336**	P		**P**	**05 28 12.3**	**-1.4**
CDF	**Champ du Feu**	**19.53**	**322**	*eP*		**P**	**05 28 16.4**	**+0.1**
CDF				pmax		pmax			
	comp=Z,15nm,1.4s								
VORD	**Divnogorie**	**19.75**	**27**	*eP*		**P**	**05 28 19.1**	**+0.5**
VORD				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VSR	**Storozhevoye**	**19.90**	**27**	*eP*		**Pn**	**05 28 22.0**	**0.0**
VSR				pmax		pmax			
	comp=Z,7.0nm,0.5s								
MTLF	**Montolieu**	**20.05**	**304**	*eP*		Pn	05 28 24.0	+0.2	
MTLF				pmax		pmax			
	comp=Z,14nm,1.6s								
TAM	**Tamanrasset**	**20.56**	**242**	P		Pn	05 28 30.6	+0.5	
TAM				pmax		pmax			
	comp=Z,5.0nm,1.0s								
LOR	**Lormes**	**20.71**	**316**	*eP*		**P**	**05 28 29.7**	**+0.6**
LOR				pmax		pmax			
	comp=Z,64nm,2.4s								
CAF	**Calviac**	**20.74**	**308**	*eP*		**P**	**05 28 30.2**	**+0.8**
CAF				pmax		pmax			
	comp=Z,14nm,1.4s								
AVF	**Avril sur Loir**	**20.77**	**314**	*eP*		**P**	**05 28 30.7**	**+1.0**
AVF				pmax		pmax			
	comp=Z,45nm,2.1s								
VRH	**Novokhopyorsk**	**20.90**	**30**	*eP*		**P**	**05 28 28.9**	**-2.2**
VRH				pmax		pmax			
	comp=Z,20nm,0.6s								
LPSR	**Galich'ya Gora**	**20.96**	**24**	*eP*		**P**	**05 28 28.6**	**-3.0**
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TCF	**Toulx Ste Croi**	**21.23**	**312**	*eP*		**P**	**05 28 35.6**	**+0.9**
TCF				pmax		pmax			
	comp=Z,19nm,1.5s								
RJF	**Les Rejaudoux**	**21.25**	**309**	*eP*		**P**	**05 28 35.2**	**+0.3**
RJF				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LFF	**La Frestale**	**21.61**	**307**	*eP*		**P**	**05 28 40.0**	**+1.2**
LFF				pmax		pmax			
	comp=Z,4.0nm,0.5s								
ETSF	**Etsaut**	**21.86**	**301**	*eP*		**P**	**05 28 44.1**	**+2.5**
ETSF				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BAIF	**Baives**	**22.13**	**322**	*eP*		**P**	**05 28 44.5**	**+0.2**
BAIF				pmax		pmax			
	comp=Z,8.0nm,1.0s								
BSD	**Bornholm Skovb**	**22.17**	**344**	*i* P		**P**	**05 28 42.6**	**-2.0**
BSD	**Bornholm Skovb**	**22.17**	**344**	*i* P		**P**	**05 28 42.6**	**-2.0**
BSD	**Bornholm Skovb**	**22.17**	**344**	*i* P		**P**	**05 28 42.6**	**-2.0**
SJPF	**Ste Jean**	**22.39**	**301**	*eP*		**P**	**05 28 50.2**	**+3.0**
SJPF				pmax		pmax			
	comp=Z,19nm,1.5s								
OBN	**Obninsk**	**22.46**	**17**	P		**P**	**05 28 47.2**	**-0.5**
	comp=Z,4.2nm,0.4s,baz=157,slow=4.6,SNR=4.0								
ESBB	**Sonseca Array**	**23.86**	**292**	P		**P**	**05 29 02.5**	**+0.4**
ESBB				IAmb		IAmb	05 29 08.9		
	comp=Z,8.1nm,1.3s								
ESDC	**Sonseca Array**	**23.86**	**292**	P		**P**	**05 29 02.2**	**0.0**
	comp=Z,1.9nm,0.7s,baz=81,slow=9.2,SNR=22								
ESDC				LR		LR	05 39 09.8		
	comp=Z,28nm,18.1s,baz=225,slow=39								
ESDC	**Sonseca Array**	**23.86**	**292**	P		**P**	**05 29 00.9**	**-1.3**
FLN	**La Foliniere**	**23.99**	**315**	*eP*		**P**	**05 29 02.8**	**-0.4**
FLN				pmax		pmax			
	comp=Z,91nm,2.0s								
MDT	**Midelt**	**24.80**	**275**	P		**P**	**05 29 12.4**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=103,slow=13,SNR=5.2								
SGMF	**Saint Gilles**	**25.00**	**313**	*eP*		**P**	**05 29 15.6**	**+3.1**
SGMF				pmax		pmax			
	comp=Z,87nm,1.7s								
QUIF	**Quistinic**	**25.24**	**312**	*eP*		**P**	**05 29 15.6**	**+1.0**
QUIF				pmax		pmax			
	comp=Z,93nm,1.6s								
HFS	**Hagfors**	**27.08**	**347**	P		**P**	**05 29 30.0**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=141,slow=9.6,SNR=5.9								
FINES	**FINESS Array B**	**27.35**	**1**	P		**P**	**05 29 30.8**	**-2.7**
	comp=Z,1.7nm,0.7s,baz=153,slow=11,SNR=7.7								
FINES	**FINESS Array B**	**27.35**	**1**	P		**P**	**05 29 31.0**	**-2.5**
FINES	**FINESS Array B**	**27.35**	**1**	P		**P**	**05 29 31.0**	**-2.5**
NC602	**NORSAR Array S**	**28.05**	**346**	P		**P**	**05 29 38.3**	**-1.5**
NA001	**NORSAR Array S**	**28.29**	**345**	P		**P**	**05 29 40.7**	**-1.2**
KLMR	**Klimovskoe**	**28.33**	**15**	*eP*		**P**	**05 29 38.7**	**-3.5**
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
KLMR	**Klimovskoe**	**28.33**	**15**	*eP*		**P**	**05 29 38.8**	**-3.5**
KLMR				AMP			05 29 41.0		
	comp=Z,10.0nm,1.2s								
NC405	**NORSAR Array S**	**28.36**	**346**	P		**P**	**05 29 42.0**	**-0.7**
NB201	**NORSAR Array S**	**28.39**	**346**	P		**P**	**05 29 41.3**	**-1.5**
NB2	**NORSAR Subarra**	**28.40**	**346**	P		**P**	**05 29 41.3**	**-1.7**
	comp=Z,1.9nm,0.9s,baz=157,slow=10								
NOA	**NORSAR Array B**	**28.40**	**345**	P			**05 29 40.6**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=45,slow=25,SNR=2.2								
AKTO	**Aktyubinsk**	**28.99**	**46**	P		**P**	**05 29 46.5**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=282,slow=6.8,SNR=5.3								
KIRV	**Kirov**	**29.34**	**26**	*ceP*		**P**	**05 29 50.6**	**-0.7**
ABKAR	**Akbulak array**	**29.77**	**49**	P		**P**	**05 29 54.8**	**-0.4**
ABKAR	**Akbulak array**	**29.77**	**49**	P		**P**	**05 29 55.0**	**-0.2**
ABKAR				IAmb		IAmb	05 30 21.6		
	comp=Z,2.2nm,1.0s								
TOA0	**Torodi Ar. Sit**	**29.81**	**231**	P		**P**	**05 29 56.5**	**+0.7**
TOA0				IAmb		IAmb	05 30 06.1		
	comp=Z,4.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**29.81**	**231**	P		**P**	**05 29 56.4**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=32,slow=8.3,SNR=37								
TORD				LR		LR	05 43 17.3		
	comp=Z,106nm,21.0s,baz=85,slow=39								
TORD	**Torodi Ar. Bea**	**29.81**	**231**	P		**P**	**05 29 56.2**	**+0.4**
ARU	**Arti**	**31.91**	**35**	*d iP*		**P**	**05 30 12.4**	**-1.6**
ARU							05 31 15.7		
ARU				S		**S**	**05 35 25.4**	**+1.7**
ARU				SS		**SnSn**	**05 37 10.1**	**-2.4**
ARU				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ARU	**Arti**	**31.91**	**35**	P		**P**	**05 30 13.4**	**-0.6**
ARU				IAmb		IAmb	05 30 14.6		
	comp=Z,5.3nm,0.7s								
KOWA	**Kowa**	**32.78**	**241**	P		**P**	**05 30 22.6**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=36,slow=10,SNR=4.7								
KOWA	**Kowa**	**32.78**	**241**	P		**P**	**05 30 22.9**	**+0.8**
ARCES	**ARCESS Array B**	**35.47**	**0**	P		**P**	**05 30 42.0**	**-2.8**
	comp=Z,2.9nm,0.8s,baz=182,slow=8.5,SNR=7.5								
CHGR	**Chuyangaron**	**35.48**	**70**	P		**P**	**05 30 45.0**	**-0.3**
CHGR				IAmb		IAmb	05 30 47.3		
	comp=Z,6.4nm,0.9s								
KK31	**Karatay Array**	**36.21**	**62**	P		**P**	**05 30 52.3**	**+0.8**
KK31				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KK31	**Karatay Array**	**36.21**	**62**	P		**P**	**05 30 52.3**	**+0.8**
KK31				IAmb		IAmb	05 30 52.7		
	comp=Z,6.8nm,0.9s								
KKAR	**Karatay Array**	**36.21**	**62**	P		**P**	**05 30 51.8**	**+0.3**
KKAR	**Karatay Array**	**36.21**	**62**	P		**P**	**05 30 52.2**	**+0.7**
KKAR				IAmb		IAmb	05 30 52.7		
	comp=Z,6.8nm,0.9s								
KKAR	**Karatay Array**	**36.21**	**62**	P		**P**	**05 30 51.8**	**+0.3**
KMBO	**Kilima Mbogo**	**36.86**	**160**	LR		LR	05 46 40.3		
	comp=Z,65nm,18.2s,baz=94,slow=37								
BRVK	**Borovoye**	**37.03**	**45**	*ceP*		**P**	**05 30 59.2**	**+0.8**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
DBIC	**Dimbokro**	**38.90**	**232**	P		**P**	**05 31 15.8**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=25,slow=8.8,SNR=6.0								
DBIC	**Dimbokro**	**38.90**	**232**	P		**P**	**05 31 14.5**	**0.0**
DBIC				pmax		pmax			
	comp=Z,23nm,1.5s								
DBIC	**Nimbokro**	**38.90**	**232**	P		**P**	**05 31 14.5**	**0.0**
TIC	**Toumodi**	**39.03**	**232**	*eP*		**P**	**05 31 15.1**	**-0.5**
KIC	**Kosan Boka**	**39.06**	**232**	*eP*		**P**	**05 31 15.5**	**-0.3**
	comp=Z,9.0nm,0.7s								
LIC	**Lamto**	**39.35**	**232**	*eP*		**P**	**05 31 18.3**	**+0.1**
	comp=Z,1.2nm,0.3s								
BOOM	**Boomskoye usch**	**40.23**	**63**	P		**P**	**05 31 24.6**	**-1.0**
BOOM				pmax		pmax			
	comp=Z,11nm,1.2s								
BOOM	**Boomskoye usch**	**40.23**	**63**	P		**P**	**05 31 24.6**	**-1.0**
BOOM				IAmb		IAmb	05 31 27.7		
	comp=Z,11nm,1.2s								
KURK	**Kurchatov**	**41.86**	**50**	*ceP*		**P**	**05 31 38.7**	**0.0**
KURK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KURK	**Kurchatov**	**41.86**	**50**	P		**P**	**05 31 38.4**	**-0.3**
KURK				IAmb		IAmb	05 31 39.5		
	comp=Z,6.9nm,0.8s								
MAKZ	**Makanchi**	**44.16**	**56**	P		**P**	**05 31 57.6**	**+0.2**
MAKZ				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MAKZ	**Makanchi**	**44.16**	**56**	P		**P**	**05 31 57.6**	**+0.2**
MAKZ				IAmb		IAmb	05 31 58.4		
	comp=Z,5.9nm,0.8s								
MK31	**Makanchi Array**	**44.38**	**56**	*ceP*		**P**	**05 31 59.5**	**+0.4**
MK31	**Makanchi Array**	**44.38**	**56**	P		**P**	**05 31 59.5**	**+0.4**
MK31				IAmb		IAmb	05 32 00.2		
	comp=Z,7.1nm,0.7s								
MKAR	**Makanchi Array**	**44.38**	**56**	P		**P**	**05 31 59.3**	**+0.2**
	comp=Z,8.7nm,0.6s,baz=278,slow=6.4,SNR=51								
MKAR	**Makanchi Array**	**44.38**	**56**	P		**P**	**05 31 59.1**	**0.0**
MKAR	**Makanchi Array**	**44.38**	**56**	P		**P**	**05 31 59.1**	**0.0**
ZAA0	**Zalesovo Array**	**45.75**	**45**	P		**P**	**05 32 09.0**	**-0.9**
ZALV	**Zalesovo Beam**	**45.75**	**45**	P		**P**	**05 32 09.1**	**-0.8**
	comp=Z,5.5nm,0.5s,baz=269,slow=8.5,SNR=24								
ZALV	**Zalesovo Beam**	**45.75**	**45**	P		**P**	**05 32 08.8**	**-1.0**
WMQ	**Urumqi**	**48.56**	**59**	*eP*		**P**	**05 32 34.0**	**+2.0**
NRIK	**Noril'sk**	**48.83**	**25**	P		**P**	**05 32 32.8**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=249,slow=6.9,SNR=5.1								
NRIK	**Noril'sk**	**48.83**	**25**	*ceP*		**P**	**05 32 33.5**	**-0.1**
NRIK				pmax		pmax			
	comp=Z,8.0nm,0.9s								
TLY	**Talaya**	**57.34**	**46**	*i* P		**P**	**05 33 37.2**	**+0.6**
TLY				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ZAK	**Zakamensk**	**57.46**	**48**	*eP*		**P**	**05 33 38.0**	**+0.4**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GTA	**Gaotai**	**58.48**	**61**	*eP*		**P**	**05 33 45.6**	**+0.6**
GTA				pP		pP	05 33 50.4	-0.5	
GTA				sP		sP	05 33 52.7	-0.2	
GTA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SONM	**Songino Array**	**60.17**	**50**	P		**P**	**05 33 57.1**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=288,slow=9.1,SNR=18								
SONM	**Songino Array**	**60.17**	**50**	P		**P**	**05 33 56.9**	**+0.4**
SONM				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**60.17**	**50**	P		**P**	**05 33 56.9**	**+0.4**
EUNU	**Eureka**	**60.21**	**349**	P		**P**	**05 33 56.2**	**0.0**
ULN	**Ulaanbaatar**	**60.58**	**50**	*ceP*		**P**	**05 33 59.8**	**+0.5**
ULN				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ULN	**Ulaanbaatar**	**60.58**	**50**	P		**P**	**05 33 59.9**	**+0.5**
BOSA	**Boshof**	**62.39**	**180**	P		**P**	**05 34 12.9**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=354,slow=8.8,SNR=4.3								
BOSA	**Boshof**	**62.39**	**180**	P		**P**	**05 34 11.4**	**-0.2**
HHC	**Hu-ho-hao-te**	**66.24**	**56**	*eP*		**P**	**05 34 37.4**	**+0.5**
HHC				pmax		pmax			
	comp=Z,23nm,1.0s								
HHC				pmax		pmax			
	comp=Z,160nm,5.4s								
CMAR	**Chiang Mai Arr**	**66.72**	**83**	P		**P**	**05 34 39.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=301,slow=8.4,SNR=5.5								
CMAR	**Chiang Mai Arr**	**66.72**	**83**	*ceP*		**P**	**05 34 41.5**	**+1.4**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BILL	**Bilibino**	**74.08**	**14**	*eP*		**P**	**05 35 23.8**	**-0.5**
BILL				*e*			05 38 09.1		
BILL				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BILL				MLR		MLR			
	comp=Z,134nm,19.0s								
USRK	**Ussuriysk Ar.**	**77.60**	**45**	P		**P**	**05 35 44.5**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=290,slow=5.3,SNR=12								
KSRS	**Korea Array**	**78.94**	**52**	P		**P**	**05 35 52.8**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=313,slow=4.8,SNR=5.5								
MJAR	**Matsushiro Arr**	**86.04**	**48**	P		**P**	**05 36 29.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=306,slow=5.8,SNR=3.4								
MJAR	**Matsushiro Arr**	**86.04**	**48**	P		**P**	**05 36 29.0**	**-0.4**
WRA	**Warramunga Arr**	**116.50**	**97**	PKP		**PKPdf**	**05 42 31.8**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=318,slow=1.8,SNR=2.1								

*IDC **04** 05:25:28.9± 1.3, 46.01N× 137.20E, h368km± 26km, mb3.2/5, mb1 3.1/9, mb1mx2.9/43, mbtmp3.8/9, Error ellipse: s-maj=34.2km s-min=19.0km az=160.0*

ISC 04 05:25:28.3±0.9, **46.1N**±0.1×**137.22E**±0.10, **h350km, n9,** σ1**$27**/9, **mb3.5**/5, **Primorye**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**4.18**	**244**		P	**Pn**	**05 26 40.8**	**+1.7**
	baz=70,slow=12,SNR=9.9							
ASAJ	**Asahikawa**	**4.31**	**116**	P		**Pn**	**05 26 41.0**	**+0.5**
	1.8nm,0.3s,baz=300,slow=14,SNR=4.7							
MJAR	**Matsushiro Arr**	**9.62**	**175**	P		**Pn**	**05 27 41.1**	**-0.7**
	0.2nm,0.3s,baz=357,slow=11,SNR=6.5							
SEY	**Seymchan**	**18.89**	**22**	P		**P**	**05 29 25.4**	**+1.2**
	0.2nm,0.3s,baz=204,slow=9.8,SNR=4.7							
SONM	**Songino Array**	**21.03**	**286**	P		**P**	**05 29 44.6**	**-1.0**
	1.8nm,0.7s,baz=88,slow=8.3,SNR=6.1							
ZALV	**Zalesovo Beam**	**33.85**	**303**	P		**P**	**05 31 37.8**	**-0.9**
	1.2nm,0.4s,baz=79,slow=7.5,SNR=6.7							
INK	**Inuvik**	**47.89**	**30**	P		**P**	**05 33 31.6**	**-0.2**
	1.4nm,0.6s,baz=311,slow=8.4,SNR=1.5							
FINES	**FINESS Array B**	**59.35**	**329**	P		**P**	**05 34 52.8**	**-1.2**
	1.5nm,1.0s,baz=63,slow=9.7,SNR=4.4							
AKASG	**Malin Array Be**	**65.28**	**318**	P		**P**	**05 35 34.4**	**+1.1**
	0.6nm,0.6s,baz=44,slow=4.4,SNR=2.0							

*THR **04** 05:43:11.3± 0.4, 28.19N× 53.18E, h14km± 8km, ML3.5*
*IDC **04** 05:43:13.1± 2.5, 28.49N× 52.92E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.5/39, mbtmp3.7/5, ML3.4/1

IKVE	**Kverkfjoll**	**0.38**	**81**	P		**Pg**	**05 57 06.5**	**-3.1**	
	baz=91								
IKVE				S		**Sg**	**05 57 11.5**	**-3.1**	
	baz=91								
IVOT	**Vottur**	**0.39**	**155**	P		**Pg**	**05 57 07.6**	**-2.1**	
	baz=163								
IJOK	**Jokulheimar**	**0.42**	**224**	P		**Pg**	**05 57 08.5**	**-1.9**	
	baz=222								
IJOK				S		**Sb**	**05 57 16.4**	**-1.8**	
	baz=222								
THOR	**Thorvaldshraun**	**0.49**	**50**	P		Pg	05 57 07.5	-4.1	
	baz=54								
THOR				S		**Sg**	**05 57 14.3**	**-3.8**	
	baz=54								
IKRE	**Kreppuhraun**	**0.53**	**71**	P		Pg	05 57 08.2	-4.1	
	baz=78								
IKRE				S		**Sg**	**05 57 15.9**	**-3.4**	
	baz=78								
IIEY	**Innrieyrar**	**0.58**	**206**	P		**Pg**	**05 57 11.2**	**-2.2**	
	baz=206								
IIEY				S		**Sb**	**05 57 21.3**	**-1.4**	
	baz=206								
IMKO	**Mokollar**	**0.63**	**55**	P		Pg	05 57 09.7	-4.6	
	baz=58								
IMKO				S		**Sg**	**05 57 18.6**	**-4.0**	
	baz=58								
IKSK	**Karasker**	**0.66**	**134**	P		**Pg**	**05 57 11.1**	**-3.7**	
	baz=140								
IKAL	**Kalfafell**	**0.68**	**185**	P		**Pg**	**05 57 12.8**	**-2.3**	
	baz=187								
ISVA	**Svartarkot**	**0.73**	**10**	P		Pg	05 57 11.6	-4.6	
	baz=7.9								
ISVA				S		**Sg**	**05 57 21.6**	**-4.1**	
	baz=7.9								
IVAT	**Vatnsfell**	**0.74**	**234**	P		**Pg**	**05 57 14.4**	**-1.9**	
	baz=232								
IVSH	**V-Sauoahnukur**	**0.80**	**76**	P		Pg	05 57 12.9	-4.7	
	baz=80								
IVSH				S		**Sg**	**05 57 23.7**	**-4.4**	
	baz=80								
IFAG	**Fagurholsmyri**	**0.84**	**152**	P		**Pg**	**05 57 15.0**	**-3.3**	
	baz=156								
IHVE	**Hveravellir**	**0.90**	**287**	P		**Pg**	**05 57 15.6**	**-3.8**	
	baz=282								
IHVE				S		**Sg**	**05 57 29.2**	**-1.9**	
	baz=282								
IADA	**Aoalbol**	**0.93**	**64**	P		Pg	05 57 14.9	-5.2	
	baz=67								
IADA				S		**Sg**	**05 57 27.3**	**-4.9**	
	baz=67								
ISNB	**Snabyli**	**1.01**	**209**	P		**Pg**	**05 57 18.4**	**-3.0**	
	baz=209								
ISNB				S		**Sn**	**05 57 33.7**	**-2.8**	
	baz=209								
IMEL	**Melhnausar**	**1.02**	**21**	P		Pb	05 57 16.4	-5.5	
	baz=21								
ISLY	**Slysaalda**	**1.05**	**221**	P		**Pg**	**05 57 19.6**	**-2.7**	
	baz=220								
IREN	**Reynihlio**	**1.07**	**15**	P		Pb	05 57 17.1	-5.5	
	baz=14								
IFED	**Fedgar**	**1.11**	**238**	P		**Pg**	**05 57 20.7**	**-2.7**	
	baz=236								
IRJU	**Rjupnafell**	**1.12**	**207**	P		**Pg**	**05 57 20.6**	**-2.9**	
	baz=207								
IKVO	**Krokottuvotn**	**1.13**	**14**	P		Pn	05 57 18.1	-5.9	
	baz=13								
IMJO	**Mjoaskard**	**1.16**	**234**	P		**Pg**	**05 57 21.5**	**-2.8**	
	baz=233								
IGRS	**Grimsstaoir**	**1.19**	**30**	P		Pn	05 57 19.0	-5.7	
	baz=30								
IGRS				S		**Sb**	**05 57 35.6**	**-4.4**	
	baz=30								
ISKI	**Skildingahlsh**	**1.27**	**10**	P		Pn	05 57 20.4	-5.5	
	baz=8.7								
IGHA	**Grjothals**	**1.28**	**17**	P		Pn	05 57 20.7	-5.4	
	baz=16								
IGRA	**Granastaoir**	**1.30**	**359**	P		Pn	05 57 20.9	-5.3	
	baz=358								
BORG	**Borgarnes**	**1.63**	**276**	Pg		**Pn**	**05 57 28.3**	**-2.5**	
	53nm,0.3s,baz=90,slow=7.8,SNR=83								
BORG				Lg		Lg	05 57 51.1		
	33nm,0.3s,baz=32,slow=15,SNR=4.9								
BORG	**Borgarnes**	**1.63**	**276**	P		**Pn**	**05 57 28.9**	**-1.9**	
BORG							05 57 49.9		
BORG	**Borgarnes**	**1.63**	**276**	Pn		**Pn**	**05 57 28.9**	**-1.9**	
BORG						**Sb**	**05 57 49.9**	**-2.8**	
SCO	**Scoresbysund**	**6.12**	**346**	P		**Pn**	**05 58 32.6**	**+0.1**	
SCO							05 59 45.0		
SCO	**Scoresbysund**	**6.12**	**346**	Pn		**Pn**	**05 58 32.6**	**+0.1**	
SCO				Sn		**Sn**	**05 59 45.0**	**+2.6**	
SCO	**Scoresbysund**	**6.12**	**346**	*e*		**Pn**	**05 58 30.1**	**-2.3**	
	baz=156,slow=8.6								
SCO				*i* P		**Pn**	**05 58 31.3**	**-1.1**	
SCO				*e*S		**Sn**	**05 59 44.4**	**+2.0**	
SCO				IAML			05 59 53.3		
	comp=Z,3.8nm,0.5s								
JMIC	**Jan Mayen**	**7.24**	**24**	LR		LR	06 01 28.5		
	comp=Z,610nm,18.2s,baz=236,slow=37								
LEWI	**Lewis, Hebride**	**8.27**	**137**	*e*P		**Pn**	**05 59 01.2**	**-0.7**	
ANGG	**Ammassalik, Gr**	**8.52**	**286**	Pn		**Pn**	**05 59 05.2**	**-0.1**	
ANGG				Sn		**Sn**	**06 00 40.1**	**-1.2**	
KAC	**Achnashellach**	**9.27**	**135**	*e*P		**Pn**	**05 59 14.1**	**-1.6**	
KPL	**Plockton**	**9.30**	**136**	*e*P		**Pn**	**05 59 14.8**	**-1.2**	
MCD	**Coleburn Disti**	**9.86**	**129**	*e*P		**Pn**	**05 59 23.6**	**-0.2**	
INVG	**Invergeldie, C**	**10.55**	**135**	*e*P		**Pn**	**05 59 31.6**	**-1.6**	
DRUM	**Mains of Drumt**	**10.65**	**130**	*e*P		**Pn**	**05 59 35.2**	**+0.7**	
PGBU	**Glenifferbraes**	**10.94**	**138**	*e*P		**Pn**	**05 59 37.0**	**-1.4**	
SUMG	**Summit**	**10.97**	**326**	*i* P		**Pn**	**05 59 42.4**	**+3.3**	
SUMG	**Summit**	**10.97**	**326**	Pn		**Pn**	**05 59 40.2**	**+1.1**	
SUMG	**Summit**	**10.97**	**326**	*i* P		**Pn**	**05 59 42.4**	**+3.3**	
SUMG	**Summit**	**10.97**	**326**	*i* P		**Pn**	**05 59 42.4**	**+3.3**	
CLGH	**Cloghs, Cushen**	**11.14**	**144**	*e*P		**Pn**	**05 59 40.6**	**-0.6**	
NEWG	**New Galloway**	**11.62**	**139**	*e*P		**Pn**	**05 59 46.6**	**-1.1**	
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn		**Pn**	**05 59 48.6**	**-0.8**	
	baz=323,slow=14,SNR=13								
ESK	**Eskdalemuir**	**11.74**	**136**	*e*P		**Pn**	**05 59 47.6**	**-1.8**	
ESK	**Eskdalemuir**	**11.74**	**136**	P		**Pn**	**05 59 48.6**	**-0.8**	
ESK	**Eskdalemuir**	**11.74**	**136**	Pn		**Pn**	**05 59 48.6**	**-0.8**	
DSB	**Dublin**	**12.76**	**148**	Pn		**Pn**	**06 00 04.4**	**+1.1**	
DSB				Sn		**Sn**	**06 02 25.3**	**+0.2**	
NC204	**NORSAR Array S**	**13.25**	**92**	Pn		**Pn**	**06 00 11.8**	**+1.8**	
NBO00	**NORSAR Array S**	**13.37**	**93**	Pn		**Pn**	**06 00 12.8**	**+1.2**	
NC303	**NORSAR Array S**	**13.53**	**91**	Pn		**Pn**	**06 00 16.8**	**+2.9**	
NB2	**NORSAR Subarra**	**13.55**	**92**	Pn		**Pn**	**06 00 11.3**	**-2.9**	
	comp=Z,1.9nm,0.7s,baz=298,slow=14								
NOA	**NORSAR Array B**	**13.55**	**92**	Pn		**Pn**	**06 00 10.9**	**-3.3**	
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=5.5								
NOA				LR		LR	06 05 13.6		
	comp=Z,226nm,20.9s,baz=300,slow=36								
NOA	**NORSAR Array B**	**13.55**	**92**	*e*P		**Pn**	**06 00 15.5**	**+1.3**	
SFJD	**Kangerlussuaq**	**13.66**	**295**	LR		LR	06 05 08.1		
	comp=Z,740nm,19.1s,baz=84,slow=36								
NC405	**NORSAR Array S**	**13.73**	**91**	Pn		**Pn**	**06 00 19.3**	**+2.6**	
ILULI	**Ilulissat**	**13.80**	**304**	P		**Pn**	**06 00 16.8**	**-0.7**	
ILULI	**Ilulissat**	**13.80**	**304**	Pn		**Pn**	**06 00 16.8**	**-0.7**	
NC602	**NORSAR Array S**	**13.84**	**93**	Pn		**Pn**	**06 00 19.7**	**+1.7**	
HFS	**Hagfors**	**15.07**	**93**	Pn		**Pn**	**06 00 33.4**	**-1.3**	
	comp=Z,0.1nm,0.3s,baz=280,slow=17,SNR=2.5								
HFS				LR		LR	06 06 22.5		
	comp=Z,180nm,20.3s,baz=309,slow=37								
SPITS	**Spitsbergen Ar**	**16.92**	**23**	LR		LR	06 05 41.6		
	comp=Z,210nm,21.5s,baz=225,slow=31								
ARCES	**ARCESS Array B**	**17.16**	**54**	P		**Pn**	**06 01 02.0**	**+0.4**	
	baz=287,slow=4.6,SNR=2.6								
ARCES				LR		LR	06 06 12.8		
	comp=Z,428nm,18.9s,baz=260,slow=32								
KEV	**Kevo**	**17.67**	**54**	P		**P**	**06 01 11.3**	**+2.5**	
KEV				pmax		pmax			
	comp=Z,47nm,1.3s								
KEV	**Kevo**	**17.67**	**54**	P		**P**	**06 01 11.3**	**+2.5**	
SGF	**Sodankyl**	**17.83**	**61**	P		**P**	**06 01 14.8**	**+4.2**	
SGF				pmax		pmax			
	comp=Z,30nm,2.5s								
QUIF	**Quistinic**	**18.47**	**148**	*e*P		**Pn**	**06 01 18.3**	**+0.5**	
QUIF				pmax		pmax			
	comp=Z,51nm,1.2s								
BMRD	**Maredsous**	**18.55**	**130**	P		**Pn**	**06 01 20.3**	**+1.5**	
BAIF	**Baives**	**18.57**	**131**	*e*P		**Pn**	**06 01 19.9**	**+0.8**	
BAIF				pmax		pmax			
	comp=Z,25nm,1.2s								
GRR	**Gorron**	**18.59**	**143**	*e*P		**Pn**	**06 01 20.4**	**+1.1**	
GRR				pmax		pmax			
	comp=Z,30nm,1.0s								
MEM	**Membach**	**18.70**	**127**	P		**Pn**	**06 01 20.9**	**+0.3**	
MEM	**Membach**	**18.70**	**127**	P		**Pn**	**06 01 21.7**	**+1.1**	
MEM				pmax		pmax			
	comp=Z,21nm,1.1s								
BTNL	**Ternell**	**18.76**	**127**	P		**Pn**	**06 01 22.1**	**+0.7**	
SUF	**Sumiainen**	**19.19**	**76**	P		**P**	**06 01 24.9**	**-0.6**	
SUF				pmax		pmax			
	comp=Z,17nm,1.0s								
MSF	**Maaselka**	**19.19**	**65**	P		**Pn**	**06 01 30.3**	**+3.8**	
MSF				pmax		pmax			
	comp=Z,29nm,2.0s								
FIA1	**FINESS Array S**	**19.73**	**79**	P		**P**	**06 01 33.0**	**+1.5**	
FINES	**FINESS Array B**	**19.73**	**79**	P		**P**	**06 01 31.1**	**-0.3**	
	comp=Z,0.1nm,0.3s,baz=309,slow=9.1,SNR=6.1								
FINES				LR		LR	06 09 38.2		
	comp=Z,138nm,18.8s,baz=293,slow=38								
FINES	**FINESS Array B**	**19.73**	**79**	*e*P		**P**	**06 01 32.8**	**+1.3**	
FINES	**FINESS Array B**	**19.73**	**79**	P		**P**	**06 01 33.0**	**+1.5**	
CLF	**Chambon-Foret**	**19.78**	**138**	P		**P**	**06 01 31.9**	**-0.2**	
CLF				IAmb		IAmb	06 01 36.0		
	comp=Z,44nm,1.3s								
TULEG	**Thule**	**19.88**	**327**	P		**P**	**06 01 33.1**	**+0.1**	
MOX	**Moxa**	**20.70**	**119**	P		Pn	06 01 44.2	-0.2	
MOX				pmax		pmax			
	comp=Z,18nm,1.4s								
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**06 01 42.4**	**+0.3**	
	comp=Z,50nm,1.6s								
CLL				Lm		MLR	06 09 00.0		
	comp=Z,200nm,21.8s								
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**06 01 42.4**	**+0.3**	
CLL				pmax		pmax			
	comp=Z,50nm,1.6s								
CLL	**Collm**	**20.70**	**116**	P		**P**	**06 01 40.8**	**-1.3**	
CLL				IAmb		IAmb	06 01 44.7		
	comp=Z,39nm,1.4s								
LOR	**Lormes**	**20.93**	**136**	P		**P**	**06 01 44.9**	**+0.3**	
LOR				pmax		pmax			
	comp=Z,25nm,1.1s								
CDF	**Champ du Feu**	**21.01**	**129**	*e*P		**P**	**06 01 46.4**	**+0.8**	
CDF				pmax		pmax			
	comp=Z,13nm,1.1s								
SSF	**Saint Saulge**	**21.01**	**137**	*e*P		**P**	**06 01 45.4**	**-0.1**	
SSF				pmax		pmax			
	comp=Z,40nm,1.2s								
PBUR	**Paburge**	**21.02**	**96**	*e*P		**P**	**06 01 45.3**	**-0.1**	
ECH	**Echery**	**21.14**	**129**	P		**P**	**06 01 47.2**	**+0.3**	
ECH				pmax		pmax			
	comp=Z,14nm,0.9s								
ECH	**Echery**	**21.14**	**129**	P		**P**	**06 01 47.2**	**+0.3**	
AVF	**Avril sur Loir**	**21.21**	**137**	*e*P		**P**	**06 01 47.4**	**-0.2**	
AVF				pmax		pmax			
	comp=Z,25nm,1.2s								
BGF	**Bois d'Agland**	**21.28**	**138**	*e*P		**P**	**06 01 48.1**	**-0.2**	
BGF				pmax		pmax			
	comp=Z,27nm,1.0s								
GRA1	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**06 01 49.2**	**+0.4**	
GRA1				IAmb		IAmb	06 02 02.4		
	comp=Z,30nm,1.1s								
GRF	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**06 01 49.3**	**+0.4**	
GRF				pmax		pmax			
	comp=Z,30nm,1.1s								
GRF	**Grafenberg Arr**	**21.33**	**121**	*e*P		**P**	**06 01 49.4**	**+0.5**	
	comp=Z,15nm,1.2s,baz=327,slow=10								
TCF	**Toulx Ste Croi**	**21.34**	**140**	*e*P		**P**	**06 01 49.2**	**+0.1**	
TCF				pmax		pmax			
	comp=Z,28nm,1.0s								
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**	**06 01 50.2**	**+1.1**	
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**	**06 01 50.2**	**+1.1**	
STU	**Stuttgart**	**21.36**	**125**	P		**P**	**06 01 49.5**	**+0.3**	
STU				pmax		pmax			
	comp=Z,32nm,1.0s								
STU	**Stuttgart**	**21.36**	**125**			**P**	**06 01 49.5**	**+0.3**	
STU				IAmb		IAmb	06 01 54.6		
	comp=Z,32nm,1.0s								
HINF	**Hinteralfeld**	**21.39**	**130**	*e*P		**P**	**06 01 50.2**	**+0.6**	
HINF				pmax		pmax			
	comp=Z,32nm,1.5s								
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P		**P**	**06 01 50.0**	**+0.2**	
	comp=Z,26nm,0.9s								
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P		**P**	**06 01 50.0**	**+0.2**	
BRG				pmax		pmax			
	comp=Z,26nm,1.0s								
BFO	**Black Forest**	**21.44**	**127**	P		**P**	**06 01 50.5**	**+0.4**	
BFO				pmax		pmax			
	comp=Z,22nm,1.0s								
BFO	**Black Forest**	**21.44**	**127**	P		**P**	**06 01 50.5**	**+0.4**	
BFO				IAmb		IAmb	06 01 55.4		
	comp=Z,22nm,1.0s								
SMF	**Signal de Mont**	**21.49**	**137**	*e*P		**P**	**06 01 50.5**	**-0.1**	
SMF				pmax		pmax			
	comp=Z,32nm,1.1s								
VSU	**Vasula**	**21.59**	**86**	*e*P		**P**	**06 01 51.2**	**-0.4**	
VSU	**Vasula**	**21.59**	**86**	*i* P		**P**	**06 01 51.2**	**-0.4**	
VSU				pmax		pmax			
	comp=Z,98nm,0.8s								
FRB	**Frobisher Bay**	**21.74**	**291**	LR		LR	06 10 00.4		
	comp=Z,271nm,18.8s,baz=58,slow=36								
PVCC	**Panska Ves**	**21.93**	**115**	P		**P**	**06 01 56.2**	**+0.9**	
PVCC				pmax		pmax			
	comp=Z,10.0nm,1.3s								
SLE	**Schleitheim**	**21.98**	**128**	P		**P**	**06 01 57.2**	**+1.3**	
SLE				pmax		pmax			
	comp=Z,25nm,1.1s								
RJF	**Les Rejaudoux**	**22.06**	**142**	*e*P		**P**	**06 01 56.9**	**+0.1**	
RJF				pmax		pmax			
	comp=Z,33nm,1.1s								
LFF	**La Frestale**	**22.20**	**144**	*e*P		**P**	**06 01 59.0**	**+0.8**	
LFF				pmax		pmax			
	comp=Z,34nm,1.2s								
PABE	**Paberze**	**22.23**	**95**	*e*P		**P**	**06 01 59.2**	**+0.7**	
PRU	**Pruhonice**	**22.35**	**116**	*e*P		**P**	**06 02 01.2**	**+1.4**	
PRU	**Pruhonice**	**22.35**	**116**	*e*P		**P**	**06 02 01.2**	**+1.4**	
WET	**Wettzell**	**22.40**	**119**	P		**P**	**06 02 03.2**	**+2.8**	
WET				pmax		pmax			
	comp=Z,13nm,1.5s								
CHVC	**Chvalec**	**22.47**	**113**	*e*P		**P**	**06 02 01.4**	**+0.3**	
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P		**P**	**06 02 02.4**	**+0.9**	
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P		**P**	**06 02 02.4**	**+0.9**	
CAF	**Calviac**	**22.56**	**142**	*e*P		**P**	**06 02 01.9**	**-0.2**	
CAF				pmax		pmax			
	comp=Z,15nm,1.2s								
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P		**P**	**06 02 04.0**	**+0.7**	
KHC	**Kasperske Hory**	**22.67**	**118**	*i* P		**P**	**06 02 04.6**	**+1.3**	
KHC				pmax		pmax			
	comp=Z,29nm,1.1s								
KHC	**Kasperske Hory**	**22.67**	**118**	P		**P**	**06 02 03.4**	**+0.1**	
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**	**06 02 04.7**	**+0.4**	
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**	**06 02 04.7**	**+0.4**	
DAVA	**Damuels**	**22.87**	**126**	*e*P		**P**	**06 02 08.0**	**+2.4**	
	comp=Z,19nm,1.1s								
SSB	**Saint Sauveur**	**22.93**	**137**	P		**P**	**06 02 05.1**	**-0.9**	
SSB				pmax		pmax			
	comp=Z,18nm,1.2s								
SSB	**Saint Sauveur**	**22.93**	**137**	P		**P**	**06 02 05.1**	**-0.9**	
SSB				IAmb		IAmb	06 02 12.8		
	comp=Z,18nm,1.2s								
GEC2	**GERESS Array S**	**22.95**	**118**	P		**P**	**06 02 06.4**	**+0.1**	
GEC2				IAmb		IAmb	06 02 15.7		
	comp=Z,16nm,1.1s								
GERES	**GERESS Array B**	**22.95**	**118**	P		**P**	**06 02 07.5**	**+1.2**	
	comp=Z,3.7nm,1.0s,baz=331,slow=7.9,SNR=14								
GERES				LR		LR	06 11 25.0		
	comp=Z,263nm,20.4s,baz=303,slow=38								
GERES	**GERESS Array B**	**22.95**	**118**	P		**P**	**06 02 06.1**	**-0.2**	
RETA	**Reutte**	**23.01**	**125**	*e*P		**P**	**06 02 07.7**	**+0.8**	
	comp=Z,14nm,1.1s								
IZAR	**Zarasai**	**23.05**	**92**	*e*P		**P**	**06 02 04.4**	**-2.7**	
ISAL	**Salakas**	**23.11**	**92**	*e*P		**P**	**06 02 06.9**	**-0.9**	
KRLC	**Kraliky**	**23.16**	**113**	*e*P		**P**	**06 02 08.9**	**+0.5**	
KRLC	**Kraliky**	**23.16**	**113**	*e*P		**P**	**06 02 08.9**	**+0.5**	
MOTA	**Moosalm**	**23.25**	**124**	*e*P		**P**	**06 02 09.8**	**+0.3**	
	comp=Z,13nm,1.2s								
IIGN	**Ignalina**	**23.30**	**93**	*e*P		**P**	**06 02 10.2**	**+0.5**	
DAVOX	**Davos/Dischmat**	**23.31**	**127**	P		**P**	**06 02 10.6**	**+0.5**	
	comp=Z,5.1nm,0.8s,baz=311,slow=13,SNR=9.8								
DAVOX				LR		LR	06 12 02.7		
	comp=Z,177nm,18.3s,baz=336,slow=39								
LPL	**La Plagne**	**23.38**	**133**	*e*P		**P**	**06 02 10.8**	**-0.1**	
LPL				pmax		pmax			
	comp=Z,11nm,1.1s								
TUE	**Stuetta**	**23.39**	**128**	P		**P**	**06 02 11.7**	**+0.7**	
TUE				IAmb		IAmb	06 02 31.0		
	comp=Z,24nm,1.2s								
SQTA	**Sankt Quirin**	**23.40**	**124**	*e*P		**P**	**06 02 10.3**	**-0.5**	
	comp=Z,17nm,1.4s								
FETA	**Feichten**	**23.40**	**125**	*e*P		**P**	**06 02 13.8**	**+2.9**	
	comp=Z,13nm,1.4s								
LPG	**La Plagne**	**23.41**	**133**	*e*P		**P**	**06 02 11.2**	**0.0**	
LPG				pmax		pmax			
	comp=Z,11nm,1.0s								
WATA	**Walderalm**	**23.43**	**124**	*e*P		**P**	**06 02 13.0**	**+1.8**	
	comp=Z,11nm,0.9s								
WTTA	**Wattenberg**	**23.51**	**124**	*e*P		**P**	**06 02 12.7**	**+0.7**	
	comp=Z,18nm,1.3s								
WTTA	**Wattenberg**	**23.51**	**124**	P		**P**	**06 02 14.9**	**+2.8**	
WTTA				pmax		pmax			
	comp=Z,25nm,1.7s								
IDID	**Didziasalis**	**23.55**	**92**	*e*P		**P**	**06 02 11.7**	**-0.4**	
FUORN	**Ofenpass-Fuorn**	**23.58**	**126**	P		**P**	**06 02 12.7**	**-0.2**	
ORIF	**Oris-en-Rattie**	**23.66**	**135**	*e*P		**P**	**06 02 14.1**	**+0.7**	
ORIF				pmax		pmax			
	comp=Z,18nm,1.2s								
VRAC	**Vranov**	**23.70**	**114**	P		**P**	**06 02 14.6**	**+1.0**	
	comp=Z,4.0nm,0.8s,baz=325,slow=9.9,SNR=7.4								
VRAC				LR		LR	06 12 38.9		
	comp=Z,159nm,19.0s,baz=326,slow=40								
VRAC	**Vranov**	**23.70**	**114**	*e*P		**P**	**06 02 13.8**	**+0.1**	
MORC	**Moravsky Berou**	**23.70**	**112**	⇑P		**P**	**06 02 15.4**	**+1.6**	
MORC	**Moravsky Berou**	**23.70**	**112**	*e*P		**P**	**06 02 13.5**	**-0.3**	
MORC	**Moravsky Berou**	**23.70**	**112**	P		**P**	**06 02 13.7**	**-0.1**	
MORC				pmax		pmax			
	comp=Z,15nm,1.2s								
MORC	**Moravsky Berou**	**23.70**	**112**	P		**P**	**06 02 13.7**	**-0.1**	
EUNU	**Eureka**	**23.70**	**336**	P		**P**	**06 02 14.2**	**+0.6**	
EUNU				IAmb		IAmb	06 02 16.7		
	comp=Z,17nm,1.1s								
BNI	**Bardonecchia**	**23.78**	**134**	P		**P**	**06 02 14.3**	**-0.4**	
BNI				pmax		pmax			
	comp=Z,9.0nm,1.1s								
BNI	**Bardonecchia**	**23.78**	**134**	P		**P**	**06 02 14.3**	**-0.4**	
ETSF	**Etsaut**	**23.81**	**148**	*e*P		**P**	**06 02 12.0**	**-2.9**	
ETSF				pmax		pmax			
	comp=Z,12nm,1.4s								
KRUC	**Moravsky**	**23.82**	**115**	*e*P		**P**	**06 02 14.2**	**-0.6**	
NACGM	**Naroch**	**23.84**	**93**	*e*		**P**	**06 02 15.0**	**+0.1**	
MOA	**Molln**	**23.99**	**119**	*e*P		**P**	**06 02 15.7**	**-0.7**	
	comp=Z,19nm,1.7s								
MBDF	**Montbardon**	**24.10**	**134**	*e*P		**P**	**06 02 18.5**	**+0.7**	
MBDF				pmax		pmax			
	comp=Z,24nm,1.4s								
ABTA	**Abfaltersbach**	**24.27**	**123**	*e*P		**P**	**06 02 17.8**	**-1.4**	
	comp=Z,6.3nm,1.6s								
KBA	**Koelnbreinsper**	**24.29**	**121**	*e*P		**P**	**06 02 21.7**	**+2.3**	
	comp=Z,10nm,1.6s								
JAVC	**Velka Javorina**	**24.48**	**113**	*e*P		**P**	**06 02 21.6**	**+0.5**	
CONA	**Conrad Observa**	**24.53**	**117**	*e*P		**P**	**06 02 22.0**	**+0.4**	
	comp=Z,10nm,0.9s								
CTI	**Castel Tesino**	**24.56**	**125**	P		**P**	**06 02 22.3**	**+0.5**	
CTI				pmax		pmax			
	comp=Z,22nm,1.1s								
CTI	**Castel Tesino**	**24.56**	**125**	P		**P**	**06 02 22.3**	**+0.5**	
CTI				IAmb		IAmb	06 02 34.7		
	comp=Z,22nm,1.1s								
MICGM	**Minsk**	**24.58**	**93**			**P**	**06 02 21.0**	**-0.8**	
MNK	**Minsk**	**24.58**	**93**	*e*P		**P**	**06 02 21.0**	**-0.8**	
ZOU	**Zoufplan**	**24.60**	**123**	P		**P**	**06 02 22.3**	**0.0**	
ZOU				IAmb		IAmb	06 02 51.3		
	comp=Z,36nm,1.4s								
CIMO	**Cimolais**	**24.61**	**124**	P		**P**	**06 02 22.2**	**-0.1**	
CIMO				IAmb		IAmb	06 02 32.3		
	comp=Z,14nm,1.2s								
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**	**06 02 24.1**	**+1.5**	
SMOL				pmax		pmax			
	comp=Z,8.0nm,0.8s								
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**	**06 02 24.1**	**+1.5**	
MODS	**Modra-Piesok**	**24.72**	**114**	*e*P		**P**	**06 02 23.3**	**+0.1**	
MODS				pmax		pmax			
	comp=Z,25nm,1.4s								
MODS	**Modra-Piesok**	**24.72**	**114**	*e*P		**P**	**06 02 23.3**	**+0.1**	
MYKA	**Terra Mystica**	**24.78**	**122**	*e*P		**P**	**06 02 23.7**	**-0.1**	
	comp=Z,7.7nm,1.1s								
ARSA	**Arzberg**	**24.96**	**118

VRI	**Vrincioaia**	**30.56**	**106**	P	**P**	**06 03 16.5**	**+1.1**
NEHR	**Nehoiu**	**30.73**	**107**	⇑P	**P**	**06 03 19.0**	**+2.0**
KIRV	**Kirov**	**31.02**	**69**	*i* P	**P**	**06 03 18.0**	**-1.3**
VSR	**Storozhevoye**	**31.76**	**87**	*e*P	**P**	**06 03 25.2**	**-0.7**
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
LMN	**Caledonia Moun**	**31.81**	**257**	P	**P**	**06 03 25.5**	**-1.0**
VORD	**Divnogorie**	**31.99**	**88**	*e*P	**P**	**06 03 28.4**	**+0.4**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRH	**Novokhopyorsk**	**32.86**	**85**	*e*P	**P**	**06 03 34.6**	**-1.0**
VRH				pmax	pmax		
	comp=Z,40nm,1.4s						
KNT	**Kendrikon**	**32.94**	**116**	P	**P**	**06 03 41.1**	**+4.7**
KNT				pmax	pmax		
	comp=Z,18nm,1.2s						
KEST	**Kesra**	**33.14**	**138**	LR	LR	06 17 05.8	
	comp=Z,142nm,18.2s,baz=244,slow=36						
SRS	**Serrai**	**33.24**	**115**	P	**P**	**06 03 41.1**	**+2.0**
SRS				pmax	pmax		
	comp=Z,24nm,1.0s						
ARU	**Arti**	**36.12**	**66**	*d* P	**P**	**06 04 03.5**	**-0.2**
ARU						06 05 22.5	
ARU				S	**S**	**06 09 43.9**	**+1.1**
ARU				SS	**SnSn**	**06 12 06.0**	**-1.6**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NRIK	**Noril'sk**	**36.51**	**35**	P	**P**	**06 04 06.8**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=351,slow=7.6,SNR=2.9						
NRIK				LR	LR	06 21 16.9	
	comp=Z,73nm,18.1s,baz=316,slow=40						
NRIK	**Noril'sk**	**36.51**	**35**	*i* P	**P**	**06 04 07.5**	**+0.6**
NRIK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GOF	**Gofitskoye**	**38.13**	**91**	⇑*e*P	**P**	**06 04 22.4**	**+1.4**
BR131	**Keskin Array S**	**38.49**	**105**	*i* P	**P**	**06 04 24.4**	**+0.3**
BR131	**Keskin Array S**	**38.49**	**105**	P	**P**	**06 04 23.6**	**-0.6**
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**06 04 24.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=129,slow=22,SNR=13						
BRTR				LR	LR	06 21 05.1	
	comp=Z,25nm,20.5s,baz=304,slow=38						
BRTR	**Keskin Array B**	**38.49**	**105**	*e*P	**P**	**06 04 28.8**	**+4.6**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**06 04 24.4**	**+0.3**
KIV	**Kislovodsk**	**38.86**	**92**	*e*P	**P**	**06 04 28.0**	**+0.8**
KIV				MLR	MLR		
	comp=Z,222nm,16.0s						
KBZ	**Khabaz**	**39.13**	**92**	P	**P**	**06 04 31.1**	**+1.8**
	comp=Z,10nm,0.9s,baz=315,slow=9.2,SNR=14						
KBZ				LR	LR	06 21 00.8	
	comp=Z,96nm,21.7s,baz=333,slow=37						
KBZ	**Khabaz**	**39.13**	**92**	*e*P	**P**	**06 04 31.1**	**+1.8**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**39.23**	**313**	LR	LR	06 20 08.2	
	comp=Z,188nm,18.1s,baz=0.0,slow=35						
ZEI	**Tsey**	**40.33**	**92**	*e*P	**P**	**06 04 39.7**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AKH	**Akhalkalaki**	**41.27**	**94**	P	**P**	**06 04 50.2**	**+2.9**
ULM	**Lac du Bonnet**	**41.59**	**289**	LR	LR	06 21 41.1	
	comp=Z,63nm,18.8s,baz=40,slow=36						
ULM	**Lac du Bonnet**	**41.59**	**289**	*i* P	**P**	**06 04 51.0**	**+1.4**
MALT	**Malatya**	**41.69**	**101**	P	**P**	**06 04 55.4**	**+4.7**
KARS	**Kars**	**41.74**	**95**	P	P	06 04 56.0	+4.9
ABKAR	**Akbulak array**	**42.02**	**73**	P	**P**	**06 04 53.3**	**+0.2**
ABKAR	**Akbulak array**	**42.02**	**73**	P	**P**	**06 04 53.1**	**-0.1**
TIXI	**Tiksi**	**42.08**	**15**	*i* P	**P**	**06 04 55.0**	**+1.7**
TOLK	**Toolik Lake Re**	**42.78**	**336**	P	**P**	**06 04 59.3**	**+0.1**
TOLK				IAmb	IAmb	06 05 05.9	
	comp=Z,27nm,1.1s						
BMAR	**Burnt Mountain**	**42.93**	**333**	P	**P**	**06 05 01.3**	**+0.9**
BRVK	**Borovoye**	**43.17**	**62**	P	**P**	**06 05 02.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRVK	**Borovoye**	**43.17**	**62**	P	**P**	**06 05 02.7**	**+0.3**
MARD	**Mardin**	**43.52**	**100**	P	**P**	**06 05 06.3**	**+0.6**
MARD				IAmb	IAmb	06 05 11.7	
	comp=Z,13nm,0.9s						
N49A	**Columbus Grove**	**44.08**	**271**	P	**P**	**06 05 08.8**	**-1.1**
DAWY	**Dawson**	**44.73**	**328**	P	**P**	**06 05 15.4**	**+0.5**
DAWY				IAmb	IAmb	06 05 20.5	
	comp=Z,10nm,1.1s						
IL31		**45.72**	**332**	P	**P**	**06 05 22.0**	**-0.5**
IL31				IAmb	IAmb	06 05 29.7	
	comp=Z,8.9nm,1.2s						
ILAR	**Eielson Array**	**45.72**	**332**	P	**P**	**06 05 23.9**	**+1.3**
	comp=Z,4.5nm,1.1s,baz=22,slow=5.7,SNR=24						
ILAR				PcP	**PcP**	**06 07 00.6**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=334,slow=1.7,SNR=7.2						
ILAR				LR	LR	06 26 40.8	
	comp=Z,99nm,18.1s,baz=29,slow=39						
ILAR	**Eielson Array**	**45.72**	**332**	P	**P**	**06 05 23.4**	**+0.8**
MDM	**Murphy Dome**	**45.81**	**333**	P	**P**	**06 05 23.8**	**+0.4**
MDM				IAmb	IAmb	06 05 26.6	
	comp=Z,10nm,1.1s						
COLA	**College**	**45.81**	**333**	P	**P**	**06 05 25.6**	**+2.2**
COLA				pmax	pmax		
	comp=Z,14nm,1.0s						
IMAR	**Indian Mountai**	**45.89**	**337**	P	**P**	**06 05 24.3**	**+0.3**
BCAR	**Beaver Creek A**	**46.13**	**329**	P	**P**	**06 05 26.1**	**+0.1**
S51A	**Beattyville**	**46.55**	**268**	P	**P**	**06 05 28.6**	**-0.9**
WCI	**Wyandotte Cave**	**47.23**	**271**	P	**P**	**06 05 34.2**	**-0.6**
WCI				pmax	pmax		
	comp=Z,12nm,0.9s						
WCI	**Wyandotte Cave**	**47.23**	**271**	P	**P**	**06 05 34.2**	**-0.6**
BILL	**Bilibino**	**47.59**	**358**	⇑*e*P	**P**	**06 05 41.2**	**+3.9**
BILL				*e*		06 07 23.6	
BILL				*e*S	S	06 12 47.5	+15
BILL				*e*SS	**SS**	**06 15 58.7**	**-0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,286nm,21.0s						
ZALV	**Zalesovo Beam**	**47.68**	**51**	P	**P**	**06 05 37.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=323,slow=9.3,SNR=7.1						
ZALV				PcP	**PcP**	**06 07 08.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=347,slow=6.1,SNR=3.6						
ZALV				LR	LR	06 25 42.4	
	comp=Z,44nm,18.6s,baz=9.5,slow=36						
ZALV	**Zalesovo Beam**	**47.68**	**51**	*e*P	**P**	**06 05 36.9**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**47.68**	**51**	P	**P**	**06 05 38.3**	**+0.2**
KURK	**Kurchatov**	**48.16**	**58**	*i* P	**P**	**06 05 41.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	**48.16**	**58**	P	**P**	**06 05 41.4**	**-0.4**
PAULI	**Pauline**	**48.17**	**264**	P	**P**	**06 05 40.1**	**-2.1**
T47A	**Sharon Grove**	**48.62**	**270**	P	**P**	**06 05 42.6**	**-2.9**
EGMT	**Eagleton**	**48.88**	**297**	P	**P**	**06 05 46.3**	**-1.3**
W50A	**Signal Mountai**	**49.35**	**268**	P	**P**	**06 05 50.6**	**-0.7**
X51A	**Calhoun**	**49.70**	**267**	P	**P**	**06 05 53.8**	**-0.1**
GEYT	**Alibeck**	**50.45**	**84**	P	**P**	**06 05 59.5**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=280,slow=8.6,SNR=3.9						
GEYT				LR	LR	06 27 43.3	
	comp=Z,79nm,20.0s,baz=230,slow=36						
S39A	**Bolivar**	**50.70**	**276**	P	**P**	**06 05 59.4**	**-2.0**
S39A				IAmb	IAmb	06 06 02.4	
	comp=Z,7.1nm,1.0s						
X48A	**Hartselle**	**50.74**	**269**	P	**P**	**06 06 00.7**	**-1.0**
X48A				IAmb	IAmb	06 06 02.7	
	comp=Z,9.2nm,1.1s						
KK31	**Karatay Array**	**51.31**	**70**	P	**P**	**06 06 06.5**	**+0.5**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KK31	**Karatay Array**	**51.31**	**70**	P	**P**	**06 06 06.5**	**+0.5**
KK31				IAmb	IAmb	06 06 07.8	
	comp=Z,7.6nm,1.1s						
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**06 06 06.5**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**06 06 06.5**	**+0.5**
KKAR				IAmb	IAmb	06 06 07.8	
	comp=Z,7.6nm,1.1s						
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**06 06 05.9**	**-0.1**
YAK	**Yakutsk**	**51.32**	**19**	*i* P	**P**	**06 06 05.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YNE	**Yellowstone No**	**51.47**	**295**	P	**P**	**06 06 07.2**	**-0.3**
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**06 06 07.7**	**-0.7**
BOZ				pmax	pmax		
	comp=Z,11nm,1.2s						
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**06 06 07.7**	**-0.7**
BOZ				IAmb	IAmb	06 06 15.4	
	comp=Z,11nm,1.1s						
YHL	**Hebgen Lake**	**52.06**	**296**	P	**P**	**06 06 12.6**	**+0.6**
DGZ	**Jazzator, Alta**	**52.12**	**53**	*i* P	**P**	**06 06 13.1**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
H17A	**Grant Village**	**52.21**	**295**	P	**P**	**06 06 12.8**	**-0.1**
H17A				IAmb	IAmb	06 06 17.4	
	comp=Z,8.2nm,1.1s						
FLWY	**Flagg Ranch**	**52.52**	**295**	P	**P**	**06 06 13.7**	**-1.5**
SEY	**Seymchan**	**52.53**	**6**	*i* P	**P**	**06 06 18.2**	**+3.4**
IMW	**Indian Meadow**	**52.77**	**295**	P	**P**	**06 06 15.4**	**-1.7**
MK31	**Makanchi Array**	**52.77**	**58**	P	**P**	**06 06 16.5**	**-0.3**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**52.77**	**58**	P	**P**	**06 06 16.5**	**-0.3**
MKAR	**Makanchi Array**	**52.77**	**58**	P	**P**	**06 06 16.8**	**0.0**
	comp=Z,3.2nm,1.0s,baz=330,slow=7.0,SNR=9.6						
MKAR				LR	LR	06 27 24.6	
	comp=Z,55nm,18.6s,baz=325,slow=34						
MKAR	**Makanchi Array**	**52.77**	**58**	P	**P**	**06 06 16.5**	**-0.3**
LOHW	**Long Hollow**	**52.88**	**295**	P	**P**	**06 06 16.9**	**-0.9**
FXWY	**Fox Creek**	**53.02**	**295**	P	**P**	**06 06 17.9**	**-1.1**
SNOW	**Snow King Moun**	**53.06**	**295**	P	**P**	**06 06 18.0**	**-1.3**
SNOW				IAmb	IAmb	06 06 26.1	
	comp=Z,8.5nm,1.2s						
TOA0	**Torodi Ar. Sit**	**53.11**	**156**	P	**P**	**06 06 19.4**	**-0.2**
TOA0				IAmb	IAmb	06 06 20.5	
	comp=Z,9.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**06 06 19.1**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=341,slow=7.8,SNR=16						
TORD				LR	LR	06 28 53.2	
	comp=Z,36nm,20.4s,baz=335,slow=36						
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**06 06 19.1**	**-0.5**
TPAW	**Teton Pass**	**53.11**	**295**	P	**P**	**06 06 17.9**	**-1.8**
BW06	**Boulder Array**	**53.17**	**293**	P	**P**	**06 06 19.1**	**-1.0**
BW06				IAmb	IAmb	06 06 25.6	
	comp=Z,8.7nm,1.1s						
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**06 06 19.7**	**-0.4**
PD31				IAmb	IAmb	06 06 25.6	
	comp=Z,8.5nm,1.1s						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**06 06 20.4**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=59,slow=7.1,SNR=23						
PDAR				LR	LR	06 28 02.0	
	comp=Z,153nm,21.2s,baz=38,slow=35						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**06 06 19.3**	**-0.8**
N23A	**Red Feather La**	**53.30**	**289**	P	**P**	**06 06 19.4**	**-1.7**
N23A				IAmb	IAmb	06 06 28.3	
	comp=Z,16nm,1.1s						
BTK	**Batken**	**53.99**	**72**	P	**P**	**06 06 26.6**	**+0.6**
BTK				pmax	pmax		
	comp=Z,15nm,1.0s						
BTK	**Batken**	**53.99**	**72**	P	**P**	**06 06 26.6**	**+0.6**
BMO	**Blue Mountains**	**54.38**	**300**	P	**P**	**06 06 27.7**	**-1.1**
BMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BMO	**Blue Mountains**	**54.38**	**300**	P	**P**	**06 06 27.7**	**-1.1**
CHGR	**Chuyangaron**	**54.50**	**74**	P	**P**	**06 06 29.8**	**+0.1**
GAR	**Garm**	**54.68**	**73**	P	**P**	**06 06 32.0**	**+0.9**
O20A	**White River Ci**	**54.87**	**290**	P	**P**	**06 06 31.6**	**-0.9**
O20A				IAmb	IAmb	06 06 39.5	
	comp=Z,13nm,1.2s						
RDMU	**Red Mountain**	**55.04**	**292**	P	**P**	**06 06 32.4**	**-1.3**
X34A	**Smith Ranch, M**	**55.24**	**278**	P	**P**	**06 06 34.0**	**-1.0**
TCUT	**Toone Canyon**	**55.30**	**294**	P	**P**	**06 06 33.4**	**-2.2**
TARG	**Taragay, Kyrgy**	**55.37**	**65**	P	**P**	**06 06 36.7**	**+0.4**
TARG				IAmb	IAmb	06 06 41.0	
	comp=Z,7.6nm,0.9s						
WMOK	**Wichita Mounta**	**55.53**	**279**	P	**P**	**06 06 34.1**	**-3.0**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WMOK	**Wichita Mounta**	**55.53**	**279**	P	**P**	**06 06 34.1**	**-3.0**
WMOK				IAmb	IAmb	06 06 41.0	
	comp=Z,6.0nm,1.1s						
Z35A	**Perchaven, San**	**56.08**	**277**	P	**P**	**06 06 40.6**	**-0.4**
S22A	**4UR Ranch, Cre**	**56.33**	**288**	P	**P**	**06 06 41.4**	**-1.7**
CBYP	**Canovanas**	**56.39**	**238**	P	**P**	**06 06 41.8**	**-1.6**
P17A	**Butcher Ranch,**	**56.44**	**292**	P	**P**	**06 06 42.5**	**-1.2**
ZAK	**Zakamensk**	**56.51**	**41**	*e*P	**P**	**06 06 44.6**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
DUG	**Dugway, Tooele**	**56.65**	**294**	P	**P**	**06 06 44.7**	**-0.5**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.5s						
DUG	**Dugway, Tooele**	**56.65**	**294**	P	**P**	**06 06 44.7**	**-0.5**
DUG				IAmb	IAmb	06 06 48.3	
	comp=Z,10nm,1.4s						
SRU	**San Rafael Swe**	**56.66**	**292**	P	**P**	**06 06 43.9**	**-1.5**
SRU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SRU	**San Rafael Swe**	**56.66**	**292**	P	**P**	**06 06 43.9**	**-1.5**
TMUT	**Trail Mountain**	**56.78**	**292**	P	**P**	**06 06 45.6**	**-0.7**
WMQ	**Urumqi**	**57.27**	**56**	*e*P	**P**	**06 06 53.6**	**+4.1**
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**06 06 52.4**	**-1.3**
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**06 06 52.4**	**-1.3**
MVU	**Marysvale**	**57.86**	**293**	P	**P**	**06 06 53.5**	**-0.4**
TCRU	**Three Creeks R**	**57.86**	**293**	P	**P**	**06 06 53.3**	**-0.6**
PSUT	**Pine Spring**	**58.48**	**294**	P	**P**	**06 06 57.0**	**-1.2**
DBIC	**Dimbokro**	**58.55**	**165**	P	**P**	**06 06 58.4**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=344,slow=9.9,SNR=5.3						
DBIC				LR	LR	06 32 33.3	
	comp=Z,38nm,18.2s,baz=338,slow=36						
TIC	**Toumodi**	**58.56**	**165**	*e*P	**P**	**06 06 58.3**	**-0.4**
ANMO	**Albuquerque**	**58.58**	**286**	*i* P	**P**	**06 07 00.0**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANMO	**Albuquerque**	**58.58**	**286**	P	**P**	**06 06 58.2**	**-0.7**
KIC	**Kosan Boka**	**58.87**	**165**	*e*P	**P**	**06 07 00.5**	**-0.3**
	comp=Z,24nm,1.2s						
LIC	**Lamto**	**58.97**	**165**	*e*P	**P**	**06 07 00.0**	**-1.5**
	comp=Z,40nm,1.0s						
CCUT	**Cedar City**	**59.14**	**293**	P	**P**	**06 07 02.2**	**-0.6**
BNM	**Barren Site**	**59.34**	**285**	P	**P**	**06 07 01.8**	**-2.4**
KNB	**Kanab**	**59.39**	**292**	P	**P**	**06 07 03.4**	**-1.0**
KNB				pmax	pmax		
	comp=Z,11nm,1.4s						
KNB	**Kanab**	**59.39**	**292**	P	**P**	**06 07 03.4**	**-1.0**
LCMT	**Little Creek M**	**59.56**	**293**	P	**P**	**06 07 04.2**	**-1.4**
PAHR	**Pah Rah Range**	**59.60**	**299**	P	**P**	**06 07 05.0**	**-0.8**
PAHR				IAmb	IAmb	06 07 09.6	
	comp=Z,6.3nm,1.2s						
JCT	**Junction City**	**59.63**	**277**	P	**P**	**06 07 04.2**	**-1.8**
JCT				pmax	pmax		
	comp=Z,13nm,1.2s						
JCT	**Junction City**	**59.63**	**277**	P	**P**	**06 07 04.2**	**-1.8**
U15A	**North Rim**	**59.68**	**291**	P	**P**	**06 07 05.7**	**-0.9**
U15A				IAmb	IAmb	06 07 12.3	
	comp=Z,6.0nm,1.1s						
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**06 07 05.4**	**-1.1**
KVN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**06 07 05.4**	**-1.1**
SONM	**Songino Array**	**59.69**	**40**	P	**P**	**06 07 06.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=338,slow=7.4,SNR=7.4						
PRN	**Pahroc Range**	**59.93**	**294**	P	**P**	**06 07 07.0**	**-1.1**
PRN				IAmb	IAmb	06 07 16.1	
	comp=Z,7.5nm,1.4s						
WUAZ	**Wupatki**	**60.10**	**290**	P	**P**	**06 07 07.0**	**-2.4**
YERR	**Yerington**	**60.18**	**298**	P	**P**	**06 07 09.4**	**-0.4**
YERR				IAmb	IAmb	06 07 14.2	
	comp=Z,8.3nm,1.3s						
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**06 07 10.0**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=46,slow=5.3,SNR=6.3						
NVAR				LR	LR	06 33 08.2	
	comp=Z,191nm,19.0s,baz=26,slow=36						
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**06 07 09.1**	**-1.7**
NIL	**Nilore**	**60.48**	**73**	P	**P**	**06 07 12.0**	**+0.2**
NIL				pmax	pmax		
	comp=Z,17nm,1.0s						
NIL	**Nilore**	**60.48**	**73**	P	**P**	**06 07 12.0**	**+0.2**
SHPR	**Sheep Range**	**60.76**	**294**	P	**P**	**06 07 12.2**	**-1.6**
SHPR				IAmb	IAmb	06 07 16.3	
	comp=Z,7.2nm,1.3s						
MNTX	**Cornudas Mount**	**60.94**	**283**	P	**P**	**06 07 13.3**	**-1.6**
X16A	**Lo Mia Camp, P**	**61.08**	**290**	P	**P**	**06 07 15.1**	**-1.0**
X16A				IAmb	IAmb	06 07 18.4	
	comp=Z,5.3nm,1.1s						
OMMB	**Old Mammoth Mi**	**61.28**	**297**	P	**P**	**06 07 16.1**	**-1.4**
OMMB				IAmb	IAmb	06 07 21.8	
	comp=Z,4.9nm,1.2s						
MDPB	**Devils Postpil**	**61.30**	**298**	P	**P**	**06 07 17.1**	**-0.5**
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**06 07 25.1**	**+1.0**
	comp=Z,1.9nm,1.0s,baz=69,slow=3.8,SNR=13						
TXAR				PcP	**PcP**	**06 08 05.3**	**+1.5**
	comp=Z,1.3nm,1.1s,baz=46,slow=3.6,SNR=4.3						
TXAR				LR	LR	06 33 43.5	
	comp=Z,138nm,21.2s,baz=0.0,slow=35						
PETK	**Petropavlovsk-**	**62.55**	**3**	LR	LR	06 35 55.2	
	comp=Z,38nm,18.2s,baz=247,slow=37						
TUC	**Tucson**	**62.65**	**288**	P	**P**	**06 07 24.8**	**-1.8**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TUC	**Tucson**	**62.65**	**288**	P	**P**	**06 07 24.8**	**-1.8**
TUC				IAmb	IAmb	06 07 29.0	
	comp=Z,6.6nm,1.2s						
ISA	**Isabella, Lake**	**62.79**	**296**	P	**P**	**06 07 25.8**	**-1.6**
ISA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ISA	**Isabella, Lake**	**62.79**	**296**	P	**P**	**06 07 25.8**	**-1.6**
ISA				IAmb	IAmb	06 07 30.3	
	comp=Z,5.2nm,1.1s						
GTA	**Gaotai**	**65.35**	**49**	*e*P	**P**	**06 07 45.3**	**+1.1**
GTA				pP	pP	06 07 48.8	+0.8
GTA				sP	sP	06 07 51.7	+2.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P	**P**	**06 07 59.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
LZH	**Lanzhou**	**69.68**	**48**	*e*P	**P**	**06 08 13.1**	**+1.4**
LZH				pP	sP	06 08 17.5	+0.6
LZH				sP	pP	06 08 20.7	+5.2
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
CD2	**Chengdu**	**74.41**	**50**	P	**P**	**06 08 40.2**	**+0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**74.70**	**28**	LR	LR	06 43 33.2	
	comp=Z,15nm,20.9s,baz=345,slow=37						
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**06 09 33.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=321,slow=7.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**06 09 33.7**	**+0.4**
BOSA	**Boshof**	**98.74**	**143**	LR	LR	06 57 31.9	
	comp=Z,36nm,20.2s,baz=357,slow=37						
ASAR	**Alice Springs**	**135.01**	**38**	PKP	**PKiKP**	**06 16 22.1**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=342,slow=2.4,SNR=7.1						

IDC 04 05:58:10.1±2.5, 33°.86S×56°.89E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/42, mbtmp3.7/3, Error ellipse: s-maj=209.0km s-min=32.5km az=24.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**29.80**	**32**	T	T	06 35 20.4	
	baz=206,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**29.80**	**32**	T	T	06 35 21.1	
	baz=206,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**29.82**	**32**	T	T	06 35 20.6	
	baz=206,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**46.70**	**108**	T	T	06 56 49.0	
	baz=255,slow=75,SNR=4.6						
H01W3	**Cape Leeuwin H**	**46.70**	**108**	T	T	06 56 37.6	
	baz=255,slow=75,SNR=4.3						
H01W1	**Cape Leeuwin H**	**46.71**	**108**	T	T	06 56 49.2	
	baz=255,slow=75,SNR=5.2						
ASAR	**Alice Springs**	**66.87**	**104**	P	P	06 09 04.2	0.0
	0.5nm,0.5s,baz=236,slow=5.7,SNR=10						
WRA	**Warramunga Arr**	**69.02**	**100**	P	P	06 09 17.9	+0.1
	0.8nm,0.7s,baz=240,slow=5.4,SNR=12						
TORD	**Torodi Ar. Bea**	**70.28**	**302**	P	P	06 09 25.6	+0.1
	0.3nm,0.7s,baz=135,slow=6.5,SNR=2.6						
ILAR	**Eielson Array**	**145.84**	**18**	PKPbc	PKPdf	06 17 49.4	-0.5
	0.7nm,0.9s,baz=294,slow=1.7,SNR=4.2						

IDC 04 06:14:59.5±2.8, 30°.35S×138°.37E, h0km, mb1 3.8/5, mb1mx3.6/30, mbtmp3.6/5, ML3.6/5, Error ellipse: s-maj=58.7km s-min=14.8km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.16**	**120**	Pn	Pn	06 15 50.2	-0.2
	2.3nm,0.3s,baz=297,slow=11,SNR=39						
STKA				Pg	Pb	06 15 57.7	+1.2
	5.6nm,0.3s,baz=301,slow=16,SNR=19						
STKA				Sn	Sn	06 16 27.9	-0.9
	7.3nm,0.3s,baz=342,slow=16,SNR=6.7						
STKA				Lg	Lg	06 16 39.8	
	22nm,0.3s,baz=240,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**7.75**	**328**	Pn	Pn	06 16 55.4	+1.7
	0.6nm,0.3s,baz=148,slow=12,SNR=30						
ASAR

IMEH	**Mehriz**	**3.77**	**321**	*e*Pn		**Pn**	**06 29 35.3**	**+2.3**
NAZ	**Nazwa, Dubai**	**3.82**	**204**	P		**Pn**	**06 29 35.8**	**+2.3**
NAZ				S		**Sn**	**06 30 19.4**	**+0.9**
NAZ	**Nazwa, Dubai**	**3.82**	**204**	*e*Pn		**Pn**	**06 29 36.2**	**+2.7**
HATD	**Hatta, Dubai**	**3.82**	**198**	P		**Pn**	**06 29 35.3**	**+1.7**
HATD	**Hatta, Dubai**	**3.82**	**198**	*e*Pn		**Pn**	**06 29 35.3**	**+1.7**
GHIR	**Ghir-Karzin**	**3.90**	**268**	*e*Pn		**Pn**	**06 29 36.5**	**+1.8**
GHIR	**Ghir-Karzin**	**3.90**	**268**	*e*Pn		**Pn**	**06 29 36.5**	**+1.8**
ASHO	**Ashiyiah** SNR=17	**3.98**	**198**	*i* P		**Pn**	**06 29 37.6**	**+1.9**
ASHO	**Ashiyiah** SNR=17	**3.98**	**198**	P		**Pn**	**06 29 38.5**	**+2.8**
ASHO	**Ashiyiah**	**3.98**	**198**	*e*Pn		**Pn**	**06 29 37.8**	**+2.1**
SOHO	**SOHO**	**4.41**	**190**	P		**Pn**	**06 29 41.1**	**-0.5**
SOHO	**SOHO**	**4.41**	**190**	*e*Pn		**Pn**	**06 29 41.1**	**-0.5**
AJN	**Ajban** SNR=18	**4.47**	**209**	*i* P		**Pn**	**06 29 43.3**	**+0.9**
AJN	**Ajban** SNR=18	**4.47**	**209**	P		**Pn**	**06 29 44.2**	**+1.8**
AJN				S		**Sn**	**06 30 34.7**	**+0.2**
ITEG	**Tejag**	**4.54**	**14**	*e*Pn		**Pn**	**06 29 47.9**	**+4.3**
TPRV	**Parvadeh(Tabas**	**4.56**	**352**	*e*Pn		**Pn**	**06 29 46.8**	**+2.9**
YZKH	**Yazd**	**4.58**	**329**	*e*Pn		**Pn**	**06 29 46.6**	**+2.5**
YZKH	**Yazd**	**4.58**	**329**	*e*Pn		**Pn**	**06 29 46.6**	**+2.5**
ISAD	**Sadrabad**	**4.69**	**318**	*e*Pn		**Pn**	**06 29 48.5**	**+2.8**
HOQ	**Hoqain**	**4.89**	**181**	P		**Pn**	**06 29 48.9**	**+0.7**
HOQ				S		**Sn**	**06 30 42.2**	**-2.7**
BIDO	**Bidbid** SNR=19	**4.99**	**172**	P		**Pn**	**06 29 50.7**	**+1.0**
BIDO	**Bidbid**	**4.99**	**172**	*e*Pn		**Pn**	**06 29 50.5**	**+0.9**
AFRZ	**Afriz**	**5.11**	**15**	*e*Pn		**Pn**	**06 29 54.3**	**+2.9**
TKDS	**Koohdasht(Taba**	**5.11**	**357**	*e*Pn		**Pn**	**06 29 54.8**	**+3.4**
TABS	**Tabas**	**5.15**	**357**	*e*Pn		**Pn**	**06 29 55.6**	**+3.7**
TABS	**Tabas**	**5.15**	**357**	*e*Pn		**Pn**	**06 29 55.6**	**+3.7**
ARQ	**Araqi** SNR=124	**5.19**	**189**	P		**Pn**	**06 29 55.0**	**+2.5**
WSAR	**Wadi Sarin** comp=E,11nm,0.3s,baz=360,slow=10,SNR=308	**5.34**	**168**	P		**Pn**	**06 29 56.6**	**+2.1**
WSAR				S		**Sn**	**06 30 54.5**	**-1.7**
WSAR	**Wadi Sarin** SNR=342	**5.34**	**168**	P		**Pn**	**06 29 56.3**	**+1.8**
WSAR				S		**Sn**	**06 30 55.2**	**-1.0**
SMDO	**Samad** SNR=7.5	**5.44**	**174**	P		**Pn**	**06 29 58.0**	**+2.1**
SMDO				P		Pb	06 29 58.0	-12
	SNR=32							
IRAM	**Rameshen**	**5.46**	**308**	*e*Pn		**Pn**	**06 29 57.6**	**+1.3**
KLNJ	**Kolanjah**	**5.64**	**298**	*e*Pn		**Pn**	**06 30 00.2**	**+1.3**
ANAR	**Anarak**	**5.65**	**327**	*e*Pn		**Pn**	**06 30 02.1**	**+3.3**
MZWR	**Madinat Zayed**	**5.67**	**215**	*e*Pn		**Pn**	**06 29 59.6**	**+0.6**
BSY	**Bisya** SNR=20	**5.72**	**182**	P		**Pn**	**06 30 02.4**	**+2.7**
WBK	**Wadi Bani Khal** SNR=14	**6.02**	**166**	P		**Pn**	**06 30 05.5**	**+1.7**
WBK				S		**Sn**	**06 31 11.1**	**-1.8**
UMZA	**Um Al Zommool**	**6.10**	**200**	*e*Pn		**Pn**	**06 30 05.3**	**+0.5**
JMDO	**Jabal Madar** SNR=13	**6.13**	**174**	P		**Pn**	**06 30 08.0**	**+2.7**
JLN	**Jalan Bani Buh** SNR=8.6	**6.57**	**163**	P		**Pn**	**06 30 12.5**	**+1.2**
JLN				S		**Sn**	**06 31 23.9**	**-2.5**
IPIR	**Pirpir**	**7.00**	**308**	*e*Pn		**Pn**	**06 30 19.3**	**+1.9**
MHTO	**MHTO** SNR=17	**7.49**	**176**	P		**Pn**	**06 30 26.2**	**+2.3**
MHTO	SNR=8.3			P		**Pn**	**06 30 26.3**	**+2.3**
ASF	**Jabal al Asfar** comp=E,0.1nm,0.3s,baz=45,slow=2.9,SNR=2.8	**18.07**	**287**	P		**Pn**	**06 32 44.7**	**-1.3**
ASF				S		Sn	06 35 54.3	-13
	comp=E,0.1nm,0.3s,baz=87,slow=17,SNR=3.3							
MMAI	**Mount Meron Ar** comp=E,0.2nm,0.3s,baz=109,slow=13,SNR=2.0	**19.43**	**289**	P		**P**	**06 33 02.4**	**+1.2**
AKTO	**Aktyubinsk** comp=E,1.6nm,0.4s,baz=180,slow=12,SNR=5.9	**21.92**	**1**	P		**P**	**06 33 29.1**	**+1.1**
AKTO				LR		LR	06 43 25.7	
	comp=E,56nm,18.6s,baz=344,slow=40							
BRTR	**Keskin Array B** comp=E,1.0nm,0.7s,baz=124,slow=14,SNR=6.8	**22.57**	**306**	P		**P**	**06 33 34.9**	**-0.4**
BRTR				LR		LR	06 44 26.7	
	comp=E,35nm,18.1s,baz=290,slow=42							
BVAR	**Borovoye Array** comp=E,0.8nm,0.6s,baz=213,slow=19,SNR=4.9	**26.33**	**18**	P		**P**	**06 34 11.3**	**+0.8**
MKAR	**Makanchi Array** comp=E,0.5nm,0.7s,baz=223,slow=5.3,SNR=4.5	**26.70**	**40**	P		**P**	**06 34 14.6**	**+0.7**
ZALV	**Zalesovo Beam** comp=E,0.7nm,0.3s,baz=243,slow=9.8,SNR=4.4	**32.37**	**31**	P		**P**	**06 35 05.0**	**+0.9**
FINES	**FINESS Array B** comp=E,1.3nm,0.8s,baz=159,slow=5.9,SNR=3.5	**38.97**	**337**	P		**P**	**06 35 58.9**	**-1.7**
GERES	**GERESS Array B** comp=E,0.3nm,0.5s,baz=116,slow=8.9,SNR=2.2	**39.05**	**314**	P		**P**	**06 36 00.2**	**-1.4**
ARCES	**ARCESS Array B** comp=E,2.7nm,1.0s,baz=146,slow=7.8,SNR=5.1	**45.00**	**345**	P		**P**	**06 36 49.3**	**-0.6**
ESDC	**Sonseca Array** comp=E,0.3nm,0.5s,baz=96,slow=9.3,SNR=1.3	**51.15**	**300**	P		**P**	**06 37 36.7**	**-1.2**
TORD	**Torodi Ar. Bea** comp=E,0.8nm,0.7s,baz=63,slow=7.3,SNR=5.7	**53.82**	**266**	P		**P**	**06 37 55.5**	**-2.5**
ILAR	**Eielson Array** comp=E,0.2nm,0.5s,baz=320,slow=6.0,SNR=2.0	**85.13**	**10**	P		**P**	**06 41 09.5**	**-1.1**

*IDC **04** 06:32:53.7±11.0, 16°.83S×72°.69W, h0km, mb3.6/1, mb1 3.7/2, mb1mx3.4/32, mbtmp3.6/2, ML3.5/1, MS2.8/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=956.3km s-min=68.7km az=0.0*

*GUC **04** 06:32:59.9±0.8, 18°.50S×71°.21W, h19km±6km, ML4.2*

ISC 04 06:32:59.4±1.6, 18°.54S±0°.07×71°.4W±0°.1, h35km, n21, σ2.251/31, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.99**	**80**	*e*P	**Pn**	**06 33 14.2**	**-2.7**
AP01				*i* S	**Sn**	**06 33 25.5**	**-4.2**
AP01				IAML		06 33 29.3	
	comp=E,10μm,0.1s						
PSGC	**Pisagua**	**1.58**	**132**	*e*P	**Pn**	**06 33 24.6**	**-0.5**
PSGC				*i* S	**Sn**	**06 33 43.2**	**-1.1**
MNMC	**Minye Minye**	**1.78**	**109**	*e*P	**Pn**	**06 33 27.7**	**-0.3**
MNMC				*i* S	**Sn**	**06 33 48.5**	**-1.1**
MNMC				IAML		06 33 51.5	
	comp=E,6μm,0.5s						
PB16	**IPOC Station P**	**1.78**	**84**	*e*P	**Pn**	**06 33 28.0**	**-0.3**
PB16				*i* S	**Sn**	**06 33 47.5**	**-2.5**
PB11	**IPOC Station P**	**2.02**	**127**	*i* P	**Pn**	**06 33 31.7**	**+0.5**
PB11				*i* S	**Sn**	**06 33 55.9**	**+0.5**
PB11				IAML		06 33 56.7	
	comp=E,7μm,0.3s						
TA02	**Huaiquique**	**2.08**	**146**	*e*P	**Pn**	**06 33 32.7**	**+0.9**
TA02				*i* S	**Sn**	**06 33 58.2**	**+1.7**
TA02				IAML		06 34 03.7	
	comp=N,3μm,0.2s						
TA01	**Diego Aracena**	**2.30**	**151**	*e*P	**Pn**	**06 33 35.6**	**+0.7**
TA01				*i* S	**Sn**	**06 33 59.0**	**-3.0**
TA01				IAML		06 34 12.0	
	comp=N,892nm,0.3s						
GO01	**Chusmiza**	**2.34**	**119**	*e*P	**Pn**	**06 33 36.6**	**+0.7**
GO01				*i* S	**Sn**	**06 34 06.0**	**+2.3**
GO01				IAML		06 34 07.7	
	comp=E,3μm,0.3s						
PB08	**IPOC Station P**	**2.63**	**128**	*e*P	**Pn**	**06 33 40.3**	**+0.5**
PB08				*i* S	**Sn**	**06 34 12.3**	**+1.6**
PB08				IAML		06 34 15.5	
	comp=N,1μm,0.1s						
PB01	**IPOC Station P**	**3.06**	**145**	*e*P	**Pn**	**06 33 45.8**	**+0.5**
PB01				*i* S	**Sn**	**06 34 16.8**	**-3.9**
PB01				IAML		06 34 20.3	
	comp=E,862nm,0.2s						
PB07	**IPOC Station P**	**3.46**	**156**	*e*P	**Pn**	**06 33 51.5**	**+0.6**
PB07				*i* S	**Sn**	**06 34 26.0**	**-4.9**
PB07				IAML		06 34 31.7	
	comp=E,417nm,0.5s						
PB03	**IPOC Station P**	**3.80**	**157**	*e*P	**Pn**	**06 33 56.3**	**+0.6**
PB03				*i* S	**Sn**	**06 34 34.2**	**-5.1**
PB09	**IPOC Station P**	**3.80**	**149**	*e*P	**Pn**	**06 33 57.1**	**+1.4**
PB09				*i* S	**Sn**	**06 34 36.8**	**-2.5**
LPAZ	**La Paz** comp=E,1.4nm,0.3s,baz=262,slow=9.0,SNR=49	**3.82**	**55**	Pn	Pn	06 34 02.2	+5.9
LPAZ				LR	LR	06 35 39.7	
	comp=E,114nm,21.9s,baz=229,slow=38						
PB04	**IPOC Station P**	**3.94**	**163**	*e*P	**Pn**	**06 33 57.7**	**+0.1**
PB04				*i* S	**Sn**	**06 34 37.2**	**-5.5**
PB05	**IPOC Station P**	**4.42**	**166**	*e*P	**Pn**	**06 34 04.0**	**-0.2**
H03N1	**Juan Fernandez** baz=26,slow=73,SNR=105	**16.30**	**203**	T	T	06 54 33.3	
H03N2	**Juan Fernandez** baz=26,slow=73,SNR=112	**16.31**	**203**	T	T	06 54 32.0	
H03N3	**Juan Fernandez** baz=26,slow=73,SNR=110	**16.32**	**203**	T	T	06 54 32.1	
TORD	**Torodi Ar. Bea** comp=E,0.5nm,0.5s,baz=255,slow=6.8,SNR=2.3	**78.60**	**72**	P	**P**	**06 45 01.9**	**+3.8**
MKAR	**Makanchi Array** comp=E,0.3nm,0.8s,baz=316,slow=1.9,SNR=1.3	**144.48**	**32**	PKP	**PKPab**	**06 52 29.7**	**-0.8**

IDC 04 06:35:32.2±1.6, 4°.71S×150°.92E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/39, mbtmp3.2/2, Error ellipse: s-maj=80.0km s-min=17.3km az=151.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 224nm,0.3s,baz=156,slow=0.7,SNR=109	**1.17**	**70**	Pn	Pn	06 35 56.4	+0.5
KRVT				Sn	Sn	06 36 13.2	+0.7
	145nm,0.3s,baz=323,slow=19,SNR=7.4						
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=52,slow=9.7,SNR=6.9	**22.14**	**225**	P	P	06 40 30.2	+0.5
ASAR	**Alice Springs** 0.8nm,0.9s,baz=59,slow=8.9,SNR=6.5	**24.99**	**219**	P	P	06 40 58.1	+0.2
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=69,slow=1.8,SNR=1.5	**148.50**	**287**	PKPbc	PKPbc	06 55 20.4	-1.8

*IDC **04** 06:35:38.0±1.3, 34°.23N×25°.10E, h0km, mb3.7/4, mb1 3.7/10, mb1mx3.5/54, mbtmp3.6/10, ML3.8/6, Error ellipse: s-maj=22.7km s-min=17.9km az=62.0*

*ATH **04** 06:35:38.5, 34°.15N×25°.09E, h22km±2km, ML3.0/7, Error ellipse: s-maj=5.4km s-min=2.0km az=5.0*

*THE **04** 06:35:42.3, 34°.35N×25°.00E, h9km±1km, ML2.8/9, Error ellipse: s-maj=1.8km s-min=0.5km az=343.0*

ISC 04 06:35:38.6±1.7, 34°.19N±0°.06×25°.07E±0°.04, h10km±11km, n33, σ1.837/49, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.85**	**346**	P	**Pn**	**06 35 55.6**	**-1.1**
SIVA				S	**Sb**	**06 36 05.8**	**-1.2**
	3μm,0.5s						
SIVA	**Sivas**	**0.85**	**346**	P	**Pn**	**06 35 55.5**	**-1.1**
SIVA				S	**Sn**	**06 36 08.7**	**-0.6**
SIVA				AML	AML	06 36 10.7	
	comp=E,7089μm,0.3s						
SIVA				AML	AML	06 36 11.9	
	comp=N,4912μm,0.4s						
TMBK	**Timbaki Herakl**	**0.92**	**344**	P	**Pn**	**06 35 57.1**	**-0.4**
TMBK				S	**Sb**	**06 36 07.6**	**-1.2**
	comp=N,648nm,0.5s						
FRMA	**Ierapetra Chan**	**0.99**	**34**	P	**Pn**	**06 36 00.0**	**+1.4**
FRMA				S	**Sn**	**06 36 14.6**	**+2.0**
	comp=N,235nm,0.6s						
LAST	**Lasithi**	**1.03**	**19**	P	**Pn**	**06 35 58.7**	**-0.5**
LAST				S	**Sn**	**06 36 12.5**	**-1.2**
	comp=N,415nm,0.7s						
LAST	**Lasithi**	**1.03**	**19**	P	**Pn**	**06 35 58.7**	**-0.5**
LAST				AML	AML	06 36 19.0	
	comp=N,902μm,0.6s						
LAST				AML	AML	06 36 19.2	
	comp=E,822μm,0.9s						
GVD	**Gavdhos**	**1.03**	**309**	P	**Pn**	**06 35 59.1**	**-0.1**
GVD				S	**Sb**	**06 36 12.5**	**+0.2**
	comp=E,2μm,0.4s						
GVD	**Gavdhos**	**1.03**	**309**	P	**Pn**	**06 35 59.0**	**-0.1**
GVD				S	**Sn**	**06 36 14.4**	**+0.7**
GVD				AML	AML	06 36 17.6	
	comp=E,4954μm,0.4s						
GVD				AML	AML	06 36 17.9	
	comp=N,3977μm,0.4s						
GVDS	**Gavdos**	**1.04**	**309**	P	**Pn**	**06 35 59.5**	**+0.3**
GVDS				S	**Sn**	**06 36 12.9**	**-0.9**
	comp=N,1μm,0.3s						
IDI	**Anoyia**	**1.11**	**353**	Pn	**Pn**	**06 35 59.6**	**-0.6**
	comp=N,14nm,0.3s,baz=176,slow=14,SNR=48						
IDI				Sn	**Sn**	**06 36 16.4**	**+0.8**
	comp=N,64nm,0.3s,baz=191,slow=19,SNR=11						
IDI	**Anoyia**	**1.11**	**353**	P	**Pn**	**06 35 59.8**	**-0.4**
IDI				S	**Sb**	**06 36 13.5**	**-0.9**
	comp=N,398nm,0.3s						
IDI	**Anoyia**	**1.11**	**353**	P	**Pn**	**06 35 59.6**	**-0.6**
IDI				S	**Sn**	**06 36 16.4**	**+0.8**
IDI				AML	AML	06 36 20.1	
	comp=N,719μm,0.4s						
IDI				AML	AML	06 36 21.9	
	comp=E,881μm,0.3s						
KSTL	**Kastelli Herak**	**1.11**	**0**	P	**Pb**	**06 35 59.3**	**-0.6**
PRNS	**Prines Rethymn**	**1.26**	**339**	P	**Pg**	**06 36 02.9**	**+0.1**
STIA	**Sitia Lasithi**	**1.32**	**40**	P	**Pg**	**06 36 03.8**	**-0.1**
ZKR	**Zakros**	**1.32**	**45**	P	**Pg**	**06 36 04.3**	**+0.3**
ZKR				S	**Sn**	**06 36 23.1**	**+2.2**
	comp=E,272nm,0.6s						
ZKR	**Zakros**	**1.32**	**45**	P	**Pg**	**06 36 04.3**	**+0.3**
ZKR				AML	AML	06 36 38.0	
	comp=N,381μm,0.5s						
ZKR				AML	AML	06 36 39.3	
	comp=E,893μm,0.7s						
VAM	**Vamos**	**1.41**	**330**	P	**Pg**	**06 36 05.0**	**-0.6**
VAM				S	**Sb**	**06 36 22.3**	**-0.7**
	comp=E,375nm,0.4s						
VAM	**Vamos**	**1.41**	**330**	P	**Pg**	**06 36 05.4**	**-0.2**
VAM				AML	AML	06 36 35.0	
	comp=E,830μm,0.4s						
VAM				AML	AML	06 36 36.3	
	comp=N,678μm,0.3s						
IMMV	**Iera Moni Meta**	**1.55**	**325**	P	**Pb**	**06 36 07.3**	**-0.1**
IMMV	**Iera Moni Meta**	**1.55**	**325**	P	**Pg**	**06 36 07.5**	**-0.8**
IMMV				AML	AML	06 36 40.8	
	comp=N,702μm,0.4s						
IMMV				AML	AML	06 36 53.7	
	comp=E,713μm,0.8s						
KARP	**Karpathos**	**2.19**	**51**	P	**Pn**	**06 36 16.0**	**+0.9**
ANKY	**Antikythira Is**	**2.21**	**320**	P	**Pb**	**06 36 17.5**	**-1.2**
MMAI	**Mount Meron Ar** comp=E,1.1nm,0.3s,baz=285,slow=13,SNR=8.5	**8.70**	**95**	Pn	**Pn**	**06 37 44.1**	**-0.5**
MMAI				Sn	**Sn**	**06 39 19.5**	**-3.4**
	comp=E,0.7nm,0.3s,baz=305,slow=28,SNR=1.8						
EIL	**Elat** comp=E,0.7nm,0.3s,baz=256,slow=4.7,SNR=9.6	**9.53**	**116**	Pn	**Pn**	**06 37 55.4**	**-0.5**
EIL				Sn	**Sn**	**06 39 37.5**	**-5.6**
	comp=E,0.2nm,0.3s,baz=310,slow=16,SNR=1.7						
ASF	**Jabal al Asfar** comp=E,0.1nm,0.3s,baz=258,slow=17,SNR=1.4	**10.12**	**98**	Pn	**Pn**	**06 38 06.5**	**+2.4**
ASF				Sn	**Sn**	**06 39 56.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=345,slow=20,SNR=2.1						
AKASG	**Malin Array Be** comp=E,1.0nm,0.3s,baz=199,slow=10,SNR=5.5	**16.78**	**9**	Pn	**Pn**	**06 39 33.7**	**+0.1**
KBZ	**Khabaz** comp=E,0.2nm,0.3s,baz=234,slow=5.4,SNR=4.0	**16.80**	**50**	Pn	**P**	**06 39 37.7**	**+1.7**
GERES	**GERESS Array B** comp=E,0.3nm,0.3s,baz=146,slow=12,SNR=10	**16.91**	**333**	Pn	**P**	**06 39 38.0**	**+0.7**
FINES	**FINESS Array B** comp=E,1.4nm,0.9s,baz=184,slow=17,SNR=1.9	**27.28**	**1**	P	**P**	**06 41 24.2**	**+1.3**
TORD	**Torodi Ar. Bea** comp=E,0.6nm,0.5s,baz=32,slow=8.1,SNR=6.9	**29.81**	**231**	P	**P**	**06 41 47.2**	**+1.3**
KURBB	**Kurchatov Arra** comp=E,0.5nm,0.6s,baz=277,slow=8.3,SNR=4.7	**41.80**	**50**	P	**P**	**06 43 27.8**	**-0.4**
MKAR	**Makanchi Array** comp=E,0.4nm,0.5s,baz=273,slow=7.8,SNR=4.5	**44.38**	**56**	P	**P**	**06 43 49.8**	**+0.6**

*NEIC **04** 06:38:45.6, 40°.64N×125°.47W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=0.65; Mθθ=6.90; Mφφ 7.55; Mrθ=0.27; Mrφ=1.69; Mθφ 0.68; Fault plane solution: M0 7.47000×10^14 NP1:ϕ=308.35000°, δ87.82000°, λ175.43000°. NP2:ϕ=38.53000°, δ85.43000°, λ2.19000°. Principal axes: T 7.8022, Plg5.0000°, Azm263.0000°; N -0.7055, Plg85.0000°, Azm103.0000°; P -7.0967, Plg2.0000°, Azm354.0000°;*

*NEIC **04** 06:38:47.8±1.9, 40°.61N±0°.05×125°.3W±0°.1, h21km±13km Error ellipse: s-maj=12.9km s-min=6.7km az=77.0*

*NCEDC **04** 06:38:48.2±2.0, 40°.63N±0°.05×125°.42W±0°.06, h23km±8km, Mwr3.9/6, Error ellipse: s-maj=7.5km s-min=6.2km az=217.0*

*ANF **04** 06:38:49.0±0.7, 40°.78N×125°.06W, h5km, ML3.4/16, Error ellipse: s-maj=6.4km s-min=4.1km az=64.0*

*IDC **04** 06:38:52.3±2.4, 40°.60N×124°.60W, h0km, mb3.3/1, mb1 3.9/6, mb1mx3.6/58, mbtmp3.5/6, ML3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/15, Error ellipse: s-maj=27.6km s-min=12.5km az=89.0*

ISC 04 06:38:45.6±2.1, 40°.63N±0°.04×125°.44W±0°.09, h8km±11km, n173, σ1.981/182, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.85**	**100**		**Pg**	**06 39 03.2**	**+1.2**
KCTM					**Sg**	**06 39 14.8**	**+1.7**
KMPM	**Mount Pierce**	**1.03**	**102**		**Pg**	**06 39 05.4**	**+0.1**
KSMM	**Slide Mountain**	**1.06**	**114**		**Pg**	**06 39 05.5**	**-0.5**
JCC	**Jacoby Creek,**	**1.08**	**80**	Pn	**Pg**	**06 39 05.6**	**-0.8**
KRPM	**Rodgers**	**1.19**	**63**		**Pg**	**06 39 07.4**	**-1.1**
KRPM					**Sg**	**06 39 21.8**	**-2.2**
KCRM	**Chalk Rock**	**1.25**	**99**		**Pb**	**06 39 08.8**	**-0.7**
KHMM	**Horse Mountain**	**1.32**	**79**		**Pn**	**06 39 09.4**	**-1.1**
KMRM	**Mail Ridge**	**1.38**	**107**		**Pn**	**06 39 11.0**	**-0.3**
KRMB	**Red Mountain**	**1.46**	**52**		**Pn**	**06 39 11.0**	**-1.4**
KCSM	**Cold Springs**	**1.47**	**93**		**Pn**	**06 39 12.1**	**-0.5**
KBSM	**Bell Springs**	**1.58**	**116**		**Pn**	**06 39 13.4**	**-0.7**
KPPM	**Pickett Peak**	**1.61**	**100**		**Pn**	**06 39 14.1**	**-0.4**
KOMM	**Orleans Mounta**	**1.64**	**66**		**Pn**	**06 39 13.4**	**-1.4**
KSXB	**Camp Six Broad**	**1.68**	**44**		**Pn**	**06 39 14.3**	**-1.1**
KHBM	**Hayfork Bally**	**1.69**	**88**		**Pn**	**06 39 14.7**	**-0.9**
KCPM	**Cahto Peak**	**1.71**	**123**		**Pn**	**06 39 15.0**	**-0.8**
KIPM	**Iron Peak**	**1.71**	**118**		**Pn**	**06 39 15.1**	**-0.7**
KBO	**Bosley Butte**	**1.82**	**30**		**Pn**	**06 39 16.7**	**-0.7**
KFPM	**Farley Peak**	**1.83**	**122**		**Pn**	**06 39 16.8**	**-0.7**
KBNM	**Bluenose Ridge**	**1.87**	**113**		**Pn**	**06 39 17.7**	**-0.3**
GTC	**Three Chop Rid**	**1.90**	**130**		**Pn**	**06 39 17.3**	**-1.0**
LBPM	**Beegum Peak**	**1.97**	**98**		**Pn**	**06 39 18.9**	**-0.6**
GNAM	**Navarro Ridge**	**2.00**	**135**		**Pn**	**06 39 18.2**	**-1.5**
LGPM	**Granite Peak**	**2.00**	**81**		**Pn**	**06 39 18.9**	**-0.9**
KTRM	**Thompson Ridge**	**2.01**	**50**		**Pn**	**06 39 19.1**	**-0.9**
L02E	**Cave Junction** baz=222,SNR=204	**2.06**	**42**	P	**Pn**	**06 39 19.9**	**-0.5**
L02E				S	**Sn**	**06 39 43.4**	**-3.0**
	baz=222						
L02E	**Cave Junction**	**2.06**	**42**		**Pn**	**06 39 20.0**	**-0.5**
O02D	**Mt. Diablo Mer** baz=284,SNR=361	**2.07**	**102**	P	**Pn**	**06 39 20.4**	**-0.4**
O02D	**Mt. Diablo Mer**	**2.07**	**102**		**Pn**	**06 39 20.4**	**-0.4**
M02C	**Callahan** baz=249,SNR=62	**2.10**	**68**	P	**Pn**	**06 39 20.1**	**-1.1**
M02C				S	**Sn**	**06 39 44.9**	**-2.5**
	baz=249						
M02C	**Callahan**	**2.10**	**68**		**Pn**	**06 39 20.3**	**-0.8**
N02D	**Trinity Center** baz=262,SNR=409	**2.10**	**80**	P	**Pn**	**06 39 20.2**	**-1.0**
N02D				S	**Sn**	**06 39 44.9**	**-2.6**
	baz=262						
N02D	**Trinity Center**	**2.10**	**80**		**Pn**	**06 39 20.2**	**-1.0**
LBKM	**Bonanza King**	**2.15**	**77**		**Pn**	**06 39 20.9**	**-1.0**
GHOM	**Hamilton Openi**	**2.16**	**137**		**Pn**	**06 39 20.2**	**-1.7**
GWRM	**Wonder Ranch**	**2.17**	**130**		**Pn**	**06 39 21.0**	**-1.2**
WDC	**Whiskeytown Da**	**2.21**	**90**		**Pn**	**06 39 22.0**	**-0.5**
GHMM	**Hull Mountain**	**2.23**	**120**		**Pn**	**06 39 22.3**	**-0.7**
GROM	**Round Mountain**	**2.23**	**108**		**Pn**	**06 39 23.1**	**0.0**
GVV	**Valley View**	**2.28**	**111**		**Pn**	**06 39 23.3**	**-0.5**
GASB	**Alder Springs**	**2.30**	**114**		**Pn**	**06 39 23.2**	**-0.8**
GGUM	**Gualala**	**2.32**	**139**		**Pn**	**06 39 22.0**	**-2.2**
YBH	**Yreka Blue Hor** 6.1nm,0.3s,baz=232,slow=9.2,SNR=104	**2.33**	**61**	Pn	**Pn**	**06 39 24.1**	**-0.2**
YBH				Sn	**Sn**	**06 39 49.5**	**-3.8**
	31nm,0.3s,baz=145,slow=20,SNR=17						
KEBM	**Edson Butte**	**2.38**	**20**		**Pn**	**06 39 25.0**	**-0.1**
GSNM	**Snow Mountain**	**2.42**	**134**		**Pn**	**06 39 24.3**	**-1.2**
LCSM	**College of the**	**2.43**	**70**		**Pn**	**06 39 26.1**	**+0.3**
GHLM	**Highland Sprin**	**2.45**	**130**		**Pn**	**06 39 25.0**	**-1.0**
HOPS	**Hopland Field**	**2.45**	**131**		**Pn**	**06 39 25.0**	**-0.9**
HOPS	**Hopland Field**	**2.45**	**131**		**Pn**	**06 39 25.4**	**-0.5**
K02D	**Willamette Mer** baz=213,SNR=472	**2.45**	**32**	P	**Pn**	**06 39 25.9**	**-0.1**
K02D				S	**Sn**	**06 39 52.6**	**-3.6**
	baz=213						
GDCM	**Dry Creek**	**2.52**	**137**		**Pn**	**06 39 26.2**	**-0.7**
GCK	**Clark Valley**	**2.54**	**114**		**Pn**	**06 39 27.8**	**+0.6**
GTSM	**Trough Springs**	**2.55**	**120**		**Pn**	**06 39 26.9**	**-0.5**
LGBM	**Gray Butte**	**2.56**	**73**		**Pn**	**06 39 27.7**	**+0.1**
LTCM	**Tuscan Springs**	**2.56**	**98**		**Pn**	**06 39 27.5**	**0.0**
B040	**Montague**	**2.57**	**61**		**Pn**	**06 39 27.7**	**+0.1**
M03C	**McCloud**	**2.59**	**75**		**Pn**	**06 39 28.0**	**+0.1**
LMPM	**Military Pass**	**2.62**	**70**		**Pn**	**06 39 29.6**	**+1.2**
LHEM	**Herd Peak**	**2.62**	**67**		**Pn**	**06 39 29.1**	**+0.6**
GCVM	**Cloverdale**	**2.64**	**134**		**Pn**	**06 39

baz=220,SNR=9.2
SAO San Andreas Ge 4.97 140 Pn **Pn 06 39 59.4 -1.1**
BPCNC Pine Canyon 5.03 142 **Pn 06 40 00.7 -0.7**
YERR Yerington 5.05 107 **Pn 06 40 02.9 +1.1**
WAKR Walker 5.10 113 **Pn 06 40 04.5 +2.0**
HAST Hastings Reser 5.22 143 **Pn 06 40 03.0 -1.0**
BVL Bear Valley 5.24 139 **Pn 06 40 03.4 -0.9**
G05D Wamic, OR 5.51 32 P **Pn 06 40 10.6 +2.7**
baz=214,SNR=9.2
I07A Izee 5.58 50 Pn **Pn 06 40 11.5 +2.4**
RYN Ryan 5.70 108 **Pn 06 40 11.5 +0.8**
PMPB Monarch Peak 5.72 139 **Pn 06 40 10.5 -0.3**
F04A Amboy 5.74 22 **Pn 06 40 12.9 +1.8**
MDPB Devils Postpil 5.78 119 **Pn 06 40 13.9 +2.0**
OMMB Old Mammoth Mi 5.84 119 Pn **Pn 06 40 14.8 +2.0**
J08A Circle Bar Ran 5.86 60 **Pn 06 40 13.6 +0.8**
KVN Kaiserville 5.86 103 Pn **Pn 06 40 13.2 +0.2**
LHV Little Huntoon 5.87 112 **Pn 06 40 14.6 +1.8**
NVAR Mina Array Bea 5.94 109 Pn **Pn 06 40 14.9 +0.9**
3.7nm,0.3s,baz=288,slow=14,SNR=87
NVAR Lg Lg 06 41 40.3
baz=297,slow=30,SNR=1.4
NVAR Mina Array Bea 5.94 109 Pn **Pn 06 40 14.7 +0.6**
NV11 Mina Array Sit 6.04 109 **Pn 06 40 16.0 +0.6**
E03A Lebam 6.07 12 **Pn 06 40 16.2 +0.7**
PAGB Antelope Grade 6.37 139 **Pn 06 40 19.5 -0.4**
G08A Pilot Rock 6.65 43 Pn **Pn 06 40 26.6 +2.9**
LON Longmire 6.65 22 **Pn 06 40 25.1 +1.3**
TPH Tonopah 6.86 109 **Pn 06 40 25.5 -1.1**
D03D Eldon 7.10 13 P **Pn 06 40 31.7 +1.9**
baz=194,SNR=7.3
E07A Sunnyside 7.17 33 Pn **Pn 06 40 33.2 +2.4**
HAWA Hanford 7.18 35 Pn **Pn 06 40 32.6 +1.8**
BMO Blue Mountains 7.32 52 Pn **Pn 06 40 35.4 +2.5**
ISA Isabella, Lake 7.39 130 P **Pn 06 40 36.6 +2.7**
baz=314
ISA Isabella, Lake 7.39 130 Pn **Pn 06 40 35.8 +1.8**
LTY Liberty 7.46 26 **Pn 06 40 36.5 +1.7**
MFID Camas Ranch 7.67 66 Pn **Pn 06 40 38.7 +0.9**
ELK Elko 7.75 86 Pn **Pn 06 40 40.7 +1.7**
0.1nm,0.3s,baz=264,slow=13,SNR=3.6
R11A Troy Canyon, C 7.95 103 P **Pn 06 40 42.7 +1.1**
baz=290
R11A Troy Canyon, C 7.95 103 Pn **Pn 06 40 42.2 +0.6**
TPNV Topopah Spring 8.06 114 P **Pn 06 40 46.0 +2.8**
baz=300
TPNV Topopah Spring 8.06 114 Pn **Pn 06 40 46.0 +2.8**
EDW2 Edwards Air Fo 8.23 132 P **Pn 06 40 47.3 +2.0**
baz=317
PRN Pahroc Range 8.70 108 **Pn 06 40 53.3 +1.4**
HLID Hailey 8.70 67 P **Pn 06 40 55.2 +3.2**
baz=254
PSUT Pine Spring 9.19 99 Pn **Pn 06 41 00.9 +2.3**
HEC Hector,Ludlow 9.24 126 P **Pn 06 41 01.4 +2.1**
baz=312
DUG Dugway, Tooele 9.64 89 P **Pn 06 41 08.0 +3.3**
baz=277
NEW Newport 9.67 35 Pn Pn 06 41 13.3 +8.3
0.1nm,0.3s,baz=211,slow=18,SNR=3.8
PFO Pinyon Flats O 10.02 132 Pn **Pn 06 41 11.8 +1.8**
1.0nm,0.3s,baz=326,slow=13,SNR=13
PFO Pinyon Flats O 10.02 132 P **Pn 06 41 12.1 +2.1**
baz=317
TPFO Pinon Flats 10.03 132 P **Pn 06 41 12.1 +2.0**
baz=317
PDAR Pinedale Array 12.06 75 Pn **Pn 06 41 40.0 +2.1**
0.1nm,0.3s,baz=261,slow=12,SNR=4.7
SDCO Great Sand Dun 15.72 94 P **Pn 06 42 31.0 +3.3**
baz=287
T25A Trinidad 16.73 95 P **P 06 42 43.6 +0.7**
baz=289
TXAR Lajitas Array 21.04 116 P **P 06 43 33.4 +3.4**
1.4nm,0.8s,baz=301,slow=9.4,SNR=16
INK Inuvik 28.07 354 LR LR 06 56 56.4
comp=Z,72nm,18.2s,baz=323,slow=38

IDC 04 06:40:04.2±3.9, 5.71S×131.37E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.3/37, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=259.4km s-min=33.8km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.44**	**169**	Pn		Pn	06 43 31.4	+1.4
	0.1nm,0.3s,baz=349,slow=11,SNR=1.4							
ASAR	**Alice Springs**	**18.02**	**172**	P		Pn	06 44 15.2	-1.0
	0.1nm,0.3s,baz=355,slow=10,SNR=5.4							
MKAR	**Makanchi Array**	**67.92**	**326**	P		P	06 51 05.0	+0.1
	0.1nm,0.4s,baz=116,slow=8.6,SNR=1.8							

*THR **04** 06:40:24.5±0.3, 28°.56N×53°.21E, h14km±9km, ML3.2*
*IDC **04** 06:40:26.2±1.7, 28°.53N×52°.95E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/57, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=39.0km s-min=33.5km az=23.0*
*TEH **04** 06:40:27.1, 28°.46N×53°.00E, h13km, ML3.1*
ISC 04 06:40:26.2±0.8, 28°.55N±0°.04×53.17E±0°.05, h10km, n17, σ1s67/18, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.31**	**211**	*e*Pg		**Pg**	**06 40 31.6**	**-0.9**
GHIR				*e*Sg		**Sg**	**06 40 36.9**	**+0.1**
GHIR				IAML			06 40 37.8	
	comp=E,6μm,0.6s							
GHIR	**Ghir-Karzin**	**0.31**	**211**	*e*Pg		**Pg**	**06 40 31.7**	**-0.9**
JHRM	**Jahrom**	**0.36**	**98**	*e*Pg		**Pn**	**06 40 37.3**	**-0.3**
JHRM				*e*			06 40 56.8	
LMD1	**Lamerd**	**1.21**	**180**	*e*		Sg	06 41 16.5	+11
SHI	**Shiraz**	**1.23**	**332**	*e*Pg		**Pg**	**06 40 50.6**	**+0.8**
AHBU	**AHRAM**	**1.68**	**281**	*e*Pg		**Pn**	**06 40 55.8**	**+0.2**
KLNJ	**Kolanjah**	**2.81**	**331**	*e*Pn		**Pb**	**06 41 14.0**	**-2.6**
NGRK	**Negar Kerman**	**3.30**	**70**	*e*Pn		**Pb**	**06 41 22.7**	**-2.4**
NGRK				*e*			06 42 11.9	
ISAD	**Sadrabad**	**3.38**	**7**	*e*Pn		**Pb**	**06 41 23.4**	**-3.0**
KRBR	**Kerman**	**3.44**	**65**	*e*Pn		**Pn**	**06 41 19.7**	**-0.5**
YZKH	**Yazd**	**4.01**	**17**	*e*Pn		**Pn**	**06 41 27.7**	**-0.2**
BSRN	**Basiran**	**6.17**	**55**	*e*Pn		**Pn**	**06 41 57.1**	**-0.5**
BSRN	**Basiran**	**6.17**	**55**	*e*Pn		**Pn**	**06 41 57.1**	**-0.5**
WSAR	**Wadi Sarin**	**7.22**	**136**	Pn		**Pn**	**06 42 14.6**	**+2.7**
	comp=E,0.5nm,0.3s,baz=318,slow=6.2,SNR=11							
WSAR				Sn		**Sn**	**06 43 34.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=319,slow=20,SNR=1.7							
MKAR	**Makanchi Array**	**29.13**	**43**	P		**P**	**06 46 30.3**	**+3.0**
	comp=E,0.3nm,0.7s,baz=248,slow=7.6,SNR=2.0							
FINES	**FINESS Array B**	**37.50**	**339**	P		**P**	**06 47 40.8**	**+0.9**
	comp=E,0.8nm,0.7s,baz=135,slow=14,SNR=1.6							
TORD	**Torodi Ar. Bea**	**50.12**	**263**	P		**P**	**06 49 22.0**	**0.0**
	comp=E,0.5nm,0.7s,baz=46,slow=8.3,SNR=2.3							

*NIC **04** 06:40:34.6±0.0, 36°.28N×29°.22E, h48km±1km, Ml4.0/4*
*ATH **04** 06:40:34.1, 36°.30N×29°.16E, h42km±2km, ML3.7/9, Error ellipse: s-maj=3.2km s-min=1.0km az=162.0*
*DDA **04** 06:40:34.7, 36°.36N×29°.14E, h24km±1km, MW3.9*
*ISK **04** 06:40:34.6, 36°.34N×29°.13E, h20km, ML3.9/26*
*THE **04** 06:40:34.7, 36°.31N×29°.14E, h6km±1km, ML3.6/9, Error ellipse: s-maj=1.0km s-min=0.3km az=70.0*
*NEIC **04** 06:40:35.4±1.6, 36°.21N±0°.02×29°.24E±0°.04, h35km±11km, Error ellipse: s-maj=4.5km s-min=2.5km az=66.0*
*HLW **04** 06:40:35.2, 35°.92N×29°.11E, h5km±10km, Ml4.3*
*IDC **04** 06:40:35.7±1.4, 36°.24N×29°.35E, h47km±20km, mb3.4/4, mb1 3.7/11, mb1mx3.4/54, mbtmp3.7/11, ML3.9/7, Error ellipse: s-maj=14.7km s-min=13.7km az=108.0*
*GII **04** 06:40:35.6±0.0, 36°.18N×29°.43E, h20km, MD2.7/2*
ISC 04 06:40:34.3±0.8, 36°.29N±0°.03×29°.20E±0°.02, h28km±6km, n230, σ1s45/282, mb4.0/7, 10C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AKAS	**Kas**	**0.34**	**100**	PG		**Pn**	**06 40 43.7**	**+0.2**
AKAS				SG		**Sn**	**06 40 49.8**	**+0.4**
AKAS	**Kas**	**0.34**	**100**	*i* P		**Pn**	**06 40 43.6**	**+0.2**
AKAS				*i* S		**Sb**	**06 40 49.5**	**+1.9**
AKAS				IAML			06 40 55.0	
	comp=E,4μm,0.4s							
AKAS	**Kas**	**0.34**	**100**			**Pn**	**06 40 43.6**	**+0.2**
AKAS						**Sb**	**06 40 49.0**	**+1.4**
KSL	**Kastellorizon**	**0.34**	**114**	P		**Pb**	**06 40 48.6**	**+0.4**
KSL				S		**Sn**	**06 40 50.8**	**+1.4**
KSL				AML	AML		06 40 51.6	
	comp=N,9302μm,0.8s							
KSL				AML	AML		06 40 51.8	
	comp=E,21331μm,0.6s							
KSL	**Kastellorizon**	**0.34**	**114**	⇑P		**Pn**	**06 40 43.8**	**+0.4**
KSL				S		**Sn**	**06 40 51.1**	**+1.6**
FETY	**Fethiye**	**0.36**	**345**	P		**Pb**	**06 40 41.3**	**-1.2**
FETY				S		**Sb**	**06 40 47.0**	**-1.0**
FETY	**Fethiye**	**0.36**	**345**	PG		**Pb**	**06 40 41.8**	**-0.7**
FETY				SG		**Sb**	**06 40 47.3**	**-0.7**
FETY	**Fethiye**	**0.36**	**345**	*i* P		**Pb**	**06 40 41.9**	**-0.6**
FETY				*i* S		**Sb**	**06 40 46.7**	**-1.3**
FETY				IAML			06 40 47.0	
	comp=N,11μm,0.2s							
FETY				IAML			06 40 47.0	
	comp=E,10μm,0.6s							
DEMR	**Demre-Antalya**	**0.58**	**95**	PG		**Pb**	**06 40 47.2**	**+1.3**
DALY	**Dalyan (Mula)**	**0.68**	**320**	PG		**Pb**	**06 40 46.9**	**-0.8**
DALY				SG		**Sb**	**06 40 56.6**	**-0.2**
DALY	**Dalyan (Mula)**	**0.68**	**320**	*i* P		**Pb**	**06 40 47.0**	**-0.8**
DALY				*i* S		**Sb**	**06 40 55.7**	**-1.1**
DALY				IAML			06 40 58.0	
	comp=E,2μm,0.8s							
DALY				IAML			06 41 00.0	
	comp=N,3μm,0.6s							
ELL	**Elmali**	**0.73**	**51**	PG		**Pb**	**06 40 49.4**	**+0.8**
ELL	**Elmali**	**0.73**	**51**	P		**Pb**	**06 40 48.7**	**+0.1**
ELL	**Elmali**	**0.73**	**51**			**Pb**	**06 40 49.0**	**+0.4**
ELL				Sn		**Sb**	**06 40 59.1**	**+0.7**
ARG	**Arkhangelos**	**0.87**	**265**	P		**Pb**	**06 40 50.1**	**-0.7**
ARG				S		**Sn**	**06 41 03.4**	**+1.1**
	comp=N,6μm,0.4s							
ARG	**Arkhangelos**	**0.87**	**265**	P		**Pb**	**06 40 50.8**	**0.0**
ARG				S		**Sn**	**06 41 03.2**	**+0.9**
ARG				AML	AML		06 41 06.9	
	comp=N,9520μm,0.4s							
ARG				AML	AML		06 41 07.0	
	comp=E,13340μm,0.4s							
ARG	**Arkhangelos**	**0.87**	**265**	PG		**Pn**	**06 40 51.0**	**+0.3**
ARG				SG		**Sn**	**06 41 03.1**	**+0.7**
ARG	**Arkhangelos**	**0.87**	**265**	⇑P		**Pb**	**06 40 50.9**	**0.0**
ARG				S		**Sn**	**06 41 03.5**	**+1.1**
TURN	**Turunc**	**0.91**	**303**	PG		**Pb**	**06 40 51.1**	**-0.3**
TURN				SG		**Sb**	**06 41 03.1**	**0.0**
TURN	**Turunc**	**0.91**	**303**	*i* P		**Pb**	**06 40 51.0**	**-0.5**
TURN				*i* S		**Sb**	**06 41 02.9**	**-0.3**
TURN				IAML			06 41 05.0	
	comp=N,4μm,0.5s							
TURN				IAML			06 41 07.0	
	comp=E,2μm,0.3s							
AKUM	**Antalya-Kumluc**	**0.93**	**88**	*i* P		**Pn**	**06 40 53.4**	**+1.9**
AKUM				*i* S		**Sb**	**06 41 04.3**	**+0.5**
AKUM				IAML			06 41 09.0	
	comp=N,3μm,0.4s							
AKUM				IAML			06 41 10.0	
	comp=E,1μm,0.5s							
GOLH	**Golhisar**	**0.99**	**17**	*i* P		**Pn**	**06 40 52.9**	**+0.4**
GOLH				*i* S		**Sb**	**06 41 05.9**	**+0.2**
GOLH				IAML			06 41 10.0	
	comp=N,3μm,0.6s							
YER	**Yerkesik**	**1.12**	**319**	P		**Pn**	**06 40 54.2**	**+0.1**
YER				S		**Sn**	**06 41 09.7**	**+1.1**
YER	**Yerkesik**	**1.12**	**319**	PG		**Pn**	**06 40 54.3**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.14**	**74**	PN		**Pb**	**06 40 56.5**	**+1.1**
TAVA	**DENIZLI_Tavas**	**1.19**	**349**	*i* P		**Pn**	**06 40 55.9**	**+0.6**
TAVA				*i* S		**Sn**	**06 41 07.8**	**-2.8**
TAVA				IAML			06 41 13.0	
	comp=N,3μm,0.5s							
TAVA				IAML			06 41 14.0	
	comp=E,4μm,0.6s							
ANTB	**Antalya**	**1.32**	**62**	PN		**Pb**	**06 41 00.2**	**+1.7**
DATC	**Datca-Mugla**	**1.32**	**291**	PN		**Pb**	**06 40 58.1**	**-0.4**
DAT	**Datca**	**1.38**	**289**	P		**Pn**	**06 40 58.3**	**+0.6**
DAT				S		**Sb**	**06 41 15.9**	**-0.8**
DAT	**Datca**	**1.38**	**289**	PN		**Pb**	**06 40 59.2**	**-0.3**
DAT	**Datca**	**1.38**	**289**	*i* P		**Pn**	**06 40 58.5**	**+0.7**
DAT				*i* S		**Sn**	**06 41 15.3**	**+0.3**
DAT				IAML			06 41 19.0	
	comp=E,928nm,0.3s							
DAT				IAML			06 41 20.0	
	comp=N,1μm,0.2s							
MLSB	**Milas**	**1.52**	**312**	PN		**Pb**	**06 41 02.1**	**+0.3**
BRDR	**BURDUR-Merkez**	**1.56**	**26**	*i* P		**Pn**	**06 41 01.5**	**+1.2**
BRDR				*i* S		**Sn**	**06 41 20.3**	**+0.5**
BRDR				IAML			06 41 25.0	
	comp=N,705nm,0.4s							
BRDR				IAML			06 41 28.0	
	comp=E,631nm,0.5s							
BDRM	**Kayabasi**	**1.61**	**299**	*i* P		**Pn**	**06 41 01.7**	**+0.9**
BDRM				IAML			06 41 29.0	
	comp=E,2μm,0.5s							
BCK	**Bucak**	**1.62**	**43**	PN		**Pn**	**06 41 02.6**	**+1.6**
NISR	**Nisiros**	**1.70**	**281**	P		**Pn**	**06 41 02.5**	**+0.4**
NISR				S		**Sb**	**06 41 24.3**	**-1.5**
	comp=E,2μm,0.5s							
NISR	**Nisiros**	**1.70**	**281**	P		**Pn**	**06 41 01.8**	**-0.2**
NISR				AML	AML		06 41 31.1	
	comp=N,3322μm,0.4s							
NISR				AML	AML		06 41 36.1	
	comp=E,4461μm,0.9s							
BODT	**Bodrum**	**1.70**	**297**	P		**Pn**	**06 41 02.6**	**+0.5**
BODT				S		**Sn**	**06 41 23.3**	**+0.3**
BODT	**Bodrum**	**1.70**	**297**	PN		**Pn**	**06 41 02.9**	**+0.8**
YKAV	**Yalikavak-Bodr**	**1.75**	**299**	PN		**Pn**	**06 41 03.3**	**+0.5**
BASM	**Basmaki-Afyon**	**1.76**	**23**	PN		**Pn**	**06 41 03.9**	**+0.8**
KARP	**Karpathos**	**1.81**	**246**	P		**Pn**	**06 41 04.6**	**+0.9**
KARP				S		**Sn**	**06 41 26.9**	**+1.2**
	comp=E,818nm,0.3s							
KARP	**Karpathos**	**1.81**	**246**	P		**Pn**	**06 41 04.9**	**+1.3**
KARP				AML	AML		06 41 39.5	
	comp=E,1806μm,0.2s							
KARP				AML	AML		06 41 41.4	
	comp=N,1646μm,0.3s							
KARP	**Karpathos**	**1.81**	**246**	PN		**Pn**	**06 41 05.1**	**+1.4**
KARP	**Karpathos**	**1.81**	**246**	⇑P		**Pn**	**06 41 05.0**	**+1.3**
KARP				S		**Sn**	**06 41 27.0**	**+1.2**
KARP				AML	AML		06 41 27.8	
	comp=N,1.8nm,0.2s							
KARP				AML	AML		06 41 27.8	
	comp=N,1.8nm,0.2s							
KARP				AML	AML		06 41 28.3	
	comp=N,1.7nm,0.2s							
KARP				AML	AML		06 41 28.3	
	comp=N,1.7nm,0.2s							
KARP	**Karpathos**	**1.81**	**246**			**Pn**	**06 41 05.0**	**+1.4**
KARP				Sn		**Sn**	**06 41 25.6**	**-0.1**
KOSK	**Kos Island**	**1.84**	**285**	PN		**Pn**	**06 41 05.0**	**+0.9**
ISP	**Isparta**	**1.86**	**34**	P		**Pn**	**06 41 05.6**	**+1.2**
ISP				S		**Sn**	**06 41 27.1**	**0.0**
ISP				AML	AML		06 41 30.5	
	comp=E,2645μm,0.5s							
ISP				AML	AML		06 41 44.5	
	comp=N,2762μm,0.7s							
ISP	**Isparta**	**1.86**	**34**	PN		**Pn**	**06 41 06.2**	**+1.8**
ISP	**Isparta**	**1.86**	**34**	Pn		**Pn**	**06 41 05.7**	**+1.2**
ISP	**Isparta**	**1.86**	**34**			**Pn**	**06 41 05.9**	**+1.5**
ISP				Sn		**Sn**	**06 41 29.1**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**328**	PN		**Pn**	**06 41 06.4**	**+0.7**
KEPZ	**Antalya-Kepez**	**2.03**	**72**	*i* P		**Pn**	**06 41 09.6**	**+2.9**
KEPZ				IAML			06 41 39.0	
	comp=E,288nm,0.5s							
KEPZ				IAML			06 41 40.0	
	comp=N,238nm,0.6s							
KZIL	**AFYON_Kizioren**	**2.10**	**21**	*i* P		**Pn**	**06 41 07.7**	**-0.1**
KZIL				IAML			06 41 46.0	
	comp=N,195nm,0.5s							
KZIL				IAML			06 41 48.0	
	comp=E,279nm,0.7s							
BAGO	**Egridir - ISPA**	**2.12**	**36**	*i* P		**Pn**	**06 41 08.5**	**+0.5**
MANT	**Manisa**	**2.25**	**347**	*i* P		**Pn**	**06 41 09.6**	**-0.4**
MANT				IAML			06 41 37.0	
	comp=N,139nm,0.2s							
MANT				IAML			06 41 45.0	
	comp=E,221nm,1.1s							
MANT	**Manisa**	**2.25**	**347**			**Pn**	**06 41 11.8**	**+1.9**
KULA	**Kula-Manisa**	**2.26**	**349**	PN		**Pn**	**06 41 10.1**	**+0.2**
SMG	**Samos**	**2.36**	**308**	P		**Pn**	**06 41 11.4**	**+0.2**
SMG				S		**Sn**	**06 41 39.8**	**+0.6**
	comp=E,2μm,0.2s							
SMG	**Samos**	**2.36**	**308**	P		**Pn**	**06 41 11.9**	**+0.7**
SMG				AML	AML		06 41 41.4	
	comp=E,2761μm,0.2s							
SMG				AML	AML		06 41 42.1	
	comp=N,3525μm,0.3s							
SEYD	**Seydisehir-KON**	**2.39**	**62**	PN		**Pn**	**06 41 14.9**	**+3.1**
USAK	**Uak-Merkez**	**2.42**	**357**	*i* P		**Pn**	**06 41 12.1**	**0.0**
USAK				IAML			06 41 46.0	
	comp=E,255nm,0.4s							
SHUT	**Suhut-Afyon**	**2.50**	**25**	PN		**Pn**	**06 41 14.2**	**+0.9**
GAZI	**Gazipasa**	**2.52**	**90**	PN		**Pn**	**06 41 14.1**	**+0.7**
GAZI	**Gazipasa**	**2.52**	**90**	*i* P		**Pn**	**06 41 14.2**	**+0.7**
GAZI				IAML			06 41 44.0	
	comp=N,257nm,0.5s							
GAZI				IAML			06 41 48.0	
	comp=E,182nm,0.3s							
AFYO	**Afyonkarahisar**	**2.64**	**19**	*i* P		**Pn**	**06 41 15.3**	**+0.1**
AFYO				IAML			06 42 01.0	
	comp=E,233nm,0.6s							
AFYO				IAML			06 42 14.0	
	comp=N,249nm,1.1s							
DOGA	**KONYA_Doganhis**	**2.68**	**47**	*i* P		**Pn**	**06 41 17.7**	**+2.0**
DOGA				IAML			06 41 51.0	
	comp=N,257nm,0.6s							
DOGA				IAML			06 41 51.0	
	comp=E,370nm,0.6s							
ZKR	**Zakros**	**2.69**	**245**	P		**Pn**	**06 41 15.8**	**0.0**
ZKR				S		**Sn**	**06 41 48.3**	**+0.8**
	comp=E,312nm,0.7s							
ZKR	**Zakros**	**2.69**	**245**	P		**Pn**	**06 41 15.5**	**-0.3**
BLCB	**Balcova**	**2.71**	**321**	P		**Pn**	**06 41 15.7**	**-0.2**
BLCB	**Balcova**	**2.71**	**321**	PN		**Pn**	**06 41 17.2**	**+1.3**
AMGA	**Amorgos Island**	**2.71**	**282**	P		**Pn**	**06 41 16.1**	**+0.1**
STIA	**Sitia Lasithi**	**2.75**	**248**	P		**Pn**	**06 41 17.4**	**+0.9**
STIA				S		**Sn**	**06 41 50.6**	**+1.8**
GEDZ	**Gediz**	**2.75**	**3**	PN		**Pn**	**06 41 18.5**	**+1.8**
ANAF	**Anafi Island**	**2.77**	**272**	P		**Pn**	**06 41 17.2**	**+0.5**
ANAF	**Anafi Island**	**2.77**	**272**	P		**Pn**	**06 41 17.2**	**+0.5**
GDZ	**Gediz**	**2.80**	**5**	*i* P		**Pn**	**06 41 15.9**	**-1.5**
GDZ				IAML			06 42 06.0	
	comp=N,66nm,1.2s							
GDZ				IAML			06 42 09.0	
	comp=E,46nm,1.0s							
AKHS	**Akhisar**	**2.81**	**337**	*i* P		**Pn**	**06 41 16.5**	**-0.8**
AKHS				IAML			06 42 14.0	
	comp=E,94nm,0.6s							
AKMS	**Akamas**	**2.85**	**116**	P		**Pn**	**06 41 18.0**	**0.0**
AKMS				AML	AML		06 41 19.9	
	comp=E,1.2nm,0.1s							
AKMS				AML	AML		06 41 19.9	
	comp=E,1.2nm,0.1s							
AKMS				S		**Sn**	**06 41 51.8**	**+0.4**
AKMS				AML	AML		06 41 53.2	
	comp=E,1.6nm,0.4s							
AKMS				AML	AML		06 41 53.2	
	comp=E,1.6nm,0.4s							
URLA	**Izmir**	**2.93**	**316**	PN		**Pn**	**06 41 20.2**	**+1.2**
URLA	**Izmir**	**2.93**	**316**	*i* P		**Pn**	**06 41 19.8**	**+0.8**
URLA				IAML			06 42 09.0	
	comp=E,102nm,0.7s							
URLA				IAML			06 42 15.0	
	comp=N,158nm,1.0s							
KMER	**Konya-Meram**	**2.94**	**59**	*i* P		**Pn**	**06 41 22.1**	**+2.9**
KMER				IAML			06 42 04.0	
	comp=N,96nm,0.8s							
KMER				IAML			06 42 04.0	
	comp=E,112nm,0.5s							
ALFC	**Alefka**	**2.99**	**111**	⇑P		**Pn**	**06 41 19.7**	**-0.2**
ALFC				AML	AML		06 41 22.3	
	comp=E,1.5nm,0.4s							
ALFC				AML	AML		06 41 22.4	
	comp=E,1.4nm,0.3s							
SANT	**Santorini**	**3.02**	**273**	⇓P		**Pb**	**06 41 31.4**	**+4.0**
SANT	**Santorini**	**3.02**	**273**	Pn		**Pn**	**06 41 20.8**	**+0.5**
KONT	**Konya--Tatoy**	**3.02**	**56**	*i* P		**Pn**	**06 41 22.9**	**+2.6**
KONT				IAML			06 42 10.0	
	comp=E,62nm,0.7s							
KONT				IAML			06 42 38.0	
	comp=N,45nm,1.1s							
THR2	**Thira island,**	**3.04**	**274**	P		**Pn**	**06 41 21.1**	**+0.6**
APE	**Apeiranthos**	**3.05**	**286**	⇑P		**Pb**	**06 41 29.7**	**+1.8**
APE	**Apeiranthos**	**3.05**	**286**	P		**Pn**	**06 41 20.9**	**+0.2**
THR3	**Thira Island,**	**3.07**	**273**	P		**Pn**	**06 41 21.5**	**+0.6**
THR3	**Thira Island,**	**3.07**	**273**	P		**Pn**	**06 41 21.1**	**+0.3**
THR6	**Thira Island,**	**3.07**	**272**	P		**Pn**	**06 41 21.7**	**+0.8**
THR6	**Thira Island,**	**3.07**	**272**	P		**Pn**	**06 41 21.8**	**+0.8**
SNT5	**Nea Kammeni, S**	**3.07**	**273**	P		**Pn**	**06 41 21.5**	**+0.6**
NPS	**Neapolis**	**3.09**	**252**	P		**Pn**	**06 41 22.0**	**+0.8**
FRMA	**Ierapetra Chan**	**3.09**	**247**	P		**Pn**	**06 41 21.4**	**+0.1**
THR9	**Santorini-Faro**	**3.10**	**272**	P		**Pn**	**06 41 22.4**	**+1.0**
THR5	**Thira Island,**	**3.11**	**273**	P		**Pn**	**06 41 22.5**	**+1.0**
THR5	**Thira Island,**	**3.11**	**273**	P		**Pn**	**06 41 22.9**	**+1.5**
NATA	**Nata**	**3.14**	**118**	P		**Pn**	**06 41 22.4**	**+0.5**
ZEDA	**zmir-Bergama**	**3.16**	**328**	*i* P		**Pn**	**06 41 22.4**	**+0.3**
ZEDA				IAML			06 42 24.0	
	comp=N,135nm,0.7s							
ZEDA				IAML			06 42 24.0	
	comp=E,98nm,1.1s							
AUKIR	**Kırka- Seyitga**	**3.16**	**19**	*i* P		**Pn**	**06 41 20.6**	**-1.8**
AUKIR				IAML			06 42 27.0	
	comp=E,83nm,0.8s							
AUKIR				IAML			06 42 36.0	
	comp=N,85nm,1.2s							
KDHN	**Kadinhani**	**3.22**	**45**	*i* P		**Pn**	**06 41 24.3**	**+1.2**
KDHN				IAML			06 42 03.0	
	comp=E,38nm,0.6s							
LEF	**Lefka**	**3.23**	**110**	*i* P		**Pn**	**06 41 20.8**	**-2.3**
LEF				IAML			06 42 02.0	
	comp=E,101nm,0.5s							
LEF				IAML			06 42 03.0	
	comp=N,104nm,0.4s							
LAST	**Lasithi**	**3.23**	**251**	P		**Pn**	**06 41 23.9**	**+0.7**
LAST				S		**Sn**	**06 42 02.3**	**+1.6**
	comp=N,160nm,0.6s							
LAST	**Lasithi**	**3.23**	**

comp=E,67nm,1.4s
AUBOZ BOZOYUK 3.67 10 *i* P **Pn 06 41 26.2 -3.1**
AUBOZ IAML 06 42 41.0
comp=N,49nm,1.0s
AUBOZ IAML 06 42 41.0
comp=E,42nm,1.0s
BORA Eskisehir 3.72 15 *i* P **Pn 06 41 28.8 -1.2**
PRK Paraskevi 3.75 323 P **Pn 06 41 31.8 +1.5**
SIVA Sivas 3.79 252 P **Pn 06 41 32.6 +1.4**
SIVA Sivas 3.79 252 P **Pn 06 41 32.6 +1.7**
SIVA AML AML 06 42 15.0
comp=E,749µm,0.5s
SIVA AML AML 06 42 21.6
comp=N,548µm,0.6s
ULDT Uludag 3.85 359 *i* P **Pn 06 41 32.6 +0.8**
ULDT IAML 06 42 46.0
comp=E,43nm,0.6s
ULDT IAML 06 42 50.0
comp=N,28nm,0.9s
SIGR SIGRI 3.94 319 P **Pn 06 41 33.7 +0.8**
IGD Bursa 3.97 0 *i* P **Pn 06 41 32.1 -1.2**
IGD IAML 06 42 47.0
comp=N,23nm,1.2s
IGD IAML 06 42 47.0
comp=E,34nm,1.2s
BAYC CANAKKALE_Bayr 4.03 330 *i* P **Pn 06 41 34.8 +0.6**
BAYC IAML 06 42 26.0
comp=N,34nm,0.4s
BAYC IAML 06 42 26.0
comp=E,31nm,0.4s
OSC2 CSNet OBS 4 4.09 141 P **Pn 06 41 34.7 -0.2**
OSC2 S **Sn 06 42 22.0 +0.3**
EREN Erenkoy 4.11 99 *i* P Pn 06 41 29.3 -5.9
EREN IAML 06 42 09.0
comp=E,93nm,1.6s
EREN IAML 06 42 26.0
comp=N,82nm,0.5s
KERG Konya-Eregli 4.11 73 *i* P **Pn 06 41 35.4 0.0**
KERG IAML 06 42 51.0
comp=E,52nm,0.6s
PARAL Paralimni 4.15 107 P **Pn 06 41 37.2 +1.4**
VAM Vamos 4.15 259 P **Pn 06 41 36.5 +0.6**
IMMV Iera Moni Meta 4.32 260 P **Pn 06 41 38.7 +0.6**
IMMV Iera Moni Meta 4.32 260 P **Pn 06 41 38.8 +0.8**
BOZC Bozcaada 4.33 326 *i* P **Pn 06 41 37.8 -0.4**
BOZC IAML 06 42 32.0
comp=E,56nm,1.3s
BOZC IAML 06 42 44.0
comp=N,42nm,1.0s
GVDS Gavdos 4.41 252 P **Pn 06 41 40.8 +1.5**
GVD Gavdhos 4.41 252 P **Pn 06 41 40.8 +1.4**
GVD S **Sn 06 42 29.9 +0.1**
comp=N,250nm,0.3s
GVD Gavdhos 4.41 252 P **Pn 06 41 40.7 +1.4**
MDUB Mudurnu 4.46 20 Pn **Pn 06 41 41.9 +1.7**
BR231 Keskin MP Arra 4.53 37 P **Pn 06 41 43.0 +1.8**
DED Mersin 4.56 80 *i* P **Pn 06 41 44.5 +3.1**
DED *i* S **Sn 06 42 30.9 -2.5**
DED IAML 06 42 41.0
comp=E,20nm,0.4s
DED IAML 06 42 46.0
comp=N,24nm,0.8s
GULE Gulek 4.59 76 *i* P **Pn 06 41 45.0 +3.1**
GULE IAML 06 42 48.0
comp=N,61nm,0.7s
GULE IAML 06 43 00.0
comp=E,88nm,0.5s
KNDR Palaiochora Ch 4.60 258 P **Pn 06 41 44.3 +2.3**
KIBS BOLU 4.62 26 *i* P **Pn 06 41 42.6 +0.2**
KIBS IAML 06 43 15.0
comp=N,18nm,0.9s
KIBS IAML 06 43 17.0
comp=E,22nm,1.9s
GOKA anakkale-Gk 4.67 327 *i* P **Pn 06 41 41.7 -1.3**
GOKA *i* S **Sn 06 42 30.4 -5.9**
GOKA IAML 06 44 14.0
comp=N,198nm,0.0s
GOKA IAML 06 44 14.0
comp=E,146nm,0.3s
KIRS Kirehir-Merke 4.70 51 *i* P **Pn 06 41 43.1 -0.3**
KAND Kocaeli-Kandir 4.86 9 *i* P **Pn 06 41 46.4 +0.9**
KAND IAML 06 42 48.0
comp=E,51nm,1.8s
KAND IAML 06 43 12.0
comp=N,43nm,1.6s
BR131 Keskin Array S 4.91 44 Pn **Pn 06 41 47.2 +1.0**
BR131 Sn **Sn 06 42 43.4 +1.2**
BRTR Keskin Array B 4.91 44 P **Pn 06 41 47.4 +1.0**
comp=N,1.1nm,0.3s,baz=220,slow=13,SNR=38
BRTR S **Sn 06 42 41.2 -1.0**
comp=N,2.2nm,0.3s,baz=218,slow=25,SNR=13
BRTR Keskin Array B 4.91 44 **Pn 06 41 47.1 +0.8**
BRTR **Sn 06 42 43.6 +1.4**
CMDR Camlidere-ANKA 4.92 31 *i* P **Pn 06 41 46.9 +0.3**
CMDR IAML 06 42 52.0
comp=N,29nm,0.6s
CMDR IAML 06 43 28.0
comp=E,36nm,2.1s
KESN Edirne-Kesan 4.94 337 *i* P **Pn 06 41 45.6 -1.3**
KESN IAML 06 42 44.0
comp=E,21nm,0.4s
KESN IAML 06 43 06.0
comp=N,30nm,1.1s
YIGI Dzce 4.99 20 *i* P **Pn 06 41 48.8 +1.4**
YIGI IAML 06 43 32.0
comp=E,20nm,2.2s
BCAM Yenicaga 5.05 26 *i* P **Pn 06 41 49.0 +0.8**
BCAM *i* S **Sn 06 42 43.7 -1.9**
BCAM IAML 06 42 52.0
comp=E,17nm,0.4s
BCAM IAML 06 43 46.0
comp=N,11nm,2.4s
AKO Adana 5.14 75 *i* P **Pn 06 41 52.5 +3.1**
AKO IAML 06 42 53.0
comp=E,21nm,0.4s
AKO IAML 06 42 55.0
comp=N,17nm,0.5s
ALN Alexandroupoli 5.22 333 Pn **Pn 06 41 51.0 +0.6**
DELI KIRIKKALE 5.25 44 *i* P **Pn 06 41 51.4 +0.4**
CDAG Cicekdag 5.27 49 *i* P **Pn 06 41 52.4 +1.1**
CDAG IAML 06 43 08.0
comp=E,13nm,0.9s
CDAG IAML 06 43 51.0
comp=N,8.1nm,1.4s
SLUM Salum 5.82 216 P **Pn 06 41 58.8 0.0**
baz=218
DQRL Deir Qamar 5.83 114 *e*P **Pn 06 41 57.5 -1.5**
HWQ Hawqa 5.88 108 *e*P **Pn 06 41 59.9 +0.3**
ITM Ithomi 5.91 281 Pn **Pn 06 42 03.4 +3.4**
QRWL Qaraoun 5.99 115 *e*P **Pn 06 42 00.6 -0.5**
OFRI `Ofer 6.02 126 Pn **Pn 06 42 01.5 -0.1**
OFRI Sn **Sn 06 43 07.3 -2.3**
MMA0B Mount Meron ar 6.07 121 Pn **Pn 06 42 01.8 -0.7**
MMA0B Sn **Sn 06 43 08.3 -2.5**
MMAI Mount Meron Ar 6.07 121 P **Pn 06 42 01.7 -0.5**
comp=N,24nm,0.3s,baz=302,slow=13,SNR=136
MMAI S **Sn 06 43 07.2 -3.6**
comp=N,7.9nm,0.3s,baz=302,slow=27,SNR=3.1
BLGI Bet Lehem HaGe 6.09 124 Pn **Pn 06 42 01.9 -0.6**
RCY Rachaya 6.13 115 *e*P **Pn 06 42 02.5 -0.6**
SHBL Chebaa 6.13 117 *e*P **Pn 06 42 02.7 -0.5**
GEM Giv'at Ha'Em 6.15 118 Pn **Pn 06 42 02.5 -0.7**
NATI Neve Ativ 6.17 117 Pn **Pn 06 42 03.2 -0.4**
NATI Sn **Sn 06 43 10.2 -3.0**
SLTI Sal'it 6.30 128 Pn **Pn 06 42 04.8 -0.6**
MMLI Mount Malkishu 6.42 125 Pn **Pn 06 42 06.9 -0.2**
SHMJ Saham 6.48 121 Pn **Pn 06 42 07.8 -2.5**
SHMJ Sn **Sn 06 43 18.7 -2.2**
GAZ Gaziantep 6.50 80 **Pn 06 42 09.6 +1.5**
LIT Litokhoron 6.51 308 Pn **Pn 06 42 10.5 +2.3**
HMDT Nahal Hemdat 6.61 126 Pn **Pn 06 42 09.5 -0.1**
HMYD Mayadein 6.62 168 P **Pn 06 42 10.2 +0.5**
baz=166
AMAZ Amatzia 6.72 133 Pn **Pn 06 42 10.6 -0.5**
KOT Kottamia 6.72 160 P **Pn 06 42 10.0 -1.1**
baz=158
KOT S Sn 06 43 17.4 -9.4
baz=158
HNAT Natroun 6.75 169 AMP 06 43 00.0
baz=168
HHAG Hagoal 6.77 158 P **Pn 06 42 12.1 +0.2**
baz=156
HHAG AMP 06 43 00.0
baz=156
HHAG S **Sn 06 43 21.4 -6.7**
baz=156
KZIT Kziot 6.90 140 Pn **Pn 06 42 13.1 -0.5**
HSAF As Saff 6.94 163 P **Pn 06 42 14.3 +0.1**
baz=161
YTIR Yattir 6.96 133 Pn **Pn 06 42 13.6 -0.9**
DSI Dead Sea 6.97 131 Pn **Pn 06 42 13.9 -0.6**
GLL Jalalah 7.02 162 P **Pn 06 42 15.0 -0.3**
baz=160
GHAJ Ghor Haditha 7.27 131 Pn **Pn 06 42 18.7 +0.1**
KARJ KARJ 7.45 132 Pn Pn 06 42 11.7 -9.4
ASF Jabal al Asfar 7.58 121 P **Pn 06 42 23.3 +0.2**
comp=N,1.0nm,0.3s,baz=256,slow=3.5,SNR=18
ASF S **Sn 06 43 46.4 -1.7**
comp=N,0.1nm,0.3s,baz=22,slow=19,SNR=0.9
ZFRI Zfri 7.60 137 Pn **Pn 06 42 21.8 -1.3**
SWA2 7.70 205 P **Pn 06 42 23.8 -0.7**
baz=206
SWA2 AMP 06 43 00.0
baz=206
NBNS Bani Suef 7.85 166 P **Pn 06 42 26.1 -0.6**
baz=165
NBNS S **Sn 06 43 47.8 -6.8**
baz=165
HRFI Mount Harif 7.93 140 Pn **Pn 06 42 27.2 -0.5**
MBRI Mt Berech 8.06 142 Pn **Pn 06 42 29.1 -0.5**
MBRI Sn **Sn 06 43 56.7 -3.2**
EIL Elat 8.18 142 P **Pn 06 42 30.6 -0.5**
comp=N,1.3nm,0.3s,baz=339,slow=14,SNR=21
EIL S **Sn 06 43 56.5 -6.2**
comp=N,1.3nm,0.3s,baz=288,slow=6.4,SNR=2.2
EIL Elat 8.18 142 Pn **Pn 06 42 30.7 -0.5**
TAMRE El Minia 8.71 170 P **Pn 06 42 37.9 -0.5**
baz=168
CFR Carcaliu 8.91 355 ⇓P Pn 06 42 46.2 +5.0
HFRF Wahat Farafira 9.15 185 P **Pn 06 42 43.7 -0.7**
baz=185
HFRF S Sn 06 44 17.7 -8.7
baz=185
SCTE Santa Cesarea 9.25 297 Pn **Pn 06 42 47.2 +1.4**
MLR Muntele Rosu 9.51 346 P **Pn 06 42 52.2 +2.7**
comp=N,0.2nm,0.3s,baz=284,slow=22,SNR=2.2
MLR Muntele Rosu 9.51 346 ⇑P **Pn 06 42 53.6 +4.0**
VRI Vrincioaia 9.75 350 ⇑P Pn 06 42 58.1 +5.5
TIP Timpagrande 10.26 290 Pn **Pn 06 43 00.2 +0.4**
CEL Celeste 10.78 284 Pn **Pn 06 43 08.1 +1.3**
BURAR Bucovina Array 11.69 347 ⇑P **Pn 06 43 17.1 -2.3**
RAFF Raffo Rosso 11.94 279 Pn **Pn 06 43 22.9 +0.3**
GERES GERESS Array B 16.92 323 P **Pn 06 44 30.5 +1.5**
comp=N,0.2nm,0.3s,baz=137,slow=13,SNR=2.1
SENIN Lac Senin/Sane 19.22 308 P **P 06 44 56.5 +0.2**
SENIN IAmb IAmb 06 45 07.4
comp=Z,13nm,1.5s
FINES FINESS Array B 25.25 356 P **P 06 45 58.0 +0.3**
comp=Z,1.2nm,0.9s,baz=169,slow=8.2,SNR=1.9
FINES FINESS Array B 25.25 356 P **P 06 45 58.0 +0.3**
UOSS Minazif 25.76 108 P **P 06 46 02.3 -0.4**
ABKAR Akbulak array 25.82 50 P **P 06 46 04.5 +1.4**
ARU Arti 28.22 35 P **P 06 46 24.7 +0.2**
ARU IAmb IAmb 06 46 35.4
comp=Z,2.5nm,0.6s
TOA0 Torodi Ar. Sit 33.77 234 P **P 06 47 13.8 0.0**
TOA0 IAmb IAmb 06 47 14.1
comp=Z,2.5nm,0.5s
TORD Torodi Ar. Bea 33.77 234 P **P 06 47 13.7 -0.1**
comp=Z,1.6nm,0.4s,baz=32,slow=9.0,SNR=22
TORD Torodi Ar. Bea 33.77 234 IAmb IAmb 06 47 14.1
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 37.85 52 P **P 06 47 47.7 -0.7**
comp=Z,0.4nm,0.6s,baz=283,slow=9.3,SNR=2.9
KURK Kurchatov 37.91 52 P **P 06 47 47.7 -1.2**
MK31 Makanchi Array 40.40 58 P **P 06 48 10.0 +0.1**
MK31 IAmb IAmb 06 48 25.1
comp=Z,4.5nm,1.4s
MKAR Makanchi Array 40.40 58 P **P 06 48 07.1 -2.8**
comp=Z,0.2nm,0.6s,baz=278,slow=8.2,SNR=1.6
MKAR Makanchi Array 40.40 58 P **P 06 48 09.5 -0.4**

*IDC **04** 06:42:36.2±2.3,6°.62S×127°.89E,h394km±34km, mb3.3/3, mb1 3.4/6, mb1mx3. 1/39, mbtmp4.2/6, Error ellipse: s-maj=41.2km s-min=12.6km az=74.0*
ISC 04 06:42:33.1±1.0,6°.49S±0°.10×128°.2E±0°.1,h353km,n6, σ1=**31/9,mb3.5/3,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.84**	**230**	P		**Pn**	**06 44 02.5**	**+0.2**
	19nm,0.3s,baz=52,slow=2.7,SNR=5.6							
BATI				S		**S**	**06 45 15.1**	**+0.6**
	4.9nm,0.3s,baz=312,slow=18,SNR=3.8							
WRA	**Warramunga Arr**	**14.63**	**157**	P		**P**	**06 45 43.3**	**-0.3**
	1.3nm,0.3s,baz=333,slow=12,SNR=12							
WRA				S		**S**	**06 48 20.6**	**-0.9**
	0.1nm,0.3s,baz=334,slow=20,SNR=4.5							
ASAR	**Alice Springs**	**17.93**	**163**	P		**P**	**06 46 19.7**	**+0.5**
	1.0nm,0.3s,baz=346,slow=10,SNR=29							
ASAR				S		**S**	**06 49 27.1**	**+0.4**
	0.2nm,0.3s,baz=346,slow=22,SNR=27							
STKA	**Stephens Creek**	**28.18**	**155**	P		**P**	**06 47 54.6**	**+0.2**
	1.6nm,0.7s,baz=326,slow=14,SNR=3.0							
MJAR	**Matsushiro Arr**	**43.81**	**12**	P		**P**	**06 50 07.2**	**+1.8**
	3.6nm,0.5s,baz=183,slow=9.7,SNR=11							
MKAR	**Makanchi Array**	**66.85**	**328**	P		**P**	**06 52 45.7**	**-2.3**
	0.2nm,0.4s,baz=128,slow=9.3,SNR=3.3							

IDC 04 06:44:42.3±1.2,4°.40S×150°.82E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.5/32,mbtmp3.6/3,MS3.3/1,Ms1 3.3/1, ms1mx2.6/22,Error ellipse: s-maj=42.0km s-min=18.0km az=160.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.21**	**86**	Pn		Pn	06 45 07.2	+0.7
	513nm,0.3s,baz=224,slow=0.7,SNR=201							
KRVT				Sn		Sn	06 45 24.5	+1.0
	277nm,0.3s,baz=0.0,slow=20,SNR=16							
WRA	**Warramunga Arr**	**22.28**	**225**	P		P	06 49 41.4	+0.1
	0.4nm,0.4s,baz=52,slow=9.7,SNR=3.4							
ASAR	**Alice Springs**	**25.17**	**219**	P		P	06 50 09.7	+0.1
	1.1nm,0.7s,baz=59,slow=8.8,SNR=7.3							
TGY	**Tagaytay City**	**34.88**	**302**	LR		LR	07 04 57.9	
	comp=Z,50nm,21.9s,baz=34,slow=35							
ILAR	**Eielson Array**	**82.54**	**22**	P		P	06 57 06.0	-0.7
	0.4nm,0.6s,baz=251,slow=5.6,SNR=6.5							
TORD	**Torodi Ar. Bea**	**148.31**	**288**	PKPbc		PKPbc	07 04 31.2	-0.5
	0.6nm,0.6s,baz=81,slow=1.3,SNR=4.0							

*IDC **04** 06:46:36.4±1.2,22°.67S×67°.68W,h129km±20km, mb4.1/2, mb1 3.8/6, mb1mx3.4/26, mbtmp4.2/6, Error ellipse: s-maj=41.2km s-min=21.9km az=132.0*
*VAO **04** 06:46:37.3±0.3,22°.66S×67°.71W,h130km±5km, mb4.2*
*NEIC **04** 06:46:37.4±2.0,22°.61S±0°.06×68°.2W±0°.1,h172km±9km, Error ellipse: s-maj=15.0km s-min=8.6km az=86.0*
*GUC **04** 06:46:38.0±0.7,22°.54S×68°.16W,h173km±5km, ML4.0*
ISC 04 06:46:36.0±0.6,22°.57S±0°.04×67°.89W±0°.06,h155km±7km, n89,σ1=62/112,mb4.2/3,7C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.94**	**268**	P		**Pn**	**06 47 01.7**	**+0.6**
	148nm,0.3s,baz=144,slow=2.5,SNR=1407							
LVC				S		**Sn**	**06 47 19.4**	**-0.9**
	81nm,0.3s,baz=223,slow=21,SNR=26							
LVC	**Limon Verde**	**0.94**	**268**	Pn		**Pn**	**06 47 01.7**	**+0.6**
LVC						**Sn**	**06 47 21.4**	**+1.0**
LVC	**Limon Verde**	**0.94**	**268**	*e*P		**Pn**	**06 47 01.8**	**+0.6**
LVC				*e*S		**Sn**	**06 47 19.6**	**-0.8**
PB09	**IPOC Station P**	**1.47**	**302**	⇑*i*P		**Pn**	**06 47 07.0**	**+1.2**
PB09				*i* S		**Sn**	**06 47 28.7**	**0.0**
PB09				IAML			06 47 31.0	
	comp=E,1µm,0.8s							
PB09	**IPOC Station P**	**1.47**	**302**			**Pn**	**06 47 07.0**	**+1.2**
PB09				Sn		**Sn**	**06 47 29.9**	**+1.2**
PB06	**IPOC Station P**	**1.56**	**265**	⇓*i*P		**Pn**	**06 47 07.7**	**+1.0**
PB06				*i* S		**Sn**	**06 47 30.0**	**-0.2**
PB06				IAML			06 47 32.0	
	comp=N,781nm,0.1s							
PB06	**IPOC Station P**	**1.56**	**265**			**Pn**	**06 47 07.4**	**+0.7**
PB06				Sn		**Sn**	**06 47 30.9**	**+0.8**
PB15	**IPOC Station P**	**1.59**	**246**	⇑*i*P		**Pn**	**06 47 08.1**	**+1.0**
PB15				*i* S		**Sn**	**06 47 30.9**	**0.0**
PB15	**IPOC Station P**	**1.59**	**246**			**Pn**	**06 47 08.2**	**+1.1**
PB15				Sn		**Sn**	**06 47 31.1**	**+0.2**
PB03	**IPOC Station P**	**1.80**	**287**	⇑*i*P		**Pn**	**06 47 09.9**	**+0.5**
PB03				*i* S		**Sn**	**06 47 33.7**	**-1.2**
PB03				IAML			06 47 35.5	
	comp=N,733nm,0.3s							
PB07	**IPOC Station P**	**2.03**	**294**	⇑*i*P		**Pn**	**06 47 12.8**	**+0.8**
PB07				*i* S		**Sn**	**06 47 38.5**	**-1.2**
PB07				IAML			06 47 39.0	
	comp=N,2µm,0.2s							
PB07	**IPOC Station P**	**2.03**	**294**			**Pn**	**06 47 12.3**	**+0.3**
PB07				Sn		**Sn**	**06 47 38.7**	**-0.9**
PB04	**IPOC Station P**	**2.10**	**276**	⇑*i*P		**Pn**	**06 47 13.2**	**+0.4**
PB04				*i* S		**Sn**	**06 47 39.5**	**-1.5**
PB04				IAML			06 47 43.2	
	comp=E,524nm,0.1s							
PB04	**IPOC Station P**	**2.10**	**276**			**Pn**	**06 47 13.4**	**+0.6**
PB01	**IPOC Station P**	**2.12**	**315**	⇑*i*P		**Pn**	**06 47 13.6**	**+0.6**
PB01				*i* S		**Sn**	**06 47 41.0**	**-0.5**
PB01				IAML			06 47 42.9	
	comp=E,1µm,0.2s							
PB01	**IPOC Station P**	**2.12**	**315**			**Pn**	**06 47 14.0**	**+1.0**
PB05	**IPOC Station P**	**2.15**	**262**	⇑*i*P		**Pn**	**06 47 13.7**	**+0.4**
PB05				*i* S		**Sn**	**06 47 40.2**	**-1.7**
PB05				IAML			06 47 42.3	
	comp=E,433nm,0.3s							
PB10	**IPOC Station P**	**2.62**	**249**	*e*P		**Pn**	**06 47 19.2**	**+0.3**
PB10				*i* S		**Sn**	**06 47 49.9**	**-2.1**
PB10				IAML			06 47 52.6	
	comp=N,289nm,0.4s							
PB10	**IPOC Station P**	**2.62**	**249**	Pn		**Pn**	**06 47 19.4**	**+0.5**
PB08	**IPOC Station P**	**2.69**	**334**	*e*P		**Pn**	**06 47 21.9**	**+1.8**
PB08				*i* S		**Sn**	**06 47 55.1**	**+0.9**
PB08	**IPOC Station P**	**2.69**	**334**			**Pn**	**06 47 21.9**	**+1.8**
PATCX	**Punta Patache**	**2.73**	**309**	*e*P		**Pn**	**06 47 20.4**	**+0.1**
PATCX				*i* S		**Sn**	**06 47 52.4**	**-2.2**
PATCX	**Punta Patache**	**2.73**	**309**			**Pn**	**06 47 20.6**	**+0.2**
TA01	**Diego Aracena**	**2.92**	**313**	*e*P		**Pn**	**06 47 23.0**	**+0.4**
TA01				*i* S		**Sn**	**06 47 56.7**	**-1.9**
TA01				IAML			06 47 58.6	
	comp=N,714nm,0.2s							
TA01	**Diego Aracena**	**2.92**	**313**	Pn		**Pn**	**06 47 23.0**	**+0.4**
GO02	**Mina Guanaco**	**3.01**	**211**			**Pn**	**06 47 25.2**	**+1.2**
TA02	**Huaiquique**	**3.10**	**317**	*e*P		**Pn**	**06 47 25.1**	**+0.2**
TA02				*i* S		**Sn**	**06 48 01.0**	**-1.6**
GO01	**Chusmiza**	**3.14**	**337**	*e*P		**Pn**	**06 47 27.0**	**+1.2**
GO01				*i* S		**Sn**	**06 48 04.8**	**+0.5**
GO01	**Chusmiza**	**3.14**	**337**			**Pn**	**06 47 27.1**	**+1.3**
PB11	**IPOC Station P**	**3.25**	**329**	*e*P		**Pn**	**06 47 27.0**	**+0.1**
PB11				*i* S		**Sn**	**06 48 05.7**	**-0.6**
PB11	**IPOC Station P**	**3.25**	**329**	Pn		**Pn**	**06 47 27.2**	**+0.3**
PSGC	**Pisagua**	**3.62**	**324**	*i* S		**Sn**	**06 48 12.2**	**-2.5**
PSGCX	**Pisagua**	**3.62**	**324**			**Pn**	**06 47 30.6**	**-1.0**
MNMC	**Minye Minye**	**3.78**	**335**	*e*P		**Pn**	**06 47 34.5**	**+0.6**
MNMC				*i* S		**Sn**	**06 48 18.7**	**0.0**
MNMC	**Minye Minye**	**3.78**	**335**			**Pn**	**06 47 34.3**	**+0.5**
AC01	**Pan de Azucar**	**4.33**	**214**	Pn		**Pn**	**06 47 40.5**	**-0.2**
AC02	**Maricunga**	**4.39**	**195**			**Pn**	**06 47 42.7**	**+0.7**
PB16	**IPOC Station P**	**4.48**	**340**	*e*P		**Pn**	**06 47 44.7**	**+1.4**
PB16				*i* S		**Sn**	**06 48 35.1**	**-0.5**
PB16	**IPOC Station P**	**4.48**	**340**	Pn		**Pn**	**06 47 44.7**	**+1.4**
GO03	**Copiap**	**5.43**	**203**			**Pn**	**06 47 54.0**	**-1.3**
LPAZ	**La Paz**	**6.26**	**358**	P		**Pn**	**06 48 09.1**	**+2.2**
	comp=N,2.1nm,0.3s,baz=133,slow=4.9,SNR=57							
LPAZ	**La Paz**	**6.26**	**358**	Pn		**Pn**	**06 48 09.2**	**+2.4**
LPAZ	**La Paz**	**6.26**	**358**	*e*P		**Pn**	**06 48 09.4**	**+2.6**
AC04	**Llanos de Chal**	**6.30**	**207**	Pn		**Pn**	**06 48 03.8**	**-2.9**
AC05	**El Transito**	**6.59**	**199**	Pn		**Pn**	**06 48 09.5**	**-1.3**
CO01	**Juntas del Tor**	**7.63**	**195**			**Pn**	**06 48 24.1**	**-0.6**
GO04	**Tololo Observa**	**8.00**	**198**			**Pn**	**06 48 27.1**	**-2.5**
CO03	**El Pedregal**	**8.60**	**196**			**Pn**	**06 48 34.9**	**-2.6**
CO02	**Combarbal**	**9.03**	**197**	Pn		**Pn**	**06 48 40.4**	**-2.9**
SIV	**San Ignacio**	**9.18**	**46**	P		**Pn**	**06 48 43.3**	**-2.0**
	comp=N,4.3nm,0.3s,baz=242,slow=8.1,SNR=151							
SIV				S		**Sn**	**06 50 18.5**	**-8.8**
	comp=N,3.7nm,0.3s,baz=149,slow=20,SNR=15							
VA03	**San Esteban**	**10.42**	**192**			**Pn**	**06 48 58.8**	**-2.8**
ROC1	**El Roble**	**10.72**	**194**	Pn		**Pn**	**06 49 07.6**	**+1.9**
PTLB	**Pontes e Lacer**	**10.90**	**51**	*e*P		**Pn**	**06 49 07.9**	**0.0**
MT02	**Curacav**	**11.02**	**194**			**Pn**	**06 49 09.6**	**+0.2**
AQDB	**Aquidauana**	**11.54**	**82**	*e*P		**Pn**	**06 49 15.7**	**-0.6**
VILB	**Vilhena**	**12.05**	**39**	*e*P		**Pn**	**06 49 24.0**	**+1.1**
BO02	**Sierra Bellavi**	**12.43**	**191**	Pn		**Pn**	**06 49 27.8**	**0.0**
GO05	**Huala**	**12.88**	**195**	Pn		**Pn**	**06 49 34.1**	**+0.5**
SAML	**Samuel**	**14.28**	**19**	*e*P		**P**	**06 49 53.5**	**-0.5**
ITAB	**Concordia**	**15.03**	**111**	*e*P		**P**	**06 49 59.7**	**-2.6**
PCMB	**Pacaembu**	**15.45**	**90**	*e*P		**P**	**06 50 06.1**	**-0.9**
CZSB	**Cruzeiro do Su**	**15.47**	**342**	*e*P		**P**	**06 50 10.4**	**+3.2**
CLDB	**Colider**	**16.41**	**47**	*e*P		**P**	**06 50 19.8**	**+2.2**
ITRB	**Iturama**	**16.61**	**83**	*e*P		**P**	**06 50 20.6**	**+0.9**
ARAG	**Araguaiana, MT**	**16.65**	**69**	*e*P		**P**	**06 50 22.1**	**+1.8**
FRTB	**Fartura**	**16.90**	**96**	*e*P		**Pn**	**06 50 24.5**	**+0.9**
BB19B	**Bebedouro**	**18.04**	**89**	*e*P		**Pn**	**06 50 37.6**	**+0.3**
PLCA	**Paso Flores**	**18.24**	**186**	P		**Pn**	**06 50 38.5**	**-0.9**
	comp=N,0.1nm,0.3s,baz=354,slow=12,SNR=3.2							
PLCA	**Paso Flores**	**18.24**	**186**	P		**P**	**06 50 36.6**	**-1.0**
PLCA	**Paso Flores**	**18.24**	**186**	*e*P		**Pn**	**06 50 39.7**	**+0.3**
RCLB	**Rio Claro- Sao**	**18.82**	**93**	*e*P		**Pn**	**06 50 45.6**	**-0.7**
SPB	**Sao Paulo**	**18.85**	**97**	*e*P		**Pn**	**06 50 46.0**	**-0.6**
PET01	**Itanhaem-SP**	**19.00**	**99**	*e*P		**Pn**	**06 50 47.7**	**-1.3**
IPMB	**Ipameri, GO**	**19.02**	**80**	*e*P		**Pn**	**06 50 48.1**	**-0.6**
SNDB	**Serra Nova Dou**	**19.02**	**59**	*e*P		**Pn**	**06 50 47.2**	**-1.4**
VAO	**Valinhos**	**19.30**	**95**	*e*P		**Pn**	**06 50 50.8**	**-1.2**
NPGB	**Novo Progresso**	**19.60**	**40**	*e*P		**Pn**	**06 50 55.0**	**-0.5**
BDFB	**Brasilia**	**20.00**	**73**	P		**Pn**	**06 50 57.7**	**-2.6**
	comp=N,1.2nm,0.3s,baz=242,slow=11,SNR=12							
BDFB	**Brasilia**	**20.00**	**73**	IAmb	IAmb		06 50 59.1	
	comp=Z,5.5nm,0.6s							
MC01	**Montes Claros**	**23.29**	**80**	*e*P		**P**	**06 51 31.1**	**+0.9**
JANB	**Januaria**	**23.52**	**76**	*e*P		**P**	**06 51 32.7**	**+0.3**
SMTB	**Santa Maria do**	**23.79**	**58**	*e*P		**P**	**06 51 37.3**	**+2.6**
BBGH	**Gun Hill**	**36.42**	**14**	P		**P**	**06 53 24.0**	**-1.9**
CSGN	**Cosiguina Volc**	**40.25**	**329**	P		**P**	**06 53 56.2**	**-1.8**
CSGN				IAmb	IAmb		06 53 56.9	
	comp=Z,1.9nm,0.7s							
DBIC	**Dimbokro**	**68.14**	**73**	P		**P**	**06 57 22.2**	**+2.3**
	comp=Z,1.8nm,0.4s,baz=220,slow=7.0,SNR=8.9							
DBIC	**Dimbokro**	**68.14**	**73**	IAmb	IAmb		06 57 28.0	
	comp=Z,9.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**76.83**	**70**	P		**P**	**06 58 13.8**	**+2.5**
	comp=Z,2.0nm,0.4s,baz=252,slow=5.4,SNR=47							
TORD	**Torodi Ar. Bea**	**76.83**	**70**	P		**P**	**06 58 13.6**	**+2.3**
MKAR	**Makanchi Array**	**145.93**	**38**	PKPbc		**PKPab**	**07 05 59.2**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=291,slow=5.1,SNR=3.5							

JMA 04 06:48:54.8±0.3,32°.33N×138°.03E,h366km,M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.70**	**62**	P		Pn	06 49 46.5	+0.9
JOD2	**Odawara 2**	**3.06**	**16**	P		Pn	06 49 56.9	+1.1
BSO3	**Boso 3**	**3.22**	**39**	P		Pn	06 49 57.3	+0.4
BSO3				*e*S		S	06 50 46.1	-1.0
BSO4

PMG	**Port Moresby**	**6.59**	**232**	P		**Pn**	**07 23 53.7**	**+0.9**
	1.9nm,0.3s,baz=81,slow=18,SNR=2.7							
PMG				S		**Sn**	**07 25 04.7**	**-2.0**
	7.1nm,0.3s,baz=142,slow=22,SNR=7.3							
PMG	**Port Moresby**	**6.59**	**232**			**Pn**	**07 23 53.6**	**+0.9**
PMG						**Sn**	**07 25 07.4**	**+0.7**
PATS	**Pohnpei**	**13.48**	**26**	Pn		**Pn**	**07 25 27.0**	**-0.1**
SANVU	**Saraoutou**	**17.61**	**126**			**P**	**07 26 21.1**	**-0.4**
SANVU				IAmb		IAmb	07 26 39.2	
	comp=Z,37nm,0.8s							
DZM	**Mont Dzumac**	**21.42**	**142**	P		**P**	**07 27 04.8**	**+1.7**
DZM				IAmb		IAmb	07 27 18.7	
	comp=Z,17nm,1.0s							
TARA	**Tarawa**	**21.52**	**72**	P		**P**	**07 27 03.8**	**-0.4**
MTN	**Manton Dam**	**22.29**	**249**	P		**P**	**07 27 13.1**	**+0.6**
MTN				IAmb		IAmb	07 27 29.0	
	comp=Z,23nm,1.5s							
ANA2	**Anatahan**	**22.59**	**343**	P		**P**	**07 27 14.7**	**-0.9**
WB0	**Warramunga Arr**	**22.65**	**229**	P		**P**	**07 27 17.0**	**+0.7**
WR0	**Warramunga Arr**	**22.65**	**229**	P		**P**	**07 27 16.9**	**+0.6**
WR0				IAmb		IAmb	07 27 34.5	
	comp=Z,10nm,1.4s							
WRAB	**Tennant Creek**	**22.78**	**229**	P		**P**	**07 27 17.8**	**+0.2**
WRAB				IAmb		IAmb	07 27 28.9	
	comp=Z,6.1nm,0.8s							
WB2	**Warramunga Arr**	**22.79**	**229**	P		**P**	**07 27 17.9**	**+0.3**
WRA	**Warramunga Arr**	**22.79**	**229**	P		**P**	**07 27 18.4**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=52,slow=10,SNR=11							
KNRA	**Kununurra**	**25.40**	**244**	P		**P**	**07 27 42.0**	**-0.2**
KNRA				IAmb		IAmb	07 28 01.5	
	comp=Z,42nm,1.4s							
AS31	**Alice Springs**	**25.48**	**223**	P		**P**	**07 27 43.8**	**+0.8**
ASAR	**Alice Springs**	**25.48**	**223**	P		**P**	**07 27 43.9**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=55,slow=9.1,SNR=9.0							
ASAR	**Alice Springs**	**25.48**	**223**	P		**P**	**07 27 44.0**	**+1.0**
FUNA	**Funafuti**	**26.73**	**98**	P		**P**	**07 27 54.7**	**+0.3**
FUNA				IAmb		IAmb	07 28 04.7	
	comp=Z,39nm,0.8s							
SOEI	**Soe**	**28.26**	**259**	P		**P**	**07 28 08.0**	**-0.2**
SOEI				IAmb		IAmb	07 28 15.9	
	comp=Z,16nm,0.5s							
FITZ	**Fitzroy Crossi**	**29.07**	**242**	P		**P**	**07 28 13.8**	**-1.4**
	comp=Z,1.9nm,0.4s,baz=67,slow=12,SNR=4.3							
JAGI	**Jajag, Banyuwa**	**38.12**	**263**	P		**P**	**07 29 33.6**	**-0.4**
SONM	**Songino Array**	**66.63**	**328**	P		**P**	**07 33 04.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=140,slow=5.9,SNR=2.7							
MKAR	**Makanchi Array**	**80.53**	**319**	P		**P**	**07 34 26.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=109,slow=6.3,SNR=5.4							
ZALV	**Zalesovo Beam**	**81.44**	**326**	P		**P**	**07 34 30.8**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=116,slow=6.6,SNR=2.5							
ILAR	**Eielson Array**	**82.83**	**22**	P		**P**	**07 34 37.1**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=246,slow=5.6,SNR=22							
NVAR	**Mina Array Bea**	**92.72**	**52**	P		**P**	**07 35 27.7**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=292,slow=4.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc		**PKPbc**	**07 42 04.9**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=65,slow=2.4,SNR=4.7							

*KRNET **04** 07:27:26.3±1.0,41°.32N×75°.61E,h17km,mb3.0*
*NNC **04** 07:27:26.3±1.0,41°.31N×75°.63E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=6.9km s-min=3.9km az=7.0
*SOME **04** 07:27:26.2,41°.37N×75°.63E,h10km*
*KNET **04** 07:27:27.8±0.6,41°.43N×75°.57E,h0km,ml2.5,Error*
ellipse: s-maj=4.1km s-min=2.7km az=167.0
ISC 04 07:27:25.8±1.4,41°30N±0'.05×75°.60E±0'.02,h15km±14km, n66,σ1ᵑ53/111,34C-18D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KZA	**Kyzart**	**0.82**	**341**	⇓*i*P		**Pb**	**07 27 41.5**	**-0.5**
KZA	baz=41			⇓*i*S		**Sb**	**07 27 52.8**	**-0.3**
	baz=41							
KZA	**Kyzart**	**0.82**	**341**	⇑P		**Pg**	**07 27 42.0**	**+0.2**
KZA	38nm,0.2s,SNR=13			⇓S		**Sg**	**07 27 52.5**	**-0.1**
	108nm,0.2s							
ULHL	**Ulahol**	**1.06**	**27**	⇑*i*P		**Pb**	**07 27 45.8**	**-0.2**
ULHL	baz=27			⇑*i*S		**Sg**	**07 27 59.9**	**-0.3**
	baz=27							
ULHL	**Ulahol**	**1.06**	**27**	⇑P		**Pb**	**07 27 45.9**	**-0.2**
ULHL	16nm,0.1s,SNR=73			⇑S		**Sg**	**07 28 00.1**	**0.0**
	31nm,0.2s							
BOOM	**Boomskoye usch**	**1.21**	**12**	⇑*i*P		**Pb**	**07 27 48.9**	**+0.3**
BOOM	baz=12			⇑*i*S		**Sg**	**07 28 05.4**	**+0.3**
	baz=12							
UCH	**Uchtor**	**1.23**	**319**	⇑*i*P		**Pb**	**07 27 49.2**	**+0.1**
UCH	baz=18			⇑*i*S		**Sg**	**07 28 06.2**	**+0.5**
	baz=18							
UCH	**Uchtor**	**1.23**	**319**	⇓P		**Pb**	**07 27 49.3**	**+0.2**
UCH	14nm,0.2s,SNR=58			⇑S		**Sg**	**07 28 06.5**	**+0.8**
	52nm,0.2s							
KBK	**Karagaybulak**	**1.44**	**340**	⇑*i*P		**Pg**	**07 27 53.1**	**-0.4**
KBK	baz=40			⇑*i*S		**Sg**	**07 28 12.2**	**0.0**
	baz=40							
KBK	**Karagaybulak**	**1.44**	**340**	⇓P		**Pg**	**07 27 53.7**	**+0.2**
KBK	19nm,0.1s,SNR=10			⇓S		**Sg**	**07 28 13.1**	**+0.9**
	166nm,0.2s							
KDJ	**Kajisay**	**1.44**	**55**	⇓*i*P		**Pb**	**07 27 53.0**	**+0.4**
KDJ	baz=55			⇓*i*S		**Sg**	**07 28 12.4**	**0.0**
	baz=55							
AAK	**Ala-Archa**	**1.57**	**329**	⇑*i*P		**Pb**	**07 27 55.3**	**+0.6**
AAK	baz=28			⇑*i*S		**Sg**	**07 28 15.9**	**-0.5**
	baz=28							
AAK	**Ala-Archa**	**1.57**	**329**	⇑P		**Pg**	**07 27 55.5**	**-0.5**
AAK	12nm,0.2s,SNR=21			⇑S		**Sg**	**07 28 16.5**	**+0.1**
	26nm,0.2s							
AAK	**Ala-Archa**	**1.57**	**329**	P		**Pb**	**07 27 55.4**	**+0.6**
AAK	5.6nm,0.4s			S		**Sg**	**07 28 16.0**	**-0.5**
	21nm,0.4s							
TKM2	**Tokmak 2**	**1.62**	**360**	⇑*i*P		**Pb**	**07 27 56.2**	**+0.7**
TKM2	baz=60			⇑*i*S		**Sg**	**07 28 17.8**	**-0.2**
	baz=60							
TKM2	**Tokmak 2**	**1.62**	**360**	⇓P		**Pg**	**07 27 56.5**	**-0.5**
TKM2	16nm,0.2s,SNR=14			⇑S		**Sg**	**07 28 18.7**	**+0.8**
	66nm,0.1s							
TKM2	**Tokmak 2**	**1.62**	**360**	⇑P		**Pg**	**07 27 56.4**	**-0.5**
TKM2	3.8nm,0.3s			⇑S		**Sg**	**07 28 17.7**	**-0.3**
	25nm,0.5s							
AML	**Almayashu**	**1.65**	**301**	⇓*i*P		**Pb**	**07 27 56.7**	**+0.5**
AML	baz=0.0			⇓*i*S		**Sg**	**07 28 19.1**	**+0.1**
	baz=0.0							
AML	**Almayashu**	**1.65**	**301**	⇓P		**Pb**	**07 27 56.9**	**+0.7**
	25nm,0.2s,SNR=13							
TARG	**Taragay, Kyrgy**	**1.71**	**75**	⇑*i*P		**Pb**	**07 27 57.8**	**+0.6**
TARG	baz=75			⇑*i*S		**Sg**	**07 28 20.6**	**-0.4**
	baz=75							
KST	**Kastek**	**1.76**	**9**	*e*P		**Pg**	**07 27 59.0**	**-0.6**
KST	9.3nm,0.3s			*e*S		**Sg**	**07 28 22.6**	**+0.1**
	38nm,0.3s							
KST	**Kastek**	**1.76**	**9**	P		**Pg**	**07 27 59.1**	**-0.6**
KST	9.3nm,0.3s			S		**Sg**	**07 28 23.1**	**+0.6**
	38nm,0.3s							
CHMS	**Chumysh**	**1.81**	**340**	⇑*i*P		**Pb**	**07 27 59.2**	**+0.5**
CHMS	baz=39			⇑*i*S		**Sg**	**07 28 23.3**	**-0.7**
	baz=39							
CHMS	**Chumysh**	**1.81**	**340**	⇓P		**Pg**	**07 28 00.2**	**-0.4**
CHMS	18nm,0.2s,SNR=14			⇓S		**Sg**	**07 28 23.9**	**-0.1**
	56nm,0.2s							
EKS2	**Erkin-Say**	**1.92**	**316**	⇑*i*P		**Pb**	**07 28 01.5**	**+0.8**
EKS2	baz=15			⇑*i*S		**Sg**	**07 28 27.2**	**-0.5**
	baz=15							
EKS2	**Erkin-Say**	**1.92**	**316**	⇑P		**Pg**	**07 28 02.2**	**-0.5**
	15nm,0.4s,SNR=13							
MTBS	**Maitube**	**1.93**	**18**	*e*P		**Pg**	**07 28 02.1**	**-0.8**
	13nm,0.2s							
MTBS				*e*S		**Sg**	**07 28 27.7**	**-0.2**
	78nm,0.3s							
MTBS	**Maitube**	**1.93**	**18**	P		**Pg**	**07 28 02.1**	**-0.8**
	13nm,0.2s							
MTBS				S		**Sg**	**07 28 27.7**	**-0.2**
	78nm,0.3s							
USP	**Ospenovka**	**2.12**	**338**	⇓*i*P		**Pb**	**07 28 04.3**	**+0.2**
	baz=37							
USP				⇓*i*S		**Sb**	**07 28 32.0**	**+1.7**
	baz=37							
ANVS	**Anan'yevo**	**2.13**	**45**	⇑*i*P		**Pb**	**07 28 04.6**	**+0.2**
	baz=46							
ANVS				⇑*i*S		**Sg**	**07 28 32.4**	**-2.1**
	baz=46							
AAA	**Alma-Ata**	**2.14**	**27**	*e*P		**Pb**	**07 28 04.4**	**0.0**
AAA	19nm,0.1s			*e*S		**Sb**	**07 28 31.5**	**+0.7**
	6.2nm,0.1s							
AAA	**Alma-Ata**	**2.14**	**27**	Pg		**Pb**	**07 28 04.4**	**0.0**
	19nm,0.1s							
AAA				Lg		Lg	07 28 31.5	
	6.2nm,0.1s							
KOTS	**Kotyrbulak**	**2.23**	**30**	*e*P		**Pg**	**07 28 07.6**	**-1.1**
	32nm,0.3s							
KOTS				*e*S		**Sg**	**07 28 37.9**	**+0.2**
	146nm,0.6s							
KOTS	**Kotyrbulak**	**2.23**	**30**	Pg		**Pg**	**07 28 07.6**	**-1.1**
	32nm,0.3s							
KOTS				Lg		Lg	07 28 37.9	
	146nm,0.6s							
SGDS	**Sogindy**	**2.26**	**342**	Pg		**Pg**	**07 28 08.0**	**-1.3**
	31nm,0.4s							
SGDS				Lg		Lg	07 28 37.9	
	65nm,0.2s							
MRKS	**Merke**	**2.28**	**310**	*e*P		**Pb**	**07 28 08.1**	**+1.3**
	30nm,0.4s							
MRKS				*e*S		**Sg**	**07 28 38.4**	**-0.8**
	31nm,0.3s							
MRKS	**Merke**	**2.28**	**310**	Pg		**Pb**	**07 28 08.1**	**+1.3**
	30nm,0.4s							
MRKS				Lg		Lg	07 28 38.4	
	31nm,0.3s							
KTBS	**Karatobe**	**2.54**	**18**	*e*P		**Pg**	**07 28 13.0**	**-1.5**
	22nm,0.3s							
KTBS				*e*S		**Sg**	**07 28 46.6**	**-0.7**
	66nm,0.4s							
KTBS	**Karatobe**	**2.54**	**18**	Pg		**Pg**	**07 28 13.0**	**-1.5**
	22nm,0.3s							
KTBS				Lg		Lg	07 28 46.6	
	66nm,0.4s							
MNAS	**Manas**	**2.60**	**298**	⇑*i*P		**Pb**	**07 28 10.7**	**-1.5**
	baz=98							
MNAS				⇑*i*S		**Sb**	**07 28 43.7**	**-0.3**
	baz=98							
KUU	**Kurty**	**2.65**	**12**	*e*P		**Pg**	**07 28 15.0**	**-1.6**
	5.5nm,0.4s							
KUU				*e*S		**Sg**	**07 28 49.9**	**-1.0**
	130nm,0.5s							
KUU	**Kurty**	**2.65**	**12**	Pg		**Pg**	**07 28 15.0**	**-1.6**
	5.5nm,0.4s							
KUU				Lg		Lg	07 28 49.9	
	130nm,0.5s							
SATY	**Saty**	**2.73**	**49**	*e*P		**Pb**	**07 28 15.8**	**+1.4**
	9.9nm,0.6s							
SATY				*e*S		**Sg**	**07 28 51.3**	**-2.2**
	45nm,0.3s							
SATY	**Saty**	**2.73**	**49**	Pg		**Pb**	**07 28 15.8**	**+1.4**
	9.9nm,0.6s							
SATY				Lg		Lg	07 28 51.3	
	45nm,0.3s							
CHKK	**Chushkaly**	**2.75**	**21**	*e*P		**Pg**	**07 28 16.8**	**-1.8**
	9.0nm,0.3s							
CHKK				*e*S		**Sg**	**07 28 53.1**	**-1.0**
	35nm,0.3s							
CHKK	**Chushkaly**	**2.75**	**21**	Pg		**Pg**	**07 28 16.8**	**-1.8**
	9.0nm,0.3s							
CHKK				Lg		Lg	07 28 53.1	
	35nm,0.3s							
KURS	**Kuram**	**2.90**	**40**	*e*P		**Pb**	**07 28 19.3**	**+2.0**
	6.9nm,0.7s							
KURS				*e*S		**Sg**	**07 28 57.3**	**-1.6**
	20nm,0.6s							
KURS	**Kuram**	**2.90**	**40**	Pg		**Pb**	**07 28 19.3**	**+2.0**
	6.9nm,0.7s							
KURS				Lg		Lg	07 28 57.3	
	20nm,0.6s							
UZB	**Uzynbulak**	**3.14**	**53**	*e*P		**Pb**	**07 28 22.9**	**+1.4**
	4.3nm,0.5s							
UZB				*e*S		**Sg**	**07 29 03.3**	**-3.4**
	29nm,0.5s							
UZB	**Uzynbulak**	**3.14**	**53**	Pg		**Pb**	**07 28 22.9**	**+1.4**
	4.3nm,0.5s							
UZB				Lg		Lg	07 29 03.3	
	29nm,0.5s							
KPKS	**Kokpek**	**3.15**	**46**	*e*P		**Pb**	**07 28 22.9**	**+1.4**
	11nm,0.3s							
KPKS				*e*S		**Sg**	**07 29 03.6**	**-3.3**
	128nm,0.6s							
ARXS	**Arharly**	**3.34**	**29**	*e*P		**Pb**	**07 28 26.9**	**+2.1**
	18nm,0.5s							
ARXS				*e*S		**Sg**	**07 29 10.7**	**-2.4**
	28nm,0.5s							
ARXS	**Arharly**	**3.34**	**29**	Pg		**Pb**	**07 28 26.9**	**+2.1**
	18nm,0.5s							
ARXS				Lg		Lg	07 29 10.7	
	28nm,0.5s							
SHLS	**Shalkode**	**3.41**	**56**	*e*P		**Pg**	**07 28 32.6**	**+1.3**
	7.4nm,0.3s							
SHLS				*e*S		**Sg**	**07 29 19.9**	**+4.4**
	45nm,0.5s							
SHLS	**Shalkode**	**3.41**	**56**	Pg		**Pg**	**07 28 32.6**	**+1.3**
	7.4nm,0.3s							
SHLS				Lg		Lg	07 29 19.9	
	45nm,0.5s							
MNBS	**Baschi**	**3.46**	**36**	*e*P		**Pb**	**07 28 29.3**	**+2.4**
	4.0nm,0.4s							
MNBS				*e*S		**Sg**	**07 29 14.4**	**-2.5**
	27nm,0.5s							
MNBS	**Baschi**	**3.46**	**36**	Pg		**Pb**	**07 28 29.3**	**+2.4**
	4.0nm,0.4s							
MNBS				Lg		Lg	07 29 14.4	
	27nm,0.5s							
PDGK	**Podgornoye**	**3.52**	**54**	Pg		**Pb**	**07 28 28.2**	**+0.2**
	1.6nm,0.5s							
PDGK				Lg		Lg	07 29 12.5	
	9.4nm,0.6s							
PDGK	**Podgornoye**	**3.52**	**54**	⇑Pg		**Pb**	**07 28 26.8**	**-1.2**
	2.7nm,0.5s							
PDGK				⇑Lg		Lg	07 29 15.7	
	16nm,0.7s							
BTLS	**Baital**	**3.91**	**344**	*e*P		**Pb**	**07 28 36.9**	**+2.5**
	2.3nm,0.4s							
BTLS				*e*S		**Sg**	**07 29 27.3**	**-3.9**
	16nm,0.5s							
BTLS	**Baital**	**3.91**	**344**	Pg		**Pb**	**07 28 36.9**	**+2.5**
	2.3nm,0.4s							
BTLS				Lg		Lg	07 29 27.3	
	16nm,0.5s							
KTMS	**Ketmen**	**4.12**	**57**	*e*P		**Pb**	**07 28 40.7**	**+2.5**
	6.6nm,0.2s							
KTMS				*e*S		**Sg**	**07 29 34.4**	**-3.7**
	6.9nm,0.5s							
KTMS	**Ketmen**	**4.12**	**57**	Pg		**Pb**	**07 28 40.7**	**+2.5**
	6.6nm,0.2s							
KTMS				Lg		Lg	07 29 34.4	
	6.9nm,0.5s							
KK31	**Karatay Array**	**4.19**	**297**	⇓Pg		**Pb**	**07 28 41.2**	**+2.0**
	1.5nm,0.6s,baz=118,slow=16,SNR=19							
KK31				⇓Lg		Lg	07 29 36.9	
	1.7nm,0.3s,baz=112,slow=28,SNR=9.9							
IUG	**luzhnay**	**4.25**	**283**	*e*P		**Pg**	**07 28 45.2**	**-2.1**
	4.4nm,0.6s							
IUG				*e*S		**Sg**	**07 29 41.9**	**-0.5**
	17nm,0.6s							
DJR	**Jarkent**	**4.32**	**44**	*e*P		**Pb**	**07 28 44.7**	**+3.1**
	2.4nm,0.4s							
DJR				*e*S		**Sg**	**07 29 40.6**	**-3.9**
	10nm,0.4s							
DJR	**Jarkent**	**4.32**	**44**	Pg		**Pb**	**07 28 44.7**	**+3.1**
	2.4nm,0.4s							
DJR				Lg		Lg	07 29 40.6	
	10nm,0.4s							

*THR **04** 07:31:14.6±0.3,28°.54N×53°.19E,h13km±7km,ML3.4*
*IDC **04** 07:31:14.3±2.7,28°.28N×53°.18E,h0km,mb3.7/4,*
mb1 3.6/5,mb1mx3.4/39,mbtmp3.6/5,ML3.0/1,Error
ellipse: s-maj=63.5km s-min=29.0km az=156.0
*TEH **04** 07:31:17.0,28°.52N×53°.03E,h8km,ML3.3*
ISC 04 07:31:17.4±0.8,28°46N±0'.04×53°09E±0'.04,h10km,n25, σ1ᵑ53/25,mb3.8/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.20**	**208**	*e*Pg		**Pg**	**07 31 21.2**	**-0.4**
GHIR				*e*Sg		**Sg**	**07 31 25.7**	**+1.2**
GHIR				IAML			07 31 28.6	
	comp=E,5μm,0.3s							
GHIR	**Ghir-Karzin**	**0.20**	**208**	*e*Pg		**Pg**	**07 31 21.2**	**-0.4**
JHRM	**Jahrom**	**0.43**	**84**	*e*Pg		**Pg**	**07 31 26.2**	**+0.3**
LMD1	**Lamerd**	**1.12**	**177**	*e*Pg		**Pn**	**07 31 40.7**	**+1.6**
LMD1				*e*			07 32 06.6	
SHI	**Shiraz**	**1.28**	**337**	*e*Pg		**Pn**	**07 31 40.8**	**-0.8**
SHI				*e*			07 32 12.7	
LAR1	**LAR**	**1.38**	**124**	*e*Pg		**Pg**	**07 31 45.0**	**+1.1**
LAR1				*e*			07 32 26.6	
AHBU	**AHRAM**	**1.63**	**285**	*e*Pg		**Pn**	**07 31 46.9**	**+0.7**
KAZ1	**Kazerun**	**1.72**	**313**	*e*Pg		**Pn**	**07 31 48.1**	**+0.6**
KLNJ	**Kolanjah**	**2.86**	**333**	*e*Pn		**Pn**	**07 32 03.4**	**0.0**
BNDS	**Bandar-Abbas**	**2.92**	**110**	*e*Pn		**Pn**	**07 32 02.2**	**-1.9**
IMEH	**Mehriz**	**3.21**	**24**	*e*Pn		**Pn**	**07 32 10.3**	**+2.2**
IRAM	**Ramesheh**	**3.40**	**350**	*e*Pn		**Pn**	**07 32 11.2**	**+0.5**
NGRK	**Negar Kerman**	**3.40**	**69**	*e*Pn		**Pn**	**07 32 13.9**	**+3.0**
NGRK				*e*			07 33 24.0	
ISAD	**Sadrabad**	**3.48**	**8**	*e*Pn		**Pn**	**07 32 13.3**	**+1.4**
KHGB	**Koh Gabri**	**3.52**	**56**	*e*		Sg	07 33 19.9	+9.5
KRBR	**Kerman**	**3.55**	**64**	*e*Pn		**Pn**	**07 32 10.2**	**-2.6**
YZKH	**Yazd**	**4.13**	**18**	*e*Pn		**Pn**	**07 32 18.2**	**-2.4**
IZEF	**Zefreh**	**4.47**	**352**	*e*Pn		**Pn**	**07 32 27.4**	**+1.9**
KRSH	**Karshahi**	**5.55**	**352**	*e*Pn		**Pn**	**07 32 41.4**	**+1.1**
TKDS	**Koohdasht(Taba**	**6.19**	**33**	*e*Pn		**Pn**	**07 32 50.5**	**+1.5**
BRTR	**Keskin Array B**	**19.60**	**310**	P		**P**	**07 35 47.0**	**+1.0**
	comp=E,0.1nm,0.3s,baz=126,slow=9.1,SNR=3.5							
MKAR	**Makanchi Array**	**29.25**	**43**	P		**P**	**07 37 18.1**	**-1.5**
	comp=E,0.2nm,0.5s,baz=237,slow=9.3,SNR=1.9							
ZALV	**Zalesovo Beam**	**34.41**	**33**	P		**P**	**07 38 05.0**	**+0.3**
	comp=E,0.7nm,0.4s,baz=253,slow=8.8,SNR=2.1							
FINES	**FINESS Array B**	**37.56**	**339**	P		**P**	**07 38 31.1**	**-0.5**
	comp=E,0.7nm,0.5s,baz=145,slow=14,SNR=6.4							
TORD	**Torodi Ar. Bea**	**50.04**	**263**	P		**P**	**07 40 11.3**	**-1.2**
	comp=E,0.8nm,0.7s,baz=48,slow=7.3,SNR=6.0							

*DDA **04** 07:36:27.8,38°.66N×30°.88E,h9km±1km,MW3.5*
*ISK **04** 07:36:27.7,38°.63N×30°.87E,h1km,ML3.4/34*
ISC 04 07:36:27.3±1.0,38°66N±0'.02×30°89E±0'.02,h11km±9km, n85,σ1ᵑ29/110,9C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHUT	**Suhut-Afyon**	**0.28**	**248**	PG		**Pg**	**07 36 33.8**	**+0.7**
SHUT				SG		**Sb**	**07 36 38.5**	**-0.8**
AFYO	**Afyonkarahisar**	**0.48**	**286**	*i* P		**Pg**	**07 36 37.2**	**+0.5**
AFYO				*i* S		**Sg**	**07 36 43.3**	**+0.3**
AFYO				IAML			07 36 45.0	
	comp=N,8μm,0.3s							
AFYO				IAML			07 36 45.0	
	comp=E,8μm,0.5s							
BAGO	**Egridir - ISPA**	**0.67**	**187**	*i* P		**Pg**	**07 36 40.6**	**+0.3**
BAGO				*i* S		**Sg**	**07 36 48.0**	**-1.2**
BAGO				IAML			07 36 53.0	
	comp=N,669nm,0.3s							
BAGO				IAML			07 36 53.0	
	comp=E,625nm,0.7s							
AUKIR	**Kirka- Seyitga**	**0.68**	**336**	*i* P		**Pg**	**07 36 40.8**	**+0.4**
AUKIR				*i* S		**Sg**	**07 36 48.5**	**-0.9**
AUKIR				IAML			07 36 50.0	
	comp=N,2μm,0.3s							
AUKIR				IAML			07 36 52.0	
	comp=E,2μm,0.4s							
KZIL	**AFYON_Kizioren**	**0.71**	**236**	*i* P		**Pg**	**07 36 41.2**	**+0.2**
KZIL				IAML			07 36 58.0	
	comp=E,657nm,0.5s							
KZIL				IAML			07 36 59.0	
	comp=N,552nm,0.7s							
DOGA	**KONYA_Doganhis**	**0.82**	**132**	*i* P		**Pg**	**07 36 42.4**	**-0.8**
DOGA				*i* S		**Sg**	**07 36 52.2**	**-1.8**
DOGA				IAML			07 36 57.0	
	comp=E,1μm,0.3s							
DOGA				IAML			07 36 58.0	
	comp=N,1μm,0.6s							
ISP	**Isparta**	**0.88**	**199**	PG		**Pb**	**07 36 44.9**	**+0.2**
ISP				SG		**Sb**	**07 36 57.0**	**+0.5**
AUSIV	**SIVRIHISAR**	**0.93**	**33**	*i* P		**Pg**	**07 36 44.7**	**-0.6**
AUSIV				*i* S		**Sg**	**07 36 55.2**	**-2.3**
AUSIV				IAML			07 37 01.0	
	comp=E,825nm,0.5s							
AUSIV				IAML			07 37 03.0	
	comp=N,688nm,0.3s							
KDHN	**Kadinhani**	**0.97**	**98**	*i* P		**Pg**	**07 36 45.2**	**-0.9**
KDHN				IAML			07 37 00.0	
	comp=N,377nm,0.4s							
KDHN				IAML			07 37 04.0	
	comp=E,379nm,0.3s							
BASM	**Basmaki-Afyon**	**0.99**	**222**	PG		**Pn**	**07 36 47.4**	**+0.2**
BASM				SG		**Sn**	**07 37 01.3**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.16**	**214**	*i* P		**Pg**	**07 36 49.4**	**-0.2**
BRDR				*i* S		**Sg**	**07 37 04.4**	**-0.3**
BRDR				IAML			07 37 11.0	
	comp=N,492nm,0.4s							
BRDR				IAML			07 37 11.0	
	comp=E,599nm,0.6s							
GDZ	**Gediz**	**1.18**	**292**	*i* P		**Pg**	**07 36 49.4**	**-0.6**
GDZ				*i* S		**Sg**	**07 37 04.1**	**-1.2**
GDZ				IAML			07 37 09.0	
	comp=N,164nm,0.6s							
GDZ				IAML			07 37 10.0	
	comp=E,124nm,0.7s							
GEDZ	**Gediz**	**1.22**	**289**	PN		**Pn**	**07 36 51.8**	**+1.5**
BCK	**Bucak**	**1.22**	**191**	PN		**Pn**	**07 36 51.9**	**+1.6**
BC

ANTB	**Antalya**	**1.77**	**186**	PN	**Pb**	**07 37 00.5**	**+0.9**
GULT	**Gulveren**	**1.79**	**351**	PN	**Pg**	**07 37 01.4**	**-0.3**
GULT				SN	**Sg**	**07 37 25.5**	**+0.5**
MDUB	**Mudurnu**	**1.83**	**7**	PN	**Pg**	**07 37 02.0**	**-0.3**
MDUB				SN	**Sg**	**07 37 26.2**	**+0.2**
MANT	**Manisa**	**1.83**	**265**	*i* P	**Pn**	**07 36 59.5**	**+0.6**
MANT				*i* S	**Sb**	**07 37 24.6**	**+0.6**
MANT				IAML		07 37 31.0	
	comp=N,102nm,0.5s						
MANT				IAML		07 37 39.0	
	comp=E,85nm,0.5s						
KEPZ	**Antalya-Kepez**	**1.84**	**162**	*i* P	**Pn**	**07 37 00.1**	**+1.3**
KEPZ				IAML		07 37 34.0	
	comp=N,140nm,0.8s						
KEPZ				IAML		07 37 35.0	
	comp=E,129nm,0.9s						
AFSR	**Afar-Bala (An**	**1.87**	**64**	PN	**Pg**	**07 37 02.9**	**-0.3**
GEYV	**SAKARYA_Geyve**	**1.88**	**346**	*i* P	**Pn**	**07 37 00.1**	**+0.8**
GEYV				IAML		07 37 34.0	
	comp=N,552nm,0.5s						
GEYV				IAML		07 37 36.0	
	comp=E,424nm,0.5s						
LOD	**Lodumlu**	**1.91**	**49**	PN	**Pb**	**07 37 03.4**	**+1.3**
ANTO	**Ankara**	**1.91**	**50**	⇑P	**Sn**	**07 37 18.9**	**-5.0**
KIBS	**BOLU**	**1.91**	**23**	*i* P	**Pn**	**07 37 00.8**	**+0.9**
KIBS				IAML		07 37 35.0	
	comp=E,347nm,0.5s						
KIBS				IAML		07 37 36.0	
	comp=N,244nm,0.8s						
BBAL	**Bala**	**1.95**	**62**	*i* P	**Pb**	**07 37 03.2**	**+0.3**
BBAL				IAML		07 37 36.0	
	comp=E,118nm,0.6s						
BBAL				IAML		07 37 40.0	
	comp=N,90nm,0.9s						
TAVA	**DENIZLI_Tavas**	**1.96**	**233**	*i* P	**Pn**	**07 37 01.6**	**+1.1**
TAVA				IAML		07 37 44.0	
	comp=E,33nm,0.8s						
TAVA				IAML		07 37 47.0	
	comp=N,42nm,1.0s						
ADVT	**Abdulvahap**	**1.98**	**334**	PN	**Pb**	**07 37 03.8**	**+0.4**
ADVT				SN	**Sg**	**07 37 30.3**	**-0.7**
ULDT	**Uludag**	**2.01**	**318**	*i* P	**Pn**	**07 37 02.1**	**+0.9**
ULDT				*i* S	**Sn**	**07 37 27.0**	**+0.5**
ULDT				IAML		07 37 35.0	
	comp=N,206nm,0.6s						
ULDT				IAML		07 37 37.0	
	comp=E,235nm,0.5s						
ELL	**Elmali**	**2.06**	**202**	PN	**Pb**	**07 37 03.9**	**-0.8**
IGD	**Bursa**	**2.07**	**321**	*i* P	**Pn**	**07 37 01.6**	**-0.3**
IGD				IAML		07 37 37.0	
	comp=N,138nm,0.5s						
IGD				IAML		07 37 37.0	
	comp=E,103nm,0.6s						
SPNC	**Sapanca-Adapaz**	**2.07**	**348**	PN	**Pb**	**07 37 04.9**	**0.0**
SERE	**Serefiikochisa**	**2.11**	**81**	PN	**Pb**	**07 37 05.6**	**0.0**
SULT	**Sultanhani-AKS**	**2.11**	**102**	PN	**Pb**	**07 37 05.8**	**+0.1**
SAUV	**Serdivan-Sakar**	**2.12**	**348**	PN	**Pb**	**07 37 05.8**	**0.0**
SAUV				SN	**Sb**	**07 37 34.3**	**+2.2**
SAHE	**Sakarya_HENDEK**	**2.19**	**359**	*i* P	**Pn**	**07 37 05.1**	**+1.5**
CMDR	**Camlidere-ANKA**	**2.21**	**33**	*i* P	**Pb**	**07 37 06.6**	**-0.7**
CMDR				IAML		07 37 43.0	
	comp=N,353nm,0.4s						
CMDR				IAML		07 37 44.0	
	comp=E,387nm,0.5s						
GEMT	**Gemlik**	**2.21**	**324**	PN	**Pb**	**07 37 07.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**2.31**	**318**	PN	**Pb**	**07 37 08.8**	**-0.1**
BCAM	**Yenicaga**	**2.34**	**22**	*i* P	**Pn**	**07 37 06.7**	**+1.0**
BCAM				IAML		07 37 47.0	
	comp=N,125nm,1.1s						
BCAM				IAML		07 37 56.0	
	comp=E,111nm,0.5s						
YIGI	**Dzce**	**2.34**	**10**	*i* P	**Pn**	**07 37 06.9**	**+1.2**
YIGI				IAML		07 37 47.0	
	comp=N,88nm,0.6s						
YIGI				IAML		07 37 54.0	
	comp=E,72nm,0.6s						
HRT	**Hereke**	**2.36**	**337**	PN	**Pb**	**07 37 09.2**	**-0.6**
TRML	**Termal-Yalova**	**2.36**	**326**	PN	**Pb**	**07 37 08.6**	**-1.1**
AKUM	**Antalya-Kumluc**	**2.37**	**191**	*i* P	**Pb**	**07 37 08.7**	**-1.2**
AKUM				IAML		07 37 52.0	
	comp=N,58nm,1.8s						
AKUM				IAML		07 38 07.0	
	comp=E,46nm,0.8s						
BRTR	**Keskin Array B**	**2.39**	**63**	PN	**Pb**	**07 37 09.2**	**-1.2**
KRMN	**Karaman**	**2.39**	**128**	PN	**Pb**	**07 37 09.1**	**-1.3**
AKHS	**Akhisar**	**2.41**	**276**	*i* P	**Pn**	**07 37 05.9**	**-0.8**
AKHS				IAML		07 38 03.0	
	comp=E,21nm,0.8s						
YESY	**Yesilyurt**	**2.41**	**110**	PN	**Pb**	**07 37 10.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.46**	**254**	PN	**Pb**	**07 37 11.0**	**-0.6**
ARMT	**Armutlu**	**2.46**	**321**	PN	**Pb**	**07 37 10.6**	**-1.0**
FETY	**Fethiye**	**2.48**	**216**	PN	**Pb**	**07 37 10.5**	**-1.3**
FETY	**Fethiye**	**2.48**	**216**	*i* P	**Pn**	**07 37 08.9**	**+1.4**
FETY				IAML		07 37 58.0	
	comp=E,21nm,1.1s						
FETY				IAML		07 38 04.0	
	comp=N,23nm,1.0s						
KAND	**Kocaeli-Kandir**	**2.49**	**348**	*i* P	**Pn**	**07 37 09.0**	**+1.2**
KAND				IAML		07 37 51.0	
	comp=E,109nm,0.6s						
KAND				IAML		07 37 53.0	
	comp=N,86nm,0.8s						
BALB	**Balikesir**	**2.54**	**294**	PN	**Pb**	**07 37 11.5**	**-1.3**
DALY	**Dalyan (Mula)**	**2.55**	**225**	PN	**Pb**	**07 37 10.8**	**+2.2**
DALY	**Dalyan (Mula)**	**2.55**	**225**	*i* P	**Pn**	**07 37 09.9**	**+1.4**
DALY				IAML		07 38 03.0	
	comp=N,49nm,2.1s						
DALY				IAML		07 38 04.0	
	comp=E,20nm,0.7s						
STEP	**BALIKESIR_Sava**	**2.57**	**287**	*i* P	**Pn**	**07 37 10.0**	**+1.1**
STEP				IAML		07 37 56.0	
	comp=N,133nm,0.6s						
STEP				IAML		07 38 02.0	
	comp=E,109nm,1.0s						
BUY	**Buyukada**	**2.58**	**329**	*i* P	**Pn**	**07 37 09.7**	**+0.8**
BUY				IAML		07 38 02.0	
	comp=E,100nm,0.6s						
BUY				IAML		07 38 05.0	
	comp=N,97nm,0.8s						
KDZE	**Karadeniz Ereo**	**2.69**	**9**	⇑P	**Pg**	**07 37 22.4**	**+3.7**
BALY	**Balya**	**2.76**	**294**	*i* P	**Pn**	**07 37 12.7**	**+1.3**
BALY				IAML		07 38 02.0	
	comp=N,105nm,0.6s						
BALY				IAML		07 38 05.0	
	comp=E,65nm,1.1s						
ZEDA	**zmir-Bergama**	**2.99**	**277**	*i* P	**Pn**	**07 37 16.0**	**+1.3**
ZEDA				IAML		07 38 10.0	
	comp=N,32nm,0.7s						
ZEDA				IAML		07 38 10.0	
	comp=E,38nm,1.0s						
LEF	**Lefka**	**3.88**	**155**	⇑P	**Pn**	**07 37 29.7**	**+2.8**
BZK	**Bozkurt**	**4.07**	**35**	⇑P	**Pg**	**07 37 45.5**	**+0.3**
CFR	**Carcaliu**	**6.83**	**343**	⇑P	**Pn**	**07 38 07.6**	**+0.3**
MLR	**Muntele Rosu**	**7.75**	**333**	⇓P	**Pn**	**07 38 17.8**	**-2.3**
VRI	**Vrincioaia**	**7.83**	**338**	⇑P	**Pn**	**07 38 21.1**	**0.0**
PLOR	**Plostina**	**7.84**	**338**	⇑P	**Pn**	**07 38 21.4**	**+0.1**
VOIR		**8.04**	**329**	⇑P	**Pn**	**07 38 20.7**	**-3.3**
LOT	**Lotru**	**8.60**	**324**	⇑P	Pn	07 38 27.2	-4.5
MDVR	**Moldovita**	**9.19**	**315**	⇓P	Pn	07 38 30.5	-9.2

IDC 04 07:39:38.2±3.5,**5˚44S**×**152˚45E, h0**km,**mb3.2**/2, **mb1 3.5**/2,**mb1mx3.3**/27,**mbtmp3.2**/2,**Error ellipse: s-maj=86.9km s-min=20.5km az=92.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.20**	**340**	Pn	Pn	07 40 02.5	+0.1
	57nm,0.3s,baz=133,slow=1.2,SNR=30						
KRVT				Sn	Sn	07 40 19.4	0.0
	30nm,0.3s,baz=186,slow=24,SNR=7.5						
WRA	**Warramunga Arr**	**22.76**	**229**	P	P	07 44 42.1	-0.3
	0.4nm,0.7s,baz=55,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**25.44**	**223**	P	P	07 45 07.3	-0.7
	0.4nm,0.8s,baz=57,slow=9.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**150.16**	**287**	PKPbc	PKiKP	07 59 32.8	-0.3
	0.5nm,0.6s,baz=64,slow=3.4,SNR=3.3						

*IDC **04** 07:46:43.3±1.5,34˚25N×25˚13E,h0km,mb3.8/3, mb1 3.6/8,mb1mx3.4/50,mbtmp3.5/8,ML3.6/4,Error ellipse: s-maj=25.4km s-min=19.4km az=63.0*
*ATH **04** 07:46:44.8,34˚22N×25˚14E,h27km±2km,ML2.8/6,Error ellipse: s-maj=7.0km s-min=2.3km az=354.0*
*THE **04** 07:46:45.0,34˚20N×25˚08E,h2km±1km,ML2.7/8,Error ellipse: s-maj=2.5km s-min=1.2km az=181.0*

ISC 04 07:46:43.5±1.7,**34˚16N**±0˚06×**25˚15E**±0˚04,**h4**km±11km, **n25**,σ0°**74**/38,**mb3.9**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.90**	**342**	P	**Pg**	**07 47 01.0**	**+0.2**
SIVA				S	**Sb**	**07 47 14.9**	**+0.7**
	2μm,0.7s						
SIVA	**Sivas**	**0.90**	**342**	P	**Pg**	**07 47 00.8**	**-0.1**
SIVA				S	**Sb**	**07 47 13.2**	**-1.0**
SIVA				AML	AML	07 47 20.2	
	comp=N,3549μm,0.7s						
SIVA				AML	AML	07 47 21.4	
	comp=E,4365μm,0.6s						
TMBK	**Timbaki Herakl**	**0.97**	**341**	P	**Pg**	**07 47 02.3**	**+0.2**
TMBK				S	**Sb**	**07 47 16.3**	**+0.3**
	comp=E,555nm,0.4s						
LAST	**Lasithi**	**1.04**	**15**	P	**Pg**	**07 47 04.0**	**+0.6**
LAST				S	**Sn**	**07 47 19.6**	**-0.4**
	comp=E,312nm,0.9s						
LAST	**Lasithi**	**1.04**	**15**	P	**Pb**	**07 47 04.3**	**+0.1**
LAST				AML	AML	07 47 24.8	
	comp=E,673μm,0.8s						
LAST				AML	AML	07 47 25.6	
	comp=N,555μm,0.7s						
GVD	**Gavdhos**	**1.11**	**308**	P	**Pg**	**07 47 04.8**	**0.0**
GVD				S	**Sg**	**07 47 19.3**	**+0.1**
	comp=N,835nm,0.4s						
GVD	**Gavdhos**	**1.11**	**308**	P	**Pg**	**07 47 05.3**	**+0.5**
GVD				S	**Sb**	**07 47 20.7**	**+0.5**
GVD				AML	AML	07 47 23.1	
	comp=E,2171μm,0.4s						
GVD				AML	AML	07 47 33.7	
	comp=N,1938μm,0.5s						
GVDS	**Gavdos**	**1.11**	**308**	P	**Pg**	**07 47 04.8**	**0.0**
GVDS				S	**Sn**	**07 47 21.1**	**-0.6**
	comp=N,485nm,0.4s						
KSTL	**Kastelli Herak**	**1.15**	**357**	P	**Pg**	**07 47 04.7**	**-0.8**
KSTL				S	**Sg**	**07 47 19.9**	**-0.4**
IDI	**Anoyia**	**1.15**	**349**	Pn	**Pg**	**07 47 05.3**	**-0.3**
	comp=N,11nm,0.3s,baz=186,slow=15,SNR=38						
IDI				Sn	**Sg**	**07 47 20.2**	**-0.3**
	comp=N,29nm,0.3s,baz=202,slow=22,SNR=6.7						
IDI	**Anoyia**	**1.15**	**349**	P	**Pg**	**07 47 05.2**	**-0.3**
IDI				S	**Sb**	**07 47 21.1**	**-0.2**
	comp=N,245nm,0.5s						
IDI	**Anoyia**	**1.15**	**349**	P	**Pg**	**07 47 05.0**	**-0.5**
IDI				AML	AML	07 47 24.1	
	comp=E,458μm,0.3s						
IDI				AML	AML	07 47 25.6	
	comp=N,568μm,0.5s						
ZKR	**Zakros**	**1.30**	**42**	P	**Pn**	**07 47 09.8**	**+1.3**
ZKR				S	**Sn**	**07 47 26.9**	**+0.6**
	comp=N,225nm,0.7s						
ZKR	**Zakros**	**1.30**	**42**	P	**Pg**	**07 47 08.6**	**+0.2**
ZKR				AML	AML	07 47 42.8	
	comp=E,495μm,0.8s						
ZKR				AML	AML	07 47 43.5	
	comp=N,338μm,0.5s						
VAM	**Vamos**	**1.47**	**328**	P	**Pn**	**07 47 10.8**	**-0.1**
VAM				S	**Sg**	**07 47 30.1**	**-0.7**
	comp=N,310nm,0.8s						
VAM	**Vamos**	**1.47**	**328**	P	**Pn**	**07 47 10.6**	**-0.3**
VAM				AML	AML	07 47 40.5	
	comp=E,538μm,0.4s						
VAM				AML	AML	07 47 43.1	
	comp=N,670μm,0.5s						
IMMV	**Iera Moni Meta**	**1.62**	**324**	P	**Pn**	**07 47 13.3**	**+0.4**
MMAI	**Mount Meron Ar**	**8.63**	**95**	Pn	**Pn**	**07 48 49.5**	**+0.3**
	comp=N,0.3nm,0.3s,baz=282,slow=13,SNR=2.8						
MMAI				Sn	**Sn**	**07 50 24.9**	**-2.2**
	comp=N,0.5nm,0.3s,baz=285,slow=22,SNR=1.5						
BRTR	**Keskin Array B**	**8.77**	**48**	Pn	**Pn**	**07 48 53.1**	**+1.8**
	comp=N,0.0nm,0.3s,baz=241,slow=15,SNR=2.8						
EIL	**Elat**	**9.45**	**116**	Pn	**Pn**	**07 48 59.8**	**-0.7**
	comp=N,0.4nm,0.3s,baz=256,slow=6.9,SNR=5.7						
AKASG	**Malin Array Be**	**16.80**	**9**	Pn	**Pn**	**07 50 38.8**	**-0.8**
	comp=N,0.4nm,0.3s,baz=202,slow=11,SNR=2.6						
GERES	**GERESS Array B**	**16.97**	**333**	Pn	**Pn**	**07 50 42.6**	**+0.8**
	comp=N,0.1nm,0.3s,baz=143,slow=13,SNR=7.6						
TORD	**Torodi Ar. Bea**	**29.85**	**231**	P	**P**	**07 52 52.8**	**+0.7**
	comp=N,0.4nm,0.5s,baz=38,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**07 54 55.5**	**+0.8**
	comp=N,0.9nm,0.6s,baz=278,slow=6.9,SNR=8.1						
ZALV	**Zalesovo Beam**	**45.71**	**45**	P	**P**	**07 55 05.1**	**-0.4**
	comp=N,0.6nm,0.4s,baz=253,slow=8.4,SNR=1.9						

*IDC **04** 09:02:43.2±1.5,5˚63S×152˚64E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.6/26,mbtmp3.7/4,ML1.9/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/29,Error ellipse: s-maj=33.5km s-min=14.7km az=86.0*

ISC 04 09:02:45.2±1.6,**5˚6S**±0˚1×**152˚4E**±0˚2,**h10**km,**n7**,σ1°**55**/7, **mb3.6**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.32**	**342**	Pg	**Pg**	**09 03 10.8**	**+0.2**
	162nm,0.3s,baz=150,slow=1.7,SNR=158						
KRVT				Lg	Lg	09 03 29.3	
	119nm,0.3s,baz=25,slow=22,SNR=13						
PMG	**Port Moresby**	**6.47**	**234**	Pn	**Pn**	**09 04 22.3**	**+1.7**
	1.6nm,0.3s,baz=54,slow=8.7,SNR=2.5						
PMG				Sn	**Sn**	**09 05 32.4**	**-2.1**
	2.8nm,0.3s,baz=127,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**22.66**	**229**	P	**P**	**09 07 47.2**	**+0.3**
	0.5nm,0.5s,baz=51,slow=9.9,SNR=10.0						
ASAR	**Alice Springs**	**25.34**	**223**	P	**P**	**09 08 13.1**	**+0.6**
	0.9nm,0.6s,baz=58,slow=8.9,SNR=16						
ASAJ	**Asahikawa**	**50.25**	**351**	LR	LR	09 31 42.4	
	comp=Z,24nm,19.0s,baz=164,slow=34						
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**09 15 09.9**	**-0.5**
	0.5nm,0.7s,baz=240,slow=5.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**150.19**	**287**	PKPbc	**PKPbc**	**09 22 36.4**	**-1.2**
	0.7nm,0.9s,baz=87,slow=1.7,SNR=3.6						

*IDC **04** 09:15:42.7±1.9,1˚37N×126˚23E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/44,mbtmp3.6/4,MS3.5/2,Ms1 3.4/2, ms1mx2.8/32,Error ellipse: s-maj=213.2km s-min=21.5km az=66.0*
*NEIC **04** 09:15:43.8±1.1,1˚3N±0˚1×126˚2E±0˚1,h10km±2km, mb4.2/7,Error ellipse: s-maj=33.6km s-min=5.9km az=222.0*

ISC 04 09:15:47.5±1.1,**1˚3N**±0˚2×**126˚2E**±0˚2,**h35**km,**n15**, σ0°**69**/14,**mb4.0**/8,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**114**		**Pn**	**09 16 07.5**	**-0.7**
TNTI					**Sn**	**09 16 24.2**	**+0.6**
WB0	**Warramunga Arr**	**22.39**	**159**	P	**P**	**09 20 43.9**	**+0.8**
WRA	**Warramunga Arr**	**22.53**	**160**	P	**P**	**09 20 44.8**	**+0.2**
	0.5nm,0.3s,baz=338,slow=11,SNR=24						
WRA	**Warramunga Arr**	**22.53**	**160**	P	**P**	**09 20 44.1**	**-0.4**
WB2	**Warramunga Arr**	**22.53**	**160**	P	**P**	**09 20 44.9**	**+0.3**
WB2				IAmb	IAmb	09 20 46.4	
	comp=Z,8.2nm,1.3s						
COEN	**Coen**	**22.59**	**133**	P	**P**	**09 20 44.8**	**-0.5**
COEN				IAmb	IAmb	09 21 00.4	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**22.62**	**159**	P	**P**	**09 20 45.8**	**+0.3**
WR0				IAmb	IAmb	09 20 45.9	
	comp=Z,10.0nm,1.5s						
ASAR	**Alice Springs**	**25.89**	**164**	P	**P**	**09 21 17.7**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=345,slow=9.6,SNR=12						
JNU	**Nakatsue**	**31.98**	**7**	LR	LR	09 38 22.4	
	comp=Z,88nm,18.4s,baz=210,slow=43						
JHS	**Saijyo**	**34.16**	**10**	P	**P**	**09 22 30.1**	**+0.6**
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**09 25 45.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=122,slow=6.8,SNR=1.9						
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**09 25 45.0**	**-0.9**
KURBB	**Kurchatov Arra**	**63.55**	**328**	P	**P**	**09 26 14.5**	**0.0**
	comp=Z,0.4nm,0.2s,baz=127,slow=6.2,SNR=6.6						
KURK	**Kurchatov**	**63.55**	**328**	P	**P**	**09 26 14.2**	**-0.3**
KURK				IAmb	IAmb	09 26 19.5	
	comp=Z,2.9nm,1.2s						
KBZ	**Khabaz**	**84.31**	**314**	LR	LR	10 09 18.4	
	comp=Z,23nm,19.6s,baz=254,slow=38						

*THE **04** 09:24:37.7,34˚17N×25˚17E,h0km±2km,ML3.0/6,Error ellipse: s-maj=4.3km s-min=1.0km az=160.0*
*IDC **04** 09:24:38.6±1.5,34˚20N×25˚11E,h0km,mb3.7/2, mb1 3.7/6,mb1mx3.4/48,mbtmp3.6/6,ML3.9/4,Error ellipse: s-maj=22.5km s-min=13.2km az=71.0*
*ATH **04** 09:24:39.5,34˚20N×25˚09E,h16km±3km,ML2.9/8,Error ellipse: s-maj=5.1km s-min=1.2km az=356.0*
*DDA **04** 09:24:53.3,34˚76N×25˚89E,h21km±5km,ML2.6*

ISC 04 09:24:41.0±0.9,**34˚25N**±0˚07×**25˚15E**±0˚03,**h22**km±5km, **n38**,σ2°**35**/56,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.82**	**340**	P	**Pb**	**09 24 54.8**	**-1.7**
SIVA				S	**Sn**	**09 25 08.7**	**0.0**
	2μm,0.6s						
SIVA	**Sivas**	**0.82**	**340**	P	**Pb**	**09 24 55.6**	**-0.9**
SIVA				S	**Sn**	**09 25 07.8**	**-0.9**
SIVA				AML	AML	09 25 15.7	
	comp=N,4000μm,0.7s						
SIVA				AML	AML	09 25 21.8	
	comp=E,5482μm,0.8s						
LAST	**Lasithi**	**0.95**	**17**	P	**Pb**	**09 24 56.9**	**-1.9**
LAST	**Lasithi**	**0.95**	**17**	P	**Pn**	**09 24 59.0**	**-0.2**
LAST				AML	AML	09 25 19.3	
	comp=N,809μm,0.6s						
LAST				AML	AML	09 25 19.5	
	comp=E,864μm,0.9s						
GVD	**Gavdhos**	**1.06**	**304**	P	**Pn**	**09 24 58.8**	**-1.7**
GVD				S	**Sn**	**09 25 15.0**	**+0.4**
	comp=E,2μm,0.4s						
GVD	**Gavdhos**	**1.06**	**304**	P	**Pn**	**09 24 59.6**	**-0.9**
GVD				S	**Sb**	**09 25 13.9**	**0.0**
GVD				AML	AML	09 25 17.9	
	comp=E,4072μm,0.4s						
GVD				AML	AML	09 25 18.1	
	comp=N,3261μm,0.4s						
GVDS	**Gavdos**	**1.06**	**305**	P	**Pn**	**09 24 59.6**	**-0.9**
GVDS				S	**Sn**	**09 25 15.3**	**+0.7**
	comp=N,822nm,0.3s						
KSTL	**Kastelli Herak**	**1.06**	**357**	P	**Pn**	**09 24 58.2**	**-2.3**
IDI	**Anoyia**	**1.06**	**349**	Pg	**Pn**	**09 25 00.2**	**-0.4**
	comp=N,11nm,0.3s,baz=176,slow=18,SNR=23						
IDI				Lg	Lg	09 25 14.3	
	comp=N,26nm,0.3s,baz=286,slow=20,SNR=7.4						
IDI	**Anoyia**	**1.06**	**349**	P	**Pn**	**09 24 58.3**	**-2.3**
IDI				S	**Sn**	**09 25 16.6**	**+1.8**
	comp=N,358nm,0.4s						
IDI	**Anoyia**	**1.06**	**349**	P	**Pn**	**09 25 00.2**	**-0.4**
IDI				AML	AML	09 25 22.2	
	comp=E,696μm,0.3s						
IDI				AML	AML	09 25 26.2	
	comp=N,716μm,0.4s						
NPS	**Neapolis**	**1.08**	**21**	P	**Pn**	**09 24 59.5**	**-1.4**
NPS				S	**Sn**	**09 25 16.3**	**+1.0**
	comp=N,328nm,0.5s						
NPS	**Neapolis**	**1.08**	**21**	P	**Pb**	**09 25 00.8**	**-0.2**
NPS				AML	AML	09 25 28.0	
	comp=E,810μm,0.5s						
NPS				AML	AML	09 25 35.5	
	comp=N,529μm,0.4s						
ZKR	**Zakros**	**1.24**	**45**	P	**Pn**	**09 25 01.6**	**-1.4**
ZKR	**Zakros**	**1.24**	**45**	P	**Pb**	**09 25 04.1**	**+0.4**
ZKR				S	**Sb**	**09 25 22.1**	**+3.0**
ZKR				AML	AML	09 25 33.9	
	comp=N,334μm,0.6s						
ZKR				AML	AML	09 25 39.7	
	comp=E,889μm,0.7s						
PRNS	**Prines Rethymn**	**1.24**	**335**	P	**Pn**	**09 25 01.7**	**-1.3**
VAM	**Vamos**	**1.40**	**326**	P	**Pn**	**09 25 04.4**	**-0.8**
VAM				S	**Sb**	**09 25 24.7**	**+1.0**
	comp=E,378nm,0.6s						
VAM	**Vamos**	**1.40**	**326**	P	**Pb**	**09 25 05.8**	**-0.6**
VAM				AML	AML	09 25 35.3	
	comp=E,780μm,0.4s						
VAM				AML	AML	09 25 37.4	
	comp=N,683μm,0.6s						
IMMV	**Iera Moni Meta**	**1.55**	**322**	P	**Pn**	**09 25 06.4**	**-0.8**
IMMV	**Iera Moni Meta**	**1.55**	**322**	P	**Pb**	**09 25 08.6**	**-0.3**
IMMV				AML	AML	09 25 43.4	
	comp=N,870μm,0.9s						
IMMV				AML	AML	09 25 54.1	
	comp=E,607μm,0.7s						
KARP	**Karpathos**	**2.10**	**51**	P	**Pb**	**09 25 17.2**	**-1.3**
ANKY	**Antikythira Is**	**2.22**	**317**	P	**Pn**	**09 25 18.2**	**+1.8**
DAT	**Datca**	**3.17**	**38**	*i* P	**Pn**	**09 25 31.6**	**+1.9**
DAT				*i* S	**Sn**	**09 26 07.8**	**+0.8**
TURN	**Turunc**	**3.57**	**44**	*i* P	**Pn**	**09 25 36.9**	**+1.9**
TURN				IAML		09 26 23.0	
	comp=E,15nm,0.7s						
DALY	**Dalyan (Mula)**	**3.84**	**47**	*i* P	**Pn**	**09 25 37.8**	**-0.9**
DALY				*i* S	**Sn**	**09 26 21.0**	**-2.2**
DALY				IAML		09 26 40.0	
	comp=N,22nm,0.8s						
AYDN	**Tasoluk**	**4.06**	**32**	*i* P	**Pn**	**09 25 44.7**	**+2.8**
AYDN				*i* S	**Sn**	**09 26 20.9**	**-8.0**
AYDN				IAML		09 26 33.0	
	comp=E,11nm,1.6s						
AYDN				IAML		09 26 49.0	
	comp=N,14nm,1.6s						
AKAS	**Kas**	**4.15**	**60**	*i* P	**Pn**	**09 25 45.1**	**+1.9**
AKAS				*i* S	**Sn**	**09 26 23.6**	**-7.5**
TAVA	**DENIZLI_Tavas**	**4.43**	**43**	*i* P	**Pn**	**09 25 48.6**	**+1.6**
GOLH	**Golhisar**	**4.67**	**49**	*i* P	**Pn**	**09 25 52.6**	**+2.3**
GOLH				*i* S	**Sn**	**09 26 43.8**	**0.0**
GOLH				IAML		09 26 49.0	
	comp=N,12nm,0.5s						
AKUM	**Antalya-Kumluc**	**4.73**	**63**	*i* P	**Pn**	**09 25 53.0**	**+2.0**
AKUM				*i* S	**Sn**	**09 26 41.0**	**-4.1**
AKUM				IAML		09 26 53.0	
	comp=E,15nm,1.2s						

137nm,0.3s,baz=198,slow=11,SNR=130
SIJI S **Sn** **09 29 39.8 -5.3**
61nm,0.3s,baz=287,slow=23,SNR=13
RKPI Ransiki, Papua 5.85 33 P **Pn** **09 28 47.9 +1.9**
15nm8μm860nm,0.7s
MTN Manton Dam 6.33 179 P **Pn** **09 28 52.7 +0.1**
baz=6.3,SNR=492
MTN Manton Dam 6.33 179 Pn **Pn** **09 28 53.0 +0.4**
MTN Sn **Sn** **09 30 02.7 -0.9**
KDU Kakadu 6.33 167 P **Pn** **09 28 52.4 -0.3**
baz=6.3,SNR=283
SANI Sanana 6.68 311 P **Pn** **09 29 01.7 +4.3**
0.5nm1μm53nm,0.8s
BAKI Biak 7.29 44 P **Pn** **09 29 07.1 +1.2**
0.6nm96nm,0.5s
SOEI Soe 7.45 244 P **Pn** **09 29 10.2 +2.2**
2.0nm2μm172nm,0.6s
SOEI Soe 7.45 244 Pn **Pn** **09 29 09.5 +1.5**
SOEI Sn **Sn** **09 30 29.2 -2.0**
TNTI Ternate 8.07 333 Pn **Pn** **09 29 20.0 +3.5**
BATI Baumata 8.18 243 P **Pn** **09 29 19.8 +1.8**
80nm,0.3s,baz=79,slow=6.9,SNR=16
BATI S **Sn** **09 30 46.7 -2.3**
48nm,0.3s,baz=218,slow=21,SNR=8.0
BATI Baumata 8.18 243 P **Pn** **09 29 19.6 +1.7**
2μm124nm,0.5s
MMRI Maumere 8.97 256 Pn **Pn** **09 29 28.3 -0.5**
KNRA Kununurra 9.41 193 P **Pn** **09 29 33.6 -1.2**
baz=9.4,SNR=307
KNRA Kununurra 9.41 193 Pn **Pn** **09 29 34.4 -0.4**
KNRA Sn **Sn** **09 31 13.8 -5.3**
EDFI Ende, Flores 9.53 256 P **Pn** **09 29 40.2 +3.7**
25nm,1.1s
GENI Genyem 9.89 67 P **Pn** **09 29 42.8 +1.4**
75nm,0.6s
JAY Jayapura 10.42 68 P **Pn** **09 29 50.1 +1.5**
3.6nm,0.3s,baz=222,slow=12,SNR=17
JAY S **Sn** **09 31 43.8 -0.1**
2.2nm,0.3s,baz=108,slow=20,SNR=3.1
JAY Jayapura 10.42 68 P **Pn** **09 29 48.8 +0.2**
12nm,0.9s
GTOI Gorontalo 10.68 311 P Pn 09 29 56.7 +4.6
19nm,0.7s
BKSI Bulukumba 10.91 275 P Pn 09 30 00.4 +5.1
BASI Baing, Sumba 10.99 250 P **Pn** **09 29 57.4 +1.0**
BNSI Bone 11.07 280 P **Pn** **09 30 00.2 +2.7**
29nm,1.1s
KAPI Kappang 11.31 277 P Pn 09 30 09.2 +8.4
1.8nm,0.3s,baz=114,slow=8.5,SNR=5.7
KAPI LR LR 09 34 37.4
comp=Z,86nm,18.0s,baz=86,slow=38
SPSI Sidrap Palu 11.49 282 P Pn 09 30 18.8 +16
FITZ Fitzroy Crossi 12.69 204 P **Pn** **09 30 15.8 -3.8**
baz=13,SNR=222
FITZ S Sn 09 32 28.5 -11
baz=13
FITZ Fitzroy Crossi 12.69 204 Pn **Pn** **09 30 16.5 -3.1**
MPSI Mapaga 13.01 301 P **P** **09 30 34.3 +2.0**
PLAI Plampang 13.34 259 P **Pn** **09 30 29.6 +1.1**
73nm,0.7s
WB0 Warramunga Arr 13.61 166 Pn **Pn** **09 30 28.3 -3.8**
WRAB Tennant Creek 13.76 167 **Pn** **09 30 29.9 -4.2**
WRA Warramunga Arr 13.77 167 P **Pn** **09 30 30.0 -4.2**
15nm,0.3s,baz=350,slow=13,SNR=231
WRA S Sn 09 32 53.5 -12
12nm,0.3s,baz=345,slow=23,SNR=8.8
WRA LR LR 09 36 53.8
comp=Z,82nm,21.1s,baz=155,slow=41
WRA Warramunga Arr 13.77 167 **Pn** **09 30 29.8 -4.5**
WB2 Warramunga Arr 13.77 167 P **Pn** **09 30 29.8 -4.4**
baz=14
WB2 Warramunga Arr 13.77 167 Pn **Pn** **09 30 30.1 -4.2**
WR0 Warramunga Arr 13.83 166 Pn **Pn** **09 30 31.5 -3.6**
COEN Coen 14.07 123 P **Pn** **09 30 36.0 -2.3**
baz=14,SNR=30
COEN Coen 14.07 123 Pn **Pn** **09 30 36.0 -2.3**
TWSI Taliwang, Sumb 14.20 260 P **Pn** **09 30 40.8 +0.8**
20nm,1.8s
DAV Davao City (W) 14.51 338 LR LR 09 37 28.4
comp=Z,87nm,19.5s,baz=96,slow=42
KBKI Kotabaru 15.14 281 P **P** **09 30 55.8 -0.2**
2μm35nm,0.8s
PMG Port Moresby 16.24 101 P **Pn** **09 31 06.6 +0.4**
3.7nm,0.3s,baz=358,slow=6.3,SNR=8.0
PMG S **Sn** **09 33 57.9 -7.7**
1.5nm,0.3s,baz=196,slow=24,SNR=6.5
PMG LR LR 09 39 10.7
comp=Z,74nm,18.4s,baz=132,slow=44
PMG Port Moresby 16.24 101 Pn **P** **09 31 07.7 -0.5**
PMG IAmb IAmb 09 31 25.2
comp=Z,34nm,0.9s
QIS Mount Isa 16.28 150 P **Pn** **09 31 04.1 -2.6**
baz=16,SNR=31
BBKI Banjar Baru 16.40 280 P **P** **09 31 12.9 +2.8**
JAGI Jajag, Banyuwa 16.85 262 **Pn** **09 31 13.1 -0.8**
JAGI IAmb IAmb 09 31 25.7
comp=Z,32nm,1.0s
MTKI Muara Teweh, K 17.01 288 P **P** **09 31 18.8 +2.0**
AS31 Alice Springs 17.31 171 **Pn** **09 31 16.9 -2.6**
AS31 IAmb IAmb 09 31 23.5
comp=Z,29nm,0.5s
ASAR Alice Springs 17.32 171 P **Pn** **09 31 16.8 -2.8**
comp=Z,6.0nm,0.3s,baz=350,slow=14,SNR=209
ASAR S Sn 09 34 17.3 -14
comp=Z,0.7nm,0.3s,baz=351,slow=21,SNR=5.7
ASAR Alice Springs 17.32 171 P **Pn** **09 31 17.9 -1.7**
MTSU Mount Surprise 17.39 133 P **Pn** **09 31 19.8 -0.6**
baz=17,SNR=26
PSA00 Pilbara Seismi 18.50 215 P **P** **09 31 33.3 +0.1**
PSA00 Pilbara Seismi 18.50 215 P **Pn** **09 31 34.6 +0.6**
PSA00 IAmb IAmb 09 31 41.4
comp=Z,8.3nm,0.8s
WRKA Warakurna 18.64 188 P **P** **09 31 33.6 -1.1**
baz=19,SNR=110
KKM Kota Kinabalu 19.32 310 P **Pn** **09 31 43.5 -0.4**
KKM IAmb IAmb 09 31 45.3
comp=Z,39nm,0.6s
CTAO Charters Tower 20.04 134 P Pn 09 31 52.2 -0.1
CTAO IAmb IAmb 09 31 52.9
comp=Z,25nm,0.8s
UGM Wanagama 20.39 265 P **P** **09 31 52.8 -1.1**
SBUM Sibu 20.77 295 P **P** **09 31 57.6 -0.4**
SBUM IAmb IAmb 09 32 00.9
comp=Z,18nm,0.8s
KSM Kuching 22.14 290 P **P** **09 32 12.6 -0.1**
GIRL Giralia 22.82 224 P **P** **09 32 19.6 -0.2**
CISI Cisompet, Garu 23.06 266 P **P** **09 32 20.4 -2.0**
CISI Cisompet, Garu 23.06 266 P **P** **09 32 21.4 -1.1**
LEM Lembang 23.26 268 LR LR 09 42 42.6
comp=Z,66nm,19.5s,baz=160,slow=40
MEEK Meekatharra 23.28 209 P **P** **09 32 24.3 -0.1**
baz=23,SNR=14
FORT Forrest 24.34 186 P **P** **09 32 34.0 +0.1**
baz=24,SNR=35
FORT Forrest 24.34 186 P **P** **09 32 34.2 +0.3**
KMBL Kambalda 26.20 198 P **P** **09 32 51.3 +0.4**
baz=26,SNR=33
BBOO Buckleboo 26.62 171 P **P** **09 32 54.5 -0.1**
baz=27,SNR=24
BBOO Buckleboo 26.62 171 P **P** **09 32 54.4 -0.1**
BBOO IAmb IAmb 09 33 02.6
comp=Z,35nm,1.3s
STKA Stephens Creek 27.13 160 P **P** **09 32 59.4 +0.2**
comp=Z,2.2nm,0.3s,baz=346,slow=8.4,SNR=25
STKA LR LR 09 44 06.8
comp=Z,85nm,18.2s,baz=23,slow=37
STKA Stephens Creek 27.13 160 P **P** **09 32 59.5 +0.2**
baz=27,SNR=20
STKA Stephens Creek 27.13 160 P **P** **09 32 59.7 +0.4**
BLDU Ballidu 27.52 207 P **P** **09 33 03.5 +0.7**
baz=28,SNR=8.1
HTT Hallett 27.80 166 P **P** **09 33 05.7 +0.4**
baz=28,SNR=18
KLBR Kellerberrin 27.90 205 P **P** **09 33 06.6 +0.5**
baz=28,SNR=10
CMSA Cobar Meteorol 28.46 153 P **P** **09 33 11.9 +0.8**
baz=28,SNR=9.2
NWAO Narrogin (SRO) 29.28 204 P **P** **09 33 18.6 +0.3**
comp=Z,4.7nm,0.6s,baz=43,slow=8.2,SNR=5.9
NWAO Narrogin (SRO) 29.28 204 P **P** **09 33 19.2 +0.8**
baz=29,SNR=4.7
NWAO Narrogin (SRO) 29.28 204 P **P** **09 33 19.1 +0.8**
NWAO IAmb IAmb 09 33 27.9
comp=Z,24nm,1.4s
NWAO Narrogin (SRO) 29.28 204 P **P** **09 33 18.9 +0.5**
NWAO IAmb IAmb 09 33 27.9
comp=Z,20nm,1.4s
ARPS Mount Arapiles 31.73 163 P **P** **09 33 41.0 +1.0**
baz=32,SNR=9.8
KULM Kulim 32.50 290 P **P** **09 33 45.4 -1.6**
KULM IAmb IAmb 09 33 46.5
comp=Z,22nm,1.1s
CAN Canberra 33.13 153 P **P** **09 33 53.9 +1.6**
CAN IAmb IAmb 09 33 54.5
comp=Z,19nm,1.0s
CNB Canberra Magne 33.29 152 P **P** **09 33 55.0 +1.2**
baz=33
RPSI Rantau Prapat 33.32 285 P **P** **09 33 53.2 -1.0**
RPSI Rantau Prapat 33.32 285 P **P** **09 33 54.9 +0.7**
PSI Prapat 33.35 285 P **P** **09 33 54.9 +0.3**
comp=Z,16nm,0.8s,baz=93,slow=8.8,SNR=3.8
TOO Toolangi 33.64 159 P **P** **09 33 57.9 +1.2**
baz=34,SNR=5.1
TOO Toolangi 33.64 159 P **P** **09 33 58.3 +1.6**
TOO IAmb IAmb 09 34 17.0
comp=Z,14nm,1.2s
GSI Gunungsitoli 34.27 282 P **P** **09 34 00.8 -1.7**
NJ2 Nanjing 40.03 344 *e*P **P** **09 34 52.3 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CM31 Chiang Mai Arr 40.19 309 P **P** **09 34 52.3 -0.2**
CM31 IAmb IAmb 09 34 53.5
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 40.19 309 P **P** **09 34 52.5 -0.1**
comp=Z,3.4nm,0.5s,baz=138,slow=7.7,SNR=31
CMAR PcP **PcP** **09 36 56.6 +0.8**
comp=Z,0.9nm,0.4s,baz=174,slow=3.1,SNR=4.2
CMAR Chiang Mai Arr 40.19 309 P **P** **09 34 52.2 -0.3**
GYA Guiyang 40.38 325 ⇑P **P** **09 34 53.8 -0.3**
GYA pmax pmax
comp=Z,12nm,0.6s
CHTO Chiang Mai 40.40 309 P **P** **09 34 53.9 -0.3**
CHTO IAmb IAmb 09 34 55.5
comp=Z,13nm,0.9s
KMI Kunming 41.76 320⇓ *e*P **P** **09 35 06.3 +0.7**
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI pmax pmax
comp=Z,290nm,6.0s
MJAR Matsushiro Arr 43.32 8 P **P** **09 35 19.7 +2.0**
comp=Z,2.1nm,0.8s,baz=171,slow=7.4,SNR=2.7
CD2 Chengdu 45.42 326 P **P** **09 35 34.5 -0.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
LZH Lanzhou 49.44 331 *e*P **P** **09 36 06.2 +0.2**
LZH pP sP 09 36 24.3 -1.9
LZH pmax pmax
comp=Z,15nm,1.1s
SHL Shillong 49.61 312 P **P** **09 36 06.3 -1.2**
CN2 Changchun 50.30 355 *e*P **P** **09 36 16.2 +4.1**
HHC Hu-ho-hao-te 50.38 341 *e*P **P** **09 36 14.8 +1.8**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.3s
USA0B Ussuriysk Arra 50.45 1 P **P** **09 36 12.9 -0.4**
USA0B IAmb IAmb 09 36 16.9
comp=Z,20nm,1.4s
USRK Ussuriysk Ar. 50.45 1 P **P** **09 36 13.1 -0.2**
comp=Z,0.8nm,0.6s,baz=195,slow=9.7,SNR=5.0
USRK Ussuriysk Ar. 50.45 1 P **P** **09 36 13.7 +0.4**
BKZ Black Stump Fm 52.25 136 P **P** **09 36 27.4 +0.4**
SONM Songino Array 58.28 341 P **P** **09 37 10.5 +0.2**
comp=Z,1.1nm,0.5s,baz=163,slow=8.1,SNR=4.5
SONM Songino Array 58.28 341 P **P** **09 37 11.5 +1.3**
PETK Petropavlovsk- 63.52 18 P **P** **09 37 46.6 +1.1**
WMQ Urumqi 63.52 326 *e*P **P** **09 37 47.0 +1.1**
MK31 Makanchi Array 68.35 326 P **P** **09 38 17.2 +0.4**
MKAR Makanchi Array 68.35 326 P **P** **09 38 17.3 +0.5**
comp=Z,3.4nm,0.4s,baz=114,slow=8.3,SNR=84
MAKZ Makanchi 68.54 326 P **P** **09 38 18.3 +0.3**
MAKZ IAmb IAmb 09 38 19.1
comp=Z,9.6nm,1.2s
AMKA Amchitka 70.90 30 P **P** **09 38 32.6 +0.3**
KBL Kabul 71.21 310 P **P** **09 38 34.0 -0.9**
KBL IAmb IAmb 09 38 35.6
comp=Z,7.1nm,0.8s
ZAA0 Zalesovo Array 71.57 333 P **P** **09 38 35.3 -1.0**
ZALV Zalesovo Beam 71.57 333 P **P** **09 38 35.9 -0.5**
comp=Z,2.3nm,0.5s,baz=123,slow=5.9,SNR=8.3
ZALV Zalesovo Beam 71.57 333 P **P** **09 38 35.3 -1.0**
GAR Garm 72.03 314 P **P** **09 38 40.3 +0.7**
KURK Kurchatov 72.61 328 P **P** **09 38 42.5 -0.1**
CHGR Chuyangaron 72.72 314 P **P** **09 38 43.6 -0.1**
CHGR IAmb IAmb 09 38 44.6
comp=Z,16nm,0.9s
VNDA Vanda 72.84 173 P **P** **09 38 44.4 +0.7**
comp=Z,0.5nm,0.4s,baz=319,slow=11,SNR=11
VNDA Vanda 72.84 173 P **P** **09 38 44.3 +0.7**
KKAR Karatay Array 73.63 318 P **P** **09 38 47.7 -1.2**
MAW Mawson 75.81 202 P **P** **09 39 01.5 +0.6**
comp=Z,0.5nm,0.4s,baz=60,slow=8.1,SNR=4.2
BVAR Borovoye Array 78.17 327 P **P** **09 39 14.5 +0.1**
comp=Z,0.4nm,0.3s,baz=139,slow=6.8,SNR=3.0
SOCY Socotra 78.79 284 P **P** **09 39 18.2 -0.6**
SOCY IAmb IAmb 09 39 18.9
comp=Z,7.3nm,0.8s
UOSS Minazif 79.10 297 P **P** **09 39 20.6 +0.5**
UOSS IAmb IAmb 09 39 37.2
comp=Z,15nm,1.4s
NRIK Noril'sk 81.30 346 P **P** **09 39 31.3 +0.2**
comp=Z,2.3nm,0.5s,baz=114,slow=5.0,SNR=3.9
ABKAR Akbulak array 82.74 321 P **P** **09 39 39.0 0.0**
ABKAR Akbulak array 82.74 321 P **P** **09 39 38.7 -0.3**
QSPA South Pole Qui 83.50 180 P **P** **09 39 43.2 +0.3**
TORD Torodi Ar. Bea 129.71 282 PKP **PKPdf** **09 46 24.9 -0.2**
comp=Z,0.7nm,0.8s,baz=46,slow=1.9,SNR=4.3
LPAZ La Paz 150.49 140 PKPbc **PKiKP** **09 47 09.6 +0.5**
comp=Z,0.6nm,0.3s,baz=12,slow=2.6,SNR=6.5
LPAZ La Paz 150.49 140 PKPdf **PKPdf** **09 47 01.2 -1.8**

*IDC **04** 10:45:57.3±0.7,13°.47N×121°.67E,h0km,mb3.8/13, mb1 4.0/13,mb1mx3.9/35,mbtmp3.8/13,MS3.2/4, Ms1 3.2/4,ms1mx2.8/42,Error ellipse: s-maj=23.0km s-min=9.3km az=51.0*
*NEIC **04** 10:45:58.7±1.3,13°.5N±0°.1×121°.6E±0°.1,h10km±1km, mb4.3/13,Error ellipse: s-maj=24.7km s-min=9.7km az=230.0*
*MAN **04** 10:45:59.0,13°.50N×121°.56E,h4km,mb4.9,ML3.8,MS3.8*
ISC 04 10:46:00.1±1.0,**13°.50N**±0°.03×**121°.56E**±0°.03,**h16**km±6km,
n55,σ1**s09**/63,**mb4.1**/20,**1C-4D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.28**	**99**	*e*P	**Pg**	**10 46 06.2**	**0.0**
BOAC				*e*S	**Sg**	**10 46 11.4**	**+1.1**
PGP	**Puerto Galera**	**0.59**	**270**⇑	*e*P	**Pg**	**10 46 11.5**	**-0.3**
PGP				*e*S	**Sb**	**10 46 20.5**	**+0.3**
LQP	**Lukban**	**0.60**	**358**⇓	*e*P	**Pg**	**10 46 10.7**	**-1.5**
LQP				*i* S	**Sg**	**10 46 20.2**	**-0.1**
TGY	**Tagaytay City**	**0.85**	**315**	Pg	**Pg**	**10 46 15.6**	**-1.1**
	955nm,0.3s,baz=152,slow=3.5,SNR=123						
TGY				Lg	Lg	10 46 28.6	
	1μm,0.3s,baz=308,slow=19,SNR=9.5						
TGY	**Tagaytay City**	**0.85**	**315**⇓	*e*P	**Pg**	**10 46 16.1**	**-0.6**
TGY				*i* S	**Sg**	**10 46 27.2**	**-0.6**
GQP	**Guinayangan**	**0.95**	**65**⇓	*e*P	**Pg**	**10 46 16.4**	**-2.1**
GQP				*i* S	**Sn**	**10 46 32.5**	**+0.5**
SJMP	**San Jose**	**1.12**	**203**	*e*P	**Pn**	**10 46 21.2**	**0.0**
OTRP	**Odiongan**	**1.22**	**158**	*e*P	**Pn**	**10 46 22.7**	**+0.1**
OTRP				*e*S	**Sn**	**10 46 39.7**	**+1.0**
POLP	**Polilio Island**	**1.27**	**17**	*e*P	**Pn**	**10 46 22.0**	**-1.3**
POLP				*e*S	**Sn**	**10 46 41.0**	**+1.0**
LUBP	**Lubang**	**1.30**	**280**	*e*P	**Pn**	**10 46 22.8**	**-0.8**
LUBP				*e*S	**Sb**	**10 46 41.1**	**+0.6**
BUSP	**Coron**	**2.00**	**222**	*e*P	**Pn**	**10 46 34.4**	**+1.2**
BALP	**Baler**	**2.22**	**0**	*e*P	**Pn**	**10 46 37.3**	**+0.9**
BALP				*e*S	**Sb**	**10 47 07.3**	**0.0**
CUYO	**Cuyo Island**	**2.69**	**191**	*e*P	**Pn**	**10 46 42.5**	**-0.3**
SMPP	**San Manuel, Pa**	**2.77**	**342**	*e*P	**Pn**	**10 46 43.2**	**-0.6**
JAP	**San Jose, Anti**	**2.77**	**172**⇓	*e*P	**Pb**	**10 46 49.9**	**+0.7**
ENPP	**El Nido**	**3.09**	**223**	*e*P	**Pn**	**10 46 48.4**	**+0.1**
ENPP				*e*S	**Sn**	**10 47 23.5**	**-1.4**
BOLP	**Bolinao**	**3.27**	**331**	*e*P	**Pn**	**10 46 50.0**	**-0.8**
CAUP	**Cauayan**	**3.43**	**4**	*e*P	**Pn**	**10 46 54.1**	**+1.2**
APYP	**Conner**	**4.34**	**356**	*e*P	**Pn**	**10 47 07.8**	**+2.3**
DAV	**Davao City (W)**	**7.52**	**148**	LR	LR	10 50 28.3	
	comp=Z,114nm,18.2s,baz=352,slow=36						
KAPI Kappang 18.48 186 LR LR 10 57 27.7
comp=Z,86nm,18.8s,baz=40,slow=37
IPM Ipoh 22.16 248 P **P** **10 50 55.0 -0.6**
IPM IAmb IAmb 10 51 04.5
comp=Z,18nm,1.2s
CM31 Chiang Mai Arr 22.29 286 P **P** **10 50 58.9 +2.0**
CM31 IAmb IAmb 10 51 00.2
comp=Z,6.8nm,0.8s
CMAR Chiang Mai Arr 22.29 286 P **P** **10 50 58.9 +2.0**
comp=Z,3.7nm,0.7s,baz=96,slow=8.0,SNR=27
CMAR LR LR 10 58 31.7
comp=Z,40nm,20.4s,baz=65,slow=34
CMAR Chiang Mai Arr 22.29 286 P **P** **10 50 59.1 +2.2**
SOEI Soe 23.26 173 P **P** **10 51 05.6 -1.6**
BATI Baumata 23.65 175 P **P** **10 51 09.8 -1.2**
comp=Z,60nm,0.8s,baz=12,slow=9.3,SNR=4.2
KSRS Korea Array 24.52 12 P **P** **10 51 18.0 -0.8**
comp=Z,1.1nm,0.7s,baz=198,slow=9.5,SNR=4.2
SHL Shillong 30.35 298 P **P** **10 52 11.4 -0.1**
USRK Ussuriysk Ar. 31.87 14 P **P** **10 52 26.1 +1.7**
comp=Z,2.6nm,0.8s,baz=214,slow=10,SNR=5.3
WB0 Warramunga Arr 35.39 159 P **P** **10 52 54.1 -1.3**
WB0 IAmb IAmb 10 52 56.1
comp=Z,5.1nm,1.0s
WRA Warramunga Arr 35.54 159 P **P** **10 52 55.4 -1.2**
comp=Z,3.6nm,0.9s,baz=335,slow=10,SNR=28
WRA Warramunga Arr 35.54 159 P **P** **10 52 54.5 -2.1**
WB2 Warramunga Arr 35.54 159 P **P** **10 52 55.5 -1.1**
WB2 IAmb IAmb 10 52 57.3
comp=Z,6.9nm,1.1s
WR0 Warramunga Arr 35.62 159 P **P** **10 52 56.4 -1.0**
WR0 IAmb IAmb 10 53 04.5
comp=Z,4.5nm,1.1s
SONM Songino Array 36.49 343 P **P** **10 53 04.9 +0.2**
comp=Z,0.5nm,0.4s,baz=161,slow=9.2,SNR=1.7
SONM LR LR 11 08 04.6
comp=Z,60nm,18.8s,baz=156,slow=36
AS31 Alice Springs 38.86 162 P **P** **10 53 23.8 -1.0**
ASAR Alice Springs 38.87 162 P **P** **10 53 24.4 -0.5**
comp=Z,1.4nm,0.4s,baz=340,slow=6.9,SNR=31
ASAR Alice Springs 38.87 162 P **P** **10 53 24.2 -0.6**
MKAR Makanchi Array 46.69 323 P **P** **10 54 29.0 +0.9**
comp=Z,0.3nm,0.7s,baz=139,slow=9.0,SNR=2.2
NIL Nilore 48.11 303 P **P** **10 54 39.4 0.0**
STKA Stephens Creek 49.04 157 P **P** **10 54 45.7 -0.8**
comp=Z,2.0nm,0.6s,baz=330,slow=9.6,SNR=5.0
STKA Stephens Creek 49.04 157 P **P** **10 54 45.9 -0.6**
ZALV Zalesovo Beam 49.62 332 P **P** **10 54 51.5 +0.9**
comp=Z,0.7nm,0.4s,baz=141,slow=7.1,SNR=2.4
KURK Kurchatov 50.82 326 P **P** **10 55 00.2 +0.5**
KURK IAmb IAmb 10 55 07.1
comp=Z,5.4nm,1.0s
KKAR Karatay Array 52.71 314 P **P** **10 55 15.2 +1.1**
KKAR Karatay Array 52.71 314 P **P** **10 55 15.4 +1.3**
KKAR IAmb IAmb 10 55 21.0
comp=Z,2.2nm,1.2s
ABKAR Akbulak array 61.43 319 P **P** **10 56 15.8 +0.1**
IMAR Indian Mountai 75.61 25 P **P** **10 57 44.9 +0.9**
ILAR Eielson Array 78.56 26 P **P** **10 57 59.6 -1.1**
comp=Z,0.2nm,0.5s,baz=258,slow=4.3,SNR=6.2
ILAR Eielson Array 78.56 26 P **P** **10 57 59.2 -1.4**
ARCES ARCESS Array B 79.56 339 P **P** **10 58 06.3 +0.3**
comp=Z,0.7nm,0.5s,baz=69,slow=8.4,SNR=5.3
BRTR Keskin Array B 79.92 308 P **P** **10 58 07.8 -1.0**
comp=Z,0.4nm,0.8s,baz=64,slow=6.6,SNR=2.2
FINES FINESS Array B 80.86 331 P **P** **10 58 12.8 -0.4**
comp=Z,0.8nm,0.8s,baz=64,slow=8.9,SNR=1.1
TXAR Lajitas Array 119.02 45 PKP **PKPdf** **11 04 48.5 -0.5**
comp=Z,0.1nm,0.4s,baz=122,slow=1.2,SNR=1.9

*NEIC **04** 11:12:56.4±2.2,15°.74N±0°.04×98°.43W±0°.03,h10km±2km, mb4.0/2,Md4.2/33(MEX),Error ellipse: s-maj=7.7km s-min=5.2km az=200.0*
*MEX **04** 11:13:01.2±0.8,15°.89N×98°.41W,h10km,MD4.2*
ISC 04 11:12:53.8±1.4,**15°.82N**±0°.05×**98°.53W**±0°.04,**h9**km±11km,
n30,σ1**s78**/50,**Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**34**	*i* P	**Pn**	**11 13 10.7**	**+0.9**
PNIG				*i* S	**Sn**	**11 13 19.1**	**-1.7**
PNIG	**Pinotepa**	**0.69**	**34**		**Pn**	**11 13 10.7**	**+0.9**
PNIG					**Sn**	**11 13 19.1**	**-1.7**
PEIG	**Puerto Escondi**	**1.34**	**82**	*e*P	**Pg**	**11 13 20.5**	**+0.9**
PEIG				*i* S	**Sb**	**11 13 35.8**	**-0.7**
YOIG	**Yosondua**	**1.40**	**42**	*e*P	**Pg**	**11 13 21.6**	**+0.8**
YOIG				*i* S	**Sb**	**11 13 37.2**	**-1.2**
TXIG	**Tlaxiaco**	**1.60**	**27**	*e*P	**Pg**	**11 13 25.2**	**+0.5**
TXIG				*i* S	**Sn**	**11 13 42.8**	**-0.9**
TLIG	**Tlapa**	**1.74**	**359**	*e*P	**Pg**	**11 13 27.6**	**+0.4**
TLIG				*e*S	**Sb**	**11 13 47.7**	**-0.3**
TLIG	**Tlapa**	**1.74**	**359**		**Pg**	**11 13 30.4**	**+3.2**
TLIG					**Sg**	**11 13 52.9**	**+3.2**
CAIG	**El Cayaco**	**2.07**	**307**	*i* P	**Pg**	**11 13 33.2**	**-0.3**
CAIG				*i* S	**Sg**	**11 13 59.1**	**-1.2**
CAIG	**El Cayaco**	**2.07**	**307**		**Pg**	**11 13 33.2**	**-0.3**
CAIG					**Sg**	**11 13 59.1**	**-1.2**
HLIG	**Huajuapan de L**	**2.12**	**19**	*i* P	**Pb**	**11 13 32.8**	**+0.2**
HLIG				*i* S	**Sn**	**11 13 57.1**	**+0.8**
VHO	**Vista Hermosa**	**2.13**	**54**	*e*P	**Pb**	**11 13 31.9**	**-0.8**
VHO				*i* S	**Sn**	**11 13 56.0**	**-0.5**
HUIG	**Huatulco**	**2.33**	**91**	*e*P	**Pb**	**11 13 34.0**	**-2.1**
HUIG				*i* S	**Sn**	**11 14 01.0**	**-0.3**
HUIG	**Huatulco**	**2.33**	**91**		**Pb**	**11 13 34.0**	**-2.1**
HUIG					**Sn**	**11 14 01.0**	**-0.3**
TOIG	**Toxpalan**	**2.67**	**32**	*e*P	**Pb**	**11 13 40.1**	**-1.8**
TOIG				*e*S	**Sn**	**11 14 10.3**	**+0.7**
PLIG	**Platanillo**	**2.73**	**340**	*e*P	**Pg**	**11 13 47.6**	**+1.5**
PLIG				*e*S	**Sb**	**11 14 15.3**	**-1.1**
PLIG	**Platanillo**	**2.73**	**340**		**Pg**	**11 13 47.6**	**+1.5**
PLIG					**Sb**	**11 14 15.3**	**-1.1**
TPIG	**Tehuac#an**	**2.82**	**23**	*e*P	**Pg**	**11 13 45.9**	**-2.0**
TPIG				*e*S	**Sb**	**11 14 16.8**	**-2.4**
TPIG	**Tehuac#an**	**2.82**	**23**		**Pg**	**11 13 45.9**	**-2.0**
TPIG					**Sb**	**11 14 16.8**	**-2.4**
YAIG	**Yautepec**	**3.07**	**350**	*e*P	**Pg**	**11 13 53.1**	**+0.4**
YAIG				*e*S	**Sb**	**11 14 23.7**	**-2.8**
YAIG	**Yautepec**	**3.07**	**350**		**Pg**	**11 13 53.1**	**+0.4**
YAIG					**Sb**	**11 14 23.7**	**-2.8**
AMVM	**AMECAMECA**	**3.31**	**356**	*e*P	**Pg**	**11 13 54.9**	**-2.4**
AMVM	**AMECAMECA**	**3.31**	**356**		**Pg**	**11 13 54.9**	**-2.4**
UNM	**Universidad Na**	**3.55**	**350**	Pn	**Pb**	**11 13 54.7**	**-2.3**
PTVM	**Pico Tres Padr**	**3.80**	**352**	*e*P	**Pb**	**11 14 02.3**	**+1.1**
PTVM	**Pico Tres Padr**	**3.80**	**352**		**Pb**	**11 14 02.3**	**+1.1**
AZVM	**Cuida Lopez Ma**	**3.82**	**349**	*i* P	**Pg**	**11 14 05.1**	**-2.0**
AZVM	**Cuida Lopez Ma**	**3.82**	**349**		**Pg**	**11 14 05.1**	**-2.0**
CCIG	**Comitan**	**6.16**	**85**	Pn	**Pn**	**11 14 26.6**	**+1.3**
PBMO	**Poplar Bluff**	**22.09**	**18**	P	**P**	**11 17 54.1**	**+4.8**
PBMO					IAmb	IAmb	11 17 57.4
	comp=Z,6.8nm,0.8s						
S39A	**Bolivar**	**22.27**	**11**	P	**P**	**11 17 52.7**	**+1.4**
S39A					IAmb	IAmb	11 17 59.8
	comp=Z,3.8nm,0.9s						

*AZER **04** 11:23:07.8,41°.24N×47°.30E,h11km,ML3.1*
*DRS **04** 11:23:11.5±0.0,41°.19N×47°.13E,h16km*
ISC 04 11:23:09.7±0.8,**41°.19N**±0°.02×**47°.22E**±0°.02,**h8**km±5km,
n35,σ1**s66**/68,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEKA	**Sheki**	**0.02**	**325**	P	**Pg**	**11 23 11.1**	**-0.2**
	SNR=526						
SEKA				S	**Sg**	**11 23 12.6**	**+0.2**
MNGR	**Mingechevir, A**	**0.43**	**193**	P	**Pb**	**11 23 19.4**	**-0.2**
	SNR=9.7						
MNGR				S	**Sb**	**11 23 27.2**	**+1.1**
QBL	**Gabala**	**0.53**	**117**	P	**Pg**	**11 23 19.5**	**-0.4**
	SNR=24						
QBL				S	**Sb**	**11 23 28.4**	**-0.7**
ZKTA	**Zakatala**	**0.63**	**315**	P	**Pb**	**11 23 22.2**	**-0.8**
	SNR=39						
ZKTA				S	**Sn**	**11 23 32.8**	**-2.6**
XNQ	**Khinaliq**	**0.70**	**91**	P	**Pg**	**11 23 22.4**	**-0.8**
	SNR=111						
XNQ				S	**Sg**	**11 23 32.0**	**-0.3**
KSMR	**Kasumkent**	**0.80**	**59**	*e*Pg	**Pg**	**11 23 24.0**	**-1.1**
	60nm,0.2s						
KSMR				*e*Sg	**Sb**	**11 23 36.0**	**-1.0**
	525nm,0.2s						
IML	**Ismayilli**	**0.83**	**118**	P	**Pg**	**11 23 25.2**	**-0

	SNR=9.2						
IML				S	Sb	11 23 38.1	+0.3
QSAR	**Qusar**	**0.85**	**67**	P	**Pb**	11 23 26.3	-0.6
	SNR=14						
GANJ	**Ganja**	**0.87**	**232**	Pg	**Pg**	11 23 25.6	-0.8
	SNR=7.7						
GANJ				Sg	**Sg**	11 23 37.9	+0.2
BRDA	**Brd**	**0.93**	**182**	P	**Pg**	11 23 28.1	+0.6
	SNR=8.0						
BRDA				S	**Sn**	11 23 43.8	+1.3
LGD	**Lagodekhi**	**0.97**	**312**	P	**Pn**	11 23 29.1	-0.7
LGD				S	**Sn**	11 23 43.6	-0.2
ZRD	**Zardab**	**0.98**	**158**	P	**Pb**	11 23 28.8	-0.1
	SNR=18						
ZRD				S	**Sn**	11 23 44.9	+1.1
AGDM	**Agdam**	**1.08**	**184**	P	**Pb**	11 23 30.0	-0.7
	SNR=6.2						
AGDM				S	**Sn**	11 23 47.1	+0.6
PQL	**Pirkuli**	**1.12**	**111**	P	**Pb**	11 23 30.4	-1.0
	SNR=18						
PQL				S	**Sn**	11 23 46.9	-0.6
GDB	**GEDABAY**	**1.20**	**248**	P	**Pn**	11 23 31.4	-1.6
	SNR=7.5						
GDB				S	**Sg**	11 23 50.7	+2.3
SIZA	**Siyzn**	**1.28**	**95**	P	**Pn**	11 23 33.4	-0.6
	SNR=7.6						
SIZA				S	**Sb**	11 23 49.5	-1.2
ATGJ	**Altiaghaj**	**1.34**	**104**	P	**Pn**	11 23 32.7	-2.2
	SNR=3.9						
ATGJ				S	**Sg**	11 23 54.8	+1.9
QZX	**Qazax, Azerbai**	**1.40**	**265**	Pn	**Pn**	11 23 35.0	-0.6
	SNR=9.7						
QZX				Sn	**Sg**	11 23 54.3	-0.4
ARKR	**Arakani**	**1.42**	**353**	*e*Pg	**Pg**	11 23 37.0	0.0
	47nm,0.4s						
ARKR				*e*Sg	**Sg**	11 24 02.0	+6.5
	98nm,0.5s						
GBS	**Qobustan**	**1.46**	**116**	Pn	**Pn**	11 23 35.8	-0.7
BLQ	**Beylaqan**	**1.49**	**170**	Pn	**Pn**	11 23 36.3	-0.6
	SNR=3.6						
BLQ				Sn	**Sb**	11 23 57.0	+0.3
UNCR	**Uncukul**	**1.56**	**348**	*e*Pg	**Pg**	11 23 39.0	-0.5
	34nm,0.4s						
UNCR				*e*Sg	**Sg**	11 24 05.0	+5.3
	113nm,0.0s						
KRNR	**Karanay**	**1.65**	**352**	*e*Pg	**Pg**	11 23 41.0	-0.4
	24nm,0.3s						
KRNR				*e*Sg	**Sg**	11 24 09.5	+6.7
	32nm,0.3s						
QRD	**Qoradiz**	**1.73**	**177**	Pn	**Pn**	11 23 39.9	-0.2
	SNR=4.6						
QRD				Sn	**Sb**	11 24 02.7	-0.9
GLBA	**Clilabad**	**2.14**	**155**	Pn	**Pn**	11 23 45.7	-0.1
	SNR=3.6						
GLBA				Sn	**Sb**	11 24 14.0	-1.5
SBZ	**Shahbuz**	**2.20**	**216**	Pn	**Pb**	11 23 48.8	-1.0
	SNR=5.4						
SBZ				Sn	**Sb**	11 24 18.1	+0.9
DMNI	**Dmanisi**	**2.29**	**274**	P	**Pn**	11 23 48.2	+0.3
DMNI				S	**Sb**	11 24 18.5	-1.2
TRLG	**Trialeti**	**2.37**	**280**	P	**Pn**	11 23 48.4	-0.7
TRLG				S	**Sb**	11 24 20.3	-2.0
YRD	**Yardimli**	**2.40**	**161**	Pn	**Pn**	11 23 49.0	-0.6
	SNR=6.7						
YRD				Sn	**Sn**	11 24 20.0	+0.7
NAX	**Nakhchivan**	**2.41**	**214**	Pn	**Pn**	11 23 49.8	+0.3
	SNR=3.8						
NAX				Sn	**Sb**	11 24 22.5	-0.7
PNSH	**Pansheti**	**2.42**	**308**	P	**Pb**	11 23 51.5	-2.1
PNSH				S	**Sb**	11 24 23.0	-0.7
ORD	**Ordubad**	**2.45**	**203**	Pn	**Pn**	11 23 51.6	+1.5
	SNR=15						
ORD				Sn	**Sb**	11 24 23.8	-0.5
LRK	**Lerik**	**2.69**	**161**	Pn	**Pn**	11 23 53.1	-0.3
	SNR=3.1						
LRK				Sn	**Sn**	11 24 27.3	+1.0
LKRN	**Lenkeran, Azer**	**2.75**	**154**	Pn	**Pn**	11 23 53.8	-0.4
LKRN				Sn	**Sn**	11 24 28.1	+0.5
ASTR	**Astara**	**2.89**	**155**	Pn	**Pn**	11 23 56.7	+0.6
ASTR				Sn	**Sn**	11 24 31.4	+0.3

*ECGS **04** 11:27:29.1,0.92S±0.01×29.163E±0.009, h0km±3km, ML3.0, Error ellipse: s-maj=2.5km s-min=1.5km az=179.4, smi:local/c5df27e6-ddb4-4cc0-87e0-7ea592ae7291 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 18.1369 Y 66.4396 Z 5.11886 CovXX 1.02084 XY -0.0182197 XZ -0.113645 YY 2.67832 YZ 1.3391 ZZ 12.1583 EllAz1 269.826 Dip1 -0.563591 Len1 1.89721 Az2 359.904 Dip2 -7.88886 Len2 2.96641 Len3 6.601360e+00*

ISC 04 11:27:27.9±2.0,0.86S±0.09×29.16E±0.08,h10km,n13, σ0§51/14,Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGO	**Tongo**	**0.37**	**161**	*i* P	**Pg**	**11 27 35.4**	**+0.1**
TGO	**Tongo**	**0.37**	**161**	*i* S	**Sg**	**11 27 39.9**	**-0.2**
KTSH	**Kitshanga**	**0.39**	**196**	*i* P	**Pg**	**11 27 35.9**	**+0.3**
KTSH	**Kitshanga**	**0.39**	**196**	*i* S	**Sg**	**11 27 41.0**	**+0.1**
RGB	**Rumangabo**	**0.53**	**156**	*i* P	**Pg**	**11 27 38.4**	**+0.1**
RGB	**Rumangabo**	**0.53**	**156**	*i* S	**Sg**	**11 27 45.0**	**-0.2**
GOM	**Goma**	**0.82**	**175**	*i* P	**Pg**	**11 27 43.8**	**+0.1**
GOM	**Goma**	**0.82**	**175**	*i* S	**Sg**	**11 27 54.5**	**+0.1**
BOBN	**Bobandana**	**0.85**	**190**	*i* S	**Sg**	**11 27 54.9**	**-0.6**
BOBN	**Bobandana**	**0.85**	**190**	*i* P	**Pg**	**11 27 43.5**	**-0.9**
LWI	**Lwiro**	**1.42**	**194**	*i* P	**Pn**	**11 27 54.0**	**0.0**
LWI	**Lwiro**	**1.42**	**194**	*i* S	**Sn**	**11 28 13.4**	**+0.7**
MBAR	**Mbarara**	**1.60**	**81**	*e*P	**Pn**	**11 27 57.0**	**+0.5**
MBAR				*e*S	**Sn**	**11 28 16.5**	**-0.8**

WEL 04 11:29:42.8,37°S±3°×17°8E±°,h125km±3km,M3.0/28, ML3.0/7,MLv3.0/28,Error ellipse: s-maj=0.0km s-min=0.0km az=157.3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.51**	**156**	P	Pn	11 30 00.9	-0.3
HAZ				S	Sn	11 30 14.8	-0.5
MXZ	**Matakaoa Point**	**0.68**	**114**	P	Pn	11 30 02.6	+0.2
RUGZ	**Raukumara Rang**	**0.68**	**170**	P	Pn	11 30 01.9	-0.7
WHRZ	**Whale Island**	**0.71**	**218**	P	Pn	11 30 03.2	+0.5
WHRZ				S	Sn	11 30 18.7	+0.8
WMGZ	**Waiomatatini S**	**0.88**	**127**	P	Pn	11 30 04.3	+0.3
OPRZ	**Ohinepanea**	**0.95**	**234**	P	Pn	11 30 05.3	+0.6
OPRZ				S	Sn	11 30 21.4	+0.1
TWGZ	**Tauwhareparae**	**0.95**	**158**	P	Pn	11 30 05.6	+0.8
TWGZ				S	Sn	11 30 22.0	+0.4
PUZ	**Puketiti**	**0.97**	**144**	P	Pn	11 30 05.1	+0.1
PUZ				S	Sn	11 30 21.2	-0.5
URZ	**Urewera**	**1.02**	**199**	P	Pn	11 30 05.6	+0.3
URZ				S	Sn	11 30 22.2	-0.3
MWZ	**Matawai**	**1.04**	**180**	P	Pn	11 30 05.8	+0.2
MWZ				S	Sn	11 30 22.9	-0.1
TGRZ	**Tauranga**	**1.10**	**246**	P	Pn	11 30 06.8	+0.7
TKGZ	**Te Karaka**	**1.17**	**168**	P	Pn	11 30 07.2	+0.3
TKGZ				S	Sn	11 30 25.7	+0.4
CNGZ	**Carnagh Statio**	**1.30**	**156**	P	Pn	11 30 08.9	+0.6
CNGZ				S	Sn	11 30 28.6	+0.8
RTZ	**Ruatahuna**	**1.39**	**198**	P	Pn	11 30 09.6	+0.3
RTZ				S	Sn	11 30 29.0	-0.6
RIGZ	**Rimuhau**	**1.42**	**173**	P	Pn	11 30 09.9	+0.2
RIGZ				S	Sn	11 30 29.7	-0.4
SNGZ	**Shannon Statio**	**1.49**	**186**	P	Pn	11 30 10.8	+0.3
SNGZ				S	Sn	11 30 32.0	+0.4
KUZ	**Kuaotunu**	**1.55**	**290**	P	Pn	11 30 10.9	-0.1
ALRZ	**Allen Road**	**1.58**	**216**	P	Pn	11 30 12.3	+0.9
MTHZ	**Maungataniwha**	**1.65**	**199**	P	Pn	11 30 12.9	+0.6
PRGZ	**Paritu Road**	**1.65**	**170**	P	Pn	11 30 12.4	+0.1
RAHZ	**Arahi**	**1.66**	**192**	P	Pn	11 30 13.1	+0.7
TOZ	**Tahuroa Road**	**1.67**	**254**	P	Pn	11 30 13.6	+1.2
KNZ	**Kokohu**	**1.73**	**176**	P	Pn	11 30 13.1	-0.1
WHHZ	**Waihua**	**1.80**	**187**	P	Pn	11 30 14.5	+0.6
KUTZ	**Kaahu Road**	**1.80**	**228**	P	Pn	11 30 15.4	+1.3
MHGZ	**Mahia Peninsul**	**1.88**	**171**	P	Pn	11 30 15.4	+0.4
TLZ	**Tolley Road**	**1.89**	**236**	P	Pn	11 30 15.9	+0.8
NMHZ	**Naumai**	**1.89**	**197**	P	Pn	11 30 16.0	+0.8
WATZ	**Wairara**	**2.00**	**225**	P	Pn	11 30 16.7	+0.3
ARHZ	**Aropaoanui**	**2.01**	**192**	P	Pn	11 30 16.9	+0.3
MCHZ	**McNeill Hill**	**2.25**	**197**	P	Pn	11 30 20.0	+0.5
KWHZ	**Kaweka Forest**	**2.30**	**202**	P	Pn	11 30 20.1	-0.1
TMVZ	**Te Maari**	**2.32**	**218**	P	Pn	11 30 21.3	+0.8
OTVZ	**Oturere**	**2.38**	**218**	P	Pn	11 30 21.9	+0.6
WTVZ	**West Tongariro**	**2.38**	**219**	P	Pn	11 30 22.1	+0.9
CKHZ	**Cape Kidnapper**	**2.39**	**188**	P	Pn	11 30 20.8	-0.5
HIZ	**Hauiti**	**2.44**	**239**	P	Pn	11 30 23.8	+1.9
KRHZ	**Kereru**	**2.52**	**201**	P	Pn	11 30 22.1	-0.9
MOVZ	**Moawhango**	**2.53**	**213**	P	Pn	11 30 22.7	-0.5
WNVZ	**Wahianoa**	**2.54**	**216**	P	Pn	11 30 23.5	+0.1
PXZ	**Pawamui**	**2.78**	**191**	P	Pn	11 30 25.2	-1.1
PNHZ	**Pukenui**	**2.82**	**201**	P	Pn	11 30 25.1	-1.8
VRZ	**Vera Road**	**2.85**	**229**	P	Pn	11 30 28.4	+1.3
TSZ	**Takapari Road**	**3.02**	**203**	P	Pn	11 30 27.9	-1.5
WAZ	**Wanganui**	**3.17**	**218**	P	Pn	11 30 31.3	0.0
DVHZ	**Dannevirke**	**3.18**	**199**	P	Pn	11 30 29.9	-1.7
BFZ	**Birch Farm**	**3.53**	**196**	P	Pn	11 30 34.6	-1.5
MRZ	**Mangatainoka R**	**3.69**	**204**	P	Pn	11 30 35.9	-2.4
TIWZ	**Tintock**	**3.71**	**200**	P	Pn	11 30 36.1	-2.4
HOWZ	**Holdsworth Sta**	**3.92**	**203**	P	Pn	11 30 38.5	-2.9
OGWZ	**Otaki Gorge**	**3.97**	**207**	P	Pn	11 30 39.9	-2.0
TMWZ	**Te Maipa**	**4.01**	**198**	P	Pn	11 30 40.1	-2.5
KIW	**Kapiti Island**	**4.10**	**209**	P	Pn	11 30 41.3	-2.5
CAW	**Cannon Point**	**4.26**	**206**	P	Pn	11 30 43.0	-2.8
PAWZ	**Paruwai Farm**	**4.40**	**201**	P	Pn	11 30 44.2	-3.5
TCW	**Tory Channel**	**4.66**	**212**	P	Pn	11 30 47.9	-3.2
TUWZ	**Tuamarina**	**4.98**	**213**	P	Pn	11 30 52.0	-3.4
QRZ	**Quartz Range**	**5.25**	**226**	P	Pn	11 30 56.2	-2.9
THZ	**Tophouse**	**5.72**	**217**	P	Pn	11 31 02.8	-2.6
KHZ	**Kahutara**	**5.97**	**210**	P	Pn	11 31 04.6	-4.0
GVZ	**Greta Valley S**	**6.63**	**210**	P	Pn	11 31 13.3	-4.4

WEL 04 11:33:08.5,43°S±1°×17°2E±°,h15km±2km,M2.4/6,ML2.4/6, MLv2.4/6,Error ellipse: s-maj=0.0km s-min=0.0km az=127.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHCZ	**Mount Hutt**	**0.07**	**234**	P	Pg	11 33 12.4	+0.9
MHCZ				S	Sg	11 33 14.5	+1.1
OXZ	**Oxford**	**0.33**	**60**	P	Pb	11 33 16.4	+0.2
WACZ	**Wakanui South**	**0.47**	**162**	P	Pb	11 33 19.5	+1.0
WACZ				S	Sb	11 33 26.9	+1.6
RPZ	**Rata Peaks**	**0.48**	**242**	P	Pb	11 33 19.1	+0.4
ARCZ	**Arundel**	**0.57**	**216**	P	Pb	11 33 20.8	+0.7
ARCZ				S	Sn	11 33 29.8	-1.4
MQZ	**McQueen's Vall**	**0.77**	**107**	P	Pn	11 33 24.5	-0.3
MQZ				S	Sn	11 33 35.2	-0.8
INZ	**Inchbonnie**	**0.78**	**349**	P	Pb	11 33 24.2	+0.5
WVZ	**Waitaha Valley**	**0.78**	**302**	P	Pn	11 33 24.4	-0.6
LTZ	**Lake Taylor**	**0.85**	**33**	P	Pn	11 33 25.9	0.0
LTZ				S	Sn	11 33 37.1	-1.0
GCSZ	**Gaunt Creek Bo**	**0.97**	**280**	P	Pn	11 33 29.2	+1.6
OKCZ	**Okains Bay**	**1.05**	**103**	P	Pg	11 33 30.6	+1.8
GVZ	**Greta Valley S**	**1.15**	**63**	P	Pg	11 33 30.7	+0.2
LBZ	**Lake Benmore**	**1.38**	**229**	P	Pg	11 33 35.7	+0.6
WKZ	**Wanaka**	**2.31**	**234**	P	Pg	11 33 54.2	+1.4
BHW	**Baring Head**	**3.17**	**50**	P	Pn	11 34 00.5	+2.7

*TEH **04** 12:02:34.8,32.75N×47.52E,h10km,ML2.9*
*ISN **04** 12:02:36.5±1.6,32.76N×47.46E,h15km,ML2.7*

ISC 04 12:02:33.0±2.4,32.6N±0.1×47.60E±0.07,h10km±12km, n10,σ1§16/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.30**	**296**	*e*Pg	**Pg**	**12 02 39.0**	**-0.1**
DHL1				*e*Sg	**Sg**	**12 02 43.4**	**+0.2**
IKFM	**Kafar-mosalman**	**1.00**	**12**	*e*Pg	**Pb**	**12 02 50.3**	**-2.1**
IKFM				*e*		12 03 09.1	
IKMR	**Kamar-syah**	**1.17**	**34**	*e*Pg	**Pn**	**12 02 54.7**	**-0.8**
IKMR				*e*		12 03 15.0	
IDOB	**Doab**	**1.33**	**21**	*e*Pg	**Pn**	**12 02 58.0**	**+0.1**
IDOB				*e*		12 03 19.2	
IBDR	**Badra**	**1.52**	**292**	*e*Pg	**Pn**	**12 03 00.0**	**-0.3**
	baz=105						
IBDR				*e*Sg	**Sn**	**12 03 20.0**	**-0.1**
IBDR				AML	AML	12 03 25.1	
	comp=N,184nm,0.4s						
IBDR				AML	AML	12 03 26.7	
	comp=E,125nm,0.8s						
BMDN	**Meydan**	**1.52**	**42**	*e*Pg	**Pb**	**12 03 02.6**	**+1.1**
BMDN				*e*		12 03 27.2	
IKOM	**Komasi**	**1.62**	**357**	*e*		12 03 03.6	
IKOM				*e*Pg	**Pn**	**12 03 02.3**	**+0.4**
IGHG	**Ghaleghazi**	**1.98**	**334**	*e*Pn	**Pn**	**12 03 07.3**	**+0.5**
IVIS	**Veis**	**2.07**	**343**	*e*	**Sg**	**12 03 40.2**	**+0.5**
IDHR	**Dehrash**	**2.37**	**335**	*e*Pn	**Pn**	**12 03 14.2**	**+1.9**
IDHR				*e*		12 03 19.9	

*BGR **04** 12:05:03.4±0.0,66.44N×20.87W,h33km,mb5.2*
*REY **04** 12:05:18.7,64.68N×17.47W,h1km*
*MOS **04** 12:05:20.9±1.0,64.72N×17.66W,h9km,mb5.0/83, MS4.6/22,Error ellipse: s-maj=7.2km s-min=5.0km az=105.6*
*IDC **04** 12:05:20.5±0.4,64.64N×17.69W,h0km,mb4.5/31, mb1 4.5/36,mb1mx4.4/55,mbtmp4.4/36,ML2.9/4,MS4.2/35, Ms1 4.2/35,ms1mx4.1/52,Error ellipse: s-maj=13.2km s-min=7.7km az=9.0*
*BJI **04** 12:05:21.4±0.0,64.99N×17.23W,h5km,mB5.3/13, mb4.8/40,Ms5.2/10,Ms7 4.8/9*
*BGS **04** 12:05:21.1±2.2,64.62N×17.53W,h5km,MS4.9*
*IEPN **04** 12:05:22.0,64.63N×17.75W,h10km*
*NEIC **04** 12:05:22.6±1.6,64.62N±0.08×17.5W±0.1,h9km±3km, mb4.9/252,Error ellipse: s-maj=11.2km s-min=8.8km az=192.0*
*DNK **04** 12:05:24.8±5.7,64.75N×18.23W,h0km±105km,Ms4.9*
*GCMT **04** 12:05:24.6±0.2,64.65N±0.02×17.40W±0.02,h12km, MW5.1/111,Moment Tensor Solution. s54,c69; s111,c184; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.64±.09; Mθθ0.23±.10; Mϕϕ3.41±.07; Mrθ-2.91±.29; Mrϕ-2.00±.07; Mθϕ-0.54±.23; Best double couple: Mo4.95200×1016 NP1:ϕs0.00000°,δ47.00000°, λ-46.00000°. NP2:ϕs125.00000°,δ59.00000°, λ-127.00000°. Principal axes: T 4.4660, Plg7.0000°, Azm241.0000°; N 0.9670, Plg31.0000°, Azm147.0000°; P -5.4380, Plg58.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 12:05:22.6±0.2,64.64N±0.02×17.57W±0.02,h10km,n814, σ1§72/830,mb4.9/229,MS4.5/52,30C-4D,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**292**	P	**Pg**	**12 05 21.5**	**-3.6**
	baz=269						
IDYN	**Dyngjuhals**	**0.17**	**30**	P	Pg	12 05 21.7	-4.7
	baz=21						
IDYN				S	**Sg**	**12 05 24.1**	**-5.0**
	baz=21						
IDJK	**Dyngjujokull**	**0.20**	**133**	P	**Pg**	**12 05 22.9**	**-4.0**
	baz=150						
IURH	**Urdarhals**	**0.26**	**45**	P	Pg	12 05 23.0	-4.8
	baz=44						
IURH				S	**Sg**	**12 05 25.9**	**-5.4**
	baz=44						
IGRF	**Grimsfjall**	**0.27**	**151**	P	**Pg**	**12 05 24.4**	**-3.7**
	baz=162						
IGRF				S	**Sg**	**12 05 28.4**	**-3.3**
	baz=162						
IHUS	**Husbondi**	**0.35**	**186**	P	**Pg**	**12 05 26.4**	**-3.1**
	baz=192						
IHUS				S	**Sg**	**12 05 31.5**	**-2.7**
	baz=192						
ISKR	**Skrokkalda**	**0.36**	**258**	P	**Pg**	**12 05 27.3**	**-2.5**
	baz=254						
IKVE	**Kverkfjoll**	**0.39**	**84**	P	**Pg**	**12 05 26.5**	**-3.7**
	baz=89						
IBJK	**Bruarjokull**	**0.39**	**116**	P	Pg	12 05 26.0	-4.3
	baz=124						
IVOT	**Vottur**	**0.41**	**156**	P	**Pg**	**12 05 27.4**	**-3.2**
	baz=163						
IVOT				S	**Sg**	**12 05 34.4**	**-1.6**
	baz=163						
IJOK	**Jokulheimar**	**0.43**	**221**	P	**Pg**	**12 05 28.1**	**-3.0**
	baz=222						
IJOK				S	**Sg**	**12 05 34.7**	**-2.1**
	baz=222						
THOR	**Thorvaldshraun**	**0.48**	**52**	P	Pg	12 05 26.9	-5.1
	baz=52						
THOR				S	**Sg**	**12 05 33.8**	**-4.6**
	baz=52						
IKRE	**Kreppuhraun**	**0.53**	**74**	P	Pg	12 05 27.4	-5.4
	baz=76						
IIEY	**Innrieyrar**	**0.60**	**204**	P	**Pg**	**12 05 30.7**	**-3.5**
	baz=206						
IIEY				S	**Sg**	**12 05 40.6**	**-1.4**
	baz=206						
IMKO	**Mokollar**	**0.63**	**57**	P	Pg	12 05 29.4	-5.3
	baz=57						
IKSK	**Karasker**	**0.68**	**135**	P	**Pg**	**12 05 32.0**	**-3.7**
	baz=140						
IKAL	**Kalfafell**	**0.70**	**184**	P	**Pg**	**12 05 32.0**	**-4.1**
	baz=188						
IKAL				S	**Sg**	**12 05 42.5**	**-2.6**
	baz=188						
ISVA	**Svartarkot**	**0.71**	**11**	P	Pg	12 05 31.1	-5.3
	baz=7.7						
IVAT	**Vatnsfell**	**0.74**	**233**	P	**Pg**	**12 05 33.5**	**-3.4**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.81**	**77**	P	Pg	12 05 32.2	-5.9
	baz=79						
IFAG	**Fagurholsmyri**	**0.87**	**152**	P	Pg	12 05 34.4	-4.9
	baz=156						
IHVE	**Hveravellir**	**0.89**	**286**	P	Pg	12 05 34.9	-4.8
	baz=283						
IHVE				S	**Sg**	**12 05 47.1**	**-4.1**
	baz=283						
IADA	**Aoalbol**	**0.93**	**65**	P	Pg	12 05 34.1	-6.4
	baz=66						
IMEL	**Melhnausar**	**1.01**	**22**	P	Pg	12 05 35.8	-6.2
	baz=21						
ISNB	**Snabyli**	**1.02**	**208**	P	**Pg**	**12 05 37.7**	**-4.5**
	baz=209						
ISNB				S	**Sg**	**12 05 52.7**	**-2.7**
	baz=209						
IREN	**Reynihlio**	**1.05**	**15**	P	Pg	12 05 36.6	-6.1
	baz=13						
ISLY	**Slysaalda**	**1.06**	**220**	P	**Pg**	**12 05 38.8**	**-4.2**
	baz=221						
IFED	**Fedgar**	**1.11**	**237**	P	**Pb**	**12 05 39.8**	**-4.1**
	baz=237						
IKVO	**Krokottuvotn**	**1.12**	**15**	P	Pb	12 05 37.6	-6.4
	baz=13						
IGRS	**Grimsstaoir**	**1.17**	**31**	P	Pb	12 05 38.5	-6.4
	baz=30						
BORG	**Borgarnes**	**1.62**	**276**	Pg	**Pn**	**12 05 47.9**	**-3.3**
	208nm,0.3s,baz=95,slow=8.2,SNR=192						
BORG				Lg	Lg	12 06 10.9	
	117nm,0.3s,baz=81,slow=23,SNR=14						
SCO	**Scoresbysund**	**6.10**	**346**	*i* P	**Pn**	**12 06 50.9**	**-1.7**
SCO				*e*S	**Sn**	**12 08 06.3**	**+3.9**
SCO				MLR	MLR		
	comp=Z,17μm,10.0s						
SCO	**Scoresbysund**	**6.10**	**346**	Pn	**Pn**	**12 06 50.1**	**-2.5**
SCO	**Scoresbysund**	**6.10**	**346**	*i* P	**Pn**	**12 06 50.9**	**-1.7**
SCO				*e*S	**Sn**	**12 08 06.3**	**+3.9**
	comp=Z,17μm,10.0s						
SCO	**Scoresbysund**	**6.10**	**346**	*e*	**Pn**	**12 06 48.9**	**-3.8**
	baz=158,slow=8.6						
SCO				*i* P	**Pn**	**12 06 51.0**	**-1.7**
SCO				*e*S	**Sn**	**12 08 06.3**	**+3.9**
SCO				IAMs_20	IAMs_20	12 08 56.1	
	comp=Z,17μm,10.3s						
JMIC	**Jan Mayen**	**7.23**	**24**	LR	LR	12 09 10.9	
	comp=Z,649nm,19.1s,baz=154,slow=32						
LEWI	**Lewis, Hebride**	**8.29**	**137**	*e*P	**Pn**	**12 07 21.7**	**-0.9**
ANGG	**Ammassalik, Gr**	**8.51**	**286**	IAMs_20	IAMs_20	12 11 07.0	
	comp=Z,29μm,7.7s						
KAC	**Achnashellach**	**9.29**	**135**	*e*P	**Pn**	**12 07 35.1**	**-1.3**
KPL	**Plockton**	**9.32**	**136**	*e*P	**Pn**	**12 07 34.7**	**-2.1**
KPL				IAMs_20	IAMs_20	12 12 12.7	
	comp=Z,7μm,12.3s						
MCD	**Coleburn Disti**	**9.88**	**129**	*e*P	**Pn**	**12 07 43.2**	**-1.3**
INVG	**Invergeldie, C**	**10.57**	**135**	*e*P	**Pn**	**12 07 52.8**	**-1.1**
INVG				IAMs_20	IAMs_20	12 12 41.9	
	comp=Z,9μm,13.5s						
EAB	**Aberfoyle**	**10.68**	**136**	*e*P	**Pn**	**12 07 54.4**	**-1.1**
SUMG	**Summit**	**10.95**	**326**	*i* P	**Pn**	**12 07 59.0**	**-0.4**
SUMG	**Summit**	**10.95**	**326**		**Pn**	**12 08 00.6**	**+1.2**
SUMG	**Summit**	**10.95**	**326**	*i* P	**Pn**	**12 07 59.0**	**-0.4**
SUMG	**Summit**	**10.95**	**326**	*i* P	**Pn**	**12 07 59.0**	**-0.4**
SUMG				IAMs_20	IAMs_20	12 12 21.0	
	comp=Z,37μm,8.6s						
PGBU	**Glenifferbraes**	**10.96**	**138**	*e*P	**Pn**	**12 07 58.0**	**-1.2**
PGBU				IAMs_20	IAMs_20	12 13 12.6	
	comp=Z,7μm,12.8s						
CLGH	**Cloghs, Cushen**	**11.16**	**144**	*e*P	**Pn**	**12 08 01.3**	**-0.7**
CLGH				IAMs_20	IAMs_20	12 13 56.2	
	comp=Z,13μm,11.0s						
NEWG	**New Galloway**	**11.63**	**139**	*e*P	**Pn**	**12 08 07.6**	**-0.9**
NEWG				IAMs_20	IAMs_20	12 13 13.4	
	comp=Z,9μm,12.5s						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**12 08 08.6**	**-1.6**
	baz=326,slow=13,SNR=24						
EKA				Sn	**Sn**	**12 10 18.3**	**-3.1**
	baz=314,slow=16,SNR=3.5						
ESK	**Eskdalemuir**	**11.76**	**136**	*e*P	**Pn**	**12 08 09.9**	**-0.2**
ESK				IAMs_20	IAMs_20	12 13 32.3	
	comp=Z,8μm,11.0s						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**12 08 09.8**	**-0.4**
ESK	**Eskdalemuir**	**11.76**	**136**		**Pn**	**12 08

comp=Z,50nm,1.2s
KEV Kevo 17.66 54 P **P** **12 09 29.7 +0.5**
SGF Sodankyl 17.83 61 P **P** **12 09 33.7 +2.6**
HOPEN Hopen 17.87 31 *e*P **Pn** **12 09 27.4 -3.4**
HOPEN *e*S **Sn** **12 12 44.1 -5.6**
UCC Uccle 18.01 130 P **Pn** **12 09 32.1 -0.5**
UCC pmax pmax
comp=Z,20nm,0.8s
UCC Uccle 18.01 130 P **Pn** **12 09 32.1 -0.5**
OUL Oulu 18.20 69 P **Pn** **12 09 34.9 -0.1**
OUL pmax pmax
comp=Z,25nm,1.1s
RGN Rugen 18.41 109 *e*P **Pn** **12 09 40.7 +3.2**
RGN Rugen 18.41 109 P **P** **12 09 37.2 -0.2**
RGN IAmb IAmb 12 09 44.7
comp=Z,144nm,1.0s
BEBN Eben Emael 18.45 128 P **Pn** **12 09 39.4 +1.3**
BUG Bochum--Univer 18.47 124 P **Pn** **12 09 40.1 +1.8**
BMRD Maredsous 18.57 130 P **P** **12 09 39.3 0.0**
BGES Gesves 18.60 129 P **P** **12 09 39.0 -0.7**
BCLA Clavier 18.64 129 P **Pn** **12 09 42.6 +2.1**
BSD Bornholm Skovb 18.66 105 *e*P **Pn** **12 09 47.3 +6.7**
BSD MLR MLR
comp=Z,2µm,16.0s
BSD Bornholm Skovb 18.66 105 *i* P **Pn** **12 09 47.3 +6.7**
comp=Z,2µm,16.0s
BSD Bornholm Skovb 18.66 105 *e*P **Pn** **12 09 47.3 +6.7**
BSD IAMs_20 IAMs_20 12 18 13.0
comp=E,2µm,16.1s
DOU Dourbes 18.69 131 P **P** **12 09 40.1 -0.5**
DOU Dourbes 18.69 131 P **Pn** **12 09 46.1 +5.1**
MEM Membach 18.72 127 P **Pn** **12 09 43.2 +1.8**
MEM pmax pmax
comp=Z,48nm,1.4s
BTNL Ternell 18.78 127 P **Pn** **12 09 42.6 +0.4**
RCHB Rochefort 18.84 130 P **P** **12 09 41.3 -1.0**
BHOU Houvegnez 18.94 128 P **P** **12 09 42.2 -1.1**
MSF Maaselka 19.19 65 P **P** **12 09 45.5 -0.6**
MSF pmax pmax
comp=Z,33nm,2.6s
SUF Sumiainen 19.19 76 P **Pn** **12 09 50.0 +3.0**
SUF pmax pmax
comp=Z,28nm,2.8s
WLF Walferdange 19.57 129 P **P** **12 09 49.4 -0.9**
WLF pmax pmax
comp=Z,41nm,1.3s
WLF Walferdange 19.57 129 **P** **12 09 49.4 -0.9**
FIA1 FINESS Array S 19.74 79 P **P** **12 09 52.3 +0.3**
FINES FINESS Array B 19.74 79 P **P** **12 09 52.0 0.0**
comp=Z,0.2nm,0.3s,baz=299,slow=7.9,SNR=14
FINES LR LR 12 16 57.9
comp=Z,635nm,20.2s,baz=298,slow=35
FINES FINESS Array B 19.74 79 P **P** **12 09 51.9 -0.1**
CLF Chambon-Foret 19.80 138 **P** **12 09 53.6 +0.8**
TULEG Thule 19.86 327 *e*P **Pn** **12 09 56.1 +1.3**
TULEG IAMs_20 IAMs_20 12 17 30.1
comp=Z,7µm,10.3s
TNS Taunus Mts 19.90 124 P **Pn** **12 09 56.5 +0.9**
SLIT Slitere, Latvi 20.18 92 *e*P **P** **12 09 56.4 -0.4**
APA Apatity 20.37 59⇓ *i*P Pn 12 10 02.2 +1.3
APA pmax pmax
comp=Z,24nm,0.9s
APA MLR MLR
comp=Z,900nm,13.0s
MFF Saint Martin d 20.45 144 P **P** **12 10 01.1 +1.2**
MOX Moxa 20.72 119 P **P** **12 10 03.8 +1.0**
MOX pmax pmax
comp=Z,65nm,2.7s
CLL Collm 20.72 116 *i* P **P** **12 10 02.2 -0.6**
comp=Z,133nm,1.7s
CLL *e*Pmax 12 10 08.0
CLL *e*Plp 12 10 12.0
CLL *i* S Sn 12 13 59.8 +1.1
comp=Z,626nm,4.1s
CLL *e*Slp 12 14 05.0
CLL *e*Slp 12 14 05.0
CLL *e*Slp 12 14 05.0
CLL Lm MLR 12 17 00.0
comp=Z,700nm,20.7s
CLL Collm 20.72 116 P **P** **12 10 02.7 -0.1**
CLL pmax pmax
comp=Z,62nm,1.3s
CLL Collm 20.72 116 P **P** **12 10 02.7 -0.1**
CLL IAmb IAmb 12 10 06.1
comp=Z,62nm,1.3s
LVZ Lovozero 20.73 58 *i* P **P** **12 10 04.0 +1.1**
LVZ pmax pmax
comp=Z,58nm,1.5s
LOR Lormes 20.95 136 P **P** **12 10 05.7 +0.4**
LOR pmax pmax
comp=Z,68nm,1.2s
PBUR Paburge 21.02 96 *e*P **P** **12 10 06.4 +0.4**
ECH Echery 21.16 129 P **P** **12 10 08.1 +0.5**
ECH pmax pmax
comp=Z,56nm,1.2s
ECH Echery 21.16 129 P **P** **12 10 08.1 +0.5**
ECH IAmb IAmb 12 10 14.5
comp=Z,56nm,1.2s
GRA1 Grafenberg Arr 21.34 121 P **P** **12 10 08.0 -1.6**
GRA1 IAmb IAmb 12 10 24.4
comp=Z,83nm,1.2s
GRF Grafenberg Arr 21.34 121 P **P** **12 10 08.0 -1.6**
GRF pmax pmax
comp=Z,83nm,1.2s
GRF Grafenberg Arr 21.34 121 *e*P **P** **12 10 09.4 -0.2**
comp=Z,100nm,1.4s,baz=326,slow=9.8
NKC Novy Kostel 21.36 118 *e*P **P** **12 10 10.7 +0.9**
NKC *e*S Sn 12 14 12.1 -2.1
NKC AMS AMS 12 22 30.0
comp=Z,2µm,10.7s
NKC Novy Kostel 21.36 118 *e*P **P** **12 10 10.7 +0.9**
NKC *e*S Sn 12 14 12.1 -2.1
NKC MLR MLR
comp=Z,2µm,10.7s
STU Stuttgart 21.38 125 P **P** **12 10 10.1 +0.1**
STU pmax pmax
comp=Z,71nm,1.0s
STU Stuttgart 21.38 125 P **P** **12 10 10.1 +0.1**
STU IAmb IAmb 12 10 16.5
comp=Z,71nm,1.0s
BRG Berggiesshubel 21.43 115 *i* P **P** **12 10 09.7 -0.7**
comp=Z,68nm,1.4s
BRG S Sn 12 14 16.0 +0.3
comp=N,1µm,13.5s
comp=E,2µm,14.9s
comp=Z,2µm,16.5s
BRG Berggiesshubel 21.43 115 *i* P **P** **12 10 09.7 -0.7**
BRG S Sn 12 14 16.0 +0.3
BRG pmax pmax
comp=Z,68nm,1.4s
BRG MLR MLR
comp=N,1µm,13.5s
BRG MLR MLR
comp=E,2µm,14.9s
BRG MLR MLR
comp=Z,2µm,16.5s
BFO Black Forest 21.46 127 P **P** **12 10 11.1 +0.3**
BFO pmax pmax
comp=Z,85nm,1.3s
BFO Black Forest 21.46 127 P **P** **12 10 11.1 +0.3**
BFO IAmb IAmb 12 10 17.1
comp=Z,85nm,1.3s
VSU Vasula 21.60 86 *e*P **P** **12 10 10.6 -1.6**
VSU Vasula 21.60 86 *i* P **P** **12 10 12.9 +0.8**
VSU pmax pmax
comp=Z,173nm,1.1s
FRB Frobisher Bay 21.73 291 LR LR 12 17 54.5
comp=Z,800nm,21.1s,baz=62,slow=35
PVCC Panska Ves 21.95 115 AMS AMS 12 23 00.0
comp=Z,2µm,9.6s
PVCC Panska Ves 21.95 115 P **P** **12 10 18.8 +2.8**
PVCC pmax pmax
comp=Z,31nm,2.3s
SLE Schleitheim 22.00 128 P **P** **12 10 17.6 +1.0**
SLE pmax pmax
comp=Z,61nm,1.3s
SLVR Solovky 22.11 65 *e*P **P** **12 10 16.7 -0.9**
comp=Z,50nm,0.9s
PABE Paberze 22.24 95 *e*P **P** **12 10 19.4 +0.4**
PRA Prague 22.26 116 AMS AMS 12 22 50.0
comp=Z,1µm,11.2s
PRU Pruhonice 22.36 116 *e*P **P** **12 10 22.4 +1.9**
PRU *e*S **S** **12 14 28.6 +2.7**
PRU MLR MLR
comp=N,2µm,10.3s
WET Wettzell 22.41 119 P **P** **12 10 23.8 +2.8**
WET pmax pmax
comp=Z,27nm,1.9s
CHVC Chvalec 22.48 113 *e*P **P** **12 10 23.3 +1.5**
CHVC *e*S **S** **12 14 34.8 +6.6**
CHVC AMS AMS 12 23 50.0
comp=Z,2µm,9.1s
GOPC GO Pecny, Ondr 22.52 115 *e*P **P** **12 10 23.9 +1.7**
GOPC *e*S **S** **12 14 30.4 +1.5**
GOPC AMS AMS 12 23 40.0
comp=Z,2µm,10.1s
GOPC GO Pecny, Ondr 22.52 115 *e*P **P** **12 10 23.9 +1.7**
GOPC *e*S **S** **12 14 30.4 +1.5**
GOPC MLR MLR
comp=Z,2µm,10.1s
UPC Upice 22.53 113 AMS AMS 12 23 50.0
comp=Z,2µm,10.9s
OSTC Ostas 22.57 112 *e*P **P** **12 10 23.9 +1.2**
OSTC *e*S **S** **12 14 31.9 +2.0**
OSTC AMS AMS 12 23 00.0
comp=Z,2µm,9.3s
KHC Kasperske Hory 22.69 118 *e*P **P** **12 10 24.7 +0.7**
KHC *e*S **S** **12 14 37.1 +5.1**
KHC AMS AMS 12 22 30.0
comp=Z,2µm,9.6s
KHC Kasperske Hory 22.69 118 *ce*P **P** **12 10 24.9 +0.9**
KHC pmax pmax
comp=Z,75nm,1.3s
KHC Kasperske Hory 22.69 118 P **P** **12 10 24.5 +0.6**
DPC Dobruska-Polom 22.78 113 *e*P **P** **12 10 25.4 +0.5**
DPC *e*S **S** **12 14 35.8 +2.2**
DPC AMS AMS 12 24 00.0
comp=Z,2µm,11.2s
DPC Dobruska-Polom 22.78 113 *e*P **P** **12 10 25.4 +0.5**
DPC *e*S **S** **12 14 35.8 +2.2**
DPC MLR MLR
comp=Z,2µm,11.2s
SENIN Lac Senin/Sane 22.83 131 P **P** **12 10 23.9 -1.7**
SENIN IAmb IAmb 12 10 32.8
comp=Z,41nm,1.3s
DAVA Damuels 22.89 126 *e*P **P** **12 10 28.3 +2.1**
comp=Z,65nm,1.3s
SSB Saint Sauveur 22.95 137 P **P** **12 10 25.6 -1.2**
SSB pmax pmax
comp=Z,40nm,1.4s
SSB Saint Sauveur 22.95 137 P **P** **12 10 25.6 -1.2**
SSB IAmb IAmb 12 10 40.4
comp=Z,40nm,1.4s
GEC2 GERESS Array S 22.97 119 P **P** **12 10 27.8 +0.8**
GEC2 IAmb IAmb 12 10 31.1
comp=Z,56nm,1.4s
GERES GERESS Array B 22.97 119 P **P** **12 10 26.3 -0.7**
comp=Z,12nm,1.1s,baz=319,slow=7.6,SNR=27
GERES LR LR 12 19 49.8
comp=Z,872nm,19.7s,baz=328,slow=38
GERES GERESS Array B 22.97 119 P **P** **12 10 27.2 +0.2**
GERES GERESS Array B 22.97 119 P **P** **12 10 27.2 +0.2**
RETA Reutte 23.03 125 P **P** **12 10 29.5 +1.9**
comp=Z,41nm,1.5s,SNR=8.1
IZAR Zarasai 23.06 92 *e*P **P** **12 10 27.4 -0.3**
ZFI Zemlya Franca- 23.11 22 *e*P **P** **12 10 29.0 +1.0**
comp=Z,129nm,1.9s
ZFI *e*S **S** **12 14 41.5 +2.8**
ISAL Salakas 23.12 92 *e*P **P** **12 10 28.4 0.0**
KRLC Kraliky 23.18 113 *e*P **P** **12 10 29.7 +0.7**
KRLC AMS AMS 12 24 20.0
comp=Z,2µm,10.1s
KRLC Kraliky 23.18 113 *e*P **P** **12 10 29.7 +0.7**
KRLC MLR MLR
comp=Z,2µm,10.1s
MOTA Moosalm 23.27 124 *e*P **P** **12 10 30.3 +0.1**
comp=Z,50nm,1.5s,SNR=7.2
TREC Trest 23.29 115 *e*S **S** **12 14 43.8 +1.5**
TREC AMS AMS 12 24 10.0
comp=Z,2µm,8.6s
IIGN Ignalina 23.31 93 *e*P **P** **12 10 30.8 +0.5**
DAVOX Davos/Dischmat 23.33 127 P **P** **12 10 30.7 0.0**
comp=Z,13nm,1.1s,baz=313,slow=8.6,SNR=7.8
PGAV Gavieira, Arco 23.34 162 *i* LQ LQ 12 14 54.4
PGAV *e*LR LR 12 17 01.0
comp=Z,2µm,16.0s
TUE Stuetta 23.41 128 P **P** **12 10 31.0 -0.6**
TUE IAmb IAmb 12 10 51.5
comp=Z,40nm,1.3s
SQTA Sankt Quirin 23.41 124 *e*P **P** **12 10 31.4 -0.1**
comp=Z,35nm,1.1s
FETA Feichten 23.41 125 *e*P **P** **12 10 32.9 +1.3**
comp=Z,28nm,1.3s
WATA Walderalm 23.45 124 *e*P **P** **12 10 33.4 +1.5**
comp=Z,37nm,1.3s,SNR=9.1
WTTA Wattenberg 23.53 124 *e*P **P** **12 10 33.7 +0.9**
comp=Z,49nm,1.5s,SNR=15
IDID Didziasalis 23.55 92 *e*P **P** **12 10 33.2 +0.5**
FUORN Ofenpass-Fuorn 23.60 126 P **P** **12 10 31.3 -2.2**
FUORN IAmb IAmb 12 10 52.5
comp=Z,44nm,1.5s
EUNU Eureka 23.68 336 P **P** **12 10 34.3 +0.4**
EUNU IAmb IAmb 12 10 35.0
comp=Z,57nm,1.4s
VRAC Vranov 23.71 114 P **P** **12 10 34.6 +0.3**
comp=Z,15nm,1.0s,baz=326,slow=11,SNR=13
VRAC Vranov 23.71 114⇓⇓ P **P** **12 10 35.7 +1.3**
VRAC Vranov 23.71 114 *e*P **P** **12 10 34.6 +0.3**
VRAC *e*S **S** **12 14 54.4 +5.3**
MORC Moravsky Berou 23.71 112 *e*P **P** **12 10 34.6 +0.2**
MORC *e*S **S** **12 14 54.1 +4.9**
MORC Moravsky Berou 23.71 112 P **P** **12 10 35.1 +0.7**
MORC pmax pmax
comp=Z,18nm,1.2s
MORC Moravsky Berou 23.71 112 P **P** **12 10 35.1 +0.7**
BNI Bardonecchia 23.80 134 P **P** **12 10 35.7 +0.3**
BNI pmax pmax
comp=Z,39nm,1.3s
BNI Bardonecchia 23.80 134 P **P** **12 10 35.7 +0.3**
BNI IAmb IAmb 12 10 46.2
comp=Z,39nm,1.3s
KRUC Moravsky 23.83 115 *e*P **P** **12 10 35.3 -0.2**
KRUC *e*S **S** **12 14 54.5 +3.5**
KRUC Moravsky 23.83 115 P **P** **12 10 35.6 +0.1**
NACGM Naroch 23.85 93 *e*P **P** **12 10 35.0 -0.5**
NACGM *e*S **S** **12 14 50.0 -1.1**
NACGM *e*LQ LQ 12 17 50.0
NACGM *e*LR LR 12 18 42.0
MOA Molln 24.00 119 *e*P **P** **12 10 36.9 -0.3**
comp=Z,25nm,1.7s
PVRL Vila Real 24.09 162 *e*P **P** **12 10 36.6 -1.4**
comp=Z,57nm,1.8s
ABTA Abfaltersbach 24.28 123 P **P** **12 10 41.7 +1.8**
comp=Z,21nm,1.2s,SNR=6.8
MVO Moncorvo 24.29 160 *e*P **P** **12 10 43.7 +3.8**
comp=Z,54nm,1.5s
MVO *i* LQ LQ 12 15 08.8
MVO *e*LR LR 12 18 42.9
comp=Z,1µm,20.0s
KBA Koelnbreinsper 24.31 121 *e*P **P** **12 10 42.3 +2.2**
comp=Z,20nm,1.7s
JAVC Velka Javorina 24.50 113 *e*P **P** **12 10 42.8 +1.1**
JAVC *e*S **S** **12 15 03.5 +1.8**
CONA Conrad Observa 24.55 117 *e*P **P** **12 10 42.6 +0.4**
comp=Z,18nm,1.1s,SNR=10
CTI Castel Tesino 24.58 125 P **P** **12 10 43.1 +0.6**
CTI pmax pmax
comp=Z,37nm,1.3s
CTI Castel Tesino 24.58 125 P **P** **12 10 43.1 +0.6**
CTI IAmb IAmb 12 10 57.1
comp=Z,37nm,1.3s
MICGM Minsk 24.59 93⇑ *e*P **P** **12 10 43.0 +0.6**
MICGM PM 12 10 57.0
comp=Z,0.2nm,2.0s
MICGM *e*PP **PnPn** **12 11 12.0 -1.4**
MICGM *e*S **S** **12 15 08.0 +5.0**
MICGM *e*SS **SnSn** **12 15 40.0 -7.7**
MICGM *e*LR LR 12 20 00.0
MNK Minsk 24.59 93 *e*P **P** **12 10 43.0 +0.6**
MNK *e* 12 11 12.0
MNK *e*S **S** **12 15 08.0 +5.0**
MNK pmax pmax
comp=Z,240nm,2.0s
ZOU Zoufplan 24.61 123 P **P** **12 10 43.3 +0.4**
PVIS Viseu 24.61 162 *e*P **P** **12 10 44.4 +1.6**
comp=Z,37nm,1.6s
CIMO Cimolais 24.63 124 P **P** **12 10 43.1 +0.2**
CIMO IAmb IAmb 12 10 59.0
comp=Z,24nm,1.2s
SMOL Smolenice 24.68 114 *e*P **P** **12 10 44.8 +1.5**
SMOL pmax pmax
comp=Z,28nm,1.3s
SMOL Smolenice 24.68 114 *e*P **P** **12 10 44.8 +1.5**
ISO Isola 24.70 134 P **P** **12 10 49.9 +6.3**
ISO pmax pmax
comp=Z,29nm,2.1s
MODS Modra-Piesok 24.73 114 *e*P **P** **12 10 44.1 +0.3**
MODS Modra-Piesok 24.73 114 *e*P **P** **12 10 44.1 +0.3**
STAL STALIGIAL 24.77 123 P **P** **12 10 45.2 +1.0**
MYKA Terra Mystica 24.79 122 P **P** **12 10 46.1 +1.7**
comp=Z,22nm,1.3s
PRED Cave del Predi 24.93 122 P **P** **12 10 46.6 +1.0**
PRED IAmb IAmb 12 10 50.3
comp=Z,42nm,1.3s
ARSA Arzberg 24.98 118 *e*P **P** **12 10 46.5 +0.5**
comp=Z,14nm,1.2s,SNR=8.7
LANS Liptovska Anna 24.98 111 *e*P **P** **12 10 47.9 +1.8**
LANS pmax pmax
comp=Z,14nm,0.9s
LANS Liptovska Anna 24.98 111 *e*P **P** **12 10 47.9 +1.8**
COI Coimbra 25.05 163 P **P** **12 10 48.8 +2.1**
COI pmax pmax
comp=Z,92nm,1.4s
COI Coimbra 25.05 163 P **P** **12 10 48.8 +2.1**
TEOL Teolo 25.18 126 P **P** **12 10 49.0 +1.2**
TEOL IAmb IAmb 12 10 52.0
comp=Z,38nm,1.1s
PCAS Casmilo, Conde 25.19 163 *e*P **P** **12 10 50.1 +2.1**
comp=Z,69nm,1.6s
OBKA Obir 25.23 121 *e*P **P** **12 10 46.1 -2.2**
comp=Z,22nm,1.4s
PRMA PARMA 25.24 129 P **P** **12 10 49.9 +1.6**
VYHS Vyhne 25.25 112 *e*P **P** **12 10 49.2 +0.7**
VYHS pmax pmax
comp=Z,115nm,1.8s
VYHS Vyhne 25.25 112 *e*P **P** **12 10 49.2 +0.7**
SOKA Soboth 25.27 120 *e*P **P** **12 10 48.4 -0.3**
comp=Z,26nm,1.2s,SNR=13
PCBR Castelo Branco 25.53 162 *e*P **P** **12 10 54.3 +3.3**
comp=Z,51nm,1.5s
SRO Srobarova 25.59 114 *e*P **P** **12 10 53.5 +2.0**
SRO pmax pmax
comp=Z,37nm,1.3s
SRO Srobarova 25.59 114 *e*P **P** **12 10 53.5 +2.0**
KLMR Klimovskoe 25.64 72 *e*P **P** **12 10 51.6 -0.2**
comp=Z,58nm,1.2s
KLMR *e*PcP **PcP** **12 14 21.4 -0.5**
KLMR *e*S **S** **12 15 20.7 +1.1**
KLMR Klimovskoe 25.64 72 *e*P **P** **12 10 51.6 -0.2**
KLMR *e* 12 14 21.4
KLMR pmax pmax
comp=Z,58nm,1.2s
KLMR Klimovskoe 25.64 72 *e*P **P** **12 10 51.6 -0.2**
KLMR AMP 12 10 55.3
comp=Z,58nm,1.2s
KLMR *e*PcP **PcP** **12 14 21.5 -0.4**
KLMR LQ LQ 12 17 36.1
KLMR LQ LQ 12 17 36.1
KLMR LR LR 12 19 31.2
SRO2 Moca 25.67 114 *e*P **P** **12 10 53.7 +1.5**
SRO2 pmax pmax
comp=Z,22nm,0.8s
SRO2 Moca 25.67 114 *e*P **P** **12 10 53.7 +1.5**
VLC Villacollemand 25.79 129 P **P** **12 10 53.3 -0.2**
VLC IAmb IAmb 12 11 10.5
comp=Z,51nm,1.4s
ZCCA Zocca 25.82 128 P **P** **12 10 53.4 -0.4**
ZCCA IAmb IAmb 12 11 12.9
comp=Z,52nm,1.3s
PMRV Marv??o 25.95 162 *e*P **P** **12 10 58.2 +3.4**
comp=Z,34nm,1.4s
PMRV *i* LQ LQ 12 15 37.5
PMRV *e*LR LR 12 19 01.6
comp=Z,2µm,18.0s
CRVS Cervenica-Dubn 25.99 108 *e*P **P** **12 10 56.0 +0.9**
CRVS pmax pmax
comp=Z,98nm,1.7s
CRVS Cervenica-Dubn 25.99 108 *e*P **P** **12 10 56.0 +0.9**
LSH Leshukonskoye 26.01 60 *e*P **P** **12 10 53.5 -1.6**
comp=Z,80nm,1.1s
LSH *e*S **S** **12 15 24.4 -1.0**
SCHQ Schefferville 26.01 271 P **P** **12 10 53.8 -1.5**
comp=Z,15nm,0.8s,baz=58,slow=10,SNR=7.9
SCHQ LR LR 12 19 49.2
comp=Z,782nm,20.5s,baz=44,slow=34
SCHQ Schefferville 26.01 271 P **P** **12 10 54.3 -1.0**
SCHQ IAmb IAmb 12 10 59.5
comp=Z,19nm,0.8s
PSZ Piszkesteto 26.14 112⇑ P **P** **12 10 58.1 +1.5**
PSZ Piszkesteto 26.14 112 P **P** **12 10 56.3 -0.2**
PSZ pmax pmax
comp=Z,63nm,1.4s
PSZ Piszkesteto 26.14 112 P **P** **12 10 56.3 -0.2**
PMTG Montargil 26.19 163 *e*P **P** **12 10 59.6 +2.6**
comp=Z,43nm,1.7s
ESBB Sonseca Array 26.24 156 P **P** **12 10 57.8 +0.2**
ESDC Sonseca Array 26.24 156 P **P** **12 10 56.7 -0.8**
comp=Z,4.2nm,0.8s,baz=347,slow=8.8,SNR=22
ESDC LR LR 12 21 07.3
comp=Z,1µm,18.3s,baz=335,slow=36
ESDC Sonseca Array 26.24 156 P **P** **12 10 57.6 +0.1**
KOLS Kolonicke sedl 26.30 108 *e*P **P** **12 10 59.0 +1.1**
KOLS pmax pmax
comp=Z,70nm,1.9s
KOLS Kolonicke sedl 26.30 108 *e*P **P** **12 10 59.0 +1.1**
LVV L'vov 26.34 104 *e*P **P** **12 10 59.9 +1.6**
LVV *e* 12 11 48.7
LVV *e*S **S** **12 15 30.0 -0.9**
LVV *e*SS **SnSn** **12 16 45.3 +15**
LVV pmax pmax
comp=Z,100nm,1.3s
LVV MLR MLR
comp=E,900nm,16.0s
LVV MLR MLR
comp=Z,800nm,14.0s
RES Resolute Bay 26.47 324 LR LR 12 21 19.1
comp=Z,798nm,19.2s,baz=64,slow=36
UZH Uzhgorod 26.54 108⇑ *i*P **P** **12 11 01.5 +1.4**
UZH *e*S **S** **12 15 32.0 -2.1**
UZH pmax pmax
comp=Z,10.0nm,1.2s
OSSC Osservatorio P 26.65 129 P **P** **12 11 00.8 -0.4**
MURB Monte Urbino 27.31 127 P **P** **12 11 10.3 +3.1**
PRGR Permogore 27.66 67 *e*P **P** **12 11 08.8 -1.2**
PRGR *e* 12 14 22.9
PRGR pmax pmax
comp=Z,34nm,1.5s
AKASG Malin Array Be 27.87 97 P **P** **12 11 11.5 -0.5**
comp=Z,1.7nm,0.7s,baz=322,slow=9.5,SNR=9.9
AKASG LR LR 12 22 35.9
comp=Z,490nm,18.8s,baz=320,slow=37
AKASG Malin Array Be 27.87 97 *i* P **P** **12 11 13.0 +1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 27.87 97 P **P** **12 11 09.2 -2.8**
AKBB Malin Array Si 27.87 97*ce*P **P** **12 11 13.3 +1.3**
AKBB Malin Array Si 27.87 97 P **P** **12 11 11.8 -0.2**
PVAQ Vaqueiros 27.90 163 *i* LQ LQ 12 16 05.0
PVAQ *e*LR LR 12 19 29.7
comp=Z,1µm,16.0s
OBN Obninsk 27.91 84 P **P** **12 11 12.7 +0.4**
comp=Z,4.7nm,0.4s,baz=326,slow=7.3,SNR=1.9
OBN LR LR 12 22 13.9
comp=Z,97nm,18.5s,baz=326,slow=36
OBN Obninsk 27.91 84⇓ *e*P **P** **12 11 12.5 +0.2**
OBN *e* 12 12 01.6
OBN *e*S **S** **12 15 54.7 -0.9**
OBN *i* SS **SnSn** **12 17 17.2 +8.4**
OBN pmax pmax
comp=Z,65nm,1.2s
OBN MLR MLR
comp=Z,614nm,14.0s
OBN Obninsk 27.91 84 P **P** **12 11 11.6 -0.8**
MOS Moscow 27.95 82 *e*P **P** **12 11 13.5 +0.8**
MOS pmax pmax
comp=Z,34nm,0.8s
MOS MLR MLR
comp=Z,600nm,13.0s
SIRR Siria 28.18 112⇑ P **P** **12 11 16.4 +1.5**
BUR08 Bucovina Ar. S 28.52 106 P **P** **12 11 16.5 -1.4**
BURAR Bucovina Array 28.55 106⇑ P **P** **12 11 19.0 +0.8**
BURAR Bucovina Array 28.55 106 P **P** **12 11 16.0 -2.3**

BZS	**Buzias**	**28.70**	**113**	⇑P		**P**		**12 11 20.7**	**+1.2**
BZS	**Buzias**	**28.70**	**113**	P		**P**		**12 11 22.3**	**+2.9**
DIVS	**Divibare**	**29.33**	**116**	P		**P**		**12 11 27.2**	**+2.0**
GZR	**Gura Zlata**	**29.34**	**111**	⇑P		**P**		**12 11 26.4**	**+1.1**
MDVR	**Moldovita**	**29.43**	**113**	⇑P		**P**		**12 11 27.5**	**+1.5**
BIZ	**Bicaz**	**29.45**	**106**	⇑P		**P**		**12 11 28.2**	**+2.0**
HERR	**Herculane**	**29.62**	**112**	⇑P		**P**		**12 11 29.4**	**+1.7**
ARR	**Arges**	**30.11**	**109**	⇑P		**P**		**12 11 34.0**	**+1.8**
VOIR		**30.23**	**109**	⇑P		**P**		**12 11 34.8**	**+1.7**
PDG	**Podgorica**	**30.47**	**119**	⇑P		**P**		**12 11 35.4**	**+0.3**
PDG	**Podgorica**	**30.47**	**119**	P		**P**		**12 11 34.6**	**-0.5**
PDG				IAmb		IAmb		12 11 39.9	
	comp=Z,16nm,1.1s								
PLOR	**Plostina**	**30.55**	**106**	⇑P		**P**		**12 11 37.4**	**+1.5**
MLR	**Muntele Rosu**	**30.55**	**108**	P		**P**		**12 11 36.9**	**+0.8**
	comp=Z,11nm,1.1s,baz=349,slow=9.7,SNR=5.7								
MLR	**Muntele Rosu**	**30.55**	**108**	⇑P		**P**		**12 11 37.8**	**+1.8**
MLR	**Muntele Rosu**	**30.55**	**108**	P		**P**		**12 11 35.4**	**-0.7**
MLR				IAmb		IAmb		12 11 42.3	
	comp=Z,27nm,1.3s								
VRI	**Vrincioaia**	**30.57**	**106**	⇑P		**P**		**12 11 37.7**	**+1.7**
LPSR	**Galich'ya Gora**	**30.66**	**86**	*e*P		**P**		**12 11 37.9**	**+1.2**
LPSR				pmax		pmax			
	comp=Z,20nm,1.2s								
LPSR				MLR		MLR			
	comp=Z,900nm,12.0s								
NEHR	**Nehoiu**	**30.75**	**107**	⇑P		**P**		**12 11 39.5**	**+1.9**
KIRV	**Kirov**	**31.02**	**69***ce*	P		**P**		**12 11 40.8**	**+1.0**
CFR	**Carcaliu**	**31.71**	**106**	⇑P		**P**		**12 11 47.4**	**+1.3**
VSR	**Storozhevoye**	**31.76**	**87**	*e*P		**P**		**12 11 45.9**	**-0.6**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VSR				MLR		MLR			
	comp=Z,970nm,14.0s								
CORL	**Corleone**	**32.39**	**131**	P		**P**		**12 11 52.6**	**+0.4**
CHGQ	**Chibougamau**	**32.76**	**271**	P		**P**		**12 11 55.3**	**+0.1**
	baz=42								
VRH	**Novokhopyorsk**	**32.87**	**85**	*e*P		**P**		**12 11 57.3**	**+1.1**
VRH				pmax		pmax			
	comp=Z,40nm,1.2s								
VRH				MLR		MLR			
	comp=Z,750nm,10.0s								
KEST	**Kesra**	**33.16**	**138**	P		**P**		**12 12 00.2**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=293,slow=4.6,SNR=6.8								
KEST	**Kesra**	**33.16**	**138**	P		**P**		**12 11 57.3**	**-1.6**
H66A	**Whiting**	**33.72**	**258**	P		**P**		**12 12 02.1**	**-1.5**
	baz=36								
F62A	**Pittston Farm,**	**33.95**	**262**	P		**P**		**12 12 06.8**	**+1.1**
	baz=38								
E60A	**Ste Agathe de**	**34.22**	**264**	P		**P**		**12 12 07.5**	**-0.4**
	baz=38								
BELG	**Belogornoye**	**34.52**	**79**	*i* P		**P**		**12 12 11.5**	**+1.0**
LSQQ	**Lebel-sur-Quev**	**34.52**	**272**	P		**P**		**12 12 08.9**	**-1.7**
	baz=41								
D57A	**Chemin Vers le**	**34.76**	**267**	P		**P**		**12 12 12.2**	**-0.5**
	baz=39								
D56A	**ZEC Mazanza, M**	**35.11**	**268**	P		**P**		**12 12 15.8**	**+0.2**
	baz=39								
G61A	**St-Isidore-de-**	**35.11**	**263**	P		**P**		**12 12 15.4**	**-0.3**
	baz=37								
E57A	**Chemin Saint G**	**35.34**	**267**	P		**P**		**12 12 16.5**	**-1.2**
	baz=38								
D55A	**Sainte-Anne-du**	**35.44**	**269**	P		**P**		**12 12 18.5**	**0.0**
	baz=39								
VLDQ	**Val d'Or**	**35.45**	**272**	P		**P**		**12 12 19.4**	**+0.9**
VLDQ				IAmb		IAmb		12 12 21.7	
	comp=Z,22nm,1.2s								
E56A	**St. Veronique**	**35.62**	**268**	P		**P**		**12 12 20.6**	**+0.5**
	baz=38								
ANN	**Anapa**	**35.94**	**96**	*e*P		**P**		**12 12 22.1**	**-0.7**
ANN				*e*S		**S**		**12 18 00.5**	**-0.2**
ANN				pmax		pmax			
	comp=Z,89nm,1.7s								
ANN				MLR		MLR			
	comp=Z,1μm,12.0s								
ARU	**Arti**	**36.12**	**66**	P		**P**		**12 12 23.7**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=327,slow=8.8,SNR=5.1								
ARU	**Arti**	**36.12**	**66***c*	*i* P		**P**		**12 12 24.1**	**-0.1**
ARU								12 13 42.0	
ARU				S		**S**		**12 18 05.3**	**+2.0**
ARU				SS		**SnSn**		**12 20 26.6**	**-1.5**
ARU				pmax		pmax			
	comp=Z,27nm,2.5s								
ARU				MLR		MLR			
	comp=Z,837nm,18.0s								
ARU	**Arti**	**36.12**	**66**	P		**P**		**12 12 26.1**	**+1.8**
ARU				IAmb		IAmb		12 12 32.6	
	comp=Z,26nm,1.5s								
NRIK	**Noril'sk**	**36.50**	**35**	P		**P**		**12 12 26.9**	**-0.4**
	comp=Z,8.1nm,0.7s,baz=274,slow=3.4,SNR=6.8								
NRIK				LR		LR		12 29 06.8	
	comp=Z,319nm,18.1s,baz=5.5,slow=39								
NRIK	**Noril'sk**	**36.50**	**35***ce*	P		**P**		**12 12 27.3**	**0.0**
NRIK				pmax		pmax			
	comp=Z,24nm,1.4s								
SVE	**Sverdlovsk**	**36.65**	**64**	*e*P		**P**		**12 12 27.9**	**-0.9**
SVE				*e*S		**S**		**12 18 12.2**	**+0.8**
SVE				pmax		pmax			
	comp=Z,19nm,1.3s								
SVE				MLR		MLR			
	comp=Z,980nm,19.0s								
G57A	**Newington**	**36.73**	**266**	P		**P**		**12 12 31.2**	**+1.6**
	baz=37								
G54A	**Lake Saint Pet**	**37.84**	**269**	P		**P**		**12 12 39.2**	**+0.2**
	baz=38								
SOC	**Sochi**	**37.89**	**95**	*e*P		**P**		**12 12 39.9**	**+0.5**
SOC				*e*				12 14 04.9	
SOC				*e*PPP		PPP		12 14 28.1	
SOC				*e*S		**S**		**12 18 31.6**	**+1.1**
SOC				*e*SS		**SS**		**12 21 14.6**	**-1.9**
SOC				pmax		pmax			
	comp=Z,6.0nm,0.3s								
SOC				MLR		MLR			
	comp=Z,809nm,15.0s								
GOF	**Gofitskoye**	**38.14**	**91**	⇑*e*P		**P**		**12 12 44.2**	**+2.7**
GOF				pmax		pmax			
	comp=Z,163nm,1.5s								
BR131	**Keskin Array S**	**38.50**	**105**	*i* P		**P**		**12 12 46.8**	**+2.0**
BR131	**Keskin Array S**	**38.50**	**105**	P		**P**		**12 12 46.1**	**+1.2**
BRTR	**Keskin Array B**	**38.50**	**105**	P		**P**		**12 12 45.5**	**+0.7**
	comp=Z,7.4nm,1.0s,baz=323,slow=5.6,SNR=22								
BRTR	**Keskin Array B**	**38.50**	**105**	*i* P		**P**		**12 12 46.7**	**+2.0**
BRTR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
BRTR	**Keskin Array B**	**38.50**	**105**	P		**P**		**12 12 46.0**	**+1.2**
H53A	**Bobcaygeon**	**38.70**	**269**	P		**P**		**12 12 46.9**	**+0.7**
	baz=37								
KIV	**Kislovodsk**	**38.87**	**92**	*e*P		**P**		**12 12 49.4**	**+1.6**
KIV				*e*S		**S**		**12 18 48.0**	**+2.5**
KIV				pmax		pmax			
	comp=Z,36nm,1.0s								
KIV				MLR		MLR			
	comp=Z,1μm,16.0s								
SHA1	**Shidzhatmaz**	**39.03**	**93**	*i* P		**P**		**12 12 51.1**	**+1.8**
KBZ	**Khabaz**	**39.14**	**92**	P		**P**		**12 12 49.8**	**-0.1**
	comp=Z,7.4nm,0.9s,baz=281,slow=9.5,SNR=8.2								
KBZ				LR		LR		12 29 13.9	
	comp=Z,749nm,20.7s,baz=320,slow=37								
KBZ	**Khabaz**	**39.14**	**92***ce*	P		**P**		**12 12 51.9**	**+2.0**
KBZ				pmax		pmax			
	comp=Z,3.0nm,1.1s								
YKA	**Yellowknife Ar**	**39.21**	**313**	LR		LR		12 28 42.3	
	comp=Z,249nm,19.8s,baz=0.0,slow=36								
ELL	**Elmali**	**39.52**	**112**	P		**P**		**12 12 55.2**	**+1.9**
ELL				pmax		pmax			
	comp=Z,153nm,1.4s								
ELL	**Elmali**	**39.52**	**112**	P		**P**		**12 12 55.2**	**+1.9**
AKAS	**Kas**	**39.84**	**112**	P		**P**		**12 12 56.8**	**+0.7**
INK	**Inuvik**	**39.85**	**329**	P		**P**		**12 12 54.3**	**-1.2**
	comp=Z,6.0nm,1.0s,baz=46,slow=11,SNR=4.1								
INK	**Inuvik**	**39.85**	**329**	P		**P**		**12 12 55.7**	**+0.2**
INK				pmax		pmax			
	comp=Z,19nm,1.4s								
INK	**Inuvik**	**39.85**	**329**	P		**P**		**12 12 55.7**	**+0.2**
L57A	**Andrews Acres**	**40.04**	**265**	P		**P**		**12 12 58.3**	**+0.8**
	baz=35								
L56A	**Greenwood**	**40.23**	**266**	P		**P**		**12 13 01.6**	**+2.5**
	baz=35								
AKTO	**Aktyubinsk**	**40.32**	**73**	P		**P**		**12 12 59.4**	**-0.3**
	comp=Z,14nm,1.1s,baz=320,slow=7.6,SNR=12								
GROC	**Groznyy**	**40.81**	**90**	*e*P		**P**		**12 13 03.0**	**-0.8**
GROC				*e*				12 14 37.4	
GROC				pmax		pmax			
	comp=Z,19nm,0.6s								
N58A	**Sunbury**	**40.93**	**264**	P		**P**		**12 13 06.3**	**+1.5**
	baz=34								
N58A	**Sunbury**	**40.93**	**264**	P		**P**		**12 13 03.6**	**-1.2**
N58A				IAmb		IAmb		12 13 07.0	
	comp=Z,26nm,1.2s								
M56A	**Emporium**	**41.03**	**266**	P		**P**		**12 13 05.0**	**-0.7**
	baz=35								
AKH	**Akhalkalaki**	**41.28**	**94**	P		**P**		**12 13 10.0**	**+2.1**
AKH				pmax		pmax			
	comp=Z,26nm,1.3s								
AKH	**Akhalkalaki**	**41.28**	**94**	P		**P**		**12 13 10.0**	**+2.1**
AKH				IAmb		IAmb		12 13 12.5	
	comp=Z,26nm,1.3s								
M55A	**Ridgway**	**41.29**	**266**	P		**P**		**12 13 08.1**	**+0.3**
	baz=35								
EYMN	**Ely**	**41.56**	**283**	P		**P**		**12 13 10.0**	**0.0**
	baz=38								
SSPA	**Standing Stone**	**41.60**	**265**	P		**P**		**12 13 10.3**	**0.0**
	baz=34								
M54A	**Oil Creek Stat**	**41.65**	**267**	P		**P**		**12 13 12.1**	**+1.3**
	baz=35								
M54A	**Oil Creek Stat**	**41.65**	**267**	P		**P**		**12 13 10.8**	**0.0**
M54A				IAmb		IAmb		12 13 14.2	
	comp=Z,44nm,1.2s								
MAK	**Makhachkala**	**41.75**	**89**	*e*P		**P**		**12 13 07.7**	**-3.7**
MAK				*e*S		**S**		**12 19 22.3**	**-5.9**
MAK				*e*SS		**SS**		**12 22 27.9**	**-5.6**
MAK				pmax		pmax			
	comp=Z,160nm,1.2s								
MAK				MLR		MLR			
	comp=Z,720nm,16.0s								
O57A	**Amberson**	**41.85**	**264**	P		**P**		**12 13 12.8**	**+0.5**
	baz=34								
ABKAR	**Akbulak array**	**42.03**	**73**	P		**P**		**12 13 13.1**	**-0.6**
ABKAR				IAmb		IAmb		12 13 17.2	
	comp=Z,23nm,1.2s								
TIXI	**Tiksi**	**42.06**	**15***ce*	P		**P**		**12 13 14.1**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,122nm,1.3s								
TIXI	**Tiksi**	**42.06**	**15**	P		**P**		**12 13 15.2**	**+1.5**
EPYK	**Eagle Plains**	**42.15**	**328**	P		**P**		**12 13 13.7**	**-0.9**
	baz=34								
GAZ	**Gaziantep**	**42.15**	**104**	P		**P**		**12 13 16.8**	**+1.9**
GAZ				IAmb		IAmb		12 13 21.7	
	comp=Z,34nm,1.4s								
N54A	**Moraine State**	**42.24**	**267**	P		**P**		**12 13 17.3**	**+1.8**
	baz=34								
N54A	**Moraine State**	**42.24**	**267**	P		**P**		**12 13 13.3**	**-2.3**
N54A				IAmb		IAmb		12 13 18.5	
	comp=Z,41nm,1.2s								
TOLK	**Toolik Lake Re**	**42.76**	**336**	P		**P**		**12 13 21.1**	**+1.6**
	baz=28,SNR=14								
M51A	**Elyria**	**42.88**	**269**	P		**P**		**12 13 19.9**	**-0.8**
	baz=35								
BMAR	**Burnt Mountain**	**42.91**	**333**	P		**P**		**12 13 21.0**	**+0.3**
O54A	**Avella**	**43.05**	**267**	P		**P**		**12 13 23.6**	**+1.5**
	baz=34								
AGMN	**Agassiz Nation**	**43.10**	**287**	P		**P**		**12 13 23.7**	**+1.2**
	baz=38								
G40A	**Rib Lake**	**43.13**	**280**	P		**P**		**12 13 23.3**	**+0.6**
G40A				IAmb		IAmb		12 13 26.3	
	comp=Z,22nm,1.3s								
BRVK	**Borovoye**	**43.17**	**62***ce*	P		**P**		**12 13 23.7**	**+0.8**
BRVK				pmax		pmax			
	comp=Z,18nm,1.3s								
BRVK	**Borovoye**	**43.17**	**62**	P		**P**		**12 13 23.4**	**+0.4**
BVAR	**Borovoye Array**	**43.24**	**62**	P		**P**		**12 13 23.0**	**-0.5**
	comp=Z,9.1nm,1.0s,baz=180,slow=4.3,SNR=22								
BVAR	**Borovoye Array**	**43.24**	**62**	P		**P**		**12 13 23.0**	**-0.5**
O53A	**New Philadelph**	**43.35**	**268**	P		**P**		**12 13 25.3**	**+0.8**
	baz=34								
O53A	**New Philadelph**	**43.35**	**268**	P		**P**		**12 13 24.8**	**+0.3**
O53A				IAmb		IAmb		12 13 25.9	
	comp=Z,44nm,1.3s								
MARD	**Mardin**	**43.53**	**100**	P		**P**		**12 13 27.8**	**+1.6**
MARD				IAmb		IAmb		12 13 33.3	
	comp=Z,37nm,1.2s								
GEVA	**Gevas**	**43.67**	**97**	P		**P**		**12 13 30.5**	**+3.2**
O52A	**Adamsville**	**43.73**	**268**	P		**P**		**12 13 28.3**	**+0.7**
	baz=34								
O52A	**Adamsville**	**43.73**	**268**	P		**P**		**12 13 28.4**	**+0.8**
O51A	**Pataskala**	**44.03**	**269**	P		**P**		**12 13 31.2**	**+1.1**
	baz=34,SNR=7.9								
P53A	**Whipple**	**44.06**	**267**	P		**P**		**12 13 31.7**	**+1.4**
	baz=34								
P53A	**Whipple**	**44.06**	**267**	P		**P**		**12 13 31.1**	**+0.9**
P53A				IAmb		IAmb		12 13 32.9	
	comp=Z,28nm,1.1s								
N49A	**Columbus Grove**	**44.08**	**271**	P		**P**		**12 13 30.7**	**+0.3**
R56A	**Bull Pasture M**	**44.10**	**264**	P		**P**		**12 13 32.1**	**+1.4**
	baz=33								
ACSO	**Alum Creek Sta**	**44.13**	**269**	P		**P**		**12 13 31.3**	**+0.5**
	baz=34								
COLD	**Coldfoot**	**44.13**	**336**	P		**P**		**12 13 31.6**	**+1.1**
	baz=27								
COLD	**Coldfoot**	**44.13**	**336**	P		**P**		**12 13 30.9**	**+0.4**
Q54A	**Coxs Mills**	**44.24**	**266**	P		**P**		**12 13 32.0**	**+0.3**
	baz=33								
P52A	**Corning**	**44.26**	**268**	P		**P**		**12 13 32.7**	**+0.8**
	baz=34								
EGAK	**Eagle**	**44.49**	**329**	P		**P**		**12 13 33.5**	**+0.1**
EGAK				IAmb		IAmb		12 13 34.6	
	comp=Z,25nm,1.5s								
TAM	**Tamanrasset**	**44.50**	**149**	P		**P**		**12 13 35.6**	**+1.5**
TAM				pmax		pmax			
	comp=Z,19nm,1.3s								
TAM	**Tamanrasset**	**44.50**	**149**	P		**P**		**12 13 35.6**	**+1.5**
TAM				IAmb		IAmb		12 13 40.7	
	comp=Z,19nm,1.3s								
Q53A	**Leroy**	**44.64**	**267**	P		**P**		**12 13 35.8**	**+0.9**
	baz=33								
DAWY	**Dawson**	**44.71**	**328**	P		**P**		**12 13 36.5**	**+1.3**
DAWY				IAmb		IAmb		12 13 40.0	
	comp=Z,34nm,1.5s								
O49A	**Covington**	**44.74**	**270**	P		**P**		**12 13 36.4**	**+0.7**
P51A	**Williamsport**	**44.78**	**269**	P		**P**		**12 13 37.0**	**+1.0**
	baz=34								
P51A	**Williamsport**	**44.78**	**269**	P		**P**		**12 13 33.7**	**-2.3**
R54A	**Victor**	**44.98**	**266**	P		**P**		**12 13 38.4**	**+0.8**
	baz=33								
T57A	**Hurt**	**45.23**	**263**	P		**P**		**12 13 40.5**	**+0.9**
	baz=32								
F33A	**5 Mile Ranch,**	**45.23**	**285**	P		**P**		**12 13 40.3**	**+0.7**
Q51A	**Peebles**	**45.28**	**269**	P		**P**		**12 13 40.0**	**0.0**
RDOG	**Red Dog Mine**	**45.32**	**343**	P		**P**		**12 13 40.6**	**+0.6**
K27K	**Chicken**	**45.34**	**329**	P		**P**		**12 13 41.0**	**+0.9**
	baz=30								
S54A	**Dingess, Beckl**	**45.43**	**266**	P		**P**		**12 13 41.9**	**+0.6**
	baz=33								
P49A	**Miami Univ. Ec**	**45.45**	**270**	P		**P**		**12 13 41.8**	**+0.5**
	baz=34								
P49A	**Miami Univ. Ec**	**45.45**	**270**	P		**P**		**12 13 39.1**	**-2.3**
P49A				IAmb		IAmb		12 13 44.2	
	comp=Z,21nm,1.1s								
IL31		**45.70**	**332**	P		**P**		**12 13 43.9**	**+1.0**
ILAR	**Eielson Array**	**45.70**	**332**	P		**P**		**12 13 42.2**	**-0.8**
	comp=Z,8.2nm,1.2s,baz=26,slow=5.7,SNR=26								
ILAR				PcP		**PcP**		**12 15 19.6**	**-1.0**
	comp=Z,4.6nm,1.1s,baz=358,slow=3.1,SNR=11								
ILAR				LR		LR		12 35 18.6	
	comp=Z,359nm,18.5s,baz=32,slow=39								
ILAR	**Eielson Array**	**45.70**	**332**	P		**P**		**12 13 43.1**	**+0.1**
ILAR	**Eielson Array**	**45.70**	**332**	P		**P**		**12 13 43.1**	**+0.1**
T55A	**Pulaski**	**45.78**	**265**	P		**P**		**12 13 45.8**	**+1.8**
	baz=32								
MDM	**Murphy Dome**	**45.79**	**333**	P		**P**		**12 13 44.9**	**+1.1**
COLA	**College**	**45.79**	**333**	P		**P**		**12 13 44.0**	**+0.3**
COLA				pmax		pmax			
	comp=Z,32nm,1.2s								
COLA	**College**	**45.79**	**333**	P		**P**		**12 13 44.0**	**+0.3**
TCOL	**CIGO, UAF Yank**	**45.80**	**333**	P		**P**		**12 13 45.0**	**+1.3**
	baz=27								
P48A	**Milroy**	**45.82**	**271**	P		**P**		**12 13 44.3**	**+0.1**
IMAR	**Indian Mountai**	**45.87**	**337**	P		**P**		**12 13 45.0**	**+0.6**
CCB	**Clear Creek Bu**	**45.99**	**333**	P		**P**		**12 13 45.8**	**+0.5**
CCB				IAmb		IAmb		12 13 51.0	
	comp=Z,30nm,1.5s								
HDA	**Harding Lake**	**46.03**	**332**	P		**P**		**12 13 45.8**	**+0.2**
	baz=28								
HDA	**Harding Lake**	**46.03**	**332**	P		**P**		**12 13 46.0**	**+0.3**
HDA				IAmb		IAmb		12 13 50.7	
	comp=Z,29nm,1.3s								
DOT	**Dot Lake**	**46.10**	**330**	P		**P**		**12 13 46.8**	**+0.5**
DOT				IAmb		IAmb		12 13 51.5	
	comp=Z,23nm,1.5s								
BCAR	**Beaver Creek A**	**46.12**	**329**	P		**P**		**12 13 47.1**	**+0.7**
T54A	**Tazewell**	**46.17**	**265**	P		**P**		**12 13 47.6**	**+0.5**
	baz=32								
RIDG	**Independent Ri**	**46.19**	**331**	P		**P**		**12 13 47.9**	**+1.0**
WRH	**Wood River Hil**	**46.20**	**333**	P		**P**		**12 13 45.9**	**-1.1**
WRH				IAmb		IAmb		12 13 53.9	
	comp=Z,16nm,1.4s								
MLY	**Manley**	**46.20**	**335**	P		**P**		**12 13 48.5**	**+1.5**
	baz=26,SNR=11								
U56A	**King**	**46.26**	**264**	P		**P**		**12 13 48.6**	**+0.8**
	baz=32								
NEA2	**Nenana**	**46.28**	**333**	P		**P**		**12 13 48.7**	**+1.0**
	baz=26,SNR=13								
DGMT	**Dagmar**	**46.33**	**293**	P		**P**		**12 13 49.9**	**+1.6**
	baz=36								
U55A	**TA2, Sparta**	**46.41**	**264**	P		**P**		**12 13 50.1**	**+1.0**
	baz=32								
BRZS	**Berezniki**	**46.52**	**63**	*e*P		**P**		**12 13 48.7**	**-1.0**
BRZS	**Berezniki**	**46.52**	**63**	*e*P		**P**		**12 13 48.7**	**-1.0**
HDIL	**Hopedale**	**46.57**	**275**	P		**P**		**12 13 51.0**	**+0.9**
T53A	**Wise**	**46.65**	**266**	P		**P**		**12 13 51.8**	**+0.9**
	baz=32								
V56A	**Mocksville**	**46.76**	**263**	P		**P**		**12 13 52.5**	**+0.7**
	baz=32								
MCK	**McKinley**	**47.03**	**333**	P		**P**		**12 13 53.6**	**+0.1**
	baz=26								
V55A	**Taylorsville**	**47.03**	**264**	P		**P**		**12 13 55.8**	**+2.0**
	baz=32								
ECSD	**EROS Data Cent**	**47.08**	**284**	P		**P**		**12 13 55.0**	**+1.0**
	baz=35								
ECSD	**EROS Data Cent**	**47.08**	**284**	P		**P**		**12 13 54.2**	**+0.1**
ECSD				IAmb		IAmb		12 13 56.8	
	comp=Z,13nm,1.3s								
BPAW	**Bear Paw Mtn.**	**47.09**	**334**	P		**P**		**12 13 54.2**	**+0.2**
WCI	**Wyandotte Cave**	**47.22**	**271**	P		**P**		**12 13 55.7**	**+0.5**
	baz=33								
WCI	**Wyandotte Cave**	**47.22**	**271**	P		**P**		**12 13 55.4**	**+0.2**
WCI				pmax		pmax			
	comp=Z,46nm,1.5s								
WCI	**Wyandotte Cave**	**47.22**	**271**	P		**P**		**12 13 55.4**	**+0.2**
W56A	**Indian Trail**	**47.37**	**263**	P		**P**		**12 13 57.3**	**+0.8**
	baz=31								
V54A	**Nebo**	**47.41**	**265**	P		**P**		**12 13 57.5**	**+0.7**
	baz=32								
P43A	**Skaggs, Pawnee**	**47.43**	**274**	P		**P**		**12 13 56.6**	**-0.3**
TRF	**Thorofare Moun**	**47.55**	**333**	P		**P**		**12 13 57.5**	**-0.2**
OLIL	**Olney**	**47.57**	**273**	P		**P**		**12 13 58.3**	**+0.3**
BILL	**Bilibino**	**47.58**	**358**	⇑*e*P		**P**		**12 13 59.5**	**+1.8**
BILL				*e*				12 15 50.9	
BILL				*i* S		**S**		**12 20 58.3**	**+6.0**
BILL				pmax		pmax			
	comp=Z,5.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,263nm,16.0s								
ZAA0	**Zalesovo Array**	**47.67**	**51**	P		**P**		**12 13 58.5**	**0.0**
ZAA0				IAmb		IAmb		12 14 02.7	
	comp=Z,11nm,1.1s								
ZALV	**Zalesovo Beam**	**47.67**	**51**	P		**P**		**12 13 58.6**	**+0.1**
	comp=Z,5.7nm,1.0s,baz=320,slow=6.6,SNR=15								
ZALV				PcP		**PcP**		**12 15 27.7**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=318,slow=1.9,SNR=6.0								
ZALV				LR		LR		12 36 05.2	
	comp=Z,128nm,19.1s,baz=332,slow=39								
ZALV	**Zalesovo Beam**	**47.67**	**51**	P		**P**		**12 13 58.3**	**-0.3**
KMSC	**Kings Mountain**	**47.69**	**264**	P		**P**		**12 13 59.7**	**+0.8**
	baz=31								
W54A	**Cherokee Point**	**48.10**	**265**	P		**P**		**12 14 03.4**	**+1.3**
	baz=31								
X56A	**White Oak**	**48.11**	**263**	P		**P**		**12 14 02.8**	**+0.6**
	baz=31								
KURK	**Kurchatov**	**48.15**	**58***ce*	P		**P**		**12 14 01.3**	**-1.0**
KURK				pmax		pmax			
	comp=Z,30nm,1.3s								
KURK	**Kurchatov**	**48.15**	**58**	P		**P**		**12 14 01.8**	**-0.5**
PAULI	**Pauline**	**48.17**	**264**	P		**P**		**12 14 04.5**	**+1.8**
KURBB	**Kurchatov Arra**	**48.20**	**58**	P		**P**		**12 14 01.9**	**-0.8**
	comp=Z,10nm,0.9s,baz=323,slow=7.4,SNR=23								
U49A	**Red Boiling Sp**	**48.44**	**269**	P		**P**		**12 14 05.6**	**+0.9**
LAO	**LASA Array**	**48.58**	**293**	P		**P**		**12 14 07.3**	**+1.5**
	baz=35,SNR=6.4								
LAO	**LASA Array**	**48.58**	**293**	P		**P**		**12 14 07.2**	**+1.5**
T47A	**Sharon Grove**	**48.61**	**270**	P		**P**		**12 14 06.7**	**+0.7**
EGMT	**Eagleton**	**48.86**	**297**	P		**P**		**12 14 09.3**	**+1.4**
	baz=35,SNR=13								
EGMT	**Eagleton**	**48.86**	**297**	P		**P**		**12 14 09.0**	**+1.0**
HODGE	**Hodges**	**48.86**	**264**	P		**P**		**12 14 09.1**	**+1.1**

BOZ Bozeman (W) 51.59 297 P **P** 12 14 29.2 +0.5
BOZ pmax pmax
comp=Z,26nm,1.3s
BOZ Bozeman (W) 51.59 297 P **P** 12 14 29.2 +0.5
BOZ IAmb IAmb 12 14 33.5
comp=Z,26nm,1.2s
U40A Yellville 51.61 275 P **P** 12 14 28.2 -0.6
baz=32
U40A Yellville 51.61 275 P **P** 12 14 28.7 -0.1
LRM Limekiln Ridge 51.72 297 P **P** 12 14 30.3 +0.5
YMP Mirror Lake Pl 51.74 295 P **P** 12 14 31.2 +1.1
DZA Taraz 51.82 69 *eP* **P** 12 14 30.8 +0.4
DZA Taraz 51.82 69 *eP* **P** 12 14 30.7 +0.4
IUG luzhnay 51.92 71 *eP* **P** 12 14 31.9 +0.7
comp=Z,32nm,1.6s
IUG luzhnay 51.92 71 *eP* **P** 12 14 31.9 +0.7
IUG pmax pmax
comp=Z,32nm,1.6s
LRAL Lakeview Retre 51.92 268 P **P** 12 14 30.9 -0.2
baz=31
YHH Holmes Hill 51.97 296 P **P** 12 14 32.9 +1.2
K22A Casper 52.05 291 P **P** 12 14 31.9 -0.3
baz=33,SNR=5.4
K22A Casper 52.05 291 P **P** 12 14 31.9 -0.3
K22A IAmb IAmb 12 14 37.6
comp=Z,21nm,1.4s
YHL Hebgen Lake 52.05 296 P **P** 12 14 33.7 +1.4
DGZ Jazzator, Alta 52.12 53 *i* P **P** 12 14 34.0 +1.4
DGZ pmax pmax
comp=Z,19nm,1.3s
QLMT Earthquake Lak 52.16 296 P **P** 12 14 34.8 +1.7
H17A Grant Village 52.19 295 P **P** 12 14 35.6 +2.2
baz=33,SNR=10
H17A Grant Village 52.19 295 P **P** 12 14 35.3 +1.9
H17A IAmb IAmb 12 14 40.0
comp=Z,30nm,1.4s
WHAR Wooly Hollow 52.27 274 P **P** 12 14 33.9 +0.2
WHAR IAmb IAmb 12 14 34.5
comp=Z,15nm,1.3s
R32A Long Quarter, 52.36 281 P **P** 12 14 34.9 +0.5
R32A IAmb IAmb 12 14 35.6
comp=Z,18nm,1.1s
YPP Pitchstone Pla 52.38 295 P **P** 12 14 37.1 +2.3
FLWY Flagg Ranch 52.50 295 P **P** 12 14 36.8 +1.2
FLWY IAmb IAmb 12 14 58.8
comp=Z,18nm,1.4s
SEY Seymchan 52.52 6 *i* P **P** 12 14 37.9 +2.7
MAKZ Makanchi 52.64 58 P **P** 12 14 36.2 -0.2
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 52.64 58 P **P** 12 14 36.2 -0.2
SGDS Sogindy 52.66 66 *eP* **P** 12 14 36.1 -0.5
SGDS Sogindy 52.66 66 *eP* **P** 12 14 36.1 -0.5
MCMT McKenzie Canyo 52.71 297 P **P** 12 14 37.9 +0.7
UALR University of 52.73 274 P **P** 12 14 34.7 -2.5
UALR IAmb IAmb 12 14 37.2
comp=Z,14nm,1.2s
PHWY Pilot Hill 52.74 289 P **P** 12 14 37.2 -0.4
PHWY IAmb IAmb 12 14 42.6
comp=Z,20nm,1.4s
IMW Indian Meadow 52.75 295 P **P** 12 14 37.8 +0.2
IMW IAmb IAmb 12 14 43.5
comp=Z,16nm,1.4s
MK31 Makanchi Array 52.76 58 *i* P **P** 12 14 38.6 +1.3
MK31 Makanchi Array 52.76 58 P **P** 12 14 36.3 -1.0
MKAR Makanchi Array 52.76 58 P **P** 12 14 36.7 -0.6
comp=Z,5.3nm,0.9s,baz=339,slow=6.5,SNR=13
MKAR Makanchi Array 52.76 58 P **P** 12 14 36.8 -0.5
MKAR Makanchi Array 52.76 58 P **P** 12 14 36.8 -0.5
TDK Taldyqorghan 52.83 62 *eP* **P** 12 14 37.6 -0.1
TDK Taldyqorghan 52.83 62 *eP* **P** 12 14 37.6 -0.1
LOHW Long Hollow 52.86 295 P **P** 12 14 38.9 +0.6
KUU Kurty 52.96 65 *eP* **P** 12 14 38.2 -0.6
KUU Kurty 52.96 65 *eP* **P** 12 14 38.1 -0.6
EKS2 Erkin-Say 52.99 67 P **P** 12 14 41.3 +2.2
SNR=7.2
FXWY Fox Creek 53.00 295 P **P** 12 14 40.3 +0.9
KAN13 South Haven SW 53.03 279 P **P** 12 14 39.4 0.0
SNOW Snow King Moun 53.05 295 P **P** 12 14 40.2 +0.5
SNOW IAmb IAmb 12 14 44.6
comp=Z,22nm,1.3s
CHMS Chumysh 53.09 66 P **P** 12 14 39.0 -0.8
SNR=6.6
TPAW Teton Pass 53.10 295 P **P** 12 14 41.0 +0.9
TPAW IAmb IAmb 12 14 45.1
comp=Z,20nm,1.3s
TOA0 Torodi Ar. Sit 53.13 156 P **P** 12 14 39.8 -0.4
TOA0 IAmb IAmb 12 14 44.9
comp=Z,28nm,1.4s
TORD Torodi Ar. Bea 53.13 156 P **P** 12 14 38.5 -1.7
comp=Z,7.7nm,1.0s,baz=342,slow=7.1,SNR=24
TORD Torodi Ar. Bea 53.13 156 P **P** 12 14 39.8 -0.4
ZSN Zaisan 53.14 56 *eP* **P** 12 14 39.2 -0.8
ZSN Zaisan 53.14 56 *eP* **P** 12 14 39.2 -0.8
BW06 Boulder Array 53.16 293 P **P** 12 14 40.4 -0.2
baz=32,SNR=24
BW06 Boulder Array 53.16 293 P **P** 12 14 39.5 -1.0
BW06 IAmb IAmb 12 14 44.3
comp=Z,24nm,1.2s
PD31 Pinedale Array 53.16 293 P **P** 12 14 39.7 -0.8
PD31 IAmb IAmb 12 14 44.3
comp=Z,21nm,1.2s
PDAR Pinedale Array 53.16 293 P **P** 12 14 39.1 -1.4
comp=Z,7.8nm,1.0s,baz=54,slow=6.3,SNR=38
PDAR LR LR 12 36 08.4
comp=Z,431nm,22.0s,baz=34,slow=35
PDAR Pinedale Array 53.16 293 P **P** 12 14 39.4 -1.1
REDW Red Top Meadow 53.17 295 P **P** 12 14 40.6 0.0
REDW IAmb IAmb 12 14 46.2
comp=Z,24nm,1.4s
X40A Basin Creek Fa 53.19 274 P **P** 12 14 40.6 0.0
baz=31
X40A Basin Creek Fa 53.19 274 P **P** 12 14 40.0 -0.5
CHKK Chushkaly 53.25 64 *eP* **P** 12 14 40.4 -0.5
CHKK Chushkaly 53.25 64 *eP* **P** 12 14 40.4 -0.5
N23A Red Feather La 53.28 289 P **P** 12 14 42.4 +0.9
baz=32,SNR=11
N23A Red Feather La 53.28 289 P **P** 12 14 42.4 +0.9
AAK Ala-Archa 53.30 67 P **P** 12 14 42.8 +1.4
SNR=5.4
BCYI Bear Canyon 53.36 297 P **P** 12 14 42.1 +0.2
MIAR Mount Ida 53.46 274 P **P** 12 14 40.8 -1.7
baz=31
MIAR Mount Ida 53.46 274 P **P** 12 14 42.2 -0.3
MIAR pmax pmax
comp=Z,10.0nm,1.3s
MIAR Mount Ida 53.46 274 P **P** 12 14 42.2 -0.3
TKM2 Tokmak 2 53.49 66 P **P** 12 14 44.2 +1.2
SNR=5.8
KSCO Kaye Shedlock' 53.51 285 P **P** 12 14 43.3 +0.3
KSCO IAmb IAmb 12 14 44.6
comp=Z,17nm,1.1s
ECR Eagle Creek 53.63 295 P **P** 12 14 45.2 +1.3
MTBS Maitube 53.64 65 *eP* **P** 12 14 45.2 +1.3
MTBS Maitube 53.64 65 *eP* **P** 12 14 45.2 +1.3
UCH Uchtor 53.65 67 P **P** 12 14 46.2 +1.8
SNR=7.7
PLID Pearl Lake 53.68 300 P **P** 12 14 43.9 -0.4
PLID IAmb IAmb 12 14 44.2
comp=Z,19nm,1.4s
AAA Alma-Ata 53.77 65 *eP* **P** 12 14 43.3 -1.4
AAA Alma-Ata 53.77 65 *eP* **P** 12 14 43.3 -1.4
MDOK Medeo 53.85 65 *eP* **P** 12 14 46.1 +0.5
MDOK Medeo 53.85 65 *eP* **P** 12 14 46.0 +0.5
BTK Batken 53.99 72 P **P** 12 14 47.3 +0.8
BTK pmax pmax
comp=Z,50nm,1.2s
BTK Batken 53.99 72 P **P** 12 14 47.3 +0.8
ISCO Idaho Springs 54.08 288 P **P** 12 14 47.8 +0.7
baz=32
ISCO Idaho Springs 54.08 288 P **P** 12 14 48.0 +0.7
ISCO pmax pmax
comp=Z,12nm,1.5s
ISCO Idaho Springs 54.08 288 P **P** 12 14 48.0 +0.7
KPKS Kokpek 54.23 63 *eP* **P** 12 14 48.0 -0.2
KPKS Kokpek 54.23 63 *eP* **P** 12 14 48.0 -0.2
BMO Blue Mountains 54.37 300 P **P** 12 14 48.5 -0.6
BMO pmax pmax
comp=Z,7.0nm,1.2s
BMO Blue Mountains 54.37 300 P **P** 12 14 48.5 -0.6
HLID Hailey 54.38 297 P **P** 12 14 49.5 +0.2
baz=32
HLID Hailey 54.38 297 P **P** 12 14 49.7 +0.4
SATY Saty 54.47 64 *eP* **P** 12 14 49.2 -0.8
SATY Saty 54.47 64 *eP* **P** 12 14 49.2 -0.8
CHGR Chuyangaron 54.50 74 P **P** 12 14 50.8 +0.6
UZB Uzynbulak 54.63 63 *eP* **P** 12 14 50.7 -0.5
UZB Uzynbulak 54.63 63 *eP* **P** 12 14 50.7 -0.5
GAR Garm 54.69 73 P **P** 12 14 51.9 +0.3
MOY Mondy 54.70 42 *eP* **P** 12 14 52.8 +1.3
MOY pmax pmax
comp=Z,65nm,3.2s
SHLS Shalkode 54.79 63 *eP* **P** 12 14 53.4 +1.0
SHLS Shalkode 54.79 63 *eP* **P** 12 14 53.3 +1.0
O20A White River Ci 54.86 290 P **P** 12 14 53.2 +0.3
baz=32
O20A White River Ci 54.86 290 P **P** 12 14 53.5 +0.6
HWUT Hardware Ranch 54.93 294 P **P** 12 14 53.9 +0.4
RDMU Red Mountain 55.02 292 P **P** 12 14 54.6 +0.5
MFID Camas Ranch 55.04 298 P **P** 12 14 57.0 +2.9
HRA Herat 55.22 82 P **P** 12 14 55.8 +0.2
HRA IAmb IAmb 12 14 59.7
comp=Z,16nm,1.4s
TCUT Toone Canyon 55.29 294 P **P** 12 14 56.6 +0.5
TLY Talaya 55.44 40 P **P** 12 14 56.4 -0.3
comp=Z,2.0nm,0.5s,baz=352,slow=7.1,SNR=2.4
TLY Talaya 55.44 40 *i* P **P** 12 14 58.0 +1.3
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 55.44 40 P **P** 12 14 56.9 +0.1
TLY IAmb IAmb 12 15 02.9
comp=Z,16nm,1.5s
WMOK Wichita Mounta 55.52 279 P **P** 12 14 57.9 +0.4
baz=31,SNR=11
WMOK Wichita Mounta 55.52 279 P **P** 12 14 57.8 +0.3
WMOK pmax pmax
comp=Z,19nm,1.4s
WMOK Wichita Mounta 55.52 279 P **P** 12 14 57.8 +0.3
WMOK IAmb IAmb 12 15 01.7
comp=Z,19nm,1.4s
SPUT South Promonto 55.54 294 P **P** 12 14 58.1 +0.4
JLU Jordanelle 55.74 293 P **P** 12 14 59.6 +0.2
SDCO Great Sand Dun 55.77 287 P **P** 12 14 59.5 -0.2
baz=31
SDCO Great Sand Dun 55.77 287 P **P** 12 14 59.1 -0.6
CTU Camp Tracy 55.79 294 P **P** 12 14 58.1 -1.5
MA2 Magadan 55.79 7 *i* P **P** 12 15 02.4 +3.3
T25A Trinidad 55.84 285 P **P** 12 15 00.9 +0.8
baz=31
T25A Trinidad 55.84 285 P **P** 12 15 00.7 +0.6
I07A Izee 55.84 302 P **P** 12 15 00.3 +0.5
Z35A Perchaven, San 56.07 277 P **P** 12 15 01.3 -0.1
BGU Big Grassy Mou 56.09 295 P **P** 12 15 01.7 0.0
S22A 4UR Ranch, Cre 56.32 288 P **P** 12 15 03.5 0.0
baz=31
S22A 4UR Ranch, Cre 56.32 288 P **P** 12 15 04.4 +0.8
P17A Butcher Ranch, 56.43 292 P **P** 12 15 04.6 +0.4
ZAK Zakamensk 56.50 41 *eP* **P** 12 15 03.8 -0.6
ZAK *e* 12 16 02.8
ZAK pmax pmax
comp=Z,12nm,1.3s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
KSH Kashi 56.54 68 P **P** 12 15 06.8 +1.9
KSH S **S** 12 22 54.1 -2.1
KSH pmax pmax
comp=Z,32nm,1.1s
PINE Pine Mountain 56.62 302 P **P** 12 15 05.8 +0.4
DUG Dugway, Tooele 56.63 294 P **P** 12 15 06.3 +0.8
baz=31,SNR=8.8
DUG Dugway, Tooele 56.63 294 P **P** 12 15 06.5 +1.0
DUG pmax pmax
comp=Z,25nm,1.5s
DUG Dugway, Tooele 56.63 294 P **P** 12 15 06.5 +1.0
DUG IAmb IAmb 12 15 11.6
comp=Z,24nm,1.5s
SRU San Rafael Swe 56.65 292 P **P** 12 15 06.0 +0.3
SRU pmax pmax
comp=Z,12nm,1.2s
SRU San Rafael Swe 56.65 292 P **P** 12 15 06.0 +0.3
TMUT Trail Mountain 56.77 292 P **P** 12 15 07.5 +0.8
Q16A Castle Valley 57.08 292 P **P** 12 15 09.8 +1.1
ELK Elko 57.10 296 P **P** 12 15 10.2 +1.2
ELK pmax pmax
comp=Z,7.0nm,1.3s
ELK Elko 57.10 296 P **P** 12 15 10.2 +1.2
J05D Fort Rock, OR 57.16 302 P **P** 12 15 10.2 +0.9
baz=30,SNR=16
WMQ Urumqi 57.27 56 *eP* **P** 12 15 13.7 +3.8
WHTX Lake Whitney, 57.31 276 P **P** 12 15 10.5 +0.3
WHTX IAmb IAmb 12 15 13.4
comp=Z,26nm,1.4s
MVCO Mesa Verde 57.46 289 P **P** 12 15 12.1 +0.6
baz=31
MVCO Mesa Verde 57.46 289 P **P** 12 15 12.5 +0.9
K05A Summer Lake 57.52 302 P **P** 12 15 13.4 +1.5
K05A IAmb IAmb 12 15 17.8
comp=Z,23nm,1.4s
ABTX Abilene, Hawle 57.70 279 P **P** 12 15 13.6 +0.5
baz=30
ABTX Abilene, Hawle 57.70 279 P **P** 12 15 13.8 +0.8
ABTX IAmb IAmb 12 15 17.9
comp=Z,21nm,1.3s
MSU Marysvale 57.82 293 P **P** 12 15 14.4 +0.3
MSU Marysvale 57.82 293 P **P** 12 15 14.3 +0.3
MVU Marysvale 57.85 293 P **P** 12 15 15.3 +1.0
KBL Kabul 57.97 76 P **P** 12 15 15.5 +0.4
KBL pmax pmax
comp=Z,8.0nm,1.1s
KBL Kabul 57.97 76 P **P** 12 15 15.5 +0.4
MOD Modoc Plateau 58.02 301 P **P** 12 15 15.2 -0.1
PSUT Pine Spring 58.47 294 P **P** 12 15 19.9 +1.3
L04D Klamath Falls 58.48 303 P **P** 12 15 19.7 +1.2
baz=29
ANMO Albuquerque 58.57 286 P **P** 12 15 20.1 +0.8
baz=30
ANMO Albuquerque 58.57 286 P **P** 12 15 20.2 +0.8
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 58.57 286 P **P** 12 15 20.2 +0.8
DBIC Dimbokro 58.57 165 P **P** 12 15 17.7 -1.5
comp=Z,8.3nm,0.9s,baz=344,slow=7.6,SNR=10
DBIC Dimbokro 58.57 165 P **P** 12 15 19.0 -0.2
DBIC pmax pmax
comp=Z,11nm,1.0s
DBIC Dimbokro 58.57 165 P **P** 12 15 18.9 -0.2
DBIC IAmb IAmb 12 15 19.5
comp=Z,11nm,1.0s
TIC Toumodi 58.58 165 *eP* **P** 12 15 18.3 -1.0
KIC Kosan Boka 58.89 165 *eP* **P** 12 15 20.5 -1.0
comp=Z,22nm,0.9s
SZCU Shurtz Canyon 58.98 293 P **P** 12 15 23.2 +1.0
LIC Lamto 58.99 165 *eP* **P** 12 15 21.1 -1.1
comp=Z,64nm,1.3s
YBH Yreka Blue Hor 59.05 303 P **P** 12 15 22.1 -0.4
YBH pmax pmax
comp=Z,3.0nm,1.3s
YBH Yreka Blue Hor 59.05 303 P **P** 12 15 22.1 -0.4
CCUT Cedar City 59.12 293 P **P** 12 15 24.3 +1.1
R11A Troy Canyon, C 59.31 295 P **P** 12 15 25.2 +0.8
baz=30,SNR=20
R11A Troy Canyon, C 59.31 295 P **P** 12 15 25.1 +0.8
R11A IAmb IAmb 12 15 37.1
comp=Z,14nm,1.4s
BNM Barren Site 59.33 285 P **P** 12 15 25.9 +1.3
KNB Kanab 59.37 292 P **P** 12 15 25.2 +0.3
KNB pmax pmax
comp=Z,28nm,1.5s
KNB Kanab 59.37 292 P **P** 12 15 25.2 +0.3
M02C Callahan 59.40 303 P **P** 12 15 26.4 +1.5
baz=29
LCMT Little Creek M 59.54 292 P **P** 12 15 26.6 +0.6
PAHR Pah Rah Range 59.59 299 P **P** 12 15 27.3 +1.0
PAHR IAmb IAmb 12 15 31.1
comp=Z,16nm,1.4s
JCT Junction City 59.62 277 P **P** 12 15 26.7 +0.3
baz=30,SNR=9.4
JCT Junction City 59.62 277 P **P** 12 15 26.8 +0.3
JCT pmax pmax
comp=Z,55nm,1.5s
JCT Junction City 59.62 277 P **P** 12 15 26.8 +0.3
KVN Kaiserville 59.67 298 P **P** 12 15 27.4 +0.5
KVN pmax pmax
comp=Z,14nm,1.3s
KVN Kaiserville 59.67 298 P **P** 12 15 27.4 +0.5
KVN IAmb IAmb 12 15 31.3
comp=Z,14nm,1.3s
U15A North Rim 59.67 291 P **P** 12 15 26.9 -0.2
U15A IAmb IAmb 12 15 30.9
comp=Z,17nm,1.2s
SONM Songino Array 59.68 40 P **P** 12 15 25.8 -1.0
comp=Z,4.0nm,1.1s,baz=320,slow=5.6,SNR=12
SONM Songino Array 59.68 40 P **P** 12 15 26.1 -0.6
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 59.68 40 P **P** 12 15 26.1 -0.6
N02D Trinity Center 59.71 302 P **P** 12 15 25.7 -1.3
baz=29
ULN Ulaanbaatar 59.83 40 *ce* P **P** 12 15 28.2 +0.3
ULN pmax pmax
comp=Z,23nm,2.5s
ULN Ulaanbaatar 59.83 40 P **P** 12 15 28.6 +0.8
ULN IAmb IAmb 12 15 31.2
comp=Z,12nm,1.1s
PRN Pahroc Range 59.92 294 P **P** 12 15 29.1 +0.6
PRN IAmb IAmb 12 15 57.8
comp=Z,13nm,1.3s
O03E Paynes Creek 59.97 301 P **P** 12 15 30.1 +1.3
baz=29
WDC Whiskeytown Da 60.00 302 P **P** 12 15 28.3 -0.6
WDC pmax pmax
comp=Z,3.0nm,1.2s
WDC Whiskeytown Da 60.00 302 P **P** 12 15 28.3 -0.6
VCNR Virginia City 60.04 299 P **P** 12 15 29.5 0.0
VCNR IAmb IAmb 12 15 32.2
comp=Z,11nm,1.4s
WUAZ Wupatki 60.09 290 P **P** 12 15 30.3 +0.6
baz=30,SNR=14
WUAZ Wupatki 60.09 290 P **P** 12 15 30.4 +0.6
YERR Yerington 60.16 298 P **P** 12 15 29.9 -0.4
YERR IAmb IAmb 12 15 35.0
comp=Z,23nm,1.5s
TPH Tonopah 60.18 296 P **P** 12 15 30.8 +0.4
TPH pmax pmax
comp=Z,24nm,1.2s
TPH Tonopah 60.18 296 P **P** 12 15 30.8 +0.4
RYN Ryan 60.20 298 P **P** 12 15 30.5 0.0
PNTR Pine Nut 60.20 299 P **P** 12 15 31.1 +0.5
NV11 Mina Array Sit 60.23 297 P **P** 12 15 31.4 +0.7
NVAR Mina Array Bea 60.29 297 P **P** 12 15 30.1 -1.1
comp=Z,1.2nm,0.9s,baz=44,slow=2.7,SNR=8.2
NVAR LR LR 12 40 28.2
comp=Z,544nm,20.9s,baz=28,slow=35
NVAR Mina Array Bea 60.29 297 P **P** 12 15 31.1 0.0
RUBR Rubicon Trail 60.45 299 P **P** 12 15 32.9 +0.7
RUBR IAmb IAmb 12 15 44.8
comp=Z,8.9nm,1.2s
NIL Nilore 60.49 73 P **P** 12 15 32.0 -0.3
NIL pmax pmax
comp=Z,38nm,1.2s
NIL Nilore 60.49 73 P **P** 12 15 32.0 -0.3
ORV Oroville 60.51 300 P **P** 12 15 32.0 -0.4
ORV pmax pmax
comp=Z,3.0nm,1.1s
ORV Oroville 60.51 300 P **P** 12 15 32.0 -0.4
LHV Little Huntoon 60.52 297 P **P** 12 15 33.1 +0.7
WAKR Walker 60.66 298 P **P** 12 15 34.5 +0.8
WAKR IAmb IAmb 12 15 38.5
comp=Z,11nm,1.4s
SHPR Sheep Range 60.74 294 P **P** 12 15 35.3 +1.1
SHPR IAmb IAmb 12 15 39.5
comp=Z,18nm,1.4s
TPNV Topopah Spring 60.78 295 P **P** 12 15 35.0 +0.5
baz=29,SNR=10
TPNV Topopah Spring 60.78 295 P **P** 12 15 34.8 +0.3
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 60.78 295 P **P** 12 15 34.8 +0.3
AFDM Forest Hills D 60.84 300 P **P** 12 15 32.8 -2.0
AFDM IAmb IAmb 12 15 38.4
comp=Z,10.0nm,1.4s
MNTX Cornudas Mount 60.93 283 P **P** 12 15 35.5 +0.1
baz=29
MNTX Cornudas Mount 60.93 283 P **P** 12 15 34.6 -0.8
X16A Lo Mia Camp, P 61.07 290 P **P** 12 15 37.4 +0.9
121A Cookes Peak, D 61.21 285 P **P** 12 15 38.8 +1.3
baz=29
121A Cookes Peak, D 61.21 285 P **P** 12 15 38.0 +0.6
121A IAmb IAmb 12 15 43.5
comp=Z,12nm,1.2s
OMMB Old Mammoth Mi 61.27 297 P **P** 12 15 36.8 -1.2
OMMB IAmb IAmb 12 15 43.1
comp=Z,14nm,1.4s
MDPB Devils Postpil 61.28 297 P **P** 12 15 38.3 +0.3
MDPB IAmb IAmb 12 15 43.1
comp=Z,14nm,1.3s
CMB Columbia Colle 61.42 299 P **P** 12 15 39.2 +0.5
CMB pmax pmax
comp=Z,3.0nm,1.4s
CMB Columbia Colle 61.42 299 P **P** 12 15 39.2 +0.5
FURC Furnace Creek, 61.44 295 P **P** 12 15 39.2 +0.4
baz=29
W13A Hualapai Mount 61.46 292 P **P** 12 15 39.2 0.0
W13A IAmb IAmb 12 15 44.7
comp=Z,9.7nm,1.4s
GDXM Geysers 61.65 301 P **P** 12 15 40.2 0.0
SHOC Shoshone, Teco 61.71 294 P **P** 12 15 41.7 +1.1
baz=29
CWC Cottonwood Cre 61.94 296 P **P** 12 15 43.0 +0.6
baz=29
MPMC Manual Prospec 62.05 295 P **P** 12 15 42.8 -0.3
baz=29
TX31 Lajitas Ar. Si 62.26 280 P **P** 12 15 44.4 0.0
TX31 IAmb IAmb 12 15 59.0
comp=Z,10nm,1.1s
TX32 Lajitas Array 62.26 280 P **P** 12 15 44.4 0.0
TXAR Lajitas Array 62.26 280 P **P** 12 15 44.5 0.0
comp=Z,2.8nm,1.0s,baz=62,slow=3.0,SNR=17
TXAR PcP **PcP** 12 16 24.2 -0.1
comp=Z,3.1nm,1.1s,baz=66,slow=4.3,SNR=6.9
TXAR Lajitas Array 62.26 280 P **P** 12 15 43.5 -1.0
GSC Goldstone, Bar 62.44 294 P **P** 12 15 46.0 +0.4
baz=29
GSC Goldstone, Bar 62.44 294 P **P** 12 15 45.0 -0.6
GSC pmax pmax
comp=Z,10.0nm,1.5s
GSC Goldstone, Bar 62.44 294 P **P** 12 15 45.0 -0.6
GSC IAmb IAmb 12 15 47.0
comp=Z,9.8nm,1.5s
GMRC Granite Mounta 62.44 293 P **P** 12 15 46.7 +1.0
baz=29
PETK Petropavlovsk- 62.53 3 P **P** 12 15 47.0 +1.2
PETK Petropavlovsk- 62.53 3 P **P** 12 15 47.0 +1.2
LRMC Laurel Mtn Rad 62.63 295 P **P** 12 15 47.7 +0.7
baz=28
PET Petropavlovsk 62.63 3 *eP* **P** 12 15 46.4 -0.1
PET *eS* **S** 12 24 08.3 -5.8
PET MLR MLR
comp=Z,400nm,19.0s
TUC Tucson 62.64 288 P **P** 12 15 48.0 +1.1
baz=29
TUC Tucson 62.64 288 P **P** 12 15 47.4 +0.4
TUC pmax pmax
comp=Z,12nm,1.4s
TUC Tucson 62.64 288 P **P** 12 15 47.4 +0.4
TUC IAmb IAmb 12 15 48.4
comp=Z,12nm,1.4s
HEC Hector,Ludlow 62.67 294 P **P** 12 15 48.3 +1.2
baz=28
ISA Isabella, Lake 62.77 296 P **P** 12 15 48.3 +0.4
baz=28,SNR=7.0
ISA Isabella, Lake 62.77 296 P **P** 12 15 47.8 0.0
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella, Lake 62.77 296 P **P** 12 15 47.8 0.0
ISA IAmb IAmb 12 15 52.7
comp=Z,6.3nm,1.0s
IRM Iron Mountain 62.79 292 P **P** 12 15 49.0 +1.1
baz=29
319A Douglas 62.83 286 P **P** 12 15 48.0 -0.3
BELC Belle Mtn. Jos 63.26 293 P **P** 12 15 52.8 +1.6
baz=28,SNR=8.9
EDW2 Edwards Air Fo 63.27 295 P **P** 12 15 51.7 +0.6
baz=28
BC3 Big Chuckawall 63.35 292 P **P** 12 15 53.2 +1.5
baz=28
113A Mohawk Valley, 63.45 291 P **P** 12 15 53.0 +0.7
113A IAmb IAmb 12 15 53.0
comp=Z,13nm,1.5s
MDP Montagnes des 64.48 219 LR LR 12 37 17.7
comp=Z,275nm,21.3s,baz=142,slow=30
IKP In-Ko-Pah, Jac 64.49 292 P **P** 12 16 00.4 +1.2
baz=28

GTA	**Gaotai**	**65.34**	**49**	P	**P**	**12 16 05.2**	**+0.5**
GTA				pP	sP	12 16 10.0	+0.1
GTA				sP	pP	12 16 12.8	+4.3
GTA				S	**S**	**12 24 42.4**	**-6.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,210nm,6.5s						
GTA				LR	LR		
	comp=Z,270nm,14.9s						
GTA				LR	LR		
	comp=Z,440nm,15.3s						
HSIG		**65.59**	**286**	P	**P**	**12 16 06.7**	**+0.5**
HSIG				IAmb	IAmb	12 16 06.9	
	comp=Z,15nm,1.2s						
SPX	**San Pedro Mart**	**65.65**	**291**	P	**P**	**12 16 06.8**	**-0.2**
SPX				IAmb	IAmb	12 16 12.0	
	comp=Z,15nm,1.3s						
SDV	**Santo Domingo**	**66.78**	**239**	LR	LR	12 42 14.6	
	comp=Z,81nm,20.5s,baz=60,slow=33						
SDV	**Santo Domingo**	**66.78**	**239**	*e*P	**P**	**12 16 10.5**	**-3.8**
ZAIG	**Zacatecas**	**67.55**	**276**	P	**P**	**12 16 19.3**	**+0.1**
ZAIG				IAmb	IAmb	12 16 22.5	
	comp=Z,6.3nm,1.0s						
HHC	**Hu-ho-hao-te**	**67.55**	**40**	*e*P	**P**	**12 16 17.6**	**-1.2**
HHC				pmax	pmax		
	comp=Z,31nm,1.1s						
HHC				pmax	pmax		
	comp=Z,330nm,5.3s						
HHC	**Hu-ho-hao-te**	**67.55**	**40**	*e*P	**P**	**12 16 20.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC				pmax	pmax		
	comp=Z,280nm,5.7s						
CN2	**Changchun**	**68.07**	**28**	*e*P	**P**	**12 16 20.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**68.90**	**23**	LR	LR	12 49 52.8	
	comp=Z,61nm,19.9s,baz=352,slow=39						
BJI	**Beijing**	**69.53**	**36**	P	**P**	**12 16 31.4**	**+0.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
LZH	**Lanzhou**	**69.67**	**47**	*e*P	**P**	**12 16 34.2**	**+2.1**
LZH				pP	sP	12 16 38.9	+1.5
LZH				sP	pP	12 16 40.9	+4.9
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
DBBC	**Dabeiba**	**70.61**	**244**	*e*P	**P**	**12 16 38.8**	**+0.8**
RCBR	**Riachuelo**	**71.60**	**199**	LR	LR	12 40 45.0	
	comp=Z,94nm,20.7s,baz=355,slow=30						
ROSC	**El Rosal**	**71.89**	**241**	P	**P**	**12 16 46.8**	**+0.7**
	comp=Z,12nm,0.5s,baz=327,slow=8.0,SNR=4.2						
ROSC				LR	LR	12 46 34.1	
	comp=Z,58nm,19.7s,baz=54,slow=34						
ROSC	**El Rosal**	**71.89**	**241**	IAmb	IAmb	12 16 51.4	
	comp=Z,26nm,1.2s						
GUY2C	**Guyana, Caldas**	**71.93**	**242**	*e*P	**P**	**12 16 45.4**	**-1.0**
PTGA	**Pitinga**	**72.15**	**225**	LR	LR	12 44 13.9	
	comp=Z,50nm,18.2s,baz=22,slow=32						
PTGA	**Pitinga**	**72.15**	**225**	P	**P**	**12 16 46.9**	**-0.3**
TOLC	**Tolima**	**72.50**	**242**	*e*P	**P**	**12 16 48.3**	**-1.4**
XAN	**Xi'an**	**73.13**	**44**	P	**P**	**12 16 52.4**	**-0.5**
XAN				pmax	pmax		
	comp=Z,17nm,1.3s						
XAN	**Xi'an**	**73.13**	**44**	P	**P**	**12 16 52.4**	**-0.5**
XAN				IAmb	IAmb	12 16 55.4	
	comp=Z,17nm,1.3s						
CD2	**Chengdu**	**74.40**	**50**	P	**P**	**12 17 02.9**	**+2.5**
CD2				pmax	pmax		
	comp=Z,50nm,1.4s						
KSRS	**Korea Array**	**74.69**	**28**	LR	LR	12 52 45.9	
	comp=Z,137nm,18.6s,baz=337,slow=38						
KSAR	**Wonju Array Be**	**74.69**	**28**	P	**P**	**12 17 02.4**	**+0.5**
KSAR	**Wonju Array Be**	**74.69**	**28**	P	**P**	**12 17 02.4**	**+0.5**
SHL	**Shillong**	**75.06**	**62**	P	**P**	**12 17 03.5**	**-1.0**
SHL				pmax	pmax		
	comp=Z,23nm,1.5s						
SHL	**Shillong**	**75.06**	**62**	P	**P**	**12 17 03.5**	**-1.0**
SHL				IAmb	IAmb	12 17 09.5	
	comp=Z,23nm,1.5s						
ENH	**Enshi**	**76.81**	**45**	P	**P**	**12 17 13.7**	**-0.5**
MJAR	**Matsushiro Arr**	**77.36**	**20**	P	**P**	**12 17 17.6**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=0.0,slow=4.9,SNR=3.3						
MJAR				LR	LR	12 51 28.2	
	comp=Z,72nm,18.1s,baz=310,slow=36						
MJAR	**Matsushiro Arr**	**77.36**	**20**	P	**P**	**12 17 14.7**	**-2.5**
NJ2	**Nanjing**	**77.78**	**37**	*e*P	**P**	**12 17 20.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GYA	**Guiyang**	**79.47**	**49**	⇓P	**P**	**12 17 30.7**	**+1.6**
GYA				pmax	pmax		
	comp=Z,14nm,1.3s						
SAML	**Samuel**	**80.90**	**226**	P	**P**	**12 17 34.6**	**-2.1**
SAML				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SAML	**Samuel**	**80.90**	**226**	P	**P**	**12 17 34.6**	**-2.1**
SAML	**Samuel**	**80.90**	**226**	*e*P	**P**	**12 17 34.2**	**-2.5**
SLVN	**Son La**	**83.29**	**53**	P	**P**	**12 17 49.1**	**-0.3**
SLVN				IAmb	IAmb	12 17 51.9	
	comp=Z,7.2nm,1.0s						
BDFB	**Brasilia**	**83.35**	**209**	LR	LR	12 48 46.5	
	comp=Z,219nm,21.8s,baz=337,slow=31						
CHTO	**Chiang Mai**	**83.84**	**58**	P	**P**	**12 17 51.5**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**83.84**	**58**	P	**P**	**12 17 51.5**	**-0.7**
CHTO				IAmb	IAmb	12 17 54.6	
	comp=Z,8.5nm,1.0s						
CM31	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**12 17 54.2**	**+0.3**
CM31				IAmb	IAmb	12 17 56.5	
	comp=Z,5.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**12 17 53.7**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=320,slow=6.5,SNR=20						
CMAR				LR	LR	12 57 52.0	
	comp=Z,96nm,18.7s,baz=351,slow=37						
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**12 17 53.2**	**-0.7**
LPAZ	**La Paz**	**89.36**	**228**	LR	LR	12 55 01.6	
	comp=Z,31nm,21.7s,baz=0.5,slow=33						
KKO	**Keanakako'i**	**90.16**	**321**	P	**P**	**12 18 22.4**	**-0.6**
BOSA	**Boshof**	**98.76**	**143**	LR	LR	13 06 11.7	
	comp=Z,480nm,18.2s,baz=357,slow=37						
WRA	**Warramunga Arr**	**131.56**	**36**	PKP	**PKPdf**	**12 24 34.8**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=3.5,slow=3.1,SNR=2.2						
WRA	**Warramunga Arr**	**131.56**	**36**	PKIKP	**PKPdf**	**12 24 35.7**	**+0.6**
WRA	**Warramunga Arr**	**131.56**	**36**		**PKPdf**	**12 24 35.7**	**+0.6**
STKA	**Stephens Creek**	**144.76**	**32**	PKP	**PKPab**	**12 24 57.0**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=359,slow=9.3,SNR=4.3						
STKA	**Stephens Creek**	**144.76**	**32**	PKIKP	**PKPab**	**12 24 57.8**	**+0.1**
STKA	**Stephens Creek**	**144.76**	**32**		**PKPab**	**12 24 57.8**	**+0.1**

*NSSP **04** 12:06:53.2, 41˚.12N×47˚.20E, h8km, Ms3.1*
*AZER **04** 12:06:53.7, 41˚.22N×47˚.23E, h8km, ML3.1*
*DRS **04** 12:06:55.6±0.0, 41˚.19N×47˚.17E, h14km*

ISC 04 12:06:55.5±0.9, 41˚.15N±0˚.02×47˚.21E±0˚.02, h5km±7km, n38, σ1s23/75, 2C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEKA	**Sheki**	**0.06**	**352**	P	**Pg**	**12 06 56.9**	**-0.2**
	SNR=1658						
SEKA				S	**Sg**	**12 06 58.5**	**+0.4**
MNGR	**Mingechevir, A**	**0.39**	**194**	P	**Pb**	**12 07 05.1**	**+0.2**
	SNR=9.4						
MNGR				S	**Sb**	**12 07 12.9**	**+1.7**
AKT	**Akhty**	**0.51**	**50**	*i* Pg	**Pg**	**12 07 04.6**	**-0.9**
	451nm,0.2s						
AKT				*e*Sg	**Sg**	**12 07 11.7**	**-0.5**
	1μm,0.4s						
QBL	**Gabala**	**0.52**	**113**	P	**Pg**	**12 07 05.4**	**-0.1**
	SNR=35						
QBL				S	**Sb**	**12 07 15.1**	**+0.1**
ZKTA	**Zakatala**	**0.66**	**318**	P	**Pg**	**12 07 08.0**	**-0.2**
	SNR=69						
ZKTA				S	**Sb**	**12 07 19.3**	**+0.2**
XNQ	**Khinaliq**	**0.70**	**88**	P	**Pg**	**12 07 08.1**	**-1.0**
	SNR=86						
XNQ				S	**Sb**	**12 07 19.2**	**-1.4**
IML	**Ismayilli**	**0.82**	**115**	P	**Pg**	**12 07 11.0**	**-0.3**
	SNR=10						
IML				S	**Sb**	**12 07 24.6**	**+0.9**
GANJ	**Ganja**	**0.84**	**233**	Pg	**Pg**	**12 07 11.3**	**-0.3**
	SNR=12						
GANJ				Sg	**Sg**	**12 07 23.5**	**+1.0**
QSAR	**Qusar**	**0.87**	**65**	P	**Pg**	**12 07 11.8**	**-0.5**
	SNR=9.2						
QSAR				S	**Sb**	**12 07 25.0**	**-0.3**
BRDA	**Brd**	**0.89**	**181**	P	**Pb**	**12 07 13.7**	**+0.3**
	SNR=7.9						
BRDA				S	**Sn**	**12 07 29.6**	**+1.7**
ZRD	**Zardab**	**0.94**	**157**	P	**Pb**	**12 07 14.7**	**+0.3**
	SNR=4.1						
ZRD				S	**Sn**	**12 07 30.5**	**+1.2**
KMKR	**Kumukh**	**0.98**	**355**	*e*Pg	**Pg**	**12 07 13.5**	**-0.9**
	55nm,0.3s						
KMKR				*e*Sg	**Sg**	**12 07 27.0**	**-0.2**
	404nm,0.5s						
AGDM	**Agdam**	**1.04**	**184**	P	**Pg**	**12 07 15.6**	**+0.1**
	SNR=27						
AGDM				S	**Sn**	**12 07 32.5**	**+0.6**
URKR	**Urkarakh**	**1.06**	**17**	*e*Pg	**Pn**	**12 07 16.6**	**-0.7**
	76nm,0.5s						
URKR				*e*Sg	**Sn**	**12 07 32.1**	**-0.5**
	280nm,0.5s						
KDMR	**Kurdemir**	**1.07**	**136**	P	**Pb**	**12 07 16.6**	**0.0**
KDMR				S	**Sn**	**12 07 33.3**	**+0.8**
PQL	**Pirkuli**	**1.11**	**109**	P	**Pg**	**12 07 16.1**	**-0.7**
	SNR=14						
PQL				S	**Sn**	**12 07 32.9**	**-0.8**
GDB	**GEDABAY**	**1.18**	**249**	P	**Pg**	**12 07 17.3**	**-0.9**
	SNR=12						
GDB				S	**Sn**	**12 07 36.6**	**+1.0**
GNBR	**Gunib**	**1.25**	**352**	*e*Pg	**Pn**	**12 07 19.5**	**-0.3**
	40nm,0.6s						
GNBR				*e*Sg	**Sn**	**12 07 37.0**	**-0.1**
	150nm,0.7s						
SIZA	**Siyzn**	**1.28**	**93**	P	**Pn**	**12 07 19.5**	**-0.7**
	SNR=8.7						
SIZA				S	**Sn**	**12 07 38.6**	**+0.8**
ATGJ	**Altiaghaj**	**1.34**	**102**	P	**Pn**	**12 07 20.3**	**-0.8**
	SNR=6.1						
ATGJ				S	**Sn**	**12 07 40.3**	**+1.0**
QZX	**Qazax, Azerbai**	**1.39**	**267**	Pn	**Pn**	**12 07 20.4**	**-1.3**
	SNR=39						
QZX				Sn	**Sb**	**12 07 40.1**	**0.0**
GBS	**Qobustan**	**1.45**	**114**	Pn	**Pn**	**12 07 21.9**	**-0.7**
	SNR=3.9						
GBS				Sn	**Sg**	**12 07 43.1**	**+0.9**
BLQ	**Beylaqan**	**1.45**	**169**	Pn	**Pn**	**12 07 21.9**	**-0.6**
	SNR=3.0						
BLQ				Sn	**Sg**	**12 07 42.8**	**+0.6**
ARKR	**Arakani**	**1.46**	**354**	*e*Pg	**Pb**	**12 07 23.0**	**-0.3**
	47nm,0.4s						
ARKR				*e*Sg	**Sg**	**12 07 45.5**	**+3.0**
	98nm,0.5s						
UNCR	**Uncukul**	**1.59**	**349**	*e*Pg	**Pb**	**12 07 25.0**	**-0.5**
	41nm,0.3s						
UNCR				*e*Sg	**Sg**	**12 07 47.0**	**+0.2**
	113nm,0.0s						
QRD	**Qoradiz**	**1.69**	**177**	Pn	**Pn**	**12 07 25.7**	**0.0**
	SNR=3.0						
QRD				Sn	**Sb**	**12 07 48.5**	**-0.2**
KRNR	**Karanay**	**1.69**	**352**	*e*Pg	**Pb**	**12 07 27.0**	**-0.2**
KRNR				*e*Sg	**Sg**	**12 07 52.0**	**+2.1**
GRS	**Goris**	**1.78**	**202**	⇑*i*P	**Pn**	**12 07 24.0**	**-3.1**
GRS				⇑*i*S	**Sn**	**12 07 47.0**	**-3.2**
DBC	**Dubki**	**1.89**	**352**	*e*Pg	**Pg**	**12 07 32.0**	**+0.2**
	42nm,0.5s						
DBC				*e*Sg	**Sg**	**12 07 59.2**	**+2.9**
	83nm,0.5s						
DLMR	**Dylym**	**1.97**	**348**	*e*Pg	**Pg**	**12 07 34.0**	**+0.8**
DLMR				*e*Sg	**Sg**	**12 08 03.0**	**+4.3**
	168nm,0.4s						
GLBA	**Clilabad**	**2.11**	**154**	Pn	**Pn**	**12 07 32.7**	**+1.1**
	SNR=11						
GLBA				Sn	**Sb**	**12 07 60.0**	**-0.8**
STE	**Stepanavan**	**2.15**	**267**	⇓*i*P	**Pb**	**12 07 33.9**	**-1.2**
STE				⇓S	**Sg**	**12 08 04.5**	**-0.1**
SBZ	**Shahbuz**	**2.16**	**216**	Pg	**Pb**	**12 07 34.8**	**-0.4**
	SNR=9.8						
SBZ				Sn	**Sg**	**12 08 04.2**	**-0.7**
YRD	**Yardimli**	**2.37**	**160**	Pn	**Pn**	**12 07 34.9**	**-0.4**
	SNR=4.9						
YRD				Sn	**Sn**	**12 08 05.3**	**+0.5**
NAX	**Nakhchivan**	**2.37**	**214**	Pn	**Pn**	**12 07 36.8**	**+1.6**
	SNR=5.2						
NAX				Sn	**Sb**	**12 08 10.3**	**+1.9**
TRLG	**Trialeti**	**2.37**	**280**	P	**Pn**	**12 07 36.3**	**+1.0**
TRLG				S	**Sn**	**12 08 05.7**	**+0.9**
ORD	**Ordubad**	**2.41**	**203**	Pn	**Pb**	**12 07 37.8**	**-1.6**
	SNR=11						
PNSH	**Pansheti**	**2.44**	**308**	P	**Pb**	**12 07 37.9**	**-2.2**
PNSH				S	**Sb**	**12 08 09.5**	**-1.0**

*IDC **04** 12:07:30.1±2.1, 5˚.28S×131˚.67E, h50km±24km, mb3.8/5, mb1 4.2/9, mb1mx3.8/36, mbtmp4.3/9, ML4.7/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/31, Error ellipse: s-maj=24.9km s-min=18.1km az=76.0*
*DJA **04** 12:07:32.3±0.3, 5˚.5±3˚×13˚.2E±˚, h73km±6km, M4.7/23, mb4.5/23, mB5.2/6, MLv4.9/13, Mw(mB)4.6/6*
*NEIC **04** 12:07:36.9±1.4, 5˚.88S±0˚.06×131˚.55E±0˚.10, h142km±11km, mb4.5/14, Error ellipse: s-maj=13.9km s-min=9.0km az=86.0*

ISC 04 12:07:29.7±0.5, 5˚.51S±0˚.05×131˚.69E±0˚.05, h54km, n67, σ2s24/73, mb4.5/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.03**	**299**	P	**Pn**	**12 08 01.4**	**-0.1**
BNDI				S	**Sn**	**12 08 23.8**	**-2.0**
SAUI	**Saumlaki**	**2.48**	**189**	P	Pn	12 08 13.4	+5.7
SAUI	**Saumlaki**	**2.48**	**189**	Pn	Pn	12 08 13.8	+6.1
FAKI	**Fak Fak**	**2.64**	**12**	P	**Pn**	**12 08 08.5**	**-1.4**
MSAI	**Masohi**	**3.50**	**308**	P	**Pn**	**12 08 20.4**	**-1.2**
AAI	**Ambon**	**3.93**	**297**	P	**Pn**	**12 08 27.1**	**-0.4**
SIJI	**Sorong**	**4.63**	**355**	P	**Pn**	**12 08 34.0**	**-3.3**
	79nm,0.3s,baz=176,slow=19,SNR=325						
SIJI				S	Sn	12 09 19.9	-10
	64nm,0.3s,baz=197,slow=19,SNR=12						
RKPI	**Ransiki, Papua**	**4.69**	**32**	P	**Pn**	**12 08 38.7**	**+0.7**
NLAI	**Namlea**	**5.10**	**296**	P	**Pn**	**12 08 44.3**	**+0.6**
BAKI	**Biak**	**6.16**	**46**	P	**Pn**	**12 08 59.4**	**+1.3**
	1.0nm3μm186nm,0.5s						
SANI	**Sanana**	**6.65**	**301**	P	**Pn**	**12 09 02.6**	**-2.3**
	0.7nm2μm145nm,0.5s						
MTN	**Manton Dam**	**7.30**	**184**	Pn	**Pn**	**12 09 17.6**	**+3.8**
MTN				Sn	**Sn**	**12 10 38.9**	**+3.5**
SOEI	**Soe**	**8.48**	**240**	P	**Pn**	**12 09 33.4**	**+3.4**
	1μm66nm,0.6s						
SOEI	**Soe**	**8.48**	**240**	Pn	**Pn**	**12 09 33.4**	**+3.4**
SOEI				Sn	**Sn**	**12 11 04.3**	**-0.1**
GENI	**Genyem**	**8.94**	**71**	P	Pn	12 09 42.6	+6.3
BATI	**Baumata**	**9.21**	**239**	P	**Pn**	**12 09 42.3**	**+2.2**
	15nm,0.3s,baz=110,slow=7.9,SNR=9.4						
BATI				S	**Sn**	**12 11 21.2**	**-1.2**
	20nm,0.3s,baz=16,slow=21,SNR=7.0						
BATI	**Baumata**	**9.21**	**239**	P	**Pn**	**12 09 42.5**	**+2.4**
	34nm,0.9s						
JAY	**Jayapura**	**9.47**	**72**	P	**Pn**	**12 09 45.0**	**+1.4**
	1.0nm,0.3s,baz=214,slow=3.6,SNR=6.6						
JAY	**Jayapura**	**9.47**	**72**	P	**Pn**	**12 09 47.6**	**+4.0**
KMSI	**Cibinong**	**9.79**	**308**	P	**Pn**	**12 09 47.5**	**-0.4**
	41nm,0.5s						
EDFI	**Ende, Flores**	**10.43**	**251**	P	**Pn**	**12 09 58.6**	**+1.9**
	8.0nm,1.0s						
KNRA	**Kununurra**	**10.50**	**196**	Pn	**Pn**	**12 09 59.1**	**+1.5**
KNRA				Sn	**Sn**	**12 11 51.8**	**-2.1**
GTOI	**Gorontalo**	**10.60**	**305**	P	**Pn**	**12 10 00.4**	**+1.4**
	7.7nm,0.5s						
BKSI	**Bulukumba**	**11.52**	**270**	P	**Pn**	**12 10 12.3**	**+0.8**
	612nm28nm,1.2s						
BNSI	**Bone**	**11.59**	**275**	P	**Pn**	**12 10 13.0**	**+0.4**
	13nm,0.6s						
KAPI	**Kappang**	**11.90**	**272**	P	**Pn**	**12 10 21.4**	**+4.7**
	baz=155,Slow=11,SNR=2.3						
KAPI				LR	LR	12 15 44.0	
	comp=Z,100nm,18.0s,baz=113,slow=42						
SPSI	**Sidrap Palu**	**11.98**	**277**	P	**Pn**	**12 10 19.5**	**+1.7**
	22nm,0.8s						
MPSI	**Mapaga**	**13.13**	**296**	P	**Pn**	**12 10 34.2**	**+0.6**
	18nm,1.2s						
FITZ	**Fitzroy Crossi**	**13.83**	**205**	Pn	**Pn**	**12 10 41.0**	**-2.1**
DAV	**Davao City (W)**	**13.91**	**334**	LR	LR	12 16 31.7	
	comp=Z,136nm,20.2s,baz=140,slow=40						
DAV	**Davao City (W)**	**13.91**	**334**	Pn	**P**	**12 10 50.9**	**+0.1**
COEN	**Coen**	**14.08**	**127**	Pn	**Pn**	**12 10 48.5**	**+2.0**
WB0	**Warramunga Arr**	**14.41**	**170**	Pn	**Pn**	**12 10 49.8**	**-1.0**
WB0				Sn	**Sn**	**12 13 24.5**	**-4.8**
WRAB	**Tennant Creek**	**14.56**	**170**	P	**Pn**	**12 10 52.0**	**-0.9**
WRAB				Sn	**Sn**	**12 13 29.9**	**-3.1**
WRA	**Warramunga Arr**	**14.57**	**170**	P	**Pn**	**12 10 51.8**	**-1.1**
	7.7nm,0.3s,baz=356,slow=13,SNR=140						
WRA				S	**Sn**	**12 13 27.7**	**-5.5**
	6.5nm,0.3s,baz=359,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**14.57**	**170**	P	**Pn**	**12 10 50.7**	**-2.3**
WB2	**Warramunga Arr**	**14.57**	**170**	Pn	**Pn**	**12 10 51.9**	**-1.1**
WB2				Sn	**Sn**	**12 13 30.0**	**-3.3**
WR0	**Warramunga Arr**	**14.62**	**169**	Pn	**Pn**	**12 10 52.8**	**-0.8**
WR0				Sn	**Sn**	**12 13 32.6**	**-1.9**
PMG	**Port Moresby**	**15.82**	**105**	P	**Pn**	**12 11 09.3**	**+0.3**
	0.7nm,0.3s,baz=287,slow=17,SNR=1.8						
PMG				S	**Sn**	**12 13 57.7**	**-5.8**
	0.8nm,0.3s,baz=348,slow=20,SNR=2.1						
PMG	**Port Moresby**	**15.82**	**105**	IAmb	IAmb	12 11 20.3	
	comp=Z,32nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.65**	**259**	P	**Pn**	**12 11 31.8**	**-0.2**
	comp=Z,32nm,1.2s						
AS31	**Alice Springs**	**18.17**	**173**	P	**Pn**	**12 11 39.3**	**+1.0**
AS31				IAmb	IAmb	12 11 46.0	
	comp=Z,18nm,0.4s						
ASAR	**Alice Springs**	**18.17**	**173**	P	**Pn**	**12 11 39.9**	**+1.5**
	comp=Z,4.2nm,0.3s,baz=349,slow=7.9,SNR=183						
ASAR				S	**Sn**	**12 14 56.7**	**-3.8**
	comp=Z,1.4nm,0.3s,baz=336,slow=13,SNR=7.2						
ASAR	**Alice Springs**	**18.17**	**173**	P	**Pn**	**12 11 39.6**	**+1.2**
KKM	**Kota Kinabalu**	**19.25**	**306**	P	**P**	**12 11 50.2**	**+0.3**
KKM				IAmb	IAmb	12 11 54.3	
	comp=Z,36nm,1.0s						
PSA00	**Pilbara Seismi**	**19.66**	**215**	P	**Pn**	**12 11 56.7**	**+0.6**
PSA00				IAmb	IAmb	12 11 57.3	
	comp=Z,12nm,0.6s						
PSA00	**Pilbara Seismi**	**19.66**	**215**	P	**P**	**12 11 51.3**	**-3.0**
PSA00				IAmb	IAmb	12 12 48.2	
	comp=Z,5.5nm,0.7s						
CTAO	**Charters Tower**	**20.26**	**137**	P	**P**	**12 11 58.9**	**-1.9**
SBUM	**Sibu**	**20.99**	**292**	P	**P**	**12 12 08.5**	**-0.3**
CISI	**Cisompet, Garu**	**23.80**	**264**	P	**P**	**12 12 36.1**	**-1.8**
STKA	**Stephens Creek**	**27.82**	**162**	P	**P**	**12 13 17.4**	**+3.5**
	comp=Z,1.1nm,0.4s,baz=332,slow=11,SNR=6.0						
IPM	**Ipoh**	**32.19**	**287**	P	**P**	**12 13 51.7**	**-1.2**
JCJ	**Chichijima**	**33.97**	**17**	P	**P**	**12 14 06.1**	**-2.1**
	comp=Z,70nm,0.3s,baz=295,slow=22,SNR=7.0						
NJ2	**Nanjing**	**39.31**	**343**	*e*P	**P**	**12 14 57.1**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.12**	**307**	P	**P**	**12 14 59.9**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=138,slow=7.4,SNR=9.7						
CHTO	**Chiang Mai**	**40.32**	**308**	P	**P**	**12 15 01.6**	**-0.6**
LZH	**Lanzhou**	**48.93**	**330**	*e*P	**P**	**12 16 13.6**	**+2.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
AFI	**Afiamalu**	**56.23**	**103**	LR	LR	12 40 44.2	
	comp=Z,80nm,20.2s,baz=115,slow=35						
SONM	**Songino Array**	**57.60**	**340**	P	**P**	**12 17 14.0**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=163,slow=5.6,SNR=1.8						
WMQ	**Urumqi**	**63.10**	**326**	*e*P	**P**	**12 17 52.2**	**+0.4**
MK31	**Makanchi Array**	**67.93**	**326**	P	**P**	**12 18 21.7**	**-1.2**
MK31				IAmb	IAmb	12 18 45.4	
	comp=Z,8.7nm,1.6s						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**12 18 22.9**	**0.0**
	comp=Z,1.5nm,0.4s,baz=110,slow=8.1,SNR=23						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**12 18 21.8**	**-1.1**
MAKZ	**Makanchi**	**68.11**	**326**	P	**P**	**12 18 24.4**	**+0.3**
MAKZ				IAmb	IAmb	12 19 46.5	
	comp=Z,12nm,1.6s						
ZALV	**Zalesovo Beam**	**71.02**	**333**	P	**P**	**12 18 41.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=122,slow=5.6,SNR=3.7						
KKAR	**Karatay Array**	**73.35**	**318**	P	**P**	**12 18 54.9**	**-1.1**
ABKAR	**Akbulak array**	**82.40**	**321**	P	**P**	**12 19 45.9**	**-0.1**

*NEIC **04** 12:15:25.9±1.4, 7˚.51S±0˚.05×128˚.86E±0˚.06, h152km±8km, mb4.3/17, Error ellipse: s-maj=9.9km s-min=5.7km az=59.0*
*IDC **04** 12:15:25.5±1.8, 7˚.58S×128˚.91E, h148km±18km, mb3.8/9, mb1 3.9/15, mb1mx3.7/41, mbtmp4.2/15, Error ellipse: s-maj=20.2km s-min=19.1km az=149.0*
*DJA **04** 12:15:26.2±0.2, 8˚.5±3˚×12˚.9E±˚, h142km±7km, M4.4/17, mb4.5/17, mB5.1/6, MLv4.4/13, Mw(mB)4.4/6*

ISC 04 12:15:25.3±0.5, 7˚.59S±0˚.05×128˚.86E±0˚.05, h150km, n69, σ1s90/76, mb4.3/16, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.45**	**99**	P	**Pn**	**12 16 07.1**	**+1.3**
SAUI	**Saumlaki**	**2.45**	**99**	Pn	**Pn**	**12 16 09.0**	**+3.2**
SAUI					**Sn**	**12 16 37.3**	**+0.3**
AAI	**Ambon**	**3.94**	**350**	P	**Pn**	**12 16 24.7**	**-0.1**
NLAI	**Namlea**	**4.67**	**338**	P	**Pn**	**12 16 32.9**	**-1.5**
SOEI	**Soe**	**5.02**	**244**	P	**Pn**	**12 16 40.2**	**+1.0**
	2.3nm5μm349nm,1.0s						
SOEI	**Soe**	**5.02**	**244**	Pn	**Pn**	**12

MORW					IAmb	IAmb	12 20 36.6		
	comp=Z,7.3nm,0.6s								
CM31	**Chiang Mai Arr**		**39.26 312**		P	**P**	**12 22 40.5**	**+1.0**	
CM31					IAmb	IAmb	12 22 41.5		
	comp=Z,9.7nm,1.4s								
CMAR	**Chiang Mai Arr**		**39.26 312**		P	**P**	**12 22 40.5**	**+0.9**	
	comp=Z,1.6nm,0.8s,baz=143,slow=7.4,SNR=14								
CMAR	**Chiang Mai Arr**		**39.26 312**			**P**	**12 22 39.7**	**+0.1**	
MJAR	**Matsushiro Arr**		**44.77 11**		P	**P**	**12 23 23.3**	**-0.7**	
	comp=Z,2.7nm,0.9s,baz=194,slow=10,SNR=4.3								
KSRS	**Korea Array**		**44.82 359**		P	**P**	**12 23 24.2**	**-0.1**	
	comp=Z,1.6nm,0.7s,baz=173,slow=9.2,SNR=6.3								
HHC	**Hu-ho-hao-te**		**50.77 343**	*eP*		**P**	**12 24 12.2**	**+2.0**	
HHC					pmax	pmax			
	comp=Z,18nm,1.1s								
HHC					pmax	pmax			
	comp=Z,230nm,5.3s								
USRK	**Ussuriysk Ar.**		**51.63 3**		P	**P**	**12 24 16.2**	**-0.2**	
	comp=Z,1.5nm,0.6s,baz=184,slow=7.1,SNR=4.9								
GTA	**Gaotai**		**53.96 332**	⇑P		**P**	**12 24 34.8**	**+1.0**	
GTA					pmax	pmax			
	comp=Z,8.0nm,0.8s								
SONM	**Songino Array**		**58.65 342**		P	**P**	**12 25 07.9**	**+1.0**	
	comp=Z,0.8nm,0.6s,baz=163,slow=6.0,SNR=4.3								
SONM	**Songino Array**		**58.65 342**		IAmb	IAmb	12 25 09.6		
	comp=Z,2.6nm,1.5s								
WMQ	**Urumqi**		**63.28 328**	*eP*		**P**	**12 25 40.2**	**+2.0**	
PETK	**Petropavlovsk-**		**65.24 19**		P	**P**	**12 25 51.9**	**+1.2**	
	comp=Z,9.3nm,0.9s,baz=160,slow=3.3,SNR=8.6								
MKAR	**Makanchi Array**		**68.11 327**		P	**P**	**12 26 10.1**	**+1.0**	
	comp=Z,1.5nm,0.3s,baz=115,slow=8.7,SNR=33								
MKAR	**Makanchi Array**		**68.11 327**		P	**P**	**12 26 09.8**	**+0.8**	
YAK	**Yakutsk**		**69.42 0**		P	**P**	**12 26 16.2**	**-0.5**	
ZAA0	**Zalesovo Array**		**71.62 334**		P	**P**	**12 26 30.4**	**+0.2**	
ZAA0					IAmb	IAmb	12 26 31.8		
	comp=Z,4.2nm,0.7s								
ZALV	**Zalesovo Beam**		**71.62 334**		P	**P**	**12 26 30.0**	**-0.2**	
	comp=Z,3.3nm,0.5s,baz=127,slow=5.4,SNR=7.2								
ZALV	**Zalesovo Beam**		**71.62 334**		P	**P**	**12 26 30.1**	**-0.1**	
KURK	**Kurchatov**		**72.44 329**		P	**P**	**12 26 36.0**	**+0.8**	
KURK					IAmb	IAmb	12 26 37.5		
	comp=Z,6.2nm,0.9s								
KK31	**Karatay Array**		**73.05 319**		P	**P**	**12 26 39.0**	**0.0**	
KK31					IAmb	IAmb	12 26 40.9		
	comp=Z,4.0nm,1.2s								
KKAR	**Karatay Array**		**73.05 319**		P	**P**	**12 26 39.1**	**+0.1**	
KKAR	**Karatay Array**		**73.05 319**		P	**P**	**12 26 38.6**	**-0.4**	
KKAR					IAmb	IAmb	12 26 40.9		
	comp=Z,4.0nm,1.2s								
ABKAR	**Akbulak array**		**82.27 322**		P	**P**	**12 27 29.9**	**-0.1**	
ABKAR	**Akbulak array**		**82.27 322**		P	**P**	**12 27 29.3**	**-0.7**	
ILAR	**Eielson Array**		**94.36 25**		P	**PKPdf**	**12 28 26.9**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=285,slow=4.7,SNR=5.6								
TXAR	**Lajitas Array**		**126.20 59**		PKP	**PKPdf**	**12 34 09.4**	**-1.4**	
	comp=Z,0.1nm,0.4s,baz=241,slow=1.9,SNR=3.8								

*BJI **04** 12:27:50.2±0.0,34.°90N×25.°76E,h45km,mB5.3/35, mb5.1/52,Ms5.0/10,Ms7 4.7/10*
*NIC **04** 12:27:51.2±0.0,34.°74N×26.°15E,h35km±36km,Ml5.0/3*
*HLW **04** 12:27:51.7,34.°92N×26.°20E,h10km±19km,Ml4.8*
*MED_RC **04** 12:27:52.0±1.6,35.°00N×26.°55E,h44km±2km,MW4.7/16, Moment Tensor Solution.Mantle waves: s16,c19; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr0.78±.19; Mθθ-1.43±.11; Mϕϕ0.65±.12; Mrθ0.34±.07; Mθϕ-0.31±.10; Mϕr-0.50±.06; Best double couple: M0 1.40000×10¹⁶ NP1:ϕs227.00000°,δ53.00000°, λ33.00000°. NP2:ϕs115.00000°,δ64.00000°,λ138.00000°. Principal axes: T 1.3000, Plg48.0000°, Azm76.0000°; N 0.2100, Plg42.0000°, Azm270.0000°; P -1.5100, Plg7.0000°, Azm173.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*ISK **04** 12:27:55.3,35.°16N×26.°31E,h27km,ML4.6/17*
*ATH **04** 12:27:55.2,35.°22N×26.°24E,h31km,ML4.5/15,Error ellipse: s-maj=1.8km s-min=0.7km az=159.0*
*MOS **04** 12:27:55.4±1.2,35.°19N×26.°21E,h65km,mb5.1/56,Error ellipse: s-maj=4.2km s-min=2.6km az=98.9*
*NEIC **04** 12:27:56.0±1.7,35.°10N±0.°07×26.°23E±0.°06,h61km±5km, mb4.9/127,ML4.5(ATH),Error ellipse: s-maj=10.5km s-min=6.7km az=199.0*
*THE **04** 12:27:56.6,35.°12N×26.°25E,h23km,ML4.6/25,Error ellipse: s-maj=1.0km s-min=0.4km az=157.0*
*IDC **04** 12:27:56.7±0.9,35.°26N×26.°23E,h60km±7km,mb4.4/35, mb1 4.4/44,mb1mx4.4/59,mbtmp4.6/44,MS3.8/24, Ms1 3.8/24,ms1mx3.6/44,Error ellipse: s-maj=12.5km s-min=6.8km az=155.0*
*DDA **04** 12:27:57.5,35.°35N×26.°53E,h9km±4km,MW4.5*
*GII **04** 12:27:58.9±0.4,34.°92N×26.°76E,h71km,mb4.2/5, MD4.0/5*

ISC 04 12:27:54.0±0.5,**35.°04N**±0.°03×**26.°27E**±0.°02,**h43**km±4km, **h43**km:**pP-P,n739,**σ1⅝**65**/854,**mb4.9**/147,**MS3.9**/18, **44C-7D,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**		**0.09 329**	P		**Pn**	**12 28 00.3**	**-0.7**
ZKR				S		**Sn**	**12 28 04.4**	**-1.4**
	122μm,0.7s							
ZKR	**Zakros**		**0.09 329**	P		**Pn**	**12 28 00.3**	**-0.7**
ZKR				S		**Sn**	**12 28 04.7**	**-1.1**
ZKR				AML		AML	12 28 06.0	
ZKR				AML		AML	12 28 06.2	
ZKR	**Zakros**		**0.09 329**	PG		**Pn**	**12 28 00.4**	**-0.6**
ZKR				SG		**Sn**	**12 28 04.4**	**-1.4**
STIA	**Sitia Lasithi**		**0.22 318**	P		**Pn**	**12 28 01.7**	**-0.1**
STIA				S		**Sn**	**12 28 05.7**	**-1.5**
FRMA	**Ierapetra Chan**		**0.44 267**	P		**Pn**	**12 28 03.0**	**-1.1**
FRMA				S		**Sn**	**12 28 09.4**	**-1.9**
NPS	**Neapolis**		**0.59 293**	P		**Pn**	**12 28 06.6**	**+0.6**
NPS				S		**Sn**	**12 28 15.6**	**+1.0**
	42μm,0.5s							
NPS	**Neapolis**		**0.59 293**	P		**Pn**	**12 28 06.7**	**+0.6**
NPS				S		**Sn**	**12 28 14.6**	**0.0**
NPS				AML		AML	12 28 16.7	
	comp=E,99537μm,0.7s							
NPS				AML		AML	12 28 19.1	
	comp=N,75341μm,0.6s							
NPS	**Neapolis**		**0.59 293**	P		**Pn**	**12 28 06.6**	**+0.6**
LAST	**Lasithi**		**0.66 281**	P		**Pn**	**12 28 07.6**	**+0.5**
LAST				S		**Sn**	**12 28 17.2**	**+0.7**
	comp=N,33μm,0.8s							
LAST	**Lasithi**		**0.66 281**	P		**Pn**	**12 28 07.8**	**+0.7**
LAST				S		**Sn**	**12 28 17.7**	**+1.2**
KARP	**Karpathos**		**0.89 55**	P		**Pn**	**12 28 11.4**	**+1.4**
KARP				S		**Sn**	**12 28 24.1**	**+2.3**
	comp=N,52μm,0.8s							
KARP	**Karpathos**		**0.89 55**	P		**Pn**	**12 28 11.5**	**+1.4**
KARP				S		**Sn**	**12 28 23.8**	**+2.0**
KARP				AML		AML	12 28 28.5	
KARP				AML		AML	12 28 31.7	
	comp=N,96021μm,0.7s							
KARP	**Karpathos**		**0.89 55**	PG		**Pn**	**12 28 10.9**	**+0.8**
KARP	**Karpathos**		**0.89 55**	⇑P		**Pn**	**12 28 11.2**	**+1.1**
KARP				S		**Sn**	**12 28 26.3**	**+4.5**
KARP				AML		AML	12 28 28.2	
	comp=N,110nm,0.9s							
KARP				AML		AML	12 28 28.2	
	comp=N,110nm,0.9s							
KARP				AML		AML	12 28 31.4	
	comp=N,97nm,0.7s							
KARP				AML		AML	12 28 31.4	
	comp=N,97nm,0.7s							
KARP	**Karpathos**		**0.89 55**			**Pn**	**12 28 11.7**	**+1.6**
HRKL	**Herakleio**		**1.00 286**	P		**Pn**	**12 28 13.6**	**+2.1**
HRKL	**Herakleio**		**1.00 286**	PG		**Pn**	**12 28 13.9**	**+2.4**
HRKL				SG		**Sn**	**12 28 27.5**	**+3.1**
IACM	**Heraklion**		**1.02 286**	P		**Pn**	**12 28 14.1**	**+2.3**
IACM				S		**Sn**	**12 28 27.3**	**+2.3**
IACM	**Heraklion**		**1.02 286**	P		**Pn**	**12 28 14.2**	**+2.3**
IACM				S		**Sn**	**12 28 27.0**	**+2.0**
KSTL	**Kastelli Herak**		**1.02 285**	P		**Pn**	**12 28 10.5**	**-1.3**
KSTL				S		**Sn**	**12 28 21.6**	**-3.4**
IDI	**Anoyia**		**1.16 283**	P		**Pn**	**12 28 16.0**	**+2.2**
IDI				S		**Sn**	**12 28 31.0**	**+2.4**
	comp=N,447nm,0.3s,baz=100,slow=16,SNR=96							
IDI				S		**Sn**	**12 28 31.4**	**+2.9**
	comp=N,393nm,0.3s,baz=330,slow=20,SNR=9.9							
IDI				LR		LR	12 28 57.5	
	comp=N,2μm,20.0s,baz=70,slow=55							
IDI	**Anoyia**		**1.16 283**	P		**Pn**	**12 28 16.0**	**+2.2**
IDI				S		**Sn**	**12 28 31.0**	**+2.4**
	comp=N,14μm,0.7s							
IDI	**Anoyia**		**1.16 283**	P		**Pn**	**12 28 16.0**	**+2.2**
IDI				S		**Sn**	**12 28 31.2**	**+2.7**
IDI				AML		AML	12 28 37.0	
	comp=N,31170μm,0.8s							
IDI				AML		AML	12 28 44.7	
	comp=E,24280μm,0.6s							
IDI	**Anoyia**		**1.16 283**	⇑P		**Pn**	**12 28 15.4**	**+1.6**
IDI	**Anoyia**		**1.16 283**	⇑S		**Sn**	**12 28 30.4**	**+1.9**
IDI	**Anoyia**		**1.16 283**	PN		**Pn**	**12 28 15.8**	**+2.0**
IDI	**Anoyia**		**1.16 283**			**Pn**	**12 28 16.1**	**+2.2**
IDI						**Sn**	**12 28 33.3**	**+4.8**
SIVA	**Sivas**		**1.20 269**	P		**Pn**	**12 28 17.3**	**+3.0**
SIVA				S		**Sn**	**12 28 32.4**	**+3.0**
	comp=E,35μm,0.7s							
SIVA	**Sivas**		**1.20 269**	P		**Pn**	**12 28 17.4**	**+3.1**
SIVA				S		**Sn**	**12 28 34.4**	**+5.0**
SIVA				AML		AML	12 28 45.1	
	comp=N,53773μm,0.7s							
SIVA				AML		AML	12 28 45.6	
	comp=E,85587μm,0.7s							
ANAF	**Anafi Island**		**1.38 343**	P		**Pn**	**12 28 17.9**	**+1.1**
ANAF				S		**Sn**	**12 28 35.1**	**+1.3**
	comp=E,82μm,0.5s							
ANAF	**Anafi Island**		**1.38 343**	P		**Pn**	**12 28 18.0**	**+1.2**
ANAF				S		**Sn**	**12 28 33.7**	**-0.1**
ANAF				AML		AML	12 28 35.7	
ANAF				AML		AML	12 28 35.8	
SANT	**Santorini**		**1.49 334**	P		**Pn**	**12 28 19.4**	**+1.1**
SANT				S		**Sn**	**12 28 36.8**	**+0.3**
	comp=E,13μm,0.9s							
SANT	**Santorini**		**1.49 334**	P		**Pn**	**12 28 19.5**	**+1.2**
SANT				S		**Sn**	**12 28 36.8**	**+0.3**
SANT				AML		AML	12 28 41.8	
	comp=E,34677μm,0.8s							
SANT				AML		AML	12 28 42.0	
	comp=N,15409μm,0.8s							
SANT	**Santorini**		**1.49 334**	⇑P		**Pn**	**12 28 19.3**	**+1.0**
SANT	**Santorini**		**1.49 334**	PN		**Pn**	**12 28 19.4**	**+1.1**
SANT	**Santorini**		**1.49 334**	Pn		**Pn**	**12 28 19.4**	**+1.1**
SANT				Sn		**Sn**	**12 28 37.0**	**+0.5**
PRNS	**Prines Rethymn**		**1.49 283**	P		**Pn**	**12 28 21.9**	**+3.7**
PRNS				S		**Sn**	**12 28 40.4**	**+4.0**
THR6	**Thira Island,**		**1.50 332**	P		**Pn**	**12 28 20.0**	**+1.6**
THR6	**Thira Island,**		**1.50 332**	P		**Pn**	**12 28 19.9**	**+1.6**
SAP1	**Santorini-Akro**		**1.50 332**	P		**Pn**	**12 28 19.9**	**+1.5**
SAP1				S		**Sn**	**12 28 37.5**	**+0.7**
	comp=N,54μm,0.5s							
SAP1	**Santorini-Akro**		**1.50 332**	P		**Pn**	**12 28 19.9**	**+1.5**
THR8	**Santorini-Mono**		**1.51 335**	P		**Pn**	**12 28 19.8**	**+1.2**
THR8	**Santorini-Mono**		**1.51 335**	P		**Pn**	**12 28 19.8**	**+1.2**
THR9	**Santorini-Faro**		**1.51 331**	P		**Pn**	**12 28 19.7**	**+1.1**
THR9	**Santorini-Faro**		**1.51 331**	P		**Pn**	**12 28 19.8**	**+1.1**
SAP2K	**Karterados**		**1.53 334**	P		**Pn**	**12 28 20.2**	**+1.4**
SAP2K				S		**Sn**	**12 28 38.5**	**+1.0**
SAP2K	**Karterados**		**1.53 334**	P		**Pn**	**12 28 20.3**	**+1.4**
SNT1	**Gialos, Santor**		**1.54 334**	P		**Pn**	**12 28 20.0**	**+1.1**
SNT1				S		**Sn**	**12 28 37.9**	**+0.2**
	comp=N,23μm,0.8s							
SNT5	**Nea Kammeni, S**		**1.54 333**	P		**Pn**	**12 28 20.1**	**+1.1**
THR3	**Thira Island,**		**1.54 333**	P		**Pn**	**12 28 20.3**	**+1.3**
THR3	**Thira Island,**		**1.54 333**	P		**Pn**	**12 28 20.5**	**+1.5**
THR7	**Fira-Santorini**		**1.54 334**	P		**Pn**	**12 28 20.7**	**+1.6**
THR7	**Fira-Santorini**		**1.54 334**	P		**Pn**	**12 28 20.6**	**+1.5**
THT2	**Imerovigli**		**1.56 334**	P		**Pn**	**12 28 20.7**	**+1.5**
THT2				S		**Sn**	**12 28 39.3**	**+1.1**
	comp=N,21μm,0.7s							
THT2	**Imerovigli**		**1.56 334**	PN		**Pn**	**12 28 20.5**	**+1.3**
THR2	**Thira island,**		**1.56 334**	P		**Pn**	**12 28 20.4**	**+1.1**
THR2	**Thira island,**		**1.56 334**	P		**Pn**	**12 28 20.4**	**+1.1**
THR5	**Thira Island,**		**1.57 332**	P		**Pn**	**12 28 20.4**	**+1.1**
THR5	**Thira Island,**		**1.57 332**	P		**Pn**	**12 28 20.5**	**+1.1**
SAP3	**Santorini-Thir**		**1.59 332**	P		**Pn**	**12 28 21.0**	**+1.4**
SAP3				S		**Sn**	**12 28 40.0**	**+1.1**
	comp=N,37μm,0.6s							
SAP3	**Santorini-Thir**		**1.59 332**	P		**Pn**	**12 28 21.0**	**+1.4**
CMBO	**Columbo, Santo**		**1.59 334**	P		**Pn**	**12 28 21.0**	**+1.3**
CMBO				S		**Sn**	**12 28 39.6**	**+0.5**
	comp=N,33μm,0.6s							
SAP4	**Santorini-Oia**		**1.61 333**	P		**Pn**	**12 28 21.8**	**+1.9**
NISR	**Nisiros**		**1.72 24**	P		**Pn**	**12 28 22.5**	**+1.1**
NISR				S		**Sn**	**12 28 44.2**	**+2.1**
	comp=N,18μm,0.8s							
NISR	**Nisiros**		**1.72 24**	P		**Pn**	**12 28 22.7**	**+1.3**
NISR				S		**Sn**	**12 28 43.2**	**+1.1**
VAM	**Vamos**		**1.74 283**	P		**Pn**	**12 28 24.6**	**+2.9**
VAM				S		**Sn**	**12 28 44.7**	**+2.1**
	comp=N,11μm,0.8s							
VAM	**Vamos**		**1.74 283**	P		**Pn**	**12 28 25.1**	**+3.4**
VAM				S		**Sn**	**12 28 45.5**	**+2.9**
VAM				AML		AML	12 28 57.1	
	comp=N,22883μm,0.7s							
VAM				AML		AML	12 28 58.0	
	comp=E,20279μm,0.9s							
VAM	**Vamos**		**1.74 283**	P		**Pn**	**12 28 24.9**	**+3.2**
GVDS	**Gavdos**		**1.80 264**	P		**Pn**	**12 28 25.8**	**+3.2**
GVDS	**Gavdos**		**1.80 264**	PN		**Pn**	**12 28 26.3**	**+3.7**
KOSK	**Kos Island**		**1.80 18**	P		**Pn**	**12 28 24.0**	**+1.4**
KOSK	**Kos Island**		**1.80 18**	PN		**Pn**	**12 28 23.8**	**+1.2**
GVD	**Gavdhos**		**1.81 264**	P		**Pn**	**12 28 26.1**	**+3.5**
GVD	**Gavdhos**		**1.81 264**	P		**Pn**	**12 28 26.6**	**+4.0**
GVD	**Gavdhos**		**1.81 264**	PN		**Pn**	**12 28 26.1**	**+3.5**
AMGA	**Amorgos Island**		**1.82 350**	P		**Pn**	**12 28 23.7**	**+0.9**
AMGA				S		**Sn**	**12 28 44.9**	**+0.3**
	comp=E,9μm,0.8s							
AMGA	**Amorgos Island**		**1.82 350**	P		**Pn**	**12 28 23.5**	**+0.7**
AMGA				S		**Sn**	**12 28 44.4**	**-0.3**
AMGA				AML		AML	12 28 48.3	
	comp=N,16683μm,0.4s							
AMGA				AML		AML	12 28 53.5	
	comp=E,15264μm,0.6s							
IOSP	**Ios island**		**1.86 335**	P		**Pn**	**12 28 24.4**	**+1.0**
IOSP				S		**Sn**	**12 28 46.4**	**+0.7**
	comp=E,22μm,0.6s							
IOSP	**Ios island**		**1.86 335**	P		**Pn**	**12 28 24.5**	**+1.1**
IOSP				S		**Sn**	**12 28 45.9**	**+0.2**
IOSP				AML		AML	12 28 47.5	
	comp=E,54464μm,0.6s							
IOSP				AML		AML	12 28 51.0	
	comp=N,30770μm,0.5s							
ARG	**Arkhangelos**		**1.91 52**	P		**Pn**	**12 28 26.9**	**+2.8**
ARG	**Arkhangelos**		**1.91 52**	P		**Pn**	**12 28 26.9**	**+2.8**
ARG				S		**Sn**	**12 28 49.1**	**+2.1**
ARG				AML		AML	12 29 02.5	
	comp=N,16817μm,0.8s							
ARG				AML		AML	12 29 06.0	
	comp=E,14876μm,1.0s							
ARG	**Arkhangelos**		**1.91 52**	PN		**Pn**	**12 28 25.6**	**+1.5**
ARG	**Arkhangelos**		**1.91 52**	P		**Pn**	**12 28 27.0**	**+2.8**
ARG	**Arkhangelos**		**1.91 52**	⇑P		**Pn**	**12 28 26.0**	**+1.9**
ARG				S		**Sn**	**12 28 51.7**	**+4.8**
IMMV	**Iera Moni Meta**		**1.92 283**	P		**Pn**	**12 28 26.7**	**+2.5**
IMMV				S		**Sn**	**12 28 49.2**	**+2.0**
	comp=E,11μm,0.9s							
IMMV	**Iera Moni Meta**		**1.92 283**	P		**Pn**	**12 28 27.7**	**+3.5**
IMMV				S		**Sn**	**12 28 50.4**	**+3.2**
IMMV				AML		AML	12 29 02.3	
	comp=E,21618μm,0.9s							
IMMV				AML		AML	12 29 06.1	
	comp=N,13732μm,0.5s							
IMMV	**Iera Moni Meta**		**1.92 283**	PN		**Pn**	**12 28 27.2**	**+3.0**
DAT	**Datca**		**1.99 32**	P		**Pn**	**12 28 27.1**	**+1.8**
DAT	**Datca**		**1.99 32**	PN		**Pn**	**12 28 26.8**	**+1.5**
DAT	**Datca**		**1.99 32**	*i* P		**Pn**	**12 28 27.1**	**+1.8**
DAT				*i* S		**Sn**	**12 28 49.9**	**+0.8**
DAT				IAML			12 28 55.0	
	comp=N,1μm,0.6s							
DATC	**Datca-Mugla**		**2.06 33**	PN		**Pn**	**12 28 27.2**	**+1.2**
APE	**Apeiranthos**		**2.12 344**	P		**Pn**	**12 28 27.8**	**+0.9**
APE				S		**Sn**	**12 28 53.1**	**+1.1**
	comp=N,4μm,0.4s							
APE	**Apeiranthos**		**2.12 344**	P		**Pn**	**12 28 27.9**	**+0.9**
APE				S		**Sn**	**12 28 52.6**	**+0.6**
APE				AML		AML	12 28 53.8	
	comp=E,7143μm,0.5s							
APE				AML		AML	12 28 54.7	
	comp=N,10446μm,0.3s							
APE	**Apeiranthos**		**2.12 344**	⇑P		**Pn**	**12 28 28.0**	**+1.0**
APE	**Apeiranthos**		**2.12 344**	⇑S		**Sn**	**12 28 51.8**	**-0.2**
APE	**Apeiranthos**		**2.12 344**	PN		**Pn**	**12 28 27.9**	**+1.0**
APE	**Apeiranthos**		**2.12 344**	*d* P		**Pn**	**12 28 27.4**	**+0.5**
APE	**Apeiranthos**		**2.12 344**	⇑P		**Pn**	**12 28 27.9**	**+0.9**
RODP	**Rodopos**		**2.12 285**	P		**Pn**	**12 28 30.2**	**+3.2**
RODP	**Rodopos**		**2.12 285**		PN	**Pn**	**12 28 29.7**	**+2.7**
KNDR	**Palaiochora Ch**		**2.13 276**	P		**Pn**	**12 28 30.5**	**+3.5**
KNDR	**Palaiochora Ch**		**2.13 276**	PN		**Pn**	**12 28 31.1**	**+4.1**
BODT	**Bodrum**		**2.19 22**	P		**Pn**	**12 28 29.4**	**+1.5**
BODT	**Bodrum**		**2.19 22**	PN		**Pn**	**12 28 29.0**	**+1.1**
BDRM	**Kayabasi**		**2.23 25**	*i* P		**Pn**	**12 28 29.1**	**+0.6**
BDRM				*i* S		**Sn**	**12 28 51.7**	**-3.2**
BDRM				IAML			12 29 19.0	
	comp=E,819nm,0.8s							
MHLO	**Agia Marina, M**		**2.24 318**	P		**Pn**	**12 28 30.5**	**+1.9**
MHLO				S		**Sn**	**12 28 56.4**	**+1.3**
	comp=E,14μm,0.6s							
MHLO	**Agia Marina, M**		**2.24 318**	P		**Pn**	**12 28 30.7**	**+2.1**
MHLA	**Plaka, Milos I**		**2.27 319**	P		**Pn**	**12 28 31.1**	**+2.1**
TURN	**Turunc**		**2.36 42**	PN		**Pn**	**12 28 31.6**	**+1.4**
TURN	**Turunc**		**2.36 42**	*i* P		**Pn**	**12 28 31.9**	**+1.7**
TURN				*i* S		**Sn**	**12 28 56.2**	**-1.7**
TURN				IAML			12 29 08.0	
	comp=N,2μm,0.5s							
TURN				IAML			12 29 18.0	
	comp=E,1μm,0.5s							
MLSB	**Milas**		**2.56 28**	PN		**Pn**	**12 28 34.3**	**+1.3**
ANKY	**Antikythira Is**		**2.56 290**	P		**Pn**	**12 28 34.8**	**+1.8**
ANKY	**Antikythira Is**		**2.56 290**	P		**Pn**	**12 28 35.1**	**+2.0**
SERI	**Serifos**		**2.57 326**	P		**Pn**	**12 28 34.8**	**+1.7**
SERI	**Serifos**		**2.57 326**	P		**Pn**	**12 28 34.7**	**+1.6**
DALY	**Dalyan (Mula)**		**2.62 47**	PN		**Pn**	**12 28 35.7**	**+1.9**
DALY	**Dalyan (Mula)**		**2.62 47**	*i* P		**Pn**	**12 28 36.5**	**+2.6**
DALY				*i* S		**Sn**	**12 29 09.1**	**+4.6**
DALY				IAML			12 29 21.0	
	comp=E,2μm,1.4s							
DALY				IAML			12 29 24.0	
	comp=N,3μm,0.6s							
YER	**Yerkesik**		**2.65 37**	P		**Pn**	**12 28 36.5**	**+2.2**
YER				S		**Sn**	**12 29 06.8**	**+1.6**
YER	**Yerkesik**		**2.65 37**	PN		**Pn**	**12 28 35.9**	**+1.6**
YER	**Yerkesik**		**2.65 37**	P		**Pn**	**12 28 36.3**	**+2.0**
TNSA	**Tinos**		**2.65 341**	P		**Pn**	**12 28 35.7**	**+1.4**
SMG	**Samos**		**2.70 10**	P		**Pn**	**12 28 35.9**	**+0.9**
SMG				S		**Sn**	**12 29 08.4**	**+1.9**
	comp=N,2μm,0.7s							
SMG	**Samos**		**2.70 10**	P		**Pn**	**12 28 36.1**	**+1.1**
SMG				S		**Sn**	**12 29 06.2**	**-0.2**
SMG				AML		AML	12 29 26.1	
	comp=E,4602μm,0.7s							
SMG				AML		AML	12 29 29.7	
	comp=N,2948μm,0.6s							
FETY	**Fethiye**		**2.79 54**	PN		**Pn**	**12 28 37.5**	**+1.4**
FETY	**Fethiye**		**2.79 54**	*i* P		**Pn**	**12 28 37.0**	**+0.9**
FETY				IAML			12 29 29.0	
	comp=N,732nm,1.0s							
FETY				IAML			12 29 29.0	
	comp=E,484nm,0.6s							
KTHA	**Kythira Island**		**2.88 296**	P		**Pn**	**12 28 38.7**	**+1.3**
KTHA	**Kythira Island**		**2.88 296**	P		**Pn**	**12 28 38.8**	**+1.3**
KTHA	**Kythira Island**		**2.88 296**	PN		**Pn**	**12 28 40.2**	**+2.7**
KSL	**Kastellorizon**		**2.92 67**	P		**Pn**	**12 28 39.6**	**+1.7**
KSL	**Kastellorizon**		**2.92 67**	P		**Pn**	**12 28 39.9**	**+2.0**
KSL				S		**Sn**	**12 29 14.9**	**+3.2**
KSL				AML		AML	12 29 29.1	
	comp=E,2510μm,0.6s							
KSL				AML		AML	12 29 47.8	
	comp=N,2959μm,1.7s							
KSL	**Kastellorizon**		**2.92 67**	⇑P		**Pn**	**12 28 39.2**	**+1.4**
KTHR	**Kythira**		**2.93 296**	P		**Pn**	**12 28 39.5**	**+1.4**
AKAS	**Kas**		**2.96 65**	PN		**Pn**	**12 28 40.6**	**+1.9**
AKAS	**Kas**		**2.96 65**	*i* P		**Pn**	**12 28 39.8**	**+1.1**
AKAS				IAML			12 29 47.0	
	comp=E,501nm,0.9s							
AKAS	**Kas**		**2.96 65**	P		**Pn**	**12 28 40.1**	**+1.5**
AKAS				Sn		**Sn**	**12 29 14.3**	**+1.2**
AYDB	**Zeytinkoy-Aydi**		**3.18 24**	PN		**Pn**	**12 28 43.2**	**+1.5**
VLI	**Veliai**		**3.19 303**	P		**Pn**	**12 28 42.6**	**+1.0**
VLI				S		**Sn**	**12 29 19.2**	**+0.9**
	comp=E,2μm,0.8s							
VLI	**Veliai**		**3.19 303**	P		**Pn**	**12 28 43.0**	**

KZIL IAML 12 29 58.0
comp=N,170nm,0.8s
KLV Kalavryta, Ach 4.47 313 P **Pn** **12 29 00.6 +1.3**
KLV Kalavryta, Ach 4.47 313 P **Pn** **12 29 01.5 +2.2**
STEP BALIKESIR_Sava 4.48 14 *i* P **Pn** **12 29 00.9 +1.5**
STEP IAML 12 29 54.0
comp=N,275nm,0.8s
STEP IAML 12 29 55.0
comp=E,170nm,0.8s
ATAL Atalanti 4.48 325 P **Pn** **12 29 01.4 +2.0**
DSF Desfina 4.51 319 P **Pn** **12 29 01.0 +1.1**
BAGO Egridir - ISPA 4.68 50 *i* P **Pn** **12 29 03.1 +0.9**
DRO Drossia 4.69 310 P **Pn** **12 29 04.7 +2.5**
BAYC CANAKKALE_Bayr 4.70 3 *i* P **Pn** **12 29 03.1 +0.7**
BAYC IAML 12 29 59.0
comp=N,130nm,0.8s
KEPZ Antalya-Kepez 4.71 65 *i* P **Pn** **12 29 03.5 +1.0**
KEPZ IAML 12 29 58.0
comp=E,94nm,1.3s
KEPZ IAML 12 29 59.0
comp=N,129nm,0.6s
AXAR Agios Charalam 4.71 323 P **Pn** **12 29 04.9 +2.3**
EZN Ezine 4.78 0 P **Pn** **12 29 04.7 +1.3**
GDZ Gediz 4.79 31 *i* P **Pn** **12 29 05.0 +1.3**
BOZC Bozcaada 4.80 358 *i* P **Pn** **12 29 03.2 -0.5**
BALY Balya 4.81 12 *i* P **Pn** **12 29 03.5 -0.5**
AFYO Afyonkarahisar 4.94 40 *i* P **Pn** **12 29 07.0 +1.2**
AFYO IAML 12 29 57.0
comp=E,128nm,0.8s
AFYO IAML 12 29 59.0
comp=N,79nm,1.0s
AKMS Akamas 4.97 88 P **Pn** **12 29 05.8 -0.4**
AKMS AML AML 12 30 01.1
comp=N,3.2nm,0.7s
AKMS AML AML 12 30 01.1
comp=N,3.6nm,0.3s
ANX Ano Chora 4.98 317 P **Pn** **12 29 08.9 +2.6**
ANX S **Sn** **12 30 04.6 +2.0**
comp=N,988nm,0.9s
GOKA anakkale-Gk 5.15 357 *i* P **Pn** **12 29 06.3 -2.3**
NATA Nata 5.18 91 P **Pn** **12 29 08.8 -0.2**
ALFC Alefka 5.19 87 ⇑P **Pn** **12 29 09.0 -0.1**
ALFC AML AML 12 30 06.8
comp=N,3.7nm,0.2s
ALFC AML AML 12 30 07.9
comp=N,3.9nm,0.3s
PAIG Paliouri 5.30 338 P **Pn** **12 29 12.5 +2.0**
PAIG Paliouri 5.30 338 P **Pn** **12 29 12.6 +2.0**
PAIG pmax pmax
comp=Z,111nm,0.7s
DOGA KONYA_Doganhis 5.31 53 *i* P **Pn** **12 29 12.0 +1.0**
DOGA *i* S **Sn** **12 30 08.6 -2.3**
OSC2 CSNet OBS 4 5.35 110 P **Pn** **12 29 10.0 -1.3**
OSC2 S **Sn** **12 30 10.5 -1.1**
LEF Lefka 5.43 87 ⇑P **Pn** **12 29 12.6 +0.3**
AUKIR Kırka- Seyitga 5.43 38 *i* P **Pn** **12 29 12.1 -0.4**
SZAC Sozan 5.44 91 ⇑P **Pn** **12 29 11.7 -0.8**
ULDT Uludag 5.58 23 *i* P **Pn** **12 29 13.8 -0.8**
IGD Bursa 5.71 23 *i* P **Pn** **12 29 17.2 +1.0**
ASGA Asgata 5.74 91 P **Pn** **12 29 16.0 -0.6**
CSS Mathiatis 5.79 89 Pn **Pn** **12 29 16.8 -0.6**
CSS Mathiatis 5.79 89 ⇑P **Pn** **12 29 17.0 -0.4**
CSS Mathiatis 5.79 89 Pn **Pn** **12 29 17.1 -0.4**
CSS Sn **Sn** **12 30 19.8 -2.8**
SWA2 5.82 187 P **Pn** **12 29 18.8 +1.0**
baz=187
ALN Alexandroupoli 5.85 358 P **Pn** **12 29 19.7 +1.5**
ALN Alexandroupoli 5.85 358 Pn **Pn** **12 29 19.7 +1.5**
LIT Litokhoron 5.88 330 P **Pn** **12 29 21.0 +2.4**
LIT Litokhoron 5.88 330 P **Pn** **12 29 19.2 +0.6**
LIT Litokhoron 5.88 330 **Pn** **12 29 19.2 +0.6**
MVOU Mavrovouni 6.04 88 ⇑P **Pn** **12 29 20.8 0.0**
THE Thessaloniki 6.17 336 P **Pn** **12 29 25.4 +2.9**
THE pmax pmax
comp=Z,53nm,0.8s
SOH Sokhos 6.22 339 P **Pn** **12 29 26.1 +2.9**
SOH pmax pmax
comp=Z,30nm,0.7s
PARAL Paralimni 6.37 88 P **Pn** **12 29 26.4 +1.1**
SRS Serrai 6.43 342 P **Pn** **12 29 28.2 +2.1**
SRS pmax pmax
comp=Z,132nm,1.1s
HMYD Mayadein 6.48 143 P **Pn** **12 29 27.4 +0.6**
baz=141
HNAT Natroun 6.52 145 P **Pn** **12 29 28.1 +0.7**
baz=143
MDUB Mudurnu 6.68 34 Pn **Pn** **12 29 31.1 +1.4**
MMB Musomiste 6.84 344 *i* P **Pn** **12 29 33.5 +1.7**
VAY Valandovo 6.92 336 *i* Pn **Pn** **12 29 37.2 +4.4**
KOT Kottamia 6.93 136 P **Pn** **12 29 33.0 0.0**
baz=134
HSAF As Saff 7.01 139 P **Pn** **12 29 34.3 +0.1**
baz=137
BR231 Keskin MP Arra 7.05 45 **Pn** **12 29 36.6 +1.8**
HHAG Hagoal 7.06 134 P **Pn** **12 29 35.3 +0.4**
baz=133
HHAG AMP 12 30 00.0
baz=133
HHAG S **Sn** **12 30 51.7 -2.3**
baz=133
GLL Jalalah 7.13 138 P **Pn** **12 29 35.4 -0.3**
baz=137
PLD Plovdiv 7.16 351 P **Pn** **12 29 39.5 +3.4**
PLD pmax pmax
comp=Z,5.0nm,1.0s
PLD Plovdiv 7.16 351 *i* P **Pn** **12 29 39.5 +3.4**
STIP Stip 7.38 335 *i* Pn **Pn** **12 29 42.4 +3.2**
OHR Ohrid 7.44 326 *i* Pn **Pn** **12 29 44.1 +4.0**
BR131 Keskin Array S 7.50 49*c* *i*P **Pn** **12 29 41.4 +0.4**
BR131 Keskin Array S 7.50 49 Pn **Pn** **12 29 41.8 +0.8**
BRTR Keskin Array B 7.50 49 P **Pn** **12 29 42.0 +1.1**
comp=Z,0.8nm,0.3s,baz=241,slow=15,SNR=26
BRTR S **Sn** **12 31 04.3 -0.5**
comp=Z,0.8nm,0.3s,baz=216,slow=28,SNR=5.8
BRTR LR LR 12 33 26.1
comp=Z,678nm,21.4s,baz=245,slow=45
BRTR Keskin Array B 7.50 49 *i* P **Pn** **12 29 42.0 +1.1**
BRTR pmax pmax
comp=Z,6.0nm,0.6s
BRTR Keskin Array B 7.50 49 Pn **Pn** **12 29 41.4 +0.4**
SUZ Suez 7.59 131 P **Pn** **12 29 42.5 +0.5**
baz=130
OFRI `Ofer 7.64 106 Pn **Pn** **12 29 42.4 -0.4**
BLGI Bet Lehem HaGe 7.76 105 Pn **Pn** **12 29 44.3 -0.1**
SLTI Sal'it 7.83 108 Pn **Pn** **12 29 45.0 -0.3**
SLTI Sn **Sn** **12 31 06.9 -5.6**
MMA0B Mount Meron ar 7.84 102 Pn **Pn** **12 29 45.9 +0.3**
MMAI Mount Meron Ar 7.84 102 P **Pn** **12 29 44.4 -1.2**
comp=Z,9.9nm,0.3s,baz=289,slow=10,SNR=35
MMAI S **Sn** **12 31 09.0 -4.1**
comp=Z,17nm,0.3s,baz=314,slow=26,SNR=3.9
VTS Vitosha 7.93 344 *i* P **Pn** **12 29 49.6 +2.8**
KZIT Kziot 7.97 119 Pn **Pn** **12 29 46.3 -1.0**
KZIT Sn Sn 12 31 09.9 -6.3
GEM Giv'at Ha'Em 8.00 101 Pn **Pn** **12 29 46.6 -1.0**
GEM Sn **Sn** **12 31 12.2 -4.6**
AMAZ Amatzia 8.04 113 Pn **Pn** **12 29 47.3 -0.9**
NATI Neve Ativ 8.04 100 Pn **Pn** **12 29 47.5 -0.7**
NATI Sn **Sn** **12 31 13.5 -4.3**
MMLI Mount Malkishu 8.05 106 Pn **Pn** **12 29 48.4 0.0**
MMLI Sn **Sn** **12 31 13.3 -4.8**
HFRF Wahat Farafira 8.06 167 P **Pn** **12 29 48.7 +0.3**
baz=166
HFRF S **Sn** **12 31 13.4 -4.9**
baz=166
TIR Tirane 8.07 323 P **Pn** **12 29 52.9 +4.3**
TIR pmax pmax
comp=Z,48nm,1.1s
HMDT Nahal Hemdat 8.20 107 Pn **Pn** **12 29 50.0 -0.4**
HMDT Sn **Sn** **12 31 17.2 -4.5**
YTIR Yattir 8.27 114 Pn **Pn** **12 29 50.0 -1.4**
YTIR Sn **Sn** **12 31 18.6 -4.9**
UJAP Al Uja 8.27 109 Pn **Pn** **12 29 50.5 -0.8**
DSI Dead Sea 8.37 112 Pn **Pn** **12 29 51.9 -0.8**
DSI Sn **Sn** **12 31 20.9 -5.0**
MPEP Malo Peshtene 8.54 347 *i* P **Pn** **12 29 57.8 +2.8**
DAMI2 DAM2 8.60 114 Pn **Pn** **12 29 55.3 -0.6**
DAMI2 Sn **Sn** **12 31 27.4 -4.2**
GHAJ Ghor Haditha 8.63 113 Pn **Pn** **12 29 55.8 -0.5**
TIP Timpagrande 8.65 301 ⇑P **Pn** **12 29 55.5 -1.1**
TIP Timpagrande 8.65 301 Pn **Pn** **12 29 55.5 -1.1**
KRMI Paran Flat 8.65 122 Pn **Pn** **12 29 56.5 -0.2**
ZFRI Zfri 8.73 118 Pn **Pn** **12 29 55.8 -1.8**
ZFRI Sn **Sn** 12 31 28.5 -6.2
KARJ KARJ 8.79 114 Pn **Pn** 12 29 51.4 -7.0
HRFI Mount Harif 8.92 122 Pn **Pn** **12 30 00.2 -0.1**
HRFI Sn **Sn** **12 31 34.3 -5.2**
MBRI Mt Berech 8.98 123 Pn **Pn** **12 30 02.5 +1.3**
EIL Elat 9.08 124 P **Pn** **12 30 02.0 -0.5**
comp=Z,2.1nm,0.3s,baz=226,slow=3.6,SNR=35
EIL S Sn 12 31 35.1 -8.3
comp=Z,18nm,0.3s,baz=224,slow=1.1,SNR=16
EIL Elat 9.08 124 Pn **Pn** **12 30 02.0 -0.5**
EIL Sn Sn 12 31 37.3 -6.1
GAZ Gaziantep 9.11 73 Pn **Pn** **12 30 03.6 +0.7**
AQBJ Aqaba 9.11 123 Pn **Pn** **12 30 02.7 -0.2**
PDG Podgorica 9.19 326 ⇓P **Pn** **12 30 02.9 -1.0**
PDG Podgorica 9.19 326 Pn **Pn** **12 30 03.4 -0.6**
HBST Basata 9.22 127 AMP 12 31 00.0
baz=125
ASF Jabal al Asfar 9.31 105 P **Pn** **12 30 04.7 -1.1**
comp=Z,1.4nm,0.3s,baz=264,slow=5.1,SNR=15
ASF S Sn 12 31 43.0 -6.2
comp=Z,0.8nm,0.3s,baz=276,slow=10,SNR=1.5
MATE Matera 9.41 309 ⇓P **Pn** **12 30 06.2 -0.8**
TIRR Tirgusor 9.55 9 ⇑P **Pn** **12 30 10.1 +1.3**
TIRR Tirgusor 9.55 9 P **Pn** **12 30 10.2 +1.3**
TIRR Tirgusor 9.55 9 Pn **Pn** **12 30 10.2 +1.3**
RAFF Raffo Rosso 9.88 286 Pn **Pn** **12 30 13.8 +0.4**
VAE Valguarnera 9.88 288 P **Pn** **12 30 12.4 -1.1**
comp=Z,1.0nm,0.3s,baz=0.0,slow=11,SNR=1.4
VAE S **Sn** **12 31 55.0 -8.1**
comp=Z,3.7nm,0.3s,baz=166,slow=7.3,SNR=2.4
DIVS Divibare 10.26 334 Pn **Pn** **12 30 20.1 +1.4**
HERR Herculane 10.27 344 ⇑P **Pn** **12 30 19.5 +0.9**
MALT Malatya 10.29 68 P **Pn** **12 30 20.4 +1.2**
VOIR 10.43 355 P **Pn** **12 30 22.2 +1.2**
VOIR pmax pmax
comp=Z,20nm,1.0s
MLR Muntele Rosu 10.45 359 P **Pn** **12 30 21.6 +0.4**
comp=Z,0.6nm,0.3s,baz=123,slow=5.0,SNR=7.9
MLR LR LR 12 35 04.4
comp=Z,662nm,19.6s,baz=189,slow=42
MLR Muntele Rosu 10.45 359 ⇑P **Pn** **12 30 21.6 +0.4**
MLR Muntele Rosu 10.45 359 P **Pn** **12 30 22.6 +1.4**
MLR Muntele Rosu 10.45 359 Pn **Pn** **12 30 22.6 +1.4**
SGRT San Giovanni R 10.64 312 **Pn** **12 30 20.7 -3.1**
GZR Gura Zlata 10.68 347 ⇑P **Pn** **12 30 24.7 +0.3**
PLOR Plostina 10.81 1 ⇑P **Pn** **12 30 26.9 +0.8**
PLOR Plostina 10.81 1 P **Pn** **12 30 26.9 +0.8**
VRI Vrincioaia 10.82 2 ⇑P **Pn** **12 30 27.6 +1.3**
VRI Vrincioaia 10.82 2 P **Pn** **12 30 28.3 +2.0**
VRI pmax pmax
comp=Z,23nm,1.4s
PAOL Paolisi 11.00 306 Pn **Pn** **12 30 27.0 -1.7**
DEV Deva 11.13 348 P **Pn** **12 30 34.4 +3.9**
DEV pmax pmax
comp=Z,35nm,1.2s
BZS Buzias 11.15 343 ⇑P **Pn** **12 30 31.2 +0.5**
BZS Buzias 11.15 343 P **Pn** **12 30 31.1 +0.5**
INTR Introdacqua 11.92 309 **Pn** **12 30 40.1 -1.3**
MARD Mardin 11.94 75 Pn **Pn** **12 30 42.1 +0.4**
BURAR Bucovina Array 12.59 357 P **Pn** **12 30 48.8 -1.7**
BURAR Bucovina Array 12.59 357 Pn **Pn** **12 30 48.6 -1.9**
BUR08 Bucovina Ar. S 12.62 357 Pn **Pn** **12 30 54.4 +3.5**
NRCA Norcia 12.86 311 **Pn** **12 30 53.9 -0.2**
SOC Sochi 13.45 47 *eP* **Pn** **12 31 04.1 +2.0**
SOC *e* 12 33 34.6
SOC pmax pmax
comp=Z,13nm,0.9s
SOC MLR MLR
comp=Z,338nm,14.0s
PSZ Piszkesteto 13.72 342 P **Pn** **12 31 07.3 +1.4**
PSZ Piszkesteto 13.72 342 Pn **Pn** **12 31 07.3 +1.4**
ARTV Artvin 13.76 59 Pn **P** **12 31 11.8 -2.5**
KEST Kesra 13.83 278 P **Pn** **12 31 08.9 +1.5**
comp=Z,0.1nm,0.3s,baz=52,slow=1.1,SNR=5.6
KEST S **Sn** **12 33 34.9 -4.8**
comp=Z,0.2nm,0.3s,baz=49,slow=19,SNR=1.4
KEST LR LR 12 37 30.5
comp=Z,278nm,20.7s,baz=36,slow=42
KEST Kesra 13.83 278 Pn **Pn** **12 31 07.0 -0.5**
GEVA Gevas 13.86 71 **P** **12 31 13.1 -2.3**
UZH Uzhgorod 13.90 349 *eP* **Pn** **12 31 10.9 +2.7**
VSL Villasalto 14.17 293 Pn **Pn** **12 31 12.3 +0.4**
OSSC Osservatorio P 14.38 311 **P** **12 31 20.2 -0.7**
SOKA Soboth 14.39 327 *eP* **P** **12 31 19.2 -1.8**
comp=Z,13nm,0.8s
VYHS Vyhne 14.53 340 *eP* **Pn** **12 31 16.9 +0.1**
VYHS Vyhne 14.53 340 *ePN* **Pn** **12 31 16.9 +0.1**
SOP Sopron 14.57 333 P **P** **12 31 23.6 +0.6**
SOP pmax pmax
comp=Z,19nm,1.1s
ARSA Arzberg 14.62 330 *eP* **Pn** **12 31 18.4 +0.4**
comp=Z,11nm,1.0s
LVV L'vov 14.86 354 *eP* P 12 31 32.1 +5.9
MODS Modra-Piesok 14.91 336 *eP* **P** **12 31 24.8 -1.9**
MODS pmax pmax
comp=Z,11nm,0.7s
MODS Modra-Piesok 14.91 336 *eP* **P** **12 31 24.8 -1.9**
AKH Akhalkalaki 14.95 60 P **P** **12 31 26.0 -1.4**
AKH Akhalkalaki 14.95 60 **P** **12 31 26.0 -1.4**
LANS Liptovska Anna 14.97 342 *eP* **P** **12 31 27.3 -0.1**
LANS pmax pmax
comp=Z,5.0nm,1.2s
LANS Liptovska Anna 14.97 342 *eP* **P** **12 31 27.3 -0.1**
SMOL Smolenice 14.98 337 *eP* **P** **12 31 25.8 -1.7**
SMOL pmax pmax
comp=Z,4.0nm,0.6s
SMOL Smolenice 14.98 337 *eP* **P** **12 31 25.8 -1.7**
CONA Conrad Observa 15.04 332 *eP* **Pn** **12 31 23.4 -0.2**
comp=Z,9.4nm,1.1s
JAVC Velka Javorina 15.21 338 *eP* **Pn** **12 31 27.9 +2.2**
ZOU Zoufplan 15.27 323 **Pn** **12 31 27.7 +1.0**
SHA1 Shidzhatmaz 15.34 51*d* *i*P **P** **12 32 0 +0.2**
CIMO Cimolais 15.37 321 P **P** **12 31 31.1 -0.7**
KBA Koelnbreinsper 15.46 325 *eP* **P** **12 31 33.4 +0.4**
comp=Z,12nm,1.1s
KBA Koelnbreinsper 15.46 325 P **P** **12 31 34.1 +1.1**
KBA pmax pmax
comp=Z,15nm,1.2s
KIV Kislovodsk 15.46 50 *i* P **P** **12 31 34.7 +1.7**
SNR=5.5
KIV Kislovodsk 15.46 50 *eP* **P** **12 31 33.2 +0.2**
KIV pmax pmax
comp=Z,130nm,1.1s
KIV MLR MLR
comp=Z,359nm,12.0s
KIV Kislovodsk 15.46 50 P **P** **12 31 34.6 +1.6**
KVAR Kislovodsk Arr 15.47 50 P **Pn** **12 31 29.8 +0.5**
baz=287,slow=20,SNR=2.3
KBZ Khabaz 15.49 51 P **Pn** **12 31 29.4 +0.1**
baz=257,slow=8.3,SNR=2.8
KBZ LR LR 12 39 32.3
comp=Z,105nm,20.8s,baz=260,slow=45
KBZ Khabaz 15.49 51*ceP* **Pn** **12 31 29.6 +0.3**
KBZ pmax pmax
comp=Z,32nm,1.0s
CTI Castel Tesino 15.61 319 P **P** **12 31 33.7 -0.9**
CTI pmax pmax
comp=Z,23nm,1.3s
CTI Castel Tesino 15.61 319 P **P** **12 31 33.7 -0.9**
MOA Molln 15.62 329 *eP* **P** **12 31 33.9 -0.8**
comp=Z,8.0nm,0.9s
ABTA Abfaltersbach 15.63 323 *eP* **P** **12 31 35.1 +0.3**
comp=Z,14nm,0.7s,SNR=5.1
ZEI Tsey 15.74 55 *eP* **Pn** **12 31 34.0 +1.2**
ZEI pmax pmax
comp=Z,38nm,1.0s
KRUC Moravsky 15.80 336 *eP* **Pn** **12 31 34.7 +1.4**
AKASG Malin Array Be 15.80 7 P **Pn** **12 31 31.7 -1.7**
comp=Z,6.9nm,0.3s,baz=190,slow=11,SNR=35
AKASG S **Sn** **12 34 28.0 +0.8**
comp=Z,0.4nm,0.3s,baz=142,slow=11,SNR=1.6
AKASG LR LR 12 38 07.2
comp=Z,373nm,20.8s,baz=185,slow=39
AKASG Malin Array Be 15.80 7 *i* P **Pn** **12 31 33.4 +0.1**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG Malin Array Be 15.80 7 Pn **Pn** **12 31 34.0 +0.7**
AKBB Malin Array Si 15.80 7*ce*P **Pn** **12 31 32.8 -0.5**
AKBB Malin Array Si 15.80 7 Pn **Pn** **12 31 32.7 -0.7**
MISSA Maissana 15.86 311 Pn **Pn** **12 31 34.8 +0.6**
NAX Nakhchivan 15.88 69 P **Pn** **12 31 36.9 +2.4**
VRAC Vranov 15.94 336 P **Pn** **12 31 33.7 -1.5**
comp=Z,2.8nm,0.3s,baz=136,slow=10,SNR=18
VRAC LR LR 12 38 08.3
comp=Z,276nm,19.9s,baz=151,slow=39
VRAC Vranov 15.94 336 ⇑P **Pn** **12 31 34.8 -0.4**
VRAC Vranov 15.94 336 *eP* **Pn** **12 31 36.6 +1.4**
MORC Moravsky Berou 16.06 339 ⇑P **Pn** **12 31 35.7 -1.0**
MORC Moravsky Berou 16.06 339 *eP* **Pn** **12 31 36.0 -0.7**
MORC Moravsky Berou 16.06 339 P **Pn** **12 31 36.6 -0.1**
MORC pmax pmax
comp=Z,14nm,1.0s
MORC Moravsky Berou 16.06 339 Pn **Pn** **12 31 36.6 -0.1**
GOF Gofitskoye 16.25 47⇑ *eP* **P** **12 31 43.7 +2.1**
GOF pmax pmax
comp=Z,65nm,0.8s
TREC Trest 16.31 334 *eP* **P** **12 31 41.6 -0.7**
TREC Trest 16.31 334 *eP* **P** **12 31 41.6 -0.7**
WTTA Wattenberg 16.42 322 *eP* **P** **12 31 44.5 +0.8**
comp=Z,34nm,1.4s,SNR=9.1
WTTA Wattenberg 16.42 322 P **P** **12 31 44.1 +0.4**
WTTA pmax pmax
comp=Z,26nm,1.5s
WATA Walderalm 16.50 323 *eP* **P** **12 31 43.9 -0.6**
comp=Z,26nm,1.3s,SNR=7.0
KRLC Kraliky 16.55 338 *eP* **Pn** **12 31 42.2 -0.7**
KRLC Kraliky 16.55 338 *eP* **Pn** **12 31 42.2 -0.7**
SQTA Sankt Quirin 16.61 322 *eP* **P** **12 31 46.5 +0.8**
comp=Z,28nm,1.5s,SNR=7.2
GEC2 GERESS Array S 16.64 330 **Pn** **12 31 45.1 +1.0**
GERES GERESS Array B 16.64 330 P **Pn** **12 31 41.7 -2.3**
comp=Z,0.6nm,0.3s,baz=137,slow=10.0,SNR=25
GERES S **Sn** **12 34 44.5 -3.2**
comp=Z,0.2nm,0.3s,baz=238,slow=39,SNR=1.7
GERES LR LR 12 38 09.0
comp=Z,258nm,18.2s,baz=130,slow=37
FUORN Ofenpass-Fuorn 16.72 319 **Pn** **12 31 44.2 -1.0**
FETA Feichten 16.72 320 *eP* **P** **12 31 46.6 -0.4**
comp=Z,19nm,1.2s,SNR=6.0
MOTA Moosalm 16.74 322 *eP* **P** **12 31 46.6 -0.6**
comp=Z,15nm,1.2s
GANJ Ganja 16.79 65 P **Pn** **12 31 47.2 +1.3**
KHC Kasperske Hory 16.91 330 *eP* **Pn** **12 31 46.2 -1.2**
KHC *ep*P **pP** **12 31 58.5 -0.6**
KHC Kasperske Hory 16.91 330*ce*P **Pn** **12 31 45.9 -1.5**
KHC pmax pmax
comp=Z,64nm,1.7s
KHC Kasperske Hory 16.91 330 Pn **Pn** **12 31 45.6 -1.8**
DPC Dobruska-Polom 16.94 338 *eP* **Pn** **12 31 47.3 -0.4**
DPC Dobruska-Polom 16.94 338 *eP* **Pn** **12 31 47.3 -0.4**
SBF Sospel 16.98 307 *eP* **Pn** **12 31 49.1 +0.7**
SBF pmax pmax
comp=Z,38nm,0.9s
RETA Reutte 17.01 322 *eP* **P** **12 31 50.4 +0.3**
comp=Z,5.3nm,0.6s
DAVOX Davos/Dischmat 17.02 319 P **Pn** **12 31 48.7 -0.3**
comp=Z,0.4nm,0.3s,baz=131,slow=12,SNR=6.2
DAVOX S **Sn** **12 34 53.0 -4.3**
comp=Z,0.2nm,0.3s,baz=352,slow=19,SNR=1.4
DAVOX LR LR 12 39 33.3
comp=Z,349nm,19.4s,baz=82,slow=41
GOPC GO Pecny, Ondr 17.08 334 *eP* **Pn** **12 31 48.0 -1.5**
GOPC GO Pecny, Ondr 17.08 334 *eP* **Pn** **12 31 48.0 -1.5**
TUE Stuetta 17.13 317 **Pn** **12 31 50.5 +0.2**
OSTC Ostas 17.15 338 *eP* **Pn** **12 31 49.8 -0.6**
GROC Groznyy 17.18 56 *eP* **Pn** **12 31 49.4 -1.3**
GROC pmax pmax
comp=Z,6.0nm,0.3s
WET Wettzell 17.21 329 P **P** **12 31 53.2 +1.0**
WET pmax pmax
comp=Z,11nm,1.6s
PRU Pruhonice 17.23 334 *eP* **Pn** **12 31 49.7 -1.6**
PRU Pruhonice 17.23 334 *eP* **Pn** **12 31 49.7 -1.6**
DAVA Damuels 17.34 320 *eP* **Pn** **12 31 52.7 -0.1**
comp=Z,9.5nm,1.0s
PRA Prague 17.34 334 *eP* **Pn** **12 31 51.7 -0.9**
PRA Prague 17.34 334 *eP* **Pn** **12 31 51.7 -0.9**
ISO Isola 17.37 307 P **P** **12 31 53.8 -0.3**
ISO pmax pmax
comp=Z,14nm,1.0s
MNGR Mingechevir, A 17.38 65 P **P** **12 31 55.0 +0.9**
FRF La Foret Royal 17.38 305 *eP* **Pn** **12 31 53.1 -0.2**
FRF pmax pmax
comp=Z,7.0nm,0.8s
SEKA Sheki 17.56 63 P **P** **12 31 58.1 +1.9**
MBDF Montbardon 17.78 309 *eP* **Pn** **12 31 57.4 -1.0**
MBDF pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 17.99 310 P **Pn** **12 32 01.6 +0.7**
BNI pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 17.99 310 **Pn** **12 32 01.6 +0.7**
AKT Akhty 18.02 63 *eP* **Pn** **12 32 02.8 +1.6**
AKT pmax pmax
comp=Z,10.0nm,0.4s
LPG La Plagne 18.15 311 *eP* **P** **12 32 02.7 -0.2**
LPG pmax pmax
comp=Z,17nm,0.9s
LPL La Plagne 18.17 311 *eP* **P** **12 32 02.8 -0.3**
LPL pmax pmax
comp=Z,13nm,0.8s
BRG Berggiesshubel 18.18 334 P **P** **12 32 02.9 0.0**
BRG pmax pmax
comp=Z,19nm,0.9s
NKC Novy Kostel 18.23 331 P **Pn** **12 32 04.8 +1.2**
NKC pmax pmax
comp=Z,5.0nm,0.9s
SENIN Lac Senin/Sane 18.25 314 P **P** **12 32 03.4 -0.6**
MAK Makhachkala 18.27 58 *eP* **P** **12 32 04.1 +0.2**
MAK *eS* **S** **12 35 29.3 -1.3**
MAK pmax pmax
comp=Z,311nm,1.2s
MAK MLR MLR
comp=Z,141nm,11.0s
LKRN Lenkeran, Azer 18.37 72 P **Pn** **12 32 06.3 +0.9**
ORIF Oris-en-Rattie 18.44 308 *eP* **Pn** **12 32 07.4 +1.1**
ORIF pmax pmax
comp=Z,11nm,1.2s
STU Stuttgart 18.65 323 P **P** **12 32 07.6 -0.4**
STU pmax pmax
comp=Z,25nm,1.2s
VSR Storozhevoye 18.66 26 *eP* **Pn** **12 32 10.4 +1.6**
VSR pmax pmax
comp=Z,10.0nm,0.5s
BFO Black Forest 18.81 320 P **P** **12 32 08.6 -1.2**
BFO pmax pmax
comp=Z,23nm,1.3s
BFO Black Forest 18.81 320 P **P** **12 32 08.6 -1.2**
CLL Collm 18.87 334 *i* P **P** **12 32 10.1 -0.4**
comp=Z,24nm,1.4s
CLL L L 12 39 00.0
comp=Z,300nm,18.6s
CLL Collm 18.87 334 *i* P **P** **12 32 10.1 -0.4**
CLL pmax pmax
comp=Z,24nm,1.4s
CLL MLR MLR
comp=Z,300nm,18.6s
CLL Collm 18.87 334 P **P** **12 32 09.2 -1.2**
MOX Moxa 18.89 330 P **Pn** **12 32 14.5 +2.9**
MOX pmax pmax
comp=Z,10.0nm,1.0s
CABF La Chapelle 19.10 313 *eP* **P** **12 32 11.5 -1.6**
CABF pmax pmax
comp=Z,20nm,0.9s
VIVF Saint-Julien-l 19.20 307 *eP* **P** **12 32 14.6 +0.5**
VIVF pmax pmax
comp=Z,15nm,1.0s
HINF Hinteralfeld 19.30 317 *eP* **P** **12 32 14.3 -0.9**
HINF pmax pmax
comp=Z,37nm,1.5s
ECH Echery 19.36 319 P **P** **12 32 16.1 +0.2**
ECH pmax pmax
comp=Z,20nm,1.1s
ECH Echery 19.36 319 P **P** **12 32 16.1 +0.2**
SSB Saint Sauveur 19.45 308 P **P** **12 32 16.4 -0.5**
SSB pmax pmax
comp=Z,14nm,1.0s
SSB Saint Sauveur 19.45 308 P **P** **12 32 16.4 -0.5**
RUE Ruedersdorf 19.58 337 *eP* **Pn** **12 32 19.6 -0.2**
RUE IAmb IAmb 12 32 20.1
comp=Z,39nm,0.8s
VRH Novokhopyorsk 19.64 30 *eP* **P** **12 32 19.1 +0.3**
VRH pmax pmax
comp=Z,30nm,0.7s
LPSR Galich'ya Gora 19.74 23 *eP* **P** **12 32 20.0 +0.1**
LPSR pmax pmax
comp=Z,30nm,1.4s
NACGM Naroch 19.87 1 *e* **P** **12 32 19.0 -2.3**
TNS Taunus Mts 19.98 325 P **P** **12 32 23.3 +0.7**

TNS pmax pmax
comp=Z,23nm,0.9s
IDID Didziasalis 20.28 1 *e*P **P 12 32 24.6 -1.2**
IIGN Ignalina 20.31 360 *e*P **P 12 32 26.1 0.0**
IIGN IAmb IAmb 12 32 37.0
comp=Z,13nm,0.6s
PABE Paberze 20.53 356 *e*P **P 12 32 26.1 -2.3**
ISAL Salakas 20.54 360 *e*P **P 12 32 28.1 -0.4**
ISAL IAmb IAmb 12 32 30.8
comp=Z,11nm,0.6s
IZAR Zarasai 20.71 360 *e*P **P 12 32 29.4 -1.0**
LOR Lormes 20.75 313 *e*P **P 12 32 29.4 -1.6**
LOR pmax pmax
comp=Z,24nm,0.8s
WLF Walferdange 20.76 321 P **P 12 32 30.7 -0.3**
WLF Walferdange 20.76 321 P **P 12 32 29.9 -1.1**
WLF pmax pmax
comp=Z,21nm,1.1s
WLF Walferdange 20.76 321 P **P 12 32 29.9 -1.1**
AVF Avril sur Loir 20.84 311 *e*P **P 12 32 30.8 -1.2**
AVF pmax pmax
comp=Z,29nm,1.0s
CAF Calviac 20.95 305 *e*P **P 12 32 31.9 -1.3**
CAF pmax pmax
comp=Z,23nm,1.4s
PBUR Paburge 21.20 353 *e*P **P 12 32 34.6 -1.1**
OBN Obninsk 21.31 16 P **P 12 32 35.3 -1.5**
comp=Z,6.0nm,0.4s,baz=188,slow=21,SNR=7.1
OBN LR LR 12 41 23.5
comp=Z,77nm,21.8s,baz=234,slow=38
OBN Obninsk 21.31 16‖ *e*P **P 12 32 38.2 +1.4**
OBN *e* 12 32 57.6
OBN *e*S Sn 12 36 42.0 +2.0
OBN pmax pmax
comp=Z,80nm,2.5s
OBN MLR MLR
comp=Z,293nm,16.0s
OBN Obninsk 21.31 16 P **P 12 32 37.0 +0.1**
OBN IAmb IAmb 12 32 39.0
comp=Z,32nm,0.6s
BUG Bochum--Univer 21.36 326 P **P 12 32 41.1 +3.7**
BUG pmax pmax
comp=Z,19nm,1.3s
MEM Membach 21.41 323 P **P 12 32 37.6 -0.5**
MEM pP **pP 12 32 48.5 0.0**
MEM Membach 21.41 323 P **P 12 32 38.8 +0.8**
MEM pmax pmax
comp=Z,52nm,1.1s
RJF Les Rejaudoux 21.44 306 *e*P **P 12 32 37.6 -0.8**
RJF pmax pmax
comp=Z,20nm,0.9s
BSD Bornholm Skovb 21.57 342 *i* P **P 12 32 36.6 -3.0**
BSD pmax pmax
comp=Z,13nm,0.7s
BSD Bornholm Skovb 21.57 342 *i* P **P 12 32 36.6 -3.0**
comp=Z,13nm,0.7s
BSD Bornholm Skovb 21.57 342 *i* P **P 12 32 36.5 -3.1**
BSD *i* P **P 12 32 36.6 -3.0**
BSD IAmb IAmb 12 32 37.2
comp=Z,13nm,0.7s
BSTI Sart Tilman 21.62 322 P **P 12 32 40.1 -0.2**
BCLA Clavier 21.65 322 ⇓P **P 12 32 40.0 -0.5**
comp=Z,29nm,1.5s
BGES Gesves 21.74 321 P **P 12 32 40.3 -1.3**
BGES PnPn **PnPn 12 33 03.4 -0.2**
DOU Dourbes 21.82 320 P **P 12 32 41.3 -1.1**
DOU pP **pP 12 32 53.3 +0.4**
DOU PnPn **sP 12 33 04.3 +6.0**
DOU Dourbes 21.82 320 P **P 12 32 43.3 +0.8**
DOU pmax pmax
comp=Z,40nm,1.3s
TAM Tamanrasset 21.83 242 P **P 12 32 45.3 +2.4**
TAM pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 21.83 242 P **P 12 32 45.3 +2.4**
BSEG Bad Segeberg 21.96 334 P **P 12 32 43.4 -0.5**
BSEG pmax pmax
comp=Z,24nm,1.2s
BAIF Baives 22.01 320 *e*P **P 12 32 42.8 -1.6**
BAIF pmax pmax
comp=Z,42nm,0.8s
CLF Chambon-Foret 22.06 313 P **P 12 32 44.5 -0.5**
MOS Moscow 22.13 17 *e*P **P 12 32 45.3 -0.3**
MOS *e* 12 33 06.6
MOS pmax pmax
comp=Z,45nm,0.9s
ETSF Etsaut 22.23 299 *e*P **P 12 32 47.9 +1.0**
ETSF pmax pmax
comp=Z,3.0nm,0.5s
SNF Seneffe 22.23 321 P **P 12 32 45.5 -1.3**
SNF pP **pP 12 32 57.3 0.0**
SNF PnPn **PnPn 12 33 09.4 -0.8**
UCC Uccle 22.36 321 P **P 12 32 47.8 -0.4**
UCC pmax pmax
comp=Z,56nm,1.1s
UCC Uccle 22.36 321 P **P 12 32 47.8 -0.4**
UCC IAmb IAmb 12 32 48.4
comp=Z,56nm,1.1s
SJPF Ste Jean 22.75 299 *e*P **P 12 32 53.3 +0.9**
SJPF pmax pmax
comp=Z,38nm,1.0s
SLIT Slitere, Latvi 22.76 354 *e*P **P 12 32 51.4 -0.9**
BELG Belogornoye 23.08 35 *i* P **P 12 32 55.6 0.0**
VSU Vasula 23.43 1 *e*P **P 12 32 58.0 -1.1**
VSU Vasula 23.43 1 *i* P **P 12 32 58.1 -1.0**
VSU pmax pmax
comp=Z,58nm,1.5s
FLN La Foliniere 24.03 313 *e*P **P 12 33 03.1 -1.7**
FLN pmax pmax
comp=Z,61nm,1.0s
GRR Gorron 24.10 312 *e*P **P 12 33 03.1 -2.3**
GRR pmax pmax
comp=Z,24nm,0.7s
ESBB Sonseca Array 24.41 290 P **P 12 33 08.8 +0.3**
ESBB IAmb IAmb 12 33 21.0
comp=Z,36nm,1.4s
ESDC Sonseca Array 24.41 290 P **P 12 33 08.2 -0.2**
comp=Z,7.1nm,0.8s,baz=81,slow=9.4,SNR=58
ESDC PcP **PcP 12 36 47.3 +0.6**
comp=Z,0.9nm,0.8s,baz=52,slow=1.7,SNR=4.9
ESDC ScP **ScP 12 40 22.1 +0.3**
comp=Z,0.5nm,0.8s,baz=33,slow=2.1,SNR=8.9
ESDC LR LR 12 42 34.7
comp=Z,134nm,21.3s,baz=335,slow=36
ESDC Sonseca Array 24.41 290 P **P 12 33 08.0 -0.5**
GUD Guadarrama 24.60 292 P **P 12 33 11.0 +0.7**
GUD pmax pmax
comp=Z,31nm,1.5s
PUL Pulkovo 24.89 5*ce*P **P 12 33 13.4 +0.9**
PUL pmax pmax
comp=Z,85nm,0.4s
SGMF Saint Gilles 25.10 311 *e*P **P 12 33 15.0 +0.5**
SGMF pmax pmax
comp=Z,126nm,1.7s
QUIF Quistinic 25.36 309 *e*P **P 12 33 15.7 -1.2**
QUIF pmax pmax
comp=Z,342nm,2.2s
ROSF Rostrenen 25.57 310 *e*P **P 12 33 17.4 -1.4**
ROSF pmax pmax
comp=Z,109nm,1.6s
MDT Midelt 25.67 274 P **P 12 33 19.7 -0.3**
comp=Z,3.4nm,0.9s,baz=100,slow=9.6,SNR=6.2
MDT LR LR 12 46 00.5
comp=Z,175nm,20.4s,baz=112,slow=42
GEYT Alibeck 25.70 74 P **P 12 33 20.2 0.0**
comp=Z,50nm,0.8s,baz=332,slow=9.1,SNR=56
GEYT Alibeck 25.70 74 P **P 12 33 21.6 +1.4**
GYA0B ALIBECK ARRAY 25.70 74 P **P 12 33 21.5 +1.4**
GYA0B IAmb IAmb 12 33 24.4
comp=Z,54nm,0.8s
HFS Hagfors 26.41 346 P **P 12 33 24.2 -2.1**
comp=Z,2.2nm,0.4s,baz=133,slow=14,SNR=15
HFS LR LR 12 45 09.0
comp=Z,341nm,19.7s,baz=156,slow=39
FINES FINESS Array B 26.43 360 P **P 12 33 24.3 -2.1**
comp=Z,9.3nm,1.0s,baz=160,slow=12,SNR=21
FINES PcP **PcP 12 36 51.4 +0.7**
comp=Z,2.7nm,0.5s,baz=146,slow=1.7,SNR=9.7
FINES ScP **ScP 12 40 26.1 -1.0**
comp=Z,1.5nm,0.7s,baz=259,slow=1.0,SNR=4.2
FINES LR LR 12 43 48.1
comp=Z,323nm,20.6s,baz=180,slow=36
FINES FINESS Array B 26.43 360 P **P 12 33 23.9 -2.4**
FIA1 FINESS Array S 26.43 360 P **P 12 33 25.0 -1.4**
PBRG Braganca 26.62 295 *e*P **P 12 33 28.4 0.0**
comp=Z,52nm,1.4s
PBRG *i* LQ LQ 12 33 42.1
MVO Moncorvo 26.80 293 *e*P **P 12 33 30.2 +0.1**
comp=Z,52nm,1.7s
PMRV Marv??o 27.07 289 *e*P **P 12 33 32.1 -0.3**
comp=Z,27nm,1.2s
PMRV *i* LQ LQ 12 33 43.7
PCBR Castelo Branco 27.12 290 *e*P **P 12 33 34.9 +2.0**
comp=Z,33nm,1.6s
PCBR *i* LQ LQ 12 33 46.7
KLMR Klimovskoe 27.20 14 *e*P **P 12 33 31.6 -1.8**
KLMR pmax pmax
comp=Z,30nm,1.0s
KLMR Klimovskoe 27.20 14 *e*P **P 12 33 31.6 -1.8**
KLMR AMP 12 33 33.1
comp=Z,30nm,1.0s
NAZ Nazwa, Dubai 27.26 104 P **P 12 33 36.2 +1.9**
NORES NORESS Array B 27.41 344 P **P 12 33 34.3 -1.0**
NORES pmax pmax
comp=Z,2.0nm,0.4s
PVAQ Vaqueiros 27.44 285 *e*P **P 12 33 35.5 -0.3**
comp=Z,31nm,1.9s
PVIS Viseu 27.45 292 *e*P **P 12 33 34.8 -1.1**
comp=Z,16nm,1.3s
PBEJ Beja 27.50 286 *e*P P 12 33 47.2 +11
comp=Z,33nm,2.0s
EVO Evora 27.59 287 *e*P **P 12 33 38.7 +1.6**
comp=Z,29nm,1.6s
EVO *i* LQ LQ 12 33 50.1
PBDV Barranco-do-Ve 27.62 285 *e*P **P 12 33 37.6 +0.1**
comp=Z,63nm,1.7s
AKTO Aktyubinsk 27.67 46 P **P 12 33 37.6 -0.1**
comp=Z,15nm,0.5s,baz=249,slow=8.9,SNR=37
AKTO Aktyubinsk 27.67 46 P **P 12 33 37.7 0.0**
HATD Hatta, Dubai 27.71 103 *i* P **P 12 33 39.8 +1.5**
SNR=7.4
UOSS Minazif 27.71 103 P **P 12 33 40.0 +1.6**
ASHO Ashiyiah 27.72 104 P **P 12 33 39.8 +1.3**
NB2 NORSAR Subarra 27.76 344 P **P 12 33 35.9 -2.5**
comp=Z,0.9nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 27.76 344 P **P 12 33 35.8 -2.6**
comp=Z,0.8nm,0.9s,baz=271,slow=3.6,SNR=5.2
NOA PcP **PcP 12 36 54.7 +0.7**
comp=Z,0.9nm,0.6s,baz=152,slow=1.6,SNR=3.3
NOA LR LR 12 45 15.4
comp=Z,161nm,21.6s,baz=155,slow=38
ALNE Al Ain 27.79 105 *i* P **P 12 33 40.1 +1.1**
SNR=6.9
KIRV Kirov 28.11 26 P **P 12 33 39.8 -1.6**
comp=Z,18nm,0.7s,baz=305,slow=0.6,SNR=8.5
KIRV LR LR 12 46 02.5
comp=Z,190nm,18.3s,baz=226,slow=39
KIRV Kirov 28.11 26*ce*P **P 12 33 40.3 -1.1**
SOHO SOHO 28.37 104 P **P 12 33 45.6 +1.4**
SOHO *i* P **P 12 33 45.8 +1.6**
SNR=22
AB31 Akbulak array 28.45 50 *i* P **P 12 33 44.7 0.0**
ABKAR Akbulak array 28.45 50 P **P 12 33 45.5 +0.8**
ABKAR IAmb IAmb 12 34 10.5
comp=Z,23nm,1.0s
ABKAR Akbulak array 28.45 50 P **P 12 33 44.8 +0.1**
EKA Eskdalemuir Ar 28.67 324 P **P 12 33 44.8 -1.8**
comp=Z,3.1nm,0.4s,baz=124,slow=10,SNR=19
PRGR Permogore 29.32 19 *e*P P 12 33 43.9 -8.3
PRGR pmax pmax
comp=Z,30nm,0.6s
HRA Herat 29.48 81 P **P 12 33 55.0 +0.8**
WSAR Wadi Sarin 30.48 104 P **P 12 34 04.0 +1.1**
comp=Z,3.4nm,0.8s,baz=326,slow=15,SNR=2.2
ARU Arti 30.62 36 P **P 12 34 03.2 -0.6**
comp=Z,1.5nm,0.3s,baz=229,slow=7.5,SNR=9.3
ARU Arti 30.62 36*ce*P **P 12 34 03.6 -0.2**
ARU pmax pmax
comp=Z,22nm,1.7s
ARU Arti 30.62 36 P **P 12 34 03.1 -0.6**
ARU IAmb IAmb 12 34 04.3
comp=Z,16nm,1.1s
TOA0 Torodi Ar. Sit 31.12 232 P **P 12 34 09.4 +0.8**
TORD Torodi Ar. Bea 31.12 232 P **P 12 34 09.4 +0.8**
comp=Z,3.9nm,0.6s,baz=40,slow=8.6,SNR=33
TORD PcP **PcP 12 37 03.9 +0.7**
comp=Z,1.6nm,0.9s,baz=14,slow=1.5,SNR=4.6
TORD ScP **ScP 12 40 42.4 -0.2**
comp=Z,0.6nm,0.8s,baz=45,slow=4.0,SNR=2.9
TORD LR LR 12 49 37.1
comp=Z,246nm,19.4s,baz=15,slow=42
TORD Torodi Ar. Bea 31.12 232 P **P 12 34 09.4 +0.8**
SVE Sverdlovsk 31.81 36 *e*P **P 12 34 14.2 -0.1**
SVE pmax pmax
comp=Z,32nm,1.0s
KOWA Kowa 34.06 241 P **P 12 34 34.7 +0.4**
comp=Z,1.5nm,0.6s,baz=56,slow=12,SNR=4.2
KOWA PcP **PcP 12 37 12.5 +1.1**
comp=Z,1.0nm,0.5s,baz=27,slow=2.3,SNR=5.0
KOWA Kowa 34.06 241 P **P 12 34 34.3 0.0**
CHGR Chuyangaron 34.28 71 P **P 12 34 36.9 +0.7**
ARCES ARCESS Array B 34.55 360 P **P 12 34 36.0 -2.0**
comp=Z,4.7nm,0.4s,baz=175,slow=9.1,SNR=83
ARCES PcP **PcP 12 37 11.9 +0.1**
comp=Z,1.4nm,0.5s,baz=173,slow=2.0,SNR=6.3
ARCES LR LR 12 48 36.1
comp=Z,162nm,18.6s,baz=280,slow=36
KK31 Karatay Array 34.94 63 *i* P **P 12 34 42.9 +1.2**
KK31 Karatay Array 34.94 63 P **P 12 34 43.0 +1.2**
KK31 IAmb IAmb 12 34 44.1
comp=Z,25nm,1.0s
KKAR Karatay Array 34.94 63 P **P 12 34 43.2 +1.4**
KKAR pmax pmax
comp=Z,25nm,1.0s
KKAR Karatay Array 34.94 63 P **P 12 34 42.9 +1.1**
KKAR Karatay Array 34.94 63 P **P 12 34 43.2 +1.4**
KKAR IAmb IAmb 12 34 44.2
comp=Z,25nm,1.0s
GAR Garm 35.13 70 P **P 12 34 45.4 +1.9**
BTK Batken 35.39 68 P **P 12 34 47.6 +1.9**
BTK pmax pmax
comp=Z,7.0nm,1.0s
BTK Batken 35.39 68 P **P 12 34 47.6 +1.9**
BRVK Borovoye 35.72 46*ce*P **P 12 34 49.4 +1.1**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 35.72 46 P **P 12 34 46.3 -1.9**
BRVK IAmb IAmb 12 34 50.9
comp=Z,22nm,1.1s
BVAR Borovoye Array 35.77 46 P **P 12 34 49.1 +0.3**
comp=Z,7.9nm,0.8s,baz=176,slow=9.7,SNR=31
AAK Ala-Archa 37.89 64 P **P 12 35 09.0 +1.9**
FRU1 Bishkek 37.98 63 P **P 12 35 07.7 0.0**
FRU1 pmax pmax
comp=Z,21nm,0.6s
FRU1 Bishkek 37.98 63 P **P 12 35 07.7 0.0**
NIL Nilore 38.53 78 P **P 12 35 14.2 +1.7**
NIL pmax pmax
comp=Z,24nm,1.1s
NIL Nilore 38.53 78 P **P 12 35 14.2 +1.7**
NIL IAmb IAmb 12 35 15.2
comp=Z,24nm,1.1s
KSH Kashi 39.40 68 P **P 12 35 18.8 -0.9**
KSH S **S 12 41 15.8 -2.6**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,180nm,5.1s
KSH LR LR
comp=Z,150nm,6.9s
KSH LR LR
comp=Z,360nm,12.0s
KSH LR LR
comp=Z,390nm,14.5s
KDJ Kajisay 39.93 64 P **P 12 35 26.2 +2.0**
KDJ pmax pmax
comp=Z,58nm,1.3s
KDJ Kajisay 39.93 64 P **P 12 35 26.2 +2.0**
DBIC Dimbokro 40.21 233 P **P 12 35 26.9 +0.4**
comp=Z,1.6nm,0.3s,baz=21,slow=7.9,SNR=13
DBIC Dimbokro 40.21 233 P **P 12 35 26.6 +0.2**
DBIC IAmb IAmb 12 35 38.1
comp=Z,17nm,1.4s
TIC Toumodi 40.34 233 *e*P **P 12 35 27.7 +0.1**
KIC Kosan Boka 40.37 232 *e*P **P 12 35 28.0 +0.2**
comp=Z,15nm,0.9s
KURBB Kurchatov Arra 40.49 51 P **P 12 35 29.6 +1.1**
comp=Z,45nm,0.6s,baz=278,slow=8.8,SNR=168
KURBB PcP **PcP 12 37 31.1 +0.7**
comp=Z,3.6nm,0.6s,baz=275,slow=4.1,SNR=4.9
KURBB Kurchatov Arra 40.49 51 P **P 12 35 27.8 -0.6**
KURK Kurchatov 40.55 51*ce*P **P 12 35 29.8 +0.9**
KURK pmax pmax
comp=Z,69nm,1.3s
KURK Kurchatov 40.55 51 P **P 12 35 29.9 +0.9**
LIC Lamto 40.66 232 *e*P **P 12 35 30.7 +0.5**
comp=Z,15nm,0.6s
MAKZ Makanchi 42.87 57 P **P 12 35 49.0 +1.0**
MAKZ Makanchi 42.87 57 P **P 12 35 48.8 +0.8**
MAKZ IAmb IAmb 12 35 50.1
comp=Z,16nm,0.8s
MK31 Makanchi Array 43.08 57*ce*P **P 12 35 51.0 +1.3**
MK31 Makanchi Array 43.08 57 P **P 12 35 51.0 +1.3**
MKAR Makanchi Array 43.08 57 P **P 12 35 51.0 +1.3**
comp=Z,39nm,0.7s,baz=280,slow=6.5,SNR=209
MKAR PcP **PcP 12 37 39.7 +0.7**
comp=Z,3.3nm,0.6s,baz=264,slow=5.6,SNR=3.9
MKAR ScP **ScP 12 41 27.0 +0.2**
comp=Z,0.5nm,0.7s,baz=258,slow=3.4,SNR=2.8
MKAR Makanchi Array 43.08 57 *i* P **P 12 35 51.0 +1.3**
MKAR pmax pmax
comp=Z,39nm,0.7s
KBS Kingsbay 44.40 356 P **P 12 35 59.5 -0.4**
KBS pmax pmax
comp=Z,29nm,0.9s
KBS Kingsbay 44.40 356 P **P 12 35 59.5 -0.4**
KBS IAmb IAmb 12 35 59.9
comp=Z,29nm,0.8s
ZAA0 Zalesovo Array 44.43 46 P **P 12 36 00.7 +0.3**
ZALV Zalesovo Beam 44.43 46 P **P 12 36 00.7 +0.3**
comp=Z,24nm,0.5s,baz=268,slow=8.6,SNR=116
ZALV PcP **PcP 12 37 42.1 -1.3**
comp=Z,2.4nm,0.7s,baz=264,slow=5.4,SNR=2.4
ZALV LR LR 12 56 46.2
comp=Z,148nm,18.5s,baz=305,slow=39
WMQ Urumqi 47.28 60 *e*P **P 12 36 25.0 +1.9**
WMQ pP pP 12 36 40.3 +5.4
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.7s
WMQ LR LR
comp=Z,130nm,28.9s
WMQ LR LR
comp=Z,300nm,28.8s
WMQ LR LR
comp=Z,280nm,25.3s
NRIK Noril'sk 47.60 25 P **P 12 36 25.4 +0.2**
comp=Z,7.4nm,0.5s,baz=236,slow=4.1,SNR=11
NRIK LR LR 12 59 37.7
comp=Z,72nm,19.3s,baz=203,slow=40
NRIK Noril'sk 47.60 25*ce*P **P 12 36 24.9 -0.3**
NRIK pmax pmax
comp=Z,19nm,1.2s
NOR Nord 49.19 352 *i* P **P 12 36 35.4 -1.8**
NOR pmax pmax
comp=Z,11nm,0.7s
NOR Nord 49.19 352 *i* P **P 12 36 35.4 -1.8**
comp=Z,11nm,0.7s
NOR Nord 49.19 352 *i* P **P 12 36 35.5 -1.8**
NOR IAmb IAmb 12 36 36.1
comp=Z,11nm,0.7s
SUMG Summit 49.42 339 *i* P **P 12 36 38.7 -0.9**
SUMG pmax pmax
comp=Z,12nm,0.5s
SUMG Summit 49.42 339 P **P 12 36 39.0 -0.6**
SUMG IAmb IAmb 12 36 54.7
comp=Z,9.7nm,1.0s
SUMG Summit 49.42 339 *i* P **P 12 36 38.7 -0.9**
comp=Z,12nm,0.5s
SUMG Summit 49.42 339 *i* P **P 12 36 38.7 -0.9**
SUMG IAmb IAmb 12 36 39.6
comp=Z,12nm,0.5s
HYB Hyderabad 49.51 97 *i* P **P 12 36 42.0 +1.4**
SFJD Kangerlussuaq 53.23 331 P **P 12 37 06.6 -1.1**
SFJD pmax pmax
comp=Z,15nm,1.1s
SFJD Kangerlussuaq 53.23 331 P **P 12 37 06.5 -1.1**
SFJD IAmb IAmb 12 37 19.2
comp=Z,15nm,1.1s
MOY Mondy 54.42 48 *e*P **P 12 37 18.5 +1.7**
TLY Talaya 56.02 47*ce*P **P 12 37 30.6 +2.4**
TLY pmax pmax
comp=Z,13nm,2.5s
TLY Talaya 56.02 47 P **P 12 37 30.0 +1.8**
TLY IAmb IAmb 12 37 31.0
comp=Z,8.9nm,1.0s
ZAK Zakamensk 56.14 49 *e*P **P 12 37 30.2 +1.0**
ZAK pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 56.54 80 P **P 12 37 32.5 0.0**
SHL pmax pmax
comp=Z,14nm,0.8s
SHL Shillong 56.54 80 P **P 12 37 32.5 0.0**
SHL IAmb IAmb 12 37 33.1
comp=Z,14nm,0.8s
GTA Gaotai 57.21 62 *e*P **P 12 37 38.2 +1.2**
GTA pP pP 12 37 49.9 +0.8
GTA sP sP 12 37 56.7 +2.7
GTA pmax pmax
comp=Z,17nm,0.8s
TULEG Thule 57.42 344 P **P 12 37 36.9 -0.8**
SONM Songino Array 58.86 51 P **P 12 37 49.5 +1.1**
comp=Z,12nm,0.7s,baz=283,slow=8.5,SNR=51
SONM PcP **PcP 12 38 37.8 +0.3**
comp=Z,0.8nm,0.7s,baz=294,slow=8.0,SNR=3.5
SONM Songino Array 58.86 51 P **P 12 37 48.5 +0.1**
ULN Ulaanbaatar 59.27 51*ce*P **P 12 37 52.4 +1.2**
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 59.27 51 P **P 12 37 52.2 +0.9**
EUNU Eureka 59.48 349 P **P 12 37 52.5 +0.4**
EUNU IAmb IAmb 12 38 05.5
comp=Z,21nm,1.4s
DRLN Deer Lake 60.66 312 P **P 12 38 00.3 -0.2**
TIXI Tiksi 60.96 21*ce*P **P 12 38 01.7 -0.5**
TIXI pmax pmax
comp=Z,53nm,0.8s
TIXI Tiksi 60.96 21 P **P 12 38 02.2 0.0**
LZH Lanzhou 61.43 64 *e*P **P 12 38 07.7 +1.5**
LZH pP pP 12 38 18.0 -0.4
LZH sP sP 12 38 22.0 -1.3
LZH pmax pmax
comp=Z,25nm,1.1s
BOSA Boshof 63.32 181 P **P 12 38 20.2 +1.6**
comp=Z,2.9nm,0.9s,baz=360,slow=11,SNR=4.2
BOSA Boshof 63.32 181 P **P 12 38 19.6 +1.0**
CD2 Chengdu 63.58 70⇓ *i* P **P 12 38 21.9 +1.4**
CD2 pP pP 12 38 35.9 +3.1
CD2 pmax pmax
comp=Z,80nm,0.8s
SCHQ Schefferville 63.87 320 P **P 12 38 21.8 -0.2**
comp=Z,20nm,0.6s,baz=44,slow=5.7,SNR=23
SCHQ Schefferville 63.87 320 P **P 12 38 21.3 -0.7**
HHC Hu-ho-hao-te 64.94 57 *e*P **P 12 38 32.0 +2.6**
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.3s
KMI Kunming 65.46 76⇓ *e*P **P 12 38 34.0 +0.9**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,250nm,4.5s
KMI LR LR
comp=Z,370nm,6.7s
KMI LR LR
comp=Z,330nm,7.2s
CHTO Chiang Mai 65.50 84 P **P 12 38 33.7 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 65.50 84 P **P 12 38 33.7 +0.6**
YAK Yakutsk 65.52 30*ce*P **P 12 38 32.7 +0.1**
YAK pmax pmax
comp=Z,13nm,0.7s
CM31 Chiang Mai Arr 65.68 84 P **P 12 38 35.2 +0.9**
CM31 IAmb IAmb 12 38 35.9
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 65.68 84 P **P 12 38 35.0 +0.7**
comp=Z,6.5nm,0.8s,baz=298,slow=8.2,SNR=49
CMAR PP **PP 12 40 54.6 -4.5**
comp=Z,0.7nm,0.7s,baz=304,slow=8.6,SNR=2.3
CMAR Chiang Mai Arr 65.68 84 *i* P **P 12 38 35.0 +0.7**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 65.68 84 P **P 12 38 34.8 +0.5**

XAN	**Xi'an**	**66.07**	**64**	P	**P**	**12 38 37.6**	**+0.9**		
XAN				pmax	pmax				
	comp=Z,20nm,0.7s								
XAN	**Xi'an**	**66.07**	**64**	P	**P**	**12 38 37.5**	**+0.9**		
XAN				pmax	pmax				
	comp=Z,14nm,0.7s								
XAN	**Xi'an**	**66.07**	**64**	P	**P**	**12 38 37.5**	**+0.9**		
XAN				IAmb	IAmb	12 38 38.4			
	comp=Z,14nm,0.7s								
GYA	**Guiyang**	**67.91**	**73**	⇑P	**P**	**12 38 49.2**	**+0.6**		
GYA				pP	pP	12 39 01.9	+1.0		
GYA				PP	**PP**	**12 41 18.6**	**+0.1**		
GYA				S	**S**	**12 47 47.5**	**+3.1**		
GYA				sS	sS	12 48 08.2	+3.8		
GYA				SS	**SS**	**12 52 09.3**	**+2.8**		
GYA				pmax	pmax				
	comp=Z,19nm,1.0s								
SLVN	**Son La**	**68.25**	**79**	P	**P**	**12 38 51.4**	**+0.7**		
ENH	**Enshi**	**68.25**	**68**	P	**P**	**12 38 51.4**	**+0.9**		
BJI	**Beijing**	**68.45**	**56**	P	**P**	**12 38 52.6**	**+1.0**		
BJI				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BJI				pmax	pmax				
	comp=Z,300nm,3.5s								
D62A	**Allapoint, All**	**68.58**	**313**	P	**P**	**12 38 52.7**	**+0.4**		
D62A				IAmb	IAmb	12 39 05.3			
	comp=Z,21nm,1.0s								
BILL	**Bilibino**	**72.95**	**15**⇑	*e*P	**P**	**12 39 18.7**	**+0.2**		
BILL				*e*		12 42 04.2			
BILL				*e*S	**SKSac**	**12 49 15.3**	**-4.9**		
BILL				pmax	pmax				
	comp=Z,7.0nm,1.1s								
NJ2	**Nanjing**	**74.31**	**62**	*e*P	**P**	**12 39 27.2**	**+0.2**		
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.6s								
INK	**Inuvik**	**75.86**	**352**	P	**P**	**12 39 34.5**	**-0.8**		
	comp=Z,2.8nm,0.5s,baz=7.1,slow=4.9,SNR=15								
INK	**Inuvik**	**75.86**	**352**	P	**P**	**12 39 34.6**	**-0.8**		
INK				pmax	pmax				
	comp=Z,15nm,1.4s								
INK	**Inuvik**	**75.86**	**352**	P	**P**	**12 39 34.6**	**-0.8**		
INK				IAmb	IAmb	12 39 35.8			
	comp=Z,14nm,1.4s								
USA0B	**Ussuriysk Arra**	**76.28**	**45**	P	**P**	**12 39 37.8**	**-0.4**		
USA0B				pmax	pmax				
	comp=Z,18nm,0.7s								
USA0B	**Ussuriysk Arra**	**76.28**	**45**	P	**P**	**12 39 37.8**	**-0.4**		
USRK	**Ussuriysk Ar.**	**76.28**	**45**	P	**P**	**12 39 38.3**	**+0.1**		
	comp=Z,14nm,0.6s,baz=295,slow=5.1,SNR=44								
USRK	**Ussuriysk Ar.**	**76.28**	**45**	P	**P**	**12 39 37.9**	**-0.3**		
TOLK	**Toolik Lake Re**	**76.59**	**358**	P	**P**	**12 39 39.5**	**0.0**		
KSAR	**Wonju Array Be**	**77.61**	**53**	P	**P**	**12 39 45.1**	**-0.7**		
KSAR	**Wonju Array Be**	**77.61**	**53**	P	**P**	**12 39 45.1**	**-0.7**		
KSRS	**Korea Array**	**77.63**	**53**	P	**P**	**12 39 46.0**	**+0.2**		
	comp=Z,6.8nm,0.8s,baz=307,slow=4.5,SNR=16								
KSRS				LR	LR	13 16 36.7			
	comp=Z,128nm,18.1s,baz=304,slow=38								
YKA	**Yellowknife Ar**	**77.84**	**343**	P	**P**	**12 39 46.1**	**-0.5**		
	comp=Z,1.1nm,0.4s,baz=39,slow=5.6,SNR=6.7								
YKA				LR	LR	13 15 11.9			
	comp=Z,64nm,18.8s,baz=0.0,slow=36								
YKA	**Yellowknife Ar**	**77.84**	**343**	*i* P	**P**	**12 39 46.2**	**-0.4**		
YKA				pmax	pmax				
	comp=Z,1.0nm,0.4s								
COLD	**Coldfoot**	**78.02**	**359**	P	**P**	**12 39 47.8**	**+0.3**		
COLD				IAmb	IAmb	12 39 48.8			
	comp=Z,27nm,1.4s								
IMAR	**Indian Mountai**	**79.30**	**0**	P	**P**	**12 39 54.6**	**0.0**		
EGAK	**Eagle**	**80.03**	**355**	P	**P**	**12 39 58.7**	**+0.2**		
EGAK				IAmb	IAmb	12 40 03.3			
	comp=Z,16nm,1.5s								
FFC	**Flin Flon**	**80.16**	**332**	P	**P**	**12 39 59.4**	**-0.1**		
FFC				pmax	pmax				
	comp=Z,12nm,0.9s								
FFC	**Flin Flon**	**80.16**	**332**	P	**P**	**12 39 59.4**	**-0.1**		
FFC				IAmb	IAmb	12 39 60.0			
	comp=Z,12nm,0.8s								
MDM	**Murphy Dome**	**80.24**	**358**	P	**P**	**12 39 59.8**	**+0.1**		
MDM				IAmb	IAmb	12 40 01.0			
	comp=Z,30nm,1.2s								
IL31		**80.38**	**357**	P	**P**	**12 39 59.7**	**-0.7**		
ILAR	**Eielson Array**	**80.38**	**357**	P	**P**	**12 40 00.1**	**-0.3**		
	comp=Z,3.3nm,0.7s,baz=340,slow=3.6,SNR=44								
ILAR	**Eielson Array**	**80.38**	**357**	P	**P**	**12 39 59.9**	**-0.6**		
YSS	**Yuzh-Sakhalins**	**80.46**	**38***ce*	P	**P**	**12 40 03.0**	**+1.8**		
YSS				pmax	pmax				
	comp=Z,73nm,2.5s								
CCB	**Clear Creek Bu**	**80.54**	**357**	P	**P**	**12 40 00.9**	**-0.4**		
CCB				IAmb	IAmb	12 40 02.0			
	comp=Z,17nm,1.1s								
DAWY	**Dawson**	**80.58**	**354**	P	**P**	**12 40 01.5**	**-0.1**		
DAWY				IAmb	IAmb	12 40 02.8			
	comp=Z,28nm,1.2s								
WRH	**Wood River Hil**	**80.72**	**358**	P	**P**	**12 40 01.9**	**-0.4**		
HDA	**Harding Lake**	**80.74**	**357**	P	**P**	**12 40 01.9**	**-0.4**		
HDA				IAmb	IAmb	12 40 02.9			
	comp=Z,25nm,1.1s								
ULM	**Lac du Bonnet**	**80.92**	**327**	P	**P**	**12 40 03.2**	**-0.3**		
	comp=Z,6.2nm,0.6s,baz=50,slow=4.3,SNR=9.2								
ULM				LR	LR	13 16 12.9			
	comp=Z,52nm,18.9s,baz=17,slow=36								
ULM	**Lac du Bonnet**	**80.92**	**327**	P	**P**	**12 40 01.7**	**-1.9**		
ULM				IAmb	IAmb	12 40 27.1			
	comp=Z,11nm,1.1s								
BPAW	**Bear Paw Mtn.**	**81.17**	**359**	P	**P**	**12 40 03.9**	**-0.9**		
BPAW				IAmb	IAmb	12 40 05.3			
	comp=Z,15nm,1.0s								
RIDG	**Independent Ri**	**81.30**	**356**	P	**P**	**12 40 05.7**	**+0.2**		
RIDG				IAmb	IAmb	12 40 06.8			
	comp=Z,14nm,0.9s								
DOT	**Dot Lake**	**81.35**	**356**	P	**P**	**12 40 06.3**	**+0.6**		
DOT				IAmb	IAmb	12 40 07.2			
	comp=Z,17nm,1.0s								
KTH	**Kantishna Hill**	**81.72**	**359**	P	**P**	**12 40 07.7**	**0.0**		
KTH				IAmb	IAmb	12 40 09.4			
	comp=Z,14nm,1.2s								
BCAR	**Beaver Creek A**	**81.77**	**355**	P	**P**	**12 40 07.8**	**-0.2**		
TRF	**Thorofare Moun**	**81.81**	**358**	P	**P**	**12 40 07.3**	**-1.0**		
TRF				IAmb	IAmb	12 40 08.9			
	comp=Z,19nm,1.1s								
RND	**Reindeer**	**81.81**	**358**	P	**P**	**12 40 07.1**	**-1.1**		
RND				pmax	pmax				
	comp=Z,7.0nm,0.8s								
RND	**Reindeer**	**81.81**	**358**	P	**P**	**12 40 07.1**	**-1.1**		
RND				IAmb	IAmb	12 40 08.1			
	comp=Z,7.4nm,0.8s								
MENT	**Mentasta**	**82.03**	**355**	P	**P**	**12 40 09.4**	**+0.1**		
MENT				IAmb	IAmb	12 40 16.1			
	comp=Z,12nm,0.9s								
PPLA	**Purkeypile**	**82.40**	**359**	P	**P**	**12 40 10.2**	**-1.1**		
PPLA				IAmb	IAmb	12 40 12.4			
	comp=Z,19nm,1.0s								
PETK	**Petropavlovsk-**	**82.61**	**27**	P	**P**	**12 40 11.4**	**-1.0**		
	comp=Z,2.5nm,0.6s,baz=288,slow=5.6,SNR=2.0								
PETK				LR	LR	13 19 24.9			
	comp=Z,83nm,19.9s,baz=284,slow=38								
PETK	**Petropavlovsk-**	**82.61**	**27**	P	**P**	**12 40 10.3**	**-2.1**		
R49A	**Shelbyville**	**83.30**	**312**	P	**P**	**12 40 16.4**	**+0.1**		
R49A				IAmb	IAmb	12 40 17.7			
	comp=Z,9.9nm,0.8s								
GHO	**Glory Hole Cre**	**83.45**	**358**	P	**P**	**12 40 17.4**	**+0.7**		
KNK	**Knik Glacier**	**83.80**	**357**	P	**P**	**12 40 19.1**	**+0.7**		
KNK				IAmb	IAmb	12 40 19.7			
	comp=Z,17nm,0.9s								
T50A	**Nancy**	**83.91**	**311**	P	**P**	**12 40 20.7**	**+1.2**		
T50A				IAmb	IAmb	12 40 20.8			
	comp=Z,11nm,0.8s								
L40A	**Anamosa**	**84.30**	**318**	P	**P**	**12 40 19.1**	**-2.2**		
CPCT	**Cooper Cave**	**84.71**	**310**	P	P	12 40 18.1	-5.5		
CPCT				IAmb	IAmb	12 40 25.6			
	comp=Z,15nm,1.0s								
MAT	**Matsushiro**	**84.72**	**49**	P	**P**	**12 40 24.2**	**+0.6**		
MAT				*e*S	**S**	**12 50 47.8**	**-0.4**		
MJAR	**Matsushiro Arr**	**84.72**	**49**	P	**P**	**12 40 24.1**	**+0.4**		
	comp=Z,8.5nm,1.1s,baz=309,slow=4.9,SNR=8.9								
MJAR	**Matsushiro Arr**	**84.72**	**49**	P	**P**	**12 40 24.8**	**+1.1**		
MJAR				pmax	pmax				
	comp=Z,7.0nm,1.2s								
MJAR	**Matsushiro Arr**	**84.72**	**49**	P	**P**	**12 40 24.8**	**+1.1**		
U49A	**Red Boiling Sp**	**84.81**	**311**	P	**P**	**12 40 24.5**	**+0.4**		
T47A	**Sharon Grove**	**85.31**	**312**	P	**P**	**12 40 24.5**	**-2.0**		
T47A				IAmb	IAmb	12 40 27.8			
	comp=Z,15nm,0.9s								
W50A	**Signal Mountai**	**85.37**	**310**	P	**P**	**12 40 27.8**	**+0.9**		
ECSD	**EROS Data Cent**	**85.94**	**322**	P	**P**	**12 40 27.7**	**-1.9**		
ECSD				IAmb	IAmb	12 40 30.2			
	comp=Z,5.2nm,0.8s								
N38A	**Joes South For**	**86.27**	**319**	P	**P**	**12 40 28.9**	**-2.3**		
WVT	**Waverly**	**86.32**	**312**	P	**P**	**12 40 31.2**	**-0.3**		
WVT				pmax	pmax				
	comp=Z,9.0nm,0.9s								
WVT	**Waverly**	**86.32**	**312**	P	**P**	**12 40 31.2**	**-0.3**		
WVT				IAmb	IAmb	12 40 32.1			
	comp=Z,9.1nm,0.8s								
FVM	**French Village**	**86.62**	**315**	P	**P**	**12 40 32.8**	**-0.2**		
FVM				pmax	pmax				
	comp=Z,11nm,0.8s								
FVM	**French Village**	**86.62**	**315**	P	**P**	**12 40 32.8**	**-0.2**		
X48A	**Hartselle**	**86.94**	**311**	P	**P**	**12 40 33.4**	**-1.2**		
X48A				IAmb	IAmb	12 40 35.2			
	comp=Z,7.0nm,0.8s								
CCM	**Cathedral Cave**	**87.05**	**315**	P	**P**	**12 40 35.0**	**-0.1**		
CCM				pmax	pmax				
	comp=Z,9.0nm,0.7s								
CCM	**Cathedral Cave**	**87.05**	**315**	P	**P**	**12 40 35.0**	**-0.1**		
CCM				IAmb	IAmb	12 40 36.0			
	comp=Z,9.1nm,0.7s								
PLAL	**Pickwick Lake**	**87.23**	**311**	P	**P**	**12 40 35.9**	**-0.1**		
PLAL				IAmb	IAmb	12 40 36.6			
	comp=Z,8.8nm,0.9s								
P38A	**Dawn**	**87.25**	**318**	P	**P**	**12 40 35.2**	**-0.8**		
P38A				IAmb	IAmb	12 40 36.8			
	comp=Z,8.0nm,0.8s								
PTGA	**Pitinga**	**87.33**	**267**	P	**P**	**12 40 37.9**	**+1.1**		
	comp=Z,0.9nm,0.4s,baz=104,slow=12,SNR=5.9								
PTGA	**Pitinga**	**87.33**	**267**	P	**P**	**12 40 36.5**	**-0.3**		
PTGA				IAmb	IAmb	12 40 49.7			
	comp=Z,4.9nm,1.1s								
R40A	**Maddies Statio**	**87.47**	**316**	P	**P**	**12 40 37.8**	**+0.7**		
T42A	**Van Buren**	**87.66**	**315**	P	**P**	**12 40 37.2**	**-0.8**		
T42A				IAmb	IAmb	12 40 39.5			
	comp=Z,11nm,0.9s								
LRAL	**Lakeview Retre**	**87.83**	**309**	P	**P**	**12 40 37.8**	**-1.1**		
LAO	**LASA Array**	**88.11**	**329**	P	**P**	**12 40 41.2**	**+1.1**		
RSSD	**Black Hills**	**89.19**	**327**	P	**P**	**12 40 42.8**	**-2.6**		
RSSD				pmax	pmax				
	comp=Z,8.0nm,1.0s								
RSSD	**Black Hills**	**89.19**	**327**	P	**P**	**12 40 42.8**	**-2.6**		
RSSD				IAmb	IAmb	12 40 46.7			
	comp=Z,7.6nm,1.0s								
JTMT	**Jette**	**90.34**	**335**	P	**P**	**12 40 50.7**	**0.0**		
T35A	**Sooner Cattle**	**90.82**	**318**	P	**P**	**12 40 53.7**	**+0.8**		
NEW	**Newport**	**90.86**	**337**	P	**P**	**12 40 53.4**	**+0.5**		
NEW				pmax	pmax				
	comp=Z,8.0nm,0.7s								
NEW	**Newport**	**90.86**	**337**	P	**P**	**12 40 53.4**	**+0.5**		
YNE	**Yellowstone No**	**91.03**	**331**	P	**P**	**12 40 53.3**	**-0.7**		
C09A	**Chrisman Ranch**	**91.64**	**337**	P	**P**	**12 40 57.1**	**+0.6**		
IMW	**Indian Meadow**	**92.32**	**331**	P	**P**	**12 41 01.1**	**+1.0**		
IMW				IAmb	IAmb	12 41 02.9			
	comp=Z,2.1nm,0.8s								
PD31	**Pinedale Array**	**92.68**	**329**	P	**P**	**12 41 00.6**	**-1.1**		
PDAR	**Pinedale Array**	**92.68**	**329**	P	**P**	**12 41 00.6**	**-1.1**		
	comp=Z,1.3nm,0.7s,baz=63,slow=4.0,SNR=15								
PDAR				LR	LR	13 26 45.0			
	comp=Z,59nm,19.9s,baz=32,slow=38								
PDAR	**Pinedale Array**	**92.68**	**329**	P	**P**	**12 41 00.9**	**-0.8**		
HAWA	**Hanford**	**93.28**	**337**	P	**P**	**12 41 04.0**	**-0.1**		
HAWA				IAmb	IAmb	12 41 05.6			
	comp=Z,5.0nm,0.8s								
BMO	**Blue Mountains**	**93.90**	**335**	P	**P**	**12 41 04.3**	**-2.8**		
BMO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BMO	**Blue Mountains**	**93.90**	**335**	P	**P**	**12 41 04.3**	**-2.8**		
BMO				IAmb	IAmb	12 41 07.1			
	comp=Z,2.7nm,0.8s								
HWUT	**Hardware Ranch**	**94.48**	**330**	P	**P**	**12 41 09.7**	**-0.2**		
MFID	**Camas Ranch**	**94.61**	**333**	P	**P**	**12 41 10.8**	**+0.3**		
MFID				IAmb	IAmb	12 41 11.6			
	comp=Z,4.7nm,0.9s								
SDCO	**Great Sand Dun**	**94.87**	**324**	P	**P**	**12 41 11.7**	**-0.2**		
SDCO				IAmb	IAmb	12 41 12.6			
	comp=Z,3.8nm,1.2s								
PINE	**Pine Mountain**	**96.05**	**337**	P	**P**	**12 41 18.0**	**+0.9**		
PINE				IAmb	IAmb	12 41 19.3			
	comp=Z,5.5nm,0.9s								
DUG	**Dugway, Tooele**	**96.18**	**330**	P	**P**	**12 41 17.6**	**-0.1**		
DUG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
DUG	**Dugway, Tooele**	**96.18**	**330**	P	**P**	**12 41 17.6**	**-0.1**		
DUG				IAmb	IAmb	12 41 18.3			
	comp=Z,2.5nm,0.8s								
NVAR	**Mina Array Bea**	**99.87**	**332**	P	**Pdif**	**12 41 34.8**	**+0.4**		
	comp=Z,0.7nm,0.9s,baz=34,slow=3.1,SNR=6.5								
TXAR	**Lajitas Array**	**100.45**	**317**	P	**Pdif**	**12 41 37.5**	**+0.5**		
	comp=Z,0.5nm,1.0s,baz=95,slow=4.0,SNR=3.5								
TXAR				PP	**PP**	**12 45 41.3**	**-1.8**		
	comp=Z,1.0nm,1.2s,baz=52,slow=5.8,SNR=3.5								
TXAR				PKiKP	**PKiKP**	**12 46 02.8**	**-0.8**		
	comp=Z,0.7nm,1.1s,baz=67,slow=3.0,SNR=3.2								
WRA	**Warramunga Arr**	**115.67**	**97**	PKP	**PKPdf**	**12 46 31.6**	**-0.3**		
	comp=Z,0.6nm,0.9s,baz=308,slow=1.4,SNR=5.5								
WRA	**Warramunga Arr**	**115.67**	**97**	PKIKP	**PKPdf**	**12 46 31.8**	**-0.2**		
WRA	**Warramunga Arr**	**115.67**	**97**	PKP	**PKPdf**	**12 46 31.8**	**-0.2**		
ASAR	**Alice Springs**	**117.13**	**101**	PKP	**PKiKP**	**12 46 34.7**	**0.0**		
	comp=Z,0.5nm,0.6s,baz=309,slow=1.1,SNR=9.5								
ASAR	**Alice Springs**	**117.13**	**101**		**PKPdf**	**12 46 31.9**	**-2.8**		
STKA	**Stephens Creek**	**126.80**	**106**	PKP	**PKiKP**	**12 46 53.7**	**+0.2**		
	comp=Z,3.3nm,0.9s,baz=332,slow=8.9,SNR=4.0								
STKA	**Stephens Creek**	**126.80**	**106**		**PKPdf**	**12 46 50.0**	**-3.0**		

*BJI **04** 12:45:37.3±0.0, 7.73S×128.65E, h170km, mB5.3/20, mb4.7/37*
*IDC **04** 12:45:42.6±1.5, 7.31S×128.46E, h172km±13km, mb3.9/13, mb1 4.1/17, mb1mx4.0/29, mbtmp4.5/17, Error ellipse: s-maj=16.0km s-min=9.9km az=80.0*
*NEIC **04** 12:45:42.3±1.0, 7.33S±0.08×128.44E±0.05, h171km±6km, mb4.6/40, Error ellipse: s-maj=11.2km s-min=7.4km az=174.0*
*DJA **04** 12:45:42.4±0.2, 8°S±2°×12°8E±°, h153km±3km, M4.5/26, mb4.6/26, mB5.0/7, MLv4.6/13, Mw(mB)4.3/7*

ISC 04 12:45:40.1±0.3, 7.37S±0.04×128.49E±0.04, h151km, n113, σ1°79/122, mb4.6/38, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.85**	**103**	P	**Pn**	**12 46 29.6**	**+3.9**
SAUI				S	**Sn**	**12 47 07.5**	**+6.6**
SAUI	**Saumlaki**	**2.85**	**103**	Pn	**Pn**	**12 46 29.6**	**+3.9**
SAUI				Sn	**Sn**	**12 47 05.0**	**+4.2**
AAI	**Ambon**	**3.67**	**355**	P	Pn	12 46 40.6	+4.5
MSAI	**Masohi**	**4.02**	**6**	P	Pn	12 46 45.2	+4.5
NLAI	**Namlea**	**4.33**	**341**	P	Pn	12 46 49.1	+4.4
SOEI	**Soe**	**4.80**	**240**	P	**Pn**	**12 46 53.7**	**+2.7**
SOEI	**Soe**	**4.80**	**240**		**Pn**	**12 46 53.6**	**+2.5**
SOEI				Sn	**Sn**	**12 47 46.7**	**+0.4**
BATI	**Baumata**	**5.54**	**239**	P	**Pn**	**12 47 03.1**	**+2.4**
	85nm,0.3s,baz=100,slow=2.3,SNR=82						
BATI				S	**Sn**	**12 48 04.0**	**+0.2**
	74nm,0.3s,baz=328,slow=13,SNR=14						
BATI	**Baumata**	**5.54**	**239**	P	**Pn**	**12 47 02.8**	**+2.1**
	0.7nm2µm195nm,0.5s						
FAKI	**Fak Fak**	**5.79**	**40**	P	**Pn**	**12 47 06.0**	**+1.9**
	0.5nm1µm44nm,0.5s						
FAKI				S	**Sn**	**12 48 08.8**	**-1.0**
	0.5nm1µm44nm,0.5s						
FAKI	**Fak Fak**	**5.79**	**40**		**Pn**	**12 47 05.7**	**+1.6**
FAKI				Sn	**Sn**	**12 48 07.8**	**-2.0**
SANI	**Sanana**	**5.84**	**335**	P	**Pn**	**12 47 07.9**	**+3.2**
	0.1nm41nm,0.8s						
MTN	**Manton Dam**	**6.03**	**155**	Pn	**Pn**	**12 47 09.1**	**+1.8**
MTN				Sn	**Sn**	**12 48 13.4**	**-2.1**
MMRI	**Maumere**	**6.32**	**258**	P	**Pn**	**12 47 13.4**	**+2.3**
	0.2nm35nm,0.9s						
MMRI	**Maumere**	**6.32**	**258**	Pn	**Pn**	**12 47 12.5**	**+1.5**
MMRI				Sn	**Sn**	**12 48 24.0**	**+1.7**
EDFI	**Ende, Flores**	**6.87**	**258**	P	**Pn**	**12 47 21.9**	**+3.4**
	0.1nm14nm,0.9s						
SIJI	**Sorong**	**7.03**	**23**	P	**Pn**	**12 47 22.1**	**+1.6**
	10nm,0.3s,baz=307,slow=7.6,SNR=27						
SIJI				S	**Sn**	**12 48 38.9**	**-0.5**
	5.3nm,0.3s,baz=71,slow=22,SNR=11						
TNTI	**Ternate**	**8.16**	**352**	P	Pn	12 47 40.0	+4.3
	36nm,1.1s						
KNRA	**Kununurra**	**8.26**	**178**	Pn	**Pn**	**12 47 37.6**	**+0.6**
KNRA				Sn	**Sn**	**12 49 05.6**	**-3.4**
GTOI	**Gorontalo**	**9.65**	**325**	P	Pn	12 48 02.1	+6.6
	22nm,0.9s						
BAKI	**Biak**	**9.76**	**51**	P	**Pn**	**12 48 00.8**	**+3.8**
	50nm,0.8s						
PLAI	**Plampang**	**10.70**	**261**	P	**Pn**	**12 48 09.7**	**+0.2**
	22nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.02**	**194**		**Pn**	**12 48 12.3**	**-1.3**
JAY	**Jayapura**	**13.09**	**69**	P	**P**	**12 48 42.5**	**-2.7**
	0.4nm,0.3s,baz=198,slow=8.7,SNR=1.6						
WB0	**Warramunga Arr**	**13.59**	**156**	P	**Pn**	**12 48 45.1**	**-1.8**
WRAB	**Tennant Creek**	**13.72**	**156**	P	**Pn**	**12 48 47.1**	**-1.5**
WRA	**Warramunga Arr**	**13.73**	**156**	P	**Pn**	**12 48 47.1**	**-1.5**
	5.4nm,0.3s,baz=338,slow=14,SNR=260						
WRA				S	Sn	12 51 10.3	-10
	18nm,0.3s,baz=329,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.73**	**156**	P	**Pn**	**12 48 46.0**	**-2.6**
WB2	**Warramunga Arr**	**13.73**	**156**	Pn	**Pn**	**12 48 47.2**	**-1.4**
WR0	**Warramunga Arr**	**13.83**	**155**	P	**Pn**	**12 48 48.0**	**-1.9**
BBKI	**Banjar Baru**	**14.13**	**285**	P	**P**	**12 48 59.4**	**+2.7**
MTKI	**Muara Teweh, K**	**14.98**	**295**	P	P	12 49 10.2	+4.1
COEN	**Coen**	**15.84**	**116**	P	**P**	**12 49 17.0**	**+1.3**
PSA00	**Pilbara Seismi**	**16.40**	**210**		**P**	**12 49 22.6**	**+0.8**
AS31	**Alice Springs**	**17.02**	**163**		**Pn**	**12 49 30.5**	**+1.2**
ASAR	**Alice Springs**	**17.02**	**163**	P	**Pn**	**12 49 30.7**	**+1.4**
	17nm,0.3s,baz=340,slow=10.0,SNR=1144						
ASAR				S	**S**	**12 52 31.8**	**-6.7**
	5.5nm,0.3s,baz=350,slow=27,SNR=10.0						
ASAR				ScP	**ScP**	**12 57 23.4**	**-3.6**
	0.4nm,0.3s,baz=358,slow=1.9,SNR=4.5						
ASAR	**Alice Springs**	**17.02**	**163**		**Pn**	**12 49 30.4**	**+1.2**
PBKI	**Pangkalan Bun**	**17.38**	**285**	P	**Pn**	**12 49 35.8**	**+2.2**
	220nm,1.5s						
PMG	**Port Moresby**	**18.58**	**98**	P	**Pn**	**12 49 48.7**	**+0.9**
	2.9nm,0.3s,baz=267,slow=9.3,SNR=9.5						
PMG	**Port Moresby**	**18.58**	**98**	P	**Pn**	**12 49 48.0**	**+0.2**
SBUM	**Sibu**	**18.94**	**300**	P	**Pn**	**12 49 52.3**	**+0.3**
SBUM				IAmb	IAmb	12 49 54.5	
	comp=Z,27nm,0.8s						
KSM	**Kuching**	**20.15**	**295**	P	Pn	12 50 03.4	-2.9
CISI	**Cisompet, Garu**	**20.50**	**268**	P	**P**	**12 50 04.5**	**-2.1**
CTAO	**Charters Tower**	**21.36**	**128**	P	**P**	**12 50 17.6**	**+1.9**
CTAO				IAmb	IAmb	12 50 18.1	
	comp=Z,14nm,0.6s						
TGY	**Tagaytay City**	**22.61**	**341**	P	**P**	**12 50 29.4**	**+1.1**
	comp=Z,132nm,0.3s,baz=173,slow=2.7,SNR=5.0						
FORT	**Forrest**	**23.30**	**181**	P	**P**	**12 50 35.3**	**+0.8**
FORT				IAmb	IAmb	12 50 37.3	
	comp=Z,26nm,0.8s						
MORW	**Morawa**	**24.57**	**207**	P	**P**	**12 50 47.7**	**+1.6**
MORW				IAmb	IAmb	12 51 09.6	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**26.27**	**165**	P	**P**	**12 51 02.5**	**+1.1**
BBOO				IAmb	IAmb	12 51 03.0	
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**27.28**	**155**	P	**P**	**12 51 11.3**	**+0.9**
	comp=Z,7.3nm,0.5s,baz=328,slow=8.8,SNR=20						
STKA	**Stephens Creek**	**27.28**	**155**	P	**P**	**12 51 11.5**	**+1.1**
NWAO	**Narrogin (SRO)**	**27.50**	**201**	P	**P**	**12 51 12.9**	**+0.5**
	comp=Z,3.5nm,0.4s,baz=43,slow=8.3,SNR=6.4						
NWAO	**Narrogin (SRO)**	**27.50**	**201**	P	**P**	**12 51 12.8**	**+0.5**
NWAO				IAmb	IAmb	12 51 37.8	
	comp=Z,31nm,1.4s						
NWAO	**Narrogin (SRO)**	**27.50**	**201**	P	**P**	**12 51 11.8**	**-0.6**
NWAO				IAmb	IAmb	12 51 37.8	
	comp=Z,25nm,1.4s						
TPUB	**Ta-pu**	**31.43**	**346**	P	**P**	**12 51 46.1**	**-1.2**
ARMA	**Armidale**	**31.57**	**140**	P	**P**	**12 51 51.2**	**+2.7**
CAN	**Canberra**	**33.59**	**149**	P	**P**	**12 52 06.7**	**+0.7**
TOO	**Toolangi**	**33.80**	**155**	P	**P**	**12 52 08.6**	**+0.8**
TOO				IAmb	IAmb	12 52 19.9	
	comp=Z,15nm,1.2s		

ZALV	**Zalesovo Beam**	**71.26**	**334**	P		**P**	**12 56 41.9**	**-0.8**
	comp=Z,6.2nm,0.6s,baz=134,slow=5.6,SNR=29							
KURK	**Kurchatov**	**72.06**	**329**	P		**P**	**12 56 47.6**	**0.0**
KURK				IAmb		IAmb	12 56 48.5	
	comp=Z,18nm,1.0s							
VNDA	**Vanda**	**72.27**	**173**	P		**P**	**12 56 48.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=313,slow=6.7,SNR=8.4							
KK31	**Karatay Array**	**72.63**	**319**	P		**P**	**12 56 51.2**	**0.0**
KKAR	**Karatay Array**	**72.63**	**319**	P		**P**	**12 56 51.3**	**0.0**
BRVK	**Borovoye**	**77.65**	**328**	P		**P**	**12 57 19.6**	**-0.1**
NRIK	**Noril'sk**	**81.56**	**346**	P		**P**	**12 57 40.5**	**0.0**
	comp=Z,6.1nm,0.8s,baz=143,slow=5.0,SNR=8.2							
ABKAR	**Akbulak array**	**81.87**	**322**	P		**P**	**12 57 41.5**	**-0.9**
ABKAR	**Akbulak array**	**81.87**	**322**	P		**P**	**12 57 42.1**	**-0.4**
ABKAR				IAmb		IAmb	12 57 42.6	
	comp=Z,3.3nm,0.6s							
ARU	**Arti**	**85.23**	**328**	P		**P**	**12 57 57.9**	**-1.6**
ARU				IAmb		IAmb	12 57 59.7	
	comp=Z,7.5nm,1.0s							
ILAR	**Eielson Array**	**94.32**	**25**	P		**P**	**12 58 40.4**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=251,slow=5.0,SNR=6.9							
ILAR	**Eielson Array**	**94.32**	**25**	P		**P**	**12 58 40.9**	**-1.2**
PDAR	**Pinedale Array**	**118.21**	**45**	PKP		**PKiKP**	**13 04 09.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=225,slow=0.8,SNR=4.3							
PDAR	**Pinedale Array**	**118.21**	**45**			**PKiKP**	**13 04 10.3**	**+0.3**
TXAR	**Lajitas Array**	**126.40**	**59**	PKP		**PKiKP**	**13 04 25.3**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=270,slow=0.9,SNR=1.9							
TXAR	**Lajitas Array**	**126.40**	**59**			**PKiKP**	**13 04 25.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**127.41**	**281**	PKP		**PKiKP**	**13 04 27.4**	**-1.2**
	comp=Z,1.5nm,1.1s,baz=52,slow=2.1,SNR=6.5							
TORD	**Torodi Ar. Bea**	**127.41**	**281**			**PKiKP**	**13 04 27.8**	**-0.8**
LPAZ	**La Paz**	**151.31**	**145**	PKPbc		**PKiKP**	**13 05 18.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=207,slow=6.8,SNR=4.8							
LPAZ				PKPab		**PKPab**	**13 05 27.1**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=286,slow=2.9,SNR=7.6							
LPAZ	**La Paz**	**151.31**	**145**			**PKiKP**	**13 05 18.5**	**+0.4**
LPAZ						**PKPab**	**13 05 25.8**	**-0.2**

WEL 04 12:46:13.6,43°S±2°×17°1E±°, h5km±4km, M2.3/7, ML2.3/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=138.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVZ	**Waitaha Valley**	**0.18**	**313**	P	Pg	12 46 18.5	+1.5
GCSZ	**Gaunt Creek Bo**	**0.45**	**254**	P	Pb	12 46 23.9	0.0
RPZ	**Rata Peaks**	**0.53**	**169**	P	Pb	12 46 25.8	+0.4
MHCZ	**Mount Hutt**	**0.58**	**125**	P	Pb	12 46 26.6	+0.2
INZ	**Inchbonnie**	**0.61**	**40**	P	Pg	12 46 25.4	+0.1
ARCZ	**Arundel**	**0.78**	**166**	P	Pb	12 46 30.2	+0.7
OXZ	**Oxford**	**0.83**	**99**	P	Pn	12 46 31.4	-0.6
FOZ	**Fox Glacier**	**0.87**	**247**	P	Pn	12 46 31.8	-0.6
LTZ	**Lake Taylor**	**1.08**	**68**	P	Pn	12 46 35.2	-0.2
LBZ	**Lake Benmore**	**1.30**	**204**	P	Pg	12 46 40.3	+1.7
DSZ	**Denniston Nort**	**1.59**	**25**	P	Pg	12 46 44.1	+0.1
WKZ	**Wanaka**	**2.13**	**219**	P	Pg	12 46 55.9	+1.5

*IDC **04** 12:55:21.6±3.5, 16°.68N×100°.27W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/31, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=162.6km s-min=48.0km az=82.0*
*MEX **04** 12:55:27.8±0.9, 16°.95N×100°.96W, h16km±40km, MD4.1*
*NEIC **04** 12:55:28.8±1.9, 17°.03N±0°.10×100°.83W±0°.04, h22km±12km, Error ellipse: s-maj=14.7km s-min=3.4km az=197.0*

ISC 04 12:55:26.7±1.4, 17°.0N±0°.1×100°.92W±0°.06, h15km, n18, σ1§45/22, mb3.5/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.62**	**86**	*i* P	**Pg**	**12 55 38.4**	**-0.5**
CAIG				*i* S	**Sb**	**12 55 47.5**	**-0.3**
CAIG	**El Cayaco**	**0.62**	**86**		**Pg**	**12 55 38.4**	**-0.5**
CAIG					**Sb**	**12 55 47.5**	**-0.3**
ZIIG	**Zihuatanejo**	**0.80**	**319**	*i* P	**Pb**	**12 55 40.8**	**-1.5**
ZIIG				*i* S	**Sb**	**12 55 50.0**	**-2.9**
ARIG	**Puente Sto Nin**	**1.38**	**23**	*e*P	**Pn**	**12 55 51.5**	**0.0**
ARIG				*i* S	**Sn**	**12 56 08.9**	**-0.7**
ARIG	**Puente Sto Nin**	**1.38**	**23**		**Pn**	**12 55 51.5**	**0.0**
ARIG					**Sn**	**12 56 08.9**	**-0.7**
MEIG	**Mezcala**	**1.54**	**53**	*e*P	**Pn**	**12 55 53.7**	**0.0**
MEIG	**Mezcala**	**1.54**	**53**		**Pn**	**12 55 53.7**	**0.0**
TLIG	**Tlapa**	**2.31**	**76**		**Pn**	**12 56 04.0**	**-0.4**
MOIG	**Morelia**	**2.67**	**354**	Pn	**Pn**	**12 56 11.0**	**+1.5**
UNM	**Universidad Na**	**2.84**	**35**	Pn	**Pn**	**12 56 14.0**	**+2.2**
ZAIG	**Zacatecas**	**5.95**	**345**	Pn	**Pn**	**12 56 55.7**	**+1.2**
TXAR	**Lajitas Array**	**12.53**	**349**	Pn	Pn	12 58 30.8	+6.1
	0.0nm,0.3s,baz=167,slow=13,SNR=1.5						
WUAZ	**Wupatki**	**20.66**	**335**	P	**P**	**13 00 08.7**	**+2.5**
WUAZ				IAmb	IAmb	13 00 10.6	
	comp=Z,6.1nm,1.0s						
NVAR	**Mina Array Bea**	**26.23**	**328**	P	**P**	**13 01 03.7**	**+2.3**
	comp=Z,1.4nm,0.8s,baz=146,slow=12,SNR=14						
PDAR	**Pinedale Array**	**26.72**	**346**	P	**P**	**13 01 07.0**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=146,slow=11,SNR=7.3						
PDAR	**Pinedale Array**	**26.72**	**346**	P	**P**	**13 01 07.4**	**+1.6**
ILAR	**Eielson Array**	**56.80**	**338**	P	**P**	**13 05 11.1**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=141,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**127.70**	**258**	PKP	**PKPdf**	**13 14 30.9**	**-1.5**
	comp=Z,0.1nm,0.5s,baz=110,slow=1.2,SNR=1.5						

*IDC **04** 13:18:33.4±1.4, 34°.13N×25°.16E, h0km, mb3.9/4, mb1 3.6/10, mb1mx3.5/42, mbtmp3.6/10, ML3.6/5, Error ellipse: s-maj=23.5km s-min=13.1km az=63.0*
*ATH **04** 13:18:34.6, 34°.16N×25°.06E, h12km±4km, ML3.0/7, Error ellipse: s-maj=4.5km s-min=1.3km az=356.0*
*THE **04** 13:18:35.6, 34°.22N×25°.06E, h0km±1km, ML2.9/7, Error ellipse: s-maj=2.5km s-min=0.7km az=161.0*

ISC 04 13:18:35.2±1.4, 34°.18N±0°.06×25°.08E±0°.03, h19km±5km, n33, σ1§05/51, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.87**	**345**	P	**Pg**	**13 18 51.5**	**-0.7**
SIVA				S	**Sn**	**13 19 04.5**	**+0.1**
	2μm,0.5s						
SIVA	**Sivas**	**0.87**	**345**	P	**Pg**	**13 18 51.5**	**-0.7**
SIVA				S	**Sg**	**13 19 03.3**	**-0.4**
SIVA				AML	AML	13 19 10.6	
	comp=N,5711μm,0.7s						
SIVA				AML	AML	13 19 11.3	
	comp=E,7426μm,0.4s						
TMBK	**Timbaki Herakl**	**0.93**	**344**	P	**Pg**	**13 18 52.8**	**-0.6**
TMBK				S	**Sn**	**13 19 06.5**	**+0.5**
	comp=E,620nm,0.3s						
LAST	**Lasithi**	**1.03**	**18**	P	**Pg**	**13 18 54.7**	**-0.7**
LAST				S	**Sg**	**13 19 09.8**	**+0.8**
	comp=E,425nm,0.8s						
LAST	**Lasithi**	**1.03**	**18**	P	**Pn**	**13 18 54.5**	**-0.2**
LAST				S	**Sg**	**13 19 09.6**	**+0.5**
LAST				AML	AML	13 19 18.0	
	comp=N,816μm,0.5s						
LAST				AML	AML	13 19 18.1	
	comp=E,1047μm,0.6s						
GVD	**Gavdhos**	**1.05**	**309**	P	**Pg**	**13 18 55.0**	**-0.7**
GVD				S	**Sg**	**13 19 10.0**	**+0.5**
	comp=E,1μm,0.4s						
GVD	**Gavdhos**	**1.05**	**309**	P	**Pg**	**13 18 54.9**	**-0.8**
GVD				S	**Sg**	**13 19 08.6**	**-1.0**
GVD				AML	AML	13 19 13.9	
	comp=N,2305μm,0.4s						
GVD				AML	AML	13 19 14.4	
	comp=E,3071μm,0.4s						
GVDS	**Gavdos**	**1.05**	**309**	P	**Pg**	**13 18 55.0**	**-0.7**
GVDS				S	**Sg**	**13 19 11.0**	**+1.4**
	comp=E,652nm,0.3s						
IDI	**Anoyia**	**1.12**	**352**	Pg	**Pb**	**13 18 55.6**	**-0.3**
	comp=E,20nm,0.3s,baz=172,slow=18,SNR=86						
IDI				Lg	Lg	13 19 12.9	
	comp=E,39nm,0.3s,baz=98,slow=21,SNR=10						
IDI	**Anoyia**	**1.12**	**352**	P	**Pb**	**13 18 55.7**	**-0.3**
IDI				S	**Sg**	**13 19 12.5**	**+0.8**
	comp=E,308nm,0.4s						
IDI	**Anoyia**	**1.12**	**352**	P	**Pb**	**13 18 55.7**	**-0.3**
IDI				S	**Sg**	**13 19 12.2**	**+0.5**
IDI				AML	AML	13 19 17.0	
	comp=N,735μm,0.4s						
IDI				AML	AML	13 19 18.2	
	comp=E,744μm,0.6s						
NPS	**Neapolis**	**1.17**	**22**	P	**Pg**	**13 18 57.4**	**-0.5**
PRNS	**Prines Rethymn**	**1.28**	**338**	P	**Pg**	**13 18 58.8**	**-1.1**
PRNS				S	**Sg**	**13 19 16.4**	**-0.3**
ZKR	**Zakros**	**1.32**	**45**	P	**Pg**	**13 19 00.2**	**-0.6**
ZKR	**Zakros**	**1.32**	**45**	P	**Pg**	**13 19 00.2**	**-0.6**
ZKR				S	**Sg**	**13 19 17.8**	**-0.3**
ZKR				AML	AML	13 19 30.9	
	comp=E,590μm,0.6s						
ZKR				AML	AML	13 19 40.5	
	comp=N,370μm,1.0s						
VAM	**Vamos**	**1.43**	**330**	P	**Pg**	**13 19 01.2**	**-1.5**
VAM				S	**Sg**	**13 19 20.5**	**-0.9**
	comp=N,332nm,0.5s						
VAM	**Vamos**	**1.43**	**330**	P	**Pg**	**13 19 01.4**	**-1.4**
VAM				S	**Sg**	**13 19 21.3**	**-0.1**
VAM				AML	AML	13 19 27.4	
	comp=N,937μm,0.3s						
VAM				AML	AML	13 19 28.9	
	comp=E,807μm,0.3s						
IMMV	**Iera Moni Meta**	**1.57**	**325**	P	**Pb**	**13 19 03.3**	**-0.3**
IMMV	**Iera Moni Meta**	**1.57**	**325**	P	**Pg**	**13 19 03.9**	**-1.6**
IMMV				S	**Sg**	**13 19 25.5**	**-0.4**
IMMV				AML	AML	13 19 34.2	
	comp=N,809μm,0.4s						
IMMV				AML	AML	13 19 35.9	
	comp=E,643μm,0.6s						
KARP	**Karpathos**	**2.19**	**51**	P	**Pb**	**13 19 13.4**	**-0.8**
ANKY	**Antikythira Is**	**2.23**	**320**	P	**Pb**	**13 19 13.6**	**-1.3**
ANAF	**Anafi Island**	**2.25**	**14**	P	**Pb**	**13 19 14.2**	**-0.9**
MMAI	**Mount Meron Ar**	**8.69**	**95**	Pn	**Pn**	**13 20 39.4**	**-0.5**
	comp=E,0.7nm,0.3s,baz=297,slow=12,SNR=5.9						
MMAI				Sn	**Sn**	**13 22 18.0**	**+0.6**
	comp=E,0.6nm,0.3s,baz=305,slow=48,SNR=1.3						
BRTR	**Keskin Array B**	**8.81**	**49**	Pn	**Pn**	**13 20 42.6**	**+1.0**
	comp=E,0.0nm,0.3s,baz=218,slow=13,SNR=1.6						
EIL	**Elat**	**9.51**	**115**	Pn	**Pn**	**13 20 51.1**	**-0.1**
	comp=E,0.6nm,0.3s,baz=270,slow=1.7,SNR=8.2						
EIL				Sn	**Sn**	**13 22 34.9**	**-2.7**
	comp=E,0.2nm,0.3s,baz=204,slow=20,SNR=2.6						
ASF	**Jabal al Asfar**	**10.10**	**98**	Pn	**Pn**	**13 20 59.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=0.0,slow=5.1,SNR=1.9						
ASF				Sn	**Sn**	**13 22 48.5**	**-3.6**
	comp=E,0.0nm,0.3s,baz=58,slow=15,SNR=1.7						
AKASG	**Malin Array Be**	**16.79**	**9**	Pn	**P**	**13 22 30.3**	**-0.8**
	comp=E,0.4nm,0.3s,baz=199,slow=10,SNR=2.1						
KBZ	**Khabaz**	**16.79**	**50**	Pn	**Pn**	**13 22 29.0**	**-0.2**
	comp=E,0.3nm,0.3s,baz=153,slow=2.3,SNR=2.5						
GERES	**GERESS Array B**	**16.92**	**333**	Pn	**P**	**13 22 32.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=150,slow=10,SNR=9.8						
TORD	**Torodi Ar. Bea**	**29.81**	**231**	P	**P**	**13 24 42.7**	**+1.6**
	comp=E,0.4nm,0.5s,baz=34,slow=9.8,SNR=3.2						
MKAR	**Makanchi Array**	**44.38**	**56**	P	**P**	**13 26 45.5**	**+1.2**
	comp=E,1.1nm,0.6s,baz=275,slow=7.1,SNR=11						
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**13 26 55.4**	**+0.5**
	comp=E,0.9nm,0.3s,baz=268,slow=9.8,SNR=1.9						
SONM	**Songino Array**	**60.16**	**50**	P	**P**	**13 28 43.2**	**+1.5**
	comp=E,0.4nm,0.4s,baz=280,slow=8.3,SNR=2.8						

*IDC **04** 13:21:32.1±1.9, 15°.2S±0°.7×173°.7W±0°.4, h10km, n26, σ0§77/7, mb3.6/6, MS3.7/14, Tonga Islands*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.23**	**57**	Pn	Pn	13 22 02.8	-7.8
	26nm,0.3s,baz=215,slow=4.5,SNR=48						
AFI				Sn	Sn	13 22 24.9	-13
	100nm,0.3s,baz=75,slow=18,SNR=12						
AFI				LR	LR	13 22 53.7	
	comp=Z,957nm,21.5s,baz=234,slow=37						
RAR	**Rarotonga**	**14.54**	**117**	LR	LR	13 28 29.5	
	comp=Z,92nm,21.5s,baz=285,slow=29						
PPT	**Papeete**	**23.27**	**99**	LR	LR	13 33 23.0	
	comp=Z,56nm,18.8s,baz=300,slow=30						
PPT2	**Papeete2**	**23.27**	**99**	*e*LQ	LQ	13 31 09.9	
	520nm,27.8s						
PPT2				*e*LR	LR	13 32 03.5	
	comp=Z,177nm,27.5s						
TBI	**Tubuai**	**24.27**	**113**	*e*LQ	LQ	13 31 38.5	
	381nm,25.5s						
TBI				*e*LR	LR	13 32 40.5	
	comp=Z,234nm,27.2s						
H11S2	**WAKE ISLAND Hy**	**38.60**	**329**	T	T	14 10 02.8	
	baz=149,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	14 09 55.7	
	baz=149,slow=76						
H11S1	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	14 09 52.9	
	baz=149,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.55**	**331**	T	T	14 11 11.5	
	baz=150,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.56**	**331**	T	T	14 11 18.5	
	baz=150,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.57**	**331**	T	T	14 11 15.3	
	baz=150,slow=76						
WRA	**Warramunga Arr**	**49.62**	**257**	P	**P**	**13 30 25.9**	**+0.3**
	0.5nm,0.6s,baz=91,slow=7.6,SNR=7.3						
ASAR	**Alice Springs**	**49.91**	**252**	P	**P**	**13 30 27.9**	**+0.1**
	4.5nm,0.8s,baz=88,slow=7.8,SNR=36						
JCJ	**Chichijima**	**59.98**	**314**	LR	LR	13 50 24.2	
	comp=Z,117nm,21.4s,baz=130,slow=29						
MJAR	**Matsushiro Arr**	**68.56**	**320**	LR	LR	13 57 30.1	
	comp=Z,50nm,20.8s,baz=225,slow=32						
ASAJ	**Asahikawa**	**71.18**	**328**	LR	LR	13 57 03.1	
	comp=Z,53nm,20.8s,baz=170,slow=30						
PETK	**Petropavlovsk-**	**72.31**	**342**	LR	LR	13 57 09.5	
	comp=Z,23nm,21.6s,baz=224,slow=30						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	**P**	**13 33 12.9**	**+1.1**
	0.3nm,0.7s,baz=224,slow=6.3,SNR=2.9						
NVAR				LR	LR	13 57 43.6	
	comp=Z,58nm,20.4s,baz=244,slow=29						
KSRS	**Korea Array**	**75.78**	**316**	LR	LR	14 06 52.8	
	comp=Z,22nm,18.0s,baz=180,slow=36						
MA2	**Magadan**	**79.84**	**343**	LR	LR	14 05 37.7	
	comp=Z,19nm,20.4s,baz=174,slow=33						
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**13 33 47.0**	**-0.5**
	0.7nm,1.0s,baz=198,slow=5.7,SNR=5.5						
TXAR				LR	LR	14 00 50.9	
	comp=Z,35nm,21.1s,baz=0.0,slow=29						
ILAR	**Eielson Array**	**82.26**	**11**	P	**P**	**13 33 54.3**	**-0.4**
	0.4nm,0.9s,baz=194,slow=7.2,SNR=2.9						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**13 33 56.0**	**+0.4**
	0.1nm,0.3s,baz=190,slow=3.7,SNR=2.2						
PDAR				LR	LR	14 05 14.6	
	comp=Z,33nm,18.3s,baz=312,slow=32						
PLCA	**Paso Flores**	**89.89**	**132**	LR	LR	14 05 04.0	
	comp=Z,70nm,19.5s,baz=168,slow=29						
ULM	**Lac du Bonnet**	**93.92**	**39**	LR	LR	14 11 04.3	
	comp=Z,52nm,20.2s,baz=45,slow=32						
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc	**PKPdf**	**13 41 12.3**	**-0.7**
	0.8nm,0.8s,baz=90,slow=1.9,SNR=3.0						

IDC 04 13:24:02.0±26.0, 19°.90S×179°.72W, h313km±226km, mb2.9/3, mb1 3.2/3, mb1mx2.9/24, mbtmp3.5/3, Error ellipse: s-maj=308.1km s-min=72.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.09**	**262**	P	P	13 31 32.5	+0.2
	0.2nm,0.3s,baz=96,slow=8.4,SNR=19						
ASAR	**Alice Springs**	**43.09**	**256**	P	P	13 31 31.5	-0.9
	0.9nm,0.8s,baz=88,slow=8.5,SNR=0.9						
ILAR	**Eielson Array**	**88.09**	**13**	P	P	13 36 16.9	0.0
	0.2nm,0.6s,baz=219,slow=5.6,SNR=4.4						
BRTR	**Keskin Array B**	**145.24**	**312**	PKPbc	PKPdf	13 43 02.4	-0.5
	0.5nm,0.7s,baz=104,slow=1.8,SNR=2.3						

MAN 04 13:28:15.8, 7°.38N×124°.91E, h20km, mb4.7, ML3.6, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.41**	**155**	⇑*i* P	Pn	13 28 28.2	+1.5
BUKP	**Musuan**	**0.52**	**17**	*e*P	Pb	13 28 25.8	-0.4
BUKP				*e*S	Sb	13 28 34.3	+0.9
SKMP	**Bagumbayan, Su**	**0.93**	**203**	*e*P	Pb	13 28 32.5	-0.8
SKMP				*e*S	Sn	13 28 46.6	0.0
CGP	**Cagayan de Oro**	**1.09**	**349**	⇑*i* P	Pn	13 28 35.8	-0.1
CGP				*i* S	Sn	13 28 50.6	+0.2
DDMP	**Don Marcelino,**	**1.50**	**148**	*e*P	Pn	13 28 42.1	+0.5
DDMP				*e*S	Sb	13 29 06.0	+4.4
PAGZ	**Pagadian**	**1.58**	**287**	*e*P	Pn	13 28 42.6	-0.1
PAGZ				*e*S	Sb	13 29 05.4	+1.3

*NEIC **04** 13:42:47.4±2.6, 23°.34N±0°.05×121°.79E±0°.08, h30km±7km, mb4.3/7, ML4.3(TAP), Error ellipse: s-maj=11.1km s-min=5.9km az=118.0*
*JMA **04** 13:42:49.7±0.1, 23°.47N×121°.58E, h43km±3km, M4.0*
*TAP **04** 13:42:51.1, 23°.50N×121°.58E, h37km, ML4.2, B*

ISC 04 13:42:49.9±0.9, 23°.50N±0°.02×121°.63E±0°.02, h34km±2km, n162, σ1§27/243, mb4.2/3, 7C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.18**	**269**	⇓*i* P	**Pb**	**13 42 57.9**	**+1.5**
	baz=269						
HGSD				S	**Sb**	**13 43 03.1**	**+2.2**
	baz=269						
EGFH	**Guangfu**	**0.25**	**314**	⇓*i* P	**Pb**	**13 42 58.4**	**+1.3**
	baz=309						
EGFH				*e*S	**Sb**	**13 43 03.5**	**+1.5**
	baz=309						
EHY	**Hungye**	**0.28**	**272**	⇓*i* P	**Pn**	**13 42 58.3**	**+0.9**
	baz=272						
EHY				*e*S	**Sb**	**13 43 04.1**	**+1.5**
	baz=272						
EYUL	**Yuli**	**0.32**	**242**	⇓*i* P	**Pn**	**13 42 59.3**	**+1.1**
	baz=250						
EYUL				*e*S	**Sb**	**13 43 04.9**	**+1.5**
	baz=250						
YULB	**Yu-li**	**0.32**	**251**	⇓*i* P	**Pb**	**13 42 58.9**	**+0.9**
	baz=259						
YULB				*e*S	**Sn**	**13 43 04.1**	**+1.0**
	baz=259						
YULB	**Yu-li**	**0.32**	**251**		**Pb**	**13 42 57.9**	**0.0**
TWF1	**Yuli**	**0.33**	**245**	⇓*i* P	**Pb**	**13 42 59.1**	**+0.9**
	baz=252						
TWF1				*e*S	**Sn**	**13 43 04.3**	**+0.6**
	baz=252						
ESL	**Shilin**	**0.36**	**331**	⇓*i* P	**Pb**	**13 42 59.2**	**+0.7**
	baz=331						
ESL				*e*S	**Sb**	**13 43 05.1**	**+0.6**
	baz=331						
FULB	**Fuli**	**0.42**	**226**	P	**Pn**	**13 43 00.7**	**+1.0**
	baz=234						
FULB				*e*S	**Sn**	**13 43 08.6**	**+2.3**
	baz=234						
CHKT	**Chengkung**	**0.46**	**211**	*e*P	**Pb**	**13 43 00.7**	**+0.8**
	baz=199						
CHKT				*e*S	**Sn**	**13 43 08.0**	**+0.8**
	baz=199						
HWA	**Hwalien**	**0.48**	**358**	⇑P	**Pn**	**13 43 01.4**	**+1.0**
	baz=12						
HWA				*e*S	**Sn**	**13 43 10.0**	**+2.4**
	baz=12						
VWDT	**VWDT**	**0.51**	**300**	⇓*i* P	**Pn**	**13 43 01.6**	**+0.8**
	baz=300						
VWDT				*e*S	**Sb**	**13 43 09.0**	**+0.8**
	baz=300						
TWD	**Chiawan**	**0.58**	**357**	⇑*i* P	**Pn**	**13 43 02.5**	**+0.7**
	baz=352						
TWD				*e*S	**Sn**	**13 43 11.1**	**+1.0**
	baz=352						
EDH	**Donghe**	**0.60**	**210**	*e*P	**Pb**	**13 43 02.7**	**+0.6**
	baz=198						
EDH				*e*S	**Sn**	**13 43 11.0**	**+0.5**
	baz=198						
OWD	**Renai**	**0.62**	**318**	P	**Pn**	**13 43 02.9**	**+0.5**
	baz=322						
OWD				*e*S	**Sn**	**13 43 11.0**	**-0.2**
	baz=322						
YUS	**Yu-Shan**	**0.62**	**270**	P	**Pn**	**13 43 03.1**	**+0.4**
	baz=264						
ELDTW	**Lidau**	**0.64**	**242**	⇓*i* P	**Pn**	**13 43 02.7**	**+0.1**
	baz=234						
ELDTW				*e*S	**Sn**	**13 43 10.2**	**-1.5**
	baz=234						
NACB	**Ninganchiao**	**0.68**	**358**	*i* P	**Pn**	**13 43 03.4**	**+0.3**
	baz=352						
NACB				*e*S	**Sn**	**13 43 12.7**	**+0.2**
	baz=352						
NACB	**Ninganchiao**	**0.68**	**358**		**Pn**	**13 43 03.2**	**+0.2**
SSLB	**Suanglung**	**0.68**	**295**	⇓*i* P	**Pn**	**13 43 03.7**	**+0.5**
	baz=293						
SSLB				*e*S	**Sn**	**13 43 12.4**	**-0.3**
	baz=293						
SSLB	**Suanglung**	**0.68**	**295**		**Pn**	**13 43 03.0**	**-0.2**
CHGB	**Renai**	**0.70**	**324**	⇑*i* P	**Pn**	**13 43 04.4**	**+0.8**
	baz=337						
CHGB				*e*S	**Sn**	**13 43 13.0**	**-0.4**
	baz=337						
ETLH	**Xiulin Townshi**	**0.72**	**349**	P	**Pn**	**13 43 04.1**	**+0.3**
	baz=354						
ETLH				*e*S	**Sn**	**13 43 13.2**	**-0.6**
	baz=354						
WHF	**Hehuan Shan**	**0.73**	**333**	P	**Pn**	**13 43 04.4**	**+0.2**
	baz=337						
WHF				*e*S	**Sn**	**13 43 14.0**	**-0.3**
	baz=337						
WHYT	**Xinyi Township**	**0.74**	**286**	P	**Pn**	**13 43 05.1**	**+1.1**
	baz=285						
WHYT				S	**Sn**	**13 43 14.8**	**+0.7**
	baz=285						
LONT	**Longtian**	**0.74**	**218**	P	**Pn**	**13 43 04.1**	**0.0**
	baz=215						
LONT				*e*S	**Sn**	**13 43 13.1**	**-1.1**
	baz=215						
ALS	**Alishan**	**0.75**	**271**	⇓*i* P	**Pn**	**13

baz=254
WTP Ta-pu 0.96 255 ||*i*P **Pb 13 43 08.7 +0.5**
baz=254
WTP eS **Sb 13 43 21.7 +1.0**
baz=254
ENAH Nanao 0.96 10 eP **Pn 13 43 08.2 +1.2**
baz=23
ENAH eS **Sn 13 43 20.4 +0.8**
baz=23
NNS Nan Shan 0.97 346 P **Pn 13 43 08.0 +0.7**
baz=359
NNS eS **Sn 13 43 20.0 +0.1**
baz=359
WGK Gukeng 0.99 281 ||*i*P **Pb 13 43 09.2 +0.6**
baz=281
WGK eS **Sb 13 43 22.4 +1.0**
baz=281
WHP Taichung City 1.00 322 eP **Pb 13 43 09.4 +0.6**
baz=327
WHP eS **Sb 13 43 22.6 +0.9**
baz=327
WDLH Douliu 1.02 281 eP **Pb 13 43 09.7 +0.6**
baz=281
WDLH eS **Sb 13 43 23.0 +0.9**
baz=281
SLGT Liugui 1.03 241 eP **Pb 13 43 09.8 +0.5**
baz=235
SLGT eS **Sn 13 43 21.9 +0.6**
baz=235
SGST Jiashian 1.04 247 eP **Pn 13 43 09.2 +1.1**
baz=237
SGST eS **Sn 13 43 22.9 +1.3**
baz=237
CHN1 Nanshi 1.05 253 eP **Pb 13 43 10.4 +0.6**
baz=252
CHN1 eS **Sb 13 43 24.6 +1.3**
baz=252
SNST Tainan City 1.07 255 eP **Pb 13 43 10.7 +0.7**
baz=255
SNST eS **Sb 13 43 25.0 +1.3**
baz=255
TCU Taichung 1.08 307 eP **Pb 13 43 11.1 +0.9**
baz=309
TCU eS **Sb 13 43 25.6 +1.6**
baz=309
ECL Taimali 1.09 215 eP **Pn 13 43 08.4 -0.4**
baz=212
CHY Chiayi 1.10 270 P **Pb 13 43 11.3 +0.8**
baz=270
CHY eS **Sb 13 43 25.2 +0.6**
baz=270
NDT Datong Townshi 1.11 355 eP **Pb 13 43 10.0 +1.0**
baz=358
TWC Suao 1.13 10 eP **Pn 13 43 10.8 +1.5**
baz=23
TWC eS **Sb 13 43 26.2 +0.9**
baz=23
WCHH Zhanghua 1.14 301 eP **Pb 13 43 11.6 +0.5**
baz=302
WCHH eS **Sb 13 43 26.4 +0.8**
baz=302
ENTT Nioudou 1.14 357 eP **Pn 13 43 10.5 +1.0**
WTK Tuku 1.15 280 eP **Pn 13 43 11.3 +1.6**
baz=280
WTK eS **Sb 13 43 26.3 +0.4**
baz=280
TWQ1 Liyutan 1.15 318 eP **Pb 13 43 12.1 +0.7**
baz=320
TWQ1 eS **Sb 13 43 27.1 +1.0**
baz=320
SSD Sandimen 1.18 231 eP **Pn 13 43 11.2 +1.2**
baz=227
SSD eS **Sb 13 43 27.5 +0.7**
baz=227
YHNB Yeheng 1.19 349 ⇑P **Pn 13 43 11.7 +1.4**
baz=1.0
YHNB Yeheng 1.19 349 **Pn 13 43 11.5 +1.2**
TSMG Majia 1.20 229 eP **Pb 13 43 12.7 +0.6**
baz=227
TSMG eS **Sn 13 43 26.7 +1.3**
baz=227
SCST Cishan 1.21 240⇑eP **Pn 13 43 11.6 +1.3**
baz=239
SCST eS **Sn 13 43 27.1 +1.5**
baz=239
NSY Sanyi 1.21 319 eP **Pb 13 43 12.9 +0.6**
baz=335
NSY eS **Sb 13 43 29.4 +1.7**
baz=335
WLGB Puzi 1.22 269 eP **Pn 13 43 12.0 +1.4**
baz=269
WLGB eS **Sn 13 43 27.4 +1.6**
baz=269
TWE Neicheng 1.22 2 eP **Pn 13 43 11.8 +1.1**
baz=357
RLNB Erlin 1.23 289 eP **Pb 13 43 12.8 +0.3**
baz=281
RLNB eS **Sb 13 43 29.5 +1.4**
baz=281
WDJ Dajia District 1.24 313 eP **Pb 13 43 13.4 +0.7**
baz=315
WDJ eS **Sb 13 43 29.6 +1.1**
baz=315
ICHU Yijhu 1.24 264 eP **Pn 13 43 12.6 +1.7**
baz=263
ICHU eS **Sn 13 43 28.1 +1.6**
baz=263
NSTT Nanjuang 1.27 333 eP **Pb 13 43 13.8 +0.5**
baz=321
PTSB Yuanli 1.27 319 eP **Pb 13 43 13.7 +0.4**
baz=320
PTSB eS **Sb 13 43 29.8 +0.5**
baz=320
ILA Ilan 1.27 5 eP **Pb 13 43 13.4 +0.1**
baz=358
ILA eS **Sb 13 43 31.1 +1.8**
baz=358
MASBT Mashibuluo 1.27 226 eP **Pn 13 43 12.2 +0.9**
baz=218
LIOB Emei 1.27 334 eP **Pb 13 43 14.0 +0.6**
baz=322
NWLT Wulai 1.28 355 eP **Pn 13 43 12.8 +1.4**
baz=358
NWLT eS **Sn 13 43 28.6 +1.1**
baz=358
NMLH Miaoli 1.29 324 eP **Pb 13 43 14.0 +0.3**
baz=325
TWM1 Shoushan 1.29 239 eP **Pb 13 43 15.1 +1.4**
baz=238
TWM1 eS **Sb 13 43 31.9 +1.9**
baz=238
SGLT Jiouru 1.30 234 eP **Pb 13 43 15.6 +1.8**
baz=233
SGLT eS **Sb 13 43 32.7 +2.6**
baz=233
WSF Szhu 1.30 277 eP **Pb 13 43 14.2 +0.5**
baz=276
WSF eS **Sn 13 43 29.7 +1.9**
baz=276
CHN8 Yiju 1.31 264 eP **Pb 13 43 13.7 +1.9**
baz=263
CHN8 eS **Sb 13 43 30.8 +0.4**
baz=263
TAW Tawu 1.32 211 eP **Pn 13 43 11.9 0.0**
baz=208
EAST Anshuo 1.32 213 eP **Pn 13 43 12.3 +0.3**
baz=203
SCLT Jiali 1.35 257 eP **Pn 13 43 14.4 +2.0**
baz=256
SCLT eS **Sb 13 43 32.4 +0.7**
baz=256
TAI1 Yung-k'ang 1.36 251 eP **Pb 13 43 15.4 +0.6**
baz=250
TAI1 eS **Sb 13 43 33.9 +1.9**
baz=250
NTC Toucheng 1.37 8 eP **Pb 13 43 14.8 -0.1**
baz=21
EGS 1.37 12 eP **Pb 13 43 16.0 +0.9**
baz=15
SNJT Kaohsiung City 1.40 238 eP **Pb 13 43 16.1 +0.6**
baz=238
SNJT eS **Sb 13 43 35.5 +2.5**
baz=238
SSPT Xinbi 1.40 224 eP **Pb 13 43 15.3 -0.2**
baz=217
SBCB Hsinchu 1.42 336 eP **Pb 13 43 16.7 +0.9**
baz=322
HSN Hsinchu 1.43 335 eP **Pb 13 43 18.0 +2.0**
baz=324
LAY Lan-yu 1.45 183 eP **Pn 13 43 14.0 +0.2**
baz=174
SCZT Fangliau 1.45 220 eP **Pn 13 43 15.1 +1.3**
baz=208
TATO Taipei 1.48 355 eP **Pn 13 43 15.9 +1.8**
baz=357
TATO Taipei 1.48 355 **Pn 13 43 16.1 +1.9**
TWA Mucha 1.48 359 eP **Pb 13 43 16.6 -0.3**
baz=2.0
TWA eS **Sb 13 43 35.2 -0.1**
baz=2.0
TIPB Shuangxi 1.48 7 eP **Pb 13 43 17.0 +0.1**
baz=357
SLIU Shizi 1.48 211 eP **Pn 13 43 14.8 +0.6**
baz=202
NCUH Zhongli 1.52 345 eP **Pb 13 43 17.5 0.0**
baz=346
NCU National Centr 1.52 345 eP **Pb 13 43 18.3 +0.8**
baz=347
JYNG Yonagunijimaku 1.54 51 P **Pb 13 43 17.1 -0.7**
JYNG eS **Sb 13 43 36.4 -0.5**
TAP Taipei 1.54 356 eP **Pb 13 43 18.2 +0.3**
baz=358
TWB1 Santiao Chiao 1.54 12 eP **Pn 13 43 17.2 +2.2**
baz=15
NWF Wu-fen Shan 1.57 5 eP **Pn 13 43 17.8 +2.2**
baz=7.0
WFSB Wu-fen Shan 1.57 5 eP **Pn 13 43 17.9 +2.4**
baz=7.0
YOJ Yonaguni jima 1.59 53 eP **Pn 13 43 17.6 +1.9**
baz=53
YOJ eS **Sn 13 43 37.4 +2.3**
baz=53
YOJ Yonaguni jima 1.59 53 P **Pb 13 43 18.0 -0.7**
YOJ S **Sn 13 43 37.3 +2.3**
YOJ Yonaguni jima 1.59 53 **Pb 13 43 18.0 -0.7**
TWS1 Kuangyinshan 1.61 353 eP **Pb 13 43 18.6 -0.4**
baz=9.0
WLCH Liuqiu 1.62 226 eP **Pb 13 43 21.1 +1.9**
baz=225
TWP Hsiaoliuchiu 1.63 226 eP **Pb 13 43 20.8 +1.4**
baz=225
YM01 YM01 1.65 358 eP **Pn 13 43 18.3 +1.8**
YM04 YM04 1.65 357 eP **Pn 13 43 18.4 +1.8**
baz=359
YM10 YM10 1.65 358 eP **Pn 13 43 18.4 +1.8**
baz=360
YM05 YM05 1.66 358 eP **Pn 13 43 18.3 +1.5**
baz=360
YM11 YM11 1.66 358 eP **Pn 13 43 18.9 +2.1**
NTST Danshui 1.67 354 eP **Pn 13 43 19.3 +2.5**
baz=10.0
YM03 YM03 1.68 357 eP **Pn 13 43 18.8 +1.8**
baz=359
YM08 YM08 1.69 359 eP **Pn 13 43 18.3 +1.3**
baz=1.0
HEN Hengchun 1.69 209 eP **Pb 13 43 20.1 -0.3**
baz=195
TWKBT Hengchun 1.72 206 eP **Pn 13 43 19.1 +1.7**
baz=195
TWK1 Hengchun 1.72 206 eP **Pn 13 43 19.2 +1.7**
baz=195
TSEB Hengchuen, Pin 1.72 203 eP **Pn 13 43 18.8 +1.2**
baz=194
TWY Chenhua 1.77 359 eP **Pb 13 43 21.6 -0.2**
baz=1.0
WDGT Dungji 1.82 263 eP **Pn 13 43 19.5 +0.6**
baz=262
PHUB P'eng-hu 1.89 271 eP **Pn 13 43 20.7 +1.0**
baz=270
PNG Penghu 1.90 273 eP **Pn 13 43 21.2 +1.3**
baz=272
HATJ Hateruma jima 2.07 74 P **Pn 13 43 23.0 +0.7**
HATJ eS **Sn 13 43 48.7 +1.7**
IRIF Iriomote-Funau 2.10 66 P **Pn 13 43 25.1 +2.4**
IRIF S **Sn 13 43 50.7 +3.1**
JKRS Kuro-shima 2.30 71 P **Pn 13 43 28.3 +2.8**
JKRS eS **Sn 13 43 55.4 +2.7**
JIJ Ishigaki jima 2.46 69 P **Pn 13 43 29.4 +1.8**
JIJ S **Sn 13 43 57.6 +1.1**
VWUC VWUC 2.48 307 eP **Pn 13 43 29.1 +1.1**
baz=308
PTTC Pingtan 2.62 320 eP **Pn 13 43 31.0 +1.2**
baz=321
JISG Ishigakijimahi 2.68 66 P **Pn 13 43 32.4 +1.7**
JISG eS **Sn 13 44 02.8 +0.7**
PTMZ Houxiangcun 2.76 304 eP **Pn 13 43 32.8 +1.1**
baz=305
JTJ Tarama 3.03 67 P **Pn 13 43 37.4 +1.9**
JTJ eS **Sn 13 44 11.8 +1.1**
MATB Ma-tsu 3.05 330 eP **Pn 13 43 38.0 +2.2**
baz=330
KNM Kinmen 3.06 288 eP **Pn 13 43 37.8 +1.8**
baz=287
KNMB Chin-men Tao 3.11 289 eP **Pn 13 43 37.5 +0.8**
baz=288
JIRB Irabujima 3.50 67 P **Pn 13 43 43.9 +1.9**
JIRB eS **Sn 13 44 22.9 +0.7**
MHZQ Yeshan 3.51 318 eP **Pn 13 43 42.9 +0.9**
baz=318
ZPLA Ao Xicun 3.58 278 eP **Pn 13 43 43.8 +0.8**
baz=277
JMJ Miyako jima 2 3.60 68 eP **Pn 13 43 45.2 +1.9**
baz=69
JIKM Ikemajima 3.60 66 P **Pn 13 43 44.1 +0.8**
JIKM S **Sn 13 44 25.8 +1.1**
JMJ2 Miyako jima3 3.60 69 P **Pn 13 43 45.6 +2.2**
JMJ2 eS **Sn 13 44 26.8 +2.1**
AXDP Jialang 3.62 293 eP **Pn 13 43 44.1 +0.5**
baz=293
XPSS Dashiqiu 3.66 339 eP **Pn 13 43 45.2 +1.1**
baz=339
JOGS Gusukube 3.68 69 S **Sn 13 44 28.9 +2.3**
ZZJH Jiuhuzhen 3.78 286 eP **Pn 13 43 46.0 +0.2**
baz=285
KSAR Wonju Array Be 14.90 20 Pn **Pn 13 46 16.1 -2.0**
INU Inuyama 17.84 45 **Pn 13 46 53.9 -1.6**
INU IAmb IAmb 13 46 55.9
comp=Z,32nm,1.4s
MAJO Matsushiro 19.33 44 P **P 13 47 08.8 -3.6**
MJAR Matsushiro Arr 19.33 44 P **P 13 47 09.2 -3.2**
FITZ Fitzroy Crossi 41.52 174 P P 13 50 29.6 -4.6
WRAB Tennant Creek 44.91 163 P P 13 50 58.5 -3.1
WRAB IAmb IAmb 13 51 06.3
comp=Z,3.1nm,1.0s
WB2 Warramunga Arr 44.92 163 P P 13 50 58.9 -2.7
WB2 IAmb IAmb 13 51 05.5
comp=Z,4.4nm,1.2s
TIXI Tiksi 48.36 3 P **P 13 51 26.9 -1.0**
MORW Morawa 52.54 186 P P 13 51 57.3 -2.7
MORW IAmb IAmb 13 52 02.3
comp=Z,16nm,1.4s

*IDC **04** 13:44:07.1±3.3,21.°03S×169.°67E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.6/36,mbtmp3.5/4,MS3.3/2,Ms1 3.2/2, ms1mx2.8/21,Error ellipse: s-maj=197.4km s-min=30.5km az=156.0*

ISC 04 13:44:08.8±2.6,20.°9S±0.°9×169.°6E±0.°4,h10km,n10, σ0§52/8,mb3.6/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.30**	**241**	LR	LR	13 59 18.1	
	comp=Z,57nm,19.8s,baz=37,slow=33						
WRA	**Warramunga Arr**	**33.02**	**265**	P	**P**	**13 50 45.0**	**+0.5**
	0.2nm,0.6s,baz=99,slow=8.1,SNR=1.7						
ASAR	**Alice Springs**	**33.09**	**258**	P	**P**	**13 50 44.9**	**-0.3**
	0.2nm,0.3s,baz=87,slow=8.5,SNR=6.6						
MJAR	**Matsushiro Arr**	**64.34**	**332**	LR	LR	14 17 40.3	
	comp=Z,26nm,21.5s,baz=230,slow=31						
NVAR	**Mina Array Bea**	**89.63**	**48**	P	**P**	**13 57 07.9**	**+0.6**
	0.4nm,0.6s,baz=221,slow=6.8,SNR=4.6						
ILAR	**Eielson Array**	**91.68**	**17**	P	**P**	**13 57 15.4**	**-0.5**
	0.2nm,0.7s,baz=235,slow=5.1,SNR=4.3						
ARCES	**ARCESS Array B**	**126.72**	**345**	PKP	**PKPdf**	**14 03 11.4**	**-0.6**
	0.6nm,0.4s,baz=66,slow=2.3,SNR=9.2						
FINES	**FINESS Array B**	**132.21**	**337**	PKP	**PKPdf**	**14 03 22.6**	**+0.1**
	1.2nm,0.9s,baz=35,slow=3.4,SNR=5.5						
CLL	**Collm**	**144.53**	**335**	*i* PKP	**PKPdf**	**14 03 45.2**	**-0.2**
	comp=Z,6.0nm,1.0s						
GERES	**GERESS Array B**	**146.07**	**331**	PKPbc	**PKPab**	**14 03 49.9**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=46,slow=3.9,SNR=13						

IDC 04 13:56:33.0±1.9,1.°91N×127.°24E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/45,mbtmp3.5/4,MS3.1/1,Ms1 3.1/1, ms1mx2.6/28,Error ellipse: s-maj=169.5km s-min=22.2km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.16**	**227**	LR	LR	14 03 11.5	
	comp=Z,105nm,20.6s,baz=62,slow=39						
WRA	**Warramunga Arr**	**22.80**	**163**	P	P	14 01 37.1	-0.5
	0.9nm,0.5s,baz=341,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.23**	**166**	P	P	14 02 10.3	+0.4
	0.3nm,0.4s,baz=345,slow=12,SNR=9.3						
MKAR	**Makanchi Array**	**59.34**	**326**	P	P	14 06 37.0	0.0
	0.3nm,0.5s,baz=126,slow=6.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**63.54**	**328**	P	P	14 07 05.3	0.0
	0.2nm,0.4s,baz=126,slow=6.7,SNR=2.2						

*NEIC **04** 13:57:19.8±1.9,1.°57N±0.°08×126.°61E±0.°07,h37km±7km, mb4.6/33,Error ellipse: s-maj=12.9km s-min=7.8km az=221.0*
*DJA **04** 13:57:19.9±1.1,2.°N±6.°×12.°6E±.°,h91km±36km,M4.6/9, mB4.9/3,mb4.6/3,MLv4.6/9,Mw(mB)4.2/3*
*BJI **04** 13:57:20.0±0.0,1.°60N×126.°60E,h37km,mB5.2/20, mb4.7/35,Ms4.7/6,Ms7 4.6/5*
*KLM **04** 13:57:20.0,1.°63N×126.°66E,h113km,mb5.0*
*IDC **04** 13:57:21.7±2.1,1.°50N×126.°42E,h51km±18km,mb4.1/27, mb1 4.2/29,mb1mx4.1/45,mbtmp4.4/29,ML4.0/2,MS3.7/3, Ms1 3.7/3,ms1mx3.0/38,Error ellipse: s-maj=18.0km s-min=8.0km az=79.0*

ISC 04 13:57:20.4±0.4,1.°50N±0.°04×126.°52E±0.°05,h39km±3km, n103,σ1§47/112,mb4.6/50,MS3.8/3,1C-1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.11**	**131**	Pn	**Pn**	**13 57 39.6**	**+0.2**
TNTI				Sn	**Sn**	**13 57 53.1**	**-0.4**
SGSI	**Sangihe**	**2.39**	**335**	P	**Pn**	**13 57 52.5**	**-4.5**
SGSI				S	**Sn**	**13 58 25.8**	**+0.8**
KMSI	**Cibinong**	**2.70**	**250**	P	**Pn**	**13 58 00.5**	**-0.8**
SANI	**Sanana**	**3.57**	**189**	P	**Pn**	**13 58 13.6**	**+0.4**
GTOI	**Gorontalo**	**3.61**	**256**	P	**Pn**	**13 58 14.3**	**+0.5**
LUWI	**Luwuk**	**4.52**	**236**	P	**Pn**	**13 58 26.6**	**+0.3**
LUWI	**Luwuk**	**4.52**	**236**	Pn	**Pn**	**13 58 28.6**	**+2.3**
NLAI	**Namlea**	**4.74**	**173**	P	**Pn**	**13 58 28.6**	**-0.8**
SIJI	**Sorong**	**5.29**	**116**	P	**Pn**	**13 58 39.5**	**+2.5**
	1.6nm,0.3s,baz=319,slow=18,SNR=3.2						
SIJI				S	**Sn**	**13 59 35.0**	**-1.9**
	0.6nm,0.3s,baz=197,slow=19,SNR=1.0						
SIJI				LR	LR	14 01 10.1	
	comp=Z,1μm,18.0s,baz=276,slow=42						
MSAI	**Masohi**	**5.38**	**153**	P	Pn	13 58 50.7	+13
KCP	**Kidapawan**	**5.66**	**345**||*e*P	Pn	13 58 49.0	+7.0
MPSI	**Mapaga**	**6.72**	**260**	P	**Pn**	**13 58 57.5**	**+0.9**
MYLDM	**Lahad Datu**	**8.80**	**295**		**Pn**	**13 59 26.8**	**+1.6**
KAPI	**Kappang**	**9.36**	**226**	P	**Pn**	**13 59 34.0**	**+1.2**
	4.0nm,0.3s,baz=194,slow=5.3,SNR=10						
KAPI				S	**Sn**	**14 01 16.6**	**-0.3**
	0.5nm,0.3s,baz=246,slow=20,SNR=1.7						
KAPI	**Kappang**	**9.36**	**226**	Pn	**Pn**	**13 59 36.3**	**+3.5**
SPMM	**Sapulut**	**10.54**	**288**	P	**Pn**	**13 59 50.0**	**+1.1**
KKM	**Kota Kinabalu**	**11.23**	**294**	Pn	**Pn**	**14 00 00.1**	**+1.5**
BATI	**Baumata**	**11.97**	**194**	P	Pn	14 00 16.9	+8.2
	1.4nm,0.3s,baz=2.0,slow=11,SNR=1.6						
SBUM	**Sibu**	**14.32**	**274**	Pn	**P**	**14 00 45.0**	**-2.1**
JAY	**Jayapura**	**14.73**	**106**	P	**P**	**14 00 54.5**	**+2.7**
	0.4nm,0.3s,baz=260,slow=12,SNR=2.6						
MTN	**Manton Dam**	**14.97**	**162**	Pn	**Pn**	**14 00 49.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**15.82**	**231**	P	**P**	**14 01 03.7**	**0.0**
JAGI				IAmb	IAmb	14 01 06.6	
	comp=Z,42nm,1.0s						
KSM	**Kuching**	**16.21**	**270**		**P**	**14 01 08.5**	**+0.4**
KNRA	**Kununurra**	**17.21**	**173**	P	**Pn**	**14 01 17.1**	**-0.9**
KNRA				IAmb	IAmb	14 01 43.9	
	comp=Z,34nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.49**	**183**	P	**P**	**14 01 43.2**	**-1.1**
GUMO	**Guam**	**21.77**	**56**	LR	LR	14 09 16.6	
	comp=Z,150nm,20.9s,baz=230,slow=33						
TWG	**Pinlang**	**21.84**	**346**		**P**	**14 02 07.1**	**-2.6**
YULB	**Yu-li**	**22.34**	**347**	P	**P**	**14 02 13.1**	**-1.9**
YULB				IAmb	IAmb	14 02 32.6	
	comp=Z,57nm,1.5s						
TPUB	**Ta-pu**	**22.41**	**346**	P	**P**	**14 02 13.9**	**-1.9**
TPUB				IAmb	IAmb	14 02 18.0	
	comp=Z,38nm,0.9s						
WB0	**Warramunga Arr**	**22.50**	**160**	P	**P**	**14 02 15.8**	**-1.0**
WB0				IAmb	IAmb	14 02 23.0	
	comp=Z,24nm,0.6s						
COEN	**Coen**	**22.54**	**133**	P	**P**	**14 02 15.7**	**-1.5**
COEN				IAmb	IAmb	14 02 32.6	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**22.64**	**161**	P	**P**	**14 02 17.5**	**-0.7**
WRAB				IAmb	IAmb	14 02 27.3	
	comp=Z,32nm,0.9s						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**14 02 17.8**	**-0.5**
	comp=Z,20nm,0.7s,baz=339,slow=11,SNR=40						
WRA				PcP	**PcP**	**14 06 09.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=328,slow=2.0,SNR=2.0						
WRA				S	**S**	**14 06 25.5**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=342,slow=16,SNR=7.0						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**14 02 17.3**	**-1.0**
WB2	**Warramunga Arr**	**22.65**	**161**	P	**P**	**14 02 17.6**	**-0.8**
WB2				IAmb	IAmb	14 02 27.4	
	comp=Z,40nm,1.0s						
MYKOM	**Kota Tinggi**	**22.66**	**271**	P	**P**	**14 02 12.0**	**-6.6**
WR0	**Warramunga Arr**	**22.73**	**160**	P	**P**	**14 02 18.6**	**-0.5**
WR0				IAmb	IAmb	14 02 22.1	
	comp=Z,18nm,0.9s						
SSLB	**Suanglung**	**22.80**	**347**	P	**P**	**14 02 18.9**	**-1.0**
SSLB				IAmb	IAmb	14 02 24.9	
	comp=Z,20nm,1.0s						
PSA00	**Pilbara Seismi**	**23.84**	**196**	P	**P**	**14 02 30.1**	**0.0**
PSA00				IAmb	IAmb	14 02 31.8	
	comp=Z,8.3nm,0.7s						
AS31	**Alice Springs**	**26.02**	**164**	P	**P**	**14 02 50.2**	**+0.1**
ASAR	**Alice Springs**	**26.02**	**164**	P	**P**	**14 02 50.5**	**+0.4**
	comp=Z,4.7nm,0.4s,baz=344,slow=9.4,SNR=25						
ASAR				PcP	**PcP**	**14 06 17.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=354,slow=2.2,SNR=5.4						
ASAR				S	**S**	**14 07 18.3**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=339,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**26.02**	**164**	P	**P**	**14 02 49.4**	**-0.6**
ASAR					**PcP**	**14 06 18.5**	**+0.9**
NJ2	**Nanjing**	**31.24**	**347**	*e*P	**P**	**14 03 37.1**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JNU	**Nakatsue**	**31.72**	**7**	P	**P**	**14 03 41.7**	**+1.0**
	comp=Z,12nm,0.8s,baz=254,slow=2.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**31.87**	**304**	P	**P**	**14 03 41.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.9,SNR=5.0						
MORW	**Morawa**	**32.01**	**197**	P	**P**	**14 03 43.1**	**-0.1**
MORW				IAmb	IAmb	14 03 46.6	
	comp=Z,9.1nm,1.1s						
FORT	**Forrest**	**32.13**	**178**	P	**P**	**14 03 43.5**	**-0.8**
KMI	**Kunming**	**32.84**	**318**⇑*e*P		**P**	**14 03 55.1**	**+4.3**
KMI				pP	pP	14 03 58.7	-2.6
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				pmax	pmax		
	comp=Z,270nm,6.9s						
KMI				LR	LR		
	comp=Z,270nm,6.2s						
KMI				LR	LR		
	comp=Z,290nm,6.5s						
KMI				LR	LR		
	comp=Z,310nm,7.6s						
JWT	**Wachi**	**34.61**	**13**	P	**P**	**14 04 04.0**	**-1.8**
BBOO	**Buckleboo**	**35.30**	**166**	P	**P**	**14 04 11.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**35.35**	**194**	P	**P**	**14 04 12.0**	**-0.2**
	comp=Z,5.7nm,0.5s,baz=24,slow=8.9,SNR=10						
NWAO	**Narrogin (SRO)**	**35.35**	**194**	P	**P**	**14 04 12.0**	**-0.2**
KSRS	**Korea Array**	**35.80**	**2**	P	**P**	**14 04 15.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=180,slow=8.6,SNR=8.1						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**14 04 19.4**	**+0.4**
	comp=Z,7.2nm,0.8s,baz=326,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**14 04 19.3**	**+0.3**
XAN	**Xi'an**	**36.32**	**335**	P	**P**	**14 04 22.5**	**+1.9**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CD2	**Chengdu**	**36.34**	**326**	P	**P**	**14 04 22.8**	**+2.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						

MAT	**Matsushiro**	**36.51**	**16**	P	**P**	**14 04 22.5**	**+0.4**
MJAR	**Matsushiro Arr**	**36.51**	**16**	P	**P**	**14 04 21.6**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=187,slow=8.7,SNR=14						
JMM	**Marumori**	**38.50**	**18**	P	**P**	**14 04 37.5**	**-1.4**
ARMA	**Armidale**	**39.75**	**145**	P	**P**	**14 04 49.1**	**-0.5**
ARMA				IAmb	IAmb	14 04 51.9	
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**40.33**	**331**	*e*P	**P**	**14 04 58.1**	**+3.7**
LZH				pP	sP	14 05 08.8	-0.6
LZH				sP	pP	14 05 14.5	+9.5
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC	**Hu-ho-hao-te**	**41.45**	**343**	*e*P	**P**	**14 05 03.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2	**Changchun**	**42.13**	**359**	*e*P	**P**	**14 05 10.7**	**+1.8**
USRK	**Ussuriysk Ar.**	**42.80**	**6**	P	**P**	**14 05 15.5**	**+1.2**
	comp=Z,4.0nm,0.7s,baz=186,slow=6.8,SNR=12						
USRK	**Ussuriysk Ar.**	**42.80**	**6**	P	**P**	**14 05 13.2**	**-1.0**
MDJ	**Mudanjiang**	**43.02**	**3**	P	**P**	**14 05 16.5**	**+0.4**
MDJ				pP	pP	14 05 23.5	-3.1
MDJ				sP	pwP	14 05 30.1	+1.0
MDJ				ScP	**ScP**	**14 10 55.1**	**+0.9**
MDJ				PcS	**PcS**	**14 10 59.0**	**+0.9**
MDJ				S	**S**	**14 11 41.2**	**+2.2**
MDJ				sS	sS	14 11 55.4	-0.8
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,310nm,6.8s						
MDJ				LR	LR		
	comp=Z,500nm,4.6s						
MDJ				LR	LR		
	comp=Z,410nm,5.4s						
MDJ				LR	LR		
	comp=Z,350nm,5.0s						
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**14 06 06.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=142,slow=7.3,SNR=5.8						
SONM				PcP	**PcP**	**14 07 29.1**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=144,slow=5.2,SNR=1.8						
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**14 06 04.2**	**-1.7**
WMQ	**Urumqi**	**54.43**	**326**	*e*P	**P**	**14 06 46.3**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,50nm,5.3s						
WMQ				LR	LR		
	comp=Z,35nm,28.9s						
WMQ				LR	LR		
	comp=Z,170nm,29.0s						
PETK	**Petropavlovsk-**	**57.56**	**22**	P	**P**	**14 07 07.1**	**+1.1**
	comp=Z,3.2nm,0.4s,baz=182,slow=5.4,SNR=32						
PETK	**Petropavlovsk-**	**57.56**	**22**	P	**P**	**14 07 07.4**	**+1.4**
MK31	**Makanchi Array**	**59.27**	**326**	P	**P**	**14 07 18.1**	**0.0**
MK31				IAmb	IAmb	14 07 21.8	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**14 07 17.8**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=118,slow=7.5,SNR=26						
MKAR				PcP	**PcP**	**14 08 05.1**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=121,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**14 07 17.6**	**-0.4**
MAKZ	**Makanchi**	**59.45**	**326**	P	**P**	**14 07 18.5**	**-0.8**
MAKZ				IAmb	IAmb	14 07 23.6	
	comp=Z,8.3nm,1.2s						
YAK	**Yakutsk**	**60.43**	**2**	P	**P**	**14 07 25.3**	**-0.4**
	comp=Z,7.1nm,0.5s,baz=186,slow=1.0,SNR=8.0						
TUWZ	**Tuamarina**	**60.56**	**141**	P	**P**	**14 07 27.5**	**+0.5**
ZALV	**Zalesovo Beam**	**62.48**	**334**	P	**P**	**14 07 38.6**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=111,slow=7.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**63.50**	**328**	P	**P**	**14 07 46.0**	**-0.6**
	comp=Z,6.3nm,0.7s,baz=128,slow=6.2,SNR=44						
KURK	**Kurchatov**	**63.51**	**328**	P	**P**	**14 07 46.5**	**-0.1**
KKAR	**Karatay Array**	**64.72**	**318**	P	**P**	**14 07 54.6**	**-0.2**
BVAR	**Borovoye Array**	**69.07**	**328**	P	**P**	**14 08 21.6**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=170,slow=8.8,SNR=4.7						
NRIK	**Noril'sk**	**72.53**	**346**	P	**P**	**14 08 43.5**	**+0.5**
	comp=Z,9.7nm,0.8s,baz=134,slow=6.6,SNR=22						
ABKAR	**Akbulak array**	**73.74**	**321**	P	**P**	**14 08 50.1**	**-0.4**
ABKAR	**Akbulak array**	**73.74**	**321**	P	**P**	**14 08 50.0**	**-0.5**
ABKAR				IAmb	IAmb	14 08 55.0	
	comp=Z,2.5nm,0.7s						
ARU	**Arti**	**76.70**	**328**	P	**P**	**14 09 07.0**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=24,slow=3.0,SNR=6.7						
VNDA	**Vanda**	**81.25**	**173**	P	**P**	**14 09 32.0**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=317,slow=7.2,SNR=16						
VNDA	**Vanda**	**81.25**	**173**	P	**P**	**14 09 32.6**	**+0.7**
MAW	**Mawson**	**81.60**	**200**	P	**P**	**14 09 34.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=37,slow=3.1,SNR=3.7						
MAW	**Mawson**	**81.60**	**200**	P	**P**	**14 09 34.4**	**+0.6**
KIRV	**Kirov**	**82.01**	**329**	P	**P**	**14 09 36.3**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=110,slow=1.8,SNR=2.6						
KBZ	**Khabaz**	**84.35**	**314**	P	**P**	**14 09 48.4**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=137,slow=5.5,SNR=6.7						
ARTV	**Artvin**	**84.94**	**311**	P	**P**	**14 09 52.0**	**0.0**
ARTV				IAmb	IAmb	14 10 03.6	
	comp=Z,8.0nm,1.4s						
ILAR	**Eielson Array**	**87.19**	**25**	P	**P**	**14 10 00.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=235,slow=6.4,SNR=5.3						
KLMR	**Klimovskoe**	**87.23**	**331**	*e*P	**P**	**14 10 01.0**	**-1.6**
KLMR				AMP		14 10 11.8	
	comp=Z,8.0nm,1.0s						
BRTR	**Keskin Array B**	**91.27**	**310**	P	**P**	**14 10 20.9**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=140,slow=3.8,SNR=4.7						
ARCES	**ARCESS Array B**	**92.46**	**340**	P	**P**	**14 10 26.6**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=93,slow=6.8,SNR=4.0						
AKASG	**Malin Array Be**	**93.48**	**321**	P	**P**	**14 10 31.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=74,slow=4.2,SNR=1.9						
FINES	**FINESS Array B**	**93.69**	**332**	P	**P**	**14 10 31.8**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=92,slow=9.9,SNR=5.0						
FINES	**FINESS Array B**	**93.69**	**332**	P	**P**	**14 10 30.8**	**-1.9**
LSZ	**Lusaka**	**98.43**	**255**	LR	LR	14 51 03.6	
	comp=Z,35nm,21.2s,baz=193,slow=33						
TORD	**Torodi Ar. Bea**	**123.39**	**287**	PKP	**PKPdf**	**14 16 13.4**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=26,slow=1.6,SNR=2.3						

*ANF **04** 14:11:24.7±1.4,36°.32N×96°.95W,h5km,ML3.7/8, Error ellipse: s-maj=18.0km s-min=10.7km az=3.0*
*TUL **04** 14:11:24.4±1.4,36°.31N±0°.01×96°.97W±0°.02,h5km±7km, ML3.0, Error ellipse: s-maj=2.0km s-min=1.8km az=94.0*
*NEIC **04** 14:11:24.9±1.4,36°.31N±0°.01×96°.97W±0°.02,h5km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=126.0*

ISC 04 14:11:24.2±1.0,36°.31N±0°.02×96°.98W±0°.02,h9km±9km, n36,σ1§34/55,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.26**	**122**		**Pg**	**14 11 29.9**	**+0.6**
QUOK				Sg	**Sg**	**14 11 33.5**	**+0.6**
OK029	**Liberty Lake**	**0.64**	**217**		**Pb**	**14 11 36.9**	**-0.5**
OK029				Sg	**Sb**	**14 11 45.6**	**-0.9**
T35A	**Sooner Cattle**	**0.71**	**32**	Pg	**Pb**	**14 11 38.4**	**-0.4**
T35A				Sg	**Sg**	**14 11 47.6**	**+0.2**
OK025	**Westminster Rd**	**0.78**	**202**		**Pb**	**14 11 39.4**	**-0.5**
OK025				Sg	**Sb**	**14 11 50.4**	**-0.2**
KAN13	**South Haven SW**	**0.81**	**330**		**Pb**	**14 11 40.2**	**-0.3**
KAN13				Sg	**Sb**	**14 11 51.1**	**-0.4**
BCOK	**Bluff Creek, N**	**0.83**	**218**		**Pb**	**14 11 40.3**	**-0.3**
BCOK				Sg	**Sb**	**14 11 51.5**	**-0.4**
CROK	**Carrier**	**0.83**	**284**		**Pb**	**14 11 40.5**	**-0.3**
OKCFA	**Oklahoma City**	**0.97**	**203**	Pg	**Pb**	**14 11 42.6**	**-0.5**
OKCFA				Sg	**Sn**	**14 11 56.2**	**-1.6**
OKCSW	**OKLAHOMA CITY**	**0.97**	**203**	Pg	**Pg**	**14 11 42.8**	**-0.1**
OKCSW				Sg	**Sn**	**14 11 56.5**	**-1.5**
TUL1	**Leonard**	**1.04**	**112**	P	**Pg**	**14 11 44.1**	**-0.1**
	baz=293						
TUL1				S	**Sg**	**14 11 57.7**	**0.0**
	baz=293						
TUL1	**Leonard**	**1.04**	**112**		**Pg**	**14 11 44.0**	**-0.1**
TUL1				Sg	**Sg**	**14 11 57.6**	**0.0**
FNO	**Franklin**	**1.10**	**198**		**Pg**	**14 11 45.3**	**-0.1**
FNO				Sg	**Sn**	**14 12 00.8**	**-0.3**
W35A	**Tecumseh**	**1.16**	**176**		**Pn**	**14 11 45.6**	**-0.9**
W35A				Sg	**Sg**	**14 12 01.6**	**+0.3**
KAN10	**Anthony SW Sta**	**1.21**	**313**		**Pg**	**14 11 47.5**	**+0.1**
KAN10				Sg	**Sg**	**14 12 03.5**	**+0.2**
KAN12	**Harper NE Stat**	**1.28**	**321**		**Pg**	**14 11 48.8**	**0.0**
KAN12				Sg	**Sg**	**14 12 05.8**	**+0.3**
U32A	**Winter Ranch,**	**1.64**	**273**		**Pb**	**14 11 54.5**	**0.0**
U38A	**Gravette**	**2.10**	**86**		**Pb**	**14 12 01.5**	**-0.9**
WMOK	**Wichita Mounta**	**2.15**	**224**	P	**Pb**	**14 12 01.8**	**-1.4**
	baz=43						
WMOK				S	**Sb**	**14 12 29.7**	**-0.3**
	baz=43						
WMOK	**Wichita Mounta**	**2.15**	**224**		**Pb**	**14 12 02.6**	**-0.7**
X37A	**Clayton**	**2.16**	**142**		**Pb**	**14 12 02.7**	**-0.7**
KSU1	**Kansas State U**	**2.81**	**6**	P	**Pn**	**14 12 09.3**	**+0.1**
	baz=186						
KSU1	**Kansas State U**	**2.81**	**6**	Pn	**Pb**	**14 12 11.4**	**-3.0**
KSU1	**Kansas State U**	**2.81**	**6**		**Pb**	**14 12 11.6**	**-2.8**
W39A	**Magazine**	**2.83**	**112**	P	**Pn**	**14 12 10.1**	**+0.6**
	baz=294						
W39A				S	**Sb**	**14 12 46.5**	**-2.9**
	baz=294						
W39A	**Magazine**	**2.83**	**112**	Pn	**Pb**	**14 12 11.8**	**-3.0**
Z35A	**Perchaven, San**	**2.98**	**184**	Pn	**Pn**	**14 12 13.1**	**+1.6**
MIAR	**Mount Ida**	**3.29**	**121**	P	**Pn**	**14 12 17.3**	**+1.5**
	baz=304						
MIAR				S	**Sn**	**14 12 56.6**	**+1.6**
	baz=304						
MIAR	**Mount Ida**	**3.29**	**121**	Pn	**Pn**	**14 12 17.6**	**+1.8**
CBKS	**Cedar Bluff**	**3.33**	**320**	P	**Pn**	**14 12 18.0**	**+1.6**
	baz=135						
U40A	**Yellville**	**3.33**	**88**	P	**Pn**	**14 12 17.4**	**+1.0**
	baz=270						
U40A				S	**Sn**	**14 12 58.0**	**+1.9**
	baz=270						
U40A	**Yellville**	**3.33**	**88**	Pn	**Pn**	**14 12 17.7**	**+1.3**
X40A	**Basin Creek Fa**	**3.84**	**117**	P	**Pn**	**14 12 25.2**	**+1.8**
	baz=300						
X40A				S	**Sn**	**14 13 11.0**	**+2.3**
	baz=300						
X40A	**Basin Creek Fa**	**3.84**	**117**	Pn	**Pn**	**14 12 25.8**	**+2.3**
MGMO	**Mountain Grove**	**3.88**	**76**		**Pn**	**14 12 26.0**	**+2.1**
FCAR	**Ozark Folk Cen**	**3.95**	**95**		**Pn**	**14 12 27.0**	**+2.0**
R40A	**Maddies Statio**	**4.25**	**61**		**Pn**	**14 12 30.6**	**+1.7**

*BGR **04** 14:20:13.6±0.0,20°.53S×176°.20W,h33km*
*IDC **04** 14:20:34.0±1.9,20°.85S×176°.70W,h207km±17km, mb3.9/18,mb1 4.0/20,mb1mx4.0/29,mbtmp4.5/20, Error ellipse: s-maj=12.8km s-min=11.5km az=126.0*
*NEIC **04** 14:20:36.0±2.5,20°.97S±0°.08×176°.5W±0°.1,h235km±7km, mb4.3/20, Error ellipse: s-maj=14.8km s-min=11.6km az=102.0*

ISC 04 14:20:37.6±0.4,21°.06S±0°.06×176°.60W±0°.06,h250km, n110,σ1§66/119,mb4.1/27,3C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.03**	**302**	Pn	**Pn**	**14 22 06.8**	**+0.5**
NIUE	**Niue**	**6.58**	**74**		**Pn**	**14 22 09.7**	**-3.3**
RAO	**Raoul Island**	**8.24**	**188**	P	**Pn**	**14 22 32.0**	**-2.0**
	83nm,0.3s,baz=292,slow=23,SNR=5.1						
RAO				S	**S**	**14 24 04.3**	**-3.5**
	92nm,0.3s,baz=107,slow=19,SNR=2.6						
RAO	**Raoul Island**	**8.24**	**188**		**Pn**	**14 22 31.7**	**-2.3**
AFI	**Afiamalu**	**8.47**	**34**	P	**Pn**	**14 22 30.2**	**-6.8**
	2.8nm,0.3s,baz=220,slow=3.5,SNR=12						
AFI				S	**S**	**14 23 56.3**	**-17**
	4.3nm,0.3s,baz=12,slow=20,SNR=1.4						
AFI	**Afiamalu**	**8.47**	**34**		**Pn**	**14 22 33.3**	**-3.7**
RAR	**Rarotonga**	**15.70**	**94**	P	**Pn**	**14 24 12.2**	**+6.0**
	0.8nm,0.3s,baz=285,slow=20,SNR=2.5						
RAR				S	**S**	**14 26 58.4**	**+0.5**
	1.3nm,0.3s,baz=100,slow=17,SNR=2.4						
DZM	**Mont Dzumac**	**15.81**	**263**	P	**Pn**	**14 24 09.8**	**+2.2**
SANVU	**Saraoutou**	**16.36**	**287**	P	**Pn**	**14 24 14.6**	**+0.5**
URZ	**Urewera**	**17.98**	**196**	P	**P**	**14 24 30.3**	**+0.4**
	3.3nm,0.3s,baz=284,slow=3.9,SNR=8.9						
URZ				S	**S**	**14 27 35.9**	**-7.1**
	2.2nm,0.3s,baz=122,slow=22,SNR=11						
KAHZ	**Kahuranaki**	**19.49**	**195**	P	**S**	**14 28 11.4**	**-1.3**
PXZ	**Pawanui**	**19.72**	**195**	S	S	14 28 16.6	-0.4
PXZ				P	**S**	**14 28 13.2**	**-3.8**
WPHZ	**Waipukurau**	**19.86**	**196**	P	**S**	**14 28 18.6**	**-1.0**
DVHZ	**Dannevirke**	**20.15**	**196**	P	**S**	**14 28 23.4**	**-1.6**
PRWZ	**Pori Road**	**20.44**	**196**	P	**S**	**14 28 29.9**	**-0.2**
BFZ	**Birch Farm**	**20.49**	**196**	P	**S**	**14 28 28.1**	**-2.9**
MRZ	**Mangatainoka R**	**20.64**	**197**	P	**S**	**14 28 32.1**	**-1.5**
TIWZ	**Tintock**	**20.67**	**196**	P	**S**	**14 28 34.2**	**0.0**
HOWZ	**Holdsworth Sta**	**20.88**	**197**	P	**S**	**14 28 37.3**	**-0.3**
OGWZ	**Otaki Gorge**	**20.90**	**198**	P	**S**	**14 28 39.1**	**+1.1**
TMWZ	**Te Maipa**	**20.98**	**196**	P	**S**	**14 28 38.1**	**-1.2**
INZ	**Inchbonnie**	**23.82**	**202**	P	**P**	**14 25 29.2**	**+1.2**
OXZ	**Oxford**	**24.15**	**201**	P	**P**	**14 25 32.6**	**+1.6**
WVZ	**Waitaha Valley**	**24.38**	**203**	P	**P**	**14 25 33.8**	**+0.7**
MHCZ	**Mount Hutt**	**24.49**	**201**	P	**P**	**14 25 33.5**	**-0.6**
RPZ	**Rata Peaks**	**24.82**	**202**	P	**P**	**14 25 38.6**	**+1.5**
	18nm,0.8s,baz=287,slow=3.2,SNR=6.2						
RPZ	**Rata Peaks**	**24.82**	**202**	P	**P**	**14 25 38.9**	**+1.7**
RPZ	**Rata Peaks**	**24.82**	**202**	P	**P**	**14 25 38.6**	**+1.5**
HNR	**Honiara**	**25.36**	**294**	P	**P**	**14 25 42.1**	**-0.2**
	39nm,0.6s,baz=238,slow=8.9,SNR=2.7						
CTA	**Charters Tower**	**34.74**	**265**	P	**P**	**14 27 04.5**	**0.0**
	2.5nm,0.3s,baz=88,slow=8.9,SNR=9.3						
PMG	**Port Moresby**	**36.74**	**283**	P	**P**	**14 27 22.0**	**+0.5**
	29nm,1.0s,baz=81,slow=7.1,SNR=4.1						
STKA	**Stephens Creek**	**38.73**	**245**	P	**P**	**14 27 37.7**	**-0.3**
	2.9nm,0.7s,baz=88,slow=10,SNR=10						
STKA	**Stephens Creek**	**38.73**	**245**	P	**P**	**14 27 37.6**	**-0.3**
JAY	**Jayapura**	**45.46**	**288**	P	**P**	**14 28 32.0**	**-0.4**
	17nm,0.7s,baz=154,slow=4.0,SNR=13						
AS31	**Alice Springs**	**45.67**	**257**	P	**P**	**14 28 34.1**	**+0.2**
ASAR	**Alice Springs**	**45.67**	**257**	P	**P**	**14 28 33.8**	**-0.2**
	2.1nm,0.5s,baz=93,slow=8.4,SNR=39						
ASAR				PcP	**PcP**	**14 30 08.0**	**+0.4**
	0.9nm,0.7s,baz=100,slow=4.3,SNR=1.2						
ASAR				ScP	**ScP**	**14 33 39.8**	**+3.3**
	0.6nm,0.6s,baz=102,slow=4.7,SNR=6.2						
ASAR				S	**S**	**14 34 55.7**	**-2.0**
	0.4nm,0.8s,baz=97,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**45.67**	**257**	P	**P**	**14 28 32.3**	**-1.7**
WB0	**Warramunga Arr**	**45.80**	**263**	P	**P**	**14 28 34.6**	**-0.4**
WB0				IAmb	IAmb	14 28 35.0	
	comp=Z,4.6nm,0.8s						
WB2	**Warramunga Arr**	**45.81**	**262**	P	**P**	**14 28 34.6**	**-0.5**
WRA	**Warramunga Arr**	**45.82**	**262**	P	**P**	**14 28 34.3**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=92,slow=7.7,SNR=41						
WRA				PcP	**PcP**	**14 30 07.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=99,slow=5.2,SNR=1.1						
WRA	**Warramunga Arr**	**45.82**	**262**	P	**P**	**14 28 34.0**	**-1.2**
MTN	**Manton Dam**	**50.48**	**271**	P	**P**	**14 29 10.2**	**-0.5**
MTN				IAmb	IAmb	14 29 11.1	
	comp=Z,9.9nm,0.8s						
VNDA	**Vanda**	**57.48**	**185**	P	**P**	**14 30 03.5**	**+3.4**
	comp=Z,3.2nm,0.8s,baz=20,slow=8.7,SNR=19						
VNDA	**Vanda**	**57.48**	**185**	P	**P**	**14 30 03.7**	**+3.5**
VNDA				IAmb	IAmb	14 30 04.5	
	comp=Z,5.2nm,1.0s						
QSPA	**South Pole Qui**	**69.01**	**180**	P	**P**	**14 31 18.7**	**+2.7**
MJAR	**Matsushiro Arr**	**71.44**	**323**	P	**P**	**14 31 30.3**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=158,slow=6.0,SNR=8.4						
BELA	**Belgrano 2**	**78.84**	**172**	P	**P**	**14 32 13.7**	**+1.2**
NVAR	**Mina Array Bea**	**80.54**	**43**	P	**P**	**14 32 23.2**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=218,slow=7.8,SNR=5.0						
NVAR	**Mina Array Bea**	**80.54**	**43**	P	**P**	**14 32 21.1**	**-1.4**
MAW	**Mawson**	**81.48**	**199**	P	**P**	**14 32 28.5**	**+1.9**
	comp=Z,3.8nm,0.7s,baz=145,slow=8.0,SNR=12						
MAW	**Mawson**	**81.48**	**199**	P	**P**	**14 32 28.2**	**+1.6**
TXAR	**Lajitas Array**	**86.26**	**57**	P	**P**	**14 32 53.4**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=216,slow=6.5,SNR=8.8						
SYO	**Syowa Base**	**86.47**	**192**	*e*P	**P**	**14 32 51.3**	**-0.4**
RND	**Reindeer**	**86.96**	**12**	P	**P**	**14 32 54.6**	**+0.5**
RND				IAmb	IAmb	14 32 55.5	
	comp=Z,5.9nm,0.6s						
SNAA	**Sanae**	**87.42**	**178**	P	**P**	**14 32 57.1**	**+0.7**
SNAA	**Sanae**	**87.42**	**178**	P	**P**	**14 32 57.1**	**+0.7**
SNAA				IAmb	IAmb	14 33 06.8	
	comp=Z,3.7nm,1.1s						
VNA3	**Neumayer Olymp**	**87.50**	**176**	P	**P**	**14 32 58.1**	**+1.4**
PLCA	**Paso Flores**	**87.94**	**133**	P	**P**	**14 33 01.1**	**+1.6**
	comp=Z,2.8nm,1.1s,baz=290,slow=5.2,SNR=3.0						
VNA2	**Neumayer--Watz**	**87.95**	**176**	P	**P**	**14 33 00.5**	**+1.7**
	baz=186,slow=4.0						
WRH	**Wood River Hil**	**88.07**	**12**	P	**P**	**14 32 58.2**	**-1.0**
WRH				IAmb	IAmb	14 33 00.5	
	comp=Z,6.7nm,0.9s						
VNA1	**Neumayer--Stat**	**88.17**	**176**	P	**P**	**14 33 01.2**	**+1.4**
HDA	**Harding Lake**	**88.24**	**12**	P	**P**	**14 33 00.1**	**+0.1**
HDA				IAmb	IAmb	14 33 04.4	
	comp=Z,2.6nm,0.7s						
CCB	**Clear Creek Bu**	**88.28**	**12**	P	**P**	**14 33 00.3**	**+0.1**
CCB				IAmb	IAmb	14 33 01.2	
	comp=Z,7.9nm,1.2s						
PDAR	**Pinedale Array**	**88.48**	**43**	P	**P**	**14 33 02.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=214,slow=4.0,SNR=4.2						
MDM	**Murphy Dome**	**88.48**	**12**	P	**P**	**14 33 01.0**	**-0.1**
MDM				IAmb	IAmb	14 33 02.0	
	comp=Z,8.9nm,1.0s						
IMAR	**Indian Mountai**	**88.49**	**9**	P	**P**	**14 33 02.1**	**+1.0**
IL31		**88.57**	**12**	P	**P**	**14 33 01.5**	**0.0**
IL31				IAmb	IAmb	14 33 05.1	
	comp=Z,2.9nm,1.1s						
ILAR	**Eielson Array**	**88.57**	**12**	P	**P**	**14 33 01.9**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=232,slow=5.5,SNR=18						
ILAR	**Eielson Array**	**88.57**	**12**	P	**P**	**14 33 01.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**91.53**	**289**	P	**P**	**14 33 17.4**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=130,slow=3.0,SNR=5.6						
ATAH	**Atahualpa**	**95.06**	**100**	P	**P**	**14 33 35.2**	**+1.9**
	comp=Z,4.1nm,0.7s,baz=286,slow=7.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**111.75**	**321**	PKiKP	**PKiKP**	**14 38 42.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=11,slow=1.5,SNR=2.2						
MKAR	**Makanchi Array**	**112.53**	**313**	PKiKP	**PKiKP**	**14 38 43.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=309,slow=0.4,SNR=4.3						
MKAR				PKKPbc	**PKKPbc**	**14 49 34.5**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=273,slow=4.6,SNR=4.1						
ARCES	**ARCESS Array B**	**129.70**	**350**	PKP	**PKiKP**	**14 39 16.3**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=42,slow=1.5,SNR=17						
FINES	**FINESS Array B**	**136.67**	**344**	PKhKP	**PKPdf**	**14 39 27.4**	**-2.1**
	comp=Z,2.2nm,0.9s,baz=86,slow=2.7,SNR=6.5						
FINES				SKPbc	**SKiKP**	**14 42 40.9**	**-2.4**
	comp=Z,1.8nm,0.9s,baz=54,slow=7.1,SNR=3.7						
AKASG	**Malin Array Be**	**144.13**	**332**	PKHKP	**PKPab**	**14 39 41.2**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=41,slow=4.4,SNR=7.8						
AKASG				SKPbc	**SKiKP**	**14 43 01.1**	**+2.0**
	comp=Z,0.9nm,0.4s,baz=28,slow=2.2,SNR=4.5						
BSEG	**Bad Segeberg**	**146.75**	**353**	*e*PKPbc	**PKiKP**	**14 39 51.1**	**-1.2**
	baz=14,slow=2.5						
BRTR	**Keskin Array B**	**148.18**	**313**	PKPbc	**PKiKP**	**14 39 54.2**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=142,slow=4.5,SNR=7.4						
CLZ	**Clausthal**	**148.80**	**352**	*e*PKPbc	**PKPab**	**14 39 56.5**	**-3.4**
	baz=14,slow=2.5						
CHVC	**Chvalec**	**148.89**	**344**	*e*PKP	**PKiKP**	**14 39 56.7**	**-0.1**
CLL	**Collm**	**148.89**	**348**	*i*PKPbc	**PKiKP**	**14 39 56.6**	**-0.1**
	comp=Z,15nm,0.8s						
CLL	**Collm**	**148.89**	**348**	*e*PKPbc	**PKiKP**	**14 39 56.5**	**-0.2**
	baz=14,slow=2.5						
DPC	**Dobruska-Polom**	**149.04**	**344**	*e*PKP	**PKPab**	**14 39 57.4**	**-3.6**
BRG	**Berggiesshubel**	**149.11**	**347**	*e*	**PKPab**	**14 40 01.2**	**0.0**
	comp=Z,3.9nm,0.9s						
BRG	**Berggiesshubel**	**149.11**	**347**	*e*PKPbc	**PKiKP**	**14 39 57.3**	**+0.1**
	baz=14,slow=2.5						
BRG	**Berggiesshubel**	**149.11**	**347**	*i*P	**PKiKP**	**14 39 57.1**	**-0.1**
	comp=Z,10nm,1.1s						
KRLC	**Kraliky**	**149.16**	**343**	*ex*	**PKPab**	**14 40 02.0**	**+0.5**
KRLC	**Kraliky**	**149.16**	**343**	*e*PKP	**PKiKP**	**14 39 57.5**	**+0.1**
FBE	**Freiberg**	**149.19**	**348**	*e*PKPbc	**PKPab**	**14 39 57.7**	**-3.8**
	baz=14,slow=2.5						
MORC	**Moravsky Berou**	**149.22**	**342**	*e*PKP	**PKiKP**	**14 39 57.6**	**0.0**
PRU	**Pruhonice**	**149.81**	**346**	*e*PKP	**PKiKP**	**14 39 58.1**

SSFR			AML	AML
	comp=N,55μm,1.1s			
SSFR			AML	AML
	comp=E,53μm,1.1s			

*IDC **04** 14:45:22.0±1.5,23°.36S×179°.92W,h519km±15km, mb3.6/17,mb1 3.7/19,mb1mx3.6/40,mbtmp4.5/19,Error ellipse: s-maj=15.5km s-min=12.3km az=148.0*
*NEIC **04** 14:45:23.0±1.8,23°.5S±0°.1×180°.0W±0°.1,h533km±7km, mb4.3/37,Error ellipse: s-maj=15.5km s-min=13.9km az=147.0*

ISC 04 14:45:23.8±0.4,**23°.60S**±0°.05×**179°.94W**±0°.06,**h550**km, **n111**,σ1**82**/126,**mb4.2**/35,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.91**	**163**	P	**P**	**14 47 00.5**	**-1.0**
GLKZ	**Green Lake**	**5.92**	**163**	P	**P**	**14 46 58.2**	**-3.4**
GLKZ				S	**S**	**14 48 21.3**	**-0.4**
MSVF	**Nonsavu**	**6.13**	**342**			**14 47 01.3**	**-2.6**
NIUE	**Niue**	**10.36**	**66**	P	**P**	**14 47 46.3**	**+0.7**
NIUE				S	**S**	**14 49 42.2**	**+0.2**
AFI	**Afiamalu**	**12.35**	**40**	P	P	14 48 01.2	-5.0
	1.0nm,0.3s,baz=217,slow=20,SNR=1.9						
AFI				S	S	14 50 05.9	-14
	1.5nm,0.3s,baz=96,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**12.65**	**274**	P	**P**	**14 48 09.0**	**-0.2**
KUZ	**Kuaotunu**	**13.62**	**195**	P	P	14 48 25.0	+6.0
WIAZ	**Waiheke Island**	**13.82**	**197**	P	P	14 48 28.8	+7.8
ETAZ	**East Tamaki Re**	**14.02**	**197**	P	P	14 48 30.5	+7.4
WMGZ	**Waiomatatini S**	**14.24**	**185**	P	**P**	**14 48 23.9**	**-1.4**
WMGZ				S	**S**	**14 50 54.1**	**-0.7**
HAZ	**Te Kaha**	**14.24**	**187**	P	**P**	**14 48 26.5**	**+1.2**
HAZ				S	**S**	**14 50 51.5**	**-3.3**
RUGZ	**Raukumara Rang**	**14.46**	**188**	P	**P**	**14 48 29.2**	**+1.5**
RUGZ				S	**S**	**14 50 58.1**	**-1.1**
PUZ	**Puketiti**	**14.51**	**186**	P	**P**	**14 48 27.3**	**-0.7**
PUZ				S	**S**	**14 50 59.7**	**-0.2**
SANVU	**Saraoutou**	**14.57**	**302**	P	**P**	**14 48 27.2**	**-1.8**
TOZ	**Tahuroa Road**	**14.62**	**194**	P	**P**	**14 48 33.7**	**+4.6**
MARZ	**Manawahe**	**14.63**	**191**	P	**P**	**14 48 27.3**	**-2.0**
URZ	**Urewera**	**14.83**	**189**	P	**P**	**14 48 30.9**	**-0.4**
	3.4nm,0.3s,baz=0.1,slow=2.0,SNR=22						
URZ				S	**S**	**14 50 58.7**	**-7.1**
	0.6nm,0.3s,baz=255,slow=3.8,SNR=7.2						
URZ	**Urewera**	**14.83**	**189**	P	**P**	**14 48 31.0**	**-0.3**
URZ				S	**S**	**14 50 59.1**	**-6.7**
MWZ	**Matawai**	**14.85**	**188**	P	**P**	**14 48 30.9**	**-0.7**
MWZ				S	**S**	**14 51 03.7**	**-2.5**
CNGZ	**Carnagh Statio**	**14.92**	**186**	P	**P**	**14 48 34.9**	**+2.6**
RIGZ	**Rimuhau**	**15.19**	**187**	P	**P**	**14 48 35.0**	**-0.1**
KUTZ	**Kaahu Road**	**15.28**	**193**	P	**P**	**14 48 39.1**	**+3.1**
MTHZ	**Maungataniwha**	**15.45**	**189**	P	**P**	**14 48 38.1**	**+0.3**
MTHZ				S	**S**	**14 51 15.2**	**-1.6**
HATZ	**Hinemaiaia**	**15.61**	**192**	P	**P**	**14 48 39.1**	**-0.3**
NMHZ	**Naumai**	**15.69**	**189**	P	**P**	**14 48 39.6**	**-0.7**
NMHZ				S	**S**	**14 51 21.4**	**+0.4**
BKZ	**Black Stump Fm**	**15.81**	**190**	P	**P**	**14 48 39.8**	**-1.6**
BKZ				S	**S**	**14 51 18.2**	**-4.8**
BKZ	**Black Stump Fm**	**15.81**	**190**	P	**P**	**14 48 40.3**	**-1.1**
BKZ				IAmb	IAmb	14 48 44.2	
	comp=Z,18nm,1.0s						
OTVZ	**Oturere**	**15.96**	**193**	P	**P**	**14 48 43.2**	**+0.2**
PKVZ	**Pokaka**	**16.14**	**193**	P	**P**	**14 48 46.4**	**+1.8**
BHHZ	**Black Hill Sta**	**16.20**	**191**	P	**P**	**14 48 44.2**	**-1.0**
KAHZ	**Kahuranaki**	**16.37**	**189**	P	**P**	**14 48 47.9**	**+1.2**
KAHZ				S	**S**	**14 51 29.3**	**-2.8**
PNHZ	**Pukenui**	**16.59**	**190**	P	**P**	**14 48 47.5**	**-1.2**
PXZ	**Pawanui**	**16.60**	**189**	P	**P**	**14 48 48.8**	**0.0**
TSZ	**Takapari Road**	**16.77**	**191**	P	**P**	**14 48 51.9**	**+1.5**
TSZ				S	S	14 51 22.5	-16
SNZO	**South Karori**	**18.22**	**193**	P	**P**	**14 49 05.1**	**+1.6**
QRZ	**Quartz Range**	**18.30**	**198**	P	**P**	**14 49 06.2**	**+1.9**
NNZ	**Nelson**	**18.44**	**196**	P	**P**	**14 49 06.6**	**+1.1**
THZ	**Tophouse**	**19.07**	**197**	P	**P**	**14 49 13.9**	**+2.6**
KHZ	**Kahutara**	**19.53**	**195**	P	**P**	**14 49 16.7**	**+1.3**
KHZ				IAmb	IAmb	14 49 20.1	
	comp=Z,14nm,1.1s						
LTZ	**Lake Taylor**	**20.19**	**197**	P	**P**	**14 49 22.7**	**+1.2**
OXZ	**Oxford**	**20.76**	**197**	P	**P**	**14 49 27.6**	**+1.0**
OXZ				IAmb	IAmb	14 49 29.9	
	comp=Z,15nm,0.9s						
RPZ	**Rata Peaks**	**21.39**	**198**	P	**P**	**14 49 35.3**	**+3.1**
	comp=Z,21nm,1.1s,baz=22,slow=11,SNR=1.5						
JCZ	**Jackson Bay**	**22.42**	**202**	P	**P**	**14 49 44.1**	**+2.5**
MLZ	**Mavora Lakes**	**23.79**	**201**	P	**P**	**14 49 55.0**	**+1.3**
WHZ	**Wether Hill Ro**	**24.31**	**201**	P	**P**	**14 49 59.9**	**+1.6**
WHZ				IAmb	IAmb	14 50 02.2	
	comp=Z,8.8nm,1.0s						
EIDS	**Eidsvold**	**26.41**	**260**	P	**P**	**14 50 17.4**	**+0.3**
CTA	**Charters Tower**	**31.53**	**270**	P	**P**	**14 51 02.8**	**+1.2**
	comp=Z,23nm,0.4s,baz=94,slow=13,SNR=15						
CTAO	**Charters Tower**	**31.53**	**270**	P	**P**	**14 51 02.4**	**+0.8**
KRVT	**Keravat (AS076**	**33.16**	**301**	P	**P**	**14 51 15.0**	**-0.4**
	comp=Z,11nm,0.5s,baz=348,slow=22,SNR=1.8						
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**14 51 26.6**	**+0.4**
	comp=Z,23nm,0.8s,baz=107,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**34.88**	**248**	P	**P**	**14 51 30.9**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=109,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**34.88**	**248**	P	**P**	**14 51 31.2**	**+1.5**
COEN	**Coen**	**36.12**	**279**	P	**P**	**14 51 41.1**	**+0.9**
COEN				IAmb	IAmb	14 51 47.5	
	comp=Z,17nm,1.1s						
BBOO	**Buckleboo**	**39.61**	**247**	P	**P**	**14 52 08.6**	**+0.3**
BBOO				IAmb	IAmb	14 52 15.6	
	comp=Z,5.9nm,0.9s						
AS31	**Alice Springs**	**42.13**	**260**	P	**P**	**14 52 28.7**	**+0.1**
ASAR	**Alice Springs**	**42.14**	**260**	P	**P**	**14 52 29.1**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=101,slow=7.0,SNR=72						
ASAR				ScP	**ScP**	**14 57 13.1**	**+4.4**
	comp=Z,1.4nm,0.8s,baz=110,slow=4.3,SNR=11						
ASAR				S	**S**	**14 58 08.4**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=98,slow=14,SNR=8.9						
ASAR	**Alice Springs**	**42.14**	**260**	P	**P**	**14 52 28.0**	**-0.6**
WR0	**Warramunga Arr**	**42.29**	**266**	P	**P**	**14 52 29.6**	**-0.2**
WR0				IAmb	IAmb	14 52 30.1	
	comp=Z,4.4nm,0.6s						
WB2	**Warramunga Arr**	**42.47**	**266**	P	**P**	**14 52 31.2**	**0.0**
WB2				IAmb	IAmb	14 52 31.8	
	comp=Z,8.0nm,0.6s						
WB0	**Warramunga Arr**	**42.47**	**266**	P	**P**	**14 52 31.1**	**-0.1**
WB0				IAmb	IAmb	14 52 31.8	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**42.47**	**266**	P	**P**	**14 52 31.2**	**-0.1**
WRAB				IAmb	IAmb	14 52 31.8	
	comp=Z,7.3nm,0.8s						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**14 52 31.2**	**-0.1**
	comp=Z,4.9nm,0.4s,baz=92,slow=8.4,SNR=229						
WRA				ScP	**ScP**	**14 57 15.0**	**+4.9**
	comp=Z,1.2nm,0.9s,baz=92,slow=4.5,SNR=5.6						
WRA				S	**S**	**14 58 12.8**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=102,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**14 52 31.1**	**-0.2**
JAY	**Jayapura**	**43.45**	**293**	P	**P**	**14 52 37.5**	**-1.4**
	comp=Z,3.9nm,0.4s,baz=163,slow=4.5,SNR=12						
FORT	**Forrest**	**46.47**	**249**	P	**P**	**14 53 01.0**	**-0.8**
FORT				IAmb	IAmb	14 53 11.4	
	comp=Z,18nm,1.0s						
KNRA	**Kununurra**	**48.74**	**270**	P	**P**	**14 53 19.4**	**+0.4**
KNRA				IAmb	IAmb	14 53 25.5	
	comp=Z,5.4nm,0.9s						
HMH	**Humu'ula Sheep**	**49.12**	**31**	P	**P**	**14 53 21.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**50.90**	**265**	P	**P**	**14 53 35.0**	**+0.1**
VNDA	**Vanda**	**54.68**	**185**	P	**P**	**14 54 03.0**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=322,slow=6.5,SNR=4.1						
VNDA	**Vanda**	**54.68**	**185**	P	**P**	**14 54 02.6**	**+1.8**
QSPA	**South Pole Qui**	**66.48**	**180**	P	**P**	**14 55 20.9**	**+2.0**
QSPA				IAmb	IAmb	14 55 21.6	
	comp=Z,4.1nm,0.8s						
ADK	**Adak**	**75.21**	**2**	P	**P**	**14 56 09.3**	**-0.8**
ADK				IAmb	IAmb	14 56 21.7	
	comp=Z,5.4nm,0.8s						
BELA	**Belgrano 2**	**76.72**	**173**	P	**P**	**14 56 18.2**	**0.0**
MAW	**Mawson**	**78.05**	**200**	P	**P**	**14 56 27.3**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=140,slow=8.3,SNR=7.6						
MAW	**Mawson**	**78.05**	**200**	P	**P**	**14 56 26.8**	**+1.3**
PETK	**Petropavlovsk-**	**78.82**	**346**	P	**P**	**14 56 29.9**	**+0.2**
	comp=Z,11nm,1.2s,baz=132,slow=2.1,SNR=1.8						
NJ2	**Nanjing**	**80.50**	**311**	*e*P	**P**	**14 56 39.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMB	**Columbia Colle**	**82.95**	**43**	P	**P**	**14 56 51.5**	**0.0**
CMB				IAmb	IAmb	14 56 53.0	
	comp=Z,3.7nm,0.8s						
KRMB	**Red Mountain**	**83.00**	**39**	P	**P**	**14 56 53.0**	**+1.3**
YBH	**Yreka Blue Hor**	**83.82**	**39**	P	**P**	**14 56 56.9**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=313,slow=5.6,SNR=7.1						
NVAR	**Mina Array Bea**	**84.50**	**44**	P	**P**	**14 56 59.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=224,slow=8.0,SNR=8.7						
NVAR	**Mina Array Bea**	**84.50**	**44**	P	**P**	**14 57 00.1**	**+0.7**
SNAA	**Sanae**	**84.96**	**179**	P	**P**	**14 57 00.9**	**0.0**
SNAA	**Sanae**	**84.96**	**179**	P	**P**	**14 57 00.8**	**-0.1**
TPNV	**Topopah Spring**	**84.98**	**46**	P	**P**	**14 57 02.5**	**+0.8**
VNA3	**Neumayer Olymp**	**85.17**	**177**	P	**P**	**14 57 02.0**	**+0.1**
VNA2	**Neumayer--Watz**	**85.59**	**178**	P	**P**	**14 57 04.2**	**+0.4**
	baz=184,slow=4.0						
VNA1	**Neumayer--Stat**	**85.83**	**177**	P	**P**	**14 57 05.3**	**+0.4**
U15A	**North Rim**	**87.37**	**48**	P	**P**	**14 57 14.9**	**+1.8**
U15A				IAmb	IAmb	14 57 15.4	
	comp=Z,4.2nm,0.8s						
ELK	**Elko**	**87.77**	**43**	P	**P**	**14 57 15.2**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=211,slow=5.9,SNR=3.9						
G08A	**Pilot Rock**	**88.16**	**38**	P	**P**	**14 57 17.4**	**+0.9**
G08A				IAmb	IAmb	14 57 18.2	
	comp=Z,4.0nm,0.9s						
MNTX	**Cornudas Mount**	**90.00**	**55**	P	**P**	**14 57 25.7**	**+0.5**
MNTX				IAmb	IAmb	14 57 27.1	
	comp=Z,2.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.23**	**58**	P	**P**	**14 57 27.2**	**+0.8**
TX31				IAmb	IAmb	14 57 28.7	
	comp=Z,6.6nm,0.8s						
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**	**14 57 27.9**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=212,slow=6.6,SNR=24						
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**	**14 57 27.2**	**+0.8**
HHC	**Hu-ho-hao-te**	**90.25**	**315**	*e*P	**P**	**14 57 26.2**	**0.0**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,280nm,5.7s						
ILAR	**Eielson Array**	**91.73**	**14**	P	**P**	**14 57 31.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=218,slow=6.4,SNR=8.5						
PDAR	**Pinedale Array**	**92.44**	**44**	P	**P**	**14 57 36.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=201,slow=3.2,SNR=7.5						
MKAR	**Makanchi Array**	**111.99**	**313**	PKiKP	**PKiKP**	**15 02 55.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=309,slow=1.3,SNR=4.5						
ARCES	**ARCESS Array B**	**131.61**	**348**	PKP	**PKPdf**	**15 03 33.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=29,slow=8.3,SNR=6.9						
FINES	**FINESS Array B**	**138.18**	**342**	PKhKP	PKPpre	15 03 39.1	
	comp=Z,0.7nm,0.7s,baz=346,slow=3.9,SNR=4.6						
FINES				PKP	**PKPdf**	**15 03 46.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=73,slow=2.6,SNR=5.0						
FINES				SKPbc	**SKPbc**	**15 06 30.7**	**+2.0**
	comp=Z,2.5nm,1.0s,baz=72,slow=4.5,SNR=3.9						
NB2	**NORSAR Subarra**	**141.79**	**351**	PKP	**PKPdf**	**15 03 48.3**	**-4.3**
	comp=Z,0.6nm,0.5s,baz=19,slow=3.7						
NOA	**NORSAR Array B**	**141.79**	**351**	PKhKP	**PKPdf**	**15 03 48.2**	**-4.3**
	comp=Z,1.0nm,0.7s,baz=15,slow=4.5,SNR=4.4						
AKASG	**Malin Array Be**	**144.75**	**328**	PKP	**PKPdf**	**15 03 58.0**	**0.0**
	comp=Z,3.6nm,0.6s,baz=45,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**147.44**	**308**	PKPbc	**PKPbc**	**15 04 06.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=125,slow=4.1,SNR=5.2						
BURAR	**Bucovina Array**	**148.75**	**326**		**PKiKP**	**15 04 11.7**	**+1.2**
CLL	**Coll**	**150.59**	**343**	*i* PKPbc	**PKiKP**	**15 04 14.2**	**+0.2**
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**150.59**	**343**		**PKiKP**	**15 04 14.4**	**+0.4**
GERES	**GERESS Array B**	**152.59**	**340**	PKPbc	**PKPbc**	**15 04 18.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=202,slow=1.4,SNR=4.3						
ESDC	**Sonseca Array**	**163.62**	**11**	PKPab	**PKPab**	**15 05 18.5**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=330,slow=4.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**169.49**	**189**	PKP	**PKPdf**	**15 04 28.5**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=318,slow=1.9,SNR=3.7						
TORD				PKPab	**PKPab**	**15 05 46.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=175,slow=3.6,SNR=2.0						

*IDC **04** 14:59:36.4±4.5,15°.66N×96°.46W,h0km,mb3.5/4, mb1 3.9/6,mb1mx3.7/36,mbtmp3.6/6,ML3.6/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/22,Error ellipse: s-maj=103.1km s-min=36.5km az=16.0*
*MEX **04** 14:59:38.0±1.4,15°.53N×96°.53W,h5km,MD4.2*
ISC 04 14:59:37.2±1.2,**15°.63N**±0°.08×**96°.55W**±0°.04,**h12**km±6km, **n20**,σ1**43**/31,**mb3.5**/4,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.08**	**62**	*e*P	**Pg**	**14 59 39.9**	**+0.1**
PANG				*i* S	**Sg**	**14 59 42.2**	**+0.5**
HUIG	**Huatulco**	**0.45**	**72**	*e*P	**Pg**	**14 59 46.4**	**+0.8**
HUIG				*i* S	**Sb**	**14 59 53.9**	**+0.2**
PEIG	**Puerto Escondi**	**0.68**	**303**	*e*P	**Pg**	**14 59 50.1**	**-0.4**
PEIG				*e*S	**Sg**	**14 59 59.0**	**-0.5**
OXBJ	**Oaxaca**	**1.44**	**353**	*e*P	**Pn**	**15 00 03.4**	**+0.1**
VHO	**Vista Hermosa**	**1.45**	**353**	*e*P	**Pn**	**15 00 03.5**	**+0.1**
VHO				*e*S	**Sb**	**15 00 22.2**	**-0.5**
YOIG	**Yosondua**	**1.55**	**322**	*e*P	**Pn**	**15 00 04.6**	**-0.3**
YOIG				*e*S	**Sg**	**15 00 25.3**	**-2.0**
PNIG	**Pinotepa**	**1.70**	**297**	*e*P	**Pn**	**15 00 05.5**	**-1.2**
PNIG				*i* S	**Sn**	**15 00 28.1**	**-0.2**
TXIG	**Tlaxiaco**	**2.00**	**324**	*e*P	**Pn**	**15 00 11.2**	**+0.2**
TXIG				*e*S	**Sn**	**15 00 36.3**	**+0.3**
CMIG	**Matias Romero**	**2.16**	**47**	*e*P	**Pn**	**15 00 12.3**	**-0.7**
CMIG				*e*S	**Sn**	**15 00 39.7**	**-0.1**
HLIG	**Huajuapan de L**	**2.50**	**331**	*e*P	**Pn**	**15 00 18.8**	**+0.9**
HLIG				*e*S	**Sb**	**15 00 51.5**	**-1.4**
TOIG	**Toxpalan**	**2.50**	**349**	*e*P	**Pb**	**15 00 21.2**	**-1.0**
TOIG				*i* S	**Sn**	**15 00 49.7**	**+1.3**
TLIG	**Tlapa**	**2.73**	**315**	*i* P	**Pb**	**15 00 24.9**	**-1.1**
TLIG				*i* S	**Sn**	**15 00 54.5**	**+0.5**
PCIG		**3.21**	**88**	*e*P	**Pn**	**15 00 25.9**	**-1.5**
TEIG	**Tepich**	**9.10**	**59**	Pn	**Pn**	**15 01 48.3**	**-0.2**
	2.7nm,0.3s,baz=70,slow=5.2,SNR=3.3						
TEIG				Sn	**Sn**	**15 03 25.9**	**-5.0**
	2.6nm,0.3s,baz=198,slow=20,SNR=1.9						
TXAR	**Lajitas Array**	**15.14**	**336**	Pn	**Pn**	**15 03 14.0**	**+3.0**
	0.0nm,0.3s,baz=157,slow=12,SNR=2.8						
SDV	**Santo Domingo**	**26.18**	**102**	LR	LR	15 16 23.4	
	comp=Z,35nm,19.9s,baz=296,slow=39						
PDAR	**Pinedale Array**	**29.26**	**340**	P	**P**	**15 05 40.1**	**+0.7**
	0.2nm,0.7s,baz=130,slow=9.6,SNR=1.8						
NVAR	**Mina Array Bea**	**29.71**	**324**	P	**P**	**15 05 44.9**	**+1.5**
	0.7nm,0.9s,baz=134,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**59.64**	**338**	P	**P**	**15 09 42.2**	**+1.3**
	0.5nm,1.0s,baz=134,slow=6.4,SNR=4.5						
ESDC	**Sonseca Array**	**82.14**	**51**	P	**P**	**15 11 58.8**	**+0.6**
	0.6nm,0.9s,baz=256,slow=5.2,SNR=3.1						

*JMA **04** 15:04:34.6±0.5,42°.37N×138°.08E,h254km±4km,M2.7*
*IDC **04** 15:04:34.3±2.0,42°.43N×137°.91E,h250km±29km,mb3.1/3, mb1 3.1/5,mb1mx2.8/53,mbtmp3.6/5,Error ellipse: s-maj=37.2km s-min=25.1km az=28.0*
ISC 04 15:04:34.0±1.1,**42°.42N**±0°.09×**138°.04E**±0°.09,**h250**km,**n19**, σ0**93**/21,**mb3.5/3**,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**1.12**	**107**	P	**Pn**	**15 05 10.4**	**+0.7**
JHST	**Hiyamasetana**	**1.36**	**89**	P	**Pn**	**15 05 12.4**	**+1.1**
JSH	**Shimam**	**1.50**	**81**	P	**Pn**	**15 05 13.1**	**+0.8**
JYM2	**Yakumo 2**	**1.76**	**99**	P	**Pn**	**15 05 15.4**	**+1.0**
JSR	**Shiriuchi**	**1.99**	**116**	P	**Pn**	**15 05 17.2**	**+0.8**
JKB	**Kayabe**	**2.29**	**102**	P	**Pn**	**15 05 19.8**	**+0.6**
JIW	**Iwasaki**	**2.35**	**140**	P	**Pn**	**15 05 20.5**	**+0.7**
JOT	**Ohata**	**2.48**	**114**	P	**Pn**	**15 05 21.4**	**+0.4**
JBT2	**Biratori 2**	**3.22**	**82**	P	**Pn**	**15 05 29.6**	**+0.8**
JBT2				*e*S	**S**	**15 06 12.8**	**+0.6**
JANG	**Nango**	**3.32**	**127**	*e*S	**S**	**15 06 13.2**	**-1.2**
JFR	**Furan**	**3.44**	**76**	P	**Pn**	**15 05 31.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.50**	**91**	P	**Pn**	**15 05 32.2**	**+0.2**
JKK2	**Kamakawa 2**	**3.74**	**66**	P	**Pn**	**15 05 36.0**	**+1.2**
JCH	**Churui**	**3.94**	**85**	P	**Pn**	**15 05 36.9**	**-0.2**
JCH				*e*S	**S**	**15 06 25.2**	**-2.0**
USRK	**Ussuriysk Ar.**	**4.76**	**294**	P	**Pn**	**15 05 46.0**	**-0.8**
	baz=100,slow=12,SNR=16						
MJAR	**Matsushiro Arr**	**5.87**	**179**	P	**Pn**	**15 06 01.3**	**+0.6**
	0.1nm,0.3s,baz=1.3,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**40.76**	**303**	P	**P**	**15 11 50.5**	**-0.1**
	0.7nm,0.4s,baz=80,slow=9.6,SNR=4.3						
ILAR	**Eielson Array**	**46.45**	**35**	P	**P**	**15 12 36.4**	**+0.7**
	0.4nm,0.6s,baz=273,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**62.85**	**330**	P	**P**	**15 14 32.2**	**-0.7**
	0.8nm,0.7s,baz=28,slow=6.3,SNR=1.5						

*IDC **04** 15:05:08.6±0.9,39°.48N×95°.31E,h0km,mb3.5/9, mb1 3.8/13,mb1mx3.6/51,mbtmp3.6/13,ML3.9/3,MS3.7/4, Ms1 3.7/4,ms1mx3.0/39,Error ellipse: s-maj=31.7km s-min=15.3km az=51.0*
*BJI **04** 15:05:08.9±0.0,39°.58N×95°.39E,h10km,ML4.2/8*
*NNC **04** 15:05:14.8±3.6,39°.99N×94°.68E,h0km,mb4.6,Error ellipse: s-maj=48.7km s-min=28.6km az=36.0*
ISC 04 15:05:10.7±0.6,**39°.65N**±0°.09×**95°.03E**±0°.06,**h10**km,**n23**, σ2**43**/26,**mb3.6/9**,**MS3.8**/4,**4C-3D**,**Gansu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.71**	**92**	Pg	**Pn**	**15 06 12.2**	**+4.0**
GTA				Sn	**Sn**	**15 06 46.9**	**-5.2**
GTA				Sg	Sb	15 06 54.8	-6.7
GTA				smax	smax		
	comp=N,370nm,0.9s						
GTA				smax	smax		
	comp=E,260nm,0.9s						
WMQ	**Urumqi**	**6.89**	**310**	*e*Pn	**Pn**	**15 06 55.1**	**+3.3**
WMQ				Sn	Sn	15 08 19.7	+9.5
WMQ				smax	smax		
	comp=N,120nm,0.9s						
WMQ				smax	smax		
	comp=E,110nm,0.7s						
LZH	**Lanzhou**	**7.83**	**114**	Pg	**Pb**	**15 07 26.9**	**+0.4**
LZH				Sg	**Sb**	**15 09 01.2**	**+1.3**
LZH				smax	smax		
	comp=N,79nm,1.3s						
LZH				smax	smax		
	comp=E,65nm,0.9s						
SONM	**Songino Array**	**11.59**	**41**	Pn	**Pn**	**15 07 54.7**	**-1.6**
	0.9nm,0.3s,baz=225,slow=15,SNR=8.3						
SONM				Lg	Lg	15 11 11.0	
	1.1nm,0.3s,baz=227,slow=30,SNR=3.3						
MK31	**Makanchi Array**	**11.71**	**312**	⇓Pn	**Pn**	**15 07 58.3**	**+0.5**
	2.9nm,0.4s,baz=120,slow=14,SNR=78						
MK31				⇓Sn	**Sn**	**15 10 05.7**	**-2.8**
	4.9nm,0.6s,baz=117,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**11.71**	**312**	Pn	**Pn**	**15 07 58.0**	**+0.2**
	1.4nm,0.3s,baz=115,slow=12,SNR=44						
MKAR				Sn	**Sn**	**15 10 05.6**	**-3.0**
	0.5nm,0.3s,baz=113,slow=25,SNR=5.5						
MKAR				Lg	Lg	15 11 28.0	
	baz=120,slow=29,SNR=1.5						
MKAR				LR	LR	15 12 55.8	
	comp=Z,59nm,19.0s,baz=130,slow=39						
MAKZ	**Makanchi**	**11.90**	**311**	⇓Pn	**Pn**	**15 07 59.5**	**-0.9**
	3.4nm,0.5s						
MAKZ				⇑Sn	**Sn**	**15 10 09.6**	**-3.6**
	7.1nm,0.7s						
PDGK	**Podgornoye**	**12.22**	**293**	⇑Pn	**Pn**	**15 08 04.4**	**-0.4**
	9.2nm,0.5s						
PDGK				⇑Sn	**Sn**	**15 10 19.5**	**-1.7**
	17nm,1.1s						
KMI	**Kunming**	**15.87**	**154**	⇑*e*P	**Pn**	**15 08 54.4**	**0.0**
KMI				pP	P	15 08 57.4	-0.7
ZALV	**Zalesovo Beam**	**15.90**	**338**	Pn	**Pn**	**15 08 56.8**	**+2.5**
	0.1nm,0.3s,baz=152,slow=9.8,SNR=4.2						
ZALV				Lg	Lg	15 13 34.2	
	0.0nm,0.3s,baz=130,slow=29,SNR=2.3						
KURBB	**Kurchatov Arra**	**15.96**	**319**	Pn	**Pn**	**15 08 54.1**	**-1.1**
	0.2nm,0.3s,baz=124,slow=13,SNR=20						
KURB

BDFB	**Brasilia**	**51.92 195**	LR	LR	16 05 51.5		
	comp=Z,89nm,19.1s,baz=1.8,slow=31						
BRTR	**Keskin Array B**	**53.84 63**	LR	LR	16 09 18.7		
	comp=Z,32nm,19.5s,baz=302,slow=34						
YKA	**Yellowknife Ar**	**54.55 326**	LR	LR	16 09 48.4		
	comp=Z,63nm,18.2s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**56.36 302**	P	**P**	**15 48 28.4**	**-1.0**	
	0.6nm,0.7s,baz=76,slow=6.3,SNR=3.8						
PDAR			LR	LR	16 12 52.3		
	comp=Z,124nm,18.7s,baz=82,slow=36						
TXAR	**Lajitas Array**	**56.92 285**	P	**P**	**15 48 34.6**	**+1.1**	
	0.8nm,0.8s,baz=88,slow=7.5,SNR=8.9						
TXAR			LR	LR	16 10 21.3		
	comp=Z,59nm,21.6s,baz=0.0,slow=33						
ATAH	**Atahualpa**	**58.34 232**	LR	LR	16 12 27.2		
	comp=Z,108nm,19.6s,baz=35,slow=35						
KBZ	**Khabaz**	**59.04 56**	LR	LR	16 12 58.3		
	comp=Z,54nm,20.4s,baz=327,slow=35						
NEW	**Newport**	**59.56 310**	LR	LR	16 13 46.4		
	comp=Z,149nm,19.9s,baz=91,slow=35						
LPAZ	**La Paz**	**59.82 217**	P	**P**	**15 48 53.5**	**-0.8**	
	2.7nm,0.8s,baz=31,slow=6.0,SNR=7.4						
LPAZ			LR	LR	16 12 47.9		
	comp=Z,113nm,20.0s,baz=30,slow=34						
ELK	**Elko**	**61.05 301**	LR	LR	16 15 33.5		
	comp=Z,142nm,19.2s,baz=89,slow=36						
DLBC	**Dease Lake**	**63.00 324**	LR	LR	16 16 32.5		
	comp=Z,167nm,18.2s,baz=196,slow=36						
NVAR	**Mina Array Bea**	**64.16 300**	LR	LR	16 17 35.2		
	comp=Z,148nm,19.6s,baz=62,slow=36						
BBB	**Bella Bella**	**64.58 317**	LR	LR	16 16 39.4		
	comp=Z,173nm,20.7s,baz=52,slow=35						
LVC	**Limon Verde**	**65.63 214**	LR	LR	16 15 44.2		
	comp=Z,144nm,18.4s,baz=0.5,slow=34						
ILAR	**Eielson Array**	**67.02 334**	P	**P**	**15 49 40.8**	**+0.1**	
	0.5nm,0.9s,baz=46,slow=5.2,SNR=2.7						
ILAR			LR	LR	16 19 29.5		
	comp=Z,51nm,18.5s,baz=154,slow=36						
NRIK	**Noril'sk**	**67.81 19**	LR	LR	16 16 50.1		
	comp=Z,51nm,21.2s,baz=15,slow=34						
GEYT	**Alibeck**	**71.93 56**	LR	LR	16 24 27.0		
	comp=Z,34nm,18.2s,baz=210,slow=38						
ZALV	**Zalesovo Beam**	**77.40 32**	P	**P**	**15 50 43.6**	**+0.7**	
	0.3nm,0.4s,baz=316,slow=6.4,SNR=1.5						
ZALV			LR	LR	16 23 39.9		
	comp=Z,113nm,20.2s,baz=292,slow=35						
MKAR	**Makanchi Array**	**81.12 38**	P	**P**	**15 51 02.8**	**-0.6**	
	0.6nm,0.8s,baz=336,slow=3.7,SNR=2.7						
MKAR			LR	LR	16 25 01.2		
	comp=Z,75nm,20.9s,baz=314,slow=34						
PLCA	**Paso Flores**	**82.14 206**	LR	LR	16 27 47.7		
	comp=Z,65nm,18.4s,baz=62,slow=36						
BOSA	**Boshof**	**85.51 130**	LR	LR	16 25 53.7		
	comp=Z,50nm,19.8s,baz=357,slow=33						
SONM	**Songino Array**	**90.60 25**	LR	LR	16 33 39.7		
	comp=Z,68nm,18.3s,baz=8.5,slow=36						
PETK	**Petropavlovsk-**	**91.32 352**	LR	LR	16 31 56.1		
	comp=Z,32nm,18.8s,baz=323,slow=35						

*ANF **04** 15:45:06.3±3.1,39°.17N×123°.50W,h3$^{km}_{\pm 13}$, ML3.9/12, Error ellipse: s-maj=19.0km s-min=15.6km az=11.0*
*NEIC **04** 15:45:07.7±2.3,39°.29N±0°.01×123°.60W±0°.03,h4$^{km}_{\pm 5}$, Error ellipse: s-maj=3.2km s-min=1.5km az=71.0*
*NCEDC **04** 15:45:08.7±2.9,39°.32N±0°.01×123°.49W±0°.02,h4$^{km}_{\pm 5}$, Mwr3.9/8, Error ellipse: s-maj=2.6km s-min=1.5km az=76.0*
*NEIC **04** 15:45:08.7,39°.32N×123°.49W,h4^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr=0.09; Mθθ-8.31; Mφφ8.40; Mrθ0.04; Mrφ4.69; Mθφ-0.82; Fault plane solution: Mo9.61000×10^{14} NP1:φs149.58000°, δ87.83000°, λ175.67000°. NP2:φs239.74000°, δ85.67000°, λ2.17000°. Principal axes: T 9.6866, Plg5.0000°, Azm105.0000°; N -0.1449, Plg85.0000°, Azm303.0000°; P -9.5416, Plg2.0000°, Azm195.0000°;*
*IDC **04** 15:45:09.8±2.0,39°.46N×123°.48W,h0^{km}, mb3.3/1, mb1 3.5/6, mb1mx3.4/53, mbtmp3.1/6, ML3.3/5, MS3.1/5, Ms1 3.1/5, ms1mx2.9/23 Error ellipse: s-maj=23.7km s-min=11.8km az=48.0*

ISC 04 15:45:08.7±1.4,39°.30N±0°.02×123°.56W±0°.03,h4$^{km}_{\pm 11}$km, n189,σ1§40/190,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
GTC	**Three Chop Rid**	**0.10**	**1**			**Pg**	**15 45 10.5**		**-0.4**
GWRM	**Wonder Ranch**	**0.22**	**114**			**Pg**	**15 45 12.8**		**-0.2**
GHOM	**Hamilton Openi**	**0.25**	**177**			**Pb**	**15 45 14.7**		**-1.1**
KFPM	**Farley Peak**	**0.36**	**17**			**Pg**	**15 45 15.6**		**-0.1**
KCPM	**Cahto Peak**	**0.39**	**357**			**Pg**	**15 45 16.7**		**+0.4**
KRKM	**Rackout Spring**	**0.40**	**47**			**Pg**	**15 45 16.2**		**-0.2**
GGUM	**Gualala**	**0.44**	**174**			**Pb**	**15 45 18.4**		**-0.6**
GSM	**Snow Mountain**	**0.45**	**141**			**Pg**	**15 45 18.0**		**+0.6**
HOPS	**Hopland Field**	**0.48**	**128**			**Pg**	**15 45 18.1**		**+0.1**
HOPS						**Sb**	**15 45 25.6**		**-1.6**
GHLM	**Highland Sprin**	**0.49**	**121**			**Pg**	**15 45 18.1**		**-0.1**
KIPM	**Iron Peak**	**0.52**	**7**			**Pg**	**15 45 19.0**		**+0.4**
GHMM	**Hull Mountain**	**0.53**	**67**			**Pg**	**15 45 18.5**		**-0.3**
GDCM	**Dry Creek**	**0.58**	**155**			**Pb**	**15 45 20.9**		**-0.6**
KBSM	**Bell Springs**	**0.62**	**357**			**Pb**	**15 45 21.2**		**-1.0**
GPMM	**Pine Mountain**	**0.65**	**133**			**Pg**	**15 45 21.7**		**+0.4**
KBNM	**Bluenose Ridge**	**0.66**	**25**			**Pg**	**15 45 21.8**		**+0.4**
GCVM	**Cloverdale**	**0.67**	**141**			**Pb**	**15 45 22.3**		**-0.7**
GACM	**Adobe Creek**	**0.69**	**128**			**Pg**	**15 45 21.8**		**-0.1**
GSSM	**Skaggs Springs**	**0.73**	**144**			**Pb**	**15 45 23.2**		**-0.7**
GTSM	**Trough Springs**	**0.74**	**88**			**Pg**	**15 45 22.7**		**-0.2**
GHCM	**House Creek**	**0.74**	**158**			**Pb**	**15 45 23.5**		**-0.7**
GASB	**Alder Springs**	**0.74**	**61**			**Pg**	**15 45 22.9**		**-0.1**
GDXM	**Geysers**	**0.77**	**129**			**Pg**	**15 45 23.4**		**0.0**
GGPM	**Geyser Peak**	**0.77**	**133**			**Pg**	**15 45 23.0**		**+0.2**
GRTM	**Round Top Moun**	**0.78**	**117**			**Pg**	**15 45 23.4**		**-0.2**
GSGM	**Seigler Mounta**	**0.79**	**123**			**Pg**	**15 45 23.7**		**-0.1**
FTR	**Fort Ross**	**0.83**	**158**			**Pb**	**15 45 24.8**		**-0.9**
GVV	**Valley View**	**0.83**	**55**			**Pb**	**15 45 24.7**		**-1.2**
GBGM	**Boggs Mountain**	**0.84**	**125**			**Pb**	**15 45 24.7**		**-1.2**
GCRM	**Castle Rock Sp**	**0.84**	**128**			**Pb**	**15 45 24.6**		**-1.3**
GBMM	**Baldy Mountain**	**0.84**	**100**			**Pb**	**15 45 24.8**		**-1.1**
GAXM	**Alexander Vall**	**0.85**	**133**			**Pb**	**15 45 24.9**		**-1.2**
GWKM	**Walker Ridge**	**0.86**	**106**			**Pn**	**15 45 26.6**		**-1.1**
NMCNC	**Mill Creek, So**	**0.86**	**144**			**Pb**	**15 45 25.1**		**-1.2**
GCK	**Clark Valley**	**0.90**	**74**			**Pg**	**15 45 26.7**		**+0.7**
GROM	**Round Mountain**	**0.93**	**48**			**Pb**	**15 45 26.3**		**-1.1**
KMRM	**Mail Ridge**	**0.93**	**353**			**Pg**	**15 45 26.9**		**+0.3**
MNRC	**McLaughlin Min**	**0.96**	**115**			**Pb**	**15 45 26.7**		**-1.2**
NHSM	**Mount Saint He**	**0.97**	**131**			**Pb**	**15 45 26.8**		**-1.4**
GFC	**Funks Creek**	**0.98**	**88**			**Pb**	**15 45 27.5**		**-0.8**
MAC	**Mark West Spri**	**0.99**	**139**			**Pb**	**15 45 27.4**		**-1.0**
NMTM	**Middletown**	**0.99**	**119**			**Pb**	**15 45 26.6**		**-1.9**
KSMM	**Slide Mountain**	**1.01**	**332**			**Pb**	**15 45 26.7**		**-2.1**
KPPM	**Pickett Peak**	**1.06**	**8**			**Pb**	**15 45 29.0**		**-0.8**
O02D	**Mt. Diablo Mer**	**1.06**	**34**	P		**Pb**	**15 45 28.4**		**-1.2**
	baz=212,SNR=1000								
O02D				S		**Sn**	**15 45 44.4**		**-1.3**
	baz=212								
O02D	**Mt. Diablo Mer**	**1.06**	**34**			**Pb**	**15 45 28.5**		**-1.2**
NSHM	**Saint Helena R**	**1.07**	**136**			**Pb**	**15 45 28.2**		**-1.6**
NTYM	**Taylor**	**1.14**	**142**			**Pn**	**15 45 29.2**		**-2.3**
LBPM	**Beegum Peak**	**1.15**	**27**			**Pn**	**15 45 29.7**		**-2.0**
KCRM	**Chalk Rock**	**1.15**	**350**			**Pn**	**15 45 29.9**		**-1.7**
KMPM	**Mount Pierce**	**1.20**	**339**			**Pn**	**15 45 30.1**		**-2.2**
NBPM	**Berryessa Peak**	**1.23**	**120**			**Pn**	**15 45 30.8**		**-1.9**
KCSM	**Cold Springs**	**1.25**	**2**			**Pn**	**15 45 31.6**		**-1.4**
MCCM	**Marconi Confer**	**1.27**	**155**			**Pn**	**15 45 30.6**		**-2.6**
CVS	**Carmenet Viney**	**1.28**	**137**			**Pn**	**15 45 31.7**		**-1.6**
KCTM	**Capetown**	**1.32**	**333**			**Pn**	**15 45 32.2**		**-1.8**
OSUM	**Sutter Buttes**	**1.32**	**90**			**Pn**	**15 45 31.6**		**-2.3**
NPRM	**Point Reyes**	**1.36**	**162**			**Pn**	**15 45 32.9**		**-1.7**
SUTB	**Sutter Butte**	**1.38**	**92**			**Pn**	**15 45 32.1**		**-2.6**
NDHM	**Dunnigan Hills**	**1.39**	**112**			**Pn**	**15 45 33.4**		**-1.4**
KHBM	**Hayfork Bally**	**1.39**	**11**			**Pn**	**15 45 33.3**		**-1.8**
SNT	**Sears Point**	**1.41**	**142**			**Pn**	**15 45 33.4**		**-1.7**
LTCM	**Tuscan Springs**	**1.43**	**50**			**Pn**	**15 45 33.8**		**-1.7**
NADM	**Allendale**	**1.49**	**123**			**Pn**	**15 45 34.5**		**-1.8**
WDC	**Whiskeytown Da**	**1.50**	**31**			**Pn**	**15 45 35.0**		**-1.4**
JCC	**Jacoby Creek,**	**1.56**	**347**			**Pn**	**15 45 35.3**		**-1.9**
JCC						**Pg**	**15 45 40.6**		**+1.9**
KHMM	**Horse Mountain**	**1.58**	**355**			**Pb**	**15 45 37.1**		**-1.6**
PAM	**Palermo**	**1.59**	**84**			**Pn**	**15 45 34.8**		**-2.8**
OHCM	**Honcut**	**1.61**	**88**			**Pn**	**15 45 34.9**		**-2.9**
ORV	**Oroville**	**1.61**	**80**			**Pn**	**15 45 35.0**		**-3.0**
ORV	**Oroville**	**1.61**	**80**			**Pn**	**15 45 35.0**		**-3.0**
CPMM	**Point Molate**	**1.62**	**146**			**Pn**	**15 45 36.0**		**-2.0**
CPMM						**Pg**	**15 45 41.1**		**+1.4**
FARB	**Farallon Islan**	**1.65**	**164**			**Pn**	**15 45 36.2**		**-2.2**
CSPM	**San Pablo Ridg**	**1.66**	**143**			**Pn**	**15 45 37.3**		**-1.2**
O03E	**Paynes Creek**	**1.68**	**53**	P		**Pn**	**15 45 36.9**		**-2.0**
	baz=234,SNR=131								
O03E	**Paynes Creek**	**1.68**	**53**			**Pn**	**15 45 36.7**		**-2.3**
LGPM	**Granite Peak**	**1.71**	**19**			**Pn**	**15 45 37.9**		**-1.5**
JPRM	**Presidio of Sa**	**1.72**	**150**			**Pg**	**15 45 42.3**		**+0.6**
BRK	**Berkeley--Havi**	**1.75**	**144**			**Pg**	**15 45 42.1**		**-0.1**
VAK	**Adit at Lawren**	**1.75**	**144**			**Pn**	**15 45 38.7**		**-1.1**
CTAM	**Taylor**	**1.75**	**136**			**Pb**	**15 45 40.2**		**-1.1**
BKS	**Berkeley--Byer**	**1.75**	**143**			**Pn**	**15 45 38.3**		**-1.6**
CVPM	**Vollmer Peak**	**1.75**	**143**			**Pn**	**15 45 38.3**		**-1.6**
BRIB	**Briones**	**1.76**	**141**			**Pn**	**15 45 38.7**		**-1.2**
LDBM	**Digger Butte**	**1.77**	**50**			**Pn**	**15 45 38.2**		**-2.1**
LCMM	**Colby Mountain**	**1.79**	**61**			**Pn**	**15 45 38.8**		**-1.7**
N02D	**Trinity Center**	**1.80**	**21**	P		**Pn**	**15 45 38.9**		**-1.8**
	baz=200,SNR=288								
N02D	**Trinity Center**	**1.80**	**21**			**Pn**	**15 45 39.4**		**-1.2**
JMGM	**Milagra Ridge**	**1.86**	**152**			**Pn**	**15 45 38.9**		**-2.4**
KRPM	**Rodgers**	**1.90**	**349**			**Pn**	**15 45 41.0**		**-0.9**
LBKM	**Bonanza King**	**1.91**	**21**			**Pn**	**15 45 40.7**		**-1.5**
SAC	**San Andreas**	**1.93**	**152**			**Pn**	**15 45 40.0**		**-2.3**
CSLM	**San Leandro Hi**	**1.93**	**144**			**Pn**	**15 45 41.7**		**-0.6**
LMEM	**Manzanita Entr**	**1.97**	**50**			**Pn**	**15 45 41.9**		**-1.2**
JCHM	**Cahill Ridge**	**2.00**	**152**			**Pn**	**15 45 40.8**		**-2.5**
CMOB	**Morgan Territo**	**2.02**	**137**			**Pn**	**15 45 43.0**		**-0.7**
AFDM	**Forest Hills D**	**2.04**	**99**			**Pn**	**15 45 42.1**		**-1.8**
AASM	**Arroyo Seco**	**2.10**	**114**			**Pn**	**15 45 42.8**		**-1.8**
CNIC	**Niles Canyon**	**2.10**	**143**			**Pn**	**15 45 43.2**		**-1.5**
CVLM	**Vallecito**	**2.15**	**140**			**Pn**	**15 45 44.6**		**-0.7**
JRSC	**Jasper Ridge**	**2.15**	**151**			**Pn**	**15 45 43.2**		**-2.1**
M02C	**Callahan**	**2.16**	**14**	P		**Pn**	**15 45 44.1**		**-1.5**
	baz=193,SNR=58								
M02C	**Callahan**	**2.16**	**14**			**Pn**	**15 45 44.2**		**-1.3**
BGH	**Bear Gulch**	**2.17**	**153**			**Pn**	**15 45 44.8**		**-0.8**
JSFB	**Stanford Teles**	**2.18**	**150**			**Pn**	**15 45 43.7**		**-2.0**
JFP	**Foothills Park**	**2.21**	**150**			**Pn**	**15 45 44.0**		**-2.2**
HATC	**Hat Creek Radi**	**2.21**	**46**			**Pn**	**15 45 46.7**		**+0.4**
JJRM	**Joaquin Road**	**2.22**	**151**			**Pn**	**15 45 44.5**		**-1.8**
KRMB	**Red Mountain**	**2.24**	**353**			**Pn**	**15 45 45.9**		**-0.8**
M03C	**McCloud**	**2.26**	**29**			**Pn**	**15 45 45.9**		**-1.1**
LCSM	**College of the**	**2.30**	**22**			**Pn**	**15 45 46.9**		**-0.6**
LGBM	**Gray Butte**	**2.30**	**27**			**Pn**	**15 45 46.5**		**-1.1**
JPSM		**2.30**	**155**			**Pn**	**15 45 45.5**		**-1.9**
CMLM	**Mount Lewis**	**2.35**	**140**			**Pn**	**15 45 46.7**		**-1.5**
LBFM	**Black Fox Moun**	**2.41**	**31**			**Pn**	**15 45 48.5**		**-0.6**
MNHB	**New Hogan Dam**	**2.43**	**117**			**Pn**	**15 45 48.0**		**-1.2**
CMMM	**Mount Mocho**	**2.45**	**138**			**Pn**	**15 45 48.5**		**-1.0**
LTIM	**Timbered Crate**	**2.46**	**39**			**Pn**	**15 45 48.8**		**-0.9**
MHC	**Mount Hamilton**	**2.46**	**142**			**Pn**	**15 45 48.5**		**-1.3**
JUMM	**Mount Umunhum**	**2.50**	**148**			**Pn**	**15 45 48.5**		**-1.7**
JSTM	**Santa Teresa H**	**2.50**	**146**			**Pn**	**15 45 48.3**		**-1.9**
ARN	**Arnold Ranch**	**2.51**	**140**			**Pn**	**15 45 49.1**		**-1.3**
DONR	**Donner Summit**	**2.51**	**88**			**Pn**	**15 45 49.8**		**-0.8**
CCOB	**Coe Ranch Numb**	**2.52**	**143**			**Pn**	**15 45 49.1**		**-1.2**
YBH	**Yreka Blue Hor**	**2.52**	**15**	Pn		**Pn**	**15 45 49.9**		**-0.5**
	4.5nm,0.3s,baz=198,slow=9.2,SNR=96								
YBH				Sn		**Sn**	**15 46 21.3**		**-0.4**
	6.7nm,0.3s,baz=165,slow=4.9,SNR=5.0								
YBH				LR		LR	15 46 26.3		
	comp=Z,100nm,18.2s,baz=166,slow=33								
YBH	**Yreka Blue Hor**	**2.52**	**15**			**Pn**	**15 45 50.0**		**-0.5**
AMC	**Almaden**	**2.52**	**147**			**Pn**	**15 45 49.0**		**-1.5**
IND	**Independence**	**2.54**	**86**			**Pn**	**15 45 50.6**		**-0.3**
KSXB	**Camp Six Broad**	**2.54**	**355**			**Pn**	**15 45 50.3**		**-0.6**
LHEM	**Herd Peak**	**2.54**	**23**			**Pn**	**15 45 50.5**		**-0.5**
JHLM	**Holstrom Ranch**	**2.57**	**148**			**Pn**	**15 45 48.8**		**-2.4**
JLAB	**Laurel Hill**	**2.58**	**146**			**Pn**	**15 45 49.6**		**-1.6**
JRGM	**Rodeo Gulch Ro**	**2.58**	**150**			**Pn**	**15 45 49.4**		**-1.8**
LOY	**Loyalton**	**2.60**	**81**			**Pn**	**15 45 51.1**		**-0.5**
KBF	**Kyburz Flat**	**2.60**	**84**			**Pn**	**15 45 51.6**		**-0.2**
KTRM	**Thompson Ridge**	**2.62**	**3**			**Pn**	**15 45 51.5**		**-0.4**
CMPM	**Mikes Peak**	**2.62**	**137**			**Pn**	**15 45 52.2**		**+0.4**
TAHP	**Tahoe**	**2.64**	**92**			**Pn**	**15 45 53.0**		**+0.7**
BMRR	**Black Mountain**	**2.65**	**71**			**Pn**	**15 45 52.1**		**-0.3**
LGMM	**Garner Mountai**	**2.65**	**29**			**Pn**	**15 45 51.9**		**-0.5**
MCUB	**Copperopolis B**	**2.65**	**119**			**Pn**	**15 45 51.6**		**-0.6**
RUBR	**Rubicon Trail**	**2.66**	**94**			**Pn**	**15 45 52.3**		**-0.2**
B040	**Montague**	**2.68**	**19**			**Pn**	**15 45 52.1**		**-0.6**
BABR	**Babbit Peak**	**2.69**	**82**			**Pn**	**15 45 52.9**		**-0.2**
HSPM	**Sheep**	**2.71**	**143**			**Pn**	**15 45 51.4**		**-1.6**
VPK	**Verdi Peak**	**2.73**	**85**			**Pn**	**15 45 54.6**		**+1.0**
CMB	**Columbia Colle**	**2.78**	**116**			**Pn**	**15 45 53.2**		**-0.9**
PEAR	**Peavine Mounta**	**2.80**	**82**			**Pn**	**15 45 54.8**		**+0.3**
M04C	**Macdoel**	**2.81**	**27**	P		**Pn**	**15 45 54.7**		**+0.2**
	baz=207,SNR=12								
L02E	**Cave Junction**	**2.86**	**359**	P		**Pn**	**15 45 54.4**		**-0.8**
	baz=178,SNR=13								
KBO	**Bosley Butte**	**2.96**	**350**	Pn		**Pn**	**15 45 55.4**		**-1.1**
SAO	**San Andreas Ge**	**3.03**	**146**			**Pn**	**15 45 56.6**		**-0.7**
L04D	**Klamath Falls**	**3.07**	**18**	P		**Pn**	**15 45 57.8**		**-0.3**
	baz=198,SNR=21								
PNTR	**Pine Nut**	**3.08**	**93**			**Pn**	**15 45 59.2**		**+0.8**
PAHR	**Pah Rah Range**	**3.25**	**81**			**Pn**	**15 46 01.4**		**+0.8**
WAKR	**Walker**	**3.31**	**102**			**Pn**	**15 46 02.7**		**+1.2**
BAVM	**Antelope Valle**	**3.31**	**142**			**Pb**	**15 46 09.0**		**+1.0**
HUMO	**Hull Mountain**	**3.34**	**8**			**Pn**	**15 46 02.2**		**+0.5**
YERR	**Yerington**	**3.37**	**94**			**Pn**	**15 46 02.2**		**-0.1**
BPIM	**Pinnacles**	**3.38**	**145**			**Pn**	**15 46 04.0**		**+1.7**
K02D	**Willamette Mer**	**3.40**	**359**	P		**Pn**	**15 46 02.5**		**-0.1**
	baz=178,SNR=28								
MOD	**Modoc Plateau**	**3.59**	**43**			**Pn**	**15 46 05.5**		**+0.1**
KEBM	**Edson Butte**	**3.62**	**351**			**Pn**	**15 46 05.8**		**+0.1**
PMPB	**Monarch Peak**	**3.77**	**144**			**Pn**	**15 46 06.7**		**-1.0**
J01E	**Myrtle Point**	**3.87**	**356**	P		**Pn**	**15 46 09.2**		**+0.2**
	baz=175								
MDPB	**Devils Postpil**	**3.89**	**114**			**Pn**	**15 46 10.4**		**+0.9**
MINS	**Minaret Summit**	**3.89**	**113**			**Pn**	**15 46 11.5**		**+1.9**
OMMB	**Old Mammoth Mi**	**3.95**	**114**			**Pn**	**15 46 11.6**		**+1.2**
K05A	**Summer Lake**	**3.98**	**30**			**Pn**	**15 46 10.3**		**-0.3**
RYN	**Ryan**	**3.98**	**98**			**Pn**	**15 46 11.4**		**+0.7**
LHV	**Little Huntoon**	**4.08**	**103**			**Pn**	**15 46 13.4**		**+1.5**
NVAR	**Mina Array Bea**	**4.19**	**100**	Pn		**Pn**	**15 46 14.2**		**+0.6**
	0.7nm,0.3s,baz=274,slow=15,SNR=29								
NVAR				Lg		Lg	15 47 21.2		
	1.2nm,0.3s,baz=293,slow=19,SNR=5.9								
NVAR				LR		LR	15 48 02.4		
	comp=Z,204nm,20.1s,baz=270,slow=40								
NVAR	**Mina Array Bea**	**4.19**	**100**			**Pn**	**15 46 13.8**		**+0.2**
KVN	**Kaiserville**	**4.25**	**92**			**Pn**	**15 46 13.8**		**-0.6**
NV11	**Mina Array Sit**	**4.30**	**100**			**Pn**	**15 46 14.9**		**-0.2**
J05D	**Fort Rock, OR**	**4.35**	**23**	P		**Pn**	**15 46 16.0**		**+0.3**
	baz=204,SNR=12								
I03D	**Drain, OR**	**4.40**	**2**	P		**Pn**	**15 46 16.8**		**+0.6**
	baz=181								
PINE	**Pine Mountain**	**4.90**	**23**			**Pn**	**15 46 24.0**		**+0.6**
H04D	**Lebanon**	**5.26**	**6**	P		**Pn**	**15 46 30.3**		**+2.3**
	baz=186								
ISA	**Isabella, Lake**	**5.43**	**130**			**Pn**	**15 46 29.4**		**-1.1**
H04A	**Detroit Lake**	**5.48**	**10**			**Pn**	**15 46 31.0**		**-0.2**
ELK	**Elko**	**6.55**	**75**	Pn		**Pn**	**15 46 49.4**		**+3.4**
	0.1nm,0.3s,baz=107,slow=7.3,SNR=1.7								
ELK				Lg		Lg	15 48 30.6		
	0.2nm,0.3s,baz=62,slow=14,SNR=2.2								
PEC	**Perris**	**7.45**	**134**			**Pn**	**15 46 53.8**		**-4.4**
PFO	**Pinyon Flats O**	**8.05**	**133**	LR		LR	15 50 43.1		
	comp=Z,134nm,18.6s,baz=342,slow=41								
NEW	**Newport**	**10.10**	**25**	LR		LR	15 52 05.6		
	comp=Z,183nm,18.3s,baz=214,slow=42								
PDAR	**Pinedale Array**	**11.13**	**67**	Pn		Pn	15 47 53.9		+5.1
	0.2nm,0.3s,baz=246,slow=16,SNR=2.0								
LPIG	**La Paz**	**18.85**	**140**	LR		LR	15 57 09.8		
	comp=Z,102nm,21.7s,baz=316,slow=38								
TXAR	**Lajitas Array**	**19.16**	**115**	P		**Pn**	**15 49 36.8**		**+2.7**
	0.0nm,0.3s,baz=305,slow=11,SNR=2.7								
ILAR	**Eielson Array**	**28.92**	**339**	P		**P**	**15 51 09.7**		**+1.1**
	0.4nm,0.8s,baz=145,slow=8.5,SNR=4.5								

*MOS **04** 15:50:21.8±1.3,44°.44N×148°.21E,h67^{km},mb4.0/3, Error ellipse: s-maj=12.2km s-min=11.3km az=80.3*
*JMA **04** 15:50:22.0±0.3,44°.00N×148°.02E,h0^{km}, M4.4*
*SKHL **04** 15:50:22.0±0.1,44°.42N×148°.33E,h77^{km}±2^{km},mb4.8/5*
*NIED **04** 15:50:22.0,44°.00N×148°.02E,h0^{km}, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; Mrr3.40; Mθθ-8.06; Mφφ4.66; Mrθ3.77; Mθφ-2.82; Mrφ4.72; Fault plane solution: Mo9.58000×10^{14} NP1:φs42.00000°, δ77.00000°, λ47.00000°. NP2:φs298.00000°, δ44.00000°, λ161.00000°.*
*IDC **04** 15:50:25.5±3.3,44°.38N×148°.10E,h80^{km}±30^{km},mb3.1/9, mb1 3.3/11,mb1mx3.1/57,mbtmp3.4/11,MS2.9/3, Ms1 2.9/3,ms1mx2.6/17 Error ellipse: s-maj=25.1km s-min=21.7km az=121.0*

ISC 04 15:50:21.5±1.8,44°.37N±0°.06×148°.3E±0°.1,h47^{km}±14^{km}, n56,σ1§33/61,mb3.4/10,4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KUR	**Kuril'sk**	**0.92**	**340**	*i* P		**Pn**	**15 50 38.0**		**-0.1**
KUR				AMB		AMB	15 50 39.0		
	607nm,0.5s								
KUR				*i* S		**Sn**	**15 50 50.0**		**-0.2**
KUR				A		A	15 50 51.0		
	2μm,0.3s								
KUR				A		A	15 50 51.0		
	2μm,0.3s								
KUR	**Kuril'sk**	**0.92**	**340**	*d i* PN		**Pn**	**15 50 38.3**		**+0.2**
KUR				*i* S		**Sn**	**15 50 50.2**		**0.0**
KUR				pmax		pmax			
	comp=Z,607nm,0.5s								
KUR				pmax		pmax			
	comp=N,173nm,0.3s								
KUR				pmax		pmax			
	comp=E,322nm,0.3s								
KUR				smax		smax			
	comp=N,2μm,0.3s								
KUR				smax		smax			
	comp=E,2μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.79**	**260**	*i* P		**Pn**	**15 50 50.0**		**0.0**
YUK				AMB		AMB

NOA	**NORSAR Array B**	**69.32**	**339**	P	**P**	16 01 22.7	-0.9
	comp=Z,0.1nm,0.4s,baz=32,slow=6.6,SNR=4.4						
BRTR	**Keskin Array B**	**77.72**	**314**	P	**P**	16 02 13.3	-0.2
	comp=Z,0.3nm,0.6s,baz=45,slow=2.7,SNR=1.7						
TXAR	**Lajitas Array**	**81.61**	**57**	P	**P**	16 02 35.7	+1.0
	comp=Z,0.2nm,0.5s,baz=284,slow=3.3,SNR=4.5						
H03N2	**Juan Fernandez**	**142.12**	**90**	T	T	18 48 28.1	
	baz=304,slow=77,SNR=3.2						
H03N3	**Juan Fernandez**	**142.14**	**90**	T	T	18 48 36.7	
	baz=304,slow=77,SNR=4.4						
H03N1	**Juan Fernandez**	**142.14**	**90**	T	T	18 48 28.9	
	baz=304,slow=77,SNR=4.4						

*EAF **04** 15:50:51.1±6.8, 16.07°S×28.22°E, h46km±999km*
LSZ 04 15:50:30.1±0.3, 15.82°S×26.60°E, h10km, MD1.8, Zambia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ITZ	**Itezhi-Tezhi**	**0.57**	**278**	*e*P		Pg	15 50 40.0	-1.2
ITZ				*i*			15 50 40.0	
	baz=96,slow=22							
ITZ				*e*S		Sg	15 50 47.3	-1.5
LSZ	**Lusaka**	**1.62**	**71**	*i* P		Pg	15 51 04.1	+2.9
LSZ	**Lusaka**	**1.62**	**71**	*i* P		Pg	15 51 04.1	+2.9
BLWY	**Bulawayo**	**4.70**	**156**	*i* P		Pb	15 51 55.7	+3.0
BLWY				*i* S		Sn	15 52 31.6	-4.4
BLWY	**Bulawayo**	**4.70**	**156**	*i* P		Pb	15 51 55.4	+2.7
BLWY				*i* S		Sn	15 52 29.6	-6.3
BLWY	**Bulawayo**	**4.70**	**156**	*i* P		Pb	15 51 55.7	+3.0
BLWY				*i* S		Sn	15 52 31.6	-4.4
MATP	**Matopo**	**4.92**	**159**	*i* P		Pb	15 51 56.4	-0.1
MATP				*i* S		Sn	15 52 36.7	-4.7
MATP	**Matopo**	**4.92**	**159**	*i* P		Pb	15 51 56.4	-0.1
MATP				*i* S		Sn	15 52 36.7	-4.7

IDC 04 15:55:06.5±14.0, 28.88N×138.92E, h446km±153km, mb2.8/5, mb1 2.9/5, mb1mx2.5/49, mbtmp3.6/5, Error ellipse: s-maj=131.3km s-min=17.2km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.74**	**186**	P		P	16 03 08.6	-0.5
	0.5nm,0.9s,baz=2.4,slow=7.8,SNR=8.3							
WRA				PcP		PcP	16 04 25.9	-0.2
	0.3nm,0.8s,baz=0.1,slow=4.0,SNR=4.8							
KURBB	**Kurchatov Arra**	**49.72**	**313**	P		P	16 03 16.2	+0.2
	0.3nm,0.5s,baz=96,slow=8.1,SNR=5.9							
ASAR	**Alice Springs**	**52.47**	**186**	P		P	16 03 36.8	+0.3
	0.1nm,0.4s,baz=1.7,slow=6.8,SNR=4.7							
ARCES	**ARCESS Array B**	**70.89**	**340**	P		P	16 05 36.6	-0.3
	1.6nm,0.7s,baz=43,slow=7.3,SNR=4.7							
FINES	**FINESS Array B**	**75.06**	**333**	P		P	16 06 01.0	0.0
	0.5nm,0.4s,baz=63,slow=5.4,SNR=11							

*GCG **04** 16:07:36.3±0.4, 13.44°N×88.63°W, h218km±33km, MD4.3*
*INET **04** 16:07:38.6, 12.12°N×89.58°W, h0km, ML3.9*
*NEIC **04** 16:07:41.0±1.4, 13.76°N±0.08°×88.79°W±0.05, h201km±5km, mb4.5/55, Error ellipse: s-maj=13.2km s-min=2.9km az=211.0*
*IDC **04** 16:07:40.9±1.5, 13.84°N×88.66°W, h201km±12km, mb3.7/9, mb1 4.0/12, mb1mx3.5/41, mbtmp4.3/12, Error ellipse: s-maj=28.0km s-min=11.2km az=57.0*
*SNET **04** 16:07:40.4±1.0, 13.70°N×88.82°W, h198km±4km, ML4.1*
*UCR **04** 16:07:40.5±1.0, 13.72°N×88.81°W, h198km±4km, ML3.9, mb4.5(NEIC)*
ISC 04 16:07:40.6±0.6, 13.74°N±0.06°×88.77°W±0.04, h201km±4km, n130, σ0.89/154, mb4.4/24, 16C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SNVI	**San Vicente**	**0.14**	**209**	*e*S		S	16 08 28.7	+0.6
SNVI	**San Vicente**	**0.14**	**209**	*e*S		S	16 08 28.7	+0.6
COEG	**Centro de Oper**	**0.16**	**224**	*e*P		Pn	16 08 06.9	-0.3
COEG	**Centro de Oper**	**0.16**	**224**	*e*P		Pn	16 08 06.9	-0.3
PAVA	**Las Pavas**	**0.17**	**263**	*e*P		Pn	16 08 07.3	0.0
PAVA				*e*S		S	16 08 28.4	+0.5
PAVA	**Las Pavas**	**0.17**	**263**	*e*P		Pn	16 08 07.3	0.0
PAVA				*e*S		S	16 08 28.4	+0.5
LBRS	**Las Brisas**	**0.27**	**271**	⇑*i*P		Pn	16 08 07.5	+0.1
LBRS	**Las Brisas**	**0.27**	**271**	⇑*i*P		Pn	16 08 07.5	+0.1
LFRS	**El Faro**	**0.31**	**249**	⇑*i*P		Pn	16 08 07.2	-0.3
LFRS	**El Faro**	**0.31**	**249**	⇑*i*P		Pn	16 08 07.2	-0.3
COEB	**Comit de Eme**	**0.33**	**135**	*e*P		Pn	16 08 07.8	+0.2
COEB				*e*S		S	16 08 28.0	-0.5
COEB	**Comit de Eme**	**0.33**	**135**	*e*P		Pn	16 08 07.8	+0.2
COEB				*e*S		S	16 08 28.0	-0.5
LFU	**La Fuente**	**0.34**	**272**	⇑*i*P		Pn	16 08 07.5	0.0
LFU	**La Fuente**	**0.34**	**272**	⇑*i*P		Pn	16 08 07.5	0.0
TECA	**Tecapa**	**0.35**	**133**	⇑*i*P		Pn	16 08 08.0	+0.3
TECA	**Tecapa**	**0.35**	**133**	⇑*i*P		Pn	16 08 08.0	+0.3
SNET	**Serv Nac Est T**	**0.45**	**264**	IAML			16 08 07.8	
	comp=Z,2μm,0.3s							
SNET				*e*S		S	16 08 28.4	-0.5
SNET	**Serv Nac Est T**	**0.45**	**264**	IAML			16 08 07.8	
	comp=Z,2μm,0.3s							
SNET				*e*S		S	16 08 28.4	-0.5
SNET	**Serv Nac Est T**	**0.45**	**264**			Pn	16 08 07.4	-0.5
SNET				Sn		S	16 08 30.1	+1.2
BOQS	**Boqueron**	**0.50**	**270**	*e*P		Pn	16 08 07.8	-0.3
BOQS	**Boqueron**	**0.50**	**270**	*e*P		Pn	16 08 07.8	-0.3
CEDA	**San Andres**	**0.61**	**276**	*e*S		S	16 08 30.2	+0.3
CEDA	**San Andres**	**0.61**	**276**	*e*S		S	16 08 30.2	+0.3
FAGO	**Alcalda de S**	**0.65**	**93**	*e*P		Pn	16 08 08.6	0.0
FAGO				*e*S		S	16 08 29.9	-0.2
FAGO	**Alcalda de S**	**0.65**	**93**	*e*P		Pn	16 08 08.6	0.0
FAGO				*e*S		S	16 08 29.9	-0.2
JUCU	**Jucuarın**	**0.70**	**133**	*e*P		Pn	16 08 08.9	0.0
JUCU	**Jucuarın**	**0.70**	**133**	*e*P		Pn	16 08 08.9	0.0
SNJE	**San Jose**	**0.82**	**279**	⇑*i*P		Pn	16 08 09.5	-0.2
SNJE	**San Jose**	**0.82**	**279**	⇑*i*P		Pn	16 08 09.5	-0.2
SBLS	**San Blas**	**0.84**	**277**	⇑*i*P		Pn	16 08 09.6	-0.2
SBLS	**San Blas**	**0.84**	**277**	⇑*i*P		Pn	16 08 09.6	-0.2
RTR	**El Retiro**	**0.87**	**281**	⇑*i*P		Pn	16 08 09.8	-0.1
RTR	**El Retiro**	**0.87**	**281**	⇑*i*P		Pn	16 08 09.8	-0.1
MTO3	**Montecristo**	**0.88**	**319**	⇑*i*P		Pn	16 08 10.1	0.0
MTO3				*e*S		S	16 08 33.0	+0.2
MTO3	**Montecristo**	**0.88**	**319**	⇑*i*P		Pn	16 08 10.1	0.0
MTO3				*e*S		S	16 08 33.0	+0.2
MTO3	**Montecristo**	**0.88**	**319**			Pn	16 08 10.0	-0.1
MTO3				Sn		S	16 08 31.9	-0.8
LCND	**La Caada**	**0.95**	**116**	*e*P		Pn	16 08 10.4	+0.2
LCND				*e*S		S	16 08 33.7	+0.7
LCND				IAML			16 08 46.8	
	comp=Z,746nm,0.3s							
LCND	**La Caada**	**0.95**	**116**	*e*P		Pn	16 08 10.4	+0.2
LCND				*e*S		S	16 08 33.7	+0.7
LCND				IAML			16 08 46.8	
	comp=Z,746nm,0.3s							
ESQI	**Esquipulas**	**0.99**	**326**	*e*P		Pn	16 08 11.1	+0.5
ESQI				*e*S		S	16 08 34.5	+0.7
ESQI	**Esquipulas**	**0.99**	**326**			Pn	16 08 10.8	+0.2
ESQI				Sn		S	16 08 32.7	-1.1
CNCH	**Conchagua**	**1.02**	**116**	*e*P		Pn	16 08 10.9	+0.1
CNCH				*e*S		S	16 08 34.6	+0.6
CNCH				IAML			16 08 48.2	
	comp=Z,2μm,0.3s							
CNCH	**Conchagua**	**1.02**	**116**	*e*P		Pn	16 08 10.9	+0.1
CNCH				*e*S		S	16 08 34.6	+0.6
CNCH				IAML			16 08 48.2	
	comp=Z,2μm,0.3s							
TGUH	**Tegucigalpa,Un**	**1.49**	**77**	⇓*i*P		Pn	16 08 15.1	+0.5
TGUH	**Tegucigalpa,Un**	**1.49**	**77**	⇓*i*P		Pn	16 08 15.1	+0.5
TGUH	**Tegucigalpa,Un**	**1.49**	**77**	Pn		Pn	16 08 14.9	+0.4
TGUH				Sn		S	16 08 40.6	+0.2
MRL	**Marmol**	**1.61**	**327**	*e*P		Pn	16 08 17.0	+1.3
MRL				*e*S		S	16 08 45.4	+2.8
IXG	**Ixpaco**	**1.68**	**285**	⇓*i*P		Pn	16 08 16.6	+0.2
NBG	**Las Nubes**	**1.75**	**299**	*e*P		Pn	16 08 18.4	+1.3
PCG	**Pacaya**	**1.90**	**290**	*e*P		Pn	16 08 19.4	+0.9
CRIN	**San Cristobal**	**1.96**	**121**			Pn	16 08 19.5	+0.5
CRIN				Sn		S	16 08 49.7	+1.5
FUG	**Fuego 3**	**2.13**	**290**	*e*P		Pn	16 08 21.4	+0.5
FUG				*e*S		S	16 08 56.7	+5.2
MATN	**Matagalpa**	**2.88**	**106**	Pn		Pn	16 08 29.4	+0.3
MATN				Sn		S	16 09 07.5	+1.3
RTAL	**Retalhuleu**	**2.94**	**286**	Pn		Pn	16 08 29.7	-0.1
RTAL				Sn		S	16 09 06.2	-1.2
HUEH	**Huehuetenango**	**3.08**	**301**	Pn		Pn	16 08 31.6	+0.1
PETF	**Flores**	**3.34**	**342**			Pn	16 08 34.5	+0.2
ACON	**Acoyapa**	**3.92**	**116**	Pn		Pn	16 08 42.3	+0.8
CCIG	**Comitan**	**4.12**	**308**			Pn	16 08 44.8	+0.6
JTS	**Las Juntas de**	**5.07**	**132**	P		Pn	16 08 56.9	+0.9
	comp=Z,25nm,0.3s,baz=69,slow=15,SNR=11							
JTS				S		S	16 09 55.0	0.0
	comp=Z,23nm,0.3s,baz=198,slow=22,SNR=8.3							
JTS	**Las Juntas de**	**5.07**	**132**	Pn		Pn	16 08 57.1	+1.1
TEIG	**Tepich**	**6.47**	**4**	P		Pn	16 09 13.9	-0.1
	comp=Z,2.0nm,0.3s,baz=205,slow=7.4,SNR=5.9							
656A	**Willston**	**16.60**	**19**	P		Pn	16 11 22.0	-0.1
553A	**Crawfordville**	**16.86**	**13**	P		Pn	16 11 26.0	+0.8
451A	**Vernon**	**17.03**	**9**	P		Pn	16 11 27.6	+0.5
250A	**Grady**	**18.30**	**7**	P		P	16 11 40.1	+0.5
250A				IAmb		IAmb	16 11 53.3	
	comp=Z,11nm,1.0s							
SDV	**Santo Domingo**	**18.42**	**103**	P		P	16 11 41.9	+0.6
	comp=Z,1.4nm,0.3s,baz=290,slow=7.3,SNR=7.5							
SDV	**Santo Domingo**	**18.42**	**103**	P		P	16 11 42.6	+1.3
SDV				IAmb		IAmb	16 11 46.5	
	comp=Z,19nm,1.1s							
VBMS	**Vicksburg**	**18.47**	**355**	P		P	16 11 41.6	+0.2
146A	**Union**	**18.82**	**359**	P		P	16 11 46.4	+1.2
143A	**Socs Landing,**	**19.04**	**353**	P		P	16 11 48.7	+1.2
LRAL	**Lakeview Retre**	**19.28**	**5**	P		P	16 11 51.6	+1.4
Z47A	**Carrollton**	**19.39**	**2**	P		P	16 11 51.8	+0.5
Z47A				IAmb		IAmb	16 11 55.3	
	comp=Z,18nm,0.7s							
JCT	**Junction City**	**19.53**	**330**	P		P	16 11 52.4	-0.6
JCT				IAmb		IAmb	16 11 56.5	
	comp=Z,6.8nm,0.6s							
Y49A	**Blount Mountai**	**20.15**	**6**	P		P	16 11 59.3	-0.2
Y49A				IAmb		IAmb	16 12 00.6	
	comp=Z,12nm,0.7s							
GOGA	**Godfrey**	**20.17**	**13**	P		P	16 12 00.3	+0.5
Y52A	**Lilburn**	**20.49**	**11**	P		P	16 12 03.4	+0.3
Y52A				IAmb		IAmb	16 12 04.2	
	comp=Z,11nm,0.8s							
X48A	**Hartselle**	**20.68**	**4**	P		P	16 12 05.2	0.0
TXAR	**Lajitas Array**	**20.77**	**321**	P		P	16 12 07.0	+0.7
	comp=Z,6.3nm,0.6s,baz=137,slow=9.7,SNR=68							
TXAR	**Lajitas Array**	**20.77**	**321**	P		P	16 12 06.8	+0.5
TX31	**Lajitas Ar. Si**	**20.77**	**321**	P		P	16 12 06.7	+0.4
TX31				IAmb		IAmb	16 12 07.6	
	comp=Z,16nm,0.7s							
TX32	**Lajitas Array**	**20.77**	**321**	P		P	16 12 06.8	+0.5
MIAR	**Mount Ida**	**21.17**	**349**	P		P	16 12 09.9	-0.4
MIAR				IAmb		IAmb	16 12 12.3	
	comp=Z,16nm,1.1s							
HODGE	**Hodges**	**21.24**	**15**	P		P	16 12 08.0	-3.1
HODGE				IAmb		IAmb	16 12 12.4	
	comp=Z,11nm,0.8s							
SWET	**Sewanee**	**21.54**	**6**	P		P	16 12 13.1	-1.1
SWET				IAmb		IAmb	16 12 13.9	
	comp=Z,8.4nm,0.6s							
W41B	**Gary Mavity, V**	**21.58**	**352**	P		P	16 12 14.8	+0.3
W41B				IAmb		IAmb	16 12 15.8	
	comp=Z,6.9nm,0.6s							
W50A	**Signal Mountai**	**21.60**	**8**	P		P	16 12 14.4	-0.4
X37A	**Clayton**	**21.61**	**345**	P		P	16 12 15.4	+0.6
X37A				IAmb		IAmb	16 12 17.9	
	comp=Z,6.5nm,0.6s							
WHAR	**Wooly Hollow**	**21.70**	**352**	P		P	16 12 15.8	+0.1
W39A	**Magazine**	**21.84**	**349**	P		P	16 12 18.3	+1.1
PAULI	**Pauline**	**21.92**	**15**	P		P	16 12 18.3	+0.4
PAULI				IAmb		IAmb	16 12 19.8	
	comp=Z,11nm,0.8s							
CPCT	**Cooper Cave**	**21.96**	**9**	P		P	16 12 18.2	-0.1
TKL	**Tuckaleechee C**	**22.29**	**11**	P		P	16 12 21.5	+0.1
	comp=Z,11nm,0.8s,baz=184,slow=12,SNR=10							
TKL	**Tuckaleechee C**	**22.29**	**11**	P		P	16 12 21.5	+0.1
TKL				IAmb		IAmb	16 12 22.1	
	comp=Z,11nm,0.8s							
LCAR	**Lake Charles**	**22.34**	**355**	P		P	16 12 21.7	-0.2
LCAR				IAmb		IAmb	16 12 23.4	
	comp=Z,5.5nm,0.5s							
KMSC	**Kings Mountain**	**22.35**	**16**	P		P	16 12 22.5	+0.6
KMSC				IAmb		IAmb	16 12 22.6	
	comp=Z,13nm,0.6s							
CLTN	**Cedars of Leba**	**22.37**	**5**	P		P	16 12 22.3	+0.2
CLTN				IAmb		IAmb	16 12 22.8	
	comp=Z,10nm,0.6s							
V53A	**Saluda**	**22.49**	**13**	P		P	16 12 23.9	+0.6
V53A				IAmb		IAmb	16 12 28.4	
	comp=Z,9.9nm,0.8s							
WMOK	**Wichita Mounta**	**22.79**	**338**	P		P	16 12 25.9	-0.1
FNO	**Franklin**	**22.80**	**342**	P		P	16 12 26.6	+0.6
U40A	**Yellville**	**22.82**	**351**	P		P	16 12 26.9	+0.6
PBMO	**Poplar Bluff**	**23.00**	**357**	P		P	16 12 26.2	-1.5
PBMO				IAmb		IAmb	16 12 28.5	
	comp=Z,9.2nm,0.7s							
U38A	**Gravette**	**23.16**	**348**	P		P	16 12 27.9	-1.5
U38A				IAmb		IAmb	16 12 31.4	
	comp=Z,7.0nm,0.7s							
MNTX	**Cornudas Mount**	**23.49**	**322**	P		P	16 12 29.7	-2.6
V58A	**Windy Hill, Pi**	**23.62**	**20**	P		P	16 12 33.6	+0.2
S39A	**Bolivar**	**24.20**	**351**	P		P	16 12 38.3	-0.4
WCI	**Wyandotte Cave**	**24.50**	**5**	P		P	16 12 39.6	-1.8
R40A	**Maddies Statio**	**24.65**	**353**	P		P	16 12 42.2	-0.6
R40A				IAmb		IAmb	16 12 46.6	
	comp=Z,6.1nm,0.8s							
P40A	**Paris**	**25.86**	**354**	P		P	16 12 53.0	-0.7
P40A				IAmb		IAmb	16 12 53.8	
	comp=Z,12nm,0.7s							
SADO	**Sadowa**	**32.00**	**13**	P		P	16 13 46.7	-1.2
	comp=Z,7.7nm,0.5s,baz=231,slow=8.0,SNR=8.4							
SADO	**Sadowa**	**32.00**	**13**	P		P	16 13 46.8	-1.2
SADO				IAmb		IAmb	16 13 50.1	
	comp=Z,20nm,1.1s							
PDAR	**Pinedale Array**	**34.04**	**332**	P		P	16 14 06.2	+0.2
	comp=Z,0.4nm,0.4s,baz=128,slow=10,SNR=4.4							
REDW	**Red Top Meadow**	**35.10**	**332**	P		P	16 14 15.3	+0.3
REDW				IAmb		IAmb	16 14 16.6	
	comp=Z,9.9nm,0.7s							
SNOW	**Snow King Moun**	**35.13**	**332**	P		P	16 14 15.6	+0.3
SNOW				IAmb		IAmb	16 14 17.0	
	comp=Z,12nm,0.7s							
LOHW	**Long Hollow**	**35.18**	**332**	P		P	16 14 15.7	+0.1
MDND	**Maddock**	**35.19**	**347**	P		P	16 14 15.7	+0.3
TPAW	**Teton Pass**	**35.24**	**332**	P		P	16 14 16.8	+0.5
IMW	**Indian Meadow**	**35.55**	**332**	P		P	16 14 18.4	-0.6
YHL	**Hebgen Lake**	**36.41**	**333**	P		P	16 14 27.5	+1.4
ULM	**Lac du Bonnet**	**36.87**	**352**	P		P	16 14 27.9	-1.7
	comp=Z,5.0nm,0.5s,baz=161,slow=8.7,SNR=8.3							
ULM	**Lac du Bonnet**	**36.87**	**352**	P		P	16 14 26.9	-2.7
ULM				IAmb		IAmb	16 14 29.2	
	comp=Z,12nm,1.1s							
DGMT	**Dagmar**	**36.92**	**343**	P		P	16 14 29.8	-0.3
MCMT	**McKenzie Canyo**	**37.15**	**331**	P		P	16 14 33.8	+1.4
YKA	**Yellowknife Ar**	**52.05**	**345**	P		P	16 16 28.9	-0.5
	comp=Z,1.3nm,0.4s,baz=155,slow=7.2,SNR=6.4							
DLBC	**Dease Lake**	**54.20**	**335**	P		P	16 16 46.2	+0.9
	comp=Z,2.8nm,0.7s,baz=123,slow=11,SNR=5.0							
DLBC	**Dease Lake**	**54.20**	**335**	IAmb		IAmb	16 16 53.1	
	comp=Z,1.4nm,1.0s							
ILAR	**Eielson Array**	**64.33**	**336**	P		P	16 17 53.5	-1.0
	comp=Z,0.7nm,0.7s,baz=169,slow=5.0,SNR=16							
BMAR	**Burnt Mountain**	**64.63**	**339**	P		P	16 17 56.5	+0.1
ARCES	**ARCESS Array B**	**85.39**	**19**	P		P	16 19 54.4	-0.6
	comp=Z,2.1nm,0.8s,baz=330,slow=4.2,SNR=3.9							
MAW	**Mawson**	**123.07**	**167**	PKP		**PKPdf**	**16 26 12.4**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=275,slow=2.5,SNR=4.1							
WRA	**Warramunga Arr**	**138.37**	**255**	PKP		**PKPdf**	**16 26 43.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=90,slow=2.5,SNR=42							
WRA				SKPbc		**SKPbc**	**16 29 58.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=90,slow=3.7,SNR=6.1							
ASAR	**Alice Springs**	**138.53**	**250**	PKP		**PKPdf**	**16 26 43.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=84,slow=1.9,SNR=12							
ASAR				SKPbc		**SKPbc**	**16 29 59.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=105,slow=3.1,SNR=7.6							

IDC 04 16:41:52.5±2.9, 30.98S×177.84W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/15, Error ellipse: s-maj=68.2km s-min=36.3km az=115.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**8.37**	**208**	Pn		Pn	16 43 55.2	+0.2
	0.2nm,0.3s,baz=219,slow=7.5,SNR=1.2							
URZ				Sn		Sn	16 45 30.4	+0.2
	0.9nm,0.3s,baz=144,slow=19,SNR=6.5							
KRVT	**Keravat (AS076**	**38.84**	**307**	LR		LR	17 01 15.6	

*RHSSO **04** 16:53:48.1±0.4, 44.85°N×16.34°E, h3km±2km, ML3.0/13*
*BEO **04** 16:53:48.6±0.5, 44.84°N×16.34°E, h0km, ML2.8/11*
*LDG **04** 16:53:50.3±0.2, 44.98°N×16.10°E, h2km, Ml2.8/12, Error ellipse: s-maj=5.7km s-min=4.6km az=172.0*
*PRU **04** 16:53:51.7±0.0, 45.12°N×16.35°E, h0km*
ISC 04 16:53:47.0±1.0, 44.85N±0.02°×16.32E±0.02, h9km±8km, n109, σ2.29/183, 9C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PRIJ	**Prijedor**	**0.31**	**65**	*e*Pg		Pg	16 53 53.6	+0.5
PRIJ				*e*Sg		Sg	16 53 58.2	+0.9
UDBI	**Udbina**	**0.51**	**232**	*i* Pg		Pb	16 53 57.4	-0.7
UDBI				Sg		Sb	16 54 04.5	-1.2
BLY	**Banja Luka**	**0.62**	**99**	*e*Pg		Pg	16 53 59.0	0.0
BLY				*e*Sg		Sg	16 54 07.2	0.0
BLY	**Banja Luka**	**0.62**	**99**	⇑*i*Pg		Pg	16 53 58.8	-0.2
BLY				*e*Sg		Sg	16 54 07.2	0.0
MOSL	**Moslavina**	**0.83**	**22**	*i* Pg		Pn	16 54 05.2	+0.4
MOSL				Sg		Sb	16 54 16.7	+2.0
KIJV	**Kijevo**	**0.84**	**176**	*i* Pg		Pn	16 54 04.3	-0.8
KIJV				Sg		Sb	16 54 15.8	+0.6
BOJS	**Bojanci**	**1.00**	**311**	*i* Pg		Pb	16 54 06.0	-0.5
BOJS				*e*Sg		Sb	16 54 20.1	+0.3
	comp=Z,307nm,0.4s							
ZAG	**Zagreb**	**1.01**	**347**	*e*Pg		Pn	16 54 08.3	+1.0
ZAG				Sg		Sn	16 54 23.3	+1.7
NVLJ	**Novalja**	**1.07**	**255**	*e*Pg		Pb	16 54 07.3	-0.4
NVLJ				Sg		Sn	16 54 24.5	+1.4
MORI	**Morici**	**1.07**	**204**	*i* Pg		Pn	16 54 08.0	-0.1
MORI				Sg		Sn	16 54 24.3	+1.1
PTJ	**Puntijarka**	**1.09**	**347**	*e*Pg		Pn	16 54 09.0	+0.5
PTJ				Sg		Sn	16 54 25.0	+1.2
CRES	**Cresnjev**	**1.16**	**328**	*i* Pg		Pg	16 54 08.8	-0.3
CRES				*e*Sg		Sn	16 54 26.5	+1.3
	comp=Z,480nm,0.5s							
CRES	**Cresnjev**	**1.16**	**328**	*e*Pg		Pg	16 54 08.6	-0.6
CRES				*e*Sg		Sn	16 54 25.6	+0.4
DUGI	**Dugi Otok**	**1.25**	**227**	*e*Pg		Pb	16 54 10.1	-0.5
DUGI				Sg		Sn	16 54 28.3	+0.8
GOLS	**Golise**	**1.26**	**337**	*e*Pg		Pn	16 54 12.1	+1.2
GOLS				*e*Sg		Sn	16 54 30.1	+2.2
	comp=Z,108nm,0.5s							
GBRS	**Gornja Briga**	**1.27**	**303**	*i* Pg		Pn	16 54 11.0	+0.1
GBRS				*i* Sg		Sn	16 54 30.0	+1.9
	comp=Z,109nm,0.4s							
CESS	**Cesta pri Krsk**	**1.28**	**332**	*e*Pg		Pn	16 54 12.7	+1.7
CESS				*e*Sg		Sn	16 54 30.9	+2.6
	comp=Z,83nm,0.3s							
LEGS	**Legarje**	**1.31**	**328**	*e*Pg		Pb	16 54 11.8	0.0
LEGS				*e*Sg		Sn	16 54 30.1	+1.1
RIY	**Rijeka**	**1.39**	**291**	*e*Pg		Pb	16 54 14.1	+1.1
RIY				Sg		Sn	16 54 33.0	+2.0
VISS	**Visnje**	**1.42**	**313**	*i* Pn		Pb	16 54 13.5	-0.1
VISS				*e*Sn		Sn	16 54 33.6	+1.9
	comp=Z,120nm,0.4s							
RICI	**Ricice**	**1.47**	**156**	*i* Pg		Pg	16 54 15.8	+0.6
RICI				Sg		Sn	16 54 36.5	+3.5
PDKS	**Podkum**	**1.53**	**323**	*i* Pn		Pg	16 54 16.0	-0.4
	comp=Z,128nm,0.6s							
KNDS	**Knezji Dol**	**1.53**	**297**	*e*Pn		Pg	16 54 16.3	-0.1
	comp=Z,95nm,0.5s							
KOGS	**Kog**	**1.60**	**358**	*

	comp=Z,3.3nm,0.3s,SNR=8.1								
ABTA					Sn		**Sn**	**16 55 21.3**	**+3.7**
	comp=Z,31nm,0.7s								
GRUS	**Gruza**		**3.29**	**105**	*e*Pn		**Pn**	**16 54 41.2**	**+2.5**
MOA	**Molln**		**3.33**	**335**	*e*Pn		**Pn**	**16 54 41.7**	**+2.6**
MOA	**Molln**		**3.33**	**335**	*e*Pn		**Pn**	**16 54 41.8**	**+2.6**
	comp=Z,4.5nm,0.3s,SNR=5.9								
MOA					*i* Sn		**Sn**	**16 55 20.4**	**+1.6**
	comp=Z,16nm,0.5s								
DRME	**Dracevica, Mon**		**3.38**	**141**	*e*Pn		**Pn**	**16 54 42.0**	**+2.2**
DRME					*e*Sn		**Sn**	**16 55 22.0**	**+2.0**
ZST	**Bratislava**		**3.39**	**9**	*e*PN		**Pn**	**16 54 39.2**	**-0.9**
ZST					*e*SN		**Sn**	**16 55 17.9**	**-2.5**
MODS	**Modra-Piesok**		**3.59**	**10**	*e*PN		**Pn**	**16 54 42.6**	**-0.2**
MODS					*e*SN		**Sn**	**16 55 22.8**	**-2.5**
BZS	**Buzias**		**3.82**	**76**	*e*Pn		**Pn**	**16 54 48.7**	**+2.8**
BZS	**Buzias**		**3.82**	**76**	⇑P		**Pg**	**16 54 58.6**	**-1.5**
BZS	**Buzias**		**3.82**	**76**	⇓S		**Sg**	**16 55 49.9**	**+0.3**
SELS	**Selova**		**3.82**	**113**	*e*Pn		**Pn**	**16 54 47.4**	**+1.4**
MDVR	**Moldovita**		**3.84**	**89**	⇑P		**Pg**	**16 54 59.7**	**-0.8**
PSZ	**Piszkesteto**		**3.94**	**38**	⇑P		**Pb**	**16 54 55.5**	**-1.2**
VYHS	**Vyhne**		**4.04**	**24**	*e*PN		**Pn**	**16 54 50.1**	**+1.1**
VYHS					*e*SN		**Sn**	**16 55 35.0**	**-1.3**
WTTA	**Wattenberg**		**4.06**	**308**	*i* Pn		**Pn**	**16 54 53.0**	**+3.6**
	comp=Z,5.5nm,0.3s,SNR=10								
WTTA					Sn		**Sn**	**16 55 39.0**	**+1.9**
	comp=Z,9.8nm,0.5s								
JAVC	**Velka Javorina**		**4.12**	**12**	*e*PN		**Pn**	**16 54 51.8**	**+1.7**
JAVC					*e*SN		**Sn**	**16 55 38.5**	**+0.1**
MATE	**Matera**		**4.20**	**176**	⇓P		**Pb**	**16 55 03.3**	**+2.2**
KRUC	**Moravsky**		**4.22**	**1**	*e*PN		**Pn**	**16 54 52.5**	**+1.1**
KRUC					*e*SN		**Sn**	**16 55 39.1**	**-1.6**
SQTA	**Sankt Quirin**		**4.28**	**306**	*i* Pn		**Pn**	**16 54 56.4**	**+4.0**
	comp=Z,2.5nm,0.3s								
SQTA					*e*Sn		**Sn**	**16 55 46.0**	**+3.6**
	comp=Z,9.1nm,0.5s								
MOTA	**Moosalm**		**4.41**	**306**	*e*Pn		**Pn**	**16 54 57.9**	**+3.8**
	comp=Z,2.7nm,0.3s,SNR=5.2								
MOTA					*e*Sn		**Sn**	**16 55 51.0**	**+5.3**
	comp=Z,18nm,0.7s								
FETA	**Feichten**		**4.47**	**301**	*e*Pn		**Pn**	**16 54 58.8**	**+3.8**
	comp=Z,0.6nm,0.2s								
FETA					*e*Sn		**Sn**	**16 55 52.5**	**+5.4**
	comp=Z,6.6nm,0.7s								
VRAC	**Vranov**		**4.47**	**2**	⇑P		**Pn**	**16 54 56.8**	**+1.9**
VRAC	**Vranov**		**4.47**	**2**	⇑S		**Sn**	**16 55 45.3**	**-1.6**
VRAC	**Vranov**		**4.47**	**2**	*e*PN		**Pn**	**16 54 56.1**	**+1.2**
KHC	**Kasperske Hory**		**4.68**	**337**	*e*PN		**Pn**	**16 54 59.5**	**+1.7**
KHC					*ex*		x	16 55 08.0	
KHC					*e*SN		**Sn**	**16 55 51.4**	**-0.8**
ZAPS	**Zavoj**		**4.81**	**107**	*e*Pn		**Pn**	**16 55 01.9**	**+2.3**
MORC	**Moravsky Berou**		**5.00**	**9**	⇑P		**Pn**	**16 55 04.1**	**+1.8**
MORC	**Moravsky Berou**		**5.00**	**9**	⇑S		**Sn**	**16 56 00.4**	**+0.3**
MORC	**Moravsky Berou**		**5.00**	**9**	*e*PN		**Pn**	**16 55 04.0**	**+1.8**
MORC					*e*SN		**Sn**	**16 55 59.1**	**-1.0**
BOSS	**Bosilegrad**		**5.05**	**116**	*e*Pn		**Pn**	**16 55 04.5**	**+1.7**
PBCC	**Pribram**		**5.09**	**343**	*e*PN		**Pn**	**16 55 04.4**	**+0.9**
GOPC	**GO Pecny, Ondr**		**5.18**	**349**	*e*PN		**Pn**	**16 55 06.1**	**+1.5**
GOPC					*e*SN		**Sn**	**16 56 02.8**	**-1.6**
KRLC	**Kraliky**		**5.24**	**3**	*e*PN		**Pn**	**16 55 07.0**	**+1.5**
PRU	**Pruhonice**		**5.29**	**347**	*e*PN		**Pn**	**16 55 07.1**	**+1.0**
PRU					*e*SN		**Sn**	**16 56 05.3**	**-1.7**
PGF	**Pioggiola**		**5.78**	**249**	*e*Pn		**Pn**	**16 55 12.8**	**-0.2**
PGF					*e*Sn		**Sn**	**16 56 15.1**	**-4.4**
	comp=Z,0.9nm,0.3s								
SBF	**Sospel**		**6.45**	**264**	*e*PN		**Pn**	**16 55 21.8**	**-0.3**
SBF					*e*Sn		**Sn**	**16 56 30.6**	**-5.2**
	comp=Z,2.4nm,0.3s								
LPG	**La Plagne**		**6.80**	**279**	*e*P		**Pn**	**16 55 31.5**	**+4.4**
LPG					*e*Sn		**Sn**	**16 56 38.6**	**-6.1**
	comp=Z,0.8nm,0.3s								
MBDF	**Montbardon**		**6.80**	**272**	*e*Pn		**Pn**	**16 55 26.9**	**-0.1**
MBDF					*e*Sn		**Sn**	**16 56 38.5**	**-6.0**
	comp=Z,2.6nm,0.5s								
LPL	**La Plagne**		**6.81**	**279**	*e*P		**Pn**	**16 55 31.3**	**+4.1**
LPL					*e*Sn		**Sn**	**16 56 38.1**	**-6.9**
	comp=Z,3.4nm,0.4s								
CLL	**Collm**		**6.84**	**342**	*e*Pn		Pn	16 55 35.0	+7.7
CLL					*e*Sn		**Sn**	**16 56 46.0**	**+0.8**
FRF	**La Foret Royal**		**7.07**	**263**	*e*Pn		**Pn**	**16 55 30.6**	**0.0**
FRF					*e*Sn		**Sn**	**16 56 44.9**	**-6.2**
	comp=Z,2.8nm,0.5s								
HINF	**Hinteralfeld**		**7.20**	**298**	*e*Pn		**Pn**	**16 55 32.1**	**-0.2**
HINF					*e*Sn		**Sn**	**16 56 47.0**	**-7.2**
	comp=Z,1.4nm,0.4s								
LMR	**La Mourre**		**7.23**	**261**	*e*Pn		**Pn**	**16 55 32.6**	**-0.1**
LMR					*e*Sn		**Sn**	**16 56 47.6**	**-7.2**
	comp=Z,1.0nm,0.3s								
CABF	**La Chapelle**		**7.38**	**287**	*e*P		**Pn**	**16 55 37.7**	**+2.8**
CABF					*e*Sn		**Sn**	**16 56 50.8**	**-7.9**
	comp=Z,1.6nm,0.5s								
ORIF	**Oris-en-Rattie**		**7.42**	**274**	*e*P		**Pn**	**16 55 39.2**	**+3.7**
ORIF					*e*Sn		**Sn**	**16 56 53.5**	**-6.2**
	comp=Z,2.6nm,0.5s								

IDC 04 16:57:15.4±2.7, 30°21N×138°12E, h425km±50km, mb2.7/4, mb1 2.8/5, mb1mx2.5/41, mbtmp3.4/5, Error ellipse: s-maj=123.3km s-min=18.3km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.32**	**1**	P	P	16 58 51.8	-0.1
	0.1nm,0.3s,baz=176,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**49.99**	**185**	P	P	17 05 28.9	-0.1
	0.8nm,1.2s,baz=0.3,slow=7.8,SNR=12						
BVAR	**Borovoye Array**	**53.33**	**316**	P	P	17 05 53.5	+0.6
	0.4nm,0.4s,baz=146,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**53.72**	**185**	P	P	17 05 55.9	-0.1
	0.1nm,0.7s,baz=355,slow=4.3,SNR=6.1						
FINES	**FINESS Array B**	**73.56**	**332**	P	P	17 08 02.5	-0.8
	0.9nm,0.9s,baz=67,slow=6.5,SNR=1.3						

*DJA **04** 17:21:22.7±0.5, 10°S±4°×107°E±°, h10km, M4.2/13, mb4.0/3, MLv4.2/13*
*IDC **04** 17:21:22.9±3.3, 9°74S×108°12E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/27, mbtmp3.7/4, Error ellipse: s-maj=156.9km s-min=23.8km az=48.0*
*NEIC **04** 17:21:24.2±2.9, 10°30S±0°09×107°41E±0°07, h32km±5km, mb4.0/5, Error ellipse: s-maj=13.8km s-min=8.8km az=155.0*

ISC 04 17:21:21.2±0.8, 10°27S±0°06×107°45E±0°05, h10km, n31, σ1§49/33, mb3.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XMIS	**Christmas Isla**	**1.79**	**263**		**Pn**	**17 21 51.1**	**-0.9**
CMJI	**Cimerak**	**2.66**	**22**	P	**Pn**	**17 22 03.5**	**-0.6**
CMJI				S	**Sn**	**17 22 33.7**	**-2.7**
CISI	**Cisompet, Garu**	**2.72**	**8**	P	**Pn**	**17 22 04.6**	**-0.4**
CISI	**Cisompet, Garu**	**2.72**	**8**		**Pn**	**17 22 05.0**	**0.0**
CNJI	**Cibinong**	**2.96**	**354**	P	**Pn**	**17 22 08.2**	**0.0**
CNJI				S	**Sn**	**17 22 41.4**	**-2.4**
KPJI	**Karang Pucung**	**3.26**	**27**	P	**Pn**	**17 22 13.8**	**+1.4**
SKJI	**Sukabumi**	**3.36**	**345**	P	**Pn**	**17 22 14.5**	**+0.7**
DBJI	**Dramaga**	**3.75**	**349**	P	**Pn**	**17 22 18.6**	**-0.6**
UGM	**Wanagama**	**3.83**	**53**	P	**Pn**	**17 22 21.2**	**+0.9**
UGM	**Wanagama**	**3.83**	**53**	Pn	**Pn**	**17 22 20.1**	**-0.1**
CGJI	**Cibinong**	**4.03**	**334**	P	**Pn**	**17 22 23.4**	**+0.5**
WOJI	**Wonogiri, Jawa**	**4.19**	**55**	P	**Pn**	**17 22 25.6**	**+0.4**
PWJI	**Pagerwojo**	**4.84**	**63**	P	**Pn**	**17 22 34.5**	**+0.4**
PWJI				S	**Sn**	**17 23 25.4**	**-4.9**
KLSI		**6.16**	**334**	P	**Pn**	**17 22 52.7**	**+0.4**
	0.0nm4.1nm,1.6s						
GMJI	**Gumukmas**	**6.24**	**72**	P	**Pn**	**17 22 55.1**	**+1.8**
	0.2nm30nm,1.7s						
JAGI	**Jajag, Banyuwa**	**6.85**	**75**	P	**Pn**	**17 23 02.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.85**	**75**		**Pn**	**17 23 02.4**	**+0.6**
MNAI	**Manna**	**7.37**	**322**	Pn	**Pn**	**17 23 09.2**	**+0.2**
GIRL	**Giralia**	**13.91**	**153**	Pn	**Pn**	**17 24 36.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**19.26**	**116**		**Pn**	**17 25 49.9**	**+2.8**
WRA	**Warramunga Arr**	**27.64**	**114**	P	**P**	**17 27 09.5**	**+0.2**
	0.9nm,0.7s,baz=289,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**27.64**	**114**	IAmb	IAmb	17 27 18.2	
	comp=Z,0.1nm,1.0s						
WB2	**Warramunga Arr**	**27.65**	**114**	P	**P**	**17 27 09.6**	**+0.2**
WR0	**Warramunga Arr**	**27.83**	**113**	P	**P**	**17 27 11.5**	**+0.5**
WR0				IAmb	IAmb	17 27 19.6	
	comp=Z,4.3nm,1.2s						
ASAR	**Alice Springs**	**28.52**	**121**	P	**P**	**17 27 17.8**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=287,slow=7.4,SNR=2.5						

CMAR	**Chiang Mai Arr**		**29.75**	**344**	P		**P**	**17 27 29.8**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=181,slow=7.2,SNR=1.6								
MK31	**Makanchi Array**		**61.09**	**341**	P		**P**	**17 31 36.3**	**+0.8**
MKAR	**Makanchi Array**		**61.09**	**341**	P		**P**	**17 31 36.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=141,slow=7.9,SNR=9.8								
ABKAR	**Akbulak array**		**72.44**	**330**	P		**P**	**17 32 47.4**	**-0.3**
ABKAR	**Akbulak array**		**72.44**	**330**	P		**P**	**17 32 46.8**	**-0.9**
ABKAR					IAmb		IAmb	17 33 21.4	
	comp=Z,2.5nm,1.3s								
TXAR	**Lajitas Array**		**145.29**	**52**	PKP		**PKPdf**	**17 41 01.0**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=306,slow=2.0,SNR=3.9								

*SKHL **04** 17:38:44.5±0.4, 44°40N×148°42E, h40km±5km, mb4.6/3*
*JMA **04** 17:38:44.5±0.3, 44°03N×148°15E, h0km, M4.0*
ISC 04 17:38:43.0±3.4, 44°39N±0°10×148°6E±0°2, h35km, n13, σ1§26/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.97**	**330**	*i* P	**Pn**	**17 39 00.0**	**-0.1**
KUR				AMB	AMB	17 39 01.0	
	450nm,0.3s						
KUR				*i* S	**Sn**	**17 39 12.0**	**-0.7**
KUR				A	A	17 39 13.0	
	1μm,0.2s						
KUR				A	A	17 39 13.0	
	324nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**261**	*i* P	**Pn**	**17 39 14.0**	**+0.3**
YUK				AMB	AMB	17 39 17.0	
	200nm,0.3s						
YUK				*i* S	**Sn**	**17 39 36.0**	**-1.1**
YUK				A	A	17 39 42.0	
	189nm,0.3s						
YUK				A	A	17 39 42.0	
	527nm,0.3s						
GRPR	**Tuman**	**2.04**	**260**	*i* P	**Pn**	**17 39 15.0**	**+0.3**
GRPR				AMB	AMB	17 39 18.0	
	120nm,0.3s						
GRPR				*i* S	**Sn**	**17 39 37.8**	**-1.1**
GRPR				A	A	17 39 44.0	
	429nm,0.3s						
GRPR				A	A	17 39 44.0	
	174nm,0.3s						
NEM2	**Nemuro 2**	**2.27**	**244**	P	**Pn**	**17 39 18.1**	**+0.1**
NEM2				*e*S	**Sn**	**17 39 42.8**	**-1.9**
GLVR	**Golovnino**	**2.28**	**254**	*i* P	**Pn**	**17 39 18.0**	**-0.1**
GLVR				*i* S	**Sn**	**17 39 43.5**	**-1.4**
GLVR				A	A	17 39 53.0	
	167nm,0.2s						
GLVR				A	A	17 39 53.0	
	695nm,0.2s						
NMR	**Nemuro--Hokkai**	**2.28**	**244**	*i* P	**Pn**	**17 39 18.0**	**-0.1**
NMR				*i* S	**Sn**	**17 39 43.0**	**-1.9**
JRA	**Rausu**	**2.51**	**261**	P	**Pn**	**17 39 22.9**	**+1.7**
JRA				*e*S	**Sn**	**17 39 51.5**	**+1.0**
JKHN	**Kushirohamanak**	**2.78**	**243**	P	**Pn**	**17 39 25.6**	**+0.6**
JNK	**Nakash**	**2.88**	**255**	P	**Pn**	**17 39 27.6**	**+1.3**
JNK				*e*S	**Sn**	**17 39 59.9**	**+0.2**
JAK	**Akkeshi**	**3.12**	**245**	P	**Pn**	**17 39 30.3**	**+0.7**
JAK				*e*S	**Sn**	**17 40 03.8**	**-1.9**
JAR	**Ashorobuto**	**3.62**	**254**	P	**Pn**	**17 39 38.6**	**+2.0**
JKB	**Kayabe**	**6.04**	**248**	P	**Pn**	**17 40 11.4**	**+1.7**
JOT	**Ohata**	**6.28**	**244**	P	**Pn**	**17 40 14.0**	**+1.0**

*MAN **04** 17:38:36.5, 11°01N×126°18E, h19km, MS5.1*
MAN Intensity V- Guiuan Eastern Samar; Intensity IV - Mercedees Eastern Samar; Intensity III - Tacloban City; Dinagat Islands;Intensity II - Surigao City; Socorro Surigao del Sur; Borongan E. Samar; Palo Leyte.
*MOS **04** 17:38:39.2±0.9, 10°88N×125°92E, h52km, mb5.5/50, Error ellipse: s-maj=8.5km s-min=3.9km az=119.6*
*IDC **04** 17:38:39.8±1.6, 10°91N×126°03E, h38km±13km, mb4.7/38, mb1 4.7/39, mb1mx4.7/44, mbtmp4.9/39, ML3.7/1, MS4.3/31, Ms1 4.3/31, ms1mx4.1/42, Error ellipse: s-maj=14.4km s-min=8.5km az=84.0*
*GCMT **04** 17:38:40.7±0.2, 11°01N±0°01×126°14E±0°01, h22km, MW5.2/120, Moment Tensor Solution. s91,c119; s120,c195; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}6.15±.18; $M_{\theta\theta}$0.05±.11; $M_{\phi\phi}$-6.20±.13; $M_{r\theta}$-0.04±.20; $M_{r\phi}$0.90±.08; $M_{\theta\phi}$4.47±.21; Best double couple: $M_0$7.67500×10^{16} NP1:ϕ≡167.00000°, δ27.00000°, λ82.00000°. NP2:ϕ≡356.00000°, δ63.00000°, λ94.00000°. Principal axes: T 7.6060, Plg72.0000°, Azm276.0000°; N 0.1410, Plg4.0000°, Azm175.0000°; P -7.7450, Plg18.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 17:38:42.3±1.8, 10°92N±0°06×125°96E±0°02, h64km±4km, mb5.2/175 Error ellipse: s-maj=8.7km s-min=2.7km az=182.0*
*BJI **04** 17:38:43.3±0.0, 10°82N×125°99E, h99km, mB5.3/53, mb5.1/73*
*DJA **04** 17:38:43.0±0.6, 11°N±4°×12°6E±°, h65km±5km, M5.0/42, mb5.1/42, mB5.3/18, MLv5.6/1, Mw(mB)4.8/18, Mwp5.3/2*
*KLM **04** 17:38:46.0, 10°85N×126°22E, h113km, mb5.1*
ISC 04 17:38:44.3±0.4, 10°94N±0°03×126°01E±0°04, h80km±3km, h80km:pP-P, n616, σ1§60/628, mb5.2/193, 80C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.86**	**320**	*e*P	Pn	17 38 54.6	-7.2
BESP				*e*S	**Sn**	**17 39 09.9**	**-4.8**
GLSP	**General Luna,**	**1.15**	**174**	*e*P	Pn	17 38 58.4	-6.9
OCLP	**Ormoc**	**1.38**	**275**	*e*P	**Pn**	**17 39 04.0**	**-4.1**
MSLP	**Maasin**	**1.39**	**235**	*e*P	**Pn**	**17 39 03.7**	**-4.5**
MSLP				*e*S	**Sn**	**17 39 27.4**	**+1.2**
CNP	**Catarman**	**2.04**	**320**	*e*P	**Pn**	**17 39 12.4**	**-4.4**
CNP				*e*S	**Sn**	**17 39 45.4**	**+3.8**
LLP	**Lapu-Lapu**	**2.10**	**253**	⇓*i*P	**Pn**	**17 39 14.7**	**-2.9**
LLP				*e*S	**Sn**	**17 39 43.0**	**0.0**
TBP	**Tagbilaran**	**2.45**	**240**	*i* P	**Pn**	**17 39 24.6**	**+2.3**
TBP				*e*S	**Sn**	**17 39 57.2**	**+5.9**
CGP	**Cagayan de Oro**	**2.79**	**208**	⇓*e*P	**Pn**	**17 39 24.0**	**-2.8**
CGP				*e*S	**Sn**	**17 39 58.7**	**-0.8**
BUKP	**Musuan**	**3.18**	**197**	*e*P	**Pn**	**17 39 29.7**	**-2.5**
BUKP				*e*S	**Sn**	**17 40 10.6**	**+1.4**
PVCP	**Virac**	**3.20**	**326**	*e*P	Pn	17 39 26.9	-5.6
PVCP				*e*S	**Sn**	**17 40 16.9**	**+7.3**
GUIM	**Jordan**	**3.38**	**265**	*e*P	**Pn**	**17 39 32.5**	**-2.3**
CNOP	**Candoni, Negro**	**3.50**	**252**	*e*P	**Pn**	**17 39 34.3**	**-2.1**
CNOP				*e*S	Sn	17 40 29.8	+13
DAV	**Davao City (W)**	**3.87**	**186**	Pn	**Pn**	**17 39 40.8**	**-0.7**
	50nm,0.3s,baz=39,slow=19,SNR=4.2						
DAV				Sn	**Sn**	**17 40 22.5**	**-3.4**
	101nm,0.3s,baz=74,slow=22,SNR=5.8						
DAV				LR	LR	17 41 38.7	
	comp=Z,14μm,18.3s,baz=12,slow=47						
DAV	**Davao City (W)**	**3.87**	**186**		**Pn**	**17 39 40.1**	**-1.4**
DAV	**Davao City (W)**	**3.87**	**186**	⇑*e*P	Pn	17 39 29.9	-12
MATI	**Mati**	**3.98**	**176**	*e*P	**Pn**	**17 39 44.9**	**+1.9**
JAP	**San Jose, Anti**	**4.00**	**268**	⇓*e*P	**Pn**	**17 39 42.7**	**-0.6**
KCP	**Kidapawan**	**4.01**	**193**	⇓*e*P	**Pn**	**17 39 41.5**	**-2.0**
PAGZ	**Pagadian**	**4.02**	**220**	*e*P	**Pn**	**17 39 41.2**	**-2.3**
PAGZ				*e*S	**Sn**	**17 40 31.9**	**+2.3**
OTRP	**Odiongan**	**4.16**	**290**	*e*P	**Pn**	**17 39 43.1**	**-2.3**
GQP	**Guinayangan**	**4.56**	**311**	⇓*e*P	**Pn**	**17 39 47.6**	**-3.3**
GQP				*e*S	Sn	17 40 32.2	-10
SKMP	**Bagumbayan, Su**	**4.63**	**198**	*e*P	**Pn**	**17 39 49.4**	**-2.5**
BOAC	**Boac**	**4.78**	**302**	*e*P	**Pn**	**17 39 51.6**	**-2.4**
DDMP	**Don Marcelino,**	**4.81**	**184**	*e*P	**Pn**	**17 39 52.9**	**-1.5**
CUYO	**Cuyo Island**	**4.91**	**269**	*e*P	**Pn**	**17 39 54.0**	**-1.6**
LQP	**Lukban**	**5.39**	**306**	⇑*i*P	**Pn**	**17 39 59.6**	**-2.8**
POLIP	**Polilio Island**	**5.47**	**314**	*e*P	**Pn**	**17 39 59.6**	**-3.7**
PGP	**Puerto Galera**	**5.56**	**298**	⇑*e*P	**Pn**	**17 40 03.2**	**-1.4**
BUSP	**Coron**	**5.79**	**281**	*e*P	**Pn**	**17 40 06.2**	**-1.6**
TGY	**Tagaytay City**	**5.87**	**303**	Pn	**Pn**	**17 40 07.2**	**-1.6**
	59nm,0.3s,baz=148,slow=1.4,SNR=34						
TGY				LR	LR	17 42 35.1	
	comp=Z,4μm,20.4s,baz=104,slow=40						
TGY	**Tagaytay City**	**5.87**	**303**	⇓*i*P	Pn	17 40 01.3	-7.5
QVP	**Quezon City--P**	**6.10**	**307**	*e*P	**Pn**	**17 40 09.2**	**-2.7**
LUBP	**Lubang**	**6.28**	**297**	*e*P	**Pn**	**17 40 12.4**	**-2.0**
BALP	**Baler**	**6.43**	**318**	*e*P	Pn	17 40 10.0	-6.5
ENPP	**El Nido**	**6.47**	**273**	*e*P	**Pn**	**17 40 15.6**	**-1.4**
CAUP	**Cauayan**	**7.22**	**326**	*e*P	**Pn**	**17 40 22.9**	**-4.3**
SMPP	**San Manuel, Pa**	**7.33**	**316**	*e*P	Pn	17 40 23.3	-5.4

APYP	**Conner**		**8.29**	**327**	*e*P		**Pn**	**17 40 37.0**	**-4.7**
ABRA	**Dolores**		**8.42**	**323**	*e*P		Pn	17 40 38.0	-5.5
MYLDM	**Lahad Datu**		**9.38**	**233**			**Pn**	**17 40 55.1**	**-1.7**
TNTI	**Ternate**		**10.19**	**172**	Pn		**Pn**	**17 41 05.5**	**-2.4**
GTOI	**Gorontalo**		**10.66**	**196**	P		**Pn**	**17 41 12.3**	**-1.9**
	611nm49nm,1.3s								
KKM	**Kota Kinabalu**		**10.84**	**244**	Pn		**Pn**	**17 41 15.8**	**-1.0**
LUWI	**Luwuk**		**12.33**	**195**	P		**Pn**	**17 41 37.7**	**+0.7**
	2μm124nm,1.0s								
LUWI	**Luwuk**		**12.33**	**195**	Pn		**Pn**	**17 41 36.4**	**-0.6**
TWG	**Pinlang**		**12.72**	**339**	Pn		**Pn**	**17 41 45.3**	**+3.1**
SIJI	**Sorong**		**12.84**	**156**	Pn		**Pn**	**17 41 44.5**	**+0.7**
	1.8nm,0.3s,baz=7.2,slow=17,SNR=3.5								
SIJI					Sn		Sn	17 43 50.0	-15
	0.4nm,0.3s,baz=127,slow=20,SNR=1.3								
SIJI					LR		LR	17 46 41.9	
	comp=Z,1μm,21.1s,baz=314,slow=38								
SANI	**Sanana**		**12.90**	**180**	P		Pn	17 41 39.6	-5.1
YULB	**Yu-li**		**13.18**	**341**	Pn		**Pn**	**17 41 47.5**	**-0.8**
SSLB	**Suanglung**		**13.65**	**340**	Pn		**Pn**	**17 41 54.4**	**-0.2**
NLAI	**Namlea**		**14.13**	**176**	P		**P**	**17 42 05.8**	**-0.1**
YHNB	**Yeheng**		**14.35**	**343**	Pn		**Pn**	**17 42 02.4**	**-1.3**
MSAI	**Masohi**		**14.49**	**168**	P		**P**	**17 42 10.9**	**+1.0**
	404nm24nm,1.4s								
FAKI	**Fak Fak**		**15.10**	**155**	P		**Pn**	**17 42 14.2**	**+0.8**
	1μm69nm,1.3s								
FAKI	**Fak Fak**		**15.10**	**155**			**Pn**	**17 42 12.8**	**-0.6**
BKB	**Balikpapan**		**15.13**	**217**			**Pn**	**17 42 14.8**	**+1.0**
BAKI	**Biak**		**15.69**	**140**	P		P	17 42 39.6	+16
SPSI	**Sidrap Palu**		**16.06**	**203**	P		**P**	**17 42 30.5**	**+3.1**
SBUM	**Sibu**		**16.07**	**239**			**Pn**	**17 42 26.0**	**+0.3**
SBUM	**Sibu**		**16.07**	**239**	P		**P**	**17 42 28.0**	**+0.4**
SRPI	**Serui, Papua**		**16.29**	**141**	P		P	17 42 44.9	+15
BNSI	**Bone**		**16.33**	**201**	P		**P**	**17 42 30.8**	**+0.4**
	1μm47nm,0.9s								
KAPI	**Kappang**		**17.03**	**202**	P		**Pn**	**17 42 37.7**	**+0.2**
	0.6nm,0.3s,baz=37,slow=10,SNR=2.8								
KAPI					LR		LR	17 49 26.2	
	comp=Z,1μm,21.0s,baz=20,slow=38								
KAPI	**Kappang**		**17.03**	**202**	P		**P**	**17 42 38.3**	**+0.1**
KAPI					pmax		pmax		
	comp=Z,54nm,1.1s								
KAPI	**Kappang**		**17.03**	**202**	P		**P**	**17 42 38.3**	**+0.1**
BKSI	**Bulukumba**		**17.18**	**200**	P		P	17 42 49.1	+9.2
DLV	**T Lat**		**17.21**	**275**			**P**	**17 42 40.1**	**-0.2**
KBKI	**Kotabaru**		**17.21**	**215**	P		**P**	**17 42 44.4**	**+4.3**
QIZ	**Qiongzhong**		**17.56**	**299**	P		**P**	**17 42 43.4**	**-0.6**
QIZ					pP		**pP**	**17 43 00.6**	**+0.8**
QIZ					S		**Sn**	**17 46 00.3**	**+1.1**
QIZ					pmax		pmax		
	comp=Z,540nm,2.8s								
QIZ					LR		LR		
	comp=Z,710nm,16.2s								
QIZ					LR		LR		
	comp=Z,1μm,18.1s								
QIZ					LR		LR		
	comp=Z,1μm,16.7s								
QIZ	**Qiongzhong**		**17.56**	**299**	P		**Pn**	**17 42 44.7**	**+0.7**
BBKI	**Banjar Baru**		**18.12**	**218**	P		Pn	17 43 00.9	+10
KSM	**Kuching**		**18.21**	**240**			**Pn**	**

comp=Z,195nm,1.3s
LEM Lembang 25.43 227 P **P** **17 44 06.0 +1.0**
comp=Z,58nm,0.9s,baz=71,slow=5.5,SNR=11
LEM LR LR 17 54 54.7
comp=Z,704nm,20.8s,baz=66,slow=38
IPM Ipoh 25.56 257 P **P** **17 44 06.6 +0.5**
IPM Ipoh 25.56 257 P **P** **17 44 07.0 +0.9**
JWT Wachi 25.70 18 P **P** **17 44 06.5 -0.6**
JWT IAmb IAmb 17 44 16.1
comp=Z,133nm,1.3s
CBJI Citeko 25.71 229 P **P** **17 44 10.1 +2.7**
comp=Z,93nm,0.7s
KULM Kulim 25.72 259 P **P** **17 44 08.3 +0.8**
KULM IAmb IAmb 17 44 35.0
comp=Z,83nm,1.3s
KULM Kulim 25.72 259 P **P** **17 44 10.0 +2.5**
CISI Cisompet, Garu 25.80 225 P **P** **17 44 07.8 -0.5**
CISI IAmb IAmb 17 44 49.9
comp=Z,56nm,0.9s
DBJI Dramaga 25.88 229 P **P** **17 44 12.2 +3.3**
comp=Z,12μmcomp=Z,47nm,1.1s
KMI Kunming 26.18 306⇑ *i*P **P** **17 44 11.4 -0.4**
KMI pP pP 17 44 28.7 -1.5
KMI PP **PnPn** **17 44 57.2 +2.3**
KMI S S 17 48 26.5 -12
KMI sS sS 17 49 10.1 +1.9
KMI pmax pmax
comp=Z,35nm,0.8s
KMI pmax pmax
comp=Z,430nm,5.4s
KMI LR LR
comp=Z,830nm,17.6s
KMI LR LR
comp=Z,600nm,17.1s
KMI LR LR
comp=Z,1μm,23.5s
KMI Kunming 26.18 306 P **P** **17 44 11.2 -0.6**
KMI pmax pmax
comp=Z,33nm,0.8s
KMI Kunming 26.18 306 P **P** **17 44 11.2 -0.6**
KMI IAmb IAmb 17 44 12.4
comp=Z,32nm,0.8s
BLSI Bandar Lampung 26.26 233 P **P** **17 44 14.1 +1.7**
comp=Z,59nm,0.5s
INU Inuyama 26.28 21 P **P** **17 44 11.4 -0.9**
TIA Tai'an 26.42 344 P **P** **17 44 13.3 -0.3**
TIA pmax pmax
comp=Z,56nm,0.9s
KSAR Wonju Array Be 26.44 3 P **P** **17 44 13.9 +0.1**
KSAR Wonju Array Be 26.44 3 P **P** **17 44 13.9 +0.1**
KSRS Korea Array 26.46 3 P **P** **17 44 13.7 -0.2**
comp=Z,7.7nm,0.9s,baz=185,slow=10.0,SNR=14
KSRS PcP **PcP** **17 47 38.5 +1.2**
comp=Z,4.7nm,1.1s,baz=180,slow=2.8,SNR=4.5
KSRS LR LR 17 54 19.6
comp=Z,549nm,21.8s,baz=180,slow=36
KS19 Wonju Array Si 26.50 3 P **P** **17 44 13.7 -0.6**
KNRA Kununurra 26.59 174 P **P** **17 44 14.4 -0.8**
KNRA IAmb IAmb 17 44 18.9
comp=Z,78nm,1.1s
MDSI Maura Dua 26.59 236 P **P** **17 44 20.4 +5.0**
JGF Kuroka 26.63 21 P **P** **17 44 14.1 -1.4**
JGF IAmb IAmb 17 44 25.7
comp=Z,75nm,1.6s
BKNI Bangkinang 26.96 249 P P 17 44 28.4 +10
BKNI Bangkinang 26.96 249 P **P** **17 44 17.7 -1.0**
BKNI IAmb IAmb 17 44 30.9
comp=Z,257nm,1.9s
LWLI Liwa 27.00 235 P **P** **17 44 19.8 +0.7**
comp=Z,88nm,0.8s
SDSI Sungai Dareh 27.14 246 P **P** **17 44 25.1 +4.8**
CM31 Chiang Mai Arr 27.20 289 P **P** **17 44 19.8 -1.1**
CMAR Chiang Mai Arr 27.20 289 P **P** **17 44 19.8 -1.1**
comp=Z,5.4nm,0.7s,baz=102,slow=7.2,SNR=32
CMAR PcP **PcP** **17 47 40.5 +1.1**
comp=Z,1.1nm,0.7s,baz=105,slow=1.5,SNR=6.2
CMAR ScP **ScP** **17 51 17.3 +4.4**
comp=Z,0.8nm,0.9s,baz=55,slow=2.2,SNR=4.4
CMAR PKiKP **PKiKP** **17 55 17.3 +0.3**
comp=Z,0.5nm,0.8s,baz=129,slow=1.1,SNR=4.9
CMAR Chiang Mai Arr 27.20 289 P **P** **17 44 19.3 -1.5**
CHTO Chiang Mai 27.28 290 P **P** **17 44 19.5 -2.1**
CHTO pmax pmax
comp=Z,25nm,1.6s
CHTO Chiang Mai 27.28 290 P **P** **17 44 19.5 -2.1**
MNAI Manna 27.53 238 P **P** **17 44 23.5 -0.2**
MAJO Matsushiro 27.77 21 P **P** **17 44 24.3 -1.4**
MAJO pmax pmax
comp=Z,15nm,1.2s
MAJO Matsushiro 27.77 21 P **P** **17 44 24.3 -1.4**
MAT Matsushiro 27.77 21 P **P** **17 44 23.3 -2.4**
MAT *e*S **S** **17 49 03.2 +0.4**
MJAR Matsushiro Arr 27.77 21 P **P** **17 44 23.6 -2.2**
comp=Z,7.4nm,0.9s,baz=195,slow=8.8,SNR=17
MJAR PcP **PcP** **17 47 41.6 +1.1**
comp=Z,1.8nm,0.9s,baz=215,slow=2.6,SNR=5.0
MJAR LR LR 17 53 31.3
comp=Z,517nm,21.3s,baz=205,slow=32
MJAR Matsushiro Arr 27.77 21 P **P** **17 44 22.9 -2.8**
MJAR **PcP** **17 47 41.1 +0.6**
XAN Xi'an 27.80 328 P **P** **17 44 25.4 -0.7**
XAN pmax pmax
comp=Z,58nm,1.1s
XAN pmax pmax
comp=Z,140nm,3.5s
XAN LR LR
comp=Z,810nm,14.7s
XAN LR LR
comp=Z,750nm,17.1s
XAN LR LR
comp=Z,1μm,15.0s
XAN Xi'an 27.80 328 P **P** **17 44 25.3 -0.8**
XAN pmax pmax
comp=Z,56nm,1.0s
XAN Xi'an 27.80 328 P **P** **17 44 25.3 -0.8**
XAN IAmb IAmb 17 44 26.4
comp=Z,56nm,1.0s
PSI Prapat 28.06 255 P **P** **17 44 30.1 +1.4**
comp=Z,11nm,0.8s,baz=168,slow=5.7,SNR=4.7
PSI LR LR 17 56 54.0
comp=Z,822nm,18.3s,baz=360,slow=39
PSI Prapat 28.06 255 P **P** **17 44 27.1 -1.6**
PSI pmax pmax
comp=Z,26nm,1.1s
RPSI Rantau Prapat 28.09 255 P **P** **17 44 27.1 -1.7**
DL2 Dalian 28.12 353 P **P** **17 44 29.5 +0.7**
DL2 sP **sP** **17 44 58.8 +4.0**
DL2 *e*S **S** **17 49 09.8 +1.6**
DL2 pmax pmax
comp=Z,51nm,0.8s
DL2 pmax pmax
comp=Z,500nm,4.5s
DL2 LR LR
comp=Z,460nm,17.1s
DL2 LR LR
comp=Z,510nm,18.5s
DL2 LR LR
comp=Z,750nm,15.8s
MNSI Mandailing Nat 28.12 251 P **P** **17 44 31.4 +2.3**
JYT Yasato 28.26 25 P **P** **17 44 28.1 -1.9**
JYT IAmb IAmb 17 45 03.0
comp=Z,193nm,2.0s
CD2 Chengdu 28.65 317 P **P** **17 44 32.6 -1.0**
CD2 S **S** **17 49 15.1 -1.7**
CD2 sS sS 17 49 53.0 +6.3
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,940nm,5.9s
CD2 LR LR
comp=Z,4μm,20.9s
CD2 LR LR
comp=Z,4μm,19.6s
CD2 LR LR
comp=Z,5μm,18.4s
FITZ Fitzroy Crossi 28.86 181 P **P** **17 44 34.2 -1.3**
comp=Z,11nm,0.4s,baz=1.7,slow=8.5,SNR=70
FITZ Fitzroy Crossi 28.86 181 P **P** **17 44 34.3 -1.1**
PMG Port Moresby 29.17 133 *ce*P **P** **17 44 37.3 -1.0**
PMG pmax pmax
comp=Z,33nm,1.7s
PMG Port Moresby 29.17 133 P **P** **17 44 37.4 -1.0**
GSI Gunungsitoli 29.82 253 P **P** **17 44 43.6 -0.5**
GSI IAmb IAmb 17 44 53.0
comp=Z,45nm,1.1s

JMM Marumori 29.91 24 P **P** **17 44 42.5 -2.2**
JMM IAmb IAmb 17 45 06.8
comp=Z,73nm,1.3s
KRVT Keravat (AS076 30.00 119 LR LR 17 57 17.6
comp=Z,338nm,18.1s,baz=330,slow=37
COEN Coen 30.03 145 P **P** **17 44 44.1 -1.8**
COEN IAmb IAmb 17 44 50.8
comp=Z,44nm,1.2s
BJT Baijiatuao 30.25 345 P **P** **17 44 46.9 -0.7**
BJT pmax pmax
comp=Z,27nm,1.0s
BJT Baijiatuao 30.25 345 P **P** **17 44 46.9 -0.7**
BJI Beijing 30.27 345 P **P** **17 44 47.9 +0.1**
BJI sP **sP** **17 45 19.3 +5.0**
BJI pmax pmax
comp=Z,29nm,0.8s
SNY Shenyang 30.84 356⇑ P **P** **17 44 52.8 0.0**
SNY pmax pmax
comp=Z,52nm,1.0s
WB0 Warramunga Arr 31.61 165 P **P** **17 44 57.1 -2.7**
WRAB Tennant Creek 31.76 165 *ce*P **P** **17 44 59.4 -1.7**
WRAB pmax pmax
comp=Z,21nm,1.3s
WRAB Tennant Creek 31.76 165 P **P** **17 44 58.0 -3.2**
WRAB IAmb IAmb 17 45 01.2
comp=Z,15nm,0.5s
WRA Warramunga Arr 31.77 165 P **P** **17 44 58.6 -2.5**
comp=Z,8.8nm,0.7s,baz=343,slow=9.4,SNR=69
WRA ScP **ScP** **17 51 31.2 +3.8**
comp=Z,0.4nm,0.3s,baz=344,slow=3.5,SNR=14
WRA LR LR 18 01 04.7
comp=Z,298nm,18.6s,baz=340,slow=42
WRA Warramunga Arr 31.77 165 P **P** **17 44 58.9 -2.3**
WB2 Warramunga Arr 31.77 165 P **P** **17 44 58.8 -2.5**
WR0 Warramunga Arr 31.83 165 P **P** **17 44 59.7 -2.1**
LZH Lanzhou 32.09 325 *e*P **P** **17 45 04.6 +0.5**
LZH pP pP 17 45 26.4 +4.0
LZH sP sP 17 45 37.6 +6.1
LZH pmax pmax
comp=Z,39nm,1.3s
LZH pmax pmax
comp=Z,160nm,5.2s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,760nm,19.0s
HHC Hu-ho-hao-te 32.40 339 *e*P **P** **17 45 07.6 +0.9**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.6s
PBA Port Blair 32.62 275 P P 17 45 08.4 -0.4
PBA IAmb IAmb 17 45 46.6
comp=Z,96nm,1.2s
LKP Lekhapani 32.71 304 *e*P **P** **17 45 06.8 -2.6**
BTO Baotou 32.75 337 *e*P **P** **17 45 11.0 +1.2**
PSA00 Pilbara Seismi 32.87 191 P **P** **17 45 09.8 -1.1**
PSA00 Pilbara Seismi 32.87 191 P **P** **17 45 09.6 -1.3**
PSA00 IAmb IAmb 17 45 22.6
comp=Z,19nm,0.8s
USA0B Ussuriysk Arra 33.54 8 *i* P **P** **17 45 16.0 -0.4**
USA0B Ussuriysk Arra 33.54 8 P **P** **17 45 16.1 -0.4**
USRK Ussuriysk Ar. 33.54 8 P **P** **17 45 16.6 +0.1**
comp=Z,11nm,0.7s,baz=189,slow=8.2,SNR=31
USRK LR LR 17 57 49.3
comp=Z,385nm,21.8s,baz=176,slow=34
USRK Ussuriysk Ar. 33.54 8 P **P** **17 45 16.4 0.0**
USRK Ussuriysk Ar. 33.54 8 P **P** **17 45 16.4 0.0**
KOHI KOHIMA 33.55 300 *e*P **P** **17 45 14.2 -2.7**
KOHI IAmb IAmb 17 45 16.4
comp=Z,31nm,0.9s
SAIH SAIHA 33.57 294 *e*P **P** **17 45 15.7 -1.5**
SAIH IAmb IAmb 17 45 17.2
comp=Z,27nm,0.4s
MDJ Mudanjiang 33.70 5 P **P** **17 45 18.3 +0.5**
MDJ S S 17 50 23.7 -11
MDJ pmax pmax
comp=Z,27nm,1.4s
MDJ pmax pmax
comp=Z,170nm,4.0s
MDJ LR LR
comp=Z,670nm,6.5s
MDJ LR LR
comp=Z,390nm,6.6s
MDJ LR LR
comp=Z,400nm,6.1s
MDJ Mudanjiang 33.70 5 P **P** **17 45 17.5 -0.3**
MDJ IAmb IAmb 17 45 19.7
comp=Z,28nm,1.1s
ITAN ITANAGAR 34.38 303 *e*P **P** **17 45 22.7 -1.2**
ZIRO ZIRO 34.41 303 *e*P **P** **17 45 23.0 -1.4**
ZIRO IAmb IAmb 17 45 24.9
comp=Z,35nm,0.8s
JEW Eniwo 34.51 20 P **P** **17 45 25.3 +0.5**
TEZP TEZPUR 34.96 301 *e*P **P** **17 45 27.1 -1.9**
TEZP IAmb IAmb 17 45 28.6
comp=Z,27nm,1.0s
TEY Ternei 35.17 13⇑ *e*P P 17 45 21.3 -9.2
TEY pmax pmax
comp=Z,10.0nm,1.8s
AS31 Alice Springs 35.25 167 P **P** **17 45 30.0 -1.4**
ASAR Alice Springs 35.25 167 P **P** **17 45 29.9 -1.6**
comp=Z,12nm,0.5s,baz=350,slow=6.9,SNR=166
ASAR PcP **PcP** **17 48 00.9 +0.1**
comp=Z,2.9nm,0.8s,baz=335,slow=2.5,SNR=3.3
ASAR S **S** **17 51 01.6 +2.0**
comp=Z,2.1nm,0.9s,baz=349,slow=14,SNR=6.5
ASAR ScP **ScP** **17 51 43.1 +3.5**
comp=Z,1.6nm,0.9s,baz=336,slow=2.0,SNR=5.4
ASAR LR LR 18 03 03.7
comp=Z,350nm,18.2s,baz=348,slow=42
ASAR Alice Springs 35.25 167 P **P** **17 45 30.0 -1.4**
ASAR Alice Springs 35.25 167 P **P** **17 45 30.0 -1.4**
SHL Shillong 35.40 299 *e*P **P** **17 45 31.2 -1.7**
SHL IAmb IAmb 17 45 33.0
comp=Z,54nm,0.9s
SHL *ex* x 17 47 15.3
SHL Shillong 35.40 299 P **P** **17 45 31.4 -1.6**
SHL pmax pmax
comp=Z,88nm,0.7s
SHL Shillong 35.40 299 P **P** **17 45 31.4 -1.6**
ASAJ Asahikawa 36.03 20 P **P** **17 45 38.1 +0.2**
comp=Z,12nm,0.8s,baz=191,slow=8.5,SNR=2.6
ASAJ Asahikawa 36.03 20 P **P** **17 45 38.2 +0.3**
ASAJ pmax pmax
comp=Z,140nm,1.8s
JKA Kamikawa-asahi 36.03 20 P **P** **17 45 38.2 +0.3**
GTA Gaotai 36.69 325⇑ P **P** **17 45 44.1 +0.3**
GTA pP pP 17 46 06.3 +4.0
GTA sP sP 17 46 18.1 +6.7
GTA PcS **PcS** **17 51 51.8 -1.3**
GTA pmax pmax
comp=Z,32nm,1.0s
GTA pmax pmax
comp=Z,230nm,10.9s
GTA LR LR
comp=Z,490nm,20.7s
GTA LR LR
comp=Z,410nm,20.7s
GTA LR LR
comp=Z,650nm,20.0s
CTAO Charters Tower 36.71 147 P **P** **17 45 43.7 -0.3**
CTAO pmax pmax
comp=Z,47nm,1.3s
CTAO Charters Tower 36.71 147 P **P** **17 45 43.6 -0.3**
CTAO IAmb IAmb 17 45 50.1
comp=Z,47nm,1.3s
LSA Lhasa 37.43 305 P **P** **17 45 50.5 -0.1**
LSA pmax pmax
comp=Z,130nm,1.2s
LSA Lhasa 37.43 305 P **P** **17 45 50.6 -0.1**
LSA Lhasa 37.43 305 P **P** **17 45 50.2 -0.4**
LSA pmax pmax
comp=Z,49nm,1.2s
LSA Lhasa 37.43 305 P **P** **17 45 50.2 -0.4**
LSA IAmb IAmb 17 45 51.8
comp=Z,49nm,1.2s
HIA Hailar 38.56 353 P **P** **17 45 58.7 -0.6**
HIA IAmb IAmb 17 46 00.5
comp=Z,16nm,0.8s
HIA **PcP** **17 48 11.8 +1.4**
YSS Yuzh-Sakhalins 38.59 18 *i* P **P** **17 45 59.1 -0.4**
YSS pmax pmax
comp=Z,29nm,1.1s
YSS Yuzh-Sakhalins 38.59 18 P **P** **17 45 59.5 0.0**
YSS IAmb IAmb 17 46 03.9
comp=Z,29nm,1.1s
GTK Tadong 38.73 300 *e*P **P** **17 46 00.1 -1.1**
GTK IAmb IAmb 17 46 03.0
comp=Z,43nm,1.0s
HNR Honiara 39.36 120 LR LR 18 00 28.2
comp=Z,391nm,21.0s,baz=310,slow=33
H11S3 WAKE ISLAND Hy 39.98 74 T T 18 29 04.1
baz=265,slow=75,SNR=353
H11S1 WAKE ISLAND Hy 39.99 74 T T 18 29 06.9
baz=265,slow=75,SNR=142
H11S2 WAKE ISLAND Hy 40.00 74 T T 18 28 58.1
baz=265,slow=75,SNR=130
ULN Ulaanbaatar 40.11 340 *ce*P **P** **17 46 12.9 +0.5**
ULN pmax pmax
comp=Z,52nm,1.0s
ULN Ulaanbaatar 40.11 340 P **P** **17 46 13.1 +0.7**
ULN IAmb IAmb 17 46 14.5
comp=Z,57nm,1.1s
BOK Bokaro 40.23 294 *e*P **P** **17 46 12.6 -0.9**
BOK IAmb IAmb 17 46 15.1
comp=Z,20nm,0.3s
H11N1 WAKE ISLAND Hy 40.29 72 T T 18 29 26.8
baz=264,slow=74,SNR=525
H11N2 WAKE ISLAND Hy 40.30 72 T T 18 29 22.8
baz=264,slow=74,SNR=270
SONM Songino Array 40.31 340 P **P** **17 46 14.6 +0.7**
comp=Z,37nm,1.1s,baz=159,slow=9.1,SNR=104
SONM PcP **PcP** **17 48 16.8 +0.6**
comp=Z,4.1nm,0.8s,baz=163,slow=4.1,SNR=3.9
SONM ScP **ScP** **17 52 03.5 +5.1**
comp=Z,0.9nm,0.8s,baz=134,slow=4.2,SNR=4.5
SONM LR LR 18 04 48.8
comp=Z,425nm,19.6s,baz=155,slow=39
SONM Songino Array 40.31 340 P **P** **17 46 14.4 +0.5**
SONM 17 48 16.8
SONM pmax pmax
comp=Z,39nm,1.2s
SONM Songino Array 40.31 340 P **P** **17 46 14.4 +0.5**
H11N3 WAKE ISLAND Hy 40.31 72 T T 18 29 28.3
baz=264,slow=74,SNR=486
GRNR Gornyy 40.62 10⇑ *i*P **P** **17 46 17.4 +1.0**
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=N,300nm,15.0s
MORW Morawa 40.92 193 P **P** **17 46 17.8 -1.3**
MORW IAmb IAmb 17 46 32.3
comp=Z,19nm,0.8s
FORT Forrest 41.52 177 P **P** **17 46 23.4 -0.6**
CIT Chita 42.20 349 *e*P **P** **17 46 29.7 +0.4**
CIT *e* 17 46 43.5
CIT *e* 17 46 48.8
CIT pmax pmax
comp=Z,111nm,1.9s
ZEA Zeya 42.70 1 *e*P **P** **17 46 32.9 -0.3**
ZEA *e* 17 48 25.7
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA pmax pmax
comp=E,100nm,3.9s
ZEA pmax pmax
comp=Z,200nm,4.9s
ZAK Zakamensk 43.55 339 *e*P **P** **17 46 39.4 -0.9**
ZAK pmax pmax
comp=Z,16nm,1.2s
EIDS Eidsvold 43.58 146 P **P** **17 46 39.3 -1.4**
NWAO Narrogin (SRO) 44.42 191 P **P** **17 46 47.1 -0.2**
NWAO pmax pmax
comp=Z,86nm,0.9s
NWAO Narrogin (SRO) 44.42 191 P **P** **17 46 47.1 -0.2**
NWAO Narrogin (SRO) 44.42 191 P **P** **17 46 47.1 -0.2**
NWAO IAmb IAmb 17 46 48.0
comp=Z,86nm,0.9s
TLY Talaya 44.52 340 P **P** **17 46 49.1 +1.1**
comp=Z,24nm,0.8s,baz=175,slow=4.0,SNR=17
TLY Talaya 44.52 340 *e*P **P** **17 46 49.1 +1.1**
TLY *e* 17 48 32.8
TLY pmax pmax
comp=Z,155nm,1.4s
TLY MLR MLR
comp=Z,795nm,17.0s
TLY Talaya 44.52 340 P **P** **17 46 48.5 +0.5**
TLY IAmb IAmb 17 46 50.2
comp=Z,40nm,0.9s
BBOO Buckleboo 44.55 168 P **P** **17 46 48.2 -0.1**
PALK Pallekele 44.85 269 P **P** **17 46 50.7 -0.5**
PALK pmax pmax
comp=Z,27nm,1.2s
PALK Pallekele 44.85 269 P **P** **17 46 50.7 -0.5**
PALK IAmb IAmb 17 47 12.4
comp=Z,27nm,1.2s
STKA Stephens Creek 45.11 161 P **P** **17 46 52.4 -0.5**
comp=Z,16nm,0.9s,baz=336,slow=7.9,SNR=21
STKA LR LR 18 08 15.6
comp=Z,155nm,20.5s,baz=348,slow=39
STKA Stephens Creek 45.11 161 P **P** **17 46 52.0 -0.9**
STKA pmax pmax
comp=Z,8.0nm,1.2s
STKA Stephens Creek 45.11 161 P **P** **17 46 52.0 -0.9**
MOY Mondy 45.43 338 *e*P **P** **17 46 56.3 +1.0**
MOY pmax pmax
comp=Z,101nm,1.8s
HYB Hyderabad 46.37 284 *i* P **P** **17 47 02.0 -1.1**
WMQ Urumqi 46.54 322 *e*P **P** **17 47 04.5 +0.3**
WMQ sP sP 17 47 40.3 +7.8
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,100nm,5.5s
WMQ LR LR
comp=Z,470nm,16.5s
WMQ LR LR
comp=Z,430nm,14.9s
WMQ LR LR
comp=Z,260nm,18.1s
WMQ Urumqi 46.54 322 P **P** **17 47 04.4 +0.3**
WMQ pmax pmax
comp=Z,33nm,1.2s
WMQ Urumqi 46.54 322 P **P** **17 47 04.3 +0.2**
WMQ IAmb IAmb 17 47 06.8
comp=Z,33nm,1.2s
BOD Bodaibo 47.67 351 *e*P **P** **17 47 12.2 -0.4**
BOD pmax pmax
comp=Z,30nm,1.3s
BHPL Bhopal 47.82 291 *e*P **P** **17 47 12.9 -1.4**
ARMA Armidale 47.94 150 P **P** **17 47 14.4 -0.7**
ARMA IAmb IAmb 17 47 21.6
comp=Z,49nm,1.6s
PEA0B Petropavlovsk- 49.14 25 P **P** **17 47 23.4 -0.5**
PEA0B pmax pmax
comp=Z,114nm,1.4s
PEA0B Petropavlovsk- 49.14 25 P **P** **17 47 23.4 -0.5**
PETK Petropavlovsk- 49.14 25 P **P** **17 47 25.1 +1.1**
comp=Z,6.4nm,0.7s,baz=201,slow=3.6,SNR=9.6
PETK Petropavlovsk- 49.14 25 P **P** **17 47 24.0 +0.1**
PETK Petropavlovsk- 49.14 25 P **P** **17 47 24.0 +0.1**
KUDL Kundal 49.35 298 *e*P **P** **17 47 23.6 -2.3**
PET Petropavlovsk 49.47 25 P **P** **17 47 26.9 +0.5**
PET pmax pmax
comp=Z,78nm,1.2s
PET Petropavlovsk 49.47 25 P **P** **17 47 26.9 +0.5**
DGZ Jazzator, Alta 50.07 328 *c i*P **P** **17 47 31.8 +0.6**
DGZ pmax pmax
comp=Z,33nm,1.3s
ZSN Zaisan 50.18 324 *e*P **P** **17 47 30.8 -1.2**
ZSN Zaisan 50.18 324 *e*P **P** **17 47 30.7 -1.2**
DHRM DHARAMSHALA 50.34 303 *e*P **P** **17 47 32.1 -1.6**
DHRM IAmb IAmb 17 47 33.1
comp=Z,35nm,0.8s
CAN Canberra 50.89 156 P **P** **17 47 37.9 +0.4**
CAN pmax pmax
comp=Z,48nm,1.2s
CAN Canberra 50.89 156 P **P** **17 47 37.9 +0.4**
CAN IAmb IAmb 17 47 51.3
comp=Z,48nm,1.2s
YAK Yakutsk 51.07 2 P **P** **17 47 38.3 0.0**
comp=Z,26nm,0.8s,baz=222,slow=0.8,SNR=27
YAK LR LR 18 11 03.9
comp=Z,249nm,19.5s,baz=50,slow=38
YAK Yakutsk 51.07 2 *e*P **P** **17 47 38.5 +0.2**

YAK e*PP pwP 17 48 00.2 -3.0
YAK e 17 48 50.5
YAK eS S 17 54 49.0 -0.8
YAK pmax pmax
comp=Z,84nm,1.4s
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=E,12nm,1.5s
YAK smax smax
comp=N,267nm,5.6s
YAK smax smax
comp=E,292nm,5.2s
YAK Yakutsk 51.07 2 P P 17 47 37.9 -0.4
MK31 Makanchi Array 51.34 323ceP P 17 47 41.2 +0.5
MK31 Makanchi Array 51.34 323 P P 17 47 40.5 -0.3
MK31 IAmb IAmb 17 47 42.2
comp=Z,37nm,1.0s
MKAR Makanchi Array 51.34 323 P P 17 47 41.1 +0.3
comp=Z,31nm,0.8s,baz=121,slow=8.3,SNR=192
MKAR ScP ScP 17 52 48.7 +4.6
comp=Z,3.5nm,1.1s,baz=141,slow=5.5,SNR=4.8
MKAR LR LR 18 11 57.0
comp=Z,368nm,18.2s,baz=127,slow=39
MKAR Makanchi Array 51.34 323 P P 17 47 40.3 -0.4
MKAR ScP 17 52 48.7 +4.6
DZM Mont Dzumac 51.47 130 eP P 17 47 41.9 -0.2
comp=Z,122nm,1.4s
DZM Mont Dzumac 51.47 130 P P 17 47 42.5 +0.4
SHLS Shalkode 51.48 317⇑iP P 17 47 39.9 -2.1
comp=Z,36nm,1.2s
SHLS Shalkode 51.48 317c iP P 17 47 39.8 -2.1
SHLS pmax pmax
comp=Z,36nm,1.2s
MAKZ Makanchi 51.54 322 P P 17 47 42.0 -0.2
MAKZ pmax pmax
comp=Z,31nm,0.9s
MAKZ Makanchi 51.54 322 P P 17 47 42.0 -0.2
MAKZ IAmb IAmb 17 47 43.7
comp=Z,31nm,0.9s
TOO Toolangi 51.60 160 P P 17 47 43.6 +0.9
TOO pmax pmax
comp=Z,90nm,1.8s
TOO Toolangi 51.60 160 P P 17 47 43.6 +0.9
TOO IAmb IAmb 17 48 14.9
comp=Z,90nm,1.8s
UZB Uzynbulak 51.77 317⇑iP P 17 47 44.2 0.0
comp=Z,28nm,1.2s
UZB Uzynbulak 51.77 317c iP P 17 47 44.1 0.0
UZB pmax pmax
comp=Z,28nm,1.2s
MA2 Magadan 51.96 16 P P 17 47 45.6 +0.5
comp=Z,15nm,0.8s,baz=201,slow=8.6,SNR=2.6
MA2 Magadan 51.96 16 P P 17 47 45.6 +0.5
MA2 pmax pmax
comp=Z,172nm,1.9s
MA2 Magadan 51.96 16 P P 17 47 45.6 +0.5
TARG Taragay, Kyrgy 52.05 315 P P 17 47 45.9 -0.7
TARG IAmb IAmb 17 47 57.2
comp=Z,15nm,1.0s
KPKS Kokpek 52.13 317⇑iP P 17 47 46.6 -0.2
comp=Z,41nm,1.1s
KPKS Kokpek 52.13 317c iP P 17 47 46.5 -0.2
KPKS pmax pmax
comp=Z,41nm,1.1s
SATY Saty 52.15 317⇑iP P 17 47 46.9 -0.1
comp=Z,19nm,0.8s
SATY Saty 52.15 317c iP P 17 47 46.8 -0.1
SATY pmax pmax
comp=Z,19nm,0.8s
KSH Kashi 52.60 312 P P 17 47 51.3 +1.0
KSH pP sP 17 48 15.7 -3.2
KSH S S 17 55 13.3 +1.6
KSH pmax pmax
comp=Z,40nm,1.2s
KSH pmax pmax
comp=Z,240nm,6.5s
KSH LR LR
comp=Z,170nm,10.2s
KSH LR LR
comp=Z,710nm,18.5s
KSH LR LR
comp=Z,880nm,19.0s
KDJ Kajisay 52.63 315 P P 17 47 50.4 -0.2
KDJ pmax pmax
comp=Z,37nm,0.9s
KDJ Kajisay 52.63 315 P P 17 47 50.4 -0.2
KDJ IAmb IAmb 17 47 52.1
comp=Z,37nm,0.9s
TDK Taldyqorghan 52.94 319 eP P 17 47 52.7 0.0
comp=Z,91nm,1.3s
TDK Taldyqorghan 52.94 319 eP P 17 47 52.6 0.0
TDK pmax pmax
comp=Z,91nm,1.3s
MDOK Medeo 53.11 316 i P P 17 47 53.7 -0.4
MDOK Medeo 53.11 316 i P P 17 47 53.6 -0.4
TNSS Tian-Shan 53.13 316⇑iP P 17 47 54.9 +0.4
TNSS Tian-Shan 53.13 316⇑iP P 17 47 54.9 +0.4
NIL Nilore 53.15 304 P P 17 47 53.3 -1.1
NIL pmax pmax
comp=Z,58nm,1.0s
NIL Nilore 53.15 304 P P 17 47 53.3 -1.1
AAA Alma-Ata 53.22 316 eP P 17 47 52.5 -2.2
AAA Alma-Ata 53.22 316 eP P 17 47 52.5 -2.2
CHKK Chushkaly 53.41 317 eP P 17 47 54.3 -1.8
CHKK Chushkaly 53.41 317 eP P 17 47 54.3 -1.8
MTBS Maitube 53.52 316 eP P 17 47 55.9 -1.0
MTBS Maitube 53.52 316 eP P 17 47 55.9 -1.0
BOOM Boomskoye usch 53.62 315 P P 17 47 56.6 -1.2
BOOM pmax pmax
comp=Z,45nm,1.3s
BOOM Boomskoye usch 53.62 315 P P 17 47 56.6 -1.2
BOOM IAmb IAmb 17 49 50.8
comp=Z,45nm,1.2s
KUU Kurty 53.86 317⇑iP P 17 47 59.5 +0.1
comp=Z,88nm,0.9s
KUU Kurty 53.86 317c iP P 17 47 59.4 +0.1
KUU pmax pmax
comp=Z,88nm,0.9s
ZAA0 Zalesovo Array 53.92 331 P P 17 47 59.0 -0.5
ZAA0 IAmb IAmb 17 48 00.6
comp=Z,37nm,0.9s
ZALV Zalesovo Beam 53.92 331 P P 17 47 59.4 -0.2
comp=Z,25nm,0.8s,baz=116,slow=6.6,SNR=109
ZALV LR LR 18 11 20.3
comp=Z,248nm,20.2s,baz=108,slow=36
ZALV Zalesovo Beam 53.92 331 P P 17 47 59.0 -0.5
TKM2 Tokmak 2 54.01 316 P P 17 48 01.0 +0.3
SNR=18
KBK Karagaybulak 54.37 315 P P 17 48 03.8 +0.6
SNR=22
UCH Uchtor 54.53 314 P P 17 48 05.6 +0.9
SNR=75
CHMS Chumysh 54.62 315 P P 17 48 04.8 -0.1
SNR=26
FRU1 Bishkek 54.64 315 P P 17 48 04.6 -0.5
FRU1 pmax pmax
comp=Z,27nm,1.0s
FRU1 Bishkek 54.64 315 P P 17 48 04.6 -0.5
FRU1 IAmb IAmb 17 48 06.4
comp=Z,27nm,0.9s
AAK Ala-Archa 54.67 315 P P 17 48 05.9 +0.4
SNR=8.4
SGDS Sogindy 54.86 316⇑iP P 17 48 05.9 -0.8
comp=Z,19nm,1.8s
SGDS Sogindy 54.86 316c iP P 17 48 05.8 -0.8
SGDS pmax pmax
comp=Z,19nm,1.8s
USP Ospenovka 54.88 316 P P 17 48 06.9 +0.1
SNR=24
AML Almayashu 55.07 314 P P 17 48 09.2 +0.6
SNR=28
EKS2 Erkin-Say 55.18 315 P P 17 48 09.6 +0.5
SNR=36
SEY Seymchan 55.24 14 P P 17 48 09.8 +0.9
comp=Z,6.0nm,0.7s,baz=230,slow=5.9,SNR=11
SEY Seymchan 55.24 14 i P P 17 48 10.2 +1.3
KURK Kurchatov 55.38 325ceP P 17 48 10.3 +0.2
KURK pmax pmax
comp=Z,90nm,1.1s
KURK Kurchatov 55.38 325 P P 17 48 10.1 0.0
KURBB Kurchatov Arra 55.38 325 P P 17 48 10.4 +0.3
comp=Z,20nm,0.7s,baz=123,slow=7.0,SNR=123
BTLS Baital 55.81 318⇑iP P 17 48 13.0 -0.4
comp=Z,18nm,0.9s
BTLS Baital 55.81 318c iP P 17 48 13.0 -0.4
BTLS pmax pmax
comp=Z,19nm,0.9s
DGAR Diego Garcia 56.33 253 P P 17 48 17.3 -0.2
DGAR pmax pmax
comp=Z,224nm,1.0s
DGAR Diego Garcia 56.33 253 P P 17 48 17.3 -0.2
BTK Batken 56.56 311 P P 17 48 18.1 -0.8
BTK pmax pmax
comp=Z,59nm,1.3s
BTK Batken 56.56 311 P P 17 48 18.1 -0.8
BTK IAmb IAmb 17 48 19.8
comp=Z,59nm,1.2s
GAR Garm 56.67 310 P P 17 48 18.9 -0.9
SMY Shemya 56.73 33 P P 17 48 20.4 +0.7
SMY pmax pmax
comp=Z,400nm,1.7s
SMY Shemya 56.73 33 P P 17 48 20.4 +0.7
KBL Kabul 56.75 304 P P 17 48 19.5 -1.0
KBL pmax pmax
comp=Z,24nm,1.1s
KBL Kabul 56.75 304 P P 17 48 19.5 -1.0
KBL IAmb IAmb 17 48 20.6
comp=Z,24nm,1.1s
DZA Taraz 56.97 314 eP P 17 48 20.2 -1.6
DZA Taraz 56.97 314 eP P 17 48 20.1 -1.6
CHGR Chuyangaron 57.47 309 P P 17 48 24.2 -1.2
KK31 Karatay Array 57.60 314 P P 17 48 25.5 -0.7
KK31 pmax pmax
comp=Z,60nm,1.1s
KK31 Karatay Array 57.60 314 P P 17 48 25.5 -0.7
KKAR Karatay Array 57.60 314 P P 17 48 25.5 -0.7
KKAR pmax pmax
comp=Z,60nm,1.1s
KKAR Karatay Array 57.60 314 P P 17 48 25.5 -0.7
KKAR Karatay Array 57.60 314 P P 17 48 25.2 -0.9
IUG luzhnay 57.68 313⇑iP P 17 48 26.7 -0.1
comp=Z,25nm,0.7s
IUG luzhnay 57.68 313c iP P 17 48 26.7 -0.1
IUG pmax pmax
comp=Z,25nm,0.7s
TAS Tashkent 58.00 312 P P 17 48 28.9 -0.1
TAS pmax pmax
comp=Z,54nm,1.0s
TAS Tashkent 58.00 312 P P 17 48 28.9 -0.1
BRZS Berezniki 58.49 323⇑iP P 17 48 32.1 -0.1
comp=Z,41nm,1.3s
BRZS Berezniki 58.49 323c iP P 17 48 32.1 -0.1
BRZS pmax pmax
comp=Z,41nm,1.3s
AMKA Amchitka 59.01 36 P P 17 48 36.6 +0.9
TIXI Tiksi 60.69 1ceP P 17 48 48.0 +1.1
TIXI pmax pmax
comp=Z,60nm,1.3s
TIXI Tiksi 60.69 1 P P 17 48 46.4 -0.5
TIXI IAmb IAmb 17 48 48.0
comp=Z,32nm,1.2s
BVAR Borovoye Array 60.97 325 P P 17 48 49.2 0.0
comp=Z,21nm,1.0s,baz=138,slow=16,SNR=46
BRVK Borovoye 61.05 325ceP P 17 48 49.7 0.0
BRVK pmax pmax
comp=Z,72nm,1.2s
BRVK Borovoye 61.05 325 P P 17 48 49.1 -0.6
HRA Herat 62.29 303 P P 17 48 57.3 -1.4
BILL Bilibino 62.83 16 P P 17 49 01.6 +0.2
BILL pmax pmax
comp=Z,57nm,1.8s
BILL Bilibino 62.83 16 P P 17 49 01.6 +0.2
BILL IAmb IAmb 17 49 03.1
comp=Z,57nm,1.8s
ATKA Atka Island 63.08 37 P P 17 49 02.8 -0.5
ATKA IAmb IAmb 17 49 45.3
comp=Z,49nm,1.0s
NRIK Noril'sk 63.31 346 P P 17 49 04.7 +0.2
comp=Z,10nm,0.8s,baz=134,slow=6.7,SNR=14
NRIK LR LR 18 20 24.3
comp=Z,270nm,19.0s,baz=195,slow=40
NRIK Noril'sk 63.31 346ceP P 17 49 04.7 +0.2
NRIK pmax pmax
comp=Z,45nm,1.5s
GEYT Alibeck 65.94 307 P P 17 49 22.1 -0.2
comp=Z,5.4nm,0.7s,baz=103,slow=3.2,SNR=11
GEYT Alibeck 65.94 307 P P 17 49 21.6 -0.7
GYA0B ALIBECK ARRAY 65.94 307 P P 17 49 21.5 -0.8
ABKAR Akbulak array 66.20 319 P P 17 49 23.1 -0.5
ABKAR Akbulak array 66.20 319 P P 17 49 23.2 -0.5
ABKAR IAmb IAmb 17 49 24.6
comp=Z,35nm,1.0s
SOHO SOHO 66.97 292 P P 17 49 27.2 -1.8
UOSS Minazif 67.24 292 P P 17 49 29.0 -1.8
SHME Shamm 67.27 294 P P 17 49 30.3 -0.6
HATD Hatta, Dubai 67.31 292 P P 17 49 30.3 -1.0
ASHO Ashiyiah 67.38 292 P P 17 49 30.9 -0.8
SVE Sverdlovsk 67.51 327⇓eP P 17 49 31.8 -0.1
SVE pmax pmax
comp=Z,77nm,1.0s
ALNE Al Ain 67.69 292 i P P 17 49 32.4 -1.2
SNR=6.1
NAZ Nazwa, Dubai 67.73 293 P P 17 49 32.2 -1.7
NNZ Nelson 67.79 143 P P 17 49 33.6 -0.2
THZ Tophouse 67.86 144 P P 17 49 34.7 +0.4
LBZ Lake Benmore 68.06 147 P P 17 49 36.1 +0.6
LBZ IAmb IAmb 17 49 58.3
comp=Z,80nm,1.3s
RPZ Rata Peaks 68.08 146 P P 17 49 36.7 +1.1
RPZ IAmb IAmb 17 51 35.9
comp=Z,85nm,1.4s
LTZ Lake Taylor 68.14 145 P P 17 49 36.9 +0.8
URZ Urewera 68.33 139 P P 17 49 37.8 +0.5
OXZ Oxford 68.37 146 P P 17 49 38.2 +0.8
BKZ Black Stump Fm 68.46 140 P P 17 49 38.6 +0.5
ARU Arti 68.53 327c iP P 17 49 37.6 -0.6
ARU 17 50 00.9
ARU 17 52 11.4
ARU S S 17 58 34.3 +0.2
ARU SS SS 18 02 58.8 -0.5
ARU pmax pmax
comp=Z,42nm,0.7s
ARU Arti 68.53 327 P P 17 49 37.8 -0.5
ARU IAmb IAmb 17 49 38.4
comp=Z,40nm,0.6s
KHZ Kahutara 68.63 144 P P 17 49 39.4 +0.4
SNZO South Karori 68.63 143 P P 17 49 38.7 -0.4
BFZ Birch Farm 69.19 141 P P 17 49 42.7 +0.1
SOCY Socotra 70.37 279 P P 17 49 48.6 -1.9
MCQ Macquarie Isla 70.88 160 P P 17 49 53.4 +0.9
MCQ pmax pmax
comp=Z,695nm,1.8s
MCQ Macquarie Isla 70.88 160 P P 17 49 53.4 +0.9
KIRV Kirov 73.75 328ceP P 17 50 09.7 0.0
AKT Akhty 74.08 310 eP P 17 50 11.6 -0.6
AKT e 17 50 25.2
AKT e*PP pP 17 50 35.8 +2.9
AKT pmax pmax
comp=Z,13nm,1.0s
MAK Makhachkala 74.23 312 eP P 17 50 11.7 -1.2
MAK e*PP pP 17 50 34.1 +0.5
MAK e 17 52 57.9
MAK eS S 17 59 39.7 -0.7
MAK e*SS ScS 18 00 17.8 +1.2
MAK eSS SS 18 04 22.2 -5.1
MAK pmax pmax
comp=Z,151nm,1.2s
BELG Belogornoye 74.33 321c iP P 17 50 12.5 -0.7
OHAK Old Harbor 75.85 34 P P 17 50 22.8 +1.0
PRGR Permogore 75.88 331⇑iP P 17 50 21.6 -0.3
PRGR pmax pmax
comp=Z,33nm,0.8s
IMAR Indian Mountai 76.10 25 P P 17 50 24.1 +0.9
PPLA Purkeypile 76.60 28 P P 17 50 27.0 +0.8
PPLA IAmb IAmb 17 50 57.7
comp=Z,28nm,1.4s
ZEI Tsey 76.89 312 eP P 17 50 27.3 -1.0
ZEI pmax pmax
comp=Z,10.0nm,0.7s
BRLK Bradley Lake 77.16 31 P P 17 50 29.3 0.0
BRLK IAmb IAmb 17 52 59.9
comp=Z,92nm,1.6s
BPAW Bear Paw Mtn. 77.18 27 P P 17 50 30.4 +1.2
BPAW IAmb IAmb 17 50 31.4
comp=Z,23nm,0.9s
KTH Kantishna Hill 77.19 27 P P 17 50 30.9 +1.5
KTH IAmb IAmb 17 51 05.4
comp=Z,27nm,1.5s
AKH Akhalkalaki 77.27 310⇑P P 17 50 30.5 0.0
AKH Akhalkalaki 77.27 310 P P 17 50 30.1 -0.3
MLY Manley 77.31 26 P P 17 50 30.4 +0.4
baz=269
TRF Thorofare Moun 77.47 27 P P 17 50 31.4 +0.2
TRF IAmb IAmb 17 52 31.4
comp=Z,40nm,1.7s
KBZ Khabaz 77.57 313 P P 17 50 31.2 -0.6
comp=Z,4.8nm,0.9s,baz=87,slow=5.9,SNR=7.1
KBZ Khabaz 77.57 313ceP P 17 50 31.2 -0.6
KBZ pmax pmax
comp=Z,15nm,1.6s
COLD Coldfoot 77.58 23 P P 17 50 32.3 +0.8
baz=269
KVAR Kislovodsk Arr 77.70 313 P P 17 50 33.8 +1.0
comp=Z,4.5nm,0.7s,baz=90,slow=20,SNR=3.3
KIV Kislovodsk 77.71 313⇑P P 17 50 32.9 +0.1
KIV Kislovodsk 77.71 313 eP P 17 50 32.8 0.0
KIV pmax pmax
comp=Z,44nm,0.9s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 77.71 313 P P 17 50 32.5 -0.3
KIV IAmb IAmb 17 50 33.6
comp=Z,13nm,0.8s
GEVA Gevas 77.81 307 P P 17 50 33.1 -0.4
CASY Casey 77.85 186 P P 17 50 32.2 -0.6
CASY IAmb IAmb 17 50 34.8
comp=Z,16nm,0.7s
TOLK Toolik Lake Re 77.85 22 P P 17 50 33.4 +0.4
baz=269
TOLK Toolik Lake Re 77.85 22 IAmb IAmb 17 50 35.6
comp=Z,89nm,2.0s
VRH Novokhopyorsk 77.99 320 eP P 17 50 32.5 -1.5
VRH pmax pmax
comp=Z,20nm,0.8s
NEA2 Nenana 78.02 26 P P 17 50 33.8 -0.2
baz=270
MCK McKinley 78.08 27 P P 17 50 34.3 -0.1
baz=270
RND Reindeer 78.12 27 P P 17 50 34.4 -0.2
RND pmax pmax
comp=Z,19nm,1.1s
RND Reindeer 78.12 27 P P 17 50 34.4 -0.2
RND IAmb IAmb 17 50 35.8
comp=Z,19nm,1.1s
CHVG Ch'k'valeri 78.23 312⇑P P 17 50 35.4 -0.1
SML Sawmill 78.39 29 P P 17 50 36.0 -0.1
SML IAmb IAmb 17 50 52.7
comp=Z,46nm,1.5s
ARTV Artvin 78.46 310 P P 17 50 36.5 -0.7
POKR Poker Flat Res 78.71 26 P P 17 50 37.1 -0.7
baz=272
KLMR Klimovskoe 78.82 330 eP P 17 50 35.8 -2.6
KLMR pmax pmax
comp=Z,87nm,1.3s
KLMR Klimovskoe 78.82 330 eP P 17 50 35.8 -2.6
KLMR AMP 17 50 39.3
comp=Z,87nm,1.3s
SCM Sheep Creek Mo 78.86 29 IAmb IAmb 17 50 40.7
comp=Z,22nm,1.0s
HDA Harding Lake 78.94 26 P P 17 50 38.3 -0.7
baz=272
IL31 78.95 26 P P 17 50 38.6 -0.4
ILAR Eielson Array 78.95 26 P P 17 50 38.1 -0.9
comp=Z,2.8nm,0.8s,baz=243,slow=6.0,SNR=33
ILAR PKKPbc **PKKPbc** 18 09 30.6 -3.4
comp=Z,0.3nm,0.6s,baz=108,slow=2.9,SNR=4.4
ILAR Eielson Array 78.95 26 P P 17 50 38.7 -0.4
ILAR Eielson Array 78.95 26 P P 17 50 38.7 -0.4
M24K Tolsona, Glenn 79.40 29 P P 17 50 42.8 +1.2
M24K IAmb IAmb 17 50 57.0
comp=Z,60nm,1.4s
VSR Storozhevoye 79.60 320 eP P 17 50 40.8 -2.0
VSR pmax pmax
comp=Z,30nm,1.7s
LPSR Galich'ya Gora 79.64 322 eP P 17 50 41.6 -1.4
LPSR pmax pmax
comp=Z,20nm,1.0s
PAX Paxson 79.67 28 IAmb IAmb 17 51 05.4
comp=Z,31nm,1.6s
MARD Mardin 79.69 306 IAmb IAmb 17 50 44.5
comp=Z,13nm,0.6s
BMAR Burnt Mountain 79.75 23 P P 17 50 45.2 +1.7
SOC Sochi 79.88 313 eP P 17 50 42.2 -2.4
SOC e 17 53 40.4
SOC ePPP PPP 17 55 31.9
SOC eS S 18 00 39.4 -2.4
SOC eSS SS 18 05 49.5 -3.0
SOC eSSS SSS 18 09 19.8
SOC pmax pmax
comp=Z,15nm,0.8s
SOC MLR MLR
comp=Z,276nm,14.0s
RIDG Independent Ri 79.90 27 P P 17 50 44.7 +0.4
RIDG IAmb IAmb 17 50 45.7
comp=Z,19nm,0.9s
MOS Moscow 80.15 325 eP P 17 50 43.0 -2.7
MOS pmax pmax
comp=Z,31nm,1.0s
SCRK Sand Creek 80.26 27 P P 17 50 46.7 +0.4
baz=275
LVZ Lovozero 80.46 337ceP P 17 50 48.4 +1.2
LVZ pmax pmax
comp=Z,26nm,1.0s
LVZ Lovozero 80.46 337 P P 17 50 47.3 +0.1
LVZ IAmb IAmb 17 50 51.0
comp=Z,49nm,1.4s
OBN Obninsk 80.80 324deP P 17 50 49.0 -0.2
OBN e 17 50 59.9
OBN pmax pmax
comp=Z,35nm,1.7s
OBN MLR MLR
comp=Z,336nm,19.0s
APA Apatity 80.97 337⇑iP P 17 50 49.2 -0.7
APA pmax pmax
comp=Z,14nm,0.8s
K27K Chicken 81.09 26 P P 17 50 51.7 +1.1
baz=277
BCAR Beaver Creek A 81.33 27 P P 17 50 52.2 +0.2
CTGM Chitina Glacie 81.81 29 IAmb IAmb 17 50 58.3
comp=Z,39nm,1.2s
GAZ Gaziantep 82.54 306 P P 17 50 58.8 0.0
GAZ IAmb IAmb 17 50 59.9
comp=Z,16nm,0.9s
KEV Kevo 82.92 340 P P 17 51 00.0 -0.1
KEV pmax pmax
comp=Z,46nm,1.1s
KEV Kevo 82.92 340 P P 17 50 60.0 -0.1
KEV IAmb IAmb 17 51 01.4
comp=Z,46nm,1.1s
MSF Maaselka 82.93 336 P P 17 51 01.1 +0.9
MSF pmax pmax
comp=Z,92nm,1.0s
SPA0 Spitsbergen Ar 83.31 349 eP P 17 51 02.0 0.0
ARCES ARCESS Array B 83.48 340 P P 17 51 03.4 +0.4
comp=Z,16nm,0.4s,baz=79,slow=6.1,SNR=168
ARCES LR LR 18 32 44.6
comp=Z,100nm,18.3s,baz=355,slow=39
SGF Sodankyl 83.60 337 P P 17 51 04.9 +1.3
SGF pmax pmax
comp=Z,99nm,1.1s
HAMF Hammerfest 83.81 341 eP P 17 51 05.0 +0.4
KBS Kingsbay 83.83 350ceP P 17 51 03.6 -1.0
KBS pmax pmax
comp=Z,21nm,1.3s
KBS Kingsbay 83.83 350 P P 17 51 04.2 -0.4
KBS IAmb IAmb 17 51 06.4
comp=Z,79nm,1.4s
OUL Oulu 84.39 335 P P 17 51 09.0 +1.4
OUL pmax pmax
comp=Z,65nm,1.2s
SUF Sumiainen 84.84 333 P P 17 51 10.5 +0.5
SUF pmax pmax
comp=Z,63nm,1.1s
BR131 Keskin Array S 84.91 309c iP P 17 51 09.8 -1.2
BR131 Keskin Array S 84.91 309 P P 17 51 09.5 -1.6
BRTR Keskin Array B 84.91 309 P P 17 51 09.9 -1.1
comp=Z,5.2nm,0.7s,baz=118,slow=4.1,SNR=46
BRTR LR LR 18 34 33.2
comp=Z,60nm,18.5s,baz=48,slow=40
BRTR Keskin Array B 84.91 309ceP P 17 51 09.8 -1.2
BRTR pmax pmax
comp=Z,5.0nm,0.7s
WHY Whitehorse 84.98 29 P P 17 51 11.0 +0.2

WHY IAmb IAmb 17 51 13.9
comp=Z,26nm,0.9s
FIA1 FINESS Array S 85.18 332 P **P** **17 51 11.2 -0.5**
FIA1 IAmb IAmb 17 51 12.8
comp=Z,50nm,1.1s
FINES FINESS Array B 85.18 332 P **P** **17 51 11.5 -0.2**
comp=Z,12nm,0.7s,baz=72,slow=4.5,SNR=61
FINES LR LR 18 33 41.5
comp=Z,346nm,18.4s,baz=82,slow=39
FINES FINESS Array B 85.18 332 P **P** **17 51 11.1 -0.6**
VSU Vasula 85.57 329 *i* P **P** **17 51 12.9 -0.8**
VSU pmax pmax
comp=Z,91nm,1.4s
TRO Tromso 85.66 340 *eP* **P** **17 51 13.3 -0.7**
MICGM Minsk 85.86 325 *e* **P** **17 51 11.0 -4.2**
MNK Minsk 85.86 325 *eP* **P** **17 51 11.0 -4.2**
AKASG Malin Array Be 85.89 321 P **P** **17 51 14.5 -1.0**
comp=Z,9.1nm,0.8s,baz=63,slow=4.9,SNR=32
AKASG LR LR 18 33 40.4
comp=Z,151nm,18.5s,baz=80,slow=38
AKASG Malin Array Be 85.89 321 P **P** **17 51 14.3 -1.1**
AKASG pmax pmax
comp=Z,12nm,1.2s
AKASG Malin Array Be 85.89 321 P **P** **17 51 14.3 -1.1**
AKBB Malin Array Si 85.89 321 *ceP* **P** **17 51 14.7 -0.7**
AKBB Malin Array Si 85.89 321 P **P** **17 51 14.3 -1.1**
AKBB IAmb IAmb 17 51 15.7
comp=Z,23nm,1.1s
CSS Mathiatis 86.00 305 P **P** **17 51 15.2 -1.1**
VAF Ylistaro 86.30 334 P **P** **17 51 18.9 +1.7**
VAF pmax pmax
comp=Z,35nm,0.9s
C36M Paulatuk 86.70 20 P **P** **17 51 19.9 +0.9**
baz=292
C36M Paulatuk 86.70 20 P **P** **17 51 18.3 -0.8**
SORM Soroca 87.00 318 ⇑P **P** **17 51 19.8 -1.1**
SORM Soroca 87.00 318 ⇑P **P** **17 51 19.8 -1.1**
TLCR 87.34 315 ⇑P **P** **17 51 22.2 -0.5**
TLCR 87.34 315 ⇑P **P** **17 51 22.2 -0.5**
STEI Steigen 87.54 339 *eP* **P** **17 51 21.6 -1.5**
EUNU Eureka 87.62 5 P **P** **17 51 22.8 -0.6**
EUNU IAmb IAmb 17 51 25.2
comp=Z,36nm,1.7s
FAUS Fauske 87.74 339 *eP* **P** **17 51 22.3 -1.8**
CFR Carcaliu 87.81 315 ⇑P **P** **17 51 24.8 -0.1**
CFR Carcaliu 87.81 315 ⇑P **P** **17 51 24.8 -0.1**
PPT2 Papeete2 88.02 108 *eS* **S** **18 01 56.9 -7.4**
comp=Z,224nm,24.8s
PPT2 Papeete2 88.02 108 *e*LR LR 18 19 25.4
comp=Z,254nm,31.2s
TLBR Topalu 88.02 315 ⇑P **P** **17 51 25.8 -0.1**
HARR Harsova 88.07 315 ⇑P **P** **17 51 25.7 -0.4**
HARR Harsova 88.07 315 ⇑P **P** **17 51 25.7 -0.4**
ELL Elmali 88.37 307 P **P** **17 51 26.1 -1.8**
ELL pmax pmax
comp=Z,142nm,1.9s
ELL Elmali 88.37 307 P **P** **17 51 26.1 -1.8**
MOR8 Moi Rana 88.53 338 *eP* **P** **17 51 26.0 -1.9**
VRI Vrincioaia 88.61 316 ⇑P **P** **17 51 28.3 -0.5**
VRI Vrincioaia 88.61 316 ⇑P **P** **17 51 28.3 -0.5**
PLOR Plostina 88.67 316 ⇑P **P** **17 51 28.7 -0.3**
PLOR Plostina 88.67 316 ⇑P **P** **17 51 28.7 -0.3**
BIZ Bicaz 88.77 318 ⇑P **P** **17 51 29.1 -0.3**
KMBO Kilima Mbogo 88.99 269 P **P** **17 51 32.5 +1.1**
comp=Z,8.2nm,0.9s,baz=44,slow=6.9,SNR=14
KMBO Kilima Mbogo 88.99 269 *i* P **P** **17 51 31.7 +0.3**
SNR=9.1
NEHR Nehoiu 89.02 316 ⇑P **P** **17 51 30.6 -0.1**
BURAR Bucovina Array 89.17 318 ⇑P **P** **17 51 31.2 -0.2**
BURAR Bucovina Array 89.17 318 ⇑P **P** **17 51 31.2 -0.2**
BURAR Bucovina Array 89.17 318 P **P** **17 51 30.5 -0.9**
BUR08 Bucovina Ar. S 89.18 318 P **P** **17 51 30.6 -0.9**
MLR Muntele Rosu 89.24 316 ⇑P **P** **17 51 31.1 -0.7**
MLR Muntele Rosu 89.24 316 ⇑P **P** **17 51 31.1 -0.7**
TBI Tubuai 89.33 114 *eS* **S** **18 02 09.6 -6.6**
comp=Z,220nm,26.8s
TBI Tubuai 89.33 114 *e*LR LR 18 20 14.0
comp=Z,330nm,25.0s
NSS Namsos 90.17 337 *eP* **P** **17 51 34.7 -0.9**
MAW Mawson 90.24 200 P **P** **17 51 35.4 -0.2**
comp=Z,1.8nm,0.5s,baz=67,slow=5.6,SNR=11
MAW LR LR 18 28 27.7
comp=Z,70nm,20.4s,baz=58,slow=33
MAW Mawson 90.24 200 P **P** **17 51 35.0 -0.7**
MAW pmax pmax
comp=Z,5.0nm,1.7s
MAW Mawson 90.24 200 P **P** **17 51 35.0 -0.7**
VNDA Vanda 90.62 173 P **P** **17 51 37.6 +0.3**
comp=Z,1.8nm,0.8s,baz=307,slow=5.7,SNR=9.1
VNDA Vanda 90.62 173 P **P** **17 51 37.6 +0.3**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 90.62 173 P **P** **17 51 37.5 +0.3**
VNDA IAmb IAmb 17 51 49.6
comp=Z,7.4nm,1.1s
KOLS Kolonicke sedl 90.69 320 *eP* **P** **17 51 37.5 -0.9**
KOLS Kolonicke sedl 90.69 320 *eP* **P** **17 51 37.5 -0.9**
RES Resolute Bay 90.89 10 P **P** **17 51 38.4 -0.3**
RES pmax pmax
comp=Z,83nm,2.0s
RES Resolute Bay 90.89 10 P **P** **17 51 38.4 -0.3**
CRVS Cervenica-Dubn 91.21 320 *eP* **P** **17 51 41.2 +0.4**
CRVS pmax pmax
comp=Z,28nm,1.1s
CRVS Cervenica-Dubn 91.21 320 *eP* **P** **17 51 41.2 +0.4**
TBLU Trondheim 91.43 336 *eP* **P** **17 51 39.8 -1.6**
NC405 NORSAR Array S 91.80 334 P **P** **17 51 42.4 -0.8**
NB2 NORSAR Subarra 92.05 334 P **P** **17 51 43.3 -1.1**
comp=Z,2.2nm,0.7s,baz=63,slow=4.4
NB2 NORSAR Subarra 92.05 334 P **P** **17 51 43.3 -1.1**
baz=63,slow=4.4
NOA NORSAR Array B 92.05 334 P **P** **17 51 43.1 -1.3**
comp=Z,3.0nm,0.8s,baz=62,slow=4.6,SNR=15
NOA LR LR 18 37 06.6
comp=Z,214nm,19.1s,baz=70,slow=38
BZS Buzias 92.12 317 ⇑P **P** **17 51 43.8 -1.3**
BZS Buzias 92.12 317 ⇑P **P** **17 51 43.8 -1.3**
PSZ Piszkesteto 92.51 320 ⇑P **P** **17 51 46.7 -0.2**
PSZ Piszkesteto 92.51 320 ⇑P **P** **17 51 46.7 -0.2**
VYHS Vyhne 92.99 320 *eP* **P** **17 51 48.3 -0.7**
VYHS Vyhne 92.99 320 *eP* **P** **17 51 48.3 -0.7**
YKA Yellowknife Ar 93.25 24 P **P** **17 51 50.5 +0.6**
comp=Z,4.1nm,0.9s,baz=308,slow=5.4,SNR=3.8
MORC Moravsky Berou 93.33 322 ⇑P **P** **17 51 51.3 +0.7**
MORC Moravsky Berou 93.33 322 ⇑P **P** **17 51 51.3 +0.7**
PDG Podgorica 94.75 315 ⇑P **P** **17 51 56.1 -1.1**
TAOE Nuku Hiva Isla 95.39 98 *e*LR LR 18 22 46.3
comp=Z,405nm,24.5s
CLL Collm 95.40 325 *eP* **P** **17 52 00.0 0.0**
CLL L L 18 40 00.0
comp=Z,200nm,19.8s
D03D Eldon 95.67 40 P **P** **17 52 02.2 +0.9**
baz=293
KHC Kasperske Hory 95.97 322 *ceP* **P** **17 52 01.0 -1.7**
KHC pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 96.01 322 P **P** **17 52 02.5 -0.4**
comp=Z,1.0nm,0.7s,baz=71,slow=5.8,SNR=11
GERES PP **PP** **17 55 55.0 -1.0**
comp=Z,0.2nm,0.4s,baz=64,slow=6.5,SNR=4.7
GERES LR LR 18 39 34.1
comp=Z,180nm,19.9s,baz=87,slow=38
GERES GERESS Array B 96.01 322 P **P** **17 52 01.8 -1.2**
GERES GERESS Array B 96.01 322 P **P** **17 52 01.8 -1.2**
SYO Syowa Base 98.85 201 ⇑*e*PP **PP** **17 56 19.1 +1.7**
NVAR Mina Array Bea 102.57 46 P **Pdif** **17 52 33.3 +0.6**
comp=Z,0.5nm,0.7s,baz=285,slow=3.8,SNR=4.3
ESDC Sonseca Array 111.53 321 PP **PP** **17 57 51.9 +0.4**
comp=Z,1.9nm,1.1s,baz=32,slow=7.8,SNR=6.0
TXAR Lajitas Array 117.58 49 PKP **PKiKP** **17 57 23.3 +1.3**
comp=Z,0.9nm,0.9s,baz=270,slow=0.6,SNR=8.3
TXAR PKKPab **PKKPab** **18 07 46.9 -1.9**
comp=Z,0.4nm,0.8s,baz=141,slow=5.8,SNR=4.4
TXAR Lajitas Array 117.58 49 PKIKP **PKPdf** **17 57 21.8 -0.1**
TXAR Lajitas Array 117.58 49 **PKPdf** **17 57 21.8 -0.1**
TORD Torodi Ar. Bea 119.78 292 PKP **PKPdf** **17 57 26.1 -0.3**
comp=Z,1.3nm,0.8s,baz=42,slow=2.0,SNR=7.9
TORD PKKPab **PKKPab** **18 07 44.8 +5.9**
comp=Z,1.2nm,1.0s,baz=280,slow=1.6,SNR=3.7
TORD Torodi Ar. Bea 119.78 292 PKPdf **PKPdf** **17 57 25.5 -0.9**
CCM Cathedral Cave 120.09 34 PKIKP **PKPdf** **17 57 26.4 0.0**
CCM Cathedral Cave 120.09 34 **PKPdf** **17 57 26.4 0.0**
U40A Yellville 120.40 36 **PKPdf** **17 57 27.1 0.0**
T42A Van Buren 120.91 34 **PKPdf** **17 57 26.7 -1.3**

WVT Waverly 123.34 33 PKIKP **PKiKP** **17 57 33.3 +0.4**
PLAL Pickwick Lake 124.07 34 PKPdf **PKPdf** **17 57 33.6 -0.5**
LRAL Lakeview Retre 126.12 35 **PKPdf** **17 57 38.2 +0.1**
DBIC Dimbokro 128.06 287 PKP **PKPdf** **17 57 42.5 +0.2**
comp=Z,2.3nm,0.8s,baz=135,slow=4.3,SNR=3.1
PLCA Paso Flores 146.92 157 PKPbc **PKPbc** **17 58 17.6 -0.5**
comp=Z,9.9nm,0.8s,baz=198,slow=3.6,SNR=18
PLCA Paso Flores 146.92 157 PKP2 **PKPab** **17 58 19.2 -0.4**
PLCA Paso Flores 146.92 157 **PKPab** **17 58 19.2 -0.4**
LCO1 Cunco 147.91 153 **PKPbc** **17 58 21.6 +0.8**
GCPR Guayaquil City 148.58 22 **PKiKP** **17 58 24.7 +0.1**
PDPR Patillas Dam, 148.87 23 **PKPbc** **17 58 23.8 0.0**
DBBC Dabeiba 151.59 52 *eP* **PKPdf** **17 58 26.9 +2.5**
URCC San Jos de Ur 151.64 50 *eP* **PKiKP** **17 58 30.9 -0.2**
SMLC San Martn de 152.00 46 *eP* **PKiKP** **17 58 35.2 +3.4**
ZARC Zaragoza, Cauc 152.31 49 *eP* **PKPdf** **17 58 26.8 +1.4**
PTBC PUERTO BERRIO 153.23 50 *eP* **PKPdf** **17 58 27.6 +0.9**
YOTC Yotoco, Valle 153.26 58 *eP* **PKPdf** **17 58 28.9 +2.0**
OTAV Otavalo 153.27 67 *eP* **PKPdf** **17 58 30.0 +2.7**
GUY2C Guyana, Caldas 153.34 54 *eP* **PKPdf** **17 58 27.3 -0.1**
BBAC Balboa, Cauca 153.52 62 *eP* **PKPdf** **17 58 29.0 +1.6**
RREF El Recreo 153.55 55 *eP* **PKPdf** **17 58 25.9 -2.1**
TOLC Tolima 153.76 55 *eP* **PKPdf** **17 58 30.2 +2.3**
PAMC Pamplona, Colo 153.99 47 *eP* **PKiKP** **17 58 41.2 +4.7**
SPBC San Pablo de B 154.09 51 *eP* **PKPdf** **17 58 29.4 +1.4**
PCON Cinco Dias 154.10 61 *eP* **PKPdf** **17 58 30.3 +1.6**
BARC Barichara 154.15 49 *eP* **PKiKP** **17 58 37.6 +1.1**
ORTC Ortega, Tolima 154.21 56 *eP* **PKPdf** **17 58 29.1 +0.9**
SDV Santo Domingo 154.27 41 *eP* **PKPdf** **17 58 30.3 +1.9**
PRAC Prado 154.61 56 *eP* **PKPdf** **17 58 30.1 +1.4**
RUSC La Rusia 154.68 50 *eP* **PKPdf** **17 58 30.2 +0.8**
CHIC Chingaza 154.99 53 *eP* **PKPdf** **17 58 30.9 +1.3**
PLTB Pedras Altas 159.27 181 *eP* **PKPdf** **17 58 40.0 +5.9**
CZSB Cruzeiro do Su 161.26 82 *eP* **PKPdf** **17 58 38.5 +1.8**
MAN01 Angra dos Reis 164.76 218 *eP* **PKPdf** **17 58 46.1 +6.2**
LPAZ La Paz 165.27 113 PKP **PKPdf** **17 58 42.5 +1.3**
comp=Z,3.4nm,1.0s,baz=343,slow=2.3,SNR=9.5
LPAZ PKPab **PKPab** **17 59 41.0 +1.9**
comp=Z,3.2nm,1.1s,baz=307,slow=2.1,SNR=4.2
LPAZ La Paz 165.27 113 *eP* **PKPdf** **17 58 43.8 +2.6**

TAP 04 17:41:37.2, 22.42N×121.18E, h44km±1km, **ML2.2, B, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECL	**Taimali**	**0.28**	**310**	*eP*		Pn	17 41 45.6	+0.1
	baz=310						
ECL				S		Sn	17 41 52.2	+0.8
	baz=310						
EAST	**Anshuo**	**0.31**	**263**	*eP*		Pn	17 41 46.4	+0.4
	baz=263						
EAST				*eS*		Sn	17 41 52.5	+0.4
	baz=263						
SLIU	**Shizi**	**0.41**	**240**	*eP*		Pn	17 41 45.0	-2.1
	baz=240						
SLIU				*eS*		Sn	17 41 55.3	+1.4
	baz=240						
LAY	**Lan-yu**	**0.51**	**138**	*eP*		Pn	17 41 49.1	+0.8
	baz=137						
SCZT	**Fangliau**	**0.52**	**265**	*eP*		Pn	17 41 47.6	-0.8
	baz=264						
SCZT				*eS*		Sn	17 41 56.8	+0.5
	baz=264						
MASBT	**Mashibuluo**	**0.54**	**291**	*eP*		Pn	17 41 49.5	+0.8
	baz=290						
TSMG	**Majia**	**0.57**	**300**	P		Pn	17 41 50.0	+0.9
	baz=299						
TSMG				*eS*		Sn	17 41 58.5	+1.0
	baz=299						
HEN	**Hengchun**	**0.58**	**225**	*eP*		Pn	17 41 48.6	-0.6
	baz=224						
SSD	**Sandimen**	**0.60**	**303**	*eP*		Pn	17 41 50.8	+1.3
	baz=302						
SSD				*eS*		Sn	17 42 00.2	+1.9
	baz=302						
SLGT	**Liugui**	**0.76**	**319**	*eP*		Pn	17 41 52.2	+0.7
	baz=319						
FULB	**Fuli**	**0.78**	**8**	*eP*		Pn	17 41 52.1	+0.2
	baz=7.0						
SCST	**Cishan**	**0.79**	**306**	*eP*		Pn	17 41 51.2	-0.7
	baz=306						
TWM1	**Shoushan**	**0.81**	**300**	*eP*		Pn	17 41 52.6	+0.4
	baz=300						
STYT	**Tauyuan**	**0.84**	**332**	*eP*		Pn	17 41 53.1	+0.4
	baz=332						
SGST	**Jiashian**	**0.86**	**320**	*eP*		Pn	17 41 53.5	+0.5
	baz=320						
EYUL	**Yuli**	**0.93**	**8**	*eP*		Pn	17 41 54.2	+0.3
	baz=7.0						
TWF1	**Yuli**	**0.94**	**7**	P		Pn	17 41 54.6	+0.6
	baz=7.0						
CHN1	**Nanshi**	**0.97**	**322**	*eP*		Pn	17 41 55.6	+1.1
	baz=321						
WTP	**Tau**	**0.97**	**328**	P		Pn	17 41 55.1	+0.6
	baz=327						
YULB	**Yu-li**	**0.97**	**6**	*eP*		Pn	17 41 53.8	-0.7
	baz=6.0						
TPUB	**Ta-pu**	**1.01**	**330**	*eP*		Pn	17 41 55.1	+0.1
	baz=329						
TPUB	**Ta-pu**	**1.01**	**330**	Pn		Pn	17 41 55.1	+0.1
SNST	**Tainan City**	**1.02**	**322**	*eP*		Pn	17 41 55.4	+0.4
	baz=321						
CHN4	**Tsaushan**	**1.07**	**330**	P		Pn	17 41 56.8	+1.0
	baz=329						
EHY	**Hungye**	**1.09**	**7**	*eP*		Pn	17 41 56.0	-0.1
	baz=7.0						
ALS	**Alishan**	**1.14**	**342**	*eP*		Pn	17 41 57.1	+0.1
	baz=342						
ICHU	**Yijhu**	**1.25**	**319**	*eP*		Pn	17 41 58.8	+0.5
	baz=318						
VWDT	**VWDT**	**1.33**	**358**	*eP*		Pn	17 41 59.6	+0.3
	baz=358						
SSLB	**Suanglung**	**1.38**	**351**	*eP*		Pn	17 42 00.3	+0.3
	baz=351						
SMLT	**Sun Moon Lake**	**1.48**	**350**	*eP*		Pn	17 42 02.7	+1.2
	baz=350						
TYC	**Yuchr**	**1.51**	**349**	*eP*		Pn	17 42 02.6	+0.8
	baz=349						

IDC 04 17:41:48.0±2.3, 10.91N×125.83E, h0km, **mb3.9/4, mb1 4.0/4, mb1mx3.5/48, mbtmp3.9/4, Error ellipse: s-maj=214.1km s-min=30.6km az=68.0, Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**35.26**	**167**	P		P	17 48 44.7	+0.1
	0.9nm,0.8s,baz=336,slow=7.2,SNR=1.4						
MKAR	**Makanchi Array**	**51.26**	**323**	P		P	17 50 54.1	+0.4
	1.0nm,0.8s,baz=117,slow=7.5,SNR=5.5						
KURBB	**Kurchatov Arra**	**55.30**	**325**	P		P	17 51 23.5	+0.2
	0.5nm,0.4s,baz=127,slow=6.9,SNR=1.7						
ARCES	**ARCESS Array B**	**83.45**	**340**	P		P	17 54 16.1	-1.0
	2.6nm,0.9s,baz=81,slow=5.6,SNR=2.1						

*ATA **04** 17:42:27.3±1.2, 38.60N×39.55E, h23km±10km, ML2.0, MW3.9*
*ISK **04** 17:42:28.7, 38.60N×39.56E, h9km, ML2.7/14*
*DDA **04** 17:42:28.1, 38.59N×39.57E, h11km±3km, ML2.5*
ISC 04 17:42:28.1±1.0, **38.60N**±0.02×**39.56E**±0.02, **h11**km±9km, **n47**, σ**0.68**/68, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.30**	**221**	PG		**Pb**	**17 42 34.9**	**-0.7**
SVRC				SG		**Sb**	**17 42 40.5**	**-0.2**
PTK	**Pertek**	**0.32**	**336**	PG		**Pb**	**17 42 35.7**	**-0.3**
PTK				SG		**Sb**	**17 42 40.9**	**-0.3**
ELZG	**Elazig**	**0.46**	**257**	*i* P		**Pb**	**17 42 38.1**	**-0.4**
ELZG				*i* S		**Sb**	**17 42 44.5**	**-0.9**
ELZG				IAML			17 42 50.0	
	comp=E,313nm,0.4s						
ELZG				IAML			17 42 50.0	
	comp=N,359nm,0.4s						
TNCL	**Tunceli-Merkez**	**0.51**	**359**	*eP*		**Pg**	**17 42 38.6**	**+0.5**
TNCL				*eS*		**Sb**	**17 42 46.1**	**-0.7**
TNCL				IAML			17 42 49.3	
	comp=Z,176nm,0.2s						
TNCL	**Tunceli-Merkez**	**0.51**	**359**	*i* P		**Pg**	**17 42 38.7**	**+0.5**
TNCL				*i* S		**Sg**	**17 42 44.2**	**-0.8**
TNCL				IAML			17 42 47.0	
	comp=E,303nm,0.4s						
TNCL				IAML			17 42 51.0	
	comp=N,257nm,0.5s						
HANI	**Diyarbakir_Han**	**0.69**	**106**	*i* P		**Pg**	**17 42 40.7**	**-0.8**
HANI				*i* S		**Sg**	**17 42 50.3**	**-0.2**
DYBB	**Diyarbakir**	**0.80**	**145**	PG		**Pb**	**17 42 44.1**	**+0.1**
DYBB				SG		**Sn**	**17 42 56.1**	**-1.2**
DIYA	**Diyarbakir**	**0.81**	**147**	*i* P		**Pb**	**17 42 44.2**	**-0.1**
DIYA				*i* S		**Sb**	**17 42 55.7**	**+0.4**
DIYA				IAML			17 42 59.0	
	comp=N,179nm,0.2s						
MALT	**Malatya**	**0.93**	**252**	PG		**Pb**	**17 42 46.7**	**+0.3**
MALT				SG		**Sn**	**17 42 59.9**	**-0.9**
BNGB	**Bingl**	**0.96**	**66**	PG		**Pn**	**17 42 47.3**	**-0.4**
ERZN	**Erzincan**	**0.99**	**7**	PG		**Pn**	**17 42 48.1**	**-0.1**
REFA	**Refahiye_ERZN**	**1.00**	**322**	*eP*		Pn	17 42 53.9	+5.5
REFA				IAML			17 43 22.8	
	comp=Z,8.5nm,0.6s						
REFA	**Refahiye_ERZN**	**1.00**	**322**	*i* P		Pn	17 42 55.5	+7.1
KEMA	**Kemaliye**	**1.06**	**309**	*eP*		**Pg**	**17 42 47.9**	**-0.7**
KEMA				*eS*		**Sn**	**17 43 04.3**	**+0.3**
KEMA				IAML			17 43 09.1	
	comp=Z,12nm,0.6s						
KEMA	**Kemaliye**	**1.06**	**309**	*i* P		**Pg**	**17 42 48.4**	**-0.2**
KEMA				*i* S		**Sb**	**17 43 03.0**	**+0.3**
ARPR	**Arapgir-MALATY**	**1.07**	**298**	PG		**Pn**	**17 42 49.6**	**+0.3**
EUZM	**Uzumlu**	**1.11**	**6**	*eP*		**Pb**	**17 42 48.5**	**-1.0**
EUZM				*eS*		**Sn**	**17 43 06.0**	**+0.8**
EUZM				IAML			17 43 14.7	
	comp=Z,10nm,0.5s						
EUZM	**Uzumlu**	**1.11**	**6**	*i* P		**Pb**	**17 42 49.4**	**-0.1**
EUZM				*i* S		**Sb**	**17 43 04.5**	**+0.6**
YEDI	**Yedisu-Bingol**	**1.13**	**42**	PN		**Pn**	**17 42 50.4**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.28**	**283**	*i* P		**Pg**	**17 42 52.8**	**+0.1**
HEKM				*i* S		**Sn**	**17 43 10.2**	**+0.8**
HEKM				IAML			17 43 17.0	
	comp=N,65nm,0.4s						
URFA	**Urfa**	**1.30**	**207**	PN		**Pg**	**17 42 53.7**	**+0.6**
URFA				SN		**Sg**	**17 43 11.2**	**+1.3**
KARO	**Karliova-Bingo**	**1.36**	**58**	PN		**Pg**	**17 42 54.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.37**	**109**	PN		**Pb**	**17 42 53.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.37**	**109**	*i* P		**Pn**	**17 42 53.1**	**-0.1**
SVAN				*i* S		**Sb**	**17 43 11.0**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.50**	**198**	*i* P		**Pb**	**17 42 56.3**	**+0.3**
SANL				*i* S		**Sg**	**17 43 15.8**	**-0.5**
SANL				IAML			17 43 19.0	
	comp=N,71nm,0.6s						
SANL				IAML			17 43 23.0	
	comp=E,78nm,0.5s						
ATAB	**Bozova**	**1.51**	**222**	*i* P		**Pb**	**17 42 56.5**	**+0.3**
BTMN	**Batman**	**1.52**	**117**	*i* P		**Pn**	**17 42 55.8**	**+0.3**
BTMN				*i* S		**Sb**	**17 43 16.2**	**+0.3**
BTMN				IAML			17 43 18.0	
	comp=E,72nm,0.7s						
BTMN				IAML			17 43 18.0	
	comp=N,90nm,0.3s						
MUSM	**Mu-Merkez**	**1.54**	**85**	*i* P		**Pb**	**17 42 56.3**	**-0.4**
MUSM				*i* S		**Sg**	**17 43 17.5**	**0.0**
KELT	**Kelkit**	**1.56**	**352**	*eP*		**Pn**	**17 42 56.0**	**-0.1**
KELT				IAML			17 43 04.2	
	comp=Z,7.1nm,0.4s						
KELT	**Kelkit**	**1.56**	**352**	*i* P		**Pg**	**17 42 58.2**	**+0.1**
KELT				*i* S		**Sg**	**17 43 19.1**	**+0.7**
VRTB	**Varto-Mus**	**1.58**	**69**	*i* P		**Pn**	**17 42 56.7**	**+0.4**
VRTB				IAML			17 43 35.0	
	comp=N,52nm,1.1s						
KOPT	**Kop Dagi**	**1.59**	**27**	*i* P		**Pg**	**17 42 59.3**	**+0.7**
MARD	**Mardin**	**1.61**	**143**	*i* P		**Pb**	**17 42 57.4**	**-0.6**
MARD				*i* S		**Sn**	**17 43 17.6**	**+0.1**
DARE	**Darende-Malaty**	**1.62**	**270**	PN		**Pg**	**17 42 59.1**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.78**	**294**	*i* P		**Pg**	**17 43 02.5**	**+0.3**
CUKAN				*i* S		**Sg**	**17 43 26.9**	**+1.6**
SURC	**SANLIURFA_SURC**	**1.88**	**204**	*i* P		**Pb**	**17 43 01.6**	**-0.9**
CUZAR	**Zara_SIVAS**	**1.89**	**313**	*i* P		**Pg**	**17 43 04.8**	**+0.5**
SUSE	**Susehri**	**1.92**	**327**	*i* P		**Pg**	**17 43 04.7**	**-0.2**
GURO	**Guroymak-BITLI**	**1.94**	**91**	PN		**Pb**	**17 43 02.8**	**-0.8**
SRTM	**Siirt_Merkez**	**1.96**	**107**	*i* P		**Pn**	**17 43 01.0**	**-0.5**
SRTM				*i* S		**Sb**	**17 43 28.5**	**+0.1**
SRTM				IAML			17 43 38.0	
	comp=E,39nm,0.4s						
SRTM				IAML			17 43 38.0	
	comp=N,48nm,0.6s						
GZT	**Gaziantep**	**2.01**	**232**	*i* P		**Pn**	**17 43 02.9**	**+0.7**
GZT				IAML			17 43 40.0	
	comp=N,29nm,0.8s						
GZT				IAML			17 43 41.0	
	comp=E,31nm,0.6s						
BLIS	**Bitlis-Merkez**	**2.02**	**95**	*i* P		**Pn**	**17 43 02.4**	**+0.1**
KRIK	**Erzurum-spir**	**2.03**	**31**	*eP*		**Pb**	**17 43 05.0**	**-0.2**
GAZ	**Gaziantep**	**2.34**	**233**	PN		**Pb**	**17 43 08.8**	**-1.6**
KMRS	**Kahramanmaras**	**2.37**	**243**	PN		**Pb**	**17 43 09.5**	**-1.3**
SVSK	**Karacayir**	**2.38**	**304**	PN		**Pb**	**17 43 09.3**	**-1.7**
SIRT	**Sirnak**	**2.53**	**115**	PN		**Pn**	**17 43 10.9**	**+1.6**

JMA 04 17:48:47.7±0.1, **38.89N×141.98E, h48**km±1km, **M2.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.31**	**308**	P		Pn	17 48 56.9	+0.2
OFUJ				S		Sn	17 49 03.3	+0.2
JKMT	**Kesennumamotoy**	**0.40**	**259**	P		Pn	17 48 57.7	0.0
JKMT				S		Sn	17 49 04.5	-0.3
JMK	**Ichinoseki**	**0.60**	**276**	P		Pn	17 49 00.1	+0.1
JMK				S		Sn	17 49 08.8	-0.1
JIO	**Ouri**	**0.66**	**229**	P		Pn	17 49 00.6	-0.2
JIO				S		Sn	17 49 09.4	-0.8
JOM	**Ohasama**	**0.79**	**318**	P		Pn	17 49 02.7	+0.1
JOM				S		Sn	17 49 13.5	+0.1
JOU	**Okura**	**1.16**	**243**	P		Pn	17 49 07.3	-0.2
JOU				S		Sn	17 49 22.1	-0.1
JRG	**Rokugo**	**1.16**	**296**	P		Pn	17 49 07.8	+0.2
JYK	**Kaneyama**	**1.27**	**272**	P		Pn	17 49 09.1	+0.1
JMM	**Marumori**	**1.38**	**223**	P		Pn	17 49 10.1	-0.5
JMM				*eS*		Sn	17 49 26.9	-0.8
JANG	**Nango**	**1.52**	**347**	P		Pn	17 49 12.4	-0.1

*IDC **04** 17:50:31.8±0.8, 31.34N×141.57E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.8/47, mbtmp3.8/16, ML2.7/3, MS4.0/6, Ms1 4.0/6, ms1mx3.4/38, Error ellipse: s-maj=24.4km s-min=16.9km az=72.0*
*NEIC **04** 17:50:32.9±1.6, 31.41N±0.04×141.60E±0.10, h10km±1km, mb4.5/16, Error ellipse: s-maj=15.5km s-min=4.1km az=64.0*
ISC 04 17:50:33.1±0.7, **31.45N**±0.08×**141.68E**±0.10, **h10**km, **n54,** σ**1.25**/52, **mb4.1**/20, **MS4.2**/4, **Southeast of Honshu**

| Code | Station Name |

SONM	**Songino Array**	**31.38 312**	IAmb	IAmb	17 56 56.4			
	comp=Z,1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**40.60 262**	P	**P**	**17 58 12.6**	**-0.7**		
	comp=Z,0.6nm,0.7s,baz=60,slow=6.3,SNR=6.2							
ZALV	**Zalesovo Beam**	**45.98 317**	P	**P**	**17 58 55.9**	**-0.4**		
	comp=Z,1.1nm,0.7s,baz=89,slow=6.1,SNR=4.9							
MK31	**Makanchi Array**	**47.45 307**		**P**	**17 59 08.8**	**+0.8**		
MKAR	**Makanchi Array**	**47.45 307**	P	**P**	**17 59 08.5**	**+0.5**		
	comp=Z,0.8nm,0.5s,baz=85,slow=10,SNR=18							
MAKZ	**Makanchi**	**47.66 307**	P	**P**	**17 59 10.7**	**+1.0**		
KURK	**Kurchatov**	**49.69 312**	P	**P**	**17 59 24.7**	**-0.4**		
KURK			IAmb	IAmb	17 59 26.7			
	comp=Z,7.0nm,1.1s							
KURBB	**Kurchatov Arra**	**49.75 312**	P	**P**	**17 59 25.6**	**0.0**		
	comp=Z,1.8nm,0.8s,baz=87,slow=7.2,SNR=14							
IMAR	**Indian Mountai**	**51.40 28**	P	**P**	**17 59 37.4**	**-0.4**		
WB0	**Warramunga Arr**	**51.40 189**	P	**P**	**17 59 37.0**	**-1.2**		
WB0			IAmb	IAmb	17 59 42.1			
	comp=Z,16nm,1.6s							
WR0	**Warramunga Arr**	**51.57 189**	P	**P**	**17 59 37.8**	**-1.7**		
WR0			IAmb	IAmb	18 00 03.3			
	comp=Z,10nm,1.6s							
WB2	**Warramunga Arr**	**51.58 189**	P	**P**	**17 59 38.5**	**-1.1**		
WB2			IAmb	IAmb	17 59 43.9			
	comp=Z,9.4nm,1.4s							
WRA	**Warramunga Arr**	**51.58 189**	P	**P**	**17 59 38.6**	**-1.0**		
	comp=Z,1.4nm,0.6s,baz=6.6,slow=7.7,SNR=27							
WRA	**Warramunga Arr**	**51.58 189**	P	**P**	**17 59 38.7**	**-1.0**		
ILAR	**Eielson Array**	**54.15 30**	P	**P**	**17 59 58.5**	**+0.4**		
	comp=Z,0.8nm,1.0s,baz=262,slow=6.9,SNR=5.5							
AS31	**Alice Springs**	**55.31 189**	P	**P**	**18 00 06.5**	**-0.4**		
ASAR	**Alice Springs**	**55.31 189**	P	**P**	**18 00 06.4**	**-0.6**		
	comp=Z,0.7nm,0.6s,baz=360,slow=5.0,SNR=22							
KK31	**Karatay Array**	**56.25 304**	P	**P**	**18 00 14.1**	**+0.4**		
KK31			IAmb	IAmb	18 00 15.6			
	comp=Z,4.5nm,1.2s							
KKAR	**Karatay Array**	**56.25 304**	P	**P**	**18 00 13.9**	**+0.2**		
KKAR	**Karatay Array**	**56.25 304**	IAmb	IAmb	18 00 15.6			
	comp=Z,4.5nm,1.2s							
CHGR	**Chuyangaron**	**58.40 299**	P	**P**	**18 00 29.8**	**+0.8**		
ARU	**Arti**	**60.75 321**	P	**P**	**18 00 44.9**	**+0.1**		
ABKAR	**Akbulak array**	**61.79 313**	P	**P**	**18 00 52.1**	**+0.1**		
ABKAR			IAmb	IAmb	18 00 53.1			
	comp=Z,2.3nm,0.8s							
ABKAR	**Akbulak array**	**61.79 313**	P	**P**	**18 00 51.8**	**-0.2**		
FORT	**Forrest**	**63.22 193**	P	**P**	**18 01 01.4**	**-0.3**		
FINES	**FINESS Array B**	**73.87 333**	P	**P**	**18 02 07.8**	**-0.1**		
	comp=Z,3.9nm,1.1s,baz=29,slow=3.2,SNR=4.3							
NVAR	**Mina Array Bea**	**78.19 52**	P	**P**	**18 02 34.3**	**+1.0**		
	comp=Z,0.2nm,0.6s,baz=284,slow=3.6,SNR=2.4							
NVAR			LR	LR	18 29 35.1			
	comp=Z,140nm,21.9s,baz=270,slow=30							
AKASG	**Malin Array Be**	**78.87 323**	P	**P**	**18 02 36.0**	**-0.4**		
	comp=Z,0.1nm,0.3s,baz=52,slow=5.7,SNR=1.7							
PDAR	**Pinedale Array**	**81.44 45**	LR	LR	18 34 55.5			
	comp=Z,151nm,19.5s,baz=314,slow=33							
BRTR	**Keskin Array B**	**82.74 312**	P	**P**	**18 02 58.4**	**+0.8**		
	comp=Z,0.4nm,0.8s,baz=46,slow=4.2,SNR=2.8							
BRTR	**Keskin Array B**	**82.74 312**	P	**P**	**18 02 58.2**	**+0.6**		
SCHQ	**Schefferville**	**90.63 16**	LR	LR	18 46 19.0			
	comp=Z,94nm,21.9s,baz=329,slow=37							
TXAR	**Lajitas Array**	**93.34 53**	P	**P**	**18 03 51.5**	**+2.7**		
	comp=Z,0.6nm,0.8s,baz=252,slow=2.5,SNR=6.1							
TXAR			LR	LR	18 46 36.8			
	comp=Z,75nm,18.5s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**93.34 53**	P	**P**	**18 03 48.7**	**-0.1**		

*IDC **04** 18:10:02.6±0.8,33°.64N×135°.14E,h39km±6km,mb3.4/11, mb1 3.7/16,mb1mx3.5/48,mbtmp3.6/16,ML3.4/4, Error ellipse: s-maj=17.7km s-min=14.7km az=66.0*

*NIED **04** 18:10:02.3,33°.68N×135°.15E,h39km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.85; $M_{\theta\theta}$-1.00; $M_{\phi\phi}$0.15; $M_{r\theta}$0.12; $M_{\theta\phi}$-0.79; $M_{\phi r}$-0.63; Fault plane solution: $M_0$1.38000×10^{15} NP1: ϕ_s212.00000°,δ60.00000°,λ46.00000°. NP2:ϕ_s95.00000°, δ52.00000°,λ141.00000°.*

*JMA **04** 18:10:02.3,33°.68N×135°.15E,h39km,M3.9 Broadband fault plane solution: P waves. NP1:ϕ_s112.00000°, δ52.00000°,λ-178.00000°. NP2:ϕ_s21.00000°,δ89.00000°, λ-38.00000°. Principal axes: T Plg25.0000°, Azm73.0000°; N Plg52.0000°, Azm199.0000°; P Plg27.0000°, Azm329.0000°;*

JMA Felt III J1.

ISC 04 18:10:01.6±0.6,33°.58N±0°.06×135°.18E±0°.04,h34km,n29, σ1s44/36,mb3.6/12,2C-3D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.30**	**28**	⇓P		**Pb**	**Pb**	**18 10 09.7**	**+0.2**
JWM				S		**Sb**	**Sb**	**18 10 15.0**	**+0.1**
JTNC	**Tanabenakahech**	**0.43**	**56**	⇓P		**Pn**	**Pn**	**18 10 11.8**	**+0.3**
JTNC				S		**Sb**	**Sb**	**18 10 18.2**	**+0.4**
JAI	**Aioi**	**0.65**	**289**	⇑P		**Pn**	**Pn**	**18 10 14.2**	**-0.1**
JAI				S		**Sn**	**Sn**	**18 10 22.5**	**-0.8**
JWY	**Kouya**	**0.72**	**28**	⇑P		**Pn**	**Pn**	**18 10 15.0**	**-0.5**
JWY				S		**Sn**	**Sn**	**18 10 23.9**	**-1.5**
JAWN	**Awajishima-nag**	**0.93**	**346**	⇓P		**Pn**	**Pn**	**18 10 17.6**	**-0.7**
JAWN				S		**Sn**	**Sn**	**18 10 28.7**	**-1.8**
JNU	**Nakatsue**	**3.63**	**264**	Pn		**Pn**	**Pn**	**18 10 56.0**	**+0.5**
	4.7nm,0.3s,baz=68,slow=3.8,SNR=35								
JNU				Sn		**Sn**	**Sn**	**18 11 35.8**	**-1.3**
	5.9nm,0.3s,baz=5.9,slow=4.2,SNR=4.5								
MAT	**Matsushiro**	**3.86**	**39**	P		**Pn**	**Pn**	**18 10 59.9**	**+1.3**
MAT				*e*S		**Sn**	**Sn**	**18 11 41.7**	**-1.0**
MJAR	**Matsushiro Arr**	**3.86**	**39**	Pn		**Pn**	**Pn**	**18 10 59.8**	**+1.3**
	0.7nm,0.3s,baz=265,slow=17,SNR=73								
MJAR				Lg		Lg	Lg	18 11 58.3	
	0.6nm,0.3s,baz=226,slow=30,SNR=5.7								
JHJ	**Hachijo jima 2**	**3.88**	**96**	Pn		**Pn**	**Pn**	**18 10 58.4**	**-0.5**
	12nm,0.3s,baz=192,slow=16,SNR=0.9								
JHJ				Sn		**Sn**	**Sn**	**18 11 38.6**	**-4.6**
	19nm,0.3s,baz=203,slow=14,SNR=1.7								
KSRS	**Korea Array**	**7.07**	**305**	Pn		**Pn**	**Pn**	**18 11 42.9**	**+0.3**
	0.8nm,0.3s,baz=120,slow=15,SNR=11								
KSRS				Sn		**Sn**	**Sn**	**18 12 57.1**	**-4.6**
	0.8nm,0.3s,baz=121,slow=23,SNR=6.2								
USRK	**Ussuriysk Ar.**	**10.89**	**348**	Pn		**Pn**	**Pn**	**18 12 36.1**	**+1.1**
	baz=169,slow=16,SNR=2.0								
SONM	**Songino Array**	**25.87**	**312**	P		**P**	**P**	**18 15 28.7**	**-1.5**
	0.8nm,0.6s,baz=124,slow=8.7,SNR=4.3								
MA2	**Magadan**	**27.98**	**17**	P		**P**	**P**	**18 15 48.8**	**-0.1**
	13nm,0.9s,baz=160,slow=8.3,SNR=1.6								
H11N2	**WAKE ISLAND Hy**	**31.38**	**108**	T		T	T	18 48 56.1	
	baz=303,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy**	**31.39**	**108**	T		T	T	18 48 56.2	
	baz=303,slow=75,SNR=8.3								
H11N3	**WAKE ISLAND Hy**	**31.40**	**108**	T		T	T	18 48 57.2	
	baz=303,slow=75,SNR=12								
H11S3	**WAKE ISLAND Hy**	**31.89**	**110**	T		T	T	18 49 38.8	
	baz=304,slow=75,SNR=12								
H11S1	**WAKE ISLAND Hy**	**31.90**	**110**	T		T	T	18 49 36.9	
	baz=304,slow=75,SNR=10.0								
H11S2	**WAKE ISLAND Hy**	**31.91**	**110**	T		T	T	18 49 38.6	
	baz=304,slow=75,SNR=9.1								
ZALV	**Zalesovo Beam**	**40.64**	**316**	P		**P**	**P**	**18 17 38.2**	**+0.1**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=1.8								
MKAR	**Makanchi Array**	**41.75**	**305**	P		**P**	**P**	**18 17 47.7**	**+0.2**
	0.4nm,0.6s,baz=89,slow=6.2,SNR=3.0								
MKAR				pP		**pP**	**pP**	**18 17 58.7**	**+1.4**
	0.6nm,0.6s,baz=88,slow=10,SNR=3.1								
KURBB	**Kurchatov Arra**	**44.22**	**310**	P		**P**	**P**	**18 18 07.1**	**-0.2**
	0.8nm,0.8s,baz=96,slow=8.4,SNR=9.9								
KURBB				pP		**pP**	**pP**	**18 18 18.2**	**+1.1**
	0.7nm,0.8s,baz=94,slow=7.7,SNR=4.7								
WRA	**Warramunga Arr**	**53.23**	**181**	P		**P**	**P**	**18 19 17.3**	**+0.5**
	0.8nm,0.6s,baz=356,slow=7.9,SNR=15								
ILAR	**Eielson Array**	**55.09**	**31**	P		**P**	**P**	**18 19 29.9**	**0.0**
	0.5nm,0.6s,baz=261,slow=5.7,SNR=9.2								
ASAR	**Alice Springs**	**56.94**	**181**	P		**P**	**P**	**18 19 44.6**	**+1.1**
	0.5nm,0.7s,baz=11,slow=13,SNR=12								
ASAR				pP		**sP**	**sP**	**18 19 56.3**	**-1.6**
	0.5nm,0.7s,baz=13,slow=12,SNR=4.0								
BRTR	**Keskin Array B**	**77.20**	**309**	P		**P**	**P**	**18 21 52.5**	**+0.2**
	0.4nm,0.7s,baz=52,slow=5.7,SNR=2.8								
BRTR				pP		**PcP**	**PcP**	**18 22 04.0**	**+1.0**
	1.0nm,0.9s,baz=46,slow=4.2,SNR=5.0								
NVAR	**Mina Array Bea**	**81.12**	**50**	P		**P**	**P**	**18 22 14.4**	**+0.5**
	0.2nm,0.5s,baz=298,slow=6.0,SNR=2.2								
PDAR	**Pinedale Array**	**83.68**	**42**	P		**P**	**P**	**18 22 27.6**	**+0.5**
	0.3nm,0.4s,baz=283,slow=7.4,SNR=2.3								
TXAR	**Lajitas Array**	**96.24**	**49**	P		**P**	**P**	**18 23 27.4**	**+0.6**
	0.3nm,0.8s,baz=306,slow=3.9,SNR=4.2								

*SOME **04** 18:28:51.7,39°.65N×82°.58E,h0km*
*BJI **04** 18:28:52.5±0.0,39°.24N×82°.39E,h10km,ML3.6/9*
*NNC **04** 18:28:58.0±10.0,39°.67N×82°.26E,h2km±64km,mb3.9, mpv3.5,Error ellipse: s-maj=87.6km s-min=62.5km az=17.0*

ISC 04 18:28:50.1±2.4,39°.3N±0°.1×83°.10E±0°.07,h10km,n12, σ2s03/24,4C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**4.60**	**334**	*e*P		**Pb**	**Pb**	**18 30 11.8**	**+0.8**
	7.9nm,0.3s								
KTMS				*e*S		**Sb**	**Sb**	**18 31 09.1**	**+2.6**
	49nm,0.4s								
SHLS	**Shalkode**	**4.70**	**326**	*e*P		**Pb**	**Pb**	**18 30 10.7**	**-2.0**
	22nm,0.3s								
SHLS				*e*S		**Sb**	**Sb**	**18 31 07.5**	**-2.0**
	88nm,0.4s								
PDGK	**Podgornoye**	**4.83**	**327**	⇓Pn		**Pn**	**Pn**	**18 30 02.8**	**-0.2**
	3.8nm,0.4s								
PDGK				⇑Sn		**Sn**	**Sn**	**18 30 55.5**	**-3.6**
	60nm,0.6s								
PDGK				⇑Lg		Lg	Lg	18 31 12.8	
	35nm,0.6s								
UZB	**Uzynbulak**	**4.90**	**322**	*e*P		**Pb**	**Pb**	**18 30 14.6**	**-1.5**
	11nm,0.3s								
UZB				*e*S		**Sb**	**Sb**	**18 31 14.4**	**-0.7**
	34nm,0.5s								
SATY	**Saty**	**5.14**	**318**	*e*P		**Pb**	**Pb**	**18 30 19.8**	**-0.3**
	7.3nm,0.5s								
SATY				*e*S		**Sb**	**Sb**	**18 31 23.1**	**+1.1**
	36nm,0.3s								
KPKS	**Kokpek**	**5.30**	**323**	*e*P		**Pb**	**Pb**	**18 30 23.0**	**+0.1**
	11nm,0.4s								
KPKS				*e*S		**Sb**	**Sb**	**18 31 29.1**	**+2.5**
	66nm,0.5s								
KSH	**Kashi**	**5.52**	**274**	Pg		**Pb**	**Pb**	**18 30 27.3**	**+0.7**
KSH				Sn		**Sn**	**Sn**	**18 31 14.0**	**-2.0**
KSH				smax		smax			
	comp=N,74nm,0.7s								
KSH				smax		smax			
	comp=E,43nm,0.7s								
DJR	**Jarkent**	**5.58**	**335**	*e*P		**Pb**	**Pb**	**18 30 26.4**	**-1.2**
	4.5nm,0.5s								
DJR				*e*S		**Sb**	**Sb**	**18 31 35.0**	**+0.5**
	11nm,0.5s								
WMQ	**Urumqi**	**5.66**	**36**	*e*Pn		**Pb**	**Pb**	**18 30 26.9**	**-2.1**
WMQ				Sn		**Sb**	**Sb**	**18 31 35.1**	**-1.8**
WMQ				smax		smax			
	comp=N,18nm,0.7s								
WMQ				smax		smax			
	comp=E,16nm,0.7s								
MNBS	**Baschi**	**5.90**	**325**	*e*P		**Pb**	**Pb**	**18 30 31.4**	**-1.8**
	2.8nm,0.3s								
MNBS				*e*S		**Sb**	**Sb**	**18 31 42.9**	**-1.0**
	28nm,0.6s								
MK31	**Makanchi Array**	**7.49**	**356**	⇑Pn		**Pn**	**Pn**	**18 30 43.4**	**+4.1**
	1.0nm,0.3s,baz=184,slow=12,SNR=131								
MK31				⇓Sn		**Sn**	**Sn**	**18 32 04.7**	**+0.5**
	5.8nm,0.7s,baz=187,slow=24,SNR=6.9								
MAKZ	**Makanchi**	**7.52**	**354**	⇑Pn		**Pn**	**Pn**	**18 30 43.2**	**+3.4**
	2.1nm,0.5s								
MAKZ				⇓Sn		**Sn**	**Sn**	**18 32 04.0**	**-1.1**
	6.1nm,0.5s								

*IDC **04** 18:34:44.8±0.7,14°.24S×166°.56E,h0km,mb4.4/16, mb1 4.5/17,mb1mx4.3/46,mbtmp4.4/17,ML4.1/1,MS4.4/11, Ms1 4.4/11,ms1mx3.9/46,Error ellipse: s-maj=21.8km s-min=15.8km az=105.0*

*NEIC **04** 18:34:45.3±2.3,14°.23S±0°.06×166°.61E±0°.08,h10km±1km, mb5.3/70,Error ellipse: s-maj=15.9km s-min=7.6km az=56.0*

*GCMT **04** 18:34:51.3±0.3,14°.26S±0°.03×166°.33E±0°.02,h22km, MW5.0/68,Moment Tensor Solution. s46,c51; s68,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.43±.22; $M_{\theta\theta}$-0.95±.14; $M_{\phi\phi}$-3.48±.14; $M_{r\theta}$1.09±.26; $M_{\theta\phi}$1.10±.09; $M_{\phi r}$-1.62±.19; Best double couple: $M_0$4.59300×10^{16} NP1:ϕ_s344.00000°,δ33.00000°,λ98.00000°. NP2: ϕ_s154.00000°,δ57.00000°,λ85.00000°. Principal axes: T 4.8790, Plg77.0000°, Azm48.0000°; N -0.5720, Plg4.0000°, Azm157.0000°; P -4.3070, Plg12.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 18:34:45.6±0.3,14°.29S±0°.05×166°.64E±0°.06,h10km,n138, σ1s48/138,mb5.1/54,MS4.4/12,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.27**	**155**	Pn		**Pg**	**Pg**	**18 35 10.5**	**+0.4**
SANVU				Sn		**Sn**	**Sn**	**18 35 29.9**	**+3.2**
DZM	**Mont Dzumac**	**7.74**	**181**	Pn		**Pn**	**Pn**	**18 36 40.1**	**+1.5**
	3.0nm,0.3s,baz=41,slow=18,SNR=15								
DZM				Sn		**Sn**	**Sn**	**18 38 04.3**	**-2.0**
	1.9nm,0.3s,baz=322,slow=19,SNR=1.4								
DZM	**Mont Dzumac**	**7.74**	**181**	*e*Pn		**Pn**	**Pn**	**18 36 40.4**	**+1.9**
	63nm,0.6s								
DZM				*e*Sn		**Sn**	**Sn**	**18 38 02.5**	**-3.9**
	76nm,0.7s								
DZM				*e*LR		LR	LR	18 38 26.0	
	comp=Z,3μm,25.1s								
DZM	**Mont Dzumac**	**7.74**	**181**	Pn		**Pn**	**Pn**	**18 36 38.6**	**0.0**
DZM				Sn		**Sn**	**Sn**	**18 38 04.9**	**-1.5**
HNR	**Honiara**	**8.13**	**306**	Pn		**Pn**	**Pn**	**18 36 45.6**	**+1.7**
	9.7nm,0.3s,baz=173,slow=11,SNR=2.5								
HNR				Sn		**Sn**	**Sn**	**18 38 10.4**	**-5.6**
	5.5nm,0.3s,baz=10,slow=19,SNR=1.3								
HNR				LR		LR	LR	18 39 48.9	
	comp=Z,1μm,18.9s,baz=142,slow=38								
HNR	**Honiara**	**8.13**	**306**	Pn		**Pn**	**Pn**	**18 36 42.9**	**-1.0**
MSVF	**Nonsavu**	**11.49**	**109**	Pn		**Pn**	**Pn**	**18 37 28.7**	**-1.3**
KRVT	**Keravat (AS076**	**17.49**	**303**	LR		LR	LR	18 46 06.9	
	comp=Z,1μm,18.6s,baz=125,slow=39								
EIDS	**Eidsvold**	**18.30**	**231**			**P**	**P**	**18 39 00.8**	**+0.9**
PMG	**Port Moresby**	**19.67**	**282**	LR		LR	LR	18 45 44.0	
	comp=Z,1μm,18.6s,baz=69,slow=34								
PMG	**Port Moresby**	**19.67**	**282**	P		**P**	**P**	**18 39 15.9**	**+0.9**
CTA	**Charters Tower**	**20.30**	**251**	P		**P**	**P**	**18 39 22.6**	**+0.7**
	9.3nm,0.9s,baz=73,slow=11,SNR=6.2								
CTAO	**Charters Tower**	**20.30**	**251**			**P**	**P**	**18 39 22.1**	**+0.2**
AFI	**Afiamalu**	**20.94**	**92**	P		**P**	**P**	**18 39 25.9**	**-3.1**
AFI				IAmb		IAmb	IAmb	18 39 48.5	
	comp=Z,250nm,1.7s								
ARMA	**Armidale**	**21.18**	**218**	P		**P**	**P**	**18 39 32.8**	**+1.4**
OUZ	**Omahuta**	**21.76**	**164**	P		**P**	**P**	**18 39 36.0**	**-1.5**
PATS	**Pohnpei**	**22.56**	**338**	P		**P**	**P**	**18 39 46.3**	**+0.2**
HIZ	**Hauiti**	**25.20**	**165**	P		**P**	**P**	**18 40 11.0**	**-0.5**
MXZ	**Matakaoa Point**	**25.39**	**158**	P		**P**	**P**	**18 40 12.1**	**-1.2**
MXZ				IAmb		IAmb	IAmb	18 41 00.5	
	comp=Z,112nm,1.3s								
URZ	**Urewera**	**25.61**	**161**	P		**P**	**P**	**18 40 17.4**	**+2.2**
	comp=Z,4.8nm,0.6s,baz=301,slow=1.7,SNR=1.6								
URZ	**Urewera**	**25.61**	**161**	P		**P**	**P**	**18 40 14.9**	**-0.3**
URZ				IAmb		IAmb	IAmb	18 40 40.0	
	comp=Z,77nm,1.5s								
BKZ	**Black Stump Fm**	**26.26**	**162**	P		**P**	**P**	**18 40 21.4**	**+0.3**
BKZ				IAmb		IAmb	IAmb	18 40 48.1	
	comp=Z,81nm,1.6s								
QRZ	**Quartz Range**	**26.93**	**170**	P		**P**	**P**	**18 40 26.9**	**-0.2**
QRZ				IAmb		IAmb	IAmb	18 41 05.4	
	comp=Z,189nm,1.7s								
BFZ	**Birch Farm**	**27.60**	**164**	P		**P**	**P**	**18 40 32.8**	**-0.3**
BFZ				IAmb		IAmb	IAmb	18 40 52.5	
	comp=Z,56nm,1.1s								
TUWZ	**Tuamarina**	**27.77**	**168**	P		**P**	**P**	**18 40 34.2**	**-0.5**
SNZO	**South Karori**	**27.82**	**167**	P		**P**	**P**	**18 40 33.6**	**-1.5**
THZ	**Tophouse**	**27.91**	**170**	P		**P**	**P**	**18 40 36.5**	**+0.5**
THZ				IAmb		IAmb	IAmb	18 41 17.5	
	comp=Z,76nm,1.4s								
STKA	**Stephens Creek**	**28.82**	**228**	P		**P**	**P**	**18 40 45.0**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=58,slow=9.9,SNR=7.7								
STKA				LR		LR	LR	18 52 21.6	
	comp=Z,2μm,18.1s,baz=53,slow=37								
STKA	**Stephens Creek**	**28.82**	**228**	P		**P**	**P**	**18 40 43.5**	**-0.7**
LBZ	**Lake Benmore**	**30.14**	**175**	P		**P**	**P**	**18 40 54.1**	**-1.7**
ODZ	**Otahua Downs**	**30.84**	**174**	P		**P**	**P**	**18 41 00.4**	**-1.5**
MLZ	**Mavora Lakes**	**31.00**	**178**	P		**P**	**P**	**18 41 00.2**	**-3.2**
WR0	**Warramunga Arr**	**31.15**	**255**	P		**P**	**P**	**18 41 03.3**	**-1.6**
WB0	**Warramunga Arr**	**31.27**	**255**	P		**P**	**P**	**18 41 04.9**	**-1.2**
WB2	**Warramunga Arr**	**31.33**	**255**	P		**P**	**P**	**18 41 05.1**	**-1.5**
WRA	**Warramunga Arr**	**31.34**	**255**	P		**P**	**P**	**18 41 05.1**	**-1.5**
	comp=Z,3.6nm,1.0s,baz=84,slow=8.6,SNR=17								
WRA				LR		LR	LR	18 53 22.1	
	comp=Z,1μm,18.1s,baz=90,slow=36								
WRA	**Warramunga Arr**	**31.34**	**255**	P		**P**	**P**	**18 41 05.3**	**-1.4**
AS31	**Alice Springs**	**32.26**	**248**	P		**P**	**P**	**18 41 13.5**	**-1.2**
ASAR	**Alice Springs**	**32.26**	**248**	P		**P**	**P**	**18 41 13.3**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=73,slow=9.6,SNR=39								
ASAR				LR		LR	LR	18 53 37.2	
	comp=Z,917nm,18.8s,baz=78,slow=35								
BBOO	**Buckleboo**	**33.37**	**231**	P		**P**	**P**	**18 41 24.3**	**0.0**
BBOO				IAmb		IAmb	IAmb	18 41 39.1	
	comp=Z,60nm,1.6s								
KNRA	**Kununurra**	**36.58**	**263**	P		**P**	**P**	**18 41 51.0**	**-1.1**
FORT	**Forrest**	**39.00**	**239**	P		**P**	**P**	**18 42 12.5**	**+0.1**
FORT				IAmb		IAmb	IAmb	18 42 26.3	
	comp=Z,117nm,1.6s								
FITZ	**Fitzroy Crossi**	**39.49**	**259**	P		**P**	**P**	**18 42 16.1**	**-0.6**
	comp=Z,6.6nm,0.8s,baz=114,slow=7.4,SNR=13								
FITZ				LR		LR	LR	18 58 40.6	
	comp=Z,917nm,18.0s,baz=89,slow=36								
FITZ	**Fitzroy Crossi**	**39.49**	**259**	P		**P**	**P**	**18 42 15.9**	**-0.9**
NLAI	**Namlea**	**40.51**	**282**	P		**P**	**P**	**18 42 28.0**	**+2.7**
	comp=Z,31nm,0.9s								
SOEI	**Soe**	**41.64**	**271**	P		**P**	**P**	**18 42 35.3**	**+0.6**
	comp=Z,29nm,1.2s								
SOEI	**Soe**	**41.64**	**271**	P		**P**	**P**	**18 42 33.6**	**-1.1**
SOEI				IAmb		IAmb	IAmb	18 42 57.5	
	comp=Z,92nm,1.7s								
BATI	**Baumata**	**42.15**	**271**	P		**P**	**P**	**18 42 40.3**	**+1.5**
	comp=Z,66nm,1.1s,baz=36,slow=4.0,SNR=7.9								
BATI	**Baumata**	**42.15**	**271**	P		**P**	**P**	**18 42 40.5**	**+1.8**
	comp=Z,27nm,1.1s								
PPT2	**Papeete2**	**42.16**	**100**	*e*S		**S**	**S**	**18 48 59.2**	**0.0**
	comp=Z,208nm,25.2s								
PPT2				*e*LQ		LQ	LQ	18 52 34.4	
	comp=Z,657nm,25.5s								
PPT2				*e*LR		LR	LR	18 54 23.6	
	comp=Z,556nm,26.0s,baz=266								
PPT	**Papeete**	**42.16**	**100**	LR		LR	LR	18 58 28.5	
	comp=Z,356nm,19.3s,baz=256,slow=34								
TBI	**Tubuai**	**42.38**	**109**	*e*S		**S**	**S**	**18 49 02.2**	**0.0**
	comp=Z,162nm,26.2s								
TBI				*e*LQ		LQ	LQ	18 52 42.6	
	comp=Z,466nm,29.2s								
TBI				*e*LR		LR	LR	18 54 30.1	
	comp=Z,477nm,25.0s,baz=284								
EDFI	**Ende, Flores**	**44.33**	**272**	P		**P**	**P**	**18 42 55.9**	**-0.6**
	comp=Z,8.5nm,1.1s								
NWAO	**Narrogin (SRO)**	**48.45**	**239**	P		**P**	**P**	**18 43 27.8**	**-0.8**
NWAO				IAmb		IAmb	IAmb	18 44 12.7	
	comp=Z,59nm,1.4s								
MORW	**Morawa**	**48.91**	**244**	P		**P**	**P**	**18 43 32.1**	**0.0**
MORW				IAmb		IAmb	IAmb	18 43 45.1	
	comp=Z,26nm,1.3s								
TWSI	**Taliwang, Sumb**	**48.99**	**271**	P		**P**	**P**	**18 43 32.7**	**-0.2**
	comp=Z,21nm,1.1s								
GIRL	**Giralia**	**50.18**

KTH	**Kantishna Hill**	**84.20**	**18**	P	**P**	**18 47 16.8**	**-0.2**
KTH				IAmb	IAmb	18 47 18.6	
	comp=Z,14nm,1.2s						
BPAW	**Bear Paw Mtn.**	**84.60**	**17**	P	**P**	**18 47 17.9**	**-1.1**
BPAW				IAmb	IAmb	18 47 19.4	
	comp=Z,17nm,1.5s						
RND	**Reindeer**	**84.72**	**18**	P	**P**	**18 47 20.1**	**+0.5**
RND				IAmb	IAmb	18 47 43.8	
	comp=Z,26nm,1.3s						
BWN	**Browne**	**85.10**	**18**	P	**P**	**18 47 21.7**	**+0.3**
BWN				IAmb	IAmb	18 47 38.5	
	comp=Z,27nm,0.9s						
TLY	**Talaya**	**85.29**	**326**	LR	LR	19 24 58.7	
	comp=Z,37nm,20.0s,baz=310,slow=35						
IMAR	**Indian Mountai**	**85.31**	**15**	P	**P**	**18 47 22.4**	**0.0**
WRH	**Wood River Hil**	**85.72**	**18**	P	**P**	**18 47 24.6**	**+0.1**
WRH				IAmb	IAmb	18 47 35.6	
	comp=Z,37nm,1.8s						
CCB	**Clear Creek Bu**	**85.94**	**18**	P	**P**	**18 47 25.0**	**-0.6**
HDA	**Harding Lake**	**86.03**	**18**	P	**P**	**18 47 25.8**	**-0.2**
HDA				IAmb	IAmb	18 47 27.2	
	comp=Z,48nm,1.7s						
MDM	**Murphy Dome**	**86.04**	**18**	P	**P**	**18 47 25.6**	**-0.5**
MDM				IAmb	IAmb	18 47 27.6	
	comp=Z,22nm,1.4s						
IL31		**86.30**	**18**	P	**P**	**18 47 26.4**	**-1.0**
IL31				IAmb	IAmb	18 47 28.9	
	comp=Z,25nm,1.7s						
ILAR	**Eielson Array**	**86.30**	**18**	P	**P**	**18 47 26.2**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=241,slow=5.0,SNR=35						
ILAR	**Eielson Array**	**86.30**	**18**	P	**P**	**18 47 25.8**	**-1.6**
BELA	**Belgrano 2**	**87.20**	**176**	P	**P**	**18 47 31.3**	**-0.5**
SYO	**Syowa Base**	**88.95**	**197**	*e*PcP	**PcP**	**18 47 42.4**	**+0.7**
WMQ	**Urumqi**	**91.99**	**315**	*e*P	**P**	**18 47 55.9**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,60nm,6.3s						
WMQ				LR	LR		
	comp=Z,210nm,29.1s						
WMQ				LR	LR		
	comp=Z,380nm,29.1s						
SNAA	**Sanae**	**93.95**	**183**	P	**P**	**18 48 03.5**	**+0.1**
SNAA	**Sanae**	**93.95**	**183**	P	**P**	**18 48 03.1**	**-0.3**
SNAA				IAmb	IAmb	18 48 15.0	
	comp=Z,11nm,1.3s						
VNA3	**Neumayer Olymp**	**94.64**	**181**	P	**P**	**18 48 05.9**	**-0.7**
MKAR	**Makanchi Array**	**96.47**	**317**	P	**P**	**18 48 15.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=87,slow=6.8,SNR=9.6						
MKAR	**Makanchi Array**	**96.47**	**317**	P	**P**	**18 48 14.9**	**-0.4**
ZALV	**Zalesovo Beam**	**96.68**	**324**	P	**P**	**18 48 16.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=4.2						
ARCES	**ARCESS Array B**	**119.68**	**345**	PKP	**PKiKP**	**18 53 35.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=66,slow=3.1,SNR=8.1						
KLMR	**Klimovskoe**	**120.02**	**333**	PKPdf	**PKPdf**	**18 53 31.3**	**-4.9**
KLMR				AMP		18 53 37.5	
	comp=Z,15nm,1.5s						
FINES	**FINESS Array B**	**125.09**	**338**	PKP	**PKiKP**	**18 53 46.1**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=323,slow=6.0,SNR=3.4						
AKASG	**Malin Array Be**	**130.03**	**326**	PKP	**PKiKP**	**18 53 56.9**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=52,slow=2.0,SNR=1.3						
NB2	**NORSAR Subarra**	**130.04**	**345**	PKPdf	**PKiKP**	**18 53 57.4**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=30,slow=1.8						
NOA	**NORSAR Array B**	**130.04**	**345**	PKP	**PKPdf**	**18 53 55.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=33,slow=2.2,SNR=3.4						
KOLS	**Kolonicke sedl**	**134.75**	**327**	*e*PKP	**PKiKP**	**18 54 12.0**	**+5.8**
VYHS	**Vyhne**	**136.79**	**329**	*e*PKP	**PKiKP**	**18 54 11.5**	**+1.2**
EKA	**Eskdalemuir Ar**	**138.29**	**351**	PKP	**PKiKP**	**18 54 12.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=9.7,slow=5.0,SNR=3.6						
GERES	**GERESS Array B**	**138.98**	**333**	PKP	**PKiKP**	**18 54 14.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=22,slow=1.1,SNR=2.3						
SSB	**Saint Sauveur**	**145.59**	**337**		**PKPab**	**18 54 24.8**	**-0.1**
KEST	**Kesra**	**150.49**	**320**	PKPbc	**PKiKP**	**18 54 38.9**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=11,slow=5.2,SNR=2.4						
ESDC	**Sonseca Array**	**153.40**	**344**	PKPbc	**PKiKP**	**18 54 45.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=19,slow=1.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**165.32**	**267**	PKP	**PKPdf**	**18 54 51.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=90,slow=0.7,SNR=2.1						
TORD				PKPab	**pPKPab**	**18 55 50.8**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=106,slow=5.1,SNR=4.4						

MDD 04 18:35:30.8±0.3, 37°.94N×1°.28W, h10km±1km, mbLg1.9/12, 1D, Error ellipse: s-maj=4.0km s-min=3.4km az=91.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMUR	**La Murta**	**0.11**	**162**	⇓Pg	Pg	18 35 33.3	-0.2
EMUR	38nm,0.1s,SNR=18						
	178nm,0.2s,SNR=5.0			Lg	Lg	18 35 35.6	
CART	**Cartagena**	**0.42**	**148**	Pg	Pb	18 35 41.2	+0.9
CART				Lg	Lg	18 35 45.5	
CART	**Cartagena**	**0.42**	**148**	*e*S	Sg	18 35 45.5	+0.9
CART	**Cartagena**	**0.42**	**148**	*e*P	Pb	18 35 41.2	+0.9
TLOR	**Lorca, Murcia**	**0.43**	**228**	Pg	Pg	18 35 39.0	-0.3
TLOR	25nm,0.1s,SNR=4.0						
	176nm,0.2s,SNR=7.9			Lg	Lg	18 35 44.7	
ETOB	**Tobarra**	**0.73**	**343**	Pg	Pg	18 35 44.1	-0.8
ETOB	0.7nm,0.1s,SNR=88						
	12nm,0.1s			Lg	Lg	18 35 54.2	
AFON	**Font Roja**	**0.93**	**39**	Pg	Pg	18 35 48.6	-0.1
AFON	0.2nm,0.0s,SNR=7.9						
	13nm,0.4s,SNR=7.9			Lg	Lg	18 36 01.0	
SESP	**Santiago Espad**	**1.01**	**280**	Pg	Pg	18 35 49.3	-1.0
SESP	1.8nm,0.3s,SNR=7.9						
	7.1nm,0.1s,SNR=7.9			Lg	Lg	18 36 03.2	
EBEN2	**Beniarda presa**	**1.13**	**49**	Lg	Lg	18 36 06.1	
	19nm,0.5s,SNR=4.0						
EQES	**Quesada**	**1.42**	**265**	Pg	Pn	18 35 56.7	-0.1
EQES	1.6nm,0.1s,SNR=20						
	8.1nm,0.5s			Lg	Lg	18 36 15.8	
EBER	**Berja**	**1.65**	**231**	Pn	Pn	18 36 00.5	+0.5
	1.4nm,0.2s,SNR=7.9						
ECHE	**Chera**	**1.66**	**8**	Pg	Pn	18 36 00.7	+0.6
ECHE	0.1nm,0.1s,SNR=7.9						
	4.4nm,0.3s,SNR=7.9			Lg	Lg	18 36 23.8	
EADA	**Adamuz**	**2.61**	**276**	Pg	Pb	18 36 18.4	+0.7
EADA	0.2nm,0.1s,SNR=7.9						
	0.1nm,0.1s,SNR=7.9			Sn	Sn	18 36 42.3	-2.5
EADA				Lg	Lg	18 36 53.9	
	2.1nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**2.72**	**310**	Pg	Pb	18 36 20.4	+1.0
	0.2nm,0.3s,baz=128,slow=17,SNR=3.6						
ESDC	0.3nm,0.3s,baz=317,slow=26,SNR=4.9			Lg	Lg	18 36 54.7	
ETOR	**Torete**	**2.93**	**348**	Pg	Pg	18 36 25.9	-1.1
	0.7nm,0.1s,SNR=7.9						
ETOR	0.6nm,0.1s,SNR=7.9			Sn	Sn	18 36 50.8	-2.1
ETOR				Lg	Lg	18 37 03.7	
	3.1nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.27**	**274**	Pg	Pb	18 36 30.6	+1.7
	0.1nm,0.2s,SNR=7.9						
ECAB	0.4nm,0.2s,SNR=7.9			Sn	Sn	18 37 00.0	-1.1
ECAB				Lg	Lg	18 37 14.6	
	3.4nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.50**	**321**	Sn	Sn	18 37 03.1	-3.8
	0.1nm,0.1s,SNR=7.9						
GUD	1.0nm,0.4s,SNR=7.9			Lg	Lg	18 37 20.2	

*MAN **04** 18:44:27.3, 11°.08N×126°.26E, h20km, MS3.4*
MAN Intensity III - Guiuan Eastern Samar.
*IDC **04** 18:44:34.0±3.6, 10°.83N×125°.98E, h74km±33km, mb3.9/18, mb1 4.0/19, mb1mx3.8/46, mbtmp4.2/19, MS3.5/2, Ms1 3.5/2, ms1mx2.8/60, Error ellipse: s-maj=30.1km s-min=11.3km az=71.0*
*NEIC **04** 18:44:34.1±1.9, 10°.90N±0°.08×126°.0E±0°.1, h74km±7km, mb4.6/46, Error ellipse: s-maj=14.9km s-min=11.3km az=84.0*
ISC 04 18:44:31.5±1.1, 10°.98N±0°.04×126°.20E±0°.07, h50km±10km, n100, σ1§74/101, mb4.4/38, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.97**	**310**	*e*P	**Pn**	**18 44 45.5**	**-3.4**
BESP				*e*S	**Sn**	**18 44 59.8**	**-1.8**
GLSP	**General Luna,**	**1.19**	**184**	*e*P	**Pn**	**18 44 49.0**	**-2.9**
GLSP				*e*S	**Sn**	**18 45 03.3**	**-3.6**
MSLP	**Maasin**	**1.57**	**238**	*e*P	**Pn**	**18 44 54.4**	**-2.5**
MSLP				*e*S	**Sn**	**18 45 17.8**	**+1.7**
CNP	**Catarman**	**2.14**	**315**	*e*P	**Pn**	**18 45 03.2**	**-1.6**
CNP				*e*S	**Sn**	**18 45 32.6**	**+2.4**
LLP	**Lapu-Lapu**	**2.30**	**254**	⇓*e*P	**Pn**	**18 45 05.6**	**-1.3**
LLP				*e*S	**Sn**	**18 45 36.9**	**+2.9**
TBP	**Tagbilaran**	**2.64**	**241**	⇑*i*P	**Pn**	**18 45 15.4**	**+3.8**
CGP	**Cagayan de Oro**	**2.92**	**211**	⇓*e*P	**Pn**	**18 45 15.2**	**-0.3**
CGP				*e*S	**Sn**	**18 45 50.1**	**+0.8**
BUKP	**Musuan**	**3.28**	**200**	*e*P	**Pn**	**18 45 20.8**	**+0.3**
BUKP				*e*S	**Sn**	**18 46 01.2**	**+2.8**
PVCP	**Virac**	**3.28**	**323**	*e*P	**Pn**	**18 45 17.5**	**-2.9**
PVCP				*e*S	Sn	18 46 08.0	+10
GUIM	**Jordan**	**3.57**	**265**	*e*P	**Pn**	**18 45 23.3**	**-1.1**
CNOP	**Candoni, Negro**	**3.69**	**252**	*e*P	**Pn**	**18 45 25.1**	**-1.0**
DAV	**Davao City (W)**	**3.93**	**189**	LR	LR	18 47 29.6	
	comp=Z,885nm,19.2s,baz=12,slow=47						
MATI	**Mati**	**4.01**	**179**	*e*P	**Pn**	**18 45 33.4**	**+2.9**
KCP	**Kidapawan**	**4.10**	**196**	⇑*e*P	**Pn**	**18 45 33.9**	**+2.2**
PAGZ	**Pagadian**	**4.17**	**222**	*e*P	**Pn**	**18 45 32.6**	**-0.1**
JAP	**San Jose, Anti**	**4.19**	**267**	⇑*e*P	**Pn**	**18 45 35.5**	**+2.6**
OTRP	**Odiongan**	**4.32**	**289**	*e*P	**Pn**	**18 45 33.8**	**-0.9**
BOAC	**Boac**	**4.92**	**300**	*e*P	**Pn**	**18 45 42.7**	**-0.3**
CUYO	**Cuyo Island**	**5.09**	**269**	*e*P	**Pn**	**18 45 44.8**	**-0.6**
LQP	**Lukban**	**5.52**	**305**	⇑*e*P	**Pn**	**18 45 50.7**	**-0.7**
TGY	**Tagaytay City**	**6.01**	**302**	P	**Pn**	**18 45 58.8**	**+0.9**
	baz=191,slow=16,SNR=4.1						
CAUP	**Cauayan**	**7.29**	**325**	*e*P	**Pn**	**18 46 13.1**	**-2.5**
SMPP	**San Manuel, Pa**	**7.43**	**314**	*e*P	**Pn**	**18 46 15.5**	**-1.9**
MYLDM	**Lahad Datu**	**9.56**	**234**	Pn	**Pn**	**18 46 42.8**	**-3.7**
TNTI	**Ternate**	**10.21**	**173**	Pn	**Pn**	**18 46 52.9**	**-2.6**
YULB	**Yu-li**	**13.20**	**340**	Pn	**Pn**	**18 47 37.5**	**+1.2**
TPUB	**Ta-pu**	**13.36**	**337**	Pn	**P**	**18 47 46.6**	**-0.1**
FAKI	**Fak Fak**	**15.06**	**156**		**P**	**18 48 08.4**	**+2.7**
FAKI				IAmb	IAmb	18 48 22.0	
	comp=Z,40nm,1.2s						
KSM	**Kuching**	**18.39**	**240**		**Pn**	**18 48 45.6**	**+2.6**
MMRI	**Maumere**	**19.88**	**192**	P	**Pn**	**18 49 01.8**	**+1.0**
MMRI				IAmb	IAmb	18 49 07.1	
	comp=Z,18nm,0.7s						
SOEI	**Soe**	**20.69**	**185**	P	Pn	18 49 09.3	-1.2
SOEI				IAmb	IAmb	18 49 36.0	
	comp=Z,19nm,0.9s						
BATI	**Baumata**	**21.20**	**187**	P	**P**	**18 49 14.6**	**+1.5**
	comp=Z,15nm,0.4s,baz=311,slow=0.7,SNR=14						
SLVN	**Son La**	**23.73**	**298**	P	**P**	**18 49 37.6**	**-1.7**
MTN	**Manton Dam**	**24.17**	**168**	P	**P**	**18 49 43.6**	**+0.3**
MTN				IAmb	IAmb	18 50 09.3	
	comp=Z,22nm,1.3s						
ENH	**Enshi**	**24.70**	**323**	P	**P**	**18 49 47.4**	**-0.7**
IPM	**Ipoh**	**25.76**	**257**	P	**P**	**18 49 58.5**	**+0.6**
IPM				IAmb	IAmb	18 50 23.9	
	comp=Z,35nm,1.3s						
KULM	**Kulim**	**25.91**	**259**	P	**P**	**18 49 58.9**	**-0.3**
KULM				IAmb	IAmb	18 50 12.5	
	comp=Z,45nm,1.4s						
KSRS	**Korea Array**	**26.41**	**3**	P	**P**	**18 50 04.9**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=178,slow=11,SNR=2.5						
KSRS				LR	LR	19 02 30.9	
	comp=Z,54nm,18.2s,baz=170,slow=41						
KNRA	**Kununurra**	**26.61**	**174**	P	**P**	**18 50 04.4**	**-1.0**
KNRA				IAmb	IAmb	18 50 26.3	
	comp=Z,20nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.37**	**289**	P	**P**	**18 50 10.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=97,slow=7.5,SNR=6.4						
CMAR	**Chiang Mai Arr**	**27.37**	**289**	P	**P**	**18 50 10.2**	**-2.1**
MAJO	**Matsushiro**	**27.67**	**21**	P	**P**	**18 50 20.4**	**+5.6**
MJAR	**Matsushiro Arr**	**27.67**	**21**	P	**P**	**18 50 20.0**	**+5.2**
XAN	**Xi'an**	**27.87**	**328**	P	**P**	**18 50 15.4**	**-1.2**
XAN				IAmb	IAmb	18 50 18.6	
	comp=Z,7.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.90**	**181**	P	**P**	**18 50 24.8**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=355,slow=10,SNR=14						
FITZ	**Fitzroy Crossi**	**28.90**	**181**	P	**P**	**18 50 24.6**	**-1.3**
WB0	**Warramunga Arr**	**31.60**	**165**	P	**P**	**18 50 47.6**	**-2.1**
WB0				IAmb	IAmb	18 51 24.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**31.75**	**165**	P	**P**	**18 50 49.4**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=344,slow=9.2,SNR=20						
WB2	**Warramunga Arr**	**31.76**	**165**	P	**P**	**18 50 49.8**	**-1.3**
WB2				IAmb	IAmb	18 51 02.2	
	comp=Z,17nm,1.6s						
WR0	**Warramunga Arr**	**31.82**	**165**	P	**P**	**18 50 49.7**	**-2.0**
PSA00	**Pilbara Seismi**	**32.95**	**191**	P	**P**	**18 51 01.2**	**-0.4**
PSA00				IAmb	IAmb	18 51 13.2	
	comp=Z,23nm,1.5s						
USRK	**Ussuriysk Ar.**	**33.48**	**8**	P	**P**	**18 51 07.4**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=197,slow=8.9,SNR=5.4						
USRK	**Ussuriysk Ar.**	**33.48**	**8**	P	**P**	**18 51 07.0**	**+1.1**
AS31	**Alice Springs**	**35.25**	**168**	P	**P**	**18 51 22.1**	**+0.6**
ASAR	**Alice Springs**	**35.25**	**168**	P	**P**	**18 51 20.8**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=352,slow=7.1,SNR=59						
ASAR				PcP	**PcP**	**18 53 51.6**	**0.0**
	comp=Z,0.3nm,0.8s,baz=336,slow=4.1,SNR=2.5						
SHL	**Shillong**	**35.54**	**299**	P	**P**	**18 51 22.4**	**-1.9**
H11S3	**WAKE ISLAND Hy**	**39.79**	**74**	T	T	19 34 47.7	
	baz=264,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**39.80**	**74**	T	T	19 34 47.3	
	baz=264,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.80**	**74**	T	T	19 34 52.1	
	baz=264,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**40.10**	**72**	T	T	19 35 15.7	
	baz=264,slow=75,SNR=61						
H11N2	**WAKE ISLAND Hy**	**40.11**	**72**	T	T	19 35 14.2	
	baz=264,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy**	**40.12**	**72**	T	T	19 35 15.3	
	baz=264,slow=75,SNR=64						
ULN	**Ulaanbaatar**	**40.14**	**340**	P	**P**	**18 52 03.7**	**+1.0**
ULN				IAmb	IAmb	18 52 05.1	
	comp=Z,4.3nm,0.7s						
SONM	**Songino Array**	**40.34**	**339**	P	**P**	**18 52 05.3**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=159,slow=10,SNR=13						
SONM				PcP	**PcP**	**18 54 07.7**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=128,slow=4.4,SNR=3.1						
SONM	**Songino Array**	**40.34**	**339**	P	**P**	**18 52 05.2**	**+0.9**
FORT	**Forrest**	**41.56**	**178**	P	**P**	**18 52 15.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**44.49**	**191**	P	**P**	**18 52 37.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**44.49**	**191**	P	**P**	**18 52 37.8**	**-0.2**
NWAO				IAmb	IAmb	18 53 03.9	
	comp=Z,58nm,1.6s						
BBOO	**Buckleboo**	**44.55**	**168**	P	**P**	**18 52 40.4**	**+1.8**
STKA	**Stephens Creek**	**45.09**	**161**	P	**P**	**18 52 43.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=344,slow=5.2,SNR=5.2						
STKA	**Stephens Creek**	**45.09**	**161**	IAmb	IAmb	18 52 46.8	
	comp=Z,2.2nm,1.4s						
YAK	**Yakutsk**	**51.03**	**2**	P	**P**	**18 53 28.8**	**+0.5**
MK31	**Makanchi Array**	**51.43**	**322**	P	**P**	**18 53 31.4**	**-0.2**
MK31				IAmb	IAmb	18 53 32.9	
	comp=Z,3.7nm,0.8s						
MKAR	**Makanchi Array**	**51.43**	**322**	P	**P**	**18 53 31.9**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=122,slow=8.3,SNR=36						
MKAR	**Makanchi Array**	**51.43**	**322**	P	**P**	**18 53 31.1**	**-0.5**
MKAR				PcP	**PcP**	**18 54 45.2**	**-0.4**
TOO	**Toolangi**	**51.57**	**160**	P	**P**	**18 53 32.4**	**-0.3**
MAKZ	**Makanchi**	**51.62**	**322**	P	**P**	**18 53 33.0**	**-0.1**
MAKZ				IAmb	IAmb	18 53 34.3	
	comp=Z,5.3nm,1.2s						
ZAA0	**Zalesovo Array**	**53.98**	**331**	P	**P**	**18 53 50.1**	**-0.2**
ZAA0				IAmb	IAmb	18 53 51.2	
	comp=Z,5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**53.98**	**331**	P	**P**	**18 53 50.1**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=119,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**53.98**	**331**	P	**P**	**18 53 49.8**	**-0.5**
KURK	**Kurchatov**	**55.45**	**325**	P	**P**	**18 54 00.7**	**-0.3**
KURK				IAmb	IAmb	18 54 02.3	
	comp=Z,14nm,1.2s						
KURBB	**Kurchatov Arra**	**55.46**	**325**	P	**P**	**18 54 01.3**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=124,slow=7.0,SNR=19						
BTK	**Batken**	**56.67**	**311**	P	**P**	**18 54 09.4**	**-0.7**
BTK				IAmb	IAmb	18 54 44.1	
	comp=Z,8.5nm,1.4s						
GAR	**Garm**	**56.79**	**310**	P	**P**	**18 54 09.9**	**-1.1**
KBL	**Kabul**	**56.88**	**304**	P	**P**	**18 54 10.7**	**-1.1**
KBL				IAmb	IAmb	18 54 11.2	
	comp=Z,2.2nm,0.7s						
CHGR	**Chuyangaron**	**57.59**	**309**	P	**P**	**18 54 15.5**	**-1.1**
KK31	**Karatay Array**	**57.71**	**314**	P	**P**	**18 54 16.4**	**-0.9**
KK31				IAmb	IAmb	18 54 17.6	
	comp=Z,6.7nm,0.9s						
KKAR	**Karatay Array**	**57.71**	**314**	P	**P**	**18 54 16.5**	**-0.8**
KKAR				IAmb	IAmb	18 54 17.6	
	comp=Z,6.7nm,0.9s						
BRVK	**Borovoye**	**61.12**	**325**	P	**P**	**18 54 40.5**	**-0.1**
BRVK				IAmb	IAmb	18 54 41.7	
	comp=Z,6.5nm,0.9s						
ABKAR	**Akbulak array**	**66.30**	**319**	P	**P**	**18 55 14.1**	**-0.6**
ABKAR	**Akbulak array**	**66.30**	**319**	P	**P**	**18 55 14.4**	**-0.4**
ABKAR				IAmb	IAmb	18 55 15.4	
	comp=Z,4.8nm,1.1s						
ARU	**Arti**	**68.60**	**327**	P	**P**	**18 55 28.6**	**-0.6**
SOCY	**Socotra**	**70.55**	**279**	P	**P**	**18 55 39.8**	**-2.3**
SOCY				IAmb	IAmb	18 55 52.4	
	comp=Z,15nm,1.3s						
ILAR	**Eielson Array**	**78.83**	**26**	P	**P**	**18 56 29.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=248,slow=5.9,SNR=6.0						
SPITS	**Spitsbergen Ar**	**83.31**	**349**	P	**P**	**18 56 51.7**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=76,slow=8.5,SNR=2.2						
ARCES	**ARCESS Array B**	**83.51**	**340**	P	**P**	**18 56 54.2**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=79,slow=6.2,SNR=32						
BRTR	**Keskin Array B**	**85.03**	**309**	P	**P**	**18 57 00.6**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=115,slow=4.8,SNR=8.5						
FINES	**FINESS Array B**	**85.24**	**332**	P	**P**	**18 57 02.4**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=68,slow=3.9,SNR=14						
AKASG	**Malin Array Be**	**85.98**	**321**	P	**P**	**18 57 05.3**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=65,slow=4.6,SNR=4.8						
NOA	**NORSAR Array B**	**92.10**	**334**	P	**P**	**18 57 34.5**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=66,slow=6.8,SNR=2.5						

*BGR **04** 18:54:52.8±0.0, 65°.60N×21°.59W, h33km, mb4.4*
*REY **04** 18:55:07.8, 64°.67N×17°.44W, h2km*
*IDC **04** 18:55:08.3±0.5, 64°.61N×17°.52W, h0km, mb4.2/24, mb1 4.3/29, mb1mx4.1/55, mbtmp4.2/29, ML2.9/2, MS3.4/13, Ms1 3.4/13, ms1mx3.1/76, Error ellipse: s-maj=15.5km s-min=11.1km az=17.0*
*MOS **04** 18:55:08.5±0.9, 64°.68N×17°.56W, h13km, mb4.6/43, Error ellipse: s-maj=8.8km s-min=4.8km az=113.0*
*NEIC **04** 18:55:09.7±1.5, 64°.65N±0°.07×17°.5W±0°.1, h9km±3km, mb4.8/149, Error ellipse: s-maj=9.9km s-min=7.3km az=206.0*
ISC 04 18:55:09.8±0.3, 64°.65N±0°.02×17°.50W±0°.02, h10km, n461, σ1§32/444, mb4.6/158, MS3.4/10, 40C-4D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.11**	**282**	P	**Pg**	**18 55 10.8**	**-1.8**
	baz=274						
IDYN	**Dyngjuhals**	**0.15**	**23**	P	**Pg**	**18 55 10.9**	**-2.4**
	baz=14						
IDJK	**Dyngjujokull**	**0.19**	**142**	P	**Pg**	**18 55 11.8**	**-2.1**
	baz=152						
IURH	**Urdarhals**	**0.23**	**42**	P	**Pg**	**18 55 12.2**	**-2.4**
	baz=38						
IGRF	**Grimsfjall**	**0.27**	**157**	P	**Pg**	**18 55 13.4**	**-1.8**
	baz=164						
IKVE	**Kverkfjoll**	**0.36**	**85**	P	**Pg**	**18 55 14.5**	**-2.4**
	baz=87						
IBJK	**Bruarjokull**	**0.37**	**119**	P	**Pg**	**18 55 14.6**	**-2.6**
	baz=123						
ISKR	**Skrokkalda**	**0.39**	**257**	P	**Pg**	**18 55 15.7**	**-1.8**
	baz=256						
IVOT	**Vottur**	**0.41**	**160**	P	**Pg**	**18 55 15.8**	**-2.0**
	baz=164						
THOR	**Thorvaldshraun**	**0.45**	**51**	P	**Pg**	**18 55 15.9**	**-2.7**
	baz=50						
IJOK	**Jokulheimar**	**0.46**	**223**	P	**Pg**	**18 55 17.1**	**-1.6**
	baz=224						
IKRE	**Kreppuhraun**	**0.50**	**74**	P	**Pg**	**18 55 16.6**	**-3.0**
	baz=75						
IMKO	**Mokollar**	**0.60**	**56**	P	**Pg**	**18 55 18.3**	**-3.0**
	baz=56						
IMKO				S	**Sg**	**18 55 26.9**	**-2.2**
	baz=56						
IIEY	**Innrieyrar**	**0.62**	**206**	P	**Pg**	**18 55 19.6**	**-2.2**
	baz=208						
IKSK	**Karasker**	**0.67**	**137**	P	**Pg**	**18 55 19.3**	**-3.3**
	baz=140						
ISVA	**Svartark

baz=322,slow=13,SNR=19
ESK Eskdalemuir 11.75 136 P **Pn** **18 57 56.5 -0.7**
ESK Eskdalemuir 11.75 136 Pn **Pn** **18 57 56.5 -0.7**
DSB Dublin 12.77 148 Pn **Pn** **18 58 12.7 +1.6**
NC204 NORSAR Array S 13.23 92 Pn **Pn** **18 58 15.2 -2.2**
NBO00 NORSAR Array S 13.35 93 Pn **Pn** **18 58 17.6 -1.5**
NAO01 NORSAR Array S 13.49 93 Pn **Pn** **18 58 18.4 -2.5**
NC303 NORSAR Array S 13.52 91 Pn **Pn** **18 58 18.8 -2.5**
NOA NORSAR Array B 13.54 92 Pn **Pn** **18 58 18.8 -2.8**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=4.6
NOA LR LR 19 03 08.8
comp=Z,134nm,20.5s,baz=300,slow=36
NB201 NORSAR Array S 13.56 92 Pn **Pn** **18 58 20.5 -1.5**
SFJD Kangerlussuaq 13.67 295 LR LR 19 03 13.2
comp=Z,260nm,19.2s,baz=92,slow=35
NC405 NORSAR Array S 13.72 91 Pn **Pn** **18 58 23.3 -0.7**
NC602 NORSAR Array S 13.82 93 Pn **Pn** **18 58 26.1 +0.6**
HFS Hagfors 15.05 93 Pn **Pn** **18 58 41.4 -0.8**
comp=Z,0.0nm,0.3s,baz=345,slow=16,SNR=1.3
HFS LR LR 19 03 55.1
comp=Z,134nm,21.3s,baz=344,slow=35
HSPB Hornsund (broa 16.08 26 eP **Pn** **18 58 57.7 +2.2**
HSPB Hornsund (broa 16.08 26 eP **Pn** **18 58 57.7 +2.2**
KBS Kingsbay 16.66 19 *i* P **Pn** **18 59 03.7 +0.9**
KBS pmax pmax
comp=Z,16nm,1.0s
SPITS Spitsbergen Ar 16.88 23 LR LR 19 04 04.3
comp=Z,46nm,20.3s,baz=185,slow=32
NOR Nord 17.04 0 eP **P** **18 59 11.5 +2.0**
NOR Nord 17.04 0 *i* P **P** **18 59 11.5 +2.0**
NOR Nord 17.04 0 eP **P** **18 59 11.5 +2.0**
ARCES ARCESS Array B 17.13 55 P **Pn** **18 59 09.2 +0.3**
baz=281,slow=9.1,SNR=3.6
ARCES LR LR 19 04 21.1
comp=Z,101nm,20.3s,baz=340,slow=32
FLN La Foliniere 18.36 142 eP **Pn** **18 59 24.3 +0.2**
FLN pmax pmax
comp=Z,29nm,1.2s
RGN Rugen 18.38 109 P **P** **18 59 24.3 -0.2**
BUG Bochum--Univer 18.45 124 P **Pn** **18 59 26.0 +0.7**
BUG pmax pmax
comp=Z,26nm,1.3s
BAIF Baives 18.58 132 eP **Pn** **18 59 29.0 +2.2**
BAIF pmax pmax
comp=Z,35nm,1.3s
GRR Gorron 18.60 143 eP **Pn** **18 59 27.3 +0.2**
GRR pmax pmax
comp=Z,29nm,1.0s
MEM Membach 18.70 128 P **Pn** **18 59 29.0 +0.7**
MEM Membach 18.70 128 P **Pn** **18 59 30.1 +1.7**
MEM pmax pmax
comp=Z,21nm,1.2s
FIA1 FINESS Array S 19.71 79 P **P** **18 59 39.0 +0.1**
FINES FINESS Array B 19.71 79 P **P** **18 59 39.5 +0.6**
comp=Z,0.2nm,0.3s,baz=326,slow=9.9,SNR=7.6
FINES LR LR 19 06 38.6
comp=Z,162nm,19.4s,baz=294,slow=35
FINES FINESS Array B 19.71 79 P **P** **18 59 38.0 -0.9**
CLF Chambon-Foret 19.79 138 P **P** **18 59 40.2 +0.4**
CLF IAmb IAmb 18 59 43.7
comp=Z,87nm,1.4s
TNS Taunus Mts 19.88 124 P **P** **18 59 42.2 +1.3**
TNS pmax pmax
comp=Z,13nm,1.0s
SLIT Slitere, Latvi 20.15 92 eP **P** **18 59 44.1 +0.4**
APA Apatity 20.34 59⇓ *i* P **P** **18 59 46.2 +0.5**
APA pmax pmax
comp=Z,8.0nm,1.0s
MOX Moxa 20.70 119 P Pn 18 59 52.0 -0.1
MOX pmax pmax
comp=Z,17nm,1.2s
CLL Collm 20.70 116 *i* P **P** **18 59 50.2 +0.5**
comp=Z,30nm,1.3s
CLL L L 19 07 00.0
comp=Z,200nm,19.1s
CLL Collm 20.70 116 *i* P **P** **18 59 50.2 +0.5**
CLL pmax pmax
comp=Z,30nm,1.3s
CLL Collm 20.70 116 P **P** **18 59 49.8 0.0**
CLL IAmb IAmb 18 59 53.0
comp=Z,37nm,1.4s
LOR Lormes 20.94 136 P **P** **18 59 52.7 +0.3**
LOR pmax pmax
comp=Z,24nm,1.2s
HAU Haudompre 21.06 131 eP **P** **18 59 54.5 +0.8**
HAU pmax pmax
comp=Z,28nm,1.1s
ECH Echery 21.14 129 P **P** **18 59 54.2 -0.4**
ECH pmax pmax
comp=Z,14nm,1.0s
ECH Echery 21.14 129 P **P** **18 59 54.2 -0.4**
AVF Avril sur Loir 21.22 137 eP **P** **18 59 55.2 -0.2**
AVF pmax pmax
comp=Z,26nm,1.2s
BGF Bois d'Agland 21.29 139 eP **P** **18 59 55.9 -0.2**
BGF pmax pmax
comp=Z,29nm,1.1s
GRA1 Grafenberg Arr 21.33 121 P **P** **18 59 56.5 -0.1**
GRA1 IAmb IAmb 19 00 10.1
comp=Z,34nm,1.1s
GRF Grafenberg Arr 21.33 121 P **P** **18 59 56.5 -0.1**
GRF pmax pmax
comp=Z,34nm,1.1s
GRF Grafenberg Arr 21.33 121 eP **P** **18 59 57.3 +0.8**
comp=Z,14nm,1.0s,baz=323,slow=9.5
NKC Novy Kostel 21.34 118 eP **P** **18 59 56.7 0.0**
NKC Novy Kostel 21.34 118 eP **P** **18 59 56.7 0.0**
STU Stuttgart 21.36 125 P **P** **18 59 57.1 +0.2**
STU pmax pmax
comp=Z,38nm,1.1s
STU Stuttgart 21.36 125 P **P** **18 59 57.1 +0.2**
STU IAmb IAmb 18 59 59.6
comp=Z,38nm,1.1s
BRG Berggiesshubel 21.41 115 *i* P **P** **18 59 57.6 +0.2**
comp=Z,26nm,1.2s
BRG Berggiesshubel 21.41 115 *i* P **P** **18 59 57.6 +0.2**
BRG pmax pmax
comp=Z,26nm,1.2s
BFO Black Forest 21.44 127 P **P** **18 59 57.9 +0.1**
BFO pmax pmax
comp=Z,19nm,1.1s
BFO Black Forest 21.44 127 P **P** **18 59 57.9 +0.1**
VSU Vasula 21.57 86 eP **P** **18 59 58.9 -0.1**
VSU Vasula 21.57 86 *i* P **P** **18 59 58.3 -0.7**
VSU pmax pmax
comp=Z,74nm,0.9s
SLE Schleitheim 21.98 128 P **P** **19 00 04.1 +0.5**
SLE pmax pmax
comp=Z,18nm,1.6s
RJF Les Rejaudoux 22.07 142 eP **P** **19 00 04.7 +0.1**
RJF pmax pmax
comp=Z,32nm,1.2s
SLVR Solovky 22.08 65 P **P** **19 00 02.5 -1.9**
comp=Z,26nm,0.9s
PABE Paberze 22.21 95 eP **P** **19 00 06.2 +0.2**
PRU Pruhonice 22.34 116 eP **P** **19 00 07.3 -0.1**
PRU Pruhonice 22.34 116 eP **P** **19 00 07.3 -0.1**
KSP Ksiaz 22.36 112 eP **P** **19 00 08.1 +0.5**
KSP Ksiaz 22.36 112 eP **P** **19 00 08.1 +0.5**
PBCC Pribram 22.38 117 eP **P** **19 00 09.9 +2.1**
WET Wettzell 22.39 119 P **P** **19 00 10.9 +2.9**
WET pmax pmax
comp=Z,9.0nm,1.1s
CHVC Chvalec 22.46 113 eP **P** **19 00 08.7 -0.1**
GOPC GO Pecny, Ondr 22.50 116 eP **P** **19 00 10.2 +1.1**
GOPC GO Pecny, Ondr 22.50 116 eP **P** **19 00 10.2 +1.1**
UPC Upice 22.51 113 eP **P** **19 00 09.3 +0.1**
UPC Upice 22.51 113 eP **P** **19 00 09.3 +0.1**
OSTC Ostas 22.55 113 eP **P** **19 00 10.2 +0.5**
CAF Calviac 22.57 142 eP **P** **19 00 09.8 -0.1**
CAF pmax pmax
comp=Z,14nm,1.1s
KHC Kasperske Hory 22.67 118 eP **P** **19 00 11.0 0.0**
KHC Kasperske Hory 22.67 118*ce*P **P** **19 00 12.0 +1.0**
KHC pmax pmax
comp=Z,24nm,1.0s
KHC Kasperske Hory 22.67 118 P **P** **19 00 10.6 -0.4**
DPC Dobruska-Polom 22.76 113 eP **P** **19 00 11.9 0.0**
DPC Dobruska-Polom 22.76 113 eP **P** **19 00 11.9 0.0**
SENIN Lac Senin/Sane 22.82 131 P **P** **19 00 13.1 +0.4**
DAVA Damuels 22.87 126 P **P** **19 00 14.7 +1.5**
comp=Z,18nm,1.1s
SUW Suwalki 22.88 98 eP **P** **19 00 13.7 +0.6**
SUW Suwalki 22.88 98 eP **P** **19 00 13.7 +0.6**

SSB Saint Sauveur 22.94 137 P **P** **19 00 13.8 0.0**
SSB pmax pmax
comp=Z,13nm,1.1s
SSB Saint Sauveur 22.94 137 P **P** **19 00 13.8 0.0**
GEC2 GERESS Array S 22.95 119 P **P** **19 00 14.4 +0.4**
GERES GERESS Array B 22.95 119 P **P** **19 00 14.5 +0.6**
comp=Z,3.9nm,1.0s,baz=318,slow=7.7,SNR=19
GERES LR LR 19 08 55.6
comp=Z,127nm,20.3s,baz=292,slow=36
GERES GERESS Array B 22.95 119 P **P** **19 00 14.4 +0.4**
RETA Reutte 23.01 125 eP **P** **19 00 16.2 +1.7**
comp=Z,12nm,1.2s
IZAR Zarasai 23.03 92 eP **P** **19 00 15.2 +0.6**
ISAL Salakas 23.09 92 eP **P** **19 00 16.0 +0.8**
KRLC Kraliky 23.16 113 eP **P** **19 00 16.4 +0.4**
KRLC Kraliky 23.16 113 eP **P** **19 00 16.4 +0.4**
MOTA Moosalm 23.25 124 eP **P** **19 00 18.7 +1.6**
comp=Z,23nm,1.4s
TREC Trest 23.27 116 P **P** **19 00 18.1 +1.0**
TREC pmax pmax
comp=Z,8.0nm,1.1s
IIGN Ignalina 23.28 93 eP **P** **19 00 18.0 +0.9**
DAVOX Davos/Dischmat 23.31 127 P **P** **19 00 18.8 +1.0**
comp=Z,4.0nm,0.9s,baz=319,slow=13,SNR=4.7
DAVOX LR LR 19 09 12.0
comp=Z,106nm,18.4s,baz=342,slow=36
LPL La Plagne 23.39 133 eP **P** **19 00 19.7 +1.1**
LPL pmax pmax
comp=Z,11nm,1.2s
SQTA Sankt Quirin 23.40 124 eP **P** **19 00 18.2 -0.4**
comp=Z,12nm,1.1s
TUE Stuetta 23.40 128 P **P** **19 00 18.4 -0.2**
FETA Feichten 23.40 125 eP **P** **19 00 20.9 +2.2**
comp=Z,9.0nm,1.1s
LPG La Plagne 23.41 133 eP **P** **19 00 21.5 +2.6**
LPG pmax pmax
comp=Z,13nm,1.2s
WATA Walderalm 23.43 124 eP **P** **19 00 20.3 +1.4**
comp=Z,8.2nm,1.0s
WTTA Wattenberg 23.51 124 eP **P** **19 00 21.1 +1.4**
comp=Z,14nm,1.3s
IDID Didziasalis 23.53 92 eP **P** **19 00 19.4 -0.2**
FUORN Ofenpass-Fuorn 23.58 127 P **P** **19 00 21.9 +1.3**
ORIF Oris-en-Rattie 23.67 135 eP **P** **19 00 22.0 +0.8**
ORIF pmax pmax
comp=Z,20nm,1.2s
EUNU Eureka 23.68 336 P **P** **19 00 21.0 -0.1**
EUNU IAmb IAmb 19 00 38.2
comp=Z,69nm,1.8s
VRAC Vranov 23.69 114 P **P** **19 00 21.7 +0.4**
comp=Z,3.1nm,0.4s,baz=325,slow=14,SNR=3.8
VRAC LR LR 19 09 39.4
comp=Z,116nm,18.4s,baz=335,slow=37
MORC Moravsky Berou 23.69 112 eP **P** **19 00 22.2 +0.8**
MORC Moravsky Berou 23.69 112 P **P** **19 00 20.9 -0.5**
MORC pmax pmax
comp=Z,21nm,1.4s
MORC Moravsky Berou 23.69 112 P **P** **19 00 20.9 -0.5**
BNI Bardonecchia 23.79 134 P **P** **19 00 22.2 -0.3**
BNI pmax pmax
comp=Z,27nm,1.6s
BNI Bardonecchia 23.79 134 P **P** **19 00 22.1 -0.3**
BNI IAmb IAmb 19 00 46.5
comp=Z,27nm,1.6s
KRUC Moravsky 23.81 115 eP **P** **19 00 22.5 +0.1**
KRUC Moravsky 23.81 115 P **P** **19 00 22.8 +0.4**
KRUC pmax pmax
comp=Z,9.0nm,2.6s
NACGM Naroch 23.82 93 *e* **P** **19 00 22.0 -0.5**
MOA Molln 23.98 119 eP **P** **19 00 24.4 +0.2**
comp=Z,8.4nm,1.3s
JAVC Velka Javorina 24.47 113 eP **P** **19 00 28.9 +0.2**
CONA Conrad Observa 24.52 117 eP **P** **19 00 29.6 +0.4**
comp=Z,7.8nm,1.0s
CTI Castel Tesino 24.56 125 P **P** **19 00 29.5 0.0**
CTI pmax pmax
comp=Z,11nm,0.9s
CTI Castel Tesino 24.56 125 P **P** **19 00 29.5 0.0**
MICGM Minsk 24.56 93 *e* **P** **19 00 28.0 -1.4**
MNK Minsk 24.56 93 eP **P** **19 00 28.0 -1.4**
ZOU Zoufplan 24.59 123 P **P** **19 00 30.8 +0.9**
ZOU IAmb IAmb 19 01 00.8
comp=Z,65nm,1.9s
CIMO Cimolais 24.61 124 P **P** **19 00 30.3 +0.4**
SMOL Smolenice 24.66 114 eP **P** **19 00 30.8 +0.5**
SMOL pmax pmax
comp=Z,7.0nm,1.0s
SMOL Smolenice 24.66 114 eP **P** **19 00 30.8 +0.5**
MODS Modra-Piesok 24.71 115 eP **P** **19 00 31.8 +1.0**
MODS pmax pmax
comp=Z,17nm,1.3s
MODS Modra-Piesok 24.71 115 eP **P** **19 00 31.8 +1.0**
STAL STALIGIAL 24.75 124 P **P** **19 00 32.4 +1.2**
MYKA Terra Mystica 24.78 122 eP **P** **19 00 33.7 +2.2**
comp=Z,5.2nm,1.0s
PRED Cave del Predi 24.91 122 P **P** **19 00 33.1 +0.5**
ARSA Arzberg 24.96 118 *i* P **P** **19 00 33.9 +0.9**
comp=Z,5.8nm,0.9s
LANS Liptovska Anna 24.96 111 eP **P** **19 00 34.4 +1.3**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 24.96 111 eP **P** **19 00 34.4 +1.3**
COI Coimbra 25.05 163 P **P** **19 00 35.1 +1.3**
COI pmax pmax
comp=Z,100nm,1.7s
COI Coimbra 25.05 163 P **P** **19 00 35.1 +1.3**
NIE Niedzica 25.09 109 eP **P** **19 00 35.5 +1.3**
NIE Niedzica 25.09 109 eP **P** **19 00 35.5 +1.3**
FRF La Foret Royal 25.13 136 eP **P** **19 00 35.8 +1.2**
FRF pmax pmax
comp=Z,17nm,1.2s
TEOL Teolo 25.16 126 P **P** **19 00 35.3 +0.4**
TEOL IAmb IAmb 19 00 40.0
comp=Z,20nm,1.2s
VYHS Vyhne 25.23 112 eP **P** **19 00 35.8 +0.3**
VYHS pmax pmax
comp=Z,21nm,1.4s
VYHS Vyhne 25.23 112 eP **P** **19 00 35.8 +0.3**
SOKA Soboth 25.25 120 *i* P **P** **19 00 36.4 +0.7**
comp=Z,6.9nm,1.2s
KLMR Klimovskoe 25.61 72 eP **P** **19 00 37.7 -1.0**
comp=Z,36nm,1.3s
KLMR Klimovskoe 25.61 72 eP **P** **19 00 37.7 -1.0**
KLMR pmax pmax
comp=Z,36nm,1.3s
KLMR Klimovskoe 25.61 72 eP **P** **19 00 37.7 -1.0**
KLMR AMP 19 00 40.6
comp=Z,36nm,1.3s
VLC Villacollemand 25.78 129 P **P** **19 00 41.1 +0.6**
VLC IAmb IAmb 19 01 04.8
comp=Z,16nm,1.2s
ZCCA Zocca 25.81 128 P **P** **19 00 42.4 +1.6**
ZCCA IAmb IAmb 19 00 52.3
comp=Z,20nm,1.0s
LSH Leshukonskoye 25.98 60 eP **P** **19 00 40.8 -1.3**
comp=Z,25nm,1.3s
SCHQ Schefferville 26.04 271 P **P** **19 00 41.6 -1.2**
comp=Z,18nm,1.1s,baz=39,slow=9.9,SNR=4.6
SCHQ Schefferville 26.04 271 P **P** **19 00 42.1 -0.6**
SCHQ IAmb IAmb 19 00 45.4
comp=Z,21nm,1.1s
DRLN Deer Lake 26.11 253 P **P** **19 00 45.2 +1.8**
DRLN IAmb IAmb 19 00 46.0
comp=Z,51nm,1.6s
PSZ Piszkesteto 26.11 112⇑ P **P** **19 00 48.8 +5.3**
PSZ Piszkesteto 26.11 112 P **P** **19 00 44.0 +0.5**
PSZ pmax pmax
comp=Z,25nm,1.3s
PSZ Piszkesteto 26.11 112 P **P** **19 00 44.0 +0.5**
PSZ IAmb IAmb 19 00 51.7
comp=Z,25nm,1.3s
ESBB Sonseca Array 26.24 156 P **P** **19 00 45.5 +0.8**
ESBB IAmb IAmb 19 01 05.7
comp=Z,22nm,1.6s
ESDC Sonseca Array 26.24 156 P **P** **19 00 44.4 -0.3**
comp=Z,3.4nm,0.9s,baz=350,slow=9.3,SNR=16
ESDC Sonseca Array 26.24 156 P **P** **19 00 44.7 0.0**
KOLS Kolonicke sedl 26.27 108 eP **P** **19 00 44.8 -0.1**
KOLS pmax pmax
comp=Z,17nm,1.3s
KOLS Kolonicke sedl 26.27 108 eP **P** **19 00 44.8 -0.1**
LVV L'vov 26.31 104 eP **P** **19 00 45.1 -0.1**
UZH Uzhgorod 26.52 108 eP **P** **19 00 47.6 +0.5**
UZH *e* 19 00 57.2
OSSC Osservatorio P 26.63 129 P **P** **19 00 49.1 +0.9**

OSSC IAmb IAmb 19 00 52.3
comp=Z,16nm,1.1s
TRSU Trosnyk 27.21 108 P **P** **19 00 53.3 0.0**
MURB Monte Urbino 27.30 127 P **P** **19 00 55.4 +1.2**
MURB IAmb IAmb 19 00 59.9
comp=Z,24nm,1.1s
HORU Horodok 27.78 103 P **P** **19 00 58.0 -0.4**
AKASG Malin Array Be 27.84 98 P **P** **19 00 58.0 -1.0**
comp=Z,1.8nm,0.7s,baz=324,slow=9.4,SNR=8.1
AKASG Malin Array Be 27.84 98 *i* P **P** **19 00 58.4 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 27.84 98 P **P** **19 00 58.2 -0.8**
AKBB Malin Array Si 27.84 98*ce*P **P** **19 00 59.0 0.0**
AKBB Malin Array Si 27.84 98 P **P** **19 00 58.3 -0.6**
AKBB IAmb IAmb 19 00 59.4
comp=Z,17nm,1.4s
NRCA Norcia 27.88 127 P **P** **19 01 00.1 +0.6**
NRCA IAmb IAmb 19 01 18.4
comp=Z,14nm,1.4s
OBN Obninsk 27.89 84⇓ eP **P** **19 00 59.6 +0.3**
OBN *e* 19 01 45.0
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,68nm,16.0s
OBN Obninsk 27.89 84 P **P** **19 00 59.0 -0.3**
SIRR Siria 28.16 112⇑ P **P** **19 01 02.6 +0.7**
KMPD K-Podol'skiy 28.30 103 P **P** **19 01 02.0 -1.0**
AQU L'Aquila 28.40 127 P **P** **19 01 04.5 +0.4**
AQU pmax pmax
comp=Z,15nm,1.2s
AQU L'Aquila 28.40 127 P **P** **19 01 04.5 +0.4**
AQU IAmb IAmb 19 01 40.2
comp=Z,15nm,1.2s
BUR08 Bucovina Ar. S 28.49 106 P **P** **19 01 04.3 -0.6**
BUR08 IAmb IAmb 19 01 08.8
comp=Z,16nm,1.6s
BURAR Bucovina Array 28.52 106 P **P** **19 01 05.5 +0.3**
BURAR Bucovina Array 28.52 106 P **P** **19 01 05.5 +0.3**
CJR Cluj-Napoca 28.58 109⇑ P **P** **19 01 07.5 +1.9**
CJR Cluj-Napoca 28.58 109⇑ P **P** **19 01 07.5 +1.9**
BZS Buzias 28.68 113⇑ P **P** **19 01 07.3 +0.8**
BZS Buzias 28.68 113⇑ P **P** **19 01 07.3 +0.8**
GZR Gura Zlata 29.32 112⇑ P **P** **19 01 13.6 +1.3**
GZR Gura Zlata 29.32 112⇑ P **P** **19 01 13.6 +1.3**
SORM Soroca 29.42 102⇑ P **P** **19 01 12.5 -0.5**
SORM Soroca 29.42 102⇑ P **P** **19 01 12.5 -0.5**
BIZ Bicaz 29.43 106⇓ P **P** **19 01 13.2 +0.1**
HERR Herculane 29.60 113⇓ P **P** **19 01 16.2 +1.5**
DOPR Dopca 29.91 108⇑ P **P** **19 01 18.9 +1.4**
VOIR 30.20 109⇑ P **P** **19 01 20.9 +0.8**
VOIR 30.20 109⇑ P **P** **19 01 20.9 +0.8**
PDG Podgorica 30.45 119⇑ P **P** **19 01 21.1 -1.1**
PDG Podgorica 30.45 119 P **P** **19 01 21.6 -0.5**
MLR Muntele Rosu 30.53 108⇑ P **P** **19 01 23.9 +0.9**
MLR Muntele Rosu 30.53 108⇑ P **P** **19 01 23.9 +0.9**
MLR Muntele Rosu 30.53 108 P **P** **19 01 23.7 +0.7**
MLR IAmb IAmb 19 01 36.2
comp=Z,16nm,1.4s
VRI Vrincioaia 30.55 106⇑ P **P** **19 01 23.3 +0.3**
VRI Vrincioaia 30.55 106⇑ P **P** **19 01 23.3 +0.3**
MILM Milestii Mici 30.57 103⇑ P **P** **19 01 24.0 +0.8**
LPSR Galich'ya Gora 30.63 86 eP **P** **19 01 22.3 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
NEHR Nehoiu 30.72 107⇑ P **P** **19 01 27.4 +2.8**
KIRV Kirov 30.99 69*ce*P **P** **19 01 27.5 +0.8**
MATE Matera 31.07 124⇑ P **P** **19 01 27.1 -0.5**
CFR Carcaliu 31.68 106⇑ P **P** **19 01 32.7 -0.3**
CFR Carcaliu 31.68 106⇑ P **P** **19 01 32.7 -0.3**
VSR Storozhevoye 31.73 88 eP **P** **19 01 32.3 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.2s
CLTB Caltabellotta 32.63 131 P **P** **19 01 42.3 +0.8**
CLTB IAmb IAmb 19 01 43.5
comp=Z,19nm,1.1s
D62A Allapoint, All 32.66 263 P **P** **19 01 40.8 -0.7**
VRH Novokhopyorsk 32.84 85 eP **P** **19 01 42.4 -0.7**
VRH pmax pmax
comp=Z,20nm,1.1s
CEL Celeste 32.91 127 P **P** **19 01 43.1 -0.8**
CEL IAmb IAmb 19 02 44.2
comp=Z,10.0nm,0.8s
KEST Kesra 33.15 138 LR LR 19 14 07.2
comp=Z,78nm,18.3s,baz=266,slow=34
E62A Clayton Lake 33.22 263 P **P** **19 01 45.5 -1.0**
SRS Serrai 33.24 115 P **P** **19 01 48.4 +1.7**
SRS pmax pmax
comp=Z,17nm,1.1s
F62A Pittston Farm, 33.98 262 P **P** **19 01 52.9 -0.2**
F62A IAmb IAmb 19 01 55.2
comp=Z,20nm,1.2s
BELG Belogornoye 34.49 79 *i* P **P** **19 01 58.0 +0.6**
WVL Waterville 34.91 260 P **P** **19 02 00.6 -0.6**
ARU Arti 36.09 66 P **P** **19 02 11.3 +0.1**
comp=Z,0.8nm,0.7s,baz=7.6,slow=9.0,SNR=4.1
ARU Arti 36.09 66*c i*P **P** **19 02 11.6 +0.4**
ARU 19 03 28.9
ARU S **S** **19 07 51.8 +1.8**
ARU SS **SnSn** **19 10 06.9 -7.6**
ARU pmax pmax
comp=Z,12nm,1.3s
ARU Arti 36.09 66 P **P** **19 02 11.0 -0.2**
ARU IAmb IAmb 19 02 16.4
comp=Z,13nm,1.3s
LBNH Lisbon 36.14 262 P **P** **19 02 11.8 +0.1**
LBNH pmax pmax
comp=Z,45nm,1.6s
LBNH Lisbon 36.14 262 P **P** **19 02 11.8 +0.1**
NRIK Noril'sk 36.47 35 P **P** **19 02 15.0 +0.7**
comp=Z,3.8nm,0.8s,baz=310,slow=5.4,SNR=4.6
NRIK Noril'sk 36.47 35*ce*P **P** **19 02 15.6 +1.3**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
GOF Gofitskoye 38.12 91⇑ eP **P** **19 02 29.9 +1.4**
GOF pmax pmax
comp=Z,64nm,1.4s
BR131 Keskin Array S 38.48 105 *i* P **P** **19 02 32.6 +0.8**
BR131 Keskin Array S 38.48 105 P **P** **19 02 32.5 +0.7**
BRTR Keskin Array B 38.48 105 P **P** **19 02 32.9 +1.1**
comp=Z,4.4nm,0.8s,baz=332,slow=7.0,SNR=17
BRTR Keskin Array B 38.48 105 *i* P **P** **19 02 35.7 +3.9**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 38.48 105 P **P** **19 02 32.3 +0.6**
SADO Sadowa 38.81 270 P **P** **19 02 34.2 -0.1**
SADO IAmb IAmb 19 02 50.4
comp=Z,49nm,1.4s
KIV Kislovodsk 38.84 92 eP **P** **19 02 35.7 +1.0**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,146nm,16.0s
SHA1 Shidzhatmaz 39.01 93 *i* P **P** **19 02 37.1 +0.8**
KBZ Khabaz 39.12 92 P **P** **19 02 37.2 +0.3**
comp=Z,6.5nm,0.9s,baz=322,slow=7.7,SNR=8.5
KBZ Khabaz 39.12 92*ce*P **P** **19 02 38.0 +1.1**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
ELL Elmali 39.49 112 P **P** **19 02 42.0 +1.7**
ELL pmax pmax
comp=Z,94nm,1.6s
ELL Elmali 39.49 112 P **P** **19 02 42.0 +1.7**
AKTO Aktyubinsk 40.29 73 P **P** **19 02 46.8 +0.2**
comp=Z,4.1nm,0.9s,baz=325,slow=12,SNR=6.0
ARTV Artvin 40.77 96 P **P** **19 02 51.9 +0.9**
KOPT Kop Dagi 41.12 98 P **P** **19 02 54.6 +0.7**
KOPT IAmb IAmb 19 03 08.1
comp=Z,12nm,1.0s
AKH Akhalkalaki 41.26 94⇑ P **P** **19 02 56.8 +1.9**
AKH Akhalkalaki 41.26 94 P **P** **19 02 55.5 +0.6**
AKH pmax pmax
comp=Z,12nm,1.2s
AKH Akhalkalaki 41.26 94 P **P** **19 02 55.5 +0.6**
ABKAR Akbulak array 42.00 73 P **P** **19 03 00.2 -0.4**
ABKAR Akbulak array 42.00 73 P **P** **19 03 00.9 +0.3**
ABKAR IAmb IAmb 19 03 02.1
comp=Z,6.4nm,1.2s
TIXI Tiksi 42.05 15*ce*P **P** **19 03 01.7 +0.9**
TIXI pmax pmax
comp=Z,94nm,1.3s
TIXI Tiksi 42.05 15 P **P** **19 03 01.4 +0.7**
GAZ Gaziantep 42.13 104 P **P** **19 03 02.7 +0.8**

TOLK	Toolik Lake Re	42.76	336	P	P	19 03 07.1	+0.4
TOLK				IAmb	IAmb	19 03 14.8		
	comp=Z,28nm,1.4s							
BRVK	Borovoye	43.14	62	*ce*P	P	19 03 10.6	+0.7
BRVK				pmax	pmax			
	comp=Z,10.0nm,1.7s							
BRVK	Borovoye	43.14	62	P	P	19 03 10.2	+0.3
BVAR	Borovoye Array	43.21	62	P	P	19 03 10.9	+0.4
	comp=Z,5.6nm,1.0s,baz=158,slow=4.3,SNR=19							
MARD	Mardin	43.51	100	P	P	19 03 14.9	+1.7
MARD				IAmb	IAmb	19 03 19.9		
	comp=Z,16nm,1.1s							
GEVA	Gevas	43.64	97	P	P	19 03 15.0	+0.7
FYU	Fort Yukon	43.79	333	P	P	19 03 15.2	+0.2
P53A	Whipple	44.09	267	P	P	19 03 18.1	+0.5
P53A				IAmb	IAmb	19 03 20.3		
	comp=Z,19nm,1.1s							
N49A	Columbus Grove	44.10	271	P	P	19 03 17.5	-0.3
N49A				IAmb	IAmb	19 03 19.9		
	comp=Z,26nm,1.1s							
P52A	Corning	44.28	268	P	P	19 03 18.6	-0.7
K43A	Burlington	44.43	276	P	P	19 03 18.2	-2.1
EGAK	Eagle	44.49	329	P	P	19 03 20.2	-0.4
EGAK				IAmb	IAmb	19 04 28.1		
	comp=Z,21nm,1.6s							
TAM	Tamanrasset	44.50	149	P	P	19 03 21.3	0.0
TAM				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TAM	Tamanrasset	44.50	149	P	P	19 03 21.3	0.0
O49A	Covington	44.77	270	P	P	19 03 23.5	+0.3
MMAI	Mount Meron Ar	44.96	108	LR	LR	19 23 58.9		
	comp=Z,27nm,18.3s,baz=225,slow=38							
F33A	5 Mile Ranch,	45.26	285	P	P	19 03 27.7	+0.7
F33A				IAmb	IAmb	19 03 30.8		
	comp=Z,11nm,1.1s							
Q51A	Peebles	45.31	269	P	P	19 03 27.8	+0.3
Q51A				IAmb	IAmb	19 03 29.4		
	comp=Z,13nm,1.1s							
L42A	Oliver, Polo	45.57	277	P	P	19 03 30.5	+1.1
IL31		45.70	332	P	P	19 03 31.1	+0.9
ILAR	Eielson Array	45.70	332	P	P	19 03 31.4	+1.3
	comp=Z,4.0nm,1.0s,baz=24,slow=6.2,SNR=22							
ILAR				PcP	PcP	19 05 08.1	+0.2	
	comp=Z,1.8nm,1.0s,baz=11,slow=2.2,SNR=7.2							
ILAR	Eielson Array	45.70	332	PcP	PcP	19 05 07.8	0.0	
MDM	Murphy Dome	45.80	333	P	P	19 03 32.1	+1.1	
MDM				IAmb	IAmb	19 03 34.4		
	comp=Z,11nm,1.1s							
COLA	College	45.80	333	P	P	19 03 30.4	-0.5	
COLA				pmax	pmax			
	comp=Z,22nm,1.4s							
COLA	College	45.80	333	P	P	19 03 30.4	-0.5	
COLA				IAmb	IAmb	19 03 33.5		
	comp=Z,22nm,1.4s							
IMAR	Indian Mountai	45.87	337	P	P	19 03 32.3	+0.8	
HDA	Harding Lake	46.03	332	P	P	19 03 33.4	+0.6	
HDA				IAmb	IAmb	19 03 51.7		
	comp=Z,23nm,1.7s							
DOT	Dot Lake	46.11	330	P	P	19 03 34.6	+1.1	
DOT				IAmb	IAmb	19 03 39.0		
	comp=Z,34nm,2.0s							
BCAR	Beaver Creek A	46.12	329	P	P	19 03 33.9	+0.3	
DGMT	Dagmar	46.35	293	P	P	19 03 35.8	+0.2	
R50A	Paris	46.35	269	P	P	19 03 35.9	+0.2	
P46A	Rosedale	46.48	272	P	P	19 03 37.0	+0.4	
WHY	Whitehorse	46.52	323	P	P	19 03 37.9	+1.0	
BPAW	Bear Paw Mtn.	47.09	334	P	P	19 03 42.0	+0.9	
WCI	Wyandotte Cave	47.24	271	P	P	19 03 43.1	+0.5	
WCI				pmax	pmax			
	comp=Z,13nm,1.0s							
WCI	Wyandotte Cave	47.24	271	P	P	19 03 43.1	+0.5	
WCI				IAmb	IAmb	19 03 44.5		
	comp=Z,13nm,0.9s							
BILL	Bilibino	47.57	358	⇑*e*P	P	19 03 44.9	+0.1	
BILL				*e*		19 05 14.4		
BILL				*e*		19 05 31.7		
BILL				*e*S	S	19 10 41.8	+2.5	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,58nm,16.0s							
ZAA0	Zalesovo Array	47.65	51	P	P	19 03 45.6	+0.1	
ZAA0				IAmb	IAmb	19 03 47.0		
	comp=Z,7.2nm,1.3s							
ZALV	Zalesovo Beam	47.65	51	P	P	19 03 45.3	-0.3	
	comp=Z,1.3nm,0.7s,baz=323,slow=9.5,SNR=9.5							
ZALV				PcP	PcP	19 05 15.8	+1.0	
	comp=Z,0.4nm,0.4s,baz=306,slow=4.8,SNR=4.3							
ZALV	Zalesovo Beam	47.65	51	*i* P	P	19 03 46.0	+0.5	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZALV	Zalesovo Beam	47.65	51	P	P	19 03 44.8	-0.7	
ZALV					PcP	19 05 13.1	-1.8	
USIN	University of	48.06	272	P	P	19 03 48.7	-0.2	
KURK	Kurchatov	48.12	58	*ce*P	P	19 03 49.5	+0.2	
KURK				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KURK	Kurchatov	48.12	58	P	P	19 03 49.0	-0.2	
KURK				IAmb	IAmb	19 03 50.3		
	comp=Z,13nm,1.1s							
KURBB	Kurchatov Arra	48.17	58	P	P	19 03 49.6	0.0	
	comp=Z,6.1nm,0.9s,baz=324,slow=7.2,SNR=34							
PAULI	Pauline	48.20	264	P	P	19 03 49.9	-0.1	
P40A	Paris	48.63	277	P	P	19 03 52.8	-0.6	
T47A	Sharon Grove	48.63	270	P	P	19 03 53.6	+0.2	
EGMT	Eagleton	48.88	297	P	P	19 03 56.1	+0.8	
HODGE	Hodges	48.89	264	P	P	19 03 53.2	-2.2	
FID	Port Fidalgo	49.21	330	P	P	19 03 57.5	-0.1	
W50A	Signal Mountai	49.37	268	P	P	19 03 59.7	+0.6	
GEYT	Alibeck	50.43	84	P	P	19 04 07.8	+0.7	
	comp=Z,1.4nm,0.8s,baz=307,slow=12,SNR=4.7							
GYA0B	ALIBECK ARRAY	50.43	84	P	P	19 04 07.7	+0.5	
GYA0B				IAmb	IAmb	19 04 21.1		
	comp=Z,14nm,1.6s							
KOWA	Kowa	50.95	163	P	P	19 04 11.2	0.0	
KOWA				IAmb	IAmb	19 04 12.7		
	comp=Z,10.0nm,1.1s							
RLMT	Red Lodge	51.09	295	P	P	19 04 12.4	+0.1	
RLMT				IAmb	IAmb	19 04 19.6		
	comp=Z,21nm,1.6s							
KK31	Karatay Array	51.28	70	P	P	19 04 13.7	+0.2	
KK31				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KK31	Karatay Array	51.28	70	P	P	19 04 13.7	+0.2	
KKAR	Karatay Array	51.28	70	P	P	19 04 13.7	+0.2	
KKAR	Karatay Array	51.28	70	P	P	19 04 13.7	+0.2	
KKAR	Karatay Array	51.28	70	IAmb	IAmb	19 04 15.6		
	comp=Z,7.4nm,1.2s							
BOZ	Bozeman (W)	51.61	297	IAmb	IAmb	19 04 23.1		
	comp=Z,16nm,1.3s							
YHL	Hebgen Lake	52.06	296	P	P	19 04 19.9	+0.3	
DGZ	Jazzator, Alta	52.09	53	*e*P	P	19 04 20.7	+1.1	
DGZ				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MAKZ	Makanchi	52.61	59	P	P	19 04 23.3	0.0	
MAKZ				pmax	pmax			
	comp=Z,9.0nm,1.4s							
MAKZ	Makanchi	52.61	59	P	P	19 04 23.2	0.0	
MK31	Makanchi Array	52.73	58	*ce*P	P	19 04 25.0	+0.7	
MKAR	Makanchi Array	52.73	58	P	P	19 04 23.9	-0.4	
	comp=Z,2.3nm,0.9s,baz=317,slow=5.1,SNR=14							
MKAR	Makanchi Array	52.73	58	*ce*P	P	19 04 24.6	+0.3	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MKAR	Makanchi Array	52.73	58	P	P	19 04 24.1	-0.2	
IMW	Indian Meadow	52.77	295	P	P	19 04 23.0	-1.9	
LOHW	Long Hollow	52.88	295	P	P	19 04 25.8	+0.2	
TOA0	Torodi Ar. Sit	53.13	156	P	P	19 04 27.2	-0.2	
TOA0				IAmb	IAmb	19 04 40.1		
	comp=Z,24nm,1.8s							
TORD	Torodi Ar. Bea	53.13	156	P	P	19 04 26.8	-0.6	
	comp=Z,4.5nm,1.1s,baz=339,slow=7.5,SNR=13							
TORD	Torodi Ar. Bea	53.13	156	P	P	19 04 26.4	-1.0	
BW06	Boulder Array	53.18	293	IAmb	IAmb	19 04 34.5		
	comp=Z,20nm,1.4s							
PD31	Pinedale Array	53.18	293	IAmb	IAmb	19 04 34.5		
	comp=Z,16nm,1.4s							
PDAR	Pinedale Array	53.18	293	P	P	19 04 27.8	-0.1	
	comp=Z,5.2nm,1.0s,baz=56,slow=5.6,SNR=20							
PDAR	Pinedale Array	53.18	293	P	P	19 04 27.2	-0.6	
REDW	Red Top Meadow	53.19	295	P	P	19 04 28.2	+0.4	
REDW				IAmb	IAmb	19 04 35.6		
	comp=Z,14nm,1.4s							
N23A	Red Feather La	53.31	289	IAmb	IAmb	19 04 36.6		
	comp=Z,14nm,1.1s							
BMO	Blue Mountains	54.39	300	IAmb	IAmb	19 04 41.4		
	comp=Z,10nm,1.5s							
LON	Longmire	54.39	305	P	P	19 04 36.1	-0.4	
LON				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LON	Longmire	54.39	305	P	P	19 04 36.1	-0.4	
CHGR	Chuyangaron	54.47	74	P	P	19 04 37.7	+0.6	
HWUT	Hardware Ranch	54.95	294	P	P	19 04 41.0	+0.2	
HWUT				IAmb	IAmb	19 04 46.8		
	comp=Z,12nm,1.1s							
RDMU	Red Mountain	55.04	292	P	P	19 04 41.6	+0.2	
HRA	Herat	55.19	82	P	P	19 04 43.4	+0.8	
CTU	Camp Tracy	55.81	294	P	P	19 04 47.8	+0.9	
T25A	Trinidad	55.86	285	P	P	19 04 46.5	-0.9	
T25A				IAmb	IAmb	19 04 49.7		
	comp=Z,16nm,1.6s							
P17A	Butcher Ranch,	56.45	292	P	P	19 04 51.4	-0.1	
ZAK	Zakamensk	56.47	41	*e*P	P	19 04 51.9	+0.5	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
DUG	Dugway, Tooele	56.65	294	P	P	19 04 53.2	+0.3	
DUG				pmax	pmax			
	comp=Z,14nm,1.5s							
DUG	Dugway, Tooele	56.65	294	P	P	19 04 53.2	+0.3	
DUG				IAmb	IAmb	19 05 01.0		
	comp=Z,14nm,1.5s							
SRU	San Rafael Swe	56.67	292	P	P	19 04 53.2	+0.1	
SRU				pmax	pmax			
	comp=Z,10.0nm,1.4s							
SRU	San Rafael Swe	56.67	292	P	P	19 04 53.2	+0.1	
ELK	Elko	57.12	296	P	P	19 04 56.2	+0.2	
ELK				pmax	pmax			
	comp=Z,8.0nm,1.5s							
ELK	Elko	57.12	296	P	P	19 04 56.5	+0.2	
WMQ	Urumqi	57.24	56	*e*P	P	19 05 00.9	+4.0	
MSU	Marysvale	57.85	293	P	P	19 05 02.6	+1.1	
MSU	Marysvale	57.85	293	P	P	19 05 02.6	+1.1	
MVU	Marysvale	57.87	293	P	P	19 05 01.0	-0.6	
TCRU	Three Creeks R	57.87	293	P	P	19 05 02.3	+0.7	
KBL	Kabul	57.94	76	P	P	19 05 02.5	+0.4	
KBL				pmax	pmax			
	comp=Z,5.0nm,1.2s							
KBL	Kabul	57.94	76	P	P	19 05 02.5	+0.4	
PSUT	Pine Spring	58.49	294	P	P	19 05 06.2	+0.2	
DBIC	Dimbokro	58.58	165	P	P	19 05 05.8	-0.6	
	comp=Z,6.4nm,1.1s,baz=340,slow=11,SNR=4.6							
DBIC	Dimbokro	58.58	165	IAmb	IAmb	19 05 09.2		
	comp=Z,9.6nm,1.1s							
TIC	Toumodi	58.58	165	*e*P	P	19 05 06.1	-0.4	
ANMO	Albuquerque	58.59	286	*ce*P	P	19 05 07.4	+0.7	
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.3s							
KIC	Kosan Boka	58.89	165	*e*P	P	19 05 07.4	-1.3	
	comp=Z,29nm,1.3s							
LIC	Lamto	59.00	165	*e*P	P	19 05 08.8	-0.6	
	comp=Z,39nm,1.2s							
CCUT	Cedar City	59.15	293	P	P	19 05 11.1	+0.6	
R11A	Troy Canyon, C	59.33	295	IAmb	IAmb	19 05 19.0		
	comp=Z,17nm,1.9s							
JCT	Junction City	59.65	278	P	P	19 05 13.5	-0.3	
JCT				pmax	pmax			
	comp=Z,17nm,1.3s							
JCT	Junction City	59.65	278	P	P	19 05 13.5	-0.3	
JCT				IAmb	IAmb	19 05 19.5		
	comp=Z,17nm,1.3s							
SONM	Songino Array	59.65	40	P	P	19 05 13.2	-0.5	
	comp=Z,1.4nm,0.9s,baz=325,slow=6.0,SNR=7.5							
SONM	Songino Array	59.65	40	P	P	19 05 13.0	-0.8	
KVN	Kaiserville	59.69	298	P	P	19 05 13.8	-0.4	
KVN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KVN	Kaiserville	59.69	298	P	P	19 05 13.8	-0.4	
KVN				IAmb	IAmb	19 05 20.2		
	comp=Z,6.2nm,1.1s							
U15A	North Rim	59.69	291	P	P	19 05 13.8	-0.5	
U15A				IAmb	IAmb	19 05 19.8		
	comp=Z,6.1nm,1.1s							
ULN	Ulaanbaatar	59.81	40	*ce*P	P	19 05 13.5	-1.4	
ULN				pmax	pmax			
	comp=Z,11nm,2.5s							
PRN	Pahroc Range	59.94	294	IAmb	IAmb	19 05 24.8		
	comp=Z,12nm,1.5s							
WUAZ	Wupatki	60.11	290	P	P	19 05 16.8	-0.3	
NVAR	Mina Array Bea	60.31	297	P	P	19 05 19.2	+0.7	
	comp=Z,0.8nm,0.9s,baz=66,slow=8.3,SNR=4.3							
NIL	Nilore	60.46	73	P	P	19 05 18.9	-0.5	
NIL				pmax	pmax			
	comp=Z,17nm,1.1s							
NIL	Nilore	60.46	73	P	P	19 05 18.9	-0.5	
WAKR	Walker	60.67	298	IAmb	IAmb	19 05 23.3		
	comp=Z,5.7nm,1.2s							
SHPR	Sheep Range	60.76	294	P	P	19 05 22.4	+0.8	
SHPR				IAmb	IAmb	19 05 40.6		
	comp=Z,8.4nm,1.5s							
X16A	Lo Mia Camp, P	61.09	290	IAmb	IAmb	19 05 26.2		
	comp=Z,6.0nm,1.1s							
OMMB	Old Mammoth Mi	61.29	297	P	P	19 05 25.5	+0.2	
OMMB				IAmb	IAmb	19 05 29.7		
	comp=Z,7.0nm,1.4s							
MDPB	Devils Postpil	61.30	298	P	P	19 05 26.0	+0.7	
MDPB				IAmb	IAmb	19 05 32.0		
	comp=Z,7.4nm,1.3s							
TX32	Lajitas Array	62.28	280	P	P	19 05 32.3	+0.5	
TX32				IAmb	IAmb	19 05 34.4		
	comp=Z,6.7nm,1.4s							
TXAR	Lajitas Array	62.28	280	P	P	19 05 32.5	+0.6	
	comp=Z,2.0nm,1.0s,baz=56,slow=4.7,SNR=11							
TXAR	Lajitas Array	62.28	280	P	P	19 05 32.2	+0.3	
PET	Petropavlovsk	62.62	3	*ce*P	P	19 05 34.5	+0.9	
PET				pmax	pmax			
	comp=Z,470nm,2.5s							
TUC	Tucson	62.66	288	P	P	19 05 34.3	0.0	
TUC				pmax	pmax			
	comp=Z,10.0nm,1.6s							
TUC	Tucson	62.66	288	P	P	19 05 34.3	0.0	
TUC				IAmb	IAmb	19 05 38.6		
	comp=Z,9.6nm,1.6s							
HHC	Hu-ho-hao-te	67.53	40	*e*P	P	19 06 09.8	+4.0	
HHC				pmax	pmax			
	comp=Z,22nm,1.1s							
HHC				pmax	pmax			
	comp=Z,210nm,5.1s							
LZH	Lanzhou	69.64	48	*e*P	P	19 06 20.1	+0.9	
LZH				pP	sP	19 06 24.8	+0.6	
LZH				sP	pP	19 06 28.2	+5.4	
LZH				pmax	pmax			
	comp=Z,24nm,1.0s							
KMBO	Kilima Mbogo	76.66	123	LR	LR	19 46 35.4		
	comp=Z,97nm,19.5s,baz=95,slow=40							
NJ2	Nanjing	77.75	37	*e*P	P	19 07 07.3	+0.7	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
GYA	Guiyang	79.44	49	*e*P	P	19 07 16.4	+0.2	
GYA				pmax	pmax			
	comp=Z,6.0nm,1.4s							
CHTO	Chiang Mai	83.82	59	P	P	19 07 38.8	-0.4	
CHTO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CHTO	Chiang Mai	83.82	59	P	P	19 07 38.8	-0.4	
CHTO				IAmb	IAmb	19 07 40.1		
	comp=Z,4.1nm,1.0s							
CMAR	Chiang Mai Arr	84.14	59	P	P	19 07 40.8	-0.1	
	comp=Z,1.9nm,1.0s,baz=322,slow=6.5,SNR=12							
CMAR				PP	PP	19 10 55.8	+1.2	
	comp=Z,0.6nm,0.9s,baz=330,slow=8.3,SNR=4.5							
CMAR	Chiang Mai Arr	84.14	59	P	P	19 07 40.4	-0.5	
ASAR	Alice Springs	134.98	38	PKP	PKPdf	19 14 28.8	+0.1	
	comp=Z,0.9nm,0.9s,baz=344,slow=2.2,SNR=6.3							
ASAR	Alice Springs	134.98	38		PKPdf	19 14 28.0	-0.7	
STKA	Stephens Creek	144.74	32	PKP	PKPab	19 14 44.5	-0.3	
	comp=Z,2.3nm,1.0s,baz=320,slow=7.9,SNR=3.0							

MEX ***04*** *19:00:32.8±0.5, 30.70N×114.06W, h12km, MD3.7*
ECX ***04*** *19:00:32.6±0.5, 30.59N×114.21W, h20km±12km, MD2.6, ML2.8*

ISC 04 19:00:31.2±2.6, 30.5N±0.2×114.24W±0.09, h29km±18km, n8, σ0.53/13, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	San Felipe	0.72	313	*e*P	Pn	19 00 45.2	-0.3
SFX				⇑*e*		19 00 56.9	
SFX				IAML		19 00 56.9	
	comp=E,332nm,0.4s						
SFX				⇑*e*		19 00 57.5	
SFX				IAML		19 00 57.5	
	comp=N,427nm,0.4s						
ECBX	El Chinero	1.16	323	*e*P	Pn	19 00 51.8	+0.3
SPX	San Pedro Mart	1.17	295	*e*P	Pb	19 00 52.1	-0.8
SPX				*e*S	Sn	19 01 06.9	0.0
SPX	San Pedro Mart	1.17	295	*e*P	Pb	19 00 52.1	-0.8
SPX				*e*S	Sb	19 01 07.8	-0.1
SPX				IAML		19 01 20.6	
	comp=N,184nm,0.6s						
SPIG	San Pedro Mart	1.17	296	*e*P	Pb	19 00 53.2	+0.1
SPIG				*e*S	Sb	19 01 08.4	+0.4
SPIG	San Pedro Mart	1.17	296	*e*P	Pb	19 00 53.1	+0.1
SPIG				*e*S	Sb	19 01 08.7	+0.7
PIX	Pinacate	1.21	33	*e*P	Pn	19 00 52.3	+0.1
SQX	San Quintin	1.41	272	*e*P	Pb	19 00 56.8	-0.1
SQX				*e*S	Sb	19 01 15.1	+0.5

MOS ***04*** *19:16:34.9±0.9, 17.59N×94.67W, h140km, mb5.0/45, Error ellipse: s-maj=6.5km s-min=4.0km az=98.9*
BJI ***04*** *19:16:35.0±0.0, 17.50N×94.60W, h140km, mB5.5/3*
IDC ***04*** *19:16:36.8±0.4, 17.60N×94.53W, h146km±3km, mb4.7/38, mb1 4.8/42, mb1mx4.7/52, mbtmp5.1/42, MS4.4/21, Ms1 4.4/21, ms1mx4.2/40, Error ellipse: s-maj=10.5km s-min=6.0km az=50.0*
MEX ***04*** *19:16:36.4±2.5, 17.43N×94.80W, h142km±14km, MD5.6*
NEIC ***04*** *19:16:36.0±2.0, 17.49N±0.05×94.76W±0.05, h144km±3km, Error ellipse: s-maj=7.2km s-min=6.0km az=203.0*
INET ***04*** *19:16:36.4, 17.88N×94.42W, h15km, ML5.5*
NEIC ***04*** *19:16:37, 17.62N×94.68W, h140km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=2.56; Mθθ=0.23; Mφφ=2.79; Mrθ=1.90; Mθφ=-1.87; Mφr=0.42; Fault plane solution: M0 3.81000×10^17 NP1:φs183.00000°, δ42.00000°, λ-43.00000°. NP2:φs307.00000°, δ62.00000°, λ-124.00000°. Principal axes: T 3.9235, Plg11.0000°, Azm61.0000°; N -0.2481, Plg29.0000°, Azm325.0000°; P -3.6754, Plg58.0000°, Azm170.0000°;*
GCMT ***04*** *19:16:37.0±0.1, 17.61N±0.01×94.72W±0.01, h141km, MW5.6/151, Moment Tensor Solution. s146,c262; s151,c320; Duration: 1!6 Moment tensor: Scale 10^17 Nm; Mrr=2.54±.03; Mθθ=0.14±.04; Mφφ=2.68±.04; Mrθ=1.80±.03; Mθφ=-1.81±.04; Mφr=0.46±.03; Best double couple: M0=3.67400×10^17 NP1:φs181.00000°, δ41.00000°, λ-45.00000°. NP2:φs308.00000°, δ62.00000°, λ-122.00000°. Principal axes: T 3.8080, Plg11.0000°, Azm61.0000°; N -0.2650, Plg28.0000°, Azm324.0000°; P -3.5400, Plg60.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***04*** *19:16:37, 17.54N×94.67W, h129km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.63; Mθθ=0.18; Mφφ=1.45; Mrθ=1.08; Mθφ=-0.84; Mφr=0.64; Fault plane solution: M0 2.16000×10^17 NP1:φs315.00000°, δ63.27000°, λ-109.12000°. NP2:φs172.62000°, δ32.45000°, λ-56.96000°. Principal axes: T 2.1715, Plg16.0000°, Azm59.0000°; N -0.0234, Plg17.0000°, Azm324.0000°; P -2.1481, Plg66.0000°, Azm190.0000°;*
NEIC ***04*** *19:16:40, 17.45N×94.65W, h140km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=2.23; Mθθ=0.81; Mφφ=3.04; Mrθ=1.34; Mθφ=-1.57; Mφr=0.07; Fault plane solution: M0 3.42000×10^17 NP1:φs191.00000°, δ50.00000°, λ-42.00000°. NP2:φs311.00000°, δ59.00000°, λ-131.00000°. Principal axes: T 3.6446, Plg5.0000°, Azm69.0000°; N -0.5101, Plg35.0000°, Azm335.0000°; P -3.1345, Plg55.0000°, Azm167.0000°;*
UCR ***04*** *19:16:53.1±1.2, 16.99N×93.23W, h15km±140km, ML4.9, mb5.6(NEIC)*
SNET ***04*** *19:16:53.1±1.2, 16.99N×93.24W, h15km±140km, ML5.3*
GCG ***04*** *19:16:55.8±0.5, 16.54N×92.96W, h223km±75km, MD5.4*

ISC 04 19:16:35.6±0.3, 17.44N±0.03×94.77W±0.03, h145km±2km, h145km: pP-P, n1284, σ1.5 42/1418, mb5.2/265, 51C-7D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.36	197	⇓*e*P	Pn	19 16 54.8	-1.0
CMIG				*e*S	Sn	19 17 08.7	-2.4
CMIG	Matias Romero	0.36	197		Pn	19 16 54.8	-1.0
CMIG					Sn	19 17 08.7	-2.4
TUIG	Tuzandepetl	0.68	30	⇓*e*P	Pn	19 16 56.9	-0.5
TUIG				*e*S	Sn	19 17 12.8	-1.2
TUIG	Tuzandepetl	0.68	30		Pn	19 16 56.9	-0.5
TUIG					Sn	19 17 13.9	-0.1
TGIG		1.71	112	⇑*e*P	Pn	19 17 07.3	+0.2
TGIG				*i* S	Sn	19 17 30.2	-1.2
TGIG		1.71	112		Pn	19 17 07.3	+0.2
TGIG					Sn	19 17 30.2	-1.2
OXBJ	Oaxaca	1.90	259	*e*P	Pn	19 17 09.2	-0.3
OXBJ	Oaxaca	1.90	259		Pn	19 17 09.2	-0.3
VHO	Vista Hermosa	1.91	259	⇓*e*P	Pn	19 17 09.0	-0.6
VHO				*e*S	Sn	19 17 34.4	-1.1
HUIG	Huatulco	2.10	218	⇑*e*P	Pn	19 17 08.6	-3.0
HUIG				*i* S	Sn	19 17 36.8	-2.5
HUIG	Huatulco	2.10	218		Pn	19 17 08.6	-3.0
HUIG					Sn	19 17 36.8	-2.5
TOIG	Toxpalan	2.28	287	⇑*e*P	Pn	19 17 13.7	-0.2
TOIG				*i* S	Sn	19 17 43.4	+0.1
PCIG		2.28	139	⇓*e*P	Pn	19 17 14.0	+0.1
PCIG				*i* S	Sn	19 17 43.3	+0.1
PCIG		2.28	139		Pn	19 17 14.0	+0.1
PCIG					Sn	19 17 43.3	+0.1
PANG	Puerto Angel	2.40	223	*e*P	Pn	19 17 12.2	-3.1
PANG	Puerto Angel	2.40	223		Pn	19 17 12.2	-3.1
TPIG	Tehuac#an	2.65	292	⇑*e*P	Pn	19 17 18.4	-0.1
TPIG				*e*S	Sn	19 17 50.3	-1.2
TPIG	Tehuac#an	2.65	292		Pn	19 17 18.4	-0.1
TPIG					Sn	19 17 50.3	-1.2
PEIG	Puerto Escondi	2.69	238	*e*P	Pn	19 17 15.5	-3

AMVM **AMECAMECA** 4.17 294 *i* P Pn 19 17 39.6 +1.4
AMVM *i* S Sn 19 18 17.2 -10
AMVM AMECAMECA 4.17 294 Pn 19 17 39.6 +1.4
YAIG Yautepec 4.32 290⇑ *e*P Pn 19 17 40.4 +0.3
YAIG *e*S Sn 19 18 29.9 -0.3
YAIG Yautepec 4.32 290 Pn 19 17 40.4 +0.3
YAIG Sn 19 18 29.9 -0.3
VTVM Tizayuca 4.44 302⇑ *e*P Pn 19 17 42.9 +1.0
VTVM *i* S Sn 19 18 25.3 -8.1
VTVM Tizayuca 4.44 302 Pn 19 17 42.9 +1.0
UNM Universidad Na 4.58 295 P Pn 19 17 44.2 +0.5
UNM Universidad Na 4.58 295⇑ *i*P Pn 19 17 44.8 +1.1
UNM Universidad Na 4.58 295 Pn 19 17 44.2 +0.5
PLIG Platanillo 4.60 283⇑ *i*P Pn 19 17 43.7 0.0
PLIG *i* S Sn 19 18 32.8 -3.9
PLIG Platanillo 4.60 283 Pn 19 17 43.7 0.0
PLIG Sn 19 18 32.8 -3.9
CVM Colonia del Va 4.61 295 *i* P Pn 19 17 45.8 +2.1
PTVM Pico Tres Padr 4.64 298⇑ *i*P Pn 19 17 45.0 +0.6
PTVM *i* S Sn 19 18 30.0 -7.9
PTVM Pico Tres Padr 4.64 298 Pn 19 17 45.0 +0.6
ZUVM ZUMPANGO 4.72 301⇑ *e*P Pn 19 17 46.5 +1.0
ZUVM ZUMPANGO 4.72 301 Pn 19 17 46.5 +1.0
PETF Flores 4.72 96 Pn Pn 19 17 44.9 -0.3
MAVM Malinalco, Edo 4.73 289⇑ *e*P Pn 19 17 46.4 +0.8
MAVM *i* S Sn 19 18 42.4 +2.3
MAVM Malinalco, Edo 4.73 289 Pn 19 17 46.4 +0.8
MAVM Sn 19 18 42.4 +2.3
FUG Fuego 3 4.81 128 *e*P Pn 19 17 47.7 +1.0
ACP2 Acapulco 4.92 264 *e*P Pn 19 17 45.5 -2.4
ACP2 Acapulco 4.92 264 Pn 19 17 45.5 -2.4
DEG Demacu 4.94 306 *e*S Sn 19 18 48.5 +3.6
PCG Pacaya 5.03 127 *e*P Pn 19 17 49.9 +0.3
NBG Las Nubes 5.12 123 *e*P Pn 19 17 50.7 -0.1
NBG *e*S Sn 19 18 34.0 -15
CAIG El Cayaco 5.26 267⇑ *e*P Pn 19 17 50.3 -2.2
CAIG *e*S Sn 19 18 50.4 -2.0
CAIG El Cayaco 5.26 267 Pn 19 17 50.3 -2.2
CAIG Sn 19 18 50.4 -2.0
IXG Ixpaco 5.29 127 *e*P Pn 19 17 53.2 +0.2
ATVM ATLACOMULCO 5.33 296⇑ *i*P Pn 19 17 55.4 +1.8
ATVM *i* S Sn 19 18 52.4 -2.1
ATVM ATLACOMULCO 5.33 296 Pn 19 17 55.4 +1.8
ARIG Puente Sto Nin 5.37 280⇑ *e*P Pn 19 17 54.1 +0.2
ARIG *e*S Sn 19 18 49.9 -5.2
ARIG Puente Sto Nin 5.37 280 Pn 19 17 54.1 +0.2
MRL Marmol 5.42 115 *e*P Pn 19 17 54.4 -0.4
ACIG Acambay 5.46 298 *i* P Pn 19 17 56.9 +1.7
ACIG *i* S Sn 19 18 50.4 -6.9
ESQI Esquipulas 5.96 118 Pn 19 18 00.4 -1.4
MTO3 Montecristo 6.02 119 *e*P Pn 19 18 01.3 -1.5
MTO3 Montecristo 6.02 119 *e*P Pn 19 18 01.3 -1.5
MTO3 Montecristo 6.02 119 Pn 19 18 01.4 -1.4
ZIIG Zihuatanejo 6.39 272⇑ *i*P Pn 19 18 06.7 -0.8
ZIIG *e*S Sn 19 19 16.7 -2.6
ZIIG Zihuatanejo 6.39 272 Pn 19 18 06.7 -0.8
MOIG Morelia 6.48 291 *e*P Pn 19 18 10.5 +1.6
MOIG *e*S Sn 19 19 19.1 -2.8
MOIG Morelia 6.48 291 Pn Pn 19 18 09.9 +1.0
SNET Serv Nac Est T 6.52 124 Pn 19 18 10.1 +0.8
TEIG Tepich 6.75 65 P Pn 19 18 10.3 -2.0
comp=Z,148nm,0.3s,baz=254,slow=13,SNR=275
TEIG S Sn 19 19 23.5 -4.4
comp=Z,119nm,0.3s,baz=190,slow=20,SNR=8.2
TEIG LR LR 19 21 21.7
comp=Z,5µm,20.9s,baz=208,slow=44
TEIG Tepich 6.75 65⇑ *e*P Pn 19 18 10.6 -1.7
TEIG *i* S Sn 19 19 25.0 -3.0
TEIG Tepich 6.75 65 Pn 19 18 10.5 -1.7
TGUH Tegucigalpa,Un 7.97 114 Pn Pn 19 18 29.0 +0.2
MMIG Aquila 8.21 277⇑ *e*P Pn 19 18 31.3 -0.6
MMIG *e*S Sn 19 19 59.2 -4.0
MMIG Aquila 8.21 277 Pn 19 18 31.3 -0.6
MMIG Sn 19 19 59.2 -4.0
CRIN San Cristobal 8.82 121 Pn Pn 19 18 42.2 +2.0
ZAIG Zacatecas 9.04 307 Pn Pn 19 18 44.0 +0.8
MATN Matagalpa 9.65 117 Pn Pn 19 18 52.0 +0.8
KVTX Kingsville 10.46 345 Pn Pn 19 19 02.7 +0.9
ACON Acoyapa 10.76 119 Pn 19 18 06.8 +0.8
ESPN Las Esperanzas 11.39 116 Pn Pn 19 19 14.5 +0.3
833A Chaparral WMA, 11.63 339 P Pn 19 19 17.8 +0.5
baz=158,SNR=57
833A Chaparral WMA, 11.63 339 Pn Pn 19 19 18.0 +0.7
735A Kenedy 11.70 347 Pn 19 19 18.9 +0.8
JTS Las Juntas de 11.89 125 P Pn 19 19 21.1 +0.3
comp=Z,34nm,0.3s,baz=347,slow=7.9,SNR=75
JTS S Sn 19 21 30.2 -2.0
comp=Z,19nm,0.3s,baz=326,slow=22,SNR=4.3
JTS Las Juntas de 11.89 125 *i* P Pn 19 19 20.3 -0.4
JTS pmax pmax
comp=Z,110nm,0.9s
JTS Las Juntas de 11.89 125 *e*P Pn 19 19 20.4 -0.4
JTS Las Juntas de 11.89 125 Pn 19 19 20.5 -0.2
HKT Hockley 12.49 356 P Pn 19 19 27.7 -0.6
HKT Hockley 12.49 356 Pn Pn 19 19 27.7 -0.6
HDC Heredia 12.72 124 Pn 19 19 32.0 +0.3
FSCY Frank Sound, G 13.04 80 Pn Pn 19 19 35.0 -0.5
441A DeRidder 13.33 6 Pn Pn 19 19 39.0 -0.1
435B Jarrell 13.53 350 P Pn 19 19 41.6 -0.1
baz=169,SNR=47
435B Jarrell 13.53 350 Pn Pn 19 19 41.7 0.0
JCT Junction City 13.76 341 P Pn 19 19 45.0 +0.2
baz=160,SNR=30
JCT Junction City 13.76 341 P Pn 19 19 44.9 +0.1
JCT Junction City 13.76 341 Pn Pn 19 19 44.9 +0.1
LCCY Blossom Villag 14.11 79 Pn Pn 19 19 49.1 -0.1
NATX Nacogdoches 14.26 0 P Pn 19 19 50.0 -0.9
baz=181,SNR=27
NATX Nacogdoches 14.26 0 Pn Pn 19 19 50.2 -0.7
TXAR Lajitas Array 14.37 327 P Pn 19 19 53.6 +1.1
comp=Z,0.6nm,0.3s,baz=146,slow=14,SNR=45
TXAR P3KPbc 19 55 33.6
comp=Z,0.0nm,0.3s,baz=325,slow=2.0,SNR=7.1
TXAR Lajitas Array 14.37 327 P Pn 19 19 53.3 +0.8
TXAR Lajitas Array 14.37 327 Pn Pn 19 19 53.3 +0.8
TX31 Lajitas Ar. Si 14.37 327 Pn 19 19 53.8 +1.2
TX32 Lajitas Array 14.37 327 Pn 19 19 52.9 +0.4
CBCY The Bluff, Cay 14.42 79 Pn Pn 19 19 53.0 -0.1
WHTX Lake Whitney, 14.69 351 P Pn 19 19 56.8 +0.4
baz=170,SNR=28
VBMS Vicksburg 15.21 14 P Pn 19 20 01.6 -1.2
baz=196,SNR=12
VBMS Vicksburg 15.21 14 Pn Pn 19 20 01.4 -1.5
BRAL Brewton 15.36 26 P Pn 19 20 03.9 -0.9
baz=209,SNR=19
BRAL Brewton 15.36 26 Pn Pn 19 20 04.8 0.0
061Z Ochoppi 15.37 55 Pn 19 20 03.9 -1.0
143A Socs Landing, 15.50 11 Pn Pn 19 20 05.2 -1.2
143A IAmb IAmb 19 20 08.2
comp=Z,570nm,1.5s
ABTX Abilene, Hawle 15.74 345 P Pn 19 20 10.0 +0.5
baz=163,SNR=59
553A Crawfordville 15.81 35 Pn Pn 19 20 10.0 -0.4
553A IAmb IAmb 19 20 27.1
comp=Z,277nm,1.0s
Z41A Richland Creek 15.85 6 P Pn 19 20 10.4 -0.3
baz=187,SNR=99
Z41A Richland Creek 15.85 6 Pn Pn 19 20 10.5 -0.3
LPIG La Paz 15.96 297 P P 19 20 14.4 +1.5
comp=Z,9.9nm,0.3s,baz=214,slow=1.9,SNR=5.1
Z35A Perchaven, San 15.98 352 Pn 19 20 12.0 -0.3
Z35A IAmb IAmb 19 20 24.2
comp=Z,179nm,0.6s
146A Union 15.98 18 Pn Pn 19 20 11.1 -1.4
146A IAmb IAmb 19 20 29.2
comp=Z,283nm,0.8s
WLAR White Oak Lake 16.25 5 P Pn 19 20 15.5 -0.1
MCJ Malvern 16.29 86 *i* P P 19 20 16.6 -0.1
656A Willston 16.33 41 P Pn 19 20 16.0 -0.6
060A Indiantown 16.39 52 Pn 19 20 16.9 -0.6
250A Grady 16.39 26 Pn 19 20 17.2 -0.2
352A Blakely 16.59 31 P 19 20 18.7 -1.0
352A IAmb IAmb 19 20 21.0
comp=Z,333nm,0.8s
CCAR Cane Creek 16.63 9 P P 19 20 19.9 -0.2
BBJ Bamboo Saint A 16.69 84⇓ *i*P Pn 19 20 21.7 +0.5
BCIP Isla Barro Col 16.69 118 P Pn 19 20 21.7 +0.5
BCIP pmax pmax
comp=Z,52nm,0.9s
BCIP Isla Barro Col 16.69 118 P Pn 19 20 21.7 +0.5
Z47A Carrollton 16.81 20 P 19 20 21.8 -0.4
BNJ Bonny Gate 16.99 84⇑ *i*P P 19 20 24.6 +0.2

Y45A Yeager Farm, C 17.02 15 P P 19 20 24.3 -0.2
LRAL Lakeview Retre 17.03 23 P P 19 20 24.2 -0.4
baz=206,SNR=53
X40A Basin Creek Fa 17.06 5 P P 19 20 25.1 +0.1
baz=187,SNR=40
X40A Basin Creek Fa 17.06 5 P P 19 20 24.7 -0.3
X40A IAmb IAmb 19 20 34.7
comp=Z,86nm,0.8s
MIAR Mount Ida 17.07 3 P Pn 19 20 25.5 -0.1
baz=184,SNR=230
MIAR Mount Ida 17.07 3 P P 19 20 24.7 -0.3
MIAR pmax pmax
comp=Z,347nm,0.9s
MIAR Mount Ida 17.07 3 P P 19 20 24.7 -0.3
MIAR IAmb IAmb 19 20 27.6
comp=Z,346nm,0.8s
STH Stony Hill 17.12 85 *i* P P 19 20 25.9 +0.1
MNTX Cornudas Mount 17.14 328 P Pn 19 20 27.2 +0.6
baz=144,SNR=22
MNTX Cornudas Mount 17.14 328 P Pn 19 20 26.9 +0.3
HOJ Hope 17.18 85 *i* P Pn 19 20 34.8 +7.7
TIGA Tifton 17.24 34 P P 19 20 26.5 -0.4
baz=219,SNR=17
X43A Marvell 17.36 11 P P 19 20 28.6 +0.4
baz=193,SNR=36
CMJ Castle Mountai 17.54 85 *i* P P 19 20 30.1 -0.3
WMOK Wichita Mounta 17.59 349 P P 19 20 31.2 +0.4
baz=168,SNR=69
WMOK Wichita Mounta 17.59 349 P P 19 20 30.9 +0.1
WMOK pmax pmax
comp=Z,72nm,0.9s
WMOK Wichita Mounta 17.59 349 P P 19 20 30.9 +0.1
WMOK IAmb IAmb 19 20 47.0
comp=Z,72nm,0.9s
456A Hilliard 17.60 39 P P 19 20 30.8 -0.1
456A IAmb IAmb 19 20 39.9
comp=Z,238nm,0.8s
OXF Oxford 17.66 15 P P 19 20 31.1 -0.4
baz=197,SNR=35
152A Waverly Hall 17.67 29 P P 19 20 31.2 -0.4
152A IAmb IAmb 19 20 42.2
comp=Z,156nm,0.7s
W39A Magazine 17.70 3 P Pn 19 20 33.0 -0.2
baz=183,SNR=98
W41B Gary Mavity, V 17.80 7 P P 19 20 33.6 +0.5
baz=188,SNR=136
W41B Gary Mavity, V 17.80 7 P P 19 20 32.9 -0.1
W41B IAmb IAmb 19 20 37.0
comp=Z,276nm,0.9s
WHAR Wooly Hollow 17.91 7 P P 19 20 34.1 -0.2
WHAR IAmb IAmb 19 20 37.7
comp=Z,274nm,1.1s
Y49A Blount Mountai 17.99 23 P P 19 20 34.3 -0.8
Y49A IAmb IAmb 19 20 47.5
comp=Z,103nm,0.7s
255A Hazlehurst 18.22 35 P P 19 20 36.5 -1.1
X48A Hartselle 18.30 21 P P 19 20 37.0 -1.5
X48A IAmb IAmb 19 20 41.5
comp=Z,172nm,0.9s
W45A Hickory Valley 18.33 15 P P 19 20 37.8 -1.1
HBAR Harrisburg 18.41 11 P P 19 20 38.9 -0.8
154A Montrose 18.41 33 P P 19 20 38.5 -1.3
154A IAmb IAmb 19 20 51.7
comp=Z,322nm,0.8s
TUL1 Leonard 18.42 357 P P 19 20 40.0 +0.2
baz=177,SNR=100
TUL1 Leonard 18.42 357 P P 19 20 39.4 -0.4
AMTX Amarillo 18.43 342 P P 19 20 41.0 +0.9
baz=159
PLAL Pickwick Lake 18.46 18 P P 19 20 39.0 -1.3
PLAL IAmb IAmb 19 20 52.5
comp=Z,228nm,1.2s
FCAR Ozark Folk Cen 18.52 7 P P 19 20 41.2 +0.3
PAYG Puerto Ayora 18.54 166 Pn 19 20 43.9 +0.6
PAYG IAmb IAmb 19 20 46.9
comp=Z,489nm,1.2s
HSIG 18.78 311 P P 19 20 44.8 +0.9
GTBY Guantanamo Bay 18.79 79 P P 19 20 43.2 -0.8
GOGA Godfrey 18.87 30 P P 19 20 44.1 -0.6
baz=215,SNR=66
GOGA Godfrey 18.87 30 P P 19 20 44.3 -0.5
GOGA pmax pmax
comp=Z,348nm,1.1s
SRIG Santa Rosalia 18.89 304 P Pn 19 20 46.1 -1.1
U40A Yellville 18.92 5 P P 19 20 45.9 +0.6
baz=188,SNR=333
121A Cookes Peak, D 19.07 324 P Pn 19 20 49.4 -0.1
baz=139,SNR=25
CAPC Capurgana 19.08 115 *e*P P 19 20 44.6 -2.7
PEBM Pemiscott Bayo 19.10 12 P P 19 20 47.0 -0.2
319A Douglas 19.12 319 P P 19 20 48.6 +0.9
319A IAmb IAmb 19 20 55.6
comp=Z,68nm,0.9s
LNXT Lenox 19.17 13 P P 19 20 46.9 -1.0
LNXT IAmb IAmb 19 20 49.7
comp=Z,408nm,1.2s
GLAT Glass 19.37 13 P P 19 20 49.6 -0.5
PVMO Portageville 19.42 12 P P 19 20 50.8 +0.1
T35A Sooner Cattle 19.46 356 P P 19 20 50.9 -0.3
WVT Waverly 19.61 17 P P 19 20 51.5 -1.2
baz=200
WVT Waverly 19.61 17 P P 19 20 51.2 -1.5
WVT pmax pmax
comp=Z,163nm,0.6s
WVT Waverly 19.61 17 P P 19 20 51.2 -1.5
WVT IAmb IAmb 19 20 56.5
comp=Z,163nm,0.6s
157A Early Branch 19.61 37 P P 19 20 52.6 -0.2
baz=223,SNR=12
HICK Hickman 19.65 13 P P 19 20 52.4 -0.7
MGMO Mountain Grove 19.76 6 P P 19 20 53.8 -0.6
MGMO IAmb IAmb 19 20 56.7
comp=Z,255nm,0.8s
Z56A Williston 19.89 35 P P 19 20 55.0 -0.8
baz=221,SNR=5.8
W52A Murphy 20.06 27 P P 19 20 57.0 -0.7
Y55A Saluda 20.10 33 P P 19 20 57.0 -1.1
baz=218,SNR=44
158A Hollywood 20.12 38 P P 19 20 57.8 -0.4
baz=222
Z57A Bowman 20.23 36 P P 19 20 58.7 -0.7
baz=222,SNR=15
T45A Paducah 20.24 14 P P 19 20 58.5 -0.9
RGRS Roger Stewart 20.24 38 P P 19 20 58.9 -0.6
Y56A Pelion 20.28 34 P P 19 20 59.1 -0.8
baz=220
ANMO Albuquerque 20.31 331 P P 19 21 01.8 +1.3
baz=147
ANMO Albuquerque 20.31 331 *i* P P 19 21 00.5 0.0
ANMO pmax pmax
comp=Z,21nm,1.0s
ANMO Albuquerque 20.31 331 P P 19 21 01.5 +1.0
X54A Belton 20.32 31 P P 19 20 59.9 -0.5
baz=216,SNR=66
NHSC New Hope 20.39 37 P P 19 21 00.3 -0.9
baz=224,SNR=8.5
NHSC New Hope 20.39 37 P P 19 21 00.5 -0.7
NHSC IAmb IAmb 19 21 16.4
comp=Z,282nm,1.0s
SJCC San Jacinto, C 20.45 109 *e*P P 19 21 01.0 -1.0
U49A Red Boiling Sp 20.60 21 P P 19 21 01.9 -1.4
TKL Tuckaleechee C 20.61 26 P P 19 21 02.3 -1.2
comp=Z,107nm,0.5s,baz=203,slow=9.1,SNR=98
X55A Gracelyn & Ava 20.63 32 P P 19 21 03.0 -0.7
baz=218,SNR=49
JSC Jenkinsville 20.68 33 P P 19 21 03.3 -0.9
JSC pmax pmax
comp=Z,118nm,0.8s
JSC Jenkinsville 20.68 33 P P 19 21 03.3 -0.9
JSC IAmb IAmb 19 21 05.3
comp=Z,118nm,0.8s
TUC Tucson 20.70 319 P Pn 19 21 06.7 -1.9
baz=132
TUC Tucson 20.70 319 P P 19 21 05.8 +1.2
TUC pmax pmax
comp=Z,29nm,1.0s
TUC Tucson 20.70 319 P P 19 21 05.8 +1.2
CCM Cathedral Cave 20.77 8 P P 19 21 04.5 -0.7
baz=190
CCM Cathedral Cave 20.77 8 P P 19 21 04.3 -0.8
CCM pmax pmax
comp=Z,294nm,0.7s
CCM Cathedral Cave 20.77 8 P P 19 21 04.3 -0.8
Z58A St. Stephen 20.77 38 P P 19 21 04.4 -0.8
baz=224

W54A Cherokee Point 20.85 30 P P 19 21 05.8 -0.2
baz=216,SNR=210
SMRC Santa Marta, M 20.86 105 *e*P P 19 21 04.8 -1.6
Y57A Sumter 20.94 35 P P 19 21 06.1 -0.9
baz=222,SNR=12
X56A White Oak 20.96 33 P P 19 21 06.5 -0.7
baz=219,SNR=37
UREC San Jos de Ur 21.08 115 *e*P P 19 21 08.9 +0.1
LGNH Logne 21.11 84 P P 19 21 09.2 +0.2
LGNH IAmb IAmb 19 21 28.7
comp=Z,60nm,0.9s
R32A Long Quarter, 21.18 351 P P 19 21 09.4 -0.2
R32A IAmb IAmb 19 21 12.0
comp=Z,158nm,1.3s
ARGC Ariguani, Magd 21.31 108 *e*P P 19 21 11.8 +0.6
KMSC Kings Mountain 21.31 32 P P 19 21 10.7 -0.3
baz=218,SNR=96
T25A Trinidad 21.38 338 P P 19 21 14.0 +2.0
baz=154,SNR=21
T25A Trinidad 21.38 338 P P 19 21 12.4 +0.4
PAPH Port-au-Prince 21.40 84 P P 19 21 12.2 +0.1
PAPH IAmb IAmb 19 21 14.9
comp=Z,62nm,0.8s
X57A Johnson Farm, 21.44 35 P P 19 21 11.7 -0.6
baz=221,SNR=12
TZTN Tazewell 21.46 25 P P 19 21 11.4 -1.2
baz=211,SNR=43
SLM Saint Louis 21.48 10 P P 19 21 11.7 -1.1
SLM pmax pmax
comp=Z,374nm,0.8s
SLM Saint Louis 21.48 10 P P 19 21 11.7 -1.1
V54A Nebo 21.52 29 P P 19 21 12.3 -1.0
baz=215,SNR=84
KSU1 Kansas State U 21.64 356 P P 19 21 13.4 -1.1
baz=176,SNR=15
KSU1 Kansas State U 21.64 356 P P 19 21 13.2 -1.3
KSU1 IAmb IAmb 19 21 16.2
comp=Z,84nm,0.8s
CBOC Ciudad Bolivar 21.65 120 *e*P P 19 21 17.4 +2.4
W56A Indian Trail 21.69 33 P P 19 21 14.1 -1.0
baz=219,SNR=34
CBKS Cedar Bluff 21.73 349 P P 19 21 16.5 +1.1
baz=167,SNR=26
Y59A Loris 21.79 38 P P 19 21 17.2 +1.1
baz=225
ZARC Zaragoza, Cauc 21.79 115 *e*P P 19 21 14.0 -2.3
214A Organ Pipe Nat 21.80 315 P P 19 21 18.7 +2.4
baz=128,SNR=11
214A Organ Pipe Nat 21.80 315 P P 19 21 18.5 +2.2
SMLC San Martn de 21.90 110 *e*P P 19 21 17.4 0.0
X58A Rowland 21.93 36 P P 19 21 16.9 -0.6
baz=223
V55A Taylorsville 21.93 31 P P 19 21 16.6 -1.0
baz=217,SNR=81
OLIL Olney 22.00 14 P P 19 21 16.8 -1.4
WCI Wyandotte Cave 22.00 18 P P 19 21 17.1 -1.2
baz=202
WCI Wyandotte Cave 22.00 18 P P 19 21 16.6 -1.6
WCI pmax pmax
comp=Z,586nm,0.9s
WCI Wyandotte Cave 22.00 18 P P 19 21 16.6 -1.6
W57A Gilead 22.01 34 P P 19 21 17.4 -0.9
baz=220,SNR=51
W18A Petrified Fore 22.08 326 P P 19 21 21.7 +2.4
baz=139
P40A Paris 22.14 6 P P 19 21 18.1 -1.5
U54A Nelsons Funny 22.19 29 P P 19 21 19.1 -1.1
baz=215,SNR=138
U54A Nelsons Funny 22.19 29 P P 19 21 19.1 -1.1
V56A Mocksville 22.26 32 P P 19 21 19.4 -1.4
baz=218,SNR=46
T53A Wise 22.26 27 P P 19 21 19.4 -1.5
baz=212,SNR=53
SDCO Great Sand Dun 22.32 337 P P 19 21 23.6 +1.9
baz=152,SNR=27
SDCO Great Sand Dun 22.32 337 P P 19 21 22.4 +0.7
W58A Raeford 22.33 35 P P 19 21 20.1 -1.3
baz=222,SNR=14
X59A McDuffie Farm, 22.36 37 P P 19 21 20.3 -1.4
baz=224
SDDR Presa de Saban 22.36 82 P P 19 21 21.0 -1.1
YOTC Yotoco, Valle 22.48 124 *e*P P 19 21 23.5 +0.2
U55A TA2, Sparta 22.54 30 P P 19 21 22.4 -1.1
baz=216,SNR=135
GUY2C Guyana, Caldas 22.54 120 *e*P P 19 21 23.4 -0.9
KSCO Kaye Shedlock' 22.56 344 P P 19 21 25.7 +1.9
baz=160
KSCO Kaye Shedlock' 22.56 344 P P 19 21 24.4 +0.6
KSCO IAmb IAmb 19 21 29.1
comp=Z,147nm,1.4s
PTBC PUERTO BERRIO, 22.61 116 *e*P P 19 21 16.1 -8.3
GRTK Grand Turk 22.65 76 P P 19 21 24.9 +0.2
GRTK IAmb IAmb 19 21 39.1
comp=Z,130nm,0.9s
V57A Coltrane Farms 22.69 33 P P 19 21 23.7 -1.3
baz=220,SNR=55
SFX San Felipe 22.71 310 P P 19 21 26.1 +0.8
X60A Albert Glenn T 22.73 38 P P 19 21 23.8 -1.5
baz=226
U56A King 22.74 31 P P 19 21 24.6 -0.8
baz=218,SNR=37
U56A King 22.74 31 P P 19 21 24.1 -1.3
U56A IAmb IAmb 19 21 27.0
comp=Z,223nm,0.8s
T54A Tazewell 22.75 28 P P 19 21 24.4 -1.2
baz=214,SNR=70
URIC Uribia, Colomb 22.77 101 *e*P P 19 21 24.3 -1.6
BLO Bloomington 22.81 17 P P 19 21 25.0 -1.1
BLO pmax pmax
comp=Z,510nm,0.9s
BLO Bloomington 22.81 17 P P 19 21 25.0 -1.1
S22A 4UR Ranch, Cre 22.83 335 P P 19 21 28.0 +1.4
baz=149,SNR=11
SC01 Santiago de lo 22.89 81 P P 19 21 26.7 -0.3
SC01 IAmb IAmb 19 21 42.4
comp=Z,128nm,1.0s
ANIL Santa Ana 22.93 122 *e*P P 19 21 32.8 +5.0
113A Mohawk Valley, 22.93 315 P P 19 21 28.6 +1.4
TOLC Tolima 22.94 122 *e*P P 19 21 27.4 -0.4
V58A Windy Hill, Pi 22.96 34 P P 19 21 26.4 -1.1
baz=221,SNR=28
BRRC Barranca, Sant 22.98 114 *e*P P 19 21 26.9 -1.0
S53A Williamson 23.02 26 P P 19 21 27.0 -1.1
baz=212,SNR=23
BBAC Balboa, Cauca 23.05 130 *e*P P 19 21 29.5 +0.7
MVCO Mesa Verde 23.11 331 P P 19 21 30.7 +1.6
baz=145,SNR=19
MVCO Mesa Verde 23.11 331 P P 19 21 29.6 +0.5
POPC Popayan, Colom 23.13 128 *e*P P 19 21 29.1 -0.5
T55A Pulaski 23.16 29 P P 19 21 27.8 -1.5
baz=216,SNR=84
SPX San Pedro Mart 23.16 310 P P 19 21 30.5 +0.7
PAC1 Pacto, Paraso 23.21 136 *e*P P 19 21 31.5 +1.3
W60A Pink Hill 23.21 38 P P 19 21 28.7 -1.1
baz=225,SNR=5.9
CNNC Cliffs of the 23.24 37 P P 19 21 29.4 -0.7
baz=225
BANI BANI 23.25 84 P P 19 21 30.4 -0.1
Q24A Divide 23.28 339 P P 19 21 33.2 +2.5
baz=155
Q24A Divide 23.28 339 P P 19 21 31.7 +1.0
WUAZ Wupatki 23.28 324 P P 19 21 32.8 +2.2
baz=137,SNR=34
WUAZ Wupatki 23.28 324 P P 19 21 31.6 +1.0
WUAZ IAmb IAmb 19 21 34.9
comp=Z,49nm,1.0s
U57A Blanch 23.33 33 P P 19 21 29.9 -1.0
baz=220,SNR=34
SPBC San Pablo de B 23.39 118 *e*P P 19 21 30.0 -1.8
ORTC Ortega, Tolima 23.39 123 *e*P P 19 21 32.1 +0.4
BLA Blacksburg 23.41 30 P P 19 21 30.4 -1.3
baz=217,SNR=55
V59A Middlesex 23.42 36 P P 19 21 30.0 -1.7
baz=223,SNR=11
T56A Rocky Mt 23.45 31 P P 19 21 30.8 -1.1
baz=218,SNR=59
OTAV Otavalo 23.46 135 *e*P P 19 21 35.0 +2.2
OTAV Otavalo 23.46 135 P P 19 21 34.8 +2.0
OTAV pmax pmax
comp=Z,198nm,1.2s
OTAV Otavalo 23.46 135 P P 19 21 34.8 +2.0
OTAV IAmb IAmb 19 21 39.1
comp=Z,198nm,1.1s
OTAV Otavalo 23.46 135 *e*P P 19 21 35.6 +2.8
S54A Dingess, Beckl 23.48 28 P P 19 21 31.3 -1.0
baz=214,SNR=42

PCON Cinco Dias 23.48 128 eP P 19 21 34.8 +1.7
MARP Paez Belalcaza 23.49 126 eP P 19 21 33.2 +0.4
HDIL Hopedale 23.52 11 P P 19 21 32.0 -0.5
baz=193,SNR=29
GCUF Volcan Galeras 23.52 131 eP P 19 21 36.4 +2.9
CPAS1 Pasto 23.57 131 eP P 19 21 36.9 +3.2
ROSC El Rosal 23.62 120 P P 19 21 34.1 -0.1
comp=Z,6.0nm,0.5s,baz=18,slow=9.4,SNR=5.8
ROSC El Rosal 23.62 120 P P 19 21 34.4 +0.2
R53A Hurricane 23.65 26 P P 19 21 32.9 -0.9
baz=212,SNR=57
BARC Barichara 23.68 114 eP P 19 21 35.4 +0.9
P49A Miami Univ. Ec 23.69 20 P P 19 21 32.7 -1.4
baz=205,SNR=83
P49A Miami Univ. Ec 23.69 20 P P 19 21 32.7 -1.4
U58A Oxford 23.72 34 P P 19 21 32.4 -2.0
baz=222,SNR=23
PAMC Pamplona, Colo 23.76 112 eP P 19 21 34.8 -0.7
CPBX Cerro Prieto 23.79 313 P P 19 21 36.3 +1.2
PRAC Prado 23.80 123 eP P 19 21 35.6 +0.2
SFIN Lafayette 23.80 15 P P 19 21 34.0 -1.1
baz=199,SNR=52
T57A Hurt 23.81 32 P P 19 21 34.0 -1.3
baz=219,SNR=41
GLA Glamis 23.82 315 P P 19 21 37.8 +2.4
baz=126
GLA Glamis 23.82 315 P P 19 21 36.5 +1.1
GLA pmax pmax
comp=Z,58nm,1.3s
GLA Glamis 23.82 315 P P 19 21 36.5 +1.1
GLA IAmb IAmb 19 21 39.8
comp=Z,58nm,1.3s
S55A Lewisburg 23.82 29 P P 19 21 33.9 -1.5
baz=216,SNR=35
R54A Victor 23.93 28 P P 19 21 35.1 -1.3
baz=214,SNR=71
V60A Jim Taylor Roa 23.98 37 P P 19 21 36.2 -0.5
baz=225
ESJX Sierra Juarez 24.02 311 P P 19 21 39.1 +1.7
Q52A Bidwell 24.06 24 P P 19 21 36.2 -1.2
baz=210,SNR=129
BGNE Belgrade 24.06 354 P P 19 21 38.3 +0.8
baz=172,SNR=7.3
BGNE Belgrade 24.06 354 P P 19 21 37.4 0.0
BGNE IAmb IAmb 19 21 40.3
comp=Z,106nm,0.6s
U59A Littleton 24.10 35 P P 19 21 37.9 +0.1
baz=223,SNR=7.8
RUSC La Rusia 24.11 116 eP P 19 21 39.2 +0.5
T58A Grand View Acr 24.14 33 P P 19 21 36.6 -1.6
baz=221,SNR=19
ISCO Idaho Springs 24.18 339 P P 19 21 40.6 +1.6
baz=154,SNR=23
ISCO Idaho Springs 24.18 339 P P 19 21 40.2 +1.2
ISCO pmax pmax
comp=Z,57nm,1.4s
ISCO Idaho Springs 24.18 339 P P 19 21 40.2 +1.2
ISCO IAmb IAmb 19 21 46.9
comp=Z,57nm,1.4s
S56A Natural Bridge 24.19 31 P P 19 21 37.4 -1.3
baz=218,SNR=37
P51A Williamsport 24.21 23 P P 19 21 37.6 -1.2
baz=208,SNR=90
CHIC Chingaza 24.22 119 eP P 19 21 41.9 +2.3
GARC Garzon, Huila 24.26 127 eP P 19 21 34.4 -5.4
Q53A Leroy 24.27 26 P P 19 21 38.4 -1.0
baz=212,SNR=37
O49A Covington 24.40 20 P P 19 21 39.1 -1.4
R55A Marlinton 24.41 29 P P 19 21 39.8 -0.9
baz=216,SNR=96
SCIA State Center 24.42 3 P P 19 21 40.7 0.0
baz=184,SNR=60
SCIA State Center 24.42 3 P P 19 21 40.2 -0.5
SWSC Sam W. Stewart 24.43 313 P P 19 21 42.7 +1.8
baz=124
L34A Svendsen Farm, 24.48 357 P P 19 21 40.6 -0.7
L34A IAmb IAmb 19 21 43.8
comp=Z,280nm,1.1s
IKP In-Ko-Pah, Jac 24.48 312 P P 19 21 44.0 +2.5
baz=123,SNR=12
FLOC Florencia 24.53 128 eP P 19 21 43.9 +1.9
U60A Pendleton 24.54 36 P P 19 21 40.6 -1.2
baz=224,SNR=13
PUAC Puerto Asis, P 24.55 131 eP P 19 21 44.6 +2.5
S57A Dark Hollow, R 24.55 31 P P 19 21 40.7 -1.2
baz=219,SNR=19
BC3 Big Chuckawall 24.60 315 P P 19 21 44.8 +2.2
baz=126,SNR=14
Q54A Coxs Mills 24.67 27 P P 19 21 41.9 -1.1
baz=214,SNR=38
T59A Double "B" Far 24.68 35 P P 19 21 41.5 -1.6
baz=223
IRM Iron Mountain 24.69 316 P P 19 21 45.4 +2.1
baz=128,SNR=6.7
P52A Corning 24.69 24 P P 19 21 42.0 -1.2
baz=210,SNR=54
L40A Anamosa 24.73 6 P P 19 21 43.0 -0.5
MONP2 Monument Peak 24.84 312 P P 19 21 47.1 +2.3
baz=123,SNR=7.4
R56A Bull Pasture M 24.84 30 P P 19 21 43.5 -1.2
baz=217,SNR=15
P53A Whipple 24.86 25 P P 19 21 43.5 -1.2
baz=212,SNR=55
P53A Whipple 24.86 25 P P 19 21 43.5 -1.2
L42A Oliver, Polo 24.87 9 P P 19 21 43.8 -0.9
S58A Poland Farm, P 24.90 33 P P 19 21 43.5 -1.5
baz=221,SNR=8.3
BAR Barrett 24.90 312 P P 19 21 46.1 +0.9
ACSO Alum Creek Sta 24.90 22 P P 19 21 43.8 -1.3
baz=208,SNR=49
O51A Pataskala 24.96 23 P P 19 21 44.1 -1.6
baz=209,SNR=28
TAMC Tame, Arauca 24.97 113 eP P 19 21 44.2 -1.8
SDV Santo Domingo 24.97 107 P P 19 21 45.8 -0.4
comp=Z,57nm,0.8s,baz=314,slow=2.4,SNR=25
SDV pP pP 19 22 16.5 -0.1
comp=Z,71nm,0.8s,baz=295,slow=2.9,SNR=5.2
SDV Santo Domingo 24.97 107 eP P 19 21 46.8 +0.5
SDV Santo Domingo 24.97 107 P P 19 21 45.7 -0.5
SDV IAmb IAmb 19 21 54.8
comp=Z,61nm,0.8s
SDV Santo Domingo 24.97 107 eP P 19 21 45.5 -0.7
Q55A Buckhannon 25.01 28 P P 19 21 45.5 -0.6
baz=215,SNR=48
BELC Belle Mtn. Jos 25.17 315 P P 19 21 49.8 +2.0
baz=126,SNR=8.4
K38A Parkersburg 25.18 3 P P 19 21 46.7 -0.9
R57A Stanardsville 25.18 31 P P 19 21 46.0 -1.6
baz=219,SNR=23
O52A Adamsville 25.22 24 P P 19 21 46.7 -1.3
baz=210,SNR=39
R58B Mineral 25.25 33 P P 19 21 46.7 -1.6
baz=221,SNR=10
TPFO Pinon Flats 25.25 314 P P 19 21 50.6 +2.1
baz=125,SNR=9.3
PFO Pinyon Flats O 25.26 314 P P 19 21 50.8 +2.3
comp=Z,8.7nm,0.9s,baz=102,slow=7.0,SNR=9.7
PFO pP pP 19 22 21.0 +2.0
comp=Z,18nm,0.8s,baz=117,slow=6.5,SNR=10.0
PFO Pinyon Flats O 25.26 314 P P 19 21 51.0 +2.4
baz=125,SNR=8.9
PFO Pinyon Flats O 25.26 314 P P 19 21 50.0 +1.4
PFO pmax pmax
comp=Z,22nm,1.4s
PFO Pinyon Flats O 25.26 314 P P 19 21 50.0 +1.4
N23A Red Feather La 25.28 340 P P 19 21 50.0 +1.1
109C Camp Elliot, M 25.32 312 P P 19 21 50.4 +1.5
K31A O'Neill 25.33 353 P P 19 21 49.3 +0.4
P54A Burton 25.33 26 P P 19 21 48.0 -1.0
baz=214,SNR=23
L44A Lake County Fo 25.34 12 P P 19 21 48.6 -0.5
baz=196,SNR=9.2
GMRC Granite Mounta 25.41 317 P P 19 21 52.0 +2.1
baz=128,SNR=8.3
R58A Rapidan 25.44 32 P P 19 21 48.6 -1.4
baz=220,SNR=14
O20A White River Ci 25.44 335 P P 19 21 51.8 +1.6
baz=149
Q56A Snyder Ridge, 25.45 29 P P 19 21 49.3 -0.8
baz=217,SNR=15
PHWY Pilot Hill 25.49 341 P P 19 21 51.6 +0.8
P55A Reedsville 25.54 28 P P 19 21 50.9 -0.1
baz=215
MACC Macarena, Meta 25.57 124 eP P 19 21 52.6 +1.2
O53A New Philadelph 25.58 25 P P 19 21 50.1 -1.2
baz=211,SNR=45

SRU San Rafael Swe 25.58 331 P P 19 21 52.2 +0.7
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 25.58 331 P P 19 21 52.1 +0.7
MCWV Mont Chateau 25.66 27 P P 19 21 50.8 -1.1
baz=215,SNR=5.6
JFWS Jewell Farm 25.68 8 P P 19 21 51.8 -0.3
baz=190,SNR=68
JFWS Jewell Farm 25.68 8 P P 19 21 51.2 -0.9
JFWS pmax pmax
comp=Z,363nm,0.8s
JFWS Jewell Farm 25.68 8 P P 19 21 51.2 -0.9
CBN Corbin Frederi 25.69 33 P P 19 21 51.0 -1.2
baz=221
CBN Corbin Frederi 25.69 33 P P 19 21 51.3 -1.0
CBN IAmb IAmb 19 21 58.0
comp=Z,31nm,0.7s
N51A Ashland 25.72 22 P P 19 21 50.6 -1.9
baz=208,SNR=13
MURC Murrieta 25.76 313 P P 19 21 55.4 +2.4
baz=123,SNR=5.3
Q57A Strasburg 25.81 30 P P 19 21 52.3 -1.1
baz=218
R59A King George, V 25.82 33 P P 19 21 52.4 -1.0
baz=222
O54A Avella 25.86 26 P P 19 21 52.4 -1.4
baz=213,SNR=13
HEC Hector,Ludlow 25.88 316 P P 19 21 56.5 +2.4
baz=127,SNR=7.0
N52A McGinn's Farm, 25.88 23 P P 19 21 52.1 -1.8
baz=210
MVU Marysvale 25.94 327 P P 19 21 55.9 +1.1
P56A Dayton Farm, R 25.98 29 P P 19 21 53.9 -1.0
baz=217
Q58A Fox Den Farm, 26.10 31 P P 19 21 54.6 -1.3
baz=220
PTLC Puerto Leguiza 26.10 129 eP P 19 22 00.2 +4.0
TCRU Three Creeks R 26.14 327 P P 19 21 57.9 +1.3
M51A Elyria 26.15 22 P P 19 21 54.6 -1.8
baz=208,SNR=7.2
SHPR Sheep Range 26.18 320 P P 19 21 58.2 +1.3
N53A Lisbon 26.20 24 P P 19 21 55.7 -1.1
baz=211,SNR=38
N53A Lisbon 26.20 24 P P 19 21 55.4 -1.4
ECSD EROS Data Cent 26.25 357 P P 19 21 57.5 +0.2
baz=176,SNR=49
ECSD EROS Data Cent 26.25 357 P P 19 21 56.9 -0.4
ECSD IAmb IAmb 19 21 59.7
comp=Z,108nm,1.1s
O55A Ligonier 26.34 27 P P 19 21 56.6 -1.5
baz=215,SNR=6.8
RWWY Rawlins 26.41 339 P P 19 21 59.0 -0.1
BFSC Mount Baldy Ra 26.43 314 P P 19 22 01.5 +2.3
baz=124,SNR=5.9
GSC Goldstone, Bar 26.47 316 P P 19 22 00.9 +1.5
GSC pmax pmax
comp=Z,13nm,1.4s
GSC Goldstone, Bar 26.47 316 P P 19 22 00.9 +1.5
AAM Ann Arbor 26.54 19 P P 19 21 58.4 -1.4
baz=204,SNR=5.7
M52A Cheerland 26.64 23 P P 19 21 58.9 -1.8
baz=210
N54A Moraine State 26.68 25 P P 19 21 59.8 -1.3
baz=213,SNR=12
MWC Mount Wilson 26.70 313 P P 19 22 02.5 +0.8
MWC pmax pmax
comp=Z,37nm,1.3s
MWC Mount Wilson 26.70 313 P P 19 22 02.5 +0.8
P58A Pank, Wackersv 26.71 31 P P 19 22 00.8 -0.6
baz=220,SNR=6.5
PRN Pahroc Range 26.71 322 P P 19 22 02.7 +1.0
O56A Blue Knob Stat 26.72 28 P P 19 22 00.3 -1.3
baz=216,SNR=5.6
M53A WI Miller and 26.81 24 P P 19 22 01.1 -1.2
baz=211,SNR=11
N55A Marion Center 26.95 27 P P 19 22 02.1 -1.5
baz=215
EDW2 Edwards Air Fo 27.02 314 P P 19 22 05.9 +1.5
baz=124,SNR=5.2
K22A Casper 27.05 341 P P 19 22 06.6 +2.0
baz=155
K22A Casper 27.05 341 P P 19 22 05.3 +0.7
J47A Sunmer 27.07 16 P P 19 22 02.6 -2.0
J47A IAmb IAmb 19 22 05.6
comp=Z,72nm,1.1s
O57A Amberson 27.11 30 P P 19 22 03.6 -1.4
baz=218
TPNV Topopah Spring 27.13 320 P P 19 22 08.2 +2.7
baz=130,SNR=16
TPNV Topopah Spring 27.13 320 P P 19 22 07.2 +1.8
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV Topopah Spring 27.13 320 P P 19 22 07.2 +1.8
SUSD Miller 27.15 353 P P 19 22 05.3 0.0
SUSD IAmb IAmb 19 22 08.0
comp=Z,93nm,0.8s
LRMC Laurel Mtn Rad 27.15 316 P P 19 22 07.8 +2.2
baz=126
FURC Furnace Creek, 27.21 318 P P 19 22 08.4 +2.5
baz=129
P59A Jarrettsville 27.23 32 P P 19 22 04.9 -1.2
baz=221,SNR=7.1
M54A Oil Creek Stat 27.27 25 P P 19 22 05.0 -1.4
baz=213,SNR=6.5
SSPA Standing Stone 27.33 29 P P 19 22 05.5 -1.4
baz=217
SSPA Standing Stone 27.33 29 P P 19 22 05.1 -1.8
SSPA IAmb IAmb 19 22 07.2
comp=Z,32nm,0.9s
MPMC Manual Prospec 27.36 317 P P 19 22 09.6 +2.0
baz=127,SNR=15
N56A West Decatur 27.37 28 P P 19 22 05.5 -1.8
baz=216,SNR=6.6
OSI Osito Audit: C 27.38 313 P P 19 22 08.7 +1.2
OSI IAmb IAmb 19 22 11.6
comp=Z,40nm,1.4s
O58A Lewisberry 27.38 31 P P 19 22 05.5 -1.9
baz=220
PDPR Patillas Dam, 27.38 84 P P 19 22 05.7 -2.0
L53A Girard 27.41 24 P P 19 22 06.2 -1.4
baz=211,SNR=13
I45A Fountain 27.47 13 P P 19 22 07.3 -0.9
I45A IAmb IAmb 19 22 08.6
comp=Z,133nm,0.8s
DUG Dugway, Tooele 27.53 329 P P 19 22 11.6 +2.7
baz=141
DUG Dugway, Tooele 27.53 329 P P 19 22 09.2 +0.3
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 27.53 329 P P 19 22 09.2 +0.3
M55A Ridgway 27.61 27 P P 19 22 07.9 -1.5
baz=215
ERPA Erie 27.65 24 P P 19 22 08.7 -1.1
baz=212,SNR=7.0
ERPA Erie 27.65 24 P P 19 22 08.5 -1.3
R11A Troy Canyon, C 27.66 323 P P 19 22 12.4 +2.2
baz=133,SNR=11
RSSD Black Hills 27.72 346 P P 19 22 12.9 +2.3
baz=161
RSSD Black Hills 27.72 346 P P 19 22 11.8 +1.2
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 27.72 346 P P 19 22 11.8 +1.2
ARVC Arvin 27.73 314 P P 19 22 13.2 +2.6
baz=124
SPMN Marine on St. 27.75 3 P P 19 22 10.4 -0.2
baz=184,SNR=30
SPMN Marine on St. 27.75 3 P P 19 22 09.8 -0.8
ISA Isabella, Lake 27.79 315 P P 19 22 13.2 +2.1
baz=125,SNR=5.8
ISA Isabella, Lake 27.79 315 P P 19 22 12.7 +1.5
ISA 19 25 24.7
ISA pmax pmax
comp=Z,8.0nm,1.2s
ISA Isabella, Lake 27.79 315 P P 19 22 12.7 +1.5
ISA PcP PcP 19 25 24.7 +0.7
P60A Greenville 27.79 33 P P 19 22 09.6 -1.4
baz=222,SNR=6.5
MTP Monte Pirata 27.82 84 P P 19 22 09.8 -1.8
MTP IAmb IAmb 19 22 11.2
comp=Z,26nm,0.8s
GRAC Grapevine Rang 27.86 319 P P 19 22 14.4 +2.7
baz=129,SNR=14
M56A Emporium 27.88 27 P P 19 22 10.1 -1.7
baz=216
O59A Robesonia 27.89 31 P P 19 22 10.4 -1.5

baz=221
CWC Cottonwood Cre 27.98 317 P P 19 22 15.1 +2.2
baz=127
L54A Sinclairville 28.02 25 P P 19 22 11.6 -1.4
baz=213
N58A Sunbury 28.04 30 P P 19 22 11.6 -1.6
baz=219,SNR=5.1
BW06 Boulder Array 28.21 337 P P 19 22 15.5 +0.5
PDAR Pinedale Array 28.21 337 P P 19 22 15.8 +0.8
comp=Z,0.7nm,0.4s,baz=140,slow=9.5,SNR=7.6
PDAR pP pP 19 22 47.5 +1.7
comp=Z,7.0nm,0.8s,baz=146,slow=8.9,SNR=6.3
PDAR PKiKP PKiKP 19 32 59.9 -0.6
comp=Z,1.1nm,0.8s,baz=186,slow=1.5,SNR=4.9
PDAR P3KPbc 19 54 34.2
comp=Z,0.8nm,0.8s,baz=240,slow=1.2,SNR=5.3
PDAR Pinedale Array 28.21 337 P P 19 22 15.2 +0.1
SPUT South Promonto 28.22 331 P P 19 22 15.8 +0.8
M57A Sunshine Farm, 28.23 29 P P 19 22 13.6 -1.3
baz=218
M57A Sunshine Farm, 28.23 29 P P 19 22 13.5 -1.4
M57A IAmb IAmb 19 22 14.6
comp=Z,27nm,1.1s
PKM Mcpherson Peak 28.28 313 P P 19 22 17.9 +2.2
baz=122,SNR=12
O60A Telford 28.29 32 P P 19 22 14.0 -1.5
baz=222
L55A Hinsdale 28.34 26 P P 19 22 14.9 -1.0
baz=214,SNR=9.2
F36A Milaca 28.36 2 P P 19 22 15.3 -0.7
F36A IAmb IAmb 19 22 17.1
comp=Z,78nm,0.9s
N59A State Game Lan 28.55 31 P P 19 22 16.8 -1.1
baz=221,SNR=8.7
N59A State Game Lan 28.55 31 P P 19 22 16.6 -1.2
N59A IAmb IAmb 19 22 18.2
comp=Z,36nm,0.8s
M58A Price's Panora 28.57 30 P P 19 22 16.6 -1.3
baz=219,SNR=6.6
K54A Basiliko Farm, 28.59 25 P P 19 22 16.5 -1.6
baz=214
GLMI Grayling 28.60 15 P P 19 22 16.8 -1.4
baz=201
L56A Greenwood 28.68 27 P P 19 22 17.4 -1.5
baz=216
I51A Listowel 28.74 21 P P 19 22 18.0 -1.4
baz=208,SNR=15
HVU Hansel Valley 28.74 331 P P 19 22 20.4 +0.7
HVU pmax pmax
comp=Z,11nm,0.7s
HVU Hansel Valley 28.74 331 P P 19 22 20.4 +0.7
N60A Cedar Hill Far 28.85 32 P P 19 22 19.1 -1.4
baz=222,SNR=5.1
L57A Andrews Acres 28.88 28 P P 19 22 19.2 -1.6
baz=218,SNR=8.4
K55A Perry 28.94 26 P P 19 22 19.8 -1.5
baz=215,SNR=7.1
PAGB Antelope Grade 29.03 314 P P 19 22 23.1 +1.0
ECR Eagle Creek 29.16 335 P P 19 22 24.5 +1.1
ELK Elko 29.17 327 P P 19 22 25.6 +2.1
comp=Z,6.1nm,0.9s,baz=138,slow=5.4,SNR=24
ELK pP pP 19 22 56.4 +2.2
comp=Z,9.7nm,0.8s,baz=137,slow=6.7,SNR=7.6
ELK PcP PcP 19 25 28.2 +0.7
comp=Z,9.0nm,0.8s,baz=275,slow=0.6,SNR=7.0
ELK ScP ScP 19 28 57.7 +1.9
comp=Z,2.1nm,0.9s,baz=57,slow=4.3,SNR=5.2
ELK Elko 29.17 327 P P 19 22 25.0 +1.5
ELK 19 25 29.0
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 29.17 327 P P 19 22 25.0 +1.5
ELK PcP PcP 19 25 29.0 +1.5
N61A South Mountain 29.18 33 P P 19 22 22.0 -1.3
baz=223
M59A Waymart 29.19 31 P P 19 22 22.2 -1.3
baz=220
E38A The Farm, Brul 29.20 5 P P 19 22 22.9 -0.6
E38A IAmb IAmb 19 22 24.6
comp=Z,103nm,0.7s
K56A Middlesex 29.23 27 P P 19 22 22.6 -1.2
baz=216,SNR=8.8
NV11 Mina Array Sit 29.24 320 P P 19 22 26.0 +1.9
NV11 PcP PcP 19 25 28.8 +1.1
ATAH Atahualpa 29.30 145 P P 19 22 28.0 +2.9
comp=Z,62nm,0.9s,baz=332,slow=7.8,SNR=30
ATAH PcP PcP 19 25 29.9 +1.5
comp=Z,24nm,0.8s,baz=1.7,slow=3.3,SNR=5.7
MDPB Devils Postpil 29.33 318 P P 19 22 26.9 +1.9
NVAR Mina Array Bea 29.33 320 P P 19 22 27.7 +2.7
comp=Z,32nm,1.0s,baz=136,slow=8.8,SNR=126
NVAR pP pP 19 22 58.2 +2.5
comp=Z,27nm,0.8s,baz=130,slow=8.9,SNR=9.5
NVAR PcP PcP 19 25 28.9 +0.9
comp=Z,14nm,1.0s,baz=132,slow=2.9,SNR=5.4
NVAR ScP ScP 19 28 58.0 +1.6
comp=Z,3.0nm,1.0s,baz=143,slow=4.7,SNR=4.6
NVAR LR LR 19 35 10.5
comp=Z,463nm,18.2s,baz=126,slow=38
NVAR P3KPbc 19 54 30.4
comp=Z,1.2nm,0.7s,baz=303,slow=4.6,SNR=8.8
NVAR Mina Array Bea 29.33 320 P P 19 22 27.1 +2.1
NVAR PcP PcP 19 25 29.7 +1.7
NVAR ScP ScP 19 28 58.4 +2.0
LHV Little Huntoon 29.34 320 P P 19 22 26.6 +1.8
TPAW Teton Pass 29.36 336 P P 19 22 26.2 +0.9
TPAW IAmb IAmb 19 22 30.9
comp=Z,34nm,1.4s
L58A Harry Jones Me 29.38 29 P P 19 22 23.9 -1.3
baz=219,SNR=6.9
M60A Port Jervis 29.43 32 P P 19 22 24.3 -1.3
baz=222
BINY Binghamton 29.44 29 P P 19 22 24.4 -1.3
baz=219,SNR=8.0
BINY Binghamton 29.44 29 P P 19 22 24.1 -1.5
BINY IAmb IAmb 19 22 25.9
comp=Z,44nm,0.8s
J55A Hilton 29.49 26 P P 19 22 24.6 -1.4
J55A IAmb IAmb 19 22 26.0
comp=Z,67nm,1.2s
PAL Palisades 29.56 33 P P 19 22 25.1 -1.6
baz=224
RYN Ryan 29.59 320 P P 19 22 29.0 +1.8
K57A Scipio Center 29.61 28 P P 19 22 25.6 -1.6
baz=217
IMW Indian Meadow 29.70 336 P P 19 22 29.4 +1.2
IMW PcP PcP 19 25 29.9 +1.0
M61A Granite Spring 29.86 33 P P 19 22 27.7 -1.7
baz=223,SNR=6.6
L59A Walton 29.88 30 P P 19 22 28.2 -1.4
baz=220,SNR=13
K58A Earlville 30.03 29 P P 19 22 29.4 -1.5
baz=219,SNR=9.2
WAKR Walker 30.08 319 P P 19 22 33.2 +1.7
L60A Shokan 30.13 31 P P 19 22 30.2 -1.5
baz=222,SNR=5.4
SADO Sadowa 30.24 22 P P 19 22 30.7 -2.0
comp=Z,42nm,0.5s,baz=242,slow=8.8,SNR=35
SADO Sadowa 30.24 22 P P 19 22 30.5 -2.2
SADO IAmb IAmb 19 22 32.6
comp=Z,90nm,0.9s
YERR Yerington 30.25 320 P P 19 22 33.8 +0.7
H53A Bobcaygeon 30.28 23 P P 19 22 31.6 -1.4
baz=212,SNR=45
KSCT Kent School, K 30.31 33 P P 19 22 31.8 -1.5
KSCT IAmb IAmb 19 22 33.2
comp=Z,52nm,0.8s
J57A Williamstown 30.39 28 P P 19 22 32.5 -1.5
baz=217,SNR=12
CMB Columbia Colle 30.40 318 P P 19 22 35.2 +1.0
CMB 19 25 31.8
CMB pmax pmax
comp=Z,8.0nm,1.3s
CMB Columbia Colle 30.40 318 P P 19 22 35.2 +1.0
CMB PcP PcP 19 25 31.8 +1.3
M62A Hamden 30.41 34 P P 19 22 32.7 -1.5
baz=225
K59A Cooperstown 30.41 30 P P 19 22 32.6 -1.7
baz=220
EYMN Ely 30.54 4 P P 19 22 34.5 -0.8
baz=186,SNR=11
MDND Maddock 30.58 354 P P 19 22 36.6 +0.9
baz=171,SNR=9.1
MDND Maddock 30.58 354 P P 19 22 35.7 +0.1
L61A Hillsdale 1, H 30.61 32 P P 19 22 35.0 -1.0
baz=223

J58A **Remsen** 30.66 28 P P 19 22 35.0 -1.5
baz=219,SNR=6.6
K60A **Five Rivers En** 30.76 31 P P 19 22 35.9 -1.3
baz=222,SNR=7.3
AGMN **Agassiz Nation** 30.79 359 P P 19 22 37.4 0.0
baz=178,SNR=63
AGMN **Agassiz Nation** 30.79 359 P P 19 22 36.6 -0.8
M63A **Gales Ferry** 30.84 35 P P 19 22 36.4 -1.6
baz=226,SNR=5.5
B35A **Bob, Littlefor** 30.85 1 P P 19 22 37.2 -0.8
B35A IAmb IAmb 19 22 39.0
comp=Z,96nm,0.8s
HLID **Hailey** 30.89 332 P P 19 22 40.2 +1.6
baz=142,SNR=15
HLID **Hailey** 30.89 332 P P 19 22 39.6 +0.9
I57A **Carthage** 30.95 27 P P 19 22 37.2 -1.8
baz=217
L62A **Suffield** 30.95 33 P P 19 22 37.4 -1.6
baz=224,SNR=9.7
TRY **Troy** 30.95 31 P P 19 22 38.0 -1.0
TRY IAmb IAmb 19 22 39.3
comp=Z,55nm,1.0s
I58A **Old Forge** 31.06 28 P P 19 22 38.5 -1.5
baz=219,SNR=17
K61A **Williamstown** 31.11 32 P P 19 22 39.6 -0.7
baz=223,SNR=19
J59A **Piesco** 31.11 29 P P 19 22 38.9 -1.5
baz=220
G54A **Lake Saint Pet** 31.16 23 P P 19 22 39.1 -1.7
baz=212,SNR=18
L61B **Northampton** 31.24 32 P P 19 22 39.7 -1.8
baz=224,SNR=9.0
M64A **Tiverton** 31.39 35 P P 19 22 41.2 -1.6
baz=227
BOZ **Bozeman (W)** 31.40 337 P P 19 22 46.9 +3.9
baz=148,SNR=7.2
BOZ **Bozeman (W)** 31.40 337 P P 19 22 44.7 +1.6
BOZ pmax pmax
comp=Z,13nm,1.4s
BOZ **Bozeman (W)** 31.40 337 P P 19 22 44.7 +1.6
J60A **Lant Hill Farm** 31.45 31 P P 19 22 42.2 -1.2
baz=222
H57A **Richville** 31.49 27 P P 19 22 42.3 -1.3
baz=217,SNR=7.8
K62A **Royalston** 31.63 33 P P 19 22 44.5 -0.4
baz=224
K62A **Royalston** 31.63 33 P P 19 22 42.9 -2.0
ALGO **Algonquin Park** 31.65 22 P P 19 22 43.3 -1.8
baz=212,SNR=14
I59A **Olmsteadville** 31.65 29 P P 19 22 43.2 -1.9
baz=220,SNR=7.0
L64A **Middleborough** 31.86 35 P P 19 22 45.7 -1.2
baz=227,SNR=6.1
DGMT **Dagmar** 31.89 348 P P 19 22 50.0 +2.8
baz=163
DGMT **Dagmar** 31.89 348 P P 19 22 48.0 +0.9
DGMT IAmb IAmb 19 22 53.9
comp=Z,52nm,1.1s
LRM **Limekiln Ridge** 31.90 336 P P 19 22 48.4 +0.8
J61A **Chester** 31.96 31 P P 19 22 46.8 -0.9
baz=223,SNR=9.5
I60A **Shoreham** 31.97 30 P P 19 22 46.5 -1.3
baz=221,SNR=14
LONY **Lake Ozonia** 31.97 28 P P 19 22 46.5 -1.3
baz=218,SNR=15
H58A **Gabriels** 31.99 28 P P 19 22 46.5 -1.6
baz=219,SNR=8.1
ORV **Oroville** 31.99 319 P P 19 22 49.4 +1.2
ORV pmax pmax
comp=Z,5.0nm,0.9s
ORV **Oroville** 31.99 319 P P 19 22 49.4 +1.2
G57A **Newington** 32.17 27 P P 19 22 48.0 -1.6
baz=217,SNR=6.2
J62A **Henniker** 32.24 32 P P 19 22 49.5 -0.8
baz=224,SNR=6.3
H59A **Cadyville** 32.39 29 P P 19 22 49.9 -1.6
baz=220
I61A **Oroboro, Fairl** 32.56 31 P P 19 22 51.8 -1.2
baz=223,SNR=8.0
G58A **Ormstown** 32.61 28 P P 19 22 51.7 -1.8
baz=219,SNR=5.8
O03E **Paynes Creek** 32.62 320 P P 19 22 55.4 +1.7
baz=127,SNR=5.5
J08A **Circle Bar Ran** 32.72 327 P P 19 22 56.1 +1.6
J08A IAmb IAmb 19 22 58.5
comp=Z,34nm,0.8s
MOD **Modoc Plateau** 32.73 323 P P 19 22 55.0 +0.3
ULM **Lac du Bonnet** 32.74 359 P P 19 22 53.5 -1.0
comp=Z,69nm,0.7s,baz=175,slow=10.0,SNR=41
ULM **Lac du Bonnet** 32.74 359 *i* P P 19 22 53.8 -0.7
ULM **Lac du Bonnet** 32.74 359 P P 19 22 53.5 -1.0
ULM IAmb IAmb 19 22 55.4
comp=Z,103nm,0.9s
H60A **Morristown** 32.79 30 P P 19 22 53.3 -1.7
baz=222
F57A **Harrington** 32.86 26 P P 19 22 54.2 -1.4
baz=217,SNR=7.5
LBNH **Lisbon** 32.92 31 P P 19 22 55.1 -1.1
baz=223,SNR=7.4
I62A **Tamworth** 32.95 32 P P 19 22 55.3 -1.1
baz=224,SNR=9.1
G59A **Clarenceville** 32.95 29 P P 19 22 55.1 -1.3
baz=220,SNR=13
H61A **Lyndonville** 33.14 31 P P 19 22 57.0 -1.1
baz=223,SNR=5.9
O02D **Mt. Diablo Mer** 33.16 319 P P 19 22 59.0 +0.6
baz=125
CZSB **Cruzeiro do Su** 33.19 137 *eP* P 19 23 01.5 +2.7
BMO **Blue Mountains** 33.22 330 P P 19 22 59.0 +0.1
BMO pmax pmax
comp=Z,9.0nm,1.5s
BMO **Blue Mountains** 33.22 330 P P 19 22 59.0 +0.1
WDC **Whiskeytown Da** 33.24 320 P P 19 22 58.4 -0.6
WDC 19 25 39.3
WDC pmax pmax
comp=Z,7.0nm,1.3s
WDC **Whiskeytown Da** 33.24 320 P P 19 22 58.4 -0.6
WDC PcP PcP 19 25 39.3 +1.2
E56A **St. Veronique** 33.31 25 P P 19 22 58.1 -1.4
baz=216,SNR=18
MSO **Missoula** 33.31 336 P P 19 23 01.3 +1.6
baz=146
G60A **Masonville** 33.36 29 P P 19 22 58.6 -1.4
baz=222,SNR=9.4
KCPM **Cahto Peak** 33.39 317 P P 19 23 02.0 +1.6
I63A **Otisfield** 33.46 32 P P 19 22 59.5 -1.3
baz=225,SNR=9.1
D55A **Sainte-Anne-du** 33.52 24 P P 19 23 00.0 -1.3
baz=215,SNR=25
M04C **Macdoel** 33.54 322 P P 19 23 03.6 +1.8
baz=128,SNR=15
H62A **Milan** 33.54 31 P P 19 23 00.7 -0.9
baz=224,SNR=6.2
E57A **Chemin Saint G** 33.57 26 P P 19 23 00.5 -1.2
baz=218,SNR=20
KMRM **Mail Ridge** 33.77 318 P P 19 23 05.2 +1.5
D56A **ZEC Mazanza, M** 33.83 25 P P 19 23 02.6 -1.4
baz=216,SNR=14
I64A **Boothbay** 33.86 33 P P 19 23 03.1 -1.2
baz=227
G61A **St-Isidore-de-** 33.88 30 P P 19 23 03.5 -0.9
baz=222,SNR=8.4
E58A **La Victoria** 33.91 27 P P 19 23 03.5 -1.2
baz=219,SNR=22
M02C **Callahan** 33.91 321 P P 19 23 05.1 +0.2
baz=127
YBH **Yreka Blue Hor** 34.02 321 P P 19 23 05.3 -0.6
comp=Z,2.3nm,0.6s,baz=122,slow=4.0,SNR=12
YBH pP pP 19 23 37.1 +0.1
comp=Z,3.0nm,0.6s,baz=113,slow=7.1,SNR=4.6
YBH PcP PcP 19 25 40.7 +0.2
comp=Z,3.5nm,0.8s,baz=99,slow=2.0,SNR=3.3
YBH **Yreka Blue Hor** 34.02 321 P P 19 23 05.8 -0.1
YBH pmax pmax
comp=Z,2.0nm,0.7s
YBH **Yreka Blue Hor** 34.02 321 P P 19 23 05.8 -0.1
L04D **Klamath Falls** 34.08 322 P P 19 23 07.6 +1.2
baz=128,SNR=5.8
J05D **Fort Rock, OR** 34.15 325 P P 19 23 08.3 +1.3
baz=131
KHMM **Horse Mountain** 34.15 319 P P 19 23 07.9 +0.9
KHMM PcP PcP 19 25 42.5 +1.6
D57A **Chemin Vers le** 34.16 26 P P 19 23 05.5 -1.3
baz=217,SNR=17
H63A **New Sharon** 34.17 32 P P 19 23 06.4 -0.5
baz=225
NNA **Nana** 34.19 148 *i* P P 19 23 08.9 +1.4
NNA pmax pmax
comp=Z,112nm,1.3s
NNA **Nana** 34.19 148 P P 19 23 09.7 +2.2
NNA IAmb IAmb 19 23 11.2
comp=Z,156nm,1.4s
F60A **Warwick** 34.19 29 P P 19 23 05.9 -1.2
baz=221,SNR=12
G62A **West of Eustis** 34.31 31 P P 19 23 07.3 -0.9
baz=224,SNR=21
H64A **Troy** 34.57 33 P P 19 23 09.1 -1.3
baz=226
J04D **Umpqua Nationa** 34.61 324 P P 19 23 12.9 +1.9
baz=130,SNR=6.6
KRMB **Red Mountain** 34.63 320 P P 19 23 11.8 +0.7
D58A **Chemin du LacG** 34.64 27 P P 19 23 09.8 -1.2
baz=219,SNR=13
F61A **St Evariste** 34.64 30 P P 19 23 11.3 +0.3
baz=223,SNR=5.4
LSQQ **Lebel-sur-Quev** 34.69 21 P P 19 23 09.8 -1.5
baz=211
G63A **Kingsbury** 34.70 32 P P 19 23 10.2 -1.3
baz=226,SNR=5.7
E60A **Ste Agathe de** 34.72 29 P P 19 23 10.5 -1.2
baz=222,SNR=11
L02E **Cave Junction** 34.81 321 P P 19 23 15.2 +2.6
baz=126
LATQ **La Tuque** 34.91 26 P P 19 23 12.1 -1.1
baz=219,SNR=11
PKME **Peaks-Kenny Pk** 34.97 32 P P 19 23 12.4 -1.3
baz=226
D59A **Saint-Raymond** 35.03 28 P P 19 23 13.2 -1.1
baz=220
MATQ **Matagami** 35.08 19 P P 19 23 13.3 -1.4
baz=209,SNR=43
F62A **Pittston Farm,** 35.08 31 P P 19 23 13.5 -1.3
baz=224,SNR=12
H65A **Eastbrook** 35.12 34 P P 19 23 13.8 -1.3
baz=228,SNR=7.8
E61A **Lac Etchemin** 35.22 30 P P 19 23 15.0 -0.9
baz=223,SNR=8.3
G64A **Maxfield** 35.23 32 P P 19 23 14.5 -1.5
baz=226,SNR=6.7
F63A **Nahmakanta, Br** 35.37 32 P P 19 23 15.6 -1.6
baz=226
D60A **Saint Jean D'O** 35.37 29 P P 19 23 15.9 -1.3
baz=222,SNR=6.5
G05D **Wamic, OR** 35.49 327 P P 19 23 20.8 +2.4
baz=133
H04A **Detroit Lake** 35.58 326 P P 19 23 19.9 +0.7
I03D **Drain, OR** 35.60 323 P P 19 23 20.5 +1.3
baz=129,SNR=6.7
J01E **Myrtle Point** 35.60 322 P P 19 23 21.1 +1.8
baz=127
H66A **Whiting** 35.67 34 P P 19 23 18.4 -1.5
baz=229
NEW **Newport** 35.75 334 P P 19 23 20.3 -0.2
comp=Z,2.4nm,0.5s,baz=149,slow=8.3,SNR=6.0
NEW PcP PcP 19 25 45.0 -0.3
comp=Z,8.3nm,0.8s,baz=122,slow=4.6,SNR=3.9
NEW **Newport** 35.75 334 P P 19 23 21.8 +1.2
baz=142
H04D **Lebanon** 35.78 325 P P 19 23 21.4 +0.7
baz=130
E62A **Clayton Lake** 35.81 30 P P 19 23 19.9 -1.1
baz=224,SNR=10
G65A **Princeton** 35.81 34 P P 19 23 19.5 -1.5
baz=228,SNR=12
F64A **Sherman** 35.86 32 P P 19 23 19.7 -1.7
baz=226
C09A **Chrisman Ranch** 35.88 333 P P 19 23 22.3 +0.7
D61A **St Aubert, Com** 35.92 29 P P 19 23 21.1 -0.9
baz=223,SNR=9.8
F05D **White Salmon** 36.01 328 P P 19 23 25.2 +2.5
baz=133,SNR=6.2
I02D **Swisshome** 36.13 324 P P 19 23 25.8 +2.0
baz=128
E63A **Oxbow** 36.21 31 P P 19 23 23.2 -1.2
baz=226,SNR=16
CHGQ **Chibougamau** 36.32 22 P P 19 23 23.8 -1.5
baz=214,SNR=25
D62A **Allapoint, All** 36.37 30 P P 19 23 24.9 -0.9
baz=224,SNR=22
E64A **Bridgewater** 36.50 32 P P 19 23 25.4 -1.5
baz=227,SNR=9.6
G03D **McMinnville, O** 36.51 325 P P 19 23 28.6 +1.7
baz=130
D63A **Stockholm** 36.79 31 P P 19 23 28.2 -1.2
baz=226,SNR=30
E04D **Cinebar** 37.03 328 P P 19 23 33.0 +1.7
baz=133
FFC **Flin Flon** 37.62 353 P P 19 23 36.7 +0.5
FFC pmax pmax
comp=Z,68nm,1.3s
FFC **Flin Flon** 37.62 353 P P 19 23 36.7 +0.5
FFC IAmb IAmb 19 23 39.5
comp=Z,68nm,1.2s
LMN **Caledonia Moun** 37.72 35 P P 19 23 35.1 -2.1
LMN IAmb IAmb 19 23 36.5
comp=Z,29nm,0.8s
B06A **Marblemount** 37.86 331 P P 19 23 38.6 +0.3
D03D **Eldon** 37.95 328 P P 19 23 40.1 +1.0
baz=133,SNR=5.6
BATG **Bathurst New B** 37.98 32 P P 19 23 37.9 -1.5
BATG IAmb IAmb 19 23 39.5
comp=Z,61nm,0.8s
NLWA **Neilton Lookou** 38.25 328 P P 19 23 42.8 +1.1
NLWA IAmb IAmb 19 23 45.5
comp=Z,48nm,1.5s
PTGA **Pitinga** 38.74 114 P P 19 23 45.0 -1.2
comp=Z,7.0nm,0.6s,baz=303,slow=11,SNR=16
PTGA PcP PcP 19 25 55.1 +0.1
comp=Z,15nm,0.8s,baz=325,slow=2.3,SNR=5.2
PTGA **Pitinga** 38.74 114 IAmb IAmb 19 23 47.7
comp=Z,31nm,1.5s
ETMB **Extrema** 39.12 132 *eP* P 19 23 49.4 +0.2
SAML **Samuel** 40.77 128 P P 19 24 01.5 -1.4
SAML pmax pmax
comp=Z,38nm,0.8s
SAML **Samuel** 40.77 128 P P 19 24 01.5 -1.4
SAML IAmb IAmb 19 24 04.1
comp=Z,38nm,0.8s
LPAZ **La Paz** 42.58 140 P P 19 24 19.1 +0.8
comp=Z,68nm,0.8s,baz=333,slow=6.2,SNR=211
LPAZ **La Paz** 42.58 140 P P 19 24 18.6 +0.3
LPAZ IAmb IAmb 19 24 20.6
comp=Z,63nm,0.8s
LPAZ **La Paz** 42.58 140 *eP* P 19 24 19.0 +0.8
MDP **Montagnes des** 42.99 101 PcP PcP 19 26 08.8 -0.1
comp=Z,14nm,0.8s,baz=314,slow=2.4,SNR=7.0
SCHQ **Schefferville** 43.04 23 P P 19 24 19.1 -1.7
comp=Z,48nm,0.8s,baz=223,slow=6.4,SNR=29
SCHQ LR LR 19 45 13.4
comp=Z,1µm,18.3s,baz=234,slow=40
PB12 **IPOC Station P** 43.15 145 P P 19 24 22.8 +0.6
PB12 IAmb IAmb 19 24 25.1
comp=Z,107nm,1.0s
PB16 **IPOC Station P** 43.38 144 P P 19 24 25.5 +0.9
PB16 IAmb IAmb 19 24 28.4
comp=Z,156nm,1.1s
BBB **Bella Bella** 43.47 331 P3KPbc 19 53 35.2
comp=Z,31nm,1.1s,baz=320,slow=13,SNR=5.0
DRLN **Deer Lake** 43.71 35 P P 19 24 24.4 -1.9
MNMC **Minye Minye** 43.97 145 P P 19 24 30.2 +1.2
PSGCX **Pisagua** 44.06 146 P P 19 24 30.1 +0.6
PSGCX IAmb IAmb 19 24 32.5
comp=Z,111nm,1.1s
ITTB **Itaituba** 44.21 116 *eP* P 19 24 31.0 +0.3
MALB **Monte Alegre** 44.29 112 *eP* P 19 24 28.6 -2.7
PB11 **IPOC Station P** 44.45 145 P P 19 24 33.8 +1.1
GO01 **Chusmiza** 44.62 145 P P 19 24 35.6 +1.2
GO01 IAmb IAmb 19 24 38.3
comp=Z,178nm,1.0s
TA01 **Diego Aracena** 44.82 146 P P 19 24 36.4 +1.0
TA01 IAmb IAmb 19 24 38.6
comp=Z,128nm,0.9s
PB08 **IPOC Station P** 45.03 145 P P 19 24 39.0 +1.5
PB08 IAmb IAmb 19 24 41.1
comp=Z,115nm,1.0s
PATCX **Punta Patache** 45.05 147 P P 19 24 38.0 +0.8
PATCX IAmb IAmb 19 24 40.6
comp=Z,180nm,1.3s
PB01 **IPOC Station P** 45.58 146 P P 19 24 42.6 +1.1
PB01 IAmb IAmb 19 24 44.7
comp=Z,76nm,1.0s
VILB **Vilhena** 45.58 129 *eP* P 19 24 40.7 -0.9
MCPB **Macapa, AP** 45.62 108 *eP* P 19 24 40.6 -1.3
NPGB **Novo Progresso** 45.92 119 *eP* P 19 24 44.1 -0.1
PB07 **IPOC Station P** 45.93 147 P P 19 24 45.4 +1.0
PB07 IAmb IAmb 19 24 47.6
comp=Z,120nm,0.9s
PB04 **IPOC Station P** 46.30 148 P P 19 24 47.9 +0.7
PB04 IAmb IAmb 19 24 50.5
comp=Z,300nm,1.5s
PB09 **IPOC Station P** 46.33 146 P P 19 24 49.0 +1.5
PB09 IAmb IAmb 19 24 51.2
comp=Z,141nm,1.0s
PB06 **IPOC Station P** 46.90 147 P P 19 24 52.9 +1.0
PB06 IAmb IAmb 19 24 55.2
comp=Z,151nm,1.0s
SIV **San Ignacio** 46.98 133 P P 19 24 52.5 +0.1
comp=Z,101nm,1.0s,baz=314,slow=7.8,SNR=190
PB10 **IPOC Station P** 47.08 149 P P 19 24 54.2 +1.1
PB10 IAmb IAmb 19 24 57.4
comp=Z,150nm,1.5s
YKA **Yellowknife Ar** 47.09 348 P P 19 24 53.5 +0.9
comp=Z,8.4nm,0.8s,baz=150,slow=7.6,SNR=12
YKA pP pP 19 25 27.1 +1.4
comp=Z,29nm,0.8s,baz=149,slow=7.3,SNR=9.3
YKA LR LR 19 50 26.7
comp=Z,301nm,19.4s,baz=0.0,slow=43
LVC **Limon Verde** 47.17 147 P P 19 24 56.1 +1.9
LVC PcP PcP 19 26 25.7 +2.2
comp=Z,11nm,0.7s,baz=245,slow=4.7,SNR=2.5
LVC **Limon Verde** 47.17 147 P P 19 24 55.6 +1.4
LVC pmax pmax
comp=Z,83nm,1.0s
LVC **Limon Verde** 47.17 147 P P 19 24 55.6 +1.4
LVC IAmb IAmb 19 24 57.9
comp=Z,83nm,0.9s
LVC **Limon Verde** 47.17 147 *eP* P 19 24 56.5 +2.3
PB15 **IPOC Station P** 47.37 148 P P 19 24 56.8 +1.2
PB15 IAmb IAmb 19 24 58.9
comp=Z,128nm,1.4s
PTLB **Pontes e Lacer** 47.99 131 *eP* P 19 25 00.3 +0.1
PB14 **IPOC Station P** 48.09 150 P P 19 25 02.0 +0.7
PB14 IAmb IAmb 19 25 04.4
comp=Z,152nm,1.1s
DLBC **Dease Lake** 48.44 336 P P 19 25 05.6 +2.4
comp=Z,25nm,0.9s,baz=129,slow=5.5,SNR=27
DLBC pP pP 19 25 38.6 +2.5
comp=Z,25nm,0.9s,baz=125,slow=3.8,SNR=6.8
DLBC LR LR 19 50 07.2
comp=Z,382nm,18.0s,baz=139,slow=42
DLBC **Dease Lake** 48.44 336 P P 19 25 04.7 +1.4
DLBC IAmb IAmb 19 25 07.0
comp=Z,28nm,0.9s
GO02 **Mina Guanaco** 48.94 149 P P 19 25 09.2 +1.5
GO02 IAmb IAmb 19 25 11.2
comp=Z,149nm,0.9s
AC01 **Pan de Azucar** 49.29 151 P P 19 25 11.0 +1.0
AC01 IAmb IAmb 19 25 13.0
comp=Z,89nm,0.9s
FRB **Frobisher Bay** 49.63 15 P P 19 25 10.7 -1.3
comp=Z,38nm,0.8s,baz=219,slow=6.5,SNR=7.2
PRPB **Parauapebas** 50.22 114 *eP* P 19 25 15.7 -1.6
AC02 **Maricunga** 50.57 150 P P 19 25 22.1 +1.9
AC02 IAmb IAmb 19 25 24.2
comp=Z,140nm,1.0s
GO03 **Copiap** 50.70 152 P P 19 25 21.7 +1.1
GO03 IAmb IAmb 19 25 23.8
comp=Z,115nm,1.2s
AC04 **Llanos de Chal** 50.85 153 P P 19 25 23.1 +1.4
AC04 IAmb IAmb 19 25 24.2
comp=Z,63nm,0.7s
AC05 **El Transito** 51.74 152 P P 19 25 29.9 +1.4
AC05 IAmb IAmb 19 25 32.0
comp=Z,122nm,0.8s
AHML **Horco Molle** 52.44 146 ⇩ *i* P P 19 25 34.8 +1.2
VCA **Vinchina** 52.61 150 *i* P P 19 25 37.1 +2.2
GO04 **Tololo Observa** 52.67 154 P P 19 25 36.4 +0.9
CO01 **Juntas del Tor** 52.81 153 P P 19 25 38.1 +1.7
CO01 IAmb IAmb 19 25 39.6
comp=Z,35nm,0.8s
VA04 **Juan Fernndez** 53.03 163 P P 19 25 38.5 +0.8
AGUA **GUANDACOL** 53.11 151 *i* P P 19 25 40.8 +2.3
AROD **Rodeo** 53.24 152 *i* P P 19 25 42.4 +2.6
CO03 **El Pedregal** 53.30 154 P P 19 25 41.2 +1.3
SMTB **Santa Maria do** 53.45 116 *eP* P 19 25 41.0 -0.2
CO02 **Combarbal** 53.49 155 P P 19 25 42.6 +1.3
CYA **Choya** 53.54 148 *i* P P 19 25 42.9 +1.3
ARAG **Araguaiana, MT** 53.65 125 *eP* P 19 25 42.6 0.0
ACLC **CERRO LA CRUZ** 53.78 150 *i* P P 19 25 45.0 +1.5
ACCO **Cerro Coronel** 53.78 152 *i* P P 19 25 45.5 +1.8
ROSB **Rosrio** 53.88 107 *eP* P 19 25 43.5 -0.9
PEXB **Peixe** 54.49 119 *eP* P 19 25 48.8 0.0
RTLL **Cerro Villicun** 54.68 152 *i* P P 19 25 51.0 +1.2
RTLS **Leoncito** 54.72 153 *i* P P 19 25 52.9 +2.4
ZON **Zonda** 54.77 153 P P 19 25 52.2 +1.7
ZON pmax pmax
comp=Z,133nm,1.0s
ZON **Zonda** 54.77 153 P P 19 25 52.2 +1.7
ZON **Zonda** 54.77 153 *i* P P 19 25 52.6 +2.1
APLL **PUNTA DE LOS L** 54.79 150 *i* P P 19 25 51.5 +0.9
SJA **San Juan** 54.81 153 *i* P P 19 25 51.8 +1.0
VA01 **Torpederas** 54.84 156 P P 19 25 52.2 +1.3
VA03 **San Esteban** 55.04 155 P P 19 25 54.1 +1.6
ROC1 **El Roble** 55.04 156 P P 19 25 53.7 +1.0
ROC1 **El Roble** 55.04 156 *i* P P 19 25 53.9 +1.3
AUSP **Uspallata** 55.05 154 *i* P P 19 25 55.5 +2.7
RTCV **Cerro Valdivia** 55.10 153 *i* P P 19 25 55.2 +2.3
MT02 **Curacav** 55.24 156 P P 19 25 55.4 +1.6
PEL **Peldehue** 55.32 155 P P 19 25 55.8 +1.4
PEL pmax pmax
comp=Z,234nm,0.8s
PEL **Peldehue** 55.32 155 P P 19 25 55.8 +1.4
PEL **Peldehue** 55.32 155 *i* P P 19 25 56.3 +1.9
MCARA **McCarthy VSAT** 55.45 334 P P 19 25 56.0 +1.0
MCARA IAmb IAmb 19 25 58.9
comp=Z,37nm,1.0s
DAWY **Dawson** 55.50 338 P P 19 25 55.8 +0.5
MT05 **Renca** 55.52 156 P P 19 25 57.5 +1.7
ASAL **Salagasta** 55.60 153 *i* P P 19 25 58.6 +2.1
ARCO **CERRO ARCO** 55.78 154 *i* P P 19 25 59.9 +2.1
NRS **Narsarsuaq** 55.80 26 ⇧ *i* P P 19 25 56.2 -1.2
NRS pmax pmax
comp=Z,140nm,0.8s
NRS **Narsarsuaq** 55.80 26 ⇧ *i* P P 19 25 56.2 -1.2
comp=Z,136nm,0.8s
NRS **Narsarsuaq** 55.80 26 ⇧ *i* P P 19 25 56.2 -1.2
NRS IAmb IAmb 19 25 57.8
comp=Z,136nm,0.8s
BCAR **Beaver Creek A** 55.83 336 P P 19 25 58.7 +1.0
AAGR **Agrelo** 56.03 154 *i* P P 19 26 01.5 +1.9
N25K **Chitina, Valde** 56.22 334 P P 19 26 02.9 +2.4
baz=119
INK **Inuvik** 56.40 344 P P 19 26 02.3 +0.8
comp=Z,12nm,0.7s,baz=125,slow=5.7,SNR=28
INK pP pP 19 26 35.6 +0.1
comp=Z,20nm,0.9s,baz=136,slow=7.5,SNR=5.6
INK LR LR 19 53 49.4
comp=Z,466nm,19.4s,baz=130,slow=40
INK **Inuvik** 56.40 344 P P 19 26 02.2 +0.7
INK IAmb IAmb 19 26 03.2
comp=Z,24nm,1.1s
K27K **Chicken** 56.46 337 P P 19 26 03.7 +1.6
baz=123
GO05 **Huala** 56.50 158 P P 19 26 03.6 +0.9
TCA **Tanti** 56.50 149 *i* P P 19 26 04.1 +1.2
EGAK **Eagle** 56.54 338 P P 19 26 03.2 +0.6
BDFB **Brasilia** 56.62 123 P P 19 26 04.4 +0.3
comp=Z,29nm,0.7s,baz=300,slow=8.4,SNR=33
BDFB LR LR 19 54 29.9
comp=Z,230nm,18.1s,baz=301,slow=40
BDFB **Brasilia** 56.62 123 P P 19 26 04.7 +0.7
BDFB pmax pmax
comp=Z,49nm,0.9s
BDFB **Brasilia** 56.62 123 P P 19 26 04.7 +0.7
BDFB IAmb IAmb 19 26 06.3
comp=Z,49nm,0.9s
BO02 **Sierra Bellavi** 56.73 156 P P 19 26 05.8 +1.3
DOT **Dot Lake** 57.01 336 P P 19 26 06.8 +0.8
DOT IAmb IAmb 19 26 09.8
comp=Z,36nm,1.1s
SFJD **Kangerlussuaq** 57.10 19 P P 19 26 04.6 -1.9
comp=Z,25nm,0.7s,baz=236,slow=5.4,SNR=11
SFJD LR LR 19 52 52.4
comp=Z,260nm,19.6s,baz=240,slow=38
SFJD **Kangerlussuaq** 57.10 19 P P 19 26 05.7 -0.8
SFJD pmax pmax
comp=Z,30nm,0.8s
SFJD **Kangerlussuaq** 57.10 19 P P 19 26 05.7 -0.8

SFJD IAmb IAmb 19 26 07.2
comp=Z,30nm,0.8s
SFJD Kangerlussuaq 57.10 19 *i* P **P** **19 26 05.4 -1.1**
SFJD Kangerlussuaq 57.10 19 *i* P **P** **19 26 05.5 -1.1**
M24K Tolsona, Glenn 57.11 334 P **P** **19 26 09.0 +2.2**
baz=118
M24K Tolsona, Glenn 57.11 334 P **P** **19 26 08.1 +1.3**
M24K IAmb IAmb 19 26 12.0
comp=Z,75nm,1.2s
PUH Pauahi 57.12 282 P **P** **19 26 08.2 +0.6**
ITRB Iturama 57.14 128 *eP* **P** **19 26 08.0 +0.4**
SCRK Sand Creek 57.15 337 P **P** **19 26 09.0 +1.9**
baz=121,SNR=12
HATHI Halema'uma'u T 57.16 282 P **P** **19 26 08.9 +1.0**
SBLHI Steaming Bluff 57.17 282 P **P** **19 26 08.8 +0.8**
SBLHI IAmb IAmb 19 26 11.6
comp=Z,96nm,1.0s
RIM Rim 57.18 282 P **P** **19 26 09.1 +1.0**
SDHHI Sand Hill 57.20 282 P **P** **19 26 09.2 +1.0**
PAX Paxson 57.23 335 P **P** **19 26 08.3 +0.7**
PAX pmax pmax
comp=Z,44nm,1.5s
PAX Paxson 57.23 335 P **P** **19 26 08.3 +0.7**
PAX IAmb IAmb 19 26 11.0
comp=Z,44nm,1.5s
RES Resolute Bay 57.26 360 P **P** **19 26 07.5 +0.1**
comp=Z,6.9nm,0.7s,baz=171,slow=9.2,SNR=10
RES pP **pP** **19 26 43.0 +1.5**
comp=Z,9.9nm,0.7s,baz=189,slow=12,SNR=6.0
POHA Pohakuloa 57.36 283 P **P** **19 26 10.0 +0.5**
POHA IAmb IAmb 19 26 12.5
comp=Z,66nm,0.9s
TRCB Terra Rica 57.42 133 *eP* **P** **19 26 09.7 +0.1**
HPAH Hawaii Prepara 57.48 283 P **P** **19 26 11.2 +1.1**
HPAH IAmb IAmb 19 26 14.1
comp=Z,103nm,1.1s
SDBA SAO DESIDERIO 57.49 118 *eP* **P** **19 26 09.9 -0.2**
PCMB Pacaembu 57.65 131 *eP* **P** **19 26 11.3 +0.3**
BI03 Tigo 57.77 159 P **P** **19 26 12.8 +1.2**
IPMB Ipameri, GO 57.77 125 *eP* **P** **19 26 12.3 +0.2**
SML Sawmill 57.90 333 P **P** **19 26 13.3 +1.0**
SML IAmb IAmb 19 26 18.6
comp=Z,28nm,1.2s
BI02 San Fabin de 58.21 158 P **P** **19 26 16.3 +1.5**
BRLK Bradley Lake 58.24 330 P **P** **19 26 15.9 +1.2**
BRLK IAmb IAmb 19 26 18.2
comp=Z,66nm,1.3s
KDAK Kodiak Island 58.40 328 P **P** **19 26 16.8 +1.1**
comp=Z,6.5nm,0.8s,baz=101,slow=15,SNR=4.7
HDA Harding Lake 58.49 336 P **P** **19 26 17.3 +1.0**
baz=118,SNR=13
HDA Harding Lake 58.49 336 P **P** **19 26 16.6 +0.3**
HDA IAmb IAmb 19 26 19.1
comp=Z,42nm,1.4s
IL18 Eielson Array 58.59 337 P **P** **19 26 17.8 +0.8**
IL31 58.64 337 P **P** **19 26 17.6 +0.4**
IL31 IAmb IAmb 19 26 19.8
comp=Z,15nm,0.9s
ILAR Eielson Array 58.64 337 P **P** **19 26 18.1 +0.7**
comp=Z,12nm,1.0s,baz=123,slow=5.5,SNR=60
ILAR pP **pP** **19 26 52.1 +0.7**
comp=Z,9.8nm,0.9s,baz=113,slow=6.5,SNR=6.8
ILAR Eielson Array 58.64 337 P **P** **19 26 17.8 +0.5**
RND Reindeer 58.80 335 P **P** **19 26 19.4 +0.9**
RND pmax pmax
comp=Z,90nm,1.3s
RND Reindeer 58.80 335 P **P** **19 26 19.4 +0.9**
RND IAmb IAmb 19 26 22.9
comp=Z,90nm,1.3s
MCK McKinley 58.97 335 P **P** **19 26 20.6 +1.0**
baz=116,SNR=8.7
CUT Chulitna 58.97 333 P **P** **19 26 21.2 +1.6**
baz=114,SNR=6.2
POKR Poker Plat Res 59.01 337 P **P** **19 26 21.0 +1.1**
baz=118,SNR=5.9
COLA College 59.05 337 *i* P **P** **19 26 20.4 +0.3**
COLA pmax pmax
comp=Z,20nm,0.9s
COLA College 59.05 337 P **P** **19 26 20.7 +0.6**
COLA IAmb IAmb 19 26 22.2
comp=Z,24nm,1.0s
TCOL CIGO, UAF Yank 59.06 337 P **P** **19 26 21.1 +0.9**
baz=117
PTGB Pitanga 59.07 134 *eP* **P** **19 26 20.6 -0.3**
BMAR Burnt Mountain 59.16 340 P **P** **19 26 21.7 +0.8**
MDM Murphy Dome 59.23 337 P **P** **19 26 22.2 +0.7**
JANB Januaria 59.33 120 *eP* **P** **19 26 23.0 +0.1**
BB19B Bebedouro 59.33 128 *eP* **P** **19 26 23.5 +0.7**
NEA2 Nenana 59.40 336 P **P** **19 26 23.1 +0.5**
baz=116,SNR=7.7
TRF Thorofare Moun 59.40 335 P **P** **19 26 23.7 +0.9**
TRF IAmb IAmb 19 26 27.5
comp=Z,42nm,0.9s
BPAW Bear Paw Mtn. 59.95 335 P **P** **19 26 26.7 +0.3**
BPAW IAmb IAmb 19 26 28.6
comp=Z,23nm,0.9s
FRTB Fartura 59.95 131 *eP* **P** **19 26 27.2 +0.2**
LC01 Cunco 60.01 159 P **P** **19 26 27.9 +0.8**
MLY Manley 60.23 336 P **P** **19 26 29.3 +1.0**
baz=114,SNR=35
MC01 Montes Claros 60.48 121 *eP* **P** **19 26 31.6 +0.9**
ITAB Concordia 60.69 136 *eP* **P** **19 26 32.2 +0.4**
RCLB Rio Claro- Sao 60.88 129 *eP* **P** **19 26 34.2 +0.9**
ANGG Ammassalik, Gr 60.92 24 *i* P **P** **19 26 31.4 -1.4**
ANGG IAmb IAmb 19 26 33.2
comp=Z,63nm,0.8s
COLD Coldfoot 60.97 338 P **P** **19 26 34.6 +1.4**
baz=116,SNR=12
TOLK Toolik Lake Re 61.39 340 P **P** **19 26 37.3 +1.2**
baz=118,SNR=8.0
TTA Tatalina 61.64 333 P **P** **19 26 37.8 -0.1**
TTA pmax pmax
comp=Z,21nm,1.0s
TTA Tatalina 61.64 333 P **P** **19 26 37.8 -0.1**
TTA IAmb IAmb 19 26 40.1
comp=Z,21nm,1.0s
VAO Valinhos 61.64 129 *eP* **P** **19 26 39.4 +0.9**
SPB Sao Paulo 61.65 130 P **P** **19 26 38.8 +0.4**
SPB IAmb IAmb 19 26 40.3
comp=Z,56nm,0.9s
SPB Sao Paulo 61.65 130 *eP* **P** **19 26 38.7 +0.3**
IMAR Indian Mountai 61.76 337 P **P** **19 26 38.3 -0.2**
PLCA Paso Flores 62.10 159 P **P** **19 26 42.5 +1.3**
comp=Z,146nm,0.8s,baz=328,slow=7.8,SNR=297
PLCA Paso Flores 62.10 159 P **P** **19 26 42.5 +1.3**
PLCA pmax pmax
comp=Z,197nm,0.9s
PLCA Paso Flores 62.10 159 P **P** **19 26 42.5 +1.3**
PLCA Paso Flores 62.10 159 *eP* **P** **19 26 42.8 +1.6**
BSCB Bom Sucesso 62.15 126 *eP* **P** **19 26 42.7 +0.8**
PET01 Itanhaem-SP 62.18 130 *eP* **P** **19 26 42.6 +0.6**
RCBR Riachuelo 62.55 106 P **P** **19 26 44.3 -0.5**
comp=Z,22nm,0.9s,baz=288,slow=11,SNR=5.8
RCBR LR LR 19 55 02.4
comp=Z,300nm,20.3s,baz=352,slow=37
RCBR Riachuelo 62.55 106 P **P** **19 26 44.6 -0.1**
RCBR pmax pmax
comp=Z,23nm,0.9s
RCBR Riachuelo 62.55 106 P **P** **19 26 44.6 -0.1**
RCBR IAmb IAmb 19 26 49.0
comp=Z,23nm,0.8s
GDU01 Guandu, BA 62.66 116 *eP* **P** **19 26 45.2 -0.1**
EUNU Eureka 62.77 2 P **P** **19 26 45.7 +0.5**
EUNU IAmb IAmb 19 26 48.2
comp=Z,33nm,1.1s
PARB Paraibuna 62.84 129 *eP* **P** **19 26 47.5 +1.1**
PLTB Pedras Altas 62.87 141 *eP* **P** **19 26 46.4 0.0**
CNLB Canela 62.91 137 *eP* **P** **19 26 44.8 -2.0**
LL01 San Ignacio de 63.00 162 P **P** **19 26 48.1 +1.1**
SUMG Summit 63.67 16 *i* P **P** **19 26 51.8 +0.3**
SUMG pmax pmax
comp=Z,43nm,0.7s
SUMG Summit 63.67 16 P **P** **19 26 51.0 -0.6**
SUMG IAmb IAmb 19 26 54.1
comp=Z,18nm,0.6s
SUMG Summit 63.67 16 *i* P **P** **19 26 51.8 +0.3**
comp=Z,43nm,0.7s
SUMG Summit 63.67 16 *i* P **P** **19 26 51.9 +0.3**
SUMG IAmb IAmb 19 26 54.4
comp=Z,43nm,0.7s
SJMB Sao Joao De Ma 63.76 122 *eP* **P** **19 26 53.0 +0.5**
VAS01 Vassouras-RJ 63.89 126 *eP* **P** **19 26 53.9 +0.6**
PPT2 Papeete2 64.19 240 *eS* **S** **19 35 21.6 -0.1**
comp=Z,1µm,31.2s
PPT2 Papeete2 64.19 240 *e*LR LR 19 46 23.0
comp=Z,1µm,34.0s
UNV Unalaska Valle 65.33 322 P **P** **19 27 02.7 +0.6**
UNV IAmb IAmb 19 27 05.0
comp=Z,102nm,1.1s
TBI Tubuai 67.06 235 *eS* **S** **19 35 56.2 0.0**
comp=Z,896nm,27.8s
TBI Tubuai 67.06 235 *e*LR LR 19 47 42.8
comp=Z,676nm,36.8s
BORG Borgarnes 67.31 26 P **P** **19 27 14.4 -0.1**
comp=Z,25nm,0.8s,baz=307,slow=2.7,SNR=4.0
BORG LR LR 19 57 36.8
comp=Z,269nm,18.4s,baz=269,slow=37
BORG Borgarnes 67.31 26 P **P** **19 27 14.3 -0.2**
BORG IAmb IAmb 19 27 16.9
comp=Z,31nm,0.9s
NOR Nord 71.12 9 *i* P **P** **19 27 37.3 -0.4**
NOR pmax pmax
comp=Z,8.0nm,0.7s
NOR Nord 71.12 9 *i* P **P** **19 27 37.3 -0.4**
comp=Z,7.6nm,0.7s
NOR Nord 71.12 9 *i* P **P** **19 27 37.4 -0.4**
NOR IAmb IAmb 19 27 39.3
comp=Z,7.6nm,0.7s
GO09 Cerro Castillo 71.19 165 P **P** **19 27 40.2 +1.7**
GO09 IAmb IAmb 19 27 42.6
comp=Z,110nm,1.1s
ADK Adak 71.52 320 P **P** **19 27 40.7 +0.1**
ADK pmax pmax
comp=Z,98nm,1.2s
ADK Adak 71.52 320 P **P** **19 27 40.7 +0.1**
ADK IAmb IAmb 19 27 42.8
comp=Z,98nm,1.1s
AMKA Amchitka 74.06 319 P **P** **19 27 56.0 +0.3**
IDGL Inch Island, C 74.34 37 *eP* **P** **19 27 56.5 -0.7**
RAR Rarotonga 74.38 241 P **P** **19 28 00.4 +2.4**
comp=Z,18nm,0.8s,baz=121,slow=3.4,SNR=3.7
KPL Plockton 75.03 34 *eP* **P** **19 27 59.7 -1.4**
KPL IAmb IAmb 19 28 02.2
comp=Z,88nm,0.8s
CLGH Cloghs, Cushen 75.13 36 *eP* **P** **19 28 01.1 -0.7**
ILTH Belurgan, Co L 75.17 38 *eP* **P** **19 28 00.1 -1.9**
IWEX Carrickbyrne, 75.18 39 *eP* **P** **19 28 01.4 -0.7**
KAC Achnashellach 75.20 34 *eP* **P** **19 28 01.4 -0.7**
LAWE Loch Awe, Argy 75.34 35 *eP* **P** **19 28 01.9 -1.0**
LAWE IAmb IAmb 19 28 04.0
comp=Z,48nm,0.8s
MG01 Puerto William 75.70 164 P **P** **19 28 06.3 +1.6**
MG01 IAmb IAmb 19 28 08.1
comp=Z,136nm,1.0s
MDO Dochfour 75.70 34 *eP* **P** **19 28 04.4 -0.6**
PGBU Glenifferbraes 75.92 36 *eP* **P** **19 28 05.2 -1.0**
PGBU IAmb IAmb 19 28 07.7
comp=Z,118nm,1.1s
PGAV Gavieira, Arco 76.00 50 *eP* **P** **19 28 04.9 -2.3**
comp=Z,47nm,2.3s
PGAV *epP* **pP** **19 28 42.8 0.0**
INVG Invergeldie, C 76.06 35 *eP* **P** **19 28 06.3 -0.7**
INVG IAmb IAmb 19 28 08.0
comp=Z,78nm,0.9s
MLA1 Latheron 76.08 33 *eP* **P** **19 28 06.5 -0.6**
WIM Isle of Man 76.12 37 *eP* **P** **19 28 06.8 -0.7**
IOMK Kirk Michael 76.16 37 *eP* **P** **19 28 06.9 -0.7**
IOMK IAmb IAmb 19 28 08.8
comp=Z,117nm,0.8s
KBS Kingsbay 76.16 11 *i* P **P** **19 28 08.5 +1.3**
KBS pmax pmax
comp=Z,17nm,1.0s
NEWG New Galloway 76.19 36 *eP* **P** **19 28 07.9 +0.1**
NEWG IAmb IAmb 19 28 09.5
comp=Z,71nm,1.0s
PCAS Casmilo, Conde 76.20 52 *eP* **P** **19 28 08.6 +0.4**
comp=Z,132nm,1.6s
PCAS *epP* **pP** **19 28 44.2 +0.3**
PCAB Cabril 76.23 50 *eP* **P** **19 28 08.7 +0.3**
comp=Z,38nm,1.6s
COI Coimbra 76.23 52 P **P** **19 28 08.3 0.0**
COI pmax pmax
comp=Z,41nm,0.9s
COI Coimbra 76.23 52 *eP* **P** **19 28 09.1 +0.8**
comp=Z,70nm,1.6s
COI Coimbra 76.23 52 P **P** **19 28 08.3 0.0**
COI IAmb IAmb 19 28 10.2
comp=Z,41nm,0.9s
MCD Coleburn Disti 76.27 34 *eP* **P** **19 28 08.0 -0.2**
YRC Rhoscolyn 76.34 38 *eP* **P** **19 28 08.3 -0.4**
RSBS Rosebush, Pemb 76.48 40 *eP* **P** **19 28 08.5 -1.0**
RSBS IAmb IAmb 19 28 10.0
comp=Z,35nm,0.8s
PVIS Viseu 76.52 51 *eP* **P** **19 28 10.0 -0.1**
comp=Z,60nm,1.7s
PVIS *epP* **pP** **19 28 45.6 -0.2**
PTEO Sao Teotonio 76.52 55 *eP* **P** **19 28 10.8 +0.8**
comp=Z,112nm,1.4s
PFVI Vila Bisbo 76.53 55 *eP* **P** **19 28 10.5 +0.4**
comp=Z,116nm,1.8s
PFVI Vila Bisbo 76.53 55 P **P** **19 28 10.0 -0.1**
PFVI IAmb IAmb 19 28 12.7
comp=Z,81nm,1.0s
PVRL Vila Real 76.54 51 *eP* **P** **19 28 10.3 +0.2**
comp=Z,41nm,1.4s
PNCL Nicolau / Gran 76.56 54 *eP* **P** **19 28 10.5 +0.3**
comp=Z,49nm,1.2s
PMTG Montargil 76.60 53 *eP* **P** **19 28 10.2 -0.2**
comp=Z,66nm,1.9s
PMTG *epP* **pP** **19 28 47.3 +1.1**
EDI Edinburgh 76.62 35 *eP* **P** **19 28 09.8 -0.4**
EDI IAmb IAmb 19 28 11.3
comp=Z,109nm,0.8s
MORF Marmelete 76.63 55 *eP* **P** **19 28 11.0 +0.3**
MORF AMb AMB 19 28 15.1
comp=Z,68nm,1.7s
MORF *eS* **S** **19 37 45.4 -0.2**
MORF Marmelete 76.63 55 *eP* **P** **19 28 11.0 +0.3**
MORF *eS* **S** **19 37 45.3 -0.2**
MORF Marmelete 76.63 55 *eP* **P** **19 28 11.4 +0.7**
comp=Z,69nm,2.4s
EBL Broad Law 76.73 35 *eP* **P** **19 28 11.1 +0.3**
ESK Eskdalemuir 76.73 36 *eP* **P** **19 28 10.3 -0.5**
ESK IAmb IAmb 19 28 11.8
comp=Z,84nm,0.8s
ESK Eskdalemuir 76.73 36 P **P** **19 28 10.9 +0.1**
ESK pmax pmax
comp=Z,116nm,0.8s
ESK Eskdalemuir 76.73 36 P **P** **19 28 10.2 -0.6**
ESK IAmb IAmb 19 28 12.0
comp=Z,80nm,0.8s
EKA Eskdalemuir Ar 76.75 36 P **P** **19 28 10.0 -1.0**
EKA pmax pmax
comp=Z,2.0nm,0.4s
DRUM Mains of Drumt 76.81 34 *eP* **P** **19 28 10.8 -0.5**
DRUM IAmb IAmb 19 28 12.4
comp=Z,123nm,0.8s
EVO Evora 76.87 54 *eP* **P** **19 28 11.6 -0.4**
comp=Z,78nm,2.0s
EVO *epP* **pP** **19 28 48.9 +1.2**
ESY Stoneypath 76.94 35 *eP* **P** **19 28 11.8 -0.2**
PCBR Castelo Branco 77.01 52 *eP* **P** **19 28 13.1 +0.4**
comp=Z,85nm,1.3s
PCBR *epP* **pP** **19 28 48.7 +0.2**
PCVE Castro Verde 77.04 54 *eP* **P** **19 28 13.0 +0.1**
comp=Z,43nm,1.5s
MVO Moncorvo 77.07 51 *eP* **P** **19 28 13.2 0.0**
comp=Z,77nm,1.4s
MVO *epP* **pP** **19 28 49.3 +0.4**
MVO *eS* **S** **19 37 51.5 +1.2**
PBEJ Beja 77.09 54 *eP* **P** **19 28 13.1 -0.1**
comp=Z,47nm,1.7s
PBRG Braganca 77.15 50 *eP* **P** **19 28 13.5 -0.1**
comp=Z,58nm,2.2s
PBRG *epP* **pP** **19 28 49.4 +0.1**
PMRV Marv??o 77.16 53 *eP* **P** **19 28 13.5 -0.1**
comp=Z,66nm,2.2s
PMRV *epP* **pP** **19 28 50.5 +1.1**
PMRV *eS* **S** **19 37 50.3 -0.9**
PBDV Barranco-do-Ve 77.20 55 *eP* **P** **19 28 14.7 +0.8**
comp=Z,62nm,1.8s
BILL Bilibino 77.28 338 *i* P **P** **19 28 14.7 +1.0**
BILL *e**PP **pP** **19 28 50.0 +0.5**
BILL *e* 19 31 09.9
BILL *e*PPP PPP 19 32 58.5
BILL */* S **S** **19 37 44.2 -7.2**
BILL pmax pmax
comp=Z,44nm,1.7s
PVAQ Vaqueiros 77.34 55 *eP* **P** **19 28 15.1 +0.5**
comp=Z,90nm,1.6s
PVAQ *epP* **pP** **19 28 50.8 +0.4**
PVAQ *eS* **S** **19 37 52.9 -0.2**
PVAQ Vaqueiros 77.34 55 P **P** **19 28 14.4 -0.1**
PVAQ IAmb IAmb 19 28 16.6
comp=Z,48nm,1.0s
HLM1 Long Mynd 77.49 39 *eP* **P** **19 28 14.8 -0.4**
HLM1 IAmb IAmb 19 28 16.2
comp=Z,46nm,0.8s
EDMD Edmundbyers 77.53 36 *eP* **P** **19 28 15.0 -0.3**
EDMD IAmb IAmb 19 28 16.7
comp=Z,139nm,0.9s
MCH1 Michaelchurch 77.53 39 *eP* **P** **19 28 14.4 -0.9**
MONM Monmouth 77.68 39 *eP* **P** **19 28 15.1 -1.1**
MONM IAmb IAmb 19 28 17.3
comp=Z,53nm,0.9s
OLDB Oldbury-Upon-S 77.88 40 *eP* **P** **19 28 16.7 -0.5**
OLDB IAmb IAmb 19 28 18.4
comp=Z,69nm,1.2s
LBWR Ladybower, Pea 77.98 38 *eP* **P** **19 28 17.6 -0.3**
LBWR IAmb IAmb 19 28 20.0
comp=Z,129nm,1.0s
STRD Stroud 78.09 39 *eP* **P** **19 28 18.1 -0.4**
STRD IAmb IAmb 19 28 19.2
comp=Z,75nm,0.9s
ROSF Rostrenen 78.16 43 P **P** **19 28 19.2 +0.3**
ROSF pmax pmax
comp=Z,32nm,0.9s
GDLE Glaisdale, N Y 78.27 37 *eP* **P** **19 28 19.4 0.0**
QUIF Quistinic 78.32 43 *eP* **P** **19 28 19.4 -0.4**
QUIF pmax pmax
comp=Z,83nm,1.4s
SWN1 Swindon 78.37 40 *eP* **P** **19 28 19.9 -0.1**
SWN1 IAmb IAmb 19 28 22.0
comp=Z,205nm,1.3s
CWF Charnwood Fore 78.38 38 *eP* **P** **19 28 19.4 -0.6**
CWF IAmb IAmb 19 28 21.3
comp=Z,54nm,1.1s
WOL Wolverton 78.77 40 *eP* **P** **19 28 21.9 -0.3**
WOL IAmb IAmb 19 28 23.5
comp=Z,146nm,1.1s
WACR West Acre 79.52 38 *eP* **P** **19 28 26.1 -0.1**
WACR IAmb IAmb 19 28 28.1
comp=Z,118nm,0.9s
ESDC Sonseca Array 79.69 52 P **P** **19 28 27.6 +0.1**
comp=Z,34nm,1.0s,baz=291,slow=5.2,SNR=99
ESDC pP **pP** **19 29 01.5 -2.0**
comp=Z,5.9nm,0.9s,baz=292,slow=5.3,SNR=2.8
ESDC LR LR 20 02 17.6
comp=Z,383nm,18.5s,baz=250,slow=34
ESDC Sonseca Array 79.69 52 P **P** **19 28 26.9 -0.7**
ESBB Sonseca Array 79.69 52 P **P** **19 28 27.6 0.0**
ESBB IAmb IAmb 19 28 30.2
comp=Z,56nm,1.1s
GRR Gorron 79.71 43 *eP* **P** **19 28 27.1 -0.3**
GRR pmax pmax
comp=Z,37nm,0.8s
FLN La Foliniere 79.86 42 *eP* **P** **19 28 28.0 -0.2**
FLN pmax pmax
comp=Z,32nm,0.8s
SJPF Ste Jean 80.81 48 *eP* **P** **19 28 34.7 +1.2**
SJPF pmax pmax
comp=Z,90nm,1.5s
ETSF Etsaut 81.34 48 *eP* **P** **19 28 36.3 0.0**
ETSF pmax pmax
comp=Z,22nm,1.0s
CLF Chambon-Foret 81.82 42 P **P** **19 28 38.9 +0.3**
CLF IAmb IAmb 19 28 40.6
comp=Z,52nm,0.8s
RJF Les Rejaudoux 82.11 45 *eP* **P** **19 28 39.7 -0.5**
RJF pmax pmax
comp=Z,29nm,0.9s
KONO Kongsberg 82.17 30 *i* P **P** **19 28 40.4 +0.3**
KONO pmax pmax
comp=Z,15nm,1.0s
NBO00 NORSAR Array S 82.20 28 P **P** **19 28 41.3 +1.0**
NBO00 IAmb IAmb 19 28 43.7
comp=Z,84nm,1.1s
TCF Toulx Ste Croi 82.29 44 *eP* **P** **19 28 40.6 -0.6**
TCF pmax pmax
comp=Z,22nm,1.1s
UCC Uccle 82.29 39 P **P** **19 28 41.2 +0.2**
UCC pmax pmax
comp=Z,32nm,0.8s
UCC Uccle 82.29 39 P **P** **19 28 41.2 +0.2**
UCC IAmb IAmb 19 28 42.5
comp=Z,32nm,0.8s
SNF Seneffe 82.34 40 P **P** **19 28 42.1 +0.8**
SNF pP **pP** **19 29 17.0 -0.4**
NB2 NORSAR Subarra 82.40 28 P **P** **19 28 42.3 +0.9**
comp=Z,32nm,1.1s,baz=293,slow=5.3
NB2 NORSAR Subarra 82.40 28 P **P** **19 28 42.3 +0.9**
baz=293,slow=5.3
NOA NORSAR Array B 82.40 28 P **P** **19 28 42.1 +0.7**
comp=Z,15nm,0.9s,baz=290,slow=5.2,SNR=31
NOA pP **pP** **19 29 16.3 -1.3**
comp=Z,13nm,0.8s,baz=292,slow=5.2,SNR=7.7
NOA LR LR 20 04 33.6
comp=Z,148nm,21.4s,baz=295,slow=35
BAIF Baives 82.43 40 *eP* **P** **19 28 41.7 0.0**
BAIF pmax pmax
comp=Z,21nm,1.0s
NB201 NORSAR Array S 82.43 28 P **P** **19 28 42.1 +0.5**
NB201 IAmb IAmb 19 28 44.4
comp=Z,112nm,1.2s
CAF Calviac 82.59 45 *eP* **P** **19 28 42.1 -0.7**
CAF pmax pmax
comp=Z,14nm,0.8s
BGF Bois d'Agland 82.63 44 *eP* **P** **19 28 41.1 -1.8**
BGF pmax pmax
comp=Z,34nm,0.9s
DOU Dourbes 82.66 40 P **P** **19 28 42.5 -0.4**
DOU pP **pP** **19 29 15.3 -3.8**
DOU Dourbes 82.66 40 P **P** **19 28 45.5 +2.6**
NORES NORESS Array B 82.66 28 P **P** **19 28 46.7 +4.0**
NORES pmax pmax
comp=Z,15nm,0.8s
BMRD Maredsous 82.70 40 P **P** **19 28 43.0 -0.1**
BMRD pP **pP** **19 29 18.0 -1.3**
GIVF Givet 82.79 40 *eP* **P** **19 28 43.6 0.0**
GIVF pmax pmax
comp=Z,25nm,1.0s
BGES Gesves 82.86 39 P **P** **19 28 44.3 +0.3**
BGES PcP **PcP** **19 28 47.1 -1.3**
AVF Avril sur Loir 82.89 43 *eP* **P** **19 28 43.4 -0.8**
AVF pmax pmax
comp=Z,15nm,0.8s
BCLA Clavier 82.98 39 P **P** **19 28 45.0 +0.4**
BCLA pP **pP** **19 29 20.2 -0.6**
RCHB Rochefort 83.02 40 P **P** **19 28 45.7 +0.9**
LOR Lormes 83.07 43 *eP* **P** **19 28 44.8 -0.4**
LOR pmax pmax
comp=Z,22nm,0.9s
BSTI Sart Tilman 83.09 39 pP pP 19 29 20.6 -0.7
MEM Membach 83.35 39 P **P** **19 28 45.8 -0.6**
MEM pP **pP** **19 29 22.4 -0.3**
MEM Membach 83.35 39 P **P** **19 28 49.1 +2.6**
MEM pmax pmax
comp=Z,29nm,0.9s
BHOU Houvegnez 83.43 39 pP **pP** **19 29 22.4 -0.8**
BHOU sP sP 19 29 35.4 -3.1
ARCES ARCESS Array B 83.71 18 P **P** **19 28 48.2 +0.3**
comp=Z,17nm,1.0s,baz=295,slow=5.2,SNR=32
ARCES pP **pP** **19 29 24.1 -0.1**
comp=Z,16nm,0.8s,baz=298,slow=5.1,SNR=6.3
ARCES LR LR 20 08 03.2
comp=Z,245nm,19.4s,baz=295,slow=37
WLF Walferdange 83.75 40 P **P** **19 28 48.6 +0.1**
WLF pP **pP** **19 29 23.8 -1.1**
WLF Walferdange 83.75 40 P **P** **19 28 49.4 +0.9**
WLF pmax pmax
comp=Z,31nm,0.9s
WLF Walferdange 83.75 40 P **P** **19 28 49.4 +0.9**
WLF IAmb IAmb 19 28 51.9
comp=Z,31nm,0.9s
HFS Hagfors 83.88 29 LR LR 20 06 48.4
comp=Z,161nm,19.9s,baz=284,slow=36
SSB Saint Sauveur 84.15 44 P **P** **19 28 50.2 -0.5**
SSB pmax pmax
comp=Z,16nm,0.9s
SSB Saint Sauveur 84.15 44 P **P** **19 28 50.2 -0.5**
VIVF Saint-Julien-l 84.38 45 *eP* **P** **19 28 52.8 +0.9**
VIVF pmax pmax
comp=Z,17nm,1.0s
HAU Haudompre 84.43 41 *eP* **P** **19 28 51.9 -0.2**
HAU pmax pmax

comp=Z,29nm,1.0s
SEY Seymchan 84.53 335 P P 19 28 53.3 +1.1
SEY pP **pP 19 29 30.5 +1.9**
comp=Z,7.4nm,0.8s,baz=36,slow=4.3,SNR=2.8
SEY Seymchan 84.53 335 *i* P **P 19 28 53.0 +0.8**
HINF Hinteralfeld 84.81 42 *e*P **P 19 28 53.7 -0.3**
HINF pmax pmax
comp=Z,19nm,1.1s
TNS Taunus Mts 84.95 39 P P 19 28 56.6 +2.0
PMSA Palmer Station 85.27 167 P P 19 28 57.3 +1.7
PMSA lAmb lAmb 19 29 01.0
comp=Z,27nm,0.9s
PMSA Palmer Station 85.27 167 *e*P **P 19 28 56.7 +1.1**
LPL La Plagne 85.53 44 *e*P **P 19 28 58.5 +0.7**
LPL pmax pmax
comp=Z,57nm,1.7s
LPG La Plagne 85.55 44 *e*P **P 19 28 58.8 +0.8**
LPG pmax pmax
comp=Z,44nm,1.5s
BFO Black Forest 85.56 41 P P 19 28 57.6 -0.1
BFO pmax pmax
comp=Z,19nm,1.1s
BFO Black Forest 85.56 41 P P 19 28 57.6 -0.1
SENIN Lac Senin/Sane 85.60 43 P P 19 28 58.3 +0.1
SENIN lAmb lAmb 19 29 00.7
comp=Z,32nm,1.0s
BNI Bardonecchia 85.65 44 P P 19 29 01.1 +2.7
BNI pmax pmax
comp=Z,17nm,1.1s
PET Petropavlovsk 85.82 325 *e*P **P 19 28 58.1 -0.7**
PET *e**SP **sP 19 29 49.7 -0.8**
PET *e*S **S 19 39 16.6 -3.0**
PET *e**SS **sS 19 40 20.6 -2.1**
PET pmax pmax
comp=Z,66nm,1.5s
PET pmax pmax
comp=Z,200nm,16.1s
PET MLR MLR
comp=Z,100nm,22.0s
SLE Schleitheim 85.86 41 P P 19 29 00.5 +1.3
STU Stuttgart 85.93 40 P P 19 28 59.5 0.0
STU pmax pmax
comp=Z,48nm,1.0s
STU Stuttgart 85.93 40 P P 19 28 59.5 0.0
STU lAmb lAmb 19 29 01.6
comp=Z,48nm,1.0s
PETK Petropavlovsk- 86.31 325 P P 19 29 02.3 +1.0
comp=Z,18nm,1.0s,baz=96,slow=12,SNR=7.0
PETK pP **pP 19 29 38.8 +1.0**
comp=Z,28nm,1.0s,baz=70,slow=9.6,SNR=7.6
TIXI Tiksi 86.34 347 *ce*P **P 19 28 59.3 -1.7**
TIXI pmax pmax
comp=Z,25nm,0.8s
KOWA Kowa 86.45 76 P P 19 29 03.3 +0.7
KOWA lAmb lAmb 19 29 05.8
comp=Z,90nm,1.1s
MOX Moxa 86.66 38 P P 19 29 05.9 +2.9
MOX pmax pmax
comp=Z,15nm,1.6s
GRF Grafenberg Arr 86.81 39 *e*P **P 19 29 04.2 +0.4**
comp=Z,20nm,1.3s,baz=293,slow=4.6
GRF *ep*P **pP 19 29 39.7 -0.6**
TUE Stuetta 86.88 42 P P 19 29 05.1 +0.7
TUE lAmb lAmb 19 29 09.4
comp=Z,26nm,1.0s
DAVA Damuels 86.92 41 *e*P **P 19 29 05.6 +1.1**
comp=Z,24nm,0.9s,SNR=8.5
DAVA *i* P **pP 19 29 41.9 +0.9**
comp=Z,32nm,1.4s
HOPE Hope Point 86.97 150 P P 19 29 05.4 +1.2
HOPE pmax pmax
comp=Z,137nm,1.0s
HOPE Hope Point 86.97 150 P P 19 29 05.3 +1.2
CLL Collm 87.19 37 *i* P **P 19 29 06.5 +1.0**
comp=Z,8.0nm,1.0s
CLL *i* pP **pP 19 29 41.4 -0.7**
comp=Z,78nm,2.4s
CLL *e*S **S 19 39 31.0 -2.0**
CLL *e*PS **PS 19 40 54.0 +1.0**
CLL Collm 87.19 37 *i* P **P 19 29 06.5 +1.0**
CLL *i* *PP **pP 19 29 41.4 -0.7**
CLL *e*S **S 19 39 31.0 -2.0**
CLL pmax pmax
comp=Z,8.0nm,1.0s
NKC Novy Kostel 87.31 38 *e*P **P 19 29 08.0 +1.8**
NKC Novy Kostel 87.31 38 *e*P **P 19 29 08.0 +1.8**
RETA Reutte 87.39 41 *e*P **P 19 29 08.2 +1.5**
comp=Z,29nm,1.6s,SNR=8.9
RETA *e*P **pP 19 29 44.1 +0.8**
comp=Z,29nm,1.7s
FUORN Ofenpass-Fuorn 87.41 42 P P 19 29 07.8 +0.7
FUORN lAmb lAmb 19 29 11.9
comp=Z,26nm,1.0s
FETA Feichten 87.55 41 P P 19 29 08.7 +1.1
comp=Z,9.9nm,0.7s,SNR=13
FETA *e*P **pP 19 29 45.0 +0.9**
comp=Z,28nm,2.1s
MOTA Moosalm 87.66 41 P P 19 29 09.6 +1.5
comp=Z,28nm,1.7s,SNR=12
MOTA *e*P **pP 19 29 45.4 +0.7**
comp=Z,20nm,1.2s
SQTA Sankt Quirin 87.78 41 P P 19 29 10.3 +1.7
comp=Z,13nm,1.0s,SNR=5.6
SQTA *e*P **pP 19 29 46.1 +0.9**
comp=Z,22nm,1.5s
SUF Sumiainen 87.80 23 P P 19 29 13.2 +5.0
SUF pmax pmax
comp=Z,19nm,1.1s
TIC Toumodi 87.80 84 *e*P **P 19 29 09.1 -0.1**
BRG Berggiesshubel 87.91 37 *e*P **P 19 29 10.0 +1.0**
comp=Z,6.4nm,1.0s
BRG *e* 19 29 44.9
comp=Z,34nm,1.8s
BRG Berggiesshubel 87.91 37 *e*P **P 19 29 10.0 +1.0**
BRG *e* 19 29 44.9
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,34nm,1.8s
LIC Lamto 87.92 84 *e*P **P 19 29 09.9 +0.2**
comp=Z,62nm,0.8s
DBIC Dimbokro 87.95 84 P P 19 29 10.0 +0.1
comp=Z,14nm,0.7s,baz=269,slow=5.1,SNR=22
DBIC Dimbokro 87.95 84 P P 19 29 10.0 +0.1
DBIC pmax pmax
comp=Z,36nm,1.3s
DBIC Dimbokro 87.95 84 P P 19 29 10.0 +0.1
DBIC lAmb lAmb 19 29 12.5
comp=Z,36nm,1.2s
WATA Walderalm 87.96 41 *e*P **P 19 29 10.5 +1.0**
comp=Z,9.6nm,1.1s
WATA *e*P **pP 19 29 46.9 +0.8**
comp=Z,17nm,1.6s
WET Wettzell 88.02 39 P P 19 29 12.0 +2.4
WET pmax pmax
comp=Z,10.0nm,0.9s
WTTA Wattenberg 88.03 41 *e*P **P 19 29 09.4 -0.4**
comp=Z,7.9nm,0.9s
WTTA *e*P **pP 19 29 47.1 +0.6**
comp=Z,23nm,1.9s
KIC Kosan Boka 88.15 84 *e*P **P 19 29 11.0 +0.2**
comp=Z,48nm,0.8s
KHC Kasperske Hory 88.44 39 *e*P **P 19 29 12.9 +1.3**
KHC *ep*P **pP 19 29 47.0 -1.3**
KHC *es*P **sP 19 30 04.5 +1.0**
KHC *e*SKS **SKSac 19 39 28.0 +0.8**
KHC AMS AMS 20 08 00.0
comp=Z,600nm,21.1s
KHC Kasperske Hory 88.44 39 *ce*P **P 19 29 12.0 +0.4**
KHC pmax pmax
comp=Z,9.0nm,1.0s
PBCC Pribram 88.45 38 *e*P **P 19 29 13.6 +2.0**
FINES FINESS Array B 88.51 24 P **P 19 29 11.2 -0.3**
comp=Z,4.4nm,0.8s,baz=327,slow=4.0,SNR=9.9
FINES LR LR 20 12 26.3
comp=Z,145nm,18.3s,baz=308,slow=38
FINES FINESS Array B 88.51 24 P **P 19 29 12.0 +0.5**
FINES FINESS Array B 88.51 24 P **P 19 29 12.0 +0.5**
FIA1 FINESS Array S 88.51 24 P **P 19 29 12.3 +0.8**
GEC2 GERESS Array S 88.64 39 P **P 19 29 12.5 0.0**
GEC2B GERESS ARRAY S 88.64 39 P **P 19 29 12.7 +0.1**
GERES GERESS Array B 88.64 39 P **P 19 29 12.3 -0.3**
comp=Z,3.4nm,0.9s,baz=319,slow=3.9,SNR=26
GERES pP **pP 19 29 48.2 -1.0**
comp=Z,1.7nm,0.8s,baz=293,slow=5.2,SNR=2.9
GERES PKKPbc **PKKPbc 19 46 52.9 -1.1**
comp=Z,0.6nm,0.8s,baz=0.0,slow=0.3,SNR=6.3
GERES LR LR 20 09 17.5
comp=Z,355nm,18.9s,baz=289,slow=36
GERES GERESS Array B 88.64 39 P **P 19 29 12.6 0.0**
GERES GERESS Array B 88.64 39 P **P 19 29 12.6 0.0**
PRU Pruhonice 88.64 38 *e*P **P 19 29 13.6 +1.2**
PRU Pruhonice 88.64 38 *e*P **P 19 29 13.6 +1.2**
ZCCA Zocca 88.76 44 P **P 19 29 13.7 +0.5**
ZCCA lAmb lAmb 19 29 21.7
comp=Z,20nm,0.9s
ABTA Abfaltersbach 88.78 41 P **P 19 29 13.5 +0.2**
comp=Z,7.9nm,1.0s
ABTA P **pP 19 29 48.9 -1.1**
comp=Z,14nm,1.2s
KBA Koelnbreinsper 89.16 41 *e*P **P 19 29 16.1 +0.9**
comp=Z,5.6nm,0.8s
KBA *e*P **pP 19 29 51.1 -0.7**
comp=Z,10nm,1.4s
KBA Koelnbreinsper 89.16 41 P **P 19 29 17.7 +2.5**
KBA pmax pmax
comp=Z,7.0nm,0.9s
CHVC Chvalec 89.24 37 *e*P **P 19 29 15.3 0.0**
KSP Ksiaz 89.26 36 *e*P **P 19 29 16.8 +1.4**
KSP Ksiaz 89.26 36 *e*P **P 19 29 16.8 +1.4**
OSSC Osservatorio P 89.27 44 P **P 19 29 15.4 -0.1**
OSTC Ostas 89.35 37 *e*SKS **SKSac 19 39 33.5 +1.0**
MOA Molln 89.40 40 *e*P **P 19 29 17.3 +1.2**
comp=Z,7.8nm,0.9s
MOA *e*P **pP 19 29 53.3 +0.4**
comp=Z,5.5nm,0.8s
TREC Trest 89.50 38 AMS AMS 20 07 50.0
comp=Z,500nm,19.6s
DPC Dobruska-Polom 89.50 37 *e*P **P 19 29 17.5 +0.9**
DPC *e*SKS **SKSac 19 39 32.7 -0.7**
DPC Dobruska-Polom 89.50 37 *e*P **P 19 29 17.5 +0.9**
DPC *e* 19 39 32.7
PRED Cave del Predi 89.57 41 P **P 19 29 17.1 +0.2**
ROBS Robic 89.62 41 *i* P **P 19 29 18.2 +1.2**
ROBS *e* 19 39 35.3
ROBS *e* 19 39 56.3
KRLC Kraliky 89.89 37 *e*P **P 19 29 19.5 +1.1**
KRLC Kraliky 89.89 37 *e*P **P 19 29 19.5 +1.1**
KRUC Moravsky 90.13 38 *e*P **P 19 29 20.4 +1.0**
VRAC Vranov 90.14 38 LR LR 20 09 55.6
comp=Z,248nm,19.1s,baz=294,slow=36
VRAC Vranov 90.14 38 *e*P **P 19 29 20.7 +1.2**
OBKA Obir 90.16 41 *e*P **P 19 29 20.4 +0.7**
comp=Z,11nm,0.9s
OBKA *e*P **pP 19 29 55.4 -1.1**
comp=Z,9.9nm,1.1s
MOZS Mozjanca 90.18 41 *e*P **P 19 29 20.0 +0.2**
CONA Conrad Observa 90.33 39 *e*P **P 19 29 21.7 +1.2**
comp=Z,7.2nm,1.0s
CONA *e*P **pP 19 29 58.0 +0.7**
comp=Z,6.3nm,1.2s
SOKA Soboth 90.38 40 *e*P **P 19 29 21.9 +1.1**
comp=Z,9.9nm,1.1s
SOKA *e*P **pP 19 29 56.4 -1.1**
comp=Z,8.5nm,1.4s
ARSA Arzberg 90.43 40 *e*P **P 19 29 22.0 +1.1**
comp=Z,5.9nm,1.0s
ARSA *e*P **pP 19 29 56.8 -0.9**
comp=Z,3.9nm,1.2s
PERS Pernice 90.45 40 *e*P **P 19 29 21.9 +0.8**
PERS *ep*P **pP 19 29 56.4 -1.4**
MORC Moravsky Berou 90.47 37 ⇑P **P 19 29 20.6 -0.5**
MORC Moravsky Berou 90.47 37 *e*P **P 19 29 22.5 +1.5**
MORC Moravsky Berou 90.47 37 ⇑P **P 19 29 20.6 -0.5**
KEST Kesra 90.93 52 P **P 19 29 24.0 +0.5**
comp=Z,15nm,0.8s,baz=286,slow=2.2,SNR=20
KEST LR LR 20 08 24.1
comp=Z,320nm,19.1s,baz=256,slow=34
KEST Kesra 90.93 52 P **P 19 29 23.7 +0.2**
KEST lAmb lAmb 19 29 35.6
comp=Z,15nm,0.8s
ZST Bratislava 90.95 38 *e*P **P 19 29 24.0 +0.8**
ZST pmax pmax
comp=Z,71nm,1.6s
ZST Bratislava 90.95 38 *e*P **P 19 29 24.0 +0.8**
MODS Modra-Piesok 90.97 38 *e*P **P 19 29 24.2 +0.8**
MODS pmax pmax
comp=Z,24nm,1.5s
MODS Modra-Piesok 90.97 38 *e*P **P 19 29 24.2 +0.8**
JAVC Velka Javorina 90.97 38 *e*P **P 19 29 24.2 +0.8**
CRES Cresnjev 91.02 41 *e*P **P 19 29 25.2 +1.5**
CRES *ep*P **pP 19 30 00.1 -0.3**
CRES *e* 19 39 43.7
CRES *e* 19 40 10.3
OJC Ojcow 91.53 36 *e*P **P 19 29 27.9 +2.0**
OJC Ojcow 91.53 36 *e*P **P 19 29 27.9 +2.0**
VYHS Vyhne 91.83 38 *e*P **P 19 29 28.2 +0.9**
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 91.83 38 *e*P **P 19 29 28.2 +0.9**
LANS Liptovska Anna 91.87 37 *e*P **P 19 29 29.3 +1.7**
LANS Liptovska Anna 91.87 37 *e*P **P 19 29 29.3 +1.7**
TORD Torodi Ar. Bea 92.14 76 P **P 19 29 29.3 -0.1**
comp=Z,6.1nm,0.7s,baz=294,slow=4.8,SNR=29
TORD PKKPbc **PKKPbc 19 46 44.6 +0.6**
comp=Z,0.8nm,0.7s,baz=100,slow=2.1,SNR=6.7
TORD LR LR 20 09 18.1
comp=Z,190nm,19.4s,baz=290,slow=34
TORD Torodi Ar. Bea 92.14 76 P **P 19 29 29.2 -0.3**
NIE Niedzica 92.21 36 *e*P **P 19 29 31.8 +2.7**
NIE Niedzica 92.21 36 *e*P **P 19 29 31.8 +2.7**
TAM Tamanrasset 92.45 65 P **P 19 29 31.7 +0.8**
TAM pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 92.45 65 P **P 19 29 31.6 +0.8**
TAM lAmb lAmb 19 29 34.5
comp=Z,11nm,0.9s
MSVF Nonsavu 92.60 252 *i* P **P 19 29 33.0 +1.5**
MSVF pmax pmax
comp=Z,39nm,1.0s
MSVF Nonsavu 92.60 252 P **P 19 29 32.6 +1.1**
MSVF lAmb lAmb 19 29 36.8
comp=Z,49nm,1.0s
CRVS Cervenica-Dubn 93.13 36 *e*P **P 19 29 34.3 +1.0**
CRVS pmax pmax
comp=Z,12nm,0.3s
CRVS Cervenica-Dubn 93.13 36 *e*P **P 19 29 34.3 +1.0**
YAK Yakutsk 93.35 341 P **P 19 29 34.5 +0.5**
comp=Z,9.3nm,0.8s,baz=291,slow=1.4,SNR=3.4
YAK pP **pP 19 30 11.3 +0.5**
comp=Z,12nm,0.9s,baz=188,slow=1.8,SNR=4.8
YAK Yakutsk 93.35 341 *ce*P **P 19 29 34.5 +0.5**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK Yakutsk 93.35 341 P **P 19 29 34.1 +0.1**
YAK lAmb lAmb 19 29 36.5
comp=Z,21nm,1.0s
NRIK Noril'sk 93.44 359 P **P 19 29 34.0 -0.2**
comp=Z,4.2nm,0.8s,baz=323,slow=5.0,SNR=5.4
NRIK pP **pP 19 30 11.1 0.0**
comp=Z,2.2nm,0.7s,baz=304,slow=1.8,SNR=2.3
NRIK PKKPbc **PKKPdf 19 46 39.6 +0.3**
comp=Z,1.3nm,0.4s,baz=139,slow=5.1,SNR=3.6
NRIK LR LR 20 16 20.6
comp=Z,115nm,18.5s,baz=16,slow=38
NRIK Noril'sk 93.44 359 *ce*P **P 19 29 35.0 +0.7**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 93.57 36 *e*P **P 19 29 36.4 +1.0**
KOLS Kolonicke sedl 93.57 36 *e*P **P 19 29 36.4 +1.0**
UZH Uzhgorod 93.74 36 *e*P **P 19 29 36.3 +0.2**
KLMR Klimovskoe 93.81 21 *e*P **P 19 29 32.4 -3.8**
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR Klimovskoe 93.81 21 *e*P **P 19 29 32.4 -3.8**
KLMR AMP 19 29 41.7
comp=Z,11nm,1.4s
KLMR *e*PP **PP 19 33 18.0 -4.8**
LVV L'vov 94.07 35 *e*P **P 19 29 39.0 +1.4**
MATE Matera 94.16 45 ⇑P **P 19 29 39.7 +1.5**
SIRR Siria 94.60 39 ⇑P **P 19 29 41.1 +1.0**
DIVS Divibare 94.67 41 P **P 19 29 41.1 +0.4**
DIVS lAmb lAmb 19 29 43.0
comp=Z,8.5nm,1.2s
TIP Timpagrande 94.87 47 P **P 19 29 41.9 +0.3**
TIP lAmb lAmb 19 29 43.0
comp=Z,17nm,1.2s
BZS Buzias 94.91 39 ⇑P **P 19 29 42.0 +0.5**
BZS Buzias 94.91 39 ⇑P **P 19 29 42.0 +0.5**
PDG Podgorica 95.02 43 ⇑P **P 19 29 42.4 +0.3**
PRGR Permogore 95.13 18 *e*P **P 19 29 41.7 -0.5**
PRGR *e**PP **pP 19 30 19.0 0.0**
PRGR *e**SP **sP 19 30 33.8 -0.4**
PRGR pmax pmax
comp=Z,6.0nm,0.8s
GZR Gura Zlata 95.72 39 ⇑P **P 19 29 45.4 0.0**
GZR Gura Zlata 95.72 39 ⇑P **P 19 29 45.4 0.0**
BURAR Bucovina Array 95.94 36 ⇑P **P 19 29 47.6 +1.3**
BURAR Bucovina Array 95.94 36 ⇑P **P 19 29 47.6 +1.3**
AKASG Malin Array Be 96.29 32 PKKPbc PKKPbc 19 46 32.4 -2.0
comp=Z,0.2nm,0.3s,baz=97,slow=2.3,SNR=5.0
AKASG LR LR 20 14 52.2
comp=Z,129nm,18.4s,baz=285,slow=36
OBN Obninsk 96.80 26 ⇑*e*P **P 19 29 49.0 -0.9**
OBN *e**PP **pP 19 30 25.5 -1.2**
OBN *e* 19 33 47.0
OBN *i* S **SKSac 19 40 07.4 -5.7**
OBN pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 97.54 38 P Pdif 19 29 54.8 +1.1
comp=Z,4.4nm,0.9s,baz=35,slow=12,SNR=5.0
MLR Muntele Rosu 97.54 38 ⇑P Pdif 19 29 55.7 +2.0
MLR Muntele Rosu 97.54 38 P Pdif 19 29 54.3 +0.6
MLR Muntele Rosu 97.54 38 P Pdif 19 29 54.3 +0.6
DZM Mont Dzumac 104.27 251 *e*LR LR 20 04 57.0
comp=Z,545nm,29.8s
BRTR Keskin Array B 105.53 39 PKiKP **PKiKP 19 34 41.0 -1.1**
comp=Z,1.0nm,0.9s,baz=23,slow=1.6,SNR=5.5
BRTR PKKPbc **PKKPbc 19 46 07.2 -0.6**
comp=Z,1.7nm,0.8s,baz=144,slow=4.9,SNR=13
MJAR Matsushiro Arr 106.63 318 PKKPbc PKKPbc 19 46 03.9 -0.3
comp=Z,2.6nm,0.9s,baz=232,slow=1.4,SNR=5.3
SNAA Xi'anae 107.03 161 PKiKP **PKiKP 19 34 43.9 +0.2**
comp=Z,1.6nm,0.9s,baz=123,slow=2.9,SNR=5.1
KBZ Khabaz 107.84 31 PKKPbc PKKPbc 19 45 59.6 -1.0
comp=Z,3.2nm,0.9s,baz=138,slow=2.4,SNR=7.2
ZALV Zalesovo Beam 108.90 0 PP PP 19 35 07.2 -8.8
comp=Z,2.0nm,0.8s,baz=347,slow=6.1,SNR=4.9
ZALV PKKPbc **PKKPbc 19 45 54.6 -3.1**
comp=Z,0.6nm,0.4s,baz=202,slow=1.7,SNR=6.1
VNDA Vanda 109.81 193 PKiKP **PKiKP 19 34 49.5 +0.8**
comp=Z,1.5nm,1.2s,baz=290,slow=6.2,SNR=4.0
KURK Kurchatov 111.89 5*c* *i*PKiKP **PKiKP 19 34 53.6 +0.1**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KSRS Korea Array 112.20 324 PKiKP **PKiKP 19 34 55.1 +0.6**
comp=Z,1.3nm,0.9s,baz=107,slow=40,SNR=3.3
KSRS PKKPbc **PKKPab 19 45 52.8 -4.0**
comp=Z,1.7nm,0.7s,baz=254,slow=4.7,SNR=4.7
SONM Songino Array 112.31 345 PKiKP **PKiKP 19 34 54.4 -0.2**
comp=Z,1.2nm,0.6s,baz=82,slow=5.3,SNR=10
SONM PKKPbc **PKKPbc 19 45 43.6 -3.1**
comp=Z,2.5nm,0.8s,baz=199,slow=3.1,SNR=13
DGZ Jazzator, Alta 113.13 358 *i* PKiKP **PKiKP 19 34 55.6 -0.5**
MAKZ Makanchi 115.98 2 PKiKP **PKiKP 19 35 00.3 -1.3**
MAKZ Makanchi 115.98 2 **PKiKP 19 35 00.2 -1.3**
MK31 Makanchi Array 116.01 2*c* *i*PKiKP **PKiKP 19 35 01.5 -0.1**
MK31 Makanchi Array 116.01 2 **PKiKP 19 35 00.8 -0.8**
MKAR Makanchi Array 116.01 2 PKP **PKiKP 19 35 00.3 -1.2**
comp=Z,1.8nm,0.8s,baz=38,slow=2.2,SNR=14
MKAR pPKP **pPKiKP 19 35 38.2 -1.8**
comp=Z,1.9nm,0.9s,baz=20,slow=2.7,SNR=4.5
MKAR PKKPbc **PKKPbc 19 45 31.0 -3.1**
comp=Z,1.3nm,0.8s,baz=143,slow=4.4,SNR=8.4
HHC Hu-ho-hao-te 117.06 338 *e*PKP **PKPdf 19 35 01.7 -2.2**
WMQ Urumqi 119.00 358 *e*PKP **PKiKP 19 35 08.3 +0.8**
WMQ LR LR
comp=Z,3μm,29.3s
WMQ LR LR
comp=Z,2μm,28.8s
WMQ LR LR
comp=Z,6μm,29.0s
GEYT Alibeck 119.31 24 PKP **PKPdf 19 35 07.9 -0.3**
comp=Z,4.1nm,0.9s,baz=251,slow=4.5,SNR=7.2
GEYT Alibeck 119.31 24 PKPdf **PKiKP 19 35 08.6 +0.4**
TARG Taragay, Kyrgy 120.73 6 **PKPdf 19 35 10.8 -0.5**
NJ2 Nanjing 121.17 327 *e*PKP **PKiKP 19 35 12.5 +0.5**
GTA Gaotai 121.82 347 *e*PKP **PKPdf 19 35 12.9 -0.2**
GAR Garm 122.14 14 PKPdf **PKiKP 19 35 14.2 +0.3**
CHGR Chuyangaron 122.20 15 PKPdf **PKiKP 19 35 14.1 +0.1**
CTA Charters Tower 122.43 257 PKP **PKiKP 19 35 15.2 +0.5**
comp=Z,7.9nm,0.9s,baz=60,slow=1.9,SNR=5.4
MBAR Mbarara 123.89 79 *i* PKiKP **PKPdf 19 35 17.3 -0.5**
MBAR Mbarara 123.89 79 PKPdf **PKiKP 19 35 18.4 +0.4**
LZH Lanzhou 123.92 342 *e*PKP **PKiKP 19 35 19.0 +1.4**
HRA Herat 124.01 23 PKPdf **PKiKP 19 35 17.9 0.0**
XAN Xi'an 124.05 336 PKP **PKPdf 19 35 17.3 -0.1**
XAN Xi'an 124.05 336 PKiKP **PKPdf 19 35 17.1 -0.3**
XAN Xi'an 124.05 336 **PKPdf 19 35 17.1 -0.3**
GENI Genyem 124.14 279 PKP **PKiKP 19 35 18.6 +0.3**
BOSA Boshof 124.19 113 PKP **PKiKP 19 35 18.2 0.0**
comp=Z,36nm,0.8s,baz=292,slow=1.8,SNR=47
BOSA Boshof 124.19 113 PKIKP **PKPdf 19 35 18.0 +0.1**
BOSA Boshof 124.19 113 **PKPdf 19 35 18.0 +0.1**
LBTB Lobatse 124.28 109 PKIKP **PKPdf 19 35 18.2 +0.1**
LBTB Lobatse 124.28 109 PKPdf **PKPdf 19 35 18.2 +0.1**
LSZ Lusaka 125.40 97 PKIKP **PKiKP 19 35 20.8 -0.1**
LSZ Lusaka 125.40 97 **PKiKP 19 35 20.8 -0.1**
KBL Kabul 126.06 17 PKIKP **PKPdf 19 35 21.5 0.0**
KBL Kabul 126.06 17 PKPdf **PKPdf 19 35 21.5 0.0**
ENH Enshi 127.12 334 **PKPdf 19 35 22.9 -0.5**
STKA Stephens Creek 127.33 243 PKP **PKiKP 19 35 24.3 +0.2**
comp=Z,21nm,0.9s,baz=66,slow=2.3,SNR=33
STKA Stephens Creek 127.33 243 PKIKP **PKiKP 19 35 24.0 -0.1**
STKA Stephens Creek 127.33 243 PKPdf **PKiKP 19 35 24.0 -0.1**
MAW Mawson 127.84 169 PKP **PKiKP 19 35 24.2 +0.2**
comp=Z,25nm,0.8s,baz=201,slow=2.9,SNR=69
MAW Mawson 127.84 169 PKIKP **PKiKP 19 35 24.1 +0.1**
MAW Mawson 127.84 169 **PKiKP 19 35 24.1 +0.1**
NIL Nilore 127.92 13 PKIKP **PKPdf 19 35 24.2 -0.7**
NIL Nilore 127.92 13 **PKPdf 19 35 24.2 -0.7**
CASY Casey 128.43 193 PKPdf **PKiKP 19 35 25.5 +0.2**
DAMY Dhamar 128.67 54 PKPdf **PKiKP 19 35 28.0 +0.4**
KMBO Kilima Mbogo 130.15 76 PKP **PKiKP 19 35 30.6 -0.1**
comp=Z,1.1nm,0.4s,baz=21,slow=20,SNR=2.0
GYA Guiyang 131.64 334 PKP **PKPdf 19 35 32.6 +0.4**
SIJI Sorong 131.84 285 PKP **PKiKP 19 35 33.5 -0.2**
comp=Z,9.5nm,0.8s,baz=8.1,slow=6.3,SNR=4.9
LSA Lhasa 132.78 353 PKIKP **PKPdf 19 35 35.0 +0.3**
LSA Lhasa 132.78 353 **PKPdf 19 35 35.0 +0.3**
WR0 Warramunga Arr 133.35 259 PKPdf **PKiKP 19 35 36.8 +0.2**
WB0 Warramunga Arr 133.47 259 PKPdf **PKiKP 19 35 36.7 -0.2**
WRAB Tennant Creek 133.53 259 *c* *i*PKIKP **PKiKP 19 35 37.3 +0.3**
WRAB pmax pmax
comp=Z,32nm,1.7s
WRAB Tennant Creek 133.53 259 **PKiKP 19 35 36.8 -0.2**
WRA Warramunga Arr 133.54 259 PKhKP PKPpre 19 35 19.8
comp=Z,1.0nm,0.8s,baz=82,slow=4.0,SNR=7.7
WRA PKP **PKPdf 19 35 35.6 -0.1**
comp=Z,7.8nm,0.8s,baz=84,slow=2.6,SNR=27
WRA Warramunga Arr 133.54 259 **PKPdf 19 35 36.1 +0.4**
AS31 Alice Springs 134.17 254 PKPdf **PKPdf 19 35 36.9 0.0**
ASAR Alice Springs 134.17 254 PKhKP PKPpre 19 35 20.5
comp=Z,1.2nm,0.8s,baz=97,slow=3.1,SNR=8.5
ASAR PKP **PKPdf 19 35 36.8 -0.1**
comp=Z,7.4nm,1.1s,baz=99,slow=2.2,SNR=14
ASAR Alice Springs 134.17 254 PKIKP **PKPdf 19 35 37.1 +0.2**
ASAR Alice Springs 134.17 254 **PKPdf 19 35 37.1 +0.2**
MTN Manton Dam 135.53 269 PKPdf **PKPdf 19 35 40.0 +0.4**
NLAI Namlea 136.59 284 PKP **PKiKP 19 35 43.4 +0.1**
SHL Shillong 136.76 351 PKIKP **PKPdf 19 35 41.4 -0.5**
SHL Shillong 136.76 351 PKPdf **PKPdf 19 35 41.4 -0.5**
KMSI Cibinong 137.85 291 PKP **PKiKP 19 35 45.3 -0.6**
SOEI Soe 141.35 276 PKP **PKPdf 19 35 51.6 +1.2**
SOEI Soe 141.35 276 PKPdf **PKPdf 19 35 51.0 +0.6**
CHTO Chiang Mai 141.53 339 PKIKP **PKPdf 19 35 50.1 -0.4**
CHTO Chiang Mai 141.53 339 PKPdf **PKPdf 19 35 50.1 -0.4**
FITZ Fitzroy Crossi 141.56 263 PKPdf **PKPdf 19 35 50.4 -0.1**
CM31 Chiang Mai Arr 141.86 339 **PKPdf 19 35 50.6 -0.5**
CMAR Chiang Mai Arr 141.86 339 PKhKP PKPpre 19 35 44.8
comp=Z,4.1nm,0.8s,baz=346,slow=4.4,SNR=13
CMAR PKP **PKPdf 19 35 51.0 -0.1**
comp=Z,7.7nm,0.9s,baz=0.5,slow=1.3,SNR=23
CMAR Chiang Mai Arr 141.86 339 **PKPdf 19 35 50.9 -0.2**
FOMA Nahampoana Res 143.66 109 PKPdf **PKPdf 19 35 54.2 +0.2**
BKSI Bulukumba 143.81 285 PKP PKPab 19 35 51.2 -0.7
BKSI PKP PKPbc 19 35 52.4 -0.3
BKSI PKP **PKPdf 19 35 54.0 -0.6**
OPO Ambohidratompo 143.85 98 PKP PKPbc 19 35 53.4 +0.5
comp=Z,16nm,0.8s
ABPO Ambohimpanom 143.92 99 PKIKP **PKPdf 19 35 54.1 -0.8**
ABPO Ambohimpanom 143.92 99 PKPdf **PKPdf 19 35 54.0 -0.8**
KAPI Kappang 144.03 286 PKIKP PKPbc 19 35 53.9 +0.6

KAPI	**Kappang**	**144.03**	**286**	PKPdf	PKPbc	19 35 53.9	+0.6
SMKI	**Samarinda**	**144.29**	**295**	PKP	**PKPdf**	**19 35 56.1**	**+0.6**
HYB	**Hyderabad**	**144.74**	**11**	*i* PKP	**PKPab**	**19 35 54.0**	**-1.3**
HYB				*ep*PKP	**pPKPdf**	**19 36 32.0**	**-2.7**
HYB				*e*		19 36 51.0	
BASI	**Baing, Sumba**	**144.97**	**277**	PKP	**PKPdf**	**19 35 57.5**	**+0.9**
WSI	**Waingapu**	**145.09**	**278**	PKP	**PKPdf**	**19 35 57.6**	**+0.8**
MTKI	**Muara Teweh, K**	**146.53**	**296**	PKP	**PKPbc**	**19 36 01.2**	**+0.2**
KBKI	**Kotabaru**	**146.56**	**291**	PKP	**PKPdf**	**19 35 59.5**	**+0.1**
SBUM	**Sibu**	**146.84**	**304**	PKPdf	**PKPbc**	**19 36 01.0**	**-0.9**
PSA00	**Pilbara Seismi**	**147.15**	**257**	PKPdf	**PKPbc**	**19 36 01.7**	**-0.9**
PLAI	**Plampang**	**147.21**	**281**	PKP	**PKPbc**	**19 36 02.1**	**-0.8**
NWAO	**Narrogin (SRO)**	**147.35**	**236**	PKP2	**PKPbc**	**19 36 03.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**147.35**	**236**	PKPdf	**PKPdf**	**19 36 01.2**	**+1.1**
NWAO				PKPbc	**PKPbc**	**19 36 03.6**	**+0.9**
BBKI	**Banjar Baru**	**147.81**	**292**	PKP	**PKPbc**	**19 36 03.9**	**-0.6**
TWSI	**Taliwang, Sumb**	**148.02**	**282**	PKP	**PKPdf**	**19 36 01.0**	**-0.8**
KSM	**Kuching**	**148.95**	**305**	PKPdf	**PKPdf**	**19 36 03.5**	**+0.2**
KSM				PKPbc	**PKPbc**	**19 36 07.8**	**+0.3**
MORW	**Morawa**	**149.51**	**242**	PKPdf	**PKPdf**	**19 36 04.8**	**+1.0**
MORW				PKPbc	**PKiKP**	**19 36 09.0**	**-0.4**
PBA	**Port Blair**	**150.15**	**345**		PKPbc	19 36 10.7	+0.4
JAGI	**Jajag, Banyuwa**	**150.47**	**284**	PKP	**PKPbc**	**19 36 09.2**	**-2.0**
JAGI	**Jajag, Banyuwa**	**150.47**	**284**	PKPbc	**PKPbc**	**19 36 09.9**	**-1.2**
GMJI	**Gumukmas**	**151.06**	**285**	PKP	**PKPbc**	**19 36 11.3**	**-1.2**
RER	**Riviere de l'E**	**151.95**	**102**		**PKiKP**	**19 36 15.9**	**+1.1**
PWJI	**Pagerwojo**	**152.47**	**287**	PKP	**PKPbc**	**19 36 15.6**	**-0.1**
KULM	**Kulim**	**152.75**	**325**		**PKiKP**	**19 36 16.6**	**0.0**
SMRI	**Semarang**	**153.32**	**290**		**PKPbc**	**19 36 17.6**	**-0.1**
LEM	**Lembang**	**155.73**	**293**	PKPab	**PKPab**	**19 36 39.5**	**-1.1**
	comp=Z,26nm,0.9s,baz=45,slow=14,SNR=5.3						
PSI	**Prapat**	**155.77**	**325**	PKPab	**PKPab**	**19 36 40.9**	**+0.4**
	comp=Z,28nm,0.9s,baz=314,slow=3.8,SNR=9.9						
PSI				pPKPab	**pPKPab**	**19 37 18.4**	**+0.8**
	comp=Z,26nm,0.8s,baz=358,slow=0.6,SNR=6.5						
RPSI	**Rantau Prapat**	**155.85**	**325**		**PKPab**	**19 36 41.1**	**+0.3**

*IDC **04** 19:19:49.9±0.8,28.4°43N×51.6°80E,h0km,mb4.0/16, mb1 4.0/22,mb1mx3.8/64,mbtmp3.9/22,ML3.6/6,MS2.8/1, Ms1 2.8/1,ms1mx2.4/41,Error ellipse: s-maj=19.0km s-min=14.4km az=180.0*

*THR **04** 19:19:50.0±0.6,28.3°33N×51.6°61E,h18km±8km,ML3.9*

*NEIC **04** 19:19:51.1±1.7,28.4°42N±0.0°05×51.6°68E±0.0°05,h10km±1km, Error ellipse: s-maj=8.6km s-min=6.6km az=330.0*

*TEH **04** 19:19:51.8,28.4°47N×51.6°66E,h14km,ML4.1*

*DSN **04** 19:19:54.3±1.1,28.6°39N×51.8°83E,h10km,Error ellipse: s-maj=13.6km s-min=5.5km az=172.0*

*OMAN **04** 19:19:57.5±0.5,28.0°09N×51.5°58E,h33km,mb5.4/17, ml3.9/9,Error ellipse: s-maj=11.1km s-min=6.6km az=10.0*

ISC 04 19:19:51.5±0.4,28.4°43N±0.0°04×51.7°72E±0.0°04,h10km,n190, σ1°69/204,mb4.1/26,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.57**	**319**	*e*Pg	**Pg**	**19 20 01.4**	**-1.2**
GHIR	**Ghir-Karzin**	**1.12**	**97**	*e*Pn	**Pb**	**19 20 14.5**	**+1.4**
GHIR				IAML		19 20 37.8	
	comp=E,2μm,0.6s						
GHIR	**Ghir-Karzin**	**1.12**	**97**	*e*Pn	**Pb**	**19 20 14.5**	**+1.4**
GHIR	**Ghir-Karzin**	**1.12**	**97**	Pn	**Pb**	**19 20 14.4**	**+1.4**
KAZ1	**Kazerun**	**1.19**	**357**	*e*Pg	**Pb**	**19 20 13.8**	**-0.5**
KAZ1				*e*		19 20 39.9	
SHI	**Shiraz**	**1.39**	**30**	*e*Pg	**Pn**	**19 20 18.2**	**+1.0**
SHI				*e*		19 20 41.0	
JHRM	**Jahrom**	**1.64**	**87**	*e*Pg	**Pb**	**19 20 22.9**	**+1.1**
JHRM	**Jahrom**	**1.64**	**87**	Pg	**Pn**	**19 20 22.8**	**+2.4**
LMD1	**Lamerd**	**1.68**	**130**	*e*Pg	**Pb**	**19 20 24.5**	**+2.0**
LMD1				*e*		19 21 04.0	
LMD1	**Lamerd**	**1.68**	**130**	Pg	**Pb**	**19 20 24.4**	**+2.0**
LAR1	**LAR**	**2.46**	**107**	*e*Pn	**Pn**	**19 20 33.9**	**+2.1**
LAR1				*e*		19 21 28.6	
KLNJ	**Kolanjah**	**2.57**	**358**	*e*Pn	**Pn**	**19 20 34.6**	**+1.0**
KLNJ	**Kolanjah**	**2.57**	**358**	Pn	**Pn**	**19 20 34.6**	**+1.0**
IRAM	**Ramesheh**	**3.42**	**9**	*e*Pn	**Pn**	**19 20 45.9**	**+0.9**
JRN	**Qarnain Island**	**3.62**	**164**	*e*Pn	**Pn**	**19 20 51.5**	**+3.9**
SLWS		**3.74**	**195**	S	**Sb**	**19 21 42.3**	**-0.9**
SLWS		**3.74**	**195**	P	**Pn**	**19 20 52.2**	**+2.8**
ISAD	**Sadrabad**	**3.87**	**26**	*e*Pn	**Pn**	**19 20 53.4**	**+2.1**
IMEH	**Mehriz**	**3.87**	**40**	*e*Pn	**Pn**	**19 20 53.9**	**+2.6**
JHBN	**Jahan bin**	**3.90**	**347**	*e*Pn	**Pn**	**19 20 53.1**	**+1.4**
ROKH	**ROKH**	**3.95**	**352**	*e*Pn	**Pn**	**19 20 52.9**	**+0.5**
SMAN	**Sihmah**	**3.95**	**236**	S	**Sn**	**19 21 41.6**	**+2.9**
SMAN				P	**Pn**	**19 20 54.0**	**+1.8**
IGAR	**Gharneh**	**3.97**	**4**	*e*Pn	**Pn**	**19 20 53.7**	**+1.0**
GENO	**Geno**	**4.07**	**104**	*e*Pn	**Pn**	**19 20 55.4**	**+1.4**
IPIR	**Pirpir**	**4.30**	**351**	*e*Pn	**Pn**	**19 20 57.4**	**+0.1**
QYSM	**Um Kedad**	**4.32**	**264**	P	**Pn**	**19 20 59.5**	**+2.3**
QYSM				S	**Sg**	**19 22 14.7**	**+4.5**
NHRD	**Haradh**	**4.42**	**214**	P	**Pn**	**19 21 01.3**	**+2.6**
ICHK	**Chekchek**	**4.45**	**31**	*e*Pn	**Pn**	**19 21 01.4**	**+2.1**
IZEF	**Zefreh**	**4.48**	**7**	*e*Pn	**Pn**	**19 21 01.1**	**+1.4**
NGRK	**Negar Kerman**	**4.55**	**73**	*e*Pn	**Pn**	**19 21 02.9**	**+2.1**
NGRK				*e*		19 22 04.2	
UMQ	**Umm Al-Quwin**	**4.55**	**129**	P	**Pn**	**19 21 03.3**	**+2.9**
KHGB	**Koh Gabri**	**4.58**	**64**	*e*Pn	**Pn**	**19 21 03.0**	**+2.0**
KHGB				*e*		19 22 01.7	
IBAF	**Bafgh**	**4.59**	**46**	*e*Pn	**Pn**	**19 21 03.5**	**+2.4**
SHME	**Shamm**	**4.59**	**120**	P	**Pn**	**19 21 02.3**	**+1.3**
SHME	**Shamm**	**4.59**	**120**	*e*Pn	**Pn**	**19 21 02.5**	**+1.5**
YZKH	**Yazd**	**4.66**	**31**	*e*Pn	**Pn**	**19 21 03.7**	**+1.7**
YZKH	**Yazd**	**4.66**	**31**	*e*Pn	**Pn**	**19 21 03.7**	**+1.7**
KRBR	**Kerman**	**4.67**	**69**	*e*Pn	**Pn**	**19 21 04.1**	**+1.8**
KRBR	**Kerman**	**4.67**	**69**	*e*Pn	**Pn**	**19 21 04.1**	**+1.8**
TVBK	**TV Kerman**	**4.67**	**69**	*e*Pn	**Pn**	**19 21 04.8**	**+2.4**
TVBK				*e*		19 22 08.9	
BANOM	**Banah**	**4.78**	**120**	*i* P	**Pn**	**19 21 05.1**	**+1.4**
	SNR=46						
BANOM				S	**Sn**	**19 22 00.4**	**+1.3**
BANOM	**Banah**	**4.78**	**120**	P	**Pn**	**19 21 05.1**	**+1.4**
	SNR=46						
BANOM				S	**Sn**	**19 22 00.5**	**+1.3**
BANOM	**Banah**	**4.78**	**120**	*e*Pn	**Pn**	**19 21 05.0**	**+1.4**
AJN	**Ajban**	**4.84**	**142**	P	**Pn**	**19 21 07.7**	**+3.3**
AJN	**Ajban**	**4.84**	**142**	*e*Pn	**Pn**	**19 21 07.3**	**+2.9**
IKLH	**Kolahrood**	**4.88**	**359**	*e*Pn	**Pn**	**19 21 06.1**	**+1.0**
NAZ	**Nazwa, Dubai**	**4.92**	**133**	*i* P	**Pn**	**19 21 08.0**	**+2.5**
	SNR=16						
NAZ	**Nazwa, Dubai**	**4.92**	**133**	P	**Pn**	**19 21 08.1**	**+2.7**
	SNR=14						
NAZ	**Nazwa, Dubai**	**4.92**	**133**	*e*Pn	**Pn**	**19 21 07.9**	**+2.5**
MSFE	**Esma-Masafi**	**5.00**	**127**	*i* P	**Pn**	**19 21 08.3**	**+1.6**
	SNR=8.8						
MSFE	**Esma-Masafi**	**5.00**	**127**	*e*Pn	**Pn**	**19 21 08.5**	**+1.8**
ANAR	**Anarak**	**5.05**	**19**	*e*Pn	**Pn**	**19 21 08.4**	**+1.0**
MDH	**Madha**	**5.14**	**126**	P	**Pn**	**19 21 09.5**	**+0.9**
MDH	**Madha**	**5.14**	**126**	P	**Pn**	**19 21 10.4**	**+1.8**
	SNR=5.4						
MDH				S	**Sn**	**19 22 08.6**	**+0.6**
MDH	**Madha**	**5.14**	**126**	*e*Pn	**Pn**	**19 21 10.3**	**+1.8**
CHMN	**Cheshme madani**	**5.28**	**73**	*e*Pn	**Pn**	**19 21 12.9**	**+2.1**
KHNJ	**Kahnooj**	**5.30**	**94**	*e*Pn	**Pn**	**19 21 12.8**	**+2.0**
UOSS	**Minazif**	**5.30**	**130**	*i* P	**Pn**	**19 21 12.1**	**+1.4**
	SNR=35						
UOSS	**Minazif**	**5.30**	**130**	P	**Pn**	**19 21 13.5**	**+2.7**
UOSS	**Minazif**	**5.30**	**130**	*e*Pn	**Pn**	**19 21 12.2**	**+1.4**
UOSS	**Minazif**	**5.30**	**130**	Pn	**Pn**	**19 21 11.8**	**+1.0**
UOSS				Sn	**Sn**	**19 22 09.3**	**-2.7**
QAM	**Ghamsar**	**5.32**	**357**	*e*Pn	**Pn**	**19 21 12.8**	**+1.6**
HATD	**Hatta, Dubai**	**5.33**	**131**	*i* P	**Pn**	**19 21 13.3**	**+2.1**
	SNR=13						
HATD	**Hatta, Dubai**	**5.33**	**131**	P	**Pn**	**19 21 13.3**	**+2.1**
	SNR=13						
HATD	**Hatta, Dubai**	**5.33**	**131**	*e*Pn	**Pn**	**19 21 13.3**	**+2.1**
ASHO	**Ashiyiah**	**5.38**	**133**	*i* P	**Pn**	**19 21 13.5**	**+1.6**
	SNR=70						
ASHO	**Ashiyiah**	**5.38**	**133**	P	**Pn**	**19 21 14.0**	**+2.0**
	SNR=62						
ASHO				S	**Sn**	**19 22 14.2**	**+0.2**
ASHO	**Ashiyiah**	**5.38**	**133**	*e*Pn	**Pn**	**19 21 13.8**	**+1.8**
KHMZ	**Khomeyn**	**5.50**	**344**	*e*Pn	**Pn**	**19 21 14.8**	**+1.1**
KHMZ	**Khomeyn**	**5.50**	**344**	*e*Pn	**Pn**	**19 21 14.8**	**+1.1**
KRSH	**Karshahi**	**5.53**	**4**	*e*Pn	**Pn**	**19 21 14.7**	**+0.6**
ALNE	**Al Ain**	**5.66**	**139**	*i* P	**Pn**	**19 21 18.0**	**+2.2**
	SNR=18						
ALNE	**Al Ain**	**5.66**	**139**	*e*Pn	**Pn**	**19 21 18.3**	**+2.6**
IKMR	**Kamar-syah**	**5.83**	**331**	*e*Pn	**Pn**	**19 21 18.3**	**+0.4**
KBAM	**BAM**	**5.95**	**82**	*e*Pn	**Pn**	**19 21 22.4**	**+2.7**
IKFM	**Kafar-mosalman**	**6.07**	**328**	*e*Pn	**Pn**	**19 21 23.8**	**+2.5**
SOHO	**SOHO**	**6.08**	**134**	*i* P	**Pn**	**19 21 22.8**	**+1.4**
	SNR=9.0						
SOHO	**SOHO**	**6.08**	**134**	P	**Pn**	**19 21 22.8**	**+1.4**
SOHO	**SOHO**	**6.08**	**134**	*e*Pn	**Pn**	**19 21 22.9**	**+1.5**
IDOB	**Doab**	**6.14**	**331**	*e*Pn	**Pn**	**19 21 23.6**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.26**	**42**	*e*Pn	**Pn**	**19 21 25.6**	**+1.5**
ASAO	**Ashtian**	**6.27**	**347**	*e*Pn	**Pn**	**19 21 25.0**	**+0.7**
ASAO	**Ashtian**	**6.27**	**347**	*e*Pn	**Pn**	**19 21 25.0**	**+0.7**
HSAM	**Samen**	**6.35**	**336**	*e*Pn	**Pn**	**19 21 26.3**	**+0.9**
ARQ	**Araqi**	**6.66**	**138**	P	**Pn**	**19 21 31.0**	**+1.5**
	SNR=61						
ARQ				S	**Sn**	**19 22 45.8**	**+0.3**
HAGD	**Aghdareh**	**6.74**	**342**	*e*Pn	**Pn**	**19 21 31.1**	**+0.3**
IKOM	**Komasi**	**6.76**	**329**	*e*Pn	**Pn**	**19 21 32.5**	**+1.5**
TNSJ	**Nastanj**	**6.92**	**36**	*e*Pn	**Pn**	**19 21 34.3**	**+1.2**
TKDS	**Koohdasht(Taba**	**6.94**	**41**	*e*Pn	**Pn**	**19 21 35.0**	**+1.6**
TABS	**Tabas**	**6.96**	**40**	*e*Pn	**Pn**	**19 21 35.2**	**+1.5**
TABS	**Tabas**	**6.96**	**40**	*e*Pn	**Pn**	**19 21 35.2**	**+1.5**
HOQ	**Hoqain**	**6.97**	**133**	P	**Pn**	**19 21 35.5**	**+1.7**
	SNR=16						
HOQ				S	**Sn**	**19 22 53.1**	**0.0**
IALM	**Almabolaq**	**7.09**	**336**	*e*Pn	**Pn**	**19 21 36.2**	**+0.6**
IDMV	**Damavand**	**7.13**	**2**	*e*Pn	**Pn**	**19 21 36.8**	**+0.7**
IFIR	**Firoozkooh**	**7.24**	**7**	*e*Pn	**Pn**	**19 21 38.5**	**+0.8**
BSRN	**Basiran**	**7.31**	**59**	*e*Pn	**Pn**	**19 21 39.9**	**+1.4**
BSRN	**Basiran**	**7.31**	**59**	*e*Pn	**Pn**	**19 21 39.9**	**+1.4**
IGHG	**Ghaleghazi**	**7.35**	**324**	*e*Pn	**Pn**	**19 21 40.0**	**+0.9**
HSRG	**Sareghieh**	**7.39**	**338**	*e*Pn	**Pn**	**19 21 40.9**	**+1.1**
IKOO	**Kooshah**	**7.44**	**56**	*e*Pn	**Pn**	**19 21 42.8**	**+2.4**
ISHM	**Shahmirzad**	**7.47**	**10**	*e*Pn	**Pn**	**19 21 41.7**	**+0.8**
QABG	**Abgarm-Qazvin**	**7.48**	**347**	*e*Pn	**Pn**	**19 21 41.2**	**+0.3**
ITEG	**Tejag**	**7.51**	**52**	*e*Pn	**Pn**	**19 21 42.5**	**+1.2**
BSY	**Bisya**	**7.52**	**138**	P	**Pn**	**19 21 42.8**	**+1.6**
	SNR=20						
BIDO	**Bidbid**	**7.56**	**129**	P	**Pn**	**19 21 42.9**	**+1.1**
BIDO	**Bidbid**	**7.56**	**129**	*e*Pn	**Pn**	**19 21 41.9**	**+0.1**
ILIN	**Lien**	**7.63**	**329**	*e*Pn	**Pn**	**19 21 43.8**	**+0.8**
IDHR	**Dehrash**	**7.73**	**325**	*e*Pn	**Pn**	**19 21 44.3**	**0.0**
SMDO	**Samad**	**7.82**	**132**	P	**Pn**	**19 21 46.8**	**+1.3**
	SNR=12						
ZHSF	**Zahedan**	**8.01**	**79**	*e*Pn	**Pn**	**19 21 50.0**	**+1.8**
ZHSF	**Zahedan**	**8.01**	**79**	*e*Pn	**Pn**	**19 21 50.0**	**+1.8**
QALM	**Alamut, Qazvin**	**8.03**	**354**	*e*Pn	**Pn**	**19 21 49.1**	**+0.6**
WSAR	**Wadi Sarin**	**8.09**	**128**	Pn	**Pn**	**19 21 49.2**	**+0.1**
	comp=E,2.4nm,0.3s,baz=339,slow=8.4,SNR=49						
WSAR				Sn	**Sn**	**19 23 15.5**	**-5.2**
	comp=E,0.4nm,0.3s,baz=67,slow=14,SNR=1.9						
WSAR				LR	LR	19 25 24.5	
	comp=E,69nm,20.5s,baz=270,slow=42						
WSAR	**Wadi Sarin**	**8.09**	**128**	P	**Pn**	**19 21 49.7**	**+0.6**
	SNR=50						
IDAH	**Dahanehshah**	**8.23**	**57**	*e*Pn	**Pn**	**19 21 54.5**	**+3.3**
IGLO	**Ghaloghah**	**8.24**	**12**	*e*Pn	**Pn**	**19 21 54.0**	**+2.7**
JMDO	**Jabal Madar**	**8.35**	**135**	P	**Pn**	**19 21 53.1**	**+0.5**
	SNR=5.1						
WBK	**Wadi Bani Khal**	**8.74**	**130**	P	**Pn**	**19 21 58.5**	**+0.5**
	SNR=24						
MHTO	**MHTO**	**9.33**	**141**	P	**Pn**	**19 22 07.5**	**+1.4**
	SNR=11						
MHTO				S	**Sn**	**19 23 48.2**	**-3.1**
JLN	**Jalan Bani Buh**	**9.35**	**130**	P	**Pn**	**19 22 06.4**	**0.0**
SBZV	**Sabzevar**	**9.36**	**31**	*e*Pn	**Pn**	**19 22 08.0**	**+1.3**
DQM	**DQM**	**9.99**	**147**	P	**Pn**	**19 22 16.9**	**+1.8**
WHFO	**Wadi Hawf**	**10.63**	**169**	P	**Pn**	**19 22 23.7**	**-0.3**
	SNR=26						
WHFO				S	**Sn**	**19 24 18.2**	**-5.0**
	SNR=5.4						
HRA	**Herat**	**10.77**	**54**	Pn	**Pn**	**19 22 26.9**	**+1.0**
GEYT	**Alibeck**	**10.88**	**28**	Pn	**Pn**	**19 22 28.0**	**+0.7**
	comp=E,0.5nm,0.3s,baz=213,slow=21,SNR=4.9						
GYA0B	**ALIBECK ARRAY**	**10.88**	**28**	Pn	**Pn**	**19 22 26.9**	**-0.4**
SHAO	**Shalim**	**10.96**	**160**	P	**Pn**	**19 22 30.4**	**+1.9**
	SNR=5.3						
DMTO	**DMTO**	**11.07**	**164**	P	**Pn**	**19 22 30.3**	**+0.4**
	SNR=87						
DMTO				S	**Sn**	**19 24 29.5**	**-4.3**
RBK	**Rabkut**	**11.11**	**168**	P	**Pn**	**19 22 30.0**	**-0.5**
	SNR=5.3						
ABTO	**Aybut**	**11.12**	**172**	P	**Pn**	**19 22 30.2**	**-0.5**
	SNR=7.8						
ABTO				S	**Sn**	**19 24 31.0**	**-4.2**
	SNR=6.7						
GEVA	**Gevas**	**12.22**	**326**	Pn	**Pn**	**19 22 44.2**	**-1.6**
MARD	**Mardin**	**12.76**	**317**	Pn	**Pn**	**19 22 51.8**	**-1.3**
ASF	**Jabal al Asfar**	**13.34**	**290**	Pn	**Pn**	**19 22 59.6**	**-1.4**
	comp=E,0.2nm,0.3s,baz=81,slow=17,SNR=3.0						
MMAI	**Mount Meron Ar**	**14.76**	**292**	Pn	**Pn**	**19 23 19.2**	**-1.2**
	comp=E,0.3nm,0.3s,baz=97,slow=20,SNR=2.0						
DAMY	**Dhamar**	**15.38**	**208**	Pn	**Pn**	**19 23 27.3**	**-1.7**
DAMY				IAmb	IAmb	19 23 31.8	
	comp=Z,6.7nm,0.9s						
KBL	**Kabul**	**15.97**	**63**	Pn	**Pn**	**19 23 36.8**	**+0.2**
SOCY	**Socotra**	**16.30**	**172**	Pn	**Pn**	**19 23 35.9**	**-4.8**
SOCY				IAmb	IAmb	19 23 44.6	
	comp=Z,18nm,1.3s						
KBZ	**Khabaz**	**16.83**	**337**	Pn	**Pn**	**19 23 48.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=149,slow=5.3,SNR=4.4						
KIV	**Kislovodsk**	**17.11**	**337**	Pn	**Pn**	**19 23 48.3**	**-2.4**
CHGR	**Chuyangaron**	**17.73**	**50**		**Pn**	**19 23 58.7**	**+0.1**
CHGR				IAmb	IAmb	19 24 09.1	
	comp=Z,12nm,0.9s						
GAR	**Garm**	**18.68**	**51**	P	**P**	**19 24 10.1**	**+0.1**
GAR				IAmb	IAmb	19 24 14.0	
	comp=Z,15nm,0.7s						
BR131	**Keskin Array S**	**18.71**	**312**		**P**	**19 24 09.6**	**-0.6**
BRTR	**Keskin Array B**	**18.71**	**312**	P	**P**	**19 24 10.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=14						
BRTR	**Keskin Array B**	**18.71**	**312**	P	**P**	**19 24 10.3**	**+0.1**
NIL	**Nilore**	**19.16**	**69**	P	**P**	**19 24 15.1**	**0.0**
BTK	**Batken**	**19.55**	**49**	P	**P**	**19 24 19.7**	**+0.3**
BTK				IAmb	IAmb	19 24 23.8	
	comp=Z,8.6nm,0.9s						
KK31	**Karatay Array**	**21.07**	**41**	P	**P**	**19 24 36.1**	**+0.3**
KK31				IAmb	IAmb	19 24 38.0	
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**21.07**	**41**	P	**P**	**19 24 36.1**	**+0.3**
ABKAR	**Akbulak array**	**21.73**	**15**	P	**P**	**19 24 42.5**	**-0.3**
ABKAR				IAmb	IAmb	19 24 45.1	
	comp=Z,9.4nm,1.2s						
ABKAR	**Akbulak array**	**21.73**	**15**	P	**P**	**19 24 42.4**	**-0.4**
AKTO	**Aktyubinsk**	**22.49**	**11**	P	**P**	**19 24 50.4**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=187,slow=12,SNR=7.5						
IDI	**Anoyia**	**23.75**	**294**	P	**P**	**19 25 05.2**	**+1.1**
	comp=Z,8.6nm,0.7s,baz=333,slow=14,SNR=10						
IDI	**Anoyia**	**23.75**	**294**	P	**P**	**19 25 01.2**	**-2.9**
BOOM	**Boomskoye usch**	**24.10**	**48**	P	**P**	**19 25 06.3**	**-1.2**
BOOM				IAmb	IAmb	19 25 09.0	
	comp=Z,12nm,1.2s						
AKASG	**Malin Array Be**	**28.00**	**329**	P	**P**	**19 25 41.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=118,slow=6.8,SNR=2.1						
BURAR	**Bucovina Array**	**28.11**	**320**	P	**P**	**19 25 43.6**	**0.0**
BUR08	**Bucovina Ar. S**	**28.14**	**320**	P	**P**	**19 25 43.9**	**+0.1**
BUR08				IAmb	IAmb	19 25 59.7	
	comp=Z,3.9nm,1.4s						
BVAR	**Borovoye Array**	**28.18**	**24**	P	**P**	**19 25 43.3**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=180,slow=12,SNR=7.4						
KURBB	**Kurchatov Arra**	**30.02**	**35**	P	**P**	**19 25 59.4**	**-1.0**
	comp=Z,1.8nm,1.1s,baz=235,slow=9.5,SNR=9.3						
MK31	**Makanchi Array**	**30.10**	**44**	P	**P**	**19 26 01.6**	**+0.4**
MKAR	**Makanchi Array**	**30.10**	**44**	P	**P**	**19 26 01.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=239,slow=7.9,SNR=5.6						
MKAR	**Makanchi Array**	**30.10**	**44**	P	**P**	**19 26 01.6**	**+0.4**
KURK	**Kurchatov**	**30.13**	**35**	P	**P**	**19 26 01.8**	**+0.5**
WMQ	**Urumqi**	**32.57**	**52**	*e*P	**P**	**19 26 25.8**	**+2.8**
LSA	**Lhasa**	**34.37**	**78**	P	**P**	**19 26 37.9**	**-1.5**
LSA				IAmb	IAmb	19 26 45.6	
	comp=Z,2.4nm,0.7s						
ZAA0	**Zalesovo Array**	**35.10**	**34**	P	**P**	**19 26 44.2**	**-0.5**
ZAA0				IAmb	IAmb	19 26 46.8	
	comp=Z,4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**35.10**	**34**	P	**P**	**19 26 44.4**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=240,slow=9.7,SNR=9.0						
ZALV	**Zalesovo Beam**	**35.10**	**34**	P	**P**	**19 26 43.9**	**-0.8**
KEST	**Kesra**	**36.42**	**293**	P	**P**	**19 26 58.1**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=15,slow=6.0,SNR=4.3						
FIA1	**FINESS Array S**	**37.17**	**340**	P	**P**	**19 27 01.9**	**-0.4**
FIA1				IAmb	IAmb	19 27 03.6	
	comp=Z,5.8nm,0.8s						
FINES	**FINESS Array B**	**37.17**	**340**	P	**P**	**19 27 02.1**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=149,slow=7.9,SNR=44						
FINES	**FINESS Array B**	**37.17**	**340**	P	**P**	**19 27 01.8**	**-0.5**
GTA	**Gaotai**	**40.96**	**62**	*e*P	**P**	**19 27 36.0**	**+1.4**
GTA				pP	sP	19 27 40.4	+1.3
GTA				sP	pP	19 27 43.7	+5.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NC405	**NORSAR Array S**	**42.13**	**332**	P	**P**	**19 27 42.9**	**-0.8**
NB2	**NORSAR Subarra**	**42.30**	**332**	P	**P**	**19 27 45.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**42.30**	**332**	P	**P**	**19 27 44.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=128,slow=9.1,SNR=8.7						
ARCES	**ARCESS Array B**	**43.84**	**347**	P	**P**	**19 27 58.6**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=51,slow=6.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**44.21**	**92**	P	**P**	**19 28 00.8**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=273,slow=8.7,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**48.84**	**263**	P	**P**	**19 28 37.1**	**-0.4**
TOA0				IAmb	IAmb	19 28 38.9	
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**48.84**	**263**	P	**P**	**19 28 37.7**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=57,slow=7.4,SNR=20						
TORD	**Torodi Ar. Bea**	**48.84**	**263**	P	**P**	**19 28 37.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**49.89**	**59**	*e*P	**P**	**19 28 45.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,260nm,5.6s						
DBIC	**Dimbokro**	**57.55**	**259**	P	**P**	**19 29 42.0**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=49,slow=9.8,SNR=5.7						
DBIC	**Dimbokro**	**57.55**	**259**	P	**P**	**19 29 41.4**	**-0.3**
LBTB	**Lobatse**	**58.78**	**208**	P	**P**	**19 29 50.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**85.08**	**113**	P	**P**	**19 32 27.2**	**-0.7**
BPAW	**Bear Paw Mtn.**	**86.06**	**10**	P	**P**

EVR	**Evrytania**	**0.56**	**360**	P		Pb	19 38 10.8	0.0	
EVR				S		Sg	19 38 18.6	+0.2	
GUR	**Goura**	**0.59**	**135**	P		Pb	19 38 11.5	+0.1	
GUR				S		Sg	19 38 19.8	+0.1	
MAKR	**Makrakomi, Fth**	**0.70**	**21**	P		Pb	19 38 13.3	+0.1	

BUC 04 19:40:17.8±0.2, 44°34′N×26°88′E, h11km±1km, ml1.6/9, 45C-11D, Error ellipse: s-maj=1.3km s-min=1.0km az=171.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEHL	**Lehliu**	**0.14**	**342**	⇓P	Pg	19 40 21.8	+0.7
LEHL				⇓S	Sg	19 40 23.8	+0.3
LEHL	**Lehliu**	**0.14**	**342**	⇓P	Pg	19 40 21.8	+0.7
LEHL				⇓S	Sg	19 40 23.8	+0.3
SULR		**0.56**	**307**	⇑P	Pg	19 40 28.5	-0.3
SULR				⇑S	Sg	19 40 37.0	+0.8
SULR		**0.56**	**307**	⇑P	Pg	19 40 28.5	-0.3
PGOR	**Pogoanele**	**0.57**	**7**	⇑S	Sb	19 40 37.5	-0.6
PGOR	**Pogoanele**	**0.57**	**7**	⇑S	Sb	19 40 37.5	-0.6
BUC1	**Bucharest**	**0.61**	**271**	⇓S	Sg	19 40 37.8	0.0
BUC1	**Bucharest**	**0.61**	**271**	⇓S	Sg	19 40 37.8	0.0
SGRR	**Singureni**	**0.66**	**260**	⇑P	Pg	19 40 30.5	-0.1
SGRR				⇑S	Sg	19 40 39.8	+0.5
SGRR	**Singureni**	**0.66**	**260**	⇑P	Pg	19 40 30.5	-0.1
ISR	**Istrita**	**0.82**	**343**	⇑P	Pg	19 40 33.6	0.0
ISR				⇑S	Sg	19 40 44.6	+0.4
ISR	**Istrita**	**0.82**	**343**	⇑P	Pg	19 40 33.6	0.0
RAZG	**Razgrad**	**0.82**	**199**	⇑P	Pb	19 40 33.9	-0.1
RAZG				⇑S	Sb	19 40 45.3	+0.2
RAZG	**Razgrad**	**0.82**	**199**	⇑P	Pb	19 40 33.9	-0.1
CVDA	**Cernavoda**	**0.83**	**90**	⇑S	Sb	19 40 45.8	+0.4
CVDA	**Cernavoda**	**0.83**	**90**	⇑S	Sb	19 40 45.8	+0.4
HARR	**Harsova**	**0.83**	**65**	⇑P	Pg	19 40 34.0	+0.2
HARR	**Harsova**	**0.83**	**65**	⇑P	Pg	19 40 34.0	+0.2
TLBR	**Topalu**	**0.86**	**76**	⇑P	Pb	19 40 34.8	0.0
TLBR				⇑S	Sb	19 40 46.4	+0.1
TLBR	**Topalu**	**0.86**	**76**	⇑P	Pb	19 40 34.8	0.0
TIRR	**Tirgusor**	**1.10**	**83**	⇓P	Pb	19 40 38.9	-0.1
TIRR				⇓S	Sg	19 40 53.6	+0.2
TIRR	**Tirgusor**	**1.10**	**83**	⇓P	Pb	19 40 38.9	-0.1
COPA	**Copaceanca**	**1.21**	**261**	⇑P	Pn	19 40 40.4	-0.3
COPA				⇓S	Sn	19 40 57.4	+0.3
COPA	**Copaceanca**	**1.21**	**261**	⇑P	Pn	19 40 40.4	-0.3
BISRR	**Bisoca**	**1.22**	**354**	⇑P	Pg	19 40 41.3	+0.1
BISRR				⇑S	Sn	19 40 58.2	+0.9
BISRR	**Bisoca**	**1.22**	**354**	⇑P	Pg	19 40 41.3	+0.1
CFR	**Carcaliu**	**1.23**	**46**	⇑P	Pn	19 40 40.8	-0.1
CFR				⇑S	Sb	19 40 56.7	-0.1
CFR	**Carcaliu**	**1.23**	**46**	⇑P	Pn	19 40 40.8	-0.1
MLR	**Muntele Rosu**	**1.33**	**330**	⇑P	Pn	19 40 42.4	-0.1
MLR				⇑S	Sg	19 41 01.7	+1.1
MLR	**Muntele Rosu**	**1.33**	**330**	⇑P	Pn	19 40 42.4	-0.1
HUMR	**Humele**	**1.38**	**279**	⇑S	Sg	19 41 01.9	-0.2
HUMR	**Humele**	**1.38**	**279**	⇑S	Sg	19 41 01.9	-0.2
PLOR	**Plostina**	**1.52**	**354**	⇑S	Sn	19 41 05.0	+0.2
PLOR	**Plostina**	**1.52**	**354**	⇑S	Sn	19 41 05.0	+0.2
VRI	**Vrincioaia**	**1.53**	**356**	⇓P	Pn	19 40 45.5	+0.3
VRI				⇓S	Sg	19 41 06.7	-0.4
VRI	**Vrincioaia**	**1.53**	**356**	⇓P	Pn	19 40 45.5	+0.3
TLCR		**1.62**	**58**	⇑P	Pn	19 40 46.0	-0.3
TLCR				⇑S	Sb	19 41 08.2	+0.1
TLCR		**1.62**	**58**	⇑P	Pn	19 40 46.0	-0.3
VOIR		**1.70**	**311**	⇑P	Pn	19 40 47.0	-0.5
VOIR				⇑S	Sb	19 41 10.8	+0.1
VOIR		**1.70**	**311**	⇑P	Pn	19 40 47.0	-0.5
VOIR		**1.70**	**311**	⇑S	Sb	19 41 10.8	+0.1

IDC 04 19:44:13.8±4.3, 39°47′N×67°09′E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/39, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=180.6km s-min=24.3km az=151.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.29**	**52**	Pn	Pn	19 47 20.1	-3.6
	0.1nm,0.3s,baz=217,slow=11,SNR=6.8						
ZALV	**Zalesovo Beam**	**18.83**	**34**	P	P	19 48 34.8	-0.2
	0.1nm,0.3s,baz=215,slow=12,SNR=2.5						
TORD	**Torodi Ar. Bea**	**62.80**	**265**	P	P	19 54 41.4	0.0
	0.2nm,0.7s,baz=46,slow=6.7,SNR=4.1						
ILAR	**Eielson Array**	**72.73**	**15**	P	P	19 55 43.4	+0.1
	0.3nm,0.9s,baz=320,slow=3.7,SNR=2.1						

*ATA **04** 19:55:14.8±1.6, 38°68′N×42°99′E, h10km±120km, ML1.5, MW3.6*
*DDA **04** 19:55:15.8, 38°65′N×43°01′E, h7km±4km, ML1.5*
*ISK **04** 19:55:15.8, 38°62′N×43°01′E, h4km, ML2.0/5*
ISC 04 19:55:15.7±1.1, 38°65′N±0°03×43°01′E±0°03, h9km±11km, n15, σ0°77/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.30**	**100**	PG	**Pb**	**19 55 22.9**	**-0.5**
VANB				SG	**Sb**	**19 55 28.2**	**-0.4**
AKDM	**Akdamar-Van**	**0.32**	**184**	PG	**Pg**	**19 55 22.1**	**-0.1**
TVAN	**Van**	**0.34**	**111**	*e*P	**Pg**	**19 55 22.8**	**+0.4**
TVAN				*e*S	**Sb**	**19 55 28.4**	**-1.2**
TVAN				IAML		19 55 29.2	
	comp=Z,84nm,0.4s						
TVAN	**Van**	**0.34**	**111**	*i* P	**Pg**	**19 55 23.0**	**+0.5**
TVAN				*i* S	**Sg**	**19 55 27.9**	**+1.0**
TVAN				IAML		19 55 29.0	
	comp=E,227nm,0.4s						
TVAN				IAML		19 55 29.0	
	comp=N,175nm,0.4s						
GEVA	**Gevas**	**0.34**	**173**	*e*P	**Pg**	**19 55 22.5**	**0.0**
GEVA				*e*S	**Sb**	**19 55 29.0**	**-0.6**
GEVA				IAML		19 55 32.7	
	comp=Z,37nm,0.2s						
GEVA	**Gevas**	**0.34**	**173**	*i* P	**Pg**	**19 55 22.6**	**+0.1**
GEVA				*i* S	**Sg**	**19 55 24.9**	**-2.2**
GEVA				IAML		19 55 32.0	
	comp=N,61nm,0.3s						
GEVA				IAML		19 55 33.0	
	comp=E,47nm,0.5s						
VMUR	**Van-Muradiye**	**0.56**	**52**	*i* P	**Pg**	**19 55 27.1**	**+0.5**
VMUR				*i* S	**Sg**	**19 55 33.9**	**0.0**
VMUR				IAML		19 55 38.0	
	comp=E,33nm,0.5s						
BLIS	**Bitlis-Merkez**	**0.74**	**252**	*e*P	**Pb**	**19 55 30.8**	**0.0**
BLIS				*e*S	**Sg**	**19 55 40.2**	**+0.6**
BLIS				IAML		19 55 43.5	
	comp=Z,20nm,0.3s						
BLIS	**Bitlis-Merkez**	**0.74**	**252**	*i* P	**Pb**	**19 55 30.8**	**0.0**
BLIS				*i* S	**Sg**	**19 55 39.5**	**0.0**
BLIS				IAML		19 55 43.0	
	comp=E,24nm,0.2s						
BLIS				IAML		19 55 44.0	
	comp=N,34nm,0.5s						
GURO	**Guroymak-BITLI**	**0.77**	**263**	PG	**Pb**	**19 55 31.2**	**-0.2**
GURO				SG	**Sb**	**19 55 42.3**	**+0.3**
CLDR	**Caldiran**	**0.86**	**55**	PG	**Pb**	**19 55 33.2**	**+0.2**
CLDR	**Caldiran**	**0.86**	**55**	*i* P	**Pg**	**19 55 32.8**	**+0.4**
CLDR				IAML		19 55 52.0	
	comp=E,12nm,0.4s						
SRTM	**Siirt_Merkez**	**1.08**	**233**	*i* P	**Pn**	**19 55 37.7**	**+0.6**
SRTM				*i* S	**Sb**	**19 55 51.8**	**+1.0**
SRTM				IAML		19 55 58.0	
	comp=E,15nm,0.5s						
SRTM				IAML		19 55 58.0	
	comp=N,16nm,0.5s						
SIRT	**Sirnak**	**1.23**	**201**	PN	**Pg**	**19 55 39.5**	**+0.1**
EATA	**Eleskirt**	**1.27**	**342**	*e*P	**Pg**	**19 55 38.8**	**-1.4**
EATA				IAML		19 55 46.0	
	comp=Z,3.0nm,0.5s						

IDC 04 20:00:07.3±2.6, 11°51′N×92°44′E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.1/48, mbtmp3.2/3, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/12, Error ellipse: s-maj=69.7km s-min=33.7km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.34**	**42**	Pn	Pn	20 02 22.2	-0.9
	0.2nm,0.3s,baz=234,slow=15,SNR=8.7						
H08S3	**Diego Garcia H**	**27.49**	**227**	T	T	20 34 49.5	
	baz=45,slow=76,SNR=5.2						
H08S2	**Diego Garcia H**	**27.49**	**227**	T	T	20 34 52.2	
	baz=45,slow=76,SNR=5.6						
H08S1	**Diego Garcia H**	**27.51**	**227**	T	T	20 34 53.5	
	baz=45,slow=76,SNR=4.4						
MKAR	**Makanchi Array**	**36.20**	**348**	P	P	20 07 11.5	-0.2
	0.2nm,0.6s,baz=170,slow=9.6,SNR=1.9						
MJAR	**Matsushiro Arr**	**48.08**	**51**	LR	LR	20 31 41.8	
	comp=Z,85nm,20.4s,baz=230,slow=39						
WRA	**Warramunga Arr**	**51.75**	**127**	P	P	20 09 17.2	+0.2
	0.5nm,1.1s,baz=300,slow=9.9,SNR=5.1						

*NIC **04** 20:03:19.0±0.0, 36°18′N×31°48′E, h28km±3km, Ml2.7/5*
*ISK **04** 20:03:18.6, 36°17′N×31°44′E, h18km, ML2.3/17*
*DDA **04** 20:03:20.9, 36°24′N×31°52′E, h23km±2km, ML2.0*
ISC 04 20:03:18.1±1.2, 36°16′N±0°02×31°50′E±0°02, h20km±4km, n47, σ1°29/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALAN	**Alanya-ANTALYA**	**0.58**	**47**	PG	**Pn**	**20 03 31.8**	**+0.5**
GAZI	**Gazipasa**	**0.66**	**84**	PG	**Pn**	**20 03 33.2**	**+0.7**
GAZI				SG	**Sn**	**20 03 42.9**	**+0.6**
GAZI	**Gazipasa**	**0.66**	**84**	*i* P	**Pn**	**20 03 32.8**	**+0.4**
GAZI				*i* S	**Sb**	**20 03 40.4**	**+0.7**
GAZI				IAML		20 03 43.0	
	comp=E,75nm,0.3s						
GAZI				IAML		20 03 44.0	
	comp=N,62nm,0.5s						
KEPZ	**Antalya-Kepez**	**0.74**	**6**	*i* P	**Pn**	**20 03 34.4**	**+0.8**
KEPZ				*i* S	**Sg**	**20 03 41.5**	**-1.2**
KEPZ				IAML		20 03 46.0	
	comp=N,57nm,0.3s						
AKUM	**Antalya-Kumluc**	**0.95**	**280**	*i* P	**Pn**	**20 03 38.3**	**+1.9**
AKUM				*i* S	**Sn**	**20 03 50.1**	**+0.8**
AKUM				IAML		20 03 58.0	
	comp=N,46nm,0.6s						
AKUM				IAML		20 04 02.0	
	comp=E,38nm,0.5s						
ANTB	**Antalya**	**1.00**	**317**	PG	**Pn**	**20 03 37.6**	**+0.5**
SEYD	**Seydisehir-KON**	**1.27**	**12**	PN	**Pg**	**20 03 42.5**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.30**	**90**	PN	**Pg**	**20 03 43.4**	**0.0**
AKMS	**Akamas**	**1.33**	**149**	P	**Pn**	**20 03 42.0**	**+0.3**
AKMS				S	**Sb**	**20 03 59.1**	**+0.1**
AKMS				AML	AML	20 04 06.5	
	comp=E,0.5nm,0.3s						
AKMS				AML	AML	20 04 06.5	
	comp=E,0.5nm,0.3s						
AKMS				AML	AML	20 04 08.1	
	comp=E,0.4nm,0.3s						
AKMS				AML	AML	20 04 08.1	
	comp=E,0.4nm,0.3s						
ALFC	**Alefka**	**1.34**	**138**	P	**Pn**	**20 03 41.8**	**-0.1**
ALFC				S	**Sb**	**20 03 59.2**	**-0.3**
ALFC				AML	AML	20 03 59.9	
	comp=E,0.3nm,0.2s						
ALFC				AML	AML	20 03 59.9	
	comp=E,0.3nm,0.2s						
ALFC				AML	AML	20 04 00.3	
	comp=E,0.3nm,0.1s						
ALFC				AML	AML	20 04 00.3	
	comp=E,0.3nm,0.1s						
BERE	**Bereket-Mersin**	**1.40**	**82**	PN	**Pg**	**20 03 44.5**	**-0.8**
ELL	**Elmali**	**1.41**	**295**	PN	**Pn**	**20 03 43.1**	**+0.2**
BCK	**Bucak**	**1.49**	**331**	PN	**Pb**	**20 03 44.9**	**-0.3**
AKAS	**Kas**	**1.54**	**273**	*i* P	**Pb**	**20 03 46.3**	**+0.3**
LEF	**Lefka**	**1.54**	**132**	PN	**Pn**	**20 03 45.7**	**+1.2**
LEF	**Lefka**	**1.54**	**132**	*i* P	**Pn**	**20 03 43.9**	**-0.6**
LEF				*i* S	**Sn**	**20 04 00.0**	**-3.9**
LEF				IAML		20 04 02.0	
	comp=N,46nm,0.6s						
LEF				IAML		20 04 03.0	
	comp=E,41nm,0.4s						
KSL	**Kastellorizon**	**1.55**	**270**	P	**Pn**	**20 03 44.4**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.59**	**80**	PN	**Pb**	**20 03 47.3**	**+0.4**
NATA	**Nata**	**1.63**	**147**	P	**Pg**	**20 03 49.6**	**0.0**
NATA				S	**Sg**	**20 04 12.9**	**+2.0**
NATA				AML	AML	20 04 17.8	
	comp=E,0.8nm,0.8s						
NATA				AML	AML	20 04 17.8	
	comp=E,0.8nm,0.8s						
NATA				AML	AML	20 04 19.1	
	comp=E,1.1nm,0.9s						
NATA				AML	AML	20 04 19.1	
	comp=E,1.1nm,0.9s						
GULN	**MERSIN_Gulnar**	**1.65**	**89**	*i* P	**Pb**	**20 03 48.2**	**+0.3**
GULN				*i* S	**Sn**	**20 04 05.3**	**-1.4**
GULN				IAML		20 04 11.0	
	comp=N,10nm,0.4s						
AKKU	**Akkuyu-Mersin**	**1.66**	**90**	PN	**Pb**	**20 03 48.7**	**+0.7**
KRMN	**Karaman**	**1.74**	**54**	PN	**Pb**	**20 03 49.3**	**-0.2**
KMER	**Konya-Meram**	**1.75**	**23**	*i* P	**Pb**	**20 03 49.2**	**-0.4**
KMER				IAML		20 04 12.0	
	comp=E,12nm,0.5s						
KMER				IAML		20 04 12.0	
	comp=N,21nm,0.7s						
IKL	**Isikli**	**1.77**	**87**	PN	**Pb**	**20 03 50.2**	**+0.3**
SZAC	**Souni**	**1.80**	**141**	P	**Pg**	**20 03 52.4**	**-0.4**
SZAC				S	**Sg**	**20 04 16.8**	**+0.5**
SZAC				AML	AML	20 04 20.2	
	comp=N,0.2nm,0.5s						
SZAC				AML	AML	20 04 20.2	
	comp=N,0.2nm,0.5s						
GOLH	**Golhisar**	**1.89**	**305**	*i* P	**Pb**	**20 03 51.6**	**-0.5**
GOLH				*i* S	**Sb**	**20 04 15.3**	**0.0**
GOLH				IAML		20 04 25.0	
	comp=N,12nm,0.3s						
KONT	**Konya--Tatoy**	**1.91**	**21**	PN	**Pn**	**20 03 50.6**	**+1.0**
KONT	**Konya--Tatoy**	**1.91**	**21**	*i* P	**Pn**	**20 03 50.5**	**+0.9**
BAGO	**Egridir - ISPA**	**1.91**	**343**	*i* P	**Pn**	**20 03 50.8**	**+1.1**
CSS	**Mathiatis**	**1.91**	**128**	PN	**Pn**	**20 03 51.6**	**+1.9**
CSS	**Mathiatis**	**1.91**	**128**	P	Pn	20 03 43.8	-5.9
DOGA	**KONYA_Doganhis**	**1.94**	**4**	*i* P	**Pb**	**20 03 51.8**	**-1.2**
DOGA				*i* S	**Sn**	**20 04 14.5**	**+4.0**
DOGA				IAML		20 04 17.0	
	comp=N,15nm,0.5s						
DOGA				IAML		20 04 18.0	
	comp=E,16nm,0.6s						
ASGA	**Asgata**	**1.98**	**133**	P	**Pb**	**20 03 54.3**	**+0.8**
ASGA				S	**Sg**	**20 04 20.5**	**-1.4**
ASGA				AML	AML	20 04 28.1	
	comp=E,0.1nm,0.4s						
ASGA				AML	AML	20 04 28.1	
	comp=E,0.1nm,0.4s						
ASGA				AML	AML	20 04 30.5	
	comp=E,0.2nm,0.5s						
ASGA				AML	AML	20 04 30.5	
	comp=E,0.2nm,0.5s						
MVOU	**Mavrovouni**	**2.08**	**123**	P	**Pn**	**20 03 51.5**	**-0.4**
MVOU				S	**Sn**	**20 04 15.3**	**-1.9**
BASM	**Basmaki-Afyon**	**2.10**	**327**	PN	**Pn**	**20 03 53.6**	**+1.3**
LADK	**Ladik-KONYA**	**2.15**	**18**	PN	**Pn**	**20 03 54.2**	**+1.2**
KIZK	**Mersin**	**2.16**	**81**	PN	**Pb**	**20 03 55.7**	**-0.8**
KIZK	**Mersin**	**2.16**	**81**	*i* P	**Pn**	**20 03 55.2**	**+2.2**
KIZK				IAML		20 04 27.0	
	comp=N,9.3nm,1.0s						
KIZK				IAML		20 04 34.0	
	comp=E,7.8nm,0.5s						
KDHN	**Kadinhani**	**2.40**	**12**	*i* P	**Pn**	**20 03 56.2**	**-0.3**
KERG	**Konya-Eregli**	**2.45**	**59**	*i* P	**Pn**	**20 03 58.8**	**+1.6**
KERG				IAML		20 04 37.0	
	comp=E,11nm,0.5s						
MERS	**Mersin**	**2.53**	**73**	PN	**Pn**	**20 04 01.0**	**+2.8**
OSC1	**CSNet OBS 1**	**2.66**	**184**	P	**Pn**	**20 04 00.4**	**+0.5**
OSC1				S	**Sn**	**20 04 31.2**	**-0.4**
KIZT	**Kizilcal**	**2.73**	**6**	PN	**Pn**	**20 04 02.2**	**+1.2**
DED	**Mersin**	**2.77**	**72**	*i* P	**Pn**	**20 04 03.1**	**+1.6**
GULE	**Gulek**	**2.86**	**66**	*i* P	**Pn**	**20 03 59.9**	**-2.9**
GULE				IAML		20 04 44.0	
	comp=N,11nm,0.6s						
GULE				IAML		20 04 57.0	
	comp=E,13nm,0.5s						
KARA	**Karaisali**	**3.06**	**68**	PN	**Pn**	**20 04 08.2**	**+2.8**
CMRD	**Camardi-Nigde**	**3.17**	**61**	PN	**Pn**	**20 04 09.8**	**+2.7**

IDC 04 20:04:34.5±7.2, 18°61S×174°80W, h159km±46km, mb3.3/3, mb1 3.6/4, mb1mx3.2/36, mbtmp3.9/4, Error ellipse: s-maj=185.9km s-min=29.3km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.51**	**32**	P	Pn	20 05 54.7	-0.2
	1.8nm,0.3s,baz=74,slow=19,SNR=1.9						
AFI				S	Sn	20 06 48.1	-10
	12nm,0.3s,baz=54,slow=20,SNR=13						
WRA	**Warramunga Arr**	**47.88**	**260**	P	P	20 12 55.9	-0.9
	0.4nm,0.5s,baz=97,slow=7.0,SNR=19						
ASAR	**Alice Springs**	**47.90**	**255**	P	P	20 12 57.9	+0.9
	3.2nm,0.8s,baz=87,slow=8.6,SNR=56						
ASAR				PcP	PcP	20 14 21.5	-1.5
	0.3nm,0.8s,baz=89,slow=4.3,SNR=2.0						
ILAR	**Eielson Array**	**85.84**	**12**	P	P	20 16 56.3	+0.6
	0.3nm,0.9s,baz=189,slow=4.6,SNR=2.0						

*GUC **04** 20:09:13.9±0.7, 33°65S×72°68W, h37km±2km, ML4.0*
*SJA **04** 20:09:14.8±0.5, 33°54S×72°50W, h11km, ML4.1, MW4.2*
*NEIC **04** 20:09:14.6±1.9, 33°69S±0°03×72°48W±0°06, h9km±2km, mb4.2/12, ML4.0(GUC), Error ellipse: s-maj=8.1km s-min=3.2km az=116.0*
*IDC **04** 20:09:15.2±0.9, 33°74S×71°70W, h0km, mb4.1/8, mb1 4.1/11, mb1mx4.0/28, mbtmp4.1/11, ML4.1/3, MS3.5/4, Ms1 3.4/4, ms1mx3.2/20, Error ellipse: s-maj=40.7km s-min=14.9km az=92.0*
ISC 04 20:09:14.1±2.2, 33°68S±0°03×72°58W±0°05, h6km±13km, n92, σ1°32/101, mb4.2/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.02**	**51**	*e*P	**Pb**	**20 09 33.1**	**-1.1**
VA01				*i* S	**Sb**	**20 09 47.0**	**-0.8**
VA01	**Torpederas**	**1.02**	**51**		**Pb**	**20 09 33.0**	**-1.1**
VA01				Sg	**Sg**	**20 09 46.4**	**-0.3**
MT02	**Curacav**	**1.28**	**71**	*e*P	**Pn**	**20 09 36.8**	**-1.8**
MT02				*i* S	**Sg**	**20 09 55.0**	**-0.1**
MT02				IAML		20 10 01.0	
	comp=N,1μm,0.5s						
MT02	**Curacav**	**1.28**	**71**		**Pn**	**20 09 36.7**	**-1.8**
GO05	**Huala**	**1.44**	**158**	*e*P	**Pn**	**20 09 40.0**	**-0.8**
GO05				IAML		20 10 08.2	
	comp=N,2μm,0.7s						
GO05				IAML		20 10 08.2	
	comp=N,2μm,0.7s						
GO05	**Huala**	**1.44**	**158**		**Pn**	**20 09 40.1**	**-0.6**
GO05				Sg	**Sn**	**20 09 57.8**	**-2.2**
ROC1	**El Roble**	**1.48**	**62**		**Pn**	**20 09 40.5**	**-1.1**
ROC1	**El Roble**	**1.48**	**62**	*e*P	**Pn**	**20 09 40.4**	**-1.2**
ROCH	**El Roble**	**1.49**	**62**	*e*P	**Pn**	**20 09 40.4**	**-1.2**
MT05	**Renca**	**1.57**	**80**	*e*P	**Pn**	**20 09 41.8**	**-0.7**
MT05				*i* S	**Sg**	**20 10 03.6**	**-0.7**
MT05				IAML		20 10 23.7	
	comp=E,2μm,0.5s						
MT05	**Renca**	**1.57**	**80**		**Pn**	**20 09 41.7**	**-0.8**
PEL	**Peldehue**	**1.67**	**72**	*e*P	**Pn**	**20 09 43.5**	**-0.6**
PEL				*i* S	**Sb**	**20 10 06.4**	**-0.3**
PEL				IAML		20 10 12.3	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.67**	**72**		**Pn**	**20 09 43.4**	**-0.6**
PEL	**Peldehue**	**1.67**	**72**	*e*P	**Pn**	**20 09 43.6**	**-0.4**
PEL				*e*S	**Sb**	**20 10 06.4**	**-0.3**
MT03	**Universidad Ad**	**1.74**	**85**	*e*P	**Pn**	**20 09 44.3**	**-0.6**
MT03				*i* S	**Sb**	**20 10 08.1**	**-0.5**
MT03				IAML		20 10 18.8	
	comp=E,2μm,0.5s						
BO02	**Sierra Bellavi**	**1.86**	**127**	*e*P	**Pn**	**20 09 46.5**	**-0.2**
BO02				*i* S	**Sn**	**20 10 10.8**	**+0.2**
BO02	**Sierra Bellavi**	**1.86**	**127**		**Pn**	**20 09 46.4**	**-0.2**
VA03	**San Esteban**	**1.93**	**62**	*e*P	**Pn**	**20 09 46.7**	**-0.9**
VA03				IAML		20 10 25.3	
	comp=N,3μm,0.6s						
VA03	**San Esteban**	**1.93**	**62**		**Pn**	**20 09 46.8**	**-0.7**
LMEL	**Las Melosas**	**1.99**	**96**	*e*P	**Pn**	**20 09 48.0**	**-0.5**
LMEL				*i* S	**Sn**	**20 10 14.0**	**+0.2**
LMEL				IAML		20 10 25.3	
	comp=N,2μm,0.4s						
CO02	**Combarbal**	**2.80**	**29**	*e*P	**Pn**	**20 09 58.6**	**-1.0**
CO02	**Combarbal**	**2.80**	**29**		**Pn**	**20 09 58.6**	**-1.0**
AUSP	**Uspallata**	**3.05**	**63**	*e*P	**Pn**	**20 10 04.9**	**+1.7**
ARCO	**CERRO ARCO**	**3.17**	**76**	*e*P	**Pb**	**20 10 09.3**	**-1.6**
ARCO				*e*S	**Sg**	**20 10 57.5**	**+1.6**
ARCO				IAML		20 10 59.2	
	comp=Z,341nm,1.1s						
BI02	**San Fabin de**	**3.17**	**161**		**Pn**	**20 10 05.2**	**+0.6**
BI03	**Tigo**	**3.18**	**186**	*e*P	**Pn**	**20 10 03.6**	**-1.1**
BI03				*i* S	**Sn**	**20 10 40.6**	**-2.4**
BI03	**Tigo**	**3.18**	**186**		**Pn**	**20 10 04.7**	**0.0**
AAGR	**Agrelo**	**3.19**	**80**	*e*P	**Pb**	**20 10 10.3**	**-1.0**
AAGR				IAML		20 11 07.6	
	comp=Z,357nm,1.1s						
CO03	**El Pedregal**	**3.25**	**30**	*e*P	**Pn**	**20 10 04.9**	**-0.8**
CO03				*i* S	**Sn**	**20 10 42.6**	**-2.3**
CO03				IAML		20 11 09.3	
	comp=E,336nm,0.5s						
CO03	**El Pedregal**	**3.25**	**30**		**Pn**	**20 10 05.0**	**-0.7**
ASAL	**Salagasta**	**3.32**	**72**	*e*P	**Pn**	**20 10 09.3**	**+2.5**
ASAL				IAML		20 11 12.9	
	comp=Z,296nm,1.7s						
RTLS	**Leoncito**	**3.34**	**57**	*e*P	**Pn**	**20 10 08.8**	**+1.6**
RTLS				IAML		20 11 13.3	
	comp=Z,295nm,1.0s						
EDS3	**Malargue**	**3.35**	**129**	*e*P	**Pn**	**20 10 10.8**	**+3.5**
RFA	**San Rafael**	**3.58**	**109**	*e*P	**Pn**	**20 10 12.8**	**+2.5**
RFA				IAML		20 11 11.5	
	comp=Z,238nm,1.0s						
GO04	**Tololo Observa**	**3.

comp=Z,52nm,0.9s
LVC Limon Verde 11.49 17 Pn **Pn 20 12 01.1 +2.0**
comp=Z,0.2nm,0.3s,baz=223,slow=5.2,SNR=1.9
LVC LR LR 20 17 10.5
comp=Z,251nm,19.7s,baz=232,slow=42
MNMC Minye Minye 14.73 11 Pn **Pn 20 12 44.3 +1.0**
PB16 IPOC Station P 15.52 11 Pn **Pn 20 12 54.9 +0.7**
PB16 IAmb IAmb 20 13 04.0
comp=Z,6.6nm,0.9s
LPAZ La Paz 17.77 14 P **Pn 20 13 22.7 -0.1**
comp=Z,0.1nm,0.3s,baz=181,slow=7.9,SNR=16
LPAZ La Paz 17.77 14 P **Pn 20 13 22.5 -0.3**
SIV San Ignacio 20.44 33 P **P 20 13 50.5 -1.8**
comp=Z,2.5nm,0.7s,baz=223,slow=11,SNR=13
SIV LR LR 20 23 15.9
comp=Z,280nm,20.0s,baz=166,slow=42
NNA Nana 21.94 349 LR LR 20 20 57.2
comp=Z,102nm,20.1s,baz=184,slow=32
SAML Samuel 26.09 22 P **P 20 14 48.5 -0.2**
SAML IAmb IAmb 20 15 02.4
comp=Z,2.7nm,0.8s
BDFB Brasilia 28.53 57 P **P 20 15 07.8 -3.0**
comp=Z,2.1nm,0.4s,baz=227,slow=10.0,SNR=3.2
BDFB Brasilia 28.53 57 P **P 20 15 08.8 -2.0**
BDFB IAmb IAmb 20 15 09.9
comp=Z,6.1nm,1.0s
OTAV Otavalo 34.18 350 P **P 20 16 01.0 +0.1**
OTAV IAmb IAmb 20 16 14.1
comp=Z,6.0nm,1.4s
ROSC El Rosal 38.34 357 P **P 20 16 39.4 +3.0**
comp=Z,6.5nm,0.4s,baz=163,slow=19,SNR=1.8
SDV Santo Domingo 42.37 3 P **P 20 17 08.6 -0.9**
SDV IAmb IAmb 20 17 26.1
comp=Z,6.1nm,1.1s
SNAA Sanae 52.06 158 P **P 20 18 24.4 0.0**
comp=Z,2.1nm,0.9s,baz=288,slow=6.6,SNR=7.1
SNAA Sanae 52.06 158 P **P 20 18 24.6 +0.3**
QSPA South Pole Qui 56.56 180 P **P 20 18 58.2 +0.9**
comp=Z,2.4nm,0.9s,baz=141,slow=2.0,SNR=11
QSPA South Pole Qui 56.56 180 P **P 20 18 58.6 +1.3**
QSPA IAmb IAmb 20 18 59.4
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 69.23 331 P P 20 20 27.4 +5.5
comp=Z,0.3nm,0.8s,baz=142,slow=8.0,SNR=2.8
TXAR Lajitas Array 69.23 331 P **P 20 20 23.6 +1.6**
MAW Mawson 73.62 164 P **P 20 20 48.4 +0.5**
comp=Z,0.3nm,0.4s,baz=235,slow=12,SNR=3.8
MAW Mawson 73.62 164 P **P 20 20 48.2 +0.3**
KOWA Kowa 80.92 66 P **P 20 21 29.1 -0.5**
KOWA IAmb IAmb 20 21 42.2
comp=Z,3.0nm,1.2s
TOA0 Torodi Ar. Sit 84.53 70 P **P 20 21 48.1 -0.4**
TORD Torodi Ar. Bea 84.53 70 P **P 20 21 47.2 -1.2**
comp=Z,1.0nm,0.8s,baz=260,slow=5.3,SNR=5.4
TORD Torodi Ar. Bea 84.53 70 P **P 20 21 48.1 -0.3**
ZALV Zalesovo Beam 154.19 31 PKP **PKPdf 20 29 06.9 +0.6**
comp=Z,0.2nm,0.3s,baz=137,slow=3.0,SNR=3.8
ZALV PKPbc **PKiKP 20 29 14.9 +0.4**
comp=Z,1.6nm,0.5s,baz=314,slow=3.9,SNR=9.0
ZALV Zalesovo Beam 154.19 31 PKPdf 20 29 06.2 0.0
ZALV **PKiKP 20 29 14.6 +0.1**
MKAR Makanchi Array 156.89 48 PKPab **PKPab 20 29 39.4 -0.8**
comp=Z,1.0nm,0.6s,baz=288,slow=4.1,SNR=11
MKAR Makanchi Array 156.89 48 PKPab 20 29 39.7 -0.5

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*ATA **04** 20:28:46.8±0.3, 38.°45N×43.°66E, h33km±4km, ML1.3, MW4.1*
*ISK **04** 20:28:48.8, 38.°77N×43.°45E, h4km, ML1.6/4*
*DDA **04** 20:28:49.2, 38.°73N×43.°54E, h7km±1km, ML1.4*
ISC 04 20:28:49.0±1.0, **38.°71N**±0.°04×**43.°55E**±0.°06, **h14**km±10km, **n12**, σ0s**75**/18, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**227**	PG		**Pb**	**20 28 54.6**	**+0.6**
TVAN	**Van**	**0.21**	**211**	*e*P		**Pg**	**20 28 54.3**	**+0.3**
TVAN				e*S*		**Sb**	**20 29 00.0**	**+1.4**
TVAN				IAML			20 29 04.3	
	comp=Z,75nm,0.4s							
TVAN	**Van**	**0.21**	**211**	*i* P		**Pg**	**20 28 54.2**	**+0.3**
TVAN				*i* S		**Sb**	**20 28 58.5**	**-0.2**
TVAN				IAML			20 29 00.0	
	comp=E,86nm,0.2s							
TVAN				IAML			20 29 00.0	
	comp=N,91nm,0.2s							
VMUR	**Van-Muradiye**	**0.28**	**4**	*i* P		**Pg**	**20 28 54.6**	**-0.3**
VMUR				*i* S		**Sg**	**20 28 58.7**	**-0.4**
VMUR				IAML			20 29 00.0	
	comp=N,94nm,0.5s							
VMUR				IAML			20 29 02.0	
	comp=E,57nm,0.3s							
CLDR	**Caldiran**	**0.52**	**34**	PG		**Pg**	**20 28 59.5**	**+0.2**
CLDR				SG		**Sb**	**20 29 07.4**	**-0.1**
CLDR	**Caldiran**	**0.52**	**34**	*i* P		**Pg**	**20 28 59.1**	**-0.2**
CLDR				*i* S		**Sg**	**20 29 06.7**	**+0.4**
CLDR				IAML			20 29 09.0	
	comp=N,19nm,0.4s							
GEVA	**Gevas**	**0.55**	**224**	*e*P		**Pg**	**20 28 58.0**	**-2.0**
GEVA				e*S*		**Sg**	**20 29 06.7**	**-0.6**
GEVA				IAML			20 29 12.8	
	comp=Z,6.8nm,0.7s							
GEVA	**Gevas**	**0.55**	**224**	*i* P		**Pg**	**20 28 59.5**	**-0.4**
AKDM	**Akdamar-Van**	**0.59**	**230**	PG		**Pg**	**20 29 00.8**	**+0.3**
BASK	**Baskale_VAN**	**0.75**	**151**	*e*P		Pg	20 28 58.0	-5.6
HAKT	**HAKKARI**	**1.16**	**174**	*i* P		**Pb**	**20 29 10.5**	**-0.4**
GURO	**Guroymak-BITLI**	**1.20**	**263**	PN		**Pb**	**20 29 11.6**	**+0.1**
GURO				SN		**Sb**	**20 29 27.2**	**+0.3**

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*JMA **04** 20:32:32.2, 24.°08N×121.°91E, h58km±1km, M2.8*
*TAP **04** 20:32:32.7, 24.°15N×121.°93E, h58km, ML3.6, C*
ISC 04 20:32:33.6±1.2, **24.°12N**±0.°02×**121.°97E**±0.°02, **h46**km±7km, **n133**, σ1s**10**/251, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.34**	**263**	*e*P		**Pn**	**20 32 41.8**	**-1.0**
	baz=253							
TWD				S		**Sn**	**20 32 50.6**	**+1.4**
	baz=253							
NACB	**Ninganchiao**	**0.34**	**279**	P		**Pn**	**20 32 42.3**	**-0.5**
	baz=270							
NACB				S		**Sn**	**20 32 49.4**	**+0.1**
	baz=270							
ENAH	**Nanao**	**0.36**	**336**	P		**Pn**	**20 32 43.0**	**0.0**
	baz=339							
ENAH				e*S*		**Sn**	**20 32 50.7**	**+1.1**
	baz=339							
HWA	**Hwalien**	**0.36**	**246**	*e*P		**Pn**	**20 32 43.3**	**+0.3**
	baz=239							
HWA				S		**Sn**	**20 32 51.5**	**+2.0**
	baz=239							
ETLH	**Xiulin Townshi**	**0.45**	**281**	P		**Pn**	**20 32 43.5**	**-0.6**
	baz=272							
ETLH				S		**Sn**	**20 32 51.5**	**0.0**
	baz=272							
TWC	**Suao**	**0.50**	**348**	P		**Pn**	**20 32 44.6**	**0.0**
	baz=355							
TWC				*i* S		**Sn**	**20 32 53.1**	**+0.7**
	baz=355							
ESL	**Shilin**	**0.58**	**238**	P		**Pn**	**20 32 44.8**	**-0.8**
	baz=242							
ESL				S		**Sn**	**20 32 53.6**	**-0.5**
	baz=242							
NNSB	**Datong**	**0.61**	**300**	*i* P		**Pn**	**20 32 45.7**	**-0.5**
	baz=292							
NNSB				S		**Sn**	**20 32 54.8**	**-0.4**
	baz=292							
NNSH	**Datong**	**0.61**	**300**	P		**Pn**	**20 32 45.6**	**-0.6**
	baz=292							
NNSH				S		**Sn**	**20 32 54.6**	**-0.6**
	baz=292							
NNS	**Nan Shan**	**0.63**	**300**	P		**Pn**	**20 32 45.8**	**-0.6**
	baz=293							
NNS				S		**Sn**	**20 32 55.5**	**0.0**
	baz=293							
ENTT	**Nioudou**	**0.63**	**325**	*i* P		**Pn**	**20 32 45.9**	**-0.4**
	baz=327							
ENTT				e*S*		**Sn**	**20 32 55.9**	**+0.5**
	baz=327							
NDT	**Datong Townshi**	**0.63**	**319**	P		**Pn**	**20 32 46.0**	**-0.3**
	baz=321							
NDT				e*S*		**Sn**	**20 32 55.9**	**+0.4**
	baz=321							
WHF	**Hehuan Shan**	**0.64**	**272**	P		**Pn**	**20 32 46.1**	**-0.7**
	baz=263							
WHF				S		**Sn**	**20 32 55.9**	**-0.4**
	baz=263							
TWE	**Neicheng**	**0.66**	**335**	P		**Pn**	**20 32 46.4**	**-0.2**
	baz=343							
TWE				S		**Sn**	**20 32 56.3**	**+0.3**
	baz=343							
EGFH	**Guangfu**	**0.67**	**228**	*e*P		**Pn**	**20 32 45.7**	**-1.1**
	baz=232							
EGFH				e*S*		**Sn**	**20 32 56.3**	**0.0**
	baz=232							
ILA	**Ilan**	**0.67**	**343**	*e*P		**Pn**	**20 32 46.8**	**0.0**
	baz=351							
ILA				e*S*		**Sn**	**20 32 57.1**	**+0.8**
	baz=351							
FUSS	**Fushou**	**0.67**	**281**	P		**Pn**	**20 32 46.6**	**-0.4**
	baz=279							
FUSS				e*S*		**Sn**	**20 32 56.6**	**-0.1**
	baz=279							
EGS		**0.72**	**358**	*e*P		**Pn**	**20 32 48.2**	**+0.8**
	baz=2.0							
EGS				e*S*		**Sn**	**20 32 59.1**	**+1.6**
	baz=2.0							
CHGB	**Renai**	**0.73**	**265**	*i* P		**Pn**	**20 32 47.3**	**-0.5**
	baz=258							
CHGB				e*S*		**Sn**	**20 32 57.8**	**-0.2**
	baz=258							
TWT	**Tachien**	**0.73**	**280**	P		**Pn**	**20 32 47.6**	**-0.1**
	baz=272							
TWT				S		**Sn**	**20 32 58.4**	**+0.4**
	baz=272							
NTC	**Toucheng**	**0.74**	**350**	*e*P		**Pn**	**20 32 47.7**	**0.0**
	baz=2.0							
NTC				e*S*		**Sn**	**20 32 58.4**	**+0.5**
	baz=2.0							
OWD	**Renai**	**0.74**	**257**	P		**Pn**	**20 32 47.7**	**-0.2**
	baz=253							
OWD				S		**Sn**	**20 32 58.0**	**-0.2**
	baz=253							
TDCB	**Techi**	**0.75**	**280**	*i* P		**Pn**	**20 32 47.8**	**-0.2**
	baz=272							
TDCB				e*S*		**Sn**	**20 32 58.0**	**-0.4**
	baz=272							
YHNB	**Yeheng**	**0.77**	**315**	*i* P		**Pn**	**20 32 47.6**	**-0.5**
	baz=309							
YHNB				e*S*		**Sn**	**20 32 57.9**	**-0.8**
	baz=309							
NWLT	**Wulai**	**0.78**	**327**	P		**Pn**	**20 32 47.6**	**-0.7**
	baz=329							
NWLT				e*S*		**Sn**	**20 32 58.5**	**-0.4**
	baz=329							
HGSD	**Ruisui**	**0.80**	**219**	*e*P		**Pn**	**20 32 48.8**	**+0.3**
	baz=208							
HGSD				S		**Sn**	**20 32 59.7**	**+0.4**
	baz=208							
VWDT	**VWDT**	**0.84**	**244**	P		**Pn**	**20 32 48.7**	**-0.3**
	baz=235							
VWDT				e*S*		**Sn**	**20 33 00.3**	**+0.1**
	baz=235							
EHY	**Hungye**	**0.85**	**224**	*e*P		**Pn**	**20 32 47.8**	**-1.4**
	baz=219							
EHY				e*S*		**Sn**	**20 32 59.3**	**-1.3**
	baz=219							
TIPB	**Shuangxi**	**0.86**	**351**	P		**Pn**	**20 32 49.6**	**+0.3**
	baz=360							
TIPB				S		**Sn**	**20 33 01.3**	**+0.6**
	baz=360							
TWB1	**Santiao Chiao**	**0.88**	**1**	P		**Pn**	**20 32 49.3**	**-0.4**
	baz=16							
TWB1				e*S*		**Sn**	**20 33 01.2**	**-0.1**
	baz=16							
TWA	**Mucha**	**0.92**	**338**	*e*P		**Pn**	**20 32 50.2**	**0.0**
	baz=350							
TWA				e*S*		**Sn**	**20 33 02.8**	**+0.5**
	baz=350							
WHP	**Taichung City**	**0.94**	**280**	*i* P		**Pn**	**20 32 50.9**	**+0.4**
	baz=274							
WHP				S		**Sn**	**20 33 03.4**	**+0.5**
	baz=274							
YULB	**Yu-li**	**0.95**	**220**	P		**Pn**	**20 32 49.3**	**-1.3**
	baz=226							
YULB				S		**Sn**	**20 33 01.3**	**-1.7**
	baz=226							
JYNG	**Yonagunijimaku**	**0.95**	**70**	P		**Pn**	**20 32 50.8**	**+0.3**
JYNG				S		**Sn**	**20 33 04.1**	**+1.1**
TATO	**Taipei**	**0.95**	**333**	*i* P		**Pn**	**20 32 50.1**	**-0.5**
	baz=335							
TATO				e*S*		**Sn**	**20 33 03.6**	**+0.5**
	baz=335							
NWF	**Wu-fen Shan**	**0.96**	**350**	*e*P		**Pn**	**20 32 51.2**	**+0.4**
	baz=353							
NWF				e*S*		**Sn**	**20 33 04.2**	**+0.8**
	baz=353							
WFSB	**Wu-fen Shan**	**0.96**	**350**	*e*P		**Pn**	**20 32 50.8**	**+0.2**
	baz=353							
WFSB				S		**Sn**	**20 33 03.7**	**+0.5**
	baz=353							
EYUL	**Yuli**	**0.97**	**218**	*e*P		**Pn**	**20 32 49.9**	**-0.9**
	baz=222							
EYUL				e*S*		**Sn**	**20 33 03.7**	**+0.2**
	baz=222							
TWF1	**Yuli**	**0.98**	**219**	*e*P		**Pn**	**20 32 49.8**	**-1.2**
	baz=223							
TWF1				S		**Sn**	**20 33 03.0**	**-0.8**
	baz=223							
SSLB	**Suanglung**	**0.98**	**250**	*e*P		**Pn**	**20 32 50.5**	**-0.6**
	baz=247							
SSLB				e*S*		**Sn**	**20 33 04.3**	**+0.4**
	baz=247							
SMLT	**Sun Moon Lake**	**1.00**	**257**	P		**Pn**	**20 32 51.0**	**-0.4**
	baz=250							
SMLT				e*S*		**Sn**	**20 33 04.5**	**+0.1**
	baz=250							
TAP	**Taipei**	**1.00**	**335**	*e*P		**Pn**	**20 32 50.0**	**-1.2**
	baz=327							
TAP				e*S*		**Sn**	**20 33 04.3**	**0.0**
	baz=327							
YOJ	**Yonaguni jima**	**1.01**	**70**	*e*P		**Pn**	**20 32 51.1**	**-0.3**
	baz=72							
YOJ				e*S*		**Sn**	**20 33 05.8**	**+1.4**
	baz=72							
YOJ	**Yonaguni jima**	**1.01**	**70**	P		**Pn**	**20 32 51.4**	**+0.1**
YOJ				e*S*		**Sn**	**20 33 04.9**	**+0.5**
LIOB	**Emei**	**1.01**	**301**	P		**Pn**	**20 32 51.4**	**0.0**
	baz=301							
LIOB				S		**Sn**	**20 33 05.2**	**+0.7**
	baz=301							
NSTT	**Nanjuang**	**1.02**	**300**	*e*P		**Pn**	**20 32 51.3**	**-0.1**
	baz=300							
NSTT				S		**Sn**	**20 33 05.0**	**+0.4**
	baz=300							
TYC	**Yuchr**	**1.04**	**258**	P		**Pn**	**20 32 51.6**	**-0.1**
	baz=250							
TYC				e*S*		**Sn**	**20 33 06.4**	**+1.4**
	baz=250							
YM01	**YM01**	**1.08**	**341**	*e*P		**Pn**	**20 32 51.8**	**-0.6**
	baz=331							
YM01				e*S*		**Sn**	**20 33 06.6**	**+0.3**
	baz=331							
YM10	**YM10**	**1.09**	**340**	P		**Pn**	**20 32 52.1**	**-0.5**
	baz=331							
YM10				e*S*		**Sn**	**20 33 06.0**	**-0.6**
	baz=331							
TWS1	**Kuangyinshan**	**1.09**	**333**	P		**Pn**	**20 32 52.1**	**-0.4**
	baz=336							
TWS1				e*S*		**Sn**	**20 33 06.9**	**+0.4**
	baz=336							
YM04	**YM04**	**1.10**	**339**	P		**Pn**	**20 32 52.1**	**-0.5**
	baz=331							
YM04				S		**Sn**	**20 33 06.5**	**-0.2**
	baz=331							
YM11	**YM11**	**1.10**	**341**	P		**Pn**	**20 32 52.5**	**-0.2**
	baz=331							
YM11				e*S*		**Sn**	**20 33 06.4**	**-0.3**
	baz=331							
YM05	**YM05**	**1.10**	**341**	P		**Pn**	**20 32 52.1**	**-0.5**
	baz=332							
YM05				e*S*		**Sn**	**20 33 07.2**	**+0.5**
	baz=332							
NCU	**National Centr**	**1.10**	**320**	P		**Pn**	**20 32 52.4**	**-0.2**
	baz=322							
NCU				S		**Sn**	**20 33 07.1**	**+0.3**
	baz=322							
NCUH	**Zhongli**	**1.10**	**320**	P		**Pn**	**20 32 52.4**	**-0.2**
	baz=321							
NCUH				S		**Sn**	**20 33 07.3**	**+0.6**
	baz=321							
WHYT	**Xinyi Township**	**1.10**	**248**	*e*P		**Pn**	**20 32 53.1**	**+0.4**
	baz=245							
WHYT				e*S*		**Sn**	**20 33 07.7**	**+0.9**
	baz=245							
FULB	**Fuli**	**1.11**	**214**	P		**Pn**	**20 32 52.4**	**-0.3**
	baz=203							
FULB				e*S*		**Sn**	**20 33 06.9**	**+0.1**
	baz=203							
NWRT	**Kuosheng**	**1.11**	**346**	e*S*		**Sn**	**20 33 07.2**	**+0.3**
	baz=349							
YM08	**YM08**	**1.11**	**342**	P		**Pn**	**20 32 52.2**	**-0.7**
	baz=345							
YM08				e*S*		**Sn**	**20 33 06.0**	**-1.0**
	baz=345							
SBCB	**Hsinchu**	**1.12**	**307**	*e*P		**Pn**	**20 32 52.5**	**-0.3**
	baz=307							
SBCB				e*S*		**Sn**	**20 33 08.1**	**+1.1**
	baz=307							
YM03	**YM03**	**1.12**	**340**	P		**Pn**	**20 32 52.5**	**-0.4**
	baz=332							
YM03				S		**Sn**	**20 33 07.0**	**-0.3**
	baz=332							
YUS	**Yu-Shan**	**1.12**	**236**	P		**Pn**	**20 32 53.2**	**-0.1**
	baz=226							
YUS				e*S*		**Sn**	**20 33 07.3**	**-0.6**
	baz=226							
HSN	**Hsinchu**	**1.13**	**307**	P		**Pn**	**20 32 52.9**	**-0.1**
	baz=310							
HSN				S		**Sn**	**20 33 07.5**	**+0.1**
	baz=310							
ANP	**Anpu**	**1.14**	**339**	*e*P		**Pn**	**20 32 52.1**	**-1.0**
	baz=342							
ANP				e*S*		**Sn**	**20 33 07.7**	**0.0**
	baz=342							
NSY	**Sanyi**	**1.14**	**285**	*e*P		**Pn**	**20 32 53.0**	**-0.1**
	baz=284							
NSY				S		**Sn**	**20 33 08.0**	**+0.3**
	baz=284							
NTST	**Danshui**	**1.14**	**336**	*e*P		**Pn**	**20 32 52.0**	**-1.1**
	baz=338							
NTST				e*S*		**Sn**	**20 33 07.8**	**+0.2**
	baz=338							
NMLH	**Miaoli**	**1.15**	**291**	*e*P		**Pn**	**20 32 53.4**	**+0.2**
	baz=290							
NMLH				e*S*		**Sn**	**20 33 08.0**	**+0.1**
	baz=290							
CHKT	**Chengkung**	**1.16**	**209**	*e*P		**Pn**	**20 32 52.8**	**-0.6**
	baz=198							
CHKT				e*S*		**Sn**	**20 33 06.2**	**-1.8**
	baz=198							
WJS	**Zhushan**	**1.17**	**255**	P		**Pn**	**20 32 54.3**	**+0.7**
	baz=252							
WJS				e*S*		**Sn**	**20 33 11.1**	**+2.7**
	baz=252							
TCU	**Taichung**	**1.18**	**272**	e*S*		**Sn**	**20 33 09.8**	**+1.2**
	baz=269							
PTSB	**Yuanli**	**1.20**	**286**	*e*P		**Pn**	**20 32 53.4**	**-0.5**
	baz=284							
PTSB				e*S*		**Sn**	**20 33 09.3**	**+0.3**
	baz=284							
WNT	**Mingjian**	**1.20**	**259**	*i* P		**Pn**	**20 32 54.7**	**+0.8**
	baz=255							
WNT				*i* S		**Sn**	**20 33 10.7**	**+1.7**
	baz=255							
ALS	**Alishan**	**1.23**	**240**	*e*P		**Pn**	**20 32 54.7**	**+0.2**
	baz=229							
ALS				e*S*		**Sn**	**20 33 12.1**	**+1.9**
	baz=229							
WDJ	**Dajia District**	**1.23**	**281**	*e*P		**Pn**	**20 32 53.6**	**-0.7**
	baz=279							
WDJ				S		**Sn**	**20 33 10.8**	**+1.0**
	baz=279							
ELDTW	**Lidau**	**1.27**	**223**	P		**Pn**	**20 32 53.9**	**-1.1**
	baz=214							
ELDTW				e*S*		**Sn**	**20 33 10.0**	**-1.0**
	baz=214							
WCHH	**Zhanghua**	**1.29**	**268**	P		**Pn**	**20 32 55.7**	**+0.6**
	baz=265							
WCHH				e*S*		**Sn**	**20 33 12.8**	**+1.6**
	baz=265							
EDH	**Donghe**	**1.30**	**208**	P		**Pn**	**20 32 54.5**	**-0.7**
	baz=200							
EDH				e*S*		**Sn**	**20 33 09.5**	**-1.9**
	baz=200							
WGK	**Gukeng**	**1.36**	**252**	*e*P		**Pn**	**20 32 56.8**	**+0.7**
	baz=248							
WGK				e*S*		**Sn**	**20 33 15.0**	**+2.1**
	baz=248							
WDLH	**Douliu**	**1.38**	**252**	*e*P		**Pn**	**20 32 57.0**	**+0.6**
	baz=239							
WDLH				e*S*		**Sn**	**20 33 15.5**	**+2.2**
	baz=239							
LONT	**Longtian**	**1.43**	**213**	*e*P		**Pn**	**20 32 56.9**	**-0.3**
	baz=209							
LONT				e*S*		**Sn**	**20 33 14.6**	**-0.2**
	baz=209							
STYT	**Tauyuan**	**1.46**	**230**	P		**Pn**	**20 32 57.6**	**0.0**
	baz=225							
STYT				e*S*		**Sn**	**20 33 15.2**	**-0.4**
	baz=225							
TPUB	**Ta-pu**	**1.47**	**237**	*e*P		**Pn**	**20 32 58.0**	**+0.4**
	baz=224							
TPUB				e*S*		**Sn**	**20 33 17.0**	**+1.2**
	baz=224							
CHN4	**Tsaushan**	**1.47**	**239**	P		**Pn**	**20 32 58.2**	**+0.5**
	baz=227							
CHN4				S		**Sn**	**20 33 18.3**	**+2.5**
	baz=227							
RLNB	**Erlin**	**1.49**	**261**	P		**Pn**	**20 32 58.0**	**+0.2**
	baz=258							
RLNB				S		**Sn**	**20 33 17.9**	**+1.8**
	baz=258							
WTK	**Tuku**	**1.51**	**254**	P		**Pn**	**20 32 58.8**	**+0.7**
	baz=263							
WTK				e*S*		**Sn**	**20 33 17.7**	**+1.2**
	baz=263							
LDUT	**Ludao**	**1.51**	**198**	*e*P		**Pn**	**20 32 57.2**	**-1.0**
	baz=191							
LDUT				S		**Sn**	**20 33 14.0**	**-2.7**
	baz=191							
WTP	**Ta-pu**	**1.52**	**235**	*e*P		**Pn**	**20 32 58.8**	**+0.5**
	baz=230							
WTP				e*S*		**Sn**	**20 33 18.8**	**+1.9**
	baz=230							
TWGBT	**Beinan**	**1.53**	**212**	*e*P		**Pn**	**20 32 56.5**	**-2.0**
	baz=208							
TWGBT				e*S*		**Sn**	**20 33 16.8**	**-0.4**
	baz=208							
TWG	**Pinlang**	**1.53**	**213**	*e*P		**Pn**	**20 32 57.0**	**-1.5**
	baz=208							
TWG				e*S*		**Sn**	**20 33 16.6**	**-0.7**
	baz=208							
CHY	**Chiayi**	**1.54**	**247**	*e*P		**Pn**	**20 32 59.2**	**+0.6**
	baz=234							
CHY				e*S*		**Sn**	**20 33 20.3**	**+2.8**
	baz=234							
CHN1	**Nanshi**	**1.61**	**235**	*e*P		**Pn**	**20 32 59.4**	**-0.2**
	baz=230							
CHN1				e*S*		**Sn**	**20 33 20.9**	**+1.6**
	baz=230							
SNST	**Tainan City**	**1.62**	**237**	*e*P		**Pn**	**20 33 01.0**	**+1.4**
	baz=232							
SNST				S		**Sn**	**20 33 21.9**	**+2.6**
	baz=232							
IRIF	**Iriomote-Funau**	**1.62**	**82**	P		**Pn**	**20 32 59.6**	**-0.1**
IRIF				S		**Sn**	**20 33 19.6**	**+0.2**
SGST	**Jiashian**	**1.64**	**231**	P		**Pn**	**20 32 59.9**	**-0.1**
	baz=218							
SGST				S		**Sn**	**20 33 21.9**	**+2.1**
	baz=218							
SLGT	**Liugui**	**1.65**	**227**	*e*P		**Pn**	**20 33 01.0**	**+0.9**
	baz=223							
SLGT				e*S*		**Sn**	**20 33 22.6**	**+2.4**
	baz=223							
WLGB	**Puzi**	**1.66**	**248**	*e*P		**Pn**	**20 32 60.0**	**-0.2**
	baz=243							
WLGB				e*S*		**Sn**	**20 33 21.9**	**+1.7**
	baz=243							
WSF	**Szhu**	**1.67**	**254**	*e*P		**Pn**	**20 33 00.1**	**-0.2**
	baz=262							
WSF				e*S*		**Sn**	**20 33 22.1**	**+1.6**
	baz=262							
HATJ	**Hateruma jima**	**1.68**	**92**	e*S*		**Sn**	**20 33 21.8**	**+0.9**
ICHU	**Yijhu**	**1.72**	**244**	P		**Pn**	**20 33 01.4**	**+0.4**
	baz=229							
ICHU				e*S*		**Sn**	**20 33 24.7**	**+2.8**
	baz=229							
CHN8	**Yiju**	**1.78**	**245**	P		**Pn**	**20 33 02.0**	**+0.1**
	baz=230							

CHN8					*e*S		**Sn**	20 33 25.1	+1.7
	baz=230								
SCST	**Cishan**	**1.83**	**228**	*e*P	**Pn**		**Pn**	20 33 02.7	+0.2
	baz=223								
SCST					*e*S		**Sn**	20 33 26.9	+2.4
	baz=223								
SSD	**Sandimen**	**1.84**	**222**	P			**Pn**	20 33 03.1	+0.5
	baz=217								
SSD					S		**Sn**	20 33 26.5	+1.7
	baz=217								
TSMG	**Majia**	**1.86**	**221**	*e*P	**Pn**		**Pn**	20 33 03.3	+0.3
	baz=216								
TSMG					*e*S		**Sn**	20 33 27.4	+2.1
	baz=216								
JKRS	**Kuro-shima**	**1.87**	**86**	P			**Pn**	20 33 03.6	+0.5
JKRS					S		**Sn**	20 33 26.7	+1.2
SCLT	**Jiali**	**1.88**	**240**	*e*P	**Pn**		**Pn**	20 33 03.0	-0.2
	baz=235								
SCLT					*e*S		**Sn**	20 33 27.4	+1.7
	baz=235								
TWM1	**Shoushan**	**1.92**	**228**	*e*P	**Pn**		**Pn**	20 33 05.5	+1.7
	baz=223								
TWM1					*e*S		**Sn**	20 33 30.4	+3.6
	baz=223								
MASBT	**Mashibuluo**	**1.94**	**219**	*e*P	**Pn**		**Pn**	20 33 03.9	-0.2
	baz=206								
MASBT					*e*S		**Sn**	20 33 30.2	+3.0
	baz=206								
SGLT	**Jiouru**	**1.94**	**225**	*e*P	**Pn**		**Pn**	20 33 06.2	+2.1
	baz=211								
SGLT					*e*S		**Sn**	20 33 31.9	+4.6
	baz=211								
JIJ	**Ishigaki jima**	**2.00**	**83**	P			**Pn**	20 33 04.7	-0.2
JIJ					*e*S		**Sn**	20 33 28.1	-0.6
EAST	**Anshuo**	**2.01**	**211**	*e*P	**Pn**		**Pn**	20 33 04.8	-0.3
	baz=202								
EAST					*e*S		**Sn**	20 33 27.7	-1.4
	baz=202								
SSPT	**Xinbi**	**2.08**	**219**	*e*P	**Pn**		**Pn**	20 33 07.3	+1.4
	baz=213								
SSPT					*e*S		**Sn**	20 33 33.1	+2.5
	baz=213								
LAY	**Lan-yu**	**2.11**	**191**	P			**Pn**	20 33 06.1	-0.3
	baz=190								
LAY					S		**Sn**	20 33 30.8	-0.6
	baz=190								
SCZT	**Fangliau**	**2.14**	**216**	*e*P	**Pn**		**Pn**	20 33 07.8	+1.0
	baz=211								
SCZT					S		**Sn**	20 33 34.5	+2.4
	baz=211								
SLIU	**Shizi**	**2.18**	**210**	P			**Pn**	20 33 07.2	-0.2
	baz=206								
SLIU					*e*S		**Sn**	20 33 32.4	-0.7
	baz=206								
JISG	**Ishigakijimahi**	**2.19**	**77**	P			**Pn**	20 33 07.1	-0.3
JISG					*e*S		**Sn**	20 33 32.2	-1.1
PHUB	**P'eng-hu**	**2.27**	**255**	*e*P	**Pn**		**Pn**	20 33 07.7	-1.0
	baz=264								
PHUB					*e*S		**Sn**	20 33 34.1	-1.3
	baz=264								
PNG	**Penghu**	**2.28**	**256**	*e*P	**Pn**		**Pn**	20 33 07.5	-1.2
	baz=253								
PNG					*e*S		**Sn**	20 33 34.1	-1.4
	baz=253								
HEN	**Hengchun**	**2.39**	**208**	*e*P	**Pn**		**Pn**	20 33 11.1	+0.9
	baz=203								
HEN					*e*S		**Sn**	20 33 38.7	+0.3
	baz=203								
TWKBT	**Hengchun**	**2.42**	**206**	*e*S	**Sn**		**Sn**	20 33 38.2	-0.8
	baz=199								
TWK1	**Hengchun**	**2.42**	**206**	*e*S	**Sn**		**Sn**	20 33 39.0	0.0
	baz=199								
PTTC	**Pingtan**	**2.42**	**305**	*e*P	**Pn**		**Pn**	20 33 10.4	-0.3
	baz=304								
VWUC	**VWUC**	**2.45**	**291**	*e*P	**Pn**		**Pn**	20 33 10.1	-1.0
	baz=290								
JTJ	**Tarama**	**2.55**	**78**	P			**Pn**	20 33 12.7	+0.3
JTJ					*e*S		**Sn**	20 33 42.0	-0.2
PTMZ	**Houxiangcun**	**2.75**	**290**	*e*P	**Pn**		**Pn**	20 33 13.5	-1.6
	baz=288								
JIRB	**Irabujima**	**3.00**	**76**	*e*S	**Sn**		**Sn**	20 33 53.6	+0.2
JMJ2	**Miyako jima3**	**3.12**	**78**	*e*S	**Sn**		**Sn**	20 33 57.3	+0.9
LYJJ	**Jianjiangzhen**	**3.14**	**321**	*e*P	**Pn**		**Pn**	20 33 20.0	-0.5
	baz=322								
XPSS	**Dashiqiu**	**3.22**	**331**	*e*P	**Pn**		**Pn**	20 33 19.9	-1.8
	baz=332								
KNM	**Kinmen**	**3.24**	**276**	*e*P	**Pn**		**Pn**	20 33 22.6	+0.7
	baz=264								
KNM					*e*S		**Sn**	20 34 00.2	+1.0
	baz=264								
KNMB	**Chin-men Tao**	**3.28**	**277**	*e*P	**Pn**		**Pn**	20 33 21.6	-0.8
	baz=265								
MHZQ	**Yeshan**	**3.31**	**307**	*e*P	**Pn**		**Pn**	20 33 22.2	-0.6
	baz=307								
AXDP	**Jialang**	**3.72**	**283**	*e*P	**Pn**		**Pn**	20 33 28.3	-0.2
	baz=271								
ZPLA	**Ao Xicun**	**3.86**	**268**	*e*P	**Pn**		**Pn**	20 33 28.6	-1.8
	baz=265								
ZPLA					*e*S		**Sn**	20 34 10.6	-3.9
	baz=265								

IDC ***04*** *20:46:28.0±2.9, 33°.51N×139°.19E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/34, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=119.7km s-min=27.8km az=76.0*
JMA ***04*** *20:46:28.1±0.3, 34°.18N×140°.85E, h47km±4km, M2.9*

ISC 04 20:46:28.5±1.6, 34°.17N±0°.06×140°.85E±0°.09, h43km±16km, n14, σ0s84/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.50**	**12**	P		**Pn**	**20 46 38.8**	**-0.1**
BSO1				*e*X			20 46 47.1	
BSO3	**Boso 3**	**0.69**	**336**	P		**Pn**	**20 46 41.8**	**+0.1**
BSO3				X			20 46 52.5	
BSO4	**Boso 4**	**0.93**	**333**	P		**Pn**	**20 46 45.5**	**+0.5**
KTR	**Katsuura**	**1.07**	**336**	P		**Pn**	**20 46 47.1**	**-0.1**
KTR				*e*S		**Sn**	**20 47 01.3**	**+0.4**
JMKN	**Mikurajimanish**	**1.08**	**256**	P		**Pn**	**20 46 47.5**	**+0.2**
JMKN				S		**Sn**	**20 47 01.1**	**0.0**
JKUC	**kamogawauchiur**	**1.13**	**332**	P		**Pn**	**20 46 47.7**	**-0.2**
JKUC				*e*S		**Sn**	**20 47 01.8**	**-0.4**
JIM2	**Oshima 3**	**1.30**	**295**	P		**Pn**	**20 46 49.8**	**-0.4**
JHJ2	**Mitsune**	**1.36**	**220**	P		**Pn**	**20 46 51.8**	**+0.7**
KTJ3	**Kamata3**	**1.66**	**298**	P		**Pn**	**20 46 54.6**	**-0.6**
KTJ3				*e*S		**Sn**	**20 47 13.3**	**-2.0**
JIZS	**Izushimoda**	**1.72**	**289**	P		**Pn**	**20 46 56.5**	**+0.5**
JIZS				*e*S		**Sn**	**20 47 17.1**	**+0.3**
MJAR	**Matsushiro Arr**	**3.21**	**318**	Pn		**Pn**	**20 47 17.5**	**+1.1**
	0.4nm,0.3s,baz=153,slow=11,SNR=37							
MJAR				Sn		**Sn**	**20 47 53.4**	**0.0**
	0.3nm,0.3s,baz=263,slow=30,SNR=6.6							
MAT	**Matsushiro**	**3.21**	**318**	P		**Pn**	**20 47 18.2**	**+1.7**
MAT				S		**Sn**	**20 47 54.8**	**+1.3**
MKAR	**Makanchi Array**	**45.31**	**304**	P		**P**	**20 54 42.1**	**0.0**
	0.2nm,0.6s,baz=85,slow=9.7,SNR=2.5							
WRA	**Warramunga Arr**	**54.16**	**188**	P		**P**	**20 55 49.0**	**-0.6**
	0.2nm,0.3s,baz=1.8,slow=7.7,SNR=12							

IDC 04 20:49:39.6±1.2, 58°.06S×25°.56W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.6/2, Error ellipse: s-maj=92.5km s-min=35.7km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**44.60**	**182**	P		P	20 57 52.8	0.0
	0.5nm,0.7s,baz=156,slow=4.2,SNR=1.8							
H10S2	**ASCENSION HYDR**	**49.71**	**14**	T		T	21 53 06.6	
	baz=33,slow=74,SNR=5.6							
H10S3	**ASCENSION HYDR**	**49.71**	**14**	T		T	21 53 06.2	
	baz=187,slow=74,SNR=6.1							
H10N1	**ASCENSION HYDR**	**50.82**	**14**	T		T	21 54 30.8	
	baz=190,slow=71,SNR=6.0							
H10N3	**ASCENSION HYDR**	**50.83**	**14**	T		T	21 54 30.7	
	baz=190,slow=71,SNR=7.3							
H10N2	**ASCENSION HYDR**	**50.84**	**14**	T		T	21 54 32.2	
	baz=190,slow=71,SNR=6.9							
TORD	**Torodi Ar. Bea**	**74.40**	**28**	P		P	21 01 19.3	+0.1
	0.4nm,0.4s,baz=200,slow=6.1,SNR=15							
SONM	**Songino Array**	**149.92**	**89**	PKPbc		PKPbc	21 09 30.3	-0.6
	0.5nm,0.4s,baz=222,slow=3.2,SNR=4.7							
ILAR	**Eielson Array**	**152.10**	**309**	PKPbc		PKPbc	21 09 35.1	-0.2
	1.0nm,0.7s,baz=134,slow=1.9,SNR=7.8							

IDC ***04*** *20:58:49.1±1.0, 15°.55N×147°.30E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/52, mbtmp3.9/13, ML3.5/1, Error ellipse: s-maj=29.9km s-min=18.8km az=91.0*
NEIC ***04*** *20:58:50.6±1.3, 15°.48N±0°.07×147°.48E±0°.08, h21km±5km, mb4.5/23, Error ellipse: s-maj=10.9km s-min=10.2km az=86.0*

ISC 04 20:58:49.1±0.6, 15°.47N±0°.08×147°.42E±0°.08, h10km, n54, σ0s99/49, mb4.4/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ANA2	**Anatahan**	**1.85**	**298**	Pn		**Pb**	**20 59 23.0**	**-0.2**
GUMO	**Guam**	**3.10**	**233**	Pn		**Pn**	**20 59 39.4**	**+1.3**
	6.6nm,0.3s,baz=163,slow=21,SNR=1.8							
GUMO				Sn		**Sn**	**21 00 12.1**	**-3.1**
	12nm,0.3s,baz=70,slow=17,SNR=6.6							
GUMO	**Guam**	**3.10**	**233**			**Pn**	**20 59 40.0**	**+1.8**
PATS	**Pohnpei**	**13.70**	**128**	Pn		**Pn**	**21 02 02.1**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**18.67**	**78**	T		T	21 22 38.1	
	baz=263,slow=74,SNR=19							
H11S1	**WAKE ISLAND Hy**	**18.69**	**78**	T		T	21 22 39.2	
	baz=263,slow=74,SNR=8.8							
H11S2	**WAKE ISLAND Hy**	**18.69**	**78**	T		T	21 22 37.8	
	baz=263,slow=74,SNR=12							
JHJ2	**Mitsune**	**18.86**	**340**	P		**P**	**21 03 08.5**	**-1.0**
H11N1	**WAKE ISLAND Hy**	**19.03**	**74**	T		T	21 22 52.4	
H11N2	**WAKE ISLAND Hy**	**19.04**	**74**	T		T	21 22 52.4	
H11N3	**WAKE ISLAND Hy**	**19.05**	**74**	T		T	21 22 51.9	
	SNR=3.1							
JGF	**Kuroka**	**21.98**	**338**	P		**P**	**21 03 43.1**	**-0.2**
JGF				IAmb		IAmb	21 03 52.7	
	comp=Z,32nm,1.3s							
MJAR	**Matsushiro Arr**	**22.53**	**340**	P		**P**	**21 03 48.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=174,slow=10,SNR=2.2							
MJAR	**Matsushiro Arr**	**22.53**	**340**	P		**P**	**21 03 48.9**	**-0.4**
MAJO	**Matsushiro**	**22.53**	**340**	P		**P**	**21 03 47.3**	**-2.0**
WR0	**Warramunga Arr**	**37.42**	**200**	P		**P**	**21 06 02.0**	**-0.6**
WRA	**Warramunga Arr**	**37.47**	**200**	P		**P**	**21 06 04.1**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=21,slow=9.1,SNR=5.4							
ASAR	**Alice Springs**	**41.08**	**199**	P		**P**	**21 06 34.7**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=19,slow=5.9,SNR=4.9							
CM31	**Chiang Mai Arr**	**46.35**	**281**	P		**P**	**21 07 16.9**	**+0.9**
CM31				IAmb		IAmb	21 07 28.2	
	comp=Z,4.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**46.35**	**281**	P		**P**	**21 07 16.4**	**+0.5**
	comp=Z,7.1nm,1.3s,baz=81,slow=6.1,SNR=9.4							
SONM	**Songino Array**	**46.68**	**323**	P		**P**	**21 07 18.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=120,slow=8.7,SNR=3.3							
SONM	**Songino Array**	**46.68**	**323**	P		**P**	**21 07 18.0**	**-0.2**
YAK	**Yakutsk**	**48.18**	**349**	P		**P**	**21 07 29.1**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=246,slow=1.2,SNR=4.5							
YAK	**Yakutsk**	**48.18**	**349**	P		**P**	**21 07 28.9**	**-0.6**
LSA	**Lhasa**	**53.38**	**296**	P		**P**	**21 08 09.0**	**-0.8**
WMQ	**Urumqi**	**57.67**	**312**	P		**P**	**21 08 40.6**	**+0.6**
ZALV	**Zalesovo Beam**	**61.57**	**323**	P		**P**	**21 09 07.7**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=28,slow=29,SNR=2.4							
ZALV	**Zalesovo Beam**	**61.57**	**323**	P		**P**	**21 09 06.2**	**-0.3**
MK31	**Makanchi Array**	**61.88**	**315**	P		**P**	**21 09 09.1**	**+0.2**
MKAR	**Makanchi Array**	**61.88**	**315**	P		**P**	**21 09 09.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=92,slow=7.8,SNR=14							
MKAR	**Makanchi Array**	**61.88**	**315**	P		**P**	**21 09 09.3**	**+0.4**
MAKZ	**Makanchi**	**62.10**	**315**	P		**P**	**21 09 10.4**	**+0.1**
MAKZ				IAmb		IAmb	21 09 13.4	
	comp=Z,2.4nm,0.8s							
IMAR	**Indian Mountai**	**63.50**	**23**	P		**P**	**21 09 19.1**	**-0.2**
KURK	**Kurchatov**	**64.76**	**319**	P		**P**	**21 09 28.2**	**+0.4**
KURBB	**Kurchatov Arra**	**64.81**	**319**	P		**P**	**21 09 29.6**	**+1.5**
	comp=Z,4.9nm,0.9s,baz=99,slow=6.7,SNR=30							
IL31		**65.82**	**25**	P		**P**	**21 09 34.0**	**-0.4**
IL31				IAmb		IAmb	21 09 52.4	
	comp=Z,3.0nm,1.1s							
ILAR	**Eielson Array**	**65.82**	**25**	P		**P**	**21 09 33.5**	**-0.9**
NIL	**Nilore**	**68.55**	**300**	P		**P**	**21 09 52.2**	**-0.2**
BVAR	**Borovoye Array**	**70.00**	**321**	P		**P**	**21 10 00.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=126,slow=15,SNR=2.6							
KK31	**Karatay Array**	**70.09**	**311**	P		**P**	**21 10 01.9**	**+0.1**
KK31				IAmb		IAmb	21 10 16.0	
	comp=Z,2.7nm,1.0s							
KKAR	**Karatay Array**	**70.09**	**311**	P		**P**	**21 10 02.6**	**+0.9**
KKAR				IAmb		IAmb	21 10 16.0	
	comp=Z,2.7nm,1.0s							
KKAR	**Karatay Array**	**70.09**	**311**	P		**P**	**21 10 02.5**	**+0.7**
GAR	**Garm**	**70.50**	**306**	P		**P**	**21 10 04.5**	**+0.1**
GAR				IAmb		IAmb	21 10 22.7	
	comp=Z,7.6nm,1.3s							
CHGR	**Chuyangaron**	**71.42**	**306**	P		**P**	**21 10 10.0**	**-0.1**
CHGR				IAmb		IAmb	21 10 18.1	
	comp=Z,5.7nm,0.8s							
ARU	**Arti**	**76.64**	**325**	P		**P**	**21 10 40.3**	**+0.3**
ARU				IAmb		IAmb	21 10 53.5	
	comp=Z,9.6nm,1.4s							
ABKAR	**Akbulak array**	**76.81**	**318**	P		**P**	**21 10 40.6**	**-0.6**
ABKAR	**Akbulak array**	**76.81**	**318**	P		**P**	**21 10 40.8**	**-0.4**
EUNU	**Eureka**	**80.67**	**8**	P		**P**	**21 11 02.2**	**+0.2**
EUNU				IAmb		IAmb	21 11 05.3	
	comp=Z,12nm,1.3s							
NVAR	**Mina Array Bea**	**83.82**	**52**	P		**P**	**21 11 22.0**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=268,slow=3.7,SNR=4.8							
NVAR	**Mina Array Bea**	**83.82**	**52**	P		**P**	**21 11 18.8**	**-0.7**
ELK	**Elko**	**85.48**	**49**	P		**P**	**21 11 27.7**	**-0.2**
ELK				IAmb		IAmb	21 11 32.9	
	comp=Z,2.6nm,1.1s							
FINES	**FINESS Array B**	**90.48**	**336**	P		**P**	**21 11 50.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=131,slow=26,SNR=5.0							
FINES	**FINESS Array B**	**90.48**	**336**	P		**P**	**21 11 51.4**	**+0.4**
LPAZ	**La Paz**	**145.82**	**96**	PKPbc		**PKPab**	**21 18 32.3**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=351,slow=8.5,SNR=3.9							

IDC 04 21:03:03.4±1.2, 31°.08N×88°.09E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/56, mbtmp3.3/6, ML3.2/2, Error ellipse: s-maj=63.3km s-min=24.0km az=50.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.96**	**139**	Pn		Pn	21 06 48.0	-1.4
	0.1nm,0.3s,baz=324,slow=22,SNR=3.4							
MKAR	**Makanchi Array**	**16.32**	**346**	Pn		Pn	21 06 53.3	-0.5
	0.0nm,0.3s,baz=174,slow=23,SNR=1.8							
KURBB	**Kurchatov Arra**	**20.78**	**343**	P		P	21 07 45.8	-0.1
	0.4nm,0.5s,baz=155,slow=11,SNR=2.4							
GERES	**GERESS Array B**	**57.44**	**311**	P		P	21 12 53.2	-0.8
	0.5nm,0.7s,baz=61,slow=6.9,SNR=6.3							
WRA	**Warramunga Arr**	**67.42**	**133**	P		P	21 14 01.3	+0.4
	0.3nm,0.5s,baz=326,slow=6.9,SNR=7.2							
TORD	**Torodi Ar. Bea**	**80.29**	**279**	P		P	21 15 16.9	+0.2
	0.3nm,0.7s,baz=50,slow=3.8,SNR=4.2							

THR ***04*** *21:13:20.0±1.0, 27°.98N×53°.70E, h16km±8km, ML3.3*
IDC ***04*** *21:13:30.1±1.6, 27°.83N×53°.73E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/51, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=36.3km s-min=28.7km az=24.0*
TEH ***04*** *21:13:32.7, 27°.90N×53°.87E, h13km, ML3.4*
DSN ***04*** *21:13:35.9±2.2, 27°.68N×53°.98E, h10km, ML3.4/7, Error ellipse: s-maj=30.2km s-min=12.3km az=12.0*
OMAN ***04*** *21:13:37.5±16.0, 27°.74N×53°.87E, h36km±136km, mb4.6/5, ml3.3/12, ms2.5/1, Error ellipse: s-maj=26.5km s-min=9.4km az=12.0*

ISC 04 21:13:32.2±0.7, 27°.86N±0°.05×53°.90E±0°.04, h10km, n76, σ1s63/80, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LAR1	**LAR**	**0.46**	**114**	*e*Pg		**Pg**	**21 13 42.6**	**+1.3**
LAR1				*e*			21 13 57.9	
LMD1	**Lamerd**	**0.83**	**232**	*e*Pg		**Pg**	**21 13 49.0**	**+0.8**
BNDS	**Bandar-Abbas**	**2.07**	**102**	*e*Pn		Pn	21 13 58.6	-8.6
BNDS				*e*Sg		**Sn**	**21 14 31.7**	**-1.4**
BNDS				IAML			21 14 49.8	
	comp=N,158nm,0.3s							
GENO	**Geno**	**2.07**	**102**	*e*Pn		**Pb**	**21 14 10.5**	**+0.5**
SHI	**Shiraz**	**2.15**	**326**	*e*			21 14 53.6	
SHI				*e*Pn		**Pn**	**21 14 09.5**	**+1.2**
SHME	**Shamm**	**2.69**	**131**	*e*Pn		**Pn**	**21 14 16.0**	**+0.4**
BANOM	**Banah**	**2.88**	**131**	P		**Pn**	**21 14 19.3**	**+1.1**
BANOM				S		**Sn**	**21 14 53.5**	**+0.5**
BANOM	**Banah**	**2.88**	**131**	P		**Pn**	**21 14 20.1**	**+1.8**
BANOM	**Banah**	**2.88**	**131**	*e*Pn		**Pn**	**21 14 19.6**	**+1.3**
JRN	**Qarnain Island**	**3.05**	**198**	*e*Pn		**Pn**	**21 14 24.2**	**+3.7**
NGRK	**Negar Kerman**	**3.06**	**54**	*e*Pn		**Pn**	**21 14 22.1**	**+1.1**
NGRK				*e*			21 15 12.4	
MSFE	**Esma-Masafi**	**3.21**	**140**	P		**Pn**	**21 14 24.7**	**+2.0**
MSFE				*i* P		Pb	21 14 24.8	-4.6
	SNR=11							
MSFE	**Esma-Masafi**	**3.21**	**140**	*e*Pn		**Pn**	**21 14 24.7**	**+2.0**
NAZ	**Nazwa, Dubai**	**3.27**	**151**	*i* P		**Pn**	**21 14 26.3**	**+2.9**
	SNR=9.4							
NAZ	**Nazwa, Dubai**	**3.27**	**151**	P		**Pn**	**21 14 26.4**	**+2.9**
	SNR=9.4							
NAZ	**Nazwa, Dubai**	**3.27**	**151**	*e*Pn		**Pn**	**21 14 26.2**	**+2.7**
KRBR	**Kerman**	**3.28**	**49**	*e*Pn		Pn	21 14 14.1	-10
TVBK	**TV Kerman**	**3.29**	**49**	*e*Pn		**Pn**	**21 14 26.1**	**+2.0**
TVBK				*e*			21 14 35.8	
MDH	**Madha**	**3.34**	**139**	P		**Pn**	**21 14 26.2**	**+1.8**
MDH	**Madha**	**3.34**	**139**	*e*Pn		**Pn**	**21 14 25.9**	**+1.5**
KHGB	**Koh Gabri**	**3.37**	**41**	*e*Pn		**Pn**	**21 14 27.1**	**+1.9**
KHGB				*e*			21 14 39.5	
AJN	**Ajban**	**3.42**	**163**	P		**Pn**	**21 14 28.2**	**+2.6**
UOSS	**Minazif**	**3.56**	**144**	*i* P		**Pn**	**21 14 29.1**	**+1.5**
	SNR=7.9							
UOSS	**Minazif**	**3.56**	**144**	*e*Pn		**Pn**	**21 14 28.9**	**+1.3**
IMEH	**Mehriz**	**3.57**	**10**	*e*Pn		**Pn**	**21 14 29.7**	**+1.7**
HATD	**Hatta, Dubai**	**3.63**	**146**	P		**Pn**	**21 14 28.3**	**-0.2**
HATD	**Hatta, Dubai**	**3.63**	**146**	P		**Pn**	**21 14 30.6**	**+2.1**
HATD				S		**Sn**	**21 15 11.4**	**+0.1**
HATD	**Hatta, Dubai**	**3.63**	**146**	*e*Pn		**Pn**	**21 14 30.5**	**+2.1**
ASHO	**Ashiyiah**	**3.71**	**148**	*i* P		**Pn**	**21 14 31.5**	**+1.9**
	SNR=11							
ASHO	**Ashiyiah**	**3.71**	**148**	P		**Pn**	**21 14 31.5**	**+1.9**
	SNR=11							
ASHO				S		**Sn**	**21 15 14.1**	**+0.6**
ASHO	**Ashiyiah**	**3.71**	**148**	*e*Pn		**Pn**	**21 14 31.5**	**+1.9**
KLNJ	**Kolanjah**	**3.73**	**328**	*e*Pn		**Pn**	**21 14 30.5**	**+0.3**
CHMN	**Cheshme madani**	**3.77**	**57**	*e*Pn		**Pn**	**21 14 32.6**	**+1.9**
CHMN				*e*			21 15 34.9	
IBAF	**Bafgh**	**3.99**	**21**	*e*Pn		**Pn**	**21 14 35.1**	**+1.5**
ISAD	**Sadrabad**	**4.04**	**357**	*e*Pn		**Pn**	**21 14 36.2**	**+1.7**
IRAM	**Ramesheh**	**4.15**	**342**	*e*Pn		**Pn**	**21 14 37.1**	**+1.2**
KBAM	**BAM**	**4.21**	**71**	*e*Pn		**Pn**	**21 14 39.0**	**+2.5**
SLWS		**4.22**	**224**	P		**Pn**	**21 14 39.1**	**+2.5**
ICHK	**Chekchek**	**4.39**	**6**	*e*Pn		**Pn**	**21 14 40.9**	**+1.7**
SOHO	**SOHO**	**4.40**	**147**	*i* P		**Pn**	**21 14 39.8**	**+0.7**
	SNR=6.5							
SOHO	**SOHO**	**4.40**	**147**	P		**Pn**	**21 14 40.2**	**+1.1**
SOHO				S		**Sn**	**21 15 30.7**	**+0.2**
SOHO	**SOHO**	**4.40**	**147**	*e*Pn		**Pn**	**21 14 40.1**	**+1.0**
YZKH	**Yazd**	**4.56**	**7**	*e*Pn		Pn	21 14 29.7	-12
IGAR	**Gharneh**	**4.81**	**341**	*e*Pn		**Pn**	**21 14 46.9**	**+2.0**
ARQ	**Araqi**	**5.09**	**152**	P		**Pn**	**21 14 50.3**	**+1.7**
	SNR=5.1							
ARQ				S		**Sn**	**21 15 46.5**	**-0.9**
IZEF	**Zefreh**	**5.20**	**345**	*e*Pn		**Pn**	**21 14 50.8**	**+0.5**
UMZA	**Um Al Zommool**	**5.25**	**167**	*e*Pn		**Pn**	**21 14 52.3**	**+1.5**
HOQ	**Hoqain**	**5.25**	**143**	P		**Pn**	**21 14 52.8**	**+2.0**
HOQ				S		**Sn**	**21 15 49.6**	**-2.0**
ANAR	**Anarak**	**5.32**	**358**	*e*Pn		**Pn**	**21 14 53.3**	**+1.5**
NHRD	**Haradh**	**5.38**	**236**	S		**Sn**	**21 15 55.1**	**+0.5**
NHRD	**Haradh**	**5.38**	**236**	P		**Pn**	**21 14 55.2**	**+2.6**
SMAN	**Sihmah**	**5.46**	**253**	P		**Pn**	**21 14 54.8**	**+1.1**
IPIR	**Pirpir**	**5.47**	**332**	*e*Pn		**Pn**	**21 14 54.2**	**+0.2**
TPRV	**Parvadeh(Tabas**	**5.69**	**24**	*e*Pn		**Pn**	**21 14 57.8**	**+0.9**
BIDO	**Bidbid**	**5.76**	**138**	P		**Pn**	**21 14 58.6**	**+0.8**
BSY	**Bisya**	**5.90**	**149**	P		**Pn**	**21 15 01.4**	**+1.6**
SMDO	**Samad**	**6.08**	**141**	P		**Pn**	**21 15 03.7**	**+1.4**
SMDO				S		**Sn**

s-min=7.9km az=68.0
NEIC ***04*** *21:18:08.2±2.4, 1.°45N±0.°07×126.°43E±0.°05, h43km±3km, mb5.1/154, Error ellipse: s-maj=10.6km s-min=6.0km az=207.0*
KLM ***04*** *21:18:09.0, 1.°47N×126.°60E, h56km, mb5.3*
DJA ***04*** *21:18:09.7±0.2, 1.°N±2.°×12.°6E±.°, h61km±2km, M4.8/70, mb5.0/70, mB5.3/26, MLv5.0/14, Mw(mB)4.8/26, Mwp5.3/4*
GCMT ***04*** *21:18:11.2±0.3, 1.°56N±0.°02×126.°43E±0.°02, h31km±1km, MW5.0/84, Moment Tensor Solution. s43,c56; s84,c113; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.12±.20; Mθθ0.70±.12; Mϕϕ-2.82±.15; Mrθ1.45±.22; Mrϕ-2.02±.10; Mθϕ-0.94±.22; Best double couple: Mo3.67600×10¹⁶ NP1:ϕs58.00000°, δ55.00000°, λ142.00000°. NP2: ϕs171.00000°, δ60.00000°, λ41.00000°. Principal axes: T 3.6000, Plg49.0000°, Azm27.0000°; N 0.1500, Plg41.0000°, Azm201.0000°; P -3.7510, Plg3.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 21:18:08.7±0.7, 1.°47N±0.°04×126.°45E±0.°04, h47km±6km, n402, σ1§25/392, mb5.0/129, MS3.8/8, 23C-12D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**127**	P		**Pn**	**21 18 27.3**	**-1.1**
TNTI				S		**Sn**	**21 18 42.8**	**-0.2**
TNTI	**Ternate**	**1.15**	**127**			**Pn**	**21 18 27.1**	**-1.3**
SGSI	**Sangihe**	**2.39**	**337**	P		**Pn**	**21 18 45.6**	**+0.2**
SGSI				S		**Sn**	**21 19 14.2**	**+0.7**
KMSI	**Cibinong**	**2.62**	**250**	P		**Pn**	**21 18 48.1**	**-0.4**
SANI	**Sanana**	**3.52**	**188**	P		**Pn**	**21 19 00.2**	**-0.7**
GTOI	**Gorontalo**	**3.54**	**257**	P		**Pn**	**21 19 01.5**	**+0.4**
LUWI	**Luwuk**	**4.44**	**236**	P		**Pn**	**21 19 13.9**	**+0.4**
LUWI	**Luwuk**	**4.44**	**236**	Pn		**Pn**	**21 19 14.2**	**+0.6**
NLAI	**Namlea**	**4.72**	**172**	P		**Pn**	**21 19 17.5**	**+0.1**
SIJI	**Sorong**	**5.35**	**116**	Pn		**Pn**	**21 19 26.4**	**+0.4**
	4.0nm,0.3s,baz=301,slow=12,SNR=9.1							
MSAI	**Masohi**	**5.38**	**153**	P		**Pn**	**21 19 29.2**	**+2.7**
	0.2nm720nm70nm,0.8s							
DAV	**Davao City (W)**	**5.63**	**351**	Pn		Pn	21 19 35.6	+5.7
	36nm,0.3s,baz=72,slow=12,SNR=3.7							
DAV						**Sn**	**21 20 36.3**	**+2.9**
	66nm,0.3s,baz=277,slow=20,SNR=4.9							
DAV					LR	LR	21 22 06.3	
	comp=Z,919nm,20.9s,baz=186,slow=43							
KCP	**Kidapawan**	**5.67**	**346**	↓	*eP*	**Pn**	**21 19 32.8**	**+2.2**
KDI	**Kendari**	**6.61**	**215**	P		**Pn**	**21 19 43.8**	**+0.5**
	0.6nm7μm205nm,0.7s							
MPSI	**Mapaga**	**6.64**	**260**	P		**Pn**	**21 19 45.1**	**+1.3**
	0.7nm3μm2μm279nm,0.9s							
CGP	**Cagayan de Oro**	**7.16**	**346**	↓	*eP*	**Pn**	**21 19 54.2**	**+3.3**
FAKI	**Fak Fak**	**7.25**	**127**	P		**Pn**	**21 19 53.6**	**+1.4**
	0.6nm2μm186nm,0.9s							
FAKI	**Fak Fak**	**7.25**	**127**	Pn		**Pn**	**21 19 53.2**	**+1.0**
SPSI	**Sidrap Palu**	**8.58**	**231**	P		**Pn**	**21 20 11.2**	**+0.8**
	3μm216nm,0.5s							
BNSI	**Bone**	**8.61**	**227**	P		**Pn**	**21 20 11.5**	**+0.7**
	2μm177nm,0.7s							
MYLDM	**Lahad Datu**	**8.75**	**295**	Pn		**Pn**	**21 20 14.1**	**+1.4**
BKSI	**Bulukumba**	**9.24**	**223**	P		**Pn**	**21 20 20.3**	**+0.9**
	1μm124nm,0.7s							
KAPI	**Kappang**	**9.28**	**226**	Pn		**Pn**	**21 20 21.3**	**+1.3**
	14nm,0.3s,baz=6.9,slow=3.0,SNR=23							
KAPI	**Kappang**	**9.28**	**226**	Pn		**Pn**	**21 20 20.7**	**+0.7**
SMKI	**Samarinda**	**9.43**	**258**	P		**Pn**	**21 20 22.7**	**+0.6**
	2μm112nm,1.0s							
BKB	**Balikpapan**	**9.93**	**254**	Pn		**Pn**	**21 20 29.6**	**+0.8**
BAKI	**Biak**	**10.01**	**105**	P		**Pn**	**21 20 31.3**	**+1.3**
	2μm174nm,1.2s							
SRPI	**Serui, Papua**	**10.34**	**109**	P		**Pn**	**21 20 34.7**	**+0.3**
SAUI	**Saumlaki**	**10.56**	**153**	Pn		**Pn**	**21 20 37.0**	**-0.5**
MMRI	**Maumere**	**10.88**	**203**	P		**Pn**	**21 20 42.5**	**+0.7**
	61nm,0.9s							
MMRI	**Maumere**	**10.88**	**203**			**Pn**	**21 20 41.9**	**+0.1**
KKM	**Kota Kinabalu**	**11.18**	**294**			**Pn**	**21 20 47.1**	**+1.1**
EDFI	**Ende, Flores**	**11.20**	**205**	P		**Pn**	**21 20 47.0**	**+0.6**
	31nm,0.6s							
KBKI	**Kotabaru**	**11.31**	**245**	P		**Pn**	**21 20 50.8**	**+3.0**
	36nm,0.9s							
SOEI	**Soe**	**11.36**	**191**	P		**Pn**	**21 20 51.5**	**+3.0**
	2μm220nm,0.9s							
SOEI	**Soe**	**11.36**	**191**	Pn		**Pn**	**21 20 50.2**	**+1.7**
MTKI	**Muara Teweh, K**	**11.80**	**258**	P		**Pn**	**21 20 54.9**	**+0.5**
	13nm,0.7s							
BATI	**Baumata**	**11.92**	**193**	Pn		**Pn**	**21 21 00.0**	**+3.9**
	2.0nm,0.3s,baz=2.4,slow=2.8,SNR=9.5							
BATI	**Baumata**	**11.92**	**193**	P		**Pn**	**21 20 59.1**	**+2.9**
	45nm,1.0s							
BBKI	**Banjar Baru**	**12.59**	**247**	P		**Pn**	**21 21 08.1**	**+2.8**
	815nm37nm,1.3s							
PLAI	**Plampang**	**13.39**	**220**	P		**Pn**	**21 21 17.1**	**+0.9**
	1μm151nm,1.0s							
LQP	**Lukban**	**13.47**	**339**	↑	*eP*	**Pn**	**21 21 19.1**	**+1.6**
TGY	**Tagaytay City**	**13.69**	**337**	Pn		**Pn**	**21 21 20.9**	**+0.6**
	baz=265,slow=5.8,SNR=3.2							
TWSI	**Taliwang, Sumb**	**13.92**	**223**	P		**P**	**21 21 32.4**	**+2.1**
SBUM	**Sibu**	**14.25**	**274**	Pn		**Pn**	**21 21 28.6**	**+0.7**
SBUM	**Sibu**	**14.25**	**274**	P		**P**	**21 21 35.0**	**+0.9**
GENI	**Genyem**	**14.30**	**106**	P		**Pn**	**21 21 30.0**	**+1.5**
	2μm65nm,1.1s							
JAY	**Jayapura**	**14.79**	**105**	Pn		**P**	**21 21 38.6**	**-1.5**
	0.3nm,0.3s,baz=51,slow=6.9,SNR=3.6							
JAY					LR	LR	21 27 34.8	
	comp=Z,531nm,18.6s,baz=270,slow=38							
JAY	**Jayapura**	**14.79**	**105**	P		**P**	**21 21 37.9**	**-2.2**
	14nm,1.6s							
MTN	**Manton Dam**	**14.96**	**162**	P		**Pn**	**21 21 37.4**	**+0.2**
	baz=15,SNR=9.5							
MTN	**Manton Dam**	**14.96**	**162**	Pn		**Pn**	**21 21 35.1**	**-2.1**
STKI	**Sintang**	**15.03**	**265**	P		P	21 21 51.5	+8.7
KDU	**Kakadu**	**15.28**	**157**	P		**Pn**	**21 21 43.4**	**+2.0**
	baz=15,SNR=33							
JAGI	**Jajag, Banyuwa**	**15.74**	**231**	P		**P**	**21 21 51.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**15.74**	**231**	P		**Pn**	**21 21 48.0**	**+0.7**
JAGI					IAmb	IAmb	21 22 02.4	
	comp=Z,89nm,0.9s							
BLJI	**Banyuglugur**	**15.75**	**234**	P		**Pn**	**21 21 45.1**	**-2.4**
	comp=Z,75nm,1.1s							
KSM	**Kuching**	**16.14**	**270**	P		**Pn**	**21 21 53.0**	**+0.6**
KSM					IAmb	IAmb	21 22 03.2	
	comp=Z,98nm,1.1s							
KSM	**Kuching**	**16.14**	**270**	P		**P**	**21 21 57.0**	**+2.0**
GMJI	**Gumukmas**	**16.18**	**233**	P		**P**	**21 21 58.0**	**+2.6**
KNRA	**Kununurra**	**17.19**	**172**	P		**Pn**	**21 22 04.8**	**-0.7**
	baz=17,SNR=33							
KNRA	**Kununurra**	**17.19**	**172**	P		**Pn**	**21 22 04.7**	**-0.9**
KNRA					IAmb	IAmb	21 22 05.8	
	comp=Z,183nm,1.1s							
PWJI	**Pagerwojo**	**17.38**	**237**	P		**Pn**	**21 22 08.0**	**0.0**
UGM	**Wanagama**	**18.41**	**239**	P		**Pn**	**21 22 20.9**	**+0.3**
TPI	**Tanjungpandan**	**19.25**	**257**	P		**Pn**	**21 22 30.1**	**-0.6**
	comp=Z,24nm,1.0s							
FITZ	**Fitzroy Crossi**	**19.46**	**182**	P		**P**	**21 22 30.8**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=16,slow=6.8,SNR=27							
FITZ	**Fitzroy Crossi**	**19.46**	**182**	P		**P**	**21 22 30.7**	**-0.8**
	baz=20,SNR=21							
FITZ	**Fitzroy Crossi**	**19.46**	**182**	P		**P**	**21 22 30.4**	**-1.1**
KPJI	**Karang Pucung**	**19.54**	**243**	P		**P**	**21 22 30.6**	**-1.9**
	comp=Z,74nm,0.9s							
JCJI	**Jatiwangi**	**19.79**	**246**	P		**P**	**21 22 35.8**	**+0.5**
	comp=Z,137nm,0.4s							
LEM	**Lembang**	**20.52**	**246**	P		**P**	**21 22 42.0**	**-1.4**
	comp=Z,10nm,0.5s,baz=293,slow=22,SNR=3.8							
PPBI	**Pangkal Pinang**	**20.62**	**260**	P		**P**	**21 22 43.2**	**-1.1**
	comp=Z,36nm,0.9s							
DLV	**T Lat**	**20.63**	**301**	P		**P**	**21 22 45.4**	**+0.8**
DLV					IAmb	IAmb	21 22 52.7	
	comp=Z,101nm,1.1s							
CISI	**Cisompet, Garu**	**20.64**	**244**	P		**P**	**21 22 42.5**	**-2.0**
	comp=Z,67nm,0.7s							
CISI	**Cisompet, Garu**	**20.64**	**244**	P		**P**	**21 22 42.6**	**-2.0**
CISI					IAmb	IAmb	21 22 51.7	
	comp=Z,43nm,0.8s							
CNJI	**Cibinong**	**21.15**	**245**	P		**P**	**21 22 50.2**	**+0.2**
	comp=Z,130nm,1.3s							
GUMO	**Guam**	**21.85**	**56**	P		**P**	**21 22 54.8**	**-2.6**
GUMO					IAmb	IAmb	21 23 04.8	
	comp=Z,98nm,1.1s							
YULB	**Yu-li**	**22.36**	**347**	P		**P**	**21 22 60.0**	**-3.0**
TPUB	**Ta-pu**	**22.43**	**346**	P		**P**	**21 23 01.3**	**-2.3**
KLSI		**22.54**	**254**	P		**P**	**21 23 03.8**	**-1.2**
	comp=Z,11nm,0.7s							
COEN	**Coen**	**22.57**	**133**	P		**P**	**21 23 06.3**	**+1.1**
	baz=23,SNR=12							
COEN	**Coen**	**22.57**	**133**	P		**P**	**21 23 05.2**	**-0.1**
MYKOM	**Kota Tinggi**	**22.59**	**271**	P		**P**	**21 23 05.3**	**-0.2**
MYKOM	**Kota Tinggi**	**22.59**	**271**	P		**P**	**21 23 06.0**	**+0.5**
WRAB	**Tennant Creek**	**22.64**	**160**	P		**P**	**21 23 04.4**	**-1.4**
WRA	**Warramunga Arr**	**22.64**	**160**	P		**P**	**21 23 04.6**	**-1.3**
	comp=Z,124nm,0.6s,baz=340,slow=11,SNR=229							
WRA					S	**S**	**21 27 11.0**	**+0.2**
	comp=Z,13nm,1.1s,baz=344,slow=15,SNR=9.2							
WRA	**Warramunga Arr**	**22.64**	**160**	P		**P**	**21 23 03.9**	**-2.0**
WR0	**Warramunga Arr**	**22.72**	**160**	IAmb		IAmb	21 23 09.9	
	comp=Z,70nm,0.8s							
SSLB	**Suanglung**	**22.82**	**347**	P		**P**	**21 23 06.5**	**-1.3**
SSLB					IAmb	IAmb	21 23 09.2	
	comp=Z,48nm,0.8s							
MDSI	**Maura Dua**	**23.02**	**255**	P		**P**	**21 23 07.0**	**-3.0**
	comp=Z,15nm,0.9s							
NACB	**Ninganchiao**	**23.06**	**349**	P		**P**	**21 23 06.9**	**-3.3**
LWLI	**Liwa**	**23.27**	**254**	P		**P**	**21 23 10.0**	**-2.6**
	comp=Z,3μmcomp=Z,74nm,1.0s							
PMG	**Port Moresby**	**23.29**	**118**	P		**P**	**21 23 14.2**	**+1.7**
	comp=Z,17nm,0.9s,baz=267,slow=17,SNR=2.6							
PMG	**Port Moresby**	**23.29**	**118**	P		**P**	**21 23 11.7**	**-0.8**
YHNB	**Yeheng**	**23.58**	**348**	P		**P**	**21 23 14.8**	**-0.5**
YHNB					IAmb	IAmb	21 23 16.9	
	comp=Z,62nm,0.9s							
PSA00	**Pilbara Seismi**	**23.79**	**195**	P		**P**	**21 23 16.7**	**-0.5**
PSA00	**Pilbara Seismi**	**23.79**	**195**	IAmb		IAmb	21 23 18.0	
	comp=Z,34nm,0.7s							
QIZ	**Qiongzhong**	**23.86**	**318**	P		**P**	**21 23 16.7**	**-1.2**
QIZ					S	**S**	**21 27 31.4**	**+0.5**
QIZ					pmax	pmax		
	comp=Z,20nm,1.5s							
QIZ					pmax	pmax		
	comp=Z,150nm,8.8s							
QIZ					LR	LR		
	comp=Z,370nm,8.6s							
QIZ					LR	LR		
	comp=Z,230nm,8.8s							
QIZ					LR	LR		
	comp=Z,420nm,23.7s							
KNMB	**Chin-men Tao**	**24.16**	**342**	P		**P**	**21 23 19.0**	**-1.5**
KNMB					IAmb	IAmb	21 23 22.7	
	comp=Z,56nm,0.8s							
KSI	**Kapahiang**	**24.38**	**258**	P		**P**	**21 23 21.7**	**-1.1**
	comp=Z,42nm,0.9s							
SDSI	**Sungai Dareh**	**25.13**	**265**	P		**P**	**21 23 27.9**	**-1.7**
	comp=Z,870nmcomp=Z,33nm,0.9s							
KRJI	**Kerinci**	**25.23**	**262**	P		**P**	**21 23 28.2**	**-2.4**
	comp=Z,134nm,1.3s							
QIS	**Mount Isa**	**25.40**	**150**	P		**P**	**21 23 31.6**	**-0.3**
	baz=26,SNR=16							
BKNI	**Bangkinang**	**25.43**	**268**	P		**P**	**21 23 28.2**	**-4.1**
BKNI	**Bangkinang**	**25.43**	**268**	P		**P**	**21 23 31.8**	**-0.5**
BKNI					IAmb	IAmb	21 23 35.1	
	comp=Z,57nm,1.0s							
IPM	**Ipoh**	**25.56**	**277**	P		**P**	**21 23 33.7**	**+0.2**
IPM	**Ipoh**	**25.56**	**277**	P		**P**	**21 23 34.0**	**+0.5**
ASAR	**Alice Springs**	**26.01**	**164**	P		**P**	**21 23 37.0**	**-0.5**
	comp=Z,22nm,0.8s,baz=345,slow=6.4,SNR=122							
ASAR					PcP	**PcP**	**21 27 05.2**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=351,slow=2.0,SNR=6.7							
ASAR					S	**S**	**21 28 09.5**	**+4.3**
	comp=Z,4.5nm,0.9s,baz=343,slow=16,SNR=5.0							
ASAR	**Alice Springs**	**26.01**	**164**	P		**P**	**21 23 36.0**	**-1.5**
KULM	**Kulim**	**26.03**	**279**	P		**P**	**21 23 36.9**	**-0.8**
MTSU	**Mount Surprise**	**26.24**	**139**	P		**P**	**21 23 40.7**	**+1.1**
	baz=26,SNR=6.5							
RABL	**Rabaul**	**26.30**	**102**	P		**P**	**21 23 39.0**	**-1.2**
RABL					IAmb	IAmb	21 23 48.4	
	comp=Z,35nm,0.6s							
WRKA	**Warakurna**	**26.41**	**176**	P		**P**	**21 23 41.2**	**+0.1**
	baz=27,SNR=21							
GIRL	**Giralia**	**26.76**	**206**	P		**P**	**21 23 44.3**	**+0.2**
	baz=27,SNR=4.1							
GIRL	**Giralia**	**26.76**	**206**	P		**P**	**21 23 42.7**	**-1.5**
MNSI	**Mandailing Nat**	**26.87**	**269**	P		**P**	**21 23 44.1**	**-1.2**
RPSI	**Rantau Prapat**	**27.53**	**273**	P		**P**	**21 23 50.9**	**-0.3**
PSI	**Prapat**	**27.54**	**273**	P		**P**	**21 23 50.5**	**-0.9**
	comp=Z,14nm,0.8s,baz=111,slow=4.3,SNR=7.2							
GSI	**Gunungsitoli**	**28.86**	**270**	P		**P**	**21 24 01.3**	**-1.8**
GSI					IAmb	IAmb	21 24 11.9	
	comp=Z,40nm,1.0s							
CTA	**Charters Tower**	**28.91**	**139**	P		**P**	**21 24 05.4**	**+1.9**
	comp=Z,4.7nm,0.6s,baz=316,slow=12,SNR=6.7							
CTAO	**Charters Tower**	**28.91**	**139**	P		**P**	**21 24 04.2**	**+0.7**
MEEK	**Meekatharra**	**28.95**	**195**	P		**P**	**21 24 03.3**	**-0.4**
	baz=29,SNR=14							
GYA	**Guiyang**	**31.29**	**324**	⇑	P	**P**	**21 24 23.6**	**-1.0**
GYA					pmax	pmax		
	comp=Z,20nm,1.1s							
JNU	**Nakatsue**	**31.76**	**7**	P		**P**	**21 24 28.1**	**-0.5**
	comp=Z,26nm,0.8s,baz=143,slow=7.4,SNR=5.9							
JNU	**Nakatsue**	**31.76**	**7**	P		**P**	**21 24 27.5**	**-1.1**
JNU					IAmb	IAmb	21 24 29.6	
	comp=Z,41nm,1.0s							
CM31	**Chiang Mai Arr**	**31.83**	**304**	P		**P**	**21 24 28.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.83**	**304**	P		**P**	**21 24 27.8**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=128,slow=7.2,SNR=25							
CMAR					PcP	**PcP**	**21 27 20.5**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=154,slow=2.1,SNR=6.9							
CMAR					LR	LR	21 38 25.6	
	comp=Z,169nm,19.7s,baz=155,slow=38							
CMAR	**Chiang Mai Arr**	**31.83**	**304**	P		**P**	**21 24 28.4**	**-0.9**
MORW	**Morawa**	**31.96**	**197**	P		**P**	**21 24 29.9**	**-0.3**
	baz=32,SNR=16							
MORW	**Morawa**	**31.96**	**197**	P		**P**	**21 24 29.2**	**-1.0**
MORW					IAmb	IAmb	21 24 30.9	
	comp=Z,24nm,0.8s							
CHTO	**Chiang Mai**	**32.00**	**304**	P		**P**	**21 24 29.9**	**-0.9**
FORT	**Forrest**	**32.10**	**177**	P		**P**	**21 24 31.5**	**0.0**
FORT					IAmb	IAmb	21 24 37.0	
	comp=Z,32nm,0.7s							
KMI	**Kunming**	**32.81**	**318**	↓	*iP*	**P**	**21 24 38.3**	**+0.2**
KMI					pP	pP	21 24 50.4	+0.3
KMI					pmax	pmax		
	comp=Z,15nm,1.1s							
KMI					pmax	pmax		
	comp=Z,310nm,6.0s							
KMI					LR	LR		
	comp=Z,300nm,7.3s							
KMI					LR	LR		
	comp=Z,350nm,8.5s							
KMI					LR	LR		
	comp=Z,260nm,9.5s							
KMI	**Kunming**	**32.81**	**318**	P		**P**	**21 24 38.0**	**-0.1**
KMI					IAmb	IAmb	21 24 39.6	
	comp=Z,12nm,0.6s							
JMN	**Monobe**	**32.84**	**11**	P		**P**	**21 24 36.0**	**-1.9**
JMN					IAmb	IAmb	21 24 37.8	
	comp=Z,41nm,1.0s							
ENH	**Enshi**	**32.86**	**332**	IAmb		IAmb	21 24 38.0	
	comp=Z,29nm,0.9s							
KMBL	**Kambalda**	**32.94**	**187**	P		**P**	**21 24 39.8**	**+0.9**
	baz=33,SNR=6.5							
JTU	**Tsushima**	**33.00**	**4**	P		**P**	**21 24 38.1**	**-1.2**
BLDU	**Ballidu**	**33.23**	**195**	P		**P**	**21 24 41.4**	**+0.1**
	baz=33,SNR=14							
KLBR	**Kellerberrin**	**33.90**	**193**	P		**P**	**21 24 47.4**	**+0.2**
	baz=34,SNR=9.1							
JHS	**Saijyo**	**33.94**	**10**	P		**P**	**21 24 47.7**	**+0.2**
JHS					IAmb	IAmb	21 25 00.9	
	comp=Z,25nm,1.1s							
MUN	**Mundaring**	**34.65**	**195**	P		**P**	**21 24 54.1**	**+0.4**
	baz=35,SNR=8.9							
JWT	**Wachi**	**34.66**	**13**	P		**P**	**21 24 53.8**	**+0.1**
JWT					IAmb	IAmb	21 24 55.7	
	comp=Z,33nm,1.1s							
PBA	**Port Blair**	**34.93**	**288**	P		P	21 24 56.0	-0.4
HNR	**Honiara**	**35.08**	**109**	LR		LR	21 40 13.3	
	comp=Z,155nm,18.3s,baz=138,slow=38							
INU	**Inuyama**	**35.12**	**15**	P		**P**	**21 24 58.1**	**+0.4**
BBOO	**Buckleboo**	**35.28**	**166**	P		**P**	**21 24 59.3**	**+0.2**
	baz=36,SNR=8.1							
BBOO	**Buckleboo**	**35.28**	**166**	IAmb		IAmb	21 25 05.1	
	comp=Z,25nm,0.9s							
NWAO	**Narrogin (SRO)**	**35.30**	**193**	P		**P**	**21 25 00.0**	**+0.7**
	baz=36,SNR=9.8							
NWAO	**Narrogin (SRO)**	**35.30**	**193**	P		**P**	**21 24 58.8**	**-0.5**
NWAO					IAmb	IAmb	21 25 00.5	
	comp=Z,20nm,0.7s							
NWAO	**Narrogin (SRO)**	**35.30**	**193**	P		**P**	**21 24 59.5**	**+0.3**
NWAO					IAmb	IAmb	21 25 00.5	
	comp=Z,25nm,0.7s							
JGF	**Kuroka**	**35.44**	**15**	P		**P**	**21 25 00.6**	**0.0**
JGF					IAmb	IAmb	21 25 02.8	
	comp=Z,13nm,0.8s							
TIA	**Tai'an**	**35.64**	**347**	P		**P**	**21 25 01.6**	**-0.5**
TIA					pmax	pmax		
	comp=Z,12nm,0.8s							
EIDS	**Eidsvold**	**35.78**	**140**	P		**P**	**21 25 02.6**	**-0.9**
EIDS					IAmb	IAmb	21 25 06.1	
	comp=Z,13nm,0.9s							
KSAR	**Wonju Array Be**	**35.83**	**2**	P		**P**	**21 25 03.7**	**0.0**
KSRS	**Korea Array**	**35.84**	**2**	P		**P**	**21 25 04.4**	**+0.6**
	comp=Z,7.2nm,0.7s,baz=179,slow=9.3,SNR=22							
KS19	**Wonju Array Si**	**35.88**	**2**	P		**P**	**21 25 04.2**	**0.0**
KS19					IAmb	IAmb	21 25 07.6	
	comp=Z,17nm,0.8s							
STKA	**Stephens Creek**	**36.14**	**158**	P		**P**	**21 25 06.1**	**-0.4**
	comp=Z,15nm,0.7s,baz=338,slow=8.3,SNR=16							
STKA	**Stephens Creek**	**36.14**	**158**	P		**P**	**21 25 06.4**	**-0.1**
	baz=36,SNR=33							
STKA	**Stephens Creek**	**36.14**	**158**	P		**P**	**21 25 06.7**	**+0.2**
XAN	**Xi'an**	**36.32**	**335**	P		**P**	**21 25 06.7**	**-1.4**
XAN					pP	pP	21 25 19.4	-0.8
XAN					pmax	pmax		
	comp=Z,17nm,1.4s							
XAN	**Xi'an**	**36.32**	**335**	IAmb		IAmb	21 25 10.1	
	comp=Z,31nm,0.9s							
CD2	**Chengdu**	**36.32**	**326**	↓	*iP*	**P**	**21 25 07.1**	**-1.0**
CD2					pmax	pmax		
	comp=Z,70nm,1.2s							
MAJO	**Matsushiro**	**36.56**	**16**	P		**P**	**21 25 09.8**	**-0.3**
MAJO					IAmb	IAmb	21 25 12.4	
	comp=Z,34nm,1.1s							
MAT	**Matsushiro**	**36.56**	**16**	P		**P**	**21 25 09.6**	**-0.4**
MJAR	**Matsushiro Arr**	**36.56**	**16**	P		**P**	**21 25 09.2**	**-0.9**
	comp=Z,14nm,0.8s,baz=185,slow=9.5,SNR=32							
MJAR					PcP	**PcP**	**21 27 33.7**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=151,slow=3.0,SNR=4.9							
MJAR	**Matsushiro Arr**	**36.56**	**16**	P		**P**	**21 25 09.1**	**-0.9**
HTT	**Hallett**	**36.65**	**162**	P		**P**	**21 25 12.3**	**+1.4**
	baz=37,SNR=4.9							
DL2	**Dalian**	**37.52**	**354**	P		**P**	**21 25 18.6**	**+0.5**
DL2					pmax	pmax		
	comp=Z,140nm,0.7s							
JSD	**Sado**	**37.98**	**15**	P		**P**	**21 25 21.8**	**-0.2**
JSD					IAmb	IAmb	21 25 27.1	
	comp=Z,40nm,1.0s							
JMM	**Marumori**	**38.55**	**18**	P		**P**	**21 25 26.9**	**+0.1**
BJT	**Baijiatuan**	**39.50**	**348**	P		**P**	**21 25 34.1**	**-0.6**
BJT					IAmb	IAmb	21 25 38.3	
	comp=Z,18nm,0.9s							
BJI	**Beijing**	**39.52**	**348**	P		**P**	**21 25 34.6**	**-0.2**
BJI					pmax	pmax		
	comp=Z,20nm,0.8s							
ARMA	**Armidale**	**39.76**	**145**	P		**P**	**21 25 38.2**	**+0.9**
	baz=40,SNR=5.2							
ARMA	**Armidale**	**39.76**	**145**	P		**P**	**21 25 37.4**	**+0.2**
ARMA					IAmb	IAmb	21 25 43.7	
	comp=Z,18nm,0.8s							
SNY	**Shenyang**	**40.26**	**357**	↓	P	**P**	**21 25 41.6**	**+0.6**
SNY					pmax	pmax		
	comp=Z,50nm,0.8s							
LZH	**Lanzhou**	**40.32**	**331**	*eP*		**P**	**21 25 41.2**	**-0.6**
LZH					pP	pP	21 25 54.4	+0.4
LZH					sP	sP	21 25 59.1	-0.3
LZH					pmax	pmax		
	comp=Z,29nm,1.3s							
ARPS	**Mount Arapiles**	**40.64**	**161**	P		**P**	**21 25 46.3**	**+2.0**
	baz=41,SNR=11							
SHL	**Shillong**	**41.02**	**309**	P		**P**	**21 25 46.5**	**-1.3**
SHL					IAmb	IAmb	21 25 47.8	
	comp=Z,22nm,0.7s							
JTM	**Tenmabayashi**	**41.32**	**17**	P		**P**	**21 25 49.8**	**0.0**
HHC	**Hu-ho-hao-te**	**41.46**	**343**	*eP*		**P**	**21 25 51.4**	**+0.4**
HHC					pmax	pmax		
	comp=Z,21nm,1.2s							
HHC					pmax	pmax		
	comp=Z,120nm,5.6s							
CN2	**Changchun**	**42.16**	**359**	*eP*		**P**	**21 25 58.8**	**+2.2**
CN2

NIL IAmb IAmb 21 28 11.1
comp=Z,12nm,0.8s
UZB Uzynbulak 59.18 321 ⇓*i* P **P** **21 28 04.3 -0.9**
comp=Z,8.9nm,1.3s
TARG Taragay, Kyrgy 59.25 319 IAmb IAmb 21 28 13.4
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 59.26 326 P **P** **21 28 04.4 -1.0**
MK31 IAmb IAmb 21 28 05.4
comp=Z,7.5nm,0.7s
MKAR Makanchi Array 59.26 326 P **P** **21 28 04.8 -0.6**
comp=Z,9.4nm,0.6s,baz=123,slow=8.6,SNR=99
MKAR PcP **PcP** **21 28 53.0 -0.3**
comp=Z,7.9nm,0.8s,baz=138,slow=4.8,SNR=4.7
MKAR PKPPKP P'P'df 21 57 47.9 +10
comp=Z,0.7nm,0.9s,baz=336,slow=2.7,SNR=4.1
MKAR Makanchi Array 59.26 326 P **P** **21 28 04.3 -1.1**
MAKZ Makanchi 59.44 326 P **P** **21 28 05.9 -0.7**
MAKZ IAmb IAmb 21 28 06.6
comp=Z,11nm,0.7s
KSH Kashi 59.45 316 P **P** **21 28 07.4 +0.3**
KSH S **S** **21 36 17.2 +4.0**
KSH pmax pmax
comp=Z,13nm,1.1s
KSH pmax pmax
comp=Z,120nm,4.5s
KSH LR LR
comp=Z,93nm,6.1s
KSH LR LR
comp=Z,190nm,6.8s
KSH LR LR
comp=Z,190nm,5.4s
SATY Saty 59.52 321 ⇓*i* P **P** **21 28 06.9 -0.6**
comp=Z,10nm,0.8s
KPKS Kokpek 59.56 321 ⇓*i* P **P** **21 28 06.8 -0.8**
comp=Z,11nm,0.7s
KDJ Kajisay 59.85 319 P **P** **21 28 09.1 -0.7**
KDJ IAmb IAmb 21 28 11.8
comp=Z,12nm,0.8s
LBZ Lake Benmore 59.99 145 P **P** **21 28 10.9 +0.5**
THZ Tophouse 60.11 141 P **P** **21 28 11.4 0.0**
MDOK Medeo 60.44 320 *e*P **P** **21 28 13.0 -0.8**
TNSS Tian-Shan 60.44 320 ⇓*i* P **P** **21 28 13.6 -0.5**
YAK Yakutsk 60.47 2 P **P** **21 28 13.4 +0.1**
TDK Taldyqorghan 60.52 323 *e*P **P** **21 28 12.9 -1.2**
comp=Z,14nm,0.7s
AAA Alma-Ata 60.55 320 *e*P **P** **21 28 13.3 -1.1**
CHKK Chushkaly 60.82 321 *e*P **P** **21 28 14.4 -1.8**
MTBS Maitube 60.82 320 *e*P **P** **21 28 14.4 -1.9**
BOOM Boomskoye usch 60.83 319 IAmb IAmb 21 28 17.8
comp=Z,11nm,1.1s
MA2 Magadan 60.95 14 P **P** **21 28 18.1 +1.3**
SNZO South Karori 61.01 140 P **P** **21 28 16.1 -1.3**
KUU Kurty 61.24 321 *e*P **P** **21 28 17.9 -1.1**
comp=Z,20nm,0.7s
TKM2 Tokmak 2 61.26 319 P **P** **21 28 19.0 -0.5**
SNR=18
MSWZ Moikau Station 61.41 140 P **P** **21 28 18.7 -1.5**
UCH Uchtor 61.65 318 P **P** **21 28 22.0 -0.4**
SNR=22
CHMS Chumysh 61.84 319 P **P** **21 28 22.3 -0.8**
SNR=5.8
SGDS Segindy 62.13 320 *e*P **P** **21 28 22.5 -2.6**
USP Ospenovka 62.13 319 P **P** **21 28 24.4 -0.7**
SNR=19
AML Almayashu 62.16 318 P **P** **21 28 25.6 -0.2**
SNR=22
EKS2 Erkin-Say 62.33 319 P **P** **21 28 26.4 -0.2**
SNR=17
ZAA0 Zalesovo Array 62.47 334 P **P** **21 28 26.1 -1.0**
ZAA0 IAmb IAmb 21 28 28.1
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 62.47 334 P **P** **21 28 25.9 -1.2**
comp=Z,4.6nm,0.6s,baz=126,slow=5.5,SNR=27
ZALV LR LR 21 57 05.4
comp=Z,120nm,18.8s,baz=103,slow=38
ZALV Zalesovo Beam 62.47 334 P **P** **21 28 26.2 -0.8**
KBL Kabul 62.68 308 P **P** **21 28 27.8 -1.4**
KBL IAmb IAmb 21 28 29.9
comp=Z,17nm,0.8s
BTLS Baital 63.23 321 *e*P **P** **21 28 30.4 -1.9**
comp=Z,6.8nm,1.1s
GAR Garm 63.25 314 P **P** **21 28 32.0 -0.8**
BTK Batken 63.29 315 P **P** **21 28 32.8 -0.1**
BTK IAmb IAmb 21 28 34.0
comp=Z,11nm,0.9s
KURK Kurchatov 63.49 328 P **P** **21 28 33.5 -0.5**
CHGR Chuyangaron 63.98 313 P **P** **21 28 37.6 +0.1**
DZA Taraz 64.06 318 *e*P **P** **21 28 35.8 -2.1**
IUG Iuzhnay 64.65 317 *e*P **P** **21 28 40.0 -1.9**
comp=Z,7.8nm,0.8s
KK31 Karatay Array 64.70 318 P **P** **21 28 41.4 -0.7**
KK31 IAmb IAmb 21 28 42.1
comp=Z,9.1nm,0.8s
KKAR Karatay Array 64.70 318 P **P** **21 28 41.1 -1.0**
KKAR Karatay Array 64.70 318 P **P** **21 28 41.5 -0.5**
KKAR IAmb IAmb 21 28 42.1
comp=Z,9.1nm,0.8s
BRZS Berezniki 66.37 325 *e*P **P** **21 28 51.4 -1.3**
comp=Z,26nm,1.4s
CASY Casey 68.55 187 P **P** **21 29 06.4 +0.3**
ADK Adak 68.98 34 P **P** **21 29 08.6 -0.4**
ADK IAmb IAmb 21 29 13.2
comp=Z,23nm,1.1s
BRVK Borovoye 69.13 328 P **P** **21 29 09.5 -0.5**
BRVK IAmb IAmb 21 29 11.1
comp=Z,14nm,0.8s
TIXI Tiksi 70.09 1 P **P** **21 29 15.8 +0.3**
ATKA Atka Island 70.51 34 P **P** **21 29 19.7 +1.3**
SOHO SOHO 71.10 295 P **P** **21 29 21.8 -0.8**
UOSS Minazif 71.49 296 P **P** **21 29 23.5 -1.5**
UOSS Minazif 71.49 296 P **P** **21 29 23.8 -1.2**
MSFE Esma-Masafi 71.59 296 P **P** **21 29 25.9 +0.3**
ASHO Ashiyiah 71.59 295 P **P** **21 29 24.0 -1.7**
ALNE Al Ain 71.80 295 *i* P **P** **21 29 25.4 -1.4**
SNR=10
GEYT Alibeck 72.09 309 P **P** **21 29 27.5 -0.9**
comp=Z,6.6nm,0.7s,baz=159,slow=6.3,SNR=16
GEYT Allbeck 72.09 309 P **P** **21 29 28.4 0.0**
GYA0B ALIBECK ARRAY 72.09 309 P **P** **21 29 29.0 +0.6**
AJN Ajban 72.55 295 *i* P **P** **21 29 29.9 -1.4**
SNR=7.9
NRIK Noril'sk 72.55 346 P **P** **21 29 30.4 0.0**
comp=Z,37nm,0.8s,baz=126,slow=6.5,SNR=61
SOCY Socotra 72.55 282 P **P** **21 29 29.9 -1.7**
SOCY IAmb IAmb 21 29 31.6
comp=Z,23nm,0.7s
ABKAR Akbulak array 73.72 321 P **P** **21 29 37.1 -0.7**
ABKAR Akbulak array 73.72 321 IAmb IAmb 21 29 39.9
comp=Z,10nm,0.8s
AKTO Aktyubinsk 75.25 322 P **P** **21 29 46.0 -0.6**
comp=Z,13nm,0.7s,baz=99,slow=6.2,SNR=24
AKUT Akutan 75.94 34 P **P** **21 29 50.7 +0.3**
ARU Arti 76.69 328 P **P** **21 29 54.1 -0.6**
comp=Z,12nm,0.7s,baz=116,slow=2.3,SNR=59
ARU Arti 76.69 328 P **P** **21 29 54.4 -0.2**
SDPT Sand Point 79.22 34 P **P** **21 30 10.3 +1.6**
ABPO Ambohimpanom 80.29 251 P **P** **21 30 14.4 -1.1**
ABPO IAmb IAmb 21 30 22.4
comp=Z,17nm,1.1s
CHGN Chignik 80.56 33 P **P** **21 30 12.4 -3.5**
VNDA Vanda 81.23 173 P **P** **21 30 19.5 +0.4**
comp=Z,6.7nm,0.6s,baz=316,slow=6.8,SNR=34
VNDA LR LR 22 07 06.2
comp=Z,60nm,19.8s,baz=335,slow=36
VNDA Vanda 81.23 173 IAmb IAmb 21 30 23.1
comp=Z,8.7nm,0.8s
MAW Mawson 81.55 200 P **P** **21 30 21.0 +0.1**
comp=Z,2.5nm,0.5s,baz=80,slow=1.8,SNR=9.3
MAW LR LR 22 03 10.3
comp=Z,42nm,21.6s,baz=58,slow=33
MAW Mawson 81.55 200 P **P** **21 30 22.5 +1.6**
baz=82,SNR=7.0
MAW Mawson 81.55 200 P **P** **21 30 22.5 +1.6**
DAMY Dhamar 81.94 284 IAmb IAmb 21 30 27.1
comp=Z,8.8nm,0.7s
KIRV Kirov 82.00 329 P **P** **21 30 23.2 -0.3**
comp=Z,14nm,0.5s,baz=104,slow=4.7,SNR=12
TTA Tatalina 83.03 27 P **P** **21 30 30.5 +1.5**
TTA IAmb IAmb 21 30 31.7
comp=Z,12nm,0.8s
ATD Arta Tunnel 83.44 281 P **P** **21 30 32.6 +0.6**
comp=Z,16nm,0.8s,baz=3.0,slow=2.0,SNR=18
ATD Arta Tunnel 83.44 281 P **P** **21 30 32.6 +0.6**
ATD IAmb IAmb 21 30 33.9
comp=Z,17nm,0.8s

OHAK Old Harbor 83.50 33 P **P** **21 30 32.4 +1.1**
AKH Akhalkalaki 83.74 311 ⇓P **P** **21 30 34.4 +1.1**
KDAK Kodiak Island 83.94 32 P **P** **21 30 34.3 +0.7**
KDAK IAmb IAmb 21 30 45.9
comp=Z,19nm,1.1s
KDAK Kodiak Island 83.94 32 **P** **21 30 34.6 +1.0**
KBZ Khabaz 84.32 314 P **P** **21 30 35.6 -0.2**
comp=Z,13nm,0.8s,baz=113,slow=5.5,SNR=30
KVAR Kislovodsk Arr 84.48 314 P **P** **21 30 37.4 +0.5**
comp=Z,6.0nm,0.7s,baz=265,slow=21,SNR=6.0
KIV Kislovodsk 84.49 314 ⇑P **P** **21 30 37.2 +0.4**
KIV Kislovodsk 84.49 314 *i* P **P** **21 30 36.9 0.0**
SNR=14
KIV Kislovodsk 84.49 314 P **P** **21 30 37.3 +0.4**
KIV IAmb IAmb 21 30 41.5
comp=Z,17nm,0.7s
IMAR Indian Mountai 84.51 24 P **P** **21 30 37.5 +1.1**
PPLA Purkeypile 84.76 27 P **P** **21 30 39.5 +1.7**
PPLA IAmb IAmb 21 30 58.8
comp=Z,10nm,1.1s
CNPM China Poot 84.84 30 P **P** **21 30 38.9 +0.7**
CHVG Ch'ik'valeri 84.86 313 ⇑P **P** **21 30 38.9 +0.2**
ARTV Artvin 84.91 311 IAmb IAmb 21 30 41.5
comp=Z,12nm,0.7s
BRLK Bradley Lake 85.04 30 P **P** **21 30 40.1 +1.0**
BCA Borcka 85.15 311 ⇑P **P** **21 30 39.9 -0.2**
KTH Kantishna Hill 85.40 26 P **P** **21 30 40.8 -0.2**
BPAW Bear Paw Mtn. 85.43 26 P **P** **21 30 42.6 +1.6**
MLY Manley 85.64 25 P **P** **21 30 43.2 +1.1**
baz=264
TRF Thorofare Moun 85.67 27 P **P** **21 30 42.6 +0.1**
RC01 Rabbit Creek A 85.72 29 P **P** **21 30 43.6 +1.1**
baz=265
SEW Seward 85.79 30 P **P** **21 30 42.5 -0.3**
SEW IAmb IAmb 21 30 51.2
comp=Z,18nm,1.0s
COLD Coldfoot 86.07 23 P **P** **21 30 45.9 +1.8**
baz=264
COLD Coldfoot 86.07 23 IAmb IAmb 21 30 47.3
comp=Z,9.4nm,0.8s
GHO Glory Hole Cre 86.17 28 P **P** **21 30 46.2 +1.4**
GHO IAmb IAmb 21 30 50.0
comp=Z,11nm,0.9s
MCK McKinley 86.30 26 P **P** **21 30 45.7 +0.3**
baz=266
TOLK Toolik Lake Re 86.44 21 P **P** **21 30 47.1 +1.1**
baz=265
TOLK Toolik Lake Re 86.44 21 P **P** **21 30 46.8 +0.8**
TOLK IAmb IAmb 21 30 49.0
comp=Z,7.5nm,0.8s
SML Sawmill 86.45 28 P **P** **21 30 47.8 +1.6**
SML IAmb IAmb 21 30 48.6
comp=Z,12nm,0.9s
KTUT Trabzon 86.54 311 ⇑P **P** **21 30 46.8 -0.2**
HDA Harding Lake 87.21 26 P **P** **21 30 49.3 -0.5**
baz=268
KLMR Klimovskoe 87.23 331 *e*P **P** **21 30 47.5 -2.4**
KLMR AMP 21 30 53.9
comp=Z,30nm,1.0s
IL31 87.25 25 P **P** **21 30 50.3 +0.4**
ILAR Eielson Array 87.25 25 P **P** **21 30 49.1 -0.8**
comp=Z,1.2nm,0.7s,baz=229,slow=5.9,SNR=10
ILAR Eielson Array 87.25 25 P **P** **21 30 49.9 -0.1**
RIDG Independent Ri 88.12 26 P **P** **21 30 54.5 +0.3**
RIDG IAmb IAmb 21 31 01.6
comp=Z,6.4nm,0.9s
N25K Chitina, Valde 88.22 29 P **P** **21 30 55.6 +0.9**
baz=270
BMAR Burnt Mountain 88.26 23 P **P** **21 30 56.6 +1.9**
GLB Gilahina Butte 88.60 29 P **P** **21 30 57.4 +0.9**
OBN Obninsk 88.74 325 P **P** **21 30 55.8 -1.4**
comp=Z,2.3nm,0.5s,baz=240,slow=3.0,SNR=5.9
ASF Jabal al Asfar 88.85 302 P **P** **21 30 58.5 +0.2**
comp=Z,18nm,0.8s,baz=59,slow=2.2,SNR=69
TOKA Tokat 89.04 310 IAmb IAmb 21 31 00.8
comp=Z,9.9nm,0.7s
KMBO Kilima Mbogo 89.22 269 P **P** **21 31 02.1 +1.4**
comp=Z,1.9nm,0.6s,baz=62,slow=5.6,SNR=6.6
KMBO Kilima Mbogo 89.22 269 P **P** **21 31 01.3 +0.6**
K27K Chicken 89.34 26 P **P** **21 31 01.2 +1.4**
baz=272
BCAR Beaver Creek A 89.51 27 P **P** **21 31 01.6 +0.9**
MMAI Mount Meron Ar 90.09 303 P **P** **21 31 04.3 +0.2**
comp=Z,6.7nm,0.6s,baz=78,slow=8.6,SNR=21
SYO Syowa Base 90.23 201 ⇑*e*P **P** **21 31 05.0 +1.2**
EIL Elat 90.58 300 P **P** **21 31 06.0 -0.4**
comp=Z,4.9nm,0.7s,baz=258,slow=1.4,SNR=7.7
BR131 Keskin Array S 91.24 310 P **P** **21 31 08.6 -0.9**
BRTR Keskin Array B 91.24 310 P **P** **21 31 08.3 -1.1**
comp=Z,3.8nm,0.8s,baz=125,slow=5.5,SNR=34
BRTR Keskin Array B 91.24 310 P **P** **21 31 08.6 -0.9**
QSPA South Pole Qui 91.39 180 P **P** **21 31 10.4 +0.9**
QSPA IAmb IAmb 21 31 27.7
comp=Z,3.6nm,0.8s
HYT Haines Junctio 91.69 29 P **P** **21 31 08.5 -2.5**
HYT IAmb IAmb 21 31 12.5
comp=Z,12nm,1.1s
ARCES ARCESS Array B 92.46 340 P **P** **21 31 13.1 -1.2**
comp=Z,8.1nm,0.8s,baz=79,slow=6.3,SNR=13
KBS Kingsbay 93.17 350 P **P** **21 31 17.2 -0.2**
AKASG Malin Array Be 93.46 321 P **P** **21 31 17.9 -1.3**
comp=Z,4.4nm,0.7s,baz=67,slow=4.6,SNR=9.9
PURM Purcari 93.48 317 ⇑P **P** **21 31 20.9 +1.5**
FIA1 FINESS Array S 93.68 332 P **P** **21 31 21.1 +1.2**
FIA1 IAmb IAmb 21 31 29.3
comp=Z,11nm,1.1s
FINES FINESS Array B 93.68 332 P **P** **21 31 18.9 -1.1**
comp=Z,2.1nm,0.7s,baz=67,slow=6.4,SNR=11
FINES FINESS Array B 93.68 332 P **P** **21 31 19.4 -0.6**
MILM Milestii Mici 94.16 317 ⇑P **P** **21 31 21.0 -1.5**
SORM Soroca 94.33 318 ⇑P **P** **21 31 21.7 -1.5**
VRI Vrincioaia 95.72 316 ⇓P **P** **21 31 29.4 -0.4**
PLOR Plostina 95.78 316 ⇑P **P** **21 31 30.2 +0.1**
BISRR Bisoca 95.78 316 ⇑P **P** **21 31 30.8 +0.7**
BIZ Bicaz 96.00 317 ⇑P **P** **21 31 30.5 -0.5**
NEHR Nehoiu 96.09 316 ⇑P **P** **21 31 31.3 -0.2**
MLR Muntele Rosu 96.32 316 P **P** **21 31 31.8 -0.8**
comp=Z,4.8nm,0.8s,baz=222,slow=1.9,SNR=9.4
MLR Muntele Rosu 96.32 316 ⇑P **P** **21 31 31.2 -1.4**
MLR Muntele Rosu 96.32 316 IAmb IAmb 21 31 32.9
comp=Z,8.3nm,0.9s
BURAR Buovina Array 96.49 318 ⇑P **P** **21 31 33.7 +0.3**
BURAR Bucovina Array 96.49 318 P **P** **21 31 32.8 -0.5**
DOPR Dopca 96.64 316 ⇓P **P** **21 31 33.4 -0.5**
ARCR ARCALIA 97.16 318 ⇑P Pdif 21 31 37.0 +0.6
ARR Arges 97.25 316 ⇑P **P** **21 31 35.0 -1.8**
CJR Cluj-Napoca 97.73 317 ⇑P Pdif 21 31 39.6 +0.7
KOLS Kolonicke sedl 98.18 320 *e*PDIFF Pdif 21 31 42.1 +1.2
CRVS Cervenica-Dubn 98.71 320 *e*PDIFF Pdif 21 31 43.5 +0.3
HERR Herculane 98.89 316 ⇑P **P** **21 31 43.9 -0.2**
SIRR Siria 99.13 317 ⇑P **Pdif** **21 31 43.5 -1.7**
BZS Buzias 99.29 317 ⇑P **Pdif** **21 31 45.4 -0.5**
HFS Hagfors 99.88 332 P **Pdif** **21 31 46.0 -2.0**
comp=Z,5.0nm,1.1s,baz=165,slow=6.0,SNR=1.7
NOA NORSAR Array B 100.67 333 P **Pdif** **21 31 50.4 -1.3**
comp=Z,1.1nm,0.9s,baz=68,slow=4.5,SNR=3.3
PDG Podgorica 101.64 314 ⇑P **Pdif** **21 31 55.4 -0.9**
GERES GERESS Array B 103.67 321 Pdiff **Pdif** **21 32 06.5 +1.2**
comp=Z,0.5nm,0.7s,baz=93,slow=5.9,SNR=4.1
NVAR Mina Array Bea 108.61 49 PKKPbc PKKPbc 21 47 54.7 +11
comp=Z,0.2nm,0.3s,baz=135,slow=5.3,SNR=3.8
PDAR Pinedale Array 113.23 42 PKiKP **PKiKP** **21 36 44.3 +2.5**
comp=Z,0.2nm,0.3s,baz=259,slow=1.8,SNR=2.8
PDAR PKKPbc **PKKPab** **21 47 35.3 -0.4**
comp=Z,1.2nm,1.0s,baz=111,slow=6.5,SNR=4.6
ULM Lac du Bonnet 117.07 29 PKP **PKPdf** **21 36 48.4 -0.2**
comp=Z,5.3nm,0.8s,baz=344,slow=2.6,SNR=3.0
TXAR Lajitas Array 123.19 53 PKP **PKiKP** **21 37 01.9 +0.6**
comp=Z,0.8nm,0.7s,baz=253,slow=1.1,SNR=8.6
TXAR PKKPbc **PKKPbc** **21 46 52.3 +0.2**
comp=Z,0.2nm,0.8s,baz=110,slow=6.8,SNR=3.8
TXAR Lajitas Array 123.19 53 PKPdf **PKiKP** **21 37 01.8 +0.5**
TORD Torodi Ar. Bea 123.32 287 PKP **PKPdf** **21 37 01.4 -0.1**
comp=Z,2.8nm,0.7s,baz=50,slow=1.8,SNR=23
TORD PKKPbc **PKKPab** **21 46 52.4 +1.0**
comp=Z,0.8nm,0.8s,baz=271,slow=3.6,SNR=5.7
S39A Bolivar 126.45 39 PKPdf **PKiKP** **21 37 06.4 +0.1**
DBIC Dimbokro 130.73 280 PKP **PKPdf** **21 37 15.2 -0.5**
comp=Z,4.6nm,1.0s,baz=70,slow=7.8,SNR=4.3
PLCA Paso Flores 137.99 161 PKP **PKPdf** **21 37 29.6 +0.9**
comp=Z,2.2nm,0.8s,baz=220,slow=3.7,SNR=4.7
PLCA Paso Flores 137.99 161 **PKiKP** **21 37 30.8 0.0**
BO02 Sierra Bellavi 143.16 156 **PKPdf** **21 37 39.4 +1.1**
ROC1 El Roble 144.62 154 *i* P **PKPdf** **21 37 41.4 +0.3**
MATN Matagalpa 144.84 65 **PKPdf** **21 37 42.8 +1.1**

ASAL Salagasta 145.86 157 *i* P **PKPab** **21 37 45.0 +0.9**
AUSP Uspallata 145.96 156 *i* P **PKPab** **21 37 45.4 +0.7**
RTLS Leoncito 146.37 155 *i* P **PKPab** **21 37 46.7 +0.4**
LCCY Blossom Villag 146.55 50 **PKPab** **21 37 47.8 +0.8**
RTCV Cerro Valdivia 146.62 156 *i* P **PKPab** **21 37 46.5 -0.4**
ZON Zonda 146.84 156 *i* P **PKPab** **21 37 47.5 -0.3**
ACCO Cerro Coronel 147.51 155 *i* P **PKPbc** **21 37 49.7 +0.9**
AROD Rodeo 147.70 154 *i* P **PKiKP** **21 37 50.4 -1.0**
TCA Tanti 148.51 162 *i* P **PKiKP** **21 37 52.1 -0.6**
APLL PUNTA DE LOS L 148.70 158 *i* P **PKPbc** **21 37 49.9 -1.7**
ACLC CERRO LA CRUZ 149.41 157 *i* P **PKiKP** **21 37 54.5 -0.2**
LPAZ La Paz 159.43 137 PKP **PKPdf** **21 38 05.3 +1.5**
comp=Z,1.1nm,0.8s,baz=295,slow=4.5,SNR=3.9

*IDC **04** 21:28:18.6±0.6, 26°.74N×142°.21E, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.1/63, mbtmp4.2/27, ML3.3/4, MS3.6/4, Ms1 3.6/4, ms1mx3.1/39, Error ellipse: s-maj=21.3km s-min=9.3km az=93.0*
*BJI **04** 21:28:21.6±0.0, 26°.80N×142°.13E, h22km, mB5.1/20, mb4.6/27, Ms4.5/3, Ms7 4.4/2*
*NEIC **04** 21:28:22.6±2.1, 26°.81N±0°.08×142°.5E±0°.1, h33km±6km, mb4.7/40, Error ellipse: s-maj=14.2km s-min=11.5km az=97.0*
ISC 04 21:28:23.8±0.6, **26°.84N**±0°.07×**142°.38E**±0°.09, **h35**km, **n104**, σ1§**18**/97, **mb4.6**/41, **MS3.7**/5, **1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.31**	**326**	Pn		**Pn**	**Pn**	**21 28 32.2**	**+0.3**
	770nm,0.3s,baz=142,slow=1.3,SNR=61								
JCJ				Sn		**Sn**	**Sn**	**21 28 38.8**	**+1.4**
	906nm,0.3s,baz=286,slow=22,SNR=17								
JYT	**Yasato**	**9.54**	**349**	Pn		**Pn**	**Pn**	**21 30 37.7**	**-0.9**
INU	**Inuyama**	**9.64**	**333**	Pn		**Pn**	**Pn**	**21 30 40.3**	**+0.3**
JGF	**Kuroka**	**9.73**	**335**	Pn		**Pn**	**Pn**	**21 30 42.4**	**+1.1**
JMN	**Monobe**	**10.05**	**315**	Pn		**Pn**	**Pn**	**21 30 46.8**	**+1.1**
JMZ	**Minamidaito 2**	**10.06**	**267**	Pn		**Pn**	**Pn**	**21 30 45.5**	**-0.4**
MJAR	**Matsushiro Arr**	**10.30**	**341**	Pn		**Pn**	**Pn**	**21 30 47.3**	**-1.8**
	0.2nm,0.3s,baz=163,slow=13,SNR=16								
MJAR	**Matsushiro Arr**	**10.30**	**341**	Pn		**Pn**	**Pn**	**21 30 48.9**	**-0.3**
MAJO	**Matsushiro**	**10.30**	**341**	Pn		**Pn**	**Pn**	**21 30 48.9**	**-0.2**
JWT	**Wachi**	**10.32**	**326**	Pn		**Pn**	**Pn**	**21 30 48.2**	**-1.1**
JMM	**Marumori**	**11.07**	**353**			**Pn**	**Pn**	**21 30 57.5**	**-2.2**
JSD	**Sado**	**11.69**	**344**	Pn		**Pn**	**Pn**	**21 31 07.4**	**-0.7**
JNU	**Nakatsue**	**11.77**	**305**	Pn		**Pn**	**Pn**	**21 31 11.0**	**+1.8**
JTU	**Tsushima**	**13.53**	**308**	Pn		**Pn**	**Pn**	**21 31 29.4**	**-3.9**
JTM	**Tenmabayashi**	**13.95**	**356**	Pn		**Pn**	**Pn**	**21 31 38.1**	**-0.9**
ERM	**Erimo**	**15.15**	**2**	Pn		**Pn**	**Pn**	**21 31 52.8**	**-2.3**
ERM					IAmb	IAmb	IAmb	21 32 10.8	
	comp=Z,36nm,1.1s								
KSRS	**Korea Array**	**16.16**	**314**	Pn		**Pn**	**Pn**	**21 32 07.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=120,slow=10.0,SNR=3.1								
JKA	**Kamikawa-asahi**	**17.24**	**1**	Pn		**Pn**	**Pn**	**21 32 19.5**	**-2.3**
ASAJ	**Asahikawa**	**17.24**	**1**	P		**Pn**	**Pn**	**21 32 21.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=260,slow=10,SNR=5.5								
YOJ	**Yonaguni jima**	**17.62**	**267**	Pn		**Pn**	**Pn**	**21 32 25.3**	**-1.3**
YHNB	**Yeheng**	**19.04**	**268**	P		**P**	**P**	**21 32 42.4**	**-0.7**
YHNB					IAmb	IAmb	IAmb	21 32 57.6	
	comp=Z,30nm,1.1s								
USA0B	**Ussuriysk Arra**	**19.25**	**337**	P		**P**	**P**	**21 32 45.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**19.25**	**337**	P		**P**	**P**	**21 32 44.6**	**-0.4**
	baz=168,slow=9.3,SNR=11								
USRK	**Ussuriysk Ar.**	**19.25**	**337**	P		**P**	**P**	**21 32 45.6**	**+0.6**
YULB	**Yu-li**	**19.39**	**264**	P		**Pn**	**Pn**	**21 32 48.6**	**+0.4**
SSLB	**Suanglung**	**19.60**	**266**	P		**Pn**	**Pn**	**21 32 51.4**	**+0.7**
TWG	**Pinlang**	**19.74**	**263**	P		**P**	**P**	**21 32 51.7**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**23.58**	**102**	T		T	T	21 57 50.9	
	baz=290								
H11N1	**WAKE ISLAND Hy**	**23.59**	**102**	T		T	T	21 58 01.3	
	baz=290								
H11N3	**WAKE ISLAND Hy**	**23.60**	**102**	T		T	T	21 57 51.9	
	baz=290								
TGY	**Tagaytay City**	**23.70**	**242**	LR		LR	LR	21 41 40.1	
	comp=Z,170nm,21.8s,baz=162,slow=34								
H11S3	**WAKE ISLAND Hy**	**23.89**	**105**	T		T	T	21 58 14.1	
	baz=300								
H11S1	**WAKE ISLAND Hy**	**23.90**	**105**	T		T	T	21 58 26.6	
	baz=300								
H11S2	**WAKE ISLAND Hy**	**23.91**	**105**	T		T	T	21 58 21.0	
	baz=300								
PATS	**Pohnpei**	**25.01**	**140**	P		**P**	**P**	**21 33 42.3**	**-2.3**
HHC	**Hu-ho-hao-te**	**28.99**	**307**	*e*P		**P**	**P**	**21 34 21.7**	**+1.4**
HHC				pmax	pmax				
	comp=Z,22nm,1.0s								
HHC				pmax	pmax				
	comp=Z,350nm,5.7s								
XAN	**Xi'an**	**29.63**	**292**	P		**P**	**P**	**21 34 25.4**	**-0.6**
XAN				pP		pP	pP	21 34 30.3	-5.6
XAN				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**33.95**	**286**	⇓*i* P		**P**	**P**	**21 35 03.8**	**-0.2**
CD2				pmax	pmax				
	comp=Z,30nm,0.8s								
SONM	**Songino Array**	**35.02**	**316**	P		**P**	**P**	**21 35 12.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=130,slow=8.0,SNR=5.5								
SONM	**Songino Array**	**35.02**	**316**	P		**P**	**P**	**21 35 13.2**	**+0.1**
KAPI	**Kappang**	**38.50**	**218**	P		**P**	**P**	**21 35 43.3**	**+0.4**
KAPI					IAmb	IAmb	IAmb	21 35 51.0	
	comp=Z,11nm,1.1s								
CHTO	**Chiang Mai**	**40.66**	**268**	P		**P**	**P**	**21 36 01.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**40.78**	**268**	P		**P**	**P**	**21 36 02.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=59,slow=8.3,SNR=12								
CMAR				LR		LR	LR	21 54 27.7	
	comp=Z,40nm,18.2s,baz=140,slow=39								
KNRA	**Kununurra**	**44.28**	**199**	P		**P**	**P**	**21 36 30.2**	**-0.1**
KNRA					IAmb	IAmb	IAmb	21 36 43.9	
	comp=Z,8.3nm,1.1s								
KULM	**Kulim**	**45.16**	**249**	P		**P**	**P**	**21 36 37.7**	**+0.3**
KULM					IAmb	IAmb	IAmb	21 36 56.4	
	comp=Z,11nm,1.1s								
IPM	**Ipoh**	**45.29**	**248**	P		**P**	**P**	**21 36 38.9**	**+0.4**
WMQ	**Urumqi**	**46.86**	**306**	*e*P		**P**	**P**	**21 36 52.1**	**+1.5**
WMQ				pmax	pmax				
	comp=Z,9.0nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,60nm,4.9s								
WMQ				LR	LR				
	comp=Z,250nm,29.1s								
WMQ				LR	LR				
	comp=Z,310nm,29.2s								
WB0	**Warramunga Arr**	**46.97**	**190**	P		**P**	**P**	**21 36 51.0**	**-0.5**
WB0					IAmb	IAmb	IAmb	21 37 00.8	
	comp=Z,12nm,0.8s								
WR0	**Warramunga Arr**	**47.14**	**190**	P		**P**	**P**	**21 36 52.3**	**-0.5**
WR0					IAmb	IAmb	IAmb	21 37 01.7	
	comp=Z,9.3nm,0.8s								
WRAB	**Tennant Creek**	**47.14**	**190**	P		**P**	**P**	**21 36 52.3**	**-0.5**
WB2	**Warramunga Arr**	**47.15**	**190**	P		**P**	**P**	**21 36 52.5**	**-0.4**
WRA	**Warramunga Arr**	**47.15**	**190**	P		**P**	**P**	**21 36 52.0**	**-1.0**
	comp=Z,6.1nm,0.6s,baz=11,slow=8.7,SNR=76								
WRA	**Warramunga Arr**	**47.15**	**190**	P		**P**	**P**	**21 36 51.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**47.53**	**202**	P		**P**	**P**	**21 36 54.8**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=42,slow=5.1,SNR=5.4								
FITZ	**Fitzroy Crossi**	**

KSH	**Kashi**	**55.85**	**301**	P	**P**	**21 38 02.1**	**+4.0**
KSH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ILAR	**Eielson Array**	**57.85**	**29**	P	**P**	**21 38 11.8**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=264,slow=6.0,SNR=9.5							
ILAR	**Eielson Array**	**57.85**	**29**	P	**P**	**21 38 11.0**	**-0.7**
BVAR	**Borovoye Array**	**58.34**	**318**	P	**P**	**21 38 14.6**	**-0.7**
	comp=Z,4.0nm,0.5s,baz=171,slow=6.2,SNR=31							
BRVK	**Borovoye**	**58.41**	**318**	P	**P**	**21 38 15.1**	**-0.6**
BRVK				IAmb	IAmb	21 38 16.9		
	comp=Z,6.2nm,0.8s							
KK31	**Karatay Array**	**59.37**	**306**	P	**P**	**21 38 22.4**	**-0.3**
KK31				IAmb	IAmb	21 38 23.8		
	comp=Z,7.2nm,0.7s							
KKAR	**Karatay Array**	**59.37**	**306**	P	**P**	**21 38 22.4**	**-0.3**
KKAR				IAmb	IAmb	21 38 23.8		
	comp=Z,7.2nm,0.7s							
KKAR	**Karatay Array**	**59.37**	**306**	P	**P**	**21 38 22.3**	**-0.3**
BTK	**Batken**	**59.68**	**302**	IAmb	IAmb	21 38 26.3		
	comp=Z,2.5nm,0.6s							
GAR	**Garm**	**60.27**	**301**	P	**P**	**21 38 28.4**	**-0.6**
CHGR	**Chuyangaron**	**61.23**	**301**	P	**P**	**21 38 35.2**	**-0.3**
KBL	**Kabul**	**62.29**	**297**	P	**P**	**21 38 42.0**	**-0.9**
KBL				IAmb	IAmb	21 38 45.2		
	comp=Z,4.8nm,0.8s							
ARU	**Arti**	**64.73**	**322**	P	**P**	**21 38 57.9**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=91,slow=2.7,SNR=13							
ARU	**Arti**	**64.73**	**322**	P	**P**	**21 38 58.0**	**-0.3**
ARU				IAmb	IAmb	21 38 59.4		
	comp=Z,10nm,0.8s							
ABKAR	**Akbulak array**	**65.39**	**314**	P	**P**	**21 39 01.9**	**-0.8**
AKTO	**Aktyubinsk**	**66.33**	**316**	P	**P**	**21 39 08.0**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=76,slow=7.7,SNR=8.0							
HRA	**Herat**	**67.72**	**298**	P	**P**	**21 39 17.7**	**-0.5**
HRA				IAmb	IAmb	21 39 20.0		
	comp=Z,3.8nm,0.8s							
GEYT	**Alibeck**	**69.78**	**303**	P	**P**	**21 39 29.0**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=86,slow=6.1,SNR=3.8							
GEYT	**Alibeck**	**69.78**	**303**	IAmb	IAmb	21 39 32.0		
	comp=Z,1.5nm,0.8s							
ARCES	**ARCESS Array B**	**73.84**	**341**	P	**P**	**21 39 56.9**	**+2.4**
	comp=Z,4.7nm,0.7s,baz=74,slow=8.0,SNR=23							
FINES	**FINESS Array B**	**78.25**	**334**	P	**P**	**21 40 19.6**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=66,slow=5.0,SNR=30							
KBZ	**Khabaz**	**78.31**	**313**	P	**P**	**21 40 20.1**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=122,slow=2.1,SNR=12							
KBZ				LR	LR	22 17 11.5		
	comp=Z,67nm,19.6s,baz=56,slow=38							
NVAR	**Mina Array Bea**	**80.54**	**52**	P	**P**	**21 40 36.0**	**+3.1**
	comp=Z,0.3nm,0.5s,baz=271,slow=5.2,SNR=3.7							
AKASG	**Malin Array Be**	**82.92**	**324**	P	**P**	**21 40 44.5**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=50,slow=5.5,SNR=12							
AKASG	**Malin Array Be**	**82.92**	**324**	P	**P**	**21 40 44.0**	**-0.9**
HFS	**Hagfors**	**83.72**	**337**	P	**P**	**21 40 49.6**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=131,slow=4.5,SNR=7.0							
NB2	**NORSAR Subarra**	**83.91**	**338**	P	**P**	**21 40 51.6**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=46,slow=4.8							
NOA	**NORSAR Array B**	**83.91**	**338**	P	**P**	**21 40 50.7**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=50,slow=4.8,SNR=6.6							
BRTR	**Keskin Array B**	**86.30**	**313**	P	**P**	**21 41 02.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=35,slow=3.0,SNR=5.5							
VYHS	**Vyhne**	**89.60**	**326**	*eP*	**P**	**21 41 17.5**	**-0.4**
GERES	**GERESS Array B**	**91.81**	**329**	P	**P**	**21 41 26.8**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=40,slow=4.4,SNR=6.2							
GERES				LR	LR	22 28 29.1		
	comp=Z,26nm,18.4s,baz=86,slow=39							
CASY	**Casey**	**95.95**	**192**	P	P	21 41 40.8	-5.6	
CASY				IAmb	IAmb	21 41 40.8		
	comp=Z,2.8nm,0.6s							
PLCA	**Paso Flores**	**149.52**	**125**	PKPbc	**PKPdf**	**21 48 08.4**	**+3.3**
	comp=Z,2.0nm,0.9s,baz=256,slow=5.7,SNR=2.3							
LPAZ	**La Paz**	**149.82**	**76**	PKPbc	**PKPbc**	**21 48 11.5**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=21,slow=4.7,SNR=3.7							

*IDC **04** 21:34:35.9±3.5,36°.21N×141°.44E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.1/56, mbtmp3.2/3, ML1.8/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/24, Error ellipse: s-maj=88.4km s-min=33.9km az=52.0*

*JMA **04** 21:34:38.5±0.2, 35°.87N×141°.30E, h24km±3km, M2.8*

ISC 04 21:34:38.4±1.8, 35°.98N±0°.05×141°.23E±0°.09, h13km±10km, n19, σ0s84/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.41**	**227**	P	**Pb**	**21 34 46.8**	**-0.7**
CHOJ				S	**Sg**	**21 34 52.8**	**+0.8**
JIHU	**Itakohorinouch**	**0.57**	**268**	P	**Pn**	**21 34 51.6**	**-0.6**
JIHU				S	**Sn**	**21 35 01.0**	**-0.5**
JHYU	**Hitachinakayam**	**0.63**	**305**	P	**Pn**	**21 34 53.1**	**+0.1**
JHYU				S	**Sn**	**21 35 03.1**	**+0.1**
JSMT	**Sammumatsuo**	**0.72**	**242**	P	**Pn**	**21 34 53.5**	**-0.8**
JSMT				*eS*	**Sg**	**21 35 02.6**	**+0.9**
JHO	**Hitachi**	**0.82**	**320**	P	**Pn**	**21 34 55.5**	**-0.2**
JHO				S	**Sn**	**21 35 08.1**	**+0.4**
JYT	**Yasato**	**0.87**	**287**	P	**Pb**	**21 34 55.6**	**+0.2**
JYT				S	**Sb**	**21 35 07.6**	**+0.7**
ONAJ	**Iwakimizuishiy**	**1.17**	**343**	P	**Pg**	**21 35 00.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.50**	**284**	Pn	**Pn**	**21 35 19.6**	**+0.8**
	0.2nm,0.3s,baz=91,slow=8.5,SNR=14							
MAT	**Matsushiro**	**2.50**	**284**	P	**Pb**	**21 35 21.3**	**-1.9**
MAT				*eS*	**Sn**	**21 35 49.3**	**0.0**
YAK	**Yakutsk**	**27.06**	**348**	LR	LR	21 51 49.2	
	comp=Z,111nm,21.3s,baz=171,slow=38							
H11N2	**WAKE ISLAND Hy**	**27.76**	**119**	T	T	22 09 21.5		
	baz=311,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**27.77**	**119**	T	T	22 09 21.1		
	baz=311,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**27.77**	**119**	T	T	22 09 21.9		
	baz=311,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**28.43**	**121**	T	T	22 10 08.0		
	baz=314,slow=75,SNR=9.7							
H11S3	**WAKE ISLAND Hy**	**28.43**	**121**	T	T	22 10 15.5		
	baz=314,slow=75,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**28.45**	**121**	T	T	22 10 12.3		
	baz=314,slow=75,SNR=5.9							
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**21 42 49.4**	**-0.6**
	0.4nm,0.8s,baz=94,slow=8.5,SNR=4.5							
WRA	**Warramunga Arr**	**56.00**	**188**	P	**P**	**21 44 17.9**	**+1.2**
	0.5nm,0.8s,baz=2.3,slow=7.7,SNR=5.6							
TXAR	**Lajitas Array**	**90.88**	**52**	LR	LR	22 24 06.3		
	comp=Z,38nm,20.6s,baz=0.0,slow=33							

*IDC **04** 22:06:47.7±5.0,18°.11S×169°.08E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/35, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=94.6km s-min=55.9km az=98.0*

*NEIC **04** 22:06:58.3±2.9, 18°.78S±0°.08×169°.22E±0°.09, h91km±6km, mb4.3/6, Error ellipse: s-maj=13.0km s-min=11.2km az=87.0*

ISC 04 22:06:58.8±0.7, 18°.81S±0°.06×169°.17E±0°.08, h100km, n17, σ2s16/19, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.83**	**330**	Pn	**Pn**	**22 07 55.1**	**-0.6**
SANVU				Sn	**Sn**	**22 08 35.7**	**-4.2**
DZM	**Mont Dzumac**	**4.13**	**218**	Pn	**Pn**	**22 07 59.9**	**+0.1**
	1.0nm,0.3s,baz=115,slow=17,SNR=8.4							
DZM				Sn	**Sn**	**22 08 42.2**	**-4.9**
	0.8nm,0.3s,baz=150,slow=22,SNR=1.7							
MSVF	**Nonsavu**	**8.51**	**84**	Pn	**Pn**	**22 08 58.9**	**-0.4**
HNR	**Honiara**	**12.91**	**315**	Pn	**Pn**	**22 09 59.4**	**+0.8**
RABL	**Rabaul**	**22.07**	**309**	P	**P**	**22 11 45.5**	**-0.3**
CAN	**Canberra**	**24.28**	**223**	P	**P**	**22 12 08.6**	**+1.8**
WKZ	**Wanaka**	**25.94**	**180**	P	**P**	**22 12 21.0**	**-0.8**
WKZ				IAmb	IAmb	22 12 36.3		
	comp=Z,32nm,1.1s							
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**22 12 44.2**	**+3.7**
	comp=Z,2.6nm,0.9s,baz=42,slow=10,SNR=3.5							
RAR	**Rarotonga**	**29.26**	**100**	P	**P**	**22 12 50.6**	**-1.0**
BBOO	**Buckleboo**	**32.75**	**238**	P	**P**	**22 13 21.7**	**-0.6**
BBOO				IAmb	IAmb	22 13 24.1		
	comp=Z,7.1nm,1.0s							
WB0	**Warramunga Arr**	**32.80**	**263**	P	**P**	**22 13 25.0**	**+2.2**
WB0				IAmb	IAmb	22 13 44.6		
	comp=Z,3.0nm,1.1s							
WB2	**Warramunga Arr**	**32.83**	**262**	P	**P**	**22 13 25.2**	**+2.2**
WB2				IAmb	IAmb	22 13 41.7		
	comp=Z,3.1nm,1.1s							
WRA	**Warramunga Arr**	**32.84**	**262**	P	**P**	**22 13 24.0**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=98,slow=8.3,SNR=8.2							
ASAR	**Alice Springs**	**33.17**	**255**	P	**P**	**22 13 26.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=77,slow=8.1,SNR=8.7							
FITZ	**Fitzroy Crossi**	**41.22**	**264**	P	**P**	**22 14 33.7**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=63,slow=4.5,SNR=1.5							
KSAR	**Wonju Array Be**	**68.13**	**326**	P	**P**	**22 17 49.0**	**+1.0**
GERES	**GERESS Array B**	**144.08**	**332**	PKP	**PKPdf**	**22 26 24.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=41,slow=2.5,SNR=7.3							

IDC 04 22:09:02.1±1.9, 6°.06S×148°.40E, h0km, mb2.9/1, mb1 3.5/4, mb1mx3.3/34, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=69.4km s-min=28.6km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.55**	**200**	Pn	Pn	22 10 00.3	+1.8
	2.5nm,0.3s,baz=119,slow=5.4,SNR=2.9						
PMG				Sn	Sn	22 10 38.1	-3.1
	8.1nm,0.3s,baz=23,slow=22,SNR=7.4						
KRVT	**Keravat (AS076**	**4.01**	**64**	Pn	Pn	22 10 05.1	+0.4
	4.6nm,0.3s,baz=201,slow=24,SNR=2.0						
WRA	**Warramunga Arr**	**19.43**	**223**	P	Pn	22 13 30.9	-0.4
	0.1nm,0.3s,baz=51,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**22.39**	**217**	P	P	22 14 01.1	-1.1
	0.4nm,0.8s,baz=50,slow=9.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**146.45**	**285**	PKPbc	PKPdf	22 28 45.1	+0.2
	0.3nm,0.7s,baz=58,slow=3.3,SNR=1.9						

NNC 04 22:09:49.4±5.7, 38°.78N×69°.13E, h2km±26km, mb3.6, mpv3.1,3C-4D, Error ellipse: s-maj=42.3km s-min=33.8km az=44.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.44**	**13**	⇑Pn	Pn	22 10 57.6	-0.1
	1.2nm,0.7s,baz=201,slow=15,SNR=22						
KK31				⇓Pg	Pb	22 11 09.8	+1.8
	3.2nm,0.5s,baz=190,slow=18,SNR=17						
KK31				⇓Lg	Lg	22 12 11.9	
	4.6nm,0.5s,baz=194,slow=28,SNR=7.1						
AB31	**Akbulak array**	**12.37**	**331**	⇑Pn	Pn	22 12 46.4	0.0
	0.6nm,0.7s,baz=163,slow=12,SNR=7.7						
AB31				⇑Sn	Sn	22 15 04.1	-0.6
	0.6nm,0.6s						
AKTO	**Aktyubinsk**	**14.06**	**330**	⇓Pn	Pn	22 13 11.0	+1.5
	2.5nm,0.9s						
AKTO				⇓Sn	Sn	22 15 48.8	+2.7
	0.6nm,0.6s						

*IDC **04** 22:28:41.5±3.5, 21°.95S×169°.72E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/26, mbtmp3.7/3, Error ellipse: s-maj=235.3km s-min=35.5km az=161.0*

*NEIC **04** 22:28:47.2±2.0, 21°.96S±0°.09×169°.7E±0°.1, h35km±2km, mb4.4/7, Error ellipse: s-maj=21.9km s-min=7.2km az=127.0*

ISC 04 22:28:45.4±1.0, 22°.0S±0°.1×169°.7E±0°.1, h25km, n14, σ0s82/13, mb3.9/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.04**	**268**	Pn	**Pn**	**22 29 32.1**	**-0.1**
SANVU	**Saraoutou**	**6.96**	**339**	Pn	**Pn**	**22 30 25.9**	**+0.1**
SNZO	**South Karori**	**19.69**	**169**	P	**Pn**	**22 33 14.6**	**+0.3**
THZ	**Tophouse**	**19.87**	**173**	P	**Pn**	**22 33 17.1**	**+0.6**
THZ				IAmb	IAmb	22 33 31.3	
	comp=Z,20nm,0.9s						
PLWZ	**Palliser**	**20.04**	**168**	P	**P**	**22 33 15.5**	**-1.2**
KHZ	**Kahutara**	**20.59**	**172**	P	**P**	**22 33 23.1**	**+0.6**
KHZ				IAmb	IAmb	22 33 25.2	
	comp=Z,24nm,1.2s						
ASAR	**Alice Springs**	**33.00**	**260**	P	**P**	**22 35 17.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=94,slow=8.4,SNR=6.1						
WC3	**Warramunga Arr**	**33.03**	**267**	P	**P**	**22 35 19.7**	**+0.7**
WB0	**Warramunga Arr**	**33.04**	**267**	P	**P**	**22 35 20.3**	**+1.2**
WB2	**Warramunga Arr**	**33.05**	**267**	P	**P**	**22 35 20.2**	**+1.0**
WB2				IAmb	IAmb	22 35 29.0	
	comp=Z,3.4nm,1.1s						
WRA	**Warramunga Arr**	**33.06**	**267**	P	**P**	**22 35 19.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=96,slow=8.4,SNR=25						
WRA	**Warramunga Arr**	**33.06**	**267**	IAmb	IAmb	22 35 23.6	
	comp=Z,0.1nm,1.1s						
FAKI	**Fak Fak**	**41.03**	**292**	P	**P**	**22 36 26.6**	**-0.4**
FAKI				IAmb	IAmb	22 36 30.3	
	comp=Z,18nm,1.0s						
NVAR	**Mina Array Bea**	**90.30**	**48**	P	**P**	**22 41 44.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=226,slow=6.1,SNR=3.8						

*BJI **04** 22:41:12.4±0.0, 37°.43N×72°.28E, h207km, mB4.7/5, mb4.4/5*

*NEIC **04** 22:41:12.8±2.7, 37°.50N±0°.06×72°.18E±0°.09, h203km±9km, mb4.0/11, Error ellipse: s-maj=11.3km s-min=7.6km az=114.0*

*NNC **04** 22:41:19.3±7.3, 38°.04N×72°.24E, h216km±53km, mb2.8, mpv3.6, Error ellipse: s-maj=70.5km s-min=56.6km az=39.0*

ISC 04 22:41:11.0±0.5, 37°.48N±0°.04×72°.40E±0°.05, h200km, n34, σ2s61/48, mb4.2/6, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.23**	**313**	Pn	**Pn**	**22 41 52.5**	**+0.4**
GAR				Sn	**Sn**	**22 42 20.6**	**-3.6**
CHGR	**Chuyangaron**	**2.82**	**296**	Pn	**Pn**	**22 41 58.5**	**-0.1**
CHGR				Sn	**Sn**	**22 42 31.2**	**-4.6**
BTK	**Batken**	**2.85**	**335**	Pn	**Pn**	**22 42 01.2**	**+2.2**
BTK				Sn	**Sn**	**22 42 34.8**	**-1.8**
KSH	**Kashi**	**3.46**	**53**	P	**Pn**	**22 42 04.7**	**-1.5**
KSH				S	**Sn**	**22 42 43.0**	**-6.6**
KSH				smax	smax		
	comp=N,98nm,0.5s						
KSH				smax	smax		
	comp=E,65nm,0.4s						
NIL	**Nilore**	**3.89**	**169**	Pn	**Pn**	**22 42 14.8**	**+3.4**
KBL	**Kabul**	**4.00**	**224**	Pn	**Pn**	**22 42 14.0**	**+0.9**
KBL				Sn	**Sn**	**22 43 00.5**	**-1.3**
TAS	**Tashkent**	**4.53**	**329**	Pn	**Pn**	**22 42 20.4**	**+1.0**
BOOM	**Boomskoye usch**	**5.69**	**27**	Pn	**Pn**	**22 42 37.8**	**+3.4**
BOOM					**Sn**	**22 43 40.8**	**+0.5**
KK31	**Karatay Array**	**5.80**	**346**	⇓P	**Pn**	**22 42 36.8**	**+1.2**
	4.1nm,0.5s,baz=158,slow=11,SNR=108						
KK31				⇓S	**Sn**	**22 43 39.0**	**-3.6**
	12nm,0.3s,baz=166,slow=22,SNR=29						
KK31	**Karatay Array**	**5.80**	**346**	Pn	Pn	**22 42 37.0**	**+1.4**
KK31				Sn	Sn	**22 43 39.3**	**-3.2**
KKAR	**Karatay Array**	**5.80**	**346**	Pn	Pn	**22 42 36.8**	**+1.2**
KKAR				Sn	Sn	**22 43 38.8**	**-3.7**
DHRM	**DHARAMSHALA**	**6.12**	**147**	*eP*	**Pn**	**22 42 43.0**	**+2.8**
DHRM				*eS*	**Sn**	**22 43 49.8**	**-0.7**
DHRM				IAML		22 43 52.2	
	comp=N,76nm,0.4s						
SMLA	**Simla**	**7.46**	**147**	*eP*	**Pn**	**22 42 59.6**	**+2.3**
SMLA				*eS*	**Sn**	**22 44 18.8**	**-2.9**
SMLA				IAML		22 44 22.7	
	comp=E,52nm,0.4s						
KHET	**Khetri**	**9.81**	**162**	*eP*	**Pn**	**22 43 28.7**	**+0.8**
KHET				*eS*	**Sn**	**22 45 11.1**	**-6.5**
KUDL	**Kundal**	**9.92**	**159**	*eP*	**Pn**	**22 43 29.8**	**+0.5**
KUDL				*eS*	**Sn**	**22 45 14.8**	**-5.4**
WMQ	**Urumqi**	**13.22**	**57**	*eP*	**P**	**22 44 14.2**	**+0.1**
AB31	**Akbulak array**	**14.83**	**326**	⇑P	**P**	**22 44 31.7**	**-0.1**
	comp=E,1.4nm,0.4s,baz=350,slow=22,SNR=44						
AB31				⇑S	**S**	**22 47 10.0**	**-5.5**
	comp=E,1.9nm,0.7s,baz=152,slow=24,SNR=7.3						
ABKAR	**Akbulak array**	**14.83**	**326**		**P**	**22 44 32.2**	**+0.4**
ABKAR	**Akbulak array**	**14.83**	**326**	P	**P**	**22 44 32.5**	**+0.7**
AKTO	**Aktyubinsk**	**16.54**	**326**	⇑P	**Pn**	**22 44 52.9**	**+1.3**
	comp=E,1.7nm,0.5s						
AKTO				⇑S	**S**	**22 47 50.2**	**-3.2**
	comp=E,2.3nm,0.9s						
ZAA0	**Zalesovo Array**	**18.56**	**24**	P	**Pn**	**22 45 16.1**	**+0.8**
ZALV	**Zalesovo Beam**	**18.56**	**24**	P	**Pn**	**22 45 16.5**	**+1.1**
UOSS	**Minazif**	**18.62**	**232**	P	**P**	**22 45 14.5**	**+0.9**
UOSS				IAmb	IAmb	22 45 33.7	
	comp=Z,2.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**30.38**	**71**	*eP*	P	22 47 09.7	+5.4
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,52nm,5.3s						
PALK	**Pallekele**	**31.00**	**164**	P	**P**	**22 47 10.7**	**+0.8**
PALK				IAmb	IAmb	22 47 21.6	
	comp=Z,8.5nm,1.1s						
CSS	**Mathiatis**	**31.47**	**277**	P	**P**	**22 47 14.7**	**+0.8**
CSS				IAmb	IAmb	22 47 27.9	
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**33.22**	**307**	P	**P**	**22 47 29.8**	**+0.9**
ALN	**Alexandroupoli**	**35.77**	**290**	P	**P**	**22 47 50.2**	**-0.6**
ALN				IAmb	IAmb	22 47 52.2	
	comp=Z,3.8nm,1.0s						
LVZ	**Lovozero**	**36.97**	**337**	P	**P**	**22 48 02.8**	**+2.1**
LVZ				IAmb	IAmb	22 48 05.3	
	comp=Z,6.5nm,0.9s						
DIVS	**Divibare**	**39.66**	**297**	P	**P**	**22 48 23.5**	**0.0**
DIVS				IAmb	IAmb	22 48 24.4	
	comp=Z,2.9nm,1.0s						
MORC	**Moravsky Berou**	**40.70**	**306**	P	**P**	**22 48 32.5**	**+0.7**
KSAR	**Wonju Array Be**	**43.48**	**72**	P	**P**	**22 48 55.1**	**+0.7**
TPUB	**Ta-pu**	**43.48**	**95**	P	**P**	**22 48 55.4**	**+0.7**
NACB	**Ninganchiao**	**43.81**	**93**	P	**P**	**22 48 55.8**	**-1.5**

IDC 04 22:46:22.6±5.0, 12°.92N×80°.02W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.5/30, mbtmp3.5/3, Error ellipse: s-maj=218.6km s-min=46.9km az=67.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**27.36**	**310**	P	P	22 52 09.5	-0.3
	0.2nm,0.4s,baz=137,slow=9.7,SNR=7.7						
PDAR	**Pinedale Array**	**39.20**	**325**	P	P	22 53 53.2	+0.4
	0.2nm,0.4s,baz=134,slow=7.7,SNR=1.7						
NVAR	**Mina Array Bea**	**42.39**	**314**	P	P	22 54 18.9	-0.3
	0.7nm,0.8s,baz=142,slow=5.1,SNR=5.7						
ASAR	**Alice Springs**	**146.14**	**247**	PKPbc	PKPdf	23 06 04.7	-0.1
	0.4nm,1.0s,baz=94,slow=2.1,SNR=1.6						
WRA	**Warramunga Arr**	**146.36**	**253**	PKPbc	PKPdf	23 06 05.8	+0.6
	0.2nm,0.5s,baz=96,slow=2.8,SNR=1.5						

*IDC **04** 23:23:41.1±2.3, 7°.02S×129°.60E, h147km±23km, mb3.7/5, mb1 3.7/10, mb1mx3.4/45, mbtmp4.1/10, Error ellipse: s-maj=24.0km s-min=19.7km az=110.0*

*NEIC **04** 23:23:41.9±2.6, 6°.88S±0°.06×129°.54E±0°.06, h151km±13km, mb3.9/4, Error ellipse: s-maj=9.6km s-min=7.7km az=213.0*

ISC 04 23:23:40.6±0.7, 7°.02S±0°.05×129°.61E±0°.06, h150km, n25, σ2s80/32, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.93**	**120**	Pn	**Pn**	**23 24 19.6**	**+4.6**
SAUI				Sn	**Sn**	**23 24 43.3**	**+2.0**
FAKI	**Fak Fak**	**4.84**	**33**		**Pn**	**23 24 52.3**	**+0.3**
FAKI				Sn	**Sn**	**23 25 44.7**	**-3.0**
SOEI	**Soe**	**5.95**	**242**	Pn	**Pn**	**23 25 08.1**	**+1.4**
MTN	**Manton Dam**	**5.98**	**166**		**Pn**	**23 25 09.6**	**+2.5**
SIJI	**Sorong**	**6.33**	**15**	P	**Pn**	**23 25 12.5**	**+0.8**
	0.9nm,0.3s,baz=227,slow=22,SNR=1.7						
SIJI				S	**Sn**	**23 26 18.8**	**-4.3**
	3.1nm,0.3s,baz=236,slow=23,SNR=8.1						
BATI	**Baumata**	**6.68**	**241**	P	**Pn**	**23 25 17.9**	**+1.5**
	3.2nm,0.3s,baz=97,slow=1.7,SNR=2.5						
BATI				S	**Sn**	**23 26 30.6**	**-1.0**
	9.7nm,0.3s,baz=232,slow=6.6,SNR=9.9						
KNRA	**Kununurra**	**8.65**	**185**	Pn	**Pn**	**23 25 43.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**23 26 22.3**	**-0.4**
	0.4nm,0.3s,baz=31,slow=11,SNR=14						
FITZ				S	**Sn**	**23 28 25.0**	**-6.8**
	0.5nm,0.3s,baz=172,slow=3.5,SNR=3.3						
WB0	**Warramunga Arr**	**13.50**	**160**	Pn	**Pn**	**23 26 45.4**	**-0.8**
WRAB	**Tennant Creek**	**13.64**	**161**	Pn	**Pn**	**23 26 44.3**	**-3.7**
WRA	**Warramunga Arr**	**13.65**	**161**	P	**Pn**	**23 26 47.7**	**-0.4**
	1.0nm,0.3s,baz=344,slow=13,SNR=28						
WRA				S	**Sn**	**23 29 12.0**	**-7.3**
	1.2nm,0.3s,baz=337,slow=22,SNR=9.0						
WRA	**Warramunga Arr**	**13.65**	**161**		**Pn**	**23 26 46.2**	**-1.9**
WB2	**Warramunga Arr**	**13.65**	**161**		**Pn**	**23 26 46.5**	**-1.7**
WR0	**Warramunga Arr**	**13.73**	**160**		**Pn**	**23 26 47.5**	**-1.6**
COEN	**Coen**	**15.01**	**118**		**P**	**23 27 09.0**	**+2.0**
COEN				IAmb	IAmb	23 27 13.6	
	comp=Z,6.6nm,0.9s						
AS31	**Alice Springs**	**17.06**	**166**		**Pn**	**23 27 32.8**	**+2.5**
AS31				IAmb	IAmb	23 27 33.7	
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**17.06**	**166

COEN						Sn	00 04 44.3	+0.7
FAKI	**Fak Fak**	**14.22**	**280**	Pn		**Pn**	**00 04 18.1**	**+0.2**
CTA	**Charters Tower**	**14.44**	**180**	P		**Pn**	**00 04 22.2**	**+1.5**
	0.2nm,0.3s,baz=17,slow=12,SNR=1.6							
SIJI	**Sorong**	**15.68**	**287**	P		**Pn**	**00 04 35.8**	**-1.1**
	1.9nm,0.3s,baz=78,slow=10,SNR=4.5							
MTN	**Manton Dam**	**16.59**	**243**			**Pn**	**00 04 48.8**	**+0.4**
MTN				IAmb		IAmb	00 05 02.7	
	comp=Z,41nm,1.1s							
PATS	**Pohnpei**	**17.21**	**44**			**P**	**00 04 57.9**	**+0.8**
PATS				IAmb		IAmb	00 05 01.9	
	comp=Z,49nm,1.1s							
WB0	**Warramunga Arr**	**18.24**	**218**			**Pn**	**00 05 08.6**	**-0.2**
WR0	**Warramunga Arr**	**18.30**	**218**	P		**Pn**	**00 05 09.4**	**0.0**
WRAB	**Tennant Creek**	**18.39**	**218**	P		**P**	**00 05 06.9**	**-3.3**
WB2	**Warramunga Arr**	**18.40**	**218**			**P**	**00 05 10.0**	**-0.2**
WRA	**Warramunga Arr**	**18.41**	**218**	P		**P**	**00 05 09.7**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=31,slow=11,SNR=23							
WRA				PcP		**PcP**	**00 09 41.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=24,slow=1.9,SNR=6.7							
WRA				LR		LR	00 12 53.1	
	comp=Z,136nm,19.4s,baz=95,slow=39							
WRA	**Warramunga Arr**	**18.41**	**218**	P		**P**	**00 05 10.4**	**+0.1**
NLAI	**Namlea**	**19.25**	**276**	P		**Pn**	**00 05 21.0**	**+0.1**
	comp=Z,85nm,0.5s							
KNRA	**Kununurra**	**19.91**	**238**	P		**P**	**00 05 25.9**	**-0.8**
KNRA				IAmb		IAmb	00 05 30.4	
	comp=Z,30nm,1.1s							
EIDS	**Eidsvold**	**20.23**	**167**	P		Pn	00 05 32.4	0.0
SANI	**Sanana**	**20.53**	**279**	P		**P**	**00 05 32.4**	**-1.1**
	comp=Z,41nm,0.7s							
ASAR	**Alice Springs**	**21.58**	**212**	P		**P**	**00 05 45.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=48,slow=8.0,SNR=20							
ASAR				PcP		**PcP**	**00 09 47.1**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=38,slow=6.0,SNR=5.1							
ASAR				LR		LR	00 15 03.3	
	comp=Z,154nm,20.1s,baz=38,slow=39							
SOEI	**Soe**	**22.19**	**258**	P		**P**	**00 05 53.0**	**+1.5**
	comp=Z,36nm,1.0s							
SOEI	**Soe**	**22.19**	**258**	P		**P**	**00 05 51.1**	**-0.4**
SOEI				IAmb		IAmb	00 06 06.9	
	comp=Z,25nm,0.6s							
BATI	**Baumata**	**22.85**	**257**	P		**P**	**00 05 58.9**	**+0.5**
	comp=Z,47nm,0.6s,baz=127,slow=5.1,SNR=13							
BATI	**Baumata**	**22.85**	**257**	P		**P**	**00 05 59.6**	**+1.2**
	comp=Z,43nm,0.9s							
FITZ	**Fitzroy Crossi**	**23.68**	**237**	P		**P**	**00 06 05.9**	**-0.6**
	comp=Z,6.7nm,0.5s,baz=58,slow=11,SNR=17							
FITZ	**Fitzroy Crossi**	**23.68**	**237**	P		**P**	**00 06 06.0**	**-0.4**
FITZ				IAmb		IAmb	00 06 10.4	
	comp=Z,8.6nm,0.7s							
LUWI	**Luwuk**	**23.88**	**280**	P		**P**	**00 06 09.6**	**+1.4**
	comp=Z,1µmcomp=Z,114nm,1.1s							
LUWI	**Luwuk**	**23.88**	**280**	P		**P**	**00 06 06.8**	**-1.4**
GTOI	**Gorontalo**	**24.02**	**284**	P		**P**	**00 06 10.8**	**+1.2**
	comp=Z,1µmcomp=Z,181nm,0.8s							
DZM	**Mont Dzumac**	**25.50**	**132**	P		**P**	**00 06 24.1**	**+1.1**
DZM				IAmb		IAmb	00 06 33.4	
	comp=Z,14nm,1.0s							
KAPI	**Kappang**	**26.41**	**270**	P		**P**	**00 06 32.2**	**+1.0**
	comp=Z,8.3nm,0.8s,baz=108,slow=2.6,SNR=8.3							
KAPI	**Kappang**	**26.41**	**270**	P		**P**	**00 06 31.0**	**-0.3**
KAPI				IAmb		IAmb	00 06 33.6	
	comp=Z,17nm,0.9s							
STKA	**Stephens Creek**	**26.54**	**189**	P		**P**	**00 06 33.5**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=2.3,slow=8.5,SNR=4.6							
STKA	**Stephens Creek**	**26.54**	**189**	P		**P**	**00 06 32.7**	**+0.5**
BBOO	**Buckleboo**	**28.73**	**198**	P		**P**	**00 06 51.5**	**-0.4**
MYLDM	**Lahad Datu**	**29.71**	**291**	P		**P**	**00 07 00.7**	**0.0**
MYLDM				IAmb		IAmb	00 07 14.2	
	comp=Z,14nm,0.9s							
CAN	**Canberra**	**29.72**	**175**	P		**P**	**00 07 00.3**	**-0.4**
CAN				IAmb		IAmb	00 07 15.0	
	comp=Z,8.4nm,1.1s							
PSA00	**Pilbara Seismi**	**30.13**	**236**	P		**P**	**00 07 03.2**	**-1.1**
PSA00				IAmb		IAmb	00 07 08.9	
	comp=Z,7.8nm,1.0s							
FORT	**Forrest**	**30.37**	**212**	P		**P**	**00 07 03.6**	**-2.8**
FORT				IAmb		IAmb	00 07 16.3	
	comp=Z,17nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**31.26**	**40**	T		T	00 40 21.5	
	baz=221,slow=73,SNR=61							
H11S2	**WAKE ISLAND Hy**	**31.27**	**40**	T		T	00 40 17.6	
	baz=221,slow=73,SNR=26							
H11S1	**WAKE ISLAND Hy**	**31.27**	**40**	T		T	00 40 19.2	
	baz=221,slow=73,SNR=24							
SPMM	**Sapulut**	**31.46**	**288**	P		**P**	**00 07 16.0**	**-0.3**
TOO	**Toolangi**	**31.87**	**181**	P		**P**	**00 07 18.3**	**-1.3**
TOO				IAmb		IAmb	00 07 34.4	
	comp=Z,7.8nm,1.1s							
KKM	**Kota Kinabalu**	**32.14**	**291**	P		**P**	**00 07 18.6**	**-3.7**
H11N1	**WAKE ISLAND Hy**	**32.29**	**38**	T		T	00 41 35.4	
	baz=221,slow=76,SNR=17							
H11N3	**WAKE ISLAND Hy**	**32.31**	**38**	T		T	00 41 39.2	
	baz=221,slow=76,SNR=17							
H11N2	**WAKE ISLAND Hy**	**32.31**	**38**	T		T	00 41 37.9	
	baz=221,slow=76,SNR=18							
FUNA	**Funafuti**	**32.81**	**97**	P		**P**	**00 07 28.9**	**+0.9**
SBUM	**Sibu**	**34.92**	**282**	P		**P**	**00 07 45.1**	**-1.3**
SBUM				IAmb		IAmb	00 07 47.3	
	comp=Z,12nm,0.9s							
SBUM	**Sibu**	**34.92**	**282**	P		**P**	**00 07 47.0**	**+0.6**
GIRL	**Giralia**	**35.27**	**238**	P		**P**	**00 07 47.7**	**-1.6**
UGM	**Wanagama**	**35.56**	**264**	P		**P**	**00 07 50.9**	**-1.1**
KSM	**Kuching**	**36.59**	**280**	P		**P**	**00 07 59.7**	**-1.0**
KSM	**Kuching**	**36.59**	**280**	P		**P**	**00 08 01.0**	**+0.3**
MORW	**Morawa**	**36.92**	**227**	P		**P**	**00 08 02.8**	**-0.6**
MORW				IAmb		IAmb	00 08 14.7	
	comp=Z,7.0nm,1.0s							
YULB	**Yu-li**	**37.72**	**321**	P		**P**	**00 08 09.4**	**-0.8**
YULB				IAmb		IAmb	00 08 23.5	
	comp=Z,11nm,0.9s							
NACB	**Ninganchiao**	**38.10**	**322**	P		**P**	**00 08 12.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**38.37**	**221**	P		**P**	**00 08 14.3**	**-1.3**
NWAO	**Narrogin (SRO)**	**38.37**	**221**	P		**P**	**00 08 14.7**	**-0.9**
NWAO				IAmb		IAmb	00 08 15.8	
	comp=Z,2.7nm,0.8s							
YHNB	**Yeheng**	**38.60**	**322**	P		**P**	**00 08 17.3**	**-0.4**
HIZ	**Hauiti**	**41.81**	**146**	P		**P**	**00 08 44.2**	**+0.2**
JWT	**Wachi**	**41.90**	**347**	P		**P**	**00 08 42.8**	**-1.8**
JWT				IAmb		IAmb	00 08 52.5	
	comp=Z,9.2nm,1.1s							
QRZ	**Quartz Range**	**42.26**	**150**	P		**P**	**00 08 47.2**	**-0.4**
MJAR	**Matsushiro Arr**	**42.56**	**350**	P		**P**	**00 08 49.9**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=182,slow=8.5,SNR=4.2							
MJAR	**Matsushiro Arr**	**42.56**	**350**	IAmb		IAmb	00 08 57.9	
	comp=Z,2.0nm,1.1s							
THZ	**Tophouse**	**43.16**	**151**	P		**P**	**00 08 54.0**	**-0.9**
THZ				IAmb		IAmb	00 09 07.5	
	comp=Z,18nm,1.0s							
LTZ	**Lake Taylor**	**43.63**	**152**	P		**P**	**00 08 59.7**	**+0.9**
LTZ				IAmb		IAmb	00 09 00.8	
	comp=Z,9.0nm,0.7s							
SDSI	**Sungai Dareh**	**44.99**	**274**	P		**P**	**00 09 11.9**	**+1.9**
NJ2	**Nanjing**	**45.62**	**327**	*e*P		**P**	**00 09 15.6**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KSRS	**Korea Array**	**46.09**	**340**	P		**P**	**00 09 18.6**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=158,slow=9.4,SNR=8.8							
IPM	**Ipoh**	**46.27**	**282**	P		**P**	**00 09 19.6**	**-0.5**
KULM	**Kulim**	**46.81**	**283**	P		**P**	**00 09 23.0**	**-1.3**
JEM	**Erimo**	**47.44**	**357**	P		P	00 09 42.9	+14
RPSI	**Rantau Prapat**	**47.99**	**279**	P		**P**	**00 09 31.9**	**-1.6**
RPSI				IAmb		IAmb	00 09 35.9	
	comp=Z,4.9nm,0.7s							
USA0B	**Ussuriysk Arra**	**51.18**	**347**	P		**P**	**00 09 56.8**	**-0.4**
USA0B				IAmb		IAmb	00 09 59.2	
	comp=Z,4.8nm,1.1s							
USRK	**Ussuriysk Ar.**	**51.18**	**347**	P		**P**	**00 09 58.2**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=151,slow=7.4,SNR=8.7							
USRK	**Ussuriysk Ar.**	**51.18**	**347**	P		**P**	**00 09 56.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**52.40**	**298**	P		**P**	**00 10 07.3**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=119,slow=5.9,SNR=18							
RAR	**Rarotonga**	**54.48**	**112**	P		**P**	**00 10 20.4**	**-1.7**
RAR				IAmb		IAmb	00 10 21.6	
	comp=Z,1.2nm,0.2s							
HHC	**Hu-ho-hao-te**	**56.08**	**329**	*e*P		**P**	**00 10 33.5**	**+0.1**
HHC				pmax		pmax		
	comp=Z,23nm,1.1s							
HHC				pmax		pmax		
	comp=Z,420nm,5.7s							
SONM	**Songino Array**	**63.67**	**331**	P		**P**	**00 11 25.8**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=151,slow=6.3,SNR=2.5							
SONM	**Songino Array**	**63.67**	**331**	IAmb		IAmb	00 11 29.5	
	comp=Z,0.9nm,0.9s							
WMQ	**Urumqi**	**71.99**	**319**	*e*P		**P**	**00 12 17.5**	**-0.2**
VNDA	**Vanda**	**72.39**	**176**	P		**P**	**00 12 21.1**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=343,slow=7.0,SNR=6.1							
VNDA	**Vanda**	**72.39**	**176**	P		**P**	**00 12 21.0**	**+1.6**
MK31	**Makanchi Array**	**76.70**	**321**	P		**P**	**00 12 44.3**	**-0.7**
MKAR	**Makanchi Array**	**76.70**	**321**	P		**P**	**00 12 44.6**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=100,slow=7.1,SNR=9.1							
MKAR	**Makanchi Array**	**76.70**	**321**	P		**P**	**00 12 44.1**	**-0.9**
ZALV	**Zalesovo Beam**	**78.26**	**328**	P		**P**	**00 12 52.7**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=108,slow=3.6,SNR=4.4							
ZALV	**Zalesovo Beam**	**78.26**	**328**	P		**P**	**00 12 52.2**	**-1.3**
KDJ	**Kajisay**	**78.47**	**315**	P		**P**	**00 12 53.0**	**-2.2**
KDJ				IAmb		IAmb	00 13 07.5	
	comp=Z,3.5nm,0.9s							
NIL	**Nilore**	**79.08**	**306**	P		**P**	**00 12 57.2**	**-1.3**
NIL				IAmb		IAmb	00 12 59.8	
	comp=Z,8.1nm,0.8s							
OHAK	**Old Harbor**	**79.27**	**29**	P		**P**	**00 12 58.1**	**-0.8**
OHAK				IAmb		IAmb	00 13 17.8	
	comp=Z,12nm,1.1s							
BOOM	**Boomskoye usch**	**79.45**	**315**	P		**P**	**00 13 00.1**	**-0.5**
CNPM	**China Poot**	**81.29**	**27**	P		**P**	**00 13 08.8**	**-1.0**
MAW	**Mawson**	**82.37**	**203**	P		**P**	**00 13 16.2**	**+0.9**
	comp=Z,2.2nm,1.0s,baz=98,slow=8.3,SNR=4.1							
KTH	**Kantishna Hill**	**83.25**	**24**	P		**P**	**00 13 20.5**	**+0.4**
KTH				IAmb		IAmb	00 13 31.9	
	comp=Z,4.1nm,1.2s							
GHO	**Glory Hole Cre**	**83.30**	**26**	P		**P**	**00 13 21.1**	**+0.7**
GHO				IAmb		IAmb	00 13 35.6	
	comp=Z,5.9nm,0.9s							
CHGR	**Chuyangaron**	**83.46**	**310**	P		**P**	**00 13 19.9**	**-1.9**
CHGR				IAmb		IAmb	00 13 23.1	
	comp=Z,3.3nm,0.7s							
KKAR	**Karatay Array**	**83.46**	**314**	P		**P**	**00 13 20.2**	**-1.3**
QSPA	**South Pole Qui**	**84.40**	**180**	P		**P**	**00 13 26.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=278,slow=1.5,SNR=14							
QSPA	**South Pole Qui**	**84.40**	**180**	P		**P**	**00 13 25.9**	**-0.2**
QSPA				IAmb		IAmb	00 13 40.1	
	comp=Z,2.4nm,0.7s							
NRIK	**Noril'sk**	**84.64**	**342**	P		**P**	**00 13 26.1**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=103,slow=5.0,SNR=2.2							
IL31		**85.37**	**23**	P		**P**	**00 13 30.8**	**+0.2**
IL31				IAmb		IAmb	00 13 31.1	
	comp=Z,2.6nm,0.7s							
ILAR	**Eielson Array**	**85.37**	**23**	P		**P**	**00 13 30.4**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=251,slow=4.9,SNR=28							
ILAR	**Eielson Array**	**85.37**	**23**	P		**P**	**00 13 30.0**	**-0.7**
GERES	**GERESS Array B**	**121.14**	**325**	PKP		**PKiKP**	**00 19 47.9**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=71,slow=3.6,SNR=1.6							
TORD	**Torodi Ar. Bea**	**144.28**	**285**	PKP		PKPbc	00 20 28.9	-0.1
	comp=Z,1.9nm,0.7s,baz=74,slow=3.4,SNR=24							
TORD	**Torodi Ar. Bea**	**144.28**	**285**			PKPbc	00 20 29.1	+0.1
KIC	**Kosan Boka**	**151.15**	**273**	*e*PKIKP		**PKiKP**	**00 20 48.8**	**+0.3**
	comp=Z,6.2nm,0.7s							
DBIC	**Dimbokro**	**151.27**	**274**	PKPbc		**PKiKP**	**00 20 48.5**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=61,slow=2.9,SNR=12							
DBIC				PKPab		**PKPab**	**00 20 56.6**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=90,slow=5.7,SNR=4.8							
TIC	**Toumodi**	**151.43**	**274**	*e*PKIKP		**PKiKP**	**00 20 49.4**	**+0.3**
LIC	**Lamto**	**151.44**	**273**	*e*PKIKP		**PKiKP**	**00 20 49.3**	**+0.2**
	comp=Z,22nm,0.6s							

*THR **05** 00:18:14.4±0.7,28°.01N×53°.71E,h14km±6km, ML3.4*
*IDC **05** 00:18:15.2±6.3,27°.61N×54°.33E,h0km, mb3.7/3, mb1 3.8/3,mb1mx3.3/28,mbtmp3.7/3, Error ellipse: s-maj=124.5km s-min=49.6km az=112.0*
*TEH **05** 00:18:17.5,28°.22N×53°.62E,h21km, ML3.5*
*OMAN **05** 00:18:28.1±0.4,27°.64N×53°.90E,h33km±2km, mb4.5/1, ml3.4/12, Error ellipse: s-maj=6.8km s-min=3.4km az=357.0*

ISC 05 00:18:19.2±0.9, 28°.11N±0°.05×54°.00E±0°.04, h10km, n55, σ1s56/55, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHRM	**Jahrom**	**0.54**	**317**	*e*Pg	Pg	00 18 25.5	-4.3
LAR1	**LAR**	**0.55**	**143**	*e*Pg	**Pn**	**00 18 33.1**	**-0.1**
GHIR	**Ghir-Karzin**	**0.91**	**281**	*e*Pg	Pg	00 18 27.5	-9.4
GHIR	**Ghir-Karzin**	**0.91**	**281**	*e*Pg	Pg	00 18 27.5	-9.3
LMD1	**Lamerd**	**1.07**	**224**	*e*Pg	Pg	00 18 35.8	-4.0
SHI	**Shiraz**	**2.01**	**320**	*e*Pn	Pn	00 18 47.6	-5.8
SHI				*e*		00 19 42.6	
BNDS	**Bandar-Abbas**	**2.05**	**110**	*e*Pn	**Pn**	**00 18 53.6**	**-0.3**
BNDS				*e*Sg	**Sg**	**00 19 25.5**	**+0.3**
BNDS				IAML		00 19 38.8	
	comp=N,195nm,0.3s						
BNDS	**Bandar-Abbas**	**2.05**	**110**	*e*Pn	**Pn**	**00 18 53.6**	**-0.3**
GENO	**Geno**	**2.05**	**110**	*e*Pn	**Pb**	**00 18 56.8**	**+0.1**
GENO				*e*		00 19 38.8	
AHBU	**AHRAM**	**2.50**	**288**	*e*Pn	Pn	00 18 53.9	-6.0
SHME	**Shamm**	**2.80**	**137**	*e*Pn	**Pb**	**00 19 09.5**	**+0.1**
NGRK	**Negar Kerman**	**2.84**	**57**	*e*Pn	**Pn**	**00 19 06.4**	**+1.4**
NGRK				*e*		00 20 01.4	
BANOM	**Banah**	**2.99**	**136**	P	**Pb**	**00 19 11.6**	**-1.1**
BANOM				S	**Sn**	**00 19 42.7**	**0.0**
BANOM	**Banah**	**2.99**	**136**	*e*Pn	**Pb**	**00 19 12.7**	**0.0**
KRBR	**Kerman**	**3.05**	**52**	*e*Pn	**Pn**	**00 19 07.9**	**0.0**
KRBR	**Kerman**	**3.05**	**52**	*e*Pn	**Pn**	**00 19 07.9**	**0.0**
TVBK	**TV Kerman**	**3.06**	**52**	*e*	Pg	00 19 24.8	+7.0
MSFE	**Esma-Masafi**	**3.35**	**144**	*e*Pn	**Pn**	**00 19 14.4**	**+2.7**
NAZ	**Nazwa, Dubai**	**3.45**	**154**	P	**Pn**	**00 19 15.1**	**+2.1**
NAZ				S	**Sn**	**00 19 52.3**	**-1.7**
NAZ	**Nazwa, Dubai**	**3.45**	**154**	*e*Pn	**Pn**	**00 19 15.4**	**+2.4**
MDH	**Madha**	**3.47**	**143**	P	**Pn**	**00 19 15.5**	**+2.1**
MDH				S	**Sn**	**00 19 52.2**	**-2.4**
MDH	**Madha**	**3.47**	**143**	*e*Pn	**Pn**	**00 19 15.8**	**+2.4**
AJN	**Ajban**	**3.64**	**166**	P	**Pn**	**00 19 17.3**	**+1.6**
AJN	**Ajban**	**3.64**	**166**	*e*Pn	**Pn**	**00 19 17.0**	**+1.3**
FAQ	**Al Faqa, Dubai**	**3.64**	**157**	P	**Pn**	**00 19 15.2**	**-0.5**
UOSS	**Minazif**	**3.72**	**147**	P	**Pn**	**00 19 18.3**	**+1.6**
UOSS				S	**Sn**	**00 19 58.2**	**-2.4**
UOSS	**Minazif**	**3.72**	**147**	*e*Pn	**Pn**	**00 19 18.4**	**+1.6**
HATD	**Hatta, Dubai**	**3.79**	**149**	P	**Pn**	**00 19 19.3**	**+1.6**
HATD				S	**Sn**	**00 20 00.4**	**-1.9**
HATD	**Hatta, Dubai**	**3.79**	**149**	*e*Pn	**Pn**	**00 19 19.2**	**+1.5**
ASHO	**Ashiyiah**	**3.88**	**151**	P	**Pn**	**00 19 20.5**	**+1.5**
	SNR=7.5						
ASHO	**Ashiyiah**	**3.88**	**151**	*e*Pn	**Pn**	**00 19 20.7**	**+1.7**
YZKH	**Yazd**	**4.29**	**7**	*e*Pn	**Pn**	**00 19 23.5**	**-1.3**
YZKH	**Yazd**	**4.29**	**7**	*e*Pn	**Pn**	**00 19 23.5**	**-1.3**
MZWR	**Madinat Zayed**	**4.33**	**181**	*e*Pn	**Pn**	**00 19 26.2**	**+1.0**
ALNE	**Al Ain**	**4.33**	**158**	*e*Pn	**Pn**	**00 19 26.8**	**+1.6**
SLWS		**4.47**	**223**	P	**Pn**	**00 19 28.2**	**+1.2**
SLWS		**4.47**	**223**	S	**Sn**	**00 20 16.6**	**-2.5**
SOHO	**SOHO**	**4.57**	**150**	P	**Pn**	**00 19 29.0**	**+0.6**
SOHO				S	**Sn**	**00 20 19.6**	**-1.9**
ARQ	**Araqi**	**5.27**	**154**	P	**Pn**	**00 19 38.8**	**+0.7**
ARQ				S	**Sn**	**00 20 36.3**	**-2.7**
HOQ	**Hoqain**	**5.41**	**146**	P	**Pn**	**00 19 41.7**	**+1.7**
UMZA	**Um Al Zommool**	**5.47**	**169**	*e*Pn	**Pn**	**00 19 41.5**	**+0.6**
NHRD	**Haradh**	**5.60**	**234**	P	**Pn**	**00 19 44.0**	**+1.4**
NHRD	**Haradh**	**5.60**	**234**	S	**Sn**	**00 20 44.1**	**-3.0**
SMAN	**Sihmah**	**5.63**	**251**	P	**Pn**	**00 19 43.5**	**+0.5**
BSRN	**Basiran**	**5.87**	**48**	*e*Pn	**Pn**	**00 19 47.4**	**+0.9**
BSRN	**Basiran**	**5.87**	**48**	*e*Pn	**Pn**	**00 19 47.4**	**+0.9**
TABS	**Tabas**	**6.14**	**25**	*e*Pn	**Pn**	**00 19 49.8**	**-0.3**
TABS	**Tabas**	**6.14**	**25**	*e*Pn	**Pn**	**00 19 49.8**	**-0.3**
SMDO	**Samad**	**6.22**	**143**	P	**Pn**	**00 19 54.0**	**+2.8**
	SNR=6.2						
QYSM	**Um Kedad**	**6.31**	**269**	P	**Pn**	**00 19 53.5**	**+1.2**
JMDO	**Jabal Madar**	**6.82**	**146**	P	**Pn**	**00 20 00.2**	**+0.8**
RQBS	**RQBS**	**7.17**	**266**	P	**Pn**	**00 20 04.8**	**+0.6**
BRTR	**Keskin Array B**	**20.44**	**310**	P	Pn	00 23 00.2	+1.2
	comp=N,1.1nm,0.8s,baz=130,slow=12,SNR=11						
FINES	**FINESS Array B**	**38.18**	**339**	P	**P**	**00 25 40.8**	**+2.2**
	comp=N,3.2nm,0.9s,baz=141,slow=9.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**50.80**	**264**	P	**P**	**00 27 19.4**	**-0.7**
	comp=N,0.5nm,0.6s,baz=64,slow=8.5,SNR=7.6						

*MEX **05** 00:33:45.5±0.5, 14°.60N×92°.56W, h76km±12km, MD3.7*
*GCG **05** 00:33:49.2±1.0, 14°.36N×92°.45W, h35km±999km, MD4.2*

ISC 05 00:33:39.3±3.1, 14°.3N±0°.1×92°.87W±0°.10, h19km±7km, n8, σ1s09/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.83**	**45**	*i* P	**Pn**	**00 33 56.8**	**+0.9**
THIG				*i* S	**Sg**	**00 34 06.1**	**-0.5**
PCIG		**1.42**	**346**	*e*P	**Pg**	**00 34 06.5**	**-0.2**
PCIG				*i* S	**Sn**	**00 34 22.4**	**+0.2**
FUG	**Fuego 3**	**1.97**	**86**	*e*P	**Pb**	**00 34 14.5**	**-0.1**
FUG				*e*S	**Sn**	**00 34 34.8**	**-1.3**
CCIG	**Comitan**	**2.08**	**20**	*e*P	**Pn**	**00 34 15.2**	**+2.0**
CCIG				*i* S	**Sn**	**00 34 39.1**	**+0.4**
PCG	**Pacaya**	**2.19**	**88**	*e*P	**Pb**	**00 34 18.4**	**-0.1**
PCG				*e*S	**Sn**	**00 34 41.7**	**+0.1**
IXG	**Ixpaco**	**2.36**	**93**	*e*P	**Pb**	**00 34 20.6**	**-0.6**
NBG	**Las Nubes**	**2.46**	**83**	*e*P	**Pn**	**00 34 22.9**	**-0.1**
TGIG		**2.46**	**354**	*i* P	**Pn**	**00 34 18.7**	**+0.3**
TGIG				*i* S	**Sn**	**00 34 45.9**	**-2.1**

*TEH **05** 00:50:05.0,26°.70N×62°.55E,h15km, ML3.7*
*THR **05** 00:50:07.1±0.8,26°.58N×62°.09E,h15km±44km, ML3.8*
*OMAN **05** 00:50:16.8±1.8,26°.31N×61°.92E,h33km±70km,mb5.0/2, ml3.8/12, Error ellipse: s-maj=89.9km s-min=13.1km az=314.0*
*IDC **05** 00:50:26.7±3.1,28°.92N×60°.55E,h0km,mb3.4/7, mb1 3.5/7,mb1mx3.2/46,mbtmp3.5/7,MS3.4/1,Ms1 3.4/1, ms1mx2.5/28, Error ellipse: s-maj=64.7km s-min=29.3km az=151.0*
*DSN **05** 00:50:27.7±10.0,26°.27N×60°.86E,h10km,ML4.0/10, Error ellipse: s-maj=117.1km s-min=25.7km az=71.0*

ISC 05 00:50:05.3±1.0, 26°.63N±0°.07×62°.37E±0°.08, h10km, n72, σ2s60/75, mb3.5/7, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHBR	**Chabahar**	**1.99**	**239**	*e*Pg	**Pn**	**00 50 38.6**	**-0.3**
CHBR				*e*Sg	**Sn**	**00 51 02.3**	**-1.6**
SZD1	**Zahaedan-tmp**	**3.15**	**335**	*e*Pn	**Pn**	**00 50 56.4**	**+1.4**
ZHSF	**Zahedan**	**3.29**	**335**	*e*Pn	**Pn**	**00 51 00.1**	**+3.0**
ZHSF	**Zahedan**	**3.29**	**335**	*e*Pn	**Pn**	**00 51 00.1**	**+3.0**
KBAM	**BAM**	**4.28**	**307**	*e*Pn	**Pn**	**00 51 12.4**	**+1.9**
WSAR	**Wadi Sarin**	**4.79**	**226**	P	**Pn**	**00 51 20.2**	**+2.7**
	SNR=232						
WSAR				S	**Sn**	**00 52 08.9**	**-4.1**
BIDO	**Bidbid**	**4.94**	**232**	P	**Pn**	**00 51 23.0**	**+3.5**
	SNR=22						
BIDO				S	**Sn**	**00 52 16.2**	**-0.5**
BIDO	**Bidbid**	**4.94**	**232**	*e*Pn	**Pn**	**00 51 23.0**	**+3.5**
WBK	**Wadi Bani Khal**	**5.06**	**218**	P	**Pn**	**00 51 23.8**	**+2.6**
	SNR=251						
WBK				S	**Sn**	**00 52 16.7**	**-3.0**
	SNR=21						
NHDN	**Nehbandan**	**5.17**	**337**	*e*Pn	**Pn**	**00 51 23.3**	**+0.5**
NHDN				*e*		00 51 26.1	
JLN	**Jalan Bani Buh**	**5.21**	**212**	P	**Pn**	**00 51 26.1**	**+2.8**
JLN				S	**Sn**	**00 52 21.4**	**-2.0**
	SNR=30						
SMDO	**Samad**	**5.29**	**229**	P	**Pn**	**00 51 27.5**	**+3.0**
	SNR=94						
**CHMN

ISC 05 01:13:32.4±0.4, 20°96S±0°06×177°52W±0°08, h400km, n60, σ2s45/69, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.27**	**307**		**Pn**	**01 15 00.3**	**+2.9**
NIUE	**Niue**	**7.38**	**77**		**P**	**01 15 24.7**	**+3.7**
GLKZ	**Green Lake**	**8.28**	**182**	S	**S**	**01 17 03.9**	**-3.3**
AFI	**Afiamalu**	**8.90**	**39**	P	**P**	**01 15 38.5**	**+0.5**
	6.6nm,0.3s,baz=340,slow=4.7,SNR=7.5						
AFI				S	**S**	**01 17 14.8**	**-6.1**
	7.9nm,0.3s,baz=60,slow=22,SNR=2.7						
DZM	**Mont Dzumac**	**14.96**	**263**	P	**P**	**01 16 44.4**	**-0.3**
	1.9nm,0.3s,baz=143,slow=8.4,SNR=7.7						
OUZ	**Omahuta**	**16.21**	**207**	P	**P**	**01 17 03.8**	**+6.0**
GRZ	**Great Barrier**	**16.43**	**200**	P	**P**	**01 17 04.0**	**+3.9**
KUZ	**Kuaotunu**	**16.80**	**199**	P	**P**	**01 17 10.7**	**+6.6**
MXZ	**Matakaoa Point**	**16.94**	**191**	P	**P**	**01 17 09.6**	**+4.1**
MXZ				S	**S**	**01 20 00.3**	**-1.7**
WMGZ	**Waiomatatini S**	**17.17**	**191**	P	**P**	**01 17 09.5**	**+1.5**
WMGZ				S	**S**	**01 20 02.7**	**-3.7**
HAZ	**Te Kaha**	**17.23**	**193**	P	**P**	**01 17 09.4**	**+0.8**
HAZ				S	**S**	**01 20 02.7**	**-4.9**
PUZ	**Puketiti**	**17.44**	**191**	P	**P**	**01 17 12.9**	**+2.0**
PUZ				S	**S**	**01 20 08.8**	**-3.0**
RUGZ	**Raukumara Rang**	**17.45**	**193**	P	**P**	**01 17 11.9**	**+0.8**
RUGZ				S	**S**	**01 20 05.2**	**-7.0**
TGRZ	**Tauranga**	**17.56**	**197**	P	**P**	**01 17 16.9**	**+4.7**
TWGZ	**Tauwhareparae**	**17.59**	**192**	P	**P**	**01 17 13.3**	**+0.7**
TOZ	**Tahuroa Road**	**17.77**	**198**	P	**P**	**01 17 19.3**	**+4.9**
MWZ	**Matawai**	**17.84**	**193**	P	**P**	**01 17 17.0**	**+1.9**
MWZ				S	**S**	**01 20 18.0**	**-1.4**
URZ	**Urewera**	**17.86**	**194**	P	**P**	**01 17 15.0**	**-0.2**
	2.1nm,0.3s,baz=0.0,slow=8.1,SNR=12						
URZ				S	**S**	**01 20 19.5**	**-0.2**
	1.5nm,0.3s,baz=99,slow=20,SNR=6.5						
URZ	**Urewera**	**17.86**	**194**	P	**P**	**01 17 16.2**	**+0.9**
URZ				S	**S**	**01 20 17.4**	**-2.3**
BKZ	**Black Stump Fm**	**18.86**	**195**	P	**P**	**01 17 26.0**	**+0.1**
BHHZ	**Black Hill Sta**	**19.27**	**195**	P	**P**	**01 17 30.1**	**+0.1**
MRZ	**Mangatainoka R**	**20.50**	**195**	P	**P**	**01 17 42.3**	**+1.0**
THZ	**Tophouse**	**22.26**	**199**	P	**P**	**01 17 59.7**	**+2.3**
TOO	**Toolangi**	**35.99**	**234**	P	**P**	**01 19 57.0**	**-0.4**
STKA	**Stephens Creek**	**37.99**	**245**	P	**P**	**01 20 13.9**	**-0.2**
	6.6nm,0.6s,baz=87,slow=9.0,SNR=16						
STKA	**Stephens Creek**	**37.99**	**245**	P	**P**	**01 20 14.3**	**+0.2**
AS31	**Alice Springs**	**44.85**	**257**	P	**P**	**01 21 08.0**	**-1.3**
AS31				IAmb	IAmb	01 21 09.6	
	comp=Z,2.2nm,0.4s						
ASAR	**Alice Springs**	**44.85**	**257**	P	**P**	**01 21 08.0**	**-1.2**
	comp=Z,5.5nm,0.5s,baz=95,slow=8.1,SNR=101						
ASAR				PcP	**PcP**	**01 22 41.8**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=97,slow=3.9,SNR=4.7						
ASAR	**Alice Springs**	**44.85**	**257**	P	**P**	**01 21 07.3**	**-1.9**
WB0	**Warramunga Arr**	**44.96**	**263**	P	**P**	**01 21 08.2**	**-1.9**
WB0				IAmb	IAmb	01 21 08.7	
	comp=Z,5.4nm,0.6s						
WB2	**Warramunga Arr**	**44.97**	**262**	P	**P**	**01 21 08.3**	**-1.8**
WRA	**Warramunga Arr**	**44.98**	**262**	P	**P**	**01 21 08.3**	**-2.0**
	comp=Z,1.8nm,0.3s,baz=97,slow=7.5,SNR=85						
WRA				PcP	**PcP**	**01 22 41.7**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=92,slow=2.7,SNR=1.9						
SOEI	**Soe**	**56.96**	**272**	P	**P**	**01 22 37.8**	**-0.7**
VNDA	**Vanda**	**57.49**	**185**	P	**P**	**01 22 43.5**	**+2.6**
	comp=Z,1.0nm,0.5s,baz=5.6,slow=7.6,SNR=12						
CASY	**Casey**	**63.74**	**205**	P	**P**	**01 23 22.7**	**0.0**
CASY				IAmb	IAmb	01 23 24.3	
	comp=Z,4.3nm,1.0s						
QSPA	**South Pole Qui**	**69.11**	**180**	P	**P**	**01 23 57.9**	**+1.3**
PETK	**Petropavlovsk-**	**76.83**	**345**	P	**P**	**01 24 40.2**	**-0.9**
	comp=Z,5.5nm,1.0s,baz=11,slow=5.4,SNR=4.3						
BELA	**Belgrano 2**	**79.05**	**173**	P	**P**	**01 24 53.6**	**+0.6**
NVAR	**Mina Array Bea**	**81.05**	**43**	P	**P**	**01 25 06.0**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=225,slow=9.5,SNR=5.8						
MAW	**Mawson**	**81.28**	**200**	P	**P**	**01 25 05.0**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=122,slow=5.3,SNR=3.9						
MAW	**Mawson**	**81.28**	**200**	IAmb	IAmb	01 26 35.0	
	comp=Z,3.8nm,1.9s						
J08A	**Circle Bar Ran**	**83.84**	**39**	P	**P**	**01 25 19.2**	**+0.9**
TXAR	**Lajitas Array**	**86.93**	**57**	P	**P**	**01 25 35.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=232,slow=6.2,SNR=4.5						
SNAA	**Sanae**	**87.54**	**178**	P	**P**	**01 25 35.8**	**-0.1**
VNA3	**Neumayer Olymp**	**87.66**	**176**	P	**P**	**01 25 36.9**	**+0.5**
VNA2	**Neumayer--Watz**	**88.10**	**177**	P	**P**	**01 25 39.2**	**+0.7**
	baz=173,slow=4.4						
VNA1	**Neumayer--Stat**	**88.33**	**176**	P	**P**	**01 25 40.2**	**+0.7**
ILAR	**Eielson Array**	**88.66**	**13**	P	**P**	**01 25 40.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=221,slow=5.9,SNR=8.4						
PD31	**Pinedale Array**	**88.99**	**43**	P	**P**	**01 25 43.0**	**-0.3**
PD31				IAmb	IAmb	01 26 03.7	
	comp=Z,3.1nm,1.2s						
PDAR	**Pinedale Array**	**88.99**	**43**	P	**P**	**01 25 43.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=201,slow=4.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**90.69**	**289**	P	**P**	**01 25 51.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=124,slow=3.0,SNR=6.1						
AKASG	**Malin Array Be**	**143.63**	**331**	PKP	PKPab	01 32 17.3	-1.1
	comp=Z,1.1nm,0.5s,baz=47,slow=3.9,SNR=5.8						
EKA	**Eskdalemuir Ar**	**145.42**	**6**	PKPbc	**PKPdf**	**01 32 22.8**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=1.3,slow=3.1,SNR=1.4						
BRTR	**Keskin Array B**	**147.48**	**312**	PKPbc	**PKPbc**	**01 32 29.7**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=134,slow=3.7,SNR=4.5						
ROSA	**Rosais**	**148.22**	**49**	PKPbc	**PKPbc**	**01 32 31.8**	**-0.4**
MMAI	**Mount Meron Ar**	**148.43**	**299**	PKPbc	**PKPbc**	**01 32 32.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=45,slow=4.7,SNR=2.0						
CLL	**Collm**	**148.61**	**347**	*e*PKPbc	**PKPbc**	**01 32 33.0**	**+0.2**
MORC	**Moravsky Berou**	**148.85**	**341**	PKPbc	**PKPbc**	**01 32 33.7**	**+0.2**
GERES	**GERESS Array B**	**150.76**	**345**	PKPbc	**PKPbc**	**01 32 37.0**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=36,slow=1.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**172.20**	**174**	PKPab	**PKPab**	**01 34 20.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=174,slow=4.5,SNR=2.4						

*IDC **05** 02:03:33.3±0.7, 5°18S×133°86E, h0km, mb4.3/9, mb1 4.5/17, mb1mx4.4/28, mbtmp4.4/17, ML4.1/8, MS3.5/7, Ms1 3.5/7, ms1mx3.2/32, Error ellipse: s-maj=23.8km s-min=13.6km az=73.0*

*BJI **05** 02:03:34.5±0.0, 5°28S×133°98E, h30km, mB5.2/18, mb4.8/27, Ms4.9/2, Ms7 4.7/2*

*NEIC **05** 02:03:36.3±1.8, 5°09S±0°05×133°86E±0°06, h23km±4km, mb4.6/46, Error ellipse: s-maj=8.9km s-min=7.3km az=73.0*

*DJA **05** 02:03:37.7±0.2, 5°S±2°×13°4E±°, h103km±8km, M4.6/18, mb4.7/18, mB5.1/10, MLv4.8/12, Mw(mB)4.5/10*

ISC 05 02:03:36.8±0.4, 5°15S±0°04×133°86E±0°04, h28km, n115, σ19°70/125, mb4.6/30, MS3.5/3, 1D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.74**	**324**	P	**Pn**	**02 04 18.2**	**-0.8**
FAKI				S	**Sn**	**02 04 48.0**	**-3.2**
FAKI	**Fak Fak**	**2.74**	**324**	Pn	**Pn**	**02 04 17.9**	**-1.1**
FAKI				Sn	**Sn**	**02 04 48.6**	**-2.6**
SAUI	**Saumlaki**	**3.79**	**222**	P	**Pn**	**02 04 35.2**	**+1.8**
SAUI				S	**Sn**	**02 05 21.8**	**+4.7**
SAUI	**Saumlaki**	**3.79**	**222**	Pn	**Pn**	**02 04 34.3**	**+0.9**
SAUI				Pb		02 04 36.5	-6.6
BNDI	**Bandanaira**	**3.99**	**279**	P	**Pn**	**02 04 36.7**	**+0.5**
BNDI				S	**Sn**	**02 05 21.8**	**-0.3**
BAKI	**Biak**	**4.53**	**30**	P	**Pn**	**02 04 44.0**	**+0.4**
SIJI	**Sorong**	**4.98**	**329**	Pn	**Pn**	**02 04 48.9**	**-0.9**
	6.3nm,0.3s,baz=96,slow=7.8,SNR=14						
SIJI				Sn	**Sn**	**02 05 42.2**	**-4.3**
	5.2nm,0.3s,baz=118,slow=9.3,SNR=3.6						
WAMI	**Wamena**	**5.00**	**76**	P	**Pn**	**02 04 50.3**	**+0.3**
	7.9nm31µm2µm,0.7s						
MSAI	**Masohi**	**5.24**	**290**	P	**Pn**	**02 04 53.8**	**+0.5**
	0.3nm3µm63nm,0.5s						
MSAI				S	**Sn**	**02 05 50.4**	**-2.4**
	0.3nm3µm63nm,0.5s						
AAI	**Ambon**	**5.83**	**284**	P	**Pn**	**02 05 02.0**	**+0.5**
	1.0nm3µm178nm,0.4s						
AAI				S	**Sn**	**02 06 05.9**	**-1.6**
	1.0nm3µm178nm,0.4s						
GENI	**Genyem**	**6.79**	**68**	P	**Pn**	**02 05 15.6**	**+1.0**
	0.5nm133nm,1.1s						
NLAI	**Namlea**	**7.00**	**285**	P	**Pn**	**02 05 20.3**	**+2.7**
NLAI				S	**Sn**	**02 06 38.1**	**+1.7**
JAY	**Jayapura**	**7.32**	**69**	Pn	**Pn**	**02 05 20.8**	**-1.2**
	1.6nm,0.3s,baz=243,slow=6.9,SNR=13						
JAY				Sn	**Sn**	**02 06 42.4**	**-1.7**
	1.7nm,0.3s,baz=270,slow=20,SNR=2.3						
JAY				LR	LR	02 08 58.5	
	comp=Z,176nm,19.1s,baz=185,slow=44						
JAY	**Jayapura**	**7.32**	**69**	P	**Pn**	**02 05 22.3**	**+0.4**
	0.1nm379nm33nm,1.1s						
MTN	**Manton Dam**	**8.10**	**199**	Pn	**Pn**	**02 05 33.0**	**+0.3**
MTN				Sn	**Sn**	**02 07 03.3**	**-0.1**
SANI	**Sanana**	**8.44**	**291**	P	**Pn**	**02 05 35.6**	**-1.7**
	28nm,0.7s						
SOEI	**Soe**	**10.55**	**244**	P	**Pn**	**02 06 07.4**	**+1.0**
	2µm136nm,0.8s						
SOEI	**Soe**	**10.55**	**244**	Pn	**Pn**	**02 06 06.8**	**+0.4**
BATI	**Baumata**	**11.28**	**243**	Pn	**Pn**	**02 06 16.9**	**+0.6**
	8.6nm,0.3s,baz=135,slow=1.9,SNR=10.0						
BATI				Sn	**Sn**	**02 08 19.1**	**-2.5**
	4.9nm,0.3s,baz=150,slow=20,SNR=6.3						
BATI	**Baumata**	**11.28**	**243**	P	**Pn**	**02 06 16.7**	**+0.4**
	29nm,0.7s						
BATI				S	**Sn**	**02 08 19.8**	**-1.8**
	29nm,0.7s						
KNRA	**Kununurra**	**11.60**	**205**	Pn	**Pn**	**02 06 20.0**	**-0.6**
LUWI	**Luwuk**	**11.80**	**290**	Pn	**Pn**	**02 06 22.8**	**-0.6**
EDFI	**Ende, Flores**	**12.60**	**253**	P	**Pn**	**02 06 36.6**	**+2.2**
COEN	**Coen**	**12.68**	**134**	Pn	**Pn**	**02 06 35.2**	**-0.2**
PMG	**Port Moresby**	**13.85**	**109**	LR	LR	02 13 44.2	
	comp=Z,319nm,18.2s,baz=317,slow=44						
KAPI	**Kappang**	**14.05**	**270**	Pn	**Pn**	**02 06 53.1**	**-1.1**
	0.1nm,0.3s,baz=60,slow=20,SNR=1.6						
KAPI				LR	LR	02 14 16.6	
	comp=Z,158nm,18.1s,baz=97,slow=46						
WB0	**Warramunga Arr**	**14.54**	**178**	Pn	**Pn**	**02 06 58.3**	**-2.5**
WRAB	**Tennant Creek**	**14.70**	**178**		**Pn**	**02 07 00.5**	**-2.5**
WRAB				P	**P**	**02 07 09.9**	**+1.1**
WRA	**Warramunga Arr**	**14.71**	**178**	Pn	**Pn**	**02 07 00.3**	**-2.8**
	0.7nm,0.3s,baz=355,slow=13,SNR=26						
WRA				Sn	**Sn**	**02 09 37.5**	**-7.8**
	1.0nm,0.3s,baz=25,slow=17,SNR=4.9						
WRA				Lg	Lg	02 11 13.3	
	0.5nm,0.3s,baz=358,slow=30,SNR=2.8						
WRA	**Warramunga Arr**	**14.71**	**178**		**Pn**	**02 07 01.4**	**-1.7**
WB2	**Warramunga Arr**	**14.71**	**178**		**Pn**	**02 07 00.3**	**-2.8**
WR0	**Warramunga Arr**	**14.73**	**177**	Pn	**Pn**	**02 07 01.4**	**-2.0**
MPSI	**Mapaga**	**14.97**	**291**	P	**Pn**	**02 07 04.3**	**-2.4**
	636nm22nm,1.3s						
FITZ	**Fitzroy Crossi**	**15.17**	**211**	Pn	**Pn**	**02 07 06.6**	**-2.6**
	4.5nm,0.3s,baz=33,slow=9.5,SNR=110						
FITZ				Sn	Sn	02 09 43.6	-13
	0.9nm,0.3s,baz=185,slow=17,SNR=4.9						
FITZ	**Fitzroy Crossi**	**15.17**	**211**	Pn	**Pn**	**02 07 06.4**	**-2.8**
PLAI	**Plampang**	**16.37**	**256**	P	**Pn**	**02 07 21.8**	**-3.1**
	22nm,0.8s						
KRVT	**Keravat (AS076**	**18.12**	**88**	LR	LR	02 14 26.7	
	comp=Z,124nm,20.9s,baz=215,slow=36						
AS31	**Alice Springs**	**18.41**	**180**	P	**P**	**02 07 48.7**	**-1.2**
AS31					**Pn**	**02 07 49.4**	**-0.7**
ASAR	**Alice Springs**	**18.41**	**180**	P	**P**	**02 07 47.9**	**-2.1**
	0.4nm,0.3s,baz=358,slow=11,SNR=32						
ASAR				S	**Sn**	**02 11 08.8**	**-6.2**
	0.3nm,0.3s,baz=359,slow=28,SNR=3.5						
ASAR	**Alice Springs**	**18.41**	**180**		**P**	**02 07 49.6**	**-0.3**
MYLDM	**Lahad Datu**	**18.46**	**304**		**Pn**	**02 07 53.0**	**+2.3**
BBKI	**Banjar Baru**	**19.04**	**274**	P	**Pn**	**02 07 57.6**	**-0.2**
CTA	**Charters Tower**	**19.13**	**142**	P	**P**	**02 07 57.8**	**-0.1**
	0.2nm,0.3s,baz=125,slow=16,SNR=3.7						
CTAO	**Charters Tower**	**19.13**	**142**	P	**P**	**02 07 57.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**19.84**	**259**	P	**P**	**02 08 04.9**	**-0.9**
JAGI				IAmb	IAmb	02 08 22.9	
	comp=Z,62nm,1.4s						
KKM	**Kota Kinabalu**	**20.84**	**302**	P	**P**	**02 08 15.9**	**-0.7**
PSA00	**Pilbara Seismi**	**21.23**	**218**	P	**P**	**02 08 20.8**	**0.0**
PSA00				IAmb	IAmb	02 08 23.3	
	comp=Z,22nm,0.8s						
SBUM	**Sibu**	**22.90**	**289**	P	**P**	**02 08 38.8**	**+0.2**
SBUM				IAmb	IAmb	02 08 51.8	
	comp=Z,18nm,1.2s						
TGY	**Tagaytay City**	**23.03**	**326**	LR	LR	02 18 07.7	
	comp=Z,141nm,18.0s,baz=36,slow=38						
KSM	**Kuching**	**24.43**	**285**	P	**P**	**02 08 53.7**	**+0.3**
KSM				IAmb	IAmb	02 08 56.1	
	comp=Z,37nm,1.4s						
GIRL	**Giralia**	**25.73**	**226**	P	**P**	**02 09 04.6**	**-0.5**
FORT	**Forrest**	**26.07**	**191**	P	**P**	**02 09 08.8**	**+0.8**
LEM	**Lembang**	**26.15**	**265**	LR	LR	02 21 53.5	
	comp=Z,137nm,20.3s,baz=164,slow=42						
STKA	**Stephens Creek**	**27.56**	**166**	P	**P**	**02 09 21.4**	**0.0**
	comp=Z,3.1nm,0.7s,baz=6.2,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**27.56**	**166**	IAmb	IAmb	02 09 23.0	
	comp=Z,3.2nm,1.3s						
PSI	**Prapat**	**35.78**	**282**	LR	LR	02 29 43.8	
	comp=Z,111nm,18.0s,baz=90,slow=44						
GSI	**Gunungsitoli**	**36.81**	**279**	P	**P**	**02 10 42.6**	**-0.1**
JHJ2	**Mitsune**	**38.47**	**8**	P	**P**	**02 10 56.7**	**+0.2**
NJ2	**Nanjing**	**39.66**	**340**	*e*P	**P**	**02 11 08.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WHN	**Wuhan**	**40.11**	**333**	⇓P	P	02 11 19.6	+9.4
GYA	**Guiyang**	**41.01**	**321**	*e*P	**P**	**02 11 18.7**	**+0.8**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.66**	**305**	P	**P**	**02 11 24.2**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=132,slow=7.1,SNR=19						
CMAR	**Chiang Mai Arr**	**41.66**	**305**	P	**P**	**02 11 23.7**	**+0.5**
CHTO	**Chiang Mai**	**41.84**	**306**	P	**P**	**02 11 24.8**	**+0.1**
CHTO				IAmb	IAmb	02 11 26.3	
	comp=Z,9.8nm,1.1s						
KSAR	**Wonju Array Be**	**42.74**	**353**	P	**P**	**02 11 32.6**	**+1.0**
KSRS	**Korea Array**	**42.75**	**353**	P	**P**	**02 11 32.6**	**+0.9**
	comp=Z,5.1nm,1.0s,baz=174,slow=10,SNR=12						
INCN	**Inchon**	**42.95**	**352**	P	**P**	**02 11 33.1**	**-0.3**
XAN	**Xi'an**	**45.55**	**331**	P	**P**	**02 11 54.0**	**-0.4**
BJT	**Baijiatuau**	**47.81**	**342**	P	**P**	**02 12 12.5**	**+0.6**
BJT				IAmb	IAmb	02 12 35.0	
	comp=Z,8.5nm,1.1s						
USRK	**Ussuriysk Ar.**	**49.16**	**358**	P	**P**	**02 12 22.9**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=195,slow=5.9,SNR=5.5						
USRK	**Ussuriysk Ar.**	**49.16**	**358**	P	**P**	**02 12 23.0**	**+0.8**
QRZ	**Quartz Range**	**49.59**	**141**	P	**P**	**02 12 25.7**	**+0.1**
LZH	**Lanzhou**	**49.74**	**328**	*e*P	**P**	**02 12 28.8**	**+1.8**
LZH				pP	pP	02 12 35.8	+1.3
LZH				sP	pwP	02 12 39.2	+0.4
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.14**	**338**	*e*P	**P**	**02 12 31.9**	**+2.0**
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,5.9s						
SHL	**Shillong**	**50.91**	**309**	P	**P**	**02 12 36.3**	**+0.2**
GTA	**Gaotai**	**54.34**	**328**	*e*P	**P**	**02 13 02.5**	**+1.3**
GTA				pP	pP	02 13 06.8	-2.0
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ULN	**Ulaanbaatar**	**57.82**	**339**	P	**P**	**02 13 24.8**	**-1.1**
ULN				IAmb	IAmb	02 13 29.1	
	comp=Z,4.9nm,1.2s						
SONM	**Songino Array**	**58.03**	**339**	P	**P**	**02 13 25.7**	**-1.6**
CASY	**Casey**	**63.15**	**190**	P	**P**	**02 14 02.3**	**+0.5**
CASY				IAmb	IAmb	02 14 04.6	
	comp=Z,6.7nm,1.1s						
WMQ	**Urumqi**	**64.04**	**324**	*e*P	**P**	**02 14 09.9**	**+1.7**
WMQ	**Urumqi**	**64.04**	**324**	P	**P**	**02 14 08.8**	**+0.6**
MK31	**Makanchi Array**	**68.87**	**325**	P	**P**	**02 14 39.8**	**+0.8**
MKAR	**Makanchi Array**	**68.87**	**325**	P	**P**	**02 14 40.1**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=119,slow=7.6,SNR=35						
MKAR	**Makanchi Array**	**68.87**	**325**	P	**P**	**02 14 39.1**	**+0.1**
NIL	**Nilore**	**68.99**	**309**	P	**P**	**02 14 39.3**	**-0.7**
MAKZ	**Makanchi**	**69.06**	**325**	P	**P**	**02 14 41.1**	**+0.9**
KSH	**Kashi**	**69.33**	**316**	P	**P**	**02 14 43.5**	**+1.4**
KSH				S	**S**	**02 23 49.8**	**+2.5**
KSH				pmax	pmax		
	comp=Z,39nm,2.1s						
KSH				pmax	pmax		
	comp=Z,160nm,5.1s						
KSH				LR	LR		
	comp=Z,110nm,5.9s						
KSH				LR	LR		
	comp=Z,140nm,5.0s						
KSH				LR	LR		
	comp=Z,150nm,5.5s						
BOOM	**Boomskoye usch**	**70.66**	**318**	P	**P**	**02 14 50.2**	**0.0**
BOOM				IAmb	IAmb	02 14 52.9	
	comp=Z,5.5nm,1.1s						
ZALV	**Zalesovo Beam**	**71.70**	**332**	P	**P**	**02 14 55.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=94,slow=4.6,SNR=5.7						
ATKA	**Atka Island**	**72.09**	**31**	P	**P**	**02 14 59.2**	**+0.8**
KBL	**Kabul**	**72.57**	**308**	P	**P**	**02 15 02.6**	**+0.6**
KBL				IAmb	IAmb	02 15 03.8	
	comp=Z,8.3nm,1.4s						
KURK	**Kurchatov**	**73.01**	**327**	P	**P**	**02 15 04.9**	**+0.9**
KURK				IAmb	IAmb	02 15 05.8	
	comp=Z,11nm,1.2s						
GAR	**Garm**	**73.15**	**313**	P	**P**	**02 15 05.8**	**+0.5**
BTK	**Batken**	**73.18**	**314**	P	**P**	**02 15 06.1**	**+0.7**
VNDA	**Vanda**	**73.83**	**174**	P	**P**	**02 15 09.5**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=315,slow=6.4,SNR=14						
VNDA	**Vanda**	**73.83**	**174**	P	**P**	**02 15 09.5**	**+1.1**
CHGR	**Chuyangaron**	**73.88**	**313**	P	**P**	**02 15 10.3**	**+0.8**
KK31	**Karatay Array**	**74.55**	**317**	P	**P**	**02 15 14.5**	**+1.3**
KK31				IAmb	IAmb	02 15 15.3	
	comp=Z,8.7nm,1.1s						
KKAR	**Karatay Array**	**74.55**	**317**	P	**P**	**02 15 14.1**	**+0.9**
KKAR				IAmb	IAmb	02 15 15.3	
	comp=Z,8.7nm,1.1s						
KKAR	**Karatay Array**	**74.55**	**317**	P	**P**	**02 15 14.5**	**+1.3**
HRA	**Herat**	**77.90**	**307**	P	**P**	**02 15 32.6**	**-0.1**
MAW	**Mawson**	**78.07**	**202**	P	**P**	**02 15 34.3**	**+1.6**
	comp=Z,4.9nm,0.9s,baz=62,slow=7.3,SNR=9.6						
MAW	**Mawson**	**78.07**	**202**	P	**P**	**02 15 34.9**	**+2.2**
BRVK	**Borovoye**	**78.67**	**327**	P	**P**	**02 15 36.4**	**+0.1**
BRVK				IAmb	IAmb	02 15 37.4	
	comp=Z,4.2nm,0.8s						
FALS	**False Pass**	**78.98**	**32**	P	**P**	**02 15 37.9**	**0.0**
GEYT	**Alibeck**	**81.99**	**309**	P	**P**	**02 15 56.2**	**+1.7**
	comp=Z,6.1nm,1.1s,baz=186,slow=8.9,SNR=8.6						
GEYT	**Alibeck**	**81.99**	**309**	P	**P**	**02 15 55.1**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**81.99**	**309**	P	**P**	**02 15 53.6**	**-0.9**
GYA0B				IAmb	IAmb	02 15 57.8	
	comp=Z,8.2nm,1.1s						
ABKAR	**Akbulak array**	**83.49**	**321**	P	**P**	**02 16 02.2**	**+0.2**
QSPA	**South Pole Qui**	**84.81**	**180**	P	**P**	**02 16 09.2**	**+0.6**
ARU	**Arti**	**86.20**	**327**	P	**P**	**02 16 15.0**	**-0.5**
IMAR	**Indian Mountai**	**87.60**	**23**	P	**P**	**02 16 23.0**	**+0.8**
ILAR	**Eielson Array**	**90.06**	**25**	P	**P**	**02 16 32.2**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=262,slow=4.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**132.18**	**283**	PKP	**PKPdf**	**02 22 49.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=36,slow=1.4,SNR=5.6						
LPAZ	**La Paz**	**149.55**	**135**	PKPbc	**PKiKP**	**02 23 27.4**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=85,slow=1.0,SNR=11						

*TAP **05** 02:19:29.0, 23°89N×121°65E, h41km, ML3.8, C*

*JMA **05** 02:19:28.1±0.1, 23°86N×121°66E, h41km±1km, M3.5*

ISC 05 02:19:29.1±1.0, 23°88N±0°02×121°68E±0°02, h33km±2km, n122, σ0s83/210, 1C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**326**	P	**Pb**	**02 19 36.1**	**+1.1**
	baz=337						
HWA				S	**Sb**	**02 19 42.0**	**+3.0**
	baz=337						
TWD	**Chiawan**	**0.21**	**340**	⇑*i*P	**Pb**	**02 19 36.3**	**+0.4**
	baz=342						
TWD				S	**Sb**	**02 19 41.8**	**+1.4**
	baz=342						
ESL	**Shilin**	**0.23**	**253**	⇓*i*P	**Pn**	**02 19 36.2**	**+0.4**
	baz=259						
ESL				*e*S	**Sb**	**02 19 41.1**	**+0.3**
	baz=259						
NACB	**Ninganchiao**	**0.30**	**346**	⇓*i*P	**Pn**	**02 19 36

	baz=239							
WHP	**Taichung City**	**0.77**	**301**	*e*P		**Pn**	**02 19 44.0**	**+0.2**
	baz=305							
WHP				*e*S		**Sn**	**02 19 54.4**	**+0.1**
	baz=305							
WHYT	**Xinyi Township**	**0.78**	**256**	*e*P		**Pn**	**02 19 43.9**	**+0.1**
	baz=254							
WHYT				*e*S		**Sn**	**02 19 54.5**	**+0.3**
	baz=254							
CHKT	**Chengkung**	**0.83**	**200**	*e*P		**Pn**	**02 19 44.2**	**-0.2**
	baz=189							
CHKT				*e*S		**Sn**	**02 19 54.6**	**-0.9**
	baz=189							
YHNB	**Yeheng**	**0.83**	**341**	⇓*i*P		**Pn**	**02 19 44.2**	**-0.4**
	baz=340							
YHNB				*e*S		**Sn**	**02 19 54.2**	**-1.5**
	baz=340							
TWE	**Neicheng**	**0.83**	**360**	*e*P		**Pn**	**02 19 44.1**	**-0.5**
	baz=352							
TWE				*e*S		**Sn**	**02 19 55.5**	**-0.2**
	baz=352							
WJS	**Zhushan**	**0.87**	**266**	P		**Pn**	**02 19 45.6**	**+0.6**
	baz=267							
WJS				*e*S		**Sn**	**02 19 57.4**	**+0.9**
	baz=267							
ALS	**Alishan**	**0.88**	**245**	P		**Pn**	**02 19 45.5**	**+0.1**
	baz=239							
ALS				*e*S		**Sn**	**02 19 57.2**	**0.0**
	baz=239							
NWLT	**Wulai**	**0.90**	**350**	*e*P		**Pn**	**02 19 45.0**	**-0.6**
	baz=344							
NWLT				*e*S		**Sn**	**02 19 56.2**	**-1.3**
	baz=344							
WNT	**Mingjian**	**0.91**	**270**	*e*P		**Pn**	**02 19 46.2**	**+0.7**
	baz=270							
WNT				*e*S		**Sb**	**02 19 58.8**	**+0.6**
	baz=270							
ELDTW	**Lidau**	**0.92**	**221**	*e*P		**Pn**	**02 19 45.0**	**-0.8**
	baz=217							
ELDTW				*e*S		**Sn**	**02 19 56.7**	**-1.2**
	baz=217							
TWQ1	**Liyutan**	**0.94**	**300**	*i* P		**Pn**	**02 19 46.5**	**+0.4**
	baz=300							
TWQ1				S		**Sb**	**02 19 59.8**	**+0.5**
	baz=300							
TCU	**Taichung**	**0.95**	**286**	*e*P		**Pn**	**02 19 47.1**	**+1.0**
	baz=287							
TCU				*e*S		**Sb**	**02 20 00.2**	**+0.8**
	baz=287							
NSTT	**Nanjuang**	**0.97**	**321**	P		**Pn**	**02 19 47.1**	**+0.8**
	baz=308							
NSTT				*e*S		**Sn**	**02 19 59.5**	**+0.6**
	baz=308							
EDH	**Donghe**	**0.97**	**201**	*e*P		**Pn**	**02 19 46.2**	**-0.1**
	baz=201							
EDH				*e*S		**Sn**	**02 19 59.3**	**+0.3**
	baz=201							
LIOB	**Emei**	**0.97**	**322**	*e*P		**Pn**	**02 19 47.0**	**+0.6**
	baz=308							
LIOB				*e*S		**Sn**	**02 19 59.9**	**+0.8**
	baz=308							
NTC	**Toucheng**	**0.98**	**8**	*e*P		**Pn**	**02 19 46.0**	**-0.5**
	baz=356							
NTC				*e*S		**Sb**	**02 20 00.7**	**+0.5**
	baz=356							
NSY	**Sanyi**	**0.99**	**303**	*e*P		**Pn**	**02 19 47.2**	**+0.5**
	baz=303							
NSY				*e*S		**Sn**	**02 20 00.6**	**+1.1**
	baz=303							
NMLH	**Miaoli**	**1.04**	**309**	P		**Pn**	**02 19 47.7**	**+0.4**
	baz=309							
NMLH				*e*S		**Sn**	**02 20 01.3**	**+0.6**
	baz=309							
WGK	**Gukeng**	**1.04**	**259**	*e*P		**Pn**	**02 19 48.3**	**+1.0**
	baz=260							
WGK				*e*S		**Sb**	**02 20 02.8**	**+0.9**
	baz=260							
WCHH	**Zhanghua**	**1.04**	**281**	*e*P		**Pn**	**02 19 48.1**	**+0.8**
	baz=293							
WCHH				*e*S		**Sb**	**02 20 02.3**	**+0.3**
	baz=293							
PTSB	**Yuanli**	**1.05**	**303**	*e*P		**Pn**	**02 19 47.8**	**+0.3**
	baz=302							
PTSB				*e*S		**Sn**	**02 20 01.6**	**+0.6**
	baz=302							
WDJ	**Dajia District**	**1.05**	**296**	P		**Pn**	**02 19 48.1**	**+0.5**
	baz=296							
WDJ				*e*S		**Sb**	**02 20 02.8**	**+0.4**
	baz=296							
WDLH	**Douliu**	**1.06**	**260**	*e*P		**Pn**	**02 19 48.2**	**+0.6**
	baz=259							
LONT	**Longtian**	**1.09**	**207**	*e*P		**Pn**	**02 19 46.4**	**-1.8**
	baz=198							
LONT				*e*S		**Sn**	**02 20 00.8**	**-1.3**
	baz=198							
TIPB	**Shuangxi**	**1.09**	**7**	*e*P		**Pn**	**02 19 48.3**	**+0.1**
	baz=356							
TIPB				*e*S		**Sb**	**02 20 04.4**	**+0.9**
	baz=356							
TWA	**Mucha**	**1.10**	**356**	*e*P		**Pn**	**02 19 48.2**	**0.0**
	baz=356							
SBCB	**Hsinchu**	**1.10**	**325**	*e*P		**Pb**	**02 19 49.8**	**+0.1**
	baz=324							
SBCB				*e*S		**Sb**	**02 20 04.3**	**+0.5**
	baz=324							
STYT	**Tauyuan**	**1.11**	**230**	*e*P		**Pn**	**02 19 48.8**	**+0.5**
	baz=226							
STYT				*e*S		**Sn**	**02 20 03.5**	**+1.0**
	baz=226							
HSN	**Hsinchu**	**1.12**	**325**	*e*P		**Pn**	**02 19 49.2**	**+0.8**
	baz=326							
HSN				*e*S		**Sb**	**02 20 04.9**	**+0.7**
	baz=326							
TPUB	**Ta-pu**	**1.12**	**239**	*e*P		**Pn**	**02 19 48.7**	**+0.2**
	baz=238							
TPUB				*e*S		**Sb**	**02 20 04.2**	**-0.1**
	baz=238							
CHN4	**Tsaushan**	**1.12**	**242**	*e*P		**Pn**	**02 19 49.6**	**+1.1**
	baz=235							
CHN4				*e*S		**Sb**	**02 20 05.1**	**+0.7**
	baz=235							
TWB1	**Santiao Chiao**	**1.16**	**14**	*e*P		**Pb**	**02 19 50.3**	**-0.3**
	baz=26							
WTP	**Ta-pu**	**1.16**	**237**	*e*P		**Pn**	**02 19 49.7**	**+0.7**
	baz=238							
WTP				*e*S		**Sb**	**02 20 06.3**	**+0.8**
	baz=238							
NCUH	**Zhongli**	**1.17**	**338**	*e*P		**Pn**	**02 19 49.4**	**+0.2**
	baz=335							
NCUH				*e*S		**Sn**	**02 20 04.7**	**+0.7**
	baz=335							
NCU	**National Centr**	**1.17**	**338**	*e*P		**Pn**	**02 19 49.6**	**+0.4**
	baz=336							
NCU				*e*S		**Sb**	**02 20 05.9**	**+0.2**
	baz=336							
NWF	**Wu-fen Shan**	**1.19**	**5**	*e*P		**Pn**	**02 19 49.8**	**+0.3**
	baz=351							
NWF				*e*S		**Sb**	**02 20 07.4**	**+1.1**
	baz=351							
WFSB	**Wu-fen Shan**	**1.19**	**5**	*e*P		**Pn**	**02 19 50.2**	**+0.8**
	baz=353							
TWG	**Pinlang**	**1.19**	**208**	P		**Pn**	**02 19 48.9**	**-0.6**
	baz=199							
TWG				S		**Sn**	**02 20 05.8**	**+1.2**
	baz=199							
TWGBT	**Beinan**	**1.19**	**207**	*e*P		**Pn**	**02 19 48.8**	**-0.7**
	baz=199							
TWGBT				*e*S		**Sn**	**02 20 02.6**	**-1.9**
	baz=199							
WTK	**Tuku**	**1.19**	**261**	*e*P		**Pn**	**02 19 50.3**	**+0.8**
	baz=262							
WTK				*e*S		**Sb**	**02 20 06.1**	**-0.2**
	baz=262							
RLNB	**Erlin**	**1.20**	**271**	*e*P		**Pn**	**02 19 50.2**	**+0.6**
	baz=282							
RLNB				*e*S		**Sb**	**02 20 07.1**	**+0.5**
	baz=282							
CHY	**Chiayi**	**1.21**	**252**	*e*P		**Pn**	**02 19 50.1**	**+0.4**
	baz=253							
CHY				*e*S		**Sn**	**02 20 06.4**	**+1.5**
	baz=253							
LDUT	**Ludao**	**1.22**	**189**	*e*P		**Pn**	**02 19 49.2**	**-0.6**
	baz=181							
TWS1	**Kuangyinshan**	**1.23**	**349**	*e*P		**Pn**	**02 19 50.9**	**+0.8**
	baz=348							
CHN1	**Nanshi**	**1.26**	**237**	*e*P		**Pn**	**02 19 51.0**	**+0.6**
	baz=239							
CHN1				*e*S		**Sn**	**02 20 07.7**	**+1.4**
	baz=239							
YM01	**YM01**	**1.26**	**356**	*e*P		**Pn**	**02 19 50.8**	**+0.3**
	baz=353							
YM01				*e*S		**Sn**	**02 20 06.2**	**-0.1**
	baz=353							
SNST	**Tainan City**	**1.27**	**239**	*e*P		**Pb**	**02 19 52.1**	**-0.4**
	baz=241							
SNST				*e*S		**Sn**	**02 20 07.1**	**+0.8**
	baz=241							
YM10	**YM10**	**1.27**	**355**	*e*P		**Pn**	**02 19 49.4**	**-1.2**
	baz=352							
YM10				*e*S		**Sn**	**02 20 07.2**	**+0.7**
	baz=352							
YM04	**YM04**	**1.27**	**354**	*e*P		**Pn**	**02 19 50.5**	**-0.1**
	baz=355							
YM05	**YM05**	**1.28**	**356**	*e*P		**Pn**	**02 19 49.7**	**-1.1**
	baz=354							
SGST	**Jiashian**	**1.28**	**232**	*e*P		**Pn**	**02 19 50.2**	**-0.5**
	baz=233							
SGST				*e*S		**Sn**	**02 20 07.1**	**+0.4**
	baz=233							
JYNG	**Yonagunijimaku**	**1.29**	**64**	*e*S		**Sn**	**02 20 07.0**	**0.0**
SLGT	**Liugui**	**1.29**	**227**	*e*P		**Pn**	**02 19 52.4**	**+1.5**
	baz=229							
SLGT				*e*S		**Sb**	**02 20 09.4**	**+0.1**
	baz=229							
YM08	**YM08**	**1.30**	**357**	*e*P		**Pn**	**02 19 50.1**	**-0.9**
	baz=355							
ANP	**Anpu**	**1.31**	**354**	*e*P		**Pn**	**02 19 50.2**	**-0.9**
	baz=353							
YOJ	**Yonaguni jima**	**1.35**	**64**	*e*S		**Sn**	**02 20 09.1**	**+0.7**
	baz=66							
YOJ	**Yonaguni jima**	**1.35**	**64**	*e*S		**Sn**	**02 20 08.7**	**+0.3**
WSF	**Szhu**	**1.35**	**260**	*e*P		**Pn**	**02 19 52.4**	**+0.7**
	baz=261							
WSF				*e*S		**Sb**	**02 20 10.5**	**-0.4**
	baz=261							
ICHU	**Yijhu**	**1.38**	**248**	*e*P		**Pn**	**02 19 52.6**	**+0.5**
	baz=250							
ICHU				*e*S		**Sn**	**02 20 10.0**	**+0.8**
	baz=250							
ECL	**Taimali**	**1.44**	**208**	*e*P		**Pn**	**02 19 52.6**	**-0.3**
	baz=200							
CHN8	**Yiju**	**1.45**	**249**	*e*P		**Pn**	**02 19 53.2**	**+0.3**
	baz=250							
CHN8				*e*S		**Sn**	**02 20 12.0**	**+1.3**
	baz=250							
SCST	**Cishan**	**1.47**	**228**	*e*P		**Pn**	**02 19 52.7**	**-0.6**
	baz=228							
SSD	**Sandimen**	**1.48**	**220**	*e*P		**Pn**	**02 19 54.6**	**+1.1**
	baz=223							
SSD				*e*S		**Sb**	**02 20 14.2**	**-0.4**
	baz=223							
TSMG	**Majia**	**1.51**	**219**	*e*P		**Pn**	**02 19 55.0**	**+1.2**
	baz=222							
TSMG				*e*S		**Sn**	**02 20 14.0**	**+1.7**
	baz=222							
SCLT	**Jiali**	**1.53**	**243**	*e*S		**Sb**	**02 20 15.1**	**-0.8**
	baz=245							
TWM1	**Shoushan**	**1.56**	**228**	*e*P		**Pn**	**02 19 56.0**	**+1.5**
	baz=228							
MASBT	**Mashibuluo**	**1.59**	**217**	*e*P		**Pn**	**02 19 55.2**	**+0.3**
	baz=220							
MASBT				*e*S		**Sn**	**02 20 15.2**	**+1.0**
	baz=220							
EAST	**Anshuo**	**1.68**	**207**	*e*P		**Pn**	**02 19 56.3**	**+0.2**
	baz=202							
SCZT	**Fangliau**	**1.79**	**213**	*e*P		**Pn**	**02 19 58.7**	**+1.0**
	baz=230							
SCZT				*e*S		**Sb**	**02 20 22.2**	**-1.2**
	baz=230							
LAY	**Lan-yu**	**1.84**	**184**	*e*P		**Pn**	**02 19 56.9**	**-1.5**
	baz=175							
SLIU	**Shizi**	**1.84**	**206**	*e*P		**Pn**	**02 19 59.2**	**+0.8**
	baz=203							
IRIF	**Iriomote-Funau**	**1.93**	**76**	P		**Pn**	**02 20 00.0**	**+0.4**
IRIF				*e*S		**Sn**	**02 20 22.6**	**-0.2**
WLCH	**Liuqiu**	**1.94**	**218**	*e*P		**Pn**	**02 20 02.2**	**+2.5**
	baz=220							
HATJ	**Hateruma jima**	**1.96**	**84**	P		**Pn**	**02 20 00.4**	**+0.4**
HATJ				*e*S		**Sn**	**02 20 23.6**	**+0.2**
PHUB	**P'eng-hu**	**1.96**	**260**	*e*P		**Pn**	**02 20 00.4**	**+0.4**
	baz=261							
PHUB				*e*S		**Sn**	**02 20 23.3**	**-0.3**
	baz=261							
PNG	**Penghu**	**1.97**	**261**	*e*P		**Pn**	**02 19 59.9**	**-0.3**
	baz=261							
TWK1	**Hengchun**	**2.09**	**203**	*e*P		**Pn**	**02 20 02.5**	**+0.7**
	baz=195							
JKRS	**Kuro-shima**	**2.16**	**80**	P		**Pn**	**02 20 03.5**	**+0.7**
JKRS				S		**Sn**	**02 20 29.1**	**+0.6**
JIJ	**Ishigaki jima**	**2.31**	**78**	P		**Pn**	**02 20 04.7**	**-0.1**
JIJ				*e*S		**Sn**	**02 20 31.1**	**-0.9**
VWUC	**VWUC**	**2.31**	**299**	*e*P		**Pn**	**02 20 03.4**	**-1.4**
	baz=298							
PTTC	**Pingtan**	**2.37**	**313**	*e*P		**Pn**	**02 20 04.5**	**-1.1**
	baz=312							
JISG	**Ishigakijimahi**	**2.51**	**73**	P		**Pn**	**02 20 07.5**	**0.0**
JISG				S		**Sn**	**02 20 36.2**	**-0.8**
PTMZ	**Houxiangcun**	**2.60**	**297**	*e*P		**Pn**	**02 20 07.7**	**-1.1**
	baz=296							
JTJ	**Tarama**	**2.86**	**74**	P		**Pn**	**02 20 12.7**	**+0.2**
JTJ				*e*S		**Sn**	**02 20 45.7**	**-0.1**
KNM	**Kinmen**	**3.01**	**281**	*e*P		**Pn**	**02 20 15.0**	**+0.6**
	baz=280							
KNMB	**Chin-men Tao**	**3.06**	**282**	*e*P		**Pn**	**02 20 13.8**	**-1.4**
	baz=281							
MHZQ	**Yeshan**	**3.26**	**313**	*e*P		**Pn**	**02 20 16.4**	**-1.5**
	baz=312							
JIRB	**Irabujima**	**3.33**	**73**	*e*S		**Sn**	**02 20 56.5**	**-0.7**
JIKM	**Ikemajima**	**3.42**	**72**	*e*S		**Sn**	**02 20 59.1**	**-0.4**
JMJ2	**Miyako jima3**	**3.44**	**75**	*e*S		**Sn**	**02 21 00.8**	**+0.8**
AXDP	**Jialang**	**3.53**	**287**	*e*P		**Pn**	**02 20 20.1**	**-1.4**
	baz=287							
ZPLA	**Ao Xicun**	**3.59**	**272**	*e*P		**Pn**	**02 20 21.6**	**-0.9**
	baz=271							

*IDC **05** 02:23:44.3±0.9, 0°.17S×125°.47E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/34, mbtmp3.8/8, ML3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/47, Error ellipse: s-maj=48.3km s-min=17.6km az=68.0*

*DJA **05** 02:23:48.9±0.3, 0°.5S×12°.5E±°, h10km, M4.2/9, mb4.7/1, MLv4.0/9*

*NEIC **05** 02:23:53.5±1.8, 0°.46S±0°.08×125°.26E±0°.07, h76km±10km, mb4.3/14, Error ellipse: s-maj=12.7km s-min=8.1km az=142.0*

ISC 05 02:23:46.1±0.5, 0°.24S±0°.06×125°.30E±0°.04, h10km, n41, σ1s44/37, mb3.9/9, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.55**	**302**	P		**Pb**	**02 24 14.7**	**-0.1**
SANI	**Sanana**	**1.92**	**159**	P		**Pn**	**02 24 19.8**	**+0.9**
LBMI	**Labuha**	**2.24**	**100**	P		**Pb**	**02 24 26.7**	**+0.1**
TNTI	**Ternate**	**2.30**	**64**	P		**Pg**	**02 24 28.7**	**-1.5**
TNTI	**Ternate**	**2.30**	**64**	Pn		**Pg**	**02 24 29.6**	**-0.6**
TNTI						**Sg**	**02 25 02.0**	**+1.9**
GTOI	**Gorontalo**	**2.45**	**291**	P		**Pb**	**02 24 30.8**	**+0.6**
LUWI	**Luwuk**	**2.65**	**253**	P		**Pb**	**02 24 34.7**	**+1.0**
LUWI	**Luwuk**	**2.65**	**253**			**Pb**	**02 24 34.6**	**+1.0**
NLAI	**Namlea**	**3.48**	**149**	P		**Pn**	**02 24 42.8**	**+2.5**
AAI	**Ambon**	**4.48**	**140**	P		**Pn**	**02 24 58.5**	**+4.4**
MSAI	**Masohi**	**4.76**	**130**	P		**Pn**	**02 25 03.2**	**+5.3**
BNSI	**Bone**	**5.63**	**231**	P		**Pn**	**02 25 25.5**	**+1.9**
DAV	**Davao City (W)**	**7.27**	**2**	LR		LR	02 28 39.6	
	comp=Z,207nm,19.9s,baz=164,slow=41							
KAPI	**Kappang**	**7.29**	**229**	Pn		**Pn**	**02 25 35.9**	**+3.1**
	4.2nm,0.3s,baz=22,slow=13,SNR=7.4							
KAPI				Sn		**Sn**	**02 26 55.4**	**-0.2**
	0.5nm,0.3s,baz=120,slow=20,SNR=2.8							
KAPI				LR		LR	02 29 07.3	
	comp=Z,215nm,18.5s,baz=40,slow=43							
FAKI	**Fak Fak**	**7.44**	**111**	Pn		Pn	02 25 40.3	+5.5
MYLDM	**Lahad Datu**	**8.67**	**309**			Pn	02 25 59.2	+7.5
KSM	**Kuching**	**15.09**	**277**	P		**P**	**02 27 25.7**	**+0.9**
KSM				IAmb		IAmb	02 27 27.6	
	comp=Z,18nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.75**	**179**	P		**Pn**	**02 27 53.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=21,slow=8.6,SNR=3.1							
FITZ	**Fitzroy Crossi**	**17.75**	**179**	IAmb		IAmb	02 28 15.2	
	comp=Z,29nm,1.9s							
CISI	**Cisompet, Garu**	**18.88**	**247**	P		**P**	**02 28 05.5**	**-1.4**
WRAB	**Tennant Creek**	**21.48**	**156**	P		**P**	**02 28 33.1**	**-2.0**
WRAB				IAmb		IAmb	02 29 32.1	
	comp=Z,26nm,1.7s							
WRA	**Warramunga Arr**	**21.49**	**156**	P		**P**	**02 28 35.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=331,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**24.74**	**161**	P		**P**	**02 29 07.8**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=347,slow=13,SNR=7.5							
ASAR				PcP		**PcP**	**02 32 45.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=354,slow=2.2,SNR=7.2							
MORW	**Morawa**	**30.00**	**196**	P		**P**	**02 29 52.5**	**-2.5**
CMAR	**Chiang Mai Arr**	**31.88**	**307**	LR		LR	02 44 18.7	
	comp=Z,22nm,18.5s,baz=172,slow=39							
STKA	**Stephens Creek**	**35.04**	**155**	P		**P**	**02 30 37.8**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=306,slow=17,SNR=1.7							
SONM	**Songino Array**	**50.63**	**344**	P		**P**	**02 32 46.4**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=165,slow=9.1,SNR=3.8							
SONM	**Songino Array**	**50.63**	**344**	IAmb		IAmb	02 32 49.7	
	comp=Z,3.9nm,1.8s							
MK31	**Makanchi Array**	**60.04**	**327**	P		**P**	**02 33 53.3**	**+0.1**
MKAR	**Makanchi Array**	**60.04**	**327**	P		**P**	**02 33 52.6**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=123,slow=7.8,SNR=33							
MKAR	**Makanchi Array**	**60.04**	**327**	P		**P**	**02 33 53.5**	**+0.3**
MAKZ	**Makanchi**	**60.22**	**327**	P		**P**	**02 33 54.6**	**+0.1**
KBL	**Kabul**	**62.86**	**310**	P		**P**	**02 34 11.7**	**-1.1**
KBL				IAmb		IAmb	02 34 13.8	
	comp=Z,2.5nm,0.9s							
GAR	**Garm**	**63.61**	**315**	P		**P**	**02 34 17.8**	**+0.2**
BTK	**Batken**	**63.69**	**316**	P		**P**	**02 34 18.1**	**0.0**
KURK	**Kurchatov**	**64.35**	**329**	P		**P**	**02 34 22.9**	**+0.9**
KK31	**Karatay Array**	**65.20**	**319**	P		**P**	**02 34 27.7**	**-0.1**
KK31				IAmb		IAmb	02 34 30.1	
	comp=Z,6.1nm,1.6s							
KKAR	**Karatay Array**	**65.20**	**319**	P		**P**	**02 34 28.1**	**+0.3**
ABKAR	**Akbulak array**	**74.33**	**322**	P		**P**	**02 35 24.0**	**+0.1**
BRTR	**Keskin Array B**	**91.43**	**310**	P		**P**	**02 36 51.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=114,slow=4.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**122.69**	**285**	PKP		**PKPdf**	**02 42 43.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=54,slow=1.7,SNR=3.4							

IDC 05 02:43:06.3±3.2, 5°.33S×133°.67E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=125.6km s-min=31.2km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.54**	**177**	Pn		Pn	02 46 33.4	-0.2
	0.1nm,0.3s,baz=353,slow=13,SNR=4.9							
WRA				Sn		Sn	02 49 07.3	-8.4
	0.0nm,0.3s,baz=344,slow=5.6,SNR=2.7							
FITZ	**Fitzroy Crossi**	**14.92**	**211**	Pn		Pn	02 46 39.7	+1.0
	0.4nm,0.3s,baz=30,slow=10.0,SNR=22							
FITZ				Sn		Sn	02 49 20.6	-4.3
	0.2nm,0.3s,baz=210,slow=16,SNR=5.8							
ASAR	**Alice Springs**	**18.23**	**179**	P		Pn	02 47 20.6	-0.5
	0.0nm,0.3s,baz=6.3,slow=9.3,SNR=3.5							
TGY	**Tagaytay City**	**23.07**	**327**	LR		LR	02 57 32.2	
	comp=Z,122nm,20.5s,baz=161,slow=38							
MKAR	**Makanchi Array**	**68.90**	**325**	P		P	02 54 13.1	0.0
	0.3nm,0.5s,baz=111,slow=7.9,SNR=3.9							

*IDC **05** 02:49:52.0±1.4, 10°.97S×164°.70E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/35, mbtmp4.0/7, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/26, Error ellipse: s-maj=44.6km s-min=27.1km az=138.0*

*NEIC **05** 02:49:55.9±0.7, 11°.13S±0°.07×164°.9E±0°.2, h24km±6km, mb4.4/10, Error ellipse: s-maj=25.9km s-min=6.0km az=68.0*

ISC 05 02:49:56.8±0.9, 11°.1S±0°.1×164°.9E±0°.2, h31km, n28, σ0s89/21, mb4.0/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.84**	**152**			**Pn**	**02 51 07.3**	**-0.2**
DZM	**Mont Dzumac**	**10.97**	**172**	LR		LR	02 56 08.4	
	comp=Z,613nm,18.6s,baz=28,slow=34							
DZM	**Mont Dzumac**	**10.97**	**172**	Pn		**Pn**	**02 52 31.6**	**-0.2**
CTA	**Charters Tower**	**20.01**	**241**	P		**P**	**02 54 26.7**	**-0.5**
	0.2nm,0.3s,baz=86,slow=16,SNR=3.9							
H11S2	**WAKE ISLAND Hy**	**29.50**	**4**	T		T	03 27 00.9	
	baz=184,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**29.50**	**3**	T		T	03 27 02.7	
	baz=184,slow=76,SNR=13							
H11S1	**WAKE ISLAND Hy**	**29.51**	**3**	T		T	03 27 03.9	
	baz=184,slow=76,SNR=11							
WR0	**Warramunga Arr**	**30.48**	**250**	P		**P**	**02 56 07.7**	**+0.5**
WB0	**Warramunga Arr**	**30.57**	**250**	P		**P**	**02 56 08.2**	**+0.1**
WRAB	**Tennant Creek**	**30.65**	**250**	P		**P**	**02 56 07.3**	**-1.4**
WB2	**Warramunga Arr**	**30.65**	**250**	P		**P**	**02 56 09.4**	**+0.7**
WRA	**Warramunga Arr**	**30.66**	**250**	P		**P**	**02 56 07.2**	**-1.6**
	6.0nm,0.9s,baz=78,slow=8.8,SNR=18							
H11N1	**WAKE ISLAND Hy**	**30.72**	**4**	T		T	03 28 25.0	
	baz=183,slow=76,SNR=7.5							
H11N3	**WAKE ISLAND Hy**	**30.73**	**4**	T		T	03 28 26.9	
	baz=183,slow=76,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**30.74**	**4**	T		T	03 28 27.0	
	baz=183,slow=76,SNR=7.4							
AS31	**Alice Springs**	**32.00**	**243**	P		**P**	**02 56 20.9**	**+0.3**
AS31				IAmb		IAmb	02 56 23.9	
	comp=Z,1.5nm,1.1s							
ASAR	**Alice Springs**	**32.00**	**243**	P		**P**	**02 56 18.7**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=64,slow=10,SNR=22							
ASAR				PcP		**PcP**	**02 59 10.4**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=67,slow=2.2,SNR=4.5							
ASAR	**Alice Springs**	**32.00**	**243**	P		**P**	**02 56 20.8**	**+0.2**
KNRA	**Kununurra**	**35.40**	**259**	P		**P**	**02 56 50.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**38.54**	**255**	P		**P**	**02 57 15.6**	**-1.4**
	comp=Z,5.9nm,0.8s,baz=109,slow=6.8,SNR=11							
FITZ	**Fitzroy Cross

IUG	**Iuzhnay**	**2.27**	**315**	*e*P	**Pn**	**02 51 38.7**	**+1.8**
	8.2nm,0.3s							
IUG				*e*S	**Sn**	**02 52 06.9**	**+2.1**
	18nm,0.2s							
IUG	**Iuzhnay**	**2.27**	**315**	P	**Pb**	**02 51 41.8**	**+1.3**
	11nm,0.2s							
IUG				S	**Sn**	**02 52 06.9**	**+2.1**
	27nm,0.3s							
MRKS	**Merke**	**2.30**	**19**	*e*P	**Pn**	**02 51 39.7**	**+2.4**
	1.3nm,0.4s							
MRKS				*e*S	**Sb**	**02 52 07.9**	**-1.5**
	4.4nm,0.3s							
MRKS	**Merke**	**2.30**	**19**	Pg	**Pg**	**02 51 43.2**	**-0.5**
	2.6nm,0.2s							
MRKS				Lg	Lg	02 52 09.4		
	4.4nm,0.3s							
EKS2	**Erkin-Say**	**2.40**	**29**⇓	*e*P	**Pn**	**02 51 38.8**	**+0.1**
	baz=31							
EKS2				⇓*i*S	**Sn**	**02 52 07.7**	**-0.4**
	baz=31							
UCH	**Uchtor**	**2.40**	**46**⇑	*i*P	**Pn**	**02 51 39.4**	**+0.4**
	baz=47							
UCH				⇑*i*S	**Sn**	**02 52 08.7**	**+0.2**
	baz=47							
AAK	**Ala-Archa**	**2.69**	**39**⇓	*i*P	**Pn**	**02 51 43.2**	**+0.5**
	baz=41							
AAK				⇓*i*S	**Sn**	**02 52 15.6**	**+0.4**
	baz=41							
AAK	**Ala-Archa**	**2.69**	**39**	⇑Pg	**Pb**	**02 51 46.2**	**-1.4**
	1.3nm,0.6s							
AAK				⇑Lg	Lg	02 52 21.8		
	2.2nm,0.3s							
KZA	**Kyzart**	**2.75**	**56**⇑	*i*P	**Pn**	**02 51 44.3**	**+0.6**
	baz=57							
KZA				⇑*i*S	**Sn**	**02 52 17.2**	**+0.2**
	baz=57							
KK31	**Karatay Array**	**2.83**	**334**	⇓Pg	**Pb**	**02 51 48.7**	**-1.2**
	0.2nm,0.2s,baz=144,slow=14,SNR=4.3							
KK31				⇓Lg	Lg	02 52 22.2		
	1.0nm,0.2s,baz=153,slow=29,SNR=8.1							
BRLS	**Boroldaу**	**3.03**	**325**	*e*P	**Pn**	**02 51 50.3**	**+3.1**
	2.7nm,0.3s							
BRLS				*e*S	**Sn**	**02 52 26.4**	**+3.0**
	7.7nm,0.3s							
BRLS	**Boroldaу**	**3.03**	**325**	Pg	**Pb**	**02 51 53.3**	**0.0**
	18nm,0.3s							
BRLS				Lg	Lg	02 52 26.4		
	7.5nm,0.3s							
SGDS	**Sogindy**	**3.40**	**31**	Pg	**Pg**	**02 52 04.0**	**-0.7**
	1.5nm,0.3s							
SGDS				Lg	Lg	02 52 44.7		
	1.0nm,0.2s							
TKM2	**Tokmak 2**	**3.46**	**46**	⇓Pg	**Pb**	**02 52 01.0**	**+0.2**
	0.9nm,0.5s							
TKM2				⇓Lg	Lg	02 52 46.1		
	3.0nm,0.7s							
KST	**Kastek**	**3.74**	**47**	*e*P	**Pb**	**02 52 07.2**	**+1.7**
	0.8nm,0.3s							
KST				*e*S	**Sg**	**02 52 55.2**	**-4.5**
	2.2nm,0.4s							

*MEX **05** 03:14:18.8±0.5, 14˚.48N×92˚.53W, h77km±17km, MD3.8*
*GCG **05** 03:14:21.9±0.5, 15˚.75N×91˚.52W, h80km±33km, MD3.7*
ISC 05 03:14:18.4±3.1, 15°.7N±0°.4×91°.9W±0°.2, h100km, n6, σ0s81/7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.83**	**202**	*i* S	Sn	03 14 40.5	-11
PCIG		**1.23**	**271**	*e*P	**Pn**	**03 14 41.4**	**+0.1**
PCIG				*e*S	**Sn**	**03 14 58.5**	**-0.2**
FUG	**Fuego 3**	**1.63**	**139**	*e*P	**Pn**	**03 14 47.0**	**+0.6**
FUG				*e*S	**Sn**	**03 15 07.1**	**-0.5**
NBG	**Las Nubes**	**1.89**	**125**	*e*P	**Pn**	**03 14 49.8**	**0.0**
IXG	**Ixpaco**	**2.09**	**136**	*e*P	**Pn**	**03 14 53.2**	**+0.9**
IXG				*e*S	**Sn**	**03 15 17.2**	**-1.0**
CMIG	**Matias Romero**	**3.15**	**297**	*e*P	Pn	03 15 10.3	+4.2

*YARS **05** 03:27:43.8±0.0, 57˚.46N×120˚.65E, h5km*
*BYKL **05** 03:27:45.3±0.6, 57˚.37N×120˚.65E*
*IDC **05** 03:27:46.1±3.1, 57˚.56N×120˚.33E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/38, mbtmp3.6/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/47, Error ellipse: s-maj=76.0km s-min=28.6km az=154.0*
ISC 05 03:27:45.2±0.6, 57°.45N±0°.02×120°.73E±0°.02, h10km, n51, σ2s37/92, mb3.6/4, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKLR	**Yuktali**	**0.99**	**149**⇑	*i*Pg	**Pg**	**03 28 02.6**	**-1.7**
YKLR				*e*Sg	**Sg**	**03 28 15.5**	**-1.7**
YKLR	**Yuktali**	**0.99**	**149**	*i* Pg	**Pg**	**03 28 02.6**	**-1.7**
YKLR				*i* Pg	**Pg**	**03 28 02.6**	**-1.7**
YKLR				*i* Pg	**Pg**	**03 28 02.6**	**-1.7**
YKLR				*e*Sg	**Sg**	**03 28 16.1**	**-1.1**
	2μm,0.1s						
CRS	**Chara**	**1.45**	**249**	⇓*i*Pg	**Pn**	**03 28 09.8**	**-1.6**
CRS				Pmax		03 28 12.7	
	469nm,0.7s						
CRS				*e*Sg	**Sn**	**03 28 27.7**	**-2.7**
CRS				Smax		03 28 29.3	
	2μm,0.6s						
CRS				*e*		03 28 30.9	
CRS	**Chara**	**1.45**	**249**	*e*Pg	**Pn**	**03 28 09.8**	**-1.6**
	469nm,0.7s						
CRS				*e*Sg	**Sn**	**03 28 27.8**	**-2.7**
	2μm,0.6s						
CLNS	**Chul'man**	**2.35**	**103**	*e*Pn	**Pn**	**03 28 25.6**	**+1.7**
CLNS				*e*Pg	**Pb**	**03 28 27.8**	**+0.2**
CLNS				*e*		03 28 57.3	
CLNS				*i* Sg	**Sg**	**03 28 59.6**	**-1.1**
CLNS	**Chul'man**	**2.35**	**103**	*e*Pn	**Pn**	**03 28 24.0**	**+0.1**
CLNS				*e*Pg	**Pb**	**03 28 26.9**	**-0.7**
	3.4nm,0.1s						
CLNS				*e*Sn	**Sn**	**03 28 53.9**	**+1.1**
CLNS				*e*Sn	**Sn**	**03 28 53.9**	**+1.1**
CLNS				*e*Sg	**Sb**	**03 28 58.5**	**+1.8**
	26nm,0.2s						
CLNS				*e*Sg	**Sb**	**03 28 58.5**	**+1.8**
	781nm,0.5s						
IENR	**Iengra**	**2.58**	**117**	*e*Pg	**Pb**	**03 28 31.9**	**+0.4**
IENR				*e*		03 28 38.7	
IENR				*e*Sg	**Sg**	**03 29 05.9**	**-2.1**
IENR				*e*		03 29 15.1	
IENR	**Iengra**	**2.58**	**117**	*e*Pg	**Pb**	**03 28 31.0**	**-0.5**
	50nm,0.4s						
IENR				*e*Sg	**Sg**	**03 29 05.7**	**-2.3**
	515nm,0.7s						
ALDR	**Aldan**	**2.75**	**63**	*i* Pn	**Pn**	**03 28 29.5**	**+0.1**
ALDR				*i* Pg	**Pb**	**03 28 34.0**	**-0.5**
ALDR				*e*Sn	**Sn**	**03 29 03.5**	**+0.8**
ALDR				*e*Sn	**Sn**	**03 29 03.5**	**+0.8**
ALDR				*e*Sg	**Sb**	**03 29 10.6**	**+2.4**
	239nm,0.2s						
NLYR	**Nelyaty**	**2.91**	**253**	*e*Pn	**Pn**	**03 28 32.0**	**+0.4**
NLYR				⇓*i*Pg	**Pb**	**03 28 35.9**	**-1.3**
NLYR				Pmax		03 28 36.5	
	385nm,0.4s						
NLYR				*e*Sn	**Sn**	**03 29 05.8**	**-0.8**
NLYR				*e*Sg	**Sb**	**03 29 12.3**	**-0.5**
NLYR				Smax		03 29 15.6	
	2μm,1.2s						
OLMR	**Olekminsk**	**2.94**	**357**	*i* Pn	**Pn**	**03 28 31.6**	**-0.4**
OLMR				*i* Pn	**Pn**	**03 28 31.6**	**-0.4**
OLMR				*i* Pn	**Pn**	**03 28 31.6**	**-0.4**
OLMR				*e*Pg	**Pb**	**03 28 36.8**	**-0.9**
	21nm,0.2s						
OLMR				*e*Sn	**Sn**	**03 29 07.4**	**+0.1**
OLMR				*e*Sn	**Sn**	**03 29 07.4**	**+0.1**
OLMR				*e*Sg	**Sb**	**03 29 16.2**	**+2.6**
	422nm,0.3s						
TUP	**Tupik**	**3.06**	**188**⇑	*i*Pn	**Pn**	**03 28 32.6**	**-1.0**
TUP				*e*Pg	**Pb**	**03 28 37.0**	**-2.7**
TUP				Pmax		03 28 38.0	
	227nm,0.3s						
TUP				*e*Sn	**Sn**	**03 29 07.8**	**-2.4**
TUP				*i* Sg	**Sb**	**03 29 16.1**	**-1.0**
TUP				Smax		03 29 21.0	
	1μm,0.9s						
TUP	**Tupik**	**3.06**	**188**	*e*Pg	**Pb**	**03 28 38.1**	**-1.6**
	227nm,0.3s						
TUP				*e*Sg	**Sb**	**03 29 19.6**	**+2.5**
	1μm,0.9s						

BOD	**Bodaibo**	**3.63**	**279**	*e*Pn	**Pn**	**03 28 41.8**	**+0.4**
BOD				*e*Pg	**Pb**	**03 28 48.8**	**-0.7**
BOD				Pmax		03 28 51.2	
	101nm,0.7s						
BOD				*e*		03 29 25.3	
BOD				*e*Sg	**Sb**	**03 29 36.2**	**+2.7**
BOD				Smax		03 29 39.7	
	425nm,0.9s						
SVKR	**Severomuysk**	**4.16**	**254**	*e*Pg	**Pb**	**03 28 58.3**	**-0.2**
SVKR				Pmax		03 29 02.6	
	146nm,0.5s						
SVKR				*e*		03 29 31.5	
SVKR				Sg	**Sb**	**03 29 50.2**	**+1.4**
SVKR				*e*		03 29 57.2	
SVKR				max		03 30 01.9	
	900nm,0.8s						
VTMR	**Vitim**	**4.74**	**298**	*e*Pn	**Pn**	**03 28 57.9**	**+1.3**
VTMR				*e*Pg	**Pb**	**03 29 10.2**	**+1.9**
VTMR				*e*		03 29 35.9	
VTMR				*e*Sg	**Sg**	**03 30 12.9**	**-4.3**
YOA	**Uoyan**	**5.12**	**259**	*e*	**Sb**	**03 30 16.8**	**+0.5**
YOA				*e*Sg	Sg	03 30 20.0	-9.5
YOA				Smax		03 30 31.4	
	2μm,1.8s						
CGD	**Chagda**	**5.41**	**72**	*e*Pn	**Pn**	**03 29 06.3**	**+0.5**
CGD				*e*Pg	**Pb**	**03 29 22.0**	**+2.3**
CGD				*e*Sn	**Sn**	**03 30 08.5**	**+0.5**
CGD				*e*Sn	**Sn**	**03 30 08.5**	**+0.5**
CGD				*e*Sg	**Sg**	**03 30 33.8**	**-4.8**
	296nm,1.4s						
KMO	**Kumora**	**5.48**	**257**	*e*Pn	**Pn**	**03 29 07.4**	**+0.6**
KMO				*e*Pg	**Pb**	**03 29 21.7**	**+0.8**
KMO				Pmax		03 29 34.1	
	29nm,1.1s						
KMO				*e*		03 30 29.7	
KMO				*e*Sg	**Sb**	**03 30 32.4**	**+5.7**
KMO				Smax		03 30 44.4	
	279nm,1.0s						
BLSR	**Buluus**	**5.78**	**44**	*e*Pn	**Pn**	**03 29 11.2**	**+0.4**
BLSR				*i* Pg	**Pb**	**03 29 28.4**	**+2.5**
	24nm,0.2s						
BLSR				*e*Sn	**Sn**	**03 30 17.2**	**+0.2**
BLSR				*e*Sn	**Sn**	**03 30 17.2**	**+0.2**
BLSR				*e*Sg	**Sg**	**03 30 45.1**	**-5.3**
	264nm,0.6s						
YLYR	**Ulyunkhan**	**5.93**	**248**	*e*Pn	**Pn**	**03 29 12.6**	**-0.4**
YLYR				*e*Pg	**Pb**	**03 29 29.0**	**+0.4**
YLYR				Pmax		03 29 49.3	
	11nm,0.9s						
YLYR				*e*		03 29 54.1	
YLYR				*e*Sg	**Sb**	**03 30 46.2**	**+6.6**
YLYR				Smax		03 30 52.5	
	211nm,1.4s						
TBGR	**Tabaga**	**6.30**	**42**	*e*Pn	**Pn**	**03 29 18.4**	**+0.5**
TBGR				*i* Pg	**Pb**	**03 29 37.7**	**+3.0**
	128nm,0.4s						
TBGR				*e*Sn	**Sn**	**03 30 30.0**	**+0.1**
TBGR				*e*Sn	**Sn**	**03 30 30.0**	**+0.1**
TBGR				*e*Sg	**Sg**	**03 31 01.3**	**-5.8**
	55nm,0.2s						
NIZ	**Nizh Angarsk**	**6.40**	**260**	*e*	**Pn**	**03 29 24.0**	**+4.6**
NIZ				*e*Pg	**Pb**	**03 29 39.9**	**+3.4**
NIZ				*e*Sn	**Sn**	**03 30 29.2**	**-3.3**
NIZ				*e*		03 30 43.8	
NIZ				*e*Sg	**Sb**	**03 31 01.2**	**+8.2**
NIZ				Smax		03 31 15.1	
	101nm,1.0s						
YAK	**Yakutsk**	**6.45**	**41**	Lg	Lg	03 31 04.1	
	0.4nm,0.3s,baz=296,slow=23,SNR=12						
YAK				LR	LR	03 31 51.5	
	comp=Z,70nm,18.8s,baz=252,slow=38						
YAK	**Yakutsk**	**6.45**	**41**	*i* Pn	**Pn**	**03 29 20.5**	**+0.4**
YAK				*i* Pg	**Pb**	**03 29 40.5**	**+3.1**
	14nm,0.3s						
YAK				*e*Sn	**Sn**	**03 30 33.6**	**0.0**
YAK				*e*Sn	**Sn**	**03 30 33.6**	**0.0**
YAK				*e*Sg	**Sg**	**03 31 05.9**	**-6.0**
	79nm,0.8s						
SYVR	**Suvo**	**7.17**	**243**	Pn	**Pn**	**03 29 30.2**	**+0.2**
SYVR				*e*		03 29 47.2	
SYVR				*e*Pg	Pb	03 29 55.2	+5.5
SYVR				Pmax		03 29 56.8	
	17nm,1.3s						
SYVR				*e*		03 30 54.0	
SYVR				*e*Sg	Sg	03 31 25.4	-10
SYVR				*e*		03 31 32.6	
SYVR				max		03 31 33.4	
	332nm,1.1s						
MXMB	**Maximikha**	**8.01**	**244**	*e*	**Pb**	**03 29 59.8**	**-4.1**
MXMB				*e*		03 31 30.3	
MXMB				*e*Sg	Sg	03 31 50.8	-11
MXMB				*e*		03 31 58.1	
OGRR	**Ongureny**	**8.36**	**248**	*e*Sg	Sg	03 32 01.8	-11
OGRR				Smax		03 32 10.1	
	87nm,1.8s						
KELR	**Kotokel**	**8.63**	**242**	*e*		03 31 48.9	
KELR				*e*Sg	Sg	03 32 11.2	-11
KPC	**Khapcheranga**	**9.20**	**216**	*e*Pn	**Pn**	**03 29 57.5**	**-0.4**
KPC				*e*		03 30 13.4	
KPC				*e*		03 30 27.1	
KPC				max		03 30 42.4	
	2.0nm,0.7s						
KPC				*e*		03 32 09.7	
KPC				*e*Sg	Sn	03 32 25.8	+44
KPC				*e*		03 32 33.2	
KPC				max		03 32 46.6	
	113nm,1.8s						
UUDB	**Ulan-Yde**	**9.40**	**239**	*e*	Pn	03 30 09.9	+9.3
UUDB				Pg		03 30 32.9	
UUDB				Pmax		03 30 45.2	
	24nm,0.9s						
UUDB				*e*Sg	Sn	03 32 32.7	+46
UUDB				*e*		03 32 42.2	
UUDB				max		03 32 42.9	
	264nm,1.7s						
TRG	**Tyrgan**	**9.48**	**246**	*e*		03 31 08.4	
TRG				*e*Sg	Sn	03 32 36.9	+49
TRG				*e*		03 32 45.8	
TRG				max		03 32 48.2	
	92nm,1.5s						
FFNB	**Fofonovo**	**9.71**	**242**	Sg	Sn	03 32 42.2	+48
FFNB				*e*		03 32 49.0	
KAB	**Kabansk**	**9.76**	**242**	*e*Sg	Sn	03 32 45.1	+50
KAB				Smax		03 33 14.3	
	681nm,1.4s						
STDB	**Stepnoy Dvoret**	**9.82**	**244**	*e*		03 31 24.8	
STDB				*e*Sg	Sn	03 32 47.0	+50
HRMR	**Khuramsha**	**9.89**	**240**	*e*Pg	Pn	03 30 42.0	+35
HRMR				Pmax		03 30 49.2	
	11nm,0.7s						
HRMR				*e*Sg	Sn	03 32 49.4	+51
HRMR				*e*		03 32 54.8	
HRMR				max		03 32 57.5	
	484nm,1.2s						
BGT	**Bolshoye Golou**	**10.37**	**245**	Sg	Sn	03 33 06.1	+56
BGT				*e*		03 33 09.3	
BGT				max		03 33 16.7	
	69nm,2.4s						
LSTR	**Listvyanka**	**10.76**	**245**	*e*Sg	Sn	03 33 15.2	+56
LSTR				Smax		03 33 30.0	
	55nm,2.1s						
IVK	**Ivanovka**	**11.00**	**246**	*e*		03 33 16.3	
IVK				Sg	Sn	03 33 23.3	+58
IVK				Smax		03 33 36.4	
	234nm,0.9s						
ARS	**Arshan**	**11.93**	**250**	*e*		03 33 47.2	
ARS				*e*Sg		03 33 55.2	
ARS				Smax		03 34 05.3	
	75nm,0.7s						
ZAK	**Zakamensk**	**12.46**	**243**	*e*Sg		03 34 08.7	
ZAK				*e*		03 34 17.1	
ZAK				max		03 34 54.2	
	34nm,1.4s						
MOY	**Mondy**	**12.81**	**252**	*e*Sg		03 34 21.2	
MOY				Smax		03 34 40.1	
	51nm,1.4s						
SONM	**Songino Array**	**12.95**	**228**	Lg	Lg	03 34 27.5	
	1.0nm,0.3s,baz=39,slow=26,SNR=10						
SONM				LR	LR	03 36 15.8	
	comp=Z,95nm,18.3s,baz=32,slow=40						
ORL	**Orlik**	**12.95**	**257**	*e*		03 32 55.2	
ORL				*e*		03 33 36.8	
ORL				*e*Sg		03 34 22.6	
ORL				Smax		03 34 38.7	
	27nm,2.6s						
USRK	**Ussuriysk Ar.**	**15.02**	**147**	Lg	Lg	03 35 39.6	
	baz=322,slow=20,SNR=5.5						
ARDR	**Aradan**	**16.33**	**264**	*e*Sg		03 36 07.8	
ARDR				*e*		03 36 12.6	
ZALV	**Zalesovo Beam**	**20.38**	**275**	P	**P**	**03 32 22.8**	**+1.0**
	1.7nm,0.7s,baz=67,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**25.55**	**262**	P	**P**	**03 33 14.1**	**+0.2**
	0.7nm,0.6s,baz=55,slow=8.2,SNR=8.6						
ILAR	**Eielson Array**	**41.37**	**40**	P	**P**	**03 35 33.6**	**+2.8**
	0.3nm,0.6s,baz=294,slow=5.3,SNR=4.3						
FINES	**FINESS Array B**	**44.22**	**317**	P	**P**	**03 35 54.1**	**+0.2**
	1.5nm,0.7s,baz=57,slow=9.4,SNR=7.5						
NOA	**NORSAR Array B**	**49.69**	**323**	P	**P**	**03 36 37.3**	**+0.6**
	0.6nm,0.7s,baz=43,slow=8.0,SNR=3.2						

*BGR **05** 03:54:51.7±0.0, 65˚.87N×18˚.01W, h33km, mb4.2*
*REY **05** 03:54:54.3, 64˚.67N×17˚.45W, h8km*
*IDC **05** 03:54:54.8±0.6, 64˚.57N×17˚.59W, h0km, mb3.9/15, mb1 4.1/18, mb1mx3.9/43, mbtmp3.9/18, ML2.7/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/45, Error ellipse: s-maj=21.0km s-min=11.4km az=24.0*
*MOS **05** 03:54:55.9±1.1, 64˚.60N×17˚.65W, h17km, mb4.5/52, Error ellipse: s-maj=12.3km s-min=5.4km az=113.4*
*NEIC **05** 03:54:56.3±1.7, 64˚.60N±0˚.09×17˚.6W±0˚.1, h7km±4km, mb4.4/64, Error ellipse: s-maj=12.9km s-min=8.2km az=191.0*
ISC 05 03:54:56.4±0.3, 64°.63N±0°.03×17°.49W±0°.02, h10km, n275, σ1s59/276, mb4.3/93, 11C-1D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**291**	P	**Pg**	**03 54 57.2**	**-2.2**
	baz=273						
IVON				S	**Sg**	**03 54 59.9**	**-1.6**
	baz=273						
IDJK	**Dyngjujokull**	**0.17**	**138**	P	**Pg**	**03 54 58.1**	**-2.0**
	baz=150						
IDYN	**Dyngjuhals**	**0.17**	**19**	P	Pg	03 54 57.3	-2.9
	baz=16						
IDYN				S	**Sg**	**03 54 59.6**	**-3.2**
	baz=16						
IURH	**Urdarhals**	**0.24**	**38**	P	Pg	03 54 58.5	-2.9
	baz=40						
IURH				S	**Sg**	**03 55 02.3**	**-2.5**
	baz=40						
IGRF	**Grimsfjall**	**0.24**	**156**	P	**Pg**	**03 54 59.8**	**-1.7**
	baz=163						
IHUS	**Husbondi**	**0.34**	**192**	P	**Pg**	**03 55 01.7**	**-1.6**
	baz=194						
IKVE	**Kverkfjoll**	**0.35**	**82**	P	Pg	03 55 00.9	-2.6
	baz=88						
IKVE				S	**Sg**	**03 55 05.9**	**-2.3**
	baz=88						
IBJK	**Bruarjokull**	**0.36**	**116**	P	**Pg**	**03 55 01.0**	**-2.5**
	baz=123						
ISKR	**Skrokkalda**	**0.39**	**260**	P	**Pg**	**03 55 02.1**	**-2.0**
	baz=256						
IJOK	**Jokulheimar**	**0.45**	**225**	P	**Pg**	**03 55 03.3**	**-1.9**
	baz=224						
THOR	**Thorvaldshraun**	**0.47**	**49**	P	Pg	03 55 02.3	-3.2
	baz=51						
THOR				S	**Sg**	**03 55 08.6**	**-3.0**
	baz=51						
IKRE	**Kreppuhraun**	**0.50**	**72**	P	Pg	03 55 02.9	-3.2
	baz=75						
IKRE				S	**Sg**	**03 55 09.7**	**-3.1**
	baz=75						
IIEY	**Innrieyrar**	**0.60**	**207**	P	**Pg**	**03 55 05.9**	**-2.2**
	baz=207						
IMKO	**Mokollar**	**0.61**	**54**	P	Pg	03 55 04.7	-3.5
	baz=56						
IMKO				S	**Sg**	**03 55 13.1**	**-3.0**
	baz=56						
IKSK	**Karasker**	**0.65**	**136**	P	**Pg**	**03 55 05.7**	**-3.2**
	baz=140						
IKSK				S	**Sg**	**03 55 14.8**	**-2.5**
	baz=140						
IKAL	**Kalfafell**	**0.69**	**187**	P	**Pg**	**03 55 07.5**	**-2.2**
	baz=188						
ISVA	**Svartarkot**	**0.72**	**8**	P	Pg	03 55 06.4	-3.9
	baz=6.9						
IVAT	**Vatnsfell**	**0.76**	**235**	P	**Pg**	**03 55 08.6**	**-2.5**
	baz=234						
IVSH	**V-Sauoahnukur**	**0.78**	**76**	P	Pg	03 55 07.6	-3.9
	baz=78						
IVSH				S	**Sg**	**03 55 17.8**	**-3.8**
	baz=78						
IADA	**Aoalbol**	**0.91**	**64**	P	Pg	03 55 09.6	-4.3
	baz=65						
IADA				S	**Sg**	**03 55 22.0**	**-3.7**
	baz=65						
IHVE	**Hveravellir**	**0.92**	**286**	P	**Pg**	**03 55 10.3**	**-3.8**
	baz=284						
IMEL	**Melhausar**	**1.01**	**20**	P	Pb	03 55 11.1	-4.8
	baz=20						
ISNB	**Snabyli**	**1.03**	**210**	P	**Pg**	**03 55 13.2**	**-2.9**
	baz=210						
IREN	**Reynihlio**	**1.05**	**13**	P	Pb	03 55 11.9	-4.8
	baz=13						
IKVO	**Krokottuvotn**	**1.12**	**13**	P	Pn	03 55 13.0	-5.2
	baz=13						
IFED	**Fedgar**	**1.13**	**239**	P	**Pg**	**03 55 15.1**	**-3.0**
	baz=238						
IRJU	**Rjupnafell**	**1.14**	**207**	P	**Pg**	**03 55 15.2**	**-3.1**
	baz=208						
IGRS	**Grimsstaoir**	**1.17**	**29**	P	Pn	03 55 13.8	-4.9
	baz=29						
IMJO	**Mjoaskard**	**1.18**	**235**	P	**Pg**	**03 55 15.8**	**-3.2**
	baz=234						
ISKI	**Skildingahlsh**	**1.26**	**9**	P	Pn	03 55 15.4	-4.7
	baz=8.2						
IGHA	**Grjothals**	**1.27**	**16**	P	Pn	03 55 15.3	-4.9
	baz=15						
IGRA	**Granastaoir**	**1.29**	**358**	P	Pn	03 55 15.8	-4.7
	baz=358						
IGRA				S	**Sb**	**03 55 32.7**	**-4.7**
	baz=358						
IALF	**Alftagrof**	**1.36**	**214**	P	**Pn**	**03 55 18.8**	**-2.6**
	baz=214						
IHLA	**Hella**	**1.37**	**345**	P	Pn	03 55 17.4	-4.1
	baz=343						
IHED	**Heoinshofoi**	**1.46**	**3**	P	Pn	03 55 18.2	-4.5
	baz=2.3						
IGIL	**Gilhagi**	**1.53**	**18**	P	Pn	03 55 19.2	-4.5
	baz=18						
ISIG	**Siglufjorour**	**1.62**	**339**	P	**Pn**	**03 55 21.2**	**-3.8**
	baz=338						
BORG	**Borgarnes**	**1.65**	**276**	Pn	**Pn**	**03 55 22.6**	**-2.8**
	20nm,0.3s,baz=99,slow=11,SNR=38						
BORG				Sn	**Sn**	**03 55 44.3**	**-2.3**
	11nm,0.3s,baz=203,slow=20,SNR=7.1						
BORG	**Borgarnes**	**1.65**	**276**	Pn	**Pn**	**03 55 22.4**	**-2.9**
BORG				Sn	**Sb**	**03 55 46.2**	**-1.5**
SCO	**Scoresbysund**	**6.12**	**346**	*e*	**Pn**	**03 56 24.9**	**-1.8**
	baz=192,slow=7.9						
SCO				*i* P	**Pn**	**03 56 26.4**	**-0.3**
SCO				*e*S	**Sn**	**03 57 39.1**	**+2.4**
JMIC	**Jan Mayen**	**7.23**	**24**	LR	LR	03 58 45.4	
	comp=Z,78nm,18.5s,baz=254,slow=32						
SUMG	**Summit**	**10.97**	**326**	P	**Pn**	**03 57 33.6**	**+0.1**
SUMG	**Summit**	**10.97**	**326**	Pn	**Pn**	**03 57 33.6**	**+0.1**
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**03 57 41.2**	**-2.4**
	baz=320,slow=13,SNR=11						
ESK	**Eskdalemuir**

comp=Z,22nm,1.3s
GRR Gorron 18.58 143 *e*P **Pn 03 59 14.4 +0.9**
GRR pmax pmax
comp=Z,29nm,1.1s
MEM Membach 18.69 128 P **P 03 59 12.9 -1.5**
MEM Membach 18.69 128 P **Pn 03 59 16.4 +1.6**
MEM pmax pmax
comp=Z,12nm,2.2s
FIA1 FINESS Array S 19.71 79 P **P 03 59 25.6 0.0**
FIA1 lAmb lAmb 03 59 31.8
comp=Z,34nm,1.4s
FINES FINESS Array B 19.71 79 P **P 03 59 27.5 +2.0**
comp=Z,0.1nm,0.3s,baz=290,slow=5.5,SNR=6.4
FINES FINESS Array B 19.71 79 P **P 03 59 25.8 +0.3**
MOX Moxa 20.68 119 P **P 03 59 37.7 +1.5**
MOX pmax pmax
comp=Z,18nm,1.9s
CLL Collm 20.69 116⇑ *i*P **P 03 59 36.7 +0.5**
comp=Z,24nm,1.3s
CLL Collm 20.69 116⇑ *i*P **P 03 59 36.7 +0.5**
CLL pmax pmax
comp=Z,24nm,1.3s
CLL Collm 20.69 116 P **P 03 59 36.4 +0.1**
CLL lAmb lAmb 03 59 39.9
comp=Z,23nm,1.3s
LVZ Lovozero 20.71 58 P **P 03 59 36.0 -0.4**
LVZ pmax pmax
comp=Z,31nm,1.4s
LVZ Lovozero 20.71 58 P **P 03 59 36.0 -0.4**
LVZ lAmb lAmb 04 00 03.8
comp=Z,31nm,1.4s
LOR Lormes 20.92 136 *e*P **P 03 59 38.5 -0.3**
LOR pmax pmax
comp=Z,22nm,1.2s
PBUR Paburge 20.99 96 *e*P **P 03 59 39.4 -0.1**
SSF Saint Saulge 21.00 137 *e*P **P 03 59 39.4 -0.3**
SSF pmax pmax
comp=Z,22nm,1.2s
HAU Haudompre 21.04 131 *e*P **P 03 59 40.7 +0.5**
HAU pmax pmax
comp=Z,15nm,1.1s
ECH Echery 21.13 129 P **P 03 59 41.4 +0.3**
ECH pmax pmax
comp=Z,11nm,1.1s
ECH Echery 21.13 129 P **P 03 59 41.4 +0.3**
AVF Avril sur Loir 21.20 137 *e*P **P 03 59 41.4 -0.4**
AVF pmax pmax
comp=Z,20nm,1.2s
BGF Bois d'Agland 21.27 139 *e*P **P 03 59 42.1 -0.4**
BGF pmax pmax
comp=Z,15nm,1.0s
GRA1 Grafenberg Arr 21.31 121 P **P 03 59 43.9 +0.9**
GRA1 lAmb lAmb 03 59 58.2
comp=Z,23nm,1.2s
GRF Grafenberg Arr 21.31 121 P **P 03 59 43.9 +0.9**
GRF pmax pmax
comp=Z,23nm,1.2s
GRF Grafenberg Arr 21.31 121 *e*P **P 03 59 44.4 +1.4**
comp=Z,13nm,1.2s,baz=327,slow=10
NKC Novy Kostel 21.33 118 *e*P **P 03 59 45.7 +2.5**
NKC *ex* x 03 59 55.2
NKC Novy Kostel 21.33 118 *e*P **P 03 59 45.7 +2.5**
NKC *e* 03 59 55.2
TCF Toulx Ste Croi 21.34 140 *e*P **P 03 59 43.2 -0.1**
TCF pmax pmax
comp=Z,22nm,1.1s
STU Stuttgart 21.35 125 P **P 03 59 43.1 -0.3**
STU pmax pmax
comp=Z,18nm,1.1s
STU Stuttgart 21.35 125 P **P 03 59 43.1 -0.3**
STU lAmb lAmb 03 59 46.1
comp=Z,18nm,1.1s
HINF Hinteralfeld 21.38 130 *e*P **P 03 59 44.2 +0.5**
HINF pmax pmax
comp=Z,12nm,1.4s
BRG Berggiesshubel 21.39 115 *i* P **P 03 59 44.2 +0.3**
comp=Z,25nm,1.2s
BRG *e* 03 59 54.6
comp=Z,26nm,1.5s
BRG Berggiesshubel 21.39 115 *i* P **P 03 59 44.2 +0.3**
BRG *e* 03 59 54.6
BRG pmax pmax
comp=Z,25nm,1.2s
BRG pmax pmax
comp=Z,26nm,1.5s
BFO Black Forest 21.43 127 P **P 03 59 43.9 -0.4**
BFO pmax pmax
comp=Z,13nm,1.2s
BFO Black Forest 21.43 127 P **P 03 59 43.9 -0.4**
SMF Signal de Mont 21.48 137 *e*P **P 03 59 44.5 -0.3**
SMF pmax pmax
comp=Z,15nm,1.1s
VSU Vasula 21.57 86 *e*P **P 03 59 45.3 -0.3**
VSU Vasula 21.57 86 *i* P **P 03 59 47.8 +2.2**
VSU pmax pmax
comp=Z,47nm,0.9s
PVCC Panska Ves 21.91 115 P **P 03 59 52.8 +3.4**
PVCC pmax pmax
comp=Z,6.0nm,1.4s
SLE Schleitheim 21.97 128 P **P 03 59 49.7 -0.4**
SLE pmax pmax
comp=Z,13nm,1.2s
RJF Les Rejaudoux 22.05 142 *e*P **P 03 59 50.9 -0.1**
RJF pmax pmax
comp=Z,22nm,1.2s
LFF La Frestale 22.19 144 *e*P **P 03 59 53.1 +0.6**
LFF pmax pmax
comp=Z,54nm,1.4s
PABE Paberze 22.20 95 *e*P **P 03 59 51.8 -0.7**
PRU Pruhonice 22.33 116 *e*P **P 03 59 55.2 +1.3**
PRU Pruhonice 22.33 116 *e*P **P 03 59 55.2 +1.3**
PBCC Pribram 22.36 117 *e*P **P 03 59 55.4 +1.1**
WET Wettzell 22.38 119 P **P 03 59 56.5 +2.0**
WET pmax pmax
comp=Z,8.0nm,1.4s
CHVC Chvalec 22.45 113 *e*P **P 03 59 57.0 +1.8**
UPC Upice 22.50 113 *e*P **P 03 59 56.4 +0.7**
UPC Upice 22.50 113 *e*P **P 03 59 56.4 +0.7**
OSTC Ostas 22.54 113 *e*P **P 03 59 57.4 +1.2**
OSTC *ex* x 04 00 12.4
KHC Kasperske Hory 22.66 118 *e*P **P 03 59 56.5 -0.9**
KHC Kasperske Hory 22.66 118*ce*P **P 03 59 58.8 +1.4**
KHC pmax pmax
comp=Z,20nm,1.0s
KHC Kasperske Hory 22.66 118 P **P 03 59 57.8 +0.4**
DPC Dobruska-Polom 22.74 113 *e*P **P 03 59 59.1 +0.7**
DPC *ex* x 04 00 08.4
DPC Dobruska-Polom 22.74 113 *e*P **P 03 59 59.1 +0.7**
DPC *e* 04 00 08.4
DAVA Damuels 22.86 126 *e*P **P 04 00 01.2 +1.5**
comp=Z,5.5nm,1.0s
GEC2 GERESS Array S 22.94 119 P **P 04 00 00.7 +0.2**
GEC2 lAmb lAmb 04 00 10.3
comp=Z,15nm,1.3s
GERES GERESS Array B 22.94 119 P **P 04 00 01.3 +0.8**
comp=Z,2.1nm,0.9s,baz=328,slow=7.0,SNR=14
GERES LR LR 04 08 18.4
comp=Z,56nm,21.2s,baz=323,slow=35
GERES GERESS Array B 22.94 119 P **P 04 00 00.7 +0.2**
RETA Reutte 23.00 125 *e*P **P 04 00 03.5 +2.5**
comp=Z,12nm,2.2s
ISAL Salakas 23.09 92 *e*P **P 04 00 02.5 +0.6**
KRLC Kraliky 23.14 113 *e*P **P 04 00 03.3 +0.8**
KRLC *ex* x 04 00 13.8
KRLC Kraliky 23.14 113 *e*P **P 04 00 03.3 +0.8**
KRLC *e* 04 00 13.8
MOTA Moosalm 23.24 124 *e*P **P 04 00 06.7 +3.0**
comp=Z,7.0nm,1.1s
IIGN Ignalina 23.28 93 *e*P **P 04 00 03.9 +0.1**
DAVOX Davos/Dischmat 23.29 127 P **P 04 00 04.9 +0.7**
comp=Z,2.7nm,1.0s,baz=49,slow=22,SNR=3.5
LPL La Plagne 23.37 133 *e*P **P 04 00 05.8 +0.7**
LPL pmax pmax
comp=Z,6.0nm,1.1s
SQTA Sankt Quirin 23.38 124 *e*P **P 04 00 08.1 +3.1**
comp=Z,6.6nm,1.2s
TUE Stuetta 23.38 128 P **P 04 00 05.0 -0.1**
TUE lAmb lAmb 04 00 27.9
comp=Z,8.9nm,1.1s
LPG La Plagne 23.39 133 *e*P **P 04 00 05.2 -0.2**
LPG pmax pmax
comp=Z,10.0nm,1.3s
WATA Walderalm 23.41 124 *e*P **P 04 00 07.0 +1.6**
comp=Z,7.7nm,1.3s
WTTA Wattenberg 23.50 124 *e*P **P 04 00 08.0 +1.8**
comp=Z,7.9nm,1.3s
WTTA Wattenberg 23.50 124 P **P 04 00 10.2 +4.0**
WTTA pmax pmax
comp=Z,9.0nm,1.4s
IDID Didziasalis 23.52 92 *e*P **P 04 00 05.9 -0.3**
FUORN Ofenpass-Fuorn 23.57 127 P **P 04 00 08.2 +1.2**
FUORN lAmb lAmb 04 00 35.5
comp=Z,13nm,1.4s
ORIF Oris-en-Rattie 23.65 135 *e*P **P 04 00 08.1 +0.5**
ORIF pmax pmax
comp=Z,5.0nm,1.0s
VRAC Vranov 23.68 114 P **P 04 00 09.1 +1.3**
comp=Z,0.7nm,0.3s,baz=326,slow=7.8,SNR=5.0
VRAC LR LR 04 09 00.8
comp=Z,53nm,19.7s,baz=330,slow=36
VRAC Vranov 23.68 114 *e*P **P 04 00 08.3 +0.5**
MORC Moravsky Berou 23.68 112 *e*P **P 04 00 08.1 +0.2**
MORC Moravsky Berou 23.68 112 P **P 04 00 08.9 +1.0**
MORC pmax pmax
comp=Z,8.0nm,1.4s
MORC Moravsky Berou 23.68 112 P **P 04 00 08.9 +1.0**
BNI Bardonecchia 23.77 134 P **P 04 00 10.1 +1.2**
BNI pmax pmax
comp=Z,13nm,1.3s
BNI Bardonecchia 23.77 134 P **P 04 00 10.1 +1.2**
BNI lAmb lAmb 04 00 39.1
comp=Z,12nm,1.3s
KRUC Moravsky 23.80 115 *e*P **P 04 00 08.8 -0.2**
ABTA Abfaltersbach 24.25 123 *e*P **P 04 00 17.1 +3.8**
comp=Z,6.1nm,1.2s
JAVC Velka Javorina 24.46 113 *e*P **P 04 00 15.4 +0.2**
CONA Conrad Observa 24.51 117 *e*P **P 04 00 16.3 +0.6**
comp=Z,3.6nm,1.0s
CTI Castel Tesino 24.54 125 P **P 04 00 16.9 +0.9**
CTI *PP **pP** 04 00 17.3 -2.3
CTI pmax pmax
comp=Z,18nm,1.5s
CTI Castel Tesino 24.54 125 P **P 04 00 16.9 +0.9**
CTI **pP** 04 00 17.3 -2.3
CTI lAmb lAmb 04 00 40.5
comp=Z,18nm,1.5s
SMOL Smolenice 24.64 114 *e*P **P 04 00 17.6 +0.8**
SMOL pmax pmax
comp=Z,5.0nm,1.0s
SMOL Smolenice 24.64 114 *e*P **P 04 00 17.6 +0.8**
MODS Modra-Piesok 24.70 114 *e*P **P 04 00 17.8 +0.5**
MODS pmax pmax
comp=Z,27nm,1.7s
MODS Modra-Piesok 24.70 114 *e*P **P 04 00 17.8 +0.5**
PRED Cave del Predi 24.89 122 P **P 04 00 20.8 +1.7**
PRED **pP** 04 00 22.0 -0.7
PRED lAmb lAmb 04 00 22.9
comp=Z,8.6nm,1.2s
ARSA Arzberg 24.94 118 *e*P **P 04 00 20.6 +1.1**
comp=Z,1.9nm,0.8s
LANS Liptovska Anna 24.95 111 *e*P **P 04 00 20.0 +0.4**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 24.95 111 *e*P **P 04 00 20.0 +0.4**
TEOL Teolo 25.15 126 P **P 04 00 22.5 +1.1**
TEOL lAmb lAmb 04 00 27.3
comp=Z,9.3nm,1.0s
PRMA PARMA 25.20 129 P **P 04 00 23.5 +1.7**
VYHS Vyhne 25.22 112 *e*P **P 04 00 22.2 +0.2**
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS Vyhne 25.22 112 *e*P **P 04 00 22.2 +0.2**
SOKA Soboth 25.24 120 *e*P **P 04 00 22.6 +0.4**
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 25.61 72 *e*P **P 04 00 23.9 -1.5**
KLMR *e* 04 03 53.8
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 25.61 72 *e*P **P 04 00 23.9 -1.5**
KLMR AMP 04 00 26.9
comp=Z,19nm,1.3s
KLMR *e*PcP **PcP 04 03 53.8 -1.9**
PSZ Piszkesteto 26.10 112 P **P 04 00 30.7 +0.6**
PSZ pmax pmax
comp=Z,20nm,1.4s
PSZ Piszkesteto 26.10 112 P **P 04 00 30.7 +0.6**
ESDC Sonseca Array 26.22 156 P **P 04 00 32.0 +0.9**
comp=Z,2.3nm,0.9s,baz=349,slow=10,SNR=11
KOLS Kolonicke sedl 26.26 108 *e*P **P 04 00 32.2 +0.8**
KOLS pmax pmax
comp=Z,15nm,1.4s
KOLS Kolonicke sedl 26.26 108 *e*P **P 04 00 32.2 +0.8**
LVV L'vov 26.30 104 *e*P **P 04 00 32.3 +0.5**
OSSC Osservatorio P 26.61 129 P **P 04 00 35.9 +1.2**
AKASG Malin Array Be 27.84 97 P **P 04 00 44.1 -1.4**
comp=Z,0.7nm,0.5s,baz=324,slow=9.2,SNR=4.4
AKASG Malin Array Be 27.84 97*ce*P **P 04 00 49.4 +3.9**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 27.84 97 P **P 04 00 45.1 -0.4**
OBN Obninsk 27.88 84*ce*P **P 04 00 48.0 +2.1**
OBN pmax pmax
comp=Z,28nm,1.7s
OBN Obninsk 27.88 84 P **P 04 00 47.7 +1.8**
BURAR Bucovina Array 28.51 106 P **P 04 00 53.4 +1.6**
BURAR Bucovina Array 28.51 106 P **P 04 00 53.4 +1.6**
VSR Storozhevoye 31.73 87 *e*P **P 04 01 18.3 -1.7**
VSR pmax pmax
comp=Z,4.0nm,1.0s
VRH Novokhopyorsk 32.84 85 *e*P **P 04 01 29.6 -0.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
SRS Serrai 33.23 115 P **P 04 01 37.4 +4.2**
SRS pmax pmax
comp=Z,10.0nm,1.2s
BELG Belogornoye 34.49 79 *i* P **P 04 01 45.8 +1.8**
ARU Arti 36.09 66*d i*P **P 04 01 59.6 +1.8**
ARU 04 03 17.4
ARU S **S 04 07 39.7 +3.0**
ARU SS **SnSn 04 10 03.1 +1.8**
ARU pmax pmax
comp=Z,7.0nm,1.6s
ARU Arti 36.09 66 P **P 04 01 59.4 +1.6**
BR131 Keskin Array S 38.47 105 P **P 04 02 18.5 +0.2**
BR131 pmax pmax
comp=Z,6.0nm,1.5s
BR131 Keskin Array S 38.47 105 P **P 04 02 18.5 +0.2**
BRTR Keskin Array B 38.47 105 P **P 04 02 18.8 +0.4**
comp=Z,2.1nm,0.8s,baz=332,slow=5.5,SNR=13
BRTR Keskin Array B 38.47 105*ce*P **P 04 02 22.2 +3.9**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 38.47 105 P **P 04 02 19.4 +1.1**
KIV Kislovodsk 38.84 92 *e*P **P 04 02 22.2 +0.9**
KIV pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 39.11 92 P **P 04 02 24.1 +0.7**
comp=Z,5.3nm,0.9s,baz=316,slow=8.8,SNR=6.7
KBZ Khabaz 39.11 92*ce*P **P 04 02 26.5 +3.1**
KBZ pmax pmax
comp=Z,18nm,2.1s
ABKAR Akbulak array 42.00 73 P **P 04 02 47.6 +0.3**
TIXI Tiksi 42.07 15 *i* P **P 04 02 48.2 +0.7**
GAZ Gaziantep 42.12 104 P **P 04 02 49.7 +1.2**
GAZ lAmb lAmb 04 03 07.5
comp=Z,7.0nm,1.1s
TOLK Toolik Lake Re 42.78 336 P **P 04 02 54.9 +1.4**
TOLK lAmb lAmb 04 02 56.1
comp=Z,11nm,1.1s
BMAR Burnt Mountain 42.93 333 P **P 04 02 57.4 +2.7**
BRVK Borovoye 43.15 62*ce*P **P 04 02 56.7 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BRVK Borovoye 43.15 62 P **P 04 02 57.1 +0.6**
BRVK lAmb lAmb 04 02 59.7
comp=Z,8.3nm,1.5s
MARD Mardin 43.50 100 P **P 04 03 01.1 +1.3**
MARD lAmb lAmb 04 03 04.9
comp=Z,7.2nm,0.8s
N49A Columbus Grove 44.11 271 P **P 04 03 04.5 +0.1**
TAM Tamanrasset 44.48 149 P **P 04 03 08.4 +0.7**
TAM pmax pmax
comp=Z,3.0nm,1.3s
TAM Tamanrasset 44.48 149 P **P 04 03 08.4 +0.7**
ILAR Eielson Array 45.72 332 P **P 04 03 17.9 +1.0**
comp=Z,2.1nm,1.0s,baz=23,slow=7.1,SNR=12
ILAR PcP **PcP 04 04 54.5 -0.1**
comp=Z,1.1nm,1.0s,baz=344,slow=2.7,SNR=5.6
ILAR Eielson Array 45.72 332 P **P 04 03 18.1 +1.1**
ILAR Eielson Array 45.72 332 P **P 04 03 18.1 +1.1**
MDM Murphy Dome 45.82 333 P **P 04 03 19.3 +1.6**
IMAR Indian Mountai 45.89 337 P **P 04 03 19.3 +1.0**
BCAR Beaver Creek A 46.14 329 P **P 04 03 21.7 +1.3**
BILL Bilibino 47.59 358 *i* P **P 04 03 32.9 +1.3**
BILL pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 47.66 51 P **P 04 03 32.2 -0.1**
ZALV Zalesovo Beam 47.66 51 P **P 04 03 31.1 -1.1**
comp=Z,1.6nm,0.9s,baz=332,slow=12,SNR=4.7
ZALV Zalesovo Beam 47.66 51 P **P 04 03 32.4 +0.2**
ZALV Zalesovo Beam 47.66 51 P **P 04 03 32.4 +0.2**
KURK Kurchatov 48.13 58*ce*P **P 04 03 36.3 +0.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 48.13 58 P **P 04 03 36.0 0.0**
T47A Sharon Grove 48.64 270 P **P 04 03 41.0 +0.9**
EGMT Eagleton 48.89 297 P **P 04 03 41.4 -0.6**
K31A O'Neill 48.91 285 P **P 04 03 41.0 -1.1**
KK31 Karatay Array 51.29 70 P **P 04 04 01.1 +1.0**
KK31 pmax pmax
comp=Z,5.0nm,1.3s
KK31 Karatay Array 51.29 70 P **P 04 04 01.1 +1.0**
KK31 lAmb lAmb 04 04 01.3
comp=Z,4.6nm,1.3s
KKAR Karatay Array 51.29 70 P **P 04 04 01.1 +1.0**
KKAR pmax pmax
comp=Z,5.0nm,1.3s
KKAR Karatay Array 51.29 70 P **P 04 04 01.1 +1.0**
KKAR lAmb lAmb 04 04 01.3
comp=Z,4.6nm,1.3s
KKAR Karatay Array 51.29 70 P **P 04 04 00.5 +0.4**
YNE Yellowstone No 51.49 295 P **P 04 04 02.3 +0.4**
BOZ Bozeman (W) 51.63 297 P **P 04 04 02.8 0.0**
BOZ pmax pmax
comp=Z,6.0nm,1.2s
BOZ Bozeman (W) 51.63 297 P **P 04 04 02.8 0.0**
BOZ lAmb lAmb 04 04 04.6
comp=Z,6.1nm,1.1s
DGZ Jazzator, Alta 52.10 53 *i* P **P 04 04 08.1 +1.8**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 52.62 59 P **P 04 04 10.2 +0.2**
MAKZ **pP** 04 04 11.4 -2.3
MK31 Makanchi Array 52.74 58*ce*P **P 04 04 11.3 +0.4**
MK31 Makanchi Array 52.74 58 P **P 04 04 10.8 -0.1**
MKAR Makanchi Array 52.74 58 P **P 04 04 10.9 0.0**
comp=Z,1.0nm,0.8s,baz=336,slow=5.6,SNR=8.8
MKAR Makanchi Array 52.74 58*ce*P **P 04 04 10.8 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 52.74 58 P **P 04 04 10.6 -0.3**
TORD Torodi Ar. Bea 53.11 156 P **P 04 04 13.4 -0.4**
comp=Z,2.2nm,1.0s,baz=339,slow=8.2,SNR=8.5
TORD Torodi Ar. Bea 53.11 156 P **P 04 04 13.4 -0.4**
BW06 Boulder Array 53.19 293 P **P 04 04 14.4 -0.1**
PD31 Pinedale Array 53.19 293 P **P 04 04 14.6 0.0**
PD31 lAmb lAmb 04 04 15.3
comp=Z,5.4nm,1.1s
PDAR Pinedale Array 53.19 293 P **P 04 04 14.3 -0.2**
comp=Z,2.2nm,0.9s,baz=57,slow=5.5,SNR=14
REDW Red Top Meadow 53.20 295 P **P 04 04 15.3 +0.7**
REDW lAmb lAmb 04 04 22.6
comp=Z,8.8nm,1.4s
N23A Red Feather La 53.32 289 P **P 04 04 16.4 +0.8**
BTK Batken 53.97 72 P **P 04 04 20.3 +0.2**
BTK pmax pmax
comp=Z,21nm,1.4s
BTK Batken 53.97 72 P **P 04 04 20.3 +0.2**
F07A Phinny Hill Vi 54.47 303 P **P 04 04 23.8 +0.2**
CHGR Chuyangaron 54.47 74 P **P 04 04 24.3 +0.5**
GAR Garm 54.66 73 P **P 04 04 26.4 +1.2**
HWUT Hardware Ranch 54.97 294 P **P 04 04 27.8 +0.3**
HWUT lAmb lAmb 04 04 29.0
comp=Z,4.2nm,1.1s
HRA Herat 55.19 82 P **P 04 04 30.0 +0.8**
TCUT Toone Canyon 55.32 294 P **P 04 04 28.0 -2.1**
ZAK Zakamensk 56.49 41 *e*P **P 04 04 38.4 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
KSH Kashi 56.51 68 P **P 04 04 40.3 +1.8**
KSH S **S 04 12 27.0 -2.6**
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH pmax pmax
comp=Z,96nm,3.8s
KSH LR LR
comp=N,190nm,5.9s
KSH LR LR
comp=E,140nm,4.4s
KSH LR LR
comp=Z,180nm,6.5s
DUG Dugway, Tooele 56.66 294 P **P 04 04 40.5 +0.9**
DUG pmax pmax
comp=Z,4.0nm,1.2s
DUG Dugway, Tooele 56.66 294 P **P 04 04 40.5 +0.9**
DUG lAmb lAmb 04 04 49.3
comp=Z,3.8nm,1.2s
WMQ Urumqi 57.25 56 *e*P **P 04 04 46.7 +3.1**
MSU Marysvale 57.86 293 P **P 04 04 48.8 +0.7**
MSU Marysvale 57.86 293 P **P 04 04 48.8 +0.7**
DBIC Dimbokro 58.55 165 P **P 04 04 50.8 -2.1**
comp=Z,5.5nm,1.0s,baz=342,slow=5.2,SNR=3.9
DBIC Dimbokro 58.55 165 P **P 04 04 50.8 -2.1**
DBIC pmax pmax
comp=Z,10.0nm,1.3s
DBIC Dimbokro 58.55 165 lAmb lAmb 04 04 51.4
comp=Z,10nm,1.2s
TIC Toumodi 58.56 165 *e*P **P 04 04 52.3 -0.7**
ANMO Albuquerque 58.60 286 *i* P **P 04 04 54.3 +0.9**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
KIC Kosan Boka 58.87 165 *e*P **P 04 04 54.7 -0.4**
comp=Z,29nm,1.5s
ZEA Zeya 58.87 24 *e*P **P 04 04 58.8 +4.1**
LIC Lamto 58.98 165 *e*P P 04 04 50.6 -5.2
comp=Z,1.9nm,0.3s
JCT Junction City 59.65 278 P **P 04 05 00.6 +0.1**
JCT pmax pmax
comp=Z,6.0nm,1.1s
JCT Junction City 59.65 278 P **P 04 05 00.6 +0.1**
KVN Kaiserville 59.70 298 P **P 04 05 02.2 +1.3**
KVN pmax pmax
comp=Z,2.0nm,0.9s
KVN Kaiserville 59.70 298 P **P 04 05 02.2 +1.3**
U15A North Rim 59.70 291 P **P 04 05 01.1 0.0**
U15A lAmb lAmb 04 05 02.0
comp=Z,4.2nm,1.2s
NVAR Mina Array Bea 60.32 297 P **P 04 05 06.0 +0.8**
comp=Z,0.4nm,0.8s,baz=98,slow=1.8,SNR=3.4
NVAR Mina Array Bea 60.32 297 P **P 04 05 05.0 -0.2**
NIL Nilore 60.46 73 P **P 04 05 05.3 -0.7**
NIL pmax pmax
comp=Z,10.0nm,1.2s
NIL Nilore 60.46 73 P **P 04 05 05.3 -0.7**
SHPR Sheep Range 60.78 294 P **P 04 05 08.4 +0.1**
X16A Lo Mia Camp, P 61.10 290 P **P 04 05 11.3 +0.8**
X16A lAmb lAmb 04 05 12.6
comp=Z,3.4nm,1.0s
TXAR Lajitas Array 62.29 280 P **P 04 05 18.6 +0.1**
comp=Z,0.8nm,0.9s,baz=35,slow=4.6,SNR=7.6
TXAR Lajitas Array 62.29 280 P **P 04 05 18.1 -0.4**
TKX Tecate 64.80 293 P **P 04 05 35.5 +0.6**
HHC Hu-ho-hao-te 67.54 40 *e*P **P 04 05 54.2 +1.7**
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,310nm,5.4s
LZH Lanzhou 69.65 48 *e*P **P 04 06 08.0 +2.1**
LZH pP sP 04 06 12.9 +1.8
LZH sP pP 04 06 16.6 +6.9
LZH pmax pmax
comp=Z,12nm,1.3s

ATH 05 03:58:04.5, 40°30N×23°93E, h10km△2km, ML1.9/6, Error ellipse: s-maj=2.5km s-min=1.0km az=133.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.05**	**49**	P	Pg	03 58 06.6	+0.2
OUR				S	Sg	03 58 07.9	0.0
OUR				AML	AML	03 58 08.2	

comp=E,2536μm,0.1s

OUR					AML	AML	03 58 08.2	
	comp=N,4100μm,0.2s							
PLG	**Polygyros**	**0.38**	**281**		P	Pg	03 58 12.1	+0.2
PLG					S	Sg	03 58 17.2	+0.2
PLG					AML	AML	03 58 18.2	
	comp=N,794μm,0.2s							
PLG					AML	AML	03 58 18.3	
	comp=E,612μm,0.1s							
PAIG	**Paliouri**	**0.42**	**207**		P	Pg	03 58 12.6	-0.1
PAIG					S	Sg	03 58 18.2	-0.1
THAS	**Thassos island**	**0.67**	**63**		P	Pg	03 58 17.0	-0.5
THAS					S	Sg	03 58 26.6	+0.3
THAS					AML	AML	03 58 28.6	
	comp=N,344μm,0.2s							
THAS					AML	AML	03 58 29.3	
	comp=E,253μm,0.1s							
SOH	**Sokhos**	**0.68**	**320**		P	Pg	03 58 17.7	0.0
SOH					S	Sg	03 58 26.9	+0.3
SOH					AML	AML	03 58 31.0	
	comp=E,196μm,0.3s							
SOH					AML	AML	03 58 31.0	
	comp=N,218μm,0.3s							
HORT	**Hortiatis**	**0.70**	**295**		P	Pg	03 58 17.6	-0.4
HORT					S	Sg	03 58 27.3	+0.1
HORT					AML	AML	03 58 29.4	
	comp=E,164μm,0.2s							
HORT					AML	AML	03 58 30.1	
	comp=N,125μm,0.1s							
KAVA	**Kavala**	**0.82**	**32**		P	Pg	03 58 19.8	-0.5
KAVA					S	Sg	03 58 31.5	+0.4
SRS	**Serrai**	**0.85**	**343**		P	Pb	03 58 21.4	-0.1
SRS					S	Sg	03 58 32.4	+0.3
SRS					AML	AML	03 58 35.1	
	comp=N,102μm,0.1s							
SRS					AML	AML	03 58 36.4	
	comp=E,109μm,0.1s							
NVR	**Nevrokopi**	**1.05**	**357**		P	Pg	03 58 24.7	0.0
NVR					S	Sg	03 58 38.3	-0.1
MMB	**Musomiste**	**1.30**	**353**	*i*	P	Pn	03 58 27.9	-0.8
MMB				*i*	S	Sb	03 58 43.6	-2.1
RZN	**Rozhen**	**1.51**	**23**	*i*	P	Pn	03 58 31.1	-0.7
RZN				*i*	S	Sn	03 58 51.7	+0.1

*IDC **05** 04:42:46.1±1.1,36˙47N×68˙83E,h0km,mb3.8/13, mb1 3.9/18,mb1mx3.8/58,mbtmp3.8/18,ML3.5/5,MS3.4/21, Ms1 3.4/21,ms1mx3.3/49,Error ellipse: s-maj=22.2km s-min=15.2km az=161.0*

*NNC **05** 04:42:47.4±1.5,36˙67N×68˙56E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=15.2km s-min=6.5km az=159.0*

*NEIC **05** 04:42:51.8±2.8,36˙60N±0˙03×68˙72E±0˙07,h37km±9km, mb4.1/13,Error ellipse: s-maj=8.4km s-min=1.7km az=117.0*

ISC 05 04:42:49.9±0.5,**36˙58N**±0˙05×**68˙69E**±0˙05,**h24**km,**n85, σ1§56**/84,**mb3.9**/11,**MS3.2**/18,**10C-6D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.06**	**172**	Pn		**Pn**	**04 43 24.3**	**+1.1**
CHGR	**Chuyangaron**	**2.10**	**10**	Pn		**Pn**	**04 43 24.6**	**+0.9**
GAR	**Garm**	**2.73**	**28**	Pn		**Pn**	**04 43 33.8**	**+1.3**
CEP	**Cherat**	**3.81**	**135**	P		**Pn**	**04 43 49.8**	**+2.6**
CEP				S		**Sb**	**04 44 46.0**	**+3.7**
BTK	**Batken**	**3.85**	**25**	Pn		**Pn**	**04 43 49.3**	**+1.5**
THW	**Thamme Wali**	**4.54**	**145**	P		**Pn**	**04 44 00.0**	**+2.8**
NIL	**Nilore**	**4.75**	**127**	Pn		**Pn**	**04 44 02.3**	**+2.3**
TAS	**Tashkent**	**4.76**	**5**	Pn		**Pn**	**04 44 00.6**	**+0.4**
HRA	**Herat**	**5.70**	**249**			**Pn**	**04 44 15.2**	**+1.9**
SARP	**Sargodha**	**5.70**	**144**	P		**Pn**	**04 44 14.3**	**+1.2**
KK31	**Karatay Array**	**6.66**	**12**	Pn		**Pn**	**04 44 27.0**	**+0.7**
	3.3nm,0.4s,baz=200,slow=9.2,SNR=49							
KK31					⇑Sn	**Sn**	**04 45 42.8**	**+1.4**
	7.8nm,0.5s,baz=217,slow=41,SNR=4.0							
KK31					⇑Lg	Lg	04 46 18.7	
	75nm,0.6s,baz=324,slow=208,SNR=11							
KK31	**Karatay Array**	**6.66**	**12**	Pn		**Pn**	**04 44 27.3**	**+1.0**
KKAR	**Karatay Array**	**6.66**	**12**	Pn		**Pn**	**04 44 27.3**	**+1.0**
KKAR	**Karatay Array**	**6.66**	**12**	Pn		**Pn**	**04 44 26.8**	**+0.5**
AML	**Almayashu**	**6.76**	**33**	P		**Pn**	**04 44 28.3**	**+0.3**
	SNR=57							
UCH	**Uchtor**	**7.22**	**37**	P		**Pn**	**04 44 35.0**	**+0.7**
	SNR=41							
EKS2	**Erkin-Say**	**7.23**	**31**	P		**Pn**	**04 44 35.3**	**+1.2**
	SNR=8.9							
AAK	**Ala-Archa**	**7.52**	**35**	P		**Pn**	**04 44 39.0**	**+0.7**
	SNR=41							
AAK	**Ala-Archa**	**7.52**	**35**	⇑Pn		**Pn**	**04 44 38.8**	**+0.6**
	25nm,0.5s							
AAK					⇑Sn	**Sn**	**04 46 06.5**	**+3.7**
	24nm,0.7s							
AAK					⇓Lg	Lg	04 46 47.4	
	28nm,0.8s							
DHRM	**DHARAMSHALA**	**7.63**	**122**	*e*P		**Pn**	**04 44 40.0**	**+0.2**
DHRM				*e*S		**Sn**	**04 46 05.6**	**+0.1**
DHRM				IAML			04 46 08.8	
	comp=N,157nm,0.4s							
DHRM				IAML			04 46 10.3	
	comp=E,202nm,0.5s							
FRU1	**Bishkek**	**7.72**	**35**			**Pn**	**04 44 41.9**	**+1.0**
KBK	**Karagaybulak**	**7.75**	**37**	P		**Pn**	**04 44 43.0**	**+1.6**
	SNR=29							
CHMS	**Chumysh**	**7.92**	**34**	P		**Pn**	**04 44 44.1**	**+0.5**
	SNR=22							
USP	**Ospenovka**	**8.03**	**32**	P		**Pn**	**04 44 45.4**	**+0.4**
	SNR=13							
ULHL	**Ulahol**	**8.13**	**44**	P		**Pn**	**04 44 46.7**	**+0.1**
	SNR=12							
BOOM	**Boomskoye usch**	**8.13**	**41**	Pn		**Pn**	**04 44 47.3**	**+0.7**
TKM2	**Tokmak 2**	**8.27**	**38**	P		**Pn**	**04 44 48.6**	**+0.1**
	SNR=12							
TKM2	**Tokmak 2**	**8.27**	**38**	⇑Pn		**Pn**	**04 44 48.4**	**-0.1**
	comp=E,9.9nm,0.6s							
TKM2					⇓Sn	**Sn**	**04 46 22.2**	**+1.1**
	comp=E,12nm,0.8s							
GEYT	**Alibeck**	**8.54**	**282**	Pn		**Pn**	**04 44 50.9**	**-1.2**
	comp=E,1.1nm,0.3s,baz=114,slow=11,SNR=11							
GEYT					Sn	**Sn**	**04 46 27.3**	**-0.4**
	comp=E,1.5nm,0.3s,baz=56,slow=13,SNR=5.1							
GEYT					LR	LR	04 49 41.3	
	comp=E,242nm,18.5s,baz=90,slow=48							
GEYT	**Alibeck**	**8.54**	**282**			**Pn**	**04 44 52.6**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**8.54**	**282**	⇑Pn		**Pn**	**04 44 51.8**	**-0.3**
GYA0B				⇓Sn		**Sn**	**04 46 27.3**	**-0.3**
GYA0B				⇑Lg		Lg	04 47 12.7	
GYA0B	**ALIBECK ARRAY**	**8.54**	**282**	Pn		**Pn**	**04 44 53.8**	**+1.8**
KDJ	**Kajisay**	**8.60**	**47**	Pn		**Pn**	**04 44 52.8**	**-0.1**
TARG	**Taragay, Kyrgy**	**8.74**	**51**			**Pn**	**04 44 54.0**	**-1.3**
PRZ	**Przheval'sk**	**9.53**	**49**	Pn		**Pn**	**04 45 04.4**	**-1.4**
DDI	**Dehra Dun**	**10.01**	**126**	*e*P		**Pn**	**04 45 11.9**	**-0.3**
PDGK	**Podgornoye**	**10.68**	**48**	⇓P		**Pn**	**04 45 20.2**	**-1.2**
	comp=E,4.5nm,0.7s							
PDGK					⇓S	**Sn**	**04 47 24.1**	**+3.9**
	comp=E,7.2nm,0.8s							
KUDL	**Kundal**	**10.68**	**140**	*e*P		**Pn**	**04 45 20.2**	**-1.3**
KUDL				*e*S		**Sn**	**04 47 16.7**	**-3.6**
AB31	**Akbulak array**	**14.18**	**336**	⇑P		**Pn**	**04 46 06.3**	**-2.8**
	comp=E,4.1nm,0.5s,baz=150,slow=12,SNR=87							
AB31					⇑S	**Sn**	**04 48 44.5**	**-1.1**
	comp=E,2.7nm,0.6s,baz=158,slow=23,SNR=4.4							
ABKAR	**Akbulak array**	**14.18**	**336**	Pn		**Pn**	**04 46 06.2**	**-3.0**
MAKZ	**Makanchi**	**14.22**	**40**	Pn		**Pn**	**04 46 08.0**	**-1.8**
MK31	**Makanchi Array**	**14.38**	**41**	Pn		**Pn**	**04 46 10.8**	**-1.0**
MKAR	**Makanchi Array**	**14.38**	**41**	Pn		**Pn**	**04 46 10.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=233,slow=14,SNR=20							
MKAR					LR	LR	04 52 39.5	
	comp=E,115nm,20.3s,baz=240,slow=41							
MKAR	**Makanchi Array**	**14.38**	**41**	Pn		**Pn**	**04 46 09.8**	**-2.1**
BHPL	**Bhopal**	**15.29**	**148**	*e*P		**Pn**	**04 46 23.3**	**-0.9**
KURBB	**Kurchatov Arra**	**15.72**	**24**	Pn		**Pn**	**04 46 25.9**	**-3.8**
	comp=E,0.0nm,0.3s,baz=211,slow=12,SNR=11							
KURBB					Lg	Lg	04 50 52.8	
	comp=E,0.0nm,0.3s,baz=223,slow=28,SNR=4.4							
KURK	**Kurchatov**	**15.83**	**24**	Pn		**Pn**	**04 46 31.6**	**+0.6**
AKTO	**Aktyubinsk**	**15.84**	**334**	Pn		**Pn**	**04 46 30.6**	**-0.6**
	comp=E,0.4nm,0.3s,baz=141,slow=14,SNR=14							
AKTO					LR	LR	04 53 10.4	
	comp=E,202nm,20.6s,baz=148,slow=39							
AKTO	**Aktyubinsk**	**15.84**	**334**	⇑P		**Pn**	**04 46 30.2**	**-1.0**
	comp=E,7.5nm,0.9s							
AKTO					⇓S	**Sn**	**04 49 26.3**	**+0.3**
	comp=E,5.6nm,1.0s							
BVAR	**Borovoye Array**	**16.48**	**4**	Pn		**Pn**	**04 46 37.4**	**-2.0**
	comp=E,0.7nm,0.3s,baz=191,slow=22,SNR=9.7							
BRVK	**Borovoye**	**16.51**	**3**	Pn		**Pn**	**04 46 37.6**	**-2.2**
LSA	**Lhasa**	**20.00**	**104**	P		**P**	**04 47 19.2**	**-2.0**
AKH	**Akhalkalaki**	**20.14**	**292**	P		**P**	**04 47 21.9**	**-0.5**
AKH					IAmb	IAmb	04 47 33.5	
	comp=E,7.8nm,1.0s							
ZAA0	**Zalesovo Array**	**20.66**	**28**	P		**P**	**04 47 26.9**	**-0.8**
ZAA0					IAmb	IAmb	04 47 27.9	
	comp=E,7.8nm,0.7s							
ZALV	**Zalesovo Beam**	**20.66**	**28**	P		**P**	**04 47 26.7**	**-1.1**
	comp=E,9.9nm,0.6s,baz=221,slow=11,SNR=33							
ZALV					LR	LR	04 55 26.3	
	comp=E,45nm,19.2s,baz=35,slow=37							
KBZ	**Khabaz**	**20.91**	**298**	P		**P**	**04 47 32.0**	**+1.4**
	comp=E,3.2nm,0.9s,baz=108,slow=9.6,SNR=2.7							
KBZ					LR	LR	04 58 16.8	
	comp=E,66nm,19.0s,baz=74,slow=44							
ARU	**Arti**	**21.00**	**344**	P		**P**	**04 47 32.5**	**+1.1**
	comp=E,2.8nm,0.6s,baz=163,slow=8.7,SNR=10							
ARU					LR	LR	04 56 03.0	
	comp=E,100nm,21.7s,baz=152,slow=38							
ARU	**Arti**	**21.00**	**344**			**P**	**04 47 30.6**	**-0.8**
ARU					IAmb	IAmb	04 47 34.3	
	comp=E,8.7nm,0.8s							
KVAR	**Kislovodsk Arr**	**21.10**	**298**	LR		LR	04 58 34.3	
	comp=E,68nm,19.1s,baz=264,slow=45							
SHL	**Shillong**	**22.64**	**112**	P		**P**	**04 47 47.7**	**-1.7**
KIRV	**Kirov**	**25.38**	**336**	LR		LR	04 58 50.7	
	comp=E,147nm,18.2s,baz=150,slow=38							
MMAI	**Mount Meron Ar**	**27.49**	**272**	LR		LR	05 00 27.6	
	comp=E,38nm,18.0s,baz=60,slow=38							
BR131	**Keskin Array S**	**27.64**	**287**	P		**P**	**04 48 36.9**	**+1.1**
BR131					IAmb	IAmb	04 49 07.7	
	comp=E,4.9nm,1.4s							
BRTR	**Keskin Array B**	**27.64**	**287**	P		**P**	**04 48 37.9**	**+2.1**
	comp=E,0.6nm,0.7s,baz=82,slow=9.1,SNR=4.6							
OBN	**Obninsk**	**28.68**	**320**	LR		LR	05 02 51.2	
	comp=E,23nm,21.1s,baz=175,slow=42							
TLY	**Talaya**	**28.94**	**47**	LR		LR	05 00 04.7	
	comp=E,41nm,19.2s,baz=224,slow=36							
EIL	**Elat**	**28.98**	**266**	LR		LR	05 02 44.2	
	comp=E,49nm,19.4s,baz=9.0,slow=41							
SONM	**Songino Array**	**29.82**	**56**	P		**P**	**04 48 53.8**	**-1.3**
	comp=E,0.6nm,0.4s,baz=252,slow=10,SNR=4.3							
AKASG	**Malin Array Be**	**31.45**	**309**	P		**P**	**04 49 10.8**	**+1.6**
	comp=E,1.7nm,0.9s,baz=88,slow=7.4,SNR=3.7							
AKASG					LR	LR	05 04 00.2	
	comp=E,41nm,18.5s,baz=90,slow=40							
CMAR	**Chiang Mai Arr**	**32.11**	**116**	LR		LR	05 05 50.1	
	comp=E,69nm,18.6s,baz=338,slow=43							
BURAR	**Bucovina Array**	**33.68**	**303**	P		**P**	**04 49 29.1**	**+0.1**
BUR08	**Bucovina Ar. S**	**33.69**	**303**	P		**P**	**04 49 29.2**	**+0.1**
FINES	**FINESS Array B**	**36.39**	**327**	P		**P**	**04 49 53.1**	**+1.1**
	comp=E,1.5nm,0.9s,baz=118,slow=14,SNR=2.8							
FINES					LR	LR	05 07 36.2	
	comp=E,76nm,18.6s,baz=96,slow=41							
ARCES	**ARCESS Array B**	**40.37**	**338**	LR		LR	05 08 13.4	
	comp=E,103nm,21.6s,baz=90,slow=38							
BRG	**Berggiesshubel**	**41.11**	**308**	*e*(P)		P	04 50 38.2	+6.4
	comp=E,7.5nm,1.4s							
GERES	**GERESS Array B**	**41.36**	**305**	P		**P**	**04 50 35.3**	**+1.4**
	comp=E,0.3nm,0.6s,baz=94,slow=8.0,SNR=4.3							
GERES					LR	LR	05 12 14.9	
	comp=E,77nm,18.5s,baz=72,slow=43							
NB2	**NORSAR Subarra**	**43.20**	**323**	P		**P**	**04 50 48.9**	**+0.2**
	comp=E,3.0nm,0.8s,baz=97,slow=8.6							
NOA	**NORSAR Array B**	**43.20**	**323**	P		**P**	**04 50 48.6**	**-0.1**
	comp=E,1.5nm,0.7s,baz=98,slow=8.1,SNR=8.8							
NOA					LR	LR	05 12 03.3	
	comp=E,82nm,18.4s,baz=100,slow=40							
YAK	**Yakutsk**	**44.98**	**36**	LR		LR	05 09 01.1	
	comp=E,25nm,19.4s,baz=210,slow=35							
ESDC	**Sonseca Array**	**55.77**	**297**	P		**P**	**04 52 26.5**	**+1.6**
	comp=E,2.0nm,0.8s,baz=57,slow=7.6,SNR=6.8							
PETK	**Petropavlovsk-**	**61.19**	**43**	LR		LR	05 22 06.7	
	comp=E,103nm,18.2s,baz=164,slow=39							
TORD	**Torodi Ar. Bea**	**63.86**	**267**	P		**P**	**04 53 20.7**	**-0.1**
	comp=E,2.0nm,0.8s,baz=53,slow=6.2,SNR=9.7							
GUMO	**Guam**	**71.00**	**87**	LR		LR	05 28 09.6	
	comp=E,88nm,20.1s,baz=175,slow=38							
ILAR	**Eielson Array**	**75.19**	**15**	P		**P**	**04 54 29.0**	**-1.0**
	comp=E,0.9nm,0.9s,baz=326,slow=4.8,SNR=11							
ASAR	**Alice Springs**	**85.84**	**123**	P		**P**	**04 55 28.6**	**+1.0**
	comp=E,0.5nm,0.7s,baz=311,slow=4.5,SNR=8.5							

IDC 05 04:46:56.1±1.5,**3˙97S×150˙85E,h0km,mb3.3**/3, **mb1 3.6**/3,**mb1mx3.3**/38,**mbtmp3.3**/3,**Error ellipse: s-maj=35.2km s-min=19.7km az=171.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.22**	**106**	Pn		Pn	04 47 21.0	+0.5
	665nm,0.3s,baz=127,slow=1.2,SNR=426							
KRVT					Sn	Sn	04 47 38.5	+0.8
	179nm,0.3s,baz=168,slow=21,SNR=11							
WRA	**Warramunga Arr**	**22.61**	**224**	P		P	04 52 00.0	+1.3
	0.5nm,0.6s,baz=54,slow=10.0,SNR=4.1							
ASAR	**Alice Springs**	**25.52**	**218**	P		P	04 52 25.4	-1.2
	0.4nm,0.6s,baz=56,slow=9.4,SNR=5.8							
ILAR	**Eielson Array**	**82.13**	**23**	P		P	04 59 18.4	-0.2
	0.5nm,0.8s,baz=255,slow=5.3,SNR=5.7							

*IDC **05** 04:50:09.4±1.1,5˙47S×152˙58E,h0km,mb4.1/8, mb1 4.3/9,mb1mx4.0/38,mbtmp4.1/9,ML1.8/1,MS3.5/7, Ms1 3.5/7,ms1mx3.2/33,Error ellipse: s-maj=28.8km s-min=16.6km az=109.0*

ISC 05 04:50:15.5±1.1,**5˙47S**±0˙08×**152˙5E**±0˙2,**h40**km,**n16, σ0§75**/13,**mb4.0**/8,**MS3.4**/5,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.24**	**338**	Pn		**Pn**	**04 50 36.0**	**-0.4**
	2μm,0.3s,baz=154,slow=1.4,SNR=166							
KRVT					Sn	**Sn**	**04 50 53.1**	**+1.2**
	602nm,0.3s,baz=166,slow=19,SNR=14							
KRVT					LR	LR	04 51 04.5	
	comp=Z,1μm,21.4s,baz=26,slow=43							
PMG	**Port Moresby**	**6.58**	**233**	Pn		**Pn**	**04 51 50.1**	**+0.4**
	1.1nm,0.3s,baz=207,slow=2.3,SNR=3.2							
PMG					Sn	**Sn**	**04 53 03.6**	**0.0**
	13nm,0.3s,baz=232,slow=13,SNR=10							
PMG					LR	LR	04 54 35.3	
	comp=Z,202nm,20.0s,baz=142,slow=40							
HNR	**Honiara**	**8.38**	**118**	LR		LR	04 55 17.7	
	comp=Z,229nm,19.7s,baz=154,slow=37							
GUMO	**Guam**	**20.39**	**338**	LR		LR	05 02 51.7	
	comp=Z,50nm,19.0s,baz=176,slow=37							
DZM	**Mont Dzumac**	**21.33**	**142**	LR		LR	05 01 59.4	
	comp=Z,596nm,18.1s,baz=30,slow=33							
WRA	**Warramunga Arr**	**22.78**	**229**	P		**P**	**04 55 14.8**	**0.0**
	3.1nm,0.8s,baz=53,slow=9.2,SNR=4.6							
WRA					LR	LR	05 05 30.6	
	comp=Z,135nm,18.6s,baz=50,slow=40							
ASAR	**Alice Springs**	**25.45**	**223**	P		**P**	**04 55 40.5**	**+0.5**
	1.8nm,0.7s,baz=56,slow=9.0,SNR=25							
STKA	**Stephens Creek**	**28.19**	**200**	LR		LR	05 07 16.1	
	comp=Z,94nm,19.0s,baz=22,slow=36							
FITZ	**Fitzroy Crossi**	**29.07**	**242**	P		**P**	**04 56 12.0**	**-0.5**
	2.6nm,0.6s,baz=103,slow=5.5,SNR=7.1							
LEM	**Lembang**	**44.62**	**266**	LR		LR	05 20 03.4	
	comp=Z,75nm,18.2s,baz=27,slow=40							
CMAR	**Chiang Mai Arr**	**57.88**	**296**	P		**P**	**05 00 03.6**	**-0.3**
	0.8nm,0.3s,baz=118,slow=4.7,SNR=4.2							
SONM	**Songino Array**	**66.72**	**328**	P		**P**	**05 01 02.5**	**-0.2**
	0.9nm,0.8s,baz=150,slow=4.6,SNR=4.6							
MKAR	**Makanchi Array**	**80.62**	**319**	P		**P**	**05 02 24.3**	**+0.1**
	1.1nm,0.8s,baz=105,slow=5.5,SNR=8.1							
ILAR	**Eielson Array**	**82.89**	**22**	P		**P**	**05 02 34.6**	**-1.0**
	2.3nm,0.8s,baz=246,slow=5.1,SNR=20							
NVAR	**Mina Array Bea**	**92.74**	**52**	P		**P**	**05 03 25.5**	**+1.4**
	0.2nm,0.3s,baz=263,slow=5.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**150.21**	**287**	PKPbc		**PKPbc**	**05 10 02.8**	**-0.6**
	1.0nm,0.8s,baz=66,slow=2.9,SNR=5.7							

*NIED **05** 04:56:46.3,40˙04N×142˙51E,h33km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.02; Mθθ-0.49; Mφφ-1.53; Mrθ0.21; Mrφ-0.64; Mθφ1.95; Fault plane solution: M₀2.74000×10¹⁴ NP1:φs12.00000°, δ68.00000°,λ81.00000°. NP2:φs215.00000°,δ24.00000°, λ110.00000°.*

*JMA **05** 04:56:46.2±0.1,40˙03N×142˙51E,h33km±1km,M3.9*

JMA Felt I J1.

*IDC **05** 04:56:49.1±2.9,39˙99N×142˙51E,h64km±24km,mb3.3/5, mb1 3.5/8,mb1mx3.3/41,mbtmp3.6/8,ML2.7/3,MS2.7/1, Ms1 2.7/1,ms1mx2.3/27,Error ellipse: s-maj=33.9km s-min=21.0km az=100.0*

ISC 05 04:56:44.6±1.8,**40˙05N**±0˙04×**142˙61E**±0˙07,**h23**km±12km, **n27,σ1§43**/35,**mb3.6**/5,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**0.58**	**259**	P		**Pb**	**04 56 56.8**	**+0.7**
JTH				S		**Sb**	**04 57 04.5**	**+0.5**
JKEN	**Kujiedanarisaw**	**0.71**	**283**	P		**Pb**	**04 56 58.4**	**+0.2**
JKEN				S		**Sb**	**04 57 07.0**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.77**	**232**	P		**Pb**	**04 56 59.3**	**0.0**
MIYJ				*e*S		**Sb**	**04 57 08.5**	**-0.8**
JANG	**Nango**	**0.90**	**291**	P		**Pb**	**04 57 01.3**	**-0.2**
JANG				*e*S		**Sb**	**04 57 11.9**	**-1.1**
JKZ	**Kuzumaki**	**0.98**	**267**	P		**Pb**	**04 57 03.0**	**0.0**
JKZ				S		**Sb**	**04 57 15.3**	**-0.2**
JOM	**Ohasama**	**1.17**	**241**	P		**Pn**	**04 57 05.5**	**0.0**
JOM				S		**Sn**	**04 57 19.7**	**-1.0**
OFUJ	**Ofunato**	**1.21**	**217**	P		**Pn**	**04 57 06.4**	**+0.3**
OFUJ				*e*S		**Sn**	**04 57 21.0**	**-0.8**
JARK	**Aomorirokkasho**	**1.35**	**316**	P		**Pn**	**04 57 08.5**	**+0.5**
JARK				*e*S		**Sn**	**04 57 25.2**	**+0.1**
JTM	**Tenmabayashi**	**1.39**	**303**	P		**Pn**	**04 57 09.2**	**+0.7**
JTM				*e*S		**Sn**	**04 57 26.1**	**-0.1**
JAH	**Hinai**	**1.52**	**276**	P		**Pn**	**04 57 11.3**	**+1.0**
JAH				*e*S		**Sn**	**04 57 29.6**	**+0.2**
JMK	**Ichinoseki**	**1.54**	**225**	P		**Pn**	**04 57 11.4**	**+0.9**
JMK				*e*S		**Sn**	**04 57 29.9**	**+0.1**
JRG	**Rokugo**	**1.66**	**247**	P		**Pb**	**04 57 13.8**	**-0.6**
JRG				*e*S		**Sn**	**04 57 33.7**	**+0.9**
ASAJ	**Asahikawa**	**4.06**	**360**	P		**Pn**	**04 57 48.6**	**+3.3**
	0.7nm,0.3s,baz=214,slow=11,SNR=5.1							
ASAJ				S		**Sb**	**04 58 39.8**	**-4.2**
	1.1nm,0.3s,baz=0.0,slow=20,SNR=3.4							
ASAJ				LR		LR	04 59 36.1	
	comp=Z,84nm,19.3s,baz=243,slow=40							
MJAR	**Matsushiro Arr**	**4.92**	**226**	P		**Pn**	**04 58 00.2**	**+3.1**
	0.3nm,0.3s,baz=33,slow=13,SNR=23							
MAT	**Matsushiro**	**4.92**	**226**	P		**Pn**	**04 57 59.9**	**+2.7**
MAT				*e*S		**Sn**	**04 58 53.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.91**	**301**	P		**Pn**	**04 58 54.2**	**+2.3**
	baz=110,slow=13,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**29.05**	**127**	T		T	05 33 23.7	
	baz=318,slow=75,SNR=90							
H11N1	**WAKE ISLAND Hy**	**29.06**	**127**	T		T	05 33 22.4	
	baz=318,slow=75,SNR=78							
H11N3	**WAKE ISLAND Hy**	**29.07**	**127**	T		T	05 33 25.7	
	baz=318,slow=75,SNR=54							
H11S1	**WAKE ISLAND Hy**	**29.87**	**129**	T		T	05 34 34.6	
	baz=320,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**29.87**	**129**	T		T	05 34 31.9	
	baz=320,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.88**	**129**	T		T	05 34 35.9	
	baz=320,slow=76,SNR=11							
MKAR	**Makanchi Array**	**43.38**	**300**	P		**P**	**05 04 44.7**	**-0.4**
	0.2nm,0.4s,baz=84,slow=12,SNR=4.0							
ILAR	**Eielson Array**	**46.46**	**34**	P		**P**	**05 05 10.5**	**+1.2**
	0.4nm,0.8s,baz=260,slow=5.4,SNR=4.2							
WRA	**Warramunga Arr**	**60.18**	**189**	P		**P**	**05 06 49.2**	**-1.4**
	0.3nm,0.6s,baz=6.5,slow=7.1,SNR=5.9							
FINES	**FINESS Array B**	**66.59**	**332**	P		**P**	**05 07 32.2**	**-0.4**
	1.1nm,0.8s,baz=98,slow=8.6,SNR=3.3							
AKASG	**Malin Array Be**	**72.49**	**322**	P		**P**	**05 08 08.7**	**-0.5**
	0.4nm,0.4s,baz=46,slow=5.9,SNR=4.1							

*NORS **05** 05:11:32.1±0.0,43˙64N×43˙13E,h23km,MPVA3.8*

ISC 05 05:11:32.2±1.7,**43˙67N**±0˙06×**43˙16E**±0˙05,**h22**km±6km, **n11,σ0§63**/22,**Western Caucasus**

| Code | Station Name |

SOEI	**Soe**	**27.91**	**260**	P	**P**	**05 22 00.8**	**-1.2**
SOEI				lAmb	lAmb	05 22 19.0	
	comp=Z,40nm,1.4s						
STKA	**Stephens Creek**	**28.00**	**199**	P	**P**	**05 22 02.6**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=26,slow=11,SNR=5.3						
STKA				LR	LR	05 33 10.9	
	comp=Z,138nm,19.2s,baz=26,slow=36						
STKA	**Stephens Creek**	**28.00**	**199**	P	**P**	**05 22 03.1**	**+0.6**
BATI	**Baumata**	**28.55**	**259**	P	**P**	**05 22 05.8**	**-1.8**
	comp=Z,44nm,0.9s,baz=31,slow=12,SNR=2.4						
FITZ	**Fitzroy Crossi**	**28.71**	**242**	P	**P**	**05 22 08.6**	**-0.4**
	comp=Z,4.4nm,0.4s,baz=49,slow=9.3,SNR=31						
FITZ	**Fitzroy Crossi**	**28.71**	**242**			**05 22 08.4**	**-0.5**
FITZ				lAmb	lAmb	05 22 16.7	
	comp=Z,7.8nm,0.7s						
FORT	**Forrest**	**33.80**	**219**	P	**P**	**05 22 52.6**	**-1.0**
PSA00	**Pilbara Seismi**	**35.08**	**240**	P	**P**	**05 23 04.7**	**0.0**
PSA00				lAmb	lAmb	05 23 18.6	
	comp=Z,15nm,1.1s						
SMRI	**Semarang**	**41.44**	**266**	P	**P**	**05 23 58.0**	**-0.5**
NJ2	**Nanjing**	**48.98**	**322**	*e*P	**P**	**05 24 56.7**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WHN	**Wuhan**	**50.91**	**317**	⇓P	P	05 25 26.1	+13
ENH	**Enshi**	**54.15**	**314**	P	**P**	**05 25 36.4**	**-0.3**
ENH				lAmb	lAmb	05 25 37.7	
	comp=Z,15nm,1.3s						
XAN	**Xi'an**	**56.68**	**317**	P	**P**	**05 25 55.1**	**+0.3**
XAN				pP	pP	05 26 02.6	-5.2
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PUH	**Pauahi**	**57.43**	**63**	P	**P**	**05 25 59.0**	**-1.5**
CM31	**Chiang Mai Arr**	**57.57**	**296**	P	**P**	**05 26 01.5**	**+0.1**
CM31				lAmb	lAmb	05 26 04.0	
	comp=Z,4.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.57**	**296**	P	**P**	**05 26 01.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=126,slow=5.7,SNR=12						
PETK	**Petropavlovsk-**	**58.60**	**4**	P	**P**	**05 26 07.0**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=132,slow=6.0,SNR=3.9						
PETK				LR	LR	05 45 17.1	
	comp=Z,50nm,20.7s,baz=184,slow=30						
PETK	**Petropavlovsk-**	**58.60**	**4**	P	**P**	**05 26 06.5**	**-1.4**
HHC	**Hu-ho-hao-te**	**59.24**	**325**	*e*P	**P**	**05 26 13.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,470nm,5.6s						
LZH	**Lanzhou**	**61.27**	**316**	*e*P	P	05 26 31.1	+4.3
LZH				pP	sP	05 26 46.0	+0.7
LZH				sP	pP	05 26 51.0	+11
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SHL	**Shillong**	**66.09**	**301**	P	**P**	**05 26 58.1**	**-0.7**
ULN	**Ulaanbaatar**	**66.25**	**329**	P	**P**	**05 26 59.1**	**-0.3**
SONM	**Songino Array**	**66.57**	**328**	P	**P**	**05 27 01.4**	**0.0**
	comp=Z,2.8nm,0.6s,baz=146,slow=5.2,SNR=12						
SONM				LR	LR	05 54 44.5	
	comp=Z,58nm,21.0s,baz=126,slow=35						
SONM	**Songino Array**	**66.57**	**328**	P	**P**	**05 27 01.2**	**-0.2**
CASY	**Casey**	**67.13**	**197**	P	**P**	**05 27 02.8**	**-1.6**
VNDA	**Vanda**	**72.14**	**178**	P	**P**	**05 27 36.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=345,slow=12,SNR=2.3						
VNDA				LR	LR	05 56 20.4	
	comp=Z,28nm,18.5s,baz=73,slow=33						
VNDA	**Vanda**	**72.14**	**178**	P	**P**	**05 27 35.9**	**+0.8**
WMQ	**Urumqi**	**75.81**	**318**	*e*P	**P**	**05 27 56.9**	**-0.4**
OHAK	**Old Harbor**	**76.50**	**27**	P	**P**	**05 28 01.3**	**+0.6**
KDAK	**Kodiak Island**	**77.13**	**27**	P	**P**	**05 28 03.2**	**-1.0**
KDAK				lAmb	lAmb	05 28 14.1	
	comp=Z,13nm,1.1s						
CNPM	**China Poot**	**78.66**	**26**	P	**P**	**05 28 12.9**	**+0.1**
TTA	**Tatalina**	**78.69**	**22**	P	**P**	**05 28 14.9**	**+1.9**
TTA				lAmb	lAmb	05 28 15.4	
	comp=Z,14nm,1.4s						
BRLK	**Bradley Lake**	**78.94**	**26**	P	**P**	**05 28 13.9**	**-0.5**
SEW	**Seward**	**79.73**	**26**	P	**P**	**05 28 19.2**	**+0.6**
SEW				lAmb	lAmb	05 28 20.1	
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**05 28 22.0**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=104,slow=6.4,SNR=13						
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**05 28 22.8**	**+0.1**
SML	**Sawmill**	**81.06**	**24**	P	**P**	**05 28 26.6**	**+0.8**
FID	**Port Fidalgo**	**81.34**	**26**	P	**P**	**05 28 27.8**	**+0.5**
ZALV	**Zalesovo Beam**	**81.38**	**327**	P	**P**	**05 28 26.6**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=94,slow=5.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**81.38**	**327**	P	**P**	**05 28 25.5**	**-2.1**
RND	**Reindeer**	**81.66**	**23**	P	**P**	**05 28 27.4**	**-1.6**
RND				lAmb	lAmb	05 28 29.6	
	comp=Z,11nm,0.8s						
WRH	**Wood River Hil**	**82.48**	**22**	P	**P**	**05 28 32.7**	**-0.5**
WRH				lAmb	lAmb	05 28 33.6	
	comp=Z,8.1nm,1.0s						
KDJ	**Kajisay**	**82.61**	**314**	P	**P**	**05 28 34.5**	**-0.1**
KDJ				lAmb	lAmb	05 28 36.2	
	comp=Z,6.6nm,1.0s						
COLA	**College**	**82.77**	**22**	P	**P**	**05 28 33.9**	**-0.8**
COLA				lAmb	lAmb	05 28 35.4	
	comp=Z,7.5nm,0.8s						
IL31		**83.08**	**22**	P	**P**	**05 28 35.4**	**-0.8**
IL31				lAmb	lAmb	05 28 36.4	
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**05 28 35.4**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=246,slow=5.4,SNR=63						
ILAR				LR	LR	06 04 19.6	
	comp=Z,53nm,18.3s,baz=201,slow=35						
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**05 28 35.6**	**-0.7**
TOLK	**Toolik Lake Re**	**84.11**	**18**	P	**P**	**05 28 39.9**	**-1.7**
TOLK				lAmb	lAmb	05 28 51.0	
	comp=Z,6.6nm,1.2s						
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**05 28 44.3**	**+0.9**
FYU	**Fort Yukon**	**84.54**	**21**	P	**P**	**05 28 44.8**	**+1.1**
FYU				lAmb	lAmb	05 28 51.8	
	comp=Z,18nm,1.4s						
EGAK	**Eagle**	**85.29**	**23**	P	**P**	**05 28 48.7**	**+1.2**
EGAK				lAmb	lAmb	05 28 49.3	
	comp=Z,6.0nm,0.9s						
HYT	**Haines Junctio**	**85.39**	**28**	P	**P**	**05 28 50.5**	**+2.2**
HYT				lAmb	lAmb	05 28 50.8	
	comp=Z,9.7nm,0.8s						
DAWY	**Dawson**	**85.72**	**24**	P	**P**	**05 28 51.5**	**+1.7**
DAWY				lAmb	lAmb	05 28 52.3	
	comp=Z,8.6nm,1.4s						
KKAR	**Karatay Array**	**87.63**	**314**	P	P	**05 28 58.3**	**-1.2**
SYO	**Syowa Base**	**92.76**	**199**	⇓*e*PP	PP	05 33 07.8	+2.9
NVAR	**Mina Array Bea**	**93.07**	**52**	P	**P**	**05 29 27.1**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=251,slow=7.1,SNR=6.3						
NVAR				LR	LR	06 08 03.9	
	comp=Z,66nm,18.2s,baz=277,slow=33						
NVAR	**Mina Array Bea**	**93.07**	**52**	P	**P**	**05 29 27.7**	**+2.4**
PDAR	**Pinedale Array**	**99.84**	**48**	LR	LR	06 12 59.2	
	comp=Z,36nm,18.1s,baz=309,slow=34						
GERES	**GERESS Array B**	**124.31**	**328**	PKP	**PKiKP**	**05 35 10.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=89,slow=2.3,SNR=10.0						
GERES	**GERESS Array B**	**124.31**	**328**		**PKiKP**	**05 35 11.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**149.87**	**287**	PKPbc	**PKiKP**	**05 36 01.8**	**-1.3**
	comp=Z,5.3nm,0.7s,baz=70,slow=2.7,SNR=32						

*TEH **05** 05:23:23.5,29.˚50N×56.˚65E,h8km,ML3.2*
*THR **05** 05:23:24.2±1.9,29.˚47N×56.˚67E,h14km±15km,ML3.6*
ISC 05 05:23:24.0±0.9,**29.˚43N**±0.˚04×**56.˚64E**±0.˚05,**h10km,n28,**
σ1=47/31,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NGRK	**Negar Kerman**	**0.23**	**21**	*e*Pg	**Pg**	**05 23 27.7**	**-1.2**
KRBR	**Kerman**	**0.56**	**11**	*e*Pg	**Pg**	**05 23 33.8**	**-1.2**
KRBR				*e*Sg	**Sg**	**05 23 41.9**	**-0.6**
KRBR	**Kerman**	**0.56**	**11**	*e*Pg	**Pg**	**05 23 33.8**	**-1.2**
TVBK	**TV Kerman**	**0.56**	**11**	*e*Pg	**Pg**	**05 23 33.8**	**-1.3**
TVBK				*e*		05 23 46.3	
CHMN	**Cheshme madani**	**0.90**	**61**	*e*Pg	**Pg**	**05 23 40.5**	**-0.8**
CHMN				*e*Sg	**Sb**	**05 23 53.4**	**-0.6**
CHMN				*e*		05 23 53.9	
KHGB	**Koh Gabri**	**0.95**	**352**	*e*Pg	**Pg**	**05 23 39.9**	**-2.5**
KHGB				*e*		05 23 53.3	
KBAM	**BAM**	**1.61**	**100**	*e*Pn	**Pn**	**05 23 52.5**	**-0.1**
GENO	**Geno**	**2.06**	**192**	*e*Pn	**Pb**	**05 24 01.4**	**-0.3**
GENO				*e*		05 24 37.4	
BNDS	**Bandar-Abbas**	**2.06**	**192**	*e*Pn	**Pb**	**05 24 02.4**	**+0.7**
BNDS				*e*Sg	**Sg**	**05 24 29.7**	**-0.7**
BNDS				IAML		05 24 34.8	
	comp=E,130nm,0.3s						
BNDS	**Bandar-Abbas**	**2.06**	**192**	*e*Pn	**Pb**	**05 24 02.4**	**+0.7**
IBAF	**Bafgh**	**2.34**	**337**	*e*Pn	**Pn**	**05 24 03.7**	**+1.0**
IMEH	**Mehriz**	**2.62**	**319**	*e*			
IMEH				*e*Pn	**Pn**	**05 24 07.6**	**+0.9**
BSRN	**Basiran**	**3.31**	**40**	*e*Pn	**Pn**	**05 24 17.2**	**+1.1**
BSRN	**Basiran**	**3.31**	**40**	*e*Pn	**Pn**	**05 24 17.2**	**+1.1**
YZKH	**Yazd**	**3.43**	**330**	*e*Pn	**Pn**	**05 24 19.3**	**+1.6**
YZKH				IAML		05 25 18.4	
	comp=N,288nm,0.3s						
YZKH	**Yazd**	**3.43**	**330**	*e*Pn	**Pn**	**05 24 19.3**	**+1.6**
NHDN	**Nehbandan**	**3.54**	**56**	*e*Pn	**Pn**	**05 24 21.3**	**+2.1**
NHDN				*e*		05 25 17.3	
TPRV	**Parvadeh(Tabas**	**3.59**	**1**	*e*Pn	**Pn**	**05 24 21.2**	**+1.4**
IKOO	**Kooshah**	**3.61**	**34**	*e*Pn	**Pn**	**05 24 21.7**	**+1.4**
IKOO				*e*		05 24 31.6	
ITEG	**Tejag**	**3.90**	**27**	*e*Pn	**Pn**	**05 24 25.7**	**+1.5**
ITEG				*e*		05 25 29.1	
TKDS	**Koohdasht(Taba**	**4.19**	**6**	*e*Pn	**Pn**	**05 24 29.2**	**+1.1**
TABS	**Tabas**	**4.23**	**5**	*e*Pn	**Pn**	**05 24 30.7**	**+2.1**
TABS	**Tabas**	**4.23**	**5**	*e*Pn	**Pn**	**05 24 30.7**	**+2.1**
AFRZ	**Afriz**	**4.47**	**26**	*e*Pn	**Pn**	**05 24 33.5**	**+1.5**
ANAR	**Anarak**	**4.50**	**327**	*e*Pn	**Pn**	**05 24 33.7**	**+1.3**
TNSJ	**Nastanj**	**4.52**	**360**	*e*Pn	**Pn**	**05 24 33.6**	**+1.0**
IMON	**Monand**	**4.56**	**34**	*e*Pn	**Pn**	**05 24 36.1**	**+2.8**
IMON				*e*		05 24 58.2	
KLNJ	**Kolanjah**	**4.64**	**291**	*e*Pn	**Pn**	**05 24 36.1**	**+1.6**

NNC 05 05:46:02.2±8.6,**36.˚26N×69.˚61E,h0km,mb3.9,mpv3.6,**
6C,Error ellipse: s-maj=77.3km s-min=65.1km az=118.0,
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.87**	**6**	⇑Pn	Pn	05 47 45.1	+1.0
	1.3nm,0.3s,baz=196,slow=13,SNR=33						
KK31				⇑Sn	Sn	05 49 05.1	+2.0
	1.1nm,0.3s,baz=195,slow=24,SNR=6.4						
AAK	**Ala-Archa**	**7.40**	**29**	⇑Pn	Pn	05 47 51.5	-0.1
	1.5nm,0.4s						
AAK				⇑Sn	Sn	05 49 17.2	+0.9
	5.1nm,0.7s						
TKM2	**Tokmak 2**	**8.10**	**33**	⇑Pn	Pn	05 48 00.6	-0.6
	1.5nm,0.4s						
TKM2				⇑Sn	Sn	05 49 33.6	0.0
	3.2nm,1.1s						

*IDC **05** 06:40:16.5±1.7,19.˚25S×177.˚98W,h588km±20km,*
mb3.7/18,mb1 3.8/21,mb1mx3.7/40,mbtmp4.6/21,Error
ellipse: s-maj=13.0km s-min=10.6km az=142.0
*NEIC **05** 06:40:18.2±1.6,19.˚27S±0.˚10×178.˚00W±0.˚10,*
h612km±4km,mb4.3/92,Error ellipse: s-maj=14.5km
s-min=12.5km az=217.0
ISC 05 06:40:17.1±0.4,**19.˚23S**±0.˚07×**177.˚94W**±0.˚06,**h600km,**
n141,σ1=902/144,mb4.2/53,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.08**	**291**	P	**P**	**06 41 45.0**	**+1.7**
NIUE	**Niue**	**7.58**	**90**	P	**P**	**06 42 12.8**	**+0.3**
NIUE				S	S	06 43 57.9	+11
AFI	**Afiamalu**	**7.93**	**49**	P	**P**	**06 42 14.7**	**-1.3**
	19nm,0.3s,baz=168,slow=1.3,SNR=22						
AFI				S	**S**	**06 43 48.8**	**-4.5**
	9.9nm,0.3s,baz=43,slow=21,SNR=5.1						
AFI	**Afiamalu**	**7.93**	**49**	P	**P**	**06 42 14.9**	**-1.1**
SANVU	**Saraoutou**	**14.67**	**283**	P	**P**	**06 43 22.8**	**+0.4**
DZM	**Mont Dzumac**	**14.88**	**256**	P	**P**	**06 43 25.4**	**+1.0**
	1.7nm,0.3s,baz=110,slow=23,SNR=7.5						
DZM	**Mont Dzumac**	**14.88**	**256**	P	**P**	**06 43 24.1**	**-0.3**
OUZ	**Omahuta**	**17.60**	**203**	P	**P**	**06 43 48.2**	**-0.8**
OUZ				lAmb	lAmb	06 43 51.3	
	comp=Z,19nm,0.8s						
URZ	**Urewera**	**19.44**	**192**	P	**P**	**06 44 03.9**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=293,slow=2.4,SNR=3.4						
URZ	**Urewera**	**19.44**	**192**	P	**P**	**06 44 05.0**	**-0.6**
URZ				lAmb	lAmb	06 44 13.1	
	comp=Z,15nm,0.9s						
EIDS	**Eidsvold**	**29.26**	**252**	P	**P**	**06 45 32.3**	**-0.3**
EIDS				lAmb	lAmb	06 45 38.0	
	comp=Z,20nm,1.4s						
ARMA	**Armidale**	**29.69**	**242**	P	**P**	**06 45 37.0**	**+0.6**
ARMA				lAmb	lAmb	06 46 00.4	
	comp=Z,9.1nm,1.1s						
CAN	**Canberra**	**33.28**	**234**	P	**P**	**06 46 06.9**	**+0.3**
CAN				lAmb	lAmb	06 46 27.3	
	comp=Z,30nm,1.4s						
CTA	**Charters Tower**	**33.69**	**262**	P	**P**	**06 46 10.2**	**-0.1**
	comp=Z,11nm,0.5s,baz=92,slow=10,SNR=23						
CTAO	**Charters Tower**	**33.69**	**262**	P	**P**	**06 46 10.2**	**-0.1**
TOO	**Toolangi**	**36.70**	**232**	P	**P**	**06 46 35.3**	**+0.4**
TOO				lAmb	lAmb	06 46 51.4	
	comp=Z,12nm,1.0s						
COEN	**Coen**	**37.57**	**272**	P	**P**	**06 46 42.9**	**+0.5**
COEN				lAmb	lAmb	06 46 43.4	
	comp=Z,20nm,1.0s						
STKA	**Stephens Creek**	**38.40**	**243**	P	**P**	**06 46 49.2**	**+0.4**
	comp=Z,6.6nm,0.5s,baz=95,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**38.40**	**243**	P	**P**	**06 46 49.4**	**+0.5**
STKA				lAmb	lAmb	06 46 50.2	
	comp=Z,4.7nm,1.1s						
BBOO	**Buckleboo**	**43.17**	**242**	P	**P**	**06 47 26.1**	**-0.4**
JAY	**Jayapura**	**43.71**	**287**	P	**P**	**06 47 31.4**	**+0.5**
	comp=Z,41nm,0.5s,baz=131,slow=5.0,SNR=41						
PTCN	**Pitcairn Islan**	**44.52**	**106**	P	**P**	**06 47 37.2**	**+0.1**
WR0	**Warramunga Arr**	**44.65**	**261**	P	**P**	**06 47 37.4**	**-0.7**
WR0				lAmb	lAmb	06 47 38.3	
	comp=Z,10nm,0.5s						
WB0	**Warramunga Arr**	**44.81**	**261**	P	**P**	**06 47 38.7**	**-0.7**
WB2	**Warramunga Arr**	**44.83**	**261**	P	**P**	**06 47 38.9**	**-0.6**
WRAB	**Tennant Creek**	**44.83**	**261**	P	**P**	**06 47 38.6**	**-0.9**
WRA	**Warramunga Arr**	**44.84**	**261**	P	**P**	**06 47 38.6**	**-1.0**
	comp=Z,12nm,0.4s,baz=98,slow=7.7,SNR=417						
WRA	**Warramunga Arr**	**44.84**	**261**	P	**P**	**06 47 40.0**	**+0.4**
AS31	**Alice Springs**	**44.87**	**255**	P	**P**	**06 47 39.4**	**-0.4**
ASAR	**Alice Springs**	**44.87**	**255**	P	**P**	**06 47 39.4**	**-0.4**
	comp=Z,16nm,0.4s,baz=87,slow=8.1,SNR=308						
ASAR				S	**S**	**06 53 32.8**	**-2.4**
	comp=Z,1.6nm,0.8s,baz=91,slow=16,SNR=11						
ASAR	**Alice Springs**	**44.87**	**255**	P	**P**	**06 47 38.9**	**-1.0**
ASAR				S	**S**	**06 53 32.3**	**-2.9**
MTN	**Manton Dam**	**49.22**	**269**	P	**P**	**06 48 11.6**	**-0.8**
FORT	**Forrest**	**49.85**	**246**	P	**P**	**06 48 16.2**	**-0.6**
KNRA	**Kununurra**	**50.81**	**265**	P	**P**	**06 48 23.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.26**	**261**	P	**P**	**06 48 41.3**	**-0.1**
	comp=Z,5.2nm,0.4s,baz=59,slow=4.7,SNR=47						
FITZ	**Fitzroy Crossi**	**53.26**	**261**	P	**P**	**06 48 41.4**	**-0.1**
FITZ				lAmb	lAmb	06 48 41.5	
	comp=Z,6.0nm,0.6s						
SOEI	**Soe**	**56.52**	**271**	P	**P**	**06 49 05.8**	**+1.4**
PSA00	**Pilbara Seismi**	**58.01**	**256**	P	**P**	**06 49 13.5**	**-0.7**
PSA00				lAmb	lAmb	06 49 14.6	
	comp=Z,18nm,0.8s						
VNDA	**Vanda**	**59.17**	**185**	P	**P**	**06 49 22.0**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=1.9,slow=6.4,SNR=15						
VNDA	**Vanda**	**59.17**	**185**	P	**P**	**06 49 22.1**	**+1.1**
MORW	**Morawa**	**60.37**	**247**	P	**P**	**06 49 29.1**	**-0.7**
MORW				lAmb	lAmb	06 49 44.9	
	comp=Z,26nm,1.2s						
GIRL	**Giralia**	**62.95**	**254**	P	**P**	**06 49 46.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**66.45**	**269**	P	**P**	**06 50 07.5**	**-1.3**
JGF	**Kuroka**	**69.05**	**322**	P	**P**	**06 50 24.2**	**+0.1**
JGF				lAmb	lAmb	06 50 35.5	
	comp=Z,22nm,1.2s						
MJAR	**Matsushiro Arr**	**69.22**	**323**	P	**P**	**06 50 25.0**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=163,slow=5.8,SNR=12						
MJAR	**Matsushiro Arr**	**69.22**	**323**	P	**P**	**06 50 25.2**	**0.0**
MAJO	**Matsushiro**	**69.23**	**323**	P	**P**	**06 50 25.5**	**+0.3**
MAJO				lAmb	lAmb	06 50 51.9	
	comp=Z,15nm,1.4s						
MAT	**Matsushiro**	**69.23**	**323**	P	**P**	**06 50 25.0**	**-0.1**
KKM	**Kota Kinabalu**	**69.49**	**284**	P	**P**	**06 50 27.4**	**0.0**
JWT	**Wachi**	**69.98**	**321**	P	**P**	**06 50 29.8**	**+0.2**
JWT				lAmb	lAmb	06 50 48.6	
	comp=Z,30nm,1.1s						
UGM	**Wanagama**	**70.05**	**268**	P	**P**	**06 50 30.5**	**-0.1**
ADK	**Adak**	**70.82**	**1**	P	**P**	**06 50 34.0**	**-0.1**
QSPA	**South Pole Qui**	**70.83**	**180**	P	**P**	**06 50 34.7**	**+0.4**
QSPA				lAmb	lAmb	06 50 35.6	
	comp=Z,10.0nm,0.8s						
JHS	**Saijyo**	**71.18**	**319**	P	**P**	**06 50 37.5**	**+0.8**
KSM	**Kuching**	**73.29**	**278**	P	**P**	**06 50 49.9**	**+0.6**
KSM				lAmb	lAmb	06 50 50.6	
	comp=Z,6.4nm,0.9s						
SSLB	**Suanglung**	**73.32**	**303**	P	**P**	**06 50 48.2**	**-1.1**
PETK	**Petropavlovsk-**	**75.06**	**345**	P	**P**	**06 50 58.8**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=123,slow=12,SNR=4.2						
KMRM	**Mail Ridge**	**77.74**	**39**	P	**P**	**06 51 15.0**	**+1.6**
KMRM				lAmb	lAmb	06 51 15.7	
	comp=Z,4.8nm,0.8s						
MWC	**Mount Wilson**	**77.91**	**47**	P	**P**	**06 51 13.8**	**-0.8**
MWC				lAmb	lAmb	06 51 15.9	
	comp=Z,3.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**77.95**	**326**	P	**P**	**06 51 14.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=200,slow=3.8,SNR=4.5						
USRK	**Ussuriysk Ar.**	**77.95**	**326**	P	**P**	**06 51 15.7**	**+1.4**
ESJX	**Sierra Juarez**	**78.21**	**50**	P	**P**	**06 51 17.8**	**+1.5**
ISA	**Isabella, Lake**	**78.41**	**46**	P	**P**	**06 51 17.8**	**+0.7**
RMX	**La Rumorosa**	**78.43**	**49**	P	**P**	**06 51 17.7**	**+0.4**
CMB	**Columbia Colle**	**78.50**	**43**	P	**P**	**06 51 18.4**	**+1.0**
AFDM	**Forest Hills D**	**78.66**	**42**	P	**P**	**06 51 19.5**	**+1.2**
MDPB	**Devils Postpil**	**79.11**	**44**	P	**P**	**06 51 22.5**	**+1.4**
OMMB	**Old Mammoth Mi**	**79.16**	**44**	P	**P**	**06 51 22.7**	**+1.4**
YBH	**Yreka Blue Hor**	**79.27**	**39**	P	**P**	**06 51 23.2**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=208,slow=3.7,SNR=14						
YBH	**Yreka Blue Hor**	**79.27**	**39**	P	**P**	**06 51 23.2**	**+1.6**
YBH				lAmb	lAmb	06 51 23.9	
	comp=Z,3.4nm,0.7s						
WAKR	**Walker**	**79.38**	**43**	P	**P**	**06 51 23.9**	**+1.5**
PNTR	**Pine Nut**	**79.61**	**42**	P	**P**	**06 51 24.9**	**+1.4**
PNTR				lAmb	lAmb	06 51 25.7	
	comp=Z,7.0nm,0.8s						
HUMO	**Hull Mountain**	**79.66**	**38**	P	**P**	**06 51 25.2**	**+1.7**
VCNR	**Virginia City**	**79.70**	**42**	P	**P**	**06 51 24.7**	**+0.7**
YERR	**Yerington**	**79.78**	**43**	P	**P**	**06 51 25.7**	**+1.3**
YERR				lAmb	lAmb	06 51 26.3	
	comp=Z,4.6nm,0.6s						
NVAR	**Mina Array Bea**	**80.07**	**43**	P	**P**	**06 51 26.4**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=222,slow=8.3,SNR=15						
NVAR	**Mina Array Bea**	**80.07**	**43**	P	**P**	**06 51 26.7**	**+0.8**
NV11	**Mina Array Sit**	**80.17**	**44**	P	**P**	**06 51 26.9**	**+0.5**
HSIG		**80.48**	**55**	P	**P**	**06 51 29.2**	**+1.2**
KVN	**Kaiserville**	**80.55**	**43**	P	**P**	**06 51 29.0**	**+0.6**
TPH	**Tonopah**	**80.58**	**44**	P	**P**	**06 51 29.8**	**+1.2**
TPNV	**Topopah Spring**	**80.62**	**46**	P	**P**	**06 51 30.3**	**+1.5**
BELA	**Belgrano 2**	**80.80**	**173**	P	**P**	**06 51 28.6**	**-0.3**
MOD	**Modoc Plateau**	**80.81**	**40**	P	**P**	**06 51 29.0**	**-0.7**
MOD				lAmb	lAmb	06 51 31.6	
	comp=Z,4.0nm,0.7s						
Y14A	**Wickenburg**	**81.33**	**50**	P	**P**	**06 51 32.8**	**+0.5**
PRN	**Pahroc Range**	**81.67**	**46**	P	**P**	**06 51 34.6**	**+0.5**
PRN				lAmb	lAmb	06 51 36.1	
	comp=Z,3.8nm,0.7s						
SVW2	**Sparrevohn**	**82.05**	**11**	P	**P**	**06 51 35.5**	**+0.2**
TUC	**Tucson**	**82.16**	**52**	P	**P**	**06 51 38.5**	**+1.9**
TUC				lAmb	lAmb	06 51 39.5	
	comp=Z,5.7nm,0.9s						
I07A	**Izee**	**82.56**	**38**	P	**P**	**06 51 38.8**	**+0.4**
I07A				lAmb	lAmb	06 51 40.6	
	comp=Z,3.3nm,0.8s						
X16A	**Lo Mia Camp, P**	**82.69**	**50**	P	**P**	**06 51 39.0**	**-0.4**
J08A	**Circle Bar Ran**	**82.75**	**39**	P	**P**	**06 51 40.3**	**+0.9**
J08A				lAmb	lAmb	06 51 41.6	
	comp=Z,5.6nm,1.3s						
MAW	**Mawson**	**82.77**	**200**	P	**P**	**06 51 38.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=148,slow=7.3,SNR=4.3						
CCUT	**Cedar City**	**82.90**	**46**	P	P	06 51 47.1	+6.7
U15A	**North Rim**	**83.07**	**48**	P	**P**	**06 51 41.8**	**+0.4**
U15A				lAmb	lAmb	06 51 43.8	
	comp=Z,4.5n

WRA	**Warramunga Arr**	**50.81**	**258**	P	P	06 51 08.9	-1.1
	0.6nm,0.9s,baz=99,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**50.89**	**253**	P	P	06 51 11.3	+0.7
	2.4nm,0.6s,baz=90,slow=8.1,SNR=13						
BRTR	**Keskin Array B**	**148.55**	**320**	PKPbc	PKPbc	07 01 56.0	-0.6
	1.0nm,0.9s,baz=45,slow=3.7,SNR=4.7						

*IDC **05** 06:48:11.2±2.2, 13°.86N×91°.86W, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.7/46, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=59.4km s-min=31.2km az=34.0*
*SNET **05** 06:48:18.9±1.1, 14°.11N×91°.39W, h13km±9km, ML3.7*
*UCR **05** 06:48:18.8±1.2, 14°.12N×91°.38W, h10km±9km, ML3.6*
*GCG **05** 06:48:19.0±0.9, 13°.75N×91°.40W, h7km±17km, MD4.1*

ISC 05 06:48:15.6±2.1, 13°.84N±0°.08×91°.72W±0°.07, h26km±13km, n44, σ1§11/58, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.68**	**2**	↓*iP*	**Pb**	**06 48 28.9**	**0.0**
RTAL				*eS*	**Sb**	**06 48 36.4**	**-1.7**
FUG	**Fuego 3**	**1.04**	**54**	↑*iP*	**Pb**	**06 48 35.6**	**+0.5**
PCG	**Pacaya**	**1.21**	**63**	*eP*	**Pb**	**06 48 38.4**	**+0.4**
IXG	**Ixpaco**	**1.28**	**75**	*eP*	**Pn**	**06 48 38.0**	**0.0**
HUEH	**Huehuetenango**	**1.49**	**8**	*eP*	**Pn**	**06 48 40.5**	**-0.4**
HUEH				*eS*	**Sn**	**06 48 58.6**	**-1.0**
NBG	**Las Nubes**	**1.52**	**60**	*eP*	**Pb**	**06 48 44.2**	**+0.9**
NBG				*eS*	**Sb**	**06 49 05.0**	**+2.6**
RTR	**El Retiro**	**2.01**	**88**	*eP*	**Pn**	**06 48 49.1**	**+1.0**
RTR	**El Retiro**	**2.01**	**88**	*eP*	**Pn**	**06 48 49.1**	**+1.0**
SBLS	**San Blas**	**2.03**	**90**	*eP*	**Pn**	**06 48 49.4**	**+1.0**
SBLS	**San Blas**	**2.03**	**90**	*eP*	**Pn**	**06 48 49.4**	**+1.0**
SNJE	**San Jose**	**2.05**	**89**	*eP*	**Pn**	**06 48 49.2**	**+0.7**
SNJE	**San Jose**	**2.05**	**89**	*eP*	**Pn**	**06 48 49.2**	**+0.7**
UNIC	**Universidad Ca**	**2.11**	**86**	*eP*	**Pn**	**06 48 49.5**	**+0.2**
UNIC				*eS*	**Sn**	**06 49 14.0**	**-0.7**
UNIC	**Universidad Ca**	**2.11**	**86**	*eP*	**Pn**	**06 48 49.5**	**+0.2**
UNIC				*eS*	**Sn**	**06 49 14.0**	**-0.7**
TACO	**Tacachico**	**2.30**	**86**	*eP*	**Pn**	**06 48 52.0**	**+0.2**
TACO	**Tacachico**	**2.30**	**86**	*eP*	**Pn**	**06 48 52.0**	**+0.2**
MRL	**Marmol**	**2.33**	**58**	*eP*	**Pb**	**06 48 55.4**	**-1.6**
MRL				*eS*	**Sb**	**06 49 23.6**	**-1.8**
MTO3	**Montecristo**	**2.35**	**76**	*eP*	**Pn**	**06 48 52.4**	**-0.4**
MTO3	**Montecristo**	**2.35**	**76**	*eP*	**Pn**	**06 48 52.4**	**-0.4**
BOQS	**Boqueron**	**2.37**	**92**	*eP*	**Pn**	**06 48 53.6**	**+0.6**
BOQS				*eS*	**Sn**	**06 49 21.5**	**+0.1**
BOQS	**Boqueron**	**2.37**	**92**	*eP*	**Pn**	**06 48 53.6**	**+0.6**
BOQS				*eS*	**Sn**	**06 49 21.5**	**+0.1**
QUEZ	**Alcaldia de Qu**	**2.37**	**90**	*eP*	**Pn**	**06 48 53.5**	**+0.6**
SNET	**Serv Nac Est T**	**2.42**	**93**	*eP*	**Pn**	**06 48 53.7**	**+0.2**
SNET				IAML		06 49 25.9	
	comp=Z,541nm,0.2s						
SNET	**Serv Nac Est T**	**2.42**	**93**	*eP*	**Pn**	**06 48 53.7**	**+0.2**
SNET				IAML		06 49 25.9	
	comp=Z,541nm,0.2s						
OPAM	**Oficina de Pla**	**2.45**	**93**	*eP*	**Pn**	**06 48 54.4**	**+0.5**
OPAM				IAML		06 49 29.6	
	comp=Z,538nm,0.3s						
OPAM	**Oficina de Pla**	**2.45**	**93**	*eP*	**Pn**	**06 48 54.4**	**+0.5**
OPAM				IAML		06 49 29.6	
	comp=Z,538nm,0.3s						
AEIL	**Aeropuerto Ilo**	**2.53**	**93**	*eP*	**Pn**	**06 48 56.3**	**+1.2**
AEIL				*eS*	**Sn**	**06 49 23.4**	**-1.7**
AEIL				IAML		06 49 36.2	
	comp=Z,678nm,0.5s						
AEIL	**Aeropuerto Ilo**	**2.53**	**93**	*eP*	**Pn**	**06 48 56.3**	**+1.2**
AEIL				*eS*	**Sn**	**06 49 23.4**	**-1.7**
AEIL				IAML		06 49 36.2	
	comp=Z,678nm,0.5s						
LFRS	**El Faro**	**2.59**	**94**	*eP*	**Pn**	**06 48 57.5**	**+1.6**
LFRS				*eS*	**Sn**	**06 49 25.7**	**-0.9**
LFRS	**El Faro**	**2.59**	**94**	*eP*	**Pn**	**06 48 57.5**	**+1.6**
LFRS				*eS*	**Sn**	**06 49 25.7**	**-0.9**
LBRS	**Las Brisas**	**2.60**	**92**	*eP*	**Pn**	**06 48 56.7**	**+0.7**
LBRS	**Las Brisas**	**2.60**	**92**	*eP*	**Pn**	**06 48 56.7**	**+0.7**
PAVA	**Las Pavas**	**2.70**	**92**	*eP*	**Pn**	**06 48 58.2**	**+0.7**
PAVA				IAML		06 49 41.3	
	comp=Z,259nm,0.5s						
PAVA	**Las Pavas**	**2.70**	**92**	*eP*	**Pn**	**06 48 58.2**	**+0.7**
PAVA				IAML		06 49 41.3	
	comp=Z,259nm,0.5s						
COEG	**Centro de Oper**	**2.76**	**94**	*eP*	**Pn**	**06 48 58.8**	**+0.5**
COEG				IAML		06 49 47.6	
	comp=Z,495nm,0.4s						
COEG	**Centro de Oper**	**2.76**	**94**	*eP*	**Pn**	**06 48 58.8**	**+0.5**
COEG				IAML		06 49 47.6	
	comp=Z,495nm,0.4s						
FAGO	**Alcalda de S**	**3.51**	**92**	*eP*	**Pn**	**06 49 08.7**	**+0.2**
FAGO	**Alcalda de S**	**3.51**	**92**	*eP*	**Pn**	**06 49 08.7**	**+0.2**
TEIG	**Tepich**	**7.16**	**27**	Pn	**Pn**	**06 50 00.3**	**+1.7**
	comp=Z,5.1nm,0.3s,baz=311,slow=0.7,SNR=65						
TEIG				Sn	**Sn**	**06 51 21.4**	**+2.3**
	comp=Z,2.0nm,0.3s,baz=60,slow=20,SNR=2.5						
TEIG				Lg	Lg	06 52 09.5	
	baz=135,slow=22,SNR=3.1						
JTS	**Las Juntas de**	**7.50**	**117**	Pn	**Pn**	**06 50 04.6**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=0.3,slow=22,SNR=4.6						
JTS				Sn	**Sn**	**06 51 24.8**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=37,slow=20,SNR=2.0						
JTS				Lg	Lg	06 52 05.3	
	comp=Z,0.3nm,0.3s,baz=162,slow=14,SNR=3.8						
TXAR	**Lajitas Array**	**18.98**	**326**	P	**Pn**	**06 52 36.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=152,slow=10,SNR=6.7						
NVAR	**Mina Array Bea**	**33.97**	**321**	P	**P**	**06 54 59.0**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=134,slow=8.6,SNR=9.0						
ILAR	**Eielson Array**	**63.10**	**337**	P	**P**	**06 58 39.6**	**-1.0**
	comp=Z,0.8nm,1.0s,baz=119,slow=5.7,SNR=5.6						
CMAR	**Chiang Mai Arr**	**146.23**	**342**	PKPbc	**PKPdf**	**07 07 52.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=328,slow=3.2,SNR=4.4						

*HEL **05** 06:59:41.2±0.4, 67°.78N×33°.86E, h0km, ML2.1, Explosion*
*NAO **05** 06:59:42.0±1.2, 67°.64N×33°.80E, ML2.5*
*IDC **05** 06:59:43.8±1.7, 67°.69N×33°.54E, h0km, mb1 3.5/4, mb1mx3.1/39, mbtmp3.5/4, ML2.6/3, Error ellipse: s-maj=21.2km s-min=9.1km az=72.0*

ISC 05 06:59:39.2±1.5, 67°.64N±0°.04×34°.05E±0°.08, h0km, n28, σ2§09/52, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.40**	**266**	Pg	**Pb**	**06 59 48.5**	**-0.6**
	baz=83,slow=16						
APA0				Lg	Lg	06 59 52.5	
APA0				Rg	Rg	06 59 54.1	
APA0	**Apatity Array**	**0.40**	**266**	Pg	**Pb**	**06 59 48.5**	**-0.6**
	baz=83,slow=16						
APA0				Sg	**Sg**	**06 59 52.5**	**+0.4**
VRF	**Varrio**	**1.70**	**276**	PG	**Pn**	**07 00 10.3**	**+0.3**
VRF				MSG		07 00 29.7	
	comp=Z,17nm,0.2s						
VRF				SG	**Sn**	**07 00 31.1**	**-1.3**
KU6	**Riekki**	**2.31**	**227**	PN	**Pb**	**07 00 20.9**	**-0.7**
	baz=45						
KU6				MSG		07 00 50.9	
	comp=Z,8.9nm,0.2s						
KU6				SB	**Sg**	**07 00 51.9**	**-1.3**
MSF	**Maaselka**	**2.63**	**231**	PN	**Pb**	**07 00 25.9**	**-1.2**
MSF				SB	**Sg**	**07 01 01.4**	**-2.3**
SGF	**Sodankyl**	**2.89**	**270**	PN	**Pn**	**07 00 27.8**	**+1.4**
SGF				SB	**Sb**	**07 01 06.3**	**-1.2**
RNF	**Rovaniemi**	**3.30**	**256**	PN	**Pn**	**07 00 33.4**	**+1.4**
RNF				SN	**Sn**	**07 01 13.9**	**+2.0**
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**07 00 38.1**	**+1.1**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**07 00 46.2**	**+1.5**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**07 01 19.6**	**-1.3**
	baz=118,slow=28						
ARA0				Lg	Lg	07 01 31.1	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**07 00 38.1**	**+1.1**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**07 00 46.2**	**+1.5**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**07 01 19.6**	**-1.3**
	baz=118,slow=28						
ARA0				Sg	**Sb**	**07 01 31.1**	**+1.5**
	baz=116,slow=37						
ARCES	**ARCESS Array B**	**3.67**	**305**	Pn	**Pn**	**07 00 38.3**	**+1.2**
	baz=122,slow=14,SNR=200						
ARCES				Pg	**Pb**	**07 00 46.9**	**+2.1**
	baz=116,slow=15,SNR=14						
ARCES				Sn	**Sn**	**07 01 19.6**	**-1.3**
	baz=116,slow=25,SNR=18						
ARCES				Lg	Lg	07 01 31.3	
	baz=112,slow=33,SNR=14						
TOF	**Tornio**	**4.14**	**252**	PB	**Pb**	**07 00 53.1**	**+0.3**
OUL	**Oulu**	**4.16**	**236**	PB	**Pb**	**07 00 50.9**	**-2.2**
OUL				SG	**Sg**	**07 01 52.3**	**-0.4**
LANU	**Lannavaara**	**4.58**	**281**	PN	**Pn**	**07 00 49.9**	**+0.2**
LANU				SG	**Sb**	**07 01 58.4**	**+2.3**
KALU	**Kalix**	**4.60**	**252**	PN	**Pn**	**07 00 50.5**	**+0.7**
KALU				SG	**Sb**	**07 01 59.6**	**+3.2**
ERTU	**Ertsjaerv**	**4.76**	**262**	PN	**Pn**	**07 00 52.5**	**+0.5**
ERTU				SN	**Sn**	**07 01 46.8**	**-1.0**
HAMF	**Hammerfest**	**4.78**	**314**	Pn	**Pn**	**07 00 54.0**	**+1.8**
HAMF				Sn	**Sn**	**07 01 45.2**	**-2.9**
HAMF	**Hammerfest**	**4.78**	**314**	Pn	**Pn**	**07 00 54.0**	**+1.8**
HAMF				Sn	**Sn**	**07 01 45.2**	**-2.9**
TRO	**Tromso**	**5.87**	**297**	Pn	**Pn**	**07 01 08.3**	**+1.0**
TRO				Sn	**Sn**	**07 02 11.1**	**-4.0**
TRO				Lg	Lg	07 02 36.8	
TRO	**Tromso**	**5.87**	**297**	Pn	**Pn**	**07 01 08.3**	**+1.0**
TRO				Sn	**Sn**	**07 02 11.1**	**-4.0**
TRO				Sg	**Sb**	**07 02 36.8**	**+3.8**
FIA0	**FINESS Array S**	**7.10**	**213**	Pn	**Pn**	**07 01 25.0**	**+0.9**
	baz=31,slow=18						
FIA0				Sn	**Sn**	**07 02 44.6**	**-0.8**
	baz=28,slow=22						
FIA0				Lg	Lg	07 03 16.3	
	baz=25,slow=28						
FIA0	**FINESS Array S**	**7.10**	**213**	Pn	**Pn**	**07 01 25.0**	**+0.9**
	baz=31,slow=18						
FIA0				Sn	**Sn**	**07 02 44.6**	**-0.8**
	baz=28,slow=22						
FIA0				Sg	**Sb**	**07 03 16.3**	**+8.0**
	baz=25,slow=28						
FINES	**FINESS Array B**	**7.10**	**213**	Pn	**Pn**	**07 01 25.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=14,slow=13,SNR=3.1						
FINES				Sn	**Sn**	**07 02 44.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=27,slow=22,SNR=3.3						
FINES				Lg	Lg	07 03 14.9	
	comp=Z,0.2nm,0.3s,baz=29,slow=24,SNR=5.3						
HFS	**Hagfors**	**11.65**	**240**	Lg	Lg	07 05 38.2	
	comp=Z,0.2nm,0.3s,baz=50,slow=13,SNR=3.7						
SPA0	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**07 02 26.5**	**-0.6**
	baz=144,slow=16						
SPA0	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**07 02 26.5**	**-0.6**
	baz=144,slow=16						
SPITS	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**07 02 26.6**	**-0.6**
	baz=137,slow=17,SNR=3.2						
SPITS				Lg	Lg	07 05 56.5	
	baz=160,slow=34,SNR=6.3						
NOA	**NORSAR Array B**	**11.84**	**247**	Lg	Lg	07 05 43.8	
	comp=Z,0.0nm,0.3s,baz=123,slow=21,SNR=3.9						
AKASG	**Malin Array Be**	**17.16**	**190**	Pn	**Pn**	**07 03 37.3**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=6.9,slow=12,SNR=3.8						

*KRSC **05** 07:13:56.5±1.5, 52°.99N×157°.02E, h302km±13km, ML4.0*
*IDC **05** 07:14:01.1±3.8, 53°.13N×158°.04E, h268km±53km, mb2.7/3, mb1 3.2/3, mb1mx2.7/42, mbtmp3.4/3, Error ellipse: s-maj=195.1km s-min=33.4km az=87.0*

ISC 05 07:13:59.2±1.5, 53°.0N±0°.1×157°.2E±0°.2, h289km±8km, n18, σ0§78/19, mb2.9/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**0.09**	**190**	*eP*	**Pn**	**07 14 35.6**	**-0.4**
PETK	**Petropavlovsk-**	**0.33**	**73**	P	**Pn**	**07 14 35.8**	**-0.4**
	1.6nm,0.3s,baz=87,slow=4.7,SNR=40						
GNL	**Ganaly**	**0.82**	**33**	*eP*	**Pn**	**07 14 37.6**	**-0.1**
GNL				*eS*	**S**	**07 15 09.3**	**+1.1**
KOK	**Koryaka**	**0.92**	**72**	*eP*	**Pn**	**07 14 38.9**	**+0.8**
KRX	**Arik**	**0.95**	**68**	*eP*	**Pn**	**07 14 38.9**	**+0.6**
DALK	**Dalny**	**0.95**	**88**	*eP*	**Pn**	**07 14 38.9**	**+0.8**
RUS	**Russkaya**	**0.99**	**125**	*eS*	**S**	**07 15 09.2**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.32**	**155**	*eS*	**S**	**07 15 11.3**	**-1.4**
SPN	**Mys Shipunski**	**1.72**	**86**	S	**S**	**07 15 16.6**	**-0.7**
KZV	**Kizimen**	**2.79**	**40**	*eP*	**Pn**	**07 14 52.2**	**0.0**
TUMR	**Tumrok**	**2.87**	**36**	*eP*	**Pn**	**07 14 53.4**	**+0.5**
SRDR	**Sredinnyy**	**3.62**	**23**	P	**Pn**	**07 15 00.2**	**-0.4**
LGNR	**Loginova**	**3.69**	**32**	*eP*	**Pn**	**07 15 02.0**	**+0.4**
SRKR	**Sorokina**	**4.32**	**31**	P	**Pn**	**07 15 07.5**	**-0.8**
KBTR	**Krutoberegovo**	**4.58**	**43**	*eP*	**Pn**	**07 15 10.3**	**-1.0**
ILAR	**Eielson Array**	**30.12**	**45**	P	**P**	**07 19 41.5**	**-0.5**
	0.2nm,0.6s,baz=269,slow=6.8,SNR=4.5						
NVAR	**Mina Array Bea**	**57.41**	**68**	P	**P**	**07 23 19.1**	**+1.0**
	0.2nm,0.5s,baz=306,slow=7.7,SNR=3.1						
TXAR	**Lajitas Array**	**72.27**	**65**	P	**P**	**07 24 53.5**	**0.0**
	0.2nm,0.5s,baz=311,slow=6.0,SNR=4.8						

*IDC **05** 07:24:41.6±0.4, 49°.68S×125°.87E, h0km, mb5.1/22, mb1 5.2/23, mb1mx5.1/38, mbtmp5.1/23, ML3.7/1, MS4.9/21, Ms1 4.9/21, ms1mx4.7/26, Error ellipse: s-maj=18.5km s-min=11.3km az=100.0*
*BJI **05** 07:24:42.0±0.0, 49°.54S×125°.63E, h5km, mB5.5/20, mb5.1/34, Ms5.4/18, Ms7 5.1/19*
*NEIC **05** 07:24:43, 49°.68S×125°.67E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.52; $M_{\theta\theta}$=0.72; $M_{\phi\phi}$=0.19; $M_{r\theta}$=0.63; $M_{\theta\phi}$=1.76; $M_{r\phi}$=0.57; Fault plane solution: M_o=2.06000×10^{17} NP1:ϕ_s=191.00000°, δ=67.00000°, λ=-161.00000°. NP2:ϕ_s=93.00000°, δ=72.00000°, λ=-24.00000°. Principal axes: T 2.0930, Plg=4.0000°, Azm=143.0000°; N -0.0644, Plg=61.0000°, Azm=239.0000°; P -2.0286, Plg=29.0000°, Azm=51.0000°;*
*NEIC **05** 07:24:43.3±1.8, 49°.80S±0°.09×125°.8E±0°.1, h10km±1km, mb5.3/64, Ms_20 5.2/222, Mwb5.5/22, Mww5.5, Mwc5.6(GCMT) Error ellipse: s-maj=16.4km s-min=13.9km az=316.0*
*NEIC **05** 07:24:43.2, 49°.69S×125°.67E, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.34; $M_{\theta\theta}$=1.23; $M_{\phi\phi}$=0.89; $M_{r\theta}$=0.13; $M_{\theta\phi}$=1.96; $M_{r\phi}$=0.83; Fault plane solution: M_o=2.40000×10^{17} NP1:ϕ_s=195.56000°, δ=84.60000°, λ=-158.43000°. NP2:ϕ_s=103.43000°, δ=68.53000°, λ=-5.80000°. Principal axes: T 2.5043, Plg=11.0000°, Azm=328.0000°; N -0.2197, Plg=68.0000°, Azm=209.0000°; P -2.2846, Plg=19.0000°, Azm=61.0000°;*
*GCMT **05** 07:24:44.3±0.1, 49°.59S±0°.01×125°.93E±0°.01, h19km, MW5.6/145, Moment Tensor Solution. s116,c214; s145,c281; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.20±.03; $M_{\theta\theta}$=1.26±.04; $M_{\phi\phi}$=-1.06±.04; $M_{r\theta}$=0.35±.07; $M_{\theta\phi}$=2.89±.03; $M_{r\phi}$=-0.32±.07; Best double couple: M_o=3.15300×10^{17} NP1:ϕ_s=11.00000°, δ=82.00000°, λ=-175.00000°. NP2:ϕ_s=281.00000°, δ=85.00000°, λ=-8.00000°. Principal axes: T 3.2180, Plg=2.0000°, Azm=326.0000°; N -0.1300, Plg=81.0000°, Azm=67.0000°; P -3.0890, Plg=9.0000°, Azm=236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 07:24:45, 49°.62S×125°.98E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.15; $M_{\theta\theta}$=1.21; $M_{\phi\phi}$=1.06; $M_{r\theta}$=-0.25; $M_{\theta\phi}$=2.95; $M_{r\phi}$=-0.50; Fault plane solution: M_o=3.21000×10^{17} NP1:ϕ_s=281.00000°, δ=81.00000°, λ=2.00000°. NP2:ϕ_s=190.00000°, δ=88.00000°, λ=171.00000°. Principal axes: T 3.3058, Plg=8.0000°, Azm=145.0000°; N -0.1956, Plg=80.0000°, Azm=359.0000°; P -3.1101, Plg=5.0000°, Azm=236.0000°;*

ISC 05 07:24:45.6±0.6, 49°.71S±0°.05×125°.87E±0°.06, h24km±3km, h24km:pP-P, n493, σ1§51/402, mb5.3/77, MS5.2/139, 3C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**16.27**	**73**	Pn	**Pn**	**07 28 31.0**	**-1.5**
TAU				Sn	**Sn**	**07 31 35.7**	**+3.6**
MOO	**Moorlands**	**16.45**	**72**	P	**Pn**	**07 28 32.5**	**-2.2**
	baz=16,SNR=12						
RKGY	**Rocky Gully**	**16.45**	**333**	P	**Pn**	**07 28 33.0**	**-1.7**
	baz=16,SNR=86						
H01W1	**Cape Leeuwin H**	**17.12**	**325**	T	T	07 46 21.9	
	baz=152,slow=75,SNR=1125						
H01W2	**Cape Leeuwin H**	**17.13**	**325**	T	T	07 46 20.7	
	baz=152,slow=75,SNR=1121						
H01W3	**Cape Leeuwin H**	**17.14**	**325**	T	T	07 46 17.2	
	baz=152,slow=75,SNR=1395						
ARPS	**Mount Arapiles**	**17.35**	**48**	P	**Pn**	**07 28 44.7**	**-1.3**
	baz=17,SNR=38						
NWAO	**Narrogin (SRO)**	**17.96**	**336**	P	**Pn**	**07 28 51.6**	**-1.9**
	12nm,0.3s,baz=139,slow=9.5,SNR=54						
NWAO				LR	LR	07 34 08.8	
	comp=Z,10μm,19.2s,baz=160,slow=32						
NWAO	**Narrogin (SRO)**	**17.96**	**336**	P	**Pn**	**07 28 52.1**	**-1.5**
	baz=18,SNR=26						
NWAO	**Narrogin (SRO)**	**17.96**	**336**	P	**Pn**	**07 28 51.5**	**-2.1**
NWAO				IAmb	IAmb	07 28 54.0	
	comp=Z,680nm,1.6s						
CASY	**Casey**	**18.40**	**200**	P	**P**	**07 28 55.7**	**-2.9**
BBOO	**Buckleboo**	**18.51**	**28**	P	**P**	**07 28 58.9**	**-1.1**
	baz=18,SNR=20						
BBOO	**Buckleboo**	**18.51**	**28**	P	**P**	**07 28 58.7**	**-1.3**
KMBL	**Kambalda**	**18.57**	**349**	P	**P**	**07 28 58.1**	**-2.6**
	baz=18,SNR=6.7						
TOO	**Toolangi**	**18.61**	**57**	P	**P**	**07 29 00.6**	**-0.6**
	baz=19,SNR=37						
TOO	**Toolangi**	**18.61**	**57**	P	**P**	**07 29 00.0**	**-1.2**
TOO				IAmb	IAmb	07 29 13.1	
	comp=Z,253nm,1.2s						
HTT	**Hallett**	**18.93**	**36**	P	**P**	**07 29 03.3**	**-1.4**
	baz=19,SNR=12						
FORT	**Forrest**	**18.98**	**6**	P	**P**	**07 29 04.8**	**-0.4**
	baz=19,SNR=15						
FORT	**Forrest**	**18.98**	**6**		**P**	**07 29 03.7**	**-1.5**
FORT				IAmb	IAmb	07 29 07.8	
	comp=Z,164nm,0.8s						
KLBR	**Kellerberrin**	**19.10**	**338**	P	**P**	**07 29 05.1**	**-1.4**
	baz=19,SNR=14						
MUN	**Mundaring**	**19.14**	**334**	P	**P**	**07 29 05.2**	**-1.7**
	baz=19,SNR=6.3						
BLDU	**Ballidu**	**20.29**	**337**	P	**P**	**07 29 18.6**	**-1.0**
	baz=20,SNR=10.0						
MCQ	**Macquarie Isla**	**20.75**	**116**	IAMs_20	IAMs_20	07 34 57.1	
	comp=Z,8μm,21.0s						
STKA	**Stephens Creek**	**21.35**	**39**	P	**P**	**07 29 29.5**	**-1.5**
	comp=Z,82nm,1.2s,baz=194,slow=12,SNR=45						
STKA				LR	LR	07 36 16.5	
	comp=Z,3μm,21.1s,baz=207,slow=33						
STKA	**Stephens Creek**	**21.35**	**39**	P	**P**	**07 29 29.6**	**-1.3**
	baz=21,SNR=43						
STKA	**Stephens Creek**	**21.35**	**39**	P	**P**	**07 29 29.6**	**-1.5**
MORW	**Morawa**	**21.93**	**336**	P	**P**	**07 29 36.7**	**-0.5**
	baz=22,SNR=10						
MORW	**Morawa**	**21.93**	**336**	P	**P**	**07 29 36.1**	**-1.1**
MORW				IAMs_20	IAMs_20	07 36 14.4	
	comp=Z,8μm,20.0s						
CAN	**Canberra**	**22.18**	**58**	P	**P**	**07 29 39.1**	**-0.8**
	baz=22						
CAN	**Canberra**	**22.18**	**58**	P	**P**	**07 29 38.6**	**-1.3**
CAN				IAmb	IAmb	07 29 50.6	
	comp=Z,174nm,1.3s						
CAN				IAMs_20	IAMs_20	07 36 50.8	
	comp=Z,9μm,18.0s						
CNB	**Canberra Magne**	**22.39**	**59**	P	**P**	**07 29 41.9**	**-0.3**
	baz=22,SNR=18						
YNG	**Young**	**22.62**	**56**	P	**P**	**07 29 43.7**	**-0.8**
	baz=23,SNR=7.3						
CMSA	**Cobar Meteorol**	**23.45**	**47**	P	**P**	**07 29 51.8**	**-1.3**
	baz=23,SNR=48						
MEEK	**Meekatharra**	**23.71**	**344**	P	**P**	**07 29 54.6**	**-1.1**
	baz=24,SNR=37						
WRKA	**Warakurna**	**24.70**	**5**	P	**P**	**07 30 02.6**	**-2.3**
	baz=25,SNR=50						
MGCD	**Mangrove Creek**	**24.92**	**58**	P	**P**	**07 30 07.0**	**+0.3**
	baz=25,SNR=11						
ASAR	**Alice Springs**	**26.75**	**17**	P	**P**	**07 30 21.1**	**-2.2**
	comp=Z,125nm,0.9s,baz=192,slow=8.8,SNR=334						
ASAR				LR	LR	07 40 06.5	
	comp=Z,1μm,20.0s,baz=192,slow=35						
ASAR				P3KPbc		08 03 03.2	
	comp=Z,0.2nm,0.7s,baz=22,slow=5.3,SNR=3.6						
ASAR	**Alice Springs**	**26.75**	**17**	P	**P**	**07 30 21.4**	**-2.0**
AS31	**Alice Springs**	**26.75**	**17**	P	**P**	**07 30 21.2**	**-2.2**
QLP	**Quilpie**	**27.09**	**38**	P	**P**	**07 30 25.9**	**-0.5**
	baz=27,SNR=3.9						
ARMA	**Armidale**	**27.35**	**55**	P	**P**	**07 30 28.6**	**-0.2**
	baz=27,SNR=24						
ARMA	**Armidale**	**27.35**	**55**	P	**P**	**07 30 27.8**	**-0.9**
ARMA				IAmb	IAmb	07 30 30.7	
	comp=Z,47nm,0.9s						
ARMA				IAMs_20	IAMs_20	07 39 42.5	
	comp=Z,6μm,20.0s						
PSAD3	**Pilbara Seismi**	**28.42**	**348**	IAMs_20	IAMs_20	07 40 08.0	
	comp=Z,5μm,20.0s						
PSAC3	**Pilbara Seismi**	**28.44**	**348**	IAMs_20	IAMs_20	07 40 09.4	
	comp=Z,5μm,19.0s						
PSAA3	**Pilbara Seismi**	**28.48**	**348**	I

comp=Z,44nm,1.4s
CTAO **Charters Tower** 33.73 36 IAMs_20 IAMs_20 07 43 56.2
comp=Z,3µm,18.0s
KNRA **Kununurra** 34.03 5 P P 07 31 27.0 -0.6
baz=34,SNR=8.0
KNRA **Kununurra** 34.03 5 P P 07 31 26.7 -0.9
KNRA IAmb IAmb 07 31 28.9
comp=Z,49nm,0.9s
MTSU **Mount Surprise** 34.82 32 P P 07 31 34.0 -0.5
baz=35,SNR=12
MAW **Mawson** 35.36 216 P P 07 31 38.6 -0.1
comp=Z,19nm,1.1s,baz=84,slow=9.7,SNR=14
MAW LR LR 07 43 38.3
comp=Z,1µm,19.7s,baz=84,slow=32
MAW **Mawson** 35.36 216 P P 07 31 38.8 +0.1
baz=35,SNR=18
MAW **Mawson** 35.36 216 P P 07 31 37.7 -1.0
MTN **Manton Dam** 37.02 9 P P 07 31 53.0 -0.3
MTN IAmb IAmb 07 32 00.8
comp=Z,64nm,1.1s
KDU **Kakadu** 37.32 11 P P 07 31 56.6 +0.7
baz=37,SNR=7.9
URZ **Urewera** 37.91 92 P P 07 31 59.8 -1.0
comp=Z,10.0nm,0.8s,baz=265,slow=3.9,SNR=7.1
URZ **Urewera** 37.91 92 P P 07 32 01.3 +0.5
URZ IAmb IAmb 07 32 29.0
comp=Z,57nm,1.4s
COEN **Coen** 38.37 28 P P 07 32 03.8 -1.0
baz=38,SNR=6.9
COEN **Coen** 38.37 28 P P 07 32 03.2 -1.6
COEN IAmb IAmb 07 32 05.8
comp=Z,59nm,1.3s
BATI **Baumata** 39.42 357 LR LR 07 47 16.6
comp=Z,4µm,21.2s,baz=194,slow=34
SOEI **Soe** 39.85 358 P P 07 32 26.5 +9.2
QSPA **South Pole Qui** 40.41 180 P P 07 32 21.6 +0.1
comp=Z,87nm,1.0s,baz=326,slow=0.2,SNR=94
QSPA **South Pole Qui** 40.41 180 P P 07 32 21.4 -0.1
QSPA IAmb IAmb 07 32 25.0
comp=Z,123nm,1.1s
EDFI **Ende, Flores** 40.98 354 P P 07 32 25.7 -0.9
comp=Z,337nmcomp=Z,27nm,1.0s
MMRI **Maumere** 41.06 355 P P 07 32 27.7 +0.6
comp=Z,90nm,1.5s
MMRI **Maumere** 41.06 355 P P 07 32 27.5 +0.4
PLAI **Plampang** 41.31 348 P P 07 32 29.9 +0.7
comp=Z,39nm,1.5s
TWSI **Taliwang, Sumb** 41.53 347 P P 07 32 31.5 +0.5
comp=Z,586nmcomp=Z,38nm,1.1s
DZM **Mont Dzumac** 42.14 64 P P 07 32 36.0 -0.1
comp=Z,28nm,0.9s,baz=188,slow=17,SNR=5.5
DZM **Mont Dzumac** 42.14 64 *e*P P 07 32 35.8 -0.3
comp=Z,155nm,1.4s
DZM *e*S S 07 38 56.2 +1.7
comp=Z,518nm,28.3s
DZM *e*LR LR 07 44 17.8
comp=Z,6µm,28.1s
DZM **Mont Dzumac** 42.14 64 P P 07 32 35.8 -0.3
DZM IAmb IAmb 07 32 39.6
comp=Z,48nm,1.0s
JAGI **Jajag, Banyuwa** 42.26 343 IAMs_20 IAMs_20 07 48 02.1
comp=Z,4µm,22.0s
PWJI **Pagerwojo** 43.19 339 P P 07 32 44.9 +0.4
comp=Z,47nm,1.0s
SYO **Syowa Base** 43.55 211 ⇑ *i*P P 07 32 45.1 -1.8
SYO **Syowa Base** 43.55 211 ⇑ *i*pP P 07 32 49.0 +2.1
PMG **Port Moresby** 43.92 31 P P 07 32 49.6 -0.8
comp=Z,33nm,0.9s,baz=240,slow=11,SNR=4.5
PMG LR LR 07 50 25.1
comp=Z,1µm,19.4s,baz=192,slow=35
PMG **Port Moresby** 43.92 31 P P 07 32 49.6 -0.8
PMG IAmb IAmb 07 32 52.2
comp=Z,72nm,1.2s
PMG **Port Moresby** 43.92 31 IAMs_20 IAMs_20 07 53 41.1
comp=Z,2µm,19.0s
COCO **West Island** 44.40 317 IAMs_20 IAMs_20 07 45 50.5
comp=Z,3µm,20.0s
SMRI **Semarang** 44.45 338 P P 07 32 51.5 -3.2
SMRI IAMs_20 IAMs_20 07 48 46.1
comp=Z,2µm,21.0s
BKSI **Bulukumba** 44.50 352 P P 07 32 55.4 +0.3
comp=Z,27nm,1.1s
KPJI **Karang Pucung** 44.57 336 P P 07 32 56.2 +0.6
comp=Z,68nm,1.4s
CISI **Cisompet, Garu** 44.66 334 P P 07 32 56.4 0.0
comp=Z,4µmcomp=Z,171nm,1.4s
CISI **Cisompet, Garu** 44.66 334 P P 07 32 56.5 +0.1
KAPI **Kappang** 44.84 351 P P 07 32 57.1 -0.7
comp=Z,17nm,0.9s,baz=194,slow=8.4,SNR=4.8
KAPI LR LR 07 49 43.3
comp=Z,1µm,21.7s,baz=182,slow=34
KAPI **Kappang** 44.84 351 P P 07 32 58.1 +0.4
KAPI IAmb IAmb 07 33 15.5
comp=Z,82nm,1.4s
LEM **Lembang** 45.41 334 P P 07 33 02.9 +0.4
comp=Z,69nm,0.8s,baz=175,slow=10,SNR=12
LEM LR LR 07 52 28.3
comp=Z,1µm,18.1s,baz=168,slow=37
SPSI **Sidrap Palu** 45.88 352 P P 07 33 06.5 +0.5
comp=Z,1µmcomp=Z,61nm,1.0s
NLAI **Namlea** 46.32 2 P P 07 33 10.3 +0.9
comp=Z,1µmcomp=Z,30nm,0.5s
KBKI **Kotabaru** 46.98 347 P P 07 33 14.6 0.0
comp=Z,45nm,1.0s
BBKI **Banjar Baru** 47.03 345 P P 07 33 15.5 +0.5
comp=Z,2µmcomp=Z,67nm,1.2s
BLSI **Bandar Lampung** 47.50 332 P P 07 33 20.7 +2.0
LWLI **Liwa** 48.20 330 P P 07 33 29.3 +5.0
KLSI **Kalianget** 48.30 331 P P 07 33 25.3 +0.4
comp=Z,406nmcomp=Z,35nm,1.3s
GENI **Genyem** 48.50 19 P P 07 33 27.3 +0.8
comp=Z,91nm,1.1s
MDSI **Maura Dua** 48.66 331 P P 07 33 27.8 +0.1
comp=Z,1µmcomp=Z,91nm,1.2s
JAY **Jayapura** 48.69 20 P P 07 33 28.2 +0.2
comp=Z,26nm,1.0s,baz=216,slow=9.1,SNR=4.2
JAY **Jayapura** 48.69 20 P P 07 33 28.8 +0.8
comp=Z,440nmcomp=Z,26nm,1.2s
HNR **Honiara** 49.13 47 IAMs_20 IAMs_20 07 53 30.2
comp=Z,2µm,18.0s
MTKI **Muara Teweh, K** 49.49 346 P P 07 33 35.4 +1.4
LHSI **Lahat** 49.49 330 P P 07 33 34.8 +0.7
comp=Z,2µmcomp=Z,161nm,1.4s
SMKI **Samarinda** 49.64 349 P P 07 33 38.4 +3.2
PMBI **Palembang** 49.95 332 P P 07 33 37.7 +0.2
KSI **Kapahiang** 49.97 329 P P 07 33 38.5 +0.8
comp=Z,228nm,0.9s
KMSI **Cibinong** 50.12 358 P P 07 33 36.1 -2.7
MPSI **Mapaga** 50.12 352 P P 07 33 39.3 +0.5
comp=Z,33nm,1.0s
GTOI **Gorontalo** 50.21 356 P P 07 33 51.0 +11
PPBI **Pangkal Pinang** 50.27 334 P P 07 33 42.3 +2.3
KRVT **Keravat (AS076** 50.37 35 LR LR 07 53 52.9
comp=Z,550nm,18.1s,baz=200,slow=35
KRJI **Kerinci** 51.81 328 P P 07 33 52.7 +1.1
comp=Z,5µmcomp=Z,377nm,1.0s
BELA **Belgrano 2** 52.11 185 P P 07 33 51.9 -1.2
MSVF **Nonsavu** 52.44 72 P P 07 33 56.4 +0.1
MSVF IAmb IAmb 07 33 59.1
comp=Z,37nm,0.9s
KSM **Kuching** 52.72 340 P P 07 33 58.5 +0.2
KSM IAMs_20 IAMs_20 07 54 26.0
comp=Z,2µm,20.0s
KSM **Kuching** 52.72 340 P P 07 33 59.0 +0.7
SDSI **Sungai Dareh** 52.90 329 P P 07 33 59.0 -0.6
comp=Z,63nm,1.2s
SBUM **Sibu** 53.28 343 P P 07 34 03.0 +0.6
SBUM IAmb IAmb 07 34 04.2
comp=Z,40nm,1.1s
SBUM **Sibu** 53.28 343 P P 07 34 03.0 +0.6
SNAA **Sanae** 53.62 198 P P 07 34 05.1 +0.7
SNAA **Sanae** 53.62 198 P P 07 34 05.4 +1.0
comp=Z,41nm,1.0s,baz=155,slow=10.0,SNR=76
SNAA **Sanae** 53.62 198 P P 07 34 04.9 +0.5
BKNI **Bangkinang** 54.21 329 P P 07 34 08.5 -0.7
comp=Z,215nm,1.1s
BKNI **Bangkinang** 54.21 329 P P 07 34 08.9 -0.4
MYKOM **Kota Tinggi** 54.70 333 P P 07 34 11.1 -1.7
MYKOM IAmb IAmb 07 34 13.9
comp=Z,45nm,0.9s
MYKOM **Kota Tinggi** 54.70 333 P P 07 34 14.0 +1.3
VNA2 **Neumayer--Watz** 55.10 197 P P 07 34 15.6 +0.5
baz=144.slow=8.2
MNSI **Mandailing Nat** 55.15 327 P P 07 34 16.4 +0.4
comp=Z,95nm,0.8s
VNA3 **Neumayer Olymp** 55.26 196 P P 07 34 16.5 +0.3
VNA1 **Neumayer--Stat** 55.49 197 P P 07 34 18.6 +0.7
GSI **Gunungsitoli** 56.34 325 P P 07 34 25.4 +0.8
comp=Z,115nm,1.6s
GSI **Gunungsitoli** 56.34 325 P P 07 34 25.8 +1.2
RPSI **Rantau Prapat** 57.15 327 P P 07 34 30.1 -0.2
RPSI IAmb IAmb 07 34 46.8
comp=Z,56nm,1.0s
RPSI IAMs_20 IAMs_20 07 59 06.6
comp=Z,1µm,19.0s
RPSI **Rantau Prapat** 57.15 327 P P 07 34 30.1 -0.2
PSI **Prapat** 57.24 327 P P 07 34 30.1 -1.0
comp=Z,34nm,1.0s,baz=171,slow=12,SNR=5.3
PSI LR LR 07 57 20.4
comp=Z,710nm,18.6s,baz=91,slow=34
IPM **Ipoh** 58.11 330 P P 07 34 37.5 +0.4
IPM IAmb IAmb 07 34 41.4
comp=Z,28nm,0.7s
IPM **Ipoh** 58.11 330 P P 07 34 38.0 +0.9
KULM **Kulim** 58.99 330 P P 07 34 42.9 -0.3
KULM IAMs_20 IAMs_20 07 54 56.1
comp=Z,1µm,22.0s
KULM **Kulim** 58.99 330 P P 07 34 44.0 +0.8
MLSI **Meulaboh, Aceh** 59.51 325 P P 07 34 46.3 -0.5
comp=Z,123nm,1.0s
H08S2 **Diego Garcia H** 61.03 295 T T 08 41 13.4
baz=143,slow=76,SNR=104
H08S1 **Diego Garcia H** 61.04 295 T T 08 41 04.1
baz=143,slow=76,SNR=69
H08S3 **Diego Garcia H** 61.05 295 T T 08 41 15.0
baz=143,slow=76,SNR=120
DLV **T Lat** 63.27 341 IAMs_20 IAMs_20 08 00 26.9
comp=Z,1µm,22.0s
FOMA **Nahampoana Res** 64.35 261 IAMs_20 IAMs_20 07 56 28.1
comp=Z,1µm,18.0s
PBA **Port Blair** 67.67 325 IAMs_20 IAMs_20 08 01 35.9
comp=Z,1µm,22.0s
ABPO **Ambohimpanom** 68.45 266 IAMs_20 IAMs_20 07 58 54.9
comp=Z,1µm,20.0s
PALK **Pallekele** 69.00 311 IAMs_20 IAMs_20 08 00 07.2
comp=Z,873nm,20.0s
TBI **Tubuai** 69.19 102 *e*S S 07 44 55.5 +0.8
comp=Z,357nm,27.5s
TBI *e*LQ LQ 07 53 49.2
comp=Z,841nm,38.5s
TBI *e*LR LR 07 56 50.7
comp=Z,1µm,26.0s,baz=219
QIZ **Qiongzhong** 69.90 344 P P 07 35 54.7 +0.3
QIZ PP PP 07 38 29.3 -0.2
QIZ S S 07 45 06.2 +3.5
QIZ sS pS 07 45 12.0 +1.3
QIZ LR LR
comp=Z,490nm,23.5s
QIZ LR LR
comp=Z,440nm,8.8s
QIZ LR LR
comp=Z,890nm,26.5s
CMAR **Chiang Mai Arr** 71.94 333 P P 07 36 06.8 -0.1
comp=Z,5.1nm,0.7s,baz=186,slow=5.6,SNR=22
CMAR LR LR 08 06 32.9
comp=Z,872nm,20.0s,baz=209,slow=35
CMAR **Chiang Mai Arr** 71.94 333 P P 07 36 06.6 -0.2
CHTO **Chiang Mai** 72.28 333 P P 07 36 08.0 -0.8
CHTO IAmb IAmb 07 36 28.1
comp=Z,33nm,1.4s
CHTO **Chiang Mai** 72.28 333 IAMs_20 IAMs_20 08 04 25.3
comp=Z,1µm,21.0s
TPUB **Ta-pu** 72.83 355 P P 07 36 13.1 +1.0
SSLB **Suanglung** 73.30 355 P P 07 36 15.7 +0.8
SSLB IAmb IAmb 07 36 32.8
comp=Z,50nm,1.0s
PPT2 **Papeete2** 73.31 98 *e*S S 07 45 42.6 0.0
comp=Z,228nm,27.8s
PPT2 *e*LQ LQ 07 55 35.6
comp=Z,2µm,38.8s
PPT2 *e*LR LR 07 58 41.0
comp=Z,1µm,22.8s,baz=218
PPT **Papeete** 73.32 98 LR LR 08 02 05.9
comp=Z,585nm,20.1s,baz=228,slow=31
SLVN **Son La** 73.37 339 P P 07 36 15.6 +0.2
SUR **Sutherland** 74.77 238 P P 07 36 22.9 -1.0
SUR IAmb IAmb 07 36 38.9
comp=Z,34nm,1.1s
BOSA **Boshof** 75.09 243 P P 07 36 24.4 -1.3
BOSA LR LR 08 02 42.9
comp=Z,3.1nm,0.6s,baz=152,slow=6.2,SNR=8.4
BOSA **Boshof** 75.09 243 P P 07 36 25.0 -0.7
KMI **Kunming** 77.29 339 ⇑ P P 07 36 39.7 +1.7
KMI pP pP 07 36 45.2 +0.7
KMI sP PcP 07 36 48.6 +0.1
KMI S S 07 46 32.2 +5.7
comp=Z,968nm,20.7s,baz=140,slow=30
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,220nm,5.1s
KMI LR LR
comp=Z,260nm,20.3s
KMI LR LR
comp=Z,600nm,21.7s
KMI LR LR
comp=Z,550nm,20.9s
LBTB **Lobatse** 77.59 246 P P 07 36 39.5 -0.4
GYA **Guiyang** 77.73 342 *e*P P 07 36 49.4 +9.1
GYA S S 07 46 44.8 +14
GYA pmax pmax
comp=Z,11nm,1.1s
GYA LR LR
comp=Z,1µm,28.6s
HYB **Hyderabad** 78.82 314 *i* P P 07 36 46.0 -0.4
WHN **Wuhan** 80.55 350 ⇓ P P 07 36 56.3 +0.8
SHL **Shillong** 80.81 329 P P 07 36 56.6 -0.6
NJ2 **Nanjing** 81.64 354 *e*P P 07 37 05.5 +4.3
NJ2 pmax pmax
comp=Z,23nm,0.5s
JNU **Nakatsue** 82.59 4 P P 07 37 07.5 +1.2
comp=Z,14nm,0.8s,baz=206,slow=2.4,SNR=4.9
CD2 **Chengdu** 82.64 341 *e*P P 07 37 07.5 +0.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LSZ **Lusaka** 83.37 254 P P 07 37 10.2 -0.8
LSZ **Lusaka** 83.37 254 IAMs_20 IAMs_20 08 07 42.8
comp=Z,1µm,21.0s
XAN **Xi'an** 84.73 346 P P 07 37 18.6 +1.4
XAN pP sP 07 37 26.2 0.0
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,100nm,3.8s
XAN LR LR
comp=Z,630nm,7.7s
XAN LR LR
comp=Z,580nm,10.2s
XAN LR LR
comp=Z,1µm,25.0s
TAOE **Nuku Hiva Isla** 85.88 99 *e*LR LR 08 04 25.0
comp=Z,623nm,22.3s
MJAR **Matsushiro Arr** 86.57 10 P P 07 37 26.1 -0.1
comp=Z,21nm,1.2s,baz=199,slow=6.1,SNR=15
MJAR **Matsushiro Arr** 86.57 10 P P 07 37 26.4 +0.1
MAT **Matsushiro** 86.57 10 P P 07 37 27.3 +1.0
MAT *e*S S 07 48 00.8 -0.3
KSRS **Korea Array** 86.81 2 P P 07 37 27.8 +0.4
comp=Z,6.5nm,0.9s,baz=177,slow=5.3,SNR=11
LL01 **San Ignacio de** 86.90 167 P P 07 37 27.8 -0.3
LL01 IAmb IAmb 07 37 44.2
comp=Z,19nm,1.1s
LZH **Lanzhou** 87.63 342 *e*P P 07 37 31.9 +0.3
LZH pP pP 07 37 38.8 +0.6
LZH sP sP 07 37 41.6 +1.5
LZH pmax pmax
comp=Z,15nm,1.1s
SOCY **Socotra** 87.83 292 IAMs_20 IAMs_20 08 07 31.5
comp=Z,823nm,22.0s
KMBO **Kilima Mbogo** 88.25 270 P P 07 37 34.1 -1.2
comp=Z,0.5nm,0.3s,baz=221,slow=19,SNR=2.2
KMBO LR LR 08 08 53.3
comp=Z,485nm,21.4s,baz=100,slow=30
KMBO **Kilima Mbogo** 88.25 270 P P 07 37 35.6 +0.3
KMBO **Kilima Mbogo** 88.25 270 IAMs_20 IAMs_20 08 13 06.3
comp=Z,625nm,18.0s
PLCA **Paso Flores** 88.78 168 P P 07 37 36.5 -0.8
comp=Z,9.5nm,1.0s,baz=189,slow=6.5,SNR=15
PLCA LR LR 08 14 06.5
comp=Z,737nm,20.1s,baz=191,slow=33
PLCA **Paso Flores** 88.78 168 P P 07 37 37.2 -0.1
PLCA IAmb IAmb 07 37 48.0
comp=Z,27nm,1.2s
LC01 **Cunco** 90.39 166 P P 07 37 44.4 -0.4
LC01 IAmb IAmb 07 37 54.9
comp=Z,19nm,1.2s
BTO **Baotou** 91.01 348 *e*P P 07 37 45.5 -1.8
HHC **Hu-ho-hao-te** 91.06 349 *e*P P 07 37 46.9 -0.6
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,250nm,5.7s
GTA **Gaotai** 91.67 340 *e*P P 07 37 50.6 +0.2
GTA pP pP 07 37 55.1 -2.0
GTA sP sP 07 37 57.8 -1.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,82nm,7.6s
GTA LR LR
comp=Z,490nm,20.0s
GTA LR LR
comp=Z,380nm,20.0s
GTA LR LR
comp=Z,690nm,20.4s
BI02 **San Fabin de** 92.67 166 IAMs_20 IAMs_20 08 18 24.1
comp=Z,818nm,21.0s
MBAR **Mbarara** 92.87 266 IAMs_20 IAMs_20 08 12 03.2
comp=Z,795nm,21.0s
CN2 **Changchun** 93.13 360 *e*P P 07 38 00.5 +3.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
USRK **Ussuriysk Ar.** 93.68 4 P P 07 38 02.3 +2.9
comp=Z,2.9nm,1.0s,baz=193,slow=4.4,SNR=4.2
USRK **Ussuriysk Ar.** 93.68 4 P P 07 37 60.0 +0.6
ASAJ **Asahikawa** 94.58 12 LR LR 08 19 31.5
comp=Z,102nm,19.9s,baz=209,slow=35
KBL **Kabul** 97.82 316 IAMs_20 IAMs_20 08 17 49.1
comp=Z,861nm,20.0s
SONM **Songino Array** 98.61 347 P Pdif 07 38 24.3 +2.4
comp=Z,0.3nm,0.3s,baz=129,slow=8.3,SNR=3.0
SONM LR LR 08 26 52.5
comp=Z,234nm,18.1s,baz=166,slow=38
SONM **Songino Array** 98.61 347 P Pdif 07 38 22.4 +0.5
WMQ **Urumqi** 98.94 333 *e*P Pdif 07 38 23.8 +0.4
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,50nm,5.1s
WMQ LR LR
comp=Z,330nm,29.2s
WMQ LR LR
comp=Z,390nm,28.9s
WMQ LR LR
comp=Z,250nm,29.1s
TARG **Taragay, Kyrgy** 100.35 326 IAMs_20 IAMs_20 08 19 07.4
comp=Z,572nm,21.0s
AC05 **El Transito** 100.49 166 IAMs_20 IAMs_20 08 21 37.3
comp=Z,772nm,18.0s
KDJ **Kajisay** 100.93 325 IAMs_20 IAMs_20 08 20 02.5
comp=Z,717nm,21.0s
GAR **Garm** 100.99 319 IAMs_20 IAMs_20 08 23 10.1
comp=Z,788nm,22.0s
BTK **Batken** 101.67 320 IAMs_20 IAMs_20 08 21 37.0
comp=Z,582nm,20.0s
BOOM **Boomskoye usch** 101.70 325 IAMs_20 IAMs_20 08 19 59.1
comp=Z,959nm,22.0s
MKAR **Makanchi Array** 103.27 331 PP PKiKP 07 43 01.4 -0.2
comp=Z,0.8nm,0.9s,baz=132,slow=8.2,SNR=3.2
ASHT **Ashkhabad** 105.62 311 IAMs_20 IAMs_20 08 21 44.9
comp=Z,717nm,20.0s
GYA0B **ALIBECK ARRAY** 105.74 310 IAMs_20 IAMs_20 08 24 07.1
comp=Z,741nm,20.0s
KURBB **Kurchatov Arra** 107.83 331 PP PP 07 43 28.8 -3.5
comp=Z,0.4nm,0.8s,baz=143,slow=6.9,SNR=3.0
KURK **Kurchatov** 107.88 331 IAMs_20 IAMs_20 08 24 20.2
comp=Z,651nm,22.0s
GEVA **Gevas** 113.94 301 IAMs_20 IAMs_20 08 25 37.1
comp=Z,704nm,21.0s
MARD **Mardin** 114.51 299 IAMs_20 IAMs_20 08 29 34.2
comp=Z,660nm,21.0s
AKH **Akhalkalaki** 115.88 304 IAMs_20 IAMs_20 08 27 59.6
comp=Z,448nm,22.0s
KOPT **Kop Dagi** 116.55 301 IAMs_20 IAMs_20 08 27 39.3
comp=Z,625nm,22.0s
ARTV **Artvin** 116.57 303 IAMs_20 IAMs_20 08 27 18.8
comp=Z,490nm,22.0s
CSS **Mathiatis** 117.23 293 IAMs_20 IAMs_20 08 28 00.3
comp=Z,457nm,21.0s
BRTR **Keskin Array B** 120.25 297 PKP PKiKP 07 43 34.9 +0.6
comp=Z,1.0nm,0.7s,baz=151,slow=4.9,SNR=6.0
BRTR PP PP 07 44 58.5 -2.1
comp=Z,0.9nm,0.8s,baz=161,slow=7.9,SNR=3.8
BRTR **Keskin Array B** 120.25 297 PKPdf PKiKP 07 43 34.5 +0.2
SAML **Samuel** 121.05 170 IAMs_20 IAMs_20 08 36 31.8
comp=Z,428nm,20.0s
ILGA **Ilgaz** 121.07 298 IAMs_20 IAMs_20 08 38 57.8
comp=Z,342nm,18.0s
KARP **Karpathos** 121.36 289 IAMs_20 IAMs_20 08 47 19.0
comp=Z,387nm,21.0s
TOC3 **Torodi Ar. Sit** 121.79 252 IAMs_20 IAMs_20 08 30 47.8
comp=Z,533nm,20.0s
TOC4 **Torodi Ar. Sit** 121.79 251 IAMs_20 IAMs_20 08 30 47.8
comp=Z,476nm,19.0s
TOB3 **Torodi Ar. Sit** 121.80 252 IAMs_20 IAMs_20 08 30 48.1
comp=Z,501nm,20.0s
TOC2 **Torodi Ar. Sit** 121.80 252 IAMs_20 IAMs_20 08 30 48.2
comp=Z,509nm,20.0s
TOA2 **Torodi Ar. Sit** 121.81 252 IAMs_20 IAMs_20 08 30 48.4
comp=Z,594nm,21.0s
TOA3 **Torodi Ar. Sit** 121.81 252 IAMs_20 IAMs_20 08 30 47.4
comp=Z,504nm,20.0s
TOC5 **Torodi Ar. Sit** 121.81 251 IAMs_20 IAMs_20 08 28 45.4
comp=Z,605nm,21.0s
TOB4 **Torodi Ar. Sit** 121.81 251 IAMs_20 IAMs_20 08 28 45.4
comp=Z,541nm,22.0s
TOA0 **Torodi Ar. Sit** 121.81 252 IAMs_20 IAMs_20 08 30 28.4
comp=Z,493nm,20.0s
TORD **Torodi Ar. Bea** 121.81 252 PKP PKPdf 07 43 35.7 -2.0
comp=Z,1.9nm,1.0s,baz=63,slow=1.1,SNR=6.6
TORD **Torodi Ar. Bea** 121.81 252 PKPdf PKPdf 07 43 36.9 -0.9
TOB5 **Torodi Ar. Sit** 121.83 252 IAMs_20 IAMs_20 08 30 38.8
comp=Z,520nm,20.0s
TOC1 **Torodi Ar. Sit** 121.83 252 IAMs_20 IAMs_20 08 30 38.8
comp=Z,589nm,20.0s
TOC7 **Torodi Ar. Sit** 121.83 252 IAMs_20 IAMs_20 08 30 39.0
comp=Z,562nm,21.0s
GAMB **Gambell** 123.23 28 IAMs_20 IAMs_20 08 33 31.8
comp=Z,557nm,20.0s
CHIR **Chirikof Islan** 123.71 42 IAMs_20 IAMs_20 08 30 50.2
comp=Z,554nm,19.0s
OTAV **Otavalo** 126.49 149 *e*P PKiKP 07 43 48.2 +0.4
OTAV **Otavalo** 126.49 149 PKPdf PKPdf 07 43 45.2 -2.1
PUAC **Puerto Asis, P** 127.39 151 *e*P PKiKP 07 43 49.5 +0.4
GCUF **Volcan Galeras** 127.78 150 *e*P PKPdf 07 43 50.0 +0.2
MLR **Muntele Rosu** 128.27 298 IAMs_20 IAMs_20 08 36 22.3
comp=Z,462nm,21.0s
BBAC **Balboa, Cauca** 128.56 150 *e*P PKiKP 07 43 51.9 +0.2
FLOC **Florencia** 128.65 152 *e*P PKiKP 07 43 53.7 +2.1
RDOG **Red Dog Mine** 128.78 27 IAMs_20 IAMs_20 08 37 36.5
comp=Z,534nm,21.0s
SOTA **Rioblanco** 128.87 151 *e*P PKiKP 07 43 56.5 +3.8
PCON **Cinco Dias** 129.12 151 *e*P PKPdf 07 43 52.8 +0.3
POPC **Popayan, Colom** 129.23 150 *e*P PKPdf 07 43 51.0 -1.4
GARC **Garzon, Huila** 129.27 152 *e*P PKiKP 07 43 53.7 +0.6
AKASG **Malin Array Be** 129.41 305 PKP PKPdf 07 43 51.2 +0.1
comp=Z,0.5nm,0.5s,baz=64,slow=2.0,SNR=8.3
AKASG **Malin Array Be** 129.41 305 PKPdf 07 43 51.5 +0.4
PTGA **Pitinga** 129.50 172 IAMs_20 IAMs_20 08 39 08.6
comp=Z,446nm,19.0s
MACC **Macarena, Meta** 129.71 154 *e*P PKPdf 07 43 51.0 -2.0
BURAR **Bucovina Array** 129.89 300 PKPdf 07 43 52.5 +0.2
KLMR **Klimovskoe** 130.02 320 *e*PKPdf PKiKP 07 43 52.8 +0.1
KLMR AMP 07 44 02.5
comp=Z,22nm,1.1s
GHO **Glory Hole Cre** 130.04 38 IAMs_20 IAMs_20 08 32 08.6
comp=Z,591nm,22.0s
BPAW **Bear Paw Mtn.** 130.49 35 IAMs_20 IAMs_20 08 32 48.3
comp=Z,588nm,22.0s
IMAR **Indian Mountai** 130.51 32 PKiKP 07 43 54.1 +0.5
PRAC **Prado** 130.90 152 *e*P PKPdf 07 43 54.6 -0.6
ORTC **Ortega, Tolima** 130.97 152 *e*P PKPdf 07 43 54.6 -0.7
SPX **San Pedro Mart** 131.11 88 IAMs_20 IAMs_20 08 44 17.0
comp=Z,288nm,19.0s
TOLC **Tolima** 131.59 151 *e*P PKiKP 07 44 02.9 +5.0
RMX **La Rumorosa** 131.72 86 IAMs_20 IAMs_20 08 53 01.9
comp=Z,380nm,18.0s
WRH **Wood River Hil** 131.77 35 PKPdf 07 43 55.2 0.0
RREF **El Recreo** 131.88 151 *e*P PKPdf 07 43 55.7 -2.1

MDM	Murphy Dome	131.96	35	IAMs_20	IAMs_20	08 33 59.1	
	comp=Z,544nm,21.0s						
CCB	Clear Creek Bu	131.96	35	PKPdf	PKPdf	07 43 54.5	-1.0
CCB				IAMs_20	IAMs_20	08 34 40.2	
	comp=Z,537nm,20.0s						
COLA	College	132.06	35	IAMs_20	IAMs_20	08 34 00.6	
	comp=Z,543nm,21.0s						
ISA	Isabella, Lake	132.10	82		PKiKP	07 43 58.4	+0.5
CHIC	Chingaza	132.11	153	eP	PKPdf	07 43 58.3	+0.3
ROSC	El Rosal	132.13	152	PKPdf	PKPdf	07 43 57.9	-0.2
HDA	Harding Lake	132.17	36		PKiKP	07 43 57.0	0.0
HDA				IAMs_20	IAMs_20	08 33 23.7	
	comp=Z,602nm,22.0s						
GUY2C	Guyana, Caldas	132.18	151	eP	PKPdf	07 43 58.3	+0.1
CMB	Columbia Colle	132.31	78	IAMs_20	IAMs_20	08 30 49.9	
	comp=Z,535nm,21.0s						
ILAR	Eielson Array	132.37	35	PKP	PKPdf	07 43 56.7	+0.4
	comp=Z,0.9nm,0.6s,baz=291,slow=3.0,SNR=15						
ILAR				PP	PP	07 46 17.1	-3.3
	comp=Z,0.8nm,1.1s,baz=225,slow=2.4,SNR=3.5						
ILAR	Eielson Array	132.37	35		PKiKP	07 43 56.6	+0.3
COLD	Coldfoot	132.37	32	IAMs_20	IAMs_20	08 36 46.9	
	comp=Z,553nm,20.0s						
AFDM	Forest Hills D	132.48	76	PKPdf	PKPdf	07 43 57.5	+0.1
AFDM				IAMs_20	IAMs_20	08 31 51.5	
	comp=Z,387nm,20.0s						
ORV	Oroville	132.50	75	IAMs_20	IAMs_20	08 33 27.0	
	comp=Z,433nm,20.0s						
CBOC	Ciudad Bolivar	132.57	150	eP	PKPdf	07 43 58.3	-0.2
GLA	Glamis	132.82	87		PKPdf	07 43 58.0	-0.3
GSC	Goldstone, Bar	132.95	83		PKPdf	07 43 57.1	-1.4
SPBC	San Pablo de B	132.98	152	eP	PKPdf	07 43 58.3	-0.9
HUMO	Hull Mountain	133.33	71		PKiKP	07 44 00.2	+0.1
HUMO				IAMs_20	IAMs_20	08 29 37.0	
	comp=Z,590nm,21.0s						
RUSC	La Rusia	133.50	154	eP	PKPdf	07 43 58.3	-2.4
BCAR	Beaver Creek A	133.57	39		PKiKP	07 44 00.9	+0.9
DBBC	Dabeiba	133.58	149	eP	PKiKP	07 44 02.0	+0.4
LHV	Little Huntoon	133.63	79	IAMs_20	IAMs_20	08 30 30.0	
	comp=Z,498nm,20.0s						
NVAR	Mina Array Bea	133.86	79	PKP	PKiKP	07 44 01.6	+0.1
	comp=Z,1.5nm,0.7s,baz=208,slow=3.9,SNR=12						
NVAR	Mina Array Bea	133.86	79		PKPdf	07 44 00.3	0.0
VYHS	Vyhne	133.98	298	ePKP	PKPdf	07 44 00.1	+0.2
AQU	L'Aquila	133.99	288	IAMs_20	IAMs_20	08 43 48.6	
	comp=Z,342nm,20.0s						
BCIP	Isla Barro Col	134.26	143	eP	PKPdf	07 43 58.8	-2.6
TPNV	Topopah Spring	134.30	82	IAMs_20	IAMs_20	08 33 20.7	
	comp=Z,432nm,18.0s						
KVN	Kaiserville	134.35	78		PKiKP	07 44 02.8	+0.3
BRRC	Barranca, Sant	134.46	152	eP	PKPdf	07 44 02.0	+0.1
JAVC	Velka Javorina	134.84	298	ePKP	PKiKP	07 44 10.7	+7.7
TUC	Tucson	134.97	91	IAMs_20	IAMs_20	08 46 54.0	
	comp=Z,346nm,18.0s						
PAMC	Pamplona, Colo	134.98	153	eP	PKPdf	07 44 01.1	-2.4
PINE	Pine Mountain	135.21	71		PKiKP	07 44 04.2	+0.2
ARSA	Arzberg	135.28	295	eP	PKiKP	07 44 08.3	+4.4
	comp=Z,7.5nm,1.2s						
SOKA	Soboth	135.29	294	eP	PKiKP	07 44 08.1	+4.1
	comp=Z,7.9nm,1.3s						
MORC	Moravsky Berou	135.36	299	ePKP	PKiKP	07 44 11.3	+7.3
OCAC	Ocana	135.65	152	eP	PKPdf	07 44 04.0	-0.2
KRUC	Moravsky	135.67	297	ePKP	PKiKP	07 44 11.4	+6.8
VRAC	Vranov	135.67	298	ePKP	PKiKP	07 44 11.5	+6.9
KRLC	Kraliky	135.93	299	ePKP	PKiKP	07 44 13.1	+8.0
OSSC	Osservatorio P	135.95	288	IAMs_20	IAMs_20	08 42 36.6	
	comp=Z,362nm,19.0s						
FINES	FINESS Array B	136.07	317	PKP	PKPdf	07 44 02.4	-0.9
	comp=Z,3.1nm,0.9s,baz=224,slow=3.8,SNR=3.3						
FINES	FINESS Array B	136.07	317		PKPdf	07 44 01.5	-1.8
DPC	Dobruska-Polom	136.32	299	ePKP	PKPdf	07 44 04.2	0.0
DPC				ex	x	07 44 14.8	
MOA	Molln	136.32	295	eP	PKiKP	07 44 07.0	+1.1
	comp=Z,5.4nm,1.7s						
SOCV	Socops	136.40	156	eP	PKPdf	07 44 05.1	-0.4
ZOU	Zoufplan	136.45	293	IAMs_20	IAMs_20	08 47 00.1	
	comp=Z,385nm,20.0s						
KBA	Koelnbreinsper	136.49	294	eP	PKiKP	07 44 07.7	+1.1
	comp=Z,4.6nm,1.1s						
CHVC	Chvalec	136.58	299	ePKP	PKPdf	07 44 05.0	+0.3
CHVC				ex	x	07 44 13.5	
PSUT	Pine Spring	136.77	81		PKPdf	07 44 06.4	+0.7
ABTA	Abfaltersbach	136.82	293	eP	PKiKP	07 44 11.0	+3.8
	comp=Z,5.7nm,0.9s						
SDV	Santo Domingo	137.03	156	IAMs_20	IAMs_20	08 36 22.6	
	comp=Z,412nm,20.0s						
GERES	GERESS Array B	137.13	296	PKP	PKPdf	07 44 05.2	-0.6
	comp=Z,1.1nm,0.9s,baz=149,slow=3.1,SNR=5.5						
G08A	Pilot Rock	137.19	70		PKiKP	07 44 07.5	-0.5
KHC	Kasperske Hory	137.33	296	ePKP	PKiKP	07 44 16.5	+8.5
SALO	Salr	137.47	290	IAMs_20	IAMs_20	08 27 48.3	
	comp=Z,401nm,18.0s						
WTTA	Wattenberg	137.60	293	eP	PKiKP	07 44 09.7	+0.9
	comp=Z,6.4nm,0.9s						
TX32	Lajitas Array	137.61	100		PKPdf	07 44 05.5	-1.9
TX31	Lajitas Ar. Si	137.61	100	PKPdf	PKPdf	07 44 05.4	-2.0
TXAR	Lajitas Array	137.61	100	PKhKP	PKPpre	07 43 56.0	
	comp=Z,0.7nm,0.8s,baz=219,slow=3.2,SNR=8.7						
TXAR				PKP	PKPdf	07 44 07.8	+0.4
	comp=Z,3.5nm,1.2s,baz=199,slow=4.5,SNR=8.2						
SQTA	Sankt Quirin	137.83	293	eP	PKiKP	07 44 10.1	+0.8
	comp=Z,6.4nm,0.7s						
BRG	Berggiesshubel	137.91	299	ePKP	PKiKP	07 44 14.9	+5.8
	comp=Z,6.1nm,1.1s						
MOTA	Moosalm	137.96	293	eP	PKiKP	07 44 08.8	-0.8
	comp=Z,3.4nm,0.7s						
BMO	Blue Mountains	137.99	72	IAMs_20	IAMs_20	08 33 15.4	
	comp=Z,565nm,22.0s						
FETA	Feichten	138.03	292	eP	PKiKP	07 44 09.8	+0.1
	comp=Z,6.4nm,1.1s						
MNTX	Cornudas Mount	138.08	96	PKPdf	PKPdf	07 44 08.8	+0.8
DUG	Dugway, Tooele	138.37	80	IAMs_20	IAMs_20	08 33 02.3	
	comp=Z,506nm,20.0s						
CLL	Collm	138.63	299	*i* PKPpre	PKPpre	07 44 02.7	
CLL				*i* PKPdf	PKiKP	07 44 10.1	-0.4
	comp=Z,6.0nm,1.1s						
CLL				*e*SS	SS	08 05 18.0	+4.8
DAVA	Damuels	138.66	292	eP	PKiKP	07 44 14.9	+3.9
	comp=Z,5.7nm,1.1s						
GRF	Grafenberg Arr	138.96	296	ePKP	PKiKP	07 44 18.4	+7.1
	baz=116,slow=2.1						
GRF				eL	L	08 51 21.4	
	comp=Z,218nm,19.6s						
HLID	Hailey	139.14	75	IAMs_20	IAMs_20	08 36 45.7	
	comp=Z,511nm,20.0s						
TEIG	Tepich	139.99	125	IAMs_20	IAMs_20	08 37 14.0	
	comp=Z,442nm,19.0s						
AHID	Auburn Hatcher	140.82	78	IAMs_20	IAMs_20	08 41 08.3	
	comp=Z,479nm,19.0s						
FXWY	Fox Creek	141.30	77	IAMs_20	IAMs_20	08 39 17.1	
	comp=Z,342nm,20.0s						
LOHW	Long Hollow	141.56	77		PKPdf	07 44 14.3	0.0
SDCO	Great Sand Dun	141.71	88	PKPdf	PKPdf	07 44 15.3	+0.4
YHL	Hebgen Lake	141.79	75		PKPdf	07 44 15.9	+1.1
BW06	Boulder Array	141.80	79	IAMs_20	IAMs_20	08 35 13.2	
	comp=Z,415nm,22.0s						
PDAR	Pinedale Array	141.80	79	PKP	PKPdf	07 44 12.2	-2.5
	comp=Z,1.4nm,0.9s,baz=184,slow=3.9,SNR=6.9						
PDAR	Pinedale Array	141.80	79		PKPdf	07 44 14.5	-0.3
NOA	NORSAR Array B	142.78	313	PKP	PKPdf	07 44 15.7	+0.1
	comp=Z,0.8nm,1.0s,baz=97,slow=3.8,SNR=3.4						
ISCO	Idaho Springs	142.79	85		PKPdf	07 44 16.1	-0.6
RLMT	Red Lodge	143.12	75	IAMs_20	IAMs_20	08 44 43.8	
	comp=Z,458nm,18.0s						
N23A	Red Feather La	143.16	84	IAMs_20	IAMs_20	08 38 22.0	
	comp=Z,467nm,20.0s						
ESDC	Sonseca Array	143.57	274	PKP	PKPbc	07 44 15.2	0.0
	comp=Z,2.2nm,0.9s,baz=118,slow=2.6,SNR=12						
ESDC	Sonseca Array	143.57	274		PKPbc	07 44 16.3	+1.1
K22A	Casper	143.68	81		PKPdf	07 44 16.7	-1.3
PHWY	Pilot Hill	143.68	83	IAMs_20	IAMs_20	08 36 44.9	
	comp=Z,462nm,22.0s						
EGMT	Eagleton	144.08	71		PKPdf	07 44 17.6	-0.8
EGMT				IAMs_20	IAMs_20	08 37 24.4	
	comp=Z,487nm,22.0s						
WMOK	Wichita Mounta	144.27	98	PKPdf	PKPdf	07 44 18.7	-0.4
NATX	Nacogdoches	144.96	105		PKPab	07 44 18.5	-1.2
NATX					PKPdf	07 44 20.5	+0.2
U32A	Winter Ranch,	145.13	95		PKPbc	07 44 17.9	-2.2
441A	DeRidder	145.18	108		PKPbc	07 44 19.0	-1.4
441A					PKPdf	07 44 22.0	+1.3
PBEJ	Beja	145.19	268	ePKP	PKPdf	07 44 22.0	+1.5
PFVI	Vila Bisbo	145.30	266	ePKP	PKiKP	07 44 29.6	+4.9
YKA	Yellowknife Ar	145.31	45	PKPbc	PKPbc	07 44 18.9	-0.9
	comp=Z,17nm,0.8s,baz=274,slow=3.2,SNR=20						
PTEO	Sao Teotonio	145.47	267	ePKP	PKiKP	07 44 23.5	-1.5
FNO	Franklin	145.48	98		PKPab	07 44 21.9	+0.4
OKCFA	Oklahoma City	145.55	98		PKPdf	07 44 21.0	-0.2
EVO	Evora	145.57	269	ePKP	PKPab	07 44 23.2	+1.5
BCOK	Bluff Creek, N	145.59	97		PKPdf	07 44 21.0	-0.3
PMRV	Marv??o	145.66	271	ePKP	PKPdf	07 44 20.9	-0.4
PMRV				*i* LQ	LQ	07 44 30.6	
PNCL	Nicolau / Gran	145.67	268	ePKP	PKPbc	07 44 22.0	+0.3
PNCL				*i* LQ	LQ	07 44 31.1	
LAO	LASA Array	145.72	75		PKPab	07 44 22.6	+0.5
OK025	Westminster Rd	145.72	98		PKPdf	07 44 20.8	-0.8
Z38A	Mt. Pleasant	145.75	103		PKPbc	07 44 21.9	-0.2
W35A	Tecumseh	145.75	99		PKPbc	07 44 21.9	-0.2
OK029	Liberty Lake	145.78	97		PKPdf	07 44 21.7	+0.1
NOR	Nord	145.91	351	*i* P	PKPdf	07 44 20.4	-0.1
	comp=Z,7.6nm,1.1s						
NOR	Nord	145.91	351	*i* P	PKPdf	07 44 20.5	-0.1
NOR				IAmb	IAmb	07 44 21.4	
	comp=Z,7.6nm,1.1s						
PCBR	Castelo Branco	145.94	271	ePKP	PKPab	07 44 24.4	+1.3
PCBR				*i* LQ	LQ	07 44 32.2	
RSSD	Black Hills	145.98	80		PKPdf	07 44 22.1	+0.1
PMTG	Montargil	146.01	270	ePKP	PKPab	07 44 23.3	0.0
CBKS	Cedar Bluff	146.06	91		PKPdf	07 44 22.3	+0.3
342A	Flagon Creek P	146.15	108		PKPbc	07 44 23.4	+0.1
KAN10	Anthony SW Sta	146.16	95		PKPbc	07 44 23.3	0.0
MVO	Moncorvo	146.35	274	ePKP	PKiKP	07 44 27.0	+0.2
X37A	Clayton	146.36	101		PKPdf	07 44 22.9	+0.3
SDDR	Presa de Saban	146.40	150		PKPdf	07 44 23.3	+0.1
PBRG	Braganca	146.49	275	ePKP	PKPab	07 44 25.4	+0.2
PBRG				*i* LQ	LQ	07 44 48.2	
QUOK	Quay	146.49	97		PKPdf	07 44 22.9	+0.1
KAN13	South Haven SW	146.49	96		PKPbc	07 44 24.2	-0.1
R32A	Long Quarter,	146.50	92		PKPbc	07 44 23.6	-0.7
PCAS	Casmilo, Conde	146.72	271	ePKP	PKPab	07 44 26.5	+0.4
PCAS				*i* LQ	LQ	07 44 33.7	
TUL1	Leonard	146.92	99		PKPdf	07 44 23.9	+0.4
SKI	Saint Kitts	146.96	165		PKPdf	07 44 23.9	-0.2
PDPR	Patillas Dam,	146.96	159		PKPdf	07 44 24.0	-0.1
SC01	Santiago de lo	146.99	150	IAMs_20	IAMs_20	08 55 12.8	
	comp=Z,290nm,19.0s						
T35A	Sooner Cattle	147.06	97		PKPdf	07 44 24.1	+0.4
T35A				PKPbc	PKPab	07 44 26.5	-1.0
AOPR	Arecibo Observ	147.10	158		PKPdf	07 44 24.1	-0.3
HUMP	Col San Antoni	147.12	159	PKPdf	PKPdf	07 44 24.3	0.0
HUMP					PKPab	07 44 27.5	-0.6
MTP	Monte Pirata	147.15	160		PKPdf	07 44 23.1	-1.4
MTP				PKPbc	PKPbc	07 44 26.8	+0.2
344A	Westbrook Farm	147.18	110	PKPdf	PKPdf	07 44 23.6	-0.5
WLAR	White Oak Lake	147.21	104	PKPdf	PKPdf	07 44 25.1	+1.0
GCPR	Guaynabo City	147.23	159	PKPdf	PKPdf	07 44 23.9	-0.7
CBYP	Canovanas	147.25	159	PKPdf	PKPdf	07 44 22.6	-2.1
CBYP					PKPbc	07 44 26.2	-0.8
PCAB	Cabril	147.27	274	ePKP	PKiKP	07 44 28.7	+0.1
CUPR	Culebra, Puert	147.41	160	PKPdf	PKPdf	07 44 25.3	+0.4
CUPR				PKPbc	PKPbc	07 44 27.6	+0.2
MIAR	Mount Ida	147.47	103		PKiKP	07 44 29.1	-0.2
DGMT	Dagmar	147.68	73	PKPbc	PKiKP	07 44 28.3	-0.9
W39A	Magazine	147.76	102		PKPbc	07 44 26.4	-1.4
U38A	Gravette	148.14	99	PKPdf	PKPdf	07 44 25.4	-0.2
U38A					PKPbc	07 44 28.4	-0.4
U38A				PKPab	pPKPdf	07 44 32.9	+0.8
KSU1	Kansas State U	148.25	93	PKPdf	PKPdf	07 44 26.1	+0.5
HHAR	Hobbs	148.33	100		PKPdf	07 44 25.6	-0.3
UALR	University of	148.40	104		PKPdf	07 44 27.5	+1.4
BGNE	Belgrade	148.47	88		PKPbc	07 44 30.2	+0.6
N33A	J Bar K, Exete	148.58	90		PKPbc	07 44 29.9	+0.1
N33A				PKPab	pPKPbc	07 44 37.8	+1.2
K31A	O'Neill	148.67	86		PKPdf	07 44 26.5	+0.3
W41B	Gary Mavity, V	148.72	103		PKPdf	07 44 28.1	+1.6
WHAR	Wooly Hollow	148.76	103		PKPdf	07 44 26.4	-0.2
U40A	Yellville	149.07	101	PKPdf	PKPdf	07 44 28.1	+1.0
E28A	Huff	149.16	78		PKPdf	07 44 27.6	+0.7
FCAR	Ozark Folk Cen	149.24	102		PKPdf	07 44 27.9	+0.5
FCAR					sPKPdf	07 44 36.9	+0.6
SUSD	Miller	149.38	82		PKPdf	07 44 28.6	+1.3
DAG	Danmarks Havn	149.54	345	*i* P	PKPbc	07 44 30.0	-1.2
	comp=Z,4.4nm,0.7s						
DAG	Danmarks Havn	149.54	345	*i* P	PKPbc	07 44 30.0	-1.2
DAG				IAmb	IAmb	07 44 30.9	
	comp=Z,4.4nm,0.7s						
Y45A	Yeager Farm, C	149.56	108		PKPdf	07 44 28.6	+0.7
Y45A					sPKPdf	07 44 38.1	+1.3
S39A	Bolivar	149.57	98		PKPdf	07 44 28.7	+0.9
RES	Resolute Bay	149.76	20		PKPab	07 44 39.3	+2.0
N35A	Tabor	149.81	91		PKPab	07 44 38.5	0.0
L34A	Svendsen Farm,	149.90	89		PKiKP	07 44 34.0	0.0
MGMO	Mountain Grove	149.93	100		PKPbc	07 44 32.7	-0.6
LCAR	Lake Charles	149.97	103		PKPbc	07 44 32.7	-0.7
LCAR					PKPab	07 44 38.9	-0.3
OXF	Oxford	150.07	107	PKPdf	PKPdf	07 44 29.6	+0.9
LPAR	Lepanto	150.22	104	PKPdf	PKPdf	07 44 27.6	-1.3
LPAR					pPKPbc	07 44 40.8	0.0
250A	Grady	150.23	114		PKPab	07 44 40.7	+0.3
MDND	Maddock	150.32	76	PKPdf	PKPdf	07 44 30.3	+1.6
P38A	Dawn	150.53	95		PKPdf	07 44 30.2	+0.9
LRAL	Lakeview Retre	150.54	112	PKPdf	PKPdf	07 44 30.2	+0.7
ECSD	EROS Data Cent	150.58	85		PKPdf	07 44 29.6	+0.3
ECSD	EROS Data Cent	150.58	85	IAMs_20	IAMs_20	08 40 45.3	
	comp=Z,495nm,21.0s						
R40A	Maddies Statio	150.59	98		PKPbc	07 44 34.3	-0.5
T42A	Van Buren	150.60	101	PKPdf	PKPdf	07 44 30.1	+0.7
T42A					PKPbc	07 44 34.0	-0.9
GNAR	Gosnell	150.62	104		PKPbc	07 44 35.0	0.0
W45A	Hickory Valley	150.63	106	PKPdf	PKPdf	07 44 30.2	+0.6
W45A					PKPbc	07 44 33.9	-1.1
PEBM	Pemiscott Bayo	150.81	104	PKPdf	PKPdf	07 44 30.1	+0.2
PBMO	Poplar Bluff	150.87	102		PKiKP	07 44 36.1	0.0
CCM	Cathedral Cave	151.11	100		PKiKP	07 44 37.1	+0.5
PLAL	Pickwick Lake	151.20	108		PKPdf	07 44 30.5	0.0
PLAL				IAMs_20	IAMs_20	08 54 08.3	
	comp=Z,297nm,18.0s						
N38A	Joes South For	151.34	93		PKPbc	07 44 36.5	0.0
FVM	French Village	151.59	100		PKiKP	07 44 38.4	+0.7
FVM				PKPab	sPKPbc	07 44 47.5	+1.4
152A	Waverly Hall	151.64	115		PKiKP	07 44 39.1	+1.2
F33A	5 Mile Ranch,	151.68	82		PKPbc	07 44 36.8	-0.3
F33A				PKPab	PKPab	07 44 45.2	-0.8
SCIA	State Center	151.92	91		PKPbc	07 44 37.7	-0.2
T45A	Paducah	152.14	104		PKiKP	07 44 40.6	+1.8
S44A	Carbondale	152.17	102	PKPdf	PKPdf	07 44 31.5	-0.3
S44A					PKPab	07 44 47.8	-0.6
V48A	Smith Brothers	152.47	108		PKiKP	07 44 39.9	+0.4
154A	Montrose	152.53	118	IAMs_20	IAMs_20	08 58 05.6	
	comp=Z,317nm,21.0s						
I37A	Lemond, Waseca	152.78	87		PKiKP	07 44 39.8	-0.1
T47A	Sharon Grove	153.09	106		PKiKP	07 44 41.6	+0.8
ULM	Lac du Bonnet	153.40	73	PKPbc	PKiKP	07 44 41.7	+0.7
	comp=Z,6.0nm,0.8s,baz=268,slow=1.8,SNR=5.0						
F36A	Milaca	153.47	83		PKiKP	07 44 41.5	+0.2
U49A	Red Boiling Sp	153.61	108		PKPbc	07 44 40.8	-1.0
CPCT	Cooper Cave	153.69	111		PKPdf	07 44 34.4	+0.3
WCI	Wyandotte Cave	154.36	104	PKPdf	PKPdf	07 44 35.3	+0.3
Q51A	Peebles	156.68	106	PKPdf	PKPdf	07 44 37.3	-0.8
Q51A					PKPab	07 45 07.4	-0.2

IDC 05 07:32:05.9±1.7, 1°02.0N×126°06.6E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/46, mbtmp3.7/4, Error ellipse: s-maj=169.7km s-min=20.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.15	161	P	P	07 37 03.5	+0.1
	0.6nm,0.5s,baz=339,slow=11,SNR=20						
ASAR	Alice Springs	25.53	164	P	P	07 37 36.4	0.0
	0.7nm,0.4s,baz=347,slow=13,SNR=11						
MKAR	Makanchi Array	59.74	326	P	P	07 42 12.9	+0.3
	1.7nm,0.9s,baz=125,slow=7.9,SNR=6.9						
KURBB	Kurchatov Arra	63.98	328	P	P	07 42 40.8	-0.3
	0.8nm,0.6s,baz=129,slow=6.2,SNR=12						

*ANF **05** 08:02:25.4±0.5, 61°.49N×146°.37W, h17km±3km, ML3.5/14, ML3.5/14, Error ellipse: s-maj=3.0km s-min=2.6km az=118.0*
*AEIC **05** 08:02:27.0±1.6, 61°.53N±0°.02×146°.45W±0°.05, h20km±7km, ML3.2/78, Error ellipse: s-maj=3.5km s-min=3.0km az=50.0*

*NEIC **05** 08:02:26.4±1.4, 61°.54N±0°.02×146°.47W±0°.04, h30km±8km, Error ellipse: s-maj=3.2km s-min=2.5km az=113.0*
ISC 05 08:02:26.4±0.9, 61°.53N±0°.02×146°.45W±0°.02, h28km±9km, n112, σ1$18/141, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLU	Klutina	0.26	98		Pb	08 02 33.6	+0.4
KLU					Sn	08 02 39.1	-0.4
VMT	TAPS Tl Valdez	0.45	175		Pb	08 02 35.4	-0.5
VMT					Sb	08 02 42.6	+0.2
SCM	Sheep Creek Mo	0.52	307		Pb	08 02 36.7	-0.4
SCM					Sb	08 02 44.8	+0.5
DIV	Divide	0.52	140		Pb	08 02 36.4	-0.7
DIV					Sb	08 02 44.1	-0.2
M24K	Tolsona, Glenn	0.59	13	P	Pb	08 02 38.0	-0.3
	baz=193,SNR=165						
M24K				S	Sn	08 02 47.6	-0.3
	baz=193						
M24K	Tolsona, Glenn	0.59	13		Pb	08 02 38.0	-0.3
M24K					Sn	08 02 47.0	-0.8
PS12	TAPS Pump St12	0.63	94		Pb	08 02 37.9	-1.0
PS12					Sb	08 02 46.8	-0.6
PS11	TAPS Pump St11	0.72	40		Pb	08 02 40.0	-0.5
GLI	Glacier Island	0.72	206		Pb	08 02 39.6	-0.8
GLI					Sb	08 02 50.2	+0.3
FID	Port Fidalgo	0.78	181		Pn	08 02 41.1	-0.5
FID					Sn	08 02 52.9	+0.5
N25K	Chitina, Valde	0.89	84	P	Pn	08 02 41.5	-1.6
	baz=266						
N25K				S	Sn	08 02 53.3	-1.8
	baz=266						
SML	Sawmill	0.94	288		Pn	08 02 42.5	-1.3
SML					Sn	08 02 54.9	-1.3
KNK	Knik Glacier	0.97	264		Pn	08 02 43.7	-0.5
KNK					Sn	08 02 56.7	-0.3
EYAK	Cordova Ski Ar	1.04	160		Pn	08 02 44.7	-0.4
BMRM	Bremner River	1.06	121		Pn	08 02 43.9	-1.5
PWL	Port Wells	1.13	234		Pn	08 02 45.9	-0.5
HIN	Hinchinbrook I	1.14	181		Pn	08 02 46.4	-0.1
HIN					Pb	08 02 46.8	-0.6
HIN					Sn	08 03 02.5	+0.7
GHO	Glory Hole Cre	1.20	283		Pn	08 02 46.7	-0.8
WAT6	Susitna Watana	1.22	331		Pn	08 02 46.1	-1.6
GOAT	Goat Mountain	1.27	138		Pn	08 02 48.1	-0.2
GLB	Gilahina Butte	1.27	93		Pn	08 02 47.5	-0.9
RAGM	Ragged Mountai	1.44	142		Pn	08 02 50.5	-0.1
VRDI	Verde Repeater	1.48	101		Pn	08 02 50.8	-0.4
PAX	Paxson	1.52	17		Pn	08 02 51.0	-0.7
DHY	Denali Highway	1.61	345		Pn	08 02 52.9	-0.2
WAT1	Susitna Watana	1.63	324		Pn	08 02 53.2	-0.1
RC01	Rabbit Creek A	1.64	256	P	Pn	08 02 53.7	+0.2
	baz=73,SNR=102						
RC01				S	Sb	08 03 15.8	-0.5
	baz=73						
RC01	Rabbit Creek A	1.64	256		Pn	08 02 53.6	+0.2
MCARA	McCarthy VSAT	1.65	94		Pn	08 02 53.8	+0.2
WAT7	Susitna Watana	1.72	320		Pn	08 02 54.4	-0.2
WAT2	Susitna Watana	1.75	326		Pn	08 02 55.0	0.0
BERG	Berg Lake	1.76	129		Pn	08 02 55.5	+0.5
CRQM	Cirque	1.79	114		Pn	08 02 55.8	+0.3
KAIM	Kayak Island	1.89	147		Pn	08 02 58.0	+1.2
MENT	Mentasta	1.91	41		Pn	08 02 56.9	-0.2
O22K	Cooper Landing	1.91	238

TTA	**Tatalina**	**4.69**	**292**		**Pn**		**08 03 35.0**	**-0.3**
KDAK	**Kodiak Island**	**4.88**	**222**	Pn	**Pn**		**08 03 37.0**	**-0.7**
FYU	**Fort Yukon**	**5.09**	**6**		**Pn**		**08 03 40.6**	**0.0**
IM03		**5.52**	**327**		**Pn**		**08 03 46.3**	**-0.2**
IMAR	**Indian Mountai**	**5.52**	**327**		**Pn**		**08 03 46.4**	**-0.2**
OHAK	**Old Harbor**	**5.55**	**222**		**Pn**		**08 03 45.9**	**-1.2**
COLD	**Coldfoot** baz=162	**5.95**	**346**	P	**Pn**		**08 03 53.7**	**+1.3**
COLD	baz=162			S	**Sn**		**08 05 01.9**	**+2.4**
COLD	**Coldfoot**	**5.95**	**346**		**Pn**		**08 03 53.8**	**+1.4**
BMAR	**Burnt Mountain**	**5.98**	**7**		**Pn**		**08 03 53.2**	**+0.3**
EPYK	**Eagle Plains**	**6.47**	**37**	Pn	**Pn**		**08 03 59.9**	**+0.1**
TOLK	**Toolik Lake Re** baz=168	**7.26**	**351**	P	**Pn**		**08 04 14.0**	**+3.5**
TOLK	baz=168			S	**Sn**		**08 05 36.1**	**+4.2**
TOLK	**Toolik Lake Re**	**7.26**	**351**	Pn	**Pn**		**08 04 12.2**	**+1.7**

*BJI **05** 08:11:34.0±0.0, 26.6°64N×129.7°86E, h20km, mB4.9/20, mb4.6/37, Ms4.4/8, Ms7 4.1/7*
*IDC **05** 08:11:35.9±0.8, 26.7°70N×129.7°51E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.1/36, mbtmp4.2/18, ML4.0/2, MS3.5/6, Ms1 3.6/6, ms1mx3.3/40, Error ellipse: s-maj=29.4km s-min=14.1km az=78.0*
*JMA **05** 08:11:37.9±0.1, 26.7°70N×129.7°66E, h49km, M4.2*
*NIED **05** 08:11:38.0, 26.7°70N×129.7°66E, h49km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-3.02; Mθθ1.08; Mφφ1.94; Mrθ2.63; Mrφ1.65; Mθφ1.39; Fault plane solution: M0 4.31000×10^15^ NP1: φs234.00000°, δ67.00000°, λ-76.00000°. NP2: φs22.00000°, δ26.00000°, λ-119.00000°.*
*NEIC **05** 08:11:37.6±1.4, 26.6°69N±0.0°05×129.7°76E±0.0°06, h21km±5km, mb4.6/44 Error ellipse: s-maj=9.3km s-min=6.8km az=49.0*

ISC 05 08:11:37.2±3.7, 26°73N±0.0°04×129°68E±0.0°03, h16km±23km, n122, σ1§42/133, mb4.5/37, MS3.5/4, 1C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.14**	**285**	P	**Pn**	**08 11 57.6**	**-0.8**
JYRO				*e*S	**Sb**	**08 12 11.3**	**-1.7**
JOKE	**Okinoerabujima**	**1.17**	**303**	P	**Pn**	**08 11 58.5**	**-0.4**
JOKE				*e*S	**Sb**	**08 12 12.8**	**-1.2**
JTK	**Tokunoshima**	**1.24**	**328**	P	**Pn**	**08 11 59.6**	**-0.2**
JTK				*e*S	**Sb**	**08 12 15.4**	**-0.5**
JOW	**Kunigami**	**1.26**	**275**	P	**Pn**	**08 11 59.6**	**-0.5**
JOW				S	**Sb**	**08 12 14.7**	**-1.9**
JNTH	**Nagotoyohara**	**1.50**	**262**	P	**Pn**	**08 12 02.5**	**-0.9**
JNTH				*e*S	**Sn**	**08 12 20.1**	**-2.5**
JIH	**Iheya**	**1.56**	**282**	P	**Pn**	**08 12 03.1**	**-1.1**
JIH				*e*S	**Sn**	**08 12 22.5**	**-1.6**
JAMN	**Amaminishikomi**	**1.57**	**344**	P	**Pn**	**08 12 04.2**	**-0.2**
JAMN				*e*S	**Sn**	**08 12 23.8**	**-0.6**
JZK	**Kikaishima**	**1.60**	**9**	P	**Pn**	**08 12 05.7**	**+0.9**
JZK				S	**Sn**	**08 12 25.6**	**+0.5**
JKDJ	**Kitadaitoujima**	**1.65**	**118**	P	**Pn**	**08 12 05.3**	**-0.1**
JKDJ				S	**Sn**	**08 12 25.4**	**-0.8**
JMZ	**Minamidaito 2**	**1.65**	**123**	P	**Pn**	**08 12 05.0**	**-0.5**
JMZ				S	**Sn**	**08 12 23.9**	**-2.5**
JMZ	**Minamidaito 2**	**1.65**	**123**		**Pn**	**08 12 03.5**	**-2.0**
JMZ				Sn	**Sn**	**08 12 24.3**	**-2.1**
JAM	**Amami Oshima**	**1.68**	**358**	P	**Pn**	**08 12 05.5**	**-0.3**
JAM				S	**Sn**	**08 12 25.8**	**-1.2**
JJT3	**Tamagusuku3**	**1.80**	**251**	P	**Pn**	**08 12 07.2**	**-0.3**
JJT3				S	**Sn**	**08 12 28.6**	**-1.4**
JAGN	**Aguni-jima**	**2.19**	**267**	P	**Pn**	**08 12 12.8**	**0.0**
JAGN				*e*S	**Sn**	**08 12 37.7**	**-1.9**
JTAJ	**Takarajima**	**2.45**	**350**	*e*S	**Sn**	**08 12 44.1**	**-2.0**
JKE	**Kume jima 2**	**2.62**	**262**	P	**Pn**	**08 12 18.0**	**-0.9**
JKE				*e*S	**Sn**	**08 12 47.7**	**-2.7**
JSU	**Suzuyama**	**4.81**	**8**	Pn	**Pn**	**08 12 49.1**	**+0.2**
JSU				Sn	**Sn**	**08 13 40.0**	**-4.3**
JNU	**Nakatsue** 6.2nm,0.3s,baz=201,slow=8.4,SNR=28	**6.45**	**9**	Pn	**Pn**	**08 13 13.5**	**+1.9**
JNU	4.4nm,0.3s,baz=112,slow=19,SNR=3.5			Sn	**Sn**	**08 14 20.8**	**-4.1**
JNU	**Nakatsue**	**6.45**	**9**	Pn	**Pn**	**08 13 13.4**	**+1.9**
JNU				Sn	**Sn**	**08 14 22.6**	**-2.3**
NACB	**Ninganchiao**	**7.74**	**253**	Pn	**Pn**	**08 13 26.5**	**-2.7**
YHNB	**Yeheng**	**7.77**	**257**	Pn	**Pn**	**08 13 30.3**	**+0.7**
JHS	**Saijyo**	**8.75**	**19**	Pn	**Pn**	**08 13 42.7**	**-0.4**
JHS				Sn	**Sn**	**08 15 16.8**	**-4.7**
KNMB	**Chin-men Tao**	**10.44**	**260**	Pn	**Pn**	**08 14 07.0**	**+0.8**
JSG	**Sagara**	**10.78**	**41**	Pn	**Pn**	**08 14 10.9**	**+0.1**
KSRS	**Korea Array** 0.3nm,0.3s,baz=171,slow=15,SNR=6.5	**10.80**	**353**	Pn	**Pn**	**08 14 11.8**	**+0.8**
NJ2	**Nanjing**	**10.83**	**302**	*e*P	**Pn**	**08 14 12.2**	**+0.7**
NJ2	comp=Z,12nm,0.5s			pmax	pmax		
JCJ	**Chichijima** comp=Z,228nm,21.6s,baz=174,slow=32	**11.17**	**85**	LR	LR	08 17 41.2	
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=209,slow=13,SNR=4.2	**12.18**	**34**	Pn	P	08 14 37.4	-5.1
WHN	**Wuhan**	**13.99**	**289**	⇓P	**P**	**08 15 03.9**	**+1.3**
BJT	**Baijiatuau**	**17.38**	**323**	P	**P**	**08 15 40.3**	**+0.1**
BJI	**Beijing**	**17.39**	**323**	P	**P**	**08 15 41.0**	**+0.7**
BJI	comp=Z,13nm,1.2s			pmax	pmax		
USA0B	**Ussuriysk Arra**	**17.53**	**6**	Pn	**Pn**	**08 15 37.9**	**-2.9**
USRK	**Ussuriysk Ar.** baz=181,slow=9.6,SNR=9.6	**17.53**	**6**	P	**P**	**08 15 44.0**	**+2.1**
USRK	**Ussuriysk Ar.**	**17.53**	**6**	P	**Pn**	**08 15 40.3**	**-0.5**
ENH	**Enshi**	**18.09**	**286**		**P**	**08 15 49.5**	**+1.2**
GUMO	**Guam** comp=Z,275nm,18.5s,baz=332,slow=32	**19.32**	**130**	LR	LR	08 22 05.0	
XAN	**Xi'an**	**19.32**	**297**	P	**P**	**08 16 02.0**	**+0.3**
XAN				pP	pwP	08 16 13.2	+3.0
XAN	comp=Z,77nm,1.2s			pmax	pmax		
XAN	**Xi'an**	**19.32**	**297**	P	**P**	**08 16 01.6**	**-0.1**
DAV	**Davao City (W)** comp=Z,142nm,20.3s,baz=337,slow=35	**19.94**	**192**	LR	LR	08 23 09.5	
ASAJ	**Asahikawa** 9.7nm,0.9s,baz=260,slow=12,SNR=3.5	**20.25**	**28**	P	Pn	08 16 14.7	+1.0
JKA	**Kamikawa-asahi**	**20.25**	**28**	P	Pn	08 16 14.7	+1.0
JKA	**Kamikawa-asahi** comp=Z,17nm,1.0s	**20.25**	**28**	IAmb	IAmb	08 16 17.3	
HHC	**Hu-ho-hao-te**	**20.56**	**318**	*e*P	**P**	**08 16 16.7**	**+1.5**
HHC	comp=Z,27nm,1.1s			pmax	pmax		
HHC	comp=Z,260nm,5.4s			pmax	pmax		
GYA	**Guiyang**	**20.58**	**274**	⇑P	**P**	**08 16 17.0**	**+1.4**
GYA				pP	pwP	08 16 24.2	-0.2
GYA	comp=Z,9.0nm,0.9s			pmax	pmax		
BTO	**Baotou**	**21.37**	**315**	*e*P	**P**	**08 16 23.8**	**-0.1**
CD2	**Chengdu**	**23.07**	**287**	*e*P	**P**	**08 16 42.0**	**-0.1**
LZH	**Lanzhou**	**23.89**	**299**	*e*P	**P**	**08 16 50.0**	**-0.2**
LZH				pP	pwP	08 16 58.4	-0.6
LZH				sP	sP	08 17 01.8	+6.2
LZH	comp=Z,30nm,1.1s			pmax	pmax		
MYLDM	**Lahad Datu**	**23.94**	**208**	P	**P**	**08 16 50.0**	**-0.6**
MYLDM	comp=Z,22nm,1.1s			IAmb	IAmb	08 17 10.8	
SLVN	**Son La**	**24.13**	**263**	P	**P**	**08 16 52.7**	**+0.2**
KMI	**Kunming**	**24.27**	**272**	P	**P**	**08 16 54.8**	**+0.8**
KMI				sP	pwP	08 17 07.6	+4.4
KMI	comp=Z,17nm,1.0s			pmax	pmax		
ULN	**Ulaanbaatar**	**27.55**	**326**	P	**P**	**08 17 23.5**	**+0.2**
ULN	comp=Z,9.7nm,1.3s			IAmb	IAmb	08 17 26.1	
SONM	**Songino Array** comp=Z,2.1nm,0.4s,baz=128,slow=9.9,SNR=14	**27.86**	**325**	P	**P**	**08 17 27.7**	**+1.6**
SONM	**Songino Array**	**27.86**	**325**	P	**P**	**08 17 25.3**	**-0.8**
GTA	**Gaotai**	**27.91**	**304**	*e*P	**P**	**08 17 25.9**	**-0.7**
GTA				pP	pP	08 17 30.3	-0.1
GTA				sP	sP	08 17 33.4	+1.4
GTA	comp=Z,11nm,1.1s			pmax	pmax		
CHTO	**Chiang Mai**	**29.36**	**261**	P	**P**	**08 17 39.5**	**-0.1**
CHTO	comp=Z,4.1nm,0.6s			IAmb	IAmb	08 17 41.8	
CMAR	**Chiang Mai Arr** comp=Z,1.5nm,0.4s,baz=68,slow=5.1,SNR=4.4	**29.49**	**260**	P	**P**	**08 17 41.9**	**+1.1**
CMAR				LR	LR	08 30 59.9	
CMAR	**Chiang Mai Arr** comp=Z,101nm,18.1s,baz=85,slow=40	**29.49**	**260**	P	**P**	**08 17 37.9**	**-2.9**
PEA0B	**Petropavlovsk-**	**33.60**	**31**	P	**P**	**08 18 16.3**	**-0.3**
SHL	**Shillong**	**33.87**	**277**	P	**P**	**08 18 19.4**	**0.0**
YAK	**Yakutsk**	**35.30**	**360**	P	**P**	**08 18 31.6**	**+0.5**
WMQ	**Urumqi**	**37.83**	**308**	*e*P	**P**	**08 18 55.1**	**+2.1**
WMQ	comp=Z,12nm,0.7s			pmax	pmax		
WMQ	comp=Z,120nm,5.1s			pmax	pmax		
WMQ	comp=Z,65nm,28.9s			LR	LR		
WMQ	comp=Z,380nm,29.3s			LR	LR		
MTN	**Manton Dam**	**39.36**	**178**	P	**P**	**08 19 05.3**	**-0.7**
MTN	comp=Z,18nm,1.2s			IAmb	IAmb	08 19 13.2	
KWAJ	**Kwajalein Atol**	**40.07**	**109**	P	**P**	**08 19 10.3**	**-1.7**
KNRA	**Kununurra**	**42.16**	**181**	P	**P**	**08 19 29.5**	**+0.4**
KNRA	comp=Z,13nm,0.8s			IAmb	IAmb	08 19 30.6	
MK31	**Makanchi Array**	**42.18**	**311**	P	**P**	**08 19 27.8**	**-1.2**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.4s,baz=88,slow=9.8,SNR=11	**42.18**	**311**	P	**P**	**08 19 28.4**	**-0.6**
MKAR	comp=Z,0.4nm,0.7s,baz=90,slow=3.2,SNR=2.0			PcP	**PcP**	**08 21 26.8**	**+3.6**
MKAR	**Makanchi Array**	**42.18**	**311**	P	**P**	**08 19 27.8**	**-1.2**
MKAR				PP	**PP**	**08 21 07.9**	**+1.2**
MAKZ	**Makanchi**	**42.39**	**311**	P	**P**	**08 19 30.6**	**-0.2**
ZAA0	**Zalesovo Array**	**42.65**	**322**	P	**P**	**08 19 30.0**	**-2.7**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.3s,baz=112,slow=8.6,SNR=3.5	**42.65**	**322**	P	**P**	**08 19 31.8**	**-0.9**
ZALV	**Zalesovo Beam**	**42.65**	**322**	P	**P**	**08 19 31.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**44.73**	**185**	P	**P**	**08 19 49.5**	**-0.3**
FITZ	comp=Z,20nm,1.5s			IAmb	IAmb	08 19 56.6	
KURK	**Kurchatov**	**45.36**	**316**	P	**P**	**08 19 54.4**	**-0.1**
KURK	comp=Z,6.0nm,1.3s			IAmb	IAmb	08 20 05.6	
WB0	**Warramunga Arr**	**46.45**	**174**	P	**P**	**08 20 02.5**	**-0.9**
WB0	comp=Z,8.1nm,0.8s			IAmb	IAmb	08 20 16.5	
WRAB	**Tennant Creek**	**46.61**	**174**	P	**P**	**08 20 05.2**	**+0.5**
WRAB	comp=Z,8.0nm,0.8s			IAmb	IAmb	08 20 06.3	
WRA	**Warramunga Arr** comp=Z,7.9nm,0.8s,baz=353,slow=8.5,SNR=60	**46.61**	**174**	P	**P**	**08 20 05.2**	**+0.5**
WRA	comp=Z,33nm,18.8s,baz=95,slow=39			LR	LR	08 41 32.7	
WRA	**Warramunga Arr**	**46.61**	**174**	P	**P**	**08 20 04.7**	**0.0**
WB2	**Warramunga Arr**	**46.62**	**174**	P	**P**	**08 20 04.5**	**-0.2**
WR0	**Warramunga Arr**	**46.65**	**174**	P	**P**	**08 20 05.5**	**+0.5**
NIL	**Nilore**	**48.76**	**292**	P	**P**	**08 20 21.1**	**-0.3**
NRIK	**Noril'sk** comp=Z,2.3nm,0.6s,baz=102,slow=7.3,SNR=5.0	**49.18**	**342**	P	**P**	**08 20 24.2**	**+0.2**
BTK	**Batken**	**50.08**	**301**	P	**P**	**08 20 31.6**	**+0.2**
BTK	comp=Z,3.0nm,0.5s			IAmb	IAmb	08 20 41.1	
KK02	**Karatay Array**	**50.19**	**305**	P	**P**	**08 20 32.6**	**+0.5**
KK31	**Karatay Array**	**50.19**	**305**	P	**P**	**08 20 32.8**	**+0.6**
KK31	comp=Z,5.1nm,1.4s			IAmb	IAmb	08 20 45.2	
KKAR	**Karatay Array**	**50.19**	**305**	P	**P**	**08 20 33.2**	**+1.1**
AS31	**Alice Springs**	**50.27**	**175**	P	**P**	**08 20 31.3**	**-1.5**
ASAR	**Alice Springs** comp=Z,4.2nm,0.8s,baz=5.8,slow=14,SNR=35	**50.27**	**175**	P	**P**	**08 20 34.1**	**+1.3**
ASAR	**Alice Springs**	**50.27**	**175**	P	**P**	**08 20 33.1**	**+0.3**
GAR	**Garm**	**50.54**	**300**	P	**P**	**08 20 35.1**	**+0.1**
GAR	comp=Z,8.4nm,1.0s			IAmb	IAmb	08 20 36.6	
KBL	**Kabul**	**52.09**	**294**	P	**P**	**08 20 45.5**	**-1.3**
KBL	comp=Z,9.9nm,0.9s			IAmb	IAmb	08 21 10.2	
AB06	**Akbulak array**	**57.24**	**313**	P	**P**	**08 21 23.8**	**+0.1**
AB07	**Akbulak array**	**57.24**	**313**	P	**P**	**08 21 24.0**	**+0.3**
ABKAR	**Akbulak array**	**57.26**	**313**	P	**P**	**08 21 24.0**	**+0.3**
ABKAR	comp=Z,3.6nm,0.7s			IAmb	IAmb	08 21 25.4	
HRA	**Herat**	**57.64**	**295**	P	**P**	**08 21 28.7**	**+1.7**
HRA	comp=Z,4.4nm,0.8s			IAmb	IAmb	08 21 29.1	
ARU	**Arti**	**57.81**	**322**	P	**P**	**08 21 28.5**	**+1.0**
ARU	comp=Z,7.4nm,1.2s			IAmb	IAmb	08 21 29.1	
STKA	**Stephens Creek** comp=Z,0.8nm,0.5s,baz=347,slow=5.4,SNR=4.9	**59.38**	**168**	P	**P**	**08 21 39.8**	**+1.1**
STKA	**Stephens Creek**	**59.38**	**168**	P	**P**	**08 21 39.3**	**+0.7**
BBOO	**Buckleboo**	**59.52**	**174**	P	**P**	**08 21 40.0**	**+0.3**
GYA2	**ALIBECK ARRAY**	**60.16**	**300**	P	**P**	**08 21 44.4**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**60.16**	**300**	P	**P**	**08 21 44.6**	**+0.3**
GYA0B	comp=Z,9.9nm,1.4s			IAmb	IAmb	08 21 46.7	
KLMR	**Klimovskoe**	**67.12**	**328**	*e*P	**P**	**08 22 29.7**	**0.0**
KLMR	comp=Z,26nm,1.5s			AMP		08 22 44.3	
KBZ	**Khabaz** comp=Z,8.0nm,0.8s,baz=111,slow=1.8,SNR=13	**69.85**	**310**	P	**P**	**08 22 48.8**	**+1.8**
KIV	**Kislovodsk**	**69.92**	**310**	P	**P**	**08 22 47.5**	**-0.2**
FINES	**FINESS Array B** comp=Z,1.5nm,0.4s,baz=64,slow=5.2,SNR=10	**73.07**	**331**	P	**P**	**08 23 06.5**	**+0.3**
FINES	**FINESS Array B**	**73.07**	**331**	P	**P**	**08 23 07.5**	**+1.3**
AKASG	**Malin Array Be** comp=Z,0.9nm,0.4s,baz=53,slow=6.2,SNR=6.5	**75.99**	**320**	P	**P**	**08 23 24.0**	**+0.6**
AKASG	**Malin Array Be**	**75.99**	**320**	P	**P**	**08 23 21.8**	**-1.5**
BR131	**Keskin Array S**	**77.75**	**308**	P	**P**	**08 23 30.7**	**-3.0**
BR131	comp=Z,3.6nm,1.1s			IAmb	IAmb	08 23 39.6	
BRTR	**Keskin Array B** comp=Z,1.3nm,0.7s,baz=105,slow=3.8,SNR=7.9	**77.75**	**308**	P	**P**	**08 23 35.0**	**+1.3**
BRTR	**Keskin Array B**	**77.75**	**308**	P	**P**	**08 23 34.4**	**+0.6**
ANTO	**Ankara**	**78.28**	**309**	P	**P**	**08 23 34.1**	**-2.5**
NB2	**NORSAR Subarra** comp=Z,6.4nm,0.5s,baz=53,slow=5.9	**79.44**	**334**	P	**P**	**08 23 42.7**	**+0.2**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=53,slow=5.4,SNR=4.8	**79.44**	**334**	P	**P**	**08 23 42.9**	**+0.4**
BURAR	**Bucovina Array**	**79.73**	**318**	P	**P**	**08 23 45.4**	**+1.0**
CSS	**Mathiatis**	**79.98**	**304**	P	P	08 23 41.1	-4.8
CSS	comp=Z,10nm,1.2s			IAmb	IAmb	08 23 47.0	
SUMG	**Summit**	**80.62**	**356**	*i* P	**P**	**08 23 51.1**	**+2.0**
SUMG	**Summit**	**80.62**	**356**	*e*P	**P**	**08 23 51.1**	**+2.0**
VYHS	**Vyhne**	**82.97**	**321**	*e*P	P	08 24 08.6	+7.1
CLL	**Collm** comp=Z,9.0nm,1.4s	**84.48**	**326**	*e*P	**P**	**08 24 10.0**	**+0.9**
CLL	comp=Z,6.0nm,1.1s			*i*		08 24 21.6	
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=38,slow=6.8,SNR=6.1	**85.58**	**323**	P	**P**	**08 24 16.0**	**+1.2**
GERES	**GERESS Array B**	**85.58**	**323**	P	**P**	**08 24 15.3**	**+0.5**
PPT	**Papeete** comp=Z,26nm,21.5s,baz=327,slow=30	**89.83**	**110**	LR	LR	08 56 31.1	

*SOME **05** 08:23:19.7, 43.0°08N×81.7°68E, h10km*
*NNC **05** 08:23:21.2±0.9, 43.1°15N×81.1°65E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=7.5km s-min=2.7km az=149.0*

ISC 05 08:23:15.3±2.1, 43°09N±0.0°09×81°95E±0.0°07, h9km±12km, n29, σ1§28/49, 9C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 0.7nm,0.1s	**1.22**	**287**	*e*P	**Pg**	**08 23 40.0**	**+1.3**
KTMS	31nm,0.1s			*e*S	**Sn**	**08 23 55.2**	**0.0**
KTMS	**Ketmen** 0.7nm,0.1s	**1.22**	**287**	P	**Pg**	**08 23 39.9**	**+1.3**
KTMS	31nm,0.1s			S	**Sn**	**08 23 55.2**	**0.0**
PDGK	**Podgornoye** 9.1nm,0.2s	**1.81**	**278**	P	**Pg**	**08 23 51.3**	**+1.2**
PDGK	38nm,0.3s			S	**Sg**	**08 24 14.3**	**+0.8**
PDGK	**Podgornoye** 7.4nm,0.2s	**1.81**	**278**	⇑P	**Pg**	**08 23 50.2**	**+0.1**
PDGK	44nm,0.5s			⇓S	**Sb**	**08 24 12.0**	**+0.5**
DJR	**Jarkent** 25nm,0.3s	**1.99**	**309**	*e*P	**Pg**	**08 23 53.7**	**+0.1**
DJR	56nm,0.3s			*e*S	**Sg**	**08 24 18.6**	**-0.8**
UZB	**Uzynbulak** 22nm,0.3s	**2.14**	**272**	*e*P	**Pg**	**08 23 56.9**	**+0.6**
UZB	84nm,0.4s			*e*S	**Sg**	**08 24 24.0**	**-0.1**
UZB	**Uzynbulak** 22nm,0.3s	**2.14**	**272**	Pg	**Pg**	**08 23 56.9**	**+0.6**
UZB	84nm,0.4s			Lg	Lg	08 24 24.0	
KPKS	**Kokpek** 56nm,0.4s	**2.41**	**280**	*e*P	**Pb**	**08 24 00.1**	**+1.3**
KPKS	147nm,0.5s			*e*S	**Sb**	**08 24 29.8**	**+1.1**
ZHN	**Zhinishke** 7.2nm,0.2s	**2.57**	**273**	*e*P	**Pg**	**08 24 04.1**	**-0.4**
ZHN	46nm,0.2s			*e*S	**Sg**	**08 24 36.3**	**-1.6**
ZHN	**Zhinishke** 7.2nm,0.2s	**2.57**	**273**	Pg	**Pg**	**08 24 04.1**	**-0.4**
ZHN	46nm,0.2s			Lg	Lg	08 24 36.3	
SATY	**Saty** 17nm,0.2s	**2.59**	**270**	*e*P	**Pg**	**08 24 04.5**	**-0.5**
SATY	77nm,0.1s			*e*S	**Sg**	**08 24 37.0**	**-1.6**
SATY	**Saty** 17nm,0.2s	**2.59**	**270**	Pg	**Pg**	**08 24 04.5**	**-0.5**
SATY	77nm,0.1s			Lg	Lg	08 24 37.0	
MNBS	**Baschi** 18nm,0.4s	**2.76**	**292**	*e*P	**Pb**	**08 24 04.9**	**+0.1**
MNBS	115nm,0.5s			*e*S	**Sb**	**08 24 37.8**	**-1.0**
MNBS	**Baschi** 18nm,0.4s	**2.76**	**292**	Pg	**Pb**	**08 24 04.9**	**+0.1**
MNBS	115nm,0.5s			Lg	Lg	08 24 37.8	
KURS	**Kuram** 7.0nm,0.5s	**2.79**	**279**	*e*P	**Pb**	**08 24 07.0**	**+1.8**
KURS	49nm,0.7s			*e*S	**Sb**	**08 24 41.3**	**+1.9**
KURS	**Kuram** 7.0nm,0.5s	**2.79**	**279**	Pg	**Pb**	**08 24 07.0**	**+1.8**
KURS	49nm,0.7s			Lg	Lg	08 24 41.3	
ARXS	**Arharly** 9.0nm,0.3s	**3.19**	**292**	*e*P	**Pb**	**08 24 13.1**	**+0.9**
ARXS	80nm,0.7s			*e*S	**Sb**	**08 24 52.8**	**+1.6**
TNSS	**Tian-Shan** 2.2nm,0.3s	**3.66**	**271**	*e*P	**Pb**	**08 24 21.8**	**+1.4**
TNSS	9.9nm,0.4s			*e*S	**Sb**	**08 25 06.6**	**+1.5**
MK31	**Makanchi Array** 0.4nm,0.3s,baz=258,slow=10,SNR=32	**3.71**	**4**	⇑Pn	**Pb**	**08 24 19.7**	**-1.2**
MK31	1.0nm,0.3s,baz=184,slow=15,SNR=8.1			⇑Pg	**Pg**	**08 24 28.6**	**+2.3**
MK31	3.7nm,0.5s			⇑Sn	**Sb**	**08 25 04.1**	**-1.8**
MK31	11nm,0.6s,baz=186,slow=27,SNR=5.3			⇓Lg	Lg	08 25 15.1	
MAKZ	**Makanchi** 2.1nm,0.6s	**3.71**	**0**	⇑Pn	**Pb**	**08 24 19.9**	**-1.2**
MAKZ	2.4nm,0.3s			⇑Sn	**Sb**	**08 25 04.9**	**-1.2**
MAKZ	6.6nm,0.5s			⇑Lg	Lg	08 25 15.5	
KTBS	**Karatobe** 4.1nm,0.3s	**3.88**	**281**	*e*P	**Pg**	**08 24 29.4**	**-0.3**
KTBS	16nm,0.7s			*e*S	**Sg**	**08 25 20.0**	**-0.1**
KTBS	**Karatobe** 4.1nm,0.3s	**3.88**	**281**	Pg	**Pg**	**08 24 29.4**	**-0.3**
KTBS	16nm,0.7s			Lg	Lg	08 25 20.0	
KUU	**Kurty** 1.3nm,0.1s	**4.16**	**283**	*e*P	**Pg**	**08 24 33.5**	**-1.4**
KUU	15nm,0.5s			*e*S	**Sg**	**08 25 26.9**	**-1.9**
KUU	**Kurty** 1.3nm,0.1s	**4.16**	**283**	Pg	**Pg**	**08 24 33.5**	**-1.4**
KUU	15nm,0.5s			Lg	Lg	08 25 26.8	
KST	**Kastek** 6.0nm,0.4s	**4.38**	**271**	*e*P	**Pg**	**08 24 38.3**	**-1.0**
KST	15nm,0.6s			*e*S	**Sg**	**08 25 35.3**	**-0.8**
KST	**Kastek** 6.0nm,0.4s	**4.38**	**271**	Pg	**Pg**	**08 24 38.3**	**-1.0**
KST	15nm,0.6s			Lg	Lg	08 25 35.3	
TKM2	**Tokmak 2** 4.3nm,0.8s	**4.66**	**270**	⇓Pg	**Pg**	**08 24 42.5**	**-2.1**
TKM2	13nm,0.8s			⇓Lg	Lg	08 25 39.6	
ZSN	**Zaisan** 1.3nm,0.1s	**4.82**	**24**	*e*P	**Pg**	**08 24 47.9**	**+0.4**
ZSN	30nm,0.9s			*e*S	**Sg**	**08 25 51.3**	**+1.4**
AAK	**Ala-Archa** 3.4nm,0.9s	**5.50**	**268**	⇑Pg	**Pg**	**08 24 57.2**	**-3.3**
AAK	8.0nm,0.7s			⇑Lg	Lg	08 26 08.1	

*HEL **05** 08:34:32.9±0.1, 67.2°17N×20.3°68E, h0km, ML2.5, ML2.4(UPP), Explosion*
*IDC **05** 08:34:33.4±1.0, 67.2°16N×21.0°02E, h0km, mb1 2.9/4, mb1mx2.8/42, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=16.5km s-min=8.0km az=114.0*
*NAO **05** 08:34:33.2±0.9, 67.2°17N×20.9°97E, ML2.7*
*BER **05** 08:34:35.9±3.9, 67.2°15N×20.9°94E, h0km, ML2.4, ML2.7(NAO), Suspected explosion*

ISC 05 08:34:32.0±0.7, 67.2°15N±0.0°03×20.7°7E±0.0°02, h0km, n31, σ1§33/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**253**	*i* P	**Pg**	**08 34 33.9**	**+0.3**
DUNU				*i* S	**Sg**	**08 34 35.4**	**+0.7**
MASU	**Masugnsbyn**	**0.57**	**56**	*i* P	**Pg**	**08 34 43.2**	**+0.3**
MASU				*i* S	**Sg**	**08 34 51.6**	**+1.3**
ERTU	**Ertsjaerv**	**0.82**	**136**	*i* P	**Pg**	**08 34 47.9**	**+0.3**
RATU	**Laukkuluspa**	**0.82**	**327**	*i* P	**Pg**	**08 34 46.6**	**-1.1**
RATU				*i* S	**Sg**	**08 34 57.4**	**-0.9**
SALU	**Saltoluokta**	**0.91**	**286**	*i* P	**Pg**	**08 34 48.6**	**-0.9**
PAJU	**Pajala**	**0.93**	**97**	*e*P	**Pg**	**08 34 50.1**	**+0.4**
LANU	**Lannavaara**	**1.02**	**27**	*e*P	**Pg**	**08 34 50.5**	**-1.0**
TOF	**Tornio**	**1.78**	**125**	*e*P	**Pn**	**08 35 04.9**	**+1.0**
TOF				*e*S	**Sg**	**08 35 29.0**	**0.0**
TOF	comp=Z,27nm,0.4s			MSG		08 35 31.4	
KIF	**Kilpisjarvi**	**1.87**	**0**	Pn	**Pn**	**08 35 05.9**	**+0.7**
KIF				Sn	**Sb**	**08 35 31.2**	**+0.4**
KIF	**Kilpisjarvi**	**1.87**	**0**	*e*P	**Pn**	**08 35 05.7**	**+0.5**

baz=281,slow=12
APA0 Sn **Sn** **08 36 39.2 -1.0**
baz=288,slow=22
APA0 Lg Lg 08 37 00.3
baz=270,slow=22
APA0 Apatity Array 4.74 79 Pn **Pn** **08 35 45.9 +1.2**
baz=281,slow=12
APA0 Sn **Sn** **08 36 39.2 -1.0**
baz=288,slow=22
APA0 Sg **Sg** **08 37 00.3 -3.8**
baz=270,slow=22
FIA0 FINESS Array S 6.17 156 Pn **Pn** **08 36 06.2 +1.9**
baz=341,slow=14
FIA0 Sn **Sn** **08 37 15.9 +0.4**
baz=352,slow=22
FIA0 Lg Lg 08 37 46.6
baz=342,slow=28
FIA0 FINESS Array S 6.17 156 Pn **Pn** **08 36 06.2 +1.9**
baz=341,slow=14
FIA0 Sn **Sn** **08 37 15.9 +0.4**
baz=352,slow=22
FIA0 Sg **Sg** **08 37 46.6 -3.4**
baz=342,slow=28
FINES FINESS Array B 6.17 156 Pn **Pn** **08 36 05.8 +1.5**
comp=Z,0.1nm,0.3s,baz=356,slow=12,SNR=2.4
FINES Sn **Sn** **08 37 15.8 +0.4**
comp=Z,0.4nm,0.3s,baz=350,slow=22,SNR=7.5
FINES Lg Lg 08 37 46.5
comp=Z,0.8nm,0.3s,baz=348,slow=25,SNR=7.4
NOA NORSAR Array B 7.41 219 Pn **Pn** **08 36 22.1 +0.8**
comp=Z,0.0nm,0.3s,baz=28,slow=12,SNR=1.8
NOA Sn **Sn** **08 37 47.6 +1.5**
comp=Z,0.0nm,0.3s,baz=165,slow=14,SNR=3.5
NOA Lg Lg 08 38 26.8
comp=Z,0.1nm,0.3s,baz=64,slow=20,SNR=5.2
HFS Hagfors 7.71 207 Pn **Pn** **08 36 25.0 -0.3**
baz=27,slow=14
HFS Sn **Sn** **08 37 50.8 -2.4**
baz=35,slow=28
HFS Hagfors 7.71 207 Pn **Pn** **08 36 24.9 -0.4**
comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=1.5
HFS Lg Lg 08 38 34.3
comp=Z,0.3nm,0.3s,baz=27,slow=24,SNR=4.2
HFS Hagfors 7.71 207 Pn **Pn** **08 36 25.0 -0.3**
baz=27,slow=14
HFS Sn **Sn** **08 37 50.8 -2.4**
baz=35,slow=28

IDC 05 08:36:53.5±2.0,**5°05**S×**129°98**E,**h232**km±29km,**mb3.1**/1,
mb1 3.3/5,**mb1mx3.0**/33,**mbtmp3.9**/5,**Error ellipse:**
s-maj=52.0km s-min=14.6km az=79.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.35**	**17**	P		Pn		08 38 02.7	+1.9
	5.8nm,0.3s,baz=189,slow=23,SNR=26								
SIJI				S		S		08 38 53.4	-0.7
	24nm,0.3s,baz=73,slow=24,SNR=22								
FITZ	**Fitzroy Crossi**	**13.64**	**198**	P		Pn		08 39 56.8	-1.2
	0.3nm,0.3s,baz=29,slow=12,SNR=16								
FITZ				S		S		08 42 18.8	-10
	0.2nm,0.3s,baz=360,slow=11,SNR=3.2								
WRA	**Warramunga Arr**	**15.39**	**164**	P		Pn		08 40 19.1	-0.1
	0.2nm,0.3s,baz=345,slow=12,SNR=17								
WRA				S		S		08 43 00.7	-8.4
	0.2nm,0.3s,baz=344,slow=18,SNR=3.8								
ASAR	**Alice Springs**	**18.89**	**169**	P		Pn		08 40 58.8	-1.7
	0.8nm,0.3s,baz=341,slow=9.0,SNR=32								
ASAR				S		S		08 44 18.6	-0.5
	0.1nm,0.3s,baz=350,slow=20,SNR=7.5								
MKAR	**Makanchi Array**	**66.60**	**326**	P		P		08 47 18.7	-0.3
	0.5nm,0.6s,baz=122,slow=4.6,SNR=3.7								

NEIC ***05*** *09:36:22.3±2.8, 10°.83S±0°.09×161°.87E±0°.09, h10km±1km, mb4.8/71, Error ellipse: s-maj=17.4km s-min=10.6km az=44.0*

GCMT ***05*** *09:36:24.3±0.4, 11°.05S±0°.03×161°.84E±0°.03, h34km, MW5.0/61, Moment Tensor Solution. s27,c28; s61,c73; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.10±.27; Mθθ -3.26±.16; Mφφ -1.84±.16; Mrθ 0.39±.14; Mrφ 0.95±.12; Mθφ 0.22±.15; Best double couple: Mo4.43400×10¹⁶ NP1:φs113.00000°,δ47.00000°,λ86.00000°. Principal axes: T 5.1280, Plg86.0000°, Azm323.0000°; N -1.3880, Plg3.0000°, Azm116.0000°; P -3.7400, Plg2.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***05*** *09:36:26.6±3.3, 10°.72S×161°.64E, h33km±23km, mb4.3/14, mb1 4.5/17, mb1mx4.3/30, mbtmp4.5/17, ML4.3/3, MS4.0/19, Ms1 4.0/19, ms1mx3.9/24 Error ellipse: s-maj=22.3km s-min=13.8km az=86.0*

BJI ***05*** *09:36:27.0±0.0, 10°.80S×161°.90E, h62km, mB5.3/15, mb4.7/24, Ms5.1/2, Ms7 4.8/2*

ISC 05 09:36:26.2±0.4,**10°.79S**±0°.06×**161°.91E**±0°.07,**h35**km,**n142,**
σ1s42/137,mb4.7/54,MS3.9/18,1C-1D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.35**	**305**	Pn		**Pn**		**09 37 01.3**	**-1.1**
	376nm,0.3s,baz=146,slow=0.8,SNR=45								
HNR				Pg		**Pn**		**09 37 04.7**	**+2.3**
	1μm,0.3s,baz=145,slow=7.1,SNR=139								
HNR				Lg		Lg		09 37 33.0	
	2μm,0.3s,baz=200,slow=15,SNR=12								
HNR				LR		LR		09 37 58.3	
	comp=Z,3μm,18.6s,baz=102,slow=44								
HNR	**Honiara**	**2.35**	**305**	Pn		**Pn**		**09 37 03.7**	**+1.3**
HNR						**Sn**		**09 37 34.6**	**+4.5**
SANVU	**Saraoutou**	**6.93**	**132**	Pn		**Pn**		**09 38 08.3**	**+2.9**
RABL	**Rabaul**	**11.67**	**303**	Pn		**Pn**		**09 39 13.1**	**+2.7**
KRVT	**Keravat (AS076**	**11.72**	**303**	Pn		**Pn**		**09 39 14.9**	**+3.9**
	2.4nm,0.3s,baz=274,slow=13,SNR=2.5								
KRVT				Sn		Sn		09 41 31.1	+10
	1.7nm,0.3s,baz=252,slow=20,SNR=2.1								
KRVT				LR		LR		09 43 55.1	
	comp=Z,459nm,20.0s,baz=122,slow=39								
DZM	**Mont Dzumac**	**12.03**	**159**	Pn		**Pn**		**09 39 17.8**	**+2.3**
	2.2nm,0.3s,baz=49,slow=8.9,SNR=13								
DZM				Sn		**Sn**		**09 41 29.2**	**+0.7**
	0.9nm,0.3s,baz=165,slow=20,SNR=3.2								
DZM				LR		LR		09 43 13.3	
	comp=Z,929nm,20.1s,baz=8.0,slow=33								
DZM	**Mont Dzumac**	**12.03**	**159**	*e*Pn		**Pn**		**09 39 16.9**	**+1.5**
	5.3nm,0.3s								
DZM				*e*LR		LR		09 42 03.0	
	comp=Z,1μm,22.6s								
DZM	**Mont Dzumac**	**12.03**	**159**			**Pn**		**09 39 17.6**	**+2.2**
CTA	**Charters Tower**	**17.68**	**237**	P		**Pn**		**09 40 28.0**	**-2.0**
	0.2nm,0.3s,baz=86,slow=17,SNR=4.2								
CTAO	**Charters Tower**	**17.68**	**237**	P		**Pn**		**09 40 30.1**	**+0.2**
EIDS	**Eidsvold**	**17.77**	**214**	P		**P**		**09 40 33.1**	**+1.6**
PATS	**Pohnpei**	**17.87**	**348**	P		**Pn**		**09 40 33.9**	**+1.7**
PATS					IAmb	IAmb		09 40 49.1	
	comp=Z,114nm,1.1s								
COEN	**Coen**	**18.57**	**258**			**P**		**09 40 41.6**	**+1.2**
ARMA	**Armidale**	**21.75**	**205**	P		**P**		**09 41 16.1**	**+1.2**
JAY	**Jayapura**	**22.59**	**290**	P		**P**		**09 41 20.1**	**-3.9**
	comp=Z,9.3nm,0.4s,baz=162,slow=10,SNR=7.3								
WR0	**Warramunga Arr**	**27.88**	**248**	P		**P**		**09 42 12.1**	**-1.0**
WR0					IAmb	IAmb		09 42 21.9	
	comp=Z,11nm,1.0s								
WB0	**Warramunga Arr**	**27.97**	**248**	P		**P**		**09 42 12.6**	**-1.3**
WB0					IAmb	IAmb		09 42 28.3	
	comp=Z,15nm,0.9s								
WRAB	**Tennant Creek**	**28.05**	**248**	P		**P**		**09 42 13.6**	**-0.9**
WRAB					IAmb	IAmb		09 42 24.6	
	comp=Z,14nm,1.1s								
WB2	**Warramunga Arr**	**28.05**	**248**	P		**P**		**09 42 13.7**	**-0.8**
WB2					IAmb	IAmb		09 42 23.3	
	comp=Z,16nm,1.1s								
WRA	**Warramunga Arr**	**28.06**	**248**	P		**P**		**09 42 13.4**	**-1.2**
	comp=Z,6.4nm,0.9s,baz=78,slow=9.4,SNR=16								
WRA				LR		LR		09 53 18.5	
	comp=Z,747nm,18.1s,baz=75,slow=36								
WRA	**Warramunga Arr**	**28.06**	**248**	P		**P**		**09 42 12.5**	**-2.2**
STKA	**Stephens Creek**	**28.16**	**219**	P		**P**		**09 42 15.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=69,slow=14,SNR=5.6								
STKA				LR		LR		09 53 29.1	
	comp=Z,918nm,18.2s,baz=32,slow=36								
STKA	**Stephens Creek**	**28.16**	**219**	P		**P**		**09 42 15.4**	**+0.1**

AS31	**Alice Springs**	**29.58**	**241**	P		**P**		**09 42 26.6**	**-1.6**
ASAR	**Alice Springs**	**29.58**	**241**	P		**P**		**09 42 26.4**	**-1.8**
	comp=Z,2.3nm,0.5s,baz=64,slow=9.8,SNR=46								
ASAR					LR	LR		09 54 11.0	
	comp=Z,581nm,18.2s,baz=64,slow=36								
ASAR	**Alice Springs**	**29.58**	**241**	P		**P**		**09 42 27.0**	**-1.2**
TOO	**Toolangi**	**30.48**	**206**	P		**P**		**09 42 37.8**	**+1.9**
TOO					IAmb	IAmb		09 42 38.3	
	comp=Z,11nm,0.8s								
BBOO	**Buckleboo**	**32.34**	**223**	P		**P**		**09 42 52.2**	**-0.1**
BBOO					IAmb	IAmb		09 42 59.4	
	comp=Z,12nm,0.7s								
BHW	**Baring Head**	**32.57**	**162**	P		**P**		**09 42 53.8**	**-0.4**
KNRA	**Kununurra**	**32.60**	**258**	P		**P**		**09 42 53.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**35.81**	**254**	P		**P**		**09 43 21.1**	**-1.6**
FITZ					IAmb	IAmb		09 43 29.3	
	comp=Z,9.0nm,0.8s								
SANI	**Sanana**	**36.70**	**281**	P		**P**		**09 43 30.4**	**+0.2**
FORT	**Forrest**	**37.16**	**233**	P		**P**		**09 43 34.1**	**+0.2**
EDFI	**Ende, Flores**	**39.67**	**269**	P		**P**		09 44 04.1	+8.7
GTOI	**Gorontalo**	**40.30**	**284**	P		**P**		**09 44 00.5**	**-0.1**
	comp=Z,16nm,0.5s								
PSA00	**Pilbara Seismi**	**41.67**	**250**	P		**P**		**09 44 12.0**	**+0.2**
PSA00					IAmb	IAmb		09 44 16.5	
	comp=Z,10nm,0.8s								
BNSI	**Bone**	**41.88**	**275**	P		**P**		**09 44 13.3**	**-0.3**
	comp=Z,32nm,0.8s								
MYLDM	**Lahad Datu**	**46.03**	**288**	P		**P**		**09 44 47.4**	**+0.5**
MORW	**Morawa**	**46.46**	**240**	P		**P**		**09 44 47.8**	**-2.3**
MORW					IAmb	IAmb		09 44 50.4	
	comp=Z,20nm,1.1s								
PPT	**Papeete**		**47.42**	**104**	LR	LR		10 03 01.5	
	comp=Z,117nm,18.1s,baz=318,slow=33								
PPT2	**Papeete2**		**47.42**	**104**	*e*LR	LR		09 58 32.0	
	comp=Z,121nm,22.8s								
KKM	**Kota Kinabalu**	**48.46**	**288**	P		**P**		**09 45 04.9**	**-1.1**
JGF	**Kuroka**	**51.64**	**334**	P		**P**		**09 45 29.6**	**-0.1**
JGF					IAmb	IAmb		09 45 31.4	
	comp=Z,11nm,1.2s								
JMN	**Monobe**	**51.68**	**330**	P		**P**		**09 45 31.5**	**+1.5**
HMH	**Humu'ula Sheep**	**51.70**	**54**	P		**P**		**09 45 30.9**	**+0.3**
MJAR	**Matsushiro Arr**	**52.10**	**336**	P		**P**		**09 45 31.5**	**-1.4**
	comp=Z,4.2nm,0.7s,baz=172,slow=8.7,SNR=9.8								
MJAR					LR	LR		10 06 19.4	
	comp=Z,91nm,21.7s,baz=225,slow=34								
MJAR	**Matsushiro Arr**	**52.10**	**336**	P		**P**		**09 45 31.3**	**-1.7**
MAJO	**Matsushiro**	**52.10**	**336**	P		**P**		**09 45 31.3**	**-1.6**
MAJO					IAmb	IAmb		09 45 42.4	
	comp=Z,12nm,1.4s								
MAT	**Matsushiro**	**52.10**	**336**	P		**P**		**09 45 31.5**	**-1.5**
JWT	**Wachi**	**52.23**	**332**	P		**P**		**09 45 33.9**	**-0.1**
JMM	**Marumori**	**52.28**	**339**	P		**P**		**09 45 33.8**	**-0.4**
JSD	**Sado**	**53.37**	**337**	P		**P**		**09 45 42.5**	**+0.2**
JSD					IAmb	IAmb		09 45 42.9	
	comp=Z,20nm,0.9s								
JTM	**Tennabayashi**	**54.81**	**341**	P		**P**		**09 45 53.0**	**+0.2**
TAOE	**Nuku Hiva Isla**	**57.06**	**94**	*e*LR	LR			10 02 58.2	
	comp=Z,134nm,26.2s								
KSRS	**Korea Array**	**57.60**	**328**	P		**P**		**09 46 12.7**	**0.0**
	comp=Z,3.8nm,0.9s,baz=152,slow=7.8,SNR=8.3								
KSRS					LR	LR		10 09 04.9	
	comp=Z,184nm,19.7s,baz=99,slow=34								
KSAR	**Wonju Array Be**	**57.61**	**328**	P		**P**		**09 46 11.5**	**-1.4**
NJ2	**Nanjing**	**59.24**	**318**	*e*P		**P**		**09 46 24.0**	**-0.3**
NJ2					pmax	pmax			
	comp=Z,13nm,0.6s								
USRK	**Ussuriysk Ar.**	**61.09**	**336**	P		**P**		**09 46 37.4**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=143,slow=6.5,SNR=19								
USA0B	**Ussuriysk Arra**	**61.10**	**336**	P		**P**		**09 46 37.3**	**+0.6**
WHN	**Wuhan**	**61.44**	**314**	⇓P		P		09 46 32.4	-7.0
IPM	**Ipoh**	**62.47**	**281**	P		**P**		**09 46 46.1**	**-0.6**
IPM					IAmb	IAmb		09 47 02.4	
	comp=Z,14nm,1.1s								
MNSI	**Mandailing Nat**	**63.02**	**276**	P		**P**		**09 46 49.5**	**-0.8**
	comp=Z,18nm,0.7s								
PETK	**Petropavlovsk-**	**63.74**	**357**	LR		LR		10 11 34.4	
	comp=Z,67nm,19.9s,baz=183,slow=33								
VNDA	**Vanda**	**66.72**	**180**	P		**P**		**09 47 15.1**	**+1.7**
	comp=Z,4.9nm,0.8s,baz=345,slow=6.7,SNR=28								
VNDA					LR	LR		10 11 45.4	
	comp=Z,80nm,19.5s,baz=36,slow=32								
VNDA	**Vanda**	**66.72**	**180**	P		**P**		**09 47 15.3**	**+1.9**
VNDA					IAmb	IAmb		09 47 16.0	
	comp=Z,7.2nm,0.9s								
KMI	**Kunming**	**67.79**	**303**	⇑P		**P**		**09 47 20.6**	**-0.7**
KMI					pmax	pmax			
	comp=Z,12nm,1.1s								
CM31	**Chiang Mai Arr**	**68.57**	**295**	P		**P**		**09 47 24.6**	**-1.4**
CM31					IAmb	IAmb		09 47 28.3	
	comp=Z,5.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**68.57**	**295**	P		**P**		**09 47 25.4**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=125,slow=5.1,SNR=11								
CMAR	**Chiang Mai Arr**	**68.57**	**295**	P		**P**		**09 47 24.8**	**-1.2**
HHC	**Hu-ho-hao-te**	**69.23**	**321**	*e*P		**P**		**09 47 30.3**	**+0.5**
HHC					pmax	pmax			
	comp=Z,25nm,1.1s								
HHC					pmax	pmax			
	comp=Z,260nm,5.5s								
LZH	**Lanzhou**	**71.82**	**314**	*e*P		**P**		**09 47 45.4**	**-0.4**
LZH					pmax	pmax			
	comp=Z,21nm,1.0s								
ULN	**Ulaanbaatar**	**75.91**	**325**	P		**P**		**09 48 09.2**	**-0.2**
ULN					IAmb	IAmb		09 48 12.6	
	comp=Z,14nm,1.1s								
GTA	**Gaotai**	**76.19**	**315**	*e*P		**P**		**09 48 11.2**	**0.0**
GTA					pmax	pmax			
	comp=Z,8.0nm,1.1s								
SONM	**Songino Array**	**76.26**	**325**	P		**P**		**09 48 11.3**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=140,slow=5.6,SNR=19								
SONM					LR	LR		10 21 08.8	
	comp=Z,62nm,19.9s,baz=118,slow=35								
SONM	**Songino Array**	**76.26**	**325**	P		**P**		**09 48 10.9**	**-0.6**
QSPA	**South Pole Qui**	**79.22**	**180**	P		**P**		**09 48 28.9**	**+1.2**
QSPA					IAmb	IAmb		09 48 29.8	
	comp=Z,9.7nm,1.1s								
GLI	**Glacier Island**	**81.93**	**23**	P		**P**		**09 48 41.5**	**-0.6**
KTH	**Kantishna Hill**	**82.37**	**19**	P		**P**		**09 48 44.5**	**+0.2**
KTH					IAmb	IAmb		09 48 54.9	
	comp=Z,12nm,1.0s								
TRF	**Thorofare Moun**	**82.50**	**20**	P		**P**		**09 48 45.8**	**+0.6**
BPAW	**Bear Paw Mtn.**	**82.72**	**19**	P		**P**		**09 48 44.0**	**-2.1**
BPAW					IAmb	IAmb		09 48 47.1	
	comp=Z,17nm,1.5s								
IMAR	**Indian Mountai**	**83.23**	**17**	P		**P**		**09 48 50.4**	**+1.7**
CRQM	**Cirque**	**83.39**	**24**	P		**P**		**09 48 48.6**	**-1.3**
MAW	**Mawson**	**83.53**	**202**	P		**P**		**09 48 51.1**	**+0.8**
	comp=Z,5.4nm,0.9s,baz=97,slow=6.7,SNR=13								
MAW	**Mawson**	**83.53**	**202**	P		**P**		**09 48 51.5**	**+1.2**
GLB	**Gilahina Butte**	**83.54**	**23**	P		**P**		**09 48 52.3**	**+1.9**
WRH	**Wood River Hil**	**83.91**	**20**	P		**P**		**09 48 52.1**	**0.0**
WRH					IAmb	IAmb		09 49 04.7	
	comp=Z,11nm,1.2s								
CCB	**Clear Creek Bu**	**84.12**	**19**	P		**P**		**09 48 53.8**	**+0.5**
CCB					IAmb	IAmb		09 49 06.9	
	comp=Z,8.7nm,1.4s								
MDM	**Murphy Dome**	**84.19**	**19**	P		**P**		**09 48 55.0**	**+1.4**
MDM					IAmb	IAmb		09 49 04.4	
	comp=Z,13nm,1.2s								
CTGM	**Chitina Glacie**	**84.24**	**24**	P		**P**		**09 48 52.5**	**-1.6**
HDA	**Harding Lake**	**84.25**	**20**	P		**P**		**09 48 54.6**	**+0.7**
HDA					IAmb	IAmb		09 48 57.6	
	comp=Z,12nm,1.0s								
COLA	**College**	**84.25**	**19**	P		**P**		**09 48 55.2**	**+1.3**
COLA					IAmb	IAmb		09 49 04.6	
	comp=Z,10.0nm,1.1s								
MENT	**Mentasta**	**84.47**	**22**	P		**P**		**09 48 56.4**	**+1.3**
MENT					IAmb	IAmb		09 49 03.8	
	comp=Z,6.2nm,0.9s								
IL31		**84.50**	**20**	P		**P**		**09 48 55.5**	**+0.4**
ILAR	**Eielson Array**	**84.50**	**20**	P		**P**		**09 48 55.4**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=251,slow=5.0,SNR=17								
ILAR					LR	LR		10 22 41.0	
	comp=Z,114nm,20.2s,baz=245,slow=33								
ILAR	**Eielson Array**	**84.50**	**20**	P		**P**		**09 48 54.8**	**-0.4**
DOT	**Dot Lake**	**84.77**	**21**	P		**P**		**09 48 58.8**	**+2.2**
DOT					IAmb	IAmb		09 49 07.8	
	comp=Z,12nm,1.0s								
BCAR	**Beaver Creek A**	**85.26**	**22**	P		**P**		**09 49 00.3**	**+1.2**
WMQ	**Urumqi**	**86.26**	**316**	*e*P		**P**		**09 49 03.7**	**-0.8**
EGAK	**Eagle**	**86.46**	**21**	P		**P**		**09 49 06.3**	**+1.4**
DAWY	**Dawson**	**86.71**	**22**	P		**P**		**09 49 06.9**	**+0.6**
DAWY					IAmb	IAmb		09 49 18.9	
	comp=Z,14nm,1.2s								
AFDM	**Forest Hills D**	**86.88**	**50**	P		**P**		**09 49 07.5**	**-0.1**
PINE	**Pine Mountain**	**88.28**	**45**	P		**P**		**09 49 14.5**	**0.0**
PINE					IAmb	IAmb		09 49 19.9	
	comp=Z,7.3nm,1.1s								
LHV	**Little Huntoon**	**88.56**	**51**	P		**P**		**09 49 16.2**	**+0.6**
NVAR	**Mina Array Bea**	**88.76**	**51**	P		**P**		**09 49 18.4**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=239,slow=6.3,SNR=14								
NVAR					LR	LR		10 26 19.9	
	comp=Z,52nm,18.3s,baz=278,slow=34								
NVAR	**Mina Array Bea**	**88.76**	**51**	P		**P**		**09 49 18.0**	**+1.1**
NV11	**Mina Array Sit**	**88.87**	**51**	P		**P**		**09 49 17.0**	**-0.3**
KVN	**Kaiserville**	**89.07**	**50**	P		**P**		**09 49 20.0**	**+1.7**
GSC	**Goldstone, Bar**	**89.15**	**54**	P		**P**		**09 49 16.7**	**-1.9**
GSC					IAmb	IAmb		09 49 26.0	
	comp=Z,6.4nm,1.5s								
TPH	**Tonopah**	**89.49**	**51**	P		**P**		**09 49 20.9**	**+0.6**
J08A	**Circle Bar Ran**	**89.89**	**46**	P		**P**		**09 49 22.7**	**+0.8**
J08A					IAmb	IAmb		09 49 27.2	
	comp=Z,5.4nm,1.0s								
TPNV	**Topopah Spring**	**89.98**	**52**	P		**P**		**09 49 22.4**	**-0.1**
SHPR	**Sheep Range**	**90.73**	**53**	P		**P**		**09 49 26.3**	**+0.2**
SHPR					IAmb	IAmb		09 49 31.1	
	comp=Z,2.9nm,0.9s								
MK31	**Makanchi Array**	**90.77**	**317**	P		**P**		**09 49 24.3**	**-1.5**
MKAR	**Makanchi Array**	**90.77**	**317**	P		**P**		**09 49 24.5**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=98,slow=6.4,SNR=12								
MKAR					LR	LR		10 33 20.2	
	comp=Z,31nm,18.0s,baz=62,slow=38								
R11A	**Troy Canyon, C**	**90.81**	**51**	P		**P**		**09 49 27.9**	**+1.4**
MAKZ	**Makanchi**	**90.98**	**317**	P		**P**		**09 49 25.7**	**-1.1**
BELA	**Belgrano 2**	**91.00**	**177**	P		**P**		**09 49 25.7**	**-0.6**
PRN	**Pahroc Range**	**91.01**	**52**	P		**P**		**09 49 29.8**	**+2.4**
PRN					IAmb	IAmb		09 49 33.0	
	comp=Z,4.9nm,0.9s								
ZALV	**Zalesovo Beam**	**91.16**	**325**	LR		LR		10 31 40.5	
	comp=Z,32nm,19.1s,baz=50,slow=36								
ELK	**Elko**	**91.61**	**49**	P		**P**		**09 49 30.1**	**0.0**
ELK					IAmb	IAmb		09 49 33.5	
	comp=Z,4.6nm,1.3s								
NRIK	**Noril'sk**	**94.58**	**340**	LR		LR		10 30 14.4	
	comp=Z,84nm,21.8s,baz=26,slow=34								
YKA	**Yellowknife Ar**	**96.48**	**28**	LR		LR		10 27 25.1	
	comp=Z,37nm,21.4s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**99.02**	**62**	LR		LR		10 29 47.8	
	comp=Z,53nm,18.6s,baz=0.0,slow=32								
ARCES	**ARCESS Array B**	**115.11**	**344**	PKP		**PKiKP**		**09 55 03.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=121,slow=0.7,SNR=4.3								
PUAC	**Puerto Asis, P**	**121.03**	**96**	*e*P		**PKPdf**		**09 55 16.3**	**+0.1**
BOSA	**Boshof**	**122.66**	**226**	PKP		**PKPdf**		**09 55 18.3**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=198,slow=6.4,SNR=3.7								
BOSA	**Boshof**	**122.66**	**226**	PKPdf		**PKPdf**		**09 55 17.1**	**-2.1**
TOLC	**Tolima**	**123.02**	**92**	*e*P		**PKPdf**		**09 55 19.2**	**-1.3**
RREF	**El Recreo**	**123.05**	**91**	*e*P		**PKPdf**		**09 55 18.6**	**-2.3**
GUY2C	**Guyana, Caldas**	**123.08**	**91**	*e*P		**PKPdf**		**09 55 22.1**	**+1.3**
PRAC	**Prado**	**123.30**	**93**	*e*P		**PKPdf**		**09 55 19.2**	**-1.4**
LPAZ	**La Paz**	**123.66**	**118**	PKP		**PKPdf**		**09 55 22.1**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=284,slow=2.1,SNR=11								
LPAZ	**La Paz**	**123.66**	**118**	*e*P		**PKPdf**		**09 55 22.1**	**+0.2**
SPBC	**San Pablo de B**	**124.42**	**91**	*e*P		**PKPdf**		**09 55 22.1**	**-0.7**
RUSC	**La Rusia**	**125.43**	**90**	*e*P		**PKPdf**		**09 55 23.6**	**-1.7**
BRTR	**Keskin Array B**	**125.99**	**312**	PKP		**PKPdf**		**09 55 23.2**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=34,slow=0.5,SNR=4.2								
BRTR	**Keskin Array B**	**125.99**	**312**	PKPdf		**PKPdf**		**09 55 22.9**	**-2.4**
SAML	**Samuel**	**131.04**	**112**	*e*P		**PKPdf**		**09 55 34.1**	**-1.2**
BDFB	**Brasilia**	**140.41**	**131**	PKP		**PKPdf**		**09 55 53.1**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=232,slow=1.8,SNR=3.3								
BDFB	**Brasilia**	**140.41**	**131**	PKPdf		**PKPdf**		**09 55 50.1**	**-2.7**
TORD	**Torodi Ar. Bea**	**160.50**	**279**	PKP		**PKPdf**		**09 56 21.8**	**-1.6**
	comp=Z,2.1nm,1.1s,baz=88,slow=1.4,SNR=6.3								
TORD					PKPab	**PKPab**		**09 57 03.3**	**-1.4**
	comp=Z,1.5nm,1.1s,baz=71,slow=3.6,SNR=4.8								
TORD	**Torodi Ar. Bea**	**160.50**	**279**	PKPdf		**PKPdf**		**09 56 21.7**	**-1.6**
TORD						**PKPab**		**09 57 02.6**	**-2.1**

ISK ***05*** *09:45:00.4, 40°.98N×24°.25E, h12km, ML3.2/13*

ATH ***05*** *09:45:01.0, 40°.96N×24°.28E, h28km±1km, ML3.0/15, Error ellipse: s-maj=1.5km s-min=0.9km az=7.0*

THE ***05*** *09:

HORT				SG	**Sb**	09 45 32.4	-0.3	
RDO	**Rodhopi**	**0.97**	**78**	P	**Pn**	09 45 20.1	-0.5	
RDO				S	**Sn**	09 45 34.0	-0.1	
	comp=E,915nm,0.1s							
RDO	**Rodhopi**	**0.97**	**78**	P	**Pn**	09 45 20.3	-0.4	
RDO				S	**Sn**	09 45 34.0	-0.1	
RDO				AML	AML	09 45 37.3		
	comp=N,1803μm,0.2s							
RDO				AML	AML	09 45 39.6		
	comp=E,1630μm,0.2s							
RDO	**Rodhopi**	**0.97**	**78**	PG	**Pb**	09 45 19.7	-0.4	
RDO				SG	**Sn**	09 45 33.9	-0.1	
THE	**Thessaloniki**	**1.05**	**253**	P	**Pn**	09 45 21.4	-0.4	
THE				S	**Sb**	09 45 35.8	+0.8	
	comp=E,452nm,0.4s							
THE	**Thessaloniki**	**1.05**	**253**	P	**Pb**	09 45 21.3	-0.2	
THE				AML	AML	09 45 37.1		
	comp=E,856μm,0.3s							
THE				AML	AML	09 45 38.2		
	comp=N,1383μm,0.5s							
KNT	**Kendrikon**	**1.07**	**282**	P	**Pb**	09 45 21.3	-0.5	
KNT				S	**Sb**	09 45 36.1	+0.6	
	comp=N,715nm,0.2s							
KNT	**Kendrikon**	**1.07**	**282**	P	**Pb**	09 45 21.3	-0.5	
KNT				S	**Sb**	09 45 36.1	+0.6	
KNT				AML	AML	09 45 37.6		
	comp=E,1178μm,0.3s							
KNT				AML	AML	09 45 37.7		
	comp=N,1651μm,0.2s							
KNT	**Kendrikon**	**1.07**	**282**	PG	**Pg**	09 45 20.9	-1.3	
KNT				SG	**Sb**	09 45 35.3	-0.2	
SMTH	**Samothraki Isl**	**1.07**	**117**	P	**Pn**	09 45 21.6	-0.4	
SMTH				S	**Sn**	09 45 37.0	+0.5	
	comp=N,352nm,0.3s							
SMTH	**Samothraki Isl**	**1.07**	**117**	P	**Pn**	09 45 21.5	-0.4	
SMTH				S	**Sn**	09 45 37.3	+0.7	
SMTH				AML	AML	09 45 39.4		
	comp=E,566μm,0.4s							
SMTH				AML	AML	09 45 42.6		
	comp=N,826μm,0.3s							
PAIG	**Paliouri**	**1.12**	**204**	P	**Pg**	09 45 22.1	-1.2	
PAIG				S	**Sn**	09 45 38.4	+0.4	
	comp=N,550nm,0.3s							
PAIG	**Paliouri**	**1.12**	**204**	P	**Pg**	09 45 22.2	-1.1	
PAIG				AML	AML	09 45 39.6		
	comp=E,1234μm,0.3s							
PAIG				AML	AML	09 45 41.5		
	comp=N,1005μm,0.3s							
PLD	**Plovdiv**	**1.19**	**15**	*e*Pg	**Pn**	09 45 24.9	+1.2	
PLD				*e*Sg	**Sn**	09 45 42.2	+2.6	
PLD	**Plovdiv**	**1.19**	**15**	*i* P	**Pn**	09 45 24.8	+1.1	
PLD	**Plovdiv**	**1.19**	**15**	PN	**Pn**	09 45 23.3	-0.4	
LIA	**Limnos Island**	**1.26**	**147**	P	**Pn**	09 45 24.4	-0.2	
LIA				S	**Sn**	09 45 43.3	+2.0	
	comp=N,658nm,0.3s							
LIA	**Limnos Island**	**1.26**	**147**	P	**Pn**	09 45 24.5	-0.1	
LIA				AML	AML	09 45 44.7		
	comp=E,1439μm,0.3s							
LIA				AML	AML	09 45 45.3		
	comp=N,1173μm,0.4s							
KKB	**Krupnik**	**1.28**	**316**	*i* P	**Pg**	09 45 25.2	-1.1	
ALN	**Alexandroupoli**	**1.34**	**92**	P	**Pb**	09 45 25.7	-0.6	
ALN				S	**Sn**	09 45 44.7	+1.5	
	comp=N,250nm,0.3s							
ALN	**Alexandroupoli**	**1.34**	**92**	P	**Pb**	09 45 25.9	-0.5	
ALN				AML	AML	09 45 49.8		
	comp=N,506μm,0.4s							
ALN				AML	AML	09 45 50.0		
	comp=E,483μm,0.3s							
ALN	**Alexandroupoli**	**1.34**	**92**	PN	**Pb**	09 45 25.8	-0.6	
VAY	**Valandovo**	**1.34**	**286**	*e*Pg	**Pg**	09 45 26.8	-0.7	
VAY				*e*Sg	**Sn**	09 45 45.4	+2.0	
VAY	**Valandovo**	**1.34**	**286**	*i* Pg	**Pg**	09 45 26.8	-0.7	
VAY				*i* Sg	**Sn**	09 45 45.0	+1.6	
ENEZ	**Enez**	**1.44**	**98**	P	**Pn**	09 45 27.1	0.0	
ENEZ				S	**Sg**	09 45 48.1	+0.1	
ENEZ	**Enez**	**1.44**	**98**	PN	**Pb**	09 45 27.2	-0.9	
DIM	**Dimitrovgrad**	**1.44**	**40**	*i* P	**Pg**	09 45 29.0	-0.4	
GADA	**Gvkgeada**	**1.45**	**121**	P	**Pb**	09 45 27.9	-0.4	
GADA				S	**Sg**	09 45 48.2	-0.2	
	comp=E,372nm,0.5s							
GADA	**Gvkgeada**	**1.45**	**121**	PN	**Pn**	09 45 27.3	+0.1	
GOKA	**anakkale-Gk**	**1.46**	**121**	*i* P	**Pg**	09 45 30.4	+0.8	
GOKA				*i* S	**Sn**	09 45 45.7	-0.4	
GOKC	**Gokceada-Canak**	**1.46**	**121**	PN	**Pn**	09 45 27.3	-0.1	
ERIK	**Erikli-Kesan**	**1.72**	**99**	PN	**Pn**	09 45 31.1	+0.2	
KTI	**Kastanea**	**1.74**	**252**	P	**Pn**	09 45 31.9	+0.5	
GELI	**Tayfur-Gelibol**	**1.76**	**108**	PN	**Pn**	09 45 31.9	+0.4	
UKOP	**Uzunkopru-Edir**	**1.79**	**84**	PN	**Pn**	09 45 32.4	+0.5	
XOR	**Xorichti**	**1.79**	**208**	P	**Pn**	09 45 31.3	-0.7	
XOR	**Xorichti**	**1.79**	**208**	P	**Pn**	09 45 31.5	-0.5	
KESN	**Edirne-Kesan**	**1.82**	**93**	*i* P	**Pn**	09 45 32.5	-0.2	
KESN				*i* S	**Sg**	09 46 00.9	+0.5	
KESN				IAML		09 46 01.0		
	comp=E,182nm,0.3s							
KESN				IAML		09 46 03.0		
	comp=N,174nm,0.2s							
VTS	**Vitosha**	**1.84**	**335**	*i* P	**Pg**	09 45 35.5	-1.4	
LPK	**Lapseki**	**1.97**	**106**	PN	**Pn**	09 45 35.1	+0.6	
KZN	**Kozani**	**2.02**	**252**	P	**Pn**	09 45 36.1	+0.9	
BOSS	**Bosilegrad**	**2.05**	**319**	*e*Pn	**Pb**	09 45 37.3	-1.2	
EDRB	**Edirne**	**2.06**	**64**	P	**Pn**	09 45 35.7	+0.1	
EDRB				S	**Sb**	09 46 03.2	-0.8	
	comp=N,118nm,0.4s							
EDRB	**Edirne**	**2.06**	**64**	PN	**Pn**	09 45 36.2	+0.6	
BAYC	**CANAKKALE_Bayr**	**2.11**	**124**	*i* P	**Pn**	09 45 36.7	+0.2	
BAYC				*i* S	**Sn**	09 46 02.1	-0.3	
BAYC				IAML		09 46 11.0		
	comp=N,61nm,0.3s							
BAYC				IAML		09 46 11.0		
	comp=E,37nm,0.4s							
SIGR	**SIGRI**	**2.12**	**145**	P	**Pn**	09 45 36.7	+0.3	
SIGR	**SIGRI**	**2.12**	**145**	P	**Pn**	09 45 36.3	-0.2	
SIGR	**SIGRI**	**2.12**	**145**	PN	**Pn**	09 45 36.8	+0.3	
RKY	**Sarkoy-Tekirda**	**2.21**	**96**	PN	**Pn**	09 45 38.6	+0.8	
THL	**Klokotos Trika**	**2.22**	**232**	P	**Pn**	09 45 37.4	-0.4	
JMB	**Yambol**	**2.29**	**48**	*i* P	**Pg**	09 45 44.0	-1.6	
MAR4	**Marsite Statio**	**2.30**	**93**	PN	**Pn**	09 45 39.7	+0.7	
BARS	**Barje**	**2.62**	**316**	*e*Pn	Pg	09 46 00.0	+8.2	
ZAPS	**Zavoj**	**2.62**	**333**	*e*Pn	**Pb**	09 45 45.7	-2.6	
BLKB	**Belogradchik**	**2.92**	**336**	⇓S	**Sg**	09 46 38.7	+3.3	
RAZG	**Razgrad**	**3.09**	**32**	⇑P	Pg	09 46 10.6	+10	
ZAGS	**Zajecar**	**3.23**	**353**	*e*Pn	**Pb**	09 45 55.6	-3.1	
SELS	**Selova**	**3.26**	**315**	*e*Pn	**Pn**	09 45 53.0	+0.7	
BOVS	**Bovan**	**3.29**	**325**	*e*Pn	**Pn**	09 45 55.3	+2.7	
GRUS	**Gruza**	**3.94**	**319**	*e*Pn	**Pn**	09 46 02.5	+0.9	
SJES	**Sjenica**	**3.95**	**307**	*e*Pn	**Pn**	09 46 02.3	+0.6	
IVAS	**Ivanjica**	**4.03**	**312**	*e*Pn	**Pn**	09 46 03.0	+0.2	
HERR	**Herculane**	**4.16**	**341**	⇑P	**Pg**	09 46 17.8	-3.4	
TRUS	**Trudelj**	**4.34**	**320**	*e*Pn	**Pn**	09 46 08.1	+1.1	
ARR	**Arges**	**4.42**	**3**	⇓P	**Pn**	09 46 09.8	+1.7	
DIVS	**Divibare**	**4.46**	**316**	*e*Pn	**Pn**	09 46 09.7	+0.9	
VOIR		**4.51**	**7**	⇓P	**Pn**	09 46 11.4	+2.0	
MLR	**Muntele Rosu**	**4.69**	**14**	⇑P	**Pn**	09 46 13.1	+1.1	
HAPS	**Han Pijesak,BI**	**5.03**	**310**	*e*Pn	**Pn**	09 46 16.5	-0.1	
BZS	**Buzias**	**5.05**	**338**	⇑P	**Pb**	09 46 31.6	+2.0	
CFR	**Carcaliu**	**5.08**	**32**	⇑P	**Pb**	09 46 28.5	-1.6	
PLOR	**Plostina**	**5.19**	**19**	⇑P	**Pn**	09 46 22.1	+3.4	
VRI	**Vrincioaia**	**5.22**	**19**	⇓P	Pn	09 46 23.9	+4.8	

*NEIC **05** 10:08:43.8±1.3,23.8S±0.1×179.9W±0.2, h535km±12km, mb4.3/14, Error ellipse: s-maj=25.4km s-min=13.1km az=129.0*

*IDC **05** 10:08:53.7±21.0,23.32S×179.66E, h656km±271km, mb2.9/5, mb1 3.2/5, mb1mx2.9/35, mbtmp4.0/5, Error ellipse: s-maj=218.7km s-min=67.0km az=145.0*

ISC 05 10:08:44.5±0.8,23.8S±0.1×179.9W±0.1, h550km, n27, σ1§04/26, mb4.1/9, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.76**	**162**	P	**P**	**10 10 21.1**	**+0.3**
MSVF	**Nonsavu**	**6.29**	**342**	P	**P**	**10 10 24.3**	**-1.7**
URZ	**Urewera**	**14.68**	**189**	P	**P**	**10 11 49.5**	**-1.0**
BKZ	**Black Stump Fm**	**15.66**	**190**	P	**P**	**10 11 57.3**	**-3.4**
BKZ				IAmb	IAmb	10 11 59.0	
	comp=Z,32nm,1.4s						
QRZ	**Quartz Range**	**18.17**	**199**	P	**P**	**10 12 23.3**	**-0.4**
THZ	**Tophouse**	**18.93**	**197**	P	**P**	**10 12 31.3**	**+0.5**
THZ				IAmb	IAmb	10 12 41.3	
	comp=Z,36nm,1.4s						

LTZ	**Lake Taylor**	**20.05**	**197**	P	**P**	**10 12 40.8**	**-0.1**	
WHZ	**Wether Hill Ro**	**24.17**	**201**	P	**P**	**10 13 18.7**	**+1.0**	
CTA	**Charters Tower**	**31.55**	**270**	P	**P**	**10 14 22.9**	**+0.4**	
	comp=Z,2.6nm,0.4s,baz=96,slow=14,SNR=13							
CTAO	**Charters Tower**	**31.55**	**270**	P	**P**	**10 14 23.4**	**+0.9**	
CTAO				IAmb	IAmb	10 14 25.2		
	comp=Z,12nm,1.3s							
AS31	**Alice Springs**	**42.13**	**260**	P	**P**	**10 15 49.3**	**0.0**	
ASAR	**Alice Springs**	**42.13**	**260**	P	**P**	**10 15 49.5**	**+0.2**	
	comp=Z,1.1nm,0.8s,baz=96,slow=7.4,SNR=15							
ASAR	**Alice Springs**	**42.13**	**260**	P	**P**	**10 15 50.1**	**+0.9**	
WR0	**Warramunga Arr**	**42.30**	**266**	P	**P**	**10 15 50.3**	**-0.3**	
WB2	**Warramunga Arr**	**42.48**	**266**	P	**P**	**10 15 51.7**	**-0.3**	
WB2				IAmb	IAmb	10 16 03.6		
	comp=Z,8.6nm,1.4s							
WB0	**Warramunga Arr**	**42.48**	**266**	P	**P**	**10 15 51.7**	**-0.3**	
WB0				IAmb	IAmb	10 15 52.0		
	comp=Z,7.7nm,1.3s							
WRAB	**Tennant Creek**	**42.48**	**266**	P	**P**	**10 15 51.7**	**-0.3**	
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**10 15 51.9**	**-0.3**	
	comp=Z,2.1nm,0.6s,baz=102,slow=8.1,SNR=48							
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**10 15 51.8**	**-0.3**	
KNRA	**Kununurra**	**48.76**	**270**	P	**P**	**10 16 40.2**	**+0.3**	
KNRA				IAmb	IAmb	10 16 59.6		
	comp=Z,13nm,1.4s							
FITZ	**Fitzroy Crossi**	**50.91**	**265**	P	**P**	**10 16 56.7**	**+1.0**	
FITZ				IAmb	IAmb	10 17 14.1		
	comp=Z,14nm,1.4s							
SYO	**Syowa Base**	**83.17**	**193**	*e*P	P	10 20 06.8	-5.9	
NVAR	**Mina Array Bea**	**84.60**	**44**	P	**P**	**10 20 20.5**	**0.0**	
	comp=Z,0.3nm,0.7s,baz=230,slow=8.2,SNR=3.5							
NVAR	**Mina Array Bea**	**84.60**	**44**	P	**P**	**10 20 20.8**	**+0.3**	
TXAR	**Lajitas Array**	**90.29**	**58**	P	**P**	**10 20 47.4**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=213,slow=7.1,SNR=7.3							
TXAR	**Lajitas Array**	**90.29**	**58**	P	**P**	**10 20 48.1**	**+0.7**	
PSZ	**Piszkesteto**	**151.19**	**332**	PKPbc	**PKiKP**	**10 27 38.2**	**+2.0**	

*ANF **05** 10:11:25.8±0.3,35.85N×115.26W, h10km±2km, ML3.5/37, Error ellipse: s-maj=2.4km s-min=1.4km az=55.0*

*NEIC **05** 10:11:26.1±1.6,35.89N±0.02×115.30W±0.05, h5km±2km, Error ellipse: s-maj=6.5km s-min=3.1km az=102.0*

*REN **05** 10:11:26.4±1.8,35.89N±0.02×115.29W±0.05, h11km±6km, ML3.6/4, Error ellipse: s-maj=5.6km s-min=2.6km az=107.0*

ISC 05 10:11:26.4±1.1,35.85N±0.02×115.33W±0.02, h1km±10km, n110, σ1§11/143, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUQ	**Turquoise Moun**	**0.64**	**230**	P	**Pb**	**10 11 39.6**	**-0.8**
	baz=48,SNR=1000						
TUQ				S	**Sb**	10 11 49.0	-0.9
	baz=48						
SHPR	**Sheep Range**	**0.67**	**12**	Pg	**Pg**	10 11 37.9	-1.3
SHPR				Sg	**Sg**	10 11 46.3	-1.6
SHOC	**Shoshone, Teco**	**0.77**	**274**	P	**Pg**	10 11 41.9	+0.7
	baz=90,SNR=485						
SHOC				S	**Sb**	10 11 52.9	-0.8
	baz=90						
GMRC	**Granite Mounta**	**1.10**	**194**	P	**Pg**	10 11 47.3	-0.1
	baz=15,SNR=215						
GMRC				S	**Sb**	10 12 02.4	-0.7
	baz=15						
GMRC	**Granite Mounta**	**1.10**	**194**		**Sb**	10 12 02.8	-0.3
NEE2	**Needles Airpor**	**1.23**	**152**	P	**Pg**	10 11 48.6	-1.3
	baz=334,SNR=75						
NEE2				S	**Sb**	10 12 05.6	-1.1
	baz=334						
HEC	**Hector,Ludlow**	**1.31**	**219**	P	**Pn**	10 11 50.5	-1.4
	baz=38,SNR=135						
HEC	**Hector,Ludlow**	**1.31**	**219**		**Sn**	10 12 11.7	+1.7
GSC	**Goldstone, Bar**	**1.32**	**246**	Pn	**Pn**	10 11 51.1	-1.0
	baz=64,SNR=338						
GSC				Pg	**Pg**	10 11 52.5	+0.7
	baz=64						
GSC				S	**Sn**	10 12 10.3	-0.1
	baz=64						
GSC	**Goldstone, Bar**	**1.32**	**246**		**Pn**	10 11 51.1	-1.0
GSC					**Sn**	10 12 10.0	-0.4
TPNV	**Topopah Spring**	**1.33**	**326**	P	**Pn**	10 11 50.9	-1.3
	baz=144,SNR=1000						
TPNV				S	**Sg**	10 12 08.0	-1.0
	baz=144						
TPNV	**Topopah Spring**	**1.33**	**326**		**Pn**	10 11 51.0	-1.3
FURC	**Furnace Creek,**	**1.39**	**297**	Pn	**Pn**	10 11 51.7	-1.2
	baz=114,SNR=613						
FURC				Pb	**Pb**	10 11 52.7	-0.5
	baz=114						
FURC				S	**Sg**	10 12 12.0	+1.0
	baz=114						
W13A	**Hualapai Mount**	**1.40**	**122**	Pn	**Pn**	10 11 50.9	-2.3
PRN	**Pahroc Range**	**1.57**	**8**	Pn	**Pn**	10 11 54.2	-1.4
RRX	**Edison Barstow**	**1.68**	**235**	Sg	**Sg**	10 12 22.1	+1.9
	baz=53						
IRM	**Iron Mountain**	**1.69**	**175**	Pn	**Pn**	10 11 55.4	-1.8
	baz=356,SNR=104						
IRM				Pg	**Pg**	10 11 58.7	-0.2
	baz=356						
IRM				Sg	**Sg**	10 12 21.8	+0.9
	baz=356						
ICU	**Indian Springs**	**1.72**	**41**		**Pn**	10 11 56.6	-1.1
MPMC	**Manual Prospec**	**1.77**	**277**	Pn	**Pn**	10 11 57.0	-1.3
	baz=95,SNR=175						
MPMC				Pb	**Pb**	10 11 59.9	+0.2
	baz=95						
MPMC				Sb	**Sg**	10 12 23.9	+0.7
	baz=95						
TPC	**Twentynine Pal**	**1.84**	**199**		**Pn**	10 11 58.1	-1.0
BELC	**Belle Mtn. Jos**	**1.93**	**197**	Pn	**Pn**	10 11 59.3	-1.1
	baz=17,SNR=104						
BELC				Pg	**Pg**	10 12 03.4	+0.1
	baz=17						
BELC				Sg	**Sg**	10 12 29.7	+1.5
	baz=17						
BELC	**Belle Mtn. Jos**	**1.93**	**197**		**Pn**	10 11 59.5	-0.9
BELC					**Pg**	10 12 03.5	+0.2
LRMC	**Laurel Mtn Rad**	**1.95**	**260**	Pn	**Pn**	10 11 59.6	-1.2
	baz=77,SNR=26						
BLAC	**Blackrock camp**	**1.98**	**206**		**Pn**	10 12 00.5	-0.6
GRAC	**Grapevine Rang**	**2.00**	**305**	Pg	**Pg**	10 12 04.3	-0.5
	baz=123,SNR=310						
LCMT	**Little Creek M**	**2.04**	**55**		**Pn**	10 12 00.2	-1.9
BBRC	**Big Bear Solar**	**2.05**	**220**	Pn	**Pn**	10 12 01.6	-0.7
	baz=39,SNR=46						
BBRC				Pg	**Pg**	10 12 06.2	+0.5
	baz=39						
BBRC				Sg	**Sg**	10 12 34.0	+1.6
	baz=39						
BBRC	**Big Bear Solar**	**2.05**	**220**		**Pg**	10 12 06.3	+0.5
BTL	**Butler Peak**	**2.10**	**221**		**Pg**	10 12 07.0	+0.3
EW2	**E Wide Canyon**	**2.10**	**205**		**Pn**	10 12 02.2	-0.5
BC3	**Big Chuckawall**	**2.19**	**183**	Pn	**Pn**	10 12 02.7	-1.4
	baz=3.4						
BC3				Pg	**Pg**	10 12 08.2	-0.2
	baz=3.4,SNR=32						
BC3				Sg	**Sg**	10 12 37.4	+0.6
	baz=3.4						
CTW	**Cottonwood Mou**	**2.21**	**192**		**Pn**	10 12 03.5	-0.7
CTCC	**Cactus City**	**2.25**	**194**		**Pn**	10 12 04.5	-0.4
CWC	**Cottonwood Cre**	**2.31**	**286**	Pn	**Pn**	10 12 05.1	-0.6
	baz=103						
CWC				Pb	**Pb**	10 12 09.5	+0.6
	baz=103						
CCUT	**Cedar City**	**2.32**	**42**	Pn	**Pn**	10 12 04.6	-1.3
KNB	**Kanab**	**2.33**	**59**		**Pn**	10 12 04.5	-1.6
PMD	**Palm Desert**	**2.36**	**202**		**Pn**	10 12 05.3	-1.0
EDW2	**Edwards Air Fo**	**2.38**	**247**	P	**Pn**	10 12 05.6	-1.0
	baz=65,SNR=8.1						
EDW2				Sb	**Sg**	10 12 43.1	+0.1
	baz=65						
XPFO	**Pion Flat**	**2.42**	**203**		**Pn**	10 12 06.4	-0.8
PFO	**Pinyon Flats O**	**2.42**	**203**	P	**Pn**	10 12 06.4	-0.8
	baz=22,SNR=14						
PFO	**Pinyon Flats O**	**2.42**	**203**	Pn	**Pn**	10 12 06.4	-0.8
PFO	**Pinyon Flats O**	**2.42**	**203**		**Pn**	10 12 06.4	-0.8
BFSC	**Mount Baldy Ra**	**2.50**	**231**	P	**Pn**	10 12 07.8	-0.5
	baz=49,SNR=38						
BFSC				Sb	**Sg**	10 12 46.7	0.0
	baz=49						
R11A	**Troy Canyon, C**	**2.50**	**355**	P	**Pn**	10 12 07.0	-1.5
	baz=174,SNR=44						
R11A				Sb	**Sb**	10 12 42.9	-0.8
	baz=174						
R11A	**Troy Canyon, C**	**2.50**	**355**		**Pn**	10 12 06.7	-1.7

SZCU	**Shurtz Canyon**	**2.50**	**45**		**Pn**	**10 12 07.1**	**-1.4**	
DNR	**Dunn Ranch,Anz**	**2.52**	**206**		**Pn**	**10 12 08.1**	**-0.4**	
SNDA	**J Saunders Pla**	**2.52**	**205**		**Pn**	**10 12 08.4**	**-0.3**	
U15A	**North Rim**	**2.52**	**76**		**Pn**	**10 12 07.5**	**-1.3**	
ISA	**Isabella, Lake**	**2.57**	**267**	P	**Pn**	**10 12 08.1**	**-1.2**	
	baz=84,SNR=18							
ISA				Sb	**Sg**	**10 12 48.0**	**-0.8**	
	baz=84							
ISA	**Isabella, Lake**	**2.57**	**267**	Pn	**Pn**	**10 12 08.0**	**-1.2**	
TIN	**Tinemaha, Big**	**2.63**	**298**	Pg	**Pg**	**10 12 15.8**	**-1.1**	
	baz=115,SNR=33							
TPH	**Tonopah**	**2.69**	**326**		**Pn**	**10 12 10.2**	**-0.9**	
Y14A	**Wickenburg**	**2.70**	**134**		**Pn**	**10 12 08.9**	**-2.1**	
MURC	**Murrieta**	**2.72**	**215**	P	**Pn**	**10 12 11.0**	**-0.2**	
	baz=34,SNR=20							
MWC	**Mount Wilson**	**2.77**	**235**		**Pn**	**10 12 12.0**	**0.0**	
POCCA	**Poleta Canyon**	**2.81**	**303**		**Pn**	**10 12 12.2**	**-0.5**	
GLA	**Glamis**	**2.82**	**171**	Sb	**Sg**	**10 12 55.6**	**-1.5**	
	baz=352							
PASC	**Pasadena Art C**	**2.88**	**235**		**Pn**	**10 12 13.6**	**+0.1**	
SWSC	**Sam W. Stewart**	**2.92**	**188**	Pg	**Pg**	**10 12 24.7**	**+2.2**	
	baz=8.0,SNR=12							
PSUT	**Pine Spring**	**2.93**	**23**	Pn	**Pn**	**10 12 13.0**	**-1.3**	
DECC	**Green Verdugo**	**2.94**	**238**	Pg	**Pg**	**10 12 22.4**	**-0.3**	
	baz=56							
DECC				S	**Sn**	**10 12 50.2**	**+0.1**	
	baz=56							
ARVC	**Arvin**	**2.95**	**257**	P	**Pn**	**10 12 14.4**	**+0.1**	
	baz=74							
MLNR	**Milner Canyon**	**2.98**	**307**		**Pn**	**10 12 14.9**	**-0.2**	
OSI	**Osito Audit: C**	**3.04**	**247**	Sb	**Sg**	**10 13 03.8**	**-0.3**	
	baz=64							
MONP2	**Monument Peak**	**3.08**	**197**	P	**Pn**	**10 12 15.7**	**-0.7**	
	baz=17,SNR=6.9							
BONR	**Boundary Peak**	**3.18**	**312**		**Pn**	**10 12 18.3**	**+0.5**	
RCCR	**Rock Creek Can**	**3.18**	**302**		**Pn**	**10 12 17.8**	**-0.1**	
BENR	**Benton**	**3.20**	**307**		**Pn**	**10 12 17.8**	**-0.3**	
ORC	**Owens River**	**3.21**	**305**		**Pn**	**10 12 18.3**	**0.0**	
WUAZ	**Wupatki**	**3.23**	**95**	Pn	**Pn**	**10 12 17.7**	**-0.8**	
	baz=278							
WUAZ				Pb	**Pb**	**10 12 25.1**	**+0.3**	
	baz=278,SNR=31							
WUAZ				Sb	**Sb**	**10 13 06.1**	**+1.4**	
	baz=278							
WUAZ	**Wupatki**	**3.23**	**95**	Pn	**Pn**	**10 12 18.1**	**-0.4**	
IKP	**In-Ko-Pah, Jac**	**3.26**	**192**	P	**Pn**	**10 12 17.9**	**-0.8**	
	baz=12							
109C	**Camp Elliot, M**	**3.30**	**207**	P	**Pn**	**10 12 19.0**	**-0.2**	
	baz=26							
109C				Sb	**Sg**	**10 13 10.1**	**-2.3**	
	baz=26							
109C	**Camp Elliot, M**	**3.30**	**207**	Pn	**Pn**	**10 12 18.6**	**-0.5**	
113A	**Mohawk Valley,**	**3.33**	**157**	Pn	**Pn**	**10 12 19.3**	**-0.4**	
BAR	**Barrett**	**3.35**	**200**	Pn	**Pn**	**10 12 19.5**	**-0.4**	
NV11	**Mina Array Sit**	**3.43**	**320**	Pn	**Pn**	**10 12 21.0**	**-0.1**	
OMMB	**Old Mammoth Mi**	**3.44**	**302**		**Pn**	**10 12 21.3**	**-0.1**	
TKX	**Tecate**	**3.44**	**198**	Pn	**Pn**	**10 12 20.8**	**-0.4**	
X16A	**Lo Mia Camp, P**	**3.49**	**113**	Pn	**Pn**	**10 12 21.2**	**-0.8**	
LHV	**Little Huntoon**	**3.49**	**314**	Pn	**Pn**	**10 12 22.5**	**+0.6**	
MDPB	**Devils Postpil**	**3.50**	**302**		**Pn**	**10 12 22.1**	**-0.1**	
NVAR	**Mina Array Bea**	**3.51**	**318**	Pn	**Pn**	**10 12 21.9**	**-0.4**	
CIS	**Catalina Islan**	**3.53**	**227**	P	**Pn**	**10 12 21.8**	**-0.6**	
	baz=45							
CIS				Sb	**Sg**	**10 13 18.7**	**-1.1**	
	baz=45							
TCRU	**Three Creeks R**	**3.59**	**39**	Pn	**Pn**	**10 12 22.5**	**-1.0**	
MVU	**Marysvale**	**3.63**	**42**	Pn	**Pn**	**10 12 23.4**	**-0.6**	
MSU	**Marysvale**	**3.66**	**42**	Pn	**Pn**	**10 12 23.6**	**-0.8**	
RYN	**Ryan**	**3.77**	**318**	Pn	**Pn**	**10 12 25.6**	**-0.2**	
KVN	**Kaiserville**	**3.88**	**326**	Pn	**Pn**	**10 12 27.6**	**+0.1**	
WAKR	**Walker**	**4.22**	**310**	Pn	**Pn**	**10 12 31.5**	**-0.6**	
214A	**Organ Pipe Nat**	**4.41**	**151**	P	**Pn**	**10 12 34.0**	**-0.5**	
	baz=333,SNR=7.2							

H11S2	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	10 51 16.3
	baz=317,slow=76,SNR=14					
MKAR	**Makanchi Array**	**44.49**	**302**	P	**P**	**10 23 33.8 +2.5**
	0.7nm,0.9s,baz=93,slow=9.2,SNR=3.4					
ILAR	**Eielson Array**	**49.05**	**32**	P	**P**	**10 24 07.1 +0.5**
	0.3nm,0.7s,baz=277,slow=5.5,SNR=3.9					
WRA	**Warramunga Arr**	**57.32**	**189**	P	**P**	**10 25 07.2 -0.8**
	0.1nm,0.6s,baz=10.0,slow=7.5,SNR=3.3					

*MEX **05** 10:19:18.7±0.8, 14°.10N×92°.29W, h102km±22km, MD3.9*
*GCG **05** 10:19:19.5±0.7, 14°.09N×92°.47W, h35km±999km, MD3.9*
ISC 05 10:19:14.6±2.8, 13°.9N±0°.1×92°.42W±0°.09, h4km±17km, n9, σ1§03/17, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.97**	**9**	*i* P		**Pn**		**10 19 35.7**	**+0.6**
THIG				*i* S		**Sn**		**10 19 49.5**	**+0.2**
FUG	**Fuego 3**	**1.61**	**72**	*e*P		**Pg**		**10 19 46.2**	**+0.6**
FUG				*e*S		**Sg**		**10 20 06.8**	**+0.3**
PCG	**Pacaya**	**1.82**	**76**	*e*P		**Pg**		**10 19 49.6**	**+0.2**
PCG				*e*S		**Sg**		**10 20 12.6**	**-0.5**
PCIG		**1.91**	**336**	*e*P		**Pn**		**10 19 48.0**	**0.0**
PCIG				*e*S		**Sn**		**10 20 10.9**	**-1.6**
IXG	**Ixpaco**	**1.94**	**83**	*e*P		**Pb**		**10 19 50.6**	**-0.1**
IXG				*e*S		**Sg**		**10 20 15.9**	**-1.0**
NBG	**Las Nubes**	**2.11**	**72**	*e*P		**Pg**		**10 19 55.2**	**0.0**
CCIG	**Comitan**	**2.34**	**7**	*e*P		**Pb**		**10 19 58.2**	**+0.7**
CCIG				*i* S		**Sg**		**10 20 28.9**	**-0.9**
TGIG		**2.90**	**347**	*i* P		**Pn**		**10 19 59.7**	**-2.0**
TGIG				*i* S		**Sn**		**10 20 38.5**	**+1.5**
CMIG	**Matias Romero**	**3.92**	**323**	*e*P		**Pn**		**10 20 16.7**	**+0.9**
CMIG				*i* S		**Sn**		**10 21 01.7**	**-0.6**

*TUL **05** 10:24:50.9±1.4, 35°.82N±0°.04×97°.42W±0°.06, h5km±7km, ML3.0, Error ellipse: s-maj=6.8km s-min=5.0km az=99.0*
*ANF **05** 10:24:50.7±1.2, 35°.78N×97°.38W, h5km, ML3.8/9, Error ellipse: s-maj=24.6km s-min=6.3km az=160.0*
*NEIC **05** 10:24:51.5±1.5, 35°.83N±0°.04×97°.42W±0°.06, h7km±7km, Error ellipse: s-maj=6.8km s-min=5.8km az=84.0*
ISC 05 10:24:51.1±0.9, 35°.82N±0°.03×97°.43W±0°.03, h7km±6km, n73, σ0§99/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.03**	**226**			**Pg**		**10 24 52.4**	**-0.1**
OK029					Sg	**Sg**		**10 24 53.3**	**-0.2**
BCOK	**Bluff Creek, N**	**0.22**	**223**			**Pg**		**10 24 55.6**	**+0.2**
OK025	**Westminster Rd**	**0.25**	**162**			**Pg**		**10 24 56.1**	**+0.1**
OK025					Sg	**Sg**		**10 25 00.0**	**+0.7**
OK005	**Luther M Schoo**	**0.25**	**130**		Pg	**Pg**		**10 24 56.4**	**+0.3**
OKCFA	**Oklahoma City**	**0.40**	**183**			**Pg**		**10 24 59.0**	**+0.1**
OKCFA					Sg	**Sg**		**10 25 04.9**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**0.41**	**181**			**Pg**		**10 24 59.2**	**+0.1**
FNO	**Franklin**	**0.56**	**178**			**Pg**		**10 25 02.2**	**+0.3**
FNO					Sg	**Sb**		**10 25 10.3**	**-1.2**
QUOK	**Quay**	**0.68**	**59**			**Pg**		**10 25 04.1**	**-0.2**
W35A	**Tecumseh**	**0.80**	**145**			**Pg**		**10 25 05.8**	**-0.7**
CROK	**Carrier**	**0.82**	**327**		Pg	**Pg**		**10 25 06.7**	**-0.3**
KAN13	**South Haven SW**	**1.20**	**358**			**Pg**		**10 25 13.4**	**-0.6**
X34A	**Smith Ranch, M**	**1.26**	**195**		Pg	**Pg**		**10 25 14.7**	**-0.6**
T35A	**Sooner Cattle**	**1.32**	**34**		Pn	**Pn**		**10 25 15.3**	**-0.8**
TUL1	**Leonard**	**1.33**	**85**	P		**Pn**		**10 25 14.9**	**-1.3**
	baz=266								
TUL1				S		**Sg**		**10 25 33.2**	**-0.8**
	baz=266								
TUL1	**Leonard**	**1.33**	**85**			**Pn**		**10 25 14.9**	**-1.3**
U32A	**Winter Ranch,**	**1.39**	**294**			**Pn**		**10 25 16.4**	**-0.6**
KAN10	**Anthony SW Sta**	**1.41**	**338**			**Pn**		**10 25 16.9**	**-0.4**
WMOK	**Wichita Mounta**	**1.54**	**226**	P		**Pn**		**10 25 19.3**	**+0.1**
	baz=45								
WMOK				S		**Sn**		**10 25 38.8**	**-0.6**
	baz=45								
WMOK	**Wichita Mounta**	**1.54**	**226**			**Pn**		**10 25 19.0**	**-0.1**
KAN12	**Harper NE Stat**	**1.55**	**343**			**Pn**		**10 25 19.3**	**+0.2**
Z35A	**Perchaven, San**	**2.48**	**177**			**Pn**		**10 25 32.6**	**+0.6**
U38A	**Gravette**	**2.54**	**75**	Pn		**Pn**		**10 25 33.4**	**+0.6**
R32A	**Long Quarter,**	**2.80**	**339**	Pn		**Pn**		**10 25 37.9**	**+1.6**
HHAR	**Hobbs**	**2.87**	**80**	Pn		**Pn**		**10 25 37.5**	**+0.2**
W39A	**Magazine**	**3.04**	**101**	P		**Pn**		**10 25 39.4**	**-0.2**
	baz=283								
W39A				S		**Sn**		**10 26 16.7**	**+0.5**
	baz=283								
W39A	**Magazine**	**3.04**	**101**	Pn		**Pn**		**10 25 40.1**	**+0.5**
KSU1	**Kansas State U**	**3.34**	**11**	P		**Pn**		**10 25 44.2**	**+0.4**
	baz=191								
KSU1	**Kansas State U**	**3.34**	**11**	Pn		**Pn**		**10 25 44.3**	**+0.4**
MIAR	**Mount Ida**	**3.40**	**111**	P		**Pn**		**10 25 44.9**	**+0.2**
	baz=293								
MIAR				S		**Sn**		**10 26 25.8**	**+0.6**
	baz=293								
MIAR	**Mount Ida**	**3.40**	**111**	Pn		**Pn**		**10 25 45.4**	**+0.8**
CBKS	**Cedar Bluff**	**3.51**	**329**	Pn		**Pn**		**10 25 47.4**	**+1.1**
AMTX	**Amarillo**	**3.60**	**256**	P		**Pn**		**10 25 49.1**	**+1.7**
	baz=74								
AMTX	**Amarillo**	**3.60**	**256**	Pn		**Pn**		**10 25 48.9**	**+1.5**
ABTX	**Abilene, Hawle**	**3.67**	**211**	P		**Pn**		**10 25 48.6**	**+0.2**
	baz=29								
ABTX	**Abilene, Hawle**	**3.67**	**211**	Pn		**Pn**		**10 25 49.3**	**+0.8**
U40A	**Yellville**	**3.75**	**80**	P		**Pn**		**10 25 49.7**	**+0.3**
	baz=263								
U40A	**Yellville**	**3.75**	**80**	Pn		**Pn**		**10 25 50.7**	**+1.3**
S39A	**Bolivar**	**3.79**	**59**	Pn		**Pn**		**10 25 51.5**	**+1.5**
WHTX	**Lake Whitney,**	**3.82**	**180**	Pn		**Pn**		**10 25 52.2**	**+1.9**
X40A	**Basin Creek Fa**	**3.99**	**108**	P		**Pn**		**10 25 52.5**	**-0.2**
	baz=291								
X40A	**Basin Creek Fa**	**3.99**	**108**	Pn		**Pn**		**10 25 53.7**	**+1.0**
237A	**Washetta, Mont**	**4.04**	**160**	Pn		**Pn**		**10 25 54.1**	**+0.7**
WHAR	**Wooly Hollow**	**4.22**	**96**	Pn		**Pn**		**10 25 56.0**	**+0.1**
W41B	**Gary Mavity, V**	**4.28**	**97**	Pn		**Pn**		**10 25 57.0**	**+0.3**
UALR	**University of**	**4.29**	**103**	Pn		**Pn**		**10 25 57.5**	**+0.7**
FCAR	**Ozark Folk Cen**	**4.31**	**87**	Pn		**Pn**		**10 25 57.8**	**+0.7**
MGMO	**Mountain Grove**	**4.37**	**71**	Pn		**Pn**		**10 25 59.5**	**+1.6**
R40A	**Maddies Statio**	**4.81**	**58**	Pn		**Pn**		**10 26 05.5**	**+1.6**
P38A	**Dawn**	**4.90**	**38**	Pn		**Pn**		**10 26 06.9**	**+1.7**
435B	**Jarrell**	**5.02**	**182**	Pn		**Pn**		**10 26 08.0**	**+1.1**
LCAR	**Lake Charles**	**5.10**	**85**	Pn		**Pn**		**10 26 08.1**	**+0.2**
N35A	**Tabor**	**5.23**	**15**	Pn		**Pn**		**10 26 09.6**	**-0.1**
T42A	**Van Buren**	**5.25**	**75**	Pn		**Pn**		**10 26 10.9**	**+0.8**
CCM	**Cathedral Cave**	**5.43**	**64**	Pn		**Pn**		**10 26 14.7**	**+2.2**
BGNE	**Belgrade**	**5.61**	**354**	Pn		**Pn**		**10 26 17.1**	**+2.1**
P40A	**Paris**	**5.65**	**47**	Pn		**Pn**		**10 26 16.6**	**+1.0**
JCT	**Junction City**	**5.68**	**201**	Pn		**Pn**		**10 26 16.4**	**+0.4**
T25A	**Trinidad**	**5.78**	**285**	Pn		**Pn**		**10 26 17.6**	**+0.1**
N38A	**Joes South For**	**5.96**	**32**	Pn		**Pn**		**10 26 19.8**	**0.0**
FVM	**French Village**	**6.01**	**67**	Pn		**Pn**		**10 26 23.2**	**+2.6**
OXF	**Oxford**	**6.70**	**99**	Pn		**Pn**		**10 26 31.2**	**+1.3**
SDCO	**Great Sand Dun**	**6.76**	**289**	Pn		**Pn**		**10 26 31.8**	**+0.8**
Y45A	**Yeager Farm, C**	**6.77**	**104**	Pn		**Pn**		**10 26 32.2**	**+1.3**
GDL2	**Guadalupe Moun**	**6.79**	**240**	Pn		**Pn**		**10 26 31.4**	**+0.1**
N41A	**Harden Midland**	**7.11**	**45**	Pn		**Pn**		**10 26 36.9**	**+1.4**
P43A	**Skaggs, Pawnee**	**7.34**	**56**	Pn		**Pn**		**10 26 40.4**	**+1.7**
ISCO	**Idaho Springs**	**7.60**	**304**	Pn		**Pn**		**10 26 43.4**	**+0.8**
MNTX	**Cornudas Mount**	**7.79**	**240**	Pn		**Pn**		**10 26 45.4**	**+0.4**
ECSD	**EROS Data Cent**	**7.93**	**4**	Pn		**Pn**		**10 26 45.5**	**-1.4**
Y22D	**IRIS PASSCAL I**	**7.99**	**260**	Pn		**Pn**		**10 26 46.5**	**-1.3**
LENM	**Lemitar**	**8.01**	**261**	Pn		**Pn**		**10 26 47.3**	**-0.7**
N23A	**Red Feather La**	**8.39**	**310**	Pn		**Pn**		**10 26 54.9**	**+1.4**
T47A	**Sharon Grove**	**8.41**	**79**	Pn		**Pn**		**10 26 54.0**	**+0.6**

IDC 05 10:34:37.8±4.2, 30°.54N×140°.51E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/40, mbtmp3.3/3, ML2.2/1, Error ellipse: s-maj=265.6km s-min=34.1km az=82.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.28**	**343**	Pn		Pn		10 36 11.5	-0.2
	0.1nm,0.3s,baz=161,slow=12,SNR=4.1								
WRA	**Warramunga Arr**	**50.54**	**188**	P		P		10 43 37.9	-0.2
	0.2nm,0.4s,baz=5.0,slow=7.4,SNR=8.4								
ASAR	**Alice Springs**	**54.27**	**187**	P		P		10 44 05.7	-0.1
	0.2nm,0.4s,baz=9.5,slow=6.4,SNR=9.0								

IDC 05 10:35:25.4±21.0, 7°.99S×155°.38E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, MS3.4/7, Ms1 3.4/7, ms1mx3.0/33, Error ellipse: s-maj=355.4km s-min=102.9km az=32.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.25**	**260**		LR	LR		10 39 49.4	
	comp=Z,125nm,18.5s,baz=84,slow=32								
DZM	**Mont Dzumac**	**17.60**	**144**		LR	LR		10 44 24.7	
	comp=Z,519nm,21.9s,baz=26,slow=31								
WRA	**Warramunga Arr**	**23.59**	**238**		P	P		10 40 38.5	+0.4
	0.8nm,0.7s,baz=65,slow=10,SNR=5.1								
WRA					LR	LR		10 48 53.3	
	comp=Z,72nm,18.7s,baz=30,slow=34								
GUMO	**Guam**	**23.84**	**334**		LR	LR		10 48 53.9	
	comp=Z,53nm,21.7s,baz=216,slow=34								
SIJI	**Sorong**	**25.05**	**285**		LR	LR		10 52 57.5	
	comp=Z,38nm,18.5s,baz=55,slow=42								
ASAR	**Alice Springs**	**25.82**	**230**		P	P		10 40 58.5	-0.2
	0.8nm,0.8s,baz=57,slow=9.5,SNR=8.6								
STKA	**Stephens Creek**	**27.01**	**207**		P	P		10 41 09.0	-0.2
	1.7nm,0.6s,baz=28,slow=11,SNR=3.8								
STKA					LR	LR		10 51 14.9	
	comp=Z,104nm,18.7s,baz=27,slow=35								
PETK	**Petropavlovsk-**	**60.89**	**2**		LR	LR		11 08 21.3	
	comp=Z,30nm,21.6s,baz=190,slow=32								

*IDC **05** 10:54:25.9±0.9, 56°.19S×26°.52W, h0km, mb4.2/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, Error ellipse: s-maj=39.7km s-min=26.3km az=94.0*
*NEIC **05** 10:54:28.6±1.2, 56°.04S±0°.07×26°.77W±0°.2, h10km±1km, mb4.5/18, Error ellipse: s-maj=18.4km s-min=10.6km az=74.0*
ISC 05 10:54:32.0±0.7, 56°.06S±0°.10×26°.75W±0°.09, h35km, n32, σ1§34/33, mb4.4/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.86**	**284**		Pn	**Pn**		**10 55 56.9**	**+0.7**
HOPE					Sn	**Sn**		**10 57 00.6**	**-1.4**
VNA1	**Neumayer--Stat**	**16.70**	**158**		P	**P**		**10 58 29.1**	**+4.4**
VNA3	**Neumayer Olymp**	**16.90**	**161**		P	**P**		**10 58 29.5**	**+2.4**
VNA2	**Neumayer--Watz**	**17.09**	**158**		P	**P**		**10 58 31.5**	**+2.3**
	baz=322,slow=13								
SNAA	**Sanae**	**18.64**	**156**		P	**P**		**10 58 45.8**	**-0.5**
SNAA	**Sanae**	**18.64**	**156**			**Pn**		**10 58 46.1**	**-0.7**
PMSA	**Palmer Station**	**20.08**	**229**		P	**P**		**10 59 01.4**	**-0.6**
BELA	**Belgrano 2**	**22.09**	**184**		P	**P**		**10 59 23.6**	**+0.1**
MG01	**Puerto William**	**22.95**	**256**		P	**P**		**10 59 33.3**	**+0.5**
MG01					IAmb	IAmb		10 59 40.6	
	comp=Z,20nm,0.8s								
QSPA	**South Pole Qui**	**34.19**	**180**		P	**P**		**11 01 13.0**	**-0.7**
QSPA					IAmb	IAmb		11 01 17.4	
	comp=Z,6.7nm,1.4s								
MT02	**Curacav**	**38.02**	**288**		P	**P**		**11 01 47.0**	**+0.4**
MT02					IAmb	IAmb		11 01 51.9	
	comp=Z,16nm,1.2s								
ROC1	**El Roble**	**38.18**	**288**		P	**P**		**11 01 49.1**	**+0.9**
CO01	**Juntas del Tor**	**40.05**	**292**		P	**P**		**11 02 06.0**	**+2.2**
AC05	**El Transito**	**41.05**	**293**		P	**P**		**11 02 12.0**	**0.0**
GO02	**Mina Guanaco**	**43.72**	**297**		P	**P**		**11 02 34.0**	**+0.1**
GO02					IAmb	IAmb		11 02 34.3	
	comp=Z,16nm,1.3s								
VNDA	**Vanda**	**46.58**	**183**		P	**P**		**11 02 54.1**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=180,slow=6.9,SNR=8.8								
VNDA	**Vanda**	**46.58**	**183**		P	**P**		**11 02 56.6**	**+1.0**
GO01	**Chusmiza**	**48.16**	**301**		P	**P**		**11 03 09.5**	**+0.3**
MNMC	**Minye Minye**	**48.81**	**301**		P	**P**		**11 03 14.7**	**+0.8**
MNMC					IAmb	IAmb		11 03 14.9	
	comp=Z,4.5nm,0.7s								
PB16	**IPOC Station P**	**49.45**	**302**		P	**P**		**11 03 19.7**	**+0.5**
PB16					IAmb	IAmb		11 03 20.2	
	comp=Z,6.3nm,1.5s								
LPAZ	**La Paz**	**50.58**	**305**		P	**P**		**11 03 28.3**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=157,slow=4.1,SNR=21								
LPAZ	**La Paz**	**50.58**	**305**		P	**P**		**11 03 28.3**	**+0.5**
LPAZ					IAmb	IAmb		11 03 28.8	
	comp=Z,3.1nm,0.6s								
SAML	**Samuel**	**54.98**	**314**		P	**P**		**11 03 59.3**	**-0.2**
SAML					IAmb	IAmb		11 04 00.1	
	comp=Z,3.7nm,1.2s								
DBIC	**Dimbokro**	**65.07**	**24**		P	**P**		**11 05 08.2**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=214,slow=11,SNR=2.8								
DBIC	**Dimbokro**	**65.07**	**24**		P	**P**		**11 05 08.4**	**-0.2**
TOA0	**Torodi Ar. Sit**	**72.94**	**29**		P	**P**		**11 05 58.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**72.94**	**29**		P	**P**		**11 05 57.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=200,slow=6.4,SNR=9.2								
TORD	**Torodi Ar. Bea**	**72.94**	**29**		P	**P**		**11 05 58.1**	**+0.6**
ASAR	**Alice Springs**	**98.91**	**162**		P	**P**		**11 08 05.9**	**-2.7**
	comp=Z,0.4nm,1.0s,baz=188,slow=3.9,SNR=4.5								
FINES	**FINESS Array B**	**124.27**	**28**		PKP	**PKPdf**		**11 13 24.6**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=204,slow=3.0,SNR=5.8								
INK	**Inuvik**	**145.97**	**321**		PKPbc	**PKPdf**		**11 14 05.4**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=156,slow=1.2,SNR=7.0								
INK	**Inuvik**	**145.97**	**321**		PKPdf	**PKPdf**		**11 14 05.1**	**-0.2**

*IDC **05** 11:05:27.0±0.7, 38°.86N×144°.30E, h0km, mb4.0/17, mb1 4.2/21, mb1mx4.0/54, mbtmp4.0/21, ML3.8/4, MS3.4/6, Ms1 3.4/6, ms1mx2.9/41, Error ellipse: s-maj=18.1km s-min=15.4km az=113.0*
*NEIC **05** 11:05:29.9±2.1, 38°.90N±0°.07×144°.4E±0°.1, h22km±5km, mb4.6/17, Error ellipse: s-maj=15.2km s-min=8.7km az=116.0*
*NIED **05** 11:05:30.8, 39°.08N×144°.06E, h47km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.40; Mθθ 0.01; Mφφ 1.40; Mrθ 0.25; Mθφ 0.07; Mφr 0.46; Fault plane solution: M₀ 1.50000×10¹⁵ NP1: φs 191.00000°, δs 55.00000°, λs -80.00000°. NP2: φs 354.00000°, δs 36.00000°, λs -104.00000°.*
*JMA **05** 11:05:30.8±0.1, 39°.08N×144°.06E, h47km, M4.5*
ISC 05 11:05:31.3±4.0, 39°.01N±0°.05×144°.22E±0°.07, h29km±28km, n97, σ1§88/84, mb4.3/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.94**	**288**		P	Pn		11 06 00.4	-2.0
MIYJ					*e*S	**Sn**		**11 06 21.7**	**-4.1**
OFUJ	**Ofunato**	**1.99**	**273**		P	Pn		11 06 01.0	-1.9
OFUJ					S	**Sn**		**11 06 23.9**	**-2.9**
JTH	**Tanohata**	**2.04**	**298**		P	Pn		11 06 01.7	-2.1
JTH					S	**Sn**		**11 06 25.3**	**-3.0**
JOM	**Ohasama**	**2.32**	**282**		P	Pn		11 06 06.0	-1.5
JOM					S	**Sn**		**11 06 31.8**	**-3.2**
JMK	**Ichinoseki**	**2.34**	**270**		P	Pn		11 06 06.2	-1.6
JMK					*e*S	**Sn**		**11 06 31.8**	**-3.7**
JANG	**Nango**	**2.49**	**304**		P	Pn		11 06 07.4	-2.5
JMM	**Marumori**	**2.92**	**248**			Pn		11 06 14.1	-1.7
JYK	**Kaneyama**	**3.01**	**269**		P	Pn		11 06 15.9	-1.1
JYK					*e*S	**Sn**		**11 06 50.3**	**-1.8**
ERM	**Erimo**		**3.11**	**345**		Pn		11 06 17.6	-0.8
JOT	**Ohata**		**3.39**	**315**	P	Pn		11 06 20.6	-1.7
JOT					*e*S	**Sn**		**11 06 57.8**	**-3.7**
JFT	**Otama**		**3.40**	**245**	P	Pn		11 06 21.3	-1.1
JFT					S	**Sn**		**11 06 59.2**	**-2.5**
JNBK	**Urakawa-nobuka**		**3.45**	**342**	P	Pn		11 06 21.2	-1.9
JNBK					*e*S	**Sn**		**11 07 00.3**	**-2.7**
JCH	**Churui**		**3.66**	**350**	P	Pn		11 06 24.2	-1.8
JCH					S	**Sn**		**11 07 04.3**	**-3.8**
JKB	**Kayabe**		**3.77**	**321**	*e*S	**Sn**		**11 07 06.4**	**-4.3**
JAW	**Awa shima**		**3.92**	**263**	P	Pn		11 06 28.9	-0.7
JYT	**Yasato**		**4.23**	**230**		Pn		11 06 31.4	-2.4
JEW	**Eniwo**		**4.36**	**332**		Pn		11 06 34.9	-0.7
NEM2	**Nemuro 2**		**4.50**	**14**	P	Pn		11 06 34.7	-2.8
NEM2					*e*S	Sn		11 07 23.1	-5.7
JOSM	**Okushiri--Mats**		**4.74**	**312**	P	Pn		11 06 40.1	-0.7
JSD	**Sado**		**4.77**	**260**		Pn		11 06 39.9	-1.3
JTKR	**Abashiri--Toko**		**4.96**	**357**	P	Pn		11 06 41.7	-2.1
JTKR					*e*S	**Sn**		**11 07 35.5**	**-4.7**
BSO1	**Boso 1**		**5.06**	**212**	P	Pn		11 06 42.1	-2.7
BSO1					*e*S	**Sn**		**11 07 38.0**	**-4.0**
JHR	**Hokuryu**		**5.09**	**339**	P	Pn		**11 06 45.7**	**+0.1**
JHR					*e*S	**Sn**		**11 07 41.7**	**-1.6**
JRY	**Ryogami san**		**5.17**	**236**	P	Pn		11 06 44.8	-2.0
JRY					*e*S	**Sn**		**11 07 40.6**	**-5.0**
JKA	**Kamikawa-asahi**		**5.25**	**347**		**Pn**		**11 06 46.9**	**-0.8**
ASAJ	**Asahikawa**		**5.25**	**347**	Pn	Pn		11 06 46.9	-0.8
	5.6nm,0.3s,baz=201,slow=14,SNR=53								
ASAJ						Sn		**11 07 44.5**	**-2.8**
	3.9nm,0.3s,baz=308,slow=31,SNR=5.9								
MJAR	**Matsushiro Arr**		**5.36**	**245**	Pn	**Pn**		**11 06 49.1**	**-0.2**
	2.1nm,0.3s,baz=56,slow=11,SNR=129								
MJAR					LR	LR		11 09 10.7	
	comp=Z,203nm,21.0s,baz=70,slow=42								
MAJO	**Matsushiro**		**5.36**	**245**		**Pn**		**11 06 49.7**	**+0.4**
MAT	**Matsushiro**		**5.36**	**245**	P	**Pn**		**11 06 49.2**	**-0.2**
MAT					*e*S	**Sn**		**11 07 49.6**	**-0.5**
MJB9	**Matsu-Tunnel**		**5.36**	**245**		**Pn**		**11 06 49.3**	**-0.1**
JGF	**Kuroka**		**6.44**	**240**		**Pn**		**11 07 03.9**	**-0.3**
INU	**Inuyama**		**6.81**	**240**		**Pn**		**11 07 09.3**	**0.0**
JHJ2	**Mitsune**		**6.88**	**213**	Pn	**Pn**		**11 07 09.0**	**-1.2**
JHJ	**Hachijo jima 2**		**6.89**	**213**	Pn	Pn		11 07 06.2	-4.1
	8.8nm,0.3s,baz=72,slow=20,SNR=4.1								
JHJ						Sn		11 08 17.7	-10
	41nm,0.3s,baz=98,slow=21,SNR=6.4								
JWT	**Wachi**		**7.96**	**245**	Pn	**Pn**		**11 07 25.8**	**+0.7**
JHS	**Saijyo**		**9.74**	**249**	Pn	**Pn**		**11 07 49.8**	**+0.4**
USA0B	**Ussuriysk Arra**		**10.52**	**303**	Pn	**Pn**		**11 08 01.4**	**+1.3**
USRK	**Ussuriysk Ar.**		**10.52**	**303**	Pn	**Pn**		**11 08 01.6**	**+1.6**
	baz=99,slow=14,SNR=17								
USRK						LR	LR	11 11 42.3	
	comp=Z,183nm,18.5s,baz=108,slow=35								
MDJ	**Mudanjiang**		**12.26**	**302**	P	**Pn**		**11 08 25.2**	**+1.3**
MDJ					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MDJ					pmax	pmax			
	comp=Z,300nm,4.6s								
JNU	**Nakatsue**		**12.28**	**246**	LR	LR		11 13 02.9	
	comp=Z,363nm,21.9s,baz=10.0,slow=37								
KSRS	**Korea Array**		**12.91**	**268**	Pn	**Pn**		**11 08 36.0**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=74,slow=14,SNR=4.6								
KSRS						LR	LR	11 13 03.1	
	comp=Z,83nm,19.0s,baz=65,slow=35								
KSAR	**Wonju Array Be**		**12.94**	**268**	Pn	**Pn**		**11 08 35.5**	**+2.3**
NJ2	**Nanjing**		**21.74**	**259**	*e*P	**P**		**11 10 20.1**	**-0.2**
NJ2					pmax	pmax			
	comp=Z,11nm,0.7s								
SMY	**Shemya**		**24.71**	**46**	P	**P**		**11 10 47.4**	**-2.4**
HHC	**Hu-ho-hao-te**		**25.03**	**285**	*e*P	**P**		**11 10 53.1**	**+0.2**
HHC					pmax	pmax			
	comp=Z,23nm,1.1s								
HHC					pmax	pmax			
	comp=Z,560nm,5.6s								
SONM	**Songino Array**		**28.61**	**300**	P	**P**		**11 11 27.9**	**+2.8**
	comp=Z,0.7nm,0.5s,baz=86,slow=7.8,SNR=3.9								
SONM					LR	LR		11 22 22.4	
	comp=Z,94nm,18.6s,baz=112,slow=35								
TLY	**Talaya**		**30.79**	**308**	LR	LR		11 24 05.0	
	comp=Z,60nm,18.5s,baz=114,slow=36								
LZH	**Lanzhou**		**31.96**	**278**	*e*P	P		11 12 01.5	+6.6
LZH					pP	pwP		11 12 10.1	+0.4
LZH					sP	sP		11 12 14.1	+10
LZH					pmax	pmax			
	comp=Z,7.0nm,1.0s								
CD2	**Chengdu**		**33.91**	**269**	*e*P	**P**		**11 12 11.0**	**-0.8**
WMQ	**Urumqi**		**41.96**	**295**	*e*P	**P**		**11 13 20.8**	**+1.2**
ZALV	**Zalesovo Beam**		**42.26**	**311**	P	**P**		**11 13 24.0**	**+2.2**
	comp=Z,0.8nm

	comp=Z,23nm,0.2s									
KIF					SG		**Sb**	**11 15 11.3**	**+1.2**
KIF	**Kilpisjarvi**	**1.85**	**0**	*e*P		**Pn**	**11 14 45.5**	**+0.8**
KIF				*e*S		**Sb**	**11 15 11.2**	**+1.2**
N2IH	**Innhavet**	**2.02**	**296**	*e*P		**Pn**	**11 14 47.9**	**+0.8**
N2IH				*e*S		**Sg**	**11 15 16.2**	**-0.5**
N2IH				IAML			11 15 19.2	
	comp=Z,48nm,0.5s									
RNF	**Rovaniemi**	**2.14**	**103**	PG		**Pn**	**11 14 50.1**	**+1.4**
RNF				SG		**Sb**	**11 15 19.9**	**+1.5**
SGF	**Sodankyl**	**2.25**	**80**	PG		**Pn**	**11 14 51.8**	**+1.7**
	baz=263									
SGF				SG		**Sb**	**11 15 23.1**	**+1.5**
STEI	**Steigen**	**2.26**	**293**	*e*P		**Pb**	**11 14 53.8**	**+0.4**
STEI				IAML			11 15 26.8	
	comp=Z,22nm,0.5s									
TRO	**Tromso**	**2.58**	**345**	Pn		**Pb**	**11 14 57.8**	**-1.0**
TRO				Sn		**Sn**	**11 15 28.7**	**+2.2**
TRO	**Tromso**	**2.58**	**345**	Pn		**Pb**	**11 14 57.8**	**-1.0**
TRO				Sn		**Sn**	**11 15 28.7**	**+2.2**
BURU	**Burvik**	**2.60**	**174**	PN		**Pn**	**11 14 56.2**	**+1.2**
BURU				SG		**Sg**	**11 15 34.0**	**-1.3**
MOR8	**Moi Rana**	**2.71**	**251**	*e*P		**Pn**	**11 14 56.8**	**+0.3**
MOR8				*e*Sg		**Sn**	**11 15 31.0**	**+1.0**
MOR8				IAML			11 15 33.4	
	comp=Z,27nm,0.4s									
OUL	**Oulu**	**2.95**	**133**	PG		**Pb**	**11 15 03.9**	**-1.2**
	baz=321									
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn		**Pn**	**11 15 00.5**	**+0.6**
	baz=214,slow=14									
ARA0				Sn		**Sn**	**11 15 38.2**	**+2.1**
	baz=216,slow=28									
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn		**Pn**	**11 15 00.5**	**+0.6**
	baz=214,slow=14									
ARA0				Sn		**Sn**	**11 15 38.2**	**+2.1**
	baz=216,slow=28									
ARCES	**ARCESS Array B**	**2.96**	**34**	Pn		**Pn**	**11 15 00.7**	**+0.7**
	baz=215,slow=13,SNR=28									
ARCES				Sn		**Sn**	**11 15 37.9**	**+1.7**
	baz=215,slow=22,SNR=9.8									
ARE0	**ARCESS Array S**	**2.96**	**34**	PB		**Pn**	**11 15 00.7**	**+0.7**
ARE0				SG		**Sb**	**11 15 40.9**	**-1.1**
OUF	**Merijarvi**	**3.25**	**148**	PG		**Pb**	**11 15 10.6**	**+0.5**
	baz=357									
VRF	**Varrio**	**3.46**	**76**	PN		**Pn**	**11 15 08.0**	**+1.2**
MSF	**Maaselka**	**3.54**	**107**	PN		**Pn**	**11 15 09.8**	**+1.9**
	baz=293									
MSF				SG		**Sb**	**11 16 01.3**	**+2.7**
KU6	**Riekki**	**3.81**	**103**	PN		**Pn**	**11 15 12.6**	**+0.9**
	baz=296									
HUSU	**Husum**	**3.89**	**190**	PN		**Pn**	**11 15 14.7**	**+2.0**
HUSU				SN		**Sn**	**11 16 00.5**	**+1.5**
VAF	**Ylistaro**	**4.21**	**168**	PN		**Pn**	**11 15 19.8**	**+2.6**
VAF				SG		**Sg**	**11 16 23.4**	**-3.5**
HEMU	**Hemsoen**	**4.65**	**196**	PG		**Pb**	**11 15 36.3**	**+2.2**
	baz=15									
HEMU				SN		**Sn**	**11 16 18.5**	**+0.8**
APA0	**Apatity Array**	**4.74**	**79**	Pn		**Pn**	**11 15 25.2**	**+0.9**
	baz=295,slow=14									
APA0				Sn		**Sn**	**11 16 20.0**	**+0.1**
	baz=271,slow=22									
APA0				Lg		Lg	11 16 40.5			
	baz=270,slow=28									
APA0	**Apatity Array**	**4.74**	**79**	Pn		**Pn**	**11 15 25.2**	**+0.9**
	baz=295,slow=14									
APA0				Sn		**Sn**	**11 16 20.0**	**+0.1**
	baz=271,slow=22									
APA0				Sg		**Sg**	**11 16 40.5**	**-3.4**
	baz=270,slow=28									
FIA0	**FINESS Array S**	**6.18**	**156**	Pn		**Pn**	**11 15 45.7**	**+1.5**
	baz=344,slow=14									
FIA0				Sn		**Sn**	**11 16 54.6**	**-0.9**
	baz=341,slow=28									
FIA0				Lg		Lg	11 17 25.2			
	baz=343,slow=37									
FIA0	**FINESS Array S**	**6.18**	**156**	Pn		**Pn**	**11 15 45.7**	**+1.5**
	baz=344,slow=14									
FIA0				Sn		**Sn**	**11 16 54.6**	**-0.9**
	baz=341,slow=28									
FIA0				Sg		**Sg**	**11 17 25.2**	**-5.0**
	baz=343,slow=37									
FINES	**FINESS Array B**	**6.18**	**156**	Pn		**Pn**	**11 15 45.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=347,slow=14,SNR=7.9									
FINES				Sn		**Sn**	**11 16 55.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=340,slow=24,SNR=7.1									
FINES				Lg		Lg	11 17 24.4			
	comp=Z,1.2nm,0.3s,baz=344,slow=28,SNR=7.7									
NB2	**NORSAR Subarra**	**7.43**	**219**	Pn		**Pn**	**11 16 01.4**	**+0.1**
	baz=28,slow=12									
NB2	**NORSAR Subarra**	**7.43**	**219**	Pn		**Pn**	**11 16 01.4**	**+0.1**
	baz=28,slow=12									
NOA	**NORSAR Array B**	**7.43**	**219**	Pn		**Pn**	**11 16 02.3**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=27,slow=11,SNR=3.9									
NOA				Sn		**Sn**	**11 17 27.7**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=350,slow=6.0,SNR=3.0									
NOA				Lg		Lg	11 18 05.2			
	comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=4.8									
NRA0	**NORESS Array S**	**7.62**	**216**	Pn		**Pn**	**11 16 04.6**	**+0.8**
	baz=24,slow=14									
NRA0				Sn		**Sn**	**11 17 25.6**	**-5.1**
	baz=8.2,slow=28									
NRA0	**NORESS Array S**	**7.62**	**216**	Pn		**Pn**	**11 16 04.6**	**+0.8**
	baz=24,slow=14									
NRA0				Sn		**Sn**	**11 17 25.6**	**-5.1**
	baz=8.2,slow=28									
HFS	**Hagfors**	**7.72**	**207**	Pn		**Pn**	**11 16 03.6**	**-1.6**
	baz=16,slow=12									
HFS				Sn		**Sn**	**11 17 30.5**	**-2.7**
	baz=18,slow=18									
HFS	**Hagfors**	**7.72**	**207**	Pn		**Pn**	**11 16 05.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=40,slow=14,SNR=4.8									
HFS				Sn		**Sn**	**11 17 30.1**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=8.9,slow=15,SNR=5.5									
HFS	**Hagfors**	**7.72**	**207**	Pn		**Pn**	**11 16 03.6**	**-1.6**
	baz=16,slow=12									
HFS				Sn		**Sn**	**11 17 30.5**	**-2.7**
	baz=18,slow=18									

*REY **05** 11:14:25.9, 64.67N × 17.46W, h7km*
*IDC **05** 11:14:26.3± 0.6, 64.61N × 17.58W, h0km, mb3.9/18, mb1 4.1/20, mb1mx4.0/45, mbtmp3.9/20, ML4.4/1, MS3.3/10, Ms1 3.3/10, ms1mx3.0/48, Error ellipse: s-maj=19.2km s-min=10.9km az=17.0*
*MOS **05** 11:14:26.2± 0.9, 64.68N × 17.50W, h10km, mb4.4/37, Error ellipse: s-maj=11.6km s-min=6.8km az=116.7*
*NEIC **05** 11:14:27.8± 1.9, 64.58N ± 0.09 × 17.6W ± 0.2, h9km ± 4km, mb4.5/57, Error ellipse: s-maj=13.4km s-min=9.4km az=195.0*

ISC 05 11:14:27.5 ± 0.4, **64.66N** ± 0.02 × **17.51W** ± 0.02, **h10km**, **n266, σ1s 54**/267, **mb4.3**/82, **MS3.3**/8, **9C-17D**, **Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**278**			P	**Pg**	**11 14 28.6**	**-1.7**
	baz=270								
IVON						S	**Sg**	**11 14 30.8**	**-1.4**
	baz=270								
IDYN	**Dyngjuhals**	**0.14**	**24**			P	**Pg**	**11 14 28.6**	**-2.2**
	baz=18								
IDYN						S	**Sg**	**11 14 31.2**	**-2.0**
	baz=18								
IDJK	**Dyngjujokull**	**0.19**	**143**			P	**Pg**	**11 14 29.9**	**-1.8**
	baz=151								
IDJK						S	**Sg**	**11 14 33.4**	**-1.1**
	baz=151								
IURH	**Urdarhals**	**0.22**	**43**			P	**Pg**	**11 14 29.9**	**-2.2**
	baz=42								
IGRF	**Grimsfjall**	**0.27**	**158**			P	**Pg**	**11 14 31.3**	**-1.7**
	baz=163								
IGRF						S	**Sg**	**11 14 35.9**	**-0.9**
	baz=163								
IKVE	**Kverkfjoll**	**0.36**	**87**			P	**Pg**	**11 14 32.3**	**-2.3**
	baz=89								
IKVE						S	**Sg**	**11 14 37.3**	**-2.0**
	baz=89								
IHUS	**Husbondi**	**0.37**	**190**			P	**Pg**	**11 14 33.4**	**-1.5**
	baz=193								
IHUS						S	**Sg**	**11 14 38.5**	**-1.2**
	baz=193								
IBJK	**Bruarjokull**	**0.38**	**120**			P	**Pg**	**11 14 32.4**	**-2.5**
	baz=124								
ISKR	**Skrokkalda**	**0.39**	**256**			P	**Pg**	**11 14 33.5**	**-1.7**
	baz=255								
IVOT	**Vottur**	**0.41**	**160**			P	**Pg**	**11 14 33.7**	**-1.9**
	baz=164								
IVOT						S	**Sg**	**11 14 39.5**	**-1.5**
	baz=164								
THOR	**Thorvaldshraun**	**0.45**	**52**			P	**Pg**	**11 14 33.7**	**-2.6**
	baz=52								
THOR						S	**Sg**	**11 14 40.4**	**-1.8**
	baz=52								
IJOK	**Jokulheimar**	**0.47**	**222**			P	**Pg**	**11 14 34.6**	**-1.9**
	baz=223								
IJOK						S	**Sb**	**11 14 41.1**	**-3.6**
	baz=223								
IKRE	**Kreppuhraun**	**0.50**	**75**			P	**Pg**	**11 14 34.3**	**-2.9**
	baz=76								
IKRE						S	**Sg**	**11 14 41.1**	**-2.6**
	baz=76								
IMKO	**Mokollar**	**0.59**	**57**			P	Pg	11 14 36.1	-2.9
	baz=57								
IMKO						S	**Sg**	**11 14 44.6**	**-2.2**
	baz=57								
IIEY	**Innrieyrar**	**0.63**	**206**			P	**Pg**	**11 14 37.4**	**-2.2**
	baz=207								
IKSK	**Karasker**	**0.67**	**138**			P	**Pg**	**11 14 37.0**	**-3.4**
	baz=140								
IKSK						S	**Sg**	**11 14 46.4**	**-2.8**
	baz=140								
ISVA	**Svartarkot**	**0.69**	**9**			P	**Pg**	**11 14 37.8**	**-3.0**
	baz=7.2								
ISVA						S	**Sg**	**11 14 47.5**	**-2.3**
	baz=7.2								
IKAL	**Kalfafell**	**0.72**	**186**			P	**Pg**	**11 14 38.9**	**-2.4**
	baz=188								
IKAL						S	**Sg**	**11 14 49.0**	**-1.6**
	baz=188								
IVAT	**Vatnsfell**	**0.78**	**233**			P	**Pg**	**11 14 40.1**	**-2.2**
	baz=233								
IVAT						S	**Sg**	**11 14 50.3**	**-2.2**
	baz=233								
IVSH	**V-Sauoahnukur**	**0.78**	**78**			P	Pg	11 14 39.0	-3.5
	baz=79								
IVSH						S	**Sg**	**11 14 49.3**	**-3.2**
	baz=79								
IADA	**Aoalbol**	**0.90**	**65**			P	Pg	11 14 40.9	-3.8
	baz=66								
IHVE	**Hveravellir**	**0.91**	**284**			P	**Pg**	**11 14 41.7**	**-3.2**
	baz=283								
IMEL	**Melhnausar**	**0.98**	**21**			P	Pg	11 14 42.5	-3.8
	baz=20								
IREN	**Reynihlio**	**1.02**	**14**			P	Pb	11 14 43.3	-4.0
	baz=13								
ISNB	**Snabyli**	**1.05**	**209**			P	**Pg**	**11 14 44.6**	**-3.0**
	baz=209								
ISNB						S	**Sb**	**11 14 59.1**	**-2.3**
	baz=209								
IKVO	**Krokottuvotn**	**1.09**	**14**			P	Pb	11 14 44.4	-4.1
	baz=13								
IGRS	**Grimsstaoir**	**1.14**	**30**			P	Pn	11 14 45.3	-4.2
	baz=30								
IRJU	**Rjupnafell**	**1.16**	**207**			P	**Pg**	**11 14 46.7**	**-3.1**
	baz=207								
ISKI	**Skildingahlsh**	**1.23**	**9**			P	Pn	11 14 46.8	-4.0
	baz=8.3								
IGHA	**Grjothals**	**1.24**	**16**			P	Pn	11 14 46.7	-4.2
	baz=16								
IGRA	**Granastaoir**	**1.27**	**359**			P	Pn	11 14 47.2	-4.0
	baz=358								
IDIM	**Dimmadalss**	**1.33**	**10**			P	Pn	11 14 48.3	-3.8
	baz=9.4								
IHLA	**Hella**	**1.34**	**344**			P	**Pn**	**11 14 48.8**	**-3.4**
	baz=343								
IALF	**Alftagrof**	**1.39**	**213**			P	**Pn**	**11 14 50.3**	**-2.5**
	baz=213								
IHED	**Heoinshofoi**	**1.43**	**3**			P	Pn	11 14 49.7	-3.7
	baz=2.4								
IHED						S	**Sn**	**11 15 08.1**	**-4.1**
	baz=2.4								
ISAU	**Saurbar**	**1.44**	**243**			P	**Pn**	**11 14 50.4**	**-3.0**
	baz=243								
IBRE	**Brettingsstaoi**	**1.48**	**354**			P	**Pn**	**11 14 50.7**	**-3.4**
	baz=353								
IGIL	**Gilhagi**	**1.50**	**18**			P	Pn	11 14 50.7	-3.7
	baz=18								
ISIG	**Siglufjorour**	**1.59**	**339**			P	**Pn**	**11 14 52.6**	**-3.0**
	baz=338								
BORG	**Borgarnes**	**1.64**	**275**			Pn	**Pn**	**11 14 54.0**	**-2.3**
	12nm,0.3s,baz=96,slow=8.0,SNR=38								
BORG						Sn	**Sb**	**11 15 17.3**	**-1.3**
	15nm,0.3s,baz=53,slow=20,SNR=7.6								
BORG	**Borgarnes**	**1.64**	**275**			Pn	**Pn**	**11 14 53.7**	**-2.7**
IBJA	**Bjarnastaoir**	**1.80**	**248**			P	**Pn**	**11 14 56.5**	**-2.1**
	baz=248								
IHRN	**Hraun**	**1.82**	**324**			P	**Pn**	**11 14 56.1**	**-2.7**
	baz=324								
SCO	**Scoresbysund**	**6.09**	**346**			P	**Pn**	**11 15 59.1**	**+1.7**
SCO	**Scoresbysund**	**6.09**	**346**			Pn	**Pn**	**11 15 59.1**	**+1.7**
JMIC	**Jan Mayen**	**7.20**	**24**			LR	LR	11 18 29.9	
	comp=Z,101nm,20.6s,baz=254,slow=34								
SUMG	**Summit**	**10.95**	**325**			P	**Pn**	**11 17 05.1**	**+0.9**
SUMG	**Summit**	**10.95**	**325**			Pn	**Pn**	**11 17 05.1**	**+0.9**
EKA	**Eskdalemuir Ar**	**11.76**	**136**			Pn	**Pn**	**11 17 14.9**	**-0.1**
	baz=322,slow=13,SNR=18								
ESK	**Eskdalemuir**	**11.76**	**136**			P	**Pn**	**11 17 12.9**	**-2.1**
ESK	**Eskdalemuir**	**11.76**	**136**			Pn	**Pn**	**11 17 12.9**	**-2.1**
NRS	**Narsarsuaq**	**13.13**	**267**			P	**Pn**	**11 17 32.2**	**-1.6**
NRS	**Narsarsuaq**	**13.13**	**267**			Pn	**Pn**	**11 17 32.2**	**-1.6**
NBO00	**NORSAR Array S**	**13.35**	**93**			Pn	**Pn**	**11 17 35.5**	**-1.3**
NAO01	**NORSAR Array S**	**13.49**	**93**			Pn	**Pn**	**11 17 36.9**	**-1.8**
NOA	**NORSAR Array B**	**13.54**	**92**			LR	LR	11 22 25.5	
	comp=Z,78nm,19.2s,baz=300,slow=35								
KONO	**Kongsberg**	**13.55**	**99**	‖	*e*P		**Pn**	**11 17 37.3**	**-2.2**
KONO						pmax	pmax		
	comp=Z,15nm,1.4s								
NB201	**NORSAR Array S**	**13.56**	**92**			Pn	**Pn**	**11 17 38.4**	**-1.3**
SFJD	**Kangerlussuaq**	**13.67**	**295**			LR	LR	11 22 31.8	
	comp=Z,264nm,18.0s,baz=89,slow=36								
HFS	**Hagfors**	**15.05**	**93**			Pn	**P**	**11 18 05.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=316,slow=8.2,SNR=7.9								
ARCES	**ARCESS Array B**	**17.12**	**55**			LR	LR	11 24 01.8	
	comp=Z,71nm,19.0s,baz=50,slow=34								
BUG	**Bochum--Univer**	**18.46**	**124**			P	**Pn**	**11 18 43.5**	**+0.5**
BUG						pmax	pmax		
	comp=Z,18nm,2.3s								
MEM	**Membach**	**18.71**	**128**			x	x	11 18 47.6	
MEM	**Membach**	**18.71**	**128**			P	**Pn**	**11 18 47.9**	**+1.8**
MEM						pmax	pmax		
	comp=Z,17nm,1.2s								
BTNL	**Ternell**	**18.77**	**127**			x	x	11 18 48.5	
FINES	**FINESS Array B**	**19.71**	**79**			P	**P**	**11 18 56.6**	**+0.1**
	baz=307,slow=17,SNR=4.1								
FINES						LR	LR	11 25 31.0	
	comp=Z,82nm,19.0s,baz=280,slow=34								
CLL	**Collm**	**20.70**	**116**		*i*	P	**P**	**11 19 07.0**	**-0.5**
	comp=Z,19nm,1.2s								
CLL	**Collm**	**20.70**	**116**		*i*	P	**P**	**11 19 07.0**	**-0.5**
CLL						pmax	pmax		
	comp=Z,19nm,1.2s								
CLL	**Collm**	**20.70**	**116**			P	**P**	**11 19 05.4**	**-2.1**
LOR	**Lormes**	**20.94**	**136**			P	**P**	**11 19 10.4**	**+0.3**
LOR						pmax	pmax		
	comp=Z,14nm,1.1s								
ECH	**Echery**	**21.15**	**129**			P	**P**	**11 19 13.0**	**+0.6**
ECH						pmax	pmax		
	comp=Z,10.0nm,1.1s								
ECH	**Echery**	**21.15**	**129**			P	**P**	**11 19 13.0**	**+0.6**
GRA1	**Grafenberg Arr**	**21.33**	**121**			P	**P**	**11 19 16.2**	**+1.9**
GRA1						lAmb	lAmb	11 19 18.6	
	comp=Z,19nm,1.2s								
GRF	**Grafenberg Arr**	**21.33**	**121**			P	**P**	**11 19 16.2**	**+1.9**
GRF						pmax	pmax		
	comp=Z,19nm,1.2s								
NKC	**Novy Kostel**	**21.35**	**118**		*e*P		**P**	**11 19 15.9**	**+1.4**
NKC	**Novy Kostel**	**21.35**	**118**		*e*P		**P**	**11 19 15.9**	**+1.4**
STU	**Stuttgart**	**21.37**	**125**			P	**P**	**11 19 15.0**	**+0.3**
STU						pmax	pmax		
	comp=Z,16nm,0.9s								
STU	**Stuttgart**	**21.37**	**125**			P	**P**	**11 19 15.0**	**+0.3**
STU						lAmb	lAmb	11 19 20.8	
	comp=Z,16nm,0.9s								
BRG	**Berggiesshubel**	**21.41**	**115**		*i*	P	**P**	**11 19 15.7**	**+0.6**
	comp=Z,29nm,1.4s								
BRG	**Berggiesshubel**	**21.41**	**115**		*i*	P	**P**	**11 19 15.7**	**+0.6**
BRG						pmax	pmax		
	comp=Z,29nm,1.4s								
BFO	**Black Forest**	**21.45**	**127**			P	**P**	**11 19 16.5**	**+1.0**
BFO						pmax	pmax		
	comp=Z,16nm,1.2s								
BFO	**Black Forest**	**21.45**	**127**			P	**P**	**11 19 16.5**	**+1.0**
VSU	**Vasula**	**21.57**	**86**		*e*P		**P**	**11 19 16.4**	**-0.3**
VSU	**Vasula**	**21.57**	**86**	↑	*e*P		**P**	**11 19 16.1**	**-0.6**
VSU						pmax	pmax		
	comp=Z,49nm,0.9s								
SLE	**Schleitheim**	**21.99**	**128**			P	**P**	**11 19 22.8**	**+1.4**
SLE						pmax	pmax		
	comp=Z,13nm,1.1s								
PABE	**Paberze**	**22.21**	**95**		*e*P		**P**	**11 19 24.3**	**+0.7**
PRU	**Pruhonice**	**22.35**	**116**		*e*P		**P**	**11 19 26.1**	**+0.9**
PRU	**Pruhonice**	**22.35**	**116**		*e*P		**P**	**11 19 26.1**	**+0.9**
PBCC	**Pribram**	**22.38**	**117**		*e*P		**P**	**11 19 28.2**	**+2.7**
WET	**Wettzell**	**22.40**	**119**			P	**P**	**11 19 27.2**	**+1.5**
WET						pmax	pmax		
	comp=Z,9.0nm,1.5s								
CHVC	**Chvalec**	**22.47**	**113**		*e*P		**P**	**11 19 27.7**	**+1.2**
CHVC					*ex*		x	11 19 40.4	
UPC	**Upice**	**22.51**	**113**		*e*P		**P**	**11 19 28.9**	**+2.0**
UPC	**Upice**	**22.51**	**113**		*e*P		**P**	**11 19 28.9**	**+2.0**
OSTC	**Ostas**	**22.55**	**113**		*e*P		**P**	**11 19 28.1**	**+0.7**
KHC	**Kasperske Hory**	**22.67**	**118**		*e*P		**P**	**11 19 29.0**	**+0.3**
KHC	**Kasperske Hory**	**22.67**	**118**		*e*P		**P**	**11 19 29.0**	**+0.3**
KHC	**Kasperske Hory**	**22.67**	**118**				**P**	**11 19 28.4**	**-0.3**
DPC	**Dobruska-Polom**	**22.76**	**113**		*e*P		**P**	**11 19 29.7**	**+0.1**
DPC					*ex*		x	11 19 46.0	
DPC	**Dobruska-Polom**	**22.76**	**113**		*e*P		**P**	**11 19 29.7**	**+0.1**
DAVA	**Damuels**	**22.88**	**126**		*e*P		**P**	**11 19 34.9**	**+4.0**
	comp=Z,8.1nm,1.2s								
GEC2	**GERESS Array S**	**22.95**	**119**			P	**P**	**11 19 32.6**	**+0.9**
GEC2						lAmb	lAmb	11 19 41.8	
	comp=Z,18nm,1.3s								
GERES	**GERESS Array B**	**22.95**	**119**			P	**P**	**11 19 32.8**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=323,slow=8.6,SNR=13								
GERES						LR	LR	11 29 51.0	
	comp=Z,91nm,18.4s,baz=322,slow=40								
GERES	**GERESS Array B**	**22.95**	**119**			P	**P**	**11 19 32.5**	**+0.8**
RETA	**Reutte**	**23.02**	**125**		*e*P		**P**	**11 19 36.6**	**+4.3**
	comp=Z,4.4nm,1.0s								
IZAR	**Zarasai**	**23.03**	**92**		*e*P		**P**	**11 19 33.1**	**+0.8**
ISAL	**Salakas**	**23.09**	**92**		*e*P		**P**	**11 19 33.9**	**+0.9**
KRLC	**Kraliky**	**23.16**	**113**		*e*P		**P**	**11 19 35.7**	**+2.0**
KRLC					*ex*		x	11 19 45.0	
KRLC	**Kraliky**	**23.16**	**113**		*e*P		**P**	**11 19 35.7**	**+2.0**
MOTA	**Moosalm**	**23.26**	**124**		*e*P		**P**	**11 19 39.5**	**+4.6**
	comp=Z,4.1nm,1.0s								
IIGN	**Ignalina**	**23.28**	**93**		*e*P		**P**	**11 19 35.9**	**+1.1**
DAVOX	**Davos/Dischmat**	**23.32**	**127**		P		**P**	**11 19 36.2**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=331,slow=19,SNR=4.5								
TMCR	**Tamitsa**	**23.35**	**66**		*e*P		**P**	**11 19 34.3**	**-1.2**
TMCR						pmax	pmax		
	comp=Z,21nm,1.2s								
SQTA	**Sankt Quirin**	**23.40**	**124**		*e*P		**P**	**11 19 38.2**	**+2.0**
	comp=Z,12nm,2.0s								
FETA	**Feichten**	**23.40**	**125**		*e*P		**P**	**11 19 39.2**	**+2.8**
	comp=Z,5.7nm,1.1s								
WATA	**Walderalm**	**23.43**	**124**		*e*P		**P**	**11 19 37.1**	**+0.4**
	comp=Z,12nm,1.5s								
WTTA	**Wattenberg**	**23.52**	**124**		*e*P		**P**	**11 19 38.3**	**+0.8**
	comp=Z,9.7nm,1.4s								
WTTA	**Wattenberg**	**23.52**	**124**		P		**P**	**11 19 40.6**	**+3.1**
WTTA						pmax	pmax		
	comp=Z,16nm,1.9s								
IDID	**Didziasalis**	**23.53**	**92**		*e*P		**P**	**11 19 37.4**	**+0.1**
VRAC	**Vranov**	**23.69**	**114**		P		**P**	**11 19 40.2**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=135,slow=10.0,SNR=3.2								
VRAC						LR	LR	11 30 37.1	
	comp=Z,64nm,18.7s,baz=312,slow=41								
VRAC	**Vranov**	**23.69**	**114**		*e*P		**P**	**11 19 39.4**	**+0.4**
MORC	**Moravsky Berou**	**23.70**	**112**		*e*P		**P**	**11 19 39.3**	**+0.2**
MORC	**Moravsky Berou**	**23.70**	**112**		P		**P**	**11 19 38.8**	**-0.3**
MORC						pmax	pmax		
	comp=Z,11nm,1.4s								
MORC	**Moravsky Berou**	**23.70**	**112**		P		**P**	**11 19 38.8**	**-0.3**
BNI	**Bardonecchia**	**23.80**	**134**		P		**P**	**11 19 39.0**	**-1.2**
BNI						pmax	pmax		
	comp=Z,13nm,1.5s								
BNI	**Bardonecchia**	**23.80**	**134**		P		**P**	**11 19 39.0**	**-1.2**
KRUC	**Moravsky**	**23.81**	**115**		*e*P		**P**	**11 19 40.0**	**-0.2**
KRUC	**Moravsky**	**23.81**	**115**		P		**P**	**11 19 40.5**	**+0.3**
KRUC						pmax	pmax		
	comp=Z,7.0nm,2.4s								
ABTA	**Abfaltersbach**	**24.27**	**123**		*e*P		**P**	**11 19 46.5**	**+2.0**
	comp=Z,4.7nm,1.1s								
JAVC	**Velka Javorina**	**24.48**	**113**		*e*P		**P**	**11 19 45.5**	**-0.9**
CONA	**Conrad Observa**	**24.53**	**117**		*e*P		**P**	**11 19 48.5**	**+1.6**
	comp=Z,4.0nm,1.0s								
CIMO	**Cimolais**	**24.62**	**124**		P		**P**	**11 19 48.5**	**+0.8**
SMOL	**

SOC				*e*S		**S**	**11 27 35.3 +0.3**
SOC				*e*SS		**SnSn**	**11 30 18.0 +2.5**
SOC				*e*SSS		SSS	11 30 45.9
SOC				MLR		MLR	
	comp=Z,114nm,13.0s						
BR131	**Keskin Array S**	**38.48**	**105**	P		**P**	**11 21 50.3 +0.8**
BR131				pmax		pmax	
	comp=Z,3.0nm,1.1s						
BR131	**Keskin Array S**	**38.48**	**105**	P		**P**	**11 21 50.3 +0.8**
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**	**11 21 49.6 +0.1**
	comp=Z,2.3nm,0.9s,baz=332,slow=5.8,SNR=9.1						
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**	**11 21 50.3 +0.8**
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**	**11 21 50.3 +0.8**
KIV	**Kislovodsk**	**38.84**	**92**	*e*P		**P**	**11 21 50.1 -2.3**
KIV				pmax		pmax	
	comp=Z,19nm,1.1s						
KIV				MLR		MLR	
	comp=Z,77nm,16.0s						
KBZ	**Khabaz**	**39.12**	**92**	P		**P**	**11 21 56.2 +1.7**
	comp=Z,3.5nm,0.8s,baz=282,slow=6.3,SNR=5.4						
KBZ	**Khabaz**	**39.12**	**92⇓**	*e*P		**P**	**11 21 55.3 +0.8**
ELL	**Elmali**	**39.50**	**112**	P		**P**	**11 21 59.4 +1.4**
ELL				pmax		pmax	
	comp=Z,49nm,1.2s						
ELL	**Elmali**	**39.50**	**112**	P		**P**	**11 21 59.4 +1.4**
AKTO	**Aktyubinsk**	**40.29**	**73**	P		**P**	**11 22 04.1 -0.2**
	comp=Z,0.7nm,0.3s,baz=340,slow=11,SNR=5.7						
ABKAR	**Akbulak array**	**41.99**	**73**	P		**P**	**11 22 18.3 0.0**
TIXI	**Tiksi**	**42.04**	**15**	*i* P		**P**	**11 22 21.9 +3.5**
TOLK	**Toolik Lake Re**	**42.75**	**336**	P		**P**	**11 22 26.5 +2.2**
TOLK				IAmb		IAmb	11 22 32.6
	comp=Z,15nm,1.3s						
BRVK	**Borovoye**	**43.14**	**62⇑**	*e*P		**P**	**11 22 28.1 +0.5**
BRVK				pmax		pmax	
	comp=Z,3.0nm,1.2s						
BRVK	**Borovoye**	**43.14**	**62**	P		**P**	**11 22 28.0 +0.5**
BVAR	**Borovoye Array**	**43.20**	**62**	P		**P**	**11 22 28.6 +0.6**
	comp=Z,2.2nm,0.9s,baz=182,slow=8.6,SNR=9.0						
MARD	**Mardin**	**43.51**	**100**	P		**P**	**11 22 32.4 +1.5**
MARD				IAmb		IAmb	11 22 37.6
	comp=Z,15nm,1.3s						
DAWY	**Dawson**	**44.70**	**328**	P		**P**	**11 22 40.4 +0.4**
DAWY				IAmb		IAmb	11 22 42.5
	comp=Z,10.0nm,1.3s						
ILAR	**Eielson Array**	**45.69**	**332**	P		**P**	**11 22 49.1 +1.3**
	comp=Z,3.1nm,1.1s,baz=26,slow=6.5,SNR=14						
ILAR				PcP		**PcP**	**11 24 25.8 +0.3**
	comp=Z,1.5nm,1.1s,baz=353,slow=2.5,SNR=5.0						
ILAR	**Eielson Array**	**45.69**	**332**	P		**P**	**11 22 48.9 +1.0**
COLA	**College**	**45.79**	**333⇓**	*e*P		**P**	**11 22 49.9 +1.4**
COLA				pmax		pmax	
	comp=Z,10.0nm,1.4s						
IMAR	**Indian Mountai**	**45.86**	**337**	P		**P**	**11 22 50.5 +1.4**
HDA	**Harding Lake**	**46.03**	**332**	P		**P**	**11 22 49.8 -0.6**
BCAR	**Beaver Creek A**	**46.11**	**329**	P		**P**	**11 22 53.3 +1.1**
ZALV	**Zalesovo Beam**	**47.64**	**51**	P		**P**	**11 23 03.4 +0.2**
	comp=Z,0.5nm,0.4s,baz=324,slow=7.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**47.64**	**51**	P		**P**	**11 23 02.9 -0.3**
KURK	**Kurchatov**	**48.12**	**58⇑**	*e*P		**P**	**11 23 07.4 +0.5**
KURK				pmax		pmax	
	comp=Z,7.0nm,1.7s						
EGMT	**Eagleton**	**48.88**	**297**	P		**P**	**11 23 14.6 +1.6**
GYA0B	**ALIBECK ARRAY**	**50.43**	**84**	P		**P**	**11 23 25.2 +0.4**
GYA0B				IAmb		IAmb	11 23 29.1
	comp=Z,5.8nm,1.3s						
GCMT	**Greycliff**	**50.69**	**295**	P		**P**	**11 23 27.8 +1.0**
KK31	**Karatay Array**	**51.28**	**70**	P		**P**	**11 23 32.5 +1.4**
KK31				pmax		pmax	
	comp=Z,9.0nm,1.5s						
KK31	**Karatay Array**	**51.28**	**70**	P		**P**	**11 23 32.5 +1.4**
KK31				IAmb		IAmb	11 23 35.5
	comp=Z,8.7nm,1.5s						
KKAR	**Karatay Array**	**51.28**	**70**	P		**P**	**11 23 31.8 +0.7**
KKAR	**Karatay Array**	**51.28**	**70**	P		**P**	**11 23 31.8 +0.7**
KKAR				IAmb		IAmb	11 23 35.5
	comp=Z,8.7nm,1.5s						
YNE	**Yellowstone No**	**51.47**	**295**	P		**P**	**11 23 33.1 +0.2**
BOZ	**Bozeman (W)**	**51.61**	**297**	P		**P**	**11 23 34.1 +0.4**
BOZ				pmax		pmax	
	comp=Z,11nm,1.3s						
BOZ	**Bozeman (W)**	**51.61**	**297**	P		**P**	**11 23 34.1 +0.4**
BOZ				IAmb		IAmb	11 23 40.8
	comp=Z,11nm,1.2s						
DGZ	**Jazzator, Alta**	**52.09**	**53⇑**	*e*P		**P**	**11 23 39.0 +1.8**
DGZ				pmax		pmax	
	comp=Z,4.0nm,1.3s						
MAKZ	**Makanchi**	**52.60**	**59**	P		**P**	**11 23 41.2 +0.2**
MAKZ				pmax		pmax	
	comp=Z,6.0nm,1.5s						
MAKZ	**Makanchi**	**52.60**	**59**	P		**P**	**11 23 41.1 +0.2**
MAKZ				IAmb		IAmb	11 23 44.4
	comp=Z,6.4nm,1.4s						
MK31	**Makanchi Array**	**52.73**	**58⇑**	*e*P		**P**	**11 23 42.4 +0.5**
MK31	**Makanchi Array**	**52.73**	**58**	P		**P**	**11 23 41.9 0.0**
MKAR	**Makanchi Array**	**52.73**	**58**	P		**P**	**11 23 42.2 +0.3**
	comp=Z,1.1nm,0.8s,baz=330,slow=4.6,SNR=5.9						
MKAR	**Makanchi Array**	**52.73**	**58**	*i* P		**P**	**11 23 41.0 -0.9**
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**52.73**	**58**	P		**P**	**11 23 41.6 -0.3**
SNOW	**Snow King Moun**	**53.06**	**295**	P		**P**	**11 23 45.3 +0.6**
SNOW				IAmb		IAmb	11 23 48.3
	comp=Z,5.7nm,1.2s						
TOA0	**Torodi Ar. Sit**	**53.14**	**156**	P		**P**	**11 23 44.0 -1.1**
TOA0				IAmb		IAmb	11 23 45.7
	comp=Z,5.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**	**11 23 44.7 -0.4**
	comp=Z,3.7nm,1.1s,baz=337,slow=9.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**	**11 23 44.2 -1.0**
BW06	**Boulder Array**	**53.18**	**293**	P		**P**	**11 23 44.4 -1.1**
BW06				IAmb		IAmb	11 23 46.9
	comp=Z,8.2nm,1.3s						
PD31	**Pinedale Array**	**53.18**	**293**	P		**P**	**11 23 44.5 -1.1**
PD31				IAmb		IAmb	11 23 46.9
	comp=Z,7.4nm,1.3s						
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**11 23 45.8 +0.3**
	comp=Z,3.1nm,1.0s,baz=57,slow=5.5,SNR=16						
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**11 23 44.9 -0.6**
REDW	**Red Top Meadow**	**53.18**	**295**	P		**P**	**11 23 46.4 +0.8**
REDW				IAmb		IAmb	11 23 54.1
	comp=Z,12nm,1.4s						
N23A	**Red Feather La**	**53.30**	**289**	P		**P**	**11 23 47.9 +1.3**
BTK	**Batken**	**53.96**	**72**	P		**P**	**11 23 51.8 +0.7**
BTK				pmax		pmax	
	comp=Z,12nm,1.2s						
BTK	**Batken**	**53.96**	**72**	P		**P**	**11 23 51.8 +0.7**
MOY	**Mondy**	**54.67**	**42**	*e*P		**P**	**11 23 58.2 +2.1**
MOY				pmax		pmax	
	comp=Z,34nm,2.5s						
HWUT	**Hardware Ranch**	**54.95**	**294**	P		**P**	**11 23 58.7 +0.3**
TCUT	**Toone Canyon**	**55.31**	**294**	P		**P**	**11 24 02.4 +1.3**
TARG	**Taragay, Kyrgy**	**55.34**	**65**	P		**P**	**11 24 02.7 +1.2**
TARG				IAmb		IAmb	11 24 20.5
	comp=Z,7.5nm,1.3s						
JLU	**Jordanelle**	**55.76**	**293**	P		**P**	**11 24 05.3 +1.0**
DUG	**Dugway, Tooele**	**56.65**	**294**	P		**P**	**11 24 10.9 +0.4**
DUG				pmax		pmax	
	comp=Z,6.0nm,1.2s						
DUG	**Dugway, Tooele**	**56.65**	**294**	P		**P**	**11 24 10.9 +0.4**
DUG				IAmb		IAmb	11 24 18.0
	comp=Z,5.6nm,1.2s						
SRU	**San Rafael Swe**	**56.67**	**292**	P		**P**	**11 24 11.8 +1.0**
SRU				pmax		pmax	
	comp=Z,4.0nm,1.1s						
SRU	**San Rafael Swe**	**56.67**	**292**	P		**P**	**11 24 11.8 +1.0**
TMUT	**Trail Mountain**	**56.78**	**292**	P		**P**	**11 24 12.8 +1.0**
WMQ	**Urumqi**	**57.24**	**56**	*e*P		**P**	**11 24 17.6 +3.0**
MSU	**Marysvale**	**57.84**	**293**	P		**P**	**11 24 20.5 +1.4**
MSU	**Marysvale**	**57.84**	**293**	P		**P**	**11 24 20.5 +1.4**
MVU	**Marysvale**	**57.86**	**293**	P		**P**	**11 24 20.3 +1.0**
TCRU	**Three Creeks R**	**57.87**	**293**	P		**P**	**11 24 21.1 +1.8**
PSUT	**Pine Spring**	**58.49**	**294**	P		**P**	**11 24 24.1 +0.5**
TIC	**Toumodi**	**58.59**	**165**	*e*P		**P**	**11 24 23.6 -0.6**
KIC	**Kosan Boka**	**58.90**	**165**	*e*P		**P**	**11 24 24.7 -1.7**
	comp=Z,14nm,1.2s						
SZCU	**Shurtz Canyon**	**58.99**	**293**	P		**P**	**11 24 28.3 +1.2**
LIC	**Lamto**	**59.00**	**165**	*e*P		**P**	**11 24 26.7 -0.4**
	comp=Z,33nm,1.4s						
R11A	**Troy Canyon, C**	**59.33**	**295**	P		**P**	**11 24 30.6 +1.2**
R11A				IAmb		IAmb	11 24 31.1
	comp=Z,6.0nm,1.5s						
JCT	**Junction City**	**59.64**	**278**	P		**P**	**11 24 31.9 +0.4**
JCT				pmax		pmax	
	comp=Z,7.0nm,1.2s						
JCT	**Junction City**	**59.64**	**278**	P		**P**	**11 24 31.9 +0.4**
SONM	**Songino Array**	**59.65**	**40**	P		**P**	**11 24 32.1 +0.7**
	comp=Z,0.6nm,0.9s,baz=318,slow=4.2,SNR=3.7						
SONM	**Songino Array**	**59.65**	**40**	P		**P**	**11 24 33.1 +1.7**
SONM				pmax		pmax	
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**59.65**	**40**	P		**P**	**11 24 33.1 +1.7**
U15A	**North Rim**	**59.69**	**291**	P		**P**	**11 24 31.7 -0.4**
U15A				IAmb		IAmb	11 24 33.5
	comp=Z,4.4nm,1.1s						
ULN	**Ulaanbaatar**	**59.80**	**40⇓**	*e*P		**P**	**11 24 34.2 +1.7**
ULN				pmax		pmax	
	comp=Z,7.0nm,2.5s						
NVAR	**Mina Array Bea**	**60.30**	**297**	P		**P**	**11 24 37.5 +1.4**
	comp=Z,0.3nm,0.8s,baz=45,slow=8.6,SNR=3.7						
NVAR	**Mina Array Bea**	**60.30**	**297**	P		**P**	**11 24 36.7 +0.5**
NIL	**Nilore**	**60.45**	**73**	P		**P**	**11 24 37.2 +0.2**
NIL				pmax		pmax	
	comp=Z,9.0nm,1.0s						
NIL	**Nilore**	**60.45**	**73**	P		**P**	**11 24 37.2 +0.2**
TXAR	**Lajitas Array**	**62.28**	**280**	P		**P**	**11 24 50.3 +0.8**
	comp=Z,1.5nm,1.1s,baz=41,slow=2.9,SNR=7.6						
TXAR	**Lajitas Array**	**62.28**	**280**	P		**P**	**11 24 50.5 +1.0**
TXAR	**Lajitas Array**	**62.28**	**280**	P		**P**	**11 24 50.5 +1.0**
319A	**Douglas**	**62.85**	**286**	P		**P**	**11 24 54.3 +1.0**
HHC	**Hu-ho-hao-te**	**67.52**	**40**	*e*P		**P**	**11 25 24.2 +0.7**
HHC				pmax		pmax	
	comp=Z,14nm,1.1s						
HHC				pmax		pmax	
	comp=Z,480nm,5.7s						
NJ2	**Nanjing**	**77.75**	**37**	*e*P		**P**	**11 26 24.6 +0.4**
NJ2				pmax		pmax	
	comp=Z,15nm,0.7s						
LSZ	**Lusaka**	**86.92**	**136**	LR		LR	12 06 54.2
	comp=Z,23nm,18.4s,baz=156,slow=36						

*IDC **05** 11:23:54.8±1.0, 67.16N×20.97E, h0km, mb1 3.0/4, mb1mx2.9/41, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=16.6km s-min=8.0km az=110.0*
*NAO **05** 11:23:54.4±0.9, 67.13N×21.01E, ML2.5*
*HEL **05** 11:23:54.4±0.0, 67.19N×20.68E, h0km, ML2.3, ML2.2(UPP), Explosion*
*BER **05** 11:23:57.6±4.5, 67.12N×20.93E, h0km, ML2.1, ML2.5(NAO), Suspected explosion*

ISC 05 11:23:53.5±0.7, 67.18N±0.02×20.64E±0.02, h0km, n40, σ1°36/72, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**205**	*i* P	**Pg**	**11 23 55.8**	**+1.0**
DUNU				*i* S	**Sg**	**11 23 57.1**	**+1.5**
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	**Pg**	**11 24 05.0**	**+0.2**
KUA	**Kurravaara**	**0.79**	**352**	*i* P	**Pg**	**11 24 08.4**	**-0.1**
ERTU	**Ertsjaerv**	**0.88**	**135**	*e*P	**Pg**	**11 24 09.6**	**-0.6**
ERTU				*e*S	**Sg**	**11 24 21.4**	**-0.2**
PAJU	**Pajala**	**0.98**	**98**	*e*P	**Pg**	**11 24 11.6**	**-0.6**
LANU	**Lannavaara**	**1.01**	**30**	*e*P	**Pg**	**11 24 12.4**	**-0.5**
LANU				*e*SB	**Sg**	**11 24 26.4**	**+0.4**
KOVU	**Salmi**	**1.06**	**350**	*e*P	**Pg**	**11 24 13.4**	**-0.4**
KOVU				*e*S	**Sg**	**11 24 28.2**	**+0.7**
KALU	**Kalix**	**1.72**	**139**	*e*P	**Pn**	**11 24 24.6**	**+0.1**
	baz=320						
KALU				*e*SN	**Sn**	**11 24 47.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.83**	**2**	Pn	**Pb**	**11 24 27.4**	**-0.4**
KIF				Sn	**Sg**	**11 24 52.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	**Pb**	**11 24 27.2**	**-0.6**
KIF				MSG		11 24 49.5	
	comp=Z,21nm,0.2s						
KIF				*e*SG	**Sg**	**11 24 53.4**	**+1.1**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	**Pn**	**11 24 27.1**	**+0.9**
KIF				*e*S	**Sg**	**11 24 52.5**	**+0.3**
TOF	**Tornio**	**1.84**	**125**	*e*P	**Pn**	**11 24 26.8**	**+0.5**
TOF				MSG		11 24 49.2	
	comp=Z,19nm,0.2s						
TOF				*e*SN	**Sn**	**11 24 50.9**	**+0.7**
FAUS	**Fauske**	**2.09**	**278**	*e*P	**Pb**	**11 24 32.2**	**0.0**
FAUS				*e*S	**Sg**	**11 25 00.7**	**+0.2**
FAUS				IAML		11 25 05.2	
	comp=Z,24nm,0.5s						
RNF	**Rovaniemi**	**2.20**	**103**	*e*PB	**Pn**	**11 24 32.2**	**+1.0**
RNF				*e*SG	**Sb**	**11 25 02.1**	**+0.4**
STEI	**Steigen**	**2.20**	**292**	*e*P	**Pg**	**11 24 34.8**	**-0.8**
SGF	**Sodankyl**	**2.30**	**81**	*e*PB	**Pn**	**11 24 34.2**	**+1.6**
SGF				*e*SG	**Sb**	**11 25 04.7**	**+0.1**
TRO	**Tromso**	**2.54**	**346**	Pn	**Pb**	**11 24 38.6**	**-1.3**
TRO				Sn	**Sb**	**11 25 12.8**	**+1.1**
TRO	**Tromso**	**2.54**	**346**	Pn	**Pb**	**11 24 38.6**	**-1.3**
TRO				Sn	**Sb**	**11 25 12.8**	**+1.1**
BURU	**Burvik**	**2.63**	**173**	*e*P	**Pn**	**11 24 38.4**	**+1.4**
BURU				*e*SG	**Sb**	**11 25 15.1**	**+1.0**
MOR8	**Moi Rana**	**2.67**	**251**	*e*P	**Pn**	**11 24 38.5**	**+0.9**
MOR8				*e*S	**Sb**	**11 25 13.3**	**-2.0**
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**11 24 42.5**	**+0.6**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**11 25 19.2**	**+1.1**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**11 24 42.5**	**+0.6**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**11 25 19.2**	**+1.1**
	baz=214,slow=28						
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**11 24 42.6**	**+0.7**
	baz=213,slow=13,SNR=16						
ARCES				Sn	**Sn**	**11 25 19.1**	**+0.9**
	baz=214,slow=24,SNR=11						
ARE0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**11 24 42.5**	**+0.7**
ARE0				*e*SG	**Sb**	**11 25 25.1**	**+1.0**
OUL	**Oulu**	**3.00**	**132**	*e*P	**Pn**	**11 24 43.2**	**+1.0**
	baz=314						
OBF0	**Syolatti, Pyha**	**3.08**	**150**	*e*SG	**Sg**	**11 25 31.1**	**-1.0**
OUF	**Merijarvi**	**3.29**	**147**	*e*PG	**Pb**	**11 24 52.4**	**-0.2**
OUF				*e*SG	**Sb**	**11 25 35.7**	**+2.5**
VRF	**Varrio**	**3.50**	**77**	*e*S	**Sn**	**11 25 31.9**	**+0.7**
MSF	**Maaselka**	**3.59**	**107**	*e*P	**Pn**	**11 24 51.9**	**+1.5**
MSF				*e*SG	**Sb**	**11 25 43.0**	**+1.1**
KU6	**Riekki**	**3.87**	**103**	*e*P	**Pn**	**11 24 54.8**	**+0.7**
	baz=293						
KU6				*e*SG	**Sg**	**11 25 54.4**	**-3.2**
VAF	**Ylistaro**	**4.25**	**167**	*e*SG	**Sb**	**11 26 04.6**	**+4.0**
APA0	**Apatity Array**	**4.79**	**79**	Pn	**Pn**	**11 25 07.2**	**+0.5**
APA0				Sn	**Sn**	**11 26 02.7**	**-0.1**
	baz=282,slow=22						
APA0	**Apatity Array**	**4.79**	**79**	Pn	**Pn**	**11 25 07.2**	**+0.5**
APA0				Sn	**Sn**	**11 26 02.7**	**-0.1**
	baz=282,slow=22						
FIA0	**FINESS Array S**	**6.22**	**155**	Pn	**Pn**	**11 25 27.3**	**+0.9**
	baz=342,slow=16						
FIA0				Sn	**Sn**	**11 26 34.3**	**-3.9**
	baz=356,slow=22						
FIA0	**FINESS Array S**	**6.22**	**155**	Pn	**Pn**	**11 25 27.3**	**+0.9**
	baz=342,slow=16						
FIA0				Sn	**Sn**	**11 26 34.3**	**-3.9**
	baz=356,slow=22						
FINES	**FINESS Array B**	**6.22**	**155**	Pn	**Pn**	**11 25 27.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=5.0						
FINES				Pg	**Pb**	**11 25 43.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=354,slow=16,SNR=5.7						
FINES				Sn	**Sn**	**11 26 37.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=341,slow=25,SNR=4.9						
FINES				Lg	Lg	11 27 08.3	
	comp=Z,0.7nm,0.3s,baz=347,slow=30,SNR=8.0						
NOA	**NORSAR Array B**	**7.41**	**218**	Pn	**Pn**	**11 25 44.1**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=16,slow=14,SNR=1.6						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**11 25 45.7**	**-1.2**
	baz=12,slow=12						
HFS				Sn	**Sn**	**11 27 12.7**	**-2.2**
	baz=10,slow=22						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**11 25 46.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=10,slow=12,SNR=4.3						
HFS				Sn	**Sn**	**11 27 12.0**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=9.2,slow=19,SNR=4.2						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**11 25 45.7**	**-1.2**
	baz=12,slow=12						
HFS				Sn	**Sn**	**11 27 12.7**	**-2.2**
	baz=10,slow=22						

*GCG **05** 11:52:07.8±1.1, 13.48N×92.64W, h32km±999km, MD4.0*
*MEX **05** 11:52:11.7±0.9, 14.16N×92.26W, h104km±20km, MD3.9*

ISC 05 11:52:10.1±2.6, 14.0N±0.1×92.44W±0.08, h13km±16km, n9, σ1°56/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.91**	**10**	*i* P	**Pn**	**11 52 28.2**	**-0.3**
THIG				*e*S	**Sn**	**11 52 41.9**	**+0.4**
FUG	**Fuego 3**	**1.61**	**74**	*e*P	**Pb**	**11 52 39.0**	**-0.7**
FUG				*e*S	**Sg**	**11 53 04.8**	**+2.9**
PCG	**Pacaya**	**1.81**	**78**	*e*P	**Pg**	**11 52 43.7**	**-1.3**
PCG				*e*S	**Sg**	**11 53 10.1**	**+1.5**
PCIG		**1.85**	**336**	*e*P	**Pn**	**11 52 40.5**	**-0.9**
PCIG				*e*S	**Sn**	**11 53 03.3**	**-1.4**
IXG	**Ixpaco**	**1.94**	**85**	*e*P	**Pn**	**11 52 43.1**	**+0.1**
NBG	**Las Nubes**	**2.11**	**74**	*e*P	**Pb**	**11 52 47.5**	**-0.8**
CCIG	**Comitan**	**2.28**	**7**	*e*P	**Pb**	**11 52 50.8**	**-0.4**
CCIG				*i* S	**Sb**	**11 53 19.1**	**-0.3**
TGIG		**2.83**	**347**	*e*P	**Pn**	**11 52 53.5**	**-1.6**
TGIG				*i* S	**Sn**	**11 53 31.0**	**+1.8**
CMIG	**Matias Romero**	**3.87**	**323**	*e*P	**Pn**	**11 53 11.1**	**+1.8**
CMIG				*e*S	**Sn**	**11 53 56.3**	**+1.7**

IDC 05 11:55:00.3±12.0, 24.40S×179.40E, h439km±120km, mb2.7/2, mb1 3.1/3, mb1mx2.8/25, mbtmp3.8/3, Error ellipse: s-maj=98.5km s-min=42.3km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.95**	**188**	P	P	11 58 00.9	+0.7
	1.0nm,0.3s,baz=33,slow=17,SNR=6.3						
URZ				S	S	12 00 25.4	-3.6
	0.1nm,0.3s,baz=41,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**41.42**	**261**	P	P	12 02 07.0	0.0
	0.4nm,0.8s,baz=91,slow=7.0,SNR=7.9						
WRA	**Warramunga Arr**	**41.83**	**267**	P	P	12 02 10.0	-0.3
	0.9nm,0.5s,baz=100,slow=8.2,SNR=24						
BRTR	**Keskin Array B**	**147.44**	**306**	PKPbc	PKPbc	12 13 53.5	-0.6
	0.4nm,0.6s,baz=50,slow=2.3,SNR=3.0						

*IDC **05** 12:05:08.7±5.2, 0.49N×98.60E, h61km±41km, mb3.8/8, mb1 3.9/10, mb1mx3.5/41, mbtmp4.1/10, ML4.3/2, MS2.7/3, Ms1 2.7/3, ms1mx2.5/37, Error ellipse: s-maj=63.9km s-min=15.9km az=54.0*
*NEIC **05** 12:05:11.4±1.7, 0.67N±0.06×98.69E±0.05, h77km±7km, mb4.5/27, Error ellipse: s-maj=10.6km s-min=4.1km az=216.0*
*DJA **05** 12:05:11.8±0.3, 1°N±3°×9°9E±°, h54km±9km, M4.2/17, mb4.2/6, MLv4.1/17*

ISC 05 12:05:11.3±0.8, 0.70N±0.05×98.68E±0.04, h75km±7km, n80, σ1°45/81, mb4.5/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.85**	**208**	P	**Pn**	**12 05 28.2**	**-0.1**
SBSI	**Sibolga**	**0.87**	**14**	P	**Pn**	**12 05 29.9**	**+1.3**
SBSI				S	**Sn**	**12 05 44.0**	**+2.6**
MNSI	**Mandailing Nat**	**0.90**	**84**	P	**Pn**	**12 05 28.7**	**-0.2**
MNSI				S	**Sn**	**12 05 41.9**	**-0.1**
GSI	**Gunungsitoli**	**1.26**	**299**	P	**Pn**	**12 05 33.4**	**0.0**
GSI				S	**Sn**	**12 05 49.2**	**-0.7**
GSI	**Gunungsitoli**	**1.26**	**299**	Pn	**Pn**	**12 05 33.4**	**0.0**
GSI				Sn	**Sn**	**12 05 49.6**	**+0.3**
RPSI	**Rantau Prapat**	**2.00**	**7**		**Pn**	**12 05 43.6**	**+0.5**
RPSI	**Rantau Prapat**	**2.00**	**7**		**Pn**	**12 05 43.7**	**+0.6**
RPSI					**Sn**	**12 06 01.9**	**-5.3**
SISI	**Saibi**	**2.05**	**169**	P	**Pn**	**12 05 43.7**	**0.0**
PSI	**Prapat**	**2.10**	**7**	P	**Pn**	**12 05 43.7**	**-0.9**
	49nm,0.3s,baz=272,slow=22,SNR=238						
PSI				S	**Sn**	**12 06 01.9**	**-8.0**
	30nm,0.3s,baz=180,slow=10,SNR=9.6						
PSI				LR	LR	12 06 11.7	
	comp=Z,29nm,18.7s,baz=91,slow=28						
BKNI	**Bangkinang**	**2.38**	**99**	P	**Pn**	**12 05 48.3**	**+0.1**
BKNI	**Bangkinang**	**2.38**	**99**	Pn	**Pn**	**12 05 48.5**	**+0.3**
TSI	**Tuntungan**	**2.79**	**358**	P	**Pn**	**12 05 54.3**	**+0.6**
TPTI		**2.96**	**329**	P	**Pn**	**12 05 55.9**	**-0.1**
SDSI	**Sungai Dareh**	**3.19**	**121**	P	**Pn**	**12 05 59.7**	**+0.6**
KRJI	**Kerinci**	**3.92**	**135**	P	Pn	12 06 16.1	+6.9
MLSI	**Meulaboh, Aceh**	**4.21**	**327**	P	**Pn**	**12 06 13.0**	**-0.1**
IPM	**Ipoh**	**4.43**	**32**	Pn	**Pn**	**12 06 17.7**	**+1.7**
LHMI	**Lhok Sumawe**	**4.82**	**339**	Pn	**Pn**	**12 06 21.4**	**-0.1**
LHMI				Sn	**Sn**	**12 07 16.2**	**+0.1**
KULM	**Kulim**	**4.97**	**23**	Pn	**Pn**	**12 06 24.5**	**+1.1**
MYKOM	**Kota Tinggi**	**5.28**	**78**	Pn	**Pn**	**12 06 28.3**	**+0.6**
DSRI	**Dabo**	**6.01**	**101**	P	**Pn**	**12 06 38.5**	**+0.

MKAR	**Makanchi Array**	**48.10**	**345**	P		**P**		**12 13 43.9**	**+0.4**
	comp=Z,5.2nm,0.5s,baz=154,slow=8.4,SNR=82								
MKAR	**Makanchi Array**	**48.10**	**345**	P		**P**		**12 13 43.6**	**+0.2**
MAKZ	**Makanchi**	**48.19**	**345**	P		**P**		**12 13 44.9**	**+0.7**
MAKZ				IAmb	IAmb	IAmb		12 13 45.1	
	comp=Z,4.4nm,0.6s								
BBOO	**Buckleboo**	**48.50**	**137**	P		**P**		**12 13 46.3**	**-0.4**
KURK	**Kurchatov**	**52.67**	**344**	P		**P**		**12 14 18.1**	**+0.3**
KURK				IAmb	IAmb	IAmb		12 14 19.0	
	comp=Z,3.4nm,0.8s								
ZAA0	**Zalesovo Array**	**54.30**	**350**	P		**P**		**12 14 29.9**	**+0.2**
ZAA0				IAmb	IAmb	IAmb		12 14 30.5	
	comp=Z,8.0nm,1.1s								
ZALV	**Zalesovo Beam**	**54.30**	**350**	P		**P**		**12 14 29.7**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=161,slow=6.8,SNR=19								
EIDS	**Eidsvold**	**56.85**	**121**	P		**P**		**12 14 47.9**	**-0.7**
BRVK	**Borovoye**	**57.28**	**340**	P		**P**		**12 14 50.7**	**-0.3**
ASAJ	**Asahikawa**	**58.18**	**36**	LR		LR		12 39 08.3	
	comp=Z,23nm,18.8s,baz=160,slow=35								
ABKAR	**Akbulak array**	**58.66**	**331**	P		**P**		**12 15 00.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**59.94**	**33**	P		**P**		**12 15 09.2**	**-0.4**
BRTR	**Keskin Array B**	**70.55**	**312**	P		**P**		**12 16 17.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=132,slow=8.3,SNR=5.9								
BRTR	**Keskin Array B**	**70.55**	**312**	P		**P**		**12 16 18.2**	**-0.4**
BURAR	**Bucovina Array**	**78.38**	**319**	P		**P**		**12 17 04.5**	**+0.7**
BUR08	**Bucovina Ar. S**	**78.40**	**319**	P		**P**		**12 17 05.1**	**+1.2**
BUR08				IAmb	IAmb	IAmb		12 17 06.3	
	comp=Z,5.9nm,1.4s								
FIA1	**FINESS Array S**	**81.13**	**332**	P		**P**		**12 17 18.4**	**+0.2**
FINES	**FINESS Array B**	**81.13**	**332**	P		**P**		**12 17 18.0**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=123,slow=5.1,SNR=11								
FINES	**FINESS Array B**	**81.13**	**332**	P		**P**		**12 17 18.3**	**+0.1**
ARCES	**ARCESS Array B**	**83.51**	**340**	P		**P**		**12 17 30.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=90,slow=2.4,SNR=7.3								
TXAR	**Lajitas Array**	**143.29**	**34**	PKP		PKPab		12 24 34.3	+0.6
	comp=Z,0.1nm,0.7s,baz=254,slow=0.8,SNR=3.1								

ZUR 05 12:37:15.0, 46°.95N×8°.49E, h7km±2km, MLh0.1/1, 2C, Error ellipse: s-maj=4.6km s-min=1.6km az=276.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNALP	**Bannalp**	**0.09**	**210**	⇑Pg		Pg	12 37 17.9	+0.6
BNALP				⇑Pg		Pg	12 37 17.9	+0.6
	SNR=16							
BNALP				Sg		Sg	12 37 19.3	+0.5
SALTS	**Altdorf, Kanto**	**0.12**	**124**	Sg		Sg	12 37 19.8	+0.3
HASLI	**Hasliberg/Brie**	**0.30**	**231**	Sg		Sg	12 37 25.4	+0.3
HASLI				Sg		Sg	12 37 25.4	+0.3
	SNR=2.4							
GRIMS	**Grimsel Gerste**	**0.39**	**198**	Sg		Sg	12 37 28.9	+1.1

ZUR 05 12:37:22.0, 46°.86N×8°.52E, h9km±1km, MLh0.7/7, 2C-4D, Error ellipse: s-maj=2.6km s-min=0.8km az=105.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNALP	**Bannalp**	**0.06**	**281**	⇓Pg		Pg	12 37 24.5	+0.3
BNALP				⇓Pg		Pg	12 37 24.5	+0.3
	0.1nm,SNR=62							
BNALP				Sg		Sg	12 37 25.9	+0.2
SALTS	**Altdorf, Kanto**	**0.09**	**75**	⇓Pg		Pg	12 37 24.7	+0.3
	0.4nm,SNR=8.8							
SALTS				⇓Pg		Pg	12 37 24.7	+0.3
SALTS				Sg		Sg	12 37 26.2	+0.2
MUO	**Muotathal**	**0.14**	**38**	⇑Pg		Pg	12 37 25.6	+0.4
MUO				⇑Pg		Pg	12 37 25.6	+0.4
	0.1nm,SNR=15							
MUO				Sg		Sg	12 37 28.2	+0.7
HASLI	**Hasliberg/Brie**	**0.27**	**248**	Sg		Sg	12 37 31.9	+0.7
	SNR=20							
HASLI				Sg		Sg	12 37 31.9	+0.7
NALPS	**Val Nalps**	**0.31**	**149**	Sg		Sg	12 37 33.5	+1.2
	SNR=15							
NALPS				Sg		Sg	12 37 33.5	+1.2
GRIMS	**Grimsel Gerste**	**0.31**	**206**	Sg		Sg	12 37 33.1	+0.7
PANIX	**Pigniu (Panix)**	**0.41**	**94**	Sg		Sg	12 37 35.7	+0.2
	SNR=8.6							
PANIX				Sg		Sg	12 37 35.7	+0.2
FUSIO	**Fusio**	**0.42**	**166**	Sg		Sg	12 37 36.4	+0.7
FUSIO				Sg		Sg	12 37 36.4	+0.7
	SNR=17							
HAMIK	**Hmikon, Dlik**	**0.42**	**337**	Sg		Sg	12 37 36.8	+1.0

IDC 05 12:51:44.6±3.0, 5°.25S×133°.60E, h0km, mb3.3/1, mb1 3.6/5, mb1mx3.4/32, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=121.9km s-min=25.6km az=80.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.93**	**332**	Pn		Pn	12 52 59.5	-0.5
	0.6nm,0.3s,baz=193,slow=20,SNR=7.4							
SIJI				Sn		Sn	12 53 50.7	-7.2
	0.6nm,0.3s,baz=156,slow=20,SNR=2.4							
WRA	**Warramunga Arr**	**14.63**	**177**	Pn		Pn	12 55 11.1	-1.9
	0.1nm,0.3s,baz=355,slow=13,SNR=6.3							
WRA				Sn		Sn	12 57 51.3	-4.7
	0.1nm,0.3s,baz=360,slow=23,SNR=3.7							
FITZ	**Fitzroy Crossi**	**14.96**	**211**	Pn		Pn	12 55 17.3	-0.1
	0.5nm,0.3s,baz=25,slow=9.0,SNR=26							
FITZ				Sn		Sn	12 57 58.6	-5.3
	0.2nm,0.3s,baz=180,slow=19,SNR=4.0							
ASAR	**Alice Springs**	**18.32**	**179**	P		P	12 56 01.1	+0.6
	0.1nm,0.3s,baz=10,slow=12,SNR=10							
MKAR	**Makanchi Array**	**68.79**	**325**	P		P	13 02 50.9	+0.2
	0.2nm,0.5s,baz=117,slow=7.1,SNR=3.4							

IDC 05 13:54:16.0±48.0, 15°.79S×173°.96W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/48, mbtmp3.9/3, Error ellipse: s-maj=925.7km s-min=181.7km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**43.38**	**240**	P		P	14 02 20.7	+0.3
	1.7nm,0.9s,baz=84,slow=10,SNR=4.7							
WRA	**Warramunga Arr**	**49.23**	**257**	P		P	14 03 06.2	-0.5
	0.2nm,0.3s,baz=95,slow=7.0,SNR=14							
ASAR	**Alice Springs**	**49.48**	**252**	P		P	14 03 08.4	-0.1
	2.5nm,0.6s,baz=88,slow=8.4,SNR=80							

*INET **05** 13:54:17.1, 11°.73N×88°.51W, h30km, ML4.0*
*IDC **05** 13:54:20.2±2.9, 11°.12N×88°.26W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/37, mbtmp3.4/4, ML2.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=132.1km s-min=27.6km az=34.0*
*NEIC **05** 13:54:27.1±1.7, 11°.91N±0°.09×87°.71W±0°.09, h51km±6km, mb4.3/17, Error ellipse: s-maj=14.6km s-min=9.5km az=222.0*

ISC 05 13:54:26.3±0.9, 11°.91N±0°.09×87°.71W±0°.08, h35km, n36, σ1°45/35, mb4.2/10, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**1.02**	**39**	Pn		**Pn**	**13 54 45.7**	**+1.4**
MATN	**Matagalpa**	**2.02**	**60**	Pn		**Pn**	**13 54 58.8**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.18**	**11**	Pn		**Pn**	**13 55 00.6**	**+0.4**
SNET	**Serv Nac Est T**	**2.31**	**320**	Pn		**Pn**	**13 55 03.6**	**+1.7**
ACON	**Acoyapa**	**2.48**	**88**	Pn		**Pn**	**13 55 02.9**	**-1.4**
MTO3	**Montecristo**	**2.95**	**327**	Pn		**Pn**	**13 55 09.8**	**-1.1**
ESQI	**Esquipulas**	**3.08**	**329**			**Pn**	**13 55 14.9**	**+2.3**
JTS	**Las Juntas de**	**3.15**	**120**	Pn		**Pn**	**13 55 14.6**	**+1.1**
	0.7nm,0.3s,baz=8.3,slow=17,SNR=4.4							
JTS				Sn		**Sn**	**13 55 50.1**	**+0.2**
	7.3nm,0.3s,baz=345,slow=20,SNR=4.5							
JTS	**Las Juntas de**	**3.15**	**120**	Pn		**Pn**	**13 55 14.3**	**+0.8**
ESPN	**Las Esperanzas**	**3.35**	**85**	Pn		**Pn**	**13 55 19.2**	**+3.0**
TEIG	**Tepich**	**8.29**	**356**	LR		LR	14 00 14.5	
	comp=Z,227nm,21.9s,baz=36,slow=39							
833A	**Chaparral WMA,**	**19.65**	**328**	P		**P**	**13 58 51.6**	**-0.6**
344A	**Westbrook Farm**	**19.65**	**352**	P		**Pn**	**13 58 54.0**	**+0.3**
344A						IAmb	IAmb	13 58 54.8
	comp=Z,21nm,0.9s							
JCT	**Junction City**	**21.61**	**331**	P		**P**	**13 59 12.5**	**-1.0**
TXAR	**Lajitas Array**	**22.84**	**322**	P		**P**	**13 59 26.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=138,slow=10,SNR=23							
TXAR	**Lajitas Array**	**22.84**	**322**	P		**P**	**13 59 25.9**	**-0.7**
TX31	**Lajitas Ar. Si**	**22.84**	**322**	P		**P**	**13 59 26.0**	**-0.6**
TX32	**Lajitas Array**	**22.84**	**322**	P		**P**	**13 59 26.0**	**-0.6**
UALR	**University of**	**23.15**	**350**	P		**P**	**13 59 28.9**	**-0.8**
UALR				IAmb		IAmb	13 59 30.1	
	comp=Z,12nm,1.0s							
MIAR	**Mount Ida**	**23.16**	**348**	P		**P**	**13 59 28.7**	**-1.1**
MIAR				IAmb		IAmb	13 59 30.6	
	comp=Z,12nm,0.8s							
ABTX	**Abilene, Hawle**	**23.35**	**334**	P		**P**	**13 59 29.7**	**-2.0**
ABTX				IAmb		IAmb	13 59 40.5	
	comp=Z,8.1nm,0.9s							
TKL	**Tuckaleechee C**	**23.91**	**8**	LR		LR	14 09 54.4	
	comp=Z,25nm,19.2s,baz=230,slow=38							
U40A	**Yellville**	**24.78**	**350**	P		**P**	**13 59 43.5**	**-1.5**
U40A				IAmb		IAmb	13 59 46.1	
	comp=Z,5.7nm,0.9s							
V58A	**Windy Hill, Pi**	**25.02**	**17**	P		**P**	**13 59 46.5**	**-0.6**
V58A				IAmb		IAmb	14 00 08.1	
	comp=Z,10nm,1.3s							
T42A	**Van Buren**	**25.20**	**354**	P		**P**	**13 59 46.6**	**-2.1**
MNTX	**Cornudas Mount**	**25.56**	**323**	P		**P**	**13 59 51.6**	**-0.5**
S39A	**Bolivar**	**26.16**	**350**	P		**P**	**13 59 55.6**	**-1.8**
S39A				IAmb		IAmb	13 59 57.1	
	comp=Z,9.3nm,0.8s							
U32A	**Winter Ranch,**	**26.41**	**339**	P		**P**	**14 00 01.3**	**+1.6**
U32A				IAmb		IAmb	14 00 02.5	
	comp=Z,7.4nm,0.6s							
PDAR	**Pinedale Array**	**36.13**	**332**	P		**P**	**14 01 28.7**	**+3.3**
	comp=Z,0.2nm,0.5s,baz=144,slow=6.3,SNR=2.7							
REDW	**Red Top Meadow**	**37.19**	**332**	P		**P**	**14 01 34.2**	**-0.3**
NVAR	**Mina Array Bea**	**37.94**	**319**	P		**P**	**14 01 43.7**	**+2.8**
	comp=Z,0.2nm,0.7s,baz=151,slow=6.2,SNR=2.3							
E03A	**Lebam**	**45.90**	**326**	P		**P**	**14 02 45.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**86.78**	**77**	LR		LR	14 40 47.8	
	comp=Z,35nm,20.5s,baz=235,slow=32							
TAM	**Tamanrasset**	**88.40**	**67**	P		**P**	**14 07 14.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**149.12**	**348**	PKP		**PKPdf**	**14 14 07.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=333,slow=3.0,SNR=2.5							
CMAR				PKPbc		**PKPbc**	**14 14 11.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=343,slow=4.2,SNR=7.1							
CMAR	**Chiang Mai Arr**	**149.12**	**348**	PKPbc		**PKPbc**	**14 14 11.3**	**-0.7**

*IDC **05** 13:54:40.0±0.6, 4°.36S×76°.42W, h0km, mb4.2/12, mb1 4.3/19, mb1mx4.2/37, mbtmp4.2/19, ML3.9/7, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=19.2km s-min=13.3km az=57.0*
*VAO **05** 13:54:42.3±0.4, 4°.45S×76°.28W, h10km, mb4.6*
*NEIC **05** 13:54:45±1.5, 4°.40S±0°.06×76°.37W±0°.10, h36km±6km, mb4.6/87, Error ellipse: s-maj=13.8km s-min=9.1km az=89.0*

ISC 05 13:54:44.8±0.4, 4°.45S±0°.05×76°.34W±0°.06, h35km, n194, σ1°04/188, mb4.5/43, MS3.7/4, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**3.36**	**217**	Pn		**Pn**	**13 55 35.2**	**0.0**
	12nm,0.3s,baz=25,slow=12,SNR=55							
ATAH				Sn		**Sn**	**13 56 12.8**	**-1.2**
	23nm,0.3s,baz=69,slow=13,SNR=5.7							
PTLC	**Puerto Leguiza**	**4.85**	**19**	*eP*		**Pn**	**13 55 51.1**	**-4.2**
CZSB	**Cruzeiro do Su**	**4.87**	**132**	*eP*		**Pn**	**13 55 57.3**	**+1.8**
PUAC	**Puerto Asis, P**	**4.98**	**357**	*eP*		**Pn**	**13 55 53.9**	**-3.2**
OTAV	**Otavalo**	**5.11**	**336**	*eP*		**Pn**	**13 55 59.5**	**+0.2**
OTAV	**Otavalo**	**5.11**	**336**	Pn		**Pn**	**13 55 58.1**	**-1.2**
OTAV	**Otavalo**	**5.11**	**336**	*eP*		**Pn**	**13 55 59.1**	**-0.2**
GCUF	**Volcan Galeras**	**5.73**	**350**	*eP*		**Pn**	**13 56 07.2**	**-0.6**
CCUFI	**Cufio, Nario**	**5.73**	**350**	*eP*		**Pn**	**13 56 09.3**	**+1.4**
CRUC	**La Cruz**	**6.01**	**354**	*eP*		Pn	13 56 05.7	-5.9
FLOC	**Florencia**	**6.04**	**7**	*eP*		**Pn**	**13 56 11.0**	**-0.6**
CFLOR	**Florencia**	**6.04**	**7**	*eP*		**Pn**	**13 56 09.6**	**-2.1**
BBAC	**Balboa, Cauca**	**6.50**	**352**	*eP*		**Pn**	**13 56 17.1**	**-1.1**
GARC	**Garzon, Huila**	**6.65**	**7**	*eP*		**Pn**	**13 56 19.1**	**-1.2**
PCON	**Cinco Dias**	**6.74**	**360**	*eP*		**Pn**	**13 56 26.2**	**+4.4**
POPC	**Popayan, Colom**	**6.96**	**357**	*eP*		**Pn**	**13 56 24.8**	**+0.3**
MACC	**Macarena, Meta**	**7.01**	**21**	*eP*		**Pn**	**13 56 25.5**	**+0.5**
MACC	**Macarena, Meta**	**7.01**	**21**	*eP*		**Pn**	**13 56 24.8**	**-0.3**
BETC	**Betania**	**7.14**	**7**	*eP*		**Pn**	**13 56 26.9**	**0.0**
MARP	**Paez Belalcaza**	**7.26**	**3**	*eP*		**Pn**	**13 56 27.6**	**-1.1**
NNA	**Nana**	**7.50**	**184**	Pn		**Pn**	**13 56 30.8**	**-1.0**
	3.8nm,0.3s,baz=342,slow=9.7,SNR=10							
NNA				Sn		**Sn**	**13 57 51.4**	**-4.3**
	3.9nm,0.3s,baz=358,slow=8.3,SNR=4.2							
NNA				LR		LR	13 59 45.3	
	comp=Z,179nm,18.3s,baz=345,slow=40							
NNA	**Nana**	**7.50**	**184**			**Pn**	**13 56 32.0**	**+0.2**
YOTC	**Yotoco, Valle**	**8.38**	**360**	*eP*		**Pn**	**13 56 45.0**	**+1.0**
VILC	**Villavicencio,**	**8.91**	**17**	*eP*		**Pn**	**13 56 51.4**	**+0.1**
ANIL	**Santa Ana**	**8.94**	**6**	*eP*		Pn	13 56 59.9	+8.2
TOLC	**Tolima**	**9.04**	**7**	*eP*		Pn	13 56 58.7	+5.5
CHIC	**Chingaza**	**9.39**	**16**	*eP*		**Pn**	**13 56 59.2**	**+1.1**
ROSC	**El Rosal**	**9.45**	**12**	Pn		**Pn**	**13 57 02.3**	**+3.5**
	1.7nm,0.3s,baz=180,slow=20,SNR=2.8							
ROSC				Lg		Lg	13 59 43.9	
	4.9nm,0.3s,baz=78,slow=19,SNR=3.3							
ROSC				LR		LR	14 01 14.5	
	comp=Z,334nm,22.0s,baz=104,slow=42							
ROSC	**El Rosal**	**9.45**	**12**	Pn		**Pn**	**13 56 56.8**	**-2.0**
GUY2C	**Guyana, Caldas**	**9.66**	**6**	*eP*		**Pn**	**13 57 04.0**	**+2.2**
SPBC	**San Pablo de B**	**10.29**	**13**	*eP*		**Pn**	**13 57 11.0**	**+0.9**
RUSC	**La Rusia**	**10.78**	**18**	*eP*		**Pn**	**13 57 18.0**	**+0.8**
ETMB	**Extrema**	**11.37**	**118**	*eP*		**Pn**	**13 57 23.9**	**-0.9**
ZARC	**Zaragoza, Cauc**	**11.96**	**7**	*eP*		Pn	13 57 22.8	-10
PAMC	**Pamplona, Colo**	**12.27**	**17**	*eP*		**Pn**	**13 57 36.2**	**-1.3**
SMLC	**San Martn de**	**13.30**	**10**	*eP*		**Pn**	**13 57 54.5**	**+2.4**
SAML	**Samuel**	**13.81**	**110**	*eP*		**Pn**	**13 57 55.2**	**-3.0**
SAML	**Samuel**	**13.81**	**110**	Pn		**Pn**	**13 57 57.5**	**-0.6**
SAML	**Samuel**	**13.81**	**110**	*eP*		**Pn**	**13 57 56.4**	**-1.8**
LPAZ	**La Paz**	**14.26**	**146**	Pn		**Pn**	**13 58 04.9**	**0.0**
	0.4nm,0.3s,baz=339,slow=8.4,SNR=9.5							
LPAZ				Lg		Lg	14 02 16.2	
	0.2nm,0.3s,baz=111,slow=17,SNR=2.9							
LPAZ	**La Paz**	**14.26**	**146**			**Pn**	**13 58 04.2**	**-0.7**
LPAZ	**La Paz**	**14.26**	**146**	*eP*		**Pn**	**13 58 03.2**	**-1.6**
SDV	**Santo Domingo**	**14.42**	**23**	Pn		**Pn**	**13 58 06.7**	**0.0**
	1.7nm,0.3s,baz=176,slow=19,SNR=3.1							
SDV				Lg		Lg	14 02 21.6	
	1.5nm,0.3s,baz=35,slow=18,SNR=3.1							
SDV				LR		LR	14 04 44.4	
	comp=Z,210nm,21.4s,baz=266,slow=42							
SDV	**Santo Domingo**	**14.42**	**23**	Pn		**Pn**	**13 58 04.4**	**-2.3**
SDV	**Santo Domingo**	**14.42**	**23**	*eP*		**Pn**	**13 58 06.8**	**0.0**
PB16	**IPOC Station P**	**15.33**	**155**	Pn		**Pn**	**13 58 19.4**	**+0.2**
MACA	**Manacapuru-AM**	**15.68**	**86**	*eP*		**Pn**	**13 58 23.5**	**+0.3**
MNMC	**Minye Minye**	**16.01**	**156**	P		**P**	**13 58 31.2**	**+0.4**
MNMC				IAmb		IAmb	13 58 33.3	
	comp=Z,64nm,0.9s							
PB11	**IPOC Station P**	**16.55**	**157**			**P**	**13 58 36.8**	**+0.1**
PB11				IAmb		IAmb	13 58 38.4	
	comp=Z,29nm,0.9s							
GO01	**Chusmiza**	**16.65**	**156**	P		**P**	**13 58 38.0**	**-0.2**
JTS	**Las Juntas de**	**16.97**	**330**	LR		LR	14 05 03.4	
	comp=Z,184nm,18.0s,baz=210,slow=37							
PB08	**IPOC Station P**	**17.09**	**156**	P		**P**	**13 58 43.0**	**0.0**
PATCX	**Punta Patache**	**17.35**	**160**	Pn		**Pn**	**13 58 44.6**	**+0.2**
VILB	**Vilhena**	**18.04**	**119**	*eP*		**Pn**	**13 58 53.2**	**+0.2**
PB07	**IPOC Station P**	**18.28**	**161**			**P**	**13 58 55.8**	**0.0**
PB07				IAmb		IAmb	13 58 59.8	
	comp=Z,38nm,1.4s							
PB09	**IPOC Station P**	**18.57**	**159**	P		**Pn**	**13 59 00.3**	**+0.9**
PCRV	**Puerto La Cruz**	**18.63**	**99**	P		**Pn**	**13 59 01.1**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=225,slow=2.9,SNR=3.1							
PLCV	**Puerto La Cruz**	**18.65**	**39**	P		**Pn**	**13 59 01.1**	**+0.8**
SIV	**San Ignacio**	**18.88**	**128**	P		**Pn**	**13 59 03.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=313,slow=11,SNR=10							
SIV				LR		LR	14 07 01.9	
	comp=Z,282nm,19.4s,baz=297,slow=39							
LVC	**Limon Verde**	**19.43**	**159**	P		**Pn**	**13 59 10.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=278,slow=15,SNR=4.0							
LVC				LR		LR	14 08 19.4	
	comp=Z,81nm,19.3s,baz=316,slow=42							
LVC	**Limon Verde**	**19.43**	**159**	IAmb		IAmb	13 59 13.2	
	comp=Z,13nm,1.1s							
ITTB	**Itaituba**	**20.55**	**91**	*eP*		**P**	**13 59 20.1**	**-0.5**
NPGB	**Novo Progresso**	**21.04**	**98**	*eP*		**P**	**13 59 24.8**	**-1.1**
GO02	**Mina Guanaco**	**21.59**	**163**	P		**P**	**13 59 32.6**	**+0.6**
GO02				IAmb		IAmb	13 59 38.0	
	comp=Z,22nm,1.1s							
TOSP	**Speyside**	**22.19**	**45**	P		**P**	**13 59 38.0**	**-0.2**
MALB	**Monte Alegre**	**22.19**	**84**	*eP*		**P**	**13 59 38.7**	**+0.5**
AC01	**Pan de Azucar**	**22.26**	**166**	P		**P**	**13 59 38.9**	**0.0**
AC01				IAmb		IAmb	13 59 59.0	
	comp=Z,48nm,1.4s							
FSCY	**Frank Sound, G**	**24.09**	**349**	P		**P**	**13 59 57.7**	**+0.5**
CBCY	**The Bluff, Cay**	**24.27**	**352**	P		**P**	**13 59 57.2**	**-1.7**
OBIP	**Obispado Ponce**	**24.33**	**23**	P		**P**	**13 59 58.1**	**-1.3**
OBIP				IAmb		IAmb	13 59 58.9	
	comp=Z,8.3nm,0.7s							
PDPR	**Patillas Dam,**	**24.54**	**24**	P		**P**	**13 59 59.9**	**-1.5**
PDPR				IAmb		IAmb	14 00 01.8	
	comp=Z,11nm,0.8s							
AOPR	**Arecibo Observ**	**24.55**	**22**	P		**P**	**13 59 59.9**	**-1.6**
MCPB	**Macapa, AP**	**24.60**	**81**	*eP*		**P**	**14 00 02.8**	**+0.8**
GCPR	**Guaynabo City**	**24.78**	**24**	P		**P**	**14 00 02.1**	**-1.4**
GCPR				IAmb		IAmb	14 00 04.8	
	comp=Z,11nm,0.8s							
CBYP	**Canovanas**	**24.84**	**24**	P		**P**	**14 00 02.5**	**-1.5**
CBYP				IAmb		IAmb	14 00 03.8	
	comp=Z,9.9nm,0.6s							
CUPR	**Culebra, Puert**	**25.11**	**25**	P		**P**	**14 00 05.8**	**-0.6**
CUPR				IAmb		IAmb	14 00 06.9	
	comp=Z,9.3nm,0.8s							
MDP	**Montagnes des**	**25.50**	**68**	P		**P**	**14 00 11.0**	**+0.8**
	comp=Z,6.5nm,0.8s,baz=234,slow=14,SNR=4.0							
MDP				LR		LR	14 10 41.4	
	comp=Z,208nm,18.1s,baz=302,slow=38							
PRPB	**Parauapebas**	**26.47**	**95**	*eP*		**P**	**14 00 18.6**	**-0.3**
ARAG	**Araguaiana, MT**	**26.58**	**117**	*eP*		**P**	**14 00 20.0**	**+0.1**
TEIG	**Tepich**	**27.18**	**335**	LR		LR	14 11 25.7	
	comp=Z,216nm,21.9s,baz=96,slow=37							
TEIG	**Tepich**	**27.18**	**335**	P		**P**	**14 00 25.0**	**-0.2**
TEIG				IAmb		IAmb	14 00 39.5	
	comp=Z,19nm,1.2s							
PCMB	**Pacaembu**	**29.71**	**127**	*eP*		**P**	**14 00 47.7**	**-0.1**
BDFB	**Brasilia**	**29.98**	**114**	P		**P**	**14 00 51.6**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=258,slow=9.3,SNR=3.0							
BDFB				LR		LR	14 14 20.0	
	comp=Z,262nm,19.0s,baz=304,slow=39							
BDFB	**Brasilia**	**29.98**	**114**	IAmb		IAmb	14 00 51.6	
	comp=Z,13nm,1.4s							
FRTB	**Fartura**	**31.95**	**129**	*eP*		**P**	**14 01 07.9**	**+0.3**
SDBA	**SAO DESIDERIO**	**32.06**	**106**	*eP*		**P**	**14 01 09.2**	**+0.5**
ROSB	**Rosrio**	**32.19**	**88**	*eP*		**P**	**14 01 10.6**	**+0.8**
ITAB	**Concordia**	**32.35**	**137**	*eP*		**P**	**14 01 11.5**	**+0.5**
JANB	**Januaria**	**33.23**	**111**	*eP*		**P**	**14 01 19.3**	**+0.4**
TIJ01	**Guaruva-PR**	**33.45**	**131**	*eP*		**P**	**14 01 21.0**	**+0.2**
VAO	**Valinhos**	**33.85**	**126**	*eP*		**P**	**14 01 23.7**	**-0.6**
MC01	**Montes Claros**	**34.03**	**113**	*eP*		**P**	**14 01 26.2**	**+0.3**
BSCB	**Bom Sucesso**	**34.79**	**121**	*eP*		**P**	**14 01 32.7**	**+0.3**
PARB	**Paraibuna**	**35.10**	**125**	*eP*		**P**	**14 01 35.3**	**+0.3**
TRQA	**Tornquist**	**35.92**	**161**	*eP*		**P**	**14 01 43.5**	**+1.6**
PLCA	**Paso Flores**	**36.49**	**173**	P		**P**	**14 01 48.4**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=301,slow=10,SNR=4.9							
PLCA	**Paso Flores**	**36.49**	**173**	P		**P**	**14 01 47.0**	**+0.2**
PLCA				IAmb		IAmb	14 02

comp=Z,0.5nm,0.6s,baz=124,slow=7.0,SNR=5.3
NVAR **Mina Array Bea** 57.69 322 P P 14 04 31.6 -0.7
YHL **Hebgen Lake** 58.14 331 P P 14 04 35.8 +0.4
MFID **Camas Ranch** 59.48 327 P P 14 04 44.6 +0.1
MFID IAmb IAmb 14 04 52.2
comp=Z,5.1nm,0.9s
NEW **Newport** 63.44 331 P P 14 05 10.9 -0.2
NEW IAmb IAmb 14 05 18.2
comp=Z,3.0nm,0.8s
LIC **Lamto** 71.99 82 *eP* P 14 06 06.0 +0.4
comp=Z,7.3nm,0.5s
TIC **Toumodi** 72.04 82 *eP* P 14 06 06.5 +0.5
DBIC **Dimbokro** 72.21 82 P P 14 06 07.9 +1.0
comp=Z,12nm,0.8s,baz=261,slow=5.1,SNR=15
DBIC **Dimbokro** 72.21 82 P P 14 06 07.6 +0.6
KIC **Kosan Boka** 72.28 82 *eP* P 14 06 08.2 +0.8
comp=Z,29nm,0.8s
KOWA **Kowa** 74.10 74 P P 14 06 18.9 +0.8
VNA3 **Neumayer Olymp** 78.42 162 P P 14 06 42.2 +0.6
VNA1 **Neumayer--Stat** 78.65 162 P P 14 06 43.8 +1.0
VNA2 **Neumayer--Watz** 79.01 162 P P 14 06 45.5 +0.7
baz=295,slow=5.5
ESDC **Sonseca Array** 79.40 48 P P 14 06 48.5 +0.8
comp=Z,0.9nm,0.9s,baz=289,slow=4.5,SNR=4.4
ESDC **Sonseca Array** 79.40 48 P P 14 06 47.9 +0.3
TOA0 **Torodi Ar. Sit** 79.40 76 P P 14 06 48.2 +0.1
TOA0 IAmb IAmb 14 06 50.3
comp=Z,8.1nm,1.1s
TORD **Torodi Ar. Bea** 79.40 76 P P 14 06 48.5 +0.5
comp=Z,2.9nm,0.8s,baz=285,slow=6.2,SNR=19
TORD **Torodi Ar. Bea** 79.40 76 P P 14 06 48.2 +0.2
SNAA **Sanae** 80.63 162 P P 14 06 54.1 +0.4
RAR **Rarotonga** 82.29 249 LR LR 14 33 38.9
comp=Z,29nm,18.4s,baz=110,slow=28
QSPA **South Pole Qui** 85.63 180 P P 14 07 20.2 +0.5
ILAR **Eielson Array** 85.83 336 P P 14 07 19.9 -0.5
comp=Z,0.7nm,0.9s,baz=144,slow=3.3,SNR=7.0
ZALV **Zalesovo Beam** 128.31 14 PKP PKiKP 14 13 48.1 -0.2
comp=Z,1.1nm,0.5s,baz=259,slow=3.0,SNR=7.4
ZALV **Zalesovo Beam** 128.31 14 PKPdf 14 13 47.3 -0.3
KURK **Kurchatov** 129.33 20 PKiKP 14 13 50.7 +0.4
KURBB **Kurchatov Arra** 129.38 20 PKP PKiKP 14 13 50.7 +0.3
comp=Z,0.9nm,0.2s,baz=308,slow=2.8,SNR=5.1
MKAR **Makanchi Array** 133.95 20 PKP PKPdf 14 13 58.4 -0.2
comp=Z,0.5nm,0.6s,baz=339,slow=1.7,SNR=5.5
WMQ **Urumqi** 138.34 17 *eP* PKPdf 14 14 06.7 -0.2
ASAR **Alice Springs** 139.37 225 PKhKP PKPpre 14 14 02.6
comp=Z,0.2nm,0.7s,baz=122,slow=3.0,SNR=3.8
WRA **Warramunga Arr** 141.31 230 PKhKP PKPpre 14 14 06.9
comp=Z,0.5nm,1.0s,baz=120,slow=2.3,SNR=4.9
WRA PKP PKPdf 14 14 12.0 -0.9
comp=Z,1.1nm,0.8s,baz=118,slow=2.1,SNR=7.1
CMAR **Chiang Mai Arr** 165.34 18 PKPab PKPab 14 15 44.0 -0.1
comp=Z,0.2nm,0.4s,baz=324,slow=5.5,SNR=4.9

MAN 05 14:05:17.0, 4.36N×126.04E, h137km, mb4.7, ML3.6, MS3.6, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.77**	**349**	*eP*	Pn	14 05 49.8	+1.1
DDMP				*eS*	Sn	14 06 14.1	+1.2
SKMP	**Bagumbayan, Su**	**2.61**	**325**	*eP*	Pn	14 05 59.6	+0.7
KCP	**Kidapawan**	**2.80**	**340**↓	*eP*	Pn	14 06 03.1	+1.8
BUKP	**Musuan**	**3.63**	**345**	*eP*	Pn	14 06 12.1	0.0
BUKP				*eS*	Sn	14 06 54.5	-0.4
OTRP	**Odiongan**	**8.89**	**334**	*eP*	Pn	14 07 24.1	+1.7

GCG 05 14:29:40.1±1.3, 14.06N×90.53W, h18km±22km, MD3.5, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.14**	**39**↑	*iP*	Pg	14 29 45.2	+0.7
PCG	**Pacaya**	**0.34**	**347**	*eP*	Pg	14 29 47.4	0.0
FUG	**Fuego 3**	**0.49**	**322**↑	*iP*	Pb	14 29 51.1	+0.8
NBG	**Las Nubes**	**0.55**	**19**	*eP*	Pg	14 29 50.9	-0.3
MRL	**Marmol**	**1.30**	**39**	*eP*	Pn	14 30 03.7	+0.1
MRL				*eS*	Sg	14 30 22.6	+0.1

MEX 05 14:30:24.0±1.0, 15.13N×93.19W, h75km±15km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.57**	**357**	*eP*	Pn	14 30 36.5	-1.5
PCIG				*eS*	Sn	14 30 46.6	-1.7
THIG		**0.92**	**104**	*iP*	Pn	14 30 39.8	-1.9
THIG				*iS*	Sn	14 30 53.2	-1.7
CCIG	**Comitan**	**1.53**	**41**	*eP*	Pn	14 30 52.5	+2.8
TGIG		**1.64**	**2**	*eP*	Pn	14 30 50.1	-1.0
TGIG				*eS*	Sn	14 31 09.3	-2.3
CMIG	**Matias Romero**	**2.54**	**320**	*eP*	Pn	14 30 59.4	-3.8
CMIG				*iS*	Sn	14 31 26.1	-7.0

*GCG **05** 14:31:35.4±0.5, 14.27N×90.47W, h4km±3km, MD3.7*
*SNET **05** 14:31:37.0±1.2, 14.25N×90.38W, h9km±28km, ML3.2*
ISC 05 14:31:36.1±1.2, 14.26N±0.05×90.42W±0.04, h10km±10km, n18, σ0.56/22, 4C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.09**	**194**↑	*iP*	**Pg**	**14 31 38.5**	**-0.3**
PCG	**Pacaya**	**0.23**	**305**	*eP*	**Pg**	**14 31 40.6**	**-0.3**
NBG	**Las Nubes**	**0.33**	**12**	*eP*	**Pg**	**14 31 43.3**	**+0.4**
FUG	**Fuego 3**	**0.45**	**294**↑	*iP*	**Pg**	**14 31 44.4**	**-0.6**
NUBE	**Las Nubes**	**0.71**	**120**↓	*eP*	**Pg**	**14 31 49.9**	**-0.1**
NUBE				*eS*	**Sg**	**14 32 00.2**	**+0.9**
NUBE				IAML		14 32 03.6	
comp=Z,606nm,0.4s							
RTR	**El Retiro**	**0.83**	**116**	*eP*	**Pg**	**14 31 52.2**	**0.0**
SBLS	**San Blas**	**0.88**	**118**	*eP*	**Pg**	**14 31 53.4**	**+0.3**
MTO3	**Montecristo**	**1.03**	**82**↑	*eP*	**Pg**	**14 31 55.1**	**-0.9**
TACO	**Tacachico**	**1.07**	**106**	*eP*	**Pg**	**14 31 55.6**	**-1.2**
TACO				*eS*	**Sg**	**14 32 10.5**	**-0.2**
MRL	**Marmol**	**1.08**	**41**	*eP*	**Pg**	**14 31 56.9**	**-0.1**
MRL				*eS*	**Sn**	**14 32 13.2**	**+0.4**
ESQI	**Esquipulas**	**1.08**	**74**↑	*eP*	**Pg**	**14 31 56.4**	**-0.7**
ESQI				IAML		14 32 16.9	
comp=Z,453nm,0.6s							
CEDA	**San Andres**	**1.09**	**115**	*eP*	**Pg**	**14 31 56.7**	**-0.5**
CEDA				IAML		14 32 18.1	
comp=Z,2μm,0.8s							
BOQS	**Boqueron**	**1.22**	**115**	*eP*	**Pg**	**14 31 59.5**	**-0.1**
LBRS	**Las Brisas**	**1.43**	**111**	*eP*	**Pn**	**14 32 02.5**	**+0.2**
LLGN	**La Laguna**	**1.43**	**94**	*eP*	**Pn**	**14 32 01.8**	**-0.6**
LLGN				*eS*	**Sb**	**14 32 21.4**	**0.0**
LLGN				IAML		14 32 25.5	
comp=Z,491nm,0.6s							
LFRS	**El Faro**	**1.46**	**116**	*eP*	**Pn**	**14 32 03.0**	**+0.2**
PAVA	**Las Pavas**	**1.54**	**111**	*eP*	**Pn**	**14 32 03.7**	**-0.1**
COEG	**Centro de Oper**	**1.62**	**113**	*eP*	**Pn**	**14 32 05.7**	**+0.7**

*ASRS **05** 14:51:08.0±0.2, 52.7N±1.9×9.6E±*, h5km, MLh4.1/19,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
*IDC **05** 14:51:09.1±0.9, 51.64N×96.23E, h0km, mb3.6/3,*
mb1 3.4/6, mb1mx3.2/56, mbtmp3.4/6, ML2.4/3, Error
ellipse: s-maj=31.4km s-min=10.7km az=179.0
ISC 05 14:51:10.8±0.7, 51.66N±0.03×95.82E±0.03, h10km, n40, σ2.924/73, mb3.5/3, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDJR	**Todzha**	**0.76**	**13**	Pg	**Pg**	**14 51 23.3**	**-2.3**
TDJR				Sg	**Sg**	**14 51 33.3**	**-2.2**
KZLR	**Kyzyl**	**0.85**	**274**	Pg	**Pb**	**14 51 27.5**	**-0.2**
KZLR				Sg	**Sn**	**14 51 40.1**	**-1.4**
ERNS	**Erzin**	**1.46**	**197**	Pg	**Pn**	**14 51 36.4**	**-1.0**
ERNS				Sg	**Sb**	**14 51 57.3**	**+0.5**
KNGR	**Kungurtug, Tuv**	**1.50**	**134**	Pg	**Pn**	**14 51 35.4**	**-2.6**
KNGR				Sg	**Sn**	**14 51 54.4**	**-3.2**
ARDR	**Aradan**	**1.74**	**303**	Pg	**Pb**	**14 51 42.3**	**-0.6**
ARDR				Sg	**Sg**	**14 52 06.6**	**-0.1**
ORL	**Orlik**	**2.61**	**69**	Pg	**Pn**	**14 51 52.8**	**-0.4**
ORL				Sg	**Sn**	**14 52 25.0**	**-0.1**
DJOS	**Djoyskaya Sosn**	**2.95**	**294**	Pn	**Pn**	**14 51 58.9**	**+1.2**
DJOS				Pg	**Pg**	**14 52 07.0**	**-0.3**
DJOS				Sg	**Sg**	**14 52 43.8**	**-1.7**
CERR	**Cheremushki**	**2.96**	**296**	Pn	**Pn**	**14 51 59.6**	**+1.7**
CERR				Pg	**Pg**	**14 52 07.1**	**-0.4**
CERR				Sg	**Sg**	**14 52 43.8**	**-2.1**
DJO	**Djoy, Khakassi**	**3.05**	**293**	Pn	Pn	14 51 52.4	-6.7
DJO				Pg	**Pg**	**14 52 06.8**	**-2.3**
DJO				Sg	**Sg**	**14 52 45.6**	**-3.1**
ABNR	**Abakan**	**3.38**	**309**	Pn	**Pn**	**14 52 05.0**	**+1.4**
ABNR				Pg	**Pg**	**14 52 14.0**	**-1.5**
ABNR				Sg	**Sg**	**14 52 55.7**	**-3.5**
ORY	**Orie**	**3.38**	**353**	Pn	**Pn**	**14 52 04.1**	**+0.5**
ORY				Pg	**Pb**	**14 52 11.9**	**+1.1**
ORY				Sg	**Sb**	**14 52 51.9**	**+0.1**
TBTR	**Tabat**	**3.38**	**294**	Pg	**Pb**	**14 52 12.3**	**+1.4**
TBTR				Sg	**Sg**	**14 52 56.6**	**-2.8**
TEL	**Teeli**	**3.58**	**262**	Pn	**Pn**	**14 52 09.3**	**+2.8**
TEL				Pg	**Pg**	**14 52 19.5**	**0.0**
TEL				Sg	**Sg**	**14 53 02.2**	**-3.6**
SHRR	**Shira**	**4.44**	**312**	Pn	**Pn**	**14 52 20.4**	**+2.2**
SHRR				Pg	**Pg**	**14 52 35.4**	**-0.4**
SHRR				Sg	**Sg**	**14 53 30.8**	**-2.4**
SHTK	**Zheleznogorsk-**	**4.86**	**345**	Pn	**Pn**	**14 52 27.9**	**+4.0**
SHTK				Sg	**Sb**	**14 53 30.8**	**-3.6**
TLY	**Talaya**	**4.87**	**87**	Pg	Pn	14 52 30.8	+6.7
0.0nm,0.3s,baz=299,slow=10,SNR=3.5							
TLY				Lg	Lg	14 53 34.0	
0.1nm,0.3s,baz=120,slow=16,SNR=8.2							
TLY	**Talaya**	**4.87**	**87**	Pg	**Pb**	**14 52 36.4**	**+0.2**
TLY				Sg	**Sb**	**14 53 35.7**	**+0.9**
CUR	**Chagan-Uzun**	**4.98**	**255**	Pn	**Pn**	**14 52 29.3**	**+3.5**
CUR				Pg	**Pg**	**14 52 45.8**	**-0.5**
CUR				Sg	**Sg**	**14 53 47.5**	**-3.2**
TASR	**Tashtagol**	**5.01**	**286**	Pn	**Pn**	**14 52 28.5**	**+2.5**
TASR				Pg	**Pg**	**14 52 45.8**	**-0.9**
TASR				Sg	**Sg**	**14 53 48.7**	**-2.8**
ULGR	**Ulagan, Altay**	**5.06**	**261**	Pn	Pb	14 52 34.1	-5.4
ULGR				Pg	**Pg**	**14 52 50.1**	**+2.4**
ULGR				Sg	**Sg**	**14 53 49.8**	**-3.3**
ARTR	**Artybash**	**5.31**	**275**	Pg	**Pg**	**14 52 51.1**	**-1.4**
ARTR				Sg	**Sg**	**14 54 00.9**	**-0.3**
CHBI	**Chibit, Altay**	**5.42**	**259**	Pn	**Pn**	**14 52 35.1**	**+3.3**
CHBI				Pg	**Pg**	**14 52 54.4**	**-0.3**
CHBI				Sg	**Sg**	**14 54 05.8**	**+0.9**
DGZ	**Jazzator, Alta**	**5.68**	**253**	Pn	**Pn**	**14 52 39.0**	**+3.6**
DGZ				Pg	**Pg**	**14 52 57.9**	**-1.7**
DGZ				Sg	**Sg**	**14 54 11.6**	**-1.6**
ELT	**Eltsovka**	**6.08**	**289**	Pg	**Pg**	**14 53 06.2**	**-0.9**
ELT				Sg	**Sg**	**14 54 25.0**	**-0.7**
GALT	**Gorno-Altaysk,**	**6.13**	**277**	Pg	**Pg**	**14 53 04.5**	**-3.7**
GALT				Sg	**Sg**	**14 54 26.6**	**-1.0**
TUNR	**Tungur**	**6.19**	**260**	Pg	**Pg**	**14 53 06.3**	**-3.0**
TUNR				Sg	**Sg**	**14 54 28.8**	**-0.6**
POMOR	**Pomortsevo, Ku**	**6.25**	**300**	Sg	**Sg**	**14 54 30.2**	**-1.0**
TRG	**Tyrgan**	**6.56**	**76**	Sg	**Sb**	**14 54 27.9**	**+4.4**
SALR	**Pechorkino, Sa**	**6.70**	**298**	Sg	**Sg**	**14 54 41.3**	**-4.3**
ZALV	**Zalesovo Beam**	**7.05**	**293**	Pn	**Pn**	**14 52 55.9**	**+1.9**
0.3nm,0.3s,baz=108,slow=12,SNR=5.0							
ZALV				Lg	Lg	14 54 49.1	
1.1nm,0.3s,baz=109,slow=25,SNR=6.5							
SONM	**Songino Array**	**7.84**	**115**	Pg	**Pb**	**14 53 26.9**	**0.0**
0.2nm,0.3s,baz=306,slow=12,SNR=2.8							
SONM				Lg	Lg	14 55 11.6	
1.3nm,0.3s,baz=304,slow=27,SNR=6.4							
NVS	**Novosibirsk**	**8.19**	**298**	Sg	**Sg**	**14 55 30.2**	**-3.4**
MK31	**Makanchi Array**	**10.10**	**246**	⇑P	**Pn**	**14 53 38.6**	**+2.8**
1.2nm,0.8s,baz=55,slow=14,SNR=5.8							
MK31				⇑S	Sn	14 56 24.4	+55
5.3nm,0.8s,baz=58,slow=30							
MKAR	**Makanchi Array**	**10.10**	**246**	Pn	**Pn**	**14 53 37.4**	**+1.6**
0.0nm,0.3s,baz=61,slow=15,SNR=2.8							
MKAR				Pg		14 54 21.2	
0.2nm,0.3s,baz=67,slow=19,SNR=6.3							
MKAR				Lg	Lg	14 56 28.8	
0.2nm,0.3s,baz=50,slow=27,SNR=3.4							
MAKZ	**Makanchi**	**10.27**	**247**	⇓P	**Pn**	**14 53 42.0**	**+3.8**
3.2nm,1.1s							
MAKZ				⇑S	Sn	14 56 29.2	+56
3.3nm,0.7s							
KURBB	**Kurchatov Arra**	**10.92**	**271**	Pn	Pn	14 53 51.5	+4.6
0.0nm,0.3s,baz=82,slow=16,SNR=2.7							
KURBB				Lg	Lg	14 56 54.1	
0.0nm,0.3s,baz=76,slow=36,SNR=4.8							
BVAR	**Borovoye Array**	**15.58**	**285**	Pn	**P**	**14 54 53.1**	**-1.6**
0.3nm,0.3s,baz=20,slow=17,SNR=2.5							
AKTO	**Aktyubinsk**	**23.63**	**282**	P	**P**	**14 56 22.2**	**+0.3**
1.1nm,0.5s,baz=94,slow=14,SNR=4.5							
NOA	**NORSAR Array B**	**44.61**	**316**	P	**P**	**14 59 22.5**	**-0.4**
0.3nm,0.4s,baz=55,slow=7.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**82.35**	**281**	P	**P**	**15 03 36.2**	**+3.2**
0.3nm,0.8s,baz=36,slow=5.4,SNR=4.1							

*MOS **05** 14:52:32.8±0.9, 1.28S×132.33E, h14km, mb5.5/61, Error*
ellipse: s-maj=8.4km s-min=4.5km az=118.0
*IDC **05** 14:52:32.8±0.4, 1.25S×132.38E, h0km, mb5.0/33,*
mb1 5.0/38, mb1mx4.9/44, mbtmp5.0/38, ML4.5/4, MS4.6/28,
Ms1 4.6/28, ms1mx4.4/40, Error ellipse: s-maj=11.8km
s-min=8.5km az=43.0
*NEIC **05** 14:52:32.4±1.7, 1.31S±0.06×132.40E±0.05, h3km±2km,*
mb5.4/138, Mwb5.3/28, Mwc5.3(GCMT), Error ellipse:
s-maj=9.7km s-min=6.9km az=205.0
*NEIC **05** 14:52:33.7, 1.30S×132.43E, h4km, Moment Tensor*
Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.35;
$M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.29; $M_{r\theta}$0.85; $M_{r\phi}$0.22; $M_{\theta\phi}$-0.37; Fault
plane solution: $M_0$1.01000×10^{17} NP1:ϕ_s117.20000°,
δ80.23000°, λ76.94000°. NP2:ϕ_s351.01000°, δ16.26000°,
λ142.69000°. Principal axes: T 1.0368, Plg53.0000°,
Azm12.0000°; N -0.0655, Plg13.0000°, Azm119.0000°; P
-0.9712, Plg34.0000°, Azm218.0000°;
*BJI **05** 14:52:35.0±0.0, 1.52S×132.60E, h50km, mB5.5/51,*
mb5.1/69, Ms5.0/49, Ms7 4.6/45
*GCMT **05** 14:52:35.4±0.1, 1.33S±0.01×132.35E±0.01, h12km,*
MW5.3/136, Moment Tensor Solution. s98,c142;
s136,c235; Duration: 1s1 Moment tensor: Scale 10^{17}
Nm; M_{rr}0.86±.01; $M_{\theta\theta}$-0.57±.01; $M_{\phi\phi}$-0.29±.01;
$M_{r\theta}$0.27±.03; $M_{r\phi}$0.58±.01; $M_{\theta\phi}$-0.19±.04; Best double
couple: $M_0$1.00500×10^{17} NP1:ϕ_s310.00000°, δ35.00000°,
λ93.00000°. NP2:ϕ_s127.00000°, δ55.00000°, λ88.00000°.
Principal axes: T 0.9220, Plg80.0000°, Azm29.0000°; N
0.1670, Plg2.0000°, Azm128.0000°; P -1.0880,
Plg10.0000°, Azm218.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*DJA **05** 14:52:36.4±0.6, 1.5±2.1×13.2E±*, h15km±4km, M5.2/89,*
mb5.3/89, mB5.7/61, MLv5.6/11, Mw(mB)5.2/61, Mwp5.3/13
*NEIC **05** 14:52:36, 1.32S×132.34E, h12km, Moment Tensor*
Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.94;
$M_{\theta\theta}$-0.59; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.33; $M_{\theta\phi}$0.64; $M_{r\phi}$-0.17; Fault
plane solution: $M_0$1.11000×10^{17} NP1:ϕ_s316.00000°,
δ36.00000°, λ99.00000°. NP2:ϕ_s125.00000°, δ55.00000°,
λ84.00000°. Principal axes: T 1.0065, Plg79.0000°,
Azm10.0000°; N 0.1773, Plg5.0000°, Azm128.0000°; P
-1.1838, Plg10.0000°, Azm219.0000°;
ISC 05 14:52:34.8±0.6, 1.37S±0.03×132.37E±0.04, h19km±2km, n588, σ1$59/594, mb5.3/166, MS4.6/37, 41C-15D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.22**	**294**	Pg	**Pg**	**14 52 55.7**	**-2.7**
2μm,0.3s,baz=88,slow=12,SNR=905							
SIJI				Lg	Lg	14 53 11.5	
6μm,0.3s,baz=307,slow=20,SNR=39							
FAKI	**Fak Fak**	**1.54**	**185**	P	**Pg**	**14 53 04.4**	**-0.1**
FAKI				S	**Sg**	**14 53 25.2**	**+0.6**
FAKI	**Fak Fak**	**1.54**	**185**		**Pb**	**14 53 02.7**	**-0.1**
BAKI	**Biak**	**3.74**	**87**	P	**Pn**	**14 53 31.9**	**+0.3**
SRPI	**Serui, Papua**	**3.90**	**97**	P	**Pn**	**14 53 34.3**	**+0.5**
MSAI	**Masohi**	**3.96**	**240**	P	**Pn**	**14 53 36.8**	**+2.1**
MSAI				S	**Sb**	**14 54 25.1**	**-6.6**
BNDI	**Bandanaira**	**3.98**	**218**	P	**Pn**	**14 53 36.1**	**+1.5**
BNDI				S	**Sn**	**14 54 24.2**	**+3.0**
TNTI	**Ternate**	**5.44**	**293**	P	**Pn**	**14 53 55.3**	**+0.3**
2.1nm3μm6μm263nm,1.0s							
TNTI	**Ternate**	**5.44**	**293**	Pn	**Pn**	**14 53 55.9**	**+0.8**
5.1nm6μm479nm,0.6s							
NLAI	**Namlea**	**5.59**	**251**	P	**Pn**	**14 53 58.1**	**+1.1**
5.1nm6μm479nm,0.6s							
SANI	**Sanana**	**6.42**	**264**	P	**Pn**	**14 54 07.7**	**-0.8**
1.1nm6μm3μm282nm,0.8s							
SAUI	**Saumlaki**	**6.65**	**189**	Pn	**Pn**	**14 54 12.4**	**+0.8**
GENI	**Genyem**	**7.88**	**99**	P	**Pn**	**14 54 31.2**	**+2.6**
1.2nm7μm4μm218nm,0.8s							
JAY	**Jayapura**	**8.40**	**98**	Pn	**Pn**	**14 54 35.6**	**-0.1**
1.3nm,0.3s,baz=312,slow=3.6,SNR=8.1							
JAY				Sn	Sn	14 56 22.8	+12
0.6nm,0.3s,baz=75,slow=20,SNR=2.4							
JAY				LR	LR	14 58 17.2	
comp=Z,5μm,19.7s,baz=269,slow=41							
JAY	**Jayapura**	**8.40**	**98**	P	**Pn**	**14 54 37.7**	**+1.9**
484nm35nm,0.9s							
SGSI	**Sangihe**	**8.49**	**306**	P	Pn	14 54 40.6	+3.7
3μm340nm,0.7s							
KMSI	**Cibinong**	**8.61**	**283**	P	Pn	14 54 43.4	+4.8
5μm358nm,0.9s							
GTOI	**Gorontalo**	**9.57**	**282**	P	Pn	14 54 56.3	+4.5
1μm121nm,1.1s							
LUWI	**Luwuk**	**9.61**	**272**	P	**Pn**	**14 54 53.0**	**+0.8**
5μm6μm303nm,1.1s							
LUWI	**Luwuk**	**9.61**	**272**	Pn	**Pn**	**14 54 52.2**	**-0.1**
KDI	**Kendari**	**10.08**	**255**	P	**Pn**	**14 55 00.3**	**+1.6**
4μm154nm,1.3s							
DAV	**Davao City (W)**	**10.79**	**321**	Pn	**Pn**	**14 55 08.8**	**+0.4**
baz=90,slow=2.0,SNR=2.4							
DAV				Sn	Sn	14 57 17.8	+9.0
22nm,0.3s,baz=143,slow=20,SNR=2.6							
DAV				LR	LR	14 58 17.6	
comp=Z,2μm,20.7s,baz=202,slow=32							
DAV	**Davao City (W)**	**10.79**	**321**	Pn	**Pn**	**14 55 08.5**	**+0.1**
KDU	**Kakadu**	**11.24**	**180**	P	**Pn**	**14 55 14.4**	**-0.2**
baz=11,SNR=62							
MTN	**Manton Dam**	**11.46**	**186**	P	**Pn**	**14 55 17.3**	**-0.3**
baz=12,SNR=104							
MTN	**Manton Dam**	**11.46**	**186**	Pn	**Pn**	**14 55 17.1**	**-0.5**
SOEI	**Soe**	**11.59**	**224**	P	**Pn**	**14 55 20.9**	**+1.4**
7μm6μm206nm,0.8s							
SOEI	**Soe**	**11.59**	**224**	Pn	**Pn**	**14 55 21.5**	**+2.0**
BATI	**Baumata**	**12.33**	**224**	Pn	**Pn**	**14 55 31.7**	**+2.2**
16nm,0.3s,baz=126,slow=2.4,SNR=30							
BATI				Sn	**Sn**	**14 57 48.1**	**+1.5**
1.9nm,0.3s,baz=251,slow=18,SNR=1.4							
BATI				LR	LR	14 59 49.1	
comp=Z,6μm,21.8s,baz=59,slow=35							
BATI	**Baumata**	**12.33**	**224**	P	**Pn**	**14 55 31.8**	**+2.2**
3μm2μm164nm,1.0s							
MMRI	**Maumere**	**12.40**	**234**	P	**Pn**	**14 55 33.0**	**+2.4**
5μm3μm236nm,1.3s							
MMRI	**Maumere**	**12.40**	**234**	Pn	**Pn**	**14 55 31.1**	**+0.5**
MPSI	**Mapaga**	**12.59**	**278**	P	**Pn**	**14 55 35.3**	**+2.2**
3μm1μm92nm,1.2s							
BNSI	**Bone**	**12.61**	**256**	P	**Pn**	**14 55 36.0**	**+2.5**
2μm152nm,1.1s							
BKSI	**Bulukumba**	**12.84**	**252**	P	**Pn**	**14 55 39.0**	**+2.4**
2μm150nm,0.8s							
SPSI	**Sidrap Palu**	**12.85**	**258**	P	Pn	14 55 40.2	+3.5
3μm127nm,0.7s							
EDFI	**Ende, Flores**	**12.91**	**235**	P	**Pn**	**14 55 39.7**	**+2.0**
4μm1μm103nm,1.3s							
KAPI	**Kappang**	**13.11**	**254**	Pn	**Pn**	**14 55 42.7**	**+2.5**
1.2nm,0.3s,baz=100,slow=6.3,SNR=28							
KAPI				LR	LR	15 01 40.4	
comp=Z,2μm,19.3s,baz=66,slow=42							
KAPI	**Kappang**	**13.11**	**254**	P	**Pn**	**14 55 41.6**	**+1.4**
KAPI				P	**Pn**	**14 55 41.6**	**+1.4**
KAPI	**Kappang**	**13.11**	**254**	Pn	**Pn**	**14 55 39.6**	**-0.7**
KNRA	**Kununurra**	**14.65**	**194**	P	**Pn**	**14 55 57.8**	**-3.5**
baz=15,SNR=210							
KNRA	**Kununurra**	**14.65**	**194**	Pn	**Pn**	**14 55 57.4**	**-3.9**
SMKI	**Samarinda**	**15.19**	**273**	P	P	14 56 20.6	+7.1
MYLDM	**Lahad Datu**	**15.31**	**295**	Pn	**Pn**	**14 56 09.5**	**-0.7**
MYLDM				IAmb	IAmb	14 56 38.6	
comp=Z,134nm,1.0s							
KBKI	**Kotabaru**	**16.31**	**263**	P	**P**	**14 56 25.0**	**-0.9**
comp=Z,564nmcomp=Z,50nm,1.0s							
PLAI	**Plampang**	**16.31**	**243**	P	**Pn**	**14 56 23.0**	**0.0**
comp=Z,4μmcomp=Z,2μmcomp=Z,233nm,0.9s							
COEN	**Coen**	**16.45**	**140**	P	**Pn**	**14 56 23.6**	**-1.2**
baz=16,SNR=12							
COEN	**Coen**	**16.45**	**140**		**Pn**	**14 56 23.4**	**-1.4**
PMG	**Port Moresby**	**16.73**	**119**	Pn	**P**	**14 56 32.1**	**+1.5**
comp=Z,1.7nm,0.3s,baz=324,slow=5.0,SNR=15							
PMG				LR	LR	15 04 57.4	
comp=Z,3μm,18.4s,baz=314,slow=44							
PMG	**Port Moresby**	**16.73**	**119**	*d* *iP*	**P**	**14 56 31.6**	**+1.0**
PMG				pmax	pmax		
comp=Z,150nm,1.3s							
PMG	**Port Moresby**	**16.73**	**119**	P	**P**	**14 56 29.6**	**-1.0**
TWSI	**Taliwang, Sumb**	**17.07**	**244**	P	**P**	**14 56 34.5**	**+0.2**
comp=Z,2μmcomp=Z,1μmcomp=Z

comp=Z,2µmcomp=Z,101nm,1.1s
SMRI Semarang 22.58 255 P **P** **14 57 38.4 +3.9**
comp=Z,320nm,1.0s
YOGI Yogyakarta 22.91 253 P **P** **14 57 43.0 +5.1**
comp=Z,319nm,1.1s
CTA Charters Tower 23.02 145 P **P** **14 57 39.6 +0.6**
comp=Z,41nm,0.9s,baz=327,slow=11,SNR=17
CTAO Charters Tower 23.02 145 P **P** **14 57 39.5 +0.4**
CTAO pmax pmax
comp=Z,88nm,1.1s
CTAO Charters Tower 23.02 145 P **P** **14 57 39.5 +0.4**
CTAO IAmb IAmb 14 57 45.2
comp=Z,88nm,1.1s
PSA00 Pilbara Seismi 23.50 210 P **P** **14 57 44.3 +0.5**
PSA00 IAmb IAmb 14 57 48.1
comp=Z,161nm,1.1s
PSA00 Pilbara Seismi 23.50 210 P **P** **14 57 43.8 0.0**
PSA00 IAmb IAmb 14 58 04.4
comp=Z,63nm,1.1s
WRKA Warakurna 23.85 189 P **P** **14 57 48.7 +1.5**
baz=24,SNR=84
KPJI Karang Pucung 24.10 255 P **P** **14 57 52.8 +3.1**
comp=Z,3µmcomp=Z,135nm,1.3s
TPI Tanjungpandan 24.74 266 P **P** **14 57 59.7 +4.2**
comp=Z,2µmcomp=Z,124nm,1.1s
CISI Cisompet, Garu 25.23 255 P **P** **14 58 02.7 +2.7**
comp=Z,3µmcomp=Z,252nm,1.3s
CISI Cisompet, Garu 25.23 255 P **P** **14 58 01.5 +1.5**
CNJI Cibinong 25.84 256 P **P** **14 58 08.5 +3.0**
comp=Z,2µmcomp=Z,241nm,1.0s
CBJI Citeko 25.95 258 P **P** **14 58 08.6 +2.2**
comp=Z,94nm,0.9s
DBJI Dramaga 26.07 258 P **P** **14 58 10.0 +2.4**
comp=Z,69nm,1.1s
PPBI Pangkal Pinang 26.24 268 P **P** **14 58 13.1 +4.0**
comp=Z,2µmcomp=Z,66nm,1.3s
TPUB Ta-pu 27.06 336 P **P** **14 58 16.1 -0.3**
TPUB IAmb IAmb 14 58 41.3
comp=Z,105nm,1.3s
CGJI Cibinong 27.11 258 P **P** **14 58 19.3 +2.3**
comp=Z,101nm,1.4s
DLV T Lat 27.17 300 P **P** **14 58 17.6 -0.1**
DLV IAmb IAmb 14 58 21.8
comp=Z,73nm,1.0s
BLSI Bandar Lampung 27.36 261 P P 14 58 28.6 +9.3
SSLB Suanglung 27.36 337 P **P** **14 58 19.4 +0.2**
SSLB IAmb IAmb 14 58 45.8
comp=Z,78nm,1.3s
QLP Quilpie 27.54 157 P **P** **14 58 21.0 +0.4**
baz=28,SNR=19
KLSI 27.80 263 P **P** **14 58 26.1 +3.0**
comp=Z,24nm,1.5s
DSRI Dabo 27.81 272 P **P** **14 58 26.5 +3.3**
comp=Z,14nm,1.2s
MDSI Maura Dua 28.32 263 P **P** **14 58 29.8 +2.0**
comp=Z,894nmcomp=Z,73nm,1.1s
HNR Honiara 28.57 107 P **P** **14 58 32.2 +2.2**
comp=Z,107nm,0.9s,baz=215,slow=2.7,SNR=4.5
HNR LR LR 15 10 16.0
comp=Z,990nm,20.7s,baz=275,slow=37
HNR Honiara 28.57 107 P **P** **14 58 29.0 -1.0**
MYKOM Kota Tinggi 28.69 276 P **P** **14 58 31.1 0.0**
MYKOM IAmb IAmb 14 58 35.9
comp=Z,44nm,1.1s
LHSI Lahat 28.92 265 P P 14 58 36.4 +3.3
comp=Z,2µmcomp=Z,160nm,1.5s
RMQ Roma 29.52 149 P **P** **14 58 38.9 +0.6**
baz=30,SNR=5.0
FORT Forrest 29.53 188 P **P** **14 58 40.9 +2.6**
baz=30,SNR=7.2
FORT Forrest 29.53 188 P **P** **14 58 39.1 +0.8**
FORT IAmb IAmb 14 58 42.8
comp=Z,90nm,1.1s
JCJ Chichijima 29.84 18 LR LR 15 08 21.2
comp=Z,1µm,18.4s,baz=210,slow=32
EIDS Eidsvold 29.91 144 P **P** **14 58 42.8 +1.1**
baz=30,SNR=9.4
EIDS Eidsvold 29.91 144 P **P** **14 58 40.9 -0.9**
EIDS IAmb IAmb 14 58 45.7
comp=Z,51nm,1.1s
QIZ Qiongzhong 30.02 314 P **P** **14 58 42.9 +0.1**
QIZ S **S** **15 03 41.6 +1.3**
QIZ pmax pmax
comp=Z,370nm,3.4s
QIZ LR LR
comp=Z,680nm,11.4s
QIZ LR LR
comp=Z,680nm,12.2s
QIZ LR LR
comp=Z,740nm,19.4s
KRJI Kerinci 30.91 268 P P 14 58 54.3 +3.4
comp=Z,7µmcomp=Z,406nm,1.0s
SDSI Sungai Dareh 30.94 270 P P 14 58 54.8 +3.7
comp=Z,28nm,1.5s
BKNI Bangkinang 31.38 273 P P 14 58 58.3 +3.4
comp=Z,72nm,1.2s
BBOO Buckleboo 31.46 174 P **P** **14 58 56.5 +1.1**
baz=32,SNR=12
BBOO Buckleboo 31.46 174 P **P** **14 58 55.8 +0.4**
BBOO IAmb IAmb 14 58 59.3
comp=Z,70nm,1.1s
STKA Stephens Creek 31.56 165 P **P** **14 58 56.8 +0.5**
comp=Z,39nm,0.9s,baz=339,slow=8.2,SNR=41
STKA LR LR 15 14 49.9
comp=Z,1µm,18.2s,baz=336,slow=42
STKA Stephens Creek 31.56 165 P **P** **14 58 57.1 +0.8**
baz=32,SNR=36
STKA Stephens Creek 31.56 165 P **P** **14 58 56.4 +0.1**
MORW Morawa 31.64 208 P **P** **14 58 59.8 +2.8**
baz=32,SNR=8.9
MORW Morawa 31.64 208 P **P** **14 58 58.2 +1.2**
MORW IAmb IAmb 14 59 03.3
comp=Z,47nm,1.4s
IPM Ipoh 31.86 281 P **P** **14 59 00.1 +0.9**
IPM IAmb IAmb 14 59 02.6
comp=Z,44nm,1.1s
IPM Ipoh 31.86 281 P **P** **14 59 02.0 +2.8**
KULM Kulim 32.37 282 P **P** **14 59 05.3 +1.6**
KULM IAmb IAmb 14 59 06.8
comp=Z,45nm,1.2s
KULM Kulim 32.37 282 P P 14 59 07.0 +3.4
HTT Hallett 32.48 170 P **P** **14 59 05.8 +1.4**
baz=33,SNR=9.0
CMSA Cobar Meteorol 32.53 159 P **P** **14 59 05.5 +0.7**
baz=33,SNR=15
MNSI Mandailing Nat 32.86 274 P P 14 59 18.9 +11
KLBR Kellerberrin 33.08 203 P **P** **14 59 13.1 +3.5**
baz=33,SNR=6.9
SISI Saibi 33.27 270 P **P** **14 59 13.4 +1.8**
comp=Z,71nm,1.1s
RPSI Rantau Prapat 33.68 277 P **P** **14 59 15.1 -0.1**
RPSI IAmb IAmb 14 59 18.6
comp=Z,41nm,1.0s
RPSI Rantau Prapat 33.68 277 P **P** **14 59 16.4 +1.2**
PSI Prapat 33.70 277 P **P** **14 59 16.4 +1.0**
comp=Z,19nm,0.8s,baz=192,slow=1.8,SNR=13
PSI Prapat 33.70 277 P **P** **14 59 16.4 +1.0**
PSI pmax pmax
comp=Z,41nm,1.0s
TSI Tuntungan 34.14 278 P P 14 59 22.3 +3.2
comp=Z,5µmcomp=Z,95nm,1.0s
ARMA Armidale 34.18 150 P **P** **14 59 20.3 +1.0**
baz=34,SNR=16
ARMA Armidale 34.18 150 P **P** **14 59 19.4 +0.1**
ARMA IAmb IAmb 14 59 22.8
comp=Z,33nm,0.8s
JNU Nakatsue 34.34 358 P **P** **14 59 18.5 -2.1**
comp=Z,42nm,1.0s,baz=146,slow=9.3,SNR=5.3
JNU LR LR 15 11 48.4
comp=Z,601nm,19.5s,baz=168,slow=34
JNU Nakatsue 34.34 358 P **P** **14 59 18.9 -1.7**
NWAO Narrogin (SRO) 34.46 203 P **P** **14 59 21.5 -0.1**
comp=Z,19nm,1.1s,baz=137,slow=19,SNR=2.6
NWAO LR LR 15 17 25.1
comp=Z,1µm,18.1s,baz=92,slow=43
NWAO Narrogin (SRO) 34.46 203 P **P** **14 59 21.8 +0.1**
NWAO pmax pmax
comp=Z,62nm,1.4s
NWAO Narrogin (SRO) 34.46 203 P **P** **14 59 21.8 +0.1**
NWAO IAmb IAmb 14 59 49.5
comp=Z,62nm,1.4s
NWAO Narrogin (SRO) 34.46 203 P **P** **14 59 21.7 +0.1**
NWAO IAmb IAmb 14 59 49.5
comp=Z,85nm,1.4s
GSI Gunungsitoli 34.90 274 P **P** **14 59 26.4 +0.8**
JHJ Hachijo jima 2 35.01 11 LR LR 15 10 46.1
comp=Z,3µm,19.6s,baz=128,slow=31

NJ2 Nanjing 35.63 340 *e*P **P** **14 59 32.3 +0.7**
NJ2 pmax pmax
comp=Z,37nm,1.1s
NJ2 LR LR
comp=Z,1µm,8.1s
NJ2 LR LR
comp=Z,1µm,14.2s
NJ2 LR LR
comp=Z,1µm,5.7s
SLVN Son La 35.84 311 P **P** **14 59 33.8 +0.1**
YNG Young 36.02 157 P **P** **14 59 36.3 +1.3**
baz=36,SNR=5.4
WHN Wuhan 36.09 333 ⇓P **P** **14 59 36.9 +1.3**
WHN S **S** **15 05 19.5 +5.3**
WHN pmax pmax
comp=Z,90nm,1.1s
WHN LR LR
comp=Z,2µm,5.6s
JHS Saijyo 36.19 1 P **P** **14 59 36.4 -0.1**
JHS IAmb IAmb 14 59 37.4
comp=Z,39nm,0.9s
JSG Sagara 36.27 8 P **P** **14 59 36.5 -0.6**
ARPS Mount Arapiles 36.29 167 P **P** **14 59 39.0 +1.8**
baz=36,SNR=21
MLSI Meulaboh, Aceh 36.38 279 P **P** **14 59 40.8 +2.4**
comp=Z,3µmcomp=Z,266nm,1.2s
JWT Wachi 36.58 4 P **P** **14 59 39.6 -0.1**
JWT IAmb IAmb 14 59 40.7
comp=Z,42nm,0.8s
INU Inuyama 36.79 6 P **P** **14 59 40.9 -0.6**
JGF Kuroka 37.08 7 P **P** **14 59 42.8 -1.3**
CAN Canberra 37.15 157 P **P** **14 59 45.1 +0.4**
CAN pmax pmax
comp=Z,117nm,1.2s
CAN Canberra 37.15 157 P **P** **14 59 45.1 +0.4**
CAN IAmb IAmb 14 59 49.1
comp=Z,117nm,1.2s
GYA Guiyang 37.16 320 ⇓P **P** **14 59 47.5 +2.5**
GYA S **S** **15 05 36.2 +5.1**
GYA pmax pmax
comp=Z,12nm,1.0s
GYA LR LR
comp=Z,530nm,12.3s
GYA LR LR
comp=Z,430nm,13.5s
GYA LR LR
comp=Z,560nm,18.4s
CNB Canberra Magne 37.29 157 P **P** **14 59 46.8 +0.9**
baz=37,SNR=11
TJN Taejon 37.85 353 ⇓*e*P **P** **14 59 50.2 -0.3**
TOO Toolangi 37.99 163 P **P** **14 59 53.6 +1.8**
baz=38,SNR=8.0
TOO Toolangi 37.99 163 P **P** **14 59 52.6 +0.8**
TOO pmax pmax
comp=Z,105nm,1.3s
TOO Toolangi 37.99 163 P **P** **14 59 52.6 +0.8**
TOO IAmb IAmb 14 59 56.8
comp=Z,105nm,1.2s
MJAR Matsushiro Arr 38.11 8 P **P** **14 59 51.4 -1.4**
comp=Z,7.1nm,0.8s,baz=194,slow=8.1,SNR=11
MJAR PcP **PcP** **15 02 09.1 +1.4**
comp=Z,4.6nm,1.1s,baz=172,slow=4.0,SNR=4.3
MJAR LR LR 15 12 29.0
comp=Z,2µm,21.9s,baz=170,slow=32
MJAR Matsushiro Arr 38.11 8 **PcP** **15 02 09.1 +1.4**
MAJO Matsushiro 38.11 8 ⇓*e*P **P** **14 59 50.9 -1.9**
MAJO pmax pmax
comp=Z,96nm,4.0s
MAJO Matsushiro 38.11 8 P **P** **14 59 51.6 -1.1**
MAT Matsushiro 38.11 8 P **P** **14 59 50.5 -2.3**
MAT *e*S **S** **15 05 44.0 -1.0**
ENH Enshi 38.30 327 P **P** **14 59 53.7 -0.7**
CM31 Chiang Mai Arr 38.33 303 P **P** **14 59 56.2 +1.3**
SNR=16
CM31 P **P** **14 59 56.2 +1.3**
SNR=16
CM31 Chiang Mai Arr 38.33 303 P **P** **14 59 55.5 +0.6**
CM31 IAmb IAmb 14 59 59.1
comp=Z,63nm,1.1s
CMAR Chiang Mai Arr 38.33 303 P **P** **14 59 55.8 +0.9**
comp=Z,22nm,0.9s,baz=123,slow=6.2,SNR=77
CMAR PcP **PcP** **15 02 10.5 +1.8**
comp=Z,9.4nm,1.1s,baz=136,slow=2.1,SNR=5.1
CMAR LR LR 15 17 48.9
comp=Z,407nm,19.0s,baz=168,slow=40
CMAR Chiang Mai Arr 38.33 303 P **P** **14 59 55.2 +0.4**
CHTO Chiang Mai 38.50 303 P **P** **14 59 57.0 +0.8**
CHTO P **P** **14 59 57.0 +0.8**
CHTO Chiang Mai 38.50 303 P **P** **14 59 56.8 +0.5**
CHTO pmax pmax
comp=Z,45nm,1.1s
CHTO Chiang Mai 38.50 303 P **P** **14 59 56.8 +0.5**
KSAR Wonju Array Be 38.84 354 P **P** **14 59 58.8 -0.1**
KSAR Wonju Array Be 38.84 354 P **P** **14 59 58.8 -0.1**
KSRS Korea Array 38.85 354 P **P** **14 59 58.8 -0.2**
comp=Z,2.0nm,0.7s,baz=175,slow=9.9,SNR=9.4
KSRS PcP **PcP** **15 02 09.3 -0.6**
comp=Z,3.2nm,0.9s,baz=178,slow=4.0,SNR=5.8
KMI Kunming 38.95 315 ⇑P **P** **15 00 00.7 +0.4**
KMI S **S** **15 05 56.7 -1.7**
KMI pmax pmax
comp=Z,29nm,1.1s
KMI pmax pmax
comp=Z,100nm,3.5s
KMI LR LR
comp=Z,520nm,17.7s
KMI LR LR
comp=Z,570nm,20.4s
KMI LR LR
comp=Z,510nm,15.3s
DZM Mont Dzumac 39.01 124 LR LR 15 15 35.5
comp=Z,366nm,19.3s,baz=318,slow=35
DZM Mont Dzumac 39.01 124 *e*LR LR 15 10 41.7
comp=Z,1µm,27.3s
JSD Sado 39.59 7 P **P** **15 00 03.9 -1.2**
JMM Marumori 39.81 10 P **P** **15 00 06.5 -0.4**
JMM IAmb IAmb 15 00 12.7
comp=Z,65nm,1.0s
TIA Tai'an 40.00 341 P **P** **15 00 07.6 -1.0**
TIA pmax pmax
comp=Z,15nm,1.8s
XAN Xi'an 41.56 330 P **P** **15 00 21.0 -0.5**
XAN pmax pmax
comp=Z,31nm,1.1s
XAN pmax pmax
comp=Z,350nm,7.0s
XAN Xi'an 41.56 330 P **P** **15 00 20.6 -0.9**
XAN pmax pmax
comp=Z,20nm,0.8s
XAN Xi'an 41.56 330 P **P** **15 00 20.6 -0.9**
CD2 Chengdu 42.09 322 P **P** **15 00 26.8 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.6s
JTM Tenmabayashi 42.70 10 P **P** **15 00 30.0 -0.7**
BJT Baijiatuan 43.78 342 P **P** **15 00 39.3 -0.1**
BJT pmax pmax
comp=Z,47nm,1.3s
BJT Baijiatuan 43.78 342 P **P** **15 00 39.3 -0.1**
BJI Beijing 43.80 342 P **P** **15 00 39.6 +0.1**
BJI S **S** **15 07 12.1 +2.7**
BJI LR LR
comp=Z,340nm,13.9s
BJI LR LR
comp=Z,780nm,18.2s
BJI LR LR
comp=Z,630nm,28.8s
JEM Erimo 44.28 12 P P 15 00 56.3 +13
VLA Vladivostok 44.30 359 *ce*P **P** **15 00 43.7 +0.2**
VLA pmax pmax
comp=Z,27nm,1.3s
JEW Eniwo 44.77 9 P **P** **15 00 47.2 -0.1**
USA0B Ussuriysk Arra 45.37 360 *ci*P **P** **15 00 52.3 +0.2**
USA0B Ussuriysk Arra 45.37 360 P **P** **15 00 51.9 -0.1**
USRK Ussuriysk Ar. 45.37 360 P **P** **15 00 52.5 +0.4**
comp=Z,13nm,0.9s,baz=182,slow=7.6,SNR=25
USRK LR LR 15 18 15.9
comp=Z,422nm,20.9s,baz=160,slow=34
USRK Ussuriysk Ar. 45.37 360 P **P** **15 00 52.0 0.0**
CN2 Changchun 45.40 353 *e*P **P** **15 00 51.8 -0.5**
CN2 *e*S **S** **15 07 31.4 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,750nm,15.0s
CN2 LR LR
comp=Z,680nm,15.0s
CN2 LR LR
comp=Z,890nm,18.0s
LZH Lanzhou 45.78 327 *e*P **P** **15 00 56.5 +0.9**
LZH *e*S **S** **15 07 31.5 -7.1**
LZH SS **ScS** **15 10 49.9 -1.4**
LZH pmax pmax
comp=Z,45nm,1.0s
LZH pmax pmax
comp=Z,560nm,5.2s
LZH LR LR
comp=Z,590nm,14.9s
LZH LR LR
comp=Z,630nm,12.7s
LZH LR LR
comp=Z,880nm,15.7s
MDJ Mudanjiang 45.86 357 P **P** **15 00 56.5 +0.6**
MDJ PP **PP** **15 02 48.4 +4.8**
MDJ S **S** **15 07 44.8 +5.7**
MDJ pmax pmax
comp=Z,24nm,0.8s
MDJ pmax pmax
comp=Z,430nm,4.3s
MDJ LR LR
comp=Z,700nm,7.1s
MDJ LR LR
comp=Z,510nm,6.5s
MDJ LR LR
comp=Z,850nm,19.0s
MDJ Mudanjiang 45.86 357 P **P** **15 00 55.6 -0.2**
MDJ IAmb IAmb 15 00 58.7
comp=Z,25nm,0.8s
HHC Hu-ho-hao-te 46.10 338 *e*P **P** **15 00 58.9 +0.9**
HHC S **S** **15 07 43.4 +0.4**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.3s
HHC LR LR
comp=Z,510nm,14.5s
HHC LR LR
comp=Z,520nm,16.3s
HHC LR LR
comp=Z,250nm,15.7s
ASAJ Asahikawa 46.20 10 P **P** **15 00 58.6 0.0**
comp=Z,16nm,1.0s,baz=241,slow=5.6,SNR=5.3
ASAJ LR LR 15 19 04.2
comp=Z,1µm,21.3s,baz=196,slow=34
ASAJ Asahikawa 46.20 10 P **P** **15 00 58.7 0.0**
ASAJ pmax pmax
comp=Z,61nm,1.5s
JKA Kamikawa-asahi 46.20 10 P **P** **15 00 58.6 0.0**
JKA Kamikawa-asahi 46.20 10 IAmb IAmb 15 01 19.5
comp=Z,61nm,1.5s
YUK Yuzh-Kuril'sk 46.79 13 *e*P **P** **15 01 00.2 -3.0**
YUK *e*S **S** **15 07 52.4 -0.1**
YUK pmax pmax
comp=Z,196nm,1.4s
SHL Shillong 47.43 307 P **P** **15 01 08.7 -0.1**
SNR=19
SHL Shillong 47.43 307 P **P** **15 01 08.2 -0.6**
SHL pmax pmax
comp=Z,64nm,0.7s
SHL Shillong 47.43 307 P **P** **15 01 08.2 -0.6**
YSS Yuzh-Sakhalins 48.98 9 *e*P **P** **15 01 20.0 -0.2**
YSS *e* 15 01 23.5
YSS *e* 15 08 34.9
YSS pmax pmax
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 48.98 9 P **P** **15 01 20.0 -0.2**
YSS IAmb IAmb 15 01 22.5
comp=Z,29nm,0.7s
LSA Lhasa 50.02 312 P **P** **15 01 29.7 +0.7**
LSA pmax pmax
comp=Z,140nm,0.9s
LSA Lhasa 50.02 312 P **P** **15 01 29.4 +0.4**
LSA Lhasa 50.02 312 P **P** **15 01 29.1 +0.1**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 50.02 312 P **P** **15 01 29.1 +0.1**
LSA IAmb IAmb 15 01 33.2
comp=Z,26nm,0.8s
GTA Gaotai 50.38 327 ⇑P **P** **15 01 31.6 +0.4**
GTA S **S** **15 08 44.8 +1.1**
GTA pmax pmax
comp=Z,17nm,0.8s
GTA pmax pmax
comp=Z,290nm,8.0s
GTA LR LR
comp=Z,330nm,14.5s
GTA LR LR
comp=Z,260nm,16.0s
GTA LR LR
comp=Z,510nm,18.2s
GRNR Gornyy 52.06 3 ⇑*i*P **P** **15 01 44.1 +0.7**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
PALK Pallekele 52.26 280 P **P** **15 01 47.2 +1.7**
PALK P **P** **15 01 47.2 +1.7**
PYZ Puysegur Point 53.77 151 P **P** **15 01 56.6 +0.5**
ULN Ulaanbaatar 53.78 339 P **P** **15 01 57.3 +0.9**
ULN P **P** **15 01 57.3 +0.9**
ULN Ulaanbaatar 53.78 339 *ce*P **P** **15 01 57.1 +0.7**
ULN pmax pmax
comp=Z,48nm,1.7s
ULN Ulaanbaatar 53.78 339 P **P** **15 01 56.3 -0.1**
ULN IAmb IAmb 15 01 58.6
comp=Z,25nm,1.0s
SONM Songino Array 53.99 339 P **P** **15 01 58.5 +0.7**
comp=Z,12nm,0.9s,baz=157,slow=7.9,SNR=30
SONM LR LR 15 25 33.0
comp=Z,313nm,19.3s,baz=146,slow=37
SONM Songino Array 53.99 339 P **P** **15 01 58.0 +0.2**
WKZ Wanaka 54.02 148 P **P** **15 01 58.4 +0.4**
WKZ IAmb IAmb 15 02 20.7
comp=Z,61nm,1.1s
WHZ Wether Hill Ro 54.20 150 P **P** **15 01 59.7 +0.5**
WHZ IAmb IAmb 15 02 23.4
comp=Z,57nm,1.3s
NNZ Nelson 54.21 142 P **P** **15 01 57.8 -1.6**
LBZ Lake Benmore 54.34 147 P **P** **15 02 01.1 +0.7**
RPZ Rata Peaks 54.39 146 P **P** **15 02 01.0 +0.3**
RPZ IAmb IAmb 15 02 26.0
comp=Z,58nm,1.1s
KHZ Kahutara 55.02 143 P **P** **15 02 06.4 +1.2**
KHZ IAmb IAmb 15 02 07.6
comp=Z,20nm,0.8s
ODZ Otahua Downs 55.02 148 P **P** **15 02 06.5 +1.3**
BKZ Black Stump Fm 55.05 139 P **P** **15 02 07.7 +2.0**
BKZ IAmb IAmb 15 02 15.4
comp=Z,37nm,1.2s
ZEA Zeya 55.09 356 *e*P **P** **15 02 04.7 -0.8**
ZEA *e*S **S** **15 09 47.9 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.9s
ZEA smax smax
comp=E,100nm,8.9s
HYB Hyderabad 56.20 292 *i*P **P** **15 02 13.0 -1.2**
ZAK Zakamensk 57.25 338 *e*P **P** **15 02 20.6 -0.6**
ZAK pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 58.19 339 ⇓*e*P **P** **15 02 29.2 +1.5**
TLY pmax pmax
comp=Z,7.0nm,1.0s
PEA0B Petropavlovsk- 58.28 18 ⇑*e*P **P** **15 02 27.6 -0.6**
PETK Petropavlovsk- 58.28 18 P **P** **15 02 29.7 +1.5**
comp=Z,24nm,0.9s,baz=193,slow=4.6,SNR=12
PETK LR LR 15 28 49.2
comp=Z,102nm,18.6s,baz=207,slow=37
PETK Petropavlovsk- 58.28 18 P **P** **15 02 28.9 +0.6**
PETK Petropavlovsk- 58.28 18 P **P** **15 02 28.9 +0.6**
PET Petropavlovsk 58.50 18 *e*P P 15 02 33.4 +3.7
PET *e*S **S** **15 10 32.3 0.0**
PET MLR MLR
comp=Z,500nm,17.0s
MOY Mondy 59.14 338 *e*P **P** **15 02 35.7 +1.3**
MOY pmax pmax
comp=Z,66nm,3.5s
WMQ Urumqi 60.13 324 *e*P **P** **15 02 42.2 +0.9**
WMQ PcP **PcP** **15 03 23.7 -3.3**
WMQ pmax pmax
comp=Z,38nm,1.5s
WMQ pmax pmax
comp=Z,290nm,5.1s
WMQ LR LR

comp=Z,220nm,17.5s
WMQ LR LR

comp=Z,220nm,18.5s
MA2 Magadan 62.47 10*c*eP **P 15 02 57.4 +0.7**
MA2 pmax pmax

comp=Z,99nm,2.5s
MA2 MLR MLR

comp=Z,348nm,17.0s
YAK Yakutsk 63.27 359 P **P 15 03 02.7 +0.7**
comp=Z,39nm,0.7s,baz=129,slow=0.3,SNR=42
YAK Yakutsk 63.27 359*c i*P **P 15 03 02.4 +0.4**
YAK *e**PP **sP 15 03 13.0 +2.7**
YAK *e* 15 03 37.3
YAK *e* 15 05 15.9
YAK *e*PPP PPP 15 06 48.4
YAK *e*S **S 15 11 32.1 -0.8**
YAK *e**SS sS 15 11 51.4 +8.6
YAK pmax pmax

comp=Z,56nm,0.7s
YAK pmax pmax

comp=N,26nm,1.1s
YAK pmax pmax

comp=E,5.0nm,1.0s
YAK pmax pmax

comp=Z,109nm,2.0s
YAK pmax pmax

comp=N,238nm,3.2s
YAK pmax pmax

comp=E,189nm,2.6s
YAK smax smax

comp=E,100nm,10.5s
YAK smax smax

comp=N,85nm,11.9s
YAK Yakutsk 63.27 359 P **P 15 03 01.5 -0.5**
DGZ Jazzator, Alta 63.81 329*c i*P **P 15 03 06.5 +0.4**
DGZ pmax pmax

comp=Z,10.0nm,1.0s
ZSN Zaisan 63.84 326 *e*P **P 15 03 06.4 +0.2**
comp=Z,116nm,3.5s
ZSN Zaisan 63.84 326 *e*P **P 15 03 06.4 +0.2**
ZSN pmax pmax

comp=Z,116nm,3.5s
SHLS Shalkode 64.85 320⇑*i*P **P 15 03 11.9 -1.2**
comp=Z,36nm,1.1s
SHLS Shalkode 64.85 320*c i*P **P 15 03 11.8 -1.2**
SHLS pmax pmax

comp=Z,36nm,1.1s
PDGK Podgornoye 64.92 320 *i* P **P 15 03 13.4 -0.1**
PDGK pmax pmax

comp=Z,68nm,1.1s
MK31 Makanchi Array 64.95 324*c i*P **P 15 03 13.9 +0.5**
MK31 pmax pmax

comp=Z,11nm,0.6s
MK31 Makanchi Array 64.95 324 P **P 15 03 13.3 -0.2**
MK31 IAmb IAmb 15 03 17.7

comp=Z,24nm,1.1s
MKAR Makanchi Array 64.95 324 P **P 15 03 14.2 +0.8**
comp=Z,10nm,0.5s,baz=113,slow=8.1,SNR=83
MKAR Makanchi Array 64.95 324 P **P 15 03 13.2 -0.3**
UZB Uzynbulak 65.13 320⇑*i*P **P 15 03 15.5 +0.6**
comp=Z,53nm,1.3s
UZB Uzynbulak 65.13 320*c i*P **P 15 03 15.5 +0.6**
UZB pmax pmax

comp=Z,53nm,1.3s
MAKZ Makanchi 65.14 324 P **P 15 03 14.6 -0.1**
MAKZ pmax pmax

comp=Z,32nm,1.0s
MAKZ Makanchi 65.14 324 P **P 15 03 14.6 -0.1**
MAKZ IAmb IAmb 15 03 18.8

comp=Z,32nm,1.0s
TARG Taragay, Kyrgy 65.29 318 P **P 15 03 16.0 -0.3**
NIL Nilore 65.49 308 P **P 15 03 16.2 -1.0**
NIL pmax pmax

comp=Z,64nm,1.4s
NIL Nilore 65.49 308 P **P 15 03 16.2 -1.0**
SATY Saty 65.49 319⇑*i*P **P 15 03 18.1 +0.8**
comp=Z,47nm,0.9s
SATY Saty 65.49 319*c i*P **P 15 03 18.0 +0.8**
SATY pmax pmax

comp=Z,47nm,0.9s
KPKS Kokpek 65.50 320⇑*i*P **P 15 03 17.4 +0.2**
comp=Z,48nm,0.9s
KPKS Kokpek 65.50 320*c i*P **P 15 03 17.4 +0.2**
KPKS pmax pmax

comp=Z,48nm,0.9s
KSH Kashi 65.62 315 P **P 15 03 19.6 +1.5**
KSH S **S 15 12 05.1 +2.0**
KSH pmax pmax

comp=Z,130nm,2.0s
KSH pmax pmax

comp=Z,370nm,4.2s
KSH LR LR

comp=Z,170nm,6.8s
KSH LR LR

comp=Z,290nm,7.0s
KDJ Kajisay 65.89 318 P **P 15 03 20.5 +0.7**
KDJ pmax pmax

comp=Z,60nm,0.9s
KDJ Kajisay 65.89 318 P **P 15 03 20.4 +0.7**
SEY Seymchan 65.89 10*c i*P **P 15 03 20.3 +1.2**
TDK Taldyqorghan 66.40 321 *e*P **P 15 03 23.1 +0.3**
comp=Z,107nm,1.2s
TDK Taldyqorghan 66.40 321 *e*P **P 15 03 23.1 +0.3**
TDK pmax pmax

comp=Z,107nm,1.2s
MDOK Medeo 66.43 319 *e*P **P 15 03 24.1 +0.9**
MDOK Medeo 66.43 319 *e*P **P 15 03 24.1 +0.9**
TNSS Tian-Shan 66.44 319⇑*i*P **P 15 03 24.7 +1.0**
TNSS Tian-Shan 66.44 319⇑*i*P **P 15 03 24.6 +1.0**
AAA Alma-Ata 66.53 319 *e*P **P 15 03 23.3 -0.6**
AAA Alma-Ata 66.53 319 *e*P **P 15 03 23.2 -0.6**
ULHL Ulahol 66.56 318 P **P 15 03 25.1 +0.9**
SNR=13
CASY Casey 66.60 189 P **P 15 03 24.4 +0.8**
CASY IAmb IAmb 15 03 28.5

comp=Z,40nm,1.1s
CHKK Chushkaly 66.77 320 *e*P **P 15 03 24.3 -1.0**
CHKK Chushkaly 66.77 320 *e*P **P 15 03 24.2 -1.0**
MTBS Maitube 66.82 319 *e*P **P 15 03 25.4 -0.2**
MTBS Maitube 66.82 319 *e*P **P 15 03 25.4 -0.2**
BOOM Boomskoye usch 66.87 318 P **P 15 03 25.7 -0.4**
BOOM pmax pmax

comp=Z,34nm,1.0s
BOOM Boomskoye usch 66.87 318 P **P 15 03 25.7 -0.4**
BOOM IAmb IAmb 15 03 30.4

comp=Z,34nm,1.0s
KZA Kyzart 67.16 317 P **P 15 03 29.9 +1.6**
SNR=18
KUU Kurty 67.21 319⇑*i*P **P 15 03 28.7 +0.6**
comp=Z,147nm,1.4s
KUU Kurty 67.21 319*c i*P **P 15 03 28.7 +0.6**
KUU pmax pmax

comp=Z,147nm,1.4s
TKM2 Tokmak 2 67.28 318 P **P 15 03 29.4 +0.6**
SNR=47
TKM2 Tokmak 2 67.28 318 *i* P **P 15 03 29.0 +0.2**
TKM2 pmax pmax

comp=Z,33nm,0.9s
KBK Karagaybulak 67.61 318 P **P 15 03 32.4 +1.6**
SNR=12
ZAA0 Zalesovo Array 67.69 332 P **P 15 03 30.1 -0.7**
ZALV Zalesovo Beam 67.69 332 P **P 15 03 30.5 -0.3**
comp=Z,8.5nm,0.6s,baz=122,slow=6.8,SNR=33
ZALV Zalesovo Beam 67.69 332 P **P 15 03 29.9 -0.9**
UCH Uchtor 67.72 317 P **P 15 03 33.1 +1.2**
SNR=69
CHMS Chumysh 67.88 318 P **P 15 03 33.0 +0.6**
SNR=14
AAK Ala-Archa 67.90 318 P **P 15 03 34.3 +1.6**
SNR=11
AAK Ala-Archa 67.90 318 P **P 15 03 33.4 +0.8**
AAK Ala-Archa 67.90 318 P **P 15 03 32.3 -0.3**
SGDS Sogindy 68.15 318 *e*P **P 15 03 33.7 -0.4**
comp=Z,48nm,2.5s
SGDS Sogindy 68.15 318 *e*P **P 15 03 33.6 -0.4**
SGDS pmax pmax

comp=Z,48nm,2.5s
AML Almayashu 68.25 317 P **P 15 03 36.5 +1.4**
SNR=59
EKS2 Erkin-Say 68.40 317 P **P 15 03 36.6 +0.9**
SNR=39
KURK Kurchatov 69.06 327 P **P 15 03 39.9 +0.4**
KURK Kurchatov 69.06 327 P **P 15 03 39.3 -0.1**
KURBB Kurchatov Arra 69.06 327 P **P 15 03 39.9 +0.4**
comp=Z,13nm,0.6s,baz=123,slow=5.6,SNR=123

KBL Kabul 69.09 308 P **P 15 03 40.4 +0.1**
SNR=17
KBL P **P 15 03 40.4 +0.1**

SNR=17
KBL Kabul 69.09 308 P **P 15 03 39.0 -1.3**
KBL pmax pmax

comp=Z,20nm,0.8s
KBL Kabul 69.09 308 P **P 15 03 39.0 -1.3**
KBL IAmb IAmb 15 03 43.5

comp=Z,20nm,0.8s
BTLS Baital 69.19 320⇑*i*P **P 15 03 40.8 +0.3**
comp=Z,40nm,2.1s
BTLS Baital 69.19 320*c i*P **P 15 03 40.7 +0.3**
BTLS pmax pmax

comp=Z,40nm,2.1s
BTK Batken 69.50 314 P **P 15 03 42.6 +0.1**
BTK pmax pmax

comp=Z,66nm,1.2s
BTK Batken 69.50 314 P **P 15 03 42.6 +0.1**
ATKA Atka Island 69.65 32 P **P 15 03 43.2 +0.1**
DZA Taraz 70.15 317 *e*P **P 15 03 46.2 -0.2**
DZA Taraz 70.15 317 *e*P **P 15 03 46.2 -0.2**
IUG Iuzhnay 70.78 316⇑*i*P **P 15 03 50.9 +0.4**
comp=Z,30nm,1.0s
IUG Iuzhnay 70.78 316*c i*P **P 15 03 50.8 +0.4**
IUG pmax pmax

comp=Z,29nm,1.0s
KK31 Karatay Array 70.79 317 P **P 15 03 50.3 0.0**
KK31 Karatay Array 70.79 317 P **P 15 03 50.3 0.0**
KK31 IAmb IAmb 15 03 54.2

comp=Z,38nm,1.0s
KKAR Karatay Array 70.79 317 P **P 15 03 50.4 +0.1**
KKAR Karatay Array 70.79 317 P **P 15 03 50.4 +0.1**
KIP Kipapa 71.59 67⇑*e*P **P 15 03 58.6 +3.1**
KIP pmax pmax

comp=Z,104nm,1.7s
BRZS Berezniki 72.09 324⇑*i*P **P 15 03 58.3 +0.2**
comp=Z,57nm,1.4s
BRZS Berezniki 72.09 324*c i*P **P 15 03 58.2 +0.2**
BRZS pmax pmax

comp=Z,57nm,1.4s
NIKH Nikolski High 72.87 33 P **P 15 04 02.6 +0.1**
TIXI Tiksi 72.93 359⇑*e*P **P 15 04 02.9 +0.4**
TIXI pmax pmax

comp=Z,149nm,1.7s
TIXI Tiksi 72.93 359 P **P 15 04 02.2 -0.3**
BILL Bilibino 73.14 13*c i*P **P 15 04 03.9 0.0**
BILL *i* 15 04 12.3
BILL *i* 15 04 22.3
BILL *i* S S 15 13 21.5 -9.0
BILL *i* SS **SS 15 18 14.3 +2.4**
BILL pmax pmax

comp=Z,21nm,1.3s
BILL MLR MLR

comp=Z,177nm,19.0s
BILL Bilibino 73.14 13 P **P 15 04 03.4 -0.4**
HRA Herat 74.48 306 P **P 15 04 11.2 -1.5**
HRA IAmb IAmb 15 04 15.6

comp=Z,27nm,1.1s
UNV Unalaska Valle 74.52 33 P **P 15 04 11.2 -1.0**
UNV IAmb IAmb 15 04 16.9

comp=Z,35nm,0.9s
BVAR Borovoye Array 74.65 326 P **P 15 04 13.4 +0.4**
comp=Z,26nm,1.0s,baz=155,slow=18,SNR=67
BRVK Borovoye 74.73 326*c i*P **P 15 04 13.8 +0.4**
BRVK pmax pmax

comp=Z,57nm,1.2s
BRVK Borovoye 74.73 326 P **P 15 04 13.0 -0.4**
BRVK IAmb IAmb 15 04 17.3

comp=Z,51nm,1.1s
MHTO MHTO 75.96 292 P **P 15 04 21.8 +0.6**
SNR=10
JMDO Jabal Madar 76.00 293 P **P 15 04 23.1 +1.7**
SNR=6.1
BIDO Bidbid 76.13 295 P **P 15 04 23.0 +0.8**
SNR=7.1
NRIK Noril'sk 76.74 345 P **P 15 04 24.9 +0.3**
comp=Z,10nm,0.9s,baz=141,slow=6.7,SNR=16
NRIK Noril'sk 76.74 345*c i*P **P 15 04 24.7 +0.1**
NRIK pmax pmax

comp=Z,38nm,1.6s
GAMB Gambell 76.85 22 P **P 15 04 25.7 +0.4**
GAMB IAmb IAmb 15 04 27.4

comp=Z,42nm,0.9s
BSY Bisya 76.88 294 P **P 15 04 27.1 +0.6**
SNR=7.6
HOQ Hoqain 76.88 294 P **P 15 04 27.8 +1.4**
SNR=10
ARQ Araqi 77.57 294 P **P 15 04 31.0 +0.7**
SNR=15
SOHO SOHO 77.66 295 *i* P **P 15 04 31.1 +0.4**
SNR=23
VNDA Vanda 77.73 174 P **P 15 04 31.6 +1.6**
comp=Z,9.7nm,0.9s,baz=316,slow=6.2,SNR=26
VNDA LR LR 15 40 17.7

comp=Z,401nm,18.3s,baz=350,slow=37
VNDA Vanda 77.73 174 P **P 15 04 31.1 +1.0**
VNDA pmax pmax

comp=Z,9.0nm,0.8s
VNDA Vanda 77.73 174 P **P 15 04 31.1 +1.0**
SHAO Shalim 77.83 289 P **P 15 04 31.9 0.0**
SHAO Shalim 77.83 289 P **P 15 04 33.1 +1.3**
UOSS Minazif 78.06 296 *i* P **P 15 04 33.0 0.0**
SNR=11
UOSS Minazif 78.06 296 P **P 15 04 32.4 -0.5**
UOSS IAmb IAmb 15 04 36.4

comp=Z,32nm,1.0s
HATD Hatta, Dubai 78.11 296 *i* P **P 15 04 33.8 +0.6**
SNR=9.9
HATD Hatta, Dubai 78.11 296 P **P 15 04 34.2 +1.0**
SNR=7.0
HATD P **P 15 04 34.2 +1.0**

SNR=7.0
MSFE Esma-Masafi 78.15 296 *i* P **P 15 04 34.2 +0.7**
SNR=9.4
ASHO Ashiyiah 78.16 295 *i* P **P 15 04 33.9 +0.3**
SNR=10.0
ASHO Ashiyiah 78.16 295 P **P 15 04 34.3 +0.8**
SNR=8.2
ASHO P **P 15 04 34.3 +0.8**

SNR=8.2
PPT Papeete 78.19 108 P **P 15 04 35.4 +1.6**
comp=Z,50nm,0.9s,baz=307,slow=10,SNR=3.4
PPT LR LR 15 35 06.1

comp=Z,234nm,22.0s,baz=270,slow=33
PPT2 Papeete2 78.19 108 *e*S **S 15 14 21.6 -6.8**
comp=Z,307nm,29.0s
PPT2 Papeete2 78.19 108 *e*LQ LQ 15 25 32.0
comp=Z,817nm,37.8s
PPT2 *e*LR LR 15 28 41.7

comp=Z,566nm,23.5s
SHME Shamm 78.25 297 *i* P **P 15 04 34.8 +0.8**
SNR=10
ALNE Al Ain 78.36 295 *i* P **P 15 04 35.6 +0.9**
SNR=16
GEYT Alibeck 78.47 309 P **P 15 04 36.2 +1.2**
comp=Z,37nm,1.0s,baz=156,slow=4.0,SNR=47
GEYT Alibeck 78.47 309 P **P 15 04 35.6 +0.6**
GYA0B ALIBECK ARRAY 78.47 309 P **P 15 04 35.8 +0.7**
NAZ Nazwa, Dubai 78.55 296 *i* P **P 15 04 36.1 +0.4**
SNR=6.1
NAZ Nazwa, Dubai 78.55 296 P **P 15 04 36.4 +0.7**
SNR=6.8
FAQ Al Faqa, Dubai 78.58 295 P **P 15 04 36.4 +0.5**
TBI Tubuai 78.59 113 *e*LR LR 15 28 53.6
comp=Z,377nm,23.8s
SOCY Socotra 78.94 283 P **P 15 04 38.5 +0.4**
SNR=7.9
SOCY Socotra 78.94 283 P **P 15 04 38.1 -0.1**
AJN Ajban 79.11 295 *i* P **P 15 04 39.4 +0.7**
SNR=5.8
RBK Rabkut 79.14 288 P **P 15 04 39.7 +0.6**
SNR=6.5
RBK P **P 15 04 39.7 +0.6**

SNR=6.5
WHFO Wadi Hawf 79.58 288 P **P 15 04 41.6 0.0**
SNR=9.1
AB31 Akbulak array 79.65 321 P **P 15 04 40.4 -0.8**
ABKAR Akbulak array 79.65 321 P **P 15 04 40.6 -0.5**
ABKAR IAmb IAmb 15 04 44.6

comp=Z,35nm,1.1s
ABTO Aybut 79.99 288 P **P 15 04 44.3 +0.5**
SNR=10
MAW Mawson 81.02 201 P **P 15 04 50.5 +2.4**
comp=Z,24nm,0.9s,baz=71,slow=6.7,SNR=25
MAW LR LR 15 40 26.1

comp=Z,352nm,19.6s,baz=60,slow=35
MAW Mawson 81.02 201 P **P 15 04 50.9 +2.8**
baz=81,SNR=24
MAW Mawson 81.02 201 P **P 15 04 49.7 +1.5**
MAW Mawson 81.02 201 P **P 15 04 49.6 +1.5**
AKTO Aktyubinsk 81.14 321 P **P 15 04 49.3 +0.1**
comp=Z,12nm,0.8s,baz=82,slow=5.0,SNR=22
SVE Sverdlovsk 81.24 328⇓*e*P **P 15 04 49.7 +0.2**
SVE *e*S **S 15 14 58.5 -0.4**
SVE pmax pmax

comp=Z,55nm,1.4s
RDOG Red Dog Mine 82.04 20 P **P 15 04 54.1 +0.5**
ARU Arti 82.24 327 P **P 15 04 54.5 -0.3**
comp=Z,4.4nm,0.8s,baz=159,slow=1.6,SNR=17
ARU Arti 82.24 327*c i*P **P 15 04 54.6 -0.3**
ARU pmax pmax

comp=Z,14nm,0.8s
ARU Arti 82.24 327 P **P 15 04 54.3 -0.5**
SVW2 Sparrevohn 82.59 28 P **P 15 04 57.1 +0.5**
SVW2 IAmb IAmb 15 04 59.2

comp=Z,37nm,1.3s
TTA Tatalina 82.93 26 P **P 15 04 59.2 +0.8**
TTA pmax pmax

comp=Z,50nm,1.4s
TTA Tatalina 82.93 26 P **P 15 04 59.2 +0.8**
TTA IAmb IAmb 15 05 01.0

comp=Z,50nm,1.4s
KDAK Kodiak Island 83.22 31 P **P 15 04 59.8 -0.1**
KDAK pmax pmax

comp=Z,43nm,1.0s
KDAK Kodiak Island 83.22 31 P **P 15 04 59.8 -0.1**
BRLK Bradley Lake 84.52 30 P **P 15 05 06.2 -0.4**
BRLK IAmb IAmb 15 05 11.4

comp=Z,41nm,1.2s
PPLA Purkeypile 84.61 26 P **P 15 05 06.0 -1.1**
SEW Seward 85.30 29 P **P 15 05 10.1 -0.2**
KTH Kantishna Hill 85.32 26 P **P 15 05 10.5 -0.1**
KTH IAmb IAmb 15 05 13.1

comp=Z,48nm,1.3s
RC01 Rabbit Creek A 85.35 28 P **P 15 05 10.4 -0.3**
baz=259
CUT Chulitna 85.36 27 P **P 15 05 11.1 +0.4**
baz=258
BPAW Bear Paw Mtn. 85.41 25 P **P 15 05 10.4 -0.6**
BPAW IAmb IAmb 15 05 13.3

comp=Z,56nm,1.5s
TRF Thorofare Moun 85.57 26 P **P 15 05 11.8 -0.2**
TRF IAmb IAmb 15 05 20.0

comp=Z,43nm,1.3s
MLY Manley 85.72 24 P **P 15 05 13.1 +0.7**
baz=258
GHO Glory Hole Cre 85.86 28 P **P 15 05 12.3 -1.0**
GHO IAmb IAmb 15 05 16.4

comp=Z,42nm,1.4s
KNK Knik Glacier 86.02 28 P **P 15 05 13.5 -0.5**
KNK IAmb IAmb 15 05 17.8

comp=Z,52nm,1.2s
BWN Browne 86.08 25 P **P 15 05 14.7 +0.5**
SML Sawmill 86.14 28 P **P 15 05 14.7 0.0**
RND Reindeer 86.20 26 P **P 15 05 14.4 -0.5**
RND pmax pmax

comp=Z,32nm,1.0s
RND Reindeer 86.20 26 P **P 15 05 14.4 -0.5**
RND IAmb IAmb 15 05 17.1

comp=Z,32nm,1.0s
MCK McKinley 86.22 26 P **P 15 05 15.1 +0.1**
baz=259
NEA2 Nenana 86.33 25 P **P 15 05 15.7 +0.3**
baz=259
COLD Coldfoot 86.40 22 P **P 15 05 15.3 -0.5**
baz=258
COLD Coldfoot 86.40 22 P **P 15 05 15.2 -0.5**
SCM Sheep Creek Mo 86.62 28 P **P 15 05 17.2 +0.2**
SCM pmax pmax

comp=Z,65nm,1.2s
SCM Sheep Creek Mo 86.62 28 P **P 15 05 17.2 +0.2**
WRH Wood River Hil 86.72 25 P **P 15 05 17.6 +0.2**
WRH IAmb IAmb 15 05 20.3

comp=Z,38nm,1.2s
MDM Murphy Dome 86.75 25 P **P 15 05 17.1 -0.4**
CCB Clear Creek Bu 86.87 25 P **P 15 05 17.5 -0.6**
AKT Akhty 86.88 311 *e*P **P 15 05 19.9 +1.1**
AKT *e* 15 05 21.7
AKT pmax pmax

comp=Z,24nm,0.9s
TCOL CIGO, UAF Yank 86.89 25 P **P 15 05 18.3 +0.2**
baz=260
COLA College 86.89 25⇑*i*P **P 15 05 19.3 +1.1**
COLA pmax pmax

comp=Z,7.0nm,1.1s
COLA College 86.89 25 P **P 15 05 18.1 0.0**
POKR Poker Plat Res 87.11 25 P **P 15 05 20.2 +0.9**
baz=260
HDA Harding Lake 87.20 25 P **P 15 05 19.1 -0.6**
baz=261
HDA Harding Lake 87.20 25 P **P 15 05 19.3 -0.4**
M24K Tolsona, Glenn 87.20 28 P **P 15 05 21.5 +1.6**
baz=262
M24K Tolsona, Glenn 87.20 28 P **P 15 05 19.8 0.0**
IL31 87.28 25 P **P 15 05 18.7 -1.3**
ILAR Eielson Array 87.28 25 P **P 15 05 19.5 -0.6**
comp=Z,5.5nm,0.8s,baz=259,slow=4.4,SNR=46
ILAR PKKPbc **PKKPbc 15 23 11.4 -2.2**
comp=Z,0.5nm,0.8s,baz=37,slow=2.6,SNR=4.7
ILAR Eielson Array 87.28 25 P **P 15 05 18.5 -1.7**
TAOE Nuku Hiva Isla 87.30 99 *e*SS SS 15 21 37.5 -8.7
comp=Z,188nm,26.9s
TAOE Nuku Hiva Isla 87.30 99 *e*LR LR 15 32 58.2
comp=Z,628nm,22.2s
KIRV Kirov 87.48 329 P **P 15 05 21.3 +0.2**
comp=Z,4.8nm,0.6s,baz=84,slow=8.2,SNR=4.2
KIRV Kirov 87.48 329⇓*e*P **P 15 05 21.9 +0.8**
PAX Paxson 87.64 27 P **P 15 05 20.4 -1.6**
PAX pmax pmax

comp=Z,45nm,1.5s
PAX Paxson 87.64 27 P **P 15 05 20.4 -1.6**
PAX IAmb IAmb 15 05 25.4

comp=Z,45nm,1.5s
BELG Belogornoye 87.87 322*de*P **P 15 05 22.0 -1.1**
N25K Chitina, Valde 87.88 28 P **P 15 05 24.7 +1.5**
baz=263
RIDG Independent Ri 88.02 26 P **P 15 05 22.2 -1.5**
RIDG IAmb IAmb 15 05 34.4

comp=Z,23nm,1.4s
FYU Fort Yukon 88.22 23 P **P 15 05 24.9 +0.4**
GLB Gilahina Butte 88.23 29 P **P 15 05 24.9 +0.1**
DAMY Dhamar 88.39 285 P **P 15 05 25.3 -1.5**
DAMY IAmb IAmb 15 05 32.3

comp=Z,31nm,1.2s
SCRK Sand Creek 88.43 26 P **P 15 05 26.1 +0.4**
baz=264
GROC Groznyy 88.43 313 *e*P **P 15 05 23.7 -2.4**
GROC *e* 15 08 47.9
GROC pmax pmax

comp=Z,23nm,0.6s
QSPA South Pole Qui 88.56 180 P **P 15 05 27.0 +0.7**
QSPA IAmb IAmb 15 05 37.1

comp=Z,38nm,1.2s
BALM Baldy 88.90 29 P **P 15 05 28.2 +0.2**
BALM IAmb IAmb 15 05 31.4

comp=Z,15nm,0.9s
K27K Chicken 89.27 26 P **P 15 05 30.9 +1.3**
baz=265
PRGR Permogore 89.65 332 *e*P **P 15 05 27.3 -4.0**
PRGR pmax pmax

comp=Z,6.0nm,0.5s
SYO Syowa Base 89.73 201⇓*e*P **P 15 05 32.0 +0.4**
SYO Syowa Base 89.73 201⇑*i*pP pP 15 05 34.8 -3.1
ZEI Tsey 89.80 313 *e*P **P 15 05 34.3 +1.5**
ZEI pmax pmax

comp=Z,5.0nm,0.9s
DAWY Dawson 90.45 26 P **P 15 05 34.5 -0.7**
KBZ Khabaz 90.56 314⇓*e*P **P 15 05 36.9 +0.9**
KBZ pmax pmax

comp=Z,5.0nm,1.4s
KIV Kislovodsk 90.72 314 *e*P **P 15 05 35.2 -1.7**
KIV pmax pmax

comp=Z,10.0nm,1.0s
ARTV Artvin 91.23 311 P **P 15 05 37.0 -2.5**
KOPT Kop Dagi 92.32 310 P **P 15 05 43.8 -0.8**
KOPT IAmb IAmb 15 05 48.6

comp=Z,19nm,1.4s
KLMR Klimovskoe 92.59 331 *e*P **P 15 05 42.5 -2.5**
KLMR pmax pmax

comp=Z,26nm,1.4s

KLMR	**Klimovskoe**	**92.59**	**331**	*e*P		**P**	15 05 42.5	**-2.5**
KLMR				AMP			15 05 46.8	
	comp=Z,26nm,1.4s							
KLMR				*e*PP		**PP**	**15 09 21.0**	**-5.4**
SOC	**Sochi**	**92.87**	**313**	*e*P		**P**	**15 05 43.7**	**-3.0**
SOC				*e*S		**SKSac**	**15 16 17.2**	**-2.7**
SOC				*e*SS		**SS**	**15 23 07.4**	**+2.1**
SOC				*e*SSS		SSS	15 26 43.1	
SOC				pmax	pmax			
	comp=Z,25nm,1.0s							
OBN	**Obninsk**	**94.45**	**325**Ⓘ	*e*P		**P**	**15 05 52.2**	**-1.5**
OBN				*e*			15 09 43.0	
OBN				pmax	pmax			
	comp=Z,33nm,2.0s							
ANN	**Anapa**	**94.48**	**315**	*e*P		P	15 05 45.2	-8.9
ANN				pmax	pmax			
	comp=Z,92nm,1.7s							
APA	**Apatity**	**94.69**	**338**	*i*P		**P**	**15 05 51.4**	**-3.2**
APA				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KMBO	**Kilima Mbogo**	**95.09**	**269**	P		**P**	**15 06 00.5**	**+2.5**
	comp=Z,1.8nm,0.6s,baz=107,slow=5.2,SNR=4.7							
KMBO				LR		LR	15 48 10.7	
	comp=Z,134nm,19.6s,baz=98,slow=35							
KMBO	**Kilima Mbogo**	**95.09**	**269**	P		**P**	**15 05 57.2**	**-0.7**
KMBO				pmax	pmax			
	comp=Z,19nm,1.5s							
KMBO	**Kilima Mbogo**	**95.09**	**269**	P		**P**	**15 05 57.2**	**-0.7**
KMBO				IAmb	IAmb		15 06 02.2	
	comp=Z,19nm,1.4s							
ARCES	**ARCESS Array B**	**97.14**	**340**	P		Pdif	15 06 04.7	-1.2
	comp=Z,5.3nm,0.7s,baz=52,slow=6.3,SNR=9.9							
ARCES				LR		LR	15 53 32.3	
	comp=Z,206nm,20.8s,baz=65,slow=38							
BR131	**Keskin Array S**	**97.60**	**310**Ⓘ	*e*P		Pdif	15 06 07.2	-1.5
BRTR	**Keskin Array B**	**97.60**	**310**	P		Pdif	15 06 07.5	-1.2
	comp=Z,0.8nm,0.8s,baz=57,slow=4.6,SNR=4.6							
FINES	**FINESS Array B**	**98.96**	**332**	P		Pdif	15 06 12.7	-1.3
	comp=Z,2.4nm,0.9s,baz=77,slow=6.1,SNR=3.8							
FINES				LR		LR	15 53 57.0	
	comp=Z,194nm,20.3s,baz=68,slow=37							
AKASG	**Malin Array Be**	**99.38**	**321**	P		**Pdif**	**15 06 14.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=74,slow=3.5,SNR=4.5							
AKASG	**Malin Array Be**	**99.38**	**321**	*ce*P		**Pdif**	**15 06 17.3**	**+1.2**
AKASG	**Malin Array Be**	**99.38**	**321**	IAmb		IAmb	15 06 17.2	
	comp=Z,2.0nm,1.2s							
BURAR	**Bucovina Array**	**102.54**	**319**	Pdif		**Pdif**	**15 06 29.7**	**-0.7**
NOA	**NORSAR Array B**	**105.82**	**334**	Pdiff		**Pdif**	**15 06 43.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=62,slow=4.8,SNR=4.0							
NVAR	**Mina Array Bea**	**105.94**	**50**	Pdiff		**Pdif**	**15 06 47.3**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=282,slow=3.8,SNR=4.9							
NVAR				PP		**PKiKP**	**15 11 00.3**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=305,slow=3.2,SNR=3.4							
GERES	**GERESS Array B**	**109.56**	**322**	PKiKP		**PKiKP**	**15 11 05.5**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=62,slow=3.2,SNR=6.4							
PDAR	**Pinedale Array**	**111.25**	**44**	PKiKP		**PKiKP**	**15 11 09.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=270,slow=0.9,SNR=3.7							
PDAR				PKKPab		**PKKPab**	**15 22 14.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=132,slow=4.2,SNR=4.0							
ANMO	**Albuquerque**	**116.02**	**51**Ⓘ	*i*PKIKP		**PKiKP**	**15 11 19.6**	**+2.1**
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MNTX	**Cornudas Mount**	**117.85**	**55**	PKPdf		**PKiKP**	**15 11 20.1**	**-0.8**
TX31	**Lajitas Ar. Si**	**119.95**	**57**			**PKiKP**	**15 11 24.0**	**-1.2**
TX32	**Lajitas Array**	**119.95**	**57**			**PKiKP**	**15 11 24.1**	**-1.1**
TXAR	**Lajitas Array**	**119.95**	**57**	PKP		**PKiKP**	**15 11 26.4**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=203,slow=0.9,SNR=14							
TXAR	**Lajitas Array**	**119.95**	**57**	PKIKP		**PKPdf**	**15 11 23.7**	**-1.4**
TXAR	**Lajitas Array**	**119.95**	**57**	PKPdf		**PKPdf**	**15 11 23.7**	**-1.4**
JCT	**Junction City**	**122.77**	**54**	PKIKP		**PKPdf**	**15 11 29.0**	**-1.4**
JCT	**Junction City**	**122.77**	**54**	PKPdf		**PKPdf**	**15 11 29.0**	**-1.4**
P38A	**Dawn**	**123.53**	**42**	PKPdf		**PKPdf**	**15 11 30.2**	**-1.3**
U38A	**Gravette**	**124.50**	**45**			**PKiKP**	**15 11 32.5**	**-1.3**
S39A	**Bolivar**	**124.64**	**44**	PKPdf		**PKiKP**	**15 11 33.0**	**-1.1**
ESDC	**Sonseca Array**	**124.98**	**319**	PKP		**PKiKP**	**15 11 34.8**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=96,slow=1.5,SNR=7.5							
ESDC				PP		**PP**	**15 13 18.3**	**-4.2**
	comp=Z,0.5nm,0.4s,baz=74,slow=5.5,SNR=5.2							
ESDC	**Sonseca Array**	**124.98**	**319**	PKPdf		**PKiKP**	**15 11 33.3**	**-1.5**
R40A	**Maddies Statio**	**125.06**	**42**	PKPdf		**PKiKP**	**15 11 33.7**	**-1.2**
U40A	**Yellville**	**125.62**	**45**	PKPdf		**PKiKP**	**15 11 35.6**	**-0.5**
CCM	**Cathedral Cave**	**125.87**	**42**	PKIKP		**PKiKP**	**15 11 35.5**	**-1.0**
CCM	**Cathedral Cave**	**125.87**	**42**	PKPdf		**PKiKP**	**15 11 35.5**	**-1.0**
HKT	**Hockley**	**126.16**	**53**Ⓘ	*i*PKIKP		**PKiKP**	**15 11 38.7**	**+1.5**
FVM	**French Village**	**126.46**	**42**	PKIKP		**PKiKP**	**15 11 36.8**	**-0.8**
FVM	**French Village**	**126.46**	**42**	PKPdf		**PKiKP**	**15 11 36.8**	**-0.8**
T42A	**Van Buren**	**126.51**	**43**			**PKPdf**	**15 11 36.1**	**-1.2**
LCAR	**Lake Charles**	**126.96**	**44**			**PKPdf**	**15 11 37.1**	**-1.1**
WCI	**Wyandotte Cave**	**129.01**	**39**	PKIKP		**PKiKP**	**15 11 43.7**	**+1.0**
WVT	**Waverly**	**129.21**	**77**	PKIKP		**PKiKP**	**15 11 43.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**129.80**	**286**	PKP		**PKiKP**	**15 11 44.8**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=54,slow=1.9,SNR=26							
TORD	**Torodi Ar. Bea**	**129.80**	**286**	PKPdf		**PKiKP**	**15 11 43.6**	**-1.4**
PLCA	**Paso Flores**	**133.17**	**156**	PKP		**PKiKP**	**15 11 52.5**	**+1.3**
	comp=Z,4.1nm,0.9s,baz=201,slow=7.4,SNR=5.5							
DBIC	**Dimbokro**	**137.03**	**278**	PKhKP		PKPpre	15 11 51.0	
	comp=Z,3.2nm,0.7s,baz=48,slow=3.7,SNR=4.4							
AGUA	**GUANDACOL**	**143.40**	**149**	*e*P		**PKPdf**	**15 12 08.4**	**-0.7**
APLL	**PUNTA DE LOS L**	**143.63**	**152**	*e*P		PKPab	15 12 05.0	-0.9
CBCY	**The Bluff, Cay**	**143.65**	**58**	PKPdf		**PKPdf**	**15 12 08.1**	**-1.5**
VCA	**Vinchina**	**144.15**	**148**	*e*P		**PKPdf**	**15 12 10.4**	**-0.1**
ACLC	**CERRO LA CRUZ**	**144.23**	**150**	*e*P		**PKPdf**	**15 12 09.8**	**-0.8**
CYA	**Choya**	**145.61**	**151**	*e*P		**PKiKP**	**15 12 14.7**	**-2.2**
BCIP	**Isla Barro Col**	**147.03**	**75**	PKP2		**PKPab**	**15 12 18.0**	**-1.1**
BCIP	**Isla Barro Col**	**147.03**	**75**			**PKPab**	**15 12 18.0**	**-1.1**
MBO	**M'Bour**	**147.05**	**295**	PKPdf		**PKPdf**	**15 12 13.7**	**-1.9**
AHML	**Horco Molle**	**147.21**	**150**	*e*P		**PKPbc**	**15 12 17.5**	**-0.3**
PB06	**IPOC Station P**	**147.90**	**140**			**PKPbc**	**15 12 18.8**	**-1.2**
NNA	**Nana**	**148.09**	**115**	PKP2		**PKiKP**	**15 12 21.5**	**-0.8**
PB07	**IPOC Station P**	**148.38**	**138**	PKPbc		**PKPbc**	**15 12 19.9**	**-1.4**
LVC	**Limon Verde**	**148.39**	**140**	PKP2		**PKPbc**	**15 12 19.9**	**-1.7**
LVC	**Limon Verde**	**148.39**	**140**			**PKPbc**	**15 12 19.9**	**-1.7**
PAC1	**Pacto, Paraso**	**148.82**	**92**	*e*P		**PKPab**	**15 12 24.3**	**-2.2**
PB01	**IPOC Station P**	**149.11**	**137**			**PKPbc**	**15 12 21.0**	**-2.1**
OTAV	**Otavalo**	**149.16**	**92**	*e*P		**PKPbc**	**15 12 22.8**	**-1.1**
OTAV	**Otavalo**	**149.16**	**92**	PKIKP		**PKPbc**	**15 12 20.9**	**-3.0**
OTAV	**Otavalo**	**149.16**	**92**			**PKPbc**	**15 12 20.9**	**-3.0**
AZAP	**Zapla**	**149.43**	**147**	*e*P		**PKPbc**	**15 12 21.8**	**-2.2**
CAPC	**Capurgana**	**149.54**	**75**	*e*P		**PKPdf**	**15 12 20.7**	**+1.1**
GCUF	**Volcan Galeras**	**150.29**	**90**	*e*P		**PKiKP**	**15 12 28.3**	**+0.8**
BBAC	**Balboa, Cauca**	**150.38**	**88**	*e*P		**PKiKP**	**15 12 27.9**	**+0.6**
PB16	**IPOC Station P**	**150.90**	**133**			**PKPbc**	**15 12 25.4**	**-2.7**
POPC	**Popayan, Colom**	**150.94**	**87**	*e*P		**PKPbc**	**15 12 24.2**	**-3.8**
DBBC	**Dabeiba**	**150.96**	**78**	*e*P		**PKiKP**	**15 12 29.9**	**+1.6**
MOTC	**Monteria, Cord**	**151.14**	**74**	*e*P		**PKPdf**	**15 12 23.7**	**+1.5**
YOTC	**Yotoco, Valle**	**151.20**	**84**	*e*P		**PKPdf**	**15 12 23.6**	**+1.1**
PCON	**Cinco Dias**	**151.23**	**88**	*e*P		**PKPbc**	**15 12 28.1**	**-1.0**
SJCC	**San Jacinto, C**	**151.33**	**72**	*e*P		**PKPbc**	**15 12 24.6**	**-4.0**
CBOC	**Ciudad Bolivar**	**151.33**	**80**	*e*P		**PKPbc**	**15 12 27.1**	**-1.6**
MARP	**Paez Belalcaza**	**151.65**	**87**	*e*P		**PKPbc**	**15 12 25.8**	**-3.9**
SMRC	**Santa Marta, M**	**151.86**	**69**	*e*P		**PKiKP**	**15 12 30.6**	**+0.6**
FLOC	**Florencia**	**151.98**	**89**	*e*P		**PKiKP**	**15 12 31.1**	**+0.7**
GUY2C	**Guyana, Caldas**	**152.05**	**81**	*e*P		**PKiKP**	**15 12 32.5**	**+1.4**
ANIL	**Santa Ana**	**152.09**	**83**	*e*P		**PKiKP**	**15 12 31.7**	**+0.7**
RREF	**El Recreo**	**152.10**	**82**	*e*P		**PKPdf**	**15 12 26.2**	**+1.7**
TOLC	**Tolima**	**152.16**	**83**	*e*P		**PKPbc**	**15 12 26.4**	**-4.4**
ZARC	**Zaragoza, Cauc**	**152.19**	**77**	*e*P		**PKPdf**	**15 12 24.8**	**+1.0**
ORTC	**Ortega, Tolima**	**152.30**	**84**	*e*P		**PKPdf**	**15 12 25.9**	**+1.9**
SMLC	**San Martn de**	**152.66**	**73**	*e*P		**PKiKP**	**15 12 31.6**	**-0.2**
PRAC	**Prado**	**152.67**	**85**	*e*P		**PKiKP**	**15 12 32.2**	**+0.3**
PTBC	**PUERTO BERRIO**	**152.75**	**78**	*e*P		**PKPdf**	**15 12 26.2**	**+1.6**
PTLC	**Puerto Leguiza**	**152.81**	**92**	*e*P		**PKiKP**	**15 12 32.2**	**+0.1**
ROSC	**El Rosal**	**153.13**	**82**	PKP		**PKPdf**	**15 12 27.4**	**+1.7**
	comp=Z,4.6nm,0.5s,baz=49,slow=8.4,SNR=5.3							
ROSC				PKPbc		**pPKPbc**	**15 12 34.8**	**-4.8**
	comp=Z,52nm,0.6s,baz=258,slow=9.3,SNR=20							
ROSC	**El Rosal**	**153.13**	**82**	*e*P		**PKiKP**	**15 12 34.6**	**+1.3**
LPAZ	**La Paz**	**153.21**	**132**	PKP		**PKPbc**	**15 12 28.8**	**-4.6**
	comp=Z,8.8nm,1.1s,baz=1.2,slow=1.9,SNR=17							
LPAZ				PKPbc		**pPKPbc**	**15 12 36.4**	**-3.5**
	comp=Z,19nm,1.0s,baz=287,slow=1.7,SNR=18							
LPAZ	**La Paz**	**153.21**	**132**	PKPdf		**PKPdf**	**15 12 27.4**	**+1.5**
SPBC	**San Pablo de B**	**153.27**	**80**	*e*P		**PKPdf**	**15 12 26.9**	**+1.4**
CZSB	**Cruzeiro do Su**	**153.40**	**110**	*e*P		**PKPdf**	**15 12 24.7**	**-0.9**
TIJ01	**Guaruva-PR**	**153.43**	**177**	*e*P		**PKPdf**	**15 12 26.2**	**+0.8**
PTGB	**Pitanga**	**153.71**	**171**	*e*P		**PKPdf**	**15 12 27.1**	**+1.2**
CHIC	**Chingaza**	**153.73**	**82**	*e*P		**PKPdf**	**15 12 26.4**	**-0.1**
MACC	**Macarena, Meta**	**153.78**	**88**	*e*P		**PKiKP**	**15 12 34.7**	**+0.6**
BARC	**Barichara**	**153.99**	**78**	*e*P		**PKiKP**	**15 12 37.2**	**+2.4**
RUSC	**La Rusia**	**154.21**	**79**	*e*P		**PKPdf**	**15 12 23.2**	**-4.1**
PET01	**Itanhaem-SP**	**154.49**	**181**	*e*P		**PKPdf**	**15 12 27.1**	**+0.3**
SPB	**Sao Paulo**	**155.18**	**180**	*e*P		**PKPdf**	**15 12 28.0**	**+0.2**
SDV	**Santo Domingo**	**155.92**	**71**	*e*P		**PKPdf**	**15 12 30.2**	**+0.9**
SAML	**Samuel**	**161.41**	**124**	PKIKP		**PKPdf**	**15 12 36.8**	**+1.2**
SAML	**Samuel**	**161.41**	**124**	PKPdf		**PKPdf**	**15 12 36.8**	**+1.2**
BDFB	**Brasilia**	**163.09**	**179**	PKP		**PKPdf**	**15 12 38.5**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=94,slow=4.3,SNR=3.5							

*BJI **05** 15:06:06.9±0.0,20.°94N×145.°92E,h18km,mB5.2/21, mb4.6/34,Ms4.5/9,Ms7 4.4/9*
*NEIC **05** 15:06:12.5±1.4,21.°06N±0.°10×145.°7E±0.°1,h35km±1km, mb4.6/68,Error ellipse: s-maj=18.5km s-min=15.9km az=119.0*
*IDC **05** 15:06:15.0±4.9,21.°03N×145.°77E,h55km±45km,mb4.0/28, mb1 4.1/29,mb1mx3.9/66,mbtmp4.3/29,ML4.1/1,MS4.1/7, Ms1 4.1/7,ms1mx3.7/40,Error ellipse: s-maj=17.5km s-min=11.0km az=87.0*

ISC 05 15:06:12.5±0.5,21.°08N±0.°07×145.°74E±0.°10,h35km,n125, σ1s35/112,mb4.5/53,MS4.0/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.50**	**187**	LR	LR	15 10 18.1	
	comp=Z,1μm,19.6s,baz=344,slow=33						
INU	**Inuyama**	**16.14**	**334**	Pn	**Pn**	**15 09 55.8**	**-0.9**
INU				IAmb	IAmb	15 10 21.6	
	comp=Z,116nm,1.5s						
JGF	**Kuroka**	**16.23**	**335**	P	**P**	**15 10 01.1**	**+0.5**
JGF				IAmb	IAmb	15 10 21.9	
	comp=Z,46nm,0.6s						
MJAR	**Matsushiro Arr**	**16.75**	**339**	Pn	**Pn**	**15 09 58.2**	**-6.2**
MAJO	**Matsushiro**	**16.75**	**339**	Pn	**Pn**	**15 09 59.1**	**-5.3**
MJB9	**Matsu-Tunnel**	**16.75**	**339**	Pn	**Pn**	**15 09 59.1**	**-5.4**
JHS	**Saijyo**	**17.76**	**324**	P	**P**	**15 10 19.2**	**+1.6**
JNU	**Nakatsue**	**17.83**	**315**	P	**P**	**15 10 21.9**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=136,slow=3.4,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**19.87**	**90**	T	T	15 31 45.9	
	baz=276,slow=74,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**19.88**	**90**	T	T	15 31 46.2	
	baz=276,slow=74,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**19.88**	**94**	T	T	15 31 44.3	
	baz=281,slow=75,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**19.89**	**94**	T	T	15 31 45.1	
	baz=281,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**19.89**	**90**	T	T	15 31 49.0	
	baz=276,slow=74,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**19.89**	**94**	T	T	15 31 42.6	
	baz=281,slow=75,SNR=4.5						
KSRS	**Korea Array**	**22.47**	**320**	P	**P**	**15 11 11.6**	**+2.9**
	comp=Z,6.6nm,0.7s,baz=143,slow=8.3,SNR=27						
KS19	**Wonju Array Si**	**22.53**	**320**	P	**P**	**15 11 10.7**	**+1.3**
DAV	**Davao City (W)**	**23.96**	**237**	LR	LR	15 18 47.0	
	comp=Z,520nm,21.0s,baz=66,slow=31						
TGY	**Tagaytay City**	**24.62**	**258**	LR	LR	15 19 43.6	
	comp=Z,446nm,19.2s,baz=40,slow=33						
USA0B	**Ussuriysk Arra**	**25.73**	**337**	P	**P**	**15 11 38.4**	**-1.2**
USA0B				IAmb	IAmb	15 11 47.9	
	comp=Z,25nm,1.2s						
YSS	**Yuzh-Sakhalins**	**25.92**	**355**	P	**P**	**15 11 41.5**	**+0.2**
KRVT	**Keravat (AS076**	**25.98**	**166**	P	**P**	**15 11 41.5**	**-0.6**
	comp=Z,34nm,0.8s,baz=199,slow=22,SNR=5.7						
KRVT				LR	LR	15 20 30.0	
	comp=Z,306nm,19.1s,baz=25,slow=33						
NJ2	**Nanjing**	**26.34**	**300**	*e*P	**P**	**15 11 44.0**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
MDJ	**Mudanjiang**	**27.01**	**334**	P	**P**	**15 11 53.8**	**+2.7**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.6s						
PETK	**Petropavlovsk-**	**33.27**	**13**	P	**P**	**15 12 47.6**	**+1.2**
	comp=Z,9.0nm,1.1s,baz=214,slow=5.0,SNR=4.3						
XAN	**Xi'an**	**34.91**	**300**	P	**P**	**15 13 05.3**	**+4.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**35.01**	**312**	*e*P	**P**	**15 13 03.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.0s						
KAPI	**Kappang**	**36.37**	**227**	P	**P**	**15 13 15.1**	**+1.5**
	comp=Z,11nm,0.9s,baz=60,slow=14,SNR=2.9						
KAPI	**Kappang**	**36.37**	**227**	IAmb	IAmb	15 13 16.5	
	comp=Z,23nm,1.2s						
CD2	**Chengdu**	**38.79**	**293**	*e*P	**P**	**15 13 33.0**	**-1.1**
LZH	**Lanzhou**	**39.40**	**302**	*e*P	**P**	**15 13 40.3**	**+1.1**
LZH				pP	pP	15 13 49.3	+1.2
LZH				sP	pwP	15 13 53.9	0.0
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
ULN	**Ulaanbaatar**	**40.95**	**320**	P	**P**	**15 13 52.5**	**+0.5**
SONM	**Songino Array**	**41.34**	**320**	P	**P**	**15 13 56.0**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=130,slow=10,SNR=6.4						
SONM	**Songino Array**	**41.34**	**320**	P	**P**	**15 13 55.3**	**+0.2**
WB0	**Warramunga Arr**	**42.09**	**196**	P	**P**	**15 14 00.9**	**-0.4**
WR0	**Warramunga Arr**	**42.24**	**196**	P	**P**	**15 14 02.4**	**-0.1**
WR0				IAmb	IAmb	15 14 12.7	
	comp=Z,14nm,1.3s						
WRAB	**Tennant Creek**	**42.26**	**196**	P	**P**	**15 14 01.5**	**-1.2**
WRAB				IAmb	IAmb	15 14 09.0	
	comp=Z,26nm,1.4s						
WB2	**Warramunga Arr**	**42.27**	**196**	P	**P**	**15 14 01.9**	**-0.9**
WB2				IAmb	IAmb	15 14 09.1	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**42.27**	**196**	P	**P**	**15 14 02.3**	**-0.5**
	comp=Z,16nm,0.7s,baz=15,slow=8.9,SNR=18						
WRA	**Warramunga Arr**	**42.27**	**196**	P	**P**	**15 14 02.2**	**-0.5**
YAK	**Yakutsk**	**42.40**	**349**	P	**P**	**15 14 03.6**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=264,slow=1.0,SNR=5.8						
YAK	**Yakutsk**	**42.40**	**349**	IAmb	IAmb	15 14 05.0	
	comp=Z,10nm,0.7s						
GTA	**Gaotai**	**43.17**	**306**	*e*P	**P**	**15 14 10.6**	**+0.5**
GTA				pP	pP	15 14 19.7	+0.6
GTA				sP	pwP	15 14 24.1	-0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,260nm,9.8s						
GTA				LR	LR		
	comp=Z,290nm,18.2s						
GTA				LR	LR		
	comp=Z,290nm,16.0s						
GTA				LR	LR		
	comp=Z,310nm,20.0s						
FITZ	**Fitzroy Crossi**	**43.64**	**208**	P	**P**	**15 14 12.9**	**-0.9**
	comp=Z,3.3nm,0.7s,baz=35,slow=9.0,SNR=17						
FITZ	**Fitroy Crossi**	**43.64**	**208**	P	**P**	**15 14 13.8**	**0.0**
CHTO	**Chiang Mai**	**43.93**	**276**	P	**P**	**15 14 16.4**	**+0.1**
CM31	**Chiang Mai Arr**	**44.00**	**275**	P	**P**	**15 14 15.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**44.00**	**275**	P	**P**	**15 14 17.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=58,slow=7.4,SNR=9.9						
CMAR				LR	LR	15 30 32.1	
	comp=Z,137nm,21.9s,baz=150,slow=33						
CMAR	**Chiang Mai Arr**	**44.00**	**275**	P	**P**	**15 14 15.3**	**-1.6**
SMRI	**Semarang**	**44.53**	**235**	P	**P**	**15 14 20.0**	**-1.1**
AS31	**Alice Springs**	**45.95**	**195**	P	**P**	**15 14 31.5**	**-0.7**
ASAR	**Alice Springs**	**45.95**	**195**	P	**P**	**15 14 32.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=12,slow=6.0,SNR=12						
ASAR				LR	LR	15 33 31.7	
	comp=Z,194nm,19.3s,baz=36,slow=36						
ASAR	**Alice Springs**	**45.95**	**195**	P	**P**	**15 14 31.6**	**-0.7**
SHL	**Shillong**	**49.38**	**286**	P	**P**	**15 14 58.1**	**-1.1**
WMQ	**Urumqi**	**52.81**	**310**	*e*P	**P**	**15 15 26.0**	**+1.5**
STKA	**Stephens Creek**	**52.81**	**184**	P	**P**	**15 15 24.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=30,slow=8.1,SNR=3.6						
FORT	**Forrest**	**54.29**	**199**	P	**P**	**15 15 35.2**	**-0.1**
ZAA0	**Zalesovo Array**	**56.17**	**322**	P	**P**	**15 15 48.0**	**-0.7**
ZAA0				IAmb	IAmb	15 16 02.2	
	comp=Z,5.5nm,0.8s						
ZALV	**Zalesovo Beam**	**56.17**	**322**	P	**P**	**15 15 49.1**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=104,slow=6.9,SNR=8.9						
ZALV	**Zalesovo Beam**	**56.17**	**322**	P	**P**	**15 15 47.9**	**-0.8**
MK31	**Makanchi Array**	**56.86**	**313**	P	**P**	**15 15 53.0**	**-0.8**
MK31				IAmb	IAmb	15 16 08.3	
	comp=Z,7.4nm,1.3s						
MKAR	**Makanchi Array**	**56.86**	**313**	P	**P**	**15 15 54.8**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=87,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**56.86**	**313**	P	**P**	**15 15 52.9**	**-0.9**
MAKZ	**Makanchi**	**57.08**	**313**	P	**P**	**15 15 55.6**	**+0.3**
MAKZ				IAmb	IAmb	15 16 09.4	
	comp=Z,7.4nm,0.9s						
KDAK	**Kodiak Island**	**57.36**	**34**	P	**P**	**15 15 57.2**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=236,slow=3.6,SNR=3.5						
NRIK	**Noril'sk**	**59.40**	**339**	P	**P**	**15 16 11.9**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=104,slow=5.8,SNR=6.1						
KTH	**Kantishna Hill**	**59.51**	**28**	P	**P**	**15 16 11.5**	**-0.6**
KURBB	**Kurchatov Arra**	**59.59**	**317**	P	**P**	**15 16 13.1**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=91,slow=7.5,SNR=25						
BPAW	**Bear Paw Mtn.**	**59.62**	**27**	P	**P**	**15 16 13.3**	**+0.5**
TRF	**Thorofare Moun**	**59.76**	**28**	P	**P**	**15 16 14.3**	**+0.4**
TARG	**Taragay, Kyrgy**	**60.02**	**307**	P	**P**	**15 16 16.0**	**-0.4**
TARG				IAmb	IAmb	15 16 40.2	
	comp=Z,7.0nm,1.1s						
KDJ	**Kajisay**	**60.47**	**307**	P	**P**	**15 16 19.3**	**+0.1**
KDJ				IAmb	IAmb	15 16 39.9	
	comp=Z,10nm,1.4s						
SCM	**Sheep Creek Mo**	**60.76**	**30**	P	**P**	**15 16 20.6**	**-0.1**
WRH	**Wood River Hil**	**60.94**	**27**	P	**P**	**15 16 21.4**	**-0.3**
FID	**Port Fidalgo**	**60.99**	**31**	P	**P**	**15 16 22.5**	**+0.3**
BOOM	**Boomskoye usch**	**61.37**	**308**	P	**P**	**15 16 25.7**	**+0.4**
BOOM				IAmb	IAmb	15 16 52.9	
	comp=Z,7.3nm,0.9s						
TOLK	**Toolik Lake Re**	**61.38**	**22**	P	**P**	**15 16 26.3**	**+1.6**
ILAR	**Eielson Array**	**61.50**	**27**	P	**P**	**15 16 25.1**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=261,slow=5.4,SNR=21						
NIL	**Nilore**	**64.43**	**298**	P	**P**	**15 16 46.4**	**+0.8**
BVAR	**Borovoye Array**	**64.68**	**320**	P	**P**	**15 16 47.4**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=168,slow=8.6,SNR=44						
BRVK	**Borovoye**	**64.74**	**320**	P	**P**	**15 16 47.3**	**0.0**
BRVK				IAmb	IAmb	15 16 59.8	
	comp=Z,7.1nm,0.8s						
KK31	**Karatay Array**	**65.30

USRK	Ussuriysk Ar.	9.83	316	P	P	15 11 38.2	-1.3
KSRS	Korea Array	10.77	274	P	Pn	15 11 49.5	+2.4
	0.2nm,0.3s,baz=91,slow=14,SNR=5.9						
YHNB	Yeheng	21.38	239	P	P	15 13 58.4	-1.0
TPUB	Ta-pu	22.80	238	P	P	15 14 11.5	-3.0
TWG	Pinlang	22.84	236	P	P	15 14 12.6	-2.3
GUMO	Guam	23.98	172	P	P	15 14 25.6	-0.4
ULN	Ulaanbaatar	27.15	303	P	P	15 14 54.0	-0.7
ENH	Enshi	27.42	264	P	P	15 14 56.0	-1.1
ENH				IAmb	IAmb	15 14 56.8	
	comp=Z,15nm,1.0s						
SONM	Songino Array	27.58	303	P	P	15 14 56.8	-1.8
	comp=Z,3.0nm,0.8s,baz=100,slow=8.5,SNR=5.8						
SONM	Songino Array	27.58	303	P	P	15 14 57.6	-0.9
H11N2	WAKE ISLAND Hy	28.34	122	T	T	15 44 48.6	
	baz=314,slow=75,SNR=37						
H11N1	WAKE ISLAND Hy	28.34	122	T	T	15 44 45.7	
	baz=314,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	28.35	122	T	T	15 44 48.6	
	baz=314,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	29.06	124	T	T	15 45 40.4	
	baz=316,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	29.06	124	T	T	15 45 35.3	
	baz=316,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	29.08	124	T	T	15 45 39.3	
	baz=316,slow=76,SNR=14						
ZALV	Zalesovo Beam	41.65	312	P	P	15 16 59.5	+0.2
	comp=Z,4.0nm,0.8s,baz=92,slow=7.0,SNR=4.4						
ZALV	Zalesovo Beam	41.65	312	P	P	15 16 59.1	-0.2
MK31	Makanchi Array	43.93	302	P	P	15 17 17.6	-0.3
MKAR	Makanchi Array	43.93	302	P	P	15 17 17.3	-0.6
	comp=Z,4.8nm,0.8s,baz=89,slow=10,SNR=6.7						
MAKZ	Makanchi	44.13	302	P	P	15 17 18.9	-0.7
KURK	Kurchatov	45.70	308	P	P	15 17 31.2	-0.7
KURK				IAmb	IAmb	15 17 33.6	
	comp=Z,8.6nm,0.8s						
KURBB	Kurchatov Arra	45.77	308	P	P	15 17 31.9	-0.5
	comp=Z,6.0nm,0.7s,baz=83,slow=8.2,SNR=10.0						
TARG	Taragay, Kyrgy	48.25	296	P	P	15 17 52.0	-0.4
TARG				IAmb	IAmb	15 17 55.1	
	comp=Z,3.8nm,0.8s						
ILAR	Eielson Array	49.09	33	P	P	15 17 59.0	+0.9
	comp=Z,0.8nm,0.7s,baz=265,slow=5.5,SNR=4.3						
BOOM	Boomskoye usch	49.35	297	P	P	15 18 00.1	-0.5
BOOM				IAmb	IAmb	15 18 01.5	
	comp=Z,3.8nm,0.9s						
BRVK	Borovoye	50.37	312	P	P	15 18 07.8	-0.2
BRVK				IAmb	IAmb	15 18 08.5	
	comp=Z,4.6nm,1.0s						
KK31	Karatay Array	52.95	300	P	P	15 18 26.4	-1.0
KK31				IAmb	IAmb	15 18 29.2	
	comp=Z,4.6nm,1.1s						
KKAR	Karatay Array	52.95	300	P	P	15 18 26.4	-1.0
INK	Inuvik	53.97	27	P	P	15 18 35.1	+0.7
	comp=Z,1.2nm,0.7s,baz=297,slow=6.8,SNR=4.8						
INK	Inuvik	53.97	27	IAmb	IAmb	15 19 00.1	
	comp=Z,11nm,1.4s						
ARU	Arti	56.06	318	P	P	15 18 49.3	-0.4
	comp=Z,1.3nm,0.5s,baz=21,slow=2.7,SNR=4.9						
ARU	Arti	56.06	318	P	P	15 18 48.0	-1.7
WB0	Warramunga Arr	57.33	188	P	P	15 18 59.5	+0.4
WB0				IAmb	IAmb	15 19 18.6	
	comp=Z,3.4nm,0.8s						
WRAB	Tennant Creek	57.50	188	P	P	15 19 00.2	-0.1
WR0	Warramunga Arr	57.50	188	P	P	15 19 00.4	+0.1
WB2	Warramunga Arr	57.51	188	P	P	15 19 00.5	+0.2
WB2				IAmb	IAmb	15 19 16.3	
	comp=Z,6.8nm,1.2s						
WRA	Warramunga Arr	57.51	188	P	P	15 19 00.5	+0.1
	comp=Z,1.5nm,0.4s,baz=5.1,slow=7.3,SNR=27						
WRA	Warramunga Arr	57.51	188	IAmb	IAmb	15 19 01.1	
	comp=Z,0.1nm,0.8s						
ABKAR	Akbulak array	57.69	310	P	P	15 19 00.6	-0.8
ABKAR				IAmb	IAmb	15 19 01.5	
	comp=Z,4.1nm,0.7s						
AKTO	Aktyubinsk	58.41	312	P	P	15 19 06.0	-0.5
	comp=Z,3.1nm,0.8s,baz=68,slow=12,SNR=6.1						
ASAR	Alice Springs	61.23	188	P	P	15 19 26.2	+0.1
	comp=Z,0.9nm,0.7s,baz=7.0,slow=6.8,SNR=7.8						
ASAR	Alice Springs	61.23	188	P	P	15 19 25.8	-0.2
GEYT	Alibeck	63.66	299	P	P	15 19 42.1	-0.2
	comp=Z,2.4nm,0.7s,baz=27,slow=10.0,SNR=4.8						
GEYT	Alibeck	63.66	299	P	P	15 19 41.5	-0.8
GYA0B	ALIBECK ARRAY	63.66	299	P	P	15 19 41.8	-0.5
GYA0B				IAmb	IAmb	15 19 44.1	
	comp=Z,6.2nm,1.1s						
FIA1	FINESS Array S	68.44	332	P	P	15 20 12.2	-0.3
FIA1				IAmb	IAmb	15 20 12.9	
	comp=Z,9.3nm,1.0s						
FINES	FINESS Array B	68.44	332	P	P	15 20 12.0	-0.5
	comp=Z,4.1nm,0.8s,baz=64,slow=4.4,SNR=4.0						
FORT	Forrest	69.05	192	P	P	15 20 17.7	+1.1
UOSS	Minazif	71.72	288	P	P	15 20 32.8	-0.4
UOSS				IAmb	IAmb	15 20 42.6	
	comp=Z,11nm,1.2s						
HFS	Hagfors	73.70	336	P	P	15 20 44.7	+0.3
	comp=Z,0.7nm,0.4s,baz=72,slow=9.3,SNR=3.7						
NB2	NORSAR Subarra	73.80	337	P	P	15 20 44.9	-0.1
	comp=Z,1.4nm,0.8s,baz=39,slow=6.2						
NOA	NORSAR Array B	73.80	337	P	P	15 20 44.8	-0.2
	comp=Z,1.8nm,0.8s,baz=40,slow=6.0,SNR=5.8						
AKASG	Malin Array Be	73.98	322	P	P	15 20 45.6	-0.6
	comp=Z,1.5nm,0.4s,baz=48,slow=6.3,SNR=6.2						
AKASG	Malin Array Be	73.98	322	IAmb	IAmb	15 20 46.6	
	comp=Z,1.7nm,1.1s						
AKBB	Malin Array Si	73.98	322	P	P	15 20 45.1	-1.0
NVAR	Mina Array Bea	74.68	53	P	P	15 20 51.9	+1.1
	comp=Z,0.5nm,0.7s,baz=305,slow=3.2,SNR=2.9						
PDAR	Pinedale Array	77.32	46	P	P	15 21 07.3	+1.5
	comp=Z,0.3nm,0.5s,baz=304,slow=0.7,SNR=3.4						
BURAR	Bucovina Array	77.99	322	P	P	15 21 08.8	-0.4
BRTR	Keskin Array B	78.59	312	P	P	15 21 13.9	+1.1
	comp=Z,0.8nm,0.8s,baz=41,slow=11,SNR=4.3						
RWWY	Rawlins	79.35	45	P	P	15 21 17.5	+0.5
MORC	Moravsky Berou	80.01	327	P	P	15 21 20.0	-0.2
CLL	Collm	80.74	330	eP	P	15 21 24.0	0.0
CLL				L	L	16 04 00.0	
	comp=Z,300nm,20.2s						
GERES	GERESS Array B	82.36	328	P	P	15 21 32.8	+0.1
	comp=Z,0.3nm,0.4s,baz=30,slow=6.8,SNR=4.2						
GERES	GERESS Array B	82.36	328	P	P	15 21 32.0	-0.7
TXAR	Lajitas Array	89.81	52	P	P	15 22 10.8	+0.9
	comp=Z,0.3nm,0.6s,baz=264,slow=1.8,SNR=4.2						
LPAZ	La Paz	146.43	59	PKPbc	PKPbc	15 28 53.7	+0.7
	comp=Z,0.9nm,0.7s,baz=6.8,slow=5.5,SNR=4.3						

*IDC **05** 15:13:11.7±2.2,50°.49S×7°.43W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=87.4km s-min=27.3km az=156.0*
*NEIC **05** 15:13:14.1±1.0,50°.00S±0°.08×7°.6W±0°.2, h9km±5km, mb4.6/24, Error ellipse: s-maj=22.3km s-min=6.3km az=117.0*

ISC 05 15:13:14.3±0.7,50°.0S±0°.1×7°.7W±0°.1, h10km, n34, σ0s75/30, mb4.5/10, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	Neumayer--Stat	20.71	181	P		Pn	15 17 54.8	-1.8
VNA2	Neumayer--Watz	20.98	180	P		Pn	15 17 57.4	-2.5
	baz=3.4,slow=13							
VNA3	Neumayer Olymp	21.32	182	P		P	15 18 00.9	0.0
SNAA	Sanae	21.84	176	P		P	15 18 06.5	-0.1
SNAA	Sanae	21.84	176	P		P	15 18 06.4	-0.2
BELA	Belgrano 2	29.73	191	P		P	15 19 20.0	-0.1
BOSA	Boshof	32.84	62	P		P	15 19 47.8	-0.4
	2.8nm,0.8s,baz=200,slow=12,SNR=4.5							
BOSA	Boshof	32.84	62	IAmb		IAmb	15 20 07.0	
	comp=Z,5.8nm,1.2s							
TSUM	Tsumeb	36.75	42	P		P	15 20 22.1	+0.1
GO09	Cerro Castillo	39.84	242	P		P	15 20 47.6	+0.1
QSPA	South Pole Qui	40.24	180			P	15 20 51.0	+0.1
PLCA	Paso Flores	43.94	257	P		P	15 21 22.3	+1.0
	comp=Z,1.3nm,0.8s,baz=153,slow=14,SNR=3.0							
PLCA	Paso Flores	43.94	257	IAmb		IAmb	15 21 39.2	
	comp=Z,8.4nm,1.4s							
BO02	Sierra Bellavi	47.62	264	P		P	15 21 49.2	-1.2
VA01	Torpederas	49.29	265	P		P	15 22 03.0	-0.2
RCBR	Riachuelo	50.02	322	P		P	15 22 08.6	-0.3
GO02	Mina Guanaco	53.26	274	P		P	15 22 33.9	+0.4
LVC	Limon Verde	54.63	277	P		P	15 22 44.1	+0.5
PB09	IPOC Station P	55.43	277	P		P	15 22 50.4	+1.3
PB07	IPOC Station P	55.89	276	P		P	15 22 52.9	+0.5
PB01	IPOC Station P	56.13	277	P		P	15 22 54.5	+0.4
PB01				IAmb		IAmb	15 22 55.3	
	comp=Z,11nm,1.2s							
PB08	IPOC Station P	56.57	278	P		P	15 22 58.2	+0.7
PB08				IAmb		IAmb	15 23 01.1	
	comp=Z,11nm,1.1s							
GO01	Chusmiza	56.94	279	P		P	15 23 00.1	-0.2
GO01				IAmb		IAmb	15 23 01.4	
	comp=Z,7.1nm,0.9s							
PB11	IPOC Station P	57.17	278	P		P	15 23 01.5	0.0
MNMC	Minye Minye	57.59	279	P		P	15 23 04.8	+0.1
MNMC				IAmb		IAmb	15 23 05.2	
	comp=Z,13nm,1.3s							
PB16	IPOC Station P	58.12	280	P		P	15 23 08.7	-0.1
PB16				IAmb		IAmb	15 23 10.1	
	comp=Z,6.2nm,0.6s							
LPAZ	La Paz	58.77	282	P		P	15 23 12.9	-0.4
	comp=Z,2.0nm,0.8s,baz=148,slow=3.3,SNR=6.6							
LPAZ	La Paz	58.77	282	P		P	15 23 12.6	-0.8
LPAZ				IAmb		IAmb	15 23 15.3	
	comp=Z,3.2nm,1.1s							
SAML	Samuel	61.38	292	P		P	15 23 30.1	-0.4
SAML				IAmb		IAmb	15 23 59.1	
	comp=Z,4.7nm,1.5s							
TOA0	Torodi Ar. Sit	63.42	10	P		P	15 23 43.9	-0.1
TORD	Torodi Ar. Bea	63.42	10	P		P	15 23 46.6	+2.6
	comp=Z,0.5nm,0.7s,baz=191,slow=5.9,SNR=3.2							
TORD	Torodi Ar. Bea	63.42	10	P		P	15 23 43.5	-0.5
ILAR	Eielson Array	154.12	320	PKPbc		PKPbc	15 33 12.1	-0.8
	comp=Z,0.3nm,0.7s,baz=86,slow=1.3,SNR=5.9							
ILAR	Eielson Array	154.12	320	PKPdf		PKPdf	15 33 05.5	+0.7

*ISK **05** 15:28:45.8, 38°.90N×44°.55E, h5km, ML2.8/9*
*DDA **05** 15:28:47.4, 38°.91N×44°.57E, h7km±3km, ML2.3*
*TEH **05** 15:28:50.5, 38°.74N×44°.76E, h4km, ML2.6*

ISC 05 15:28:47.3±1.2, 38°.90N±0°.04×44°.59E±0°.03, h5km±12km, n21, σ0s85/28, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLDR	Caldiran	0.58	295	PG		Pg	15 28 57.2	-1.3
CLDR				SG		Sg	15 29 06.5	+0.5
CLDR	Caldiran	0.58	295	*i* P		Pg	15 28 57.1	-1.3
CLDR				*i* S		Sg	15 29 06.2	+0.2
VMUR	Van-Muradiye	0.80	277	*i* P		Pg	15 29 02.4	-0.3
VMUR				*i* S		Sb	15 29 14.6	-0.4
VMUR				IAML			15 29 17.0	
	comp=N,127nm,0.4s							
VMUR				IAML			15 29 19.0	
	comp=E,179nm,0.5s							
IMRD	Marand	0.89	102	*e*			15 29 29.1	
IMRD				*e*Pg		Pg	15 29 04.8	+0.5
VANB	Van	0.99	252	PG		Pg	15 29 05.8	-0.5
TVAN	Van	1.00	249	*i* P		Pg	15 29 06.3	-0.1
TVAN				*i* S		Sn	15 29 23.9	+1.1
TVAN				IAML			15 29 26.0	
	comp=E,106nm,0.5s							
TVAN				IAML			15 29 36.0	
	comp=N,136nm,0.5s							
IGDI	IGDIR	1.04	338	*i* P		Pg	15 29 07.0	-0.3
IGDI				*i* S		Sb	15 29 22.6	+0.6
IGDI				IAML			15 29 32.0	
	comp=N,91nm,0.8s							
IGDI				IAML			15 29 32.0	
	comp=E,125nm,0.7s							
TASB	TASBURUN-IGDIR	1.12	346	PN		Pg	15 29 08.5	-0.2
GEVA	Gevas	1.34	244	*i* P		Pb	15 29 12.9	-0.1
GEVA				IAML			15 29 35.0	
	comp=N,43nm,0.5s							
GEVA				IAML			15 29 38.0	
	comp=E,43nm,0.4s							
AKDM	Akdamar-Van	1.39	246	PN		Pn	15 29 12.9	-0.6
ITBZ	Tabriz	1.39	118	*e*Pg		Pn	15 29 12.6	-0.9
ITBZ				*e*			15 29 17.1	
ITBZ				*e*Sg		Sb	15 29 30.2	-1.7
HAKT	HAKKARI	1.51	208	*i* P		Pb	15 29 16.0	0.0
HAKT				*i* S		Sg	15 29 38.3	+2.4
HAKT				IAML			15 29 43.0	
	comp=N,30nm,0.5s							
MLAZ	Malazgirt-MUS	1.61	279	PN		Pn	15 29 15.9	-0.6
IAZR	Azarshahr	1.64	138	*e*Pn		Pb	15 29 17.8	-0.3
IAZR				*e*			15 29 23.0	
EAK	Akyaka	1.94	337	*i* P		Pg	15 29 25.1	+0.7
IHRS	Heris	2.00	106	*e*Pn		Pb	15 29 24.4	0.0
GURO	Guroymak-BITLI	2.03	261	PN		Pn	15 29 21.9	-0.4
SIRT	Sirnak	2.20	231	PN		Pn	15 29 24.4	-0.2
KOPR	Koprukoy-ERZUR	2.38	298	PN		Pn	15 29 27.3	+0.1
SENK	Senkaya-Erzuru	2.40	315	PN		Pn	15 29 27.5	+0.1
ISRB	Sarab	2.65	113	*e*Pn		Pb	15 29 35.2	-0.1
ISRB				*e*			15 29 43.1	

*MEX **05** 15:34:21.4±0.8, 15°.74N×93°.46W, h98km±6km, MD4.2*

ISC 05 15:34:20.4±1.0, 15°.74N±0°.05×93°.46W±0°.04, h95km±8km, n20, σ0s50/32, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		0.23	99	*e*P		Pn	15 34 34.0	-0.1
PCIG				*i* S		Sn	15 34 44.4	0.0
PCIG		0.23	99			Pn	15 34 34.0	-0.1
PCIG						Sn	15 34 44.4	0.0
TGIG		1.08	17	*i* P		Pn	15 34 41.6	+0.1
TGIG				*i* S		Sn	15 34 56.6	-0.7
TGIG		1.08	17			Pn	15 34 41.6	+0.1
TGIG						Sn	15 34 56.6	-0.7
CCIG	Comitan	1.38	67	*e*P		Pn	15 34 45.1	0.0
CCIG				*i* S		Sn	15 35 04.0	+0.2
CCIG	Comitan	1.38	67			Pn	15 34 45.1	0.0
CCIG						Sn	15 35 04.0	+0.2
THIG		1.42	126	*i* P		Pn	15 34 46.0	+0.5
THIG				*i* S		Sn	15 35 04.3	0.0
THIG		1.42	126			Pn	15 34 46.0	+0.5
THIG						Sn	15 35 04.3	0.0
CMIG	Matias Romero	1.92	315	*e*P		Pn	15 34 52.6	+0.9
CMIG				*e*S		Sn	15 35 15.3	-0.3
CMIG	Matias Romero	1.92	315			Pn	15 34 52.6	+0.9
CMIG						Sn	15 35 15.3	-0.3
HUIG	Huatulco	2.55	271	*e*P		Pn	15 34 59.8	-0.3
HUIG				*i* S		Sn	15 35 30.0	-0.6
HUIG	Huatulco	2.55	271			Pn	15 34 59.8	-0.3
HUIG						Sn	15 35 30.0	-0.6
MTO3	Montecristo	4.18	108	Pn		Pn	15 35 21.5	-0.7
TEIG	Tepich	6.65	47	Pn		Pn	15 35 55.3	-0.3
TX31	Lajitas Ar. Si	16.48	327	P		P	15 38 07.5	+0.5
TX31				IAmb		IAmb	15 38 16.7	
	comp=Z,9.0nm,1.5s							
TXAR	Lajitas Array	16.48	327	P		P	15 38 07.7	+0.7
S44A	Carbondale	22.18	9	P		P	15 39 07.6	-1.2
S44A				IAmb		IAmb	15 39 14.1	
	comp=Z,15nm,0.6s							
L34A	Svendsen Farm,	26.25	355	P		P	15 39 46.9	+0.2
L42A	Oliver, Polo	26.37	6	P		P	15 39 47.8	0.0
JFWS	Jewell Farm	27.22	5	P		P	15 39 55.8	+0.4
JFWS				IAmb		IAmb	15 39 57.4	
	comp=Z,9.1nm,0.7s							

*IDC **05** 15:34:28.1±3.1, 30°.13S×177°.42W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=62.2km s-min=34.5km az=101.0*
*NEIC **05** 15:34:33.5±0.8, 30°.0S±0°.1×177°.4W±0°.2, h34km±6km, mb4.4/10, Error ellipse: s-maj=31.3km s-min=5.6km az=56.0*

ISC 05 15:34:34.7±1.4, 30°.10S±0°.09×177°.9W±0°.3, h35km, n16, σ1s82/17, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	Raoul Island	0.85	357	Pn		Pn	15 34 49.3	-0.9
	202nm,0.3s,baz=102,slow=10,SNR=8.5							
RAO				Sn		Sn	15 35 00.7	-0.7
	513nm,0.3s,baz=120,slow=20,SNR=9.5							
RAO	Raoul Island	0.85	357			Pn	15 34 49.1	-1.1
URZ	Urewera	9.13	206	Sn		Sn	15 38 21.8	-3.7
	0.4nm,0.3s,baz=336,slow=10.0,SNR=3.3							
CAN	Canberra	28.27	251	P		P	15 40 24.5	-0.3
ASAR	Alice Springs	43.23	267	P		P	15 42 34.9	+2.0
	0.3nm,0.5s,baz=94,slow=7.1,SNR=3.8							
WR0	Warramunga Arr	44.02	272	P		P	15 42 41.2	+2.1
WR0				IAmb		IAmb	15 42 41.5	
	comp=Z,5.8nm,1.2s							
WB2	Warramunga Arr	44.19	272	P		P	15 42 42.9	+2.3
WB2				IAmb		IAmb	15 43 02.2	
	comp=Z,13nm,1.4s							
WRAB	Tennant Creek	44.19	272	P		P	15 42 42.8	+2.2
WRAB				IAmb		IAmb	15 42 53.3	
	comp=Z,9.5nm,1.5s							
WRA	Warramunga Arr	44.20	272	P		P	15 42 41.8	+1.2
	comp=Z,0.6nm,0.3s,baz=110,slow=8.1,SNR=46							
WRA	Warramunga Arr	44.20	272	P		P	15 42 42.0	+1.4
WB0	Warramunga Arr	44.22	272	P		P	15 42 42.6	+1.8
WB0				IAmb		IAmb	15 42 53.2	
	comp=Z,6.9nm,1.4s							
VNDA	Vanda	48.40	186	P		P	15 43 14.4	+1.6
CASY	Casey	55.45	208	P		P	15 44 05.9	+0.5
CASY				IAmb		IAmb	15 44 06.6	
	comp=Z,6.1nm,1.0s							
JYT	Yasato	76.84	326	P		P	15 46 22.3	-0.6
JHS	Saijyo	79.53	321	P		P	15 46 38.0	+0.1
FINES	FINESS Array B	144.91	340	PKPbc		PKPab	15 54 05.3	-1.2
	comp=Z,1.5nm,0.5s,baz=48,slow=3.6,SNR=10							

*IDC **05** 15:48:15.0±1.3, 3°.43S×138°.35E, h0km, mb3.6/3, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, ML3.8/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=28.7km s-min=21.7km az=140.0*

ISC 05 15:48:22.0±0.9, 3°.5S±0°.1×138°.5E±0°.1, h71km, n9, σ1s83/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	Jayapura	2.41	66	Pn		Pn	15 48 58.5	-0.7
	5.0nm,0.3s,baz=228,slow=12,SNR=16							
JAY				Sn		Sn	15 49 27.9	+0.2
	4.2nm,0.3s,baz=72,slow=19,SNR=3.3							
BATI	Baumata	16.16	245	Pn		Pn	15 52 02.9	-2.1
	1.4nm,0.3s,baz=38,slow=14,SNR=2.5							
DAV	Davao City (W)	16.63	309	LR		LR	15 59 24.5	
	comp=Z,68nm,18.3s,baz=115,slow=41							
WRA	Warramunga Arr	16.84	194	Pn		Pn	15 52 11.2	-2.2
	0.5nm,0.3s,baz=16,slow=12,SNR=21							
FITZ	Fitzroy Crossi	19.22	220	P		P	15 52 40.6	+0.1
	0.1nm,0.3s,baz=87,slow=15,SNR=2.5							
FITZ				S		S	15 56 01.9	-13
	0.1nm,0.3s,baz=194,slow=4.2,SNR=2.6							
ASAR	Alice Springs	20.54	192	P		P	15 52 56.1	+1.2
	1.8nm,0.5s,baz=23,slow=9.0,SNR=35							
ASAR				S		S	15 56 43.5	+2.7
	2.2nm,1.0s,baz=13,slow=23,SNR=9.2							
PSI	Prapat	40.05	278	LR		LR	16 17 57.9	
	comp=Z,60nm,18.9s,baz=273,slow=45							
CMAR	Chiang Mai Arr	44.65	301	P		P	15 56 28.6	+0.6
	0.7nm,0.7s,baz=130,slow=6.1,SNR=5.8							
MKAR	Makanchi Array	70.28	323	P		P	15 59 28.9	+1.0
	0.3nm,0.7s,baz=103,slow=8.8,SNR=3.7							

*MAN **05** 16:07:47.0, 11°.01N×126°.40E, h65km, mb4.6, ML3.5, MS3.4*
*IDC **05** 16:07:46.4±1.8, 11°.18N×126°.61E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/37, mbtmp3.6/5, Error ellipse: s-maj=174.2km s-min=20.7km az=69.0*
*NEIC **05** 16:07:53.3±2.3, 11°.3N±0°.1×126°.7E±0°.1, h56km±9km, mb4.2/10, Error ellipse: s-maj=21.3km s-min=17.0km az=58.0*

ISC 05 16:07:50.8±0.6, 11°.11N±0°.06×126°.28E±0°.07, h37km, n27, σ1s72/29, mb3.9/10, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BESP	Borongan	0.96	301	*e*P		Pn	16 08 07.2	-0.6
GLSP	General Luna,	1.33	187	*e*P		Pn	16 08 09.5	-3.3
OCLP	Ormoc	1.65	268	*e*P		Pn	16 08 16.9	-0.2
OCLP				*e*S		Sn	16 08 33.3	-3.8
MSLP	Maasin	1.70	235	*e*P		Pn	16 08 18.8	-2.1
MSLP				*e*S		Sn	16 08 38.1	-0.4
CGP	Cagayan de Oro	3.07	211	*e*P		Pn	16 08 37.5	+0.8
CGP				*e*S		Sn	16 09 12.4	+0.1
GUIM	Jordan	3.66	263	*e*P		Pn	16 08 44.3	-0.6
CNOP	Candoni, Negro	3.81	251	*e*P		Pn	16 08 45.2	-1.7
MTN	Manton Dam	24.28	168	P		P	16 13 04.7	-0.1
MTN				IAmb		IAmb	16 13 05.9	
	comp=Z,12nm,1.1s							
WRA	Warramunga Arr	31.86	166	P		P	16 14 13.1	+0.5
	comp=Z,0.2nm,0.6s,baz=345,slow=9.0,SNR=4.4							
WRA	Warramunga Arr	31.86	166	IAmb		IAmb	16 14 13.5	
	comp=Z,0.2nm,1.2s							
WB2	Warramunga Arr	31.86	166	P		P	16 14 12.6	0.0
WB2				IAmb		IAmb	16 14 27.8	
	comp=Z,4.6nm,1.1s							
AS31	Alice Springs	35.36	168	P		P	16 14 44.8	+1.8
ASAR	Alice Springs	35.36	168	P		P	16 14 44.1	+1.1
	comp=Z,0.2nm,0.3s,baz=350,slow=6.9,SNR=16							
BBOO	Buckleboo	44.66	168	P		P	16 16 01.8	+1.8
PEA0B	Petropavlovsk-	48.87	25	P		P	16 16 30.1	-2.6
PETK	Petropavlovsk-	48.87	25	P		P	16 16 29.8	-3.0
MK

comp=Z,28nm,1.5s
COEN Coen 37.16 274 P P 16 32 03.6 -0.2
COEN IAmb IAmb 16 32 05.4
comp=Z,16nm,1.1s
STKA Stephens Creek 37.28 244 P P 16 32 04.5 0.0
comp=Z,1.3nm,0.7s,baz=53,slow=10,SNR=4.0
BBOO Buckleboo 42.04 244 P P 16 32 42.5 0.0
BBOO IAmb IAmb 16 33 08.3
comp=Z,14nm,1.1s
JAY Jayapura 43.72 289 P P 16 32 56.3 +0.4
comp=Z,19nm,0.6s,baz=131,slow=4.8,SNR=9.4
WR0 Warramunga Arr 43.94 262 P P 16 32 56.5 -1.0
WR0 IAmb IAmb 16 32 58.0
comp=Z,6.4nm,0.3s
AS31 Alice Springs 44.03 257 P P 16 32 58.1 -0.1
ASAR Alice Springs 44.03 257 P P 16 32 58.1 0.0
comp=Z,7.0nm,0.5s,baz=94,slow=7.6,SNR=167
ASAR PcP **PcP 16 34 30.4 +0.3**
comp=Z,1.2nm,0.6s,baz=103,slow=4.0,SNR=8.0
ASAR Alice Springs 44.03 257 P P 16 32 57.3 -0.8
WB0 Warramunga Arr 44.11 263 P P 16 32 58.0 -0.8
WB2 Warramunga Arr 44.12 262 P P 16 32 58.0 -0.9
WB2 IAmb IAmb 16 32 59.0
comp=Z,9.6nm,1.0s
WRAB Tennant Creek 44.12 262 P P 16 32 57.9 -1.0
WRAB IAmb IAmb 16 32 59.1
comp=Z,7.9nm,1.0s
WRA Warramunga Arr 44.13 262 P P 16 32 58.5 -0.5
comp=Z,3.8nm,0.3s,baz=97,slow=7.6,SNR=336
WRA Warramunga Arr 44.13 262 P P 16 32 57.8 -1.1
MTN Manton Dam 48.73 271 P P 16 33 33.1 -0.4
MTN IAmb IAmb 16 33 33.4
comp=Z,15nm,0.9s
FORT Forrest 48.79 247 P P 16 33 33.3 -0.5
KNRA Kununurra 50.21 267 P P 16 33 44.1 -0.3
KNRA IAmb IAmb 16 33 44.5
comp=Z,8.8nm,0.7s
FITZ Fitzroy Crossi 52.56 263 P P 16 34 01.6 +0.3
comp=Z,2.0nm,0.5s,baz=64,slow=4.3,SNR=16
SIJI Sorong 52.89 285 P P 16 34 03.7 0.0
comp=Z,20nm,0.7s,baz=86,slow=6.3,SNR=7.2
SOEI Soe 56.07 272 P P 16 34 27.3 +1.2
SOEI IAmb IAmb 16 34 28.2
comp=Z,24nm,0.8s
BATI Baumata 56.50 271 P P 16 34 30.1 +1.2
comp=Z,11nm,0.6s,baz=179,slow=5.1,SNR=5.5
PSA00 Pilbara Seismi 57.18 257 P P 16 34 32.8 -0.6
PSA00 Pilbara Seismi 57.18 257 P P 16 34 33.3 -0.1
PSA00 IAmb IAmb 16 34 43.8
comp=Z,11nm,0.8s
MBWA Marble Bar 57.37 258 P P 16 34 34.0 -0.7
VNDA Vanda 57.61 185 P P 16 34 37.1 +1.8
comp=Z,1.6nm,0.9s,baz=353,slow=6.7,SNR=11
VNDA Vanda 57.61 185 P P 16 34 37.1 +1.8
MMRI Maumere 58.33 273 P P 16 34 41.0 -0.3
MMRI IAmb IAmb 16 34 53.5
comp=Z,52nm,1.3s
MORW Morawa 59.32 248 P P 16 34 48.0 +0.3
MORW IAmb IAmb 16 34 52.9
comp=Z,33nm,1.4s
CASY Casey 63.54 205 P P 16 35 15.2 +0.9
CASY IAmb IAmb 16 35 16.7
comp=Z,7.8nm,1.0s
JAGI Jajag, Banyuwa 65.95 270 P P 16 35 29.5 -1.0
JAGI IAmb IAmb 16 35 42.4
comp=Z,36nm,1.3s
QSPA South Pole Qui 69.30 180 P P 16 35 51.1 +1.0
UGM Wanagama 69.52 269 P P 16 35 52.0 -0.2
MJAR Matsushiro Arr 70.17 324 P P 16 35 55.4 -0.1
comp=Z,3.4nm,0.8s,baz=160,slow=6.5,SNR=10
MAJO Matsushiro 70.17 324 P P 16 35 55.6 +0.1
MAJO IAmb IAmb 16 36 07.8
comp=Z,28nm,1.4s
JHS Saijyo 72.02 320 P P 16 36 06.3 -0.1
KSM Kuching 73.02 278 P P 16 36 12.9 +0.4
KSM IAmb IAmb 16 36 17.3
comp=Z,11nm,1.0s
JEW Eniwo 73.27 330 P P 16 36 12.5 -0.8
YULB Yu-li 73.28 304 P P 16 36 12.8 -1.0
NACB Ninganchiao 73.47 304 P P 16 36 13.4 -1.4
TPUB Ta-pu 73.76 303 P P 16 36 15.5 -1.0
SSLB Suanglung 73.76 304 P P 16 36 15.4 -1.2
NIKH Nikolski High 73.90 6 P P 16 36 16.6 0.0
UNV Unalaska Valle 75.02 7 P P 16 36 22.4 -0.4
PEA0B Petropavlovsk- 76.42 345 P P 16 36 30.9 +0.3
PETK Petropavlovsk- 76.42 345 P P 16 36 30.9 +0.3
comp=Z,4.1nm,0.7s,baz=134,slow=8.5,SNR=7.7
KSRS Korea Array 76.80 319 P P 16 36 33.8 +0.8
comp=Z,1.2nm,0.8s,baz=108,slow=4.6,SNR=4.1
HOPS Hopland Field 78.86 41 P P 16 36 46.1 +2.1
HOPS IAmb IAmb 16 36 56.4
comp=Z,23nm,1.4s
USRK Ussuriysk Ar. 78.94 326 P P 16 36 45.8 +1.4
comp=Z,3.3nm,0.7s,baz=102,slow=5.3,SNR=9.1
USRK Ussuriysk Ar. 78.94 326 P P 16 36 45.4 +1.1
MYKOM Kota Tinggi 79.13 276 P P 16 36 46.9 +0.8
MYKOM IAmb IAmb 16 36 47.1
comp=Z,9.8nm,1.0s
PASC Pasadena Art C 79.19 47 P P 16 36 47.5 +1.6
PASC IAmb IAmb 16 37 13.4
comp=Z,9.8nm,1.2s
KMRM Mail Ridge 79.24 40 P P 16 36 48.2 +2.0
KMRM IAmb IAmb 16 36 49.8
comp=Z,12nm,0.8s
BELA Belgrano 2 79.35 173 P P 16 36 46.4 +0.4
MDPB Devils Postpil 80.56 44 P P 16 36 54.7 +1.3
WAKR Walker 80.83 43 P P 16 36 55.5 +0.9
PNTR Pine Nut 81.07 42 P P 16 36 57.4 +1.5
PNTR IAmb IAmb 16 36 58.5
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 81.52 44 P P 16 36 59.5 +1.3
comp=Z,1.7nm,0.7s,baz=222,slow=8.5,SNR=18
NVAR Mina Array Bea 81.52 44 P P 16 36 59.0 +0.8
PAHR Pah Rah Range 81.57 42 P P 16 36 59.5 +1.2
NV11 Mina Array Sit 81.61 44 P P 16 36 59.8 +1.2
TPH Tonopah 82.02 44 P P 16 37 02.0 +1.3
TPNV Topopah Spring 82.04 46 P P 16 37 02.2 +1.4
K05A Summer Lake 82.44 39 P P 16 37 03.9 +1.2
K05A IAmb IAmb 16 37 05.7
comp=Z,12nm,1.0s
PINE Pine Mountain 83.06 38 P P 16 37 06.6 +0.8
PINE IAmb IAmb 16 37 08.3
comp=Z,7.3nm,0.9s
PRN Pahroc Range 83.09 46 P P 16 37 06.0 -0.1
TUC Tucson 83.49 52 P P 16 37 10.0 +1.9
I07A Izee 84.07 38 P P 16 37 12.2 +1.5
U15A North Rim 84.46 48 P P 16 37 13.3 +0.3
G08A Pilot Rock 85.09 38 P P 16 37 16.9 +1.3
G08A IAmb IAmb 16 37 18.0
comp=Z,6.5nm,1.0s
BMO Blue Mountains 85.80 39 P P 16 37 19.7 +0.8
F10A Beach Ranch, E 86.48 38 P P 16 37 22.9 +0.8
F10A IAmb IAmb 16 37 24.0
comp=Z,7.6nm,0.8s
TRF Thorofare Moun 86.80 12 P P 16 37 22.8 -0.6
TRF IAmb IAmb 16 37 24.0
comp=Z,8.1nm,0.8s
HLID Hailey 86.81 41 P P 16 37 25.4 +1.5
MNTX Cornudas Mount 87.26 55 P P 16 37 27.5 +1.5
TX31 Lajitas Ar. Si 87.57 57 P P 16 37 29.2 +1.5
TX31 IAmb IAmb 16 37 30.7
comp=Z,12nm,1.1s
TX32 Lajitas Array 87.57 57 P P 16 37 29.1 +1.5
TX32 IAmb IAmb 16 37 30.7
comp=Z,5.2nm,1.1s
TXAR Lajitas Array 87.57 57 P P 16 37 29.7 +2.1
comp=Z,1.7nm,0.8s,baz=217,slow=5.5,SNR=18
TXAR Lajitas Array 87.57 57 P P 16 37 29.0 +1.4
HDA Harding Lake 88.34 13 P P 16 37 29.9 -0.4
HDA IAmb IAmb 16 37 31.2
comp=Z,4.5nm,0.7s
CCB Clear Creek Bu 88.37 13 P P 16 37 29.9 -0.6
CCB IAmb IAmb 16 37 30.7
comp=Z,6.0nm,0.7s
MDM Murphy Dome 88.56 12 P P 16 37 30.7 -0.6
MDM IAmb IAmb 16 37 31.6
comp=Z,5.9nm,0.9s
IL31 88.67 13 P P 16 37 31.2 -0.6
IL31 IAmb IAmb 16 37 52.0
comp=Z,9.0nm,1.5s
ILAR Eielson Array 88.67 13 P P 16 37 31.4 -0.5
comp=Z,2.0nm,0.8s,baz=223,slow=5.1,SNR=18
ILAR Eielson Array 88.67 13 P P 16 37 31.2 -0.7
REDW Red Top Meadow 88.92 42 P P 16 37 34.9 +1.1
REDW IAmb IAmb 16 37 36.2
comp=Z,5.0nm,1.1s
IMW Indian Meadow 89.14 42 P P 16 37 35.5 +0.6
IMW IAmb IAmb 16 37 37.4
comp=Z,2.8nm,0.9s
PD31 Pinedale Array 89.45 43 P P 16 37 36.4 +0.1
PD31 IAmb IAmb 16 37 37.9
comp=Z,2.2nm,0.8s
PDAR Pinedale Array 89.45 43 P P 16 37 37.2 +0.9
comp=Z,1.7nm,0.7s,baz=214,slow=3.7,SNR=16
PDAR Pinedale Array 89.45 43 P P 16 37 36.7 +0.4
CMAR Chiang Mai Arr 89.79 290 P P 16 37 39.9 +1.8
comp=Z,2.5nm,0.9s,baz=126,slow=2.7,SNR=17
CMAR Chiang Mai Arr 89.79 290 P P 16 37 38.6 +0.4
MKAR Makanchi Array 111.06 313 PKiKP PKiKP 16 43 07.2 -1.0
comp=Z,0.5nm,0.7s,baz=130,slow=1.7,SNR=4.8
MKAR Makanchi Array 111.06 313 PKiKP 16 43 07.0 -1.2
ARCES ARCESS Array B 129.10 349 PKP PKPdf 16 43 41.6 -0.4
comp=Z,1.0nm,0.6s,baz=18,slow=4.3,SNR=7.0
FINES FINESS Array B 135.90 343 PKP PKiKP 16 43 56.5 -0.2
comp=Z,3.4nm,1.0s,baz=100,slow=5.8,SNR=5.1
AKASG Malin Array Be 143.03 331 PKhKP PKPpre 16 44 05.7
comp=Z,7.4nm,0.5s,baz=42,slow=4.4,SNR=48
GAZ Gaziantep 145.01 306 PKPbc PKPbc 16 44 13.2 +0.1
SORM Soroca 145.20 328 ↑P **PKPbc 16 44 13.1 -0.1**
BR131 Keskin Array S 146.69 312 PKPbc 16 44 17.4 -0.4
BRTR Keskin Array B 146.69 312 PKPbc **PKPbc 16 44 17.7 -0.1**
comp=Z,2.1nm,0.6s,baz=139,slow=4.7,SNR=17
BRTR Keskin Array B 146.69 312 PKPbc 16 44 17.1 -0.8
TLCR 146.87 324 ↑P **PKPbc 16 44 17.2 -0.7**
BUR08 Bucovina Ar. S 147.06 330 PKPbc 16 44 18.2 -0.3
BURAR Bucovina Array 147.08 330 ↑P **PKiKP 16 44 20.5 +0.2**
BURAR Bucovina Array 147.08 330 PKPbc 16 44 18.5 0.0
BIZ Bicaz 147.13 328 ↑P **PKPbc 16 44 19.7 +1.1**
VRI Vrincioaia 147.55 326 ↑P **PKPbc 16 44 20.1 +0.4**
OSTC Ostas 148.09 342↑*e*PKP **PKPbc 16 44 20.6 -0.3**
CHVC Chvalec 148.11 342↑*e*PKP **PKPbc 16 44 20.7 -0.3**
DOPR Dopca 148.16 328 ↑P **PKiKP 16 44 22.3 -0.1**
MLR Muntele Rosu 148.21 327 ↑P **PKPbc 16 44 22.3 +0.8**
CLL Collm 148.22 346 *i* PKPbc **PKPbc 16 44 21.4 +0.2**
comp=Z,9.0nm,0.9s
CLL *i* PKPab **PKPab 16 44 26.5 0.0**
comp=Z,5.0nm,0.6s
CLL Collm 148.22 346 PKPbc 16 44 21.0 -0.1
DPC Dobruska-Polom 148.25 342↑*e*PKP **PKPbc 16 44 20.7 -0.6**
DPC *e*PKPAB PKPab 16 44 39.8 +13
KRLC Kraliky 148.35 341↑*e*PKP **PKPbc 16 44 21.7 +0.1**
VOIR 148.70 327 ↑P **PKPbc 16 44 23.0 +0.4**
ARR Arges 148.96 328 ↑P **PKiKP 16 44 24.8 +0.6**
PRU Pruhonice 149.07 344↑*e*PKP **PKPbc 16 44 23.4 +0.1**
PRU *e*PKPAB **PKPab 16 44 30.2 +0.1**
SIRR Siria 149.71 332 ↑P **PKiKP 16 44 25.7 0.0**
GZR Gura Zlata 149.85 329 ↑P **PKPbc 16 44 25.5 +0.1**
KHC Kasperske Hory 150.11 344↑*e*PKP **PKPbc 16 44 26.3 +0.5**
KHC *e*PKPAB **PKPab 16 44 34.7 +0.2**
KHC Kasperske Hory 150.11 344 PKPbc 16 44 25.8 0.0
KHC PKPab **PKPab 16 44 34.9 +0.4**
BZS Buzias 150.22 331 ↑P **PKPbc 16 44 26.5 +0.3**
GEC2 GERESS Array S 150.34 344 PKPbc 16 44 26.3 -0.2
GERES GERESS Array B 150.34 344 PKPbc **PKPbc 16 44 26.6 +0.2**
comp=Z,24nm,0.8s,baz=29,slow=3.0,SNR=22
GERES GERESS Array B 150.34 344 PKPbc 16 44 26.2 -0.3
HERR Herculane 150.40 329 ↑P **PKPbc 16 44 26.7 +0.1**
CONA Conrad Observa 150.54 340 *e*P **PKPbc 16 44 27.5 +0.6**
comp=Z,3.2nm,0.6s
SOKA Soboth 151.91 340 *e*P **PKPbc 16 44 29.5 -0.6**
comp=Z,3.6nm,1.0s
WATA Walderalm 152.27 345 *e*P **PKPbc 16 44 30.9 0.0**
comp=Z,1.3nm,0.5s
WATA *e*P **PKPab 16 44 44.9 +1.1**
comp=Z,3.5nm,0.9s
WTTA Wattenberg 152.32 345 *e*P **PKPbc 16 44 31.2 +0.1**
comp=Z,2.4nm,0.5s
WTTA *e*P **PKPab 16 44 44.6 +0.5**
comp=Z,3.1nm,0.7s
MOTA Moosalm 152.37 346 *e*P **PKPbc 16 44 31.1 0.0**
comp=Z,2.1nm,0.7s
MOTA *i* P **PKPab 16 44 44.3 0.0**
comp=Z,3.7nm,0.8s
SQTA Sankt Quirin 152.47 346 *e*P **PKPbc 16 44 31.5 +0.2**
comp=Z,1.1nm,0.5s
ABTA Adaltersbach 152.58 343 *e*P **PKPbc 16 44 31.1 -0.5**
comp=Z,3.0nm,0.6s
ABTA *e*P **PKPab 16 44 44.7 -0.3**
comp=Z,3.0nm,0.7s
DAVA Damuels 152.69 348 *e*P **PKPab 16 44 45.8 +0.2**
comp=Z,1.5nm,0.6s
FUORN Ofenpass-Fuorn 153.25 347 PKPbc **PKPbc 16 44 32.9 -0.3**
FUORN PKPab **PKPab 16 44 48.6 +0.5**
ESDC Sonseca Array 160.57 13 PKPab **PKPab 16 45 19.4 -0.4**
comp=Z,1.1nm,1.1s,baz=328,slow=4.6,SNR=4.8
TORD Torodi Ar. Bea 172.42 181 PKP **PKPdf 16 44 43.3 -0.4**
comp=Z,0.4nm,0.8s,baz=195,slow=0.7,SNR=2.8
TORD Torodi Ar. Bea 172.42 181 PKPdf 16 44 42.7 -1.1

*NEIC **05** 16:31:58.0±1.4,5.47S±0.07×151.97E±0.09, h57km±3km, mb4.5/28, Error ellipse: s-maj=12.9km s-min=9.5km az=116.0*
*IDC **05** 16:31:58.6±1.5,5.46S×151.94E, h58km±11km, mb4.0/14, mb1 4.2/15, mb1mx4.0/33, mbtmp4.3/15, MS3.6/8, Ms1 3.6/8, ms1mx3.3/37, Error ellipse: s-maj=25.1km s-min=8.9km az=116.0*
*DJA **05** 16:31:59.2±0.5,5.5S×15.2E±°, h62km±6km, M4.7/10, mb4.5/10, mB4.4/1, MLv4.9/2, Mw(mB)3.5/1*
ISC 05 16:31:56.9±0.5, 5.47S±0.05×152.04E±0.08, h45km, n65,
σ1§06/63, mb4.3/25, MS3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.16**	**359**	P		**Pn**	**16 32 16.7**	**0.0**
	1µm,0.3s,baz=162,slow=2.5,SNR=616							
KRVT				S		**Sn**	**16 32 34.0**	**+2.6**
	2µm,0.3s,baz=24,slow=19,SNR=23							
RABL	**Rabaul**	**1.28**	**6**	Pn		**Pn**	**16 32 18.6**	**+0.2**
MANU	**Manus Island**	**5.78**	**306**	Pn		**Pn**	**16 33 22.9**	**+2.8**
PMG	**Port Moresby**	**6.22**	**231**	P		**Pn**	**16 33 28.9**	**+2.7**
	4.8nm,0.3s,baz=22,slow=7.8,SNR=16							
PMG				S		**Sn**	**16 34 36.2**	**+0.2**
	4.7nm,0.3s,baz=165,slow=16,SNR=5.6							
PMG	**Port Moresby**	**6.22**	**231**			**Pn**	**16 33 28.1**	**+1.9**
HNR	**Honiara**	**8.77**	**117**	LR		LR	16 37 06.8	
	comp=Z,242nm,19.9s,baz=268,slow=35							
JAY	**Jayapura**	**11.68**	**284**	LR		LR	16 38 34.0	
	comp=Z,261nm,19.7s,baz=150,slow=34							
PATS	**Pohnpei**	**13.74**	**27**	Pn		**Pn**	**16 35 10.4**	**+1.2**
CTA	**Charters Tower**	**15.58**	**201**	P		**P**	**16 35 37.8**	**+0.6**
	0.1nm,0.3s,baz=24,slow=12,SNR=2.6							
EIDS	**Eidsvold**	**19.80**	**183**	P		**P**	**16 36 23.2**	**-0.5**
MTN	**Manton Dam**	**21.89**	**249**	P		**P**	**16 36 44.9**	**-1.3**
MTN				IAmb		IAmb	16 36 49.1	
	comp=Z,12nm,0.7s							
WB0	**Warramunga Arr**	**22.29**	**229**	P		**P**	**16 36 49.8**	**-0.8**
WB0				IAmb		IAmb	16 37 07.7	
	comp=Z,16nm,1.0s							
WR0	**Warramunga Arr**	**22.29**	**228**	P		**P**	**16 36 49.8**	**-0.9**
WR0				IAmb		IAmb	16 37 08.3	
	comp=Z,11nm,0.9s							
WRAB	**Tennant Creek**	**22.42**	**229**	P		**P**	**16 36 51.1**	**-0.9**
WRAB				IAmb		IAmb	16 37 09.0	
	comp=Z,13nm,0.9s							
WB2	**Warramunga Arr**	**22.43**	**229**	P		**P**	**16 36 51.6**	**-0.5**
WB2				IAmb		IAmb	16 37 09.1	
	comp=Z,23nm,1.3s							
WRA	**Warramunga Arr**	**22.43**	**229**	P		**P**	**16 36 51.8**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=52,slow=9.6,SNR=26							
WRA				PcP		**PcP**	**16 40 46.3**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=42,slow=1.9,SNR=3.4							
WRA				LR		LR	16 47 02.5	
	comp=Z,119nm,19.9s,baz=60,slow=40							
WRA	**Warramunga Arr**	**22.43**	**229**	P		**P**	**16 36 52.1**	**-0.1**
ARMA	**Armidale**	**24.82**	**181**	P		**P**	**16 37 15.2**	**+0.1**
ARMA				IAmb		IAmb	16 37 22.9	
	comp=Z,20nm,1.4s							
KNRA	**Kununurra**	**25.00**	**244**	P		**P**	**16 37 16.6**	**-0.1**
AS31	**Alice Springs**	**25.14**	**222**	P		**P**	**16 37 18.3**	**+0.2**
ASAR	**Alice Springs**	**25.14**	**222**	P		**P**	**16 37 17.9**	**-0.2**
	comp=Z,12nm,0.8s,baz=58,slow=8.9,SNR=85							
ASAR	**Alice Springs**	**25.14**	**222**	P		**P**	**16 37 18.1**	**0.0**
SOEI	**Soe**	**27.85**	**260**	P		**P**	**16 37 41.8**	**-0.8**
SOEI				IAmb		IAmb	16 38 03.8	
	comp=Z,23nm,1.0s							
STKA	**Stephens Creek**	**28.03**	**199**	P		**P**	**16 37 43.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=20,slow=13,SNR=5.2							
STKA				LR		LR	16 49 12.2	
	comp=Z,137nm,18.4s,baz=32,slow=37							
BATI	**Baumata**	**28.49**	**259**	P		**P**	**16 37 47.8**	**-0.5**
	comp=Z,10nm,0.5s,baz=130,slow=5.0,SNR=4.5							
FITZ	**Fitzroy Crossi**	**28.67**	**242**	P		**P**	**16 37 49.1**	**-0.7**
	comp=Z,4.2nm,0.5s,baz=76,slow=7.1,SNR=17							
FITZ	**Fitzroy Crossi**	**28.67**	**242**			**P**	**16 37 48.5**	**-1.3**
LUWI	**Luwuk**	**29.54**	**278**	P		**P**	**16 37 58.6**	**+1.1**
MMRI	**Maumere**	**29.74**	**262**	P		**P**	**16 37 59.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**37.71**	**263**	P		**P**	**16 39 05.9**	**-2.7**
THZ	**Tophouse**	**40.64**	**156**	P		**P**	**16 39 33.9**	**+1.2**
MLZ	**Mavora Lakes**	**42.14**	**163**	P		**P**	**16 39 43.8**	**-1.1**
MLZ				IAmb		IAmb	16 39 45.1	
	comp=Z,21nm,1.1s							
NWAO	**Narrogin (SRO)**	**42.38**	**225**	LR		LR	16 58 19.3	
	comp=Z,106nm,18.6s,baz=20,slow=37							
MJAR	**Matsushiro Arr**	**43.76**	**344**	LR		LR	16 58 02.0	
	comp=Z,56nm,19.0s,baz=45,slow=36							
XMAS	**Kiritimati**	**51.00**	**83**	P		**P**	**16 40 55.6**	**+0.8**
USA0B	**Ussuriysk Arra**	**52.64**	**342**	P		**P**	**16 41 06.7**	**+0.2**
USA0B				IAmb		IAmb	16 41 17.5	
	comp=Z,13nm,1.4s							
GSI	**Gunungsitoli**	**54.81**	**275**	P		**P**	**16 41 21.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**16 41 42.2**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=127,slow=4.9,SNR=11							
CMAR				LR		LR	17 06 48.6	
	comp=Z,18nm,18.2s,baz=140,slow=36							
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**16 41 41.4**	**-0.6**
PETK	**Petropavlovsk-**	**58.56**	**4**	P		**P**	**16 41 48.9**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=163,slow=10,SNR=3.9							
SONM	**Songino Array**	**66.49**	**328**	P		**P**	**16 42 42.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=152,slow=5.0,SNR=9.7							
SONM	**Songino Array**	**66.49**	**328**	P		**P**	**16 42 41.6**	**-0.5**
VNDA	**Vanda**	**72.19**	**178**	P		**P**	**16 43 17.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=339,slow=4.7,SNR=3.1							
VNDA	**Vanda**	**72.19**	**178**	P		**P**	**16 43 17.5**	**+0.8**
OHAK	**Old Harbor**	**76.49**	**27**	P		**P**	**16 43 42.5**	**+0.5**
CNPM	**China Poot**	**78.65**	**26**	P		**P**	**16 43 54.8**	**+0.9**
BRLK	**Bradley Lake**	**78.92**	**26**	P		**P**	**16 43 56.2**	**+0.8**
MK31	**Makanchi Array**	**80.33**	**319**	P		**P**	**16 44 03.5**	**0.0**
MKAR	**Makanchi Array**	**80.33**	**319**	P		**P**	**16 44 03.1**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=106,slow=6.0,SNR=9.9							
MKAR	**Makanchi Array**	**80.33**	**319**	P		**P**	**16 44 02.8**	**-0.6**
MAKZ	**Makanchi**	**80.54**	**319**	P		**P**	**16 44 03.8**	**-0.8**
MAKZ				IAmb		IAmb	16 44 05.3	
	comp=Z,2.6nm,0.9s							
ZALV	**Zalesovo Beam**	**81.29**	**327**	P		**P**	**16 44 06.6**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=96,slow=7.6,SNR=5.5							
ZALV	**Zalesovo Beam**	**81.29**	**327**	P		**P**	**16 44 07.3**	**-1.0**
IL31		**83.06**	**22**	P		**P**	**16 44 16.4**	**-1.0**
IL31				IAmb		IAmb	16 44 17.3	
	comp=Z,4.2nm,0.8s							
ILAR	**Eielson Array**	**83.06**	**22**	P		**P**	**16 44 16.6**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=246,slow=5.4,SNR=27							
ILAR	**Eielson Array**	**83.06**	**22**	P		**P**	**16 44 16.4**	**-1.0**
NRIK	**Noril'sk**	**86.35**	**341**	P		**P**	**16 44 33.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=157,slow=7.7,SNR=2.3							
KKAR	**Karatay Array**	**87.54**	**314**	P		**P**	**16 44 38.9**	**-1.4**
NVAR	**Mina Array Bea**	**93.09**	**52**	P		**P**	**16 45 08.2**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=255,slow=6.0,SNR=5.5							
NVAR	**Mina Array Bea**	**93.09**	**52**	P		**P**	**16 45 06.3**	**-0.3**
ARU	**Arti**	**96.45**	**326**	LR		LR	17 29 45.8	
	comp=Z,41nm,18.2s,baz=340,slow=36							
GERES	**GERESS Array B 124.22 328**			PKP		**PKiKP**	**16 50 51.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=110,slow=2.0,SNR=5.7							
GERES	**GERESS Array B 124.22 328**					**PKPdf**	**16 50 50.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**149.78**	**287**	PKPbc		**PKPbc**	**16 51 42.7**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=65,slow=2.5,SNR=24							
TORD	**Torodi Ar. Bea**	**149.78**	**287**			**PKPbc**	**16 51 42.2**	**-0.9**

*IDC **05** 16:51:54.2±2.9,27.90S×176.68W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/34, mbtmp4.0/4, Error ellipse: s-maj=66.7km s-min=29.1km az=119.0*
ISC 05 16:51:57.7±2.4, 28.0S±0.3×176.4W±0.4, h37km, n7,
σ0§82/8, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.82**	**227**	Pn		**Pn**	**16 52 26.8**	**+0.4**
	115nm,0.3s,baz=105,slow=20,SNR=4.3							
RAO				Sn		**Sn**	**16 52 48.2**	**+0.1**
	277nm,0.3s,baz=292,slow=23,SNR=7.9							
CTA	**Charters Tower**	**34.89**	**275**	P		**P**	**16 58 46.9**	**+1.1**
	3.8nm,0.8s,baz=96,slow=11,SNR=3.2							
STKA	**Stephens Creek**	**36.43**	**253**	P		**P**	**16 58 58.3**	**-0.7**
	2.4nm,0.8s,baz=108,slow=7.0,SNR=3.7							
ASAR	**Alice Springs**	**44.69**	**264**	P		**P**	**17 00 06.5**	**-0.8**
	0.7nm,0.7s,baz=92,slow=7.3,SNR=12							
WRA	**Warramunga Arr**	**45.47**	**269**	P		**P**	**17 00 12.8**	**-0.7**
	0.4nm,0.5s,baz=110,slow=6.3,SNR=8.0							
NB2	**NORSAR Subarra1**	**46.57**	**353**	PKP		**PKiKP**	**17 11 37.2**	**-0.2**
	comp=Z,5.3nm,1.4s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**46.57**	**353**	PKPbc		**PKPab**	**17 11 36.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=12,slow=4.4,SNR=5.1							

*BGR **05** 16:58:48.8±0.0, 65.90N×18.48W, h33km, mb4.9*
*REY **05** 16:58:54.3, 64.61N×17.48W, h2km*
*IDC **05** 16:58:55.7±0.5, 64.50N×17.78W, h0km, mb4.3/25, mb1 4.4/30, mb1mx4.2/56, mbtmp4.2/30, ML3.0/4, MS3.9/37, Ms1 3.9/37, ms1mx3.9/56, Error ellipse: s-maj=16.1km s-min=8.8km az=21.0*
*BGS **05** 16:58:55.7±2.3, 64.59N×17.36W, h5km, mb4.9(NEIC)*
*MOS **05** 16:58:57.3±1.4, 64.69N×17.56W, h13km, mb4.9/47, MS4.1/15, Error ellipse: s-maj=7.6km s-min=4.6km az=117.6*
*NEIC **05** 16:58:58.2±2.3, 64.59N±0.08×17.4W±0.2, h11km±3km, mb4.9/219, Error ellipse: s-maj=12.1km s-min=9.3km az=214.0*
*DNK **05** 16:59:00.8±5.1, 64.64N×18.02W, h0km±114km*
*GCMT **05** 16:59:01.2±0.2, 64.62N±0.02×16.93W±0.05, h14km±1km, MW4.9/124, Moment Tensor Solution. s22,c25; s124,c185; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.03±.18; Mθθ2.23±.12; Mϕϕ0.80±.09; Mrθ-0.25±.21; Mθϕ-0.33±.06; Mϕr-1.82±.26; Best double couple: Ms3.04200×10¹⁶ NP1:ϕs84.00000°, δ47.00000°, λ-121.00000°. NP2:ϕs305.00000°, δ51.00000°, λ-61.00000°. Principal axes: T 2.3080, Plg3.0000°, Azm15.0000°; N 1.4720, Plg22.0000°, Azm106.0000°; P -3.7770, Plg68.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 16:58:58.7±0.3, 64.62N±0.04×17.31W±0.03, h10km, n736,
σ1§99/690, mb4.9/214, MS4.0/50, 19C-25D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
IDJK	**Dyngjujokull**	**0.12**	**165**	P		Pg	16 58

IVSH V-Sauoahnukur 0.70 74 P Pg 16 59 08.1 -4.2
baz=74
ISVA Svartarkot 0.72 2 P Pg 16 59 07.5 -5.1
baz=7.5
IVAT Vatnsfell 0.82 239 P Pg 16 59 08.3 -6.3
baz=236
IADA Aoalbol 0.84 61 P Pg 16 59 10.2 -4.7
baz=62
IMEL Melhnausar 0.99 16 P Pg 16 59 12.2 -5.5
baz=20
IHVE Hveravellir 1.00 285 P Pg 16 59 10.7 -7.3
baz=287
IREN Reynihlio 1.04 9 P Pg 16 59 13.0 -5.8
baz=13
ISNB Snabyli 1.06 214 P Pb 16 59 12.1 -7.1
baz=210
IKVO Krokottuvotn 1.11 9 P Pg 16 59 14.0 -6.0
baz=13
IGRS Grimsstaoir 1.14 26 P Pb 16 59 14.9 -5.5
baz=28
IRJU Rjupnafell 1.17 211 P Pn 16 59 14.1 -7.0
baz=208
IFED Fedgar 1.20 241 P Pb 16 59 14.6 -6.8
baz=240
IMJO Mjoaskard 1.24 237 P Pn 16 59 15.3 -6.9
baz=236
IGHA Grjothals 1.26 12 P Pb 16 59 16.8 -5.7
baz=15
ISKI Skildingahlsh 1.26 5 P Pb 16 59 16.5 -6.0
baz=8.4
IHVO Lagu-Hvolar 1.29 212 P Pn 16 59 16.1 -6.6
baz=210
IGYG Gygjarholskot 1.30 256 P Pn 16 59 15.8 -7.2
baz=256
IGRA Granastaoir 1.31 355 P Pn 16 59 16.8 -6.2
baz=358
IHAU Haukadalur 1.33 242 P Pn 16 59 16.5 -6.8
baz=240
IDIM Dimmadalss 1.35 7 P Pn 16 59 17.9 -5.8
baz=9.4
IHLA Hella 1.40 342 P Pn 16 59 18.1 -6.2
baz=345
IALF Alftagrof 1.40 217 P Pn 16 59 17.9 -6.4
baz=214
IESK Eystri-Skogar 1.45 221 P Pn 16 59 18.5 -6.4
baz=219
IHED Heoinshofoi 1.47 0 P Pn 16 59 19.4 -5.7
baz=2.7
IMID Miomork 1.49 231 P Pn 16 59 19.5 -6.0
baz=229
ISAU Saurbar 1.50 246 P Pn 16 59 19.0 -6.5
baz=245
IGIL Gilhagi 1.52 15 P Pn 16 59 20.3 -5.5
baz=17
IBRE Brettingsstaoi 1.53 351 P Pn 16 59 20.3 -5.7
baz=354
IASM Asmuli 1.65 243 P Pn 16 59 21.5 -6.1
baz=242
ISIG Siglufjorour 1.66 337 P Pn 16 59 22.0 -5.8
baz=339
IASB `sbjarnarst 1.73 276 P Pn 16 59 22.5 -6.3
baz=277
BORG Borgarnes 1.73 276 Pn Pn 16 59 22.8 -6.0
14nm,0.3s,baz=102,slow=8.1,SNR=46
BORG Sn **Sn 16 59 46.6 -4.3**
39nm,0.3s,baz=61,slow=14,SNR=4.8
BORG Borgarnes 1.73 276 Pn 16 59 21.6 -7.2
ISOL Solvholt 1.73 248 P Pn 16 59 22.6 -6.2
baz=247
IKRO Krokur 1.74 254 P Pn 16 59 22.2 -6.7
baz=254
IHRN Hraun 1.90 323 P Pn 16 59 25.7 -5.4
baz=325
IGRI Grimsey 1.95 352 P Pn 16 59 26.2 -5.6
baz=354
SCO Scoresbysund 6.15 345 P **Pn 17 00 29.4 0.0**
SCO Scoresbysund 6.15 345 Pn **Pn 17 00 29.4 0.0**
SCO Scoresbysund 6.15 345 *e* Pn 17 00 22.9 -6.5
baz=167,slow=8.6
SCO *i* P **Pn 17 00 27.9 -1.5**
SCO *eS* **Sn 17 01 43.4 +3.7**
JMIC Jan Mayen 7.20 24 LR LR 17 03 03.9
comp=Z,1um,19.8s,baz=262,slow=34
LEWI Lewis, Hebride 8.20 138 *eP* **Pn 17 00 54.4 -3.2**
KAC Achnashellach 9.20 135 *eP* **Pn 17 01 08.4 -2.9**
KPL Plockton 9.23 137 *eP* **Pn 17 01 08.9 -2.8**
INVG Invergeldie, C 10.48 135 *eP* **Pn 17 01 26.5 -2.3**
EAB Aberfoyle 10.59 137 *eP* **Pn 17 01 28.2 -2.1**
PGBU Glenifferbraes 10.87 138 *eP* **Pn 17 01 32.7 -1.5**
SUMG Summit 11.02 325 P **Pn 17 01 38.9 +2.3**
SUMG Summit 11.02 325 Pn **Pn 17 01 38.9 +2.3**
SUMG Summit 11.02 325 *i* P **Pn 17 01 39.5 +3.0**
SUMG Summit 11.02 325 *i* P **Pn 17 01 39.6 +3.0**
EBL Broad Law 11.33 135 *eP* **Pn 17 01 38.3 -2.2**
NEWG New Galloway 11.55 140 *eP* **Pn 17 01 41.5 -1.9**
EKA Eskdalemuir Ar 11.67 136 Pn **Pn 17 01 42.8 -2.3**
baz=322,slow=13,SNR=20
EKA Sn **Sn 17 03 54.4 -0.9**
baz=310,slow=26,SNR=2.7
ESK Eskdalemuir 11.67 136 *eP* **Pn 17 01 43.0 -2.1**
ESK Eskdalemuir 11.67 136 P **Pn 17 01 43.3 -1.8**
ESK Eskdalemuir 11.67 136 Pn **Pn 17 01 43.3 -1.8**
DAG Danmarks Havn 12.22 359 *i* P Pn 17 01 56.9 +4.5
DAG Danmarks Havn 12.22 359 *i* P Pn 17 01 56.9 +4.5
DAG Danmarks Havn 12.22 359 *i* P Pn 17 01 57.0 +4.5
DSB Dublin 12.70 149 Pn **Pn 17 01 59.5 +0.3**
NC204 NORSAR Array S 13.15 92 Pn **Pn 17 02 01.8 -3.5**
NBO00 NORSAR Array S 13.27 93 **Pn 17 02 04.7 -2.1**
NOA NORSAR Array B 13.45 92 Pn **Pn 17 02 08.7 -0.7**
0.0nm,0.3s,baz=300,slow=13,SNR=6.4
NOA LR LR 17 07 23.7
comp=Z,419nm,21.4s,baz=290,slow=37
KONO Kongsberg 13.46 99⇑ *eP* **Pn 17 02 10.5 +1.0**
NC405 NORSAR Array S 13.63 92 Pn **Pn 17 02 12.1 +0.3**
SFJD Kangerlussuaq 13.76 295 LR LR 17 06 55.0
comp=Z,755nm,18.3s,baz=84,slow=35
HFS Hagfors 14.96 93 Pn **Pn 17 02 29.3 -0.6**
0.2nm,0.3s,baz=340,slow=13,SNR=4.9
HFS LR LR 17 08 55.9
comp=Z,260nm,18.2s,baz=288,slow=40
MUD Monsted U'grnd 15.27 110 *i* P **P 17 02 42.0 +3.0**
MUD Monsted U'grnd 15.27 110 *i* P **P 17 02 42.0 +3.0**
SPITS Spitsbergen Ar 16.88 23 LR LR 17 07 49.8
comp=Z,541nm,19.3s,baz=235,slow=31
NOR Nord 17.07 0 *i* P **P 17 03 00.1 +1.4**
NOR Nord 17.07 0 *i* P **P 17 03 00.1 +1.4**
NOR Nord 17.07 0 *i* P **P 17 03 00.2 +1.4**
ARCES ARCESS Array B 17.08 54 P **Pn 17 02 57.9 +0.7**
baz=94,slow=4.9,SNR=4.9
ARCES LR LR 17 08 20.8
comp=Z,800nm,21.3s,baz=295,slow=33
BSEG Bad Segeberg 17.54 115 P **P 17 03 06.5 +2.4**
BSEG pmax pmax
comp=Z,45nm,1.3s
KEV Kevo 17.58 54 P **P 17 03 05.0 +0.5**
KEV pmax pmax
comp=Z,24nm,0.9s
KEV Kevo 17.58 54 **P 17 03 05.0 +0.5**
OUL Oulu 18.11 69 P **P 17 03 12.3 +2.0**
OUL pmax pmax
comp=Z,18nm,1.6s
SNF Seneffe 18.13 131 P **Pn 17 03 09.0 -1.4**
FLN La Foliniere 18.28 142 *eP* **Pn 17 03 12.1 -0.1**
FLN pmax pmax
comp=Z,56nm,1.5s
BEBN Eben Emael 18.35 128 x **Pn 17 03 16.3 +3.3**
BUG Bochum--Univer 18.37 124 P **Pn 17 03 16.6 +3.4**
BUG pmax pmax
comp=Z,38nm,1.4s
QUIF Quistinic 18.41 149 *eP* **Pn 17 03 15.2 +1.4**
QUIF pmax pmax
comp=Z,65nm,1.3s
BMRD Maredsous 18.47 130 x **Pn 17 03 17.8 +3.4**
BAIF Baives 18.50 132 *eP* **P 17 03 14.4 -0.3**
BAIF pmax pmax
comp=Z,30nm,1.1s
GRR Gorron 18.53 144 *eP* **Pn 17 03 16.3 +1.1**
GRR pmax pmax
comp=Z,44nm,1.0s
LDF La Druitiere 18.53 142 *eP* **Pn 17 03 16.1 +0.9**
LDF pmax pmax
comp=Z,70nm,1.8s
BCLA Clavier 18.55 129 ⇑P **P 17 03 13.8 -1.4**
MEM Membach 18.62 128 P **Pn 17 03 22.0 +5.7**
MEM Membach 18.62 128 P **Pn 17 03 20.5 +4.2**
MEM pmax pmax
comp=Z,40nm,1.2s
GIVF Givet 18.66 131 *eP* **Pn 17 03 18.4 +1.6**
GIVF pmax pmax
comp=Z,24nm,1.3s
BTNL Ternell 18.68 128 x **Pn 17 03 19.6 +2.5**
SUF Sumiainen 19.09 76 P **Pn 17 03 25.5 +3.6**
SUF pmax pmax
comp=Z,14nm,1.5s
MSF Maaselka 19.10 65 *eP* **Pn 17 03 23.4 +1.4**
MSF pmax pmax
comp=Z,35nm,1.6s
WLF Walferdange 19.48 129 P **Pn 17 03 30.4 +3.8**
WLF pmax pmax
comp=Z,28nm,2.8s
FIA1 FINESS Array S 19.63 79 P **P 17 03 24.9 -2.1**
FIA1 IAmb IAmb 17 03 37.7
comp=Z,80nm,1.5s
FINES FINESS Array B 19.63 79 P **P 17 03 28.0 +1.0**
comp=Z,0.2nm,0.3s,baz=337,slow=9.1,SNR=11
FINES LR LR 17 11 04.8
comp=Z,259nm,20.5s,baz=307,slow=37
FINES FINESS Array B 19.63 79 P **P 17 03 25.2 -1.8**
TNS Taunus Mts 19.80 124 P **Pn 17 03 30.8 +0.3**
TNS pmax pmax
comp=Z,18nm,1.5s
APA Apatity 20.28 59⇓ *i* P **P 17 03 33.2 -0.8**
APA *i* 17 03 41.6
APA *i* S **S 17 07 12.0 -9.0**
APA *i* SS SnSn 17 07 56.0 +18
APA pmax pmax
comp=Z,10.0nm,1.0s
MOX Moxa 20.61 119 P **P 17 03 39.6 +1.8**
MOX pmax pmax
comp=Z,30nm,1.3s
CLL Collm 20.61 116 *i* P **P 17 03 39.1 +1.4**
comp=Z,60nm,1.3s
CLL Lm MLR 17 11 00.0
comp=Z,500nm,20.1s
CLL Collm 20.61 116 *i* P **P 17 03 39.1 +1.4**
CLL pmax pmax
comp=Z,60nm,1.3s
CLL MLR MLR
comp=Z,500nm,20.1s
CLL Collm 20.61 116 P **P 17 03 36.1 -1.6**
CLL IAmb IAmb 17 03 46.2
comp=Z,50nm,1.2s
LVZ Lovozero 20.65 58⇓ *eP* **P 17 03 39.1 +1.0**
LVZ pmax pmax
comp=Z,18nm,1.1s
CDF Champ du Feu 20.93 129 *eP* **P 17 03 41.0 -0.3**
CDF pmax pmax
comp=Z,40nm,1.2s
ECH Echery 21.06 130 P **P 17 03 40.3 -2.4**
ECH pmax pmax
comp=Z,34nm,1.0s
ECH Echery 21.06 130 P **P 17 03 40.3 -2.4**
GRA1 Grafenberg Arr 21.24 121 P **P 17 03 43.3 -1.3**
GRA1 IAmb IAmb 17 03 59.7
comp=Z,111nm,1.4s
GRF Grafenberg Arr 21.24 121 P **P 17 03 43.3 -1.3**
GRF pmax pmax
comp=Z,111nm,1.4s
GRF Grafenberg Arr 21.24 121 *eP* **P 17 03 43.3 -1.3**
comp=Z,75nm,1.4s,baz=326,slow=10
NKC Novy Kostel 21.26 118 *eP* **P 17 03 44.6 -0.2**
NKC *epP* **sP 17 03 49.8 +0.3**
NKC *eS* Sn 17 07 49.1 +1.3
NKC AMS AMS 17 13 40.0
comp=Z,900nm,16.6s
NKC Novy Kostel 21.26 118 *eP* **P 17 03 44.6 -0.2**
NKC *e* 17 03 49.8
NKC *eS* Sn 17 07 49.1 +1.3
NKC MLR MLR
comp=Z,900nm,16.6s
STU Stuttgart 21.28 126 P **P 17 03 43.3 -1.7**
STU pmax pmax
comp=Z,51nm,1.0s
STU Stuttgart 21.28 126 P **P 17 03 43.3 -1.7**
STU IAmb IAmb 17 03 53.4
comp=Z,51nm,1.0s
HINF Hinteralfeld 21.31 131 *eP* **P 17 03 47.3 +1.9**
HINF pmax pmax
comp=Z,12nm,1.0s
BRG Berggiesshubel 21.32 115 *i* P **P 17 03 45.2 -0.2**
comp=Z,94nm,1.5s
BRG S Sn 17 07 55.0 +5.8
comp=N,870nm,14.2s
comp=E,616nm,9.2s
comp=Z,868nm,16.8s
BRG Berggiesshubel 21.32 115 *i* P **P 17 03 45.2 -0.2**
BRG S Sn 17 07 55.0 +5.8
BRG pmax pmax
comp=Z,94nm,1.5s
BRG MLR MLR
comp=N,870nm,14.2s
BRG MLR MLR
comp=E,616nm,9.3s
BRG MLR MLR
comp=Z,868nm,16.8s
BFO Black Forest 21.36 128 P **P 17 03 44.4 -1.5**
BFO pmax pmax
comp=Z,45nm,1.2s
BFO Black Forest 21.36 128 P **P 17 03 44.4 -1.5**
VSU Vasula 21.49 86 *eP* **P 17 03 48.6 +1.5**
VSU Vasula 21.49 86 *deP* **P 17 03 48.3 +1.2**
VSU pmax pmax
comp=Z,94nm,0.8s
PVCC Panska Ves 21.84 115 AMS AMS 17 14 00.0
comp=Z,800nm,18.3s
PVCC Panska Ves 21.84 115 P **P 17 03 53.4 +2.5**
PVCC pmax pmax
comp=Z,12nm,2.2s
FRB Frobisher Bay 21.84 291 LR LR 17 11 47.1
comp=Z,450nm,20.9s,baz=52,slow=36
SLE Schleitheim 21.90 128 P **P 17 03 55.1 +3.4**
SLE pmax pmax
comp=Z,34nm,1.3s
PABE Paberze 22.12 95 *eP* **P 17 03 56.2 +2.3**
PRA Prague 22.15 116 *eS* **S 17 08 00.3 +2.3**
PRA AMS AMS 17 14 40.0
comp=Z,400nm,11.4s
PRU Pruhonice 22.26 116 *eP* **P 17 03 57.2 +1.8**
PRU *ex* x 17 04 02.2
PRU *eS* Sn 17 08 08.2 -3.5
PRU AMS AMS 17 14 40.0
comp=Z,800nm,11.0s
PRU Pruhonice 22.26 116 *eP* **P 17 03 57.2 +1.8**
PRU *e* 17 04 02.2
PRU MLR MLR
comp=Z,800nm,11.0s
KSP Ksiaz 22.27 112 *eP* **P 17 03 57.0 +1.4**
KSP Ksiaz 22.27 112 *eP* **P 17 03 57.0 +1.4**
PBCC Pribram 22.29 117 *eP* **P 17 03 57.5 +1.7**
PBCC *ex* x 17 04 02.6
WET Wettzell 22.31 120 P **P 17 03 59.6 +3.6**
WET pmax pmax
comp=Z,21nm,1.3s
CHVC Chvalec 22.38 113 *eP* **P 17 03 57.8 +1.0**
CHVC *ex* x 17 04 03.5
CHVC AMS AMS 17 13 20.0
comp=Z,500nm,20.0s
UPC Upice 22.42 113 *eP* **P 17 03 58.7 +1.5**
UPC *ex* x 17 04 04.2
UPC *eS* **S 17 08 08.3 +5.1**
UPC AMS AMS 17 13 50.0
comp=Z,700nm,20.8s
UPC Upice 22.42 113 *eP* **P 17 03 58.7 +1.5**
UPC *e* 17 04 04.2
UPC *eS* **S 17 08 08.3 +5.1**
UPC MLR MLR
comp=Z,700nm,20.8s
OSTC Ostas 22.46 113 *eP* **P 17 03 58.3 +0.6**
OSTC *ex* x 17 04 04.4
OSTC *eS* **S 17 08 09.4 +5.4**
OSTC AMS AMS 17 13 40.0
comp=Z,600nm,18.2s
FUR Furstenfeldbru 22.53 123 P **P 17 04 01.3 +2.8**
FUR pmax pmax
comp=Z,59nm,1.9s
KHC Kasperske Hory 22.58 119 *eP* **P 17 03 58.6 -0.4**
KHC *ex* x 17 04 06.0
KHC *eS* **S 17 08 04.9 -1.3**
KHC AMS AMS 17 12 10.0
comp=Z,800nm,19.9s
KHC Kasperske Hory 22.58 119⇓ *eP* **P 17 03 59.7 +0.7**
KHC pmax pmax
comp=Z,54nm,1.3s
KHC Kasperske Hory 22.58 119 P **P 17 03 58.8 -0.2**
DPC Dobruska-Polom 22.67 113 *eP* **P 17 04 00.3 +0.4**
DPC *epP* **sP 17 04 06.5 +1.8**
DPC *eS* **S 17 08 13.9 +6.1**
DPC AMS AMS 17 14 20.0
comp=Z,600nm,19.6s
DPC Dobruska-Polom 22.67 113 *eP* **P 17 04 00.3 +0.4**
DPC *e* 17 04 06.5
DPC *eS* **S 17 08 13.9 +6.1**
DPC MLR MLR
comp=Z,600nm,19.6s
SENIN Lac Senin/Sane 22.73 132 P **P 17 04 01.5 +0.7**
DAVA Damuels 22.79 127 *eP* **P 17 04 02.3 +1.0**
comp=Z,31nm,1.3s,SNR=6.0
SUW Suwalki 22.80 98 P **P 17 04 01.8 +0.7**
SUW pmax pmax
comp=Z,91nm,1.2s
SUW Suwalki 22.80 98 P **P 17 04 01.8 +0.7**
GEC2 GERESS Array S 22.86 119 P **P 17 04 02.6 +0.6**
GEC2 IAmb IAmb 17 04 12.7
comp=Z,42nm,1.3s
GERES GERESS Array B 22.86 119 P **P 17 04 01.5 -0.5**
comp=Z,14nm,1.1s,baz=327,slow=8.5,SNR=23
GERES LR LR 17 13 33.1
comp=Z,576nm,19.7s,baz=323,slow=38
GERES GERESS Array B 22.86 119 P **P 17 04 00.6 -1.4**
RETA Reutte 22.93 125 *eP* **P 17 04 03.6 +1.0**
comp=Z,4.2nm,0.7s
IZAR Zarasai 22.95 92 *eP* **P 17 04 05.3 +2.6**
ISAL Salakas 23.01 93 *eP* **P 17 04 05.7 +2.4**
KRLC Kraliky 23.07 113 *eP* **P 17 04 05.7 +1.6**
KRLC *epP* **sP 17 04 09.0 +0.1**
KRLC *eS* **S 17 08 20.7 +5.9**
KRLC AMS AMS 17 14 10.0
comp=Z,600nm,18.3s
KRLC Kraliky 23.07 113 *eP* **P 17 04 05.7 +1.6**
KRLC *e* 17 04 09.0
KRLC *eS* **S 17 08 20.7 +5.9**
KRLC MLR MLR
comp=Z,600nm,18.3s
MOTA Moosalm 23.17 125 *eP* **P 17 04 06.8 +1.6**
comp=Z,18nm,1.3s,SNR=7.4
TREC Trest 23.18 116 *eP* **P 17 04 05.7 +0.5**
TREC *ex* x 17 04 11.7
TREC AMS AMS 17 15 10.0
comp=Z,800nm,14.4s
TREC Trest 23.18 116 *eP* **P 17 04 05.7 +0.5**
TREC *e* 17 04 11.7
TREC MLR MLR
comp=Z,800nm,14.4s
IIGN Ignalina 23.20 93 *eP* **P 17 04 07.9 +2.6**
DAVOX Davos/Dischmat 23.23 127 P **P 17 04 06.3 +0.4**
comp=Z,7.2nm,1.1s,baz=345,slow=13,SNR=8.2
DAVOX LR LR 17 14 10.7
comp=Z,594nm,18.5s,baz=340,slow=39
PGAV Gavieira, Arco 23.29 163 *eP* **P 17 04 08.1 +1.7**
comp=Z,49nm,1.5s
PGAV *i* LQ LQ 17 08 30.2
PGAV *e* LR LR 17 10 22.4
comp=Z,244nm,18.0s
TMCR Tamitsa 23.29 66 *eP* **P 17 04 06.4 +0.3**
TMCR pmax pmax
comp=Z,58nm,1.3s
LPL La Plagne 23.31 134 *eP* **P 17 04 08.9 +2.1**
LPL pmax pmax
comp=Z,27nm,1.3s
SQTA Sankt Quirin 23.31 125 *eP* **P 17 04 06.8 +0.2**
comp=Z,19nm,1.5s
WATA Walderalm 23.34 124 *eP* **P 17 04 07.0 0.0**
comp=Z,15nm,1.3s
BEL Belsk 23.35 105 P **P 17 04 09.9 +3.0**
BEL pmax pmax
comp=Z,100nm,1.2s
WTTA Wattenberg 23.43 124 *eP* **P 17 04 08.0 +0.1**
comp=Z,13nm,1.2s,SNR=10
IDID Didziasalis 23.44 92 *eP* **P 17 04 10.2 +2.4**
FUORN Ofenpass-Fuorn 23.50 127 P **P 17 04 07.3 -1.3**
FUORN IAmb IAmb 17 04 36.4
comp=Z,41nm,1.4s
VRAC Vranov 23.60 114 P **P 17 04 09.7 +0.3**
comp=Z,5.3nm,0.9s,baz=324,slow=12,SNR=11
VRAC LR LR 17 14 56.2
comp=Z,481nm,18.3s,baz=328,slow=40
VRAC Vranov 23.60 114 *eP* **P 17 04 10.1 +0.7**
MORC Moravsky Berou 23.61 112 *eP* **P 17 04 09.8 +0.3**
MORC Moravsky Berou 23.61 112 P **P 17 04 08.3 -1.2**
MORC pmax pmax
comp=Z,36nm,1.4s
MORC Moravsky Berou 23.61 112 P **P 17 04 08.3 -1.2**
PBRG Braganca 23.65 160 *eP* **P 17 04 09.1 -0.9**
comp=Z,39nm,1.7s
BNI Bardonecchia 23.71 134 P **P 17 04 08.9 -1.7**
BNI pmax pmax
comp=Z,21nm,1.3s
BNI Bardonecchia 23.71 134 P **P 17 04 08.9 -1.7**
KRUC Moravsky 23.72 115 *eP* **P 17 04 10.7 +0.1**
KRUC Moravsky 23.72 115 P **P 17 04 10.9 +0.3**
KRUC pmax pmax
comp=Z,24nm,2.2s
NACGM Naroch 23.73 93 *e* **P 17 04 11.0 +0.4**
EUNU Eureka 23.74 336 pP **P 17 04 12.0 +1.5**
MOA Molln 23.90 119 *eP* **P 17 04 14.3 +2.0**
comp=Z,14nm,1.4s
OJC Ojcow 24.17 109 *eP* **P 17 04 16.9 +2.1**
OJC Ojcow 24.17 109 *eP* **P 17 04 16.9 +2.1**
OJC Ojcow 24.17 109 P **P 17 04 13.3 -1.5**
ABTA Abfaltersbach 24.18 123 *eP* **P 17 04 18.3 +3.3**
comp=Z,16nm,1.4s
KBA Koelnbreinsper 24.20 122 *eP* **P 17 04 18.3 +3.0**
comp=Z,15nm,1.2s
KBA Koelnbreinsper 24.20 122 P **P 17 04 21.4 +6.1**
KBA pmax pmax
comp=Z,15nm,2.1s
MVO Moncorvo 24.24 161 *eP* **P 17 04 19.4 +3.8**
comp=Z,42nm,1.6s
MVO *e* LR LR 17 11 12.2
comp=Z,214nm,20.0s
JAVC Velka Javorina 24.39 114 *eP* **P 17 04 18.8 +2.0**
CONA Conrad Observa 24.44 117 *eP* **P 17 04 17.1 -0.2**
comp=Z,10nm,1.1s,SNR=8.4
CTI Castel Tesino 24.48 126 P **P 17 04 18.5 +0.8**
CTI pmax pmax
comp=Z,54nm,1.5s
CTI Castel Tesino 24.48 126 P **P 17 04 18.5 +0.8**
CTI IAmb IAmb 17 04 28.4
comp=Z,54nm,1.5s
MICGM Minsk 24.48 93 *eP* **P 17 04 21.0 +3.5**
MICGM *eS* **S 17 08 48.0 +11**
MNK Minsk 24.48 93 *eP* **P 17 04 21.0 +3.5**
ZOU Zoufplan 24.51 123 P **P 17 04 19.4 +1.2**
ZOU IAmb IAmb 17 04 31.0
comp=Z,31nm,1.2s
CIMO Cimolais 24.53 124 P **P 17 04 19.6 +1.5**
CIMO IAmb IAmb 17 04 38.6
comp=Z,39nm,1.4s
SMOL Smolenice 24.57 114 *eP* **P 17 04 18.6 +0.2**
SMOL pmax pmax
comp=Z,13nm,1.2s
SMOL Smolenice 24.57 114 *eP* **P 17 04 18.6 +0.2**
MODS Modra-Piesok 24.62 115 *eP* **P 17 04 20.1 +1.2**
MODS pmax pmax
comp=Z,61nm,1.6s
MODS Modra-Piesok 24.62 115 *eP* **P 17 04 20.1 +1.2**
MYKA Terra Mystica 24.69 122 *eP* **P 17 04 22.4 +2.8**
comp=Z,15nm,1.4s
ZST Bratislava 24.70 115 P **P 17 04 25.8 +6.2**
ARSA Arzberg 24.87 119 *eP* **P 17 04 23.7 +2.5**
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 24.87 111 *eP* **P 17 04 22.2 +1.0**
LANS pmax pmax
comp=Z,13nm,1.1s
LANS Liptovska Anna 24.87 111 *eP* **P 17 04 22.2 +1.0**
NIE Niedzica 25.00 109 *eP* **P 17 04 23.5 +1.2**
NIE Niedzica 25.00 109 *eP* **P 17 04 23.5 +1.2**
TEOL Teolo 25.08 126 P **P 17 04 23.4 +0.4**
TEOL IAmb IAmb 17 04 31.0
comp=Z,34nm,1.3s
OBKA Obir 25.13 121 *eP* **P 17 04 25.0 +1.4**
comp=Z,14nm,1.1s
VYHS Vyhne 25.14 113 *eP* **P 17 04 23.2 -0.4**
VYHS pmax pmax
comp=Z,48nm,1.5s
VYHS Vyhne 25.14 113 *eP* **P 17 04 23.2 -0.4**

PCAS Casmilo, Conde 25.14 164 *e*P P 17 04 20.6 -3.1
comp=Z,61nm,1.4s
SOKA Soboth 25.16 120 *e*P P 17 04 23.9 -0.1
comp=Z,16nm,1.4s
PCBR Castelo Branco 25.48 162 *e*P P 17 04 28.5 +1.8
comp=Z,41nm,1.6s
SRO Srobarova 25.48 114 *e*P P 17 04 28.9 +2.2
SRO pmax pmax
comp=Z,32nm,1.3s
SRO Srobarova 25.48 114 *e*P P 17 04 28.9 +2.2
KLMR Klimovskoe 25.54 72 *e*P P 17 04 27.7 +0.7
KLMR *e* 17 07 56.7
KLMR *e*S S 17 08 57.0 +2.8
KLMR pmax pmax
comp=Z,42nm,1.3s
KLMR Klimovskoe 25.54 72 *e*P P 17 04 27.8 +0.7
KLMR AMP 17 04 31.5
comp=Z,42nm,1.3s
KLMR *e*PcP PcP 17 07 56.7 -1.1
KLMR *e*S S 17 08 57.0 +2.8
KLMR *e*S S 17 08 57.0 +2.8
KLMR LQ LQ 17 11 27.8
KLMR LQ LQ 17 11 27.8
KLMR LR LR 17 12 36.8
SRO2 Moca 25.56 114 *e*P P 17 04 29.1 +1.7
SRO2 pmax pmax
comp=Z,22nm,1.0s
SRO2 Moca 25.56 114 *e*P P 17 04 29.0 +1.7
VLC Villacollemand 25.70 130 P P 17 04 32.0 +3.3
VLC IAmb IAmb 17 04 48.3
comp=Z,44nm,1.3s
ZCCA Zocca 25.73 128 P P 17 04 30.8 +1.8
KWP Kalwaria Pacla 25.82 106 *e*P P 17 04 31.2 +1.4
KWP Kalwaria Pacla 25.82 106 *e*P P 17 04 31.2 +1.4
KWP Kalwaria Pacla 25.82 106 P P 17 04 29.5 -0.2
CRVS Cervenica-Dubn 25.88 109 *e*P P 17 04 30.7 +0.4
CRVS pmax pmax
comp=Z,85nm,1.7s
CRVS Cervenica-Dubn 25.88 109 *e*P P 17 04 30.7 +0.4
PMRV Marv??o 25.90 162 *e*P P 17 04 35.1 +4.6
comp=Z,43nm,1.5s
PMRV *e*LR LR 17 11 37.1
comp=Z,243nm,18.0s
PSZ Piszkesteto 26.03 112 P P 17 04 30.9 -0.8
PSZ pmax pmax
comp=Z,55nm,1.4s
PSZ Piszkesteto 26.03 112 P P 17 04 30.9 -0.8
PSZ IAmb IAmb 17 04 44.2
comp=Z,55nm,1.4s
SCHQ Schefferville 26.12 272 P P 17 04 31.8 -0.6
comp=Z,21nm,1.0s,baz=52,slow=11,SNR=6.4
SCHQ LR LR 17 12 53.6
comp=Z,114nm,21.8s,baz=84,slow=32
SCHQ Schefferville 26.12 272 P 17 04 32.7 +0.3
SCHQ IAmb IAmb 17 04 37.5
comp=Z,43nm,1.2s
ESDC Sonseca Array 26.18 156 P P 17 04 31.4 -1.7
comp=Z,1.2nm,0.8s,baz=355,slow=7.5,SNR=6.7
ESDC LR LR 17 14 35.4
comp=Z,261nm,18.7s,baz=345,slow=36
KOLS Kolonicke sedl 26.18 108 *e*P P 17 04 32.2 -0.9
KOLS pmax pmax
comp=Z,46nm,1.5s
KOLS Kolonicke sedl 26.18 108 *e*P P 17 04 32.2 -0.9
LVV L'vov 26.23 104 *e*P P 17 04 35.5 +2.1
LVV *e*S S 17 09 03.6 -1.7
LVV pmax pmax
comp=Z,140nm,1.3s
LVV MLR MLR
comp=E,300nm,12.0s
LVV MLR MLR
comp=N,300nm,14.0s
LVV MLR MLR
comp=Z,500nm,14.0s
UZH Uzhgorod 26.43 108 *e*P P 17 04 36.3 +1.1
UZH *e*S S 17 09 04.0 -4.5
OSSC Osservatorio P 26.55 129 P P 17 04 38.0 +1.7
OSSC IAmb IAmb 17 04 46.1
comp=Z,37nm,1.1s
RES Resolute Bay 26.55 325 LR LR 17 15 27.5
comp=Z,273nm,18.1s,baz=74,slow=37
PGF Pioggiola 26.69 133 *e*P P 17 04 40.5 +2.7
PGF pmax pmax
comp=Z,46nm,1.2s
MURB Monte Urbino 27.21 127 P P 17 04 43.9 +1.5
MURB IAmb IAmb 17 04 57.2
comp=Z,26nm,1.1s
PRGR Permogore 27.57 67 *e*P P 17 04 40.1 -5.2
PRGR *e* 17 08 02.0
PRGR pmax pmax
comp=Z,12nm,1.4s
AKASG Malin Array Be 27.76 98 P P 17 04 46.0 -1.1
comp=Z,1.7nm,0.7s,baz=324,slow=9.7,SNR=9.5
AKASG LR LR 17 16 08.0
comp=Z,118nm,19.8s,baz=325,slow=37
AKASG Malin Array Be 27.76 98 *i* P P 17 04 49.7 +2.6
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 27.76 98 *ce*P P 17 04 48.3 +1.2
AKBB Malin Array Si 27.76 98 P P 17 04 47.0 -0.1
OBN Obninsk 27.81 84 P P 17 04 48.8 +1.4
comp=Z,3.7nm,0.5s,baz=318,slow=10.0,SNR=7.1
OBN LR LR 17 16 20.6
comp=Z,43nm,18.7s,baz=4.5,slow=37
OBN Obninsk 27.81 84⇑ *e*P P 17 04 48.9 +1.4
OBN *i* 17 04 53.6
OBN *e* 17 05 37.6
OBN pmax pmax
comp=Z,55nm,1.4s
OBN MLR MLR
comp=Z,242nm,14.0s
OBN Obninsk 27.81 84 P P 17 04 48.5 +1.0
MOS Moscow 27.84 82 *e*P P 17 04 48.6 +0.7
PVAQ Vaqueiros 27.85 163 *e*LR LR 17 12 29.5
comp=Z,249nm,20.0s
BUR08 Bucovina Ar. S 28.41 106 P P 17 04 53.0 -0.1
BURAR Bucovina Array 28.43 106 ⇓P P 17 04 54.5 +1.1
BURAR Bucovina Array 28.43 106 ⇓P P 17 04 54.5 +1.1
BURAR Bucovina Array 28.43 106 P P 17 04 53.4 0.0
BZS Buzias 28.59 113 ⇑P P 17 04 58.4 +3.8
BZS Buzias 28.59 113 ⇑P P 17 04 58.4 +3.8
INTR Introdacqua 28.79 127 P P 17 04 57.0 +0.4
INTR IAmb IAmb 17 05 15.8
comp=Z,29nm,1.5s
DIVS Divibare 29.22 117 P P 17 05 02.2 +1.8
GZR Gura Zlata 29.23 112 ⇑P P 17 05 03.1 +2.6
GZR Gura Zlata 29.23 112 ⇑P P 17 05 03.1 +2.6
BIZ Bicaz 29.34 106 ⇑P P 17 05 02.5 +1.2
DOPR Dopca 29.82 108 ⇓P P 17 05 07.1 +1.4
VOIR 30.12 109 ⇓P P 17 05 10.7 +2.4
VOIR 30.12 109 ⇓P P 17 05 10.7 +2.4
PDG Podgorica 30.36 119 ⇑P P 17 05 15.6 +5.3
PDG Podgorica 30.36 119 P P 17 05 08.5 -1.8
PDG IAmb IAmb 17 05 17.5
comp=Z,17nm,1.2s
PLOR Plostina 30.44 107 ⇓P P 17 05 11.7 +0.7
PLOR Plostina 30.44 107 ⇓P P 17 05 11.7 +0.7
MLR Muntele Rosu 30.44 108 P P 17 05 12.4 +1.2
comp=Z,1.5nm,0.5s,baz=113,slow=7.7,SNR=2.9
MLR LR LR 17 18 53.5
comp=Z,199nm,20.3s,baz=322,slow=39
MLR Muntele Rosu 30.44 108 P P 17 05 09.7 -1.5
VRI Vrincioaia 30.46 107 ⇓P P 17 05 13.2 +2.0
VRI Vrincioaia 30.46 107 ⇓P P 17 05 13.2 +2.0
LPSR Galich'ya Gora 30.55 86 *e*P P 17 05 11.8 -0.1
LPSR pmax pmax
comp=Z,30nm,1.8s
NEHR Nehoiu 30.64 108 ⇓P P 17 05 15.3 +2.5
BISRR Bisoca 30.71 107 ⇓P P 17 05 15.4 +1.9
KIRV Kirov 30.92 69 P P 17 05 15.1 0.0
comp=Z,7.8nm,0.8s,baz=302,slow=8.5,SNR=7.0
KIRV Kirov 30.92 69⇑ *e*P P 17 05 16.7 +1.6
CFR Carcaliu 31.60 106 ⇓P P 17 05 20.6 -0.6
CFR Carcaliu 31.60 106 ⇓P P 17 05 20.6 -0.6
VSR Storozhevoye 31.65 88 *e*P P 17 05 21.6 0.0
VSR pmax pmax
comp=Z,10.0nm,1.0s
CLTB Caltabellotta 32.55 131 P P 17 05 30.4 +0.7
VRH Novokhopyorsk 32.76 85 *e*P P 17 05 30.7 -0.6
VRH pmax pmax
comp=Z,10.0nm,0.6s
KNT Kendrikon 32.84 116 P P 17 05 34.8 +2.6
KNT pmax pmax
comp=Z,20nm,1.2s

CHGQ Chibougamau 32.87 271 P P 17 05 32.7 +0.4
baz=42
KEST Kesra 33.07 138 LR LR 17 18 31.7
comp=Z,217nm,19.0s,baz=330,slow=36
SRS Serrai 33.15 115 P P 17 05 34.9 0.0
SRS pmax pmax
comp=Z,30nm,1.2s
SOH Sokhos 33.31 116 P P 17 05 40.7 +4.4
SOH pmax pmax
comp=Z,8.0nm,2.1s
ALN Alexandroupoli 34.30 113 P P 17 05 45.6 +0.7
ALN pmax pmax
comp=Z,28nm,1.2s
ALN Alexandroupoli 34.30 113 P P 17 05 45.6 +0.7
ALN IAmb IAmb 17 05 53.1
comp=Z,28nm,1.2s
E60A Ste Agathe de 34.32 264 P P 17 05 48.0 +3.0
baz=38
BELG Belogornoye 34.41 79 *de*P P 17 05 46.4 +0.7
AGG Agios Georgios 34.48 119 P P 17 05 48.0 +1.6
AGG pmax pmax
comp=Z,55nm,1.3s
AGG Agios Georgios 34.48 119 P P 17 05 48.0 +1.6
D57A Chemin Vers le 34.87 267 P P 17 05 50.2 +0.5
baz=39
E57A Chemin Saint G 35.45 267 P P 17 05 54.9 +0.1
baz=39
MOQ Mont Orford 35.51 264 P P 17 05 58.3 +3.0
D55A Sainte-Anne-du 35.55 269 P P 17 05 58.1 +2.5
baz=39
E56A St. Veronique 35.73 268 P P 17 05 59.6 +2.5
baz=39
ANN Anapa 35.83 97 *e*P P 17 05 51.3 -6.6
ANN pmax pmax
comp=Z,89nm,1.5s
ANN MLR MLR
comp=Z,367nm,12.0s
ARU Arti 36.02 66 *d i*P P 17 06 02.2 +2.6
ARU 17 07 23.0
ARU 17 08 24.0
ARU S S 17 11 44.6 +6.6
ARU pmax pmax
comp=Z,18nm,1.8s
ARU MLR MLR
comp=Z,498nm,19.0s
ARU Arti 36.02 66 P P 17 05 59.4 -0.1
NRIK Noril'sk 36.45 35 P P 17 06 03.5 +0.5
comp=Z,15nm,1.2s,baz=317,slow=4.7,SNR=4.8
NRIK Noril'sk 36.45 35⇑ *e*P P 17 06 04.2 +1.2
NRIK pmax pmax
comp=Z,10.0nm,1.2s
SVE Sverdlovsk 36.56 65 *e*P P 17 06 05.4 +1.3
SVE pmax pmax
comp=Z,16nm,1.4s
G57A Newington 36.84 266 P P 17 06 10.1 +3.5
baz=38
GOF Gofitskoye 38.03 91⇑ *e*P P 17 06 18.2 +1.5
GOF pmax pmax
comp=Z,88nm,1.4s
BR131 Keskin Array S 38.39 105 *ce*P P 17 06 20.7 +0.7
BR131 Keskin Array S 38.39 105 P P 17 06 20.0 0.0
BRTR Keskin Array B 38.39 105 P P 17 06 20.3 +0.3
comp=Z,2.3nm,0.7s,baz=330,slow=6.5,SNR=10
BRTR LR LR 17 24 38.5
comp=Z,44nm,18.4s,baz=294,slow=40
BRTR Keskin Array B 38.39 105 *i* P P 17 06 20.6 +0.6
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 38.39 105 P P 17 06 19.6 -0.4
IDI Anoyia 38.73 119 P P 17 06 25.0 +2.2
KIV Kislovodsk 38.76 93 *e*P P 17 06 24.5 +1.5
KIV *e*S S 17 12 22.3 +2.3
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,452nm,16.0s
KIV Kislovodsk 38.76 93 P P 17 06 22.5 -0.5
KBZ Khabaz 39.03 93 P P 17 06 25.2 +0.1
comp=Z,6.2nm,1.0s,baz=342,slow=12,SNR=8.2
KBZ LR LR 17 23 08.9
comp=Z,168nm,21.2s,baz=328,slow=37
KBZ Khabaz 39.03 93⇓ *e*P P 17 06 26.7 +1.6
KBZ pmax pmax
comp=Z,18nm,1.4s
YKA Yellowknife Ar 39.30 313 P P 17 06 24.9 -2.2
comp=Z,8.6nm,1.1s,baz=42,slow=8.5,SNR=3.2
YKA LR LR 17 21 54.3
comp=Z,231nm,20.3s,baz=0.0,slow=35
ELL Elmali 39.41 112 P P 17 06 29.1 +0.6
ELL pmax pmax
comp=Z,82nm,1.3s
ELL Elmali 39.41 112 P P 17 06 29.1 +0.6
INK Inuvik 39.92 329 P P 17 06 31.7 -0.5
comp=Z,7.7nm,1.0s,baz=41,slow=10,SNR=6.6
INK PcP PcP 17 08 34.3 -3.1
comp=Z,2.8nm,1.0s,baz=0.0,slow=6.1,SNR=2.5
INK Inuvik 39.92 329 P P 17 06 33.1 +0.8
L57A Andrews Acres 40.15 265 P P 17 06 38.9 +4.4
baz=35
ZEI Tsey 40.22 93 *e*P P 17 06 36.3 +1.0
ZEI pmax pmax
comp=Z,11nm,1.3s
LUPA Lehigh Univers 40.66 263 P P 17 06 38.6 -0.1
ARTV Artvin 40.69 96 P P 17 06 38.9 -0.3
FFC Flin Flon 40.69 298 P P 17 06 40.0 +1.2
FFC pmax pmax
comp=Z,30nm,1.3s
FFC Flin Flon 40.69 298 P P 17 06 40.0 +1.2
FFC IAmb IAmb 17 06 43.0
comp=Z,30nm,1.3s
GROC Groznyy 40.70 90 *e*P P 17 06 41.0 +2.0
GROC *e* 17 08 40.6
GROC pmax pmax
comp=Z,38nm,1.3s
M57A Sunshine Farm, 40.81 265 P P 17 06 43.9 +3.9
baz=35
N58A Sunbury 41.04 264 P P 17 06 46.0 +4.1
baz=34
I49A Point Hope 41.15 272 P P 17 06 42.4 -0.3
AKH Akhalkalaki 41.17 94 P P 17 06 43.7 +0.6
AKH pmax pmax
comp=Z,31nm,1.3s
AKH Akhalkalaki 41.17 94 P P 17 06 43.7 +0.6
AKH IAmb IAmb 17 06 52.5
comp=Z,31nm,1.3s
ERPA Erie 41.40 268 P P 17 06 45.5 +0.8
N57A Milroy 41.47 265 P P 17 06 48.6 +3.2
baz=34
MALT Malatya 41.58 102 P P 17 06 49.6 +3.1
MAK Makhachkala 41.64 89 *e*P P 17 06 42.5 -4.2
MAK *e*S S 17 12 57.4 -5.3
MAK pmax pmax
comp=Z,77nm,1.0s
MAK MLR MLR
comp=Z,284nm,17.0s
N56A West Decatur 41.66 266 P P 17 06 50.8 +3.9
baz=35
ULM Lac du Bonnet 41.69 289 LR LR 17 23 01.7
comp=Z,180nm,19.3s,baz=64,slow=35
ULM Lac du Bonnet 41.69 289⇑ *e*P P 17 06 50.3 +3.2
SSPA Standing Stone 41.71 265 P P 17 06 48.3 +1.0
SSPA IAmb IAmb 17 06 58.1
comp=Z,25nm,1.4s
M54A Oil Creek Stat 41.76 267 P P 17 06 49.4 +1.6
baz=35
M54A Oil Creek Stat 41.76 267 P P 17 06 48.6 +0.8
ABKAR Akbulak array 41.93 73 P P 17 06 49.5 +0.5
ABKAR Akbulak array 41.93 73 P P 17 06 49.3 +0.3
ABKAR IAmb IAmb 17 06 53.4
comp=Z,23nm,1.5s
O57A Amberson 41.95 264 P P 17 06 52.2 +2.9
baz=34
K50A Casco 42.00 271 P P 17 06 50.1 +0.5
K50A IAmb IAmb 17 06 52.9
comp=Z,37nm,1.1s
GAZ Gaziantep 42.04 104 P P 17 06 49.1 -1.0
TIXI Tiksi 42.05 15 *de*P P 17 06 51.1 +1.3
TIXI pmax pmax
comp=Z,153nm,1.3s
TIXI Tiksi 42.05 15 P 17 06 50.4 +0.7
EPYK Eagle Plains 42.22 328 P P 17 06 54.5 +3.2
baz=34
B35A Bob, Littlefor 42.28 285 P P 17 06 52.3 +0.4
CSS Mathiatis 42.33 109 P P 17 06 52.3 -0.2
N54A Moraine State 42.35 267 P P 17 06 56.4 +3.9
baz=35
N54A Moraine State 42.35 267 P P 17 06 51.8 -0.7
N54A IAmb IAmb 17 06 58.6
comp=Z,41nm,1.1s
TOLK Toolik Lake Re 42.82 336 P P 17 06 56.6 +0.4
baz=28,SNR=5.4
TOLK Toolik Lake Re 42.82 336 P P 17 06 55.8 -0.4
TOLK IAmb IAmb 17 07 03.4
comp=Z,28nm,1.0s
AKT Akhty 42.94 90 *e*P P 17 07 00.8 +3.3
AKT *e* 17 08 41.0
AKT *e* 17 08 49.6
AKT pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 43.08 62⇑ *e*P P 17 06 59.7 +1.4
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 43.08 62 P P 17 06 57.5 -0.8
O54A Avella 43.16 267 P P 17 07 02.9 +3.8
baz=34
O54A Avella 43.16 267 P P 17 06 57.8 -1.4
O54A IAmb IAmb 17 07 18.0
comp=Z,35nm,1.4s
AGMN Agassiz Nation 43.21 287 P P 17 07 01.9 +2.4
baz=38
G40A Rib Lake 43.24 280 P P 17 07 01.1 +1.4
G40A IAmb IAmb 17 07 04.2
comp=Z,20nm,1.1s
Q57A Strasburg 43.26 264 P P 17 07 01.8 +1.8
baz=34
MARD Mardin 43.42 100 P P 17 06 60.0 -1.5
MARD IAmb IAmb 17 07 11.0
comp=Z,20nm,1.0s
L48A N Adams 43.46 272 P P 17 07 01.5 -0.1
L48A IAmb IAmb 17 07 05.5
comp=Z,40nm,1.2s
O53A New Philadelph 43.46 268 P P 17 07 04.4 +2.8
baz=34
P54A Burton 43.68 267 P P 17 07 07.5 +4.1
baz=34
R58A Rapidan 43.70 263 P P 17 07 06.5 +3.0
baz=33
O52A Adamsville 43.84 268 P P 17 07 07.7 +3.0
baz=34
O51A Pataskala 44.15 269 P P 17 07 07.7 +0.6
baz=34,SNR=5.6
P53A Whipple 44.17 267 P P 17 07 07.4 +0.1
baz=34,SNR=5.9
P53A Whipple 44.17 267 P P 17 07 06.0 -1.2
N49A Columbus Grove 44.19 271 P P 17 07 06.9 -0.5
COLD Coldfoot 44.19 336 P P 17 07 06.7 +0.5
baz=27
COLD Coldfoot 44.19 336 P P 17 07 07.2 +0.1
R56A Bull Pasture M 44.21 265 P P 17 07 07.6 -0.2
baz=33
ACSO Alum Creek Sta 44.24 269 P P 17 07 10.3 +2.4
baz=34
ACSO Alum Creek Sta 44.24 269 P P 17 07 07.5 -0.4
ACSO IAmb IAmb 17 07 13.9
comp=Z,31nm,1.2s
Q54A Coxs Mills 44.35 266 P P 17 07 10.4 +1.7
baz=34
P52A Corning 44.37 268 P P 17 07 08.4 -0.4
baz=34
TAM Tamanrasset 44.43 149 P P 17 07 08.7 -1.0
TAM pmax pmax
comp=Z,5.0nm,1.0s
TAM Tamanrasset 44.43 149 P P 17 07 08.7 -1.0
EGAK Eagle 44.56 330 P 17 07 11.0 +0.9
EGAK IAmb IAmb 17 07 16.0
comp=Z,16nm,1.1s
Q53A Leroy 44.75 267 P P 17 07 11.5 -0.4
baz=34
O49A Covington 44.86 271 P P 17 07 12.4 -0.3
N47A Urbana 44.87 272 P P 17 07 13.0 +0.2
P51A Williamsport 44.89 269 P P 17 07 12.0 -1.0
R54A Victor 45.08 266 P P 17 07 18.0 +3.4
baz=33
MDND Maddock 45.10 290 P P 17 07 15.2 +0.6
MDND IAmb IAmb 17 07 26.4
comp=Z,16nm,0.8s
T57A Hurt 45.33 263 P P 17 07 19.7 +3.2
baz=32
R53A Hurricane 45.37 267 P P 17 07 21.0 +4.1
baz=33
Q51A Peebles 45.39 269 P P 17 07 16.0 -1.1
K27K Chicken 45.41 329 P P 17 07 19.3 +2.4
baz=30
VWCC Virginia Weste 45.43 264 P P 17 07 16.1 -1.3
S54A Dingess, Beckl 45.54 266 P P 17 07 20.7 +2.4
baz=33
POKR Poker Plat Res 45.56 333 P P 17 07 20.0 +1.9
baz=28
BLA Blacksburg 45.65 265 P P 17 07 20.0 +0.8
BLA pmax pmax
comp=Z,25nm,1.2s
BLA Blacksburg 45.65 265 P P 17 07 20.0 +0.8
BLA IAmb IAmb 17 07 25.4
comp=Z,24nm,1.2s
L42A Oliver, Polo 45.66 277 P P 17 07 19.6 +0.5
IL31 45.76 333 P P 17 07 19.2 -0.4
IL31 IAmb IAmb 17 07 26.7
comp=Z,14nm,1.1s
ILAR Eielson Array 45.76 333 P P 17 07 19.7 +0.1
comp=Z,6.9nm,1.0s,baz=20,slow=6.3,SNR=14
ILAR PcP PcP 17 08 55.5 -1.5
comp=Z,3.5nm,1.0s,baz=357,slow=2.8,SNR=5.8
ILAR LR LR 17 29 07.5
comp=Z,184nm,19.3s,baz=26,slow=40
ILAR Eielson Array 45.76 333 P P 17 07 19.5 -0.1
U57A Blanch 45.85 263 P P 17 07 20.7 0.0
baz=32
MDM Murphy Dome 45.86 333 P P 17 07 20.9 +0.5
MDM IAmb IAmb 17 07 26.1
comp=Z,18nm,1.1s
COLA College 45.86 333⇑ *e*P P 17 07 20.7 +0.3
COLA pmax pmax
comp=Z,20nm,1.1s
COLA College 45.86 333 P P 17 07 20.5 +0.1
COLA IAmb IAmb 17 07 27.4
comp=Z,19nm,0.9s
TCOL CIGO, UAF Yank 45.86 333 P P 17 07 21.4 +1.0
baz=27
SCRK Sand Creek 45.87 330 P P 17 07 22.9 +2.2
baz=29
T55A Pulaski 45.89 265 P P 17 07 25.0 +3.9
baz=32
DOT Dot Lake 46.17 330 P P 17 07 21.6 -1.3
RIDG Independent Ri 46.26 331 P P 17 07 24.2 +0.6
MLY Manley 46.27 335 P P 17 07 24.5 +0.8
baz=26,SNR=13
T54A Tazewell 46.28 266 P P 17 07 24.0 -0.1
baz=32
NEA2 Nenana 46.35 334 P P 17 07 24.7 +0.5
baz=26,SNR=15
U56A King 46.37 264 P P 17 07 25.0 +0.2
R50A Paris 46.44 269 P P 17 07 25.4 +0.1
R50A IAmb IAmb 17 07 29.2
comp=Z,25nm,1.4s
DGMT Dagmar 46.44 294 P P 17 07 28.7 +3.5
baz=36
K38A Parkersburg 46.45 280 P P 17 07 25.3 -0.1
V57A Coltrane Farms 46.50 263 P P 17 07 26.7 +1.0
baz=32
U55A TA2, Sparta 46.52 265 P P 17 07 26.0 -0.1
baz=32
S51A Beattyville 46.66 268 P P 17 07 24.9 -2.1
O44A Mansfield 46.66 274 P P 17 07 25.9 -1.1
HDIL Hopedale 46.69 275 P P 17 07 29.4 +2.3
baz=34
HDIL Hopedale 46.69 275 P P 17 07 25.5 -1.6
T53A Wise 46.76 266 P P 17 07 27.6 -0.3
baz=32
V56A Mocksville 46.87 264 P P 17 07 30.6 +1.9
baz=32,SNR=5.4
PAX Paxson 47.07 331 P P 17 07 27.5 -2.6
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 47.07 331 P P 17 07 27.4 -2.6
MCK McKinley 47.10 333 P P 17 07 30.7 +0.5
baz=26
V55A Taylorsville 47.14 264 P P 17 07 34.7 +3.9
baz=32
BPAW Bear Paw Mtn. 47.16 334 P P 17 07 30.1 -0.5
BPAW IAmb IAmb 17 07 35.8
comp=Z,18nm,1.2s

DLBC Dease Lake 47.16 319 LR LR 17 27 32.2
comp=Z,132nm,20.6s,baz=276,slow=36
ECSD EROS Data Cent 47.19 284 P **P** **17 07 32.7 +1.6**
baz=35
WCI Wyandotte Cave 47.33 271 P **P** **17 07 32.1 -0.2**
baz=33
WCI Wyandotte Cave 47.33 271 P **P** **17 07 31.8 -0.4**
WCI pmax pmax
comp=Z,17nm,0.9s
WCI Wyandotte Cave 47.33 271 P **P** **17 07 31.8 -0.4**
W56A Indian Trail 47.48 263 P **P** **17 07 35.8 +2.4**
baz=32
V54A Nebo 47.52 265 P **P** **17 07 34.0 +0.2**
baz=32
P43A Skaggs, Pawnee 47.54 275 P **P** **17 07 33.7 -0.2**
TZTN Tazewell 47.56 267 P **P** **17 07 38.5 +4.4**
baz=32
BILL Bilibino 47.60 358 *i* P **P** **17 07 32.6 -1.4**
BILL *i* 17 08 58.7
BILL *i* 17 09 28.6
BILL pmax pmax
comp=Z,18nm,1.5s
BILL Bilibino 47.60 358 P **P** **17 07 34.1 +0.2**
BILL IAmb IAmb 17 07 38.8
comp=Z,21nm,1.4s
ZAA0 Zalesovo Array 47.60 52 P **P** **17 07 33.5 -0.6**
ZAA0 IAmb IAmb 17 07 39.1
comp=Z,18nm,1.5s
ZALV Zalesovo Beam 47.60 52 P **P** **17 07 33.6 -0.5**
comp=Z,2.2nm,0.6s,baz=323,slow=9.3,SNR=9.3
ZALV LR LR 17 29 55.6
comp=Z,83nm,18.8s,baz=318,slow=39
OLIL Olney 47.68 273 P **P** **17 07 35.5 +0.5**
KMSC Kings Mountain 47.80 264 P **P** **17 07 35.8 -0.1**
baz=32
Q44A Meyer Farm, Va 47.94 274 P **P** **17 07 37.8 +0.8**
KURK Kurchatov 48.07 58*de*P **P** **17 07 37.1 -0.7**
KURK pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 48.07 58 P **P** **17 07 37.2 -0.6**
KURK IAmb IAmb 17 07 41.1
comp=Z,10nm,0.9s
N25K Chitina, Valde 48.10 329 P P 17 07 43.1 +5.1
baz=27
USIN University of 48.14 272 P **P** **17 07 38.5 0.0**
W54A Cherokee Point 48.21 265 P **P** **17 07 38.7 -0.4**
baz=32
X56A White Oak 48.22 263 P **P** **17 07 40.8 +1.7**
baz=31
PAULI Pauline 48.27 264 P **P** **17 07 39.3 -0.3**
TKL Tuckaleechee C 48.41 267 P **P** **17 07 41.7 +1.0**
comp=Z,12nm,1.1s,baz=41,slow=7.2,SNR=4.5
SCM Sheep Creek Mo 48.48 331 P **P** **17 07 42.1 +1.1**
SCM pmax pmax
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 48.48 331 P **P** **17 07 42.1 +1.1**
X55A Gracelyn & Ava 48.50 264 P **P** **17 07 45.1 +3.8**
baz=31
U49A Red Boiling Sp 48.55 269 P **P** **17 07 43.4 +1.7**
U49A IAmb IAmb 17 07 46.6
comp=Z,13nm,1.0s
T47A Sharon Grove 48.72 271 P **P** **17 07 42.8 -0.2**
GHO Glory Hole Cre 48.87 332 P **P** **17 07 45.2 +1.2**
GHO IAmb IAmb 17 07 49.1
comp=Z,14nm,1.0s
EGMT Eagleton 48.97 297 P **P** **17 07 46.0 +1.1**
baz=35,SNR=5.0
EGMT Eagleton 48.97 297 P **P** **17 07 43.7 -1.2**
HODGE Hodges 48.97 264 P **P** **17 07 43.9 -1.1**
NHSC New Hope 49.04 262 P **P** **17 07 46.5 +1.0**
baz=31
Y55A Saluda 49.05 264 P **P** **17 07 49.2 +3.7**
baz=31
FVM French Village 49.31 274 P **P** **17 07 48.7 +1.2**
FVM pmax pmax
comp=Z,25nm,1.4s
FVM French Village 49.31 274 P **P** **17 07 48.7 +1.2**
FVM IAmb IAmb 17 07 51.2
comp=Z,25nm,1.4s
W50A Signal Mountai 49.46 268 P **P** **17 07 48.0 -0.7**
CCM Cathedral Cave 49.60 275 P **P** **17 07 52.3 +2.6**
baz=33
RSSD Black Hills 49.93 290 P **P** **17 07 55.1 +2.7**
baz=34
Y52A Lilburn 50.06 266 P **P** **17 07 53.8 +0.6**
FPAL Fort Paine 50.15 268 P **P** **17 07 55.6 +1.6**
FPAL IAmb IAmb 17 07 59.8
comp=Z,24nm,1.3s
GOGA Godfrey 50.19 265 P **P** **17 07 56.2 +1.9**
baz=31
GOGA Godfrey 50.19 265 P **P** **17 07 55.7 +1.4**
GOGA pmax pmax
comp=Z,27nm,1.2s
GOGA Godfrey 50.19 265 P **P** **17 07 55.6 +1.4**
GEYT Alibeck 50.35 84 P **P** **17 07 57.3 +1.8**
comp=Z,4.2nm,1.1s,baz=276,slow=4.2,SNR=6.6
GEYT Alibeck 50.35 84 IAmb IAmb 17 08 04.3
comp=Z,2.8nm,0.8s
GYA0B ALIBECK ARRAY 50.35 84 P **P** **17 07 56.0 +0.5**
GYA0B IAmb IAmb 17 08 03.6
comp=Z,25nm,1.5s
T42A Van Buren 50.40 274 P **P** **17 07 56.8 +1.0**
RSO Redoubt South 50.83 333 P **P** **17 07 59.5 +0.6**
HRY Holter Researc 50.85 298 P **P** **17 07 58.4 -0.8**
KOWA Kowa 50.90 163 P **P** **17 07 58.7 -1.0**
KOWA IAmb IAmb 17 08 06.4
comp=Z,22nm,1.2s
JTMT Jette 50.91 300 P **P** **17 08 00.4 +0.7**
KSU1 Kansas State U 51.02 280 P **P** **17 08 01.4 +1.0**
baz=33
RLMT Red Lodge 51.18 295 P **P** **17 08 04.7 +2.8**
baz=34,SNR=8.3
KK31 Karatay Array 51.22 70 P **P** **17 08 01.2 -0.7**
KK31 pmax pmax
comp=Z,19nm,1.5s
KK31 Karatay Array 51.22 70 P **P** **17 08 01.2 -0.7**
KK31 IAmb IAmb 17 08 07.9
comp=Z,19nm,1.4s
KKAR Karatay Array 51.22 70 P **P** **17 08 01.3 -0.6**
KKAR Karatay Array 51.22 70 P **P** **17 08 01.3 -0.6**
KKAR Karatay Array 51.22 70 P **P** **17 08 01.1 -0.8**
KKAR IAmb IAmb 17 08 07.9
comp=Z,19nm,1.4s
YAK Yakutsk 51.29 19 LR LR 17 28 53.1
comp=Z,88nm,21.7s,baz=356,slow=35
NEW Newport 51.52 303 LR LR 17 29 58.5
comp=Z,242nm,19.8s,baz=28,slow=36
MSO Missoula 51.55 299 P **P** **17 08 04.3 -0.2**
baz=33
MSO Missoula 51.55 299 P **P** **17 08 03.9 -0.6**
BOZ Bozeman (W) 51.70 297 P **P** **17 08 04.8 -0.9**
baz=33,SNR=31
BOZ Bozeman (W) 51.70 297 P **P** **17 08 03.8 -1.9**
BOZ pmax pmax
comp=Z,25nm,1.2s
BOZ Bozeman (W) 51.70 297 P **P** **17 08 03.8 -1.9**
BOZ IAmb IAmb 17 08 10.5
comp=Z,24nm,1.1s
U40A Yellville 51.72 275 P **P** **17 08 05.1 -0.7**
baz=32
LRM Limekiln Ridge 51.83 298 P **P** **17 08 06.0 -0.8**
YMP Mirror Lake Pl 51.85 295 P **P** **17 08 05.7 -1.3**
BBB Bella Bella 51.91 313 LR LR 17 29 38.3
comp=Z,106nm,21.0s,baz=38,slow=36
LRAL Lakeview Retre 52.03 268 P **P** **17 08 08.3 +0.3**
baz=31
DGZ Jazzator, Alta 52.04 53⇓*e*P **P** **17 08 09.4 +1.2**
DGZ pmax pmax
comp=Z,13nm,1.3s
K22A Casper 52.16 291 P **P** **17 08 07.7 -1.4**
baz=33
K22A Casper 52.16 291 P **P** **17 08 07.5 -1.7**
K22A IAmb IAmb 17 08 12.8
comp=Z,14nm,1.0s
H17A Grant Village 52.30 295 P **P** **17 08 12.4 +2.1**
baz=33
W41B Gary Mavity, V 52.47 274 P **P** **17 08 12.2 +1.0**
baz=32
YPP Pitchstone Pla 52.49 295 P **P** **17 08 11.2 -0.5**
MAKZ Makanchi 52.55 59 P **P** **17 08 11.8 0.0**
MAKZ pmax pmax
comp=Z,16nm,1.4s
MAKZ Makanchi 52.55 59 P **P** **17 08 11.8 0.0**
MAKZ IAmb IAmb 17 08 16.9
comp=Z,16nm,1.4s
FLWY Flagg Ranch 52.61 295 P **P** **17 08 11.6 -1.0**
FLWY IAmb IAmb 17 08 19.2
comp=Z,12nm,1.0s
MK31 Makanchi Array 52.68 58*de*P **P** **17 08 12.8 0.0**
MK31 Makanchi Array 52.68 58 P **P** **17 08 11.0 -1.8**
MKAR Makanchi Array 52.68 58 P **P** **17 08 12.0 -0.8**
comp=Z,4.7nm,1.1s,baz=349,slow=5.6,SNR=9.9
MKAR LR LR 17 31 29.4
comp=Z,111nm,19.2s,baz=322,slow=37
MKAR Makanchi Array 52.68 58 P **P** **17 08 11.0 -1.7**
MCMT McKenzie Canyo 52.81 297 P **P** **17 08 14.2 +0.1**
IMW Indian Meadow 52.86 295 P **P** **17 08 13.9 -0.5**
IMW IAmb IAmb 17 08 19.6
comp=Z,16nm,1.3s
LOHW Long Hollow 52.97 295 P **P** **17 08 14.4 -0.8**
TOA0 Torodi Ar. Sit 53.07 157 P **P** **17 08 13.2 -2.8**
TOA0 IAmb IAmb 17 08 21.4
comp=Z,17nm,1.1s
TORD Torodi Ar. Bea 53.07 157 P **P** **17 08 14.3 -1.6**
comp=Z,4.0nm,1.0s,baz=340,slow=5.4,SNR=14
TORD LR LR 17 30 37.9
comp=Z,83nm,19.3s,baz=350,slow=36
TORD Torodi Ar. Bea 53.07 157 P **P** **17 08 13.4 -2.5**
W39A Magazine 53.11 275 P **P** **17 08 17.6 +1.6**
baz=32
FXWY Fox Creek 53.11 295 P **P** **17 08 15.8 -0.5**
SNOW Snow King Moun 53.15 295 P **P** **17 08 16.2 -0.4**
SNOW IAmb IAmb 17 08 21.7
comp=Z,15nm,1.2s
RWWY Rawlins 53.24 291 P **P** **17 08 17.5 +0.2**
RWWY IAmb IAmb 17 08 19.8
comp=Z,13nm,1.0s
BW06 Boulder Array 53.27 293 P **P** **17 08 16.2 -1.2**
baz=32,SNR=8.6
BW06 Boulder Array 53.27 293 P **P** **17 08 15.4 -2.0**
BW06 IAmb IAmb 17 08 21.2
comp=Z,24nm,1.2s
PD31 Pinedale Array 53.27 293 P **P** **17 08 15.5 -1.9**
PD31 IAmb IAmb 17 08 21.2
comp=Z,22nm,1.2s
PDAR Pinedale Array 53.27 293 P **P** **17 08 15.6 -1.9**
comp=Z,12nm,1.1s,baz=58,slow=5.8,SNR=21
PDAR LR LR 17 30 12.6
comp=Z,224nm,21.2s,baz=30,slow=35
PDAR Pinedale Array 53.27 293 P **P** **17 08 14.9 -2.5**
KDAK Kodiak Island 53.27 332 LR LR 17 32 31.7
comp=Z,186nm,18.8s,baz=79,slow=38
X40A Basin Creek Fa 53.30 274 P **P** **17 08 20.0 +2.5**
baz=31
N23A Red Feather La 53.40 289 P **P** **17 08 18.2 -0.3**
baz=32,SNR=10
N23A Red Feather La 53.40 289 P **P** **17 08 17.6 -0.9**
BCYI Bear Canyon 53.46 297 P **P** **17 08 18.3 -0.6**
F10A Beach Ranch, E 53.49 301 P **P** **17 08 18.8 -0.1**
MIAR Mount Ida 53.57 275 P **P** **17 08 21.0 +1.5**
baz=31
MIAR Mount Ida 53.57 275 P **P** **17 08 19.9 +0.5**
MIAR pmax pmax
comp=Z,12nm,1.2s
MIAR Mount Ida 53.57 275 P **P** **17 08 19.9 +0.5**
MIAR IAmb IAmb 17 08 22.2
comp=Z,12nm,1.2s
KSCO Kaye Shedlock' 53.62 285 P **P** **17 08 19.8 -0.2**
KSCO IAmb IAmb 17 08 26.0
comp=Z,14nm,0.9s
ECR Eagle Creek 53.74 295 P **P** **17 08 20.4 -0.5**
PLID Pearl Lake 53.79 300 P **P** **17 08 20.4 -0.9**
PLID IAmb IAmb 17 08 27.9
comp=Z,18nm,1.2s
BTK Batken 53.90 72 P **P** **17 08 20.3 -1.6**
BTK pmax pmax
comp=Z,52nm,1.4s
BTK Batken 53.90 72 P **P** **17 08 20.3 -1.6**
BOOM Boomskoye usch 53.90 66 P **P** **17 08 20.1 -1.9**
BOOM pmax pmax
comp=Z,28nm,1.5s
BOOM Boomskoye usch 53.90 66 P **P** **17 08 20.1 -1.9**
BOOM IAmb IAmb 17 08 29.8
comp=Z,28nm,1.5s
ISCO Idaho Springs 54.19 288 P **P** **17 08 26.8 +2.5**
baz=32
X37A Clayton 54.30 276 P **P** **17 08 24.6 -0.3**
X37A IAmb IAmb 17 08 32.4
comp=Z,13nm,1.4s
BMO Blue Mountains 54.47 301 P **P** **17 08 23.8 -2.3**
BMO pmax pmax
comp=Z,9.0nm,1.2s
BMO Blue Mountains 54.47 301 P **P** **17 08 23.8 -2.3**
HLID Hailey 54.48 298 P **P** **17 08 28.3 +2.1**
baz=32
KDJ Kajisay 54.69 65 P **P** **17 08 25.5 -2.3**
KDJ pmax pmax
comp=Z,22nm,1.5s
KDJ Kajisay 54.69 65 P **P** **17 08 25.5 -2.3**
KDJ IAmb IAmb 17 08 32.9
comp=Z,22nm,1.5s
O20A White River Ci 54.97 291 P **P** **17 08 28.9 -1.0**
baz=32,SNR=5.8
O20A White River Ci 54.97 291 P **P** **17 08 28.2 -1.6**
O20A IAmb IAmb 17 08 33.8
comp=Z,16nm,1.1s
HWUT Hardware Ranch 55.04 294 P **P** **17 08 28.6 -1.7**
RDMU Red Mountain 55.13 292 P **P** **17 08 29.7 -1.3**
TLY Talaya 55.38 40 LR LR 17 35 18.3
comp=Z,161nm,18.2s,baz=342,slow=39
TCUT Toone Canyon 55.40 294 P **P** **17 08 31.5 -1.5**
WMOK Wichita Mounta 55.63 279 P **P** **17 08 33.6 -0.9**
baz=31,SNR=8.7
WMOK Wichita Mounta 55.63 279 P **P** **17 08 33.0 -1.5**
WMOK pmax pmax
comp=Z,16nm,1.2s
WMOK Wichita Mounta 55.63 279 P **P** **17 08 33.0 -1.5**
WMOK IAmb IAmb 17 08 42.0
comp=Z,16nm,1.2s
SPUT South Promonto 55.64 295 P **P** **17 08 33.4 -1.3**
CTU Camp Tracy 55.90 294 P **P** **17 08 36.8 +0.3**
T25A Trinidad 55.95 286 P **P** **17 08 36.7 -0.3**
T25A IAmb IAmb 17 08 41.3
comp=Z,13nm,1.2s
H04A Detroit Lake 56.40 304 P **P** **17 08 39.8 0.0**
S22A 4UR Ranch, Cre 56.43 288 P **P** **17 08 40.8 +0.3**
baz=31,SNR=6.1
KSH Kashi 56.44 68 P **P** **17 08 41.7 +1.4**
KSH S **S** **17 16 29.7 -1.3**
KSH pmax pmax
comp=Z,59nm,1.7s
KSH pmax pmax
comp=Z,170nm,6.0s
KSH LR LR
comp=N,200nm,5.4s
KSH LR LR
comp=E,120nm,5.6s
KSH LR LR
comp=Z,410nm,16.2s
ZAK Zakamensk 56.44 41 *e*P **P** **17 08 39.4 -0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
CBYP Canovanas 56.48 239 P **P** **17 08 39.3 -1.4**
MTP Monte Pirata 56.52 238 P **P** **17 08 38.7 -2.3**
GCPR Guaynabo City 56.53 239 P **P** **17 08 38.1 -2.8**
P17A Butcher Ranch, 56.54 292 P **P** **17 08 39.8 -1.3**
DUG Dugway, Tooele 56.74 294 P **P** **17 08 42.2 -0.2**
baz=31,SNR=8.1
DUG Dugway, Tooele 56.74 294 P **P** **17 08 41.0 -1.5**
DUG pmax pmax
comp=Z,13nm,1.2s
DUG Dugway, Tooele 56.74 294 P **P** **17 08 41.0 -1.5**
DUG IAmb IAmb 17 08 47.7
comp=Z,13nm,1.2s
SRU San Rafael Swe 56.76 292 P **P** **17 08 41.9 -0.8**
SRU pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael Swe 56.76 292 P **P** **17 08 41.9 -0.8**
TMUT Trail Mountain 56.87 292 P **P** **17 08 42.2 -1.4**
MPR Mayaguez 57.01 240 P **P** **17 08 43.8 -0.5**
CRPR Cabo Rojo, PR 57.18 240 P **P** **17 08 45.6 0.0**
Q16A Castle Valley 57.19 292 P **P** **17 08 44.7 -1.0**
WMQ Urumqi 57.19 56 *e*P **P** **17 08 47.3 +1.8**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,87nm,4.9s
WMQ LR LR
comp=N,190nm,29.3s
WMQ LR LR
comp=E,550nm,28.8s
WMQ LR LR 17 32 55.8
comp=Z,100nm,21.5s
MLPR Magueyes Islan 57.19 240 P **P** **17 08 44.5 -1.1**
ELK Elko 57.21 296 P **P** **17 08 43.8 -2.2**
comp=Z,1.1nm,0.9s,baz=27,slow=9.0,SNR=3.4
ELK LR LR 17 32 55.8
comp=Z,372nm,19.1s,baz=56,slow=36
ELK Elko 57.21 296 P **P** **17 08 44.8 -1.1**
ELK pmax pmax
comp=Z,10.0nm,1.5s
ELK Elko 57.21 296 P **P** **17 08 44.8 -1.1**
DR12 Loma Pena Alta 57.33 243 P **P** **17 08 46.5 -0.2**
MVCO Mesa Verde 57.57 289 P **P** **17 08 48.7 +0.2**
ABTX Abilene, Hawle 57.81 279 P **P** **17 08 48.4 -1.6**
ABTX IAmb IAmb 17 08 54.1
comp=Z,14nm,1.2s
KBL Kabul 57.86 77 P **P** **17 08 48.3 -2.2**
KBL pmax pmax
comp=Z,7.0nm,1.1s
KBL Kabul 57.86 77 P **P** **17 08 48.3 -2.2**
SDDR Presa de Saban 57.89 245 P **P** **17 08 50.1 -0.5**
MSU Marysvale 57.93 293 P **P** **17 08 50.4 -0.6**
MSU Marysvale 57.93 293 P **P** **17 08 50.4 -0.6**
MVU Marysvale 57.95 293 P **P** **17 08 50.3 -0.9**
TCRU Three Creeks R 57.96 293 P **P** **17 08 51.0 -0.2**
FDF Fort de France 58.08 232 P **P** **17 08 52.0 0.0**
FDF pmax pmax
comp=Z,72nm,1.0s
FDF Fort de France 58.08 232 P **P** **17 08 52.0 0.0**
MOD Modoc Plateau 58.12 301 P **P** **17 08 52.9 +0.7**
HKT Hockley 58.49 274 P **P** **17 08 54.4 -0.2**
HKT pmax pmax
comp=Z,9.0nm,1.3s
HKT Hockley 58.49 274 P **P** **17 08 54.4 -0.2**
DBIC Dimbokro 58.53 165 P **P** **17 08 51.9 -3.1**
comp=Z,5.4nm,1.0s,baz=0.2,slow=11,SNR=3.9
DBIC LR LR 17 34 32.1
comp=Z,93nm,18.8s,baz=343,slow=36
TIC Toumodi 58.53 166 *e*PKP2 **P** **17 08 56.8 +1.7**
PSUT Pine Spring 58.58 294 P **P** **17 08 54.0 -1.5**
ANMO Albuquerque 58.68 286 P **P** **17 08 56.1 -0.2**
baz=30
ANMO Albuquerque 58.68 286⇓*e*P **P** **17 08 56.2 0.0**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
KIC Kosan Boka 58.84 165 *e*PKP2 **P** **17 08 55.4 -1.9**
comp=Z,57nm,1.3s
LIC Lamto 58.95 166 *e*PKP2 **P** **17 08 55.2 -2.8**
comp=Z,29nm,0.9s
SZCU Shurtz Canyon 59.09 293 P **P** **17 08 57.4 -1.7**
YBH Yreka Blue Hor 59.15 303 LR LR 17 34 47.4
comp=Z,141nm,19.0s,baz=26,slow=36
CCUT Cedar City 59.23 293 P **P** **17 08 58.8 -1.3**
R11A Troy Canyon, C 59.42 295 P **P** **17 09 00.7 -0.5**
baz=30,SNR=9.0
R11A Troy Canyon, C 59.42 295 P **P** **17 08 59.7 -1.6**
R11A IAmb IAmb 17 09 05.7
comp=Z,13nm,1.3s
BNM Barren Site 59.44 286 P **P** **17 09 00.1 -1.4**
SONM Songino Array 59.62 41 P **P** **17 09 01.6 -0.9**
comp=Z,1.8nm,1.0s,baz=330,slow=8.1,SNR=5.4
SONM LR LR 17 37 11.5
comp=Z,193nm,20.5s,baz=326,slow=38
SONM Songino Array 59.62 41 P **P** **17 09 00.9 -1.6**
LCMT Little Creek M 59.65 293 P **P** **17 09 00.5 -2.4**
PAHR Pah Rah Range 59.69 299 P **P** **17 09 00.9 -2.2**
PAHR IAmb IAmb 17 09 07.4
comp=Z,11nm,1.2s
JCT Junction City 59.73 278 P **P** **17 09 02.9 -0.4**
baz=30,SNR=5.4
JCT Junction City 59.73 278 P **P** **17 09 01.6 -1.8**
JCT pmax pmax
comp=Z,28nm,1.2s
JCT Junction City 59.73 278 P **P** **17 09 01.6 -1.8**
KVN Kaiserville 59.77 298 P **P** **17 09 02.8 -0.9**
KVN pmax pmax
comp=Z,15nm,1.3s
KVN Kaiserville 59.77 298 P **P** **17 09 02.8 -0.9**
KVN IAmb IAmb 17 09 07.6
comp=Z,15nm,1.3s
ULN Ulaanbaatar 59.78 40⇑*e*P **P** **17 09 04.7 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.3s
U15A North Rim 59.78 292 P **P** **17 09 02.0 -1.9**
U15A IAmb IAmb 17 09 09.2
comp=Z,12nm,0.9s
VCNR Virginia City 60.15 299 P **P** **17 09 06.6 +0.3**
VCNR IAmb IAmb 17 09 14.2
comp=Z,6.6nm,0.7s
GDL2 Guadalupe Moun 60.18 283 P **P** **17 09 06.0 -0.5**
WUAZ Wupatki 60.20 290 P **P** **17 09 06.2 -0.4**
baz=30,SNR=8.2
WUAZ Wupatki 60.20 290 P **P** **17 09 05.2 -1.4**
YERR Yerington 60.27 299 P **P** **17 09 05.8 -1.3**
YERR IAmb IAmb 17 09 11.4
comp=Z,14nm,1.1s
TPH Tonopah 60.29 296 P **P** **17 09 06.2 -1.1**
TPH pmax pmax
comp=Z,12nm,0.9s
TPH Tonopah 60.29 296 P **P** **17 09 06.2 -1.1**
NV11 Mina Array Sit 60.34 297 P **P** **17 09 06.9 -0.7**
NIL Nilore 60.38 74 P **P** **17 09 06.3 -1.5**
NIL pmax pmax
comp=Z,31nm,1.2s
NIL Nilore 60.38 74 P **P** **17 09 06.3 -1.5**
NVAR Mina Array Bea 60.40 298 P **P** **17 09 05.1 -2.9**
comp=Z,1.0nm,0.9s,baz=57,slow=9.2,SNR=5.8
NVAR Mina Array Bea 60.40 298 P **P** **17 09 07.1 -1.0**
CBCY The Bluff, Cay 60.61 253 P **P** **17 09 07.6 -1.8**
WAKR Walker 60.76 298 P **P** **17 09 08.8 -1.7**
WAKR IAmb IAmb 17 09 14.8
comp=Z,9.3nm,1.2s
SHPR Sheep Range 60.85 294 P **P** **17 09 10.1 -1.0**
SHPR IAmb IAmb 17 09 15.8
comp=Z,15nm,1.3s
TPNV Topopah Spring 60.89 295 P **P** **17 09 10.8 -0.6**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 60.89 295 P **P** **17 09 10.8 -0.6**
MNTX Cornudas Mount 61.04 283 P **P** **17 09 11.9 -0.3**
baz=30
MNTX Cornudas Mount 61.04 283 P **P** **17 09 11.1 -1.2**
MNTX IAmb IAmb 17 09 17.9
comp=Z,8.5nm,1.1s
X16A Lo Mia Camp, P 61.18 290 P **P** **17 09 12.3 -1.1**
X16A IAmb IAmb 17 09 18.5
comp=Z,15nm,1.1s
KCPM Cahto Peak 61.26 302 P **P** **17 09 12.4 -1.4**
KCPM IAmb IAmb 17 09 34.3
comp=Z,19nm,1.4s
121A Cookes Peak, D 61.32 286 P **P** **17 09 14.9 +0.5**
baz=29
121A Cookes Peak, D 61.32 286 P **P** **17 09 13.3 -1.1**
121A IAmb IAmb 17 09 18.9
comp=Z,13nm,1.1s
OMMB Old Mammoth Mi 61.37 298 P **P** **17 09 14.6 -0.2**
OMMB IAmb IAmb 17 09 21.8
comp=Z,9.2nm,1.3s
MDPB Devils Postpil 61.39 298 P **P** **17 09 14.9 +0.1**
MDPB IAmb IAmb 17 09 24.0
comp=Z,10nm,1.1s
W13A Hualapai Mount 61.57 292 P **P** **17 09 15.7 -0.4**
CWC Cottonwood Cre 62.05 296 P **P** **17 09 19.8 +0.6**
baz=29
MPMC Manual Prospec 62.15 296 P **P** **17 09 19.5 -0.5**
baz=29
Y14A Wickenburg 62.23 291 P **P** **17 09 19.6 -0.7**
TX31 Lajitas Ar. Si 62.37 280 P **P** **17 09 20.2 -1.2**
TX32 Lajitas Array 62.37 280 P **P** **17 09 19.8 -1.6**
TX32 IAmb IAmb 17 09 27.0
comp=Z,9.6nm,1.1s
TXAR Lajitas Array 62.37 280 P **P** **17 09 18.9 -2.5**
comp=Z,3.6nm,1.1s,baz=48,slow=2.7,SNR=7.3
TXAR Lajitas Array 62.37 280 P **P** **17 09 19.8 -1.6**
TXAR Lajitas Array 62.37 280 P **P** **17 09 19.8 -1.6**
GSC Goldstone, Bar 62.55 295 P **P** **17 09 23.3 +0.8**
baz=29
GSC Goldstone, Bar 62.55 295 P **P** **17 09 22.7 +0.2**
GSC pmax pmax
comp=Z,9.0nm,1.3s
GSC Goldstone, Bar 62.55 295 P **P** **17 09 22.7 +0.2**
GSC IAmb IAmb 17 09 27.0
comp=Z,9.4nm,1.3s
GMRC Granite Mounta 62.55 293 P **P** **17 09 23.0 +0.5**
baz=29,SNR=5.6

TUC	**Tucson**	**62.75**	**288**	P	**P**	**17 09 23.9**	**+0.1**
	baz=29							
TUC	**Tucson**	**62.75**	**288**	P	**P**	**17 09 22.8**	**-1.0**
TUC				pmax	pmax			
	comp=Z,14nm,1.3s							
TUC	**Tucson**	**62.75**	**288**	P	**P**	**17 09 22.8**	**-1.0**
TUC				IAmb	IAmb	17 09 30.7		
	comp=Z,14nm,1.2s							
ISA	**Isabella, Lake**	**62.88**	**296**	P	**P**	**17 09 23.9**	**-0.8**
	baz=28,SNR=6.2							
IRM	**Iron Mountain**	**62.90**	**293**	P	**P**	**17 09 23.9**	**-0.8**
	baz=29,SNR=5.4							
319A	**Douglas**	**62.95**	**286**	P	**P**	**17 09 23.4**	**-1.8**
PFO	**Pinyon Flats O**	**63.90**	**293**	P	**P**	**17 09 31.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=104,slow=8.3,SNR=2.7							
PFO	**Pinyon Flats O**	**63.90**	**293**	P	**P**	**17 09 31.9**	**+0.4**
PFO				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MONP2	**Monument Peak**	**64.51**	**293**	P	**P**	**17 09 38.9**	**+3.3**
	baz=28							
IKP	**In-Ko-Pah, Jac**	**64.60**	**293**	P	**P**	**17 09 40.0**	**+3.9**
	baz=28							
GTA	**Gaotai**	**65.27**	**49**	*e*P	**P**	**17 09 40.2**	**-0.2**
GTA				pP	pP	17 09 44.4	+0.3	
GTA				sP	sP	17 09 47.6	+2.0	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
HSIG		**65.70**	**286**	P	**P**	**17 09 41.4**	**-1.7**
HSIG				IAmb	IAmb	17 09 47.6		
	comp=Z,11nm,1.0s							
SPX	**San Pedro Mart**	**65.76**	**291**	P	**P**	**17 09 43.2**	**-0.7**
SPX				IAmb	IAmb	17 09 49.6		
	comp=Z,12nm,1.2s							
SDV	**Santo Domingo**	**66.87**	**240**	*e*P	**P**	**17 09 55.2**	**+4.3**
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*e*P	**P**	**17 09 56.2**	**+1.6**
HHC				pmax	pmax			
	comp=Z,18nm,1.0s							
HHC				pmax	pmax			
	comp=Z,150nm,5.2s							
LZH	**Lanzhou**	**69.60**	**48**	*e*P	**P**	**17 10 11.6**	**+3.8**
LZH				pP	sP	17 10 14.2	+1.1	
LZH				sP	pP	17 10 16.1	+4.4	
LZH				pmax	pmax			
	comp=Z,18nm,1.5s							
MCPB	**Macapa, AP**	**69.61**	**217**	*e*P	P	17 10 13.2	+5.3	
TLIG	**Tlapa**	**70.54**	**270**	P	**P**	**17 10 12.4**	**-1.3**
TLIG				IAmb	IAmb	17 10 19.3		
	comp=Z,7.3nm,0.9s							
ROSC	**El Rosal**	**71.97**	**242**	P	**P**	**17 10 22.6**	**-0.2**
	comp=Z,3.7nm,0.3s,baz=116,slow=16,SNR=3.3							
ROSC	**El Rosal**	**71.97**	**242**	P	**P**	**17 10 22.1**	**-0.7**
ERM	**Erimo**	**72.60**	**15**	P	**P**	**17 10 24.6**	**-1.1**
ERM				pmax	pmax			
	comp=Z,30nm,1.0s							
ERM	**Erimo**	**72.60**	**15**	P	**P**	**17 10 24.6**	**-1.1**
CD2	**Chengdu**	**74.33**	**50**	*e*P	**P**	**17 10 35.0**	**-1.1**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ITTB	**Itaituba**	**74.43**	**220**	*e*P	**P**	**17 10 40.4**	**+3.7**
PRPB	**Parauapebas**	**74.64**	**214**	*e*P	P	17 10 43.1	+5.2	
MACA	**Manacapuru-AM**	**74.73**	**225**	*e*P	P	17 10 43.6	+5.1	
SHL	**Shillong**	**74.97**	**62**	P	**P**	**17 10 38.3**	**-1.8**
SHL				pmax	pmax			
	comp=Z,16nm,1.4s							
SHL	**Shillong**	**74.97**	**62**	P	**P**	**17 10 38.3**	**-1.8**
SHL				IAmb	IAmb	17 10 43.7		
	comp=Z,16nm,1.4s							
NPGB	**Novo Progresso**	**76.89**	**219**	*e*P	P	17 10 56.5	+5.6	
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**17 10 53.7**	**-1.7**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
OTAV	**Otavalo**	**77.78**	**244**	P	**P**	**17 10 54.2**	**-2.2**
OTAV				pmax	pmax			
	comp=Z,9.0nm,1.2s							
OTAV	**Otavalo**	**77.78**	**244**	P	**P**	**17 10 54.2**	**-2.2**
OTAV				IAmb	IAmb	17 11 06.2		
	comp=Z,9.3nm,1.2s							
OTAV	**Otavalo**	**77.78**	**244**	*e*P	**P**	**17 10 59.6**	**+3.2**
KMI	**Kunming**	**79.31**	**53**	⇑P	**P**	**17 11 04.6**	**0.0**
KMI				pP	pP	17 11 07.0	-1.4	
KMI				pmax	pmax			
	comp=Z,15nm,0.8s							
CLDB	**Colider**	**80.67**	**218**	*e*P	P	17 11 16.5	+5.0	
SAML	**Samuel**	**80.97**	**226**	P	**P**	**17 11 10.8**	**-2.4**
SAML				pmax	pmax			
	comp=Z,9.0nm,1.3s							
SAML	**Samuel**	**80.97**	**226**	P	**P**	**17 11 10.8**	**-2.4**
SAML	**Samuel**	**80.97**	**226**	*e*P	**P**	**17 11 16.1**	**+2.9**
ETMB	**Extrema**	**82.74**	**228**	*e*P	**P**	**17 11 25.4**	**+2.9**
CHTO	**Chiang Mai**	**83.76**	**59**	P	**P**	**17 11 26.3**	**-1.6**
CHTO				pmax	pmax			
	comp=Z,12nm,1.4s							
CHTO	**Chiang Mai**	**83.76**	**59**	P	**P**	**17 11 26.3**	**-1.6**
CHTO				IAmb	IAmb	17 11 31.5		
	comp=Z,12nm,1.4s							
VILB	**Vilhena**	**83.87**	**222**	*e*P	**P**	**17 11 32.7**	**+4.4**
CMAR	**Chiang Mai Arr**	**84.09**	**59**	P	**P**	**17 11 28.9**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=324,slow=6.5,SNR=8.4							
CMAR	**Chiang Mai Arr**	**84.09**	**59**	P	**P**	**17 11 29.0**	**-0.6**
RAR	**Rarotonga**	**130.05**	**312**	PKP	**PKPdf**	**17 18 08.5**	**+0.3**
	comp=Z,9.0nm,0.7s,baz=63,slow=4.5,SNR=3.7							
RAR				PP	**PP**	**17 20 19.0**	**-1.5**
	comp=Z,34nm,1.1s,baz=18,slow=13,SNR=2.6							
ASAR	**Alice Springs**	**134.95**	**39**	PKP	**PKPdf**	**17 18 14.9**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=327,slow=1.5,SNR=4.5							
ASAR	**Alice Springs**	**134.95**	**39**	PKIKP	**PKPdf**	**17 18 15.0**	**-2.5**
STKA	**Stephens Creek**	**144.72**	**32**	PKP	**PKPab**	**17 18 32.1**	**-1.6**
	comp=Z,3.2nm,0.8s,baz=13,slow=8.1,SNR=3.9							

*ATH **05** 16:59:54.7,39˚.18N×18˚.75E,h11km±3km,ML2.7/3, Error ellipse: s-maj=3.9km s-min=1.6km az=90.0*
*THE **05** 16:59:57.2,39˚.30N×18˚.82E,h12km±1km,ML2.8/7, Error ellipse: s-maj=2.2km s-min=0.7km az=308.0*

ISC 05 16:59:56.3±1.9,39˚.24N±0˚.05×18˚.82E±0˚.07,h10km±12km, n24,σ0°68/34,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.89**	**58**	P	**Pg**	**17 00 13.4**	**-0.1**
KEK				S	**Sb**	**17 00 26.1**	**+0.3**
	628nm,0.5s						
KEK	**Kerkira**	**0.89**	**58**	P	**Pg**	**17 00 12.9**	**-0.6**
KEK				S	**Sb**	**17 00 26.4**	**+0.5**
KEK				AML	AML	17 00 29.0	
	comp=N,1279μm,0.5s						
KEK				AML	AML	17 00 29.7	
	comp=E,1182μm,0.6s						
KASA	**Kassiopi**	**1.00**	**59**	P	**Pg**	**17 00 15.6**	**+0.1**
KASA				S	**Sn**	**17 00 29.8**	**-0.7**
KASA				AML	AML	17 00 32.6	
	comp=N,763μm,0.4s						
KASA				AML	AML	17 00 34.5	
	comp=E,827μm,0.4s						
SRN	**Sarande**	**1.11**	**55**	P	**Pb**	**17 00 17.1**	**-0.5**
SRN				S	**Sg**	**17 00 32.6**	**+0.4**
	comp=E,265nm,0.7s						
IGT	**Igoumenitsa**	**1.21**	**76**	P	**Pn**	**17 00 18.9**	**-0.3**
IGT				S	**Sg**	**17 00 36.0**	**+0.8**
	comp=E,250nm,0.6s						
IGT	**Igoumenitsa**	**1.21**	**76**	P	**Pn**	**17 00 18.3**	**-0.9**
IGT				S	**Sg**	**17 00 36.0**	**+0.8**
IGT				AML	AML	17 00 41.6	
	comp=N,440μm,0.3s						
IGT				AML	AML	17 00 43.4	
	comp=E,558μm,0.7s						
TSLK	**Tsoukalades, L**	**1.49**	**106**	P	**Pb**	**17 00 23.8**	**-0.3**
TSLK				S	**Sb**	**17 00 43.2**	**+0.2**
TSLK	**Tsoukalades, L**	**1.49**	**106**	P	**Pb**	**17 00 23.5**	**-0.6**
LKD2	**Lefkada island**	**1.50**	**107**	P	**Pn**	**17 00 23.5**	**+0.2**
LKD2				S	**Sb**	**17 00 44.1**	**+0.7**
	comp=E,445nm,0.6s						
LKD2	**Lefkada island**	**1.50**	**107**	P	**Pn**	**17 00 23.5**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.56**	**109**	P	**Pn**	**17 00 24.1**	**+0.1**
NYDR				S	**Sb**	**17 00 44.9**	**0.0**
	comp=E,340nm,0.5s						
EVGI	**Lefkada island**	**1.56**	**113**	P	**Pn**	**17 00 24.4**	**+0.3**
EVGI				S	**Sb**	**17 00 45.5**	**+0.4**
EVGI	**Lefkada island**	**1.56**	**113**	P	**Pn**	**17 00 24.2**	**+0.1**
FSK	**Fiskardo**	**1.57**	**119**	P	**Pn**	**17 00 24.2**	**0.0**
FSK				S	**Sg**	**17 00 46.4**	**-0.4**
	comp=E,385nm,0.3s						
FSK	**Fiskardo**	**1.57**	**119**	P	**Pn**	**17 00 24.3**	**0.0**
VLS	**Valsamata**	**1.75**	**127**	P	**Pn**	**17 00 27.0**	**+0.3**
VLS				S	**Sb**	**17 00 50.6**	**+0.2**
	comp=E,230nm,0.5s						
VLS	**Valsamata**	**1.75**	**127**	P	**Pn**	**17 00 26.8**	**+0.2**
PENT	**Pentalofos**	**2.03**	**61**	P	**Pn**	**17 00 31.6**	**+1.0**
NOCI	**Noci**	**2.05**	**319**	P	**Pn**	**17 00 31.5**	**+0.6**
NEST	**Nestorio**	**2.08**	**55**	P	**Pb**	**17 00 32.8**	**-1.3**
SG1	**Sgolgore (BA)**	**2.29**	**315**	*e*P	Pg	17 00 46.9	+6.7	
BAI	**Bari**	**2.38**	**322**	*e*P	Pg	17 00 46.9	+4.9	
ANX	**Ano Chora**	**2.50**	**104**	P	**Pn**	**17 00 38.7**	**+1.6**
AGG	**Agios Georgios**	**2.74**	**94**	P	**Pn**	**17 00 42.0**	**+1.6**

*ASRS **05** 17:11:15.7±0.2,51˚.N±1˚×90˚.9E±0˚.9,h10km,MLh3.3/26, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 05 17:11:16.9±0.9,50˚.93N±0˚.03×90˚.87E±0˚.02,h10km,n23, σ1°84/40,3C-3D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	**Teeli**	**0.43**	**282**	Pg	**Pn**	**17 11 26.8**	**-2.4**
TEL				Sg	**Sb**	**17 11 32.0**	**-1.2**
CUR	**Chagan-Uzun**	**1.81**	**244**	Pg	**Pg**	**17 11 51.8**	**+0.2**
CUR				Sg	**Sg**	**17 12 16.6**	**+1.6**
DJO	**Djoy, Khakassi**	**1.87**	**7**	Pg	**Pg**	**17 11 53.9**	**+1.2**
DJO				Sg	**Sg**	**17 12 18.8**	**+2.0**
ULGR	**Ulagan, Altay**	**1.87**	**262**	Pg	**Pg**	**17 11 52.5**	**-0.2**
ULGR				Sg	**Sg**	**17 12 17.6**	**+0.7**
DJOS	**Djoyskaya Sosn**	**1.90**	**10**	Pg	**Pg**	**17 11 55.1**	**+1.9**
DJOS				Sg	**Sg**	**17 12 19.0**	**+1.2**
CERR	**Cheremushki**	**1.96**	**10**	Pg	**Pg**	**17 11 55.8**	**+1.4**
CERR				Sg	**Sg**	**17 12 21.3**	**+1.6**
CHBI	**Chibit, Altay**	**2.23**	**255**	Pg	**Pg**	**17 11 58.9**	**-0.6**
CHBI				Sg	**Sg**	**17 12 28.7**	**+0.2**
ARDR	**Aradan**	**2.30**	**43**	Pg	**Pg**	**17 12 00.9**	**0.0**
ARDR				Sg	**Sg**	**17 12 31.0**	**+0.4**
KZLR	**Kyzyl**	**2.38**	**70**	Sg	**Sg**	**17 12 34.6**	**+1.2**
ARTR	**Artybash**	**2.41**	**293**	Pg	**Pg**	**17 12 01.5**	**-1.5**
ARTR				Sg	**Sg**	**17 12 33.7**	**-0.6**
DGZ	**Jazzator, Alta**	**2.52**	**242**	Pg	**Pg**	**17 12 03.5**	**-1.7**
DGZ				Sg	**Sg**	**17 12 38.7**	**+0.8**
TASR	**Tashtagol**	**2.61**	**316**	Pg	**Pg**	**17 12 05.8**	**-1.0**
TASR				Sg	**Sg**	**17 12 40.1**	**-0.4**
ERNS	**Erzin**	**2.81**	**102**	Pg	**Pg**	**17 12 08.5**	**-2.2**
ERNS				Sg	**Sg**	**17 12 46.0**	**-1.1**
ABNR	**Abakan**	**2.82**	**7**	Sg	**Sg**	**17 12 48.2**	**+0.8**
TUNR	**Tungur**	**3.00**	**257**	Pg	**Pb**	**17 12 09.8**	**-0.5**
TUNR				Sg	**Sg**	**17 12 52.5**	**-0.4**
TDJR	**Todzha**	**3.58**	**64**	Sg	**Sg**	**17 13 09.4**	**-2.2**
SHRR	**Shira**	**3.59**	**353**	Pg	**Pg**	**17 12 23.2**	**-2.4**
SHRR				Sg	**Sg**	**17 13 10.9**	**-1.3**
ELT	**Eltsovka**	**3.69**	**311**	Sg	**Sg**	**17 13 10.3**	**-4.9**
UKR	**Ust'-Kan**	**3.85**	**272**	Pg	**Pg**	**17 12 29.2**	**-1.4**
UKR				Sg	**Sg**	**17 13 18.6**	**-2.0**
KNGR	**Kungurtug, Tuv**	**4.23**	**92**	Pg	**Pg**	**17 12 36.1**	**-1.8**
KNGR				Sg	**Sg**	**17 13 31.3**	**-1.4**
POMOR	**Pomortsevo, Ku**	**4.37**	**325**	Sg	**Sg**	**17 13 36.1**	**-1.0**
MK31	**Makanchi Array**	**7.01**	**237**	⇑Pn	Pn	17 13 04.2	+4.7
	0.5nm,0.5s,baz=60,slow=14,SNR=14						
MK31				⇓Sn	**Sn**	**17 14 22.4**	**+3.1**
	0.8nm,0.5s						
MK31				⇓Lg	Lg	17 14 58.5	
	4.3nm,0.8s,baz=57,slow=30,SNR=4.6						
MAKZ	**Makanchi**	**7.17**	**238**	⇓Pn	**Pn**	**17 13 05.2**	**+3.5**
	2.6nm,1.3s						
MAKZ				⇑Sn	**Sn**	**17 14 26.6**	**+3.5**
	2.5nm,1.2s						
MAKZ				⇑Lg	Lg	17 15 04.8	
	3.5nm,0.8s						

*NEIC **05** 17:16:47.1±2.1,19˚.7S±0˚.1×176˚.07W±0˚.09,h10km±1km, mb5.0/21,Error ellipse: s-maj=17.4km s-min=13.7km az=168.0*
*IDC **05** 17:16:47.1±0.6,19˚.57S×176˚.12W,h0km,mb4.4/16, mb1 4.6/16,mb1mx4.4/44,mbtmp4.4/16,MS4.6/19, Ms1 4.6/19,ms1mx4.5/24,Error ellipse: s-maj=23.6km s-min=14.6km az=141.0*
*BJI **05** 17:16:47.0±0.0,19˚.70S×176˚.20W,h5km,mB5.6/9, mb4.7/17,Ms5.1/4,Ms7 4.9/5*
*GCMT **05** 17:16:52.1±0.1,19˚.57S±0˚.01×175˚.96W±0˚.01,h14km, MW5.4/149,Moment Tensor Solution. s96,c154; s149,c268; Duration: 1ś2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$-1.21±.02; $M_{\phi\phi}$ 1.38±.02; $M_{r\theta}$-0.30±.03; $M_{\theta\phi}$0.01±.01; $M_{\phi r}$0.40±.04; Best double couple: $M_0$1.38800×10^{17} NP1:χ_0=45.00000°,δ69.00000°, λ-1.00000°. NP2:χ_0=136.00000°,δ89.00000°, λ-159.00000°. Principal axes: T 1.4810, Plg14.0000°, Azm269.0000°; N -0.1870, Plg69.0000°, Azm139.0000°; P -1.2960, Plg16.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 17:16:48.7±0.4,19˚.69S±0˚.09×176˚.15W±0˚.06,h10km, n187,σ1°28/175,mb4.8/30,MS4.8/22,19C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.83**	**289**	PKIKP	**Pn**	**17 18 16.2**	**+0.8**
MSVF	**Nonsavu**	**5.83**	**289**		**Pn**	**17 18 16.2**	**+0.8**
NIUE	**Niue**	**5.90**	**85**	Pn	Pn	17 18 09.8	-6.4	
AFI	**Afiamalu**	**7.11**	**37**		**Pn**	**17 18 31.8**	**-1.1**
RAO	**Raoul Island**	**9.66**	**189**	LR	LR	17 22 33.1	
	comp=Z,17μm,19.0s,baz=9.5,slow=35						
SANVU	**Saraoutou**	**16.43**	**282**		**Pn**	**17 20 38.7**	**-0.7**
DZM	**Mont Dzumac**	**16.44**	**259**	LR	LR	17 25 05.4	
	comp=Z,2μm,18.0s,baz=90,slow=30						
DZM	**Mont Dzumac**	**16.44**	**259**	*e*Pn	**P**	**17 20 46.2**	**+3.7**
	80nm,1.4s						
DZM				*e*LQ	LQ	17 24 13.8	
	8μm,25.6s						
DZM				*e*LR	LR	17 25 06.6	
	comp=Z,14μm,24.9s						
TBI	**Tubuai**	**25.08**	**103**	*e*S	**S**	**17 26 35.0**	**-3.1**
	545nm,34.8s						
TBI				*e*LQ	LQ	17 27 12.4	
	6μm,27.2s						
TBI				*e*LR	LR	17 28 19.8	
	comp=Z,6μm,28.5s,baz=276						
PAE	**Paea**	**25.24**	**90**	*e*T	T	17 48 00.6	
	1.6nm,0.3s						
PPT2	**Papeete2**	**25.25**	**90**	*e*S	**S**	**17 26 37.7**	**-3.5**
	706nm,29.0s						
PPT2				*e*LQ	LQ	17 27 12.0	
	2μm,26.2s						
PPT2				*e*LR	LR	17 28 20.5	
	comp=Z,11μm,27.0s,baz=259						
PPT2	**Papeete2**	**25.25**	**90**	*e*T	T	17 48 02.2	
	2.4nm,0.4s						
PPT	**Papeete**	**25.26**	**90**	LR	LR	17 29 26.4	
	comp=Z,3μm,20.8s,baz=252,slow=30						
RPZ	**Rata Peaks**	**26.25**	**201**	P	**P**	**17 22 26.1**	**+2.1**
	17nm,0.8s,baz=158,slow=3.7,SNR=3.7						
EIDS	**Eidsvold**	**30.75**	**253**	P	**P**	**17 23 00.9**	**-3.4**
ARMA	**Armidale**	**30.99**	**243**	P	**P**	**17 23 04.0**	**-2.6**
ARMA				IAmb	IAmb	17 23 10.5	
	comp=Z,33nm,1.3s						
CAN	**Canberra**	**34.41**	**236**	P	**P**	**17 23 34.6**	**-1.7**
CTA	**Charters Tower**	**35.31**	**263**	P	**P**	**17 23 44.5**	**+0.2**
	comp=Z,9.4nm,0.7s,baz=88,slow=11,SNR=7.9						
CTAO	**Charters Tower**	**35.31**	**263**	P	**P**	**17 23 43.0**	**-1.3**
CTAO				IAmb	IAmb	17 23 46.1	
	comp=Z,20nm,1.1s						
TAOE	**Nuku Hiva Isla**	**36.43**	**78**	*e*S	**S**	**17 29 37.0**	**+1.0**
	comp=Z,284nm,28.4s						
TAOE				*e*LR	LR	17 33 39.0	
	comp=Z,4μm,25.4s,baz=245						
TAOE	**Nuku Hiva Isla**	**36.43**	**78**	*e*T	T	18 01 58.5	
	comp=Z,18nm,0.2s						
PMG	**Port Moresby**	**36.88**	**281**	P	**P**	**17 23 59.0**	**+1.2**
	comp=Z,16nm,0.8s,baz=105,slow=15,SNR=4.2						
TOO	**Toolangi**	**37.78**	**234**	P	**P**	**17 24 05.5**	**+0.3**
TOO				IAmb	IAmb	17 24 08.8	
	comp=Z,24nm,1.1s						
RKT	**Rikitea**	**38.40**	**103**	*e*LR	LR	17 34 35.0	
	comp=Z,5μm,26.8s						
COEN	**Coen**	**39.28**	**272**	P	**P**	**17 24 15.5**	**-2.6**
COEN				IAmb	IAmb	17 24 19.2	
	comp=Z,31nm,1.4s						
STKA	**Stephens Creek**	**39.71**	**244**	P	**P**	**17 24 22.1**	**+0.7**
	comp=Z,6.3nm,0.9s,baz=89,slow=9.3,SNR=5.2						
STKA				LR	LR	17 39 34.0	
	comp=Z,2μm,18.6s,baz=78,slow=34						
STKA	**Stephens Creek**	**39.71**	**244**	P	**P**	**17 24 22.1**	**+0.7**
BBOO	**Buckleboo**	**44.47**	**243**	P	**P**	**17 24 59.0**	**-1.2**
BBOO				IAmb	IAmb	17 25 11.9	
	comp=Z,34nm,1.3s						
WR0	**Warramunga Arr**	**46.25**	**261**	P	**P**	**17 25 13.6**	**-1.1**
WR0				IAmb	IAmb	17 25 29.8	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**46.40**	**256**	P	**P**	**17 25 14.0**	**-1.8**
ASAR	**Alice Springs**	**46.40**	**256**	P	**P**	**17 25 15.2**	**-0.7**
	comp=Z,7.3nm,0.8s,baz=98,slow=8.9,SNR=39						
ASAR				LR	LR	17 45 00.4	
	comp=Z,960nm,18.6s,baz=88,slow=36						
ASAR	**Alice Springs**	**46.40**	**256**	P	**P**	**17 25 14.7**	**-1.1**
WB0	**Warramunga Arr**	**46.42**	**261**	P	**P**	**17 25 15.2**	**-0.7**
WB0				IAmb	IAmb	17 25 28.8	
	comp=Z,19nm,1.2s						
WB2	**Warramunga Arr**	**46.43**	**261**	P	**P**	**17 25 14.6**	**-1.4**
WB2				IAmb	IAmb	17 25 16.7	
	comp=Z,25nm,1.4s						
WRAB	**Tennant Creek**	**46.44**	**261**	P	**P**	**17 25 14.9**	**-1.1**
WRAB				IAmb	IAmb	17 25 18.9	
	comp=Z,28nm,1.4s						
WRA	**Warramunga Arr**	**46.44**	**261**	P	**P**	**17 25 15.3**	**-0.9**
	comp=Z,5.9nm,1.0s,baz=98,slow=6.0,SNR=31						
WRA				LR	LR	17 44 09.1	
	comp=Z,3μm,18.3s,baz=100,slow=35						
WRA	**Warramunga Arr**	**46.44**	**261**	P	**P**	**17 25 15.1**	**-1.1**
KNRA	**Kununurra**	**52.46**	**265**	P	**P**	**17 26 00.4**	**-1.7**
KNRA				IAmb	IAmb	17 26 02.3	
	comp=Z,28nm,1.1s						
FITZ	**Fitzroy Crossi**	**54.87**	**261**	P	**P**	**17 26 17.6**	**-2.2**
FITZ				IAmb	IAmb	17 26 31.7	
	comp=Z,27nm,1.4s						
SOEI	**Soe**	**58.23**	**271**	P	**P**	**17 26 42.9**	**-0.9**
VNDA	**Vanda**	**58.87**	**185**	P	**P**	**17 26 48.8**	**+1.5**
	comp=Z,2.5nm,1.0s,baz=9.1,slow=5.9,SNR=8.4						
VNDA				LR	LR	17 50 36.3	
	comp=Z,354nm,18.7s,baz=25,slow=34						
VNDA	**Vanda**	**58.87**	**185**	P	**P**	**17 26 49.0**	**+1.7**
QSPA	**South Pole Qui**	**70.38**	**180**	P	**P**	**17 28 02.9**	**+0.2**
MJAR	**Matsushiro Arr**	**70.61**	**322**	P	**P**	**17 28 05.7**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=156,slow=5.6,SNR=2.5						
PETK	**Petropavlovsk-**	**75.95**	**344**	LR	LR	17 54 22.9	
	comp=Z,663nm,21.6s,baz=155,slow=30						
VES	**Vestal, Richgr**	**77.23**	**44**	P	**P**	**17 28 45.5**	**+2.4**
	baz=234						
MONP2	**Monument Peak**	**77.37**	**48**	P	**P**	**17 28 44.2**	**-0.1**
	baz=236						
EDW2	**Edwards Air Fo**	**77.40**	**46**	P	**P**	**17 28 42.1**	**-2.1**
	baz=235						
IKP	**In-Ko-Pah, Jac**	**77.46**	**48**	P	**P**	**17 28 45.3**	**+0.7**
	baz=237						
ISA	**Isabella, Lake**	**77.53**	**45**	P	**P**	**17 28 45.0**	**+0.1**
	baz=235						
O02D	**Mt. Diablo Mer**	**77.55**	**39**	P	**P**	**17 28 46.3**	**+1.3**
	baz=231						
PFO	**Pinyon Flats O**	**77.74**	**47**	P	**P**	**17 28 45.8**	**-0.5**
	comp=Z,3.3nm,1.1s,baz=241,slow=7.3,SNR=4.1						
SWSC	**Sam W. Stewart**	**77.83**	**48**	P	**P**	**17 28 47.2**	**+0.6**
	baz=237						
LRMC	**Laurel Mtn Rad**	**77.95**	**45**	P	**P**	**17 28 47.1**	**-0.3**
	baz=235						
O03E	**Paynes Creek**	**78.21**	**39**	P	**P**	**17 28 51.6**	**+3.0**
	baz=231						
CWC	**Cottonwood Cre**	**78.24**	**44**	P	**P**	**17 28 47.9**	**-1.1**
	baz=235						
BELC	**Belle Mtn. Jos**	**78.27**	**47**	P	**P**	**17 28 49.7**	**+0.4**
	baz=237						
M02C	**Callahan**	**78.28**	**38**	P	**P**	**17 28 52.8**	**+3.8**
	baz=230						
MPMC	**Manual Prospec**	**78.41**	**45**	P	**P**	**17 28 48.5**	**-1.5**
	baz=235						
GSC	**Goldstone, Bar**	**78.44**	**46**	P	**P**	**17 28 47.9**	**-2.2**
	baz=236						
BC3	**Big Chuckawall**	**78.46**	**48**	P	**P**	**17 28 50.2**	**-0.1**
	baz=237						
HEC	**Hector,Ludlow**	**78.50**	**47**	P	**P**	**17 28 50.1**	**-0.3**
	baz=236						
YBH	**Yreka Blue Hor**	**78.58**	**38**	P	**P**	**17 28 48.9**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=326,slow=3.6,SNR=3.6						
GMRC	**Granite Mounta**	**78.94**	**47**	P	**P**	**17 28 52.5**	**-0.4**
	baz=237						
IRM	**Iron Mountain**	**78.95**	**48**	P	**P**	**17 28 52.3**	**-0.5**
	baz=237						
GRAC	**Grapevine Rang**	**79.03**	**44**	P	**P**	**17 28 53.3**	**+0.1**
	baz=235						
M04C	**Macdoel**	**79.11**	**38**	P	**P**	**17 28 52.5**	**-1.2**
	baz=231						
TUQ	**Turquoise Moun**	**79.11**	**46**	P	**P**	**17 28 52.9**	**-0.9**
	baz=236						
NVAR	**Mina Array Bea**	**79.25**	**43**	P	**P**	**17 28 53.8**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=225,slow=8.8,SNR=12						
NVAR				LR	LR	17 56 07.7	
	comp=Z,326nm,21.5s,baz=234,slow=30						
NVAR	**Mina Array Bea**	**79.25**	**43**	P	**P**	**17 28 52.4**	**-2.

baz=238
SDCO Great Sand Dun 87.51 48 P P 17 29 38.9 +1.7
baz=243
K27K Chicken 87.54 14 P P 17 29 36.8 +0.4
baz=212
SYO Syowa Base 87.89 192 ⇓*eP* P 17 29 37.6 -0.6
ISCO Idaho Springs 88.37 47 P P 17 29 42.2 +0.9
baz=243
RLMT Red Lodge 88.54 41 P P 17 29 44.1 +2.2
baz=240
PLCA Paso Flores 88.56 133 LR LR 17 59 31.6
comp=Z,112nm,20.8s,baz=272,slow=29
SNAA Sanae 88.76 178 P P 17 29 41.6 -0.8
VNA3 Neumayer Olymp 88.82 176 P P 17 29 42.0 -0.7
VNA2 Neumayer--Watz 89.29 176 P P 17 29 44.3 -0.5
baz=164,slow=4.7
VNA1 Neumayer--Stat 89.50 176 P P 17 29 45.4 -0.4
ABTX Abilene, Hawle 89.66 55 P P 17 29 47.1 -0.2
baz=246
HHC Hu-ho-hao-te 90.04 314 *eP* P 17 29 48.3 -0.6
HHC pmax pmax
comp=Z,11nm,1.0s
KMI Kunming 90.54 296 ⇑P P 17 29 52.9 +1.2
KMI sP pwP 17 30 01.3 +3.6
KMI pmax pmax
comp=Z,6.0nm,1.4s
KMI LR LR
comp=Z,350nm,22.6s
KMI LR LR
comp=Z,330nm,22.1s
KMI LR LR
comp=Z,370nm,20.4s
CMAR Chiang Mai Arr 91.49 289 P P 17 29 55.8 -0.3
comp=Z,0.8nm,0.7s,baz=84,slow=2.8,SNR=3.9
CMAR LR LR 18 11 44.7
comp=Z,82nm,19.1s,baz=158,slow=36
CD2 Chengdu 91.83 302 *eP* P 17 29 57.0 -0.4
YKA Yellowknife Ar 95.06 24 LR LR 18 07 40.9
comp=Z,274nm,18.8s,baz=0,0,slow=32
ECSD EROS Data Cent 96.12 46 P P 17 30 17.0 +0.3
baz=249
SONM Songino Array 96.29 319 LR LR 18 08 58.2
comp=Z,125nm,20.5s,baz=114,slow=32
ULM Lac du Bonnet 98.89 40 LR LR 18 12 17.4
comp=Z,216nm,18.3s,baz=269,slow=34
MKAR Makanchi Array 111.91 313 PKiKP **PKiKP** 17 35 22.3 -1.8
comp=Z,0.1nm,0.5s,baz=98,slow=4.8,SNR=2.9
KURBB Kurchatov Arra 114.63 317 PKP **PKiKP** 17 35 28.9 -0.2
comp=Z,0.7nm,0.9s,baz=80,slow=2.2,SNR=2.7
AKASG Malin Array Be 143.12 333 PKP **PKPdf** 17 36 22.8 0.0
comp=Z,0.6nm,0.6s,baz=43,slow=3.9,SNR=3.3
BEL Belsk 145.28 342 *e*PKP **PKPdf** 17 36 26.6 +0.1
SORM Soroca 145.39 331 ⇑P **PKPdf** 17 36 26.6 -0.3
GAZ Gaziantep 146.11 308 PKPdf **PKPab** 17 36 29.4 -0.7
KWP Kalwaria Pacla 146.54 338 *e*PKP **PKPbc** 17 36 29.1 -1.1
OJC Ojcow 147.00 341 *e*PKP **PKPbc** 17 36 30.4 -1.2
BURAR Bucovina Array 147.17 333 ⇑P **PKPab** 17 36 33.6 -0.3
BIZ Bicaz 147.30 331 ⇑P **PKPab** 17 36 33.4 -0.9
KSP Ksiaz 147.39 345 *e*PKP **PKPbc** 17 36 32.0 -0.7
NIE Niedzica 147.54 340 *e*PKP **PKPbc** 17 36 33.1 0.0
BRTR Keskin Array B 147.55 314 PKPbc **PKPbc** 17 36 32.9 -0.8
comp=Z,1.0nm,1.0s,baz=145,slow=5.3,SNR=4.8
CRVS Cervenica-Dubn 147.59 338 *e*PKP **PKiKP** 17 36 35.3 -0.1
CLL Collm 147.63 349 *i* PKPbc **PKPbc** 17 36 32.9 -0.4
comp=Z,20nm,1.2s
CLL *i* 17 36 37.3
comp=Z,36nm,1.2s
CLL *i* 17 36 41.1
comp=Z,45nm,1.2s
CLL LmV 18 36 00.0
comp=Z,300nm,21.1s
OSTC Ostas 147.67 345 *e*PKP **PKPbc** 17 36 32.9 -0.6
OSTC *ex* x 17 36 37.1
OSTC *ex* x 17 36 42.1
CHVC Chvalec 147.68 345 *e*PKP **PKPbc** 17 36 33.3 -0.2
CHVC *ex* x 17 36 37.3
UPC Upice 147.77 345 *e*PKP **PKiKP** 17 36 35.1 -0.6
UPC *ex* x 17 36 41.5
VRI Vrincioaia 147.80 329 ⇑P **PKPdf** 17 36 31.1 0.0
DPC Dobruska-Polom 147.84 345 *e*PKP **PKiKP** 17 36 34.8 -1.1
DPC *ex* x 17 36 41.4
PLOR Plostina 147.85 329 ⇑P **PKPbc** 17 36 33.6 -0.5
BRG Berggiesshubel 147.87 348 *e*PKP **PKPbc** 17 36 32.5 -1.4
comp=Z,9.4nm,1.2s
BRG *e* 17 36 38.1
comp=Z,17nm,1.1s
BRG *e* 17 36 42.5
comp=Z,29nm,1.2s
comp=N,319nm,20.1s
comp=E,272nm,16.0s
comp=Z,454nm,19.2s
ARCR ARCALIA 147.96 333 ⇑P **PKiKP** 17 36 35.8 -0.4
KRLC Kraliky 147.98 344 *e*PKP **PKiKP** 17 36 35.2 -1.0
KRLC *ex* x 17 36 41.8
HARR Harsova 148.03 327 ⇑P **PKPab** 17 36 37.3 +0.1
MORC Moravsky Berou 148.05 343 ⇑P **PKPbc** 17 36 34.6 +0.1
MORC Moravsky Berou 148.05 343 *e*PKP **PKPbc** 17 36 33.6 -0.9
PVCC Panska Ves 148.07 347 *e*PKP **PKPab** 17 36 39.5 +2.3
PVCC *ex* x 17 36 42.7
OZUR 148.08 331 ⇑P **PKPab** 17 36 38.9 +1.4
DOPR Dopca 148.35 331 ⇓P **PKPab** 17 36 39.3 +0.8
MLR Muntele Rosu 148.45 330 ⇑P **PKPbc** 17 36 33.8 -2.0
PRU Pruhonice 148.59 347 *e*PKP **PKiKP** 17 36 36.7 -0.7
PRU *ex* x 17 36 44.3
VRAC Vranov 148.73 344 ⇑P **PKPab** 17 36 40.8 +0.8
VRAC Vranov 148.73 344 *e*PKP **PKPab** 17 36 38.7 -1.2
NKC Novy Kostel 148.76 349 *e*PKP **PKPab** 17 36 41.6 +1.6
VYHS Vyhne 148.82 341 *e*PKP **PKPbc** 17 36 35.9 -0.6
VYHS *e* 17 36 40.4
JAVC Velka Javorina 148.84 342 *e*PKP **PKiKP** 17 36 37.7 -0.3
VOIR 148.91 330 ⇑P **PKiKP** 17 36 38.1 -0.2
PBCC Pribram 148.99 347 *e*PKP **PKPbc** 17 36 36.1 -0.8
PBCC *ex* x 17 36 44.7
KRUC Moravsky 149.01 344 *e*PKP **PKPbc** 17 36 35.1 -1.9
MEM Membach 149.10 357 PKiKP **PKPbc** 17 36 37.2 +0.1
ARR Arges 149.16 331 ⇑P **PKiKP** 17 36 39.5 +0.7
SMOL Smolenice 149.22 342 *e*PKP **PKPab** 17 36 42.8 +0.9
MODS Modra-Piesok 149.39 342 *e*PKP **PKPbc** 17 36 37.8 -0.2
GRF Grafenberg Arr 149.49 351 *e*PKP **PKPab** 17 36 41.8 -1.2
baz=14,slow=2.0
GRF *e*L L 18 44 11.9
comp=Z,257nm,21.4s
SRO Srobarova 149.59 341 *e*PKP **PKPab** 17 36 43.6 +0.2
KHC Kasperske Hory 149.60 347 *e*PKP **PKPbc** 17 36 38.1 -0.4
KHC *ex* x 17 36 42.8
KHC *ex* x 17 36 46.6
SIRR Siria 149.72 335 ⇑P **PKPbc** 17 36 37.5 -1.4
GERES GERESS Array B 149.85 347 PKPbc **PKPbc** 17 36 38.1 -1.0
comp=Z,7.4nm,1.1s,baz=57,slow=4.9,SNR=14
GERES GERESS Array B 149.85 347 **PKPbc** 17 36 37.9 -1.3
GZR Gura Zlata 149.96 333 ⇑P **PKPbc** 17 36 39.2 -0.4
CONA Conrad Observa 150.19 344 *e*P **PKiKP** 17 36 40.0 -0.8
comp=Z,29nm,1.3s
BZS Buzias 150.27 334 ⇑P **PKPbc** 17 36 38.5 -1.6
HERR Herculane 150.52 333 ⇑P **PKiKP** 17 36 41.7 +0.2
MOA Molln 150.66 346 *e*P **PKPbc** 17 36 40.6 -0.5
comp=Z,8.2nm,1.2s
ARSA Arzberg 150.90 344 *e*P **PKPbc** 17 36 41.2 -0.5
comp=Z,8.0nm,1.3s
MDVR Moldovita 150.90 333 ⇑P **PKiKP** 17 36 42.7 +0.3
SOKA Soboth 151.56 344 *e*P **PKiKP** 17 36 43.6 -0.1
comp=Z,9.8nm,1.2s
KBA Koelnbreinsper 151.60 346 *e*P **PKPbc** 17 36 42.7 -0.8
comp=Z,14nm,1.2s
WATA Walderalm 151.71 349 *e*P **PKPbc** 17 36 42.6 -1.1
comp=Z,14nm,1.4s
WTTA Wattenberg 151.77 349 *e*P **PKPbc** 17 36 43.0 -0.9
comp=Z,9.2nm,0.8s
MOTA Moosalm 151.79 350 *e*P **PKPbc** 17 36 43.4 -0.5
comp=Z,12nm,1.2s
OBKA Obir 151.84 344 *e*P **PKPbc** 17 36 42.8 -1.1
comp=Z,9.6nm,1.8s
SQTA Sankt Quirin 151.89 349 *e*P **PKPbc** 17 36 42.8 -1.2
comp=Z,5.9nm,1.1s
DAVA Damuels 152.04 351 *e*P **PKPbc** 17 36 43.1 -1.3
comp=Z,16nm,1.2s
ABTA Abfaltersbach 152.09 347 *e*P **PKPbc** 17 36 43.0 -1.5
comp=Z,17nm,1.3s
FETA Feichten 152.16 350 *e*P **PKPbc** 17 36 43.2 -1.5
comp=Z,15nm,1.2s
ESDC Sonseca Array 158.97 17 PKPab **PKPab** 17 37 23.8 +0.3
comp=Z,1.6nm,1.0s,baz=343,slow=4.0,SNR=5.2
TORD Torodi Ar. Bea 173.17 162 PKPab **PKPab** 17 38 27.1 +0.7
comp=Z,1.9nm,1.0s,baz=187,slow=3.7,SNR=4.0

ATA ***05*** *17:20:47.6±0.4, 38°.63N×43°.83E, h7km±29km, ML2.3, MW3.4*
ISK ***05*** *17:20:48.7, 38°.84N×43°.41E, h5km, ML1.8/4*
DDA ***05*** *17:21:06.8, 39°.74N×44°.30E, h12km, ML2.0*
ISC 05 17:20:44.0±2.7, 38°.5N±0°.1×44°.0E±0°.1, h6km, n11, σ2s43/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.45**	**274**	*eP*			**Pn**	**17 20 55.2**	**-2.0**
TVAN				*eS*			**Sg**	**17 21 01.0**	**+2.4**
TVAN				IAML				17 21 03.4	
	comp=Z,41nm,0.5s								
VANB	**Van**	**0.47**	**282**	PG			**Pb**	**17 20 55.6**	**+0.8**
CLDR	**Caldiran**	**0.65**	**356**	PG			**Pb**	**17 20 59.0**	**+1.1**
CLDR				SG			**Sg**	**17 21 06.4**	**+1.4**
AKDM	**Akdamar-Van**	**0.80**	**258**	PG			**Pn**	**17 21 01.3**	**-0.7**
IGDI	**IGDIR**	**1.37**	**3**	*eP*			**Pg**	**17 21 11.5**	**+1.1**
IGDI	**IGDIR**	**1.37**	**3**	*i* P			**Pg**	**17 21 11.4**	**+1.0**
IGDI				*i* S			Sn	17 21 14.7	-14
IGDI				IAML				17 21 15.0	
	comp=N,292nm,0.3s								
IGDI				IAML				17 21 15.0	
	comp=E,277nm,0.3s								
GURO	**Guroymak-BITLI**	**1.52**	**273**	PN			**Pn**	**17 21 10.4**	**-1.5**
DIGO	**Kars**	**1.97**	**347**	*eP*			**Pg**	**17 21 22.6**	**+0.8**
DIGO				IAML				17 21 38.7	
	comp=Z,9.9nm,0.4s								
DIGO	**Kars**	**1.97**	**347**	*i* P			**Pg**	**17 21 24.1**	**+2.3**
DIGO				*i* S			**Sn**	**17 21 37.3**	**-6.0**
DIGO				IAML				17 21 38.0	
	comp=N,22nm,0.4s								
EAK	**Akyaka**	**2.21**	**353**	*eP*			**Pb**	**17 21 26.2**	**+1.8**
EAK				IAML				17 21 44.0	
	comp=Z,36nm,0.5s								
EAK	**Akyaka**	**2.21**	**353**	*i* P			**Pg**	**17 21 27.0**	**+0.7**
EAK				IAML				17 21 41.0	
	comp=E,72nm,0.4s								
EAK				*i* S			Sn	17 21 41.3	-7.7
EAK				IAML				17 21 42.0	
	comp=N,81nm,0.4s								

IDC ***05*** *18:03:36.6±2.2, 51°.34N×178°.29E, h0km, mb3.4/7, mb1 3.7/7, mb1mx3.5/41, mbtmp3.4/7, Error ellipse: s-maj=73.3km s-min=21.8km az=9.0*
AEIC ***05*** *18:03:47.7±3.0, 52°.4N±0°.1×178°.74E±0°.09, h15km±5km, ML3.6/5, mb4.1/11(NEIC), Error ellipse: s-maj=19.2km s-min=7.0km az=195.0*
NEIC ***05*** *18:03:47.8±1.5, 51°.6N±0°.2×178°.5E±0°.1, h94km±12km, Error ellipse: s-maj=35.5km s-min=8.7km az=183.0*
ISC 05 18:03:48.3±2.0, 51°.6N±0°.3×178°.6E±0°.1, h100km, n31, σ1s26/25, mb3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.66**	**85**				**Pn**	**18 04 15.8**	**-0.7**
GALAA							**Sn**	**18 04 37.4**	**-0.5**
GAEA	**Gareloi East**	**1.68**	**84**				**Pn**	**18 04 16.3**	**-0.4**
GAEA							**Sn**	**18 04 38.0**	**-0.3**
KIMD	**Kanaga Island**	**2.61**	**86**				**Pn**	**18 04 28.6**	**-0.2**
KICM	**Kanaga Island**	**2.65**	**82**				**Pn**	**18 04 29.1**	**-0.2**
KICM							**Sn**	**18 05 00.9**	**+0.2**
ADK	**Adak**	**2.96**	**83**				**Pn**	**18 04 33.0**	**-0.4**
SMY	**Shemya**	**2.96**	**293**				Pn	18 04 32.5	-1.0
ATKA	**Atka Island**	**4.51**	**80**				**Pn**	**18 04 55.1**	**+0.8**
ATKA							**Sn**	**18 05 44.7**	**-0.9**
KOFP	**Korovin Flat P**	**4.58**	**79**				**Pn**	**18 04 55.3**	**0.0**
NIKH	**Nikolski High**	**7.83**	**75**	Pn			**Pn**	**18 05 41.2**	**+1.9**
UNV	**Unalaska Valle**	**9.32**	**70**	Pn			**Pn**	**18 05 55.4**	**-4.2**
SVW2	**Sparrevohn**	**17.05**	**46**				**P**	**18 07 39.6**	**-0.9**
OHAK	**Old Harbor**	**17.22**	**60**	Pn			**Pn**	**18 07 41.3**	**-0.9**
OHAK				IAmb		IAmb		18 07 48.9	
	comp=Z,26nm,1.2s								
MA2	**Magadan**	**17.49**	**308**	Pn			**Pn**	**18 07 44.4**	**-1.1**
KDAK	**Kodiak Island**	**17.67**	**58**	P			**Pn**	**18 07 48.1**	**+0.3**
KDAK				IAmb		IAmb		18 07 58.1	
	comp=Z,44nm,1.5s								
CNPM	**China Poot**	**18.67**	**53**	P			**Pn**	**18 07 59.9**	**+0.3**
BRLK	**Bradley Lake**	**18.89**	**53**	P			**Pn**	**18 08 01.6**	**-0.7**
BRLK				IAmb		IAmb		18 08 04.1	
	comp=Z,23nm,1.2s								
KTH	**Kantishna Hill**	**20.00**	**42**	P			Pn	18 08 13.9	-1.3
KTH				IAmb		IAmb		18 08 20.4	
	comp=Z,10nm,1.5s								
IMAR	**Indian Mountai**	**20.05**	**34**	P			Pn	18 08 15.7	0.0
TRF	**Thorofare Moun**	**20.23**	**42**				Pn	18 08 18.3	+0.3
TRF				IAmb		IAmb		18 08 36.8	
	comp=Z,8.0nm,1.3s								
SCM	**Sheep Creek Mo**	**21.05**	**48**	P			**P**	**18 08 23.7**	**-0.3**
SCM				IAmb		IAmb		18 08 32.6	
	comp=Z,22nm,1.4s								
MDM	**Murphy Dome**	**21.62**	**39**	P			**P**	**18 08 30.3**	**+0.3**
ILAR	**Eielson Array**	**22.09**	**40**	P			**P**	**18 08 36.9**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=243,slow=7.4,SNR=6.1								
NVAR	**Mina Array Bea**	**45.14**	**81**	P			P	18 11 58.0	+3.1
	comp=Z,0.8nm,0.8s,baz=302,slow=7.7,SNR=5.9								
PDAR	**Pinedale Array**	**47.79**	**71**	P			**P**	**18 12 16.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=314,slow=5.8,SNR=3.8								
KURK	**Kurchatov**	**57.64**	**312**	P			P	18 13 26.9	-0.7
KURK				IAmb		IAmb		18 13 29.2	
	comp=Z,2.6nm,1.3s								
KURBB	**Kurchatov Arra**	**57.75**	**312**	P			P	18 13 29.4	+1.1
	comp=Z,0.4nm,0.4s,baz=44,slow=6.7,SNR=4.9								
MKAR	**Makanchi Array**	**58.58**	**307**	P			P	18 13 34.8	+0.5
	comp=Z,0.1nm,0.3s,baz=52,slow=5.9,SNR=6.0								
MKAR	**Makanchi Array**	**58.58**	**307**	P			P	18 13 34.4	+0.1
BVAR	**Borovoye Array**	**59.62**	**318**	P			P	18 13 42.7	+1.4
	comp=Z,0.4nm,0.5s,baz=335,slow=6.4,SNR=3.8								
TXAR	**Lajitas Array**	**60.23**	**79**	P			**P**	**18 13 47.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=307,slow=4.4,SNR=3.4								
TXAR	**Lajitas Array**	**60.23**	**79**	P			**P**	**18 13 46.0**	**+0.1**

IDC ***05*** *18:31:07.2±1.5, 32°.62N×47°.86E, h0km, mb3.7/6, mb1 3.8/11, mb1mx3.5/62, mbtmp3.8/11, ML3.5/5, Error ellipse: s-maj=31.7km s-min=19.6km az=170.0*
TEH ***05*** *18:31:09.0, 32°.64N×47°.83E, h8km, ML4.0*
THR ***05*** *18:31:10.9±0.3, 32°.59N×47°.76E, h18km±3km, ML4.1*
ISN ***05*** *18:31:10.7±1.9, 32°.64N×47°.73E, h16km±13km, ML3.7*
NEIC ***05*** *18:31:12.6±2.8, 32°.5N±0°.1×47°.8E±0°.1, h54km±13km, Error ellipse: s-maj=18.0km s-min=11.6km az=203.0*
OMAN ***05*** *18:31:16.6, 32°.19N×48°.10E, h33km, mb5.3/13, ms3.1/2*
ISC 05 18:31:07.8±0.5, 32°.41N±0°.05×47°.74E±0°.03, h10km, n115, σ2s02/134, mb4.0/11, 5C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.47**	**304**	*e*Pg			**Pg**	**18 31 17.8**	**+0.7**
DHL1				*e*Sg			**Sb**	**18 31 25.7**	**+0.4**
IKFM	**Kafar-mosalman**	**1.11**	**4**	*e*Pg			**Pb**	**18 31 26.2**	**-2.9**
IKMR	**Kamar-syah**	**1.23**	**26**	*e*Pg			**Pn**	**18 31 28.5**	**-2.5**
IKMR				*e*				18 31 49.5	
IDOB	**Doab**	**1.42**	**15**	*e*Pg			**Pn**	**18 31 31.8**	**-2.1**
IBDR	**Badra**	**1.68**	**295**	*e*Pg			**Pb**	**18 31 39.0**	**+0.2**
baz=107									
IBDR				*e*Sg			**Sg**	**18 32 02.0**	**+0.2**
IBDR				AML			AML	18 32 06.7	
	comp=N,1μm,0.7s								
IBDR				AML			AML	18 32 06.7	
	comp=E,959nm,0.4s								
IKOM	**Komasi**	**1.77**	**354**	*e*Pg			**Pn**	**18 31 39.1**	**+0.5**
IKOM				*e*				18 31 41.4	
HSAM	**Samen**	**1.93**	**22**	*e*Pn			**Pn**	**18 31 41.2**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.95**	**343**	*e*Pg			**Pn**	**18 31 42.1**	**+1.0**
KCHF				*e*				18 31 48.3	
KER	**Kermanshah**	**2.03**	**346**	*e*Pg			**Pn**	**18 31 43.0**	**+0.8**
IBZA	**Bozab**	**2.05**	**3**	*e*Pn			**Pn**	**18 31 43.9**	**+1.2**
IBZA				*e*				18 32 18.4	
IGHG	**Ghaleghazi**	**2.15**	**333**	*e*Pn			**Pn**	**18 31 45.2**	**+1.3**
IGHG				*e*				18 32 20.9	
IVIS	**Veis**	**2.24**	**341**	*e*Pn			**Pn**	**18 31 45.4**	**+0.4**
IVIS				*e*				18 31 49.2	
KHMZ	**Khomeyn**	**2.28**	**54**	*e*Pn			**Pn**	**18 31 48.4**	**+2.6**
KHMZ	**Khomeyn**	**2.28**	**54**	*e*Pn			**Pn**	**18 31 48.4**	**+2.6**
IALM	**Almabolaq**	**2.47**	**8**	*e*Pn			**Pn**	**18 31 49.5**	**+1.2**
JHBN	**Jahan bin**	**2.48**	**93**	*e*Pn			**Pn**	**18 31 50.9**	**+2.3**
JHBN				*e*				18 31 59.9	
IDHR	**Dehrash**	**2.55**	**334**	*e*Pn			**Pn**	**18 31 50.2**	**+0.8**
IDHR				*e*				18 31 54.6	

ILIN Lien 2.58 346 *e*Pn **Pn** 18 31 50.9 +1.0
HAGD Aghdareh 2.67 25 *e*Pn **Pn** 18 31 52.2 +1.1
HAGD *e* 18 32 32.3
IPIR Pirpir 2.67 83 *e*Pn **Pn** 18 31 53.9 +2.7
IPIR *e* 18 32 45.2
ROKH ROKH 2.79 91 *e*Pn **Pn** 18 31 55.4 +2.7
ROKH *e* 18 32 02.4
HSRG Sareghieh 2.86 9 *e*Pn **Pn** 18 31 54.8 +1.1
HSRG *e* 18 32 38.1
ASAO Ashtian 2.86 41 *e*Pn **Pn** 18 31 55.8 +2.1
ASAO *e*S **Sn** 18 32 28.9 +0.6
ASAO Ashtian 2.86 41 *e*Pn **Pn** 18 31 55.8 +2.1
BHD Baghdad 2.96 288 *e*Pn **Pn** 18 31 57.0 +2.2
BHD *e*Sn **Sn** 18 32 33.0 +2.7
IBRJ Brojen 3.02 99 *e*Pn **Pn** 18 31 59.0 +3.0
IKLH Kolahrood 3.35 73 *e* 18 32 12.5
IKLH *e*Pn **Pn** 18 32 02.8 +2.3
QAM Ghamsar 3.38 66 *e*Pn **Pn** 18 32 03.7 +2.8
KLNJ Kolanjah 3.57 112 *e*Pn **Pn** 18 32 06.3 +2.8
KLNJ *e* 18 33 13.3
GHVR GHOM 3.62 54 *e*Pn **Pn** 18 32 06.3 +2.4
GHVR GHOM 3.62 54 *e*Pn **Pn** 18 32 06.3 +2.4
QABG Abgarm-Qazvin 3.62 24 *e*Pn **Pn** 18 32 05.5 +1.3
IGAR Gharneh 3.64 89 *e*Pn **Pn** 18 32 06.7 +2.3
IZEF Zefreh 3.90 82 *e*Pn **Pn** 18 32 10.9 +2.9
IRAM Ramesheh 3.98 97 *e*Pn **Pn** 18 32 10.8 +1.7
KRSH Karshahi 4.00 66 *e*Pn **Pn** 18 32 11.3 +2.0
ZNJK Zanjan 4.32 10 *e*Pn **Pn** 18 32 15.7 +1.9
ZNJK Zanjan 4.32 10 *e*Pn **Pn** 18 32 15.7 +1.9
CHTH Charan 4.47 38 *e*Pn **Pn** 18 32 18.2 +2.3
CHTH *e*Sg **Sb** 18 33 25.2 +4.5
CHTH Charan 4.47 38 *e*Pn **Pn** 18 32 18.2 +2.3
MAHB Mahabad 4.66 339 *e*Pn **Pn** 18 32 19.3 +1.0
QALM Alamut, Qazvin 4.67 30 *e*Pn **Pn** 18 32 19.7 +1.1
AHBU AHRAM 4.68 138 *e*Pn Pn 18 32 24.5 +6.0
IDMV Damavand 4.76 47 *e*Pn **Pn** 18 32 20.9 +1.0
ISAD Sadrabad 5.06 94 *e*Pn **Pn** 18 32 26.3 +2.2
ANAR Anarak 5.10 80 *e*Pn **Pn** 18 32 25.8 +1.4
ILAS Lasjerd 5.25 54 *e*Pn **Pn** 18 32 28.5 +1.9
IFIR Firoozkooh 5.26 51 *e*Pn **Pn** 18 32 27.7 +1.0
IPRN Peran 5.39 44 *e*Pn **Pn** 18 32 30.7 +2.3
ISRB Sarab 5.40 359 *e*Pn **Pn** 18 32 29.1 +0.5
IAZR Azarshahr 5.45 345 *e*Pn **Pn** 18 32 30.3 +1.0
IALA Alasht 5.57 48 *e*Pn **Pn** 18 32 33.0 +2.0
ICHK Chekchek 5.64 90 *e*Pn **Pn** 18 32 33.7 +1.7
ISHM Shahmirzad 5.71 52 *e*Pn **Pn** 18 32 35.5 +2.5
IMEH Mehriz 5.93 98 *e*Pn **Pn** 18 32 37.7 +1.8
IANJ Anjilo 5.96 58 *e*Pn **Pn** 18 32 37.9 +1.5
IGLO Ghaloghah 6.47 49 *e*Pn **Pn** 18 32 45.0 +1.6
IBAF Bafgh 6.70 95 *e*Pn **Pn** 18 32 48.4 +2.0
GEVA Gevas 7.02 328 Pn **Pn** 18 32 51.9 +1.1
MARD Mardin 7.53 312 Pn **Pn** 18 32 58.2 +0.5
TPRV Parvadeh(Tabas 7.56 83 *e*Pn **Pn** 18 33 00.2 +2.0
TNSJ Nastanj 7.59 76 *e*Pn **Pn** 18 33 00.3 +1.7
TKDS Koohdasht(Taba 7.97 79 *e*Pn **Pn** 18 33 04.7 +0.9
ASF Jabal al Asfar 19.19 271 Pn **Pn** 18 33 21.1 +0.7
comp=E,0.5nm,0.3s,baz=40,slow=9.4,SNR=9.9
ASF Sn **Sn** 18 35 01.7 -2.2
comp=E,0.3nm,0.3s,baz=217,slow=20,SNR=1.9
ASF Lg Lg 18 36 04.0
comp=E,0.6nm,0.3s,baz=55,slow=19,SNR=2.7
IKOO Kooshah 9.52 87 *e*Pn **Pn** 18 33 26.4 +1.2
BANOM Banah 9.88 129 P **Pn** 18 33 32.0 +2.0
SNR=16
BANOM S **Sn** 18 35 17.5 -3.6
ARTV Artvin 9.91 334 Pn **Pn** 18 33 32.0 +1.5
NAZ Nazwa, Dubai 10.15 135 P **Pn** 18 33 37.5 +3.9
NAZ S **Sn** 18 35 27.0 -0.5
MDH Madha 10.32 131 P **Pn** 18 33 37.7 +1.8
MDH S **Sn** 18 35 27.7 -3.9
UOSS Minazif 10.51 133 P **Pn** 18 33 39.3 +0.7
UOSS S **Sn** 18 35 31.7 -4.7
UOSS Minazif 10.51 133 Pn **Pn** 18 33 40.1 +1.5
HATD Hatta, Dubai 10.55 134 P **Pn** 18 33 41.4 +2.2
HATD S **Sn** 18 35 36.6 -0.9
ASHO Ashiyiah 10.61 134 P **Pn** 18 33 42.4 +2.4
SNR=19
ASHO S **Sn** 18 35 36.0 -3.0
SOHO SOHO 11.31 135 P **Pn** 18 33 50.3 +0.8
SOHO S **Sn** 18 35 52.9 -3.1
ARQ Araqi 11.91 137 P **Pn** 18 34 00.0 +2.3
SNR=11
ARQ P **Pn** 18 34 00.0 +2.3
SNR=11
ARQ S **Sn** 18 36 07.6 -3.2
ARQ S **Sn** 18 36 07.6 -3.2
HOQ Hoqain 12.19 134 P **Pn** 18 34 00.6 -1.0
CSS Mathiatis 12.27 286 Pn **Pn** 18 34 00.6 -2.0
BSY Bisya 12.76 137 P **Pn** 18 34 11.0 +1.5
BSY P **Pn** 18 34 11.0 +1.5
BSY S **Sn** 18 36 27.8 -3.8
BSY S **Sn** 18 36 27.8 -3.8
SMDO Samad 13.04 133 P **Pn** 18 34 13.8 +0.6
SMDO S **Sn** 18 36 35.4 -3.0
WSAR Wadi Sarin 13.27 131 Pn **Pn** 18 34 16.4 0.0
comp=E,0.9nm,0.3s,baz=328,slow=9.6,SNR=20
WSAR Wadi Sarin 13.27 131 P **Pn** 18 34 16.1 -0.3
BRTR Keskin Array B 13.53 307 Pn **Pn** 18 34 23.3 +3.3
comp=E,0.0nm,0.3s,baz=122,slow=12,SNR=4.8
BRTR Keskin Array B 13.53 307 **Pn** 18 34 18.3 -1.6
KBL Kabul 17.89 77 **Pn** 18 35 15.7 -1.4
ABKAR Akbulak array 19.15 25 P **P** 18 35 29.5 -1.6
IDI Anoyia 19.19 285 P **Pn** 18 35 34.5 +1.8
comp=E,0.6nm,0.3s,baz=71,slow=9.1,SNR=7.9
IDI Anoyia 19.19 285 P **P** 18 35 32.1 +0.3
IDI IAmb IAmb 18 36 19.4
comp=Z,68nm,2.0s
TIRR Tirgusor 19.28 314 P **P** 18 35 33.4 +0.8
ALN Alexandroupoli 19.32 302 P **P** 18 35 33.1 +0.1
ALN IAmb IAmb 18 36 21.8
comp=Z,30nm,1.9s
AKTO Aktyubinsk 19.55 20 P **P** 18 35 34.5 -1.0
comp=Z,0.1nm,0.3s,baz=220,slow=11,SNR=3.8
MLR Muntele Rosu 21.32 314 P **P** 18 35 58.2 +3.3
comp=Z,2.6nm,0.5s,baz=200,slow=7.5,SNR=7.1
MLR Muntele Rosu 21.32 314 ⇑P **P** 18 35 58.5 +3.6
MLR Muntele Rosu 21.32 314 P **P** 18 35 57.1 +2.3
NIL Nilore 21.41 80 P **P** 18 35 57.0 +1.1
NIL IAmb IAmb 18 36 01.1
comp=Z,9.0nm,0.6s
SORM Soroca 21.48 323 ⇓P **P** 18 35 56.0 -0.5
AGG Agios Georgios 21.62 295 P **P** 18 35 58.6 +0.5
AGG IAmb IAmb 18 36 09.0
comp=Z,34nm,1.5s
ITM Ithomi 21.70 290 P **P** 18 36 00.3 +1.4
OZUR 21.72 315 ⇑P **P** 18 36 01.8 +2.7
VOIR 21.84 313 ⇑P **P** 18 36 02.3 +1.9
BIZ Bicaz 21.99 318 ⇑P **P** 18 36 05.3 +3.4
**AKASG

BATI	**Baumata**	**2.04 201**	Pn	Pn	18 50 38.2	+0.7	
	20nm,0.3s,baz=26,slow=2.4,SNR=27						
BATI			Sn	Sn	18 50 58.0	-5.8	
	22nm,0.3s,baz=351,slow=7.3,SNR=5.9						
FITZ	**Fitzroy Crossi**	**9.83 173**	Pn	Pn	18 52 22.5	-2.1	
	1.0nm,0.3s,baz=357,slow=10,SNR=70						
FITZ			Sn	Sn	18 53 59.8	-16	
	2.1nm,0.3s,baz=245,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**15.07 141**	Pn	Pn	18 53 37.0	+0.7	
	0.9nm,0.3s,baz=316,slow=13,SNR=64						
WRA			Sn	Sn	18 56 15.7	-8.3	
	0.2nm,0.3s,baz=316,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**17.81 150**	P	P	18 54 12.3	+0.2	
	0.3nm,0.3s,baz=320,slow=12,SNR=18						
ASAR			S	Sn	18 57 19.3	-11	
	0.1nm,0.3s,baz=312,slow=21,SNR=4.0						
MKAR	**Makanchi Array**	**66.39 330**	P	P	19 00 52.6	-0.1	
	0.5nm,0.9s,baz=149,slow=6.7,SNR=3.4						

*IDC **05** 19:06:55.5±1.9, 16˚.19S×175˚.83W, h355km±20km, mb3.5/8, mb1 3.8/9, mb1mx3.5/27, mbtmp4.3/9, Error ellipse: s-maj=33.4km s-min=12.9km az=142.0*

ISC 05 19:06:54.7±0.7, 16˚.1S±0˚.2×175˚.8W±0˚.2, h350km, n29, σ0s81/30, mb3.8/8, 7C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.47**	**61**	P	**Pn**	19 08 10.5	**+1.8**
	23nm,0.3s,baz=131,slow=0.5,SNR=26						
AFI				S	**S**	19 09 05.6	**-2.8**
	1.0nm,0.3s,baz=38,slow=19,SNR=2.1						
URZ	**Urewera**	**22.92**	**194**	P	**P**	19 11 28.5	**-0.6**
	5.2nm,0.3s,baz=301,slow=2.2,SNR=6.9						
STKA	**Stephens Creek**	**41.67**	**240**	P	**P**	19 14 10.7	**+0.3**
	2.1nm,0.7s,baz=89,slow=8.0,SNR=9.7						
WRA	**Warramunga Arr**	**47.43**	**258**	P	**P**	19 14 55.1	**-0.5**
	2.9nm,0.3s,baz=98,slow=5.9,SNR=201						
ASAR	**Alice Springs**	**47.69**	**253**	P	**P**	19 14 57.6	**0.0**
	10nm,0.3s,baz=90,slow=7.6,SNR=649						
NVAR	**Mina Array Bea**	**76.42**	**43**	P	**P**	19 18 07.8	**+1.0**
	0.5nm,0.7s,baz=225,slow=8.3,SNR=5.0						
TXAR	**Lajitas Array**	**82.94**	**57**	P	**P**	19 18 42.2	**+0.6**
	0.6nm,0.6s,baz=223,slow=6.6,SNR=6.7						
ILAR	**Eielson Array**	**83.61**	**12**	P	**P**	19 18 43.6	**-0.4**
	1.2nm,0.6s,baz=222,slow=5.5,SNR=32						
PDAR	**Pinedale Array**	**84.35**	**43**	P	**P**	19 18 49.3	**+0.7**
	0.2nm,0.4s,baz=198,slow=4.4,SNR=3.5						
ARCES	**ARCESS Array B**	**124.98**	**351**	PKP	**PKPdf**	19 25 12.7	**-0.3**
	1.4nm,0.8s,baz=7.6,slow=3.7,SNR=6.4						
BURAR	**Bucovina Array**	**144.12**	**336**	⇓P	**PKPdf**	19 25 49.1	**-0.2**
BIZ	**Bicaz**	**144.30**	**334**	⇑P	**PKPdf**	19 25 49.0	**-0.5**
OSTC	**Ostas**	**144.31**	**347**	*e*PKP	**PKPdf**	19 25 48.8	**-0.6**
CHVC	**Chvalec**	**144.32**	**347**	*e*PKP	**PKPdf**	19 25 48.8	**-0.6**
UPC	**Upice**	**144.40**	**347**	*e*PKP	**PKPdf**	19 25 49.1	**-0.5**
DPC	**Dobruska-Polom**	**144.48**	**347**	*e*PKP	**PKPdf**	19 25 49.6	**-0.2**
KRLC	**Kraliky**	**144.63**	**346**	*e*PKP	**PKPab**	19 25 49.8	**0.0**
MORC	**Moravsky Berou**	**144.73**	**345**	⇑P	**PKPab**	19 25 50.9	**+0.7**
CFR	**Carcaliu**	**144.73**	**330**	⇓P	**PKPab**	19 25 50.2	**-0.1**
VRI	**Vrincioaia**	**144.86**	**332**	⇓P	**PKPab**	19 25 51.0	**+0.2**
OZUR		**145.10**	**333**	⇑P	**PKPab**	19 25 51.8	**+0.1**
HAAR	**Harsova**	**145.19**	**340**	⇑P	**PKPab**	19 25 52.0	**+0.2**
PRU	**Pruhonice**	**145.20**	**348**	*e*PKP	**PKPbc**	19 25 51.2	**-0.1**
BRTR	**Keskin Array B**	**145.21**	**318**	PKPbc	**PKPbc**	19 25 51.9	**-0.1**
	2.9nm,0.8s,baz=107,slow=2.8,SNR=16						
MLR	**Muntele Rosu**	**145.50**	**333**	⇑P	**PKPdf**	19 25 51.3	**-0.5**
VOIR		**145.93**	**333**	⇑P	**PKPab**	19 25 54.5	**-0.5**
KHC	**Kasperske Hory**	**146.20**	**349**	*e*PKP	**PKPdf**	19 25 52.4	**-0.3**
GERES	**GERESS Array B**	**146.45**	**349**	PKPbc	**PKPbc**	19 25 55.0	**-0.2**
	0.5nm,0.7s,baz=35,slow=3.3,SNR=6.1						
SIRR	**Siria**	**146.60**	**338**	⇑P	**PKPab**	19 25 56.5	**-1.0**

*ANF **05** 19:18:28.8±0.9, 32˚.20N×115˚.21W, h22km±6km, ML2.7/9, Error ellipse: s-maj=7.6km s-min=3.7km az=178.0*
*NEIC **05** 19:18:29.8±2.0, 32˚.25N±0˚.02×115˚.21W±0˚.03, h21km±9km, Error ellipse: s-maj=4.3km s-min=2.5km az=132.0*
*SCEDC **05** 19:18:29.6, 32˚.19N×115˚.20W, h27km, ML3.0, ML3.0, ML3.0*
*PAS **05** 19:18:29.6±1.9, 32˚.19N±0˚.02×115˚.20W±0˚.03, h27km±3km, Error ellipse: s-maj=3.7km s-min=3.3km az=136.0*
*ECX **05** 19:18:30.8±0.7, 32˚.19N×115˚.26W, h10km±3km, MD2.5, ML2.7*

ISC 05 19:18:28.2±1.1, 32˚.18N±0˚.02×115˚.25W±0˚.02, h14km±9km, n54, σ0s78/73, 2C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVIX	**Guadalupe Vict**	**0.19**	**50**		**Pb**	19 18 34.6	**+1.0**
GUVIX					**Sb**	19 18 38.6	**+1.5**
GUVIX	**Guadalupe Vict**	**0.19**	**50**	⇑*i*P	**Pb**	19 18 34.6	**+1.0**
CPBX	**Cerro Prieto**	**0.24**	**349**		**Pb**	19 18 35.1	**+0.7**
CPBX	**Cerro Prieto**	**0.24**	**349**	⇓*i*P	**Pb**	19 18 35.2	**+0.7**
CPBX				IAML		19 18 40.4	
	comp=N,4μm,0.2s						
CTLX	**Tlaxcala, TLX**	**0.31**	**17**	⇑*e*P	**Pb**	19 18 36.3	**+0.8**
CTLX				*i* S	**Sb**	19 18 41.6	**+1.2**
UABX	**UABC, Campus M**	**0.48**	**340**		**Sn**	19 18 47.5	**-1.5**
EMSC	**East Mesa**	**0.60**	**22**		**Pn**	19 18 41.2	**-1.2**
EMSC	**East Mesa**	**0.60**	**22**	*e*P	**Pn**	19 18 41.3	**-1.2**
ESJX	**Sierra Juarez**	**0.62**	**254**		**Pn**	19 18 42.4	**-0.3**
SGL	**Mount Signal**	**0.62**	**320**		**Pb**	19 18 41.6	**+0.8**
SGL					**Sb**	19 18 50.0	**+0.6**
SGL	**Mount Signal**	**0.62**	**320**	⇓*i*P	**Pb**	19 18 41.6	**+0.8**
SGL				*e*S	**Sb**	19 18 50.0	**+0.6**
COA	**Coachella**	**0.69**	**9**		**Pb**	19 18 42.4	**+0.3**
COA	**Coachella**	**0.69**	**9**	*e*P	**Pb**	19 18 42.4	**+0.3**
SNR	**Schaffner Ranc**	**0.70**	**347**		**Pn**	19 18 43.2	**-0.5**
WESC	**Westside Schoo**	**0.71**	**325**		**Pn**	19 18 43.1	**-0.8**
WESC					**Sn**	19 18 53.9	**-0.6**
ECBX	**El Chinero**	**0.72**	**167**	*e*P	**Pn**	19 18 43.7	**-0.3**
ECBX				*e*S	**Sn**	19 18 54.0	**-0.8**
SJX	**San Joaquin**	**0.73**	**236**	*e*P	**Pg**	19 18 42.1	**-0.4**
SJX				*e*S	**Sg**	19 18 50.8	**-1.3**
YUH	**Yuha Desert**	**0.74**	**310**		**Pb**	19 18 43.5	**+0.7**
YUH					**Sb**	19 18 53.1	**+0.3**
COK2	**Cook Ranch 2**	**0.78**	**329**		**Pn**	19 18 44.4	**-0.5**
COK2	**Cook Ranch 2**	**0.78**	**329**	*e*P	**Pn**	19 18 44.4	**-0.5**
RMX	**La Rumorosa**	**0.82**	**301**		**Pg**	19 18 44.2	**+0.1**
RMX	**La Rumorosa**	**0.82**	**301**	*e*P	**Pg**	19 18 44.3	**+0.1**
RMX				*i* S	**Sg**	19 18 54.1	**-0.9**
RMX				IAML		19 18 55.4	
	comp=E,203nm,0.2s						
RMX				⇓*e*		19 18 55.4	
RUN	**Ruthven**	**0.82**	**16**		**Pb**	19 18 44.1	**-0.2**
RUN					**Sg**	19 18 54.5	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.87**	**303**	P	**Pg**	19 18 45.5	**+0.4**
	baz=121,SNR=47						
IKP				S	**Sg**	19 18 57.4	**+0.9**
	baz=121						
IKP	**In-Ko-Pah, Jac**	**0.87**	**303**		**Pg**	19 18 45.4	**+0.4**
IKP					**Sg**	19 18 57.0	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.87**	**303**	*e*P	**Pg**	19 18 45.5	**+0.4**
SWSC	**Sam W. Stewart**	**0.90**	**329**	P	**Pb**	19 18 45.1	**-0.5**
	baz=146,SNR=28						
SWSC				S	**Sn**	19 18 58.8	**-0.4**
	baz=146						
GLA	**Glamis**	**0.94**	**22**	P	**Pn**	19 18 46.8	**-0.3**
	baz=200,SNR=35						
GLA				S	**Sb**	19 18 57.3	**-1.4**
	baz=200						
GLA	**Glamis**	**0.94**	**22**		**Pg**	19 18 46.4	**-0.1**
GLA					**Sb**	19 18 56.9	**-1.8**
CBKC	**Canebrake**	**1.11**	**311**		**Pg**	19 18 50.4	**+0.7**
CBKC					**Sn**	19 19 05.9	**+1.3**
SPX	**San Pedro Mart**	**1.15**	**189**		**Pb**	19 18 49.7	**-0.5**
SFX	**San Felipe**	**1.19**	**163**		**Pg**	19 18 52.4	**+1.3**
MONP2	**Monument Peak**	**1.22**	**306**	P	**Pn**	19 18 50.9	**-0.2**
	baz=124,SNR=33						
MONP2				S	**Sn**	19 19 07.7	**+0.2**
	baz=124						
MONP2	**Monument Peak**	**1.22**	**306**		**Pg**	19 18 52.2	**+0.5**
MONP2					**Sn**	19 19 07.8	**+0.3**
MONP2	**Monument Peak**	**1.22**	**306**	*e*P	**Pg**	19 18 51.9	**+0.1**
CCX	**Cicese**	**1.24**	**256**		**Pg**	19 18 52.5	**+0.4**
BAR	**Barrett**	**1.30**	**293**		**Pb**	19 18 52.7	**+0.2**
BAR	**Barrett**	**1.30**	**293**		**Sn**	19 19 09.8	**+0.5**
BAR	**Barrett**	**1.30**	**293**	*e*P	**Pb**	19 18 52.5	**0.0**
113A	**Mohawk Valley,**	**1.38**	**64**		**Pn**	19 18 52.9	**-0.2**
BC3	**Big Chuckawall**	**1.48**	**353**	P	**Pn**	19 18 53.9	**-0.7**
	baz=172,SNR=22						

OLP	**Otay Lakes Par**	**1.48**	**287**		**Sg**	19 19 15.6	**-0.5**
DPP	**Dos Picos Cty**	**1.65**	**300**		**Sb**	19 19 20.3	**+1.2**
HWB	**Hans Werner Br**	**1.67**	**301**		**Sb**	19 19 20.7	**+0.9**
SQX	**San Quintin**	**1.69**	**199**	*e*P	**Pb**	19 18 59.2	**+0.2**
109C	**Camp Elliot, M**	**1.72**	**295**	Sb	**Sb**	19 19 22.4	**+1.3**
	baz=113						
109C	**Camp Elliot, M**	**1.72**	**295**		**Pb**	19 18 58.9	**-0.7**
CPE	**Camp Elliot**	**1.72**	**295**		**Pg**	19 19 00.9	**-0.4**
CPE					**Sb**	19 19 22.4	**+1.3**
PFO	**Pinyon Flats O**	**1.75**	**325**	P	**Pn**	19 18 57.8	**-0.6**
	baz=143						
PFO	**Pinyon Flats O**	**1.75**	**325**		**Pn**	19 18 57.7	**-0.6**
214A	**Organ Pipe Nat**	**2.08**	**95**	P	**Pn**	19 19 02.3	**-0.6**
	baz=277,SNR=8.6						
214A	**Organ Pipe Nat**	**2.08**	**95**		**Pn**	19 19 02.2	**-0.6**
MURC	**Murrieta**	**2.17**	**311**	Sb	**Sg**	19 19 36.8	**-1.1**
	baz=130						
X16A	**Lo Mia Camp, P**	**3.89**	**54**		**Pn**	19 19 28.2	**+0.4**

*DDA **05** 19:40:16.8, 34˚.54N×32˚.33E, h22km±1km, ML2.5*
*ISK **05** 19:40:17.9, 34˚.56N×32˚.64E, h13km, ML2.9/23*
*NIC **05** 19:40:19.5±0.0, 34˚.56N×32˚.67E, h18km±1km, Ml3.0/6*
*GII **05** 19:40:21.1±0.0, 34˚.67N×32˚.84E, h3km, MD2.3/3, Mm2.3/3*

ISC 05 19:40:21.5±0.9, 34˚.71N±0˚.03×32˚.69E±0˚.03, h17km±6km, n63, σ1s08/88, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.12**	**304**	P	**Pg**	19 40 25.2	**-0.1**
NATA				S	**Sg**	19 40 29.2	**+1.3**
NATA				AML	AML	19 40 31.2	
	44nm,0.3s						
NATA				AML	AML	19 40 31.2	
	44nm,0.3s						
SZAC	**Souni**	**0.16**	**75**	P	**Pb**	19 40 25.8	**-0.4**
SZAC				AML	AML	19 40 29.5	
	28nm,0.4s						
SZAC				AML	AML	19 40 29.5	
	28nm,0.4s						
SZAC				S	**Sg**	19 40 29.9	**+1.1**
SZAC				AML	AML	19 40 30.3	
	45nm,0.2s						
SZAC				AML	AML	19 40 30.3	
	45nm,0.2s						
AKMS	**Akamas**	**0.42**	**316**	P	**Pg**	19 40 30.1	**-0.1**
AKMS				S	**Sb**	19 40 38.2	**+1.5**
LEF	**Lefka**	**0.44**	**22**	PG	**Pg**	19 40 29.7	**-0.8**
LEF	**Lefka**	**0.44**	**22**	*i* P	**Pg**	19 40 29.6	**-0.9**
LEF				IAML		19 40 42.0	
	comp=N,525nm,0.7s						
LEF				IAML		19 40 43.0	
	comp=E,382nm,0.5s						
ALFC	**Alefka**	**0.45**	**350**	P	**Pg**	19 40 29.2	**-1.5**
ALFC				S	**Sg**	19 40 36.4	**-0.5**
ALFC				AML	AML	19 40 38.3	
	comp=E,3.2nm,0.3s						
ALFC				AML	AML	19 40 38.3	
	comp=E,3.2nm,0.3s						
ASGA	**Asgata**	**0.47**	**81**	P	**Pg**	19 40 29.9	**-1.0**
ASGA				AML	AML	19 40 40.5	
	comp=E,4.9nm,0.6s						
ASGA				AML	AML	19 40 40.5	
	comp=E,4.9nm,0.5s						
CSS	**Mathiatis**	**0.58**	**64**	PG	**Pb**	19 40 31.7	**-1.6**
CSS				SG	**Sg**	19 40 42.2	**+1.3**
CSS	**Mathiatis**	**0.58**	**64**	Pg	**Pb**	19 40 31.4	**-1.9**
CSS	**Mathiatis**	**0.58**	**64**	P	**Pb**	19 40 31.8	**-1.6**
CSS				S	**Sg**	19 40 42.6	**+1.7**
CSS				AML	AML	19 40 43.8	
	comp=E,0.7nm,0.4s						
CSS				AML	AML	19 40 43.8	
	comp=E,0.7nm,0.4s						
CSS				AML	AML	19 40 44.5	
	comp=E,0.8nm,0.6s						
CSS				AML	AML	19 40 44.5	
	comp=E,0.8nm,0.6s						
AKDN	**Akdeniz- Kıbrı**	**0.63**	**21**	PG	**Pb**	19 40 33.7	**-0.3**
AKIN	**Akıncılar- Kıb**	**0.71**	**64**	PG	**Pb**	19 40 34.2	**-1.2**
ATHAL	**Athalassa**	**0.72**	**53**	P	**Pb**	19 40 35.3	**-0.3**
MVOU	**Mavrovouni**	**0.83**	**68**	P	**Pb**	19 40 36.8	**-0.7**
MVOU				S	**Sn**	19 40 50.0	**-0.3**
MVOU				AML	AML	19 40 52.6	
	comp=E,0.7nm,0.3s						
MVOU				AML	AML	19 40 52.6	
	comp=E,0.7nm,0.3s						
MVOU				AML	AML	19 40 56.6	
	comp=E,0.9nm,0.8s						
MVOU				AML	AML	19 40 56.6	
	comp=E,0.9nm,0.8s						
PARAL	**Paralimni**	**1.15**	**75**	P	**Pg**	19 40 43.9	**+0.2**
EREN	**Erenkoy**	**1.46**	**56**	PN	**Pn**	19 40 46.9	**-0.2**
EREN	**Erenkoy**	**1.46**	**56**	*i* P	**Pg**	19 40 49.7	**0.0**
EREN				*i* S	**Sg**	19 41 13.8	**+5.0**
EREN				IAML		19 41 23.0	
	comp=N,67nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.47**	**14**	PN	**Pn**	19 40 47.3	**+0.1**
TEKE				SN	**Sb**	19 41 08.2	**+1.4**
GAZI	**Gazipasa**	**1.55**	**349**	PN	**Pn**	19 40 48.2	**-0.1**
GAZI	**Gazipasa**	**1.55**	**349**	*i* P	**Pn**	19 40 48.2	**-0.1**
GAZI				*i* S	**Sb**	19 41 10.7	**+1.6**
GAZI				IAML		19 41 15.0	
	comp=N,47nm,0.6s						
GAZI				IAML		19 41 16.0	
	comp=E,29nm,0.7s						
AKKU	**Akkuyu-Mersin**	**1.61**	**26**	PN	**Pn**	19 40 48.6	**-0.5**
GULN	**MERSIN_Gulnar**	**1.63**	**25**	*i* P	**Pn**	19 40 49.0	**-0.4**
GULN				*i* S	**Sb**	19 41 11.8	**+0.6**
OSC2	**CSNet OBS 4**	**1.67**	**192**	P	**Pn**	19 40 49.5	**-0.4**
OSC2				S	**Sb**	19 41 14.1	**+1.5**
BERE	**Bereket-Mersin**	**1.69**	**15**	PN	**Pn**	19 40 50.4	**0.0**
IKL	**Isikli**	**1.73**	**28**	PN	**Pn**	19 40 50.6	**-0.2**
TEVE	**Tevekalti-Mers**	**1.83**	**19**	PN	**Pn**	19 40 52.4	**+0.2**
SILI	**Silifke-Mersin**	**1.93**	**31**	PN	**Pn**	19 40 53.8	**+0.2**
KIZK	**Mersin**	**2.12**	**33**	PN	**Pn**	19 40 56.4	**+0.2**
KEPZ	**Antalya-Kepez**	**2.36**	**338**	*i* P	**Pn**	19 41 01.1	**+1.6**
KEPZ				*i* S	**Sb**	19 41 31.3	**-1.1**
KEPZ				IAML		19 41 41.0	
	comp=E,14nm,0.6s						
KEPZ				IAML		19 41 43.0	
	comp=N,18nm,0.8s						
KRMN	**Karaman**	**2.50**	**11**	PN	**Pn**	19 41 01.6	**+0.1**
MERS	**Mersin**	**2.62**	**34**	PN	**Pn**	19 41 03.1	**0.0**
SEYD	**Seydisehir-KON**	**2.78**	**346**	PN	**Pn**	19 41 05.6	**+0.3**
MMA0B	**Mount Meron ar**	**2.82**	**126**	Pn	**Pn**	19 41 05.3	**-0.6**
MMA0B				Sn	**Sn**	19 41 39.3	**-0.2**
OFRI	**`Ofer**	**2.83**	**137**	Pn	**Pn**	19 41 05.0	**-1.0**
OFRI				Sn	**Sn**	19 41 38.8	**-0.9**
BLGI	**Bet Lehem HaGe**	**2.87**	**133**	Pn	**Pn**	19 41 05.8	**-0.7**
BLGI				Sn	**Sn**	19 41 40.1	**-0.5**
GEM	**Giv'at Ha'Em**	**2.89**	**120**	Pn	**Pn**	19 41 06.1	**-0.6**
GEM				Sn	**Sn**	19 41 40.3	**-0.8**
NATI	**Neve Ativ**	**2.92**	**119**	Pn	**Pn**	19 41 06.9	**-0.2**
NATI				Sn	**Sn**	19 41 41.6	**-0.1**
KERG	**Konya-Eregli**	**2.94**	**23**	*i* P	**Pn**	19 41 11.3	**-2.2**
KERG				*i* S	**Sb**	19 41 48.7	**-0.5**
KERG				IAML		19 41 52.0	
	comp=E,23nm,0.6s						
GULE	**Gulek**	**3.07**	**33**	*i* P	**Pb**	19 41 13.4	**-2.5**
GULE				*i* S	**Sb**	19 41 54.4	**+1.2**
GULE				IAML		19 41 56.0	
	comp=N,13nm,1.0s						
GULE				IAML		19 42 09.0	
	comp=E,22nm,1.1s						
YAYL	**Yayladag**	**3.09**	**64**	PN	**Pn**	19 41 09.1	**-0.5**
SLTI	**Sal`it**	**3.15**	**141**	Pn	**Pn**	19 41 09.3	**-1.1**
YESY	**Yesilyurt**	**3.18**	**15**	PN	**Pn**	19 41 11.2	**+0.3**
KARA	**Karaisali**	**3.19**	**36**	PN	**Pn**	19 41 11.4	**+0.6**
MMLI	**Mount Malkishu**	**3.22**	**134**	PN	**Pn**	19 41 08.8	**-2.5**
MMLI	**Mount Malkishu**	**3.22**	**134**	Pn	**Pn**	19 41 10.5	**-0.8**
KONT	**Konya--Tatoy**	**3.24**	**355**	PN	**Pn**	19 41 11.5	**-0.1**
TAHT	**Tahtakopru-Hat**	**3.30**	**59**	PN	**Pn**	19 41 12.8	**+0.4**
HMDT	**Nahal Hemdat**	**3.41**	**135**	Pn	**Pn**	19 41 13.7	**-0.2**
HMDT				Sn	**Sn**	19 41 53.6	**-0.3**
CMRD	**Camardi-Nigde**	**3.48**	**32**	PN	**Pn**	19 41 15.6	**+0.6**
LADK	**Ladik-KONYA**	**3.49**	**356**	PN	**Pn**	19 41 15.6	**+0.5**
FETY	**Fethiye**	**3.51**	**304**	PN	**Pn**	19 41 14.5	**-0.8**
FETY	**Fethiye**	**3.51**	**304**	*i* P	**Pn**	19 41 14.9	**-0.4**
GOLH	**Golhisar**	**3.58**	**316**	*i* P	**Pn**	19 41 18.9	**+2.7**
UJAP	**Al Uja**	**3.60**	**139**	Pn	**Pn**	19 41 16.6	**+0.1**
AMAZ	**Amatzia**	**3.68**	**149**	Pn	**Pn**	19 41 18.1	**+0.5**
AMAZ				Sn	**Sn**	19 42 00.6	**0.0**
DSI	**Dead Sea**	**3.86**	**143**	Pn	**Pn**	19 41 20.0	**-0.1**
DSI				Sn	**Sn**	19 42 04.9	**-0.2**
DALY	**Dalyan (Mula)**	**3.90**	**304**	PN	**Pn**	19 41 20.0	**-0.6**
YTIR	**Yattir**	**3.91**	**148**	Pn	**Pn**	19 41 21.3	**+0.4**
YTIR				Sn	**Sn**	19 42 06.6	**+0.1**
KZIT	**Kziot**	**4.06**	**159**	Pn	**Pn**	19 41 23.1	**+0.3**
KZIT				Sn	**Sn**	19 42 10.2	**+0.3**
GHAJ	**Ghor Haditha**	**4.17**	**144**	Pn	**Pn**	19 41 24.7	**+0.4**
HRFI	**Mount Harif**	**5.07**	**156**	Pn	**Pn**	19 41 37.0	**+0.3**
MBRI	**Mt Berech**	**5.25**	**158**	Pn	**Pn**	19 41 40.0	**+0.7**
EIL	**Elat**	**5.38**	**159**	Pn	**Pn**	19 41 41.6	**+0.6**

IDC 05 19:46:06.2±2.5, 4˚.18N×126˚.76E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, 1D, Error ellipse: s-maj=225.2km s-min=25.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.26**	**330**	⇓*e*P	Pg	19 47 08.4	-0.4
WRA	**Warramunga Arr**	**25.10**	**163**	P	P	19 51 32.8	-0.1
	0.5nm,0.7s,baz=342,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**28.54**	**166**	P	P	19 52 03.8	-0.1
	0.2nm,0.6s,baz=345,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	19 55 55.2	0.0
	0.1nm,0.3s,baz=115,slow=7.3,SNR=2.6						

IDC 05 20:00:06.0±2.4, 21˚.47S×175˚.31W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.8/29, mbtmp4.0/4, ML4.5/1, MS3.6/10, Ms1 3.6/10, ms1mx3.4/34, Error ellipse: s-maj=118.0km s-min=26.4km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.24**	**25**	Pn	Pn	20 02 07.0	0.0
	5.6nm,0.3s,baz=174,slow=9.2,SNR=4.6						
AFI				LR	LR	20 04 32.8	
	comp=Z,202nm,20.6s,baz=234,slow=32						
PPT	**Papeete**	**24.56**	**85**	LR	LR	20 13 07.8	
	comp=Z,60nm,22.0s,baz=189,slow=32						
STKA	**Stephens Creek**	**39.65**	**246**	LR	LR	20 21 27.4	
	comp=Z,116nm,19.9s,baz=33,slow=32						
JAY	**Jayapura**	**46.73**	**288**	LR	LR	20 26 14.5	
	comp=Z,68nm,19.9s,baz=121,slow=34						
ASAR	**Alice Springs**	**46.75**	**257**	P	P	20 08 37.8	+0.4
	2.2nm,0.9s,baz=97,slow=8.3,SNR=25						
WRA	**Warramunga Arr**	**46.96**	**262**	P	P	20 08 37.6	-1.4
	2.6nm,1.2s,baz=96,slow=5.8,SNR=9.1						
VNDA	**Vanda**	**57.19**	**186**	LR	LR	20 31 24.5	
	comp=Z,30nm,20.0s,baz=352,slow=33						
NWAO	**Narrogin (SRO)**	**60.18**	**244**	LR	LR	20 33 33.5	
	comp=Z,80nm,19.3s,baz=49,slow=33						
NVAR	**Mina Array Bea**	**80.03**	**42**	P	P	20 12 17.1	-0.6
	0.5nm,0.8s,baz=222,slow=13,SNR=3.8						
PLCA	**Paso Flores**	**86.78**	**133**	LR	LR	20 44 03.7	
	comp=Z,33nm,18.7s,baz=254,slow=30						
PDAR	**Pinedale Array**	**87.97**	**42**	LR	LR	20 45 05.5	
	comp=Z,29nm,18.5s,baz=296,slow=31						
YKA	**Yellowknife Ar**	**96.35**	**24**	LR	LR	20 49 48.0	
	comp=Z,35nm,20.8s,baz=0.0,slow=31						
ULM	**Lac du Bonnet**	**99.75**	**40**	LR	LR	20 52 05.8	
	comp=Z,63nm,19.5s,baz=274,slow=31						
BRTR	**Keskin Array B**	**149.34**	**313**	PKPbc	PKiKP	20 19 58.5	0.0
	0.6nm,1.0s,baz=26,slow=6.9,SNR=2.9						
GERES	**GERESS Array B**	**151.75**	**347**	PKPbc	PKPbc	20 20 02.0	-0.6
	0.7nm,0.9s,baz=2.9,slow=2.0,SNR=6.5						

*IDC **05** 20:22:35.1±5.3, 20˚.78S×178˚.64W, h588km±57km, mb3.1/8, mb1 3.5/8, mb1mx3.1/33, mbtmp4.1/8, Error ellipse: s-maj=64.5km s-min=21.7km az=154.0*

**ISC 05 20:22:33.8±1.3, 20˚.8

comp=Z,4.9nm,0.6s
WRAB Tennant Creek 17.95 210 P **Pn** **20 54 35.0 +0.8**
WRAB IAmb IAmb 20 54 35.8
comp=Z,8.4nm,1.1s
WB2 Warramunga Arr 17.96 210 P **Pn** **20 54 34.9 +0.7**
WB2 IAmb IAmb 20 54 35.9
comp=Z,12nm,1.1s
WRA Warramunga Arr 17.97 210 P **Pn** **20 54 34.1 -0.2**
comp=Z,0.6nm,0.3s,baz=34,slow=12,SNR=57
WRA Warramunga Arr 17.97 210 P **P** **20 54 33.5 0.0**
KNRA Kununurra 18.49 232 P **P** **20 54 39.1 -0.1**
SOEI Soe 20.00 253 P **P** **20 54 56.6 +0.7**
AS31 Alice Springs 21.39 205 P **P** **20 55 05.3 -5.2**
AS31 IAmb IAmb 20 55 05.7
comp=Z,2.8nm,0.3s
ASAR Alice Springs 21.39 205 P **P** **20 55 11.2 +0.6**
comp=Z,2.1nm,0.8s,baz=38,slow=6.2,SNR=19
ASAR Alice Springs 21.39 205 P **P** **20 55 05.1 -5.5**
EIDS Eidsvold 22.05 162 P **P** **20 55 19.4 +1.8**
EIDS IAmb IAmb 20 55 22.6
comp=Z,12nm,1.1s
FITZ Fitzroy Crossi 22.32 231 P **P** **20 55 21.1 +0.7**
comp=Z,3.6nm,0.6s,baz=41,slow=9.5,SNR=14
FITZ Fitzroy Crossi 22.32 231 P **P** **20 55 21.2 +0.7**
STKA Stephens Creek 27.44 184 P **P** **20 56 08.3 +1.0**
comp=Z,2.0nm,0.7s,baz=328,slow=9.5,SNR=3.2
CMAR Chiang Mai Arr 49.58 299 P **P** **20 59 13.5 +1.2**
comp=Z,0.3nm,0.5s,baz=113,slow=6.0,SNR=2.9
VNDA Vanda 73.74 176 P **P** **21 01 54.7 +1.1**
comp=Z,0.7nm,0.7s,baz=333,slow=8.3,SNR=4.2
ILAR Eielson Array 85.30 24 P **P** **21 02 54.3 -2.1**
comp=Z,0.2nm,0.7s,baz=266,slow=4.4,SNR=2.5

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*IDC **05** 21:19:31.7±0.5,54.˚03N×170.˚95E,h0km,mb4.3/33,*
mb1 4.5/34,mb1mx4.4/70,mbtmp4.3/34,ML3.7/1,MS3.5/29,
Ms1 3.5/29,ms1mx3.4/46,Error ellipse: s-maj=16.3km
s-min=9.7km az=167.0
*KRSC **05** 21:19:31.7±0.8,53.˚77N×171.˚04E,h73km±29km,ML4.9*
*MOS **05** 21:19:32.5±0.9,53.˚88N×171.˚02E,h21km,mb4.9/26,Error*
ellipse: s-maj=8.6km s-min=7.0km az=103.7
*BJI **05** 21:19:33.0±0.0,53.˚90N×171.˚10E,h8km,mB5.1/29,*
mb4.6/38,Ms4.6/8,Ms7 4.3/4
*NEIC **05** 21:19:34.8±0.5,53.˚85N±0.˚09×171.˚01E±0.˚09,h25km±4km,*
mb4.8/196,Error ellipse: s-maj=13.5km s-min=7.1km
az=191.0
ISC 05 21:19:34.0±0.8,53.˚85N±0.˚06×171.˚04E±0.˚04,h19km±2km,
h19km:pP-P,n536,σ1s00/475,mb4.7/164,MS3.6/32,
17C-7D,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.16**	**120**	*e*P		**Pn**	**21 20 07.6**	**-1.3**
SMY				*e*S		**Sn**	**21 20 32.3**	**-2.8**
SMY	**Shemya**	**2.16**	**120**	P		**Pn**	**21 20 08.0**	**-0.9**
SMY							21 20 35.6	
SMY	**Shemya**	**2.16**	**120**			**Pn**	**21 20 08.0**	**-0.9**
SMY				Sn		**Sn**	**21 20 35.6**	**+0.5**
BKI	**Bering**	**3.25**	**297**	*e*P		**Pn**	**21 20 24.6**	**+0.7**
BKI				*e*S		**Sn**	**21 21 00.3**	**-1.6**
SMKR	**Semkarok**	**6.12**	**300**	*e*P		**Pn**	**21 21 03.3**	**-0.1**
BDR	**Baidarnaya**	**6.25**	**300**	*e*P		**Pn**	**21 21 05.0**	**-0.2**
BDR				*e*S		**Sn**	**21 22 15.1**	**-0.9**
SRKR	**Sorokina**	**6.30**	**300**	*e*P		**Pn**	**21 21 06.1**	**+0.2**
TUMD	**Tumrok D**	**6.34**	**287**	*e*P		**Pn**	**21 21 06.6**	**+0.2**
LGNR	**Loginova**	**6.36**	**295**	*e*P		**Pn**	**21 21 07.1**	**+0.2**
BZWR	**Bezymyannyi-We**	**6.44**	**293**	*e*P		**Pn**	**21 21 08.1**	**+0.3**
TUMR	**Tumrok**	**6.49**	**287**	*e*P		**Pn**	**21 21 09.0**	**+0.4**
KIRR	**Kirishev**	**6.52**	**293**	*e*P		**Pn**	**21 21 09.3**	**+0.4**
KMNR	**Kamenistaya**	**6.53**	**291**	*e*P		**Pn**	**21 21 09.8**	**+0.8**
SPN	**Mys Shipunski**	**6.62**	**268**	*e*P		**Pn**	**21 21 08.9**	**-1.3**
KII	**Karymskiy**	**6.84**	**276**	*e*P		**Pn**	**21 21 12.5**	**-0.9**
SRDR	**Sredinnyy**	**6.95**	**295**	*e*P		**Pn**	**21 21 14.8**	**0.0**
NLC	**Nalytchevo**	**7.01**	**269**	*e*P		**Pn**	**21 21 14.5**	**-1.0**
TILK	**Tilichiki**	**7.12**	**340**	*e*P		**Pn**	**21 21 17.2**	**+0.1**
SDLR	**Sedlovina**	**7.26**	**270**	*e*P		**Pn**	**21 21 18.6**	**-0.5**
SMAR	**Somma**	**7.31**	**270**	*e*P		**Pn**	**21 21 19.2**	**-0.7**
KRER	**Koryakskii**	**7.34**	**271**	*e*P		**Pn**	**21 21 19.9**	**-0.3**
AVH	**Avacha**	**7.35**	**270**	*e*P		**Pn**	**21 21 19.9**	**-0.4**
KRX	**Arik**	**7.39**	**271**	*e*P		**Pn**	**21 21 20.2**	**-0.7**
KOK	**Koryaka**	**7.41**	**271**	*e*P		**Pn**	**21 21 20.6**	**-0.5**
PET	**Petropavlovsk**	**7.44**	**269**	*e*P		**Pn**	**21 21 21.4**	**-0.1**
PET				*e*S		**Sn**	**21 22 42.4**	**-2.9**
PET				pmax	pmax			
	comp=Z,62nm,0.8s							
PET				smax	smax			
	comp=E,177nm,0.5s							
PET				smax	smax			
	comp=N,175nm,0.6s							
PET				MLR	MLR			
	comp=Z,600nm,19.0s							
PET	**Petropavlovsk**	**7.44**	**269**			**Pn**	**21 21 21.6**	**+0.1**
RUS	**Russkaya**	**7.67**	**264**	*e*P		**Pn**	**21 21 23.7**	**-0.8**
ADK	**Adak**	**7.69**	**100**	P		**Pn**	**21 21 24.2**	**-0.7**
ADK	**Adak**	**7.69**	**100**	Pn		**Pn**	**21 21 24.2**	**-0.7**
KRMR	**Karymshinskiy**	**7.79**	**268**	*e*P		**Pn**	**21 21 25.8**	**-0.5**
GRL	**Gorelyy**	**7.89**	**266**	*e*P		**Pn**	**21 21 28.1**	**+0.3**
PEA0B	**Petropavlovsk-**	**7.99**	**270**	Pn		**Pn**	**21 21 28.8**	**-0.3**
PEA0B				Sn		**Sn**	**21 22 55.1**	**-3.7**
PETK	**Petropavlovsk-**	**7.99**	**270**	Pn		**Pn**	**21 21 29.1**	**0.0**
	comp=Z,5.2nm,0.3s,baz=94,slow=18,SNR=53							
PETK				Sn		**Sn**	**21 22 55.1**	**-3.7**
	comp=Z,5.5nm,0.3s,baz=119,slow=18,SNR=7.9							
PETK				LR	LR		21 24 38.2	
	comp=Z,308nm,19.9s,baz=91,slow=39							
PETK	**Petropavlovsk-**	**7.99**	**270**	P		**Pn**	**21 21 29.2**	**+0.1**
PETK							21 22 57.5	
PETK	**Petropavlovsk-**	**7.99**	**270**	Pn		**Pn**	**21 21 29.2**	**+0.1**
PETK						**Sn**	**21 22 57.5**	**-1.4**
KDTR	**Khodutka, Kamc**	**8.11**	**261**	*e*P		**Pn**	**21 21 30.3**	**-0.3**
APC	**Apacha**	**8.35**	**269**	*e*P		**Pn**	**21 21 34.0**	**+0.1**
ATKA	**Atka Island**	**9.05**	**95**	Pn		**Pn**	**21 21 43.0**	**-0.6**
SPIA	**Saint Paul Isl**	**11.11**	**65**			**Pn**	**21 22 11.2**	**-0.6**
NIKH	**Nikolski High**	**12.03**	**86**	Pn		**Pn**	**21 22 24.7**	**+0.4**
MA2	**Magadan**	**12.49**	**305**	LR		LR	21 26 05.1	
	comp=Z,77nm,20.1s,baz=120,slow=32							
MA2	**Magadan**	**12.49**	**305**	P		**Pn**	**21 22 30.7**	**+0.1**
UNV	**Unalaska Valle**	**13.25**	**81**	Pn		**Pn**	**21 22 41.3**	**+0.4**
SEY	**Seymchan**	**13.30**	**321**	Pn		**Pn**	**21 22 42.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=4.2							
SEY				LR		LR	21 27 17.6	
	comp=Z,130nm,20.4s,baz=108,slow=36							
AKUT	**Akutan**	**13.64**	**79**	Pn		**Pn**	**21 22 46.9**	**+0.7**
BILL	**Bilibino**	**14.41**	**353**	*i* P		**P**	**21 23 01.6**	**-1.9**
BILL				pmax	pmax			
	comp=Z,24nm,1.0s							
RDOG	**Red Dog Mine**	**18.81**	**31**			**Pn**	**21 23 52.5**	**-0.2**
SVW2	**Sparrevohn**	**19.18**	**54**	P		**P**	**21 23 56.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**19.21**	**260**	*e*P		**P**	**21 23 54.0**	**-2.7**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
TTA	**Tatalina**	**19.30**	**49**	P		**P**	**21 23 56.9**	**-0.7**
TTA				pmax	pmax			
	comp=Z,18nm,0.9s							
TTA	**Tatalina**	**19.30**	**49**			**P**	**21 23 56.9**	**-0.7**
OHAK	**Old Harbor**	**20.32**	**66**	P		**P**	**21 24 08.1**	**-0.5**
OHAK				IAmb	IAmb		21 24 09.2	
	comp=Z,59nm,1.0s							
RSO	**Redoubt South**	**20.51**	**57**	P		**P**	**21 24 11.1**	**+0.1**
KDAK	**Kodiak Island**	**20.65**	**64**	P		**P**	**21 24 12.4**	**+0.2**
	comp=Z,15nm,0.7s,baz=233,slow=3.9,SNR=13							
KDAK				LR	LR		21 32 01.9	
	comp=Z,344nm,20.9s,baz=318,slow=36							
KDAK	**Kodiak Island**	**20.65**	**64**	P		**P**	**21 24 12.8**	**+0.6**
KDAK				pmax	pmax			
	comp=Z,22nm,0.9s							
KDAK	**Kodiak Island**	**20.65**	**64**	P		**P**	**21 24 12.8**	**+0.6**
JKA	**Kamikawa-asahi**	**20.92**	**254**	P		**P**	**21 24 15.0**	**-0.2**
JKA				IAmb	IAmb		21 24 29.9	
	comp=Z,44nm,1.1s							
ASAJ	**Asahikawa**	**20.92**	**254**	P		**P**	**21 24 16.4**	**+1.2**
	comp=Z,5.9nm,0.9s,baz=63,slow=9.0,SNR=2.8							
ASAJ				LR	LR		21 32 30.5	
	comp=Z,116nm,20.8s,baz=19,slow=37							
PPLA	**Purkeypile**	**21.01**	**50**	P		**P**	**21 24 16.6**	**+0.3**
PPLA				IAmb	IAmb		21 24 22.6	
	comp=Z,65nm,1.1s							
IMAR	**Indian Mountai**	**21.07**	**41**	P		**P**	**21 24 17.2**	**+0.5**
CNPM	**China Poot**	**21.26**	**59**	P		**P**	**21 24 19.2**	**+0.4**
CNPM				IAmb	IAmb		21 24 33.6	
	comp=Z,64nm,1.1s							
KTH	**Kantishna Hill**	**21.68**	**48**	P		**P**	**21 24 23.9**	**+0.5**
KTH				IAmb	IAmb		21 24 42.3	
	comp=Z,35nm,1.1s							
BPAW	**Bear Paw Mtn.**	**21.74**	**47**	P		**P**	**21 24 24.3**	**+0.3**
TRF	**Thorofare Moun**	**21.95**	**49**	P		**P**	**21 24 26.6**	**+0.3**
TRF				IAmb	IAmb		21 24 29.6	
	comp=Z,29nm,0.8s							
MLY	**Manley**	**22.03**	**44**	P		**P**	**21 24 27.5**	**+0.4**
	baz=258,SNR=8.3							
BWN	**Browne**	**22.41**	**47**	P		**P**	**21 24 32.4**	**+1.3**
MCK	**McKinley**	**22.58**	**48**	P		**P**	**21 24 32.8**	**-0.2**
	baz=263,SNR=7.4							
NEA2	**Nenana**	**22.65**	**46**	P		**P**	**21 24 33.5**	**-0.2**
	baz=261,SNR=12							
COLD	**Coldfoot**	**22.80**	**39**	P		**P**	**21 24 34.9**	**-0.2**
	baz=253,SNR=9.4							
COLD	**Coldfoot**	**22.80**	**39**	P		**P**	**21 24 35.0**	**-0.1**
WRH	**Wood River Hil**	**23.05**	**46**	P		**P**	**21 24 37.4**	**-0.4**
YAK	**Yakutsk**	**23.06**	**307**	LR		LR	21 34 21.6	
	comp=Z,33nm,18.5s,baz=98,slow=39							
YAK	**Yakutsk**	**23.06**	**307**	*i* P		**P**	**21 24 37.1**	**-0.8**
MDM	**Murphy Dome**	**23.06**	**45**	P		**P**	**21 24 37.0**	**-1.0**
SCM	**Sheep Creek Mo**	**23.18**	**53**	P		**P**	**21 24 38.9**	**-0.4**
SCM				pmax	pmax			
	comp=Z,25nm,0.9s							
SCM	**Sheep Creek Mo**	**23.18**	**53**	P		**P**	**21 24 38.9**	**-0.4**
SCM				IAmb	IAmb		21 24 40.2	
	comp=Z,25nm,0.9s							
CCB	**Clear Creek Bu**	**23.20**	**46**	P		**P**	**21 24 39.0**	**-0.3**
TCOL	**CIGO, UAF Yank**	**23.21**	**45**	P		**P**	**21 24 39.1**	**-0.3**
	baz=261,SNR=7.2							
COLA	**College**	**23.21**	**45**	*de*P		**P**	**21 24 39.9**	**+0.5**
COLA				pmax	pmax			
	comp=Z,22nm,0.9s							
COLA	**College**	**23.21**	**45**	P		**P**	**21 24 39.8**	**+0.4**
COLA				IAmb	IAmb		21 24 41.4	
	comp=Z,29nm,0.8s							
POKR	**Poker Plat Res**	**23.42**	**45**	P		**P**	**21 24 41.8**	**+0.2**
	baz=261,SNR=6.2							
TOLK	**Toolik Lake Re**	**23.46**	**36**	P		**P**	**21 24 42.1**	**+0.2**
	baz=251,SNR=24							
TOLK	**Toolik Lake Re**	**23.46**	**36**	P		**P**	**21 24 42.0**	**0.0**
HDA	**Harding Lake**	**23.53**	**47**	P		**P**	**21 24 41.7**	**-1.0**
	baz=263,SNR=7.9							
HDA	**Harding Lake**	**23.53**	**47**	P		**P**	**21 24 42.2**	**-0.5**
IL31		**23.61**	**46**	P		**P**	**21 24 42.4**	**-0.9**
IL31				IAmb	IAmb		21 24 44.8	
	comp=Z,21nm,0.9s							
ILAR	**Eielson Array**	**23.61**	**46**	P		**P**	**21 24 42.4**	**-1.0**
	comp=Z,13nm,0.9s,baz=249,slow=7.5,SNR=66							
ILAR				PcP		**PcP**	**21 28 25.8**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=265,slow=3.1,SNR=5.0							
ILAR				LR		LR	21 34 08.8	
	comp=Z,100nm,19.1s,baz=272,slow=37							
ILAR	**Eielson Array**	**23.61**	**46**	P		**P**	**21 24 42.1**	**-1.2**
M24K	**Tolsona, Glenn**	**23.73**	**53**	P		**P**	**21 24 45.5**	**+0.8**
	baz=269							
M24K	**Tolsona, Glenn**	**23.73**	**53**	P		**P**	**21 24 45.0**	**+0.2**
M24K				IAmb	IAmb		21 24 46.1	
	comp=Z,20nm,0.6s							
N25K	**Chitina, Valde**	**24.49**	**54**	P		**P**	**21 24 51.9**	**+0.2**
	baz=272							
FYU	**Fort Yukon**	**24.55**	**42**	P		**P**	**21 24 52.3**	**+0.1**
FYU				IAmb	IAmb		21 24 53.8	
	comp=Z,40nm,1.0s							
SCRK	**Sand Creek**	**24.79**	**48**	P		**P**	**21 24 53.2**	**-1.3**
	baz=267,SNR=17							
GLB	**Gilahina Butte**	**24.87**	**54**	IAmb	IAmb		21 24 56.3	
	comp=Z,26nm,1.1s							
BMAR	**Burnt Mountain**	**24.96**	**40**	P		**P**	**21 24 55.0**	**-0.9**
CRQM	**Cirque**	**25.24**	**56**	P		**P**	**21 24 58.9**	**+0.2**
CRQM				IAmb	IAmb		21 25 01.8	
	comp=Z,30nm,0.8s							
TIXI	**Tiksi**	**25.42**	**330**	⇓*e*P		**P**	**21 25 00.5**	**+0.6**
TIXI				pmax	pmax			
	comp=Z,81nm,2.5s							
TIXI	**Tiksi**	**25.42**	**330**	P		**P**	**21 24 59.8**	**-0.1**
ZEA	**Zeya**	**25.56**	**288**	*e*P		**P**	**21 25 03.1**	**+1.7**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
K27K	**Chicken**	**25.63**	**48**	P		**P**	**21 25 01.7**	**-0.3**
	baz=269							
BARN	**Barnard Glacie**	**25.93**	**55**	P		**P**	**21 25 05.0**	**0.0**
EGAK	**Eagle**	**26.05**	**46**	P		**P**	**21 25 05.2**	**-0.6**
EGAK				IAmb	IAmb		21 25 06.1	
	comp=Z,30nm,1.0s							
DAWY	**Dawson**	**26.81**	**48**	P		**P**	**21 25 12.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**27.05**	**265**	P		**P**	**21 25 16.9**	**+2.1**
	comp=Z,3.8nm,0.8s,baz=83,slow=6.5,SNR=7.6							
USRK				LR	LR		21 37 08.4	
	comp=Z,117nm,19.7s,baz=48,slow=39							
USRK	**Ussuriysk Ar.**	**27.05**	**265**	P		**P**	**21 25 14.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**27.05**	**265**	P		**P**	**21 25 14.5**	**-0.4**
EPYK	**Eagle Plains**	**27.93**	**43**	P		**P**	**21 25 22.9**	**+0.1**
	baz=269,SNR=6.2							
EPYK	**Eagle Plains**	**27.93**	**43**	P		**P**	**21 25 23.0**	**+0.3**
EPYK				IAmb	IAmb		21 25 23.8	
	comp=Z,22nm,0.9s							
MJAR	**Matsushiro Arr**	**28.54**	**246**	LR		LR	21 36 16.0	
	comp=Z,114nm,21.1s,baz=120,slow=35							
INK	**Inuvik**	**29.21**	**39**	P		**P**	**21 25 33.9**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=284,slow=7.2,SNR=11							
INK				LR		LR	21 37 23.0	
	comp=Z,60nm,19.3s,baz=278,slow=37							
INK	**Inuvik**	**29.21**	**39**	P		**P**	**21 25 34.1**	**+0.2**
INK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
INK	**Inuvik**	**29.21**	**39**	P		**P**	**21 25 34.1**	**+0.2**
CN2	**Changchun**	**31.14**	**270**	*e*P		P	21 25 58.0	+6.7
CN2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
DLBC	**Dease Lake**	**32.23**	**58**	P		**P**	**21 26 01.6**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=316,slow=9.8,SNR=5.1							
DLBC				LR		LR	21 39 17.6	
	comp=Z,112nm,21.9s,baz=244,slow=37							
DLBC	**Dease Lake**	**32.23**	**58**	P		**P**	**21 26 00.9**	**+0.1**
C36M	**Paulatuk**	**32.61**	**37**	P		**P**	**21 26 03.9**	**0.0**
	baz=275							
KSRS	**Korea Array**	**33.69**	**259**	LR		LR	21 41 42.8	
	comp=Z,42nm,18.3s,baz=55,slow=40							
H11N2	**WAKE ISLAND Hy**	**34.21**	**187**	T		T	22 01 57.1	
	baz=5.2,slow=76,SNR=84							
H11N3	**WAKE ISLAND Hy**	**34.22**	**187**	T		T	22 01 59.6	
	baz=5.2,slow=76,SNR=99							
H11N1	**WAKE ISLAND Hy**	**34.23**	**187**	T		T	22 01 59.2	
	baz=5.2,slow=76,SNR=108							
H11S1	**WAKE ISLAND Hy**	**35.44**	**187**	T		T	22 03 31.2	
	baz=4.7,slow=76,SNR=134							
H11S3	**WAKE ISLAND Hy**	**35.45**	**187**	T		T	22 03 31.7	
	baz=4.7,slow=76,SNR=75							
H11S2	**WAKE ISLAND Hy**	**35.45**	**187**	T		T	22 03 31.0	
	baz=4.7,slow=76,SNR=88							
BBB	**Bella Bella**	**35.66**	**67**	LR		LR	21 40 05.3	
	comp=Z,60nm,19.1s,baz=266,slow=35							
YKA	**Yellowknife Ar**	**38.03**	**47**	P		**P**	**21 26 50.8**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=299,slow=8.6,SNR=8.9							
NRIK	**Noril'sk**	**39.01**	**326**	LR		LR	21 44 35.4	
	comp=Z,96nm,18.3s,baz=18,slow=39							
ULN	**Ulaanbaatar**	**39.59**	**288**	⇑*e*P		**P**	**21 27 05.7**	**+1.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ULN	**Ulaanbaatar**	**39.59**	**288**	P		**P**	**21 27 03.9**	**-0.1**
SONM	**Songino Array**	**39.98**	**289**	P		**P**	**21 27 07.8**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=64,slow=7.9,SNR=20							
SONM				LR		LR	21 43 47.1	
	comp=Z,87nm,19.4s,baz=56,slow=36							
SONM	**Songino Array**	**39.98**	**289**	P		**P**	**21 27 07.1**	**-0.1**
ZAK	**Zakamensk**	**40.32**	**294**	*e*P		**P**	**21 27 10.4**	**+0.4**
ZAK				pmax	pmax			
	comp=Z,12nm,1.2s							
NLWA	**Neilton Lookou**	**40.48**	**72**	IAmb	IAmb		21 27 14.0	
	comp=Z,26nm,1.1s							
D03D	**Eldon**	**40.84**	**71**	P		**P**	**21 27 15.9**	**+1.8**
	baz=304,SNR=9.4							
MOY	**Mondy**	**40.87**	**297**	*e*P		P	21 27 21.9	+7.4
MOY				pmax	pmax			
	comp=Z,27nm,2.0s							
B05A	**Bryant**	**40.98**	**70**	P		**P**	**21 27 16.7**	**+1.4**
	baz=304,SNR=8.4							
HHC	**Hu-ho-hao-te**	**41.13**	**277**	*e*P		**P**	**21 27 18.2**	**+1.4**
HHC				pmax	pmax			
	comp=Z,18nm,1.1s							
HHC				pmax	pmax			
	comp=Z,210nm,5.9s							
B06A	**Marblemount**	**41.18**	**69**	P		**P**	**21 27 17.2**	**+0.3**
B06A				IAmb	IAmb		21 27 18.2	
	comp=Z,10nm,0.5s							
D05A	**Enumclaw**	**41.65**	**71**	P		**P**	**21 27 21.0**	**+0.2**
D05A				IAmb	IAmb		21 27 23.5	
	comp=Z,20nm,0.8s							
E04D	**Cinebar**	**41.69**	**72**	P		**P**	**21 27 22.8**	**+1.7**
	baz=305,SNR=7.2							
LON	**Longmire**	**42.01**	**71**	P		**P**	**21 27 23.9**	**+0.1**
LON				pmax	pmax			
	comp=Z,4.0nm,0.8s							
LON	**Longmire**	**42.01**	**71**	P		**P**	**21 27 23.9**	**+0.1**
F04A	**Amboy**	**42.14**	**73**	IAmb	IAmb		21 27 26.8	
	comp=Z,16nm,0.8s							
LTY	**Liberty**	**42.35**	**70**	P		**P**	**21 27 26.9**	**+0.2**
I02D	**Swisshome**	**42.41**	**76**	P		**P**	**21 27 28.9**	**+1.9**
	baz=307							
B08A	**Colville Reser**	**42.46**	**68**	P		**P**	**21 27 27.6**	**+0.1**
B08A				IAmb	IAmb		21 27 29.2	
	comp=Z,20nm,0.9s							
H04D	**Lebanon**	**42.80**	**74**	P		**P**	**21 27 31.8**	**+1.6**
	baz=307							
I03D	**Drain, OR**	**42.95**	**76**	P		**P**	**21 27 33.3**	**+1.9**
	baz=308							
H04A	**Detroit Lake**	**43.01**	**74**	P		**P**	**21 27 32.1**	**+0.1**
H04A				IAmb	IAmb		21 27 34.0	
	comp=Z,14nm,0.9s							
G05D	**Wamic, OR**	**43.17**	**73**	P		**P**	**21 27 34.6**	**+1.3**
	baz=307							
E07A	**Sunnyside**	**43.21**	**70**	P		**P**	**21 27 33.7**	**+0.2**
E07A				IAmb	IAmb		21 27 35.0	
	comp=Z,10nm,0.7s							
C09A	**Chrisman Ranch**	**43.36**	**68**	P		**P**	**21 27 34.9**	**+0.2**
C09A				IAmb	IAmb		21 27 35.8	
	comp=Z,14nm,0.6s							
I04A	**Tendick Farm,**	**43.42**	**75**	P		**P**	**21 27 36.4**	**+1.1**
	baz=308,SNR=5.1							
D08A	**Wollman Farm,**	**43.44**	**69**	P		**P**	**21 27 35.4**	**0.0**
HAWA	**Hanford**	**43.49**	**70**	IAmb	IAmb		21 27 37.6	
	comp=Z,23nm,0.9s							
F07A	**Phinny Hill Vi**	**43.56**	**71**	P		**P**	**21 27 36.5**	**+0.1**
F07A				IAmb	IAmb		21 27 38.4	
	comp=Z,20nm,0.9s							
I05D	**Terrebonne, OR**	**43.70**	**74**	P		**P**	**21 27 38.9**	**+1.3**
	baz=308							
NEW	**Newport**	**43.72**	**67**	P		**P**	**21 27 38.0**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=297,slow=6.7,SNR=13							
NEW	**Newport**	**43.72**	**67**	P		**P**	**21 27 38.3**	**+0.6**
	baz=306,SNR=10							
NEW	**Newport**	**43.72**	**67**	P		**P**	**21 27 37.8**	**+0.1**
NEW				IAmb	IAmb		21 27 39.1	
	comp=Z,14nm,1.0s							
L02E	**Cave Junction**	**43.75**	**78**	P		**P**	**21 27 39.8**	**+1.9**
	baz=309							
J04D	**Umpqua Nationa**	**43.94**	**76**	P		**P**	**21 27 41.2**	**+1.5**
	baz=308,SNR=7.8							
E09A	**Wood Farm, Sta**	**44.19**	**69**	P		**P**	**21 27 41.6**	**+0.2**
E09A				IAmb	IAmb		21 27 42.9	
	comp=Z,17nm,1.0s							
J05D	**Fort Rock, OR**	**44.41**	**75**	P		**P**	**21 27 45.1**	**+1.7**
	baz=308,SNR=22							
L04D	**Klamath Falls**	**44.46**	**77**	P		**P**	**21 27 45.3**	**+1.5**
	baz=309,SNR=8.2							
G08A	**Pilot Rock**	**44.47**	**71**	P		**P**	**21 27 43.8**	**0.0**
KHMM	**Horse Mountain**	**44.49**	**79**	IAmb	IAmb		21 27 56.7	
	comp=Z,19nm,1.1s							
YBH	**Yreka Blue Hor**	**44.54**	**78**	P		**P**	**21 27 46.1**	**+1.7**
	comp=Z,7.6nm,0.8s,baz=346,slow=7.7,SNR=34							
YBH	**Yreka Blue Hor**	**44.54**	**78**	P		**P**	**21 27 44.5**	**+0.1**
YBH				pmax	pmax			
	comp=Z,7.0nm,0.7s							
YBH	**Yreka Blue Hor**	**44.54**	**78**	P		**P**	**21 27 44.5**	**+0.1**
YBH				IAmb	IAmb		21 27 46.7	
	comp=Z,7.0nm,0.7s							
M02C	**Callahan**	**44.67**	**78**	P		**P**	**21 27 47.5**	**+2.1**
	baz=310,SNR=5.2							
I07A	**Izee**	**44.90**	**73**	P		**P**	**21 27 47.3**	**0.0**
KMRM	**Mail Ridge**	**44.92**	**80**	P		**P**	**21 27 47.7**	**+0.3**
KMRM				IAmb	IAmb		21 27 50.5	
	comp=Z,13nm,0.8s							
K05A	**Summer Lake**	**44.96**	**75**	IAmb	IAmb		21 27 50.0	
	comp=Z,12nm,0.7s							
WALA	**Waterton Lakes**	**44.98**	**64**	P		**P**	**21 27 48.0**	**+0.1**
M04C	**Macdoel**	**45.01**	**77**	P		**P**	**21 27 49.8**	**+1

KVN **Kaiserville** 48.95 77 P P 21 28 18.6 -0.5
KVN pmax pmax
comp=Z,12nm,0.8s
KVN **Kaiserville** 48.95 77 P P 21 28 18.6 -0.5
KVN IAmb IAmb 21 28 21.2
comp=Z,12nm,0.8s
RYN **Ryan** 48.99 78 IAmb IAmb 21 28 21.3
comp=Z,9.1nm,0.8s
DGZ **Jazzator, Alta** 49.04 301⇓*e*P P 21 28 19.5 -0.1
DGZ pmax pmax
comp=Z,3.0nm,0.9s
YHL **Hebgen Lake** 49.05 67 P P 21 28 19.5 -0.3
NVAR **Mina Array Bea** 49.25 78 P P 21 28 22.6 +1.2
comp=Z,6.9nm,0.7s,baz=295,slow=7.7,SNR=53
NVAR LR LR 21 47 43.5
comp=Z,48nm,18.6s,baz=278,slow=34
NVAR **Mina Array Bea** 49.25 78 P P 21 28 21.4 0.0
LHV **Little Huntoon** 49.26 78 P P 21 28 21.2 +0.1
LHV IAmb IAmb 21 28 24.0
comp=Z,14nm,1.2s
NV11 **Mina Array Sit** 49.34 78 IAmb IAmb 21 28 24.1
comp=Z,7.2nm,0.8s
MDPB **Devils Postpil** 49.34 79 P P 21 28 21.9 -0.3
MDPB IAmb IAmb 21 28 24.5
comp=Z,12nm,0.8s
OMMB **Old Mammoth Mi** 49.40 79 P P 21 28 22.4 -0.2
ELK **Elko** 49.46 74 P P 21 28 24.1 +1.1
comp=Z,2.9nm,0.6s,baz=313,slow=9.1,SNR=14
ELK **Elko** 49.46 74 P P 21 28 22.8 -0.3
H17A **Grant Village** 49.67 67 P P 21 28 26.7 +2.1
baz=310
H17A **Grant Village** 49.67 67 P P 21 28 24.5 -0.1
H17A IAmb IAmb 21 28 27.1
comp=Z,6.3nm,0.7s
IMW **Indian Meadow** 49.80 68 P P 21 28 25.4 -0.2
IMW IAmb IAmb 21 28 27.5
comp=Z,8.3nm,0.9s
FLWY **Flagg Ranch** 49.81 67 P P 21 28 25.4 -0.2
RLMT **Red Lodge** 49.91 66 P P 21 28 27.4 +1.0
baz=310,SNR=9.9
RLMT **Red Lodge** 49.91 66 P P 21 28 26.3 -0.1
TPH **Tonopah** 50.12 78 P P 21 28 27.8 -0.2
TPH pmax pmax
comp=Z,69nm,0.7s
TPH **Tonopah** 50.12 78 P P 21 28 27.8 -0.2
LOHW **Long Hollow** 50.17 68 P P 21 28 27.9 -0.4
VES **Vestal, Richgr** 50.56 81 P P 21 28 31.4 +0.2
baz=314,SNR=8.2
CWC **Cottonwood Cre** 50.74 80 P P 21 28 33.7 +1.1
baz=314
GRAC **Grapevine Rang** 50.77 79 P P 21 28 34.3 +1.5
baz=314,SNR=5.0
PKM **Mcpherson Peak** 50.80 82 P P 21 28 34.5 +1.3
baz=314
R11A **Troy Canyon, C** 50.88 76 P P 21 28 34.6 +0.9
baz=313,SNR=15
R11A **Troy Canyon, C** 50.88 76 P P 21 28 33.4 -0.3
R11A IAmb IAmb 21 28 35.5
comp=Z,8.0nm,0.8s
HWUT **Hardware Ranch** 50.96 70 P P 21 28 34.1 -0.2
ISA **Isabella, Lake** 51.05 81 P P 21 28 35.0 +0.2
baz=314,SNR=5.3
ISA **Isabella, Lake** 51.05 81 P P 21 28 34.8 -0.1
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA **Isabella, Lake** 51.05 81 P P 21 28 34.8 -0.1
DUG **Dugway, Tooele** 51.21 73 P P 21 28 37.0 +0.9
baz=313,SNR=7.3
DUG **Dugway, Tooele** 51.21 73 P P 21 28 35.8 -0.3
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG **Dugway, Tooele** 51.21 73 P P 21 28 35.8 -0.3
BW06 **Boulder Array** 51.30 68 P P 21 28 37.6 +0.7
baz=312,SNR=6.3
BW06 **Boulder Array** 51.30 68 P P 21 28 36.7 -0.2
BW06 IAmb IAmb 21 28 38.4
comp=Z,13nm,1.1s
PD31 **Pinedale Array** 51.30 68 P P 21 28 36.6 -0.3
PD31 IAmb IAmb 21 28 38.4
comp=Z,8.9nm,0.9s
PDAR **Pinedale Array** 51.30 68 P P 21 28 37.2 +0.3
comp=Z,6.5nm,0.7s,baz=306,slow=5.0,SNR=35
PDAR LR LR 21 48 43.9
comp=Z,23nm,21.2s,baz=324,slow=34
PDAR **Pinedale Array** 51.30 68 P P 21 28 36.3 -0.6
MPMC **Manual Prospec** 51.35 80 P P 21 28 38.4 +1.2
baz=314,SNR=10
FURC **Furnace Creek,** 51.43 79 P P 21 28 39.1 +1.5
baz=314,SNR=11
TPNV **Topopah Spring** 51.45 78 P P 21 28 39.2 +1.2
baz=314,SNR=23
LRMC **Laurel Mtn Rad** 51.63 80 P P 21 28 40.1 +0.8
baz=314
PRN **Pahroc Range** 51.83 77 IAmb IAmb 21 28 43.1
comp=Z,16nm,1.0s
EDW2 **Edwards Air Fo** 51.87 81 P P 21 28 41.7 +0.7
baz=315,SNR=5.9
SHOC **Shoshone, Teco** 52.16 79 P P 21 28 44.3 +1.2
baz=314,SNR=7.5
GSC **Goldstone, Bar** 52.27 80 P P 21 28 45.1 +1.1
baz=315,SNR=12
GSC **Goldstone, Bar** 52.27 80 IAmb IAmb 21 28 45.9
comp=Z,10nm,0.9s
MWC **Mount Wilson** 52.30 82 IAmb IAmb 21 28 46.1
comp=Z,8.5nm,0.8s
BFSC **Mount Baldy Ra** 52.52 81 P P 21 28 46.7 +0.8
baz=315
CD2 **Chengdu** 52.52 273 *e*P P 21 28 45.5 -0.4
KURK **Kurchatov** 52.70 307 *ce*P P 21 28 45.9 -0.9
KURK pmax pmax
comp=Z,14nm,0.8s
KURK **Kurchatov** 52.70 307 P P 21 28 46.0 -0.9
WMQ **Urumqi** 52.73 295 *e*P P 21 28 50.4 +3.1
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,47nm,3.8s
WMQ LR LR
comp=Z,300nm,17.3s
WMQ LR LR
comp=Z,220nm,22.5s
GMRC **Granite Mounta** 53.30 80 P P 21 28 52.6 +0.9
baz=315,SNR=8.3
ULM **Lac du Bonnet** 53.33 53 P P 21 28 51.5 -0.1
comp=Z,6.3nm,0.6s,baz=316,slow=7.2,SNR=7.2
ULM LR LR 21 53 08.8
comp=Z,47nm,18.1s,baz=280,slow=38
ULM **Lac du Bonnet** 53.33 53 IAmb IAmb 21 28 52.1
comp=Z,6.1nm,0.7s
RSSD **Black Hills** 53.37 63 P P 21 28 52.5 +0.3
baz=313
RSSD **Black Hills** 53.37 63 P P 21 28 52.3 0.0
RSSD pmax pmax
comp=Z,13nm,0.6s
RSSD **Black Hills** 53.37 63 P P 21 28 52.2 0.0
MK31 **Makanchi Array** 53.54 301 *ce*P P 21 28 51.4 -1.8
MK31 **Makanchi Array** 53.54 301 IAmb IAmb 21 29 00.7
comp=Z,9.2nm,0.6s
MKAR **Makanchi Array** 53.54 301 P P 21 28 51.7 -1.5
comp=Z,2.4nm,0.3s,baz=53,slow=6.9,SNR=84
BELC **Belle Mtn. Jos** 53.66 80 P P 21 28 54.8 +0.4
baz=315,SNR=6.5
PFO **Pinyon Flats O** 53.66 81 P P 21 28 54.9 +0.5
comp=Z,1.0nm,0.5s,baz=320,slow=4.7,SNR=3.7
PFO **Pinyon Flats O** 53.66 81 P P 21 28 54.5 +0.1
MAKZ **Makanchi** 53.69 302 P P 21 28 53.2 -1.1
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ **Makanchi** 53.69 302 P P 21 28 53.2 -1.1
O20A **White River Ci** 53.81 70 P P 21 28 56.3 +0.8
baz=314
O20A **White River Ci** 53.81 70 IAmb IAmb 21 28 56.6
comp=Z,8.6nm,0.6s
IRM **Iron Mountain** 54.05 80 P P 21 28 58.0 +1.0
baz=316,SNR=7.4
GYA **Guiyang** 54.08 266 *e*P P 21 29 06.8 +9.4
GYA pmax pmax
comp=Z,8.0nm,1.2s
U15A **North Rim** 54.10 76 IAmb IAmb 21 28 59.6
comp=Z,6.1nm,0.8s
MONP2 **Monument Peak** 54.20 82 P P 21 28 59.3 +0.9
baz=316
BAR **Barrett** 54.20 82 P P 21 28 58.3 +0.1
BC3 **Big Chuckawall** 54.22 80 P P 21 28 59.1 +0.6
baz=316
LVZ **Lovozero** 54.31 341⇓*e*P P 21 29 04.1 +5.6
LVZ pmax pmax
comp=Z,23nm,1.3s
ARCES **ARCESS Array B** 54.38 346 P P 21 28 58.2 -0.8
comp=Z,1.5nm,0.8s,baz=30,slow=7.0,SNR=6.4
ARCES LR LR 21 53 24.5
comp=Z,51nm,18.6s,baz=25,slow=38
N23A **Red Feather La** 54.55 67 P P 21 29 02.3 +1.4
baz=314
N23A **Red Feather La** 54.55 67 IAmb IAmb 21 29 02.9
comp=Z,6.8nm,0.9s
AGMN **Agassiz Nation** 54.67 55 P P 21 29 01.7 +0.3
baz=314
BRVK **Borovoye** 54.86 314 *de*P P 21 29 01.6 -1.0
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK **Borovoye** 54.86 314 P P 21 29 01.8 -0.9
WUAZ **Wupatki** 55.27 76 P P 21 29 07.6 +1.5
baz=315,SNR=6.1
WUAZ **Wupatki** 55.27 76 IAmb IAmb 21 29 08.0
comp=Z,5.9nm,0.8s
ISCO **Idaho Springs** 55.50 68 P P 21 29 09.6 +1.8
baz=315,SNR=11
ISCO **Idaho Springs** 55.50 68 P P 21 29 09.4 +1.6
ISCO pmax pmax
comp=Z,16nm,1.0s
ISCO **Idaho Springs** 55.50 68 IAmb IAmb 21 29 10.4
comp=Z,9.9nm,0.8s
MVCO **Mesa Verde** 55.70 72 P P 21 29 10.3 +1.0
baz=315,SNR=5.3
MVCO **Mesa Verde** 55.70 72 IAmb IAmb 21 29 10.7
comp=Z,6.2nm,0.7s
X16A **Lo Mia Camp, P** 56.01 77 IAmb IAmb 21 29 14.1
comp=Z,5.8nm,0.8s
SPX **San Pedro Mart** 56.10 83 P P 21 29 12.0 -0.3
S22A **4UR Ranch, Cre** 56.27 71 P P 21 29 15.2 +1.8
baz=315,SNR=12
S22A **4UR Ranch, Cre** 56.27 71 IAmb IAmb 21 29 15.6
comp=Z,9.8nm,0.7s
Q24A **Divide** 56.34 69 P P 21 29 15.4 +1.5
baz=315
214A **Organ Pipe Nat** 56.99 80 P P 21 29 19.5 +1.3
baz=317,SNR=5.7
214A **Organ Pipe Nat** 56.99 80 IAmb IAmb 21 29 20.4
comp=Z,8.8nm,1.1s
EYMN **Ely** 57.00 53 P P 21 29 18.5 +0.4
baz=316,SNR=5.1
SDCO **Great Sand Dun** 57.01 70 P P 21 29 20.2 +1.5
baz=316,SNR=12
ARU **Arti** 57.04 322 *ce*P P 21 29 17.6 -0.6
ARU pmax pmax
comp=Z,3.0nm,0.8s
ARU **Arti** 57.04 322 P P 21 29 17.8 -0.4
ARU IAmb IAmb 21 29 26.5
comp=Z,8.1nm,0.6s
PRGR **Permogore** 57.05 332 *e*P P 21 29 18.4 +0.2
PRGR *e**PP **pwP** 21 29 28.4 +1.3
PRGR pmax pmax
comp=Z,11nm,0.8s
KMI **Kunming** 57.40 269 ⇑P P 21 29 26.5 +5.0
KMI pmax pmax
comp=Z,6.0nm,1.1s
ECSD **EROS Data Cent** 57.50 59 P P 21 29 21.6 0.0
baz=316
KSCO **Kaye Shedlock'** 57.69 67 P P 21 29 24.6 +1.3
baz=316
TUC **Tucson** 57.91 78 P P 21 29 26.4 +1.6
baz=317
TUC **Tucson** 57.91 78 P P 21 29 24.8 0.0
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC **Tucson** 57.91 78 P P 21 29 24.8 0.0
T25A **Trinidad** 58.05 70 P P 21 29 26.9 +1.0
baz=316
T25A **Trinidad** 58.05 70 IAmb IAmb 21 29 27.5
comp=Z,5.3nm,0.7s
SPMN **Marine on St.** 58.33 56 P P 21 29 27.4 -0.1
baz=316
KIRV **Kirov** 58.43 328 ⇑*e*P P 21 29 30.2 +2.3
ANMO **Albuquerque** 58.48 73 P P 21 29 30.0 +1.2
baz=317
ANMO **Albuquerque** 58.48 73 ⇑*e*P P 21 29 29.6 +0.7
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO **Albuquerque** 58.48 73 P P 21 29 28.2 -0.6
KLMR **Klimovskoe** 59.32 335 *e*P P 21 29 33.3 -0.8
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR **Klimovskoe** 59.32 335 *e*P P 21 29 33.3 -0.8
KLMR AMP 21 29 48.4
comp=Z,16nm,1.2s
TKM2 **Tokmak 2** 59.64 302 P P 21 29 44.6 +7.7
SNR=7.5
USP **Ospenovka** 59.94 303 P P 21 29 46.8 +8.1
SNR=8.8
CHMS **Chumysh** 60.01 303 P P 21 29 47.1 +7.9
SNR=5.3
KBK **Karagaybulak** 60.16 302 P P 21 29 48.2 +7.8
SNR=7.6
AAK **Ala-Archa** 60.40 303 P P 21 29 50.0 +7.9
SNR=6.1
EKS2 **Erkin-Say** 60.74 303 P P 21 29 52.4 +8.1
SNR=8.8
AML **Almayashu** 61.18 303 P P 21 29 55.9 +8.3
SNR=6.6
MNTX **Cornudas Mount** 61.47 75 P P 21 29 50.5 +1.3
baz=318,SNR=11
MNTX **Cornudas Mount** 61.47 75 P P 21 29 49.2 0.0
MNTX IAmb IAmb 21 29 51.3
comp=Z,9.5nm,0.8s
SCHQ **Schefferville** 61.66 34 P P 21 29 49.3 -0.9
comp=Z,8.1nm,0.8s,baz=299,slow=9.6,SNR=4.2
SCHQ **Schefferville** 61.66 34 P P 21 29 49.5 -0.6
SCHQ IAmb IAmb 21 29 51.9
comp=Z,9.9nm,0.9s
MATQ **Matagami** 61.74 43 P P 21 29 49.4 -1.4
baz=321
FINES **FINESS Array B** 61.74 342 P P 21 29 49.9 -0.7
comp=Z,4.7nm,0.8s,baz=20,slow=6.1,SNR=8.0
FINES LR LR 21 59 14.8
comp=Z,36nm,19.8s,baz=20,slow=39
KSH **Kashi** 61.96 299 P P 21 30 02.0 +9.4
KSH pP pwP 21 30 04.0 +2.4
KSH S **S** 21 38 19.6 +3.9
KSH pmax pmax
comp=Z,25nm,1.1s
KK31 **Karatay Array** 62.01 305 IAmb IAmb 21 30 06.0
comp=Z,8.2nm,0.7s
KKAR **Karatay Array** 62.01 305 P P 21 29 51.8 -0.9
KKAR **Karatay Array** 62.01 305 P P 21 29 51.8 -0.9
KKAR **Karatay Array** 62.01 305 IAmb IAmb 21 30 06.0
comp=Z,8.2nm,0.7s
ABKAR **Akbulak array** 62.04 316 P P 21 29 52.3 -0.5
P38A **Dawn** 62.07 60 IAmb IAmb 21 29 52.9
comp=Z,8.5nm,0.7s
GLMI **Grayling** 62.52 51 P P 21 29 56.3 +0.2
baz=320
LSQQ **Lebel-sur-Quev** 62.56 43 P P 21 29 55.1 -1.2
baz=322
WMOK **Wichita Mounta** 62.91 68 P P 21 29 59.5 +0.7
baz=318,SNR=9.2
WMOK **Wichita Mounta** 62.91 68 P P 21 29 59.3 +0.4
WMOK pmax pmax
comp=Z,13nm,0.9s
WMOK **Wichita Mounta** 62.91 68 IAmb IAmb 21 30 00.2
comp=Z,6.7nm,0.8s
CHGQ **Chibougamau** 62.92 41 P P 21 29 57.5 -1.2
baz=323
HDIL **Hopedale** 63.52 57 P P 21 30 02.6 -0.1
baz=319,SNR=7.4
ABTX **Abilene, Hawle** 64.01 70 P P 21 30 07.0 +0.8
baz=319
ABTX **Abilene, Hawle** 64.01 70 IAmb IAmb 21 30 07.6
comp=Z,12nm,1.0s
TXAR **Lajitas Array** 64.21 75 P P 21 30 08.4 +0.8
comp=Z,12nm,0.8s,baz=302,slow=4.3,SNR=80
TXAR **Lajitas Array** 64.21 75 P P 21 30 07.7 +0.1
NB2 **NORSAR Subarra** 64.33 349 P P 21 30 06.9 -1.0
comp=Z,8.8nm,1.2s,baz=13,slow=6.9
NOA **NORSAR Array B** 64.33 349 P P 21 30 07.5 -0.4
comp=Z,1.5nm,0.6s,baz=14,slow=6.6,SNR=8.1
NOA LR LR 21 59 37.5
comp=Z,25nm,19.2s,baz=15,slow=38
NORES **NORESS Array B** 64.60 349 P P 21 30 09.1 -0.4
NORES pmax pmax
comp=Z,1.0nm,0.3s
SFIN **Lafayette** 64.74 56 P P 21 30 10.2 -0.6
baz=320
CMAR **Chiang Mai Arr** 64.76 267 LR LR 22 00 13.4
comp=Z,31nm,19.1s,baz=70,slow=38
U40A **Yellville** 64.88 62 P P 21 30 11.0 -0.8
baz=320
U40A **Yellville** 64.88 62 IAmb IAmb 21 30 11.5
comp=Z,5.0nm,0.8s
OBN **Obninsk** 65.11 333⇑*e*P P 21 30 14.2 +1.3
OBN *e* 21 32 40.4
OBN pmax pmax
comp=Z,10.0nm,1.2s
OBN MLR MLR
comp=Z,58nm,14.0s
W39A **Magazine** 65.26 64 P P 21 30 13.8 -0.5
baz=320
JCT **Junction City** 65.54 71 P P 21 30 16.7 +0.5
baz=320
D58A **Chemin du LacG** 65.78 42 P P 21 30 16.2 -1.2
baz=324
E57A **Chemin Saint G** 65.82 44 P P 21 30 16.4 -1.3
baz=324
MIAR **Mount Ida** 65.87 64 P P 21 30 18.2 0.0
baz=320
MIAR **Mount Ida** 65.87 64 P P 21 30 18.2 0.0
MIAR pmax pmax
comp=Z,11nm,0.8s
W41B **Gary Mavity, V** 66.09 63 P P 21 30 18.7 -1.0
baz=320
X40A **Basin Creek Fa** 66.31 64 P P 21 30 21.1 +0.1
baz=320
LPSR **Galich'ya Gora** 66.66 330 *e*P P 21 30 23.4 +0.4
LPSR *e**PP **pwP** 21 30 30.6 -1.5
LPSR pmax pmax
comp=Z,10.0nm,0.6s
WCI **Wyandotte Cave** 66.79 57 P P 21 30 23.9 -0.2
baz=321
WCI **Wyandotte Cave** 66.79 57 P P 21 30 24.0 0.0
WCI pmax pmax
comp=Z,11nm,0.8s
WCI **Wyandotte Cave** 66.79 57 P P 21 30 24.0 0.0
ACSO **Alum Creek Sta** 66.83 53 P P 21 30 23.8 -0.5
baz=322
M53A **WI Miller and** 66.96 51 P P 21 30 25.1 0.0
baz=322
VRH **Novokhopyorsk** 67.04 328 *e*P P 21 30 24.1 -1.3
VRH *e**PP **pwP** 21 30 33.1 -1.4
VRH pmax pmax
comp=Z,9.0nm,0.5s
O51A **Pataskala** 67.08 53 P P 21 30 25.4 -0.5
baz=322
N53A **Lisbon** 67.39 51 P P 21 30 27.4 -0.4
baz=322
833A **Chaparral WMA,** 67.41 73 P P 21 30 29.2 +1.1
baz=320
K56A **Middlesex** 67.46 48 P P 21 30 27.5 -0.8
baz=324
O52A **Adamsville** 67.47 53 P P 21 30 27.8 -0.5
baz=322,SNR=5.7
WVT **Waverly** 67.65 59 P P 21 30 29.2 -0.3
baz=321
WVT **Waverly** 67.65 59 P P 21 30 29.6 +0.1
WVT pmax pmax
comp=Z,8.0nm,0.8s
WVT **Waverly** 67.65 59 P P 21 30 29.6 +0.1
WVT IAmb IAmb 21 30 30.1
comp=Z,8.2nm,0.8s
O53A **New Philadelph** 67.65 52 P P 21 30 29.0 -0.5
baz=322
N54A **Moraine State** 67.65 51 P P 21 30 29.2 -0.3
baz=323
P52A **Corning** 67.71 53 P P 21 30 29.0 -0.8
baz=322
L56A **Greenwood** 67.81 48 P P 21 30 29.8 -0.7
baz=324
VSR **Storozhevoye** 67.81 330 *e*P P 21 30 30.1 -0.2
VSR *e**PP pwP 21 30 43.8 +4.4
VSR pmax pmax
comp=Z,10.0nm,1.0s
NIL **Nilore** 67.83 297 P P 21 30 30.5 -0.3
NIL pmax pmax
comp=Z,25nm,1.1s
NIL **Nilore** 67.83 297 P P 21 30 30.4 -0.3
M56A **Emporium** 68.06 49 P P 21 30 31.0 -1.0
baz=323
O54A **Avella** 68.09 52 P P 21 30 31.9 -0.4
baz=323
Q52A **Bidwell** 68.17 54 P P 21 30 31.4 -1.3
baz=322
G62A **West of Eustis** 68.25 42 P P 21 30 32.7 -0.5
baz=326
N55A **Marion Center** 68.26 50 P P 21 30 32.7 -0.6
baz=323
U49A **Red Boiling Sp** 68.38 58 IAmb IAmb 21 30 34.1
comp=Z,5.5nm,0.7s
T50A **Nancy** 68.45 57 IAmb IAmb 21 30 35.1
comp=Z,11nm,0.9s
N56A **West Decatur** 68.46 50 P P 21 30 34.0 -0.6
baz=324
H62A **Milan** 68.53 43 P P 21 30 34.3 -0.6
baz=326
O55A **Ligonier** 68.57 51 P P 21 30 34.7 -0.6
baz=323
Q53A **Leroy** 68.61 53 P P 21 30 35.1 -0.4
baz=323,SNR=5.4
M57A **Sunshine Farm,** 68.65 49 P P 21 30 35.1 -0.6
baz=324
MCWV **Mont Chateau** 68.76 51 P P 21 30 36.3 -0.1
baz=323
R53A **Hurricane** 68.82 54 P P 21 30 36.7 -0.1
baz=323
Q54A **Coxs Mills** 68.83 53 P P 21 30 36.4 -0.5
baz=323
O56A **Blue Knob Stat** 68.86 50 P P 21 30 36.4 -0.7
baz=324
L59A **Walton** 68.87 47 P P 21 30 36.3 -0.9
baz=325
SSPA **Standing Stone** 68.87 50 P P 21 30 36.4 -0.7
baz=324
P55A **Reedsville** 68.89 52 P P 21 30 37.0 -0.3
baz=323
M58A **Price's Panora** 68.91 48 P P 21 30 36.5 -0.9
baz=324
N57A **Milroy** 68.93 49 P P 21 30 36.7 -0.8
baz=324
AFI **Afiamalu** 69.07 162 LR LR 21 55 12.7
comp=Z,126nm,19.8s,baz=352,slow=31
Q55A **Buckhannon** 69.18 52 P P 21 30 38.6 -0.5
baz=323
M59A **Waymart** 69.23 47 P P 21 30 38.1 -1.3
baz=325
KBL **Kabul** 69.32 300 P P 21 30 38.8 -1.5
KBL pmax pmax
comp=Z,14nm,0.7s
KBL **Kabul** 69.32 300 P P 21 30 38.8 -1.5
SWET **Sewanee** 69.32 58 IAmb IAmb 21 30 40.0
comp=Z,8.4nm,0.8s
O57A **Amberson** 69.33 50 P P 21 30 39.4 -0.6
baz=324
P56A **Dayton Farm, R** 69.35 51 P P 21 30 39.8 -0.3
baz=324,SNR=6.6
R54A **Victor** 69.40 53 P P 21 30 40.2 -0.3
baz=323
TZTN **Tazewell** 69.47 56 P P 21 30 40.7 -0.1
baz=323
S54A **Dingess, Beckl** 69.55 54 P P 21 30 41.1 -0.3
baz=323
N59A **State Game Lan** 69.59 48 P P 21 30 40.7 -0.9
baz=325
T53A **Wise** 69.61 55 P P 21 30 42.0 +0.1
baz=323
M60A **Port Jervis** 69.75 47 P P 21 30 41.3 -1.2
baz=325
O59A **Robesonia** 69.89 49 P P 21 30 42.2 -1.2
baz=325
S55A **Lewisburg** 69.96 53 P P 21 30 43.2 -0.7
baz=323
T54A **Tazewell** 70.01 54 P P 21 30 44.0 -0.3
baz=323
FPAL **Fort Paine** 70.02 59 IAmb IAmb 21 30 44.5
comp=Z,7.2nm,0.8s
TKL **Tuckaleechee C** 70.06 57 P P 21 30 43.7 -0.8
comp=Z,3.7nm,1.0s,baz=292,slow=11,SNR=4.2
Y49A **Blount Mountai** 70.15 60 IAmb IAmb 21 30 45.2
comp=Z,10nm,1.0s
U54A **Nelsons Funny** 70.33 55 P P 21 30 46.0 -0.2
baz=323
Q58A **Fox Den Farm,** 70.33 51 P P 21 30 45.6 -0.5
baz=324

T55A	Pulaski	70.35	54	P		P	21 30 46.1	-0.2
	baz=323							
BLA	Blacksburg	70.45	53	P		P	21 30 46.7	-0.2
	baz=324							
S56A	Natural Bridge	70.48	53	P		P	21 30 46.8	-0.3
	baz=324							
LRAL	Lakeview Retre	70.49	61	P		P	21 30 46.4	-0.8
	baz=322							
LRAL	Lakeview Retre	70.49	61	IAmb		IAmb	21 30 47.2	
	comp=Z,6.6nm,0.8s							
U55A	TA2, Sparta	70.71	54	P		P	21 30 48.2	-0.4
	baz=324							
V54A	Nebo	70.86	55	P		P	21 30 49.4	0.0
	baz=323							
AKASG	Malin Array Be	71.00	335	P		P	21 30 49.5	-0.5
	comp=Z,0.8nm,0.3s,baz=26,slow=6.2,SNR=5.0							
AKASG				LR		LR	22 04 43.1	
	comp=Z,47nm,18.4s,baz=315,slow=38							
AKBB	Malin Array Si	71.00	335	P		P	21 30 50.0	0.0
AKBB				pmax		pmax		
	comp=Z,8.0nm,1.0s							
AKBB	Malin Array Si	71.00	335	P		P	21 30 50.0	0.0
AKBB				IAmb		IAmb	21 31 04.4	
	comp=Z,7.5nm,1.0s							
V55A	Taylorsville	71.15	55	P		P	21 30 51.0	-0.2
	baz=324							
T57A	Hurt	71.17	53	P		P	21 30 50.9	-0.4
	baz=324							
W54A	Cherokee Point	71.29	56	P		P	21 30 51.7	-0.3
	baz=323							
Y52A	Lilburn	71.33	58	IAmb		IAmb	21 30 52.8	
	comp=Z,9.3nm,0.8s							
U57A	Blanch	71.59	53	P		P	21 30 53.6	-0.2
	baz=324							
X54A	Belton	71.63	56	P		P	21 30 54.0	-0.1
	baz=323							
KMSC	Kings Mountain	71.67	55	P		P	21 30 53.8	-0.5
	baz=324							
GEYT	Alibeck	71.90	310	P		P	21 30 56.0	+0.3
	comp=Z,1.1nm,0.7s,baz=11,slow=1.5,SNR=1.9							
GEYT	Alibeck	71.90	310	P		P	21 30 55.5	-0.2
X55A	Gracelyn & Ava	72.06	56	P		P	21 30 56.2	-0.4
	baz=324							
V58A	Windy Hill, Pi	72.21	53	P		P	21 30 57.4	-0.2
	baz=324							
W57A	Gilead	72.31	54	P		P	21 30 57.4	-0.7
	baz=324							
Y55A	Saluda	72.37	56	P		P	21 30 58.2	-0.4
	baz=324							
V59A	Middlesex	72.65	53	P		P	21 30 59.8	-0.3
	baz=325							
W58A	Raeford	72.78	54	P		P	21 31 00.7	-0.2
	baz=324							
HRA	Herat	72.84	305	IAmb		IAmb	21 31 16.8	
	comp=Z,7.1nm,0.9s							
KIV	Kislovodsk	73.04	324	eP		P	21 31 01.0	-1.5
KIV				pmax		pmax		
	comp=Z,11nm,1.1s							
KIV				MLR		MLR		
	comp=Z,111nm,18.0s							
KBZ	Khabaz	73.16	323	P		P	21 31 03.3	+0.3
	comp=Z,1.5nm,0.7s,baz=27,slow=4.5,SNR=2.9							
KBZ				LR		LR	22 07 51.0	
	comp=Z,39nm,18.2s,baz=31,slow=40							
KBZ	Khabaz	73.16	323⇓	eP		P	21 31 04.3	+1.3
KBZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
W60A	Pink Hill	73.48	53	P		P	21 31 05.1	+0.1
	baz=325							
SORM	Soroca	73.59	335	⇑P		P	21 31 04.8	-0.7
ZEI	Tsey	73.62	322	eP		P	21 31 09.5	+3.4
ZEI				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CHVC	Chvalec	73.83	344	eP		P	21 31 01.1	-5.8
CHVC				ex		x	21 31 10.0	
DPC	Dobruska-Polom	74.01	343	eP		P	21 31 10.6	+2.6
DPC				epP		pwP	21 31 17.4	+0.5
DPC	Dobruska-Polom	74.01	343	eP		P	21 31 10.6	+2.6
DPC				e			21 31 17.4	
KRLC	Kraliky	74.20	343	eP		P	21 31 11.7	+2.6
KRLC				epP		pwP	21 31 18.0	0.0
KRLC	Kraliky	74.20	343	eP		P	21 31 11.7	+2.6
KRLC				e			21 31 18.0	
KOLS	Kolonicke sedl	74.24	339	eP		P	21 31 09.1	-0.2
KOLS	Kolonicke sedl	74.24	339	eP		P	21 31 09.1	-0.2
LANS	Liptovska Anna	74.60	341	eP		P	21 31 13.0	+1.5
LANS	Liptovska Anna	74.60	341	eP		P	21 31 13.0	+1.5
PRU	Pruhonice	74.66	345	esP		sP	21 31 25.6	+6.9
TAOE	Nuku Hiva Isla	74.79	130	eLR		LR	21 54 22.8	
	comp=Z,2µm,32.3s							
BUR08	Bucovina Ar. S	74.81	337	IAmb		IAmb	21 31 28.4	
	comp=Z,5.9nm,0.8s							
BURAR	Bucovina Array	74.83	337	⇓P		P	21 31 13.1	+0.2
BURAR	Bucovina Array	74.83	337	P		P	21 31 12.9	0.0
BURAR	Bucovina Array	74.83	337	P		P	21 31 12.9	0.0
KHC	Kasperske Hory	75.64	345	eP		P	21 31 17.1	-0.3
KHC				epP		PcP	21 31 28.5	-1.7
KHC	Kasperske Hory	75.64	345⇑	eP		P	21 31 17.5	+0.1
KHC				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GERES	GERESS Array B	75.90	345	P		P	21 31 19.0	0.0
	comp=Z,1.1nm,0.6s,baz=32,slow=5.3,SNR=13							
GERES	GERESS Array B	75.90	345	P		P	21 31 19.0	0.0
CONA	Conrad Observa	76.43	343	eP		P	21 31 25.6	+3.6
	comp=Z,2.5nm,1.0s							
MLR	Muntele Rosu	76.65	336	⇑P		P	21 31 24.9	+1.5
MLR	Muntele Rosu	76.65	336	P		P	21 31 23.3	-0.1
MLR				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MLR	Muntele Rosu	76.65	336	P		P	21 31 23.3	-0.1
CTA	Charters Tower	76.67	204	P		P	21 31 26.8	+3.4
	comp=Z,1.6nm,0.5s,baz=41,slow=9.3,SNR=2.9							
VOIR		76.92	336	⇑P		P	21 31 29.4	+4.6
ARR	Arges	77.08	336	⇑P		P	21 31 27.3	+1.6
ARSA	Arzberg	77.15	343	eP		P	21 31 26.6	+0.6
	comp=Z,2.3nm,0.6s							
GZR	Gura Zlata	77.49	338	⇑P		P	21 31 28.8	+0.7
BZS	Buzias	77.53	339	⇓P		P	21 31 25.5	-2.6
BZS	Buzias	77.53	339	P		P	21 31 29.2	+1.0
BZS				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KBA	Koelnbreinsper	77.67	345	eP		P	21 31 29.8	+0.6
	comp=Z,5.1nm,1.1s							
WATA	Walderalm	77.69	346	eP		P	21 31 29.7	+0.5
	comp=Z,7.6nm,1.4s							
WTTA	Wattenberg	77.75	346	eP		P	21 31 29.7	+0.1
	comp=Z,4.5nm,0.9s							
SOKA	Soboth	77.79	343	eP		P	21 31 29.0	-0.7
	comp=Z,0.6nm,0.4s							
SQTA	Sankt Quirin	77.85	346	eP		P	21 31 30.9	+0.8
	comp=Z,8.2nm,1.4s							
DAVA	Damuels	77.97	347	eP		P	21 31 33.1	+2.3
	comp=Z,4.4nm,1.3s							
OBKA	Obir	78.03	344	eP		P	21 31 31.5	+0.5
	comp=Z,4.7nm,0.9s							
ABTA	Abfaltersbach	78.12	345	eP		P	21 31 35.5	+4.0
	comp=Z,2.8nm,1.0s							
PPT2	Papeete2	78.77	142	eLQ		LQ	21 52 47.2	
	comp=Z,5µm,28.8s							
PPT2				eLR		LR	21 56 03.3	
	comp=Z,183nm,25.5s							
BRTR	Keskin Array B	79.83	328	P		P	21 31 41.6	+0.5
	comp=Z,0.7nm,0.8s,baz=54,slow=2.2,SNR=4.6							
BRTR				LR		LR	22 11 60.0	
	comp=Z,12nm,19.7s,baz=352,slow=40							
BRTR	Keskin Array B	79.83	328	i P		P	21 31 43.5	+2.4
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
BRTR	Keskin Array B	79.83	328	P		P	21 31 40.8	-0.3
WRA	Warramunga Arr	79.99	215	P		P	21 31 42.0	+0.2
	comp=Z,1.7nm,0.8s,baz=28,slow=6.0,SNR=7.9							
WRA	Warramunga Arr	79.99	215	P		P	21 31 41.8	-0.1
ZCCA	Zocca	80.70	346	IAmb		IAmb	21 31 58.4	
	comp=Z,16nm,1.1s							
GAZ	Gaziantep	80.97	324	P		P	21 31 46.6	-0.5
GAZ				IAmb		IAmb	21 32 03.5	
	comp=Z,6.9nm,0.8s							
PDG	Podgorica	81.08	339	⇑P		P	21 31 47.9	+0.4
FITZ	Fitzroy Crossi	81.55	223	P		P	21 31 50.2	+0.1
	comp=Z,1.2nm,0.7s,baz=0.0,slow=5.1,SNR=2.3							
FITZ	Fitzroy Crossi	81.55	223	P		P	21 31 50.0	-0.1
NRCA	Norcia	81.84	344	IAmb		IAmb	21 32 02.8	
	comp=Z,10nm,0.8s							
ASAR	Alice Springs	83.60	214	P		P	21 32 01.9	+1.0
	comp=Z,1.3nm,0.5s,baz=23,slow=5.0,SNR=21							
ASAR	Alice Springs	83.60	214	P		P	21 32 00.7	-0.1
ASAR	Alice Springs	83.60	214	P		P	21 32 00.7	-0.1
MMAI	Mount Meron Ar	85.35	324	LR		LR	22 14 00.3	
	comp=Z,24nm,18.1s,baz=245,slow=38							
ESDC	Sonseca Array	86.75	356	P		P	21 32 16.6	-0.1
	comp=Z,0.7nm,0.8s,baz=351,slow=5.0,SNR=9.1							
ESDC	Sonseca Array	86.75	356	P		P	21 32 16.5	-0.1
EIL	Elat	88.55	323	LR		LR	22 15 30.5	
	comp=Z,27nm,19.0s,baz=93,slow=38							
TORD	Torodi Ar. Bea	112.65	349	PKKP			21 49 14.2	
	comp=Z,0.7nm,0.8s,baz=188,slow=5.0,SNR=3.7							
PLCA	Paso Flores	137.55	98	PKP		PKPdf	21 38 56.2	+0.3
	comp=Z,1.2nm,0.8s,baz=233,slow=5.1,SNR=4.1							
PLCA	Paso Flores	137.55	98			PKPdf	21 38 56.4	+0.4
QSPA	South Pole Qui	143.60	180	PKhKP		PKPpre	21 39 02.7	
	comp=Z,1.1nm,0.6s,baz=6.8,slow=0.5,SNR=9.4							
BOSA	Boshof	144.54	302	PKP		PKPab	21 39 07.2	-0.2
	comp=Z,1.4nm,0.6s,baz=83,slow=2.3,SNR=5.8							
MAW	Mawson	144.58	219	PKP		PKPab	21 39 06.5	+0.3
	comp=Z,2.6nm,0.7s,baz=3.0,slow=2.7,SNR=5.4							
MAW	Mawson	144.58	219			PKPab	21 39 06.8	+0.6

GUC ***05*** *21:21:57.6±0.6, 20.81S×68.91W, h120km±3km, ML3.5*
IDC ***05*** *21:21:58.5±1.5, 20.90S×68.53W, h118km±16km, mb3.6/2, mb1 3.3/4, mb1mx3.1/38, mbtmp3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/19, Error ellipse: s-maj=44.0km s-min=16.2km az=107.0*

ISC 05 21:21:57.1±0.9, 20.81S±0.04×68.90W±0.09, h119km±9km, n19, σ0.93/29, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.70	341	⇑	i	P	Pn	21 22 17.4	+0.6
PB08					e	S	Sn	21 22 32.1	+0.5
PB08					IAML			21 22 33.3	
	comp=E,3µm,0.2s								
PB09	IPOC Station P	1.03	198	⇑	i	P	Pn	21 22 20.1	+0.5
PB09					e	S	Sn	21 22 37.2	+0.7
PB09					IAML			21 22 38.2	
	comp=N,724nm,0.6s								
TA01	Diego Aracena	1.22	281	⇑	i	P	Pn	21 22 21.4	+0.2
TA01					e	S	Sn	21 22 39.6	+0.1
TA01					IAML			21 22 41.5	
	comp=E,817nm,0.3s								
PB11	IPOC Station P	1.26	326	⇑	i	P	Pn	21 22 22.2	+0.3
PB11					e	S	Sn	21 22 41.2	+0.6
TA02	Huaiquique	1.27	295		eP	P	Pn	21 22 20.1	+0.3
TA02					e	S	Sn	21 22 40.5	0.0
PB07	IPOC Station P	1.29	225	⇑	i	P	Pn	21 22 22.5	+0.2
PB07					i	S	Sn	21 22 41.2	-0.2
PB07					IAML			21 22 43.8	
	comp=E,1µm,0.3s								
PB03	IPOC Station P	1.47	212	⇑	i	P	Pn	21 22 24.5	+0.3
PB03					e	S	Sn	21 22 44.4	-0.4
PB03					IAML			21 22 46.2	
	comp=E,522nm,0.4s								
PSGC	Pisagua	1.66	316	⇑	i	P	Pn	21 22 26.4	-0.1
PSGC					i	S	Sn	21 22 48.6	-0.2
PSGC					IAML			21 22 51.1	
	comp=E,634nm,0.2s								
LVC	Limon Verde	1.79	180		P	P	Pn	21 22 29.2	+0.9
	comp=E,4.2nm,0.3s,baz=44,slow=13,SNR=40								
LVC						S	Sn	21 22 52.3	+0.2
	comp=E,21nm,0.3s,baz=264,slow=18,SNR=31								
LVC						LR	LR	21 22 59.6	
	comp=E,28nm,18.4s,baz=180,slow=35								
PB04	IPOC Station P	1.91	217		eP	P	Pn	21 22 29.6	+0.1
PB04					IAML			21 22 59.6	
	comp=N,369nm,0.2s								
PB06	IPOC Station P	1.99	198		eP	P	Pn	21 22 30.8	+0.3
PB06					e	S	Sn	21 22 55.7	-0.3
PB06					IAML			21 22 56.4	
	comp=E,326nm,0.4s								
PB15	IPOC Station P	2.45	192		eP	P	Pn	21 22 36.9	+0.6
PB15					e	S	Sn	21 23 07.0	+0.5
PB16	IPOC Station P	2.52	347		eP	P	Pn	21 22 39.1	+1.4
LPAZ	La Paz	4.55	9	P		P	Pn	21 23 07.0	+2.3
	comp=E,0.8nm,0.3s,baz=143,slow=3.6,SNR=18								
SIV	San Ignacio	8.84	58	P		P	Pn	21 23 59.2	-2.8
	comp=E,0.8nm,0.3s,baz=247,slow=10,SNR=11								
BDFB	Brasilia	20.49	79	P		P	Pn	21 26 24.7	-1.1
	comp=E,2.2nm,0.4s,baz=241,slow=9.2,SNR=5.5								
TXAR	Lajitas Array	60.07	325	LR		LR	21 58 39.5		
	comp=E,67nm,18.4s,baz=0.0,slow=36								
TORD	Torodi Ar. Bea	77.12	70	P		P	21 33 37.6	-0.4	
	comp=E,1.0nm,0.6s,baz=257,slow=5.4,SNR=22								
MKAR	Makanchi Array	145.07	35	PKP		PKPdf	21 41 21.2	+0.8	
	comp=E,0.7nm,0.6s,baz=324,slow=4.1,SNR=6.3								

SKHL ***05*** *21:28:41.5±0.2, 48.63N×154.86E, h85km±5km, mb5.2/6, msh6.0/4*
IDC ***05*** *21:28:42.7±0.7, 48.81N×154.41E, h68km±6km, mb3.8/17, mb1 4.1/19, mb1mx3.9/47, mbtmp4.1/19, MS3.0/1, Ms1 3.0/1, ms1mx2.6/36, Error ellipse: s-maj=16.5km s-min=10.3km az=137.0*
KRSC ***05*** *21:28:42.0±1.8, 48.68N×156.49E, h7km±33km, ML5.0*
MOS ***05*** *21:28:42.1±1.0, 48.79N×154.48E, h86km, mb3.8/6, Error ellipse: s-maj=13.5km s-min=4.0km az=69.2*
NEIC ***05*** *21:28:46.5±1.7, 49.14N±0.06×154.0E±0.1, h114km±8km, mb4.4/20, Error ellipse: s-maj=11.8km s-min=8.4km az=87.0*

ISC 05 21:28:43.7±0.5, 48.70N±0.07×154.60E±0.07, h100km, n167, σ2.17/174, mb4.3/34, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.22	26		eP	P	Pn	21 29 16.9	-2.0
SKR					eS	S	Sn	21 29 42.7	-3.3
SKR	Severo-Kuril's	2.22	26		eP	P	Pn	21 29 16.0	-3.0
SKR					AMB	AMB	AMB	21 29 18.0	
	260nm,0.4s								
SKR					eS	S	Sn	21 29 42.0	-4.0
SKR					A	A	A	21 29 46.0	
	440nm,0.3s								
SKR					A	A	A	21 29 46.0	
	750nm,0.3s								
SKR	Severo-Kuril's	2.22	26	ePN		P	Pn	21 29 17.0	-2.0
SKR					eS	S	Sn	21 29 42.5	-3.5
SKR					pmax	pmax			
	comp=Z,350nm,0.4s								
SKR					smax	smax			
	comp=E,1µm,0.4s								
SKR					smax	smax			
	comp=N,1µm,0.4s								
PAU	Pauzhetka	3.11	26		eP	P	Pn	21 29 29.6	-1.3
PAU					eS	S	Sn	21 30 05.1	-2.2
PAU	Pauzhetka	3.11	26		i P	P	Pn	21 29 29.3	-1.6
PAU					AMB	AMB	AMB	21 29 30.8	
	comp=N,180nm,0.6s								
PAU					i S	S	Sn	21 30 05.0	-2.2
PAU					A	A	A	21 30 06.5	
	comp=N,550nm,0.3s								
PAU					A	A	A	21 30 06.5	
	comp=N,1µm,0.3s								
PAU	Pauzhetka	3.11	26	PN		P	Pn	21 29 29.6	-1.3
PAU					S	S	Sn	21 30 05.1	-2.2
KDTR	Khodutka, Kamc	3.83	34		eP	P	Pn	21 29 37.6	-2.8
KDTR					eS	S	Sn	21 30 19.0	-5.4
KDTR	Khodutka, Kamc	3.83	34	PN		P	Pn	21 29 37.6	-2.8
KDTR					S	S	Sn	21 30 19.0	-5.4
ASAK	Asacha	4.25	28		eP	P	Pn	21 29 45.5	-0.7
ASAK	Asacha	4.25	28	PN		P	Pn	21 29 45.5	-0.7
GRL	Gorelyy	4.45	29		eP	P	Pn	21 29 48.2	-0.7
GRL	Gorelyy	4.45	29	PN		P	Pn	21 29 48.2	-0.7
RUS	Russkaya	4.49	32		eP	P	Pn	21 29 46.6	-2.8
RUS					eS	S	Sn	21 30 34.5	-6.0
RUS	Russkaya	4.49	32		eP	P	Pn	21 29 46.6	-2.8
RUS	Russkaya	4.49	32	PN		P	Pn	21 29 46.6	-2.8
RUS					S	S	Sn	21 30 34.5	-6.0
APC	Apacha	4.53	20		eP	P	Pn	21 29 50.3	+0.4
APC	Apacha	4.53	20	PN		P	Pn	21 29 50.3	+0.4
KRMR	Karymshinskiy	4.70	27		eP	P	Pn	21 29 52.7	+0.5
KRMR	Karymshinskiy	4.70	27	PN		P	Pn	21 29 52.7	+0.5
PEA0B	Petropavlovsk-	4.83	23	ce		PN	Pn	21 29 53.9	-0.1
PEA0B	Petropavlovsk-	4.83	23	Pn		Pn	Pn	21 29 54.2	+0.2
PETK	Petropavlovsk-	4.83	23	P		Pn	Pn	21 29 53.9	-0.1
	comp=N,6.8nm,0.3s,baz=176,slow=12,SNR=126								
PETK						S	Sn	21 31 01.1	+12
	comp=N,0.7nm,0.3s,baz=212,slow=18,SNR=2.2								
PETK	Petropavlovsk-	4.83	23				Pn	21 29 54.2	+0.2
PET	Petropavlovsk	5.03	29		eP	P	Pn	21 29 55.5	-1.2
PET					eS		Sn	21 30 49.3	-4.2
PET	Petropavlovsk	5.03	29		i P		Pn	21 29 55.8	-0.9
PET					AMB	AMB	AMB	21 30 06.2	
	comp=N,71nm,0.6s								
PET					i S	S	Sn	21 30 50.4	-3.1
PET					A	A	A	21 31 06.2	
	comp=N,310nm,0.6s								
PET					A	A	A	21 31 06.2	
	comp=N,460nm,0.6s								
PET	Petropavlovsk	5.03	29	ePN		P	Pn	21 29 54.9	-1.8
PET					eS	S	Sn	21 30 51.3	-2.2
PET					pmax	pmax			
	comp=Z,71nm,0.6s								
PET					smax	smax			
	comp=E,318nm,0.6s								
PET					smax	smax			
	comp=N,462nm,0.6s								
PET					MLR	MLR			
	comp=Z,200nm,18.0s								
PET	Petropavlovsk	5.03	29		Pn	Pn	Pn	21 29 54.6	-2.1
PET						Sn	Sn	21 30 52.8	-0.7
DALK	Dalny	5.07	30		eP	P	Pn	21 29 56.0	-1.2
DALK					eS	S	Sn	21 30 50.0	-4.5
DALK	Dalny	5.07	30	PN		P	Pn	21 29 56.0	-1.2
DALK					S	S	Sn	21 30 50.0	-4.5
KOK	Koryaka	5.26	27		eP	P	Pn	21 29 59.8	-0.1
KOK	Koryaka	5.26	27		eP	P	Pn	21 29 59.8	-0.1
KOK	Koryaka	5.26	27	PN		P	Pn	21 29 59.8	-0.1
AVH	Avacha	5.26	28		eP	P	Pn	21 29 59.9	0.0
AVH	Avacha	5.26	28	PN		P	Pn	21 29 59.9	0.0
SMAR	Somma	5.28	29		eP	P	Pn	21 29 59.4	-0.9
SMAR	Somma	5.28	29	PN		P	Pn	21 29 59.4	-0.9
KRER	Koryakskii	5.30	28		eP	P	Pn	21 30 00.0	-0.6
KRER	Koryakskii	5.30	28	PN		P	Pn	21 30 00.0	-0.6
KRX	Arik	5.32	27		eP	P	Pn	21 30 00.3	-0.4
KRX	Arik	5.32	27	PN		P	Pn	21 30 00.3	-0.4
SDLR	Sedlovina	5.32	29		eP	P	Pn	21 29 59.1	-1.7
SDLR	Sedlovina	5.32	29	PN		P	Pn	21 29 59.1	-1.7
GNL	Ganaly	5.42	22		eP	P	Pn	21 30 02.8	+0.7
GNL	Ganaly	5.42	22	PN		P	Pn	21 30 02.8	+0.7
SPN	Mys Shipunski	5.58	36		eP	P	Pn	21 30 01.6	-2.6
SPN	Mys Shipunski	5.58	36		eP	P	Pn	21 30 01.6	-2.6
SPN	Mys Shipunski	5.58	36	PN		P	Pn	21 30 01.6	-2.6
KUR	Kuril'sk	5.77	236		eP	P	Pn	21 30 06.9	+0.2
KUR					AMB	AMB	AMB	21 30 09.0	
	comp=Z,79nm,0.5s								
KUR					eS	S	Sn	21 31 10.9	-0.6
KUR					A	A	A	21 31 22.0	
	comp=Z,135nm,0.5s								
KUR					A	A	A	21 31 22.0	
	comp=Z,66nm,0.5s								
KUR	Kuril'sk	5.77	236	ePN		P	Pn	21 30 08.3	+1.6
KUR					eS	S	Sn	21 31 13.6	+2.1
KUR					pmax	pmax			
	comp=Z,79nm,0.5s								
KUR					smax	smax			
	comp=E,66nm,0.5s								
KUR					smax	smax			
	comp=N,135nm,0.4s								
KZV	Kizimen	7.32	27		eP	P	Pn	21 30 28.8	+0.9
KZV	Kizimen	7.32	27	PN		P	Pn	21 30 28.8	+0.9
TUMR	Tumrok	7.43	25		eP	P	Pn	21 30 30.6	+1.3
TUMR	Tumrok	7.43	25	PN		P	Pn	21 30 30.3	+1.0
TUMD	Tumrok D	7.43	27		eP	P	Pn	21 30 30.3	+1.0
YUK	Yuzh-Kuril'sk	7.63	236		eP	P	Pn	21 30 32.0	-0.1
YUK					AMB	AMB	AMB	21 30 33.0	
	comp=N,218nm,0.4s								
YUK					eS	S	Sn	21 31 55.0	-1.9
YUK	Yuzh-Kuril'sk	7.63	236		ePN	P	Pn	21 30 32.5	+0.4
YUK					eS	S	Sn	21 31 56.0	-0.9
YUK					pmax	pmax			
	comp=N,52nm,0.2s								
YUK					pmax	pmax			
	comp=Z,218nm,0.2s								
YUK					pmax	pmax			
	comp=E,101nm,0.3s								
KMNR	Kamenistaya	7.87	24		eP	P	Pn	21 30 36.1	+0.8
KMNR	Kamenistaya	7.87	24	PN		P	Pn	21 30 36.1	+0.8
GLVR	Golovnino	8.01	235		eP	P	Pn	21 30 36.0	-1.3
GLVR					AMB	AMB	AMB	21 30 39.0	
	comp=E,54nm,0.4s								
GLVR					eS	S	Sn	21 32 05.0	-1.2
GLVR	Golovnino	8.01	235	ePN		P	Pn	21 30 36.7	-0.6
GLVR					eS	S	Sn	21 32 05.9	-0.3
GLVR					pmax	pmax			
	comp=Z,54nm,0.1s								
NEM2	Nemuro 2	8.15	232	P		P	Pn	21 30 36.8	-2.3
NEM2					eS	S	Sn	21 32 03.4	-6.0
NMR	Nemuro--Hokkai	8.15	232	⇑	i	PN	Pn	21 30 36.9	-2.2
YSS	Yuzh-Sakhalins	8.16	262		eP	P	Pn	21 30 40.0	+0.8
YSS	Yuzh-Sakhalins	8.16	262	⇓	eP	N	Pn	21 30 41.4	+2.2
LGNR	Loginova	8.28	24		eP	P	Pn	21 30 42.2	+1.2
LGNR	Loginova	8.28	24	PN		P	Pn	21 30 42.2	+1.2
JNK	Nakash	8.55	237		P	P	Pn	21 30 44.1	-0.5
JAK	Akkeshi	8.96	234		P	P	Pn	21 30 47.9	-2.2
JAK					eS	S	Sn	21 32 22.7	-6.4
KBTR	Krutoberegovo	9.03	31		eP	P	Pn	21 30 48.9	-2.1
KBTR	Krutoberegovo	9.03	31	PN		P	Pn	21 30 48.9	-2.1
JAR	Ashorobuto	9.27	238		P	P	Pn	21 30 54.

TLY	**Talaya**	**32.22**	**295**	*e*P		**P**	**21 35 03.5**	**+1.4**
TLY	**Talaya**	**32.22**	**295**⇑	*e*P		**P**	**21 35 03.5**	**+1.4**
TLY	comp=Z,5.0nm,0.7s			pmax		pmax		
BPAW	**Bear Paw Mtn.**	**32.62**	**41**	P		**P**	**21 35 07.1**	**+1.6**
CNPM	**China Poot**	**32.63**	**50**	P		**P**	**21 35 06.6**	**+1.0**
TRF	**Thorofare Moun**	**32.92**	**43**	P		**P**	**21 35 08.5**	**+0.3**
TRF	comp=Z,5.3nm,1.0s			IAmb		IAmb	21 35 11.2	
COLD	**Coldfoot**	**33.16**	**36**	P		**P**	**21 35 10.2**	**+0.1**
COLD	comp=Z,4.2nm,0.9s			IAmb		IAmb	21 35 13.0	
TOLK	**Toolik Lake Re**	**33.56**	**33**	P		**P**	**21 35 14.6**	**+1.1**
COLA	**College**	**33.99**	**40**⇓	*e*P		**P**	**21 35 18.3**	**+1.1**
COLA	comp=Z,8.0nm,0.8s			pmax		pmax		
CCB	**Clear Creek Bu**	**34.01**	**41**	P		**P**	**21 35 17.9**	**+0.4**
IL31		**34.40**	**40**	P		**P**	**21 35 22.4**	**+1.6**
IL31	comp=Z,4.1nm,1.0s			IAmb		IAmb	21 35 23.1	
ILAR	**Eielson Array**	**34.40**	**40**	P		**P**	**21 35 22.1**	**+1.2**
ILAR	comp=Z,1.4nm,0.8s,baz=256,slow=5.6,SNR=12			pP		**pP**	**21 35 39.1**	**-4.2**
ILAR	**Eielson Array**	**34.40**	**40**	*e*P		**P**	**21 35 22.3**	**+1.4**
ILAR	comp=Z,0.9nm,0.8s,baz=248,slow=7.1,SNR=3.8			pmax		pmax		
ILAR	**Eielson Array**	**34.40**	**40**	P		**P**	**21 35 22.5**	**+1.7**
BMAR	**Burnt Mountain**	**35.34**	**36**	P		**P**	**21 35 29.7**	**+0.7**
BCAR	**Beaver Creek A**	**36.78**	**43**	P		**P**	**21 35 41.5**	**+0.3**
INK	**Inuvik**	**39.47**	**34**	P		**P**	**21 36 05.9**	**+2.3**
ZALV	**Zalesovo Beam**	**42.31**	**305**	PcP		**PcP**	**21 38 20.9**	**+2.0**
C36M	**Paulatuk**	**42.63**	**31**	P		**P**	**21 36 30.2**	**+0.7**
C36M	comp=Z,4.5nm,0.8s			IAmb		IAmb	21 36 35.3	
WMQ	**Urumqi**	**45.17**	**290**	*e*P		**P**	**21 36 46.7**	**-3.6**
MK31	**Makanchi Array**	**46.95**	**296**	P		**P**	**21 37 00.6**	**-3.6**
MK31	comp=Z,1.0nm,0.8s			pmax		pmax		
MK31	**Makanchi Array**	**46.95**	**296**	P		**P**	**21 37 00.6**	**-3.6**
MKAR	**Makanchi Array**	**46.95**	**296**	P		**P**	**21 37 05.2**	**+1.0**
MKAR	**Makanchi Array**	**46.95**	**296**	P		**P**	**21 36 59.8**	**-4.4**
RES	**Resolute Bay**	**48.66**	**19**	P		**P**	**21 37 19.2**	**+2.3**
YKA	**Yellowknife Ar**	**48.76**	**38**	P		**P**	**21 37 19.3**	**+1.4**
SHL	**Shillong**	**53.43**	**268**	P		**P**	**21 37 51.8**	**-1.7**
SHL	comp=Z,3.0nm,0.8s			pmax		pmax		
SHL	**Shillong**	**53.43**	**268**	P		**P**	**21 37 51.8**	**-1.7**
SHL	comp=Z,2.7nm,0.8s			IAmb		IAmb	21 37 56.2	
CHTO	**Chiang Mai**	**53.55**	**256**	P		**P**	**21 37 54.4**	**+0.2**
CHTO	comp=Z,4.0nm,0.6s			pmax		pmax		
CHTO	**Chiang Mai**	**53.55**	**256**	P		**P**	**21 37 54.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**53.81**	**256**	P		**P**	**21 37 58.9**	**+2.8**
CMAR	comp=Z,3.4nm,0.7s,baz=35,slow=7.2,SNR=24			pP		**pP**	**21 38 16.9**	**-3.2**
CMAR	**Chiang Mai Arr**	**53.81**	**256**	*e*P		P	21 37 59.2	+3.1
CMAR	comp=Z,1.4nm,0.7s,baz=32,slow=6.8,SNR=2.9			pmax		pmax		
CMAR	**Chiang Mai Arr**	**53.81**	**256**	P		**P**	**21 37 55.8**	**-0.3**
KRMB	**Red Mountain**	**55.37**	**64**	P		**P**	**21 38 09.8**	**+2.5**
KRMB	comp=Z,6.8nm,1.1s			IAmb		IAmb	21 38 23.5	
PINE	**Pine Mountain**	**55.74**	**61**	P		P	21 38 13.7	+3.7
PINE	comp=Z,7.2nm,1.1s			IAmb		IAmb	21 38 14.8	
YBH	**Yreka Blue Hor**	**55.96**	**64**	P		P	21 38 14.9	+3.5
YBH	**Yreka Blue Hor**	**55.96**	**64**	P		P	21 38 14.4	+3.0
YBH	comp=Z,3.0nm,0.9s			pmax		pmax		
YBH	**Yreka Blue Hor**	**55.96**	**64**	P		P	21 38 14.4	+3.0
YBH	comp=Z,3.3nm,0.8s			IAmb		IAmb	21 38 16.2	
K05A	**Summer Lake**	**56.42**	**62**	P		P	21 38 18.3	+3.4
K05A	comp=Z,5.9nm,0.9s			IAmb		IAmb	21 38 19.8	
WALA	**Waterton Lakes**	**56.44**	**52**	P		**P**	**21 38 16.9**	**+2.1**
F10A	**Beach Ranch, E**	**56.52**	**57**	P		P	21 38 18.6	+3.2
F10A	comp=Z,2.9nm,0.5s			IAmb		IAmb	21 38 23.9	
KVN	**Kaiserville**	**60.38**	**63**	P		P	21 38 45.9	+3.5
KVN	comp=Z,5.0nm,1.0s			pmax		pmax		
NVAR	**Mina Array Bea**	**60.66**	**64**	P		**P**	**21 38 47.2**	**+2.9**
FINES	**FINESS Array B**	**62.70**	**335**	P		**P**	**21 38 57.5**	**+0.2**
FINES	**FINESS Array B**	**62.70**	**335**	*i* P		**P**	**21 38 58.2**	**+0.9**
FINES	comp=Z,1.0nm,0.6s			pmax		pmax		
PDAR	**Pinedale Array**	**62.80**	**55**	P		**P**	**21 39 01.1**	**+2.4**
NB2	**NORSAR Subarra**	**66.70**	**342**	P		**P**	**21 39 24.8**	**+1.4**
NOA	**NORSAR Array B**	**66.70**	**342**	P		**P**	**21 39 24.5**	**+1.1**
WB2	**Warramunga Arr**	**70.69**	**200**	P		**P**	**21 39 50.8**	**+2.3**
WB2	comp=Z,4.6nm,0.9s			IAmb		IAmb	21 40 09.1	
WRA	**Warramunga Arr**	**70.69**	**200**	P		**P**	**21 39 50.5**	**+2.1**
WRA	comp=Z,1.5nm,0.5s,baz=18,slow=6.3,SNR=12			pP		**PcP**	**21 40 08.7**	**-0.2**
WRA	**Warramunga Arr**	**70.69**	**200**	P		**P**	**21 39 50.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**71.33**	**209**	P		P	21 39 55.4	+2.9
FITZ	**Fitzroy Crossi**	**71.33**	**209**	P		P	21 39 55.5	+3.0
ASAR	**Alice Springs**	**74.38**	**200**	P		P	21 40 13.6	+3.1
ASAR	comp=Z,2.2nm,0.6s,baz=14,slow=5.2,SNR=42			pP		pP	21 40 32.0	-3.5
TXAR	**Lajitas Array**	**75.67**	**62**	P		**P**	**21 40 21.0**	**+2.9**
GERES	**GERESS Array B**	**77.13**	**335**	P		**P**	**21 40 28.0**	**+2.0**
GERES	**GERESS Array B**	**77.13**	**335**	*e*P		**P**	**21 40 27.6**	**+1.6**
BFO	**Black Forest**	**79.03**	**338**	*i* P		**P**	**21 40 36.2**	**-0.2**
LPAZ	**La Paz**	**132.54**	**62**	PKP		**PKiKP**	**21 47 51.1**	**+2.7**
PLCA	**Paso Flores**	**147.35**	**93**	PKPbc		**PKPab**	**21 48 18.0**	**+0.6**
PLCA	**Paso Flores**	**147.35**	**93**	PKP2		**PKPab**	**21 48 18.0**	**+0.6**

NEIC ***05*** *22:00:58.7±1.0,30.°82N±0.°08×142.°3E±0.°1, h38km±8km, mb4.3/15, Error ellipse: s-maj=17.5km s-min=11.5km az=97.0*

JMA ***05*** *22:00:59.1±0.5,31.°02N×141.°47E, h0km, M4.2*

IDC ***05*** *22:00:59.4±3.6,30.°83N×142.°45E, h44km±31km, mb3.6/10, mb1 3.7/12, mb1mx3.5/54, mbtmp3.9/12, ML3.3/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=70.4km s-min=18.4km az=76.0*

ISC 05 22:00:58.6±0.8,30.°86N±0.°08×142.°3E±0.°1, h35km, n49, σ1s52/53, mb4.0/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**3.94**	**344**	P		**Pn**	**22 01 58.7**	**+2.7**
BSO1				*e*S		**Sn**	**22 02 42.3**	**+1.6**
BSO3	**Boso 3**	**4.20**	**340**	P		**Pn**	**22 02 01.9**	**+2.0**
JHU	**Hanno**	**5.57**	**334**	P		**Pn**	**22 02 19.9**	**+0.9**
JHU				*e*S		**Sn**	**22 03 19.2**	**-2.6**
JYT	**Yasato**	**5.63**	**343**	Pn		**Pn**	**22 02 19.9**	**+0.2**
JHO	**Hitachi**	**5.91**	**347**	P		**Pn**	**22 02 25.7**	**+2.1**
JHO				*e*S		**Sn**	**22 03 30.0**	**-0.1**
JAG	**Ashikaga**	**6.03**	**338**	P		**Pn**	**22 02 27.1**	**+1.9**
JFK	**Kawauchi**	**6.60**	**350**	P		**Pn**	**22 02 34.1**	**+1.1**
JFK				*e*S		**Sn**	**22 03 44.4**	**-2.6**
MJAR	**Matsushiro Arr**	**6.60**	**330**	P		**Pn**	**22 02 35.1**	**+2.0**
MJAR	0.3nm,0.3s,baz=158,slow=11,SNR=12			S		**Sn**	**22 03 45.9**	**-1.3**
MJAR	**Matsushiro Arr**	**6.60**	**330**			**Pn**	**22 02 34.2**	**+1.1**
MJAR						**Sn**	**22 03 48.5**	**+1.3**
MAT	**Matsushiro**	**6.60**	**330**	P		**Pn**	**22 02 36.2**	**+3.0**
MAT				*e*S		**Sn**	**22 03 42.4**	**-4.8**
JMM	**Marumori**	**7.10**	**350**	Pn		**Pn**	**22 02 41.9**	**+2.0**
JMM				Sn		**Sn**	**22 03 59.3**	**0.0**
JSD	**Sado**	**7.89**	**336**	Pn		**Pn**	**22 02 51.1**	**+0.4**
JMK	**Ichinoseki**	**8.12**	**354**	P		**Pn**	**22 02 56.5**	**+2.6**
JMK				*e*S		**Sn**	**22 04 22.9**	**-1.6**
JNU	**Nakatsue**	**9.93**	**286**	LR		LR	22 06 43.8	
	comp=Z,139nm,18.9s,baz=164,slow=34							
JTM	**Tenmabayashi**	**9.96**	**355**	Pn		**Pn**	**22 03 20.7**	**+1.6**
JKA	**Kamikawa-asahi**	**13.24**	**1**			**Pn**	**22 04 04.2**	**+0.3**
ASAJ	**Asahikawa**	**13.24**	**1**	P		**Pn**	**22 04 04.8**	**+0.9**
	0.3nm,0.3s,baz=216,slow=8.7,SNR=2.0							
ASAJ				LR		LR	22 10 34.8	
	comp=Z,33nm,20.1s,baz=131,slow=43							
KSRS	**Korea Array**	**13.57**	**303**	LR		LR	22 08 53.3	
	comp=Z,62nm,18.1s,baz=110,slow=34							
PEA0B	**Petropavlovsk-**	**24.91**	**22**	P		**P**	**22 06 14.9**	**-3.2**
H11S3	**WAKE ISLAND Hy**	**25.31**	**113**	T		T	22 33 27.6	
	baz=306							
H11S1	**WAKE ISLAND Hy**	**25.31**	**113**	T		T	22 33 25.5	
	baz=306							
H11S2	**WAKE ISLAND Hy**	**25.32**	**113**	T		T	22 33 29.3	
	baz=306							
SONM	**Songino Array**	**32.16**	**312**	P		**P**	**22 07 24.0**	**+1.0**
	0.5nm,0.6s,baz=126,slow=10.0,SNR=4.0							
SONM	**Songino Array**	**32.16**	**312**	P		**P**	**22 07 22.8**	**-0.1**
MK31	**Makanchi Array**	**48.21**	**307**	P		**P**	**22 09 35.4**	**-0.2**
MKAR	**Makanchi Array**	**48.21**	**307**	P		**P**	**22 09 35.9**	**+0.2**
	0.6nm,0.6s,baz=88,slow=9.6,SNR=7.9							
MKAR	**Makanchi Array**	**48.21**	**307**	P		**P**	**22 09 35.6**	**-0.1**
MAKZ	**Makanchi**	**48.42**	**307**	P		**P**	**22 09 37.3**	**0.0**
KURK	**Kurchatov**	**50.46**	**312**	P		**P**	**22 09 53.0**	**+0.3**
KURK				IAmb		IAmb	22 09 54.4	
	comp=Z,2.8nm,1.0s							
WB0	**Warramunga Arr**	**50.90**	**190**	P		**P**	**22 09 55.7**	**-0.6**
WB0				IAmb		IAmb	22 10 10.0	
	comp=Z,2.2nm,1.0s							
WR0	**Warramunga Arr**	**51.07**	**189**	P		**P**	**22 09 57.1**	**-0.4**
WR0				IAmb		IAmb	22 10 02.2	
	comp=Z,4.5nm,0.9s							
WB2	**Warramunga Arr**	**51.08**	**190**	P		**P**	**22 09 57.2**	**-0.4**
WB2				IAmb		IAmb	22 10 07.0	
	comp=Z,4.3nm,1.1s							
WRA	**Warramunga Arr**	**51.08**	**190**	P		**P**	**22 09 57.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=5.3,slow=7.5,SNR=22							
WRA	**Warramunga Arr**	**51.08**	**190**	P		**P**	**22 09 57.5**	**-0.2**
IL31		**54.41**	**30**	P		**P**	**22 10 22.0**	**+0.3**
IL31				IAmb		IAmb	22 10 24.1	
	comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**54.41**	**30**	P		**P**	**22 10 21.9**	**+0.2**
ASAR	**Alice Springs**	**54.80**	**189**	P		**P**	**22 10 24.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=4.5,slow=6.1,SNR=9.9							
GAR	**Garm**	**58.17**	**299**	P		**P**	**22 10 47.9**	**-1.3**
CHGR	**Chuyangaron**	**59.13**	**299**	P		**P**	**22 10 55.2**	**-0.6**
ARU	**Arti**	**61.53**	**321**	P		**P**	**22 11 12.7**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=171,slow=10,SNR=4.0							
ARU	**Arti**	**61.53**	**321**	P		**P**	**22 11 12.1**	**+0.3**
ARU				IAmb		IAmb	22 11 26.6	
	comp=Z,2.3nm,0.6s							
AKTO	**Aktyubinsk**	**63.42**	**315**	P		**P**	**22 11 25.6**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=84,slow=10,SNR=2.4							
HRA	**Herat**	**65.79**	**297**	P		**P**	**22 11 39.6**	**-0.9**
FINES	**FINESS Array B**	**74.62**	**333**	P		**P**	**22 12 33.3**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=60,slow=4.6,SNR=6.5							
KBZ	**Khabaz**	**75.52**	**312**	P		**P**	**22 12 40.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=127,slow=10,SNR=2.5							
AKASG	**Malin Array Be**	**79.64**	**323**	P		**P**	**22 13 03.8**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=54,slow=5.7,SNR=2.9							
AKASG	**Malin Array Be**	**79.64**	**323**	P		**P**	**22 13 02.1**	**-0.2**
BRTR	**Keskin Array B**	**83.51**	**313**	P		**P**	**22 13 23.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=48,slow=2.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**122.12**	**313**	PKP		**PKiKP**	**22 19 50.2**	**-0.2**
	comp=Z,0.4nm,1.0s,baz=34,slow=1.1,SNR=1.4							

IDC 05 22:34:27.1±16.0, 46.°68N×152.°21E, h100km±81km, mb3.2/5, mb1 3.5/6, mb1mx3.1/40, mbtmp3.6/6, ML2.6/1, Error ellipse: s-maj=203.5km s-min=39.8km az=172.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.34**	**27**	P		Pn	22 36 11.7	+0.3
	0.5nm,0.3s,baz=189,slow=12,SNR=8.8							
H11N2	**WAKE ISLAND Hy**	**29.45**	**151**	T		T	23 12 21.3	
	baz=340,slow=76,SNR=6.3							
H11N1	**WAKE ISLAND Hy**	**29.47**	**151**	T		T	23 12 20.2	
	baz=340,slow=76,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**29.47**	**151**	T		T	23 12 20.4	
	baz=340,slow=76,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**30.53**	**152**	T		T	23 13 45.5	
	baz=341,slow=76,SNR=6.3							
H11S3	**WAKE ISLAND Hy**	**30.54**	**152**	T		T	23 13 42.9	
	baz=341,slow=76,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**30.55**	**152**	T		T	23 13 33.3	
	baz=341,slow=76,SNR=6.2							
ILAR	**Eielson Array**	**36.99**	**38**	P		P	22 41 26.0	-0.3
	0.2nm,0.5s,baz=269,slow=8.4,SNR=5.7							
KURBB	**Kurchatov Arra**	**46.98**	**303**	P		P	22 42 47.2	-0.4
	0.3nm,0.9s,baz=58,slow=7.1,SNR=2.1							
ARCES	**ARCESS Array B**	**57.71**	**341**	P		P	22 44 05.8	-0.9
	0.7nm,0.7s,baz=42,slow=9.6,SNR=0.9							
NOA	**NORSAR Array B**	**68.09**	**341**	P		P	22 45 16.0	+0.5
	0.1nm,0.4s,baz=32,slow=7.4,SNR=1.1							
GERES	**GERESS Array B**	**78.24**	**333**	P		P	22 46 16.2	+0.7
	0.3nm,0.6s,baz=38,slow=5.5,SNR=2.5							

IDC ***05*** *22:48:56.6±6.1, 17.°74S×178.°39W, h513km±66km, mb3.3/9, mb1 3.6/9, mb1mx3.3/30, mbtmp4.1/9, Error ellipse: s-maj=48.5km s-min=21.3km az=150.0*

ISC 05 22:48:59.5±1.2, 17.°8S±0.°3×178.°4W±0.°2, h550km, n21, σ0s47/23, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.63**	**259**	P		**P**	**22 56 23.4**	**-0.3**
	0.7nm,0.5s,baz=95,slow=6.8,SNR=39							
WRA				PcP		**PcP**	**22 57 54.9**	**+0.3**
	0.2nm,0.3s,baz=95,slow=3.3,SNR=1.7							
ASAR	**Alice Springs**	**44.80**	**254**	P		**P**	**22 56 25.2**	**+0.2**
	6.6nm,0.6s,baz=88,slow=8.2,SNR=103							
ASAR				PcP		**PcP**	**22 57 55.3**	**+0.1**
	0.2nm,0.4s,baz=94,slow=3.4,SNR=1.4							
MJAR	**Matsushiro Arr**	**67.79**	**323**	P		**P**	**22 59 03.5**	**+0.5**
	3.1nm,0.8s,baz=157,slow=6.2,SNR=3.8							
NVAR	**Mina Array Bea**	**79.35**	**44**	P		**P**	**23 00 09.1**	**+0.1**
	0.9nm,0.7s,baz=224,slow=9.0,SNR=12							
SEY	**Seymchan**	**83.65**	**347**	P		**P**	**23 00 30.1**	**+0.1**
	1.9nm,0.5s,baz=144,slow=19,SNR=1.3							
ILAR	**Eielson Array**	**85.77**	**13**	P		**P**	**23 00 39.6**	**-0.7**
	0.5nm,0.4s,baz=219,slow=5.7,SNR=13							
TXAR	**Lajitas Array**	**85.95**	**58**	P		**P**	**23 00 43.0**	**+0.8**
	0.6nm,0.8s,baz=228,slow=4.9,SNR=6.8							
PDAR	**Pinedale Array**	**87.28**	**43**	P		**P**	**23 00 48.1**	**-0.2**
	0.2nm,0.3s,baz=241,slow=3.1,SNR=3.5							
SONM	**Songino Array**	**93.44**	**319**	P		**P**	**23 01 17.0**	**+0.4**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.4							
MKAR	**Makanchi Array**	**109.03**	**314**	PKiKP		**PKiKP**	**23 06 26.4**	**-0.5**
	0.3nm,0.5s,baz=97,slow=0.7,SNR=7.6							
BRTR	**Keskin Array B**	**144.68**	**315**	PKP		**PKPab**	**23 07 35.3**	**0.0**
	1.2nm,0.4s,baz=90,slow=2.8,SNR=22							
KRLC	**Kraliky**	**145.54**	**343**	*e*PKP		**PKPab**	**23 07 37.6**	**-0.5**
KHC	**Kasperske Hory**	**147.25**	**345**	*e*PKP		**PKiKP**	**23 07 42.2**	**-0.9**
GERES	**GERESS Array B**	**147.48**	**345**	PKPbc		**PKiKP**	**23 07 42.8**	**-0.9**
	1.5nm,0.6s,baz=32,slow=2.8,SNR=17							
CONA	**Conrad Observa**	**147.73**	**342**	*e*P		**PKiKP**	**23 07 44.0**	**-0.2**
	1.9nm,0.7s							
SOKA	**Soboth**	**149.11**	**342**	*i* P		**PKPbc**	**23 07 46.4**	**+0.3**
	1.9nm,1.0s							
WATA	**Walderalm**	**149.40**	**347**	*e*P		**PKiKP**	**23 07 47.4**	**-0.4**
	1.0nm,0.5s							
OBKA	**Obir**	**149.40**	**342**	*e*P		**PKiKP**	**23 07 47.4**	**-0.3**
	4.8nm,1.6s							
WTTA	**Wattenberg**	**149.45**	**346**	*e*P		**PKiKP**	**23 07 47.8**	**-0.1**
	3.5nm,0.7s							
SQTA	**Sankt Quirin**	**149.59**	**347**	*i* P		**PKiKP**	**23 07 47.9**	**-0.2**
	2.4nm,0.8s							
ABTA	**Abfaltersbach**	**149.73**	**345**	*i* P		**PKPbc**	**23 07 47.7**	**+0.1**
	3.1nm,0.7s							

IDC 05 22:50:50.0±1.2, 64.°70N×17.°48W, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/46, mbtmp3.5/7, Error ellipse: s-maj=38.1km s-min=22.2km az=31.0, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GERES	**GERESS Array B**	**22.97**	**119**	P		P	22 55 54.9	-0.9
	0.3nm,0.6s,baz=334,slow=10,SNR=3.6							
YKA	**Yellowknife Ar**	**39.19**	**313**	P		P	22 58 18.4	-0.7
	1.0nm,0.8s,baz=46,slow=7.1,SNR=1.9							
ILAR	**Eielson Array**	**45.66**	**332**	P		P	22 59 10.9	-0.8
	0.5nm,0.9s,baz=40,slow=6.0,SNR=2.1							
KURBB	**Kurchatov Arra**	**48.13**	**58**	P		P	22 59 30.5	-0.6
	1.3nm,1.1s,baz=325,slow=7.3,SNR=6.1							
MKAR	**Makanchi Array**	**52.70**	**58**	P		P	23 00 07.2	+1.4
	0.4nm,0.9s,baz=311,slow=9.3,SNR=2.8							
PDAR	**Pinedale Array**	**53.17**	**293**	P		P	23 00 10.2	+0.6
	0.5nm,0.7s,baz=48,slow=7.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P		P	23 00 09.7	+0.1
	0.5nm,0.7s,baz=347,slow=7.5,SNR=2.4							

NEIC ***05*** *22:55:43.4±1.9, 27.°28S±0.°10×178.°4W±0.°1, h293km±3km, mb4.4/23, Error ellipse: s-maj=17.6km s-min=13.4km az=108.0*

IDC ***05*** *22:55:44.9±1.6, 27.°09S×178.°48W, h295km±15km, mb3.8/9, mb1 4.1/12, mb1mx3.9/26, mbtmp4.6/12, Error ellipse: s-maj=17.8km s-min=15.9km az=157.0*

ISC 05 22:55:44.3±0.4, 27.°32S±0.°05×178.°47W±0.°07, h300km, n81, σ1s94/86, mb4.4/21, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RIZ	**Raoul Island**	**1.97**	**166**	P		**Pn**	**22 56 33.2**	**+2.4**
RIZ				S		**S**	**22 57 10.2**	**+2.4**
RAO	**Raoul Island**	**1.98**	**166**	P		**Pn**	**22 56 33.0**	**+2.2**
	356nm,0.3s,baz=65,slow=5.2,SNR=23							
RAO				S		**S**	**22 57 07.2**	**-0.7**
	408nm,0.3s,baz=44,slow=22,SNR=7.8							
RAO	**Raoul Island**	**1.98**	**166**	Pn		**Pn**	**22 56 32.8**	**+1.9**
RAO				S		**S**	**22 57 06.6**	**-1.4**
GLKZ	**Green Lake**	**1.99**	**166**	P		**Pn**	**22 56 33.2**	**+2.3**
GLKZ				S		**S**	**22 57 08.9**	**+0.8**
MSVF	**Nonsavu**	**10.07**	**341**	P		**Pn**	**22 58 02.8**	**-0.8**
GRZ	**Great Barrier**	**10.29**	**209**	P		**P**	**22 58 08.9**	**-0.2**
OUZ	**Omahuta**	**10.39**	**219**	Pn		**Pn**	**22 58 07.3**	**+0.2**
WCZ	**Waipu Caves**	**10.55**	**214**	P		**P**	**22 58 13.9**	**+1.9**
MXZ	**Matakaoa Point**	**10.57**	**194**	P		Pn	22 58 02.8	-6.4
MXZ				S		S	22 59 57.6	-10
MXZ	**Matakaoa Point**	**10.57**	**194**	Pn		**Pn**	**22 58 09.5**	**+0.2**
WMGZ	**Waiomatatini S**	**10.79**	**193**	P		**Pn**	**22 58 13.0**	**+1.0**
WMGZ				S		**S**	**23 00 07.0**	**-5.9**
HAZ	**Te Kaha**	**10.87**	**196**	P		**Pn**	**22 58 09.1**	**-3.8**
HAZ				S		S	23 00 02.3	-12
PUZ	**Puketiti**	**11.07**	**194**	P		Pn	22 58 10.1	-5.3
PUZ				S		S	23 00 10.2	-9.0
RUGZ	**Raukumara Rang**	**11.10**	**196**	P		**Pn**	**22 58 11.9**	**-4.3**
RUGZ				S		S	23 00 10.4	-10
NIUE	**Niue**	**11.36**	**46**	P		**Pn**	**22 58 17.1**	**-2.0**
URZ	**Urewera**	**11.52**	**198**	P		**Pn**	**22 58 19.1**	**-1.7**
	28nm,0.3s,baz=241,slow=2.3,SNR=18							
URZ				S		S	23 00 19.3	-10
	12nm,0.3s,baz=213,slow=4.6,SNR=2.1							
URZ	**Urewera**	**11.52**	**198**	P		**Pn**	**22 58 17.9**	**-2.9**
HIZ	**Hauiti**	**12.48**	**205**	P		**P**	**22 58 36.1**	**+2.6**
HIZ	**Hauiti**	**12.48**	**205**			**Pn**	**22 58 32.4**	**-0.2**
BKZ	**Black Stump Fm**	**12.54**	**198**	Pn		**Pn**	**22 58 31.0**	**-2.3**
MOVZ	**Moawhango**	**12.98**	**200**	P		Pn	22 58 31.9	-6.7
MOVZ				S		S	23 00 52.8	-9.5
VRZ	**Vera Road**	**13.06**	**204**	P		**P**	**22 58 39.9**	**+0.1**
LREZ	**Lake Rotokare**	**13.48**	**204**	P		**P**	**22 58 44.3**	**+0.2**
WAZ	**Wanganui**	**13.54**	**202**	P		**P**	**22 58 43.3**	**-1.9**
WAZ				S		**S**	**23 01 11.6**	**-3.1**
DZM	**Mont Dzumac**	**14.67**	**288**	P		**P**	**22 58 56.0**	**-2.0**
AFI	**Afiamalu**	**14.74**	**26**	P		**P**	**22 58 56.1**	**-2.6**
	23nm,0.3s,baz=147,slow=3.4,SNR=13							
AFI				S		S	23 01 21.8	-18
	4.5nm,0.3s,baz=130,slow=23,SNR=1.8							
AFI	**Afiamalu**	**14.74**	**26**	P		**P**	**22 58 55.8**	**-2.9**
MSWZ	**Moikau Station**	**14.98**	**199**	P		**P**	**22 58 58.0**	**-3.0**
SNZO	**South Karori**	**15.04**	**200**	P		**P**	**22 58 58.4**	**-3.3**
BHW	**Baring Head**	**15.08**	**200**	P		**P**	**22 58 58.8**	**-3.3**
THZ	**Tophouse**	**16.05**	**204**	P		**P**	**22 59 10.7**	**-2.1**
KHZ	**Kahutara**	**16.41**	**201**	P		**P**	**22 59 14.9**	**-1.7**
RPZ	**Rata Peaks**	**18.42**	**205**	P		**P**	**22 59 40.6**	**+2.3

HHC					pmax	pmax				
	comp=Z,220nm,5.9s									
PDAR	**Pinedale Array**	**94.19**	**44**		P	**P**	**23**	**08**	**30.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=189,slow=5.2,SNR=2.8									
PDAR	**Pinedale Array**	**94.19**	**44**		P	**P**	**23**	**08**	**28.2**	**-1.3**
KMBO	**Kilima Mbogo**	**135.50**	**236**		PKP	**PKiKP**	**23**	**14**	**31.2**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=236,slow=3.6,SNR=5.5									
KMBO	**Kilima Mbogo**	**135.50**	**236**			**PKPdf**	**23**	**14**	**29.1**	**-0.9**
FINES	**FINESS Array B**	**142.12**	**341**		PKhKP	PKPpre	23	14	36.7	
	comp=Z,0.9nm,0.6s,baz=33,slow=3.3,SNR=1.4									
AKASG	**Malin Array Be**	**148.58**	**325**		PKPbc	**PKiKP**	**23**	**14**	**56.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=46,slow=3.1,SNR=2.1									
AKASG	**Malin Array Be**	**148.58**	**325**			**PKiKP**	**23**	**14**	**56.1**	**-0.8**
BRTR	**Keskin Array B**	**150.68**	**303**		PKPbc	**PKPbc**	**23**	**15**	**00.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=104,slow=4.6,SNR=2.1									
BRTR					PKPab	**PKPab**	**23**	**15**	**09.0**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=108,slow=3.6,SNR=2.6									
BRTR	**Keskin Array B**	**150.68**	**303**			**PKiKP**	**23**	**15**	**01.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.90**	**181**		PKPab	**PKPab**	**23**	**16**	**16.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=183,slow=3.3,SNR=4.7									

OSPL 05 23:08:05.1±1.4, 18°.97N×69°.12W, h119km±26km, ML3.5, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.83**	**123**	*i* P	Pn	23 08 23.4	-2.1
PCDR				*e*S	Sn	23 08 38.7	-2.1
PCDR				IAML		23 08 40.5	
	comp=Z,975nm,0.3s						
SDD	**Santo Domingo**	**0.91**	**236**	*i* P	Pn	23 08 25.3	-0.9
SDD				*e*S	Sn	23 08 40.3	-1.8
SDD				IAML		23 08 44.9	
	comp=Z,256nm,0.1s						
AGPR	**Aguadilla, PR**	**1.96**	**104**	*i* P	Pn	23 08 37.2	-0.9
AGPR				*e*S	Sn	23 09 00.9	-2.4
AGPR				IAML		23 09 08.3	
	comp=Z,432nm,0.3s						
MPR	**Mayaguez**	**2.02**	**112**	*i* P	Pn	23 08 37.0	-1.7
MPR				*e*S	Sn	23 09 01.0	-3.5
MPR				IAML		23 09 09.5	
	comp=Z,198nm,0.8s						

IDC ***05*** *23:11:07.3±0.6, 63°.08N×172°.04E, h0km, mb4.2/26, mb1 4.4/29, mb1mx4.3/50, mbtmp4.2/29, ML3.3/3, MS3.7/22, Ms1 3.7/22, ms1mx3.6/37, Error ellipse: s-maj=15.9km s-min=11.6km az=159.0*

NERS ***05*** *23:11:08.1±0.0, 63°.07N×173°.00E, h25km*

NEIC ***05*** *23:11:10.3±1.7, 62°.99N±0°.08×172°.1E±0°.1, h15km±4km, mb4.5/94, Error ellipse: s-maj=11.8km s-min=9.2km az=182.0*

MOS ***05*** *23:11:12.2±1.1, 63°.11N×172°.21E, h13km, mb4.8/20, MS3.9/5, Error ellipse: s-maj=10.9km s-min=6.6km az=93.5*

ISC 05 23:11:09.5±0.3, 63°.05N±0°.06×172°.21E±0°.04, h10km, n233, σ1§28/210, mb4.6/91, MS3.9/24, 21C-5D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**5.58**	**336**	*c i* P	**Pn**	**23 12 33.5**	**+1.1**
BILL				pmax	pmax		
	comp=Z,114nm,0.8s						
BILL				MLR	MLR		
	comp=Z,808nm,17.0s						
BILL	**Bilibino**	**5.58**	**336**		**Pn**	**23 12 33.5**	**+1.1**
GAMB	**Gambell**	**7.26**	**77**	Pn	**Pn**	**23 12 55.1**	**-0.3**
OMS	**Omsukchan**	**7.55**	**273**	*e*Sg	**Sg**	**23 15 12.3**	**+0.7**
SEY	**Seymchan**	**9.01**	**278**	Pn	**Pn**	**23 13 18.9**	**-0.6**
	baz=93,slow=19,SNR=0.8						
SEY				Lg	Lg	23 15 54.2	
	comp=Z,0.5nm,0.3s,baz=343,slow=22,SNR=3.3						
SEY	**Seymchan**	**9.01**	**278**	*e*Pg	Pn	23 13 25.8	+6.3
SEY				*e*Sg	Sn	23 15 22.9	+22
SEY				Sgmax		23 16 10.8	
	comp=Z,90nm,0.8s						
SEY	**Seymchan**	**9.01**	**278**	*e*P	Pn	23 13 24.6	+5.1
TLAR	**Talaya**	**9.48**	**267**	*e*		23 16 23.3	
ANM	**Nome**	**10.01**	**71**	P	**Pn**	**23 13 33.9**	**+0.8**
ANM	**Nome**	**10.01**	**71**	Pn	**Pn**	**23 13 33.9**	**+0.8**
SPIA	**Saint Paul Isl**	**10.53**	**116**		**Pn**	**23 13 39.6**	**-0.6**
MA2	**Magadan**	**10.86**	**261**	*e*Sg	Sn	23 15 57.7	+12
MA2				Sgmax		23 15 59.3	
	comp=Z,10.0nm,0.2s						
MA2	**Magadan**	**10.86**	**261**	*e*P	**Pn**	**23 13 49.0**	**+4.3**
SUUS	**Susuman**	**10.94**	**279**	*e*Pg	**Pn**	**23 13 49.9**	**+4.0**
SUUS				Pgmax		23 14 13.9	
	comp=Z,10.0nm,0.7s						
SUUS				*e*		23 15 59.7	
SUUS				*e*Sg	Sn	23 16 31.1	+43
SUUS				Sgmax		23 17 09.8	
	comp=Z,70nm,0.8s						
RDOG	**Red Dog Mine**	**11.40**	**53**	Pn	**Pn**	**23 13 53.9**	**+1.7**
PET	**Petropavlovsk**	**12.32**	**222**	*e*P	**Pn**	**23 14 07.5**	**+2.8**
PET				pmax	pmax		
	comp=Z,51nm,0.9s						
PETK	**Petropavlovsk-**	**12.54**	**224**	Pn	**Pn**	**23 14 07.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=36,slow=20,SNR=1.8						
PETK				LR	LR	23 18 37.9	
	comp=Z,276nm,20.4s,baz=38,slow=36						
ATKA	**Atka Island**	**13.05**	**140**	Pn	**Pn**	**23 14 12.6**	**-2.1**
TTA	**Tatalina**	**14.36**	**76**	P	**Pn**	**23 14 34.2**	**+1.5**
AKUT	**Akutan**	**14.47**	**118**	Pn	**Pn**	**23 14 34.4**	**+0.3**
IMAR	**Indian Mountai**	**14.82**	**64**	Pn	**Pn**	**23 14 40.5**	**+1.6**
FALS	**False Pass**	**14.93**	**112**	Pn	**Pn**	**23 14 41.2**	**+0.9**
SVW2	**Sparrevohn**	**15.13**	**83**		**Pn**	**23 14 43.1**	**+0.1**
SVW2				IAmb	IAmb	23 14 50.7	
	comp=Z,21nm,1.2s						
COLD	**Coldfoot**	**16.16**	**59**		**Pn**	**23 14 57.9**	**+1.6**
CHGN	**Chignik**	**16.19**	**101**	Pn	**Pn**	**23 14 57.2**	**+0.6**
CHGN				IAmb	IAmb	23 15 06.0	
	comp=Z,21nm,0.9s						
BPAW	**Bear Paw Mtn.**	**16.27**	**70**		**P**	**23 14 59.7**	**-1.2**
TOLK	**Toolik Lake Re**	**16.38**	**54**	Pn	**Pn**	**23 14 59.6**	**+0.4**
KTH	**Kantishna Hill**	**16.43**	**72**		**P**	**23 15 01.5**	**-1.2**
TRF	**Thorofare Moun**	**16.73**	**72**	P	**Pn**	**23 15 04.5**	**+0.7**
BWN	**Browne**	**16.91**	**69**	Pn	**Pn**	**23 15 06.1**	**+0.3**
BWN				IAmb	IAmb	23 15 19.9	
	comp=Z,43nm,0.9s						
MDM	**Murphy Dome**	**17.25**	**66**	P	**P**	**23 15 11.1**	**-0.6**
RND	**Reindeer**	**17.37**	**71**	P	**Pn**	**23 15 11.5**	**-0.1**
RND				pmax	pmax		
	comp=Z,12nm,0.9s						
RND	**Reindeer**	**17.37**	**71**	P	**Pn**	**23 15 11.5**	**-0.1**
WRH	**Wood River Hil**	**17.42**	**68**	P	**Pn**	**23 15 12.6**	**+0.5**
COLA	**College**	**17.43**	**66**	*e*P	**Pn**	**23 15 12.7**	**+0.4**
COLA				pmax	pmax		
	comp=Z,16nm,1.6s						
COLA	**College**	**17.43**	**66**		**P**	**23 15 13.6**	**0.0**
CCB	**Clear Creek Bu**	**17.50**	**67**	P	**P**	**23 15 13.9**	**-0.4**
IL31		**17.85**	**66**	P	**Pn**	**23 15 18.7**	**+0.5**
ILAR	**Eielson Array**	**17.85**	**66**	P	**Pn**	**23 15 17.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=272,slow=8.7,SNR=45						
ILAR				LR	LR	23 22 43.1	
	comp=Z,313nm,20.2s,baz=295,slow=39						
ILAR	**Eielson Array**	**17.85**	**66**	P	**P**	**23 15 19.6**	**+1.3**
ILAR	**Eielson Array**	**17.85**	**66**	P	**P**	**23 15 19.6**	**+1.3**
HDA	**Harding Lake**	**17.91**	**67**	P	**P**	**23 15 19.4**	**+0.5**
KDAK	**Kodiak Island**	**17.99**	**91**	P	**P**	**23 15 20.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=321,slow=13,SNR=2.0						
KDAK				LR	LR	23 23 14.1	
	comp=Z,231nm,18.6s,baz=319,slow=40						
FYU	**Fort Yukon**	**18.18**	**60**	P	**Pn**	**23 15 21.6**	**+0.1**
FYU				IAmb	IAmb	23 15 24.2	
	comp=Z,37nm,1.0s						
BMAR	**Burnt Mountain**	**18.31**	**57**	P	**P**	**23 15 24.4**	**+1.0**
TIXI	**Tiksi**	**18.32**	**316**	*c*eP	**P**	**23 15 23.8**	**+0.5**
TIXI	**Tiksi**	**18.32**	**316**		**P**	**23 15 23.9**	**+0.6**
TIXI				IAmb	IAmb	23 15 28.6	
	comp=Z,55nm,1.1s						
M24K	**Tolsona, Glenn**	**18.95**	**74**	IAmb	IAmb	23 15 32.2	
	comp=Z,31nm,1.2s						
GLI	**Glacier Island**	**19.02**	**78**	P	**P**	**23 15 31.3**	**+0.2**
KLU	**Klutina**	**19.30**	**76**	P	**Pn**	**23 15 34.8**	**-0.5**
KLU				IAmb	IAmb	23 15 37.6	
	comp=Z,16nm,0.9s						
FID	**Port Fidalgo**	**19.35**	**78**	P	**P**	**23 15 34.3**	**-0.5**
FID				IAmb	IAmb	23 15 38.4	
	comp=Z,27nm,1.0s						
YAK	**Yakutsk**	**19.38**	**286**	LR	LR	23 22 18.4	
	comp=Z,66nm,19.3s,baz=82,slow=35						
YAK	**Yakutsk**	**19.38**	**286**	*e*P	**Pn**	**23 15 37.9**	**+1.8**
YAK				pmax	pmax		
	comp=Z,19nm,1.2s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,144nm,17.0s						
YAK				MLR	MLR		
	comp=N,663nm,15.0s						
YAK				MLR	MLR		
	comp=E,134nm,16.0s						
YAK	**Yakutsk**	**19.38**	**286**	P	**P**	**23 15 35.0**	**0.0**
MENT	**Mentasta**	**19.73**	**71**	P	**Pn**	**23 15 39.9**	**-0.4**
MENT				IAmb	IAmb	23 15 50.1	
	comp=Z,17nm,1.1s						
MID	**Middleton Isla**	**20.01**	**82**	P	**P**	**23 15 42.6**	**+0.7**
MID				pmax	pmax		
	comp=Z,263nm,1.1s						
MID	**Middleton Isla**	**20.01**	**82**	P	**P**	**23 15 42.6**	**+0.7**
EGAK	**Eagle**	**20.22**	**64**	P	Pn	23 15 45.1	-1.0
EGAK				IAmb	IAmb	23 15 51.0	
	comp=Z,18nm,1.0s						
RAGM	**Ragged Mountai**	**20.32**	**78**	P	Pn	23 15 47.4	+0.1
BCAR	**Beaver Creek A**	**20.51**	**69**	P	**P**	**23 15 47.1**	**-0.2**
MCARA	**McCarthy VSAT**	**20.62**	**74**	P	**P**	**23 15 49.1**	**+0.6**
MCARA				IAmb	IAmb	23 15 57.3	
	comp=Z,22nm,1.0s						
CRQM	**Cirque**	**20.83**	**76**	P	Pn	23 15 52.8	-0.7
TGL	**Tana Glacier**	**20.97**	**76**	P	**P**	**23 15 52.7**	**+0.2**
TGL				IAmb	IAmb	23 15 56.8	
	comp=Z,37nm,1.2s						
BALM	**Baldy**	**21.06**	**75**	P	**P**	**23 15 55.9**	**+2.4**
BALM				pmax	pmax		
	comp=Z,16nm,0.7s						
BALM	**Baldy**	**21.06**	**75**	P	**P**	**23 15 55.9**	**+2.4**
BALM				IAmb	IAmb	23 15 59.2	
	comp=Z,16nm,0.7s						
DAWY	**Dawson**	**21.17**	**66**	IAmb	IAmb	23 15 55.7	
	comp=Z,20nm,1.0s						
BARN	**Barnard Glacie**	**21.35**	**74**	P	**P**	**23 15 57.4**	**+0.7**
BARN				IAmb	IAmb	23 16 01.8	
	comp=Z,26nm,0.8s						
EPYK	**Eagle Plains**	**21.56**	**59**	P	**P**	**23 16 00.0**	**+1.4**
EPYK				IAmb	IAmb	23 16 04.4	
	comp=Z,30nm,1.1s						
INK	**Inuvik**	**22.29**	**53**	P	**P**	**23 16 06.2**	**-0.1**
	comp=Z,16nm,0.8s,baz=298,slow=10,SNR=15						
INK				LR	LR	23 25 03.5	
	comp=Z,162nm,21.7s,baz=232,slow=37						
INK	**Inuvik**	**22.29**	**53**	P	**P**	**23 16 07.2**	**+0.8**
INK				pmax	pmax		
	comp=Z,29nm,1.0s						
INK	**Inuvik**	**22.29**	**53**	P	**P**	**23 16 07.2**	**+0.8**
INK				IAmb	IAmb	23 16 11.1	
	comp=Z,29nm,0.9s						
YSS	**Yuzh-Sakhalins**	**23.03**	**239**	*ce*P	**P**	**23 16 15.6**	**+1.2**
YSS				pmax	pmax		
	comp=Z,24nm,1.0s						
YSS				MLR	MLR		
	comp=Z,232nm,15.0s						
ZEA	**Zeya**	**24.82**	**269**	*ce*P	**P**	**23 16 32.6**	**+1.2**
ZEA				*e*S	**S**	**23 20 46.1**	**-7.6**
ZEA				pmax	pmax		
	comp=E,50nm,0.7s						
ZEA				pmax	pmax		
	comp=N,40nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.8s						
ZEA				smax	smax		
	comp=N,200nm,3.9s						
ZEA				MLR	MLR		
	comp=E,300nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,12.0s						
ASAJ	**Asahikawa**	**25.47**	**236**	LR	LR	23 26 28.1	
	comp=Z,124nm,19.2s,baz=354,slow=36						
ERM	**Erimo**	**27.07**	**233**	P	**P**	**23 16 49.2**	**-2.6**
ERM				pmax	pmax		
	comp=Z,47nm,1.2s						
ERM	**Erimo**	**27.07**	**233**	P	**P**	**23 16 49.2**	**-2.6**
DLBC	**Dease Lake**	**27.76**	**73**	LR	LR	23 28 57.7	
	comp=Z,303nm,18.1s,baz=299,slow=38						
USRK	**Ussuriysk Ar.**	**29.69**	**250**	LR	LR	23 30 59.9	
	comp=Z,161nm,18.0s,baz=18,slow=40						
MDJ	**Mudanjiang**	**30.39**	**253**	P	**P**	**23 17 20.6**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,290nm,6.3s						
EUNU	**Eureka**	**30.57**	**20**	P	**P**	**23 17 23.1**	**+0.4**
EUNU				IAmb	IAmb	23 17 40.5	
	comp=Z,5.1nm,1.1s						
RES	**Resolute Bay**	**31.56**	**30**	P	**P**	**23 17 31.1**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=270,slow=6.1,SNR=2.1						
RES	**Resolute Bay**	**31.56**	**30**	P	**P**	**23 17 31.1**	**-0.3**
RES				pmax	pmax		
	comp=Z,13nm,1.3s						
RES	**Resolute Bay**	**31.56**	**30**	IAmb	IAmb	23 17 36.6	
	comp=Z,12nm,1.3s						
YKA	**Yellowknife Ar**	**31.83**	**57**	P	**P**	**23 17 33.8**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=307,slow=8.9,SNR=6.3						
YKA				LR	LR	23 30 42.6	
	comp=Z,83nm,18.2s,baz=0.0,slow=37						
YKA	**Yellowknife Ar**	**31.83**	**57**	*i* P	**P**	**23 17 36.5**	**+2.6**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NRIK	**Noril'sk**	**32.08**	**318**	P	**P**	**23 17 35.0**	**-0.9**
	comp=Z,5.3nm,0.7s,baz=72,slow=9.2,SNR=11						
NRIK				LR	LR	23 31 14.4	
	comp=Z,104nm,22.0s,baz=18,slow=38						
NRIK	**Noril'sk**	**32.08**	**318**	*ce*P	**P**	**23 17 36.2**	**+0.2**
CN2	**Changchun**	**32.86**	**256**	*e*P	**P**	**23 17 44.3**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MJAR	**Matsushiro Arr**	**33.70**	**234**	P	**P**	**23 17 49.1**	**-1.5**
	comp=Z,4.6nm,0.9s,baz=14,slow=8.1,SNR=7.4						
MJAR				LR	LR	23 31 37.9	
	comp=Z,264nm,18.5s,baz=50,slow=37						
TLY	**Talaya**	**36.84**	**285**	*e*P	P	23 18 23.5	+6.1
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,419nm,11.0s						
KSRS	**Korea Array**	**37.00**	**247**	P	**P**	**23 18 17.4**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=26,slow=8.6,SNR=2.4						
KSRS				LR	LR	23 33 05.4	
	comp=Z,97nm,18.8s,baz=45,slow=36						
ULN	**Ulaanbaatar**	**38.09**	**278**	*e*P	**P**	**23 18 29.9**	**+1.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ULN				MLR	MLR		
	comp=Z,239nm,16.0s						
SPITS	**Spitsbergen Ar**	**38.25**	**352**	P	**P**	**23 18 28.1**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=350,slow=7.6,SNR=1.8						
SONM	**Songino Array**	**38.41**	**278**	P	**P**	**23 18 29.1**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=38,slow=7.3,SNR=4.0						
SONM				PcP	**PcP**	**23 20 43.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=46,slow=0.8,SNR=6.5						
SONM				LR	LR	23 34 07.1	
	comp=Z,208nm,18.9s,baz=40,slow=36						
SONM	**Songino Array**	**38.41**	**278**	P	**P**	**23 18 31.3**	**+0.5**
B08A	**Colville Reser**	**39.21**	**79**	IAmb	IAmb	23 18 41.1	
	comp=Z,4.8nm,0.8s						
LTY	**Liberty**	**39.43**	**81**	P	**P**	**23 18 40.4**	**+1.0**
BJI	**Beijing**	**40.02**	**262**	P	**P**	**23 18 44.7**	**+0.6**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
DAG	**Danmarks Havn**	**40.25**	**4**	*i* P	**P**	**23 18 45.0**	**-0.7**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DAG	**Danmarks Havn**	**40.25**	**4**	*i* P	**P**	**23 18 45.0**	**-0.7**
	comp=Z,5.6nm,0.8s						
DAG	**Danmarks Havn**	**40.25**	**4**	*i* P	**P**	**23 18 45.0**	**-0.7**
DAG				IAmb	IAmb	23 18 46.3	
	comp=Z,5.6nm,0.8s						
NEW	**Newport**	**40.27**	**77**	P	**P**	**23 18 47.5**	**+1.3**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**40.27**	**77**	P	**P**	**23 18 47.5**	**+1.3**
E07A	**Sunnyside**	**40.33**	**81**	P	**P**	**23 18 47.6**	**+0.9**
E07A				IAmb	IAmb	23 18 52.8	
	comp=Z,11nm,1.3s						
D08A	**Wollman Farm,**	**40.37**	**80**	P	**P**	**23 18 48.2**	**+1.2**
D08A				IAmb	IAmb	23 18 50.5	
	comp=Z,4.5nm,0.7s						
HAWA	**Hanford**	**40.60**	**81**	P	**P**	**23 18 49.8**	**+0.9**
HAWA				IAmb	IAmb	23 18 54.8	
	comp=Z,8.1nm,1.3s						
WALA	**Waterton Lakes**	**41.09**	**74**	P	**P**	**23 18 53.7**	**+0.6**
PINE	**Pine Mountain**	**41.96**	**85**	IAmb	IAmb	23 19 05.5	
	comp=Z,11nm,0.7s						
YBH	**Yreka Blue Hor**	**42.78**	**88**	P	**P**	**23 19 07.4**	**+0.5**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**42.78**	**88**	P	**P**	**23 19 07.4**	**+0.5**
BMO	**Blue Mountains**	**42.78**	**81**	P	**P**	**23 19 07.6**	**+0.6**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BMO	**Blue Mountains**	**42.78**	**81**	P	**P**	**23 19 07.6**	**+0.6**
SUMG	**Summit**	**43.05**	**13**	*i* P	**P**	**23 19 09.0**	**-0.1**
SUMG				pmax	pmax		
	comp=Z,22nm,0.8s						
SUMG	**Summit**	**43.05**	**13**	*i* P	**P**	**23 19 09.0**	**-0.1**
	comp=Z,22nm,0.8s						
SUMG	**Summit**	**43.05**	**13**	*i* P	**P**	**23 19 09.0**	**-0.1**
SUMG				IAmb	IAmb	23 19 10.0	
	comp=Z,22nm,0.8s						
ZALV	**Zalesovo Beam**	**43.09**	**300**	LR	LR	23 36 40.8	
	comp=Z,78nm,18.9s,baz=34,slow=36						
J08A	**Circle Bar Ran**	**43.42**	**83**	P	**P**	**23 19 13.3**	**+1.2**
EGMT	**Eagleton**	**43.68**	**72**	P	**P**	**23 19 14.9**	**+0.7**
EGMT				IAmb	IAmb	23 19 23.3	
	comp=Z,7.3nm,0.9s						
MOD	**Modoc Plateau**	**43.74**	**86**	IAmb	IAmb	23 19 19.3	
	comp=Z,4.2nm,0.8s						
MCMT	**McKenzie Canyo**	**44.79**	**77**	P	**P**	**23 19 23.1**	**-0.2**
BCYI	**Bear Canyon**	**44.95**	**78**	P	**P**	**23 19 25.2**	**+0.7**
HLID	**Hailey**	**45.09**	**80**	P	**P**	**23 19 26.4**	**+0.8**
DGZ	**Jazzator, Alta**	**45.25**	**294**	⇑*e*P	**P**	**23 19 27.2**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**45.62**	**344**	P	**P**	**23 19 27.8**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=46,slow=7.5,SNR=7.5						
PNTR	**Pine Nut**	**46.31**	**88**	P	**P**	**23 19 36.2**	**+0.8**
PNTR				IAmb	IAmb	23 19 45.5	
	comp=Z,4.4nm,0.7s						
FLWY	**Flagg Ranch**	**46.33**	**76**	P	**P**	**23 19 35.9**	**+0.4**
HON	**Honolulu**	**46.33**	**140**	P	**P**	**23 19 33.6**	**-1.7**
HON	**Honolulu**	**46.33**	**140**	P	**P**	**23 19 33.6**	**-1.7**
FXWY	**Fox Creek**	**46.54**	**77**	P	**P**	**23 19 38.1**	**+1.0**
FXWY				IAmb	IAmb	23 19 42.6	
	comp=Z,3.3nm,1.1s						
LOHW	**Long Hollow**	**46.75**	**77**	P	**P**	**23 19 39.4**	**+0.7**
LOHW				IAmb	IAmb	23 19 43.8	
	comp=Z,3.9nm,0.8s						
NVAR	**Mina Array Bea**	**47.44**	**87**	P	**P**	**23 19 42.9**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=312,slow=7.2,SNR=3.3						
ULM	**Lac du Bonnet**	**47.72**	**60**	P	**P**	**23 19 45.9**	**0.0**
	comp=Z,2.0nm,0.5s,baz=311,slow=7.4,SNR=5.0						
ULM				LR	LR	23 41 15.8	
	comp=Z,157nm,18.0s,baz=300,slow=38						
PD31	**Pinedale Array**	**47.88**	**76**	P	**P**	**23 19 49.1**	**+1.5**
PD31				IAmb	IAmb	23 19 52.6	
	comp=Z,4.4nm,0.8s						
PDAR	**Pinedale Array**	**47.88**	**76**	P	**P**	**23 19 47.0**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=335,slow=3.8,SNR=17						
PDAR				LR	LR	23 42 07.2	
	comp=Z,133nm,20.1s,baz=343,slow=39						
PDAR	**Pinedale Array**	**47.88**	**76**	P	**P**	**23 19 47.8**	**+0.2**
KURK	**Kurchatov**	**48.01**	**301**	P	**P**	**23 19 48.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**48.01**	**301**	P	**P**	**23 19 48.3**	**+0.2**
KURK				IAmb	IAmb	23 19 49.5	
	comp=Z,3.6nm,0.8s						
XAN	**Xi'an**	**48.23**	**264**	P	P	23 20 02.5	+12
XAN				pP	sP	23 20 07.6	+13
XAN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DUG	**Dugway, Tooele**	**48.49**	**81**	P	**P**	**23 19 53.3**	**+1.1**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DUG	**Dugway, Tooele**	**48.49**	**81**	P	**P**	**23 19 53.3**	**+1.1**
DUG				IAmb	IAmb	23 20 00.0	
	comp=Z,2.8nm,1.1s						
WHN	**Wuhan**	**48.76**	**256**	⇑P	**P**	**23 19 54.0**	**-0.1**
BRVK	**Borovoye**	**49.24**	**309**	⇑*e*P	**P**	**23 19 58.3**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BRVK				MLR	MLR		
	comp=Z,94nm,15.0s						
PRGR	**Permogore**	**49.27**	**330**	*e*P	**P**	**23 19 56.8**	**-0.9**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SVE	**Sverdlovsk**	**49.34**	**318**	*e*P	**P**	**23 19 59.0**	**+0.7**
SVE				pmax	pmax		
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**49.66**	**296**	⇑*e*P	**P**	**23 20 02.0**	**+1.1**
MKAR	**Makanchi Array**	**49.66**	**296**	P	**P**	**23 19 59.6**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=56,slow=7.3,SNR=4.5						
MKAR				PP	**PP**	**23 21 55.0**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=46,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**49.66**	**296**	*ce*P	**P**	**23 20 02.5**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**49.78**	**289**	*e*P	**P**	**23 20 04.2**	**+2.3**
ARU	**Ar

HHAR	**Hobbs**	**60.02**	**69**	P	**P**	**23 21 16.9 +0.8**
FVM	**French Village**	**60.04**	**65**	P	**P**	**23 21 16.2 +0.1**
FVM				pmax	pmax	
	comp=Z,8.0nm,0.7s					
FVM	**French Village**	**60.04**	**65**	P	**P**	**23 21 16.2 +0.1**
VSR	**Storozhevoye**	**60.23**	**328**	*eP*	**P**	**23 21 16.2 -1.0**
VSR				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VORD	**Divnogorie**	**60.43**	**328**	*eP*	**P**	**23 21 17.6 -1.0**
VORD				pmax	pmax	
	comp=Z,8.0nm,0.6s					
T42A	**Van Buren**	**60.58**	**66**	P	**P**	**23 21 19.9 +0.1**
T42A				IAmb	IAmb	23 21 22.9
	comp=Z,4.8nm,0.9s					
TXAR	**Lajitas Array**	**61.67**	**81**	P	**P**	**23 21 27.9 +0.5**
	comp=Z,1.1nm,0.9s,baz=302,slow=5.2,SNR=4.3					
TXAR				LR	LR	23 49 15.1
	comp=Z,65nm,19.6s,baz=0.0,slow=37					
WVT	**Waverly**	**62.69**	**64**	P	**P**	**23 21 34.4 +0.3**
WVT				pmax	pmax	
	comp=Z,3.0nm,0.7s					
WVT	**Waverly**	**62.69**	**64**	P	**P**	**23 21 34.4 +0.3**
WVT				IAmb	IAmb	23 21 34.5
	comp=Z,3.2nm,0.7s					
AKASG	**Malin Array Be**	**62.89**	**335**	P	**P**	**23 21 32.8 -2.4**
	comp=Z,2.4nm,0.6s,baz=24,slow=7.0,SNR=9.1					
AKASG				LR	LR	23 52 38.6
	comp=Z,99nm,18.6s,baz=340,slow=40					
AKASG	**Malin Array Be**	**62.89**	**335**	*ceP*	**P**	**23 21 33.7 -1.5**
AKASG				pmax	pmax	
	comp=Z,2.0nm,0.6s					
AKASG	**Malin Array Be**	**62.89**	**335**	IAmb	IAmb	23 21 34.1
	comp=Z,0.8nm,0.8s					
AKBB	**Malin Array Si**	**62.89**	**335⇓**	*eP*	**P**	**23 21 33.2 -2.0**
AKBB	**Malin Array Si**	**62.89**	**335**	P	**P**	**23 21 33.8 -1.4**
AKBB				IAmb	IAmb	23 21 34.8
	comp=Z,6.2nm,1.1s					
KIEV	**Kiev**	**62.90**	**335**	P	**P**	**23 21 32.0 -3.2**
S51A	**Beattyville**	**63.09**	**60**	P	**P**	**23 21 36.4 -0.3**
T50A	**Nancy**	**63.13**	**61**	IAmb	IAmb	23 21 44.5
	comp=Z,5.2nm,0.9s					
TZTN	**Tazewell**	**64.06**	**60**	P	**P**	**23 21 43.0 -0.2**
NIL	**Nilore**	**64.42**	**294**	P	**P**	**23 21 46.3 +0.7**
NIL				pmax	pmax	
	comp=Z,8.0nm,1.0s					
NIL	**Nilore**	**64.42**	**294**	P	**P**	**23 21 46.3 +0.7**
CLL	**Collm**	**64.81**	**346**	*ep*	pP	23 21 54.0 +2.8
GOF	**Gofitskoye**	**64.91**	**323⇑**	*eP*	**P**	**23 21 49.1 +0.5**
GOF				pmax	pmax	
	comp=Z,40nm,0.6s					
V53A	**Saluda**	**65.11**	**60**	IAmb	IAmb	23 21 56.6
	comp=Z,4.2nm,0.8s					
Z47A	**Carrollton**	**65.13**	**66**	P	**P**	**23 21 49.6 -0.6**
KBL	**Kabul**	**65.37**	**298**	P	**P**	**23 21 51.3 -0.7**
KBL				pmax	pmax	
	comp=Z,5.0nm,0.8s					
KBL	**Kabul**	**65.37**	**298**	P	**P**	**23 21 51.3 -0.7**
KMPD	**K-Podol'skiy**	**65.47**	**336**	P	**P**	**23 21 51.0 -1.1**
KIV	**Kislovodsk**	**66.02**	**322**	*eP*	**P**	**23 21 56.7 +0.8**
KIV				pmax	pmax	
	comp=Z,29nm,1.1s					
KIV				MLR	MLR	
	comp=Z,111nm,17.0s					
KIV	**Kislovodsk**	**66.02**	**322**	P	**P**	**23 21 56.9 +1.0**
CMAR	**Chiang Mai Arr**	**66.13**	**264**	P	**P**	**23 21 56.0 -0.8**
	comp=Z,0.8nm,0.3s,baz=22,slow=8.7,SNR=7.7					
CMAR	**Chiang Mai Arr**	**66.13**	**264**	P	**P**	**23 21 57.3 +0.5**
CMAR	**Chiang Mai Arr**	**66.13**	**264**	P	**P**	**23 21 57.3 +0.5**
KBZ	**Khabaz**	**66.17**	**322**	P	**P**	**23 21 56.5 -0.2**
	comp=Z,9.5nm,0.9s,baz=275,slow=5.7,SNR=20					
KBZ				LR	LR	23 53 01.6
	comp=Z,80nm,20.8s,baz=34,slow=38					
KBZ	**Khabaz**	**66.17**	**322**	*deP*	**P**	**23 21 57.9 +1.2**
KBZ				pmax	pmax	
	comp=Z,14nm,0.9s					
GEYT	**Alibeck**	**66.56**	**308**	P	**P**	**23 21 58.8 -0.5**
	comp=Z,4.2nm,0.8s,baz=305,slow=5.2,SNR=8.1					
GEYT				LR	LR	23 52 47.2
	comp=Z,66nm,19.4s,baz=220,slow=38					
GEYT	**Alibeck**	**66.56**	**308**	P	**P**	**23 22 00.3 +1.0**
BURAR	**Bucovina Array**	**66.61**	**336**	P	**P**	**23 21 58.9 -0.7**
BURAR	**Bucovina Array**	**66.61**	**336**	P	**P**	**23 21 58.9 -0.7**
ZEI	**Tsey**	**66.76**	**321**	*eP*	**P**	**23 22 00.6 -0.2**
ZEI				pmax	pmax	
	comp=Z,6.0nm,0.6s					
KHC	**Kasperske Hory**	**66.89**	**345⇑**	*eP*	**P**	**23 22 00.2 -1.1**
KHC				pmax	pmax	
	comp=Z,6.0nm,1.3s					
GERES	**GERESS Array B**	**67.15**	**345**	P	**P**	**23 22 01.8 -1.2**
	comp=Z,0.7nm,0.6s,baz=42,slow=4.2,SNR=9.4					
MOA	**Molln**	**68.06**	**344**	*eP*	**P**	**23 22 08.2 -0.5**
	comp=Z,3.1nm,0.9s					
HRA	**Herat**	**68.17**	**303**	IAmb	IAmb	23 22 17.0
	comp=Z,2.3nm,0.8s					
KBA	**Koelnbreinsper**	**68.94**	**345**	*eP*	**P**	**23 22 13.9 -0.5**
	comp=Z,2.4nm,0.7s					
SOKA	**Soboth**	**69.12**	**343**	*eP*	**P**	**23 22 14.8 -0.6**
	comp=Z,2.2nm,1.1s					
OBKA	**Obir**	**69.35**	**344**	*eP*	**P**	**23 22 16.4 -0.4**
	comp=Z,6.1nm,0.7s					
KOPT	**Kop Dagi**	**70.28**	**322**	P	**P**	**23 22 23.2 +0.3**
BR131	**Keskin Array S**	**72.35**	**328**	IAmb	IAmb	23 22 36.5
	comp=Z,3.4nm,1.1s					
BRTR	**Keskin Array B**	**72.35**	**328**	P	**P**	**23 22 33.7 -1.6**
	comp=Z,1.8nm,0.9s,baz=12,slow=6.8,SNR=9.2					
BRTR				LR	LR	23 56 52.4
	comp=Z,15nm,18.9s,baz=24,slow=38					
BRTR	**Keskin Array B**	**72.35**	**328**	P	**P**	**23 22 35.4 +0.1**
BRTR	**Keskin Array B**	**72.35**	**328**	P	**P**	**23 22 35.4 +0.1**
GAZ	**Gaziantep**	**73.84**	**324**	P	**P**	**23 22 44.5 +0.5**
GAZ				IAmb	IAmb	23 22 46.1
	comp=Z,7.3nm,0.9s					
ESDC	**Sonseca Array**	**77.57**	**357**	P	**P**	**23 23 03.9 -1.4**
	comp=Z,0.8nm,1.0s,baz=355,slow=6.6,SNR=3.2					
ESDC	**Sonseca Array**	**77.57**	**357**	IAmb	IAmb	23 23 12.3
	comp=Z,8.3nm,1.4s					
BATI	**Baumata**	**81.94**	**228**	P	**P**	**23 23 28.8 -0.3**
	comp=Z,1.5nm,0.4s,baz=349,slow=5.2,SNR=2.8					
CTA	**Charters Tower**	**85.35**	**204**	P	**P**	**23 23 46.1 -0.4**
	comp=Z,4.1nm,0.7s,baz=352,slow=7.1,SNR=2.7					
WRA	**Warramunga Arr**	**87.91**	**215**	P	**P**	**23 23 57.5 -1.4**
	comp=Z,1.3nm,0.8s,baz=18,slow=5.5,SNR=15					
WRA	**Warramunga Arr**	**87.91**	**215**	IAmb	IAmb	23 24 01.5
	comp=Z,0.2nm,0.8s					
ASAR	**Alice Springs**	**91.58**	**215**	P	**P**	**23 24 15.5 -0.6**
	comp=Z,0.9nm,0.7s,baz=12,slow=4.5,SNR=11					

*NEIC **05** 23:28:25.5±0.7, 53.5N±0.2×170.9E±0.1, h28km±11km, mb3.4/1, Error ellipse: s-maj=25.3km s-min=6.0km az=196.0*
*IDC **05** 23:28:26.9±4.9, 54.19N×170.07E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/30, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=117.1km s-min=27.5km az=161.0*
ISC 05 23:28:25.7±0.9, 53.4N±0.1×170.74E±0.06, h35km, n18, σ1s88/16, mb3.4/5, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.13**	**106**	Pn		**Pn**	**23 28 58.1**	**-0.6**
SMY				Sn		**Sn**	**23 29 23.1**	**-0.8**
ADK	**Adak**	**7.80**	**96**	Pn		**Pn**	**23 30 16.5**	**0.0**
PEA0B	**Petropavlovsk-**	**7.83**	**273**	Pn		**Pn**	**23 30 18.9**	**+1.9**
PEA0B				Sn		**Sn**	**23 31 42.5**	**-1.9**
PETK	**Petropavlovsk-**	**7.83**	**273**	Pn		**Pn**	**23 30 17.6**	**+0.7**
	1.1nm,0.3s,baz=76,slow=6.2,SNR=21							
PETK				Sn		**Sn**	**23 31 41.5**	**-2.8**
	0.7nm,0.3s,baz=90,slow=40,SNR=1.7							
PETK	**Petropavlovsk-**	**7.83**	**273**	Pn		**Pn**	**23 30 18.5**	**+1.5**
PETK				Sn		**Sn**	**23 31 42.7**	**-1.6**
GAMB	**Gambell**	**13.81**	**34**	Pn		**Pn**	**23 31 35.8**	**-2.9**
IMAR	**Indian Mountai**	**21.54**	**40**	P		**P**	**23 33 14.5**	**+3.0**
TOLK	**Toolik Lake Re**	**23.95**	**35**	P		**P**	**23 33 36.0**	**-0.3**
TOLK				IAmb		IAmb	23 33 54.1	
	comp=Z,0.9nm,0.8s							
ILAR	**Eielson Array**	**24.06**	**45**	P		**P**	**23 33 39.4**	**+2.1**
	comp=Z,0.4nm,0.9s,baz=257,slow=8.1,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**33.72**	**187**	T		T	00 10 12.4	
	baz=3.5							
H11N3	**WAKE ISLAND Hy**	**33.73**	**187**	T		T	00 10 13.4	
	baz=3.5							
H11N1	**WAKE ISLAND Hy**	**33.73**	**187**	T		T	00 10 13.1	
	baz=3.5							
H11S1	**WAKE ISLAND Hy**	**34.94**	**187**	T		T	00 11 44.6	
	baz=4.8							
H11S3	**WAKE ISLAND Hy**	**34.96**	**187**	T		T	00 11 45.7	
	baz=4.8							
H11S2	**WAKE ISLAND Hy**	**34.96**	**187**	T		T	00 11 46.0	
	baz=4.8							
MKAR	**Makanchi Array**	**53.64**	**301**	P		**P**	**23 37 43.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=56,slow=7.0,SNR=2.1							
ARCES	**ARCESS Array B**	**54.80**	**346**	P		**P**	**23 37 51.9**	**+0.5**
	comp=Z,3.0nm,1.0s,baz=42,slow=8.6,SNR=3.8							
NOA	**NORSAR Array B**	**64.77**	**349**	P		**P**	**23 39 01.7**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=3.1,slow=5.2,SNR=1.8							

*MOS **05** 23:49:37.5±0.9, 44.17N×148.17E, h61km, mb3.8/6, Error ellipse: s-maj=13.5km s-min=11.9km az=160.7*
*JMA **05** 23:49:39.9±0.2, 43.95N×148.19E, h77km, M3.8*
*SKHL **05** 23:49:39.2±0.9, 44.30N×148.11E, h102km±5km, mb4.8/5, msh5.7/4*
*NEIC **05** 23:49:41.2±2.0, 44.43N±0.09×148.1E±0.1, h106km±7km, mb4.3/12, Error ellipse: s-maj=14.3km s-min=11.7km az=149.0*
*IDC **05** 23:49:41.2±3.7, 44.39N×148.03E, h108km±34km, mb3.5/12, mb1 3.7/13, mb1mx3.5/47, mbtmp3.9/13, Error ellipse: s-maj=27.8km s-min=21.2km az=176.0*
ISC 05 23:49:38.3±1.2, 44.26N±0.06×148.21E±0.08, h86km±9km, n75, σ1s25/84, mb4.2/20, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.00**	**346**	*i* P		**Pn**	**23 49 58.0**	**+0.3**
KUR				AMB		AMB	23 49 58.0	
	414nm,0.3s							
KUR				*i* S		**Sn**	**23 50 13.0**	**+0.8**
KUR				A		A	23 50 13.0	
	2μm,0.4s							
KUR				A		A	23 50 13.0	
	2μm,0.4s							
KUR	**Kuril'sk**	**1.00**	**346**	*d i* PN		**Pn**	**23 49 58.4**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**1.70**	**263**	*eP*		**Pn**	**23 50 06.8**	**+0.4**
YUK				AMB		AMB	23 50 09.0	
	256nm,0.2s							
YUK				*i* S		**Sn**	**23 50 27.6**	**-0.2**
YUK				A		A	23 50 31.0	
	864nm,0.3s							
YUK				A		A	23 50 31.0	
	609nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.70**	**263**	*e* PN		**Pn**	**23 50 06.6**	**+0.2**
YUK				*i* S		**Sn**	**23 50 26.4**	**-1.4**
YUK				pmax	pmax			
	comp=N,172nm,0.2s							
YUK				pmax	pmax			
	comp=Z,256nm,0.2s							
YUK				pmax	pmax			
	comp=E,161nm,0.1s							
YUK				smax	smax			
	comp=N,864nm,0.3s							
YUK				smax	smax			
	comp=E,609nm,0.2s							
GRPR	**Tuman**	**1.77**	**262**	*eP*		**Pn**	**23 50 07.6**	**+0.3**
GRPR				AMB		AMB	23 50 13.0	
	comp=E,123nm,0.3s							
GRPR				*e*S		**Sn**	**23 50 28.0**	**-1.4**
GRPR				A		A	23 50 30.0	
	comp=E,699nm,0.3s							
GRPR				A		A	23 50 30.0	
	comp=E,884nm,0.3s							
GRPR	**Tuman**	**1.77**	**262**	*e* PN		**Pn**	**23 50 08.0**	**+0.7**
GRPR				*e*S		**Sn**	**23 50 28.7**	**-0.7**
GRPR				pmax	pmax			
	comp=Z,123nm,0.1s							
GRPR				smax	smax			
	comp=E,884nm,0.1s							
GRPR				smax	smax			
	comp=N,699nm,0.3s							
NEM2	**Nemuro 2**	**2.00**	**244**	P		**Pn**	**23 50 10.5**	**+0.3**
NEM2				*e*S		**Sn**	**23 50 33.5**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.00**	**244**	*i* P		**Pn**	**23 50 10.0**	**-0.3**
NMR				*i* S		**Sn**	**23 50 33.0**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.00**	**244**	*i* PN		**Pn**	**23 50 10.5**	**+0.2**
NMR				*i* S		**Sn**	**23 50 33.2**	**-1.6**
GLVR	**Golovnino**	**2.01**	**256**	*eP*		**Pn**	**23 50 10.5**	**+0.1**
GLVR				AMB		AMB	23 50 11.0	
	comp=N,99nm,0.3s							
GLVR				*e*S		**Sn**	**23 50 34.0**	**-0.9**
GLVR				A		A	23 50 38.0	
	comp=N,1μm,0.4s							
GLVR				A		A	23 50 38.0	
	comp=N,885nm,0.4s							
GLVR	**Golovnino**	**2.01**	**256**	*e* PN		**Pn**	**23 50 10.3**	**-0.1**
GLVR				*e*S		**Sn**	**23 50 34.6**	**-0.3**
GLVR				pmax	pmax			
	comp=Z,99nm,0.2s							
GLVR				smax	smax			
	comp=N,1μm,0.4s							
GLVR				smax	smax			
	comp=E,885nm,0.2s							
JRA	**Rausu**	**2.25**	**263**	P		**Pn**	**23 50 15.3**	**+1.8**
JRA				*e*S		**Sn**	**23 50 41.8**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.36**	**259**	P		**Pn**	**23 50 16.9**	**+1.8**
JNSB				*e*S		**Sn**	**23 50 44.1**	**+0.8**
JNK	**Nakash**	**2.61**	**256**	P		**Pn**	**23 50 19.8**	**+1.4**
JNK				*e*S		**Sn**	**23 50 49.8**	**+0.5**
JAK	**Akkeshi**	**2.85**	**245**	P		**Pn**	**23 50 22.0**	**+0.4**
JAK				*e*S		**Sn**	**23 50 54.0**	**-0.9**
JTKR	**Abashiri--Toko**	**3.11**	**266**	P		**Pn**	**23 50 26.9**	**+1.8**
JAR	**Ashorobuto**	**3.36**	**255**	P		**Pn**	**23 50 30.4**	**+1.9**
JAR				*e*S		**Sn**	**23 51 08.5**	**+1.2**
JOB	**Onbets**	**3.46**	**248**	*e*S		**Sn**	**23 51 09.2**	**-0.4**
JCH	**Churui**	**3.89**	**247**	P		**Pn**	**23 50 36.6**	**+0.8**
JCH				*e*S		**Sn**	**23 51 19.5**	**-0.8**
JKA	**Kamikawa-asahi**	**4.04**	**270**	*e*P		**Pn**	**23 50 39.2**	**+1.5**
JKA	**Kamikawa-asahi**	**4.04**	**270**			**Pn**	**23 50 39.1**	**+1.5**
ASAJ	**Asahikawa**	**4.04**	**270**	P		**Pn**	**23 50 39.1**	**+1.4**
	comp=E,2.6nm,0.3s,baz=37,slow=19,SNR=4.6							
JEM	**Erimo**	**4.32**	**240**	Pn		**Pn**	**23 50 43.2**	**+1.6**
ERM	**Erimo**	**4.32**	**240**	*i* PN		**Pn**	**23 50 39.8**	**-1.8**
ERM	**Erimo**	**4.32**	**240**	Pn		**Pn**	**23 50 45.5**	**+3.9**
YSS	**Yuzh-Sakhalins**	**4.68**	**307**	*i* P		**Pn**	**23 50 47.7**	**+1.3**
YSS				AMB		AMB	23 50 48.7	
	comp=E,30nm,0.4s							
YSS				*e*S		**Sn**	**23 51 38.5**	**-0.9**
YSS				A		A	23 51 41.8	
	comp=E,20nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.68**	**307**	*e*PN		**Pn**	**23 50 47.9**	**+1.5**
YSS				*e*S		**Sn**	**23 51 40.8**	**+1.4**
YSS				pmax	pmax			
	comp=Z,30nm,0.4s							
YSS				smax	smax			
	comp=E,20nm,0.5s							
YSS				MLR	MLR			
	comp=Z,400nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.68**	**307**	Pn		**Pn**	**23 50 44.9**	**-1.5**
JEW	**Eniwo**	**5.11**	**256**	Pn		**Pn**	**23 50 56.3**	**+4.0**
JTM	**Tenmabayashi**	**6.31**	**239**	Pn		**Pn**	**23 51 10.5**	**+1.8**
JMM	**Marumori**	**8.49**	**224**	Pn		**Pn**	**23 51 42.2**	**+3.7**
SONM	**Songino Array**	**28.98**	**292**	P		**P**	**23 55 28.5**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=81,slow=9.3,SNR=5.5							
SONM	**Songino Array**	**28.98**	**292**	IAmb		IAmb	23 55 30.6	
	comp=Z,0.8nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**29.01**	**142**	T		T	00 26 30.9	
	baz=332,slow=76,SNR=41							
H11N1	**WAKE ISLAND Hy**	**29.02**	**142**	T		T	00 26 26.3	
	baz=332,slow=76,SNR=50							
H11N3	**WAKE ISLAND Hy**	**29.02**	**141**	T		T	00 26 31.5	
	baz=332,slow=76,SNR=58							
H11S1	**WAKE ISLAND Hy**	**30.00**	**143**	T		T	00 27 36.3	
	baz=332,slow=76,SNR=139							
H11S3	**WAKE ISLAND Hy**	**30.00**	**143**	T		T	00 27 42.8	
	baz=332,slow=76,SNR=89							
H11S2	**WAKE ISLAND Hy**	**30.01**	**143**	T		T	00 27 39.5	
	baz=332,slow=76,SNR=84							
BWN	**Browne**	**39.52**	**38**	P		**P**	**23 56 59.8**	**-0.4**
TOLK	**Toolik Lake Re**	**39.66**	**31**	P		**P**	**23 57 02.4**	**+1.0**
TOLK				IAmb		IAmb	23 57 06.8	
	comp=Z,4.8nm,1.1s							
RND	**Reindeer**	**39.81**	**39**	P		**P**	**23 57 01.9**	**-0.8**
RND				pmax	pmax			
	comp=Z,7.0nm,0.8s							
RND	**Reindeer**	**39.81**	**39**	P		**P**	**23 57 01.9**	**-0.8**
RND				IAmb		IAmb	23 57 05.8	
	comp=Z,7.5nm,0.8s							
ILAR	**Eielson Array**	**40.62**	**37**	P		**P**	**23 57 10.7**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=266,slow=8.9,SNR=1.7							
PAX	**Paxson**	**41.37**	**39**	P		**P**	**23 57 16.7**	**+1.2**
PAX				pmax	pmax			
	comp=Z,20nm,1.0s							
PAX	**Paxson**	**41.37**	**39**	P		**P**	**23 57 16.7**	**+1.2**
MK31	**Makanchi Array**	**45.02**	**298**	P		**P**	**23 57 45.6**	**+0.4**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**45.02**	**298**	P		**P**	**23 57 45.5**	**+0.4**
MK31				IAmb	IAmb	IAmb	23 57 46.0	
	comp=Z,2.9nm,0.7s							
MKAR	**Makanchi Array**	**45.02**	**298**	P		**P**	**23 57 45.0**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=78,slow=8.6,SNR=28							
MKAR	**Makanchi Array**	**45.02**	**298**	*eP*		**P**	**23 57 45.3**	**+0.1**
MKAR	**Makanchi Array**	**45.02**	**298**	P		**P**	**23 57 45.3**	**+0.1**
MKAR	**Makanchi Array**	**45.02**	**298**	P		**P**	**23 57 45.2**	**+0.1**
MAKZ	**Makanchi**	**45.22**	**298**	P		**P**	**23 57 47.1**	**+0.4**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MAKZ	**Makanchi**	**45.22**	**298**	P		**P**	**23 57 47.1**	**+0.4**
MAKZ				IAmb	IAmb	IAmb	23 57 47.6	
	comp=Z,3.1nm,0.7s							
HYT	**Haines Junctio**	**45.44**	**41**	P		**P**	**23 57 48.6**	**+0.2**
INK	**Inuvik**	**45.57**	**31**	P		**P**	**23 57 48.1**	**-1.0**
INK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
INK	**Inuvik**	**45.57**	**31**	P		**P**	**23 57 48.1**	**-1.0**
INK				IAmb	IAmb	IAmb	23 57 59.4	
	comp=Z,4.4nm,1.1s							
KURK	**Kurchatov**	**45.88**	**304**	*eP*		**P**	**23 57 50.6**	**-1.2**
KURK	**Kurchatov**	**45.88**	**304**	P		**P**	**23 57 50.6**	**-1.2**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**45.88**	**304**	P		**P**	**23 57 50.6**	**-1.2**
KURK				IAmb	IAmb	IAmb	23 57 52.1	
	comp=Z,1.8nm,0.5s							
BRVK	**Borovoye**	**49.81**	**309⇓**	*eP*		P	23 58 09.8	-12
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
RES	**Resolute Bay**	**54.26**	**17**	P		**P**	**23 58 54.8**	**0.0**
	comp=Z,2.8nm,0.8s,baz=301,slow=12,SNR=2.3							
RES	**Resolute Bay**	**54.26**	**17**	P		**P**	**23 58 54.8**	**0.0**
RES				pmax	pmax			
	comp=Z,7.0nm,1.2s							
RES	**Resolute Bay**	**54.26**	**17**	IAmb		IAmb	23 58 58.1	
	comp=Z,6.9nm,1.1s							
ABKAR	**Akbulak array**	**57.34**	**309**	P		**P**	**23 59 17.1**	**0.0**
ABKAR	**Akbulak array**	**57.34**	**309**	P		**P**	**23 59 17.1**	**0.0**
ARCES	**ARCESS Array B**	**59.03**	**340**	P		**P**	**23 59 27.8**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=39,slow=7.3,SNR=3.9							
FINES	**FINESS Array B**	**64.77**	**333**	P		**P**	**00 00 06.0**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=27,slow=7.2,SNR=14							
WRA	**Warramunga Arr**	**65.14**	**194**	P		**P**	**00 00 11.2**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=9.4,slow=6.9,SNR=2.7							
NVAR	**Mina Array Bea**	**66.66**	**59**	P		**P**	**00 00 20.5**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=267,slow=9.1,SNR=3.6							
NB2	**NORSAR Subarra**	**69.40**	**339**	P		**P**	**00 00 36.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**69.40**	**339**	P		**P**	**00 00 35.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=31,slow=6.7,SNR=7.6							
KBZ	**Khabaz**	**70.03**	**312**	P		**P**	**00 00 40.4**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=92,slow=4.9,SNR=6.0							
AKASG	**Malin Array Be**	**71.62**	**324**	P		**P**	**00 00 49.6**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=36,slow=5.8,SNR=5.4							
TXAR	**Lajitas Array**	**81.73**	**57**	P		**P**	**00 01 47.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=310,slow=4.6,SNR=5.8							

*KRNET **05** 23:56:45.6±0.1, 39.56N×74.51E, mb3.1*
*SOME **05** 23:56:46.6, 39.83N×74.53E, h5km*
*NNC **05** 23:56:50.0±2.4, 39.84N×74.65E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=19.3km s-min=7.6km az=171.0*
ISC 05 23:56:47.5±1.9, 39.51N±0.10×74.52E±0.05, h10km, n37, σ0s97/62, 26C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.68**	**308**	*i*P		**Pn**	**23 57 16.1**	**-0.9**
	baz=7.0							
OHH				*i*S		**Sn**	**23 57 38.1**	**-0.5**
	baz=7.0							
ARLS	**Aral**	**2.36**	**356**	*i*P		**Pn**	**23 57 26.6**	**+0.2**
	baz=57							
ARLS				*i*S		**Sn**	**23 57 55.8**	**+0.3**
	baz=57							
KZA	**Kyzart**	**2.63**	**12**	*i*P		**Pn**	**23 57 30.0**	**-0.4**
	baz=12							
KZA				*i*S		**Sn**	**23 58 02.6**	**+0.1**
	baz=12							
AML	**Almayashu**	**2.70**	**347**	*i*P		**Pn**	**23 57 31.0**	**-0.3**
	baz=47							
AML				*i*S		**Sn**	**23 58 04.1**	**-0.1**
	baz=47							
AML	**Almayashu**	**2.70**	**347**	P		**Pn**	**23 57 31.2**	**-0.1**
	SNR=14							
UCH	**Uchtor**	**2.72**	**360**	*i*P		**Pn**	**23 57 31.4**	**-0.3**
	baz=0.0							
UCH				*i*S		**Sn**	**23 58 05.0**	**+0.2**
	baz=0.0							
UCH	**Uchtor**	**2.72**	**360**	P		**Pn**	**23 57 32.0**	**+0.3**
	SNR=15							
BTK	**Batken**	**2.91**	**282**	*i*P		**Pn**	**23 57 34.4**	**+0.5**
	baz=81							

	1.5nm,0.6s								
MDOK					*e*S		**Sb**	**23 58 49.4**	**-0.7**
	7.2nm,0.8s								
KOTS	**Kotyrbulak**	**4.21**	**27**	*e*P			**Pb**	**23 57 59.8**	**-1.8**
	4.4nm,0.7s								
KOTS					*e*S		**Sb**	**23 58 52.9**	**+0.3**
	42nm,0.5s								
KOTS	**Kotyrbulak**	**4.21**	**27**	Pg			**Pb**	**23 58 01.3**	**-0.3**
	8.5nm,0.4s								
KOTS					Lg		Lg	23 58 52.9	
	42nm,0.5s								
KTBS	**Karatobe**	**4.50**	**20**	*e*P			**Pb**	**23 58 05.4**	**-1.3**
	1.2nm,0.6s								
KTBS					*e*S		**Sb**	**23 59 01.8**	**+0.8**
	12nm,0.5s								
KTBS	**Karatobe**	**4.50**	**20**	Pg			**Pb**	**23 58 06.7**	**0.0**
	2.8nm,0.3s								
KTBS					Lg		Lg	23 59 01.8	
	12nm,0.5s								
KUU	**Kurty**	**4.59**	**17**	*e*P			**Pb**	**23 58 06.9**	**-1.2**
	1.3nm,0.8s								
KUU					*e*S		**Sb**	**23 59 04.5**	**+1.0**
	5.7nm,0.6s								
KK31	**Karatay Array**	**4.69**	**321**	Pn			**Pn**	**23 57 58.6**	**+0.2**
	0.4nm,0.3s,baz=145,slow=14,SNR=6.0								
KK31					||Sn		**Sn**	**23 58 54.0**	**+1.1**
	2.5nm,0.5s,baz=150,slow=28								
KK31					||Lg		Lg	23 59 11.1	
	1.9nm,0.4s,baz=129,slow=28,SNR=2.6								
ARXS	**Arharly**	**5.31**	**27**	*e*P			**Pb**	**23 58 18.8**	**-1.6**
	2.1nm,0.7s								
ARXS					*e*S		**Sb**	**23 59 25.4**	**+1.1**
	5.1nm,0.7s								
ARXS	**Arharly**	**5.31**	**27**	Pg			**Pb**	**23 58 20.4**	**0.0**
	3.9nm,0.5s								
ARXS					Lg		Lg	23 59 25.4	
	5.1nm,0.7s								
PDGK	**Podgornoye**	**5.34**	**43**	Pg			**Pb**	**23 58 20.4**	**-0.6**
	0.7nm,0.4s								
PDGK					Lg		Lg	23 59 24.8	
	2.2nm,0.7s								
MNBS	**Baschi**	**5.41**	**31**	Pg			**Pb**	**23 58 22.9**	**+0.8**
MNBS					Lg		Lg	23 59 29.1	
	0.1nm,0.4s								

ISN ***06*** *00:00:37.9±1.6,32°.78N×47°.38E, h9km±8km, ML2.8*
TEH ***06*** *00:00:38.4,32°.73N×47°.32E, h11km, ML3.3*
THR ***06*** *00:00:39.7±0.3,32°.67N×47°.35E, h14km±5km, ML3.4*
ISC 06 00:00:39.2±1.2, 32°.65N±0°.05×47°.29E±0°.04, h10km±8km, n41, σ1s24/45, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehloran**	**0.03**	**347**	*e*Pg		**Pg**	**00 00 41.0**	**0.0**
IKFM	**Kafar-mosalman**	**0.99**	**28**	*e*Pg		**Pg**	**00 00 55.7**	**-2.5**
IKFM				*e*			00 01 17.2	
IBDR	**Badra**	**1.23**	**292**	*e*Pg		**Pn**	**00 01 01.0**	**-1.5**
	baz=105							
IBDR				*e*Sg		**Sn**	**00 01 20.0**	**+0.9**
IBDR				AML		AML	00 01 29.6	
	comp=E,153nm,0.4s							
IBDR				AML		AML	00 01 32.0	
	comp=N,155nm,0.6s							
IKMR	**Kamar-syah**	**1.26**	**46**	*e*Pg		**Pn**	**00 01 01.2**	**-1.6**
IKMR				*e*			00 01 26.4	
IDOB	**Doab**	**1.35**	**33**	*e*Pg		**Pn**	**00 01 02.9**	**-1.5**
IDOB				*e*			00 01 29.5	
IKOM	**Komasi**	**1.53**	**7**	*e*			00 01 35.9	
IKOM				*e*Pg		**Pn**	**00 01 06.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.63**	**353**	*e*			00 01 42.7	
KCHF				*e*Pg		**Pn**	**00 01 08.2**	**0.0**
KER	**Kermanshah**	**1.73**	**356**	*e*Pg		**Pn**	**00 01 10.5**	**+1.0**
IGHG	**Ghaleghazi**	**1.78**	**340**	*e*Pg		**Pn**	**00 01 11.0**	**+0.8**
IGHG				*e*			00 01 46.6	
IBZA	**Bozab**	**1.87**	**15**	*e*Pg		**Pb**	**00 01 13.0**	**-0.7**
IBZA				*e*			00 01 42.4	
HSAM	**Samen**	**1.90**	**35**	*e*Pg		**Pn**	**00 01 12.7**	**+0.7**
HSAM				*e*			00 01 44.2	
IVIS	**Veis**	**1.90**	**349**	*e*Pn		**Pb**	**00 01 14.0**	**-0.1**
IVIS				*e*			00 01 51.5	
IDHR	**Dehrash**	**2.17**	**340**	*e*Pn		**Pn**	**00 01 16.6**	**+0.9**
IDHR				*e*			00 01 55.3	
ILIN	**Lien**	**2.27**	**353**	*e*Pn		**Pn**	**00 01 18.6**	**+1.5**
ILIN				*e*			00 01 58.7	
IALM	**Almabolaq**	**2.32**	**18**	*e*Pn		**Pn**	**00 01 19.4**	**+1.7**
KHMZ	**Khomeyn**	**2.49**	**63**	*e*Pn		**Pn**	**00 01 21.4**	**+1.4**
KHMZ	**Khomeyn**	**2.49**	**63**	*e*Pn		**Pn**	**00 01 21.4**	**+1.4**
BHD	**Baghdad**	**2.52**	**285**	*e*Pn		**Pn**	**00 01 22.0**	**+1.8**
BHD				*e*Sn		**Sb**	**00 01 54.0**	**-1.6**
BHD				AML		AML	00 02 19.6	
	comp=E,135nm,0.4s							
HAGD	**Aghdareh**	**2.66**	**35**	*e*Pn		**Pn**	**00 01 22.7**	**+0.4**
HAGD				*e*			00 02 00.2	
HSRG	**Sareghieh**	**2.71**	**17**	*e*Pn		**Pn**	**00 01 25.1**	**+2.0**
HSRG				*e*			00 02 13.6	
JHBN	**Jahan bin**	**2.89**	**97**	*e*Pn		**Pn**	**00 01 25.8**	**+0.3**
JHBN				*e*			00 02 19.5	
ASAO	**Ashtian**	**2.96**	**50**	*e*Pn		**Pn**	**00 01 27.9**	**+1.3**
ASAO				*e*Sg		**Sb**	**00 02 10.9**	**+2.2**
ASAO	**Ashtian**	**2.96**	**50**	*e*Pn		**Pn**	**00 01 27.9**	**+1.3**
IPIR	**Pirpir**	**3.04**	**88**	*e*Pn		**Pn**	**00 01 28.2**	**+0.6**
IPIR				*e*			00 02 10.9	
QABG	**Abgarm-Qazvin**	**3.59**	**31**	*e*Pn		**Pn**	**00 01 36.3**	**+1.1**
QAM	**Ghamsar**	**3.65**	**71**	*e*Pn		**Pn**	**00 01 37.0**	**+1.0**
IKLH	**Kolahrood**	**3.67**	**78**	*e*Pn		**Pn**	**00 01 36.9**	**+0.7**
IKLH				*e*			00 01 41.6	
GHVR	**GHOM**	**3.81**	**60**	*e*Pn		**Pn**	**00 01 38.9**	**+0.9**
GHVR	**GHOM**	**3.81**	**60**	*e*Pn		**Pn**	**00 01 38.9**	**+0.9**
KLNJ	**Kolanjah**	**4.01**	**113**	*e*Pn		**Pn**	**00 01 41.3**	**+0.2**
IGAR	**Gharneh**	**4.02**	**92**	*e*Pn		**Pn**	**00 01 40.6**	**-0.5**
ZNJK	**Zanjan**	**4.17**	**16**	*e*Pn		**Pn**	**00 01 44.8**	**+1.7**
ZNJK				*e*S		**Sn**	**00 02 32.5**	**+0.5**
ZNJK	**Zanjan**	**4.17**	**16**	*e*Pn		**Pn**	**00 01 44.8**	**+1.7**
IZEF	**Zefreh**	**4.25**	**85**	*e*Pn		**Pn**	**00 01 44.5**	**+0.2**
KRSH	**Karshahi**	**4.26**	**71**	*e*Pn		**Pn**	**00 01 44.6**	**+0.2**
IRAM	**Rameshen**	**4.40**	**100**	*e*Pn		**Pn**	**00 01 45.9**	**-0.3**
CHTH	**Charan**	**4.54**	**43**	*e*Pn		**Pn**	**00 01 49.6**	**+1.3**
CHTH	**Charan**	**4.54**	**43**	*e*Pn		**Pn**	**00 01 49.6**	**+1.3**
IDMV	**Damavand**	**4.90**	**52**	*e*Pn		**Pn**	**00 01 53.7**	**+0.5**
AHBU	**AHRAM**	**5.11**	**137**	*e*Pn		**Pn**	**00 01 57.6**	**+1.7**
ANAR	**Anarak**	**5.44**	**83**	*e*Pn		**Pn**	**00 02 00.0**	**-0.5**

IDC ***06*** *00:11:20.4±1.1,9°.08S×124°.58E, h0km, mb4.0/5, mb1 4.3/8, mb1mx3.9/39, mbtmp4.2/8, ML4.5/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/32, Error ellipse: s-maj=27.5km s-min=13.4km az=106.0*
NEIC ***06*** *00:11:24.3±2.2,9°.25S±0°.07×124°.05E±0°.08, h25km±6km, mb4.3/7, Error ellipse: s-maj=14.1km s-min=6.4km az=47.0*
DJA ***06*** *00:11:26.2±0.4,9°.S±3°×12°.4E±°, h31km±7km, M4.5/11, mB5.3/3, mb4.8/6, MLv4.3/11, Mw(mB)4.7/3*
ISC 06 00:11:25.1±0.7, 9°.21S±0°.06×124°.31E±0°.07, h35km, n37, σ2s58/40, mb4.1/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**0.54**	**184**	P		**Pn**	**00 11 37.9**	**+1.4**
SOEI				S		**Sn**	**00 11 50.2**	**+5.8**
SOEI	**Soe**	**0.54**	**184**			**Pn**	**00 11 36.8**	**+0.2**
BATI	**Baumata**	**1.17**	**213**	Pg		**Pn**	**00 11 48.3**	**+3.2**
	880nm,0.3s,baz=42,slow=1.9,SNR=693							
BATI				Lg		Lg	00 12 05.9	
	424nm,0.3s,baz=106,slow=20,SNR=18							
BATI				LR		LR	00 12 37.0	
	comp=Z,587nm,21.1s,baz=6.0,slow=53							
BATI	**Baumata**	**1.17**	**213**	P		**Pn**	**00 11 47.6**	**+2.5**
BATI				S		**Sn**	**00 12 02.1**	**+2.2**
MMRI	**Maumere**	**2.12**	**285**	P		**Pn**	**00 11 57.2**	**-1.0**
MMRI	**Maumere**	**2.12**	**285**			**Pn**	**00 11 55.1**	**-3.0**
EDFI	**Ende, Flores**	**2.62**	**280**	P		**Pn**	**00 12 02.5**	**-2.7**
BASI	**Baing, Sumba**	**3.81**	**254**	P		**Pn**	**00 12 20.4**	**-1.0**
PLAI	**Plampang**	**6.46**	**273**	P		**Pn**	**00 12 57.2**	**-0.6**
	0.3nm984nm47nm,0.6s							
TWSI	**Taliwang, Sumb**	**7.35**	**273**	P		**Pn**	**00 13 09.7**	**-0.3**
	0.1nm23nm,0.7s							
MTN	**Manton Dam**	**7.61**	**119**	Pn		**Pn**	**00 13 17.4**	**+3.8**
KNRA	**Kununurra**	**7.76**	**146**	Pn		**Pn**	**00 13 17.6**	**+1.9**
LUWI	**Luwuk**	**8.26**	**349**	Pn		**Pn**	**00 13 21.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**8.93**	**172**	Pn		**Pn**	**00 13 32.4**	**+0.7**
	2.3nm,0.3s,baz=5.2,slow=10,SNR=70							
FITZ					Sn	**Sn**	**00 15 06.0**	**-5.1**
	4.3nm,0.3s,baz=145,slow=9.4,SNR=20							
PSA00	**Pilbara Seismi**	**13.02**	**199**	Pn		**Pn**	**00 14 27.1**	**-0.6**
WB0	**Warramunga Arr**	**14.32**	**138**			**Pn**	**00 14 44.9**	**-0.7**
WRA	**Warramunga Arr**	**14.41**	**139**	Pn		**Pn**	**00 14 45.6**	**-1.2**
	2.7nm,0.3s,baz=322,slow=14,SNR=146							
WRA					Sn	**Sn**	**00 17 20.1**	**-5.5**
	0.6nm,0.3s,baz=309,slow=23,SNR=5.2							
WRA					LR	LR	00 20 10.5	
	comp=Z,41nm,20.3s,baz=50,slow=37							
WRAB	**Tennant Creek**	**14.42**	**139**			**Pn**	**00 14 46.0**	**-0.8**
WB2	**Warramunga Arr**	**14.42**	**139**			**Pn**	**00 14 46.5**	**-0.4**
WR0	**Warramunga Arr**	**14.56**	**138**			**Pn**	**00 14 48.1**	**-0.7**
LEM	**Lembang**	**16.70**	**277**	LR		LR	00 23 24.5	
	comp=Z,82nm,20.6s,baz=76,slow=43							
AS31	**Alice Springs**	**17.05**	**149**	Pn		**P**	**00 15 22.0**	**-0.5**
ASAR	**Alice Springs**	**17.05**	**149**	Pn		**Pn**	**00 15 21.1**	**+0.1**
	1.5nm,0.3s,baz=320,slow=12,SNR=46							
ASAR					Sn	**Sn**	**00 18 21.3**	**-8.4**
	0.3nm,0.3s,baz=315,slow=22,SNR=7.2							
COEN	**Coen**	**19.07**	**106**	Pn		**Pn**	**00 15 48.9**	**+3.1**
COEN				IAmb		IAmb	00 16 05.6	
	comp=Z,12nm,1.1s							
PMG	**Port Moresby**	**22.55**	**92**	LR		LR	00 27 02.6	
	comp=Z,87nm,18.2s,baz=204,slow=42							
NWAO	**Narrogin (SRO)**	**24.49**	**194**	P		**P**	**00 16 41.5**	**+0.4**
	comp=Z,15nm,0.9s,baz=22,slow=11,SNR=2.5							
NWAO					LR	LR	00 28 04.3	
	comp=Z,80nm,18.2s,baz=273,slow=41							
NWAO	**Narrogin (SRO)**	**24.49**	**194**	P		**P**	**00 16 41.0**	**-0.1**
NWAO				IAmb		IAmb	00 16 43.4	
	comp=Z,18nm,1.0s							
NWAO	**Narrogin (SRO)**	**24.49**	**194**	P		**P**	**00 16 40.6**	**-0.5**
NWAO				IAmb		IAmb	00 16 43.4	
	comp=Z,24nm,1.1s							
CMAR	**Chiang Mai Arr**	**37.18**	**318**	P		**P**	**00 18 35.1**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=141,slow=7.6,SNR=5.5							
QRZ	**Quartz Range**	**52.93**	**135**	P		**P**	**00 20 39.7**	**+1.6**
MKAR	**Makanchi Array**	**67.14**	**330**	P		**P**	**00 22 16.0**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=134,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**67.14**	**330**	P		**P**	**00 22 16.4**	**+0.9**
KBL	**Kabul**	**68.00**	**313**	P		**P**	**00 22 20.2**	**-1.1**
KBL				IAmb		IAmb	00 22 22.0	
	comp=Z,1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**71.21**	**337**	P		**P**	**00 22 40.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=152,slow=6.7,SNR=3.9							
KURBB	**Kurchatov Arra**	**71.58**	**331**	P		**P**	**00 22 43.5**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=146,slow=5.2,SNR=6.1							
SNAA	**Sanae**	**92.16**	**195**	P		**P**	**00 24 31.2**	**+0.3**
SNAA				IAmb		IAmb	00 24 48.9	
	comp=Z,1.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**123.66**	**280**	PKP		**PKiKP**	**00 30 21.7**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=70,slow=2.0,SNR=2.1							

HLW ***06*** *00:15:19.8,36°.48N×23°.10E, h10km±10km, Md4.3*
ATH ***06*** *00:15:20.7,36°.41N×22°.22E, h28km, ML3.2/16, Error ellipse: s-maj=1.4km s-min=0.6km az=46.0*
ISK ***06*** *00:15:21.9,36°.58N×22°.34E, h25km, ML3.4/20*
THE ***06*** *00:15:21.8,36°.42N×22°.23E, h9km±1km, ML3.2/11, Error ellipse: s-maj=1.2km s-min=0.5km az=224.0*
IDC ***06*** *00:15:22.5±2.1,36°.51N×22°.31E, h44km±25km, mb3.6/9, mb1 3.5/15, mb1mx3.3/50, mbtmp3.6/15, ML3.1/6, Error ellipse: s-maj=44.7km s-min=17.4km az=25.0*
GII ***06*** *00:15:29.7±0.0,35°.81N×23°.11E, h15km*
ISC 06 00:15:20.2±1.2, 36°.37N±0°.04×22°.18E±0°.04, h38km±2km, n199, σ2s81/233, mb3.7/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYL	**PYLOS**	**0.63**	**327**	P		**Pn**	**00 15 33.0**	**+0.2**
PYL				S		**Sn**	**00 15 42.5**	**+0.8**
	3μm,0.3s							
PYL	**PYLOS**	**0.63**	**327**	P		**Pn**	**00 15 33.0**	**+0.2**
PYL				S		**Sn**	**00 15 42.5**	**+0.8**
PYL				AML		AML	00 15 44.1	
	comp=N,5545μm,0.5s							
PYL				AML		AML	00 15 48.7	
	comp=E,5874μm,0.2s							
KTHR	**Kythira**	**0.68**	**99**	P		**Pn**	**00 15 34.3**	**+1.0**
KTHR				S		**Sn**	**00 15 43.8**	**+1.1**
	comp=E,4μm,0.4s							
VLI	**Veliai**	**0.70**	**60**	P		**Pn**	**00 15 34.4**	**+0.7**
VLI				S		**Sn**	**00 15 44.2**	**+0.9**
	comp=E,2μm,0.4s							
VLI	**Veliai**	**0.70**	**60**	P		**Pn**	**00 15 34.4**	**+0.7**
VLI				S		**Sn**	**00 15 44.2**	**+0.9**
VLI				AML		AML	00 15 52.7	
	comp=N,5741μm,0.5s							
VLI				AML		AML	00 15 53.1	
	comp=E,3619μm,0.3s							
KTHA	**Kythira Island**	**0.72**	**98**	P		**Pn**	**00 15 35.1**	**+1.2**
KTHA				S		**Sn**	**00 15 45.2**	**+1.4**
	comp=E,3μm,0.3s							
KTHA	**Kythira Island**	**0.72**	**98**	P		**Pn**	**00 15 35.1**	**+1.2**
KTHA				S		**Sn**	**00 15 44.7**	**+0.9**
KTHA				AML		AML	00 15 46.1	
	comp=N,6534μm,0.3s							
KTHA				AML		AML	00 15 51.9	
	comp=E,7211μm,0.5s							
KTHA	**Kythira Island**	**0.72**	**98**	PG		**Pn**	**00 15 35.6**	**+1.7**
KTHA				SG		**Sn**	**00 15 45.6**	**+1.8**
MNVA	**Monemvasia**	**0.76**	**65**	P		**Pn**	**00 15 35.6**	**+1.2**
ITM	**Ithomi**	**0.84**	**346**	P		**Pn**	**00 15 36.3**	**+0.8**
ITM				S		**Sn**	**00 15 47.9**	**+1.2**
	comp=E,1μm,0.4s							
ITM	**Ithomi**	**0.84**	**346**	P		**Pn**	**00 15 36.3**	**+0.8**
ITM				S		**Sn**	**00 15 47.9**	**+1.2**
ITM				AML		AML	00 15 51.6	
	comp=N,3280μm,0.4s							
ITM				AML		AML	00 15 52.5	
	comp=E,3233μm,0.4s							
ITM	**Ithomi**	**0.84**	**346**	PG		**Pn**	**00 15 36.1**	**+0.6**
VLX	**Vlachokerasia**	**1.01**	**9**	P		**Pn**	**00 15 39.2**	**+1.2**
VLX				S		**Sn**	**00 15 53.5**	**+2.4**
	comp=E,2μm,0.7s							
VLX	**Vlachokerasia**	**1.01**	**9**	P		**Pn**	**00 15 39.3**	**+1.3**
VLX				S		**Sn**	**00 15 53.3**	**+2.2**
VLX				AML		AML	00 15 58.1	
	comp=E,3526μm,0.4s							
VLX				AML		AML	00 15 58.2	
	comp=N,3557μm,0.7s							
ANKY	**Antikythira Is**	**1.04**	**118**	P		**Pn**	**00 15 41.0**	**+2.8**
ANKY				S		**Sn**	**00 15 55.2**	**+3.7**
	comp=N,1μm,0.5s							
ANKY	**Antikythira Is**	**1.04**	**118**	P		**Pn**	**00 15 41.0**	**+2.8**
ANKY				S		**Sn**	**00 15 55.2**	**+3.7**
ANKY				AML		AML	00 16 00.2	
	comp=E,1976μm,0.6s							
ANKY				AML		AML	00 16 02.3	
	comp=N,2587μm,0.4s							
TRIP	**Tripoli**	**1.16**	**4**	P		**Pn**	**00 15 41.9**	**+1.9**
TRIP				S		**Sn**	**00 15 58.6**	**+3.9**
	comp=N,1μm,0.6s							
TRIP	**Tripoli**	**1.16**	**4**	P		**Pn**	**00 15 41.9**	**+1.9**
TRIP				S		**Sn**	**00 15 57.4**	**+2.7**
TRIP				AML		AML	00 16 04.6	
	comp=N,3172μm,0.8s							
TRIP				AML		AML	00 16 05.8	
	comp=E,1845μm,0.7s							
KRND	**KRANIDI**	**1.28**	**37**	P		**Pn**	**00 15 44.3**	**+2.8**
KRND	**KRANIDI**	**1.28**	**37**	P		**Pn**	**00 15 44.3**	**+2.8**
EPID	**Epidavros**	**1.46**	**31**	P		**Pn**	**00 15 46.8**	**+2.8**
EPID	**Epidavros**	**1.46**	**31**	P		**Pn**	**00 15 46.8**	**+2.8**
RODP	**Rodopos**	**1.51**	**122**	PN		**Pn**	**00 15 48.3**	**+3.5**
GUR	**Goura**	**1.57**	**5**	P		**Pn**	**00 15 48.7**	**+3.0**
GUR				S		**Sn**	**00 16 08.6**	**+3.8**
GUR	**Goura**	**1.57**	**5**	P		**Pn**	**00 15 48.7**	**+3.0**
GUR				S		**Sn**	**00 16 08.6**	**+3.8**
GUR				AML		AML	00 16 17.5	
	comp=E,2288μm,0.5s							
GUR				AML		AML	00 16 19.6	
	comp=N,2684μm,0.7s							
DRO	**Drossia**	**1.63**	**347**	P		**Pn**	**00 15 49.8**	**+3.4**
DRO				S		**Sn**	**00 16 10.3**	**+4.3**
	comp=N,665nm,0.6s							
DRO	**Drossia**	**1.63**	**347**	P		**Pn**	**00 15 49.7**	**+3.4**
DRO				S		**Sn**	**00 16 10.3**	**+4.3**
DRO				AML		AML	00 16 21.7	
	comp=E,1254μm,0.5s							
DRO				AML		AML	00 16 22.4	
	comp=N,1402μm,0.4s							
KNDR	**Palaiochora Ch**	**1.67**	**132**	PN		**Pn**	**00 15 50.6**	**+3.8**
KLV	**Kalavryta, Ach**	**1.67**	**359**	P		**Pn**	**00 15 50.3**	**+3.3**
KLV					S	**Sn**	**00 16 12.2**	**+4.9**
KLV	**Kalavryta, Ach**	**1.67**	**359**	P		**Pn**	**00 15 50.0**	**+3.0**
KLV					S	**Sn**	**00 16 11.2**	**+3.9**
KLV				AML		AML	00 16 25.7	
	comp=N,825μm,0.7s							
KLV				AML		AML	00 16 26.3	
	comp=E,836μm,0.6s							
THAL	**Thalero**	**1.71**	**13**	P		**Pn**	**00 15 51.4**	**+3.9**
IMMV	**Iera Moni Meta**	**1.72**	**121**	P		**Pn**	**00 15 51.1**	**+3.5**
IMMV				S		**Sn**	**00 16 13.0**	**+4.7**
IMMV	**Iera Moni Meta**	**1.72**	**121**	P		**Pn**	**00 15 51.1**	**+3.5**
IMMV				S		**Sn**	**00 16 13.0**	**+4.7**
IMMV				AML		AML	00 16 24.9	
	comp=E,846μm,0.6s							
IMMV				AML		AML	00 16 29.6	
	comp=N,1118μm,0.4s							
IMMV	**Iera Moni Meta**	**1.72**	**121**	PN		**Pn**	**00 15 51.1**	**+3.5**
LOUT	**Loutraki**	**1.74**	**21**	P		**Pn**	**00 15 51.1**	**+3.3**
LOUT	**Loutraki**	**1.74**	**21**	P		**Pn**	**00 15 51.2**	**+3.3**
LTK	**Loutraki**	**1.77**	**21**	P		**Pn**	**00 15 51.1**	**+2.8**
LTK	**Loutraki**	**1.77**	**21**	P		**Pn**	**00 15 51.1**	**+2.8**
RLS	**Riolos of Patr**	**1.78**	**342**	P		**Pn**	**00 15 52.6**	**+4.2**
RLS	**Riolos of Patr**	**1.78**	**342**	P		**Pn**	**00 15 52.5**	**+4.1**
MHLO	**Agia Marina, M**	**1.82**	**79**	P		**Pn**	**00 15 51.7**	**+2.8**
MHLO					S	**Sn**	**00 16 14.1**	**+3.3**
	comp=N,2μm,0.7s							
MHLO	**Agia Marina, M**	**1.82**	**79**	P		**Pn**	**00 15 51.7**	**+2.8**
MHLO					S	**Sn**	**00 16 14.1**	**+3.3**
MHLO				AML		AML	00 16 19.0	
	comp=N,3617μm,0.6s							
MHLO				AML		AML	00 16 21.5	
	comp=E,3110μm,0.4s							
MHLA	**Plaka, Milos I**	**1.85**	**78**	P		**Pn**	**00 15 52.4**	**+3.1**
MHLA					S	**Sn**	**00 16 15.4**	**+4.0**
MHLA				AML		AML	00 16 22.8	
	comp=N,797μm,0.8s							
MHLA				AML		AML	00 16 26.0	
	comp=E,824μm,0.6s							
LAKA	**Lakka**	**1.88**	**355**	P		**Pn**	**00 15 53.9**	**+4.1**
VAM	**Vamos**	**1.90**	**120**	P		**Pn**	**00 15 53.6**	**+3.5**
VAM	**Vamos**	**1.90**	**120**	P		**Pn**	**00 15 53.6**	**+3.5**
VLMS	**Volimes, Zakyn**	**1.93**	**322**	P		**Pn**	**00 15 53.3**	**+2.8**
VLMS					S	**Sn**	**00 16 17.3**	**+3.7**
VLMS				AML		AML	00 16 24.2	
	comp=E,1164μm,0.3s							
VLMS				AML		AML	00 16 24.6	
	comp=N,1394μm,0.4s							
VLY	**Voula,Athens**	**1.97**	**41**	P		**Pn**	**00 15 53.1**	**+2.1**
VLY	**Voula,Athens**	**1.97**	**41**	P		**Pn**	**00 15 53.1**	**+2.1**
TRIZ	**Trizonia**	**2.00**	**358**	P		**Pn**	**00 15 55.0**	**+3.6**
TRIZ	**Trizonia**	**2.00**	**358**	P		**Pn**	**00 15 55.2**	**+3.8**
VILL	**Villia**	**2.01**	**26**	P		**Pn**	**00 15 53.6**	**+2.0**
SERI	**Serifos**	**2.02**	**66**	P		**Pn**	**00 15 53.6**	**+2.0**
SERI					S	**Sn**	**00 16 18.6**	**+2.9**
	comp=N,282nm,0.3s							
SERI	**Serifos**	**2.02**	**66**	P		**Pn**	**00 15 53.7**	**+2.0**
SERI					S	**Sn**	**00 16 18.6**	**+2.9**
SERI				AML		AML	00 16 19.5	
	comp=N,607μm,0.2s							
SERI				AML		AML	00 16 23.2	
	comp=E,586μm,0.5s							
ATH	**Athens Observa**	**2.02**	**37**	P		**Pn**	**00 15 54.0**	**+2.3**
ATH	**Athens Observa**	**2.02**	**37**	P		**Pn**	**00 15 54.0**	**+2.3**
KALE	**Kalithea**	**2.02**	**359**	P		**Pn**	**00 15 55.0**	**+3.2**
KALE	**Kalithea**	**2.02**	**359**	P		**Pn**	**00 15 54.9**	**+3.2**
VIL2	**Platees**	**2.04**	**25**	P		**Pn**	**00 15 53.6**	**+1.6**
SERG	**Sergoula**	**2.04**	**357**	P		**Pn**	**00 15 55.4**	**+3.3**
SERG	**Sergoula**	**2.04**	**357**	P		**Pn**	**00 15 55.4**	**+3.3**
DSF	**Desfina**	**2.06**	**8**	P		**Pn**	**00 15 54.6**	**+2.3**
DSF	**Desfina**	**2.06**	**8**	P		**Pn**	**00 15 54.6**	**+2.3**
EFP	**Efpalio**	**2.07**	**354**	P		**Pn**	**00 15 57.1**	**+4.7**
EFP	**Efpalio**	**2.07**	**354**	P		**Pn**	**00 15 57.1**	**+4.7**
PTL	**Penteli**	**2.15**	**38**	P		**Pn**	**00 15 55.9**	**+2.3**
PTL	**Penteli**	**2.15**	**38**	P		**Pn**	**00 15 55.9**	**+2.3**
GVDS	**Gavdos**	**2.18**	**134**	PN		**Pn**	**00 15 58.0**	**+4.1**

DRME	**Dracevica, Mon**	**6.26**	**339**	*e*Pn		**Pn**		**00 16 50.4**	**+0.5**
BAI	**Bari**	**6.29**	**320**	*e*Pn		**Pn**		**00 16 51.5**	**+1.2**
BAI				Sn		**Sn**		**00 17 55.5**	**-5.3**
VAE	**Valguarnera**	**6.32**	**282**	P		**Pn**		**00 16 54.2**	**+3.4**
	comp=N,0.2nm,0.3s,baz=197,slow=17,SNR=2.0								
VAE				S		**Sn**		**00 17 59.9**	**-1.9**
	comp=N,2.1nm,0.3s,baz=175,slow=15,SNR=7.2								
PDG	**Podgorica**	**6.46**	**340**	*e*Pn		**Pn**		**00 16 52.3**	**-0.4**
HCY	**Herceg Novi**	**6.71**	**336**	*e*Pn		**Pn**		**00 16 54.2**	**-1.9**
BRY	**Bratogost**	**7.10**	**338**	*e*Pn		**Pn**		**00 17 01.7**	**0.0**
UPM	**Unac-Piva**	**7.28**	**341**	*e*Pn		**Pn**		**00 17 05.3**	**+1.2**
SWA2		**7.62**	**158**	S		**Sn**		**00 18 30.6**	**-3.1**
	baz=164								
BBLS	**Lazići**	**7.79**	**345**	*e*Pn		**Pn**		**00 17 08.2**	**-2.7**
DIVS	**Divibare**	**7.90**	**348**	*e*Pn		**Pn**		**00 17 12.2**	**-0.3**
HAPS	**Han Pijesak,BI**	**8.10**	**343**	*e*Pn		**Pn**		**00 17 14.1**	**-1.1**
FRGS	**Fruska Gora**	**8.96**	**349**	*e*Pn		**Pn**		**00 17 25.3**	**-1.7**
BLY	**Banja Luka**	**9.19**	**337**	*e*Pn		**Pn**		**00 17 30.1**	**0.0**
MLR	**Muntele Rosu**	**9.55**	**16**	P		**Pn**		**00 17 38.5**	**+3.3**
	comp=N,0.0nm,0.3s,baz=149,slow=12,SNR=1.9								
BRTR	**Keskin Array B**	**9.64**	**66**	P		**Pn**		**00 17 38.3**	**+1.8**
	comp=N,0.0nm,0.3s,baz=246,slow=14,SNR=2.3								
HSAF	**As Saff**	**10.35**	**128**	P		**Pn**		**00 17 47.3**	**+1.1**
	baz=131								
CRES	**Cresnjev**	**10.72**	**334**	*e*Pn		**Pn**		**00 17 50.3**	**-0.8**
CEY	**Cerknica**	**11.03**	**330**	*e*Pn		**Pn**		**00 17 56.1**	**+0.7**
MMAI	**Mount Meron Ar**	**11.39**	**103**	P		**Pn**		**00 17 57.4**	**-2.9**
	comp=N,0.2nm,0.3s,baz=269,slow=12,SNR=2.3								
MMAI				S		**Sn**		**00 19 58.1**	**-8.2**
	comp=N,0.7nm,0.3s,baz=313,slow=18,SNR=2.3								
NATI	**Neve Ativ**	**11.57**	**102**	Pn		**Pn**		**00 18 02.8**	**+0.1**
NATI				Sn		**Sn**		**00 20 02.4**	**-8.1**
SOKA	**Soboth**	**11.60**	**335**	*e*Pn		**Pn**		**00 18 04.2**	**+0.9**
	comp=N,1.1nm,0.4s								
AMAZ	**Amatzia**	**11.62**	**111**	Pn		**Pn**		**00 18 03.6**	**+0.1**
AMAZ				Sn		Sn		00 20 02.9	-9.0
OBKA	**Obir**	**11.63**	**333**	*e*Pn		**Pn**		**00 18 04.3**	**+0.7**
	comp=N,0.9nm,0.3s								
HMDT	**Nahal Hemdat**	**11.77**	**107**	Pn		**Pn**		**00 18 05.3**	**-0.2**
HMDT				Sn		Sn		00 20 06.9	-8.7
YTIR	**Yattir**	**11.85**	**111**	Pn		**Pn**		**00 18 06.1**	**-0.6**
YTIR				Sn		**Sn**		**00 20 09.2**	**-8.5**
ARSA	**Arzberg**	**11.95**	**338**	*e*Pn		**Pn**		**00 18 09.0**	**+1.2**
	comp=N,0.6nm,0.3s								
DSI	**Dead Sea**	**11.96**	**110**	Pn		**Pn**		**00 18 07.1**	**-0.9**
DSI				Sn		Sn		00 20 11.4	-8.7
KRMI	**Paran Flat**	**12.21**	**117**	Pn		**Pn**		**00 18 10.3**	**-1.2**
KRMI				Sn		Sn		00 20 15.4	-11
GHAJ	**Ghor Haditha**	**12.22**	**111**	Pn		**Pn**		**00 18 11.1**	**-0.5**
GHAJ				Sn		Sn		00 20 17.9	-8.6
PRNI	**Paran**	**12.28**	**116**	Pn		**Pn**		**00 18 11.6**	**-0.9**
PRNI				Sn		Sn		00 20 18.7	-9.4
EIL	**Elat**	**12.62**	**118**	P		**Pn**		**00 18 14.2**	**-3.0**
	comp=N,0.1nm,0.3s,baz=137,slow=19,SNR=1.2								
EIL				S		Sn		00 20 24.9	-11
	comp=N,0.3nm,0.3s,baz=25,slow=22,SNR=1.4								
ABTA	**Abfaltersbach**	**12.64**	**328**	*e*Pn		**Pn**		**00 18 20.0**	**+2.7**
	comp=N,0.3nm,0.2s								
ASF	**Jabal al Asfar**	**12.87**	**105**	S		Sn		00 20 33.0	-10
	comp=N,0.1nm,0.3s,baz=341,slow=16,SNR=1.4								
MOA	**Molln**	**12.88**	**335**	*e*Pn		**Pn**		**00 18 21.2**	**+0.6**
	comp=N,0.8nm,0.3s								
WTTA	**Wattenberg**	**13.41**	**328**	*e*Pn		**Pn**		**00 18 29.3**	**+1.2**
	comp=N,0.5nm,0.2s								
WATA	**Walderalm**	**13.50**	**328**	*e*Pn		**Pn**		**00 18 31.1**	**+2.0**
	comp=N,0.4nm,0.2s								
SQTA	**Sankt Quirin**	**13.57**	**326**	*e*Pn		**Pn**		**00 18 30.9**	**+0.8**
	comp=N,0.2nm,0.2s								
FETA	**Feichten**	**13.64**	**325**	*e*Pn		**Pn**		**00 18 34.5**	**+3.4**
	comp=N,0.1nm,0.1s								
MOTA	**Moosalm**	**13.71**	**327**	*e*Pn		**Pn**		**00 18 33.4**	**+1.4**
	comp=N,0.2nm,0.2s								
DAVOX	**Davos/Dischmat**	**13.87**	**322**	P		**Pn**		**00 18 36.4**	**+2.1**
	comp=N,0.1nm,0.3s,baz=349,slow=18,SNR=2.2								
DAVOX				S		Sn		00 20 55.9	-11
	comp=N,0.3nm,0.3s,baz=324,slow=20,SNR=1.9								
GERES	**GERESS Array B**	**13.93**	**336**	P		**Pn**		**00 18 35.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=153,slow=13,SNR=4.0								
AKASG	**Malin Array Be**	**15.20**	**17**	P		**Pn**		**00 18 50.6**	**-1.3**
	comp=N,0.7nm,0.3s,baz=213,slow=11,SNR=3.5								
BSD	**Bornholm Skovb**	**19.40**	**347**	*i* P		**P**		**00 19 42.0**	**-0.7**
BSD	**Bornholm Skovb**	**19.40**	**347**	*i* P		**P**		**00 19 42.0**	**-0.7**
COP	**Copenhagen**	**20.43**	**344**	*i* P		Pn		00 19 59.5	+3.2
COP	**Copenhagen**	**20.43**	**344**	*i* P		Pn		00 19 59.6	+3.3
HFS	**Hagfors**	**24.40**	**350**	P		**P**		**00 20 34.8**	**+0.1**
	comp=N,0.5nm,0.3s,baz=150,slow=12,SNR=7.2								
FINES	**FINESS Array B**	**25.22**	**4**	P		**P**		**00 20 42.4**	**+0.3**
	comp=N,1.8nm,0.4s,baz=155,slow=12,SNR=15								
NB2	**NORSAR Subarra**	**25.66**	**348**	P		**P**		**00 20 47.3**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=159,slow=9.3								
NOA	**NORSAR Array B**	**25.66**	**348**	P		**P**		**00 20 46.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=147,slow=10,SNR=4.1								
EKA	**Eskdalemuir Ar**	**25.67**	**326**	P		**P**		**00 20 48.8**	**+2.6**
	comp=Z,0.4nm,0.4s,baz=130,slow=7.7,SNR=1.3								
ARCES	**ARCESS Array B**	**33.28**	**2**	P		**P**		**00 21 54.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=183,slow=8.3,SNR=9.7								
BVAR	**Borovoye Array**	**37.31**	**48**	P		**P**		**00 22 28.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=252,slow=13,SNR=2.5								
KURBB	**Kurchatov Arra**	**42.27**	**52**	P		**P**		**00 23 09.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=279,slow=8.5,SNR=6.2								
MKAR	**Makanchi Array**	**45.15**	**57**	P		**P**		**00 23 33.2**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=273,slow=8.0,SNR=39								
ZALV	**Zalesovo Beam**	**45.94**	**47**	P		**P**		**00 23 38.9**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=268,slow=10,SNR=6.3								

*MOS **06** 00:22:30.1±0.0, 41°.25N×45°.57E, h6km, MPVA3.2*
*NORS **06** 00:22:31.5±0.0, 41°.09N×45°.53E, h11km, MPVA3.2*
*DDA **06** 00:22:31.3, 41°.17N×45°.50E, h7km±2km, ML1.9*
*DRS **06** 00:22:35.8±0.0, 41°.50N×45°.57E, h14km*
ISC 06 00:22:31.3±1.2, 41°24N±0°.03×45°48E±0°.02, h10km±14km, n26, σ0s88/47, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTNK	**Botanikuri**	**0.68**	**311**	P	**Pb**	**00 22 45.2**	**-0.1**
SEAG	**Tbilisi Sea**	**0.73**	**316**	P	**Pg**	**00 22 45.2**	**-0.2**
SEAG				S	**Sb**	**00 22 56.0**	**-0.3**
LGD	**Lagodekhi**	**0.82**	**44**	P	**Pn**	**00 22 47.9**	**-1.1**
TRLG	**Trialeti**	**1.08**	**287**	P	**Pg**	**00 22 51.6**	**-0.4**
TRLG				S	**Sg**	**00 23 06.2**	**+0.1**
KMKR	**Kumukh**	**1.50**	**53**	*e*Pg	**Pg**	**00 23 01.0**	**+0.8**
KMKR				*e*Sg	**Sg**	**00 23 20.0**	**+0.3**
EAK	**Akyaka**	**1.52**	**249**	*i* P	**Pg**	**00 23 00.7**	**-0.1**
EAK				*i* S	**Sg**	**00 23 20.8**	**+0.5**
EAK				IAML		00 23 23.0	
	comp=E,12nm,0.3s						
EAK				IAML		00 23 26.0	
	comp=N,36nm,0.4s						
BTLR	**Botlikh**	**1.53**	**21**	*e*Pg	**Pg**	**00 23 00.5**	**-0.2**
BTLR				*e*Sg	**Sg**	**00 23 21.3**	**+0.9**
XNZR	**Khunzakh**	**1.59**	**35**	*e*Pg	**Pg**	**00 23 02.8**	**+1.0**
XNZR				*e*Sg	**Sg**	**00 23 22.9**	**+0.4**
GNBR	**Gunib**	**1.60**	**44**	*e*Pg	**Pg**	**00 23 01.3**	**-0.6**
GNBR				*e*Sg	**Sg**	**00 23 23.1**	**+0.4**
AKT	**Akhty**	**1.71**	**81**	*e*Pg	**Pg**	**00 23 02.3**	**-1.8**
AKT				*e*Sg	**Sg**	**00 23 25.3**	**-1.0**
IGDI	**IGDIR**	**1.74**	**218**	*i* P	**Pg**	**00 23 03.6**	**+0.3**
IGDI				*i* S	**Sg**	**00 23 27.0**	**-0.2**
IGDI				IAML		00 23 29.0	
	comp=N,20nm,0.3s						
IGDI				IAML		00 23 29.0	
	comp=E,16nm,0.3s						
DVE	**Vedeno**	**1.78**	**15**	*e*Pg	**Pg**	**00 23 05.5**	**0.0**
DVE				*e*Sg	**Sg**	**00 23 29.9**	**+1.3**
DIGO	**Kars**	**1.80**	**243**	*i* P	**Pg**	**00 23 05.5**	**-0.3**
DIGO				*i* S	**Sb**	**00 23 28.9**	**+1.7**
DIGO				IAML		00 23 34.0	
	comp=E,24nm,0.6s						
DIGO				IAML		00 23 37.0	
	comp=N,14nm,0.3s						
LACR	**Lac**	**1.81**	**331**	*e*Pg	**Pg**	**00 23 05.0**	**-1.1**
LACR				*e*Sg	**Sg**	**00 23 31.0**	**+1.4**
URKR	**Urkarakh**	**1.86**	**59**	*e*Pg	**Pg**	**00 23 07.4**	**+0.4**
URKR				*e*Sg	**Sg**	**00 23 32.8**	**+1.7**
GROC	**Groznyy**	**1.98**	**7**	*e*Pg	**Pg**	**00 23 09.3**	**+0.1**
BUJR	**Buynaksk**	**2.00**	**37**	*e*Pg	**Pg**	**00 23 09.0**	**-0.5**
BUJR				*e*Sg	**Sg**	**00 23 36.6**	**+1.2**
ONI	**Oni**	**2.03**	**312**	P	**Pb**	**00 23 08.6**	**+0.3**
ONI				S	**Sg**	**00 23 35.8**	**-0.7**
DBC	**Dubki**	**2.04**	**29**	*e*Pg	**Pg**	**00 23 09.0**	**-1.4**
DBC				*e*Sg	**Sg**	**00 23 37.3**	**+0.3**
EPOS	**Posof**	**2.09**	**278**	*i* P	**Pb**	**00 23 09.9**	**+0.5**
EPOS				IAML		00 23 41.0	
	comp=N,7.3nm,0.9s						
EPOS				IAML		00 23 41.0	
	comp=E,5.5nm,0.4s						
KORR	**Kora**	**2.12**	**331**	*e*Pg	**Pg**	**00 23 11.8**	**-0.2**
KORR				*e*Sg	**Sg**	**00 23 40.4**	**+0.9**
ARNR	**Ardon**	**2.13**	**336**	*e*Pg	**Pg**	**00 23 11.3**	**-0.8**
ARNR				*e*Sg	**Sg**	**00 23 40.2**	**+0.3**
TKB	**Tkibuli**	**2.17**	**302**	P	**Pb**	**00 23 10.1**	**-0.6**
TKB				S	**Sb**	**00 23 39.2**	**+1.6**
DIGR	**Digorskoe uzhe**	**2.18**	**320**	*e*Pg	**Pb**	**00 23 11.1**	**+0.1**
DIGR				*e*Sg	**Sg**	**00 23 40.2**	**-1.1**
LSNR	**Lesken**	**2.38**	**329**	*e*Pn	**Pb**	**00 23 14.3**	**0.0**
LSNR				*e*Sn	**Sg**	**00 23 46.4**	**-1.3**
ARTV	**Artvin**	**2.68**	**270**	*i* P	**Pb**	**00 23 20.4**	**+0.8**

*TEH **06** 01:03:04.5, 32°.75N×47°.74E, h5km, ML2.7*
*ISN **06** 01:03:04.2±2.1, 32°.70N×47°.69E, h9km±11km, ML2.5*
ISC 06 01:03:04.5±1.3, 32°53N±0°.08×47°73E±0°.05, h10km, n13, σ1s46/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.41**	**292**	*e*Pg	**Pg**	**01 03 12.5**	**0.0**
DHL1				*e*Sg	**Sg**	**01 03 18.7**	**+0.8**
IKFM	**Kafar-mosalman**	**1.00**	**6**	*e*Pg	**Pg**	**01 03 21.1**	**-2.6**
IKFM				*e*		01 03 36.4	
IKMR	**Kamar-syah**	**1.13**	**29**	*e*Pg	**Pb**	**01 03 23.9**	**-2.2**
IKMR				*e*		01 03 27.9	
IDOB	**Doab**	**1.31**	**17**	*e*	**Pg**	**01 03 32.0**	**+2.4**
IBDR	**Badra**	**1.62**	**291**	*e*Pg	**Pn**	**01 03 32.0**	**-1.1**
	baz=105						
IBDR				*e*Sg	**Sb**	**01 03 55.0**	**0.0**
IBDR				AML	AML	01 03 59.5	
	comp=N,88nm,0.4s						
IBDR				AML	AML	01 04 02.8	
	comp=E,57nm,0.6s						
IKOM	**Komasi**	**1.65**	**354**	*e*Pg	**Pn**	**01 03 34.2**	**+0.5**
IKOM				*e*		01 03 37.2	
HSAM	**Samen**	**1.83**	**23**	*e*Pg	**Pn**	**01 03 37.6**	**+1.3**
HSAM				*e*		01 03 39.0	
IBZA	**Bozab**	**1.94**	**3**	*e*	**Pg**	**01 03 42.3**	**+0.6**
IGHG	**Ghaleghazi**	**2.04**	**332**	*e*Pn	**Pn**	**01 03 39.7**	**+0.6**
IGHG				*e*		01 04 21.9	
IDHR	**Dehrash**	**2.44**	**333**	*e*Pn	**Pn**	**01 03 45.6**	**+1.1**
IDHR				*e*		01 03 51.0	
JHBN	**Jahan bin**	**2.50**	**96**	*e*Pn	**Pb**	**01 03 48.8**	**-0.9**
JHBN				*e*		01 04 36.5	
IPIR	**Pirpir**	**2.67**	**86**	*e*Pn	**Pb**	**01 03 51.3**	**-1.3**
IPIR				*e*		01 04 38.9	
BHD	**Baghdad**	**2.91**	**286**	*e*Pn	**Pn**	**01 03 52.0**	**+1.1**
BHD				*e*Sn	**Sn**	**01 04 27.0**	**+1.1**
BHD				AML	AML	01 04 30.4	
	comp=E,35nm,0.4s						

*VAO **06** 01:04:13.5±1.6, 3°.26S×78°.36W, h131km±7km, mb4.2*
*IGQ **06** 01:04:15.4±0.6, 3°.5S±5°×78°.8W±°, h87km, M4.1*
ISC 06 01:04:13.1±1.0, 3°.24S±0°.08×78°.03W±0°.06, h100km, n78, σ1s59/80, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**0.47**	**280**	P	**Pn**	**01 04 29.6**	**+0.6**
SANGA	**Volcan Sangay**	**1.23**	**344**	P	**Pn**	**01 04 37.0**	**+0.5**
SANGA				S	**Sn**	**01 04 53.6**	**-0.6**
COHC	**Cochancay**	**1.45**	**302**	P	**Pn**	**01 04 38.9**	**+0.2**
COHC				S	**Sn**	**01 04 56.1**	**-2.0**
GONZ	**Gonzanam**	**1.69**	**234**	P	**Pn**	**01 04 45.4**	**+3.3**
PUYO	**Puyo, Santa Ro**	**1.73**	**0**	P	**Pn**	**01 04 43.0**	**+0.6**
APUY	**Puyo**	**1.77**	**1**	P	**Pn**	**01 04 43.4**	**+0.6**
BPAT	**Tungurahua Vol**	**1.77**	**347**	P	**Pn**	**01 04 40.6**	**-2.6**
ARRY	**Arrayan**	**1.77**	**346**	P	**Pn**	**01 04 43.3**	**+0.2**
BMAS	**Trigal station**	**1.78**	**345**	P	**Pn**	**01 04 43.5**	**+0.2**
RETU	**Refugio**	**1.82**	**347**	P	**Pn**	**01 04 44.4**	**+0.4**
BULB	**Ulba Tungurahu**	**1.83**	**348**	P	**Pn**	**01 04 44.0**	**+0.1**
BBIL	**Ulba Tungurahu**	**1.83**	**345**	P	**Pn**	**01 04 44.4**	**+0.5**
IGUA	**Igualata**	**1.84**	**341**	P	**Pn**	**01 04 48.2**	**+4.0**
BRUN	**Tungurahua Vol**	**1.84**	**348**	P	**Pn**	**01 04 44.4**	**+0.3**
JUI6	**Juive**	**1.85**	**346**	P	**Pn**	**01 04 44.6**	**+0.4**
ARNL	**Arrayan**	**2.06**	**261**	P	**Pn**	**01 04 46.5**	**0.0**
ISPG	**Isla Puna-Puer**	**2.16**	**277**	P	**Pn**	**01 04 48.7**	**+0.9**
PIS1	**Pisayambo**	**2.19**	**351**	P	**Pn**	**01 04 49.6**	**+0.9**
MCRA	**Macar, Loja**	**2.23**	**240**	P	**Pn**	**01 04 50.1**	**+1.3**
ARDO	**Archidona, Ten**	**2.24**	**6**	P	**Pn**	**01 04 48.6**	**-0.3**
MORR	**Playas El Morr**	**2.38**	**284**	P	**Pn**	**01 04 50.5**	**-0.2**
VCES	**Cotopaxi**	**2.45**	**351**	P	**Pn**	**01 04 53.6**	**+1.6**
BMOR	**Cotopaxi Volca**	**2.52**	**350**	P	**Pn**	**01 04 54.7**	**+1.5**
TAMB	**Tambo**	**2.55**	**352**	P	**Pn**	**01 04 54.8**	**+1.4**
BTAM	**Cotopaxi Volca**	**2.57**	**352**	P	**Pn**	**01 04 55.0**	**+1.3**
BREF	**Cotopaxi Volca**	**2.58**	**351**	P	**Pn**	**01 04 55.2**	**+1.3**
BNAS	**Cotopaxi Volca**	**2.59**	**350**	P	**Pn**	**01 04 55.4**	**+1.5**
ILLI	**Illinizas Sur**	**2.60**	**344**	P	**Pn**	**01 04 56.6**	**+2.6**
VC1	**Cotopaxi 1**	**2.60**	**352**	P	**Pn**	**01 04 55.6**	**+1.5**
ANTM	**Antisana-La Mi**	**2.69**	**356**	P	**Pn**	**01 04 56.1**	**+0.8**
ANTG	**Antisana-Guama**	**2.72**	**355**	P	**Pn**	**01 04 56.8**	**+1.0**
ANTS	**Antisana-Sarah**	**2.72**	**357**	P	**Pn**	**01 04 56.4**	**+0.6**
ANTI	**Antisana**	**2.77**	**357**	P	**Pn**	**01 04 57.0**	**+0.6**
GGPC	**Guagua Pichinc**	**3.09**	**349**	P	**Pn**	**01 05 01.5**	**+0.8**
PINO	**Pino**	**3.11**	**349**	P	**Pn**	**01 05 02.1**	**+1.1**
REVS	**Reventador Sur**	**3.14**	**7**	P	**Pn**	**01 05 00.6**	**-0.4**
YANA	**Yana**	**3.14**	**350**	P	**Pn**	**01 05 02.5**	**+1.2**
LAV4	**Lava4-Reventad**	**3.15**	**7**	P	**Pn**	**01 05 00.8**	**-0.3**
CONE	**Cono NE Rev Vo**	**3.17**	**7**	P	**Pn**	**01 05 01.3**	**-0.1**
PPLP	**Puerto Lpez**	**3.22**	**301**	P	**Pn**	**01 04 60.0**	**-1.9**
PULU	**Pululahua**	**3.27**	**352**	P	**Pn**	**01 05 03.7**	**+0.8**
FLF1	**Flavio Alfaro-**	**3.39**	**328**	P	**Pn**	**01 05 03.4**	**-0.7**
FLFR	**Flavio Alfaro**	**3.39**	**328**	P	**Pn**	**01 05 03.2**	**-0.9**
OTAV	**Otavalo**	**3.48**	**353**	*e*P	**Pn**	**01 05 07.2**	**+1.5**
OTAV	**Otavalo**	**3.48**	**353**	*e*P	**Pn**	**01 05 06.4**	**+0.7**
CUIC	**Cuicocha-Domo**	**3.53**	**355**	P	**Pn**	**01 05 08.7**	**+2.3**
CUSE	**Cuicocha Este**	**3.54**	**354**	*e*P	**Pn**	**01 05 09.4**	**+2.9**
CUSE	**Cuicocha Este**	**3.54**	**354**	P	**Pn**	**01 05 10.7**	**+4.2**
PAC1	**Pacto, Paraso**	**3.56**	**348**	*e*P	**Pn**	**01 05 08.0**	**+1.4**
URCU	**Urcuqui**	**3.66**	**356**	P	**Pn**	**01 05 10.3**	**+2.2**
CAB1	**Cabo Pasado-Ma**	**3.71**	**320**	P	**Pn**	**01 05 07.0**	**-1.4**
CABP	**Cabo Pasado**	**3.71**	**320**	P	**Pn**	**01 05 06.9**	**-1.5**
ECEN	**Cerro Negro**	**4.03**	**1**	P	**Pn**	**01 05 09.2**	**-4.1**
PUAC	**Puerto Asis, P**	**4.03**	**21**	*e*P	**Pn**	**01 05 12.4**	**-0.4**
GCUF	**Volcan Galeras**	**4.48**	**9**	*e*P	**Pn**	**01 05 20.6**	**+1.3**
CCUFI	**Cufio, Nario**	**4.49**	**9**	*e*P	**Pn**	**01 05 19.6**	**+0.3**
PTLC	**Puerto Leguiza**	**4.68**	**44**	*e*P	**Pn**	**01 05 17.9**	**-3.6**
CRUC	**La Cruz**	**4.89**	**13**	*e*P	**Pn**	**01 05 25.1**	**+0.4**
BBAC	**Balboa, Cauca**	**5.28**	**9**	*e*P	**Pn**	**01 05 30.6**	**+0.7**
FLOC	**Florencia**	**5.34**	**26**	*e*P	**Pn**	**01 05 29.6**	**-1.0**
PCON	**Cinco Dias**	**5.76**	**16**	*e*P	**Pn**	**01 05 36.7**	**-0.1**
POPC	**Popayan, Colom**	**5.89**	**13**	*e*P	**Pn**	**01 05 39.2**	**+0.9**
GARC	**Garzon, Huila**	**5.95**	**25**	*e*P	**Pn**	**01 05 38.6**	**-0.5**
MARP	**Paez Belalcaza**	**6.38**	**19**	*e*P	**Pn**	**01 05 47.2**	**+2.3**
MACC	**Macarena, Meta**	**6.78**	**38**	*e*P	**Pn**	**01 05 50.0**	**-0.1**
CZSB	**Cruzeiro do Su**	**6.93**	**130**	*e*P	**Pn**	**01 05 56.3**	**+4.2**
YOTC	**Yotoco, Valle**	**7.37**	**13**	*e*P	**Pn**	**01 05 56.8**	**-1.3**
PRAC	**Prado**	**7.58**	**24**	*e*P	**Pn**	**01 06 02.4**	**+1.4**
TOLC	**Tolima**	**8.23**	**19**	*e*P	**Pn**	**01 06 08.9**	**-1.1**
VILC	**Villavicencio,**	**8.49**	**31**	*e*P	**Pn**	**01 06 15.4**	**+2.0**
RREF	**El Recreo**	**8.51**	**18**	*e*P	**Pn**	**01 06 14.1**	**-0.2**
CHIC	**Chingaza**	**8.91**	**29**	*e*P	**Pn**	**01 06 20.2**	**+0.7**
SAML	**Samuel**	**15.81**	**112**	*e*P	**P**	**01 07 52.0**	**+0.1**
ITTB	**Itaituba**	**22.27**	**94**	*e*P	**P**	**01 09 03.9**	**+1.6**
NPGB	**Novo Progresso**	**22.89**	**100**	*e*P	**P**	**01 09 09.7**	**+1.1**
MALB	**Monte Alegre**	**23.78**	**87**	*e*P	**P**	**01 09 17.0**	**+0.2**
MCPB	**Macapa, AP**	**26.11**	**84**	*e*P	**P**	**01 09 39.0**	**+1.0**
SDBA	**SAO DESIDERIO**	**34.02**	**107**	*e*P	**P**	**01 10 47.0**	**-0.9**

*IDC **06** 01:07:38.6±0.6, 62°.99N×172°.27E, h0km, mb4.2/33, mb1 4.4/36, mb1mx4.3/66, mbtmp4.2/36, ML4.7/3, MS3.8/28, Ms1 3.8/28, ms1mx3.6/53, Error ellipse: s-maj=16.3km s-min=10.8km az=174.0*
*NERS **06** 01:07:40.2±0.0, 62°.91N×172°.41E, h25km*
*MOS **06** 01:07:41.0±1.0, 63°.04N×172°.21E, h23km, mb4.7/48, MS4.0/8, Error ellipse: s-maj=10.3km s-min=6.5km az=95.8*
*NEIC **06** 01:07:42.2±2.1, 63°.06N±0°.08×172°.2E±0°.1, h17km±4km, mb4.5/120, Error ellipse: s-maj=12.2km s-min=9.0km az=177.0*
ISC 06 01:07:40.8±0.3, 63°03N±0°.06×172°31E±0°.04, h10km, n329, σ1s41/324, mb4.5/126, MS3.9/35, 14C-12D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**5.62**	**336**	*c i*P	**Pn**	**01 09 05.0**	**+0.7**
BILL				pmax	pmax		
	comp=Z,119nm,0.5s						
BILL	**Bilibino**	**5.62**	**336**		**Pn**	**01 09 04.7**	**+0.4**
GAMB	**Gambell**	**7.21**	**77**		**Pn**	**01 09 25.4**	**-0.7**
OMS	**Omsukchan**	**7.60**	**274**	*e*		01 11 42.2	
TNA	**Tin City**	**8.94**	**65**	Pn	**Pn**	**01 09 49.8**	**0.0**
SEY	**Seymchan**	**9.07**	**278**	Pn	**Pn**	**01 09 54.5**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=116,slow=11,SNR=5.5						
SEY				Lg	Lg	01 12 28.4	
	comp=Z,1.4nm,0.3s,baz=50,slow=18,SNR=7.2						
SEY	**Seymchan**	**9.07**	**278**	*e*Pg	**Pn**	**01 09 51.3**	**-0.2**
SEY				*e*Sg	Sn	01 11 47.6	+14
SEY				Sgmax		01 12 37.6	
SEY	**Seymchan**	**9.07**	**278**	*ie*P	**Pn**	**01 09 52.7**	**+1.2**
ANM	**Nome**	**9.97**	**71**	P	**Pn**	**01 10 03.2**	**-0.7**
ANM	**Nome**	**9.97**	**71**	Pn	**Pn**	**01 10 03.2**	**-0.7**
SPIA	**Saint Paul Isl**	**10.47**	**116**	Pn	**Pn**	**01 10 08.4**	**-2.4**
MA2	**Magadan**	**10.90**	**261**	Lg	Lg	01 13 32.4	
	comp=Z,1.2nm,0.3s,baz=290,slow=13,SNR=1.7						
MA2				LR	LR	01 14 44.0	
	comp=Z,350nm,18.8s,baz=68,slow=39						
MA2	**Magadan**	**10.90**	**261**	*e*Sg	Sn	01 12 47.5	+29
MA2	**Magadan**	**10.90**	**261**	*ie*P	**Pn**	**01 10 16.0**	**-0.6**
MA2				pmax	pmax		
	comp=Z,24nm,1.2s						
SUUS	**Susuman**	**10.99**	**279**	*e*Pg	**Pn**	**01 10 20.9**	**+3.0**
SUUS				*e*Sg	Sn	01 13 02.5	+42
SUUS				Sgmax		01 13 40.9	
	comp=Z,80nm,0.8s						
PET	**Petropavlovsk**	**12.34**	**222**	*ie*P	**Pn**	**01 10 36.4**	**+0.2**
PETK	**Petropavlovsk-**	**12.56**	**224**	Pn	**Pn**	**01 10 43.2**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=4.5						
PETK				LR	LR	01 15 50.3	
	comp=Z,246nm,18.4

ZEA MLR MLR
comp=E,400nm,13.0s
ZEA MLR MLR
comp=N,400nm,9.0s
ZEA MLR MLR
comp=Z,500nm,10.0s
ASAJ Asahikawa 25.50 236 LR LR 01 23 29.5
comp=Z,266nm,19.6s,baz=31,slow=37
DLBC Dease Lake 27.72 73 P **P** **01 13 30.0 +1.1**
comp=Z,3.3nm,0.8s,baz=325,slow=9.2,SNR=4.3
DLBC LR LR 01 25 28.9
comp=Z,300nm,20.2s,baz=294,slow=39
DLBC Dease Lake 27.72 73 P **P** **01 13 29.5 +0.6**
DLBC IAmb IAmb 01 13 36.3
comp=Z,15nm,1.2s
USRK Ussuriysk Ar. 29.73 250 P **P** **01 13 48.7 +1.9**
comp=Z,1.1nm,0.7s,baz=139,slow=40,SNR=1.4
USRK LR LR 01 27 40.4
comp=Z,129nm,18.0s,baz=28,slow=40
USRK Ussuriysk Ar. 29.73 250 P **P** **01 13 47.7 +0.9**
USRK Ussuriysk Ar. 29.73 250 P **P** **01 13 47.7 +0.9**
MDJ Mudanjiang 30.43 253 P **P** **01 13 53.8 +0.8**
MDJ pmax pmax
comp=Z,14nm,1.6s
YKA Yellowknife Ar 31.80 57 P **P** **01 14 05.0 +0.1**
comp=Z,2.4nm,0.7s,baz=308,slow=8.9,SNR=9.4
YKA LR LR 01 27 15.6
comp=Z,89nm,19.2s,baz=0.0,slow=37
NRIK Noril'sk 32.13 318 P **P** **01 14 07.3 -0.5**
comp=Z,3.3nm,0.7s,baz=80,slow=11,SNR=6.0
NRIK LR LR 01 28 09.2
comp=Z,114nm,18.2s,baz=17,slow=38
NRIK Noril'sk 32.13 318 *de*P **P** **01 14 08.0 +0.3**
NRIK pmax pmax
comp=Z,6.0nm,0.9s
CN2 Changchun 32.90 257 *e*P **P** **01 14 15.2 +0.5**
CN2 *e*S S 01 19 19.6 -13
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,380nm,7.1s
CN2 LR LR
comp=N,430nm,15.0s
CN2 LR LR
comp=E,430nm,15.0s
CN2 LR LR
comp=Z,370nm,13.0s
MAJO Matsushiro 33.73 234⇑ *e*P **P** **01 14 21.3 -0.7**
MAJO pmax pmax
comp=Z,15nm,1.0s
MJAR Matsushiro Arr 33.73 234 P **P** **01 14 21.6 -0.4**
comp=Z,6.8nm,0.9s,baz=13,slow=7.7,SNR=6.9
MJAR LR LR 01 28 41.6
comp=Z,224nm,19.7s,baz=130,slow=38
MJAR Matsushiro Arr 33.73 234 P **P** **01 14 21.8 -0.2**
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR Matsushiro Arr 33.73 234 P **P** **01 14 21.8 -0.2**
KSRS Korea Array 37.04 248 P **P** **01 14 50.5 +0.1**
comp=Z,1.4nm,0.4s,baz=21,slow=9.4,SNR=3.9
KSRS LR LR 01 31 18.4
comp=Z,130nm,18.5s,baz=78,slow=38
ZAK Zakamensk 37.99 284 *e*P **P** **01 14 59.0 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 38.14 278⇓ *e*P **P** **01 15 00.9 +1.0**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN MLR MLR
comp=Z,193nm,15.0s
SPITS Spitsbergen Ar 38.28 352 P **P** **01 14 59.8 -0.8**
comp=Z,5.4nm,0.8s,baz=52,slow=9.3,SNR=1.9
SONM Songino Array 38.46 279 P **P** **01 15 03.1 +0.6**
comp=Z,3.6nm,1.0s,baz=49,slow=7.7,SNR=12
SONM PcP **PcP** **01 17 14.8 -0.6**
comp=Z,1.8nm,0.7s,baz=28,slow=0.7,SNR=6.5
SONM Songino Array 38.46 279 P **P** **01 15 03.3 +0.7**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 38.46 279 P **P** **01 15 03.3 +0.7**
B08A Colville Reser 39.17 79 P **P** **01 15 07.7 -0.7**
B08A IAmb IAmb 01 15 10.8
comp=Z,6.3nm,0.8s
LTY Liberty 39.39 81 P **P** **01 15 10.3 +0.1**
LTY IAmb IAmb 01 15 12.7
comp=Z,5.7nm,0.8s
BJI Beijing 40.06 262 P **P** **01 15 16.3 +0.5**
BJI pmax pmax
comp=Z,9.0nm,0.7s
NEW Newport 40.22 77 P **P** **01 15 18.0 +0.9**
NEW pmax pmax
comp=Z,7.0nm,1.3s
NEW Newport 40.22 77 P **P** **01 15 18.0 +0.9**
DAG Danmarks Havn 40.27 4 *e*P P 01 15 12.3 -4.8
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 40.27 4 *i*P P 01 15 12.3 -4.8
comp=Z,7.1nm,0.8s
DAG Danmarks Havn 40.27 4 *e*P P 01 15 12.4 -4.8
DAG IAmb IAmb 01 15 19.5
comp=Z,7.1nm,0.8s
E07A Sunnyside 40.28 81 P **P** **01 15 19.2 +1.6**
E07A IAmb IAmb 01 15 20.3
comp=Z,8.7nm,1.0s
D08A Wollman Farm, 40.33 80 P **P** **01 15 19.3 +1.3**
D08A IAmb IAmb 01 15 22.0
comp=Z,6.5nm,0.7s
HAWA Hanford 40.55 81 P **P** **01 15 21.5 +1.6**
HAWA IAmb IAmb 01 15 22.3
comp=Z,9.6nm,1.3s
WALA Waterton Lakes 41.05 74 P **P** **01 15 24.4 +0.4**
WALA IAmb IAmb 01 15 26.4
comp=Z,8.8nm,0.8s
E09A Wood Farm, Sta 41.09 80 P **P** **01 15 25.3 +1.1**
E09A IAmb IAmb 01 15 26.5
comp=Z,16nm,1.4s
HHC Hu-ho-hao-te 41.51 267 *e*P **P** **01 15 29.5 +1.6**
HHC S **S** **01 21 44.4 +1.2**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,220nm,6.6s
HHC LR LR
comp=N,530nm,16.4s
HHC LR LR
comp=E,500nm,12.6s
HHC LR LR
comp=Z,190nm,15.2s
JTMT Jette 41.87 76 P **P** **01 15 30.3 -0.6**
F10A Beach Ranch, E 41.91 80 P **P** **01 15 32.1 +0.9**
PINE Pine Mountain 41.92 85 P **P** **01 15 31.1 -0.2**
PINE IAmb IAmb 01 15 36.8
comp=Z,11nm,0.7s
MSO Missoula 42.72 76 P **P** **01 15 38.5 +0.7**
MSO IAmb IAmb 01 15 40.0
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 42.73 88 P **P** **01 15 38.4 +0.6**
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 42.73 88 P **P** **01 15 38.4 +0.6**
BMO Blue Mountains 42.74 81 P **P** **01 15 37.5 -0.4**
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 42.74 81 P **P** **01 15 37.5 -0.4**
K05A Summer Lake 42.77 86 P **P** **01 15 39.5 +1.3**
K05A IAmb IAmb 01 15 41.2
comp=Z,9.6nm,1.0s
SUMG Summit 43.06 13 *e*P P 01 15 36.4 -4.1
SUMG Summit 43.06 13 *i*P P 01 15 36.4 -4.1
SUMG Summit 43.06 13 *e*P P 01 15 36.5 -4.1
PLID Pearl Lake 43.14 80 P **P** **01 15 42.6 +1.3**
ZALV Zalesovo Beam 43.14 300 P **P** **01 15 41.9 +1.0**
comp=Z,0.5nm,0.6s,baz=37,slow=15,SNR=3.8
ZALV PcP **PcP** **01 17 30.6 +0.3**
comp=Z,2.9nm,0.9s,baz=46,slow=4.2,SNR=4.3
ZALV LR LR 01 34 25.5
comp=Z,127nm,18.4s,baz=7.0,slow=37
ZALV Zalesovo Beam 43.14 300 P **P** **01 15 42.6 +1.7**
ZALV Zalesovo Beam 43.14 300 P **P** **01 15 42.6 +1.7**
J08A Circle Bar Ran 43.37 83 P **P** **01 15 44.9 +1.9**
J08A IAmb IAmb 01 15 45.8
comp=Z,9.4nm,1.3s
EGMT Eagleton 43.64 72 P **P** **01 15 45.2 +0.1**
EGMT IAmb IAmb 01 15 46.8
comp=Z,10nm,0.9s
MOD Modoc Plateau 43.69 86 P **P** **01 15 46.5 +0.8**
MOD IAmb IAmb 01 15 56.4
comp=Z,4.5nm,0.7s
WDC Whiskeytown Da 43.72 89 P **P** **01 15 45.2 -0.5**
WDC pmax pmax
comp=Z,4.0nm,1.0s
WDC Whiskeytown Da 43.72 89 P **P** **01 15 45.2 -0.5**
MFID Camas Ranch 44.52 81 P **P** **01 15 53.8 +1.5**
MFID IAmb IAmb 01 16 00.9
comp=Z,4.6nm,1.0s
BOZ Bozeman (W) 44.69 76 P **P** **01 15 54.7 +1.0**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 44.69 76 P **P** **01 15 54.7 +1.0**
HLID Hailey 45.04 80 P **P** **01 15 57.8 +1.3**
DGZ Jazzator, Alta 45.31 295⇓ *e*P **P** **01 15 57.7 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
GCMT Greycliff 45.41 74 P **P** **01 15 59.4 +0.1**
YHL Hebgen Lake 45.47 76 P **P** **01 16 01.2 +1.1**
NJ2 Nanjing 45.53 253 *e*P **P** **01 16 00.8 +0.6**
NJ2 pmax pmax
comp=Z,14nm,0.6s
ARCES ARCESS Array B 45.66 344 P **P** **01 16 02.2 +1.4**
comp=Z,2.3nm,0.7s,baz=23,slow=8.2,SNR=13
ARCES LR LR 01 37 25.4
comp=Z,97nm,18.0s,baz=35,slow=39
YHH Holmes Hill 45.67 76 P **P** **01 16 03.0 +1.4**
PAHR Pah Rah Range 45.86 87 P **P** **01 16 03.7 +0.6**
YNE Yellowstone No 45.87 75 P **P** **01 16 04.2 +1.1**
RLMT Red Lodge 46.10 74 P **P** **01 16 06.4 +1.5**
RLMT IAmb IAmb 01 16 07.7
comp=Z,9.6nm,1.0s
FLWY Flagg Ranch 46.29 76 P **P** **01 16 08.5 +2.1**
IMW Indian Meadow 46.33 77 P **P** **01 16 08.9 +2.1**
IMW IAmb IAmb 01 16 13.7
comp=Z,3.4nm,0.8s
FXWY Fox Creek 46.50 77 P **P** **01 16 08.7 +0.6**
FXWY IAmb IAmb 01 16 10.9
comp=Z,5.2nm,1.1s
TPAW Teton Pass 46.65 77 P **P** **01 16 11.1 +1.8**
TPAW IAmb IAmb 01 16 14.6
comp=Z,4.4nm,0.8s
LOHW Long Hollow 46.70 77 P **P** **01 16 10.7 +1.1**
LOHW IAmb IAmb 01 16 12.5
comp=Z,5.1nm,0.9s
ELK Elko 46.91 83 P **P** **01 16 12.5 +1.2**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 46.91 83 P **P** **01 16 12.5 +1.2**
KVN Kaiserville 46.98 87 P **P** **01 16 12.7 +0.9**
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 46.98 87 P **P** **01 16 12.7 +0.9**
NVAR Mina Array Bea 47.39 87 P **P** **01 16 14.5 -0.6**
comp=Z,0.8nm,0.7s,baz=311,slow=7.2,SNR=6.2
NVAR Mina Array Bea 47.39 87 P **P** **01 16 15.8 +0.8**
MDPB Devils Postpil 47.69 88 P **P** **01 16 18.2 +0.8**
MDPB IAmb IAmb 01 16 28.7
comp=Z,3.4nm,1.0s
ULM Lac du Bonnet 47.69 60 P **P** **01 16 17.1 +0.1**
comp=Z,5.2nm,0.6s,baz=322,slow=6.6,SNR=11
ULM LR LR 01 37 37.9
comp=Z,159nm,18.7s,baz=315,slow=38
ULM Lac du Bonnet 47.69 60 P **P** **01 16 16.6 -0.3**
OMMB Old Mammoth Mi 47.74 88 P **P** **01 16 19.2 +1.3**
OMMB IAmb IAmb 01 16 29.9
comp=Z,5.5nm,1.4s
PD31 Pinedale Array 47.84 76 P **P** **01 16 17.9 -0.6**
PD31 IAmb IAmb 01 16 24.0
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 47.84 76 P **P** **01 16 17.8 -0.7**
comp=Z,3.8nm,0.8s,baz=9.9,slow=3.5,SNR=20
PDAR LR LR 01 38 38.1
comp=Z,175nm,18.3s,baz=329,slow=39
PDAR Pinedale Array 47.84 76 P **P** **01 16 17.7 -0.9**
GTA Gaotai 48.01 276 *e*P **P** **01 16 21.4 +1.6**
GTA pP sP 01 16 25.4 +1.1
GTA sP pP 01 16 28.3 +5.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.7s
GTA LR LR
comp=N,500nm,13.5s
GTA LR LR
comp=E,880nm,13.5s
GTA LR LR
comp=Z,360nm,14.2s
KURK Kurchatov 48.06 301⇓ *e*P **P** **01 16 20.2 +0.3**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURK MLR MLR
comp=Z,225nm,16.0s
KURK Kurchatov 48.06 301 P **P** **01 16 20.1 +0.3**
KURK IAmb IAmb 01 16 24.1
comp=Z,10nm,1.4s
ZSN Zaisan 48.13 294 *e*P **P** **01 16 20.3 -0.2**
ZSN Zaisan 48.13 294 *e*P **P** **01 16 20.2 -0.2**
TPH Tonopah 48.17 87 P **P** **01 16 21.2 +0.1**
TPH pmax pmax
comp=Z,12nm,0.6s
TPH Tonopah 48.17 87 P **P** **01 16 21.1 +0.1**
LZH Lanzhou 48.89 270 *e*P **P** **01 16 27.1 +0.5**
LZH pP sP 01 16 33.4 +2.2
LZH sP pP 01 16 36.7 +6.8
LZH pmax pmax
comp=Z,17nm,1.3s
LZH LR LR
comp=N,600nm,14.0s
LZH LR LR
comp=E,760nm,14.8s
LZH LR LR
comp=Z,440nm,15.2s
RSSD Black Hills 49.17 71 P **P** **01 16 27.7 -1.1**
RSSD pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 49.17 71 P **P** **01 16 27.7 -1.1**
RSSD IAmb IAmb 01 16 30.7
comp=Z,5.0nm,0.9s
K22A Casper 49.27 74 P **P** **01 16 30.2 +0.7**
K22A IAmb IAmb 01 16 33.0
comp=Z,6.3nm,1.0s
BRVK Borovoye 49.29 309⇓ *e*P **P** **01 16 29.9 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
BRVK MLR MLR
comp=Z,130nm,15.0s
SVE Sverdlovsk 49.40 318 *e*P **P** **01 16 30.5 +0.5**
RDMU Red Mountain 49.60 78 P **P** **01 16 32.8 +0.8**
PRN Pahroc Range 49.70 85 P **P** **01 16 34.0 +1.2**
PRN IAmb IAmb 01 16 37.8
comp=Z,3.3nm,0.9s
MK31 Makanchi Array 49.72 296⇓ *e*P **P** **01 16 32.5 -0.2**
MKAR Makanchi Array 49.72 296 P **P** **01 16 31.5 -1.2**
comp=Z,1.1nm,0.7s,baz=52,slow=6.5,SNR=8.8
MKAR PP **PP** **01 18 29.7 +2.9**
comp=Z,1.3nm,0.9s,baz=30,slow=9.8,SNR=4.9
MKAR LR LR 01 37 27.9
comp=Z,154nm,18.5s,baz=24,slow=36
MKAR Makanchi Array 49.72 296 P **P** **01 16 32.3 -0.4**
MKAR Makanchi Array 49.72 296 P **P** **01 16 32.2 -0.4**
WMQ Urumqi 49.83 289 *e*P **P** **01 16 37.0 +3.4**
MSU Marysvale 50.10 82 P **P** **01 16 37.8 +1.9**
MSU Marysvale 50.10 82 P **P** **01 16 37.8 +1.9**
ARU Arti 50.36 319 P **P** **01 16 36.5 -0.8**
comp=Z,0.5nm,0.4s,baz=99,slow=7.6,SNR=4.1
ARU Arti 50.36 319 *c i*P **P** **01 16 36.7 -0.6**
ARU S **S** **01 23 49.5 -0.3**
ARU SS **SS** **01 27 19.2 -3.5**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 50.36 319 P **P** **01 16 37.0 -0.3**
ARU IAmb IAmb 01 16 53.8
comp=Z,3.4nm,0.9s
SRU San Rafael Swe 50.36 80 P **P** **01 16 38.6 +0.8**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 50.36 80 P **P** **01 16 38.6 +0.8**
GSC Goldstone, Bar 50.64 88 P **P** **01 16 39.6 -0.3**
GSC pmax pmax
comp=Z,4.0nm,1.1s
GSC Goldstone, Bar 50.64 88 P **P** **01 16 39.6 -0.3**
GSC IAmb IAmb 01 16 50.3
comp=Z,4.3nm,1.1s
KLMR Klimovskoe 51.36 333 *e*P P 01 16 38.9 -5.8
KLMR pmax pmax
comp=Z,8.0nm,1.3s
KLMR Klimovskoe 51.36 333 *e*P P 01 16 39.0 -5.8
KLMR AMP 01 16 40.0
comp=Z,8.0nm,1.3s
U15A North Rim 51.76 84 P **P** **01 16 48.9 +0.4**
PFO Pinyon Flats O 52.20 89⇓ *e*P **P** **01 16 51.7 +0.1**
PFO pmax pmax
comp=Z,3.0nm,1.0s
NRS Narsarsuaq 52.88 22 P **P** **01 16 57.7 +1.6**
NRS pmax pmax
comp=Z,27nm,0.7s
NRS Narsarsuaq 52.88 22 P **P** **01 16 57.7 +1.6**
FINES FINESS Array B 53.25 341 P **P** **01 16 57.5 -1.2**
comp=Z,2.5nm,0.7s,baz=20,slow=6.1,SNR=9.7
FINES LR LR 01 44 09.7
comp=Z,58nm,18.0s,baz=20,slow=41
FINES FINESS Array B 53.25 341 *i*P **P** **01 16 58.0 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
SDCO Great Sand Dun 53.72 77 P **P** **01 17 03.9 +0.9**
SCHQ Schefferville 53.80 38 LR LR 01 41 06.7
comp=Z,89nm,21.8s,baz=338,slow=37
X16A Lo Mia Camp, P 53.82 84 P **P** **01 17 04.7 +1.2**
X16A IAmb IAmb 01 17 13.4
comp=Z,2.8nm,0.8s
SHLS Shalkode 53.84 295 *e*P **P** **01 17 01.3 -2.3**
SHLS Shalkode 53.84 295 *e*P **P** **01 17 01.3 -2.3**
KPKS Kokpek 53.91 296 *e*P **P** **01 17 03.4 -0.6**
KPKS Kokpek 53.91 296 *e*P **P** **01 17 03.4 -0.6**
UZB Uzynbulak 54.03 295 *e*P **P** **01 17 04.7 -0.4**
UZB Uzynbulak 54.03 295 *e*P **P** **01 17 04.6 -0.4**
CHKK Chushkaly 54.28 297 *e*P **P** **01 17 06.9 +0.3**
CHKK Chushkaly 54.28 297 *e*P **P** **01 17 06.9 +0.3**
SATY Saty 54.36 296 *e*P **P** **01 17 07.2 -0.2**
SATY Saty 54.36 296 *e*P **P** **01 17 07.1 -0.2**
BTLS Baital 54.47 300 *e*P **P** **01 17 08.2 +0.2**
BTLS Baital 54.47 300 *e*P **P** **01 17 08.1 +0.2**
KUU Kurty 54.51 298 *e*P **P** **01 17 07.8 -0.5**
KUU Kurty 54.51 298 *e*P **P** **01 17 07.8 -0.5**
MDOK Medeo 54.83 297 *e*P **P** **01 17 10.7 -0.2**
MDOK Medeo 54.83 297 *e*P **P** **01 17 10.6 -0.2**
NB2 NORSAR Subarra 55.42 349 P **P** **01 17 12.9 -1.8**
comp=Z,5.0nm,0.6s,baz=10,slow=7.4
NOA NORSAR Array B 55.42 349 P **P** **01 17 13.7 -1.0**
comp=Z,1.5nm,0.7s,baz=10,slow=7.4,SNR=5.4
NOA LR LR 01 41 43.9
comp=Z,43nm,19.1s,baz=25,slow=37
ANMO Albuquerque 55.62 80⇑ *e*P **P** **01 17 17.9 +1.2**
ANMO pmax pmax
comp=Z,1.0nm,1.3s
AKTO Aktyubinsk 55.65 315 P **P** **01 17 16.0 -0.4**
comp=Z,1.3nm,0.6s,baz=42,slow=7.3,SNR=4.4
GYA Guiyang 55.74 261 *e*P **P** **01 17 17.7 +0.2**
GYA pmax pmax
comp=Z,15nm,0.8s
ABKAR Akbulak array 56.04 313 P **P** **01 17 18.8 -0.4**
ABKAR IAmb IAmb 01 17 22.3
comp=Z,4.2nm,1.0s
ABKAR Akbulak array 56.04 313 P **P** **01 17 18.7 -0.5**
KSU1 Kansas State U 56.47 69 P **P** **01 17 22.7 +0.2**
KONO Kongsberg 56.94 350⇑ *e*P **P** **01 17 27.2 +1.8**
KONO pmax pmax
comp=Z,25nm,1.7s
BELG Belogornoye 57.03 323 *de*P **P** **01 17 25.8 -0.3**
OBN Obninsk 57.26 332⇓ *e*P **P** **01 17 26.7 -1.1**
OBN *PP **sP** **01 17 34.0 +1.6**
OBN PPP PPP 01 20 58.0
OBN SSS SSS 01 31 34.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,81nm,15.0s
KKAR Karatay Array 57.48 302 P **P** **01 17 28.6 -1.0**
KKAR Karatay Array 57.48 302 P **P** **01 17 28.6 -1.0**
P40A Paris 58.02 65 P **P** **01 17 33.5 +0.1**
KSH Kashi 58.33 295 P **P** **01 17 41.9 +6.2**
KSH S **S** **01 25 42.5 +4.6**
KSH pmax pmax
comp=Z,22nm,2.1s
KSH pmax pmax
comp=Z,92nm,4.3s
KSH LR LR
comp=N,200nm,7.5s
KSH LR LR
comp=E,610nm,14.6s
KMI Kunming 58.66 264 ⇑P **P** **01 17 38.4 +0.1**
KMI pP sP 01 17 44.9 +2.0
KMI pmax pmax
comp=Z,26nm,0.5s
MNTX Cornudas Mount 58.84 81 P **P** **01 17 40.9 +1.6**
MNTX IAmb IAmb 01 17 48.5
comp=Z,3.7nm,0.9s
S39A Bolivar 59.05 67 P **P** **01 17 40.2 -0.4**
S39A IAmb IAmb 01 17 41.4
comp=Z,5.0nm,0.9s
LPSR Galich'ya Gora 59.05 329 *e*P **P** **01 17 38.1 -2.3**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
WMOK Wichita Mounta 59.20 73 P **P** **01 17 42.8 +1.1**
WMOK pmax pmax
comp=Z,8.0nm,1.2s
WMOK Wichita Mounta 59.20 73 P **P** **01 17 42.8 +1.1**
WMOK IAmb IAmb 01 17 43.7
comp=Z,8.2nm,1.1s
U38A Gravette 59.66 69 P **P** **01 17 45.3 +0.4**
U38A IAmb IAmb 01 17 49.1
comp=Z,5.2nm,0.8s
VRH Novokhopyorsk 59.66 326 *e*P **P** **01 17 42.5 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MGMO Mountain Grove 59.95 67 P **P** **01 17 46.0 -0.8**
HHAR Hobbs 59.98 69 P **P** **01 17 46.5 -0.5**
FVM French Village 60.01 65 P **P** **01 17 48.3 +1.1**
FVM pmax pmax
comp=Z,10.0nm,0.7s
FVM French Village 60.01 65 P **P** **01 17 48.2 +1.1**
VSR Storozhevoye 60.28 328 *e*P **P** **01 17 47.2 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
T42A Van Buren 60.54 66 P **P** **01 17 51.4 +0.5**
T42A IAmb IAmb 01 17 53.9
comp=Z,6.8nm,1.1s
WCI Wyandotte Cave 61.48 61 P **P** **01 17 57.3 +0.1**
WCI pmax pmax
comp=Z,8.0nm,1.0s
WCI Wyandotte Cave 61.48 61 P **P** **01 17 57.3 +0.1**
TX31 Lajitas Ar. Si 61.62 81 P **P** **01 18 00.3 +1.9**
TX32 Lajitas Array 61.62 81 P **P** **01 18 00.1 +1.7**
TX32 IAmb IAmb 01 18 08.2
comp=Z,3.8nm,1.2s
TXAR Lajitas Array 61.62 81 P **P** **01 17 57.5 -0.9**
comp=Z,0.6nm,0.6s,baz=343,slow=3.9,SNR=7.5
TXAR LR LR 01 44 05.1
comp=Z,85nm,20.4s,baz=0.0,slow=36
TXAR Lajitas Array 61.62 81 P **P** **01 17 59.3 +0.9**
TXAR Lajitas Array 61.62 81 P **P** **01 17 59.3 +0.9**
EKA Eskdalemuir Ar 61.92 357 P **P** **01 17 59.9 -0.1**
comp=Z,0.7nm,0.4s,baz=6.8,slow=6.2,SNR=4.5
JCT Junction City 62.37 77 P **P** **01 18 04.6 +1.2**
JCT pmax pmax
comp=Z,6.0nm,0.7s
JCT Junction City 62.37 77 P **P** **01 18 04.6 +1.2**
WVT Waverly 62.66 64 P **P** **01 18 04.8 -0.4**
WVT pmax pmax
comp=Z,4.0nm,0.7s
WVT Waverly 62.66 64 P **P** **01 18 04.8 -0.4**
WVT IAmb IAmb 01 18 10.6
comp=Z,3.8nm,0.7s
AKASG Malin Array Be 62.94 335 P **P** **01 18 05.2 -1.5**
comp=Z,3.6nm,0.7s,baz=21,slow=6.6,SNR=8.1
AKASG LR LR 01 48 18.0
comp=Z,79nm,18.7s,baz=15,slow=39
AKASG Malin Array Be 62.94 335 *i*P **P** **01 18 07.5 +0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 62.94 335⇓ *e*P **P** **01 18 07.9 +1.1**
S51A Beattyville 63.06 60 P **P** **01 18 07.6 -0.2**
R53A Hurricane 63.10 58 P **P** **01 18 09.0 +0.9**
CLTN Cedars of Leba 63.30 63 P **P** **01 18 08.2 -1.2**
SWET Sewanee 64.22 63 P **P** **01 18 15.0 -0.6**
SWET IAmb IAmb 01 18 16.2
comp=Z,4.0nm,0.7s
NIL Nilore 64.47 294 P **P** **01 18 17.4 +0.2**

NIL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
NIL	**Nilore**	**64.47**	**294**	P	**P**	**01 18 17.4**	**+0.2**	
V52A	**Sevierville**	**64.62**	**61**	P	**P**	**01 18 18.2**	**0.0**	
V53A	**Saluda**	**65.08**	**60**	P	**P**	**01 18 20.7**	**-0.4**	
KBL	**Kabul**	**65.42**	**298**	P	**P**	**01 18 22.3**	**-1.3**	
KBL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KBL	**Kabul**	**65.42**	**298**	P	**P**	**01 18 22.3**	**-1.3**	
KBL				IAmb	IAmb	01 18 27.4		
	comp=Z,4.3nm,0.7s							
MAK	**Makhachkala**	**65.59**	**319**	*eP*	**P**	**01 18 21.0**	**-3.3**	
MAK				*e*		01 20 47.8		
MAK				*e*PPP	PPP	01 22 20.8		
MAK				*e*S	**S**	**01 27 03.0**	**-6.2**	
MAK				*e*SS	**SS**	**01 31 20.2**	**-1.8**	
KOLS	**Kolonicke sedl**	**65.89**	**339**	*eP*	**P**	**01 18 26.2**	**+0.1**	
KOLS	**Kolonicke sedl**	**65.89**	**339**	*eP*	**P**	**01 18 26.2**	**+0.1**	
CRVS	**Cervenica-Dubn**	**66.05**	**339**	*eP*	**P**	**01 18 28.4**	**+1.2**	
CRVS	**Cervenica-Dubn**	**66.05**	**339**	*eP*	**P**	**01 18 28.4**	**+1.2**	
KVAR	**Kislovodsk Arr**	**66.07**	**323**	P	**P**	**01 18 25.6**	**-1.9**	
	comp=Z,4.2nn,0.8s,baz=72,slow=13,SNR=2.4							
KIV	**Kislovodsk**	**66.08**	**323**	*eP*	**P**	**01 18 28.8**	**+1.3**	
KIV				pmax	pmax			
	comp=Z,22nn,1.1s							
KIV				MLR	MLR			
	comp=Z,126nn,17.0s							
CMAR	**Chiang Mai Arr**	**66.18**	**264**	P	**P**	**01 18 26.4**	**-1.9**	
	comp=Z,1.6nn,0.7s,baz=20,slow=9.6,SNR=8.2							
CMAR	**Chiang Mai Arr**	**66.18**	**264**	*ceP*	**P**	**01 18 28.5**	**+0.1**	
CMAR				pmax	pmax			
	comp=Z,2.0nn,0.7s							
CMAR	**Chiang Mai Arr**	**66.18**	**264**	P	**P**	**01 18 26.9**	**-1.4**	
KBZ	**Khabaz**	**66.22**	**322**	P	**P**	**01 18 28.8**	**+0.5**	
	comp=Z,4.6nn,0.9s,baz=351,slow=1.1,SNR=11							
KBZ				LR	LR	01 49 44.8		
	comp=Z,108nn,19.7s,baz=54,slow=38							
KBZ	**Khabaz**	**66.22**	**322**	*de*P	**P**	**01 18 29.2**	**+0.9**	
KBZ				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GEYT	**Alibeck**	**66.61**	**308**	P	**P**	**01 18 30.8**	**-0.2**	
	comp=Z,3.8nm,0.7s,baz=12,slow=7.9,SNR=10							
GEYT				LR	LR	01 48 28.9		
	comp=Z,85nm,20.5s,baz=35,slow=37							
GEYT	**Alibeck**	**66.61**	**308**	P	**P**	**01 18 29.5**	**-1.5**	
GYA0B	**ALIBECK ARRAY**	**66.61**	**308**	P	**P**	**01 18 30.7**	**-0.2**	
BUR08	**Bucovina Ar. S**	**66.63**	**336**	P	**P**	**01 18 31.8**	**+0.8**	
BUR08				IAmb	IAmb	01 18 33.4		
	comp=Z,3.2nn,1.0s							
BURAR	**Bucovina Array**	**66.65**	**336**	P	**P**	**01 18 34.1**	**+2.9**	
BURAR	**Bucovina Array**	**66.65**	**336**	P	**P**	**01 18 31.0**	**-0.2**	
ZEI	**Tsey**	**66.81**	**321**	*eP*	**P**	**01 18 31.5**	**-0.9**	
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VYHS	**Vyhne**	**66.85**	**341**	*eP*	**P**	**01 18 33.8**	**+1.5**	
VYHS	**Vyhne**	**66.85**	**341**	*eP*	**P**	**01 18 33.8**	**+1.5**	
AKT	**Akhty**	**66.87**	**318**	*eP*	**P**	**01 18 32.9**	**+0.2**	
AKT				*e*		01 19 00.8		
AKT				pmax	pmax			
	comp=Z,11nn,0.9s							
KHC	**Kasperske Hory**	**66.92**	**345**	*eP*	**P**	**01 18 32.6**	**-0.2**	
KHC				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GERES	**GERESS Array B**	**67.19**	**345**	P	**P**	**01 18 33.4**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=21,slow=4.6,SNR=7.7							
GERES	**GERESS Array B**	**67.19**	**345**	P	**P**	**01 18 32.6**	**-2.0**	
CONA	**Conrad Observa**	**67.82**	**343**	*eP*	**P**	**01 18 38.6**	**0.0**	
	comp=Z,7.0nm,1.9s							
HRA	**Herat**	**68.23**	**303**	P	**P**	**01 18 42.5**	**+1.1**	
HRA				IAmb	IAmb	01 18 45.6		
	comp=Z,6.3nm,1.2s							
MLR	**Muntele Rosu**	**68.56**	**335**	P	**P**	**01 18 43.3**	**0.0**	
	comp=Z,1.6nm,0.6s,baz=172,slow=2.9,SNR=6.7							
MLR	**Muntele Rosu**	**68.56**	**335**	P	**P**	**01 18 44.1**	**+0.8**	
MLR				pmax	pmax			
	comp=Z,11nm,1.5s							
MLR	**Muntele Rosu**	**68.56**	**335**	P	**P**	**01 18 44.0**	**+0.8**	
MOTA	**Moosalm**	**68.96**	**346**	*eP*	**P**	**01 18 44.4**	**-1.4**	
	comp=Z,2.5nm,1.0s							
KBA	**Koelnbreinsper**	**68.97**	**345**	*eP*	**P**	**01 18 45.6**	**-0.3**	
	comp=Z,3.9nm,0.8s							
WTTA	**Wattenberg**	**68.99**	**346**	*eP*	**P**	**01 18 45.2**	**-0.8**	
	comp=Z,4.1nm,0.8s							
SQTA	**Sankt Quirin**	**69.08**	**346**	*eP*	**P**	**01 18 46.6**	**+0.1**	
	comp=Z,2.5nm,0.7s							
BZS	**Buzias**	**69.21**	**338**	P	**P**	**01 18 49.8**	**+2.6**	
FETA	**Feichten**	**69.32**	**347**	*eP*	**P**	**01 18 47.2**	**-0.9**	
	comp=Z,3.2nm,1.2s							
OBKA	**Obir**	**69.38**	**344**	*eP*	**P**	**01 18 47.7**	**-0.7**	
	comp=Z,7.6nm,0.8s							
ABTA	**Abfaltersbach**	**69.40**	**345**	*eP*	**P**	**01 18 47.9**	**-0.5**	
	comp=Z,3.4nm,1.3s							
DAVOX	**Davos/Dischmat**	**69.65**	**347**	P	**P**	**01 18 49.2**	**-1.0**	
	comp=Z,2.7nm,0.7s,baz=354,slow=12,SNR=8.8							
KVT	**Kavak**	**70.52**	**326**	P	**P**	**01 18 59.5**	**+4.2**	
BR131	**Keskin Array S**	**72.40**	**328**	*eP*	**P**	**01 19 06.3**	**-0.5**	
BR131	**Keskin Array S**	**72.40**	**328**	P	**P**	**01 19 06.0**	**-0.9**	
BRTR	**Keskin Array B**	**72.40**	**328**	P	**P**	**01 19 06.5**	**-0.3**	
	comp=Z,1.4nm,0.8s,baz=28,slow=3.3,SNR=6.9							
BRTR				LR	LR	01 53 09.9		
	comp=Z,18nm,19.9s,baz=7.0,slow=38							
BRTR	**Keskin Array B**	**72.40**	**328**	*i* P	**P**	**01 19 06.5**	**-0.3**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**72.40**	**328**	P	**P**	**01 19 04.6**	**-2.2**	
GAZ	**Gaziantep**	**73.89**	**324**	P	**P**	**01 19 16.8**	**+1.2**	
GAZ				IAmb	IAmb	01 19 24.4		
	comp=Z,4.8nm,0.9s							
ESDC	**Sonseca Array**	**77.60**	**357**	P	**P**	**01 19 35.6**	**-1.1**	
	comp=Z,0.5nm,0.7s,baz=14,slow=6.2,SNR=5.1							
ESDC	**Sonseca Array**	**77.60**	**357**	P	**P**	**01 19 36.4**	**-0.3**	
IDI	**Anoyia**	**78.61**	**333**	P	**P**	**01 19 39.4**	**-3.0**	
	comp=Z,2.7nm,0.6s,baz=18,slow=13,SNR=1.9							
IDI	**Anoyia**	**78.61**	**333**	P	**P**	**01 19 40.5**	**-2.0**	
PSI	**Prapat**	**80.02**	**256**	P	**P**	**01 19 48.6**	**-1.8**	
	comp=Z,3.3nm,0.3s,baz=96,slow=19,SNR=1.8							
RPSI	**Rantau Prapat**	**80.11**	**256**	P	**P**	**01 19 48.6**	**-2.1**	
WRA	**Warramunga Arr**	**87.91**	**215**	P	**P**	**01 20 29.2**	**-1.1**	
	comp=Z,0.9nm,0.7s,baz=16,slow=5.0,SNR=4.0							
ASAR	**Alice Springs**	**91.58**	**215**	P	**P**	**01 20 46.6**	**-0.8**	
	comp=Z,0.6nm,0.7s,baz=14,slow=4.8,SNR=3.6							
ASAR	**Alice Springs**	**91.58**	**215**	P	**P**	**01 20 47.3**	**-0.1**	
ASAR	**Alice Springs**	**91.58**	**215**	P	**P**	**01 20 47.3**	**-0.1**	
ROSC	**El Rosal**	**96.06**	**67**	LR	LR	02 11 59.3		
	comp=Z,27nm,19.7s,baz=234,slow=40							
STKA	**Stephens Creek**	**97.71**	**206**	LR	LR	02 03 08.5		
	comp=Z,42nn,21.1s,baz=27,slow=34							
QSPA	**South Pole Qui**	**152.81**	**180**	PKPbc	**PKPbc**	**01 27 35.2**	**-1.0**	
	comp=Z,2.8nm,0.6s,baz=72,slow=1.0,SNR=3.5							
QSPA	**South Pole Qui**	**152.81**	**180**		**PKPbc**	**01 27 34.4**	**-1.8**	

*NEIC **06** 01:08:53.7±2.9, 4°.46S±0°.06×130°.95E±0°.06, h43km±10km, mb4.1/13, Error ellipse: s-maj=11.9km s-min=3.3km az=135.0*

*IDC **06** 01:08:54.3±2.5, 4°.39S×131°.03E, h45km±29km, mb3.7/3, mb1 4.2/6, mb1mx3.6/53, mbtmp4.2/6, ML4.3/3, MS3.6/6, Ms1 3.5/6, ms1mx3.1/43, Error ellipse: s-maj=36.9km s-min=20.6km az=71.0*

*DJA **06** 01:08:55.1±0.2, 4°.5S±3°×13°.1E±°, h65km±9km, M4.3/9, mB5.0/1, mb4.5/7, MLv4.3/9, Mw(mB)4.2/1*

ISC 06 01:08:53.3±0.6, 4°.43S±0°.06×131°.00E±0°.06, h35km, n42, σ1♀91/40, mb4.1/6, MS3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.10**	**265**	P	**Pn**		**01 09 12.8**	**+0.6**
BNDI				S	**Sn**		**01 09 26.9**	**+0.7**
FAKI	**Fak Fak**	**1.95**	**40**	P	**Pn**		**01 09 26.3**	**+2.4**
FAKI	**Fak Fak**	**1.95**	**40**	Pn	**Pn**		**01 09 26.5**	**+2.6**
MSAI	**Masohi**	**2.33**	**297**	P	**Pn**		**01 09 28.7**	**-0.5**
MSAI				S	**Sn**		**01 09 55.5**	**-1.2**
SIJI	**Sorong**	**3.55**	**4**	P	**Pn**		**01 09 46.4**	**+0.5**
	12nm,0.3s,baz=245,slow=23,SNR=23							
SIJI				S	**Sn**		**01 10 24.1**	**-2.6**
	16nm,0.3s,baz=105,slow=23,SNR=12							
NLAI	**Namlea**	**4.07**	**287**	P	**Pn**		**01 09 55.1**	**+2.0**
RKPI	**Ransiki, Papua**	**4.29**	**48**	P	**Pn**		**01 09 59.3**	**+3.1**
MTN	**Manton Dam**	**8.36**	**179**	Pn	**Pn**		**01 10 53.0**	**+0.9**
SOEI	**Soe**	**8.53**	**231**	P	**Pn**		**01 10 56.6**	**+2.1**
	49nm,1.0s							
BATI	**Baumata**	**9.27**	**231**	P	**Pn**		**01 11 05.9**	**+1.3**
	5.7nm,0.3s,baz=114,slow=3.4,SNR=8.2							
BATI				LR	LR		01 14 46.2	
	comp=Z,197nm,18.4s,baz=177,slow=38							
BATI	**Baumata**	**9.27**	**231**	P	**Pn**		**01 11 08.5**	**+3.9**
	58nm,0.9s							
EDFI	**Ende, Flores**	**10.20**	**245**	P	**Pn**		**01 11 20.6**	**+3.2**
	7.9nm,0.9s							
KAPI	**Kappang**	**11.23**	**267**	LR	LR		01 15 44.6	
	comp=Z,94nm,18.5s,baz=72,slow=36							
KAPI	**Kappang**	**11.23**	**267**	Pn	**Pn**		**01 11 32.4**	**+0.9**
KNRA	**Kununurra**	**11.39**	**191**	Pn	**Pn**		**01 11 32.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**14.56**	**201**	P	**Pn**		**01 12 13.1**	**-3.9**
	0.1nm,0.3s,baz=16,slow=18,SNR=3.3							
FITZ				S	Sn		01 14 45.0	-12
	0.3nm,0.3s,baz=278,slow=15,SNR=2.8							
FITZ	**Fitzroy Crossi**	**14.56**	**201**	Pn	**Pn**		**01 12 15.9**	**-1.0**
COEN	**Coen**	**15.29**	**129**	Pn	**Pn**		**01 12 26.4**	**-0.3**
WB0	**Warramunga Arr**	**15.60**	**168**	Pn	**Pn**		**01 12 27.9**	**-2.9**
WB0				IAmb	IAmb		01 12 37.8	
	comp=Z,19nm,1.1s							
WRAB	**Tennant Creek**	**15.75**	**168**	P	**P**		**01 12 37.7**	**+1.4**
WRAB				IAmb	IAmb		01 12 46.7	
	comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**15.76**	**168**	P	**Pn**		**01 12 30.1**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=352,slow=14,SNR=18							
WRA				S	Sn		01 15 13.7	-13
	comp=Z,1.3nm,0.3s,baz=351,slow=24,SNR=8.7							
WRA	**Warramunga Arr**	**15.76**	**168**		**Pn**		**01 12 30.0**	**-2.8**
WB2	**Warramunga Arr**	**15.76**	**168**	Pn	**Pn**		**01 12 29.7**	**-3.1**
WR0	**Warramunga Arr**	**15.82**	**168**	Pn	**Pn**		**01 12 32.0**	**-1.5**
AS31	**Alice Springs**	**19.33**	**172**	P	**P**		**01 13 16.5**	**+0.7**
ASAR	**Alice Springs**	**19.33**	**172**	P	**P**		**01 13 16.6**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=351,slow=10,SNR=36							
ASAR				S	S		01 16 42.5	-10
	comp=Z,0.3nm,0.3s,baz=353,slow=14,SNR=5.3							
MBWA	**Marble Bar**	**19.91**	**212**	P	**P**		**01 13 21.7**	**-0.4**
PSA00	**Pilbara Seismi**	**20.19**	**211**	P	**P**		**01 13 22.9**	**-2.2**
PSA00				IAmb	IAmb		01 13 24.7	
	comp=Z,14nm,1.1s							
KRVT	**Keravat (AS076**	**20.96**	**90**	LR	LR		01 23 01.4	
	comp=Z,90nm,20.2s,baz=144,slow=40							
CTA	**Charters Tower**	**21.51**	**138**	P	**P**		**01 13 39.4**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=282,slow=16,SNR=2.0							
MORW	**Morawa**	**28.32**	**208**	P	**P**		**01 14 42.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**38.93**	**307**	P	**P**		**01 16 15.9**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=135,slow=7.4,SNR=8.0							
CMAR	**Chiang Mai Arr**	**38.93**	**307**	P	**P**		**01 16 15.2**	**-1.0**
ERM	**Erimo**	**47.53**	**12**	P	**P**		**01 17 26.9**	**+1.7**
MK31	**Makanchi Array**	**66.66**	**326**	P	**P**		**01 19 40.2**	**-0.3**
MK31				IAmb	IAmb		01 19 40.6	
	comp=Z,1.2nm,0.7s							
MKAR	**Makanchi Array**	**66.66**	**326**	P	**P**		**01 19 40.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=116,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**66.66**	**326**	P	**P**		**01 19 40.2**	**-0.3**
KURK	**Kurchatov**	**70.87**	**328**	P	**P**		**01 20 07.0**	**+0.4**
KURK				IAmb	IAmb		01 20 08.7	
	comp=Z,1.9nm,0.9s							
VNDA	**Vanda**	**74.87**	**173**	P	**P**		**01 20 29.6**	**-0.3**
VNDA				IAmb	IAmb		01 20 34.0	
	comp=Z,3.0nm,1.4s							
MAW	**Mawson**	**77.69**	**201**	LR	LR		01 53 33.6	
	comp=Z,56nm,19.1s,baz=224,slow=34							
INK	**Inuvik**	**96.12**	**22**	LR	LR		02 01 01.5	
	comp=Z,34nn,19.9s,baz=163,slow=32							
DLBC	**Dease Lake**	**98.45**	**32**	LR	LR		02 03 42.6	
	comp=Z,56nn,18.6s,baz=269,slow=33							

*NEIC **06** 01:14:31.6±3.1, 38°.56S±0°.05×176°.44E±0°.06, h123km±3km, mb5.2/54, Mwr5.1/17, Mww5.1, ML5.1(WEL), Error ellipse: s-maj=8.2km s-min=6.5km az=152.0*

*NEIC **06** 01:14:31.8, 38°.58S×176°.47E, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.38; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-2.41; $M_{r\theta}$3.56; $M_{\theta\phi}$1.39; $M_{\phi r}$-1.66; Fault plane solution: $M_0$4.80000×10^{16} NP1:ϕ_s124.65000°, δ74.86000°, λ68.59000°. NP2:ϕ_s0.97000°, δ26.02000°, λ143.45000°. Principal axes: T 4.9951, Plg55.0000°, Azm8.0000°; N -0.4062, Plg21.0000°, Azm130.0000°; P -4.5890, Plg27.0000°, Azm231.0000°;*

*NEIC **06** 01:14:32, 38°.59S×176°.34E, h110km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.53; $M_{\theta\theta}$0.83; $M_{\phi\phi}$-3.36; $M_{r\theta}$4.00; $M_{\theta\phi}$3.54; $M_{\phi r}$-1.62; Fault plane solution: $M_0$6.35000×10^{16} NP1:ϕ_s8.00000°, δ39.00000°, λ156.00000°. NP2:ϕ_s117.00000°, δ75.00000°, λ54.00000°. Principal axes: T 5.8891, Plg47.0000°, Azm349.0000°; N 0.8383, Plg35.0000°, Azm128.0000°; P -6.7275, Plg22.0000°, Azm234.0000°;*

*WEL **06** 01:14:32.6, 38°.5S±1°×17°.6E±°, h113km±2km, M5.1/52, MLv5.1/52 Error ellipse: s-maj=0.0km s-min=0.0km az=78.3*

*GCMT **06** 01:14:33.6±0.2, 38°.45S±0°.01×176°.42E±0°.02, h122km±2km, MW5.2/106, Moment Tensor Solution. s62,c81; s106,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.94±.17; $M_{\theta\theta}$3.09±.20; $M_{\phi\phi}$-4.03±.19; $M_{r\theta}$5.07±.12; $M_{\theta\phi}$2.22±.18; $M_{\phi r}$-2.27±.12; Best double couple: $M_0$6.99900×10^{16} NP1:ϕ_s24.00000°, δ37.00000°, λ172.00000°. NP2:ϕ_s121.00000°, δ85.00000°, λ53.00000°. Principal axes: T 7.2040, Plg38.0000°, Azm358.0000°; N -0.4150, Plg37.0000°, Azm125.0000°; P -6.7940, Plg30.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **06** 01:14:38.3±1.2, 38°.30S×176°.40E, h169km±10km, mb4.6/23, mb1 4.6/24, mb1mx4.6/29, mbtmp5.1/24, MS3.8/14, Ms1 3.8/14, ms1mx3.6/34 Error ellipse: s-maj=10.7km s-min=8.8km az=46.0*

ISC 06 01:14:32.7±0.5, 38°.47S±0°.03×176°.42E±0°.03, h125km±3km, n348, σ1♀86/365, mb5.1/48, North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.04**	**216**	P	**Pn**		**01 14 48.1**	**-1.6**
PRRZ				S	**Sn**		**01 14 59.0**	**-3.6**
ALRZ	**Allen Road**	**0.12**	**213**	P	**Pn**		**01 14 48.1**	**-1.7**
ALRZ				S	**Sn**		**01 15 00.0**	**-2.7**
HRRZ	**Handcock Road**	**0.13**	**304**	P	**Pn**		**01 14 48.2**	**-1.7**
RRRZ	**Republican Roa**	**0.14**	**29**	P	**Pn**		**01 14 48.2**	**-1.7**
RRRZ				S	**Sn**		**01 14 59.9**	**-2.9**
HSRZ	**Hossack Road**	**0.21**	**317**	P	**Pn**		**01 14 48.5**	**-1.5**
WPRZ	**Whakapapatarin**	**0.21**	**255**	P	**Pn**		**01 14 48.5**	**-1.5**
HLRZ	**Highlands Stat**	**0.22**	**345**	P	**Pn**		**01 14 49.0**	**-1.1**
TARZ	**Mount Tarawera**	**0.24**	**16**	P	**Pn**		**01 14 48.8**	**-1.4**
TARZ				S	**Sn**		**01 14 60.0**	**-3.4**
GRRZ	**Galatos Road**	**0.27**	**295**	P	**Pn**		**01 14 48.8**	**-1.4**
UTU	**Utuhina**	**0.34**	**328**	P	**Pn**		**01 14 49.2**	**-1.3**
OMRZ	**Omania**	**0.36**	**353**	P	**Pn**		**01 14 49.2**	**-1.4**
MRHZ	**Matea Rd**	**0.37**	**181**	P	**Pn**		**01 14 49.3**	**-1.3**
NGRZ	**Ngongotaha**	**0.41**	**333**	P	**Pn**		**01 14 49.5**	**-1.3**
WHTZ	**Whakaora**	**0.42**	**241**	P	**Pn**		**01 14 49.9**	**-0.9**
RTZ	**Ruatahuna**	**0.46**	**109**	P	**Pn**		**01 14 49.9**	**-1.2**
RTZ				S	**Sn**		**01 15 03.3**	**-1.7**
LIRZ	**Lichensteins R**	**0.46**	**356**	P	**Pn**		**01 14 49.7**	**-1.4**
KARZ	**Kaharoa**	**0.47**	**342**	P	**Pn**		**01 14 49.4**	**-1.6**
KUTZ	**Kaahu Road**	**0.47**	**267**	P	**Pn**		**01 14 49.7**	**-1.3**
HATZ	**Hinemaiaia**	**0.50**	**211**	P	**Pn**		**01 14 49.9**	**-1.3**
MTHZ	**Maungataniwha**	**0.51**	**140**	P	**Pn**		**01 14 50.3**	**-1.0**
MTHZ				S	**Sn**		**01 15 03.5**	**-1.9**
MARZ	**Manawahe**	**0.52**	**22**	P	**Pn**		**01 14 50.0**	**-1.4**
URZ	**Urewera**	**0.58**	**69**	P	**Pn**		**01 14 50.2**	**-1.5**
	4µm,0.3s,baz=259,slow=5.2,SNR=827							
URZ				S	**Sn**		**01 15 03.1**	**-2.9**
	6µm,0.3s,baz=317,slow=5.7,SNR=12							
URZ	**Urewera**	**0.58**	**69**	P	**Pn**		**01 14 50.0**	**-1.7**
URZ				S	**Sn**		**01 15 03.4**	**-2.6**
URZ	**Urewera**	**0.58**	**69**	Pn	**Pn**		**01 14 50.1**	**-1.5**
URZ				Sn	**Sn**		**01 15 02.5**	**-3.4**
OPRZ	**Ohinepanea**	**0.63**	**9**	P	**Pn**		**01 14 50.2**	**-1.9**
RATZ	**Rangitukua**	**0.65**	**232**	P	**Pn**		**01 14 51.0**	**-1.2**
RITZ	**Rihia Road**	**0.68**	**221**	P	**Pn**		**01 14 51.7**	**-0.7**
RAHZ	**Arahi**	**0.69**	**131**	P	**Pn**		**01 14 52.3**	**-0.2**
RAHZ				S	**Sn**		**01 15 06.9**	**-0.6**
NMHZ	**Naumai**	**0.70**	**155**	P	**Pn**		**01 14 52.6**	**-0.1**
BKZ	**Black Stump Fm**	**0.70**	**176**	P	**Pn**		**01 14 51.7**	**-1.0**
BKZ				S	**Sn**		**01 15 05.7**	**-2.1**
BKZ	**Black Stump Fm**	**0.70**	**176**	Pn	**Pn**		**01 14 51.7**	**-1.0**
BKZ				Sn	**Sn**		**01 15 05.3**	**-2.4**
TLZ	**Tolley Road**	**0.71**	**281**	P	**Pn**		**01 14 51.3**	**-1.3**
TLZ				S	**Sn**		**01 15 05.8**	**-2.0**
KMRZ	**Kaimai**	**0.73**	**328**	P	**Pn**		**01 14 51.3**	**-1.6**
TGRZ	**Tauranga**	**0.75**	**350**	P	**Pn**		**01 14 51.3**	**-1.6**
WHRZ	**Whale Island**	**0.75**	**36**	P	**Pn**		**01 14 51.6**	**-1.4**
KATZ	**Kakaramea**	**0.76**	**228**	P	**Pn**		**01 14 52.1**	**-1.1**
SNGZ	**Shannon Statio**	**0.78**	**114**	P	**Pn**		**01 14 53.0**	**-0.2**
TMVZ	**Te Maari**	**0.86**	**221**	P	**Pn**		**01 14 53.1**	**-0.9**
ETVZ	**East Tongariro**	**0.87**	**220**	P	**Pn**		**01 14 53.3**	**-0.9**
KRVZ	**Karewarewa**	**0.88**	**224**	P	**Pn**		**01 14 53.3**	**-0.9**
MWZ	**Matawai**	**0.88**	**82**	P	**Pn**		**01 14 52.9**	**-1.1**
WHHZ	**Waihua**	**0.88**	**134**	P	**Pn**		**01 14 53.9**	**-0.1**
OTVZ	**Oturere**	**0.92**	**220**	P	**Pn**		**01 14 53.8**	**-0.7**
WTVZ	**West Tongariro**	**0.92**	**225**	P	**Pn**		**01 14 53.6**	**-0.9**
KWHZ	**Kaweka Forest**	**0.96**	**180**	P	**Pn**		**01 14 54.5**	**-0.4**
NGZ	**Ngauruhoe**	**0.96**	**222**	P	**Pn**		**01 14 54.3**	**-0.6**
TWVZ	**Taurewa**	**0.98**	**232**	P	**Pn**		**01 14 54.1**	**-1.0**
MCHZ	**McNeill Hill**	**1.00**	**168**	P	**Pn**		**01 14 55.2**	**+0.1**
TUVZ	**Tukino**	**1.00**	**217**	P	**Pn**		**01 14 54.7**	**-0.6**
TOZ	**Tahuroa Road**	**1.03**	**315**	P	**Pn**		**01 14 54.2**	**-1.2**
FWVZ	**Far West T-bar**	**1.04**	**221**	P	**Pn**		**01 14 54.8**	**-1.0**
DRZ	**Dome Shelter**	**1.05**	**219**	P	**Pn**		**01 14 55.3**	**-0.7**
BHHZ	**Black Hill Sta**	**1.06**	**195**	P	**Pn**		**01 14 55.0**	**-0.8**
WNVZ	**Wahianoa**	**1.07**	**217**	P	**Pn**		**01 14 55.3**	**-0.7**
MOVZ	**Moawhango**	**1.08**	**209**	P	**Pn**		**01 14 54.9**	**-1.1**
RIGZ	**Rimuhau**	**1.08**	**103**	P	**Pn**		**01 14 55.8**	**-0.1**
RUGZ	**Raukumara Rang**	**1.11**	**64**	P	**Pn**		**01 14 54.5**	**-1.9**
WIZ	**White Island**	**1.11**	**33**	P	**Pn**		**01 14 54.6**	**-1.7**
WSRZ	**White Island S**	**1.12**	**32**	P	**Pn**		**01 14 55.2**	**-1.1**
TKGZ	**Te Karaka**	**1.12**	**89**	P	**Pn**		**01 14 56.1**	**-0.2**
KNZ	**Kokohu**	**1.12**	**120**	P	**Pn**		**01 14 56.0**	**-0.3**
KRHZ	**Kereru**	**1.18**	**182**	P	**Pn**		**01 14 56.2**	**-0.7**
PKVZ	**Pokaka**	**1.18**	**225**	P	**Pn**		**01 14 56.3**	**-0.7**
MTVZ	**Mangateitei**	**1.18**	**219**	P	**Pn**		**01 14 56.6**	**-0.4**
MYRZ	**Mayor Island**	**1.19**	**353**	P	**Pn**		**01 14 56.1**	**-1.0**
PRGZ	**Paritu Road**	**1.23**	**112**	P	**Pn**		**01 14 57.3**	**-0.2**
HIZ	**Hauiti**	**1.23**	**267**	P	**Pn**		**01 14 56.7**	**-0.8**
HIZ	**Hauiti**	**1.23**	**267**	Pn	**Pn**		**01 14 56.7**	**-0.8**
HIZ				Sn	**Sn**		**01 15 15.4**	**-0.9**
HAZ	**Te Kaha**	**1.28**	**57**	P	**Pn**		**01 14 56.3**	**-1.7**
CKHZ	**Cape Kidnapper**	**1.29**	**157**	P	**Pn**		**01 14 58.0**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.35**	**121**	P	**Pn**		**01 14 58.8**	**+0.1**
KAHZ	**Kahuranaki**	**1.37**	**165**	P	**Pn**		**01 14 59.0**	**-0.1**
CNGZ	**Carnagh Statio**	**1.40**	**91**	P	**Pn**		**01 14 59.5**	**+0.2**
PNHZ	**Pukenui**	**1.46**	**187**	P	**Pn**		**01 14 58.8**	**-1.1**
VRZ	**Vera Road**	**1.46**	**243**	P	**Pn**		**01 14 59.7**	**-0.3**
PUZ	**Puketiti**	**1.50**	**75**	P	**Pn**		**01 14

baz=26,SNR=7.4
AFI Afiamalu 26.60 26 P **P** **01 19 59.2 -0.2**
comp=Z,30nm,0.6s,baz=306,slow=17,SNR=2.7
AFI Afiamalu 26.60 26 P **P** **01 19 58.7 -0.8**
AFI IAmb IAmb 01 20 07.9
comp=Z,65nm,1.0s
RAR Rarotonga 26.75 57 P **P** **01 20 01.5 +0.8**
comp=Z,18nm,0.8s,baz=233,slow=7.9,SNR=7.3
RAR Rarotonga 26.75 57 P **P** **01 20 00.5 -0.2**
RAR IAmb IAmb 01 20 03.5
comp=Z,80nm,1.3s
STKA Stephens Creek 29.10 272 P **P** **01 20 23.5 +2.0**
comp=Z,10nm,0.8s,baz=106,slow=11,SNR=11
STKA Stephens Creek 29.10 272 P **P** **01 20 23.8 +2.3**
baz=29,SNR=3.9
STKA Stephens Creek 29.10 272 P **P** **01 20 23.1 +1.6**
HTT Hallett 30.63 268 P **P** **01 20 36.8 +1.8**
baz=31,SNR=5.8
CTA Charters Tower 31.85 296 P **P** **01 20 48.2 +2.4**
comp=Z,11nm,0.8s,baz=113,slow=6.4,SNR=8.2
HNR Honiara 32.48 329 P **P** **01 20 52.6 +1.3**
comp=Z,131nm,0.8s,baz=182,slow=7.6,SNR=5.1
HNR Honiara 32.48 329 P **P** **01 20 53.2 +1.9**
TBI Tubuai 32.71 73 *e*LR LR 01 29 40.0
comp=Z,372nm,33.5s
TBI Tubuai 32.71 73 *e*T T 01 53 09.4
comp=Z,6.9nm,0.2s
BBOO Buckleboo 33.09 267 P **P** **01 20 57.1 +0.5**
baz=33,SNR=9.7
MTSU Mount Surprise 34.52 297 P **P** **01 21 11.1 +2.0**
baz=35,SNR=12
PAE Paea 36.16 65 *e*T T 01 59 01.3
comp=Z,4.1nm,0.3s
PPT2 Papeete2 36.21 65 *e*LR LR 01 31 13.5
comp=Z,683nm,34.2s
PPT Papeete 36.23 65 P **P** **01 21 25.5 +1.8**
comp=Z,93nm,1.1s,baz=52,slow=4.2,SNR=4.5
PPT LR LR 01 33 08.6
comp=Z,62nm,20.4s,baz=195,slow=31
TVO Taravao 36.32 65 *e*P **P** **01 21 22.8 -1.7**
comp=Z,24nm,0.9s
TIAR Tiarei 36.40 65 *e*P **P** **01 21 23.2 -1.9**
comp=Z,34nm,0.9s
COEN Coen 38.20 301 P **P** **01 21 41.6 +1.3**
baz=38,SNR=28
COEN Coen 38.20 301 P **P** **01 21 41.3 +1.0**
COEN IAmb IAmb 01 21 42.6
comp=Z,27nm,0.7s
ASAR Alice Springs 38.94 280 P **P** **01 21 47.2 +0.7**
comp=Z,33nm,0.9s,baz=120,slow=7.6,SNR=122
ASAR ScP **ScP** **01 27 26.4 -4.9**
comp=Z,3.1nm,0.7s,baz=118,slow=3.6,SNR=11
ASAR S **S** **01 27 34.2 -1.7**
comp=Z,6.1nm,1.0s,baz=124,slow=14,SNR=14
ASAR Alice Springs 38.94 280 P **P** **01 21 46.9 +0.4**
PMG Port Moresby 39.08 310 P **P** **01 21 47.8 +0.2**
comp=Z,29nm,0.8s,baz=132,slow=6.4,SNR=4.6
PMG Port Moresby 39.08 310 P **P** **01 21 49.2 +1.6**
PMG IAmb IAmb 01 21 50.2
comp=Z,29nm,0.8s
VAH Vaihoa 39.17 64 *e*T T 02 01 18.2
comp=Z,4.6nm,0.2s
VNDA Vanda 39.65 185 P **P** **01 21 54.1 +2.4**
comp=Z,8.0nm,0.9s,baz=4.3,slow=8.5,SNR=25
VNDA LR LR 01 37 22.1
comp=Z,48nm,18.4s,baz=2.5,slow=34
FORT Forrest 40.16 266 P **P** **01 21 57.6 +1.1**
baz=40,SNR=11
FORT Forrest 40.16 266 P **P** **01 21 56.6 +0.2**
WR0 Warramunga Arr 40.54 285 P **P** **01 22 01.1 +1.3**
WR0 IAmb IAmb 01 22 11.7
comp=Z,54nm,1.9s
KRVT Keravat (AS076 40.61 321 P **P** **01 21 60.0 -0.3**
comp=Z,86nm,0.7s,baz=300,slow=1.4,SNR=5.8
WB2 Warramunga Arr 40.69 285 P **P** **01 22 01.5 +0.5**
baz=41
WB2 Warramunga Arr 40.69 285 P **P** **01 22 01.4 +0.4**
WRAB Tennant Creek 40.70 285 P **P** **01 22 01.7 +0.6**
WRA Warramunga Arr 40.70 285 P **P** **01 22 01.6 +0.5**
comp=Z,9.3nm,0.6s,baz=128,slow=7.2,SNR=48
WRA ScP **ScP** **01 27 33.1 -5.0**
comp=Z,3.7nm,0.7s,baz=120,slow=3.5,SNR=14
WRA S **S** **01 27 59.7 -2.4**
comp=Z,1.3nm,1.0s,baz=122,slow=15,SNR=3.8
WRA Warramunga Arr 40.70 285 P **P** **01 22 01.3 +0.3**
WRKA Warakurna 42.61 274 P **P** **01 22 16.2 -0.3**
baz=43,SNR=20
KMBL Kambalda 44.73 262 P **P** **01 22 33.6 +0.1**
baz=45,SNR=4.9
CASY Casey 45.87 211 P **P** **01 22 42.3 +0.3**
NWAO Narrogin (SRO) 47.68 258 P **P** **01 22 56.1 -0.4**
comp=Z,24nm,0.7s,baz=121,slow=5.4,SNR=11
NWAO LR LR 01 40 54.7
comp=Z,64nm,19.8s,baz=274,slow=33
NWAO Narrogin (SRO) 47.68 258 P **P** **01 22 56.4 -0.1**
baz=48,SNR=7.8
NWAO Narrogin (SRO) 47.68 258 P **P** **01 22 56.4 -0.1**
NWAO Narrogin (SRO) 47.68 258 IAmb IAmb 01 23 09.6
comp=Z,115nm,1.7s
KLBR Kellerberrin 47.84 260 P **P** **01 22 57.7 0.0**
baz=48,SNR=16
PATS Pohnpei 48.12 336 P **P** **01 23 01.0 +1.1**
baz=48
JAY Jayapura 48.41 309 P **P** **01 23 03.2 +0.8**
comp=Z,14nm,1.1s
FITZ Fitzroy Crossi 48.45 280 S **S** **01 29 51.3 -2.7**
comp=Z,1.2nm,1.0s,baz=177,slow=21,SNR=1.1
FITZ Fitzroy Crossi 48.45 280 P **P** **01 23 03.3 +0.8**
baz=49,SNR=14
FITZ Fitzroy Crossi 48.45 280 P **P** **01 23 03.5 +0.9**
FITZ IAmb IAmb 01 23 34.8
comp=Z,60nm,1.6s
GENI Genyem 48.68 308 P **P** **01 23 05.4 +1.0**
comp=Z,74nm,0.6s
MUN Mundaring 48.86 258 P **P** **01 23 05.8 +0.2**
baz=49,SNR=5.1
BLDU Ballidu 49.06 260 P **P** **01 23 07.1 -0.1**
baz=49,SNR=11
MEEK Meekatharra 49.42 266 P **P** **01 23 09.6 -0.3**
baz=50,SNR=12
MORW Morawa 50.28 262 P **P** **01 23 16.6 +0.2**
baz=50,SNR=6.4
MORW Morawa 50.28 262 P **P** **01 23 16.7 +0.3**
MORW IAmb IAmb 01 23 17.3
comp=Z,32nm,1.1s
PSA00 Pilbara Seismi 51.03 272 P **P** **01 23 21.9 -0.2**
PSA00 IAmb IAmb 01 24 02.7
comp=Z,96nm,2.0s
QSPA South Pole Qui 51.66 180 P **P** **01 23 29.6 +3.2**
comp=Z,32nm,0.8s,baz=213,slow=0.5,SNR=89
QSPA South Pole Qui 51.66 180 P **P** **01 23 29.2 +2.9**
QSPA IAmb IAmb 01 23 59.4
comp=Z,44nm,1.0s
SOEI Soe 54.62 287 P **P** **01 23 46.8 -1.9**
comp=Z,33nm,1.2s
GIRL Giralia 54.87 268 P **P** **01 23 51.5 +1.3**
baz=55,SNR=4.6
GIRL Giralia 54.87 268 P **P** **01 23 51.3 +1.1**
EDFI Ende, Flores 57.20 286 P **P** **01 24 07.3 +0.2**
comp=Z,5.2nm,1.2s
BELA Belgrano 2 62.40 173 P **P** **01 24 42.5 +0.9**
MAW Mawson 63.13 203 P **P** **01 24 48.3 +1.9**
comp=Z,71nm,0.9s,baz=113,slow=8.6,SNR=68
MAW Mawson 63.13 203 P **P** **01 24 48.4 +1.9**
baz=63,SNR=39
MAW Mawson 63.13 203 P **P** **01 24 47.9 +1.4**
MAW IAmb IAmb 01 24 49.4
comp=Z,30nm,1.2s
PMSA Palmer Station 66.80 156 P **P** **01 25 12.0 +1.7**
comp=Z,20nm,0.7s,baz=325,slow=3.7,SNR=9.1
PMSA LR LR 01 48 13.2
comp=Z,93nm,19.4s,baz=234,slow=30
PMSA Palmer Station 66.80 156 P **P** **01 25 11.7 +1.4**
PMSA IAmb IAmb 01 25 13.9
comp=Z,24nm,0.8s
SNAA Sanae 70.17 180 P **P** **01 25 32.5 +1.3**
SNAA Sanae 70.17 180 P **P** **01 25 32.8 +1.6**
comp=Z,12nm,0.9s,baz=199,slow=6.2,SNR=47
SNAA LR LR 01 55 30.2
comp=Z,79nm,18.8s,baz=154,slow=35
SNAA Sanae 70.17 180 P **P** **01 25 33.1 +1.9**
SNAA IAmb IAmb 01 26 02.7
comp=Z,27nm,1.0s
VNA3 Neumayer Olymp 70.51 178 P **P** **01 25 34.8 +1.6**
VNA2 Neumayer--Watz 70.88 179 P **P** **01 25 37.3 +1.8**
baz=168,slow=6.8
VNA1 Neumayer--Stat 71.14 178 P **P** **01 25 39.1 +2.1**

MG01 Puerto William 72.08 147 P **P** **01 25 41.3 -1.6**
PLCA Paso Flores 80.25 135 P **P** **01 26 32.3 +2.8**
comp=Z,2.3nm,0.9s,baz=299,slow=6.2,SNR=3.0
PLCA LR LR 01 57 18.0
comp=Z,41nm,18.8s,baz=130,slow=32
LC01 Cunco 80.74 133 P **P** **01 26 35.2 +3.1**
MJAR Matsushiro Arr 82.56 330 P **P** **01 26 40.1 -1.3**
comp=Z,6.9nm,0.9s,baz=165,slow=7.8,SNR=5.4
MJAR Matsushiro Arr 82.56 330 P **P** **01 26 40.3 -1.1**
MAT Matsushiro 82.56 330 P **P** **01 26 41.4 0.0**
QIZ Qiongzhong 84.58 299 P **P** **01 26 53.8 +1.7**
QIZ pP **pP** **01 27 23.8 -0.3**
QIZ S **S** **01 37 13.0 +4.1**
QIZ pmax pmax
comp=Z,210nm,4.9s
KSRS Korea Array 87.78 323 P **P** **01 27 09.1 +1.8**
comp=Z,19nm,0.8s,baz=144,slow=5.5,SNR=42
KSRS LR LR 02 03 07.9
comp=Z,35nm,20.1s,baz=180,slow=33
KSAR Wonju Array Be 87.78 323 P **P** **01 27 09.2 +1.9**
KS19 Wonju Array Si 87.84 323 P **P** **01 27 08.5 +0.9**
NJ2 Nanjing 88.26 314 *e*P **P** **01 27 12.3 +2.6**
NJ2 pmax pmax
comp=Z,12nm,0.6s
USRK Ussuriysk Ar. 91.56 330 P **P** **01 27 25.8 +1.0**
comp=Z,2.6nm,0.7s,baz=155,slow=6.3,SNR=6.7
USRK Ussuriysk Ar. 91.56 330 P **P** **01 27 25.0 +0.2**
CMAR Chiang Mai Arr 91.92 292 P **P** **01 27 27.7 +0.6**
comp=Z,3.3nm,0.7s,baz=152,slow=3.4,SNR=16
CMAR Chiang Mai Arr 91.92 292 P **P** **01 27 27.5 +0.4**
LPIG La Paz 92.58 61 LR LR 02 00 04.3
comp=Z,56nm,20.3s,baz=234,slow=30
PETK Petropavlovsk- 92.64 349 P **P** **01 27 29.0 -0.6**
comp=Z,7.6nm,0.9s,baz=140,slow=4.8,SNR=6.5
PETK LR LR 02 04 08.6
comp=Z,56nm,19.0s,baz=148,slow=32
CN2 Changchun 93.98 326 *e*P **P** **01 27 40.4 +4.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ESJX Sierra Juarez 94.18 52 P **P** **01 27 39.8 +2.4**
ESJX IAmb IAmb 01 27 41.1
comp=Z,9.8nm,0.9s
BAR Barrett 94.20 51 IAmb IAmb 01 27 40.5
comp=Z,16nm,1.1s
RMX La Rumorosa 94.51 51 P **P** **01 27 41.0 +2.1**
PFO Pinyon Flats O 94.97 51 LR LR 02 01 36.0
comp=Z,48nm,19.6s,baz=237,slow=30
PFO Pinyon Flats O 94.97 51 P **P** **01 27 42.7 +1.7**
ISA Isabella, Lake 95.19 48 IAmb IAmb 01 27 45.2
comp=Z,14nm,1.5s
HSIG 95.38 57 IAmb IAmb 01 27 45.7
comp=Z,9.1nm,1.0s
GSC Goldstone, Bar 95.92 49 IAmb IAmb 01 27 48.7
comp=Z,6.1nm,1.1s
214A Organ Pipe Nat 96.11 54 IAmb IAmb 01 27 49.5
comp=Z,14nm,1.4s
CD2 Chengdu 96.64 304 *e*P **P** **01 27 49.5 +1.0**
LHV Little Huntoon 96.97 46 IAmb IAmb 01 27 57.6
comp=Z,14nm,1.7s
YBH Yreka Blue Hor 97.17 41 LR LR 02 05 10.5
comp=Z,34nm,20.7s,baz=230,slow=31
NVAR Mina Array Bea 97.21 46 P Pdif 01 27 51.5 +0.2
comp=Z,0.4nm,0.5s,baz=221,slow=7.0,SNR=6.3
NVAR PP **PP** **01 31 48.0 -1.6**
comp=Z,0.4nm,0.8s,baz=200,slow=12,SNR=3.6
NVAR LR LR 02 07 13.4
comp=Z,31nm,18.6s,baz=266,slow=32
NVAR Mina Array Bea 97.21 46 P Pdif 01 27 51.8 +0.5
Y14A Wickenburg 97.31 52 IAmb IAmb 01 27 54.6
comp=Z,5.8nm,0.9s
TUC Tucson 97.64 55 P Pdif 01 27 55.2 +2.1
HHC Hu-ho-hao-te 98.66 316 *e*P Pdif 01 27 57.7 +0.2
HHC pmax pmax
comp=Z,16nm,0.8s
LZH Lanzhou 99.96 308 *e*P **Pdif** **01 28 08.1 +4.7**
LZH pmax pmax
comp=Z,21nm,1.4s
TXAR Lajitas Array 100.48 61 P **Pdif** **01 28 07.3 +1.4**
comp=Z,0.3nm,0.7s,baz=203,slow=9.1,SNR=4.8
TXAR PP **PP** **01 32 13.7 -0.8**
comp=Z,0.2nm,0.9s,baz=238,slow=9.5,SNR=4.1
TXAR Lajitas Array 100.48 61 **Pdif** **01 28 07.5 +1.7**
ILAR Eielson Array 106.85 16 PKiKP **PKiKP** **01 32 41.1 -1.2**
comp=Z,0.6nm,0.7s,baz=254,slow=3.9,SNR=6.3
ILAR PKKP **PKKPdf** **01 44 15.3 +0.2**
comp=Z,1.4nm,0.9s,baz=11,slow=3.0,SNR=11
BOSA Boshof 108.03 206 PP **PP** **01 33 09.8 +0.7**
comp=Z,2.7nm,1.0s,baz=180,slow=7.4,SNR=3.1
WMQ Urumqi 114.51 307 *e*PKP **PKiKP** **01 32 58.2 +0.7**
YKA Yellowknife Ar 114.70 28 PKP PKPdf 01 32 55.9 -1.3
comp=Z,1.3nm,0.6s,baz=247,slow=1.2,SNR=4.9
X51A Calhoun 116.62 66 **PKPdf** **01 32 59.6 -2.2**
WCI Wyandotte Cave 117.39 62 PKPdf **PKPdf** **01 33 02.0 -1.2**
MKAR Makanchi Array 119.27 308 PKP **PKPdf** **01 33 04.9 -1.6**
comp=Z,1.0nm,0.5s,baz=206,slow=1.4,SNR=19
MKAR SKP 01 36 25.3
comp=Z,1.0nm,0.8s,baz=115,slow=1.7,SNR=4.8
MKAR Makanchi Array 119.27 308 PKPdf **PKPdf** **01 33 04.6 -2.0**
ZALV Zalesovo Beam 120.84 317 PKP **PKPdf** **01 33 07.5 -1.7**
comp=Z,1.3nm,0.8s,baz=102,slow=3.5,SNR=4.3
ZALV Zalesovo Beam 120.84 317 **PKPdf** **01 33 07.1 -2.2**
KBL Kabul 122.90 290 PKPdf **PKPdf** **01 33 13.7 -0.5**
KURK Kurchatov 123.09 311 PKPdf **PKPdf** **01 33 11.9 -1.8**
NRIK Noril'sk 125.00 334 PKP **PKPdf** **01 33 15.9 -0.9**
comp=Z,7.3nm,0.6s,baz=72,slow=1.6,SNR=11
KKAR Karatay Array 125.41 300 PKPdf **PKPdf** **01 33 17.2 -1.2**
RES Resolute Bay 126.33 19 PKP **PKPdf** **01 33 17.6 -1.6**
comp=Z,4.0nm,1.0s,baz=232,slow=3.3,SNR=2.3
VLDQ Val d'Or 127.29 54 **PKPdf** **01 33 20.3 -1.6**
BRVK Borovoye 128.73 312 PKPdf **PKPdf** **01 33 23.4 -1.0**
GEYT Alibeck 132.34 290 PKP **PKPdf** **01 33 30.3 -1.6**
comp=Z,1.8nm,0.8s,baz=224,slow=8.3,SNR=4.5
GEYT SKPbc **SKPbc** **01 36 42.7 -4.3**
comp=Z,13nm,0.8s,baz=195,slow=4.5,SNR=28
GEYT Alibeck 132.34 290 **PKPdf** **01 33 29.7 -2.2**
ABKAR Akbulak array 134.21 305 **PKPdf** **01 33 33.5 -1.4**
ARU Arti 135.96 315 **PKPdf** **01 33 36.2 -1.7**
KEV Kevo 144.68 342 **PKPab** **01 33 51.6 -0.8**
HAMF Hammerfest 144.76 345 *e*PKPbc **PKPab** **01 33 52.0 -0.7**
KBZ Khabaz 144.95 294 PKP PKPbc 01 33 53.5 -0.6
comp=Z,11nm,0.9s,baz=115,slow=2.4,SNR=26
KLMR Klimovskoe 145.16 324 *e*PKPdf **PKPbc** **01 33 51.6 -2.7**
KLMR AMP 01 33 54.6
comp=Z,79nm,1.5s
KLMR *e*SKP 01 37 16.8
ARCES ARCESS Array B 145.20 343 PKPbc **PKPbc** **01 33 53.4 -0.8**
comp=Z,30nm,0.7s,baz=39,slow=3.3,SNR=163
ARCES SKPbc **SKPbc** **01 37 17.3 -4.8**
comp=Z,6.0nm,0.9s,baz=338,slow=1.9,SNR=5.3
MARD Mardin 145.23 282 **PKPdf** **01 33 55.2 -0.3**
TRO Tromso 146.53 346 *e*PKPdf **PKPdf** **01 33 56.9 +0.5**
LIC Lamto 147.88 177 *e*PKP1 **PKPbc** **01 34 03.2 -0.3**
comp=Z,30nm,0.7s
GAZ Gaziantep 147.94 281 **PKPbc** **01 34 02.1 -1.0**
KIC Kosan Boka 148.02 178 *e*PKP1 **PKPbc** **01 34 03.9 0.0**
comp=Z,18nm,0.6s
TIC Toumodi 148.29 177 *e*PKP1 **PKPbc** **01 34 04.4 -0.3**
DBIC Dimbokro 148.33 178 PKPbc **PKPbc** **01 34 05.1 +0.4**
comp=Z,7.2nm,0.6s,baz=141,slow=1.1,SNR=17
DBIC Dimbokro 148.33 178 **PKPbc** **01 34 04.7 0.0**
STEI Steigen 148.69 346 *e*PKPbc **PKPbc** **01 34 03.0 -1.0**
LOF Lofoten 148.81 348 *e*PKPab **PKPab** **01 34 07.5 -1.1**
FAUS Fauske 149.16 346 *e*PKPbc **PKPbc** **01 34 04.2 -1.0**
CSS Mathiatis 150.34 275 **PKPbc** **01 34 07.5 -1.6**
KONS Konsvik 150.34 347 *e*PKPbc **PKPbc** **01 34 07.1 -0.9**
MOR8 Moi Rana 150.38 345 *e*PKPbc **PKPbc** **01 34 06.5 -1.8**
FIA1 FINESS Array S 150.58 331 **PKPbc** **01 34 07.7 -1.1**
FINES FINESS Array B 150.59 331 PKPbc **PKPbc** **01 34 07.8 -1.1**
comp=Z,14nm,0.5s,baz=39,slow=3.5,SNR=90
FINES PKPab **PKPab** **01 34 15.2 -0.9**
comp=Z,8.3nm,0.6s,baz=60,slow=4.3,SNR=7.9
FINES FINESS Array B 150.59 331 **PKPbc** **01 34 07.5 -1.3**
FINES **PKPab** **01 34 15.0 -1.1**
BRTR Keskin Array B 151.22 284 PKPbc **PKPbc** **01 34 10.2 -1.0**
comp=Z,6.1nm,0.6s,baz=140,slow=4.8,SNR=60
BRTR Keskin Array B 151.22 284 **PKPbc** **01 34 10.0 -1.2**
BR131 Keskin Array S 151.22 284 **PKPbc** **01 34 09.6 -1.6**
VSU Vasula 152.03 326 *e*P **PKPbc** **01 34 11.3 -0.9**
NSS Namsos 152.32 346 *e*PKPbc **PKPbc** **01 34 11.5 -1.2**
IDID Didziasalis 153.59 320 *e*P **PKiKP** **01 34 16.1 +0.2**
IZAR Zarasai 153.64 321 *e*P **PKPdf** **01 34 10.4 +2.5**
ISAL Salakas 153.79 320 *e*P **PKPdf** **01 34 11.9 +3.7**
IIGN Ignalina 153.84 320 *e*P **PKPbc** **01 34 15.9 -0.4**
AKASG Malin Array Be 153.86 309 PKPbc **PKPbc** **01 34 15.2 -1.3**
comp=Z,1.9nm,0.5s,baz=63,slow=2.8,SNR=7.7
AKASG PKPab **PKPab** **01 34 29.6 -0.6**
comp=Z,2.5nm,0.6s,baz=62,slow=4.3,SNR=6.5
AKASG Malin Array Be 153.86 309 PKPdf **PKPdf** **01 34 06.6 -1.8**
AKASG **PKPbc** **01 34 14.6 -1.9**
AKASG **PKPab** **01 34 29.2 -1.0**
TOA0 Torodi Ar. Sit 154.35 192 **PKiKP** **01 34 19.0 +0.3**
TOA0 PKPab **PKPab** **01 34 33.0 0.0**
TORD Torodi Ar. Bea 154.35 192 PKP **PKPdf** **01 34 10.5 +0.2**
comp=Z,1.0nm,0.8s,baz=343,slow=0.8,SNR=4.8
TORD PKPbc **PKiKP** **01 34 18.6 -0.1**
comp=Z,2.1nm,0.6s,baz=147,slow=2.8,SNR=14
TORD PKPab **PKPab** **01 34 34.0 +1.0**
comp=Z,18nm,0.8s,baz=179,slow=1.0,SNR=12
TORD Torodi Ar. Bea 154.35 192 **PKPdf** **01 34 11.2 +0.9**
TORD **PKPbc** **01 34 18.1 -0.6**
TORD **PKPab** **01 34 33.5 +0.4**
PABE Paberze 154.88 322 *e*P **PKPbc** **01 34 18.1 -0.4**
DOMB Dombas 155.14 346 *e*PKPab **PKPab** **01 34 34.0 -1.3**
NB2 NORSAR Subarra155.58 343 PKP PKPdf 01 34 18.3 +7.7
comp=Z,1.4nm,0.7s,baz=27,slow=2.1
NOA NORSAR Array B155.58 343 PKP **PKPdf** **01 34 10.7 +0.1**
comp=Z,0.3nm,0.6s,baz=18,slow=1.8,SNR=2.0
NOA PKPbc PKPbc 01 34 18.7
comp=Z,1.5nm,0.7s,baz=32,slow=2.1,SNR=5.0
NOA PKPab **PKPab** **01 34 36.0 -1.3**
comp=Z,4.0nm,0.7s,baz=26,slow=3.4,SNR=13
BURAR Bucovina Array 157.16 303 **PKPab** **01 34 44.7 0.0**
CLL Collm 162.65 323 *i* PKPab **PKPab** **01 35 08.2 0.0**
comp=Z,9.0nm,0.9s
CLL Collm 162.65 323 **PKPab** **01 35 08.1 -0.1**
GERES GERESS Array B 163.79 315 PKPab **PKPab** **01 35 13.6 +0.1**
comp=Z,1.0nm,0.7s,baz=35,slow=3.3,SNR=8.0
GERES GERESS Array B 163.79 315 **PKPab** **01 35 12.9 -0.5**
MOTA Moosalm 166.07 314 *e*P **PKPab** **01 35 23.1 -0.5**
comp=Z,3.5nm,1.2s
SQTA Sankt Quirin 166.08 314 *e*P **PKPab** **01 35 23.4 -0.2**
comp=Z,3.8nm,0.9s
FETA Feichten 166.47 314 *e*P **PKPab** **01 35 23.1 -2.4**
comp=Z,5.4nm,1.4s
ESDC Sonseca Array 178.76 14 PKP **PKPdf** **01 34 27.9 -0.2**
comp=Z,0.4nm,0.9s,baz=29,slow=3.4,SNR=4.4
ESDC PKPab PKPab 01 36 18.3
comp=Z,2.6nm,1.1s,baz=337,slow=4.5,SNR=7.6
ESDC Sonseca Array 178.76 14 **PKPdf** **01 34 27.2 -0.9**

*IDC **06** 01:44:20.2±1.4,62.°80N×172.°68E,h0km,mb3.9/10,*
mb1 4.1/12,mb1mx3.8/44,mbtmp3.9/12,ML3.2/2,MS3.6/7,
Ms1 3.5/7,ms1mx3.1/44,Error ellipse: s-maj=36.2km
s-min=21.5km az=173.0
*NEIC **06** 01:44:22.7±2.5,62.°9N±0.°1×172.°6E±0.°2,h14km±4km,*
mb4.3/28,Error ellipse: s-maj=16.2km s-min=10.1km
az=180.0

ISC 06 01:44:22.2±0.6,**62.°9N**±0.°1×**172.°55E**±0.°07,**h10**km,**n58,**
σ1§**05/53,mb4.2/16,MS3.6/5,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**5.80**	**336**			**Pn**	**01 45 46.5**	**-1.6**
GAMB	**Gambell**	**7.15**	**76**		Pn	**Pn**	**01 46 06.5**	**-0.1**
SEY	**Seymchan**	**9.20**	**279**		Pn	**Pn**	**01 46 34.8**	**+0.2**
	0.2nm,0.3s,baz=42,slow=23,SNR=2.4							
SEY					Lg	Lg	01 49 09.8	
	0.6nm,0.3s,baz=134,slow=7.8,SNR=3.5							
ANM	**Nome**	**9.92**	**70**		Pn	**Pn**	**01 46 44.1**	**-0.5**
SPIA	**Saint Paul Isl**	**10.31**	**116**		Pn	**Pn**	**01 46 50.3**	**+0.4**
MA2	**Magadan**	**10.98**	**262**		LR	LR	01 51 19.0	
	comp=Z,135nm,18.3s,baz=57,slow=38							
IMAR	**Indian Mountai**	**14.76**	**63**		P	**Pn**	**01 47 54.1**	**+3.4**
PPLA	**Purkeypile**	**15.96**	**74**		P	**Pn**	**01 48 06.4**	**-0.1**
PPLA					IAmb	IAmb	01 48 12.6	
	comp=Z,18nm,1.4s							
COLD	**Coldfoot**	**16.12**	**58**		P	**P**	**01 48 10.9**	**-0.9**
BPAW	**Bear Paw Mtn.**	**16.19**	**69**		P	**Pn**	**01 48 09.6**	**+0.2**
IL31		**17.78**	**66**		P	**P**	**01 48 30.6**	**+0.5**
ILAR	**Eielson Array**	**17.78**	**66**		P	**Pn**	**01 48 29.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=265,slow=7.8,SNR=17							
ILAR					LR	LR	01 55 19.7	
	comp=Z,111nm,19.2s,baz=285,slow=37							
ILAR	**Eielson Array**	**17.78**	**66**		P	**P**	**01 48 30.9**	**+0.7**
SML	**Sawmill**	**18.01**	**76**		P	**Pn**	**01 48 31.9**	**-0.4**
SML					IAmb	IAmb	01 48 34.8	
	comp=Z,22nm,1.5s							
BMAR	**Burnt Mountain**	**18.28**	**57**		P	**P**	**01 48 36.7**	**+1.1**
SCM	**Sheep Creek Mo**	**18.44**	**75**		P	**Pn**	**01 48 37.9**	**+0.3**
SCM					IAmb	IAmb	01 48 41.0	
	comp=Z,26nm,1.4s							
M24K	**Tolsona, Glenn**	**18.85**	**74**		P	**P**	**01 48 41.9**	**-0.2**
M24K					IAmb	IAmb	01 48 53.7	
	comp=Z,23nm,1.1s							
FID	**Port Fidalgo**	**19.24**	**78**		P	**P**	**01 48 47.0**	**+0.8**
FID					IAmb	IAmb	01 49 06.4	
	comp=Z,20nm,1.0s							
EGAK	**Eagle**	**20.16**	**64**		P	**P**	**01 48 54.8**	**-1.4**
BCAR	**Beaver Creek A**	**20.43**	**69**		P	**P**	**01 48 57.9**	**-1.3**
BALM	**Baldy**	**20.96**	**75**		P	**P**	**01 49 04.7**	**-0.3**
BALM					IAmb	IAmb	01 49 23.8	
	comp=Z,12nm,1.0s							
CTGM	**Chitina Glacie**	**21.43**	**74**		P	**P**	**01 49 09.4**	**-0.7**
CTGM					IAmb	IAmb	01 49 15.2	
	comp=Z,26nm,1.4s							
INK	**Inuvik**	**22.27**	**52**		P	**P**	**01 49 17.8**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=192,slow=22,SNR=6.6							
INK	**Inuvik**	**22.27**	**52**		P	**P**	**01 49 18.3**	**-0.6**
INK					IAmb	IAmb	01 49 28.8	
	comp=Z,10nm,1.1s							
HYT	**Haines Junctio**	**23.18**	**72**		P	**P**	**01 49 28.9**	**+0.2**
HYT					IAmb	IAmb	01 49 30.7	
	comp=Z,6.7nm,1.0s							
C36M	**Paulatuk**	**25.33**	**48**		P	**P**	**01 49 47.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**29.78**	**250**		LR	LR	02 03 43.7	
	comp=Z,100nm,18.7s,baz=144,slow=39							
JWT	**Wachi**	**35.91**	**237**		P	**P**	**01 51 21.9**	**-0.3**
SONM	**Songino Array**	**38.59**	**279**		P	**P**	**01 51 45.3**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=76,slow=6.1,SNR=3.0							
SONM	**Songino Array**	**38.59**	**279**		P	**P**	**01 51 46.8**	**+1.7**
B08A	**Colville Reser**	**39.09**	**79**		P	**P**	**01 51 50.1**	**+1.0**
KVN	**Kaiserville**	**46.88**	**87**		P	**P**	**01 52 53.5**	**+1.0**
ULM	**Lac du Bonnet**	**47.67**	**60**		LR	LR	02 15 49.2	
	comp=Z,60nm,20.5s,baz=358,slow=40							
PDAR	**Pinedale Array**	**47.77**	**77**		P	**P**	**01 52 58.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.3,SNR=3.2							
PDAR	**Pinedale Array**	**47.77**	**77**		P	**P**	**01 53 00.9**	**+1.5**
MKAR	**Makanchi Array**	**49.88**	**296**		LR	LR	02 13 43.8	
	comp=Z,54nm,18.3s,baz=12,slow=35							
EYMN	**Ely**	**51.25**	**59**		P	**P**	**01 53 27.2**	**+1.7**
FINES	**FINESS Array B**	**53.42**	**341**		P	**P**	**01 53 41.4**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=23,slow=10,SNR=6.4							
FINES	**FINESS Array B**	**53.42**	**341**		P	**P**	**01 53 41.0**	**-0.5**
NOA	**NORSAR Array B**	**55.59**	**349**		P	**P**	**01 53 56.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=10,slow=7.6,SNR=3.4							
ABKAR	**Akbulak array**	**56.22**	**313**		P	**P**	**01 54 01.6**	**-0.3**
E62A	**Clayton Lake**	**60.27**	**45**		P	**P**	**01 54 28.9**	**-1.4**
BATG	**Bathurst New B**	**60.77**	**42**		P	**P**	**01 54 32.4**	**-1.2**
W41B	**Gary Mavity, V**	**61.60**	**68**		P	**P**	**01 54 38.0**	**-1.5**
W41B					IAmb	IAmb	01 54 41.4	
	comp=Z,2.7nm,1.1s							
WVT	**Waverly**	**62.63**	**64**		P	**P**	**01 54 45.2**	**-1.1**
WVT					IAmb	IAmb	01 54 55.2	
	comp=Z,5.8nm,1.4s							
AKASG	**Malin Array Be**	**63.11**	**335**		P	**P**	**01 54 49.0**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=26,slow=6.3,SNR=5.2							
AKASG	**Malin Array Be**	**63.11**	**335**		P	**P**	**01 54 49.2**	**-0.2**
CLTN	**Cedars of Leba**	**63.28**	**63**		P	**P**	**01 54 50.4**	**-0.2**
CLTN					IAmb	IAmb	01 55 00.7	
	comp=Z,6.6nm,1.4s							
**KI

WRA	**Warramunga Arr**	**87.86**	**216**	P	**P**	**01 57 10.6**	**-0.8**

*SJA **06** 01:49:25.0±0.6, 22°.83S×70°.92W, h32km±1km, ML3.7, MW4.0*
*GUC **06** 01:49:27.4±0.7, 22°.84S×70°.82W, h33km±2km, ML3.5*
ISC 06 01:49:25.5±1.6, 22°.82S±0°.02×70°.87W±0°.06, h11km±10km, n36, σ1°37/62, 7C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.62**	**93**	*i*P	**Pb**	**01 49 38.6**	**+0.2**
PB05				*i* S	**Sb**	**01 49 46.6**	**-0.6**
PB05				IAML		01 49 49.4	
	comp=N,3μm,0.2s						
PB05	**IPOC Station P**	**0.62**	**93**	*e*P	**Pb**	**01 49 38.6**	**+0.2**
PB05				*e*S	**Sn**	**01 49 49.2**	**-1.1**
PB05				IAML		01 49 50.1	
	comp=Z,2μm,0.8s						
PB10	**IPOC Station P**	**0.75**	**157**	*i*P	**Pb**	**01 49 40.6**	**0.0**
PB10				*i* S	**Sg**	**01 49 50.4**	**+0.5**
PB10				IAML		01 49 54.1	
	comp=E,4μm,0.4s						
PB10	**IPOC Station P**	**0.75**	**157**	*e*P	**Pb**	**01 49 40.8**	**+0.2**
PB10				*e*S	**Sb**	**01 49 51.6**	**+0.7**
PB10				IAML		01 49 53.7	
	comp=Z,4μm,0.4s						
PB04	**IPOC Station P**	**0.82**	**54**	*i*P	**Pn**	**01 49 42.3**	**-0.9**
PB04				*i* S	**Sb**	**01 49 53.3**	**+0.2**
PB04				IAML		01 49 56.8	
	comp=N,2μm,0.5s						
PB04	**IPOC Station P**	**0.82**	**54**	*e*P	**Pn**	**01 49 42.4**	**-0.9**
PB04				*e*S	**Sn**	**01 49 55.4**	**0.0**
PB04				IAML		01 49 59.3	
	comp=Z,2μm,1.0s						
PB06	**IPOC Station P**	**1.20**	**85**	*i*P	**Pb**	**01 49 48.1**	**-0.3**
PB06				*i* S	**Sb**	**01 50 03.1**	**-0.9**
PB06	**IPOC Station P**	**1.20**	**85**	*e*P	**Pb**	**01 49 48.2**	**-0.3**
PB06				*e*S	**Sn**	**01 50 05.5**	**+0.6**
PB06				IAML		01 50 05.6	
	comp=Z,821nm,0.9s						
PB03	**IPOC Station P**	**1.29**	**54**	*i*P	**Pn**	**01 49 49.5**	**-0.1**
PB03				*i* S	**Sn**	**01 50 06.7**	**-0.2**
PB03				IAML		01 50 12.3	
	comp=N,1μm,0.7s						
PB03	**IPOC Station P**	**1.29**	**54**	*e*P	**Pn**	**01 49 49.5**	**-0.1**
PB03				*e*S	**Sn**	**01 50 07.5**	**+0.6**
PB03				IAML		01 50 09.3	
	comp=Z,736nm,0.6s						
PB15	**IPOC Station P**	**1.35**	**107**	*e*P	**Pg**	**01 49 50.0**	**-1.4**
PB15				*i* S	**Sb**	**01 50 07.9**	**-0.3**
PB15	**IPOC Station P**	**1.35**	**107**	*e*P	**Pg**	**01 49 50.3**	**-1.1**
PB15				*e*S	**Sn**	**01 50 09.3**	**+0.8**
PB15				IAML		01 50 13.7	
	comp=Z,2μm,0.3s						
PB07	**IPOC Station P**	**1.42**	**40**	*i*P	**Pn**	**01 49 51.4**	**0.0**
PB07				*e*S	**Sg**	**01 50 08.6**	**-2.6**
PB07				IAML		01 50 14.1	
	comp=E,1μm,0.5s						
PB07	**IPOC Station P**	**1.42**	**40**	*e*P	**Pn**	**01 49 51.4**	**0.0**
PB07				*e*S	**Sn**	**01 50 11.9**	**+1.7**
PB07				IAML		01 50 16.0	
	comp=Z,1μm,0.6s						
PB02	**IPOC Station P**	**1.74**	**31**	*i*P	**Pn**	**01 49 55.9**	**0.0**
PB02				*i* S	**Sn**	**01 50 17.6**	**-0.5**
PB02				IAML		01 50 35.6	
	comp=E,838nm,0.5s						
PB02	**IPOC Station P**	**1.74**	**31**	*e*P	**Pn**	**01 49 56.0**	**+0.2**
PB02				*e*S	**Sn**	**01 50 18.0**	**-0.1**
PB02				IAML		01 50 24.5	
	comp=Z,771nm,0.5s						
PB02				*e*S	**Sg**	**01 50 27.1**	**+5.5**
PB09	**IPOC Station P**	**1.82**	**56**	*e*P	**Pb**	**01 49 58.5**	**-0.5**
PB09				*i* S	**Sb**	**01 50 21.3**	**-0.5**
PB09	**IPOC Station P**	**1.82**	**56**	*e*P	**Pb**	**01 49 58.0**	**-0.9**
PB09				*e*S	**Sg**	**01 50 24.2**	**+0.2**
PB09				IAML		01 50 27.9	
	comp=Z,741nm,0.7s						
LVC	**Limon Verde**	**1.82**	**84**	*i*P	**Pb**	**01 49 58.3**	**-0.8**
LVC				*e*S	**Sb**	**01 50 21.6**	**-0.5**
LVC	**Limon Verde**	**1.82**	**84**	*e*P	**Pb**	**01 49 57.9**	**-1.2**
LVC				*e*S	**Sg**	**01 50 27.1**	**+2.9**
PB14	**IPOC Station P**	**1.85**	**167**	*i*P	**Pn**	**01 49 56.8**	**-0.7**
PB14				*e*S	**Sn**	**01 50 18.7**	**-2.4**
PB14	**IPOC Station P**	**1.85**	**167**	*e*P	**Pn**	**01 49 56.9**	**-0.7**
PB14				IAML		01 50 32.8	
	comp=Z,431nm,0.4s						
PATCX	**Punta Patache**	**2.10**	**19**	*i*P	**Pn**	**01 50 00.2**	**-0.4**
PATCX				IAML		01 50 42.2	
	comp=E,404nm,0.6s						
PATCX	**Punta Patache**	**2.10**	**19**	*e*P	**Pn**	**01 50 00.3**	**-0.4**
PB01	**IPOC Station P**	**2.18**	**36**	*e*P	**Pb**	**01 50 05.2**	**+0.1**
PB01				IAML		01 50 42.7	
	comp=E,353nm,0.7s						
PB01	**IPOC Station P**	**2.18**	**36**	*e*P	Pn	01 49 54.9	-7.0
PB01				IAML		01 50 40.0	
	comp=Z,291nm,0.6s						
TA01	**Diego Aracena**	**2.33**	**16**	*e*P	**Pn**	**01 50 03.2**	**-0.6**
TA01				*e*S	**Sn**	**01 50 30.5**	**-2.0**
GO02	**Mina Guanaco**	**2.61**	**154**	*i*P	**Pn**	**01 50 09.0**	**+1.0**
GO02				*e*S	**Sn**	**01 50 40.3**	**+0.4**
GO02				IAML		01 50 54.7	
	comp=E,679nm,0.6s						
PB08	**IPOC Station P**	**3.11**	**31**	*e*P	**Pn**	**01 50 17.2**	**+2.4**
PB08				*e*S	**Sn**	**01 50 53.7**	**+1.6**
PB08				IAML		01 51 08.9	
	comp=N,201nm,0.6s						
PB11	**IPOC Station P**	**3.25**	**21**	*e*P	**Pn**	**01 50 16.9**	**+0.4**
PB11				*e*S	**Sn**	**01 50 53.3**	**-2.0**
PB11				IAML		01 51 18.7	
	comp=N,229nm,0.7s						
PB11	**IPOC Station P**	**3.25**	**21**	*e*S	**Sn**	**01 50 55.9**	**+0.6**
PB11				IAML		01 51 28.5	
	comp=Z,171nm,0.9s						
GO01	**Chusmiza**	**3.50**	**27**	*e*P	**Pn**	**01 50 22.3**	**+1.9**
GO01				*e*S	**Sn**	**01 51 02.4**	**+0.3**
GO03	**Copiap**	**4.79**	**173**	*e*P	**Pn**	**01 50 39.2**	**+1.5**
GO03				*e*S	**Sn**	**01 51 31.9**	**-1.4**
AZAP	**Zapla**	**5.51**	**106**	*e*P	Pb	01 50 55.3	-6.6
AZAP				IAML		01 52 49.4	
	comp=Z,17nm,2.7s						
AGUA	**GUANDACOL**	**6.98**	**163**	*e*P	**Pn**	**01 51 11.5**	**+3.7**
AGUA				IAML		01 52 52.2	
	comp=Z,57nm,1.4s						
ACLC	**CERRO LA CRUZ**	**7.46**	**153**	*e*P	**Pn**	**01 51 14.9**	**+0.4**
ACLC				IAML		01 53 03.1	
	comp=Z,11nm,2.0s						

*NEIC **06** 01:51:09.9±2.1, 14°.78N±0°.05×93°.78W±0°.04, h35km±12km, mb4.0/5, Md4.3/24(MEX), Error ellipse: s-maj=8.1km s-min=4.9km az=214.0*
*IDC **06** 01:51:09.1±7.0, 14°.78N×93°.48W, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/38, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=125.7km s-min=43.3km az=161.0*
*MEX **06** 01:51:10.7±0.7, 14°.75N×93°.79W, h17km±999km, MD4.3*
ISC 06 01:51:08.3±3.4, 14°.81N±0°.06×93°.79W±0°.04, h7km±23km, n27, σ2°.08/40, mb4.0/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.05**	**31**	*e*P	**Pb**	**01 51 27.8**	**-1.0**
PCIG				*e*S	**Sb**	**01 51 40.9**	**-1.9**
PCIG		**1.05**	**31**		**Pb**	**01 51 27.8**	**-1.0**
PCIG					**Sb**	**01 51 40.9**	**-1.9**
THIG		**1.47**	**86**	*e*P	**Pn**	**01 51 33.7**	**-1.6**
THIG				*e*S	**Sn**	**01 51 50.6**	**-4.2**
THIG		**1.47**	**86**		**Pn**	**01 51 33.7**	**-1.6**
THIG					**Sn**	**01 51 50.6**	**-4.2**
RTAL	**Retalhuleu**	**2.04**	**98**	Pn	**Pn**	**01 51 41.7**	**-1.5**
RTAL				Sn	**Sn**	**01 52 05.8**	**-3.2**
TGIG		**2.06**	**18**	*e*P	**Pn**	**01 51 43.8**	**+0.3**
TGIG				*i* S	**Sn**	**01 52 07.4**	**-2.1**
TGIG		**2.06**	**18**		**Pn**	**01 51 43.8**	**+0.3**
TGIG					**Sn**	**01 52 07.4**	**-2.1**
CCIG	**Comitan**	**2.16**	**47**	*e*P	**Pn**	**01 51 46.0**	**+1.1**
CCIG				*i* S	**Sn**	**01 52 10.5**	**-1.7**
CCIG	**Comitan**	**2.16**	**47**	Pn	**Pn**	**01 51 46.2**	**+1.2**
HUEH	**Huehuetenango**	**2.26**	**77**	Pn	**Pn**	**01 51 47.1**	**+0.6**
HUIG	**Huatulco**	**2.44**	**293**	*e*P	**Pn**	**01 51 47.0**	**-1.6**
HUIG				*e*S	**Sn**	**01 52 15.8**	**-2.9**
HUIG	**Huatulco**	**2.44**	**293**		**Pn**	**01 51 47.0**	**-1.6**
HUIG					**Sn**	**01 52 15.8**	**-2.9**
CMIG	**Matias Romero**	**2.50**	**335**	*e*P	**Pn**	**01 51 48.6**	**-0.9**
CMIG				*i* S	**Sn**	**01 52 17.7**	**-2.6**
CMIG	**Matias Romero**	**2.50**	**335**		**Pn**	**01 51 48.6**	**-0.9**
CMIG					**Sn**	**01 52 17.7**	**-2.6**
MTO3	**Montecristo**	**4.30**	**95**	Pn	**Pn**	**01 52 17.4**	**+2.9**
PETF	**Flores**	**4.32**	**60**	Pn	**Pn**	**01 52 15.8**	**+1.3**
TEIG	**Tepich**	**7.53**	**43**	Pn	**Pn**	**01 52 58.3**	**-0.2**
	3.1nm,0.3s,baz=237,slow=6.3,SNR=1.7						
TEIG					Sn	**Sn**	**01 54 22.1**	**-2.1**
	1.5nm,0.3s,baz=304,slow=23,SNR=1.5						
TEIG	**Tepich**	**7.53**	**43**	Pn	**Pn**	**01 52 58.1**	**-0.5**
TXAR	**Lajitas Array**	**17.10**	**329**	P	**P**	**01 55 12.3**	**+2.5**
	0.0nm,0.3s,baz=148,slow=8.6,SNR=8.0						
TXAR	**Lajitas Array**	**17.10**	**329**		**Pn**	**01 55 09.2**	**+1.2**
ABTX	**Abilene, Hawle**	**18.52**	**344**		**P**	**01 55 23.7**	**-1.7**
MIAR	**Mount Ida**	**19.65**	**1**	P	**P**	**01 55 36.9**	**-0.9**
MIAR				IAmb	IAmb	01 55 45.8	
	comp=Z,5.9nm,1.1s						
X48A	**Hartselle**	**20.48**	**16**	P	**P**	**01 55 46.9**	**+0.1**
X48A				IAmb	IAmb	01 55 52.4	
	comp=Z,8.2nm,0.9s						
TUL1	**Leonard**	**21.09**	**355**	P	**P**	**01 55 54.6**	**+1.2**
TUL1				IAmb	IAmb	01 56 01.4	
	comp=Z,6.7nm,0.8s						
AMTX	**Amarillo**	**21.22**	**342**	P	**P**	**01 55 55.6**	**+0.7**
YKA	**Yellowknife Ar**	**49.86**	**348**	P	**P**	**02 00 05.1**	**+3.1**
	comp=Z,1.6nm,0.9s,baz=152,slow=9.0,SNR=2.5						
ILAR	**Eielson Array**	**61.42**	**337**	P	**P**	**02 01 27.3**	**+2.2**
	comp=Z,0.4nm,1.0s,baz=126,slow=5.7,SNR=2.1						

*IDC **06** 02:05:30.7±8.8, 2°.48N×128°.68E, h229km±84km, mb3.2/7, mb1 3.4/7, mb1mx3.1/37, mbtmp3.8/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/18, Error ellipse: s-maj=66.0km s-min=16.8km az=58.0*
*NEIC **06** 02:05:32.0±0.8, 2°.5N±0°.1×128°.7E±0°.1, h246km±12km, mb4.2/12, Error ellipse: s-maj=23.7km s-min=10.8km az=55.0*
ISC 06 02:05:32.1±0.8, 2°.5N±0°.1×128°.7E±0°.1, h250km, n27, σ1°58/28, mb3.9/10, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.13**	**218**		**Pn**	**02 06 13.5**	**-2.3**
KCP	**Kidapawan**	**5.75**	**322**	*e*P	**Pn**	**02 06 55.2**	**-2.1**
FAKI	**Fak Fak**	**6.43**	**146**	Pn	**Pn**	**02 07 01.7**	**-4.0**
MYLDM	**Lahad Datu**	**10.50**	**285**	Pn	**Pn**	**02 07 52.4**	**-4.7**
TGY	**Tagaytay City**	**13.86**	**327**	LR	LR	02 15 04.3	
	comp=Z,166nm,20.9s,baz=282,slow=41						
MTN	**Manton Dam**	**15.40**	**171**	P	**Pn**	**02 08 58.4**	**+1.2**
MTN				IAmb	IAmb	02 09 02.0	
	comp=Z,21nm,1.4s						
SBUM	**Sibu**	**16.44**	**270**	P	**Pn**	**02 09 10.6**	**+1.1**
SBUM				IAmb	IAmb	02 09 11.1	
	comp=Z,8.5nm,0.7s						
KNRA	**Kununurra**	**18.03**	**180**	P	**P**	**02 09 25.3**	**+0.2**
KNRA				IAmb	IAmb	02 09 31.3	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.65**	**188**	P	**P**	**02 09 53.8**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=9.0,slow=12,SNR=2.0						
FITZ	**Fitzroy Crossi**	**20.65**	**188**	P	**P**	**02 09 54.3**	**+1.1**
COEN	**Coen**	**21.75**	**139**	P	**P**	**02 10 03.7**	**-0.2**
COEN				IAmb	IAmb	02 10 15.2	
	comp=Z,12nm,1.2s						
YOJ	**Yonaguni jima**	**22.54**	**346**	P	**P**	**02 10 12.1**	**+1.1**
WB0	**Warramunga Arr**	**22.80**	**166**	P	**P**	**02 10 13.9**	**+0.4**
WB0				IAmb	IAmb	02 10 15.3	
	comp=Z,4.7nm,1.0s						
WRA	**Warramunga Arr**	**22.95**	**166**	P	**P**	**02 10 15.1**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=345,slow=10.0,SNR=28						
WRA				PcP	**PcP**	**02 13 57.9**	**+0.8**
	comp=Z,0.2nm,0.9s,baz=322,slow=1.8,SNR=1.2						
WRA	**Warramunga Arr**	**22.95**	**166**	P	**P**	**02 10 15.8**	**+0.9**
WB2	**Warramunga Arr**	**22.96**	**166**	P	**P**	**02 10 15.5**	**+0.6**
WB2				IAmb	IAmb	02 10 22.7	
	comp=Z,8.5nm,1.4s						
WR0	**Warramunga Arr**	**23.02**	**166**	P	**P**	**02 10 16.2**	**+0.7**
WR0				IAmb	IAmb	02 10 35.5	
	comp=Z,9.6nm,1.4s						
AS31	**Alice Springs**	**26.47**	**169**	P	**P**	**02 10 47.4**	**+0.8**
ASAR	**Alice Springs**	**26.47**	**169**	P	**P**	**02 10 47.0**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=354,slow=7.9,SNR=24						
ASAR				PcP	**PcP**	**02 14 05.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=356,slow=2.2,SNR=2.2						
ASAR	**Alice Springs**	**26.47**	**169**	P	**P**	**02 10 47.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**33.18**	**301**	P	**P**	**02 11 46.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=126,slow=9.1,SNR=4.7						
BBOO	**Buckleboo**	**35.77**	**169**	P	**P**	**02 12 08.3**	**+0.7**
STKA	**Stephens Creek**	**36.29**	**161**	P	**P**	**02 12 13.1**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=332,slow=9.0,SNR=6.3						
STKA	**Stephens Creek**	**36.29**	**161**	P	**P**	**02 12 12.9**	**+0.9**
MKAR	**Makanchi Array**	**59.70**	**325**	P	**P**	**02 15 10.5**	**0.0**
	comp=Z,0.2nm,0.4s,baz=116,slow=8.8,SNR=2.1						
MKAR	**Makanchi Array**	**59.70**	**325**	P	**P**	**02 15 10.9**	**+0.4**
ILAR	**Eielson Array**	**85.40**	**25**	P	**P**	**02 17 42.5**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=270,slow=6.3,SNR=2.9						

*IDC **06** 02:07:21.8±15.0, 21°.03S×176°.99W, h325km±130km, mb3.6/7, mb1 3.8/7, mb1mx3.5/33, mbtmp4.3/7, Error ellipse: s-maj=114.9km s-min=47.4km az=134.0*
*NEIC **06** 02:07:39±1.2, 20°.7S±0°.1×177°.7W±0°.2, h475km±7km, mb4.0/16, Error ellipse: s-maj=23.3km s-min=15.3km az=119.0*
ISC 06 02:07:36.7±0.8, 20°.7S±0°.1×177°.6W±0°.1, h450km, n40, σ1°07/40, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.12**	**305**	P	**P**	**02 09 04.8**	**+2.4**
DZM	**Mont Dzumac**	**14.96**	**262**	P	**P**	**02 10 48.0**	**+0.4**
PLWZ	**Palliser**	**21.64**	**195**	P	**P**	**02 11 53.9**	**+1.0**
EIDS	**Eidsvold**	**29.18**	**255**	P	**P**	**02 12 60.0**	**-0.2**
ARMA	**Armidale**	**29.34**	**245**	P	**P**	**02 13 01.8**	**+0.3**
CTA	**Charters Tower**	**33.88**	**265**	P	**P**	**02 13 39.1**	**-1.5**
	3.9nm,0.6s,baz=94,slow=11,SNR=8.9						
CTAO	**Charters Tower**	**33.88**	**265**	P	**P**	**02 13 41.1**	**+0.5**
CTAO				IAmb	IAmb	02 13 56.2	
	comp=Z,10nm,1.2s						
STKA	**Stephens Creek**	**38.06**	**245**	P	**P**	**02 14 13.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=95,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**38.06**	**245**	P	**P**	**02 14 15.2**	**-0.2**
BBOO	**Buckleboo**	**42.81**	**244**	P	**P**	**02 14 52.6**	**-1.0**
WR0	**Warramunga Arr**	**44.79**	**262**	P	**P**	**02 15 08.1**	**-1.1**
AS31	**Alice Springs**	**44.87**	**257**	P	**P**	**02 15 09.4**	**-0.4**
AS31				IAmb	IAmb	02 15 09.9	
	comp=Z,4.1nm,1.2s						
ASAR	**Alice Springs**	**44.87**	**257**	P	**P**	**02 15 08.8**	**-0.9**
	comp=Z,4.4nm,0.5s,baz=98,slow=7.8,SNR=64						
ASAR				PcP	**PcP**	**02 16 41.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=104,slow=3.7,SNR=4.3						
ASAR	**Alice Springs**	**44.87**	**257**	P	**P**	**02 15 08.7**	**-1.1**
ASAR				PcP	**PcP**	**02 16 42.1**	**-0.3**
WB0	**Warramunga Arr**	**44.96**	**262**	P	**P**	**02 15 09.1**	**-1.4**
WB0				IAmb	IAmb	02 15 09.9	
	comp=Z,3.3nm,0.5s						
WB2	**Warramunga Arr**	**44.97**	**262**	P	**P**	**02 15 09.2**	**-1.4**
WB2				IAmb	IAmb	02 15 13.6	
	comp=Z,2.4nm,1.0s						
WRA	**Warramunga Arr**	**44.98**	**262**	P	**P**	**02 15 09.2**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=96,slow=7.4,SNR=51						
WRA	**Warramunga Arr**	**44.98**	**262**	P	**P**	**02 15 09.6**	**-1.1**
MTN	**Manton Dam**	**49.58**	**271**	P	**P**	**02 15 44.6**	**-0.9**
MTN				IAmb	IAmb	02 15 46.5	
	comp=Z,8.3nm,0.8s						
KNRA	**Kununurra**	**51.05**	**266**	P	**P**	**02 15 55.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.41**	**262**	P	**P**	**02 16 12.4**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=104,slow=5.7,SNR=24						
FITZ	**Fitzroy Crossi**	**53.41**	**262**	P	**P**	**02 16 13.0**	**-0.4**
PSA00	**Pilbara Seismi**	**58.02**	**257**	P	**P**	**02 16 44.8**	**-0.8**
PSA00				IAmb	IAmb	02 16 45.5	
	comp=Z,7.1nm,0.9s						
CASY	**Casey**	**63.92**	**205**	P	**P**	**02 17 23.8**	**0.0**
CASY				IAmb	IAmb	02 17 24.8	
	comp=Z,6.4nm,1.1s						
QSPA	**South Pole Qui**	**69.33**	**180**	P	**P**	**02 17 59.2**	**+1.6**
QSPA				IAmb	IAmb	02 18 09.8	
	comp=Z,3.1nm,1.1s						
MJAR	**Matsushiro Arr**	**70.65**	**323**	P	**P**	**02 18 06.7**	**+0.9**
VNA3	**Neumayer Olymp**	**87.87**	**176**	P	**P**	**02 19 36.9**	**0.0**
VNA2	**Neumayer--Watz**	**88.32**	**177**	P	**P**	**02 19 39.2**	**+0.3**
	baz=178,slow=4.1						
ILAR	**Eielson Array**	**88.46**	**13**	P	**P**	**02 19 37.7**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=209,slow=6.1,SNR=5.4						
ILAR	**Eielson Array**	**88.46**	**13**	P	**P**	**02 19 39.3**	**-0.2**
VNA1	**Neumayer--Stat**	**88.54**	**176**	P	**P**	**02 19 40.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**90.58**	**289**	P	**P**	**02 19 52.7**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=133,slow=5.3,SNR=1.8						
CMAR	**Chiang Mai Arr**	**90.58**	**289**	P	**P**	**02 19 49.5**	**-0.9**
ARCES	**ARCESS Array B**	**129.23**	**350**	PKP	**PKPdf**	**02 25 51.5**	**-0.7**
	comp=Z,2.7nm,1.1s,baz=56,slow=2.2,SNR=4.1						
AKASG	**Malin Array Be**	**143.42**	**331**	PKP	PKPab	02 26 16.2	-0.6
	comp=Z,0.9nm,0.6s,baz=44,slow=4.2,SNR=9.6						
AKASG	**Malin Array Be**	**143.42**	**331**		PKPab	02 26 15.9	-0.9
BRTR	**Keskin Array B**	**147.31**	**312**	PKPbc	**PKPbc**	**02 26 28.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=120,slow=4.7,SNR=7.6						
BRTR	**Keskin Array B**	**147.31**	**312**		**PKPbc**	**02 26 28.1**	**-1.1**
GERES	**GERESS Array B**	**150.54**	**345**	PKPbc	**PKiKP**	**02 26 36.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=18,slow=1.7,SNR=4.5						
GERES	**GERESS Array B**	**150.54**	**345**		**PKiKP**	**02 26 36.7**	**-0.5**

*SNET **06** 02:35:27.8±0.7, 13°.67N×89°.81W, h91km±4km, ML2.7*
*GCG **06** 02:35:29.4±0.4, 13°.67N×89°.62W, h21km±4km, MD3.5*
ISC 06 02:35:31.0±2.4, 13°.7N±0°.2×89°.74W±0°.08, h77km±17km, n14, σ1°32/21, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.20**	**34**	*i* P	**Pn**	**02 35 41.8**	**-0.9**
SNJE	**San Jose**	**0.24**	**34**	*i*P	**Pn**	**02 35 42.0**	**-0.8**
RTR	**El Retiro**	**0.24**	**22**	*e*P	**Pn**	**02 35 42.1**	**-0.7**
CEDA	**San Andres**	**0.36**	**69**	*i* P	**Pn**	**02 35 42.5**	**-0.9**
TACO	**Tacachico**	**0.48**	**52**	*i*P	**Pn**	**02 35 43.2**	**-1.1**
TACO				IAML		02 35 43.8	
	comp=Z,117nm,0.4s						
TACO				*e*S	**Sn**	**02 35 55.0**	**+0.9**
UEES	**Universidad Ev**	**0.49**	**85**	*e*P	**Pn**	**02 35 43.6**	**-0.8**
UEES				*e*S	**Sn**	**02 35 56.5**	**+2.2**
UEES				IAML		02 36 00.9	
	comp=Z,256nm,0.2s						
SNET	**Serv Nac Est T**	**0.49**	**88**	*e*P	**Pn**	**02 35 43.4**	**-1.0**
SNET				*e*S	**Sn**	**02 35 55.6**	**+1.2**
SNET				IAML		02 36 01.9	
	comp=Z,231nm,0.1s						
LFRS	**El Faro**	**0.66**	**94**	*e*P	**Pn**	**02 35 45.1**	**-0.9**
LFRS				*e*S	**Sn**	**02 35 58.4**	**+1.1**
PAVA	**Las Pavas**	**0.78**	**87**	*e*P	**Pn**	**02 35 46.6**	**-0.8**
PAVA				IAML		02 35 47.1	
	comp=Z,311nm,0.3s						
MTO3	**Montecristo**	**0.81**	**27**	*i* P	**Pn**	**02 35 46.7**	**-1.2**
COEG	**Centro de Oper**	**0.84**	**93**	*e*P	**Pn**	**02 35 46.8**	**-1.2**
COEG				*e*S	**Sn**	**02 36 01.8**	**+1.1**
COEG				IAML		02 36 05.0	
	comp=Z,94nm,0.5s						
IXG	**Ixpaco**	**0.84**	**306**	*e*P	**Pn**	**02 35 46.8**	**-1.4**
IXG				*e*S	**Sn**	**02 35 59.4**	**-1.6**
NBG	**Las Nubes**	**1.08**	**327**	*e*P	**Pn**	**02 35 50.7**	**-0.5**
FUG	**Fuego 3**	**1.32**	**306**	*e*P	**Pn**	**02 35 54.4**	**+0.4**
FUG				*e*S	**Sn**	**02 36 13.6**	**+2.3**

*IPEC **06** 02:37:27.6±0.3, 51°.49N×16°.28E, h0km±1km, ML2.1/3, Error ellipse: s-maj=2.2km s-min=0.8km az=29.0*
*PRU **06** 02:37:29.1±0.0, 51°.43N×16°.17E, h0km*
*VIE **06** 02:37:30.6±1.1, 51°.34N×16°.40E, h0km, mb2.2/3, ml2.6/7, Error ellipse: s-maj=7.8km s-min=5.6km az=16.0 51 km NW of Wroclaw Suspected Mining induced.*
ISC 06 02:37:26.4±1.0, 51°.57N±0°.04×16°.27E±0°.03, h0km, n30, σ1°33/60, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**179**	*e*Pg	**Pg**	**02 37 40.3**	**+0.1**
KSP				*e*Sg	**Sg**	**02 37 48.3**	**-1.3**
CHVC	**Chvalec**	**0.99**	**188**	*e*PG	**Pg**	**02 37 45.2**	**-0.1**
CHVC				*e*SG	**Sg**	**02 37 56.7**	**-1.4**
	comp=Z,22nm,0.3s						
OSTC	**Ostas**	**1.01**	**182**	*e*PG	**Pg**	**02 37 45.9**	**+0.1**
OSTC				*e*SG	**Sg**	**02 37 57.9**	**-0.9**
	comp=Z,30nm,0.3s						
UPC	**Upice**	**1.07**	**189**	*e*PG	**Pg**	**02 37 46.4**	**-0.5**
UPC				*e*SG	**Sg**	**02 37 59.1**	**-1.7**
DPC	**Dobruska-Polom**	**1.22**	**178**	*e*PG	**Pg**	**02 37 49.1**	**-0.6**
DPC				*e*SG	**Sg**	**02 38 03.7**	**-1.8**
	comp=Z,36nm,0.3s						
PVCC

ellipse: s-maj=6.2km s-min=2.4km az=125.0
*ISK **06** 02:44:57.9, 36.58N×27.65E, h91km, ML2.4/18*
*THE **06** 02:44:59.9, 36.56N×27.68E, h91km±2km, ML2.6/4, Error ellipse: s-maj=2.5km s-min=1.0km az=23.0*
*NIC **06** 02:45:00.3±0.0, 36.25N×27.91E, h96km±1km, Ml3.3/4*
*HLW **06** 02:45:04.1, 35.74N×27.75E, h10km±12km, Md3.4*

ISC 06 02:44:57.5±1.3, 36°55N±0.04×27°.70E±0.03, h98km±7km, n59, σ1s04/79, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.20**	**330**	P	**Pn**	**02 45 11.9**	**+0.3**
DAT				S	**Sn**	**02 45 21.2**	**-0.9**
DAT	**Datca**	**0.20**	**330**	PG	**Pn**	**02 45 11.3**	**-0.3**
DAT				SG	**Sn**	**02 45 21.1**	**-1.0**
DATC	**Datca-Mugla**	**0.21**	**350**	PG	**Pn**	**02 45 11.4**	**-0.1**
ARG	**Arkhangelos**	**0.48**	**135**	P	**Pn**	**02 45 13.9**	**+0.9**
ARG				S	**Sn**	**02 45 24.7**	**+0.3**
	560nm,0.2s						
ARG	**Arkhangelos**	**0.48**	**135**	P	**Pn**	**02 45 13.8**	**+0.9**
ARG				S	**Sn**	**02 45 24.7**	**+0.3**
ARG				AML	AML	02 45 25.2	
	comp=N,1090μm,0.2s						
ARG				AML	AML	02 45 25.7	
	comp=E,1108μm,0.2s						
ARG	**Arkhangelos**	**0.48**	**135**	PG	**Pn**	**02 45 13.7**	**+0.8**
ARG				SG	**Sn**	**02 45 24.8**	**+0.3**
ARG	**Arkhangelos**	**0.48**	**135**	P	**Pn**	**02 45 13.8**	**+0.9**
ARG				S	**Sn**	**02 45 24.9**	**+0.5**
BODT	**Bodrum**	**0.60**	**328**	P	**Pn**	**02 45 14.2**	**+0.3**
BODT				S	**Sn**	**02 45 25.1**	**-1.0**
BODT	**Bodrum**	**0.60**	**328**	PG	**Pn**	**02 45 13.7**	**-0.2**
BODT				SG	**Sn**	**02 45 25.2**	**-0.9**
KOSK	**Kos Island**	**0.62**	**289**	PG	**Pn**	**02 45 14.3**	**+0.4**
MLSB	**Milas**	**0.74**	**4**	PG	**Pn**	**02 45 15.4**	**+0.2**
YER	**Yerkesik**	**0.74**	**39**	P	**Pn**	**02 45 16.0**	**+0.8**
YER				S	**Sn**	**02 45 28.0**	**-0.5**
YER	**Yerkesik**	**0.74**	**39**	PG	**Pn**	**02 45 16.0**	**+0.8**
YER				SG	**Sn**	**02 45 28.3**	**-0.2**
DALY	**Dalyan (Mula)**	**0.81**	**71**	PG	**Pn**	**02 45 17.0**	**+1.3**
KARP	**Karpathos**	**1.10**	**204**	P	**Pn**	**02 45 19.6**	**+0.7**
KARP				S	**Sn**	**02 45 35.1**	**+0.1**
	comp=E,255nm,0.2s						
KARP	**Karpathos**	**1.10**	**204**	P	**Pn**	**02 45 19.6**	**+0.7**
KARP				S	**Sn**	**02 45 35.1**	**+0.1**
KARP				AML	AML	02 45 35.5	
	comp=E,649μm,0.3s						
KARP				AML	AML	02 45 36.7	
	comp=N,352μm,0.2s						
KARP	**Karpathos**	**1.10**	**204**	PN	**Pn**	**02 45 19.6**	**+0.7**
KARP	**Karpathos**	**1.10**	**204**	P	**Pn**	**02 45 19.6**	**+0.7**
KARP				AML	AML	02 45 35.1	
	comp=N,0.6nm,0.3s						
KARP				AML	AML	02 45 35.1	
	comp=N,0.6nm,0.3s						
KARP				S	**Sn**	**02 45 35.2**	**+0.2**
KARP				AML	AML	02 45 36.2	
	comp=N,0.4nm,0.3s						
KARP				AML	AML	02 45 36.2	
	comp=N,0.4nm,0.3s						
FETY	**Fethiye**	**1.11**	**85**	P	**Pn**	**02 45 19.9**	**+0.9**
FETY				S	**Sn**	**02 45 35.6**	**+0.3**
FETY	**Fethiye**	**1.11**	**85**	PN	**Pn**	**02 45 20.1**	**+1.1**
SMG	**Samos**	**1.34**	**329**	P	**Pn**	**02 45 22.3**	**+0.6**
SMG	**Samos**	**1.34**	**329**	P	**Pn**	**02 45 22.3**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**6**	PN	**Pn**	**02 45 23.2**	**+0.7**
AKAS	**Kas**	**1.57**	**101**	PN	**Pn**	**02 45 25.9**	**+1.3**
KSL	**Kastellorizon**	**1.57**	**104**	P	**Pn**	**02 45 24.4**	**-0.1**
KSL	**Kastellorizon**	**1.57**	**104**	P	**Pn**	**02 45 24.4**	**-0.1**
KSL	**Kastellorizon**	**1.57**	**104**	P	**Pn**	**02 45 24.5**	**+0.9**
KSL				S	**Sn**	**02 45 45.0**	**0.0**
ANAF	**Anafi Island**	**1.57**	**263**	P	**Pn**	**02 45 25.7**	**+1.2**
ANAF	**Anafi Island**	**1.57**	**263**	P	**Pn**	**02 45 25.7**	**+1.2**
ELL	**Elmali**	**1.78**	**83**	PN	**Pn**	**02 45 28.9**	**+1.6**
ELL	**Elmali**	**1.78**	**83**	P	**Pn**	**02 45 29.4**	**+2.1**
ZKR	**Zakros**	**1.88**	**221**	P	**Pn**	**02 45 29.8**	**+1.4**
ZKR				S	**Sn**	**02 45 52.4**	**+0.5**
	comp=N,28nm,0.3s						
ZKR	**Zakros**	**1.88**	**221**	P	**Pn**	**02 45 29.7**	**+1.4**
ZKR	**Zakros**	**1.88**	**221**	PN	**Pn**	**02 45 29.4**	**+1.0**
STIA	**Sitia Lasithi**	**1.88**	**225**	P	**Pn**	**02 45 29.8**	**+1.4**
KULA	**Kula-Manisa**	**2.10**	**21**	PN	**Pn**	**02 45 32.4**	**+1.1**
NPS	**Neapolis**	**2.13**	**233**	P	**Pn**	**02 45 32.3**	**+0.6**
NPS	**Neapolis**	**2.13**	**233**	P	**Pn**	**02 45 32.3**	**+0.6**
LAST	**Lasithi**	**2.28**	**233**	P	**Pn**	**02 45 34.4**	**+0.7**
LAST				S	**Sn**	**02 46 00.6**	**-0.8**
LAST	**Lasithi**	**2.28**	**233**	P	**Pn**	**02 45 34.4**	**+0.7**
BASM	**Basmaki-Afyon**	**2.31**	**53**	PN	**Pn**	**02 45 35.8**	**+1.6**
ANTB	**Antalya**	**2.40**	**81**	PN	**Pn**	**02 45 37.2**	**+2.1**
BCK	**Bucak**	**2.48**	**68**	PN	**Pn**	**02 45 38.1**	**+1.8**
IDI	**Anoyia**	**2.61**	**242**	P	**Pn**	**02 45 38.9**	**+0.8**
IDI				S	**Sn**	**02 46 07.9**	**-1.3**
	comp=N,38nm,0.2s						
IDI	**Anoyia**	**2.61**	**242**	P	**Pn**	**02 45 38.9**	**+0.8**
IDI	**Anoyia**	**2.61**	**242**	PN	**Pn**	**02 45 38.8**	**+0.8**
SIVA	**Sivas**	**2.81**	**238**	P	**Pn**	**02 45 42.5**	**+1.9**
SIVA	**Sivas**	**2.81**	**238**	P	**Pn**	**02 45 42.5**	**+1.9**
SHUT	**Suhut-Afyon**	**3.02**	**48**	PN	**Pn**	**02 45 45.1**	**+1.6**
TVSB	**Tavsanli**	**3.21**	**25**	PN	**Pn**	**02 45 47.0**	**+1.0**
AKMS	**Akamas**	**4.06**	**111**	P	**Pn**	**02 45 58.0**	**+0.5**
AKMS				AML	AML	02 46 40.1	
	comp=N,0.2nm,0.8s						
AKMS				AML	AML	02 46 40.1	
	comp=N,0.2nm,0.8s						
AKMS				S	**Sn**	**02 46 42.4**	**-1.6**
AKMS				AML	AML	02 46 42.4	
	comp=N,0.1nm,0.6s						
AKMS				AML	AML	02 46 42.4	
	comp=N,0.1nm,0.6s						
ALFC	**Alefka**	**4.21**	**108**	P	**Pn**	**02 45 60.0**	**+0.4**
ALFC				AML	AML	02 46 47.0	
	comp=N,0.1nm,0.2s						
ALFC				AML	AML	02 46 48.2	
	comp=N,0.1nm,0.1s						
OSC1	**CSNet OBS 1**	**4.23**	**135**	P	**Pn**	**02 45 59.6**	**0.0**
OSC1				S	**Sn**	**02 46 45.0**	**-2.9**
SZAC	**Souni**	**4.58**	**112**	P	**Pn**	**02 46 04.9**	**+0.4**
SZAC				AML	AML	02 46 56.6	
	comp=N,0.1nm,0.3s						
SZAC				AML	AML	02 46 58.0	
	comp=N,0.1nm,0.5s						
OSC2	**CSNet OBS 4**	**5.11**	**131**	S	**Sn**	**02 47 07.1**	**-2.3**
SLUM	**Salum**	**5.46**	**203**	P	**Pn**	**02 46 16.1**	**-0.3**
	baz=208						
SWA2		**7.53**	**195**	P	**Pn**	**02 46 44.3**	**-0.3**
	baz=198						
GLL	**Jalalah**	**7.72**	**153**	P	**Pn**	**02 46 47.5**	**+0.3**
	baz=150						
HFRF	**Wahat Farafira**	**9.39**	**177**	P	**Pn**	**02 47 09.5**	**-0.4**
	baz=176						

*ISK **06** 02:47:18.1, 40.94N×43.20E, h7km, ML2.8/16*
*ATA **06** 02:47:19.0±1.3, 40.79N×43.19E, h15km±66km, ML2.2, MW3.6*
*TIF **06** 02:47:22.4, 40.91N×43.07E, h22km±3km*

ISC 06 02:47:19.8±1.1, 40°87N±0.03×43°.16E±0.03, h5km±11km, n29, σ1s18/39, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**0.25**	**195**	PG	**Pg**	**02 47 25.0**	**+0.2**
KARS				SG	**Sg**	**02 47 30.4**	**+2.2**
EAK	**Akyaka**	**0.38**	**119**	*i* S	**Sg**	**02 47 30.2**	**-2.2**
SENK	**Senkaya-Erzuru**	**0.69**	**244**	PG	**Pg**	**02 47 32.9**	**-0.3**
SENK				SG	**Sg**	**02 47 43.8**	**+1.6**
EPOS	**Posof**	**0.71**	**333**	*e*P	**Pn**	**02 47 35.0**	**-1.7**
EPOS				*e*S	**Sn**	**02 47 46.6**	**-1.5**
EPOS				IAML		02 47 53.9	
	comp=Z,62nm,0.8s						
TRLG	**Trialeti**	**0.97**	**46**	P	**Pn**	**02 47 40.7**	**+0.4**
TRLG				S	**Sn**	**02 47 56.0**	**+1.5**
TASB	**TASBURUN-IGDIR**	**1.21**	**137**	PN	**Pg**	**02 47 42.3**	**-0.7**
IGDI	**IGDIR**	**1.22**	**145**	*e*P	**Pg**	**02 47 41.8**	**-1.4**
IGDI				*e*S	**Sg**	**02 47 57.5**	**-1.6**
IGDI				IAML		02 48 05.9	
	comp=Z,7.7nm,1.0s						
BCA	**Borcka**	**1.30**	**297**	PN	**Pg**	**02 47 43.1**	**-1.6**
BCA				SN	**Sb**	**02 48 01.2**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**1.33**	**229**	PN	**Pn**	**02 47 44.6**	**-0.6**
BTNK	**Botanikuri**	**1.47**	**56**	P	**Pb**	**02 47 49.6**	**+1.8**
TKB	**Tkibuli**	**1.48**	**355**	P	**Pb**	**02 47 49.1**	**+1.2**
TKB				S	**Sn**	**02 48 08.4**	**+1.5**
ONI	**Oni**	**1.73**	**7**	P	**Pg**	**02 47 53.8**	**+0.8**
ONI				S	**Sg**	**02 48 16.2**	**+0.8**
KRIK	**Erzurum-spir**	**1.79**	**253**	*e*P	**Pb**	**02 47 52.5**	**-0.6**
KRIK				*e*S	**Sg**	**02 48 17.8**	**+0.6**
MLAZ	**Malazgirt-MUS**	**1.79**	**195**	PN	**Pn**	**02 47 51.4**	**-0.2**
CLDR	**Caldiran**	**1.82**	**161**	PN	**Pn**	**02 47 51.6**	**-0.4**
CHOM	**Cayeli-Rize**	**1.83**	**278**	PN	**Pn**	**02 47 51.3**	**-0.7**
EMRE	**Erzurum,Aziziy**	**1.87**	**244**	*e*P	**Pb**	**02 47 54.8**	**+0.2**
CHVG	**Ch'k'valeri**	**2.01**	**337**	PN	**Pn**	**02 47 52.5**	**-2.0**
CHVG	**Ch'k'valeri**	**2.01**	**337**	P	**Pg**	**02 47 58.2**	**-0.2**
VRTB	**Varto-Mus**	**2.15**	**218**	PN	**Pn**	**02 47 56.7**	**+0.2**
KARO	**Karliova-Bingo**	**2.25**	**227**	PN	**Pn**	**02 47 57.8**	**-0.1**
BAYT	**Aydintepe-Bayb**	**2.35**	**259**	PN	**Pn**	**02 47 58.8**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.47**	**235**	PN	**Pn**	**02 48 00.7**	**-0.1**
GURO	**Gurcmak-BITLI**	**2.48**	**201**	PN	**Pn**	**02 48 01.0**	**0.0**
LGD	**Lagodekhi**	**2.51**	**66**	P	**Pg**	**02 48 06.0**	**-1.9**
LGD				S	**Sg**	**02 48 41.5**	**+1.1**
KTUT	**Trabzon**	**2.58**	**274**	PN	**Pn**	**02 48 01.6**	**-0.6**
BLIS	**Bitlis-Merkez**	**2.58**	**199**	*e*P	**Pn**	**02 48 03.6**	**+1.1**
BLIS				IAML		02 48 08.8	
	comp=Z,8.3nm,0.8s						
BNGB	**Bingl**	**2.68**	**226**	PN	**Pn**	**02 48 03.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**3.11**	**210**	PN	**Pn**	**02 48 10.1**	**+0.5**

*ISN **06** 03:15:16.6±1.9, 32.74N×47.54E, h8km±10km, ML2.4*
*TEH **06** 03:15:18.0, 32.74N×47.54E, h9km, ML2.8*

ISC 06 03:15:10.0±1.7, 32°10N±0.09×47°.54E±0.04, h10km, n12, σ2s16/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.62**	**339**	*e*Pg	**Pg**	**03 15 22.6**	**+0.6**
DHL1				*e*Sg	**Sg**	**03 15 26.7**	**-3.5**
DHL1				*e*		03 15 27.6	
IKFM	**Kafar-mosalman**	**1.45**	**10**	*e*Pg	**Pn**	**03 15 33.5**	**-2.7**
IKMR	**Kamar-syah**	**1.58**	**26**	*e*	**Sb**	**03 16 01.3**	**+1.9**
IBDR	**Badra**	**1.69**	**307**	*e*Pg	**Pg**	**03 15 42.0**	**-0.4**
	baz=105						
IBDR				*e*Sg	**Sb**	**03 16 03.0**	**+0.5**
IBDR				AML	AML	03 16 08.4	
	comp=N,70nm,0.5s						
IBDR				AML	AML	03 16 08.9	
	comp=E,83nm,0.8s						
IKOM	**Komasi**	**2.07**	**359**	*e*Pg	**Pn**	**03 15 45.4**	**+0.4**
IKOM				*e*		03 15 47.3	
HSAM	**Samen**	**2.29**	**23**	*e*Pg	**Pb**	**03 15 51.0**	**-0.5**
HSAM				*e*		03 16 18.1	
KER	**Kermanshah**	**2.31**	**352**	*e*Pg	**Pn**	**03 15 50.0**	**+1.8**
KER				*e*		03 16 18.1	
IGHG	**Ghaleghazi**	**2.37**	**340**	*e*	**Sb**	**03 16 26.9**	**+4.7**
IBZA	**Bozab**	**2.38**	**6**	*e*Pg	**Pb**	**03 15 51.9**	**-1.2**
ILIN	**Lien**	**2.85**	**351**	*e*Pn	**Pn**	**03 15 57.2**	**+1.4**
IPIR	**Pirpir**	**2.90**	**77**	*e*		03 16 21.2	
IPIR				*e*Pn	**Pg**	**03 16 05.8**	**+0.3**
BHD	**Baghdad**	**2.91**	**295**	*e*Pn	**Pb**	**03 16 03.0**	**+1.1**
BHD				*e*Sn	**Sb**	**03 16 36.0**	**-1.6**

IDC 06 03:17:00.5±3.9, 30°36S×138°.46E, h0km, mb1 3.0/3, mb1mx3.0/30, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=101.2km s-min=17.7km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.08**	**120**	Pn	Pn	03 17 50.3	-0.1
	0.2nm,0.3s,baz=294,slow=12,SNR=1.6						
STKA				Pg	Pg	03 17 58.6	-1.0
	1.0nm,0.3s,baz=294,slow=15,SNR=7.1						
STKA				Sn	Sn	03 18 27.9	-0.2
	1.0nm,0.3s,baz=210,slow=7.9,SNR=5.2						
STKA				Lg	Lg	03 18 37.1	
	1.0nm,0.3s,baz=24,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**7.81**	**328**	Pn	Pn	03 18 55.7	+0.3
	0.1nm,0.3s,baz=148,slow=13,SNR=2.0						
ASAR				Sn	Sn	03 20 21.9	-2.7
	baz=154,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**11.02**	**339**	Pn	Pn	03 19 38.6	-0.9
	0.1nm,0.3s,baz=162,slow=13,SNR=7.7						
WRA				Sn	Sn	03 21 34.7	-8.9
	0.0nm,0.3s,baz=166,slow=23,SNR=2.1						

*IDC **06** 03:26:58.3±0.4, 40.03S×46.17E, h0km, mb4.7/25, mb1 4.7/25, mb1mx4.6/35, mbtmp4.7/25, MS4.4/21, Ms1 4.4/21, ms1mx4.3/32, Error ellipse: s-maj=15.9km s-min=12.2km az=51.0*
*BJI **06** 03:26:59.3±0.0, 39.99S×45.98E, h17km, mB5.4/21, mb5.3/33, Ms5.3/8, Ms7 5.1/9*
*NEIC **06** 03:26:59.9±1.4, 40.12S±0.09×46.1E±0.1, h10km±1km, mb5.1/67, Error ellipse: s-maj=18.3km s-min=15.0km az=245.0*
*GCMT **06** 03:27:00.9±0.2, 39.96S±0.01×46.02E±0.02, h12km, MW5.2/115, Moment Tensor Solution. s56,c83; s115,c195; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.74±.02; Mθθ=0.67±.01; Mφφ=0.06±.02; Mrθ=0.13±.04; Mrφ=0.19±.01; Mθφ=0.26±.06; Best double couple: M=0.78600×10^17 NP1:φs=87.00000°, δ=39.00000°, λ=-68.00000°. NP2:φs=240.00000°, δ=54.00000°, λ=-107.00000°. Principal axes: T 0.7550, Plg=8.0000°, Azm=342.0000°; N 0.0620, Plg=14.0000°, Azm=250.0000°; P -0.8180, Plg=74.0000°, Azm=101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 03:27:00.4±0.3, 40°03S±0.07×46°.18E±0.07, h10km, h10km:pP-P, n209, σ1s23/193, mb5.0/76, MS4.5/26, 15D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**7.62**	**149**	Pn	Pn	03 28 48.4	-2.9
BOSA	**Boshof**	**20.65**	**297**	P	**P**	**03 31 40.0**	**-0.3**
	35nm,0.9s,baz=131,slow=10,SNR=24						
BOSA				LR	LR	03 38 09.1	
	comp=Z,1μm,21.1s,baz=138,slow=32						
BOSA	**Boshof**	**20.65**	**297**	P	**P**	**03 31 40.3**	**+0.1**
ABPO	**Ambohimpanom**	**20.96**	**3**	P	**P**	**03 31 44.2**	**+0.5**
OPO	**Ambohidratompo**	**21.41**	**3**	P	**P**	**03 31 49.2**	**+0.7**
	8.7nm,0.9s,baz=163,slow=12,SNR=8.5						
OPO				LR	LR	03 38 30.5	
	comp=Z,908nm,19.6s,baz=4.5,slow=32						
SUR	**Sutherland**	**21.80**	**283**	P	**P**	**03 31 52.9**	**+0.1**
	33nm,1.0s,baz=108,slow=12,SNR=17						
SUR				LR	LR	03 38 44.6	
	comp=Z,528nm,20.4s,baz=114,slow=32						
SUR	**Sutherland**	**21.80**	**283**	P	**P**	**03 31 53.4**	**+0.6**
LBTB	**Lobatse**	**22.84**	**305**	P	**P**	**03 32 03.2**	**-0.6**
	32nm,0.8s,baz=125,slow=7.0,SNR=19						
LBTB				LR	LR	03 39 35.9	
	comp=Z,1μm,20.7s,baz=129,slow=33						
LBTB	**Lobatse**	**22.84**	**305**	P	**P**	**03 32 03.0**	**-0.8**
MATP	**Matopo**	**24.72**	**317**	P	**P**	**03 32 20.3**	**-1.7**
	41nm,0.9s,baz=147,slow=8.2,SNR=46						
MATP				LR	LR	03 40 51.2	
	comp=Z,1μm,19.1s,baz=146,slow=34						
MAW	**Mawson**	**29.12**	**167**	LR	LR	03 41 43.3	
	comp=Z,1μm,21.7s,baz=356,slow=30						
LSZ	**Lusaka**	**29.25**	**322**	P	**P**	**03 33 01.8**	**-0.8**
	14nm,0.8s,baz=154,slow=9.7,SNR=30						
LSZ				LR	LR	03 43 32.9	
	comp=Z,2μm,19.5s,baz=158,slow=34						
LSZ	**Lusaka**	**29.25**	**322**	P	**P**	**03 33 03.0**	**+0.3**
LSZ				IAmb	IAmb	03 33 04.3	
	comp=Z,26nm,1.0s						
SYO	**Syowa Base**	**29.25**	**185**	‖*e*P	P	03 33 00.0	-2.1
SYO	**Syowa Base**	**29.25**	**185**	‖*e*P	**P**	**03 33 03.0**	**+0.9**
TSUM	**Tsumeb**	**32.16**	**302**	P	**P**	**03 33 27.7**	**-0.7**
KMBO	**Kilima Mbogo**	**39.57**	**346**	LR	LR	03 49 46.5	
	comp=Z,735nm,18.2s,baz=104,slow=35						
SNAA	**Sanae**	**39.91**	**202**	P	**P**	**03 34 33.9**	**-0.2**
SNAA	**Sanae**	**39.91**	**202**	P	**P**	**03 34 34.0**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=88,slow=7.1,SNR=21						
SNAA	**Sanae**	**39.91**	**202**	P	**P**	**03 34 32.6**	**-1.5**
H08S1	**Diego Carcia H**	**39.91**	**43**	T	T	04 16 51.1	
	baz=208,slow=76						
H08S2	**Diego Garcia H**	**39.92**	**43**	T	T	04 16 46.6	
	baz=208						
H08S3	**Diego Garcia H**	**39.93**	**43**	T	T	04 16 54.2	
	baz=208,slow=76						
VNA2	**Neumayer--Watz**	**40.98**	**204**	P	**P**	**03 34 43.2**	**+0.3**
	baz=66,slow=8.2						
VNA1	**Neumayer--Stat**	**41.16**	**204**	P	**P**	**03 34 44.7**	**+0.4**
VNA3	**Neumayer Olymp**	**41.78**	**204**	P	**P**	**03 34 49.2**	**-0.3**
BELA	**Belgrano 2**	**49.30**	**196**	P	**P**	**03 35 47.9**	**-1.0**
QSPA	**South Pole Qui**	**50.17**	**180**	P	**P**	**03 35 54.7**	**-1.1**
	comp=Z,18nm,1.0s,baz=264,slow=3.4,SNR=16						
QSPA	**South Pole Qui**	**50.17**	**180**	P	**P**	**03 35 54.6**	**-1.2**
QSPA				IAmb	IAmb	03 35 55.9	
	comp=Z,25nm,1.1s						
H01W2	**Cape Leeuwin H**	**53.00**	**107**	T	T	04 33 12.4	
	baz=244,slow=75,SNR=338						
H01W3	**Cape Leeuwin H**	**53.01**	**107**	T	T	04 33 19.3	
	baz=244,slow=75,SNR=286						
H01W1	**Cape Leeuwin H**	**53.02**	**107**	T	T	04 33 13.6	
	baz=244,slow=75,SNR=293						
VNDA	**Vanda**	**56.43**	**166**	P	**P**	**03 36 40.9**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=260,slow=8.2,SNR=10						
VNDA	**Vanda**	**56.43**	**166**	P	**P**	**03 36 41.0**	**-0.5**
MNSI	**Mandailing Nat**	**63.32**	**64**	P	**P**	**03 37 30.3**	**+0.6**
	comp=Z,15nm,0.4s						
BKNI	**Bangkinang**	**64.00**	**65**	P	**P**	**03 37 35.3**	**+1.0**
RPSI	**Rantau Prapat**	**64.25**	**62**	P	**P**	**03 37 37.0**	**+1.1**
HYB	**Hyderabad**	**64.63**	**34**	*i* P	**P**	**03 37 37.5**	**-0.7**
UOSS	**Minazif**	**65.31**	**10**	P	**P**	**03 37 43.6**	**+1.1**
UOSS				IAmb	IAmb	03 37 51.5	
	comp=Z,18nm,1.2s						
DBIC	**Dimbokro**	**66.07**	**302**	P	**P**	**03 37 47.0**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=78,slow=5.3,SNR=5.8						
DBIC				LR	LR	04 04 08.5	
	comp=Z,628nm,19.6s,baz=140,slow=34						
DBIC	**Dimbokro**	**66.07**	**302**	P	**P**	**03 37 48.0**	**+0.4**
DBIC				IAmb	IAmb	03 37 49.6	
	comp=Z,15nm,1.1s						
PWJI	**Pagerwojo**	**66.25**	**80**	P	**P**	**03 37 49.0**	**+0.1**
	comp=Z,36nm,1.0s						
IPM	**Ipoh**	**66.98**	**62**	P	**P**	**03 37 53.8**	**+0.3**
TOA0	**Torodi Ar. Sit**	**67.12**	**312**	P	**P**	**03 37 53.4**	**-0.9**
TOA0				IAmb	IAmb	03 37 56.4	
	comp=Z,14nm,1.0s						
TORD	**Torodi Ar. Bea**	**67.12**	**312**	P	**P**	**03 37 54.1**	**-0.2**
	comp=Z,8.9nm,0.9s,baz=134,slow=4.3,SNR=30						
TORD				PP	PP	03 40 16.2	-6.3
	comp=Z,2.0nm,0.9s,baz=138,slow=6.4,SNR=4.2						
TORD				LR	LR	04 08 12.4	
	comp=Z,207nm,18.3s,baz=110,slow=37						
TORD	**Torodi Ar. Bea**	**67.12**	**312**	P	**P**	**03 37 53.7**	**-0.6**
PLAI	**Plampang**	**70.29**	**85**	P	**P**	**03 38 14.1**	**-0.1**
	comp=Z,81nm,0.9s						
FITZ	**Fitzroy Crossi**	**70.64**	**98**	P	**P**	**03 38 16.8**	**+0.5**
FITZ				IAmb	IAmb	03 38 17.9	
	comp=Z,20nm,1.1s						
KSM	**Kuching**	**71.42**	**72**	P	**P**	**03 38 20.9**	**-0.2**
KOWA	**Kowa**	**71.54**	**308**	P	**P**	**03 38 22.0**	**+0.4**
KOWA				IAmb	IAmb	03 38 34.0	
	comp=Z,14nm,1.2s						
TAM	**Tamanrasset**	**73.10**	**321**	P	**P**	**03 38 32.0**	**+1.0**
EDFI	**Ende, Flores**	**73.34**	**87**	P	**P**	**03 38 32.4**	**-0.3**
	comp=Z,24nm,1.2s						
ASAR	**Alice Springs**	**73.52**	**107**	P	**P**	**03 38 33.2**	**-0.3**
	comp=Z,7.8nm,1.0s,baz=226,slow=5.6,SNR=27						
ASAR	**Alice Springs**	**73.52**	**107**	P	**P**	**03 38 33.5**	**0.0**
AS31	**Alice Springs**	**73.52**	**107**	P	**P**	**03 38 33.8**	**+0.1**
STKA	**Stephens Creek**	**74.03**	**118**	P	**P**	**03 38 36.5**	**+0.1**
	comp=Z,8.9nm,0.8s,baz=222,slow=3.7,SNR=15						
STKA	**Stephens Creek**	**74.03**	**118**	P	**P**	**03 38 36.9**	**+0.4**
BKSI	**Bulukumba**	**74.30**	**84**	P	**P**	**03 38 37.7**	**-0.5**
	comp=Z,20nm,0.9s						
KNRA	**Kununurra**	**74.48**	**98**	P	**P**	**03 38 39.9**	**+0.7**
KNRA				IAmb	IAmb	03 38 40.3	
	comp=Z,13nm,0.8s						
SOEI	**Soe**	**74.69**	**90**	P	**P**	**03 38 40.8**	**+0.2**
HRA	**Herat**	**75.52**	**14**	P	**P**	**03 38 44.2**	**-0.7**
HRA				IAmb	IAmb	03 38 47.0	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**76.09**	**104**	P	**P**	**03 38 48.4**	**-0.1**
	comp=Z,7.7nm,1.0s,baz=227,slow=5.1,SNR=36						
WRA	**Warramunga Arr**	**76.09**	**104**	P	**P**	**03 38 48.1**	**-0.4**
WB2	**Warramunga Arr**	**76.09**	**104**	P	**P**	**03 38 48.4**	**-0.2**
WB2				IAmb	IAmb	03 38 51.2	
	comp=Z,26nm,1.2s						
WRAB	**Tennant Creek**	**76.10**	**104**	P	**P**	**03 38 48.6**	**0.0**
WRAB				IAmb	IAmb	03 38 51.3	
	comp=Z,27nm,1.2s						
CM31	**Chiang Mai Arr**	**76.15**	**51**	P	**P**	**03 38 48.4**	**-0.2**
CM31				IAmb	IAmb	03 38 49.5	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**76.15**	**51

GYA				SS	**SS**	**03 56 03.6**	**-2.4**		
GYA				pmax	pmax				
	comp=Z,33nm,1.0s								
GYA				pmax	pmax				
	comp=Z,390nm,4.7s								
GYA				LR	LR				
	comp=Z,310nm,4.8s								
GYA				LR	LR				
	comp=Z,180nm,4.3s								
GYA				LR	LR				
	comp=Z,250nm,5.6s								
SGDS	**Sogindy**	**86.99**	**20**	*eP*	**P**	**03 39 44.1**	**-1.4**		
DIVS	**Divibare**	**87.01**	**341**	IAmb	IAmb	03 39 56.1			
	comp=Z,12nm,1.4s								
MLR	**Muntele Rosu**	**87.06**	**346**	⇓P	**P**	**03 39 45.5**	**-0.3**		
MLR	**Muntele Rosu**	**87.06**	**346**	IAmb	IAmb	03 39 53.4			
	comp=Z,16nm,1.1s								
VOIR		**87.17**	**345**	⇓P	**P**	**03 39 45.2**	**-1.1**		
ARR	**Arges**	**87.19**	**345**	⇓P	**P**	**03 39 46.6**	**+0.3**		
HERR	**Herculane**	**87.19**	**343**	⇓P	**P**	**03 39 46.4**	**+0.1**		
PLOR	**Plostina**	**87.28**	**346**	⇓P	**P**	**03 39 46.4**	**-0.4**		
VRI	**Vrincioaia**	**87.28**	**347**	⇓P	**P**	**03 39 46.3**	**-0.4**		
MDOK	**Medeo**	**87.39**	**22**	*eP*	**P**	**03 39 46.1**	**-1.4**		
OZUR		**87.67**	**346**	⇓P	**P**	**03 39 47.6**	**-1.0**		
SATY	**Saty**	**87.69**	**23**	*eP*	**P**	**03 39 46.8**	**-2.2**		
KUU	**Kurty**	**87.86**	**21**	*eP*	**P**	**03 39 47.9**	**-1.7**		
UZB	**Uzynbulak**	**87.96**	**23**	*eP*	**P**	**03 39 48.0**	**-2.3**		
BZS	**Buzias**	**88.07**	**343**	⇓P	**P**	**03 39 50.6**	**+0.2**		
SHLS	**Shalkode**	**88.11**	**24**	*eP*	**P**	**03 39 49.9**	**-1.0**		
KPKS	**Kokpek**	**88.15**	**23**	*eP*	**P**	**03 39 48.9**	**-2.2**		
BTLS	**Baital**	**88.31**	**19**	*eP*	**P**	**03 39 50.0**	**-1.7**		
CD2	**Chengdu**	**88.49**	**47**	*eP*	**P**	**03 39 54.0**	**+1.1**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
SIRR	**Siria**	**88.67**	**343**	⇓P	**P**	**03 39 53.3**	**-0.1**		
BURAR	**Bucovina Array**	**89.24**	**346**	⇓P	**P**	**03 39 56.7**	**+0.6**		
BURAR	**Bucovina Array**	**89.24**	**346**	P	**P**	**03 39 56.0**	**-0.1**		
BUR08	**Bucovina Ar. S**	**89.27**	**346**	IAmb	IAmb	03 40 05.1			
	comp=Z,25nm,1.6s								
ABKAR	**Akbulak array**	**89.73**	**9**	P	**P**	**03 39 56.9**	**-1.3**		
LEGS	**Legarje**	**89.95**	**339**	*eP*	**P**	**03 40 00.1**	**+0.7**		
CEY	**Cerknica**	**90.01**	**338**	*i* P	**P**	**03 39 59.9**	**+0.2**		
URZ	**Urewera**	**90.05**	**144**	LR	LR	04 15 33.4			
	comp=Z,184nm,18.5s,baz=212,slow=32								
LJU	**Ljubljana**	**90.26**	**339**	*eP*	**P**	**03 40 00.8**	**+0.1**		
PSZ	**Piszkesteto**	**90.63**	**343**	⇓P	**P**	**03 40 02.3**	**-0.3**		
PSZ	**Piszkesteto**	**90.63**	**343**	IAmb	IAmb	03 40 13.8			
	comp=Z,12nm,1.0s								
OBKA	**Obir**	**90.68**	**339**	*eP*	**P**	**03 40 03.3**	**+0.4**		
	comp=Z,6.9nm,1.1s								
SOKA	**Soboth**	**90.70**	**339**	*eP*	**P**	**03 40 02.4**	**-0.6**		
	comp=Z,3.7nm,0.8s								
KOLS	**Kolonicke sedl**	**91.08**	**344**	*eP*	**P**	**03 40 04.2**	**-0.3**		
ARSA	**Arzberg**	**91.09**	**340**	*eP*	**P**	**03 40 05.5**	**+0.8**		
	comp=Z,8.8nm,1.4s								
CRVS	**Cervenica-Dubn**	**91.22**	**344**	*eP*	**P**	**03 40 05.4**	**+0.2**		
VYHS	**Vyhne**	**91.42**	**342**	*eP*	**P**	**03 40 05.9**	**-0.2**		
ABTA	**Abfaltersbach**	**91.47**	**338**	*eP*	**P**	**03 40 06.5**	**0.0**		
	comp=Z,5.7nm,1.1s								
WMQ	**Urumqi**	**91.48**	**29**	*eP*	**P**	**03 40 06.5**	**-0.1**		
WMQ				pmax	pmax				
	comp=Z,22nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,110nm,4.7s								
WMQ				LR	LR				
	comp=Z,420nm,29.2s								
WMQ				LR	LR				
	comp=Z,460nm,29.0s								
WMQ				LR	LR				
	comp=Z,94nm,29.3s								
KBA	**Koelnbreinsper**	**91.53**	**338**	*eP*	**P**	**03 40 06.1**	**-0.8**		
	comp=Z,6.0nm,1.1s								
AKASG	**Malin Array Be**	**91.57**	**349**	P	**P**	**03 40 06.0**	**-0.7**		
	comp=Z,1.8nm,0.9s,baz=164,slow=4.3,SNR=6.3								
AKASG				LR	LR	04 20 02.8			
	comp=Z,98nm,21.8s,baz=265,slow=35								
AKASG	**Malin Array Be**	**91.57**	**349**	P	**P**	**03 40 06.5**	**-0.2**		
ESDC	**Sonseca Array**	**91.58**	**324**	P	**P**	**03 40 06.4**	**-0.8**		
	comp=Z,1.4nm,1.1s,baz=145,slow=5.4,SNR=4.3								
ESDC				LR	LR	04 23 28.9			
	comp=Z,155nm,18.1s,baz=155,slow=37								
ESDC	**Sonseca Array**	**91.58**	**324**	P	**P**	**03 40 06.7**	**-0.5**		
CONA	**Conrad Observa**	**91.63**	**340**	*eP*	**P**	**03 40 10.3**	**+3.1**		
	comp=Z,11nm,1.8s								
MOA	**Molln**	**91.98**	**339**	*eP*	**P**	**03 40 07.0**	**-1.8**		
	comp=Z,7.1nm,1.4s								
MAKZ	**Makanchi**	**92.17**	**24**	P	**P**	**03 40 08.2**	**-1.4**		
MAKZ				IAmb	IAmb	03 40 11.5			
	comp=Z,14nm,1.2s								
WTTA	**Wattenberg**	**92.20**	**337**	*eP*	**P**	**03 40 09.7**	**-0.3**		
	comp=Z,4.7nm,0.9s								
MKAR	**Makanchi Array**	**92.25**	**24**	P	**P**	**03 40 09.6**	**-0.5**		
	comp=Z,3.7nm,1.0s,baz=213,slow=5.3,SNR=13								
MKAR				LR	LR	04 19 08.9			
	comp=Z,111nm,18.7s,baz=188,slow=34								
MKAR	**Makanchi Array**	**92.25**	**24**	P	**P**	**03 40 08.3**	**-1.7**		
FETA	**Feichten**	**92.25**	**337**	*eP*	**P**	**03 40 10.0**	**-0.3**		
	comp=Z,6.2nm,1.1s								
SQTA	**Sankt Quirin**	**92.29**	**337**	*eP*	**P**	**03 40 10.1**	**-0.3**		
	comp=Z,4.7nm,0.9s								
MOTA	**Moosalm**	**92.43**	**337**	*eP*	**P**	**03 40 09.8**	**-1.2**		
	comp=Z,3.0nm,0.7s								
LZH	**Lanzhou**	**92.47**	**43**	*eP*	**P**	**03 40 13.6**	**+2.1**		
LZH				pP	pwP	03 40 19.9	+3.1		
LZH				sP	sP	03 40 23.3	+8.1		
LZH				pmax	pmax				
	comp=Z,14nm,1.3s								
RETA	**Reutte**	**92.66**	**337**	*eP*	**P**	**03 40 10.5**	**-1.5**		
	comp=Z,5.4nm,1.0s								
DAVA	**Damuels**	**92.75**	**336**	*eP*	P	03 40 19.0	+6.5		
	comp=Z,6.5nm,1.1s								
GTA	**Gaotai**	**93.00**	**39**	P	**P**	**03 40 13.5**	**-0.4**		
GTA				pP	PcP	03 40 16.7	+2.2		
GTA				sP	sP	03 40 19.9	+2.4		
GTA				pmax	pmax				
	comp=Z,5.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,76nm,6.9s								
GTA				LR	LR				
	comp=Z,180nm,19.6s								
GTA				LR	LR				
	comp=Z,170nm,18.2s								
GTA				LR	LR				
	comp=Z,230nm,19.6s								
LVC	**Limon Verde**	**93.21**	**237**	P	**P**	**03 40 15.3**	**-0.5**		
	comp=Z,9.7nm,0.9s,baz=278,slow=12,SNR=6.4								
LVC	**Limon Verde**	**93.21**	**237**	P	**P**	**03 40 15.2**	**-0.5**		
CLL	**Collm**	**95.47**	**340**	*e*SS	SS	03 58 24.0	+14		
GO01	**Chusmiza**	**95.49**	**239**	IAmb	IAmb	03 40 29.3			
	comp=Z,9.4nm,1.0s								
PB11	**IPOC Station P**	**95.73**	**238**	P	**P**	**03 40 26.5**	**-0.6**		
MNMC	**Minye Minye**	**96.14**	**239**	IAmb	IAmb	03 40 32.3			
	comp=Z,8.6nm,0.9s								
LPAZ	**La Paz**	**97.18**	**242**	LR	LR	04 19 58.8			
	comp=Z,178nm,19.5s,baz=148,slow=33								
NJ2	**Nanjing**	**98.29**	**55**	*eP*	**P**	**03 40 39.4**	**+1.4**		
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
ZAA0	**Zalesovo Array**	**99.34**	**22**	IAmb	IAmb	03 40 41.5			
	comp=Z,5.0nm,0.9s								
ZALV	**Zalesovo Beam**	**99.34**	**22**	P	**Pdif**	**03 40 40.9**	**-1.2**		
	comp=Z,3.7nm,0.7s,baz=222,slow=3.8,SNR=9.6								
ZALV	**Zalesovo Beam**	**99.34**	**22**	P	**Pdif**	**03 40 40.5**	**-1.6**		
RAO	**Raoul Island**	**99.81**	**142**	LR	LR	04 18 54.8			
	comp=Z,91nm,19.3s,baz=323,slow=31								
HHC	**Hu-ho-hao-te**	**100.07**	**44**	*eP*	**Pdif**	**03 40 45.9**	**+0.1**		
HHC				pmax	pmax				
	comp=Z,21nm,0.7s								
HHC				pmax	pmax				
	comp=Z,100nm,5.7s								
CN2	**Changchun**	**109.78**	**49**	*e*PKP	**PKiKP**	**03 45 32.4**	**+1.3**		
TBI	**Tubuai**	**115.28**	**164**	*e*LR	LR	04 20 28.1			
	comp=Z,540nm,28.5s								
PPT2	**Papeete2**	**120.82**	**162**	*e*LR	LR	04 23 01.3			
	comp=Z,454nm,28.5s								
TAOE	**Nuku Hiva Isla**	**131.01**	**172**	*e*LR	LR	04 27 43.5			
	comp=Z,1μm,25.3s								
T50A	**Nancy**	**141.95**	**282**	PKPdf	**PKPdf**	**03 46 32.1**	**-0.2**		
X48A	**Hartselle**	**142.69**	**277**		PKPpre	03 46 27.9			
CLTN	**Cedars of Leba**	**142.75**	**279**		PKPpre	03 46 28.5			
WCI	**Wyandotte Cave**	**143.43**	**283**		PKPpre	03 46 31.2			
WVT	**Waverly**	**143.90**	**279**		PKPpre	03 46 31.1			
HENM	**Henderson Moun**	**145.34**	**279**		**PKPbc**	**03 46 36.8**	**-1.3**		
HDIL	**Hopedale**	**146.31**	**286**	PKPdf	**PKPdf**	**03 46 39.7**	**0.0**		
WLAR	**White Oak Lake**	**147.04**	**272**	PKPdf	**PKPdf**	**03 46 41.9**	**+0.7**		
CCM	**Cathedral Cave**	**147.10**	**280**	PKPdf	**PKPdf**	**03 46 40.5**	**-0.7**		
CCM				PKPbc	**pPKPdf**	**03 46 43.3**	**-0.7**		
HKT	**Hockley**	**147.51**	**264**		**PKPdf**	**03 46 43.1**	**+1.1**		
P40A	**Paris**	**148.11**	**283**		**PKPdf**	**03 46 44.7**	**+1.9**		
P38A	**Dawn**	**149.24**	**282**	PKPdf	**PKPdf**	**03 46 44.1**	**-0.5**		
TOLK	**Toolik Lake Re**	**150.09**	**12**		**PKPbc**	**03 46 50.7**	**+0.5**		
QUOK	**Quay**	**150.68**	**274**		**PKPbc**	**03 46 52.1**	**-0.4**		
OKCFA	**Oklahoma City**	**151.00**	**273**		**PKPbc**	**03 46 52.8**	**-0.6**		
COLD	**Coldfoot**	**151.27**	**13**		**PKPbc**	**03 46 53.1**	**+0.1**		
ULM	**Lac du Bonnet**	**151.64**	**304**	PKPbc	**PKPdf**	**03 46 52.9**	**+4.8**		
	comp=Z,5.7nm,0.8s,baz=58,slow=2.7,SNR=6.1								
IMAR	**Indian Mountai**	**151.64**	**17**		**PKPdf**	**03 46 46.6**	**-0.9**		
IMAR				PKPbc	**sPKPdf**	**03 46 53.4**	**+2.0**		
INK	**Inuvik**	**151.67**	**360**	PKPbc	**PKPbc**	**03 46 53.0**	**-0.8**		
	comp=Z,19nm,0.9s,baz=47,slow=4.6,SNR=17								
INK	**Inuvik**	**151.67**	**360**		**PKPdf**	**03 46 52.8**	**+5.3**		
BMAR	**Burnt Mountain**	**151.91**	**9**		**PKPdf**	**03 46 48.8**	**+0.9**		
BMAR				PKPbc	**sPKPdf**	**03 46 54.5**	**+2.7**		
BMAR				PKPab	**PKPab**	**03 47 02.9**	**-0.9**		
ECSD	**EROS Data Cent**	**152.21**	**290**	PKPdf	**PKPdf**	**03 46 48.2**	**-0.9**		
ECSD				PKPbc	**sPKPdf**	**03 46 54.9**	**+2.0**		
TXAR	**Lajitas Array**	**153.12**	**256**	PKP	**PKPdf**	**03 46 51.3**	**+0.2**		
	comp=Z,1.9nm,0.9s,baz=163,slow=1.3,SNR=15								
TXAR				PKPbc	**sPKPdf**	**03 46 58.2**	**+3.4**		
	comp=Z,13nm,0.8s,baz=136,slow=4.9,SNR=70								
TXAR	**Lajitas Array**	**153.12**	**256**	PKPdf	**PKPdf**	**03 46 50.6**	**-0.5**		
TXAR					**sPKPdf**	**03 46 58.0**	**+3.2**		
ILAR	**Eielson Array**	**154.08**	**13**	PKP	**PKPdf**	**03 46 50.5**	**-0.7**		
	comp=Z,1.7nm,1.1s,baz=323,slow=2.4,SNR=5.6								
ILAR				PKPbc	**sPKPdf**	**03 46 57.9**	**+3.0**		
	comp=Z,2.7nm,0.8s,baz=313,slow=2.9,SNR=13								
ILAR	**Eielson Array**	**154.08**	**13**	PKPdf	**PKPdf**	**03 46 49.5**	**-1.7**		
ILAR					**sPKPdf**	**03 46 57.5**	**+2.6**		
ILAR				PKPab	**sPKPbc**	**03 47 08.4**	**+5.4**		
BCAR	**Beaver Creek A**	**156.44**	**9**		**PKPdf**	**03 46 53.5**	**-1.0**		
ANMO	**Albuquerque**	**157.75**	**266**	PKPdf	**PKPdf**	**03 46 56.4**	**-0.8**		
TUC	**Tucson**	**159.91**	**255**		**PKPdf**	**03 47 00.1**	**+0.4**		
PDAR	**Pinedale Array**	**161.61**	**286**	PKP	**PKPdf**	**03 47 00.0**	**-1.5**		
	comp=Z,1.2nm,0.8s,baz=125,slow=2.4,SNR=11								
PDAR				PKPab	**PKPab**	**03 47 45.9**	**-0.6**		
	comp=Z,0.9nm,1.0s,baz=46,slow=5.2,SNR=1.6								
PDAR	**Pinedale Array**	**161.61**	**286**		**PKPdf**	**03 46 59.3**	**-2.1**		
PDAR					**PKPab**	**03 47 46.1**	**-0.4**		
IMW	**Indian Meadow**	**162.57**	**290**		**PKPdf**	**03 47 01.1**	**-1.3**		
CCUT	**Cedar City**	**163.86**	**268**		**PKPdf**	**03 47 04.6**	**+0.8**		
CCUT					**PKPab**	**03 47 57.0**	**+0.5**		
NVAR	**Mina Array Bea**	**167.86**	**267**	PKP	**PKPdf**	**03 47 07.3**	**+0.3**		
	comp=Z,1.5nm,0.8s,baz=186,slow=1.6,SNR=9.1								
NVAR				PKPab	**PKPab**	**03 48 14.1**	**0.0**		
	comp=Z,0.8nm,0.8s,baz=129,slow=4.7,SNR=3.8								
NVAR				PP	**PP**	**03 52 04.5**	**+1.0**		
	comp=Z,0.1nm,0.4s,baz=120,slow=10,SNR=3.9								
NVAR	**Mina Array Bea**	**167.86**	**267**		**PKPdf**	**03 47 06.0**	**-1.0**		
NVAR					**PKPab**	**03 48 13.9**	**-0.3**		
MOD	**Modoc Plateau**	**169.61**	**285**		**PKPdf**	**03 47 07.8**	**-0.1**		

GCMT ***06*** *03:27:24.0±0.1,49.66S±0.01×116.02W±0.01,h19km, MW5.3/135, Moment Tension Solution. s103,c165; s135,c228; Duration: 1ꜛ1 Moment tensor: Scale 10^17 Nm; Mrr=0.10±.02; Mθθ=0.49±.02; Mϕϕ=-0.39±.02; Mrθ=0.23±.04; Mrϕ=1.10±.02; Mθϕ=0.28±.04; Best double couple: M=1.23400×10^17 NP1:ϕ=102.00000°,δ=76.00000°, λ=6.00000°. NP2:ϕ=10.00000°,δ=84.00000°,λ=166.00000°. Principal axes: T 1.3230, Plg14.0000°, Azm325.0000°; N -0.1790, Plg75.0000°, Azm169.0000°; P -1.1450, Plg6.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 06 03:27:17.8±0.9, 49.41S×115.83W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/29, mbtmp3.8/6, MS4.5/17, Ms1 4.4/17, ms1mx4.3/25 Error ellipse: s-maj=40.8km s-min=27.1km az=119.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**22.81**	**15**	LR	LR	03 38 08.7	
	comp=Z,622nm,18.0s,baz=180,slow=28						
RKT	**Rikitea**	**30.26**	**323**	*e*LR	LR	03 41 10.6	
	comp=Z,2μm,27.0s						
H03S2	**Juan Fernandez**	**31.30**	**74**	T	T	04 06 47.0	
	baz=227,slow=74,SNR=105						
H03S1	**Juan Fernandez**	**31.31**	**74**	T	T	04 06 54.5	
	baz=227,slow=74,SNR=159						
H03S3	**Juan Fernandez**	**31.32**	**74**	T	T	04 06 47.3	
	baz=227,slow=74,SNR=90						
H03N3	**Juan Fernandez**	**31.55**	**74**	T	T	04 07 01.2	
	baz=230,slow=72,SNR=142						
H03N2	**Juan Fernandez**	**31.56**	**74**	T	T	04 07 01.8	
	baz=230,slow=72,SNR=155						
H03N1	**Juan Fernandez**	**31.57**	**74**	T	T	04 07 00.3	
	baz=230,slow=72,SNR=117						
PLCA	**Paso Flores**	**32.70**	**92**	LR	LR	03 43 49.2	
	comp=Z,391nm,20.2s,baz=236,slow=30						
TBI	**Tubuai**	**37.04**	**302**	*e*LQ	LQ	03 42 46.5	
	949nm,25.2s						
TBI				*e*LR	LR	03 44 20.4	
	comp=Z,3μm,26.2s,baz=147						
TBI	**Tubuai**	**37.04**	**302**	*e*T	T	04 13 26.9	
	3.0nm,0.3s						
MEH	**Mehetia**	**40.79**	**309**	*e*T	T	04 18 08.3	
	30nm,0.3s						
QSPA	**South Pole Qui**	**40.79**	**180**	P	P	03 35 00.6	+0.1
	6.0nm,0.9s,baz=109,slow=3.3,SNR=16						
TVO	**Taravao**	**41.47**	**308**	*e*T	T	04 18 59.7	
	2.2nm,0.3s						
PAE	**Paea**	**41.74**	**307**	*e*T	T	04 19 15.8	
	1.3nm,0.3s						
PPT2	**Papeete2**	**41.80**	**307**	*e*S	S	03 41 20.4	-7.3
	335nm,25.8s						
PPT2				*e*LQ	LQ	03 44 42.2	
	3μm,28.2s						
PPT2				*e*LR	LR	03 46 30.4	
	comp=Z,4μm,27.0s,baz=146						
PPT2	**Papeete2**	**41.80**	**307**	*e*T	T	04 19 18.9	
	2.3nm,0.3s						
PPT	**Papeete**	**41.82**	**307**	LR	LR	03 47 55.8	
	comp=Z,1μm,19.4s,baz=150,slow=30						
VAH	**Vaihoa**	**42.81**	**312**	*e*T	T	04 20 39.8	
	4.4nm,0.2s						
PMOR	**Pomariorio Ree**	**43.14**	**311**	*e*T	T	04 21 04.7	
	2.3nm,0.3s						
TAOE	**Nuku Hiva Isla**	**45.25**	**325**	*e*S	S	03 42 12.4	-5.8
	406nm,25.7s						
TAOE				*e*LR	LR	03 48 06.8	
	comp=Z,3μm,27.0s,baz=172						
URZ	**Urewera**	**48.14**	**257**	LR	LR	03 51 05.3	
	comp=Z,691nm,21.1s,baz=181,slow=30						
LPAZ	**La Paz**	**50.71**	**67**	P	P	03 36 20.5	+0.6
	0.5nm,0.4s,baz=192,slow=9.3,SNR=2.2						
LPAZ				LR	LR	03 52 49.4	
	comp=Z,219nm,18.0s,baz=224,slow=30						
MAW	**Mawson**	**63.31**	**179**	LR	LR	04 03 10.8	
	comp=Z,467nm,20.6s,baz=174,slow=34						
BDFB	**Brasilia**	**63.86**	**84**	LR	LR	04 02 41.7	
	comp=Z,371nm,21.9s,baz=211,slow=33						
ROSC	**El Rosal**	**64.92**	**47**	LR	LR	04 00 42.9	
	comp=Z,413nm,20.5s,baz=210,slow=31						
DZM	**Mont Dzumac**	**65.69**	**264**	*e*S	S	03 46 47.0	-4.3
	467nm,31.4s						
DZM				*e*LQ	LQ	03 54 53.9	
	2μm,30.4s						
DZM				*e*LR	LR	03 57 37.5	
	comp=Z,609nm,23.1s						
TXAR	**Lajitas Array**	**79.14**	**11**	P	P	03 39 25.5	+1.5
	0.4nm,0.9s,baz=163,slow=4.7,SNR=3.0						
TXAR				LR	LR	04 06 29.8	
	comp=Z,44nm,21.0s,baz=0.0,slow=30						
PFO	**Pinyon Flats O**	**82.65**	**359**	LR	LR	04 07 36.6	
	comp=Z,300nm,20.5s,baz=186,slow=29						
ASAR	**Alice Springs**	**84.56**	**240**	P	P	03 39 52.3	-0.6
	1.2nm,0.9s,baz=146,slow=5.1,SNR=5.0						
ASAR				LR	LR	04 11 53.0	
	comp=Z,274nm,19.7s,baz=188,slow=32						
H01W1	**Cape Leeuwin H**	**85.07**	**219**	T	T	05 14 26.4	
	baz=149,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**85.07**	**219**	T	T	05 14 31.2	
	baz=149,slow=76,SNR=29						
H01W3	**Cape Leeuwin H**	**85.09**	**219**	T	T	05 14 27.6	
	baz=149,slow=76,SNR=26						
WRA	**Warramunga Arr**	**87.23**	**242**	P	P	03 40 07.6	+1.4
	0.5nm,0.8s,baz=145,slow=5.0,SNR=1.3						
WRA				LR	LR	04 14 03.1	
	comp=Z,195nm,19.8s,baz=200,slow=32						
NVAR	**Mina Array Bea**	**87.49**	**358**	LR	LR	04 10 44.2	
	comp=Z,486nm,20.6s,baz=174,slow=30						
ELK	**Elko**	**89.77**	**0**	LR	LR	04 12 34.1	
	comp=Z,240nm,19.9s,baz=192,slow=30						
YBH	**Yreka Blue Hor**	**90.96**	**355**	LR	LR	04 11 33.4	
	comp=Z,434nm,21.9s,baz=174,slow=29						
PDAR	**Pinedale Array**	**91.96**	**5**	P	P	03 40 26.8	-1.1
	0.3nm,0.8s,baz=188,slow=5.4,SNR=2.6						
PDAR				LR	LR	04 15 20.8	
	comp=Z,179nm,18.4s,baz=170,slow=31						
BOSA	**Boshof**	**94.94**	**146**	LR	LR	04 15 13.6	
	comp=Z,196nm,21.9s,baz=208,slow=30						
H11S2	**WAKE ISLAND Hy**	**95.98**	**291**	T	T	05 27 19.1	
	baz=140,slow=76,SNR=245						
H11S3	**WAKE ISLAND Hy**	**95.99**	**291**	T	T	05 27 16.4	
	baz=140,slow=76,SNR=140						
H11S1	**WAKE ISLAND Hy**	**96.00**	**291**	T	T	05 27 19.9	
	baz=140,slow=76,SNR=110						
H11N3	**WAKE ISLAND Hy**	**96.79**	**292**	T	T	05 28 18.8	
	baz=142,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**96.80**	**292**	T	T	05 28 17.2	
	baz=142,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hy**	**96.81**	**292**	T	T	05 28 17.9	
	baz=142,slow=75,SNR=31						
GERES	**GERESS Array B**	**147.47**	**71**	PKPbc	PKPdf	03 46 59.9	-0.5
	0.2nm,0.5s,baz=259,slow=1.0,SNR=2.1						
SONM	**Songino Array**	**152.31**	**283**	PKPbc	PKPbc	03 47 14.2	-0.7
	0.6nm,0.7s,baz=119,slow=1.8,SNR=2.2						
BRTR	**Keskin Array B**	**156.34**	**103**	PKPab	PKPab	03 47 42.2	-0.2
	1.2nm,0.9s,baz=305,slow=4.4,SNR=5.5						

ISK ***06*** *03:50:47.7,35.86N×31.25E,h13km, ML2.5/20*
NIC ***06*** *03:50:48.2±0.0, 36.12N×31.29E, h18km±3km, Ml2.9/3*
DDA ***06*** *03:50:48.7,35.81N×31.25E, h32km, ML2.0*

ISC 06 03:50:48.8±1.4, 35.88N±0.03×31.24E±0.03, h13km±11km, n36, σ0ꜛ86/47, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.85**	**302**	*i* P	**Pn**	**03 51 06.0**	**-0.5**
AKUM				IAML		03 51 23.0	
	comp=E,55nm,0.3s						
AKUM				IAML		03 51 25.0	
	comp=N,82nm,0.5s						
ALAN	**Alanya-ANTALYA**	**0.94**	**43**	PG	**Pb**	**03 51 06.6**	**-0.3**
ALAN				SG	**Sb**	**03 51 19.6**	**+0.4**
GAZI	**Gazipasa**	**0.94**	**67**	*i* P	**Pn**	**03 51 07.2**	**-0.6**
GAZI				IAML		03 51 20.0	
	comp=E,70nm,0.3s						
GAZI				*i* S	**Sn**	**03 51 20.7**	**-0.5**
GAZI				IAML		03 51 21.0	
	comp=N,104nm,0.5s						
ANTB	**Antalya**	**1.12**	**335**	PN	**Pb**	**03 51 10.1**	**0.0**
AKMS	**Akamas**	**1.24**	**133**	P	**Pg**	**03 51 12.6**	**-0.1**
AKMS				S	**Sn**	**03 51 31.6**	**+3.1**
AKMS				AML	AML	03 51 35.7	
	comp=N,0.8nm,0.5s						
AKMS				AML	AML	03 51 35.7	
	comp=N,0.8nm,0.5s						
AKMS				AML	AML	03 51 36.7	
	comp=N,0.5nm,0.4s						
AKMS				AML	AML	03 51 36.7	
	comp=N,0.5nm,0.4s						
ALFC	**Alefka**	**1.32**	**123**	P	**Pb**	**03 51 12.9**	**-0.6**
ALFC				S	**Sg**	**03 51 32.8**	**+1.3**
ALFC				AML	AML	03 51 39.1	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	03 51 39.1	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	03 51 39.9	
	comp=N,0.3nm,0.1s						
ALFC				AML	AML	03 51 39.9	
	comp=N,0.3nm,0.1s						
KSL	**Kastellorizon**	**1.37**	**282**	P	**Pn**	**03 51 12.9**	**-0.8**
KSL				S	**Sn**	**03 51 31.4**	**-0.3**
ELL	**Elmali**	**1.38**	**309**	PN	**

comp=E,18956µm,0.5s
VTN Vitineika 0.74 13 P **Pn** **03 54 16.7 -1.1**
VTN Vitineika 0.74 13 P **Pb** **03 54 16.4 0.0**
VTN S **Sn** **03 54 28.3 -0.5**
ITM Ithomi 0.76 91 P **Pg** **03 54 14.5 -1.9**
ITM S **Sb** **03 54 27.2 +0.2**
comp=E,2µm,0.4s
ITM Ithomi 0.76 91 P **Pg** **03 54 14.6 -1.7**
ITM S **Sg** **03 54 25.7 -0.7**
ITM AML AML 03 54 33.1
comp=E,4089µm,0.5s
ITM AML AML 03 54 35.1
comp=N,4042µm,0.4s
RLS Riolos of Patr 0.94 24 P **Pn** **03 54 19.8 -0.8**
RLS S **Sn** **03 54 35.0 +1.0**
RLS Riolos of Patr 0.94 24 P **Pn** **03 54 19.6 -1.0**
RLS S **Sn** **03 54 34.0 0.0**
RLS AML AML 03 54 42.4
comp=E,3572µm,0.5s
RLS AML AML 03 54 44.7
comp=N,4774µm,0.7s
DRO Drossia 0.95 38 P **Pb** **03 54 19.8 -0.3**
DRO S **Sn** **03 54 37.1 +2.8**
DRO Drossia 0.95 38 P **Pb** **03 54 19.8 -0.3**
DRO S **Sn** **03 54 34.7 +0.4**
DRO AML AML 03 54 41.0
comp=N,12171µm,0.6s
DRO AML AML 03 54 41.6
comp=E,8763µm,0.6s
VLS Valsamata 1.02 343 P **Pb** **03 54 20.8 -0.4**
VLS S **Sn** **03 54 38.8 +2.8**
comp=E,1µm,0.5s
VLS Valsamata 1.02 343 P **Pn** **03 54 21.0 -0.7**
VLS S **Sn** **03 54 37.3 +1.3**
VLS AML AML 03 54 50.5
comp=E,3004µm,0.7s
VLS AML AML 03 54 50.6
comp=N,3715µm,0.6s
ARGA Argostoli. Kep 1.05 338 P **Pn** **03 54 21.9 -0.2**
TRIP Tripoli 1.08 72 P **Pg** **03 54 21.2 -1.3**
TRIP S **Sn** **03 54 38.6 +1.0**
comp=N,1µm,0.5s
TRIP Tripoli 1.08 72 P **Pg** **03 54 21.3 -1.3**
TRIP AML AML 03 54 45.6
comp=E,1701µm,0.5s
TRIP AML AML 03 54 49.0
comp=N,2008µm,0.6s
VLX Vlachokerasia 1.14 81 P **Pb** **03 54 21.9 -1.2**
VLX S **Sn** **03 54 40.7 +1.9**
comp=N,2µm,0.6s
VLX Vlachokerasia 1.14 81 P **Pb** **03 54 21.9 -1.2**
KEF4 Livadi, Kephal 1.15 338 P **Pn** **03 54 23.7 +0.3**
KEF5 Kardakata, Kep 1.15 340 P **Pn** **03 54 23.2 -0.3**
KLV Kalavryta, Ach 1.26 48 P **Pn** **03 54 24.2 -0.8**
KLV Kalavryta, Ach 1.26 48 P **Pn** **03 54 24.5 -0.5**
KLV AML AML 03 54 48.7
comp=E,1432µm,0.7s
KLV AML AML 03 54 59.2
comp=N,2130µm,0.7s
FSK Fiskardo 1.30 346 P **Pg** **03 54 26.1 -0.5**
FSK Fiskardo 1.30 346 P **Pg** **03 54 26.2 -0.4**
FSK AML AML 03 54 54.4
comp=N,1718µm,0.6s
FSK AML AML 03 54 58.3
comp=E,1886µm,0.8s
GUR Goura 1.31 55 P **Pn** **03 54 24.8 -1.0**
GUR Goura 1.31 55 P **Pn** **03 54 24.8 -1.0**
GUR AML AML 03 54 52.6
comp=N,4392µm,0.5s
GUR AML AML 03 54 53.3
comp=E,3150µm,0.4s
ALIK Aliki, Aigiali 1.39 40 P **Pg** **03 54 29.4 +1.0**
EFP Efpalio 1.43 31 P **Pg** **03 54 28.5 -0.6**
EFP Efpalio 1.43 31 P **Pg** **03 54 28.5 -0.6**
EFP AML AML 03 54 59.6
comp=N,1425µm,0.6s
EFP AML AML 03 55 00.8
comp=E,1586µm,0.6s
EVGI Lefkada island 1.44 350 P **Pg** **03 54 28.1 -1.2**
EVGI Lefkada island 1.44 350 P **Pg** **03 54 28.1 -1.2**
TRIZ Trizonia 1.46 36 P **Pg** **03 54 29.6 0.0**
TRIZ Trizonia 1.46 36 P **Pg** **03 54 29.6 0.0**
MGNA Meganis 1.46 354 P **Pg** **03 54 29.1 -0.6**
SERG Sergoula 1.49 35 P **Pg** **03 54 29.5 -0.7**
SERG Sergoula 1.49 35 P **Pg** **03 54 29.5 -0.7**
SERG AML AML 03 54 57.1
comp=E,1879µm,0.4s
SERG AML AML 03 55 03.1
comp=N,2492µm,0.6s
KALE Kalithea 1.51 37 P **Pg** **03 54 30.3 -0.3**
KALE Kalithea 1.51 37 P **Pg** **03 54 30.3 -0.3**
KALE AML AML 03 55 00.5
comp=E,2326µm,0.6s
KALE AML AML 03 55 06.7
comp=N,1724µm,0.4s
NYDR Nydri-Lefkada 1.53 352 P **Pg** **03 54 30.5 -0.5**
THAL Thalero 1.58 57 P **Pg** **03 54 30.7 -1.3**
THAL Thalero 1.58 57 P **Pg** **03 54 30.7 -1.3**
ANX Ano Chora 1.58 28 P **Pg** **03 54 31.7 -0.3**
ANX S **Sg** **03 54 55.2 +2.6**
comp=N,2µm,0.6s
ANX Ano Chora 1.58 28 P **Pg** **03 54 32.4 +0.4**
ANX S **Sg** **03 54 54.9 +2.3**
ANX AML AML 03 55 06.6
comp=N,3618µm,0.7s
ANX AML AML 03 55 09.4
comp=E,3256µm,0.6s
LKD2 Lefkada island 1.61 351 P **Pg** **03 54 31.6 -0.9**
LKD2 S **Sg** **03 54 55.3 +1.9**
LKD2 Lefkada island 1.61 351 P **Pg** **03 54 31.6 -0.9**
LKD2 S **Sg** **03 54 55.3 +1.9**
LKD2 AML AML 03 54 59.8
comp=E,2864µm,0.5s
LKD2 AML AML 03 55 01.0
comp=N,1820µm,0.8s
TSLK Tsoukalades, L 1.64 351 P **Pg** **03 54 33.7 +0.5**
TSLK Tsoukalades, L 1.64 351 P **Pg** **03 54 33.7 +0.5**
VLI Veliai 1.64 106 P **Pn** **03 54 30.9 +0.7**
VLI S **Sb** **03 54 53.3 +0.9**
comp=N,422nm,0.7s
VLI Veliai 1.64 106 P **Pn** **03 54 30.9 +0.7**
VLI AML AML 03 55 06.0
comp=N,908µm,0.8s
VLI AML AML 03 55 15.4
comp=E,1098µm,0.9s
DSF Desfina 1.73 45 P **Pg** **03 54 33.7 -1.1**
DSF Desfina 1.73 45 P **Pg** **03 54 34.1 -0.6**
DSF AML AML 03 55 08.0
comp=N,581µm,0.5s
DSF AML AML 03 55 08.9
comp=E,755µm,0.8s
MNVA Monemvasia 1.73 106 P **Pn** **03 54 32.3 +0.9**
KRND KRANIDI 1.75 83 P **Pb** **03 54 32.5 -1.0**
KRND KRANIDI 1.75 83 P **Pb** **03 54 32.5 -1.0**
EPID Epidavros 1.76 76 P **Pb** **03 54 33.1 -0.7**
EPID Epidavros 1.76 76 P **Pb** **03 54 33.3 -0.5**
LOUT Loutraki 1.77 63 P **Pb** **03 54 33.5 -0.5**
LOUT Loutraki 1.77 63 P **Pb** **03 54 33.4 -0.5**
LOUT AML AML 03 55 16.0
comp=N,194µm,0.5s
LOUT AML AML 03 55 20.7
comp=E,202µm,0.7s
LTK Loutraki 1.79 62 P **Pb** **03 54 33.7 -0.5**
LTK Loutraki 1.79 62 P **Pb** **03 54 33.7 -0.5**
LTK AML AML 03 55 10.5
comp=N,774µm,0.7s
LTK AML AML 03 55 12.0
comp=E,996µm,0.7s
EVR Evrytania 1.84 21 P **Pg** **03 54 37.0 +0.1**
EVR S **Sg** **03 55 03.0 +2.2**
EVR Evrytania 1.84 21 P **Pg** **03 54 35.6 -1.3**
EVR S **Sg** **03 55 01.1 +0.3**
EVR AML AML 03 55 08.7
comp=N,1493µm,0.7s
EVR AML AML 03 55 12.4
comp=E,1247µm,0.6s
KTHR Kythira 1.88 119 P **Pn** **03 54 34.6 +1.1**
KTHA Kythira Island 1.92 119 P **Pn** **03 54 35.2 +1.1**
KTHA Kythira Island 1.92 119 P **Pn** **03 54 35.2 +1.1**
KTHA AML AML 03 55 09.1
comp=N,895µm,0.6s
KTHA AML AML 03 55 10.4
comp=E,1555µm,0.9s
MAKR Makrakomi, Fth 2.03 26 P **Pg** **03 54 39.4 -1.2**
MAKR Makrakomi, Fth 2.03 26 P **Pg** **03 54 39.1 -1.5**
MAKR AML AML 03 55 20.2
comp=N,991µm,1.4s
MAKR AML AML 03 55 25.7
comp=E,817µm,0.8s
AXAR Agios Charalam 2.06 40 P **Pb** **03 54 38.6 -0.2**
AXAR Agios Charalam 2.06 40 P **Pb** **03 54 38.6 -0.2**
AXAR AML AML 03 55 19.4
comp=E,1936µm,0.7s
AXAR AML AML 03 55 24.6
comp=N,2194µm,0.7s
VIL2 Platees 2.08 60 P **Pb** **03 54 37.4 -1.9**
VIL2 AML AML 03 55 22.6
comp=E,765µm,0.6s
VIL2 AML AML 03 55 28.4
comp=N,839µm,0.7s
VILL Villia 2.09 62 P **Pn** **03 54 37.4 +1.0**
AGG Agios Georgios 2.11 30 P **Pb** **03 54 39.8 0.0**
AGG Agios Georgios 2.11 30 P **Pb** **03 54 39.8 0.0**
AGG AML AML 03 55 23.4
comp=N,503µm,0.5s
AGG AML AML 03 55 25.0
comp=E,656µm,0.8s
LKR Lokris 2.16 47 P **Pb** **03 54 39.4 -1.2**
LKR Lokris 2.16 47 P **Pb** **03 54 39.4 -1.2**
ATAL Atalanti 2.20 47 P **Pb** **03 54 40.0 -1.3**
ATAL Atalanti 2.20 47 P **Pb** **03 54 40.0 -1.3**
ATAL AML AML 03 55 26.0
comp=N,746µm,1.0s
ATAL AML AML 03 55 32.3
comp=E,486µm,1.1s
ANKY Antikythira Is 2.30 125 P **Pn** **03 54 40.4 +1.2**
ANKY Antikythira Is 2.30 125 P **Pn** **03 54 40.4 +1.2**
ANKY AML AML 03 55 30.4
comp=E,869µm,1.2s
ANKY AML AML 03 55 33.3
comp=N,417µm,1.1s
VLY Voula,Athens 2.34 73 P **Pn** **03 54 40.1 +0.4**
VLY Voula,Athens 2.34 73 P **Pn** **03 54 40.1 +0.4**
ATHU Athens Univers 2.36 70 P **Pn** **03 54 40.4 +0.3**
ATHU Athens Univers 2.36 70 P **Pn** **03 54 40.4 +0.3**
ATHU AML AML 03 55 32.4
comp=E,88µm,0.5s
ATHU AML AML 03 55 34.8
comp=N,171µm,0.8s
IGT Igoumenitsa 2.38 348 P **Pb** **03 54 42.4 -2.0**
IGT Igoumenitsa 2.38 348 *e*Pg **Pb** **03 54 42.4 -2.0**
IGT *e*Sg **Sn** **03 55 10.2 +0.6**
IGT Igoumenitsa 2.38 348 P **Pb** **03 54 42.4 -2.0**
PTL Penteli 2.45 69 P **Pn** **03 54 42.4 +1.1**
PTL Penteli 2.45 69 P **Pn** **03 54 41.4 0.0**
PTL AML AML 03 55 27.3
comp=E,417µm,0.9s
PTL AML AML 03 55 34.4
comp=N,476µm,1.2s
THL Klokotos Trika 2.50 19 P **Pb** **03 54 44.8 -1.6**
THL Klokotos Trika 2.50 19 P **Pb** **03 54 44.8 -1.6**
DION Dionisos Attik 2.51 69 P **Pn** **03 54 43.0 +0.8**
DION Dionisos Attik 2.51 69 P **Pn** **03 54 42.9 +0.8**
DION AML AML 03 55 29.7
comp=N,859µm,1.1s
DION AML AML 03 55 32.6
comp=E,854µm,0.7s
VOL2 Volos 2.67 35 P **Pb** **03 54 47.4 -1.8**
VOL3 Nea Ionia, Vol 2.67 35 P **Pn** **03 54 45.4 +1.2**
KEK Kerkira 2.68 340 P **Pn** **03 54 46.2 +1.8**
KEK Kerkira 2.68 340 P **Pn** **03 54 46.2 +1.8**
NEO Neokhori 2.75 39 P **Pb** **03 54 47.7 -3.0**
NEO Neokhori 2.75 39 P **Pb** **03 54 47.9 -2.8**
XOR Xorichti 2.78 38 P **Pn** **03 54 47.8 +1.9**
XOR Xorichti 2.78 38 P **Pb** **03 54 48.1 -3.1**
XOR AML AML 03 55 44.1
comp=E,226µm,0.9s
XOR AML AML 03 55 45.5
comp=N,354µm,0.6s
MHLO Agia Marina, M 2.79 99 P **Pn** **03 54 45.9 -0.2**
MHLO Agia Marina, M 2.79 99 P **Pn** **03 54 45.8 -0.2**
SERI Serifos 2.81 90 P **Pn** **03 54 46.0 -0.2**
SERI Serifos 2.81 90 P **Pn** **03 54 46.1 -0.2**
SERI AML AML 03 55 31.6
comp=N,158µm,0.8s
SERI AML AML 03 55 32.1
comp=E,212µm,0.5s
KARY Karystos 2.87 72 P **Pn** **03 54 46.8 -0.3**
KARY Karystos 2.87 72 P **Pn** **03 54 47.6 +0.5**
KARY AML AML 03 55 40.8
comp=E,156µm,0.6s
KARY AML AML 03 55 47.4
comp=N,187µm,0.8s
IMMV Iera Moni Meta 2.98 125 P **Pn** **03 54 49.4 +0.7**
IMMV Iera Moni Meta 2.98 125 P **Pn** **03 54 49.4 +0.7**
PENT Pentalofos 3.00 2 P **Pb** **03 54 52.6 -2.3**
PENT Pentalofos 3.00 2 P **Pb** **03 54 52.2 -2.8**
LIT Litokhoron 3.13 22 P **Pb** **03 54 53.4 -3.8**
LIT Litokhoron 3.13 22 P **Pn** **03 54 52.1 +1.4**
KZN Kozani 3.17 11 P **Pn** **03 54 53.3 +2.0**
KZN Kozani 3.17 11 P **Pn** **03 54 53.3 +2.0**
NEST Nestorio 3.21 1 P **Pb** **03 54 55.7 -2.9**
NEST Nestorio 3.21 1 P **Pb** **03 54 55.7 -2.9**
GVD Gavdhos 3.45 132 P **Pn** **03 54 56.6 +1.5**
GVD Gavdhos 3.45 132 P **Pn** **03 54 56.6 +1.5**
TIR Tirane 4.23 349 *e*Pn **Pn** **03 55 07.8 +2.0**
TIR *e*Sn **Sn** **03 55 48.9 -6.2**
VAY Valandovo 4.30 16 *e*Pn **Pn** **03 55 08.7 +2.0**
VAY *e*Sn **Sn** **03 55 54.5 -2.3**
SRS Serrai 4.41 27 *e*Pn **Pn** **03 55 10.2 +1.9**
PDG Podgorica 5.39 346 *e*Pn **Pn** **03 55 22.1 +0.4**
PDG *e*Sn **Sn** **03 56 18.4 -5.2**
ZAPS Zavoj 6.20 11 *e*Pn **Pn** **03 55 35.0 +2.1**
IVAS Ivanjica 6.40 355 *e*Pn **Pn** **03 55 36.0 +0.3**
ZAGS Zajecar 6.68 8 *e*Pn **Pn** **03 55 40.7 +1.3**
GRUS Gruza 6.69 358 *e*Pn **Pn** **03 55 39.6 +0.1**
BBLS Lazići 6.77 350 *e*Pn **Pn** **03 55 41.1 +0.4**
DIVS Divibare 6.93 354 *e*Pn **Pn** **03 55 42.8 -0.2**
DIVS *e*Sn **Sn** **03 56 54.9 -6.9**
HAPS Han Pijesak,Bl 7.05 348 *e*Pn **Pn** **03 55 45.8 +1.2**
KEST Kesra 9.48 265 Pn **Pn** **03 56 19.4 +1.4**
comp=N,0.2nm,0.3s,baz=23,slow=9.8,SNR=5.2
KEST Sn **Sn** **03 58 02.6 -1.8**
comp=N,0.1nm,0.3s,baz=106,slow=23,SNR=1.7
GBRS Gornja Briga 9.52 333 *i* Pn **Pn** **03 56 19.0 +0.5**
CRES Cresnjev 9.56 336 *i* Pn **Pn** **03 56 18.8 -0.1**
PERS Pernice 10.39 337 *e*Pn **Pn** **03 56 29.9 -0.4**
GERES GERESS Array B 12.79 338 Pn **Pn** **03 57 03.6 +0.4**
comp=N,0.1nm,0.3s,baz=158,slow=13,SNR=4.8
ESDC Sonseca Array 19.68 285 P **Pn** **03 58 33.3 +1.4**
comp=N,0.1nm,0.3s,baz=74,slow=10,SNR=1.3
FINES FINESS Array B 24.48 6 P **P** **03 59 20.6 +0.5**
comp=N,2.2nm,1.0s,baz=201,slow=7.4,SNR=1.2
TORD Torodi Ar. Bea 29.51 221 P **P** **04 00 06.3 +0.5**
comp=N,0.8nm,1.2s,baz=38,slow=9.4,SNR=1.8
ARCES ARCESS Array B 32.49 3 P **P** **04 00 30.8 -0.7**
comp=N,2.1nm,1.1s,baz=194,slow=7.1,SNR=5.1
MKAR Makanchi Array 45.52 58 P **P** **04 02 20.4 -0.4**
comp=N,0.2nm,0.5s,baz=268,slow=8.2,SNR=2.1
ZALV Zalesovo Beam 46.08 47 LR LR 04 23 58.6
comp=N,92nm,19.0s,baz=172,slow=39

*IDC **06** 04:14:06.9±0.6, 11°.17N×85°.79W, h143km±8km, mb3.6/10, mb1 3.8/13,mb1mx3.7/38, mbtmp4.1/13, Error ellipse: s-maj=32.1km s-min=11.7km az=37.0*
*NEIC **06** 04:14:07.5±1.9, 11°.33N±0°.05×85°.85W±0°.07, h135km±6km, mb4.3/72, Error ellipse: s-maj=11.3km s-min=5.3km az=57.0*
*INET **06** 04:14:07.5, 11°.28N×85°.95W, h126km, ML4.1*
*UCR **06** 04:14:07.1±1.9, 11°.35N×85°.93W, h123km±5km, ML4.0, MW4.2, mb4.3(NEIC)*
*SNET **06** 04:14:10.4±0.9, 11°.21N×86°.18W, h34km±999km, ML4.2*
ISC 06 04:14:06.9±0.6, 11°.36N±0°.05×85°.84W±0°.05, h135km±5km, n176, σ1°26/200, mb4.2/37, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GB1A	**Borinquen Arri**	**0.69**	**141**	*i* P	**Pn**	**04 14 27.8**	**-0.1**
GB1A				*i* S	**Sn**	**04 14 43.8**	**+0.1**
BUAI	**Buenos Aires**	**0.69**	**133**	*i* P	**Pn**	**04 14 27.8**	**0.0**
BUAI				*i* S	**Sn**	**04 14 43.2**	**-0.4**
BUEV	**Buena Vista**	**0.70**	**142**	*i* P	**Pn**	**04 14 27.7**	**-0.2**
BUEV				*e*S	**Sn**	**04 14 43.2**	**-0.6**
GPS1	**Guardaparques**	**0.75**	**140**	*i* P	**Pn**	**04 14 28.0**	**-0.3**
GPS1				*i* S	**Sn**	**04 14 43.6**	**-0.9**
GPS3	**Bodega del ICE**	**0.76**	**142**	*i* P	**Pn**	**04 14 28.1**	**-0.2**
GUAB	**Guayabo de Bag**	**0.88**	**137**	*i* P	**Pn**	**04 14 29.2**	**-0.1**
ACON	**Acoyapa**	**0.90**	**47**		**Pn**	**04 14 29.3**	**0.0**
ACON				Sn	**Sn**	**04 14 46.3**	**0.0**
HORNC	**Hornillas**	**0.91**	**134**	*i* P	**Pn**	**04 14 29.5**	**-0.1**
HORNC				*i* S	**Sn**	**04 14 46.2**	**-0.6**
COLC	**Colonia**	**0.93**	**137**	*i* P	**Pn**	**04 14 29.6**	**-0.1**
COLC				*i* S	**Sn**	**04 14 47.3**	**+0.3**
CUI	**Cuipilapa**	**0.96**	**136**	*i* P	**Pn**	**04 14 30.0**	**0.0**
CUI				*i* S	**Sn**	**04 14 47.4**	**-0.1**
ACAL	**Aguas Claras**	**1.07**	**132**	*i* P	**Pn**	**04 14 31.4**	**+0.4**
PLVR	**Palo Verde**	**1.11**	**154**	*e*P	**Pn**	**04 14 31.4**	**-0.1**
PLVR				*e*S	**Sn**	**04 14 49.0**	**-1.2**
GUAI	**GUAI**	**1.13**	**163**	*i* P	**Pn**	**04 14 31.3**	**-0.1**
JTS	**Las Juntas de**	**1.37**	**140**	P	**Pn**	**04 14 33.6**	**-0.3**
	69nm,0.3s,baz=11,slow=19,SNR=206						
JTS				S	**Sn**	**04 14 52.7**	**-2.0**
	253nm,0.3s,baz=341,slow=20,SNR=17						
JTS	**Las Juntas de**	**1.37**	**140**	*e*P	**Pn**	**04 14 34.3**	**+0.3**
JTS	**Las Juntas de**	**1.37**	**140**	Pn	**Pn**	**04 14 33.7**	**-0.3**
JTS				Sn	**Sn**	**04 14 53.2**	**-1.4**
CEDE	**Laguna Cedeo**	**1.41**	**128**	*e*P	**Pn**	**04 14 34.7**	**+0.3**
CEDE				*e*S	**Sn**	**04 14 55.9**	**+0.4**
CASO	**Castillo**	**1.42**	**130**	*i* P	**Pn**	**04 14 34.9**	**+0.3**
FORC	**Fortuna**	**1.45**	**127**	*i* P	**Pn**	**04 14 35.2**	**+0.4**
MATN	**Matagalpa**	**1.57**	**357**	Pn	**Pn**	**04 14 36.0**	**-0.1**
ESPN	**Las Esperanzas**	**1.73**	**61**	Pn	**Pn**	**04 14 38.4**	**+0.6**
CRIN	**San Cristobal**	**1.78**	**319**	Pn	**Pn**	**04 14 38.6**	**0.0**
CRIN				Sn	**Sn**	**04 15 02.9**	**0.0**
SRA1	**San Ramn**	**1.84**	**133**	*e*P	**Pn**	**04 14 41.0**	**+1.6**
HDC	**Heredia**	**2.17**	**128**	Pn	**Pn**	**04 14 44.1**	**+0.8**
HDC				Sn	**Sn**	**04 15 12.9**	**+1.6**
LCR2	**La Lucha 2**	**2.42**	**131**	*e*P	**Pn**	**04 14 47.2**	**+0.7**
CVTR	**Volcan Turrial**	**2.44**	**123**	*e*P	**Pn**	**04 14 47.3**	**+0.3**
CNCH	**Conchagua**	**2.73**	**315**	*e*P	**Pn**	**04 14 50.5**	**+0.2**
CNCH				*e*S	**Sn**	**04 15 22.2**	**-1.5**
CNCH				IAML		04 15 30.6	
	comp=Z,2µm,0.3s						
CNCH	**Conchagua**	**2.73**	**315**	*e*P	**Pn**	**04 14 50.5**	**+0.2**
CNCH				*e*S	**Sn**	**04 15 22.2**	**-1.5**
CNCH				IAML		04 15 30.6	
	comp=Z,2µm,0.3s						
LCND	**La Caada**	**2.79**	**314**	*e*P	**Pn**	**04 14 51.1**	**+0.2**
LCND	**La Caada**	**2.79**	**314**	*e*P	**Pn**	**04 14 51.1**	**+0.2**
LCND				*e*S	**Sn**	**04 15 23.8**	**-1.2**
JUCU	**Jucuarn**	**3.01**	**309**	*e*P	**Pn**	**04 14 54.1**	**+0.2**
JUCU	**Jucuarn**	**3.01**	**309**	*e*P	**Pn**	**04 14 54.1**	**+0.2**
TGUH	**Tegucigalpa,Un**	**3.03**	**333**	Pn	**Pn**	**04 14 55.3**	**+1.2**
EDLM	**Las Mercedes**	**3.03**	**133**	*e*P	**Pn**	**04 14 55.5**	**+1.3**
RANC	**El Ranchito**	**3.16**	**311**	*e*S	**Sn**	**04 15 32.2**	**-1.5**
RANC	**El Ranchito**	**3.16**	**311**	*e*S	**Sn**	**04 15 32.2**	**-1.5**
FAGO	**Alcalda de S**	**3.21**	**317**	*e*S	**Sn**	**04 15 34.0**	**-0.7**
FAGO	**Alcalda de S**	**3.21**	**317**	*e*S	**Sn**	**04 15 34.0**	**-0.7**
EDPN	**Palmar Norte**	**3.34**	**135**	*e*P	**Pn**	**04 14 59.9**	**+1.7**
TECA	**Tecapa**	**3.36**	**310**	*e*P	**Pn**	**04 14 59.7**	**+1.2**
TECA				*e*S	**Sn**	**04 15 38.3**	**-0.1**
TECA	**Tecapa**	**3.36**	**310**	*e*P	**Pn**	**04 14 59.7**	**+1.2**
TECA				*e*S	**Sn**	**04 15 38.3**	**-0.1**
COEB	**Comit de Eme**	**3.38**	**309**	*e*P	**Pn**	**04 14 59.8**	**+1.1**
COEB				IAML		04 15 41.6	
	comp=Z,341nm,0.3s						
COEB	**Comit de Eme**	**3.38**	**309**	*e*P	**Pn**	**04 14 59.8**	**+1.1**
COEB				IAML		04 15 41.6	
	comp=Z,341nm,0.3s						
COEG	**Centro de Oper**	**3.72**	**308**	*e*P	**Pn**	**04 15 03.9**	**+0.7**
COEG				*e*S	**Sn**	**04 15 46.0**	**-0.8**
COEG	**Centro de Oper**	**3.72**	**308**	*e*P	**Pn**	**04 15 03.9**	**+0.7**
COEG				*e*S	**Sn**	**04 15 46.0**	**-0.8**
EDSV	**San Vito**	**3.79**	**131**	*e*P	**Pn**	**04 15 05.8**	**+1.7**
PAVA	**Las Pavas**	**3.82**	**308**	*e*P	**Pn**	**04 15 05.8**	**+1.3**
PAVA				*e*S	**Sn**	**04 15 48.9**	**-0.3**
PAVA	**Las Pavas**	**3.82**	**308**	*e*P	**Pn**	**04 15 05.8**	**+1.3**
PAVA				*e*S	**Sn**	**04 15 48.9**	**-0.3**
LFRS	**El Faro**	**3.87**	**306**	*e*P	**Pn**	**04 15 06.0**	**+0.9**
LFRS				*e*S	**Sn**	**04 15 48.5**	**-1.8**
LFRS	**El Faro**	**3.87**	**306**	*e*P	**Pn**	**04 15 06.0**	**+0.9**
LFRS				*e*S	**Sn**	**04 15 48.5**	**-1.8**
BRU2	**Volcan**	**4.01**	**129**	*e*P	**Pn**	**04 15 08.6**	**+1.5**
OPAM	**Oficina de Pla**	**4.03**	**306**	*e*S	**Sn**	**04 15 52.8**	**-1.1**
OPAM	**Oficina de Pla**	**4.03**	**306**	*e*S	**Sn**	**04 15 52.8**	**-1.1**
MTO3	**Montecristo**	**4.57**	**312**	Pn	**Pn**	**04 15 15.4**	**+0.8**
ESQI	**Esquipulas**	**4.67**	**313**	Pn	**Pn**	**04 15 17.0**	**+1.3**
APG	**El Apazote**	**5.78**	**309**	P	**Pn**	**04 15 32.3**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=121,slow=8.8,SNR=22						
BCIP	**Isla Barro Col**	**6.30**	**110**		**Pn**	**04 15 38.8**	**+1.3**
HUEH	**Huehuetenango**	**6.77**	**306**	Pn	**Pn**	**04 15 46.1**	**+2.1**
TEIG	**Tepich**	**9.12**	**345**	P	**Pn**	**04 16 19.1**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=342,slow=11,SNR=2.0						
TEIG	**Tepich**	**9.12**	**345**	Pn	**Pn**	**04 16 17.6**	**+2.1**
MOTC	**Monteria, Cord**	**10.34**	**103**	*e*P	Pn	04 16 41.8	+10
SJCC	**San Jacinto, C**	**10.58**	**97**	*e*P	**Pn**	**04 16 38.6**	**+3.5**
UREC	**San Jos de Ur**	**10.78**	**108**	*e*P	Pn	04 16 48.8	+11
YOTC	**Yotoco, Valle**	**11.92**	**127**	*e*P	**Pn**	**04 16 52.4**	**-0.4**
GUY2C	**Guyana, Caldas**	**12.02**	**120**	*e*P	**Pn**	**04 16 55.3**	**+0.9**
PTBC	**PUERTO BERRIO,**	**12.22**	**112**	*e*P	**P**	**04 17 02.5**	**-0.9**
TOLC	**Tolima**	**12.40**	**122**	*e*P	**P**	**04 17 02.5**	**-3.2**
BBAC	**Balboa, Cauca**	**12.60**	**137**	*e*P	**Pn**	**04 17 03.5**	**+1.8**
POPC	**Popayan, Colom**	**12.62**	**133**	*e*P	**P**	**04 17 09.5**	**+1.4**
OCAC	**Ocana**	**12.72**	**103**	*e*P	**P**	**04 17 10.1**	**+1.0**
ORTC	**Ortega, Tolima**	**12.84**	**124**	*e*P	**P**	**04 17 11.6**	**+1.3**
SPBC	**San Pablo de B**	**12.94**	**115**	*e*P	**P**	**04 17 12.4**	**+1.0**
MARP	**Paez Belalcaza**	**12.95**	**130**	*e*P	**P**	**04 17 14.5**	**+2.8**
PCON	**Cinco Dias**	**12.97**	**133**	*e*P	**P**	**04 17 10.9**	**-1.3**
ROSC	**El Rosal**	**13.11**	**119**	P	**P**	**04 17 11.6**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=136,slow=21,SNR=4.7						
ROSC	**El Rosal**	**13.11**	**119**	*e*P	**P**	**04 17 11.4**	**-2.2**
ROSC	**El Rosal**	**13.11**	**119**	P	**P**	**04 17 16.6**	**+2.9**
GCUF	**Volcan Galeras**	**13.13**	**139**	*e*P	**P**	**04 17 15.8**	**+1.8**
PRAC	**Prado**	**13.25**	**124**	*e*P	**Pn**	**04 17 12.2**	**+2.3**
PAMC	**Pamplona, Colo**	**13.57**	**106**	*e*P	**P**	**04 17 19.0**	**+0.1**
CHIC	**Chingaza**	**13.72**	**118**	*e*P	**P**	**04 17 18.7**	**-1.8**
RUSC	**La Rusia**	**13.73**	**112**	*e*P	**P**	**04 17 20.1**	**-0.6**
FLOC	**Florencia**	**14.02**	**133**	*e*P	**P**	**04 17 22.4**	**-1.0**
PUAC	**Puerto Asis, P**	**14.14**	**139**	*e*P	**P**	**04 17 27.7**	**+3.0**
SDV	**Santo Domingo**	**15.17**	**98**	P	**Pn**	**04 17 34.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=322,slow=14,SNR=1.9						
SDV	**Santo Domingo**	**15.17**	**98**	P	**Pn**	**04 17 34.3**	**-0.1**
SDV				IAmb	IAmb	04 17 41.1	
	comp=Z,10nm,0.6s						
PTGC	**Puerto Gaitan,**	**15.32**	**117**	*e*P	**P**	**04 17 38.4**	**+0.5**
553A	**Crawfordville**	**18.79**	**4**	P	**Pn**	**04 18 18.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**19.28**	**68**	P	**Pn**	**04 18 21.8**	**-1.9**
CRPR				IAmb	IAmb	04 18 40.2	
	comp=Z,38nm,1.4s						
AGPR	**Aguadilla, PR**	**19.42**	**66**	P	**P**	**04 18 20.1**	**-2.7**
AOPR	**Arecibo Observ**	**19.71**	**67**	P	**Pn**	**04 18 27.5**	**-1.2**
AOPR				IAmb	IAmb	04 18 44.7	
	comp=Z,16nm,0.9s						
OBIP	**Obispado Ponce**	**19.75**	**68**	P	**Pn**	**04 18 27.8**	**-1.4**
OBIP				IAmb	IAmb	04 18 29.8	
	comp=Z,10nm,0.8s						
ICMP	**Isla Caja de M**	**19.78**	**69**	P	**Pn**	**04 18 28.4**	**-1.1**
PDPR	**Patillas Dam,**	**20.27**	**69**	P	Pn	04 18 33.5	-1.8
PDPR				IAmb	IAmb	04 18 37.4	
	comp=Z,9.9nm,0.9s						
PCRV	**Puerto La Cruz**	**20.87**	**91**	P	**P**	**04 18 39.6**	**+1.1**
	comp=Z,21nm,0.4s,baz=245,slow=4.2,SNR=37						
PLCV	**Puerto La Cruz**	**20.91**	**91**	P	**P**	**04 18 39.6**	**+0.7**
GOGA	**Godfrey**	**22.06**	**5**	P	**P**	**04 18 51.6**	**+0.8**
GOGA				IAmb	IAmb	04 18 53.5	
	comp=Z,16nm,1.3s						
Y49A	**Blount Mountai**	**22.40**	**359**	P	**P**	**04 18 55.9**	**+1.6**
Y49A				IAmb	IAmb	04 18 56.2	
	comp=Z,6.2nm,0.6s						
**Y

KMSC	**Kings Mountain**	**24.03**	**9**	P	**P**	04 19 11.6	+2.2
KMSC				IAmb	IAmb	04 19 12.2		
	comp=Z,15nm,1.1s							
SVB	**Belmont**	**24.10**	**83**	P	**P**	04 19 10.4	+0.2
MIAR	**Mount Ida**	**24.14**	**344**	P	**P**	04 19 12.4	+2.1
MIAR				IAmb	IAmb	04 19 13.0		
	comp=Z,5.8nm,0.8s							
TKL	**Tuckaleechee C**	**24.27**	**4**	P	**P**	04 19 12.7	+1.2
	comp=Z,2.6nm,0.5s,baz=186,slow=14,SNR=5.8							
W57A	**Gilead**	**24.28**	**12**	P	**P**	04 19 12.7	+1.1
W57A				IAmb	IAmb	04 19 14.9		
	comp=Z,9.2nm,0.9s							
V48A	**Smith Brothers**	**24.29**	**358**	P	**P**	04 19 12.8	+1.1
V48A				IAmb	IAmb	04 19 13.7		
	comp=Z,4.9nm,0.6s							
V53A	**Saluda**	**24.36**	**6**	P	**P**	04 19 13.7	+1.3
V53A				IAmb	IAmb	04 19 16.6		
	comp=Z,7.5nm,0.8s							
V51A	**Loudon**	**24.38**	**3**	P	**P**	04 19 14.1	+1.6
TX31	**Lajitas Ar. Si**	**24.42**	**320**	P	**P**	04 19 14.2	+1.1
TX31				IAmb	IAmb	04 19 16.6		
	comp=Z,9.4nm,0.6s							
TX32	**Lajitas Array**	**24.42**	**320**	P	**P**	04 19 14.2	+1.1
TXAR	**Lajitas Array**	**24.42**	**320**	P	**P**	04 19 14.1	+1.0
	comp=Z,1.7nm,0.5s,baz=142,slow=9.8,SNR=41							
TXAR				PcP	**PcP**	04 22 47.3	-1.4	
	comp=Z,0.2nm,0.5s,baz=120,slow=5.3,SNR=3.4							
WHAR	**Wooly Hollow**	**24.54**	**347**	P	**P**	04 19 14.1	+0.2
CLTN	**Cedars of Leba**	**24.63**	**359**	P	**P**	04 19 16.3	+1.5
WVT	**Waverly**	**24.73**	**356**	P	**P**	04 19 15.6	-0.1
V55A	**Taylorsville**	**24.75**	**9**	P	**P**	04 19 17.6	+1.7
V55A				IAmb	IAmb	04 19 21.1		
	comp=Z,11nm,1.4s							
W39A	**Magazine**	**24.81**	**344**	P	**P**	04 19 17.0	+0.6
V58A	**Windy Hill, Pi**	**25.08**	**13**	P	**P**	04 19 20.1	+1.2
V58A				IAmb	IAmb	04 19 20.8		
	comp=Z,18nm,1.0s							
TZTN	**Tazewell**	**25.16**	**4**	P	**P**	04 19 20.8	+1.1
TZTN				IAmb	IAmb	04 19 25.9		
	comp=Z,8.9nm,1.1s							
T47A	**Sharon Grove**	**25.55**	**358**	P	**P**	04 19 24.0	+1.0
T47A				IAmb	IAmb	04 19 24.3		
	comp=Z,5.1nm,0.7s							
T42A	**Van Buren**	**26.00**	**350**	P	**P**	04 19 27.4	+0.3
T42A				IAmb	IAmb	04 19 28.0		
	comp=Z,4.4nm,0.8s							
T57A	**Hurt**	**26.21**	**12**	P	**P**	04 19 30.0	+0.9
T57A				IAmb	IAmb	04 19 31.1		
	comp=Z,6.8nm,1.1s							
S51A	**Beattyville**	**26.25**	**4**	P	**P**	04 19 30.3	+0.9
S51A				IAmb	IAmb	04 19 30.9		
	comp=Z,6.4nm,0.8s							
WCI	**Wyandotte Cave**	**26.76**	**359**	P	**P**	04 19 35.0	+1.0
WCI				IAmb	IAmb	04 19 35.7		
	comp=Z,6.0nm,0.7s							
R53A	**Hurricane**	**27.09**	**7**	P	**P**	04 19 37.9	+1.0
R55A	**Marlinton**	**27.30**	**10**	P	**P**	04 19 40.5	+1.6
R55A				IAmb	IAmb	04 19 45.8		
	comp=Z,22nm,1.5s							
Q51A	**Peebles**	**27.65**	**4**	P	**P**	04 19 42.9	+1.0
BLO	**Bloomington**	**27.71**	**359**	P	**P**	04 19 42.9	+0.5
Q54A	**Coxs Mills**	**27.87**	**8**	P	**P**	04 19 45.1	+1.2
Q54A				IAmb	IAmb	04 19 50.4		
	comp=Z,4.7nm,0.9s							
P49A	**Miami Univ. Ec**	**28.08**	**2**	P	**P**	04 19 45.4	-0.4
P49A				IAmb	IAmb	04 19 46.5		
	comp=Z,6.3nm,0.6s							
P46A	**Rosedale**	**28.17**	**358**	P	**P**	04 19 47.1	+0.6
O44A	**Mansfield**	**28.77**	**356**	P	**P**	04 19 52.4	+0.5
O53A	**New Philadelph**	**29.07**	**7**	P	**P**	04 19 55.5	+1.0
PAGS	**Pennsylvania G**	**29.87**	**14**	P	**P**	04 20 03.8	+2.2
SSPA	**Standing Stone**	**30.00**	**12**	P	**P**	04 20 03.9	+1.1
SSPA				IAmb	IAmb	04 20 05.1		
	comp=Z,6.0nm,0.8s							
JFWS	**Jewell Farm**	**31.67**	**354**	P	**P**	04 20 17.6	+0.2
G40A	**Rib Lake**	**34.00**	**354**	P	**P**	04 20 36.8	-0.8
G40A				IAmb	IAmb	04 20 53.2		
	comp=Z,12nm,1.4s							
SPMN	**Marine on St.**	**34.27**	**351**	P	**P**	04 20 39.6	-0.4
SPMN				IAmb	IAmb	04 20 39.7		
	comp=Z,5.6nm,0.7s							
LONY	**Lake Ozonia**	**34.53**	**14**	P	**P**	04 20 42.8	+0.5
LONY				IAmb	IAmb	04 20 59.8		
	comp=Z,7.8nm,1.2s							
SRU	**San Rafael Swe**	**35.30**	**326**	P	**P**	04 20 50.0	+0.8
MOQ	**Mont Orford**	**35.78**	**16**	P	**P**	04 20 53.5	+0.5
EMMW	**East Machias**	**36.80**	**22**	P	**P**	04 21 02.8	+1.2
PDAR	**Pinedale Array**	**37.48**	**331**	P	**P**	04 21 06.8	-0.9
	comp=Z,0.3nm,0.5s,baz=146,slow=8.7,SNR=3.5							
PDAR	**Pinedale Array**	**37.48**	**331**	P	**P**	04 21 08.2	+0.5
E63A	**Oxbow**	**37.95**	**20**	P	**P**	04 21 12.8	+1.5
REDW	**Red Top Meadow**	**38.55**	**330**	P	**P**	04 21 17.0	+0.4
NVAR	**Mina Array Bea**	**39.56**	**319**	P	**P**	04 21 26.8	+1.7
	comp=Z,1.6nm,0.7s,baz=128,slow=7.5,SNR=16							
NVAR				PcP	**PcP**	04 23 30.5	+0.6	
	comp=Z,0.5nm,0.7s,baz=114,slow=4.0,SNR=4.5							
NVAR	**Mina Array Bea**	**39.56**	**319**	P	**P**	04 21 27.0	+1.9
LHV	**Little Huntoon**	**39.59**	**318**	P	**P**	04 21 27.5	+2.5
MOD	**Modoc Plateau**	**42.80**	**322**	P	**P**	04 21 52.1	+0.7
KHMM	**Horse Mountain**	**44.40**	**318**	P	**P**	04 22 05.4	+1.1
KHMM				IAmb	IAmb	04 22 15.0		
	comp=Z,16nm,1.4s							
SCHO	**Schefferville**	**45.89**	**15**	P	**P**	04 22 15.3	-0.4
BDFB	**Brasilia**	**46.06**	**125**	P	**P**	04 22 15.6	-2.1
	comp=Z,2.5nm,0.9s,baz=319,slow=15,SNR=3.2							
BDFB	**Brasilia**	**46.06**	**125**	P	**P**	04 22 16.0	-1.6
BDFB				IAmb	IAmb	04 22 20.6		
	comp=Z,14nm,1.4s							
ILAR	**Eielson Array**	**67.65**	**336**	P	**P**	04 24 48.2	-0.9
	comp=Z,0.5nm,0.6s,baz=128,slow=4.8,SNR=8.0							
ILAR	**Eielson Array**	**67.65**	**336**	P	**P**	04 24 48.4	-0.7
PPLA	**Purkeypile**	**69.26**	**333**	P	**P**	04 24 58.4	-0.8
ESDC	**Sonseca Array**	**76.63**	**52**	P	**P**	04 25 42.3	-0.8
	comp=Z,1.9nm,0.8s,baz=283,slow=6.3,SNR=11							
ESDC	**Sonseca Array**	**76.63**	**52**	P	**P**	04 25 42.1	-0.9
KOWA	**Kowa**	**79.41**	**77**	P	**P**	04 25 57.8	-0.9
KOWA				IAmb	IAmb	04 25 59.4		
	comp=Z,6.1nm,1.3s							
DBIC	**Dimbokro**	**79.91**	**85**	P	**P**	04 26 00.3	-1.2
	comp=Z,5.3nm,1.1s,baz=161,slow=6.0,SNR=2.2							
DBIC	**Dimbokro**	**79.91**	**85**	P	**P**	04 26 00.9	-0.6
TORD	**Torodi Ar. Bea**	**85.11**	**78**	P	**P**	04 26 25.9	-2.5
	comp=Z,0.3nm,0.6s,baz=294,slow=5.0,SNR=6.5							
TORD	**Torodi Ar. Bea**	**85.11**	**78**	P	**P**	04 26 26.5	-1.9
ASAR	**Alice Springs**	**140.30**	**247**	PKhKP	PKPpre	04 33 14.3		
	comp=Z,0.2nm,0.3s,baz=225,slow=40,SNR=2.4							
ASAR				PKP	**PKPdf**	04 33 21.2	+0.6	
	comp=Z,1.0nm,0.5s,baz=100,slow=1.7,SNR=9.3							
ASAR	**Alice Springs**	**140.30**	**247**	PKPdf	**PKPdf**	04 33 20.6	-0.1
WRA	**Warramunga Arr**	**140.46**	**252**	PKhKP	PKPpre	04 33 15.4		
	comp=Z,1.2nm,0.5s,baz=92,slow=3.1,SNR=5.8							
WRA				PKP	**PKPdf**	04 33 21.5	+0.5	
	comp=Z,1.3nm,0.5s,baz=94,slow=2.4,SNR=9.3							
WRA	**Warramunga Arr**	**140.46**	**252**	PKPdf	**PKPdf**	04 33 20.4	-0.7	

*IDC **06** 04:14:52.6±3.9, 31°.60S×179°.93W, h304km±34km, mb3.8/5, mb1 3.9/6, mb1mx3.5/31, mbtmp4.5/6, Error ellipse: s-maj=32.9km s-min=18.7km az=46.0*

ISC 06 04:14:54.8±1.0, 31°.7S±0°.1×179°.6E±0°.2, h300km, n38, σ2§22/35, mb4.0/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.89**	**197**	P	**Pn**	04 16 35.8	+1.1
	5.2nm,0.3s,baz=278,slow=5.0,SNR=20						
URZ				S	**S**	04 17 55.2	-0.2
	13nm,0.3s,baz=245,slow=23,SNR=18						
URZ	**Urewera**	**6.89**	**197**	P	**Pn**	04 16 38.1	+3.4
BHHZ	**Black Hill Sta**	**8.32**	**199**	P	**Pn**	04 16 55.7	+3.5
KAHZ	**Kahuranaki**	**8.41**	**195**	P	**Pn**	04 16 57.8	+4.5
PNHZ	**Pukenui**	**8.68**	**198**	P	**Pn**	04 16 59.3	+2.7
DREZ	**Durham Road**	**8.71**	**209**	P	**Pn**	04 16 55.1	-1.8
MRZ	**Mangatainoka R**	**9.55**	**199**	P	**Pn**	04 17 08.1	+0.9
HOWZ	**Holdsworth Sta**	**9.78**	**199**	P	**Pn**	04 17 11.2	+1.1
OGWZ	**Otaki Gorge**	**9.81**	**200**	P	**Pn**	04 17 11.0	+0.6
KIW	**Kapiti Island**	**9.93**	**201**	P	**Pn**	04 17 13.8	+1.9
CAW	**Cannon Point**	**10.11**	**200**	P	**Pn**	04 17 14.7	+0.6
DUWZ	**D'Urville Isla**	**10.21**	**205**	P	**Pn**	04 17 16.8	+1.5
TRWZ	**Traveller**	**10.21**	**197**	P	**Pn**	04 17 17.5	+2.2
PAWZ	**Paruwai Farm**	**10.26**	**198**	P	**Pn**	04 17 16.7	+0.8
MSWZ	**Moikau Station**	**10.34**	**199**	P	**Pn**	04 17 17.8	+0.8
TCW	**Tory Channel**	**10.45**	**203**	P	**Pn**	04 17 19.3	+1.1
TUWZ	**Tuamarina**	**10.75**	**204**	P	**Pn**	04 17 22.0	0.0
NNZ	**Nelson**	**10.77**	**206**	P	**Pn**	04 17 23.1	+0.9
BSWZ	**Blackbirch Sta**	**11.03**	**203**	P	**Pn**	04 17 26.3	+0.9
THZ	**Tophouse**	**11.42**	**206**	P	**Pn**	04 17 30.8	+0.7
KHZ	**Kahutara**	**11.77**	**203**	P	**Pn**	04 17 34.2	-0.1
STKA	**Stephens Creek**	**32.22**	**259**	P	**P**	04 20 56.3	+0.7
	1.8nm,0.4s,baz=97,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**41.03**	**269**	P	**P**	04 22 10.5	+0.9
	2.4nm,0.5s,baz=107,slow=7.2,SNR=43						
WRA	**Warramunga Arr**	**42.14**	**275**	P	**P**	04 22 19.0	+0.4
	3.8nm,0.4s,baz=113,slow=7.8,SNR=118						
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	04 24 18.2	-1.2
	4.9nm,0.7s,baz=314,slow=0.4,SNR=42						
SNAA	**Sanae**	**76.93**	**179**	P	P	04 26 11.2	-2.8
VNA3	**Neumayer Olymp**	**77.16**	**177**	P	P	04 26 12.3	-2.9
VNA2	**Neumayer--Watz**	**77.57**	**178**	P	P	04 26 14.6	-2.9
	baz=172,slow=5.0						
VNA1	**Neumayer--Stat**	**77.81**	**177**	P	**P**	04 26 16.2	-2.6
PETK	**Petropavlovsk-**	**86.56**	**347**	P	P	04 26 59.4	-4.4
	2.2nm,0.8s,baz=76,slow=14,SNR=1.4						
MKAR	**Makanchi Array**	**117.03**	**310**	PKP	**PKPdf**	04 33 00.0	-3.7
	0.4nm,0.6s,baz=143,slow=0.7,SNR=4.8						
ARCES	**ARCESS Array B**	**139.37**	**346**	PKhKP	PKPpre	04 33 35.7	
	1.7nm,0.8s,baz=40,slow=2.1,SNR=13						
ARCES				PKP	**PKPdf**	04 33 43.6	-1.8
	2.0nm,0.8s,baz=47,slow=1.4,SNR=5.5						
FINES	**FINESS Array B**	**145.59**	**338**	PKPbc	**PKPdf**	04 33 55.1	-1.5
	14nm,0.4s,baz=44,slow=4.4,SNR=154						
NB2	**NORSAR Subarra**	**149.65**	**349**	PKP	**PKPdf**	04 34 05.9	+2.5
	comp=Z,1.9nm,0.5s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**149.65**	**349**	PKPbc	**PKPdf**	04 34 05.8	+2.4
	comp=Z,1.8nm,0.4s,baz=18,slow=4.1,SNR=12						
AKASG	**Malin Array Be**	**151.00**	**320**	PKPbc	**PKPdf**	04 34 09.2	+3.6
	comp=Z,4.7nm,0.7s,baz=62,slow=1.9,SNR=7.2						
BRTR	**Keskin Array B**	**151.36**	**296**	PKPbc	**PKPdf**	04 34 10.2	+3.3
	comp=Z,1.1nm,0.5s,baz=155,slow=3.8,SNR=8.8						
TORD	**Torodi Ar. Bea**	**161.47**	**186**	PKPab	**PKPab**	04 35 02.0	-4.3
	comp=Z,0.3nm,0.6s,baz=178,slow=3.0,SNR=6.2						

*JMA **06** 04:20:10.4±0.1, 36°.08N×139°.87E, h46km±1km, M3.5*
JMA Felt II J1.
*IDC **06** 04:20:11.6±2.2, 35°.96N×139°.81E, h68km±20km, mb3.3/4, mb1 3.5/5, mb1mx3.2/35, mbtmp3.7/5, Error ellipse: s-maj=36.1km s-min=13.1km az=71.0*

ISC 06 04:20:09.9±1.0, 36°.08N±0°.06×139°.91E±0°.06, h51km±9km, n12, σ0§71/17, mb3.5/4, 1C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.28**	**57**	↑P	**Pn**	04 20 19.1	+0.3
JYT				S	**Sn**	04 20 25.4	+0.2
JAG	**Ashikaga**	**0.51**	**314**	↓P	**Pn**	04 20 21.3	+0.1
JAG				S	**Sn**	04 20 29.2	-0.2
JRY	**Ryogami san**	**0.82**	**266**	↓P	**Pn**	04 20 25.1	-0.1
JRY				S	**Sn**	04 20 35.8	-0.6
JKT	**Katashina**	**0.87**	**323**	P	**Pn**	04 20 26.0	0.0
JYN	**Shimoh**	**1.25**	**243**	P	**Pn**	04 20 32.1	+1.1
MJAR	**Matsushiro Arr**	**1.45**	**289**	P	**Pn**	04 20 35.0	+1.3
	3.0nm,0.3s,baz=95,slow=9.1,SNR=86						
MAT	**Matsushiro**	**1.45**	**289**	P	**Pn**	04 20 34.0	+0.3
MAT				*e*S	**Sn**	04 20 52.1	+0.5
JHJ	**Hachijo jima 2**	**2.95**	**182**	P	**Pn**	04 20 55.0	+0.7
	30nm,0.3s,baz=230,slow=20,SNR=1.7						
JHJ				S	**Sn**	04 21 27.7	-0.7
	63nm,0.3s,baz=74,slow=21,SNR=1.5						
ZALV	**Zalesovo Beam**	**41.67**	**313**	P	**P**	04 27 52.9	-0.3
	1.4nm,0.5s,baz=102,slow=5.6,SNR=4.8						
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	04 28 08.5	-0.5
	0.5nm,0.6s,baz=84,slow=10.0,SNR=4.5						
ILAR	**Eielson Array**	**50.95**	**32**	P	**P**	04 29 06.7	+0.9
	0.3nm,0.6s,baz=267,slow=5.4,SNR=5.1						
WRA	**Warramunga Arr**	**55.96**	**186**	P	**P**	04 29 42.2	-0.9
	0.3nm,0.6s,baz=0.9,slow=7.6,SNR=8.9						

WEL 06 04:25:15.4, 41°S±2°×17°E±°, h93km±3km, M3.4/29, ML2.9/8, MLv3.4/29, Error ellipse: s-maj=0.0km s-min=0.0km az=82.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNZ	**Nelson**	**0.15**	**187**	P	Pn	04 25 28.9	+0.4
NNZ				S	Sn	04 25 38.7	+0.4
DUWZ	**D'Urville Isla**	**0.47**	**56**	P	Pn	04 25 30.7	+0.5
DUWZ				S	Sn	04 25 41.5	+0.1
TUWZ	**Tuamarina**	**0.54**	**132**	P	Pn	04 25 31.6	+0.9
TUWZ				S	Sn	04 25 42.6	+0.4
TCW	**Tory Channel**	**0.67**	**102**	P	Pn	04 25 32.7	+0.8
TCW				S	Sn	04 25 44.5	+0.3
QRZ	**Quartz Range**	**0.71**	**290**	P	Pn	04 25 32.1	0.0
QRZ				S	Sn	04 25 43.9	-0.8
BSWZ	**Blackbirch Sta**	**0.74**	**151**	P	Pn	04 25 33.5	+1.0
THZ	**Tophouse**	**0.79**	**208**	P	Pn	04 25 33.9	+0.8
WEL	**Wellington**	**1.05**	**102**	P	Pn	04 25 37.3	+1.5
KIW	**Kapiti Island**	**1.16**	**80**	P	Pn	04 25 37.2	+0.1
CAW	**Cannon Point**	**1.26**	**92**	P	Pn	04 25 38.2	0.0
KHZ	**Kahutara**	**1.35**	**176**	P	Pn	04 25 40.2	+0.8
OGWZ	**Otaki Gorge**	**1.36**	**80**	P	Pn	04 25 39.5	0.0
DSZ	**Denniston Nort**	**1.38**	**240**	P	Pn	04 25 40.3	+0.5
MSWZ	**Moikau Station**	**1.43**	**105**	P	Pn	04 25 44.1	+3.7
PLWZ	**Palliser**	**1.48**	**110**	P	Pn	04 25 40.9	-0.1
HOWZ	**Holdsworth Sta**	**1.61**	**85**	P	Pn	04 25 42.3	-0.4
MRZ	**Mangatainoka R**	**1.70**	**77**	P	Pn	04 25 43.3	-0.4
LREZ	**Lake Rotokare**	**1.78**	**26**	P	Pn	04 25 46.2	+1.4
KHEZ	**Kahui Hut**	**1.83**	**15**	P	Pn	04 25 46.1	+0.6
NBEZ	**Newall Road No**	**1.83**	**11**	P	Pn	04 25 46.3	+0.7
LTZ	**Lake Taylor**	**1.91**	**206**	P	Pn	04 25 46.9	+0.4
GVZ	**Greta Valley S**	**1.92**	**188**	P	Pn	04 25 46.8	+0.2
POWZ	**Post Office Ro**	**1.92**	**70**	P	Pn	04 25 52.5	+5.8
PKE	**Pukeiti**	**1.93**	**14**	P	Pn	04 25 47.5	+0.8
AMCZ	**Amberley**	**2.18**	**195**	P	Pn	04 25 50.0	0.0
VRZ	**Vera Road**	**2.20**	**29**	P	Pn	04 25 51.1	+0.8
INZ	**Inchbonnie**	**2.21**	**221**	P	Pn	04 25 51.0	+0.7
PKVZ	**Pokaka**	**2.32**	**41**	P	Pn	04 25 53.8	+1.9
WNVZ	**Wahianoa**	**2.42**	**45**	P	Pn	04 25 56.6	+3.3
MOVZ	**Moawhango**	**2.45**	**48**	P	Pn	04 25 56.8	+3.2
FWVZ	**Far West T-bar**	**2.45**	**43**	P	Pn	04 25 56.3	+2.5
OXZ	**Oxford**	**2.47**	**204**	P	Pn	04 25 53.1	-0.8
TWVZ	**Taurewa**	**2.53**	**39**	P	Pn	04 25 56.3	+1.5
OKCZ	**Okains Bay**	**2.66**	**185**	P	Pn	04 25 56.0	-0.5
MQZ	**McQueen's Vall**	**2.69**	**192**	P	Pn	04 25 55.3	-1.4
HIZ	**Hauiti**	**2.79**	**24**	P	Pn	04 25 58.1	0.0
MHCZ	**Mount Hutt**	**2.81**	**208**	P	Pn	04 25 57.0	-1.4
WVZ	**Waitaha Valley**	**2.82**	**224**	P	Pn	04 25 58.8	+0.4
GCSZ	**Gaun Creek Bo**	**3.20**	**195**	P	Pn	04 26 03.7	+0.1
FOZ	**Fox Glacier**	**3.62**	**226**	P	Pn	04 26 08.8	-0.4
ODZ	**Otahua Downs**	**4.46**	**206**	P	Pn	04 26 20.3	-0.3
JCZ	**Jackson Bay**	**4.54**	**227**	P	Pn	04 26 21.1	-0.7

*IDC **06** 05:05:18.0±0.8, 27°.86N×52°.81E, h0km, mb4.2/19, mb1 4.2/22, mb1mx4.0/51, mbtmp4.1/22, ML3.6/3, Error ellipse: s-maj=18.2km s-min=16.2km az=151.0*
*NEIC **06** 05:05:21.7±1.5, 27°.92N±0°.04×52°.84E±0°.09, h25km±5km, Error ellipse: s-maj=11.5km s-min=6.2km az=90.0*
*TEH **06** 05:05:21.2, 27°.96N×52°.80E, h19km, ML4.1*
*THR **06** 05:05:22.3±0.6, 28°.03N×52°.91E, h14km±6km, ML4.1*
*DSN **06** 05:05:25.4±1.0, 27°.62N×52°.88E, h15km, ML4.0/9, Error ellipse: s-maj=12.4km s-min=6.6km az=177.0*
*OMAN **06** 05:05:25.7±2.2, 27°.58N×52°.69E, h31km, mb5.3/10, ml3.8/8, Error ellipse: s-maj=24.5km s-min=18.8km az=43.0*

ISC 06 05:05:20.3±0.4, 27°.93N±0°.03×52°.76E±0°.04, h14km, n145, σ1§47/154, mb4.0/26, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.41**	**29**	*e*Pg	**Pg**	05 05 28.1	-0.5
GHIR	**Ghir-Karzin**	**0.41**	**29**	*e*Pg	**Pg**	05 05 28.1	-0.5
GHIR	**Ghir-Karzin**	**0.41**	**29**	Pg	**Pg**	05 05 28.1	-0.5
LMD1	**Lamerd**	**0.68**	**149**	*e*Pg	**Pg**	05 05 34.5	+0.8
LMD1				*e*Sg	**Sb**	05 05 45.5	+2.1
LMD1				*e*		05 05 53.0	
LMD1	**Lamerd**	**0.68**	**149**	Pg	**Pg**	05 05 34.4	+0.8
LMD1				Sg	**Sb**	05 05 45.4	+2.1
JHRM	**Jahrom**	**0.92**	**51**	*e*Pg	**Pg**	05 05 38.3	+0.1
JHRM				*e*		05 05 57.9	
JHRM	**Jahrom**	**0.92**	**51**	Pg	**Pg**	05 05 38.2	+0.1
LAR1	**LAR**	**1.45**	**100**	*e*Pg	**Pb**	05 05 48.2	+1.1
LAR1				*e*		05 06 22.4	
AHBU	**AHRAM**	**1.60**	**306**	*e*Pg	**Pn**	05 05 52.3	+4.1
SHI	**Shiraz**	**1.73**	**353**	*e*Pg	**Pn**	05 05 52.4	+2.3
KAZ1	**Kazerun**	**1.96**	**330**	*e*Pn	**Pn**	05 05 54.9	+1.6
KAZ1				*e*		05 06 14.3	
KLNJ	**Kolanjah**	**3.24**	**342**	*e*Pn	**Pn**	05 06 12.0	+0.9
SHME	**Shamm**	**3.54**	**121**	*i* P	**Pn**	05 06 16.3	+1.3
	SNR=5.6						
SHME	**Shamm**	**3.54**	**121**	*e*Pn	**Pn**	05 06 19.3	+4.3
BANOM	**Banah**	**3.73**	**121**	*i* P	**Pn**	05 06 18.7	+1.2
	SNR=22						
BANOM	**Banah**	**3.73**	**121**	P	**Pn**	05 06 19.0	+1.4
	SNR=22						
BANOM				S	**Sn**	05 07 00.4	-1.0
IMEH	**Mehriz**	**3.81**	**25**	*e*Pn	**Pn**	05 06 21.7	+2.9
NGRK	**Negar Kerman**	**3.88**	**63**	*e*Pn	**Pn**	05 06 21.2	+1.3
IRAM	**Ramesheh**	**3.88**	**355**	*e*Pn	**Pn**	05 06 21.5	+1.6
AJN	**Ajban**	**3.90**	**149**	*e*Pn	**Pn**	05 06 22.0	+2.2
NAZ	**Nazwa, Dubai**	**3.91**	**138**	P	**Pn**	05 06 22.1	+2.1
NAZ	**Nazwa, Dubai**	**3.91**	**138**	P	**Pn**	05 06 22.2	+2.1
	SNR=7.0						
NAZ				S	**Sn**	05 07 05.0	-0.7
NAZ	**Nazwa, Dubai**	**3.91**	**138**	*e*Pn	**Pn**	05 06 21.2	+1.2
MSFE	**Esma-Masafi**	**3.97**	**129**	P	**Pn**	05 06 22.4	+1.5
MSFE	**Esma-Masafi**	**3.97**	**129**	*e*Pn	**Pn**	05 06 23.0	+2.1
ISAD	**Sadrabad**	**4.05**	**11**	*e*Pn	**Pn**	05 06 24.7	+2.5
FAQ	**Al Faqa, Dubai**	**4.06**	**141**	P	**Pn**	05 06 23.7	+1.6
FAQ				S	**Sn**	05 07 08.0	-1.4
FAQ	**Al Faqa, Dubai**	**4.06**	**141**	*e*Pn	**Pn**	05 06 22.4	+0.4
KRBR	**Kerman**	**4.06**	**59**	*e*Pn	**Pn**	05 06 24.4	+2.1
KRBR	**Kerman**	**4.06**	**59**	*e*Pn	**Pn**	05 06 24.4	+2.1
TVBK	**TV Kerman**	**4.06**	**59**	*e*Pn	**Pn**	05 06 24.5	+2.1
KHGB	**Koh Gabri**	**4.06**	**52**	*e*Pn	**Pn**	05 06 24.2	+1.9
MDH	**Madha**	**4.10**	**129**	P	**Pn**	05 06 23.5	+0.8
MDH	**Madha**	**4.10**	**129**	P	**Pn**	05 06 24.3	+1.6
MDH				S	**Sn**	05 07 10.0	-0.5
MDH	**Madha**	**4.10**	**129**	*e*Pn	**Pn**	05 06 24.0	+1.3
UOSS	**Minazif**	**4.28**	**133**	*i* P	**Pn**	05 06 26.1	+1.0
	SNR=15						
UOSS	**Minazif**	**4.28**	**133**	S	**Sn**	05 07 13.3	-1.5
UOSS	**Minazif**	**4.28**	**133**	*e*Pn	**Pn**	05 06 26.0	+1.0
UOSS	**Minazif**	**4.28**	**133**		**Pn**	05 06 25.7	+0.6
HATD	**Hatta, Dubai**	**4.32**	**135**	P	**Pn**	05 06 26.8	+1.1
HATD				S	**Sn**	05 07 14.6	-1.2
HATD	**Hatta, Dubai**	**4.32**	**135**	*e*Pn	**Pn**	05 06 26.1	+0.5
ASHO	**Ashiyiah**	**4.38**	**137**	*i* P	**Pn**	05 06 27.5	+1.1
	SNR=26						
ASHO	**Ashiyiah**	**4.38**	**137**	P	**Pn**	05 06 27.7	+

comp=Z,0.7nm,0.4s,baz=232,slow=8.8,SNR=6.6
KURK Kurchatov 30.02 34 P **P** 05 11 27.9 -0.8
KURK IAmb IAmb 05 11 30.6
comp=Z,2.0nm,1.0s
KIRV Kirov 30.74 357 P **P** 05 11 35.2 +0.5
comp=Z,12nm,0.5s,baz=180,slow=1.0,SNR=2.5
KOLS Kolonicke sedl 31.46 320 *eP* **P** 05 11 42.8 +1.5
ZAA0 Zalesovo Array 35.01 33 P **P** 05 12 11.8 -0.4
ZALV Zalesovo Beam 35.01 33 P **P** 05 12 12.5 +0.3
comp=Z,5.1nm,0.3s,baz=243,slow=8.8,SNR=15
ZALV Zalesovo Beam 35.01 33 P **P** 05 12 12.2 0.0
FIA1 FINESS Array S 37.96 339 P **P** 05 12 37.5 +0.3
FINES FINESS Array B 37.96 339 P **P** 05 12 37.7 +0.4
comp=Z,4.1nm,0.6s,baz=142,slow=9.4,SNR=29
FINES FINESS Array B 37.96 339 P **P** 05 12 37.2 -0.1
GTA Gaotai 40.39 61 P **P** 05 12 59.7 +1.6
GTA pP pP 05 13 03.0 +0.4
GTA sP sP 05 13 06.2 +1.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
NC405 NORSAR Array S 43.01 332 P **P** 05 13 19.2 +0.1
NC405 IAmb IAmb 05 13 23.5
comp=Z,15nm,0.9s
NB201 NORSAR Array S 43.15 332 P **P** 05 13 20.1 -0.2
NB2 NORSAR Subarra 43.18 332 P **P** 05 13 19.9 -0.6
comp=Z,0.8nm,0.5s,baz=120,slow=8.6
NOA NORSAR Array B 43.18 332 P **P** 05 13 19.9 -0.6
comp=Z,1.1nm,0.6s,baz=125,slow=8.2,SNR=6.9
KEV Kevo 44.43 348 P **P** 05 13 30.9 +0.5
ARCES ARCESS Array B 44.54 347 P **P** 05 13 31.5 +0.2
comp=Z,0.6nm,0.4s,baz=149,slow=7.9,SNR=17
EKB6 Eskdalemuir Ar 48.27 321 P **P** 05 14 00.7 0.0
TORD Torodi Ar. Bea 49.69 264 P **P** 05 14 12.2 +0.1
comp=Z,0.7nm,0.4s,baz=63,slow=8.7,SNR=10
TORD Torodi Ar. Bea 49.69 264 P **P** 05 14 11.2 -1.0
DBIC Dimbokro 58.37 260 P **P** 05 15 15.6 0.0
comp=Z,3.8nm,1.1s,baz=2.5,slow=5.3,SNR=1.9
DBIC Dimbokro 58.37 260 P **P** 05 15 16.3 +0.7
BOSA Boshof 62.09 207 P **P** 05 15 41.3 +0.4
comp=Z,2.1nm,1.0s,baz=9.5,slow=6.1,SNR=1.9
BOSA Boshof 62.09 207 P **P** 05 15 40.7 -0.2
BOSA IAmb IAmb 05 15 51.3
comp=Z,4.1nm,1.2s
KSRS Korea Array 62.45 60 P **P** 05 15 42.1 -1.1
comp=Z,0.9nm,0.5s,baz=286,slow=5.4,SNR=2.3
SCHQ Schefferville 82.70 330 P **P** 05 17 43.3 -0.1
comp=Z,5.6nm,0.9s,baz=57,slow=7.7,SNR=5.1
SCHQ Schefferville 82.70 330 IAmb IAmb 05 17 44.5
comp=Z,20nm,1.4s
ILAR Eielson Array 86.34 8 P **P** 05 18 01.1 -0.6
comp=Z,0.3nm,0.6s,baz=319,slow=4.2,SNR=4.6
WRA Warramunga Arr 92.06 111 P **P** 05 18 28.1 -1.3
comp=Z,0.5nm,0.8s,baz=311,slow=3.9,SNR=1.5
ASAR Alice Springs 93.50 115 P **P** 05 18 35.2 -0.8
comp=Z,0.3nm,0.5s,baz=295,slow=4.9,SNR=2.3

*IDC **06** 05:16:55.7±1.8,5.°25S×133.°86E,h0km,mb4.1/4, mb1 4.1/7,mb1mx3.9/35,mbtmp4.0/7,ML3.7/3,Error ellipse: s-maj=64.5km s-min=22.9km az=77.0*
*NEIC **06** 05:16:56.4±1.9,5.°05S±0.°09×134.°1E±0.°1,h29km±3km, mb4.0/4,Error ellipse: s-maj=22.0km s-min=11.0km az=71.0.*
ISC 06 05:16:57.8±0.8,**5.°24S**±0.°06×**134.°0E**±0.°1,**h28**km,**n32,**
σ**2**^{s}**25**/34,**mb4.2/6,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.91**	**322**			**Pn**	**05 17 41.3**	**-1.0**
MTN	**Manton Dam**	**8.08**	**201**	Pn		**Pn**	**05 18 55.6**	**+2.3**
MTN						**Sn**	**05 20 25.9**	**+2.1**
SOEI	**Soe**	**10.67**	**245**	Pn		**Pn**	**05 19 29.6**	**+0.6**
KNRA	**Kununurra**	**11.59**	**206**	Pn		**Pn**	**05 19 42.6**	**+1.2**
COEN	**Coen**	**12.50**	**135**	Pn		**Pn**	**05 19 54.8**	**+0.9**
WB0	**Warramunga Arr**	**14.44**	**179**	Pn		**Pn**	**05 20 21.9**	**+1.5**
WRAB	**Tennant Creek**	**14.61**	**179**	Pn		**Pn**	**05 20 23.4**	**+0.7**
WRA	**Warramunga Arr**	**14.62**	**179**	Pn		**Pn**	**05 20 23.2**	**+0.3**
	0.1nm,0.3s,baz=1.3,slow=13,SNR=13							
WRA				Sn		**Sn**	**05 22 57.7**	**-6.3**
	0.3nm,0.3s,baz=2.2,slow=23,SNR=3.2							
WRA	**Warramunga Arr**	**14.62**	**179**			**Pn**	**05 20 23.4**	**+0.6**
WB2	**Warramunga Arr**	**14.62**	**179**	Pn		**Pn**	**05 20 23.2**	**+0.3**
WR0	**Warramunga Arr**	**14.64**	**178**	Pn		**Pn**	**05 20 23.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**15.18**	**212**	Pn		**Pn**	**05 20 29.4**	**-1.1**
	1.0nm,0.3s,baz=31,slow=9.7,SNR=26							
FITZ				Sn		Sn	05 23 04.0	-14
	0.0nm,0.3s,baz=318,slow=18,SNR=3.2							
FITZ	**Fitzroy Crossi**	**15.18**	**212**	Pn		**Pn**	**05 20 29.3**	**-1.1**
FITZ				IAmb		IAmb	05 20 42.2	
	comp=Z,13nm,1.5s							
AS31	**Alice Springs**	**18.32**	**180**	P		**Pn**	**05 21 11.0**	**+1.0**
ASAR	**Alice Springs**	**18.32**	**180**	P		**Pn**	**05 21 11.5**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=1.7,slow=12,SNR=25							
ASAR				S		**Sn**	**05 24 29.1**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=2.0,slow=29,SNR=2.7							
ASAR	**Alice Springs**	**18.32**	**180**	P		**Pn**	**05 21 11.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**31.69**	**208**	P		**P**	**05 23 19.4**	**+0.4**
	comp=Z,6.5nm,0.9s,baz=29,slow=19,SNR=1.7							
CMAR	**Chiang Mai Arr**	**41.85**	**305**	P		**P**	**05 24 45.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=122,slow=6.9,SNR=5.4							
LZH	**Lanzhou**	**49.91**	**328**	*eP*		**P**	**05 25 50.4**	**+1.2**
LZH				pP		sP	05 25 57.5	-2.1
LZH				sP		pwP	05 26 01.2	0.0
HHC	**Hu-ho-hao-te**	**50.28**	**338**	*eP*		**P**	**05 25 51.8**	**-0.1**
HHC				pmax		pmax		
	comp=Z,17nm,0.8s							
HHC				pmax		pmax		
	comp=Z,160nm,6.6s							
WMQ	**Urumqi**	**64.21**	**324**	*eP*		**P**	**05 27 31.9**	**+1.6**
MKAR	**Makanchi Array**	**69.04**	**325**	P		**P**	**05 28 03.1**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=115,slow=8.1,SNR=8.3							
MKAR	**Makanchi Array**	**69.04**	**325**	P		**P**	**05 27 56.9**	**-4.1**
KK02	**Karatay Array**	**74.72**	**317**	P		**P**	**05 28 33.3**	**-1.9**
KK31	**Karatay Array**	**74.72**	**317**	P		**P**	**05 28 32.9**	**-2.3**
KK31				IAmb		IAmb	05 28 38.8	
	comp=Z,2.5nm,1.1s							
KKAR	**Karatay Array**	**74.72**	**317**	P		P	05 28 30.1	-5.1
KK01	**Karatay Array**	**74.73**	**317**	P		**P**	**05 28 31.8**	**-3.5**
KK03	**Karatay Array**	**74.73**	**317**	P		**P**	**05 28 32.8**	**-2.5**
KK08	**Karatay Array**	**74.74**	**317**	P		**P**	**05 28 33.3**	**-2.0**
QSPA	**South Pole Qui**	**84.72**	**180**	P		**P**	**05 29 32.3**	**+3.2**
	comp=Z,1.2nm,0.9s,baz=345,slow=2.3,SNR=5.4							
QSPA	**South Pole Qui**	**84.72**	**180**	P		**P**	**05 29 29.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**132.36**	**283**	PKP		**PKiKP**	**05 36 13.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=74,slow=3.2,SNR=2.8							

*IDC **06** 05:19:20.1±1.8,16.°32S×176.°39W,h340km±20km,mb3.4/6, mb1 3.6/7,mb1mx3.3/40,mbtmp4.0/7,Error ellipse: s-maj=44.2km s-min=16.1km az=139.0*
*NEIC **06** 05:19:22.0±1.3,16.°3S±0.°2×176.°3W±0.°1,h369km±5km, mb4.2/10,Error ellipse: s-maj=28.6km s-min=13.3km az=153.0*
ISC 06 05:19:21.4±0.7,**16.°4S**±0.°2×**176.°2W**±0.°1,**h350**km,**n22,**
σ**1**^{s}**80/22,mb4.1/11,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.93**	**60**	P		**Pn**	**05 20 41.5**	**+1.0**
	3.8nm,0.3s,baz=246,slow=20,SNR=1.9							
AFI				S		**S**	**05 21 43.9**	**-0.3**
	0.6nm,0.3s,baz=267,slow=17,SNR=1.6							
AFI	**Afiamalu**	**4.93**	**60**			**Pn**	**05 20 42.6**	**+2.1**
MSVF	**Nonsavu**	**5.68**	**256**	Pn		**Pn**	**05 20 52.6**	**+3.8**
URZ	**Urewera**	**22.52**	**194**	P		**P**	**05 23 51.5**	**-0.8**
	3.3nm,0.3s,baz=315,slow=5.7,SNR=1.1							
URZ	**Urewera**	**22.52**	**194**			**P**	**05 23 51.5**	**-0.8**
ARMA	**Armidale**	**32.53**	**239**	P		**P**	**05 25 21.0**	**-0.1**
ARMA				IAmb		IAmb	05 25 28.7	
	comp=Z,10nm,1.1s							
WB0	**Warramunga Arr**	**46.98**	**258**	P		P	05 27 16.2	-2.7
WB2	**Warramunga Arr**	**47.01**	**258**	P		P	**05 27 16.7**	**-2.5**
WB2				IAmb		IAmb	05 27 36.5	
	comp=Z,9.7nm,0.7s							
WRAB	**Tennant Creek**	**47.01**	**258**	P		**P**	**05 27 17.1**	**-2.1**
WRAB				IAmb		IAmb	05 27 46.2	
	comp=Z,10.0nm,0.8s							
WRA	**Warramunga Arr**	**47.02**	**258**	P		**P**	**05 27 17.2**	**-2.1**
AS31	**Alice Springs**	**47.26**	**253**	P		**P**	**05 27 19.7**	**-1.4**
ASAR	**Alice Springs**	**47.26**	**253**	P		**P**	**05 27 19.4**	**-1.7**
	comp=Z,3.9nm,0.3s,baz=90,slow=7.6,SNR=19							
ASAR	**Alice Springs**	**47.26**	**253**	P		**P**	**05 27 19.0**	**-2.1**
QSPA	**South Pole Qui**	**73.60**	**180**	P		**P**	**05 30 17.2**	**+0.1**
YBH	**Yreka Blue Hor**	**76.05**	**38**	P		**P**	**05 30 31.9**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=191,slow=10,SNR=3.5							
NVAR	**Mina Array Bea**	**76.89**	**43**	P		**P**	**05 30 36.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=224,slow=9.2,SNR=6.6							
NVAR	**Mina Array Bea**	**76.89**	**43**	P		**P**	**05 30 35.5**	**-0.6**
TXAR	**Lajitas Array**	**83.41**	**57**	P		**P**	**05 31 11.7**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=232,slow=6.8,SNR=3.0							
CCB	**Clear Creek Bu**	**83.70**	**12**	P		**P**	**05 31 09.2**	**-2.0**
CCB				IAmb		IAmb	05 31 09.5	
	comp=Z,2.2nm,0.6s							
IMAR	**Indian Mountai**	**83.89**	**9**	P		**P**	**05 31 10.7**	**-1.5**
IL31		**84.00**	**12**	P		**P**	**05 31 10.9**	**-1.8**
IL31				IAmb		IAmb	05 31 24.9	
	comp=Z,7.9nm,1.4s							
ILAR	**Eielson Array**	**84.00**	**12**	P		**P**	**05 31 10.4**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=218,slow=5.3,SNR=11							

*IDC **06** 05:20:22.1±0.6,5.°17S×133.°83E,h0km,mb4.2/12, mb1 4.3/19,mb1mx4.2/37,mbtmp4.2/19,ML4.0/7,MS3.2/3, Ms1 3.2/3,ms1mx2.8/29,Error ellipse: s-maj=24.5km s-min=12.9km az=76.0*
*NEIC **06** 05:20:25.2±2.2,5.°14S±0.°06×133.°84E±0.°04,h22km±4km, mb4.5/20,Error ellipse: s-maj=9.1km s-min=5.0km az=192.0*
ISC 06 05:20:25.8±0.4,**5.°22S**±0.°05×**133.°80E**±0.°06,**h28**km,**n67,**
σ**1**^{s}**87/71,mb4.4/23,1D,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.75**	**326**	Pn		**Pn**	**05 21 07.1**	**-1.0**
FAKI				Sn		**Sn**	**05 21 36.5**	**-4.0**
SIJI	**Sorong**	**5.00**	**330**	Pn		**Pn**	**05 21 37.9**	**-1.1**
	4.6nm,0.3s,baz=162,slow=16,SNR=10							
SIJI				Sn		**Sn**	**05 22 31.2**	**-4.8**
	12nm,0.3s,baz=199,slow=22,SNR=7.2							
SIJI				LR		LR	05 24 09.0	
	comp=Z,290nm,19.2s,baz=135,slow=46							
JAY	**Jayapura**	**7.40**	**69**	Pn		**Pn**	**05 22 10.5**	**-1.5**
	1.1nm,0.3s,baz=243,slow=15,SNR=3.9							
JAY				Sn		**Sn**	**05 23 30.1**	**-5.0**
	0.8nm,0.3s,baz=203,slow=7.7,SNR=1.4							
MTN	**Manton Dam**	**8.02**	**199**	Pn		**Pn**	**05 22 22.3**	**+1.8**
SOEI	**Soe**	**10.47**	**244**	Pn		**Pn**	**05 22 55.6**	**+1.4**
BATI	**Baumata**	**11.20**	**243**	Pn		**Pn**	**05 23 05.8**	**+1.7**
	4.7nm,0.3s,baz=47,slow=19,SNR=2.1							
BATI				Sn		**Sn**	**05 25 03.8**	**-4.7**
	5.7nm,0.3s,baz=67,slow=15,SNR=1.2							
KNRA	**Kununurra**	**11.51**	**205**	Pn		**Pn**	**05 23 08.8**	**+0.4**
COEN	**Coen**	**12.68**	**134**	Pn		**Pn**	**05 23 24.6**	**+0.2**
PMG	**Port Moresby**	**13.89**	**108**	LR		LR	05 30 24.7	
	comp=Z,138nm,19.4s,baz=324,slow=44							
KAPI	**Kappang**	**13.99**	**270**	LR		LR	05 29 44.6	
	comp=Z,80nm,21.9s,baz=85,slow=40							
WB0	**Warramunga Arr**	**14.48**	**178**	Pn		**Pn**	**05 23 50.2**	**+1.2**
WRAB	**Tennant Creek**	**14.64**	**178**	Pn		**Pn**	**05 23 51.4**	**+0.3**
WRA	**Warramunga Arr**	**14.65**	**178**	Pn		**Pn**	**05 23 49.3**	**-2.0**
	0.4nm,0.3s,baz=354,slow=13,SNR=4.2							
WRA				Sn		Sn	05 26 20.8	-12
	baz=0.1,slow=22,SNR=2.0							
WRA				Lg		Lg	05 28 06.6	
	baz=2.0,slow=29,SNR=1.5							
WRA	**Warramunga Arr**	**14.65**	**178**	Pn		**Pn**	**05 23 49.9**	**-1.3**
WB2	**Warramunga Arr**	**14.65**	**178**	Pn		**Pn**	**05 23 51.0**	**-0.3**
WR0	**Warramunga Arr**	**14.67**	**177**	Pn		**Pn**	**05 23 53.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**15.08**	**211**	Pn		**Pn**	**05 23 55.6**	**-1.5**
	1.4nm,0.3s,baz=7.6,slow=7.9,SNR=7.6							
FITZ				Sn		Sn	05 26 30.2	-13
	0.4nm,0.3s,baz=102,slow=15,SNR=2.9							
FITZ	**Fitzroy Crossi**	**15.08**	**211**	Pn		**Pn**	**05 23 56.9**	**-0.2**
AS31	**Alice Springs**	**18.34**	**180**	P		**Pn**	**05 24 38.8**	**+0.4**
ASAR	**Alice Springs**	**18.34**	**180**	P		**P**	**05 24 37.7**	**-0.5**
	0.8nm,0.3s,baz=1.1,slow=12,SNR=27							
ASAR				S		**Sn**	**05 27 53.4**	**-9.1**
	0.2nm,0.3s,baz=358,slow=28,SNR=2.3							
ASAR	**Alice Springs**	**18.34**	**180**	P		**P**	**05 24 37.2**	**-1.0**
CTA	**Charters Tower**	**19.12**	**142**	P		**Pn**	**05 24 48.8**	**+1.1**
	0.2nm,0.3s,baz=329,slow=8.4,SNR=4.8							
CTA				Lg		Lg	05 30 25.8	
	0.2nm,0.3s,baz=22,slow=18,SNR=2.4							
KSM	**Kuching**	**24.39**	**285**	P		**P**	**05 25 41.4**	**-0.5**
STKA	**Stephens Creek**	**27.51**	**166**	P		**P**	**05 26 11.4**	**+1.4**
	4.0nm,0.9s,baz=328,slow=15,SNR=3.2							
STKA	**Stephens Creek**	**27.51**	**166**	P		**P**	**05 26 11.8**	**+1.8**
BBOO	**Buckleboo**	**27.54**	**176**	P		**P**	**05 26 10.1**	**-0.1**
WHN	**Wuhan**	**40.13**	**334**	↓P		**P**	**05 28 00.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**41.64**	**305**	P		**P**	**05 28 12.7**	**+0.7**
	3.6nm,0.8s,baz=137,slow=7.2,SNR=13							
CMAR				PcP		**PcP**	**05 30 10.3**	**+1.5**
	0.5nm,0.3s,baz=134,slow=3.9,SNR=1.6							
CMAR	**Chiang Mai Arr**	**41.64**	**305**	P		**P**	**05 28 12.1**	**+0.1**
KSRS	**Korea Array**	**42.80**	**353**	P		**P**	**05 28 21.8**	**+0.7**
	2.7nm,0.8s,baz=167,slow=10,SNR=5.4							
USRK	**Ussuriysk Ar.**	**49.22**	**358**	P		**P**	**05 29 11.9**	**+0.4**
	2.3nm,0.8s,baz=206,slow=9.7,SNR=4.7							
USRK	**Ussuriysk Ar.**	**49.22**	**358**	P		**P**	**05 29 11.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**50.17**	**338**	*eP*		**P**	**05 29 19.9**	**+0.8**
HHC				pmax		pmax		
	comp=Z,23nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,6.6s							
GTA	**Gaotai**	**54.36**	**328**	*eP*		**P**	**05 29 52.0**	**+1.7**
GTA				pP		pP	05 29 56.6	-1.3
GTA				sP		sP	05 29 59.4	-1.3
GTA				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SONM	**Songino Array**	**58.06**	**339**	P		**P**	**05 30 16.2**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=126,slow=7.3,SNR=2.4							
SONM	**Songino Array**	**58.06**	**339**	P		**P**	**05 30 15.4**	**-1.1**
WMQ	**Urumqi**	**64.05**	**325**	*eP*		**P**	**05 30 58.6**	**+1.4**
MK31	**Makanchi Array**	**68.88**	**325**	P		**P**	**05 31 28.6**	**+0.6**
MK31				IAmb		IAmb	05 31 29.7	
	comp=Z,4.9nm,1.1s							
MKAR	**Makanchi Array**	**68.88**	**325**	P		**P**	**05 31 28.8**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=115,slow=8.2,SNR=26							
MKAR	**Makanchi Array**	**68.88**	**325**	P		**P**	**05 31 28.4**	**+0.3**
NIL	**Nilore**	**68.98**	**309**	P		**P**	**05 31 30.2**	**+1.3**
NIL				IAmb		IAmb	05 31 30.6	
	comp=Z,4.0nm,0.7s							
MAKZ	**Makanchi**	**69.07**	**325**	P		**P**	**05 31 29.5**	**+0.3**
BOOM	**Boomskoye usch**	**70.66**	**318**	P		**P**	**05 31 39.7**	**+0.5**
BOOM				IAmb		IAmb	05 31 41.3	
	comp=Z,7.1nm,1.2s							
ZALV	**Zalesovo Beam**	**71.73**	**332**	P		**P**	**05 31 44.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=112,slow=4.0,SNR=4.2							
ZALV	**Zalesovo Beam**	**71.73**	**332**	P		**P**	**05 31 44.6**	**-0.6**
KURK	**Kurchatov**	**73.03**	**327**	P		**P**	**05 31 53.8**	**+0.8**
KURK				IAmb		IAmb	05 31 54.3	
	comp=Z,5.1nm,0.8s							
GAR	**Garm**	**73.15**	**313**	P		**P**	**05 31 55.0**	**+0.8**
GAR				IAmb		IAmb	05 31 57.3	
	comp=Z,7.0nm,0.9s							
VNDA	**Vanda**	**73.78**	**174**	P		**P**	**05 31 58.4**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=317,slow=6.6,SNR=7.9							
VNDA	**Vanda**	**73.78**	**174**	P		**P**	**05 31 58.7**	**+1.7**
VNDA				IAmb		IAmb	05 31 59.8	
	comp=Z,4.3nm,1.1s							
KK31	**Karatay Array**	**74.55**	**317**	P		**P**	**05 32 02.7**	**+0.5**
KK31				IAmb		IAmb	05 32 03.8	
	comp=Z,3.8nm,0.9s							
KKAR	**Karatay Array**	**74.55**	**317**	P		**P**	**05 32 02.7**	**+0.5**
KKAR				IAmb		IAmb	05 32 03.9	
	comp=Z,3.8nm,0.9s							
MAW	**Mawson**	**77.99**	**202**	P		**P**	**05 32 22.6**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=50,slow=7.8,SNR=5.3							
MAW	**Mawson**	**77.99**	**202**	P		**P**	**05 32 23.2**	**+2.0**
BRVK	**Borovoye**	**78.69**	**327**	P		**P**	**05 32 25.2**	**-0.1**
BRVK				IAmb		IAmb	05 32 26.6	
	comp=Z,4.8nm,0.9s							
GEYT	**Alibeck**	**81.98**	**309**	P		**P**	**05 32 44.3**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=114,slow=3.6,SNR=5.7							
GEYT	**Alibeck**	**81.98**	**309**	P		**P**	**05 32 43.9**	**+0.5**
ABKAR	**Akbulak array**	**83.50**	**321**	P		**P**	**05 32 49.3**	**-1.7**
ABKAR				IAmb		IAmb	05 32 51.4	
	comp=Z,1.4nm,0.8s							
ABKAR	**Akbulak array**	**83.50**	**321**	P		**P**	**05 32 51.0**	**0.0**
QSPA	**South Pole Qui**	**84.75**	**180**	P		**P**	**05 32 58.1**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=304,slow=1.7,SNR=14							
QSPA	**South Pole Qui**	**84.75**	**180**	P		**P**	**05 32 58.5**	**+1.2**
ILAR	**Eielson Array**	**90.14**	**25**	P		**P**	**05 33 23.8**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=269,slow=6.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**132.13**	**283**	PKP		**PKiKP**	**05 39 39.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=61,slow=1.5,SNR=3.9							
TORD	**Torodi Ar. Bea**	**132.13**	**283**			**PKiKP**	**05 39 38.8**	**-0.3**
LPAZ	**La Paz**	**149.55**	**135**	PKPbc		**PKiKP**	**05 40 15.1**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=151,slow=1.7,SNR=8.5							
LPAZ	**La Paz**	**149.55**	**135**	PKPbc		**PKPbc**	**05 40 14.0**	**-0.4**
ROSC	**El Rosal**	**151.99**	**89**	PKPbc		**PKPbc**	**05 40 19.1**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=182,slow=20,SNR=4.5							
ROSC	**El Rosal**	**151.99**	**89**			**PKPbc**	**05 40 19.0**	**-1.0**

*NEIC **06** 05:20:47.4±1.3,57.°23N±0.°05×154.°54W±0.°07,h28km±8km, Error ellipse: s-maj=8.3km s-min=5.3km az=159.0*
*IDC **06** 05:20:48.4±1.3,57.°50N×154.°76W,h48km±10km,mb3.6/6, mb1 3.9/8,mb1mx3.5/44,mbtmp3.8/8,ML3.3/2,Error ellipse: s-maj=22.5km s-min=13.0km az=161.0*
*AEIC **06** 05:20:48.0±1.7,57.°25N±0.°04×154.°66W±0.°08,h22km±6km, ML3.6,mb4.0/3(NEIC),Error ellipse: s-maj=7.4km s-min=5.0km az=132.0*
ISC 06 05:20:48.4±0.7,**57.°29N**±0.°06×**154.°56W**±0.°05,**h35**km,
n107,σ**1**^{s}**12/114,mb3.9/8,Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.70**	**95**			**Pn**	**05 21 01.3**	**-0.4**
OHAK						**Sn**	**05 21 11.7**	**+0.4**
SII	**Sitkinak Islan**	**0.76**	**164**			**Pn**	**05 21 00.7**	**-2.0**
SII						**Sn**	**05 21 11.5**	**-1.5**
KDAK	**Kodiak Island**	**1.18**	**64**	P		**Pn**	**05 21 08.7**	**+0.3**
	146nm,0.3s,baz=199,slow=3.6,SNR=4041							
KDAK				S		**Sn**	**05 21 24.0**	**+0.9**
	97nm,0.3s,baz=242,slow=9.2,SNR=6.4							
KDAK				LR		LR	05 21 44.7	
	comp=Z,192nm,21.2s,baz=267,slow=47							
KDAK	**Kodiak Island**	**1.18**	**64**			**Pn**	**05 21 08.5**	**+0.1**
CHIR	**Chirikof Islan**	**1.58**	**202**			**Pn**	**05 21 13.7**	**-0.3**
CHGN	**Chignik**	**2.34**	**247**			**Pn**	**05 21 23.4**	**-0.9**
CNPM	**China Poot**	**2.84**	**37**			**Pn**	**05 21 32.6**	**+1.3**
BRLK	**Bradley Lake**	**3.14**	**36**			**Pn**	**05 21 36.1**	**+0.7**
BRSE	**Bradley Lake S**	**3.17**	**38**			**Pn**	**05 21 36.5**	**+0.7**
RSO	**Redoubt South**	**3.32**	**16**			**Pn**	**05 21 39.4**	**+1.4**
RDN	**Redoubt North**	**3.37**	**15**			**Pn**	**05 21 40.8**	**+2.2**
SDPT	**Sand Point**	**3.82**	**242**			**Pn**	**05 21 43.8**	**-0.9**
SDPT	**Sand Point**	**3.82**	**242**			**Sn**	**05 22 28.6**	**+0.2**
SVW2	**Sparrevohn**	**3.85**	**353**			**Pn**	**05 21 46.5**	**+1.3**
SEW	**Seward**	**3.88**	**41**			**Pn**	**05 21 45.3**	**-0.2**
O22K	**Cooper Landing**	**4.07**	**36**			**Pn**	**05 21 48.6**	**+0.5**
RC01	**Rabbit Creek A**	**4.55**	**31**			**Pn**	**05 21 55.3**	**+0.6**
PWL	**Port Wells**	**4.81**	**39**			**Pn**	**05 21 58.2**	**-0.1**
KNK	**Knik Glacier**	**5.18**	**35**			**Pn**	**05 22 03.2**	**-0.2**
HIN	**Hinchinbrook I**	**5.22**	**50**			**Pn**	**05 22 03.5**	**-0.4**
GLI	**Glacier Island**	**5.27**	**44**			**Pn**	**05 22 03.8**	**-0.8**
GHO	**Glory Hole Cre**	**5.33**	**30**			**Pn**	**05 22 05.8**	**+0.3**
FID	**Port Fidalgo**	**5.43**	**47**			**Pn**	**05 22 05.5**	**-1.3**
FALS	**False Pass**	**5.53**	**248**			**Pn**	**05 22 07.4**	**-0.7**
SML	**Sawmill**	**5.53**	**32**			**Pn**	**05 22 08.1**	**-0.1**
JPK	**Jack Peak**	**5.57**	**44**			**Pn**	**05 22 08.3**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.61**	**51**			**Pn**	**05 22 08.6**	**-0.7**
VMT	**TAPS Tl Valdez**	**5.67**	**44**			**Pn**	**05 22 10.1**	**0.0**
TT01	**Tatalina**	**5.68**	**353**			**Pn**	**05 22 10.1**	**-0.2**
TTA	**Tatalina**	**5.71**	**353**	Pn		**Pn**	**05 22 13.9**	**+3.3**
PPLA	**Purkeypile**	**5.75**	**11**	Pn		**Pn**	**05 22 15.4**	**+4.1**
SCM	**Sheep Creek Mo**	**5.85**

s-maj=78.0km s-min=22.6km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.62**	**131**	P	P	05 47 35.0	+0.5
	4.9nm,0.3s,baz=217,slow=22,SNR=4.2						
SIJI				S	S	05 48 38.4	+0.1
	2.2nm,0.3s,baz=224,slow=22,SNR=1.8						
FITZ	**Fitzroy Crossi**	**20.24**	**186**	P	P	05 50 23.9	+1.0
	1.4nm,0.8s,baz=27,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**22.90**	**164**	P	P	05 50 47.0	-0.1
	0.5nm,0.3s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.36**	**167**	P	P	05 51 18.4	+0.3
	0.3nm,0.3s,baz=350,slow=7.0,SNR=8.0						
STKA	**Stephens Creek**	**36.31**	**160**	P	P	05 52 43.0	-1.0
	0.9nm,0.5s,baz=344,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**59.42**	**325**	P	P	05 55 38.3	-0.1
	0.3nm,0.6s,baz=138,slow=6.9,SNR=1.9						

*VIE **06** 06:03:11.8±0.4, 45°.14N×14°.73E, h15km, mb2.5/9, ml3.0/14, Error ellipse: s-maj=3.2km s-min=1.8km az=165.0 34 km SE of Rijeka*
*BEO **06** 06:03:12.8±1.0, 45°.34N×14°.60E, h0km, ML2.8/4*
*LDG **06** 06:03:12.5±0.6, 45°.17N×14°.97E, h2km, Ml3.0/13, Error ellipse: s-maj=15.2km s-min=7.0km az=138.0*
*RHSSO **06** 06:03:13.9±0.5, 45°.19N×14°.70E, h5km, ML2.9/7*

ISC 06 06:03:13.0±0.9, 45°.18N±0°.02×14°.68E±0°.02, h10km±7km, n76, σ1§27/135, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.20**	**316**	*i* Pg	**Pg**	**06 03 17.2**	**0.0**
RIY				Sg	**Sg**	06 03 20.5	+0.4
GBRS	**Gornja Briga**	**0.36**	**14**	*i* Pg	**Pg**	06 03 20.1	-0.1
GBRS				*e*Sg	**Sg**	06 03 25.5	+0.4
	comp=Z,89nm,0.1s						
KNDS	**Knezji Dol**	**0.41**	**329**	*i* Pg	**Pg**	06 03 20.8	-0.2
KNDS				*e*Sg	**Sb**	06 03 28.1	-0.7
	comp=Z,294nm,0.3s						
BOJS	**Bojanci**	**0.52**	**51**	*i* Pg	**Pg**	06 03 22.4	-0.7
BOJS				*e*Sg	**Sg**	06 03 29.6	-0.3
	comp=Z,259nm,0.2s						
CEY	**Cerknica**	**0.59**	**342**	*i* Pg	**Pg**	06 03 24.1	-0.4
CEY				*e*Sg	**Sb**	06 03 34.0	0.0
	comp=Z,94nm,0.1s						
CEY	**Cerknica**	**0.59**	**342**	*e*Pg	**Pg**	06 03 23.8	-0.6
CEY				*e*Sg	**Sb**	06 03 33.1	-0.8
SKDS	**Skadanscina**	**0.60**	**308**	*i* Pg	**Pg**	06 03 24.0	-0.6
SKDS				*i* Sg	**Sg**	06 03 33.8	+1.3
	comp=Z,101nm,0.2s						
NVLJ	**Novalja**	**0.63**	**168**	*e*Pg	**Pg**	06 03 24.3	-0.9
NVLJ				Sg	**Sg**	06 03 33.6	+0.2
VISS	**Visnje**	**0.64**	**10**	*i* Pg	**Pg**	06 03 24.8	-0.5
VISS				*i* Sg	**Sb**	06 03 34.0	-1.3
	comp=Z,73nm,0.1s						
GBAS	**Gorenja Brezov**	**0.78**	**347**	*i* Pg	**Pg**	06 03 27.1	-0.8
GBAS				*e*Sg	**Sb**	06 03 39.7	+0.4
	comp=Z,86nm,0.3s						
JAVS	**Javornik**	**0.84**	**329**	*e*Sg	**Sb**	06 03 41.5	+0.4
	comp=Z,159nm,0.3s						
TRI	**Trieste**	**0.84**	**310**	*e*Pg	**Pg**	06 03 28.7	-0.4
TRI				*e*Sg	**Sb**	06 03 42.0	+1.1
CRES	**Cresnjev**	**0.85**	**40**	*i* Pg	**Pg**	06 03 28.7	-0.7
CRES				*e*Sg	**Sb**	06 03 40.5	-0.8
	comp=Z,89nm,0.2s						
CRES	**Cresnjev**	**0.85**	**40**	*e*Pg	**Pg**	06 03 28.6	-0.7
CRES				*e*Sg	**Sb**	06 03 40.3	-1.0
LJU	**Ljubljana**	**0.87**	**353**	*i* Sg	**Sb**	06 03 42.1	+0.1
	comp=Z,35nm,0.1s						
LJU	**Ljubljana**	**0.87**	**353**	*e*Pg	**Pg**	06 03 29.2	-0.6
LJU				*e*Sg	**Sb**	06 03 42.0	-0.1
LEGS	**Legarje**	**0.89**	**30**	*i* Pg	**Pg**	06 03 29.6	-0.6
PDKS	**Podkum**	**0.91**	**14**	*e*Pg	**Pg**	06 03 29.9	-0.7
PDKS				*e*Sg	**Sn**	06 03 44.3	-0.9
	comp=Z,55nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.92**	**1**	*e*Pg	**Pb**	06 03 30.9	-0.3
	comp=Z,80nm,0.3s						
CESS	**Cesta pri Krsk**	**0.97**	**34**	*i* Pg	**Pn**	06 03 32.3	-0.4
CESS				*i* Sg	**Sb**	06 03 44.5	-0.2
	comp=Z,139nm,0.3s						
UDBI	**Udbina**	**1.01**	**130**	*e*Pg	**Pg**	06 03 31.7	-0.7
UDBI				Sg	**Sb**	06 03 46.5	+0.5
SABO	**M.te Sabotino**	**1.10**	**317**	*e*Pg	**Pg**	06 03 33.5	-0.7
SABO				*e*Sg	**Sn**	06 03 50.8	+0.8
ZAG	**Zagreb**	**1.12**	**54**	Sg	**Sn**	06 03 50.9	+0.5
PTJ	**Puntijarka**	**1.16**	**51**	*e*Pg	**Pn**	06 03 38.3	+2.9
PTJ				Sg	**Sn**	06 03 51.2	-0.2
DUGI	**Dugi Otok**	**1.22**	**167**	*i* Pg	**Pg**	06 03 35.1	-1.2
DUGI				Sg	**Sn**	06 03 53.3	+0.7
DRE	**Drenchia**	**1.23**	**324**	*e*Pg	**Pg**	06 03 36.3	-0.4
DRE				*e*Sg	**Sn**	06 03 55.9	+2.7
GORS	**Gorjuse**	**1.24**	**337**	*i* Pg	**Pb**	06 03 36.7	+0.2
GORS				*e*Sg	**Sn**	06 03 54.3	+1.0
	comp=Z,78nm,0.3s						
CADS	**Cadrg**	**1.24**	**328**	*i* Pg	**Pg**	06 03 36.7	-0.1
CADS				*e*Sg	**Sn**	06 03 54.6	+1.3
	comp=Z,90nm,0.3s						
OBKA	**Obir**	**1.33**	**356**	*e*Pg	**Pb**	06 03 38.3	+0.1
	comp=Z,20nm,0.2s,SNR=33						
OBKA				*e*Sn	**Sn**	06 03 55.8	+0.1
	comp=Z,27nm,0.2s						
MORI	**Morici**	**1.50**	**150**	*e*Pn	**Pg**	06 03 41.4	-0.5
MORI				Sg	**Sg**	06 04 02.4	+1.1
SOKA	**Soboth**	**1.52**	**9**	*e*Pg	**Pg**	06 03 41.6	-0.6
	comp=Z,12nm,0.2s,SNR=12						
SOKA				*e*Sn	**Sn**	06 04 00.4	+0.1
	comp=Z,37nm,0.5s						
MOSL	**Moslavina**	**1.52**	**73**	*i* Pn	**Pg**	06 03 41.9	-0.3
MOSL				Sg	**Sg**	06 04 01.3	-0.7
KALN	**Kalnik**	**1.57**	**52**	*e*Pg	**Pg**	06 03 43.6	+0.6
KALN				Sg	**Sg**	06 04 02.2	-1.1
MYKA	**Terra Mystica**	**1.62**	**334**	*e*Pg	**Pb**	06 03 43.5	+0.3
	comp=Z,13nm,0.3s,SNR=19						
MYKA				*e*Sg	**Sg**	06 04 07.1	+1.9
	comp=Z,45nm,0.4s						
KIJV	**Kijevo**	**1.70**	**133**	*i* Pn	**Pg**	06 03 45.2	-0.4
KIJV				Sn	**Sg**	06 04 08.5	+0.9
BLY	**Banja Luka**	**1.83**	**103**	*e*Pg	**Pb**	06 03 46.3	-0.2
BLY				*e*Sg	**Sg**	06 04 14.1	+2.4
BLY	**Banja Luka**	**1.83**	**103**	*e*Pn	**Pb**	06 03 45.5	-1.0
BLY				*e*Sn	**Sb**	06 04 09.1	-0.4
BEHE	**Becsehely**	**1.95**	**48**	*e*Pn	**Pb**	06 03 47.8	-0.9
BEHE				*e*Sn	**Sb**	06 04 12.0	-1.1
KBA	**Koelnbreinsper**	**2.12**	**334**	*e*Pn	**Pn**	06 03 46.7	-1.9
	comp=Z,1.1nm,0.2s						
KBA				*e*Sn	**Sn**	06 04 13.5	-1.7
	comp=Z,5.3nm,0.3s						
ARSA	**Arzberg**	**2.15**	**15**	*e*Pn	**Pn**	06 03 47.7	-1.3
	comp=Z,11nm,0.4s						
ARSA				*e*Sn	**Sn**	06 04 16.3	+0.5
	comp=Z,6.3nm,0.3s						
ABTA	**Abfaltersbach**	**2.18**	**317**	*e*Pg	**Pb**	06 03 53.1	+0.4
	comp=Z,2.7nm,0.2s						
ABTA				*e*Sn	**Sb**	06 04 20.9	+1.1
	comp=Z,18nm,0.3s						
RICI	**Ricice**	**2.43**	**133**	*i* Pn	**Pb**	06 03 57.1	+0.2
RICI				Sn	**Sg**	06 04 29.8	-1.4
MAKA	**Makarska**	**2.53**	**138**	*e*Pn	**Pb**	06 03 58.3	-0.2
MAKA				Sn	**Sg**	06 04 32.2	-2.0
MOA	**Molln**	**2.69**	**354**	*e*Pn	**Pn**	06 03 55.6	-0.8
MOA				*e*Sg	**Sb**	06 04 32.7	-1.6
CONA	**Conrad Observa**	**2.87**	**16**	*e*Pn	**Pn**	06 03 57.5	-1.5
	comp=Z,0.2nm,0.1s						
CONA				*e*Sn	**Sn**	06 04 32.4	-1.1
	comp=Z,1.2nm,0.2s						
MORH	**Mrgy, Hungar**	**2.96**	**68**	*e*Sn	**Sn**	06 04 36.9	+1.2
WTTA	**Wattenberg**	**2.97**	**316**	*e*Pn	**Pn**	06 03 59.6	-0.8
	comp=Z,0.8nm,0.2s						
WTTA				*e*Sn	**Sn**	06 04 39.8	+3.6
	comp=Z,5.6nm,0.3s						
WATA	**Walderalm**	**3.05**	**316**	*e*Pn	**Pn**	06 04 00.1	-1.4
	comp=Z,1.8nm,0.2s						
WATA				*e*Sn	**Sn**	06 04 38.1	0.0
	comp=Z,5.9nm,0.3s						
SQTA	**Sankt Quirin**	**3.16**	**311**	*e*Pn	**Pn**	06 04 00.4	-2.5
	comp=Z,1.5nm,0.2s						
SQTA				*e*Sn	**Sb**	06 04 45.9	-2.1
	comp=Z,9.2nm,0.4s						
HAPS	**Han Pijesak,Bl**	**3.24**	**108**	*e*Pn	**Pn**	06 04 05.5	+1.5
HAPS				*e*Sn	**Sn**	06 04 43.3	+0.6
MOTA	**Moosalm**	**3.29**	**312**	*e*Pn	**Pn**	06 04 02.2	-2.6
	comp=Z,1.0nm,0.2s						
MOTA				*e*Sn	**Sn**	06 04 44.2	0.0
	comp=Z,7.9nm,0.5s						
FETA	**Feichten**	**3.31**	**305**	*e*Pn	**Pn**	06 04 03.6	-1.4
	comp=Z,0.9nm,0.2s						
FETA				*e*Sn	**Sn**	06 04 45.4	+0.8
	comp=Z,5.3nm,0.5s						
BRY	**Bratogost**	**3.59**	**128**	*e*Pn	**Pn**	06 04 10.0	+1.1
BRY				*e*Sn	**Sn**	06 04 52.4	+0.9
BBLS	**Lazići**	**3.62**	**110**	*e*Pn	**Pn**	06 04 11.6	+2.3
BBLS	**Lazići**	**3.62**	**110**	*e*Pn	**Pn**	06 04 10.3	+1.0
BBLS				*e*Sn	**Sn**	06 04 53.0	+0.9
IVAS	**Ivanjica**	**4.24**	**110**	*e*Pn	**Pn**	06 04 20.1	+2.4
DRME	**Dracevica, Mon**	**4.43**	**131**	*e*Pn	**Pn**	06 04 21.8	+1.5
DRME				*e*Sn	**Sn**	06 05 12.1	+0.2
GRUS	**Gruza**	**4.50**	**105**	*e*Pn	**Pn**	06 04 22.9	+1.6
PGF	**Pioggiola**	**4.88**	**239**	*e*Pn	**Pn**	06 04 26.3	-0.3
SBF	**Sospel**	**5.35**	**258**	*e*Pn	**Pn**	06 04 32.5	-0.5
LPG	**La Plagne**	**5.60**	**276**	*e*Pn	**Pn**	06 04 39.4	+2.8
LPL	**La Plagne**	**5.61**	**276**	*e*Pn	**Pn**	06 04 39.1	+2.3
LPL				*e*Sn	**Sn**	06 05 42.6	+1.2
	comp=Z,2.5nm,0.4s						
MBDF	**Montbardon**	**5.63**	**268**	*e*Pn	**Pn**	06 04 36.6	-0.4
MBDF				*e*Sn	**Sn**	06 05 40.7	-1.1
	comp=Z,6.5nm,0.5s						
HINF	**Hinteralfeld**	**6.01**	**299**	*e*Pn	**Pn**	06 04 42.2	+0.1
CDF	**Champ du Feu**	**6.03**	**305**	*e*Pn	**Pn**	06 04 44.1	+1.8
LMR	**La Mourre**	**6.15**	**255**	*e*Pn	**Pn**	06 04 43.5	-0.4
LMR				*e*Sn	**Sn**	06 05 51.5	-2.9
	comp=Z,1.4nm,0.3s						
CABF	**La Chapelle**	**6.17**	**286**	*e*Pn	**Pn**	06 04 45.7	+1.5
CABF				*e*Sn	**Sn**	06 05 55.1	+0.2
	comp=Z,0.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**6.24**	**271**	*e*Pn	**Pn**	06 04 47.6	+2.3
ORIF				*e*Sn	**Sn**	06 05 54.8	-1.9
	comp=Z,4.7nm,0.5s						
HAU	**Haudompre**	**6.40**	**299**	*e*Pn	**Pn**	06 04 49.4	+2.0
VIVF	**Saint-Julien-l**	**7.10**	**271**	*e*Pn	**Pn**	06 04 57.3	+0.3
VIVF				*e*Sn	**Sn**	06 06 16.9	-0.9
	comp=Z,1.8nm,0.3s						
SMF	**Signal de Mont**	**7.70**	**285**	*e*Pn	**Pn**	06 05 06.3	+1.1
SMF				*e*Sn	**Sn**	06 06 28.7	-3.9
	comp=Z,4.5nm,0.5s						
LOR	**Lormes**	**7.79**	**289**	*e*Pn	**Pn**	06 05 07.3	+0.8
	baz=110						
LOR				*e*Sn	**Sn**	06 06 33.9	-0.9
	comp=Z,2.4nm,0.5s						
LASF	**Ste Croix**	**7.80**	**266**	*e*Pn	**Pn**	06 05 08.0	+1.4
LASF				*e*Sn	**Sn**	06 06 32.7	-2.3
	comp=Z,0.7nm,0.4s						
SSF	**Saint Saulge**	**7.99**	**288**	*e*Pn	**Pn**	06 05 10.4	+1.2
SSF				*e*Sn	**Sn**	06 06 38.0	-1.6
	comp=Z,2.3nm,0.5s						
AVF	**Avril sur Loir**	**8.05**	**286**	*e*Pn	**Pn**	06 05 10.6	+0.6
RJF	**Les Rejaudoux**	**9.29**	**275**	*e*Sn	**Sn**	06 07 11.4	-0.2
	comp=Z,1.3nm,0.2s						

*IDC **06** 06:11:28.7±0.8, 19°.36S×67°.34W, h200km±12km, mb3.5/3, mb1 3.4/6, mb1mx3.2/25, mbtmp3.9/6, Error ellipse: s-maj=21.9km s-min=8.5km az=104.0*

ISC 06 06:11:29.4±1.0, 19°.37S±0°.06×67°.33W±0°.09, h211km, n6, σ1§40/9, mb3.6/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.16**	**346**	P	**Pn**	06 12 22.6	+0.4
	1.6nm,0.3s,baz=164,slow=8.0,SNR=50						
LPAZ				S	**S**	06 13 01.4	-1.6
	0.8nm,0.3s,baz=229,slow=19,SNR=14						
LVC	**Limon Verde**	**3.55**	**204**	P	**Pn**	06 12 26.7	+0.2
	1.9nm,0.3s,baz=28,slow=9.8,SNR=19						
LVC				S	**S**	06 13 09.1	-1.8
	2.9nm,0.3s,baz=307,slow=20,SNR=19						
SIV	**San Ignacio**	**6.84**	**62**	P	**Pn**	06 13 07.7	-0.1
	1.4nm,0.3s,baz=263,slow=9.3,SNR=76						
SIV				S	**S**	06 14 24.5	-1.4
	baz=238,slow=9.5,SNR=3.7						
PLCA	**Paso Flores**	**21.47**	**187**	P	**P**	06 16 02.8	+1.2
	1.7nm,0.9s,baz=358,slow=12,SNR=3.6						
RCBR	**Riachuelo**	**33.41**	**70**	P	**P**	06 17 49.9	+1.4
	9.9nm,0.9s,baz=187,slow=8.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**75.24**	**70**	P	**P**	06 22 49.2	-0.4
	0.5nm,0.4s,baz=253,slow=4.8,SNR=15						

*IDC **06** 06:27:00.4±2.9, 4°.56S×153°.25E, h58km±23km, mb3.8/6, mb1 4.0/6, mb1mx3.7/43, mbtmp4.1/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/31, Error ellipse: s-maj=26.3km s-min=22.6km az=68.0*

ISC 06 06:26:59.6±1.0, 4°.6S±0°.2×153°.3E±0°.1, h50km, n10, σ0§95/10, mb3.8/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.29**	**281**	P	**Pn**	06 27 22.5	+1.2
	89nm,0.3s,baz=117,slow=2.3,SNR=41						
KRVT				S	**Sn**	06 27 37.4	0.0
	243nm,0.3s,baz=150,slow=20,SNR=11						
PMG	**Port Moresby**	**7.76**	**231**	LR	LR	06 31 57.7	
	comp=Z,78nm,18.0s,baz=94,slow=38						
HNR	**Honiara**	**8.19**	**127**	LR	LR	06 32 14.9	
	comp=Z,146nm,20.2s,baz=278,slow=38						
DZM	**Mont Dzumac**	**21.57**	**145**	P	**P**	06 31 46.4	+1.1
	4.6nm,0.6s,baz=323,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**23.97**	**229**	P	**P**	06 32 09.2	-0.4
	3.4nm,0.6s,baz=51,slow=10.0,SNR=55						
WRA				PcP	**PcP**	06 35 51.9	+0.9
	0.4nm,0.9s,baz=52,slow=2.3,SNR=1.3						
ASAR	**Alice Springs**	**26.66**	**223**	P	**P**	06 32 33.5	-0.5
	0.4nm,0.4s,baz=56,slow=8.7,SNR=6.6						
FITZ	**Fitzroy Crossi**	**30.20**	**241**	P	**P**	06 33 04.3	-1.3
	1.4nm,0.3s,baz=47,slow=8.5,SNR=28						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	06 39 06.0	-0.3
	0.4nm,0.5s,baz=114,slow=6.6,SNR=5.9						
ILAR	**Eielson Array**	**81.75**	**22**	P	**P**	06 39 12.3	-0.4
	0.4nm,0.6s,baz=250,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**150.70**	**289**	PKPbc	**PKPbc**	06 46 46.8	-0.5
	1.0nm,0.3s,baz=71,slow=2.2,SNR=20						

*IDC **06** 06:32:29.9±2.3, 14°.45S×177°.91W, h336km±24km, mb3.3/9, mb1 3.6/10, mb1mx3.4/44, mbtmp4.0/10, Error ellipse: s-maj=38.4km s-min=13.2km az=154.0*
*NEIC **06** 06:32:33.8±1.2, 14°.8S±0°.2×177°.8W±0°.2, h381km±7km, mb4.0/9, Error ellipse: s-maj=30.7km s-min=18.1km az=146.0*

ISC 06 06:32:30.6±0.6, 14°.7S±0°.2×177°.8W±0°.1, h350km, n29, σ0§92/29, mb3.8/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.01**	**232**		Pn	06 33 54.5	+4.0
AFI	**Afiamalu**	**5.89**	**83**	P	**Pn**	06 33 59.5	-0.8
	3.8nm,0.3s,baz=32,slow=3.4,SNR=4.7						
KRVT	**Keravat (AS076**	**31.45**	**286**	P	**P**	06 38 19.1	-1.9
	112nm,0.5s,baz=49,slow=8.1,SNR=5.3						
STKA	**Stephens Creek**	**40.76**	**238**	P	**P**	06 39 41.2	+2.2
	2.3nm,0.7s,baz=77,slow=9.9,SNR=3.0						
WR0	**Warramunga Arr**	**45.69**	**256**	P	**P**	06 40 17.6	-0.6
WR0				IAmb	IAmb	06 40 31.7	
	comp=Z,8.3nm,1.3s						
WB0	**Warramunga Arr**	**45.83**	**257**	P	**P**	06 40 18.2	-1.1
WB2	**Warramunga Arr**	**45.86**	**256**	P	**P**	06 40 18.7	-0.9
WRA	**Warramunga Arr**	**45.88**	**256**	P	**P**	06 40 19.1	-0.5
	comp=Z,1.3nm,0.7s,baz=88,slow=8.4,SNR=30						
WRA				PcP	**PcP**	06 41 50.6	+0.2
	comp=Z,0.5nm,0.7s,baz=94,slow=3.7,SNR=3.8						
WRA	**Warramunga Arr**	**45.88**	**256**	P	**P**	06 40 19.2	-0.5
AS31	**Alice Springs**	**46.30**	**251**	P	**P**	06 40 23.2	+0.3
ASAR	**Alice Springs**	**46.30**	**251**	P	**P**	06 40 23.1	+0.1
	comp=Z,7.5nm,0.4s,baz=84,slow=8.4,SNR=117						
ASAR				PcP	**PcP**	06 41 51.9	+0.1
	comp=Z,0.5nm,0.4s,baz=97,slow=4.0,SNR=2.9						
ASAR	**Alice Springs**	**46.30**	**251**	P	**P**	06 40 22.7	-0.2
MTN	**Manton Dam**	**49.55**	**266**	P	**P**	06 40 48.2	+0.5
FITZ	**Fitzroy Crossi**	**54.20**	**258**	P	**P**	06 41 29.1	+0.3
	comp=Z,1.4nm,0.8s,baz=92,slow=2.6,SNR=6.1						
FITZ	**Fitzroy Crossi**	**54.20**	**258**	P	**P**	06 41 21.7	+0.2
FITZ				IAmb	IAmb	06 41 35.7	
	comp=Z,11nm,1.6s						
CASY	**Casey**	**69.30**	**204**	P	**P**	06 43 00.3	-0.2
CASY				IAmb	IAmb	06 43 00.8	
	comp=Z,3.9nm,1.0s						
PETK	**Petropavlovsk-**	**70.73**	**345**	P	**P**	06 43 10.3	+1.0
	comp=Z,3.4nm,0.8s,baz=145,slow=5.3,SNR=2.5						
QSPA	**South Pole Qui**	**75.35**	**180**	P	**P**	06 43 35.6	-0.6
QSPA				IAmb	IAmb	06 43 42.1	
	comp=Z,5.3nm,1.4s						
NVAR	**Mina Array Bea**	**76.71**	**44**	P	**P**	06 43 45.3	+0.9
	comp=Z,0.3nm,0.8s,baz=221,slow=9.5,SNR=2.4						
ILAR	**Eielson Array**	**82.63**	**13**	P	**P**	06 44 14.2	-0.8
	comp=Z,1.0nm,0.6s,baz=219,slow=5.4,SNR=10						
ILAR	**Eielson Array**	**82.63**	**13**	P	**P**	06 44 15.6	+0.6
TXAR	**Lajitas Array**	**83.78**	**58**	P	**P**	06 44 22.9	+1.1
	comp=Z,0.7nm,0.7s,baz=211,slow=5.6,SNR=8.0						
PDAR	**Pinedale Array**	**84.62**	**43**	P	**P**	06 44 25.6	-0.3
	comp=Z,0.1nm,0.4s,baz=236,slow=6.4,SNR=2.1						
ARCES	**ARCESS Array B**	**123.26**	**350**	PKP	**PKPdf**	06 50 44.8	-0.9
	comp=Z,2.2nm,1.0s,baz=14,slow=1.5,SNR=5.6						
BRTR	**Keskin Array B**	**142.86**	**318**	PKP		06 51 21.2	
	comp=Z,1.2nm,0.8s,baz=90,slow=3.7,SNR=4.9						
ASF	**Jabal al Asfar**	**143.93**	**305**	PKP	**PKPab**	06 51 24.2	+0.6
	comp=Z,1.5nm,0.7s,baz=30,slow=5.7,SNR=4.5						
GERES	**GERESS Array B**	**144.64**	**347**	PKP	**PKPdf**	06 51 24.4	-1.7
	comp=Z,0.5nm,0.3s,baz=352,slow=2.7,SNR=4.0						
MMAI	**Mount Meron Ar**	**144.78**	**307**	PKP	**PKPab**	06 51 28.0	+1.1
	comp=Z,2.0nm,0.5s,baz=75,slow=4.4,SNR=4.5						
DAVOX	**Davos/Dischmat**	**147.36**	**350**	PKPbc	**PKPbc**	06 51 34.2	+0.3
	comp=Z,1.0nm,0.3s,baz=321,slow=13,SNR=2.0						

*IDC **06** 06:33:57.3±1.3, 27°.27N×129°.98E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/63, mbtmp3.8/10, ML3.7/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/35, Error ellipse: s-maj=63.9km s-min=18.0km az=70.0*
*NEIC **06** 06:33:59.0±2.3, 27°.28N±0°.05×130°.2E±0°.1, h23km±6km, mb4.5/11, Error ellipse: s-maj=18.6km s-min=4.9km az=73.0*
*JMA **06** 06:33:59.7±0.1, 27°.30N×130°.09E, h54km, M3.6*

ISC 06 06:33:58.2±4.2, 27°.32N±0°.03×130°.13E±0°.03, h14km±27km, n53, σ1§35/69, mb3.9/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.00**	**352**	P	**Pn**	06 34 18.7	+0.8
JTK	**Tokunoshima**	**1.14**	**294**	P	**Pn**	06 34 19.6	-0.2
JTK				*e*S	**Sb**	06 34 33.2	-1.3
JAM	**Amami Oshima**	**1.19**	**337**	P	**Pn**	06 34 20.2	-0.2
JAM				*e*S	**Sb**	06 34 34.8	-0.9
JAMN	**Amaminishikomi**	**1.25**	**318**	P	**Pn**	06 34 20.9	-0.4
JAMN				*e*S	**Sb**	06 34 36.2	-1.4
JOKE	**Okinoerabujima**	**1.38**	**272**	P	**Pn**	06 34 23.0	-0.2
JOKE				*e*S	**Sn**	06 34 40.0	-1.3
JYRO	**Yoronjima**	**1.52**	**259**	P	**Pn**	06 34 24.8	-0.2
JYRO				*e*S	**Sn**	06 34 41.9	-2.7
JKDJ	**Kitadaitoujima**	**1.72**	**142**	P	**Pn**	06 34 27.5	-0.2
JKDJ				*e*S	**Sn**	06 34 47.4	-2.1
JOW	**Kunigami**	**1.72**	**254**	P	**Pn**	06 34 27.7	-0.1
JOW				*e*S	**Sn**	06 34 48.2	-1.4
JMZ	**Minamidaito 2**	**1.78**	**146**	P	**Pn**	06 34 28.2	-0.4
JMZ				*e*S	**Sn**	06 34 49.0	-2.1
JMZ	**Minamidaito 2**	**1.78**	**146**	Pn	**Pn**	06 34 28.0	-0.7
JMZ				Sn	**Sn**	06 34 48.8	-2.3
JIH	**Iheya**	**1.94**	**262**	P	**Pn**	06 34 30.8	0.0
JIH				*e*S	**Sn**	06 34 53.6	-1.4
JTAJ	**Takarajima**	**2.00**	**336**	P	**Pn**	06 34 31.3	-0.4
JTAJ				*e*S	**Sn**	06 34 54.2	-2.4
JNTH	**Nagotoyohara**	**2.04**	**248**	P	**Pn**	06 34 32.1	0.0
JNTH				*e*S	**Sn**	06 34 55.7	-1.7
JJT3	**Tamagusuku3**	**2.40**	**241**	P	**Pn**	06 34 37.7	+0.6
JJT3				*e*S	**Sn**	06 35 05.3

JIKH	**Ishinomakikobu**	**0.39**	**274**	P		**Pn**	**06 38 09.5**	**-0.9**
JIKH				S		**Sn**	**06 38 15.6**	**-1.9**
JIO	**Ouri**	**0.51**	**289**	P		**Pn**	**06 38 10.9**	**-0.8**
JIO				S		**Sn**	**06 38 18.1**	**-1.8**
JKMT	**Kesennumamotoy**	**0.65**	**324**	P		**Pn**	**06 38 12.8**	**-0.7**
JKMT				S		**Sn**	**06 38 21.3**	**-1.6**
OFUJ	**Ofunato**	**0.83**	**344**	P		**Pn**	**06 38 15.2**	**-0.6**
OFUJ				S		**Sn**	**06 38 25.5**	**-1.5**
JMK	**Ichinoseki**	**0.89**	**319**	P		**Pn**	**06 38 16.1**	**-0.5**
JMK				S		**Sn**	**06 38 27.3**	**-1.1**
JMM	**Marumori**	**1.01**	**246**	P		**Pn**	**06 38 17.2**	**-1.1**
JMM	**Marumori**	**1.01**	**246**			**Pn**	**06 38 17.3**	**-1.1**
JOU	**Okura**	**1.03**	**275**	P		**Pn**	**06 38 17.9**	**-0.6**
JOU				S		**Sn**	**06 38 30.8**	**-1.0**
JFK	**Kawauchi**	**1.26**	**224**	P		**Pn**	**06 38 20.7**	**-0.9**
JOM	**Ohasama**	**1.30**	**336**	P		**Pn**	**06 38 21.9**	**-0.2**
JYK	**Kaneyama**	**1.41**	**297**	P		**Pn**	**06 38 23.2**	**-0.4**
JYS	**Shirataka**	**1.50**	**268**	P		**Pn**	**06 38 24.6**	**-0.3**
JYS				*e*S		**Sn**	**06 38 42.6**	**-0.6**
JFT	**Otama**	**1.50**	**240**	P		**Pn**	**06 38 24.7**	**-0.2**
JFT				*e*S		**Sn**	**06 38 42.9**	**-0.4**
JRG	**Rokugo**	**1.52**	**317**	P		**Pn**	**06 38 25.0**	**-0.2**
JYT	**Yasato**	**2.49**	**215**	Pn		**Pn**	**06 38 37.5**	**-0.9**
JTM	**Tenmabayashi**	**2.59**	**345**	Pn		**Pn**	**06 38 40.3**	**+0.4**
JSD	**Sado**	**2.93**	**266**	Pn		**Pn**	**06 38 44.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.46**	**241**	P		**Pn**	**06 38 52.9**	**+1.1**
	3.0nm,0.3s,baz=62,slow=10,SNR=51							
MJAR	**Matsushiro Arr**	**3.46**	**241**	Pn		**Pn**	**06 38 51.7**	**0.0**
MAJO	**Matsushiro**	**3.46**	**241**	Pn		**Pn**	**06 38 52.8**	**+1.0**
MAT	**Matsushiro**	**3.46**	**241**	P		**Pn**	**06 38 52.7**	**+0.9**
MAT				*e*S		**Sn**	**06 39 36.2**	**+4.7**
MJB9	**Matsu-Tunnel**	**3.46**	**241**			**Pn**	**06 38 52.6**	**+0.8**
ERM	**Erimo**	**3.84**	**13**	Pn		**Pn**	**06 38 57.1**	**+0.2**
JEM	**Erimo**	**3.84**	**13**	Pn		Sn	06 39 23.6	-17
JGF	**Kuroka**	**4.56**	**235**	Pn		**Pn**	**06 39 07.2**	**+0.4**
JEW	**Eniwo**	**4.57**	**355**	Pn		**Pn**	**06 39 06.2**	**-0.8**
JSG	**Sagara**	**4.72**	**221**	Pn		**Pn**	**06 39 07.7**	**-1.3**
INU	**Inuyama**	**4.93**	**235**	Pn		**Pn**	**06 39 11.8**	**-0.2**
JHJ	**Hachijo jima 2**	**5.45**	**200**	P		**Pn**	**06 39 18.9**	**-0.2**
	33nm,0.3s,baz=39,slow=17,SNR=1.9							
JHJ				S		**Sn**	**06 40 15.7**	**-4.8**
	130nm,0.3s,baz=112,slow=22,SNR=6.3							
ASAJ	**Asahikawa**	**5.85**	**4**	P		**Pn**	**06 39 23.9**	**-0.5**
	5.8nm,0.3s,baz=238,slow=11,SNR=5.2							
ASAJ				S		**Sn**	**06 40 30.0**	**-0.1**
	4.2nm,0.3s,baz=218,slow=19,SNR=1.4							
ASAJ				LR		LR	06 41 44.1	
	comp=Z,116nm,19.1s,baz=26,slow=38							
JKA	**Kamikawa-asahi**	**5.85**	**4**	Pn		**Pn**	**06 39 23.9**	**-0.5**
JKA	**Kamikawa-asahi**	**5.85**	**4**			**Sn**	**06 40 30.0**	**-0.1**
JWT	**Wachi**	**6.06**	**242**	Pn		**Pn**	**06 39 30.7**	**+3.3**
USA0B	**Ussuriysk Arra**	**9.55**	**311**			**Pn**	**06 40 17.7**	**+2.5**
USRK	**Ussuriysk Ar.**	**9.55**	**311**	P		**Pn**	**06 40 15.9**	**+0.7**
	baz=121,slow=14,SNR=18							
USRK	**Ussuriysk Ar.**	**9.55**	**311**			**Pn**	**06 40 16.9**	**+1.7**
JNU	**Nakatsue**	**10.38**	**244**	P		**Pn**	**06 40 28.7**	**+2.1**
	0.4nm,0.3s,baz=33,slow=13,SNR=2.5							
JNU				LR		LR	06 44 40.1	
	comp=Z,177nm,21.1s,baz=84,slow=38							
KSRS	**Korea Array**	**11.13**	**270**	P		**Pn**	**06 40 38.9**	**+2.1**
	0.6nm,0.3s,baz=78,slow=14,SNR=2.4							
KSRS				LR		LR	06 44 44.7	
	comp=Z,55nm,18.4s,baz=70,slow=36							
NJ2	**Nanjing**	**19.87**	**259**	*e*P		**Pn**	**06 42 29.2**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,15nm,0.5s							
MA2	**Magadan**	**22.04**	**12**	LR		LR	06 50 54.1	
	comp=Z,36nm,20.0s,baz=229,slow=35							
HHC	**Hu-ho-hao-te**	**23.52**	**286**	*e*P		**P**	**06 43 07.6**	**+1.5**
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,100nm,5.7s							
XAN	**Xi'an**	**26.93**	**271**	P		**P**	**06 43 36.6**	**-0.5**
XAN				pP		pP	06 43 46.0	-3.7
XAN				S		**S**	**06 48 08.2**	**-2.5**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
XAN				pmax		pmax		
	comp=Z,180nm,5.4s							
XAN				LR		LR		
	comp=N,300nm,8.6s							
XAN				LR		LR		
	comp=E,340nm,7.5s							
XAN				LR		LR		
	comp=Z,330nm,7.6s							
SONM	**Songino Array**	**27.47**	**302**	P		**P**	**06 43 42.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=122,slow=8.7,SNR=3.2							
SONM	**Songino Array**	**27.47**	**302**	IAmb		IAmb	06 43 46.7	
	comp=Z,0.9nm,0.8s							
ENH	**Enshi**	**27.90**	**263**	P		**P**	**06 43 45.8**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.44**	**124**	T		T	07 14 06.4	
	baz=316,slow=75,SNR=1301							
H11N1	**WAKE ISLAND Hy**	**28.45**	**124**	T		T	07 14 07.5	
	baz=316,slow=75,SNR=1668							
H11N3	**WAKE ISLAND Hy**	**28.46**	**124**	T		T	07 14 06.4	
	baz=316,slow=75,SNR=1858							
H11S1	**WAKE ISLAND Hy**	**29.20**	**126**	T		T	07 15 00.9	
	baz=318,slow=76,SNR=965							
H11S3	**WAKE ISLAND Hy**	**29.20**	**126**	T		T	07 14 59.7	
	baz=318,slow=76,SNR=1119							
H11S2	**WAKE ISLAND Hy**	**29.21**	**126**	T		T	07 15 02.0	
	baz=318,slow=76,SNR=1074							
LZH	**Lanzhou**	**30.31**	**278**	*e*P		**P**	**06 44 10.9**	**+3.6**
LZH				pP		pP	06 44 17.1	-2.9
LZH				sP		sP	06 44 22.7	-3.1
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
CD2	**Chengdu**	**32.13**	**268**	*e*P		**P**	**06 44 23.5**	**+0.3**
KMI	**Kunming**	**35.60**	**260**	↑P		**P**	**06 44 53.3**	**-0.2**
KMI				pmax		pmax		
	comp=Z,18nm,0.9s							
WMQ	**Urumqi**	**40.68**	**296**	*e*P		**P**	**06 45 38.6**	**+2.6**
ZALV	**Zalesovo Beam**	**41.41**	**311**	P		**P**	**06 45 41.6**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=83,slow=8.0,SNR=5.6							
CMAR	**Chiang Mai Arr**	**42.25**	**254**	P		**P**	**06 45 48.6**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=43,slow=6.1,SNR=4.1							
MK31	**Makanchi Array**	**43.84**	**301**	P		**P**	**06 46 00.8**	**-0.8**
MKAR	**Makanchi Array**	**43.84**	**301**	P		**P**	**06 46 01.5**	**0.0**
	comp=Z,1.5nm,0.6s,baz=88,slow=9.8,SNR=14							
MKAR	**Makanchi Array**	**43.84**	**301**	P		**P**	**06 46 01.8**	**+0.2**
KURK	**Kurchatov**	**45.52**	**307**	P		**P**	**06 46 14.5**	**-0.3**
KURK				IAmb		IAmb	06 46 15.4	
	comp=Z,8.5nm,0.9s							
KURBB	**Kurchatov Arra**	**45.59**	**307**	P		**P**	**06 46 15.2**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=82,slow=8.2,SNR=38							
ILAR	**Eielson Array**	**48.21**	**33**	P		**P**	**06 46 35.4**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=278,slow=6.3,SNR=3.0							
ILAR				pP		**pP**	**06 46 48.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=268,slow=6.2,SNR=4.9							
KKAR	**Karatay Array**	**52.88**	**299**	P		**P**	**06 47 11.2**	**-0.1**
CHGR	**Chuyangaron**	**55.53**	**295**	P		**P**	**06 47 30.9**	**+0.2**
CHGR				IAmb		IAmb	06 47 34.6	
	comp=Z,6.8nm,0.9s							
ARU	**Arti**	**55.72**	**318**	P		**P**	**06 47 31.6**	**0.0**
	comp=Z,2.9nm,0.2s,baz=19,slow=14,SNR=3.6							
ARU	**Arti**	**55.72**	**318**	IAmb		IAmb	06 47 33.1	
	comp=Z,5.7nm,1.0s							
ABKAR	**Akbulak array**	**57.47**	**310**	P		**P**	**06 47 44.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**58.14**	**198**	P		**P**	**06 47 47.4**	**-1.6**
FITZ				IAmb		IAmb	06 48 11.9	
	comp=Z,3.8nm,1.1s							
WB0	**Warramunga Arr**	**58.18**	**188**	P		**P**	**06 47 48.8**	**-0.5**
WB0				IAmb		IAmb	06 48 13.4	
	comp=Z,6.4nm,1.2s							
WR0	**Warramunga Arr**	**58.35**	**188**	P		**P**	**06 47 50.6**	**+0.1**
WR0				IAmb		IAmb	06 47 51.1	
	comp=Z,4.2nm,0.9s							
WB2	**Warramunga Arr**	**58.36**	**188**	P		**P**	**06 47 49.8**	**-0.8**
WB2				IAmb		IAmb	06 47 50.9	
	comp=Z,8.3nm,1.4s							
WRA	**Warramunga Arr**	**58.36**	**188**	P		**P**	**06 47 50.5**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=6.0,slow=7.2,SNR=37							
WRA				pP		**pP**	**06 48 04.6**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=4.0,slow=7.5,SNR=4.5							
WRA	**Warramunga Arr**	**58.36**	**188**	IAmb		IAmb	06 47 51.2	
	comp=Z,0.2nm,0.8s							
RES	**Resolute Bay**	**61.28**	**15**	P		**P**	**06 48 09.7**	**-0.3**
ASAR	**Alice Springs**	**62.09**	**188**	P		**P**	**06 48 16.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=3.8,slow=5.1,SNR=16							
ARCES	**ARCESS Array B**	**62.98**	**339**	P		**P**	**06 48 22.1**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=64,slow=5.5,SNR=5.6							
GEYT	**Alibeck**	**63.62**	**299**	LR		LR	07 17 26.2	
	comp=Z,50nm,18.1s,baz=185,slow=37							
FINES	**FINESS Array B**	**67.91**	**332**	P		**P**	**06 48 53.0**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=32,slow=11,SNR=4.2							
FINES	**FINESS Array B**	**67.91**	**332**	P		**P**	**06 48 52.4**	**-1.1**
HFS	**Hagfors**	**73.13**	**336**	P		**P**	**06 49 24.3**	**-1.0**
	comp=Z,7.4nm,1.1s,baz=54,slow=7.3,SNR=2.8							
NOA	**NORSAR Array B**	**73.20**	**337**	P		**P**	**06 49 26.0**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=38,slow=6.3,SNR=3.4							
AKASG	**Malin Array Be**	**73.58**	**322**	P		**P**	**06 49 27.7**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=46,slow=6.2,SNR=6.0							
NVAR	**Mina Array Bea**	**73.89**	**54**	P		**P**	**06 49 30.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=321,slow=7.0,SNR=1.8							
NVAR				pP		**PcP**	**06 49 45.0**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=288,slow=5.5,SNR=7.2							
PDAR	**Pinedale Array**	**76.48**	**46**	P		**P**	**06 49 45.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=2.1							
PDAR				pP		**pP**	**06 50 00.5**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=279,slow=1.6,SNR=13							
BRTR	**Keskin Array B**	**78.35**	**312**	P		**P**	**06 49 55.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=54,slow=2.2,SNR=2.0							
VRAC	**Vranov**	**80.31**	**327**	P		**P**	**06 50 04.9**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=65,slow=17,SNR=1.7							
TXAR	**Lajitas Array**	**89.01**	**53**	P		**P**	**06 50 50.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=284,slow=3.6,SNR=1.6							
TXAR				pP		**pP**	**06 51 05.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=293,slow=3.4,SNR=7.9							

NNC ***06*** *07:23:45.8±0.5,50.02°N×78.80°E,h0km,mb3.1,mpv3.0,*
Error ellipse: s-maj=13.0km s-min=2.3km az=71.0,
Suspected Mining explosion.
ASRS ***06*** *07:23:52.2±0.5,50.07°N±2°×78.99°E±°,h10km,MLh3.7/13,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/tab confirmed

ISC 06 07:23:46.5±1.2,49.95°N±0.05°×78.69°E±0.05°,h0km,n22,
σ1s79/53,18C-7D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.65**	**350**	↑P		**Pg**	**07 23 57.4**	**-1.4**
KUR07				↑S		**Sg**	**07 24 05.6**	**-1.6**
KUR06	**Kurchatov Arra**	**0.66**	**351**	↑P		**Pg**	**07 23 57.8**	**-1.5**
KUR06				↓S		**Sg**	**07 24 06.2**	**-1.7**
KUR14	**Kurchatov Arra**	**0.67**	**355**	↑P		**Pg**	**07 23 57.7**	**-1.7**
KUR14				↑S		**Sg**	**07 24 06.0**	**-2.1**
KUR15	**Kurchatov Arra**	**0.68**	**353**	↑P		**Pg**	**07 23 57.8**	**-1.7**
KUR15				↑S		**Sg**	**07 24 06.2**	**-2.1**
KURBB	**Kurchatov Arra**	**0.68**	**352**	↑P		**Pg**	**07 23 58.2**	**-1.5**
	42nm,0.3s							
KURBB				↑S		**Sg**	**07 24 07.0**	**-1.5**
	107nm,0.6s							
KUR16	**Kurchatov Arra**	**0.69**	**350**	↑P		**Pg**	**07 23 58.2**	**-1.6**
KUR16				↑S		**Sg**	**07 24 06.6**	**-2.1**
KUR17	**Kurchatov Arra**	**0.70**	**349**	↓P		**Pg**	**07 23 58.5**	**-1.4**
KUR17				↑S		**Sg**	**07 24 07.4**	**-1.6**
KUR05	**Kurchatov Arra**	**0.70**	**352**	↓P		**Pg**	**07 23 58.3**	**-1.7**
KUR05				↑S		**Sg**	**07 24 06.9**	**-2.2**
KUR04	**Kurchatov Arra**	**0.72**	**353**	↑P		**Pg**	**07 23 58.7**	**-1.6**
KUR04				↑S		**Sg**	**07 24 07.6**	**-2.1**
KURK	**Kurchatov**	**0.77**	**357**	↑P		**Pg**	**07 23 59.3**	**-2.0**
	22nm,0.4s							
KURK				↓S		**Sg**	**07 24 09.5**	**-1.7**
	15nm,0.6s							
MAKZ	**Makanchi**	**3.83**	**144**	↓Pg		**Pb**	**07 24 54.5**	**-0.5**
	1.9nm,0.5s							
MAKZ				↓Lg		Lg	07 25 45.7	
	11nm,0.5s							
MK31	**Makanchi Array**	**3.97**	**141**	↑Pn		**Pn**	**07 24 50.3**	**+1.7**
	0.2nm,0.2s,baz=322,slow=10.0,SNR=28							
MK31				↑Pg		**Pb**	**07 24 58.6**	**+1.3**
	0.4nm,0.2s,baz=307,slow=12,SNR=9.0							
MK31				↓Lg		Lg	07 25 50.4	
	5.5nm,0.4s,baz=336,slow=27,SNR=5.9							
UKR	**Ust'-Kan**	**4.01**	**73**	Pn		**Pn**	**07 24 49.6**	**+0.3**
UKR				Pg		**Pb**	**07 25 00.3**	**+2.2**
UKR				S		**Sn**	**07 25 35.3**	**-1.8**
UKR				Sg		**Sb**	**07 25 49.6**	**+2.3**
TUNR	**Tungur**	**4.93**	**85**	Pn		**Pn**	**07 25 03.2**	**+1.3**
TUNR				S		**Sn**	**07 25 58.5**	**-1.1**
TUNR				Sg		**Sg**	**07 26 21.1**	**-3.7**
NVS	**Novosibirsk**	**5.64**	**28**	S		**Sn**	**07 26 19.3**	**+2.4**
NVS				Sg		**Sg**	**07 26 45.8**	**-1.7**
NVSII	**Novosibirsk**	**5.64**	**28**	S		**Sn**	**07 26 18.6**	**+1.7**
NVSII				Sg		**Sg**	**07 26 48.0**	**+0.5**
DGZ	**Jazzator, Alta**	**5.67**	**89**	Pn		**Pn**	**07 25 14.5**	**+2.4**
DGZ				Pg		**Pg**	**07 25 32.7**	**-2.3**
DGZ				S		**Sn**	**07 26 18.2**	**+0.3**
DGZ				Sg		**Sg**	**07 26 46.1**	**-2.4**
CHBI	**Chibit, Altay**	**5.68**	**83**	Pn		**Pn**	**07 25 13.6**	**+1.4**
CHBI				S		**Sn**	**07 26 19.7**	**+1.5**
CHBI				Sg		**Sg**	**07 26 45.8**	**-3.2**
ARTR	**Artybash**	**5.75**	**68**	Pn		**Pn**	**07 25 13.5**	**+0.5**
ARTR				S		**Sn**	**07 26 20.2**	**+0.5**
ARTR				Sg		**Sg**	**07 26 49.1**	**-1.9**
ELT	**Eltsovka**	**5.76**	**52**	Pn		**Pn**	**07 25 14.5**	**+1.3**
ELT				Pg		**Pg**	**07 25 34.6**	**-2.1**
ELT				S		**Sn**	**07 26 19.5**	**-0.3**
ELT				Sg		**Sg**	**07 26 50.7**	**-0.7**
ULGR	**Ulagan, Altay**	**5.98**	**80**	Pn		**Pn**	**07 25 17.7**	**+1.4**
ULGR				S		**Sn**	**07 26 26.3**	**+0.7**
ULGR				Sg		**Sg**	**07 26 59.0**	**+0.3**
CUR	**Chagan-Uzun**	**6.23**	**85**	S		**Sn**	**07 26 34.1**	**+2.4**
CUR				Sg		**Sg**	**07 27 04.9**	**-1.6**

TAP ***06*** *07:39:27.8,23.99°N×122.59°E,h34km±1km,ML3.5,D*
JMA ***06*** *07:39:27.5±0.2,23.96°N×122.55°E,h23km±4km,M3.0*

ISC 06 07:39:27.3±1.1,23.94°N±0.03°×122.56°E±0.02°,h24km±13km,
n77,σ0s71/142,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.61**	**34**	P		**Pb**	**07 39 39.1**	**-0.3**
JYNG				*e*S		**Sb**	**07 39 46.8**	**-0.9**
YOJ	**Yonaguni jima**	**0.66**	**38**	P		**Pb**	**07 39 39.2**	**-0.9**
	baz=38							
YOJ	**Yonaguni jima**	**0.66**	**38**	P		**Pb**	**07 39 40.1**	**-0.1**
YOJ				*e*S		**Sb**	**07 39 48.4**	**-0.5**
ENAH	**Nanao**	**0.85**	**306**	*i* P		**Pn**	**07 39 43.5**	**-0.3**
	baz=303							
ENAH				*i* S		**Sn**	**07 39 55.8**	**+0.2**
	baz=303							
ENA	**Nanau**	**0.89**	**303**	*e*P		**Pb**	**07 39 45.0**	**+0.9**
	baz=300							
ENA				*e*S		**Sn**	**07 39 57.1**	**+0.5**
	baz=300							
TWD	**Chiawan**	**0.90**	**279**	S		**Sb**	**07 39 56.2**	**+0.4**
	baz=276							
NACB	**Ninganchiao**	**0.92**	**285**	P		**Pn**	**07 39 44.0**	**-0.7**
	baz=268							
NACB				S		**Sb**	**07 39 55.9**	**-0.4**
	baz=268							
TWC	**Suao**	**0.93**	**316**	*i* P		**Pn**	**07 39 44.3**	**-0.5**
	baz=302							
TWC				*i* S		**Sb**	**07 39 55.8**	**-0.9**
	baz=302							
ETLH	**Xiulin Townshi**	**1.02**	**285**	P		**Pn**	**07 39 46.0**	**-0.3**
	baz=271							
ETLH				S		**Sn**	**07 39 59.0**	**-0.9**
	baz=271							
ESL	**Shilin**	**1.04**	**263**	P		**Pn**	**07 39 46.2**	**-0.2**
	baz=251							
ESL				*e*S		**Sn**	**07 39 59.6**	**-0.7**
	baz=251							
EGFH	**Guangfu**	**1.08**	**255**	*e*P		**Pn**	**07 39 46.2**	**-0.6**
	baz=253							
EGFH				S		**Sb**	**07 40 01.7**	**+0.8**
	baz=253							
ILA	**Ilan**	**1.11**	**318**	P		**Pn**	**07 39 46.2**	**-1.0**
	baz=316							
ILA				S		**Sb**	**07 40 03.3**	**+1.5**
	baz=316							
TWE	**Neicheng**	**1.13**	**314**	*i* P		**Pb**	**07 39 48.3**	**+0.2**
	baz=311							
TWE				S		**Sb**	**07 40 02.8**	**+0.5**
	baz=311							
NTC	**Toucheng**	**1.13**	**324**	*e*P		**Pn**	**07 39 47.4**	**-0.2**
	baz=321							
NTC				*e*S		**Sb**	**07 40 03.1**	**+0.7**
	baz=321							
IRIF	**Iriomote-Funau**	**1.13**	**70**	P		**Pb**	**07 39 48.4**	**+0.2**
IRIF				S		**Sb**	**07 40 03.0**	**+0.4**
HGSD	**Ruisui**	**1.14**	**247**	P		**Pn**	**07 39 47.4**	**-0.3**
	baz=245							
HGSD				S		**Sn**	**07 40 01.9**	**-0.7**
	baz=245							
HATJ	**Hateruma jima**	**1.14**	**84**	P		**Pb**	**07 39 48.4**	**+0.1**
HATJ				*e*S		**Sb**	**07 40 03.3**	**+0.6**
ENTT	**Nioudou**	**1.14**	**307**	*i* P		**Pb**	**07 39 48.8**	**+0.4**
	baz=292							
ENTT				*i* S		**Sb**	**07 40 03.0**	**+0.1**
	baz=292							
NDT	**Datong Townshi**	**1.16**	**305**	P		**Pb**	**07 39 49.5**	**+0.8**
	baz=290							
NDT				S		**Sb**	**07 40 04.0**	**+0.6**
	baz=290							
NNSB	**Datong**	**1.18**	**294**	P		**Pn**	**07 39 48.1**	**-0.4**
	baz=281							
NNSB				S		**Sn**	**07 40 03.3**	**-0.6**
	baz=281							
NNSH	**Datong**	**1.18**	**294**	*e*P		**Pn**	**07 39 48.8**	**+0.3**
	baz=282							
NNSH				*e*S		**Sn**	**07 40 03.5**	**-0.3**
	baz=282							
TWB1	**Santiao Chiao**	**1.18**	**334**	*i* P		**Pn**	**07 39 48.0**	**-0.3**
	baz=346							
TWB1				S		**Sn**	**07 40 02.1**	**-1.6**
	baz=346							
WHF	**Hehuan Shan**	**1.21**	**280**	*i* P		**Pn**	**07 39 48.8**	**-0.3**
	baz=267							
WHF				*i* S		**Sn**	**07 40 04.5**	**-0.4**
	baz=267							
EHY	**Hungye**	**1.22**	**249**	*i* P		**Pn**	**07 39 48.6**	**-0.3**
	baz=247							
EHY				*i* S		**Sn**	**07 40 04.5**	**-0.2**
	baz=247							
TIPB	**Shuangxi**	**1.23**	**327**	*i* P		**Pn**	**07 39 49.0**	**0.0**
	baz=339							
TIPB				*i* S		**Sb**	**07 40 04.7**	**-0.6**
	baz=339							
FUSS	**Fushou**	**1.24**	**284**	*e*P		**Pn**	**07 39 49.7**	**+0.3**
	baz=282							
NWLT	**Wulai**	**1.27**	**311**	*e*P		**Pb**	**07 39 50.9**	**+0.2**
	baz=296							
NWLT				*e*S		**Sb**	**07 40 07.2**	**+0.5**
	baz=296							
CHGB	**Renai**	**1.28**	**275**	P		**Pn**	**07 39 49.9**	**+0.1**
	baz=263							
CHGB				S		**Sn**	**07 40 06.3**	**0.0**
	baz=263							
YULB	**Yu-li**	**1.28**	**245**	P		**Pn**	**07 39 49.9**	**+0.1**
	baz=233							
YULB				S		**Sn**	**07 40 06.1**	**-0.1**
	baz=233							
EYUL	**Yuli**	**1.29**	**243**	*e*P		**Pn**	**07 39 49.9**	**+0.1**
	baz=241							
EYUL				S		**Sn**	**07 40 07.0**	**+0.7**
	baz=241							
TWF1	**Yuli**	**1.30**	**243**	*i* P		**Pn**	**07 39 50.1**	**+0.1**
	baz=241							
TWF1				S		**Sn**	**07 40 06.4**	**-0.2**
	baz=241							
YHNB	**Yeheng**	**1.30**	**304**	P		**Pn**	**07 39 49.9**	**-0.1**
	baz=302							
YHNB				S		**Sb**	**07 40 08.4**	**+0.8**
	baz=302							
VWDT	**VWDT**	**1.32**	**262**	P		**Pn**	**07 39 50.6**	**+0.5**
	baz=260							
VWDT				S		**Sn**	**07 40 06.8**	**-0.2**
	baz=260							
NSK	**Sanguang**	**1.32**	**304**	*i* P		**Pn**	**07 39 50.2**	**-0.1**
	baz=302							
NSK				S		**Sn**	**07 40 06.8**	**-0.4**
	baz=302							
TDCB	**Techi**	**1.32**	**284**	*e*P		**Pn**	**07 39 50.9**	**+0.5**
	baz=271							
TDCB				*e*S		**Sn**	**07 40 07.4**	**+0.1**
	baz=271							
NWF	**Wu-fen Shan**	**1.33**	**328**	*i* P		**Pn**	**07 39 50.4**	**-0.1**
	baz=326							
NWF				S		**Sb**	**07 40 08.1**	**-0.2**
	baz=326							
WFSB	**Wu-fen Shan**	**1.33**	**328**	P		**Pn**	**07 39 50.2**	**-0.2**
	baz=326							
WFSB				S		**Sn**	**07 40 07.0**	**-0.3**
	baz=326							
JKRS	**Kuro-shima**	**1.35**	**77**	P		**Pb**	**07 39 51.8**	**-0.2**
JKRS				*e*S		**Sb**	**07 40 09.3**	**+0.5**
TWA	**Mucha**	**1.36**	**319**	*e*P		**Pb**	**07 39 52.5**	**+0.3**
	baz=318							
TWA

TPUB				*e*S		**Sb**	07 40 24.3	0.0
	baz=239							
CHN4	**Tsaushan**	**1.90**	**252**	*i* P		**Pb**	07 40 00.5	-0.8
	baz=250							
CHN4				*i* S		**Sb**	07 40 25.2	+0.5
	baz=250							
WTP	**Ta-pu**	**1.92**	**249**	*i* P		**Pb**	07 40 00.8	-0.9
	baz=239							
WTP				S		**Sb**	07 40 25.2	0.0
	baz=239							
ECL	**Taimali**	**2.00**	**228**	*e*P		**Pn**	07 39 59.8	+0.3
	baz=238							
SLGT	**Liugui**	**2.00**	**242**	*e*P		**Pn**	07 40 01.4	+1.8
	baz=234							
SLGT				S		**Sn**	07 40 25.2	+1.3
	baz=234							
WTK	**Tuku**	**2.01**	**263**	*e*S		**Sb**	07 40 28.4	+0.7
	baz=261							
SGST	**Jiashian**	**2.01**	**245**	P		**Pb**	07 40 02.1	-1.1
	baz=235							
SGST				S		**Sb**	07 40 26.6	-1.3
	baz=235							
CHN1	**Nanshi**	**2.02**	**248**	P		**Pb**	07 40 02.2	-1.1
	baz=246							
CHN1				S		**Sb**	07 40 27.9	0.0
	baz=246							
TWK	**Hsinying**	**2.02**	**251**	*e*P		**Pn**	07 40 01.9	+2.0
	baz=248							
TWK				*e*S		**Sb**	07 40 27.5	-0.6
	baz=248							
SNST	**Tainan City**	**2.03**	**250**	P		**Pb**	07 40 02.4	-1.1
	baz=247							
SNST				S		**Sb**	07 40 28.6	+0.3
	baz=247							
JTJ	**Tarama**	**2.07**	**70**	P		**Pn**	07 40 02.0	+1.4
JTJ				*e*S		**Sn**	07 40 27.0	+1.4
EAST	**Anshuo**	**2.21**	**226**	*e*P		**Pn**	07 40 02.6	0.0
	baz=225							
MASBT	**Mashibuluo**	**2.22**	**234**	*e*P		**Pn**	07 40 04.2	+1.6
	baz=226							
TWM1	**Shoushan**	**2.26**	**241**	*e*P		**Pb**	07 40 07.0	-0.5
	baz=240							
SLIU	**Shizi**	**2.37**	**224**	*e*P		**Pn**	07 40 04.5	-0.2
	baz=230							
SCZT	**Fangliau**	**2.38**	**229**	*e*P		**Pn**	07 40 05.6	+0.8
	baz=221							

NEIC ***06*** *07:39:50.9±1.5,36°.22N±0°.01×96°.72W±0°.02,h4km±5km, Error ellipse: s-maj=2.6km s-min=1.1km az=127.0*
TUL ***06*** *07:39:50.2±1.6,36°.21N±0°.02×96°.71W±0°.02,h5km±7km, ML2.9,Error ellipse: s-maj=2.6km s-min=2.1km az=102.0*
ANF ***06*** *07:39:51.0±0.9,36°.20N×96°.70W,h5km, ML3.7/8, Error ellipse: s-maj=13.3km s-min=8.0km az=21.0*

ISC 06 07:39:50.3±0.9,36°.21N±0°.02×96°.74W±0°.02,h4km±7km, n52,σ0=86/64,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.04**	**151**		**Pg**	**07 39 51.7**	**+0.3**
QUOK				Sg	**Sg**	**07 39 52.9**	**+0.6**
OK029	**Liberty Lake**	**0.72**	**235**		**Pg**	**07 40 04.3**	**+0.3**
OK029				Sg	**Sg**	**07 40 14.0**	**+0.7**
T35A	**Sooner Cattle**	**0.73**	**14**	Pg	**Pg**	**07 40 04.3**	**+0.1**
T35A				Sg	**Sg**	**07 40 13.8**	**+0.1**
OK025	**Westminster Rd**	**0.80**	**218**		**Pg**	**07 40 05.5**	**-0.1**
OK025				Sg	**Sg**	**07 40 16.9**	**+1.0**
TUL1	**Leonard**	**0.82**	**111**	P	**Pg**	**07 40 06.1**	**0.0**
	baz=292						
TUL1				S	**Sg**	**07 40 16.7**	**0.0**
	baz=292						
TUL1	**Leonard**	**0.82**	**111**	Pg	**Pg**	**07 40 05.9**	**-0.2**
TUL1				Sg	**Sg**	**07 40 16.8**	**+0.1**
BCOK	**Bluff Creek, N**	**0.90**	**232**		**Pg**	**07 40 07.3**	**-0.2**
BCOK				Sg	**Sg**	**07 40 20.2**	**+1.0**
OKCFA	**Oklahoma City**	**0.98**	**216**		**Pg**	**07 40 08.7**	**-0.5**
OKCFA				Sg	**Sg**	**07 40 22.5**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**0.99**	**216**		**Pg**	**07 40 08.8**	**-0.5**
OKCSW				Sg	**Sb**	**07 40 23.0**	**-0.3**
KAN13	**South Haven SW**	**1.00**	**323**		**Pg**	**07 40 09.4**	**-0.1**
CROK	**Carrier**	**1.05**	**287**		**Pg**	**07 40 10.3**	**-0.1**
W35A	**Tecumseh**	**1.06**	**186**		**Pg**	**07 40 10.0**	**-0.7**
FNO	**Franklin**	**1.09**	**210**		**Pg**	**07 40 10.9**	**-0.4**
KAN10	**Anthony SW Sta**	**1.42**	**310**	Pn	**Pn**	**07 40 16.8**	**-0.2**
KAN12	**Harper NE Stat**	**1.48**	**317**		**Pn**	**07 40 17.9**	**+0.1**
U32A	**Winter Ranch,**	**1.84**	**276**		**Pn**	**07 40 23.6**	**+1.0**
U38A	**Gravette**	**1.91**	**82**	Pn	**Pb**	**07 40 24.3**	**-1.4**
X37A	**Clayton**	**1.96**	**145**	Pn	**Pn**	**07 40 25.1**	**+0.7**
WMOK	**Wichita Mounta**	**2.23**	**229**	P	**Pn**	**07 40 28.6**	**+0.6**
	baz=48						
WMOK				S	**Sb**	**07 40 57.8**	**-1.1**
	baz=48						
WMOK	**Wichita Mounta**	**2.23**	**229**	Pn	**Pn**	**07 40 28.7**	**+0.7**
HHAR	**Hobbs**	**2.26**	**87**		**Pn**	**07 40 29.3**	**+0.8**
W39A	**Magazine**	**2.61**	**112**	P	**Pn**	**07 40 33.6**	**+0.5**
	baz=294						
W39A				S	**Sn**	**07 41 06.6**	**+1.3**
	baz=294						
W39A	**Magazine**	**2.61**	**112**		**Pb**	**07 40 35.0**	**-2.6**
R32A	**Long Quarter,**	**2.71**	**325**	Pn	**Pn**	**07 40 35.2**	**+0.5**
KSU1	**Kansas State U**	**2.89**	**2**	P	**Pn**	**07 40 37.3**	**+0.3**
	baz=182						
KSU1				S	**Sn**	**07 41 14.1**	**+1.9**
	baz=182						
KSU1	**Kansas State U**	**2.89**	**2**	Pn	**Pn**	**07 40 37.4**	**+0.4**
Z35A	**Perchaven, San**	**2.91**	**189**	Pn	**Pn**	**07 40 38.6**	**+1.3**
MIAR	**Mount Ida**	**3.07**	**122**	P	**Pn**	**07 40 39.8**	**+0.3**
	baz=304						
MIAR	**Mount Ida**	**3.07**	**122**	Pn	**Pn**	**07 40 41.0**	**+1.5**
S39A	**Bolivar**	**3.11**	**61**	Pn	**Pn**	**07 40 40.7**	**+0.6**
U40A	**Yellville**	**3.14**	**86**	P	**Pn**	**07 40 40.8**	**+0.3**
	baz=269						
U40A	**Yellville**	**3.14**	**86**		**Pn**	**07 40 41.2**	**+0.7**
Z38A	**Mt. Pleasant**	**3.28**	**153**	Pn	**Pn**	**07 40 43.6**	**+1.2**
CBKS	**Cedar Bluff**	**3.53**	**318**	P	**Pn**	**07 40 46.5**	**+0.6**
	baz=136						
CBKS	**Cedar Bluff**	**3.53**	**318**	Pn	**Pn**	**07 40 46.5**	**+0.6**
X40A	**Basin Creek Fa**	**3.62**	**117**	P	**Pn**	**07 40 47.9**	**+0.8**
	baz=300						
X40A	**Basin Creek Fa**	**3.62**	**117**	Pn	**Pn**	**07 40 48.3**	**+1.1**
MGMO	**Mountain Grove**	**3.71**	**74**	Pn	**Pn**	**07 40 49.3**	**+0.9**
W41B	**Gary Mavity, V**	**3.80**	**105**	Pn	**Pn**	**07 40 50.2**	**+0.7**
UALR	**University of**	**3.86**	**111**	Pn	**Pn**	**07 40 51.8**	**+1.4**
WLAR	**White Oak Lake**	**3.90**	**129**	Pn	**Pn**	**07 40 52.0**	**+1.1**
R40A	**Maddies Statio**	**4.12**	**58**	Pn	**Pn**	**07 40 54.7**	**+0.7**
AMTX	**Amarillo**	**4.25**	**253**	Pn	**Pn**	**07 40 56.5**	**+0.7**
P38A	**Dawn**	**4.25**	**36**	Pn	**Pn**	**07 40 56.6**	**+0.9**
WHTX	**Lake Whitney,**	**4.25**	**188**	Pn	**Pn**	**07 40 55.8**	**0.0**
237A	**Washetta, Mont**	**4.27**	**169**	Pn	**Pn**	**07 40 57.2**	**+1.2**
ABTX	**Abilene, Hawle**	**4.31**	**215**	Pn	**Pn**	**07 40 56.2**	**-0.5**
N35A	**Tabor**	**4.72**	**10**	Pn	**Pn**	**07 41 03.9**	**+1.7**
CCM	**Cathedral Cave**	**4.76**	**66**	Pn	**Pn**	**07 41 03.6**	**+0.8**
P40A	**Paris**	**4.97**	**47**	Pn	**Pn**	**07 41 06.1**	**+0.4**
BGNE	**Belgrade**	**5.31**	**348**	Pn	**Pn**	**07 41 09.9**	**-0.4**
N38A	**Joes South For**	**5.33**	**30**	Pn	**Pn**	**07 41 10.2**	**-0.5**

ATH 06 07:49:25.5,40°.41N×21°.84E,h10km±4km,ML1.5/3,Error ellipse: s-maj=4.9km s-min=1.1km az=194.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.12**	**205**	P	Pg	07 49 28.0	-0.3
KZN				S	Sg	07 49 30.7	+0.4
PENT	**Pentalofos**	**0.57**	**248**	P	Pg	07 49 36.8	+0.2
PENT				S	Sg	07 49 45.0	+0.7
PENT				AML	AML	07 49 49.0	
	comp=E,93μm,0.4s						
PENT				AML	AML	07 49 51.6	
	comp=N,149μm,0.7s						
LIT	**Litokhoron**	**0.59**	**122**	P	Pg	07 49 36.6	-0.4
LIT				S	Sg	07 49 45.3	+0.7
LIT				AML	AML	07 49 47.8	
	comp=E,200μm,0.3s						
LIT				AML	AML	07 49 51.2	
	comp=N,154μm,0.3s						
NEST	**Nestorio**	**0.60**	**270**	P	Pg	07 49 36.8	-0.3
THL	**Klokotos Trika**	**0.86**	**171**	P	Pg	07 49 41.7	-0.3
THL				S	Sb	07 49 53.9	-0.1
HORT	**Hortiatis**	**0.98**	**79**	P	Pg	07 49 44.1	-0.3
HORT				S	Sn	07 49 58.9	-0.6
HORT				AML	AML	07 50 08.7	
	comp=E,43μm,0.3s						
HORT				AML	AML	07 50 09.2	
	comp=N,44μm,0.4s						
KNT	**Kendrikon**	**1.10**	**47**	P	Pg	07 49 45.2	-1.4
KNT				S	Sn	07 50 01.9	-0.4

BUC 06 07:51:46.1±0.1,45°.46N×27°.07E,h11km±2km,ml1.8/12, 17C-19D,Error ellipse: s-maj=1.6km s-min=1.2km az=171.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRER		**0.10**	**221**	⇑P	Pg	07 51 49.6	+0.8
GRER		**0.10**	**221**	⇑P	Pg	07 51 49.6	+0.8
BISRR	**Bisoca**	**0.27**	**291**	⇓P	Pg	07 51 51.0	-0.5
BISRR				⇓S	Sg	07 51 55.3	+0.1
BISRR	**Bisoca**	**0.27**	**291**	⇓P	Pg	07 51 51.0	-0.5
PETR	**Petresti**	**0.29**	**23**	⇑P	Pg	07 51 52.2	+0.2
PETR				⇑S	Sg	07 51 56.7	+0.8
PETR	**Petresti**	**0.29**	**23**	⇑P	Pg	07 51 52.2	+0.2
ODBI	**Odobesti**	**0.31**	**359**	⇓P	Pg	07 51 52.2	-0.1
ODBI				⇑S	Sg	07 51 56.9	+0.5
ODBI	**Odobesti**	**0.31**	**359**	⇓P	Pg	07 51 52.2	-0.1
VRI	**Vrincioaia**	**0.47**	**330**	⇓P	Pg	07 51 54.6	-0.7
VRI				⇓S	Sg	07 52 02.4	+0.7
VRI	**Vrincioaia**	**0.47**	**330**	⇓P	Pg	07 51 54.6	-0.7
PLOR	**Plostina**	**0.49**	**324**	⇓P	Pg	07 51 55.1	-0.6
PLOR	**Plostina**	**0.49**	**324**	⇓P	Pg	07 51 55.1	-0.6
ISR	**Istrita**	**0.50**	**228**	⇑S	Sg	07 52 02.9	+0.5
ISR	**Istrita**	**0.50**	**228**	⇑S	Sg	07 52 02.9	+0.5
NEHR	**Nehoiu**	**0.54**	**267**	⇑P	Pg	07 51 57.0	+0.3
NEHR				⇓S	Sb	07 52 05.0	-0.4
NEHR	**Nehoiu**	**0.54**	**267**	⇑P	Pg	07 51 57.0	+0.3
MLR	**Muntele Rosu**	**0.79**	**273**	⇓P	Pb	07 52 01.6	-0.2
MLR				⇑S	Sb	07 52 12.2	-0.4
MLR	**Muntele Rosu**	**0.79**	**273**	⇓P	Pb	07 52 01.6	-0.2
CFR	**Carcaliu**	**0.81**	**110**	⇓P	Pg	07 52 01.2	-0.4
CFR				⇑S	Sb	07 52 12.5	-0.3
CFR	**Carcaliu**	**0.81**	**110**	⇓P	Pg	07 52 01.2	-0.4
TLCR		**1.26**	**102**	⇑P	Pb	07 52 09.8	0.0
TLCR				⇑S	Sg	07 52 27.3	+0.6
TLCR		**1.26**	**102**	⇑P	Pb	07 52 09.8	0.0
TLCR		**1.26**	**102**	⇑S	Sg	07 52 27.3	+0.6
TIRR	**Tirgusor**	**1.38**	**136**	⇓P	Pn	07 52 11.0	-0.2
TIRR				⇑S	Sg	07 52 30.2	-0.3
TIRR	**Tirgusor**	**1.38**	**136**	⇓P	Pn	07 52 11.0	-0.2
VOIR		**1.42**	**270**	⇓P	Pn	07 52 12.2	+0.3
VOIR		**1.42**	**270**	⇓P	Pn	07 52 12.2	+0.3

IDC ***06*** *07:57:49.1±0.5,24°.50S×179°.72E,h513km±4km, mb4.1/29, mb1 4.2/30,mb1mx4.1/50,mbtmp4.9/30,Error ellipse: s-maj=9.0km s-min=7.9km az=170.0*
NEIC ***06*** *07:57:49.5±2.9,24°.40S±0°.09×179°.9E±0°.1,h524km±5km, mb4.6/114,Error ellipse: s-maj=14.8km s-min=13.4km az=93.0*

ISC 06 07:57:48.0±0.2,24°.52S±0°.04×179°.75E±0°.05,h500km, n422,σ1=63/448,mb4.6/83,30C-2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.16**	**157**	P	**P**	**07 59 19.5**	**+3.2**
	304nm,0.3s,baz=90,slow=20,SNR=9.4						
RAO				S	**S**	**08 00 27.9**	**-0.6**
	164nm,0.3s,baz=254,slow=22,SNR=2.3						
RAO	**Raoul Island**	**5.16**	**157**	P	**P**	**07 59 20.3**	**+4.0**
RAO				S	**S**	**08 00 24.9**	**-3.6**
MSVF	**Nonsavu**	**6.93**	**346**		**P**	**07 59 36.0**	**+2.2**
NIUE	**Niue**	**11.01**	**63**	S	**S**	**08 02 18.0**	**-0.2**
NIUE	**Niue**	**11.01**	**63**	P	**P**	**08 00 16.5**	**+0.2**
OUZ	**Omahuta**	**11.92**	**205**	P	**P**	**08 00 29.4**	**+3.8**
DZM	**Mont Dzumac**	**12.46**	**279**	P	**P**	**08 00 34.9**	**+3.2**
	17nm,0.3s,baz=84,slow=17,SNR=104						
DZM	**Mont Dzumac**	**12.46**	**279**	P	**P**	**08 00 35.8**	**+4.1**
MXZ	**Matakaoa Point**	**13.06**	**185**	P	**P**	**08 00 39.8**	**+2.2**
AFI	**Afiamalu**	**13.24**	**39**	P	P	08 00 36.6	-3.4
	3.7nm,0.3s,baz=215,slow=3.7,SNR=7.7						
AFI				S	S	08 02 51.2	-10
	3.4nm,0.3s,baz=286,slow=20,SNR=2.0						
AFI	**Afiamalu**	**13.24**	**39**	P	P	08 00 37.0	-3.0
TGRZ	**Tauranga**	**13.50**	**192**	P	**P**	08 00 47.4	+5.1
RUGZ	**Raukumara Rang**	**13.52**	**187**	P	**P**	**08 00 47.0**	**+4.3**
OPRZ	**Ohinepanea**	**13.56**	**191**	P	**P**	**08 00 47.0**	**+4.1**
TOZ	**Tahuroa Road**	**13.66**	**194**	P	P	08 00 49.7	+5.7
KMRZ	**Kaimai**	**13.68**	**193**	P	P	08 00 49.3	+5.2
URZ	**Urewera**	**13.88**	**189**	P	**P**	**08 00 44.1**	**-2.2**
	11nm,0.3s,baz=319,slow=2.6,SNR=34						
URZ				S	**S**	**08 03 12.1**	**-1.2**
	11nm,0.3s,baz=17,slow=19,SNR=16						
URZ	**Urewera**	**13.88**	**189**	P	**P**	**08 00 44.4**	**-1.8**
URZ				S	**S**	**08 03 11.0**	**-2.3**
URZ	**Urewera**	**13.88**	**189**	P	**P**	**08 00 44.2**	**-2.0**
TKGZ	**Te Karaka**	**13.97**	**186**	P	**P**	**08 00 51.2**	**+3.9**
TKGZ				S	**S**	**08 03 11.4**	**-3.7**
CNGZ	**Carnagh Statio**	**13.98**	**185**	P	**P**	**08 00 50.3**	**+2.9**
CNGZ				S	**S**	**08 03 16.6**	**+1.3**
RRRZ	**Republican Roa**	**14.05**	**191**	P	**P**	**08 00 51.5**	**+3.4**
HSRZ	**Hossack Road**	**14.07**	**191**	P	**P**	**08 00 52.2**	**+3.9**
HRRZ	**Handcock Road**	**14.14**	**191**	P	**P**	**08 00 51.3**	**+2.2**
PRRZ	**Plateau Road**	**14.23**	**191**	P	**P**	**08 00 52.3**	**+2.4**
PRRZ				S	**S**	**08 03 19.9**	**-0.1**
KUTZ	**Kaahu Road**	**14.32**	**193**	P	**P**	**08 00 55.4**	**+4.4**
SNGZ	**Shannon Statio**	**14.37**	**188**	P	**P**	**08 00 54.5**	**+3.0**
SNGZ				S	**S**	**08 03 18.3**	**-4.4**
MTHZ	**Maungataniwha**	**14.50**	**189**	P	**P**	**08 00 57.0**	**+4.1**
MTHZ				S	**S**	**08 03 21.9**	**-3.4**
RAHZ	**Arahi**	**14.53**	**188**	P	**P**	**08 00 55.2**	**+2.1**
RAHZ				S	**S**	**08 03 23.1**	**-2.7**
HIZ	**Hauiti**	**14.56**	**195**	P	P	08 00 59.5	+6.1
HIZ	**Hauiti**	**14.56**	**195**	P	**P**	**08 00 51.8**	**-1.6**
WHHZ	**Waihua**	**14.67**	**188**	P	**P**	**08 00 56.7**	**+2.1**
WHHZ				S	**S**	**08 03 22.7**	**-5.8**
RATZ	**Rangitukua**	**14.70**	**192**	P	**P**	**08 00 57.8**	**+2.9**
RITZ	**Rihia Road**	**14.79**	**192**	P	**P**	**08 00 58.4**	**+2.5**
SANVU	**Saraoutou**	**14.84**	**305**	P	**P**	**08 00 56.5**	**-0.1**
BKZ	**Black Stump Fm**	**14.86**	**190**	P	**P**	**08 00 54.8**	**-1.9**
BKZ				S	**S**	**08 03 27.5**	**-4.7**
BKZ	**Black Stump Fm**	**14.86**	**190**	P	**P**	**08 00 54.8**	**-1.9**
KRVZ	**Karewarewa**	**14.94**	**192**	P	**P**	**08 01 00.0**	**+2.5**
TMVZ	**Te Maari**	**14.95**	**192**	P	**P**	**08 00 59.1**	**+1.4**
TWVZ	**Taurewa**	**14.96**	**193**	P	**P**	**08 00 58.6**	**+0.9**
ETVZ	**East Tongariro**	**14.97**	**192**	P	**P**	**08 00 59.5**	**+1.7**
WTVZ	**West Tongariro**	**14.97**	**193**	P	**P**	**08 01 00.3**	**+2.4**
OTVZ	**Oturere**	**15.00**	**192**	P	**P**	**08 00 58.8**	**+0.5**
NGZ	**Ngauruhoe**	**15.03**	**193**	P	**P**	**08 01 01.2**	**+2.7**
MCHZ	**McNeill Hill**	**15.10**	**189**	P	**P**	**08 00 59.9**	**+0.7**
TUVZ	**Tukino**	**15.11**	**192**	P	**P**	**08 01 01.4**	**+2.1**
KWHZ	**Kaweka Forest**	**15.12**	**190**	P	**P**	**08 01 01.1**	**+1.7**
WNVZ	**Wahianoa**	**15.18**	**192**	P	**P**	**08 01 00.4**	**+0.3**
MOVZ	**Moawhango**	**15.22**	**192**	P	**P**	**08 01 01.3**	**+0.9**
BHHZ	**Black Hill Sta**	**15.25**	**191**	P	**P**	**08 01 00.9**	**+0.2**
CKHZ	**Cape Kidnapper**	**15.26**	**188**	P	**P**	**08 01 02.2**	**+1.4**
KRHZ	**Kereru**	**15.35**	**190**	P	**P**	**08 01 01.5**	**-0.2**
KAHZ	**Kahuranaki**	**15.42**	**188**	P	**P**	**08 01 03.3**	**+0.8**
KHEZ	**Kahui Hut**	**15.51**	**197**	P	**P**	**08 01 09.1**	**+5.7**
LREZ	**Lake Rotokare**	**15.57**	**196**	P	**P**	**08 01 08.5**	**+4.6**
PNHZ	**Pukenui**	**15.64**	**190**	P	**P**	**08 01 05.1**	**+0.3**
WPHZ	**Waipukurau**	**15.75**	**189**	P	**P**	**08 01 06.1**	**+0.3**
TSZ	**Takapari Road**	**15.82**	**191**	P	**P**	**08 01 06.6**	**0.0**
DVHZ	**Dannevirke**	**16.02**	**190**	P	**P**	**08 01 06.7**	**-2.0**
MSWZ	**Moikau Station**	**17.26**	**191**	P	**P**	**08 01 20.1**	**-1.3**
SNZO	**South Karori**	**17.27**	**193**	P	**P**	**08 01 19.5**	**-1.8**
BHW	**Baring Head**	**17.33**	**192**	P	**P**	**08 01 19.0**	**-2.9**
QRZ	**Quartz Range**	**17.35**	**199**	P	**P**	**08 01 22.3**	**+0.1**
PLWZ	**Palliser**	**17.41**	**191**	P	**P**	**08 01 19.8**	**-3.0**
NNZ	**Nelson**	**17.48**	**196**	P	**P**	**08 01 21.9**	**-1.5**
TUWZ	**Tuamarina**	**17.55**	**195**	P	**P**	**08 01 20.9**	**-3.1**
CMWZ	**Cape Campbell**	**17.79**	**194**	P	**P**	**08 01 26.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**17.83**	**194**	P	**P**	**08 01 25.9**	**-0.7**
THZ	**Tophouse**	**18.11**	**197**	P	**P**	**08 01 28.6**	**-0.7**
KHZ	**Kahutara**	**18.58**	**195**	P	**P**	**08 01 32.5**	**-1.0**
LTZ	**Lake Taylor**	**19.23**	**197**	P	**P**	**08 01 38.4**	**-1.1**
OXZ	**Oxford**	**19.80**	**197**	P	**P**	**08 01 43.1**	**-1.6**
MQZ	**McQueen's Vall**	**20.00**	**195**	P	**P**	**08 01 45.6**	**-0.8**
RPZ	**Rata Peaks**	**20.43**	**198**	P	**P**	**08 01 49.1**	**-1.3**
	49nm,0.5s,baz=3.9,slow=1.6,SNR=34						
RPZ				S	**S**	**08 05 03.6**	**-3.7**
	21nm,0.9s,baz=15,slow=20,SNR=1.3						
RPZ	**Rata Peaks**	**20.43**	**198**	P	**P**	**08 01 49.8**	**-0.6**
LBZ	**Lake Benmore**	**21.30**	**199**	P	**P**	**08 01 56.1**	**-2.1**
ODZ	**Otahua Downs**	**21.77**	**198**	P	**P**	**08 02 03.1**	**+0.6**
WKZ	**Wanaka**	**22.06**	**201**	P	**P**	**08 02 03.6**	**-1.5**

MLZ	**Mavora Lakes**	**22.83**	**201**	P		**P**	**08 02 11.9**	**-0.1**
WHZ	**Wether Hill Ro**	**23.35**	**201**	P		**P**	**08 02 16.5**	**-0.2**
HNR	**Honiara**	**24.11**	**305**	P		**P**	**08 02 23.9**	**+0.1**
	61nm,0.6s,baz=170,slow=15,SNR=2.5							
HNR	**Honiara**	**24.11**	**305**	P		**P**	**08 02 23.6**	**-0.2**
ARMA	**Armidale**	**25.59**	**250**	P		**P**	**08 02 38.3**	**+1.4**
ARMA				IAmb		IAmb	08 02 41.1	
	comp=Z,28nm,1.4s							
EIDS	**Eidsvold**	**25.98**	**262**	P		**P**	**08 02 41.8**	**+1.5**
EIDS				IAmb		IAmb	08 02 42.7	
	comp=Z,15nm,0.6s							
CAN	**Canberra**	**28.63**	**241**	P		**P**	**08 03 05.6**	**+2.1**
CAN				IAmb		IAmb	08 03 06.0	
	comp=Z,10.0nm,0.5s							
CTA	**Charters Tower**	**31.25**	**271**	P		**P**	**08 03 27.8**	**+1.4**
	comp=Z,50nm,0.4s,baz=93,slow=11,SNR=64							
CTAO	**Charters Tower**	**31.25**	**271**	P		**P**	**08 03 27.7**	**+1.4**
TOO	**Toolangi**	**31.92**	**238**	P		**P**	**08 03 32.9**	**+1.0**
TOO				IAmb		IAmb	08 03 34.9	
	comp=Z,36nm,1.2s							
TAU	**Tasmania Unive**	**32.34**	**227**	P		**P**	**08 03 37.1**	**+1.7**
KRVT	**Keravat (AS076**	**33.40**	**303**	P		**P**	**08 03 44.9**	**+0.2**
	comp=Z,55nm,0.5s,baz=68,slow=5.4,SNR=6.3							
STKA	**Stephens Creek**	**34.28**	**249**	P		**P**	**08 03 52.5**	**+0.5**
	comp=Z,11nm,0.4s,baz=94,slow=9.9,SNR=41							
STKA				S		**S**	**08 08 41.1**	**-2.1**
	comp=Z,2.7nm,0.8s,baz=174,slow=13,SNR=1.6							
STKA	**Stephens Creek**	**34.28**	**249**	P		**P**	**08 03 53.4**	**+1.5**
PMG	**Port Moresby**	**34.48**	**290**	P		**P**	**08 03 53.3**	**-0.5**
	comp=Z,39nm,0.8s,baz=61,slow=6.4,SNR=6.5							
PMG	**Port Moresby**	**34.48**	**290**	P		**P**	**08 03 54.6**	**+0.8**
COEN	**Coen**	**35.99**	**280**	P		**P**	**08 04 07.5**	**+1.1**
COEN				IAmb		IAmb	08 04 10.2	
	comp=Z,14nm,0.7s							
BBOO	**Buckleboo**	**38.99**	**248**	P		**P**	**08 04 30.9**	**+0.1**
BBOO				IAmb		IAmb	08 04 31.5	
	comp=Z,16nm,0.8s							
AS31	**Alice Springs**	**41.71**	**261**	P		**P**	**08 04 53.1**	**+0.3**
ASAR	**Alice Springs**	**41.71**	**261**	P		**P**	**08 04 53.0**	**+0.2**
	comp=Z,9.2nm,0.6s,baz=96,slow=7.4,SNR=92							
ASAR				PcP		**PcP**	**08 06 36.1**	**-1.8**
	comp=Z,2.8nm,0.8s,baz=91,slow=7.3,SNR=5.7							
ASAR				ScP		**ScP**	**08 09 40.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=132,slow=5.1,SNR=2.7							
ASAR				S		**S**	**08 10 31.5**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=96,slow=16,SNR=12							
ASAR				PKiKP		**PKiKP**	**08 13 41.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=132,slow=0.5,SNR=4.7							
ASAR	**Alice Springs**	**41.71**	**261**	P		**P**	**08 04 52.7**	**-0.1**
WR0	**Warramunga Arr**	**41.95**	**267**	P		**P**	**08 04 54.5**	**-0.2**
WR0				IAmb		IAmb	08 04 55.1	
	comp=Z,12nm,0.5s							
WB2	**Warramunga Arr**	**42.13**	**267**	P		**P**	**08 04 55.9**	**-0.2**
WRAB	**Tennant Creek**	**42.13**	**267**	P		**P**	**08 04 56.1**	**0.0**
WRAB				IAmb		IAmb	08 04 56.5	
	comp=Z,19nm,0.5s							
WB0	**Warramunga Arr**	**42.13**	**267**	P		**P**	**08 04 56.1**	**-0.1**
WRA	**Warramunga Arr**	**42.14**	**267**	P		**P**	**08 04 56.0**	**-0.1**
	comp=Z,20nm,0.5s,baz=100,slow=8.2,SNR=331							
WRA				ScP		**ScP**	**08 09 43.0**	**+0.9**
	comp=Z,11nm,0.8s,baz=101,slow=4.1,SNR=23							
WRA				S		**S**	**08 10 36.5**

baz=230,SNR=10
PFO Pinyon Flats O 83.78 49 P **P 08 09 24.8 +0.3**
comp=Z,3.7nm,1.0s,baz=302,slow=4.4,SNR=5.3
PFO Pinyon Flats O 83.78 49 P **P 08 09 25.1 +0.5**
baz=235
PFO Pinyon Flats O 83.78 49 P **P 08 09 24.6 +0.1**
CMB Columbia Colle 83.81 43 P **P 08 09 24.4 0.0**
BBRC Big Bear Solar 83.84 48 P **P 08 09 25.5 +0.6**
baz=235
SWSC Sam W. Stewart 83.86 50 P **P 08 09 25.5 +0.8**
baz=236,SNR=6.0
AFDM Forest Hills D 84.00 42 P **P 08 09 24.7 -0.6**
AFDM IAmb IAmb 08 09 27.4
comp=Z,8.7nm,1.1s
LRMC Laurel Mtn Rad 84.03 47 P **P 08 09 26.1 +0.4**
baz=234,SNR=6.5
SNAA Sanae 84.06 179 P **P 08 09 24.1 -1.1**
SNAA Sanae 84.06 179 P **P 08 09 24.2 -1.0**
SNAA IAmb IAmb 08 09 24.9
comp=Z,13nm,0.6s
ORV Oroville 84.06 42 P **P 08 09 23.4 -2.2**
WDC Whiskeytown Da 84.08 40 P **P 08 09 24.6 -1.1**
WDC IAmb IAmb 08 09 27.6
comp=Z,8.5nm,1.1s
RRX Edison Barstow 84.14 48 P **P 08 09 26.7 +0.6**
baz=235
N02D Trinity Center 84.23 40 P **P 08 09 27.6 +1.1**
baz=230
VNA3 Neumayer Olymp 84.27 177 P **P 08 09 25.4 -0.8**
BELC Belle Mtn. Jos 84.32 49 P **P 08 09 28.0 +0.9**
baz=235,SNR=12
CWC Cottonwood Cre 84.33 46 P **P 08 09 27.6 +0.4**
baz=234
O03E Paynes Creek 84.34 41 P **P 08 09 27.4 +0.4**
baz=231
MDPB Devils Postpil 84.39 44 P **P 08 09 27.6 0.0**
M02C Callahan 84.41 40 P **P 08 09 28.7 +1.3**
baz=230,SNR=6.7
OMMB Old Mammoth Mi 84.43 44 P **P 08 09 26.7 -1.2**
MPMC Manual Prospec 84.50 46 P **P 08 09 28.4 +0.4**
baz=234
BC3 Big Chuckawall 84.50 49 P **P 08 09 29.1 +1.0**
baz=236,SNR=5.9
GSC Goldstone, Bar 84.51 47 P **P 08 09 28.6 +0.5**
baz=235,SNR=8.7
GSC Goldstone, Bar 84.51 47 P **P 08 09 27.9 -0.1**
GSC IAmb IAmb 08 09 29.6
comp=Z,7.1nm,0.9s
HEC Hector,Ludlow 84.56 48 P **P 08 09 28.8 +0.5**
baz=235,SNR=9.8
WAKR Walker 84.69 43 P **P 08 09 29.2 +0.2**
VNA2 Neumayer--Watz 84.69 178 P **P 08 09 27.6 -0.6**
baz=184,slow=4.4
YBH Yreka Blue Hor 84.71 39 P **P 08 09 29.5 +0.6**
comp=Z,3.2nm,1.0s,baz=199,slow=6.5,SNR=3.7
YBH Yreka Blue Hor 84.71 39 P **P 08 09 29.3 +0.5**
K02D Willamette Mer 84.78 38 P **P 08 09 30.4 +1.2**
baz=230
VNA1 Neumayer--Stat 84.93 177 P **P 08 09 28.9 -0.4**
J01E Myrtle Point 84.93 38 P **P 08 09 30.9 +1.2**
baz=229
PNTR Pine Nut 84.94 43 P **P 08 09 28.9 -1.3**
GMRC Granite Mounta 84.99 48 P **P 08 09 31.0 +0.6**
baz=236,SNR=5.7
IRM Iron Mountain 84.99 49 P **P 08 09 31.4 +1.1**
baz=236,SNR=11
VCNR Virginia City 85.03 43 P **P 08 09 30.7 +0.1**
YERR Yerington 85.10 43 P **P 08 09 29.1 -1.8**
YERR IAmb IAmb 08 09 32.5
comp=Z,12nm,1.5s
HUMO Hull Mountain 85.13 39 P **P 08 09 31.1 +0.3**
HUMO IAmb IAmb 08 09 33.2
comp=Z,15nm,1.4s
FURC Furnace Creek, 85.14 46 P **P 08 09 30.8 -0.1**
baz=235
TUQ Turquoise Moun 85.18 48 P **P 08 09 31.8 +0.5**
baz=235,SNR=6.6
113A Mohawk Valley, 85.19 51 P **P 08 09 31.8 +0.5**
113A IAmb IAmb 08 09 33.3
comp=Z,8.4nm,1.1s
SHOC Shoshone, Teco 85.21 47 P **P 08 09 32.3 +0.9**
baz=235
M04C Macdoel 85.25 40 P **P 08 09 32.1 +0.6**
baz=231
L04D Klamath Falls 85.25 39 P **P 08 09 32.4 +0.9**
baz=231
NVAR Mina Array Bea 85.36 44 P **P 08 09 32.0 -0.2**
comp=Z,2.7nm,0.8s,baz=224,slow=8.3,SNR=21
NVAR Mina Array Bea 85.36 44 P **P 08 09 31.8 -0.5**
214A Organ Pipe Nat 85.43 52 P **P 08 09 33.3 +0.8**
baz=237
214A Organ Pipe Nat 85.43 52 P **P 08 09 32.7 +0.1**
214A IAmb IAmb 08 09 34.7
comp=Z,7.1nm,1.0s
PAHR Pah Rah Range 85.44 43 P **P 08 09 32.0 -0.5**
NV11 Mina Array Sit 85.45 44 P **P 08 09 32.6 0.0**
I03D Drain, OR 85.60 38 P **P 08 09 33.8 +0.8**
baz=230
NEE2 Needles Airpor 85.69 49 P **P 08 09 34.5 +0.9**
baz=236
TPNV Topopah Spring 85.82 46 P **P 08 09 34.9 +0.5**
baz=235,SNR=8.0
TPNV Topopah Spring 85.82 46 P **P 08 09 34.1 -0.3**
TPNV IAmb IAmb 08 09 35.4
comp=Z,4.8nm,0.7s
TPH Tonopah 85.84 45 P **P 08 09 34.4 -0.2**
KVN Kaiserville 85.85 44 P **P 08 09 33.9 -0.7**
J04D Umpqua Nationa 86.01 38 P **P 08 09 36.1 +0.9**
baz=231
K05A Summer Lake 86.38 39 P **P 08 09 37.9 +0.9**
K05A IAmb IAmb 08 09 39.0
comp=Z,13nm,1.2s
H04D Lebanon 86.47 37 P **P 08 09 38.1 +1.0**
baz=230
J05D Fort Rock, OR 86.53 39 P **P 08 09 38.7 +1.1**
baz=231
PRN Pahroc Range 86.87 46 P **P 08 09 39.7 +0.4**
PRN IAmb IAmb 08 09 41.3
comp=Z,6.6nm,0.9s
PINE Pine Mountain 87.02 39 P **P 08 09 40.5 +0.5**
PINE IAmb IAmb 08 09 42.7
comp=Z,13nm,0.9s
R11A Troy Canyon, C 87.05 45 P **P 08 09 40.1 -0.2**
baz=235
TUC Tucson 87.08 53 P **P 08 09 41.7 +1.3**
baz=238
TUC Tucson 87.08 53 P **P 08 09 41.0 +0.6**
TUC IAmb IAmb 08 09 42.9
comp=Z,9.1nm,0.9s
I05D Terrebonne, OR 87.13 38 P **P 08 09 41.0 +0.7**
baz=231
F04A Amboy 87.54 36 P **P 08 09 42.3 +0.2**
F04A IAmb IAmb 08 09 43.6
comp=Z,19nm,1.0s
319A Douglas 87.70 54 IAmb IAmb 08 09 46.0
comp=Z,20nm,1.1s
X16A Lo Mia Camp, P 87.71 50 IAmb IAmb 08 09 45.7
comp=Z,5.1nm,0.9s
E04D Cinebar 87.86 36 P **P 08 09 44.3 +0.7**
baz=230
PLCA Paso Flores 88.00 134 P **P 08 09 45.5 +0.8**
comp=Z,4.4nm,0.7s,baz=221,slow=5.3,SNR=11
PLCA Paso Flores 88.00 134 P **P 08 09 45.6 +0.8**
PLCA IAmb IAmb 08 09 46.0
comp=Z,5.4nm,0.8s
I07A Izee 88.01 39 P **P 08 09 44.5 -0.1**
I07A IAmb IAmb 08 09 46.4
comp=Z,12nm,0.9s
LC01 Cunco 88.05 132 P **P 08 09 45.3 +0.4**
LC01 IAmb IAmb 08 09 46.3
comp=Z,14nm,1.1s
CCUT Cedar City 88.07 47 P **P 08 09 45.4 +0.3**
KNB Kanab 88.14 48 P **P 08 09 46.4 +1.0**
D04E Lakebay 88.15 35 P **P 08 09 46.4 +1.5**
baz=230
J08A Circle Bar Ran 88.18 40 IAmb IAmb 08 09 46.9
comp=Z,12nm,1.1s
U15A North Rim 88.19 48 IAmb IAmb 08 09 47.8
comp=Z,13nm,1.2s
D03D Eldon 88.21 35 P **P 08 09 46.2 +1.0**
baz=230
WUAZ Wupatki 88.33 50 P **P 08 09 47.0 +0.7**
baz=238
LON Longmire 88.39 36 IAmb IAmb 08 09 47.2
comp=Z,4.6nm,0.8s
D05A Enumclaw 88.57 35 IAmb IAmb 08 09 49.6
comp=Z,17nm,0.9s
ELK Elko 88.62 44 P **P 08 09 47.4 -0.3**
comp=Z,1.9nm,0.7s,baz=252,slow=4.0,SNR=7.9
ELK Elko 88.62 44 IAmb IAmb 08 09 49.0
comp=Z,6.8nm,1.3s
PGC Sidney 88.75 34 P **P 08 09 48.0 +0.3**
PGC IAmb IAmb 08 09 49.2
comp=Z,7.7nm,0.8s
G08A Pilot Rock 89.05 38 P **P 08 09 49.5 +0.1**
G08A IAmb IAmb 08 09 50.9
comp=Z,20nm,1.5s
A04D Lummi Island 89.17 34 P **P 08 09 50.7 +1.1**
baz=230
B05A Bryant 89.19 35 P **P 08 09 50.4 +0.6**
baz=231
E07A Sunnyside 89.33 37 P **P 08 09 51.1 +0.7**
E07A IAmb IAmb 08 09 52.2
comp=Z,7.5nm,0.8s
MVU Marysvale 89.35 47 P **P 08 09 52.0 +0.9**
121A Cookes Peak, D 89.38 54 P **P 08 09 51.8 +0.5**
baz=240
MSU Marysvale 89.38 47 P **P 08 09 51.6 +0.4**
HAWA Hanford 89.40 37 P **P 08 09 51.2 +0.4**
HAWA IAmb IAmb 08 09 52.5
comp=Z,9.5nm,1.1s
CMAR Chiang Mai Arr 89.52 290 P **P 08 09 52.9 +0.9**
comp=Z,1.8nm,0.6s,baz=136,slow=3.2,SNR=8.4
BI02 San Fabin de 89.59 131 P **P 08 09 52.2 0.0**
BI02 IAmb IAmb 08 09 53.5
comp=Z,14nm,0.7s
BMO Blue Mountains 89.74 39 P **P 08 09 52.6 +0.1**
MFID Camas Ranch 89.78 41 P **P 08 09 52.8 0.0**
MFID IAmb IAmb 08 09 54.2
comp=Z,6.6nm,0.9s
SEY Seymchan 89.82 348 P **P 08 09 51.8 -0.5**
comp=Z,3.4nm,0.7s,baz=152,slow=7.6,SNR=8.9
DUG Dugway, Tooele 89.86 45 P **P 08 09 53.7 +0.5**
baz=237
F10A Beach Ranch, E 90.44 38 IAmb IAmb 08 09 56.4
comp=Z,4.5nm,0.7s
HHC Hu-ho-hao-te 90.69 315 *eP* **P 08 09 57.9 +0.9**
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,150nm,6.6s
HLID Hailey 90.71 42 P **P 08 09 57.9 +0.7**
baz=236
MNTX Cornudas Mount 90.75 55 P **P 08 09 58.1 +0.6**
baz=241
MNTX Cornudas Mount 90.75 55 IAmb IAmb 08 09 59.0
comp=Z,3.6nm,0.8s
TX31 Lajitas Ar. Si 90.95 58 P **P 08 09 58.8 +0.2**
TX32 Lajitas Array 90.95 58 P **P 08 09 58.9 +0.4**
TX32 IAmb IAmb 08 10 00.4
comp=Z,6.4nm,0.8s
TXAR Lajitas Array 90.95 58 P **P 08 09 59.0 +0.5**
comp=Z,5.0nm,0.8s,baz=214,slow=6.4,SNR=67
TXAR pP **pwP 08 11 53.1 +3.5**
comp=Z,0.5nm,1.0s,baz=134,slow=56,SNR=2.9
TXAR PKKPbc **PKKPbc 08 27 20.7 +0.5**
comp=Z,0.5nm,0.6s,baz=93,slow=3.4,SNR=9.0
TXAR Lajitas Array 90.95 58 P **P 08 09 58.1 -0.4**
TCUT Toone Canyon 91.26 45 P **P 08 10 00.1 +0.2**
HWUT Hardware Ranch 91.42 44 P **P 08 09 59.6 -0.9**
HWUT IAmb IAmb 08 10 01.3
comp=Z,3.5nm,0.7s
ANMO Albuquerque 91.52 52 P **P 08 10 01.1 0.0**
S22A 4UR Ranch, Cre 92.61 50 IAmb IAmb 08 10 08.2
comp=Z,3.7nm,0.9s
SCRK Sand Creek 92.66 15 P **P 08 10 06.5 +0.9**
baz=213
ILAR Eielson Array 92.68 14 P **P 08 10 04.0 -1.5**
comp=Z,0.6nm,0.6s,baz=225,slow=5.5,SNR=4.4
ILAR pP **pP 08 11 59.6 +3.2**
comp=Z,0.5nm,0.7s,baz=229,slow=5.5,SNR=3.3
ILAR Eielson Array 92.68 14 P **P 08 10 03.8 -1.7**
O20A White River Ci 92.83 47 P **P 08 10 07.1 +0.1**
baz=240
POKR Poker Plat Res 92.87 13 P **P 08 10 08.6 +2.2**
baz=210
K27K Chicken 93.17 16 P **P 08 10 08.4 +0.7**
baz=214
BW06 Boulder Array 93.29 44 P **P 08 10 08.5 -0.6**
baz=239
PDAR Pinedale Array 93.29 44 P **P 08 10 08.3 -0.8**
comp=Z,0.9nm,0.8s,baz=211,slow=2.9,SNR=9.1
PDAR pP **pP 08 12 03.1 +2.5**
comp=Z,0.5nm,0.9s,baz=193,slow=3.7,SNR=3.1
PDAR PKKPbc **PKKPdf 08 27 13.7 +0.1**
comp=Z,0.2nm,0.4s,baz=92,slow=5.5,SNR=3.6
PDAR Pinedale Array 93.29 44 P **P 08 10 08.0 -1.1**
BOZ Bozeman (W) 93.48 41 P **P 08 10 10.6 +0.7**
baz=238
H17A Grant Village 93.49 42 P **P 08 10 11.4 +1.3**
baz=239
W57A Gilead 111.69 60 P **PKiKP 08 15 24.7 -0.9**
baz=255
RES Resolute Bay 112.22 17 PKiKP **PKiKP 08 15 24.0 -1.5**
comp=Z,3.0nm,0.9s,baz=270,slow=2.0,SNR=1.6
W58A Raeford 112.25 61 P **PKiKP 08 15 25.6 -1.2**
baz=255
Y59A Loris 112.27 62 P **PKiKP 08 15 25.6 -1.2**
baz=255
ZALV Zalesovo Beam 112.28 320 PKiKP **PKiKP 08 15 24.1 -2.1**
comp=Z,1.7nm,0.4s,baz=132,slow=2.2,SNR=4.2
MKAR Makanchi Array 112.40 313 PKiKP **PKiKP 08 15 24.8 -1.9**
comp=Z,1.1nm,0.5s,baz=64,slow=2.8,SNR=9.3
MKAR SKP 08 18 12.9
comp=Z,0.9nm,0.8s,baz=76,slow=5.1,SNR=4.8
MKAR PKKPbc **PKKPbc 08 26 17.8 -1.0**
comp=Z,1.2nm,0.7s,baz=284,slow=3.8,SNR=9.0
MKAR PKKPab **PKKPab 08 26 27.5 +0.6**
comp=Z,1.5nm,0.8s,baz=264,slow=3.7,SNR=7.8
L55A Hinsdale 114.50 53 P PKPdf 08 15 30.7 -0.2
baz=258
KURK Kurchatov 115.48 316 PKPdf 08 15 30.1 -2.3
KURBB Kurchatov Arra 115.53 316 PKP **PKPdf 08 15 30.7 -1.8**
comp=Z,3.2nm,0.7s,baz=95,slow=1.9,SNR=26
KURBB SKP 08 18 18.8
comp=Z,0.1nm,0.4s,baz=109,slow=1.8,SNR=5.1
MATQ Matagami 116.31 45 P **PKPdf 08 15 34.5 +0.4**
baz=262
M59A Waymart 116.59 54 P **PKPdf 08 15 33.5 -1.4**
baz=260
K58A Earlville 116.64 53 P **PKPdf 08 15 33.4 -1.6**
baz=260
I58A Red Forge 117.27 52 P **PKPdf 08 15 36.1 -0.1**
baz=261
CHGQ Chibougamau 118.42 45 P **PKPdf 08 15 37.8 -0.3**
baz=265
D57A Chemin Vers le 118.46 48 P **PKPdf 08 15 37.1 -1.2**
baz=264
BDFB Brasilia 118.64 126 PKP **PKPdf 08 15 38.1 -1.6**
comp=Z,2.4nm,0.5s,baz=331,slow=4.2,SNR=3.8
BDFB Brasilia 118.64 126 PKPdf 08 15 37.9 -1.9
GAR Garm 119.65 302 PKPdf 08 15 39.5 -1.5
KBL Kabul 119.92 297 PKPdf **PKPdf 08 15 40.3 -1.4**
KK31 Karatay Array 120.05 307 PKPdf **PKPdf 08 15 40.2 -1.4**
KKAR Karatay Array 120.05 307 PKPdf **PKPdf 08 15 40.5 -1.0**
KKAR Karatay Array 120.05 307 PKPdf **PKPdf 08 15 40.2 -1.3**
E60A Ste Agathe de 120.07 49 P **PKPdf 08 15 40.2 -1.2**
baz=265
CHGR Chuyangaron 120.50 302 PKPdf 08 15 41.8 -0.8
G62A West of Eustis 120.61 51 P **PKPdf 08 15 41.8 -0.7**
baz=265
E61A Lac Etchemin 120.74 49 P **PKPdf 08 15 42.2 -0.5**
baz=266
BVAR Borovoye Array 120.75 318 PKP **PKPdf 08 15 41.2 -1.3**
comp=Z,4.5nm,0.6s,baz=195,slow=10,SNR=19
E62A Clayton Lake 121.42 49 P **PKPdf 08 15 42.7 -1.3**
baz=267
PKME Peaks-Kenny Pk 121.49 51 P **PKPdf 08 15 43.3 -0.8**
baz=266
H64A Troy 121.49 51 P **PKPdf 08 15 42.9 -1.3**
baz=266
BOSA Boshof 121.75 206 PKP **PKPdf 08 15 45.1 -0.4**
comp=Z,3.5nm,0.7s,baz=163,slow=2.0,SNR=9.3
BOSA Boshof 121.75 206 PKPdf 08 15 44.9 -0.6
D62A Allapoint, All 121.76 49 P **PKPdf 08 15 43.4 -1.2**
baz=267
G64A Maxfield 121.86 51 P **PKPdf 08 15 43.6 -1.3**
baz=266
F64A Sherman 122.19 50 P **PKPdf 08 15 44.3 -1.2**
baz=267
H65A Eastbrook 122.19 51 P **PKPdf 08 15 44.3 -1.2**
baz=266
D63A Stockholm 122.41 49 P **PKPdf 08 15 44.2 -1.7**
baz=268
E64A Bridgewater 122.57 49 P **PKPdf 08 15 44.7 -1.5**
baz=268
HRA Herat 125.44 296 PKPdf 08 15 52.4 0.0
SPITS Spitsbergen Ar 125.72 356 PKP **PKPdf 08 15 50.6 -0.8**
comp=Z,6.9nm,0.6s,baz=103,slow=3.8,SNR=6.7
ARU Arti 127.24 323 PKP **PKPdf 08 15 54.4 -0.4**
comp=Z,6.2nm,0.6s,baz=178,slow=1.1,SNR=11
ARU Arti 127.24 323 PKPdf 08 15 54.3 -0.5
ABKAR Akbulak array 127.47 314 PKPdf 08 15 55.1 -0.3
AKTO Aktyubinsk 128.58 316 PKP **PKPdf 08 15 56.1 -1.4**
comp=Z,3.5nm,0.6s,baz=106,slow=3.4,SNR=6.8
GEYT Alibeck 129.07 300 PKP **PKPdf 08 15 58.6 -0.4**
comp=Z,3.3nm,0.7s,baz=20,slow=4.7,SNR=7.7
GEYT SKPbc SKPab 08 18 32.0 -0.9
comp=Z,3.3nm,0.8s,baz=215,slow=4.9,SNR=6.6
GEYT Alibeck 129.07 300 PKPdf **PKPdf 08 15 58.9 0.0**
KIRV Kirov 131.32 328 SKPbc **SKPbc 08 18 38.6 -2.0**
comp=Z,26nm,0.7s,baz=110,slow=3.1,SNR=12
LSZ Lusaka 131.68 218 PKPdf 08 16 04.3 -0.3
ARCES ARCESS Array B 132.44 348 PKhKP PKPpre 08 15 54.4
comp=Z,0.6nm,0.6s,baz=39,slow=2.3,SNR=4.4
ARCES PKP **PKPdf 08 16 03.1 -1.2**
comp=Z,4.3nm,0.7s,baz=45,slow=1.0,SNR=17
ARCES SKPbc **SKPbc 08 18 42.7 -1.6**
comp=Z,5.5nm,0.9s,baz=38,slow=6.6,SNR=7.4
KLMR Klimovskoe 134.63 334 *e*PKPdf **PKPdf 08 16 07.7 -0.9**
KLMR AMP 08 16 10.5
comp=Z,12nm,1.4s
KLMR *e*PP **PP 08 18 48.5 -0.5**
KMBO Kilima Mbogo 135.59 240 PKP **PKPdf 08 16 12.4 +0.2**
comp=Z,1.4nm,0.6s,baz=200,slow=8.0,SNR=3.5
KMBO Kilima Mbogo 135.59 240 PKPdf 08 16 11.8 -0.4
FINES FINESS Array B 138.95 341 PKhKP PKPpre 08 16 06.7
comp=Z,3.2nm,0.7s,baz=39,slow=3.2,SNR=11
FINES PKP sPdif 08 16 16.4 +3.7
comp=Z,4.7nm,0.7s,baz=47,slow=2.1,SNR=5.4
FINES SKPbc **SKPbc 08 19 02.8 -1.5**
comp=Z,7.9nm,0.7s,baz=83,slow=4.3,SNR=15
FINES FINESS Array B 138.95 341 PKPdf 08 16 15.5 -1.1
NB2 NORSAR Subarra 142.65 351 PKP **PKPdf 08 16 18.7 -4.6**
comp=Z,14nm,1.2s,baz=10,slow=3.2
NOA NORSAR Array B 142.65 351 PKhKP PKPpre 08 16 19.4
comp=Z,3.9nm,0.8s,baz=16,slow=4.7,SNR=12
NOA SKPbc **SKPbc 08 19 12.3 -1.6**
comp=Z,2.2nm,0.9s,baz=13,slow=4.1,SNR=3.9
AKASG Malin Array Be 145.36 327 PKPbc **PKPdf 08 16 27.6 -0.6**
comp=Z,11nm,0.6s,baz=45,slow=3.9,SNR=41
AKASG pPKPbc pPKPbc 08 18 26.9 +2.0
comp=Z,0.5nm,0.4s,baz=47,slow=4.2,SNR=2.1
AKASG SKPbc **SKPbc 08 19 19.4 -1.1**
comp=Z,4.1nm,0.6s,baz=46,slow=2.7,SNR=9.0
AKASG Malin Array Be 145.36 327 PKPdf 08 16 27.3 -1.0
AKBB Malin Array Si 145.36 327 PKPdf 08 16 27.0 -1.3
GAZ Gaziantep 145.67 301 PKPdf 08 16 30.6 +1.2
SORM Soroca 147.36 324 ⇑P **PKPdf 08 16 34.4 +2.7**
BR131 Keskin Array S 147.76 306 PKPdf 08 16 34.9 +2.0
BRTR Keskin Array B 147.76 306 PKP **PKPdf 08 16 32.3 -0.6**
comp=Z,3.0nm,0.6s,baz=72,slow=4.7,SNR=25
BRTR PKPbc **PKPbc 08 16 35.5 -1.0**
comp=Z,6.1nm,0.6s,baz=139,slow=4.6,SNR=26
BRTR pPKPbc **pPKPbc 08 18 34.6 +2.2**
comp=Z,0.9nm,0.8s,baz=78,slow=2.1,SNR=2.9
MILM Milestii Mici 147.80 321 ⇑P **PKPdf 08 16 35.2 +2.7**
BEL Belsk 148.33 335 *e*PKP **PKPbc 08 16 37.5 +0.2**
BR231 Keskin MP Arra 148.35 307 PKPdf 08 16 37.8 +4.0
TLCR 148.74 319 ⇑P **PKPdf 08 16 38.3 +4.3**
CFR Carcaliu 149.15 319 ⇑P **PKPdf 08 16 39.0 +4.3**
CSS Mathiatis 149.17 298 PKPdf 08 16 39.4 +4.3
KWP Kalwaria Pacla 149.19 330 *e*PKP **PKPbc 08 16 39.5 0.0**
KWP Kalwaria Pacla 149.19 330 PKPbc 08 16 39.0 +4.4
MDUB Mudurnu 149.27 309 PKPdf 08 16 39.7 +4.5
BIZ Bicaz 149.30 323 ⇑P **PKPbc 08 16 39.8 0.0**
BUR08 Bucovina Ar. S 149.34 325 PKPbc 08 16 40.0 +0.3
BURAR Bucovina Array 149.35 325 ⇑P **PKPbc 08 16 40.2 +0.1**
BURAR Bucovina Array 149.35 325 PKPbc 08 16 40.1 +0.1
HARR Harsova 149.53 318 ⇑P **PKPdf 08 16 40.0 +4.7**
VRI Vrincioaia 149.59 321 ⇑P **PKPdf 08 16 39.6 +4.2**
KOLS Kolonicke sedl 149.89 330 *e*PKP **PKPbc 08 16 40.9 -0.3**
OJC Ojcow 149.99 334 *e*PKP **PKPbc 08 16 41.3 -0.1**
OJC Ojcow 149.99 334 PKPbc 08 16 40.8 -0.6
NEHR Nehoiu 150.09 321 ⇑P **PKPbc 08 16 41.5 -0.3**
MLR Muntele Rosu 150.25 321 ⇑P **PKPbc 08 16 41.8 -0.5**
MLR Muntele Rosu 150.25 321 PKPdf 08 16 41.5 +4.9
CRVS Cervenica-Dubn 150.28 330 *e*PKP **PKPbc 08 16 41.8 -0.4**
DOPR Dopca 150.28 322 ⇑P **PKPbc 08 16 42.6 +0.3**
NIE Niedzica 150.40 332 *e*PKP **PKPbc 08 16 43.1 +0.7**
SECR 150.45 320 ⇑P **PKPbc 08 16 42.6 0.0**
ISP Isparta 150.66 304 PKPdf 08 16 41.8 +4.3
CJR Cluj-Napoca 150.77 325 ⇓P **PKPbc 08 16 43.7 +0.3**
KSP Ksiaz 150.78 338 *e*PKP **PKPbc 08 16 43.4 +0.2**
VOIR 150.79 322 ⇑P **PKPbc 08 16 43.0 -0.5**
OSTC Ostas 151.04 338⇑*e*PKP **PKPbc 08 16 44.4 +0.5**
ARR Arges 151.07 322 ⇑P **PKPbc 08 16 44.4 +0.3**
CHVC Chvalec 151.07 338⇑*e*PKP **PKPbc 08 16 44.0 +0.1**
DPC Dobruska-Polom 151.18 338⇑*e*PKP **PKPbc 08 16 43.9 -0.3**
MORC Moravsky Berou 151.22 336 ⇑P **PKPbc 08 16 44.3 0.0**
MORC Moravsky Berou 151.22 336 PKPbc 08 16 43.5 -0.8
KRLC Kraliky 151.25 337⇑*e*PKP **PKPbc 08 16 44.0 -0.4**
CLL Collm 151.37 343 *e*pPKPab pPKPab 08 18 51.0 +3.8
CLL Collm 151.37 343 *e*PKP **PKPbc 08 16 44.0 -0.6**
baz=25,slow=2.8
CLL Collm 151.37 343 PKPbc 08 16 43.5 -1.1
CLL Collm 151.37 343 *i* PKPbc **PKPbc 08 16 43.6 -0.9**
comp=Z,29nm,0.7s
CLL Collm 151.37 343 *e*PKiKP **PKPbc 08 16 46.0 +1.5**
CLL Collm 151.37 343 *e*pPKPbc pPKPbc 08 18 45.0 +3.3
ELL Elmali 151.45 302 PKPdf 08 16 44.2 +5.5
BRG Berggiesshubel 151.49 341 *e*pPKP pPKPdf 08 18 45.8 +10
comp=Z,15nm,1.6s
BRG Berggiesshubel 151.49 341 *e*PKP **PKPbc 08 16 44.2 -0.6**
baz=25,slow=2.8
BRG Berggiesshubel 151.49 341 *i* PKP **PKPbc 08 16 44.4 -0.5**
comp=Z,24nm,1.1s
BRG Berggiesshubel 151.49 341 *e* **PKiKP 08 16 51.4 +6.2**
comp=Z,7.5nm,1.0s
WIMM Wimmelburg 151.57 344 *e*PKP **PKPbc 08 16 44.5 -0.4**
baz=25,slow=2.8
CHRS Christianenhau 151.65 345 *e*PKP **PKPbc 08 16 44.7 -0.5**
baz=25,slow=2.8
PSZ Piszkesteto 151.71 331 ⇑P **PKPbc 08 16 44.4 -1.1**
VYHS Vyhne 151.73 333 *e*PKP **PKPbc 08 16 45.0 -0.5**
ABG1 Leinawald 151.80 343 *e*PKP **PKPbc 08 16 45.2 -0.3**
baz=25,slow=2.8
MODW Modelwitz 151.85 343 *e*PKP **PKPbc 08 16 45.3 -0.3**
baz=25,slow=2.8
HKWD Heukewalde 152.00 343 *e*PKP **PKPbc 08 16 45.6 -0.4**
baz=25,slow=2.8
TAUT Tautenburg 152.01 344 *e*PKP **PKPbc 08 16 46.1 +0.1**
baz=25,slow=2.8
SIRR Siria 152.06 326 ⇑P **PKPbc 08 16 46.1 -0.2**
GZR Gura Zlata 152.07 324 ⇑P **PKPbc 08 16 45.8 -0.6**
GOPC GO Pecny, Ondr 152.07 339⇑*e*PKP **PKPbc 08 16 46.1 -0.1**
PRU Pruhonice 152.09 339⇑*e*PKP **PKPbc 08 16 45.8 -0.4**
WERD Werda 152.34 343 *e*PKP **PKPbc 08 16 46.4 -0.4**
baz=25,slow=2.8
PLN Plauen 152.35 343 *e*PKP **PKPbc 08 16 46.5 -0.3**
baz=25,slow=2.8
MODS Modra-Piesok 152.46 334 *e*PKP **PKPbc 08 16 46.5 -0.6**
NKC Novy Kostel 152.50 342⇑*e*PKP **PKPbc 08 16 48.5 +1.4**
BZS Buzias 152.53 325 ⇑P **PKPbc 08 16 46.9 -0.4**
ROHR Rohrbach 152.53 342 *e*PKP **PKPbc 08 16 47.3 +0.1**
baz=25,slow=2.8
HERR Herculane 152.59 323 ⇑P **PKPbc 08 16 46.9 -0.6**
MDVR Moldovita 153.04 324 ⇑P **PKPbc 08 16 47.9 -0.6**
KHC Kasperske Hory 153.14 340⇑*e*PKP **PKPbc 08 16 48.4 -0.2**
KHC *ex* x 08 17 02.5
GERES GERESS Array B 153.35 339 PKP **PKPdf 08 16 39.8 -1.2**
comp=Z,0.3nm,0.4s,baz=337,slow=3.0,SNR=3.5
GERES PKPbc **PKPbc 08 16 48.0 -1.1**
comp=Z,1.3nm,0.6s,baz=35,slow=3.3,SNR=7.0
GERES PKPab **PKPab 08 17 03.7 +0.1**
comp=Z,0.4nm,0.3s,baz=29,slow=6.6,SNR=3.7
GERES pPKPbc **pPKPbc 08 18 49.5 +3.2**
comp=Z,0.5nm,0.5s,baz=270,slow=2.0,SNR=2.3
GERES GERESS Array B 153.35 339 PKPdf 08 16 39.1 -2.0
GERES **PKPbc 08 16 47.7 -1.4**
GERES PKPab **PKPab 08 17 01.8 -1.9**
LIC Lamto 161.24 165 *e*PKP2 **PKPab 08 17 38.3 -0.2**
comp=Z,40nm,0.7s
KIC Kosan Boka 161.44 166 *e*PKP2 **PKPab 08 17 39.2 -0.2**
comp=Z,32nm,0.7s
TIC Toumodi 161.65 165 *e*PKP2 **PKPab 08 17 40.0 -0.3**
DBIC Dimbokro 161.71 165 PKP **PKPdf 08 16 51.2 -0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,7.7nm,0.9s,baz=285,slow=2.8,SNR=5.5						
DBIC				PKPab	**PKPab**	**08 17 40.2**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=191,slow=6.0,SNR=7.0						
DBIC	**Dimbokro**	**161.71**	**165**		**PKPdf**	**08 16 51.3**	**-0.9**
DBIC				PKPab	**PKPab**	**08 17 40.6**	**0.0**
ESDC	**Sonseca Array**	**164.57**	**11**	PKPab	**PKPab**	**08 17 51.8**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=350,slow=3.7,SNR=6.1						
ESDC	**Sonseca Array**	**164.57**	**11**	PKPdf	**PKPdf**	**08 16 53.1**	**-1.2**
ESDC				PKPab	**PKPab**	**08 17 51.4**	**-1.2**
TOA0	**Torodi Ar. Sit**	**168.54**	**190**		**PKPdf**	**08 16 56.7**	**-1.1**
TOA0				PKPab	**PKPab**	**08 18 09.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**168.54**	**190**	PKP	**PKPab**	**08 16 56.1**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=243,slow=1.1,SNR=16						
TORD				PKPab	**PKPab**	**08 18 09.7**	**-0.9**
	comp=Z,9.9nm,0.8s,baz=179,slow=3.1,SNR=32						
TORD				PP	**PP**	**08 21 59.0**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=180,slow=3.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**168.54**	**190**		**PKPdf**	**08 16 56.1**	**-1.7**
TORD				PKPab	**PKPab**	**08 18 10.0**	**-0.6**

LJU 06 08:15:30.8, 46°39N×15°07E, h0km Rockburst, Northwestern Balkan Peninsula

*YARS **06** 08:23:38.4±0.0, 57°.47N×120°.76E, h10km*
*BYKL **06** 08:23:39.7±0.6, 57°.38N×120°.65E*
ISC 06 08:23:39.1±0.6, 57°45N±0°.02×120°87E±0°.02, h10km, n44, σ2s42/93, 3C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.96**	**153**	*e*Pg	**Pb**	**08 23 57.6**	**-0.2**
YKLR				*e*Sg	**Sb**	**08 24 10.5**	**0.0**
YKLR	**Yuktali**	**0.96**	**153**	*i* Pg	**Pg**	**08 23 57.0**	**-0.5**
YKLR				*i* Pg	**Pg**	**08 23 57.0**	**-0.5**
YKLR				*i* Pg	**Pg**	**08 23 57.0**	**-0.5**
YKLR				*e*Sg	**Sg**	**08 24 09.9**	**0.0**
	496nm,0.1s						
YKLR				*e*Sg	**Sg**	**08 24 09.9**	**0.0**
	241nm,0.1s						
CRS	**Chara**	**1.52**	**250**	*e*Pg	**Pn**	**08 24 04.2**	**-2.2**
CRS				*e*		08 24 09.0	
CRS				max		08 24 09.9	
	218nm,0.9s						
CRS				*e*Sg	**Sn**	**08 24 23.0**	**-3.3**
CRS				Smax		08 24 25.1	
	798nm,1.4s						
CRS	**Chara**	**1.52**	**250**	*e*Pg	**Pn**	**08 24 04.2**	**-2.2**
	218nm,0.9s						
CRS				*e*Sg	**Sn**	**08 24 25.1**	**-1.1**
	798nm,1.4s						
CLNS	**Chul'man**	**2.27**	**104**	*e*Pn	**Pb**	**08 24 19.1**	**-1.2**
CLNS				*e*Pg	**Pg**	**08 24 22.1**	**-0.6**
CLNS				*e*		08 24 24.0	
CLNS				*e*Sg	**Sg**	**08 24 53.2**	**+1.1**
CLNS	**Chul'man**	**2.27**	**104**	*e*Pn	**Pn**	**08 24 17.4**	**+0.6**
CLNS				*e*Pg	**Pb**	**08 24 20.6**	**+0.3**
	14nm,0.2s						
CLNS				*e*Sn	**Sb**	**08 24 46.5**	**-1.9**
CLNS				*e*Sn	**Sb**	**08 24 46.5**	**-1.9**
CLNS				*e*Sg	**Sg**	**08 24 51.6**	**-0.5**
	396nm,1.8s						
CLNS				*e*Sg	**Sg**	**08 24 51.6**	**-0.5**
	460nm,1.7s						
IENR	**Iengra**	**2.51**	**118**	*e*	**Sb**	**08 24 57.1**	**+1.9**
IENR				*e*Sg	**Sg**	**08 24 59.8**	**+0.2**
IENR	**Iengra**	**2.51**	**118**	*e*Pn	**Pn**	**08 24 20.7**	**+0.7**
IENR				*e*Pg	**Pb**	**08 24 24.9**	**+0.6**
	2.1nm,0.0s						
IENR				*e*Sn	**Sn**	**08 24 52.2**	**+1.6**
IENR				*e*Sn	**Sn**	**08 24 52.2**	**+1.6**
IENR				*e*Sg	**Sg**	**08 24 59.1**	**-0.6**
	295nm,0.8s						
ALDR	**Aldan**	**2.68**	**62**	*e*Pn	**Pn**	**08 24 22.7**	**+0.4**
ALDR				*e*Pg	**Pb**	**08 24 27.6**	**+0.4**
	7.0nm,0.2s						
ALDR				*e*Sg	**Sg**	**08 25 03.9**	**-1.2**
	304nm,0.3s						
OLMR	**Olekminsk**	**2.95**	**356**	*e*Pn	**Pn**	**08 24 25.5**	**-0.4**
OLMR				*e*Pg	**Pb**	**08 24 30.6**	**-1.1**
	6.5nm,0.1s						
OLMR				*e*Sn	**Sn**	**08 25 01.0**	**-0.3**
OLMR				*e*Sn	**Sn**	**08 25 01.0**	**-0.3**
OLMR				*e*Sg	**Sb**	**08 25 09.9**	**+2.2**
	127nm,0.1s						
NLYR	**Nelyaty**	**2.99**	**253**	*e*Pn	**Pn**	**08 24 24.4**	**-2.2**
NLYR				*e*		08 24 27.6	
NLYR				*e*Pg	**Pb**	**08 24 31.0**	**-1.4**
NLYR				Pmax		08 24 38.2	
	109nm,0.4s						
NLYR				*e*		08 24 50.3	
NLYR				*e*		08 24 56.3	
NLYR				*e*Sg	**Sb**	**08 25 07.5**	**-1.5**
NLYR				Smax		08 25 10.9	
	1μm,1.3s						
TUP	**Tupik**	**3.07**	**190**	⇑*i*Pn	**Pn**	**08 24 27.4**	**-0.3**
TUP				⇑*i*Pg	**Pb**	**08 24 32.5**	**-1.3**
TUP				*e*PgPg	**PnPn**	**08 24 35.2**	**+0.3**
TUP				max		08 24 35.9	
	116nm,0.4s						
TUP				*e*Sg	**Sb**	**08 25 11.8**	**+0.4**
TUP				*e*SgSg	**SnSn**	**08 25 15.1**	**-0.1**
TUP				max		08 25 15.7	
	512nm,0.9s						
TUP	**Tupik**	**3.07**	**190**	*e*Pg	**Pb**	**08 24 32.6**	**-1.3**
	116nm,0.4s						
TUP				*e*Sg	**SnSn**	**08 25 15.1**	**-0.1**
	512nm,0.9s						
TNDR	**Tynda**	**3.15**	**135**	*e*Pn	**Pn**	**08 24 29.4**	**+0.6**
TNDR				*e*Pg	**Pb**	**08 24 36.1**	**+1.0**
	2.2nm,0.0s						
TNDR				*e*Sn	**Sn**	**08 25 07.9**	**+1.6**
TNDR				*e*Sn	**Sn**	**08 25 07.9**	**+1.6**
TNDR				*e*Sg	**Sg**	**08 25 18.5**	**-1.6**
	301nm,1.1s						
SVKR	**Severomuysk**	**4.24**	**255**	*e*	**Sb**	**08 25 40.6**	**-4.3**
SVKR				*e*Sg	**Sg**	**08 25 48.2**	**-6.9**
SVKR				*e*		08 25 56.5	
SVKR				max		08 26 01.4	
	358nm,0.6s						
UKT	**Uakit**	**4.47**	**247**	*e*Pn	**Pn**	**08 24 47.6**	**+0.6**
UKT				⇑*i*Pg	**Pb**	**08 24 57.5**	**-0.2**
UKT				Pmax		08 25 03.3	
	24nm,1.0s						
UKT				*e*Sg	**Sb**	**08 25 53.5**	**+1.8**
UKT				*e*		08 25 58.4	
UKT				max		08 26 00.6	
	124nm,1.0s						
KROS	**Kirovskiy**	**4.57**	**129**	*e*Sg	**Sg**	**08 26 03.2**	**-2.4**
	66nm,0.2s						
VTMR	**Vitim**	**4.81**	**298**	*e*	**Pb**	**08 25 02.0**	**-1.4**
VTMR				*e*		08 25 46.4	
VTMR				*e*Sg	**Sb**	**08 26 05.1**	**+3.9**
YOA	**Uoyan**	**5.20**	**259**	*e*Sg	**Sb**	**08 26 17.5**	**+5.0**
YOA				Smax		08 26 26.9	
	1μm,1.8s						
BMKR	**Bomnak**	**5.24**	**118**	*e*Sg	**Sg**	**08 26 23.9**	**-3.2**
	62nm,0.4s						
BMKR				*e*Sg	**Sg**	**08 26 23.9**	**-3.2**
	55nm,0.4s						
CGD	**Chagda**	**5.33**	**72**	*e*Pn	**Pn**	**08 24 59.7**	**+1.0**
CGD				*e*Pg	**Pb**	**08 25 15.6**	**+3.4**
	3.1nm,0.3s						
CGD				*e*Sn	**Sn**	**08 26 01.1**	**+1.1**
CGD				*e*Sn	**Sn**	**08 26 01.1**	**+1.1**
CGD				*e*Sg	**Sg**	**08 26 26.7**	**-3.4**
	110nm,0.4s						
KMO	**Kumora**	**5.56**	**258**	*e*Pn	**Pn**	**08 25 03.3**	**+1.5**
KMO				*e*		08 25 13.4	
KMO				*e*Pg	**Pb**	**08 25 16.9**	**+0.7**
KMO				Pmax		08 25 31.9	
	16nm,1.3s						
KMO				*e*		08 25 57.6	
KMO				*e*Sg	**Sb**	**08 26 26.3**	**+3.5**
KMO				Smax		08 26 35.6	
	258nm,1.0s						
BLSR	**Buluus**	**5.72**	**43**	*e*Pn	**Pn**	**08 25 04.6**	**+0.6**
BLSR				*e*Pg	**Pb**	**08 25 22.2**	**+3.3**
	1.5nm,0.1s						
BLSR				*e*Sn	**Sn**	**08 26 10.0**	**+0.3**
BLSR				*e*Sn	**Sn**	**08 26 10.0**	**+0.3**
BLSR				*e*Sg	**Sg**	**08 26 38.2**	**-4.4**
	150nm,0.2s						
YLYR	**Ulyunkhan**	**6.01**	**249**	*e*Pn	**Pn**	**08 25 08.1**	**+0.1**
YLYR				*e*Pg	**Pb**	**08 25 25.7**	**+1.9**
YLYR				Pmax		08 25 55.0	
	13nm,1.2s						
YLYR				*e*		08 26 15.7	
YLYR				*e*Sg	**Sb**	**08 26 41.0**	**+5.3**
YLYR				Smax		08 26 59.1	
	114nm,1.2s						
TBGR	**Tabaga**	**6.24**	**42**	*e*Pn	**Pn**	**08 25 11.9**	**+0.7**
TBGR				*e*Pg	**Pb**	**08 25 31.5**	**+3.7**
	5.3nm,0.0s						
TBGR				*e*Sn	**Sn**	**08 26 22.6**	**+0.2**
TBGR				*e*Sn	**Sn**	**08 26 22.6**	**+0.2**
TBGR				*e*Sg	**Sg**	**08 26 54.5**	**-4.8**
	131nm,0.2s						
YAK	**Yakutsk**	**6.40**	**40**	*e*Pn	**Pn**	**08 25 14.2**	**+0.9**
YAK				*e*Pg	**Pb**	**08 25 34.3**	**+3.9**
	3.1nm,0.2s						
YAK				*e*Sn	**Sn**	**08 26 26.4**	**+0.1**
YAK				*e*Sn	**Sn**	**08 26 26.4**	**+0.1**
YAK				*e*Sg	**Sg**	**08 26 59.0**	**-5.2**
	99nm,1.1s						
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*	**Pn**	**08 25 19.1**	**+4.7**
NIZ				*e*		08 25 38.7	
NIZ				*e*		08 26 45.0	
NIZ				Sg	**Sb**	**08 26 55.9**	**+6.7**
SYVR	**Suvo**	**7.24**	**243**	*e*	**Pb**	**08 25 43.2**	**-1.6**
SYVR				*e*		08 25 44.7	
SYVR				max		08 25 52.1	
	4.0nm,0.1s						
SYVR				*e*Sg	**Sb**	**08 27 18.3**	**+7.1**
SYVR				*e*		08 27 26.0	
SYVR				max		08 27 28.6	
	153nm,1.6s						
MXMB	**Maximikha**	**8.08**	**244**	*e*Sg	Sb	08 27 45.1	+10
OGRR	**Ongureny**	**8.44**	**249**	*e*	Pg	08 27 02.3	+42
OGRR				*e*		08 27 12.5	
OGRR				*e*Sg	Sb	08 27 57.3	+12
OGRR				Smax		08 28 29.1	
	63nm,1.7s						
KELR	**Kotokel**	**8.70**	**243**	*e*		08 27 53.1	
KELR				*e*Sg	Sg	08 28 05.8	-12
KPC	**Khapcheranga**	**9.25**	**217**	*e*Pn	**Pn**	**08 25 54.7**	**+2.2**
KPC				*e*		08 26 00.0	
KPC				max		08 26 19.4	
	2.0nm,0.1s						
KPC				*e*		08 27 39.7	
KPC				*e*Sg	Sn	08 28 20.4	+44
KPC				Smax		08 28 31.7	
	93nm,1.1s						
KPC				*e*		08 28 33.2	
UUDB	**Ulan-Yde**	**9.47**	**239**	*e*	Pn	08 26 24.4	+29
UUDB				max		08 26 59.1	
	10.0nm,0.7s						
UUDB				*e*Sg	Sn	08 28 29.1	+47
UUDB				Smax		08 28 50.7	
	107nm,1.3s						
TRG	**Tyrgan**	**9.55**	**247**	*e*		08 27 42.0	
TRG				*e*Sg	Sn	08 28 31.0	+47
TRG				*e*		08 28 42.2	
TRG				max		08 28 43.0	
	42nm,1.9s						
FFNB	**Fofonovo**	**9.78**	**242**	*e*Sg	Sn	08 28 39.2	+50
FFNB				*e*		08 28 45.8	
KAB	**Kabansk**	**9.83**	**243**	Sg	Sn	08 28 36.7	+46
KAB				*e*		08 28 40.4	
STDB	**Stepnoy Dvoret**	**9.89**	**244**	Sg	Sn	08 28 41.8	+49
STDB				*e*		08 29 31.5	
HRMR	**Khuramsha**	**9.96**	**240**	*e*	Pn	08 26 46.0	+44
HRMR				*e*		08 27 51.1	
HRMR				*e*Sg	Sn	08 28 45.2	+51
HRMR				*e*		08 28 51.0	
HRMR				max		08 28 58.8	
	221nm,1.2s						
BGT	**Bolshoye Golou**	**10.44**	**245**	Sg	Sn	08 28 59.0	+53
BGT				*e*		08 29 05.1	
IVK	**Ivanovka**	**11.08**	**246**	Sg	Sn	08 29 16.3	+55
IVK				*e*		08 29 21.5	
IVK				max		08 30 00.5	
	41nm,2.2s						
ARS	**Arshan**	**12.01**	**250**	*e*Pn	**Pn**	**08 28 41.7**	**-2.4**
ARS				*e*Sg		08 29 47.5	
ARS				*e*		08 29 59.2	
ARS				max		08 30 17.6	
	45nm,0.7s						
ARS				*e*		08 30 47.3	
ZAK	**Zakamensk**	**12.53**	**243**	*e*Sg		08 30 02.6	
ZAK				*e*		08 30 19.0	
MOY	**Mondy**	**12.88**	**252**	Sg		08 30 14.5	
ORL	**Orlik**	**13.03**	**257**	*e*	P	08 27 01.9	+7.1
ORL				*e*		08 27 25.3	
ORL				*e*		08 28 55.0	
ORL				*e*		08 29 39.1	
ORL				*e*Sg	S	08 30 19.2	+44
ORL				Smax		08 30 41.4	
	21nm,1.6s						

*GCG **06** 08:55:44.7±0.5, 15°.68N×92°.03W, h137km±30km, MD4.1*
*MEX **06** 08:55:44.0±0.8, 15°.07N×92°.42W, h111km±7km, MD3.9*
ISC 06 08:55:45.1±1.4, 15°05N±0°.09×92°64W±0°.08, h100km, n8, σ1s25/15, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.39**	**112**	*e*P	**Pn**	**08 55 58.1**	**-2.0**
THIG				*i* S	**Sn**	**08 56 09.6**	**-1.9**
PCIG		**0.86**	**319**	*e*P	**Pn**	**08 56 03.8**	**-0.3**
PCIG				*i* S	**Sn**	**08 56 19.8**	**+1.4**
CCIG	**Comitan**	**1.31**	**21**	*e*P	**Pn**	**08 56 09.1**	**-0.3**
CCIG				*i* S	**Sn**	**08 56 28.0**	**+0.4**
TGIG		**1.78**	**345**	*e*P	**Pn**	**08 56 14.2**	**-0.8**
TGIG				*i* S	**Sn**	**08 56 36.5**	**-1.2**
FUG	**Fuego 3**	**1.84**	**109**	*e*P	**Pn**	**08 56 16.4**	**+0.6**
FUG				*e*S	**Sn**	**08 56 40.5**	**+1.4**
PCG	**Pacaya**	**2.07**	**108**	*e*S	**Sn**	**08 56 45.5**	**+0.8**
IXG	**Ixpaco**	**2.30**	**112**	*e*P	**Pn**	**08 56 21.6**	**-0.2**
IXG				*e*S	**Sn**	**08 56 50.9**	**+1.1**
CMIG	**Matias Romero**	**2.96**	**314**	*e*P	**Pn**	**08 56 30.5**	**0.0**
CMIG				*e*S	**Sn**	**08 57 06.9**	**+1.6**

NNC 06 09:00:01.2±2.2, 54°13N×86°42E, h0km, mb3.6, mpv2.8, 6C-2D, Error ellipse: s-maj=25.6km s-min=10.3km az=4.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.96**	**260**	⇑P	Pg	09 00 19.3	-0.3
	0.3nm,0.5s						
ZAA0				⇑S	Sb	09 00 33.2	-0.8
	1.9nm,0.8s						
KURK	**Kurchatov**	**5.87**	**238**	⇑Pn	Pn	09 01 31.4	+2.0
	1.9nm,0.8s						
KURK				⇑Lg	Lg	09 03 07.0	
	11nm,1.3s						
KURBB	**Kurchatov Arra**	**5.97**	**237**	⇑Pn	Pn	09 01 32.5	+1.7
	2.1nm,0.5s						
KURBB				⇑Lg	Lg	09 03 13.7	
	3.6nm,0.8s						
MK31	**Makanchi Array**	**7.80**	**201**	⇓Pn	Pn	09 01 57.4	+1.4
	0.8nm,0.7s,baz=27,slow=13,SNR=8.6						
MK31				⇓Sn	Sn	09 03 24.1	-0.9
	1.1nm,0.9s,baz=218,slow=32,SNR=2.5						
MK31				Lg	Lg	09 04 05.4	
	1.1nm,0.8s,baz=28,slow=26,SNR=6.4						

*NEIC **06** 09:33:07.3±1.9, 7°.85S±0°.07×116°.69E±0°.06, h276km±7km, mb4.5/31, Error ellipse: s-maj=10.8km s-min=8.5km az=210.0*
*IDC **06** 09:33:08.7±1.0, 7°.80S×116°.76E, h284km±9km, mb3.9/25, mb1 4.0/29, mb1mx3.9/56, mbtmp4.6/29, Error ellipse: s-maj=11.5km s-min=6.5km az=64.0*
*DJA **06** 09:33:08.9±0.2, 8°S±3°×11°7E±°, h265km±3km, M4.5/19, mb4.6/16, mB5.0/7, MLv4.6/19, Mw(mB)4.4/7*
*KLM **06** 09:33:09.0, 8°.05S×116°.70E, h265km, mb5.0*
ISC 06 09:33:09.1±0.4, 7°93S±0°.04×116°71E±0°.05, h300km, n122, σ1s96/117, mb4.3/36, 1D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.82**	**168**	P	**Pn**	**09 33 45.1**	**-3.6**
TWSI				S	**S**	**09 34 12.7**	**-7.5**
PLAI	**Plampang**	**1.38**	**130**	P	**Pn**	**09 33 47.9**	**-3.6**
ABJI	**Asem Bagus**	**2.46**	**273**	P	**Pn**	**09 33 58.5**	**-1.2**
JAGI	**Jajag, Banyuwa**	**2.59**	**258**	P	**Pn**	**09 33 58.4**	**-2.5**
JAGI	**Jajag, Banyuwa**	**2.59**	**258**	Pn	**Pn**	**09 33 57.5**	**-3.5**
KMMI	**Kalianget**	**2.86**	**288**	P	**Pn**	**09 34 02.9**	**-0.6**
BLJI	**Banyuglugur**	**3.09**	**273**	P	**Pn**	**09 34 05.1**	**-0.7**
GMJI	**Gumukmas**	**3.25**	**264**	P	**Pn**	**09 34 05.4**	**-2.0**
KAPI	**Kappang**	**4.19**	**46**	P	**Pn**	**09 34 15.1**	**-2.3**
	41nm,0.3s,baz=220,slow=6.1,SNR=124						
KAPI				S	**S**	**09 35 07.3**	**-4.9**
	baz=62,slow=20,SNR=0.9						
KAPI	**Kappang**	**4.19**	**46**	Pn	**Pn**	**09 34 15.6**	**-1.8**
BKSI	**Bulukumba**	**4.27**	**53**	P	**Pn**	**09 34 16.8**	**-1.5**
BASI	**Baing, Sumba**	**4.44**	**121**	P	**Pn**	**09 34 17.3**	**-3.0**
KBKI	**Kotabaru**	**4.63**	**353**	P	**Pn**	**09 34 21.6**	**-0.9**
BBKI	**Banjar Baru**	**4.81**	**337**	P	**Pn**	**09 34 24.6**	**0.0**
PWJI	**Pagerwojo**	**4.86**	**269**	P	**Pn**	**09 34 23.8**	**-1.2**
BNSI	**Bone**	**4.87**	**44**	P	**Pn**	**09 34 24.2**	**-0.9**
SPSI	**Sidrap Palu**	**4.98**	**38**	P	**Pn**	**09 34 24.6**	**-1.8**
	0.2nm826nm47nm,1.0s						
EDFI	**Ende, Flores**	**4.99**	**100**	P	**Pn**	**09 34 23.9**	**-2.8**
MMRI	**Maumere**	**5.51**	**98**	P	**Pn**	**09 34 30.4**	**-2.3**
	1.8nm8μm242nm,0.4s						
MMRI	**Maumere**	**5.51**	**98**	Pn	**Pn**	**09 34 29.8**	**-2.9**
WOJI	**Wonogiri, Jawa**	**5.74**	**271**	P	**Pn**	**09 34 35.1**	**-0.2**
	0.7nm84nm,0.7s						
UGM	**Wanagama**	**6.13**	**270**	Pn	**Pn**	**09 34 38.6**	**-1.4**
BATI	**Baumata**	**7.23**	**109**	P	**Pn**	**09 34 51.2**	**-2.1**
	40nm,0.3s,baz=289,slow=8.2,SNR=14						
BATI				S	**S**	**09 36 11.3**	**-6.4**
	111nm,0.3s,baz=331,slow=22,SNR=13						
BATI	**Baumata**	**7.23**	**109**	P	**Pn**	**09 34 51.1**	**-2.2**
	0.8nm2μm78nm,0.7s						
SOEI	**Soe**	**7.68**	**104**	P	**Pn**	**09 34 56.7**	**-2.3**
	2.2nm3μm221nm,0.7s						
SOEI	**Soe**	**7.68**	**104**	Pn	**Pn**	**09 34 56.4**	**-2.6**
MPSI	**Mapaga**	**8.81**	**21**	P	**P**	**09 35 13.3**	**-4.3**
	15nm,0.9s						
CISI	**Cisompet, Garu**	**8.82**	**272**	Pn	**Pn**	**09 35 12.2**	**-0.7**
CISI					**S**	**09 36 48.0**	**-5.6**
LEM	**Lembang**	**9.09**	**276**	P	**P**	**09 35 21.6**	**+0.7**
	5.6nm,0.3s,baz=150,slow=20,SNR=2.7						
SBUM	**Sibu**	**11.24**	**336**	P	**P**	**09 35 43.8**	**-0.9**
SBUM	**Sibu**	**11.24**	**336**	P	**P**	**09 35 44.0**	**-0.7**
KSM	**Kuching**	**11.32**	**325**		**P**	**09 35 43.4**	**-2.1**
KSM	**Kuching**	**11.32**	**325**	P	**P**	09 35 49.0	+3.5
PPBI	**Pangkal Pinang**	**11.99**	**298**	P	**P**	**09 35 52.2**	**-0.8**
KLSI		**12.34**	**284**	P	**P**	**09 35 57.2**	**+0.3**
	326nm20nm,0.8s						
SPMM	**Sapulut**	**12.56**	**359**	P	P	09 36 02.0	+2.6
LWLI	**Liwa**	**12.90**	**282**	P	**P**	**09 36 03.9**	**+0.6**
	9μm117nm,0.9s						
MDSI	**Maura Dua**	**12.92**	**285**	P	**P**	**09 36 03.6**	**+0.3**
	17nm,1.0s						
MYLDM	**Lahad Datu**	**13.15**	**8**		**P**	**09 36 07.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**13.33**	**140**	P	**P**	**09 36 07.8**	**+0.1**
	1.7nm,0.3s,baz=335,slow=7.9,SNR=30						
FITZ				S	**S**	**09 38 38.8**	**+3.7**
	0.4nm,0.3s,baz=118,slow=8.9,SNR=3.1						
FITZ	**Fitzroy Crossi**	**13.33**	**140**		**P**	**09 36 07.5**	**-0.2**
LHSI	**Lahat**	**13.74**	**287**	P	**Pn**	**09 36 14.5**	**+1.8**
	176nm,0.9s						
KKM	**Kota Kinabalu**	**13.89**	**358**	P	**Pn**	**09 36 15.2**	**+0.6**
PSA00	**Pilbara Seismi**	**13.89**	**168**		**Pn**	**09 36 15.5**	**+1.0**
KNRA	**Kununurra**	**14.08**	**124**		**Pn**	**09 36 17.1**	**+0.4**
MNAI	**Manna**	**14.13**	**284**	P	**Pn**	**09 36 17.6**	**+0.2**
KSI	**Kapahiang**	**14.67**	**286**	P	**Pn**	**09 36 25.2**	**+1.3**
	65nm,0.7s						
SIJI	**Sorong**	**16.11**	**65**	P	**Pn**	**09 36 37.5**	**-3.1**
	2.0nm,0.3s,baz=268,slow=18,SNR=4.3						
RPSI	**Rantau Prapat**	**20.65**	**300**	P	**P**	**09 37 25.9**	**-0.8**
PSI	**Prapat**	**20.70**	**300**	P	**P**	**09 37 25.9**	**-1.5**
	10nm,0.5s,baz=203,slow=9.2,SNR=5.6						
WB0	**Warramunga Arr**	**20.78**	**126**	P	**P**	**09 37 28.3**	**+0.3**
WB0				IAmb	IAmb	09 37 30.2	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**20.84**	**127**	P	**P**	**09 37 28.8**	**+0.3**
	comp=Z,7.6nm,0.4s,baz=300,slow=12,SNR=94						
WRA				S	**S**	**09 41 02.8**	**+1.5**
	comp=Z,2.4nm,0.9s,baz=304,slow=22,SNR=5.3						
WRA				ScP	**ScP**	**09 44 33.5**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=311,slow=2.1,SNR=3.6						
WRA	**Warramunga Arr**	**20.84**	**127**	P	**P**	**09 37 29.1**	**+0.6**
WRAB	**Tennant Creek**	**20.84**	**127**	P	**P**	**09 37 29.0**	**+0.4**
WB2	**Warramunga Arr**	**20.84**	**127**	P	**P**	**09 37 29.1**	**+0.5**
WB2				IAmb	IAmb	09 37 30.8	
	comp=Z,22nm,0.8s						
WR0	**Warramunga Arr**	**21.00**	**127**	P	**P**	**09 37 30.8**	**+0.7**
WR0				IAmb	IAmb	09 37 32.7	
	comp=Z,23nm,0.8s						
MORW	**Morawa**	**21.04**	**182**	P	**P**	**09 37 32.5**	**+2.2**
MORW				IAmb	IAmb	09 37 34.9	
	comp=Z,17nm,0.9s						
AS31	**Alice Springs**	**22.73**	**135**	IAmb	IAmb	09 37 49.4	
	comp=Z,10nm,0.4s						
ASAR	**Alice Springs**	**22.73**	**135**	P	**P**	**09 37 47.3**	**+1.5**
	comp=Z,20nm,0.6s,baz=308,slow=8.0,SNR=125						
ASAR				PcP	**PcP**	**09 41 28.9**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=336,slow=2.0,SNR=2.4						
ASAR				S	**S**	**09 41 35.9**	**+4.1**
	comp=Z,0.7nm,0.9s,baz=297,slow=14,SNR=3.2						
ASAR				ScP	**ScP**	**09 44 38.7**	**+2.0**
	comp=Z,2.6nm,0.9s,baz=306,slow=1.9,SNR=8.5						
NWAO	**Narrogin (SRO)**	**24.88**	**179**	P	**P**	**09 38 07.0**	**+1.9**
	comp=Z,20nm,0.7s,baz=359,slow=7.9,SNR=12						
NWAO	**Narrogin (SRO)**	**24.88**	**179**	P	**P**	**09 38 05.8**	**+0.7**
NWAO				IAmb	IAmb	09 38 07.6	
	comp=Z,20nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.88**	**179**	IAmb	IAmb	09 38 07.6	
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**25.09**	**156**	P	**P**	**09 38 08.9**	**+1.8**
COEN	**Coen**

USRK	**Ussuriysk Ar.**	**53.70**	**14**	P	**P**	**09 42 00.6**	**+0.1**
ULN	**Ulaanbaatar**	**56.21**	**352**	P	**P**	**09 42 19.5**	**+0.9**
SONM	**Songino Array**	**56.27**	**352**	P	**P**	**09 42 19.2**	**+0.2**
	comp=Z,8.8nm,0.7s,baz=169,slow=8.9,SNR=30						
SONM	**Songino Array**	**56.27**	**352**	P	**P**	**09 42 19.3**	**+0.3**
ASAJ	**Asahikawa**	**56.85**	**22**	P	**P**	**09 42 23.7**	**+0.7**
	comp=Z,13nm,0.7s,baz=249,slow=6.4,SNR=11						
JKA	**Kamikawa-asahi**	**56.85**	**22**	IAmb	IAmb	09 42 24.2	
	comp=Z,17nm,0.9s						
RPZ	**Rata Peaks**	**59.13**	**137**	P	P	09 42 41.2	+2.4
	comp=Z,25nm,1.0s,baz=315,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**62.50**	**334**	P	**P**	**09 43 01.2**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=149,slow=7.6,SNR=27						
MKAR				pP	**pP**	**09 44 05.2**	**-2.3**
	comp=Z,2.0nm,0.9s,baz=132,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**62.50**	**334**	P	**P**	**09 43 00.6**	**-0.6**
KKAR	**Karatay Array**	**65.87**	**325**	P	**P**	**09 43 21.7**	**-1.4**
KURK	**Kurchatov**	**67.06**	**335**	P	**P**	**09 43 30.6**	**+0.3**
ZALV	**Zalesovo Beam**	**67.26**	**340**	P	**P**	**09 43 30.9**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=152,slow=6.5,SNR=6.1						
ZALV				pP	**pP**	**09 44 35.2**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=134,slow=6.2,SNR=1.6						
ZALV	**Zalesovo Beam**	**67.26**	**340**	P	**P**	**09 43 30.7**	**-0.9**
MAW	**Mawson**	**69.48**	**199**	P	P	09 43 47.8	+2.8
	comp=Z,5.7nm,0.7s,baz=57,slow=8.1,SNR=15						
MAW	**Mawson**	**69.48**	**199**	P	P	09 43 48.1	+3.1
PETK	**Petropavlovsk-**	**70.04**	**25**	P	**P**	**09 43 49.5**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=215,slow=5.1,SNR=7.1						
BVAR	**Borovoye Array**	**72.31**	**333**	P	**P**	**09 44 02.2**	**0.0**
	comp=Z,2.2nm,0.7s,baz=204,slow=14,SNR=15						
VNDA	**Vanda**	**73.39**	**171**	P	P	09 44 10.3	+2.1
	comp=Z,1.2nm,0.6s,baz=320,slow=6.8,SNR=12						
AB01	**Akbulak array**	**75.40**	**326**	P	**P**	**09 44 19.6**	**-0.5**
AB31	**Akbulak array**	**75.40**	**326**	P	**P**	**09 44 19.3**	**-0.8**
ABKAR	**Akbulak array**	**75.40**	**326**	P	**P**	**09 44 18.8**	**-1.3**
ABKAR	**Akbulak array**	**75.40**	**326**	IAmb	IAmb	09 44 20.7	
	comp=Z,5.7nm,0.9s						
AB04	**Akbulak array**	**75.40**	**326**	P	**P**	**09 44 19.9**	**-0.2**
AB05	**Akbulak array**	**75.41**	**326**	P	**P**	**09 44 19.8**	**-0.4**
AB09	**Akbulak array**	**75.42**	**326**	P	**P**	**09 44 20.2**	**0.0**
SEY	**Seymchan**	**75.75**	**16**	P	**P**	**09 44 21.4**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=227,slow=2.2,SNR=3.9						
AKTO	**Aktyubinsk**	**77.07**	**326**	P	**P**	**09 44 29.4**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=114,slow=2.6,SNR=7.6						
KMBO	**Kilima Mbogo**	**79.41**	**270**	P	P	09 44 45.5	+2.2
	comp=Z,2.8nm,0.9s,baz=34,slow=3.6,SNR=4.5						
RAR	**Rarotonga**	**81.16**	**110**	P	**P**	**09 44 50.5**	**-1.6**
QSPA	**South Pole Qui**	**82.06**	**180**	P	**P**	**09 44 57.7**	**+1.7**
BOSA	**Boshof**	**87.53**	**242**	P	P	09 45 26.2	+2.3
	comp=Z,0.7nm,0.4s,baz=164,slow=7.4,SNR=1.6						
BRTR	**Keskin Array B**	**89.72**	**310**	P	**P**	**09 45 35.0**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=125,slow=7.8,SNR=3.6						
SNAA	**Sanae**	**91.41**	**196**	P	P	09 45 43.8	+2.7
TORD	**Torodi Ar. Bea**	**116.04**	**281**	PKP	**PKiKP**	**09 51 17.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=45,slow=2.3,SNR=11						
ESDC	**Sonseca Array**	**118.50**	**311**	PKP	**PKiKP**	**09 51 24.0**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=347,slow=4.0,SNR=1.8						
NVAR	**Mina Array Bea**	**122.07**	**49**	PKP	**PKiKP**	**09 51 30.6**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=274,slow=2.6,SNR=2.3						

*ISK **06** 09:37:27.2, 35°.32N×26°.21E, h5km, ML2.7/7*
*DDA **06** 09:37:27.4, 35°.47N×26°.32E, h10km±4km, ML2.3*
*ATH **06** 09:37:28.3, 35°.30N×26°.25E, h9km±3km, ML2.8/7, Error ellipse: s-maj=3.8km s-min=1.1km az=156.0*
*THE **06** 09:37:28.6, 35°.16N×26°.26E, h20km±1km, ML2.8/6, Error ellipse: s-maj=2.8km s-min=1.1km az=167.0*

ISC 06 09:37:28.3±0.8, 35°28N±0°.04×26°26E±0°.02, h18km±6km, n53, σ1°18/75, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIA	**Sitia Lasithi**	**0.16**	**242**	P	**Pg**	**09 37 33.2**	**+0.6**
STIA				S	**Sg**	**09 37 36.6**	**+1.1**
ZKR	**Zakros**	**0.17**	**192**	P	**Pg**	**09 37 32.0**	**-0.7**
ZKR				S	**Sg**	**09 37 35.7**	**0.0**
	7μm,0.2s						
ZKR	**Zakros**	**0.17**	**192**	P	**Pg**	**09 37 32.0**	**-0.7**
ZKR				S	**Sg**	**09 37 35.7**	**0.0**
ZKR				AML	AML	09 37 36.1	
	comp=E,17576μm,0.2s						
ZKR				AML	AML	09 37 36.3	
	comp=N,9430μm,0.2s						
ZKR	**Zakros**	**0.17**	**192**	PG	**Pg**	**09 37 31.5**	**-1.2**
ZKR				SG	**Sg**	**09 37 35.4**	**-0.3**
FRMA	**Ierapetra Chan**	**0.50**	**239**	P	**Pg**	**09 37 35.2**	**-3.2**
FRMA				S	**Sg**	**09 37 41.7**	**-3.5**
	comp=N,2μm,0.4s						
NPS	**Neapolis**	**0.53**	**269**	P	**Pg**	**09 37 38.5**	**-0.5**
NPS				S	**Sb**	**09 37 47.0**	**+0.6**
	comp=N,1μm,0.5s						
NPS	**Neapolis**	**0.53**	**269**	P	**Pg**	**09 37 38.4**	**-0.5**
NPS				S	**Sg**	**09 37 45.7**	**-0.3**
NPS				AML	AML	09 37 48.5	
	comp=N,3265μm,0.7s						
NPS				AML	AML	09 37 50.1	
	comp=E,3038μm,0.3s						
LAST	**Lasithi**	**0.65**	**260**	P	**Pg**	**09 37 40.1**	**-1.1**
LAST				S	**Sg**	**09 37 50.0**	**+0.1**
	comp=E,618nm,0.5s						
LAST	**Lasithi**	**0.65**	**260**	P	**Pg**	**09 37 40.3**	**-0.9**
LAST				S	**Sg**	**09 37 50.0**	**+0.1**
LAST				AML	AML	09 37 52.6	
	comp=N,1480μm,0.5s						
LAST				AML	AML	09 37 54.5	
	comp=E,1005μm,0.6s						
KARP	**Karpathos**	**0.79**	**70**	P	**Pg**	**09 37 43.3**	**-0.4**
KARP				S	**Sb**	**09 37 55.0**	**+1.2**
	comp=E,632nm,0.5s						
KARP	**Karpathos**	**0.79**	**70**	P	**Pg**	**09 37 43.3**	**-0.4**
KARP				S	**Sb**	**09 37 54.6**	**+0.8**
KARP				AML	AML	09 37 58.5	
	comp=N,1193μm,0.5s						
KARP				AML	AML	09 38 03.2	
	comp=E,1307μm,0.5s						
KARP	**Karpathos**	**0.79**	**70**	PG	**Pb**	**09 37 43.6**	**+0.2**
KARP				SG	**Sb**	**09 37 54.9**	**+1.2**
HRKL	**Herakleio**	**0.95**	**272**	PG	**Pg**	**09 37 45.1**	**-1.6**
HRKL				SG	**Sg**	**09 37 58.2**	**-1.0**
IDI	**Anoyia**	**1.12**	**271**	P	**Pg**	**09 37 48.8**	**-1.2**
IDI	**Anoyia**	**1.12**	**271**	P	**Pg**	**09 37 48.8**	**-1.2**
IDI				AML	AML	09 38 13.6	
	comp=E,511μm,0.5s						
IDI				AML	AML	09 38 14.8	
	comp=N,529μm,0.7s						
IDI	**Anoyia**	**1.12**	**271**	PN	**Pg**	**09 37 48.2**	**-1.8**
IDI				SN	**Sg**	**09 38 03.9**	**-0.8**
ANAF	**Anafi Island**	**1.15**	**340**	P	**Pb**	**09 37 49.5**	**-0.1**
ANAF				S	**Sn**	**09 38 05.5**	**+0.7**
	comp=N,2μm,0.4s						
ANAF	**Anafi Island**	**1.15**	**340**	P	**Pb**	**09 37 49.5**	**-0.1**
ANAF				S	**Sn**	**09 38 05.4**	**+0.6**
ANAF				AML	AML	09 38 12.4	
	comp=E,2632μm,0.4s						
ANAF				AML	AML	09 38 13.1	
	comp=N,3480μm,0.4s						
SIVA	**Sivas**	**1.22**	**258**	P	**Pn**	**09 37 50.5**	**+0.1**
SIVA	**Sivas**	**1.22**	**258**	P	**Pn**	**09 37 50.6**	**+0.2**
SANT	**Santorini**	**1.27**	**329**	P	**Pg**	**09 37 52.0**	**-0.9**
SANT				S	**Sn**	**09 38 09.4**	**+1.5**
SANT	**Santorini**	**1.27**	**329**	P	**Pg**	**09 37 51.9**	**-0.9**
SANT				S	**Sn**	**09 38 09.4**	**+1.5**
SANT				AML	AML	09 38 14.3	
	comp=N,229μm,0.4s						
SANT				AML	AML	09 38 14.4	
	comp=E,1035μm,0.6s						
SANT	**Santorini**	**1.27**	**329**	PN	**Pn**	**09 37 51.1**	**-0.1**
SANT	**Santorini**	**1.27**	**329**	*i* P	**Pn**	**09 37 49.8**	**-1.5**
SANT				*i* S	**Sn**	**09 38 08.5**	**+0.6**
THR8	**Santorini-Mono**	**1.29**	**331**	P	**Pg**	**09 37 52.4**	**-0.9**
THR8	**Santorini-Mono**	**1.29**	**331**	P	**Pg**	**09 37 52.4**	**-0.9**
THR5	**Thira Island,**	**1.36**	**327**	P	**Pb**	**09 37 53.3**	**+0.1**
THR5	**Thira Island,**	**1.36**	**327**	P	**Pb**	**09 37 53.3**	**+0.1**
AMGA	**Amorgos Island**	**1.58**	**349**	P	**Pn**	**09 37 56.4**	**+0.9**
AMGA	**Amorgos Island**	**1.58**	**349**	P	**Pb**	**09 37 56.8**	**-0.2**
IOSP	**Ios island**	**1.65**	**332**	P	**Pn**	**09 37 57.4**	**+1.1**
IOSP	**Ios island**	**1.65**	**332**	P	**Pn**	**09 37 57.4**	**+1.1**
ARG	**Arkhangelos**	**1.79**	**58**	PN	**Pb**	**09 37 59.9**	**-0.6**
DAT	**Datca**	**1.80**	**36**	PN	**Pn**	**09 37 59.8**	**+1.2**
GVDS	**Gavdos**	**1.83**	**257**	PN	**Pn**	**09 38 00.4**	**+1.5**
GVD	**Gavdhos**	**1.83**	**257**	P	**Pb**	**09 38 02.5**	**+1.2**
GVD	**Gavdhos**	**1.83**	**257**	P	**Pb**	**09 38 02.5**	**+1.2**
GVD	**Gavdhos**	**1.83**	**257**	PN	**Pn**	**09 38 00.1**	**+1.2**
IMMV	**Iera Moni Meta**	**1.87**	**276**	P	**Pn**	**09 38 00.7**	**+1.3**
IMMV	**Iera Moni Meta**	**1.87**	**276**	P	**Pb**	**09 38 02.0**	**+0.1**
IMMV	**Iera Moni Meta**	**1.87**	**276**	PN	**Pn**	**09 38 00.7**	**+1.3**
APE	**Apeiranthos**	**1.88**	**342**	PN	**Pn**	**09 38 01.0**	**+1.3**
APE	**Apeiranthos**	**1.88**	**342**	*i* P	**Pn**	**09 37 59.1**	**-0.5**
APE				*i* S	**Sn**	**09 38 24.0**	**+1.0**
BODT	**Bodrum**	**1.98**	**25**	PN	**Pn**	**09 38 01.8**	**+0.9**
TURN	**Turunc**	**2.20**	**47**	*i* P	**Pn**	**09 38 04.8**	**+0.9**
TURN				*i* S	**Sb**	**09 38 33.1**	**-1.3**
TURN				IAML		09 38 43.0	
	comp=N,23nm,0.9s						
TURN				IAML		09 38 45.0	
	comp=E,22nm,0.5s						
YER	**Yerkesik**	**2.47**	**41**	PN	**Pn**	**09 38 09.3**	**+1.5**
DALY	**Dalyan (Mula)**	**2.48**	**51**	PN	**Pn**	**09 38 09.1**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**2.97**	**26**	PN	**Pn**	**09 38 15.9**	**+1.2**
TAVA	**DENIZLI_Tavas**	**3.06**	**44**	*i* P	**Pn**	**09 38 15.6**	**-0.3**
TAVA				*i* S	**Sn**	**09 38 52.3**	**+0.2**
CHOS	**Chios island**	**3.11**	**357**	PN	**Pn**	**09 38 17.7**	**+1.2**
AKUM	**Antalya-Kumluc**	**3.48**	**71**	*i* P	**Pn**	**09 38 19.5**	**-2.0**
BAYC	**CANAKKALE_Bayr**	**4.46**	**3**	*i* P	**Pn**	**09 38 35.0**	**-0.1**
BALY	**Balya**	**4.59**	**13**	*i* P	**Pn**	**09 38 33.6**	**-3.1**

*IDC **06** 09:41:54.0±0.7, 19°.09S×173°.51W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/27, mbtmp4.3/13, ML3.5/1, MS3.7/9, Ms1 3.8/9, ms1mx3.5/27, Error ellipse: s-maj=32.1km s-min=17.5km az=145.0*
*NEIC **06** 09:41:54.6±2.7, 18°.99S±0°.06×173°.53W±0°.08, h10km±1km, mb4.7/37, Error ellipse: s-maj=12.6km s-min=9.8km az=268.0*

ISC 06 09:41:54.6±0.5, 18°91S±0°07×173°45W±0°08, h10km, n69, σ1°71/55, mb4.6/30, MS3.7/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.34**	**93**	Pn	**Pn**	**09 42 45.0**	**-1.9**
AFI	**Afiamalu**	**5.23**	**18**	Pn	**Pn**	**09 43 12.1**	**-0.9**
	6.7nm,0.3s,baz=274,slow=3.3,SNR=9.7						
AFI				Sn	**Sn**	**09 44 09.9**	**-3.5**
	17nm,0.3s,baz=212,slow=19,SNR=3.4						
AFI	**Afiamalu**	**5.23**	**18**		**Pn**	**09 43 11.8**	**-1.1**
MSVF	**Nonsavu**	**8.16**	**277**	Pn	**Pn**	**09 43 50.3**	**-2.9**
RAR	**Rarotonga**	**13.06**	**102**	Pn	Pn	09 44 50.0	-10
	7.0nm,0.3s,baz=272,slow=6.7,SNR=19						
RAR				Sn	Sn	09 47 00.4	-25
	0.7nm,0.3s,baz=175,slow=22,SNR=1.5						
DZM	**Mont Dzumac**	**19.09**	**257**	P	**P**	**09 46 15.8**	**-1.9**
	0.2nm,0.3s,baz=86,slow=19,SNR=1.5						
DZM	**Mont Dzumac**	**19.09**	**257**	*e*P	**Pn**	**09 46 21.7**	**+3.2**
	20nm,0.7s						
DZM				*e*LR	LR	09 51 15.2	
	comp=Z,307nm,20.9s						
DZM	**Mont Dzumac**	**19.09**	**257**	P	**P**	**09 46 15.2**	**-2.5**
URZ	**Urewera**	**20.96**	**201**	P	**P**	**09 46 36.2**	**-1.5**
	10nm,0.7s,baz=291,slow=5.1,SNR=8.2						
URZ	**Urewera**	**20.96**	**201**	P	**P**	**09 46 36.0**	**-1.8**
URZ				IAmb	IAmb	09 46 41.9	
	comp=Z,18nm,0.8s						
BKZ	**Black Stump Fm**	**21.98**	**201**	P	**P**	**09 46 46.6**	**-2.3**
BKZ				IAmb	IAmb	09 46 50.8	
	comp=Z,51nm,1.4s						
PPT2	**Papeete2**	**22.71**	**90**	*e*LR	LR	09 52 03.9	
	comp=Z,200nm,21.0s						
PPT	**Papeete**	**22.71**	**90**	LR	LR	09 54 01.4	
	comp=Z,271nm,18.6s,baz=296,slow=32						
TUWZ	**Tuamarina**	**24.89**	**203**	P	**P**	**09 47 15.3**	**-2.3**
NNZ	**Nelson**	**24.92**	**204**	P	**P**	**09 47 16.0**	**-1.9**
QRZ	**Quartz Range**	**24.93**	**206**	P	**P**	**09 47 19.8**	**+1.8**
THZ	**Tophouse**	**25.57**	**204**	P	**P**	**09 47 23.5**	**-0.4**
LTZ	**Lake Taylor**	**26.69**	**204**	P	**P**	**09 47 33.7**	**-0.2**
OXZ	**Oxford**	**27.24**	**204**	P	**P**	**09 47 36.9**	**-2.0**
RPZ	**Rata Peaks**	**27.95**	**204**	P	**P**	**09 47 47.4**	**+2.2**
	comp=Z,15nm,0.7s,baz=0.3,slow=16,SNR=1.8						
RPZ	**Rata Peaks**	**27.95**	**204**	P	**P**	**09 47 46.8**	**+1.5**
WKZ	**Wanaka**	**29.69**	**206**	P	**P**	**09 48 00.5**	**-0.2**
TAOE	**Nuku Hiva Isla**	**33.78**	**77**	*e*LR	LR	09 57 06.4	
	comp=Z,166nm,21.0s						
CTAO	**Charters Tower**	**37.94**	**261**	P	**P**	**09 49 11.7**	**-0.9**
CTAO				IAmb	IAmb	09 49 16.6	
	comp=Z,9.4nm,0.7s						
TOO	**Toolangi**	**40.28**	**234**	P	**P**	**09 49 31.4**	**-0.7**
TOO				IAmb	IAmb	09 49 44.9	
	comp=Z,31nm,1.4s						
COEN	**Coen**	**41.81**	**270**	P	**P**	**09 49 43.6**	**-1.3**
COEN				IAmb	IAmb	09 50 01.1	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**42.33**	**243**	P	**P**	**09 49 50.2**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=90,slow=6.5,SNR=3.9						
WR0	**Warramunga Arr**	**48.89**	**260**	P	**P**	**09 50 40.1**	**-0.9**
WR0				IAmb	IAmb	09 50 49.4	
	comp=Z,8.3nm,1.3s						
WB0	**Warramunga Arr**	**49.05**	**260**	P	**P**	**09 50 41.7**	**-0.7**
WB0				IAmb	IAmb	09 50 58.2	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**49.06**	**255**	P	**P**	**09 50 41.3**	**-1.0**
	comp=Z,8.8nm,0.9s,baz=87,slow=8.3,SNR=46						
ASAR				PcP	**PcP**	**09 52 08.5**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=100,slow=4.8,SNR=1.0						
WB2	**Warramunga Arr**	**49.07**	**260**	P	**P**	**09 50 41.5**	**-1.0**
WB2				IAmb	IAmb	09 50 56.4	
	comp=Z,4.4nm,0.8s						
WRAB	**Tennant Creek**	**49.07**	**260**	P	**P**	**09 50 41.6**	**-0.9**
WRAB				IAmb	IAmb	09 50 48.8	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**49.08**	**260**	P	**P**	**09 50 41.4**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=93,slow=6.1,SNR=64						
WRA				PcP	**PcP**	**09 52 07.9**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=92,slow=3.1,SNR=1.7						
WRA				LR	LR	10 12 06.4	
	comp=Z,145nm,18.6s,baz=85,slow=37						
WRA	**Warramunga Arr**	**49.08**	**260**	P	**P**	**09 50 42.0**	**-0.5**
KNRA	**Kununurra**	**55.06**	**264**	P	**P**	**09 51 27.2**	**+0.1**
KNRA				IAmb	IAmb	09 51 40.1	
	comp=Z,15nm,1.4s						
FITZ	**Fitzroy Crossi**	**57.50**	**260**	P	**P**	**09 51 44.6**	**+0.1**
RPN	**Rapa Nui**	**59.04**	**111**	LR	LR	10 11 22.3	
	comp=Z,120nm,19.6s,baz=234,slow=30						
VNDA	**Vanda**	**59.90**	**186**	LR	LR	10 13 44.9	
	comp=Z,35nm,19.8s,baz=320,slow=32						
QSPA	**South Pole Qui**	**71.15**	**180**	P	**P**	**09 53 12.3**	**-1.1**
QSPA				IAmb	IAmb	09 53 14.9	
	comp=Z,6.4nm,1.1s						
MJAR	**Matsushiro Arr**	**71.59**	**321**	LR	LR	10 20 44.0	
	comp=Z,41nm,21.0s,baz=145,slow=32						
NVAR	**Mina Array Bea**	**76.97**	**41**	P	**P**	**09 53 49.6**	**+1.7**
	comp=Z,2.1nm,1.0s,baz=227,slow=9.2,SNR=12						
NVAR	**Mina Array Bea**	**76.97**	**41**	P	**P**	**09 53 50.4**	**+2.5**
NV11	**Mina Array Sit**	**77.07**	**41**	P	**P**	**09 53 50.0**	**+1.7**
NV11				IAmb	IAmb	09 53 52.1	
	comp=Z,7.0nm,1.2s						
PRN	**Pahroc Range**	**78.46**	**44**	IAmb	IAmb	09 54 14.3	
	comp=Z,8.2nm,1.4s						
KSRS	**Korea Array**	**78.63**	**316**	P	**P**	**09 53 59.5**	**+2.7**
	comp=Z,0.8nm,0.5s,baz=142,slow=6.2,SNR=3.3						
MNTX	**Cornudas Mount**	**82.36**	**53**	P	**P**	**09 54 16.8**	**-0.3**
HLID	**Hailey**	**82.37**	**39**	P	**P**	**09 54 15.2**	**-1.9**
HLID				IAmb	IAmb	09 54 21.2	
	comp=Z,8.7nm,1.5s						
TX32	**Lajitas Array**	**82.61**	**56**	IAmb	IAmb	09 54 23.1	
	comp=Z,8.9nm,1.4s						
TXAR	**Lajitas Array**	**82.61**	**56**	P	**P**	**09 54 20.7**	**+2.2**
	comp=Z,1.7nm,1.1s,baz=210,slow=7.2,SNR=9.9						
ANMO	**Albuquerque**	**83.10**	**50**	P	**P**	**09 54 21.1**	**0.0**
H03S2	**Juan Fernandez**	**83.32**	**123**	T	T	11 27 10.1	
	baz=249,slow=75,SNR=6.4						
H03S1	**Juan Fernandez**	**83.33**	**123**	T	T	11 27 13.4	
	baz=249,slow=75,SNR=7.1						
H03S3	**Juan Fernandez**	**83.33**	**123**	T	T	11 27 17.4	
	baz=249,slow=75,SNR=6.9						
S22A	**4UR Ranch, Cre**	**84.18**	**47**	IAmb	IAmb	09 54 30.9	
	comp=Z,4.5nm,1.1s						
MAW	**Mawson**	**84.47**	**199**	P	**P**	**09 54 27.4**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=118,slow=7.6,SNR=5.2						
MAW	**Mawson**	**84.47**	**199**	IAmb	IAmb	09 54 29.5	
	comp=Z,1.2nm,1.1s						
PAX	**Paxson**	**84.53**	**12**	P	**P**	**09 54 25.2**	**-2.4**
PAX				IAmb	IAmb	09 54 27.6	
	comp=Z,9.4nm,1.0s						
PDAR	**Pinedale Array**	**84.91**	**42**	P	**P**	**09 54 31.2**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=198,slow=5.7,SNR=2.4						
WRH	**Wood River Hil**	**85.39**	**11**	IAmb	IAmb	09 54 36.8	
	comp=Z,12nm,1.1s						
MDM	**Murphy Dome**	**85.82**	**10**	P	**P**	**09 54 35.4**	**+1.5**
MDM				IAmb	IAmb	09 54 38.2	
	comp=Z,7.1nm,1.0s						
ILAR	**Eielson Array**	**85.88**	**11**	P	**P**	**09 54 35.4**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=220,slow=5.4,SNR=8.7						
ILAR	**Eielson Array**	**85.88**	**11**	P	**P**	**09 54 35.2**	**+1.0**
IMAR	**Indian Mountai**	**85.94**	**8**	P	**P**	**09 54 37.0**	**+2.5**
PLCA	**Paso Flores**	**87.20**	**132**	P	**P**	**09 54 42.0**	**+0.4**
	comp=Z,6.5nm,1.1s,baz=238,slow=8.8,SNR=3.1						
PLCA				LR	LR	10 28 54.2	
	comp=Z,57nm,18.3s,baz=162,slow=32						
CMAR	**Chiang Mai Arr**	**93.66**	**288**	P	**P**	**09 55 14.5**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=122,slow=1.2,SNR=1.7						
CMAR				LR	LR	10 34 49.2	
	comp=Z,20nm,20.7s,baz=85,slow=34						
SONM	**Songino Array**	**97.41**	**318**	LR	LR	10 34 31.2	
	comp=Z,17nm,19.1s,baz=69,slow=32						
LPAZ	**La Paz**	**98.65**	**110**	LR	LR	10 32 47.6	
	comp=Z,60nm,18.1s,baz=264,slow=31						
BRTR	**Keskin Array B**	**148.77**	**317**	PKPbc	**PKiKP**	**10 01 44.0**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=110,slow=1.1,SNR=10						
BRTR	**Keskin Array B**	**148.77**	**317**		**PKiKP**	**10 01 44.3**	**+0.1**

*SGS **06** 09:45:00.8, 28°.88N×34°.75E, h14km, Ml2.9*
*GII **06** 09:45:00.8±0.0, 28°.98N×34°.67E, h1km±1km, MD2.7/3, Mm2.6/3*

ISC 06 09:44:59.6±1.6, 28°81N±0°03×34°8E±0°1, h17km±9km, n22, σ0°90/27, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAQS	**Haql**	**0.28**	**32**	S	**Sg**	**09 45 09.7**	**-0.4**
HAQS				P	**Pg**	**09 45 05.8**	**0.0**
BDAS	**Al Bad`**	**0.49**	**141**	P	**Pb**	**09 45 10.8**	**+1.1**
BDAS	**Al Bad`**	**0.49**	**141**	S	**Sn**	**09 45 18.5**	**-1.4**
RSHS		**0.51**	**175**	P	**Pn**	**09 45 11.6**	**-0.5**
RSHS		**0.51**	**175**	S	**Sn**	**09 45 19.9**	**-0.6**
HQLS		**0.56**	**29**	P	**Pb**	**09 45 10.4**	**-0.6**
DRHJ	**Al-Direh**	**0.58**	**19**	Pg	**Pb**	**09 45 11.0**	**-0.3**
DRHJ				Sg	**Sb**	**09 45 18.5**	**-0.7**
JLOS		**0.65**	**96**	P	**Pg**	**09 45 13.1**	**+0.5**
KRABS	**KRABS**	**0.83**	**148**	P	**Pn**	**09 45 17.0**	**+0.5**
EIL	**Elat**	**0.88**	**11**	Pg	**Pb**	**09 45 15.6**	**-0.8**
EIL				Sg	**Sb**	**09 45 27.0**	**-0.8**
AQBJ	**Aqaba**	**0.95**	**16**	Pg	**Pb**	**09 45 17.2**	**-0.5**
AQBJ				Sg	**Sb**	**09 45 30.1**	**+0.1**
MBRI	**Mt Berech**	**0.99**	**8**	Pg	**Pb**	**09 45 17.9**	**-0.5**
HRFI	**Mount Harif**	**1.25**	**11**	Pg	**Pn**	**09 45 22.5**	**+0.2**
WTBKS	**WTBKS**	**1.25**	**125**	P	**Pg**	**09 45 23.6**	**-0.3**
MWLHS	**Almuwaylih**	**1.25**	**147**	P	**Pb**	**09 45 23.0**	**+0.2**
KRMI	**Paran Flat**	**1.30**	**359**	Pg	**Pn**	**09 45 23.1**	**0.0**
PRNI	**Paran**	**1.55**	**8**	Pn	**Pn**	**09 45 27.4**	**+0.9**
PRNI				Sn	**Sb**	**09 45 48.5**	**+1.2**
TBKS	**Tabuk**	**1.68**	**110**	P	**Pb**	**09 45 29.6**	**-0.5**
ZFRI	**Zfri**	**1.78**	**12**	Pn	**Pb**	**09 45 31.3**	**-0.4**
KZIT	**Kziot**	**2.11**	**352**	Pn	**Pn**	**09 45 35.6**	**+1.4**
YTTR	**Yattir**	**2.56**	**7**	Pn	**Pn**	**09 45 42.1**	**+1.6**
DSI	**Dead Sea**	**2.81**	**11**	Pn	**Pn**	**09 45 45.7**	**+2.0**

*ECX **06** 09:55:22.9±0.8, 31°.36N×115°.84W, h8km±12km, MD2.3, ML2.5*
*MEX **06** 09:55:22.9±0.3, 31°.21N×115°.94W, h3km, MD3.6*

**ISC 06 09:55:21.7±1.1, 31°31N±0°04×115°88W±0°04, h9km±11km, n13, σ

BTLR	**Botlikh**	**1.55**	**20**	*e*Pg		**Pb**	**10 09 56.4**	**-0.1**
BTLR				*e*Sg		**Sg**	**10 10 17.4**	**-0.9**
GNBR	**Gunib**	**1.60**	**42**	*e*Pg		**Pn**	**10 09 56.5**	**+0.8**
GNBR				*e*Sg		**Sg**	**10 10 19.1**	**-0.8**
AGDM	**Agdam**	**1.63**	**132**	Sn		**Sg**	**10 10 21.9**	**+1.1**
STKZ		**1.68**	**146**	⇑*i*P		**Pg**	**10 09 58.6**	**-1.8**
STKZ				⇓*i*S		**Sg**	**10 10 19.9**	**-2.4**
AKT	**Akhty**	**1.69**	**80**	*e*Pg		**Pb**	**10 09 57.7**	**-1.1**
VNNZ	**Vanand**	**1.69**	**230**	*i* P		**Pg**	**10 10 00.0**	**-0.7**
VNNZ				*i* S		**Sg**	**10 10 24.9**	**+2.1**
IGDI	**IGDIR**	**1.73**	**220**	*i* P		**Pb**	**10 09 58.6**	**-0.9**
IGDI				*i* S		**Sb**	**10 10 20.8**	**-0.1**
IGDI				IAML			10 10 23.0	
	comp=N,109nm,0.5s							
IGDI				IAML			10 10 25.0	
	comp=E,83nm,0.4s							
QBL	**Gabala**	**1.77**	**98**	Sg		**Sg**	**10 10 24.7**	**-0.5**
ARKR	**Arakani**	**1.78**	**38**	*e*Pg		**Pg**	**10 10 01.0**	**-1.4**
ARKR				*e*Sg		**Sg**	**10 10 25.0**	**-0.5**
UNCR	**Uncukul**	**1.79**	**32**	*e*Pg		**Pg**	**10 10 01.5**	**-1.0**
UNCR				*e*Sg		**Sg**	**10 10 24.5**	**-1.2**
SBZ	**Shahbuz**	**1.80**	**179**	Pg		**Pg**	**10 10 01.8**	**-1.0**
	SNR=10							
SBZ				Sg		**Sg**	**10 10 26.7**	**+0.4**
DVE	**Vedeno**	**1.81**	**14**	*e*Pg		**Pb**	**10 10 01.3**	**+0.4**
DVE				*e*Sg		**Sg**	**10 10 25.3**	**-1.2**
URKR	**Urkarakh**	**1.85**	**58**	*e*Pg		**Pg**	**10 10 02.5**	**-1.2**
URKR				*e*Sg		**Sg**	**10 10 29.0**	**+1.2**
LACR	**Lac**	**1.86**	**331**	*e*Pg		**Pb**	**10 10 00.9**	**-0.9**
LACR				*e*Sg		**Sg**	**10 10 27.2**	**-0.9**
ZRD	**Zardab**	**1.89**	**119**	Pg		**Pb**	**10 10 01.5**	**-0.6**
	SNR=6.0							
ZRD				Sg		**Sg**	**10 10 31.0**	**+2.1**
KMGR	**Komgaron**	**1.92**	**346**	*e*Pg		**Pg**	**10 10 03.7**	**-1.2**
VLKR	**Vladikavkaz**	**1.95**	**341**	*e*Pg		**Pb**	**10 10 03.9**	**+0.7**
VLKR				*e*Pg		**Pb**	**10 10 03.9**	**+0.7**
VLKR				*e*Sg		**Sg**	**10 10 31.4**	**+0.5**
VLKR				*e*Sg		**Sb**	**10 10 31.5**	**+4.3**
XNQ	**Khinaliq**	**1.98**	**90**	Pg		**Pb**	**10 10 03.1**	**-0.7**
	SNR=7.0							
XNQ				Sn		**Sg**	**10 10 31.1**	**-0.8**
ZEI	**Tsey**	**1.99**	**323**	*e*Pg		**Pb**	**10 10 03.5**	**-0.5**
ZEI				*e*Sg		**Sb**	**10 10 30.3**	**+1.7**
IML	**Ismayilli**	**2.06**	**101**	Pg		**Pb**	**10 10 03.8**	**-1.2**
	SNR=3.1							
IML				Sn		**Sg**	**10 10 33.6**	**-0.7**
DBC	**Dubki**	**2.06**	**28**	*e*Pg		**Pb**	**10 10 04.9**	**-0.3**
DBC				*e*Sg		**Sg**	**10 10 33.3**	**-1.2**
ONI	**Oni**	**2.08**	**313**	*e*Pg		**Pn**	**10 10 04.0**	**+1.7**
ONI				*e*Sg		**Sb**	**10 10 32.4**	**+1.5**
ONI	**Oni**	**2.08**	**313**	P		**Pn**	**10 10 04.0**	**+1.7**
ONI				S		**Sb**	**10 10 32.4**	**+1.5**
QSAR	**Qusar**	**2.09**	**81**	Pg		**Pb**	**10 10 05.5**	**-0.1**
	SNR=3.3							
QSAR				Sn		**Sg**	**10 10 34.1**	**-1.3**
EPOS	**Posof**	**2.12**	**279**	*i* P		**Pn**	**10 10 04.3**	**+1.3**
EPOS				*i* S		**Sb**	**10 10 32.5**	**+0.2**
EPOS				IAML			10 10 45.0	
	comp=N,65nm,0.9s							
BLQ	**Beylaqan**	**2.15**	**133**	Pn		**Pb**	**10 10 06.0**	**-0.5**
	SNR=3.5							
BLQ				Sn		**Sg**	**10 10 35.7**	**-1.5**
KDMR	**Kurdemir**	**2.19**	**111**	Sn		**Sg**	**10 10 37.2**	**-1.2**
TKB	**Tkibuli**	**2.21**	**302**	*e*Pg		**Pb**	**10 10 06.5**	**-1.2**
TKB				*e*Sg		**Sb**	**10 10 34.4**	**-0.3**
TKB	**Tkibuli**	**2.21**	**302**	P		**Pb**	**10 10 06.5**	**-1.2**
TKB				S		**Sb**	**10 10 34.4**	**-0.3**
QRD	**Qoradiz**	**2.22**	**141**	Pg		**Pg**	**10 10 08.3**	**-2.5**
	SNR=10							
QRD				Sn		**Sg**	**10 10 37.9**	**-1.6**
DIGR	**Digorskoe uzhe**	**2.23**	**320**	*e*Pg		**Pb**	**10 10 07.8**	**-0.3**
DIGR				*e*Sg		**Sb**	**10 10 37.3**	**+1.9**
ORD	**Ordubad**	**2.30**	**171**	Pg		**Pb**	**10 10 08.7**	**-0.6**
	SNR=3.6							
ORD				Sn		**Sg**	**10 10 40.2**	**-2.0**
PQL	**Pirkuli**	**2.36**	**99**	Pg		**Pb**	**10 10 09.1**	**-1.2**
	SNR=5.2							
PQL				Sn		**Sg**	**10 10 41.7**	**-2.5**
SIZA	**Siyzn**	**2.56**	**92**	Pg		**Pb**	**10 10 13.5**	**-0.1**
SIZA				Sg		**Sg**	**10 10 48.7**	**-1.6**
YRD	**Yardimli**	**3.09**	**137**	Sg		**Sg**	**10 11 03.7**	**-3.9**

*JMA **06** 10:23:02.2±0.1, 43.°10N×145.°66E, h47km±1km, M3.2*
JMA Felt I J1.
*SKHL **06** 10:23:02.9±0.5, 43.°13N×145.°70E, h36km±2km, mb4.6/3*
ISC 06 10:23:01.9±1.9**, 43.°09N**±0.°08×**145.°71E**±0.°07**, h44**km±11km**, n14**, σ9**69/27, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.28**	**6**	P		**Pn**	**10 23 10.6**	**+0.4**
NEM2				eS		**Sn**	**10 23 16.5**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.28**	**3**	*i* P		**Pn**	**10 23 10.7**	**-0.2**
NMR				*i* S		**Sn**	**10 23 15.8**	**-0.3**
JKHN	**Kushirohamanak**	**0.40**	**269**	P		**Pn**	**10 23 12.0**	**+0.5**
GLVR	**Golovnino**	**0.66**	**348**	*i* P		**Pn**	**10 23 15.0**	**+0.1**
GLVR				AMB		AMB	10 23 15.0	
	400nm,0.4s							
GLVR				*i* S		**Sn**	**10 23 24.0**	**-0.2**
GLVR				A		A	10 23 25.0	
	4μm,0.4s							
GLVR				A		A	10 23 25.0	
	4μm,0.4s							
JAK	**Akkeshi**	**0.74**	**263**	P		**Pn**	**10 23 15.8**	**-0.2**
JAK				eS		**Sn**	**10 23 25.0**	**-1.2**
JNSB	**Nemuroshibetsu**	**0.85**	**324**	P		**Pn**	**10 23 17.6**	**+0.1**
JNSB				eS		**Sn**	**10 23 28.5**	**-0.3**
JNK	**Nakash**	**0.87**	**305**	P		**Pn**	**10 23 17.6**	**-0.1**
JNK				eS		**Sn**	**10 23 28.6**	**-0.7**
GRPR	**Tuman**	**0.90**	**3**	*i* P		**Pn**	**10 23 18.0**	**-0.1**
GRPR				AMB		AMB	10 23 18.0	
	401nm,0.3s							
GRPR				*i* S		**Sn**	**10 23 29.3**	**-0.7**
GRPR				A		A	10 23 30.0	
	3μm,0.3s							
GRPR				A		A	10 23 30.0	
	2μm,0.3s							
JRA	**Rausu**	**0.95**	**334**	P		**Pn**	**10 23 19.0**	**+0.3**
JRA				eS		**Sn**	**10 23 31.5**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**0.95**	**7**	*i* P		**Pn**	**10 23 18.0**	**-0.8**
YUK				AMB		AMB	10 23 19.0	
	370nm,0.3s							
YUK				*i* S		**Sn**	**10 23 29.5**	**-1.7**
YUK				A		A	10 23 32.0	
	1μm,0.3s							
YUK				A		A	10 23 32.0	
	2μm,0.3s							
JOB	**Onbets**	**1.39**	**263**	P		**Pn**	**10 23 24.6**	**-0.1**
JOB				eS		**Sn**	**10 23 41.4**	**-0.4**
JAR	**Ashorobuto**	**1.43**	**279**	P		**Pn**	**10 23 25.5**	**+0.2**
JAR				eS		**Sn**	**10 23 43.0**	**+0.1**
JTKR	**Abashiri--Toko**	**1.57**	**305**	P		**Pn**	**10 23 28.1**	**+0.8**
JTKR				eS		**Sn**	**10 23 47.8**	**+1.3**
KUR	**Kuril'sk**	**2.65**	**35**	*e*P		**Pn**	**10 23 43.1**	**+1.1**
KUR				eS		**Sn**	**10 24 12.8**	**-0.1**

*REN **06** 11:01:47.5±2.4, 40.°37N±0.°03×119.°82W±0.°05, h12km±6km, ML3.1/5, Error ellipse: s-maj=5.6km s-min=4.3km az=83.0*
*NEIC **06** 11:01:48.0±1.3, 40.°34N±0.°03×119.°83W±0.°05, h7km±6km, Error ellipse: s-maj=5.5km s-min=4.2km az=76.0*
*ANF **06** 11:01:48.4±0.4, 40.°18N×119.90W, ML3.4/13, Error ellipse: s-maj=7.0km s-min=3.2km az=50.0*
ISC 06 11:01:47.8±1.1**, 40.°35N**±0.°02×**119.°83W**±0.°03**, h7**km±10**km, n61, σ1§17/77, Nevada**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WVA	**Winnemucca Val**	**0.40**	**179**			**Pg**	**11 01 35.0**	**+0.3**
PAHR	**Pah Rah Range**	**0.73**	**152**			**Pg**	**11 02 01.5**	**-0.3**
PAHR				Sg		**Sg**	**11 02 11.5**	**+0.3**
PEAR	**Peavine Mounta**	**0.74**	**188**			**Pg**	**11 02 02.4**	**+0.2**
LOY	**Loyalton**	**0.75**	**204**			**Pg**	**11 02 02.5**	**+0.2**
VPK	**Verdi Peak**	**0.89**	**190**			**Pg**	**11 02 05.2**	**+0.4**
KBF	**Kyburz Flat**	**0.89**	**199**			**Pg**	**11 02 05.0**	**+0.1**
IND	**Independence**	**0.98**	**201**			**Pg**	**11 02 06.7**	**+0.1**
VCNR	**Virginia City**	**1.06**	**172**			**Pg**	**11 02 07.9**	**-0.3**
VCNR	**Virginia City**	**1.06**	**172**	Sg		**Sg**	**11 02 22.2**	**+0.3**
MPK	**Martis Peak**	**1.06**	**188**			**Pg**	**11 02 08.2**	**0.0**
PNTR	**Pine Nut**	**1.27**	**172**			**Pn**	**11 02 11.5**	**-0.8**
PNTR						**Sn**	**11 02 29.5**	**-0.2**

RUBR	**Rubicon Trail**	**1.32**	**191**			**Pn**	**11 02 12.5**	**-0.4**
RUBR				Sn		**Sg**	**11 02 30.5**	**+0.3**
YERR	**Yerington**	**1.44**	**161**			**Pn**	**11 02 13.7**	**-0.8**
YERR				Sn		**Sb**	**11 02 33.5**	**-0.1**
O03E	**Paynes Creek**	**1.51**	**269**	P		**Pn**	**11 02 15.0**	**-0.4**
	baz=86,SNR=376							
O03E				S		**Sg**	**11 02 37.2**	**+1.0**
	baz=86							
ORV	**Oroville**	**1.51**	**239**			**Pn**	**11 02 14.9**	**-0.4**
ORV				Sn		**Sn**	**11 02 35.2**	**+0.1**
MOD	**Modoc Plateau**	**1.59**	**347**			**Pn**	**11 02 17.1**	**+0.5**
AFDM	**Forest Hills D**	**1.65**	**213**			**Pn**	**11 02 17.0**	**-0.3**
AFDM				Sn		**Sn**	**11 02 39.1**	**+0.3**
AFDM						**Sb**	**11 02 40.2**	**+0.6**
KVN	**Kaiserville**	**1.86**	**134**			**Pn**	**11 02 19.6**	**-0.8**
WAKR	**Walker**	**1.87**	**170**			**Pn**	**11 02 21.0**	**+0.6**
RYN	**Ryan**	**1.99**	**149**			**Pb**	**11 02 23.5**	**-1.1**
WDC	**Whiskeytown Da**	**2.08**	**277**			**Pn**	**11 02 23.6**	**+0.5**
M04C	**Macdoel**	**2.09**	**314**	P		**Pb**	**11 02 25.4**	**-0.8**
	baz=132,SNR=43							
M04C				S		**Sg**	**11 02 54.2**	**-0.6**
	baz=132							
NVAR	**Mina Array Bea**	**2.25**	**148**			**Pn**	**11 02 26.1**	**+0.3**
O02D	**Mt. Diablo Mer**	**2.27**	**267**	P		**Pn**	**11 02 25.7**	**-0.1**
	baz=84,SNR=35							
O02D				S		**Sb**	**11 02 56.1**	**-1.4**
	baz=84							
N02D	**Trinity Center**	**2.27**	**287**	P		**Pb**	**11 02 28.0**	**-1.3**
	baz=104,SNR=170							
NV11	**Mina Array Sit**	**2.31**	**145**			**Pn**	**11 02 28.2**	**+1.7**
LHV	**Little Huntoon**	**2.33**	**153**			**Pn**	**11 02 27.2**	**+0.5**
K05A	**Summer Lake**	**2.51**	**342**	Pn		**Pn**	**11 02 31.0**	**+1.8**
M02C	**Callahan**	**2.52**	**295**	P		**Pn**	**11 02 31.5**	**+2.2**
	baz=113,SNR=85							
YBH	**Yreka Blue Hor**	**2.58**	**303**	Pn		**Pn**	**11 02 31.5**	**+1.4**
L04D	**Klamath Falls**	**2.64**	**316**	P		**Pb**	**11 02 34.1**	**-1.4**
	baz=134,SNR=48							
L04D				Sb		**Sg**	**11 03 13.8**	**+1.2**
	baz=134							
K04D	**Chiloquin, OR**	**2.69**	**328**	P		**Pb**	**11 02 35.6**	**-0.9**
	baz=147,SNR=13							
K04D				Sb		**Sg**	**11 03 16.0**	**+1.6**
	baz=147							
MDPB	**Devils Postpil**	**2.77**	**168**			**Pn**	**11 02 34.7**	**+1.8**
OMMB	**Old Mammoth Mi**	**2.81**	**166**	Pn		**Pn**	**11 02 34.8**	**+1.4**
MLAC	**Mammoth, Mammo**	**2.82**	**164**	Pg		**Pb**	**11 02 39.9**	**+1.2**
	baz=345							
MLAC				S		**Sn**	**11 03 06.8**	**-1.3**
	baz=345							
HOPS	**Hopland Field**	**2.84**	**243**	Pn		**Pn**	**11 02 33.8**	**+0.2**
KCPM	**Cahto Peak**	**2.95**	**258**	Pn		**Pn**	**11 02 36.3**	**+1.0**
KMRM	**Mail Ridge**	**2.97**	**269**	Pn		**Pn**	**11 02 37.1**	**+1.7**
KHMM	**Horse Mountain**	**3.01**	**281**	Pn		**Pn**	**11 02 36.3**	**+0.2**
J05D	**Fort Rock, OR**	**3.12**	**341**	P		**Pn**	**11 02 40.4**	**+2.8**
	baz=160,SNR=34							
J05D				Sb		**Sg**	**11 03 27.4**	**-0.5**
	baz=160							
J08A	**Circle Bar Ran**	**3.17**	**18**			**Pn**	**11 02 39.0**	**+0.6**
MCCM	**Marconi Confer**	**3.23**	**228**	Pn		**Pn**	**11 02 39.5**	**+0.5**
J04D	**Umpqua Nationa**	**3.35**	**330**	P		**Pb**	**11 02 46.7**	**-1.1**
	baz=148,SNR=38							
J04D				Sb		**Sg**	**11 03 36.4**	**+0.8**
	baz=148							
ELK	**Elko**	**3.52**	**82**			**Pn**	**11 02 42.8**	**-0.5**
PINE	**Pine Mountain**	**3.54**	**347**	Pn		**Pn**	**11 02 45.7**	**+2.2**
K02D	**Willamette Mer**	**3.71**	**310**	Sb		**Sg**	**11 03 46.4**	**-0.6**
	baz=128							
R11A	**Troy Canyon, C**	**3.85**	**120**	P		**Pn**	**11 02 48.5**	**+0.8**
	baz=303							
R11A				Sb		**Sb**	**11 03 46.9**	**+3.8**
	baz=303							
R11A	**Troy Canyon, C**	**3.85**	**120**	Pn		**Pn**	**11 02 48.8**	**+1.1**
MFID	**Camas Ranch**	**4.28**	**43**	Pn		**Pn**	**11 02 54.0**	**+0.4**
TPNV	**Topopah Spring**	**4.40**	**139**	P		**Pn**	**11 02 56.4**	**+1.1**
	baz=322							
TPNV	**Topopah Spring**	**4.40**	**139**			**Pn**	**11 02 56.6**	**+1.3**
SPR3	**Spring Creek 3**	**4.45**	**106**	Pn		**Pn**	**11 02 57.8**	**+1.6**
MPMC	**Manual Prospec**	**4.66**	**156**	Pg		**Pg**	**11 03 14.0**	**-3.1**
	baz=338							
H04A	**Detroit Lake**	**4.67**	**339**	Pn		**Pn**	**11 02 56.7**	**-2.1**
PRN	**Pahroc Range**	**4.75**	**127**	Pn		**Pn**	**11 03 00.9**	**+0.9**
BMO	**Blue Mountains**	**4.87**	**22**	Pn		**Pn**	**11 03 00.6**	**-1.1**
PSUT	**Pine Spring**	**4.97**	**109**			**Pn**	**11 03 03.0**	**-0.1**
HLID	**Hailey**	**5.16**	**50**	Pn		**Pn**	**11 03 05.5**	**-0.2**
SHPR	**Sheep Range**	**5.31**	**135**	Pn		**Pn**	**11 03 07.2**	**-0.5**
DUG	**Dugway, Tooele**	**5.37**	**89**			**Pn**	**11 03 09.6**	**+1.1**
SPUT	**South Promonto**	**5.68**	**78**	Pn		**Pn**	**11 03 12.5**	**-0.4**

*DNK **06** 11:03:53.8±3.0, 63.°58N×15.°59W, h15km, mb4.8*
*BGR **06** 11:03:58.0±0.0, 66.°35N×18.°31W, h33km, mb4.6*
*REY **06** 11:04:04.5, 64.°67N×17.°45W, h2km*
*MOS **06** 11:04:05.3±1.2, 64.°65N×17.°56W, h13km, mb4.7/50, Error ellipse: s-maj=9.8km s-min=5.2km az=111.0*
*IDC **06** 11:04:05.1±0.5, 64.°67N×17.°59W, h0km, mb4.2/25, mb1 4.4/29, mb1mx4.2/59, mbtmp4.2/29, ML3.0/3, MS3.5/31, Ms1 3.5/31, ms1mx3.4/49, Error ellipse: s-maj=14.3km s-min=8.3km az=9.0*
*NEIC **06** 11:04:07.1±1.9, 64.°64N±0.°09×17.°5W±0.°2, h10km±1km, mb4.6/124, Error ellipse: s-maj=16.3km s-min=10.6km az=196.0*
ISC 06 11:04:05.5±0.8**, 64.°69N**±0.°03×**17.°46W**±0.°02**, h1**km±4km**, n457, σ1§10/421, mb4.6**/134**, MS3.5**/27**, 11C-4D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.11**	**21**	P		**Pg**	**11 04 07.6**	**0.0**
	baz=16							
IVON	**Vonarskard**	**0.13**	**262**	P		**Pg**	**11 04 07.4**	**-0.6**
	baz=273							
IURH	**Urdarhals**	**0.19**	**46**	P		**Pg**	**11 04 08.9**	**-0.2**
	baz=40							
IDJK	**Dyngjujokull**	**0.21**	**153**	P		**Pg**	**11 04 08.5**	**-1.0**
	baz=151							
IGRF	**Grimsfjall**	**0.30**	**164**	P		**Pg**	**11 04 10.1**	**-1.1**
	baz=163							
IKVE	**Kverkfjoll**	**0.34**	**92**	P		**Pg**	**11 04 11.2**	**-0.7**
	baz=88							
IKVE				S		**Sg**	**11 04 16.2**	**0.0**
	baz=88							
IBJK	**Bruarjokull**	**0.38**	**126**	P		**Pg**	**11 04 11.3**	**-1.4**
	baz=123							
IBJK				S		**Sg**	**11 04 17.7**	**+0.1**
	baz=123							
IHUS	**Husbondi**	**0.41**	**192**	P		Pg	11 04 12.2	-1.0
	baz=194							
IHUS				S		**Sg**	**11 04 17.9**	**-0.7**
	baz=194							
THOR	**Thorvaldshraun**	**0.41**	**54**	P		**Pg**	**11 04 12.7**	**-0.8**
	baz=51							
ISKR	**Skrokkalda**	**0.42**	**252**	P		**Pg**	**11 04 12.4**	**-1.2**
	baz=256							
IVOT	**Vottur**	**0.44**	**164**	P		Pg	11 04 12.5	-1.3
	baz=164							
IKRE	**Kreppuhraun**	**0.47**	**78**	P		**Pg**	**11 04 13.3**	**-1.2**
	baz=75							
IJOK	**Jokulheimar**	**0.50**	**222**	P		**Pg**	**11 04 13.8**	**-1.2**
	baz=224							
IMKO	**Mokollar**	**0.56**	**58**	P		**Pg**	**11 04 15.0**	**-1.1**
	baz=56							
IMKO				S		**Sb**	**11 04 23.8**	**-2.7**
	baz=56							
ISVA	**Svartarkot**	**0.65**	**7**	P		**Pg**	**11 04 16.8**	**-1.2**
	baz=6.8							
IIEY	**Innrieyrar**	**0.67**	**206**	P		Pg	11 04 16.4	-1.7
	baz=208							
IKSK	**Karasker**	**0.68**	**141**	P		Pg	11 04 16.0	-2.5
	baz=140							
IVSH	**V-Sauoahnukur**	**0.75**	**80**	P		**Pg**	**11 04 17.9**	**-1.9**
	baz=78							
IKAL	**Kalfafell**	**0.75**	**188**	P		Pg	11 04 17.9	-2.0
	baz=188							
IVAT	**Vatnsfell**	**0.81**	**232**	P		Pg	11 04 18.9	-2.1
	baz=234							
IADA	**Aoalbol**	**0.87**	**67**	P		**Pg**	**11 04 19.9**	**-2.2**
	baz=65							
IHVE	**Hveravellir**	**0.92**	**282**	P		**Pg**	**11 04 20.6**	**-2.5**
	baz=284							
IMEL	**Melhnausar**	**0.94**	**21**	P		**Pg**	**11 04 21.5**	**-2.1**
	baz=20							
IREN	**Reynihlio**	**0.99**	**13**	P		**Pg**	**11 04 22.2**	**-2.1**
	baz=13							
IKVO	**Krokottuvotn**	**1.06**	**13**	P		**Pg**	**11 04 23.3**	**-2.4**
	baz=12							

ISNB	**Snabyli**	**1.09**	**209**	P		Pg	11 04 23.1	-3.1
	baz=210							
IGRS	**Grimsstaoir**	**1.10**	**30**	P		**Pg**	**11 04 24.2**	**-2.4**
	baz=29							
BORG	**Borgarnes**	**1.66**	**274**	Pg		**Pn**	**11 04 32.6**	**-3.1**
	25nm,0.3s,baz=100,slow=11,SNR=68							
BORG				Lg		Lg	11 04 56.3	
	31nm,0.3s,baz=280,slow=23,SNR=9.6							
JMIC	**Jan Mayen**	**7.16**	**24**	LR		LR	11 07 48.5	
	comp=Z,185nm,20.9s,baz=252,slow=31							
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	11 06 49.0	+5.9
SUMG				pmax		pmax		
	comp=Z,73nm,1.4s							
SUMG	**Summit**	**10.93**	**325**	Pn		**Pn**	**11 06 44.7**	**+1.6**
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	11 06 49.0	+5.9
	comp=Z,73nm,1.4s							
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	11 06 49.0	+5.9
SUMG				IAmb		IAmb	11 06 49.9	
	comp=Z,73nm,1.4s							
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**	**11 06 53.2**	**-1.0**
	baz=315,slow=16,SNR=7.2							
ESK	**Eskdalemuir**	**11.77**	**136**	P		**Pn**	**11 06 53.6**	**-0.6**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn		**Pn**	**11 06 53.6**	**-0.6**
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P		**Pn**	**11 07 02.0**	**+2.7**
DAG				pmax		pmax		
	comp=Z,17nm,1.2s							
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P		**Pn**	**11 07 02.0**	**+2.7**
	comp=Z,17nm,1.2s							
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P		**Pn**	**11 07 02.0**	**+2.7**
DAG				IAmb		IAmb	11 07 07.5	
	comp=Z,17nm,1.2s							
NC204	**NORSAR Array S**	**13.21**	**92**	Pn		**Pn**	**11 07 11.8**	**-2.2**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn		**Pn**	**11 07 15.4**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.9							
NOA				LR		LR	11 13 24.9	
	comp=Z,83nm,18.6s,baz=300,slow=41							
SFJD	**Kangerlussuaq**	**13.67**	**295**	LR		LR	11 12 01.8	
	comp=Z,342nm,19.8s,baz=86,slow=35							
HFS	**Hagfors**	**15.03**	**93**	LR		LR	11 13 16.2	
	comp=Z,168nm,21.6s,baz=314,slow=36							
NOR	**Nord**	**17.00**	**0**	*i* P		**P**	**11 08 04.9**	**-1.1**
NOR				pmax		pmax		
	comp=Z,170nm,2.1s							
NOR	**Nord**	**17.00**	**0**	*i* P		**P**	**11 08 04.9**	**-1.1**
	comp=Z,167nm,2.1s							
NOR	**Nord**	**17.00**	**0**	*i* P		**P**	**11 08 04.9**	**-1.1**
NOR				IAmb		IAmb	11 08 07.9	
	comp=Z,168nm,2.1s							
ARCES	**ARCESS Array B**	**17.09**	**55**	P		**P**	**11 08 06.0**	**-1.0**
	baz=278,slow=14,SNR=2.9							
ARCES				LR		LR	11 13 40.0	
	comp=Z,187nm,20.7s,baz=290,slow=34							
BAIF	**Baives**	**18.59**	**132**	*e*P		**P**	**11 08 23.1**	**-0.6**
BAIF				pmax		pmax		
	comp=Z,15nm,1.0s							
GRR	**Gorron**	**18.62**	**143**	*e*P		**P**	**11 08 23.5**	**-0.6**
GRR				pmax		pmax		
	comp=Z,43nm,1.1s							
MEM	**Membach**	**18.71**	**128**	P		**P**	**11 08 25.7**	**+0.6**
MEM	**Membach**	**18.71**	**128**	P		**P**	**11 08 26.7**	**+1.6**
MEM				pmax		pmax		
	comp=Z,27nm,1.2s							
BTNL	**Ternell**	**18.77**	**128**	P		**P**	**11 08 25.9**	**+0.1**
MSF	**Maaselka**	**19.13**	**65**	P		**P**	**11 08 29.4**	**-0.1**
MSF				pmax		pmax		
	comp=Z,25nm,1.9s							
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**11 08 36.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=311,slow=12,SNR=8.7							
FINES				LR		LR	11 16 53.6	
	comp=Z,99nm,18.8s,baz=274,slow=39							
FINES	**FINESS Array B**	**19.68**	**79**	P		**P**	**11 08 35.4**	**-0.2**
TNS	**Taunus Mts**	**19.89**	**124**	P		**Pn**	**11 08 41.2**	**+1.7**
TNS				pmax		pmax		
	comp=Z,17nm,1.0s							
MFF	**Saint Martin d**	**20.46**	**144**	*e*P		**P**	**11 08 44.7**	**+0.6**
MFF				pmax		pmax		
	comp=Z,104nm,1.5s							
MOX	**Moxa**	**20.70**	**119**	P		**P**	**11 08 47.4**	**+0.7**
MOX				pmax		pmax		
	comp=Z,15nm,1.6s							
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**11 08 47.2**	**+0.5**
	comp=Z,38nm,1.4s							
CLL				LmV			11 16 00.0	
	comp=Z,200nm,20.1s							
CLL	**Collm**	**20.70**	**116**	*i* P		**

ISAL Salakas 23.08 93 *eP* **P 11 09 12.8 +0.7**
MOTA Moosalm 23.26 125 *eP* **P 11 09 15.5 +1.3**
comp=Z,13nm,1.2s
IIGN Ignalina 23.26 93 *eP* **P 11 09 14.8 +0.8**
DAVOX Davos/Dischmat 23.32 127 P **P 11 09 15.8 +0.9**
comp=Z,4.6nm,0.8s,baz=293,slow=19,SNR=3.6
DAVOX LR LR 11 18 17.2
comp=Z,124nm,19.9s,baz=81,slow=36
LPL La Plagne 23.40 134 *eP* **P 11 09 15.0 -0.7**
LPL pmax pmax
comp=Z,14nm,1.1s
SQTA Sankt Quirin 23.40 125 *eP* **P 11 09 16.1 +0.4**
comp=Z,13nm,1.3s
FETA Feichten 23.41 126 *eP* **P 11 09 17.3 +1.6**
comp=Z,8.5nm,1.1s
TUE Stuetta 23.41 128 P **P 11 09 16.8 +1.0**
TUE IAmb IAmb 11 09 23.6
comp=Z,27nm,1.2s
LPG La Plagne 23.43 133 *eP* **P 11 09 15.4 -0.6**
LPG pmax pmax
comp=Z,3.0nm,0.4s
WATA Walderalm 23.43 124 *eP* **P 11 09 16.9 +1.0**
comp=Z,15nm,1.3s
IDID Didziasalis 23.51 92 *eP* **P 11 09 17.1 +0.6**
WTTA Wattenberg 23.52 124 *eP* **P 11 09 17.2 +0.3**
comp=Z,13nm,1.2s
EUNU Eureka 23.65 336 P **P 11 09 19.0 +1.2**
EUNU IAmb IAmb 11 09 27.1
comp=Z,18nm,1.2s
ORIF Oris-en-Rattie 23.68 136 *eP* **P 11 09 19.3 +0.9**
ORIF pmax pmax
comp=Z,16nm,1.2s
VRAC Vranov 23.69 114 P **P 11 09 19.0 +0.7**
comp=Z,4.8nm,0.7s,baz=13,slow=21,SNR=5.1
VRAC LR LR 11 18 14.4
comp=Z,180nm,21.8s,baz=321,slow=36
VRAC Vranov 23.69 114 *eP* **P 11 09 18.4 +0.1**
MORC Moravsky Berou 23.69 112 *eP* **P 11 09 17.0 -1.4**
MORC Moravsky Berou 23.69 112 P **P 11 09 18.7 +0.3**
MORC pmax pmax
comp=Z,17nm,1.5s
MORC Moravsky Berou 23.69 112 P **P 11 09 18.7 +0.3**
NACGM Naroch 23.80 93 *e* **P 11 09 19.0 -0.3**
KRUC Moravsky 23.81 115 *eP* **P 11 09 19.2 -0.3**
KRUC Moravsky 23.81 115 P **P 11 09 19.6 +0.1**
KRUC pmax pmax
comp=Z,10.0nm,2.8s
ETSF Etsaut 23.85 148 *eP* **P 11 09 24.5 +4.5**
ETSF pmax pmax
comp=Z,33nm,1.7s
EPF Esparros 23.93 146 *eP* **P 11 09 24.8 +4.0**
EPF pmax pmax
comp=Z,24nm,1.4s
ABTA Abfaltersbach 24.27 123 *eP* **P 11 09 25.1 +1.1**
comp=Z,8.4nm,1.3s
CONA Conrad Observa 24.53 117 *eP* **P 11 09 26.2 0.0**
comp=Z,7.5nm,1.1s
MICGM Minsk 24.55 93 *e* **P 11 09 26.0 -0.2**
MNK Minsk 24.55 93 *eP* **P 11 09 26.0 -0.2**
CTI Castel Tesino 24.57 125 P **P 11 09 27.5 +0.9**
CTI pmax pmax
comp=Z,12nm,1.0s
CTI Castel Tesino 24.57 125 P **P 11 09 27.5 +0.9**
CTI IAmb IAmb 11 09 31.7
comp=Z,12nm,1.0s
ZOU Zoufplan 24.60 123 P **P 11 09 28.7 +1.6**
ZOU IAmb IAmb 11 09 46.1
comp=Z,28nm,1.4s
CIMO Cimolais 24.62 124 P **P 11 09 28.6 +1.6**
MODS Modra-Piesok 24.71 115 *eP* **P 11 09 27.9 +0.1**
MODS Modra-Piesok 24.71 115 *eP* **P 11 09 27.9 +0.1**
MYKA Terra Mystica 24.78 122 *eP* **P 11 09 28.9 +0.4**
comp=Z,6.5nm,1.1s
ARSA Arzberg 24.96 118 *eP* **P 11 09 30.7 +0.6**
comp=Z,6.7nm,1.1s
NIE Niedzica 25.08 109 *eP* **P 11 09 31.7 +0.5**
NIE Niedzica 25.08 109 *eP* **P 11 09 31.7 +0.5**
OBKA Obir 25.22 121 *eP* **P 11 09 32.1 -0.4**
comp=Z,10nm,1.1s
VYHS Vyhne 25.23 113 *eP* **P 11 09 32.6 +0.1**
VYHS Vyhne 25.23 113 *eP* **P 11 09 32.6 +0.1**
SOKA Soboth 25.25 120 *eP* **P 11 09 33.0 +0.2**
comp=Z,11nm,1.4s
KLMR Klimovskoe 25.58 72 *eP* **P 11 09 34.4 -1.1**
KLMR pmax pmax
comp=Z,31nm,1.4s
KLMR Klimovskoe 25.58 72 *eP* **P 11 09 34.5 -1.1**
KLMR AMP 11 09 37.4
comp=Z,31nm,1.4s
KWP Kalwaria Pacla 25.90 106 *eP* **P 11 09 40.1 +1.6**
KWP Kalwaria Pacla 25.90 106 *eP* **P 11 09 40.2 +1.6**
KWP Kalwaria Pacla 25.90 106 P **P 11 09 39.5 +0.9**
CRVS Cervenica-Dubn 25.96 109 *eP* **P 11 09 38.4 -0.7**
CRVS Cervenica-Dubn 25.96 109 *eP* **P 11 09 38.4 -0.7**
SCHQ Schefferville 26.06 271 P **P 11 09 39.5 -0.4**
comp=Z,7.8nm,0.7s,baz=50,slow=10,SNR=4.4
SCHQ LR LR 11 18 38.0
comp=Z,147nm,21.2s,baz=60,slow=34
SCHQ Schefferville 26.06 271 IAmb IAmb 11 09 41.7
comp=Z,23nm,1.1s
PSZ Piszkesteto 26.11 112 P **P 11 09 40.9 +0.3**
PSZ pmax pmax
comp=Z,34nm,1.4s
PSZ Piszkesteto 26.11 112 P **P 11 09 40.9 +0.3**
ESDC Sonseca Array 26.27 156 P **P 11 09 41.8 -0.2**
comp=Z,3.1nm,0.8s,baz=350,slow=9.2,SNR=14
ESDC LR LR 11 20 04.9
comp=Z,56nm,18.7s,baz=185,slow=36
ESDC Sonseca Array 26.27 156 P **P 11 09 41.6 -0.4**
LVV L'vov 26.30 104 *ij iP* **P 11 09 44.7 +2.5**
RES Resolute Bay 26.46 324 LR LR 11 20 13.6
comp=Z,120nm,18.3s,baz=60,slow=37
UZH Uzhgorod 26.51 108 *eP* **P 11 09 44.1 0.0**
UZH *e* 11 09 51.9
OSSC Osservatorio P 26.64 129 P **P 11 09 46.9 +1.6**
OSSC IAmb IAmb 11 09 56.7
comp=Z,18nm,1.0s
MORS Morshin 26.78 106 P **P 11 09 48.6 +2.1**
TRSU Trosnyk 27.21 108 P **P 11 09 53.6 +3.3**
HORU Horodok 27.77 103 P **P 11 09 57.9 +2.5**
KIEV Kiev 27.83 98 P **P 11 09 55.0 -0.9**
AKASG Malin Array Be 27.83 98 P **P 11 09 55.3 -0.6**
comp=Z,1.6nm,0.5s,baz=324,slow=9.6,SNR=5.3
AKASG LR LR 11 20 04.2
comp=Z,105nm,21.2s,baz=325,slow=34
AKASG Malin Array Be 27.83 98 IAmb IAmb 11 10 02.8
comp=Z,2.5nm,1.1s
AKBB Malin Array Si 27.83 98 *ceP* **P 11 09 54.4 -1.5**
OBN Obninsk 27.86 84 LR LR 11 21 36.3
comp=Z,15nm,19.4s,baz=339,slow=38
OBN Obninsk 27.86 84 *ij eP* **P 11 09 55.3 -0.8**
OBN *SP **sP** 11 09 59.0 +1.8
OBN *e* 11 10 01.2
OBN S S **11 14 39.0 -0.9**
OBN pmax pmax
comp=Z,13nm,0.5s
OBN MLR MLR
comp=Z,74nm,15.0s
KMPD K-Podol'skiy 28.29 104 P **P 11 10 00.0 0.0**
BURAR Bucovina Array 28.52 106 P **P 11 10 02.9 +0.7**
BURAR Bucovina Array 28.52 106 P **P 11 10 02.9 +0.7**
VRI Vrincioaia 30.54 107 P **P 11 10 23.6 +3.6**
KIRV Kirov 30.95 69 *ceP* **P 11 10 22.7 -0.8**
CHGQ Chibougamau 32.80 271 P **P 11 10 39.6 -0.3**
baz=42
MDT Midelt 32.87 160 P **P 11 10 42.0 +1.3**
comp=Z,14nm,1.2s,baz=356,slow=8.9,SNR=7.7
KEST Kesra 33.16 138 LR LR 11 23 38.9
comp=Z,77nm,18.8s,baz=247,slow=35
E61A Lac Etchemin 33.81 263 P **P 11 10 48.1 -0.6**
baz=38
LATQ La Tuque 34.05 267 P **P 11 10 50.2 -0.5**
baz=39
E60A Ste Agathe de 34.27 264 P **P 11 10 53.4 +0.8**
baz=38
BELG Belogornoye 34.46 79 *i* P **P 11 10 53.8 -0.4**
G62A West of Eustis 34.79 262 P **P 11 10 57.7 +0.5**
baz=37
D57A Chemin Vers le 34.81 267 P **P 11 10 57.5 +0.2**
baz=39
D56A ZEC Mazanza, M 35.16 268 P **P 11 11 00.5 +0.2**
baz=39
E57A Chemin Saint G 35.39 267 P **P 11 11 02.8 +0.4**
baz=38
D55A Sainte-Anne-du 35.49 269 P **P 11 11 03.9 +0.7**
baz=39
G60A Masonville 35.65 264 P **P 11 11 04.8 +0.2**
baz=37
E56A St. Veronique 35.67 268 P **P 11 11 04.7 -0.1**
baz=38
ARU Arti 36.06 66 P **P 11 11 07.8 -0.2**
comp=Z,0.6nm,0.3s,baz=304,slow=11,SNR=1.6
ARU Arti 36.06 66 *d iP* **P 11 11 07.6 -0.3**
ARU 11 12 28.3
ARU S S **11 16 48.6 +1.2**
ARU SS SnSn **11 19 10.9 -0.2**
ARU pmax pmax
comp=Z,14nm,2.5s
ARU Arti 36.06 66 IAmb IAmb 11 11 17.3
comp=Z,14nm,1.4s
LBNH Lisbon 36.17 262 P **P 11 11 08.7 -0.3**
baz=36
NRIK Noril'sk 36.43 35 P **P 11 11 11.8 +0.8**
comp=Z,2.4nm,0.5s,baz=288,slow=2.0,SNR=3.5
NRIK LR LR 11 26 32.4
comp=Z,55nm,20.4s,baz=12,slow=37
NRIK Noril'sk 36.43 35 *ceP* **P 11 11 10.0 -1.0**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
G54A Lake Saint Pet 37.88 269 P **P 11 11 23.2 -0.4**
baz=38
BR131 Keskin Array S 38.47 105 *i* P **P 11 11 28.3 -0.5**
BR131 Keskin Array S 38.47 105 P **P 11 11 30.0 +1.3**
BRTR Keskin Array B 38.47 105 P **P 11 11 29.7 +0.9**
comp=Z,3.6nm,0.8s,baz=338,slow=6.5,SNR=12
BRTR LR LR 11 28 34.4
comp=Z,14nm,20.1s,baz=302,slow=38
BRTR Keskin Array B 38.47 105 P **P 11 11 29.5 +0.8**
IDI Anoyia 38.82 118 P **P 11 11 32.3 +0.7**
comp=Z,5.8nm,0.7s,baz=336,slow=10.0,SNR=1.8
IDI Anoyia 38.82 118 IAmb IAmb 11 11 37.4
comp=Z,17nm,1.1s
KIV Kislovodsk 38.83 92 *eP* **P 11 11 32.3 +0.6**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,190nm,16.0s
M62A Hamden 38.86 261 P **P 11 11 31.0 -0.8**
baz=34
SHA1 Shidzhatmaz 38.99 93 *i* P **P 11 11 33.4 +0.2**
KBZ Khabaz 39.10 93 P **P 11 11 35.0 +1.3**
comp=Z,4.4nm,0.7s,baz=331,slow=7.3,SNR=8.0
KBZ LR LR 11 29 55.4
comp=Z,30nm,19.4s,baz=336,slow=40
KBZ Khabaz 39.10 93 *ceP* **P 11 11 34.0 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 39.21 313 LR LR 11 27 11.2
comp=Z,147nm,18.3s,baz=0.0,slow=35
ELL Elmali 39.49 112 P **P 11 11 39.1 +1.8**
ELL pmax pmax
comp=Z,46nm,1.1s
ELL Elmali 39.49 112 P **P 11 11 39.1 +1.8**
AKTO Aktyubinsk 40.26 73 P **P 11 11 43.4 -0.1**
comp=Z,1.2nm,0.3s,baz=316,slow=8.7,SNR=7.6
ZEI Tsey 40.29 92 *eP* **P 11 11 44.4 +0.4**
ZEI pmax pmax
comp=Z,5.0nm,1.2s
L55A Hinsdale 40.62 267 P **P 11 11 47.2 +0.6**
baz=35
M57A Sunshine Farm, 40.75 265 P **P 11 11 48.3 +0.7**
baz=35
AKH Akhalkalaki 41.24 94 P **P 11 11 54.1 +2.2**
AKH pmax pmax
comp=Z,25nm,1.5s
AKH Akhalkalaki 41.24 94 P **P 11 11 54.0 +2.2**
AKH IAmb IAmb 11 11 54.8
comp=Z,25nm,1.5s
ERPA Erie 41.34 268 P **P 11 11 52.0 -0.4**
baz=35
ULM Lac du Bonnet 41.61 289 LR LR 11 28 23.4
comp=Z,50nm,20.2s,baz=69,slow=35
MALT Malatya 41.66 102 P **P 11 11 59.3 +4.1**
M54A Oil Creek Stat 41.70 267 P **P 11 11 56.0 +0.6**
baz=35
ABKAR Akbulak array 41.97 73 P **P 11 11 57.2 -0.2**
ABKAR Akbulak array 41.97 73 IAmb IAmb 11 11 59.3
comp=Z,9.1nm,1.4s
TIXI Tiksi 42.00 15 *ceP* **P 11 11 57.9 +0.4**
TIXI pmax pmax
comp=Z,86nm,1.3s
TIXI Tiksi 42.00 15 P **P 11 11 59.5 +2.0**
N55A Marion Center 42.01 266 P **P 11 11 58.0 +0.1**
baz=34
GAZ Gaziantep 42.12 104 P **P 11 12 02.8 +3.8**
EPYK Eagle Plains 42.13 328 P **P 11 11 59.0 +0.4**
baz=34
O56A Blue Knob Stat 42.25 265 P **P 11 12 00.3 +0.4**
baz=34
N54A Moraine State 42.29 267 P **P 11 12 00.9 +0.7**
baz=34
TOLK Toolik Lake Re 42.73 336 P **P 11 12 04.0 +0.4**
baz=28,SNR=8.3
TOLK Toolik Lake Re 42.73 336 P **P 11 12 05.5 +2.0**
BMAR Burnt Mountain 42.88 333 P **P 11 12 05.1 +0.4**
P56A Dayton Farm, R 43.00 265 P **P 11 12 06.4 +0.4**
baz=34
O54A Avella 43.10 267 P **P 11 12 07.2 +0.4**
baz=34
BRVK Borovoye 43.10 62 *ceP* **P 11 12 06.4 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
AGMN Agassiz Nation 43.13 287 P **P 11 12 08.0 +1.0**
baz=38
BVAR Borovoye Array 43.17 62 P **P 11 12 07.4 +0.1**
comp=Z,3.8nm,0.9s,baz=188,slow=9.0,SNR=12
Q57A Strasburg 43.21 264 P **P 11 12 07.6 -0.1**
baz=33
O53A New Philadelph 43.40 268 P **P 11 12 10.1 +0.9**
baz=34
Q56A Snyder Ridge, 43.53 265 P **P 11 12 10.7 +0.4**
baz=33
O52A Adamsville 43.78 268 P **P 11 12 13.2 +0.9**
baz=34
R57A Stanardsville 43.87 264 P **P 11 12 13.2 +0.2**
baz=33
O51A Pataskala 44.08 269 P **P 11 12 15.4 +0.6**
baz=34
COLD Coldfoot 44.10 336 P **P 11 12 15.2 +0.6**
baz=27
P53A Whipple 44.11 267 P **P 11 12 16.1 +1.2**
baz=34
P53A Whipple 44.11 267 P **P 11 12 16.2 +1.3**
P53A IAmb IAmb 11 12 16.9
comp=Z,18nm,1.1s
Q54A Coxs Mills 44.29 266 P **P 11 12 18.4 +2.0**
baz=33
P52A Corning 44.30 268 P **P 11 12 17.4 +0.9**
baz=34
TAM Tamanrasset 44.52 149 P **P 11 12 20.4 +1.8**
DAWY Dawson 44.69 328 P **P 11 12 20.5 +1.2**
DAWY IAmb IAmb 11 12 23.2
comp=Z,13nm,1.4s
Q53A Leroy 44.69 267 P **P 11 12 20.2 +0.7**
baz=33
Q52A Bidwell 44.92 268 P **P 11 12 21.6 +0.1**
baz=33
R54A Victor 45.03 266 P **P 11 12 22.6 +0.3**
baz=33
S55A Lewisburg 45.16 265 P **P 11 12 23.8 +0.4**
baz=33
T57A Hurt 45.28 263 P **P 11 12 25.5 +1.3**
baz=32
T57A Hurt 45.28 263 P **P 11 12 25.8 +1.5**
T57A IAmb IAmb 11 12 28.4
comp=Z,19nm,1.5s
R53A Hurricane 45.31 267 P **P 11 12 25.2 +0.7**
baz=33
K27K Chicken 45.32 329 P **P 11 12 25.2 +0.9**
baz=30
Q51A Peebles 45.33 269 P **P 11 12 26.4 +1.7**
S54A Dingess, Beckl 45.48 266 P **P 11 12 26.9 +0.9**
baz=33
P49A Miami Univ. Ec 45.50 270 P **P 11 12 25.8 -0.2**
baz=34
BLA Blacksburg 45.60 264 P **P 11 12 27.5 +0.7**
baz=32
IL31 45.67 332 P **P 11 12 27.8 +0.8**
IL31 IAmb IAmb 11 12 28.9
comp=Z,16nm,1.5s
ILAR Eielson Array 45.67 332 P **P 11 12 27.8 +0.7**
comp=Z,4.8nm,1.1s,baz=23,slow=5.8,SNR=22
ILAR PcP **PcP** **11 14 03.8 -1.1**
comp=Z,1.7nm,1.0s,baz=20,slow=2.9,SNR=6.8
ILAR LR LR 11 33 36.6
comp=Z,45nm,18.2s,baz=8.0,slow=39
ILAR Eielson Array 45.67 332 P **P 11 12 27.8 +0.7**
ILAR 11 14 04.7
ILAR Eielson Array 45.67 332 P **P 11 12 27.8 +0.7**
ILAR **PcP** **11 14 04.7 -0.2**
COLA College 45.77 333 *d iP* **P 11 12 28.1 +0.3**
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA College 45.77 333 P **P 11 12 30.2 +2.4**
TCOL CIGO, UAF Yank 45.77 333 P **P 11 12 28.7 +0.9**
baz=27
U57A Blanch 45.79 263 P **P 11 12 28.8 +0.5**
baz=32
SFIN Lafayette 45.82 273 P **P 11 12 29.1 +0.6**
baz=34
T55A Pulaski 45.83 265 P **P 11 12 29.1 +0.4**
baz=32
IMAR Indian Mountai 45.84 337 P **P 11 12 29.5 +1.1**
CCB Clear Creek Bu 45.96 333 P **P 11 12 31.2 +1.9**
CCB IAmb IAmb 11 12 40.9
comp=Z,7.5nm,1.4s
HDA Harding Lake 46.01 332 P **P 11 12 30.3 +0.6**
baz=27
BCAR Beaver Creek A 46.10 329 P **P 11 12 31.9 +1.4**
MLY Manley 46.18 335 P **P 11 12 32.0 +0.9**
baz=26,SNR=5.1
T54A Tazewell 46.22 265 P **P 11 12 32.7 +0.9**
baz=32
NEA2 Nenana 46.26 333 P **P 11 12 32.5 +0.8**
baz=26
DGMT Dagmar 46.35 293 P **P 11 12 33.1 +0.4**
baz=36
U55A TA2, Sparta 46.46 265 P **P 11 12 34.3 +0.5**
baz=32,SNR=7.1
T53A Wise 46.70 266 P **P 11 12 35.4 -0.2**
baz=32
V56A Mocksville 46.81 264 P **P 11 12 37.1 +0.7**
baz=32
MCK McKinley 47.01 333 P **P 11 12 38.1 +0.5**
baz=26
V55A Taylorsville 47.09 264 P **P 11 12 39.3 +0.7**
baz=32
ECSD EROS Data Cent 47.11 284 P **P 11 12 39.4 +0.7**
baz=35
W57A Gilead 47.16 263 P **P 11 12 39.6 +0.5**
baz=31
WCI Wyandotte Cave 47.26 271 P **P 11 12 40.8 +0.9**
baz=33
WCI Wyandotte Cave 47.26 271 P **P 11 12 41.1 +1.2**
WCI pmax pmax
comp=Z,12nm,0.8s
WCI Wyandotte Cave 47.26 271 P **P 11 12 41.1 +1.2**
W56A Indian Trail 47.43 263 P **P 11 12 41.4 +0.2**
baz=31
V54A Nebo 47.46 265 P **P 11 12 41.4 -0.1**
baz=32
ZAA0 Zalesovo Array 47.60 51 P **P 11 12 42.5 +0.2**
ZAA0 IAmb IAmb 11 12 44.2
comp=Z,5.9nm,1.2s
ZALV Zalesovo Beam 47.60 51 P **P 11 12 42.0 -0.3**
comp=Z,1.1nm,0.5s,baz=336,slow=6.8,SNR=5.4
ZALV LR LR 11 32 36.6
comp=Z,27nm,20.9s,baz=30,slow=36
ZALV Zalesovo Beam 47.60 51 *i* P **P 11 12 42.7 +0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 47.60 51 P **P 11 12 42.5 +0.2**
KMSC Kings Mountain 47.74 264 P **P 11 12 43.8 +0.2**
baz=31
KURK Kurchatov 48.08 58 *ceP* **P 11 12 45.6 -0.5**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 48.08 58 P **P 11 12 45.9 -0.2**
KURK IAmb IAmb 11 12 47.0
comp=Z,10.0nm,1.1s
KURBB Kurchatov Arra 48.13 58 P **P 11 12 45.7 -0.7**
comp=Z,5.3nm,0.9s,baz=322,slow=7.4,SNR=11
W54A Cherokee Point 48.15 265 P **P 11 12 47.6 +0.7**
baz=31
X56A White Oak 48.16 263 P **P 11 12 47.7 +0.8**
baz=31
PAULI Pauline 48.22 264 P **P 11 12 48.3 +1.0**
X55A Gracelyn & Ava 48.44 264 P **P 11 12 49.3 +0.2**
baz=31
JSC Jenkinsville 48.44 263 IAmb IAmb 11 12 51.3
comp=Z,5.5nm,1.1s
U49A Red Boiling Sp 48.48 269 IAmb IAmb 11 12 50.7
comp=Z,9.9nm,1.1s
BG3 Lake Jocassee 48.55 265 P **P 11 12 51.0 +1.0**
BG3 IAmb IAmb 11 12 53.0
comp=Z,9.5nm,1.3s
LAO LASA Array 48.60 293 P **P 11 12 51.1 +0.9**
baz=35
T47A Sharon Grove 48.65 270 P **P 11 12 50.4 -0.3**
EGMT Eagleton 48.88 297 P **P 11 12 52.8 +0.4**
baz=35,SNR=5.9
EGMT Eagleton 48.88 297 P **P 11 12 52.8 +0.4**
HODGE Hodges 48.91 264 IAmb IAmb 11 12 54.1
comp=Z,6.7nm,1.0s
CLTN Cedars of Leba 49.08 269 IAmb IAmb 11 12 54.6
comp=Z,5.5nm,1.1s
W50A Signal Mountai 49.40 268 P **P 11 12 56.5 +0.1**
CCM Cathedral Cave 49.53 275 P **P 11 12 56.1 -1.2**
baz=33
RSSD Black Hills 49.84 290 P **P 11 13 00.4 +0.4**
baz=34
GOGA Godfrey 50.13 265 P **P 11 13 02.5 +0.5**
baz=31
GOGA Godfrey 50.13 265 P **P 11 13 02.0 0.0**
GOGA pmax pmax
comp=Z,9.0nm,1.1s
GEYT Alibeck 50.40 84 LR LR 11 36 23.9
comp=Z,26nm,18.5s,baz=185,slow=38
S39A Bolivar 50.73 276 IAmb IAmb 11 13 07.0
comp=Z,7.4nm,1.1s
HRY Holter Researc 50.76 298 P **P 11 13 06.9 +0.2**
X48A Hartselle 50.78 269 IAmb IAmb 11 13 07.3
comp=Z,9.3nm,1.1s
RLMT Red Lodge 51.09 295 P **P 11 13 09.3 -0.1**
baz=34
RLMT Red Lodge 51.09 295 P **P 11 13 09.3 -0.1**
RLMT IAmb IAmb 11 13 14.0
comp=Z,20nm,1.5s
KK31 Karatay Array 51.25 70 P **P 11 13 10.9 +0.5**
KK31 pmax pmax
comp=Z,7.0nm,1.2s
KK31 Karatay Array 51.25 70 P **P 11 13 10.9 +0.5**
KK31 IAmb IAmb 11 13 12.3
comp=Z,7.0nm,1.1s
KKAR Karatay Array 51.25 70 P **P 11 13 11.2 +0.8**
KKAR pmax pmax
comp=Z,7.0nm,1.2s
KKAR Karatay Array 51.25 70 P **P 11 13 11.2 +0.8**
KKAR Karatay Array 51.25 70 P **P 11 13 10.9 +0.6**
BOZ Bozeman (W) 51.61 297 P **P 11 13 13.7 +0.5**
baz=33,SNR=9.8
U40A Yellville 51.66 275 P **P 11 13 12.7 -0.7**
baz=32
LRAL Lakeview Retre 51.97 268 P **P 11 13 15.5 -0.3**
baz=31
DGZ Jazzator, Alta 52.05 53 *i* P **P 11 13 16.6 +0.2**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
YHL Hebgen Lake 52.06 296 P **P 11 13 16.4 -0.3**
K22A Casper 52.07 291 P **P 11 13 15.8 -0.8**
baz=33
K22A Casper 52.07 291 P **P 11 13 16.1 -0.5**
K22A IAmb IAmb 11 13 17.8
comp=Z,12nm,1.2s
YMR Madison River 52.13 296 P **P 11 13 16.6 -0.5**
H17A Grant Village 52.21 295 P **P 11 13 18.2 +0.3**
baz=33
H17A Grant Village 52.21 295 IAmb IAmb 11 13 20.8
comp=Z,8.3nm,1.1s
YPP Pitchstone Pla 52.41 295 P **P 11 13 20.6 +1.3**
MAKZ Makanchi 52.57 59 P **P 11 13 20.5 +0.4**
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
MAKZ Makanchi 52.57 59 P **P 11 13 20.5 +0.4**
MK31 Makanchi Array 52.70 58 *ceP* **P 11 13 20.4 -0.7**
MK31 Makanchi Array 52.70 58 P **P 11 13 20.1 -1.0**
MKAR Makanchi Array 52.70 58 P **P 11 13 21.0 -0.1**
comp=Z,3.7nm,1.1s,baz=336,slow=5.7,SNR=16

MKAR LR LR 11 35 08.0
comp=Z,43nm,18.0s,baz=332,slow=35
MKAR Makanchi Array 52.70 58 *i* P **P 11 13 21.2 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 52.70 58 P **P 11 13 20.5 -0.6**
T35A Sooner Cattle 52.74 279 IAmb IAmb 11 13 23.8
comp=Z,12nm,1.2s
LOHW Long Hollow 52.88 295 P **P 11 13 23.4 +0.7**
LOHW IAmb IAmb 11 13 24.5
comp=Z,8.5nm,1.4s
W39A Magazine 53.04 275 P **P 11 13 22.8 -0.9**
baz=31
SNOW Snow King Moun 53.07 295 P **P 11 13 24.2 +0.1**
SNOW IAmb IAmb 11 13 26.2
comp=Z,6.9nm,1.1s
TOA0 Torodi Ar. Sit 53.16 156 P **P 11 13 24.1 -0.6**
TOA0 IAmb IAmb 11 13 24.4
comp=Z,6.8nm,1.1s
TORD Torodi Ar. Bea 53.16 156 P **P 11 13 23.6 -1.1**
comp=Z,4.5nm,1.0s,baz=342,slow=8.5,SNR=15
TORD Torodi Ar. Bea 53.16 156 P **P 11 13 23.1 -1.6**
BW06 Boulder Array 53.18 293 P **P 11 13 24.4 -0.6**
baz=32,SNR=8.4
BW06 Boulder Array 53.18 293 IAmb IAmb 11 13 28.9
comp=Z,8.2nm,1.0s
PD31 Pinedale Array 53.18 293 IAmb IAmb 11 13 28.9
comp=Z,7.5nm,1.0s
PDAR Pinedale Array 53.18 293 P **P 11 13 24.8 -0.2**
comp=Z,3.4nm,0.8s,baz=54,slow=7.5,SNR=23
PDAR LR LR 11 35 41.4
comp=Z,114nm,19.1s,baz=34,slow=36
PDAR Pinedale Array 53.18 293 P **P 11 13 23.4 -1.6**
REDW Red Top Meadow 53.19 295 P **P 11 13 25.1 +0.1**
REDW IAmb IAmb 11 13 32.3
comp=Z,9.6nm,1.3s
X40A Basin Creek Fa 53.23 274 P **P 11 13 24.8 -0.4**
baz=31
N23A Red Feather La 53.31 289 P **P 11 13 26.4 +0.3**
baz=32,SNR=7.4
N23A Red Feather La 53.31 289 P **P 11 13 26.3 +0.3**
N23A IAmb IAmb 11 13 29.5
comp=Z,12nm,1.1s
BCYI Bear Canyon 53.38 297 P **P 11 13 26.1 -0.3**
MIAR Mount Ida 53.50 275 P **P 11 13 26.2 -0.9**
baz=31
ISCO Idaho Springs 54.10 288 P **P 11 13 32.2 +0.4**
baz=32
HLID Hailey 54.40 297 P **P 11 13 33.4 -0.4**
baz=32
CHGR Chuyangaron 54.44 74 P **P 11 13 33.2 -0.9**
MOY Mondy 54.63 42 *eP* **P 11 13 37.1 +1.8**
MOY pmax pmax
comp=Z,32nm,1.3s
O20A White River Ci 54.89 290 P **P 11 13 37.9 +0.5**
baz=32
HWUT Hardware Ranch 54.96 294 IAmb IAmb 11 13 39.3
comp=Z,12nm,1.2s
RDMU Red Mountain 55.05 292 P **P 11 13 38.4 -0.2**
HRA Herat 55.17 82 P **P 11 13 40.5 +1.0**
SPUT South Promonto 55.56 294 P **P 11 13 42.8 +0.6**
WMOK Wichita Mounta 55.56 279 P **P 11 13 42.2 +0.1**
baz=31,SNR=6.1
WMOK Wichita Mounta 55.56 279 IAmb IAmb 11 13 44.5
comp=Z,6.7nm,1.2s
SDCO Great Sand Dun 55.80 287 P **P 11 13 44.6 +0.4**
baz=31
T25A Trinidad 55.87 285 P **P 11 13 45.1 +0.5**
baz=31
S22A 4UR Ranch, Cre 56.35 288 P **P 11 13 48.2 +0.2**
baz=31
ZAK Zakamensk 56.43 41 *eP* **P 11 13 47.8 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
P17A Butcher Ranch, 56.45 292 P **P 11 13 48.6 0.0**
KSH Kashi 56.47 68 P **P 11 13 50.6 +1.9**
KSH pP sP 11 13 56.1 +6.3
KSH S **S 11 21 39.4 -1.1**
KSH pmax pmax
comp=Z,13nm,1.1s
KSH pmax pmax
comp=Z,72nm,7.7s
KSH LR LR
comp=N,64nm,5.1s
KSH LR LR
comp=E,130nm,6.6s
KSH LR LR
comp=Z,160nm,6.2s
DUG Dugway, Tooele 56.65 294 P **P 11 13 50.6 +0.5**
baz=31
Q16A Castle Valley 57.10 292 P **P 11 13 53.9 +0.6**
J05D Fort Rock, OR 57.17 302 P **P 11 13 54.1 +0.5**
baz=30
WMQ Urumqi 57.20 56 *eP* **P 11 13 56.7 +2.9**
MVCO Mesa Verde 57.49 289 P **P 11 13 56.3 +0.2**
baz=31
ABTX Abilene, Hawle 57.74 279 P **P 11 13 57.5 -0.1**
baz=30
MSU Marysvale 57.85 293 P **P 11 13 57.3 -1.3**
MSU Marysvale 57.85 293 P **P 11 13 57.2 -1.3**
MVU Marysvale 57.87 293 P **P 11 13 58.8 0.0**
TCRU Three Creeks R 57.87 293 P **P 11 13 59.1 +0.3**
ANMO Albuquerque 58.60 286 P **P 11 14 04.7 +0.9**
baz=30
ANMO Albuquerque 58.60 286 *ceP* **P 11 14 03.4 -0.4**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 58.60 286 P **P 11 14 04.6 +0.7**
DBIC Dimbokro 58.61 165 P **P 11 14 02.3 -1.5**
comp=Z,4.8nm,0.9s,baz=0.7,slow=11,SNR=4.2
DBIC LR LR 11 39 49.9
comp=Z,32nm,19.4s,baz=24,slow=37
TIC Toumodi 58.62 165 *eP* **P 11 14 02.6 -1.3**
KIC Kosan Boka 58.93 165 *eP* **P 11 14 03.7 -2.3**
comp=Z,44nm,1.4s
LIC Lamto 59.03 166 *eP* **P 11 14 05.5 -1.2**
comp=Z,48nm,1.2s
CCUT Cedar City 59.15 293 P **P 11 14 08.3 +0.6**
R11A Troy Canyon, C 59.33 295 P **P 11 14 09.6 +0.8**
baz=30,SNR=6.9
R11A Troy Canyon, C 59.33 295 P **P 11 14 09.2 +0.4**
R11A IAmb IAmb 11 14 10.7
comp=Z,4.9nm,1.1s
BNM Barren Site 59.36 285 P **P 11 14 09.8 +0.6**
KNB Kanab 59.40 292 P **P 11 14 08.6 -0.7**
KNB pmax pmax
comp=Z,10.0nm,1.4s
KNB Kanab 59.40 292 P **P 11 14 08.6 -0.7**
SONM Songino Array 59.61 40 P **P 11 14 10.8 +0.2**
comp=Z,1.8nm,1.0s,baz=332,slow=8.4,SNR=8.1
SONM LR LR 11 42 39.0
comp=Z,57nm,18.0s,baz=310,slow=39
SONM Songino Array 59.61 40 P **P 11 14 11.1 +0.5**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 59.61 40 P **P 11 14 11.1 +0.5**
JCT Junction City 59.66 278 P **P 11 14 11.0 -0.1**
baz=30,SNR=6.2
KVN Kaiserville 59.69 298 IAmb IAmb 11 14 12.7
comp=Z,5.3nm,1.2s
U15A North Rim 59.70 291 IAmb IAmb 11 14 12.3
comp=Z,6.5nm,1.1s
ULN Ulaanbaatar 59.77 40 *ceP* **P 11 14 11.1 -0.6**
ULN pmax pmax
comp=Z,8.0nm,2.5s
WUAZ Wupatki 60.12 290 P **P 11 14 14.2 -0.1**
baz=30,SNR=5.9
WUAZ Wupatki 60.12 290 P **P 11 14 13.1 -1.2**
YERR Yerington 60.18 298 P **P 11 14 14.7 0.0**
YERR IAmb IAmb 11 14 16.6
comp=Z,10nm,1.3s
NVAR Mina Array Bea 60.31 297 P **P 11 14 14.9 -0.7**
comp=Z,0.9nm,0.9s,baz=64,slow=3.1,SNR=5.4
NVAR LR LR 11 40 03.4
comp=Z,169nm,21.0s,baz=26,slow=36
NVAR Mina Array Bea 60.31 297 P **P 11 14 15.2 -0.4**
NIL Nilore 60.43 74 P **P 11 14 16.6 +0.3**
NIL pmax pmax
comp=Z,14nm,1.1s
NIL Nilore 60.43 74 P **P 11 14 16.6 +0.3**
SHPR Sheep Range 60.77 294 IAmb IAmb 11 14 20.9
comp=Z,6.0nm,1.2s
TPNV Topopah Spring 60.81 295 P **P 11 14 19.3 +0.3**
baz=29
MNTX Cornudas Mount 60.96 283 P **P 11 14 19.5 -0.4**
baz=29
MNTX Cornudas Mount 60.96 283 P **P 11 14 20.5 +0.6**
X16A Lo Mia Camp, P 61.10 290 P **P 11 14 21.7 +0.7**
X16A IAmb IAmb 11 14 23.0
comp=Z,5.7nm,1.1s
121A Cookes Peak, D 61.24 286 P **P 11 14 22.4 +0.4**
baz=29
121A Cookes Peak, D 61.24 286 P **P 11 14 22.7 +0.7**
121A IAmb IAmb 11 14 23.4
comp=Z,8.9nm,1.2s
OMMB Old Mammoth Mi 61.29 297 IAmb IAmb 11 14 26.4
comp=Z,7.4nm,1.3s
MDPB Devils Postpil 61.30 298 IAmb IAmb 11 14 24.5
comp=Z,6.0nm,1.3s
SHOC Shoshone, Teco 61.73 294 P **P 11 14 26.1 +1.0**
baz=29
MPMC Manual Prospec 62.07 295 P **P 11 14 28.1 +0.6**
baz=29
TX31 Lajitas Ar. Si 62.30 280 IAmb IAmb 11 14 33.9
comp=Z,6.9nm,1.1s
TXAR Lajitas Array 62.30 280 P **P 11 14 29.1 +0.1**
comp=Z,2.3nm,1.0s,baz=59,slow=3.5,SNR=13
TXAR Lajitas Array 62.30 280 P **P 11 14 28.2 -0.8**
GSC Goldstone, Bar 62.46 294 P **P 11 14 30.3 +0.2**
baz=28
GMRC Granite Mounta 62.47 293 P **P 11 14 30.8 +0.7**
baz=29
TUC Tucson 62.67 288 P **P 11 14 32.0 +0.6**
baz=29
TUC Tucson 62.67 288 P **P 11 14 32.7 +1.2**
TUC pmax pmax
comp=Z,6.0nm,1.5s
TUC Tucson 62.67 288 P **P 11 14 32.7 +1.2**
TUC IAmb IAmb 11 14 40.0
comp=Z,6.4nm,1.4s
ISA Isabella, Lake 62.80 296 P **P 11 14 32.2 -0.1**
baz=28
ISA Isabella, Lake 62.80 296 IAmb IAmb 11 14 34.2
comp=Z,4.1nm,1.1s
IRM Iron Mountain 62.81 292 P **P 11 14 32.4 0.0**
baz=28
BELC Belle Mtn. Jos 63.29 293 P **P 11 14 36.1 +0.4**
baz=28
EDW2 Edwards Air Fo 63.30 295 P **P 11 14 35.5 0.0**
baz=28
MONP2 Monument Peak 64.43 293 P **P 11 14 44.2 +0.9**
baz=28
IKP In-Ko-Pah, Jac 64.52 292 P **P 11 14 44.5 +0.8**
baz=28
GTA Gaotai 65.27 49 *eP* **P 11 14 49.3 +0.7**
GTA pP sP 11 14 52.3 +2.6
GTA sP pP 11 14 55.3 +5.9
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,6.3s
GTA LR LR
comp=N,140nm,14.2s
GTA LR LR
comp=E,170nm,16.0s
GTA LR LR
comp=Z,93nm,14.9s
SPX San Pedro Mart 65.68 291 IAmb IAmb 11 14 52.6
comp=Z,8.2nm,1.3s
HHC Hu-ho-hao-te 67.48 40 *eP* **P 11 15 04.6 +1.9**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.7s
ZAIG Zacatecas 67.59 276 P **P 11 15 05.3 +1.5**
YSS Yuzh-Sakhalins 67.62 15 *i* P **P 11 15 03.5 +0.2**
YSS pmax pmax
comp=Z,11nm,1.1s
CN2 Changchun 68.01 28 *eP* **P 11 15 04.3 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 68.83 23 LR LR 11 45 31.1
comp=Z,40nm,19.8s,baz=32,slow=36
LZH Lanzhou 69.60 48 *eP* **P 11 15 15.4 -0.6**
LZH pP sP 11 15 19.9 +2.7
LZH pmax pmax
comp=Z,16nm,1.8s
KSRS Korea Array 74.62 28 LR LR 11 50 38.4
comp=Z,21nm,18.1s,baz=345,slow=37
NJ2 Nanjing 77.71 37 *eP* **P 11 16 02.8 -0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CMAR Chiang Mai Arr 84.10 59 P **P 11 16 37.5 -0.3**
comp=Z,1.1nm,0.8s,baz=318,slow=6.6,SNR=8.2
CMAR LR LR 11 57 55.3
comp=Z,13nm,18.5s,baz=255,slow=38
CMAR Chiang Mai Arr 84.10 59 P **P 11 16 37.0 -0.9**
ASAR Alice Springs 134.94 38 PKP **PKPdf 11 23 23.7 -2.0**
comp=Z,0.5nm,0.8s,baz=347,slow=1.4,SNR=4.4
VNA3 Neumayer Olymp 135.77 176 PKPdf **PKPdf 11 23 25.1 -0.7**
SNAA Sanae 136.46 173 PKPdf **PKPdf 11 23 28.1 +1.0**
SNAA Sanae 136.46 173 PKP **PKPdf 11 23 25.8 -1.3**
comp=Z,1.6nm,1.0s,baz=43,slow=2.2,SNR=5.1

ANF ***06*** *11:35:20.9±0.1, 35°.66N×117°.52W, h12km±1km, ML3.8/40, Error ellipse: s-maj=0.9km s-min=0.8km az=75.0*
NEIC ***06*** *11:35:21.5±1.4, 35°.671N±0°.009×117°.52W±0°.01, h12km±2km, Error ellipse: s-maj=1.5km s-min=1.3km az=61.0*
SCEDC ***06*** *11:35:21.9, 35°.67N×117°.53W, h9km, ML3.7, ML3.7, ML3.7*
PAS ***06*** *11:35:21.9±1.6, 35°.669N±0°.010×117°.53W±0°.01, h9km±2km, ML3.7/227, Error ellipse: s-maj=1.5km s-min=1.4km az=70.0*

ISC 06 11:35:21.6±0.8, 35°.67N±0°.01×117°.53W±0°.01, h14km±5km, n187, σ0°96/247, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**339**		**Pg**	**11 35 25.0**	**-0.7**
CLC					**Sg**	**11 35 27.5**	**-0.8**
SRTC	**Snort**	**0.18**	**277**		**Pg**	**11 35 25.8**	**-0.1**
CCCA	**Chn Cany lake**	**0.20**	**137**		**Pb**	**11 35 29.4**	**+2.5**
LRMC	**Laurel Mtn Rad**	**0.23**	**214**	P	**Pg**	**11 35 26.3**	**-0.4**
LRMC	baz=34,SNR=1000			S	**Sg**	**11 35 29.7**	**-0.4**
LRMC	**Laurel Mtn Rad**	**0.23**	**214**		**Pg**	**11 35 26.3**	**-0.4**
LRMC					**Sg**	**11 35 29.7**	**-0.4**
TOW	**Tower One**	**0.24**	**306**		**Pg**	**11 35 26.8**	**0.0**
WNMM	**Nine Mile Cany**	**0.35**	**300**		**Pg**	**11 35 28.6**	**-0.2**
WVPM	**Volcano Peak E**	**0.36**	**320**		**Pg**	**11 35 28.7**	**-0.4**
WVPM					**Sg**	**11 35 34.3**	**+0.1**
JRC2	**Joshua Ridge**	**0.39**	**324**		**Pg**	**11 35 29.2**	**-0.3**
JRC2					**Sg**	**11 35 34.7**	**-0.1**
MPMC	**Manual Prospec**	**0.39**	**5**	P	**Pg**	**11 35 29.1**	**-0.5**
MPMC	baz=184,SNR=1000			S	**Sg**	**11 35 34.6**	**-0.4**
MPMC	**Manual Prospec**	**0.39**	**5**		**Pg**	**11 35 29.1**	**-0.5**
MPMC					**Sg**	**11 35 34.6**	**-0.4**
WCSM	**Coso Springs S**	**0.41**	**332**		**Pg**	**11 35 29.4**	**-0.4**
WCSM					**Sg**	**11 35 35.0**	**-0.4**
WRVM	**Rose V. Centra**	**0.45**	**319**		**Pg**	**11 35 30.2**	**-0.4**
WRVM					**Sg**	**11 35 36.4**	**-0.3**
DTP	**Desert Tortois**	**0.48**	**213**		**Pg**	**11 35 30.6**	**-0.5**
DTP					**Sg**	**11 35 37.1**	**-0.3**
WCHM	**Chimney Peak**	**0.49**	**296**		**Pg**	**11 35 31.0**	**-0.4**
WBSM	**Bird Springs**	**0.51**	**255**		**Pg**	**11 35 31.5**	**-0.4**
WBSM					**Sg**	**11 35 38.6**	**-0.2**
MFS	**McCloud Flat S**	**0.52**	**329**		**Pg**	**11 35 31.6**	**-0.3**
WORM	**Onyx Ranch**	**0.58**	**273**		**Pg**	**11 35 32.6**	**-0.4**
WORM					**Sg**	**11 35 40.3**	**-0.5**
QSM	**Queen of Sheba**	**0.61**	**61**		**Pg**	**11 35 33.2**	**-0.4**
CCAC	**Calif City Air**	**0.65**	**218**		**Pg**	**11 35 34.0**	**-0.4**
CCAC					**Sg**	**11 35 43.1**	**+0.1**
WHFM	**Hanning Flat**	**0.67**	**273**		**Pg**	**11 35 34.2**	**-0.5**
WHFM					**Sg**	**11 35 43.0**	**-0.5**
GSC	**Goldstone, Bar**	**0.69**	**122**	P	**Pg**	**11 35 34.7**	**-0.4**
GSC	baz=302,SNR=1000			S	**Sg**	**11 35 44.2**	**-0.2**
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg	**Pg**	**11 35 34.8**	**-0.4**
GSC	**Goldstone, Bar**	**0.69**	**122**		**Sg**	**11 35 44.1**	**-0.2**
ISA	**Isabella, Lake**	**0.77**	**270**	P	**Pg**	**11 35 36.0**	**-0.5**
ISA	baz=89,SNR=1000			S	**Sg**	**11 35 46.4**	**-0.4**
ISA	**Isabella, Lake**	**0.77**	**270**	Pg	**Pg**	**11 35 36.2**	**-0.4**
ISA	**Isabella, Lake**	**0.77**	**270**		**Sg**	**11 35 46.3**	**-0.4**

WLHM Little Horse 0.80 307 **Pg 11 35 36.4 -0.8**
WLHM **Sg 11 35 47.1 -0.7**
HYS Haystack Butte 0.80 182 **Pg 11 35 36.5 -0.7**
WASM Alta Sierra Ca 0.84 275 **Pg 11 35 37.3 -0.6**
WASM **Sg 11 35 48.4 -0.6**
EDW2 Edwards Air Fo 0.87 206 P **Pg 11 35 37.7 -0.8**
baz=26,SNR=596
EDW2 S **Sg 11 35 49.4 -0.6**
baz=26
EDW2 Edwards Air Fo 0.87 206 **Pg 11 35 37.7 -0.8**
EDW2 **Sb 11 35 50.3 +0.2**
CWC Cottonwood Cre 0.89 330 P **Pg 11 35 38.3 -0.6**
baz=150
CWC S **Sg 11 35 50.5 -0.1**
baz=150
CWC Cottonwood Cre 0.89 330 **Pg 11 35 38.3 -0.6**
CWC **Sg 11 35 50.4 -0.1**
RRX Edison Barstow 0.90 151 P **Pg 11 35 38.6 -0.5**
baz=332,SNR=29
RRX S **Sg 11 35 50.6 -0.4**
baz=332
RRX Edison Barstow 0.90 151 **Pg 11 35 38.6 -0.5**
RRX **Sg 11 35 50.1 -0.9**
CGO Cerro Gordo 0.91 346 **Pg 11 35 38.4 -0.9**
CGO **Sg 11 35 51.3 +0.1**
FURC Furnace Creek, 0.96 34 P **Pg 11 35 39.8 -0.5**
baz=214,SNR=1000
FURC S **Sb 11 35 52.9 +0.3**
baz=214
FURC Furnace Creek, 0.96 34 **Pg 11 35 39.7 -0.5**
FURC **Sg 11 35 52.3 -0.5**
TPO Tropico Hills 0.97 216 **Pg 11 35 39.7 -0.8**
TPO **Sg 11 35 52.8 -0.4**
WOFM Oak Flat 0.97 263 **Pg 11 35 39.5 -0.9**
MCA Marble Canyon 1.00 12 **Pg 11 35 39.8 -1.1**
SBB Saddle Back Bu 1.01 194 **Pg 11 35 40.2 -0.9**
SBB **Sn 11 35 55.1 -0.2**
TEJ El Tejon 1.04 246 **Pb 11 35 40.5 -0.9**
SHOC Shoshone, Teco 1.04 77 P **Pb 11 35 41.1 -0.4**
baz=258,SNR=1000
SHOC S **Sb 11 35 55.5 +0.5**
baz=258
SHOC Shoshone, Teco 1.04 77 **Pb 11 35 41.1 -0.4**
SHOC **Sn 11 35 56.1 0.0**
VTV Victorville 1.12 172 **Pb 11 35 42.4 -0.3**
VTV **Sb 11 35 57.3 +0.2**
ADO Adelanto Recei 1.12 176 **Pb 11 35 42.5 -0.2**
SPG2 Springville 2 1.14 298 **Pb 11 35 42.5 -0.5**
SPG2 **Sb 11 35 57.0 -0.7**
ALPC Antelope 1.17 213 **Pb 11 35 43.1 -0.4**
ALPC **Sn 11 35 59.6 +0.4**
TJR Tejon Ranch 1.18 238 **Pb 11 35 43.2 -0.6**
TJR **Sb 11 35 58.8 -0.1**
ARVC Arvin 1.19 243 P **Pn 11 35 43.6 -0.3**
baz=63,SNR=72
ARVC S **Sb 11 35 59.5 +0.3**
baz=63
ARVC Arvin 1.19 243 **Pn 11 35 43.6 -0.3**
ARVC **Sb 11 35 59.3 0.0**
LRRC Littlerock Res 1.21 200 **Pn 11 35 43.9 -0.2**
LEOC Leona Valley 1.21 212 **Pn 11 35 43.9 -0.3**
HOLC Holcomb Ridge 1.23 192 **Pn 11 35 44.2 -0.3**
HOLC **Sn 11 36 02.2 +1.2**
CJV Casa Juvan 1.24 204 **Pn 11 35 44.2 -0.4**
JNH Juniper Hills 1.27 196 **Pn 11 35 44.6 -0.3**
DSCC Desert Studies 1.28 114 **Pn 11 35 44.1 -0.9**
DSCC **Sb 11 36 01.1 -0.6**
VES Vestal, Richgr 1.28 278 P **Pn 11 35 45.2 +0.2**
baz=97,SNR=332
VES S **Sb 11 36 02.4 +0.7**
baz=97
VES Vestal, Richgr 1.28 278 **Pn 11 35 45.2 +0.2**
VES **Sb 11 36 01.9 +0.3**
AMDNV Amargosa 1.28 52 **Pn 11 35 44.4 -0.5**
AMDNV **Sb 11 36 00.8 -0.8**
HEC Hector,Ludlow 1.29 130 P **Pn 11 35 44.7 -0.5**
baz=311,SNR=224
HEC S **Sb 11 36 01.9 -0.1**
baz=311
HEC Hector,Ludlow 1.29 130 **Pn 11 35 44.7 -0.5**
BTPC Burnt Peak 1.30 221 **Pn 11 35 45.1 -0.4**
BTPC **Sg 11 36 03.7 0.0**
BAKC Calstate 1.33 256 **Pn 11 35 46.0 +0.4**
BAKC **Sg 11 36 04.2 -0.1**
TUQ Turquoise Moun 1.33 100 P **Pn 11 35 45.0 -0.8**
baz=281,SNR=240
TUQ S **Sb 11 36 03.3 0.0**
baz=281
TUQ Turquoise Moun 1.33 100 **Pn 11 35 45.0 -0.8**
GRAC Grapevine Rang 1.33 6 P **Pn 11 35 46.2 +0.4**
baz=186,SNR=97
GRAC S **Sg 11 36 04.3 -0.2**
baz=186
GRAC Grapevine Rang 1.33 6 **Pn 11 35 46.1 +0.4**
CHFC Chilao Flat St 1.39 197 **Pn 11 35 46.4 -0.3**
XTL Crystal Lake, 1.40 191 **Pn 11 35 46.6 -0.2**
BFSC Mount Baldy Ra 1.43 184 P **Pn 11 35 47.1 -0.2**
baz=4.3,SNR=178
BFSC **Sb Sg 11 36 07.4 -0.3**
baz=4.3
BFSC Mount Baldy Ra 1.43 184 **Pn 11 35 47.1 -0.2**
OSI Osito Audit: C 1.44 223 P **Pn 11 35 47.3 +0.1**
baz=43,SNR=19
OSI S **Sn 11 36 05.9 0.0**
baz=43
OSI Osito Audit: C 1.44 223 **Pn 11 35 47.7 +0.5**
SS2 San Sevaine 1.46 179 **Pn 11 35 47.8 +0.3**
SSK Sunset Peak 1.46 185 **Pn 11 35 47.7 +0.1**
IR2C Iron Canyon 1.46 209 **Pn 11 35 47.3 -0.3**
BTL Butler Peak 1.47 163 **Pb 11 35 49.0 +0.1**
BBRC Big Bear Solar 1.49 160 P **Pn 11 35 47.7 -0.4**
baz=341,SNR=204
BBRC S **Sg 11 36 10.3 +0.6**
baz=341
BBRC Big Bear Solar 1.49 160 **Pb 11 35 49.4 +0.3**
TIN Tinemaha, Big 1.49 338 P **Pn 11 35 48.3 +0.2**
baz=158,SNR=20
TIN S **Sb Sg 11 36 09.7 -0.1**
baz=158
TIN Tinemaha, Big 1.49 338 **Pb 11 35 49.6 +0.4**
MWC Mount Wilson 1.51 197 **Pn 11 35 48.4 +0.1**
PEM Pine Mountain 1.52 191 **Pn 11 35 48.8 +0.5**
DECC Green Verdugo 1.56 205 P **Pn 11 35 49.0 +0.1**
baz=25,SNR=78
DECC S **Sb Sg 11 36 11.4 -0.4**
baz=25
DECC Green Verdugo 1.56 205 **Pn 11 35 49.2 +0.3**
MPI Mount Pinos, F 1.57 238 **Pb 11 35 51.2 +0.6**
PASC Pasadena Art C 1.59 200 Pn **Pn 11 35 49.5 +0.2**
PSRC Puddingstone R 1.59 188 **Pb 11 35 51.2 +0.5**
OAT Oat Mountain 1.59 214 **Pn 11 35 50.0 +0.6**
SVD Seven Oaks Dam 1.60 167 **Pb 11 35 51.3 +0.4**
MTPC Mountain Pass 1.62 96 **Pn 11 35 49.4 -0.5**
VOG Valley Oaks Go 1.64 294 P **Pn 11 35 50.4 +0.4**
baz=113,SNR=14
VOG S **Sb Sb 11 36 13.2 +1.2**
baz=113
VOG Valley Oaks Go 1.64 294 **Pb 11 35 51.5 0.0**
TPNV Topopah Spring 1.64 39 P **Pn 11 35 50.2 0.0**
baz=219,SNR=290
TPNV S **Sb Sb 11 36 13.1 +0.7**
baz=219
TPNV Topopah Spring 1.64 39 **Pn 11 35 50.4 +0.2**
GR2C Griffith Obs. 1.67 203 **Pg 11 35 53.5 -0.2**
GTM Goat Mountain 1.68 145 **Pg 11 35 52.9 -0.9**
BLCC Black Canyon 1.70 214 **Pn 11 35 51.4 +0.5**
GMRC Granite Mounta 1.77 119 P **Pn 11 35 50.6 -1.2**
baz=301,SNR=281
GMRC S **Sb Sb 11 36 16.8 +0.9**
baz=301
GMRC Granite Mounta 1.77 119 **Pn 11 35 50.6 -1.2**
CRGC Crocker Grade 1.84 257 **Pb 11 35 55.8 +0.7**
SME Santa Rosa Min 1.85 176 **Pn 11 35 52.9 +0.1**
BLAC Blackrock camp 1.85 149 **Pn 11 35 53.1 +0.2**
CARC Carrizo Plain 1.93 260 **Pb 11 35 57.0 +0.5**
EW2 E Wide Canyon 1.96 152 **Pn 11 35 54.5 +0.1**
TPC Twentynine Pal 1.98 142 **Pn 11 35 54.4 -0.3**
HMTC Hemet 2.00 167 **Pn 11 35 55.1 +0.1**
ELS Elsinore Mount 2.02 178 **Pn 11 35 55.5 +0.2**
PKM Mcpherson Peak 2.02 248 P **Pn 11 35 55.4 -0.1**
baz=67
PKM S **Sb Sb 11 36 25.0 +1.6**
baz=67

POB	Polly Butte	2.04 166		Pn	Pn	11 35 55.9 +0.3
SMMC	Simmler	2.04 261	Pb	Pb	Pb	11 35 58.2 -0.3
	baz=79					
FMP	Fort Macarthur	2.05 198	P	Pn	Pn	11 35 55.9 +0.3
	baz=18					
DGR	Domenigoni Val	2.06 168		Pn	Pn	11 35 56.1 +0.3
MURC	Murrieta	2.08 172	P	Pn	Pn	11 35 56.4 +0.3
	baz=353,SNR=45					
MURC			S	Sn	Sn	11 36 22.7 +0.9
	baz=353					
BELC	Belle Mtn. Jos	2.09 142	P	Pn	Pn	11 35 55.9 -0.3
	baz=324,SNR=40					
BELC	Belle Mtn. Jos	2.09 142		Pn	Pn	11 35 56.0 -0.3
BACC	Bachelor Mtn.	2.09 169		Pn	Pn	11 35 56.6 +0.4
BACC				Pg	Pg	11 36 00.5 -1.2
SHPR	Sheep Range	2.09 66	Pn	Pn	Pn	11 35 56.7 +0.3
SBC	Santa Barbara	2.17 236	Pg	Pg	Pg	11 36 02.7 -0.5
	baz=55					
CRY	Cary Ranch	2.20 162		Pn	Pn	11 35 58.0 +0.3
CRY				Pg	Pg	11 36 02.4 -1.4
PAGB	Antelope Grade	2.22 272		Pn	Pb	11 36 00.1 -1.4
MLAC	Mammoth, Mammo	2.22 332	Pg	Pb	Pb	11 36 02.8 +1.1
	baz=151					
MLAC	Mammoth, Mammo	2.22 332		Pb	Pb	11 36 02.6 +0.9
DNR	Dunn Ranch,Anz	2.22 160		Pn	Pn	11 35 58.4 +0.3
PMD	Palm Desert	2.23 154		Pn	Pn	11 35 57.7 -0.4
PFO	Pinyon Flats O	2.23 156	P	Pn	Pn	11 35 58.0 -0.2
	baz=337,SNR=36					
PFO			Sb	Sg	Sg	11 36 31.7 -1.7
	baz=337					
PFO	Pinyon Flats O	2.23 156	Pn	Pn	Pn	11 35 58.1 -0.2
PFO	Pinyon Flats O	2.23 156		Pn	Pn	11 35 58.1 -0.2
SNDA	U Saunders Pla	2.24 160		Pn	Pn	11 35 58.7 +0.3
OMMB	Old Mammoth Mi	2.27 329		Pb	Pb	11 36 01.3 -1.3
FRD	Ford Ranch, An	2.30 160		Pn	Pn	11 35 59.5 +0.3
FRD	Ford Ranch, An	2.30 160		Pn	Pn	11 35 59.4 +0.3
MDPB	Devils Postpil	2.32 328	Pn	Pn	Pn	11 36 01.7 +2.0
PLM	Palomar	2.37 166		Pn	Pb	11 36 05.3 +1.1
CIS	Catalina Islan	2.38 198	P	Pn	Pn	11 36 00.0 -0.1
	baz=18,SNR=25					
TPH	Tonopah	2.41 6		Pn	Pn	11 36 01.6 +0.7
IRM	Iron Mountain	2.47 127	P	Pn	Pn	11 36 00.3 -1.1
	baz=308,SNR=59					
IRM			Sb	Sg	Sg	11 36 38.8 -2.2
	baz=308					
NEE2	Needles Airpor	2.55 110	P	Pn	Pn	11 36 01.5 -1.0
	baz=292,SNR=11					
BC3	Big Chuckawall	2.64 139	P	Pn	Pn	11 36 03.0 -0.8
	baz=320,SNR=11					
PRN	Pahroc Range	2.64 48	Pn	Pn	Pn	11 36 04.3 +0.4
LHV	Little Huntoon	2.69 343		Pn	Pn	11 36 06.2 +1.8
PMPB	Monarch Peak	2.71 283		Pb	Pn	11 36 08.0 -1.9
109C	Camp Elliot, M	2.79 173	Pn	Pn	Pn	11 36 06.4 +0.6
NV11	Mina Array Sit	2.80 350		Pn	Pn	11 36 06.9 +0.8
SCI2	San Clemente I	2.81 198	Pg	Pg	Pg	11 36 14.5 -1.0
	baz=17					
NVAR	Mina Array Bea	2.83 348		Pn	Pn	11 36 07.2 +0.7
MONP2	Monument Peak	2.92 161	P	Pn	Pn	11 36 07.8 +0.1
	baz=342					
W13A	Hualapai Mount	3.03 100	Pn	Pn	Pn	11 36 09.0 -0.3
RYN	Ryan	3.06 345		Pn	Pn	11 36 10.9 +1.3
BAR	Barrett	3.06 166	Pn	Pn	Pn	11 36 09.9 +0.3
SWSC	Sam W. Stewart	3.07 152	P	Pn	Pn	11 36 09.0 -0.7
	baz=333					
R11A	Troy Canyon, C	3.09 30	P	Pn	Pn	11 36 10.7 +0.6
	baz=211					
R11A	Troy Canyon, C	3.09 30		Pn	Pn	11 36 12.5 +2.3
WAKR	Walker	3.22 332	Pn	Pb	Pn	11 36 20.1 +1.6
RMX	La Rumorosa	3.29 158		Pb	Pn	11 36 21.7 +1.9
CMB	Columbia Colle	3.29 317	Pn	Pb	Pn	11 36 18.3 -1.5
SAO	San Andreas Ge	3.35 290		Pn	Pn	11 36 14.8 +1.2
KVN	Kaiserville	3.41 352		Pn	Pn	11 36 15.6 +1.1
GLA	Glamis	3.44 139	P	Pn	Pn	11 36 13.5 -1.2
	baz=320,SNR=6.0					
GLA	Glamis	3.44 139		Pn	Pn	11 36 13.8 -0.9
YERR	Yerington	3.58 338		Pn	Pn	11 36 17.5 +0.6
LCMT	Little Creek M	3.71 68		Pn	Pn	11 36 20.0 +1.4
PNTR	Pine Nut	3.79 335		Pn	Pn	11 36 23.6 +3.8
CCUT	Cedar City	3.84 60	Pn	Pn	Pn	11 36 21.9 +1.4
ESJX	Sierra Juarez	3.88 160		Pn	Pn	11 36 21.3 +0.3
VCNR	Virginia City	3.99 336	Pn	Pn	Pn	11 36 25.0 +2.4
KNB	Kanab	4.03 69		Pn	Pn	11 36 24.1 +1.0
SZCU	Shurtz Canyon	4.06 60		Pn	Pn	11 36 24.8 +1.4
PSUT	Pine Spring	4.10 45	Pn	Pn	Pn	11 36 24.9 +0.9
Y14A	Wickenburg	4.10 114	Pn	Pn	Pn	11 36 23.1 -0.8
113A	Mohawk Valley,	4.25 132	Pn	Pn	Pn	11 36 30.5 +4.6
PAHR	Pah Rah Range	4.29 340	Pn	Pn	Pn	11 36 24.1 -2.5
U15A	North Rim	4.31 78		Pn	Pn	11 36 28.3 +1.4
SPX	San Pedro Mart	4.93 159	Pn	Pn	Pn	11 36 36.8 +1.3
ORV	Oroville	5.00 322		Sg	Sg	11 37 56.2 -5.8
WUAZ	Wupatki	5.02 90	P	Pn	Pn	11 36 37.3 +0.8
	baz=274					
WUAZ	Wupatki	5.02 90	Pn	Pn	Pn	11 36 38.0 +1.4
MVU	Marysvale	5.11 55		Pn	Pn	11 36 39.9 +2.0
SFX	San Felipe	5.13 153		Lg	Lg	11 38 07.0
X16A	Lo Mia Camp, P	5.15 102	Pn	Pn	Pn	11 36 39.4 +1.0
DUG	Dugway, Tooele	5.86 38	Pg	Pg	Pg	11 37 11.3 -2.4
	baz=221					
W18A	Petrified Fore	6.39 93		Pn	Pn	11 36 54.6 -0.8
TUC	Tucson	6.53 119	Pn	Pn	Pn	11 36 59.0 +1.7
SRU	San Rafael Swe	6.55 56	Pn	Pn	Pn	11 36 59.7 +2.1

*IDC **06** 11:46:40.0±0.9,53°.45N×172°.11E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.7/58, mbtmp3.8/10, ML3.0/1, MS2.9/4, Ms1 2.9/4, ms1mx2.5/52, Error ellipse: s-maj=35.0km s-min=17.2km az=167.0*

*NEIC **06** 11:46:43.2±1.9, 53°.3N±0°.1×172°.1E±0°.1, h23km±6km, mb4.4/37, Error ellipse: s-maj=19.7km s-min=8.7km az=185.0*

*MOS **06** 11:46:43.1±0.7, 53°.11N×172°.04E, h42km, mb4.8/6, Error ellipse: s-maj=16.2km s-min=7.3km az=20.3*

*KRSC **06** 11:46:46.6±1.6, 53°.09N×171°.37E, h45km±57km, ML4.5*

ISC 06 11:46:42.3±0.7, 53°.01N±0°.09×171°.99E±0°.05, h22km, n109, σ2s39/114, mb4.3/25, MS3.0/3, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.31	102	P	Pn	11 47 05.4	+0.1
SMY	Shemya	1.31	102		Pn	11 47 05.4	+0.1
BKI	Bering	4.17	304	eP	Pn	11 47 47.1	+2.6
BKI				eS	Sn	11 48 31.5	-1.0
BKI	Bering	4.17	304	P	Pn	11 47 47.1	+2.6
BKI				S	Sn	11 48 31.5	-1.0
KBTR	Krutoberegovo	6.21	305	eP	Pn	11 48 16.0	+3.4
KBTR	Krutoberegovo	6.21	305	P	Pn	11 48 16.1	+3.4
TUMD	Tumrok D	7.16	292	eP	Pn	11 48 27.5	+1.9
TUMD				eS	Sn	11 49 42.3	-3.9
KZV	Kizimen	7.20	292	eP	Pn	11 48 28.2	+1.9
KZV				eS	Sn	11 49 44.0	-3.4
KZV	Kizimen	7.20	292	P	Pn	11 48 28.2	+1.9
KZV				S	Sn	11 49 44.0	-3.4
BZGR	Bezymyannyi-Gr	7.20	299	eP	Pn	11 48 28.7	+2.4
BZGR	Bezymyannyi-Gr	7.20	299	P	Pn	11 48 28.7	+2.4
SPN	Mys Shipunski	7.22	275	eP	Pn	11 48 28.9	+2.5
SPN				eS	Sn	11 49 45.3	-2.3
SPN	Mys Shipunski	7.22	275	P	Pn	11 48 28.9	+2.5
SPN				S	Sn	11 49 45.3	-2.3
TUMR	Tumrok	7.32	293	eP	Pn	11 48 31.3	+3.4
TUMR				eS	Sn	11 49 49.2	-1.1
TUMR	Tumrok	7.32	293	P	Pn	11 48 27.5	-0.4
KMNR	Kamenistaya	7.39	296	eP	Pn	11 48 31.3	+2.4
KMNR				eS	Sn	11 49 49.8	-2.2
KMNR	Kamenistaya	7.39	296	P	Pn	11 48 31.3	+2.4
KMNR				S	Sn	11 49 49.8	-2.2
NLC	Nalytchevo	7.62	276	eS	Sn	11 49 54.1	-3.3
SRDR	Sredinnyy	7.85	300	eP	Pn	11 48 38.4	+3.3
SRDR	Sredinnyy	7.85	300	P	Pn	11 48 38.4	+3.3
KRER	Koryakskii	7.97	277	eP	Pn	11 48 38.7	+1.8
KRER	Koryakskii	7.97	277	P	Pn	11 48 38.7	+1.8
AVH	Avacha	7.98	277	eP	Pn	11 48 39.1	+2.2
AVH				eS	Sn	11 50 04.5	-1.9
AVH	Avacha	7.98	277	P	Pn	11 48 39.1	+2.2
AVH				S	Sn	11 50 04.5	-1.9
DALK	Dalny	7.99	275	eS	Sn	11 50 04.6	-1.8
KRX	Arik	8.03	278	eP	Pn	11 48 39.4	+1.8
KRX				eS	Sn	11 50 03.6	-4.1
KRX	Arik	8.03	278	P	Pn	11 48 39.4	+1.8
KRX				S	Sn	11 50 03.6	-4.1
KOK	Koryaka	8.04	277	eP	Pn	11 48 39.7	+2.0
KOK	Koryaka	8.04	277	P	Pn	11 48 39.7	+2.0
PET	Petropavlovsk	8.05	275	eP	Pn	11 48 40.3	+2.6
PET				eS	Sn	11 50 05.8	-2.1
PET	Petropavlovsk	8.05	275	P	Pn	11 48 40.3	+2.6
PET				S	Sn	11 50 05.8	-2.1
ESO	Esso	8.27	296	eP	Pn	11 48 43.5	+2.6
ESO	Esso	8.27	296	P	Pn	11 48 43.5	+2.6
KRMR	Karymshinskiy	8.38	274	eP	Pn	11 48 45.2	+2.9
KRMR				eS	Sn	11 50 13.1	-3.1
KRMR	Karymshinskiy	8.38	274	P	Pn	11 48 45.2	+2.9
KRMR				S	Sn	11 50 13.1	-3.1
MTVR	Mutnovka	8.40	272	eP	Pn	11 48 45.6	+2.9
MTVR				eS	Sn	11 50 13.3	-3.5
MTVR	Mutnovka	8.40	272	P	Pn	11 48 45.6	+2.9
MTVR				S	Sn	11 50 13.3	-3.5
GNL	Ganaly	8.44	280	eP	Pn	11 48 46.8	+3.6
GNL	Ganaly	8.44	280	P	Pn	11 48 46.8	+3.6
GRL	Gorelyy	8.45	272	eP	Pn	11 48 46.1	+2.6
GRL	Gorelyy	8.45	272	P	Pn	11 48 46.1	+2.6
ASAK	Asacha	8.59	271	eP	Pn	11 48 48.2	+3.0
ASAK				eS	Sn	11 50 19.4	-1.9
ASAK	Asacha	8.59	271	P	Pn	11 48 48.2	+3.0
ASAK				S	Sn	11 50 19.4	-1.9
KDTR	Khodutka, Kamc	8.59	267	eP	Pn	11 48 47.8	+2.5
KDTR				eS	Sn	11 50 17.9	-3.5
KDTR	Khodutka, Kamc	8.59	267	P	Pn	11 48 47.8	+2.5
KDTR				S	Sn	11 50 17.9	-3.5
PEA0B	Petropavlovsk-	8.61	276	P	Pn	11 48 48.2	+2.6
PEA0B	Petropavlovsk-	8.61	276	Pn	Pn	11 48 48.1	+2.6
PETK	Petropavlovsk-	8.61	276	Pn	Pn	11 48 47.8	+2.3
	0.9nm,0.3s,baz=96,slow=15,SNR=10						
PETK				Sn	Sn	11 50 21.5	-0.4
	2.3nm,0.3s,baz=327,slow=32,SNR=12						
PETK				LR	LR	11 52 04.3	
	comp=Z,39nm,18.9s,baz=92,slow=38						
TTA	Tatalina	19.44	47	P	P	11 51 06.9	-0.2
TTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TTA	Tatalina	19.44	47	P	P	11 51 06.9	-0.2
OHAK	Old Harbor	20.16	64	P	P	11 51 13.0	-1.7
OHAK				IAmb	IAmb	11 51 20.3	
	comp=Z,30nm,1.0s						
RSO	Redoubt South	20.51	55		Pn	11 51 21.1	0.0
KDAK	Kodiak Island	20.51	62	P	P	11 51 15.7	-3.0
	comp=Z,5.5nm,0.6s,baz=221,slow=9.3,SNR=7.6						
KDAK	Kodiak Island	20.51	62	P	P	11 51 15.7	-3.0
KDAK				pmax	pmax		
	comp=Z,49nm,1.3s						
CNPM	China Poot	21.21	57	P	P	11 51 25.2	-1.1
IMAR	Indian Mountai	21.34	39	P	P	11 51 25.6	-2.0
BRLK	Bradley Lake	21.40	57	P	P	11 51 27.5	-0.8
BRLK				IAmb	IAmb	11 51 31.7	
	comp=Z,37nm,1.3s						
TRF	Thorofare Moun	22.09	47	P	P	11 51 34.1	-1.7
SCM	Sheep Creek Mo	23.25	52	P	P	11 51 49.6	+1.8
SCM				pmax	pmax		
	comp=Z,50nm,0.8s						
SCM	Sheep Creek Mo	23.25	52	P	P	11 51 49.6	+1.8
GLI	Glacier Island	23.32	54	P	P	11 51 43.4	-5.0
FID	Port Fidalgo	23.62	54	P	P	11 51 45.9	-5.5
FID				IAmb	IAmb	11 51 49.4	
	comp=Z,26nm,1.3s						
ILAR	Eielson Array	23.79	44	P	P	11 51 50.3	-2.8
	comp=Z,1.6nm,0.9s,baz=255,slow=8.3,SNR=13						
ILAR	Eielson Array	23.79	44	P	P	11 51 51.1	-2.0
ILAR	Eielson Array	23.79	44	P	P	11 51 51.1	-2.0
KLU	Kluane	23.90	53	IAmb	IAmb	11 52 05.7	
	comp=Z,13nm,0.8s						
BCAR	Beaver Creek A	25.87	49	P	P	11 52 10.8	-1.3
EGAK	Eagle	26.23	45	P	P	11 52 13.0	-2.3
EGAK				IAmb	IAmb	11 52 15.0	
	comp=Z,10nm,1.3s						
H11N2	WAKE ISLAND Hy	33.45	189	T	T	12 28 51.7	
	baz=5.3,slow=76						
H11N3	WAKE ISLAND Hy	33.47	189	T	T	12 28 53.4	
	baz=5.3,slow=76						
H11N1	WAKE ISLAND Hy	33.47	189	T	T	12 28 56.2	
	baz=5.3,slow=76						
KSRS	Korea Array	34.10	261	LR	LR	12 07 21.1	
	comp=Z,15nm,19.7s,baz=65,slow=36						
H11S1	WAKE ISLAND Hy	34.68	189	T	T	12 30 23.2	
	baz=5.1,slow=76						
H11S3	WAKE ISLAND Hy	34.70	189	T	T	12 30 26.6	
	baz=5.1,slow=76						
H11S2	WAKE ISLAND Hy	34.70	189	T	T	12 30 27.5	
	baz=5.1,slow=76						
YBH	Yreka Blue Hor	44.16	77	IAmb	IAmb	11 54 51.2	
	comp=Z,6.6nm,1.4s						
PNTR	Pine Nut	47.67	78	IAmb	IAmb	11 55 18.6	
	comp=Z,4.8nm,0.7s						
YERR	Yerington	47.95	78	IAmb	IAmb	11 55 19.8	
	comp=Z,2.2nm,0.6s						
LHV	Little Huntoon	48.87	78	IAmb	IAmb	11 55 27.5	
	comp=Z,10.0nm,1.4s						
NVAR	Mina Array Bea	48.87	78	P	P	11 55 26.6	+0.2
	comp=Z,1.7nm,0.7s,baz=300,slow=7.5,SNR=16						
NVAR	Mina Array Bea	48.87	78	P	P	11 55 25.1	-1.2
TPH	Tonopah	49.74	78	P	P	11 55 32.9	-0.1
TPH				pmax	pmax		
	comp=Z,11nm,0.7s						
TPH	Tonopah	49.74	78	P	P	11 55 32.9	-0.1
R11A	Troy Canyon, C	50.52	76	P	P	11 55 38.8	-0.1
TPNV	Topopah Spring	51.07	78	P	P	11 55 42.9	-0.1
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TPNV	Topopah Spring	51.07	78	P	P	11 55 42.9	-0.1
TPNV				IAmb	IAmb	11 55 44.0	
	comp=Z,5.0nm,0.9s						
BW06	Boulder Array	51.08	68	IAmb	IAmb	11 55 43.5	
	comp=Z,4.8nm,1.1s						
PD31	Pinedale Array	51.09	68	P	P	11 55 42.5	-0.6
PD31				IAmb	IAmb	11 55 43.5	
	comp=Z,5.9nm,1.4s						
PDAR	Pinedale Array	51.09	68	P	P	11 55 42.5	-0.6
	comp=Z,1.3nm,0.7s,baz=292,slow=3.7,SNR=13						
PDAR	Pinedale Array	51.09	68	P	P	11 55 42.0	-1.2
GSC	Goldstone, Bar	51.85	80	P	P	11 55 48.8	0.0
GSC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GSC	Goldstone, Bar	51.85	80	P	P	11 55 48.8	0.0
GSC				IAmb	IAmb	11 55 49.5	
	comp=Z,3.7nm,0.8s						
CCUT	Cedar City	52.36	75	P	P	11 55 52.9	+0.2
KURK	Kurchatov	53.66	308	P	P	11 56 02.0	+0.1
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURK	Kurchatov	53.66	308	P	P	11 56 01.9	+0.1
KURK	Kurchatov	53.66	308	IAmb	IAmb	11 56 12.3	
	comp=Z,3.6nm,1.1s						
U15A	North Rim	53.75	76	IAmb	IAmb	11 56 03.9	
	comp=Z,2.3nm,0.7s						
KURBB	Kurchatov Arra	53.77	308	P	P	11 56 02.0	-0.7
	comp=Z,0.8nm,0.7s,baz=48,slow=7.4,SNR=4.1						
MKAR	Makanchi Array	54.47	302	P	P	11 56 07.1	-0.7
	comp=Z,0.2nm,0.6s,baz=52,slow=5.0,SNR=4.3						
WMOK	Wichita Mounta	62.70	68	IAmb	IAmb	11 57 05.8	
	comp=Z,2.8nm,0.8s						
AKTO	Aktyubinsk	62.90	319	LR	LR	12 25 13.3	
	comp=Z,18nm,18.4s,baz=43,slow=37						
TX31	Lajitas Ar. Si	63.87	75	P	P	11 57 13.4	+0.1
TX32	Lajitas Array	63.87	75	P	P	11 57 13.1	-0.1
TX32				IAmb	IAmb	11 57 14.2	
	comp=Z,6.1nm,1.4s						
TXAR	Lajitas Array	63.87	75	P	P	11 57 13.2	0.0
	comp=Z,1.3nm,0.7s,baz=310,slow=5.3,SNR=19						
TXAR	Lajitas Array	63.87	75	P	P	11 57 12.9	-0.3
CMAR	Chiang Mai Arr	65.29	268	LR	LR	12 29 31.9	
	comp=Z,8.0nm,18.2s,baz=180,slow=39						
WRA	Warramunga Arr	79.64	216	P	P	11 58 50.3	+2.5
	comp=Z,0.2nm,0.6s,baz=28,slow=6.3,SNR=1.7						
WRA	Warramunga Arr	79.64	216	IAmb	IAmb	11 58 58.2	
	comp=Z,0.3nm,1.2s						
ASAR	Alice Springs	83.22	215	P	P	11 59 10.2	+3.5
	comp=Z,0.4nm,0.8s,baz=18,slow=4.5,SNR=7.0						

*IDC **06** 11:53:06.6±2.7, 24°.03S×179°.81E, h481km±24km, mb3.4/6, mb1 3.8/6, mb1mx3.3/41, mbtmp4.3/6, Error ellipse: s-maj=92.6km s-min=19.9km az=158.0*

*NEIC **06** 11:53:10.2±1.2, 24°.4S±0°.4×179°.9E±0°.2, h535km±11km, mb4.3/15, Error ellipse: s-maj=51.7km s-min=20.3km az=169.0*

ISC 06 11:53:07.8±0.8, 24°.6S±0°.2×180°.0E±0°.1, h500km, n26, σ1s00/26, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	31.44	271	P	P	11 58 48.4	+0.7
STKA	Stephens Creek	34.44	249	P	P	11 59 13.6	+0.5
	4.0nm,0.4s,baz=93,slow=9.9,SNR=13						
STKA	Stephens Creek	34.44	249	IAmb	IAmb	11 59 13.7	
	comp=Z,4.6nm,1.4s						
COEN	Coen	36.18	280	P	P	11 59 26.6	-1.2
COEN				IAmb	IAmb	11 59 32.4	
	comp=Z,12nm,1.2s						
BBOO	Buckleboo	39.15	248	P	P	11 59 51.4	-0.6
AS31	Alice Springs	41.89	261	P	P	12 00 13.8	-0.2
ASAR	Alice Springs	41.89	261	P	P	12 00 13.7	-0.4
	comp=Z,2.3nm,0.5s,baz=90,slow=6.7,SNR=55						
ASAR				ScP	ScP	12 05 02.4	+1.6
	comp=Z,0.4nm,0.8s,baz=111,slow=3.7,SNR=5.0						
ASAR	Alice Springs	41.89	261	P	P	12 00 13.0	-1.0
WR0	Warramunga Arr	42.14	267	P	P	12 00 15.2	-0.8
WB2	Warramunga Arr	42.31	267	P	P	12 00 16.6	-0.7
WB2				IAmb	IAmb	12 00 17.0	
	comp=Z,8.4nm,0.7s						
WRAB	Tennant Creek	42.32	267	P	P	12 00 16.6	-0.8
WRAB				IAmb	IAmb	12 00 16.9	
	comp=Z,5.6nm,0.7s						
WB0	Warramunga Arr	42.32	267	P	P	12 00 16.3	-1.1
WB0				IAmb	IAmb	12 00 17.1	
	comp=Z,9.4nm,0.7s						
WRA	Warramunga Arr	42.32	267	P	P	12 00 16.2	-1.2
	comp=Z,6.9nm,0.6s,baz=101,slow=8.3,SNR=143						
WRA				ScP	ScP	12 05 04.0	+1.4
	comp=Z,3.2nm,1.0s,baz=100,slow=3.7,SNR=15						
WRA	Warramunga Arr	42.32	267	P	P	12 00 15.4	-2.0
FORT	Forrest	46.05	250	P	P	12 00 45.5	-0.7
KNRA	Kununurra	48.65	270	P	P	12 01 05.2	-0.7
FITZ	Fitzroy Crossi	50.74	266	P	P	12 01 21.1	-0.2
FITZ				IAmb	IAmb	12 01 22.3	
	comp=Z,5.7nm,0.7s						
KRMB	Red Mountain	83.80	39	P	P	12 04 40.2	-4.0
SNAA	Sanae	84.01	179	P	P	12 04 44.2	-0.6
SNAA				x	x	12 04 44.6	
VNA3	Neumayer Olymp	84.22	177	P	P	12 04 45.3	-0.5
VNA2	Neumayer--Watz	84.64	178	P	P	12 04 47.6	-0.2
	baz=187,slow=4.3						
NVAR	Mina Array Bea	85.25	44	P	P	12 04 50.4	-1.1
	comp=Z,0.3nm,0.7s,baz=219,slow=7.0,SNR=3.7						
CMAR	Chiang Mai Arr	89.71	290	P	P	12 05 13.7	+1.1
	comp=Z,0.6nm,0.3s,baz=123,slow=3.3,SNR=2.4						
TX31	Lajitas Ar. Si	90.81	58	P	P	12 05 18.2	+0.6
TX31				IAmb	IAmb	12 05 20.6	
	comp=Z,1.9nm,0.9s						
TXAR	Lajitas Array	90.81	58	P	P	12 05 17.6	0.0
	comp=Z,0.9nm,0.8s,baz=212,slow=6.4,SNR=13						
BRTR	Keskin Array B	147.94	306	PKPbc	PKPdf	12 11 54.4	+1.4
	comp=Z,0.2nm,0.3s,baz=98,slow=2.1,SNR=2.1						

*IDC **06** 11:58:40.7±1.6, 22°.72N×93°.69E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.6/66, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=100.9km s-min=15.7km az=54.0*

ISC 06 11:58:46.4±1.7, 23°.0N±0°.5×94°.2E±0°.7, h35km, n8, σ0s77/8, mb4.0/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.33	135	Pn	Pn	12 00 16.9	-0.4
	0.3nm,0.3s,baz=314,slow=14,SNR=1.3						
CMAR				Lg	Lg	12 02 07.7	
	0.4nm,0.3s,baz=315,slow=30,SNR=1.4						
MKAR	Makanchi Array	25.62	341	P	P	12 04 13.8	+1.3
	4.4nm,0.6s,baz=144,slow=9.9,SNR=36						
KURBB	Kurchatov Arra	30.17	340	P	P	12 04 53.3	+0.3
	1.0nm,0.6s,baz=154,slow=8.0,SNR=7.2						
ZALV	Zalesovo Beam	31.72	349	P	P	12 05 06.7	+0.1
	0.8nm,0.4s,baz=175,slow=5.4,SNR=1.9						
WRA	Warramunga Arr	57.93	134	P	P	12 08 35.9	+0.5
	0.2nm,0.5s,baz=321,slow=7.5,SNR=6.6						
ASAR	Alice Springs	60.33	138	P	P	12 08 52.6	+0.6
	0.3nm,0.7s,baz=321,slow=6.8,SNR=4.6						
ARCES	ARCESS Array B	61.23	338	P	P	12 08 56.9	-0.5
	2.2nm,0.9s,baz=99,slow=9.2,SNR=2.2						
HFS	Hagfors	65.65	327	P	P	12 09 26.4	-0.4
	3.0nm,0.8s,baz=96,slow=5.8,SNR=1.3						

*VAO **06** 12:03:38.1±0.6, 31°.47S×68°.57W, h83km±6km, mb4.8*

*SJA **06** 12:03:41.5±0.7, 31°.29S×68°.49W, h116km±2km, ML4.9, MW4.6*

*GUC **06** 12:03:41.6±0.5, 31°.23S×68°.52W, h126km±16km, ML5.1*

*BJI **06** 12:03:41.8±0.0, 31°.20S×68°.40W, h90km, mB5.4/1, Ms5.4/1*

*NEIC **06** 12:03:41.7, 31°.24S×68°.36W, h111km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.58; $M_{\theta\theta}$=0.43; $M_{\phi\phi}$=1.15; $M_{r\theta}$=-1.52; $M_{\theta\phi}$=0.98; $M_{r\phi}$=-0.23; Fault plane solution: M_0=2

ARCO CERRO ARCO 1.62 194 *e*P Pn 12 04 11.4 +0.5
ARCO *e*S Sn 12 04 32.4 -0.4
ARCO IAML 12 04 36.0
comp=Z,11µm,0.6s
AGUA GUANDACOL 1.77 359 *e*P Pn 12 04 13.8 +1.1
AGUA *e*S Sn 12 04 38.6 +2.8
AGUA IAML 12 04 39.1
comp=Z,7µm,0.2s
AAGR Agrelo 1.84 190 *e*P Pn 12 04 14.2 +0.6
APLL PUNTA DE LOS L 1.87 63 *e*P Pn 12 04 14.8 +1.0
CO01 Juntas del Tor 1.91 312⇑ *i*P Pn 12 04 14.8 +1.6
CO01 *i*S Sn 12 04 40.6 +1.6
CO01 IAML 12 04 41.8
comp=E,34µm,0.3s
CO01 Juntas del Tor 1.91 312 Pn 12 04 16.1 +1.6
CO03 El Pedregal 1.96 282⇑ *i*P Pn 12 04 15.8 +0.8
CO03 *i*S Sn 12 04 40.7 +0.6
CO03 IAML 12 04 42.5
comp=E,22µm,0.3s
CO03 El Pedregal 1.96 282 Pn 12 04 15.9 +0.8
CO03 Sn Sn 12 04 38.9 -1.1
CO02 Combarbal 2.18 271⇑ *i*P Pn 12 04 18.1 +0.3
CO02 Combarbal 2.18 271 Pn 12 04 18.3 +0.5
CO02 Sn Sn 12 04 44.6 -0.4
AVIZ Vizcacheras 2.20 181 *e*P Pn 12 04 18.6 +0.5
ACLC CERRO LA CRUZ 2.25 36 *e*P Pn 12 04 19.5 +0.7
ACLC *e*S Sn 12 04 45.6 -1.0
ACLC IAML 12 04 48.8
comp=Z,5µm,0.9s
GO04 Tololo Observa 2.29 298⇑ *i*P Pn 12 04 19.4 0.0
GO04 *e*S Sn 12 04 46.5 -1.2
GO04 IAML 12 04 51.6
comp=E,20µm,0.4s
GO04 Tololo Observa 2.29 298 Pn 12 04 19.7 +0.3
GO04 Sn Sn 12 04 45.7 -2.1
VA03 San Esteban 2.33 229 *e*P Pn 12 04 20.3 +0.7
VA03 *i*S Sn 12 04 49.9 +1.6
VA03 IAML 12 04 55.1
comp=E,12µm,0.5s
VA03 San Esteban 2.33 229 Pn 12 04 20.3 +0.7
VA03 Sn Sn 12 04 49.1 +0.8
VCA Vinchina 2.53 5⇑ *i*P Pn 12 04 23.6 +1.3
VCA *i*S Sn 12 04 54.4 +1.3
VCA IAML 12 05 00.5
comp=N,9µm,0.4s
VCA Vinchina 2.53 5 *e*P Pn 12 04 23.6 +1.3
VCA *e*S Sn 12 04 54.1 +1.0
VCA IAML 12 04 59.0
comp=Z,5µm,0.5s
MRA San Martin 2.60 117 *e*P Pn 12 04 23.8 +0.6
MRA *e*P 12 04 24.2
MRA *e*S Sn 12 04 54.5 -0.2
MRA IAML 12 04 55.9
comp=Z,4µm,0.5s
PEL Peldehue 2.66 225 *e*P Pn 12 04 24.0 0.0
PEL *i*S Sn 12 04 56.6 +0.6
PEL IAML 12 05 04.2
comp=N,3µm,0.5s
PEL Peldehue 2.66 225 Pn Pn 12 04 24.1 +0.1
PEL Peldehue 2.66 225 *e*P Pn 12 04 24.2 +0.2
PEL *e*S Sn 12 04 57.4 +1.4
ROCH El Roble 2.76 231 *e*P Pn 12 04 24.5 -0.9
ROCH *e*S Sn 12 04 58.4 -0.2
ROCH IAML 12 05 05.5
comp=E,4µm,0.5s
ROC1 El Roble 2.76 231 Pn 12 04 25.4 -0.1
ROC1 El Roble 2.76 231 *e*P Pn 12 04 24.8 -0.7
MT03 Universidad Ad 2.82 217 *e*P Pn 12 04 26.9 +0.8
MT03 *e*S Sn 12 05 01.1 +1.2
MT03 IAML 12 05 05.0
comp=E,4µm,0.4s
MT05 Renca 2.87 222 *e*P Pn 12 04 27.1 +0.4
MT05 Renca 2.87 222 Pn Pn 12 04 27.1 +0.4
AC05 El Transito 2.89 326⇑ *i*P Pn 12 04 28.3 +1.3
AC05 *e*S Sn 12 04 58.1 -3.3
AC05 El Transito 2.89 326 Pn Pn 12 04 28.3 +1.3
LMEL Las Melosas 2.97 209⇑ *i*P Pn 12 04 29.0 +0.9
LMEL IAML 12 05 17.5
comp=E,1µm,0.1s
MT02 Curacav 3.02 228 *e*P Pn 12 04 27.7 -0.9
MT02 *i*S Sn 12 04 57.9 -6.4
MT02 Curacav 3.02 228 Pn 12 04 28.5 -0.1
VA01 Torpederas 3.23 236 *e*P Pn 12 04 30.1 -1.2
VA01 Torpederas 3.23 236 Pn 12 04 29.6 -1.7
TCA Tanti 3.31 92⇑ *i*P Pn 12 04 32.8 +0.3
TCA *e*S Sn 12 05 09.3 -1.9
TCA Tanti 3.31 92 *e*P Pn 12 04 32.8 +0.3
TCA *e*S Sn 12 05 10.8 -0.5
TCA IAML 12 05 12.1
comp=Z,4µm,1.3s
RFA San Rafael 3.50 180 *e*P Pn 12 04 34.5 -0.5
RFA *e*S Sn 12 05 11.6 -4.2
RFA IAML 12 05 14.7
comp=Z,3µm,0.5s
CYA Choya 3.64 40 *e*P Pn 12 04 36.5 -0.3
CYA Choya 3.64 40 *e*P Pn 12 04 36.8 -0.1
CYA *e*S Sn 12 05 17.6 -1.5
CYA IAML 12 05 19.4
comp=Z,1µm,0.5s
LAMA Las Malvinas 3.72 190 *e*P Pn 12 04 37.4 -0.5
LAMA *e*S Sn 12 05 16.5 -4.4
AC04 Llanos de Chal 3.81 323⇑ *i*P Pn 12 04 38.2 -0.8
AC04 *i*S Sn 12 05 20.5 -2.5
AC04 Llanos de Chal 3.81 323 Pn Pn 12 04 38.8 -0.3
COIS El Sosneado 3.95 194 *e*P Pn 12 04 40.1 -0.9
COIS *e*S Sn 12 05 16.9 -7.7
GO03 Copiap 3.97 337⇑ *i*P Pn 12 04 41.4 0.0
GO03 *i*S Sn 12 05 25.6 -1.6
GO03 Copiap 3.97 337 Pn 12 04 41.5 +0.1
GO03 Copiap 3.97 337 *e*P Pn 12 04 41.5 +0.1
GO03 *e*S Sn 12 05 26.4 -0.8
BO02 Sierra Bellavi 4.03 208 Pn 12 04 41.9 -0.1
PUMA Malargue 4.30 191 *e*P Pn 12 04 45.4 -0.3
PUMA *e*S Sn 12 05 26.2 -8.8
AC02 Maricunga 4.45 352 Pn 12 04 49.5 +1.3
EDS3 Malargue 4.56 190 *e*P Pn 12 04 49.1 -0.3
EDS3 *e*S Sn 12 05 28.4 -13
GO05 Huala 4.74 217 Pn Pn 12 04 49.5 -2.1
GO05 Huala 4.74 217 *e*P Pn 12 04 49.7 -1.9
GO05 *e*S Sn 12 05 44.6 -0.9
AC01 Pan de Azucar 5.43 339 Pn Pn 12 05 00.3 -0.8
BI02 San Fabin de 5.87 203 Pn Pn 12 05 05.1 -1.9
BI03 Tigo 6.73 213 Pn Pn 12 05 17.2 -1.3
PB14 IPOC Station P 6.83 345 Pn Pn 12 05 18.5 -1.8
PB14 IPOC Station P 6.83 345 *e*P Pn 12 05 18.8 -1.5
PB14 *e*S Sn 12 06 30.6 -6.1
PB14 IAML 12 06 49.6
comp=Z,275nm,0.6s
PB10 IPOC Station P 7.94 346 Pn Pn 12 05 32.1 -2.9
LC01 Cunco 8.12 199 Pn Pn 12 05 33.0 -4.2
PB06 IPOC Station P 8.58 353 Pn 12 05 41.4 -2.4
LVC Limon Verde 8.63 357 P Pn 12 05 42.9 -1.7
comp=Z,13nm,0.3s,baz=160,slow=11,SNR=47
LVC S Sn 12 07 12.8 -7.6
comp=Z,10nm,0.3s,baz=42,slow=9.9,SNR=3.6
PB04 IPOC Station P 9.02 350 Pn Pn 12 05 45.8 -3.9
PLCA Paso Flores 9.60 190 P Pn 12 05 55.5 -1.9
comp=Z,0.4nm,0.3s,baz=29,slow=10,SNR=6.4
PLCA Paso Flores 9.60 190 Pn Pn 12 05 55.4 -2.0
PLCA Paso Flores 9.60 190 *e*P Pn 12 05 49.4 -8.0
PB01 IPOC Station P 10.22 355 Pn 12 06 02.0 -3.9
PATCX Punta Patache 10.51 351 Pn Pn 12 06 04.7 -5.1
PB08 IPOC Station P 11.09 357 Pn Pn 12 06 13.2 -4.8
PB11 IPOC Station P 11.51 354 Pn Pn 12 06 18.3 -5.0
GO01 Chusmiza 11.56 357 Pn Pn 12 06 20.1 -4.3
PSGCX Pisagua 11.71 352 Pn Pn 12 06 19.9 -6.1
MNMC Minye Minye 12.12 355 Pn Pn 12 06 27.7 -3.9
PLTB Pedras Altas 12.69 96 *e*P Pn 12 06 35.1 -3.5
PLTB *e*S Sn 12 08 56.6 -1.6
PB16 IPOC Station P 12.91 356 Pn Pn 12 06 39.1 -3.0
CPSB Cacapava Do Su 12.94 90 *e*P Pn 12 06 39.4 -2.5
ITAB Concordia 14.80 78 *e*P Pn 12 07 04.8 -1.1
LPAZ La Paz 14.91 1 P Pn 12 07 07.5 -0.4
comp=Z,0.5nm,0.3s,baz=175,slow=7.4,SNR=32
LPAZ LR LR 12 14 17.9
comp=Z,145nm,18.7s,baz=196,slow=42
LPAZ La Paz 14.91 1 Pn Pn 12 07 08.3 +0.4
LPAZ P 12 07 08.6 -2.1
LPAZ La Paz 14.91 1 *e*P Pn 12 07 08.0 +0.1
CNLB Canela 15.33 87 *e*P Pn 12 07 11.6 -1.0
PTGB Pitanga 15.87 70 *e*P Pn 12 07 19.7 +0.3
TRCB Terra Rica 16.41 63 *e*P Pn 12 07 25.7 -0.3

SIV San Ignacio 16.63 26 P P 12 07 28.7 -0.5
comp=Z,1.4nm,0.3s,baz=227,slow=11,SNR=93
PTLB Pontes e Lacer 17.90 31 *e*P Pn 12 07 43.9 -0.2
PCMB Pacaembu 18.13 62 *e*P Pn 12 07 46.2 -0.6
FRTB Fartura 18.53 69 *e*P Pn 12 07 50.7 -1.0
VILB Vilhena 19.75 24 *e*P P 12 08 03.9 +0.6
VILB *e*S S 12 11 43.4 +3.5
ITRB Iturama 19.95 59 *e*P P 12 08 06.2 +0.6
SPB Sao Paulo 20.14 73 P P 12 08 07.1 -0.4
SPB Sao Paulo 20.14 73 *e*P P 12 08 07.8 +0.3
BB19B Bebedouro 20.54 65 *e*P P 12 08 11.8 0.0
NNA Nana 20.69 336 P P 12 08 13.8 +0.3
comp=Z,6.9nm,0.5s,baz=198,slow=12,SNR=2.2
NNA Nana 20.69 336 IAmb IAmb 12 08 17.6
comp=Z,32nm,1.2s
VAO Valinhos 20.80 72 *e*P P 12 08 15.5 +0.8
ETMB Extrema 21.44 6 *e*P P 12 08 21.5 0.0
ETMB *e*S S 12 12 17.2 +4.4
ARAG Araguaiana, MT 21.70 48 *e*P P 12 08 23.9 -0.3
SAML Samuel 22.74 14 *e*P P 12 08 33.3 -1.6
SAML Samuel 22.74 14 P P 12 08 34.9 0.0
SAML Samuel 22.74 14 *e*P P 12 08 36.6 +1.7
BSCB Bom Sucesso 23.55 70 *e*P P 12 08 42.4 -0.2
CZSB Cruzeiro do Su 23.75 349 *e*P P 12 08 45.0 +0.7
BDFB Brasilia 24.30 55 P P 12 08 48.3 -1.1
comp=Z,10nm,0.8s,baz=254,slow=7.7,SNR=7.2
BDFB LR LR 12 18 44.1
comp=Z,119nm,19.2s,baz=167,slow=37
BDFB Brasilia 24.30 55 P P 12 08 46.3 -3.1
SNDB Serra Nova Dou 24.89 43 *e*P P 12 08 55.6 +0.9
PEXB Peixe 26.64 49 *e*P P 12 09 10.2 -0.2
NPGB Novo Progresso 27.03 30 *e*P P 12 09 13.8 -0.2
JANB Januaria 27.35 59 *e*P P 12 09 16.5 -0.4
SJMB Sao Joao De Ma 27.62 70 *e*P P 12 09 18.6 -0.6
SDBA SAO DESIDERIO 28.70 54 *e*P P 12 09 28.8 0.0
MACA Manacapuru-AM 28.90 16 *e*P P 12 09 30.3 -0.2
ITTB Itaituba 29.31 27 *e*P P 12 09 34.2 0.0
MALB Monte Alegre 32.18 27 *e*P P 12 09 59.4 -0.1
OTAV Otavalo 32.73 341 *e*P P 12 10 05.1 +0.3
FLOC Florencia 33.37 347 *e*P P 12 10 09.8 -0.1
BBAC Balboa, Cauca 34.14 344 *e*P P 12 10 18.8 +2.0
PCON Cinco Dias 34.25 346 *e*P P 12 10 20.6 +2.5
BETC Betania 34.41 348 *e*P P 12 10 20.6 +1.7
MCPB Macapa, AP 34.44 30 *e*P P 12 10 19.6 +0.5
TMAB Tom-Au,PA,Br 34.58 38 *e*P P 12 10 21.9 +1.7
PRAC Prado 35.32 349 *e*P P 12 10 28.7 +2.0
ORTC Ortega, Tolima 35.57 348 *e*P P 12 10 29.6 +0.7
CHIC Chingaza 36.05 351 *e*P P 12 10 32.3 -1.0
ANIL Santa Ana 36.17 348 *e*P P 12 10 34.1 -0.1
TOLC Tolima 36.24 348 *e*P P 12 10 34.1 -0.8
ROSC El Rosal 36.34 350 P P 12 10 37.3 +1.6
comp=Z,6.7nm,0.3s,baz=333,slow=6.4,SNR=3.7
ROSC El Rosal 36.34 350 IAmb IAmb 12 10 56.5
comp=Z,14nm,0.8s
RREF El Recreo 36.56 348 *e*P P 12 10 36.8 -1.1
GUY2C Guyana, Caldas 36.88 348 *e*P P 12 10 40.4 -0.1
RUSC La Rusia 37.21 352 *e*P P 12 10 43.6 +0.4
CBOC Ciudad Bolivar 37.62 348 *e*P P 12 10 46.7 +0.3
TAMC Tame, Arauca 37.62 355 *e*P P 12 10 45.8 -0.4
BARC Barichara 37.91 352 *e*P P 12 10 47.1 -1.8
PTBC PUERTO BERRIO, 38.02 350 *e*P P 12 10 47.9 -1.7
PAMC Pamplona, Colo 38.60 353 *e*P P 12 10 54.0 -0.9
DBBC Dabeiba 38.78 348 *e*P P 12 10 57.5 +1.5
UREC San Jos de Ur 39.38 349 *e*P P 12 10 60.0 -0.9
RCBR Riachuelo 39.63 57 *e*P P 12 11 04.2 +1.1
SDV Santo Domingo 39.98 357 P P 12 11 04.1 -1.9
SDV IAmb IAmb 12 11 06.2
comp=Z,27nm,1.1s
SDV Santo Domingo 39.98 357 *e*P P 12 11 05.4 -0.7
SMLC San Martn de 40.20 351 *e*P P 12 11 03.8 -3.8
SJCC San Jacinto, C 41.43 350 *e*P P 12 11 18.2 +0.4
GRGR Grenville 43.64 10 P P 12 11 35.1 -0.5
PDPR Patillas Dam, 49.05 3 P P 12 12 16.4 -1.5
OBIP Obispado Ponce 49.05 2 P P 12 12 16.7 -1.2
BELA Belgrano 2 49.07 171 P P 12 12 18.3 +0.9
CBYP Canovanas 49.31 3 P P 12 12 18.3 -1.6
VNA3 Neumayer Olymp 50.79 159 P P 12 12 31.1 +0.7
VNA1 Neumayer--Stat 51.04 158 P P 12 12 33.5 +1.2
VNA2 Neumayer--Watz 51.40 158 P P 12 12 35.6 +0.6
baz=285,slow=8.2
SNAA Sanae 53.01 159 P P 12 12 47.4 +0.5
SNAA Sanae 53.01 159 P P 12 12 47.4 +0.5
comp=Z,5.3nm,0.8s,baz=282,slow=6.7,SNR=32
SNAA pP **pP** 12 13 13.8 -0.3
comp=Z,2.8nm,0.4s,baz=271,slow=7.4,SNR=4.0
SNAA sP **sP** 12 13 26.4 -0.4
comp=Z,4.4nm,0.4s,baz=277,slow=6.9,SNR=5.0
SNAA Sanae 53.01 159 P P 12 12 47.4 +0.5
SNAA IAmb IAmb 12 12 48.7
comp=Z,14nm,1.2s
TEIG Tepich 54.62 337 P P 12 12 58.4 -0.8
QSPA South Pole Qui 58.97 180 P P 12 13 30.6 +1.0
BBSR BB Station 63.39 4 P P 12 13 59.8 +0.3
TIGA Tifton 63.99 346 P P 12 14 03.2 -0.3
baz=166
158A Hollywood 64.62 349 P P 12 14 07.8 +0.3
baz=169
157A Early Branch 64.69 348 P P 12 14 08.3 +0.2
baz=168
NHSC New Hope 64.97 349 P P 12 14 10.2 +0.4
baz=169
Z58A St. Stephen 65.14 350 P P 12 14 11.5 +0.6
baz=169
Z57A Bowman 65.25 349 P P 12 14 11.6 0.0
baz=168
152A Waverly Hall 65.42 345 P P 12 14 10.7 -2.0
152A IAmb IAmb 12 14 12.9
comp=Z,14nm,1.1s
344A Westbrook Farm 65.85 339 P P 12 14 15.8 +0.3
GOGA Godfrey 65.87 346 P P 12 14 15.3 -0.3
baz=166,SNR=5.0
GOGA Godfrey 65.87 346 P P 12 14 14.7 -0.9
GOGA IAmb IAmb 12 14 16.3
comp=Z,13nm,1.1s
X59A McDuffie Farm, 66.18 351 P P 12 14 17.7 +0.2
baz=170
833A Chaparral WMA, 66.19 330 P P 12 14 19.0 +1.2
baz=151,SNR=9.0
HKT Hockley 66.21 334 P P 12 14 18.0 +0.3
HKT IAmb IAmb 12 14 20.2
comp=Z,22nm,1.3s
X58A Rowland 66.27 350 P P 12 14 18.4 +0.3
baz=170
LRAL Lakeview Retre 66.31 343 P P 12 14 18.3 -0.1
baz=169,SNR=5.1
LRAL Lakeview Retre 66.31 343 IAmb IAmb 12 14 19.3
comp=Z,16nm,1.1s
Y52A Lilburn 66.43 346 P P 12 14 18.4 -0.8
Y52A IAmb IAmb 12 14 20.1
comp=Z,30nm,1.2s
X56A White Oak 66.47 349 P P 12 14 19.4 -0.1
baz=168
X55A Gracelyn & Ava 66.55 348 P P 12 14 19.8 -0.2
baz=168
W58A Raeford 66.71 350 P P 12 14 21.2 +0.3
baz=170,SNR=6.5
Z47A Carrollton 66.74 342 IAmb IAmb 12 14 22.2
comp=Z,24nm,0.9s
X54A Belton 66.76 348 P P 12 14 21.4 +0.1
baz=167
PAULI Pauline 66.93 348 P P 12 14 22.0 -0.3
PAULI IAmb IAmb 12 14 23.5
comp=Z,17nm,1.1s
W57A Gilead 66.95 350 P P 12 14 22.3 -0.2
baz=169,SNR=5.3
W57A Gilead 66.95 350 IAmb IAmb 12 14 23.6
comp=Z,12nm,0.9s
Y49A Blount Mountai 66.95 344 P P 12 14 21.9 -0.7
Y49A IAmb IAmb 12 14 23.3
comp=Z,18nm,1.1s
W56A Indian Trail 67.03 349 P P 12 14 23.0 0.0
baz=169
KMSC Kings Mountain 67.16 349 P P 12 14 24.0 +0.2
baz=168
KMSC Kings Mountain 67.16 349 IAmb IAmb 12 14 24.8
comp=Z,22nm,1.2s
V60A Jim Taylor Roa 67.19 352 P P 12 14 24.4 +0.5
baz=172
W54A Cherokee Point 67.25 348 P P 12 14 24.5 +0.1
baz=167
SYO Syowa Base 67.28 158⇑ *e*P P 12 14 22.8 -1.4
BG3 Lake Jocassee 67.30 347 P P 12 14 24.5 -0.2
V59A Middlesex 67.31 351 P P 12 14 24.9 +0.2
baz=171,SNR=7.3

VNDA Vanda 67.35 190 P P 12 14 23.5 -1.1
comp=Z,1.9nm,1.1s,baz=319,slow=1.7,SNR=3.2
FPAL Fort Paine 67.42 345 IAmb IAmb 12 14 26.3
comp=Z,30nm,1.3s
V58A Windy Hill, Pi 67.45 351 P P 12 14 25.5 -0.1
baz=170,SNR=5.8
V58A Windy Hill, Pi 67.45 351 IAmb IAmb 12 14 26.8
comp=Z,16nm,0.9s
W52A Murphy 67.59 346 IAmb IAmb 12 14 27.6
comp=Z,16nm,1.1s
V56A Mocksville 67.67 349 P P 12 14 27.2 +0.2
baz=169,SNR=7.0
X48A Hartselle 67.67 343 P P 12 14 26.5 -0.5
V55A Taylorsville 67.83 349 P P 12 14 28.0 0.0
baz=168,SNR=6.0
V55A Taylorsville 67.83 349 IAmb IAmb 12 14 29.2
comp=Z,20nm,1.1s
U60A Pendleton 67.87 352 P P 12 14 28.8 +0.6
baz=172
V54A Nebo 67.88 348 P P 12 14 28.3 -0.1
baz=168,SNR=6.7
U58A Oxford 67.97 351 P P 12 14 29.3 +0.5
baz=171,SNR=7.2
W50A Signal Mountai 67.99 345 IAmb IAmb 12 14 30.1
comp=Z,22nm,0.9s
CPCT Cooper Cave 68.06 346 IAmb IAmb 12 14 30.3
comp=Z,16nm,0.9s
TKL Tuckaleechee C 68.11 347 P P 12 14 29.0 -0.8
TKL IAmb IAmb 12 14 30.3
comp=Z,14nm,1.0s
U57A Blanch 68.11 351 P P 12 14 29.9 +0.2
baz=170,SNR=6.2
Z41A Richland Creek 68.17 338 P P 12 14 30.9 +0.7
baz=158
U56A King 68.18 350 P P 12 14 30.4 +0.2
baz=169
JCT Junction City 68.24 331 P P 12 14 31.6 +0.8
baz=151,SNR=11
JCT Junction City 68.24 331 IAmb IAmb 12 14 32.8
comp=Z,28nm,1.0s
V52A Sevierville 68.25 347 IAmb IAmb 12 14 31.2
comp=Z,12nm,0.9s
OXF Oxford 68.34 341 P P 12 14 30.8 -0.4
baz=161
V51A Loudon 68.36 346 IAmb IAmb 12 14 32.0
comp=Z,13nm,1.0s
T59A Double "B" Far 68.41 352 P P 12 14 32.0 +0.4
baz=172,SNR=5.1
T59A Double "B" Far 68.41 352 IAmb IAmb 12 14 33.3
comp=Z,32nm,1.2s
PLAL Pickwick Lake 68.43 343 P P 12 14 31.1 -0.6
PLAL IAmb IAmb 12 14 32.5
comp=Z,13nm,0.9s
U55A TA2, Sparta 68.44 349 P P 12 14 32.1 +0.2
baz=168
T60A Surry 68.49 353 P P 12 14 32.9 +0.9
baz=172
T58A Grand View Acr 68.51 351 P P 12 14 32.6 +0.4
baz=171,SNR=13
U54A Nelsons Funny 68.58 348 P P 12 14 32.6 -0.1
baz=168
U54A Nelsons Funny 68.58 348 IAmb IAmb 12 14 33.7
comp=Z,20nm,0.8s
WHTX Lake Whitney, 68.65 334 P P 12 14 33.7 +0.5
baz=154
WHTX Lake Whitney, 68.65 334 IAmb IAmb 12 14 34.9
comp=Z,18nm,1.1s
T57A Hurt 68.66 351 P P 12 14 33.5 +0.3
baz=170
T57A Hurt 68.66 351 IAmb IAmb 12 14 34.5
comp=Z,23nm,1.2s
WLAR White Oak Lake 68.67 338 P P 12 14 34.7 +1.5
X43A Marvell 68.76 340 P P 12 14 34.5 +0.7
baz=160
T56A Rocky Mt 68.80 350 P P 12 14 34.4 +0.4
baz=169,SNR=5.9
V48A Smith Brothers 68.85 344 IAmb IAmb 12 14 35.4
comp=Z,32nm,1.0s
W45A Hickory Valley 68.89 342 P P 12 14 34.2 -0.4
TZTN Tazewell 68.92 347 P P 12 14 34.2 -0.6
baz=166
TXAR Lajitas Array 68.95 327 P P 12 14 36.1 +0.8
comp=Z,4.1nm,0.9s,baz=150,slow=8.2,SNR=40
TX31 Lajitas Ar. Si 68.95 327 IAmb IAmb 12 14 36.8
comp=Z,18nm,0.9s
T55A Pulaski 69.00 349 P P 12 14 35.3 0.0
baz=169,SNR=5.8
BLA Blacksburg 69.03 350 P P 12 14 35.8 +0.3
baz=169
S60A Water View 69.04 353 P P 12 14 36.0 +0.6
baz=172
CLTN Cedars of Leba 69.07 345 P P 12 14 35.1 -0.6
CLTN IAmb IAmb 12 14 36.6
comp=Z,16nm,0.9s
T54A Tazewell 69.07 349 P P 12 14 35.5 -0.3
baz=168,SNR=6.3
S58A Poland Farm, P 69.10 352 P P 12 14 36.5 +0.7
baz=171,SNR=7.5
T53A Wise 69.16 348 P P 12 14 36.1 -0.3
baz=167
S59A Mechanicsville 69.16 353 P P 12 14 36.7 +0.5
baz=172
X40A Basin Creek Fa 69.32 339 P P 12 14 37.5 +0.3
baz=158
S57A Dark Hollow, R 69.36 351 P P 12 14 38.9 +1.4
baz=170,SNR=9.1
S57A Dark Hollow, R 69.36 351 IAmb IAmb 12 14 39.1
comp=Z,18nm,0.8s
S56A Natural Bridge 69.37 351 P P 12 14 37.7 +0.2
baz=170
R58B Mineral 69.43 352 P P 12 14 38.5 +0.7
baz=171,SNR=8.7
R58B Mineral 69.43 352 IAmb IAmb 12 14 39.9
comp=Z,27nm,1.0s
UALR University of 69.43 339 P P 12 14 38.4 +0.5
UALR IAmb IAmb 12 14 39.2
comp=Z,14nm,0.9s
WVT Waverly 69.46 343 P P 12 14 37.9 -0.2
baz=162
WVT Waverly 69.46 343 P P 12 14 37.8 -0.3
WVT pP **pP** 12 15 07.1 +0.4
R61A Willards 69.53 354 P P 12 14 39.3 +0.8
baz=174
R59A King George, V 69.58 353 P P 12 14 39.6 +0.8
baz=172
S55A Lewisburg 69.59 350 P P 12 14 39.5 +0.5
baz=169,SNR=7.5
MIAR Mount Ida 69.61 338 P P 12 14 39.3 +0.3
baz=157,SNR=8.2
MIAR Mount Ida 69.61 338 P P 12 14 39.4 +0.3
MIAR IAmb IAmb 12 14 40.6
comp=Z,22nm,1.2s
S54A Dingess, Beckl 69.75 349 P P 12 14 39.8 -0.1
baz=168
S54A Dingess, Beckl 69.75 349 IAmb IAmb 12 14 40.8
comp=Z,16nm,0.9s
S53A Williamson 69.77 348 P P 12 14 39.9 -0.1
baz=168
W41B Gary Mavity, V 69.77 339 P P 12 14 40.2 +0.1
baz=158
W41B Gary Mavity, V 69.77 339 P P 12 14 39.7 -0.4
W41B IAmb IAmb 12 14 41.5
comp=Z,19nm,1.1s
R58A Rapidan 69.78 352 P P 12 14 40.8 +0.8
baz=171,SNR=5.4
R57A Stanardsville 69.84 352 P P 12 14 41.2 +0.8
baz=171,SNR=12
WHAR Wooly Hollow 69.89 339 IAmb IAmb 12 14 42.2
comp=Z,35nm,1.3s
S51A Beattyville 69.99 347 IAmb IAmb 12 14 42.1
comp=Z,15nm,0.9s
R55A Marlinton 70.04 350 P P 12 14 42.4 +0.7
baz=169,SNR=8.2
ABTX Abilene, Hawle 70.06 332 P P 12 14 42.4 +0.4
baz=152,SNR=12
ABTX Abilene, Hawle 70.06 332 P P 12 14 42.1 +0.2
R56A Bull Pasture M 70.06 351 P P 12 14 42.5 +0.6
baz=170,SNR=8.5
R54A Victor 70.07 350 P P 12 14 41.8 0.0
baz=169,SNR=7.0
X37A Clayton 70.24 337 IAmb IAmb 12 14 45.4
comp=Z,29nm,1.2s
W39A Magazine 70.27 338 P P 12 14 43.7 +0.6
baz=157
W39A Magazine 70.27 338 P P 12 14 43.5 +0.5
R53A Hurricane 70.37 349 P P 12 14 43.5 -0.1
baz=168
Q58A Fox Den Farm, 70.37 352 P P 12 14 44.5 +0.9

baz=172
FCAR Ozark Folk Cen 70.40 340 IAmb IAmb 12 14 45.0
comp=Z,23nm,1.2s
Q57A Strasburg 70.55 352 P **P** **12 14 45.7 +1.0**
baz=171,SNR=12
Q56A Snyder Ridge, 70.66 351 P **P** **12 14 46.3 +0.9**
baz=170
Q55A Buckhannon 70.73 350 P **P** **12 14 46.5 +0.7**
baz=169
SDMD Soldier's Deli 70.75 353 P **P** **12 14 46.3 +0.4**
R50A Paris 70.75 347 IAmb IAmb 12 14 46.6
comp=Z,18nm,1.1s
Q53A Leroy 70.82 349 P **P** **12 14 46.3 -0.1**
baz=168
P58A Pank, Wackersv 70.87 353 P **P** **12 14 47.7 +1.1**
baz=172
P59A Jarrettsville 70.90 353 P **P** **12 14 48.0 +1.1**
baz=173,SNR=6.3
R49A Shelbyville 70.93 346 IAmb IAmb 12 14 49.8
comp=Z,20nm,1.3s
P57A Homestead Farm 70.95 352 P **P** **12 14 48.0 +0.9**
baz=171,SNR=11
LIC Lamto 71.02 70 *e*P **P** **12 14 48.1 -0.1**
comp=Z,30nm,1.0s
P60A Greenville 71.03 354 P **P** **12 14 48.0 +0.5**
baz=174
Q52A Bidwell 71.04 349 P **P** **12 14 47.7 0.0**
baz=168
U40A Yellville 71.05 339 P **P** **12 14 48.0 +0.2**
baz=158,SNR=9.4
U40A Yellville 71.05 339 P **P** **12 14 47.2 -0.7**
U40A IAmb IAmb 12 14 49.1
comp=Z,17nm,0.8s
P56A Dayton Farm, R 71.07 352 P **P** **12 14 48.8 +1.0**
baz=171,SNR=5.6
WCI Wyandotte Cave 71.11 345 P **P** **12 14 48.3 +0.2**
baz=164
P55A Reedsville 71.20 351 P **P** **12 14 49.2 +0.5**
baz=170
TIC Toumodi 71.27 70 *e*P **P** **12 14 50.0 +0.3**
Q51A Peebles 71.29 348 P **P** **12 14 48.5 -0.7**
Q51A IAmb IAmb 12 14 50.0
comp=Z,22nm,0.9s
S44A Carbondale 71.30 343 IAmb IAmb 12 14 50.0
comp=Z,15nm,0.8s
HHAR Hobbs 71.32 338 IAmb IAmb 12 14 50.8
comp=Z,20nm,0.9s
KIC Kosan Boka 71.33 70 *e*P **P** **12 14 50.0 -0.1**
comp=Z,44nm,1.0s
MCWV Mont Chateau 71.35 351 P **P** **12 14 49.8 +0.2**
baz=170
P54A Burton 71.39 350 P **P** **12 14 49.9 +0.2**
baz=169,SNR=8.2
P53A Whipple 71.41 349 P **P** **12 14 49.9 0.0**
baz=168
P53A Whipple 71.41 349 IAmb IAmb 12 14 51.1
comp=Z,26nm,1.1s
DBIC Dimbokro 71.42 70 P **P** **12 14 50.7 +0.1**
comp=Z,15nm,0.9s,baz=197,slow=7.3,SNR=12
DBIC pP **pP** **12 15 19.4 -0.2**
comp=Z,4.1nm,0.7s,baz=220,slow=8.9,SNR=2.7
DBIC LR LR 12 42 54.3
comp=Z,26nm,20.9s,baz=182,slow=33
DBIC Dimbokro 71.42 70 P **P** **12 14 51.0 +0.5**
DBIC IAmb IAmb 12 14 52.2
comp=Z,16nm,0.9s
O58A Lewisberry 71.46 353 P **P** **12 14 50.8 +0.6**
baz=172
O60A Telford 71.51 354 P **P** **12 14 51.4 +0.9**
baz=174
O59A Robesonia 71.57 354 P **P** **12 14 51.5 +0.7**
baz=173
TUL1 Leonard 71.58 337 P **P** **12 14 51.2 +0.2**
baz=156
TUL1 Leonard 71.58 337 P **P** **12 14 50.9 -0.1**
WMOK Wichita Mounta 71.59 334 P **P** **12 14 50.9 -0.2**
baz=153,SNR=11
U38A Gravette 71.60 338 IAmb IAmb 12 14 52.4
comp=Z,14nm,0.9s
MGMO Mountain Grove 71.62 340 IAmb IAmb 12 14 52.7
comp=Z,25nm,1.0s
O57A Amberson 71.62 353 P **P** **12 14 52.0 +0.8**
baz=172
P52A Corning 71.67 349 P **P** **12 14 50.6 -0.9**
baz=168
P52A Corning 71.67 349 IAmb IAmb 12 14 52.1
comp=Z,26nm,0.9s
P51A Williamsport 71.68 348 P **P** **12 14 51.0 -0.6**
baz=167
P51A Williamsport 71.68 348 IAmb IAmb 12 14 52.1
comp=Z,26nm,1.0s
MNTX Cornudas Mount 71.73 327 P **P** **12 14 51.8 -0.3**
baz=147,SNR=17
O56A Blue Knob Stat 71.79 352 P **P** **12 14 52.7 +0.5**
baz=171
O56A Blue Knob Stat 71.79 352 IAmb IAmb 12 14 54.0
comp=Z,18nm,1.1s
O55A Ligonier 71.82 351 P **P** **12 14 52.8 +0.4**
baz=170
FVM French Village 71.88 342 P **P** **12 14 52.1 -0.6**
O54A Avella 71.94 350 P **P** **12 14 53.4 +0.3**
baz=169
OLIL Olney 72.00 344 IAmb IAmb 12 14 53.8
comp=Z,22nm,0.8s
N60A Cedar Hill Far 72.04 355 P **P** **12 14 54.2 +0.6**
baz=174,SNR=5.3
P49A Miami Univ. Ec 72.04 347 P **P** **12 14 52.9 -0.8**
baz=165
P49A Miami Univ. Ec 72.04 347 IAmb IAmb 12 14 54.1
comp=Z,24nm,1.1s
SSPA Standing Stone 72.07 352 P **P** **12 14 54.3 +0.5**
baz=172
PAL Palisades 72.08 356 P **P** **12 14 54.3 +0.5**
baz=175
O52A Adamsville 72.10 349 P **P** **12 14 53.7 -0.3**
baz=168
P48A Milroy 72.11 346 IAmb IAmb 12 14 53.8
comp=Z,27nm,1.1s
O53A New Philadelph 72.13 350 P **P** **12 14 54.0 -0.2**
baz=168
QUOK Quay 72.13 336 P **P** **12 14 54.0 -0.3**
N59A State Game Lan 72.14 354 P **P** **12 14 55.2 +1.0**
baz=173
N59A State Game Lan 72.14 354 IAmb IAmb 12 14 56.4
comp=Z,19nm,1.0s
N58A Sunbury 72.15 353 P **P** **12 14 55.3 +1.0**
baz=172
N57A Milroy 72.15 353 P **P** **12 14 54.9 +0.6**
baz=172
CCM Cathedral Cave 72.17 341 P **P** **12 14 54.7 +0.2**
baz=160
CCM Cathedral Cave 72.17 341 P **P** **12 14 54.2 -0.3**
CCM IAmb IAmb 12 14 55.7
comp=Z,25nm,0.9s
O51A Pataskala 72.25 349 P **P** **12 14 55.3 +0.3**
baz=167
N55A Marion Center 72.34 352 P **P** **12 14 56.0 +0.5**
baz=170,SNR=8.1
M61A Granite Spring 72.38 356 P **P** **12 14 56.2 +0.5**
baz=175
N56A West Decatur 72.39 352 P **P** **12 14 56.2 +0.4**
baz=171
ACSO Alum Creek Sta 72.40 348 P **P** **12 14 55.5 -0.3**
baz=167
ACSO Alum Creek Sta 72.40 348 P **P** **12 14 55.1 -0.7**
ACSO IAmb IAmb 12 14 56.5
comp=Z,26nm,0.8s
M60A Port Jervis 72.45 355 P **P** **12 14 56.6 +0.5**
baz=174,SNR=5.9
M62A Hamden 72.46 357 P **P** **12 14 57.0 +0.9**
baz=176
M64A Tiverton 72.50 358 P **P** **12 14 57.2 +0.9**
baz=178
MSTX Muleshoe 72.51 331 pP 12 15 26.7 +1.0
N53A Lisbon 72.62 350 P **P** **12 14 58.0 +0.9**
baz=169
P46A Rosedale 72.64 345 IAmb IAmb 12 14 57.5
comp=Z,28nm,1.0s
M58A Price's Panora 72.65 354 P **P** **12 14 57.9 +0.6**
baz=173
N54A Moraine State 72.65 351 P **P** **12 14 57.7 +0.4**
baz=170
M57A Sunshine Farm, 72.68 353 P **P** **12 14 57.9 +0.5**
baz=172
M59A Waymart 72.73 355 P **P** **12 14 58.3 +0.6**
baz=174,SNR=6.0
T35A Sooner Cattle 72.73 337 IAmb IAmb 12 14 59.5
comp=Z,28nm,1.1s

N52A McGinn's Farm, 72.75 350 P **P** **12 14 57.7 -0.2**
baz=168
L63A North Scituate 72.82 358 P **P** **12 14 59.1 +0.8**
baz=177
AMTX Amarillo 72.85 332 P **P** **12 14 59.1 +0.4**
baz=151
L64A Middleborough 72.87 358 P **P** **12 14 59.1 +0.6**
baz=178
M56A Emporium 72.94 352 P **P** **12 14 59.4 +0.4**
baz=171
N51A Ashland 72.97 349 P **P** **12 14 59.4 +0.3**
baz=168
M55A Ridgway 72.99 352 P **P** **12 14 59.7 +0.4**
baz=171
M55A Ridgway 72.99 352 IAmb IAmb 12 15 00.7
comp=Z,28nm,0.9s
L60A Shokan 73.08 356 P **P** **12 15 00.7 +0.9**
baz=175
M54A Oil Creek Stat 73.15 351 P **P** **12 15 01.0 +0.8**
baz=170
P43A Skaggs, Pawnee 73.21 343 IAmb IAmb 12 15 01.2
comp=Z,30nm,0.9s
L61A Hillsdale 1, H 73.25 356 P **P** **12 15 01.5 +0.8**
baz=175
L58A Harry Jones Me 73.26 354 P **P** **12 15 01.5 +0.7**
baz=173
N49A Columbus Grove 73.28 348 P **P** **12 14 59.9 -1.1**
L57A Andrews Acres 73.31 353 P **P** **12 15 02.2 +1.1**
baz=172
M51A Elyria 73.34 349 P **P** **12 15 02.2 +0.9**
baz=168
319A Douglas 73.34 324 IAmb IAmb 12 15 04.5
comp=Z,26nm,1.0s
L59A Walton 73.34 355 P **P** **12 15 02.1 +0.7**
baz=174,SNR=5.9
L61B Northampton 73.45 357 P **P** **12 15 02.9 +0.9**
baz=176
HRV Adam Dziewonsk 73.46 358 P **P** **12 15 02.9 +0.9**
baz=177
L56A Greenwood 73.52 353 P **P** **12 15 03.8 +1.4**
baz=172
N47A Urbana 73.53 346 P **P** **12 15 01.4 -1.1**
N47A IAmb IAmb 12 15 02.7
comp=Z,33nm,1.1s
121A Cookes Peak, D 73.55 326 P **P** **12 15 04.6 +1.6**
baz=166,SNR=15
121A Cookes Peak, D 73.55 326 IAmb IAmb 12 15 05.9
comp=Z,24nm,1.0s
K62A Royalston 73.65 357 P **P** **12 15 04.6 +1.5**
baz=177
L55A Hinsdale 73.66 352 P **P** **12 15 03.6 +0.4**
baz=171
K61A Williamstown 73.70 356 P **P** **12 15 04.7 +1.2**
baz=176
ERPA Erie 73.79 351 P **P** **12 15 04.1 +0.2**
baz=170
TRY Troy 73.79 356 IAmb IAmb 12 15 06.0
comp=Z,31nm,1.0s
L54A Sinclairville 73.82 352 P **P** **12 15 04.6 +0.5**
baz=170
K59A Cooperstown 73.91 355 P **P** **12 15 05.2 +0.5**
baz=174,SNR=5.4
K58A Earlville 73.96 354 P **P** **12 15 05.5 +0.6**
baz=174
K57A Scipio Center 74.00 354 P **P** **12 15 05.1 -0.1**
baz=173
K56A Middlesex 74.05 353 P **P** **12 15 05.7 +0.2**
baz=172
K54A Basiliko Farm, 74.11 352 P **P** **12 15 06.3 +0.5**
baz=171
K55A Perry 74.16 353 P **P** **12 15 06.4 +0.3**
baz=171
J62A Henniker 74.19 357 P **P** **12 15 06.6 +0.4**
baz=177
P38A Dawn 74.28 340 IAmb IAmb 12 15 07.8
comp=Z,48nm,1.5s
L48A N Adams 74.32 348 IAmb IAmb 12 15 07.5
comp=Z,37nm,1.1s
J61A Chester 74.34 357 P **P** **12 15 08.5 +1.3**
baz=176
BNM Barren Site 74.35 328 P **P** **12 15 08.2 +0.5**
J58A Remsen 74.53 355 P **P** **12 15 08.4 +0.2**
baz=174
J59A Piesco 74.57 355 P **P** **12 15 08.9 +0.4**
baz=175
J59A Piesco 74.57 355 IAmb IAmb 12 15 10.2
comp=Z,24nm,1.1s
HNH Hanover 74.69 357 IAmb IAmb 12 15 11.5
comp=Z,20nm,0.9s
KSU1 Kansas State U 74.75 338 P **P** **12 15 09.4 -0.1**
baz=155
I58A Old Forge 74.83 355 P **P** **12 15 10.1 +0.1**
baz=174
R32A Long Quarter, 74.85 336 P **P** **12 15 10.6 +0.4**
R32A IAmb IAmb 12 15 12.0
comp=Z,25nm,0.9s
TUC Tucson 74.85 324 P **P** **12 15 12.0 +1.5**
I59A Olmsteadville 74.86 356 P **P** **12 15 10.5 +0.4**
baz=175
I60A Shoreham 74.88 356 P **P** **12 15 10.9 +0.7**
baz=176
MAW Mawson 74.91 163 P **P** **12 15 10.7 +0.5**
comp=Z,5.7nm,0.9s,baz=242,slow=5.8,SNR=9.5
MAW pP **pP** **12 15 39.1 0.0**
comp=Z,2.7nm,0.7s,baz=314,slow=3.5,SNR=2.6
MAW Mawson 74.91 163 IAmb IAmb 12 15 11.2
comp=Z,2.2nm,1.1s
I61A Oroboro, Fairl 74.91 357 P **P** **12 15 11.7 +1.3**
baz=177
ANMO Albuquerque 74.94 328 P **P** **12 15 12.6 +1.6**
baz=147
ANMO Albuquerque 74.94 328 P **P** **12 15 12.5 +1.4**
ANMO IAmb IAmb 12 15 13.7
comp=Z,25nm,1.4s
I63A Otisfield 74.98 358 P **P** **12 15 12.3 +1.6**
baz=178
I63A Otisfield 74.98 358 IAmb IAmb 12 15 13.4
comp=Z,36nm,1.1s
I57A Carthage 75.13 355 P **P** **12 15 12.1 +0.5**
baz=174
LBNH Lisbon 75.21 357 P **P** **12 15 13.0 +0.9**
baz=177
H58A Gabriels 75.50 356 P **P** **12 15 14.1 +0.3**
baz=175
H61A Lyndonville 75.50 357 P **P** **12 15 14.8 +1.0**
baz=177,SNR=6.6
H64A Troy 75.55 359 P **P** **12 15 15.2 +1.2**
baz=179
CBKS Cedar Bluff 75.56 335 P **P** **12 15 15.0 +0.7**
baz=159,SNR=6.7
CBKS Cedar Bluff 75.56 335 P **P** **12 15 14.2 -0.1**
H60A Morristown 75.56 357 P **P** **12 15 15.5 +1.4**
baz=176
I51A Listowel 75.58 351 P **P** **12 15 14.4 +0.1**
baz=169
H65A Eastbrook 75.60 0 P **P** **12 15 15.5 +1.2**
baz=180
214A Organ Pipe Nat 75.61 322 P **P** **12 15 16.4 +1.6**
baz=142,SNR=5.2
EMMW East Machias 75.62 1 P **P** **12 15 15.9 +1.6**
H57A Richville 75.63 355 P **P** **12 15 14.8 +0.3**
baz=174
H66A Whiting 75.69 1 P **P** **12 15 15.9 +1.1**
baz=181
H59A Cadyville 75.70 356 P **P** **12 15 15.4 +0.5**
baz=175
LONY Lake Ozonia 75.73 355 P **P** **12 15 15.7 +0.6**
baz=174
FRNY Flat Rock 75.88 356 P **P** **12 15 16.4 +0.5**
FRNY IAmb IAmb 12 15 17.5
comp=Z,17nm,0.9s
T25A Trinidad 75.91 331 P **P** **12 15 17.8 +1.3**
baz=149,SNR=18
T25A Trinidad 75.91 331 IAmb IAmb 12 15 19.3
comp=Z,36nm,1.1s
G63A Kingsbury 76.02 359 P **P** **12 15 17.8 +1.1**
baz=179
H53A Bobcaygeon 76.04 353 P **P** **12 15 17.6 +0.8**
baz=171
G65A Princeton 76.11 1 P **P** **12 15 18.4 +1.3**
baz=181
G62A West of Eustis 76.14 358 P **P** **12 15 18.4 +1.0**
baz=178
G64A Maxfield 76.15 360 P **P** **12 15 18.5 +1.0**
baz=180
PKME Peaks-Kenny Pk 76.17 359 P **P** **12 15 18.8 +1.3**
baz=179
PKME Peaks-Kenny Pk 76.17 359 IAmb IAmb 12 15 19.5

comp=Z,24nm,0.9s
G58A Ormstown 76.22 356 P **P** **12 15 18.8 +1.0**
baz=175
G61A St-Isidore-de- 76.23 358 P **P** **12 15 18.8 +0.8**
baz=177
G57A Newington 76.24 355 P **P** **12 15 18.3 +0.4**
baz=174
SCIA State Center 76.30 341 P **P** **12 15 18.6 +0.2**
baz=158
SPX San Pedro Mart 76.33 320 P **P** **12 15 19.9 +0.6**
PLVO Plevna 76.34 354 P **P** **12 15 19.5 +0.9**
PLVO IAmb IAmb 12 15 19.9
comp=Z,26nm,1.1s
JFWS Jewell Farm 76.48 344 P **P** **12 15 19.4 0.0**
baz=161
W18A Petrified Fore 76.60 326 P **P** **12 15 21.8 +1.3**
baz=144,SNR=8.2
W18A Petrified Fore 76.60 326 IAmb IAmb 12 15 23.1
comp=Z,31nm,1.2s
F63A Nahmakanta, Br 76.61 360 P **P** **12 15 21.4 +1.4**
baz=179
F63A Nahmakanta, Br 76.61 360 IAmb IAmb 12 15 22.3
comp=Z,34nm,1.0s
KOWA Kowa 76.74 64 P **P** **12 15 22.1 +0.7**
comp=Z,14nm,0.8s,baz=234,slow=5.3,SNR=30
KOWA sP **sP** **12 16 04.2 +1.6**
comp=Z,2.5nm,0.4s,baz=242,slow=0.9,SNR=2.4
KOWA Kowa 76.74 64 P **P** **12 15 21.6 +0.1**
KOWA IAmb IAmb 12 15 23.3
comp=Z,23nm,0.9s
F64A Sherman 76.76 0 P **P** **12 15 21.9 +1.0**
baz=180,SNR=5.4
F64A Sherman 76.76 0 P **P** **12 15 22.3 +1.5**
F64A IAmb IAmb 12 15 23.1
comp=Z,30nm,0.9s
G54A Lake Saint Pet 76.80 353 P **P** **12 15 21.5 +0.4**
baz=172
KSCO Kaye Shedlock' 76.81 333 P **P** **12 15 22.6 +1.1**
baz=150,SNR=5.8
F62A Pittston Farm, 76.81 359 P **P** **12 15 22.5 +1.3**
baz=179
F62A Pittston Farm, 76.81 359 IAmb IAmb 12 15 22.9
comp=Z,35nm,1.1s
LMN Caledonia Moun 76.82 3 IAmb IAmb 12 15 23.0
comp=Z,30nm,1.0s
X16A Lo Mia Camp, P 76.86 325 IAmb IAmb 12 15 24.8
comp=Z,17nm,1.1s
K38A Parkersburg 76.87 342 IAmb IAmb 12 15 22.2
comp=Z,19nm,0.8s
SDCO Great Sand Dun 76.88 331 P **P** **12 15 23.3 +1.2**
baz=148,SNR=13
F61A St Evariste 76.91 358 P **P** **12 15 23.0 +1.3**
baz=178
F60A Warwick 76.94 357 P **P** **12 15 22.7 +0.9**
baz=177
TSUM Tsumeb 77.01 105 P **P** **12 15 24.4 +1.2**
Y14A Wickenburg 77.27 323 P **P** **12 15 25.1 +1.1**
E60A Ste Agathe de 77.32 358 P **P** **12 15 24.7 +0.7**
baz=177
E64A Bridgewater 77.32 0 P **P** **12 15 24.9 +0.9**
baz=180,SNR=5.4
E63A Oxbow 77.32 0 P **P** **12 15 25.3 +1.3**
baz=180
BGNE Belgrade 77.33 338 P **P** **12 15 24.7 +0.5**
baz=154
ALGO Algonquin Park 77.35 353 P **P** **12 15 24.3 +0.2**
baz=172
E61A Lac Etchemin 77.35 359 P **P** **12 15 25.0 +0.8**
baz=178
E58A La Victoria 77.40 357 P **P** **12 15 25.0 +0.6**
baz=176
S22A 4UR Ranch, Cre 77.44 330 P **P** **12 15 26.7 +1.4**
baz=147,SNR=10
E57A Chemin Saint G 77.48 356 P **P** **12 15 25.4 +0.5**
baz=175
E62A Clayton Lake 77.53 359 P **P** **12 15 26.2 +1.0**
baz=179
E62A Clayton Lake 77.53 359 IAmb IAmb 12 15 27.3
comp=Z,31nm,0.9s
E56A St. Veronique 77.67 355 P **P** **12 15 26.1 +0.1**
baz=174
WUAZ Wupatki 77.71 325 P **P** **12 15 28.1 +1.5**
baz=143,SNR=14
WUAZ Wupatki 77.71 325 P **P** **12 15 28.1 +1.5**
WUAZ IAmb IAmb 12 15 29.5
comp=Z,20nm,1.1s
MVCO Mesa Verde 77.74 328 P **P** **12 15 28.0 +1.2**
baz=146,SNR=14
MVCO Mesa Verde 77.74 328 P **P** **12 15 27.6 +0.8**
MVCO IAmb IAmb 12 15 29.3
comp=Z,25nm,1.2s
Q24A Divide 77.77 332 P **P** **12 15 28.2 +1.1**
baz=148,SNR=9.6
D60A Saint Jean D'O 77.85 358 P **P** **12 15 27.9 +1.1**
baz=178
RMX La Rumorosa 77.86 320 P **P** **12 15 28.6 +1.1**
IKP In-Ko-Pah, Jac 77.92 320 P **P** **12 15 28.8 +1.1**
baz=140,SNR=5.7
D63A Stockholm 77.94 0 P **P** **12 15 27.8 +0.4**
baz=180
D62A Allapoint, All 77.98 360 P **P** **12 15 28.0 +0.4**
baz=179,SNR=7.5
D57A Chemin Vers le 78.07 356 P **P** **12 15 28.6 +0.4**
baz=175,SNR=8.2
D58A Chemin du LacG 78.10 357 P **P** **12 15 28.8 +0.5**
baz=176,SNR=8.9
D56A ZEC Mazanza, M 78.16 356 P **P** **12 15 29.0 +0.4**
baz=174
D55A Sainte-Anne-du 78.18 355 P **P** **12 15 28.7 0.0**
baz=174,SNR=5.2
BAR Barrett 78.25 320 P **P** **12 15 30.9 +1.3**
MONP2 Monument Peak 78.27 320 P **P** **12 15 30.9 +1.0**
baz=140
BC3 Big Chuckawall 78.33 321 P **P** **12 15 31.4 +1.4**
baz=140,SNR=8.0
LATQ La Tuque 78.38 357 P **P** **12 15 31.0 +1.1**
baz=176
IRM Iron Mountain 78.55 322 P **P** **12 15 32.5 +1.3**
baz=141,SNR=6.9
BOSA Boshof 78.62 116 P **P** **12 15 32.1 +0.2**
comp=Z,8.0nm,0.9s,baz=266,slow=3.7,SNR=8.4
BOSA Boshof 78.62 116 IAmb IAmb 12 15 33.4
comp=Z,20nm,1.2s
ISCO Idaho Springs 78.67 332 P **P** **12 15 33.0 +1.0**
baz=148,SNR=11
PFO Pinyon Flats O 78.84 321 P **P** **12 15 34.3 +1.4**
baz=140,SNR=6.5
PFO Pinyon Flats O 78.84 321 P **P** **12 15 29.5 -3.4**
BELC Belle Mtn. Jos 78.89 321 P **P** **12 15 34.6 +1.4**
baz=140
ECSD EROS Data Cent 78.96 340 P **P** **12 15 33.0 -0.1**
baz=156,SNR=15
ECSD EROS Data Cent 78.96 340 IAmb IAmb 12 15 34.3
comp=Z,23nm,0.8s
MURC Murrieta 79.23 320 P **P** **12 15 36.3 +1.4**
baz=139
GMRC Granite Mounta 79.31 322 P **P** **12 15 36.8 +1.4**
baz=140,SNR=8.9
VLDQ Val d'Or 79.43 354 IAmb IAmb 12 15 36.9
comp=Z,24nm,1.1s
KNB Kanab 79.61 325 P **P** **12 15 38.3 +1.2**
HEC Hector,Ludlow 79.70 322 P **P** **12 15 38.6 +1.2**
baz=140,SNR=6.3
N23A Red Feather La 79.73 332 P **P** **12 15 38.7 +1.0**
baz=148,SNR=9.1
N23A Red Feather La 79.73 332 IAmb IAmb 12 15 40.2
comp=Z,19nm,1.1s
CIS Catalina Islan 79.75 319 P **P** **12 15 39.3 +1.6**
baz=138
PHWY Pilot Hill 79.88 333 P **P** **12 15 38.4 -0.2**
PHWY IAmb IAmb 12 15 40.7
comp=Z,21nm,1.1s
TUQ Turquoise Moun 79.94 322 P **P** **12 15 40.2 +1.3**
baz=140
BFSC Mount Baldy Ra 79.96 320 P **P** **12 15 40.2 +1.3**
baz=139
O20A White River Ci 80.04 330 P **P** **12 15 40.4 +1.1**
baz=146,SNR=10
O20A White River Ci 80.04 330 IAmb IAmb 12 15 42.4
comp=Z,47nm,1.5s
CCUT Cedar City 80.29 325 P **P** **12 15 41.5 +0.8**
GSC Goldstone, Bar 80.31 322 P **P** **12 15 42.0 +1.2**
baz=140,SNR=6.5
GSC Goldstone, Bar 80.31 322 P **P** **12 15 40.9 +0.2**
SUSD Miller 80.32 338 P **P** **12 15 40.4 -0.1**
baz=154
LSQQ Lebel-sur-Quev 80.32 354 P **P** **12 15 41.1 +0.7**
baz=173

SHPR	Sheep Range	80.37	324	P	P	12 15 42.1	+0.9
TOA0	Torodi Ar. Sit	80.41	68	IAmb	IAmb	12 15 43.2	
	comp=Z,36nm,1.1s						
TORD	Torodi Ar. Bea	80.41	68	P	P	12 15 42.0	+0.4
	comp=Z,24nm,0.9s,baz=263,slow=5.2,SNR=60						
TORD				pP	pP	12 16 10.8	-0.2
	comp=Z,2.6nm,0.6s,baz=279,slow=5.7,SNR=2.4						
TORD				sP	sP	12 16 24.1	+0.8
	comp=Z,5.7nm,0.7s,baz=282,slow=6.4,SNR=3.8						
TORD				LR	LR	12 49 43.8	
	comp=Z,19nm,18.7s,baz=75,slow=34						
TORD	Torodi Ar. Bea	80.41	68	P	P	12 15 41.9	+0.3
SHOC	Shoshone, Teco	80.48	322	P	P	12 15 42.7	+1.1
	baz=140						
P17A	Butcher Ranch,	80.60	328		pP	12 16 13.7	+2.0
EDW2	Edwards Air Fo	80.63	321	P	P	12 15 43.2	+0.8
	baz=139,SNR=6.0						
DRLN	Deer Lake	80.75	7	IAmb	IAmb	12 15 44.1	
	comp=Z,34nm,1.0s						
RWWY	Rawlins	80.91	332	P	P	12 15 42.8	-1.2
CHGQ	Chibougamau	80.98	356	P	P	12 15 44.4	+0.5
	baz=175						
PRN	Pahroc Range	81.02	324	P	P	12 15 45.8	+1.3
PRN				IAmb	IAmb	12 15 47.4	
	comp=Z,19nm,1.0s						
MATQ	Matagami	81.08	354	P	P	12 15 44.5	+0.2
	baz=172						
FURC	Furnace Creek,	81.22	322	P	P	12 15 46.7	+1.3
	baz=140,SNR=6.2						
MPMC	Manual Prospec	81.24	322	P	P	12 15 46.8	+0.9
	baz=139,SNR=5.6						
TPNV	Topopah Spring	81.27	323	P	P	12 15 47.3	+1.4
	baz=140,SNR=13						
K22A	Casper	81.44	333	P	P	12 15 47.7	+1.0
	baz=148,SNR=17						
ISA	Isabella, Lake	81.47	321	P	P	12 15 48.0	+1.1
	baz=138,SNR=7.8						
EYMN	Ely	81.52	345	P	P	12 15 47.1	+0.4
	baz=160						
EYMN	Ely	81.52	345	IAmb	IAmb	12 15 47.6	
	comp=Z,26nm,1.1s						
PKM	Mcpherson Peak	81.63	320	P	P	12 15 49.2	+1.3
	baz=138,SNR=6.9						
RSSD	Black Hills	81.76	335	P	P	12 15 49.0	+0.6
	baz=150						
RSSD	Black Hills	81.76	335	P	P	12 15 49.2	+0.9
RSSD				IAmb	IAmb	12 15 50.1	
	comp=Z,17nm,1.1s						
RSSD					pP	12 16 19.1	+1.3
CWC	Cottonwood Cre	81.84	322	P	P	12 15 50.1	+1.2
	baz=139						
GRAC	Grapevine Rang	81.89	322	P	P	12 15 50.4	+1.4
	baz=139						
VES	Vestal, Richgr	81.94	321	P	P	12 15 50.2	+1.0
	baz=138,SNR=6.5						
R11A	Troy Canyon, C	82.01	324	P	P	12 15 51.1	+1.3
	baz=141,SNR=16						
SMMC	Simmler	82.05	320	P	P	12 15 51.4	+1.6
	baz=137						
DUG	Dugway, Tooele	82.13	327	P	P	12 15 51.2	+0.9
	baz=143,SNR=9.2						
TIN	Tinemaha, Big	82.38	322	P	P	12 15 53.0	+1.4
	baz=139						
B35A	Bob, Littlefor	82.43	343	IAmb	IAmb	12 15 52.4	
	comp=Z,25nm,1.1s						
PAGB	Antelope Grade	82.49	320	P	P	12 15 54.1	+2.0
HWUT	Hardware Ranch	82.69	329	IAmb	IAmb	12 15 55.0	
	comp=Z,19nm,1.2s						
BW06	Boulder Array	82.77	331	P	P	12 15 53.8	+0.1
	baz=145,SNR=8.9						
PDAR	Pinedale Array	82.77	331	P	P	12 15 53.9	+0.1
	comp=Z,9.1nm,1.1s,baz=145,slow=3.6,SNR=32						
PDAR				pP	pP	12 16 24.1	+0.7
	comp=Z,2.9nm,1.0s,baz=99,slow=7.7,SNR=4.3						
PDAR	Pinedale Array	82.77	331	P	P	12 15 53.2	-0.5
AGMN	Agassiz Nation	82.92	342	P	P	12 15 54.0	0.0
	baz=157						
MLAC	Mammoth, Mammo	83.13	322	P	P	12 15 57.1	+1.4
	baz=138						
OMMB	Old Mammoth Mi	83.21	322	IAmb	IAmb	12 15 58.4	
	comp=Z,15nm,1.1s						
NVAR	Mina Array Bea	83.45	323	P	P	12 15 58.2	+0.9
	comp=Z,3.8nm,0.9s,baz=156,slow=6.3,SNR=21						
NVAR				sP	sP	12 16 40.3	+1.2
	comp=Z,1.4nm,0.8s,baz=162,slow=7.8,SNR=3.3						
NVAR	Mina Array Bea	83.45	323	P	P	12 15 57.2	-0.1
ELK	Elko	83.70	326	P	P	12 15 59.1	+0.6
	comp=Z,6.1nm,1.0s,baz=139,slow=3.7,SNR=18						
ELK				pP	pP	12 16 29.5	+1.3
	comp=Z,2.9nm,1.0s,baz=169,slow=11,SNR=3.4						
ELK	Elko	83.70	326	pP	pP	12 16 29.6	+1.5
WAKR	Walker	84.10	322	IAmb	IAmb	12 16 03.5	
	comp=Z,17nm,1.2s						
IMW	Indian Meadow	84.28	331	IAmb	IAmb	12 16 03.3	
	comp=Z,16nm,1.2s						
FLWY	Flagg Ranch	84.33	331	IAmb	IAmb	12 16 03.8	
	comp=Z,15nm,1.1s						
YERR	Yerington	84.35	323	P	P	12 16 01.9	+0.1
YERR				IAmb	IAmb	12 16 04.3	
	comp=Z,15nm,1.2s						
H17A	Grant Village	84.53	331	P	P	12 16 04.3	+1.6
	baz=145						
RLMT	Red Lodge	84.60	332	P	P	12 16 03.7	+0.8
	baz=146,SNR=5.7						
PNTR	Pine Nut	84.62	323	IAmb	IAmb	12 16 05.7	
	comp=Z,15nm,1.0s						
ULM	Lac du Bonnet	84.72	343	P	P	12 16 02.2	-0.9
	comp=Z,20nm,1.1s,baz=164,slow=4.7,SNR=7.9						
ULM	Lac du Bonnet	84.72	343	IAmb	IAmb	12 16 03.9	
	comp=Z,17nm,1.0s						
LAO	LASA Array	84.75	335	P	P	12 16 04.0	+0.6
	baz=148						
LAO	LASA Array	84.75	335	IAmb	IAmb	12 16 05.0	
	comp=Z,16nm,1.0s						
PAHR	Pah Rah Range	84.97	323	IAmb	IAmb	12 16 07.4	
	comp=Z,20nm,1.3s						
YHH	Holmes Hill	84.97	331	P	P	12 16 05.5	+0.6
YHL	Hebgen Lake	85.16	331	P	P	12 16 06.8	+1.0
HLID	Hailey	85.52	328	P	P	12 16 08.6	+1.0
	baz=142,SNR=34						
HLID	Hailey	85.52	328	IAmb	IAmb	12 16 09.9	
	comp=Z,20nm,1.1s						
DGMT	Dagmar	85.58	337	P	P	12 16 08.3	+0.8
	baz=150,SNR=6.9						
SCHQ	Schefferville	85.75	1	P	P	12 16 08.3	+0.1
	comp=Z,9.8nm,0.8s,baz=156,slow=3.2,SNR=3.9						
SCHQ	Schefferville	85.75	1	IAmb	IAmb	12 16 09.1	
	comp=Z,26nm,1.1s						
BOZ	Bozeman (W)	85.94	331	P	P	12 16 09.8	+0.3
	baz=144,SNR=6.9						
ORV	Oroville	85.96	322	IAmb	IAmb	12 16 12.0	
	comp=Z,27nm,1.5s						
MFID	Camas Ranch	86.05	327	IAmb	IAmb	12 16 12.1	
	comp=Z,13nm,1.2s						
O03E	Paynes Creek	86.66	322	P	P	12 16 13.2	+0.1
	baz=137						
MOD	Modoc Plateau	87.06	324	IAmb	IAmb	12 16 17.2	
	comp=Z,15nm,1.1s						
O02D	Mt. Diablo Mer	87.09	321	P	P	12 16 15.8	+0.6
	baz=136						
EGMT	Eagleton	87.19	334	P	P	12 16 15.4	-0.1
	baz=146,SNR=6.0						
EGMT	Eagleton	87.19	334	IAmb	IAmb	12 16 16.7	
	comp=Z,22nm,1.1s						
KMRM	Mail Ridge	87.62	321	P	P	12 16 16.2	-1.5
N02D	Trinity Center	87.62	322	P	P	12 16 17.8	+0.1
	baz=136						
M04C	Macdoel	87.75	323	P	P	12 16 18.9	+0.5
	baz=137,SNR=12						
BMO	Blue Mountains	87.83	328	P	P	12 16 18.0	-0.6
MSO	Missoula	87.89	331	P	P	12 16 19.7	+0.8
	baz=142						
MSO	Missoula	87.89	331	IAmb	IAmb	12 16 21.9	
	comp=Z,14nm,1.4s						
M02C	Callahan	88.00	322	P	P	12 16 20.2	+0.7
	baz=136						
I07A	Izee	88.28	326	IAmb	IAmb	12 16 23.2	
	comp=Z,19nm,1.2s						
L04D	Klamath Falls	88.31	323	P	P	12 16 21.2	+0.2
	baz=136						
K04D	Chiloquin, OR	88.32	324	P	P	12 16 21.6	+0.6
	baz=137						
J05D	Fort Rock, OR	88.54	324	P	P	12 16 22.8	+0.7
	baz=137,SNR=11						
JTMT	Jette	88.76	331	P	P	12 16 22.7	-0.3
JTMT				IAmb	IAmb	12 16 24.8	
	comp=Z,11nm,1.1s						

TAM	Tamanrasset	88.90	63	P	P	12 16 23.1	-1.2
I05D	Terrebonne, OR	89.36	325	P	P	12 16 26.9	+1.1
	baz=137,SNR=7.4						
I04A	Tendick Farm,	89.50	324	P	P	12 16 27.8	+1.4
	baz=136						
G05D	Wamic, OR	90.01	326	P	P	12 16 30.2	+1.4
	baz=137						
HAWA	Hanford	90.02	327	IAmb	IAmb	12 16 30.7	
	comp=Z,18nm,1.2s						
H04A	Detroit Lake	90.03	325	IAmb	IAmb	12 16 30.3	
	comp=Z,16nm,1.1s						
D08A	Wollman Farm,	90.24	328	IAmb	IAmb	12 16 30.8	
	comp=Z,14nm,1.5s						
I02D	Swisshome	90.45	324	P	P	12 16 32.2	+1.5
	baz=135						
C09A	Chrisman Ranch	90.51	329	IAmb	IAmb	12 16 33.2	
	comp=Z,21nm,1.4s						
G03D	McMinnville, O	90.94	325	P	P	12 16 34.0	+1.0
	baz=136						
LTY	Liberty	91.19	327	IAmb	IAmb	12 16 35.6	
	comp=Z,9.0nm,1.1s						
ESDC	Sonseca Array	92.51	44	P	P	12 16 40.8	+0.2
	comp=Z,1.7nm,1.1s,baz=226,slow=6.0,SNR=5.2						
D03D	Eldon	92.52	326	P	P	12 16 40.6	+0.3
	baz=136						
B05A	Bryant	92.58	327	P	P	12 16 40.8	+0.2
	baz=136						
BRTR	Keskin Array B	117.85	59	PKP	PKiKP	12 22 15.5	0.0
	comp=Z,0.6nm,0.8s,baz=230,slow=1.1,SNR=3.7						
ASAR	Alice Springs	121.33	204	PKP	PKPdf	12 22 21.4	-1.2
	comp=Z,0.5nm,0.5s,baz=136,slow=1.6,SNR=14						
ASAR				pPKP	pPKPdf	12 22 51.8	-1.9
	comp=Z,0.4nm,0.5s,baz=132,slow=1.6,SNR=2.9						
ASAR				PKKPbc	PKKPbc	12 32 23.5	-0.1
	comp=Z,0.6nm,0.7s,baz=339,slow=3.4,SNR=7.1						
ASAR	Alice Springs	121.33	204	PKPdf	PKPdf	12 22 21.2	-1.4
WRA	Warramunga Arr	124.58	206	PKP	PKPdf	12 22 27.8	-1.2
	comp=Z,1.1nm,0.5s,baz=168,slow=1.7,SNR=52						
WRA				pPKP	pPKPdf	12 22 59.8	-0.2
	comp=Z,1.1nm,0.4s,baz=167,slow=1.7,SNR=6.2						
WRA				PKKPbc	PKKPbc	12 32 10.8	-0.1
	comp=Z,0.4nm,0.8s,baz=337,slow=4.2,SNR=5.9						
KLMR	Klimovskoe	125.43	35	*e*PKPdf	PKPdf	12 22 28.5	-0.6
KLMR				AMP		12 22 30.7	
	comp=Z,16nm,1.4s						
SEY	Seymchan	139.08	333	PKP	PKPdf	12 22 53.9	-0.9
	comp=Z,4.1nm,0.9s,baz=358,slow=4.7,SNR=4.5						
YAK	Yakutsk	147.04	344	PKPbc	PKPbc	12 23 10.8	-0.2
	comp=Z,12nm,0.7s,baz=108,slow=0.3,SNR=13						
YAK	Yakutsk	147.04	344		PKPdf	12 23 08.6	-0.2
HYB	Hyderabad	147.07	107	*i* PKP	PKPbc	12 23 12.0	-0.5
KURBB	Kurchatov Arra	148.81	42	PKPbc	PKPdf	12 23 13.2	+1.2
	comp=Z,9.7nm,1.0s,baz=298,slow=3.0,SNR=20						
KURBB				pPKPbc	pPKPbc	12 23 45.0	-1.9
	comp=Z,3.9nm,1.0s,baz=298,slow=3.3,SNR=4.3						
KURK	Kurchatov	148.83	42	PKPdf	PKPdf	12 23 13.1	+1.1
KSH	Kashi	150.01	64	PKPbc	PKPdf	12 23 16.0	+1.5
KSH				sPKP		12 23 47.1	
KSH				PP	PP	12 26 57.4	+2.1
KSH				SKS	SKSdf	12 30 12.8	+0.7
KSH				AMB	AMB		
	comp=Z,130nm,5.0s						
ZALV	Zalesovo Beam	150.30	32	PKPbc	PKPbc	12 23 19.9	+0.3
	comp=Z,23nm,0.9s,baz=298,slow=3.2,SNR=59						
ZALV				pPKPbc	pPKPbc	12 23 49.5	-1.1
	comp=Z,5.5nm,0.5s,baz=306,slow=3.4,SNR=4.9						
MKAR	Makanchi Array	152.69	47	PKPbc	PKPbc	12 23 25.4	0.0
	comp=Z,9.7nm,1.0s,baz=301,slow=2.6,SNR=47						
MKAR				PKPab	PKPab	12 23 37.2	+0.6
	comp=Z,5.2nm,0.7s,baz=295,slow=2.7,SNR=21						
MKAR				pPKPbc	pPKPbc	12 23 55.9	-0.5
	comp=Z,6.5nm,1.0s,baz=299,slow=2.5,SNR=5.0						
MKAR				PP	PP	12 27 12.1	+2.0
	comp=Z,0.8nm,0.9s,baz=280,slow=3.6,SNR=3.8						
MKAR	Makanchi Array	152.69	47		PKPbc	12 23 24.8	-0.6
WMQ	Urumqi	157.40	50	*e*PKP	PKPdf	12 23 23.2	-1.6
WMQ				LR	LR		
	comp=Z,220nm,29.0s						
WMQ				LR	LR		
	comp=Z,530nm,28.9s						
USRK	Ussuriysk Ar.	159.38	315	PKPab	PKPab	12 24 06.0	+0.7
	comp=Z,3.2nm,0.9s,baz=86,slow=3.6,SNR=5.1						
CMAR	Chiang Mai Arr	162.89	135	PKP	PKPdf	12 23 30.5	-1.1
	comp=Z,0.3nm,0.3s,baz=258,slow=3.7,SNR=4.8						
CMAR	Chiang Mai Arr	162.89	135		PKPdf	12 23 31.8	+0.3
SONM	Songino Array	162.99	12	PKPab	PKPab	12 24 21.1	+0.1
	comp=Z,2.2nm,0.8s,baz=330,slow=4.3,SNR=8.0						
SONM	Songino Array	162.99	12		PKPab	12 24 21.3	+0.3
CN2	Changchun	163.35	323	*e*PKP	PKPdf	12 23 30.7	-0.5
GTA	Gaotai	167.45	46	PKP	PKPdf	12 23 36.0	+1.0
GTA				pPKP	pPKPdf	12 24 07.2	+1.0
GTA				PKPab	PKPab	12 24 41.9	+0.8
HHC	Hu-ho-hao-te	170.43	360	*e*PKP	PKPdf	12 23 36.9	+0.1
LZH	Lanzhou	171.98	51	PKP	PKPdf	12 23 38.5	+0.7
LZH				sPKP		12 24 16.1	
NJ2	Nanjing	173.72	279	*e*PKP	PKPdf	12 23 39.4	+1.0

*JMA **06** 12:06:28.6±0.3,34.08N×136.91E,h360km±3km,M3.3*
*IDC **06** 12:06:29.3±0.6,34.04N×136.85E,h358km±6km,mb3.3/17, mb1 3.4/23,mb1mx3.3/60,mbtmp4.0/23,Error ellipse: s-maj=12.2km s-min=9.6km az=74.0*
*NEIC **06** 12:06:29.2±1.5,34.10N±0.08×136.87E±0.10, h354km±7km,mb4.0/15,Error ellipse: s-maj=12.3km s-min=11.3km az=125.0*

ISC 06 12:06:29.1±0.7,34.08N±0.07×136.87E±0.06,h354km±5km, n72,σ0s88/79,mb3.7/23,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	Ise	0.34	336	P	Pn	12 07 14.1	+0.6
TTO2	TONANKAI O.B.S	0.37	159	P	Pn	12 07 14.1	+0.8
TTO1	TONANKAI O.B.S	0.47	189	P	Pn	12 07 14.1	+0.6
JKN2	Miekihoku	0.52	288	P	Pn	12 07 14.1	+0.3
TK02	Tokai 2	0.75	100	P	Pn	12 07 15.0	+0.8
JWY	Kouya	1.07	278	P	Pn	12 07 16.0	+0.3
JWY				*e*S	S	12 07 52.6	-0.4
JTNC	Tanabenakahech	1.08	256	P	Pn	12 07 15.8	+0.1
JTNC				*e*S	S	12 07 52.2	-0.8
INU	Inuyama	1.27	5	Pn	Pn	12 07 15.9	-0.5
JYTA	Yamagatataniai	1.51	356	P	Pn	12 07 18.4	+0.8
JGF	Kuroka	1.57	15		Pn	12 07 18.6	+0.6
JGF					S	12 07 58.7	+1.4
JWT	Wachi	1.70	315	P	Pn	12 07 19.4	+0.6
JWT				eS	S	12 07 58.5	-0.2
JWT	Wachi	1.70	315	Pn	Pn	12 07 19.1	+0.4
JMN	Monobe	2.51	263	Pn	Pn	12 07 24.7	0.0
JRY	Ryogami san	2.55	40	P	Pn	12 07 25.6	+0.7
JHJ	Hachijo jima 2	2.61	111	P	Pn	12 07 26.3	+0.8
	5.7nm,0.3s,baz=326,slow=23,SNR=6.3						
JHJ				S	S	12 08 13.3	+2.5
	23nm,0.3s,baz=73,slow=22,SNR=7.5						
MAJO	Matsushiro	2.69	24		Pn	12 07 26.5	+0.5
MAT	Matsushiro	2.69	24	P	Pn	12 07 26.2	+0.2
MAT				S	S	12 08 11.0	-0.8
MAT	Matsushiro	2.69	24	P	Pn	12 07 26.3	+0.2
MAT				*e*S	S	12 08 11.4	-0.4
MJAR	Matsushiro Arr	2.69	24	P	Pn	12 07 26.6	+0.6
	1.0nm,0.3s,baz=191,slow=9.1,SNR=46						
MJAR				S	S	12 08 12.1	+0.3
	0.1nm,0.3s,baz=316,slow=32,SNR=5.4						
MJAR	Matsushiro Arr	2.69	24		Pn	12 07 25.9	-0.1
JAG	Ashikaga	3.15	41	P	Pn	12 07 29.0	-1.1
JAG				S	S	12 08 16.4	-2.8
JHS	Saijyo	3.23	287	P	Pn	12 07 31.6	+0.7
JHS	Saijyo	3.23	287		Pn	12 07 30.9	0.0
BSO1	Boso 1	3.44	79	S	S	12 08 20.9	-2.3
JYT	Yasato	3.46	51		Pn	12 07 31.5	-1.5
JSD	Sado	4.10	16	Pn	Pn	12 07 39.8	+0.5
JMM	Marumori	4.94	39		Pn	12 07 47.2	-0.9
JNU	Nakatsue	5.09	261	P	Pn	12 07 49.8	-0.1
	2.0nm,0.3s,baz=88,slow=3.3,SNR=17						
JNU	Nakatsue	5.09	261		Pn	12 07 50.0	+0.1
JSU	Suzuyama	5.98	246	Pn	Pn	12 07 59.9	0.0
JTM	Tenmabayashi	7.48	25	Pn	Pn	12 08 16.5	-0.5
KSRS	Korea Array	8.01	297	P	Pn	12 08 24.8	+1.4
	1.2nm,0.3s,baz=113,slow=12,SNR=27						
KSAR	Wonju Array Be	8.04	297	Pn	Pn	12 08 24.3	+0.7
KS19	Wonju Array Si	8.07	298	Pn	Pn	12 08 24.6	+0.6
ERM	Erimo	9.34	30	Pn	Pn	12 08 38.7	-0.3
USRK	Ussuriysk Ar.	10.79	341	P	P	12 08 57.5	+0.6
	baz=148,slow=10,SNR=62						
USA0B	Ussuriysk Arra	10.79	341		P	12 08 57.3	+0.4
ASAJ	Asahikawa	10.96	22	P	P	12 08 58.8	0.0
	0.9nm,0.3s,baz=255,slow=13,SNR=11						
YSS	Yuzh-Sakhalins	13.61	17		Pn	12 09 29.1	-0.3
SONM	Songino Array	26.60	310	P	P	12 11 37.1	+0.8
	0.6nm,0.3s,baz=134,slow=8.5,SNR=3.6						
CMAR	Chiang Mai Arr	37.16	255	P	P	12 13 07.5	-0.1
	1.6nm,0.4s,baz=47,slow=8.1,SNR=9.7						
ZALV	Zalesovo Beam	41.27	315	P	P	12 13 41.2	+0.4
	0.7nm,0.4s,baz=101,slow=7.5,SNR=2.4						
MK31	Makanchi Array	42.62	304	P	P	12 13 52.5	+0.7
MKAR	Makanchi Array	42.62	304	P	P	12 13 51.9	+0.1
	1.4nm,0.6s,baz=86,slow=10.0,SNR=12						
MKAR	Makanchi Array	42.62	304	P	P	12 13 51.6	-0.2
KURK	Kurchatov	44.91	310	P	P	12 14 09.4	-0.2
KURBB	Kurchatov Arra	44.97	310	P	P	12 14 10.1	0.0
	1.2nm,0.5s,baz=90,slow=6.8,SNR=13						
KNRA	Kununurra	50.08	190	P	P	12 14 48.3	-1.0
FITZ	Fitzroy Crossi	52.98	193	P	P	12 15 11.0	+0.4
FITZ				IAmb	IAmb	12 15 29.8	
	comp=Z,8.3nm,1.4s						
WB0	Warramunga Arr	53.60	183	P	P	12 15 14.0	-1.0
WRAB	Tennant Creek	53.77	183	P	P	12 15 14.5	-1.7
WRAB				IAmb	IAmb	12 15 25.4	
	comp=Z,8.1nm,1.4s						
WB2	Warramunga Arr	53.78	183	P	P	12 15 14.5	-1.8
WB2				IAmb	IAmb	12 15 17.2	
	comp=Z,5.6nm,1.1s						
WRA	Warramunga Arr	53.78	183	P	P	12 15 14.7	-1.6
	comp=Z,0.9nm,0.5s,baz=0.1,slow=7.6,SNR=24						
WR0	Warramunga Arr	53.79	183	P	P	12 15 15.1	-1.3
WR0				IAmb	IAmb	12 15 27.0	
	comp=Z,12nm,1.5s						
ILAR	Eielson Array	53.95	31	P	P	12 15 17.1	+0.2
	comp=Z,0.5nm,0.6s,baz=266,slow=4.9,SNR=9.0						
ABKAR	Akbulak array	57.02	310	P	P	12 15 38.6	-0.2
ABKAR	Akbulak array	57.02	310	P	P	12 15 38.8	-0.1
ABKAR				IAmb	IAmb	12 15 39.4	
	comp=Z,1.4nm,0.7s						
ASAR	Alice Springs	57.50	183	P	P	12 15 42.0	-0.5
	comp=Z,0.5nm,0.6s,baz=357,slow=5.8,SNR=8.8						
EPYK	Eagle Plains	57.90	28	P	P	12 15 46.6	+1.8
EPYK				IAmb	IAmb	12 15 47.0	
	comp=Z,5.4nm,0.6s						
INK	Inuvik	58.67	26	P	P	12 15 50.4	+0.5
	comp=Z,3.7nm,1.0s,baz=299,slow=7.1,SNR=6.0						
INK	Inuvik	58.67	26	IAmb	IAmb	12 15 57.5	
	comp=Z,20nm,1.5s						
EUNU	Eureka	63.62	8	P	P	12 16 23.3	+0.6
EUNU				IAmb	IAmb	12 16 36.1	
	comp=Z,7.4nm,1.4s						
ARCES	ARCESS Array B	65.43	339	P	P	12 16 34.3	-0.2
	comp=Z,1.3nm,0.6s,baz=52,slow=8.1,SNR=5.9						
FINES	FINESS Array B	69.66	331	P	P	12 17 00.4	-0.3
	comp=Z,1.4nm,0.4s,baz=56,slow=6.2,SNR=16						
AKASG	Malin Array Be	74.31	321	P	P	12 17 27.8	-0.4
	comp=Z,0.5nm,0.3s,baz=51,slow=5.3,SNR=2.1						
AKASG	Malin Array Be	74.31	321	IAmb	IAmb	12 17 29.0	
	comp=Z,0.6nm,0.8s						
HFS	Hagfors	75.19	334	P	P	12 17 32.4	-0.7
	comp=Z,2.1nm,0.4s,baz=69,slow=5.4,SNR=7.0						
NB2	NORSAR Subarra	75.42	336	P	P	12 17 34.3	-0.1
	comp=Z,1.6nm,0.6s,baz=44,slow=5.9						
NOA	NORSAR Array B	75.42	336	P	P	12 17 33.8	-0.6
	comp=Z,0.6nm,0.4s,baz=44,slow=5.5,SNR=3.2						
NVAR	Mina Array Bea	79.72	51	P	P	12 17 59.5	+0.8
	comp=Z,0.5nm,0.6s,baz=290,slow=4.7,SNR=3.6						
PDAR	Pinedale Array	82.36	43	P	P	12 18 12.7	+0.2
	comp=Z,0.5nm,0.7s,baz=298,slow=1.9,SNR=3.0						
GERES	GERESS Array B	83.18	326	P	P	12 18 16.1	-0.2
	comp=Z,0.6nm,0.5s,baz=22,slow=6.3,SNR=4.6						

*REN **06** 12:07:60.0±4.2,40.34N±0.03×119.82W±0.05,h13km±7km, ML2.9/5,Error ellipse: s-maj=6.0km s-min=4.9km az=81.0*
*ANF **06** 12:07:59.5±1.1,40.35N×119.94W,ML3.0/9,Error ellipse: s-maj=10.7km s-min=4.7km az=112.0*
*NEIC **06** 12:08:01.6±1.9,40.28N±0.04×119.89W±0.06,h8km±7km, Error ellipse: s-maj=6.7km s-min=5.1km az=93.0*

ISC 06 12:08:01.1±0.8,40.31N±0.03×119.86W±0.03,h10km,n52, σ1s56/57,Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVA	Winnemucca Val	0.36	176		Pg	12 08 08.0	-0.3
PAHR	Pah Rah Range	0.70	148		Pg	12 08 13.6	-1.1
PEAR	Peavine Mounta	0.70	186		Pg	12 08 14.7	0.0
LOY	Loyalton	0.71	204		Pg	12 08 14.7	-0.1
VPK	Verdi Peak	0.84	189		Pb	12 08 17.9	-0.1
KBF	Kyburz Flat	0.84	199		Pg	12 08 18.1	-0.3
IND	Independence	0.93	201		Pg	12 08 18.8	-0.3
MPK	Martis Peak	1.02	187		Pg	12 08 20.3	-0.4
VCNR	Virginia City	1.02	171		Pg	12 08 20.0	-0.8
PNTR	Pine Nut	1.

AFI				Sn	Sn	12 35 15.5	-8.5		
	30nm,0.3s,baz=228,slow=22,SNR=12								
WRA	**Warramunga Arr**	**49.41**	**258**	P	P	12 42 39.3	+0.2		
	0.2nm,0.4s,baz=97,slow=6.6,SNR=1.7								
ASAR	**Alice Springs**	**49.55**	**253**	P	P	12 42 39.8	-0.4		
	1.6nm,0.6s,baz=88,slow=8.4,SNR=29								
PDAR	**Pinedale Array**	**83.49**	**42**	P	P	12 46 17.4	+0.3		
	0.3nm,0.7s,baz=205,slow=4.0,SNR=2.4								

WEL 06 12:42:32.5, 39°S ±3″ × 177°5E ±°, h219 km ±5 km, M3.0/43, ML2.4/6, MLv3.0/43, Error ellipse: s-maj=0.0km s-min=0.0km az=99.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.11**	**268**	P	Pn	12 43 00.7	-0.3
VRZ				S	S	12 43 20.9	-2.3
PKVZ	**Pokaka**	**0.39**	**116**	P	Pn	12 43 01.5	0.0
PKVZ				S	S	12 43 22.1	-2.2
LREZ	**Lake Rotokare**	**0.51**	**228**	P	Pn	12 43 02.2	+0.4
FWVZ	**Far West T-bar**	**0.53**	**105**	P	Pn	12 43 02.2	0.0
WTVZ	**West Tongariro**	**0.54**	**90**	P	Pn	12 43 02.1	0.0
NGZ	**Ngauruhoe**	**0.55**	**96**	P	Pn	12 43 02.2	+0.1
KRVZ	**Karewarewa**	**0.58**	**88**	P	Pn	12 43 01.9	-0.3
WNVZ	**Wahianoa**	**0.58**	**111**	P	Pn	12 43 02.5	+0.2
HIZ	**Hauiti**	**0.61**	**357**	P	Pn	12 43 01.4	-0.9
NEZ	**North Egmont**	**0.64**	**256**	P	Pn	12 43 02.7	+0.3
NEZ				S	S	12 43 24.9	-0.9
PKE	**Pukeiti**	**0.71**	**264**	P	Pn	12 43 03.1	+0.4
MOVZ	**Moawhango**	**0.72**	**114**	P	Pn	12 43 02.6	-0.2
MOVZ				S	S	12 43 22.9	-3.5
BHHZ	**Black Hill Sta**	**0.98**	**112**	P	Pn	12 43 03.5	-0.6
BHHZ				S	S	12 43 25.6	-3.3
MRHZ	**Matea Rd**	**1.22**	**77**	P	Pn	12 43 05.1	-0.7
BKZ	**Black Stump Fm**	**1.24**	**93**	P	Pn	12 43 05.8	-0.2
BKZ				S	S	12 43 28.7	-3.2
TSZ	**Takapari Road**	**1.25**	**139**	P	Pn	12 43 06.5	+0.6
TSZ				S	S	12 43 30.0	-2.0
KRHZ	**Kereru**	**1.25**	**115**	P	Pn	12 43 06.4	+0.4
KRHZ				S	S	12 43 29.5	-2.6
PNHZ	**Pukenui**	**1.28**	**129**	P	Pn	12 43 06.8	+0.6
MCHZ	**McNeill Hill**	**1.43**	**104**	P	Pn	12 43 08.3	+1.0
POWZ	**Post Office Ro**	**1.44**	**152**	P	Pn	12 43 07.7	+0.4
NMHZ	**Naumai**	**1.48**	**90**	P	Pn	12 43 08.7	+0.8
WPHZ	**Waipukurau**	**1.52**	**129**	P	Pn	12 43 08.7	+0.6
DVHZ	**Dannevirke**	**1.53**	**141**	P	Pn	12 43 08.5	+0.3
MTHZ	**Maungataniwha**	**1.54**	**81**	P	Pn	12 43 08.0	-0.3
MRZ	**Mangatainoka R**	**1.62**	**161**	P	Pn	12 43 09.1	+0.2
PRWZ	**Pori Road**	**1.65**	**150**	P	Pn	12 43 09.9	+0.8
KAHZ	**Kahuranaki**	**1.67**	**114**	P	Pn	12 43 10.3	+0.9
RTZ	**Ruatahuna**	**1.70**	**73**	P	Pn	12 43 09.3	-0.5
OGWZ	**Otaki Gorge**	**1.71**	**173**	P	Pn	12 43 10.2	+0.6
RAHZ	**Arahi**	**1.72**	**84**	P	Pn	12 43 10.2	+0.2
KIW	**Kapiti Island**	**1.74**	**180**	P	Pn	12 43 10.2	+0.2
PRHZ	**Porangahau**	**1.76**	**131**	P	Pn	12 43 10.7	+0.6
PXZ	**Pawanui**	**1.77**	**122**	P	Pn	12 43 10.8	+0.6
TIWZ	**Tintock**	**1.82**	**156**	P	Pn	12 43 11.0	+0.3
HOWZ	**Holdsworth Sta**	**1.84**	**165**	P	Pn	12 43 10.9	+0.1
DUWZ	**D'Urville Isla**	**1.84**	**204**	P	Pn	12 43 11.1	+0.2
URZ	**Urewera**	**1.93**	**64**	P	Pn	12 43 10.0	-1.8
CAW	**Cannon Point**	**1.99**	**176**	P	Pn	12 43 12.5	+0.2
TMWZ	**Te Maipa**	**2.12**	**159**	P	Pn	12 43 13.7	+0.1
TCW	**Tory Channel**	**2.14**	**193**	P	Pn	12 43 14.3	+0.5
KNZ	**Kokohu**	**2.16**	**88**	P	Pn	12 43 14.1	+0.1
WEL	**Wellington**	**2.16**	**183**	P	Pn	12 43 14.1	+0.1
MWZ	**Matawai**	**2.20**	**70**	P	Pn	12 43 13.9	-0.7
RIGZ	**Rimuhau**	**2.27**	**80**	P	Pn	12 43 15.2	0.0
PAWZ	**Paruwai Farm**	**2.29**	**170**	P	Pn	12 43 15.3	-0.1
MHGZ	**Mahia Peninsul**	**2.34**	**92**	P	Pn	12 43 16.3	+0.4
NNZ	**Nelson**	**2.40**	**209**	P	Pn	12 43 16.3	-0.1
TKGZ	**Te Karaka**	**2.41**	**74**	P	Pn	12 43 16.4	-0.1
TUWZ	**Tuamarina**	**2.42**	**197**	P	Pn	12 43 16.9	+0.3
PLWZ	**Palliser**	**2.46**	**174**	P	Pn	12 43 17.0	-0.2
QRZ	**Quartz Range**	**2.49**	**226**	P	Pn	12 43 16.7	-0.7
HAZ	**Te Kaha**	**2.64**	**60**	P	Pn	12 43 17.6	-1.5
CNGZ	**Carnagh Statio**	**2.66**	**77**	P	Pn	12 43 19.2	-0.1
BSWZ	**Blackbirch Sta**	**2.71**	**196**	P	Pn	12 43 20.2	+0.5
THZ	**Tophouse**	**3.04**	**209**	P	Pn	12 43 23.3	-0.4
KHZ	**Kahutara**	**3.45**	**197**	P	Pn	12 43 28.3	0.0
DSZ	**Denniston Nort**	**3.53**	**221**	P	Pn	12 43 28.3	-0.9
GVZ	**Greta Valley S**	**4.09**	**200**	P	Pn	12 43 35.8	-0.2
LTZ	**Lake Taylor**	**4.16**	**208**	P	Pn	12 43 36.4	-0.5
AMCZ	**Amberley**	**4.39**	**202**	P	Pn	12 43 39.5	-0.2
INZ	**Inchbonnie**	**4.45**	**215**	P	Pn	12 43 40.4	0.0
OXZ	**Oxford**	**4.72**	**206**	P	Pn	12 43 42.6	-1.2
OKCZ	**Okains Bay**	**4.80**	**196**	P	Pn	12 43 44.1	-0.7
MQZ	**McQueen's Vall**	**4.88**	**199**	P	Pn	12 43 44.4	-1.3
MHCZ	**Mount Hutt**	**5.07**	**209**	P	Pn	12 43 46.9	-1.3
WACZ	**Wakanui South**	**5.34**	**204**	P	Pn	12 43 50.6	-0.8
RPZ	**Rata Peaks**	**5.42**	**211**	P	Pn	12 43 51.5	-1.1
ARCZ	**Arundel**	**5.57**	**209**	P	Pn	12 43 53.5	-1.0
ODZ	**Otahua Downs**	**6.71**	**207**	P	Pn	12 44 08.6	-0.4
JCZ	**Jackson Bay**	**6.74**	**221**	P	Pn	12 44 07.7	-1.8

*IDC **06** 13:11:50.6±4.1, 36°.62N×71°.52E, h58 km ±35 km, mb3.6/4, mb1 3.7/9, mb1mx3.3/52, mbtmp3.8/9, ML3.4/5, Error ellipse: s-maj=36.1km s-min=23.5km az=178.0*
*NNC **06** 13:12:00.5±5.0, 37°.23N×71°.20E, h101 km ±80 km, mb3.8, mpv4.5, Error ellipse: s-maj=39.5km s-min=29.4km az=172.0*

ISC 06 13:11:54.2±0.7, 36°.76N±0°.06×71°.45E±0°.07, h106 km, n27, σ1°92/33, mb3.8/4, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.64**	**17**	P	**Pn**	**13 13 17.1**	**+1.1**
	SNR=73						
UCH	**Uchtor**	**5.95**	**23**	P	**Pn**	**13 13 21.5**	**+1.3**
	SNR=19						
DHRM	**DHARAMSHALA**	**6.02**	**137**	*e*P	**Pn**	**13 13 23.0**	**+1.9**
DHRM				*e*S	**Sn**	**13 14 27.6**	**-1.3**
DHRM				IAML		13 14 31.9	
	comp=N,73nm,0.3s						
DHRM				IAML		13 14 33.1	
	comp=E,133nm,0.5s						
EKS2	**Erkin-Say**	**6.16**	**16**	P	**Pn**	**13 13 24.4**	**+1.7**
	SNR=38						
AAK	**Ala-Archa**	**6.32**	**21**	P	**Pn**	**13 13 26.9**	**+1.8**
	SNR=40						
AAK	**Ala-Archa**	**6.32**	**21**	⇓P	**Pn**	**13 13 26.6**	**+1.6**
	comp=E,17nm,0.3s						
AAK				⇓S	**Sn**	**13 14 33.6**	**-2.3**
	comp=E,16nm,0.5s						
KK31	**Karatay Array**	**6.38**	**354**	P	**Pn**	**13 13 26.5**	**+0.9**
	comp=E,25nm,0.5s,baz=180,slow=13,SNR=121						
KK31				⇓S	**Sn**	**13 14 33.0**	**-4.0**
	comp=E,5.1nm,0.3s,baz=177,slow=23,SNR=7.4						
KBK	**Karagaybulak**	**6.48**	**24**	P	**Pn**	**13 13 29.1**	**+2.0**
	SNR=8.4						
CHMS	**Chumysh**	**6.73**	**21**	P	**Pn**	**13 13 31.8**	**+1.4**
	SNR=15						
USP	**Ospenovka**	**6.91**	**19**	P	**Pn**	**13 13 33.9**	**+1.0**
	SNR=13						
TKM2	**Tokmak 2**	**6.93**	**26**	P	**Pn**	**13 13 35.0**	**+1.7**
	SNR=38						
TKM2	**Tokmak 2**	**6.93**	**26**	⇓P	**Pn**	**13 13 34.4**	**+1.0**
	comp=E,16nm,0.6s						
TKM2				⇓S	**Sn**	**13 14 48.0**	**-2.7**
	comp=E,4.0nm,0.8s						
SMLA	**Simla**	**7.36**	**138**	*e*P	**Pn**	**13 13 38.6**	**-0.4**
SMLA				*e*S	**Sn**	**13 14 56.4**	**-4.4**
SMLA				IAML		13 15 01.2	
	comp=N,36nm,0.6s						
SMLA				IAML		13 15 01.4	
	comp=E,46nm,0.5s						
GEYT	**Alibeck**	**10.68**	**280**	P	**Pn**	**13 14 22.9**	**-1.2**
	comp=E,0.7nm,0.3s,baz=124,slow=9.9,SNR=9.4						
GEYT				S	**Sn**	**13 16 19.5**	**-2.1**
	comp=E,1.2nm,0.3s,baz=146,slow=16,SNR=4.9						
MKAR	**Makanchi Array**	**12.87**	**35**	P	**Pn**	**13 14 52.5**	**-0.6**
	comp=E,0.1nm,0.3s,baz=221,slow=14,SNR=7.8						
KURBB	**Kurchatov Arra**	**14.76**	**18**	P	**Pn**	**13 15 15.7**	**-1.8**
	comp=E,0.0nm,0.3s,baz=215,slow=11,SNR=5.1						
KURBB	**Kurchatov Arra**	**14.76**	**18**	⇑P	**P**	**13 15 21.0**	**+0.3**
	comp=E,4.5nm,0.8s						
KURK	**Kurchatov**	**14.87**	**18**	⇓P	**P**	**13 15 21.6**	**-0.2**
	comp=E,2.2nm,0.7s						
AB31	**Akbulak array**	**15.04**	**330**	P	**Pn**	**13 15 19.5**	**-1.4**
	comp=E,1.4nm,0.4s,baz=141,slow=13,SNR=47						
AKTO	**Aktyubinsk**	**16.74**	**329**	P	**P**	**13 15 41.3**	**-0.8**
	comp=E,0.9nm,0.3s,baz=134,slow=15,SNR=15						
AKTO	**Aktyubinsk**	**16.74**	**329**	⇑P	**Pn**	**13 15 41.3**	**-0.8**
	comp=E,5.7nm,0.9s						
ZALV	**Zalesovo Beam**	**19.53**	**24**	P	**P**	**13 16 14.1**	**+1.0**
	comp=E,0.9nm,0.3s,baz=223,slow=11,SNR=12						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**13 18 59.5**	**+2.5**
	comp=E,0.9nm,0.4s,baz=124,slow=8.3,SNR=9.0						
ARCES	**ARCESS Array B**	**41.04**	**337**	P	**P**	**13 19 28.9**	**+2.1**
	comp=E,2.0nm,0.9s,baz=118,slow=10,SNR=4.4						
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**13 19 56.0**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**13 19 56.3**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**81.82**	**122**	P	**P**	**13 24 02.7**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=327,slow=5.1,SNR=1.5						

*IDC **06** 13:18:46.9±1.2, 15°.53N×147°.36E, h0 km, mb3.9/9, mb1 4.0/10, mb1mx3.8/42, mbtmp3.9/10, ML3.9/1, MS3.4/9, Ms1 3.5/9, ms1mx3.2/39, Error ellipse: s-maj=37.0km s-min=19.4km az=97.0*
*NEIC **06** 13:18:52.3±2.4, 15°.60N±0°.07×147°.26E±0°.10, h36 km ±7 km, mb4.4/21, Error ellipse: s-maj=13.7km s-min=10.6km az=78.0*

ISC 06 13:18:52.0±0.5, 15°.52N±0°.07×147°.24E±0°.09, h35 km, n50, σ1°17/37, mb4.2/16, MS3.4/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**1.68**	**299**	Pn	**Pn**	**13 19 15.5**	**-3.4**
GUMO	**Guam**	**2.99**	**230**	Pn	**Pn**	**13 19 37.1**	**+0.1**
	13nm,0.3s,baz=33,slow=7.5,SNR=12						
GUMO				Sn	**Sn**	**13 20 10.9**	**-0.8**
	37nm,0.3s,baz=321,slow=22,SNR=7.4						
JCJ	**Chichijima**	**12.44**	**339**	LR	LR	13 26 41.8	
	comp=Z,128nm,18.6s,baz=134,slow=38						
PATS	**Pohnpei**	**13.87**	**127**		Pn	13 21 59.9	-6.3
H11S3	**WAKE ISLAND Hy**	**18.83**	**78**	T	T	13 42 35.9	
	baz=263,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**18.85**	**78**	T	T	13 42 34.1	
	baz=263,slow=74,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**18.85**	**78**	T	T	13 42 37.7	
	baz=263,slow=74,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**19.19**	**75**	T	T	13 43 07.4	
	baz=259						
H11N2	**WAKE ISLAND Hy**	**19.20**	**75**	T	T	13 43 12.9	
	baz=259						
H11N3	**WAKE ISLAND Hy**	**19.20**	**75**	T	T	13 43 07.5	
	baz=259						
KRVT	**Keravat (AS076**	**20.26**	**166**	LR	LR	13 30 17.7	
	comp=Z,117nm,18.1s,baz=59,slow=34						
MAJO	**Matsushiro**	**22.43**	**341**	P	**P**	**13 23 49.6**	**+1.8**
JNU	**Nakatsue**	**22.95**	**323**	LR	LR	13 31 33.7	
	comp=Z,96nm,19.7s,baz=158,slow=33						
KSRS	**Korea Array**	**27.75**	**326**	LR	LR	13 34 43.7	
	comp=Z,93nm,20.6s,baz=145,slow=34						
HNR	**Honiara**	**27.81**	**152**	LR	LR	13 34 10.4	
	comp=Z,134nm,21.0s,baz=290,slow=33						
HNR	**Honiara**	**27.81**	**152**	P	**P**	**13 24 38.6**	**+0.6**
ASAJ	**Asahikawa**	**28.77**	**353**	LR	LR	13 35 59.0	
	comp=Z,75nm,20.4s,baz=162,slow=36						
WB0	**Warramunga Arr**	**37.27**	**200**	P	**P**	**13 26 00.7**	**-0.1**
WB0				IAmb	IAmb	13 26 14.0	
	comp=Z,16nm,1.5s						
WR0	**Warramunga Arr**	**37.40**	**200**	P	**P**	**13 26 01.7**	**-0.2**
WR0				IAmb	IAmb	13 26 28.2	
	comp=Z,4.4nm,1.1s						
WRAB	**Tennant Creek**	**37.44**	**200**	P	**P**	**13 26 02.3**	**+0.1**
WRAB				IAmb	IAmb	13 26 27.9	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**37.45**	**200**	P	**P**	**13 26 01.6**	**-0.7**
WB2				IAmb	IAmb	13 26 23.5	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**37.45**	**200**	P	**P**	**13 26 02.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=25,slow=9.1,SNR=10.0						
WRA				PcP	**PcP**	**13 28 21.5**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=17,slow=3.2,SNR=1.6						
WRA	**Warramunga Arr**	**37.45**	**200**		**PcP**	**13 28 17.8**	**-2.6**
PET	**Petropavlovsk**	**38.49**	**11**	P	**P**	**13 26 11.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.61**	**213**	P	**P**	**13 26 22.0**	**+1.6**
ASAR	**Alice Springs**	**41.07**	**199**	P	**P**	**13 26 32.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=19,slow=13,SNR=5.4						
CMAR	**Chiang Mai Arr**	**46.18**	**281**	P	**P**	**13 27 15.0**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=85,slow=6.5,SNR=10						
CMAR				LR	LR	13 48 01.5	
	comp=Z,44nm,18.4s,baz=20,slow=38						
CMAR	**Chiang Mai Arr**	**46.18**	**281**	P	**P**	**13 27 14.0**	**+0.2**
SONM	**Songino Array**	**46.54**	**323**	P	**P**	**13 27 17.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=142,slow=7.3,SNR=2.2						
SONM				LR	LR	13 46 15.4	
	comp=Z,52nm,19.9s,baz=112,slow=35						
SONM	**Songino Array**	**46.54**	**323**	IAmb	IAmb	13 27 21.6	
	comp=Z,2.2nm,1.4s						
STKA	**Stephens Creek**	**47.44**	**187**	LR	LR	13 46 54.4	
	comp=Z,37nm,20.1s,baz=10,slow=36						
YAK	**Yakutsk**	**48.10**	**349**	P	**P**	**13 27 29.0**	**+1.0**
SBLHI	**Steaming Bluff**	**54.77**	**77**	P	**P**	**13 28 16.9**	**-1.9**
HATHI	**Halema'uma'u T**	**54.78**	**77**	P	**P**	**13 28 16.9**	**-2.0**
RAO	**Raoul Island**	**55.80**	**143**	P	**P**	**13 28 25.9**	**0.0**
XMAS	**Kiritimati**	**56.11**	**98**	P	**P**	**13 28 28.1**	**-0.2**
ZALV	**Zalesovo Beam**	**61.42**	**323**	P	**P**	**13 29 04.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=101,slow=7.5,SNR=4.7						
MK31	**Makanchi Array**	**61.73**	**315**	P	**P**	**13 29 07.7**	**+0.7**
MK31				IAmb	IAmb	13 29 08.5	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**61.73**	**315**	P	**P**	**13 29 08.0**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=91,slow=8.0,SNR=19						
MKAR	**Makanchi Array**	**61.73**	**315**	P	**P**	**13 29 07.7**	**+0.8**
MAKZ	**Makanchi**	**61.94**	**315**	P	**P**	**13 29 09.0**	**+0.6**
MAKZ				IAmb	IAmb	13 29 10.1	
	comp=Z,2.9nm,0.8s						
BHW	**Baring Head**	**62.15**	**157**	P	**P**	**13 29 08.1**	**-1.5**
CNPM	**China Poot**	**62.42**	**30**	P	**P**	**13 29 12.9**	**+1.6**
KURK	**Kurchatov**	**64.61**	**319**	P	**P**	**13 29 25.9**	**0.0**
KDJ	**Kajisay**	**65.02**	**310**	P	**P**	**13 29 29.9**	**+0.9**
KDJ				IAmb	IAmb	13 29 31.0	
	comp=Z,5.5nm,0.8s						
ILAR	**Eielson Array**	**65.85**	**25**	P	**P**	**13 29 34.2**	**+0.5**
	comp=Z,1.0nm,1.1s,baz=247,slow=6.0,SNR=3.2						
KKAR	**Karatay Array**	**69.93**	**311**	P	**P**	**13 30 00.1**	**+0.3**
ABKAR	**Akbulak array**	**76.66**	**318**	P	**P**	**13 30 39.6**	**+0.2**
ARCES	**ARCESS Array B**	**85.95**	**343**	P	**P**	**13 31 28.7**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=60,slow=7.2,SNR=9.2						
FINES	**FINESS Array B**	**90.37**	**336**	P	**P**	**13 31 49.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=70,slow=8.0,SNR=1.9						

*IDC **06** 13:46:03.4±5.3, 23°.93N×93°.67E, h55 km ±45 km, mb3.6/5, mb1 3.7/6, mb1mx3.3/45, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=89.5km s-min=17.5km az=66.0*
*NDI **06** 13:46:03.2±3.6, 24°.04N×93°.57E, h27 km ±41 km, ML3.8*

ISC 06 13:46:03.5±1.0, 24°.05N±0°.06×93°.53E±0°.06, h57 km, n15, σ2°20/23, mb3.7/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.75**	**17**	*e*P	**Pn**	**13 46 33.4**	**+1.7**
KOHI				*e*S	**Sn**	**13 46 55.8**	**+2.8**
KOHI				IAML		13 46 58.1	
	comp=E,209nm,0.3s						
AGT	**Agartala**	**2.10**	**266**	*e*P	**Pn**	**13 46 38.0**	**+1.7**
AGT				*e*S	**Sn**	**13 47 02.9**	**+1.7**
SHL	**Shillong**	**2.13**	**316**	*e*P	**Pn**	**13 46 38.8**	**+1.9**
SHL				*e*S	**Sn**	**13 47 01.4**	**-1.0**
SHL				*e*S		13 47 02.3	
SHL				IAML		13 47 02.9	
	comp=E,186nm,0.1s						
SHL				IAML		13 47 03.5	
	comp=N,355nm,0.1s						
TEZP	**TEZPUR**	**2.65**	**346**	*ex*	**Sn**	**13 47 07.8**	**-6.8**
TEZP				IAML		13 47 14.9	
	comp=N,1μm,0.3s						
TEZP				IAML		13 47 16.2	
	comp=E,1μm,0.2s						
ITAN	**ITANAGAR**	**3.09**	**3**	*e*P	**Pn**	**13 46 51.2**	**+1.4**
ITAN				*e*S	**Sn**	**13 47 25.5**	**-0.2**
ITAN				IAML		13 47 26.4	
	comp=E,1μm,0.3s						
ITAN				IAML		13 47 26.6	
	comp=N,862nm,0.3s						
TURI	**Tura**	**3.27**	**298**	*e*P	**Pn**	**13 46 54.2**	**+1.9**
TURI				*e*S	**Sn**	**13 47 29.2**	**-0.9**
TURI				IAML		13 47 31.9	
	comp=N,275nm,0.2s						
ZIRO	**ZIRO**	**3.48**	**5**	*e*P	**Pn**	**13 46 56.5**	**+1.1**
ZIRO				*e*S	**Sn**	**13 47 35.0**	**-0.4**
ZIRO				IAML		13 47 37.0	
	comp=N,1μm,0.2s						
TAWA	**Tawang**	**3.84**	**337**	*e*P	**Pn**	**13 47 01.5**	**+1.0**
TAWA				*e*S	**Sn**	**13 47 42.9**	**-1.6**
TAWA				IAML		13 47 45.6	
	comp=E,2μm,0.3s						
TAWA				IAML		13 47 45.8	
	comp=N,2μm,0.4s						
GTK	**Tadong**	**5.51**	**307**	*e*P	**Pn**	**13 47 21.1**	**-2.1**
GTK				*e*S	**Sn**	**13 48 25.3**	**-0.1**
GTK				IAML		13 48 27.6	
	comp=E,75nm,0.3s						
GTK				IAML		13 48 31.2	
	comp=N,99nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.51**	**137**	P	**Pn**	**13 47 48.0**	**-2.5**
	comp=N,0.2nm,0.3s,baz=320,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**24.43**	**341**	P	**P**	**13 51 18.2**	**+1.4**
	comp=N,0.5nm,0.4s,baz=158,slow=9.7,SNR=9.4						
SONM	**Songino Array**	**25.85**	**20**	P	**P**	**13 51 30.5**	**+0.6**
	comp=N,0.4nm,0.4s,baz=198,slow=8.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**30.57**	**350**	P	**P**	**13 52 12.7**	**+1.1**
	comp=N,0.6nm,0.4s,baz=174,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**59.09**	**134**	P	**P**	**13 55 57.0**	**-1.4**
	comp=N,0.9nm,0.4s,baz=320,slow=7.5,SNR=66						
ASAR	**Alice Springs**	**61.52**	**137**	P	**P**	**13 56 13.8**	**-1.0**
	comp=N,1.1nm,0.4s,baz=319,slow=6.9,SNR=62						

*NEIC **06** 14:04:05.6, 15°.46N×147°.26E, h6 km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr4.66; Mθθ-1.70; Mθφ-2.96; Mrθ3.27; Mφφ-1.25; Mrφ5.30; Fault plane solution: M0 7.55000×10^17 NP1:φ±211.50000°, δ 16.98000°, λ 89.86000°. NP2:φ±31.65000°, δ 73.02000°, λ 90.04000°. Principal axes: T 7.9733, Plg62.0000°, Azm302.0000°; N -0.9296, Plg0.0000°, Azm212.0000°; P -7.0437, Plg28.0000°, Azm122.0000°;*
*IDC **06** 14:04:05.3±0.4, 15°.51N×147°.14E, h0 km, mb5.0/44, mb1 5.1/48, mb1mx5.0/55, mbtmp5.1/48, ML4.9/4, MS5.4/38, Ms1 5.4/38, ms1mx5.3/49 Error ellipse: s-maj=12.6km s-min=8.2km az=92.0*
*NEIC **06** 14:04:05.6±1.6, 15°.41N±0°.06×147°.23E±0°.07, h4 km ±1 km, mb5.5/302, Ms_20 5.6/792, Mwb5.9/112, Mww5.7, Mwc5.6(GCMT), Error ellipse: s-maj=11.7km s-min=9.7km az=83.0*
*BJI **06** 14:04:06.0±0.0, 15°.87N×147°.20E, h9 km, mB5.8/78, mb5.3/73, Ms5.9/89, Ms7 5.7/84*
*MOS **06** 14:04:06.8±0.9, 15°.49N×147°.07E, h21 km, mb5.7/107, MS5.5/50, Error ellipse: s-maj=5.9km s-min=3.9km az=110.4*
*NEIC **06** 14:04:09, 15°.26N×147°.38E, h16 km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.63; Mθθ-0.87; Mθφ-0.76; Mrθ2.12; Mφφ-1.00; Mrφ4.17; Fault plane solution: M0 4.99000×10^17 NP1:φ±245.00000°, δ 12.00000°, λ 126.00000°. NP2:φ±28.00000°, δ 80.00000°, λ 83.00000°. Principal axes: T 4.9979, Plg54.0000°, Azm290.0000°; N -0.0094, Plg7.0000°, Azm29.0000°; P -4.9884, Plg35.0000°, Azm124.0000°;*
*GCMT **06** 14:04:10.6±0.1, 15°.38N±0°.01×147°.66E±0°.01, h14 km, MW5.6/153, Moment Tensor Solution. s127,c244; s153,c323; Duration: 1s Moment tensor: Scale 10^17 Nm; Mrr1.87±.03; Mθθ-0.56±.02; Mθφ-1.31±.03; Mrθ0.37±.06; Mφφ-1.10±.02; Mrφ2.34±.09; Best double couple: M0 3.09500×10^17 NP1:φ±235.00000°, δ 24.00000°, λ 127.00000°. NP2:φ±16.00000°, δ 71.00000°, λ 75.00000°. Principal axes: T 3.1200, Plg61.0000°, Azm263.0000°; N -0.0490, Plg14.0000°, Azm21.0000°; P -3.0710, Plg24.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 14:04:10, 15°.34N×147°.64E, h12 km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.75; Mθθ-0.60; Mθφ-1.15; Mrθ1.19; Mφφ-1.14; Mrφ2.97; Fault plane solution: M0 3.73000×10^17 NP1:φ±235.00000°, δ 17.00000°, λ 120.00000°. NP2:φ±24.00000°, δ 75.00000°, λ 81.00000°. Principal axes: T 3.6469, Plg59.0000°, Azm282.0000°; N 0.1597, Plg9.0000°, Azm26.0000°

comp=Z,11nm,0.8s,baz=167,slow=8.7,SNR=19
MJAR LR LR 14 17 55.8
comp=Z,7μm,18.5s,baz=165,slow=37
MJAR Matsushiro Arr 22.42 341 P **P** **14 09 04.2 -1.1**
MAJO Matsushiro 22.42 341 *d iP* **P** **14 09 06.2 +0.9**
MAJO Matsushiro 22.42 341 P **P** **14 09 04.0 -1.3**
MAT Matsushiro 22.42 341 P **P** **14 09 03.9 -1.4**
MAT S Sn 14 13 18.0 -5.9
MJB9 Matsu-Tunnel 22.42 341 P **P** **14 09 06.3 +0.9**
SIJI Sorong 22.60 225 P **P** **14 09 09.5 +2.0**
comp=Z,226nm,1.0s,baz=24,slow=12,SNR=57
SIJI LR LR 14 17 24.7
comp=Z,10μm,18.6s,baz=34,slow=35
DAV Davao City (W) 22.73 251 P **P** **14 09 10.3 +1.4**
comp=Z,109nm,0.4s,baz=42,slow=4.7,SNR=3.8
DAV LR LR 14 17 04.7
comp=Z,14μm,20.2s,baz=92,slow=34
DAV Davao City (W) 22.73 251 IAMs_20 IAMs_20 14 16 44.1
comp=Z,25μm,19.0s
JNU Nakatsue 22.91 323 P **P** **14 09 11.8 +1.2**
comp=Z,13nm,0.6s,baz=40,slow=4.6,SNR=9.9
JNU LR LR 14 16 52.5
comp=Z,9μm,20.9s,baz=140,slow=34
JNU Nakatsue 22.91 323 P **P** **14 09 12.4 +1.7**
JMM Marumori 22.97 347 P **P** **14 09 12.0 +0.9**
JMM IAmb IAmb 14 09 40.7
comp=Z,206nm,1.0s
JHS Saijyo 23.14 330 P **P** **14 09 13.7 +0.8**
JHS IAMs_20 IAMs_20 14 17 08.3
comp=Z,17μm,19.0s
JSD Sado 23.78 342 P **P** **14 09 19.0 -0.2**
JSD IAmb IAmb 14 09 29.9
comp=Z,110nm,0.8s
YOJ Yonaguni jima 24.34 295 P **P** **14 09 25.7 +1.1**
YOJ pmax pmax
comp=Z,232nm,1.7s
YOJ Yonaguni jima 24.34 295 IAMs_20 IAMs_20 14 20 07.9
comp=Z,15μm,18.0s
TNTI Ternate 24.40 235 P **P** **14 09 25.9 +0.7**
comp=Z,4μmcomp=Z,2μmcomp=Z,49nm,0.9s
TNTI Ternate 24.40 235 P **P** **14 09 24.6 -0.6**
PMG Port Moresby 24.75 180 P **P** **14 09 28.4 +0.1**
comp=Z,43nm,0.6s,baz=31,slow=4.5,SNR=20
PMG Port Moresby 24.75 180 *ce*P **P** **14 09 27.7 -0.6**
PMG pmax pmax
comp=Z,156nm,1.3s
PMG MLR MLR
comp=Z,7μm,15.0s
PMG Port Moresby 24.75 180 P **P** **14 09 28.0 -0.3**
TGY Tagaytay City 25.37 270 P **P** **14 09 34.2 +0.1**
comp=Z,119nm,0.5s,baz=69,slow=8.6,SNR=1.9
TGY LR LR 14 19 07.4
comp=Z,10μm,19.2s,baz=82,slow=36
NACB Ninganchiao 25.50 294 P **P** **14 09 35.7 +0.6**
NACB IAMs_20 IAMs_20 14 20 58.2
comp=Z,16μm,18.0s
YULB Yu-li 25.58 292 P **P** **14 09 36.3 +0.4**
YULB IAmb IAmb 14 09 56.5
comp=Z,194nm,1.5s
YULB IAMs_20 IAMs_20 14 21 10.2
comp=Z,14μm,18.0s
TWG Pinlang 25.66 291 P **P** **14 09 36.9 +0.4**
TWG IAmb IAmb 14 09 51.0
comp=Z,72nm,1.1s
JTM Tenmabayashi 25.74 349 P **P** **14 09 38.9 +1.8**
TATO Taipei 25.81 296 P **P** **14 09 39.2 +1.3**
YHNB Yeheng 25.83 295 P **P** **14 09 39.5 +1.4**
SSLB Suanglung 25.97 293 P **P** **14 09 40.7 +1.3**
SSLB IAmb IAmb 14 09 52.8
comp=Z,127nm,1.3s
SSLB IAMs_20 IAMs_20 14 21 34.8
comp=Z,18μm,18.0s
MSAI Masohi 26.00 225 P **P** **14 09 41.1 +1.4**
comp=Z,526nmcomp=Z,40nm,0.8s
TPUB Ta-pu 26.16 291 P **P** **14 09 42.0 +0.9**
TPUB IAmb IAmb 14 10 10.6
comp=Z,187nm,1.5s
ERM Erimo 26.64 353 *i* P **P** **14 09 47.3 +2.1**
ERM pmax pmax
comp=Z,76nm,1.0s
ERM MLR MLR
comp=Z,15μm,18.0s
ERM Erimo 26.64 353 P **P** **14 09 46.9 +1.7**
ERM IAmb IAmb 14 10 07.1
comp=Z,130nm,1.1s
ERM Erimo 26.64 353 IAMs_20 IAMs_20 14 20 57.0
comp=Z,17μm,18.0s
JEM Erimo 26.64 353 IAMs_20 IAMs_20 14 20 28.7
comp=Z,17μm,19.0s
SANI Sanana 27.24 232 P **P** **14 09 51.4 +0.5**
comp=Z,5μmcomp=Z,2μmcomp=Z,28nm,1.2s
KMSI Cibinong 27.26 239 P **P** **14 09 51.5 +0.4**
comp=Z,2μmcomp=Z,170nm,1.1s
JEW Eniwo 27.68 351 P **P** **14 09 56.7 +2.1**
KSRS Korea Array 27.71 326 P **P** **14 09 54.5 -0.3**
comp=Z,13nm,0.7s,baz=145,slow=8.4,SNR=32
KSRS PcP **PcP** **14 13 13.7 +2.0**
comp=Z,14nm,1.3s,baz=115,slow=2.9,SNR=5.0
KSRS LR LR 14 20 01.8
comp=Z,10μm,21.8s,baz=136,slow=34
KS19 Wonju Array Si 27.78 326 P **P** **14 09 54.4 -1.1**
HNR Honiara 27.83 152 LR LR 14 19 29.6
comp=Z,14μm,21.4s,baz=322,slow=33
HNR Honiara 27.83 152 P **P** **14 09 55.3 -0.8**
HNR pmax pmax
comp=Z,97nm,1.1s
HNR MLR MLR
comp=Z,17μm,20.0s
HNR Honiara 27.83 152 P **P** **14 09 55.3 -0.8**
HNR IAmb IAmb 14 10 21.7
comp=Z,97nm,1.1s
HNR Honiara 27.83 152 IAMs_20 IAMs_20 14 19 17.9
comp=Z,17μm,20.0s
GTOI Gorontalo 28.03 240 P **P** **14 09 58.9 +0.9**
comp=Z,748nmcomp=Z,20nm,1.0s
QZH Quanzhou 28.34 294 ⇑ *i*P **P** **14 10 00.7 0.0**
QZH S **S** **14 14 46.3 -0.8**
QZH pmax pmax
comp=Z,2μm,8.3s
QZH LR LR
comp=Z,7μm,16.1s
QZH LR LR
comp=Z,12μm,15.7s
QZH LR LR
comp=Z,15μm,15.7s
SSE Sheshan 28.35 308 P **P** **14 10 00.6 -0.1**
SSE S **S** **14 14 51.5 +4.4**
SSE pmax pmax
comp=Z,20nm,0.9s
SSE pmax pmax
comp=Z,870nm,5.5s
SSE LR LR
comp=Z,4μm,15.1s
SSE LR LR
comp=Z,5μm,15.9s
SSE Sheshan 28.35 308 P **P** **14 10 01.2 +0.6**
SSE IAmb IAmb 14 10 29.1
comp=Z,72nm,0.7s
SSE Sheshan 28.35 308 IAMs_20 IAMs_20 14 21 43.4
comp=Z,16μm,18.0s
KNMB Chin-men Tao 28.41 293 IAMs_20 IAMs_20 14 23 17.3
comp=Z,18μm,18.0s
YUK Yuzh-Kuril'sk 28.46 358 *d iP* **P** **14 10 01.4 -0.1**
YUK *e* 14 10 53.2
YUK PPP PPP 14 11 00.8
YUK *i* S **S** **14 14 50.6 +2.1**
YUK *i* SSS SSS 14 16 27.1
YUK pmax pmax
comp=Z,650nm,1.0s
YUK pmax pmax
comp=N,227nm,1.1s
YUK pmax pmax
comp=E,145nm,1.1s
YUK pmax pmax
comp=Z,657nm,3.3s
JKA Kamikawa-asahi 28.78 353 P **P** **14 10 06.2 +1.8**
ASAJ Asahikawa 28.78 353 P **P** **14 10 06.5 +2.1**
comp=Z,51nm,0.7s,baz=219,slow=9.5,SNR=31
LUWI Luwuk 29.17 238 P **P** **14 10 06.4 -1.7**
comp=Z,5μmcomp=Z,2μmcomp=Z,140nm,1.0s
LUWI Luwuk 29.17 238 P **P** **14 10 07.4 -0.7**
COEN Coen 29.53 188 P **P** **14 10 10.8 -0.4**
COEN IAMs_20 IAMs_20 14 22 36.6
comp=Z,11μm,18.0s
NJ2 Nanjing 30.55 308 *eP* **P** **14 10 19.5 -0.7**
NJ2 pP **sP** **14 10 23.8 -0.4**
NJ2 S **S** **14 15 22.0 +0.3**
NJ2 pmax pmax
comp=Z,22nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,8.1s
NJ2 LR LR
comp=Z,12μm,14.7s
NJ2 LR LR
comp=Z,11μm,15.6s
NJ2 LR LR
comp=Z,15μm,16.1s
TEY Ternei 30.76 345 ⇑ *eP* **P** **14 10 23.3 +1.5**
TEY *e* 14 11 26.0
TEY 14 17 09.8
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,30nm,1.2s
TEY pmax pmax
comp=Z,300nm,10.8s
TEY MLR MLR
comp=N,500nm,15.0s
TEY MLR MLR
comp=Z,400nm,16.0s
MPSI Mapaga 30.84 243 P **P** **14 10 21.1 -1.8**
comp=Z,4μmcomp=Z,1μmcomp=Z,24nm,0.7s
USRK Ussuriysk Ar. 31.37 339 P **P** **14 10 27.0 -0.2**
comp=Z,4.7nm,0.5s,baz=140,slow=9.1,SNR=16
USRK LR LR 14 24 02.5
comp=Z,11μm,18.1s,baz=135,slow=38
YSS Yuzh-Sakhalins 31.57 354 ⇑ *eP* **P** **14 10 30.1 +1.1**
YSS *e* 14 11 31.1
YSS *eS* **S** **14 15 34.2 -3.1**
YSS pmax pmax
comp=Z,2μm,4.6s
YSS pmax pmax
comp=N,1μm,4.2s
YSS pmax pmax
comp=Z,60nm,0.6s
YSS pmax pmax
comp=N,30nm,0.5s
YSS smax smax
comp=N,3μm,9.5s
YSS smax smax
comp=E,3μm,7.8s
YSS Yuzh-Sakhalins 31.57 354 P **P** **14 10 29.8 +0.8**
YSS IAmb IAmb 14 10 33.9
comp=Z,52nm,0.8s
KKM Kota Kinabalu 31.76 256 P **P** **14 10 32.4 +1.2**
KKM IAmb IAmb 14 10 45.2
comp=Z,75nm,1.1s
HKPS Hong Kong Po S 31.90 287 IAMs_20 IAMs_20 14 24 02.7
comp=Z,10μm,18.0s
SPMM Sapulut 32.00 254 P **P** **14 10 34.0 +0.8**
MTN Manton Dam 32.31 210 P **P** **14 10 35.9 0.0**
MTN IAmb IAmb 14 10 55.5
comp=Z,80nm,1.3s
DL2 Dalian 32.33 321 P **P** **14 10 33.0 -2.8**
DL2 S **S** **14 15 47.5 -1.9**
DL2 pmax pmax
comp=Z,29nm,1.4s
DL2 pmax pmax
comp=Z,1μm,4.4s
DL2 LR LR
comp=Z,6μm,14.5s
DL2 LR LR
comp=Z,8μm,16.8s
DL2 LR LR
comp=Z,11μm,16.2s
MDJ Mudanjiang 32.61 336 P **P** **14 10 38.9 +0.8**
MDJ sP pwP 14 10 45.3 -1.3
MDJ S **S** **14 15 55.6 +2.1**
MDJ sS sS 14 16 00.6 +2.5
MDJ PcS **PcS** **14 17 08.3 -1.0**
MDJ pmax pmax
comp=Z,1μm,6.1s
MDJ LR LR
comp=Z,9μm,16.5s
MDJ LR LR
comp=Z,6μm,16.4s
MDJ LR LR
comp=Z,9μm,18.8s
MDJ Mudanjiang 32.61 336 P **P** **14 10 37.9 -0.3**
GZH Guangzhou 32.73 289 P **P** **14 10 39.0 -0.4**
GZH S **S** **14 15 53.8 -2.0**
GZH pmax pmax
comp=Z,2μm,4.6s
GZH LR LR
comp=Z,7μm,17.3s
GZH LR LR
comp=Z,9μm,17.3s
SNY Shenyang 33.19 327 ⇑ P **P** **14 10 41.6 -1.6**
SNY S **S** **14 15 58.0 -4.6**
SNY pmax pmax
comp=Z,700nm,7.6s
SNY LR LR
comp=Z,10μm,16.7s
SNY LR LR
comp=Z,7μm,16.2s
SNY LR LR
comp=Z,16μm,17.7s
SPSI Sidrap Palu 33.30 237 P **P** **14 10 43.9 -0.6**
comp=Z,4μmcomp=Z,960nmcomp=Z,31nm,1.8s
WHN Wuhan 33.54 302 ⇓ P **P** **14 10 47.9 +1.4**
WHN PP **PP** **14 12 00.8 -1.6**
WHN pmax pmax
comp=Z,3μm,8.6s
WHN LR LR
comp=Z,7μm,11.7s
WHN LR LR
comp=Z,11μm,11.9s
WHN LR LR
comp=Z,24μm,15.4s
CN2 Changchun 33.72 331 *eP* **P** **14 10 47.5 -0.3**
CN2 *eS* **S** **14 16 12.5 +1.7**
CN2 SS **SnSn** **14 18 08.7 -6.4**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 pmax pmax
comp=Z,880nm,8.2s
CN2 LR LR
comp=Z,12μm,19.0s
CN2 LR LR
comp=Z,10μm,19.0s
CN2 LR LR
comp=Z,12μm,19.0s
SOEI Soe 33.81 224 P **P** **14 10 49.0 -0.1**
comp=Z,4μmcomp=Z,3μmcomp=Z,102nm,1.1s
SOEI Soe 33.81 224 P **P** **14 10 47.2 -2.0**
BKSI Bulukumba 33.83 234 P **P** **14 10 49.5 +0.4**
comp=Z,2μmcomp=Z,1μmcomp=Z,22nm,1.4s
KAPI Kappang 33.93 235 P **P** **14 10 50.2 +0.2**
baz=45,slow=2.9
KAPI LR LR 14 23 07.7
comp=Z,3μm,19.9s,baz=34,slow=34
KAPI Kappang 33.93 235 P **P** **14 10 49.5 -0.5**
KAPI P **P** **14 10 49.5 -0.5**
KAPI Kappang 33.93 235 P **P** **14 10 49.6 -0.5**
KAPI IAmb IAmb 14 10 52.0
comp=Z,26nm,0.7s
BKB Balikpapan 34.23 244 IAMs_20 IAMs_20 14 20 52.3
comp=Z,10μm,18.0s
MMRI Maumere 34.41 227 P **P** **14 10 54.0 -0.2**
comp=Z,3μmcomp=Z,3μmcomp=Z,78nm,1.0s
MMRI Maumere 34.41 227 P **P** **14 10 52.3 -1.9**
MMRI IAmb IAmb 14 11 21.4
comp=Z,90nm,1.2s
EDFI Ende, Flores 34.88 228 P **P** **14 10 57.7 -0.7**
comp=Z,1μmcomp=Z,34nm,2.3s
CTA Charters Tower 35.38 181 P **P** **14 11 02.8 +0.4**
comp=Z,14nm,0.9s,baz=7.8,slow=11,SNR=14
CTA LR LR 14 25 15.7
comp=Z,2μm,19.7s,baz=5.0,slow=36
CTAO Charters Tower 35.38 181 P **P** **14 11 01.3 -1.2**
CTAO pmax pmax
comp=Z,77nm,1.5s
CTAO MLR MLR
comp=Z,7μm,18.0s
CTAO Charters Tower 35.38 181 P **P** **14 11 01.3 -1.2**
CTAO IAmb IAmb 14 11 05.0
comp=Z,76nm,1.5s
TYV Tymovskoe 35.46 355 *eP* **P** **14 11 04.1 +1.3**
TYV *eS* **S** **14 16 41.5 +4.1**
TYV pmax pmax
comp=Z,2μm,4.3s
TYV pmax pmax
comp=Z,77nm,1.0s
TYV smax smax
comp=E,26nm,2.1s
TYV smax smax
comp=E,5μm,7.0s
QIZ Qiongzhong 35.75 281 P **P** **14 11 06.4 +0.6**
QIZ PP **PP** **14 12 27.8 +0.8**
QIZ S **S** **14 16 44.0 +1.2**
QIZ pmax pmax
comp=E,72nm,1.7s
QIZ pmax pmax
comp=E,2μm,5.3s
QIZ LR LR
comp=E,5μm,16.3s
QIZ LR LR
comp=E,11μm,17.9s
QIZ LR LR
comp=E,11μm,17.3s
QIZ Qiongzhong 35.75 281 P **P** **14 11 07.3 +1.5**
QIZ IAmb IAmb 14 11 15.7
comp=Z,133nm,1.5s
QIZ Qiongzhong 35.75 281 IAMs_20 IAMs_20 14 26 32.7
comp=Z,12μm,19.0s
SKR Severo-Kuril's 35.83 10 *eP* P 14 11 22.4 +16
SKR *eS* **S** **14 16 45.3 +2.2**
SKR pmax pmax
comp=Z,1μm,4.4s
SKR pmax pmax
comp=Z,400nm,4.9s
SKR MLR MLR
comp=Z,3μm,16.0s
KNRA Kununurra 35.91 211 P **P** **14 11 06.8 -0.2**
GRNR Gornyy 36.23 348 ⇑ *iP* **P** **14 11 10.7 +1.3**
GRNR *eS* **S** **14 16 54.2 +4.9**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=E,7.0nm,0.8s
GRNR pmax pmax
comp=Z,40nm,1.2s
GRNR smax smax
comp=N,3.0nm,0.8s
GRNR MLR MLR
comp=E,1μm,16.0s
GRNR MLR MLR
comp=N,2μm,14.0s
GRNR MLR MLR
comp=Z,4μm,14.0s
BJT Baijiatuao 36.40 318 P **P** **14 11 11.9 +0.9**
BJT pmax pmax
comp=Z,28nm,1.1s
BJT MLR MLR
comp=Z,9μm,18.0s
BJT Baijiatuao 36.40 318 P **P** **14 11 11.9 +0.9**
BJT Baijiatuao 36.40 318 IAMs_20 IAMs_20 14 27 28.6
comp=Z,9μm,18.0s
BJI Beijing 36.41 318 P **P** **14 11 12.1 +1.0**
BJI PP **PP** **14 12 36.6 +2.6**
BJI S **S** **14 16 58.0 +5.7**
BJI pmax pmax
comp=Z,36nm,2.0s
BJI pmax pmax
comp=Z,1μm,7.0s
BJI LR LR
comp=Z,7μm,16.6s
BJI LR LR
comp=Z,4μm,19.2s
BJI LR LR
comp=Z,6μm,17.5s
SANVU Saraoutou 36.58 146 IAMs_20 IAMs_20 14 23 45.4
comp=Z,11μm,20.0s
BASI Baing, Sumba 36.68 227 P **P** **14 11 16.1 +2.4**
comp=Z,129nm,1.2s
SBUM Sibu 36.77 253 P **P** **14 11 14.7 +0.1**
SBUM Sibu 36.77 253 P **P** **14 11 15.0 +0.5**
BBKI Banjar Baru 37.11 242 P **P** **14 11 19.4 +2.0**
comp=Z,9μmcomp=Z,47nm,1.5s
WB0 Warramunga Arr 37.22 200 P **P** **14 11 17.9 -0.3**
WB9 Warramunga Arr 37.25 200 IAMs_20 IAMs_20 14 29 29.6
comp=Z,8μm,18.0s
WB8 Warramunga Arr 37.27 200 IAMs_20 IAMs_20 14 29 31.1
comp=Z,7μm,18.0s
WB6 Warramunga Arr 37.31 200 IAMs_20 IAMs_20 14 29 31.3
comp=Z,7μm,18.0s
WR0 Warramunga Arr 37.35 200 P **P** **14 11 19.2 -0.1**
WC2 Warramunga Arr 37.38 200 IAMs_20 IAMs_20 14 29 34.0
comp=Z,7μm,18.0s
WB3 Warramunga Arr 37.38 200 IAMs_20 IAMs_20 14 29 34.1
comp=Z,8μm,18.0s
WRAB Tennant Creek 37.39 200 *ce*P **P** **14 11 19.9 +0.2**
WRAB pmax pmax
comp=Z,107nm,2.5s
WRAB MLR MLR
comp=Z,8μm,17.0s
WRAB Tennant Creek 37.39 200 P **P** **14 11 19.3 -0.3**
WRAB Tennant Creek 37.39 200 IAMs_20 IAMs_20 14 29 34.3
comp=Z,7μm,18.0s
WB2 Warramunga Arr 37.40 200 P **P** **14 11 19.4 -0.3**
WB2 IAmb IAmb 14 11 36.4
comp=Z,87nm,1.4s
WR2 Warramunga Arr 37.40 200 IAMs_20 IAMs_20 14 29 18.6
comp=Z,8μm,18.0s
WRA Warramunga Arr 37.41 200 P **P** **14 11 20.0 +0.2**
comp=Z,26nm,1.1s,baz=29,slow=9.3,SNR=71
WRA LR LR 14 28 30.3
comp=Z,5μm,18.6s,baz=20,slow=39
WRA Warramunga Arr 37.41 200 *i* P **P** **14 11 20.0 +0.2**
WRA pmax pmax
comp=Z,22nm,1.0s
WRA Warramunga Arr 37.41 200 P **P** **14 11 19.2 -0.6**
WC3 Warramunga Arr 37.41 200 IAMs_20 IAMs_20 14 29 34.8
comp=Z,7μm,18.0s
WC4 Warramunga Arr 37.42 200 IAMs_20 IAMs_20 14 28 21.2
comp=Z,9μm,19.0s
ENH Enshi 37.49 300 P **P** **14 11 21.6 +1.1**
ENH IAmb IAmb 14 11 36.7
comp=Z,110nm,1.1s
DLV T Lat 37.69 270 P **P** **14 11 22.9 +0.3**
DLV IAmb IAmb 14 11 38.3
comp=Z,102nm,1.4s
DLV IAMs_20 IAMs_20 14 25 30.0
comp=Z,9μm,19.0s
TIY Taiyuan 37.79 313 *eP* **P** **14 11 24.2 +1.2**
TIY S **S** **14 17 14.3 +0.7**
TIY pmax pmax
comp=Z,2μm,6.4s
TIY LR LR
comp=Z,8μm,14.5s
TIY LR LR
comp=Z,3μm,10.9s
TIY LR LR
comp=Z,8μm,15.4s
NKL Nikolayevsk 37.91 354 *eP* **P** **14 11 22.5 -1.1**
NKL *e* 14 13 22.0
NKL *eS* **S** **14 17 16.7 +2.0**
NKL pmax pmax
comp=N,14nm,1.3s
NKL pmax pmax
comp=Z,67nm,1.1s
NKL pmax pmax
comp=Z,296nm,3.8s
NKL MLR MLR
comp=N,156nm,13.0s
NKL MLR MLR
comp=Z,3μm,14.0s
PEA0B Petropavlovsk- 38.44 10 P **P** **14 11 29.2 +1.1**
PEA0B pmax pmax
comp=Z,58nm,1.2s
PEA0B MLR MLR
comp=Z,8μm,19.0s
PEA0B Petropavlovsk- 38.44 10 P **P** **14 11 29.2 +1.1**
PEA0B IAMs_20 IAMs_20 14 27 58.7
comp=Z,8μm,19.0s
PETK Petropavlovsk- 38.44 10 P **P** **14 11 30.0 +1.9**
comp=Z,4.5nm,0.6s,baz=181,slow=6.8,SNR=19
PETK LR LR 14 32 00.8
comp=Z,8μm,18.1s,baz=191,slow=44
PETK Petropavlovsk- 38.44 10 P **P** **14 11 29.6 +1.5**
TWSI Taliwang, Sumb 38.46 233 P **P** **14 11 29.0 +0.2**
comp=Z,1μmcomp=Z,65nm,0.6s
PET Petropavlovsk 38.53 11 *eP* **P** **14 11 29.6 +0.8**
PET *eS* **S** **14 17 25.4 +1.3**
PET pmax pmax
comp=Z,2μm,14.8s

PET pmax pmax
comp=Z,72nm,1.2s
PET MLR MLR
comp=Z,13µm,17.0s
PET Petropavlovsk 38.53 11 P **P** **14 11 30.3 +1.5**
PET IAMs_20 IAMs_20 14 29 37.0
comp=Z,7µm,18.0s
KSM Kuching 38.91 253 P **P** **14 11 32.0 -0.6**
KSM Kuching 38.91 253 P **P** **14 11 33.0 +0.4**
XAN Xi'an 39.02 305 P **P** **14 11 34.0 +0.6**
XAN pP sP 14 11 38.9 +1.5
XAN PP **PnPn** **14 13 05.4 +0.1**
XAN PcP **PcP** **14 13 46.6 +3.0**
XAN S **S** **14 17 31.6 -0.7**
XAN SS **SnSn** **14 20 13.8 -10**
XAN ScS **ScS** **14 21 40.9 -2.2**
XAN pmax pmax
comp=Z,55nm,2.0s
XAN pmax pmax
comp=Z,2µm,6.8s
XAN LR LR
comp=Z,6µm,20.1s
XAN LR LR
comp=Z,10µm,15.2s
XAN LR LR
comp=Z,12µm,15.7s
XAN Xi'an 39.02 305 P **P** **14 11 33.2 -0.2**
XAN pmax pmax
comp=Z,29nm,0.8s
XAN MLR MLR
comp=Z,7µm,18.0s
XAN Xi'an 39.02 305 P **P** **14 11 33.2 -0.2**
XAN Xi'an 39.02 305 IAMs_20 IAMs_20 14 27 40.1
comp=Z,7µm,18.0s
GYA Guiyang 39.19 293 ⇑P **P** **14 11 36.6 +1.6**
GYA pP pwP 14 11 45.1 +1.5
GYA PP **PnPn** **14 13 10.1 +2.6**
GYA S **S** **14 17 35.0 -0.1**
GYA pmax pmax
comp=Z,44nm,1.7s
GYA pmax pmax
comp=Z,2µm,3.9s
GYA LR LR
comp=Z,5µm,16.0s
GYA LR LR
comp=Z,4µm,14.4s
GYA LR LR
comp=Z,7µm,17.1s
FITZ Fitzroy Crossi 39.55 213 P **P** **14 11 37.8 0.0**
HHC Hu-ho-hao-te 39.84 316 *e*P **P** **14 11 41.6 +1.4**
HHC S **S** **14 17 45.4 +0.9**
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,830nm,6.6s
HHC LR LR
comp=Z,8µm,16.0s
HHC LR LR
comp=Z,8µm,15.2s
HHC LR LR
comp=Z,13µm,16.2s
HIA Hailar 40.42 332 P **P** **14 11 44.8 0.0**
HIA pmax pmax
comp=Z,14nm,0.8s
HIA MLR MLR
comp=Z,10µm,19.0s
HIA Hailar 40.42 332 P **P** **14 11 44.8 0.0**
HIA Hailar 40.42 332 IAMs_20 IAMs_20 14 27 30.9
comp=Z,10µm,19.0s
JAGI Jajag, Banyuwa 40.45 236 P **P** **14 11 44.2 -1.2**
JAGI IAmb IAmb 14 12 05.6
comp=Z,107nm,1.3s
BTO Baotou 40.76 315 *e*P **P** **14 11 47.7 -0.1**
BTO S **S** **14 17 59.8 +1.5**
EIDS Eidsvold 40.80 175 P **P** **14 11 46.8 -1.4**
AS31 Alice Springs 41.02 199 P **P** **14 11 49.4 -0.6**
ASAR Alice Springs 41.02 199 P **P** **14 11 50.2 +0.2**
comp=Z,4.5nm,0.8s,baz=26,slow=8.0,SNR=51
ASAR LR LR 14 30 43.8
comp=Z,6µm,18.2s,baz=20,slow=39
ASAR Alice Springs 41.02 199 P **P** **14 11 49.6 -0.5**
ZEA Zeya 41.22 342 *c i*P **P** **14 11 50.3 -1.0**
ZEA *e* 14 13 28.9
ZEA *e*SS SS 14 20 59.0 -8.6
ZEA pmax pmax
comp=Z,700nm,11.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA pmax pmax
comp=Z,600nm,5.6s
ZEA MLR MLR
comp=E,2µm,14.0s
ZEA MLR MLR
comp=N,2µm,15.0s
ZEA MLR MLR
comp=Z,4µm,15.0s
SLVN Son La 41.34 285 P **P** **14 11 53.9 +1.1**
DZM Mont Dzumac 41.86 153 P **P** **14 11 58.0 +1.1**
comp=Z,58nm,1.1s,baz=337,slow=9.9,SNR=3.8
DZM LR LR 14 26 58.7
comp=Z,12µm,20.8s,baz=339,slow=33
DZM Mont Dzumac 41.86 153 *e*P **P** **14 11 57.1 +0.1**
comp=Z,290nm,1.5s
DZM *e*S **S** **14 18 14.8 0.0**
comp=Z,2µm,23.3s
DZM *e*LR LR 14 23 15.0
comp=Z,16µm,22.6s
DZM *e*LR LR 14 23 21.9
comp=Z,5µm,26.5s
DZM Mont Dzumac 41.86 153 P **P** **14 11 57.0 0.0**
DZM IAmb IAmb 14 12 00.7
comp=Z,88nm,1.1s
PWJI Pagerwojo 42.10 239 P **P** **14 11 59.4 +0.5**
comp=Z,3µmcomp=Z,166nm,1.0s
CD2 Chengdu 42.44 299 P **P** **14 12 02.9 +1.2**
CD2 sP pwP 14 12 09.3 -1.0
CD2 S **S** **14 18 20.7 -2.7**
CD2 sS sS 14 18 29.4 +1.3
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,3µm,5.9s
CD2 LR LR
comp=Z,9µm,14.9s
CD2 LR LR
comp=Z,15µm,16.1s
CD2 LR LR
comp=Z,18µm,16.1s
KMI Kunming 42.57 290 ⇑P **P** **14 12 04.6 +1.6**
KMI sP pwP 14 12 14.2 +2.6
KMI PP **PP** **14 13 44.3 +2.6**
KMI S **S** **14 18 27.1 +1.4**
KMI pmax pmax
comp=Z,39nm,2.3s
KMI pmax pmax
comp=Z,2µm,7.1s
KMI LR LR
comp=Z,4µm,17.4s
KMI LR LR
comp=Z,10µm,17.6s
KMI LR LR
comp=Z,10µm,18.1s
TPI Tanjungpandan 43.08 248 P **P** **14 12 04.2 -2.7**
comp=Z,2µmcomp=Z,44nm,1.7s
UGM Wanagama 43.10 240 P **P** **14 12 06.3 -0.8**
LZH Lanzhou 43.61 306 *e*P **P** **14 12 13.3 +2.1**
LZH pP pwP 14 12 18.8 -1.0
LZH sP sP 14 12 21.5 +6.3
LZH S **S** **14 18 40.9 +0.3**
LZH sS sS 14 18 51.7 +6.4
LZH pmax pmax
comp=Z,180nm,1.3s
LZH pmax pmax
comp=Z,3µm,8.7s
LZH LR LR
comp=Z,8µm,15.7s
LZH LR LR
comp=Z,6µm,17.9s
LZH LR LR
comp=Z,9µm,14.1s
MA2 Magadan 44.09 3 *ce*P **P** **14 12 16.8 +2.3**
MA2 pmax pmax
comp=Z,144nm,2.5s
MA2 MLR MLR
comp=Z,5µm,18.0s
MA2 Magadan 44.09 3 P **P** **14 12 14.5 0.0**
MA2 IAmb IAmb 14 12 26.2
comp=Z,72nm,0.9s
MA2 IAMs_20 IAMs_20 14 32 40.2
comp=Z,6µm,19.0s
PBKT Sadao Pong 44.32 278 P **P** **14 12 17.6 +0.7**
MYKOM Kota Tinggi 44.80 257 P **P** **14 12 20.3 -0.5**
MYKOM Kota Tinggi 44.80 257 P **P** **14 12 22.0 +1.2**
MSVF Nonsavu 44.93 136 *i* P **P** **14 12 21.7 -0.1**
MSVF pmax pmax
comp=Z,45nm,1.3s
MSVF Nonsavu 44.93 136 P **P** **14 12 20.6 -1.2**
MSVF IAmb IAmb 14 12 23.7
comp=Z,114nm,1.4s
DSRI Dabo 44.95 253 P **P** **14 12 20.3 -1.7**
comp=Z,1µmcomp=Z,34nm,1.0s
LEM Lembang 45.01 243 P **P** **14 12 22.4 -0.2**
comp=Z,24nm,0.6s,baz=20,slow=9.9,SNR=6.1
LEM LR LR 14 34 01.7
comp=Z,2µm,18.0s,baz=63,slow=40
LEM Lembang 45.01 243 P **P** **14 12 20.6 -2.0**
comp=Z,2µmcomp=Z,1µmcomp=Z,43nm,1.8s
CIT Chita 45.16 331 *e*P **P** **14 12 23.4 +0.1**
CIT *e* 14 12 37.1
CIT pmax pmax
comp=Z,126nm,3.1s
CISI Cisompet, Garu 45.20 242 P **P** **14 12 22.1 -1.9**
CISI IAmb IAmb 14 12 28.0
comp=Z,59nm,0.8s
PSA00 Pilbara Seismi 45.55 217 P **P** **14 12 26.7 +0.1**
PSA00 Pilbara Seismi 45.55 217 P **P** **14 12 25.6 -1.0**
PSA00 IAmb IAmb 14 12 44.8
comp=Z,57nm,1.4s
ARMA Armidale 45.86 175 P **P** **14 12 28.6 -0.4**
ARMA IAmb IAmb 14 12 41.2
comp=Z,100nm,1.5s
ARMA IAMs_20 IAMs_20 14 28 37.7
comp=Z,6µm,21.0s
CHTO Chiang Mai 46.07 281 P **P** **14 12 31.0 +0.1**
CHTO P **P** **14 12 31.0 +0.1**
CHTO P **P** **14 12 31.0 +0.1**
CHTO Chiang Mai 46.07 281 P **P** **14 12 30.9 +0.1**
CHTO pmax pmax
comp=Z,30nm,0.9s
CHTO MLR MLR
comp=Z,9µm,18.0s
CHTO Chiang Mai 46.07 281 P **P** **14 12 30.9 +0.1**
CHTO IAmb IAmb 14 12 43.3
comp=Z,30nm,0.8s
CM31 Chiang Mai Arr 46.09 281 P **P** **14 12 32.7 +1.7**
SNR=20
CM31 P **P** **14 12 32.7 +1.7**
SNR=20
CM31 Chiang Mai Arr 46.09 281 P **P** **14 12 30.4 -0.7**
CMAR Chiang Mai Arr 46.09 281 P **P** **14 12 32.4 +1.4**
comp=Z,18nm,0.5s,baz=79,slow=6.7,SNR=57
CMAR LR LR 14 33 18.9
comp=Z,5µm,18.4s,baz=152,slow=38
CMAR Chiang Mai Arr 46.09 281 P **P** **14 12 31.8 +0.7**
ULN Ulaanbaatar 46.13 323 P **P** **14 12 31.1 -0.1**
ULN P **P** **14 12 31.1 -0.1**
ULN S **S** **14 19 16.3 -0.6**
ULN S **S** **14 19 16.3 -0.6**
ULN Ulaanbaatar 46.13 323 *ce*P **P** **14 12 31.1 -0.1**
ULN pmax pmax
comp=Z,35nm,1.3s
ULN MLR MLR
comp=Z,7µm,18.0s
ULN Ulaanbaatar 46.13 323 P **P** **14 12 30.8 -0.4**
ULN Ulaanbaatar 46.13 323 IAMs_20 IAMs_20 14 31 08.7
comp=Z,7µm,21.0s
ADK Adak 46.30 30 P **P** **14 12 33.3 +1.1**
ADK pmax pmax
comp=Z,165nm,1.4s
ADK Adak 46.30 30 P **P** **14 12 33.3 +1.1**
SONM Songino Array 46.50 323 P **P** **14 12 34.6 +0.6**
comp=Z,13nm,0.7s,baz=133,slow=8.3,SNR=33
SONM PcP **PcP** **14 14 09.5 +1.1**
comp=Z,8.4nm,1.0s,baz=134,slow=4.3,SNR=4.0
SONM LR LR 14 32 05.3
comp=Z,7µm,19.8s,baz=114,slow=36
SONM Songino Array 46.50 323 P **P** **14 12 34.0 0.0**
KLSI 46.54 248 P **P** **14 12 35.3 +0.7**
comp=Z,718nmcomp=Z,32nm,1.5s
IPM Ipoh 46.62 261 P **P** **14 12 35.1 -0.1**
IPM IAmb IAmb 14 12 49.0
comp=Z,63nm,1.4s
IPM IAMs_20 IAMs_20 14 31 56.0
comp=Z,6µm,18.0s
IPM Ipoh 46.62 261 P **P** **14 12 37.0 +1.7**
KULM Kulim 46.75 263 P **P** **14 12 37.3 +1.0**
KULM IAmb IAmb 14 12 47.9
comp=Z,64nm,1.1s
KULM IAMs_20 IAMs_20 14 35 49.5
comp=Z,5µm,18.0s
KULM Kulim 46.75 263 P **P** **14 12 39.0 +2.8**
MDSI Maura Dua 46.95 248 P P 14 12 30.8 -7.0
comp=Z,3µmcomp=Z,1µmcomp=Z,52nm,1.5s
LWLI Liwa 47.28 248 P **P** **14 12 36.7 -3.8**
comp=Z,4µmcomp=Z,105nm,0.7s
STKA Stephens Creek 47.41 186 P **P** **14 12 41.2 +0.2**
comp=Z,8.7nm,0.7s,baz=354,slow=7.9,SNR=13
STKA LR LR 14 34 38.1
comp=Z,3µm,18.7s,baz=359,slow=39
STKA Stephens Creek 47.41 186 P **P** **14 12 40.7 -0.3**
SEY Seymchan 47.52 3 LR LR 14 35 08.7
comp=Z,7µm,18.2s,baz=190,slow=39
SEY Seymchan 47.52 3*c i*P **P** **14 12 43.7 +2.2**
GTA Gaotai 47.61 310 ⇑P **P** **14 12 43.5 +0.7**
GTA pP sP 14 12 47.8 +1.0
GTA sP pwP 14 12 50.7 -0.7
GTA PP **PP** **14 14 36.0 +1.6**
GTA S **S** **14 19 37.7 -0.5**
GTA ScS **ScS** **14 22 35.2 -1.5**
GTA pmax pmax
comp=Z,43nm,2.0s
GTA pmax pmax
comp=Z,2µm,5.9s
GTA LR LR
comp=Z,7µm,17.7s
GTA LR LR
comp=Z,8µm,18.1s
GTA LR LR
comp=Z,10µm,17.3s
KSI Kapahiang 48.02 250 P **P** **14 12 46.1 -0.1**
KSI pmax pmax
comp=Z,82nm,0.9s
YAK Yakutsk 48.10 349 *e*P **P** **14 12 45.9 -0.1**
YAK *e* 14 14 11.8
YAK *e* 14 14 34.9
YAK *e*S **S** **14 19 37.1 -7.0**
YAK *e*SSS SSS 14 24 27.6
YAK pmax pmax
comp=Z,71nm,0.7s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,415nm,3.0s
YAK pmax pmax
comp=N,308nm,2.5s
YAK pmax pmax
comp=E,139nm,2.6s
YAK smax smax
comp=N,473nm,4.3s
YAK smax smax
comp=E,664nm,4.0s
YAK Yakutsk 48.10 349 P **P** **14 12 45.7 -0.3**
XMIS Christmas Isla 48.53 240 P **P** **14 12 48.1 -1.9**
LKP Lekhapani 48.89 293 *i* P **P** **14 12 52.6 -0.1**
LKP *e*P **pP** **14 12 53.8 -1.7**
LKP *i* Rg Rg 14 33 55.0
BOD Bodaibo 48.98 337 *e*P **P** **14 12 52.4 -0.5**
BOD *e* 14 12 54.8
PSI Prapat 49.12 260 P **P** **14 12 55.2 +0.5**
comp=E,20nm,0.9s,baz=6.8,slow=1.8,SNR=14
PSI Prapat 49.12 260 P **P** **14 12 55.3 +0.5**
PSI pmax pmax
comp=Z,35nm,1.0s
PSI MLR MLR
comp=Z,4µm,18.0s
RPSI Rantau Prapat 49.15 260 P **P** **14 12 55.3 +0.4**
RPSI IAmb IAmb 14 12 59.1
comp=Z,35nm,1.0s
RPSI IAMs_20 IAMs_20 14 35 19.1
comp=Z,4µm,18.0s
RPSI Rantau Prapat 49.15 260 P **P** **14 12 55.2 +0.4**
BBOO Buckleboo 49.20 192 P **P** **14 12 54.0 -0.8**
BBOO IAmb IAmb 14 13 18.2
comp=Z,49nm,0.9s
ZAK Zakamensk 49.53 324 *e*P **P** **14 12 57.0 -0.4**
ZAK pmax pmax
comp=Z,22nm,1.4s
FORT Forrest 49.54 202 P **P** **14 12 57.8 +0.3**
FORT IAmb IAmb 14 13 27.2
comp=Z,60nm,1.0s
GIRL Giralia 49.76 221 P **P** **14 13 00.4 +1.1**
IRK Irkutsk 49.92 327 *e*P **P** **14 12 59.8 -0.4**
IRK pmax pmax
comp=Z,159nm,2.6s
TLY Talaya 49.97 326 P **P** **14 13 00.9 +0.3**
comp=Z,8.7nm,0.6s,baz=129,slow=7.9,SNR=9.7
TLY Talaya 49.97 326 P **P** **14 12 59.9 -0.7**
TLY P **P** **14 12 59.9 -0.7**
TLY P **P** **14 12 59.9 -0.7**
TLY Talaya 49.97 326*c i*P **P** **14 13 00.0 -0.6**
TLY *e*S **S** **14 20 09.3 -1.5**
TLY *e* 14 22 53.2
TLY pmax pmax
comp=Z,118nm,1.9s
TLY MLR MLR
comp=Z,17µm,16.0s
TLY Talaya 49.97 326 P **P** **14 13 00.9 +0.3**
TLY IAMs_20 IAMs_20 14 33 45.0
comp=Z,8µm,20.0s
AFI Afiamalu 50.04 124 LR LR 14 33 26.1
comp=Z,2µm,18.0s,baz=290,slow=35
KOHI KOHIMA 50.39 291 *i* P **P** **14 13 03.2 -1.1**
CAN Canberra 50.57 178 P **P** **14 13 05.9 +0.6**
CAN pmax pmax
comp=Z,94nm,1.5s
CAN Canberra 50.57 178 P **P** **14 13 05.9 +0.6**
CAN IAmb IAmb 14 13 16.9
comp=Z,94nm,1.5s
CAN IAMs_20 IAMs_20 14 32 39.7
comp=Z,5µm,19.0s
ZIRO ZIRO 50.67 293 *i* P **P** **14 13 07.4 +0.9**
ZIRO *e*P **P** **14 13 07.5 +0.9**
ITAN ITANAGAR 50.77 293 *i* P **P** **14 13 07.4 +0.3**
ITAN *e*P **pP** **14 13 08.2 -1.7**
ITAN IAmb IAmb 14 13 12.5
comp=Z,36nm,0.7s
GSI Gunungsitoli 50.87 259 P **P** **14 13 07.6 -0.4**
GSI IAmb IAmb 14 13 21.2
comp=Z,53nm,1.0s
GSI IAMs_20 IAMs_20 14 33 41.5
comp=Z,4µm,18.0s
MOY Mondy 51.41 325 *e*P **P** **14 13 10.8 -0.8**
MOY pmax pmax
comp=Z,163nm,3.7s
SILR SILCHAR 51.57 289 *i* P **P** **14 13 15.1 +2.0**
TEZP TEZPUR 51.58 292 *e*P **P** **14 13 13.3 +0.2**
TEZP ⇑*i*P **pP** **14 13 13.7 -2.2**
HON Honolulu 52.16 75 IAMs_20 IAMs_20 14 34 31.7
comp=Z,5µm,19.0s
SHL Shillong 52.40 290 ⇑*i*P **P** **14 13 18.5 -0.9**
SHL *i* P **pP** **14 13 19.2 -3.1**
SHL IAmb IAmb 14 13 22.9
comp=Z,44nm,1.1s
SHL IAmb IAmb 14 13 23.0
comp=Z,32nm,0.8s
SHL Shillong 52.40 290 P **P** **14 13 19.0 -0.5**
SNR=21
SHL Shillong 52.40 290 P **P** **14 13 18.1 -1.4**
SHL pmax pmax
comp=Z,73nm,1.1s
SHL MLR MLR
comp=Z,8µm,19.0s
SHL Shillong 52.40 290 P **P** **14 13 18.1 -1.4**
SHL IAmb IAmb 14 13 30.5
comp=Z,73nm,1.1s
UNV Unalaska Valle 52.53 33 P **P** **14 13 20.0 +0.3**
UNV IAmb IAmb 14 13 31.5
comp=Z,98nm,1.4s
TOO Toolangi 52.81 182 P **P** **14 13 22.7 +0.7**
TOO pmax pmax
comp=Z,86nm,1.2s
TOO MLR MLR
comp=Z,4µm,18.0s
TOO Toolangi 52.81 182 P **P** **14 13 22.7 +0.7**
TOO IAmb IAmb 14 13 25.5
comp=Z,86nm,1.1s
TOO IAMs_20 IAMs_20 14 37 20.0
comp=Z,4µm,18.0s
AKUT Akutan 53.05 33 P **P** **14 13 24.4 +0.9**
LSA Lhasa 53.13 296 P **P** **14 13 26.1 +1.0**
LSA pmax pmax
comp=Z,140nm,0.7s
LSA Lhasa 53.13 296 P **P** **14 13 27.1 +1.9**
LSA Lhasa 53.13 296 P **P** **14 13 26.6 +1.5**
LSA pmax pmax
comp=Z,45nm,0.7s
LSA MLR MLR
comp=Z,4µm,19.0s
LSA Lhasa 53.13 296 P **P** **14 13 26.6 +1.5**
LSA IAmb IAmb 14 13 46.4
comp=Z,45nm,0.7s
MORW Morawa 53.54 214 P **P** **14 13 27.0 -0.5**
MORW IAmb IAmb 14 13 43.9
comp=Z,48nm,1.1s
BILL Bilibino 53.93 9 ⇓*i*P **P** **14 13 31.7 +1.9**
BILL *SP **pwP** **14 13 38.0 -0.4**
BILL 14 14 37.0
BILL *i* S **S** **14 21 05.4 +0.7**
BILL *e* 14 23 20.5
BILL *e*SS **SKiKP** **14 24 43.5 +0.7**
BILL pmax pmax
comp=Z,85nm,2.5s
BILL MLR MLR
comp=Z,6µm,18.0s
BILL Bilibino 53.93 9 IAMs_20 IAMs_20 14 37 53.7
comp=Z,7µm,19.0s
FALS False Pass 54.60 33 P **P** **14 13 37.2 +2.3**
FALS IAmb IAmb 14 13 43.4
comp=Z,66nm,1.1s
GTK Tadong 55.33 293 ⇑*i*P **P** **14 13 41.6 +0.8**
GTK *i* P **P** **14 13 41.7 +0.8**
GTK IAmb IAmb 14 13 45.2
comp=Z,68nm,1.1s
GAMB Gambell 55.91 21 P **P** **14 13 45.6 +1.5**
GAMB IAmb IAmb 14 14 02.8
comp=Z,52nm,1.3s
NWAO Narrogin (SRO) 56.01 210 IAMs_20 IAMs_20 14 42 07.8
comp=Z,5µm,18.0s
OUZ Omahuta 56.34 154 IAMs_20 IAMs_20 14 34 46.8
comp=Z,6µm,20.0s
SDPT Sand Point 56.35 33 P **P** **14 13 48.5 +1.1**
TIXI Tiksi 57.19 353 *ce*P **P** **14 13 53.1 -0.1**
TIXI pmax pmax
comp=Z,131nm,0.8s
TIXI Tiksi 57.19 353 P **P** **14 13 53.1 -0.1**
WMQ Urumqi 57.46 312 *e*P **P** **14 13 56.9 +1.2**
WMQ pP pwP 14 14 03.9 -0.4
WMQ PP **PP** **14 16 04.0 +0.9**
WMQ S **S** **14 21 53.5 +0.9**
WMQ sS sS 14 22 04.4 +6.9
WMQ SS **SS** **14 25 45.8 +3.5**
WMQ pmax pmax
comp=Z,52nm,2.3s
WMQ pmax pmax
comp=Z,1µm,5.3s
WMQ LR LR
comp=Z,2µm,17.9s
WMQ LR LR
comp=Z,1µm,14.3s
WMQ LR LR
comp=Z,1µm,25.1s
WMQ Urumqi 57.46 312 P **P** **14 13 56.0 +0.3**
WMQ pmax pmax
comp=Z,161nm,1.3s
WMQ MLR MLR
comp=Z,7µm,18.0s
WMQ Urumqi 57.46 312 P **P** **14 13 56.0 +0.3**
CHGN Chignik 57.79 32 P **P** **14 13 58.1 +0.4**
CHGN IAmb IAmb 14 14 15.7
comp=Z,54nm,1.2s
BOK Bokaro 57.91 289 *e*P **P** **14 14 00.0 +0.9**
BOK *i* P **P** **14 14 00.1 +0.9**
BOK IAmb IAmb 14 14 03.7
comp=Z,81nm,0.8s

BOK IAmb IAmb 14 14 07.6
comp=Z,46nm,0.7s
TAU Tasmania Unive 58.12 180 P P 14 13 59.8 -0.2
TAU pmax pmax
comp=Z,68nm,1.3s
TAU Tasmania Unive 58.12 180 P P 14 13 59.8 -0.2
TAU IAmb IAmb 14 14 23.5
comp=Z,68nm,1.3s
DGZ Jazzator, Alta 58.82 319*c iP* **P 14 14 05.6 +0.4**
DGZ pmax pmax
comp=Z,50nm,1.0s
DGZ MLR MLR
comp=Z,9μm,18.0s
HIZ Hauiti 59.68 155 IAMs_20 IAMs_20 14 35 32.1
comp=Z,5μm,19.0s
ZSN Zaisan 60.04 316⇑*iP* **P 14 14 14.4 +0.9**
comp=Z,425nm,3.1s
ZSN *eS* **S 14 22 25.8 -0.2**
ZSN *eLR* LR 14 41 22.2
comp=Z,1μm,14.8s
ZSN Zaisan 60.04 316*c iP* **P 14 14 14.3 +0.8**
ZSN *eS* **S 14 22 25.8 -0.2**
ZSN pmax pmax
comp=Z,425nm,3.1s
ZSN MLR MLR
comp=Z,1μm,15.0s
SII Sitkinak Islan 60.08 33 P P **14 14 14.4 +0.8**
CHLP Challavanipeta 60.14 283*eP* **P 14 14 16.0 +1.4**
CHLP IVmB_BB 14 14 16.8
comp=Z,1μm,2.9s
CHLP IVMs_BB IVMs_BB 14 45 44.6
comp=Z,596nm,14.4s
URZ Urewera 60.41 153 P P **14 14 15.9 -0.1**
comp=Z,7.2nm,0.6s,baz=1.9,slow=5.0,SNR=1.8
URZ Urewera 60.41 153 P P **14 14 15.9 -0.1**
URZ IAmb IAmb 14 14 21.9
comp=Z,50nm,1.3s
OHAK Old Harbor 60.76 33 P P **14 14 19.4 +1.3**
OHAK IAmb IAmb 14 14 38.2
comp=Z,48nm,1.0s
BKZ Black Stump Fm 60.91 154 P P **14 14 18.7 -0.8**
BKZ IAmb IAmb 14 14 21.9
comp=Z,44nm,1.1s
BKZ IAMs_20 IAMs_20 14 36 34.7
comp=Z,5μm,22.0s
SVW2 Sparrevohn 60.96 28 P P **14 14 21.1 +1.5**
SVW2 IAmb IAmb 14 14 36.7
comp=Z,54nm,1.4s
KDAK Kodiak Island 61.29 32 P P **14 14 22.5 +0.8**
comp=Z,18nm,0.8s,baz=246,slow=2.7,SNR=10
KDAK Kodiak Island 61.29 32 P P **14 14 22.9 +1.1**
KDAK MLR MLR
comp=Z,3μm,18.0s
KDAK Kodiak Island 61.29 32 P P **14 14 22.9 +1.1**
KDAK IAmb IAmb 14 14 31.1
comp=Z,51nm,1.1s
RDOG Red Dog Mine 61.36 19 P P **14 14 23.7 +1.6**
RDOG IAmb IAmb 14 14 27.2
comp=Z,29nm,1.1s
ZAA0 Zalesovo Array 61.39 323 P P **14 14 21.5 -1.0**
ZAA0 IAmb IAmb 14 14 25.5
comp=Z,33nm,1.0s
ZAA0 IAMs_20 IAMs_20 14 40 18.6
comp=Z,4μm,21.0s
ZALV Zalesovo Beam 61.39 323 P P **14 14 22.6 +0.1**
comp=Z,32nm,0.9s,baz=105,slow=6.3,SNR=38
ZALV LR LR 14 40 30.1
comp=Z,4μm,21.6s,baz=95,slow=36
ZALV Zalesovo Beam 61.39 323*i P* **P 14 14 22.5 0.0**
ZALV pmax pmax
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 61.39 323 P P **14 14 21.1 -1.4**
NNZ Nelson 61.44 158 IAMs_20 IAMs_20 14 41 52.9
comp=Z,3μm,19.0s
MK31 Makanchi Array 61.68 315*i P* **P 14 14 24.9 +0.2**
MK31 Makanchi Array 61.68 315 P P **14 14 25.0 +0.3**
MKAR Makanchi Array 61.68 315 P P **14 14 25.1 +0.4**
comp=Z,18nm,0.5s,baz=89,slow=8.0,SNR=228
MKAR LR LR 14 41 08.0
comp=Z,2μm,20.1s,baz=87,slow=36
THZ Tophouse 61.75 158 IAMs_20 IAMs_20 14 41 16.0
comp=Z,3μm,19.0s
MAKZ Makanchi 61.89 315 P P **14 14 26.7 +0.6**
MAKZ pmax pmax
comp=Z,59nm,0.9s
MAKZ MLR MLR
comp=Z,4μm,18.0s
MAKZ Makanchi 61.89 315 P P **14 14 26.7 +0.6**
MAKZ IAMs_20 IAMs_20 14 41 04.2
comp=Z,4μm,18.0s
SNZO South Karori 62.02 157 IAMs_20 IAMs_20 14 46 13.0
comp=Z,3μm,18.0s
RSO Redoubt South 62.04 29 P P **14 14 27.7 +0.6**
CNPM China Poot 62.48 30 P P **14 14 30.4 +0.6**
KHZ Kahutara 62.55 158 P P **14 14 30.7 +0.3**
KHZ IAMs_20 IAMs_20 14 40 05.1
comp=Z,4μm,20.0s
BRLK Bradley Lake 62.72 30 P P **14 14 31.9 +0.5**
BRLK IAmb IAmb 14 14 52.4
comp=Z,41nm,0.9s
OXZ Oxford 62.83 160 P P **14 14 32.4 +0.1**
OXZ IAMs_20 IAMs_20 14 44 38.7
comp=Z,5μm,20.0s
PPLA Purkeypile 63.10 27 P P **14 14 35.1 +1.1**
WKZ Wanaka 63.25 163 IAMs_20 IAMs_20 14 39 32.9
comp=Z,4μm,20.0s
PDGK Podgornoye 63.32 311 P P **14 14 36.0 +0.2**
SHLS Shalkode 63.33 311⇑*iP* **P 14 14 34.6 -1.3**
comp=Z,276nm,2.7s
SHLS *eS* **S 14 23 05.5 -2.6**
SHLS *eLR* LR 14 42 32.0
comp=Z,883nm,16.3s
SHLS Shalkode 63.33 311*c iP* **P 14 14 34.6 -1.3**
SHLS *eS* **S 14 23 05.4 -2.6**
SHLS pmax pmax
comp=Z,276nm,2.7s
SHLS MLR MLR
comp=Z,883nm,16.0s
JBP Jabalpur 63.37 288⇑*eP* **P 14 14 37.5 +1.2**
MQZ McQueen's Vall 63.38 160 IAMs_20 IAMs_20 14 46 13.3
comp=Z,4μm,18.0s
O22K Cooper Landing 63.48 30 P P **14 14 36.3 -0.1**
baz=254
SEW Seward 63.51 30 P P **14 14 37.5 +1.0**
MYLAV Mylavaram 63.63 281*eP* **P 14 14 39.1 +1.0**
MYLAV IVmB_BB 14 14 40.2
comp=Z,755nm,4.1s
MYLAV IVMs_BB IVMs_BB 14 51 24.2
comp=Z,330nm,14.4s
RC01 Rabbit Creek A 63.64 29 P P **14 14 37.9 +0.4**
baz=254
UZB Uzynbulak 63.65 311⇑*iP* **P 14 14 38.4 +0.4**
comp=Z,218nm,2.7s
UZB *eS* **S 14 23 09.9 -2.3**
UZB *eLR* LR 14 43 09.7
comp=Z,679nm,13.4s
UZB Uzynbulak 63.65 311*c iP* **P 14 14 38.4 +0.4**
UZB *eS* **S 14 23 09.8 -2.3**
UZB pmax pmax
comp=Z,218nm,2.7s
UZB MLR MLR
comp=Z,679nm,13.0s
CUT Chulitna 63.78 27 P P **14 14 39.7 +1.3**
baz=252
KTH Kantishna Hill 63.86 26 P P **14 14 40.2 +1.3**
KTH IAMs_20 IAMs_20 14 38 20.2
comp=Z,3μm,19.0s
GGR Gangavaram 63.87 282*eP* **P 14 14 40.2 +0.4**
GGR IVmB_BB 14 14 41.3
comp=Z,810nm,4.0s
GGR IVMs_BB IVMs_BB 14 44 21.1
comp=Z,548nm,20.6s
KPKS Kokpek 63.91 311⇑*iP* **P 14 14 40.3 +0.6**
comp=Z,323nm,2.7s
KPKS *eS* **S 14 23 12.4 -2.9**
KPKS *eLR* LR 14 43 00.4
comp=Z,1μm,12.8s
KPKS Kokpek 63.91 311*c iP* **P 14 14 40.3 +0.6**
KPKS *eS* **S 14 23 12.3 -2.9**
KPKS pmax pmax
comp=Z,323nm,2.7s
KPKS MLR MLR
comp=Z,1μm,13.0s
PRZ Przheval'sk 64.07 310 P P **14 14 40.8 -0.1**
PRZ pmax pmax
comp=Z,81nm,1.0s
PRZ MLR MLR
comp=Z,5μm,18.0s
PRZ Przheval'sk 64.07 310 P P **14 14 40.8 -0.1**
PRZ IAMs_20 IAMs_20 14 47 58.9
comp=Z,5μm,18.0s
SATY Saty 64.09 311⇑*iP* **P 14 14 41.9 +0.9**
comp=Z,237nm,2.7s
SATY *eS* **S 14 23 17.1 -0.6**
SATY comp=Z,133nm,3.8s *eLR* LR 14 44 17.0
comp=Z,588nm,14.0s
SATY Saty 64.09 311*c iP* **P 14 14 41.9 +0.9**
SATY *eS* **S 14 23 17.0 -0.6**
SATY pmax pmax
comp=Z,237nm,2.7s
SATY smax smax
comp=E,133nm,3.8s
SATY MLR MLR
comp=Z,588nm,14.0s
TRF Thorofare Moun 64.09 26 P P **14 14 40.6 -0.1**
TRF IAmb IAmb 14 14 55.6
comp=Z,43nm,1.1s
TDK Taldyqorghan 64.20 313*i P* **P 14 14 42.1 +0.6**
TDK *eS* **S 14 23 18.5 -0.2**
TDK *eLR* LR 14 45 02.9
comp=Z,3μm,17.5s
TDK Taldyqorghan 64.20 313*i P* **P 14 14 42.1 +0.6**
TDK *eS* **S 14 23 18.4 -0.2**
GHO Glory Hole Cre 64.21 28 P P **14 14 41.9 +0.6**
KNK Knik Glacier 64.33 29 P P **14 14 42.6 +0.6**
ADKI Addanki 64.41 280*eP* **P 14 14 44.3 +1.0**
ADKI IVmB_BB 14 14 45.1
comp=Z,715nm,4.4s
ADKI IVMs_BB IVMs_BB 14 48 09.8
comp=Z,448nm,19.8s
MLY Manley 64.41 25 P P **14 14 44.0 +1.4**
baz=251,SNR=6.4
NGP Nagpur 64.47 286*eP* **P 14 14 43.4 -0.3**
NGP *i* Rg Rg 14 43 42.5
DDI Dehra Dun 64.47 296*i P* **P 14 14 43.9 +0.3**
DDI *eP* **pP 14 14 44.5 -2.0**
DDI IAmb IAmb 14 14 47.8
comp=Z,64nm,1.0s
SML Sawmill 64.49 28 P P **14 14 42.1 -1.0**
SML pmax pmax
comp=Z,109nm,1.2s
SML Sawmill 64.49 28 P P **14 14 42.1 -1.0**
RPR Rampur 64.56 284*eP* **P 14 14 44.3 0.0**
RPR IVmB_BB 14 14 45.4
comp=Z,657nm,4.0s
RPR IVMs_BB IVMs_BB 14 48 25.7
comp=Z,618nm,19.2s
KURK Kurchatov 64.57 319 P P **14 14 43.5 -0.3**
KURK P P **14 14 43.5 -0.3**
KURK P P **14 14 43.5 -0.3**
KURK Kurchatov 64.57 319*ce* P **P 14 14 43.6 -0.1**
KURK pmax pmax
comp=Z,327nm,1.7s
KURK MLR MLR
comp=Z,10μm,16.0s
KURK Kurchatov 64.57 319 P P **14 14 43.2 -0.5**
KURBB Kurchatov Arra 64.62 319 P P **14 14 44.2 +0.2**
comp=Z,145nm,1.0s,baz=99,slow=6.3,SNR=156
KURBB Kurchatov Arra 64.62 319 P P **14 14 43.8 -0.3**
MDRS Chennai 64.64 277*eP* **P 14 14 46.1 +1.3**
MDRS *iP* **pP 14 14 46.2 -1.5**
BWN Browne 64.66 26 P P **14 14 44.9 +0.8**
RND Reindeer 64.70 27 P P **14 14 44.6 +0.1**
RND pmax pmax
comp=Z,62nm,1.3s
RND Reindeer 64.70 27 P P **14 14 44.6 +0.1**
RND IAMs_20 IAMs_20 14 38 59.4
comp=Z,4μm,21.0s
MCK McKinley 64.76 26 P P **14 14 47.0 +2.2**
baz=253
GLI Glacier Island 64.83 30 P P **14 14 45.3 0.0**
NJS Nagarjunasagar 64.91 281*eP* **P 14 14 47.1 +0.5**
NJS IVmB_BB 14 14 48.0
comp=Z,759nm,4.2s
NJS IVMs_BB IVMs_BB 14 47 05.8
comp=Z,380nm,18.5s
NEA2 Nenana 64.95 25 P P **14 14 47.9 +1.9**
baz=253
SCM Sheep Creek Mo 64.96 28 P P **14 14 46.2 0.0**
SCM pmax pmax
comp=Z,125nm,1.2s
SCM Sheep Creek Mo 64.96 28 P P **14 14 46.2 0.0**
KDJ Kajisay 64.96 310 P P **14 14 47.6 +0.9**
KDJ pmax pmax
comp=Z,115nm,1.5s
KDJ MLR MLR
comp=Z,7μm,18.0s
KDJ Kajisay 64.96 310 P P **14 14 47.6 +0.9**
HIN Hinchinbrook I 65.00 30 P P **14 14 47.9 +1.4**
SKHT Srikalahasti 65.03 278*eP* **P 14 14 48.1 +0.8**
SKHT IVmB_BB 14 14 49.1
comp=Z,784nm,4.1s
SKHT IVMs_BB IVMs_BB 14 41 57.9
comp=Z,401nm,18.6s
NRIK Noril'sk 65.07 340 P P **14 14 46.5 -0.1**
comp=Z,18nm,0.6s,baz=113,slow=7.7,SNR=26
NRIK LR LR 14 44 45.0
comp=Z,4μm,18.0s,baz=116,slow=38
NRIK Noril'sk 65.07 340*ce* P **P 14 14 46.4 -0.3**
NRIK pmax pmax
comp=Z,38nm,1.1s
NRIK MLR MLR
comp=Z,4μm,18.0s
MDOK Medeo 65.09 311*i P* **P 14 14 48.3 +0.7**
MDOK *eS* **S 14 23 29.1 -0.9**
MDOK *eLR* LR 14 46 38.8
comp=Z,3μm,15.9s
MDOK Medeo 65.09 311*i P* **P 14 14 48.2 +0.7**
MDOK *eS* **S 14 23 29.0 -0.9**
FID Port Fidalgo 65.09 30 P P **14 14 47.8 +0.8**
CUPL Choutuppal 65.16 282*eP* **P 14 14 48.5 +0.3**
CHKK Chushkaly 65.16 311*eP* **P 14 14 46.1 -1.7**
CHKK Chushkaly 65.16 311*eP* **P 14 14 46.0 -1.7**
TNSS Tian-Shan 65.16 311⇑*eP* **P 14 14 49.3 +0.9**
TNSS Tian-Shan 65.16 311⇑*eP* **P 14 14 49.2 +0.9**
AAA Alma-Ata 65.19 311*eP* **P 14 14 47.9 -0.1**
AAA *eS* **S 14 23 29.8 -1.2**
AAA *eLR* LR 14 46 42.9
comp=Z,3μm,15.3s
AAA Alma-Ata 65.19 311*eP* **P 14 14 49.5 +1.4**
NDI New Delhi 65.32 295*eP* **P 14 14 49.0 -0.1**
WRH Wood River Hil 65.32 26 P P **14 14 49.0 +0.6**
WRH IAmb IAmb 14 15 11.7
comp=Z,42nm,1.1s
COLD Coldfoot 65.35 22 P P **14 14 50.2 +1.7**
baz=250,SNR=15
COLD Coldfoot 65.35 22 P P **14 14 50.2 +1.7**
COLD IAmb IAmb 14 15 17.3
comp=Z,50nm,1.2s
SRLM Srisailam 65.38 281*eP* **P 14 14 49.9 +0.3**
SRLM IVmB_BB 14 14 50.9
comp=Z,730nm,4.0s
SRLM IVMs_BB IVMs_BB 14 48 24.1
comp=Z,544nm,18.7s
EYAK Cordova Ski Ar 65.40 30 P P **14 14 50.0 +1.0**
MDM Murphy Dome 65.41 25 P P **14 14 50.8 +1.8**
MDM IAmb IAmb 14 15 11.7
comp=Z,26nm,1.1s
MDM IAMs_20 IAMs_20 14 43 52.2
comp=Z,3μm,20.0s
PALK Pallekele 65.44 271 P P **14 14 50.6 +0.5**
PALK pmax pmax
comp=Z,69nm,1.5s
PALK MLR MLR
comp=Z,3μm,18.0s
PALK Pallekele 65.44 271 P P **14 14 50.6 +0.5**
PALK IAmb IAmb 14 14 52.5
comp=Z,69nm,1.5s
SONA Sohna 65.47 294*i P* **P 14 14 49.2 -0.8**
HYB Hyderabad 65.48 282*i P* **P 14 14 50.0 -0.3**
HYB *eS* **S 14 23 36.0 +0.7**
HYBB Hyderabad (bro 65.48 282*eP* **P 14 14 50.5 +0.2**
HYBB IVmB_BB 14 14 51.5
comp=Z,819nm,3.9s
HYBB IVMs_BB IVMs_BB 14 46 58.5
comp=Z,515nm,18.3s
CCB Clear Creek Bu 65.49 25 P P **14 14 50.4 +0.9**
CCB IAmb IAmb 14 14 53.1
comp=Z,35nm,1.3s
CCB IAMs_20 IAMs_20 14 43 56.4
comp=Z,3μm,19.0s
KLU Klutina 65.53 29 P P **14 14 50.8 +0.9**
KLU IAmb IAmb 14 15 09.3
comp=Z,42nm,1.2s
KLU IAMs_20 IAMs_20 14 48 52.3
comp=Z,3μm,18.0s
TCOL CIGO, UAF Yank 65.53 25 P P **14 14 51.8 +2.1**
baz=254
COLA College 65.54 25*i* P P **14 14 51.8 +2.1**
COLA pmax pmax
comp=Z,20nm,0.9s
COLA MLR MLR
comp=Z,3μm,18.0s
COLA College 65.54 25 IAMs_20 IAMs_20 14 43 57.5
comp=Z,4μm,19.0s
MTBS Maitube 65.54 311*eP* **P 14 14 50.1 -0.3**
MTBS Maitube 65.54 311*eP* **P 14 14 50.0 -0.3**
M24K Tolsona, Glenn 65.55 28 P P **14 14 50.6 +0.6**
baz=256
M24K Tolsona, Glenn 65.55 28 P P **14 14 49.8 -0.2**
KUU Kurty 65.63 311⇑*iP* **P 14 14 51.2 +0.3**
comp=Z,632nm,2.6s
KUU *eS* **S 14 23 33.7 -2.6**
KUU *eLR* LR 14 44 04.4
comp=Z,930nm,12.1s
KUU Kurty 65.63 311*c iP* **P 14 14 51.1 +0.3**
KUU *eS* **S 14 23 33.6 -2.6**
KUU pmax pmax
comp=Z,632nm,2.6s
KUU MLR MLR
comp=Z,930nm,12.0s
BHPL Bhopal 65.70 289⇑*iP* **P 14 14 51.0 -0.6**
BHPL IAmb IAmb 14 14 53.7
comp=Z,27nm,0.3s
BHPL IAmb IAmb 14 15 02.8
comp=Z,17nm,0.5s
POKR Poker Plat Res 65.78 25 P P **14 14 52.6 +1.3**
baz=254
HDA Harding Lake 65.78 26 P P **14 14 53.3 +1.9**
baz=255
HDA Harding Lake 65.78 26 P P **14 14 51.7 +0.3**
HDA IAmb IAmb 14 15 12.3
comp=Z,33nm,1.2s
BHK Bhakra 65.81 298*ex* **P 14 14 55.2 +3.0**
DHRM DHARAMSHALA 65.85 299⇑*iP* **P 14 14 52.1 -0.6**
DHRM *i* P **pP 14 14 52.3 -3.4**
DHRM IAmb IAmb 14 15 05.8
comp=Z,36nm,0.4s
KSH Kashi 65.86 307 P P **14 14 55.4 +2.9**
KSH S **S 14 23 45.4 +6.0**
KSH pmax pmax
comp=Z,180nm,2.0s
KSH pmax pmax
comp=Z,2μm,4.7s
KSH LR LR
comp=Z,3μm,14.9s
KSH LR LR
comp=Z,3μm,16.0s
KSH LR LR
comp=Z,3μm,16.9s
RAGM Ragged Mountai 65.89 30 IAMs_20 IAMs_20 14 45 55.9
comp=Z,4μm,20.0s
BOOM Boomskoye usch 65.89 310 P P **14 14 53.5 +0.8**
BOOM pmax pmax
comp=Z,29nm,0.7s
BOOM Boomskoye usch 65.89 310 P P **14 14 53.5 +0.8**
BOOM IAmb IAmb 14 14 55.9
comp=Z,28nm,0.7s
IL31 65.91 25 P P **14 14 51.7 -0.4**
IL31 IAmb IAmb 14 15 18.8
comp=Z,54nm,1.3s
ILAR Eielson Array 65.91 25 P P **14 14 52.0 -0.1**
comp=Z,14nm,1.0s,baz=253,slow=4.5,SNR=49
ILAR LR LR 14 43 41.2
comp=Z,2μm,19.4s,baz=269,slow=36
ILAR Eielson Array 65.91 25 P P **14 14 51.0 -1.2**
KAIM Kayak Island 65.93 31 P P **14 14 54.4 +2.0**
TOLK Toolik Lake Re 66.05 21 P P **14 14 55.1 +1.9**
baz=250
TOLK Toolik Lake Re 66.05 21 P P **14 14 54.4 +1.3**
TOLK IAMs_20 IAMs_20 14 48 38.3
comp=Z,3μm,19.0s
PAX Paxson 66.07 27 P P **14 14 53.3 -0.1**
PAX pmax pmax
comp=Z,53nm,1.2s
PAX Paxson 66.07 27 P P **14 14 53.3 -0.1**
PAX IAmb IAmb 14 15 15.5
comp=Z,53nm,1.2s
TKM2 Tokmak 2 66.15 310 P P **14 14 55.0 +0.6**
SNR=35
TKM2 Tokmak 2 66.15 310 P P **14 14 54.7 +0.3**
KZA Kyzart 66.40 309 P P **14 14 57.6 +1.3**
SNR=7.4
GLB Gilahina Butte 66.51 29 P P **14 14 56.4 +0.2**
KBK Karagaybulak 66.62 310 P P **14 14 58.0 +0.6**
SNR=20
CRQM Cirque 66.70 30 P P **14 14 57.9 +0.3**
CRQM IAMs_20 IAMs_20 14 48 55.0
comp=Z,4μm,19.0s
CHMS Chumysh 66.77 310 P P **14 14 59.0 +0.8**
SNR=5.2
DOT Dot Lake 66.84 27 IAMs_20 IAMs_20 14 39 19.9
comp=Z,4μm,21.0s
MENT Mentasta 66.84 28 P P **14 14 59.4 +1.1**
TGL Tana Glacier 66.85 30 IAMs_20 IAMs_20 14 49 08.4
comp=Z,4μm,19.0s
SGDS Sogindy 66.86 311⇑*iP* **P 14 14 59.0 +0.2**
comp=Z,193nm,3.6s
SGDS *eS* **S 14 23 50.5 -0.9**
SGDS Sogindy 66.86 311*c iP* **P 14 14 59.0 +0.2**
SGDS *eS* **S 14 23 50.4 -0.9**
SGDS pmax pmax
comp=Z,193nm,3.6s
MCARA McCarthy VSAT 66.87 29 P P **14 14 59.8 +1.4**
SCRK Sand Creek 66.94 27 P P **14 15 00.4 +1.5**
baz=258
UCH Uchtor 66.95 310 P P **14 15 01.5 +1.7**
SNR=19
USP Ospenovka 66.95 311 P P **14 14 59.5 +0.1**
SNR=21
AAK Ala-Archa 66.96 310 P P **14 15 00.5 +0.9**
SNR=10
AAK Ala-Archa 66.96 310 P P **14 15 00.2 +0.6**
AAK Ala-Archa 66.96 310 P P **14 14 58.7 -0.9**
BALM Baldy 67.13 30 P P **14 15 01.1 +0.9**
BALM pmax pmax
comp=Z,58nm,1.3s
BALM Baldy 67.13 30 P P **14 15 01.1 +0.9**
BALM IAmb IAmb 14 15 20.3
comp=Z,58nm,1.3s
URV Uravakonda 67.14 280*eP* **P 14 15 00.8 -0.2**
URV IVmB_BB 14 15 01.8
comp=Z,520nm,4.2s
URV IVMsBB 14 43 41.0
comp=Z,400nm,20.3s
KLRI Killari 67.21 283*eP* **P 14 15 01.1 -0.3**
KLRI IVmB_BB 14 15 02.0
comp=Z,879nm,4.3s
KLRI IVMs_BB IVMs_BB 14 49 45.8
comp=Z,668nm,17.4s
BTLS Baital 67.29 313⇑*iP* **P 14 15 01.6 +0.1**
comp=Z,162nm,2.3s
BTLS *eLR* LR 14 45 57.6
comp=Z,748nm,15.7s
BTLS Baital 67.29 313*c iP* **P 14 15 01.5 +0.1**
BTLS pmax pmax
comp=Z,162nm,2.3s
BTLS MLR MLR
comp=Z,748nm,16.0s
YAH Yahtse 67.32 31 P P **14 15 02.8 +1.2**
YAH IAMs_20 IAMs_20 14 49 55.6
comp=Z,3μm,18.0s
BARN Barnard Glacie 67.47 30 P P **14 15 03.8 +1.3**
BARN IAmb IAmb 14 15 21.7
comp=Z,49nm,1.4s
EKS2 Erkin-Say 67.49 310 P P **14 15 03.8 +0.9**
SNR=17
AML Almayashu 67.56 310 P P **14 15 05.1 +1.5**
SNR=11
CTGM Chitina Glacie 67.61 30 P P **14 15 04.9 +1.6**
PCA Pinnacle 68.02 31 P P **14 15 07.3 +1.5**
PCA IAmb IAmb 14 15 19.9
comp=Z,45nm,1.1s
EGAK Eagle 68.30 26 P P **14 15 08.8 +1.4**
EGAK IAmb IAmb 14 15 37.4
comp=Z,33nm,1.0s

NIL Nilore 68.31 300 P **P** 14 15 08.9 +0.8
NIL pmax pmax
comp=Z,84nm,1.1s
NIL Nilore 68.31 300 P **P** 14 15 08.9 +0.8
BRZS Berezniki 68.31 318⇑*i*P **P** 14 15 07.4 -0.4
comp=Z,399nm,3.6s
BRZS *e*LR LR 14 46 40.5
comp=Z,2µm,15.9s
BRZS Berezniki 68.31 318*c i*P **P** 14 15 07.4 -0.4
BRZS pmax pmax
comp=Z,399nm,3.6s
BRZS MLR MLR
comp=Z,2µm,16.0s
DZA Taraz 69.28 310 *e*P **P** 14 15 13.2 -0.8
DZA *e*S **S** 14 24 17.8 -2.5
DZA *e*LR LR 14 46 36.6
comp=Z,973nm,18.2s
DZA Taraz 69.28 310 *e*P **P** 14 15 13.1 -0.8
DZA *e*S **S** 14 24 17.7 -2.5
DZA MLR MLR
comp=Z,973nm,18.0s
HYT Haines Junctio 69.45 30 P **P** 14 15 16.1 +1.3
POO Poona 69.71 284 *e*P **P** 14 15 15.0 -2.0
POO ⇑*i*x x 14 15 15.7
POO ⇑*i*P **pP** 14 15 16.4 -3.6
BVAR Borovoye Array 69.81 321 P **P** 14 15 17.4 +0.4
comp=Z,37nm,0.9s,baz=163,slow=11,SNR=67
KK31 Karatay Array 69.88 311 P **P** 14 15 17.8 +0.2
KK31 pmax pmax
comp=Z,97nm,1.5s
KK31 Karatay Array 69.88 311 P **P** 14 15 17.8 +0.2
KKAR Karatay Array 69.88 311 P **P** 14 15 18.2 +0.6
KKAR pmax pmax
comp=Z,97nm,1.5s
KKAR Karatay Array 69.88 311 P **P** 14 15 18.2 +0.6
KKAR Karatay Array 69.88 311 P **P** 14 15 18.0 +0.4
BRVK Borovoye 69.88 321 P **P** 14 15 17.2 -0.2
BRVK P **P** 14 15 17.2 -0.2
BRVK P **P** 14 15 17.2 -0.2
BRVK S **S** 14 24 22.2 -4.6
BRVK S **S** 14 24 22.2 -4.6
BRVK S **S** 14 24 22.2 -4.6
BRVK Borovoye 69.88 321 P **P** 14 15 19.0 +1.6
BRVK pmax pmax
comp=Z,90nm,1.2s
BRVK MLR MLR
comp=Z,4µm,20.0s
BRVK Borovoye 69.88 321 P **P** 14 15 18.9 +1.6
BRVK Borovoye 69.88 321 IAMs_20 IAMs_20 14 45 46.2
comp=Z,4µm,20.0s
GAR Garm 70.27 306 P **P** 14 15 20.5 +0.3
IUG luzhnay 70.28 310⇑*i*P **P** 14 15 20.8 +0.5
comp=Z,222nm,2.7s
IUG *e*S **S** 14 24 29.8 -2.3
IUG *e*LR LR 14 47 03.1
comp=Z,613nm,14.8s
IUG luzhnay 70.28 310*c i*P **P** 14 15 20.7 +0.5
IUG *e*S **S** 14 24 29.8 -2.3
IUG pmax pmax
comp=Z,222nm,2.7s
IUG MLR MLR
comp=Z,613nm,15.0s
GOA Goa 70.29 281⇑*i*P **P** 14 15 20.6 +0.1
EPYK Eagle Plains 70.36 25 P **P** 14 15 21.0 +0.9
baz=264,SNR=8.8
EPYK Eagle Plains 70.36 25 P **P** 14 15 21.0 +0.9
EPYK IAMs_20 IAMs_20 14 47 05.0
comp=Z,3µm,19.0s
BRLS Boroldav 70.37 311 *e*P **P** 14 15 21.1 +0.3
comp=Z,134nm,2.0s
BRLS *i* S **S** 14 24 32.5 -0.6
comp=Z,201nm,5.1s
BRLS *e*LR LR 14 47 56.9
comp=Z,428nm,14.7s
BRLS Boroldav 70.37 311 *e*P **P** 14 15 21.0 +0.3
BRLS *i* S **S** 14 24 32.4 -0.6
BRLS pmax pmax
comp=Z,134nm,2.0s
BRLS smax smax
comp=E,201nm,5.1s
BRLS MLR MLR
comp=Z,428nm,15.0s
PPT Papeete 70.50 115 LR LR 14 45 27.4
comp=Z,2µm,18.2s,baz=282,slow=35
PPT2 Papeete2 70.50 115 *e*S **S** 14 24 33.1 -2.2
comp=Z,3µm,26.8s
PPT2 Papeete2 70.50 115 *e*LR LR 14 36 41.9
comp=Z,4µm,24.0s,baz=292
PPTF Pamatai, Papee 70.52 115 IAMs_20 IAMs_20 14 50 33.3
comp=Z,3µm,18.0s
WHY Whitehorse 70.73 31 P **P** 14 15 24.1 +1.5
WHY IAmb IAmb 14 15 35.9
comp=Z,49nm,1.2s
WHY IAMs_20 IAMs_20 14 50 19.8
comp=Z,3µm,19.0s
TAS Tashkent 70.88 309 P **P** 14 15 24.5 +0.7
JIS Juneau Island 70.89 33 IAMs_20 IAMs_20 14 51 29.2
comp=Z,3µm,18.0s
PMOR Pomariorio Ree 70.97 112 *e*T T 15 32 25.8
comp=Z,1.2nm,0.2s
CHGR Chuyangaron 71.20 306 P **P** 14 15 26.2 +0.3
CRAG Craig 71.57 36 IAMs_20 IAMs_20 14 51 17.0
comp=Z,3µm,19.0s
KBL Kabul 71.70 302 P **P** 14 15 29.3 +0.2
SNR=44
KBL P **P** 14 15 29.3 +0.2
SNR=44
KBL Kabul 71.70 302 P **P** 14 15 30.0 +0.8
KBL pmax pmax
comp=Z,37nm,1.0s
KBL Kabul 71.70 302 P **P** 14 15 29.9 +0.8
KBL IAmb IAmb 14 15 52.9
comp=Z,37nm,0.9s
INK Inuvik 71.76 23 P **P** 14 15 30.2 +1.7
INK pmax pmax
comp=Z,37nm,1.1s
INK Inuvik 71.76 23 P **P** 14 15 30.2 +1.7
INK IAmb IAmb 14 15 41.5
comp=Z,37nm,1.1s
WRAK Wrangell Islan 71.99 35 P **P** 14 15 32.1 +2.0
WRAK IAmb IAmb 14 16 00.7
comp=Z,72nm,1.5s
WRAK Wrangell Islan 71.99 35 IAMs_20 IAMs_20 14 52 01.2
comp=Z,3µm,18.0s
DIB Dawson Inlet, 71.99 39 IAMs_20 IAMs_20 14 45 19.3
comp=Z,3µm,18.0s
BHUJ Bhuj 72.76 290⇑*i*P **P** 14 15 36.4 +1.0
BHUJ ⇑*i*P **pP** 14 15 36.6 -1.8
BHUJ IAmb IAmb 14 15 41.6
comp=Z,49nm,1.2s
TBI Tubuai 73.01 121 *e*S **S** 14 25 00.2 -3.6
comp=Z,2µm,25.5s
TBI Tubuai 73.01 121 *e*LR LR 14 37 52.2
comp=Z,3µm,27.0s,baz=302
TBI Tubuai 73.01 121 *e*T T 15 35 00.3
comp=Z,6.2nm,0.3s
DLBC Dease Lake 73.19 33 P **P** 14 15 39.3 +1.9
DLBC IAmb IAmb 14 16 08.2
comp=Z,50nm,1.1s
A36M Sachs Harbour 74.64 19 P **P** 14 15 47.2 +1.7
baz=273
A36M Sachs Harbour 74.64 19 IAMs_20 IAMs_20 14 48 25.2
comp=Z,3µm,20.0s
BBB Bella Bella 74.71 39 P **P** 14 15 47.4 +1.1
BBB IAmb IAmb 14 15 56.5
comp=Z,52nm,1.4s
C36M Paulatuk 75.19 22 P **P** 14 15 49.8 +1.1
baz=274
C36M Paulatuk 75.19 22 P **P** 14 15 49.9 +1.1
SVE Sverdlovsk 75.28 325*d i*P **P** 14 15 50.0 +0.5
SVE *e*S **S** 14 25 26.2 -2.1
SVE pmax pmax
comp=Z,77nm,1.0s
SVE MLR MLR
comp=Z,3µm,17.0s
ARU Arti 76.46 325*c i*P **P** 14 15 55.9 -0.3
ARU 14 18 45.0
ARU S **S** 14 25 41.9 +0.5
ARU SS **SS** 14 30 43.0 +7.4
ARU pmax pmax
comp=Z,105nm,1.1s
ARU Arti 76.46 325 P **P** 14 15 56.8 +0.6
ARU IAMs_20 IAMs_20 14 56 04.2
comp=Z,4µm,18.0s
AB31 Akbulak array 76.62 318 *i*P **P** 14 15 56.6 -0.7
ABKAR Akbulak array 76.62 318 P **P** 14 15 57.0 -0.3
ABKAR IAmb IAmb 14 15 59.2
comp=Z,53nm,1.3s
HRA Herat 77.28 302 P **P** 14 16 02.4 +0.8
HRA IAmb IAmb 14 16 16.9
comp=Z,60nm,1.5s
AKTO Aktyubinsk 77.67 319 P **P** 14 16 03.2 0.0
comp=Z,5.7nm,0.7s,baz=98,slow=7.7,SNR=16
NLWA Neilton Lookou 78.08 44 P **P** 14 16 06.6 +1.0
NLWA IAmb IAmb 14 16 16.4
comp=Z,68nm,1.4s
E03A Lebam 78.44 45 IAMs_20 IAMs_20 14 55 17.8
comp=Z,2µm,18.0s
D03D Eldon 78.58 44 P **P** 14 16 10.0 +1.7
baz=280
A04D Lummi Island 78.62 42 P **P** 14 16 10.8 +2.3
baz=280
KBO Bosley Butte 78.76 49 P **P** 14 16 10.1 +0.6
KBO IAmb IAmb 14 16 35.3
comp=Z,52nm,1.2s
J01E Myrtle Point 78.80 48 P **P** 14 16 09.9 +0.4
baz=281
D04E Lakebay 78.86 44 P **P** 14 16 11.9 +2.1
baz=281
G03D McMinnville, O 78.89 46 P **P** 14 16 09.8 -0.2
baz=281
F04D Rainier, OR 78.90 45 P **P** 14 16 11.9 +1.9
baz=281
COR Corvallis 78.98 47 P **P** 14 16 12.4 +1.9
COR pmax pmax
comp=Z,61nm,1.5s
COR Corvallis 78.98 47 IAMs_20 IAMs_20 14 49 42.0
comp=Z,3µm,19.0s
K02D Willamette Mer 79.08 49 P **P** 14 16 12.1 +0.9
baz=281
B05A Bryant 79.10 43 P **P** 14 16 12.3 +1.2
baz=281
E04D Cinebar 79.11 45 P **P** 14 16 11.5 +0.3
baz=281
I03D Drain, OR 79.11 48 P **P** 14 16 12.5 +1.2
baz=281
KRMB Red Mountain 79.12 50 P **P** 14 16 12.8 +1.2
JCC Jacoby Creek, 79.17 51 IAMs_20 IAMs_20 14 52 26.1
comp=Z,2µm,18.0s
L02E Cave Junction 79.22 49 P **P** 14 16 12.9 +0.9
baz=281
F04A Amboy 79.33 45 P **P** 14 16 13.3 +0.8
F04A IAmb IAmb 14 16 34.4
comp=Z,51nm,1.2s
KHMM Horse Mountain 79.38 50 P **P** 14 16 13.7 +0.7
KHMM IAmb IAmb 14 16 23.8
comp=Z,47nm,1.3s
KHMM IAMs_20 IAMs_20 14 52 50.7
comp=Z,3µm,19.0s
D05A Enumclaw 79.38 44 P **P** 14 16 13.7 +1.0
D05A IAmb IAmb 14 16 35.2
comp=Z,65nm,1.1s
H04D Lebanon 79.39 47 P **P** 14 16 13.6 +0.8
baz=281
B06A Marblemount 79.45 43 P **P** 14 16 14.0 +1.0
B06A IAmb IAmb 14 16 34.9
comp=Z,54nm,1.4s
KMRM Mail Ridge 79.52 51 P **P** 14 16 13.1 -0.6
KMRM IAmb IAmb 14 16 24.6
comp=Z,60nm,1.5s
KMRM IAMs_20 IAMs_20 14 56 28.7
comp=Z,3µm,18.0s
LON Longmire 79.58 44 P **P** 14 16 13.0 -0.9
LON pmax pmax
comp=Z,16nm,1.1s
LON Longmire 79.58 44 P **P** 14 16 13.0 -0.9
ASHT Ashkhabad 79.68 307 P **P** 14 16 16.2 +1.7
ASHT pmax pmax
comp=Z,52nm,0.5s
KCPM Cahto Peak 79.72 52 P **P** 14 16 15.2 +0.3
KCPM IAmb IAmb 14 16 25.3
comp=Z,73nm,1.3s
KCPM IAMs_20 IAMs_20 14 51 37.9
comp=Z,2µm,18.0s
H04A Detroit Lake 79.74 46 P **P** 14 16 15.5 +0.8
H04A IAmb IAmb 14 16 24.6
comp=Z,43nm,1.2s
I04A Tendick Farm, 79.76 47 P **P** 14 16 13.6 -1.3
baz=282
GEYT Alibeck 79.89 307 P **P** 14 16 16.3 +0.6
comp=Z,19nm,1.0s,baz=186,slow=1.5,SNR=29
GEYT LR LR 14 56 51.6
comp=Z,2µm,18.2s,baz=90,slow=40
GEYT Alibeck 79.89 307 P **P** 14 16 16.5 +0.8
GYA0 ALIBECK ARRAY 79.89 307 P **P** 14 16 15.8 +0.1
GYA0B ALIBECK ARRAY 79.89 307 P **P** 14 16 16.4 +0.7
GYA0B IAmb IAmb 14 16 31.2
comp=Z,50nm,1.1s
GYA0B IAMs_20 IAMs_20 14 57 07.0
comp=Z,3µm,19.0s
M02C Callahan 79.92 50 P **P** 14 16 16.3 +0.5
baz=282
C06D Leavenworth 79.96 43 P **P** 14 16 16.9 +1.1
baz=282
YBH Yreka Blue Hor 79.96 49 P **P** 14 16 16.5 +0.4
YBH pmax pmax
comp=Z,17nm,1.2s
YBH Yreka Blue Hor 79.96 49 P **P** 14 16 16.5 +0.4
F05D White Salmon 80.00 45 P **P** 14 16 17.1 +1.0
baz=282
J04D Umpqua Nationa 80.09 48 P **P** 14 16 17.6 +0.7
baz=282
N02D Trinity Center 80.12 50 P **P** 14 16 16.0 -0.9
baz=282
YKA Yellowknife Ar 80.15 28 P **P** 14 16 17.1 +0.6
comp=Z,20nm,0.7s,baz=287,slow=5.1,SNR=25
YKA LR LR 14 51 30.6
comp=Z,2µm,19.9s,baz=0.0,slow=36
YKA Yellowknife Ar 80.15 28 *i*P **P** 14 16 17.6 +1.1
YKA pmax pmax
comp=Z,21nm,0.7s
L04D Klamath Falls 80.16 49 P **P** 14 16 18.2 +1.0
baz=282
O02D Mt. Diablo Mer 80.22 51 P **P** 14 16 18.6 +1.1
baz=282
G05D Wamic, OR 80.23 46 P **P** 14 16 18.6 +1.3
baz=282
LTY Liberty 80.25 44 P **P** 14 16 17.9 +0.4
HOPS Hopland Field 80.25 52 IAMs_20 IAMs_20 14 50 54.9
comp=Z,2µm,19.0s
WDC Whiskeytown Da 80.32 51 P **P** 14 16 18.4 +0.5
WDC pmax pmax
comp=Z,20nm,1.3s
WDC MLR MLR
comp=Z,2µm,18.0s
WDC Whiskeytown Da 80.32 51 P **P** 14 16 18.4 +0.5
WDC IAMs_20 IAMs_20 14 53 32.7
comp=Z,2µm,18.0s
I05D Terrebonne, OR 80.40 47 P **P** 14 16 19.1 +0.8
baz=282
K04D Chiloquin, OR 80.47 48 P **P** 14 16 18.4 -0.5
baz=282
GDXM Geysers 80.50 52 IAMs_20 IAMs_20 14 48 54.5
comp=Z,3µm,19.0s
MCCM Marconi Confer 80.58 53 IAMs_20 IAMs_20 14 52 32.5
comp=Z,2µm,18.0s
M04C Macdoel 80.59 49 P **P** 14 16 20.3 +0.8
baz=282
EUNU Eureka 80.68 8 P **P** 14 16 20.6 +1.5
EUNU IAmb IAmb 14 16 29.2
comp=Z,32nm,0.9s
J05D Fort Rock, OR 80.70 48 P **P** 14 16 19.2 -1.0
baz=282
PINE Pine Mountain 80.80 47 P **P** 14 16 21.9 +1.2
PINE IAMs_20 IAMs_20 14 56 16.3
comp=Z,3µm,18.0s
B08A Colville Reser 80.89 42 P **P** 14 16 21.8 +1.0
B08A IAmb IAmb 14 16 29.1
comp=Z,49nm,1.1s
KIRV Kirov 80.89 328*c e*P **P** 14 16 20.8 +0.3
O03E Paynes Creek 80.94 51 P **P** 14 16 22.2 +0.8
baz=282
E07A Sunnyside 80.94 44 P **P** 14 16 22.1 +1.0
E07A IAmb IAmb 14 16 43.3
comp=Z,37nm,1.2s
F07A Phinny Hill Vi 81.04 45 IAMs_20 IAMs_20 14 56 22.7
comp=Z,3µm,19.0s
K05A Summer Lake 81.07 48 P **P** 14 16 22.4 +0.2
K05A IAmb IAmb 14 16 42.7
comp=Z,67nm,1.4s
K05A IAMs_20 IAMs_20 14 51 15.4
comp=Z,2µm,18.0s
HAWA Hanford 81.20 44 P **P** 14 16 23.1 +0.6
HAWA IAMs_20 IAMs_20 14 57 41.8
comp=Z,2µm,18.0s
ORV Oroville 81.32 51 P **P** 14 16 23.7 +0.4
ORV pmax pmax
comp=Z,33nm,1.3s
ORV Oroville 81.32 51 P **P** 14 16 23.7 +0.4
D08A Wollman Farm, 81.45 44 P **P** 14 16 24.6 +0.7
E08A Dider Farm, El 81.49 44 P **P** 14 16 25.1 +1.1
MOD Modoc Plateau 81.68 49 P **P** 14 16 25.8 +0.5
MOD IAmb IAmb 14 16 35.3
comp=Z,47nm,1.4s
C09A Chrisman Ranch 81.70 43 P **P** 14 16 26.0 +0.8
I07A Izee 81.75 47 IAMs_20 IAMs_20 14 51 21.4
comp=Z,2µm,19.0s
G08A Pilot Rock 81.84 45 P **P** 14 16 27.0 +0.9
AFDM Forest Hills D 81.86 52 P **P** 14 16 26.8 +0.6
AFDM IAmb IAmb 14 16 36.1
comp=Z,40nm,1.5s
PRGR Permogore 81.87 332⇓*i*P **P** 14 16 26.2 +0.5
PRGR pmax pmax
comp=Z,40nm,0.9s
SAO San Andreas Ge 81.99 54 IAMs_20 IAMs_20 14 59 44.0
comp=Z,3µm,18.0s
E09A Wood Farm, Sta 82.10 44 P **P** 14 16 27.7 +0.4
E09A IAmb IAmb 14 16 49.2
comp=Z,34nm,1.2s
RES Resolute Bay 82.19 14 P **P** 14 16 28.6 +1.5
RES pmax pmax
comp=Z,34nm,1.1s
RES Resolute Bay 82.19 14 P **P** 14 16 28.6 +1.5
RES IAmb IAmb 14 16 31.9
comp=Z,34nm,1.1s
JLN Jalan Bani Buh 82.25 291 P **P** 14 16 29.0 +0.5
SNR=6.6
JLN P **P** 14 16 29.0 +0.5
SNR=6.6
NEW Newport 82.34 42 P **P** 14 16 28.0 -0.5
baz=284
NEW Newport 82.34 42 P **P** 14 16 29.1 +0.5
NEW pmax pmax
comp=Z,34nm,1.1s
NEW MLR MLR
comp=Z,2µm,18.0s
NEW Newport 82.34 42 P **P** 14 16 29.1 +0.5
NEW IAmb IAmb 14 16 36.8
comp=Z,34nm,1.1s
CMB Columbia Colle 82.52 53 P **P** 14 16 30.2 +0.5
CMB pmax pmax
comp=Z,34nm,1.5s
CMB Columbia Colle 82.52 53 P **P** 14 16 30.2 +0.5
CMB IAmb IAmb 14 16 34.1
comp=Z,34nm,1.4s
CMB IAMs_20 IAMs_20 14 53 44.9
comp=Z,2µm,19.0s
SPA0 Spitsbergen Ar 82.53 351 *e*P **P** 14 16 30.3 +1.3
WBK Wadi Bani Khal 82.54 291 P **P** 14 16 30.9 +0.9
SNR=9.7
WBK P **P** 14 16 30.9 +0.9
SNR=9.7
KBS Kingsbay 82.63 352 *e*P **P** 14 16 31.0 +1.6
PMPB Monarch Peak 82.63 55 IAMs_20 IAMs_20 15 00 05.8
comp=Z,2µm,18.0s
J08A Circle Bar Ran 82.65 47 P **P** 14 16 30.9 +0.6
J08A IAMs_20 IAMs_20 14 52 55.2
comp=Z,2µm,18.0s
WSAR Wadi Sarin 82.69 292 P **P** 14 16 32.0 +1.2
comp=Z,12nm,0.6s,baz=122,slow=4.2,SNR=21
WSAR Wadi Sarin 82.69 292 P **P** 14 16 31.8 +1.0
SNR=8.5
NOR Nord 82.73 358 *i*P **P** 14 16 32.0 +2.1
NOR Nord 82.73 358 *i*P **P** 14 16 32.0 +2.1
NOR Nord 82.73 358 *i*P **P** 14 16 32.0 +2.1
PNTR Pine Nut 82.86 52 P **P** 14 16 31.9 +0.2
PNTR IAmb IAmb 14 16 41.1
comp=Z,28nm,1.1s
PAHR Pah Rah Range 82.88 51 P **P** 14 16 31.4 -0.2
PAHR IAMs_20 IAMs_20 14 58 20.3
comp=Z,3µm,19.0s
BIDO Bidbid 83.08 292 P **P** 14 16 33.8 +1.0
SNR=13
BIDO P **P** 14 16 33.8 +1.0
SNR=13
BMO Blue Mountains 83.08 45 P **P** 14 16 33.0 +0.4
BMO pmax pmax
comp=Z,49nm,1.4s
BMO Blue Mountains 83.08 45 P **P** 14 16 33.0 +0.4
BMO IAmb IAmb 14 16 40.8
comp=Z,49nm,1.4s
YERR Yerington 83.16 52 P **P** 14 16 33.3 +0.1
YERR IAmb IAmb 14 16 57.5
comp=Z,33nm,1.3s
YERR IAMs_20 IAMs_20 14 56 11.9
comp=Z,2µm,18.0s
PAGB Antelope Grade 83.18 55 P **P** 14 16 32.3 -0.8
PAGB IAmb IAmb 14 16 53.8
comp=Z,42nm,1.1s
PAGB IAMs_20 IAMs_20 14 59 48.4
comp=Z,2µm,18.0s
SMDO Samad 83.26 292 P **P** 14 16 34.8 +1.0
SNR=5.6
SMDO P **P** 14 16 34.8 +1.0
SNR=5.6
JMDO Jabal Madar 83.37 291 P **P** 14 16 35.1 +0.7
SNR=6.4
JMDO P **P** 14 16 35.1 +0.7
SNR=6.4
SMMC Simmler 83.48 55 P **P** 14 16 34.4 -0.3
baz=284
BELG Belogornoye 83.56 323*c i*P **P** 14 16 34.4 -0.3
MDPB Devils Postpil 83.62 53 P **P** 14 16 35.5 -0.2
OMMB Old Mammoth Mi 83.69 53 P **P** 14 16 36.1 0.0
OMMB IAMs_20 IAMs_20 14 54 11.8
comp=Z,2µm,18.0s
PKM Mcpherson Peak 83.73 56 P **P** 14 16 36.4 +0.2
baz=284,SNR=11
HOQ Hoqain 83.79 293 P **P** 14 16 37.4 +1.0
SNR=20
HOQ P **P** 14 16 37.4 +1.0
SNR=20
RYN Ryan 83.79 52 P **P** 14 16 36.8 +0.4
MHTO MHTO 83.83 290 P **P** 14 16 37.2 +0.5
SNR=17
LVZ Lovozero 83.90 339*c e*P **P** 14 16 37.7 +1.5
LVZ pmax pmax
comp=Z,59nm,1.7s
LVZ Lovozero 83.90 339 P **P** 14 16 36.5 +0.3
LVZ IAmb IAmb 14 16 43.9
comp=Z,40nm,1.2s
LHV Little Huntoon 83.91 52 IAMs_20 IAMs_20 14 54 43.5
comp=Z,2µm,18.0s
PLID Pearl Lake 83.92 45 P **P** 14 16 36.0 -1.0
PLID IAmb IAmb 14 16 44.6
comp=Z,29nm,1.3s
KVN Kaiserville 84.00 51 P **P** 14 16 36.5 -1.0
KVN pmax pmax
comp=Z,25nm,1.3s
KVN Kaiserville 84.00 51 P **P** 14 16 36.5 -1.0
KVN IAmb IAmb 14 16 57.7
comp=Z,25nm,1.3s
NVAR Mina Array Bea 84.01 52 P **P** 14 16 39.0 +1.4
comp=Z,4.6nm,0.8s,baz=272,slow=5.4,SNR=23
VES Vestal, Richgr 84.07 55 P **P** 14 16 37.8 +0.2
baz=285
BSY Bisya 84.09 292 P **P** 14 16 38.6 +0.6
SNR=8.4
BANOM Banah 84.11 295 *i*P **P** 14 16 39.1 +1.0
SNR=21
BANOM Banah 84.11 295 P **P** 14 16 39.5 +1.4
SNR=13
NV11 Mina Array Sit 84.12 52 P **P** 14 16 38.0 -0.1
NV11 IAmb IAmb 14 17 05.8
comp=Z,40nm,1.4s
NV11 IAMs_20 IAMs_20 14 54 42.3
comp=Z,2µm,18.0s
WALA Waterton Lakes 84.18 41 P **P** 14 16 39.0 +0.9
WALA IAMs_20 IAMs_20 14 55 58.5
comp=Z,2µm,19.0s
SHME Shamm 84.21 295 *i*P **P** 14 16 39.6 +1.0
SNR=16
MDH Madha 84.26 295 *i*P **P** 14 16 38.7 -0.2
SNR=20
MDH Madha 84.26 295 P **P** 14 16 38.9 +0.1
SNR=5.8
JTMT Jette 84.32 42 P **P** 14 16 39.5 +0.7
JTMT IAmb IAmb 14 17 00.5

	comp=Z,51nm,1.4s										
SOHO	**SOHO**	84.34	293	*i*	P		**P**		14 16 39.6	+0.3	
	SNR=40										
SOHO	**SOHO**	84.34	293		P		**P**		14 16 39.2	0.0	
MSFE	**Esma-Masafi**	84.37	295	*i*	P		**P**		14 16 40.1	+0.7	
	SNR=36										
UOSS	**Minazif**	84.43	294	*i*	P		**P**		14 16 39.8	0.0	
	SNR=28										
UOSS	**Minazif**	84.43	294		P		**P**		14 16 39.9	+0.2	
UOSS					IAmb		IAmb		14 16 54.4		
	comp=Z,36nm,0.9s										
ARVC	**Arvin**	84.45	55		P		**P**		14 16 39.8	+0.1	
	baz=285										
APA	**Apatity**	84.47	339	ǁ	*i*	P	**P**		14 16 39.0	0.0	
APA					*i*				14 26 55.0		
APA					*i*	S	**S**		14 27 03.0	-2.0	
APA						pmax	pmax				
	comp=Z,13nm,1.1s										
APA						MLR	MLR				
	comp=Z,2µm,16.0s										
MFID	**Camas Ranch**	84.49	47		P		**P**		14 16 40.5	+0.7	
MFID					IAmb		IAmb		14 17 00.8		
	comp=Z,53nm,1.3s										
HATD	**Hatta, Dubai**	84.53	294	*i*	P		**P**		14 16 40.4	+0.2	
	SNR=9.8										
HATD	**Hatta, Dubai**	84.53	294		P		**P**		14 16 41.1	+0.9	
	SNR=22										
ARQ	**Araqi**	84.55	293		P		**P**		14 16 41.5	+1.1	
	SNR=27										
ISA	**Isabella, Lake**	84.59	55		P		**P**		14 16 38.9	-1.5	
	baz=285										
ISA	**Isabella, Lake**	84.59	55		P		**P**		14 16 40.6	+0.1	
ISA					pmax		pmax				
	comp=Z,12nm,1.1s										
ISA	**Isabella, Lake**	84.59	55		P		**P**		14 16 40.6	+0.1	
ISA					IAMs_20		IAMs_20		15 01 59.9		
	comp=Z,2µm,18.0s										
ASHO	**Ashiyiah**	84.63	294	*i*	P		**P**		14 16 41.5	+0.7	
	SNR=10										
ASHO	**Ashiyiah**	84.63	294		P		**P**		14 16 41.8	+1.0	
	SNR=14										
OSI	**Osito Audit: C**	84.67	56		P		**P**		14 16 41.6	+0.7	
	baz=285										
OSI	**Osito Audit: C**	84.67	56		IAMs_20		IAMs_20		14 59 04.8		
	comp=Z,3µm,18.0s										
CWC	**Cottonwood Cre**	84.70	54		P		**P**		14 16 39.7	-1.4	
	baz=285										
UMQ	**Umm Al-Quwin**	84.76	295	*i*	P		**P**		14 16 42.8	+1.5	
	SNR=7.4										
MSO	**Missoula**	84.81	43		P		**P**		14 16 40.4	-0.9	
	baz=287										
MSO	**Missoula**	84.81	43		P		**P**		14 16 42.1	+0.8	
MSO					IAmb		IAmb		14 17 01.6		
	comp=Z,32nm,1.5s										
NAZ	**Nazwa, Dubai**	84.90	294	*i*	P		**P**		14 16 42.3	+0.2	
	SNR=17										
NAZ	**Nazwa, Dubai**	84.90	294		P		**P**		14 16 42.7	+0.7	
	SNR=11										
KLMR	**Klimovskoe**	84.91	332	*e*	P		**P**		14 16 40.2	-1.1	
KLMR					*e*	S	**S**		14 27 03.8	-5.8	
KLMR						pmax	pmax				
	comp=Z,65nm,1.2s										
KLMR	**Klimovskoe**	84.91	332	*e*	P		**P**		14 16 40.3	-1.1	
KLMR					AMP				14 16 44.1		
	comp=Z,65nm,1.2s										
KLMR					*e*	S	**S**		14 27 03.9	-5.7	
KLMR					*e*	S	**S**		14 27 03.9	-5.7	
KLMR					LQ		LQ		14 46 14.1		
KLMR					LQ		LQ		14 46 14.1		
KLMR					LR		LR		14 52 39.7		
TPH	**Tonopah**	84.93	52		P		**P**		14 16 42.5	+0.3	
TPH					pmax		pmax				
	comp=Z,119nm,1.5s										
TPH	**Tonopah**	84.93	52		P		**P**		14 16 42.5	+0.3	
FAQ	**Al Faqa, Dubai**	85.02	294	*i*	P		**P**		14 16 43.1	+0.4	
	SNR=9.7										
ALNE	**Al Ain**	85.05	293	*i*	P		**P**		14 16 43.3	+0.4	
	SNR=42										
EDW2	**Edwards Air Fo**	85.18	55		P		**P**		14 16 43.9	+0.5	
	baz=285,SNR=15										
PASC	**Pasadena Art C**	85.21	56		IAMs_20		IAMs_20		14 59 19.3		
	comp=Z,3µm,19.0s										
CIS	**Catalina Islan**	85.23	57		P		**P**		14 16 43.5	-0.1	
	baz=285										
RKT	**Rikitea**	85.26	115	*e*	S		**S**		14 27 11.9	-2.4	
	comp=Z,2µm,27.5s										
RKT	**Rikitea**	85.26	115	*e*	LR		LR		14 43 27.4		
	comp=Z,3µm,29.2s										
MPMC	**Manual Prospec**	85.26	54		P		**P**		14 16 43.8	-0.1	
	baz=286,SNR=19										
LRMC	**Laurel Mtn Rad**	85.27	55		P		**P**		14 16 44.1	+0.2	
	baz=286										
MWC	**Mount Wilson**	85.30	56		P		**P**		14 16 44.4	+0.2	
MWC					pmax		pmax				
	comp=Z,52nm,1.4s										
MWC	**Mount Wilson**	85.30	56		P		**P**		14 16 44.4	+0.2	
MWC					IAmb		IAmb		14 17 04.7		
	comp=Z,52nm,1.4s										
MWC					IAMs_20		IAMs_20		14 59 40.6		
	comp=Z,3µm,18.0s										
KEV	**Kevo**	85.38	342		P		**P**		14 16 44.0	+0.4	
KEV					pmax		pmax				
	comp=Z,39nm,1.1s										
KEV					MLR		MLR				
	comp=Z,4µm,19.0s										
KEV	**Kevo**	85.38	342		P		**P**		14 16 44.0	+0.4	
KEV					IAmb		IAmb		14 17 00.7		
	comp=Z,39nm,1.1s										
HLID	**Hailey**	85.44	46		P		**P**		14 16 44.9	+0.3	
	baz=287,SNR=10										
HLID	**Hailey**	85.44	46		P		**P**		14 16 44.9	+0.3	
HLID					IAMs_20		IAMs_20		14 54 25.0		
	comp=Z,2µm,18.0s										
AJN	**Ajban**	85.60	294	*i*	P		**P**		14 16 46.7	+1.1	
	SNR=15										
AJN	**Ajban**	85.60	294		P		**P**		14 16 46.2	+0.6	
	SNR=8.6										
BFSC	**Mount Baldy Ra**	85.62	56		P		**P**		14 16 45.9	+0.2	
	baz=286										
FURC	**Furnace Creek,**	85.64	54		P		**P**		14 16 45.3	-0.2	
	baz=286										
ELK	**Elko**	85.66	49		P		**P**		14 16 46.4	+0.5	
ELK					pmax		pmax				
	comp=Z,40nm,1.3s										
ELK					MLR		MLR				
	comp=Z,2µm,18.0s										
ELK	**Elko**	85.66	49		P		**P**		14 16 46.4	+0.5	
ELK					IAmb		IAmb		14 16 55.9		
	comp=Z,40nm,1.2s										
TULEG	**Thule**	85.68	8		P		**P**		14 16 46.8	+1.9	
TULEG					IAMs_20		IAMs_20		15 02 43.0		
	comp=Z,2µm,18.0s										
TULEG	**Thule**	85.68	8	*i*	P		**P**		14 16 46.0	+1.1	
TULEG					IAmb		IAmb		14 16 48.6		
	comp=Z,90nm,1.1s										
HAMF	**Hammerfest**	85.81	344	*e*	P		**P**		14 16 46.1	+0.4	
BCYI	**Bear Canyon**	85.91	45		P		**P**		14 16 47.0	-0.1	
ARCES	**ARCESS Array B**	85.94	343		P		**P**		14 16 46.7	+0.3	
	comp=Z,12nm,0.5s,baz=64,slow=5.7,SNR=104										
ARCES					LR		LR		15 01 31.5		
	comp=Z,3µm,18.1s,baz=70,slow=40										
CASY	**Casey**	85.98	194		P		**P**		14 16 47.1	+0.8	
CASY					IAmb		IAmb		14 17 13.0		
	comp=Z,33nm,1.3s										
CASY	**Casey**	85.98	194		IAMs_20		IAMs_20		14 55 22.7		
	comp=Z,2µm,19.0s										
TPNV	**Topopah Spring**	85.98	53		P		**P**		14 16 47.6	+0.1	
	baz=286,SNR=7.4										
TPNV	**Topopah Spring**	85.98	53		P		**P**		14 16 47.5	+0.1	
TPNV					pmax		pmax				
	comp=Z,23nm,1.2s										
TPNV					MLR		MLR				
	comp=Z,1µm,20.0s										
TPNV	**Topopah Spring**	85.98	53		P		**P**		14 16 47.5	+0.1	
GSC	**Goldstone, Bar**	86.00	55		P		**P**		14 16 47.9	+0.3	
	baz=286,SNR=11										
GSC	**Goldstone, Bar**	86.00	55		P		**P**		14 16 47.8	+0.3	
GSC					pmax		pmax				
	comp=Z,31nm,1.3s										
GSC					MLR		MLR				
	comp=Z,2µm,18.0s										
GSC	**Goldstone, Bar**	86.00	55		P		**P**		14 16 47.8	+0.3	
GSC					IAmb		IAmb		14 17 11.5		
	comp=Z,31nm,1.2s										
GSC					IAMs_20		IAMs_20		14 59 05.1		
	comp=Z,2µm,18.0s										
R11A	**Troy Canyon, C**	86.09	51		P		**P**		14 16 48.0	0.0	
	baz=286,SNR=18										
R11A	**Troy Canyon, C**	86.09	51		P		**P**		14 16 48.2	+0.2	
R11A					IAMs_20		IAMs_20		14 59 39.4		
	comp=Z,2µm,18.0s										
LRM	**Limekiln Ridge**	86.09	44		P		**P**		14 16 48.6	+0.6	
MCMT	**McKenzie Canyo**	86.13	45		P		**P**		14 16 48.8	+0.6	
DLMT	**Dillon**	86.14	44		P		**P**		14 16 48.6	+0.5	
MURC	**Murrieta**	86.16	56		P		**P**		14 16 48.6	+0.3	
	baz=286										
HRY	**Holter Researc**	86.22	43		P		**P**		14 16 48.7	+0.2	
SHOC	**Shoshone, Teco**	86.25	54		P		**P**		14 16 48.5	-0.1	
	baz=286										
109C	**Camp Elliot, M**	86.43	57		P		**P**		14 16 49.4	-0.1	
	baz=286										
MAK	**Makhachkala**	86.45	314	*e*	P		P		14 16 43.6	-5.8	
MAK				*e*					14 27 06.0		
MAK					pmax		pmax				
	comp=Z,245nm,1.2s										
HEC	**Hector,Ludlow**	86.50	55		P		**P**		14 16 49.3	-0.7	
	baz=286										
TUQ	**Turquoise Moun**	86.66	54		P		**P**		14 16 50.5	-0.3	
	baz=286										
BOZ	**Bozeman (W)**	86.71	44		P		**P**		14 16 51.6	+0.7	
	baz=289,SNR=29										
BOZ	**Bozeman (W)**	86.71	44		P		**P**		14 16 51.7	+0.8	
BOZ					pmax		pmax				
	comp=Z,50nm,1.4s										
BOZ	**Bozeman (W)**	86.71	44		P		**P**		14 16 51.7	+0.8	
BOZ					IAmb		IAmb		14 16 59.2		
	comp=Z,50nm,1.4s										
SHAO	**Shalim**	86.71	288	*i*	P		**P**		14 16 53.0	+1.8	
	SNR=9.0										
SHAO	**Shalim**	86.71	288		P		**P**		14 16 51.3	+0.1	
AKT	**Akhty**	86.75	312	*e*	P		**P**		14 16 50.7	-0.4	
AKT				*e*					14 16 52.9		
AKT					pmax		pmax				
	comp=Z,10.0nm,0.6s										
PFO	**Pinyon Flats O**	86.75	56		P		**P**		14 16 51.4	+0.2	
	baz=286										
PFO	**Pinyon Flats O**	86.75	56	*i*	P		**P**		14 16 51.3	0.0	
PFO					pmax		pmax				
	comp=Z,11nm,1.0s										
PFO					MLR		MLR				
	comp=Z,4µm,17.0s										
XPFO	**Pion Flat**	86.75	56		IAMs_20		IAMs_20		14 59 18.0		
	comp=Z,3µm,18.0s										
PRN	**Pahroc Range**	86.77	52		P		**P**		14 16 51.7	+0.4	
PRN					IAmb		IAmb		14 17 01.5		
	comp=Z,30nm,1.3s										
PRN					IAMs_20		IAMs_20		15 03 17.3		
	comp=Z,2µm,18.0s										
BAR	**Barrett**	86.84	57		P		**P**		14 16 50.5	-1.1	
BAR					IAMs_20		IAMs_20		14 59 44.3		
	comp=Z,3µm,18.0s										
SHPR	**Sheep Range**	86.94	53		P		**P**		14 16 51.8	-0.4	
SHPR					IAMs_20		IAMs_20		14 56 16.1		
	comp=Z,2µm,19.0s										
MONP2	**Monument Peak**	86.98	57		P		**P**		14 16 53.0	+0.5	
	baz=286,SNR=12										
BELC	**Belle Mtn. Jos**	87.01	56		P		**P**		14 16 52.7	+0.1	
	baz=286										
GMRC	**Granite Mounta**	87.05	55		P		**P**		14 16 53.4	+0.6	
	baz=287										
CCX	**Cicese**	87.07	58		IAMs_20		IAMs_20		14 58 37.5		
	comp=Z,3µm,19.0s										
QLMT	**Earthquake Lak**	87.09	44		P		**P**		14 16 53.5	+0.7	
EGMT	**Eagleton**	87.12	41		P		**P**		14 16 53.5	+0.8	
	baz=290										
EGMT	**Eagleton**	87.12	41		P		**P**		14 16 53.5	+0.8	
EGMT					IAmb		IAmb		14 17 12.7		
	comp=Z,28nm,0.9s										
HVU	**Hansel Valley**	87.13	48		P		**P**		14 16 53.7	+0.7	
HVU					pmax		pmax				
	comp=Z,41nm,1.1s										
HVU	**Hansel Valley**	87.13	48		P		**P**		14 16 53.7	+0.7	
BGU	**Big Grassy Mou**	87.21	48		P		**P**		14 16 53.9	+0.5	
YHL	**Hebgen Lake**	87.25	44		P		**P**		14 16 54.2	+0.5	
IKP	**In-Ko-Pah, Jac**	87.30	57		P		**P**		14 16 53.7	-0.2	
	baz=286										
PSUT	**Pine Spring**	87.33	51		P		**P**		14 16 54.6	+0.4	
RMX	**La Rumorosa**	87.34	57		P		**P**		14 16 54.7	+0.5	
VRH	**Novokhopyorsk**	87.41	323	*e*	P		**P**		14 16 53.1	-0.8	
VRH					pmax		pmax				
	comp=Z,20nm,1.2s										
VRH					MLR		MLR				
	comp=Z,4µm,16.0s										
DMTO	**DMTO**	87.42	288		P		**P**		14 16 54.7	+0.1	
SWSC	**Sam W. Stewart**	87.47	57		P		**P**		14 16 54.3	-0.3	
	baz=287										
YHH	**Holmes Hill**	87.50	44		P		**P**		14 16 56.0	+1.1	
SPUT	**South Promonto**	87.51	48		P		**P**		14 16 55.7	+0.9	
DAG	**Danmarks Havn**	87.52	357	*i*	P		**P**		14 16 55.0	+1.0	
DAG					pmax		pmax				
	comp=Z,18nm,1.0s										
DAG	**Danmarks Havn**	87.52	357	*i*	P		**P**		14 16 55.0	+1.0	
	comp=Z,18nm,1.0s										
DAG	**Danmarks Havn**	87.52	357	*i*	P		**P**		14 16 55.0	+1.0	
DAG					IAmb		IAmb		14 16 57.1		
	comp=Z,18nm,1.0s										
BC3	**Big Chuckawall**	87.54	56		P		**P**		14 16 54.6	-0.5	
	baz=287										
DUG	**Dugway, Tooele**	87.59	49		P		**P**		14 16 55.9	+0.7	
	baz=288,SNR=20										
DUG	**Dugway, Tooele**	87.59	49		P		**P**		14 16 56.0	+0.7	
DUG					pmax		pmax				
	comp=Z,29nm,1.1s										
DUG					MLR		MLR				
	comp=Z,2µm,18.0s										
DUG	**Dugway, Tooele**	87.59	49		P		**P**		14 16 56.0	+0.7	
DUG					IAmb		IAmb		14 17 05.2		
	comp=Z,29nm,1.1s										
ESJX	**Sierra Juarez**	87.62	58		P		**P**		14 16 55.6	0.0	
ESJX					IAmb		IAmb		14 17 00.0		
	comp=Z,36nm,1.5s										
IRM	**Iron Mountain**	87.64	55		P		**P**		14 16 56.0	+0.5	
	baz=287										
ECR	**Eagle Creek**	87.71	46		P		**P**		14 16 56.3	+0.5	
TRO	**Tromso**	87.71	344	*e*	P		**P**		14 16 56.1	+1.1	
IMW	**Indian Meadow**	87.73	45		P		**P**		14 16 56.6	+0.6	
IMW					IAmb		IAmb		14 17 16.7		
	comp=Z,21nm,1.1s										
IMW					IAMs_20		IAMs_20		15 00 47.8		
	comp=Z,2µm,18.0s										
FXWY	**Fox Creek**	87.75	45		P		**P**		14 16 56.8	+0.7	
FXWY					IAmb		IAmb		14 17 04.8		
	comp=Z,23nm,1.2s										
H17A	**Grant Village**	87.81	45		P		**P**		14 16 57.9	+1.5	
	baz=289,SNR=10										
FLWY	**Flagg Ranch**	87.83	45		P		**P**		14 16 57.1	+0.7	
FLWY					IAMs_20		IAMs_20		15 00 51.3		
	comp=Z,2µm,18.0s										
TPAW	**Teton Pass**	87.86	45		P		**P**		14 16 57.5	+0.9	
TPAW					IAmb		IAmb		14 17 05.4		
	comp=Z,23nm,1.2s										
NEE2	**Needles Airpor**	87.88	55		P		**P**		14 16 57.3	+0.8	
	baz=287										
MOS	**Moscow**	87.89	328	*e*	P		**P**		14 16 53.6	-2.5	
MOS				*e*	S		S		14 27 19.4	-19	
MOS					pmax		pmax				
	comp=Z,48nm,0.8s										
MOS					MLR		MLR				
	comp=E,3µm,17.0s										
MOS					MLR		MLR				
	comp=Z,3µm,17.0s										
REDW	**Red Top Meadow**	87.97	46		P		**P**		14 16 57.7	+0.6	
REDW					IAmb		IAmb		14 17 07.5		
	comp=Z,39nm,1.5s										
YMP	**Mirror Lake Pl**	87.98	44		P		**P**		14 16 58.0	+0.8	
AHID	**Auburn Hatcher**	87.99	46		P		**P**		14 16 57.3	+0.1	
AHID					IAmb		IAmb		14 17 18.0		
	comp=Z,38nm,1.1s										
CCUT	**Cedar City**	88.00	52		P		**P**		14 16 57.4	0.0	
HWUT	**Hardware Ranch**	88.04	47		P		**P**		14 16 57.5	+0.1	
HWUT					IAmb		IAmb		14 17 18.1		
	comp=Z,42nm,1.2s										
HWUT					IAMs_20		IAMs_20		14 55 32.0		
	comp=Z,2µm,19.0s										
LOHW	**Long Hollow**	88.05	45		P		**P**		14 16 57.2	-0.3	
RBK	**Rabkut**	88.16	288		P		**P**		14 16 57.0	-1.2	
CTU	**Camp Tracy**	88.20	48		P		**P**		14 16 58.3	+0.1	
GLA	**Glamis**	88.22	56		P		**P**		14 16 58.5	+0.2	
	baz=287										
GLA	**Glamis**	88.22	56		IAMs_20		IAMs_20		15 04 18.8		
	comp=Z,3µm,18.0s										
LCMT	**Little Creek M**	88.26	52		P		**P**		14 16 58.6	+0.1	
SPX	**San Pedro Mart**	88.29	58		P		**P**		14 16 58.4	-0.6	
SPX					IAMs_20		IAMs_20		15 01 26.7		
	comp=Z,3µm,18.0s										
W13A	**Hualapai Mount**	88.35	54		P		**P**		14 16 58.5	-0.5	
W13A					IAMs_20		IAMs_20		14 55 14.3		
	comp=Z,2µm,19.0s										
TCRU	**Three Creeks R**	88.36	50		P		**P**		14 16 58.6	-0.5	
RLMT	**Red Lodge**	88.44	44		P		**P**		14 17 00.9	+1.6	
	baz=290,SNR=8.6										
WHFO	**Wadi Hawf**	88.44	288		P		**P**		14 16 58.6	-1.0	
JLU	**Jordanelle**	88.45	48		P		**P**		14 17 00.3	+0.8	
LPSR	**Galich'ya Gora**	88.47	325	*e*	P		**P**		14 16 57.5	-1.4	
LPSR					pmax		pmax				
	comp=Z,30nm,1.0s										
LPSR					MLR		MLR				
	comp=Z,3µm,17.0s										
MVU	**Marysvale**	88.57	50		P		**P**		14 17 01.0	+1.0	
KNB	**Kanab**	88.58	52		P		**P**		14 17 00.8	+0.7	
KNB					pmax		pmax				
	comp=Z,56nm,1.3s										
KNB	**Kanab**	88.58	52		P		**P**		14 17 00.8	+0.7	
MSU	**Marysvale**	88.59	50		P		**P**		14 17 00.7	+0.6	
MSU	**Marysvale**	88.59	50		P		**P**		14 17 00.7	+0.6	
OBN	**Obninsk**	88.70	327	*ce*	P		**P**		14 16 59.2	-0.7	
OBN				*e*					14 17 04.4		
OBN				*e*	S		**SKSac**		14 27 23.1	-5.8	
OBN				*e*					14 27 41.0		
OBN				*e*					14 28 49.2		
OBN					pmax		pmax				
	comp=Z,90nm,1.7s										
OBN					MLR		MLR				
	comp=Z,4µm,16.0s										
SFX	**San Felipe**	88.79	58		IAMs_20		IAMs_20		14 59 43.1		
	comp=Z,2µm,19.0s										
VSR	**Storozhevoye**	88.89	323	*e*	P		**P**		14 16 59.2	-1.8	
VSR					pmax		pmax				
	comp=Z,50nm,1.4s										
VSR					MLR		MLR				
	comp=Z,2µm,17.0s										
ZEI	**Tsey**	89.02	314	*e*	P		**P**		14 17 00.4	-1.6	
ZEI					pmax		pmax				
	comp=Z,27nm,1.4s										
ABTO	**Aybut**	89.03	288		P		**P**		14 17 01.8	-0.5	
TMUT	**Trail Mountain**	89.05	49		P		**P**		14 17 02.4	-0.1	
BW06	**Boulder Array**	89.06	46		P		**P**		14 17 02.0	-0.3	
	baz=290										
BW06	**Boulder Array**	89.06	46		P		**P**		14 17 02.6	+0.3	
PD31	**Pinedale Array**	89.06	46		P		**P**		14 17 02.7	+0.4	
PDAR	**Pinedale Array**	89.06	46		P		**P**		14 17 03.1	+0.9	
	comp=Z,1.3nm,0.7s,baz=302,slow=2.8,SNR=11										
PDAR					LR		LR		14 56 40.0		
	comp=Z,775nm,18.1s,baz=314,slow=35										
PDAR	**Pinedale Array**	89.06	46		P		**P**		14 17 02.7	+0.4	
113A	**Mohawk Valley,**	89.15	56		P		**P**		14 17 03.2	+0.6	
113A					IAMs_20		IAMs_20		15 00 41.6		
	comp=Z,2µm,18.0s										
U15A	**North Rim**	89.17	52		P		**P**		14 17 03.1	+0.1	
U15A					IAmb		IAmb		14 17 13.4		
	comp=Z,47nm,1.4s										
Q16A	**Castle Valley**	89.20	50		P		**P**		14 17 03.4	+0.4	
P17A	**Butcher Ranch,**	89.34	49		P		**P**		14 17 04.2	+0.7	
KBZ	**Khabaz**	89.37	315		P		**P**		14 17 03.2	-0.2	
	comp=Z,18nm,0.9s,baz=133,slow=1.6,SNR=22										
KBZ					LR		LR		15 00 23.0		
	comp=Z,3µm,18.5s,baz=68,slow=38										
KBZ	**Khabaz**	89.37	315	*ce*	P		**P**		14 17 02.6	-0.8	
KBZ					pmax		pmax				
	comp=Z,24nm,1.0s										
KBZ					MLR		MLR				
	comp=Z,3µm,19.0s										
Y14A	**Wickenburg**	89.40	55		P		**P**		14 17 04.7	+0.8	
Y14A					IAmb		IAmb		14 17 08.4		
	comp=Z,26nm,1.2s										
Y14A					IAMs_20		IAMs_20		15 00 35.1		
	comp=Z,3µm,18.0s										
KIV	**Kislovodsk**	89.44	316	*i*	P		**P**		14 17 03.5	-0.3	
	SNR=5.4										
KIV	**Kislovodsk**	89.44	316	*e*	P		**P**		14 17 03.5	-0.3	
KIV				*e*					14 20 34.4		
KIV				*e*					14 27 33.0		
KIV				*e*	SS		SS		14 33 49.4	+0.8	
KIV					pmax		pmax				
	comp=Z,85nm,1.0s										
KIV					pmax		pmax				
	comp=Z,571nm,4.4s										
KIV	**Kislovodsk**	89.44	316		IAMs_20		IAMs_20		15 05 17.9		
	comp=Z,2µm,18.0s										
SHA1	**Shidzhatmaz**	89.53	315	*i*	P		**P**		14 17

baz=291
MVCO Mesa Verde 91.77 51 P **P** **14 17 14.7 -0.4**
MVCO IAmb IAmb 14 17 25.1
comp=Z,29nm,1.4s
MVCO IAMs_20 IAMs_20 14 57 03.7
comp=Z,2µm,19.0s
SUMG Summit 92.05 2 *i* P **P** **14 17 19.2 +3.4**
SUMG Summit 92.05 2 *i* P **P** **14 17 19.2 +3.4**
SUMG Summit 92.05 2 *i* P **P** **14 17 19.2 +3.4**
SRIG Santa Rosalia 92.11 61 IAMs_20 IAMs_20 14 58 47.9
comp=Z,3µm,18.0s
N23A Red Feather La 92.26 47 P **P** **14 17 15.9 -1.3**
baz=293
N23A Red Feather La 92.26 47 IAMs_20 IAMs_20 14 59 07.5
comp=Z,2µm,18.0s
RSSD Black Hills 92.28 43 P **P** **14 17 16.2 -1.0**
baz=294
RSSD Black Hills 92.28 43 P **P** **14 17 17.3 +0.1**
RSSD pmax pmax
comp=Z,30nm,1.3s
RSSD Black Hills 92.28 43 P **P** **14 17 17.3 +0.1**
RSSD IAmb IAmb 14 17 37.6
comp=Z,30nm,1.2s
RSSD Black Hills 92.28 43 IAMs_20 IAMs_20 15 06 17.9
comp=Z,2µm,19.0s
ANN Anapa 92.58 318 *e*P **P** **14 17 16.3 -1.9**
HSIG 92.64 59 IAMs_20 IAMs_20 14 54 48.9
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 92.81 50 P **P** **14 17 21.0 +1.0**
baz=292
ISCO Idaho Springs 92.91 47 P **P** **14 17 21.4 +1.1**
baz=293
ISCO Idaho Springs 92.91 47 IAMs_20 IAMs_20 14 59 03.8
comp=Z,2µm,20.0s
VNDA Vanda 93.23 177 P **P** **14 17 20.9 +0.5**
comp=Z,6.0nm,1.2s,baz=335,slow=6.9,SNR=8.1
VNDA LR LR 14 56 50.2
comp=Z,881nm,19.2s,baz=353,slow=34
VNDA Vanda 93.23 177 P **P** **14 17 20.9 +0.5**
VNDA pmax pmax
comp=Z,19nm,1.4s
VNDA Vanda 93.23 177 P **P** **14 17 20.9 +0.5**
VNDA IAmb IAmb 14 17 33.1
comp=Z,19nm,1.4s
MICGM Minsk 93.39 329 *e*P **P** **14 17 20.0 -1.8**
MICGM *e*SKS **SKSac** **14 27 50.0 -5.9**
MICGM *e*S **S** **14 28 26.0 -3.3**
MICGM *e*PS **PS** **14 29 38.0 -5.4**
MICGM *e*SS SS 14 34 30.0 -15
MICGM *e*LQ LQ 14 49 50.0
MICGM *e*LR LR 14 54 34.0
MICGM LRM MLR 15 00 42.0
comp=Z,5.2nm,22.0s
MICGM LRM MLR 15 00 42.0
comp=E,3.2nm,22.0s
MNK Minsk 93.39 329 *e*P **P** **14 17 20.0 -1.8**
MNK *e* 14 27 50.0
MNK *e*S **S** **14 28 26.0 -3.3**
MDND Maddock 93.44 38 IAMs_20 IAMs_20 14 57 55.6
comp=Z,2µm,20.0s
Q24A Divide 93.57 48 P **P** **14 17 23.7 +0.4**
baz=293
Q24A Divide 93.57 48 IAMs_20 IAMs_20 14 59 07.2
comp=Z,2µm,19.0s
SDCO Great Sand Dun 93.79 49 P **P** **14 17 25.2 +0.8**
baz=293
SDCO Great Sand Dun 93.79 49 P **P** **14 17 24.6 +0.2**
SDCO IAMs_20 IAMs_20 15 00 55.1
comp=Z,2µm,19.0s
121A Cookes Peak, D 93.99 55 P **P** **14 17 26.6 +1.3**
baz=291
121A Cookes Peak, D 93.99 55 IAMs_20 IAMs_20 14 56 44.6
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 94.10 53 IAMs_20 IAMs_20 14 57 54.6
comp=Z,2µm,19.0s
ANMO Albuquerque 94.14 52 P **P** **14 17 26.8 +0.9**
baz=292
ANMO Albuquerque 94.14 52 *ce*P **P** **14 17 27.5 +1.6**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 94.14 52 IAMs_20 IAMs_20 15 05 35.4
comp=Z,2µm,18.0s
BNM Barren Site 94.30 53 P **P** **14 17 26.4 -0.4**
ULM Lac du Bonnet 94.42 35 P **P** **14 17 27.0 +0.3**
comp=Z,2.7nm,0.6s,baz=320,slow=4.5,SNR=1.7
ULM Lac du Bonnet 94.42 35 P **P** **14 17 27.0 +0.3**
ULM pmax pmax
comp=Z,15nm,1.2s
ULM Lac du Bonnet 94.42 35 IAmb IAmb 14 17 33.2
comp=Z,15nm,1.1s
ULM IAMs_20 IAMs_20 15 06 03.5
comp=Z,2µm,18.0s
AKASG Malin Array Be 94.71 326 P **P** **14 17 27.0 -0.9**
comp=Z,0.7nm,0.4s,baz=47,slow=4.7,SNR=3.7
AKASG LR LR 15 01 23.5
comp=Z,3µm,21.8s,baz=65,slow=36
AKASG Malin Array Be 94.71 326 P **P** **14 17 27.0 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,1.5s
T25A Trinidad 94.82 50 P **P** **14 17 29.7 +0.6**
baz=293
T25A Trinidad 94.82 50 P **P** **14 17 29.7 +0.6**
T25A IAMs_20 IAMs_20 15 01 26.5
comp=Z,2µm,19.0s
KSCO Kaye Shedlock' 95.35 47 IAMs_20 IAMs_20 15 00 24.3
comp=Z,2µm,19.0s
SUSD Miller 95.42 41 IAMs_20 IAMs_20 15 03 51.0
comp=Z,2µm,19.0s
AGMN Agassiz Nation 95.42 37 P **P** **14 17 31.0 -0.2**
baz=300
GAZ Gaziantep 95.90 311 P **P** **14 17 34.1 +0.3**
NB2 NORSAR Subarra 96.03 340 P **P** **14 17 32.9 -0.9**
comp=Z,0.7nm,0.6s,baz=44,slow=4.8
NB2 NORSAR Subarra 96.03 340 P **P** **14 17 32.9 -0.9**
baz=44,slow=4.8
NOA NORSAR Array B 96.03 340 P **P** **14 17 33.4 -0.4**
comp=Z,2.2nm,0.8s,baz=45,slow=4.8,SNR=5.8
NOA LR LR 15 05 14.6
comp=Z,2µm,19.3s,baz=25,slow=38
MNTX Cornudas Mount 96.19 55 P **P** **14 17 36.2 +1.0**
baz=292
MNTX Cornudas Mount 96.19 55 P **P** **14 17 35.7 +0.6**
MNTX IAmb IAmb 14 17 39.9
comp=Z,18nm,1.4s
K31A O'Neill 96.39 43 IAMs_20 IAMs_20 15 04 31.8
comp=Z,2µm,20.0s
F33A 5 Mile Ranch, 96.40 39 IAMs_20 IAMs_20 15 07 27.0
comp=Z,2µm,20.0s
B35A Bob, Littlefor 96.61 36 IAMs_20 IAMs_20 15 07 10.3
comp=Z,3µm,19.0s
KIS Kishinev 96.86 323 *e*P **P** **14 17 34.0 -3.8**
KIS Kishinev 96.86 323 *e*P **P** **14 17 34.0 -3.8**
KIS *e* 14 17 38.0
ECSD EROS Data Cent 97.24 41 IAMs_20 IAMs_20 15 08 12.2
comp=Z,1µm,18.0s
MSTX Muleshoe 97.32 52 IAMs_20 IAMs_20 15 07 25.8
comp=Z,2µm,19.0s
BR131 Keskin Array S 97.32 315 P **P** **14 17 37.9 -2.4**
SNR=6.4
BR131 Keskin Array S 97.32 315 P **P** **14 17 39.6 -0.7**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BR131 Keskin Array S 97.32 315 P **P** **14 17 39.5 -0.7**
BRTR Keskin Array B 97.32 315 P **P** **14 17 40.1 -0.2**
comp=Z,3.8nm,1.0s,baz=104,slow=3.2,SNR=19
BRTR LR LR 15 05 10.1
comp=Z,659nm,20.5s,baz=47,slow=38
BRTR Keskin Array B 97.32 315 *i* P **P** **14 17 39.5 -0.7**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 97.32 315 P **P** **14 17 39.4 -0.9**
BGNE Belgrade 97.36 44 IAMs_20 IAMs_20 15 08 44.4
comp=Z,2µm,19.0s
CBKS Cedar Bluff 97.46 46 IAMs_20 IAMs_20 15 10 21.3
comp=Z,2µm,18.0s
AMTX Amarillo 97.76 51 IAMs_20 IAMs_20 15 05 52.4
comp=Z,2µm,18.0s
ANTO Ankara 97.84 315 IAMs_20 IAMs_20 15 06 00.3
comp=Z,2µm,21.0s
N33A J Bar K, Exete 98.14 44 IAMs_20 IAMs_20 15 09 21.1
comp=Z,2µm,18.0s
R32A Long Quarter, 98.36 46 IAMs_20 IAMs_20 15 03 40.0
comp=Z,2µm,19.0s
TXAR Lajitas Array 98.47 56 P Pdif 14 17 46.1 +0.5
comp=Z,0.7nm,0.8s,baz=285,slow=2.5,SNR=6.5
TXAR LR LR 15 01 17.5
comp=Z,1µm,18.0s,baz=0.0,slow=35
TXAR Lajitas Array 98.47 56 P **P** **14 17 45.2 -0.4**
BURAR Bucovina Array 98.59 324 P Pdif 14 17 46.1 +0.3
KWP Kalwaria Pacla 98.78 327 P Pdif 14 17 46.9 +0.4
KWP pmax pmax
comp=Z,22nm,1.2s
KWP Kalwaria Pacla 98.78 327 P Pdif 14 17 46.9 +0.5
SPMN Marine on St. 98.82 38 IAMs_20 IAMs_20 15 08 57.8
comp=Z,2µm,18.0s
U32A Winter Ranch, 99.08 48 IAMs_20 IAMs_20 15 00 43.1
comp=Z,2µm,19.0s
I37A Lemond, Waseca 99.10 40 IAMs_20 IAMs_20 14 59 54.3
comp=Z,2µm,21.0s
KSU1 Kansas State U 99.49 45 IAMs_20 IAMs_20 15 07 15.9
comp=Z,2µm,19.0s
UZH Uzhgorod 99.60 326 *e*P **Pdif** **14 17 46.9 -3.2**
UZH *e* 14 28 32.5
UZH *e*S S 14 29 12.9 -10
CSS Mathiatis 99.68 310 IAMs_20 IAMs_20 15 09 50.5
comp=Z,2µm,18.0s
WMOK Wichita Mounta 99.97 50 IAMs_20 IAMs_20 15 11 08.9
comp=Z,2µm,18.0s
K38A Parkersburg 100.21 40 IAMs_20 IAMs_20 15 10 51.8
comp=Z,1µm,19.0s
ABTX Abilene, Hawle 100.26 52 IAMs_20 IAMs_20 15 01 33.6
comp=Z,2µm,20.0s
SCIA State Center 100.32 41 IAMs_20 IAMs_20 15 08 48.7
comp=Z,2µm,19.0s
OK029 Liberty Lake 100.46 48 IAMs_20 IAMs_20 15 02 03.6
comp=Z,2µm,19.0s
COWI Conover 100.46 36 IAMs_20 IAMs_20 15 04 33.3
comp=Z,2µm,19.0s
T35A Sooner Cattle 100.60 47 IAMs_20 IAMs_20 15 03 48.4
comp=Z,2µm,19.0s
OK025 Westminster Rd 100.64 48 IAMs_20 IAMs_20 15 10 04.5
comp=Z,2µm,19.0s
N38A Joes South For 100.89 42 IAMs_20 IAMs_20 15 10 56.8
comp=Z,2µm,18.0s
OKC Ostrava-Krasne 100.98 329 AMS AMS 15 08 00.0
comp=Z,5µm,14.9s
P38A Dawn 101.30 43 IAMs_20 IAMs_20 15 10 40.7
comp=Z,2µm,18.0s
OSTC Ostas 101.44 331 *e*SKS 14 28 42.0
OSTC AMS AMS 15 05 50.0
comp=Z,4µm,17.4s
VYHS Vyhne 101.49 328 *e*P **Pdif** **14 18 00.7 +2.2**
VYHS Vyhne 101.49 328 *e*PDIFF **Pdif** **14 18 00.7 +2.2**
CHVC Chvalec 101.49 331 AMS AMS 15 05 50.0
comp=Z,4µm,18.0s
E43A Lone Tree Farm 101.50 35 IAMs_20 IAMs_20 15 10 10.6
comp=Z,2µm,18.0s
DPC Dobruska-Polom 101.53 330 *e*SKS 14 28 37.8
DPC AMS AMS 15 05 40.0
comp=Z,4µm,17.6s
UPC Upice 101.57 331 AMS AMS 15 05 50.0
comp=Z,4µm,18.4s
TUL1 Leonard 101.59 48 IAMs_20 IAMs_20 15 05 31.7
comp=Z,2µm,18.0s
JFWS Jewell Farm 101.62 39 IAMs_20 IAMs_20 15 10 20.1
comp=Z,2µm,19.0s
ALN Alexandroupoli 101.79 318 IAMs_20 IAMs_20 15 07 16.5
comp=Z,2µm,20.0s
I42A Draeger Farm, 101.87 38 IAMs_20 IAMs_20 15 05 28.5
comp=Z,2µm,19.0s
ZAIG Zacatecas 101.91 62 IAMs_20 IAMs_20 15 08 45.5
comp=Z,2µm,19.0s
H43A Windswept, Lux 102.20 37 IAMs_20 IAMs_20 15 04 58.2
comp=Z,2µm,19.0s
WHTX Lake Whitney, 102.20 52 IAMs_20 IAMs_20 15 03 42.9
comp=Z,1µm,19.0s
BRG Berggiesshubel 102.28 332 PDIFF **Pdif** **14 18 01.0 -1.0**
BRG Berggiesshubel 102.28 332 SS SS 14 36 28.0 -22
BRG Berggiesshubel 102.28 332 P **Pdif** **14 18 01.0 -1.0**
BRG Berggiesshubel 102.28 332
comp=Z,3µm,16.6s
BRG Berggiesshubel 102.28 332
comp=E,2µm,16.5s
BRG Berggiesshubel 102.28 332
comp=N,2µm,16.4s
BRG Berggiesshubel 102.28 332 PKP **PP** **14 22 08.0 -5.5**
BRG Berggiesshubel 102.28 332 SKS 14 28 41.0
BRG Berggiesshubel 102.28 332 SDIFF 14 29 41.0
U38A Gravette 102.33 47 IAMs_20 IAMs_20 15 04 35.1
comp=Z,2µm,19.0s
CLL Collm 102.40 333 *e*Pdif **Pdif** **14 18 08.0 +5.5**
CLL *e*PP **PP** **14 22 15.0 +0.7**
CLL *e*SKSac **SKSac** **14 28 40.0 -1.9**
CLL *e*Sdif **Sdif** **14 29 42.0 -4.2**
CLL *e*PS **PS** **14 31 18.0 -3.0**
CLL *e*SS SS 14 37 18.0 +27
CLL L L 15 07 00.0
comp=Z,4µm,18.7s
CLL Collm 102.40 333 *e*P **Pdif** **14 18 08.0 +5.5**
CLL *e* 14 22 15.0
CLL *e* 14 28 40.0
CLL MLR MLR
comp=Z,4µm,18.7s
S39A Bolivar 102.43 45 IAMs_20 IAMs_20 15 09 27.7
comp=Z,2µm,19.0s
N41A Harden Midland 102.46 41 IAMs_20 IAMs_20 15 10 28.4
comp=Z,1µm,19.0s
L42A Oliver, Polo 102.49 40 IAMs_20 IAMs_20 15 12 01.0
comp=Z,2µm,19.0s
GOPC GO Pecny, Ondr 102.55 331 *e*PP **PP** **14 22 12.7 -2.9**
GOPC *e*SKS 14 28 42.8
GOPC AMS AMS 15 06 20.0
comp=Z,4µm,17.5s
PRA Prague 102.61 331 AMS AMS 15 09 10.0
comp=Z,2µm,17.4s
PRU Pruhonice 102.61 331 *e*PP **PP** **14 22 11.8 -4.2**
PRU *e*SKS **SKSac** **14 28 41.1 -1.9**
PRU AMS AMS 15 06 30.0
comp=Z,3µm,16.5s
435B Jarrell 102.65 53 IAMs_20 IAMs_20 15 01 58.8
comp=Z,2µm,19.0s
HHAR Hobbs 102.72 46 IAMs_20 IAMs_20 15 04 46.4
comp=Z,2µm,20.0s
E46A Sault Ste Mari 102.97 34 IAMs_20 IAMs_20 15 07 06.5
comp=Z,2µm,20.0s
I45A Fountain 103.34 37 IAMs_20 IAMs_20 15 06 01.6
comp=Z,2µm,20.0s
W39A Magazine 103.37 47 IAMs_20 IAMs_20 15 13 34.7
comp=Z,2µm,19.0s
NKC Novy Kostel 103.41 332 *e*PP **PP** **14 22 23.6 +1.7**
NKC AMS AMS 15 15 40.0
comp=Z,4µm,17.1s
MGMO Mountain Grove 103.43 45 IAMs_20 IAMs_20 15 05 06.1
comp=Z,2µm,19.0s
U40A Yellville 103.44 46 IAMs_20 IAMs_20 14 59 28.4
comp=Z,2µm,20.0s
237A Washetta, Mont 103.44 51 IAMs_20 IAMs_20 15 03 09.6
comp=Z,2µm,19.0s
HDIL Hopedale 103.54 41 IAMs_20 IAMs_20 15 10 55.8
comp=Z,2µm,19.0s
DIVS Divibare 103.61 324 IAMs_20 IAMs_20 15 07 01.4
comp=Z,2µm,21.0s
KHC Kasperske Hory 103.66 331 *e*PP **PP** **14 22 19.6 -4.3**
KHC *ex* x 14 22 29.5
KHC *e*SKS 14 28 47.1
KHC AMS AMS 15 07 00.0
comp=Z,4µm,18.2s
KHC Kasperske Hory 103.66 331 IAMs_20 IAMs_20 15 07 23.1
comp=Z,2µm,18.0s
HQIL Hanson Quary C 103.72 39 IAMs_20 IAMs_20 15 04 21.5
comp=Z,2µm,20.0s
GLMI Grayling 103.77 35 IAMs_20 IAMs_20 15 09 54.7
comp=Z,2µm,18.0s
M44A Midewin, Midew 103.84 40 IAMs_20 IAMs_20 15 12 06.7
comp=Z,2µm,19.0s
MIAR Mount Ida 103.84 48 IAMs_20 IAMs_20 15 04 02.2
comp=Z,2µm,19.0s
SLM Saint Louis 104.00 43 IAMs_20 IAMs_20 15 14 33.0
comp=Z,2µm,19.0s
FCAR Frank Folk Cen 104.18 46 IAMs_20 IAMs_20 15 03 49.1
comp=Z,2µm,20.0s
FVM French Village 104.22 43 IAMs_20 IAMs_20 15 04 13.2
comp=Z,2µm,21.0s
SCHQ Schefferville 104.23 19 IAMs_20 IAMs_20 15 04 57.5
comp=Z,2µm,20.0s
O44A Mansfield 104.28 41 IAMs_20 IAMs_20 15 10 59.6
comp=Z,1µm,18.0s
GRF Grafenberg Arr 104.35 332 *e*PP **PP** **14 22 26.4 -2.5**
GRF *e*L L 15 08 53.5
comp=Z,3µm,19.3s
HKT Hockley 104.37 53 IAMs_20 IAMs_20 15 14 43.2
comp=Z,2µm,18.0s
WHAR Wooly Hollow 104.38 47 IAMs_20 IAMs_20 15 11 06.3
comp=Z,2µm,19.0s
NATX Nacogdoches 104.41 51 IAMs_20 IAMs_20 15 04 00.4
comp=Z,1µm,20.0s
W41B Gary Mavity, V 104.47 47 IAMs_20 IAMs_20 15 11 00.7
comp=Z,2µm,18.0s
L46A Eue Claire 104.53 38 IAMs_20 IAMs_20 15 07 08.9
comp=Z,2µm,19.0s
SANT Santorini 104.59 315 IAMs_20 IAMs_20 15 15 19.1
comp=Z,2µm,18.0s
WLAR White Oak Lake 104.61 48 IAMs_20 IAMs_20 15 04 45.4
comp=Z,2µm,19.0s
LCAR Lake Charles 104.76 45 IAMs_20 IAMs_20 15 11 09.4
comp=Z,2µm,20.0s
SFIN Lafayette 105.01 40 IAMs_20 IAMs_20 15 12 52.7
comp=Z,2µm,18.0s
Z41A Richland Creek 105.04 49 IAMs_20 IAMs_20 15 05 27.1
comp=Z,2µm,19.0s
AGG Agios Georgios 105.20 318 IAMs_20 IAMs_20 15 08 57.8
comp=Z,1µm,19.0s
VLDQ Val d'Or 105.24 29 IAMs_20 IAMs_20 15 08 07.2
comp=Z,2µm,20.0s
I49A Point Hope 105.32 35 IAMs_20 IAMs_20 15 06 00.9
comp=Z,2µm,20.0s
P46A Rosedale 105.39 41 IAMs_20 IAMs_20 15 11 33.7
comp=Z,1µm,19.0s
PARMO Parma 105.39 44 IAMs_20 IAMs_20 15 12 07.1
comp=Z,1µm,19.0s
HENM Henderson Moun 105.55 44 IAMs_20 IAMs_20 15 12 20.3
comp=Z,2µm,18.0s
PVMO Portageville 105.56 45 IAMs_20 IAMs_20 15 06 11.7
comp=Z,2µm,21.0s
N47A Urbana 105.57 39 IAMs_20 IAMs_20 15 10 21.5
comp=Z,2µm,19.0s
L48A N Adams 105.67 37 IAMs_20 IAMs_20 15 06 27.3
comp=Z,2µm,20.0s
HICK Hickman 105.81 44 IAMs_20 IAMs_20 15 12 19.2
comp=Z,2µm,19.0s
LNXT Lenox 105.88 45 IAMs_20 IAMs_20 15 14 25.9
comp=Z,2µm,19.0s
AAM Ann Arbor 105.90 37 IAMs_20 IAMs_20 15 07 21.1
comp=Z,2µm,20.0s
441A DeRidder 106.00 51 IAMs_20 IAMs_20 15 14 47.5
comp=Z,2µm,18.0s
USIN University of 106.05 42 IAMs_20 IAMs_20 15 15 03.3
comp=Z,2µm,18.0s
BLO Bloomington 106.08 41 IAMs_20 IAMs_20 15 13 23.0
comp=Z,2µm,19.0s
MET Memphis--Engin 106.10 46 IAMs_20 IAMs_20 15 06 49.0
comp=Z,1µm,20.0s
UNM Universidad Na 106.15 64 IAMs_20 IAMs_20 15 05 52.1
comp=Z,2µm,18.0s
N49A Columbus Grove 106.45 38 IAMs_20 IAMs_20 15 09 36.8
comp=Z,2µm,18.0s
P48A Milroy 106.59 40 IAMs_20 IAMs_20 15 11 17.5
comp=Z,2µm,19.0s
SADO Sadowa 106.75 33 IAMs_20 IAMs_20 15 04 34.4
comp=Z,2µm,19.0s
WCI Wyandotte Cave 106.77 41 IAMs_20 IAMs_20 15 12 21.5
comp=Z,2µm,18.0s
OXF Oxford 106.80 46 IAMs_20 IAMs_20 15 13 02.5
comp=Z,2µm,19.0s
O49A Covington 106.81 39 IAMs_20 IAMs_20 15 14 04.4
comp=Z,2µm,19.0s
M50A Fremont 106.82 37 IAMs_20 IAMs_20 15 11 08.5
comp=Z,2µm,18.0s
T47A Sharon Grove 106.97 43 IAMs_20 IAMs_20 15 15 32.8
comp=Z,2µm,18.0s
P49A Miami Univ. Ec 106.98 39 IAMs_20 IAMs_20 15 13 44.9
comp=Z,2µm,18.0s
Y45A Yeager Farm, C 107.05 47 IAMs_20 IAMs_20 15 13 20.1
comp=Z,2µm,19.0s
ECH Echery 107.24 333 IAMs_20 IAMs_20 15 10 36.6
comp=Z,2µm,19.0s
TLIG Tlapa 107.38 66 IAMs_20 IAMs_20 15 02 10.5
comp=Z,2µm,19.0s
R49A Shelbyville 107.45 41 IAMs_20 IAMs_20 15 15 09.3
comp=Z,1µm,18.0s
PLAL Pickwick Lake 107.45 45 IAMs_20 IAMs_20 15 15 51.8
comp=Z,2µm,18.0s
SGRT San Giovanni R 107.51 324 IAMs_20 IAMs_20 15 09 44.5
comp=Z,2µm,22.0s
ACSO Alum Creek Sta 107.59 38 IAMs_20 IAMs_20 15 08 43.1
comp=Z,2µm,19.0s
PLVO Plevna 107.61 31 IAMs_20 IAMs_20 15 05 14.2
comp=Z,2µm,20.0s
DELO Deloro Mine 107.70 32 IAMs_20 IAMs_20 15 09 17.7
comp=Z,2µm,20.0s
V48A Smith Brothers 107.87 44 IAMs_20 IAMs_20 15 15 23.7
comp=Z,1µm,18.0s
R50A Paris 107.98 40 IAMs_20 IAMs_20 15 12 02.5
comp=Z,2µm,19.0s
CLTN Cedars of Leba 108.00 43 IAMs_20 IAMs_20 15 15 49.0
comp=Z,1µm,19.0s
P51A Williamsport 108.02 39 IAMs_20 IAMs_20 15 07 33.4
comp=Z,2µm,20.0s
ERPA Erie 108.09 35 IAMs_20 IAMs_20 15 08 04.0
comp=Z,2µm,20.0s
U49A Red Boiling Sp 108.11 43 IAMs_20 IAMs_20 15 16 24.0
comp=Z,2µm,19.0s
Q51A Peebles 108.13 39 IAMs_20 IAMs_20 15 14 47.3
comp=Z,2µm,18.0s
M53A WI Miller and 108.16 36 IAMs_20 IAMs_20 15 07 27.8
comp=Z,2µm,20.0s
MEDO Medina 108.21 33 IAMs_20 IAMs_20 15 14 54.1
comp=Z,2µm,19.0s
ALLY Alegheny Colle 108.31 35 IAMs_20 IAMs_20 15 07 52.0
comp=Z,2µm,20.0s
O52A Adamsville 108.35 38 IAMs_20 IAMs_20 15 11 56.9
comp=Z,2µm,18.0s
T50A Nancy 108.42 42 IAMs_20 IAMs_20 15 16 14.1
comp=Z,2µm,19.0s
PECO Prince Edward 108.43 32 IAMs_20 IAMs_20 15 09 38.0
comp=Z,2µm,20.0s
Z47A Carrollton 108.44 47 IAMs_20 IAMs_20 15 17 05.0
comp=Z,2µm,18.0s
X48A Hartselle 108.45 45 IAMs_20 IAMs_20 15 13 09.2
comp=Z,1µm,19.0s
P52A Corning 108.48 38 IAMs_20 IAMs_20 15 11 43.5
comp=Z,2µm,18.0s
TIP Timpagrande 108.57 321 IAMs_20 IAMs_20 15 11 23.7
comp=Z,3µm,22.0s
O53A New Philadelph 108.62 37 IAMs_20 IAMs_20 15 06 44.3
comp=Z,2µm,20.0s
M54A Oil Creek Stat 108.68 35 IAMs_20 IAMs_20 15 08 12.6
comp=Z,2µm,19.0s
SWET Sewanee 108.77 44 IAMs_20 IAMs_20 15 15 56.4
comp=Z,1µm,18.0s
S51A Beattyville 108.83 40 IAMs_20 IAMs_20 15 17 10.0
comp=Z,2µm,18.0s
J56A Wolcott 108.97 32 IAMs_20 IAMs_20 15 09 26.2
comp=Z,2µm,19.0s
P53A Whipple 109.01 38 IAMs_20 IAMs_20 15 07 54.8
comp=Z,2µm,20.0s
LONY Lake Ozonia 109.14 30 IAMs_20 IAMs_20 15 14 57.7
comp=Z,2µm,19.0s
W50A Signal Mountai 109.19 43 IAMs_20 IAMs_20 15 16 54.6
comp=Z,2µm,18.0s
Y49A Blount Mountai 109.22 45 IAMs_20 IAMs_20 15 16 38.6
comp=Z,2µm,18.0s
LRAL Lakeview Retre 109.28 46 IAMs_20 IAMs_20 15 08 47.2
comp=Z,2µm,19.0s
J57A Williamstown 109.31 32 IAMs_20 IAMs_20 15 10 33.3
comp=Z,2µm,19.0s
FRNY Flat Rock 109.46 30 IAMs_20 IAMs_20 15 15 54.0
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 109.46 274 IAMs_20 IAMs_20 15 06 01.2
comp=Z,1µm,20.0s
V51A Loudon 109.46 42 IAMs_20 IAMs_20 15 13 04.9
comp=Z,2µm,19.0s
TZTN Tazewell 109.53 41 IAMs_20 IAMs_20 15 17 33.5
comp=Z,2µm,19.0s
CEL Celeste 109.67 321 IAMs_20 IAMs_20 15 12 26.0
comp=Z,2µm,21.0s
J58A Remsen 109.71 32 IAMs_20 IAMs_20 15 11 31.8
comp=Z,2µm,20.0s
D62A Allapoint, All 109.74 25 IAMs_20 IAMs_20 15 11 37.4
comp=Z,2µm,20.0s
NCB Newcomb 109.79 30 IAMs_20 IAMs_20 15 15 17.9
comp=Z,1µm,20.0s
E62A Clayton Lake 109.91 26 IAMs_20 IAMs_20 15 15 53.9
comp=Z,2µm,19.0s
TKL Tuckaleechee C 109.92 42 IAMs_20 IAMs_20 15 16 09.0
comp=Z,2µm,18.0s
V52A Sevierville 109.93 42 IAMs_20 IAMs_20 15 16 35.1
comp=Z,2µm,19.0s
K58A Earlville 109.96 32 IAMs_20 IAMs_20 15 10 43.3
comp=Z,2µm,20.0s
J59A Piesco 110.03 31 IAMs_20 IAMs_20 15 15 09.1
comp=Z,1µm,20.0s

S54A	**Dingess, Beckl**	**110.14**	**39**	IAMs_20	IAMs_20	15 16 06.6		
	comp=Z,2µm,18.0s							
W52A	**Murphy**	**110.17**	**43**	IAMs_20	IAMs_20	15 13 28.4		
	comp=Z,1µm,20.0s							
BINY	**Binghamton**	**110.18**	**33**	IAMs_20	IAMs_20	15 10 23.5		
	comp=Z,2µm,20.0s							
BRAL	**Brewton**	**110.28**	**48**	IAMs_20	IAMs_20	15 08 14.8		
	comp=Z,2µm,20.0s							
F62A	**Pittston Farm,**	**110.29**	**27**	IAMs_20	IAMs_20	15 19 11.0		
	comp=Z,1µm,19.0s							
Z51A	**Franklin**	**110.38**	**45**	IAMs_20	IAMs_20	15 17 41.2		
	comp=Z,2µm,18.0s							
250A	**Grady**	**110.39**	**47**	IAMs_20	IAMs_20	15 16 49.5		
	comp=Z,2µm,18.0s							
E63A	**Oxbow**	**110.53**	**25**	IAMs_20	IAMs_20	15 14 55.2		
	comp=Z,2µm,19.0s							
V53A	**Saluda**	**110.54**	**42**	IAMs_20	IAMs_20	15 17 11.2		
	comp=Z,2µm,19.0s							
R55A	**Marlinton**	**110.55**	**38**	IAMs_20	IAMs_20	15 08 51.3		
	comp=Z,2µm,20.0s							
G62A	**West of Eustis**	**110.57**	**27**	IAMs_20	IAMs_20	15 15 28.4		
	comp=Z,2µm,18.0s							
U54A	**Nelsons Funny**	**110.64**	**40**	IAMs_20	IAMs_20	15 11 34.8		
	comp=Z,2µm,20.0s							
SYO	**Syowa Base**	**110.64**	**202⇩**	*e*P	**Pdif**		**14 18 25.8**	**-13**
L59A	**Walton**	**110.68**	**32**	IAMs_20	IAMs_20	15 07 35.6		
	comp=Z,2µm,21.0s							
LBNH	**Lisbon**	**110.69**	**29**	IAMs_20	IAMs_20	15 10 03.6		
	comp=Z,2µm,20.0s							
KSPA	**Keystone Colle**	**110.75**	**33**	IAMs_20	IAMs_20	15 10 33.5		
	comp=Z,2µm,19.0s							
BATG	**Bathurst New B**	**110.78**	**24**	IAMs_20	IAMs_20	15 11 48.7		
	comp=Z,2µm,19.0s							
H62A	**Milan**	**110.79**	**28**	IAMs_20	IAMs_20	15 15 21.2		
	comp=Z,1µm,19.0s							
Y52A	**Lilburn**	**110.81**	**44**	IAMs_20	IAMs_20	15 08 56.5		
	comp=Z,1µm,20.0s							
F63A	**Nahmakanta, Br**	**110.82**	**26**	IAMs_20	IAMs_20	15 17 58.8		
	comp=Z,2µm,19.0s							
TRY	**Troy**	**110.98**	**31**	IAMs_20	IAMs_20	15 09 15.4		
	comp=Z,1µm,20.0s							
F64A	**Sherman**	**111.01**	**26**	IAMs_20	IAMs_20	15 14 59.9		
	comp=Z,2µm,19.0s							
BLA	**Blacksburg**	**111.06**	**39**	IAMs_20	IAMs_20	15 18 30.9		
	comp=Z,2µm,18.0s							
152A	**Waverly Hall**	**111.07**	**45**	IAMs_20	IAMs_20	15 13 15.4		
	comp=Z,2µm,18.0s							
I62A	**Tamworth**	**111.24**	**29**	IAMs_20	IAMs_20	15 15 07.2		
	comp=Z,2µm,19.0s							
WVL	**Waterville**	**111.47**	**27**	IAMs_20	IAMs_20	15 15 56.2		
	comp=Z,2µm,19.0s							
451A	**Vernon**	**111.52**	**48**	IAMs_20	IAMs_20	15 09 13.5		
	comp=Z,2µm,19.0s							
352A	**Blakely**	**111.61**	**46**	IAMs_20	IAMs_20	15 18 10.8		
	comp=Z,2µm,18.0s							
U56A	**King**	**111.64**	**40**	IAMs_20	IAMs_20	15 16 56.3		
	comp=Z,2µm,18.0s							
SDMD	**Soldier's Deli**	**111.68**	**35**	IAMs_20	IAMs_20	15 10 24.1		
	comp=Z,1µm,20.0s							
PAULI	**Pauline**	**111.70**	**42**	IAMs_20	IAMs_20	15 20 08.1		
	comp=Z,2µm,18.0s							
ODNJ	**Ogdensburg**	**111.70**	**33**	IAMs_20	IAMs_20	15 11 10.6		
	comp=Z,2µm,19.0s							
K62A	**Royalston**	**111.73**	**30**	IAMs_20	IAMs_20	15 17 22.3		
	comp=Z,2µm,19.0s							
HODGE	**Hodges**	**111.78**	**43**	IAMs_20	IAMs_20	15 19 31.1		
	comp=Z,2µm,18.0s							
KMSC	**Kings Mountain**	**111.81**	**41**	IAMs_20	IAMs_20	15 14 09.9		
	comp=Z,1µm,19.0s							
KSCT	**Kent School, K**	**111.81**	**32**	IAMs_20	IAMs_20	15 14 57.4		
	comp=Z,1µm,20.0s							
TRNY	**Table Rock, Ra**	**111.86**	**33**	IAMs_20	IAMs_20	15 11 33.7		
	comp=Z,2µm,20.0s							
G65A	**Princeton**	**111.87**	**26**	IAMs_20	IAMs_20	15 15 51.7		
	comp=Z,2µm,19.0s							
QUA2	**Belchertown**	**111.97**	**31**	IAMs_20	IAMs_20	15 16 51.4		
	comp=Z,2µm,21.0s							
WUPA	**West Chester U**	**112.00**	**34**	IAMs_20	IAMs_20	15 16 27.4		
	comp=Z,2µm,18.0s							
PAL	**Palisades**	**112.12**	**32**	IAMs_20	IAMs_20	15 13 20.7		
	comp=Z,2µm,20.0s							
154A	**Montrose**	**112.20**	**44**	IAMs_20	IAMs_20	15 19 55.3		
	comp=Z,1µm,18.0s							
GGN	**Saint George**	**112.23**	**25**	IAMs_20	IAMs_20	15 12 16.1		
	comp=Z,2µm,20.0s							
WSPT	**Westport, CT**	**112.30**	**32**	IAMs_20	IAMs_20	15 12 12.3		
	comp=Z,1µm,20.0s							
EMMW	**East Machias**	**112.31**	**26**	IAMs_20	IAMs_20	15 15 05.4		
	comp=Z,1µm,19.0s							
YLE	**Yale**	**112.39**	**32**	IAMs_20	IAMs_20	15 13 00.8		
	comp=Z,1µm,20.0s							
TIGA	**Tifton**	**112.56**	**46**	IAMs_20	IAMs_20	15 20 35.0		
	comp=Z,2µm,18.0s							
VSL	**Villasalto**	**112.59**	**326**	IAMs_20	IAMs_20	15 11 57.7		
	comp=Z,2µm,20.0s							
BRYW	**Bryant College**	**112.64**	**30**	IAMs_20	IAMs_20	15 17 58.2		
	comp=Z,2µm,19.0s							
BIRD	**Birdtown, Kers**	**112.68**	**41**	IAMs_20	IAMs_20	15 18 09.9		
	comp=Z,1µm,19.0s							
553A	**Crawfordville**	**112.70**	**47**	IAMs_20	IAMs_20	15 12 29.7		
	comp=Z,1µm,19.0s							
V58A	**Windy Hill, Pi**	**112.78**	**40**	IAMs_20	IAMs_20	15 17 21.5		
	comp=Z,2µm,18.0s							
255A	**Hazlehurst**	**113.03**	**45**	IAMs_20	IAMs_20	15 13 09.5		
	comp=Z,1µm,19.0s							
Y57A	**Sumter**	**113.12**	**42**	IAMs_20	IAMs_20	15 15 08.8		
	comp=Z,2µm,19.0s							
U59A	**Littleton**	**113.21**	**38**	IAMs_20	IAMs_20	15 14 48.9		
	comp=Z,2µm,19.0s							
M65A	**Busby, Falmout**	**113.34**	**30**	IAMs_20	IAMs_20	15 17 07.8		
	comp=Z,2µm,18.0s							
X58A	**Rowland**	**113.45**	**41**	IAMs_20	IAMs_20	15 15 31.2		
	comp=Z,2µm,19.0s							
NHSC	**New Hope**	**113.84**	**42**	IAMs_20	IAMs_20	15 21 34.5		
	comp=Z,2µm,18.0s							
CNNC	**Cliffs of the**	**113.90**	**39**	IAMs_20	IAMs_20	15 13 50.0		
	comp=Z,2µm,20.0s							
257A	**Skidaway Islan**	**113.98**	**44**	IAMs_20	IAMs_20	15 20 17.5		
	comp=Z,2µm,20.0s							
Y59A	**Loris**	**114.11**	**41**	IAMs_20	IAMs_20	15 18 19.6		
	comp=Z,2µm,18.0s							
Y60A	**Bolivia**	**114.51**	**41**	IAMs_20	IAMs_20	15 18 39.3		
	comp=Z,1µm,19.0s							
MBAR	**Mbarara**	**115.56**	**277**	IAMs_20	IAMs_20	15 09 52.9		
	comp=Z,1µm,20.0s							
ESQI	**Esquipulas**	**116.68**	**65**	IAMs_20	IAMs_20	15 22 22.1		
	comp=Z,1µm,19.0s							
SNET	**Serv Nac Est T**	**117.16**	**65**	IAMs_20	IAMs_20	15 16 17.7		
	comp=Z,1µm,18.0s							
PGAV	**Gavieira, Arco**	**118.48**	**339**	*e*LR	LR	15 10 45.3		
	comp=Z,2µm,18.0s							
NVL	**N'lazarevskaya**	**118.54**	**195**	*e*PKIKP	**PKPdf**		**14 22 47.1**	**-6.7**
NVL				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MVO	**Moncorvo**	**118.75**	**338**	*e*LQ	LQ	15 04 43.3		
MVO				*e*LR	LR	15 09 38.4		
	comp=Z,2µm,18.0s							
CART	**Cartagena**	**119.29**	**331**	IAMs_20	IAMs_20	15 24 28.6		
	comp=Z,2µm,20.0s							
PMRV	**Marv??o**	**120.41**	**337**	*e*LQ	LQ	15 04 14.8		
PMRV				*e*LR	LR	15 09 08.9		
	comp=Z,2µm,18.0s							
SNAA	**Sanae**	**121.07**	**191**	PKPdf	**PKiKP**		**14 22 59.0**	**+0.1**
SNAA	**Sanae**	**121.07**	**191**	PKP	**PKiKP**		**14 22 58.9**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=119,slow=2.7,SNR=10.0							
LSZ	**Lusaka**	**121.33**	**261**	IAMs_20	IAMs_20	15 18 42.2		
	comp=Z,2µm,18.0s							
PVAQ	**Vaqueiros**	**122.30**	**336**	*e*LQ	LQ	15 06 57.5		
PVAQ				*e*LR	LR	15 13 37.7		
	comp=Z,2µm,18.0s							
VNA2	**Neumayer--Watz**	**122.48**	**190**	PKPdf	**PKPdf**		**14 23 01.2**	**-0.2**
SFS	**San Fernando**	**122.51**	**335**	IAMs_20	IAMs_20	15 23 29.6		
	comp=Z,1µm,20.0s							
VNA3	**Neumayer Olymp**	**122.55**	**189**	PKPdf	**PKPdf**		**14 23 00.0**	**-1.5**
MORF	**Marmelete**	**122.74**	**337**	*e*PP	PP		14 24 41.2	+1.7
MORF				AMS	AMS	15 26 56.9		
	comp=E,2µm,19.8s							
VNA1	**Neumayer--Stat**	**122.86**	**190**	PKPdf	**PKiKP**		**14 23 04.3**	**+2.1**
HDC	**Heredia**	**123.26**	**67**	IAMs_20	IAMs_20	15 18 57.6		
	comp=Z,1µm,18.0s							
BOSA	**Boshof**	**125.05**	**246**	PKP	**PKiKP**		**14 23 08.2**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=122,slow=2.2,SNR=5.0							
GTBY	**Guantanamo Bay**	**125.55**	**51**	IAMs_20	IAMs_20	15 28 04.3		
	comp=Z,1µm,19.0s							
GRTK	**Grand Turk**	**127.44**	**47**	IAMs_20	IAMs_20	15 24 18.1		
	comp=Z,1µm,20.0s							
SC01	**Santiago de lo**	**129.08**	**48**	IAMs_20	IAMs_20	15 25 22.7		
	comp=Z,2µm,20.0s							

PAC1	**Pacto, Paraso**	**132.01**	**75**	*e*P	PKPdf		14 23 09.1	-12
OTAV	**Otavalo**	**132.34**	**75**	*e*P	**PKiKP**		**14 23 24.3**	**+0.8**
OTAV	**Otavalo**	**132.34**	**75**	IAMs_20	IAMs_20	15 27 13.3		
	comp=Z,1µm,18.0s							
ZARC	**Zaragoza, Cauc**	**132.53**	**64**	*e*P	**PKPdf**		**14 23 19.0**	**-3.3**
SMLC	**San Martn de**	**132.56**	**62**	*e*P	**PKiKP**		**14 23 29.7**	**+6.3**
BBAC	**Balboa, Cauca**	**132.78**	**72**	*e*P	**PKiKP**		**14 23 27.0**	**+2.9**
YOTC	**Yotoco, Valle**	**132.80**	**69**	*e*P	**PKiKP**		**14 23 24.3**	**+0.3**
GCUF	**Volcan Galeras**	**133.00**	**73**	*e*P	**PKiKP**		**14 23 27.0**	**+2.1**
POPC	**Popayan, Colom**	**133.09**	**71**	*e*P	**PKiKP**		**14 23 27.0**	**+2.2**
GUY2C	**Guyana, Caldas**	**133.14**	**67**	*e*P	**PKPdf**		**14 23 24.3**	**+0.4**
ANIL	**Santa Ana**	**133.43**	**68**	*e*P	**PKiKP**		**14 23 27.0**	**+1.5**
PCON	**Cinco Dias**	**133.44**	**71**	*e*P	**PKiKP**		**14 23 27.0**	**+1.1**
TOLC	**Tolima**	**133.46**	**68**	*e*P	**PKPdf**		**14 23 24.3**	**-0.1**
OCAC	**Ocana**	**133.49**	**62**	*e*P	**PKPdf**		**14 23 24.3**	**+0.1**
MARP	**Paez Belalcaza**	**133.63**	**71**	*e*P	**PKiKP**		**14 23 29.9**	**+4.0**
BRRC	**Barranca, Sant**	**133.71**	**64**	*e*P	**PKPdf**		**14 23 24.3**	**-0.1**
ORTC	**Ortega, Tolima**	**133.82**	**69**	*e*P	**PKPdf**		**14 23 24.3**	**-0.4**
PUAC	**Puerto Asis, P**	**133.97**	**74**	*e*P	**PKiKP**		**14 23 29.7**	**+3.4**
SPBC	**San Pablo de B**	**134.09**	**66**	*e*P	**PKPdf**		**14 23 24.3**	**-0.9**
PRAC	**Prado**	**134.23**	**69**	*e*P	**PKPdf**		**14 23 21.6**	**-3.8**
GARC	**Garzon, Huila**	**134.32**	**71**	*e*P	**PKiKP**		**14 23 29.7**	**+2.4**
FLOC	**Florencia**	**134.41**	**72**	*e*P	**PKiKP**		**14 23 29.7**	**+2.5**
PAMC	**Pamplona, Colo**	**134.47**	**63**	*e*P	**PKiKP**		**14 23 32.4**	**+4.5**
RUSC	**La Rusia**	**134.84**	**65**	*e*P	**PKiKP**		**14 23 32.4**	**+3.8**
CHIC	**Chingaza**	**134.85**	**67**	*e*P	**PKiKP**		**14 23 31.2**	**+2.7**
SDV	**Santo Domingo**	**135.41**	**60**	*e*P	PKPpre		14 23 19.0	
TOC1	**Torodi Ar. Sit**	**135.50**	**308**	IAMs_20	IAMs_20	15 35 05.7		
	comp=Z,847nm,18.0s							
TOA0	**Torodi Ar. Sit**	**135.52**	**308**	PKPdf	**PKPdf**		**14 23 27.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**135.52**	**308**	PKP	**PKPdf**		**14 23 28.2**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=28,slow=2.1,SNR=23							
TORD				PP	**PP**		**14 26 01.7**	**-2.4**
	comp=Z,2.4nm,1.1s,baz=38,slow=5.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**135.52**	**308**	PKPdf	**PKPdf**		**14 23 27.6**	**-0.2**
PTLC	**Puerto Leguiza**	**135.75**	**73**	*e*P	**PKPdf**		**14 23 27.0**	**-1.3**
MACC	**Macarena, Meta**	**135.83**	**70**	*e*P	PKPpre		14 23 24.0	
ANWB	**Willy Bob**	**136.41**	**42**	IAMs_20	IAMs_20	15 25 06.6		
	comp=Z,1µm,20.0s							
PTGC	**Puerto Gaitan,**	**136.47**	**66**	*e*P	PKiKP		14 23 40.4	+9.1
GUVC	**San Jose del G**	**136.76**	**69**	*e*P	**PKPdf**		**14 23 29.7**	**-0.5**
BI03	**Tigo**	**138.55**	**129**	IAMs_20	IAMs_20	15 27 09.1		
	comp=Z,1µm,18.0s							
PLCA	**Paso Flores**	**138.79**	**135**	PKP	**PKPdf**		**14 23 32.4**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=256,slow=4.2,SNR=3.4							
FDF	**Fort de France**	**138.96**	**44**	IAMs_20	IAMs_20	15 31 28.2		
	comp=Z,957nm,18.0s							
BI02	**San Fabin de**	**139.93**	**129**	IAMs_20	IAMs_20	15 34 02.6		
	comp=Z,1µm,19.0s							
BO02	**Sierra Bellavi**	**140.96**	**127**	IAMs_20	IAMs_20	15 23 51.2		
	comp=Z,1µm,18.0s							
VA03	**San Esteban**	**141.79**	**124**	IAMs_20	IAMs_20	15 31 02.6		
	comp=Z,1µm,19.0s							
CO01	**Juntas del Tor**	**142.94**	**119**	IAMs_20	IAMs_20	15 28 22.5		
	comp=Z,1µm,19.0s							
AC05	**El Transito**	**143.06**	**117**	IAMs_20	IAMs_20	15 24 36.8		
	comp=Z,1µm,18.0s							
ZON	**Zonda**	**143.68**	**122**	PKIKP	**PKPdf**		**14 23 41.4**	**-0.9**
ZON	**Zonda**	**143.68**	**122**		**PKPdf**		**14 23 41.4**	**-0.9**
PB14	**IPOC Station P**	**143.68**	**111**		PKPbc		14 23 41.0	+0.8
PB12	**IPOC Station P**	**144.08**	**100**	PKPdf	**PKPdf**		**14 23 42.5**	**-0.8**
PB12				IAMs_20	IAMs_20	15 25 47.0		
	comp=Z,1µm,19.0s							
TA01	**Diego Aracena**	**144.21**	**104**	PKPdf	**PKPdf**		**14 23 42.8**	**-0.6**
TA01				IAMs_20	IAMs_20	15 32 00.9		
	comp=Z,1µm,19.0s							
PATCX	**Punta Patache**	**144.22**	**104**		**PKPdf**		**14 23 42.8**	**-0.7**
PSGCX	**Pisagua**	**144.28**	**102**		**PKPdf**		**14 23 42.8**	**-0.8**
PSGCX				IAMs_20	IAMs_20	15 20 14.1		
	comp=Z,1µm,19.0s							
GO02	**Mina Guanaco**	**144.34**	**112**		PKPbc		14 23 43.0	+0.8
PB07	**IPOC Station P**	**144.43**	**106**		**PKPdf**		**14 23 43.5**	**-0.5**
AC02	**Maricunga**	**144.46**	**115**		**PKPdf**		**14 23 43.9**	**-0.4**
DBIC	**Dimbokro**	**144.58**	**306**	PKP	PKPbc		14 23 43.2	+0.4
	comp=Z,36nm,0.8s,baz=38,slow=4.9,SNR=27							
PB06	**IPOC Station P**	**144.64**	**107**		**PKPdf**		**14 23 43.9**	**-0.4**
KIC	**Kosan Boka**	**144.68**	**306**	*e*PKP2	PKPbc		14 23 43.3	+0.1
	comp=Z,72nm,0.8s							
PB15	**IPOC Station P**	**144.69**	**108**		**PKPdf**		**14 23 44.3**	**-0.2**
PB11	**IPOC Station P**	**144.72**	**102**	PKPdf	**PKPdf**		**14 23 44.4**	**-0.1**
PB11				IAMs_20	IAMs_20	15 20 45.7		
	comp=Z,1µm,20.0s							
TIC	**Toumodi**	**144.72**	**307**	*e*PKP2	PKPbc		14 23 43.5	+0.2
MNMC	**Minye Minye**	**144.78**	**101**		PKPbc		14 23 43.9	+0.2
MNMC				IAMs_20	IAMs_20	15 20 12.4		
	comp=Z,970nm,18.0s							
PB01	**IPOC Station P**	**144.83**	**105**		**PKPdf**		**14 23 44.2**	**-0.4**
PB16	**IPOC Station P**	**144.86**	**100**	PKPdf	**PKPab**		**14 23 44.3**	**0.0**
PB16				IAMs_20	IAMs_20	15 26 38.5		
	comp=Z,1µm,18.0s							
LIC	**Lamto**	**144.99**	**306**	*e*PKP2	PKPbc		14 23 44.5	+0.3
	comp=Z,158nm,0.7s							
PB09	**IPOC Station P**	**145.02**	**106**		**PKPab**		**14 23 44.3**	**0.0**
GO01	**Chusmiza**	**145.15**	**102**	IAMs_20	IAMs_20	15 23 15.2		
	comp=Z,1µm,19.0s							
PB08	**IPOC Station P**	**145.18**	**103**		**PKPbc**		**14 23 45.1**	**0.0**
PB08				IAMs_20	IAMs_20	15 20 25.9		
	comp=Z,906nm,19.0s							
LPAZ	**La Paz**	**146.09**	**96**	PKPbc	**PKPab**		**14 23 49.2**	**+0.2**
	comp=Z,9.3nm,0.7s,baz=288,slow=4.3,SNR=21							
LPAZ	**La Paz**	**146.09**	**96**	*e*P	**PKiKP**		**14 23 50.8**	**-0.9**
LPAZ	**La Paz**	**146.09**	**96**	PKP2	**PKPdf**		**14 23 47.5**	**0.0**
LPAZ	**La Paz**	**146.09**	**96**		**PKPdf**		**14 23 47.5**	**0.0**
SAML	**Samuel**	**149.68**	**81**	*e*P	**PKPbc**		**14 23 56.5**	**-0.8**
SAML	**Samuel**	**149.68**	**81**	PKHKP	PKPpre		14 23 53.4	
SAML	**Samuel**	**149.68**	**81**	PKPdf	**PKPdf**		**14 23 53.4**	**+0.6**
SAML	**Samuel**	**149.68**	**81**	IAMs_20	IAMs_20	15 35 26.1		
	comp=Z,982nm,18.0s							

*IDC **06** 14:10:16.3±0.7, 14°.26N×93°.09E, h0km, mb4.1/11, mb1 4.2/12, mb1mx3.9/57, mbtmp4.0/12, ML3.4/1, Error ellipse: s-maj=30.2km s-min=17.9km az=48.0*
*NEIC **06** 14:10:21.2±1.1, 14°.26N±0°.07×93°.13E±0°.08, h35km±7km, mb4.6/21, Error ellipse: s-maj=11.1km s-min=10.3km az=119.0*
*NDI **06** 14:10:29.7±3.0, 13°.80N×92°.62E, h39km±34km, ML3.8, mb4.6(NEIC)*

ISC 06 14:10:21.2±0.5, 14°.27N±0°.06×93°.13E±0°.08, h35km, n52, σ1§05/47, mb4.4/19, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.10**	**190**	*ex*	**Pn**	**14 10 42.7**	**+2.5**
DGPR	**DIGLIPUR**	**1.10**	**190**	*eP*	**Pn**	**14 10 42.9**	**+2.7**
DGPR				*eS*	**Sn**	**14 10 51.0**	**-3.2**
DGPR				IAML		14 10 57.2	
	comp=E,1µm,0.3s						
DGPR				AMP		14 11 05.6	
	comp=N,13µm,0.5s						
PBA	**Port Blair**	**2.63**	**188**	*eP*	Pn	14 11 04.3	+3.1
PBA				*i* SG	Sn	14 11 34.8	+3.0
PBA	**Port Blair**	**2.63**	**188**	Pn	Pn	14 11 02.9	+1.7
CM31	**Chiang Mai Arr**	**6.96**	**53**	Pn	**Pn**	**14 12 02.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**6.96**	**53**	Pn	**Pn**	**14 12 02.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=242,slow=15,SNR=5.0						
CMAR	**Chiang Mai Arr**	**6.96**	**53**		**Pn**	**14 12 00.9**	**+0.1**
CHTO	**Chiang Mai**	**7.18**	**50**	Pn	**Pn**	**14 12 04.5**	**+0.8**
BWNR	**Bhubaneshwar**	**9.20**	**312**	*eP*	**Pn**	**14 12 29.8**	**-1.8**
BWNR				*i* x	x	14 12 38.9	
BWNR				*eS*	Sn	14 14 01.8	-12
SLVN	**Son La**	**12.43**	**54**	Pn	**Pn**	**14 13 14.7**	**-1.1**
PALK	**Pallekele**	**14.04**	**242**	Pn	**Pn**	**14 13 37.2**	**-0.6**
BKNI	**Bangkinang**	**15.92**	**150**	Pn	**Pn**	**14 14 02.2**	**-0.5**
MYKOM	**Kota Tinggi**	**16.31**	**139**	Pn	**Pn**	**14 14 06.9**	**-0.9**
XMIS	**Christmas Isla**	**27.55**	**153**	P	**P**	**14 16 04.9**	**-0.2**
H08S3	**Diego Garcia H**	**29.88**	**225**	T	T	14 47 45.9	
	baz=42,slow=75,SNR=8.7						
H08S2	**Diego Garcia H**	**29.89**	**225**	T	T	14 47 41.9	
	baz=42,slow=75,SNR=9.7						
H08S1	**Diego Garcia H**	**29.90**	**225**	T	T	14 47 45.5	
	baz=42,slow=75,SNR=6.8						
JTU	**Tsushima**	**38.41**	**52**	P	**P**	**14 17 38.8**	**-0.6**
ZALV	**Zalesovo Beam**	**40.12**	**352**	P	**P**	**14 17 53.8**	**+0.3**
	comp=N,1.8nm,0.7s,baz=166,slow=7.6,SNR=2.5						
ABKAR	**Akbulak array**	**44.22**	**329**	P	**P**	**14 18 28.0**	**+1.1**
ABKAR	**Akbulak array**	**44.22**	**329**	P	**P**	**14 18 28.1**	**+1.1**
ABKAR				IAmb	IAmb	14 18 56.4	
	comp=Z,9.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**45.41**	**134**	P	**P**	**14 18 36.6**	**-0.3**
FITZ				IAmb	IAmb	14 18 40.2	
	comp=Z,7.1nm,1.2s						
WB0	**Warramunga Arr**	**52.85**	**129**	P	**P**	**14 19 33.7**	**-0.1**
WB0				IAmb	IAmb	14 19 51.2	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**14 19 34.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=306,slow=9.6,SNR=5.4						
WRA				PcP	**PcP**	**14 20 43.6**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=321,slow=3.0,SNR=9.1						
WRA	**Warramunga Arr**	**52.91**	**129**	IAmb	IAmb	14 19 42.5	
	comp=Z,0.3nm,1.1s						
WRAB	**Tennant Creek**	**52.91**	**129**	P	**P**	**14 19 34.5**	**+0.2**
WRAB				IAmb	IAmb	14 19 39.0	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**52.92**	**129**	P	**P**	**14 19 34.2**	**-0.1**
WB2				IAmb	IAmb	14 19 59.8	
	comp=Z,9.1nm,1.4s						
WR0	**Warramunga Arr**	**53.07**	**129**	P	**P**	**14 19 35.1**	**-0.3**
WR0				IAmb	IAmb	14 19 48.4	
	comp=Z,11nm,1.5s						
ASAR	**Alice Springs**	**54.88**	**133**	P	**P**	**14 19 48.8**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=309,slow=7.2,SNR=17						
ASAR				PcP	**PcP**	**14 20 50.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=318,slow=4.5,SNR=1.9						
TOKA	**Tokat**	**55.57**	**309**	P	**P**	**14 19 54.5**	**+1.0**
BR131	**Keskin Array S**	**57.62**	**308**	P	**P**	**14 20 07.9**	**-0.2**
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**14 20 08.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=128,slow=8.9,SNR=5.5						
AKAS	**Kas**	**60.42**	**304**	P	**P**	**14 20 27.2**	**-0.4**
KARP	**Karpathos**	**62.37**	**303**	P	**P**	**14 20 40.2**	**-0.5**
LIT	**Litokhoron**	**66.19**	**308**	P	**P**	**14 21 05.3**	**-0.3**
ITM	**Ithomi**	**66.61**	**305**	P	**P**	**14 21 08.0**	**-0.4**
FIA1	**FINESS Array S**	**66.64**	**331**	P	**P**	**14 21 07.8**	**-0.2**
FIA1				IAmb	IAmb	14 21 16.7	
	comp=Z,15nm,1.2s						
FINES	**FINESS Array B**	**66.64**	**331**	P	**P**	**14 21 08.1**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=102,slow=6.5,SNR=5.3						
ARCES	**ARCESS Array B**	**68.95**	**340**	P	**P**	**14 21 22.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=90,slow=6.4,SNR=2.2						
MORC	**Moravsky Berou**	**69.94**	**318**	P	**P**	**14 21 28.0**	**-1.0**
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**14 21 44.8**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=78,slow

PATS	**Pohnpei**	**13.75**	**127**	Pn		**Pn**	**14 27 42.0**	**-2.3**
H11S3	**WAKE ISLAND Hy**	**18.76**	**78**	T		T	14 48 14.2	
	baz=263							
H11S1	**WAKE ISLAND Hy**	**18.78**	**78**	T		T	14 48 10.1	
	baz=263							
H11S2	**WAKE ISLAND Hy**	**18.78**	**78**	T		T	14 48 10.7	
	baz=263							
WAKE	**Wake Island**	**18.83**	**76**	P		**P**	**14 28 48.6**	**-0.4**
RABL	**Rabaul**	**20.08**	**166**	P		**P**	**14 29 03.0**	**+0.4**
JSG	**Sagara**	**20.85**	**338**	P		**P**	**14 29 09.2**	**-1.6**
JMM	**Marumori**	**23.08**	**347**	P		**P**	**14 29 34.8**	**+0.3**
JMM				IAmb		IAmb	14 29 41.1	
	comp=Z,53nm,1.1s							
FAKI	**Fak Fak**	**23.57**	**221**	P		**P**	**14 29 39.3**	**-0.3**
FAKI				IAmb		IAmb	14 29 44.5	
	comp=Z,68nm,1.3s							
YULB	**Yu-li**	**25.77**	**292**	P		**P**	**14 29 59.3**	**-0.4**
COEN	**Coen**	**29.50**	**188**	P		**P**	**14 30 33.8**	**+0.7**
COEN				IAmb		IAmb	14 30 56.5	
	comp=Z,18nm,1.4s							
MMRI	**Maumere**	**34.50**	**228**	P		**P**	**14 31 17.2**	**+0.1**
WR0	**Warramunga Arr**	**37.36**	**200**	P		**P**	**14 31 42.0**	**+0.5**
WB2	**Warramunga Arr**	**37.41**	**200**	P		**P**	**14 31 42.5**	**+0.6**
WRA	**Warramunga Arr**	**37.41**	**200**	P		**P**	**14 31 42.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=23,slow=8.9,SNR=3.6							
WRA	**Warramunga Arr**	**37.41**	**200**	P		**P**	**14 31 42.3**	**+0.3**
ENH	**Enshi**	**37.67**	**300**	P		**P**	**14 31 43.0**	**-1.2**
ENH				IAmb		IAmb	14 31 46.3	
	comp=Z,13nm,1.3s							
ASAR	**Alice Springs**	**41.02**	**199**	P		**P**	**14 32 13.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=19,slow=8.9,SNR=4.7							
CMAR	**Chiang Mai Arr**	**46.28**	**281**	P		**P**	**14 32 55.2**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=75,slow=6.3,SNR=5.0							
CMAR	**Chiang Mai Arr**	**46.28**	**281**	P		**P**	**14 32 54.7**	**+0.1**
YAK	**Yakutsk**	**48.20**	**349**	P		**P**	**14 33 08.8**	**-0.1**
MK31	**Makanchi Array**	**61.85**	**315**	P		**P**	**14 34 48.0**	**+0.1**
MKAR	**Makanchi Array**	**61.85**	**315**	P		**P**	**14 34 48.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=96,slow=8.0,SNR=13							
MAKZ	**Makanchi**	**62.06**	**315**	P		**P**	**14 34 49.5**	**+0.2**
MAKZ				IAmb		IAmb	14 34 50.2	
	comp=Z,2.6nm,0.6s							
KHZ	**Kahutara**	**62.42**	**158**	P		**P**	**14 34 52.6**	**+1.0**
RPZ	**Rata Peaks**	**62.74**	**161**	P		**P**	**14 34 55.0**	**+1.3**
PPLA	**Purkeypile**	**63.08**	**27**	P		**P**	**14 34 57.4**	**+1.5**
PPLA				IAmb		IAmb	14 35 18.1	
	comp=Z,16nm,1.4s							
IMAR	**Indian Mountai**	**63.57**	**23**	P		**P**	**14 35 00.4**	**+1.4**
KURK	**Kurchatov**	**64.73**	**319**	P		**P**	**14 35 06.5**	**-0.4**
KURK				IAmb		IAmb	14 35 07.4	
	comp=Z,5.6nm,1.1s							
GLI	**Glacier Island**	**64.80**	**29**	P		**P**	**14 35 07.8**	**+0.8**
GLI				IAmb		IAmb	14 35 23.4	
	comp=Z,19nm,1.3s							
ILAR	**Eielson Array**	**65.89**	**25**	P		**P**	**14 35 14.4**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=265,slow=5.5,SNR=6.3							
ILAR	**Eielson Array**	**65.89**	**25**	P		**P**	**14 35 14.0**	**-0.1**
PAX	**Paxson**	**66.04**	**27**	P		**P**	**14 35 16.0**	**+0.8**
PAX				IAmb		IAmb	14 35 17.1	
	comp=Z,6.0nm,0.8s							
VRDI	**Verde Repeater**	**66.60**	**30**	P		**P**	**14 35 19.4**	**+0.5**
BMAR	**Burnt Mountain**	**67.48**	**23**	P		**P**	**14 35 27.2**	**+2.9**
BCAR	**Beaver Creek A**	**67.71**	**28**	P		**P**	**14 35 25.1**	**-0.6**
KKAR	**Karatay Array**	**70.05**	**311**	P		**P**	**14 35 40.6**	**-0.1**
ABKAR	**Akbulak array**	**76.78**	**318**	P		**P**	**14 36 19.2**	**-1.0**
NVAR	**Mina Array Bea**	**83.91**	**52**	P		**P**	**14 37 00.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=275,slow=4.9,SNR=4.9							
NVAR	**Mina Array Bea**	**83.91**	**52**	P		**P**	**14 36 59.4**	**+0.3**
ARCES	**ARCESS Array B**	**86.06**	**343**	P		**P**	**14 37 09.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=70,slow=7.8,SNR=3.7							
YNE	**Yellowstone No**	**87.91**	**44**	P		**P**	**14 37 18.3**	**-0.4**
FINES	**FINESS Array B**	**90.48**	**336**	P		**P**	**14 37 29.6**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=48,slow=2.8,SNR=4.9							
TORD	**Torodi Ar. Bea**	**135.70**	**308**	PKP		**PKiKP**	**14 43 50.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=28,slow=1.7,SNR=1.4							
PB11	**IPOC Station P**	**144.53**	**102**			**PKPdf**	**14 44 06.8**	**+0.7**

*IDC **06** 14:39:46.0±1.4, 5.°31S×133.°48E, h0km, mb4.0/3, mb1 4.0/8, mb1mx3.8/30, mbtmp3.9/8, ML3.5/5, Error ellipse: s-maj=35.7km s-min=22.3km az=78.0*
*NEIC **06** 14:39:47.4±1.4, 5.°32S±0.°06×133.°63E±0.°06, h20km±6km, mb4.6/2, Error ellipse: s-maj=10.4km s-min=8.0km az=220.0*
*DJA **06** 14:39:51.5±0.3, 5.°5S±6.°×13.°4E±.°, h142km±21km, M4.3/9, mb4.1/9, mB5.3/1, MLv4.3/8, Mw(mB)4.7/1*
ISC 06 14:39:49.8±0.6, **5.°35S**±0.°06×**133.°67E**±0.°06, **h35**km, **n30,** σ1**9**47/35, **Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.80**	**330**		**Pn**	**14 40 28.9**	**-3.2**
BNDI	**Bandanaira**	**3.84**	**282**	P	**Pn**	**14 40 49.0**	**+2.6**
BNDI				S	**Sn**	**14 41 33.3**	**+2.9**
BAKI	**Biak**	**4.80**	**31**	P	**Pn**	**14 40 59.8**	**+0.2**
SIJI	**Sorong**	**5.06**	**332**	Pn	**Pn**	**14 41 01.0**	**-2.2**
	1.9nm,0.3s,baz=317,slow=23,SNR=8.6						
SIJI				Sn	**Sn**	**14 41 59.5**	**-0.9**
	4.8nm,0.3s,baz=293,slow=23,SNR=8.2						
MSAI	**Masohi**	**5.13**	**293**	P	**Pn**	**14 41 05.2**	**+1.1**
	0.1nm16nm,0.6s						
NLAI	**Namlea**	**6.88**	**288**	P	**Pn**	**14 41 29.0**	**+0.8**
	0.1nm19nm,0.6s						
JAY	**Jayapura**	**7.56**	**68**	Pn	**Pn**	**14 41 39.2**	**+1.5**
	0.9nm,0.3s,baz=204,slow=11,SNR=5.5						
JAY				Sn	**Sn**	**14 43 02.2**	**-0.1**
	1.0nm,0.3s,baz=94,slow=19,SNR=2.2						
JAY	**Jayapura**	**7.56**	**68**	P	**Pn**	**14 41 38.4**	**+0.8**
	0.1nm7.3nm,1.8s						
MTN	**Manton Dam**	**7.85**	**198**		**Pn**	**14 41 42.9**	**+1.3**
SANI	**Sanana**	**8.34**	**293**	P	**Pn**	**14 41 48.0**	**-0.2**
	18nm,1.0s						
SOEI	**Soe**	**10.29**	**244**	P	**Pn**	**14 42 14.5**	**-0.7**
KNRA	**Kununurra**	**11.34**	**205**		**Pn**	**14 42 31.4**	**+2.1**
COEN	**Coen**	**12.68**	**133**	Pn	**Pn**	**14 42 47.2**	**-0.6**
PMG	**Port Moresby**	**13.97**	**108**	P	**P**	**14 43 12.3**	**-0.5**
WB0	**Warramunga Arr**	**14.35**	**177**	Pn	**Pn**	**14 43 10.0**	**-0.5**
WRAB	**Tennant Creek**	**14.51**	**177**	Pn	**Pn**	**14 43 11.7**	**-1.0**
WB2	**Warramunga Arr**	**14.52**	**177**	Pn	**Pn**	**14 43 11.9**	**-0.9**
WRA	**Warramunga Arr**	**14.52**	**177**	Pn	**Pn**	**14 43 13.1**	**+0.3**
	0.1nm,0.3s,baz=356,slow=13,SNR=10						
WRA				Sn	**Sn**	**14 45 53.4**	**+0.8**
	0.2nm,0.3s,baz=0.7,slow=24,SNR=4.5						
WRA	**Warramunga Arr**	**14.52**	**177**		**Pn**	**14 43 12.2**	**-0.6**
WR0	**Warramunga Arr**	**14.54**	**177**	Pn	**Pn**	**14 43 12.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.90**	**211**	Pn	**Pn**	**14 43 17.6**	**-0.3**
	0.4nm,0.3s,baz=25,slow=10,SNR=14						
FITZ				Sn	**Sn**	**14 45 57.7**	**-4.2**
	0.6nm,0.3s,baz=212,slow=21,SNR=6.2						
FITZ	**Fitzroy Crossi**	**14.90**	**211**		**Pn**	**14 43 16.8**	**-1.2**
ASAR	**Alice Springs**	**18.21**	**179**	P	**Pn**	**14 44 00.9**	**+1.0**
	0.1nm,0.3s,baz=356,slow=15,SNR=5.2						
HNR	**Honiara**	**26.37**	**100**	P	**P**	**14 45 23.4**	**+0.4**
BBOO	**Buckleboo**	**27.41**	**176**	P	**P**	**14 45 32.1**	**-0.1**
BBOO				IAmb	IAmb	14 45 42.0	
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.62**	**305**	P	**P**	**14 47 35.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=137,slow=6.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**41.62**	**305**	P	**P**	**14 47 34.5**	**-0.4**
KSRS	**Korea Array**	**42.92**	**353**	P	**P**	**14 47 46.1**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=156,slow=6.6,SNR=3.8						
MKAR	**Makanchi Array**	**68.92**	**325**	P	**P**	**14 50 51.8**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=126,slow=6.2,SNR=16						
MKAR	**Makanchi Array**	**68.92**	**325**	P	**P**	**14 50 51.0**	**-0.3**

*IDC **06** 15:02:37.6±1.6, 15.°49N×147.°47E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/56, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=53.4km s-min=27.2km az=113.0*
*NEIC **06** 15:02:38.6±0.6, 15.°52N±0.°09×147.°42E±0.°08, h7km±7km, mb4.2/3, Error ellipse: s-maj=14.5km s-min=8.3km az=146.0*
ISC 06 15:02:38.4±0.9, **15.°3N**±0.°1×**147.°34E**±0.°09, **h10**km, **n12,** σ1**9**50/10, **mb3.8/5, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.89**	**304**	Pn	**Pn**	**15 03 10.4**	**-0.4**
GUMO	**Guam**	**2.92**	**235**	Pn	**Pb**	**15 03 28.3**	**-2.2**
	5.7nm,0.3s,baz=135,slow=7.1,SNR=1.5						
GUMO				Sn	**Sn**	**15 04 00.8**	**+0.7**
	21nm,0.3s,baz=25,slow=22,SNR=5.2						
PATS	**Pohnpei**	**13.64**	**127**		**Pn**	**15 05 51.1**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**18.79**	**77**	T	T	15 26 14.5	
	baz=262,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**18.80**	**77**	T	T	15 26 19.4	
	baz=262,slow=74,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**18.81**	**77**	T	T	15 26 15.7	
	baz=262,slow=74,SNR=7.5						
WRA	**Warramunga Arr**	**37.26**	**200**	P	**P**	**15 09 53.4**	**+2.8**
	0.2nm,0.6s,baz=26,slow=9.2,SNR=5.4						
ENH	**Enshi**	**37.76**	**300**	P	**P**	**15 09 55.7**	**+0.8**
ENH				IAmb	IAmb	15 10 21.3	
	comp=Z,10.0nm,1.2s						
MK31	**Makanchi Array**	**61.97**	**315**	P	**P**	**15 12 58.8**	**0.0**
MK31				IAmb	IAmb	15 13 17.4	
	comp=Z,1.4nm,1.1s						
MKAR	**Makanchi Array**	**61.97**	**315**	P	**P**	**15 12 58.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=101,slow=7.5,SNR=8.4						
ILAR	**Eielson Array**	**66.03**	**25**	P	**P**	**15 13 24.4**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=239,slow=6.8,SNR=4.4						
KKAR	**Karatay Array**	**70.16**	**311**	P	**P**	**15 13 51.7**	**+0.2**

*KNET **06** 15:05:03.1±0.2, 43.°00N×74.°62E, h21km±1km, ml1.7, Error ellipse: s-maj=1.7km s-min=1.4km az=124.0*
*NNC **06** 15:05:04.3±0.3, 42.°99N×74.°68E, h0km, mb2.8, mpv2.9, Error ellipse: s-maj=2.5km s-min=1.2km az=139.0*
*KRNET **06** 15:05:04.0±0.1, 43.°01N×74.°61E, h20km, mb2.7*
*SOME **06** 15:05:04.2, 43.°02N×74.°60E, h15km*
ISC 06 15:05:04.8±0.8, **43.°01N**±0.°02×**74.°60E**±0.°02, **h16**km±5km, **n59,** σ1**9**12/115, **37C-13D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.11**	**95**	⇑*i*P	**Pg**	**15 05 07.6**	**-0.8**
CHMS				⇑*i*S	**Sg**	**15 05 10.3**	**-0.4**
	baz=98						
CHMS	**Chumysh**	**0.11**	**95**	⇑P	**Pg**	**15 05 07.7**	**-0.8**
	81nm,0.1s,SNR=311						
CHMS				⇓S	**Sg**	**15 05 10.4**	**-0.3**
	134nm,0.2s						
FRU1	**Bishkek**	**0.20**	**174**	⇑*i*P	**Pg**	**15 05 09.2**	**-0.4**
	baz=76						
FRU1				⇑*i*S	**Sg**	**15 05 13.0**	**+0.2**
	baz=76						
USP	**Ospenovka**	**0.27**	**344**	⇑*i*P	**Pg**	**15 05 10.0**	**-0.7**
	baz=43						
USP				⇑*i*S	**Sg**	**15 05 14.2**	**-0.6**
	baz=43						
USP	**Ospenovka**	**0.27**	**344**	⇑P	**Pg**	**15 05 09.9**	**-0.8**
	48nm,0.2s,SNR=203						
USP				⇑S	**Sg**	**15 05 14.2**	**-0.6**
	329nm,0.1s						
AAK	**Ala-Archa**	**0.38**	**192**	⇑*i*P	**Pg**	**15 05 11.9**	**-0.7**
	baz=93						
AAK				⇑*i*S	**Sg**	**15 05 17.7**	**-0.3**
	baz=93						
AAK	**Ala-Archa**	**0.38**	**192**	⇓P	**Pg**	**15 05 12.1**	**-0.6**
	38nm,0.2s,SNR=37						
AAK				⇓S	**Sg**	**15 05 17.8**	**-0.1**
	74nm,0.2s						
AAK	**Ala-Archa**	**0.38**	**192**	⇑P	**Pg**	**15 05 11.7**	**-0.9**
	9.2nm,0.3s						
AAK				⇑S	**Sg**	**15 05 17.5**	**-0.5**
	40nm,0.5s						
KBK	**Karagaybulak**	**0.43**	**144**	⇑*i*P	**Pg**	**15 05 12.8**	**-0.8**
	baz=45						
KBK				⇑*i*S	**Sg**	**15 05 19.1**	**-0.5**
	baz=45						
KBK	**Karagaybulak**	**0.43**	**144**	⇑P	**Pg**	**15 05 13.0**	**-0.7**
	17nm,0.1s,SNR=30						
KBK				⇓S	**Sg**	**15 05 19.4**	**-0.2**
	142nm,0.2s						
SGDS	**Sogindy**	**0.44**	**3**	P	**Pg**	**15 05 12.9**	**-0.9**
	40nm,0.1s						
SGDS				S	**Sg**	**15 05 18.8**	**-1.1**
	86nm,0.1s						
EKS2	**Erkin-Say**	**0.70**	**241**	⇑*i*P	**Pg**	**15 05 17.4**	**-1.1**
	baz=40						
EKS2				⇑*i*S	**Sg**	**15 05 27.4**	**-0.4**
	baz=40						
EKS2	**Erkin-Say**	**0.70**	**241**	⇑P	**Pg**	**15 05 17.7**	**-0.9**
	12nm,0.1s,SNR=8.2						
EKS2				⇑S	**Sg**	**15 05 27.5**	**-0.4**
	20nm,0.1s						
TKM2	**Tokmak 2**	**0.73**	**96**	⇑*i*P	**Pg**	**15 05 17.4**	**-1.8**
	baz=97						
TKM2				⇑*i*S	**Sg**	**15 05 27.4**	**-1.6**
	baz=97						
TKM2	**Tokmak 2**	**0.73**	**96**	⇑P	**Pg**	**15 05 17.6**	**-1.7**
	6.2nm,0.1s,SNR=8.5						
TKM2				⇑S	**Sg**	**15 05 27.4**	**-1.6**
	73nm,0.1s						
TKM2	**Tokmak 2**	**0.73**	**96**	⇑P	**Pg**	**15 05 17.3**	**-2.0**
	1.5nm,0.3s						
TKM2				⇑S	**Sg**	**15 05 27.1**	**-1.9**
	7.9nm,0.2s						
UCH	**Uchtor**	**0.78**	**185**	⇓*i*P	**Pg**	**15 05 18.9**	**-1.3**
	baz=85						
UCH				⇓*i*S	**Sg**	**15 05 29.8**	**-0.7**
	baz=85						
UCH	**Uchtor**	**0.78**	**185**	⇓P	**Pg**	**15 05 19.1**	**-1.0**
	4.1nm,0.1s,SNR=42						
UCH				⇑S	**Sg**	**15 05 29.8**	**-0.7**
	11nm,0.1s						
KST	**Kastek**	**1.00**	**88**	*e*P	**Pg**	**15 05 22.7**	**-1.5**
	baz=88						
KST				*e*S	**Sg**	**15 05 36.1**	**-1.2**
	baz=88						
KST	**Kastek**	**1.00**	**88**	*e*P	**Pg**	**15 05 22.7**	**-1.5**
	5.0nm,0.1s						
KST				*e*S	**Sg**	**15 05 36.1**	**-1.2**
	13nm,0.2s						
KST	**Kastek**	**1.00**	**88**	P	**Pg**	**15 05 22.7**	**-1.5**
	5.0nm,0.1s						
KST				S	**Sg**	**15 05 36.1**	**-1.2**
	13nm,0.2s						
KZA	**Kyzart**	**1.04**	**153**	⇓*i*P	**Pg**	**15 05 23.5**	**-1.6**
	baz=53						
KZA				⇓*i*S	**Sg**	**15 05 37.6**	**-1.2**
	baz=53						
MRKS	**Merke**	**1.04**	**256**	*e*P	**Pg**	**15 05 23.3**	**-1.8**
	baz=56						
MRKS				*e*S	**Sg**	**15 05 37.1**	**-1.7**
	baz=56						
MRKS	**Merke**	**1.04**	**256**	*e*P	**Pg**	**15 05 23.3**	**-1.8**
	12nm,0.2s						
MRKS				*e*S	**Sg**	**15 05 37.0**	**-1.7**
	30nm,0.2s						
MRKS	**Merke**	**1.04**	**256**	P	**Pn**	**15 05 26.1**	**+1.2**
	5.7nm,0.1s						
MRKS				S	**Sn**	**15 05 41.2**	**+2.0**
	12nm,0.3s						
AML	**Almayashu**	**1.10**	**218**	⇑*i*P	**Pg**	**15 05 24.4**	**-1.8**
	baz=18						
AML				⇑*i*S	**Sg**	**15 05 39.5**	**-1.2**
	baz=18						
BOOM	**Boomskoye usch**	**1.11**	**117**	⇑*i*P	**Pg**	**15 05 24.1**	**-2.2**
	baz=17						
BOOM				⇑*i*S	**Sg**	**15 05 39.1**	**-1.8**
	baz=17						
MTBS	**Maitube**	**1.34**	**84**	*e*P	**Pn**	**15 05 29.3**	**+0.3**
	baz=84						
MTBS				*e*S	**Sg**	**15 05 46.9**	**-1.4**
	baz=84						
MTBS	**Maitube**	**1.34**	**84**	*e*P	**Pn**	**15 05 29.3**	**+0.3**
	2.5nm,0.2s						
MTBS				*e*S	**Sg**	**15 05 46.9**	**-1.4**
	8.5nm,0.4s						
MTBS	**Maitube**	**1.34**	**84**	P	**Pn**	**15 05 29.3**	**+0.3**
	2.5nm,0.2s						
MTBS				S	**Sg**	**15 05 46.9**	**-1.4**
	8.5nm,0.4s						
ULHL	**Ulahol**	**1.43**	**122**	⇓*i*P	**Pn**	**15 05 29.4**	**-0.9**
	baz=22						
ULHL				⇓*i*S	**Sb**	**15 05 48.7**	**-0.6**
	baz=22						
KUU	**Kurty**	**1.54**	**54**	*e*P	**Pn**	**15 05 32.4**	**+0.7**
	baz=55						
KUU				*e*S	**Sn**	**15 05 52.3**	**+0.9**
	baz=55						
KUU	**Kurty**	**1.54**	**54**	*e*P	**Pn**	**15 05 32.4**	**+0.7**
	1.7nm,0.1s						
KUU				*e*S	**Sn**	**15 05 52.3**	**+0.9**
	14nm,0.1s						
KUU	**Kurty**	**1.54**	**54**	P	**Pn**	**15 05 32.4**	**+0.7**
	1.7nm,0.1s						
KUU				S	**Sn**	**15 05 52.3**	**+0.9**
	14nm,0.1s						
MNAS	**Manas**	**1.63**	**252**	⇑*i*P	**Pn**	**15 05 33.1**	**+0.1**
	baz=52						
MNAS				⇑*i*S	**Sn**	**15 05 54.6**	**+0.9**
	baz=52						
KTBS	**Karatobe**	**1.67**	**64**	*e*P	**Pn**	**15 05 34.2**	**+0.7**
	baz=64						
KTBS				*e*S	**Sn**	**15 05 55.7**	**+1.1**
	baz=64						
KTBS	**Karatobe**	**1.67**	**64**	*e*P	**Pn**	**15 05 34.2**	**+0.7**
	1.6nm,0.2s						
KTBS				*e*S	**Sn**	**15 05 55.7**	**+1.1**
	20nm,0.2s						
KTBS	**Karatobe**	**1.67**	**64**	P	**Pn**	**15 05 34.2**	**+0.7**
	1.6nm,0.2s						
KTBS				S	**Sn**	**15 05 55.7**	**+1.1**
	20nm,0.2s						
TNSS	**Tian-Shan**	**1.72**	**88**	*e*P	**Pb**	**15 05 35.8**	**-0.4**
	baz=88						
TNSS				*e*S	**Sb**	**15 05 58.4**	**+0.6**
	baz=88						
TNSS	**Tian-Shan**	**1.72**	**88**	*e*P	**Pb**	**15 05 35.8**	**-0.4**
	0.7nm,0.1s						
TNSS				*e*S	**Sb**	**15 05 58.5**	**+0.6**
	6.6nm,0.2s						
TNSS	**Tian-Shan**	**1.72**	**88**	P	**Pb**	**15 05 35.8**	**-0.4**
	0.7nm,0.1s						
TNSS				S	**Sb**	**15 05 58.5**	**+0.6**
	6.6nm,0.2s						
MDOK	**Medeo**	**1.80**	**84**	*e*P	**Pb**	**15 05 37.2**	**-0.3**
	baz=84						
MDOK				*e*S	**Sb**	**15 06 00.5**	**+0.7**
	baz=84						
MDOK	**Medeo**	**1.80**	**84**	*e*P	**Pb**	**15 05 37.2**	**-0.3**
	1.6nm,0.3s						
MDOK				*e*S	**Sb**	**15 06 00.5**	**+0.7**
	9.9nm,0.3s						
MDOK	**Medeo**	**1.80**	**84**	Pg	**Pb**	**15 05 37.2**	**-0.3**
	1.6nm,0.3s						
MDOK				Lg	Lg	15 06 00.5	
	9.9nm,0.3s						
KOTS	**Kotyrbulak**	**1.85**	**82**	*e*P	**Pb**	**15 05 38.2**	**-0.2**
	baz=82						
KOTS				*e*S	**Sb**	**15 06 02.3**	**+0.9**
	baz=82						
KOTS	**Kotyrbulak**	**1.85**	**82**	*e*P	**Pb**	**15 05 38.2**	**-0.2**
	2.8nm,0.2s						
KOTS				*e*S	**Sb**	**15 06 02.3**	**+0.9**
	7.4nm,0.3s						
KOTS	**Kotyrbulak**	**1.85**	**82**	P	**Pb**	**15 05 38.2**	**-0.2**
	2.8nm,0.2s						
KOTS				S	**Sb**	**15 06 02.3**	**+0.9**
	7.4nm,0.3s						
CHKK	**Chushkaly**	**1.93**	**63**	*e*P	**Pb**	**15 05 39.2**	**-0.4**
	baz=63						
CHKK				*e*S	**Sb**	**15 06 04.0**	**+0.5**
	baz=63						
CHKK	**Chushkaly**	**1.93**	**63**	*e*P	**Pb**	**15 05 39.2**	**-0.4**
	0.9nm,0.1s						
CHKK				*e*S	**Sb**	**15 06 04.0**	**+0.5**
	15nm,0.2s						
CHKK	**Chushkaly**	**1.93**	**63**	P	**Pb**	**15 05 39.2**	**-0.4**
	0.9nm,0.1s						
CHKK				S	**Sb**	**15 06 04.0**	**+0.5**
	15nm,0.2s						
BTLS	**Baital**	**2.07**	**349**	*e*P	**Pb**	**15 05 41.5**	**-0.5**
	1.4nm,0.2s						
BTLS				*e*S	**Sb**	**15 06 07.5**	**0.0**
	1.8nm,0.3s						
BTLS	**Baital**	**2.07**	**349**	Pg	**Pg**	**15 05 43.8**	**-0.8**
	1.2nm,0.2s						
BTLS				Lg	Lg	15 06 11.4	
	1.8nm,0.3s						
KDJ	**Kajisay**	**2.10**	**114**	⇑*i*P	**Pn**	**15 05 40.3**	**+0.9**
	baz=14						
KDJ				⇑*i*S	**Sn**	**15 06 07.7**	**+2.4**
	baz=14						
ANVS	**Anan'yevo**	**2.26**	**95**	⇑*i*P	**Pn**	**15 05 42.7**	**+1.0**
	baz=95						
ANVS				⇑*i*S	**Sn**	**15 06 11.8**	**+2.4**
	baz=95						
ARXS	**Arharly**	**2.63**	**62**	*e*P	**Pb**	**15 05 51.8**	**+0.1**
	3.4nm,0.3s						
ARXS				*e*S	**Sb**	**15 06 25.5**	**+1.8**
	7.1nm,0.3s						
SATY	**Saty**	**2.79**	**88**	*e*P	**Pb**	**15 05 54.4**	**+0.1**
	1.0nm,0.3s						
SATY				*e*S	**Sb**	**15 06 29.9**	**+1.6**
	5.1nm,0.2s						
MNBS	**Baschi**	**2.96**	**68**	*e*P	**Pb**	**15 05 58.1**	**+0.8**
	0.8nm,0.2s						
MNBS				*e*S	**Sb**	**15 06 36.2**	**+2.9**
	7.1nm,0.3s						
KK31	**Karatay Array**	**3.00**	**273**	⇓Pg	**Pg**	**15 05 60.0**	**-2.3**
	0.4nm,0.3s,baz=96,slow=15,SNR=5.9						
KK31				⇓Lg	Lg	15 06 39.8	
	5.3nm,0.7s,baz=88,slow=28,SNR=19						
KPKS	**Kokpek**	**3.02**	**80**	*e*P	**Pb**	**15 05 58.2**	**0.0**
	3.1nm,0.6s						
KPKS				*e*S	**Sb**	**15 06 36.5**	**+1.6**
	6.7nm,0.5s						

*IDC **06** 15:06:45.0±1.4, 33.°70S×179.°86W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/33, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=38.6km s-min=29.1km az=80.0*
*NEIC **06** 15:06:57.1±2.1, 34.°15S±0.°10×179.°7E±0.°1, h94km±8km, mb4.2/13, Error ellipse: s-maj=16.0km s-min=13.5km az=

TSZ			S	Sn	15 09 40.2	-1.7
DVHZ	**Dannevirke**	**6.80 202**	P	Pn	**15 08 32.2**	**+2.9**
DVHZ			S	Sn	15 09 41.2	-4.3
MRZ	**Mangatainoka R**	**7.32 204**	P	Pn	**15 08 36.1**	**-0.4**
MRZ			S	Sn	15 09 55.6	-2.7
TIWZ	**Tintock**	**7.32 202**	P	Pn	**15 08 37.2**	**+0.6**
TIWZ			S	Sn	15 09 55.6	-2.8
HOWZ	**Holdsworth Sta**	**7.55 204**	P	Pn	**15 08 39.1**	**-0.6**
HOWZ			S	Sn	15 09 59.5	-4.6
OGWZ	**Otaki Gorge**	**7.60 206**	P	Pn	**15 08 40.2**	**-0.1**
OGWZ			S	Sn	15 10 00.9	-4.3
TMWZ	**Te Maipa**	**7.62 201**	P	Pn	**15 08 40.1**	**-0.6**
TMWZ			S	Sn	15 09 59.9	-6.0
KIW	**Kapiti Island**	**7.73 207**	P	Pn	**15 08 42.3**	**+0.1**
KIW			S	Sn	15 10 05.9	-2.6
CAW	**Cannon Point**	**7.89 205**	P	Pn	**15 08 44.0**	**-0.4**
CAW			S	Sn	15 10 07.4	-5.0
DUWZ	**D'Urville Isla**	**8.09 212**	P	Pn	**15 08 48.6**	**+1.6**
DUWZ			S	Sn	15 10 16.3	-0.8
BHW	**Baring Head**	**8.23 205**	Pn	Pn	**15 08 52.8**	**+3.8**
TCW	**Tory Channel**	**8.28 208**	P	Pn	**15 08 49.4**	**-0.3**
TCW			S	Sn	15 10 17.1	-4.8
TUWZ	**Tuamarina**	**8.60 209**	P	Pn	**15 08 52.6**	**-1.4**
TUWZ			S	Sn	15 10 24.5	-5.2
TUWZ	**Tuamarina**	**8.60 209**	Pn	Pn	**15 08 51.7**	**-2.3**
NNZ	**Nelson**	**8.66 212**	P	Pn	**15 08 55.1**	**+0.2**
NNZ			S	Sn	15 10 29.9	-1.4
NNZ	**Nelson**	**8.66 212**	Pn	Pn	**15 08 54.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**8.87 208**	Pn	Pn	**15 08 57.1**	**-0.6**
THZ	**Tophouse**	**9.31 212**	Pn	Pn	**15 09 03.5**	**-0.4**
KHZ	**Kahutara**	**9.59 207**	Pn	Pn	**15 09 06.3**	**-1.3**
LTZ	**Lake Taylor**	**10.41 211**	Pn	Pn	**15 09 17.7**	**-1.2**
NIUE	**Niue**	**17.62 35**	P	P	**15 10 57.8**	**+2.2**
RAR	**Rarotonga**	**22.31 60**	P	P	**15 11 43.6**	**-3.1**
RAR			IAmb	IAmb	15 12 12.9	
	comp=Z,21nm,1.2s					
STKA	**Stephens Creek**	**31.76 263**	P	P	**15 13 11.1**	**-2.0**
CTAO	**Charters Tower**	**32.54 287**	P	P	**15 13 20.2**	**+0.2**
AS31	**Alice Springs**	**40.96 272**	P	P	**15 14 35.1**	**+3.4**
ASAR	**Alice Springs**	**40.96 272**	P	P	**15 14 33.5**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=114,slow=7.1,SNR=38					
WR0	**Warramunga Arr**	**42.12 278**	P	P	**15 14 41.5**	**+0.4**
WR0			IAmb	IAmb	15 14 46.1	
	comp=Z,6.9nm,1.4s					
WB2	**Warramunga Arr**	**42.28 278**	P	P	**15 14 43.5**	**+1.0**
WRAB	**Tennant Creek**	**42.28 278**	P	P	**15 14 43.5**	**+1.0**
WRAB			IAmb	IAmb	15 15 06.8	
	comp=Z,6.9nm,1.4s					
WRA	**Warramunga Arr**	**42.29 278**	P	P	**15 14 44.7**	**+2.2**
	comp=Z,1.3nm,0.4s,baz=117,slow=7.6,SNR=44					
WRA	**Warramunga Arr**	**42.29 278**	P	P	**15 14 43.4**	**+0.9**
WB0	**Warramunga Arr**	**42.33 278**	P	P	**15 14 43.7**	**+0.9**
WB0			IAmb	IAmb	15 15 10.3	
	comp=Z,2.9nm,1.0s					
KNRA	**Kununurra**	**49.02 279**	P	P	**15 15 37.9**	**+2.2**
FITZ	**Fitzroy Crossi**	**50.37 274**	P	P	**15 15 48.0**	**+2.1**
MBWA	**Marble Bar**	**53.83 267**	P	P	**15 16 12.8**	**+1.1**
QSPA	**South Pole Qui**	**56.09 180**	P	P	**15 16 28.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=334,slow=2.0,SNR=9.2					
QSPA	**South Pole Qui**	**56.09 180**	P	P	**15 16 27.4**	**-0.2**
QSPA			IAmb	IAmb	15 16 40.9	
	comp=Z,1.5nm,1.1s					
SNAA	**Sanae**	**74.58 179**	P	P	**15 18 24.6**	**-2.4**
SNAA			IAmb	IAmb	15 18 51.2	
	comp=Z,3.2nm,1.4s					
H03S2	**Juan Fernandez**	**80.21 124**	T	T	16 47 19.0	
	baz=234,slow=74,SNR=27					
H03S1	**Juan Fernandez**	**80.22 124**	T	T	16 47 15.1	
	baz=234,slow=74,SNR=28					
H03S3	**Juan Fernandez**	**80.23 124**	T	T	16 47 06.5	
	baz=234,slow=74,SNR=35					
H03N3	**Juan Fernandez**	**80.42 124**	T	T	16 47 33.7	
	baz=238,slow=72,SNR=41					
H03N2	**Juan Fernandez**	**80.43 124**	T	T	16 47 26.6	
	baz=238,slow=72,SNR=36					
H03N1	**Juan Fernandez**	**80.44 124**	T	T	16 47 24.7	
	baz=238,slow=72,SNR=44					
PETK	**Petropavlovsk-**	**88.83 347**	P	P	**15 19 40.4**	**-1.6**
	comp=Z,6.2nm,1.0s,baz=119,slow=7.6,SNR=6.2					
FINES	**FINES Array B**	**147.72 336**	PKPbc	**PKPdf**	**15 26 29.1**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=62,slow=3.3,SNR=13					

*REY **06** 15:07:30.3, 64.°67N×17.°49W, h9km*
*IDC **06** 15:07:31.2±0.8, 64.°59N×17.°77W, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.7/48, mbtmp3.7/10, ML4.2/1, Error ellipse: s-maj=24.7km s-min=11.3km az=16.0*
*NEIC **06** 15:07:32.2±1.4, 64.°6N±0.°1×17.°8W±0.°2, h8km±4km, mb4.5/29, Error ellipse: s-maj=17.2km s-min=9.8km az=201.0*

ISC 06 15:07:31.8±0.4, 64.°68N±0.°02×17.°53W±0.°02, h10km, n83, σ2§03/94, mb4.2/19, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**268**	P	**Pg**	**15 07 33.0**	**-1.4**
IVON	baz=271			S	**Sg**	**15 07 35.1**	**-1.2**
IDYN	**Dyngjuhals**	**0.13**	**31**	P	**Pg**	**15 07 33.4**	**-1.5**
IDYN	baz=24			S	**Sg**	**15 07 36.1**	**-1.1**
IDJK	**Dyngjujokull**	**0.21**	**144**	P	**Pg**	**15 07 34.5**	**-1.8**
IURH	baz=147 **Urdarhals**	**0.22**	**48**	P	**Pg**	**15 07 34.7**	**-1.6**
IURH	baz=45			S	**Sg**	**15 07 37.6**	**-1.8**
IGRF	**Grimsfjall**	**0.29**	**158**	P	**Pg**	**15 07 35.9**	**-1.8**
IKVE	baz=160 **Kverkfjoll**	**0.36**	**90**	S	**Sg**	**15 07 41.9**	**-2.0**
IKVE	baz=89			P	**Pg**	**15 07 37.2**	**-1.8**
IBJK	baz=89 **Bruarjokull**	**0.39**	**122**	P	**Pg**	**15 07 37.4**	**-2.1**
IBJK	baz=122			S	**Sg**	**15 07 42.7**	**-2.0**
IVOT	baz=122 **Vottur**	**0.43**	**160**	P	**Pg**	**15 07 38.4**	**-1.9**
THOR	baz=161 **Thorvaldshraun**	**0.45**	**54**	P	**Pg**	**15 07 38.5**	**-2.0**
THOR	baz=53			S	**Sg**	**15 07 45.2**	**-1.1**
IJOK	baz=53 **Jokulheimar**	**0.47**	**220**	P	**Pg**	**15 07 39.1**	**-1.9**
IJOK	baz=222			S	**Sg**	**15 07 46.0**	**-1.2**
IKRE	baz=222 **Kreppuhraun**	**0.50**	**77**	P	**Pg**	**15 07 39.0**	**-2.5**
IKRE	baz=76			S	**Sg**	**15 07 46.0**	**-2.2**
IMKO	baz=76 **Mokollar**	**0.59**	**59**	P	**Pg**	**15 07 40.9**	**-2.3**
IMKO	baz=58			S	**Sg**	**15 07 49.7**	**-1.3**
ISVA	baz=58 **Svartarkot**	**0.67**	**10**	P	**Pg**	**15 07 42.5**	**-2.2**
ISVA	baz=8.5			S	**Sg**	**15 07 52.1**	**-1.4**
IKSK	baz=8.5 **Karasker**	**0.69**	**138**	P	**Pg**	**15 07 42.0**	**-3.1**
IKAL	baz=139 **Kalfafell**	**0.74**	**186**	P	**Pg**	**15 07 43.4**	**-2.5**
IVAT	baz=187 **Vatnsfell**	**0.78**	**231**	P	**Pg**	**15 07 44.5**	**-2.3**
IVSH	baz=232 **V-Sauoahnukur**	**0.78**	**80**	P	**Pg**	**15 07 43.8**	**-3.0**
IHVE	baz=79 **Hveravellir**	**0.90**	**283**	P	**Pg**	**15 07 46.1**	**-2.9**
IHVE	baz=284			S	**Sg**	**15 07 58.7**	**-1.9**
IADA	baz=284 **Aoalbol**	**0.90**	**67**	P	**Pg**	**15 07 45.7**	**-3.4**
IADA	baz=66			S	**Sg**	**15 07 57.9**	**-2.9**
IREN	baz=66 **Reynihlio**	**1.01**	**15**	P	**Pg**	**15 07 48.0**	**-3.1**
ISNB	baz=14 **Snabyli**	**1.06**	**208**	P	**Pg**	**15 07 49.2**	**-3.0**
ISNB	baz=208			S	**Sg**	**15 08 03.6**	**-2.3**
IKVO	baz=208 **Krokottuvotn**	**1.08**	**14**	P	**Pg**	**15 07 49.0**	**-3.4**
	baz=14						

IGRS	**Grimsstaoir**	**1.13**	**31**	P	**Pb**	**15 07 49.9**	**-3.5**
	baz=30						
IFED	**Fedgar**	**1.15**	**236**	P	**Pb**	**15 07 50.8**	**-2.9**
	baz=237						
IRJU	**Rjupnafell**	**1.18**	**206**	P	**Pb**	**15 07 51.4**	**-2.7**
	baz=207						
IMJO	**Mjoaskard**	**1.20**	**232**	P	**Pn**	**15 07 51.6**	**-2.9**
	baz=233						
ISKI	**Skildingahlsh**	**1.22**	**10**	P	**Pb**	**15 07 51.5**	**-3.4**
	baz=9.0						
IGYG	**Gygjarholskot**	**1.23**	**252**	P	**Pn**	**15 07 51.8**	**-3.2**
	baz=253						
IHLA	**Hella**	**1.32**	**345**	P	**Pn**	**15 07 53.4**	**-2.8**
	baz=344						
IHED	**Heoinshofoi**	**1.41**	**4**	P	**Pn**	**15 07 54.5**	**-2.9**
	baz=3.0						
ISAU	**Saurbar**	**1.44**	**243**	P	**Pn**	**15 07 54.9**	**-2.9**
	baz=243						
ISIG	**Siglufjorour**	**1.57**	**339**	P	**Pn**	**15 07 57.2**	**-2.5**
	baz=338						
BORG	**Borgarnes**	**1.63**	**274**	Pg	**Pn**	**15 07 58.4**	**-2.1**
	45nm,0.3s,baz=93,slow=9.3,SNR=71						
BORG				Lg	Lg	15 08 20.4	
	20nm,0.3s,baz=46,slow=22,SNR=5.4						
BORG	**Borgarnes**	**1.63**	**274**		**Pn**	**15 07 58.1**	**-2.4**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**15 10 20.1**	**+0.6**
	baz=334,slow=13,SNR=6.6						
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**15 10 19.8**	**+0.3**
ILULI	**Ilulissat**	**13.78**	**304**	Pn	**Pn**	**15 10 48.1**	**+1.3**
SPA0	**Spitsbergen Ar**	**16.86**	**23**	P	**P**	**15 11 32.4**	**+2.9**
SPA0				IAmb	IAmb	15 11 52.5	
	comp=Z,62nm,1.4s						
RGN	**Rugen**	**18.40**	**109**	P	**P**	**15 11 46.8**	**+0.2**
KHC	**Kasperske Hory**	**22.69**	**118**	*eP*	**P**	**15 12 34.5**	**+1.3**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**15 12 36.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=321,slow=10,SNR=4.6						
EUNU	**Eureka**	**23.66**	**336**	P	**P**	**15 12 44.3**	**+1.5**
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**15 13 08.0**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=352,slow=8.6,SNR=5.4						
ESDC	**Sonseca Array**	**26.27**	**156**	IAmb	IAmb	15 13 12.2	
	comp=Z,14nm,1.5s						
GBN	**Guysborough**	**30.82**	**253**	P	**P**	**15 13 44.2**	**-3.2**
BATG	**Bathurst New B**	**31.23**	**260**	P	**P**	**15 13 48.2**	**-2.9**
BATG				IAmb	IAmb	15 14 08.6	
	comp=Z,16nm,1.4s						
TIR	**Tirane**	**31.63**	**119**	P	**P**	**15 13 55.0**	**+0.4**
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**15 14 57.4**	**+3.5**
	comp=Z,0.6nm,0.8s,baz=341,slow=6.5,SNR=3.7						
J56A	**Wolcott**	**39.02**	**266**	P	**P**	**15 14 58.2**	**+0.2**
J56A				IAmb	IAmb	15 15 15.6	
	comp=Z,23nm,0.9s						
TRNY	**Table Rock, Ra**	**39.64**	**262**	P	**P**	**15 15 03.4**	**+0.2**
AKAS	**Kas**	**39.84**	**112**	P	**P**	**15 15 05.8**	**+0.6**
AKAS				IAmb	IAmb	15 15 25.2	
	comp=Z,12nm,1.1s						
P61A	**Hammonton**	**41.10**	**261**	P	**P**	**15 15 16.1**	**+0.8**
TOLK	**Toolik Lake Re**	**42.73**	**336**	P	**P**	**15 15 31.1**	**+2.6**
TOLK				IAmb	IAmb	15 15 32.0	
	comp=Z,14nm,1.3s						
BMAR	**Burnt Mountain**	**42.88**	**333**	P	**P**	**15 15 32.1**	**+2.4**
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**15 15 53.4**	**+1.4**
	comp=Z,2.1nm,1.1s,baz=27,slow=4.9,SNR=10						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**15 15 53.7**	**+1.7**
IMAR	**Indian Mountai**	**45.84**	**337**	P	**P**	**15 15 55.4**	**+2.1**
DOT	**Dot Lake**	**46.08**	**330**	P	**P**	**15 15 56.8**	**+1.5**
ZAA0	**Zalesovo Array**	**47.63**	**51**	P	**P**	**15 16 08.4**	**+0.9**
ZALV	**Zalesovo Beam**	**47.63**	**51**	P	**P**	**15 16 08.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=323,slow=11,SNR=3.7						
ZALV	**Zalesovo Beam**	**47.63**	**51**	P	**P**	**15 16 08.7**	**+1.2**
BIRD	**Birdtown, Kers**	**47.76**	**263**	P	**P**	**15 16 08.6**	**-0.1**
KURK	**Kurchatov**	**48.12**	**58**	P	**P**	**15 16 11.9**	**+0.7**
KURK				IAmb	IAmb	15 16 12.8	
	comp=Z,4.0nm,1.1s						
PAULI	**Pauline**	**48.19**	**264**	P	**P**	**15 16 12.8**	**+0.8**
Y57A	**Sumter**	**48.27**	**262**	P	**P**	**15 16 12.2**	**-0.3**
KK31	**Karatay Array**	**51.28**	**70**	P	**P**	**15 16 36.9**	**+1.4**
KK31				IAmb	IAmb	15 16 38.0	
	comp=Z,4.6nm,1.4s						
KKAR	**Karatay Array**	**51.28**	**70**	P	**P**	**15 16 36.8**	**+1.4**
YNE	**Yellowstone No**	**51.46**	**295**	P	**P**	**15 16 38.5**	**+1.4**
BOZ	**Bozeman (W)**	**51.59**	**297**	P	**P**	**15 16 39.4**	**+1.5**
BOZ				IAmb	IAmb	15 16 41.1	
	comp=Z,6.1nm,1.2s						
MAKZ	**Makanchi**	**52.60**	**59**	P	**P**	**15 16 47.3**	**+2.0**
MKAR	**Makanchi Array**	**52.73**	**58**	P	**P**	**15 16 47.5**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=308,slow=6.9,SNR=5.1						
MKAR	**Makanchi Array**	**52.73**	**58**	P	**P**	**15 16 47.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**15 16 49.7**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=343,slow=7.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	IAmb	IAmb	15 16 54.8	
	comp=Z,0.9nm,0.9s						
BW06	**Boulder Array**	**53.16**	**293**	P	**P**	**15 16 50.2**	**+0.5**
PD31	**Pinedale Array**	**53.16**	**293**	P	**P**	**15 16 49.8**	**+0.1**
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**15 16 50.3**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=67,slow=8.2,SNR=9.2						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**15 16 49.9**	**+0.1**
REDW	**Red Top Meadow**	**53.17**	**295**	P	**P**	**15 16 50.4**	**+0.7**
REDW				IAmb	IAmb	15 16 53.7	
	comp=Z,6.2nm,1.4s						
GAR	**Garm**	**54.66**	**73**	P	**P**	**15 17 02.3**	**+1.7**
GAR				IAmb	IAmb	15 17 05.3	
	comp=Z,8.6nm,0.9s						
HWUT	**Hardware Ranch**	**54.94**	**294**	P	**P**	**15 17 03.5**	**+0.9**
HWUT				IAmb	IAmb	15 17 06.4	
	comp=Z,7.3nm,1.4s						
MSU	**Marysvale**	**57.83**	**293**	P	**P**	**15 17 25.2**	**+1.9**
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**15 17 54.3**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=29,slow=2.9,SNR=4.8						

*ATA **06** 15:09:42.0±0.5, 38.°62N×45.°39E, h0km±95km, ML3.0, MW3.6*
*NSSP **06** 15:09:51.7, 38.°83N×44.°52E, h5km, Ms2.9*
*DDA **06** 15:09:53.2, 38.°85N×44.°58E, h1km±3km, ML2.9*
*TEH **06** 15:09:54.0, 38.°87N×44.°58E, h4km, ML2.9*
*ISK **06** 15:09:56.2, 38.°94N×44.°32E, h4km, ML2.9/10*

ISC 06 15:09:53.1±1.3, 38.84N±0.°03×44.59E±0.°03, h3km±11km, n37, σ1§43/46, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.61**	**300**	*i* P	**Pg**	**15 10 03.6**	**-1.3**
CLDR				*i* S	**Sg**	**15 10 12.7**	**0.0**
CLDR				IAML		15 10 15.0	
	comp=N,582nm,0.4s						
CLDR				IAML		15 10 20.0	
	comp=E,746nm,0.7s						
CLDR	**Caldiran**	**0.61**	**300**	*e*Pg	**Pg**	**15 10 03.8**	**-1.0**
IMRD	**Marand**	**0.88**	**98**	*e*Pg	**Pn**	**15 10 11.5**	**-1.0**
IMRD				*e*		15 10 40.8	
VANB	**Van**	**0.97**	**256**	PG	**Pn**	**15 10 12.8**	**-1.0**
VANB				SG	**Sb**	**15 10 25.0**	**-1.0**
VANB	**Van**	**0.97**	**256**	*e*Pg	**Pn**	**15 10 12.6**	**-1.2**
TVAN	**Van**	**0.98**	**252**	*e*P	**Pb**	**15 10 12.3**	**-0.5**
IGDI	**IGDIR**	**1.10**	**339**	*e*P	**Pg**	**15 10 13.2**	**-1.1**
IGDI				*e*S	**Sn**	**15 10 37.6**	**+6.2**
IGDI				IAML		15 10 41.1	
	comp=Z,25nm,0.7s						
IGDI	**IGDIR**	**1.10**	**339**	*i* P	**Pg**	**15 10 13.8**	**-0.6**
NRKZ	**NAREK**	**1.16**	**2**	*i* P	**Pb**	**15 10 14.9**	**-1.0**
NRKZ				*i* S	**Sn**	**15 10 31.4**	**-1.4**
TASB	**TASBURUN-IGDIR**	**1.18**	**347**	PG	**Pg**	**15 10 16.8**	**+1.1**
TASB				SG	**Sn**	**15 10 31.8**	**-1.4**
TASB	**TASBURUN-IGDIR**	**1.18**	**347**	*e*Pg	**Pb**	**15 10 15.4**	**-0.8**
GEVA	**Gevas**	**1.31**	**247**	*e*P	**Pg**	**15 10 18.4**	**+0.1**
GEVA				IAML		15 10 42.3	
	comp=Z,85nm,0.5s						
GEVA	**Gevas**	**1.31**	**247**	*i* P	**Pn**	**15 10 17.4**	**-1.1**
ITBZ	**Tabriz**	**1.36**	**116**	*e*Pg	**Pg**	**15 10 19.4**	**+0.2**
ITBZ				*e*		15 10 24.0	
AKDM	**Akdamar-Van**	**1.36**	**249**	PN	**Pg**	**15 10 19.9**	**+0.6**
AKDM	**Akdamar-Van**	**1.36**	**249**	*e*Pg	**Pg**	**15 10 19.8**	**+0.5**
METS	**Metsamor**	**1.37**	**343**	*i* P	**Pn**	**15 10 18.4**	**-0.9**
METS				*i* S	**Sg**	**15 10 37.5**	**+0.3**
VNNZ	**Vanand**	**1.40**	**335**	*i* P	**Pg**	**15 10 19.8**	**-0.1**
VNNZ				*i* S	**Sg**	**15 10 39.9**	**+1.9**
ADCV	**BITLIS_Adilcev**	**1.46**	**269**	*i* P	**Pn**	**15 10 19.8**	**-0.8**
ADCV				*i* S	**Sg**	**15 10 41.9**	**+1.8**
IAZR	**Azarshahr**	**1.59**	**136**	*e*Pn	**Pg**	**15 10 24.4**	**+0.8**
IAZR				*e*		15 10 30.1	
MLAZ	**Malazgirt-MUS**	**1.62**	**281**	PN	**Pb**	**15 10 23.1**	**-0.7**
DIGO	**Kars**	**1.83**	**330**	*i* P	**Pg**	**15 10 28.6**	**+0.3**
EATA	**Eleskirt**	**1.93**	**303**	*i* P	**Pn**	**15 10 26.3**	**-0.8**

BLIS	**Bitlis-Merkez**	**1.99**	**258**	*e*P	**Pb**	**15 10 28.6**	**-1.4**
BLIS				IAML		15 11 08.0	
	comp=Z,28nm,0.7s						
BLIS	**Bitlis-Merkez**	**1.99**	**258**	*i* P	**Pb**	**15 10 29.0**	**-1.0**
GURO	**Guroymak-BITLI**	**2.02**	**263**	PN	**Pb**	**15 10 29.8**	**-0.9**
KARS	**Kars**	**2.14**	**327**	PN	**Pb**	**15 10 30.6**	**-2.0**
SIRT	**Sirnak**	**2.16**	**233**	PN	**Pb**	**15 10 32.6**	**-0.3**
SRTM	**Siirt_Merkez**	**2.26**	**249**	*i* P	**Pb**	**15 10 34.3**	**-0.4**
SRTM				*i* S	**Sb**	**15 11 03.7**	**+0.6**
SRTM				IAML		15 11 14.0	
	comp=N,84nm,1.1s						
HOMI	**Horasan**	**2.41**	**301**	*i* P	**Pb**	**15 10 37.5**	**+0.3**
MUSM	**Mu-Merkez**	**2.41**	**268**	*i* P	**Pb**	**15 10 36.4**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**2.42**	**299**	PN	**Pn**	**15 10 34.2**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.44**	**316**	PN	**Pn**	**15 10 34.9**	**+0.8**
ISRB	**Sarab**	**2.62**	**112**	*e*Pn	**Pb**	**15 10 40.1**	**-0.7**
ISRB				*e*		15 10 50.0	
SVAN	**Silvan-Diyarba**	**2.75**	**257**	PN	**Pb**	**15 10 40.1**	**-2.9**
SVAN	**Silvan-Diyarba**	**2.75**	**257**	*i* P	**Pb**	**15 10 43.1**	**+0.2**
DAGI	**Agillar**	**3.04**	**318**	*i* P	**Pb**	**15 10 49.0**	**+1.0**

*NEIC **06** 15:18:47.6±2.8, 53.°28N±0.°07×165.°7W±0.°1, h17km±8km, ML3.6(AEIC), Error ellipse: s-maj=13.3km s-min=5.4km az=141.0*

AEIC 06 15:18:50±4.0, 53.°33N±0.°04×165.°77W±0.°05, h16km±6km, Error ellipse: s-maj=6.1km s-min=3.2km az=143.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.68**	**320**		Pb	15 19 03.4	0.0
UNV					Sb	15 19 12.8	+0.3
AKUT	**Akutan**	**0.81**	**360**		Pb	15 19 05.0	-0.7
AKUT					Sg	15 19 17.0	+0.5
NIKH	**Nikolski High**	**1.89**	**260**		Pn	15 19 21.0	-0.5
NIKH					Sn	15 19 43.4	-1.6
FALS	**False Pass**	**2.07**	**41**		Pn	15 19 23.6	-0.4
FALS					Sn	15 19 49.0	-0.3
SDPT	**Sand Point**	**3.70**	**55**		Pn	15 19 45.8	-0.6
SPIA	**Saint Paul Isl**	**4.63**	**328**		Pn	15 19 58.5	-0.7
CHGN	**Chignik**	**5.19**	**52**	Pn	Pn	15 20 06.5	-0.4
ATKA	**Atka Island**	**5.24**	**261**		Pn	15 20 08.4	+0.9
ADK	**Adak**	**6.80**	**262**		Pn	15 20 29.4	+0.4
OHAK	**Old Harbor**	**8.12**	**56**		Pn	15 20 44.7	-2.3
KDAK	**Kodiak Island**	**8.70**	**54**	Pn	Pn	15 20 52.7	-2.3
CNPM	**China Poot**	**10.15**	**47**		Pn	15 21 12.3	-2.6
BRLK	**Bradley Lake**	**10.43**	**46**		Pn	15 21 16.0	-2.7
SEW	**Seward**	**11.22**	**46**		Pn	15 21 27.1	-2.4
PWL	**Port Wells**	**12.09**	**44**		Pn	15 21 38.3	-3.0
GHO	**Glory Hole Cre**	**12.35**	**40**	Pn	Pn	15 21 42.7	-2.3
GLI	**Glacier Island**	**12.62**	**46**		Pn	15 21 44.7	-3.9
HIN	**Hinchinbrook I**	**12.66**	**48**		Pn	15 21 46.1	-3.1
FID	**Port Fidalgo**	**12.83**	**47**	Pn	Pn	15 21 47.5	-4.0
SCM	**Sheep Creek Mo**	**13.01**	**42**	Pn	Pn	15 21 50.3	-3.7
KLU	**Klutina**	**13.42**	**45**	Pn	Pn	15 21 55.5	-4.1
GLB	**Gilahina Butte**	**14.30**	**47**	Pn	Pn	15 22 08.2	-3.4

*IDC **06** 15:47:09.3±2.0, 5.°72N×126.°55E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/52, mbtmp3.4/5, Error ellipse: s-maj=142.6km s-min=22.4km az=69.0*
*MAN **06** 15:47:12.9, 5.°69N×126.°98E, h22km, mb5.0, ML4.0, MS4.0*

ISC 06 15:47:14.7±1.2, 5.°64N±0.°09×126.°9E±0.°1, h35km, σ1§23/13, mb3.3/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.27**	**291**	*e*P	**Pn**	**15 47 34.9**	**-1.1**
DDMP				*e*S	**Sn**	**15 47 52.7**	**+1.0**
MATI	**Mati**	**1.45**	**334**	*e*P	**Pn**	**15 47 36.9**	**-1.5**
MATI				*e*S	**Sn**	**15 47 56.8**	**+0.6**
KCP	**Kidapawan**	**2.25**	**307**	*e*P	**Pn**	**15 47 50.2**	**+0.7**
SKMP	**Bagumbayan, Su**	**2.50**	**290**	*e*P	**Pn**	**15 47 52.6**	**-0.2**
SKMP				*e*S	**Sn**	**15 48 21.7**	**-0.5**
BUKP	**Musuan**	**2.88**	**321**	*e*P	**Pn**	**15 47 59.3**	**+1.2**
BUKP				*e*S	**Sn**	**15 48 33.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.62**	**183**	P	**P**	**15 52 23.0**	**+0.3**
	2.7nm,0.9s,baz=4.2,slow=9.8,SNR=2.6						
WRA	**Warramunga Arr**	**26.46**	**164**	P	**P**	**15 52 49.9**	**+1.3**
	0.5nm,0.7s,baz=343,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**29.92**	**167**	P	**P**	**15 53 20.3**	**+0.8**
	0.3nm,0.8s,baz=345,slow=6.9,SNR=4.2						
MKAR	**Makanchi Array**	**56.10**	**324**	P	**P**	**15 56 48.9**	**-1.7**
	0.1nm,0.3s,baz=113,slow=6.3,SNR=2.0						
KURBB	**Kurchatov Arra**	**60.24**	**327**	P	P	15 57 17.1	-2.2
	0.2nm,0.6s,baz=132,slow=6.8,SNR=2.2						

*IDC **06** 15:55:51.4±1.9, 63.°02N×148.°76W, h68km±16km, mb3.6/11, mb1 3.8/15, mb1mx3.

RIDG	Independent Ri	1.74	62			Pn	15 56 21.2 +1.8
CAST	Castle Rocks	1.77	286			Pn	15 56 20.4 +0.7
PPLA	Purkeypile	1.77	269			Pn	15 56 21.0 +1.1
KLU	Klutina	1.86	142			Pn	15 56 21.4 +0.5
IL31		1.92	19			Pn	15 56 22.5 +0.9
ILAR	Eielson Array	1.92	19	P		Pn	15 56 22.4 +0.7
	78nm,0.3s,baz=198,slow=14,SNR=1386						
ILAR				S		Sn	15 56 46.1 +1.3
	239nm,0.3s,baz=198,slow=25,SNR=57						
ILAR	Eielson Array	1.92	19	Pn		Pn	15 56 22.0 +0.3
TCOL	CIGO, UAF Yank	1.92	6	P		Pn	15 56 22.8 +1.0
	baz=186,SNR=119						
TCOL				S		Sn	15 56 44.9 0.0
	baz=186						
TCOL	CIGO, UAF Yank	1.92	6			Pn	15 56 22.7 +1.0
COLA	College	1.92	6			Pn	15 56 22.7 +1.0
MDM	Murphy Dome	2.00	1			Pn	15 56 23.9 +1.0
RC01	Rabbit Creek A	2.00	200	P		Pn	15 56 24.4 +1.6
	baz=19,SNR=309						
RC01				S		Sn	15 56 49.2 +2.4
	baz=19						
RC01	Rabbit Creek A	2.00	200			Pn	15 56 24.5 +1.7
CHUM	Lake Minchumin	2.02	299			Pn	15 56 24.0 +0.9
DOT	Dot Lake	2.04	69			Pn	15 56 24.5 +1.2
FIS	Fire Island	2.04	207			Pn	15 56 26.0 +2.7
MENT	Mentasta	2.10	89			Pn	15 56 25.4 +1.3
VMT	TAPS Tl Valdez	2.10	153			Pn	15 56 24.2 0.0
PS12	TAPS Pump St12	2.11	134			Pn	15 56 24.9 +0.6
PWL	Port Wells	2.12	180			Pn	15 56 25.1 +0.6
GLI	Glacier Island	2.17	164			Pn	15 56 25.3 +0.1
SCRK	Sand Creek	2.19	61	P		Pn	15 56 26.4 +0.9
	baz=244,SNR=61						
SCRK				S		Sn	15 56 52.2 +0.6
	baz=244						
SCRK	Sand Creek	2.19	61			Pn	15 56 26.4 +0.9
POKR	Poker Flat Res	2.19	10	P		Pn	15 56 26.5 +1.1
	baz=191,SNR=134						
POKR				S		Sn	15 56 51.3 -0.2
	baz=191						
POKR	Poker Flat Res	2.19	10			Pn	15 56 26.4 +1.1
DIV	Divide	2.20	146			Pn	15 56 25.5 -0.1
MLY	Manley	2.33	334	P		Pn	15 56 28.4 +1.0
	baz=152,SNR=160						
MLY				S		Sn	15 56 54.5 -0.4
	baz=152						
MLY	Manley	2.33	334			Pn	15 56 28.3 +1.0
PS07	TAPS Pump Stn7	2.35	0			Pn	15 56 28.9 +1.4
FID	Port Fidalgo	2.39	158			Pn	15 56 28.6 +0.5
O22K	Cooper Landing	2.58	196	S		Sn	15 57 04.2 +3.2
	baz=14						
O22K	Cooper Landing	2.58	196			Pn	15 56 31.6 +0.8
GLB	Gilahina Butte	2.61	124			Pn	15 56 32.0 +0.9
BMRM	Bremner River	2.66	137			Pn	15 56 31.9 0.0
EYAK	Cordova Ski Ar	2.72	152			Pn	15 56 32.8 +0.3
HIN	Hinchinbrook I	2.72	161			Pn	15 56 32.8 +0.2
VRDI	Verde Repeater	2.88	125			Pn	15 56 35.8 +0.9
SEW	Seward	2.93	191			Pn	15 56 37.0 +1.7
MCARA	McCarthy VSAT	2.95	120			Pn	15 56 36.9 +1.2
BC03		2.98	85			Pn	15 56 36.7 +0.7
BCAR	Beaver Creek A	2.98	85			Pn	15 56 36.2 0.0
K27K	Chicken	2.99	146			Pn	15 56 37.2 +0.9
RAGM	Ragged Mountai	3.12	145			Pn	15 56 37.9 -0.1
PTPK	Patty Peak	3.28	120			Pn	15 56 41.5 +1.1
RSO	Redoubt South	3.29	222			Pn	15 56 40.1 -0.3
CRQM	Cirque	3.31	130			Pn	15 56 40.9 +0.2
BERG	Berg Lake	3.39	138			Pn	15 56 42.6 +0.9
TGL	Tana Glacier	3.42	128			Pn	15 56 42.0 -0.2
BALM	Baldy	3.42	122			Pn	15 56 42.5 +0.3
BRSE	Bradley Lake S	3.44	201			Pn	15 56 43.5 +1.0
BRLK	Bradley Lake	3.45	202			Pn	15 56 43.4 +0.9
BVCY	Beaver Creek	3.48	96			Pn	15 56 43.6 +0.7
KIAG	Kiagna River	3.48	123			Pn	15 56 42.9 -0.2
TTA	Tatalina	3.52	273			Pn	15 56 44.0 +0.5
TT01	Tatalina	3.52	272			Pn	15 56 44.1 +0.5
KAIM	Kayak Island	3.58	147			Pn	15 56 43.6 -0.6
EGAK	Eagle	3.65	57			Pn	15 56 46.3 +1.1
BARN	Barnard Glacie	3.67	118			Pn	15 56 46.8 +1.0
YUK2	White River	3.67	105			Pn	15 56 46.6 +0.9
Q23K	Middleton Isla	3.68	164	Pn		Pn	15 56 45.5 -0.1
MID	Middleton Isla	3.68	164	Pn		Pn	15 56 45.5 -0.1
HOM	Homer	3.69	207	S		Sn	15 57 28.3 +0.4
	baz=24						
CNPM	China Poot	3.73	204			Pn	15 56 47.6 +1.2
BARK	Barkley Ridge	3.78	130			Pn	15 56 47.2 +0.1
SNH	Sunshine Point	3.83	134			Pn	15 56 48.4 +0.6
GRNC	Granite Creek	3.83	123			Pn	15 56 47.8 -0.2
IM03		3.83	325			Pn	15 56 49.0 +1.3
IMAR	Indian Mountai	3.83	325			Pn	15 56 48.9 +1.2
FYU	Fort Yukon	3.84	19			Pn	15 56 49.5 +1.6
YUK3	Moose Creek	3.85	105			Pn	15 56 49.1 +1.0
SVW2	Sparrevohn	3.91	245			Pn	15 56 49.6 +0.8
PS05	TAPS Pump Stn5	3.99	346			Pn	15 56 52.2 +2.4
YAH	Yahtse	4.08	127			Pn	15 56 51.0 -0.3
MESA	MESA	4.13	130			Pn	15 56 52.2 +0.1
COLD	Coldfoot	4.35	350	P		Pn	15 56 56.4 +1.5
	baz=169,SNR=45						
COLD				S		Sn	15 57 44.1 0.0
	baz=169						
COLD	Coldfoot	4.35	350			Pn	15 56 56.3 +1.5
CHX	Chaix Hills	4.51	127			Pn	15 56 57.7 +0.6
SAMH	Samovar Hills	4.59	125			Pn	15 56 59.7 +1.5
BM03	Burnt Mountain	4.73	18			Pn	15 57 01.4 +1.3
BMAR	Burnt Mountain	4.75	18			Pn	15 57 01.3 +1.0
PCA	Pinnacle	4.81	123			Pn	15 57 01.6 +0.4
YUK4	Talbot Arm	4.82	105			Pn	15 57 01.9 +0.6
YUK6	Outpost Mounta	5.12	109			Pn	15 57 05.9 +0.4
BCPM	Bancas Point	5.14	122			Pn	15 57 05.9 +0.3
PNL	Peninsula	5.42	124			Pn	15 57 09.5 +0.2
HYT	Haines Junctio	5.54	108			Pn	15 57 11.9 +0.7
KDAK	Kodiak Island	5.62	204	P		Pn	15 57 11.4 -0.7
	2.3nm,0.3s,baz=57,slow=7.3,SNR=62						
KDAK				S		Sn	15 58 10.4 -4.8
	10nm,0.3s,baz=182,slow=21,SNR=18						
KDAK					LR	LR	15 59 38.5
	comp=Z,174nm,19.6s,baz=347,slow=41						
TOLK	Toolik Lake Re	5.72	355	P		Pn	15 57 15.8 +2.2
	baz=174,SNR=12						
TOLK				S		Sn	15 58 18.3 +0.5
	baz=174						
TOLK	Toolik Lake Re	5.72	355			Pn	15 57 15.1 +1.6
OHAK	Old Harbor	6.28	206			Pn	15 57 19.7 -1.4
WHY	Whitehorse	6.77	104			Pn	15 57 28.2 +0.2
SII	Sitkinak Islan	7.08	207	Pn		Pn	15 57 31.9 -0.2
SKAG	Skagway	7.18	113	Pn		Pn	15 57 34.1 +0.6
ANM	Nome	7.72	290			Pn	15 57 42.6 +1.7
RDOG	Red Dog Mine	7.91	316	Pn		Pn	15 57 43.7 +0.3
BESE	Bessie Mountai	7.91	118			Pn	15 57 42.8 -0.8
INK	Inuvik	8.11	42	P		Pn	15 57 47.5 +1.4
	1.3nm,0.3s,baz=227,slow=17,SNR=11						
INK				S		Sn	15 59 14.4 -1.7
	1.7nm,0.3s,baz=190,slow=9.4,SNR=3.1						
JIS	Juneau Island	8.30	118	Pn		Pn	15 57 48.5 -0.3
CHGN	Chignik	8.41	222	Pn		Pn	15 57 50.0 -0.3
SIT	Sitka	8.79	127	Pn		Pn	15 57 54.8 -0.7
DLBC	Dease Lake	10.03	109	P		Pn	15 58 15.7 +3.2
	0.2nm,0.3s,baz=320,slow=17,SNR=1.8						
DLBC	Dease Lake	10.03	109			Pn	15 58 12.2 -0.3
WRAK	Wrangell Islan	10.38	122	Pn		Pn	15 58 16.4 -0.8
GAMB	Gambell	10.51	285	Pn		Pn	15 58 19.1 +0.2
CRAG	Craig	10.79	127	Pn		Pn	15 58 22.9 +0.1
C36M	Paulatuk	11.63	46	Pn		Pn	15 58 31.9 -2.2
DIB	Dawson Inlet,	12.84	132	Pn		Pn	15 58 50.9 +0.2
BBB	Bella Bella	15.22	126	P		P	15 59 24.8 -0.8
	0.4nm,0.3s,baz=335,slow=14,SNR=4.6						
ADK	Adak	18.70	247	P		P	16 00 03.6 -0.4
RES	Resolute Bay	21.58	35	P		P	16 00 35.0 0.0
	2.8nm,0.7s,baz=241,slow=13,SNR=6.0						
RES	Resolute Bay	21.58	35	IAmb		IAmb	16 00 53.6
	comp=Z,5.8nm,0.9s						
LON	Longmire	22.03	125	P		P	16 00 38.5 -1.6
LON				IAmb		IAmb	16 00 43.5
	comp=Z,7.2nm,1.4s						
EUNU	Eureka	24.02	22	P		P	16 01 01.2 +1.7
EUNU				IAmb		IAmb	16 01 01.7
	comp=Z,3.7nm,0.6s						
JTMT	Jette	24.22	113	P		P	16 01 02.6 +0.8
JTMT				IAmb		IAmb	16 01 08.4
	comp=Z,3.9nm,0.9s						
MSO	Missoula	25.09	114	P		P	16 01 09.8 +0.2
PLID	Pearl Lake	25.66	119	P		P	16 01 15.5 +0.6
ELK	Elko	29.63	123	P		P	16 01 52.0 +1.6
	comp=Z,1.5nm,0.3s,baz=282,slow=19,SNR=12						
PDAR	Pinedale Array	30.21	114	P		P	16 01 57.1 +1.6
	comp=Z,1.1nm,0.9s,baz=324,slow=7.3,SNR=8.1						
TXAR	Lajitas Array	44.16	118	P		P	16 03 54.7 +1.3
	comp=Z,0.8nm,0.7s,baz=331,slow=6.0,SNR=7.8						
ARCES	ARCESS Array B	47.71	3	P		P	16 04 20.1 -0.6
	comp=Z,0.8nm,0.5s,baz=5.2,slow=6.8,SNR=6.7						
SONM	Songino Array	54.82	307	P		P	16 05 12.8 -1.5
	comp=Z,0.5nm,0.8s,baz=40,slow=7.5,SNR=2.0						
SONM	Songino Array	54.82	307	IAmb		IAmb	16 05 18.7
	comp=Z,1.7nm,1.1s						
FINES	FINESS Array B	55.83	3	P		P	16 05 20.5 -0.7
	comp=Z,2.1nm,0.7s,baz=3.1,slow=8.5,SNR=15						
HFS	Hagfors	56.45	11	P		P	16 05 26.3 +0.6
	comp=Z,3.0nm,0.9s,baz=342,slow=9.1,SNR=1.8						
EKA	Eskdalemuir Ar	58.95	22	P		P	16 05 43.1 -0.1
	comp=Z,1.2nm,0.5s,baz=345,slow=5.9,SNR=5.9						
MKAR	Makanchi Array	63.44	324	P		P	16 06 12.5 -1.3
	comp=Z,0.4nm,0.5s,baz=43,slow=9.0,SNR=5.0						
AKASG	Malin Array Be	66.66	2	P		P	16 06 33.5 -1.0
	comp=Z,0.5nm,0.3s,baz=2.4,slow=6.3,SNR=6.0						

*IDC **06** 16:35:04.0±4.8, 8.29S×123.92E, h141km±51km, mb3.7/3, mb1 3.8/5, mb1mx3.3/37, mbtmp4.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=97.2km s-min=20.9km az=53.0*

*NEIC **06** 16:35:04.8±1.9, 8.37S±0.09×123.8E±0.1, h158km±9km, mb4.1/18, Error ellipse: s-maj=16.9km s-min=9.3km az=50.0*

*DJA **06** 16:35:04.6±0.6, 9°S±7°×12°4E±°, h171km±5km, M3.7/6, mb3.9/5, MLv3.6/6*

ISC 06 16:35:03.7±0.6, 8.45S±0.06×123.88E±0.08, h150km, n42, σ2s09/45, mb4.0/7, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.35	164	P		P	Pn	16 35 34.9	+2.9
SOEI				S		S	Sn	16 35 56.2	+2.6
SOEI	Soe	1.35	164				Pn	16 35 34.9	+2.9
MMRI	Maumere	1.63	263	P		P	Pn	16 35 35.9	+1.2
MMRI				S		S	Sn	16 35 58.6	+0.2
MMRI	Maumere	1.63	263				Pn	16 35 36.2	+1.5
BATI	Baumata	1.76	187	P		P	Pn	16 35 38.6	+2.5
	93nm,0.3s,baz=327,slow=2.2,SNR=208								
BATI				S		S	Sn	16 36 03.8	+2.7
	58nm,0.3s,baz=45,slow=4.3,SNR=9.8								
BATI	Baumata	1.76	187	P		P	Pn	16 35 38.4	+2.2
BATI				S		S	Sn	16 36 02.7	+1.6
EDFI	Ende, Flores	2.18	262	P		P	Pn	16 35 42.0	+0.9
BASI	Baing, Sumba	3.70	241	P		P	Pn	16 36 00.5	+0.4
KAPI	Kappang	5.33	310	Pn		Pn	Pn	16 36 21.8	+0.2
PLAI	Plampang	6.04	266	P		P	Pn	16 36 30.8	-0.3
	0.1nm22nm,1.1s								
TWSI	Taliwang, Sumb	6.92	267	P		P	Pn	16 36 38.7	-4.1
	0.1nm10nm,1.0s								
MTN	Manton Dam	8.36	122				Pn	16 37 03.9	+2.0
KNRA	Kununurra	8.62	147				Pn	16 37 05.6	+0.1
FITZ	Fitzroy Crossi	9.74	170	P		P	Pn	16 37 18.9	-1.5
	0.5nm,0.3s,baz=342,slow=20,SNR=24								
FITZ				S			Sn	16 39 00.8	-7.5
	4.0nm,0.3s,baz=265,slow=18,SNR=24								
MYLDM	Lahad Datu	14.56	338	P		P		16 38 24.3	-0.9
WB0	Warramunga Arr	15.17	139	Pn			Pn	16 38 30.5	+0.1
WB0				IAmb			IAmb	16 38 35.2	
	comp=Z,5.2nm,0.7s								
WRA	Warramunga Arr	15.27	140	P			Pn	16 38 32.3	+0.7
	comp=Z,0.4nm,0.3s,baz=319,slow=12,SNR=47								
WRA				S			Sn	16 41 12.9	-8.5
	comp=Z,0.8nm,0.3s,baz=314,slow=23,SNR=12								
WRA	Warramunga Arr	15.27	140	Pn			Pn	16 38 31.4	-0.2
WRAB	Tennant Creek	15.27	140	Pn			Pn	16 38 31.7	+0.2
WRAB				IAmb			IAmb	16 38 36.3	
	comp=Z,3.9nm,0.6s								
WB2	Warramunga Arr	15.27	140	Pn			Pn	16 38 31.8	+0.1
WB2				IAmb			IAmb	16 38 36.4	
	comp=Z,3.5nm,0.7s								
WR0	Warramunga Arr	15.41	139	Pn			Pn	16 38 33.2	-0.1
WR0				IAmb			IAmb	16 38 37.9	
	comp=Z,6.0nm,0.6s								
JAY	Jayapura	17.75	72	LR			LR	16 47 34.7	
	comp=Z,66nm,18.2s,baz=84,slow=42								
AS31	Alice Springs	17.92	149	P			Pn	16 39 04.5	+0.7
ASAR	Alice Springs	17.92	149	P			Pn	16 39 04.9	+1.2
	comp=Z,0.5nm,0.3s,baz=326,slow=11,SNR=56								
ASAR				S			S	16 42 14.3	-6.2
	comp=Z,0.1nm,0.3s,baz=316,slow=18,SNR=5.7								
ASAR	Alice Springs	17.92	149				Pn	16 39 04.8	+1.1
MYKOM	Kota Tinggi	22.41	296	P		P		16 39 50.6	+0.4
MYKOM				IAmb			IAmb	16 40 12.4	
	comp=Z,20nm,1.4s								
FORT	Forrest	22.56	171	P		P		16 39 52.0	+0.6
NWAO	Narrogin (SRO)	25.12	193	P		P		16 40 14.5	-0.3
BBOO	Buckleboo	26.74	157	P		P		16 40 30.6	+1.2
STKA	Stephens Creek	28.54	147	P		P		16 40 47.8	+2.3
	comp=Z,2.7nm,1.0s,baz=320,slow=9.4,SNR=6.1								
STKA	Stephens Creek	28.54	147	IAmb		IAmb		16 41 13.6	
	comp=Z,4.0nm,1.3s								
SRIT	Nakonsritamara	29.52	304	P		P		16 40 55.4	+1.0
MJB9	Matsu-Tunnel	46.74	16	P		P		16 43 17.2	-0.6
NIL	Nilore	63.71	314	P		P		16 45 19.1	-0.4
NIL				IAmb		IAmb		16 45 19.9	
	comp=Z,3.9nm,0.6s								
MK31	Makanchi Array	66.28	330	P		P		16 45 36.2	+0.3
MKAR	Makanchi Array	66.28	330	P		P		16 45 36.6	+0.7
	comp=Z,1.0nm,0.5s,baz=132,slow=7.4,SNR=17								
MKAR	Makanchi Array	66.28	330	P		P		16 45 36.0	+0.1
MAKZ	Makanchi	66.44	330	P		P		16 45 37.0	0.0
KBL	Kabul	67.17	313	P		P		16 45 41.0	-1.1
KBL				IAmb		IAmb		16 45 43.1	
	comp=Z,2.0nm,0.8s								
ZALV	Zalesovo Beam	70.35	337	P		P		16 46 00.8	-0.2
	comp=Z,0.8nm,0.3s,baz=134,slow=5.9,SNR=3.6								
ZALV	Zalesovo Beam	70.35	337	P		P		16 46 00.4	-0.6
KURK	Kurchatov	70.73	331	P		P		16 46 03.3	-0.1
KURK				IAmb		IAmb		16 46 04.5	
	comp=Z,3.8nm,1.1s								

*IDC **06** 17:03:29.4±0.8, 56.18S×26.76W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/16, mbtmp4.1/6, Error ellipse: s-maj=37.8km s-min=22.1km az=62.0*

*NEIC **06** 17:03:45.5±0.8, 56.3S±0.2×27.3W±0.3, h133km±10km, mb4.5/15, Error ellipse: s-maj=25.1km s-min=15.5km az=220.0*

ISC 06 17:03:42.0±0.7, 56.2S±0.1×27.1W±0.1, h100km, n30, σ1§10/31, mb4.4/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.73	286	Pn		Pn	Pn	17 05 07.2	+2.8
HOPE				Sn		Sn	Sn	17 06 06.2	-2.5
VNA1	Neumayer--Stat	16.61	158	P		P		17 07 31.4	+2.3
VNA3	Neumayer Olymp	16.80	160	P		P		17 07 31.1	-0.2
SNAA	Sanae	18.56	156	P		P		17 07 50.5	0.0
SNAA	Sanae	18.56	156	P		P		17 07 50.9	+0.3
LL01	San Ignacio de	32.01	276	P		P		17 09 58.8	+0.3
QSPA	South Pole Qui	34.03	180	P		P		17 10 16.1	0.0
QSPA				IAmb		IAmb		17 10 43.8	
	comp=Z,7.4nm,1.5s								
BO02	Sierra Bellavi	36.54	287	P		P		17 10 36.1	-1.7
BO02				IAmb		IAmb		17 10 41.9	
	comp=Z,17nm,1.2s								
CPUP	Villa Florida	36.98	311	P		P		17 10 41.4	0.0
	comp=Z,2.5nm,0.8s,baz=158,slow=4.3,SNR=3.8								
CPUP	Villa Florida	36.98	311	P		P		17 10 41.4	0.0
CPUP				IAmb		IAmb		17 10 42.4	
	comp=Z,9.9nm,1.2s								
MT02	Curacav	37.90	288	P		P		17 10 48.2	-1.0
CO02	Combarbal	39.44	291	P		P		17 11 01.6	-0.6
CO02				IAmb		IAmb		17 11 14.3	
	comp=Z,19nm,1.1s								
CO01	Juntas del Tor	39.94	293	P		P		17 11 05.5	-1.1
CO01				IAmb		IAmb		17 11 13.2	
	comp=Z,6.2nm,1.1s								
MAW	Mawson	39.97	143	P		P		17 11 05.6	-0.4
	comp=Z,0.7nm,0.5s,baz=296,slow=6.9,SNR=1.7								
MAW	Mawson	39.97	143	P		P		17 11 06.3	+0.4
AC05	El Transito	40.96	294	P		P		17 11 14.5	-0.3
AC05				IAmb		IAmb		17 11 33.6	
	comp=Z,17nm,1.2s								
AC01	Pan de Azucar	43.32	296	P		P		17 11 33.8	0.0
GO02	Mina Guanaco	43.63	297	P		P		17 11 36.5	-0.2
GO02				IAmb		IAmb		17 11 37.8	
	comp=Z,7.6nm,0.7s								
VNDA	Vanda	46.40	183	P		P		17 11 57.9	+0.3
	comp=Z,1.5nm,0.6s,baz=183,slow=6.5,SNR=15								
VNDA	Vanda	46.40	183	P		P		17 11 57.9	+0.3
LPAZ	La Paz	50.53	305	P		P		17 12 31.6	+0.9
	comp=Z,5.0nm,0.8s,baz=151,slow=5.4,SNR=15								
LPAZ	La Paz	50.53	305	P		P		17 12 31.9	+1.2
LPAZ				IAmb		IAmb		17 12 32.4	
	comp=Z,9.1nm,1.1s								
TOA0	Torodi Ar. Sit	73.17	29	P		P		17 15 01.9	+0.3
TORD	Torodi Ar. Bea	73.17	29	P		P		17 15 02.2	+0.6
	comp=Z,1.1nm,0.5s,baz=201,slow=6.6,SNR=7.6								
TORD	Torodi Ar. Bea	73.17	29	P		P		17 15 02.1	+0.4
ASAR	Alice Springs	98.80	162	P		P		17 17 08.8	-1.7
	comp=Z,0.6nm,0.9s,baz=186,slow=3.5,SNR=4.9								
ASAR	Alice Springs	98.80	162	P		P		17 17 09.3	-1.1
FINES	FINESS Array B	124.51	28	PKP		PKPdf		17 22 27.1	-0.8
	comp=Z,4.1nm,1.1s,baz=259,slow=3.9,SNR=3.7								
ILAR	Eielson Array	150.28	311	PKPbc		PKPbc		17 23 19.3	-0.5
	comp=Z,1.3nm,1.0s,baz=140,slow=1.1,SNR=7.6								
SONM	Songino Array	150.67	87	PKPbc		PKPbc		17 23 20.8	-0.6
	comp=Z,0.4nm,0.5s,baz=230,slow=4.6,SNR=2.3								

*IDC **06** 17:51:57.9±1.3, 27.8N×141.67E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/42, mbtmp3.8/4, MS3.8/2, Ms1 3.8/2, ms1mx2.8/61, Error ellipse: s-maj=60.0km s-min=19.4km az=65.0*

*NEIC **06** 17:52:03.5±1.2, 27.7N±0.2×141.8E±0.4, h41km±16km, mb4.5/6, Error ellipse: s-maj=62.1km s-min=7.0km az=65.0*

ISC 06 17:52:03.4±1.3, 27.8N±0.2×141.9E±0.4, h42km, n23, σ0s53/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	0.73	159	Pn		Pn	Pn	17 52 17.2	-0.1
	79nm,0.3s,baz=7.9,slow=21,SNR=16								
JCJ				Sn			Sn	17 52 27.3	0.0
	340nm,0.3s,baz=2.9,slow=23,SNR=29								
JCJ	Chichijima	0.73	159				Pn	17 52 17.4	+0.1
JCJ							Sn	17 52 27.0	-0.3
ASAJ	Asahikawa	16.31	2	LR		LR		18 03 29.9	
	comp=Z,42nm,19.2s,baz=144,slow=42								
H11N2	WAKE ISLAND Hy 24.21	104		T		T		18 22 24.7	
	baz=295,slow=75,SNR=7.4								
H11N1	WAKE ISLAND Hy 24.22	104		T		T		18 22 25.6	
	baz=295,slow=75,SNR=6.6								
H11N3	WAKE ISLAND Hy 24.23	104		T		T		18 22 25.9	
	baz=295,slow=75,SNR=6.5								
H11S3	WAKE ISLAND Hy 24.56	107		T		T		18 22 38.5	
	baz=298,slow=75,SNR=12								
H11S1	WAKE ISLAND Hy 24.57	107		T		T		18 22 37.3	
	baz=298,slow=75,SNR=7.3								
H11S2	WAKE ISLAND Hy 24.58	107		T		T		18 22 39.0	
	baz=298,slow=75,SNR=9.7								
WB0	Warramunga Arr	47.82	190	P		P		18 00 37.7	+0.8
WB0				IAmb		IAmb		18 01 01.1	
	comp=Z,7.4nm,1.3s								
WR0	Warramunga Arr	47.99	189	P		P		18 00 39.1	+0.8
WRAB	Tennant Creek	47.99	190	P		P		18 00 39.2	+0.9
WRAB				IAmb		IAmb		18 01 03.6	
	comp=Z,6.6nm,1.3s								
WB2	Warramunga Arr	48.00	190	P		P		18 00 39.0	+0.6
WB2				IAmb		IAmb		18 00 56.8	
	comp=Z,7.6nm,1.3s								
WRA	Warramunga Arr	48.00	190	P		P		18 00 39.0	+0.7
	comp=Z,0.7nm,0.4s,baz=11,slow=8.1,SNR=27								
WRA	Warramunga Arr	48.00	190	P		P		18 00 39.1	+0.7
ASAR	Alice Springs	51.72	189	P		P		18 01 06.7	0.0
	comp=Z,0.1nm,0.3s,baz=12,slow=6.6,SNR=7.6								
ASAR	Alice Springs	51.72	189	P		P		18 01 06.4	-0.2
MBWA	Marble Bar	53.16	206	P		P		18 01 16.8	-0.5
RAO	Raoul Island	68.52	143	LR		LR		18 29 04.8	
	comp=Z,509nm,21.4s,baz=256,slow=32								
FIA1	FINESS Array S	77.22	334	P		P		18 03 52.9	+0.2
FINES	FINESS Array B	77.22	334	P		P		18 03 53.1	+0.3
	comp=Z,0.8nm,0.5s,baz=76,

KARP	**Karpathos**	**0.77**	**37**	PG	**Pb**	**18 08 15.3**	**-0.8**		
KARP				SG	**Sg**	**18 08 27.2**	**+0.4**		
KARP	**Karpathos**	**0.77**	**37**	⇑P	**Pb**	**18 08 14.9**	**-1.1**		
KARP				S	**Sb**	**18 08 26.4**	**+0.2**		
KARP				AML	AML	18 08 29.5			
	191nm,0.6s								
KARP				AML	AML	18 08 29.5			
	191nm,0.6s								
KARP				AML	AML	18 08 29.6			
	109nm,0.4s								
KARP				AML	AML	18 08 29.6			
	109nm,0.4s								
KARP	**Karpathos**	**0.77**	**37**	Pg	**Pb**	**18 08 15.1**	**-1.1**		
NPS	**Neapolis**	**0.86**	**293**	P	**Pb**	**18 08 16.8**	**-0.8**		
NPS				S	**Sb**	**18 08 29.2**	**+0.5**		
	44µm,0.8s								
NPS	**Neapolis**	**0.86**	**293**	P	**Pb**	**18 08 16.9**	**-0.8**		
NPS				S	**Sb**	**18 08 28.3**	**-0.4**		
NPS				AML	AML	18 08 29.9			
	comp=N,75425µm,0.7s								
NPS				AML	AML	18 08 31.8			
	comp=E,95625µm,0.9s								
NPS	**Neapolis**	**0.86**	**293**	P	**Pb**	**18 08 16.8**	**-0.8**		
LAST	**Lasithi**	**0.94**	**284**	P	**Pb**	**18 08 17.8**	**-1.1**		
LAST				S	**Sg**	**18 08 32.0**	**+0.1**		
	comp=E,15µm,0.9s								
LAST	**Lasithi**	**0.94**	**284**	P	**Pb**	**18 08 17.9**	**-1.0**		
LAST				S	**Sb**	**18 08 30.9**	**0.0**		
LAST				AML	AML	18 08 35.2			
	comp=E,23990µm,0.6s								
LAST				AML	AML	18 08 35.5			
	comp=N,33258µm,0.8s								
HRKL	**Herakleio**	**1.27**	**288**	P	**Pn**	**18 08 24.4**	**+0.5**		
HRKL	**Herakleio**	**1.27**	**288**	PN	**Pn**	**18 08 23.6**	**-0.3**		
IACM	**Heraklion**	**1.30**	**287**	P	**Pb**	**18 08 25.4**	**+0.5**		
KSTL	**Kastelli Herak**	**1.30**	**287**	P	**Pn**	**18 08 20.8**	**-3.4**		
KSTL				S	**Sn**	**18 08 36.0**	**-5.0**		
IDI	**Anoyia**	**1.44**	**285**	Pg	**Pn**	**18 08 26.8**	**+0.6**		
	comp=N,205nm,0.3s,baz=131,slow=15,SNR=1006								
IDI				Lg	Lg	18 08 47.6			
	comp=N,463nm,0.3s,baz=115,slow=14,SNR=18								
IDI				LR	LR	18 09 17.9			
	comp=N,3µm,20.1s,baz=68,slow=55								
IDI	**Anoyia**	**1.44**	**285**	P	**Pn**	**18 08 26.2**	**0.0**		
IDI				S	**Sb**	**18 08 46.1**	**+0.9**		
	comp=N,5µm,0.5s								
IDI	**Anoyia**	**1.44**	**285**	P	**Pb**	**18 08 27.7**	**+0.3**		
IDI				AML	AML	18 08 54.1			
	comp=N,12347µm,0.5s								
IDI				AML	AML	18 09 01.0			
	comp=E,11115µm,0.7s								
IDI	**Anoyia**	**1.44**	**285**	⇑P	**Pb**	**18 08 27.1**	**-0.3**		
IDI	**Anoyia**	**1.44**	**285**	⇓S	**Sb**	**18 08 46.7**	**+1.4**		
IDI	**Anoyia**	**1.44**	**285**	PN	**Pn**	**18 08 26.2**	**0.0**		
IDI	**Anoyia**	**1.44**	**285**	Pn	**Pn**	**18 08 25.5**	**+0.6**		
SIVA	**Sivas**	**1.46**	**274**	P	**Pn**	**18 08 27.1**	**+0.6**		
SIVA				S	**Sg**	**18 08 47.9**	**-0.6**		
	comp=E,14µm,0.7s								
SIVA	**Sivas**	**1.46**	**274**	P	**Pb**	**18 08 27.5**	**-0.3**		
SIVA				AML	AML	18 08 59.8			
	comp=N,21119µm,0.7s								
SIVA				AML	AML	18 09 00.8			
	comp=E,34674µm,0.8s								
TMBK	**Timbaki Herakl**	**1.50**	**276**	P	**Pb**	**18 08 28.2**	**-0.2**		
ANAF	**Anafi Island**	**1.57**	**335**	P	**Pn**	**18 08 27.7**	**-0.4**		
ANAF				S	**Sn**	**18 08 47.7**	**-0.1**		
	comp=E,43µm,0.4s								
ANAF	**Anafi Island**	**1.57**	**335**	P	**Pn**	**18 08 27.6**	**-0.4**		
ANAF				S	**Sn**	**18 08 47.4**	**-0.4**		
ANAF				AML	AML	18 08 53.6			
	comp=E,71130µm,0.4s								
ANAF				AML	AML	18 08 53.8			
	comp=N,98624µm,0.4s								
SANT	**Santorini**	**1.70**	**328**	P	**Pn**	**18 08 29.6**	**-0.3**		
SANT	**Santorini**	**1.70**	**328**	⇑P	**Pn**	**18 08 29.8**	**-0.2**		
SANT	**Santorini**	**1.70**	**328**	⇑S	**Sn**	**18 08 50.7**	**-0.5**		
SANT	**Santorini**	**1.70**	**328**	PN	**Pn**	**18 08 29.4**	**-0.5**		
SANT	**Santorini**	**1.70**	**328**	*i* P	**Pn**	**18 08 29.3**	**-0.5**		
SANT				*i* S	**Sn**	**18 08 49.2**	**-1.9**		
SANT	**Santorini**	**1.70**	**328**	Pn	**Pn**	**18 08 29.4**	**-0.5**		
THR6	**Thira Island,**	**1.72**	**326**	P	**Pn**	**18 08 30.0**	**-0.1**		
SAP1	**Santorini-Akro**	**1.72**	**326**	P	**Pn**	**18 08 30.0**	**-0.1**		
THR8	**Santorini-Mono**	**1.73**	**329**	P	**Pn**	**18 08 29.9**	**-0.3**		
NISR	**Nisiros**	**1.73**	**15**	P	**Pn**	**18 08 30.4**	**+0.1**		
NISR				S	**Sb**	**18 08 53.3**	**-0.5**		
	comp=N,12µm,0.6s								
NISR	**Nisiros**	**1.73**	**15**	P	**Pn**	**18 08 30.4**	**+0.1**		
THR9	**Santorini-Faro**	**1.74**	**325**	P	**Pn**	**18 08 30.3**	**-0.1**		
SAP2K	**Karterados**	**1.74**	**328**	P	**Pn**	**18 08 30.4**	**0.0**		
THR7	**Fira-Santorini**	**1.76**	**328**	P	**Pn**	**18 08 30.6**	**-0.1**		
THR3	**Thira Island,**	**1.76**	**327**	P	**Pn**	**18 08 30.6**	**0.0**		
THT2	**Imerovigli**	**1.77**	**328**	PN	**Pn**	**18 08 30.7**	**-0.2**		
THR2	**Thira island,**	**1.78**	**329**	P	**Pn**	**18 08 30.9**	**0.0**		
THR5	**Thira Island,**	**1.79**	**326**	P	**Pn**	**18 08 30.9**	**-0.2**		
ARG	**Arkhangelos**	**1.79**	**44**	P	**Pb**	**18 08 33.4**	**0.0**		
ARG				S	**Sb**	**18 08 56.8**	**+1.3**		
	comp=N,8µm,0.5s								
ARG	**Arkhangelos**	**1.79**	**44**	P	**Pb**	**18 08 32.6**	**-0.9**		
ARG				S	**Sn**	**18 08 53.6**	**+0.3**		
ARG				AML	AML	18 09 02.1			
	comp=E,15254µm,0.5s								
ARG				AML	AML	18 09 08.9			
	comp=N,15237µm,0.8s								
ARG	**Arkhangelos**	**1.79**	**44**	PN	**Pn**	**18 08 30.5**	**-0.6**		
ARG	**Arkhangelos**	**1.79**	**44**	P	**Pb**	**18 08 32.5**	**-0.9**		
CMBO	**Columbo, Santo**	**1.81**	**328**	P	**Pn**	**18 08 31.8**	**+0.5**		
KOSK	**Kos Island**	**1.84**	**10**	P	**Pn**	**18 08 31.8**	**0.0**		
KOSK	**Kos Island**	**1.84**	**10**	PN	**Pn**	**18 08 31.7**	**0.0**		
DAT	**Datca**	**1.97**	**24**	PN	**Pn**	**18 08 33.2**	**-0.4**		
DAT	**Datca**	**1.97**	**24**	*i* P	**Pn**	**18 08 34.1**	**+0.6**		
DAT				*i* S	**Sn**	**18 08 57.8**	**0.0**		
DAT				IAML		18 09 07.0			
	comp=N,1µm,0.7s								
DAT				IAML		18 09 07.0			
	comp=E,773nm,0.6s								
AMGA	**Amorgos Island**	**1.98**	**344**	P	**Pn**	**18 08 33.5**	**-0.1**		
AMGA				AML	AML	18 09 11.1			
	comp=N,15277µm,0.7s								
AMGA				AML	AML	18 09 12.4			
	comp=E,9304µm,0.7s								
VAM	**Vamos**	**2.01**	**284**	P	**Pb**	**18 08 36.3**	**-0.9**		
VAM				AML	AML	18 09 10.2			
	comp=N,17055µm,0.7s								
VAM				AML	AML	18 09 16.3			
	comp=E,10316µm,0.7s								
VAM	**Vamos**	**2.01**	**284**	P	**Pb**	**18 08 36.2**	**-0.9**		
DATC	**Datca-Mugla**	**2.02**	**25**	PN	**Pn**	**18 08 33.4**	**-0.8**		
GVDS	**Gavdos**	**2.05**	**268**	P	**Pb**	**18 08 37.5**	**-0.3**		
GVDS	**Gavdos**	**2.05**	**268**	PN	**Pn**	**18 08 35.1**	**+0.4**		
GVD	**Gavdhos**	**2.06**	**268**	P	**Pb**	**18 08 36.9**	**-1.0**		
GVD	**Gavdhos**	**2.06**	**268**	P	**Pb**	**18 08 37.6**	**-0.3**		
GVD				AML	AML	18 09 24.5			
	comp=E,8231µm,1.1s								
GVD				AML	AML	18 09 29.8			
	comp=N,8477µm,0.6s								
GVD	**Gavdhos**	**2.06**	**268**	PN	**Pn**	**18 08 34.7**	**0.0**		
IOSP	**Ios island**	**2.08**	**330**	P	**Pn**	**18 08 34.8**	**-0.1**		
IOSP				AML	AML	18 09 06.5			
	comp=N,14352µm,0.7s								
IOSP				AML	AML	18 09 21.4			
	comp=E,10113µm,0.9s								
IMMV	**Iera Moni Meta**	**2.20**	**285**	P	**Pb**	**18 08 38.8**	**-1.5**		
IMMV				S	**Sg**	**18 09 11.4**	**-0.6**		
	comp=E,5µm,0.9s								
IMMV	**Iera Moni Meta**	**2.20**	**285**	P	**Pb**	**18 08 38.8**	**-1.5**		
IMMV				AML	AML	18 09 21.1			
	comp=N,10459µm,1.1s								
IMMV				AML	AML	18 09 23.1			
	comp=E,10615µm,0.8s								
IMMV	**Iera Moni Meta**	**2.20**	**285**	PN	**Pn**	**18 08 36.8**	**+0.1**		
BODT	**Bodrum**	**2.21**	**15**	PN	**Pn**	**18 08 36.7**	**-0.1**		
YKAV	**Yalikavak-Bodr**	**2.26**	**14**	PN	**Pn**	**18 08 37.3**	**-0.2**		
TURN	**Turunc**	**2.28**	**36**	*i* P	Pg	**18 08 52.7**	**+7.7**		
APE	**Apeiranthos**	**2.30**	**338**	P	**Pn**	**18 08 37.9**	**-0.2**		
APE				S	**Sn**	**18 09 04.1**	**-1.7**		
APE				AML	AML	18 09 16.9			
	comp=E,5974µm,0.6s								
APE				AML	AML	18 09 17.2			
	comp=N,3703µm,0.6s								
APE	**Apeiranthos**	**2.30**	**338**	⇑P	**Pn**	**18 08 38.4**	**+0.3**		
APE	**Apeiranthos**	**2.30**	**338**	⇑S	**Sn**	**18 09 05.2**	**-0.6**		
APE	**Apeiranthos**	**2.30**	**338**	PN	**Pn**	**18 08 37.9**	**-0.2**		
APE	**Apeiranthos**	**2.30**	**338**	*i* P	**Pn**	**18 08 38.0**	**-0.1**		
APE				*i* S	**Sn**	**18 09 03.2**	**-2.6**		

APE	**Apeiranthos**	**2.30**	**338**	*c i* P	**Pn**	**18 08 37.7**	**-0.4**		
APE	**Apeiranthos**	**2.30**	**338**	⇑P	**Pn**	**18 08 37.0**	**-1.1**		
KNDR	**Palaiochora Ch**	**2.40**	**278**	PN	**Pn**	**18 08 40.2**	**+0.8**		
RODP	**Rodopos**	**2.40**	**286**	P	**Pb**	**18 08 42.1**	**-1.6**		
RODP	**Rodopos**	**2.40**	**286**	PN	**Pn**	**18 08 39.5**	**+0.1**		
MHLO	**Agia Marina, M**	**2.50**	**315**	P	**Pn**	**18 08 41.9**	**+1.1**		
MHLO				AML	AML	18 09 22.7			
	comp=N,20086µm,0.6s								
MHLO				AML	AML	18 09 26.3			
	comp=E,18300µm,0.6s								
DIDI	**Didim-Aydin**	**2.50**	**12**	PN	**Pn**	**18 08 40.8**	**0.0**		
DALY	**Dalyan (Mula)**	**2.52**	**41**	PN	**Pn**	**18 08 40.9**	**-0.2**		
DALY	**Dalyan (Mula)**	**2.52**	**41**	*i* P	**Pn**	**18 08 41.8**	**+0.7**		
DALY				*i* S	**Sb**	**18 09 15.8**	**-0.7**		
DALY				IAML		18 09 22.0			
	comp=N,877nm,0.8s								
DALY				IAML		18 09 31.0			
	comp=E,1µm,0.7s								
MHLA	**Plaka, Milos I**	**2.52**	**316**	P	**Pn**	**18 08 42.4**	**+1.3**		
MLSB	**Milas**	**2.55**	**22**	PN	**Pn**	**18 08 41.5**	**0.0**		
YER	**Yerkesik**	**2.59**	**32**	PN	**Pn**	**18 08 41.7**	**-0.5**		
YER	**Yerkesik**	**2.59**	**32**	P	**Pn**	**18 08 42.6**	**+0.4**		
FETY	**Fethiye**	**2.65**	**49**	PN	**Pn**	**18 08 42.7**	**-0.2**		
FETY	**Fethiye**	**2.65**	**49**	*i* P	**Pn**	**18 08 43.3**	**+0.4**		
KSL	**Kastellorizon**	**2.73**	**63**	P	**Pn**	**18 08 45.3**	**+1.3**		
KSL	**Kastellorizon**	**2.73**	**63**	⇑P	**Pn**	**18 08 44.3**	**+0.4**		
KSL				S	**Sn**	**18 09 16.0**	**-0.4**		
SMG	**Samos**	**2.78**	**4**	P	**Pn**	**18 08 44.4**	**-0.3**		
AKAS	**Kas**	**2.78**	**61**	PN	**Pn**	**18 08 44.6**	**-0.2**		
AKAS	**Kas**	**2.78**	**61**	*i* P	**Pn**	**18 08 46.1**	**+1.3**		
ANKY	**Antikythira Is**	**2.84**	**290**	P	**Pn**	**18 08 46.7**	**+1.3**		
AYDN	**Tasoluk**	**2.92**	**21**	*i* P	**Pn**	**18 08 48.1**	**+1.5**		
DEMR	**Demre-Antalya**	**3.00**	**63**	PN	**Pn**	**18 08 47.6**	**-0.1**		
TAVA	**DENIZLI_Tavas**	**3.15**	**36**	*i* P	**Pn**	**18 08 51.0**	**+1.1**		
TAVA				*i* S	**Sn**	**18 09 27.4**	**+0.4**		
TAVA				IAML		18 09 35.0			
	comp=E,734nm,0.8s								
TAVA				IAML		18 09 38.0			
	comp=N,669nm,0.8s								
KTHA	**Kythira Island**	**3.16**	**296**	P	**Pn**	**18 08 50.8**	**+0.8**		
KTHA	**Kythira Island**	**3.16**	**296**	PN	**Pn**	**18 08 50.7**	**+0.8**		
AYDB	**Zeytinkoy-Aydi**	**3.19**	**19**	PN	**Pn**	**18 08 50.8**	**+0.4**		
ELL	**Elmali**	**3.25**	**55**	PN	**Pn**	**18 08 51.2**	**-0.1**		
ELL	**Elmali**	**3.25**	**55**	P	**Pn**	**18 08 53.2**	**+1.9**		
ELL	**Elmali**	**3.25**	**55**	S	**Sn**	**18 09 28.5**	**-1.0**		
ELL	**Elmali**	**3.25**	**55**	Pn	**Pn**	**18 08 53.2**	**+1.9**		
AKUM	**Antalya-Kumluc**	**3.36**	**65**	*i* P	**Pn**	**18 08 53.4**	**+0.7**		
AKUM				*i* S	**Sn**	**18 09 26.5**	**-5.5**		
AKUM				IAML		18 09 37.0			
	comp=N,264nm,0.4s								
AKUM				IAML		18 09 42.0			
	comp=E,368nm,0.5s								
MNVA	**Monemvasia**	**3.37**	**302**	P	**Pn**	**18 08 53.8**	**+1.0**		
VLI	**Veliai**	**3.46**	**302**	P	**Pn**	**18 08 54.9**	**+0.9**		
BLCB	**Balcova**	**3.47**	**6**	PN	**Pn**	**18 08 54.3**	**+0.2**		
CHOS	**Chios island**	**3.48**	**353**	P	**Pn**	**18 08 54.4**	**+0.1**		
CHOS	**Chios island**	**3.48**	**353**	PN	**Pn**	**18 08 54.2**	**-0.1**		
SLUM	**Salum**	**3.62**	**199**	P	**Pn**	**18 08 58.8**	**+2.6**		
	baz=203								
KEMT	**Kemer-ANTALYA**	**3.63**	**62**	PN	**Pn**	**18 08 56.3**	**-0.1**		
VLY	**Voula,Athens**	**3.68**	**323**	P	**Pn**	**18 08 57.6**	**+0.5**		
PSRA	**Psara**	**3.69**	**347**	P	**Pn**	**18 08 56.9**	**-0.4**		
KRND	**KRANIDI**	**3.70**	**312**	P	**Pn**	**18 08 58.9**	**+1.5**		
DION	**Dionisos Attik**	**3.80**	**327**	P	**Pn**	**18 09 00.2**	**+1.5**		
PTL	**Penteli**	**3.81**	**326**	P	**Pn**	**18 08 59.8**	**+1.0**		
ATH	**Athens Observa**	**3.81**	**324**	P	**Pn**	**18 09 00.4**	**+1.5**		
ATH	**Athens Observa**	**3.81**	**324**	P	**Pn**	**18 09 00.3**	**+1.5**		
ANTA	**Antalya**	**3.84**	**58**	PN	**Pn**	**18 08 59.5**	**+0.3**		
MANT	**Manisa**	**3.89**	**23**	*i* P	**Pn**	**18 09 00.9**	**+0.9**		
MANT	**Manisa**	**3.89**	**23**		**Pn**	**18 09 01.0**	**+0.9**		
BRDR	**BURDUR-Merkez**	**3.94**	**44**	*i* P	**Pn**	**18 09 02.1**	**+1.5**		
KULA	**Kula-Manisa**	**3.94**	**24**	PN	**Pn**	**18 09 00.8**	**0.0**		
ZEDA	**zmir-Bergama**	**4.05**	**5**	*i* P	**Pn**	**18 09 01.7**	**-0.4**		
ZEDA				*i* S	**Sn**	**18 09 45.1**	**-3.8**		
ZEDA				IAML		18 10 20.0			
	comp=E,205nm,1.3s								
AKHS	**Akhisar**	**4.06**	**14**	*i* P	**Pn**	**18 09 03.2**	**+0.9**		
BCK	**Bucak**	**4.11**	**51**	PN	**Pn**	**18 09 03.2**	**+0.2**		
DKL	**Dikili**	**4.14**	**3**	PN	**Pn**	**18 09 03.7**	**+0.4**		
OSC1	**CSNet OBS 1**	**4.14**	**109**	P	**Pn**	**18 09 03.2**	**-0.2**		
OSC1				S	**Sn**	**18 09 52.1**	**+0.9**		
VLX	**Vlachokerasia**	**4.18**	**307**	P	**Pn**	**18 09 05.4**	**+1.3**		
KYMI	**Kymi, Euboea I**	**4.20**	**332**	P	**Pn**	**18 09 04.1**	**-0.1**		
LTK	**Loutraki**	**4.25**	**318**	P	**Pn**	**18 09 06.4**	**+1.5**		
USAK	**Uak-Merkez**	**4.25**	**27**	*i* P	**Pn**	**18 09 05.9**	**+1.0**		
ISP	**Isparta**	**4.29**	**47**	PN	**Pn**	**18 09 05.6**	**+0.1**		
ISP	**Isparta**	**4.29**	**47**	*eP*	**Pn**	**18 09 06.5**	**+1.0**		
ISP	**Isparta**	**4.29**	**47**		**Pn**	**18 09 06.2**	**+0.7**		
SIGR	**SIGRI**	**4.31**	**352**	P	**Pn**	**18 09 05.9**	**+0.2**		
SIGR	**SIGRI**	**4.31**	**352**	PN	**Pn**	**18 09 05.8**	**+0.1**		
PRK	**Paraskevi**	**4.31**	**357**	P	**Pn**	**18 09 05.7**	**-0.1**		
TRIP	**Tripoli**	**4.34**	**308**	P	**Pn**	**18 09 07.4**	**+1.1**		
KZIL	**AFYON_Kizioren**	**4.38**	**40**	*i* P	**Pn**	**18 09 06.8**	**0.0**		
ITM	**Ithomi**	**4.39**	**302**	P	**Pn**	**18 09 07.8**	**+0.9**		
ITM	**Ithomi**	**4.39**	**302**	PN	**Pn**	**18 09 07.7**	**+0.9**		
ITM	**Ithomi**	**4.39**	**302**	Pn	**Pn**	**18 09 08.4**	**+1.6**		
PYL	**PYLOS**	**4.39**	**298**	P	**Pn**	**18 09 07.8**	**+1.0**		
STEP	**BALIKESIR_Sava**	**4.53**	**11**	*i* P	**Pn**	**18 09 09.6**	**+0.9**		
GUR	**Goura**	**4.55**	**312**	P	**Pn**	**18 09 10.5**	**+1.4**		
GEDZ	**Gediz**	**4.69**	**28**	PN	**Pn**	**18 09 11.9**	**+1.0**		
LKR	**Lokris**	**4.70**	**323**	P	**Pn**	**18 09 12.6**	**+1.6**		
ALAN	**Alanya-ANTALYA**	**4.72**	**68**	PN	**Pn**	**18 09 11.6**	**+0.3**		
AKMS	**Akamas**	**4.72**	**87**	P	**Pn**	**18 09 10.9**	**-0.5**		
AKMS				S	**Sn**	**18 10 05.6**	**0.0**		
AKMS				AML	AML	18 10 06.2			
	comp=E,2.6nm,0.4s								
AKMS				AML	AML	18 10 06.2			
	comp=E,2.1nm,0.4s								
AKMS				AML	AML	18 10 06.2			
	comp=E,2.6nm,0.4s								
AKMS				AML	AML	18 10 06.2			
	comp=E,2.1nm,0.4s								
KLV	**Kalavryta, Ach**	**4.73**	**312**	P	**Pn**	**18 09 12.5**	**+0.9**		
AOS	**Alonnisos**	**4.75**	**334**	PN	**Pn**	**18 09 12.3**	**+0.5**		
DSF	**Desfina**	**4.76**	**318**	P	**Pn**	**18 09 13.1**	**+1.1**		
BAYC	**CANAKKALE_Bayr**	**4.80**	**360**	*i* P	**Pn**	**18 09 12.2**	**-0.3**		
BALB	**Balikesir**	**4.81**	**12**	PN	**Pn**	**18 09 13.7**	**+1.1**		
SHUT	**Suhut-Afyon**	**4.82**	**40**	PN	**Pn**	**18 09 13.4**	**+0.6**		
GAZI	**Gazipasa**	**4.85**	**73**	*i* P	**Pn**	**18 09 13.1**	**0.0**		
GAZI				*i* S	**Sn**	**18 10 01.3**	**-7.4**		
GAZI				IAML		18 10 17.0			
	comp=N,313nm,0.7s								
GAZI				IAML		18 10 21.0			
	comp=E,334nm,0.7s								
AFYO	**Afyonkarahisar**	**4.87**	**37**	*i* P	**Pn**	**18 09 13.9**	**+0.5**		
BALY	**Balya**	**4.87**	**9**	*i* P	**Pn**	**18 09 14.1**	**+0.7**		
EZN	**Ezine**	**4.89**	**358**	PN	**Pn**	**18 09 13.8**	**+0.2**		
SEYD	**Seydisehir-KON**	**4.91**	**58**	PN	**Pn**	**18 09 14.8**	**+0.7**		
NATA	**Nata**	**4.92**	**90**	P	**Pn**	**18 09 14.0**	**-0.1**		
NATA				S	**Sn**	**18 10 10.0**	**-0.5**		
NATA				AML	AML	18 10 13.3			
	comp=E,4.6nm,0.5s								
NATA				AML	AML	18 10 13.3			
	comp=E,4.6nm,0.5s								
NATA				AML	AML	18 10 15.1			
	comp=E,5.2nm,0.6s								
NATA				AML	AML	18 10 15.1			
	comp=E,5.2nm,0.6s								
ALFC	**Alefka**	**4.94**	**86**	⇑P	**Pn**	**18 09 13.8**	**-0.5**		
ALFC				AML	AML	18 10 10.8			
	comp=E,3.4nm,0.6s								
ALFC				AML	AML	18 10 11.1			
	comp=E,4.2nm,1.0s								
DRO	**Drossia**	**4.95**	**309**	P	**Pn**	**18 09 16.8**	**+2.3**		
KALE	**Kalithea**	**4.97**	**315**	P	**Pn**	**18 09 17.0**	**+2.2**		
TVSB	**Tavsanli**	**5.06**	**26**	PN	**Pn**	**18 09 16.5**	**+0.4**		
OSC2	**CSNet OBS 4**	**5.07**	**110**	P	**Pn**	**18 09 16.9**	**+0.8**		
LIA	**Limnos Island**	**5.08**	**348**	P	**Pn**	**18 09 16.7**	**+0.4**		
EFP	**Efpalio**	**5.13**	**314**	P	**Pn**	**18 09 19.0**	**+2.0**		
RLS	**Riolos of Patr**	**5.17**	**309**	P	**Pn**	**18 09 19.6**	**+2.1**		
DOGA	**KONYA_Doganhis**	**5.17**	**51**	*i* P	**Pn**	**18 09 19.2**	**+1.5**		
DOGA				*i* S	**Sn**	**18 10 16.6**	**-0.3**		
DOGA				IAML		18 10 52.0			
	comp=N,140nm,0.9s								
LEF	**Lefka**	**5.18**	**86**	⇑P	**Pn**	**18 09 20.3**	**+2.7**		
LEF	**Lefka**	**5.18**	**86**	PN	**Pn**	**18 09 17.4**	**-0.2**		
LEF	**Lefka**	**5.18**	**86**	*i* P	**Pn**	**18 09 17.2**	**-0.4**		
LEF				*i* S	**Sn**	**18 10 11.5**	**-5.3**		
LEF				IAML		18 10 29.0			
	comp=E,273nm,0.6s								
LEF				IAML		18 10 30.0			
	comp=N,276nm,0.9s								

SZAC	**Souni**	**5.18**	**90**	P	**Pn**	**18 09 17.4**	**-0.3**		
SZAC				AML	AML	18 10 19.1			
	comp=N,1.7nm,0.5s								
SZAC				AML	AML	18 10 21.9			
	comp=N,2.2nm,0.5s								
XOR	**Xorichti**	**5.19**	**330**	P	**Pn**	**18 09 19.6**	**+1.8**		
ANX	**Ano Chora**	**5.23**	**316**	P	**Pn**	**18 09 20.5**	**+2.0**		
GOKA	**anakkale-Gk**	**5.28**	**354**	*i* P	**Pn**	**18 09 18.4**	**-0.5**		
GADA	**Gvkgeada**	**5.28**	**354**	PN	**Pn**	**18 09 19.6**	**+0.6**		
AGG	**Agios Georgios**	**5.32**	**321**	P	**Pn**	**18 09 20.3**	**+0.8**		
AGG	**Agios Georgios**	**5.32**	**321**	PN	**Pn**	**18 09 20.1**	**+0.8**		
AGG	**Agios Georgios**	**5.32**	**321**	*i* P	**Pn**	**18 09 21.3**	**+1.7**		
AGG	**Agios Georgios**	**5.32**	**321**	P	**Pn**	**18 09 21.5**	**+1.9**		
AGG	**Agios Georgios**	**5.32**	**321**	Pn	**Pn**	**18 09 21.4**	**+1.9**		
LPK	**Lapseki**	**5.43**	**1**	PN	**Pn**	**18 09 22.4**	**+1.3**		
GELI	**Tayfur-Gelibol**	**5.46**	**359**	PN	**Pn**	**18 09 22.3**	**+0.9**		
KMER	**Konya-Meram**	**5.46**	**57**	*i* P	**Pn**	**18 09 23.6**	**+2.0**		
TEKE	**Tekeli-Mersin**	**5.46**	**75**	PN	**Pn**	**18 09 22.1**	**+0.6**		
ASGA	**Asgata**	**5.48**	**90**	P	**Pn**	**18 09 21.5**	**-0.3**		
ASGA				S	**Sn**	**18 10 24.6**	**+0.3**		
KRBG	**Karabiga-Canak**	**5.48**	**6**	PN	**Pn**	**18 09 22.6**	**+0.8**		
EDC	**Edincik**	**5.50**	**10**	PN	**Pn**	**18 09 23.4**	**+1.4**		
CSS	**Mathiatis**	**5.54**	**88**	PN	**Pn**	**18 09 22.6**	**0.0**		
CSS	**Mathiatis**	**5.54**	**88**	*i* P	**Pn**	**18 09 21.5**	**-1.1**		
CSS				*i* S	**Sn**	**18 10 21.1**	**-4.7**		
CSS	**Mathiatis**	**5.54**	**88**	⇓P	**Pn**	**18 09 22.5**	**-0.2**		
CSS	**Mathiatis**	**5.54**	**88**		**Pn**	**18 09 22.3**	**-0.3**		
KONT	**Konya--Tatoy**	**5.54**	**55**	*i* P	**Pn**	**18 09 23.9**	**+1.2**		
ULDT	**Uludag**	**5.58**	**21**	*i* P	**Pn**	**18 09 24.4**	**+1.0**		
BERE	**Bereket-Mersin**	**5.59**	**73**	PN	**Pn**	**18 09 23.6**	**+0.2**		
KDHN	**Kadinhani**	**5.71**	**50**	*i* P	**Pn**	**18 09 26.6**	**+1.6**		
SWA2		**5.75**	**190**	P	**Pn**	**18 09 27.7**	**+2.2**		
	baz=193								
SWA2				S	**Sn**	**18 10 29.6**	**-1.4**		
	baz=193								
TEVE	**Tevekalti-Mers**	**5.78**	**73**	PN	**Pn**	**18 09 26.7**	**+0.7**		
MVOU	**Mavrovouni**	**5.79**	**87**	⇑P	**Pn**	**18 09 25.4**

ASF Jabal al Asfar 9.04 105 P **Pn** **18 10 10.3 -0.4**
ASF 18 11 51.3
ASF Jabal al Asfar 9.04 105 **Pn** **18 10 10.3 -0.4**
ASF **Sn** **18 11 51.3 -0.6**
TR1 Tor 1 9.34 136 P **Pn** **18 10 15.2 +0.4**
baz=136
PDG Podgorica 9.42 325 ⇓P **Pn** **18 10 15.9 +0.1**
TIRR Tirgusor 9.62 8 ⇑P **Pn** **18 10 20.4 +1.9**
TIRR Tirgusor 9.62 8 P **Pn** **18 10 20.4 +1.9**
TLBR Topalu 9.67 6 ⇑P **Pn** **18 10 20.9 +1.7**
HHRG Al Ghardaqah 9.74 140 P **Pn** **18 10 22.6 +2.3**
baz=141
VAE Valguarnera 10.16 288 Pn **Pn** **18 10 27.9 +1.8**
comp=E,1.7nm,0.3s,baz=186,slow=7.8,SNR=5.2
VAE Sn **Sn** **18 12 19.8 +0.3**
comp=E,2.3nm,0.3s,baz=153,slow=16,SNR=1.4
VAE Valguarnera 10.16 288 **Pn** **18 10 27.9 +1.8**
VAE **Sn** **18 12 19.8 +0.3**
CFR Carcaliu 10.30 6 ⇑P **Pn** **18 10 28.9 +1.1**
CFR Carcaliu 10.30 6 P **Pn** **18 10 30.2 +2.3**
CFR pmax pmax
comp=Z,14nm,1.1s
HERR Herculane 10.44 343 ⇓P **Pn** **18 10 30.3 +0.6**
MLR Muntele Rosu 10.56 358 Pn **Pn** **18 10 32.1 +0.6**
comp=Z,0.4nm,0.3s,baz=168,slow=14,SNR=2.6
MLR LR LR 18 14 49.0
comp=Z,143nm,19.4s,baz=187,slow=39
MLR Muntele Rosu 10.56 358 ⇑P **Pn** **18 10 32.8 +1.2**
MLR Muntele Rosu 10.56 358 P **Pn** **18 10 32.1 +0.6**
MLR Muntele Rosu 10.56 358 **Pn** **18 10 30.4 -1.1**
VOIR 10.56 354 ⇑P **Pn** **18 10 32.0 +0.5**
VOIR 10.56 354 P **Pn** **18 10 34.7 +3.2**
VOIR pmax pmax
comp=Z,13nm,1.4s
LOT Lotru 10.72 349 ⇓P **Pn** **18 10 35.2 +1.4**
GZR Gura Zlata 10.85 346 ⇓P **Pn** **18 10 35.4 0.0**
SGRT San Giovanni R 10.90 312 Pn **Pn** **18 10 35.3 -0.9**
PLOR Plostina 10.91 0 ⇑P **Pn** **18 10 37.0 +0.7**
PLOR Plostina 10.91 0 P **Pn** **18 10 36.9 +0.7**
VRI Vrincioaia 10.92 1 ⇑P **Pn** **18 10 38.3 +1.8**
VRI Vrincioaia 10.92 1 P **Pn** **18 10 38.2 +1.8**
DOPR Dopca 11.06 356 ⇓P **Pn** **18 10 40.0 +1.7**
BZS Buzias 11.32 342 ⇑P **Pn** **18 10 42.1 +0.3**
BZS Buzias 11.32 342 P **Pn** **18 10 45.2 +3.3**
BZS pmax pmax
comp=Z,12nm,0.7s
SIM Simferopol' 11.55 28 *e*P **Pn** **18 10 48.7 +3.8**
SIM pmax pmax
comp=Z,15nm,1.5s
BIZ Bicaz 12.00 358 ⇑P **Pn** **18 10 52.5 +1.4**
MILM Milestii Mici 12.09 7 ⇑P **Pn** **18 10 54.2 +1.8**
INTR Introdacqua 12.19 309 **Pn** **18 10 55.2 +1.4**
BURAR Bucovina Array 12.71 356 ⇑P **Pn** **18 11 01.4 +0.4**
BURAR Bucovina Array 12.71 356 P **Pn** **18 11 01.3 +0.4**
NRCA Norcia 13.12 311 **Pn** **18 11 05.9 -0.6**
SORM Soroca 13.26 5 ⇑P **Pn** **18 11 09.5 +1.2**
SORM Soroca 13.26 5 P **Pn** **18 11 09.4 +1.2**
SOC Sochi 13.34 46 *e*P **Pn** **18 11 08.3 -1.0**
SOC *e* 18 13 37.2
SOC MLR MLR
comp=Z,184nm,12.0s
UZH Uzhgorod 14.05 348 *e*P **Pn** **18 11 20.3 +1.2**
UZH *e*S **Sn** **18 13 56.3 +1.8**
UZH MLR MLR
comp=Z,20nm,11.0s
KEST Kesra 14.10 278 Pn **Pn** **18 11 22.5 +2.6**
baz=90,slow=19,SNR=3.8
KEST LR LR 18 17 40.0
comp=Z,183nm,20.7s,baz=49,slow=41
KOLS Kolonicke sedl 14.35 348 *e*P **P** **18 11 30.5 +0.3**
KOLS Kolonicke sedl 14.35 348 *e*PN **P** **18 11 30.5 +0.3**
SOKA Soboth 14.62 327 *e*Pn **Pn** **18 11 27.2 +0.3**
comp=Z,2.7nm,0.9s
OBKA Obir 14.71 325 *i* Pn **Pn** **18 11 29.4 +1.2**
comp=Z,1.4nm,0.5s
VYHS Vyhne 14.72 339 *e*P **Pn** **18 11 31.2 +2.9**
VYHS Vyhne 14.72 339 *e*PN **Pn** **18 11 31.2 +2.9**
AKH Akhalkalaki 14.78 59 P **Pn** **18 11 29.6 +0.3**
AKH Akhalkalaki 14.78 59 Pn **Pn** **18 11 29.6 +0.3**
ARSA Arzberg 14.85 329 *e*Pn **Pn** **18 11 31.5 +1.5**
comp=Z,3.0nm,0.6s
KWP Kalwaria Pacla 14.96 350 P **P** 18 11 43.0 +6.0
MODS Modra-Piesok 15.11 336 *e*P **P** **18 11 40.4 +1.8**
MODS Modra-Piesok 15.11 336 *e*P **P** **18 11 40.3 +1.7**
SHA1 Shidzhatmaz 15.21 50 ⇑*i*P **P** **18 11 40.9 +0.9**
KIV Kislovodsk 15.34 49 P **P** **18 11 41.4 +0.1**
KIV Kislovodsk 15.34 49 *e*P **P** **18 11 39.5 -1.8**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV MLR MLR
comp=Z,213nm,13.0s
KIV Kislovodsk 15.34 49 **P** **18 11 39.1 -2.2**
KIV IAmb IAmb 18 12 05.5
comp=Z,26nm,0.9s
KVAR Kislovodsk Arr 15.34 49 Pn **P** **18 11 39.6 -1.7**
baz=240,slow=20,SNR=2.7
KVAR Kislovodsk Arr 15.34 49 **P** **18 11 39.6 -1.7**
KBZ Khabaz 15.36 50 Pn **P** **18 11 39.4 -1.9**
comp=Z,0.2nm,0.3s,baz=257,slow=8.5,SNR=14
KBZ LR LR 18 19 17.1
comp=Z,116nm,19.1s,baz=236,slow=44
KBZ Khabaz 15.36 50 *ce*P **P** **18 11 42.4 +1.1**
KBZ Khabaz 15.36 50 **P** **18 11 39.4 -1.9**
JAVC Velka Javorina 15.40 337 *e*PN **Pn** **18 11 38.5 +1.1**
STAL STALIGIAL 15.44 321 P **P** **18 11 43.0 +0.7**
ZOU Zoufplan 15.51 323 **Pn** **18 11 39.9 +1.0**
ZEI Tsey 15.59 55 *e*P Pn 18 11 32.6 -7.4
ZEI pmax pmax
comp=Z,18nm,1.1s
CIMO Cimolais 15.61 321 Pn **Pn** **18 11 40.2 +0.1**
PGF Pioggiola 15.67 304 P **P** **18 11 44.2 -0.8**
PGF pmax pmax
comp=Z,24nm,1.4s
KBA Koelnbreinsper 15.69 325 *i* Pn **Pn** **18 11 42.4 +1.1**
comp=Z,2.1nm,0.3s
MOA Molln 15.85 328 *i* Pn **P** **18 11 45.4 -1.4**
comp=Z,2.4nm,0.7s
CTI Castel Tesino 15.86 319 P **Pn** **18 11 43.3 -0.1**
CTI pmax pmax
comp=Z,7.0nm,0.8s
CTI Castel Tesino 15.86 319 Pn **Pn** **18 11 43.3 -0.1**
ABTA Abfaltersbach 15.87 322 Pn **Pn** **18 11 42.5 -0.9**
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 15.88 6 Pn **Pn** **18 11 42.9 -0.6**
comp=Z,2.3nm,0.3s,baz=193,slow=11,SNR=5.9
AKASG Malin Array Be 15.88 6 P **Pn** **18 11 44.0 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 15.88 6 Pn **Pn** **18 11 44.0 +0.6**
AKBB Malin Array Si 15.88 6 P **Pn** **18 11 44.1 +0.6**
AKBB pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 15.88 6 **Pn** **18 11 44.1 +0.6**
AKBB IAmb IAmb 18 12 02.4
comp=Z,14nm,0.7s
KRUC Moravsky 16.00 335 *e*PN **Pn** **18 11 46.7 +1.6**
OJC Ojcow 16.06 344 P **Pn** **18 11 45.3 -0.6**
OJC pmax pmax
comp=Z,9.0nm,0.6s
OJC Ojcow 16.06 344 **Pn** **18 11 45.3 -0.6**
MSSA Maissana 16.12 311 Pn **Pn** **18 11 46.9 +0.2**
OKC Ostrava-Krasne 16.13 340 *e*P **P** **18 11 52.5 +2.6**
OKC Ostrava-Krasne 16.13 340 *e*P **P** **18 11 52.5 +2.6**
GOF Gofitskoye 16.14 46 ⇓*e*P **P** **18 11 50.6 +0.6**
GOF pmax pmax
comp=Z,22nm,0.8s
VRAC Vranov 16.14 336 Pn **Pn** **18 11 48.0 +1.1**
comp=Z,0.6nm,0.3s,baz=136,slow=11,SNR=3.0
VRAC LR LR 18 18 10.1
comp=Z,105nm,18.3s,baz=165,slow=38
VRAC Vranov 16.14 336 *e*PN **Pn** **18 11 48.1 +1.1**
VRAC Vranov 16.14 336 P **Pn** **18 11 48.0 +1.1**
VRAC Vranov 16.14 336 **Pn** **18 11 48.0 +1.1**
MORC Moravsky Berou 16.25 339 *e*PN **Pn** **18 11 49.6 +1.3**
TREC Trest 16.52 334 P **P** **18 11 55.0 +0.8**
TREC pmax pmax
comp=Z,7.0nm,0.9s
WTTA Wattenberg 16.66 322 *e*Pn **P** **18 11 55.9 0.0**
comp=Z,18nm,1.5s
WATA Walderalm 16.74 322 *e*Pn **Pn** **18 11 55.5 +0.9**
comp=Z,7.7nm,0.6s
KRLC Kraliky 16.75 338 *e*P **P** **18 11 56.1 -0.7**
KRLC Kraliky 16.75 338 *e*P **P** **18 11 56.1 -0.7**
SQTA Sankt Quirin 16.85 321 Pn **P** **18 11 57.5 -0.5**
comp=Z,7.1nm,0.7s
GEC2 GERESS Array S 16.86 329 **P** **18 11 57.3 -0.7**
GERES GERESS Array B 16.86 329 Pn **Pn** **18 11 55.3 -0.8**
comp=Z,0.3nm,0.3s,baz=140,slow=10,SNR=15
GERES LR LR 18 18 36.6
comp=Z,74nm,18.4s,baz=141,slow=38
GERES GERESS Array B 16.86 329 P **Pn** **18 11 55.5 -0.6**
GERES GERESS Array B 16.86 329 **Pn** **18 11 55.5 -0.6**
FUORN Ofenpass-Fuorn 16.96 318 **Pn** **18 11 58.7 +1.1**
FETA Feichten 16.97 320 *e*Pn **P** **18 11 58.7 -0.6**
comp=Z,18nm,1.4s
MOTA Moosalm 16.98 322 *e*Pn **Pn** **18 11 58.1 +0.3**
comp=Z,5.9nm,0.8s
GROC Groznyy 17.03 55 *e*P **Pn** **18 11 59.0 +0.9**
GROC pmax pmax
comp=Z,9.0nm,0.6s
BTLR Botlikh 17.12 57 *i* P **P** **18 12 01.9 +0.9**
KHC Kasperske Hory 17.13 330 *e*P **P** **18 12 00.6 -0.4**
KHC *ex* x 18 12 04.0
KHC Kasperske Hory 17.13 330 *ce*P **Pn** **18 11 57.7 -1.7**
KHC pmax pmax
comp=Z,34nm,1.7s
KHC Kasperske Hory 17.13 330 Pn **Pn** **18 11 59.3 -0.1**
DPC Dobruska-Polom 17.13 337 *e*P **Pn** **18 12 00.2 +0.7**
DPC Dobruska-Polom 17.13 337 *e*P **Pn** **18 12 00.2 +0.7**
SAOF Saorge 17.22 307 P **P** **18 12 02.1 0.0**
SAOF pmax pmax
comp=Z,22nm,0.9s
SBF Sospel 17.25 307 *e*P **Pn** **18 12 01.2 +0.2**
SBF pmax pmax
comp=Z,18nm,0.6s
RETA Reutte 17.25 321 Pn **Pn** **18 12 01.6 +0.6**
comp=Z,4.1nm,0.7s
DAVOX Davos/Dischmat 17.27 318 P **Pn** **18 12 02.0 +0.6**
comp=Z,0.4nm,0.3s,baz=166,slow=19,SNR=3.2
DAVOX LR LR 18 19 48.1
comp=Z,137nm,20.8s,baz=98,slow=41
DAVOX Davos/Dischmat 17.27 318 P **Pn** **18 12 02.0 +0.6**
DAVOX Davos/Dischmat 17.27 318 P **Pn** **18 12 02.0 +0.6**
GOPC GO Pecny, Ondr 17.29 334 *e*P **Pn** **18 12 01.0 -0.4**
GOPC GO Pecny, Ondr 17.29 334 *e*P **Pn** **18 12 01.0 -0.4**
TUE Stuetta 17.39 317 Pn **Pn** **18 12 02.6 -0.2**
PBCC Pribram 17.40 332 *e*P **P** **18 12 06.1 +2.1**
PRU Pruhonice 17.44 333 *e*P **Pn** **18 12 02.4 -0.8**
PRU Pruhonice 17.44 333 *e*P **Pn** **18 12 02.4 -0.8**
KSP Ksiaz 17.57 338 P **Pn** **18 12 04.6 -0.3**
KSP pmax pmax
comp=Z,7.0nm,0.9s
DAVA Damuels 17.58 320 *e*Pn **P** **18 12 06.2 +0.1**
comp=Z,8.7nm,0.8s
FRF La Foret Royal 17.65 305 *e*P **P** **18 12 07.2 +0.4**
FRF pmax pmax
comp=Z,13nm,1.1s
LMR La Mourre 17.66 304 *e*P **P** **18 12 07.0 +0.1**
LMR pmax pmax
comp=Z,10.0nm,1.1s
AKT Akhty 17.84 62 *e*P **Pn** **18 12 07.6 -0.7**
AKT pmax pmax
comp=Z,6.0nm,0.6s
PVCC Panska Ves 17.88 334 P **P** **18 12 09.1 -0.1**
PVCC pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 18.05 309 *e*P **Pn** **18 12 09.5 -1.5**
MBDF pmax pmax
comp=Z,9.0nm,0.7s
BNI Bardonecchia 18.25 310 P **Pn** **18 12 13.6 +0.1**
BNI pmax pmax
comp=Z,72nm,2.0s
BNI Bardonecchia 18.25 310 Pn **Pn** **18 12 13.6 +0.1**
BNI IAmb IAmb 18 12 27.8
comp=Z,72nm,2.0s
BRG Berggiesshubel 18.39 334 *e*P **P** **18 12 13.8 -1.0**
comp=Z,7.6nm,1.1s
BRG Berggiesshubel 18.39 334 *e*P **P** **18 12 13.8 -1.0**
BRG pmax pmax
comp=Z,8.0nm,1.1s
LPG La Plagne 18.41 311 *e*P **P** **18 12 14.5 -1.0**
LPG pmax pmax
comp=Z,10.0nm,0.6s
LPL La Plagne 18.43 311 *e*P **P** **18 12 14.5 -1.1**
LPL pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 18.48 26 *e*P **Pn** **18 12 17.9 +1.9**
VORD pmax pmax
comp=Z,10.0nm,0.7s
SENIN Lac Senin/Sane 18.51 314 **P** **18 12 14.8 -1.6**
VSR Storozhevoye 18.65 25 *e*P **Pn** **18 12 19.5 +1.5**
VSR pmax pmax
comp=Z,20nm,1.5s
ORIF Oris-en-Rattie 18.70 308 *e*P **P** **18 12 18.4 -0.1**
ORIF pmax pmax
comp=Z,18nm,1.3s
CLL Collm 19.08 333 *e*P **P** **18 12 22.0 -0.4**
CLL comp=Z,9.0nm,0.7s L L 18 19 00.0
comp=Z,100nm,19.9s
CLL Collm 19.08 333 *e*P **P** **18 12 22.0 -0.4**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 19.08 333 P **P** **18 12 21.8 -0.7**
SUW Suwalki 19.23 354 P **P** **18 12 23.4 -0.6**
SUW pmax pmax
comp=Z,64nm,0.8s
SUW Suwalki 19.23 354 **P** **18 12 23.4 -0.6**
VRH Novokhopyorsk 19.60 29 *e*P **P** **18 12 26.8 -1.3**
VRH pmax pmax
comp=Z,20nm,0.6s
SSB Saint Sauveur 19.72 308 P **P** **18 12 28.3 -1.2**
SSB pmax pmax
comp=Z,16nm,1.1s
SSB Saint Sauveur 19.72 308 P **P** **18 12 28.2 -1.2**
LPSR Galich'ya Gora 19.73 23 *e*P **Pn** **18 12 30.6 -0.5**
LPSR *e*SS **Sn** **18 16 17.4 +5.3**
LPSR pmax pmax
comp=Z,30nm,1.7s
TNS Taunus Mts 20.21 325 P Pn 18 12 38.6 +1.8
TNS pmax pmax
comp=Z,21nm,1.2s
IDID Didziasalis 20.38 0 *e*P Pn 18 12 38.1 -0.6
IIGN Ignalina 20.42 359 *e*P Pn 18 12 38.7 -0.5
ISAL Salakas 20.64 359 *e*P **P** **18 12 38.9 -0.4**
PABE Paberze 20.65 356 *e*P **P** **18 12 40.2 +0.8**
SMF Signal de Mont 20.74 311 *e*P **P** **18 12 38.0 -2.6**
SMF pmax pmax
comp=Z,15nm,0.5s
IZAR Zarasai 20.82 359 *e*P **P** **18 12 40.0 -1.3**
LOR Lormes 21.01 313 *e*P **P** **18 12 41.3 -2.2**
LOR pmax pmax
comp=Z,18nm,0.8s
AVF Avril sur Loir 21.11 311 *e*P **P** **18 12 42.6 -1.9**
AVF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 21.13 312 *e*P **P** **18 12 42.9 -1.9**
SSF pmax pmax
comp=Z,52nm,0.8s
CAF Calviac 21.22 305 *e*P **P** **18 12 44.8 -1.0**
CAF pmax pmax
comp=Z,53nm,1.8s
OBN Obninsk 21.34 16 ⇓*e*P **P** **18 12 49.2 +2.3**
OBN *e* 18 12 59.6
OBN 18 13 11.0
OBN *e*S Sn 18 16 49.2 -1.4
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,56nm,16.0s
BTNL Ternell 21.58 323 P **P** **18 12 54.4 +4.8**
MEM Membach 21.65 323 P **P** **18 12 49.0 -1.3**
MEM Membach 21.65 323 P **P** **18 12 49.5 -0.8**
MEM pmax pmax
comp=Z,27nm,0.7s
RJF Les Rejaudoux 21.71 306 *e*P **P** **18 12 49.5 -1.5**
RJF pmax pmax
comp=Z,16nm,1.0s
BCLA Clavier 21.89 321 PnPn **PnPn** **18 13 14.2 -0.3**
BEBN Eben Emael 21.93 323 PnPn **PnPn** **18 13 14.2 -0.8**
DOU Dourbes 22.07 320 P **P** **18 12 58.1 +3.3**
DOU PnPn **PnPn** **18 13 17.2 +0.3**
BMRD Maredsous 22.10 321 PnPn **PnPn** **18 13 18.4 +1.1**
MOS Moscow 22.15 17 *e*P **P** **18 13 01.0 +5.4**
MOS *e* 18 13 27.2
BAIF Baives 22.25 320 *e*P **P** **18 12 54.4 -2.4**
BAIF pmax pmax
comp=Z,21nm,0.8s
CLF Chambon-Foret 22.32 313 P **P** **18 12 57.4 -0.2**
CLF IAmb IAmb 18 13 09.2
comp=Z,46nm,1.1s
BELG Belogornoye 23.02 34 *i* P **P** **18 13 06.3 +1.5**
SJPF Ste Jean 23.02 299 *e*P **P** **18 13 05.2 +0.2**
SJPF pmax pmax
comp=Z,18nm,0.9s
MFF Saint Martin d 23.25 308 *e*P **P** **18 13 06.4 -0.8**
MFF pmax pmax
comp=Z,119nm,1.8s
VSU Vasula 23.54 0 *e*P **P** **18 13 09.6 -0.4**
LDF La Druitiere 24.00 313 *e*P **P** **18 13 12.0 -2.5**
LDF pmax pmax
comp=Z,35nm,1.2s
FLN La Foliniere 24.29 313 *e*P **P** **18 13 14.0 -3.2**
FLN pmax pmax
comp=Z,7.0nm,0.4s
GRR Gorron 24.36 312 *e*P **P** **18 13 15.3 -2.6**
GRR pmax pmax
comp=Z,67nm,1.4s
ESBB Sonseca Array 24.69 290 P **P** **18 13 20.4 -0.6**
ESBB IAmb IAmb 18 13 40.6
comp=Z,13nm,1.2s
ESDC Sonseca Array 24.69 290 P **P** **18 13 20.3 -0.7**
comp=Z,3.7nm,0.7s,baz=82,slow=9.5,SNR=25
ESDC LR LR 18 23 31.8
comp=Z,75nm,19.4s,baz=100,slow=38
ESDC Sonseca Array 24.69 290 P **P** **18 13 20.1 -0.9**
GUD Guadarrama 24.88 292 P **P** **18 13 23.3 +0.5**
GUD pmax pmax
comp=Z,21nm,1.4s
GEYT Alibeck 25.48 74 P **P** **18 13 29.1 +0.8**
comp=Z,9.7nm,0.3s,baz=280,slow=8.5,SNR=98
GEYT Alibeck 25.48 74 P **P** **18 13 29.0 +0.8**
GYA0B ALIBECK ARRAY 25.48 74 P **P** **18 13 29.0 +0.8**
GYA0B IAmb IAmb 18 13 36.9
comp=Z,19nm,0.9s
QUIF Quistinic 25.63 309 *e*P **P** **18 13 28.9 -0.4**
QUIF pmax pmax
comp=Z,209nm,2.0s
ROSF Rostrenen 25.84 310 *e*P **P** **18 13 29.0 -2.2**
ROSF pmax pmax
comp=Z,238nm,2.0s
MDT Midelt 25.93 274 P **P** **18 13 31.9 -0.4**
comp=Z,4.9nm,0.8s,baz=100,slow=9.1,SNR=9.0
MDT LR LR 18 26 30.8
comp=Z,178nm,19.6s,baz=132,slow=43
MDT Midelt 25.93 274 P **P** **18 13 31.9 -0.4**
FINES FINESS Array B 26.53 359 P **P** **18 13 34.5 -2.8**
comp=Z,1.1nm,0.3s,baz=156,slow=12,SNR=7.6
FINES PcP **PcP** **18 17 01.8 +0.4**
comp=Z,2.3nm,0.9s,baz=232,slow=3.4,SNR=1.6
FINES ScP **ScP** **18 20 39.6 -0.7**
comp=Z,2.3nm,0.8s,baz=116,slow=4.4,SNR=8.1
FINES LR LR 18 25 29.3
comp=Z,49nm,18.7s,baz=184,slow=40
FINES FINESS Array B 26.53 359 *i* P **P** **18 13 38.0 +0.7**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 26.53 359 P **P** **18 13 34.8 -2.6**
FIA1 FINESS Array S 26.53 359 P **P** **18 13 35.5 -1.8**
HFS Hagfors 26.57 346 P **P** **18 13 35.0 -2.8**
comp=Z,3.7nm,0.9s,baz=128,slow=12,SNR=7.7
HFS Hagfors 26.57 346 P **P** **18 13 35.0 -2.8**
HFS Hagfors 26.57 346 P **P** **18 13 35.0 -2.8**
SHME Shamm 26.89 101 P **P** **18 13 41.5 +0.5**
PBRG Braganca 26.90 295 *e*P **P** **18 13 40.1 -0.9**
comp=Z,39nm,2.4s
PBRG *e*pP **sP** **18 13 48.5 +0.1**
NAZ Nazwa, Dubai 26.99 104 P **P** **18 13 42.9 +1.1**
BANOM Banah 27.07 101 P **P** **18 13 43.7 +1.1**
MVO Moncorvo 27.08 293 *e*P **P** **18 13 42.0 -0.6**
comp=Z,38nm,1.9s
MVO *e*pP **pP** **18 13 47.9 0.0**
KLMR Klimovskoe 27.25 14 P **P** **18 13 40.3 -3.5**
KLMR pmax pmax
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 27.25 14 P **P** **18 13 40.3 -3.5**
KLMR AMP 18 13 48.1
comp=Z,6.0nm,1.1s
PMRV Marv??o 27.34 290 *e*P **P** **18 13 45.8 +0.9**
comp=Z,24nm,1.4s
PMRV *e*pP **pP** **18 13 50.6 +0.3**
UOSS Minazif 27.44 103 P **P** **18 13 47.1 +1.1**
ASHO Ashiyiah 27.45 104 P **P** **18 13 46.0 0.0**
AKTO Aktyubinsk 27.56 46 P **P** **18 13 46.5 -0.2**
comp=Z,3.8nm,0.4s,baz=247,slow=8.9,SNR=27
AKTO Aktyubinsk 27.56 46 P **P** **18 13 46.5 -0.2**
AKTO Aktyubinsk 27.56 46 P **P** **18 13 46.5 -0.2**
NC602 NORSAR Array S 27.58 344 P **P** **18 13 47.4 +0.6**
PVAQ Vaqueiros 27.71 285 *e*P **P** **18 13 47.6 -0.7**
comp=Z,28nm,2.0s
PVAQ Vaqueiros 27.71 285 P **P** **18 13 47.8 -0.5**
PVAQ IAmb IAmb 18 14 32.2
comp=Z,22nm,1.2s
PBEJ Beja 27.78 287 *e*P **P** **18 13 51.6 +2.7**
comp=Z,19nm,2.6s
PBEJ *e*pP **pwP** **18 14 01.6 +5.1**
PBDV Barranco-do-Ve 27.90 285 *e*P **P** **18 13 49.7 -0.3**
comp=Z,24nm,1.4s
NB2 NORSAR Subarra 27.93 344 P **P** **18 13 46.8 -3.2**
comp=Z,1.0nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 27.93 344 P **P** **18 13 47.8 -2.2**
comp=Z,1.5nm,1.0s,baz=146,slow=7.5,SNR=1.8
NOA LR LR 18 26 39.3
comp=Z,66nm,18.7s,baz=140,slow=40
NOA NORSAR Array B 27.93 344 P **P** **18 13 47.8 -2.2**
KIRV Kirov 28.09 26 LR LR 18 25 25.2
comp=Z,60nm,18.8s,baz=259,slow=37
KIRV Kirov 28.09 26 *i* P **P** **18 13 53.2 +1.9**
SOHO SOHO 28.09 104 *i* P **P** **18 13 52.7 +1.0**
SNR=9.7
PNCL Nicolau / Gran 28.30 287 *e*pP pP 18 14 06.9 +8.1
AB31 Akbulak array 28.32 49 *e*P **P** **18 13 53.3 -0.3**
ABKAR Akbulak array 28.32 49 P **P** **18 13 53.6 +0.1**
ABKAR IAmb IAmb 18 14 21.8
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 28.32 49 P **P** **18 13 53.8 +0.2**
EKA Eskdalemuir Ar 28.91 324 P **P** **18 13 56.5 -2.1**
comp=Z,1.5nm,0.4s,baz=127,slow=9.9,SNR=12
EKA Eskdalemuir Ar 28.91 324 P **P** **18 13 56.6 -2.1**
EKA Eskdalemuir Ar 28.91 324 P **P** **18 13 56.5 -2.1**
HRA Herat 29.24 81 P **P** **18 14 00.6 -1.6**
HRA IAmb IAmb 18 14 03.8
comp=Z,4.0nm,0.8s
ARU Arti 30.55 35 P **P** **18 14 11.1 -2.2**
comp=Z,0.7nm,0.3s,baz=233,slow=14,SNR=6.6
ARU Arti 30.55 35 P **P** **18 14 12.6 -0.6**
ARU 18 15 09.3
ARU S **S** **18 19 17.9 +4.1**
ARU SS **ScP** **18 20 58.5 +5.4**
ARU Arti 30.55 35 P **P** **18 14 11.7 -1.5**
ARU IAmb IAmb 18 15 13.5
comp=Z,23nm,1.8s
TOA0 Torodi Ar. Sit 31.26 232 P **P** **18 14 20.3 +0.4**
TORD Torodi Ar. Bea 31.26 232 P **P** **18 14 20.9 +1.1**
comp=Z,17nm,0.6s,baz=33,slow=9.0,SNR=120
TORD PcP **PcP** **18 17 13.4 -0.8**
comp=Z,0.4nm,0.7s,baz=11,slow=2.7,SNR=1.7
TORD ScP **ScP** **18 20 56.2 +0.1**
comp=Z,0.5nm,0.9s,baz=46,slow=3.0,SNR=2.2
TORD Torodi Ar. Bea 31.26 232 P **P** **18 14 20.1 +0.3**
SVE Sverdlovsk 31.75 36 *e*P **P** **18 14 23.1 -0.6**
CHGR Chuyangaron 34.07 71 P **P** **18 14 44.9 +0.5**
KOWA Kowa 34.23 241 P **P** **18 14 45.7 -0.2**
comp=Z,5.6nm,0.8s,baz=41,slow=8.8,SNR=9.4
KOWA Kowa 34.23 241 P **P** **18 14 46.4 +0.5**
KOWA IAmb IAmb 18 14 55.2
comp=Z,9.2nm,1.1s
ARCES ARCESS Array B 34.66 359 P **P** **18 14 46.4 -2.7**
comp=Z,1.3nm,0.4s,baz=179,slow=8.9,SNR=22
ARCES PcP **PcP** **18 17 21.6 -1.1**
comp=Z,1.5nm,1.0s,baz=179,slow=4.1,SNR=1.0
ARCES ARCESS Array B 34.66 359 P **P** **18 14 46.4 -2.7**
ARCES ARCESS Array B 34.66 359 P **P** **18 14 46.4 -2.7**
ARCES **PcP** **18 17 21.6 -1.1**
KK31 Karatay Array 34.76 63 P **P** **18 14 50.9 +0.6**
KK31 pmax pmax
comp=Z,18nm,1.1s
KK31 Karatay Array 34.76 63 P **P** **18 14 50.9 +0.6**
KK31 IAmb IAmb 18 14 52.0
comp=Z,18nm,1.1s
KKAR Karatay Array 34.76 63 P **P** **18 14 50.9 +0.6**
KKAR Karatay Array 34.76 63 P **P** **18 14 50.9 +0.6**
KKAR Karatay Array 34.76 63 P **P** **18 14 51.0 +0.6**

KKAR					IAmb	IAmb	18 14 52.0	
	comp=Z,18nm,1.1s							
GAR	**Garm**	**34.93**	**70**	P		**P**	**18 14 52.8**	**+0.9**
BTK	**Batken**	**35.19**	**68**	P		**P**	**18 14 54.7**	**+0.6**
BTK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BTK	**Batken**	**35.19**	**68**	P		**P**	**18 14 54.7**	**+0.6**
BTK				IAmb		IAmb	18 14 59.7	
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**35.61**	**46**	*ce*P		**P**	**18 14 57.2**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.4s							
BRVK	**Borovoye**	**35.61**	**46**	P		**P**	**18 14 57.8**	**+0.4**
BRVK				IAmb		IAmb	18 15 06.1	
	comp=Z,7.5nm,1.1s							
USP	**Ospenovka**	**37.67**	**63**	P		**P**	**18 15 16.3**	**+1.2**
	SNR=7.0							
AAK	**Ala-Archa**	**37.71**	**64**	P		**P**	**18 15 17.2**	**+1.5**
	SNR=7.1							
AAK	**Ala-Archa**	**37.71**	**64**	*i* P		**P**	**18 15 17.0**	**+1.3**
	SNR=9.8							
AAK	**Ala-Archa**	**37.71**	**64**	*ce*P		**P**	**18 15 16.9**	**+1.3**
AAK				pmax		pmax		
	comp=Z,21nm,0.9s							
FRU1	**Bishkek**	**37.80**	**63**	P		**P**	**18 15 16.9**	**+0.6**
FRU1				pmax		pmax		
	comp=Z,12nm,0.8s							
FRU1	**Bishkek**	**37.80**	**63**	P		**P**	**18 15 16.9**	**+0.6**
FRU1				IAmb		IAmb	18 15 26.4	
	comp=Z,12nm,0.8s							
CHMS	**Chumysh**	**37.87**	**63**	P		**P**	**18 15 18.1**	**+1.3**
	SNR=5.9							
NIL	**Nilore**	**38.31**	**78**	P		**P**	**18 15 22.1**	**+1.5**
NIL				pmax		pmax		
	comp=Z,20nm,1.0s							
NIL	**Nilore**	**38.31**	**78**	P		**P**	**18 15 22.1**	**+1.5**
NIL				IAmb		IAmb	18 15 22.9	
	comp=Z,20nm,1.0s							
TKM2	**Tokmak 2**	**38.50**	**63**	P		**P**	**18 15 23.4**	**+1.0**
	SNR=7.2							
TKM2	**Tokmak 2**	**38.50**	**63**	P		**P**	**18 15 22.4**	**+0.1**
BOOM	**Boomskoye usch**	**38.79**	**64**	P		**P**	**18 15 25.7**	**+0.9**
BOOM				pmax		pmax		
	comp=Z,9.0nm,1.1s							
BOOM	**Boomskoye usch**	**38.79**	**64**	P		**P**	**18 15 25.7**	**+0.9**
ULHL	**Ulahol**	**39.03**	**64**	P		**P**	**18 15 28.4**	**+1.6**
	SNR=6.9							
DBIC	**Dimbokro**	**40.35**	**233**	P		**P**	**18 15 38.2**	**+0.5**
	comp=Z,9.2nm,0.6s,baz=23,slow=8.8,SNR=15							
DBIC	**Dimbokro**	**40.35**	**233**	P		**P**	**18 15 38.3**	**+0.5**
DBIC	**Dimbokro**	**40.35**	**233**	P		**P**	**18 15 37.5**	**-0.3**
DBIC				IAmb		IAmb	18 15 39.0	
	comp=Z,30nm,1.4s							
KURBB	**Kurchatov Arra**	**40.36**	**51**	P		**P**	**18 15 38.2**	**+0.7**
	comp=Z,11nm,0.4s,baz=277,slow=8.8,SNR=90							
KURBB	**Kurchatov Arra**	**40.36**	**51**	P		**P**	**18 15 37.2**	**-0.3**
KURK	**Kurchatov**	**40.42**	**51**	*ce*P		**P**	**18 15 38.2**	**+0.2**
KURK				pmax		pmax		
	comp=Z,22nm,1.3s							
KURK	**Kurchatov**	**40.42**	**51**	P		**P**	**18 15 38.3**	**+0.3**
KURK				IAmb		IAmb	18 15 39.3	
	comp=Z,17nm,0.9s							
TIC	**Toumodi**	**40.48**	**233**	*e*P		**P**	**18 15 39.0**	**+0.1**
KIC	**Kosan Boka**	**40.51**	**233**	*e*P		**P**	**18 15 39.3**	**+0.2**
	comp=Z,44nm,0.8s							
LIC	**Lamto**	**40.80**	**233**	*e*P		**P**	**18 15 41.3**	**-0.2**
	comp=Z,33nm,0.6s							
PDGK	**Podgornoye**	**41.29**	**62**	P		**P**	**18 15 45.2**	**-0.3**
MAKZ	**Makanchi**	**42.71**	**56**	P		**P**	**18 15 57.0**	**+0.1**
MAKZ	**Makanchi**	**42.71**	**56**	P		**P**	**18 15 57.5**	**+0.6**
MAKZ				IAmb		IAmb	18 15 58.4	
	comp=Z,41nm,1.9s							
MK31	**Makanchi Array**	**42.92**	**56**	*ce*P		**P**	**18 15 59.3**	**+0.7**
MK31	**Makanchi Array**	**42.92**	**56**	P		**P**	**18 15 59.2**	**+0.7**
MK31				IAmb		IAmb	18 16 00.1	
	comp=Z,9.8nm,0.6s							
MKAR	**Makanchi Array**	**42.92**	**56**	P		**P**	**18 15 59.4**	**+0.8**
	comp=Z,10nm,0.5s,baz=278,slow=7.0,SNR=134							
MKAR				PcP		**PcP**	**18 17 48.4**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=263,slow=4.1,SNR=1.5							
MKAR				ScP		**ScP**	**18 21 38.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=286,slow=6.2,SNR=4.1							
MKAR	**Makanchi Array**	**42.92**	**56**	P		**P**	**18 15 59.4**	**+0.8**
MKAR	**Makanchi Array**	**42.92**	**56**	P		**P**	**18 15 59.4**	**+0.8**
ZAA0	**Zalesovo Array**	**44.32**	**46**	P		**P**	**18 16 09.5**	**-0.2**
ZALV	**Zalesovo Beam**	**44.32**	**46**	P		**P**	**18 16 09.7**	**0.0**
	comp=Z,12nm,0.4s,baz=266,slow=8.7,SNR=65							
ZALV	**Zalesovo Beam**	**44.32**	**46**	*i* P		**P**	**18 16 09.5**	**-0.2**
ZALV				pmax		pmax		
	comp=Z,12nm,0.4s							
ZALV	**Zalesovo Beam**	**44.32**	**46**	P		**P**	**18 16 09.2**	**-0.5**
KBS	**Kingsbay**	**44.52**	**356**	*ce*P		**P**	**18 16 10.5**	**-0.5**
KBS				pmax		pmax		
	comp=Z,38nm,1.0s							
DGZ	**Jazzator, Alta**	**46.10**	**52**	*c i* P		**P**	**18 16 24.8**	**+0.7**
DGZ				pmax		pmax		
	comp=Z,11nm,0.9s							
HYB	**Hyderabad**	**49.24**	**97**	*i* P		**P**	**18 16 49.5**	**+0.8**
SUMG	**Summit**	**49.61**	**339**	P		**P**	**18 16 48.9**	**-2.3**
SUMG				pmax		pmax		
	comp=Z,54nm,1.9s							
SUMG	**Summit**	**49.61**	**339**	P		**P**	**18 16 48.9**	**-2.3**
LSA	**Lhasa**	**53.98**	**76**	P		**P**	**18 17 24.9**	**+0.3**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
LSA	**Lhasa**	**53.98**	**76**	P		**P**	**18 17 24.9**	**+0.3**
LSA				IAmb		IAmb	18 17 26.3	
	comp=Z,4.5nm,0.8s							
ZAK	**Zakamensk**	**56.02**	**49**	*e*P		**P**	**18 17 38.6**	**0.0**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.4s							
SHL	**Shillong**	**56.30**	**80**	P		**P**	**18 17 40.1**	**-0.9**
SHL				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SHL	**Shillong**	**56.30**	**80**	P		**P**	**18 17 40.1**	**-0.9**
SHL				IAmb		IAmb	18 17 42.5	
	comp=Z,8.2nm,0.9s							
GTA	**Gaotai**	**57.04**	**62**	*e*P		**P**	**18 17 46.6**	**+0.6**
GTA				pP		pP	18 17 51.1	-0.5
GTA				sP		sP	18 17 53.9	+0.4
GTA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SONM	**Songino Array**	**58.72**	**51**	P		**P**	**18 17 58.6**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=285,slow=7.9,SNR=22							
SONM				ScP		**ScP**	**18 22 45.0**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=268,slow=4.3,SNR=2.4							
SONM	**Songino Array**	**58.72**	**51**	P		**P**	**18 17 58.6**	**+0.8**
SONM	**Songino Array**	**58.72**	**51**	P		**P**	**18 17 58.1**	**+0.4**
ULN	**Ulaanbaatar**	**59.13**	**51**	*ce*P		**P**	**18 17 59.8**	**-0.8**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.3s							
ULN	**Ulaanbaatar**	**59.13**	**51**	P		**P**	**18 18 00.5**	**-0.1**
ULN				IAmb		IAmb	18 18 03.6	
	comp=Z,5.7nm,1.1s							
BOSA	**Boshof**	**63.22**	**181**	P		**P**	**18 18 29.5**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=11,slow=7.2,SNR=5.7							
BOSA	**Boshof**	**63.22**	**181**	P		**P**	**18 18 29.5**	**+1.3**
BOSA	**Boshof**	**63.22**	**181**	P		**P**	**18 18 29.7**	**+1.5**
SCHQ	**Schefferville**	**64.11**	**320**	P		**P**	**18 18 35.0**	**+1.1**
	comp=Z,3.5nm,0.4s,baz=81,slow=11,SNR=2.7							
SCHQ	**Schefferville**	**64.11**	**320**	P		**P**	**18 18 35.2**	**+1.3**
CM31	**Chiang Mai Arr**	**65.43**	**84**	P		**P**	**18 18 43.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**65.43**	**84**	P		**P**	**18 18 43.5**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=299,slow=8.4,SNR=37							
CMAR				LR		LR	18 53 55.7	
	comp=Z,86nm,18.2s,baz=236,slow=42							
CMAR	**Chiang Mai Arr**	**65.43**	**84**	*i* P		**P**	**18 18 43.5**	**+0.5**
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**65.43**	**84**	P		**P**	**18 18 43.2**	**+0.1**
XAN	**Xi'an**	**65.88**	**64**	P		**P**	**18 18 46.2**	**+0.4**
XAN				pP		pP	18 18 52.6	+1.2
XAN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
USA0B	**Ussuriysk Arra**	**76.17**	**46**	P		**P**	**18 19 48.1**	**+0.2**
USA0B				pmax		pmax		
	comp=Z,7.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**76.17**	**46**	P		**P**	**18 19 48.1**	**+0.2**
USA0B				IAmb		IAmb	18 19 56.8	
	comp=Z,6.7nm,0.8s							
USRK	**Ussuriysk Ar.**	**76.17**	**46**	P		**P**	**18 19 47.6**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=292,slow=5.2,SNR=9.7							
USRK	**Ussuriysk Ar.**	**76.17**	**46**	P		**P**	**18 19 47.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**76.17**	**46**	P		**P**	**18 19 47.6**	**-0.3**
KSAR	**Wonju Array Be**	**77.47**	**53**	P		**P**	**18 19 55.4**	**0.0**
KSRS	**Korea Array**	**77.49**	**53**	P		**P**	**18 19 55.6**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=304,slow=4.6,SNR=9.3							
KSRS				LR		LR	18 57 11.9	
	comp=Z,36nm,21.5s,baz=310,slow=38							
KSRS	**Korea Array**	**77.49**	**53**	P		**P**	**18 19 55.6**	**+0.1**
KSRS	**Korea Array**	**77.49**	**53**	P		**P**	**18 19 55.6**	**+0.1**
YKA	**Yellowknife Ar**	**78.02**	**343**	P		**P**	**18 19 58.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=30,slow=5.1,SNR=3.2							
YKA				LR		LR	18 55 30.9	
	comp=Z,66nm,19.1s,baz=0.0,slow=37							
YKA	**Yellowknife Ar**	**78.02**	**343**	P		**P**	**18 19 58.0**	**0.0**
YKA	**Yellowknife Ar**	**78.02**	**343**	P		**P**	**18 19 58.0**	**0.0**
ILAR	**Eielson Array**	**80.49**	**357**	P		**P**	**18 20 10.8**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=335,slow=4.7,SNR=7.8							
ILAR	**Eielson Array**	**80.49**	**357**	P		**P**	**18 20 11.1**	**-0.4**
ILAR	**Eielson Array**	**80.49**	**357**	P		**P**	**18 20 11.1**	**-0.4**
DAWY	**Dawson**	**80.71**	**354**	P		**P**	**18 20 13.2**	**+0.5**
DAWY				IAmb		IAmb	18 23 03.3	
	comp=Z,21nm,1.8s							
WRH	**Wood River Hil**	**80.84**	**358**	P		**P**	**18 20 12.2**	**-1.1**
WRH				IAmb		IAmb	18 20 14.1	
	comp=Z,14nm,1.4s							
ULM	**Lac du Bonnet**	**81.14**	**327**	P		**P**	**18 20 15.6**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=52,slow=9.8,SNR=1.7							
ULM	**Lac du Bonnet**	**81.14**	**327**	P		**P**	**18 20 15.6**	**+0.4**
ULM				pmax		pmax		
	comp=Z,17nm,1.3s							
ULM	**Lac du Bonnet**	**81.14**	**327**	P		**P**	**18 20 15.6**	**+0.4**
COCO	**West Island**	**81.26**	**111**	*i* P		**P**	**18 20 14.1**	**-2.2**
DHY	**Denali Highway**	**82.21**	**357**	P		**P**	**18 20 20.2**	**-0.6**
MJAR	**Matsushiro Arr**	**84.60**	**49**	P		**P**	**18 20 34.4**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=305,slow=4.0,SNR=3.8							
MJAR				LR		LR	19 02 59.7	
	comp=Z,26nm,18.2s,baz=75,slow=39							
MJAR	**Matsushiro Arr**	**84.60**	**49**	P		**P**	**18 20 34.4**	**+1.0**
MJAR				pmax		pmax		
	comp=Z,12nm,1.8s							
MJAR	**Matsushiro Arr**	**84.60**	**49**	P		**P**	**18 20 34.4**	**+1.0**
PDAR	**Pinedale Array**	**92.90**	**329**	P		**P**	**18 21 12.0**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=64,slow=4.2,SNR=2.4							
WRA	**Warramunga Arr**	**115.40**	**97**	PKP		**PKPdf**	**18 26 41.2**	**-0.8**
	comp=Z,0.6nm,1.1s,baz=314,slow=1.9,SNR=2.2							
WRA	**Warramunga Arr**	**115.40**	**97**	PKIKP		**PKPdf**	**18 26 41.2**	**-0.8**
ASAR	**Alice Springs**	**116.86**	**101**	PKP		**PKPdf**	**18 26 44.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=289,slow=0.9,SNR=2.3							
ASAR	**Alice Springs**	**116.86**	**101**	PKIKP		**PKPdf**	**18 26 44.3**	**-0.5**

TAP 06 18:56:35.5, 23.74N×121.59E, h33km±1km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.16**	**246**	*e*P		Pb	18 56 42.1	+0.5
EGFH				*e*S		Sb	18 56 46.0	0.0
	baz=245							
ESL	**Shilin**	**0.16**	**299**	P		Pb	18 56 41.8	+0.1
	baz=299							
ESL				*e*S		Sb	18 56 46.1	+0.1
	baz=299							
HWA	**Hwalien**	**0.24**	**3**	*e*P		Pb	18 56 43.4	+0.8
	baz=5.0							
HGSD	**Ruisui**	**0.29**	**212**	*e*P		Pn	18 56 43.8	+0.5
	baz=211							
HGSD				*e*S		Sb	18 56 49.8	+1.6
	baz=211							
EHY	**Hungye**	**0.34**	**227**	*e*P		Pb	18 56 43.7	+0.1
	baz=225							
TWD	**Chiawan**	**0.34**	**1**	*e*P		Pn	18 56 44.2	+0.1
	baz=2.0							
VWDT	**VWDT**	**0.41**	**273**	*e*P		Pn	18 56 45.6	+0.6
	baz=272							
VWDT				S		Sn	18 56 52.3	+0.8
	baz=272							
YULB	**Yu-li**	**0.43**	**218**	*e*P		Pb	18 56 45.0	0.0
	baz=218							
NACB	**Ninganchiao**	**0.44**	**1**	*e*P		Pn	18 56 46.1	+0.6
TWF1	**Yuli**	**0.47**	**215**	*e*P		Pb	18 56 45.6	+0.1
	baz=214							
CHGB	**Renai**	**0.50**	**310**	*e*P		Pn	18 56 47.0	+0.5
	baz=310							
CHGB				*e*S		Sn	18 56 54.7	+0.7
	baz=310							
WHF	**Hehuan Shan**	**0.50**	**324**	*i* S		Sn	18 56 54.7	+0.2
	baz=324							
FUSS	**Fushou**	**0.60**	**328**	*e*P		Pn	18 56 47.9	+0.1
	baz=328							
ENA	**Nanau**	**0.70**	**11**	*e*P		Pb	18 56 49.4	+0.1
	baz=12							
ELDTW	**Lidau**	**0.76**	**224**	P		Pn	18 56 50.0	+0.1
	baz=223							

TAP 06 18:56:49.4, 24.31N×121.43E, h6km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi**	**0.12**	**154**	*i* S		Sg	18 56 53.8	0.0
	baz=348							
ETLH	**Xiulin Townshi**	**0.12**	**154**	P		Pg	18 56 52.0	0.0
	baz=154							
ETLH				*e*S		Sg	18 56 53.8	0.0
	baz=154							
NNSB	**Datong**	**0.12**	**341**	*e*P		Pg	18 56 52.0	-0.1
	baz=341							
NNSB				*e*S		Sg	18 56 53.8	-0.1
	baz=341							
NNSH	**Datong**	**0.12**	**341**	*e*P		Pg	18 56 51.9	-0.1
	baz=341							
NNSH				*e*S		Sg	18 56 53.8	-0.1
	baz=341							
NNS	**Nan Shan**	**0.13**	**339**	*e*P		Pg	18 56 52.2	-0.1
	baz=341							
NNS				*e*S		Sg	18 56 54.3	0.0
	baz=341							
FUSS	**Fushou**	**0.18**	**248**	*e*P		Pg	18 56 53.0	0.0
	baz=248							
FUSS				*e*S		Sg	18 56 55.6	+0.1
	baz=248							
NACB	**Ninganchiao**	**0.21**	**132**	*e*P		Pg	18 56 53.5	0.0
	baz=132							
NACB	**Ninganchiao**	**0.21**	**132**	*e*S		Pg	18 56 53.1	-0.4
WHF	**Hehuan Shan**	**0.22**	**221**	*e*P		Pg	18 56 53.8	-0.2
	baz=219							
WHF				*e*S		Sg	18 56 57.0	-0.1
	baz=219							
TDCB	**Techi**	**0.25**	**256**	*i* S		Sg	18 56 57.8	0.0
	baz=322							
TDCB	**Techi**	**0.25**	**256**	*e*P		Pg	18 56 54.5	+0.1
	baz=255							
TDCB				*e*S		Sg	18 56 57.8	+0.1
	baz=255							
NDT	**Datong Townshi**	**0.30**	**16**	*e*P		Pg	18 56 55.1	-0.2
	baz=15							
ENA	**Nanau**	**0.31**	**68**	*e*P		Pg	18 56 55.5	0.0
	baz=69							
ENTT	**Nioudou**	**0.35**	**22**	*e*P		Pg	18 56 56.1	-0.2
	baz=22							
ENTT				*e*S		Sg	18 57 01.2	+0.3
	baz=22							
YHNB	**Yeheng**	**0.36**	**353**	*e*P		Pg	18 56 56.3	-0.1
	baz=352							
WHP	**Taichung City**	**0.44**	**265**	*e*P		Pg	18 56 57.9	0.0
	baz=265							
NWLT	**Wulai**	**0.47**	**9**	*e*P		Pg	18 56 58.3	-0.1
	baz=8.0							
NWLT				*e*S		Sg	18 57 04.6	0.0
	baz=8.0							

*ATH **06** 18:59:36.1, 39.59N×26.01E, h30km±2km, ML1.5/4, Error ellipse: s-maj=3.6km s-min=1.1km az=235.0*
*DDA **06** 18:59:37.0, 39.73N×26.14E, h22km, ML1.8*

ISK 06 18:59:35.9, 39.61N×26.07E, h17km, ML1.9/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.23**	**356**	PG		Pb	18 59 41.8	+0.1
BOZC	**Bozcaada**	**0.23**	**356**	*i* P		Pb	18 59 41.6	0.0
BOZC				*i* S		Sg	18 59 45.2	+0.2
BOZC				*i* S		Sg	18 59 45.2	+0.2
EZN	**Ezine**	**0.29**	**42**	PG		Pb	18 59 42.6	0.0
EZN				SG		Sb	18 59 47.4	+0.2
BAYC	**CANAKKALE_Bayr**	**0.39**	**70**	*i* P		Pg	18 59 44.0	0.0
BAYC				*i* S		Sg	18 59 49.4	0.0
BAYC				IAML			18 59 50.0	
	comp=N,85nm,0.3s							
BAYC				IAML			18 59 50.0	
	comp=E,120nm,0.2s							
PRK	**Paraskevi**	**0.39**	**157**	P		Pb	18 59 45.3	+1.0
PRK				S		Sb	18 59 51.1	+1.0
PRK				AML		AML	18 59 51.5	
	comp=E,121μm,0.2s							
PRK				AML		AML	18 59 52.1	
	comp=N,162μm,0.2s							
SIGR	**SIGRI**	**0.43**	**203**	P		Pb	18 59 45.1	+0.1
SIGR				S		Sg	18 59 50.7	+0.1
SIGR				AML		AML	18 59 52.3	
	comp=N,256μm,0.2s							
SIGR				AML		AML	18 59 52.8	
	comp=E,277μm,0.2s							
SIGR	**SIGRI**	**0.43**	**203**	PG		Pb	18 59 45.0	0.0
SIGR				SG		Sb	18 59 51.8	+0.6
AYVA	**Ayvalik**	**0.56**	**122**	*i* P		Pn	18 59 49.0	-0.1
AYVA				*i* S		Sn	18 59 58.4	+0.4
AYVA				IAML			18 59 59.0	
	comp=N,115nm,0.5s							
GOKA	**anakkale-Gk**	**0.59**	**348**	*i* P		Pg	18 59 47.3	-0.4
GOKA				*i* S		Sb	18 59 56.4	+0.4
GADA	**Gvkgeada**	**0.60**	**347**	PG		Pb	18 59 47.9	0.0
LIA	**Limnos Island**	**0.74**	**293**	P		Pg	18 59 50.9	+0.4
LIA				S		Sb	19 00 00.2	0.0
LIA				AML		AML	19 00 03.1	
	comp=E,56μm,0.2s							
LIA				AML		AML	19 00 03.3	
	comp=N,60μm,0.2s							
DKL	**Dikili**	**0.84**	**130**	PG		Pn	18 59 52.8	-0.1
GELI	**Tayfur-Gelibol**	**0.85**	**21**	PG		Pg	18 59 52.6	+0.2
LPK	**Lapseki**	**0.93**	**34**	PG		Pg	18 59 53.9	0.0
SMTH	**Samothraki Isl**	**0.96**	**334**	P		Pg	18 59 54.5	0.0
SMTH				S		Sn	19 00 07.9	+0.1
SMTH				AML		AML	19 00 09.4	
	comp=E,44μm,0.4s							
SMTH				AML		AML	19 00 10.4	
	comp=N,44μm,0.3s							
ZEDA	**zmir-Bergama**	**1.01**	**129**	*i* P		Pg	18 59 55.5	+0.1
ERIK	**Erikli-Kesan**	**1.11**	**17**	PN		Pb	18 59 56.9	+0.2
ENEZ	**Enez**	**1.13**	**3**	PN		Pb	18 59 57.2	+0.3
BALY	**Balya**	**1.20**	**83**	*i* P		Pb	18 59 58.2	0.0
CHOS	**Chios island**	**1.22**	**181**	P		Pb	18 59 58.6	+0.1
CHOS	**Chios island**	**1.22**	**181**	PN		Pn	18 59 58.2	0.0
KRBG	**Karabiga-Canak**	**1.22**	**50**	PN		Pb	18 59 58.5	0.0
ALN	**Alexandroupoli**	**1.29**	**359**	P		Pb	19 00 00.0	+0.4
ALN				S		Sg	19 00 17.6	0.0
ALN	**Alexandroupoli**	**1.29**	**359**	PN		Pb	18 59 59.4	-0.2
RKY	**Sarkoy-Tekirda**	**1.37**	**38**	PN		Pb	19 00 00.9	-0.2
BALB	**Balikesir**	**1.40**	**88**	PN		Pn	19 00 00.7	+0.2
MAR6	**Marsite Statio**	**1.43**	**39**	PN		Pn	19 00 01.3	+0.3
MAR4	**Marsite Statio**	**1.51**	**38**	PN		Pn	19 00 01.9	-0.3
MRMT	**Marmara Adasi**	**1.53**	**49**	PN		Pb	19 00 03.2	-0.7
EDC	**Edincik**	**1.56**	**61**	PN		Pn	19 00 03.4	+0.6
UKOP	**Uzunkopru-Edir**	**1.58**	**16**	PN		Pn	19 00 03.4	+0.4

BUC 06 19:01:03.4±0.3, 45.59N×22.87E, h16km±2km, ml1.1/2, 12C-1D, Error ellipse: s-maj=3.4km s-min=1.8km az=169.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZR	**Gura Zlata**	**0.20**	**199**	↑P		Pb	19 01 08.6	-0.1
GZR				↑S		Sg	19 01 11.7	+0.1
GZR	**Gura Zlata**	**0.20**	**199**	↑P		Pb	19 01 08.6	-0.1
GZR				↑S		Sg	19 01 11.7	+0.1
LOT	**Lotru**	**0.65**	**102**	↑P		Pb	19 01 16.3	-0.1
LOT				↓S		Sb	19 01 25.2	+0.1
LOT	**Lotru**	**0.65**	**102**	↑P		Pb	19 01 16.3	-0.1
HERR	**Herculane**	**0.78**	**205**	↑P		Pg	19 01 19.0	+0.5
HERR				↑S		Sg	19 01 29.1	+0.4
HERR	**Herculane**	**0.78**	**205**	↑P		Pg	19 01 19.0	+0.5
BZS	**Buzias**	**0.88**	**272**	↑P		Pb	19 01 20.1	-0.1
BZS				↑S		Sb	19 01 31.6	-0.1
BZS	**Buzias**	**0.88**	**272**	↑P		Pb	19 01 20.1	-0.1

*BGR **06** 19:03:28.6±0.0, 65.72N×19.41W, h33km, mb4.4*
*REY **06** 19:03:34.3, 64.67N×17.46W, h7km*
*MOS **06** 19:03:35.8±1.2, 64.64N×17.56W, h13km, mb4.5/47, Error ellipse: s-maj=10.7km s-min=5.7km az=115.0*
*IDC **06** 19:03:35.2±0.5, 64.61N×17.60W, h0km, mb4.1/27, mb1 4.2/31, mb1mx4.1/60, mbtmp4.1/31, ML2.8/3, MS3.4/12, Ms1 3.4/12, ms1mx3.2/39, Error ellipse: s-maj=14.1km s-min=8.5km az=10.0*
*NEIC **06** 19:03:36.9±1.2, 64.6N±0.1×17.5W±0.2, h8km±4km, mb4.6/89, Error ellipse: s-maj=15.6km s-min=9.3km az=198.0*

ISC 06 19:03:36.7±0.3, 64.66N±0.02×17.47W±0.02, h10km, n295, σ1961/305, mb4.5/123, 11C-3D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.14**	**18**	P		**Pg**	**19 03 37.2**	**-2.8**
	baz=18							
IDYN				S		**Sg**	**19 03 39.4**	**-2.9**
	baz=18							
IDJK	**Dyngjujokull**	**0.18**	**147**	P		**

IGRS Grimsstaoir 1.13 29 P Pb 19 03 53.8 -4.6
baz=30
IFED Fedgar 1.16 238 P **Pb** 19 03 54.6 **-4.1**
baz=237
IRJU Rjupnafell 1.17 207 P **Pb** 19 03 55.0 **-3.9**
baz=207
ISKI Skildingahlsh 1.23 8 P Pn 19 03 55.2 -4.7
baz=8.4
IGHA Grjothals 1.24 16 P Pn 19 03 55.1 -4.9
baz=16
BORG Borgarnes 1.66 275 Pg **Pn** **19 04 02.6 -3.2**
16nm,0.3s,baz=102,slow=10,SNR=48
BORG Lg Lg 19 04 26.7
21nm,0.3s,baz=272,slow=22,SNR=7.4
BORG Borgarnes 1.66 275 **Pn** **19 04 02.1 -3.7**
JMIC Jan Mayen 7.19 24 LR LR 19 07 43.5
comp=Z,174nm,18.4s,baz=72,slow=34
EKA Eskdalemuir Ar 11.74 136 Pn **Pn** **19 06 23.6 -0.5**
baz=322,slow=13,SNR=13
ESK Eskdalemuir 11.74 136 P **Pn** **19 06 23.7 -0.4**
ESK Eskdalemuir 11.74 136 Pn **Pn** **19 06 23.7 -0.4**
DAG Danmarks Havn 12.18 359 P **Pn** **19 06 31.9 +2.0**
DAG pmax pmax
comp=Z,8.0nm,1.5s
NRS Narsarsuaq 13.15 267 P **Pn** **19 06 44.1 +0.9**
NRS Narsarsuaq 13.15 267 Pn **Pn** **19 06 44.1 +0.9**
NOA NORSAR Array B 13.52 92 Pn **Pn** **19 06 45.9 -2.4**
comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=3.3
NOA LR LR 19 11 24.0
comp=Z,110nm,21.6s,baz=300,slow=34
SFJD Kangerlussuaq 13.68 295 LR LR 19 11 40.3
comp=Z,296nm,19.9s,baz=88,slow=36
HFS Hagfors 15.03 93 LR LR 19 12 33.0
comp=Z,146nm,19.1s,baz=321,slow=36
SPITS Spitsbergen Ar 16.87 23 LR LR 19 12 17.2
comp=Z,87nm,21.6s,baz=255,slow=31
NOR Nord 17.04 0 P **P** **19 07 38.6 +2.3**
ARCES ARCESS Array B 17.11 55 P **Pn** **19 07 36.1 +0.5**
baz=277,slow=9.7,SNR=5.4
ARCES LR LR 19 13 09.8
comp=Z,123nm,20.5s,baz=265,slow=33
BUG Bochum--Univer 18.44 124 P **Pn** **19 07 54.4 +2.3**
BUG pmax pmax
comp=Z,26nm,1.4s
BAIF Baives 18.57 132 *e*P **P** **19 07 53.0 -0.5**
BAIF pmax pmax
comp=Z,68nm,1.8s
GRR Gorron 18.60 143 *e*P **Pn** **19 07 54.6 +0.6**
GRR pmax pmax
comp=Z,51nm,1.2s
FINES FINESS Array B 19.69 79 P **P** **19 08 06.0 +0.4**
comp=Z,0.1nm,0.3s,baz=266,slow=15,SNR=2.7
FINES LR LR 19 15 29.8
comp=Z,108nm,21.0s,baz=260,slow=36
FINES FINESS Array B 19.69 79 P **P** **19 08 06.0 +0.4**
FINES FINESS Array B 19.69 79 P **P** **19 08 06.0 +0.4**
MOX Moxa 20.69 119 P **P** **19 08 17.6 +1.0**
MOX pmax pmax
comp=Z,16nm,1.3s
CLL Collm 20.69 116 *e*P **P** **19 08 18.0 +1.5**
comp=Z,16nm,1.3s
CLL L L 19 16 00.0
comp=Z,100nm,20.8s
CLL Collm 20.69 116 *e*P **P** **19 08 18.0 +1.5**
CLL pmax pmax
comp=Z,16nm,1.3s
CLL Collm 20.69 116 P **P** **19 08 16.7 +0.2**
LOR Lormes 20.93 136 P **P** **19 08 19.9 +0.6**
LOR pmax pmax
comp=Z,20nm,1.2s
CDF Champ du Feu 21.01 129 *e*P **P** **19 08 20.6 +0.5**
CDF pmax pmax
comp=Z,29nm,1.6s
SSF Saint Saulge 21.02 137 *e*P **P** **19 08 19.6 -0.5**
SSF pmax pmax
comp=Z,25nm,1.1s
HAU Haudompre 21.05 131 *e*P **P** **19 08 20.9 +0.3**
HAU pmax pmax
comp=Z,25nm,1.1s
ECH Echery 21.14 129 P **P** **19 08 22.2 +0.8**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 21.14 129 P **P** **19 08 22.2 +0.8**
AVF Avril sur Loir 21.22 138 *e*P **P** **19 08 21.6 -0.7**
AVF pmax pmax
comp=Z,64nm,1.9s
BGF Bois d'Agland 21.28 139 *e*P **P** **19 08 22.3 -0.7**
BGF pmax pmax
comp=Z,14nm,0.8s
GRF Grafenberg Arr 21.32 121 P **P** **19 08 27.3 +3.9**
GRF pmax pmax
comp=Z,34nm,1.4s
GRF Grafenberg Arr 21.32 121 *e*P **P** **19 08 25.6 +2.2**
comp=Z,14nm,1.2s,baz=326,slow=10
NKC Novy Kostel 21.33 118 *e*P **P** **19 08 26.3 +2.7**
NKC Novy Kostel 21.33 118 *e*P **P** **19 08 26.3 +2.7**
STU Stuttgart 21.36 125 P **P** **19 08 25.0 +1.2**
STU pmax pmax
comp=Z,30nm,1.0s
STU Stuttgart 21.36 125 P **P** **19 08 25.0 +1.2**
STU IAmb IAmb 19 08 32.6
comp=Z,30nm,1.0s
BRG Berggiesshubel 21.40 115 *e*P **P** **19 08 24.5 +0.3**
comp=Z,12nm,1.1s
BRG Berggiesshubel 21.40 115 *e*P **P** **19 08 24.5 +0.3**
BRG pmax pmax
comp=Z,12nm,1.2s
BFO Black Forest 21.43 127 P **P** **19 08 25.8 +1.1**
BFO pmax pmax
comp=Z,19nm,1.2s
BFO Black Forest 21.43 127 P **P** **19 08 25.8 +1.1**
SMF Signal de Mont 21.49 137 *e*P **P** **19 08 25.7 +0.5**
SMF pmax pmax
comp=Z,26nm,1.1s
VSU Vasula 21.55 86 *e*P **P** **19 08 28.0 +2.2**
VSU Vasula 21.55 86 *i*P **P** **19 08 27.2 +1.4**
GRB1 Grafenberg Arr 21.72 121 P **P** **19 08 29.3 +1.6**
GRB1 pmax pmax
comp=Z,24nm,1.0s
SLE Schleitheim 21.98 128 P **P** **19 08 33.3 +2.8**
SLE pmax pmax
comp=Z,20nm,2.2s
RJF Les Rejaudoux 22.07 142 *e*P **P** **19 08 31.1 -0.4**
RJF pmax pmax
comp=Z,27nm,1.2s
PABE Paberze 22.20 95 *e*P **P** **19 08 33.3 +0.6**
PRU Pruhonice 22.33 116 *e*P **P** **19 08 35.9 +1.7**
PRU Pruhonice 22.33 116 *e*P **P** **19 08 35.9 +1.7**
KSP Ksiaz 22.35 112 P **P** **19 08 35.3 +0.9**
KSP pmax pmax
comp=Z,23nm,1.2s
WET Wettzell 22.38 119 P **P** **19 08 36.9 +2.1**
WET pmax pmax
comp=Z,4.0nm,1.1s
CHVC Chvalec 22.45 113 *e*P **P** **19 08 37.1 +1.6**
GOPC GO Pecny, Ondr 22.49 116 *e*P **P** **19 08 36.4 +0.5**
GOPC GO Pecny, Ondr 22.49 116 *e*P **P** **19 08 36.4 +0.5**
CAF Calviac 22.57 142 *e*P **P** **19 08 39.5 +2.7**
CAF pmax pmax
comp=Z,18nm,1.4s
KHC Kasperske Hory 22.66 118 *e*P **P** **19 08 37.7 -0.1**
KHC Kasperske Hory 22.66 118*ce*P **P** **19 08 37.6 -0.2**
KHC pmax pmax
comp=Z,19nm,1.0s
KHC Kasperske Hory 22.66 118 P **P** **19 08 37.8 +0.1**
DPC Dobruska-Polom 22.75 113 *e*P **P** **19 08 39.9 +1.2**
DPC Dobruska-Polom 22.75 113 *e*P **P** **19 08 39.9 +1.2**
DAVA Damuels 22.87 126 P **P** **19 08 39.8 -0.2**
comp=Z,19nm,1.2s
SUW Suwalki 22.87 98 P **P** **19 08 40.5 +0.6**
SUW pmax pmax
comp=Z,28nm,1.1s
GEC2 GERESS Array S 22.94 119 P **P** **19 08 41.2 +0.4**
GERES GERESS Array B 22.94 119 P **P** **19 08 41.2 +0.4**
comp=Z,3.8nm,1.1s,baz=330,slow=7.7,SNR=13
GERES LR LR 19 19 38.2
comp=Z,45nm,18.4s,baz=306,slow=42
GERES GERESS Array B 22.94 119 P **P** **19 08 41.0 +0.2**
RETA Reutte 23.00 125 *e*P **P** **19 08 42.8 +1.4**
comp=Z,24nm,2.3s
IZAR Zarasai 23.01 92 *e*P **P** **19 08 41.1 -0.2**
ISAL Salakas 23.08 93 *e*P **P** **19 08 41.8 -0.3**
MOTA Moosalm 23.25 125 P **P** **19 08 44.4 +0.4**
comp=Z,17nm,1.3s
TREC Trest 23.26 116 P **P** **19 08 44.8 +0.8**
TREC pmax pmax
comp=Z,6.0nm,2.8s
IIGN Ignalina 23.27 93 *e*P **P** **19 08 44.0 0.0**
DAVOX Davos/Dischmat 23.30 127 P **P** **19 08 46.2 +1.6**
comp=Z,2.6nm,0.8s,baz=290,slow=14,SNR=4.0
LPL La Plagne 23.38 133 *e*P **P** **19 08 49.4 +3.9**
LPL pmax pmax
comp=Z,14nm,1.3s
SQTA Sankt Quirin 23.39 125 *e*P **P** **19 08 47.0 +1.6**
comp=Z,11nm,1.5s
FETA Feichten 23.39 125 *e*P **P** **19 08 48.7 +3.2**
comp=Z,10nm,1.3s
LPG La Plagne 23.41 133 *e*P **P** **19 08 48.8 +3.0**
LPG pmax pmax
comp=Z,13nm,1.2s
WATA Walderalm 23.42 124 *e*P **P** **19 08 47.5 +1.7**
comp=Z,8.2nm,0.9s
WTTA Wattenberg 23.50 124 *e*P **P** **19 08 48.4 +1.7**
comp=Z,14nm,1.5s
WTTA Wattenberg 23.50 124 P **P** **19 08 47.8 +1.2**
WTTA pmax pmax
comp=Z,10.0nm,1.1s
IDID Didziasalis 23.51 92 *e*P **P** **19 08 46.5 +0.1**
ORIF Oris-en-Rattie 23.66 135 *e*P **P** **19 08 52.6 +4.5**
ORIF pmax pmax
comp=Z,16nm,1.2s
VRAC Vranov 23.68 114 P **P** **19 08 48.5 +0.4**
comp=Z,3.1nm,0.8s,baz=353,slow=17,SNR=3.7
VRAC Vranov 23.68 114 *e*P **P** **19 08 47.4 -0.7**
EUNU Eureka 23.68 336 P **P** **19 08 47.1 -0.8**
EUNU IAmb IAmb 19 09 00.1
comp=Z,16nm,1.3s
MORC Moravsky Berou 23.68 112 *e*P **P** **19 08 47.2 -1.0**
MORC Moravsky Berou 23.68 112 P **P** **19 08 49.9 +1.7**
MORC pmax pmax
comp=Z,12nm,2.8s
BNI Bardonecchia 23.78 134 P **P** **19 08 51.0 +1.7**
BNI pmax pmax
comp=Z,13nm,2.0s
KRUC Moravsky 23.80 115 *e*P **P** **19 08 48.0 -1.3**
EPF Esparros 23.91 146 *e*P **P** **19 08 55.2 +4.8**
EPF pmax pmax
comp=Z,29nm,1.8s
CONA Conrad Observa 24.52 117 P **P** **19 08 56.0 0.0**
comp=Z,8.2nm,1.0s
CTI Castel Tesino 24.55 125 P **P** **19 08 56.5 +0.1**
CTI pmax pmax
comp=Z,9.0nm,1.1s
CTI Castel Tesino 24.55 125 P **P** **19 08 56.5 +0.1**
ZOU Zoufplan 24.59 123 P **P** **19 08 57.4 +0.6**
ZOU IAmb IAmb 19 09 05.0
comp=Z,15nm,1.3s
CIMO Cimolais 24.61 124 P **P** **19 08 57.7 +0.9**
SMOL Smolenice 24.65 114 *e*P **P** **19 08 58.4 +1.3**
SMOL pmax pmax
comp=Z,6.0nm,1.0s
SMOL Smolenice 24.65 114 *e*P **P** **19 08 58.4 +1.3**
MODS Modra-Piesok 24.70 115 *e*P **P** **19 08 58.7 +1.1**
MODS pmax pmax
comp=Z,34nm,1.6s
MODS Modra-Piesok 24.70 115 *e*P **P** **19 08 58.7 +1.1**
STAL STALIGIAL 24.75 124 P **P** **19 08 59.3 +1.3**
STAL IAmb IAmb 19 09 00.3
comp=Z,17nm,1.3s
ARSA Arzberg 24.95 118 *i*P **P** **19 09 00.1 +0.2**
comp=Z,8.4nm,1.2s
LANS Liptovska Anna 24.95 111 *e*P **P** **19 09 01.0 +1.1**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 24.95 111 *e*P **P** **19 09 01.0 +1.1**
NIE Niedzica 25.07 109 P **P** **19 09 02.3 +1.3**
NIE pmax pmax
comp=Z,5.0nm,1.2s
FRF La Foret Royal 25.12 136 *e*P **P** **19 09 05.4 +4.0**
FRF pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 25.22 112 *e*P **P** **19 09 03.0 +0.7**
VYHS pmax pmax
comp=Z,26nm,1.6s
VYHS Vyhne 25.22 112 *e*P **P** **19 09 03.0 +0.7**
SOKA Soboth 25.24 120 *e*P **P** **19 09 03.1 +0.5**
comp=Z,5.2nm,1.0s
KLMR Klimovskoe 25.59 72 *e*P **P** **19 09 04.4 -1.1**
KLMR pmax pmax
comp=Z,23nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P** **19 09 04.4 -1.1**
KLMR AMP 19 09 21.9
comp=Z,23nm,1.5s
KWP Kalwaria Pacla 25.89 106 P **P** **19 09 09.2 +0.8**
KWP pmax pmax
comp=Z,39nm,1.2s
KWP Kalwaria Pacla 25.89 106 P **P** **19 09 09.2 +0.8**
SCHQ Schefferville 26.05 271 P **P** **19 09 08.5 -1.3**
comp=Z,8.9nm,1.0s,baz=34,slow=15,SNR=3.5
SCHQ Schefferville 26.05 271 P **P** **19 09 10.5 +0.7**
SCHQ IAmb IAmb 19 09 12.1
comp=Z,12nm,1.1s
PSZ Piszkesteto 26.10 112 P **P** **19 09 10.9 +0.5**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 26.10 112 P **P** **19 09 10.9 +0.5**
PSZ IAmb IAmb 19 09 19.2
comp=Z,11nm,1.0s
ESDC Sonseca Array 26.24 156 P **P** **19 09 11.1 -0.5**
comp=Z,2.4nm,0.9s,baz=347,slow=8.9,SNR=11
ESDC Sonseca Array 26.24 156 P **P** **19 09 11.4 -0.3**
KOLS Kolonicke sedl 26.26 108 *e*P **P** **19 09 11.9 +0.2**
KOLS pmax pmax
comp=Z,15nm,1.3s
KOLS Kolonicke sedl 26.26 108 *e*P **P** **19 09 11.9 +0.2**
LVV L'vov 26.30 104 *e*P **P** **19 09 13.6 +1.6**
UZH Uzhgorod 26.50 108 *e*P **P** **19 09 14.1 +0.2**
PGF Pioggiola 26.77 133 *e*P **P** **19 09 20.2 +3.8**
PGF pmax pmax
comp=Z,14nm,1.0s
AKASG Malin Array Be 27.83 98 P **P** **19 09 25.8 0.0**
comp=Z,0.4nm,0.3s,baz=324,slow=9.6,SNR=4.8
AKASG LR LR 19 19 45.3
comp=Z,71nm,21.2s,baz=350,slow=35
OBN Obninsk 27.87 84↓ *e*P **P** **19 09 25.2 -0.8**
OBN *PP **pP** **19 09 29.0 -0.6**
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,66nm,22.0s
BURAR Bucovina Array 28.51 106 P **P** **19 09 32.9 +0.9**
KIRV Kirov 30.97 69 P **P** **19 09 52.4 -1.1**
comp=Z,5.8nm,0.7s,baz=323,slow=20,SNR=4.5
KIRV Kirov 30.97 69*ce*P **P** **19 09 53.0 -0.5**
MDT Midelt 32.84 160 P **P** **19 10 10.2 -0.1**
comp=Z,5.6nm,1.0s,baz=336,slow=8.4,SNR=5.1
KEST Kesra 33.14 138 P **P** **19 10 12.4 -0.5**
comp=Z,1.7nm,0.8s,baz=308,slow=12,SNR=3.7
ARU Arti 36.07 66 P **P** **19 10 37.8 -0.1**
comp=Z,0.4nm,0.2s,baz=299,slow=19,SNR=2.2
ARU Arti 36.07 66*d i*P **P** **19 10 35.6 -2.3**
ARU S **S** **19 16 15.6 -1.1**
ARU SS **SnSn** **19 18 39.7 -1.3**
ARU pmax pmax
comp=Z,4.0nm,1.1s
ARU Arti 36.07 66 P **P** **19 10 38.6 +0.7**
NRIK Noril'sk 36.46 35 P **P** **19 10 41.5 +0.5**
comp=Z,3.9nm,0.9s,baz=326,slow=8.2,SNR=2.6
NRIK Noril'sk 36.46 35*ce*P **P** **19 10 42.3 +1.2**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 38.46 105 P **P** **19 10 58.5 0.0**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 38.46 105 P **P** **19 10 58.5 0.0**
BRTR Keskin Array B 38.46 105 P **P** **19 11 00.0 +1.4**
comp=Z,3.6nm,0.9s,baz=334,slow=6.6,SNR=15
BRTR Keskin Array B 38.46 105 *i*P **P** **19 11 02.9 +4.3**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 38.46 105 P **P** **19 10 58.6 0.0**
KIV Kislovodsk 38.83 92 *e*P **P** **19 11 01.7 +0.2**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,139nm,16.0s
KBZ Khabaz 39.10 92 P **P** **19 11 05.5 +1.8**
comp=Z,7.2nm,0.9s,baz=319,slow=9.2,SNR=9.4
KBZ Khabaz 39.10 92*ce*P **P** **19 11 04.2 +0.6**
AKTO Aktyubinsk 40.27 73 P **P** **19 11 13.4 +0.1**
comp=Z,3.2nm,1.0s,baz=282,slow=8.2,SNR=6.4
ZEI Tsey 40.29 92 *e*P **P** **19 11 14.4 +0.5**
ZEI pmax pmax
comp=Z,4.0nm,1.1s
AKH Akhalkalaki 41.24 94 P **P** **19 11 22.2 +0.5**
AKH pmax pmax
comp=Z,8.0nm,1.0s
AKH Akhalkalaki 41.24 94 P **P** **19 11 22.2 +0.5**
AKH IAmb IAmb 19 11 27.1
comp=Z,7.6nm,1.0s
MALT Malatya 41.66 101 P P 19 11 30.3 +5.3
ABKAR Akbulak array 41.98 73 P **P** **19 11 27.7 +0.3**
ABKAR Akbulak array 41.98 73 P **P** **19 11 27.8 +0.3**
ABKAR IAmb IAmb 19 11 28.7
comp=Z,5.7nm,1.2s
TIXI Tiksi 42.03 15*ce*P **P** **19 11 29.9 +2.3**
TIXI pmax pmax
comp=Z,64nm,1.3s
TIXI Tiksi 42.03 15 P **P** **19 11 27.5 0.0**
GAZ Gaziantep 42.11 104 P **P** **19 11 29.5 +0.8**
TOLK Toolik Lake Re 42.76 336 P **P** **19 11 35.4 +1.8**
TOLK IAmb IAmb 19 11 36.4
comp=Z,22nm,1.2s
BMAR Burnt Mountain 42.91 333 P **P** **19 11 35.4 +0.6**
BRVK Borovoye 43.12 62*ce*P **P** **19 11 37.4 +0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 43.12 62 P **P** **19 11 36.9 +0.3**
BVAR Borovoye Array 43.19 62 P **P** **19 11 37.8 +0.6**
comp=Z,2.9nm,1.0s,baz=265,slow=10.0,SNR=20
GEVA Gevas 43.63 97 P **P** **19 11 41.4 +0.3**
N49A Columbus Grove 44.12 271 P **P** **19 11 45.9 +1.1**
ACSO Alum Creek Sta 44.17 269 P **P** **19 11 46.3 +1.0**
ACSO IAmb IAmb 19 11 46.9
comp=Z,9.3nm,0.8s
MMAI Mount Meron Ar 44.95 109 P **P** **19 11 53.0 +1.5**
comp=Z,3.5nm,0.8s,baz=297,slow=9.5,SNR=4.3
IL31 45.70 332 P **P** **19 11 58.6 +1.6**
IL31 IAmb IAmb 19 12 04.7
comp=Z,6.4nm,1.1s
ILAR Eielson Array 45.70 332 P **P** **19 11 58.5 +1.4**
comp=Z,3.1nm,1.0s,baz=29,slow=6.5,SNR=19
ILAR PcP **PcP** **19 13 34.8 0.0**
comp=Z,2.0nm,1.1s,baz=355,slow=3.1,SNR=5.5
ILAR Eielson Array 45.70 332 P **P** **19 11 58.4 +1.3**
MDM Murphy Dome 45.79 333 P **P** **19 11 59.5 +1.6**
MDM IAmb IAmb 19 12 08.6
comp=Z,11nm,1.2s
IMAR Indian Mountai 45.87 337 P **P** **19 11 59.5 +1.1**
BCAR Beaver Creek A 46.12 329 P **P** **19 12 01.7 +1.2**
BPAW Bear Paw Mtn. 47.09 334 P **P** **19 12 09.2 +1.1**
ZAA0 Zalesovo Array 47.63 51 P **P** **19 12 12.9 +0.6**
ZAA0 IAmb IAmb 19 12 13.7
comp=Z,4.5nm,1.3s
ZALV Zalesovo Beam 47.63 51 P **P** **19 12 12.4 +0.1**
comp=Z,0.7nm,0.5s,baz=334,slow=9.9,SNR=6.6
ZALV PcP **PcP** **19 13 41.9 +0.2**
comp=Z,0.9nm,0.8s,baz=320,slow=3.9,SNR=4.1
ZALV Zalesovo Beam 47.63 51 *i*P **P** **19 12 11.6 -0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 47.63 51 P **P** **19 12 12.3 0.0**
ZALV **PcP** **19 13 41.8 +0.1**
KURK Kurchatov 48.10 58*ce*P **P** **19 12 16.6 +0.6**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 48.10 58 P **P** **19 12 16.2 +0.2**
KURBB Kurchatov Arra 48.15 58 P **P** **19 12 16.6 +0.2**
comp=Z,4.2nm,0.8s,baz=325,slow=7.3,SNR=25
T47A Sharon Grove 48.65 270 P **P** **19 12 21.1 +0.7**
HODGE Hodges 48.91 264 P **P** **19 12 22.8 +0.4**
HODGE IAmb IAmb 19 12 25.2
comp=Z,8.1nm,1.1s
W50A Signal Mountai 49.39 268 P **P** **19 12 27.0 +0.8**
X51A Calhoun 49.73 267 P **P** **19 12 28.6 -0.2**
X51A IAmb IAmb 19 12 29.9
comp=Z,9.5nm,1.1s
GEYT Alibeck 50.41 84 P **P** **19 12 34.7 +0.7**
comp=Z,2.0nm,0.8s,baz=314,slow=12,SNR=6.0
KK31 Karatay Array 51.27 70 P **P** **19 12 41.3 +1.0**
KK31 pmax pmax
comp=Z,8.0nm,1.4s
KK31 Karatay Array 51.27 70 P **P** **19 12 41.3 +1.0**
KK31 IAmb IAmb 19 12 43.0
comp=Z,8.5nm,1.4s
KKAR Karatay Array 51.27 70 P **P** **19 12 41.4 +1.1**
KKAR pmax pmax
comp=Z,8.0nm,1.4s
KKAR Karatay Array 51.27 70 P **P** **19 12 41.4 +1.1**
KKAR IAmb IAmb 19 12 43.0
comp=Z,8.5nm,1.4s
KKAR Karatay Array 51.27 70 P **P** **19 12 40.8 +0.5**
BOZ Bozeman (W) 51.62 297 P **P** **19 12 44.3 +1.2**
BOZ pmax pmax
comp=Z,14nm,1.3s
BOZ Bozeman (W) 51.62 297 P **P** **19 12 44.3 +1.2**
BOZ IAmb IAmb 19 12 49.9
comp=Z,14nm,1.3s
DGZ Jazzator, Alta 52.07 53↓ *e*P **P** **19 12 46.7 +0.3**
DGZ pmax pmax
comp=Z,8.0nm,1.3s
YHL Hebgen Lake 52.08 296 P **P** **19 12 48.0 +1.3**
MAKZ Makanchi 52.59 59 P **P** **19 12 50.4 +0.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
MAKZ Makanchi 52.59 59 P **P** **19 12 50.4 +0.3**
MK31 Makanchi Array 52.72 58*ce*P **P** **19 12 51.5 +0.5**
MK31 Makanchi Array 52.72 58 P **P** **19 12 50.9 -0.1**
MKAR Makanchi Array 52.72 58 P **P** **19 12 51.2 +0.2**
comp=Z,1.5nm,0.8s,baz=319,slow=6.7,SNR=13
MKAR Makanchi Array 52.72 58 P **P** **19 12 50.8 -0.2**
LOHW Long Hollow 52.89 295 P **P** **19 12 53.5 +0.9**
FXWY Fox Creek 53.03 295 P **P** **19 12 55.0 +1.3**
TOA0 Torodi Ar. Sit 53.13 156 P **P** **19 12 53.4 -0.9**
TOA0 IAmb IAmb 19 12 56.1
comp=Z,5.7nm,1.1s
TORD Torodi Ar. Bea 53.13 156 P **P** **19 12 53.8 -0.5**
comp=Z,4.1nm,1.1s,baz=344,slow=6.8,SNR=10
TORD Torodi Ar. Bea 53.13 156 P **P** **19 12 53.8 -0.5**
PD31 Pinedale Array 53.19 293 P **P** **19 12 55.0 +0.1**
PD31 IAmb IAmb 19 12 55.7
comp=Z,7.0nm,1.1s
PDAR Pinedale Array 53.19 293 P **P** **19 12 54.9 +0.1**
comp=Z,3.4nm,1.0s,baz=59,slow=5.7,SNR=17
PDAR LR LR 19 34 36.4
comp=Z,100nm,19.3s,baz=46,slow=35
PDAR Pinedale Array 53.19 293 P **P** **19 12 54.4 -0.5**
REDW Red Top Meadow 53.20 295 P **P** **19 12 56.1 +1.2**
REDW IAmb IAmb 19 13 01.9
comp=Z,9.1nm,1.3s
AAK Ala-Archa 53.25 67*ce*P **P** **19 12 57.2 +2.0**
AAK pmax pmax
comp=Z,17nm,1.3s
N23A Red Feather La 53.32 289 P **P** **19 12 56.7 +0.9**
PLID Pearl Lake 53.71 300 P **P** **19 12 58.9 +0.2**
PLID IAmb IAmb 19 13 09.2
comp=Z,7.1nm,1.1s
BTK Batken 53.95 72 P **P** **19 13 00.7 +0.4**
BTK pmax pmax
comp=Z,13nm,1.0s
BTK Batken 53.95 72 P **P** **19 13 00.7 +0.4**
CHGR Chuyangaron 54.45 74 P **P** **19 13 04.9 +0.9**
GAR Garm 54.64 73 P **P** **19 13 06.2 +0.9**
MOY Mondy 54.65 42 *e*P **P** **19 13 07.0 +1.7**
MOY pmax pmax
comp=Z,30nm,2.0s
HWUT Hardware Ranch 54.97 294 P **P** **19 13 08.4 +0.6**
HWUT IAmb IAmb 19 13 09.3
comp=Z,8.0nm,1.1s
RDMU Red Mountain 55.06 292 P **P** **19 13 09.3 +0.8**
HRA Herat 55.18 82 P **P** **19 13 10.4 +1.0**
X34A Smith Ranch, M 55.27 278 P **P** **19 13 10.3 +0.5**
TARG Taragay, Kyrgy 55.32 65 P **P** **19 13 10.9 +0.3**
TARG IAmb IAmb 19 13 16.3
comp=Z,5.3nm,1.0s
WMOK Wichita Mounta 55.56 279 P **P** **19 13 12.6 +0.7**
WMOK pmax pmax
comp=Z,8.0nm,1.3s
WMOK Wichita Mounta 55.56 279 P **P** **19 13 12.6 +0.7**
WMOK IAmb IAmb 19 13 15.5
comp=Z,8.1nm,1.2s
MPU Maple Canyon 56.35 293 P **P** **19 13 18.8 +1.1**
S22A 4UR Ranch, Cre 56.35 288 P **P** **19 13 19.0 +1.1**
PV21 Cone Mtn., Par 56.53 290 P **P** **19 13 19.5 +0.4**

PV21			IAmb	IAmb	19 13 25.1
	comp=Z,7.9nm,1.3s				
PV14	**Lion Creek, Pa**	**56.71 290**	P	**P**	**19 13 20.0 -0.3**
PV14			IAmb	IAmb	19 13 30.1
	comp=Z,6.7nm,1.0s				
PV16	**Nyswonger Mesa**	**56.72 290**	P	**P**	**19 13 21.0 +0.6**
PV16			IAmb	IAmb	19 13 42.7
	comp=Z,7.3nm,1.2s				
PV01	**Paradox Valley**	**56.73 289**	P	**P**	**19 13 20.8 +0.3**
PV01			IAmb	IAmb	19 13 22.7
	comp=Z,7.1nm,1.2s				
PV02	**Paradox Valley**	**56.74 290**	P	**P**	**19 13 20.9 +0.4**
PV02			IAmb	IAmb	19 13 22.6
	comp=Z,8.8nm,1.1s				
PV03	**Paradox Valley**	**56.74 290**	P	**P**	**19 13 20.8 +0.3**
PV03			IAmb	IAmb	19 13 22.0
	comp=Z,6.2nm,1.1s				
PV18	**Skein Mesa, Pa**	**56.77 290**	P	**P**	**19 13 21.3 +0.5**
PV18			IAmb	IAmb	19 13 27.1
	comp=Z,8.0nm,1.1s				
PV13	**Radium Mtn., P**	**56.81 290**	P	**P**	**19 13 21.6 +0.6**
PV05	**Paradox Valley**	**56.99 290**	P	**P**	**19 13 22.2 -0.2**
MSU	**Marysvale**	**57.86 293**	P	**P**	**19 13 29.2 +0.7**
MSU	**Marysvale**	**57.86 293**	P	**P**	**19 13 29.2 +0.7**
MVU	**Marysvale**	**57.88 293**	P	**P**	**19 13 30.0 +1.4**
PSUT	**Pine Spring**	**58.50 294**	P	**P**	**19 13 33.6 +0.7**
DBIC	**Dimbokro**	**58.58 165**	P	**P**	**19 13 32.3 -1.0**
	comp=Z,6.6nm,1.0s,baz=337,slow=9.9,SNR=4.8				
DBIC	**Dimbokro**	**58.58 165**	P	**P**	**19 13 32.1 -1.3**
ANMO	**Albuquerque**	**58.60 286**	*ceP*	**P**	**19 13 36.3 +2.6**
ANMO			pmax	pmax	
	comp=Z,7.0nm,2.5s				
R11A	**Troy Canyon, C**	**59.34 295**	P	**P**	**19 13 39.5 +0.8**
R11A			IAmb	IAmb	19 13 40.1
	comp=Z,5.2nm,1.3s				
LCMT	**Little Creek M**	**59.58 293**	P	**P**	**19 13 40.5 +0.2**
SONM	**Songino Array**	**59.64 40**	P	**P**	**19 13 40.6 0.0**
	comp=Z,1.1nm,0.7s,baz=327,slow=11,SNR=6.6				
SONM	**Songino Array**	**59.64 40**	P	**P**	**19 13 41.1 +0.5**
SONM			pmax	pmax	
	comp=Z,2.0nm,1.1s				
SONM	**Songino Array**	**59.64 40**	P	**P**	**19 13 41.0 +0.5**
KVN	**Kaiserville**	**59.70 298**	P	**P**	**19 13 41.7 +0.5**
KVN			pmax	pmax	
	comp=Z,7.0nm,1.4s				
KVN	**Kaiserville**	**59.70 298**	P	**P**	**19 13 41.6 +0.5**
KVN			IAmb	IAmb	19 13 47.6
	comp=Z,7.0nm,1.4s				
U15A	**North Rim**	**59.70 291**	P	**P**	**19 13 41.6 +0.2**
U15A			IAmb	IAmb	19 13 46.7
	comp=Z,5.5nm,1.1s				
ULN	**Ulaanbaatar**	**59.79 40**	*ceP*	**P**	**19 13 43.1 +1.4**
ULN			pmax	pmax	
	comp=Z,2.0nm,0.8s				
ULN	**Ulaanbaatar**	**59.79 40**	P	**P**	**19 13 42.4 +0.7**
ULN			IAmb	IAmb	19 13 43.4
	comp=Z,3.6nm,1.1s				
WUAZ	**Wupatki**	**60.12 290**	P	**P**	**19 13 45.1 +1.0**
YERR	**Yerington**	**60.19 298**	P	**P**	**19 13 44.3 -0.2**
YERR			IAmb	IAmb	19 13 47.0
	comp=Z,6.9nm,1.1s				
NVAR	**Mina Array Bea**	**60.32 297**	P	**P**	**19 13 45.3 -0.2**
NIL	**Nilore**	**60.44 74**	P	**P**	**19 13 46.4 +0.3**
NIL			pmax	pmax	
	comp=Z,11nm,1.0s				
NIL	**Nilore**	**60.44 74**	P	**P**	**19 13 46.4 +0.3**
MNTX	**Cornudas Mount**	**60.97 283**	P	**P**	**19 13 50.1 +0.4**
MNTX			IAmb	IAmb	19 13 55.9
	comp=Z,4.5nm,1.4s				
X16A	**Lo Mia Camp, P**	**61.10 290**	P	**P**	**19 13 52.1 +1.3**
X16A			IAmb	IAmb	19 13 53.5
	comp=Z,3.6nm,0.9s				
MDPB	**Devils Postpil**	**61.31 298**	P	**P**	**19 13 54.2 +1.9**
TX31	**Lajitas Ar. Si**	**62.30 280**	P	**P**	**19 13 57.6 -1.3**
TX32	**Lajitas Array**	**62.30 280**	P	**P**	**19 13 57.7 -1.2**
TXAR	**Lajitas Array**	**62.30 280**	P	**P**	**19 13 58.7 -0.1**
	comp=Z,2.5nm,1.1s,baz=48,slow=5.6,SNR=8.4				
TXAR			PcP	**PcP**	**19 14 39.1 +0.6**
	comp=Z,1.0nm,1.0s,baz=46,slow=5.2,SNR=3.8				
TXAR			LR	LR	19 40 05.5
	comp=Z,47nm,21.9s,baz=0.0,slow=35				
TXAR	**Lajitas Array**	**62.30 280**	P	**P**	**19 13 58.5 -0.4**
GTA	**Gaotai**	**65.29 49**	*eP*	**P**	**19 14 21.8 +3.3**
GTA			pP	sP	19 14 28.8 +5.2
GTA			sP	pP	19 14 32.9 +11
GTA			pmax	pmax	
	comp=Z,2.0nm,1.0s				
SPX	**San Pedro Mart**	**65.69 291**	P	**P**	**19 14 21.1 -0.3**
SPX			IAmb	IAmb	19 14 22.6
	comp=Z,5.2nm,1.2s				
ZAIG	**Zacatecas**	**67.59 276**	P	**P**	**19 14 34.6 +1.0**
KSRS	**Korea Array**	**74.65 28**	LR	LR	19 49 25.5
	comp=Z,44nm,19.4s,baz=132,slow=37				
CMAR	**Chiang Mai Arr**	**84.12 59**	P	**P**	**19 16 08.2 +0.5**
	comp=Z,1.4nm,1.0s,baz=330,slow=6.8,SNR=6.5				
CMAR	**Chiang Mai Arr**	**84.12 59**	P	**P**	**19 16 08.5 +0.8**
ASAR	**Alice Springs**	**134.96 38**	PKP	**PKiKP**	**19 22 56.6 -0.3**
	comp=Z,0.9nm,1.0s,baz=337,slow=2.4,SNR=5.4				

*IDC **06** 19:21:34.6±2.2, 3°.94N×94°.39E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/48, mbtmp3.8/5, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/49, Error ellipse: s-maj=96.6km s-min=23.7km az=58.0*

*NEIC **06** 19:21:41.4±1.6, 4°.28N±0°.09×94°.8E±0°.1, h40km±11km, mb4.4/6, Error ellipse: s-maj=20.2km s-min=12.2km az=80.0*

ISC 06 19:21:41.6±1.1, 4°.34N±0°.09×95°.0E±0°.1, h35km, n21, σ1ᵽ80/19, mb4.3/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.10**	**65**	Pn	**Pn**	**19 22 17.2**	**+2.9**
GSI	**Gunungsitoli**	**3.94**	**140**	Pn	**Pn**	**19 22 41.7**	**+2.1**
GSI				Sn	**Sn**	**19 23 22.4**	**-2.3**
RPSI	**Rantau Prapat**	**4.21**	**113**	Pn	**Pn**	**19 22 46.3**	**+3.0**
KULM	**Kulim**	**5.67**	**80**	Pn	**Pn**	**19 23 05.7**	**+2.3**
KULM				Sn	**Sn**	**19 24 03.9**	**-3.5**
MNAI	**Manna**	**11.71**	**137**	Pn	**Pn**	**19 24 26.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.54**	**15**	Pn	**P**	**19 25 10.6**	**-0.6**
	0.2nm,0.3s,baz=206,slow=11,SNR=15						
LEM	**Lembang**	**16.75**	**131**	LR	LR	19 32 59.5	
	comp=Z,82nm,19.5s,baz=164,slow=40						
H08S2	**Diego Garcia H**	**25.45**	**242**	T	T	19 52 54.4	
	baz=61						
H08S3	**Diego Garcia H**	**25.45**	**242**	T	T	19 52 22.8	
	baz=61,slow=74						
H08S1	**Diego Garcia H**	**25.47**	**242**	T	T	19 52 48.3	
	baz=61,slow=74						
MKAR	**Makanchi Array**	**43.71**	**347**	P	**P**	**19 29 42.6**	**-0.8**
	0.7nm,0.8s,baz=161,slow=8.5,SNR=6.9						
MKAR	**Makanchi Array**	**43.71**	**347**	P	**P**	**19 29 42.0**	**-1.3**
WB0	**Warramunga Arr**	**45.50**	**123**	P	**P**	**19 29 58.5**	**+0.5**
WB0				IAmb	IAmb	19 30 15.6	
	comp=Z,7.5nm,1.5s						
WRA	**Warramunga Arr**	**45.54**	**123**	P	**P**	**19 29 58.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=301,slow=9.3,SNR=12						
WRA	**Warramunga Arr**	**45.54**	**123**	P	**P**	**19 29 56.5**	**-1.8**
WRAB	**Tennant Creek**	**45.54**	**123**	P	**P**	**19 29 58.8**	**+0.5**
WB2	**Warramunga Arr**	**45.55**	**123**	P	**P**	**19 29 58.9**	**+0.5**
WB2				IAmb	IAmb	19 30 09.3	
	comp=Z,7.4nm,1.4s						
WR0	**Warramunga Arr**	**45.71**	**123**	P	**P**	**19 30 00.5**	**+0.8**
WR0				IAmb	IAmb	19 30 28.7	
	comp=Z,4.8nm,1.3s						
ASAR	**Alice Springs**	**47.01**	**128**	P	**P**	**19 30 10.3**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=298,slow=8.0,SNR=8.9						
AS31	**Alice Springs**	**47.01**	**128**	P	**P**	**19 30 09.9**	**0.0**
ARCES	**ARCESS Array B**	**78.87**	**340**	P	**P**	**19 33 41.1**	**+0.1**
	comp=Z,4.8nm,1.2s,baz=94,slow=6.5,SNR=1.8						

*DJA **06** 19:29:03.6±1.0, 9°.S±3°×11°.1E±°, h18km±8km, M4.2/17, mB5.2/2, mb4.3/3, MLv4.2/17, Mw(mB)4.6/2*

*NEIC **06** 19:29:05.6±1.1, 8°.59S±0°.09×110°.55E±0°.08, h71km±4km, mb4.1/10, Error ellipse: s-maj=14.4km s-min=10.4km az=213.0*

*IDC **06** 19:29:08.0±2.5, 8°.40S×110°.71E, h89km±28km, mb3.5/7, mb1 3.5/9, mb1mx3.3/40, mbtmp3.8/9, Error ellipse: s-maj=52.9km s-min=13.6km az=42.0*

ISC 06 19:29:05.9±0.6, 8°.67S±0°.06×110°.55E±0°.04, h77km, n46, σ1ᵽ25/52, mb4.0/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.75**	**358**	P	**Pn**	**19 29 20.9**	**-1.1**
UGM				S	**Sn**	**19 29 31.5**	**-2.4**
UGM	**Wanagama**	**0.75**	**358**		**Pn**	**19 29 19.9**	**-2.1**
YOGI	**Yogyakarta**	**0.88**	**343**	P	**Pn**	**19 29 22.1**	**-1.4**
YOGI				S	**Sn**	**19 29 35.2**	**-1.3**
WOJI	**Wonogiri, Jawa**	**0.90**	**24**	P	**Pn**	**19 29 22.1**	**-1.6**
PWJI	**Pagerwojo**	**1.40**	**63**	P	**Pn**	**19 29 28.7**	**-1.1**
PWJI				S	**Sn**	**19 29 46.1**	**-1.6**
SMRI	**Semarang**	**1.61**	**356**	P	**Pn**	**19 29 33.6**	**+0.9**
SMRI	**Semarang**	**1.61**	**356**	Pn	**Pn**	**19 29 33.1**	**+0.4**
KPJI	**Karang Pucung**	**2.08**	**309**	P	**Pn**	**19 29 38.6**	**-0.3**
KPJI				S	**Sn**	**19 30 05.8**	**+1.8**
TBJI	**Tambak Boyo**	**2.24**	**35**	P	**Pn**	**19 29 41.4**	**+0.4**
CMJI	**Cimerak**	**2.26**	**293**	P	**Pn**	**19 29 40.0**	**-1.2**
GRJI	**Gresik**	**2.58**	**48**	P	**Pn**	**19 29 46.1**	**+0.5**
GMJI	**Gumukmas**	**2.89**	**82**	P	**Pn**	**19 29 49.9**	**+0.2**
CISI	**Cisompet, Garu**	**2.93**	**292**	P	**Pn**	**19 29 49.6**	**-0.7**
CISI	**Cisompet, Garu**	**2.93**	**292**		**Pn**	**19 29 49.6**	**-0.7**
BLJI	**Banyuglugur**	**3.15**	**73**	P	**Pn**	**19 29 53.7**	**+0.4**
LEM	**Lembang**	**3.44**	**302**	P	**Pn**	**19 29 59.8**	**+2.4**
	9.4nm,0.3s,baz=24,slow=14,SNR=7.9						
LEM				S	**Sn**	**19 30 40.0**	**+2.9**
	11nm,0.3s,baz=304,slow=23,SNR=6.6						
BWJI	**Bawean**	**3.49**	**37**	P	**Pn**	**19 29 58.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**3.56**	**87**	P	**Pn**	**19 29 58.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.56**	**87**		**Pn**	**19 29 58.5**	**-0.4**
CNJI	**Cibinong**	**3.65**	**291**	P	**Pn**	**19 29 59.5**	**-0.6**
XMIS	**Christmas Isla**	**5.16**	**249**	Pn	**Pn**	**19 30 18.2**	**-2.4**
CGJI	**Cibinong**	**5.23**	**293**	P	**Pn**	**19 30 21.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**17.40**	**124**	P	**P**	**19 33 05.2**	**+1.1**
	0.1nm,0.3s,baz=312,slow=15,SNR=1.5						
FITZ	**Fitzroy Crossi**	**17.40**	**124**	P	**Pn**	**19 33 04.3**	**+0.5**
KNRA	**Kununurra**	**19.11**	**113**	P	**P**	**19 33 23.3**	**+0.5**
WB0	**Warramunga Arr**	**25.57**	**118**	P	**P**	**19 34 29.1**	**+1.1**
WB0				IAmb	IAmb	19 34 33.4	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**25.59**	**119**	P	**P**	**19 34 28.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=289,slow=11,SNR=7.2						
WRA				PcP	**PcP**	**19 37 58.5**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=307,slow=1.8,SNR=5.3						
WRA	**Warramunga Arr**	**25.59**	**119**	P	**P**	**19 34 28.8**	**+0.6**
WRAB	**Tennant Creek**	**25.59**	**119**	P	**P**	**19 34 30.7**	**+2.4**
WRAB				IAmb	IAmb	19 34 31.3	
	comp=Z,8.5nm,1.4s						
WB2	**Warramunga Arr**	**25.60**	**119**	P	**P**	**19 34 29.7**	**+1.4**
WB2				IAmb	IAmb	19 34 55.0	
	comp=Z,10nm,1.5s						
WR0	**Warramunga Arr**	**25.77**	**118**	P	**P**	**19 34 31.4**	**+1.6**
WR0				IAmb	IAmb	19 34 48.9	
	comp=Z,7.3nm,1.1s						
ASAR	**Alice Springs**	**26.87**	**126**	P	**P**	**19 34 41.1**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=303,slow=8.8,SNR=6.2						
STKA	**Stephens Creek**	**36.93**	**133**	P	**P**	**19 36 08.7**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=318,slow=14,SNR=1.9						
SONM	**Songino Array**	**56.38**	**357**	PcP	**PcP**	**19 39 35.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=206,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**60.69**	**338**	P	**P**	**19 39 08.1**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=161,slow=7.2,SNR=10						
MKAR	**Makanchi Array**	**60.69**	**338**	P	**P**	**19 39 07.9**	**-1.3**
ZALV	**Zalesovo Beam**	**66.06**	**344**	P	**P**	**19 39 43.7**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=156,slow=6.2,SNR=2.3						
ABKAR	**Akbulak array**	**72.66**	**328**	P	**P**	**19 40 23.9**	**-1.4**
ABKAR	**Akbulak array**	**72.66**	**328**	P	**P**	**19 40 24.1**	**-1.2**
ABKAR				IAmb	IAmb	19 40 25.3	
	comp=Z,1.6nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.38**	**27**	P	**P**	**19 40 29.3**	**-0.2**
PETK	**Petropavlovsk-**	**73.38**	**27**	P	**P**	**19 40 29.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=220,slow=4.9,SNR=5.8						
PETK	**Petropavlovsk-**	**73.38**	**27**	P	**P**	**19 40 28.7**	**-0.8**
BR131	**Keskin Array S**	**85.56**	**311**	P	**P**	**19 41 36.6**	**+0.5**
BR131				IAmb	IAmb	19 41 43.0	
	comp=Z,3.5nm,1.4s						
BRTR	**Keskin Array B**	**85.56**	**311**	P	**P**	**19 41 36.6**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=140,slow=7.3,SNR=11						
BRTR	**Keskin Array B**	**85.56**	**311**	P	**P**	**19 41 36.5**	**+0.3**
T42A	**Van Buren**	**145.61**	**32**		**PKPab**	**19 48 36.5**	**-0.1**

*IDC **06** 19:50:40.6±0.6, 60°.35S×49°.83W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.5/28, mbtmp4.5/14, ML3.9/1, MS4.0/16, Ms1 3.9/16, ms1mx3.9/21, Error ellipse: s-maj=21.7km s-min=14.1km az=83.0*

*NEIC **06** 19:50:42.2±2.5, 60°.44S±0°.09×49°.8W±0°.1, h10km±1km, mb4.8/24, Error ellipse: s-maj=18.1km s-min=2.8km az=323.0*

ISC 06 19:50:42.7±0.4, 60°.40S±0°.06×49°.68W±0°.07, h10km, n112, σ1ᵽ33/104, mb4.7/23, MS4.0/15, 1C-2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**7.95**	**230**	Pn	**Pn**	**19 52 35.4**	**-2.6**
	1.6nm,0.3s,baz=82,slow=11,SNR=7.7						
PMSA				Sn	**Sn**	**19 54 09.8**	**+1.9**
	0.5nm,0.3s,baz=109,slow=16,SNR=1.1						
PMSA				LR	LR	19 55 27.9	
	comp=Z,2μm,19.0s,baz=64,slow=36						
PMSA	**Palmer Station**	**7.95**	**230**	Pn	**Pn**	**19 52 35.2**	**-2.8**
PMSA	**Palmer Station**	**7.95**	**230**	*eP*	**Pn**	**19 52 42.5**	**+4.4**
HOPE	**Hope Point**	**9.39**	**55**		**Pn**	**19 52 57.4**	**-0.5**
VNA3	**Neumayer Olymp**	**19.20**	**141**	P	**Pn**	**19 55 07.8**	**+0.6**
VNA1	**Neumayer--Stati**	**19.52**	**139**	P	**Pn**	**19 55 12.1**	**+1.1**
VNA2	**Neumayer--Watz**	**19.86**	**139**	P	**Pn**	**19 55 15.3**	**+0.3**
	baz=277,slow=9.9						
SNAA	**Sanae**	**21.43**	**141**	P	**P**	**19 55 31.9**	**+1.5**
SNAA	**Sanae**	**21.43**	**141**	P	**P**	**19 55 32.4**	**+2.0**
	59nm,1.0s,baz=281,slow=8.8,SNR=90						
SNAA				PcP	**PcP**	**19 59 32.1**	**-1.0**
	2.3nm,0.7s,baz=252,slow=4.3,SNR=4.0						
SNAA	**Sanae**	**21.43**	**141**	P	**P**	**19 55 31.9**	**+1.5**
SNAA				IAmb	IAmb	19 55 33.3	
	comp=Z,70nm,1.0s						
PLCA	**Paso Flores**	**23.54**	**317**	P	**P**	**19 55 51.5**	**-1.4**
	comp=Z,17nm,1.3s,baz=159,slow=12,SNR=6.4						
PLCA				LR	LR	20 04 04.3	
	comp=Z,203nm,21.7s,baz=170,slow=34						
PLCA	**Paso Flores**	**23.54**	**317**	*eP*	**P**	**19 55 51.7**	**-1.2**
PLCA	**Paso Flores**	**23.54**	**317**	*eP*	**P**	**19 55 53.0**	**+0.1**
TRQA	**Tornquist**	**23.68**	**335**	*eP*	**P**	**19 55 55.1**	**+0.8**
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**19 56 50.7**	**+0.9**
	comp=Z,23nm,0.7s,baz=173,slow=2.9,SNR=154						
QSPA				LR	LR	20 10 53.2	
	comp=Z,191nm,19.7s,baz=158,slow=41						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**19 56 50.4**	**+0.6**
CPUP	**Villa Florida**	**34.46**	**348**	LR	LR	20 10 38.6	
	comp=Z,136nm,21.0s,baz=205,slow=35						
SYO	**Syowa Base**	**35.71**	**142**	*eP*	**P**	**19 57 40.2**	**-0.5**
SYO	**Syowa Base**	**35.71**	**142**	*eS*	ZP	19 57 42.1	
AC02	**Maricunga**	**36.09**	**330**	P	**P**	**19 57 44.4**	**-0.6**
AC02				IAmb	IAmb	19 57 56.8	
	comp=Z,12nm,0.8s						
VAS01	**Vassouras-RJ**	**38.34**	**9**	*eS*	**S**	**20 03 57.1**	**-0.7**
PCMB	**Pacaembu**	**38.77**	**358**	*eP*	**P**	**19 58 08.3**	**+1.1**
BB19B	**Bebedouro**	**39.30**	**2**	*eP*	**P**	**19 58 12.5**	**+0.9**
BSCB	**Bom Sucesso**	**39.51**	**7**	*eP*	**P**	**19 58 14.7**	**+1.2**
ITRB	**Iturama**	**40.65**	**359**	*eP*	**P**	**19 58 23.8**	**+0.9**
VNDA	**Vanda**	**40.96**	**190**	P	**P**	**19 58 25.9**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=169,slow=6.6,SNR=9.9						
VNDA				LR	LR	20 15 38.1	
	comp=Z,130nm,18.0s,baz=242,slow=36						
VNDA	**Vanda**	**40.96**	**190**	P	**P**	**19 58 24.8**	**+0.1**
RIB01	**Linhares ES**	**41.57**	**13**	*eP*	**P**	**19 58 31.5**	**+1.1**
PB01	**IPOC Station P**	**41.74**	**332**	P	**P**	**19 58 31.1**	**-0.8**
PB01				IAmb	IAmb	19 58 36.7	
	comp=Z,23nm,1.3s						
SJMB	**Sao Joao De Ma**	**42.09**	**12**	*eP*	**P**	**19 58 35.4**	**+0.8**
IPMB	**Ipameri, GO**	**42.37**	**2**	*eP*	**P**	**19 58 37.9**	**+0.9**
GO01	**Chusmiza**	**42.99**	**333**	P	**P**	**19 58 42.8**	**+0.3**
MAW	**Mawson**	**43.21**	**149**	P	**P**	**19 58 44.8**	**+1.6**
	comp=Z,10nm,1.0s,baz=223,slow=9.2,SNR=17						
MAW				LR	LR	20 15 29.1	
	comp=Z,336nm,20.9s,baz=298,slow=34						
MAW	**Mawson**	**43.21**	**149**	P	**P**	**19 58 44.5**	**+1.3**
PSGCX	**Pisagua**	**43.28**	**331**	P	**P**	**19 58 44.3**	**-0.1**
PSGCX				IAmb	IAmb	19 59 00.8	
	comp=Z,13nm,1.2s						
MNMC	**Minye Minye**	**43.60**	**332**	P	**P**	**19 58 47.5**	**+0.3**
MNMC				IAmb	IAmb	19 58 51.2	
	comp=Z,15nm,0.6s						
MC01	**Montes Claros**	**43.83**	**8**	*eP*	**P**	**19 58 49.5**	**+0.7**
PB16	**IPOC Station P**	**44.35**	**333**	P	**P**	**19 58 53.1**	**-0.5**
PB16				IAmb	IAmb	19 58 56.5	
	comp=Z,8.9nm,1.2s						
ARAG	**Araguaiana, MT**	**44.65**	**357**	*eP*	**P**	**19 58 56.3**	**+0.9**
BDFB	**Brasilia**	**44.70**	**2**	P	**P**	**19 58 56.1**	**+0.2**
	comp=Z,7.4nm,0.7s,baz=160,slow=4.7,SNR=9.2						
BDFB				LR	LR	20 17 23.9	
	comp=Z,90nm,20.2s,baz=128,slow=36						
BDFB	**Brasilia**	**44.70**	**2**	P	**P**	**19 58 56.6**	**+0.7**
BDFB				IAmb	IAmb	19 59 05.1	
	comp=Z,9.3nm,0.7s						
SIV	**San Ignacio**	**45.11**	**344**	P	**P**	**19 58 58.6**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=180,slow=9.3,SNR=12						
PTLB	**Pontes e Lacer**	**45.41**	**347**	*eP*	**P**	**19 59 01.9**	**+0.6**
JANB	**Januaria**	**45.44**	**7**	*eP*	**P**	**19 59 02.3**	**+0.7**
LPAZ	**La Paz**	**46.03**	**335**	P	**P**	**19 59 07.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=205,slow=8.2,SNR=5.7						
LPAZ				LR	LR	20 18 51.1	
	comp=Z,127nm,21.9s,baz=178,slow=37						
LPAZ	**La Paz**	**46.03**	**335**	P	**P**	**19 59 06.5**	**-0.5**
LPAZ	**La Paz**	**46.03**	**335**	*eP*	**P**	**19 59 07.0**	**0.0**
GDU01	**Guandu, BA**	**47.19**	**13**	*eP*	**P**	**19 59 16.2**	**+0.9**
VILB	**Vilhena**	**47.99**	**346**	*eP*	**P**	**19 59 23.2**	**+1.6**
SDBA	**SAO DESIDERIO**	**48.03**	**6**	*eP*	**P**	**19 59 22.5**	**+0.5**
CLDB	**Colider**	**49.64**	**352**	*eP*	**P**	**19 59 33.8**	**-0.5**
SMTB	**Santa Maria do**	**51.45**	**3**	*eP*	**P**	**19 59 48.7**	**+0.7**
ETMB	**Extrema**	**51.97**	**339**	*eP*	**P**	**19 59 51.7**	**-0.1**
SAML	**Samuel**	**52.33**	**343**	P	**P**	**19 59 54.9**	**+0.5**
SAML				IAmb	IAmb	20 00 06.4	
	comp=Z,8.2nm,0.9s						
SAML	**Samuel**	**52.33**	**343**	*eP*	**P**	**19 59 54.6**	**+0.1**
NPGB	**Novo Progresso**	**53.41**	**353**	*eP*	**P**	**20 00 02.8**	**+0.3**
PRPB	**Parauapebas**	**54.10**	**360**	*eP*	**P**	**20 00 07.8**	**+0.3**
SHEL	**Horse Pasture**	**54.47**	**55**	P	**P**	**20 00 11.6**	**+1.4**
CZSB	**Cruzeiro do Su**	**55.33**	**332**	*eP*	**P**	**20 00 17.5**	**+1.0**
RCBR	**Riachuelo**	**55.44**	**17**	*eP*	**P**	**20 00 18.5**	**+1.3**
ITTB	**Itatuba**	**56.08**	**353**	*eP*	**P**	**20 00 21.8**	**0.0**
H10S2	**ASCENSION HYDR**	**57.59**	**42**	T	T	21 03 13.7	
	baz=200,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**57.59**	**42**	T	T	21 03 13.9	
	baz=20,slow=74,SNR=22						
TMAB	**Tom-Au,PA,Br**	**57.89**	**2**	*eP*	**P**	**20 00 35.6**	**+1.1**
BOSA	**Boshof**	**58.19**	**93**	P	**P**	**20 00 36.6**	**-0.3**
	comp=Z,4.6nm,1.0s,baz=220,slow=4.6,SNR=4.7						
BOSA				LR	LR	20 21 32.2	
	comp=Z,144nm,18.6s,baz=192,slow=32						
BOSA	**Boshof**	**58.19**	**93**	P	**P**	**20 00 36.6**	**-0.3**
BOSA				IAmb	IAmb	20 00 37.5	
	comp=Z,16nm,1.4s						
MALB	**Monte Alegre**	**58.50**	**355**	*eP*	**P**	**20 00 39.2**	**+0.3**
H10N3	**ASCENSION HYDR**	**58.69**	**42**	T	T	21 04 44.7	
	baz=198,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**58.69**	**42**	T	T	21 04 35.7	
	baz=198,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**58.70**	**42**	T	T	21 04 42.6	
	baz=198,slow=75,SNR=12						
MCPB	**Macapa, AP**	**59.90**	**357**	*eP*	**P**	**20 00 49.0**	**+0.4**
LBTB	**Lobatse**	**61.34**	**91**	P	**P**	**20 00 58.5**	**0.0**
LBTB				IAmb	IAmb	20 00 58.7	
	comp=Z,7.1nm,0.8s						
TSUM	**Tsumeb**	**62.28**	**80**	P	**P**	**20 01 04.7**	**-0.2**
TSUM				IAmb	IAmb	20 01 22.6	
	comp=Z,5.0nm,1.3s						
PTCN	**Pitcairn Islan**	**63.85**	**265**	P	**P**	**20 01 15.0**	**-0.2**
OTAV	**Otavalo**	**64.43**	**328**	P	**P**	**20 01 20.0**	**+0.5**
OTAV	**Otavalo**	**64.43**	**328**	*eP*	**P**	**20 01 20.3**	**+0.8**
ROSC	**El Rosal**	**67.86**	**333**	LR	LR	20 34 27.7	
	comp=Z,99nm,19.5s,baz=160,slow=39						
SDV	**Santo Domingo**	**71.04**	**338**	*eP*	**P**	**20 02 02.1**	**+1.3**
RPZ	**Tata Peaks**	**71.04**	**210

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.97**	**59**		**Pn**	**20 07 06.0**	**+2.5**
NIUE					**S**	**20 08 21.6**	**-2.6**
MSVF	**Nonsavu**	**7.36**	**312**		Pn	20 07 03.4	-5.1
URZ	**Urewera**	**16.42**	**199**	P	**P**	**20 08 55.9**	**-2.6**
	1.6nm,0.3s,baz=28,slow=6.0,SNR=5.9						
URZ	**Urewera**	**16.42**	**199**	P	**P**	**20 08 56.0**	**-2.5**
BKZ	**Black Stump Fm**	**17.45**	**199**		**P**	**20 09 06.1**	**-3.7**
BKZ				IAmb	IAmb	20 09 29.0	
	comp=Z,46nm,1.3s						
QRZ	**Quartz Range**	**20.31**	**205**	P	**P**	**20 09 38.8**	**-1.6**
LTZ	**Lake Taylor**	**22.09**	**203**	P	**P**	**20 09 56.1**	**-1.8**
RPZ	**Rata Peaks**	**23.35**	**204**	P	**P**	**20 10 09.4**	**0.0**
RPZ				IAmb	IAmb	20 10 27.7	
	comp=Z,30nm,1.2s						
FOZ	**Fox Glacier**	**23.67**	**206**	P	**P**	**20 10 12.1**	**-0.1**
LBZ	**Lake Benmore**	**24.25**	**204**	P	**P**	**20 10 17.1**	**-0.3**
STKA	**Stephens Creek**	**38.33**	**247**	P	**P**	**20 12 20.5**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=93,slow=11,SNR=8.0						
STKA	**Stephens Creek**	**38.33**	**247**	P	**P**	**20 12 20.7**	**+0.6**
AS31	**Alice Springs**	**45.62**	**259**	P	**P**	**20 13 19.5**	**+0.4**
ASAR	**Alice Springs**	**45.62**	**259**	P	**P**	**20 13 19.6**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=96,slow=7.3,SNR=58						
ASAR	**Alice Springs**	**45.62**	**259**	P	**P**	**20 13 19.4**	**+0.2**
WR0	**Warramunga Arr**	**45.75**	**264**	P	**P**	**20 13 19.9**	**-0.2**
WB2	**Warramunga Arr**	**45.93**	**264**	P	**P**	**20 13 21.7**	**+0.1**
WB2				IAmb	IAmb	20 13 22.4	
	comp=Z,5.9nm,0.6s						
WB0	**Warramunga Arr**	**45.93**	**264**	P	**P**	**20 13 21.6**	**+0.1**
WB0				IAmb	IAmb	20 13 22.3	
	comp=Z,7.9nm,0.7s						
WRAB	**Tennant Creek**	**45.93**	**264**	P	**P**	**20 13 21.4**	**-0.1**
WRAB				IAmb	IAmb	20 13 22.3	
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**45.94**	**264**	P	**P**	**20 13 21.8**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=90,slow=5.8,SNR=157						
WRA	**Warramunga Arr**	**45.94**	**264**	P	**P**	**20 13 21.6**	**0.0**
FORT	**Forrest**	**49.92**	**248**	P	**P**	**20 13 51.7**	**-0.2**
FORT				IAmb	IAmb	20 14 13.3	
	comp=Z,35nm,1.1s						
KNRA	**Kununurra**	**52.16**	**267**	P	**P**	**20 14 09.6**	**+0.9**
KNRA				IAmb	IAmb	20 14 11.3	
	comp=Z,16nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.37**	**264**	P	**P**	**20 14 25.7**	**+1.0**
VNDA	**Vanda**	**55.78**	**186**	P	**P**	**20 14 37.1**	**+3.3**
	comp=Z,0.6nm,0.7s,baz=10,slow=4.0,SNR=7.5						
VNDA	**Vanda**	**55.78**	**186**	P	**P**	**20 14 34.3**	**+0.5**
SOEI	**Soe**	**58.22**	**273**	P	**P**	**20 14 50.4**	**-1.6**
SOEI				IAmb	IAmb	20 14 56.7	
	comp=Z,14nm,0.7s						
MAW	**Mawson**	**79.95**	**200**	P	P	20 17 10.7	+6.6
	comp=Z,2.9nm,0.6s,baz=127,slow=6.1,SNR=11						
MAW	**Mawson**	**79.95**	**200**	P	P	20 17 08.7	+4.6
H03S2	**Juan Fernandez**	**83.35**	**124**	T	T	21 49 53.4	
	baz=246,slow=74,SNR=9.0						
H03S1	**Juan Fernandez**	**83.37**	**124**	T	T	21 49 55.8	
	baz=246,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**83.37**	**124**	T	T	21 49 58.4	
	baz=246,slow=74,SNR=9.5						
H03N2	**Juan Fernandez**	**83.50**	**123**	T	T	21 50 05.8	
	baz=251,slow=72,SNR=5.7						
H03N3	**Juan Fernandez**	**83.50**	**123**	T	T	21 49 57.3	
	baz=251,slow=72,SNR=3.4						
H03N1	**Juan Fernandez**	**83.52**	**123**	T	T	21 50 06.4	
	baz=251,slow=72,SNR=5.3						
PV16	**Nyswonger Mesa**	**87.60**	**47**	P	**P**	**20 17 41.7**	**-1.8**
PV16				IAmb	IAmb	20 17 51.0	
	comp=Z,14nm,1.1s						
PV23	**Carpenter Ridg**	**87.61**	**46**	P	**P**	**20 17 41.6**	**-2.0**
PV23				IAmb	IAmb	20 17 50.2	
	comp=Z,7.9nm,0.7s						
PV03	**Paradox Valley**	**87.62**	**47**	P	**P**	**20 17 43.6**	**+0.1**
PV03				IAmb	IAmb	20 17 49.5	
	comp=Z,6.7nm,0.9s						
PV11	**David Mesa, Pa**	**87.62**	**47**	P	**P**	**20 17 42.2**	**-1.4**
PV02	**Paradox Valley**	**87.67**	**47**	P	**P**	**20 17 43.8**	**0.0**
PV02				IAmb	IAmb	20 17 46.4	
	comp=Z,7.4nm,1.1s						
PV12	**Saucer Basin,**	**87.68**	**47**	P	**P**	**20 17 44.1**	**+0.3**
PV12				IAmb	IAmb	20 17 51.7	
	comp=Z,7.8nm,1.0s						
PV01	**Paradox Valley**	**87.74**	**47**	P	**P**	**20 17 44.0**	**-0.2**
PV01				IAmb	IAmb	20 17 46.5	
	comp=Z,5.0nm,0.8s						
PV22	**Blue Mesa, Par**	**87.80**	**46**	P	**P**	**20 17 44.3**	**-0.1**
PV22				IAmb	IAmb	20 17 46.4	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**92.41**	**289**	P	P	20 18 12.5	+6.4
	comp=Z,0.6nm,0.8s,baz=145,slow=3.3,SNR=3.4						
ARCES	**ARCESS Array B**	**131.47**	**350**	PKP	PKiKP	20 24 14.5	+8.3
	comp=Z,0.8nm,0.6s,baz=40,slow=2.1,SNR=7.8						
AKASG	**Malin Array Be**	**145.81**	**331**	PKPbc	**PKiKP**	**20 24 39.8**	**+3.9**
	comp=Z,1.8nm,0.3s,baz=41,slow=4.4,SNR=9.3						
BRTR	**Keskin Array B**	**149.58**	**311**	PKPbc	**PKPab**	**20 24 50.5**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=141,slow=5.3,SNR=15						
BRTR	**Keskin Array B**	**149.58**	**311**		**PKPab**	**20 24 49.7**	**+0.4**
GERES	**GERESS Array B**	**152.84**	**346**	PKPbc	**PKPab**	**20 24 57.2**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=60,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**170.20**	**168**	PKP	PKPdf	20 25 09.5	+7.7
	comp=Z,0.7nm,0.8s,baz=255,slow=1.2,SNR=3.7						
TORD				PKPab	sPKPdf	20 26 27.3	-3.5
	comp=Z,0.9nm,0.7s,baz=201,slow=4.9,SNR=5.9						

IDC 06 20:13:43.3±6.1, 30.47S×178.16W, h78km±40km, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.9/3, Error ellipse: s-maj=91.2km s-min=36.3km az=137.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**10**	P	Pn	20 14 04.6	-0.6
	90nm,0.3s,baz=57,slow=22,SNR=3.5						
RAO				S	Sn	20 14 21.6	0.0
	234nm,0.3s,baz=332,slow=22,SNR=9.1						
STKA	**Stephens Creek**	**34.32**	**257**	P	P	20 20 23.3	+0.8
	1.9nm,0.7s,baz=95,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**42.96**	**267**	P	P	20 21 34.4	-0.6
	0.2nm,0.3s,baz=106,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**43.96**	**272**	P	P	20 21 42.7	-0.2
	0.9nm,0.3s,baz=111,slow=8.1,SNR=30						
H03S2	**Juan Fernandez**	**80.54**	**124**	T	T	21 54 50.4	
	baz=238,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**80.55**	**124**	T	T	21 54 51.0	
	baz=238,slow=74,SNR=25						
H03S3	**Juan Fernandez**	**80.56**	**124**	T	T	21 54 51.7	
	baz=238,slow=74,SNR=28						
H03N3	**Juan Fernandez**	**80.73**	**123**	T	T	21 55 13.8	
	baz=260						
H03N2	**Juan Fernandez**	**80.74**	**123**	T	T	21 55 05.8	
	baz=260,slow=74,SNR=7.2						
H03N1	**Juan Fernandez**	**80.75**	**123**	T	T	21 55 06.5	
	baz=260,slow=74,SNR=5.1						
H10N3	**ASCENSION HYDR**	**88.80**	**155**	T	T	23 08 28.3	
	baz=203,slow=75,SNR=4.4						
H10N1	**ASCENSION HYDR**	**88.81**	**155**	T	T	23 08 29.7	
	baz=203,slow=75,SNR=4.0						
H10N2	**ASCENSION HYDR**	**88.82**	**155**	T	T	23 08 29.9	
	baz=203,slow=75,SNR=4.6						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	PKPbc	20 33 10.0	-0.8
	1.9nm,0.9s,baz=64,slow=4.4,SNR=6.2						

CNRM ***06*** *20:18:02.6±2.4, 35.19N×6.55W, h75km±141km, Error ellipse: s-maj=16.0km s-min=10.5km az=91.0*
IGIL ***06*** *20:18:05.5, 35.35N×6.18W, h32km, ML1.7*
MDD ***06*** *20:18:05.6±1.6, 35.40N×6.17W, h84km±17km, mb2.5/5, Error ellipse: s-maj=13.8km s-min=8.3km az=10.0, PRXIMO*
INMG ***06*** *20:18:06.7±1.5, 35.43N×6.19W, h24km±20km, ML1.8, Error ellipse: s-maj=17.8km s-min=4.9km az=178.0*
SFS ***06*** *20:18:06.0, 35.60N×6.10W, ML2.3, GOLFO DE CADIZ*

ISC 06 20:18:06.5±1.4, 35.55N±0.05×6.16W±0.04, h80km±13km, n47, σ1802/70, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.73**	**61**	P	**Pn**	**20 18 22.0**	**-0.4**
CEU				S	**Sn**	**20 18 35.1**	**+0.9**
CEU	**Ceuta**	**0.73**	**61**	*e*P	**Pn**	**20 18 22.0**	**-0.4**
CEU				*e*S	**Sn**	**20 18 35.1**	**+0.9**
SFS	**San Fernando**	**0.91**	**358**	S	Sn	20 19 04.3	+26
SFS	**San Fernando**	**0.91**	**358**	*e*S	Sn	20 19 04.3	+26
IFR	**Ifrane**	**2.20**	**157**	*e*P	**Pn**	**20 18 44.8**	**+3.6**
IFR				*e*S	**Sn**	**20 19 03.5**	**-4.3**
PBDV	**Barranco-do-Ve**	**2.21**	**320**	P	**Pn**	**20 18 40.9**	**-0.3**
PBDV				S	**Sn**	**20 19 07.5**	**-0.3**
	2.9nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.21**	**320**	*e*Pn	**Pn**	**20 18 40.9**	**-0.3**
PBDV				*e*Sn	**Sn**	**20 19 07.5**	**-0.3**
PBDV				A	A	20 19 08.6	
	2.9nm,0.6s						
PVAQ	**Vaqueiros**	**2.23**	**326**	P	**Pn**	**20 18 41.4**	**-0.1**
PVAQ				S	**Sn**	**20 19 07.9**	**-0.3**
	4.9nm,0.1s						
PVAQ	**Vaqueiros**	**2.23**	**326**	P	**Pn**	**20 18 41.2**	**-0.3**
PVAQ				S	**Sn**	**20 19 08.0**	**-0.3**
PVAQ	**Vaqueiros**	**2.23**	**326**	*e*Pn	**Pn**	**20 18 41.4**	**-0.1**
PVAQ				*e*Sn	**Sn**	**20 19 07.9**	**-0.3**
PVAQ				A	A	20 19 09.9	
	4.9nm,0.1s						
EGRO	**El Granado**	**2.25**	**332**	P	**Pn**	**20 18 41.8**	**+0.1**
	0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**20 19 08.0**	**-0.6**
	3.8nm,0.1s,SNR=5.9						
EMIN	**Mina Concepcio**	**2.25**	**350**	P	**Pn**	**20 18 41.9**	**+0.2**
	0.4nm,0.1s,SNR=7.0						
EMIN				S	**Sn**	**20 19 08.5**	**-0.1**
	1.5nm,0.1s,SNR=6.7						
HORN	**Hornachuelos**	**2.40**	**17**	P	**Pn**	**20 18 45.0**	**+1.2**
PCVE	**Castro Verde**	**2.57**	**324**	P	**Pn**	**20 18 46.1**	**+0.1**
PCVE				S	**Sn**	**20 19 16.3**	**0.0**
	1.8nm,0.2s						
PCVE	**Castro Verde**	**2.57**	**324**	*e*Pn	**Pn**	**20 18 46.1**	**+0.1**
PCVE				*e*Sn	**Sn**	**20 19 16.3**	**0.0**
PCVE				A	A	20 19 19.2	
	1.8nm,0.2s						
ECAB	**El Cabril**	**2.59**	**13**	P	**Pn**	**20 18 46.6**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**20 19 16.2**	**-0.6**
	0.7nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**2.67**	**312**	*e*P	**Pn**	**20 18 46.8**	**-0.5**
MORF				*e*S	**Sn**	**20 19 17.0**	**-1.7**
MORF				AML	AML	20 19 17.9	
	comp=E,3.0nm,0.1s						
MORF	**Marmelete**	**2.67**	**312**	P	**Pn**	**20 18 46.8**	**-0.5**
MORF				S	**Sn**	**20 19 17.5**	**-1.2**
	comp=E,2.9nm,0.3s						
MORF	**Marmelete**	**2.67**	**312**	*e*Pn	**Pn**	**20 18 46.8**	**-0.5**
MORF				*e*Sn	**Sn**	**20 19 17.5**	**-1.2**
MORF				A	A	20 19 21.0	
	comp=E,2.9nm,0.3s						
PBAR	**Barrancos**	**2.71**	**345**	S	**Sn**	**20 19 19.9**	**+0.1**
PBAR	**Barrancos**	**2.71**	**345**	*e*Sn	**Sn**	**20 19 19.9**	**+0.1**
PBEJ	**Beja**	**2.83**	**331**	S	**Sn**	**20 19 22.2**	**-0.3**
PBEJ	**Beja**	**2.83**	**331**	*e*Sn	**Sn**	**20 19 22.2**	**-0.3**
PTEO	**Sao Teotonio**	**2.87**	**315**	P	**Pn**	**20 18 50.7**	**+0.7**
PTEO				S	**Sn**	**20 19 23.1**	**-0.4**
	comp=E,2.0nm,0.7s						
PTEO	**Sao Teotonio**	**2.87**	**315**	*e*Pn	**Pn**	**20 18 50.7**	**+0.7**
PTEO				*e*Sn	**Sn**	**20 19 23.1**	**-0.4**
PTEO				A	A	20 19 27.1	
	comp=E,4.1nm,0.7s						
EADA	**Adamuz**	**2.90**	**25**	P	**Pn**	**20 18 51.0**	**+0.5**
	comp=E,0.2nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**20 19 24.0**	**-0.5**
	comp=E,0.9nm,0.1s,SNR=7.9						
MD31	**MD31**	**2.92**	**156**	P	Pn	20 18 44.8	-6.0
MDT	**Midelt**	**3.02**	**154**	P	Pn	20 18 46.6	-5.6
PNCL	**Nicolau / Gran**	**3.19**	**324**	P	**Pn**	**20 18 54.7**	**+0.4**
PNCL				S	**Sn**	**20 19 30.5**	**-0.7**
	comp=E,1.4nm,0.8s						
PNCL	**Nicolau / Gran**	**3.19**	**324**	*e*Pn	**Pn**	**20 18 54.7**	**+0.4**
PNCL				*e*Sn	**Sn**	**20 19 30.5**	**-0.7**
PNCL				A	A	20 19 35.0	
	comp=E,1.4nm,0.8s						
EVO	**Evora**	**3.33**	**334**	S	**Sn**	**20 19 34.8**	**+0.2**
	comp=E,4.3nm,0.2s						
EVO	**Evora**	**3.33**	**334**	*e*S	**Sn**	**20 19 33.4**	**-1.3**
EVO	**Evora**	**3.33**	**334**	*e*Sn	**Sn**	**20 19 34.8**	**+0.2**
EVO				A	A	20 19 36.3	
	comp=E,4.3nm,0.2s						
EQES	**Quesada**	**3.35**	**47**	S	**Sn**	**20 19 34.7**	**-0.6**
	comp=E,0.3nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**3.88**	**335**	P	**Pn**	**20 19 04.2**	**+0.5**
PMTG				S	**Sn**	**20 19 47.7**	**-0.4**
	comp=E,1.3nm,0.5s						
PMTG	**Montargil**	**3.88**	**335**	*e*Pn	**Pn**	**20 19 04.2**	**+0.5**
PMTG				*e*Sn	**Sn**	**20 19 47.7**	**-0.4**
PMTG				A	A	20 19 51.0	
	comp=E,1.3nm,0.5s						
PMRV	**Marv??o**	**3.99**	**346**	P	**Pn**	**20 19 06.8**	**+1.5**
PMRV				S	**Sn**	**20 19 50.9**	**0.0**
	comp=E,6.1nm,0.8s						
PMRV	**Marv??o**	**3.99**	**346**	*e*Pn	**Pn**	**20 19 06.8**	**+1.5**
PMRV				*e*Sn	**Sn**	**20 19 50.9**	**0.0**
PMRV				A	A	20 19 54.1	
	comp=E,6.1nm,0.8s						
PAB	**San Pablo**	**4.24**	**19**	S	**Sn**	**20 19 55.8**	**-1.2**
	SNR=7.9						
PCBR	**Castelo Branco**	**4.41**	**347**	P	**Pn**	**20 19 12.1**	**+1.2**
PCBR				S	**Sn**	**20 20 00.5**	**-0.5**
	comp=E,0.8nm,0.6s						
PCBR	**Castelo Branco**	**4.41**	**347**	*e*Pn	**Pn**	**20 19 12.1**	**+1.2**
PCBR				*e*Sn	**Sn**	**20 20 00.5**	**-0.5**
PCBR				A	A	20 20 01.7	
	comp=E,1.5nm,0.6s						
EPLA	**Plasencia**	**4.51**	**1**	P	**Pn**	**20 19 13.9**	**+1.6**
	comp=E,0.8nm,0.1s,SNR=6.4						
EPLA				S	**Sn**	**20 20 02.2**	**-1.2**
	comp=E,0.8nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**4.56**	**199**	P	Pn	20 19 03.0	-10
OUK				S	Sn	20 19 53.9	-11
OUZM	**OUZ**	**4.66**	**186**	S	Sn	20 19 56.4	-11
ETOB	**Tobarra**	**4.81**	**49**	P	**Pn**	**20 19 15.3**	**-1.1**
	SNR=7.9						
ETOB				S	**Sn**	**20 20 08.8**	**-2.1**
	SNR=7.9						
TTIG	**Tnine Tigouga,**	**5.34**	**202**	P	Pn	20 19 15.7	-8.1
TTIG				S	Sn	20 20 07.9	-16
MVO	**Moncorvo**	**5.65**	**353**	*e*Pn	**Pn**	**20 19 28.9**	**+1.0**
MVO				*e*Sn	**Sn**	**20 20 31.6**	**+0.3**

IDC 06 20:50:41.5±4.9, 35.56N×141.28E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/29, mbtmp3.2/3, ML2.1/1, Error ellipse: s-maj=142.6km s-min=31.6km az=54.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**2.67**	**292**	Pn	Pn	20 51 27.4	+1.6
	0.3nm,0.3s,baz=98,slow=14,SNR=13						
MAT	**Matsushiro**	**2.67**	**292**	P	Pn	20 51 27.9	+2.0
MAT				*e*S	Sn	20 51 55.7	-3.3
H11N2	**WAKE ISLAND Hy**	**27.52**	**118**	T	T	21 25 42.0	
	baz=310,slow=75,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**27.53**	**118**	T	T	21 25 47.7	
	baz=310,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**27.54**	**118**	T	T	21 25 43.5	
	baz=310,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	21 26 27.0	
	baz=312,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	21 26 29.2	
	baz=312,slow=75,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	21 26 32.3	
	baz=312,slow=75,SNR=5.3						
MKAR	**Makanchi Array**	**44.82**	**303**	P	P	20 58 55.9	-1.3
	0.2nm,0.7s,baz=84,slow=8.1,SNR=1.7						
WRA	**Warramunga Arr**	**55.59**	**188**	P	P	21 00 19.0	0.0
	0.3nm,0.7s,baz=0.8,slow=7.8,SNR=7.5						

IDC ***06*** *21:00:57.6±14.0, 37.53S×78.09E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/44, mbtmp3.7/3, Error ellipse: s-maj=469.5km s-min=52.4km az=34.0*
NEIC ***06*** *21:00:59.5±0.7, 37.75S±0.2×78.26E±0.05, h10km±1km, mb4.4/7, Error ellipse: s-maj=29.3km s-min=4.5km az=349.0*

ISC 06 21:00:59.8±0.8, 37.75S±0.2×78.2E±0.1, h13km, n19, σ0881/13, mb4.3/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.48**	**259**	Pg	**Pb**	**21 01 09.9**	**-0.2**
H01W2	**Cape Leeuwin H**	**29.01**	**96**	T	T	21 37 10.2	
	baz=254,slow=75,SNR=229						
H01W3	**Cape Leeuwin H**	**29.02**	**95**	T	T	21 37 10.6	
	baz=254,slow=75,SNR=223						
H01W1	**Cape Leeuwin H**	**29.03**	**96**	T	T	21 37 12.1	
	baz=254,slow=75,SNR=170						
H08S2	**Diego Garcia H**	**30.37**	**349**	T	T	21 38 31.4	
	baz=171,slow=76,SNR=940						
H08S1	**Diego Carcia H**	**30.37**	**349**	T	T	21 38 33.6	
	baz=171,slow=76,SNR=984						
H08S3	**Diego Garcia H**	**30.39**	**349**	T	T	21 38 39.0	
	baz=171,slow=76,SNR=952						
CASY	**Casey**	**34.11**	**157**	P	**P**	**21 07 42.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**45.73**	**78**	P	**P**	**21 09 21.4**	**+0.5**
FITZ				IAmb	IAmb	21 09 39.1	
	comp=Z,6.3nm,1.2s						
ASAR	**Alice Springs**	**49.27**	**90**	P	**P**	**21 09 48.8**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=226,slow=6.4,SNR=3.6						
WRA	**Warramunga Arr**	**51.54**	**86**	P	**P**	**21 10 05.8**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=237,slow=7.5,SNR=7.4						
WRA	**Warramunga Arr**	**51.54**	**86**	P	**P**	**21 10 05.3**	**-0.3**
WB2	**Warramunga Arr**	**51.55**	**86**	P	**P**	**21 10 05.4**	**-0.3**
WB2				IAmb	IAmb	21 10 12.3	
	comp=Z,8.0nm,1.2s						
WB0	**Warramunga Arr**	**51.68**	**86**	P	**P**	**21 10 06.6**	**0.0**
WB0				IAmb	IAmb	21 10 12.4	
	comp=Z,6.8nm,1.2s						
QSPA	**South Pole Qui**	**52.45**	**180**	P	**P**	**21 10 13.6**	**+1.6**
KKAR	**Karatay Array**	**80.73**	**354**	P	**P**	**21 13 12.6**	**+0.2**
KKAR	**Karatay Array**	**80.73**	**354**	P	**P**	**21 13 12.6**	**+0.2**
KKAR				IAmb	IAmb	21 13 22.2	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**84.20**	**3**	P	**P**	**21 13 29.5**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=166,slow=7.4,SNR=2.2						
MKAR	**Makanchi Array**	**84.20**	**3**	P	**P**	**21 13 30.9**	**+0.5**

BJI ***06*** *21:06:06.5±0.0, 22.59N×100.69E, h7km, ML3.4/6*
IDC ***06*** *21:06:06.0±1.4, 22.58N×100.71E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/48, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=32.9km s-min=17.5km az=97.0*

ISC 06 21:06:07.5±0.8, 22.57N±0.06×100.9E±0.1, h10km, n20, σ2818/27, mb3.4/3, 1D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.08**	**34**	↓Pg	**Pg**	**21 07 05.2**	**-1.4**
KMI				Sg	**Sg**	**21 07 46.7**	**+0.2**
KMI				smax	smax		
	comp=N,46nm,1.0s						
KMI				smax	smax		
	comp=E,32nm,1.0s						
PAYA	**Payao**	**3.32**	**196**	P	**Pn**	**21 06 59.1**	**-0.5**
PAYA				S	**Sb**	**21 07 49.9**	**+2.9**
CM34	**Chiang Mai Arr**	**4.02**	**204**	P	**Pg**	**21 07 22.7**	**-2.0**
PHRA	**Phrae**	**4.09**	**188**	P	**Pg**	**21 07 23.6**	**-2.3**
CM33	**Chiang Mai Arr**	**4.13**	**206**	P	**Pg**	**21 07 25.2**	**-1.6**
CMMT	**Chiang Mai**	**4.14**	**206**	P	**Pb**	**21 07 23.8**	**+3.3**
CMMT				S	**Sb**	**21 08 06.6**	**-4.4**
CM09	**Chiang Mai Arr**	**4.46**	**203**	P	**Pg**	**21 07 30.6**	**-2.4**
CMAR	**Chiang Mai Arr**	**4.46**	**204**	Pn	**Pn**	**21 07 14.4**	**-0.8**
	0.5nm,0.3s,baz=13,slow=13,SNR=9.8						
CMAR				Pg	**Pb**	**21 07 28.6**	**+2.6**
	3.0nm,0.3s,baz=15,slow=17,SNR=36						
CMAR				Lg	Lg	21 08 26.5	
	6.6nm,0.3s,baz=17,slow=30,SNR=12						
CM15	**Chiang Mai Arr**	**4.47**	**204**	P	**Pg**	**21 07 31.5**	**-1.8**
CM15				S	**Sb**	**21 08 20.8**	**+0.5**
CM02	**Chiang Mai Arr**	**4.48**	**204**	P	**Pb**	**21 07 29.7**	**+3.4**
CM02				S	**Sb**	**21 08 23.0**	**+2.6**
CM01	**Chiang Mai Arr**	**4.49**	**204**	P	**Pg**	**21 07 32.4**	**-1.1**
CM04	**Chiang Mai Arr**	**4.50**	**203**	P	**Pg**	**21 07 31.8**	**-2.0**
CM13	**Chiang Mai Arr**	**4.51**	**204**	P	**Pg**	**21 07 32.0**	**-2.0**
CM05	**Chiang Mai Arr**	**4.51**	**204**	P	**Pg**	**21 07 31.2**	**-2.8**
MHMT	**Maesarieng**	**5.16**	**213**	P	**Pg**	**21 07 44.3**	**-2.0**
MHMT				S	**Sb**	**21 08 40.6**	**+0.8**
PHIT	**Phitsanulok**	**5.36**	**184**	P	**Pg**	**21 07 47.9**	**-2.4**
WMQ	**Urumqi**	**23.83**	**336**	*e*P	**P**	**21 11 19.7**	**-1.1**
SONM	**Songino Array**	**25.60**	**9**	P	**P**	**21 11 38.0**	**+0.9**
	0.6nm,0.7s,baz=187,slow=9.6,SNR=2.7						
MKAR	**Makanchi Array**	**28.45**	**333**	P	**P**	**21 12 01.9**	**-0.6**
	0.4nm,0.5s,baz=143,slow=9.6,SNR=9.8						
WRA	**Warramunga Arr**	**53.42**	**140**	P	**P**	**21 15 27.4**	**-0.5**
	0.3nm,0.8s,baz=333,slow=8.2,SNR=2.6						

NEIC ***06*** *21:31:16.8±1.6, 18.35S±0.04×168.1E±0.1, h35km±2km, mb4.3/10, Error ellipse: s-maj=21.4km s-min=6.7km az=97.0*
IDC ***06*** *21:31:20.2±6.7, 18.68S×168.26E, h72km±63km, mb3.6/6, mb1 3.9/7, mb1mx3.6/36, mbtmp3.9/7, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s

NACB				eS		Sn	21 37 45.7	+0.2
	baz=274							
JYNG	**Yonagunijimaku**	**0.73**	**49**	P		Pn	21 37 36.5	+0.7
JYNG				S		Sn	21 37 46.6	+0.7
TWC	**Suao**	**0.78**	**325**	eP		Pn	21 37 36.6	+0.1
	baz=330							
YOJ	**Yonaguni jima**	**0.78**	**51**	S		Sn	21 37 47.5	+0.3
ETLH	**Xiulin Townshi**	**0.82**	**287**	P		Pn	21 37 37.6	+0.5
	baz=282							
ETLH				eS		Sn	21 37 48.5	+0.2
	baz=282							
ESL	**Shilin**	**0.85**	**259**	P		Pb	21 37 38.1	+0.2
	baz=248							
ESL				S		Sn	21 37 49.5	+0.6
	baz=248							
EGFH	**Guangfu**	**0.89**	**250**	eP		Pb	21 37 39.1	+0.6
	baz=244							
EGFH				eS		Sn	21 37 51.4	+1.4
	baz=244							
TWE	**Neicheng**	**0.97**	**320**	eP		Pb	21 37 39.6	-0.1
	baz=320							
TWE				eS		Sn	21 37 51.4	-0.4
	baz=320							
HGSD	**Ruisui**	**0.97**	**241**	eP		Pb	21 37 40.0	+0.2
	baz=229							
ENTT	**Nioudou**	**0.97**	**313**	eP		Pb	21 37 39.8	-0.1
	baz=304							
NDT	**Datong Townshi**	**0.98**	**310**	eP		Pb	21 37 39.7	-0.4
	baz=308							
NDT				eS		Sn	21 37 52.2	-0.1
	baz=308							
NNSH	**Datong**	**0.99**	**297**	eP		Pb	21 37 40.0	-0.2
	baz=294							
NNSH				eS		Sn	21 37 52.2	-0.3
	baz=294							
NNSB	**Datong**	**0.99**	**297**	P		Pb	21 37 40.1	-0.1
	baz=294							
NNSB				S		Sn	21 37 52.4	-0.1
	baz=294							
NNS	**Nan Shan**	**1.00**	**298**	eP		Pb	21 37 40.3	-0.2
	baz=295							
NNS				eS		Sb	21 37 52.8	-0.6
	baz=295							
WHF	**Hehuan Shan**	**1.00**	**280**	P		Pb	21 37 40.4	-0.3
	baz=276							
WHF				eS		Sb	21 37 53.3	-0.3
	baz=276							
FUSS	**Fushou**	**1.04**	**285**	eP		Pb	21 37 41.4	+0.2
	baz=274							
FUSS				eS		Sb	21 37 54.5	-0.1
	baz=274							
EHY	**Hungye**	**1.05**	**244**	eP		Pb	21 37 41.1	-0.1
	baz=248							
EHY				eS		Sb	21 37 54.2	-0.3
	baz=248							
CHGB	**Renai**	**1.07**	**275**	eP		Pb	21 37 41.6	-0.1
	baz=271							
CHGB				eS		Sn	21 37 54.6	-0.2
	baz=271							
TIPB	**Shuangxi**	**1.10**	**335**	eP		Pn	21 37 40.8	-0.2
	baz=345							
TWT	**Tachien**	**1.10**	**285**	eS		Sb	21 37 56.0	-0.3
	baz=273							
NWLT	**Wulai**	**1.11**	**316**	eP		Pn	21 37 41.4	+0.3
	baz=315							
NWLT				S		Sn	21 37 54.9	-0.5
	baz=315							
TDCB	**Techi**	**1.12**	**285**	eP		Pb	21 37 42.3	-0.1
	baz=273							
TDCB				eS		Sb	21 37 56.0	-0.7
	baz=273							
YULB	**Yu-li**	**1.12**	**239**	eP		Pb	21 37 42.1	-0.3
	baz=246							
VWDT	**VWDT**	**1.12**	**259**	P		Pb	21 37 42.7	+0.3
	baz=246							
VWDT				eS		Sb	21 37 56.5	-0.1
	baz=246							
YHNB	**Yeheng**	**1.12**	**308**	P		Pb	21 37 42.0	-0.5
	baz=306							
YHNB				S		Sn	21 37 55.0	-0.8
	baz=306							
EYUL	**Yuli**	**1.13**	**237**	eP		Pb	21 37 42.7	+0.2
	baz=244							
EYUL				eS		Sb	21 37 58.5	+1.7
	baz=244							
NSK	**Sanguang**	**1.14**	**308**	eP		Pn	21 37 41.9	+0.4
	baz=306							
NSK				eS		Sn	21 37 55.4	-0.8
	baz=306							
TWF1	**Yuli**	**1.14**	**237**	eP		Pb	21 37 42.7	0.0
	baz=245							
TWF1				eS		Sb	21 37 57.4	+0.1
	baz=245							
FULB	**Fuli**	**1.23**	**232**	eP		Pb	21 37 43.5	-0.8
	baz=218							
FULB				eS		Sb	21 37 59.4	-0.4
	baz=218							
CHKT	**Chengkung**	**1.25**	**226**	eS		Sn	21 37 59.1	+0.3
	baz=215							
SSLB	**Suanglung**	**1.29**	**262**	eP		Pb	21 37 44.8	-0.4
	baz=252							
WHP	**Taichung City**	**1.31**	**284**	eP		Pb	21 37 45.4	-0.3
	baz=275							
WHP				eS		Sb	21 38 01.7	-0.5
	baz=275							
IRIF	**Iriomote-Funau**	**1.32**	**74**	eS		Sn	21 38 00.7	+0.3
SMLT	**Sun Moon Lake**	**1.32**	**266**	eP		Pb	21 37 46.1	+0.2
	baz=255							
HATJ	**Hateruma jima**	**1.34**	**86**	eS		Sn	21 38 01.6	+0.6
TYC	**Yuchr**	**1.36**	**267**	eP		Pn	21 37 44.8	+0.2
	baz=264							
EDH	**Donghe**	**1.38**	**224**	eP		Pn	21 37 44.1	-0.7
	baz=214							
EDH				eS		Sn	21 38 01.8	-0.2
	baz=214							
LIOB	**Emei**	**1.38**	**299**	eP		Pb	21 37 46.4	-0.4
	baz=297							
LIOB				eS		Sb	21 38 03.8	-0.4
	baz=297							
NSTT	**Nanjuang**	**1.39**	**298**	eP		Pb	21 37 46.4	-0.6
	baz=296							
NSTT				eS		Sb	21 38 03.4	-0.9
	baz=296							
WHYT	**Xinyi Township**	**1.39**	**259**	eP		Pb	21 37 47.7	+0.7
	baz=251							
ELDTW	**Lidau**	**1.45**	**238**	eP		Pn	21 37 46.6	+0.8
	baz=225							
ELDTW				eS		Sn	21 38 04.4	+0.6
	baz=225							
ALS	**Alishan**	**1.48**	**252**	eP		Pb	21 37 48.8	+0.1
	baz=249							
ALS				eS		Sb	21 38 06.2	-1.1
	baz=249							
WJS	**Zhushan**	**1.49**	**264**	eP		Pb	21 37 50.0	+1.4
	baz=261							
WJS				eS		Sb	21 38 07.8	+0.8
	baz=261							
NSY	**Sanyi**	**1.51**	**287**	eS		Sb	21 38 08.5	+0.7
	baz=285							
WNT	**Mingjian**	**1.52**	**267**	eS		Sb	21 38 08.9	+0.8
	baz=264							
LONT	**Longtian**	**1.54**	**227**	eP		Pn	21 37 47.8	+0.8
	baz=232							
LONT				eS		Sn	21 38 06.8	+0.8
	baz=232							
JKRS	**Kuro-shima**	**1.54**	**80**	P		Pn	21 37 47.9	+0.9
JKRS				eS		Sn	21 38 06.9	+0.8
CHN5	**Tsauling**	**1.57**	**257**	eP		Pb	21 37 51.0	+0.9
	baz=253							
CHN5				eS		Sb	21 38 08.5	-1.1
	baz=253							
TWGBT	**Beinan**	**1.64**	**226**	eP		Pn	21 37 49.3	+1.0
	baz=231							
TWGBT				eS		Sn	21 38 09.2	+0.8
	baz=231							
WCHH	**Zhanghua**	**1.64**	**274**	eS		Sb	21 38 11.1	-0.2
	baz=272							
TWG	**Pinlang**	**1.64**	**226**	eP		Pn	21 37 49.2	+0.9
	baz=231							
WGK	**Gukeng**	**1.66**	**260**	eS		Sb	21 38 12.3	+0.4
	baz=258							
STYT	**Tauyuan**	**1.67**	**241**	eP		Pb	21 37 50.9	-0.7
	baz=238							
STYT				eS		Sb	21 38 11.6	-0.7
	baz=238							
WDLH	**Douliu**	**1.68**	**261**	eP		Pb	21 37 51.6	-0.3
	baz=258							
WDLH				eS		Sb	21 38 12.7	+0.2
	baz=258							
JIJ	**Ishigaki jima**	**1.69**	**76**	P		Pn	21 37 49.6	+0.6
JIJ				eS		Sn	21 38 08.9	-0.7
TPUB	**Ta-pu**	**1.71**	**247**	eP		Pb	21 37 51.5	-0.9
	baz=244							
TPUB				eS		Sb	21 38 13.3	-0.2
	baz=244							
CHN4	**Tsaushan**	**1.72**	**249**	eP		Pb	21 37 51.6	-1.0
	baz=246							
CHN4				eS		Sb	21 38 14.7	+0.9
	baz=246							
WTP	**Ta-pu**	**1.74**	**246**	eP		Pb	21 37 53.1	+0.1
	baz=243							
WTP				eS		Sb	21 38 14.7	+0.2
	baz=243							
WTK	**Tuku**	**1.81**	**261**	eS		Sb	21 38 15.9	-0.5
	baz=259							
RLNB	**Erlin**	**1.82**	**268**	eS		Sb	21 38 16.9	+0.4
	baz=277							
CHY	**Chiayi**	**1.82**	**255**	eS		Sb	21 38 16.9	+0.2
	baz=253							
SLGT	**Liugui**	**1.84**	**238**	eP		Pb	21 37 53.7	-0.9
	baz=228							
SLGT				eS		Sb	21 38 17.7	+0.5
	baz=228							
CHN1	**Nanshi**	**1.84**	**245**	eP		Pb	21 37 54.2	-0.4
	baz=242							
CHN1				eS		Sb	21 38 17.4	+0.1
	baz=242							
TWK	**Hsinying**	**1.84**	**248**	eP		Pb	21 37 54.4	-0.2
	baz=245							
TWK				eS		Sb	21 38 17.6	+0.2
	baz=245							
SGST	**Jiashian**	**1.84**	**242**	eS		Sb	21 38 17.3	-0.1
	baz=239							
SNST	**Tainan City**	**1.85**	**246**	eS		Sb	21 38 18.0	+0.4
	baz=244							
ECL	**Taimali**	**1.87**	**223**	eP		Pn	21 37 51.9	+0.3
	baz=220							
ECL				eS		Sn	21 38 13.7	-0.5
	baz=220							
JISG	**Ishigakijimahi**	**1.90**	**71**	P		Pn	21 37 52.3	+0.4
JISG				S		Sn	21 38 14.1	-0.7
WSF	**Szhu**	**1.97**	**261**	eS		Sb	21 38 20.6	-0.4
	baz=271							
SSD	**Sandimen**	**1.99**	**233**	eP		Pb	21 37 56.4	-0.7
	baz=227							
SSD				eS		Sb	21 38 21.4	-0.2
	baz=227							
TSMG	**Majia**	**2.01**	**231**	eP		Pb	21 37 56.0	-1.4
	baz=224							
CHN8	**Yiju**	**2.05**	**253**	eS		Sb	21 38 21.7	-1.6
	baz=250							
MASBT	**Mashibuluo**	**2.08**	**230**	eP		Pb	21 37 56.4	-2.2
	baz=222							
EAST	**Anshuo**	**2.10**	**221**	eP		Pb	21 37 57.8	-1.2
	baz=219							
SCZT	**Fangliau**	**2.25**	**225**	eP		Pb	21 37 59.7	-1.8
	baz=221							
JTJ	**Tarama**	**2.25**	**72**	eS		Sn	21 38 23.9	+0.4
SLIU	**Shizi**	**2.25**	**219**	eP		Pb	21 37 59.7	-1.9
	baz=217							

IDC ***06*** *21:42:44.1±0.7, 35°.34N×137°.02E, h311$^{km}_{\pm 8}$, mb3.0/6, mb1 3.2/9, mb1mx3.0/56, mbtmp3.7/9, Error ellipse: s-maj=18.6km s-min=16.3km az=107.0*

JMA ***06*** *21:42:44.0±0.2, 35°.45N×136°.92E, h311$^{km}_{\pm 2}$, M3.5*

ISC 06 21:42:44.1±0.8**, 35°.39N**±0°.09×**136°.96E**±0°.07**, h309**$^{km}_{\pm 6}$**km, n26,** σ**0°75/32, mb3.1/6, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.27**	**318**	P		Pn	21 43 23.6	+0.4
JYTA				S		S	21 43 53.9	-0.6
JIE	**Ise**	**1.02**	**192**	P		Pn	21 43 26.2	+0.6
JIE				eS		S	21 43 59.0	+0.3
JKG	**Kaga**	**1.02**	**330**	P		Pn	21 43 25.6	+0.2
JKG				eS		S	21 43 57.7	-0.7
JWT	**Wachi**	**1.28**	**266**	P		Pn	21 43 27.1	+0.3
JWT				eS		S	21 43 59.8	-1.1
JYN	**Shimob**	**1.30**	**85**	P		Pn	21 43 27.4	+0.4
JFNN	**Fujinakano**	**1.43**	**97**	P		Pn	21 43 28.7	+1.0
MAT	**Matsushiro**	**1.53**	**41**	P		Pn	21 43 28.5	+0.2
MAT				eS		S	21 44 03.3	-0.3
MAT	**Matsushiro**	**1.53**	**41**	P		Pn	21 43 28.6	+0.2
MJAR	**Matsushiro Arr**	**1.53**	**41**	P		Pn	21 43 28.7	+0.4
	5.2nm,0.3s,baz=210,slow=7.2,SNR=237							
MJAR				S		S	21 44 04.6	+1.0
	baz=188,slow=14,SNR=1.2							
JWY	**Kouya**	**1.62**	**224**	P		Pn	21 43 29.5	+0.4
JRY	**Ryogami san**	**1.70**	**68**	P		Pn	21 43 29.8	+0.3
JOD2	**Odawara 2**	**1.75**	**94**	P		Pn	21 43 30.4	+0.6
JTNC	**Tanabenakahech**	**1.92**	**216**	P		Pn	21 43 31.3	+0.1
JSZ	**Suzu**	**2.08**	**9**	P		Pn	21 43 32.4	+0.2
JAG	**Ashikaga**	**2.27**	**62**	P		Pn	21 43 33.0	-0.8
JHS	**Saijyo**	**3.17**	**264**	P		Pn	21 43 42.0	-0.2
BSO1	**Bcso 1**	**3.38**	**101**	P		Pn	21 43 42.7	-0.9
JNU	**Nakatsue**	**5.52**	**248**	P		Pn	21 44 08.3	+0.3
	2.6nm,0.3s,baz=91,slow=1.9,SNR=17							
KSRS	**Korea Array**	**7.57**	**288**	P		Pn	21 44 33.2	+0.9
	0.3nm,0.3s,baz=96,slow=12,SNR=5.9							
ASAJ	**Asahikawa**	**9.73**	**25**	P		Pn	21 44 56.5	-2.2
	0.9nm,0.3s,baz=250,slow=12,SNR=1.8							
SONM	**Songino Array**	**25.83**	**308**	P		P	21 47 48.9	+1.1
	0.5nm,0.8s,baz=128,slow=9.5,SNR=1.6							
MKAR	**Makanchi Array**	**41.96**	**303**	P		P	21 50 05.6	+0.3
	0.3nm,0.5s,baz=90,slow=11,SNR=3.8							
ILAR	**Eielson Array**	**52.79**	**31**	P		P	21 51 28.0	+0.2
	0.3nm,0.6s,baz=248,slow=4.8,SNR=2.8							
WRA	**Warramunga Arr**	**55.09**	**183**	P		P	21 51 43.6	-1.1
	0.8nm,0.3s,baz=359,slow=7.7,SNR=34							
ASAR	**Alice Springs**	**58.81**	**183**	P		P	21 52 10.9	+0.3
	0.3nm,0.4s,baz=14,slow=12,SNR=7.1							
TXAR	**Lajitas Array**	**93.95**	**50**	P		P	21 55 27.3	-0.1
	0.5nm,0.8s,baz=25,slow=3.3,SNR=4.2							

NEIC ***06*** *21:51:06.2±1.2, 40°.46S±0°.06×176°.9E±0°.1, h3$^{km}_{\pm 3}$, Error ellipse: s-maj=14.2km s-min=5.8km az=121.0*

IDC ***06*** *21:51:07.9±1.2, 40°.24S×176°.74E, h0^{km}, mb4.2/3, mb1 4.4/3, mb1mx3.9/31, mbtmp4.2/3, MS3.8/7, Ms1 3.8/7, ms1mx3.5/24, Error ellipse: s-maj=37.5km s-min=23.3km az=95.0*

WEL ***06*** *21:51:08.6, 40°S±9°×17°7E±°, h12km, M4.6/18, ML4.9/18, MLv4.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=179.5*

ISC 06 21:51:07.0±1.6**, 40°.45S**±0°.03×**176°.87E**±0°.04**, h2**$^{km}_{\pm 10}$**km, n159,** σ**1°06/169, mb4.2/6, MS3.8/6, North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.26**	**317**	P		Pg	21 51 13.4	+1.4
ANWZ	**Angora Road**	**0.30**	**268**	P		Pb	21 51 15.8	+0.8
PXZ	**Pawanui**	**0.42**	**360**	P		Pb	21 51 17.6	+0.4
WPHZ	**Waipukurau**	**0.51**	**320**	P		Pb	21 51 18.3	-0.3
WPHZ				S		Sb	21 51 25.1	-1.3
DVHZ	**Dannevirke**	**0.56**	**286**	P		Pb	21 51 19.7	+0.2
DVHZ				S		Sb	21 51 27.4	-0.5
KAHZ	**Kahuranaki**	**0.66**	**1**	P		Pn	21 51 22.6	-0.8
KAHZ				S		Sn	21 51 33.4	-0.9
CPWZ	**Castlepoint**	**0.68**	**228**	P		Pn	21 51 24.6	+0.9
PRWZ	**Pori Road**	**0.69**	**261**	P		Pn	21 51 23.6	-0.1
PRWZ				S		Sn	21 51 33.8	-1.2
PNHZ	**Pukenui**	**0.74**	**316**	P		Pb	21 51 22.6	-0.1
PNHZ				S		Sb	21 51 32.5	-0.8
TSZ	**Takapari Road**	**0.80**	**299**	P		Pb	21 51 23.6	0.0
TSZ				S		Sb	21 51 34.2	-0.6
CKHZ	**Cape Kidnapper**	**0.81**	**12**	P		Pb	21 51 24.6	+0.8
TIWZ	**Tintock**	**0.81**	**246**	P		Pn	21 51 25.7	+0.2
TIWZ				S		Sn	21 51 38.2	0.0
POWZ	**Post Office Ro**	**0.84**	**274**	P		Pn	21 51 25.5	-0.4
KRHZ	**Kereru**	**0.89**	**335**	P		Pb	21 51 25.5	+0.3
KRHZ				S		Sb	21 51 37.8	+0.2
TMWZ	**Te Maipa**	**0.99**	**228**	P		Pn	21 51 27.8	-0.1
MRZ	**Mangatainoka R**	**1.00**	**258**	P		Pn	21 51 27.8	-0.3
MCHZ	**McNeill Hill**	**1.01**	**353**	P		Pn	21 51 27.9	-0.3
KWHZ	**Kaweka Forest**	**1.08**	**342**	P		Pb	21 51 28.5	0.0
HOWZ	**Holdsworth Sta**	**1.12**	**246**	P		Pn	21 51 29.4	-0.3
BHHZ	**Black Hill Sta**	**1.14**	**327**	P		Pb	21 51 29.2	-0.3
OHWZ	**Ohakea**	**1.21**	**281**	P		Pn	21 51 32.1	+1.2
TRWZ	**Traveller**	**1.30**	**223**	P		Pg	21 51 31.8	-0.1
BKZ	**Black Stump Fm**	**1.32**	**347**	P		Pg	21 51 31.7	-0.5
BKZ	**Black Stump Fm**	**1.32**	**347**	Pn		Pg	21 51 31.7	-0.5
OGWZ	**Otaki Gorge**	**1.34**	**254**	P		Pg	21 51 32.5	-0.2
MOVZ	**Moawhango**	**1.35**	**320**	P		Pb	21 51 32.9	-0.1
NMHZ	**Naumai**	**1.35**	**358**	P		Pg	21 51 32.7	-0.3
WHHZ	**Waihua**	**1.40**	**12**	P		Pn	21 51 33.1	-0.5
PAWZ	**Paruwai Farm**	**1.43**	**229**	P		Pn	21 51 33.7	-0.3
WNVZ	**Wahianoa**	**1.49**	**319**	P		Pg	21 51 35.7	+0.1
TUVZ	**Tukino**	**1.51**	**321**	P		Pg	21 51 36.3	+0.4
MTVZ	**Mangateitei**	**1.51**	**314**	P		Pg	21 51 36.3	+0.3
CAW	**Cannon Point**	**1.51**	**244**	P		Pn	21 51 34.8	-0.4
MHGZ	**Mahia Peninsul**	**1.53**	**32**	P		Pn	21 51 34.5	-0.8
KIW	**Kapiti Island**	**1.54**	**254**	P		Pn	21 51 35.3	-0.2
DRZ	**Dome Shelter**	**1.54**	**319**	P		Pg	21 51 37.2	+0.5
RAHZ	**Arahi**	**1.54**	**6**	P		Pn	21 51 34.8	-0.7
MSWZ	**Moikau Station**	**1.56**	**231**	P		Pn	21 51 34.8	-0.9
MSWZ	**Moikau Station**	**1.56**	**231**			Pn	21 51 35.3	-0.4
MSWZ					Sn	Sn	21 51 55.3	-1.2
KNZ	**Kokohu**	**1.56**	**24**	P		Pn	21 51 34.6	-1.1
FWVZ	**Far West T-bar**	**1.56**	**319**	P		Pg	21 51 36.9	-0.2
OTVZ	**Oturere**	**1.58**	**324**	P		Pg	21 51 37.4	0.0
ETVZ	**East Tongariro**	**1.59**	**326**	P		Pg	21 51 37.0	-0.4
MTHZ	**Maungataniwha**	**1.60**	**359**	P		Pn	21 51 35.6	-0.7
NGZ	**Ngauruhoe**	**1.60**	**322**	P		Pg	21 51 37.9	+0.1
TMVZ	**Te Maari**	**1.61**	**326**	P		Pg	21 51 37.6	-0.2
PKVZ	**Pokaka**	**1.65**	**314**	P		Pg	21 51 38.2	-0.4
KRVZ	**Karewarewa**	**1.65**	**325**	P		Pg	21 51 38.3	-0.4
PLWZ	**Palliser**	**1.65**	**227**	P		Pn	21 51 36.0	-1.1
PLWZ	**Palliser**	**1.65**	**227**			Pn	21 51 35.9	-1.2
PLWZ					Sn	Sn	21 51 58.2	-0.7
MRHZ	**Matea Rd**	**1.65**	**348**	P		Pn	21 51 37.3	+0.2
WTVZ	**West Tongariro**	**1.66**	**323**	P		Pg	21 51 38.6	-0.2
RITZ	**Rihia Road**	**1.67**	**332**	P		Pg	21 51 38.2	-0.1
HATZ	**Hinemaiaia**	**1.67**	**339**	P		Pg	21 51 39.2	+0.1
PRGZ	**Paritu Road**	**1.72**	**28**	P		Pn	21 51 37.1	-0.9
KATZ	**Kakaramea**	**1.73**	**328**	P		Pg	21 51 40.7	+0.5
TWVZ	**Taurewa**	**1.77**	**321**	P		Pg	21 51 40.0	-0.8
BHW	**Baring Head**	**1.79**	**237**	P		Pn	21 51 38.4	-0.5
BHW	**Baring Head**	**1.79**	**237**			Pn	21 51 38.3	-0.6
BHW					Sn	Sn	21 52 00.8	-1.3
RATZ	**Rangitukua**	**1.79**	**332**	P		Pg	21 51 41.4	0.0
WEL	**Wellington**	**1.79**	**242**	P		Pn	21 51 38.7	-0.3
RTZ	**Ruatahuna**	**1.84**	**3**	P		Pn	21 51 39.0	-0.6
SNZO	**South Karori**	**1.85**	**242**			Pn	21 51 38.3	-1.4
SNZO					Sn	Sn	21 52 02.2	-1.4
WHTZ	**Whakaora**	**1.92**	**338**	P		Pg	21 51 43.1	-0.7
ALRZ	**Allen Road**	**1.93**	**348**	P		Pn	21 51 41.4	+0.5
WATZ	**Wairara**	**1.95**	**333**	P		Pg	21 51 45.9	+1.5
PRRZ	**Plateau Road**	**1.98**	**349**	P		Pn	21 51 41.4	-0.2
WPRZ	**Whakapapatarin**	**2.00**	**344**	P		Pb	21 51 44.0	-0.2
VRZ	**Vera Road**	**2.10**	**309**	P		Pg	21 51 46.3	-0.9
TCW	**Tory Channel**	**2.10**	**248**	P		Pn	21 51 42.5	-0.7
HRRZ	**Handcock Road**	**2.11**	**347**	P		Pb	21 51 46.2	+0.3
KUTZ	**Kaahu Road**	**2.12**	**337**	P		Pb	21 51 45.7	-0.5
RRRZ	**Republican Roa**	**2.13**	**353**	P		Pn	21 51 43.2	-0.3
LREZ	**Lake Rotokare**	**2.14**	**297**	P		Pg	21 51 47.8	-0.2
TKGZ	**Te Karaka**	**2.15**	**21**	P		Pn	21 51 43.1	-0.7
MWZ	**Matawai**	**2.18**	**14**	P		Pn	21 51 42.7	-1.6
GRRZ	**Galatos Road**	**2.18**	**344**	P		Pn	21 51 44.6	+0.3
HSRZ	**Hossack Road**	**2.19**	**347**	P		Pn	21 51 44.2	-0.3
URZ	**Urewera**	**2.20**	**5**	Pn		Pn	21 51 43.2	-1.3
	39nm,0.3s,baz=224,slow=7.1,SNR=139							
URZ					Sn	Sn	21 52 10.2	-2.0
	95nm,0.3s,baz=279,slow=3.8,SNR=11							
URZ					LR	LR	21 52 42.5	
	comp=Z,930nm,21.8s,baz=248,slow=47							
URZ	**Urewera**	**2.20**	**5**	P		Pn	21 51 43.3	-1.2
URZ	**Urewera**	**2.20**	**5**			Pn	21 51 43.5	-1.0
CNGZ	**Carnagh Statio**	**2.22**	**28**	P		Pn	21 51 44.4	-0.5
TARZ	**Mount Tarawera**	**2.23**	**353**	P		Pn	21 51 44.7	-0.4
DUWZ	**D'Urville Isla**	**2.27**	**260**	P		Pn	21 51 45.9	+0.4
TLZ	**Tolley Road**	**2.36**	**334**	P		Pb	21 51 50.0	-0.2
PREZ	**Palmer Road**	**2.36**	**297**	P		Pg	21 51 52.8	+0.6
CMWZ	**Cape Campbell**	**2.38**	**236**	P		Pn	21 51 46.7	-0.4
CMWZ	**Cape Campbell**	**2.38**	**236**	Pn		Pn	21 51 46.9	-0.2
MHEZ	**Mangahewa**	**2.39**	**304**	P		Pg	21 51 52.8	-0.1
DREZ	**Durham Road**	**2.41**	**301**	P		Pg	21 51 52.2	-1.0
TUWZ	**Tuamarina**	**2.42**	**245**	P		Pn	21 51 46.7	-0.8
TUWZ	**Tuamarina**	**2.42**	**245**			Pn	21 51 46.8	-0.8
NEZ	**North Egmont**	**2.44**	**298**	P		Pb	21 51 50.8	-0.8
KHEZ	**Kahui Hut**	**2.48**	**297**	P		Pg	21 51 54.2	-0.3
HIZ	**Hauiti**	**2.48**	**321**	P		Pn	21 51 49.8	+1.4
HIZ	**Hauiti**	**2.48**	**321**			Pn	21 51 48.9	+0.5
NMEZ	**Namu Road**	**2.52**	**293**	P		Pg	21 51 53.8	-1.5
PKE	**Pukeiti**	**2.55**	**299**	P		Pg	21 51 54.8	-1.1
RUGZ	**Raukumara Rang**	**2.56**	**15**	P		Pn	21 51 48.2	-1.4
BSWZ	**Blackbirch Sta**	**2.59**	**240**	P		Pn	21 51 48.8	-1.0
BSWZ	**Blackbirch Sta**	**2.59**	**240**			Pn	21 51 48.9	-1.0
NBEZ	**Newall Road No**	**2.59**	**296**	P		Pb	21 51 54.7	+0.5
WHRZ	**Whale Island**	**2.59**	**2**	P		Pn	21 51 49.2	-0.7
PUZ	**Puketiti**	**2.61**	**25**	P		Pn	21 51 48.6	-1.6
OPRZ	**Ohinepanea**	**2.62**	**355**	P		Pn	21 51 50.0	-0.3
NNZ	**Nelson**	**2.75**	**253**	P		Pn	21 51 51.8	-0.3
**N

comp=Z,36nm,20.4s,baz=254,slow=37
YBH Yreka Blue Hor 98.44 41 LR LR 22 43 15.9
comp=Z,28nm,18.5s,baz=215,slow=32
ARCES ARCESS Array B 147.20 342 PKPbc **PKPbc 22 10 50.3 -0.3**
comp=Z,2.2nm,0.7s,baz=50,slow=3.8,SNR=7.0
BRTR Keskin Array B 151.98 281 PKPbc **PKiKP 22 11 04.9 +0.9**
comp=Z,0.4nm,0.8s,baz=87,slow=5.9,SNR=2.0
TORD Torodi Ar. Bea 152.47 190 PKPbc **PKiKP 22 11 05.8 +0.3**
comp=Z,0.3nm,0.5s,baz=154,slow=4.0,SNR=6.2

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*IDC **06** 22:11:19.7±2.4, 17.°73S×177.°76W, h0km, mb4.0/5, mb1 4.4/5, mb1mx3.9/28, mbtmp4.0/5, Error ellipse: s-maj=206.0km s-min=23.1km az=156.0*
*NEIC **06** 22:12:20.6±1.2, 17.°77S±0.°08×178.°6W±0.°1, h607km±10km, mb4.1/15, Error ellipse: s-maj=19.5km s-min=11.0km az=78.0*
ISC 06 22:12:18.5±0.8, 18.°0S±0.°2×178.°5W±0.°1, h579km, n30, σ1s17/30, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.34**	**273**	P	**P**	**22 13 41.3**	**+3.2**
SANVU	**Saraoutou**	**13.97**	**278**	P	**P**	**22 15 19.2**	**+1.8**
DZM	**Mont Dzumac**	**14.77**	**251**	P	**P**	**22 15 25.3**	**+0.1**
CTAO	**Charters Tower**	**33.40**	**261**	P	**P**	**22 18 10.1**	**-0.3**
CTAO				IAmb	IAmb	22 18 10.7	
	comp=Z,4.4nm,0.9s						
COEN	**Coen**	**37.06**	**270**	P	**P**	**22 18 40.8**	**-0.1**
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**22 19 30.1**	**-0.6**
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**22 19 39.0**	**-1.1**
WB0				IAmb	IAmb	22 19 40.9	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**44.57**	**260**	P	**P**	**22 19 39.1**	**-1.2**
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**22 19 39.2**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=96,slow=7.1,SNR=27						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**22 19 38.7**	**-1.6**
AS31	**Alice Springs**	**44.73**	**254**	P	**P**	**22 19 41.0**	**-0.5**
AS31				IAmb	IAmb	22 19 41.9	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**22 19 41.0**	**-0.6**
	comp=Z,9.4nm,0.6s,baz=87,slow=8.6,SNR=105						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**22 19 40.3**	**-1.2**
KNRA	**Kununurra**	**50.44**	**264**	P	**P**	**22 20 23.1**	**-1.0**
KNRA				IAmb	IAmb	22 20 38.0	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.98**	**261**	P	**P**	**22 20 41.5**	**-0.9**
PSA00	**Pilbara Seismi**	**57.85**	**255**	P	**P**	**22 21 14.8**	**-1.3**
PSA00				IAmb	IAmb	22 21 28.4	
	comp=Z,8.6nm,1.1s						
NWAO	**Narrogin (SRO)**	**59.15**	**242**	P	**P**	**22 21 25.9**	**+1.2**
NWAO				IAmb	IAmb	22 21 27.7	
	comp=Z,12nm,1.1s						
UGM	**Wanagama**	**69.60**	**268**	P	**P**	**22 22 29.3**	**-1.7**
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**22 23 26.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=220,slow=7.9,SNR=5.2						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**22 23 26.1**	**-0.1**
BELA	**Belgrano 2**	**82.12**	**173**	P	**P**	**22 23 40.0**	**+1.2**
SCM	**Sheep Creek Mo**	**83.29**	**14**	P	**P**	**22 23 43.9**	**-0.9**
TRF	**Thorofare Moun**	**84.07**	**12**	P	**P**	**22 23 47.4**	**-1.4**
IMAR	**Indian Mountai**	**85.74**	**12**	P	**P**	**22 23 55.8**	**-0.8**
TX31	**Lajitas Ar. Si**	**86.06**	**58**	P	**P**	**22 23 59.9**	**+0.8**
TX31				IAmb	IAmb	22 24 00.9	
	comp=Z,4.5nm,1.0s						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**22 23 59.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=230,slow=7.7,SNR=8.9						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**22 23 59.3**	**+0.3**
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**22 24 05.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=224,slow=2.5,SNR=3.9						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**22 24 04.9**	**-0.4**
CLL	**Collm**	**145.50**	**347**	*i* PKPbc	**PKPab**	**22 30 54.4**	**+0.3**

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*DDA **06** 22:34:44.2, 35.°53N×26.°45E, h7km±4km, ML2.0*
ISK 06 22:34:40.5, 36.°53N×26.°88E, h142km±1km, ML2.2/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.00**	**167**	PG	Pn	22 35 05.0	+0.4
KARP				SG	Sn	22 35 22.8	0.0
ARG	**Arkhangelos**	**1.05**	**107**	PG	Pn	22 35 05.5	+0.6
ARG				SG	Sn	22 35 23.6	+0.1
TURN	**Turunc**	**1.13**	**77**	PN	Pn	22 35 06.1	+0.5
TURN	**Turunc**	**1.13**	**77**	*i* P	Pn	22 35 06.0	+0.4
TURN				*i* S	Sn	22 35 21.7	-3.0
TURN				IAML		22 35 24.0	
	comp=N,31nm,0.2s						
TURN				IAML		22 35 25.0	
	comp=E,43nm,0.3s						
YER	**Yerkesik**	**1.28**	**61**	PN	Pn	22 35 07.8	+0.6
YER				SN	Sn	22 35 27.4	-0.2
DALY	**Dalyan (Mula)**	**1.46**	**78**	PN	Pn	22 35 09.6	+0.7
DALY				SN	Sn	22 35 30.8	+0.2
DALY	**Dalyan (Mula)**	**1.46**	**78**	*i* P	Pn	22 35 09.1	+0.2
DALY				*i* S	Sn	22 35 30.2	-0.4
DALY				IAML		22 35 34.0	
	comp=N,30nm,0.2s						
DALY				IAML		22 36 07.0	
	comp=E,48nm,2.0s						
ZKR	**Zakros**	**1.51**	**201**	PN	Pn	22 35 10.0	+0.5
AYDB	**Zeytinkoy-Aydi**	**1.63**	**29**	PN	Pn	22 35 11.5	+0.5
FETY	**Fethiye**	**1.78**	**86**	PN	Pn	22 35 12.8	+0.3
FETY	**Fethiye**	**1.78**	**86**	*i* P	Pn	22 35 14.1	+1.6
FETY				*i* S	Sn	22 35 35.0	-2.0
TAVA	**DENIZLI_Tavas**	**1.88**	**59**	*i* P	Pn	22 35 22.1	+8.3
TAVA				*i* S	Sn	22 35 38.1	-1.2
IDI	**Anoyia**	**2.03**	**233**	PN	Pn	22 35 16.3	+0.7
AKAS	**Kas**	**2.22**	**97**	PN	Pn	22 35 18.5	+0.6
AKAS	**Kas**	**2.22**	**97**	*i* P	Pn	22 35 17.6	-0.2
AKAS				*i* S	Sn	22 35 43.3	-3.3
AKUM	**Antalya-Kumluc**	**2.80**	**93**	*i* P	Pn	22 35 25.7	+0.7
AKUM				*i* S	Sn	22 35 56.2	-3.0
AKUM				IAML		22 36 02.0	
	comp=N,6.6nm,0.4s						
AKUM				IAML		22 36 12.0	
	comp=E,6.3nm,0.9s						

ZUR 06 22:37:04.4, 46.°46N×8.°19E, h2km±3km, MLh0.3/3, 5C, Error ellipse: s-maj=7.5km s-min=1.1km az=161.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRIMS	**Grimsel Gerste**	**0.15**	**36**	⇑Pg	Pg	22 37 07.7	+0.4
GRIMS				⇑Pg	Pg	22 37 07.7	+0.4
	SNR=15						
GRIMS				Sg	Sg	22 37 09.9	+0.5
BIBA	**Brigerbad**	**0.24**	**229**	⇑Pg	Pg	22 37 09.2	+0.3
SIMPL	**Simplonpass**	**0.25**	**208**	⇑Pg	Pg	22 37 09.5	+0.3
SIMPL				⇑Pg	Pg	22 37 09.5	+0.3
	SNR=3.1						
SIMPL				Sg	Sg	22 37 12.9	+0.5
HASLI	**Hasliberg/Brie**	**0.30**	**355**	Pg	Pg	22 37 10.3	+0.1
	SNR=8.6						
HASLI				Pg	Pg	22 37 10.3	+0.1

IDC 06 22:37:57.7±15.0, 36.°52S×78.°66E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, Error ellipse: s-maj=502.5km s-min=53.0km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**28.75**	**97**	T	T	23 14 11.4	
	baz=254,slow=75,SNR=5.7						
H01W3	**Cape Leeuwin H**	**28.76**	**97**	T	T	23 14 07.9	
	baz=254,slow=75,SNR=62						
H01W1	**Cape Leeuwin H**	**28.77**	**97**	T	T	23 14 09.4	
	baz=254,slow=75,SNR=40						
H08S2	**Diego Garcia H**	**29.29**	**347**	T	T	23 15 29.1	
	baz=169						
H08S1	**Diego Carcia H**	**29.29**	**347**	T	T	23 15 30.2	
	baz=169						
H08S3	**Diego Garcia H**	**29.31**	**347**	T	T	23 15 32.8	
	baz=169						
ASAR	**Alice Springs**	**48.88**	**91**	P	P	22 46 44.7	-0.7
	0.3nm,0.7s,baz=240,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**51.08**	**87**	P	P	22 47 02.7	+0.6
	1.3nm,0.9s,baz=238,slow=7.7,SNR=3.3						
MKAR	**Makanchi Array**	**83.00**	**3**	P	P	22 50 24.3	0.0
	0.4nm,0.9s,baz=188,slow=4.4,SNR=2.6						

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*MRB **06** 22:38:56.9±0.2, 41.°79N×2.°91E, ML0.6/12, Error ellipse: s-maj=1.9km s-min=0.7km az=115.0*
MDD 06 22:38:56.9±0.8, 41.°78N×2.°91E, h10km±1km, mbLg1.0/7, Error ellipse: s-maj=6.9km s-min=3.4km az=128.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCAS	**Cassa de la Se**	**0.10**	**360**	Pg	Pg	22 38 59.3	-0.3
CCAS				Lg	Lg	22 39 01.1	
	13nm,0.1s						
CCAS	**Cassa de la Se**	**0.10**	**360**	P	Pg	22 38 59.3	-0.3
CCAS				S	Sg	22 39 01.1	-0.5
CFON	**Fontmartina**	**0.35**	**267**	Pg	Pg	22 39 03.5	-0.4
	SNR=7.9						
CFON				Lg	Lg	22 39 08.5	
	3.0nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.35**	**267**	P	Pg	22 39 03.9	0.0
CFON				S	Sg	22 39 09.0	+0.3
	4.5nm,0.2s						
CBEU	**Beuda**	**0.51**	**340**	Pg	Pg	22 39 06.2	-0.6
CBEU				Lg	Lg	22 39 13.7	
	1.8nm,0.2s						
CBEU	**Beuda**	**0.51**	**340**	P	Pg	22 39 06.3	-0.6
CBEU				S	Sg	22 39 13.7	+0.2
	2.2nm,0.3s						
CPAL	**Palau Saverder**	**0.57**	**20**	Pg	Pg	22 39 07.3	-0.6
CPAL				Lg	Lg	22 39 15.3	
CPAL	**Palau Saverder**	**0.57**	**20**	P	Pg	22 39 07.3	-0.6
CPAL				S	Sg	22 39 15.3	-0.1
CORI	**Orista**	**0.67**	**287**	Pg	Pg	22 39 09.5	-0.3
CORI				Lg	Lg	22 39 18.7	
	1.7nm,0.3s						
CORI	**Orista**	**0.67**	**287**	P	Pg	22 39 09.5	-0.3
CORI				S	Sg	22 39 18.7	+0.1
	1.7nm,0.3s						
EJON	**La Jonquera**	**0.67**	**359**	Pg	Pg	22 39 09.9	0.0
	SNR=7.9						
EJON				Lg	Lg	22 39 19.4	
	0.4nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**0.71**	**359**	Pg	Pg	22 39 09.9	-0.7
SJAF				Lg	Lg	22 39 19.7	
	0.4nm,0.1s						
SJAF	**Saint Jean de**	**0.71**	**359**	P	Pg	22 39 10.0	-0.6
SJAF				S	Sg	22 39 19.8	-0.1
	1.2nm,0.3s						
CBRU	**Bruguera**	**0.74**	**313**	Pg	Pg	22 39 10.7	-0.6
CBRU				Lg	Lg	22 39 20.8	
	0.8nm,0.3s						
CBRU	**Bruguera**	**0.74**	**313**	P	Pg	22 39 10.8	-0.5
CBRU				S	Sg	22 39 20.8	-0.1
	1.6nm,0.3s						
FILF	**Fillols**	**0.82**	**342**	Pg	Pg	22 39 12.5	-0.3
FILF				Lg	Lg	22 39 24.6	
	1.7nm,0.2s						
FILF	**Fillols**	**0.82**	**342**	P	Pg	22 39 12.6	-0.2
FILF				S	Sb	22 39 24.7	+0.2
	1.7nm,0.2s						
CLLI	**Llivia**	**0.98**	**316**	Pg	Pg	22 39 15.2	-0.7
	4.2nm,1.0s,SNR=11						
CLLI				Lg	Lg	22 39 28.6	
	0.6nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**0.98**	**316**	P	Pg	22 39 15.0	-0.9
CLLI				S	Sg	22 39 28.4	-0.3
	1.2nm,0.2s						
EMIR	**Miracle**	**1.04**	**278**	Lg	Lg	22 39 30.6	
	1.4nm,0.1s,SNR=7.9						
ARBS	**La Rabassa**	**1.21**	**304**	P	Pb	22 39 19.1	-0.9
ARBS				S	Sb	22 39 35.7	-0.1
	1.5nm,0.4s						
CORG	**Organya**	**1.27**	**291**	Pg	Pn	22 39 19.9	-0.8
CORG				Lg	Lg	22 39 37.0	
	0.3nm,0.2s						
CORG	**Organya**	**1.27**	**291**	P	Pn	22 39 19.9	-0.7
CORG				S	Sb	22 39 37.0	-0.2
	0.7nm,0.2s						
CGAR	**Garraf**	**1.42**	**251**	Pg	Pn	22 39 13.3	-9.4
CGAR				Lg	Lg	22 39 25.9	
CGAR	**Garraf**	**1.42**	**251**	P	Pn	22 39 13.3	-9.4
CGAR				S	Sn	22 39 25.9	-15
EPOB	**Poblet**	**1.44**	**253**	Pg	Pn	22 39 22.9	-0.1
	SNR=7.9						
EPOB				Lg	Lg	22 39 42.4	
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.44**	**253**	P	Pn	22 39 22.8	-0.2
EPOB				S	Sb	22 39 42.2	+0.1
	1.0nm,0.3s						
CSOR	**Sort**	**1.45**	**295**	Pg	Pn	22 39 23.3	+0.1
	SNR=7.9						
CSOR				Lg	Lg	22 39 42.6	
	0.7nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.45**	**295**	P	Pn	22 39 23.1	-0.1
CSOR				S	Sb	22 39 42.8	+0.3
	2.1nm,0.7s						
CEST	**Esterri de Car**	**1.48**	**304**	Pg	Pn	22 39 23.4	-0.2
CEST				Lg	Lg	22 39 43.0	
	1.4nm,0.4s						
CEST	**Esterri de Car**	**1.48**	**304**	P	Pn	22 39 23.4	-0.2
CEST				S	Sb	22 39 43.2	-0.1
	1.4nm,0.4s						

IDC 06 22:39:54.9±17.0, 37.°67S×77.°86E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/34, mbtmp3.6/3, MS3.8/3, Ms1 3.8/3, ms1mx3.2/31, Error ellipse: s-maj=560.3km s-min=53.4km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**29.25**	**96**	T	T	23 16 15.7	
	baz=254,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**29.26**	**96**	T	T	23 16 18.8	
	baz=254,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**29.27**	**96**	T	T	23 16 13.6	
	baz=254,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**30.29**	**349**	T	T	23 17 34.3	
	baz=171,slow=76,SNR=76						
H08S1	**Diego Carcia H**	**30.29**	**349**	T	T	23 17 34.6	
	baz=171,slow=76,SNR=447						
H08S3	**Diego Garcia H**	**30.31**	**349**	T	T	23 17 33.0	
	baz=171,slow=76,SNR=98						
MAW	**Mawson**	**31.15**	**191**	LR	LR	22 57 58.0	
	comp=Z,237nm,18.5s,baz=24,slow=35						
NWAO	**Narrogin (SRO)**	**32.31**	**94**	LR	LR	22 56 19.3	
	comp=Z,17nm,20.7s,baz=256,slow=30						
ASAR	**Alice Springs**	**49.51**	**90**	P	P	22 48 46.9	-0.5
	0.6nm,0.8s,baz=229,slow=8.5,SNR=3.0						
ASAR				LR	LR	23 08 15.2	
	comp=Z,67nm,18.5s,baz=234,slow=34						
WRA	**Warramunga Arr**	**51.78**	**87**	P	P	22 49 04.8	+0.1
	2.0nm,1.1s,baz=239,slow=6.7,SNR=5.2						
MKAR	**Makanchi Array**	**84.18**	**3**	P	P	22 52 27.8	+0.1
	0.4nm,0.8s,baz=178,slow=4.2,SNR=2.7						

IDC 06 22:49:20.4±19.0, 36.°49S×78.°98E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, Error ellipse: s-maj=627.3km s-min=48.6km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**28.50**	**97**	T	T	23 25 36.9	
	baz=254,slow=75,SNR=37						
H01W3	**Cape Leeuwin H**	**28.51**	**97**	T	T	23 25 33.9	
	baz=254,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**28.52**	**97**	T	T	23 25 34.8	
	baz=254,slow=75,SNR=30						
H08S2	**Diego Garcia H**	**29.31**	**347**	T	T	23 26 48.2	
	baz=171,slow=76,SNR=297						
H08S1	**Diego Carcia H**	**29.32**	**347**	T	T	23 26 50.4	
	baz=171,slow=76,SNR=266						
H08S3	**Diego Garcia H**	**29.33**	**347**	T	T	23 26 57.7	
	baz=171,slow=76,SNR=254						
ASAR	**Alice Springs**	**48.63**	**91**	P	P	22 58 05.7	-0.5
	0.8nm,1.0s,baz=243,slow=8.2,SNR=3.4						
WRA	**Warramunga Arr**	**50.82**	**87**	P	P	22 58 23.3	+0.3
	0.8nm,1.0s,baz=238,slow=7.9,SNR=2.9						
MKAR	**Makanchi Array**	**82.96**	**2**	P	P	23 01 46.8	0.0
	0.9nm,0.8s,baz=190,slow=5.0,SNR=5.6						

IDC 06 22:58:06.1±17.0, 36.°49S×79.°03E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, Error ellipse: s-maj=555.8km s-min=51.2km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**28.46**	**97**	T	T	23 34 11.8	
	baz=254,slow=75,SNR=88						
H01W3	**Cape Leeuwin H**	**28.47**	**97**	T	T	23 34 12.4	
	baz=254,slow=75,SNR=39						
H01W1	**Cape Leeuwin H**	**28.48**	**97**	T	T	23 34 13.2	
	baz=254,slow=75,SNR=49						
H08S2	**Diego Garcia H**	**29.32**	**347**	T	T	23 35 38.2	
	baz=171,slow=76,SNR=315						
H08S1	**Diego Carcia H**	**29.33**	**347**	T	T	23 35 39.2	
	baz=171,slow=76,SNR=224						
H08S3	**Diego Garcia H**	**29.34**	**347**	T	T	23 35 40.0	
	baz=171,slow=76,SNR=359						
ASAR	**Alice Springs**	**48.59**	**91**	P	P	23 06 51.5	-0.1
	0.8nm,1.0s,baz=234,slow=6.4,SNR=4.6						
WRA	**Warramunga Arr**	**50.79**	**87**	P	P	23 07 08.3	-0.1
	1.3nm,0.9s,baz=239,slow=7.6,SNR=6.0						
MKAR	**Makanchi Array**	**82.96**	**2**	P	P	23 10 32.6	0.0
	0.6nm,0.9s,baz=179,slow=5.8,SNR=2.1						

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*KRNET **06** 22:58:57.5±0.1, 39.°41N×72.°88E, mb3.2*
*SOME **06** 22:58:57.8, 39.°62N×72.°35E, h5km*
*NNC **06** 22:59:03.0±2.4, 39.°79N×72.°50E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=18.8km s-min=9.1km az=175.0*
ISC 06 22:59:02.6±1.5, 39.°74N±0.°05×72.°57E±0.°03, h3km±11km, n40, σ2s03/62, 20C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.80**	**12**	⇑*i*P	**Pg**	**22 59 18.5**	**+0.6**
	baz=56						
OHH				⇑*i*S	**Sn**	**22 59 34.3**	**+1.0**
	baz=56						
BTK	**Batken**	**1.39**	**284**	⇑*i*P	**Pg**	**22 59 29.3**	**+0.1**
	baz=93						
BTK				⇑*i*S	**Sg**	**22 59 53.1**	**+6.0**
	baz=93						
GAR	**Garm**	**1.90**	**248**	⇑*e*P	**Pn**	**22 59 35.2**	**-0.8**
	baz=59						
GAR				⇑*i*S	**Sg**	**23 00 02.6**	**-1.0**
	baz=59						
ARLS	**Aral**	**2.50**	**32**	⇓*i*P	**Pn**	**22 59 44.3**	**0.0**
	baz=24						
ARLS				⇓*i*S	**Sb**	**23 00 18.1**	**-1.3**
	baz=24						
AML	**Almayashu**	**2.53**	**19**	⇑*i*P	**Pn**	**22 59 45.4**	**+0.4**
	baz=13						
AML				⇑*i*S	**Sb**	**23 00 20.8**	**+0.2**
	baz=13						
AML	**Almayashu**	**2.53**	**19**	P	**Pb**	**22 59 47.3**	**-1.6**
	SNR=5.0						
MNAS	**Manas**	**2.74**	**359**	⇑*i*P	**Pb**	**22 59 49.7**	**-2.6**
	baz=55						
MNAS				⇑*i*S	**Sg**	**23 00 28.1**	**-2.6**
	baz=55						
CHGR	**Chuyangaron**	**2.87**	**249**	⇓*i*P	**Pn**	**22 59 48.5**	**-0.8**
	baz=57						
CHGR				⇓*i*S	**Sn**	**23 00 25.2**	**+0.9**
	baz=57						
UCH	**Uchtor**	**2.88**	**30**	⇑*i*P	**Pn**	**22 59 50.0**	**+0.2**
	baz=23						
UCH				⇑*i*S	**Sb**	**23 00 28.1**	**-2.7**
	baz=23						
UCH	**Uchtor**	**2.88**	**30**	P	**Pn**	**22 59 51.2**	**+1.4**
	SNR=10						
MRKS	**Merke**	**3.04**	**9**	*e*P	**Pb**	**22 59 57.9**	**+0.5**
	9.6nm,0.4s						
MRKS				*e*S	**Sg**	**23 00 40.8**	**+0.6**
	19nm,0.3s						
MRKS	**Merke**	**3.04**	**9**	Pg	**Pb**	**22 59 57.9**	**+0.5**
	9.6nm,0.4s						
MRKS				Lg	Lg	23 00 40.8	
	19nm,0.3s						
EKS2	**Erkin-Say**	**3.05**	**17**	⇑*i*P	**Pn**	**22 59 52.7**	**+0.8**
	baz=12						
EKS2				⇑*i*S	**Sb**	**23 00 33.0**	**-2.4**
	baz=12						
EKS2	**Erkin-Say**	**3.05**	**17**	P	**Pb**	**22 59 55.1**	**-2.5**
	SNR=10.0						
IUG	**Iuzhnay**	**3.08**	**322**	*e*P	**Pb**	**22 59 56.7**	**-1.3**
	12nm,0.3s						
IUG				*e*S	**Sg**	**23 00 38.9**	**-2.6**
	41nm,0.2s						
IUG	**Iuzhnay**	**3.08**	**322**	Pg	**Pb**	**22 59 56.7**	**-1.3**
	12nm,0.3s						
IUG				Lg	Lg	23 00 38.9	
	41nm,0.2s						
AAK	**Ala-Archa**	**3.23**	**26**	⇓*i*P	**Pn**	**22 59 54.8**	**+0.4**
	baz=20						
AAK				⇓*i*S	**Sn**	**23 00 36.0**	**+2.5**
	baz=20						
AAK	**Ala-Archa**	**3.23**	**26**	P	**Pn**	**22 59 56.3**	**+1.9**
	SNR=10.0						
CHMS	**Chumysh**	**3.64**	**26**	P	**Pn**	**23 00 01.9**	**+2.0**
	SNR=7.2						
KK31	**Karatay Array**	**3.70**	**336**	⇓Pn	**Pn**	**23 00 03.3**	**+2.7**
	0.8nm,0.3s,baz=156,slow=12,SNR=18						
KK31				⇓Lg	Lg	23 00 52.3	
	5.2nm,0.3s,baz=155,slow=24,SNR=8.8						
ULHL	**Ulahol**	**3.74**	**47**	⇑*e*P	**Pn**	**22 59 59.6**	**-1.7**
	baz=41						
ULHL				⇑*i*S	**Sn**	**23 00 45.1**	**-0.8**
	baz=41						
BOOM	**Boomskoye usch**	**3.74**	**42**	⇑*i*P	**Pn**	**23 00 00.4**	**-1.0**
	baz=36						
BOOM				⇑*i*S	**Sn**	**23 00 46.2**	**+0.2**
	baz=36						
USP	**Ospenovka**	**3.81**	**22**	P	**Pn**	**23 00 04.3**	**+2.1**
	SNR=5.3						
BRLS	**Boroldaу**	**3.88**	**329**	*e*P	**Pb**	**23 00 08.8**	**-2.8**
	3.5nm,0.3s						
BRLS				*e*S	**Sb**	**23 00 59.6**	**+0.6**
	11nm,0.5s						
BRLS	**Boroldaу**	**3.88**	**329**	Pg	**Pb**	**23 00 08.8**	**-2.8**
	3.5nm,0.3s						
BRLS				Lg	Lg	23 00 59.6	
	11nm,0.5s						
TKM2	**Tokmak 2**	**3.91**	**35**	⇑*i*P	**Pn**	**23 00 03.7**	**0.0**
	baz=29						
TKM2				⇑*i*S	**Sn**	**23 00 51.5**	**+1.4**
	baz=29						
TKM2	**Tokmak 2**	**3.91**	**35**	P	**Pn**	**23 00 04.5**	**+0.9**
	SNR=6.2						
SGDS	**Sogindy**	**4.01**	**22**	Pg	**Pb**	**23 00 15.7**	**+1.8**
	5.5nm,0.7s						
SGDS				Lg	Lg	23 01 11.4	
	6.2nm,0.7s						
KST	**Kastek**	**4.17**	**37**	*e*P	**Pb**	**23 00 18.6**	**+2.0**
	5.2nm,0.6s						
KST				*e*S	**Sg**	**23 01 16.4**	**0.0**

BTLS	**Baital**	**5.41**	**11**	*e*P	**Pb**	**23 00 40.5**	**+2.9**
	3.1nm,0.7s							
BTLS				*e*S	**Sg**	**23 01 53.8**	**-2.3**
	2.9nm,0.5s							
BTLS	**Baital**	**5.41**	**11**	Pg	**Pb**	**23 00 40.6**	**+2.9**
	3.1nm,0.7s							
BTLS				Lg	Lg	23 01 53.8		
	2.9nm,0.5s							
ARXS	**Arharly**	**5.94**	**40**	Pg	**Pb**	**23 00 50.7**	**+3.9**
	4.5nm,0.5s							
ARXS				Lg	Lg	23 02 11.5		
	4.4nm,0.3s							

IDC ***06*** *23:17:21.3±0.7,0.73N×146.37E,h0km,mb4.1/16, mb1 4.3/18,mb1mx4.0/50,mbtmp4.1/18,ML3.7/2,MS3.4/11, Ms1 3.4/11,ms1mx3.1/45,Error ellipse: s-maj=23.8km s-min=13.3km az=99.0*

NEIC ***06*** *23:17:22.9±1.2,0.71N±0.07×146.27E±0.06,h10km±1km, mb4.7/25,Error ellipse: s-maj=13.4km s-min=9.1km az=27.0*

ISC 06 23:17:26.2±0.5,0.65N±0.06×146.27E±0.07,h35km,n63, σ1§18/55,mb4.5/27,MS3.5/9,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.89**	**158**	Pn	**Pn**	**23 18 09.8**	**0.0**
MANU				Sn	**Sn**	**23 18 40.8**	**-2.6**
JAY	**Jayapura**	**6.39**	**241**	Pn	**Pn**	**23 18 57.0**	**-1.0**
	0.4nm,0.3s,baz=121,slow=20,SNR=1.9						
JAY				Sn	**Sn**	**23 20 05.0**	**-4.7**
	1.7nm,0.3s,baz=212,slow=23,SNR=2.4						
KRVT	**Keravat (AS076**	**7.57**	**131**	Pn	**Pn**	**23 19 13.0**	**-1.2**
	5.7nm,0.3s,baz=355,slow=19,SNR=3.1						
PMG	**Port Moresby**	**10.03**	**175**	LR	LR	23 23 34.1	
	comp=Z,193nm,18.1s,baz=278,slow=37						
GUMO	**Guam**	**12.93**	**354**	LR	LR	23 24 46.6	
	comp=Z,40nm,19.0s,baz=122,slow=35						
PATS	**Pohnpei**	**13.49**	**63**	Pn	**Pn**	**23 20 33.0**	**-2.4**
COEN	**Coen**	**14.83**	**192**	Pn	**Pn**	**23 20 53.8**	**+0.3**
CTA	**Charters Tower**	**20.61**	**180**	P	**P**	**23 22 03.6**	**+1.1**
	6.4nm,0.9s,baz=358,slow=13,SNR=3.9						
CTAO	**Charters Tower**	**20.61**	**180**	P	**P**	**23 22 02.5**	**-0.1**
CTAO				IAmb	IAmb	23 22 19.0	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**23.39**	**209**	P	**P**	**23 22 32.4**	**+0.3**
WB0				IAmb	IAmb	23 22 44.0	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**23.56**	**209**	P	**P**	**23 22 34.4**	**+0.6**
WB2				IAmb	IAmb	23 22 45.7	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**23.57**	**209**	P	**P**	**23 22 34.4**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=31,slow=11,SNR=49						
WRA				LR	LR	23 32 03.1	
	comp=Z,85nm,19.7s,baz=205,slow=37						
WRA	**Warramunga Arr**	**23.57**	**209**	P	**P**	**23 22 34.0**	**+0.2**
KNRA	**Kununurra**	**23.71**	**226**	P	**P**	**23 22 34.6**	**-0.6**
KNRA				IAmb	IAmb	23 22 46.0	
	comp=Z,16nm,0.8s						
BATI	**Baumata**	**24.94**	**244**	P	**P**	**23 22 48.9**	**+2.3**
	comp=Z,13nm,0.3s,baz=53,slow=5.1,SNR=2.3						
JCJ	**Chichijima**	**26.59**	**352**	LR	LR	23 31 44.0	
	comp=Z,51nm,20.9s,baz=172,slow=32						
H11S3	**WAKE ISLAND Hy**	**26.77**	**47**	T	T	23 51 25.3	
	baz=228,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**26.78**	**47**	T	T	23 51 19.5	
	baz=228,slow=76,SNR=2.3						
H11S1	**WAKE ISLAND Hy**	**26.79**	**47**	T	T	23 51 21.7	
	baz=228,slow=76,SNR=4.6						
AS31	**Alice Springs**	**26.99**	**206**	P	**P**	**23 23 06.1**	**+1.1**
ASAR	**Alice Springs**	**26.99**	**206**	P	**P**	**23 23 06.4**	**+1.4**
	comp=Z,4.1nm,0.7s,baz=37,slow=8.6,SNR=30						
ASAR				LR	LR	23 34 22.8	
	comp=Z,130nm,18.0s,baz=4.5,slow=38						
ASAR	**Alice Springs**	**26.99**	**206**	P	**P**	**23 23 05.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.55**	**226**	P	**P**	**23 23 10.8**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=41,slow=6.9,SNR=8.7						
FITZ	**Fitzroy Crossi**	**27.55**	**226**	P	**P**	**23 23 10.3**	**+0.3**
STKA	**Stephens Creek**	**32.65**	**187**	P	**P**	**23 23 56.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=0.0,slow=10,SNR=1.6						
STKA	**Stephens Creek**	**32.65**	**187**	P	**P**	**23 23 56.6**	**+1.6**
JNU	**Nakatsue**	**35.40**	**337**	P	**P**	**23 24 18.6**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=48,slow=22,SNR=1.4						
JNU	**Nakatsue**	**35.40**	**337**	P	**P**	**23 24 18.4**	**-0.5**
JHS	**Saijyo**	**36.31**	**342**	P	**P**	**23 24 24.2**	**-2.5**
JHS				IAmb	IAmb	23 24 42.5	
	comp=Z,9.9nm,1.3s						
KSRS	**Korea Array**	**40.35**	**337**	P	**P**	**23 25 00.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=145,slow=9.9,SNR=2.1						
KSRS				LR	LR	23 40 40.4	
	comp=Z,66nm,18.9s,baz=218,slow=35						
MORW	**Morawa**	**41.33**	**222**	P	**P**	**23 25 09.5**	**+0.6**
MORW				IAmb	IAmb	23 25 13.2	
	comp=Z,25nm,1.4s						
JEW	**Eniwo**	**42.23**	**355**	P	**P**	**23 25 15.9**	**0.0**
USRK	**Ussuriysk Ar.**	**45.19**	**346**	P	**P**	**23 25 38.2**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=165,slow=6.0,SNR=5.8						
USRK	**Ussuriysk Ar.**	**45.19**	**346**	P	**P**	**23 25 39.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**49.69**	**294**	P	**P**	**23 26 16.6**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=109,slow=6.6,SNR=6.6						
CMAR	**Chiang Mai Arr**	**49.69**	**294**	P	**P**	**23 26 15.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**53.14**	**9**	P	**P**	**23 26 40.8**	**+0.3**
PETK	**Petropavlovsk-**	**53.14**	**9**	P	**P**	**23 26 40.3**	**-0.2**
	comp=Z,6.6nm,0.6s,baz=150,slow=6.5,SNR=18						
PETK				LR	LR	23 46 18.4	
	comp=Z,24nm,21.3s,baz=139,slow=33						
PETK	**Petropavlovsk-**	**53.14**	**9**	P	**P**	**23 26 40.5**	**+0.1**
RAR	**Rarotonga**	**56.98**	**116**	LR	LR	23 45 36.0	
	comp=Z,53nm,20.2s,baz=218,slow=30						
SONM	**Songino Array**	**58.31**	**329**	P	**P**	**23 27 18.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=132,slow=8.7,SNR=2.0						
SONM	**Songino Array**	**58.31**	**329**	P	**P**	**23 27 18.2**	**+0.4**
MKAR	**Makanchi Array**	**71.97**	**320**	P	**P**	**23 28 47.2**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=101,slow=6.0,SNR=1.8						
NIL	**Nilore**	**75.53**	**305**	P	**P**	**23 29 07.6**	**0.0**
NIL				IAmb	IAmb	23 29 20.6	
	comp=Z,4.9nm,0.8s						
CNPM	**China Poot**	**75.82**	**28**	P	**P**	**23 29 08.9**	**+0.3**
IMAR	**Indian Mountai**	**77.58**	**21**	P	**P**	**23 29 19.4**	**+1.0**
SML	**Sawmill**	**78.02**	**26**	P	**P**	**23 29 22.0**	**+0.9**
SML				IAmb	IAmb	23 29 22.6	
	comp=Z,7.6nm,0.7s						
VNDA	**Vanda**	**78.55**	**177**	P	**P**	**23 29 23.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=325,slow=8.6,SNR=2.1						
DHY	**Denali Highway**	**78.90**	**25**	P	**P**	**23 29 26.6**	**+0.6**
DHY				IAmb	IAmb	23 29 27.5	
	comp=Z,4.2nm,0.9s						
KK31	**Karatay Array**	**79.17**	**314**	P	**P**	**23 29 27.8**	**0.0**
IL31		**79.71**	**24**	P	**P**	**23 29 29.4**	**-0.7**
ILAR	**Eielson Array**	**79.71**	**24**	P	**P**	**23 29 29.6**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=251,slow=5.8,SNR=17						
GLB	**Gilahina Butte**	**79.93**	**27**	P	**P**	**23 29 31.7**	**+0.2**
GLB				IAmb	IAmb	23 29 33.4	
	comp=Z,12nm,1.4s						
VRDI	**Verde Repeater**	**80.03**	**28**	P	**P**	**23 29 31.9**	**-0.3**
BALM	**Baldy**	**80.49**	**28**	P	**P**	**23 29 35.0**	**+0.4**
BALM				IAmb	IAmb	23 29 52.7	
	comp=Z,16nm,1.2s						
BARN	**Barnard Glacie**	**80.82**	**28**	P	**P**	**23 29 37.7**	**+1.2**
BARN				IAmb	IAmb	23 29 38.7	
	comp=Z,9.4nm,0.8s						
CTGM	**Chitina Glacie**	**80.95**	**28**	P	**P**	**23 29 37.5**	**+0.4**
CTGM				IAmb	IAmb	23 29 39.0	
	comp=Z,7.6nm,0.8s						
BCAR	**Beaver Creek A**	**81.31**	**26**	P	**P**	**23 29 39.6**	**+0.7**
BBB	**Bella Bella**	**86.80**	**38**	LR	LR	00 00 16.0	
	comp=Z,22nm,19.8s,baz=188,slow=30						
YBH	**Yreka Blue Hor**	**90.34**	**48**	LR	LR	00 00 34.8	
	comp=Z,36nm,20.7s,baz=323,slow=29						
YKA	**Yellowknife Ar**	**93.65**	**27**	LR	LR	00 15 23.8	
	comp=Z,28nm,18.2s,baz=0.0,slow=37						
NVAR	**Mina Array Bea**	**93.86**	**52**	P	**P**	**23 30 41.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=255,slow=5.2,SNR=4.3						
NVAR	**Mina Array Bea**	**93.86**	**52**	P	**P**	**23 30 41.4**	**+0.7**

JMA ***06*** *23:24:40.7±0.1,24.33N×124.83E,h56km±2km,M3.5*

IDC ***06*** *23:24:41.4±3.6,23.21N×124.20E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/50,mbtmp3.5/5,Error ellipse: s-maj=247.9km s-min=24.0km az=63.0*

ISC 06 23:24:41.0±1.1,24.3N±0.1×124.84E±0.06,h53km±16km, n23,σ0§25/24,mb3.5/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.35**	**339**	P	**Pn**	**23 24 50.6**	**-0.2**
JTJ				S	**Sn**	**23 24 58.1**	**+0.2**
JISG	**Ishigakijimahi**	**0.55**	**300**	P	**Pn**	**23 24 52.9**	**-0.1**
JISG				S	**Sn**	**23 25 02.0**	**+0.3**
JIRB	**Irabujima**	**0.59**	**31**	P	**Pn**	**23 24 53.3**	**-0.3**
JIRB				S	**Sn**	**23 25 02.7**	**+0.1**
JMJ2	**Miyako jima3**	**0.61**	**46**	P	**Pn**	**23 24 53.7**	**-0.1**
JMJ2				*e*S	**Sn**	**23 25 03.5**	**+0.4**
JIJ	**Ishigaki jima**	**0.64**	**275**	P	**Pn**	**23 24 53.8**	**-0.3**
JIJ				*e*S	**Sn**	**23 25 03.3**	**-0.2**
JOGS	**Gusukube**	**0.68**	**49**	P	**Pn**	**23 24 54.8**	**+0.2**
JIKM	**Ikemajima**	**0.71**	**31**	P	**Pn**	**23 24 54.9**	**-0.1**
JKRS	**Kuro-shima**	**0.76**	**264**	P	**Pn**	**23 24 55.9**	**+0.3**
JKRS				S	**Sn**	**23 25 06.8**	**+0.5**
HATJ	**Hateruma jima**	**0.98**	**255**	P	**Pn**	**23 24 58.2**	**-0.3**
HATJ				*e*S	**Sn**	**23 25 11.5**	**+0.1**
IRIF	**Iriomote-Funau**	**1.01**	**271**	P	**Pn**	**23 24 59.1**	**+0.2**
IRIF				*e*S	**Sn**	**23 25 12.2**	**0.0**
YOJ	**Yonaguni jima**	**1.67**	**275**	P	**Pn**	**23 25 08.0**	**+0.1**
YOJ				*e*S	**Sn**	**23 25 28.2**	**0.0**
JYNG	**Yonagunijimaku**	**1.73**	**275**	P	**Pn**	**23 25 09.0**	**+0.3**
JYNG				*e*S	**Sn**	**23 25 29.6**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**39.15**	**88**	T	T	00 13 53.4	
	baz=284						
H11N2	**WAKE ISLAND Hy**	**39.15**	**88**	T	T	00 13 51.7	
	baz=284						
H11N3	**WAKE ISLAND Hy**	**39.16**	**88**	T	T	00 13 54.6	
	baz=284						
H11S3	**WAKE ISLAND Hy**	**39.28**	**90**	T	T	00 14 06.3	
	baz=280						
H11S1	**WAKE ISLAND Hy**	**39.29**	**90**	T	T	00 14 05.6	
	baz=280						
H11S2	**WAKE ISLAND Hy**	**39.30**	**90**	T	T	00 14 02.6	
	baz=280						
MKAR	**Makanchi Array**	**40.60**	**314**	P	P	23 32 25.3	+10
	0.4nm,0.5s,baz=99,slow=9.2,SNR=2.3						
ZALV	**Zalesovo Beam**	**41.99**	**325**	P	P	23 32 39.5	+13
	0.3nm,0.3s,baz=108,slow=9.3,SNR=2.0						
WRA	**Warramunga Arr**	**44.95**	**167**	P	**P**	**23 32 50.7**	**-0.3**
	0.3nm,0.5s,baz=348,slow=8.9,SNR=2.9						
ASAR	**Alice Springs**	**48.50**	**169**	P	**P**	**23 33 18.8**	**0.0**
	0.2nm,0.3s,baz=358,slow=6.7,SNR=4.5						
BRTR	**Keskin Array B**	**75.77**	**307**	P	P	23 36 30.3	+8.8
	0.3nm,0.8s,baz=84,slow=4.4,SNR=1.9						

IDC ***06*** *23:25:19.8±0.8,27.21N×103.42E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.7/54,mbtmp3.8/11,MS3.3/2, Ms1 3.4/2,ms1mx2.8/46,Error ellipse: s-maj=27.9km s-min=16.2km az=71.0*

BJI ***06*** *23:25:20.1±0.0,27.10N×103.27E,h15km,mb3.9/4, ML3.6/15*

NEIC ***06*** *23:25:21.4±1.6,27.14N±0.08×103.2E±0.1,h10km±1km, mb4.3/12,Error ellipse: s-maj=19.4km s-min=11.1km az=113.0*

ISC 06 23:25:21.6±0.5,27.20N±0.04×103.22E±0.06,h10km,n38, σ1§23/42,mb4.1/14,2C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.11**	**192**	⇑Pg	**Pn**	**23 25 57.8**	**+0.6**
KMI				Sg	**Sn**	**23 26 24.2**	**+0.5**
KMI				smax	smax		
	comp=N,300nm,0.7s						
KMI				smax	smax		
	comp=E,540nm,1.2s						
KMI	**Kunming**	**2.11**	**192**		**Pn**	**23 25 56.9**	**-0.4**
GYA	**Guiyang**	**3.17**	**103**	Pn	**Pn**	**23 26 12.8**	**+1.2**
GYA				Sn	**Sn**	**23 26 50.5**	**+1.0**
GYA				Sg	**Sg**	**23 27 03.9**	**+0.6**
GYA				smax	smax		
	comp=N,240nm,0.8s						
GYA				smax	smax		
	comp=E,170nm,0.8s						
CD2	**Chengdu**	**3.73**	**7**	Pn	**Pb**	**23 26 23.8**	**-3.7**
CD2				Sn	**Sn**	**23 27 06.2**	**+3.0**
CD2				Sg	**Sg**	**23 27 20.5**	**-0.8**
CD2				smax	smax		
	comp=N,650nm,0.8s						
CD2				smax	smax		
	comp=E,810nm,0.8s						
ENH	**Enshi**	**6.29**	**59**		**Pn**	**23 26 56.8**	**+2.3**
XAN	**Xi'an**	**8.40**	**34**		**Pn**	**23 27 24.3**	**+0.8**
LZH	**Lanzhou**	**8.87**	**3**	*e*P	**Pn**	**23 27 31.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**9.55**	**205**	Pn	**Pn**	**23 27 39.3**	**0.0**
	baz=21,slow=13,SNR=4.5						
CMAR				Pg		23 28 21.7	
	0.2nm,0.3s,baz=5.2,slow=18,SNR=6.2						
CMAR				Lg	Lg	23 30 27.4	
	0.5nm,0.3s,baz=17,slow=29,SNR=1.5						
CMAR				LR	LR	23 31 47.5	
	comp=Z,110nm,18.6s,baz=328,slow=40						
WHN	**Wuhan**	**10.31**	**69**	⇑P	Pn	23 28 02.5	+13
SONM	**Songino Array**	**20.75**	**6**	P	**P**	**23 30 02.7**	**+0.2**
	1.6nm,0.9s,baz=186,slow=9.2,SNR=5.4						
SONM	**Songino Array**	**20.75**	**6**	P	**P**	**23 30 02.5**	**-0.1**
WMQ	**Urumqi**	**20.79**	**327**	*e*P	**P**	**23 30 03.4**	**+0.4**
KSRS	**Korea Array**	**23.18**	**58**	P	**P**	**23 30 26.2**	**-2.2**
	0.7nm,0.5s,baz=241,slow=9.5,SNR=2.0						
TARG	**Taragay, Kyrgy**	**25.36**	**311**	P	**P**	**23 30 48.9**	**-0.4**
TARG				IAmb	IAmb	23 30 57.6	
	comp=Z,3.2nm,0.9s						
MK31	**Makanchi Array**	**25.59**	**325**	P	**P**	**23 30 51.2**	**+0.3**
MKAR	**Makanchi Array**	**25.59**	**325**	P	**P**	**23 30 51.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=122,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**25.59**	**325**	P	**P**	**23 30 51.2**	**+0.4**
MAKZ	**Makanchi**	**25.75**	**325**	P	**P**	**23 30 53.9**	**+1.5**
NIL	**Nilore**	**26.57**	**291**	P	**P**	**23 31 00.3**	**+0.4**
NIL				IAmb	IAmb	23 31 16.9	
	comp=Z,8.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**28.67**	**46**	P	**P**	**23 31 17.5**	**-1.0**
GAR	**Garm**	**29.81**	**302**	P	**P**	**23 31 28.8**	**-0.1**
GAR				IAmb	IAmb	23 31 35.6	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**29.97**	**338**	P	**P**	**23 31 29.9**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=134,slow=8.3,SNR=2.0						
ZALV	**Zalesovo Beam**	**29.97**	**338**	P	**P**	**23 31 30.7**	**+0.8**
GEYT	**Alibeck**	**39.16**	**297**	P	**P**	**23 32 50.3**	**+0.7**
WRA	**Warramunga Arr**	**55.73**	**144**	P	**P**	**23 34 56.9**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=333,slow=8.3,SNR=16						
WRA	**Warramunga Arr**	**55.73**	**144**	P	**P**	**23 34 58.1**	**-0.5**
WB2	**Warramunga Arr**	**55.73**	**144**	P	**P**	**23 34 58.0**	**-0.6**
WB2				IAmb	IAmb	23 35 11.3	
	comp=Z,6.8nm,1.2s						
ASAR	**Alice Springs**	**58.61**	**147**	P	**P**	**23 35 18.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=323,slow=6.4,SNR=7.4						
ASAR	**Alice Springs**	**58.61**	**147**	P	**P**	**23 35 18.7**	**-0.3**
AKASG	**Malin Array Be**	**59.53**	**315**	P	**P**	**23 35 27.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=70,slow=6.4,SNR=2.8						
FINES	**FINESS Array B**	**60.40**	**327**	P	**P**	**23 35 29.4**	**-1.3**
	comp=Z,4.5nm,1.0s,baz=90,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**60.40**	**327**	P	**P**	**23 35 30.8**	**0.0**
ARCES	**ARCESS Array B**	**60.51**	**337**	P	**P**	**23 35 32.3**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=88,slow=8.2,SNR=1.8						
ELL	**Elmali**	**61.56**	**299**	P	**P**	**23 35 39.0**	**-0.3**
IDI	**Anoyia**	**65.87**	**299**	P	**P**	**23 36 06.2**	**-1.5**
NOA	**NORSAR Array B**	**67.54**	**328**	P	**P**	**23 36 17.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=75,slow=6.5,SNR=1.5						
NOA				LR	LR	00 07 30.0	
	comp=Z,24nm,18.9s,baz=20,slow=37						
IMAR	**Indian Mountai**	**70.57**	**25**	P	**P**	**23 36 36.0**	**-0.6**
BPAW	**Bear Paw Mtn.**	**72.42**	**26**	P	**P**	**23 36 48.0**	**+0.3**
BPAW				IAmb	IAmb	23 36 50.7	
	comp=Z,4.3nm,1.0s						

ATH ***06*** *23:27:09.7,36.12N×28.24E,h70km±2km,ML2.4/5,Error ellipse: s-maj=2.8km s-min=1.5km az=130.0*

ISK ***06*** *23:27:09.1,36.10N×28.26E,h73km±1km,ML2.4/21*

NIC ***06*** *23:27:10.1±0.0,35.75N×28.40E,h10km±2km,Ml2.9/4*

DDA ***06*** *23:27:10.6,36.13N×28.33E,h50km±2km,ML2.0*

THE ***06*** *23:27:11.6,36.10N×28.24E,h62km±2km,ML2.5/4,Error ellipse: s-maj=2.1km s-min=0.9km az=104.0*

ISC 06 23:27:10.1±1.2,36.11N±0.03×28.27E±0.02,h71km±6km, n77,σ0§83/107,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.16**	**314**	P	**Pn**	**23 27 20.7**	**+0.1**
ARG				S	**Sn**	**23 27 27.8**	**-0.6**
	538nm,0.2s						
ARG	**Arkhangelos**	**0.16**	**314**	P	**Pn**	**23 27 20.8**	**+0.1**
ARG				S	**Sn**	**23 27 27.7**	**-0.6**
ARG				AML	AML	23 27 28.4	
	comp=E,1072μm,0.2s						
ARG				AML	AML	23 27 29.0	
	comp=N,731μm,0.1s						
ARG	**Arkhangelos**	**0.16**	**314**	PG	**Pn**	**23 27 20.2**	**-0.4**
ARG				SG	**Sn**	**23 27 28.4**	**+0.1**
ARG	**Arkhangelos**	**0.16**	**314**	P	**Pn**	**23 27 20.6**	**+0.1**
ARG				S	**Sn**	**23 27 28.1**	**-0.2**
TURN	**Turunc**	**0.67**	**358**	PG	**Pn**	**23 27 25.2**	**+0.5**
TURN				SG	**Sn**	**23 27 35.9**	**+0.5**
TURN	**Turunc**	**0.67**	**358**	*i* P	**Pn**	**23 27 24.5**	**-0.1**
TURN				*i* S	**Sn**	**23 27 35.4**	**0.0**
TURN				IAML		23 27 36.0	
	comp=E,60nm,0.4s						
DALY	**Dalyan (Mula)**	**0.78**	**24**	PG	**Pn**	**23 27 26.3**	**+0.4**
DALY				SG	**Sn**	**23 27 37.9**	**+0.4**
DALY	**Dalyan (Mula)**	**0.78**	**24**	*i* P	**Pn**	**23 27 23.1**	**-2.7**
DALY				*i* S	**Sn**	**23 27 37.3**	**-0.2**
DALY				IAML		23 27 38.0	
	comp=N,59nm,0.2s						
DAT	**Datca**	**0.84**	**318**	P	**Pn**	**23 27 27.0**	**+0.3**
DAT	**Datca**	**0.84**	**318**	PG	**Pn**	**23 27 26.7**	**0.0**
DAT				SG	**Sn**	**23 27 38.8**	**-0.2**
FETY	**Fethiye**	**0.84**	**51**	P	**Pn**	**23 27 26.8**	**+0.1**
FETY				S	**Sn**	**23 27 39.3**	**+0.2**
FETY	**Fethiye**	**0.84**	**51**	PG	**Pn**	**23 27 26.8**	**+0.1**
FETY				SG	**Sn**	**23 27 39.1**	**0.0**
FETY	**Fethiye**	**0.84**	**51**	*i* P	**Pn**	**23 27 26.8**	**+0.1**
FETY				*i* S	**Sn**	**23 27 38.5**	**-0.6**
YER	**Yerkesik**	**1.03**	**1**	P	**Pn**	**23 27 30.0**	**+1.0**
YER				S	**Sn**	**23 27 44.3**	**+1.2**
YER	**Yerkesik**	**1.03**	**1**	PG	**Pn**	**23 27 29.6**	**+0.6**
NISR	**Nisiros**	**1.05**	**299**	P	**Pn**	**23 27 29.7**	**+0.5**
KARP	**Karpathos**	**1.06**	**239**	P	**Pn**	**23 27 29.7**	**+0.4**
KARP				S	**Sn**	**23 27 43.6**	**-0.1**
	comp=N,248nm,0.2s						
KARP	**Karpathos**	**1.06**	**239**	P	**Pn**	**23 27 29.8**	**+0.4**
KARP				S	**Sn**	**23 27 43.8**	**+0.1**
KARP				AML	AML	23 27 44.5	
	comp=N,566μm,0.2s						
KARP				AML	AML	23 27 44.8	
	comp=E,402μm,0.2s						
KARP	**Karpathos**	**1.06**	**239**	PG	**Pn**	**23 27 29.5**	**+0.2**
KARP	**Karpathos**	**1.06**	**239**	P	**Pn**	**23 27 29.8**	**+0.4**
KARP				AML	AML	23 27 44.0	
	comp=E,0.7nm,0.4s						
KARP				AML	AML	23 27 44.0	
	comp=E,0.7nm,0.4s						
KARP				S	**Sn**	**23 27 44.1**	**+0.4**
KARP				AML	AML	23 27 44.3	
	comp=E,0.5nm,0.3s						
KARP				AML	AML	23 27 44.3	
	comp=E,0.5nm,0.3s						
KSL	**Kastellorizon**	**1.07**	**87**	P	**Pn**	**23 27 30.0**	**+0.6**
KSL	**Kastellorizon**	**1.07**	**87**	P	**Pn**	**23 27 30.0**	**+0.6**
KSL				AML	AML	23 27 45.9	
	comp=E,124μm,0.5s						
KSL				AML	AML	23 27 46.0	
	comp=N,93μm,0.3s						
KSL	**Kastellorizon**	**1.07**	**87**	P	**Pn**	**23 27 30.0**	**+0.6**
KSL				S	**Sn**	**23 27 44.6**	**+0.8**
AKAS	**Kas**	**1.09**	**83**	PN	**Pn**	**23 27 29.8**	**0.0**
AKAS	**Kas**	**1.09**	**83**	*i* P	**Pn**	**23 27 30.4**	**+0.6**
AKAS				*i* S	**Sn**	**23 27 44.7**	**+0.1**
AKAS				IAML		23 27 46.0	
	comp=E,45nm,0.5s						
KOSK	**Kos Island**	**1.22**	**302**	PN	**Pn**	**23 27 30.9**	**-0.5**
BODT	**Bodrum**	**1.23**	**321**	P	**Pn**	**23 27 31.7**	**+0.2**
BODT				S	**Sn**	**23 27 47.3**	**-0.2**
BODT	**Bodrum**	**1.23**	**321**	PN	**Pn**	**23 27 31.6**	**+0.1**
BODT				SN	**Sn**	**23 27 47.7**	**+0.2**
MLSB	**Milas**	**1.25**	**342**	PN	**Pn**	**23 27 31.9**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.45**	**21**	*i* P	**Pn**	**23 27 35.1**	**+0.6**
TAVA				*i* S	**Sn**	**23 27 53.4**	**+0.4**
ELL	**Elmali**	**1.47**	**64**	PN	**Pn**	**23 27 34.9**	**+0.2**
ELL	**Elmali**	**1.47**	**64**	P	**Pn**	**23 27 36.4**	**+1.6**
GOLH	**Golhisar**	**1.54**	**42**	*i* P	**Pn**	**23 27 36.8**	**+1.2**
GOLH				*i* S	**Sn**	**23 27 56.0**	**+1.2**
GOLH				IAML		23 27 58.0	
	comp=N,37nm,0.6s						
AYDN	**Tasoluk**	**1.58**	**349**	*i* P	**Pn**	**23 27 36.9**	**+0.7**
AYDN				*i* S	**Sn**	**23 27 54.9**	**-1.1**
AYDN				IAML		23 27 57.0	
	comp

NATA				AML	AML	23 28 47.8	
	comp=N,0.1nm,0.2s						
NATA				AML	AML	23 28 48.0	
	comp=N,0.1nm,0.4s						
NATA				AML	AML	23 28 48.0	
	comp=N,0.1nm,0.4s						
SZAC	**Souni**	**4.00**	**108**	P	**Pn**	**23 28 09.0**	**+0.1**
OSC2	**CSNet OBS 4**	**4.47**	**131**	S	**Sn**	**23 29 03.7**	**-2.4**

*IDC **06** 23:29:13.9±15.0, 26˚.56N×62˚.56E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.2/43, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=380.8km s-min=34.2km az=116.0*
*DSN **06** 23:29:32.8±1.1, 26˚.21N×60˚.31E, h10km, mb5.0/1, ML3.4/7, Error ellipse: s-maj=23.0km s-min=8.4km az=156.0*
*OMAN **06** 23:29:33.9±0.6, 26˚.51N×60˚.32E, h45km, ml3.3/14, Error ellipse: s-maj=5.9km s-min=4.1km az=148.0*
ISC 06 23:29:31.8±1.4, 26˚.46N±0˚.07×60˚.31E±0˚.08, h10km, n29, σ1§22/40, mb3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BIDO	**Bidbid**	**3.54**	**215**	P		**Pn**	**23 30 27.0**	**+0.2**
	SNR=25							
BIDO				S		**Sn**	**23 31 10.3**	**+1.5**
	SNR=12							
WSAR	**Wadi Sarin**	**3.56**	**206**	Pn		**Pn**	**23 30 26.7**	**-0.4**
	1.9nm,0.3s,baz=41,slow=5.0,SNR=60							
WSAR				Sn		**Sn**	**23 31 09.7**	**+0.5**
	8.4nm,0.3s,baz=181,slow=22,SNR=21							
WSAR	**Wadi Sarin**	**3.56**	**206**	P		**Pn**	**23 30 26.9**	**-0.2**
WSAR				S		**Sn**	**23 31 09.3**	**+0.2**
BANOM	**Banah**	**3.64**	**262**	*i* P		**Pn**	**23 30 28.0**	**-0.3**
	SNR=35							
BANOM				S		**Sn**	**23 31 12.8**	**+1.4**
BANOM	**Banah**	**3.64**	**262**	P		**Pn**	**23 30 28.0**	**-0.3**
	SNR=35							
SHME	**Shamm**	**3.77**	**265**	*i* P		**Pn**	**23 30 30.4**	**+0.4**
	SNR=24							
MDH	**Madha**	**3.79**	**253**	*i* P		**Pn**	**23 30 29.6**	**-0.7**
	SNR=9.6							
MDH	**Madha**	**3.79**	**253**	P		**Pn**	**23 30 30.0**	**-0.4**
	SNR=9.6							
MDH				S		**Sn**	**23 31 14.2**	**-0.9**
MSFE	**Esma-Masafi**	**3.90**	**255**	P		**Pn**	**23 30 33.9**	**+2.1**
HOQ	**Hoqain**	**3.95**	**224**	P		**Pn**	**23 30 32.4**	**-0.2**
	SNR=24							
HOQ				S		**Sn**	**23 31 19.1**	**+0.1**
SMDO	**Samad**	**3.96**	**212**	P		**Pn**	**23 30 33.6**	**+0.8**
	SNR=69							
UOSS	**Minazif**	**4.00**	**249**	*i* P		**Pn**	**23 30 32.3**	**-0.9**
	SNR=7.5							
UOSS	**Minazif**	**4.00**	**249**	P		**Pn**	**23 30 32.2**	**-0.9**
UOSS				S		**Sn**	**23 31 18.6**	**-1.6**
WBK	**Wadi Bani Khal**	**4.03**	**198**	P		**Pn**	**23 30 32.4**	**-1.1**
	SNR=325							
WBK				S		**Sn**	**23 31 21.0**	**+0.1**
	SNR=28							
HATD	**Hatta, Dubai**	**4.11**	**248**	P		**Pn**	**23 30 33.4**	**-1.3**
HATD				S		**Sn**	**23 31 21.5**	**-1.3**
HATD	**Hatta, Dubai**	**4.11**	**248**	P		**Pn**	**23 30 34.3**	**-0.4**
HATD				S		**Sn**	**23 31 21.8**	**-1.0**
SOHO	**SOHO**	**4.13**	**237**	*i* P		**Pn**	**23 30 34.7**	**-0.3**
	SNR=125							
SOHO	**SOHO**	**4.13**	**237**	P		**Pn**	**23 30 34.7**	**-0.3**
SOHO				S		**Sn**	**23 31 23.1**	**-0.3**
ASHO	**Ashiyiah**	**4.23**	**246**	P		**Pn**	**23 30 36.6**	**+0.2**
JLN	**Jalan Bani Buh**	**4.37**	**191**	P		**Pn**	**23 30 36.1**	**-2.2**
	SNR=17							
JLN				S		**Sn**	**23 31 28.0**	**-1.3**
	SNR=16							
JMDO	**Jabal Madar**	**4.54**	**207**	P		**Pn**	**23 30 41.6**	**+0.9**
	SNR=242							
JMDO				S		**Sn**	**23 31 35.7**	**+2.1**
ARQ	**Araqi**	**4.64**	**229**	P		**Pn**	**23 30 45.4**	**+3.4**
	SNR=14							
BSY	**Bisya**	**4.66**	**218**	P		**Pn**	**23 30 45.0**	**+2.7**
	SNR=7.0							
MHTO	**MHTO**	**5.86**	**202**	P		**Pn**	**23 30 59.0**	**+0.3**
	SNR=28							
WHFO	**Wadi Hawf**	**10.44**	**217**	P		**Pn**	**23 32 01.2**	**-0.5**
	SNR=18							
AAK	**Ala-Archa**	**19.87**	**32**	*i* P		**Pn**	**23 34 06.3**	**+1.4**
	SNR=8.2							
FINES	**FINESS Array B**	**41.85**	**336**	P		P	23 37 10.1	-12
	1.5nm,0.8s,baz=140,slow=11,SNR=1.3							
ARCES	**ARCESS Array B**	**47.64**	**344**	P		P	23 37 55.5	-12
	1.2nm,0.8s,baz=138,slow=7.1,SNR=1.6							
TORD	**Torodi Ar. Bea**	**56.29**	**268**	P		**P**	**23 39 12.2**	**-0.9**
	0.3nm,0.5s,baz=61,slow=6.8,SNR=4.3							

*KRNET **06** 23:33:09.4±0.1, 39˚.74N×77˚.35E, mb3.5*
*SOME **06** 23:33:09.5, 39˚.97N×77˚.08E, h10km*
*NNC **06** 23:33:11.1±0.9, 40˚.05N×77˚.13E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=6.3km s-min=4.6km az=158.0*
ISC 06 23:33:13.0±1.8, 39˚.93N±0˚.08×77˚.19E±0˚.05, h10km, n66, σ2§10/99, 27C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.20**	**360**	⇑*eP*		**Pn**	**23 33 50.0**	**+0.2**
	baz=57							
KDJ				⇑*iS*		**Sn**	**23 34 19.0**	**+1.8**
	baz=57							
ULHL	**Ulahol**	**2.42**	**343**	⇑*iP*		**Pn**	**23 33 53.2**	**+0.3**
	baz=42							
ULHL				⇑*iS*		**Sn**	**23 34 25.2**	**+2.5**
	baz=42							
ULHL	**Ulahol**	**2.42**	**343**	P		**Pn**	**23 33 53.3**	**+0.3**
	SNR=8.2							
BOOM	**Boomskoye usch**	**2.73**	**340**	⇑*eP*		**Pn**	**23 33 57.8**	**+0.7**
	baz=39							
BOOM				⇑*iS*		**Sn**	**23 34 32.6**	**+2.4**
	baz=39							
ANVS	**Anan'yevo**	**2.88**	**7**	⇑*iP*		**Pn**	**23 33 59.3**	**+0.2**
	baz=4.0							
ANVS				⇑*iS*		**Sn**	**23 34 35.1**	**+1.2**
	baz=4.0							
ARLS	**Aral**	**2.91**	**313**	⇑*iP*		**Pn**	**23 33 59.9**	**+0.4**
	baz=14							
ARLS				⇑*iS*		**Sn**	**23 34 36.3**	**+1.8**
	baz=14							
UCH	**Uchtor**	**3.06**	**320**	⇑*iP*		**Pn**	**23 34 02.0**	**+0.1**
	baz=20							
UCH				⇑*iS*		**Sn**	**23 34 41.3**	**+2.5**
	baz=20							
UCH	**Uchtor**	**3.06**	**320**	P		**Pn**	**23 34 01.6**	**-0.2**
	SNR=14							
TNSS	**Tian-Shan**	**3.11**	**357**	⇓*iP*		**Pb**	**23 34 06.0**	**-2.7**
	18nm,0.4s							
TNSS				*eS*		**Sb**	**23 34 46.7**	**-0.2**
	33nm,0.4s							
TNSS	**Tian-Shan**	**3.11**	**357**	Pg		**Pb**	**23 34 06.0**	**-2.7**
	18nm,0.4s							
TNSS				Lg		Lg	23 34 46.7	
	33nm,0.4s							
KBK	**Karagaybulak**	**3.21**	**329**	⇑*iP*		**Pn**	**23 34 04.5**	**+0.9**
	baz=29							
KBK				⇑*iS*		**Sn**	**23 34 44.2**	**+2.2**
	baz=29							
KBK	**Karagaybulak**	**3.21**	**329**	P		**Pb**	**23 34 08.2**	**-2.0**
	SNR=9.2							
TKM2	**Tokmak 2**	**3.22**	**339**	⇑*eP*		**Pn**	**23 34 04.6**	**+0.7**
	baz=38							
TKM2				⇑*iS*		**Sn**	**23 34 44.5**	**+2.1**
	baz=38							
TKM2	**Tokmak 2**	**3.22**	**339**	P		**Pn**	**23 34 04.4**	**+0.5**
	SNR=18							
MDOK	**Medeo**	**3.23**	**358**	*eP*		**Pb**	**23 34 08.6**	**-2.0**
	8.5nm,0.5s							
MDOK				*eS*		**Sb**	**23 34 50.9**	**+0.8**
	87nm,0.5s							
MDOK	**Medeo**	**3.23**	**358**	Pg		**Pb**	**23 34 08.6**	**-2.0**
	8.5nm,0.5s							
MDOK				Lg		Lg	23 34 50.9	
	87nm,0.5s							
KST	**Kastek**	**3.25**	**344**	*eP*		**Pb**	**23 34 08.0**	**-2.8**
	11nm,0.4s							
KST				*eS*		**Sb**	**23 34 50.1**	**-0.4**
	48nm,0.5s							
KST	**Kastek**	**3.25**	**344**	Pg		**Pb**	**23 34 08.0**	**-2.8**
	11nm,0.4s							
KST				Lg		Lg	23 34 50.1	
	48nm,0.5s							
MTBS	**Maitube**	**3.25**	**350**	*eP*		**Pb**	**23 34 08.4**	**-2.4**
	7.2nm,0.2s							
MTBS				*eS*		**Sb**	**23 34 50.4**	**-0.1**
	27nm,0.2s							
MTBS	**Maitube**	**3.25**	**350**	Pg		**Pb**	**23 34 08.4**	**-2.4**
	7.2nm,0.2s							
MTBS				Lg		Lg	23 34 50.4	
	27nm,0.2s							
SATY	**Saty**	**3.26**	**16**	*eP*		**Pb**	**23 34 08.6**	**-2.5**
	14nm,0.5s							
SATY				*eS*		**Sb**	**23 34 51.1**	**+0.2**
	71nm,0.4s							
SATY	**Saty**	**3.26**	**16**	Pg		**Pb**	**23 34 08.6**	**-2.5**
	14nm,0.5s							
SATY				Lg		Lg	23 34 51.1	
	71nm,0.4s							
AAA	**Alma-Ata**	**3.29**	**357**	*eP*		**Pb**	**23 34 09.1**	**-2.4**
	9.7nm,0.1s							
AAA				*eS*		**Sb**	**23 34 51.7**	**+0.1**
	111nm,0.6s							
AAA	**Alma-Ata**	**3.29**	**357**	Pg		**Pb**	**23 34 09.0**	**-2.4**
	9.7nm,0.1s							
AAA				Lg		Lg	23 34 51.7	
	111nm,0.6s							
KNDC	**Almaty**	**3.29**	**357**	⇑Pg		**Pb**	**23 34 09.3**	**-2.3**
	7.1nm,0.5s							
KNDC				⇑Lg		Lg	23 34 53.9	
	227nm,0.9s							
KOTS	**Kotyrbulak**	**3.30**	**359**	*eP*		**Pb**	**23 34 10.2**	**-1.7**
	30nm,0.4s							
KOTS				*eS*		**Sb**	**23 34 53.7**	**+1.6**
	140nm,0.8s							
KOTS	**Kotyrbulak**	**3.30**	**359**	Pg		**Pb**	**23 34 10.2**	**-1.7**
	30nm,0.4s							
KOTS				Lg		Lg	23 34 53.7	
	140nm,0.8s							
ZHN	**Zhinishke**	**3.37**	**16**	*eP*		**Pb**	**23 34 10.4**	**-2.6**
	45nm,0.3s							
ZHN				*eS*		**Sb**	**23 34 53.9**	**-0.1**
	36nm,0.7s							
ZHN	**Zhinishke**	**3.37**	**16**	Pg		**Pb**	**23 34 10.4**	**-2.6**
	45nm,0.3s							
ZHN				Lg		Lg	23 34 53.9	
	36nm,0.7s							
AML	**Almayashu**	**3.44**	**311**	⇑*eP*		**Pn**	**23 34 07.6**	**+0.6**
	baz=12							
AML				⇑*iS*		**Sn**	**23 34 50.1**	**+2.1**
	baz=12							
AML	**Almayashu**	**3.44**	**311**	P		**Pn**	**23 34 06.7**	**-0.4**
	SNR=9.0							
FRU1	**Bishkek**	**3.46**	**327**	⇑*iP*		**Pn**	**23 34 07.8**	**+0.7**
	baz=27							
FRU1				⇑*iS*		**Sn**	**23 34 50.4**	**+2.2**
	baz=27							
CHMS	**Chumysh**	**3.57**	**330**	⇓*iP*		**Pn**	**23 34 09.2**	**+0.7**
	baz=30							
CHMS				⇓*iS*		**Sn**	**23 34 52.8**	**+2.0**
	baz=30							
CHMS	**Chumysh**	**3.57**	**330**	P		**Pn**	**23 34 08.8**	**+0.2**
	SNR=14							
KURS	**Kuram**	**3.63**	**11**	*eP*		**Pb**	**23 34 15.4**	**-2.0**
	13nm,1.1s							
KURS				*eS*		**Sb**	**23 35 02.5**	**+1.0**
	27nm,0.6s							
KURS	**Kuram**	**3.63**	**11**	Pg		**Pb**	**23 34 15.4**	**-2.0**
	13nm,1.1s							
KURS				Lg		Lg	23 35 02.5	
	27nm,0.6s							
SHLS	**Shalkode**	**3.65**	**27**	*eP*		**Pb**	**23 34 18.7**	**+0.9**
	11nm,0.5s							
SHLS				*eS*		**Sg**	**23 35 08.1**	**-2.2**
	37nm,0.5s							
SHLS	**Shalkode**	**3.65**	**27**	Pg		**Pb**	**23 34 18.7**	**+0.9**
	11nm,0.5s							
SHLS				Lg		Lg	23 35 08.1	
	37nm,0.5s							
KPKS	**Kokpek**	**3.71**	**17**	*eP*		**Pb**	**23 34 16.1**	**-2.6**
	9.0nm,0.4s							
KPKS				*eS*		**Sb**	**23 35 04.0**	**+0.2**
	83nm,0.6s							
EKS2	**Erkin-Say**	**3.75**	**318**	P		**Pn**	**23 34 11.5**	**+0.5**
	SNR=21							
KTBS	**Karatobe**	**3.80**	**354**	*eP*		**Pb**	**23 34 17.7**	**-2.5**
	5.2nm,0.7s							
KTBS				*eS*		**Sb**	**23 35 06.6**	**+0.3**
	76nm,0.3s							
KTBS	**Karatobe**	**3.80**	**354**	Pg		**Pb**	**23 34 17.7**	**-2.5**
	5.2nm,0.7s							
KTBS				Lg		Lg	23 35 06.6	
	76nm,0.3s							
PDGK	**Podgornoye**	**3.81**	**26**	Pg		**Pb**	**23 34 18.2**	**-2.3**
	3.6nm,0.5s							
PDGK				Lg		Lg	23 35 07.5	
	13nm,0.7s							
PDGK	**Podgornoye**	**3.81**	**26**	⇑Pg		**Pb**	**23 34 18.5**	**-2.0**
	6.5nm,0.7s							
PDGK				⇓Lg		Lg	23 35 08.8	
	18nm,0.5s							
USP	**Ospenovka**	**3.90**	**330**	P		**Pn**	**23 34 12.9**	**-0.1**
	SNR=9.0							
CHKK	**Chushkaly**	**3.93**	**358**	*eP*		**Pb**	**23 34 20.4**	**-1.9**
	5.9nm,0.2s							
CHKK				*eS*		**Sb**	**23 35 11.8**	**+1.8**
	27nm,0.3s							
CHKK	**Chushkaly**	**3.93**	**358**	Pg		**Pb**	**23 34 20.4**	**-1.9**
	5.9nm,0.2s							
CHKK				Lg		Lg	23 35 11.8	
	27nm,0.3s							
SGDS	**Sogindy**	**4.01**	**332**	Pg		**Pb**	**23 34 21.6**	**-2.1**
	6.7nm,0.4s							
SGDS				Lg		Lg	23 35 13.3	
	13nm,0.7s							
KUU	**Kurty**	**4.01**	**351**	*eP*		**Pb**	**23 34 22.3**	**-1.5**
	6.1nm,0.8s							
KUU				*eS*		**Sb**	**23 35 14.4**	**+2.1**
	24nm,0.5s							
KUU	**Kurty**	**4.01**	**351**	Pg		**Pb**	**23 34 22.3**	**-1.5**
	6.1nm,0.8s							
KUU				Lg		Lg	23 35 14.5	
	24nm,0.5s							
MRKS	**Merke**	**4.10**	**315**	*eP*		**Pb**	**23 34 23.5**	**-1.9**
	14nm,0.5s							
MRKS				*eS*		**Sb**	**23 35 16.5**	**+1.5**
	20nm,0.7s							
MRKS	**Merke**	**4.10**	**315**	Pg		**Pb**	**23 34 23.5**	**-1.9**
	14nm,0.5s							
MRKS				Lg		Lg	23 35 16.5	
	20nm,0.7s							
MNBS	**Baschi**	**4.25**	**12**	*eP*		**Pb**	**23 34 27.7**	**-0.1**
	8.1nm,0.5s							
MNBS				*eS*		**Sb**	**23 35 23.7**	**+4.5**
	23nm,0.3s							
MNBS	**Baschi**	**4.25**	**12**	Pg		**Pb**	**23 34 27.7**	**-0.1**
	8.1nm,0.5s							
MNBS				Lg		Lg	23 35 23.7	
	23nm,0.3s							
ARXS	**Arharly**	**4.31**	**6**	*eP*		**Pb**	**23 34 28.3**	**-0.6**
	18nm,0.7s							
ARXS				*eS*		**Sb**	**23 35 24.9**	**+3.9**
	22nm,0.8s							
ARXS	**Arharly**	**4.31**	**6**	Pg		**Pb**	**23 34 28.3**	**-0.6**
	18nm,0.7s							
ARXS				Lg		Lg	23 35 24.9	
	22nm,0.8s							
DJR	**Jarkent**	**4.81**	**23**	*eP*		**Pb**	**23 34 38.2**	**+0.8**
	4.9nm,0.4s							
DJR				*eS*		**Sg**	**23 35 41.9**	**-5.5**
	8.7nm,0.4s							
DJR	**Jarkent**	**4.81**	**23**	Pg		**Pb**	**23 34 38.2**	**+0.8**
	4.9nm,0.4s							
DJR				Lg		Lg	23 35 41.9	
	8.7nm,0.4s							
BTK	**Batken**	**4.89**	**274**	⇑*iP*		**Pn**	**23 34 26.1**	**-0.6**
	baz=76							
BTK				⇑*iS*		**Sn**	**23 35 22.6**	**-0.8**
	baz=76							
TDK	**Taldyqorghan**	**5.15**	**10**	*eP*		**Pb**	**23 34 43.1**	**-0.1**
	16nm,0.3s							
TDK				*eS*		**Sb**	**23 35 50.2**	**+5.1**
	46nm,0.5s							
TDK	**Taldyqorghan**	**5.15**	**10**	Pg		**Pb**	**23 34 43.1**	**-0.1**
	16nm,0.3s							
TDK				Lg		Lg	23 35 50.2	
	46nm,0.5s							
BTLS	**Baital**	**5.61**	**337**	*eP*		**Pb**	**23 34 51.9**	**+0.8**
	2.1nm,0.6s							
BTLS				*eS*		**Sb**	**23 36 05.3**	**+6.9**
	9.0nm,0.5s							
BTLS	**Baital**	**5.61**	**337**	Pg		**Pb**	**23 34 51.9**	**+0.8**
	2.1nm,0.6s							
BTLS				Lg		Lg	23 36 05.3	
	9.0nm,0.5s							
IUG	**Iuzhnay**	**5.85**	**295**	*eP*		**Pb**	**23 34 57.3**	**+2.2**
	6.5nm,0.5s							
IUG				*eS*		**Sg**	**23 36 15.0**	**-5.7**
	15nm,1.4s							
IUG	**Iuzhnay**	**5.85**	**295**	Pg		**Pb**	**23 34 57.3**	**+2.2**
	6.5nm,0.5s							
IUG				Lg		Lg	23 36 15.0	
	15nm,1.4s							
KK31	**Karatay Array**	**5.93**	**305**	⇑Pg		**Pb**	**23 34 54.8**	**-1.6**
	3.2nm,0.8s,baz=124,slow=16,SNR=13							
KK31				⇑Lg		Lg	23 36 12.6	
	4.3nm,0.8s,baz=114,slow=28,SNR=6.4							

*NEIC **06** 23:36:30.0±1.1, 60˚.06N±0˚.04×153˚.43W±0˚.08, h151km±4km, Error ellipse: s-maj=6.6km s-min=5.4km az=143.0*
*AEIC **06** 23:36:31±1.3, 60˚.04N±0˚.04×153˚.39W±0˚.09, h147km±4km, ML3.1, Error ellipse: s-maj=6.9km s-min=5.7km az=124.0*
*ANF **06** 23:36:31.4±0.9, 60˚.13N×153˚.18W, h151km±10km, ML3.5/10, Error ellipse: s-maj=12.6km s-min=6.6km az=98.0*
ISC 06 23:36:29.6±1.2, 60˚.05N±0˚.04×153˚.38W±0˚.04, h155km±7km, n130, σ0§89/158, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.19**	**121**			**Pn**	**23 36 51.0**	**+0.4**
IVE	**Iliamna Volcan**	**0.19**	**101**			**Pn**	**23 36 50.5**	**-0.2**
IVE						**Sn**	**23 37 06.3**	**-0.4**
OPT	**Oil Point**	**0.41**	**169**			**Pn**	**23 36 51.4**	**+0.2**
RED	**Redoubt Volcan**	**0.48**	**40**			**Pn**	**23 36 51.6**	**0.0**
RED						**Sn**	**23 37 07.7**	**-0.7**
RDSO	**Redoubt South**	**0.51**	**38**			**Pn**	**23 36 51.8**	**0.0**
RDSO						**Sn**	**23 37 07.9**	**-0.9**
RDWB	**Redoubt West**	**0.51**	**32**			**Pn**	**23 36 51.8**	**0.0**
RDWB						**Sn**	**23 37 07.8**	**-1.0**
RSO	**Redoubt South**	**0.52**	**37**			**Pn**	**23 36 52.0**	**+0.2**
NCT	**North Crescent**	**0.56**	**24**			**Pn**	**23 36 52.2**	**+0.2**
NCT						**Sn**	**23 37 08.4**	**-0.7**
DFR	**Drift River**	**0.64**	**32**			**Pn**	**23 36 52.4**	**0.0**
AU22	**Augustine Moun**	**0.69**	**179**			**Pn**	**23 36 52.7**	**+0.1**
AUW	**Augustine West**	**0.69**	**184**			**Pn**	**23 36 52.9**	**+0.3**
AUCH	**Augustine Cone**	**0.69**	**183**			**Pn**	**23 36 53.0**	**+0.3**
HOM	**Homer**	**0.96**	**114**	P		**Pn**	**23 36 54.9**	**+0.4**
	baz=294							
HOM				S		**Sn**	**23 37 13.5**	**-0.1**
	baz=294							
HOM	**Homer**	**0.96**	**114**			**Pn**	**23 36 55.2**	**+0.7**
HOM						**Sn**	**23 37 13.7**	**+0.1**
CNPM	**China Poot**	**1.21**	**115**			**Pn**	**23 36 57.1**	**+0.4**
CNPM						**Sn**	**23 37 16.8**	**-0.7**
SPCR	**Spurr Chakacha**	**1.29**	**26**			**Pn**	**23 36 58.2**	**+0.7**
BRLK	**Bradley Lake**	**1.29**	**102**			**Pn**	**23 36 58.0**	**+0.5**
BRLK						**Sn**	**23 37 17.6**	**-1.2**
SPBG	**Spurr Blockage**	**1.31**	**22**			**Pn**	**23 36 58.8**	**+1.0**
SPCN	**Chakachatna No**	**1.32**	**26**			**Pn**	**23 36 58.6**	**+0.9**
CAPN	**Captain Cook N**	**1.32**	**56**	P		**Pn**	**23 36 59.6**	**+2.0**
	baz=238							
CAPN				S		**Sn**	**23 37 21.9**	**+2.7**
	baz=238							
CAPN	**Captain Cook N**	**1.32**	**56**			**Pn**	**23 36 59.7**	**+2.0**
SPCP	**Crater Peak Br**	**1.36**	**26**			**Pn**	**23 36 59.2**	**+0.9**
SPNN	**North Nagishla**	**1.36**	**14**			**Pn**	**23 36 59.0**	**+0.7**
BRSE	**Bradley Lake S**	**1.37**	**102**			**Pn**	**23 36 58.8**	**+0.5**
BRSE						**Sn**	**23 37 19.8**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.41**	**28**			**Pn**	**23 36 59.4**	**+0.6**
SVW2	**Sparrevohn**	**1.51**	**315**			**Pn**	**23 36 59.8**	**+0.1**
SVW2						**Sn**	**23 37 21.5**	**-1.2**
KAPH	**Katmai Pasha**	**1.54**	**199**			**Pn**	**23 37 00.1**	**0.0**
KAPH						**Sn**	**23 37 22.2**	**-1.2**
KAHC	**Katmai Hardscr**	**1.64**	**211**			**Pn**	**23 37 00.9**	**-0.2**
STLK	**Strandline Lak**	**1.64**	**27**			**Pn**	**23 37 01.8**	**+0.8**
SLKM	**Skilak Lake**	**1.64**	**72**			**Pn**	**23 37 01.5**	**+0.4**
SLKM						**Sn**	**23 37 23.9**	**-1.3**
KARR	**Katmai Rainbow**	**1.70**	**204**			**Pn**	**23 37 02.0**	**+0.2**
KAWH	**Katmai**	**1.83**	**204**			**Pn**	**23 37 03.1**	**-0.1**
O22K	**Cooper Landing**	**1.87**	**75**	P		**Pn**	**23 37 03.0**	**-0.6**
	baz=258							
O22K				S		**Sn**	**23 37 29.4**	**-0.3**
	baz=258							
O22K	**Cooper Landing**	**1.87**	**75**			**Pn**	**23 37 04.1**	**+0.5**
O22K						**Sn**	**23 37 29.7**	**0.0**
SUA	**Susitna One**	**1.92**	**41**			**Pn**	**23 37 04.8**	**+0.6**
SUA						**Sn**	**23 37 31.3**	**+0.5**
KVTA	**Katmai Vly 10**	**1.94**	**211**			**Pn**	**23 37 04.6**	**+0.2**
KCG	**Knife Ck. Glac**	**1.96**	**208**			**Pn**	**23 37 04.7**	**+0.1**
SEW	**Seward**	**1.97**	**87**			**Pn**	**23 37 05.2**	**+0.6**
SEW	**Seward**	**1.97**	**87**			**Sn**	**23 37 30.3**	**-1.3**
RC01	**Rabbit Creek A**	**2.08**	**58**	P		**Pn**	**23 37 05.8**	**-0.1**
	baz=241,SNR=11							
RC01				S		**Sn**	**23 37 33.4**	**-0.5**
	baz=241							
RC01	**Rabbit Creek A**	**2.08**	**58**			**Pn**	**23 37 05.9**	**0.0**
SKT	**Skwentna**	**2.13**	**24**			**Pn**	**23 37 07.2**	**+0.7**
KDAK	**Kodiak Island**	**2.31**	**169**	Pn		**Pn**	**23 37 07.7**	**-1.1**
PMR	**Palmer**	**2.59**	**52**	Pn		**Pn**	**23 37 12.2**	**+0.2**
PWL	**Port Wells**	**2.63**	**70**			**Pn**	**23 37 12.1**	**-0.5**
PWL						**Sn**	**23 37 44.5**	**-1.2**
KNK	**Knik Glacier**	**2.78**	**58**			**Pn**	**23 37 13.6**	**-0.7**
GHO	**Glory Hole Cre**	**2.78**	**50**			**Pn**	**23 37 14.0**	**-0.5**
CUT	**Chulitna**	**2.80**	**31**	P		**Pn**	**23 37 15.3**	**+0.7**
	baz=214,SNR=7.9							
CUT				S		**Sn**	**23 37 49.2**	**-0.1**
	baz=214							
PLK3	**Peulik 3**	**2.81**	**214**			**Pn**	**23 37 15.3**	**+0.5**
PLK1	**Peulik 1**	**2.81**	**218**			**Pn**	**23 37 15.5**	**+0.8**
OHAK	**Old Harbor**	**2.84**	**179**			**Pn**	**23 37 13.5**	**-1.6**
PPLA	**Purkeypile**	**2.91**	**11**			**Pn**	**23 37 17.9**	**+1.8**
SML	**Sawmill**	**3.03**	**52**			**Pn**	**23 37 17.0**	**+0.5**
TT01	**Tatalina**

MCARA	McCarthy VSAT	5.26	71	Pn	Pn	23 37 48.0	+1.6
TGL	Tana Glacier	5.28	78		Pn	23 37 47.3	+0.5
CCB	Clear Creek Bu	5.29	27		Pn	23 37 46.9	+0.1
HDA	Harding Lake	5.30	32	P	Pn	23 37 47.2	+0.2
	baz=217,SNR=32						
HDA				S	Sn	23 38 45.3	-2.2
	baz=217						
HDA	Harding Lake	5.30	32		Pn	23 37 47.2	+0.2
PS08	TAPS Pump Stn8	5.45	31		Pn	23 37 49.1	+0.3
MENT	Mentasta	5.46	54		Pn	23 37 49.3	+0.2
MDM	Murphy Dome	5.47	24		Pn	23 37 49.6	+0.4
RIDG	Independent Ri	5.47	44	Pn	Pn	23 37 50.1	+0.8
TCOL	CIGÖ, UAF Yank	5.47	26	P	Pn	23 37 49.4	+0.2
	baz=210						
TCOL				S	Sn	23 38 51.2	-0.2
	baz=210						
COLA	College	5.47	26		Pn	23 37 49.3	+0.1
PTPK	Patty Peak	5.50	73		Pn	23 37 51.0	+1.3
KIAG	Kiagna River	5.52	76		Pn	23 37 50.9	+0.8
BALM	Baldy	5.54	75		Pn	23 37 51.3	+1.1
IL31		5.61	30		Pn	23 37 51.3	+0.2
ILAR	Eielson Array	5.61	30	Pn	Pn	23 37 51.0	-0.1
MESA	MESA	5.72	84		Pn	23 37 53.9	+1.1
POKR	Poker Plat Res	5.78	26	P	Pn	23 37 53.7	+0.4
	baz=211,SNR=5.4						
POKR				S	Sn	23 38 58.1	-0.6
	baz=211						
POKR	Poker Plat Res	5.78	26		Pn	23 37 53.9	+0.7
GRNC	Granite Creek	5.81	78		Pn	23 37 55.2	+1.3
YAH	Yahtse	5.81	82		Pn	23 37 56.1	+2.2
BARN	Barnard Glacie	5.87	75		Pn	23 37 56.0	+1.2
SCRK	Sand Creek	5.92	44	P	Pn	23 37 55.1	-0.1
	baz=232,SNR=6.5						
SCRK				S	Sn	23 38 58.8	-3.5
	baz=232						
SCRK	Sand Creek	5.92	44		Pn	23 37 55.3	0.0
IM03		5.96	359		Pn	23 37 56.6	+1.1
IMAR	Indian Mountai	5.96	359		Pn	23 37 56.8	+1.2
CTGM	Chitina Glacie	6.02	76	Pn	Pn	23 37 58.3	+1.6
CNBA	Chernabura Isl	6.22	215	Pn	Pn	23 37 59.2	0.0
BC03		6.31	56		Pn	23 38 00.8	+0.5
BCAR	Beaver Creek A	6.31	56	Pn	Pn	23 38 01.1	+0.7
YUK2	White River	6.36	69		Pn	23 38 02.5	+1.4
YUK3	Moose Creek	6.54	69		Pn	23 38 04.9	+1.4
PCA	Pinnacle	6.57	84		Pn	23 38 06.2	+2.3
K27K	Chicken	6.64	48		Pn	23 38 05.2	+0.5
EGAK	Eagle	7.39	45	Pn	Pn	23 38 14.7	0.0
BM03	Burnt Mountain	8.35	24		Pn	23 38 27.3	-0.1
BM01	Burnt Mountain	8.39	24		Pn	23 38 28.0	0.0
WHY	Whitehorse	9.19	78	Pn	Pn	23 38 41.2	+2.5
UNV	Unalaska Valle	9.48	235	Pn	Pn	23 38 43.3	+0.8

*IDC **06** 23:44:54.0±9.5, 37.°48S×77.°92E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/22, mbtmp4.1/3, MS3.5/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=307.0km s-min=43.5km az=35.0*

*NEIC **06** 23:44:56.7±0.3, 37.°5S±0.°1×78.°14E±0.°06, h10km±1km, mb4.6/12, Error ellipse: s-maj=17.9km s-min=6.0km az=344.0*

ISC 06 23:44:57.1±0.7,**37.°5S**±0.°1×**78.°0E**±0.°2,**h13**km,**n24,** σ0§**65**/17,**mb4.5**/10,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	Amsterdam Isla	0.50	228	Pg	Pb	23 45 07.0	-0.7
H01W2	Cape Leeuwin H	29.14	96	T	T	00 21 14.3	
	baz=254,slow=75,SNR=167						
H01W3	Cape Leeuwin H	29.14	96	T	T	00 21 14.8	
	baz=254,slow=75,SNR=156						
H01W1	Cape Leeuwin H	29.15	96	T	T	00 21 15.6	
	baz=254,slow=75,SNR=160						
H08S2	Diego Garcia H	30.11	349	T	T	00 22 26.2	
	baz=171,slow=76,SNR=732						
H08S1	Diego Carcia H	30.11	349	T	T	00 22 30.8	
	baz=171,slow=76,SNR=599						
H08S3	Diego Garcia H	30.13	349	T	T	00 22 17.7	
	baz=171,slow=76,SNR=838						
BOSA	Boshof	44.63	265	LR	LR	00 07 25.9	
	comp=Z,44nm,21.2s,baz=158,slow=30						
ASAR	Alice Springs	49.37	90	P	P	23 53 46.1	-0.5
	2.0nm,1.0s,baz=229,slow=6.2,SNR=8.9						
ASAR				LR	LR	00 12 35.4	
	comp=Z,60nm,18.5s,baz=241,slow=34						
ASAR	Alice Springs	49.37	90	P	P	23 53 45.6	-0.9
WRA	Warramunga Arr	51.63	87	P	P	23 54 03.3	-0.4
	3.4nm,0.9s,baz=237,slow=7.5,SNR=18						
WRA	Warramunga Arr	51.63	87	P	P	23 54 03.2	-0.4
WB2	Warramunga Arr	51.64	87	P	P	23 54 03.1	-0.6
WB2				IAmb	IAmb	23 54 16.8	
	comp=Z,8.6nm,1.2s						
SNAA	Sanae	52.08	203	P	P	23 54 07.3	+1.0
SNAA				IAmb	IAmb	23 54 15.8	
	comp=Z,12nm,1.8s						
QSPA	South Pole Qui	52.69	180	P	P	23 54 11.5	+0.5
SHL	Shillong	64.04	14	P	P	23 55 30.7	0.0
KBL	Kabul	72.13	352	P	P	23 56 21.9	+0.5
KBL				IAmb	IAmb	23 56 22.7	
	comp=Z,9.7nm,1.6s						
XAN	Xi'an	76.73	26	P	P	23 56 48.2	+0.2
BTK	Batken	77.43	354	P	P	23 56 52.5	+0.6
BTK				IAmb	IAmb	23 56 53.7	
	comp=Z,8.2nm,1.1s						
KK31	Karatay Array	80.48	354	P	P	23 57 08.9	+0.5
KK31				IAmb	IAmb	23 57 10.2	
	comp=Z,5.9nm,1.1s						
KKAR	Karatay Array	80.48	354	P	P	23 57 08.9	+0.5
KKAR				IAmb	IAmb	23 57 10.2	
	comp=Z,5.9nm,1.1s						
KKAR	Karatay Array	80.48	354	P	P	23 57 08.8	+0.5
MK31	Makanchi Array	83.97	3	P	P	23 57 26.0	-0.6
MK31				IAmb	IAmb	23 57 26.9	
	comp=Z,3.9nm,1.1s						
MKAR	Makanchi Array	83.97	3	P	P	23 57 25.7	-0.9
	comp=Z,2.0nm,1.0s,baz=168,slow=5.3,SNR=8.8						

*IDC **07** 00:04:58.0±1.7, 11.°71N×87.°42W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/40, mbtmp3.9/4, ML2.8/1, MS2.5/2, Ms1 2.5/2, ms1mx2.3/42, Error ellipse: s-maj=66.6km s-min=22.0km az=47.0*

*UCR **07** 00:04:59.3±1.0, 11.°49N×87.°69W, h10km±10km, ML3.8, mb4.2(NEIC)*

*SNET **07** 00:04:59.7±1.2, 11.°38N×87.°71W, h59km±187km, ML4.0*

*INET **07** 00:05:00.8, 11.°51N×87.°53W, h17km, ML3.3*

*NEIC **07** 00:05:03.1±1.7, 11.°64N±0.°07×87.°41W±0.°07, h35km±2km, mb4.2/29, Error ellipse: s-maj=14.9km s-min=9.3km az=224.0*

ISC 07 00:05:02.2±2.3,**11.°62N**±0.°08×**87.°47W**±0.°07,**h31**km±16km, **n62,** σ0§**81**/72,**mb4.2**/18,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.15	21	Pn	Pn	00 05 22.4	+0.3
CNCH	Conchagua	1.68	348	eP	Pn	00 05 29.5	-0.1
CNCH				eS	Sb	00 05 53.8	+0.4
CNCH				IAML		00 06 02.1	
	comp=Z,2μm,0.3s						
CNCH	Conchagua	1.68	348	eP	Pn	00 05 29.5	-0.1
CNCH				eS	Sb	00 05 53.8	+0.4
CNCH				IAML		00 06 02.1	
	comp=Z,2μm,0.3s						
LCND	La Caada	1.73	346	eP	Pn	00 05 30.1	0.0
LCND				eS	Sb	00 05 54.6	0.0
LCND				IAML		00 06 03.2	
	comp=Z,672nm,0.4s						
LCND	La Caada	1.73	346	eP	Pn	00 05 30.1	0.0
LCND				eS	Sb	00 05 54.6	0.0
LCND				IAML		00 06 03.2	
	comp=Z,672nm,0.4s						
VSM	San Miguel	1.96	336	eP	Pn	00 05 33.4	-0.1
VSM				eS	Sb	00 06 00.5	-1.1
VSM	San Miguel	1.96	336	eP	Pn	00 05 33.4	-0.1
VSM				eS	Sb	00 06 00.5	-1.1
MATN	Matagalpa	1.99	49		Pn	00 05 33.5	-0.2
TECA	Tecapa	2.12	332	eP	Pn	00 05 36.0	+0.4
TECA	Tecapa	2.12	332	eP	Pn	00 05 36.0	+0.4
ACON	Acoyapa	2.27	81		Pn	00 05 36.9	-0.6
COEG	Centro de Oper	2.42	325	eP	Pn	00 05 38.9	-0.8
COEG				eS	Sn	00 06 07.9	-0.4
COEG	Centro de Oper	2.42	325	eP	Pn	00 05 38.9	-0.8
COEG				eS	Sn	00 06 07.9	-0.4
TGUH	Tegucigalpa,Un	2.43	4	eP	Pn	00 05 40.9	+1.0
TGUH	Tegucigalpa,Un	2.43	4	eP	Pn	00 05 40.9	+1.0
TGUH	Tegucigalpa,Un	2.43	4		Pn	00 05 40.4	+0.6
LFRS	El Faro	2.53	322	eP	Pn	00 05 40.1	-1.1
LFRS				eS	Sn	00 06 11.3	+0.3
LFRS	El Faro	2.53	322	eP	Pn	00 05 40.1	-1.1
LFRS				eS	Sn	00 06 11.3	+0.3
SNET	Serv Nac Est T	2.68	320	Pn	Pn	00 05 45.3	+2.1
JTS	Las Juntas de	2.80	118	Pn	Pn	00 05 45.9	+1.1
	comp=Z,1.4nm,0.3s,baz=16,slow=17,SNR=4.8						
JTS				LR	LR	00 06 11.2	
	comp=Z,36nm,21.4s,baz=356,slow=26						
JTS				Sn	Sn	00 06 16.9	-0.7
	comp=Z,9.5nm,0.3s,baz=151,slow=18,SNR=5.3						
JTS	Las Juntas de	2.80	118		Pn	00 05 45.5	+0.7
ESPN	Las Esperanzas	3.15	79	Pn	Pn	00 05 50.4	+0.8
MTO3	Montecristo	3.32	326		Pn	00 05 53.0	+0.8
ESQI	Esquipulas	3.44	328	Pn	Pn	00 05 55.5	+1.7
833A	Chaparral WMA,	20.02	328	P	P	00 09 32.2	-0.2
TIGA	Tifton	20.04	10	P	P	00 09 33.1	+0.4
ATAH	Atahualpa	20.70	154	LR	LR	00 17 20.0	
	comp=Z,30nm,18.6s,baz=57,slow=36						
152A	Waverly Hall	21.10	6		P	00 09 45.3	+1.1
152A				IAmb	IAmb	00 09 48.6	
	comp=Z,9.9nm,0.8s						
LRAL	Lakeview Retre	21.32	1		P	00 09 47.4	+0.9
GOGA	Godfrey	22.00	9	P	P	00 09 53.6	-0.1
GOGA				IAmb	IAmb	00 09 56.8	
	comp=Z,6.9nm,0.8s						
Y49A	Blount Mountai	22.16	2	P	P	00 09 55.9	+0.4
Y49A				IAmb	IAmb	00 09 57.3	
	comp=Z,8.7nm,0.8s						
Y52A	Lilburn	22.36	7	P	P	00 09 58.0	+0.4
Y52A				IAmb	IAmb	00 10 00.8	
	comp=Z,7.3nm,0.8s						
TX32	Lajitas Array	23.21	322	P	P	00 10 07.4	+0.7
TXAR	Lajitas Array	23.21	322	P	P	00 10 07.6	+0.9
	comp=Z,1.2nm,0.6s,baz=134,slow=10,SNR=24						
TXAR	Lajitas Array	23.21	322	P	P	00 10 06.5	-0.2
MIAR	Mount Ida	23.49	347	P	P	00 10 08.9	-0.3
W50A	Signal Mountai	23.55	4	P	P	00 10 10.7	+0.8
W50A				IAmb	IAmb	00 10 11.5	
	comp=Z,9.2nm,0.8s						
BG3	Lake Jocassee	23.63	9	P	P	00 10 11.7	+1.0
BG3				IAmb	IAmb	00 10 12.1	
	comp=Z,4.7nm,0.6s						
CPCT	Cooper Cave	23.87	6	P	P	00 10 13.8	+0.9
CPCT				IAmb	IAmb	00 10 14.9	
	comp=Z,6.6nm,0.9s						
WHAR	Wooly Hollow	23.97	350	P	P	00 10 13.6	-0.1
X37A	Clayton	23.97	344	P	P	00 10 14.6	+0.8
X37A				IAmb	IAmb	00 10 16.5	
	comp=Z,11nm,0.9s						
TKL	Tuckaleechee C	24.16	7	P	P	00 10 15.5	-0.1
	comp=Z,5.1nm,0.8s,baz=174,slow=11,SNR=9.1						
TKL	Tuckaleechee C	24.16	7	P	P	00 10 16.1	+0.4
TKL				IAmb	IAmb	00 10 16.6	
	comp=Z,5.8nm,0.8s						
CLTN	Cedars of Leba	24.38	2	P	P	00 10 18.0	+0.4
FCAR	Ozark Folk Cen	24.53	351	P	P	00 10 18.2	-0.7
LCAR	Lake Charles	24.57	353	P	P	00 10 18.1	-1.2
LCAR				IAmb	IAmb	00 10 18.9	
	comp=Z,5.7nm,0.6s						
WMOK	Wichita Mounta	25.21	338	P	P	00 10 25.4	+0.2
V58A	Windy Hill, Pi	25.23	16	P	P	00 10 25.1	-0.2
V58A				IAmb	IAmb	00 10 26.0	
	comp=Z,6.0nm,0.8s						
T47A	Sharon Grove	25.26	1	P	P	00 10 24.9	-0.7
T47A				IAmb	IAmb	00 10 25.4	
	comp=Z,6.7nm,0.8s						
TUL1	Leonard	25.33	344	P	P	00 10 26.8	+0.5
T42A	Van Buren	25.51	353	P	P	00 10 27.1	-0.7
S39A	Bolivar	26.48	350	P	P	00 10 35.5	-1.2
S39A				IAmb	IAmb	00 10 36.9	
	comp=Z,7.0nm,0.8s						
CCM	Cathedral Cave	26.54	353	P	P	00 10 36.0	-1.2
CCM				IAmb	IAmb	00 10 37.3	
	comp=Z,7.6nm,1.2s						
Q51A	Peebles	27.54	7	P	P	00 10 46.0	-0.1
SAML	Samuel	31.63	129	P	P	00 11 22.4	-0.2
SAML				IAmb	IAmb	00 11 23.6	
	comp=Z,2.5nm,0.8s						
WUAZ	Wupatki	32.17	322	P	P	00 11 28.6	+1.1
PDAR	Pinedale Array	36.49	332	P	P	00 12 03.0	-1.8
	comp=Z,0.5nm,0.6s,baz=129,slow=7.2,SNR=2.3						
NVAR	Mina Array Bea	38.32	320	PcP	PcP	00 14 36.3	+2.3
	comp=Z,0.2nm,0.5s,baz=93,slow=5.4,SNR=2.0						
BDFB	Brasilia	47.53	124	P	P	00 13 34.6	-0.4
	comp=Z,1.2nm,0.4s,baz=278,slow=9.0,SNR=3.4						
BDFB	Brasilia	47.53	124	P	P	00 13 34.3	-0.8
WRA	Warramunga Arr	139.02	253	PKP	PKiKP	00 24 28.3	-0.5
	comp=Z,0.2nm,0.8s,baz=77,slow=2.5,SNR=1.5						
CMAR	Chiang Mai Arr	149.45	348	PKPbc	PKPbc	00 24 49.1	0.0
	comp=Z,0.9nm,0.3s,baz=342,slow=4.2,SNR=4.7						

WEL 07 00:11:20.2,38.°S×3.°W×17.°6E±.°,h220km±6km,**M2.8**/25, **MLv2.8**/25,**Error ellipse: s-maj=0.0km s-min=0.0km az=103.3,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	Tahuroa Road	0.61	303	P	Pn	00 11 50.4	+0.4
URZ	Urewera	0.79	105	P	Pn	00 11 50.5	-0.3
URZ				S	S	00 12 12.2	-2.4
MRHZ	Matea Rd	0.80	164	P	Pn	00 11 50.7	-0.2
MRHZ				S	S	00 12 13.4	-1.6
RTZ	Ruatahuna	0.86	130	P	Pn	00 11 52.6	+1.3
RTZ				S	S	00 12 15.1	-0.4
MTHZ	Maungataniwha	0.96	145	S	S	00 12 16.4	-0.2
MWZ	Matawai	1.12	104	P	Pn	00 11 52.7	-0.1
MWZ				S	S	00 12 17.4	-0.8
BKZ	Black Stump Fm	1.13	166	P	Pn	00 11 53.2	+0.3
BKZ				S	S	00 12 17.1	-1.5
TWVZ	Taurewa	1.15	209	P	Pn	00 11 53.3	+0.2
SNGZ	Shannon Statio	1.18	128	P	Pn	00 11 54.1	+0.9
SNGZ				S	S	00 12 17.7	-1.3
RUGZ	Raukumara Rang	1.22	86	P	Pn	00 11 52.8	-0.9
RUGZ				S	S	00 12 16.6	-2.9
FWVZ	Far West T-bar	1.27	201	P	Pn	00 11 54.5	+0.3
WNVZ	Wahianoa	1.33	199	P	Pn	00 11 54.6	+0.1
WNVZ				S	S	00 12 20.2	-1.1
HAZ	Te Kaha	1.33	77	P	Pn	00 11 53.6	-0.7
HAZ				S	S	00 12 18.4	-2.4
PKVZ	Pokaka	1.37	207	P	Pn	00 11 54.8	+0.1
MOVZ	Moawhango	1.37	193	P	Pn	00 11 54.5	-0.2
MOVZ				S	S	00 12 19.3	-2.4
MTVZ	Mangateitei	1.42	202	P	Pn	00 11 55.2	+0.2
BHHZ	Black Hill Sta	1.42	182	P	Pn	00 11 55.2	+0.1
RIGZ	Rimuhau	1.43	117	P	Pn	00 11 55.2	+0.1
MCHZ	McNeill Hill	1.44	163	P	Pn	00 11 56.4	+1.2
TWGZ	Tauwhareparae	1.45	95	P	Pn	00 11 56.1	+0.7
PKGZ	Pakihiroa	1.54	84	P	Pn	00 11 56.2	+0.1
AWAZ	Awhitu Peninsu	1.56	310	P	Pn	00 11 56.4	+0.3
KRHZ	Kereru	1.59	174	P	Pn	00 11 56.9	+0.5
PUTZ	Puketiti	1.67	91	P	Pn	00 11 57.6	+0.5
CNGZ	Carnagh Statio	1.68	105	P	Pn	00 11 58.4	+1.3
MHGZ	Mahia Peninsul	1.76	129	P	Pn	00 11 58.8	+0.9
MXZ	Matakaoa Point	1.79	74	P	Pn	00 11 58.5	+0.3
WMGZ	Waiomatatini S	1.81	83	P	Pn	00 11 58.6	+0.2
PNHZ	Pukenui	1.85	179	P	Pn	00 11 58.9	+0.2
TSZ	Takapari Road	2.00	184	P	Pn	00 12 00.1	0.0
NEZ	North Egmont	2.00	232	P	Pn	00 12 01.1	+0.7
DVHZ	Dannevirke	2.23	180	P	Pn	00 12 02.2	-0.3
POWZ	Post Office Ro	2.34	187	P	Pn	00 12 03.1	-0.5
PRWZ	Pori Road	2.49	183	P	Pn	00 12 05.2	0.0
MRZ	Mangatainoka R	2.63	189	P	Pn	00 12 05.8	-0.9
TIWZ	Tintock	2.71	184	P	Pn	00 12 06.7	-1.0
OGWZ	Otaki Gorge	2.85	195	P	Pn	00 12 08.2	-0.9
HOWZ	Holdsworth Sta	2.87	190	P	Pn	00 12 08.1	-1.2
KIW	Kapiti Island	2.95	198	P	Pn	00 12 08.9	-1.4
CAW	Cannon Point	3.15	195	P	Pn	00 12 11.2	-1.3
DUWZ	D'Urville Isla	3.23	211	P	Pn	00 12 11.7	-1.7
TRWZ	Traveller	3.35	186	P	Pn	00 12 13.5	-1.3
MSWZ	Moikau Station	3.42	191	P	Pn	00 12 13.9	-1.8
TCW	Tory Channel	3.46	204	P	Pn	00 12 14.6	-1.5
OUZ	Omahuta	3.50	323	P	Pn	00 12 16.8	+0.1
PLWZ	Palliser	3.57	191	P	Pn	00 12 15.5	-1.9
TUWZ	Tuamarina	3.76	206	P	Pn	00 12 17.7	-2.0
NNZ	Nelson	3.80	213	P	Pn	00 12 18.0	-2.2
QRZ	Quartz Range	3.93	224	P	Pn	00 12 18.8	-3.0
THZ	Tophouse	4.45	213	P	Pn	00 12 25.4	-2.9
KHZ	Kahutara	4.78	204	P	Pn	00 12 30.4	-1.8
DSZ	Denniston Nort	4.96	221	P	Pn	00 12 31.0	-3.6
GVZ	Greta Valley S	5.44	205	P	Pn	00 12 38.2	-2.3
LTZ	Lake Taylor	5.56	211	P	Pn	00 12 39.3	-2.8
AMCZ	Amberley	5.75	206	P	Pn	00 12 41.3	-3.2
INZ	Inchbonnie	5.88	216	P	Pn	00 12 43.5	-2.6
OXZ	Oxford	6.11	209	P	Pn	00 12 45.5	-3.6
OKCZ	Okains Bay	6.12	201	P	Pn	00 12 46.5	-2.7
MQZ	McQueen's Vall	6.22	204	P	Pn	00 12 46.9	-3.6
MHCZ	Mount Hutt	6.47	211	P	Pn	00 12 50.3	-3.4
WACZ	Wakanui South	6.71	208	P	Pn	00 12 53.5	-3.2
RPZ	Rata Peaks	6.83	213	P	Pn	00 12 55.2	-3.1
ARCZ	Arundel	6.97	211	P	Pn	00 12 56.8	-3.3
ODZ	Otahua Downs	8.10	209	P	Pn	00 13 12.0	-2.6
JCZ	Jackson Bay	8.18	220	P	Pn	00 13 12.2	-3.5

*SOME **07** 00:17:53.4, 40.°95N×83.°98E, h10km*

*NNC **07** 00:17:56.7±2.7, 41.°22N×83.°99E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=18.5km s-min=15.6km az=158.0*

ISC 07 00:18:06.2±2.7,**41.°5N**±0.°1×**83.°70E**±0.°09,**h10**km,**n28,** σ1§**78**/42,**3C-6D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.16	310	eP	Pn	00 18 59.1	+2.9
	0.4nm,0.3s						
KTMS				eS	Sg	00 19 46.7	-1.2
	28nm,0.5s						
KTMS	Ketmen	3.16	310	Pg	Pn	00 18 59.1	+2.9
	0.4nm,0.3s						
KTMS				Lg	Lg	00 19 46.7	
	28nm,0.5s						
SHLS	Shalkode	3.56	299	eP	Pn	00 19 02.9	+1.2
	13nm,0.4s						
SHLS				eS	Sb	00 19 52.8	0.0
	91nm,0.6s						
SHLS	Shalkode	3.56	299	Pg	Pn	00 19 02.4	+0.7
	13nm,0.4s						
SHLS				Lg	Lg	00 19 52.8	
	91nm,0.6s						
PDGK	Podgornoye	3.63	302	⇓Pg	Pg	00 19 14.5	-1.1
	6.5nm,0.5s						
PDGK				⇑Sn	Sn	00 19 45.3	-0.2
	12nm,0.6s						
PDGK				⇑Lg	Lg	00 20 01.4	
	19nm,0.6s						
UZB	Uzunbulak	3.85	297	eP	Pb	00 19 12.1	-2.3
	4.1nm,0.6s						
UZB				eS	Sg	00 20 09.0	-0.9
	30nm,0.7s						
UZB	Uzunbulak	3.85	297	Pg	Pb	00 19 11.6	-2.7
	4.1nm,0.6s						
UZB				Lg	Lg	00 20 09.0	
	30nm,0.7s						
DJR	Jarkent	4.05	316	eP	Pb	00 19 18.2	+0.5
	11nm,0.9s						
DJR				eS	Sg	00 20 19.4	+3.2
	7.6nm,0.6s						
DJR	Jarkent	4.05	316	Pg	Pb	00 19 18.1	+0.4
	9.5nm,0.6s						
DJR				Lg	Lg	00 20 18.8	
	13nm,0.5s						
KPKS	Kokpek	4.21	300	eP	Pb	00 19 20.5	+0.1
	5.9nm,0.5s						
KPKS				eS	Sg	00 20 22.9	+1.5
	39nm,0.5s						
SATY	Saty	4.24	294	eP	Pb	00 19 20.9	0.0
	3.0nm,0.4s						
SATY				eS	Sg	00 20 23.8	+1.6
	20nm,0.4s						
SATY	Saty	4.24	294	Pg	Pb	00 19 20.4	-0.5
	2.3nm,0.3s						
SATY				Lg	Lg	00 20 23.8	
	35nm,0.8s						
KURS	Kuram	4.56	298	eP	Pb	00 19 24.2	-2.1
	4.6nm,1.0s						
KURS				eS	Sg	00 20 29.5	-3.0
	9.4nm,0.6s						
MNBS	Baschi	4.69	305	eP	Pb	00 19 27.7	-0.9
	4.5nm,0.5s						
MNBS				eS	Sg	00 20 35.8	-1.0
	13nm,0.4s						
MNBS	Baschi	4.69	305	Pg	Pb	00 19 27.6	-1.0
	4.5nm,0.5s						
MNBS				Lg	Lg	00 20 35.8	
	13nm,0.4s						
ARXS	Arharly	5.11	304	eP	Pb	00 19 35.9	+0.1
	4.3nm,0.3s						
ARXS				eS	Sg	00 20 49.7	-0.6
	15nm,0.8s						
ARXS	Arharly	5.11	304	Pg	Pb	00 19 35.3	-0.5
	4.3nm,0.3s						
ARXS				Lg	Lg	00 20 49.7	
	15nm,0.8s						
KOTS	Kotyrbulak	5.19	292	eP	Pb	00 19 37.3	+0.1
	6.7nm,0.6s						
KOTS				eS	Sg	00 20 52.2	-0.5
	28nm,0.5s						
KOTS	Kotyrbulak	5.19	292	Pg	Pb	00 19 37.3	+0.1
	6.7nm,0.6s						
KOTS				Lg	Lg	00 20 52.2	
	28nm,0.5s						
MDOK	Medeo	5.21	291	eP	Pb	00 19 35.7	-1.9
	3.5nm,0.5s						
MDOK				eS	Sg	00 20 49.3	-4.3
	11nm,0.6s						
TNSS	Tian-Shan	5.25	289	eP	Pb	00 19 39.6	+1.3
	1.6nm,0.3s						
TNSS				eS	Sg	00 20 56.0	+1.2
	5.0nm,0.7s						
MK31	Makanchi Array	5.41	350	Pg	Pb	00 19 37.5	-3.4
	2.4nm,0.7s,baz=164,slow=17,SNR=2.5						
MK31				⇑Lg	Lg	00 20 57.0	

THIG			**1.90**	**148**	*eP*		**Pn**	**00 22 34.0**	**0.0**
THIG					*i* S		**Sn**	**00 22 55.6**	**-1.3**
THIG			**1.90**	**148**			**Pn**	**00 22 32.8**	**-1.2**
THIG							**Sn**	**00 22 58.5**	**+1.6**
HUEH	**Huehuetenango**		**2.12**	**124**			**Pn**	**00 22 36.7**	**-0.4**
RTAL	**Retalhuleu**		**2.53**	**142**		Pn	**Pn**	**00 22 43.6**	**+1.1**
HUIG	**Huatulco**		**2.79**	**255**	*i* P		**Pn**	**00 22 44.7**	**-1.4**
HUIG					*i* S		**Sn**	**00 23 16.7**	**-1.9**
HUIG	**Huatulco**		**2.79**	**255**			**Pn**	**00 22 44.7**	**-1.4**
HUIG							**Sn**	**00 23 16.7**	**-1.9**
FUG	**Fuego 3**		**3.16**	**131**	*eP*		**Pn**	**00 22 54.1**	**+2.8**
FUG					*eS*		Sn	00 23 39.1	+11
SCIG	**Sabancuy**		**3.16**	**40**	*eP*		**Pn**	**00 22 51.4**	**+0.3**
SCIG					*i* S		**Sn**	**00 23 24.8**	**-2.9**
SCIG	**Sabancuy**		**3.16**	**40**			**Pn**	**00 22 51.4**	**+0.3**
SCIG							**Sn**	**00 23 25.0**	**-2.7**
OXBJ	**Oaxaca**		**3.31**	**280**	*i* P		Pn	00 22 58.9	+5.5
VHO	**Vista Hermosa**		**3.32**	**280**	*eP*		**Pn**	**00 22 49.6**	**-3.9**
VHO					*eS*		**Sn**	**00 23 31.7**	**-0.2**
PETF	**Flores**		**3.33**	**83**			**Pn**	**00 22 50.5**	**-2.9**
PCG	**Pacaya**		**3.37**	**129**	*eP*		**Pn**	**00 22 56.9**	**+2.7**
NBG	**Las Nubes**		**3.45**	**124**	*eP*		**Pn**	**00 22 57.7**	**+2.3**
IXG	**Ixpaco**		**3.63**	**130**	*eP*		**Pn**	**00 22 59.7**	**+2.0**
MRL	**Marmol**		**3.78**	**112**	*eP*		**Pn**	**00 22 59.9**	**+0.1**
ESQI	**Esquipulas**		**4.30**	**117**			**Pn**	**00 23 07.3**	**+0.5**
MTO3	**Montecristo**		**4.36**	**118**			**Pn**	**00 23 05.7**	**-2.1**
MTO3						Sn	**Sn**	**00 23 55.5**	**-1.9**
TLIG	**Tlapa**		**5.13**	**282**		Pn	**Pn**	**00 23 18.8**	**+0.6**
TEIG	**Tepich**		**6.03**	**52**		Pn	**Pn**	**00 23 29.2**	**-1.3**
TGUH	**Tegucigalpa,Un**		**6.33**	**112**		Pn	**Pn**	**00 23 35.2**	**+0.5**
MOIG	**Morelia**		**8.12**	**294**		Pn	**Pn**	**00 24 00.8**	**+1.6**
ZAIG	**Zacatecas**		**10.70**	**307**		Pn	**Pn**	**00 24 34.3**	**-0.3**
833A	**Chaparral WMA,**		**13.01**	**336**		Pn	**Pn**	**00 25 05.6**	**-0.2**
435B	**Jarrell**		**14.72**	**345**		Pn	**Pn**	**00 25 28.1**	**-0.5**
JCT	**Junction City**		**15.10**	**338**			**Pn**	**00 25 33.5**	**-0.1**
JCT						IAmb	IAmb	00 25 40.6	
	comp=Z,7.6nm,0.8s								
553A	**Crawfordville**		**15.85**	**29**		Pn	**Pn**	**00 25 41.8**	**-1.2**
553A						IAmb	IAmb	00 25 46.3	
	comp=Z,24nm,0.9s								
WHTX	**Lake Whitney,**		**15.85**	**347**		Pn	**Pn**	**00 25 42.7**	**-0.4**
WHTX						IAmb	IAmb	00 25 48.2	
	comp=Z,11nm,0.6s								
TXAR	**Lajitas Array**		**15.90**	**325**		Pn	**Pn**	**00 25 44.4**	**+0.5**
TX32	**Lajitas Array**		**15.90**	**325**		Pn	**Pn**	**00 25 44.6**	**+0.7**
ABTX	**Abilene, Hawle**		**17.02**	**341**		Pn	**P**	**00 25 58.9**	**+0.1**
ABTX						IAmb	IAmb	00 26 02.2	
	comp=Z,19nm,1.4s								
WLAR	**White Oak Lake**		**17.09**	**1**			**Pn**	**00 25 59.3**	**+0.7**
WLAR						IAmb	IAmb	00 26 01.8	
	comp=Z,7.5nm,0.5s								
Z47A	**Carrollton**		**17.26**	**15**		Pn	**P**	**00 26 03.7**	**+2.3**
Z47A						IAmb	IAmb	00 26 05.7	
	comp=Z,5.7nm,0.7s								
MIAR	**Mount Ida**		**17.94**	**359**		P	**P**	**00 26 09.8**	**+0.9**
WMOK	**Wichita Mounta**		**18.79**	**346**		P	**P**	**00 26 18.9**	**+0.7**
U40A	**Yellville**		**19.75**	**1**			**Pn**	**00 26 30.9**	**+0.3**
U40A						IAmb	IAmb	00 26 32.8	
	comp=Z,5.5nm,0.8s								
AMTX	**Amarillo**		**19.76**	**339**		P	**P**	**00 26 29.6**	**+0.8**
AMTX						IAmb	IAmb	00 26 46.7	
	comp=Z,5.4nm,0.8s								
WVT	**Waverly**		**20.12**	**13**		P	**P**	**00 26 34.0**	**+1.3**
PBMO	**Poplar Bluff**		**20.33**	**7**		P	**P**	**00 26 35.6**	**+0.7**
PBMO						IAmb	IAmb	00 26 37.2	
	comp=Z,9.6nm,0.9s								
T35A	**Sooner Cattle**		**20.50**	**353**		P	**P**	**00 26 37.5**	**+0.7**
MGMO	**Mountain Grove**		**20.57**	**2**		P	Pn	00 26 39.6	-0.7
MGMO						IAmb	IAmb	00 26 43.4	
	comp=Z,7.1nm,1.1s								
SDV	**Santo Domingo**		**23.38**	**106**		P	**P**	**00 27 07.6**	**+0.1**
SDV						IAmb	IAmb	00 27 10.5	
	comp=Z,5.0nm,0.8s								
P46A	**Rosedale**		**23.61**	**12**		P	**P**	**00 27 10.0**	**+0.8**
P48A	**Milroy**		**23.86**	**15**		P	**P**	**00 27 11.8**	**+0.3**
SPX	**San Pedro Mart**		**24.82**	**310**		P	**P**	**00 27 21.9**	**+1.2**

*IDC **07** 00:22:28.8±2.4, 8.74S×122.36E, h160km±27km, mb3.4/2, mb1 3.2/5, mb1mx3.0/35, mbtmp3.6/5, Error ellipse: s-maj=99.6km s-min=28.4km az=62.0*

ISC 07 00:22:27.3±1.4, 9.0S±0.1×122.1E±0.2, h150km, n6, σ1§96/9, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.00**	**127**	P	**Pn**	**00 23 03.2**	**+0.7**
	26nm,0.3s,baz=215,slow=0.5,SNR=14						
BATI				S	**Sn**	**00 23 31.9**	**+2.4**
	47nm,0.3s,baz=106,slow=18,SNR=3.3						
FITZ	**Fitzroy Crossi**	**9.70**	**159**	P	**Pn**	**00 24 45.2**	**+1.8**
	0.4nm,0.3s,baz=350,slow=9.5,SNR=26						
FITZ				S	**Sn**	**00 26 28.5**	**-2.4**
	1.3nm,0.3s,baz=161,slow=8.8,SNR=18						
WRA	**Warramunga Arr**	**16.11**	**134**	P	**Pn**	**00 26 04.2**	**-1.5**
	0.3nm,0.3s,baz=315,slow=12,SNR=9.5						
WRA				S	S	00 28 47.3	-18
	0.3nm,0.3s,baz=321,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**18.48**	**144**	P	**Pn**	**00 26 34.5**	**+0.6**
	0.1nm,0.3s,baz=331,slow=13,SNR=3.3						
ASAR				S	**S**	**00 29 53.3**	**-1.9**
	0.1nm,0.3s,baz=314,slow=21,SNR=4.0						
MKAR	**Makanchi Array**	**65.86**	**331**	P	**P**	**00 32 57.3**	**+0.5**
	0.5nm,0.5s,baz=146,slow=7.4,SNR=9.0						
ZALV	**Zalesovo Beam**	**70.14**	**338**	P	**P**	**00 33 22.1**	**-1.3**
	0.3nm,0.2s,baz=138,slow=5.5,SNR=2.0						

*NEIC **07** 00:27:21.6±1.3, 37.7S±0.2×78.13E±0.08, h10km±1km, mb4.4/11, Error ellipse: s-maj=35.0km s-min=3.4km az=163.0*

*IDC **07** 00:27:21.1±1.0, 37.37S×78.54E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/39, mbtmp4.0/8, MS3.8/8, Ms1 3.8/8, ms1mx3.4/27, Error ellipse: s-maj=32.9km s-min=23.0km az=159.0*

ISC 07 00:27:22.0±0.7, 37.5S±0.1×78.2E±0.1, h10km, n32, σ1§68/22, mb4.2/14, MS3.8/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.56**	**238**	**Pg**	**Pg**	**00 27 30.8**	**-2.2**
H01W2	**Cape Leeuwin H**	**29.03**	**96**	T	T	01 03 35.9	
	baz=254,slow=75,SNR=135						
H01W3	**Cape Leeuwin H**	**29.03**	**96**	T	T	01 03 36.4	
	baz=254,slow=75,SNR=112						
H01W1	**Cape Leeuwin H**	**29.05**	**96**	T	T	01 03 37.2	
	baz=254,slow=75,SNR=116						
H08S2	**Diego Garcia H**	**30.17**	**349**	T	T	01 04 58.3	
	baz=171,slow=76,SNR=935						
H08S1	**Diego Carcia H**	**30.17**	**349**	T	T	01 04 55.2	
	baz=171,slow=76,SNR=833						
H08S3	**Diego Garcia H**	**30.19**	**349**	T	T	01 04 59.8	
	baz=171,slow=76,SNR=1262						
MAW	**Mawson**	**31.36**	**191**	P	**P**	**00 33 45.9**	**+3.5**
	2.2nm,0.9s,baz=14,slow=10,SNR=3.6						
BOSA	**Boshof**	**44.73**	**265**	P	**P**	**00 35 34.9**	**-0.7**
BOSA					IAmb	IAmb	00 35 35.2	
	comp=Z,8.8nm,1.4s						
FITZ	**Fitzroy Crossi**	**45.69**	**78**	P	**P**	**00 35 41.5**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=225,slow=13,SNR=1.8						
FITZ	**Fitzroy Crossi**	**45.69**	**78**	P	**P**	**00 35 42.0**	**-1.2**
SUR	**Sutherland**	**46.68**	**258**	P	**P**	**00 35 54.2**	**+3.0**
	comp=Z,8.8nm,1.1s,baz=90,slow=9.1,SNR=2.9						
SUR	**Sutherland**	**46.68**	**258**	P	**P**	**00 35 50.3**	**-0.8**
ASAR	**Alice Springs**	**49.26**	**90**	P	**P**	**00 36 09.6**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=234,slow=7.2,SNR=7.5						
ASAR				LR	LR	00 54 52.1	
	comp=Z,82nm,18.4s,baz=222,slow=34						
ASAR	**Alice Springs**	**49.26**	**90**	P	**P**	**00 36 10.5**	**-0.6**
WRA	**Warramunga Arr**	**51.53**	**86**	P	**P**	**00 36 27.0**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=238,slow=7.5,SNR=9.1						
WRA				LR	LR	00 57 11.0	
	comp=Z,72nm,18.6s,baz=205,slow=35						
WB2	**Warramunga Arr**	**51.54**	**86**		**P**	**00 36 27.0**	**-1.3**
WB2					IAmb	IAmb	00 36 33.9	
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**51.59**	**104**	LR	LR	00 54 09.2	
	comp=Z,68nm,19.8s,baz=209,slow=31						
WB0	**Warramunga Arr**	**51.66**	**86**	P	**P**	**00 36 27.8**	**-1.4**
WB0					IAmb	IAmb	00 36 35.8	
	comp=Z,5.0nm,0.9s						
SNAA	**Sanae**	**52.09**	**203**	P	**P**	**00 36 30.8**	**-1.0**
VNDA	**Vanda**	**52.36**	**164**	LR	LR	00 55 34.1	
	comp=Z,136nm,19.7s,baz=258,slow=32						
QSPA	**South Pole Qui**	**52.65**	**180**	P	**P**	**00 36 35.7**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=263,slow=3.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**59.00**	**23**	LR	LR	00 59 19.9	
	comp=Z,50nm,19.1s,baz=258,slow=33						
BTK	**Batken**	**77.48**	**354**	P	**P**	**00 39 18.4**	**+1.0**
BTK				IAmb	IAmb	00 39 26.7	
	comp=Z,7.2nm,1.4s						
KK31	**Karatay Array**	**80.53**	**354**	P	**P**	**00 39 34.1**	**0.0**
KK31				IAmb	IAmb	00 39 40.0	
	comp=Z,4.3nm,1.2s						
KKAR	**Karatay Array**	**80.53**	**354**	P	**P**	**00 39 34.4**	**+0.3**
KKAR	**Karatay Array**	**80.53**	**354**	P	**P**	**00 39 34.8**	**+0.8**
KKAR				IAmb	IAmb	00 39 40.0	
	comp=Z,4.3nm,1.2s						
MKAR	**Makanchi Array**	**84.00**	**3**	P	**P**	**00 39 50.9**	**-1.2**
	comp=Z,1.5nm,1.0s,baz=164,slow=5.8,SNR=4.3						
MKAR				LR	LR	01 13 55.8	
	comp=Z,42nm,21.3s,baz=190,slow=33						
MKAR	**Makanchi Array**	**84.00**	**3**	P	**P**	**00 39 52.1**	**0.0**
TORD	**Torodi Ar. Bea**	**87.47**	**289**	P	**P**	**00 40 13.1**	**+3.0**
	comp=Z,0.4nm,0.9s,baz=105,slow=4.8,SNR=1.7						
TORD				LR	LR	01 17 35.2	
	comp=Z,52nm,18.4s,baz=125,slow=34						
TORD	**Torodi Ar. Bea**	**87.47**	**289**	P	**P**	**00 40 10.1**	**0.0**
DBIC	**Dimbokro**	**88.52**	**279**	LR	LR	01 15 44.9	
	comp=Z,48nm,19.2s,baz=108,slow=33						

*BGR **07** 00:33:47.9±0.0, 65.40N×17.89W, h33km, mb4.2*
*REY **07** 00:33:47.8, 64.68N×17.49W, h7km*
*IDC **07** 00:33:48.5±0.6, 64.58N×17.70W, h0km, mb3.8/16, mb1 4.0/18, mb1mx3.8/46, mbtmp3.8/18, ML3.2/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/40, Error ellipse: s-maj=19.3km s-min=10.3km az=14.0*
*NEIC **07** 00:33:49.9±1.4, 64.61N±0.10×17.7W±0.2, h7km±4km, mb4.4/29, Error ellipse: s-maj=14.6km s-min=9.6km az=191.0*

ISC 07 00:33:49.8±0.5, 64.66N±0.03×17.55W±0.03, h10km, n108, σ1§81/96, mb4.1/35, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**278**	P	**Pg**	**00 33 50.4**	**-2.0**
	baz=265						
IDYN	**Dyngjuhals**	**0.15**	**31**	P	**Pg**	**00 33 50.5**	**-2.8**
	baz=26						
IDJK	**Dyngjujokull**	**0.21**	**139**	P	**Pg**	**00 33 52.5**	**-1.8**
	baz=148						
IURH	**Urdarhals**	**0.24**	**47**	P	**Pg**	**00 33 52.0**	**-2.7**
	baz=47						
IGRF	**Grimsfjall**	**0.28**	**154**	P	**Pg**	**00 33 53.7**	**-1.9**
	baz=161						
IHUS	**Husbondi**	**0.37**	**187**	P	**Pg**	**00 33 55.0**	**-2.2**
	baz=190						
ISKR	**Skrokkalda**	**0.37**	**255**	P	**Pg**	**00 33 55.1**	**-2.1**
	baz=253						
IBJK	**Bruarjokull**	**0.40**	**119**	P	**Pg**	**00 33 54.7**	**-3.0**
	baz=124						
IVOT	**Vottur**	**0.42**	**158**	P	**Pg**	**00 33 55.6**	**-2.5**
	baz=162						
IJOK	**Jokulheimar**	**0.45**	**220**	P	**Pg**	**00 33 56.7**	**-2.0**
	baz=221						
THOR	**Thorvaldshraun**	**0.46**	**54**	P	Pg	00 33 55.7	-3.2
	baz=54						
IKRE	**Kreppuhraun**	**0.52**	**76**	P	Pg	00 33 56.6	-3.3
	baz=78						
IMKO	**Mokollar**	**0.61**	**58**	P	Pg	00 33 58.0	-3.7
	baz=58						
IMKO				S	**Sg**	**00 34 06.8**	**-2.8**
	baz=58						
IIEY	**Innrieyrar**	**0.62**	**204**	P	**Pg**	**00 33 59.2**	**-2.6**
	baz=205						
IKSK	**Karasker**	**0.69**	**137**	P	**Pg**	**00 33 59.2**	**-3.8**
	baz=139						
ISVA	**Svartarkot**	**0.69**	**10**	P	Pg	00 33 59.7	-3.4
	baz=8.6						
ISVA				S	**Sg**	**00 34 08.9**	**-3.3**
	baz=8.6						
IKAL	**Kalfafell**	**0.72**	**185**	P	**Pg**	**00 34 00.6**	**-3.1**
	baz=187						
IVAT	**Vatnsfell**	**0.76**	**232**	P	**Pg**	**00 34 02.0**	**-2.5**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.80**	**79**	P	Pg	00 34 00.9	-4.3
	baz=80						
IHVE	**Hvervellir**	**0.89**	**285**	P	**Pg**	**00 34 03.7**	**-3.2**
	baz=283						
IADA	**Aoalbol**	**0.92**	**66**	P	Pg	00 34 02.9	-4.6
	baz=67						
IMEL	**Melhnausar**	**0.99**	**22**	P	Pg	00 34 04.4	-4.4
	baz=21						
IREN	**Reynihlio**	**1.03**	**15**	P	Pb	00 34 05.2	-4.5
	baz=14						
ISNB	**Snabyli**	**1.04**	**207**	P	**Pg**	**00 34 06.4**	**-3.4**
	baz=208						
ISLY	**Slysaalda**	**1.08**	**220**	P	**Pg**	**00 34 07.4**	**-3.2**
	baz=220						
IKVO	**Krokottuvotn**	**1.09**	**15**	P	Pb	00 34 06.3	-4.5
	baz=14						
IFED	**Fedgar**	**1.13**	**237**	P	**Pg**	**00 34 08.4**	**-3.1**
	baz=236						
IGRS	**Grimsstaoir**	**1.15**	**31**	P	Pn	00 34 07.2	-4.8
	baz=30						
IRJU	**Rjupnafell**	**1.16**	**206**	P	**Pg**	**00 34 08.5**	**-3.5**
	baz=206						
ISKI	**Skildingahlsh**	**1.23**	**10**	P	Pn	00 34 08.6	-4.5
	baz=9.1						
IGHA	**Grjothals**	**1.25**	**17**	P	Pn	00 34 08.7	-4.6
	baz=16						
IGRA	**Granastaoir**	**1.26**	**360**	P	Pn	00 34 09.2	-4.2
	baz=358						
BORG	**Borgarnes**	**1.62**	**275**	Pg	**Pn**	**00 34 15.9**	**-2.5**
	16nm,0.3s,baz=91,slow=9.6,SNR=28						
BORG				Lg	Lg	00 34 38.3	
	8.1nm,0.3s,baz=53,slow=20,SNR=3.1						
BORG				LR	LR	00 34 57.2	
	comp=Z,426nm,21.7s,baz=165,slow=44						
BORG	**Borgarnes**	**1.62**	**275**		**Pn**	**00 34 15.8**	**-2.6**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**00 36 36.9**	**-0.7**
	baz=322,slow=13,SNR=9.6						
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**00 36 36.8**	**-0.8**
NC204	**NORSAR Array S**	**13.25**	**92**	Pn	**Pn**	**00 36 55.6**	**-2.2**
NOA	**NORSAR Array B**	**13.56**	**92**	Pn	**Pn**	**00 36 59.7**	**-2.2**
	0.0nm,0.3s,baz=300,slow=13,SNR=2.5						
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR	00 41 53.6	
	comp=Z,114nm,21.0s,baz=99,slow=36						
CLL	**Collm**	**20.72**	**116**	P	**P**	**00 38 30.5**	**+0.4**
CLL				IAmb	IAmb	00 38 33.8	
	comp=Z,28nm,1.6s						
GRF	**Grafenberg Arr**	**21.35**	**121**	*eP*	**P**	**00 38 37.4**	**+0.5**
	comp=Z,13nm,1.3s,baz=326,slow=11						
NKC	**Novy Kostel**	**21.37**	**118**	*eP*	**P**	**00 38 39.6**	**+2.6**
STU	**Stuttgart**	**21.39**	**125**	P	**P**	**00 38 37.2**	**-0.1**
STU				IAmb	IAmb	00 38 39.9	
	comp=Z,30nm,1.3s						
BRG	**Berggiesshubel**	**21.43**	**115**	*eP*	**P**	**00 38 38.0**	**+0.3**
	comp=Z,14nm,1.2s						
PRU	**Pruhonice**	**22.37**	**116**	*eP*	**P**	**00 38 49.8**	**+2.1**
CHVC	**Chvalec**	**22.49**	**113**	*eP*	**P**	**00 38 51.4**	**+2.4**
CHVC				*ex*	x	00 39 02.6	
OSTC	**Ostas**	**22.57**	**113**	*eP*	**P**	**00 38 48.4**	**-1.6**
KHC	**Kasperske Hory**	**22.69**	**118**	*eP*	**P**	**00 38 50.8**	**-0.5**
KHC				*ex*	x	00 38 56.2	
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**00 38 51.9**	**+0.7**
DPC	**Dobruska-Polom**	**22.78**	**113**	*eP*	**P**	**00 38 52.0**	**-0.2**
DAVA	**Damuels**	**22.90**	**126**	*eP*	**P**	**00 38 57.4**	**+3.9**
	comp=Z,8.8nm,1.2s						
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**00 38 54.2**	**-0.1**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**00 38 54.8**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=348,slow=23,SNR=6.8						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**00 38 54.1**	**-0.1**
MOTA	**Moosalm**	**23.28**	**124**	*eP*	**P**	**00 39 01.8**	**+4.4**
	comp=Z,5.8nm,1.2s						
SQTA	**Sankt Quirin**	**23.42**	**124**	*eP*	**P**	**00 39 03.0**	**+4.1**
	comp=Z,12nm,1.6s						
WATA	**Walderalm**	**23.45**	**124**	*eP*	**P**	**00 39 00.1**	**+0.9**
	comp=Z,11nm,1.9s						
WTTA	**Wattenberg**	**23.54**	**124**	*eP*	**P**	**00 39 00.7**	**+0.6**
	comp=Z,6.0nm,1.0s						
EUNU	**Eureka**	**23.66**	**336**	P	**P**	**00 39 01.7**	**+0.8**
MORC	**Moravsky Berou**	**23.72**	**112**	P	**P**	**00 39 02.4**	**+0.8**
MORC					IAmb	IAmb	00 39 10.7	
	comp=Z,17nm,1.8s						
ABTA	**Abfaltersbach**	**24.29**	**123**	*eP*	**P**	**00 39 09.3**	**+2.2**
	comp=Z,5.3nm,1.7s						
CONA	**Conrad Observa**	**24.55**	**117**	*eP*	**P**	**00 39 11.0**	**+1.5**
	comp=Z,5.3nm,1.1s						
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**	**00 39 10.2**	**+0.4**
STAL	**STALIGIAL**	**24.78**	**123**	P	**P**	**00 39 11.6**	**+0.2**
STAL				IAmb	IAmb	00 39 13.2	
	comp=Z,9.5nm,1.3s						
KWP	**Kalwaria Pacla**	**25.93**	**106**	P	**P**	**00 39 23.1**	**+1.2**
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**00 39 25.0**	**+1.2**
PSZ				IAmb	IAmb	00 39 34.9	
	comp=Z,15nm,1.5s						
ESDC	**Sonseca Array**	**26.26**	**156**	P	**P**	**00 39 23.8**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=4.5,slow=10,SNR=5.4						
AKASG	**Malin Array Be**	**27.86**	**98**	P	**P**	**00 39 38.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=315,slow=9.8,SNR=1.7						
BURAR	**Bucovina Array**	**28.55**	**106**	P	**P**	**00 39 47.3**	**+1.8**
SGRT	**San Giovanni R**	**29.77**	**124**	P	**P**	**00 39 57.2**	**+0.9**
MDT	**Midelt**	**32.86**	**160**	P	**P**	**00 40 24.9**	**+1.3**
	comp=Z,3.1nm,1.0s,baz=14,slow=11,SNR=3.8						
NRIK	**Noril'sk**	**36.48**	**35**	P	**P**	**00 40 55.5**	**+1.1**
	comp=Z,0.8nm,0.2s,baz=7.1,slow=8.1,SNR=2.1						
BRTR	**Keskin Array B**	**38.50**	**105**	P	**P**	**00 41 13.2**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=270,slow=7.3,SNR=6.2						
BRTR	**Keskin Array B**	**38.50**	**105**	P	**P**	**00 41 12.9**	**+0.9**
KBZ	**Khabaz**	**39.14**	**92**	P	**P**	**00 41 18.6**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=318,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**00 42 11.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=33,slow=6.9,SNR=6.2						
ILAR				PcP	**PcP**	**00 43 48.9**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=15,slow=1.8,SNR=4.3						
IMAR	**Indian Mountai**	**45.85**	**337**	P	**P**	**00 42 12.0**	**+0.5**
BCAR	**Beaver Creek A**	**46.10**	**328**	P	**P**	**00 42 14.8**	**+1.3**
ZAA0	**Zalesovo Array**	**47.65**	**51**	P	**P**	**00 42 25.9**	**+0.2**
ZAA0				IAmb	IAmb	00 42 30.8	
	comp=Z,4.3nm,1.3s						
ZALV	**Zalesovo Beam**	**47.65**	**51**	P	**P**	**00 42 25.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=328,slow=14,SNR=3.9						
ZALV	**Zalesovo Beam**	**47.65**	**51**	P	**P**	**00 42 26.1**	**+0.4**
KURK	**Kurchatov**	**48.13**	**58**	P	**P**	**00 42 29.4**	**0.0**
KURK				IAmb	IAmb	00 42 30.5	
	comp=Z,4.1nm,1.0s						
GEYT	**Alibeck**	**50.45**	**84**	P	**P**	**00 42 48.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=316,slow=8.1,SNR=4.1						
KKAR	**Karatay Array**	**51.30**	**70**	P	**P**	**00 42 54.5**	**+0.8**
KKAR	**Karatay Array**	**51.30**	**70**	P	**P**	**00 42 54.8**	**+1.1**
KKAR				IAmb	IAmb	00 42 55.8	
	comp=Z,4.8nm,1.4s						
BOZ	**Bozeman (W)**	**51.59**	**297**	P	**P**	**00 42 57.3**	**+1.3**
BOZ				IAmb	IAmb	00 43 04.0	
	comp=Z,8.7nm,1.4s						
MKAR	**Makanchi Array**	**52.75**	**58**	P	**P**	**00 43 04.6**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=317,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**52.75**	**58**	P	**P**	**00 43 04.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**53.15**	**156**	P	**P**	**00 43 08.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**00 43 06.7**	**-0.9**
	comp=Z,1.9nm,1.1s,baz=344,slow=12,SNR=5.1						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**00 43 07.4**	**-0.2**
BW06	**Boulder Array**	**53.16**	**293**	P	**P**	**00 43 08.2**	**+0.4**
BW06				IAmb	IAmb	00 43 14.8	
	comp=Z,9.4nm,1.8s						
PD31	**Pinedale Array**	**53.16**	**293**	P	**P**	**00 43 07.6**	**-0.2**
PD31				IAmb	IAmb	00 43 14.7	
	comp=Z,7.5nm,1.7s						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**00 43 08.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=48,slow=6.8,SNR=6.2						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**00 43 07.8**	**+0.1**
BTK	**Batken**	**53.98**	**72**	P	**P**	**00 43 14.7**	**+1.0**
GAR	**Garm**	**54.67**	**73**	P	**P**	**00 43 19.7**	**+1.0**
TARG	**Taragay, Kyrgy**	**55.35**	**65**	P	**P**	**00 43 24.9**	**+0.9**
TARG				IAmb	IAmb	00 43 25.9	
	comp=Z,4.0nm,1.1s						
SDCO	**Great Sand Dun**	**55.77**	**287**	P	**P**	**00 43 27.2**	**+0.3**
P17A	**Butcher Ranch,**	**56.42**	**292**	P	**P**	**00 43 31.9**	**+0.6**

WRA Warramunga Arr 31.81 254 P P 01 18 48.2 -0.6
0.8nm,0.6s,baz=86,slow=9.3,SNR=11
ASAR Alice Springs 32.79 247 P P 01 18 56.9 -0.5
1.9nm,0.6s,baz=74,slow=9.3,SNR=37

IDC 07 01:15:36.4±12.0, 19°42S×178°92E, h651km±164km, mb3.0/6, mb1 3.2/6, mb1mx2.9/37, mbtmp4.1/6, Error ellipse: s-maj=103.7km s-min=61.1km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	30.73	263	P	P	01 21 02.4	+0.5
	5.4nm,0.4s,baz=96,slow=10,SNR=9.7						
STKA	Stephens Creek	35.69	242	P	P	01 21 43.2	+0.1
	1.2nm,0.5s,baz=90,slow=10,SNR=3.4						
WRA	Warramunga Arr	41.89	262	P	P	01 22 32.5	-0.3
	0.6nm,0.4s,baz=96,slow=7.3,SNR=16						
ASAR	Alice Springs	41.96	256	P	P	01 22 33.4	0.0
	3.3nm,0.6s,baz=91,slow=8.4,SNR=58						
FITZ	Fitzroy Crossi	50.30	262	P	P	01 23 36.5	+0.4
	2.1nm,1.0s,baz=118,slow=10.0,SNR=2.0						
TXAR	Lajitas Array	88.94	58	P	P	01 27 24.1	0.0
	0.2nm,0.7s,baz=204,slow=6.4,SNR=3.7						

*IDC **07** 01:16:32.2±2.0, 40°35S×176°74E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.7/31, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=49.3km s-min=29.8km az=124.0*
*NEIC **07** 01:16:32.1±1.5, 40°40S±0°06×176°9E±0°1, h8km±7km, Error ellipse: s-maj=15.0km s-min=6.7km az=118.0*
*WEL **07** 01:16:34.3, 40°4S±0°8×17°7E±°, h9km±1km, MA4.0/16, ML4.4/16, MLv4.0/16, Error ellipse: s-maj=0.0km s-min=0.0km az=91.2*

ISC 07 01:16:33.6±1.1, 40°37S±0°03×176°80E±0°03, h18km±4km, n117, σ1§20/126, mb3.9/5, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRHZ	Porangahau	0.16	310	P	Pg	01 16 38.0	0.0
PRHZ				S	Sg	01 16 41.3	+0.3
ANWZ	Angora Road	0.26	250	P	Pg	01 16 40.5	+1.0
PXZ	Pawanui	0.34	8	P	Pn	01 16 42.3	-1.3
WPHZ	Waipukurau	0.41	318	P	Pn	01 16 43.0	-1.6
WPHZ				S	Sb	01 16 49.9	+1.6
DVHZ	Dannevirke	0.49	278	P	Pn	01 16 44.3	-1.4
DVHZ				S	Sb	01 16 52.2	+1.7
KAHZ	Kahuranaki	0.58	6	P	Pn	01 16 47.3	+0.4
PNHZ	Pukenui	0.65	315	P	Pn	01 16 47.3	-0.6
PNHZ				S	Sn	01 16 56.9	-0.7
PRWZ	Pori Road	0.66	253	P	Pn	01 16 48.3	+0.3
PRWZ				S	Sn	01 16 58.5	+0.6
CPWZ	Castlepoint	0.70	220	P	Pn	01 16 49.6	+0.9
TSZ	Takapari Road	0.71	296	P	Pn	01 16 48.3	-0.5
TSZ				S	Sn	01 16 58.8	-0.5
CKHZ	Cape Kidnapper	0.74	17	P	Pn	01 16 49.8	+0.7
POWZ	Post Office Ro	0.79	268	P	Pn	01 16 50.3	+0.5
POWZ				S	Sn	01 17 02.7	+1.6
KRHZ	Kereru	0.80	336	P	Pn	01 16 50.2	+0.3
KRHZ				S	Sn	01 17 02.5	+1.1
TIWZ	Tintock	0.81	239	P	Pn	01 16 50.6	+0.6
TIWZ				S	Sn	01 17 02.9	+1.3
MCHZ	McNeill Hill	0.93	355	P	Pn	01 16 52.7	+1.0
MRZ	Mangatainoka R	0.97	252	P	Pn	01 16 52.4	+0.1
KWHZ	Kaweka Forest	0.99	343	P	Pn	01 16 53.5	+0.9
TMWZ	Te Maipa	1.01	223	P	Pn	01 16 52.8	-0.1
BHHZ	Black Hill Sta	1.04	327	P	Pn	01 16 53.9	+0.6
HOWZ	Holdsworth Sta	1.11	241	P	Pn	01 16 54.1	-0.1
OHWZ	Ohakea	1.15	278	P	Pn	01 16 55.0	+2.3
BKZ	Black Stump Fm	1.23	349	P	Pg	01 16 56.5	-0.7
BKZ	Black Stump Fm	1.23	349		Pg	01 16 56.4	-0.9
BKZ					Sn	01 17 13.7	+1.8
MOVZ	Moawhango	1.25	320	P	Pg	01 16 57.7	-0.1
NMHZ	Naumai	1.27	0	P	Pg	01 16 57.5	-0.6
OGWZ	Otaki Gorge	1.32	250	P	Pg	01 16 57.1	-1.8
TRWZ	Traveller	1.33	219	P	Pg	01 16 59.1	-0.2
WHHZ	Waihua	1.33	15	P	Pg	01 17 02.8	+3.5
WNVZ	Wahianoa	1.39	318	P	Pg	01 17 00.5	+0.1
TUVZ	Tukino	1.41	321	P	Pg	01 17 01.3	+0.5
MTVZ	Mangateitei	1.42	314	P	Pg	01 17 01.2	+0.2
DRZ	Dome Shelter	1.45	319	P	Pg	01 17 02.1	+0.6
PAWZ	Paruwai Farm	1.45	225	P	Pn	01 16 58.7	-0.3
RAHZ	Arahi	1.47	9	P	Pb	01 16 59.7	-0.6
FWVZ	Far West T-bar	1.47	319	P	Pg	01 17 01.9	-0.1
MHGZ	Mahia Peninsul	1.49	35	P	Pn	01 16 59.6	+0.2
OTVZ	Oturere	1.49	324	P	Pg	01 17 02.3	+0.1
ETVZ	East Tongariro	1.49	328	P	Pg	01 17 02.1	-0.2
KNZ	Kokohu	1.51	27	P	Pn	01 16 60.0	+0.4
CAW	Cannon Point	1.51	240	P	Pb	01 16 59.7	-1.3
NGZ	Ngauruhoe	1.51	322	P	Pg	01 17 02.9	+0.2
TMVZ	Te Maari	1.51	326	P	Pg	01 17 02.6	-0.1
MTHZ	Maungataniwha	1.52	1	P	Pb	01 17 00.5	-0.7
KIW	Kapiti Island	1.52	251	P	Pb	01 17 00.0	-1.2
PKVZ	Pokaka	1.55	314	P	Pg	01 17 03.3	-0.2
KRVZ	Karewarewa	1.56	325	P	Pg	01 17 03.3	-0.3
WTVZ	West Tongariro	1.56	323	P	Pg	01 17 03.4	-0.2
MRHZ	Matea Rd	1.56	349	P	Pg	01 17 02.0	-1.7
RITZ	Rihia Road	1.57	332	P	Pg	01 17 03.9	+0.1
MSWZ	Moikau Station	1.57	228	P	Pn	01 17 00.3	-0.2
MSWZ	Moikau Station	1.57	228		Pn	01 17 00.5	-0.1
HATZ	Hinemaiaia	1.57	340	P	Pg	01 17 03.9	0.0
KATZ	Kakaramea	1.63	328	P	Pg	01 17 06.1	+1.1
TWVZ	Taurewa	1.67	321	P	Pg	01 17 04.8	-0.9
PRGZ	Paritu Road	1.67	302	P	Pn	01 17 01.7	-0.2
PLWZ	Palliser	1.67	224	P	Pn	01 17 01.2	-0.8
PLWZ	Palliser	1.67	224	Pn	Pb	01 17 02.7	-1.1
RATZ	Rangitukua	1.70	332	P	Pg	01 17 06.2	0.0
RTZ	Ruatahuna	1.76	5	P	Pb	01 17 03.9	-1.4
BHW	Baring Head	1.79	234	Pn	Pn	01 17 03.8	+0.2
RIGZ	Rimuhau	1.82	24	P	Pb	01 17 05.0	-1.4
WHTZ	Whakaora	1.82	339	P	Pg	01 17 09.1	+0.5
ALRZ	Allen Road	1.84	349	P	Pb	01 17 06.1	-0.5
SNZO	South Karori	1.84	239	Pn	Pn	01 17 04.1	-0.2
WATZ	Wairara	1.85	333	P	Pg	01 17 11.8	+2.6
PRRZ	Plateau Road	1.90	350	P	Pb	01 17 06.2	-1.4
RAGZ	Rawiri	1.93	15	P	Pn	01 17 05.8	+0.2
VRZ	Vera Road	2.00	308	P	Pg	01 17 11.3	-0.7
HRRZ	Handcock Road	2.02	348	P	Pg	01 17 10.9	-1.4
KUTZ	Kaahu Road	2.02	338	P	Pg	01 17 10.0	-2.4
RRRZ	Republican Roa	2.04	354	P	Pg	01 17 13.2	+0.5
LREZ	Lake Rotokare	2.05	295	P	Pg	01 17 11.7	-1.3
TCW	Tory Channel	2.09	246	P	Pn	01 17 07.0	-0.2
TKGZ	Te Karaka	2.09	23	P	Pn	01 17 07.3	-0.4
MWZ	Matawai	2.11	16	P	Pn	01 17 07.6	-0.3
URZ	Urewera	2.12	7	Pn	Pn	01 17 08.2	+0.1
	11nm,0.3s,baz=224,slow=7.6,SNR=37						
URZ					Sn	01 17 33.4	-0.6
	20nm,0.3s,baz=76,slow=20,SNR=12						
URZ	Urewera	2.12	7	P	Pn	01 17 08.2	+0.1
URZ	Urewera	2.12	7		Pn	01 17 08.3	+0.1
URZ					Sn	01 17 34.2	+0.3
TARZ	Mount Tarawera	2.14	354	P	Pb	01 17 09.7	-2.2
DUWZ	D'Urville Isla	2.23	258	P	Pn	01 17 10.7	+1.1
NEZ	North Egmont	2.35	297	P	Pg	01 17 17.7	-1.0
TWGZ	Tauwhareparae	2.38	23	P	Pn	01 17 12.3	+0.7
HIZ	Hauiti	2.39	320	P	Pg	01 17 17.7	-1.7
HIZ	Hauiti	2.39	320	Pn	Pn	01 17 12.9	+1.2
CMWZ	Cape Campbell	2.39	234	Pn	Pn	01 17 12.4	+0.6
KHEZ	Kahui Hut	2.40	296	P	Pg	01 17 18.6	-1.0
TUWZ	Tuamarina	2.41	243	P	Pg	01 17 18.6	-1.2
PKE	Pukeiti	2.46	298	P	Pg	01 17 19.9	-1.0
RUGZ	Raukumara Rang	2.50	16	P	Pn	01 17 13.3	-0.1
WHRZ	Whale Island	2.51	3	P	Pn	01 17 14.2	+0.7
PKGZ	Pakihiroa	2.67	22	P	Pn	01 17 15.2	-0.5
HAZ	Te Kaha	2.72	17	P	Pn	01 17 16.4	+0.1
NNZ	Nelson	2.73	251	Pn	Pn	01 17 16.9	+0.4
WMGZ	Waiomatatini S	2.84	27	P	Pn	01 17 17.5	-0.5
MXZ	Matakaoa Point	3.04	23	Pn	Pn	01 17 20.2	-0.6
THZ	Tophouse	3.25	243	P	Pn	01 17 22.6	-1.1
THZ	Tophouse	3.25	243	Pn	Pn	01 17 22.8	-1.0
QRZ	Quartz Range	3.28	261	P	Pn	01 17 24.6	+0.5
QRZ	Quartz Range	3.28	261	Pn	Pn	01 17 24.3	+0.2
WIAZ	Waiheke Island	3.80	339	P	Pn	01 17 35.6	-4.5
LTZ	Lake Taylor	4.16	233	P	Pn	01 17 39.4	+3.2
LTZ	Lake Taylor	4.16	233	Pn	Pn	01 17 37.8	+1.6
RPZ	Rata Peaks	5.43	230	Pn	Pn	01 17 53.3	-0.2
	0.4nm,0.3s,baz=94,slow=21,SNR=1.2						
RPZ					Sn	01 18 49.4	-6.1
	2.3nm,0.3s,baz=144,slow=22,SNR=17						
RPZ	Rata Peaks	5.43	230		Pn	01 17 54.9	+1.4
CTZ	Chatham Island	5.94	127	P	Pn	01 18 01.4	+0.8
AS31	Alice Springs	39.58	282	P	P	01 24 05.7	+1.8
AS31				IAmb	IAmb	01 24 11.2	
	comp=Z,1.1nm,1.1s						
ASAR	Alice Springs	39.58	282	P	P	01 24 05.3	+1.4
	comp=Z,0.8nm,0.8s,baz=122,slow=6.6,SNR=5.6						
WC3	Warramunga Arr	41.46	287	P	P	01 24 19.5	+0.1
WB2	Warramunga Arr	41.48	287	P	P	01 24 20.1	+0.5
WB2				IAmb	IAmb	01 24 39.8	
	comp=Z,5.1nm,1.1s						
WRA	Warramunga Arr	41.49	287	P	P	01 24 20.3	+0.6
	comp=Z,1.3nm,0.5s,baz=127,slow=8.1,SNR=7.2						
WRA	Warramunga Arr	41.49	287	P	P	01 24 21.2	+1.5
WB0	Warramunga Arr	41.56	287	P	P	01 24 20.8	+0.5
WB0				IAmb	IAmb	01 24 26.6	
	comp=Z,2.6nm,0.9s						
H03N3	Juan Fernandez	78.67	124	T	T	02 55 24.9	
	baz=235,slow=72,SNR=7.0						
H03N2	Juan Fernandez	78.67	124	T	T	02 55 23.8	
	baz=235,slow=72,SNR=4.7						
H03N1	Juan Fernandez	78.69	124	T	T	02 55 27.4	
	baz=235,slow=72,SNR=6.8						
ARCES	ARCESS Array B	147.10	342	PKPbc	PKPab	01 36 15.7	-0.1
	comp=Z,2.8nm,0.9s,baz=40,slow=5.9,SNR=3.8						
TORD	Torodi Ar. Bea	152.54	190	PKPbc	PKiKP	01 36 30.6	+1.2
	comp=Z,0.3nm,0.6s,baz=154,slow=3.5,SNR=1.7						

*THE **07** 01:19:06.5, 37°86N×21°42E, h5km, ML3.8/19, Error ellipse: s-maj=0.9km s-min=0.4km az=355.0*
*ATH **07** 01:19:06.4, 37°89N×21°43E, h27km, ML3.8/18, Error ellipse: s-maj=0.9km s-min=0.5km az=357.0*
*BEO **07** 01:19:08.0±0.8, 37°74N×21°32E, h33km±5km, ML3.6/5*
*NEIC **07** 01:19:08.2±1.0, 37°85N±0°03×21°33E±0°06, h41km±13km, Error ellipse: s-maj=7.0km s-min=4.4km az=89.0*
*IDC **07** 01:19:10.5±1.7, 37°97N×21°42E, h47km±21km, mb3.7/10, mb1 3.7/18, mb1mx3.6/48, mbtmp3.8/18, ML3.3/8, MS3.0/7, Ms1 3.0/7, ms1mx2.7/57, Error ellipse: s-maj=18.1km s-min=15.0km az=172.0*

ISC 07 01:19:06.6±0.7, 37°88N±0°02×21°45E±0°02, h23km±5km, n241, σ1§81/295, mb4.0/15, 14C-6D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.18	4	P	Pb	01 19 11.9	+0.1
RLS				S	Sb	01 19 14.2	-1.2
	187µm,0.2s						
RLS	Riolos of Patr	0.18	4	P	Pb	01 19 12.0	+0.1
RLS				S	Sb	01 19 16.0	+0.6
RLS				AML	AML	01 19 16.2	
RLS				AML	AML	01 19 16.3	
VTN	Vitineika	0.21	281	P	Pb	01 19 12.9	+0.7
VTN				S	Sb	01 19 17.5	+1.4
DRO	Drossia	0.22	70	P	Pb	01 19 12.4	0.0
DRO				S	Sb	01 19 15.0	-1.3
	91µm,0.3s						
DRO	Drossia	0.22	70	P	Pb	01 19 12.4	0.0
DRO				S	Sb	01 19 16.9	+0.6
DRO				AML	AML	01 19 17.2	
DRO				AML	AML	01 19 20.1	
KLV	Kalavryta, Ach	0.58	73	P	Pb	01 19 17.7	-0.5
KLV				S	Sb	01 19 27.3	+1.3
KLV	Kalavryta, Ach	0.58	73	P	Pb	01 19 18.1	-0.1
KLV				S	Sb	01 19 27.1	+1.1
KLV				AML	AML	01 19 31.2	
	comp=N,11352µm,0.4s						
KLV				AML	AML	01 19 31.4	
	comp=E,9256µm,0.4s						
VLMS	Volimes, Zakyn	0.62	270	P	Pb	01 19 18.5	-0.4
VLMS				S	Sb	01 19 28.1	+0.9
VLMS				AML	AML	01 19 32.6	
	comp=E,13880µm,0.4s						
VLMS				AML	AML	01 19 33.3	
	comp=N,23755µm,0.5s						
ALIK	Aliki, Aigiali	0.65	54	P	Pb	01 19 19.4	+0.1
EFP	Efpalio	0.66	33	P	Pb	01 19 19.2	-0.2
EFP				S	Sn	01 19 29.8	-0.4
	comp=N,14µm,0.4s						
EFP	Efpalio	0.66	33	P	Pb	01 19 19.4	-0.1
EFP				S	Sb	01 19 29.2	+1.0
EFP				AML	AML	01 19 30.4	
	comp=N,27221µm,0.5s						
EFP				AML	AML	01 19 31.5	
	comp=E,26002µm,0.3s						
TRIZ	Trizonia	0.69	45	P	Pb	01 19 20.0	0.0
TRIZ				S	Sn	01 19 30.8	-0.2
	comp=E,11µm,0.3s						
TRIZ	Trizonia	0.69	45	P	Pb	01 19 20.1	0.0
TRIZ				S	Sb	01 19 30.2	+1.0
GUR	Goura	0.71	85	P	Pb	01 19 20.0	-0.4
GUR				S	Sn	01 19 31.3	-0.3
	comp=E,13µm,0.4s						
GUR	Goura	0.71	85	P	Pb	01 19 20.2	-0.2
GUR				S	Sn	01 19 31.2	-0.4
GUR				AML	AML	01 19 33.8	
	comp=N,23887µm,0.5s						
GUR				AML	AML	01 19 34.4	
	comp=E,28658µm,0.4s						
SERG	Sergoula	0.72	42	P	Pb	01 19 20.5	0.0
SERG				S	Sn	01 19 31.4	-0.4
	comp=E,14µm,0.4s						
SERG	Sergoula	0.72	42	P	Pb	01 19 20.6	0.0
SERG				S	Sn	01 19 31.3	-0.4
SERG				AML	AML	01 19 34.4	
	comp=E,19802µm,0.3s						
SERG				AML	AML	01 19 35.8	
	comp=N,35061µm,0.5s						
TRIP	Tripoli	0.74	118	P	Pb	01 19 20.6	-0.3
TRIP				S	Sb	01 19 31.6	+1.0
	comp=N,7µm,0.4s						
TRIP	Tripoli	0.74	118	P	Pb	01 19 21.4	+0.5
TRIP				S	Sn	01 19 32.6	+0.4
TRIP				AML	AML	01 19 34.4	
	comp=E,12831µm,0.5s						
TRIP				AML	AML	01 19 35.5	
	comp=N,16076µm,0.4s						
VLS	Valsamata	0.74	294	P	Pb	01 19 20.0	-0.9
VLS				S	Sb	01 19 31.2	+0.6
	comp=N,5µm,0.4s						
VLS	Valsamata	0.74	294	P	Pb	01 19 20.1	-0.7
VLS				AML	AML	01 19 38.1	
	comp=E,7640µm,0.3s						
VLS				AML	AML	01 19 40.8	
	comp=N,10156µm,0.4s						
KALE	Kalithea	0.75	46	P	Pb	01 19 20.9	-0.1
KALE				S	Sn	01 19 32.4	-0.1
	comp=N,12µm,0.4s						
KALE	Kalithea	0.75	46	P	Pb	01 19 20.9	-0.1
KALE				S	Sn	01 19 32.8	+0.3
KALE				AML	AML	01 19 34.2	
	comp=N,23665µm,0.2s						
KALE				AML	AML	01 19 35.7	
	comp=E,22587µm,0.6s						
ITM	Ithomi	0.79	151	P	Pb	01 19 21.7	0.0
ITM				S	Sb	01 19 32.4	+0.3
	comp=E,5µm,0.8s						
ITM	Ithomi	0.79	151	P	Pb	01 19 22.0	+0.2
ITM				AML	AML	01 19 41.6	
	comp=N,12010µm,0.5s						
ITM				AML	AML	01 19 48.7	
	comp=E,4524µm,0.8s						
ITM	Ithomi	0.79	151	Pn	Pb	01 19 21.6	-0.2
ITM				Sn	Sn	01 19 34.9	+1.4
ANX	Ano Chora	0.81	27	P	Pb	01 19 21.8	-0.2
ANX				S	Sn	01 19 34.2	+0.2
ANX	Ano Chora	0.81	27	P	Pb	01 19 22.0	0.0
ANX				S	Sn	01 19 34.0	0.0
ARGA	Argostoli. Kep	0.82	292	P	Pb	01 19 21.8	-0.4
KEF5	Kardakata, Kep	0.87	298	P	Pb	01 19 22.6	-0.5
KEF4	Livadi, Kephal	0.89	296	P	Pb	01 19 23.0	-0.4
KEF4				S	Sn	01 19 36.6	+0.6
VLX	Vlachokerasia	0.90	124	P	Pb	01 19 23.9	+0.4
VLX	Vlachokerasia	0.90	124	P	Pn	01 19 24.4	+0.5
VLX				S	Sn	01 19 37.8	+1.6
VLX				AML	AML	01 19 40.9	
	comp=E,14625µm,0.4s						
VLX				AML	AML	01 19 42.4	
	comp=N,13001µm,0.6s						
FSK	Fiskardo	0.91	310	P	Pb	01 19 23.4	-0.3
FSK				S	Sn	01 19 37.0	+0.6
	comp=N,8µm,0.3s						
FSK	Fiskardo	0.91	310	P	Pb	01 19 23.3	-0.3
FSK				AML	AML	01 19 38.9	
	comp=E,21446µm,0.3s						
FSK				AML	AML	01 19 39.5	
	comp=N,8942µm,0.2s						
MGNA	Meganis	0.94	327	P	Pb	01 19 23.9	-0.2
MGNA				S	Sn	01 19 37.4	+0.4
MGNA				AML	AML	01 19 41.0	
	comp=E,23516µm,0.6s						
MGNA				AML	AML	01 19 42.1	
	comp=N,12380µm,0.5s						
EVGI	Lefkada island	0.97	320	P	Pb	01 19 24.4	-0.4
EVGI				S	Sn	01 19 39.0	+1.1
EVGI	Lefkada island	0.97	320	P	Pb	01 19 24.6	-0.2
EVGI				S	Sn	01 19 38.8	+0.9
DSF	Desfina	1.00	58	P	Pb	01 19 24.9	-0.5
DSF	Desfina	1.00	58	P	Pb	01 19 25.3	-0.1
PYL	PYLOS	1.01	166	P	Pb	01 19 25.4	0.0
DLFA	Delphi	1.02	54	P	Pn	01 19 25.1	-0.4
DLFA				AML	AML	01 19 45.0	
	comp=N,5877µm,0.7s						
DLFA				AML	AML	01 19 47.1	
	comp=E,6862µm,0.5s						
NYDR	Nydri-Lefkada	1.02	325	P	Pn	01 19 25.2	-0.3
NYDR				S	Sn	01 19 40.9	+1.7
	comp=E,4µm,0.5s						
NYDR	Nydri-Lefkada	1.02	325	P	Pn	01 19 25.3	-0.3
EVR	Evrytania	1.08	15	P	Pn	01 19 26.4	0.0
EVR				S	Sn	01 19 43.2	+2.5
	comp=E,3µm,0.6s						
EVR	Evrytania	1.08	15	P	Pn	01 19 26.6	+0.2
EVR				AML	AML	01 19 50.4	
	comp=E,6559µm,0.7s						
EVR				AML	AML	01 19 52.5	
	comp=N,6850µm,0.6s						
TSLK	Tsoukalades, L	1.13	327	P	Pn	01 19 27.4	+0.3
TSLK				S	Sn	01 19 44.2	+2.3
	comp=N,8µm,0.5s						
TSLK	Tsoukalades, L	1.13	327	P	Pn	01 19 27.4	+0.3
LTK	Loutraki	1.21	83	P	Pn	01 19 28.9	+0.1
LTK	Loutraki	1.21	83	P	Pb	01 19 29.0	+0.1
LOUT	Loutraki	1.21	84	P	Pb	01 19 29.1	+0.3
LOUT	Loutraki	1.21	84	P	Pb	01 19 29.2	+0.3
MAKR	Makrakomi, Fth	1.25	25	P	Pb	01 19 29.8	+0.2
MAKR				S	Sb	01 19 48.5	+3.1
	comp=N,4µm,0.6s						
MAKR	Makrakomi, Fth	1.25	25	P	Pb	01 19 30.1	+0.4
AGG	Agios Georgios	1.34	31	P	Pn	01 19 30.6	+0.7
AGG				S	Sb	01 19 51.2	+3.4
	comp=N,2µm,0.8s						
AGG	Agios Georgios	1.34	31	P	Pn	01 19 30.6	+0.7
AGG	Agios Georgios	1.34	31		Pb	01 19 31.1	+0.1
EPID	Epidavros	1.35	101	P	Pb	01 19 31.4	+0.2
EPID	Epidavros	1.35	101	P	Pb	01 19 31.5	+0.3
KRND	KRANIDI	1.44	110	P	Pb	01 19 33.4	+0.7
KRND				S	Sb	01 19 52.9	+2.3
	comp=N,3µm,0.5s						
KRND	KRANIDI	1.44	110	P	Pb	01 19 33.7	+1.0
LKR	Lokris	1.45	57	P	Pb	01 19 32.8	-0.1
LKR				S	Sb	01 19 53.8	+3.0
	comp=N,2µm,0.5s						
LKR	Lokris	1.45	57	P	Pb	01 19 32.7	-0.1
LKR				AML	AML	01 19 59.0	
	comp=E,3652µm,0.4s						
LKR				AML	AML	01 20 01.4	
	comp=N,3364µm,0.5s						
VIL2	Platees	1.48	76	P	Pb	01 19 33.7	+0.4
ATAL	Atalanti	1.48	56	P	Pb	01 19 33.1	-0.4
ATAL	Atalanti	1.48	56	P	Pb	01 19 33.4	-0.1
ATAL				AML	AML	01 20 02.5	
	comp=N,3734µm,0.9s						
ATAL				AML	AML	01 20 03.8	
	comp=E,2190µm,0.6s						
VILL	Villia	1.50	78	P	Pb	01 19 33.6	-0.2
VLI	Veliai	1.66	134	P	Pb	01 19 36.9	+0.4
VLI				S	Sb	01 19 58.3	+1.4
	comp=E,1µm,1.1s						
VLI	Veliai	1.66	134	P	Pb	01 19 38.0	+1.6
THL	Klokotos Trika	1.74	15	P	Pb	01 19 38.2	+0.3
THL	Klokotos Trika	1.74	15	P	Pb	01 19 38.3	+0.4
ATH	Athens Observa	1.80	86	P	Pb	01 19 38.4	-0.4
ATH	Athens Observa	1.80	86	P	Pb	01 19 38.4	-0.4
JAN	Janina	1.84	345	P	Pb	01 19 39.3	-0.2
ATHU	Athens Univers	1.85	86	P	Pb	01 19 39.3	-0.4
VLY	Voula,Athens	1.86	90	P	Pn	01 19 38.5	+1.5
VLY	Voula,Athens	1.86	90	P	Pb	01 19 39.4	-0.5
IGT	Igoumenitsa	1.87	333	P	Pb	01 19 39.3	-0.8
IGT	Igoumenitsa	1.87	333	*e*Pg	Pb	01 19 43.2	+3.1
IGT				*e*Sg	Sb	01 20 10.3	+7.2
IGT	Igoumenitsa	1.87	333	P	Pb	01 19 39.3	-0.8
VOL2	Volos	1.90	38	P	Pb	01 19 40.7	+0.2
PTL	Penteli	1.92	84	P	Pn	01 19 39.3	+1.4
PTL	Penteli	1.92	84	P	Pn	01 19 39.1	+1.3
DION	Dionisos Attik	1.97	83	P	Pn	01 19 40.1	+1.4
DION	Dionisos Attik	1.97	83	P	Pn	01 19 40.3	+1.7
NEO	Neokhori	1.99	44	P	Pn	01 19 40.7	+1.8
NEO	Neokhori	1.99	44	P	Pn	01 19 40.6	+1.7
XOR	Xorichti	2.02	42	P	Pb	01 19 41.3	-1.4
KTHA	Kythira Island	2.07	141	P	Pb	01 19 44.3	+0.9
KYMI	Kymi, Euboea I	2.22	69	P	Pn	01 19 43.4	+1.4
KYMI	Kymi, Euboea I	2.22	69	P	Pn	01 19 43.5	+1.4
KEK	Kerkira	2.24	325	P	Pn	01 19 44.5	+2.2
PENT	Pentalofos	2.33	354	P	Pb	01 19 47.7	-0.3
LIT	Litokhoron	2.37	20	P	Pn

BOVS	**Bovan**	**5.76**	**2**	*e*Pn		**Pn**	**01 20 32.7**	**+2.1**
IVAS	**Ivanjica**	**5.78**	**351**	*e*Pn		**Pn**	**01 20 32.0**	**+1.0**
SGRT	**San Giovanni R**	**5.86**	**313**			**Pn**	**01 20 31.7**	**-0.3**
RUDO	**Rudo**	**5.95**	**345**	*e*Pn		**Pn**	**01 20 33.1**	**-0.2**
ZAGS	**Zajecar**	**5.96**	**5**	*e*Pn		**Pn**	**01 20 35.9**	**+2.5**
GRUS	**Gruza**	**6.03**	**355**	*e*Pn		**Pn**	**01 20 35.7**	**+1.3**
BBLS	**Lazići**	**6.18**	**346**	*e*Pn		**Pn**	**01 20 38.1**	**+1.6**
BBLS				*e*Sn		**Sn**	**01 21 46.3**	**-0.2**
BBLS	**Lazići**	**6.18**	**346**	*e*Pn		**Pn**	**01 20 37.5**	**+1.0**
PAOL	**Paolisi**	**6.19**	**303**	Pn		**Pn**	**01 20 35.9**	**-0.7**
DIVS	**Divibare**	**6.31**	**350**	*e*Pn		**Pn**	**01 20 39.1**	**+0.8**
DIVS				*e*Sn		**Sn**	**01 21 49.3**	**-0.4**
DIVS	**Divibare**	**6.31**	**350**	*e*Pn		**Pn**	**01 20 39.1**	**+0.8**
DIVS	**Divibare**	**6.31**	**350**	Pn		**Pn**	**01 20 39.1**	**+0.8**
TRUS	**Trudelj**	**6.39**	**353**	*e*Pn		**Pn**	**01 20 41.2**	**+1.9**
HAPS	**Han Pijesak,BI**	**6.49**	**344**	*e*Pn		**Pn**	**01 20 41.3**	**+0.6**
HAPS				*e*Sn		**Sn**	**01 21 52.1**	**-1.9**
HAPS	**Han Pijesak,BI**	**6.49**	**344**	*e*Pn		**Pn**	**01 20 40.2**	**-0.5**
CLTB	**Caltabellotta**	**6.53**	**270**	Pn		**Pn**	**01 20 42.3**	**+1.0**
AKAS	**Kas**	**6.73**	**102**			**Pn**	**01 20 45.8**	**+1.8**
INTR	**Introdacqua**	**7.12**	**308**	Pn		**Pn**	**01 20 48.9**	**-0.4**
ISP	**Isparta**	**7.18**	**88**	Pn		**Pn**	**01 20 52.5**	**+2.2**
FRGS	**Fruska Gora**	**7.38**	**351**	*e*Pn		**Pn**	**01 20 54.1**	**+1.2**
FRGS				*e*Sn		**Sn**	**01 22 13.5**	**-2.4**
FRGS	**Fruska Gora**	**7.38**	**351**	*e*Pn		**Pn**	**01 20 52.4**	**-0.5**
GZR	**Gura Zlata**	**7.58**	**7**	⇓P		**Pn**	**01 20 57.1**	**+1.5**
BLY	**Banja Luka**	**7.58**	**336**	*e*Pn		**Pn**	**01 20 56.1**	**+0.5**
BLY				*e*Sn		**Sn**	**01 22 20.2**	**-0.5**
BLY	**Banja Luka**	**7.58**	**336**	*e*Pn		**Pn**	**01 20 55.8**	**+0.2**
AQU	**L'Aquila**	**7.62**	**308**	*e*Pn		**Pn**	**01 20 57.4**	**+1.2**
AQU	**L'Aquila**	**7.62**	**308**			**Pn**	**01 20 55.8**	**-0.4**
BZS	**Buzias**	**7.74**	**1**	⇓P		**Pn**	**01 21 00.2**	**+2.4**
ARR	**Arges**	**7.86**	**17**	⇑P		**Pn**	**01 21 02.0**	**+2.5**
MDUB	**Mudurnu**	**8.00**	**68**	Pn		**Pn**	**01 21 03.8**	**+2.3**
VOIR		**8.02**	**18**	⇑P		**Pn**	**01 21 03.7**	**+2.0**
MLR	**Muntele Rosu**	**8.32**	**22**	P		Pn	01 21 11.6	+5.7
	comp=E,0.8nm,0.3s,baz=299,slow=10,SNR=9.7							
MLR				LR		LR	01 24 43.1	
	comp=E,139nm,18.7s,baz=286,slow=40							
MLR	**Muntele Rosu**	**8.32**	**22**	⇑P		**Pn**	**01 21 07.8**	**+1.9**
NEHR	**Nehoiu**	**8.37**	**24**	⇑P		**Pn**	**01 21 08.6**	**+2.1**
MORH	**Mrgy, Hungar**	**8.59**	**347**	*e*Pn		Pn	01 21 04.8	-4.6
DOPR	**Dopca**	**8.60**	**19**	⇑P		**Pn**	**01 21 11.7**	**+2.1**
PLOR	**Plostina**	**8.86**	**24**	⇓P		**Pn**	**01 21 15.6**	**+2.4**
VRI	**Vrincioaia**	**8.90**	**25**	⇓P		**Pn**	**01 21 16.5**	**+2.7**
BOJS	**Bojanci**	**8.92**	**331**	*e*Pn		**Pn**	**01 21 14.5**	**+0.6**
CRES	**Cresnjev**	**9.11**	**333**	*e*Pn		**Pn**	**01 21 16.3**	**-0.3**
CEY	**Cerknica**	**9.44**	**329**	*e*Pn		**Pn**	**01 21 21.5**	**+0.3**
LJU	**Ljubljana**	**9.65**	**330**	*e*Pn		**Pn**	**01 21 22.6**	**-1.4**
BR131	**Keskin Array S**	**9.69**	**75**	Pn		**Pn**	**01 21 26.9**	**+2.2**
BRTR	**Keskin Array B**	**9.69**	**75**	P		Pn	01 21 30.1	+5.3
	comp=E,0.2nm,0.3s,baz=258,slow=14,SNR=16							
BRTR				LR		LR	01 24 51.0	
	comp=E,20nm,20.9s,baz=252,slow=35							
BRTR	**Keskin Array B**	**9.69**	**75**			**Pn**	**01 21 27.0**	**+2.2**
KEST	**Kesra**	**9.94**	**261**	P		**Pn**	**01 21 29.4**	**+1.3**
	comp=E,0.1nm,0.3s,baz=247,slow=12,SNR=3.7							
KEST	**Kesra**	**9.94**	**261**			**Pn**	**01 21 26.4**	**-1.7**
SOKA	**Soboth**	**9.99**	**334**	*i* Pn		**Pn**	**01 21 28.9**	**+0.2**
	comp=E,2.4nm,0.5s							
SOKA				*e*Sn		**Sn**	**01 23 14.8**	**-5.4**
	comp=E,1.5nm,0.6s							
OBKA	**Obir**	**10.03**	**332**	*e*Pn		**Pn**	**01 21 30.0**	**+0.7**
	comp=E,4.0nm,0.6s							
OBKA				*e*Sn		**Sn**	**01 23 16.3**	**-4.7**
	comp=E,4.8nm,0.6s							
MYKA	**Terra Mystica**	**10.48**	**329**	*e*Sn		**Sn**	**01 23 30.0**	**-2.1**
	comp=E,2.0nm,0.5s							
ZOU	**Zoufplan**	**10.71**	**327**	Pn		**Pn**	**01 21 38.5**	**-0.2**
VYHS	**Vyhne**	**10.78**	**351**	*e*PN		**Pn**	**01 21 40.1**	**+0.6**
VYHS				*e*SN		**Sn**	**01 23 39.0**	**-0.4**
CTI	**Castel Tesino**	**10.94**	**321**	Pn		**Pn**	**01 21 41.6**	**-0.2**
KBA	**Koelnbreinsper**	**10.96**	**330**	*e*Sn		**Sn**	**01 23 39.5**	**-4.6**
	comp=E,1.9nm,0.5s							
ABTA	**Abfaltersbach**	**11.05**	**326**	*i* Pn		**Pn**	**01 21 44.2**	**+0.8**
	comp=E,1.6nm,0.4s							
ABTA				*e*Sn		**Sn**	**01 23 40.6**	**-5.6**
	comp=E,5.1nm,0.6s							
MOA	**Molln**	**11.27**	**334**	*e*Pn		**Pn**	**01 21 46.5**	**+0.3**
MOA	**Molln**	**11.27**	**334**	*i* Pn		**Pn**	**01 21 47.3**	**+1.1**
	comp=E,1.1nm,0.3s							
MOA				*e*Sn		**Sn**	**01 23 47.6**	**-3.7**
	comp=E,2.3nm,0.7s							
WTTA	**Wattenberg**	**11.84**	**326**	*i* Pn		**Pn**	**01 21 56.7**	**+2.6**
	comp=E,0.4nm,0.3s							
WTTA				*e*Sn		**Sn**	**01 24 02.5**	**-3.0**
	comp=E,3.8nm,0.4s							
WATA	**Walderalm**	**11.92**	**326**	*e*Pn		**Pn**	**01 21 57.0**	**+1.9**
	comp=E,2.1nm,0.4s							
WATA				*e*Sn		**Sn**	**01 24 04.0**	**-3.4**
	comp=E,3.4nm,0.5s							
VRAC	**Vranov**	**11.95**	**344**	LR		LR	01 27 39.5	
	comp=E,93nm,18.3s,baz=152,slow=43							
SQTA	**Sankt Quirin**	**12.00**	**324**	*e*Pn		**Pn**	**01 21 58.5**	**+2.3**
	comp=E,0.7nm,0.2s							
SQTA				*e*Sn		**Sn**	**01 24 06.4**	**-2.9**
	comp=E,2.9nm,0.4s							
FETA	**Feichten**	**12.08**	**323**	*e*Sn		**Sn**	**01 24 08.3**	**-3.1**
	comp=E,1.0nm,0.4s							
MOTA	**Moosalm**	**12.14**	**324**	*i* Pn		**Pn**	**01 21 59.7**	**+1.5**
	comp=E,1.5nm,0.5s							
MOTA				*e*Sn		**Sn**	**01 24 09.3**	**-3.5**
	comp=E,3.8nm,0.8s							
GERES	**GERESS Array B**	**12.32**	**335**	P		**Pn**	**01 22 01.3**	**+0.7**
	comp=E,0.2nm,0.3s,baz=155,slow=15,SNR=4.7							
GERES				S		**Sn**	**01 24 12.4**	**-4.7**
	comp=E,0.2nm,0.3s,baz=148,slow=22,SNR=2.7							
GERES				LR		LR	01 26 58.4	
	comp=E,58nm,18.1s,baz=176,slow=38							
GERES	**GERESS Array B**	**12.32**	**335**			**Pn**	**01 22 00.7**	**0.0**
DAVOX	**Davos/Dischmat**	**12.34**	**320**	P		**Pn**	**01 22 02.6**	**+1.7**
	comp=E,0.2nm,0.3s,baz=348,slow=9.3,SNR=1.4							
DAVOX				S		**Sn**	**01 24 10.3**	**-7.4**
	comp=E,0.1nm,0.3s,baz=314,slow=17,SNR=2.4							
MMAI	**Mount Meron Ar**	**12.37**	**109**	P		**Pn**	**01 22 00.9**	**-0.4**
	comp=E,0.4nm,0.3s,baz=313,slow=12,SNR=4.2							
MMAI				S		**Sn**	**01 24 13.6**	**-4.8**
	comp=E,0.3nm,0.3s,baz=288,slow=29,SNR=1.8							
DAVA	**Damuels**	**12.68**	**322**	*e*Sn		**Sn**	**01 24 24.8**	**-1.2**
	comp=E,4.2nm,0.6s							
ASF	**Jabal al Asfar**	**13.87**	**110**	P		**P**	**01 22 26.6**	**-3.4**
	comp=E,0.1nm,0.3s,baz=285,slow=19,SNR=2.0							
EIL	**Elat**	**13.89**	**122**	P		**Pn**	**01 22 22.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=340,slow=12,SNR=1.6							
EIL				S		Sn	01 24 45.6	-10
	comp=E,0.3nm,0.3s,baz=347,slow=18,SNR=2.0							
AKASG	**Malin Array Be**	**13.97**	**21**	P		**Pn**	**01 22 23.7**	**+0.7**
	comp=E,0.2nm,0.3s,baz=210,slow=12,SNR=1.3							
AKASG	**Malin Array Be**	**13.97**	**21**	Pn		**Pn**	**01 22 24.6**	**+1.6**
SUW	**Suwalki**	**16.18**	**4**			**Pn**	**01 22 53.5**	**+1.1**
ESDC	**Sonseca Array**	**19.88**	**283**	P		**Pn**	**01 23 37.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=79,slow=12,SNR=14							
ESDC				LR		LR	01 30 31.3	
	comp=E,48nm,19.1s,baz=145,slow=34							
MDT	**Midelt**	**21.81**	**264**	P		**P**	**01 23 58.6**	**+1.3**
	comp=E,1.8nm,0.8s,baz=106,slow=9.7,SNR=4.0							
HFS	**Hagfors**	**22.82**	**350**	P		**P**	**01 24 08.5**	**+0.9**
	comp=E,2.8nm,0.4s,baz=146,slow=11,SNR=15							
FINES	**FINESS Array B**	**23.77**	**6**	P		**P**	**01 24 16.4**	**-0.6**
	comp=E,1.8nm,0.5s,baz=168,slow=11,SNR=16							
NB2	**NORSAR Subarra**	**24.06**	**348**	P		**P**	**01 24 19.8**	**-0.1**
	comp=E,5.4nm,0.5s,baz=156,slow=11							
NOA	**NORSAR Array B**	**24.06**	**348**	P		**P**	**01 24 19.9**	**0.0**
	comp=E,0.8nm,0.6s,baz=154,slow=9.0,SNR=6.9							
NOA				LR		LR	01 35 02.1	
	comp=E,49nm,18.5s,baz=180,slow=40							
EKA	**Eskdalemuir Ar**	**24.10**	**324**	P		**P**	**01 24 22.2**	**+1.9**
	comp=E,1.9nm,0.5s,baz=129,slow=10,SNR=12							
KIRV	**Kirov**	**27.51**	**32**	LR		LR	01 35 43.9	
	comp=E,50nm,18.3s,baz=264,slow=36							
AKTO	**Aktyubinsk**	**28.78**	**52**	P		**P**	**01 25 03.3**	**+0.8**
	comp=E,0.7nm,0.4s,baz=248,slow=11,SNR=2.3							
TOA0	**Torodi Ar. Sit**	**30.27**	**221**	P		**P**	**01 25 13.9**	**-2.0**
TOA0				IAmb		IAmb	01 25 22.1	
	comp=E,2.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**30.27**	**221**	P		**P**	**01 25 17.1**	**+1.2**
	comp=E,0.6nm,0.6s,baz=26,slow=9.0,SNR=5.5							
TORD	**Torodi Ar. Bea**	**30.27**	**221**	P		**P**	**01 25 14.5**	**-1.5**
ARCES	**ARCESS Array B**	**31.79**	**3**	P		**P**	**01 25 29.2**	**+0.3**
	comp=E,1.4nm,0.5s,baz=190,slow=9.6,SNR=18							
KEV	**Kevo**	**32.08**	**4**	P		**P**	**01 25 30.6**	**-0.8**
KEV				IAmb		IAmb	01 25 35.0	
	comp=E,8.9nm,1.1s							
BRVK	**Borovoye**	**36.69**	**50**	P		**P**	**01 26 11.3**	**-0.2**
BRVK				IAmb		IAmb	01 26 20.4	
	comp=E,1.8nm,0.8s							
KURK	**Kurchatov**	**41.87**	**53**	P		**P**	**01 26 54.8**	**+0.1**
MK31	**Makanchi Array**	**44.84**	**58**	P		**P**	**01 27 19.2**	**+0.3**
MK31				IAmb		IAmb	01 27 19.8	
	comp=E,2.2nm,0.5s							
MKAR	**Makanchi Array**	**44.84**	**58**	P		**P**	**01 27 19.4**	**+0.5**
	comp=E,2.6nm,0.4s,baz=272,slow=7.4,SNR=52							
MKAR	**Makanchi Array**	**44.84**	**58**	P		**P**	**01 27 18.8**	**0.0**
ZAA0	**Zalesovo Array**	**45.35**	**48**	P		**P**	**01 27 22.7**	**0.0**
ZAA0				IAmb		IAmb	01 27 31.9	
	comp=E,2.6nm,0.7s							
ZALV	**Zalesovo Beam**	**45.35**	**48**	P		**P**	**01 27 23.1**	**+0.3**
	comp=E,2.2nm,0.6s,baz=269,slow=7.9,SNR=6.3							
ZALV	**Zalesovo Beam**	**45.35**	**48**	P		**P**	**01 27 22.6**	**-0.1**
DAV	**Davao City (W)**	**96.72**	**76**	LR		LR	02 21 43.9	
	comp=Z,89nm,18.4s,baz=170,slow=39							

NEIC ***07*** *01:34:00.5±1.2,39.07N±0.04×144.75E±0.1,h43km±8km, mb4.1/5, Error ellipse: s-maj=16.8km s-min=4.3km az=104.0*

IDC ***07*** *01:34:00.9±3.2,39.12N×144.56E,h43km±33km,mb3.6/9, mb1 4.0/13,mb1mx3.6/40,mbtmp3.9/13,ML4.2/3,MS3.0/7, Ms1 3.0/7,ms1mx2.8/43,Error ellipse: s-maj=34.4km s-min=12.3km az=109.0*

NIED ***07*** *01:34:02.5,39.17N×144.35E,h64km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.68; Mθθ1.01; Mφφ-0.33; Mrθ-1.21; Mθφ0.16; Mrφ0.68; Fault plane solution: M0 1.66000×10¹⁵ NP1: φs113.00000°,δ77.00000°,λ-68.00000°. NP2: φs233.00000°,δ25.00000°,λ-148.00000°.*

JMA ***07*** *01:34:02.5±0.1,39.17N×144.35E,h64km,M4.5*

ISC 07 01:33:59.7±0.7,39.08N±0.04×144.62E±0.07,h35km,n59, σ1§45/80,mb4.0/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.23**	**284**	P	**Pn**	**01 34 34.8**	**+0.8**
MIYJ				S	**Sn**	**01 34 58.5**	**-1.8**
OFUJ	**Ofunato**	**2.29**	**271**	P	**Pn**	**01 34 35.8**	**+0.8**
OFUJ				*e*S	**Sn**	**01 35 01.2**	**-0.8**
JTH	**Tanohata**	**2.30**	**293**	P	**Pn**	**01 34 35.6**	**+0.6**
JTH				*e*S	**Sn**	**01 35 00.4**	**-1.6**
JMK	**Ichinoseki**	**2.65**	**268**	P	**Pn**	**01 34 41.0**	**+1.2**
JMK				S	**Sn**	**01 35 09.9**	**-0.8**
JANG	**Nango**	**2.72**	**299**	P	**Pn**	**01 34 41.2**	**+0.4**
JANG				S	**Sn**	**01 35 10.3**	**-2.2**
ERM	**Erimo**	**3.14**	**340**	Pn	**Pn**	**01 34 47.1**	**+0.6**
ERM				Sn	**Sn**	**01 35 22.9**	**+0.1**
JTM	**Tenmabayashi**	**3.22**	**303**	Pn	**Pn**	**01 34 49.2**	**+1.6**
JTM				Sn	**Sn**	**01 35 23.1**	**-1.6**
JMM	**Marumori**	**3.23**	**249**	Pn	**Pn**	**01 34 48.1**	**+0.2**
JMM				Sn	**Sn**	**01 35 23.8**	**-1.5**
JYK	**Kaneyama**	**3.32**	**269**	P	**Pn**	**01 34 50.5**	**+1.4**
JYK				*e*S	**Sn**	**01 35 28.6**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.50**	**337**	P	**Pn**	**01 34 52.5**	**+1.0**
JNBK				*e*S	**Sn**	**01 35 31.0**	**-0.7**
JOT	**Ohata**	**3.57**	**311**	P	**Pn**	**01 34 53.6**	**+1.1**
JOT				*e*S	**Sn**	**01 35 31.3**	**-2.2**
JCH	**Churui**	**3.66**	**345**	P	**Pn**	**01 34 54.0**	**+0.3**
JCH				S	**Sn**	**01 35 33.8**	**-1.8**
JFT	**Otama**	**3.71**	**246**	P	**Pn**	**01 34 55.7**	**+1.2**
JFT				S	**Sn**	**01 35 36.3**	**-0.7**
JKB	**Kayabe**	**3.92**	**317**	P	**Pn**	**01 34 58.3**	**+1.0**
JKB				*e*S	**Sn**	**01 35 39.8**	**-2.2**
NEM2	**Nemuro 2**	**4.37**	**11**	P	**Pn**	**01 35 02.7**	**-0.7**
NEM2				S	**Sn**	**01 35 48.7**	**-4.3**
JEW	**Eniwo**	**4.46**	**328**	Pn	**Pn**	**01 35 05.6**	**+0.9**
JEW				Sn	**Sn**	**01 35 55.6**	**+0.3**
JYT	**Yasato**	**4.52**	**232**	P	**Pn**	**01 35 05.5**	**0.0**
JYT				Sn	**Sn**	**01 35 53.8**	**-3.0**
JTKR	**Abashiri--Toko**	**4.92**	**354**	P	**Pn**	**01 35 11.7**	**+0.7**
JTKR				S	**Sn**	**01 36 04.8**	**-1.8**
JOSM	**Okushiri--Mats**	**4.93**	**309**	P	**Pn**	**01 35 12.4**	**+1.2**
JOSM				*e*S	**Sn**	**01 36 03.5**	**-3.5**
JSD	**Sado**	**5.09**	**260**	Pn	**Pn**	**01 35 14.3**	**+0.9**
JHR	**Hokuryu**	**5.14**	**336**	P	**Pn**	**01 35 16.4**	**+2.3**
JHR				*e*S	**Sn**	**01 36 12.5**	**+0.3**
JKA	**Kamikawa-asahi**	**5.25**	**344**	Pn	**Pn**	**01 35 16.3**	**+0.7**
ASAJ	**Asahikawa**	**5.26**	**344**	P	**Pn**	**01 35 16.6**	**+0.9**
	13nm,0.3s,baz=193,slow=8.4,SNR=20						
ASAJ				S	**Sn**	**01 36 12.9**	**-2.1**
	3.6nm,0.3s,baz=81,slow=31,SNR=6.8						
ASAJ				LR	LR	01 37 33.8	
	comp=Z,123nm,18.8s,baz=102,slow=41						
BSO1	**Boso 1**	**5.29**	**215**	P	**Pn**	**01 35 15.5**	**-0.2**
BSO1				*e*S	**Sn**	**01 36 14.0**	**-1.2**
JRY	**Ryogami san**	**5.47**	**238**	P	**Pn**	**01 35 19.2**	**+0.5**
JRY				*e*S	**Sn**	**01 36 17.8**	**-2.7**
MAJO	**Matsushiro**	**5.67**	**245**	Pn	**Pn**	**01 35 21.3**	**-0.1**
MAT	**Matsushiro**	**5.67**	**245**	P	**Pn**	**01 35 23.3**	**+1.9**
MAT				S	**Sn**	**01 36 26.3**	**+1.0**
MJAR	**Matsushiro Arr**	**5.67**	**245**	P	**Pn**	**01 35 22.4**	**+1.0**
	1.3nm,0.3s,baz=54,slow=11,SNR=32						
MJAR				S	**Sn**	**01 36 27.7**	**+2.4**
	0.6nm,0.3s,baz=82,slow=26,SNR=2.3						
MJAR				LR	LR	01 37 55.6	
	comp=Z,160nm,18.6s,baz=70,slow=42						
MJAR	**Matsushiro Arr**	**5.67**	**245**		**Pn**	**01 35 22.9**	**+1.5**
MJB9	**Matsu-Tunnel**	**5.67**	**246**	Pn	**Pn**	**01 35 19.9**	**-1.5**
JGF	**Kuroka**	**6.74**	**241**	Pn	**Pn**	**01 35 35.9**	**-0.3**
JHJ	**Hachijo jima 2**	**7.12**	**215**	P	**Pn**	**01 35 41.9**	**+0.6**
	17nm,0.3s,baz=82,slow=7.6,SNR=2.1						
JHJ				S	**Sn**	**01 36 56.9**	**-4.1**
	79nm,0.3s,baz=73,slow=22,SNR=5.7						
JWT	**Wachi**	**8.27**	**246**	Pn	**Pn**	**01 35 57.9**	**+0.8**
JHS	**Saijyo**	**10.05**	**250**	Pn	**Pn**	**01 36 20.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**10.74**	**302**	P	**Pn**	**01 36 32.7**	**+1.8**
	baz=99,slow=15,SNR=2.5						
JNU	**Nakatsue**	**12.60**	**246**	LR	LR	01 41 56.9	
	comp=Z,111nm,19.4s,baz=360,slow=38						
KSRS	**Korea Array**	**13.22**	**268**	LR	LR	01 42 02.8	
	comp=Z,21nm,18.6s,baz=112,slow=36						
PETK	**Petropavlovsk-**	**16.67**	**28**	LR	LR	01 43 31.2	
	comp=Z,52nm,21.8s,baz=225,slow=34						
MA2	**Magadan**	**20.89**	**9**	LR	LR	01 47 32.5	
	comp=Z,29nm,20.5s,baz=163,slow=39						
ANA2	**Anatahan**	**22.67**	**177**	P	**P**	**01 38 56.7**	**-1.4**
SEY	**Seymchan**	**24.34**	**9**	P	**P**	**01 39 15.9**	**+2.0**
	3.8nm,0.7s,baz=222,slow=9.8,SNR=4.7						
IL31		**46.41**	**33**	P	**P**	**01 42 22.9**	**+0.6**
IL31				IAmb	IAmb	01 42 40.3	
	comp=Z,1.8nm,1.0s						
ILAR	**Eielson Array**	**46.41**	**33**	P	**P**	**01 42 22.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=264,slow=6.6,SNR=9.7						
ILAR	**Eielson Array**	**46.41**	**33**	P	**P**	**01 42 22.9**	**+0.5**
INK	**Inuvik**	**51.41**	**28**	P	**P**	**01 43 01.9**	**+1.3**
	comp=Z,4.8nm,1.0s,baz=317,slow=3.6,SNR=1.6						
WB0	**Warramunga Arr**	**59.31**	**191**	P	**P**	**01 43 57.3**	**-0.7**
WB0				IAmb	IAmb	01 44 02.4	
	comp=Z,2.7nm,1.1s						
WRA	**Warramunga Arr**	**59.49**	**191**	P	**P**	**01 43 58.4**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=9.6,slow=7.4,SNR=5.3						
WRA	**Warramunga Arr**	**59.49**	**191**	P	**P**	**01 43 58.7**	**-0.6**
ASAR	**Alice Springs**	**63.22**	**191**	P	**P**	**01 44 24.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=3.1,slow=5.2,SNR=4.4						
ASAR	**Alice Springs**	**63.22**	**191**	P	**P**	**01 44 23.5**	**-0.9**
FINES	**FINESS Array B**	**68.17**	**333**	P	**P**	**01 44 55.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=46,slow=5.5,SNR=4.6						
FINES	**FINESS Array B**	**68.17**	**333**	P	**P**	**01 44 56.0**	**+0.1**
NVAR	**Mina Array Bea**	**71.74**	**55**	P	**P**	**01 45 19.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=284,slow=6.7,SNR=7.1						
NVAR	**Mina Array Bea**	**71.74**	**55**	P	**P**	**01 45 19.0**	**+0.4**
NOA	**NORSAR Array B**	**73.25**	**338**	LR	LR	02 22 03.2	
	comp=Z,12nm,20.2s,baz=185,slow=39						
PD31	**Pinedale Array**	**74.43**	**47**	P	**P**	**01 45 34.3**	**-0.1**
PDAR	**Pinedale Array**	**74.43**	**47**	P	**P**	**01 45 34.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=274,slow=0.8,SNR=6.2						
PDAR	**Pinedale Array**	**74.43**	**47**	P	**P**	**01 45 34.6**	**+0.2**
TXAR	**Lajitas Array**	**86.87**	**54**	P	**P**	**01 46 40.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=305,slow=2.1,SNR=4.1						

IDC ***07*** *01:37:12.5±0.9,44.49N×148.95E,h0km,mb3.6/7, mb1 4.0/8,mb1mx3.7/35,mbtmp3.7/8,ML3.1/1,Error ellipse: s-maj=42.7km s-min=21.7km az=114.0*

MOS ***07*** *01:37:17.6±1.3,44.42N×149.08E,h53km,mb4.0/5,Error ellipse: s-maj=15.0km s-min=10.8km az=135.6*

SKHL ***07*** *01:37:18.7±0.7,44.45N×149.15E,h67km±6km,mb4.7/2*

ISC 07 01:37:19.3±1.6,44.47N±0.07×149.04E±0.10,h47km±14km, n39,σ0§95/39,mb3.5/11,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.13**	**313**	*i* P	**Pn**	**01 37 38.5**	**-0.1**
KUR				AMB	AMB	01 37 39.0	
	200nm,0.3s						
KUR				*i* S	**Sn**	**01 37 53.0**	**-0.1**
KUR				A	A	01 37 54.6	
	390nm,0.3s						
KUR				A	A	01 37 54.6	
	650nm,0.3s						
KUR	**Kuril'sk**	**1.13**	**313**	*d* PN	**Pn**	**01 37 38.6**	**-0.1**
KUR				*i* S	**Sn**	**01 37 53.5**	**+0.4**
KUR				pmax	pmax		
	comp=Z,592nm,0.5s						
KUR				pmax	pmax		
	comp=N,221nm,0.4s						
KUR				pmax	pmax		
	comp=E,90nm,0.4s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
KUR				smax	smax		
	comp=N,389nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.33**	**260**	*e*P	**Pn**	**01 37 55.3**	**+0.2**
YUK				AMB	AMB	01 37 56.0	
	comp=N,119nm,0.3s						
YUK				*e*S	**Sn**	**01 38 21.9**	**-0.6**
YUK				A	A	01 38 29.5	
	comp=N,580nm,0.4s						
YUK				A	A	01 38 29.5	
	comp=N,420nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.33**	**260**	*e*PN	**Pn**	**01 37 55.4**	**+0.3**
YUK				*e*S	**Sn**	**01 38 24.1**	**+1.6**
YUK				pmax	pmax		
	comp=N,86nm,0.2s						
YUK				pmax	pmax		
	comp=Z,119nm,0.2s						
YUK				pmax	pmax		
	comp=E,37nm,0.1s						
YUK				smax	smax		
	comp=N,455nm,0.4s						
YUK				smax	smax		
	comp=E,326nm,0.4s						
GRPR	**Tuman**	**2.40**	**260**	*e*P	**Pn**	**01 37 56.5**	**+0.4**
GRPR				*e*S	**Sn**	**01 38 25.0**	**+0.8**
GRPR				A	A	01 38 28.0	
	comp=E,319nm,0.3s						
GRPR				A	A	01 38 28.0	
	comp=E,260nm,0.3s						
GRPR	**Tuman**	**2.40**	**260**	PN	**Pn**	**01 37 56.9**	**+0.8**
GRPR				*e*S	**Sn**	**01 38 24.8**	**+0.6**
GRPR				smax	smax		
	comp=N,319nm,0.3s						
GRPR				smax	smax		
	comp=E,260nm,0.3s						
NMR	**Nemuro--Hokkai**	**2.64**	**246**	*e*P	**Pn**	**01 37 58.5**	**-0.8**
NMR				*

σ4$88/12, **mb4.0**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.01**	**2**	Pn	**Pn**	**01 58 00.3**	**+0.5**
	8.7nm,0.3s,baz=16,slow=23,SNR=30						
SIJI				Sn	**Sn**	**01 58 38.4**	**-7.2**
	33nm,0.3s,baz=78,slow=23,SNR=22						
FITZ	**Fitzroy Crossi**	**14.18**	**202**	Pn	**Pn**	**02 00 20.2**	**+0.9**
	0.6nm,0.3s,baz=25,slow=9.2,SNR=33						
FITZ				Sn	**Sn**	**02 02 50.4**	**-5.0**
	0.5nm,0.3s,baz=229,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**15.27**	**169**	Pn	**Pn**	**02 00 35.0**	**+1.1**
	0.7nm,0.3s,baz=352,slow=14,SNR=32						
WRA				Sn	**Sn**	**02 03 15.7**	**-6.4**
	0.8nm,0.3s,baz=352,slow=21,SNR=6.4						
ASAR	**Alice Springs**	**18.84**	**172**	P	**Pn**	**02 01 23.7**	**+5.0**
	1.4nm,0.3s,baz=351,slow=9.9,SNR=70						
ASAR				S	**Sn**	**02 04 41.5**	**-7.2**
	0.2nm,0.3s,baz=358,slow=26,SNR=3.7						
MKAR	**Makanchi Array**	**67.12**	**326**	P	**P**	**02 07 51.9**	**+0.8**
	0.8nm,0.5s,baz=114,slow=7.9,SNR=9.7						
ZALV	**Zalesovo Beam**	**70.23**	**333**	P	**P**	**02 08 10.4**	**+0.2**
	0.6nm,0.4s,baz=126,slow=7.3,SNR=1.6						
VNDA	**Vanda**	**74.38**	**173**	P	**P**	**02 08 37.9**	**+3.3**
	0.7nm,0.7s,baz=322,slow=8.0,SNR=9.3						
LPAZ	**La Paz**	**151.59**	**138**	PKPbc	**PKiKP**	**02 16 56.4**	**+2.7**
	0.5nm,0.4s,baz=239,slow=5.9,SNR=2.1						

*NIC **07** 02:00:52.1±0.0, 33°.26N×32°.13E, h47km±5km, Ml2.6/5*
*GII **07** 02:00:53.3±0.3, 33°.24N×32°.23E, h40km*
*HLW **07** 02:00:53.7, 33°.17N×31°.90E, h18km±5km, Md3.3*

ISC 07 02:00:53.0±1.3, **33°.28N**±0°.03×**32°.19E**±0°.05, **h42**km±11km, **n30**, σ0$75/44, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSC2	**CSNet OBS 4**	**0.21**	**161**	P	**Pn**	**02 01 00.0**	**-0.6**
OSC2				S	**Sn**	**02 01 06.8**	**+0.8**
OSC1	**CSNet OBS 1**	**0.79**	**286**	P	**Pn**	**02 01 06.9**	**-0.8**
NATA	**Nata**	**1.53**	**12**	P	**Pn**	**02 01 17.7**	**-0.2**
NATA				AML	AML	02 01 42.2	
	0.2nm,0.2s						
NATA				AML	AML	02 01 48.6	
	0.3nm,0.6s						
SZAC	**Souni**	**1.58**	**21**	P	**Pn**	**02 01 18.5**	**-0.2**
SZAC				S	**Sn**	**02 01 39.3**	**+1.4**
SZAC				AML	AML	02 01 40.7	
	0.4nm,0.2s						
SZAC				AML	AML	02 01 40.7	
	0.4nm,0.2s						
SZAC				AML	AML	02 01 41.5	
	0.3nm,0.3s						
SZAC				AML	AML	02 01 41.5	
	0.3nm,0.3s						
AKMS	**Akamas**	**1.74**	**4**	P	**Pn**	**02 01 19.5**	**-1.3**
AKMS				AML	AML	02 01 42.3	
	0.1nm,0.3s						
AKMS				AML	AML	02 01 42.4	
	0.1nm,0.2s						
ASGA	**Asgata**	**1.74**	**30**	P	**Pn**	**02 01 20.6**	**-0.1**
ASGA				S	**Sn**	**02 01 42.8**	**+1.0**
ASGA				AML	AML	02 01 43.4	
	0.2nm,0.4s						
ASGA				AML	AML	02 01 43.4	
	0.2nm,0.4s						
ASGA				AML	AML	02 01 45.5	
	0.2nm,0.2s						
ASGA				AML	AML	02 01 45.5	
	0.2nm,0.2s						
ALFC	**Alefka**	**1.90**	**10**	P	**Pn**	**02 01 21.9**	**-1.1**
ALFC				S	**Sn**	**02 01 45.1**	**-0.7**
ALFC				AML	AML	02 01 45.5	
	0.1nm,0.2s						
ALFC				AML	AML	02 01 45.5	
	0.1nm,0.2s						
ALFC				AML	AML	02 01 45.6	
	0.1nm,0.2s						
ALFC				AML	AML	02 01 45.6	
	0.1nm,0.2s						
CSS	**Mathiatis**	**1.93**	**29**	Pn	**Pn**	**02 01 23.4**	**0.0**
CSS	**Mathiatis**	**1.93**	**29**	P	**Pn**	**02 01 23.4**	**0.0**
MVOU	**Mavrovouni**	**2.11**	**34**	P	**Pn**	**02 01 26.6**	**+0.8**
MVOU				S	**Sn**	**02 01 52.7**	**+1.9**
SLTI	**Sal'it**	**2.62**	**113**	Pn	**Pn**	**02 01 32.6**	**-0.2**
SLTI				Sn	**Sn**	**02 02 02.6**	**-0.8**
MMA0B	**Mount Meron ar**	**2.71**	**95**	Pn	**Pn**	**02 01 34.4**	**+0.3**
MMA0B				Sn	**Sn**	**02 02 05.6**	**-0.2**
MMLI	**Mount Malkishu**	**2.85**	**106**	Pn	**Pn**	**02 01 35.8**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.92**	**90**	Pn	**Pn**	**02 01 36.7**	**-0.2**
GEM				Sn	**Sn**	**02 02 10.6**	**-0.1**
NATI	**Neve Ativ**	**2.97**	**89**	Pn	**Pn**	**02 01 37.3**	**-0.4**
NATI				Sn	**Sn**	**02 02 12.1**	**0.0**
HMDT	**Nahal Hemdat**	**2.99**	**109**	Pn	**Pn**	**02 01 37.9**	**0.0**
HMDT				Sn	**Sn**	**02 02 12.6**	**0.0**
YTIR	**Yattir**	**3.13**	**127**	Pn	**Pn**	**02 01 39.8**	**-0.1**
YTIR				Sn	**Sn**	**02 02 15.8**	**-0.3**
DSI	**Dead Sea**	**3.19**	**121**	Pn	**Pn**	**02 01 40.3**	**-0.4**
DSI				Sn	**Sn**	**02 02 17.3**	**-0.2**
HHAG	**Hagoal**	**3.32**	**181**	P	**Pn**	**02 01 43.6**	**+1.1**
	baz=176						
KOT	**Kottamia**	**3.35**	**185**	P	**Pn**	**02 01 43.8**	**+0.9**
	baz=182						
KOT				S	**Sn**	**02 02 20.6**	**-1.0**
	baz=182						
SUZ	**Suez**	**3.47**	**171**	P	**Pn**	**02 01 45.7**	**+1.2**
	baz=166						
HSAF	**As Saff**	**3.69**	**189**	P	**Pn**	**02 01 48.5**	**+1.0**
	baz=185						
GLL	**Jalalah**	**3.71**	**186**	P	**Pn**	**02 01 48.5**	**+0.6**
	baz=183						
PRNI	**Paran**	**3.78**	**140**	Pn	**Pn**	**02 01 48.7**	**0.0**
PRNI				Sn	**Sn**	**02 02 30.7**	**-1.3**
KRMI	**Paran Flat**	**3.82**	**145**	Pn	**Pn**	**02 01 49.4**	**0.0**
MBRI	**Mt Berech**	**4.18**	**145**	Pn	**Pn**	**02 01 55.0**	**+0.6**
EIL	**Elat**	**4.30**	**146**	Pn	**Pn**	**02 01 56.0**	**0.0**
EIL				Sn	**Sn**	**02 02 43.9**	**-1.0**
SLUM	**Salum**	**6.16**	**255**	S	Sn	02 03 25.1	-5.5
	baz=256						
HFRF	**Wahat Farafira**	**6.97**	**210**	P	**Pn**	**02 02 33.0**	**+0.4**
	baz=209						
SWA2		**7.03**	**237**	P	**Pn**	**02 02 33.5**	**+0.1**
	baz=237						

IDC 07 02:12:49.5±2.6, **6°.54S×129°.88E, h128**km±37km, **mb3.2**/1, **mb1 3.2**/5, **mb1mx3.0**/38, **mbtmp3.5**/5, **Error ellipse: s-maj=69.9km s-min=16.6km az=92.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.80**	**14**	P	Pn	02 14 14.0	+0.6
	1.4nm,0.3s,baz=119,slow=19,SNR=2.8						
SIJI				S	Sn	02 15 18.9	+0.1
	2.2nm,0.3s,baz=122,slow=19,SNR=2.6						
FITZ	**Fitzroy Crossi**	**12.21**	**199**	P	Pn	02 15 39.2	0.0
	0.2nm,0.3s,baz=7.9,slow=8.4,SNR=12						
FITZ				S	Sn	02 17 43.8	-10
	0.1nm,0.3s,baz=126,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**14.01**	**162**	P	Pn	02 16 02.6	0.0
	0.1nm,0.3s,baz=344,slow=12,SNR=1.7						
ASAR	**Alice Springs**	**17.46**	**168**	P	P	02 16 44.2	-0.4
	0.1nm,0.3s,baz=344,slow=9.9,SNR=7.4						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	02 23 33.7	+0.1
	0.3nm,0.4s,baz=114,slow=7.2,SNR=3.4						

*IDC **07** 02:25:13.9±6.1, 4°.39N×123°.06E, h515km±92km, mb3.1/6, mb1 3.3/7, mb1mx2.9/41, mbtmp4.2/7, Error ellipse: s-maj=51.0km s-min=18.0km az=76.0*

ISC 07 02:25:17.6±0.9, **4°.3N**±0°.1×**123°.1E**±0°.3, **h582**km, **n8**, σ1$03/8, **mb3.7**/6, **1C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.37**	**36**	*i*P	**P**	**02 26 37.4**	**-0.3**
BATI	**Baumata**	**14.40**	**178**	P	**P**	**02 28 19.2**	**-1.6**
	6.6nm,0.3s,baz=304,slow=15,SNR=5.2						
FITZ	**Fitzroy Crossi**	**22.38**	**174**	P	**P**	**02 29 33.9**	**+0.4**
	2.9nm,1.0s,baz=348,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**26.49**	**156**	P	**P**	**02 30 10.6**	**+0.6**
	1.9nm,0.3s,baz=334,slow=9.8,SNR=45						
ASAR	**Alice Springs**	**29.71**	**160**	P	**P**	**02 30 39.4**	**+1.4**
	0.8nm,0.4s,baz=339,slow=7.0,SNR=16						
USRK	**Ussuriysk Ar.**	**40.53**	**10**	P	**P**	**02 32 06.8**	**-0.4**
	1.4nm,0.6s,baz=176,slow=4.3,SNR=5.5						
SONM	**Songino Array**	**45.70**	**344**	P	**P**	**02 32 47.6**	**0.0**
	0.9nm,0.6s,baz=157,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**55.07**	**327**	P	**P**	**02 33 56.0**	**+0.5**
	1.1nm,0.3s,baz=121,slow=7.4,SNR=8.3						

*THR **07** 03:28:00.8±0.3, 33°.56N×45°.58E, h15km, ML3.2*
*IDC **07** 03:28:01.2±1.9, 33°.98N×45°.57E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/31, mbtmp3.8/4, Error ellipse: s-maj=56.6km s-min=25.7km az=155.0*
*TEH **07** 03:28:03.8, 33°.79N×45°.76E, h14km, ML3.5*
*ISN **07** 03:28:04.4±1.4, 33°.68N×45°.69E, h14km±169km, ML3.4*

ISC 07 03:28:02.9±0.8, **33°.76N**±0°.03×**45°.71E**±0°.04, **h10**km, **n50**, σ1$45/53, **mb3.9**/3, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.67**	**164**	*e*Pg	**Pg**	**03 28 16.0**	**+0.1**
	baz=340						
IBDR				*e*Sg	**Sg**	**03 28 25.0**	**+0.3**
IBDR				AML	AML	03 28 31.4	
	comp=N,2μm,0.6s						
IBDR				AML	AML	03 28 33.8	
	comp=E,2μm,0.4s						
IGHG	**Ghaleghazi**	**0.92**	**51**	*e*Pg	**Pg**	**03 28 20.4**	**-0.2**
IGHG				*e*		03 28 39.6	
IDHR	**Dehrash**	**1.10**	**31**	*e*Pg	**Pg**	**03 28 23.1**	**-1.0**
IDHR				*e*		03 28 45.4	
BHD	**Baghdad**	**1.21**	**247**	*e*Pg	**Pn**	**03 28 26.0**	**+0.1**
BHD				*e*Sg	**Sn**	**03 28 44.0**	**+1.7**
IVIS	**Veis**	**1.22**	**51**	*e*Pg	**Pb**	**03 28 26.0**	**-0.2**
IVIS				*e*Sg	**Sg**	**03 28 43.5**	**+1.2**
IVIS				*e*		03 28 50.5	
KCHF	**Cheshme Sefid,**	**1.22**	**65**	*e*Pg	**Pb**	**03 28 25.5**	**-0.8**
KCHF				*e*		03 28 48.2	
KER	**Kermanshah**	**1.34**	**62**	*e*Pg	**Pn**	**03 28 27.8**	**0.0**
KER				*e*		03 28 50.2	
IKOM	**Komasi**	**1.56**	**74**	*e*Pg	**Pn**	**03 28 31.6**	**+0.8**
IKOM				*e*		03 29 06.8	
ILIN	**Lien**	**1.56**	**42**	*e*Pg	**Pn**	**03 28 32.3**	**+1.4**
ILIN				*e*		03 29 00.1	
DHL1	**Dehloran**	**1.70**	**129**	*e*Pn	**Pb**	**03 28 35.5**	**+1.2**
IKFM	**Kafar-mosalman**	**1.80**	**97**	*e*Pn	**Pn**	**03 28 35.0**	**+1.0**
IKFM				*e*		03 29 16.6	
IBZA	**Bozab**	**1.92**	**68**	*e*Pn	**Pn**	**03 28 37.2**	**+1.2**
IBZA				*e*		03 29 08.7	
IDOB	**Doab**	**2.06**	**88**	*e*Pn	**Pn**	**03 28 38.5**	**+0.7**
IDOB				*e*		03 29 30.6	
IKMR	**Kamar-syah**	**2.24**	**95**	*e*Pn	**Pn**	**03 28 41.4**	**+1.3**
IKMR				*e*		03 29 22.7	
IALM	**Almabolaq**	**2.32**	**61**	*e*Pn	**Pn**	**03 28 43.0**	**+1.6**
HSAM	**Samen**	**2.45**	**79**	*e*Pn	**Pn**	**03 28 43.8**	**+0.6**
HSAM				*e*		03 29 25.5	
HSRG	**Sareghieh**	**2.59**	**54**	*e*Pn	**Pn**	**03 28 47.3**	**+2.1**
HSRG				*e*		03 29 30.6	
MAHB	**Mahabad**	**3.00**	**360**	*e*Pn	**Pn**	**03 28 53.0**	**+2.3**
HAGD	**Aghdareh**	**3.04**	**69**	*e*Pn	**Pn**	**03 28 52.3**	**+1.1**
HAGD				*e*		03 29 52.0	
KHMZ	**Khomeyn**	**3.54**	**89**	*e*Pn	**Pn**	**03 28 59.2**	**+1.0**
KHMZ				IAML		03 29 48.0	
	comp=E,33nm,0.6s						
KHMZ	**Khomeyn**	**3.54**	**89**	*e*Pn	**Pn**	**03 28 59.2**	**+1.0**
ASAO	**Ashtian**	**3.67**	**76**	*e*Pn	**Pn**	**03 29 01.4**	**+1.5**
ASAO				IAML		03 30 08.3	
	comp=E,22nm,0.5s						
ASAO				IAML		03 30 13.2	
	comp=N,24nm,0.7s						
ASAO	**Ashtian**	**3.67**	**76**	*e*Pn	**Pn**	**03 29 01.4**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.74**	**58**	*e*Pn	**Pn**	**03 29 01.6**	**+0.7**
ZNJK	**Zanjan**	**3.79**	**39**	*e*Pn	**Pn**	**03 29 04.3**	**+2.6**
ZNJK	**Zanjan**	**3.79**	**39**	*e*Pn	**Pn**	**03 29 04.3**	**+2.6**
JHBN	**Jahan bin**	**4.44**	**109**	*e*Pn	**Pn**	**03 29 11.4**	**+0.8**
JHBN				*e*		03 30 42.6	
IPIR	**Pirpir**	**4.48**	**102**	*e*Pn	**Pn**	**03 29 12.5**	**+1.4**
GHVR	**GHOM**	**4.69**	**80**	*e*Pn	**Pn**	**03 29 15.0**	**+1.1**
QAM	**Ghamsar**	**4.78**	**88**	*e*Pn	**Pn**	**03 29 15.6**	**+0.4**
QALM	**Alamut, Qazvin**	**4.85**	**55**	*e*Pn	**Pn**	**03 29 17.2**	**+1.0**
IKLH	**Kolahrood**	**4.92**	**93**	*e*Pn	**Pn**	**03 29 18.4**	**+1.2**
IMRD	**Marand**	**4.95**	**360**	*e*Pn	**Pn**	**03 29 19.1**	**+1.6**
CHTH	**Charan**	**4.95**	**63**	*e*Pn	**Pn**	**03 29 19.4**	**+1.9**
GRMI	**Germi**	**5.34**	**19**	*e*Pn	**Pn**	**03 29 25.2**	**+2.4**
GRMI				IAML		03 30 01.5	
	comp=N,9.7nm,0.9s						
GRMI	**Germi**	**5.34**	**19**	*e*Pn	**Pn**	**03 29 25.2**	**+2.4**
KRSH	**Karshahi**	**5.35**	**86**	*e*Pn	**Pn**	**03 29 24.0**	**+0.9**
DAMV	**Damavand**	**5.49**	**68**	*e*Pn	**Pn**	**03 29 26.7**	**+1.7**
DAMV	**Damavand**	**5.49**	**68**	*e*Pn	**Pn**	**03 29 26.7**	**+1.7**
IDMV	**Damavand**	**5.52**	**69**	*e*Pn	**Pn**	**03 29 25.4**	**-0.1**
MAKU	**Maku**	**5.65**	**352**	*e*Pn	**Pn**	**03 29 29.1**	**+2.0**
MAKU	**Maku**	**5.65**	**352**	*e*Pn	**Pn**	**03 29 29.1**	**+2.0**
KLNJ	**Kolanjah**	**5.68**	**117**	*e*Pn	**Pn**	**03 29 30.1**	**+2.3**
IFIR	**Firoozkooh**	**6.10**	**70**	*e*Pn	**Pn**	**03 29 34.5**	**+1.1**
ISHM	**Shahmirzad**	**6.57**	**70**	*e*Pn	**Pn**	**03 29 40.5**	**+0.6**
ISAD	**Sadrabad**	**6.96**	**103**	*e*Pn	**Pn**	**03 29 45.7**	**+0.4**
AKASG	**Malin Array Be**	**20.79**	**329**	P	**P**	**03 32 41.2**	**-2.9**
	comp=N,1.9nm,0.6s,baz=138,slow=9.7,SNR=8.1						
MKAR	**Makanchi Array**	**30.52**	**54**	P	**P**	**03 34 15.8**	**-0.5**
	comp=N,0.8nm,0.4s,baz=246,slow=7.2,SNR=11						
ZALV	**Zalesovo Beam**	**34.08**	**42**	P	**P**	**03 34 46.1**	**-1.2**
	comp=N,0.8nm,0.3s,baz=264,slow=10,SNR=4.5						
TORD	**Torodi Ar. Bea**	**44.87**	**254**	P	**P**	**03 36 17.1**	**-0.6**
	comp=N,0.5nm,0.9s,baz=59,slow=7.6,SNR=2.1						

*REY **07** 03:51:35.2, 64°.68N×17°.51W, h7km*
*IDC **07** 03:51:36.5±0.6, 64°.58N×17°.78W, h0km, mb3.9/16, mb1 4.2/20, mb1mx4.0/46, mbtmp3.9/20, ML2.8/3, MS3.4/24, Ms1 3.4/24, ms1mx3.3/56, Error ellipse: s-maj=19.9km s-min=10.5km az=15.0*
*MOS **07** 03:51:37.3±1.1, 64°.75N×17°.60W, h8km, mb4.6/35, Error ellipse: s-maj=12.7km s-min=6.8km az=109.0*
*NEIC **07** 03:51:38.2±0.6, 64°.7N±0°.1×17°.9W±0°.2, h8km±4km, mb4.7/61, Error ellipse: s-maj=18.9km s-min=9.6km az=185.0*
*BGR **07** 03:51:41.6±0.0, 64°.11N×18°.18W, h33km, mb4.4*

ISC 07 03:51:38.2±0.4, **64°.63N**±0°.04×**17°.70W**±0°.03, **h10**km, **n200**, σ1$68/173, **mb4.6**/81, **MS3.5**/20, **11C, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.05**	**333**	P	**Pg**	**03 51 37.5**	**-2.8**
	baz=267						
IDYN	**Dyngjuhals**	**0.22**	**41**	P	Pg	03 51 38.1	-4.7
	baz=29						
IDJK	**Dyngjujokull**	**0.23**	**121**	P	Pg	03 51 39.6	-3.5
	baz=146						
IGRF	**Grimsfjall**	**0.29**	**139**	P	Pg	03 51 40.8	-3.3
	baz=159						
ISKR	**Skrokkalda**	**0.30**	**258**	P	**Pg**	**03 51 42.5**	**-1.8**
	baz=253						
IURH	**Urdarhals**	**0.31**	**50**	P	Pg	03 51 39.4	-5.0
	baz=48						
IJOK	**Jokulheimar**	**0.39**	**216**	P	**Pg**	**03 51 43.9**	**-2.0**
	baz=221						
IVOT	**Vottur**	**0.42**	**148**	P	Pg	03 51 43.1	-3.4
	baz=161						
IBJK	**Bruarjokull**	**0.44**	**111**	P	Pg	03 51 42.5	-4.3
	baz=122						
THOR	**Thorvaldshraun**	**0.54**	**54**	P	Pg	03 51 43.2	-5.4
	baz=54						
IIEY	**Innrieyrar**	**0.56**	**199**	P	**Pg**	**03 51 46.5**	**-2.6**
	baz=205						
IKRE	**Kreppuhraun**	**0.59**	**74**	P	Pg	03 51 43.8	-5.8
	baz=77						
IKRE				S	**Sg**	**03 51 52.1**	**-5.3**
	baz=77						
IKAL	**Kalfafell**	**0.68**	**180**	P	**Pg**	**03 51 48.2**	**-3.2**
	baz=186						
IMKO	**Mokollar**	**0.68**	**58**	P	Pg	03 51 45.6	-5.8
	baz=58						
IMKO				S	**Sg**	**03 51 54.7**	**-5.6**
	baz=58						
IVAT	**Vatnsfell**	**0.69**	**231**	P	**Pg**	**03 51 49.5**	**-2.1**
	baz=232						
IKSK	**Karasker**	**0.71**	**131**	P	Pg	03 51 46.8	-5.1
	baz=139						
ISVA	**Svartarkot**	**0.74**	**15**	P	Pg	03 51 47.2	-5.3
	baz=9.2						
IVSH	**V-Sauoahnukur**	**0.87**	**77**	P	Pg	03 51 48.5	-6.4
	baz=80						
IADA	**Aoalbol**	**0.99**	**66**	P	Pg	03 51 50.4	-6.8
	baz=67						
IREN	**Reynihlio**	**1.08**	**18**	P	Pg	03 51 52.7	-6.2
	baz=14						
BORG	**Borgarnes**	**1.56**	**276**	Pn	**Pn**	**03 52 02.9**	**-3.1**
	31nm,0.3s,baz=98,slow=7.5,SNR=60						
BORG				Sn	**Sg**	**03 52 25.5**	**-2.9**
	46nm,0.3s,baz=230,slow=19,SNR=9.3						
BORG	**Borgarnes**	**1.56**	**276**		**Pn**	**03 52 03.5**	**-2.5**
BORG					**Sg**	**03 52 25.5**	**-2.9**
JMIC	**Jan Mayen**	**7.26**	**24**	LR	LR	03 55 17.5	
	comp=Z,78nm,18.8s,baz=93,slow=30						
EKA	**Eskdalemuir Ar**	**11.79**	**135**	Pn	**Pn**	**03 54 24.8**	**-1.5**
	baz=321,slow=13,SNR=15						
DAG	**Danmarks Havn**	**12.21**	**359**	P	**Pn**	**03 54 34.6**	**+2.7**
DAG				pmax	pmax		
	comp=Z,11nm,2.3s						
SFJD	**Kangerlussuaq**	**13.60**	**295**	LR	LR	03 59 46.0	
	comp=Z,248nm,21.0s,baz=83,slow=36						
NOA	**NORSAR Array B**	**13.62**	**92**	Pn	**Pn**	**03 54 47.9**	**-3.3**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.3						
NOA				LR	LR	03 59 52.9	
	comp=Z,92nm,19.4s,baz=295,slow=36						
HFS	**Hagfors**	**15.13**	**93**	Pn	**Pn**	**03 55 14.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=308,slow=7.1,SNR=2.3						
HFS				LR	LR	04 00 49.8	
	comp=Z,133nm,19.4s,baz=290,slow=36						
NOR	**Nord**	**17.07**	**1**	P	**P**	**03 55 38.3**	**+0.1**
NOR				pmax	pmax		
	comp=Z,25nm,2.3s						
ARCES	**ARCESS Array B**	**17.21**	**54**	P	**Pn**	**03 55 37.6**	**-0.7**
	baz=283,slow=8.3,SNR=4.6						
ARCES				LR	LR	04 00 35.0	
	comp=Z,113nm,21.3s,baz=10.0,slow=31						
FLN	**La Foliniere**	**18.39**	**142**	*e*P	**Pn**	**03 55 56.1**	**+3.1**
FLN				pmax	pmax		
	comp=Z,86nm,1.7s						
BAIF	**Baives**	**18.63**	**131**	*e*P	**Pn**	**03 55 58.6**	**+2.8**
BAIF				pmax	pmax		
	comp=Z,146nm,2.4s						
CLZ	**Clausthal**	**19.33**	**118**	P	**P**	**03 56 02.5**	**-0.9**
FINES	**FINESS Array B**	**19.80**	**79**	P	**P**	**03 56 08.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=274,slow=5.5,SNR=4.8						
FINES				LR	LR	04 02 40.4	
	comp=Z,76nm,19.5s,baz=304,slow=34						
MOX	**Moxa**	**20.76**	**118**	P	**P**	**03 56 19.8**	**+0.9**
MOX				pmax	pmax		
	comp=Z,24nm,2.7s						
CLL	**Collm**	**20.77**	**115**	*e*P	**P**	**03 56 18.0**	**-0.9**
	comp=Z,51nm,1.9s						
CLL				*e*		03 56 24.0	
CLL				*e*S	**S**	**04 00 12.0**	**+1.6**
CLL	**Collm**	**20.77**	**115**	*e*P	**P**	**03 56 18.0**	**-0.9**
CLL				*e*		03 56 24.0	
CLL				*e*S	**S**	**04 00 12.0**	**+1.6**
CLL				pmax	pmax		
	comp=Z,51nm,1.9s						
LOR	**Lormes**	**20.98**	**136**	P	**P**	**03 56 23.2**	**+1.9**
LOR				pmax	pmax		
	comp=Z,25nm,2.1s						
CDF	**Champ du Feu**	**21.07**	**128**	*e*P	**P**	**03 56 24.1**	**+1.8**
CDF				pmax	pmax		
	comp=Z,23nm,1.5s						
HAU	**Haudompre**	**21.11**	**131**	*e*P	**P**	**03 56 24.4**	**+1.7**
HAU				pmax	pmax		
	comp=Z,16nm,1.2s						
AVF	**Avril sur Loir**	**21.26**	**137**	*e*P	**P**	**03 56 26.0**	**+1.8**
AVF				pmax	pmax		
	comp=Z,68nm,2.0s						
GRF	**Grafenberg Arr**	**21.39**	**121**	*e*P	**P**	**03 56 25.2**	**-0.4**
	comp=Z,34nm,1.7s,baz=322,slow=11						
NKC	**Novy Kostel**	**21.41**	**118**	*e*P	**P**	**03 56 30.9**	**+5.0**
NKC	**Novy Kostel**	**21.41**	**118**	P	**P**	**03 56 28.0**	**+2.1**
NKC				pmax	pmax		
	comp=Z,8.0nm,2.3s						
HINF	**Hinteralfeld**	**21.44**	**130**	*e*P	**P**	**03 56 27.9**	**+1.6**
HINF				pmax	pmax		
	comp=Z,51nm,1.8s						
BRG	**Berggiesshubel**	**21.47**	**115**	*e*P	**P**	**03 56 26.8**	**+0.3**
	comp=Z,20nm,1.2s						
BRG	**Berggiesshubel**	**21.47**	**115**	*e*P	**P**	**03 56 26.8**	**+0.3**
BRG				pmax	pmax		
	comp=Z,20nm,1.2s						
SMF	**Signal de Mont**	**21.54**	**136**	*e*P	**P**	**03 56 28.1**	**+0.9**
SMF				pmax	pmax		
	comp=Z,46nm,1.6s						
VSU	**Vasula**	**21.66**	**86**	*i* P	**P**	**03 56 28.1**	**-0.3**
GRB1	**Grafenberg Arr**	**21.79**	**120**	P	**P**	**03 56 31.6**	**+1.6**
GRB1				pmax	pmax		
	comp=Z,28nm,1.1s						
PVCC	**Panska Ves**	**21.99**	**115**	P	**P**	**03 56 34.7**	**+2.6**
PVCC				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SLE	**Schleitheim**	**22.04**	**127**	P	**P**	**03 56 38.6**	**+6.0**
SLE				pmax	pmax		
	comp=Z,13nm,2.6s						
RJF	**Les Rejaudoux**	**22.11**	**142**	*e*P	**P**	**03 56 39.0**	**+5.6**
RJF				pmax	pmax		
	comp=Z,87nm,1.8s						
KSP	**Ksiaz**	**22.43**	**112**	P	**P**	**03 56 37.1**	**+0.3**
KSP				pmax	pmax		
	comp=Z,17nm,1.2s						
WET	**Wettzell**	**22.46**	**119**	P	**P**	**03 56 39.7**	**+2.6**
OSTC	**Ostas**	**22.62**	**112**	*e*P	**P**

CIMO	**Cimolais**	**24.67**	**124**	P		**P**		**03 56 59.9**	**+1.0**
PRED	**Cave del Predi**	**24.97**	**122**	P		**P**		**03 57 02.8**	**+1.2**
PRED				IAmb		IAmb		03 57 26.2	
	comp=Z,32nm,1.8s								
ARSA	**Arzberg**	**25.02**	**118**	*eP*		**P**		**03 57 02.6**	**+0.6**
	comp=Z,6.9nm,1.1s								
NIE	**Niedzica**	**25.16**	**109**	P		**P**		**03 57 04.3**	**+1.0**
FRF	**La Foret Royal**	**25.17**	**135**	*eP*		**P**		**03 57 05.5**	**+2.1**
FRF				pmax		pmax			
	comp=Z,46nm,1.6s								
VYHS	**Vyhne**	**25.30**	**112**	*eP*		**P**		**03 57 06.0**	**+1.5**
VYHS	**Vyhne**	**25.30**	**112**	*eP*		**P**		**03 57 06.0**	**+1.5**
KLMR	**Klimovskoe**	**25.70**	**72**	*eP*		**P**		**03 57 06.8**	**-1.2**
KLMR				pmax		pmax			
	comp=Z,20nm,1.5s								
KLMR	**Klimovskoe**	**25.70**	**72**	*eP*		**P**		**03 57 06.9**	**-1.1**
KLMR				AMP				03 57 11.6	
	comp=Z,20nm,1.5s								
SCHQ	**Schefferville**	**25.95**	**271**	P		**P**		**03 57 09.6**	**-0.8**
	comp=Z,8.1nm,1.1s,baz=56,slow=15,SNR=2.3								
SCHQ	**Schefferville**	**25.95**	**271**	P		**P**		**03 57 09.4**	**-1.0**
KWP	**Kalwaria Pacla**	**25.98**	**106**	P		**P**		**03 57 12.6**	**+1.9**
KWP				pmax		pmax			
	comp=Z,26nm,2.4s								
PSZ	**Piszkesteto**	**26.18**	**112**	P		**P**		**03 57 13.6**	**+1.0**
PSZ				pmax		pmax			
	comp=Z,35nm,1.6s								
PSZ	**Piszkesteto**	**26.18**	**112**	P		**P**		**03 57 13.6**	**+1.0**
PSZ				IAmb		IAmb		03 57 26.5	
	comp=Z,35nm,1.6s								
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**		**03 57 13.6**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=350,slow=10,SNR=8.5								
ESDC				LR		LR		04 07 12.3	
	comp=Z,111nm,19.6s,baz=330,slow=36								
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**		**03 57 13.9**	**+0.7**
KOLS	**Kolonicke sedl**	**26.34**	**107**	*eP*		**P**		**03 57 14.5**	**+0.5**
KOLS	**Kolonicke sedl**	**26.34**	**107**	*eP*		**P**		**03 57 14.5**	**+0.5**
RES	**Resolute Bay**	**26.45**	**324**	LR		LR		04 08 03.5	
	comp=Z,125nm,18.4s,baz=56,slow=37								
UZH	**Uzhgorod**	**26.59**	**108**	*eP*		**P**		**03 57 17.6**	**+1.4**
UZH				*e*				03 57 23.5	
PGF	**Pioggiola**	**26.82**	**133**	*eP*		**P**		**03 57 22.6**	**+4.2**
PGF				pmax		pmax			
	comp=Z,14nm,1.0s								
AKASG	**Malin Array Be**	**27.92**	**97**	P		**P**		**03 57 27.4**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=320,slow=9.4,SNR=5.7								
AKASG				LR		LR		04 08 48.0	
	comp=Z,52nm,19.0s,baz=255,slow=37								
AKASG	**Malin Array Be**	**27.92**	**97**	*ceP*		**P**		**03 57 29.1**	**+1.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**27.92**	**97**	P		**P**		**03 57 29.7**	**+1.5**
OBN	**Obninsk**	**27.97**	**84**	LR		LR		04 08 18.8	
	comp=Z,15nm,20.2s,baz=173,slow=36								
OBN	**Obninsk**	**27.97**	**84**	*eP*		**P**		**03 57 28.3**	**-0.2**
OBN				*e*PPP		PPP		03 58 20.1	
OBN				*e*				04 00 48.4	
OBN				pmax		pmax			
	comp=Z,71nm,2.5s								
MOS	**Moscow**	**28.01**	**82**	*eP*		P		03 57 19.6	-9.2
BURAR	**Bucovina Array**	**28.60**	**106**	P		**P**		**03 57 35.5**	**+1.2**
NRIK	**Noril'sk**	**36.54**	**35**	*ceP*		**P**		**03 58 43.1**	**-0.2**
NRIK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
SOC	**Sochi**	**37.95**	**95**	*eP*		**P**		**03 58 54.9**	**-0.6**
SOC				*e*S		**S**		**04 04 46.3**	**-0.7**
SOC				*e*SS		**SnSn**		**04 07 30.4**	**+2.2**
SOC				MLR		MLR			
	comp=Z,94nm,13.0s								
GOF	**Gofitskoye**	**38.20**	**91**	*eP*		**P**		**03 59 00.6**	**+3.0**
GOF				pmax		pmax			
	comp=Z,23nm,0.5s								
BR131	**Keskin Array S**	**38.55**	**105**	P		**P**		**03 59 01.8**	**+1.0**
BR131				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BR131	**Keskin Array S**	**38.55**	**105**	P		**P**		**03 59 01.8**	**+1.0**
BRTR	**Keskin Array B**	**38.55**	**105**	P		**P**		**03 59 01.5**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=350,slow=6.3,SNR=8.5								
BRTR	**Keskin Array B**	**38.55**	**105**	*ceP*		**P**		**03 59 03.2**	**+2.4**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**38.55**	**105**	P		**P**		**03 59 01.8**	**+1.0**
KIV	**Kislovodsk**	**38.93**	**92**	*eP*		**P**		**03 59 04.9**	**+1.0**
KIV				pmax		pmax			
	comp=Z,16nm,1.1s								
KIV				MLR		MLR			
	comp=Z,128nm,16.0s								
YKA	**Yellowknife Ar**	**39.18**	**313**	LR		LR		04 14 58.5	
	comp=Z,94nm,18.4s,baz=0.0,slow=36								
YKA	**Yellowknife Ar**	**39.18**	**313**	*i* P		P		03 59 12.3	+6.7
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KBZ	**Khabaz**	**39.20**	**92**	P		**P**		**03 59 07.3**	**+1.3**
	comp=Z,4.9nm,0.9s,baz=313,slow=13,SNR=6.9								
KBZ				LR		LR		04 15 16.6	
	comp=Z,71nm,20.2s,baz=356,slow=36								
KBZ	**Khabaz**	**39.20**	**92**	*ceP*		**P**		**03 59 06.9**	**+0.9**
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**41.53**	**289**	LR		LR		04 15 23.4	
	comp=Z,73nm,18.3s,baz=276,slow=34								
ABKAR	**Akbulak array**	**42.09**	**73**	P		**P**		**03 59 29.4**	**-0.3**
ABKAR	**Akbulak array**	**42.09**	**73**	P		**P**		**03 59 29.2**	**-0.6**
TIXI	**Tiksi**	**42.09**	**15**	*ceP*		**P**		**03 59 31.8**	**+2.2**
TIXI				pmax		pmax			
	comp=Z,87nm,2.5s								
BMAR	**Burnt Mountain**	**42.89**	**333**	P		**P**		**03 59 36.6**	**+0.3**
BRVK	**Borovoye**	**43.23**	**62**	*ceP*		**P**		**03 59 39.5**	**+0.5**
BRVK				pmax		pmax			
	comp=Z,13nm,2.0s								
FYU	**Fort Yukon**	**43.77**	**333**	P		**P**		**03 59 43.8**	**+0.6**
P53A	**Whipple**	**44.00**	**267**	P		**P**		**03 59 45.2**	**-0.2**
IL31		**45.68**	**332**	P		**P**		**03 59 59.0**	**+0.6**
IL31				IAmb		IAmb		04 00 02.9	
	comp=Z,12nm,1.4s								
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**		**03 59 58.8**	**+0.3**
	comp=Z,2.7nm,1.1s,baz=43,slow=5.5,SNR=14								
ILAR				PcP		**PcP**		**04 01 35.3**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=352,slow=2.0,SNR=4.4								
ILAR				LR		LR		04 20 13.9	
	comp=Z,56nm,20.5s,baz=352,slow=38								
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**		**03 59 59.0**	**+0.5**
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**		**03 59 59.0**	**+0.5**
MDM	**Murphy Dome**	**45.78**	**333**	P		**P**		**03 59 59.5**	**+0.3**
MDM				IAmb		IAmb		04 00 04.4	
	comp=Z,11nm,1.2s								
IMAR	**Indian Mountai**	**45.86**	**337**	P		**P**		**04 00 00.3**	**+0.4**
BCAR	**Beaver Creek A**	**46.10**	**328**	P		**P**		**04 00 01.5**	**-0.4**
V55A	**Taylorsville**	**46.98**	**264**	P		**P**		**04 00 08.8**	**-0.2**
V55A				IAmb		IAmb		04 00 13.4	
	comp=Z,16nm,1.5s								
BILL	**Bilibino**	**47.59**	**358**	*eP*		**P**		**04 00 16.8**	**+3.4**
BILL				*e*				04 01 47.2	
BILL				*e*				04 02 07.3	
BILL				*e*PPP		PPP		04 02 50.3	
BILL				pmax		pmax			
	comp=Z,3.0nm,1.2s								
ZALV	**Zalesovo Beam**	**47.73**	**51**	P		**P**		**04 00 15.3**	**+0.7**
	comp=Z,4.0nm,1.1s,baz=333,slow=8.8,SNR=4.5								
ZALV				LR		LR		04 20 14.8	
	comp=Z,16nm,20.0s,baz=12,slow=36								
ZALV	**Zalesovo Beam**	**47.73**	**51**	*i* P		**P**		**04 00 15.6**	**+1.0**
ZALV				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ZALV	**Zalesovo Beam**	**47.73**	**51**	P		**P**		**04 00 14.1**	**-0.5**
KURK	**Kurchatov**	**48.21**	**58**	*ceP*		**P**		**04 00 17.3**	**-1.1**
KURK				pmax		pmax			
	comp=Z,9.0nm,1.3s								
KURK	**Kurchatov**	**48.21**	**58**	P		**P**		**04 00 18.1**	**-0.3**
KURK				IAmb		IAmb		04 00 19.9	
	comp=Z,6.2nm,0.9s								
T47A	**Sharon Grove**	**48.55**	**270**	P		**P**		**04 00 21.1**	**-0.1**
T47A				IAmb		IAmb		04 00 23.6	
	comp=Z,9.0nm,0.9s								
EGMT	**Eagleton**	**48.82**	**297**	P		**P**		**04 00 23.2**	**0.0**
W50A	**Signal Mountai**	**49.29**	**267**	P		**P**		**04 00 26.8**	**-0.1**
W50A				IAmb		IAmb		04 00 33.3	
	comp=Z,10.0nm,1.1s								
GEYT	**Alibeck**	**50.52**	**83**	LR		LR		04 24 03.6	
	comp=Z,44nm,18.1s,baz=50,slow=38								
RLMT	**Red Lodge**	**51.03**	**294**	P		**P**		**04 00 40.1**	**-0.1**
RLMT				IAmb		IAmb		04 00 44.6	
	comp=Z,17nm,1.5s								
YAK	**Yakutsk**	**51.34**	**19**	LR		LR		04 24 09.7	
	comp=Z,23nm,18.6s,baz=244,slow=38								
KK31	**Karatay Array**	**51.37**	**70**	IAmb		IAmb		04 00 45.8	
	comp=Z,18nm,1.8s								
KKAR	**Karatay Array**	**51.37**	**70**	P		**P**		**04 00 42.3**	**-0.3**
KKAR	**Karatay Array**	**51.37**	**70**	P		**P**		**04 00 42.3**	**-0.3**
KKAR	**Karatay Array**	**51.37**	**70**	IAmb		IAmb		04 00 45.8	
	comp=Z,18nm,1.8s								
BOZ	**Bozeman (W)**	**51.55**	**297**	P		**P**		**04 00 43.8**	**-0.2**
BOZ				pmax		pmax			
	comp=Z,16nm,1.5s								
BOZ	**Bozeman (W)**	**51.55**	**297**	P		**P**		**04 00 43.8**	**-0.2**
BOZ				IAmb		IAmb		04 00 48.2	
	comp=Z,16nm,1.5s								
DGZ	**Jazzator, Alta**	**52.17**	**53**	*i* P		**P**		**04 00 48.4**	**-0.2**
DGZ				pmax		pmax			
	comp=Z,16nm,2.5s								
MK31	**Makanchi Array**	**52.82**	**58**	*ceP*		**P**		**04 00 53.6**	**+0.3**
MKAR	**Makanchi Array**	**52.82**	**58**	P		**P**		**04 00 52.2**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=248,slow=6.4,SNR=8.7								
MKAR	**Makanchi Array**	**52.82**	**58**	*i* P		**P**		**04 00 51.9**	**-1.4**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
MKAR	**Makanchi Array**	**52.82**	**58**	P		**P**		**04 00 52.7**	**-0.6**
TPAW	**Teton Pass**	**53.05**	**295**	IAmb		IAmb		04 01 10.6	
	comp=Z,16nm,1.9s								
BW06	**Boulder Array**	**53.11**	**293**	P		**P**		**04 00 55.5**	**-0.3**
BW06				IAmb		IAmb		04 00 58.9	
	comp=Z,11nm,1.2s								
PDAR	**Pinedale Array**	**53.11**	**293**	P		**P**		**04 00 55.6**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=60,slow=5.8,SNR=11								
PDAR				LR		LR		04 22 32.4	
	comp=Z,51nm,18.3s,baz=64,slow=35								
PDAR	**Pinedale Array**	**53.11**	**293**	P		**P**		**04 00 55.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**		**04 00 55.1**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=345,slow=8.2,SNR=9.9								
TORD				LR		LR		04 23 24.9	
	comp=Z,40nm,19.1s,baz=160,slow=36								
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**		**04 00 56.8**	**+0.8**
N23A	**Red Feather La**	**53.24**	**289**	IAmb		IAmb		04 01 00.1	
	comp=Z,13nm,1.4s								
AAK	**Ala-Archa**	**53.35**	**67**	*ceP*		**P**		**04 00 58.4**	**+0.9**
AAK				pmax		pmax			
	comp=Z,26nm,1.7s								
O20A	**White River Ci**	**54.81**	**290**	IAmb		IAmb		04 01 14.3	
	comp=Z,12nm,1.4s								
TARG	**Taragay, Kyrgy**	**55.43**	**65**	IAmb		IAmb		04 01 18.4	
	comp=Z,21nm,1.8s								
ZAK	**Zakamensk**	**56.55**	**41**	*eP*		**P**		**04 01 20.2**	**-0.2**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
PV01	**Paradox Valley**	**56.65**	**289**	P		**P**		**04 01 21.2**	**-0.3**
PV01				IAmb		IAmb		04 01 25.2	
	comp=Z,9.2nm,1.3s								
PV03	**Paradox Valley**	**56.66**	**290**	IAmb		IAmb		04 01 25.2	
	comp=Z,9.6nm,1.3s								
PV13	**Radium Mtn., P**	**56.73**	**289**	IAmb		IAmb		04 01 25.8	
	comp=Z,10nm,1.0s								
MSU	**Marysvale**	**57.78**	**292**	P		**P**		**04 01 29.3**	**-0.1**
MSU	**Marysvale**	**57.78**	**292**	P		**P**		**04 01 29.3**	**-0.1**
DBIC	**Dimbokro**	**58.57**	**165**	LR		LR		04 28 29.3	
	comp=Z,96nm,18.1s,baz=104,slow=38								
R11A	**Troy Canyon, C**	**59.26**	**295**	IAmb		IAmb		04 01 46.8	
	comp=Z,12nm,1.9s								
SONM	**Songino Array**	**59.73**	**40**	P		**P**		**04 01 43.4**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=320,slow=4.3,SNR=4.8								
SONM	**Songino Array**	**59.73**	**40**	P		**P**		**04 01 42.5**	**-0.2**
WUAZ	**Wupatki**	**60.04**	**290**	P		**P**		**04 01 44.4**	**-0.7**
YERR	**Yerington**	**60.12**	**298**	P		**P**		**04 01 45.4**	**-0.2**
NVAR	**Mina Array Bea**	**60.24**	**297**	P		**P**		**04 01 47.3**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=61,slow=4.2,SNR=3.1								
NVAR				LR		LR		04 25 46.1	
	comp=Z,73nm,18.7s,baz=16,slow=34								
NIL	**Nilore**	**60.54**	**73**	P		**P**		**04 01 49.5**	**+1.1**
NIL				pmax		pmax			
	comp=Z,14nm,1.2s								
NIL	**Nilore**	**60.54**	**73**	P		**P**		**04 01 49.5**	**+1.1**
SHPR	**Sheep Range**	**60.70**	**294**	P		**P**		**04 01 49.4**	**-0.1**
X16A	**Lo Mia Camp, P**	**61.02**	**289**	P		**P**		**04 01 51.6**	**-0.2**
TXAR	**Lajitas Array**	**62.21**	**280**	P		**P**		**04 02 00.3**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=56,slow=4.9,SNR=6.2								
TXAR	**Lajitas Array**	**62.21**	**280**	P		**P**		**04 01 59.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**67.71**	**14**	*eP*		**P**		**04 02 35.7**	**+0.5**
YSS				*e*				04 02 56.3	
LZH	**Lanzhou**	**69.72**	**47**	*eP*		**P**		**04 02 45.2**	**-2.9**
LZH				pP		pP		04 02 49.4	-2.5
LZH				sP		sP		04 02 54.2	+0.9
LZH				pmax		pmax			
	comp=Z,19nm,1.0s								
KSRS	**Korea Array**	**74.72**	**28**	LR		LR		04 39 17.0	
	comp=Z,15nm,18.6s,baz=190,slow=38								
CMAR	**Chiang Mai Arr**	**84.23**	**59**	P		**P**		**04 04 09.5**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=313,slow=5.3,SNR=5.3								
CMAR	**Chiang Mai Arr**	**84.23**	**59**	P		**P**		**04 04 10.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**84.23**	**59**	P		**P**		**04 04 10.5**	**+0.8**

NEIC ***07*** *04:03:23.7±1.1, 40.15N±0.02×123.23W±0.03, h26km±7km, Error ellipse: s-maj=3.6km s-min=3.3km az=205.0*

NCEDC ***07*** *04:03:24.8±1.1, 40.16N±0.02×123.21W±0.03, h38km±7km, ML3.1/26, Error ellipse: s-maj=3.9km s-min=2.7km az=120.0*

ANF ***07*** *04:03:25.6±0.9, 40.19N×123.11W, h35km±11km, ML3.1/16, Error ellipse: s-maj=10.5km s-min=5.4km az=43.0*

ISC 07 04:03:23.8±1.4**, 40.14**N±0.02×**123.22W**±0.02**,**
h28km±15km**, n138,** σ**0.63**/146**, Northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res ISC
KPPM	**Pickett Peak**	**0.23**	**332**			**Pn**	**04 03 32.4**	**+0.8**
KBNM	**Bluenose Ridge**	**0.25**	**175**			**Pn**	**04 03 32.6**	**+0.8**
LBPM	**Beegum Peak**	**0.31**	**56**			**Pn**	**04 03 32.7**	**0.0**
O02D	**Mt. Diablo Mer**	**0.33**	**84**	P		**Pn**	**04 03 33.0**	**+0.1**
	baz=267,SNR=1000							
O02D				S		**Sn**	**04 03 39.3**	**+0.4**
	baz=267							
O02D	**Mt. Diablo Mer**	**0.33**	**84**			**Pn**	**04 03 33.0**	**+0.1**
KBSM	**Bell Springs**	**0.36**	**232**			**Pn**	**04 03 34.0**	**+0.6**
KMRM	**Mail Ridge**	**0.38**	**282**			**Pn**	**04 03 33.9**	**+0.3**
KIPM	**Iron Peak**	**0.39**	**211**			**Pn**	**04 03 34.1**	**+0.4**
KCSM	**Cold Springs**	**0.45**	**331**			**Pn**	**04 03 34.9**	**+0.3**
GROM	**Round Mountain**	**0.48**	**118**			**Pn**	**04 03 35.2**	**+0.3**
KHBM	**Hayfork Bally**	**0.52**	**0**			**Pn**	**04 03 35.3**	**-0.3**
KFPM	**Farley Peak**	**0.53**	**197**			**Pn**	**04 03 35.6**	**0.0**
KCPM	**Cahto Peak**	**0.53**	**212**			**Pn**	**04 03 35.8**	**+0.1**
KCRM	**Chalk Rock**	**0.54**	**302**			**Pn**	**04 03 35.8**	**+0.1**
GVV	**Valley View**	**0.56**	**131**			**Pn**	**04 03 36.4**	**+0.3**
KRKM	**Rackout Spring**	**0.58**	**177**			**Pn**	**04 03 36.5**	**+0.2**
GASB	**Alder Springs**	**0.62**	**141**			**Pn**	**04 03 37.6**	**+0.6**
WDC	**Whiskeytown Da**	**0.68**	**50**			**Pb**	**04 03 37.2**	**+0.1**
GHMM	**Hull Mountain**	**0.68**	**161**			**Pn**	**04 03 38.0**	**+0.2**
KSMM	**Slide Mountain**	**0.73**	**274**			**Pb**	**04 03 38.0**	**-0.1**
KMPM	**Mount Pierce**	**0.74**	**292**			**Pn**	**04 03 38.3**	**-0.2**
GTC	**Three Chop Rid**	**0.79**	**199**			**Pb**	**04 03 38.8**	**-0.1**
LGPM	**Granite Peak**	**0.82**	**21**			**Pb**	**04 03 39.3**	**-0.4**
KHMM	**Horse Mountain**	**0.83**	**332**			**Pn**	**04 03 39.7**	**-0.1**
LTCM	**Tuscan Springs**	**0.84**	**85**			**Pb**	**04 03 39.6**	**-0.3**
GCK	**Clark Valley**	**0.85**	**134**			**Pn**	**04 03 41.0**	**+1.1**
JCC	**Jacoby Creek,**	**0.91**	**318**			**Pn**	**04 03 40.2**	**-0.6**
KCTM	**Capetown**	**0.92**	**292**			**Pb**	**04 03 41.0**	**-0.1**
N02D	**Trinity Center**	**0.92**	**25**	P		**Pn**	**04 03 40.8**	**-0.1**
	baz=205,SNR=1000							
N02D				S		**Sn**	**04 03 53.2**	**-0.1**
	baz=205							
N02D	**Trinity Center**	**0.92**	**25**			**Pn**	**04 03 40.7**	**-0.3**
GWRM	**Wonder Ranch**	**0.94**	**184**			**Pn**	**04 03 41.0**	**-0.1**
GTSM	**Trough Springs**	**0.96**	**150**			**Pb**	**04 03 41.9**	**+0.1**
GNAM	**Navarro Ridge**	**1.00**	**199**			**Pn**	**04 03 41.6**	**-0.3**
LBKM	**Bonanza King**	**1.03**	**24**			**Pn**	**04 03 42.5**	**-0.1**
GFC	**Funks Creek**	**1.09**	**138**			**Pb**	**04 03 43.8**	**-0.2**
O03E	**Paynes Creek**	**1.10**	**82**	P		**Pn**	**04 03 42.8**	**-0.6**
	baz=263,SNR=564							
O03E				S		**Sn**	**04 03 57.0**	**-0.7**
	baz=263							
O03E	**Paynes Creek**	**1.10**	**82**			**Pn**	**04 03 42.8**	**-0.6**
GHLM	**Highland Sprin**	**1.11**	**172**			**Pn**	**04 03 43.3**	**-0.3**
GHOM	**Hamilton Openi**	**1.12**	**193**			**Pn**	**04 03 43.3**	**-0.4**
LDBM	**Digger Butte**	**1.14**	**75**			**Pn**	**04 03 43.2**	**-0.7**
GBMM	**Baldy Mountain**	**1.15**	**150**			**Pn**	**04 03 44.3**	**+0.2**
KOMM	**Orleans Mounta**	**1.15**	**351**			**Pn**	**04 03 43.8**	**-0.4**
HOPS	**Hopland Field**	**1.15**	**174**			**Pn**	**04 03 43.9**	**-0.2**
KRPM	**Rodgers**	**1.18**	**329**			**Pn**	**04 03 44.3**	**-0.3**
GSNM	**Snow Mountain**	**1.20**	**179**			**Pn**	**04 03 44.6**	**-0.2**
GRTM	**Round Top Moun**	**1.27**	**160**			**Pn**	**04 03 45.8**	**-0.1**
M02C	**Callahan**	**1.28**	**12**	P		**Pn**	**04 03 45.9**	**0.0**
	baz=192,SNR=1000							
M02C				S		**Sn**	**04 04 02.0**	**-0.2**
	baz=192							
M02C	**Callahan**	**1.28**	**12**			**Pn**	**04 03 45.9**	**0.0**
GACM	**Adobe Creek**	**1.30**	**168**			**Pn**	**04 03 45.8**	**-0.4**
GGUM	**Gualala**	**1.30**	**190**			**Pn**	**04 03 45.6**	**-0.6**
LCMM	**Colby Mountain**	**1.30**	**89**			**Pn**	**04 03 46.0**	**-0.3**
LMEM	**Manzanita Entr**	**1.32**	**72**			**Pn**	**04 03 46.2**	**-0.4**
OSUM	**Sutter Buttes**	**1.37**	**129**			**Pn**	**04 03 46.5**	**-0.5**
GDM	**Geysers**	**1.37**	**166**			**Pn**	**04 03 47.6**	**+0.4**
GDCM	**Dry Creek**	**1.37**	**181**			**Pn**	**04 03 46.9**	**-0.3**
GCVM	**Cloverdale**	**1.38**	**173**			**Pn**	**04 03 47.0**	**-0.2**
MNRC	**McLaughlin Min**	**1.40**	**154**			**Pn**	**04 03 47.5**	**0.0**
M03C	**McCloud**	**1.41**	**36**			**Pn**	**04 03 48.0**	**+0.4**
LCSM	**College of the**	**1.42**	**26**			**Pn**	**04 03 48.4**	**+0.5**
LGBM	**Gray Butte**	**1.43**	**33**			**Pn**	**04 03 48.5**	**+0.3**
SUTB	**Sutter Butte**	**1.43**	**129**			**Pn**	**04 03 46.9**	**-1.0**
GSSM	**Skaggs Springs**	**1.45**	**174**			**Pn**	**04 03 47.9**	**-0.3**
ORV	**Oroville**	**1.45**	**113**			**Pn**	**04 03 47.6**	**-0.6**
ORV	**Oroville**	**1.45**	**113**			**Pn**	**04 03 47.8**	**-0.4**
NMTM	**Middletown**	**1.46**	**156**			**Pn**	**04 03 48.2**	**-0.1**
KRMB	**Red Mountain**	**1.48**	**340**			**Pn**	**04 03 48.3**	**-0.3**
PAM	**Palermo**	**1.48**	**117**			**Pn**	**04 03 48.1**	**-0.5**
HATC	**Hat Creek Radi**	**1.50**	**63**			**Pn**	**04 03 49.4**	**+0.5**
GHCM	**House Creek**	**1.54**	**179**			**Pn**	**04 03 49.1**	**-0.3**
OHCM	**Honcut**	**1.56**	**120**			**Pn**	**04 03 49.0**	**-0.7**
LMPM	**Military Pass**	**1.57**	**31**			**Pb**	**04 03 51.3**	**-1.0**
NMCNC	**Mill Creek, So**	**1.57**	**171**			**Pn**	**04 03 49.5**	**-0.2**
LBFM	**Black Fox Moun**	**1.57**	**40**			**Pn**	**04 03 50.8**	**+0.7**
FTR	**Fort Ross**	**1.62**	**178**			**Pn**	**04 03 50.4**	**-0.2**
YBH	**Yreka Blue Hor**	**1.63**	**14**			**Pn**	**04 03 51.2**	**+0.4**
MAC	**Mark West Spri**	**1.64**	**166**			**Pn**	**04 03 50.6**	**-0.1**
LHEM	**Herd Peak**	**1.67**	**27**			**Pn**	**04 03 52.4**	**+1.0**
LTIM	**Timbered Crate**	**1.67**	**51**			**Pn**	**04 03 51.7**	**+0.3**
NSHM	**Saint Helena R**	**1.69**	**163**			**Pn**	**04 03 51.4**	**-0.1**
KSXB	**Camp Six Broad**	**1.76**	**344**			**Pn**	**04 03 52.2**	**-0.4**
KTRM	**Thompson Ridge**	**1.77**	**356**			**Pn**	**04 03 53.0**	**+0.3**
B040	**Montague**	**1.79**	**19**			**Pn**	**04 03 53.7**	**+0.7**
LGMM	**Garner Mountai**	**1.79**	**35**			**Pn**	**04 03 53.9**	**+0.8**
LMHM	**Little Mount H**	**1.86**	**39**			**Pn**	**04 03 54.4**	**+0.4**
LASM	**Arnica Sink**	**1.92**	**40**			**Pn**	**04 03 55.0**	**+0.1**
M04C	**Macdoel**	**1.94**	**32**	P		**Pn**	**04 03 55.7**	**+0.5**
	baz=213,SNR=53							
M04C	**Macdoel**	**1.94**	**32**			**Pn**	**04 03 55.7**	**+0.5**
MCCM	**Marconi Confer**	**2.01**	**172**			**Pn**	**04 04 03.6**	**+0.4**
L02E	**Cave Junction**	**2.03**	**352**	P		**Pn**	**04 03 56.4**	**+0.2**
	baz=171,

GUAB Guayabo de Bag 0.94 150 *i* P Pn 04 29 24.2 +0.3
GUAB *i* S Sn 04 29 46.0 +0.2
HORNC Hornillas 0.96 148 *i* P Pn 04 29 24.2 +0.1
COLC Colonia 0.99 150 *i* P Pn 04 29 24.5 +0.3
CUI Cuipilapa 1.02 149 *i* P Pn 04 29 24.9 +0.5
PTEN Parque Tenorio 1.07 139 *i* P Pn 04 29 25.5 +0.6
ACAL Aguas Claras 1.11 144 *i* P Pn 04 29 25.6 +0.5
ORTG Ortega, Santa 1.19 168 *eP* Pn 04 29 25.4 -0.3
PLVR Palo Verde 1.23 164 *eP* Pn 04 29 25.9 -0.3
GUAI GUAI 1.27 171 *i* P Pn 04 29 26.2 0.0
GUAI *i* S Sn 04 29 48.0 -2.1
CNGN Cerro Negro 1.37 315 *eP* Pn 04 29 26.8 -0.4
MATN Matagalpa 1.41 351 *eP* Pn 04 29 28.3 +0.7
MATN Matagalpa 1.41 351 Pn 04 29 28.3 +0.7
MATN Sn 04 29 51.6 -0.9
CEDE Laguna Cedeo 1.43 136 *eP* Pn 04 29 28.6 +0.9
JTS Las Juntas de 1.44 149 P Pn 04 29 28.1 +0.3
3µm,0.3s,baz=23,slow=13
JTS S Sn 04 29 50.7 -2.1
4µm,0.3s,baz=211,slow=21,SNR=17
JTS LR LR 04 30 06.1
comp=Z,2µm,18.2s,baz=63,slow=49
JTS Las Juntas de 1.44 149 *eP* Pn 04 29 27.8 +0.1
JTS Las Juntas de 1.44 149 Pn 04 29 27.8 +0.1
JTS Sn 04 29 50.5 -2.2
CASO Castillo 1.45 139 *iP* Pn 04 29 28.7 +0.8
DUNO Dulce Nombre, 1.46 172 *eP* Pn 04 29 27.8 -0.2
FORC Fortuna 1.47 136 *iP* Pn 04 29 29.0 +1.0
COVE Coope Vega, Sa 1.51 122 *eP* Pn 04 29 29.0 +0.6
ESPN Las Esperanzas 1.52 64 *eP* Pn 04 29 29.9 +1.4
ESPN Las Esperanzas 1.52 64 Pn 04 29 29.8 +1.3
ESPN Sn 04 29 55.6 +1.6
CRIN San Cristobal 1.76 312 *eP* Pn 04 29 30.4 -0.4
CRIN San Cristobal 1.76 312 Pn 04 29 30.6 -0.3
SRA1 San Ramn 1.87 140 *eP* Pn 04 29 32.5 +0.4
LAFE Finca La Fe, P 1.88 155 *eP* Pn 04 29 32.0 0.0
JACO JACO, Garabito 2.12 151 *eP* Pn 04 29 35.0 +0.4
HDC Heredia 2.18 134 *eP* Pn 04 29 36.0 +0.6
HDC Heredia 2.18 134 Pn 04 29 36.3 +0.9
HDC Sn 04 30 06.4 +0.1
HDC3 Heredia 3 2.18 134 *eP* Pn 04 29 36.1 +0.7
SJS Escuela Geolog 2.26 134 *eP* Pn 04 29 37.8 +1.5
CVTR Volcan Turrial 2.43 128 *eP* Pn 04 29 39.2 +0.8
LCR2 La Lucha 2 2.44 137 *eP* Pn 04 29 38.9 +0.5
RIMA Rio Macho 2.52 134 *eP* Pn 04 29 39.8 +0.6
CNCH Conchagua 2.71 310⇑ *iP* Pn 04 29 41.1 -0.2
CNCH *eS* Sn 04 30 15.9 -1.1
CNCH Conchagua 2.71 310⇑ *iP* Pn 04 29 41.1 -0.2
CNCH *eS* Sn 04 30 15.9 -1.1
CDM Cerro de Muert 2.74 136 *eP* Pn 04 29 43.0 +1.0
LCND La Caada 2.77 310⇑ *iP* Pn 04 29 41.7 -0.2
LCND IAML 04 30 23.1
comp=Z,6µm,0.2s
LCND La Caada 2.77 310⇑ *iP* Pn 04 29 41.7 -0.2
LCND IAML 04 30 23.1
comp=Z,6µm,0.2s
EDDO Dominical 2.90 141 *eP* Pn 04 29 44.5 +1.1
EDDO *eS* Sn 04 30 28.7 -0.8
PEZE Perez Zeledon, 2.92 137 *eP* Pn 04 29 44.8 +1.0
TGUH Tegucigalpa,Un 2.94 329 ||*iP* Pn 04 29 45.6 +1.5
TGUH Tegucigalpa,Un 2.94 329 ||*iP* Pn 04 29 45.6 +1.5
TGUH Tegucigalpa,Un 2.94 329 Pn Pn 04 29 44.9 +0.8
TGUH Sn Sn 04 30 22.6 +0.6
JUCU Jucuarn 3.02 305 *eP* Pn 04 29 44.7 -0.3
JUCU IAML 04 30 26.5
comp=Z,8µm,0.5s
JUCU Jucuarn 3.02 305 *eP* Pn 04 29 44.7 -0.3
JUCU IAML 04 30 26.5
comp=Z,8µm,0.5s
EDLM Las Mercedes 3.06 137 *eP* Pn 04 29 46.9 +1.5
EDLM *eS* Sn 04 30 23.7 -0.6
BLLM Bellamira 3.12 308 *eP* Pn 04 29 46.6 +0.5
BLLM Bellamira 3.12 308 *eP* Pn 04 29 46.6 +0.5
LCY Lacayo 3.15 307 *eP* Pn 04 29 46.9 +0.3
LCY Lacayo 3.15 307 *eP* Pn 04 29 46.9 +0.3
FAGO Alcalda de S 3.18 313 *eP* Pn 04 29 47.0 +0.2
FAGO Alcalda de S 3.18 313 *eP* Pn 04 29 47.0 +0.2
ALJI Alcalda de J 3.32 303 *eP* Pn 04 29 48.8 +0.2
ALJI IAML 04 30 30.1
comp=Z,3µm,0.2s
ALJI Alcalda de J 3.32 303 *eP* Pn 04 29 48.8 +0.2
ALJI IAML 04 30 30.1
comp=Z,3µm,0.2s
EDBA Buenos Aires 3.35 134 *eP* Pn 04 29 50.2 +1.2
EDPN Palmar Norte 3.38 139 *eP* Pn 04 29 51.0 +1.8
EDPN *eS* Sn 04 30 32.3 +1.0
COEB Comit de Eme 3.38 306 *eP* Pn 04 29 49.7 +0.3
COEB IAML 04 30 37.0
comp=Z,3µm,0.3s
COEB Comit de Eme 3.38 306 *eP* Pn 04 29 49.7 +0.3
COEB IAML 04 30 37.0
comp=Z,3µm,0.3s
RIOS Rincon, Osa 3.54 142 *eP* Pn 04 29 52.3 +1.0
COEG Centro de Oper 3.73 304 *eP* Pn 04 29 54.1 +0.4
COEG IAML 04 30 43.2
comp=Z,3µm,0.2s
COEG Centro de Oper 3.73 304 *eP* Pn 04 29 54.1 +0.4
COEG IAML 04 30 43.2
comp=Z,3µm,0.2s
PTJ1 Puerto Jimnez 3.80 141 *eP* Pn 04 29 56.4 +1.9
EDSV San Vito 3.81 135 *eP* Pn 04 29 56.5 +1.8
EDSV *eS* Sn 04 30 41.7 +0.7
PAVA Las Pavas 3.83 305 *eP* Pn 04 29 55.2 +0.2
PAVA Las Pavas 3.83 305 *eP* Pn 04 29 55.2 +0.2
LFRS El Faro 3.88 303 *eP* Pn 04 29 56.3 +0.7
LFRS El Faro 3.88 303 *eP* Pn 04 29 56.3 +0.7
BRU2 Volcan 4.02 132⇑ *iP* Pn 04 29 58.8 +1.3
BRU2 *eS* Sn 04 30 44.2 -1.7
BRU2 Volcan 4.02 132 *eP* Pn 04 29 58.6 +1.2
SNET Serv Nac Est T 4.06 302 *eP* Pn 04 29 58.5 +0.8
SNET IAML 04 30 52.8
comp=Z,2µm,0.3s
SNET Serv Nac Est T 4.06 302 *eP* Pn 04 29 58.5 +0.8
SNET IAML 04 30 52.8
comp=Z,2µm,0.3s
SNET Serv Nac Est T 4.06 302 Pn 04 29 58.4 +0.7
BC3P Paso Ancho 4.07 131 ||*iP* Pn 04 29 59.9 +1.8
BC3P *eS* Sn 04 30 45.7 -1.3
UEES Universidad Ev 4.08 303 *eP* Pn 04 29 59.0 +0.9
UEES Universidad Ev 4.08 303 *eP* Pn 04 29 59.0 +0.9
BCO2 Palmira 4.19 132 *eP* Pn 04 30 01.8 +2.1
BCO2 *eS* Sn 04 30 48.0 -1.8
PTAR3 Potrerillos Ar 4.23 131 ||*iP* Pn 04 30 01.9 +1.8
PTAR3 *eS* Sn 04 30 42.4 -8.2
TACO Tacachico 4.31 305 *eP* Pn 04 30 01.2 +0.3
TACO Tacachico 4.31 305 *eP* Pn 04 30 01.2 +0.3
CHGR2 Aguacate 4.35 126 *eP* Pn 04 30 52.1 +1.1
CHGR2 *eS* Sn 04 30 52.9 -0.3
BAGA3 Bagala, Chiriq 4.37 134 *eP* Pn 04 30 03.4 +1.4
PSOM3 Paja de Sombre 4.37 130|| *eP* Pn 04 30 03.7 +2.0
PSOM3 *eS* Sn 04 30 51.6 -2.0
SBLS San Blas 4.46 301 *eP* Pn 04 30 04.2 +1.1
SBLS San Blas 4.46 301 *eP* Pn 04 30 04.2 +1.1
RTR El Retiro 4.51 302 *eP* Pn 04 30 05.1 +1.5
RTR El Retiro 4.51 302 *eP* Pn 04 30 05.1 +1.5
MTO3 Montecristo 4.56 309⇑ *iP* Pn 04 30 05.4 +1.0
MTO3 Montecristo 4.56 309⇑ *iP* Pn 04 30 05.4 +1.0
ESQI Esquipulas 4.65 311 Pn 04 30 06.4 +1.1
MRL Marmol 5.24 313 *eS* Pn 04 30 15.0 +1.9
IXG Ixpaco 5.31 300 *eS* Pn 04 30 15.4 +1.5
NBG Las Nubes 5.45 304 *eS* Pn 04 30 18.3 +2.5
PCG Pacaya 5.56 301 *eS* Pn 04 30 19.7 +2.4
APG El Apazote 5.78 307 P Pn 04 30 21.7 +1.7
comp=Z,2.9nm,0.3s,baz=166,slow=22,SNR=32
APG S Sn 04 31 28.4 +1.8
comp=Z,4.4nm,0.3s,baz=28,slow=18,SNR=5.8
FUG Fuego 3 5.79 301 *eS* Pn 04 30 22.6 +2.5
BCIP Isla Barro Col 6.23 112 *eP* Pn 04 30 26.5 +0.8
RTAL Retalhuleu 6.55 298 Pn 04 30 31.1 +1.1
HUEH Huehuetenango 6.78 304 Pn 04 30 33.8 +0.7
CCIG Comitan 7.83 308 Pn 04 30 47.4 +0.6
CAPC Capurgana 8.71 109 *eP* Pn 04 30 53.2 -5.0
TEIG Tepich 8.99 344 P Pn 04 31 04.8 +3.0
comp=Z,1.6nm,0.3s,baz=210,slow=10,SNR=8.0
TEIG Tepich 8.99 344 Pn Pn 04 31 02.8 +0.9
CBCY The Bluff, Cay 9.97 34 Pn Pn 04 31 15.7 +1.2
MOTC Monteria, Cord 10.25 105 *eP* Pn 04 31 18.8 +0.5
DBBC Dabeiba 10.39 115 *eP* Pn 04 31 21.5 +1.3
SJCC San Jacinto, C 10.47 98 *eP* Pn 04 31 21.5 +0.3
CBOC Ciudad Bolivar 11.11 120 *eP* Pn 04 31 32.8 +3.2
PLMC San Jos del P 11.41 124 *eP* Pn 04 31 35.2 +1.8

ZARC Zaragoza, Cauc 11.42 110 *eP* Pn 04 31 33.8 +0.3
SMLC San Martn de 11.77 102 *eP* P 04 31 45.2 +1.8
YOTC Yotoco, Valle 11.92 128 *eP* Pn 04 31 39.2 -0.8
GUY2C Guyana, Caldas 11.99 121 *eP* P 04 31 44.6 -1.8
PTBC PUERTO BERRIO, 12.16 113 *eP* Pn 04 31 45.4 +2.4
RREF El Recreo 12.18 122 *eP* Pn 04 31 42.2 -1.6
ANIL Santa Ana 12.36 124 *eP* P 04 31 54.3 +4.0
TOLC Tolima 12.38 123 *eP* P 04 31 51.1 +0.6
OCAC Ocana 12.63 104 *eP* Pn 04 31 49.9 +0.9
BBAC Balboa, Cauca 12.63 138 *eP* P 04 31 51.5 -1.7
POPC Popayan, Colom 12.64 134 *eP* P 04 31 52.0 -1.5
ORTC Ortega, Tolima 12.83 125 *eP* P 04 31 55.1 -0.1
SPBC San Pablo de B 12.89 116 *eP* P 04 31 55.0 -1.1
PAYG Puerto Ayora 12.95 201 P 04 31 57.1 +0.5
MARP Paez Belalcaza 12.96 131 *eP* P 04 31 59.9 +3.0
SOTA Rioblanco 12.98 135 *eP* P 04 32 01.8 +4.4
PCON Cinco Dias 12.99 134 *eP* P 04 31 59.0 +1.4
ROSC El Rosal 13.08 120 P P 04 32 03.3 +5.0
comp=Z,2.4nm,0.3s,baz=43,slow=1.8,SNR=34
ROSC El Rosal 13.08 120 *eP* P 04 32 02.6 +4.2
ROSC El Rosal 13.08 120 P 04 31 58.4 +0.1
CMBC Cumbal 13.11 143 *eP* P 04 32 01.7 +3.0
GCUF Volcan Galeras 13.18 140 *eP* P 04 32 02.2 +2.6
PRAC Prado 13.23 125 *eP* P 04 31 59.7 -0.1
BARC Barichara 13.30 111 *eP* P 04 32 00.2 -0.5
CUSE Cuicocha Este 13.30 146 *eP* P 04 32 03.4 +2.5
OTAV Otavalo 13.33 147 *eP* P 04 32 01.3 0.0
OTAV Otavalo 13.33 147 Pn Pn 04 31 58.2 +0.1
OTAV Otavalo 13.33 147 *eP* P 04 32 04.5 +3.2
URIC Uribia, Colomb 13.43 88 *eP* Pn 04 31 49.3 -10
PAMC Pamplona, Colo 13.48 107 *eP* P 04 32 03.5 +0.5
RUSC La Rusia 13.67 113 *eP* P 04 32 04.5 -0.6
CHIC Chingaza 13.69 119 *eP* P 04 32 07.1 +2.0
GARC Garzon, Huila 13.74 132 *eP* P 04 32 07.3 +1.7
TLIG Tlapa 13.82 297 Pn Pn 04 32 04.3 +0.5
VILC Villavicencio, 13.99 121 *eP* P 04 32 08.6 +0.3
FLOC Florencia 14.04 134 *eP* P 04 32 09.9 +1.2
PUAC Puerto Asis, P 14.19 140 *eP* P 04 32 12.1 +1.8
TAMC Tame, Arauca 14.64 109 *eP* P 04 32 17.6 +2.2
MACC Macarena, Meta 15.01 128 *eP* P 04 32 21.7 +2.3
SDV Santo Domingo 15.06 99 P P 04 32 21.5 +1.3
comp=Z,2.7nm,0.3s,baz=273,slow=6.6,SNR=44
SDV Santo Domingo 15.06 99 *eP* P 04 32 20.8 +0.6
SDV Santo Domingo 15.06 99 P 04 32 19.9 -0.3
SDV IAmb IAmb 04 32 39.3
comp=Z,53nm,0.8s
SDV Santo Domingo 15.06 99 *eP* P 04 32 21.9 +1.7
PTGC Puerto Gaitan, 15.28 117 *eP* P 04 32 23.3 +0.8
PTLC Puerto Leguiza 15.64 135 *eP* P 04 32 30.4 +3.9
060A Indiantown 16.22 17 Pn 04 32 33.7 +0.6
060A IAmb IAmb 04 32 37.3
comp=Z,153nm,0.7s
SC01 Santiago de lo 16.42 60 IAmb IAmb 04 32 48.8
comp=Z,80nm,1.0s
DR12 Loma Pena Alta 17.32 63 P P 04 32 45.6 +0.7
BAUV El Baul 17.57 97 *e* Pn 04 32 48.6 -0.7
553A Crawfordville 18.60 3 P P 04 32 59.7 +1.0
451A Vernon 18.99 360 P P 04 33 00.9 +1.0
CRPR Cabo Rojo, PR 19.09 68 P P 04 33 05.0 +0.9
CRPR IAmb IAmb 04 33 07.2
comp=Z,63nm,0.8s
MLPR Magueyes Islan 19.14 68 P 04 33 05.5 +0.9
MLPR IAmb IAmb 04 33 08.2
comp=Z,68nm,0.7s
AOPR Arecibo Observ 19.51 67 IAmb IAmb 04 33 14.2
comp=Z,84nm,0.8s
OBIP Obispado Ponce 19.56 68 IAmb IAmb 04 33 14.6
comp=Z,79nm,1.0s
BRAL Bryton 19.58 357 P Pn 04 33 12.1 -0.7
baz=176,SNR=12
ZAIG Zacatecas 19.59 307 P P 04 33 10.1 +0.4
ZAIG IAmb IAmb 04 33 17.4
comp=Z,54nm,1.1s
352A Blakely 19.86 2 P P 04 33 13.3 +1.0
TIGA Tifton 19.91 5 P Pn 04 33 15.1 -1.7
baz=186,SNR=20
ATAH Atahualpa 19.92 158 P Pn 04 33 19.2 +1.7
comp=Z,0.9nm,0.3s,baz=337,slow=5.6,SNR=11
ATAH PcP PcP 04 37 24.9 +2.5
comp=Z,1.1nm,0.3s,baz=352,slow=1.5,SNR=5.3
346A Big Creek Wild 20.07 351 IAmb IAmb 04 33 19.9
comp=Z,99nm,0.8s
PDPR Patillas Dam, 20.08 69 P P 04 33 15.6 +0.9
PDPR IAmb IAmb 04 33 20.7
comp=Z,41nm,0.7s
GCPR Guaynabo City 20.11 68 IAmb IAmb 04 33 20.1
comp=Z,64nm,0.7s
HUMP Col San Antoni 20.28 69 P P 04 33 17.6 +0.8
HUMP IAmb IAmb 04 33 22.5
comp=Z,66nm,1.0s
CBYP Canovanas 20.31 68 IAmb IAmb 04 33 21.3
comp=Z,111nm,1.1s
250A Grady 20.36 359 IAmb IAmb 04 33 23.7
comp=Z,93nm,1.0s
MTP Monte Pirata 20.54 69 P P 04 33 20.4 +0.8
MTP IAmb IAmb 04 33 24.1
comp=Z,133nm,1.1s
HKT Hockley 20.61 334 P P 04 33 21.1 +1.0
342A Flagon Creek P 20.68 344 IAmb IAmb 04 33 25.4
comp=Z,135nm,0.8s
833A Chaparral WMA, 21.05 324 P P 04 33 25.1 +0.1
baz=140,SNR=33
833A Chaparral WMA, 21.05 324 IAmb IAmb 04 33 28.1
comp=Z,91nm,0.8s
VBMS Vicksburg 21.06 349 P P 04 33 26.6 +1.6
baz=167,SNR=21
CDVI St. Croix 21.17 71 IAmb IAmb 04 33 29.3
comp=Z,115nm,0.8s
LRAL Lakeview Retre 21.44 357 P P 04 33 31.2 +2.2
baz=177,SNR=142
157A Early Branch 21.49 11 P P 04 33 31.9 +2.4
baz=193,SNR=37
Z47A Carrollton 21.68 355 IAmb IAmb 04 33 34.7
comp=Z,124nm,0.8s
Z51A Franklin 21.69 1 IAmb IAmb 04 33 35.4
comp=Z,182nm,1.1s
158A Hollywood 21.70 13 P P 04 33 33.9 +2.2
baz=195,SNR=9.1
NATX Nacogdoches 21.76 339 P P 04 33 32.6 +0.3
baz=156,SNR=15
NATX Nacogdoches 21.76 339 P P 04 33 33.1 +0.8
NATX IAmb IAmb 04 33 35.2
comp=Z,71nm,0.8s
GOGA Godfrey 21.88 5 P P 04 33 35.1 +1.7
baz=186,SNR=61
GOGA Godfrey 21.88 5 P P 04 33 34.4 +1.0
GOGA IAmb IAmb 04 33 36.3
comp=Z,62nm,0.6s
Z56A Williston 22.05 10 P P 04 33 36.8 +1.6
baz=191,SNR=24
NHSC New Hope 22.07 12 P P 04 33 37.4 +2.1
baz=194,SNR=22
NHSC New Hope 22.07 12 P P 04 33 36.3 +1.0
ORIV Oritupano 22.07 94 *e* P 04 33 37.4 +1.8
435B Jarrell 22.10 332 P P 04 33 36.1 +0.4
baz=148,SNR=46
Z57A Bowman 22.14 11 P P 04 33 38.0 +2.0
baz=193,SNR=28
Y49A Blount Mountai 22.23 358 IAmb IAmb 04 33 40.1
comp=Z,74nm,0.6s
Z58A St. Stephen 22.36 13 P P 04 33 40.5 +2.4
baz=195,SNR=26
Z59A Georgetown, SC 22.40 14 P P 04 33 40.8 +2.4
baz=197,SNR=7.9
237A Washetta, Mont 22.40 337 IAmb IAmb 04 33 41.5
comp=Z,61nm,0.6s
Y56A Pelion 22.52 10 P P 04 33 41.8 +2.2
baz=191,SNR=11
Z41A Richland Creek 22.59 344 P P 04 33 40.8 +0.7
baz=162,SNR=13
Z41A Richland Creek 22.59 344 IAmb IAmb 04 33 42.9
comp=Z,78nm,0.9s
X48A Hartselle 22.85 357 IAmb IAmb 04 33 45.4
comp=Z,74nm,0.7s
Y57A Sumter 22.90 11 P P 04 33 44.8 +1.9
baz=193,SNR=19
Y57A Sumter 22.90 11 IAmb IAmb 04 33 46.1
comp=Z,124nm,0.8s
FPAL Fort Paine 22.91 0 IAmb IAmb 04 33 46.1
comp=Z,102nm,0.8s
JCT Junction City 22.95 327 P P 04 33 43.8 +0.3
baz=142,SNR=31
JCT Junction City 22.95 327 P P 04 33 43.9 +0.3
JCT IAmb IAmb 04 33 45.6
comp=Z,48nm,0.6s

SKOC St. Kitts, UWI 22.96 73 *e* P 04 33 45.2 +1.5
SKI Saint Kitts 22.96 73 *e* P 04 33 45.4 +1.6
WHTX Lake Whitney, 23.07 334 P P 04 33 44.6 +0.1
baz=150,SNR=42
CZSB Cruzeiro do Su 23.09 145 *eP* P 04 33 47.8 +2.9
X54A Belton 23.11 7 P P 04 33 47.1 +2.2
baz=188,SNR=61
X55A Gracelyn & Ava 23.14 9 P P 04 33 47.5 +2.4
baz=190,SNR=129
Y59A Loris 23.21 15 P P 04 33 48.0 +2.2
baz=197,SNR=30
X56A White Oak 23.25 10 P P 04 33 48.4 +2.3
baz=192,SNR=98
X43A Marvell 23.36 349 P P 04 33 47.8 +0.6
baz=167,SNR=11
X43A Marvell 23.36 349 IAmb IAmb 04 33 50.6
comp=Z,94nm,0.9s
MLYT Lee's Yard 23.37 75 *e* P 04 33 48.8 +1.4
Y60A Bolivia 23.39 16 P P 04 33 49.1 +1.7
baz=199,SNR=7.4
X57A Johnson Farm, 23.39 12 P P 04 33 49.5 +2.1
baz=194,SNR=35
PLAL Pickwick Lake 23.45 355 IAmb IAmb 04 33 51.3
comp=Z,60nm,0.9s
BIRD Birdtown, Kers 23.50 11 IAmb IAmb 04 33 51.4
comp=Z,114nm,0.8s
GRGR Grenville 23.55 86 *e* P 04 33 52.3 +3.2
GRGR Grenville 23.55 86 P P 04 33 49.7 +0.7
GRHS Sauteurs 23.56 86 *e* P 04 33 53.1 +4.0
GRSS Sisters 23.58 86 *e* P 04 33 54.7 +5.3
X58A Rowland 23.64 13 P P 04 33 51.9 +2.2
baz=196,SNR=40
W54A Cherokee Point 23.67 7 P P 04 33 52.7 +2.7
baz=189,SNR=225
TBG Guadaloupe-3 23.76 77 *e* P 04 33 46.5 -4.5
X40A Basin Creek Fa 23.76 345 P P 04 33 50.9 +0.1
baz=163,SNR=21
X40A Basin Creek Fa 23.76 345 IAmb IAmb 04 33 53.0
comp=Z,35nm,0.9s
GCMP Grenada, Carri 23.76 85 *e* P 04 33 53.1 +2.1
TDBA Torre de Bas, 23.77 77 *e* P 04 33 46.1 -4.9
CBE Ff, Capester 23.82 76 *e* P 04 33 53.3 +1.7
ANBD Bethesda, Anti 23.83 74 *e* P 04 33 51.8 +0.2
X59A McDuffie Farm, 23.83 15 P P 04 33 53.4 +2.0
baz=197,SNR=31
CPCT Cooper Cave 23.84 2 IAmb IAmb 04 33 56.5
comp=Z,125nm,0.9s
KMSC Kings Mountain 23.84 9 P P 04 33 53.7 +2.3
baz=191,SNR=130
TRN Trinidad (W) 23.86 90 *e* P 04 33 51.5 -0.5
UALR University of 23.92 346 IAmb IAmb 04 33 53.8
comp=Z,111nm,0.9s
ANWB Willy Bob 23.92 72 *e* P 04 33 51.4 -1.1
DSLB Salisbury 23.92 78 *e* P 04 33 54.5 +1.9
MDN Morne-Daniel 23.94 78 *e* P 04 33 52.9 +0.3
SVB Belmont 23.94 83 *e* P 04 33 54.9 +2.2
SVB Belmont 23.94 83 P P 04 33 53.3 +0.7
W56A Indian Trail 23.95 10 P P 04 33 54.4 +1.8
baz=192,SNR=61
SVV Soufriere Volc 23.98 83 *e* P 04 33 56.5 +3.4
ABD La Joyeuse, An 23.99 75 *e* P 04 33 52.9 -0.2
X60A Albert Glenn T 24.00 16 P P 04 33 54.8 +1.8
baz=199,SNR=11
MIAR Mount Ida 24.01 344 P P 04 33 53.4 +0.3
baz=191,SNR=121
SVCV St. Vincent, C 24.05 83 *e* P 04 33 55.6 +1.9
DLPL La Plaine 24.08 78 *e* P 04 33 53.2 -0.8
W57A Gilead 24.08 12 P P 04 33 55.5 +1.8
baz=194,SNR=58
W57A Gilead 24.08 12 IAmb IAmb 04 33 56.5
comp=Z,87nm,0.8s
TKL Tuckaleechee C 24.08 4 P P 04 33 55.7 +2.0
comp=Z,106nm,0.7s,baz=176,slow=10.0,SNR=101
W58A Raeford 24.11 13 P P 04 33 55.8 +1.9
baz=196,SNR=40
FDF Fort de France 24.12 80 *e* P 04 33 55.9 +1.6
FDF Fort de France 24.12 80 IAmb IAmb 04 33 58.0
comp=Z,56nm,0.7s
MAGL Barre de l'ile 24.12 77 *e* P 04 33 57.6 +3.4
Z35A Perchaven, San 24.14 336 IAmb IAmb 04 33 58.2
comp=Z,78nm,0.8s
SLDE Delcer 24.15 82 *e* P 04 33 57.4 +2.9
SLB Belfond 24.17 82 *e* P 04 33 57.6 +2.8
BIM Bigot 24.18 80 *e* P 04 33 56.4 +1.5
MCLT Moule a Chique 24.26 82 *e* P 04 33 56.4 +0.8
W41B Gary Mavity, V 24.28 347 P P 04 33 55.9 +0.4
baz=189,SNR=54
W41B Gary Mavity, V 24.28 347 IAmb IAmb 04 33 57.1
comp=Z,80nm,0.9s
V52A Sevierville 24.28 4 IAmb IAmb 04 33 58.4
comp=Z,78nm,0.8s
SLPA Patience 24.29 82 *e* P 04 33 59.3 +3.5
SLAC Saint Lucia, A 24.31 82 *e* P 04 33 58.7 +2.7
TXAR Lajitas Array 24.37 319 P P 04 33 57.8 +1.2
comp=Z,42nm,0.5s,baz=151,slow=8.6,SNR=150
TXAR PcP PcP 04 37 31.9 +1.1
comp=Z,6.0nm,0.7s,baz=144,slow=4.7,SNR=12
TXAR ScP ScP 04 40 54.6 +2.9
comp=Z,1.7nm,0.9s,baz=126,slow=6.4,SNR=7.9
TXAR SKKS SKKSdf 05 07 07.4 +2.0
comp=Z,0.9nm,0.8s,baz=270,slow=2.7,SNR=11
TXAR Lajitas Array 24.37 319 P P 04 33 57.1 +0.5
TXAR PcP 04 37 30.2 -0.6
TX31 Lajitas Ar. Si 24.38 319 P P 04 33 57.2 +0.6
TX32 Lajitas Array 24.38 319 P P 04 33 57.1 +0.6
TX32 IAmb IAmb 04 34 00.7
comp=Z,79nm,0.9s
MPOM Morne Pois Mar 24.38 80 *e* P 04 33 58.4 +1.8
V54A Nebo 24.38 7 P P 04 33 58.7 +2.3
baz=189,SNR=116
ILAM Ilet Lapin Mar 24.39 80 *e* P 04 33 58.0 +1.3
WHAR Wooly Hollow 24.40 347 IAmb IAmb 04 33 58.1
comp=Z,98nm,0.8s
W59A Clinton 24.44 14 P P 04 33 58.6 +1.7
baz=197,SNR=6.1
W60A Pink Hill 24.52 16 P P 04 33 59.5 +1.9
baz=199,SNR=13
V55A Taylorsville 24.55 9 P P 04 34 00.2 +2.2
baz=191,SNR=57
V55A Taylorsville 24.55 9 IAmb IAmb 04 34 01.3
comp=Z,122nm,1.0s
WVT Waverly 24.57 356 P P 04 33 58.7 +0.7
baz=175
WVT Waverly 24.57 356 P P 04 33 58.8 +0.7
WVT IAmb IAmb 04 33 59.7
comp=Z,68nm,0.7s
X37A Clayton 24.59 341 IAmb IAmb 04 34 01.9
comp=Z,58nm,0.7s
ABTX Abilene, Hawle 24.60 331 P P 04 33 58.3 -0.2
baz=146,SNR=15
ABTX Abilene, Hawle 24.60 331 IAmb IAmb 04 34 02.4
comp=Z,32nm,0.6s
V56A Mocksville 24.63 10 P P 04 34 00.8 +2.1
baz=192,SNR=33
CNNC Cliffs of the 24.65 15 P P 04 34 00.5 +1.7
baz=198,SNR=9.1
TOSP Speyside 24.67 88 *e* P 04 33 58.8 -0.5
TOSP Speyside 24.67 88 P P 04 33 58.9 -0.3
TOSP IAmb IAmb 04 34 01.6
comp=Z,58nm,0.8s
W39A Magazine 24.68 344 P P 04 33 59.8 +0.7
baz=161,SNR=42
W39A Magazine 24.68 344 IAmb IAmb 04 34 01.1
comp=Z,68nm,0.8s
V57A Coltrane Farms 24.84 12 P P 04 34 02.4 +1.9
baz=194,SNR=76
V58A Windy Hill, Pi 24.88 13 P P 04 34 02.9 +2.0
baz=196,SNR=93
LCAR Lake Charles 24.92 349 IAmb IAmb 04 34 02.6
comp=Z,92nm,0.7s
NNA Nana 24.97 159 PcP PcP 04 37 32.8 +0.6
comp=Z,10nm,0.7s,baz=317,slow=6.4,SNR=5.0
TZTN Tazewell 24.98 4 P P 04 34 03.5 +1.7
baz=185,SNR=36
TZTN Tazewell 24.98 4 IAmb IAmb 04 34 07.9
comp=Z,97nm,0.8s
V59A Middlesex 25.06 14 P P 04 34 04.5 +2.0
baz=197,SNR=57
U54A Nelsons Funny 25.13 7 P P 04 34 05.3 +2.1
baz=189,SNR=48
U56A King 25.17 10 P P 04 34 06.0 +2.4
baz=192,SNR=20
U55A TA2, Sparta 25.22 9 P P 04 34 06.2 +2.1
baz=191,SNR=48
V60A Jim Taylor Roa 25.31 16 P P 04 34 06.9 +2.1
baz=200,SNR=32

T50A Nancy 25.39 2 IAmb IAmb 04 34 07.4
comp=Z,58nm,0.7s
U57A Blanch 25.45 12 P P 04 34 08.1 +2.0
baz=195,SNR=66
PBMO Poplar Bluff 25.50 351 IAmb IAmb 04 34 08.0
comp=Z,87nm,1.1s
T53A Wise 25.50 6 P P 04 34 08.4 +1.8
baz=187,SNR=32
BCHC Barbados, Cave 25.52 84 e P 04 34 11.3 +4.4
V61A Roper 25.53 17 P P 04 34 08.8 +2.1
baz=201
V61A Roper 25.53 17 IAmb IAmb 04 34 09.9
comp=Z,106nm,1.0s
U40A Yellville 25.55 347 P P 04 34 07.2 +0.2
baz=164,SNR=49
U40A Yellville 25.55 347 IAmb IAmb 04 34 09.1
comp=Z,67nm,0.9s
U58A Oxford 25.58 13 P P 04 34 08.9 +1.6
baz=196,SNR=30
BBGH Gun Hill 25.59 84 e P 04 34 10.7 +3.1
BBSP Saint Philip 25.68 84 e P 04 34 13.8 +5.3
T54A Tazewell 25.69 8 P P 04 34 10.2 +1.8
baz=189,SNR=64
U59A Littleton 25.73 15 P P 04 34 10.4 +1.9
baz=198,SNR=18
U59A Littleton 25.73 15 IAmb IAmb 04 34 10.9
comp=Z,35nm,0.7s
HHAR Hobbs 25.74 345 IAmb IAmb 04 34 09.9
comp=Z,26nm,0.6s
T42A Van Buren 25.85 350 IAmb IAmb 04 34 10.8
comp=Z,82nm,0.7s
T55A Pulaski 25.86 9 P P 04 34 12.1 +2.3
baz=191,SNR=60
T56A Rocky Mt 25.90 10 P P 04 34 12.4 +2.3
baz=193,SNR=32
TUL1 Leonard 25.93 341 P P 04 34 09.7 -0.7
baz=157,SNR=22
TUL1 Leonard 25.93 341 IAmb IAmb 04 34 11.5
comp=Z,50nm,0.8s
WMOK Wichita Mounta 25.99 335 P P 04 34 10.3 -0.7
baz=150,SNR=33
WMOK Wichita Mounta 25.99 335 IAmb IAmb 04 34 15.6
comp=Z,28nm,0.8s
U60A Pendleton 26.00 16 P P 04 34 12.8 +1.8
baz=199,SNR=12
BLA Blacksburg 26.01 10 P P 04 34 13.4 +2.2
baz=192,SNR=31
BLA Blacksburg 26.01 10 IAmb IAmb 04 34 15.1
comp=Z,82nm,0.8s
U38A Gravette 26.01 344 IAmb IAmb 04 34 12.2
comp=Z,35nm,0.8s
U38A PcP PcP 04 37 33.7 -0.6
T57A Hurt 26.01 12 P P 04 34 13.1 +1.9
baz=194,SNR=42
T57A Hurt 26.01 12 IAmb IAmb 04 34 13.6
comp=Z,56nm,0.7s
OKCFA Oklahoma City 26.06 338 IAmb IAmb 04 34 13.6
comp=Z,33nm,0.6s
U61A Possum Corner 26.07 17 P P 04 34 13.7 +2.1
baz=201
T58A Grand View Acr 26.12 13 P P 04 34 13.4 +1.4
baz=196,SNR=19
OK025 Westminster Rd 26.16 338 IAmb IAmb 04 34 13.8
comp=Z,30nm,0.7s
MGMO Mountain Grove 26.19 348 IAmb IAmb 04 34 14.9
comp=Z,48nm,0.7s
S53A Williamson 26.24 6 P P 04 34 14.7 +1.6
baz=188,SNR=14
T59A Double "B" Far 26.37 15 P P 04 34 16.2 +1.9
baz=198,SNR=19
T59A Double "B" Far 26.37 15 IAmb IAmb 04 34 16.8
comp=Z,62nm,1.1s
S54A Dingess, Beckl 26.45 8 P P 04 34 16.8 +1.7
baz=190,SNR=15
S54A Dingess, Beckl 26.45 8 IAmb IAmb 04 34 17.4
comp=Z,49nm,0.7s
S55A Lewisburg 26.54 9 P P 04 34 18.2 +2.2
baz=191,SNR=58
WCI Wyandotte Cave 26.59 359 P P 04 34 17.3 +1.0
baz=179
WCI Wyandotte Cave 26.59 359 P P 04 34 17.0 +0.7
S56A Natural Bridge 26.61 11 P P 04 34 18.4 +1.9
baz=194,SNR=9.4
FVM French Village 26.68 352 IAmb IAmb 04 34 19.5
comp=Z,24nm,0.7s
T60A Surry 26.75 16 P P 04 34 19.7 +2.0
baz=200
S57A Dark Hollow, R 26.81 12 P P 04 34 20.0 +1.7
baz=195,SNR=23
S57A Dark Hollow, R 26.81 12 IAmb IAmb 04 34 20.8
comp=Z,37nm,0.7s
S58A Poland Farm, P 26.86 14 P P 04 34 20.4 +1.7
baz=197,SNR=20
S58A Poland Farm, P 26.86 14 IAmb IAmb 04 34 21.4
comp=Z,48nm,0.8s
R54A Victor 26.87 8 P P 04 34 20.7 +1.9
baz=190,SNR=65
CCM Cathedral Cave 26.88 350 P P 04 34 19.1 +0.3
baz=168
CCM Cathedral Cave 26.88 350 P P 04 34 19.7 +0.9
CCM IAmb IAmb 04 34 20.2
comp=Z,95nm,0.9s
R53A Hurricane 26.90 7 P P 04 34 20.7 +1.7
baz=188,SNR=24
S39A Bolivar 26.93 347 IAmb IAmb 04 34 21.5
comp=Z,41nm,0.8s
MNTX Cornudas Mount 27.07 321 P P 04 34 20.7 0.0
baz=134,SNR=17
T35A Sooner Cattle 27.09 341 IAmb IAmb 04 34 21.8
comp=Z,40nm,0.6s
R55A Marlinton 27.10 10 P P 04 34 23.3 +2.3
baz=192,SNR=42
S59A Mechanicsville 27.19 15 P P 04 34 23.5 +1.9
baz=198,SNR=13
CROK Carrier 27.22 338 IAmb IAmb 04 34 23.1
comp=Z,59nm,0.7s
R58B Mineral 27.24 14 P P 04 34 23.9 +1.9
baz=197,SNR=15
R58B Mineral 27.24 14 IAmb IAmb 04 34 25.9
comp=Z,35nm,0.9s
MSTX Muleshoe 27.24 328 P P 04 34 21.9 -0.4
baz=141
MSTX Muleshoe 27.24 328 IAmb IAmb 04 34 27.5
comp=Z,13nm,0.6s
R40A Maddies Statio 27.29 349 IAmb IAmb 04 34 23.8
comp=Z,41nm,0.5s
SLM Saint Louis 27.29 352 IAmb IAmb 04 34 24.1
comp=Z,82nm,0.8s
S60A Water View 27.30 16 P P 04 34 24.9 +2.3
baz=200
R56A Bull Pasture M 27.35 11 P P 04 34 25.4 +2.2
baz=194,SNR=35
AMTX Amarillo 27.42 331 P P 04 34 23.5 -0.3
baz=144
AMTX Amarillo 27.42 331 IAmb IAmb 04 34 24.3
comp=Z,22nm,0.6s
R57A Stanardsville 27.42 12 P P 04 34 25.6 +1.9
baz=195,SNR=25
Q53A Leroy 27.47 7 P P 04 34 25.9 +1.8
baz=189,SNR=43
Q52A Bidwell 27.49 6 P P 04 34 26.0 +1.7
baz=187,SNR=71
U32A Winter Ranch, 27.50 336 IAmb IAmb 04 34 25.8
comp=Z,33nm,0.8s
R58A Rapidan 27.53 13 P P 04 34 26.8 +2.1
baz=196,SNR=17
CBN Corbin Frederi 27.59 14 P P 04 34 27.3 +2.2
baz=198,SNR=8.3
R59A King George, V 27.65 15 P P 04 34 28.0 +2.4
baz=196
Q54A Coxs Mills 27.68 8 P P 04 34 27.9 +1.9
baz=190,SNR=52
Q55A Buckhannon 27.81 9 P P 04 34 29.5 +2.4
baz=192,SNR=54
P49A Miami Univ. Ec 27.90 2 P P 04 34 28.6 +0.6
baz=182,SNR=55
P51A Williamsport 27.94 4 P P 04 34 29.6 +1.3
baz=186,SNR=21
Q56A Snyder Ridge, 28.00 11 P P 04 34 31.6 +2.7
baz=194,SNR=46
P53A Whipple 28.11 7 P P 04 34 31.8 +2.1
baz=189,SNR=81
Q57A Strasburg 28.15 12 P P 04 34 32.2 +2.1
baz=195,SNR=15
P52A Corning 28.17 6 P P 04 34 31.9 +1.6
baz=187,SNR=88
Q58A Fox Den Farm, 28.22 13 P P 04 34 32.8 +2.1
baz=197,SNR=19

P54A Burton 28.34 9 P P 04 34 33.5 +1.6
baz=191,SNR=14
P55A Reedsville 28.35 10 P P 04 34 34.1 +2.1
baz=192,SNR=26
BBSR BB Station 28.35 40 P P 04 34 32.8 +0.8
P40A Paris 28.45 350 IAmb IAmb 04 34 34.5
comp=Z,66nm,1.1s
MCWV Mont Chateau 28.49 10 P P 04 34 35.2 +2.1
baz=192,SNR=27
P56A Dayton Farm, R 28.52 11 P P 04 34 36.0 +2.5
baz=194,SNR=38
O51A Pataskala 28.63 5 P P 04 34 35.8 +1.3
baz=186,SNR=46
P57A Homestead Farm 28.66 12 P P 04 34 37.3 +2.6
baz=196,SNR=41
O52A Adamsville 28.68 6 P P 04 34 36.3 +1.5
baz=188,SNR=52
ACSO Alum Creek Sta 28.69 4 P P 04 34 36.3 +1.4
baz=186,SNR=48
ETMB Extrema 28.73 137 eP P 04 34 36.8 +1.3
SFIN Lafayette 28.76 358 P P 04 34 35.9 +0.4
baz=177,SNR=67
Q61A Milford 28.76 17 P P 04 34 38.0 +2.4
baz=202
P58A Pank, Wackersv 28.83 14 P P 04 34 38.3 +2.2
baz=197,SNR=17
MACA Manacapuru-AM 28.85 119 eP P 04 34 37.6 +0.9
SDMD Sodier Deli 28.86 14 IAmb IAmb 04 34 39.5
comp=Z,43nm,1.0s
O53A New Philadelph 28.88 7 P P 04 34 38.3 +1.7
baz=189,SNR=69
O54A Avella 28.92 8 P P 04 34 38.3 +1.2
baz=191,SNR=14
O54A Avella 28.92 8 IAmb IAmb 04 34 39.4
comp=Z,44nm,0.8s
HDIL Hopedale 29.08 354 P P 04 34 38.9 +0.5
baz=173,SNR=52
O55A Ligonier 29.12 10 P P 04 34 40.5 +1.7
baz=193,SNR=15
KSU1 Kansas State U 29.12 342 P P 04 34 38.3 -0.4
baz=158,SNR=9.4
KSU1 Kansas State U 29.12 342 IAmb IAmb 04 34 40.0
comp=Z,34nm,0.8s
121A Cookes Peak, D 29.14 319 P P 04 34 40.8 +1.6
baz=131,SNR=11
121A Cookes Peak, D 29.14 319 IAmb IAmb 04 34 48.0
comp=Z,20nm,0.8s
P59A Jarrettsville 29.15 15 P P 04 34 41.1 +2.1
baz=199,SNR=8.2
R32A Long Quarter, 29.19 339 IAmb IAmb 04 34 39.9
comp=Z,30nm,0.6s
R32A PcP PcP 04 37 41.5 -0.5
N47A Urbana 29.23 0 IAmb IAmb 04 34 40.1
comp=Z,33nm,0.8s
O56A Blue Knob Stat 29.31 11 P P 04 34 42.7 +2.2
baz=194,SNR=20
O56A Blue Knob Stat 29.31 11 IAmb IAmb 04 34 43.2
comp=Z,48nm,0.8s
N52A McGinn's Farm, 29.38 6 P P 04 34 42.1 +1.1
baz=188,SNR=18
319A Douglas 29.40 316 IAmb IAmb 04 34 44.5
comp=Z,52nm,0.9s
N51A Ashland 29.42 5 P P 04 34 42.3 +0.9
baz=187,SNR=10
N51A Ashland 29.42 5 IAmb IAmb 04 34 43.3
comp=Z,105nm,1.0s
O57A Amberson 29.44 13 P P 04 34 43.7 +2.1
baz=196,SNR=29
N53A Lisbon 29.47 8 P P 04 34 43.3 +1.4
baz=190,SNR=34
O58A Lewisberry 29.52 14 P P 04 34 44.5 +2.3
baz=198,SNR=27
MVL Millersville 29.54 15 IAmb IAmb 04 34 45.9
comp=Z,82nm,1.1s
P60A Greenville 29.55 16 P P 04 34 44.2 +1.8
baz=200,SNR=5.3
P60A Greenville 29.55 16 IAmb IAmb 04 34 45.4
comp=Z,28nm,0.8s
P61A Hammonton 29.65 17 P P 04 34 44.4 +1.0
baz=202
WUPA West Chester U 29.67 16 IAmb IAmb 04 34 46.6
comp=Z,20nm,0.9s
PSUB Penn St. - Bra 29.70 16 IAmb IAmb 04 34 46.8
comp=Z,00nm,0.8s
N55A Marion Center 29.73 10 P P 04 34 45.7 +1.5
baz=193,SNR=20
N54A Moraine State 29.74 9 P P 04 34 45.6 +1.4
baz=191,SNR=6.5
N54A Moraine State 29.74 9 IAmb IAmb 04 34 46.1
comp=Z,20nm,0.6s
SSPA Standing Stone 29.80 12 P P 04 34 46.8 +2.1
baz=196
SSPA Standing Stone 29.80 12 P P 04 34 45.7 +1.0
M44A Midewin, Midew 29.81 356 IAmb IAmb 04 34 45.5
comp=Z,106nm,1.1s
M51A Elyria 29.85 5 P P 04 34 45.9 +0.8
baz=187
O59A Robesonia 29.88 15 P P 04 34 47.8 +2.4
baz=199,SNR=26
N38A Joes South For 29.89 348 IAmb IAmb 04 34 46.6
comp=Z,56nm,0.8s
CBKS Cedar Bluff 29.91 338 P P 04 34 45.6 -0.2
baz=152,SNR=8.3
CBKS Cedar Bluff 29.91 338 IAmb IAmb 04 34 48.0
comp=Z,35nm,1.0s
N57A Milroy 29.98 12 P P 04 34 47.9 +1.5
baz=196,SNR=17
ANMO Albuquerque 29.99 324 P P 04 34 47.6 +0.9
baz=136
ANMO Albuquerque 29.99 324 P P 04 34 47.4 +0.7
N56A West Decatur 29.99 11 P P 04 34 48.4 +2.0
baz=190,SNR=51
O60A Telford 30.08 16 P P 04 34 49.2 +2.0
baz=200,SNR=7.7
O61A Allentown 30.11 17 P P 04 34 49.4 +2.0
baz=202
M53A WI Miller and 30.12 8 P P 04 34 49.0 +1.5
baz=190,SNR=36
M52A Chesterland 30.14 7 P P 04 34 48.7 +1.0
baz=188
HQIL Hanson Quary C 30.21 357 IAmb IAmb 04 34 50.1
comp=Z,53nm,0.6s
N58A Sunbury 30.25 14 P P 04 34 50.7 +2.0
baz=198,SNR=30
SAML Samuel 30.26 131 P P 04 34 48.9 -0.2
SAML IAmb IAmb 04 34 49.8
comp=Z,37nm,0.9s
M54A Oil Creek Stat 30.33 9 P P 04 34 50.7 +1.3
baz=192,SNR=10
LUPA Lehigh Univers 30.35 16 IAmb IAmb 04 34 53.1
comp=Z,49nm,1.0s
ALLY Alegheny Colle 30.40 8 IAmb IAmb 04 34 52.3
comp=Z,105nm,1.1s
M55A Ridgway 30.44 10 P P 04 34 51.9 +1.5
baz=194,SNR=21
M55A Ridgway 30.44 10 IAmb IAmb 04 34 53.0
comp=Z,109nm,1.1s
T25A Trinidad 30.55 330 P P 04 34 52.4 +0.8
baz=142,SNR=8.3
N59A State Game Lan 30.55 15 P P 04 34 53.7 +2.3
baz=199,SNR=35
M56A Emporium 30.56 11 P P 04 34 52.9 +1.5
baz=195,SNR=8.4
L44A Lake County Fo 30.59 357 P P 04 34 51.4 -0.2
baz=176,SNR=11
M57A Sunshine Farm, 30.63 13 P P 04 34 54.2 +2.2
baz=197,SNR=33
BRNJ Basking Ridge 30.65 17 IAmb IAmb 04 34 55.6
comp=Z,54nm,0.9s
L53A Girard 30.68 8 P P 04 34 53.8 +1.4
baz=190,SNR=28
N60A Cedar Hill Far 30.68 16 P P 04 34 54.4 +2.0
baz=201,SNR=9.0
AAM Ann Arbor 30.71 3 P P 04 34 53.3 +0.7
baz=184,SNR=6.1
AAM Ann Arbor 30.71 3 IAmb IAmb 04 34 56.1
comp=Z,47nm,0.6s
M58A Price's Panora 30.81 14 P P 04 34 55.8 +2.1
baz=198,SNR=18
ERPA Erie 30.88 8 P P 04 34 55.4 +1.2
baz=191,SNR=15
SCIA State Center 30.97 349 P P 04 34 55.1 +0.1
baz=166,SNR=8.8
TUC Tucson 30.98 316 P P 04 34 56.9 +1.5
baz=126
TUC Tucson 30.98 316 P P 04 34 56.0 +0.6
TUC PcP PcP 04 37 46.2 -0.6
ODNJ Ogdensburg 31.01 16 IAmb IAmb 04 34 58.2

comp=Z,37nm,1.2s
L54A Sinclairville 31.09 9 P P 04 34 57.1 +1.0
baz=192,SNR=5.6
K43A Burlington 31.14 356 IAmb IAmb 04 34 57.1
comp=Z,83nm,1.0s
PAL Palisades 31.14 17 P P 04 34 58.4 +1.9
baz=203
PAL Palisades 31.14 17 IAmb IAmb 04 34 59.5
comp=Z,61nm,1.1s
KSPA Keystone Colle 31.15 14 IAmb IAmb 04 34 59.8
comp=Z,93nm,1.0s
L55A Hinsdale 31.19 10 P P 04 34 58.4 +1.4
baz=194,SNR=20
N62A Caumsett State 31.20 18 P P 04 34 58.9 +1.8
baz=204
M59A Waymart 31.22 15 P P 04 34 59.3 +2.1
baz=200,SNR=33
M60A Port Jervis 31.23 16 P P 04 34 59.1 +1.7
baz=201,SNR=11
KSCO Kaye Shedlock' 31.24 334 IAmb IAmb 04 35 04.0
comp=Z,15nm,0.8s
L56A Greenwood 31.31 12 P P 04 34 59.5 +1.5
baz=196,SNR=24
L56A Greenwood 31.31 12 IAmb IAmb 04 35 01.3
comp=Z,68nm,0.8s
L57A Andrews Acres 31.33 13 P P 04 34 59.8 +1.6
baz=197,SNR=16
WVNY West Valley, N 31.38 10 IAmb IAmb 04 35 00.6
comp=Z,56nm,0.8s
M61A Granite Spring 31.46 17 P P 04 35 01.0 +1.7
baz=203,SNR=9.0
WSPT Westport, CT 31.46 18 IAmb IAmb 04 35 02.2
comp=Z,94nm,1.1s
JFWS Jewell Farm 31.52 354 P P 04 34 59.7 -0.1
baz=172,SNR=39
K54A Basiliko Farm, 31.56 10 P P 04 35 01.4 +1.2
baz=193,SNR=5.5
SDCO Great Sand Dun 31.56 329 P P 04 35 01.6 +1.0
baz=141,SNR=29
L58A Harry Jones Me 31.60 14 P P 04 35 02.4 +1.9
baz=199,SNR=25
BGNE Belgrade 31.70 342 P P 04 35 01.2 -0.3
baz=156,SNR=9.2
BGNE Belgrade 31.70 342 IAmb IAmb 04 35 02.4
comp=Z,62nm,0.7s
BINY Binghamton 31.71 14 P P 04 35 03.4 +1.9
baz=198,SNR=35
YLE Yale 31.72 18 IAmb IAmb 04 35 04.6
comp=Z,78nm,0.9s
L34A Svendsen Farm, 31.73 345 IAmb IAmb 04 35 08.0
comp=Z,29nm,0.5s
K55A Perry 31.78 11 P P 04 35 03.5 +1.3
baz=194,SNR=13
M62A Hamden 31.85 18 P P 04 35 04.4 +1.7
baz=204
K56A Middlesex 31.90 12 P P 04 35 04.4 +1.3
baz=196,SNR=15
KSCT Kent School, K 31.93 17 IAmb IAmb 04 35 06.3
comp=Z,28nm,1.1s
L59A Walton 31.93 15 P P 04 35 05.3 +1.8
baz=200,SNR=25
L59A Walton 31.93 15 IAmb IAmb 04 35 06.6
comp=Z,105nm,0.9s
L60A Shokan 31.96 16 P P 04 35 05.6 +1.9
baz=202,SNR=9.9
W18A Petrified Fore 32.05 321 P P 04 35 06.6 +1.8
baz=131
W18A Petrified Fore 32.05 321 IAmb IAmb 04 35 08.6
comp=Z,31nm,1.0s
M63A Gales Ferry 32.08 20 P P 04 35 06.8 +2.1
baz=206
K57A Scipio Center 32.10 13 P P 04 35 06.0 +1.1
baz=197,SNR=7.5
MEDO Medina 32.14 10 IAmb IAmb 04 35 08.1
comp=Z,48nm,0.8s
214A Organ Pipe Nat 32.20 313 P P 04 35 07.5 +1.6
baz=123,SNR=16
J54A Appleton 32.21 10 P P 04 35 07.0 +1.1
baz=193
J54A Appleton 32.21 10 IAmb IAmb 04 35 07.9
comp=Z,56nm,0.8s
S22A 4UR Ranch, Cre 32.24 328 P P 04 35 07.4 +0.8
baz=139,SNR=25
K58A Earlville 32.32 14 P P 04 35 08.5 +1.6
baz=199,SNR=23
K58A Earlville 32.32 14 IAmb IAmb 04 35 09.5
comp=Z,94nm,0.9s
L61A Hillsdale 1, H 32.34 17 P P 04 35 08.9 +1.9
baz=203,SNR=8.7
J55A Hilton 32.35 11 P P 04 35 08.0 +0.9
baz=194
J55A Hilton 32.35 11 IAmb IAmb 04 35 08.5
comp=Z,34nm,0.7s
I42A Draeger Farm, 32.36 356 IAmb IAmb 04 35 08.2
comp=Z,137nm,1.1s
I51A Listowel 32.41 6 P P 04 35 08.3 +0.7
baz=189,SNR=13
I40A Norwalk 32.52 353 IAmb IAmb 04 35 09.3
comp=Z,68nm,0.8s
K59A Cooperstown 32.53 15 P P 04 35 10.2 +1.6
baz=200,SNR=18
J56A Wolcott 32.55 12 P P 04 35 10.0 +1.2
baz=196,SNR=11
LPAZ La Paz 32.65 147 P P 04 35 12.0 +1.3
comp=Z,1.8nm,0.3s,baz=322,slow=4.2,SNR=19
LPAZ PcP PcP 04 37 53.0 +0.7
comp=Z,2.8nm,0.3s,baz=358,slow=2.9,SNR=15
LPAZ La Paz 32.65 147 P P 04 35 10.4 -0.2
LPAZ La Paz 32.65 147 eP P 04 35 11.8 +1.1
X16A Lo Mia Camp, P 32.69 318 IAmb IAmb 04 35 13.1
comp=Z,20nm,0.7s
MVCO Mesa Verde 32.76 325 P P 04 35 11.8 +0.8
baz=136,SNR=20
MVCO Mesa Verde 32.76 325 P P 04 35 10.6 -0.4
MVCO IAmb IAmb 04 35 16.7
comp=Z,12nm,0.6s
MVCO PcP PcP 04 37 51.1 -0.8
TRY Troy 32.80 16 IAmb IAmb 04 35 14.3
comp=Z,102nm,1.0s
L61B Northampton 32.83 18 P P 04 35 12.8 +1.6
baz=204,SNR=7.5
J57A Williamstown 32.86 13 P P 04 35 12.5 +1.1
baz=198,SNR=9.7
J57A Williamstown 32.86 13 IAmb IAmb 04 35 13.6
comp=Z,66nm,0.8s
K61A Williamstown 32.86 17 P P 04 35 13.7 +2.2
baz=203,SNR=11
L64A Middleborough 32.96 21 P P 04 35 14.2 +1.8
baz=207
J58A Remsen 32.98 14 P P 04 35 13.9 +1.4
baz=199,SNR=24
J58A Remsen 32.98 14 IAmb IAmb 04 35 15.0
comp=Z,106nm,1.0s
K31A O'Neill 33.00 342 IAmb IAmb 04 35 15.0
comp=Z,61nm,0.8s
PECO Prince Edward 33.15 12 IAmb IAmb 04 35 15.8
comp=Z,64nm,1.0s
K62A Royalston 33.16 18 P P 04 35 15.9 +1.8
baz=205,SNR=6.8
K62A Royalston 33.16 18 IAmb IAmb 04 35 17.1
comp=Z,65nm,1.1s
GLMI Grayling 33.19 1 P P 04 35 14.2 -0.2
baz=182,SNR=13
ISCO Idaho Springs 33.22 331 P P 04 35 15.6 +0.5
baz=143,SNR=6.3
ISCO Idaho Springs 33.22 331 P P 04 35 14.8 -0.2
ISCO PcP PcP 04 37 52.5 -0.7
J59A Piesco 33.26 15 P P 04 35 16.2 +1.2
baz=200,SNR=9.7
J59A Piesco 33.26 15 IAmb IAmb 04 35 17.4
comp=Z,48nm,1.0s
113A Mohawk Valley, 33.32 314 P P 04 35 15.4 -0.3
113A PcP PcP 04 37 52.8 -0.4
WUAZ Wupatki 33.33 320 P P 04 35 17.6 +1.6
baz=130,SNR=18
WUAZ Wupatki 33.33 320 IAmb IAmb 04 35 18.9
comp=Z,22nm,0.9s
J60A Lant Hill Farm 33.35 16 P P 04 35 17.6 +1.9
baz=202,SNR=11
I58A Old Forge 33.36 14 P P 04 35 17.2 +1.3
baz=199,SNR=13
K63A Dunstable 33.41 19 P P 04 35 18.3 +2.1
baz=206
ACCN Adirondack Com 33.41 16 IAmb IAmb 04 35 20.6
comp=Z,23nm,1.1s
I57A Carthage 33.44 13 P P 04 35 17.6 +1.1
baz=198,SNR=10
ECSD EROS Data Cent 33.45 346 P P 04 35 15.7 -0.9

baz=160,SNR=28
ECSD EROS Data Cent 33.45 346 IAmb IAmb 04 35 17.7
comp=Z,17nm,0.7s
Y14A Wickenburg 33.45 316 IAmb IAmb 04 35 19.1
comp=Z,15nm,0.6s
H53A Bobcaygeon 33.49 9 P P 04 35 17.8 +0.9
baz=193,SNR=34
PV15 Paradox Valley 33.56 327 IAmb IAmb 04 35 23.2
comp=Z,12nm,0.6s
DELO Deloro Mine 33.60 10 IAmb IAmb 04 35 20.4
comp=Z,29nm,0.8s
J61A Chester 33.69 17 P P 04 35 20.8 +2.1
baz=204,SNR=14
PB16 IPOC Station P 33.71 151 P P 04 35 19.9 +0.2
PV12 Saucer Basin, 33.72 326 IAmb IAmb 04 35 21.4
comp=Z,24nm,0.7s
PV18 Skein Mesa, Pa 33.73 326 IAmb IAmb 04 35 22.0
comp=Z,42nm,0.5s
I59A Olmsteadville 33.74 16 P P 04 35 20.3 +1.3
baz=201,SNR=15
ITTB Itaituba 33.74 116 *e*P P 04 35 19.4 -0.1
ITTB *e*pP P 04 35 22.9 +3.5
PV11 David Mesa, Pa 33.74 326 IAmb IAmb 04 35 24.7
comp=Z,24nm,0.5s
PV16 Nyswonger Mesa 33.78 326 IAmb IAmb 04 35 24.4
comp=Z,20nm,0.5s
PV17 East Wray Mesa 33.78 326 IAmb IAmb 04 35 21.5
comp=Z,30nm,0.6s
J62A Henniker 33.80 18 P P 04 35 21.9 +2.2
baz=205,SNR=9.1
PV19 Morning Glory 33.81 326 IAmb IAmb 04 35 24.6
comp=Z,21nm,0.5s
PV20 West Nyswonger 33.83 326 IAmb IAmb 04 35 26.7
comp=Z,15nm,0.5s
G40A Rib Lake 33.84 354 IAmb IAmb 04 35 21.1
comp=Z,43nm,0.8s
I60A Shoreham 33.94 16 P P 04 35 22.4 +1.6
baz=202,SNR=9.1
MALB Monte Alegre 33.96 111 *e*P P 04 35 21.7 +0.3
H57A Richville 33.99 13 P P 04 35 22.4 +1.2
baz=198,SNR=10
J63A Strafford 34.08 19 P P 04 35 24.1 +2.1
baz=206
HNH Hanover 34.09 17 IAmb IAmb 04 35 25.3
comp=Z,29nm,1.1s
SPMN Marine on St. 34.12 351 P P 04 35 21.5 -0.9
baz=168,SNR=58
PLVO Plevna 34.20 11 IAmb IAmb 04 35 24.8
comp=Z,41nm,0.9s
GLA Glamis 34.22 313 P P 04 35 25.4 +1.9
baz=122,SNR=9.9
GLA Glamis 34.22 313 IAmb IAmb 04 35 26.4
comp=Z,47nm,0.9s
H58A Gabriels 34.24 15 P P 04 35 24.3 +0.9
baz=200,SNR=14
N23A Red Feather La 34.25 332 P P 04 35 24.5 +0.6
baz=143,SNR=9.9
I61A Oroboro, Fairl 34.32 17 P P 04 35 26.0 +1.9
baz=204,SNR=10
LONY Lake Ozonia 34.33 14 P P 04 35 25.4 +1.2
baz=200,SNR=26
LONY Lake Ozonia 34.33 14 IAmb IAmb 04 35 26.4
comp=Z,87nm,0.8s
MNMC Minye Minye 34.36 152 IAmb IAmb 04 35 28.3
comp=Z,32nm,1.0s
G54A Lake Saint Pet 34.37 10 P P 04 35 25.1 +0.5
baz=193,SNR=20
ESJX Sierra Juarez 34.50 311 IAmb IAmb 04 35 29.2
comp=Z,19nm,0.7s
I62A Tamworth 34.53 18 P P 04 35 28.0 +2.0
baz=205,SNR=8.3
I62A Tamworth 34.53 18 IAmb IAmb 04 35 28.6
comp=Z,28nm,0.8s
VT1 Waterbury 34.53 16 IAmb IAmb 04 35 29.1
comp=Z,36nm,1.1s
COWI Conover 34.58 356 IAmb IAmb 04 35 27.3
comp=Z,34nm,0.7s
H59A Cadyville 34.58 15 P P 04 35 27.2 +0.9
baz=201,SNR=11
LBNH Lisbon 34.69 18 P P 04 35 29.0 +1.8
baz=204,SNR=7.2
G57A Newington 34.69 13 P P 04 35 28.2 +1.0
baz=199,SNR=8.8
W13A Hualapai Mount 34.71 317 IAmb IAmb 04 35 30.9
comp=Z,21nm,0.8s
SUSD Miller 34.72 343 P P 04 35 26.5 -1.1
baz=157,SNR=8.7
E46A Sault Ste Mari 34.74 2 IAmb IAmb 04 35 27.8
comp=Z,30nm,1.1s
E43A Lone Tree Farm 34.74 358 IAmb IAmb 04 35 29.1
comp=Z,106nm,0.8s
H60A Morristown 34.76 16 P P 04 35 29.1 +1.2
baz=203,SNR=8.7
O20A White River Ci 34.76 329 P P 04 35 29.3 +1.1
baz=139,SNR=14
O20A White River Ci 34.76 329 IAmb IAmb 04 35 31.5
comp=Z,14nm,0.7s
FRNY Flat Rock 34.78 15 IAmb IAmb 04 35 29.6
comp=Z,22nm,1.0s
F36A Milaca 34.86 350 IAmb IAmb 04 35 29.5
comp=Z,65nm,0.6s
SWSC Sam W. Stewart 34.87 312 P P 04 35 30.8 +1.8
baz=121,SNR=20
RMX La Rumorosa 34.90 312 IAmb IAmb 04 35 32.0
comp=Z,36nm,0.9s
ALGO Algonquin Park 34.92 9 P P 04 35 29.8 +0.6
baz=193,SNR=30
I63A Otisfield 34.93 19 P P 04 35 31.4 +2.1
baz=206,SNR=11
IKP In-Ko-Pah, Jac 34.94 312 P P 04 35 31.7 +2.0
baz=120,SNR=13
G58A Ormstown 34.96 14 P P 04 35 30.5 +1.0
baz=200,SNR=10
H61A Lyndonville 34.96 17 P P 04 35 31.2 +1.6
baz=204,SNR=6.6
BC3 Big Chuckawall 34.99 314 P P 04 35 31.9 +1.8
baz=122,SNR=19
NEE2 Needles Airpor 35.01 316 P P 04 35 31.9 +1.7
baz=124,SNR=6.9
IRM Iron Mountain 35.04 315 P P 04 35 32.2 +1.7
baz=123,SNR=20
VILB Vilhena 35.10 133 *e*P P 04 35 31.8 +0.6
VILB *e*pP P 04 35 35.6 +4.5
G59A Clarenceville 35.11 15 P P 04 35 32.0 +1.1
baz=202,SNR=5.1
I64A Boothbay 35.13 20 P P 04 35 33.0 +2.0
baz=208
H62A Milan 35.22 18 P P 04 35 33.5 +1.6
baz=205,SNR=8.9
H62A Milan 35.22 18 IAmb IAmb 04 35 36.0
comp=Z,33nm,1.0s
MONP2 Monument Peak 35.29 312 P P 04 35 34.6 +1.7
baz=120,SNR=18
E38A The Farm, Brul 35.31 353 IAmb IAmb 04 35 33.7
comp=Z,47nm,1.0s
G60A Masonville 35.36 16 P P 04 35 34.2 +1.2
baz=203,SNR=11
F33A 5 Mile Ranch, 35.36 347 IAmb IAmb 04 35 33.1
comp=Z,58nm,0.5s
BAR Barrett 35.37 311 P P 04 35 32.9 -0.4
BAR PcP PcP 04 37 58.7 -0.5
NPGB Novo Progresso 35.38 120 *e*P P 04 35 32.6 -1.0
F57A Harrington 35.43 13 P P 04 35 34.6 +1.0
baz=199,SNR=8.5
MCPB Macapa, AP 35.45 107 *e*P P 04 35 34.1 -0.1
RWWY Rawlins 35.46 332 IAmb IAmb 04 35 35.0
comp=Z,18nm,0.8s
BELC Belle Mtn. Jos 35.55 314 P P 04 35 36.8 +1.8
baz=122,SNR=35
H63A New Sharon 35.65 19 P P 04 35 37.6 +2.2
baz=207,SNR=8.3
PFO Pinyon Flats O 35.68 313 P P 04 35 38.0 +1.9
baz=121,SNR=34
PFO Pinyon Flats O 35.68 313 P P 04 35 36.1 0.0
PFO IAmb IAmb 04 35 38.9
comp=Z,32nm,0.8s
PFO PcP PcP 04 37 59.4 -0.8
WVL Waterville 35.69 20 IAmb IAmb 04 35 38.8
comp=Z,58nm,1.2s
GMRC Granite Mounta 35.74 315 P P 04 35 38.3 +1.8
baz=123,SNR=11
E55A Montcerf-Lytto 35.76 11 P P 04 35 36.8 +0.4
baz=196,SNR=9.7
G61A St-Isidore-de- 35.76 17 P P 04 35 38.1 +1.7
baz=204,SNR=8.8
MSU Marysvale 35.77 323 P P 04 35 36.5 -0.3
MSU PcP PcP 04 37 59.8 -0.7
109C Camp Elliot, M 35.79 311 P P 04 35 38.6 +1.7
baz=119,SNR=6.2
109C Camp Elliot, M 35.79 311 IAmb IAmb 04 35 39.6
comp=Z,34nm,0.8s
CCUT Cedar City 35.86 321 P P 04 35 37.6 0.0
CCUT PcP 04 38 00.5 -0.3
H64A Troy 35.91 20 P P 04 35 39.8 +2.2
baz=208,SNR=9.7
K22A Casper 35.91 333 P P 04 35 38.2 +0.3
baz=144,SNR=7.9
G62A West of Eustis 35.99 18 P P 04 35 40.5 +2.1
baz=206,SNR=22
G62A West of Eustis 35.99 18 IAmb IAmb 04 35 41.5
comp=Z,105nm,1.1s
E56A St. Veronique 36.05 13 P P 04 35 39.5 +0.7
baz=198,SNR=8.0
RSSD Black Hills 36.12 337 P P 04 35 40.5 +0.8
baz=149
RSSD Black Hills 36.12 337 P P 04 35 39.3 -0.4
RSSD PcP PcP 04 38 00.8 -0.6
E57A Chemin Saint G 36.12 14 P P 04 35 40.2 +0.7
baz=199,SNR=14
G63A Kingsbury 36.19 19 P P 04 35 42.1 +2.1
baz=207,SNR=10
MURC Murrieta 36.20 312 P P 04 35 42.4 +2.0
baz=120,SNR=27
HEC Hector,Ludlow 36.23 315 P P 04 35 42.6 +2.0
baz=122,SNR=20
F60A Warwick 36.26 16 P P 04 35 41.6 +1.0
baz=203,SNR=18
TUQ Turquoise Moun 36.27 316 P P 04 35 42.6 +1.6
baz=124,SNR=19
H65A Eastbrook 36.29 21 P P 04 35 42.8 +1.9
baz=210,SNR=5.4
E58A La Victoria 36.29 15 P P 04 35 41.8 +0.9
baz=201,SNR=10
BBRC Big Bear Solar 36.34 314 P P 04 35 44.1 +2.3
baz=121,SNR=11
SHPR Sheep Range 36.37 318 P P 04 35 41.6 -0.4
SHPR PcP 04 38 01.3 -0.9
D55A Sainte-Anne-du 36.41 12 P P 04 35 42.6 +0.7
baz=197,SNR=39
PKME Peaks-Kenny Pk 36.43 20 P P 04 35 44.2 +2.1
baz=208,SNR=17
PKME Peaks-Kenny Pk 36.43 20 IAmb IAmb 04 35 45.2
comp=Z,76nm,1.0s
F61A St Evariste 36.54 17 P P 04 35 44.1 +1.1
baz=202,SNR=8.3
EMMW East Machias 36.59 22 IAmb IAmb 04 35 45.7
comp=Z,21nm,1.0s
D56A ZEC Mazanza, M 36.59 13 P P 04 35 43.7 +0.3
baz=198,SNR=8.4
G64A Maxfield 36.60 20 P P 04 35 45.2 +1.7
baz=209,SNR=5.8
H66A Whiting 36.71 22 P P 04 35 46.3 +1.9
baz=211,SNR=5.7
D57A Chemin Vers le 36.75 14 P P 04 35 45.6 +0.8
baz=200,SNR=18
SHOC Shoshone, Teco 36.77 316 P P 04 35 46.7 +1.6
baz=124,SNR=9.1
E60A Ste Agathe de 36.77 17 P P 04 35 45.8 +0.9
baz=204,SNR=12
F62A Pittston Farm, 36.78 18 P P 04 35 46.3 +1.3
baz=206,SNR=9.2
F62A Pittston Farm, 36.78 18 IAmb IAmb 04 35 48.8
comp=Z,24nm,1.0s
PSUT Pine Spring 36.78 322 P P 04 35 44.8 -0.6
PSUT PcP PcP 04 38 02.5 -1.1
GSC Goldstone, Bar 36.81 315 P P 04 35 47.3 +1.8
baz=122,SNR=21
GSC Goldstone, Bar 36.81 315 IAmb IAmb 04 35 48.4
comp=Z,16nm,0.7s
BFSC Mount Baldy Ra 36.86 313 P P 04 35 47.5 +1.5
baz=120,SNR=10
F63A Nahmakanta, Br 36.88 19 P P 04 35 47.5 +1.6
baz=208,SNR=14
F63A Nahmakanta, Br 36.88 19 IAmb IAmb 04 35 48.5
comp=Z,36nm,0.8s
G65A Princeton 36.97 21 P P 04 35 48.7 +2.1
baz=210,SNR=11
G65A Princeton 36.97 21 IAmb IAmb 04 35 49.8
comp=Z,65nm,1.1s
CIS Catalina Islan 37.00 311 P P 04 35 49.2 +2.0
baz=118,SNR=14
D58A Chemin du LacG 37.06 15 P P 04 35 48.4 +1.0
baz=201,SNR=30
E61A La Etchemin 37.10 18 P P 04 35 50.2 +2.4
baz=205,SNR=6.7
VLDQ Val d'Or 37.12 9 IAmb IAmb 04 35 49.3
comp=Z,48nm,1.1s
MWC Mount Wilson 37.14 313 IAmb IAmb 04 35 51.9
comp=Z,25nm,1.1s
GGN Saint George 37.16 22 IAmb IAmb 04 35 50.8
comp=Z,40nm,1.1s
E28A Huff 37.17 343 IAmb IAmb 04 35 50.0
comp=Z,52nm,0.9s
DUG Dugway, Tooele 37.26 325 P P 04 35 50.4 +1.1
baz=133,SNR=5.2
F64A Sherman 37.27 20 P P 04 35 50.9 +1.7
baz=209,SNR=24
F64A Sherman 37.27 20 IAmb IAmb 04 35 52.1
comp=Z,87nm,1.1s
TPNV Topopah Spring 37.34 318 P P 04 35 52.3 +2.2
baz=120,SNR=38
TPNV Topopah Spring 37.34 318 IAmb IAmb 04 35 53.4
comp=Z,28nm,0.9s
LATQ La Tuque 37.36 15 P P 04 35 51.0 +1.1
baz=201,SNR=36
BW06 Boulder Array 37.40 331 P P 04 35 50.5 -0.1
baz=139,SNR=13
PDAR Pinedale Array 37.40 331 P P 04 35 50.5 -0.1
comp=Z,4.0nm,0.5s,baz=132,slow=9.8,SNR=54
PDAR PcP PcP 04 38 05.3 0.0
comp=Z,2.4nm,0.6s,baz=147,slow=5.3,SNR=7.4
PDAR Pinedale Array 37.40 331 P P 04 35 50.6 +0.1
D60A Saint Jean D'O 37.42 17 P P 04 35 51.5 +1.2
baz=204,SNR=15
EDW2 Edwards Air Fo 37.42 314 P P 04 35 52.1 +1.5
baz=121,SNR=20
FURC Furnace Creek, 37.48 317 P P 04 35 53.1 +2.1
baz=124,SNR=41
LRMC Laurel Mtn Rad 37.51 315 P P 04 35 53.3 +1.8
baz=122,SNR=13
HWUT Hardware Ranch 37.56 328 P P 04 35 51.5 -0.3
HWUT IAmb IAmb 04 35 53.2
comp=Z,24nm,0.7s
HWUT PcP PcP 04 38 05.2 -0.6
PTLB Pontes e Lacer 37.56 135 *e*P P 04 35 52.1 +0.2
E62A Clayton Lake 37.56 18 P P 04 35 53.3 +1.6
baz=207,SNR=15
E62A Clayton Lake 37.56 18 IAmb IAmb 04 35 53.8
comp=Z,43nm,0.9s
AGMN Agassiz Nation 37.62 349 P P 04 35 51.3 -0.8
baz=164,SNR=28
AGMN Agassiz Nation 37.62 349 IAmb IAmb 04 35 53.1
comp=Z,32nm,0.5s
MPMC Manual Prospec 37.68 316 P P 04 35 54.5 +1.4
baz=122,SNR=49
LVC Limon Verde 37.71 154 P P 04 35 54.9 +1.4
comp=Z,7.5nm,1.0s,baz=318,slow=6.5,SNR=7.1
LVC PcP PcP 04 38 08.2 +1.5
comp=Z,6.8nm,0.7s,baz=332,slow=4.6,SNR=9.1
LVC Limon Verde 37.71 154 P P 04 35 53.4 -0.1
LVC Limon Verde 37.71 154 *e*P P 04 35 52.6 -1.0
R11A Troy Canyon, C 37.73 320 P P 04 35 54.9 +1.5
baz=127,SNR=23
E63A Oxbow 37.74 20 P P 04 35 54.7 +1.6
baz=208,SNR=15
E63A Oxbow 37.74 20 IAmb IAmb 04 35 55.8
comp=Z,54nm,0.9s
D61A St Aubert, Com 37.89 17 P P 04 35 55.9 +1.6
baz=205,SNR=11
E64A Bridgewater 37.93 20 P P 04 35 56.4 +1.7
baz=209,SNR=11
MDND Maddock 38.04 345 P P 04 35 55.2 -0.4
baz=158,SNR=14
PQI Presque Isle 38.09 20 IAmb IAmb 04 35 58.8
comp=Z,46nm,1.0s
GRAC Grapevine Rang 38.11 317 P P 04 35 58.4 +2.1
baz=124,SNR=34
LSQQ Lebel-sur-Quev 38.11 9 P P 04 35 56.3 +0.2
baz=194
D62A Allapoint, All 38.12 18 P P 04 35 57.8 +1.6
baz=207,SNR=29
D62A Allapoint, All 38.12 18 IAmb IAmb 04 35 58.9
comp=Z,72nm,0.8s
ARVC Arvin 38.14 313 P P 04 35 58.6 +2.0
baz=120,SNR=6.8
ISA Isabella, Lake 38.16 314 P P 04 35 58.7 +1.9
baz=121,SNR=26
ISA Isabella, Lake 38.16 314 P P 04 35 56.4 -0.5
ISA IAmb IAmb 04 35 59.8
comp=Z,25nm,0.8s
ISA PcP PcP 04 38 07.0 -0.6
CWC Cottonwood Cre 38.29 316 P P 04 35 59.9 +1.8
baz=122
D63A Stockholm 38.38 19 P P 04 36 00.1 +1.6
baz=208,SNR=15
REDW Red Top Meadow 38.47 330 IAmb IAmb 04 36 01.7
comp=Z,21nm,0.6s
SNOW Snow King Moun 38.50 330 IAmb IAmb 04 36 05.8
comp=Z,16nm,0.8s
VES Vestal, Richgr 38.67 314 P P 04 36 03.0 +2.0
baz=120,SNR=36
MATQ Matagami 38.69 8 P P 04 36 01.2 +0.2
baz=193,SNR=34
TIN Tinemaha, Big 38.72 317 P P 04 36 03.7 +2.1
baz=123,SNR=9.7
PKM Mcpherson Peak 38.73 313 P P 04 36 03.6 +1.9
baz=119,SNR=24
ELK Elko 39.01 323 P P 04 36 03.5 -0.6
ELK PcP 04 38 09.4 -1.0
SMMC Simmler 39.06 313 P P 04 36 06.5 +2.2
baz=119,SNR=32
RLMT Red Lodge 39.08 333 P P 04 36 04.3 -0.2
baz=142,SNR=13
LAO LASA Array 39.11 338 P P 04 36 04.5 -0.1
baz=147,SNR=15
LAO LASA Array 39.11 338 IAmb IAmb 04 36 06.8
comp=Z,20nm,0.8s
BATG Bathurst New B 39.29 21 IAmb IAmb 04 36 08.8
comp=Z,88nm,0.9s
CHGQ Chibougamau 39.39 12 P P 04 36 06.9 +0.1
baz=198,SNR=12
NV11 Mina Array Sit 39.42 318 IAmb IAmb 04 36 10.9
comp=Z,30nm,0.8s
PAGB Antelope Grade 39.44 313 IAmb IAmb 04 36 10.4
comp=Z,89nm,0.7s
ULM Lac du Bonnet 39.50 350 P P 04 36 06.5 -1.2
comp=Z,30nm,0.4s,baz=168,slow=9.2,SNR=73
ULM Lac du Bonnet 39.50 350 IAmb IAmb 04 36 07.9
comp=Z,32nm,0.5s
NVAR Mina Array Bea 39.52 318 P P 04 36 10.1 +1.8
comp=Z,23nm,0.6s,baz=131,slow=7.5,SNR=142
NVAR PcP PcP 04 38 13.6 +1.5
comp=Z,11nm,0.7s,baz=135,slow=4.4,SNR=19
NVAR ScP ScP 04 41 44.7 +1.7
comp=Z,0.9nm,0.8s,baz=140,slow=3.8,SNR=4.7
NVAR Mina Array Bea 39.52 318 P P 04 36 07.8 -0.5
NVAR PcP PcP 04 38 11.1 -1.0
OMMB Old Mammoth Mi 39.53 317 P P 04 36 07.8 -0.7
OMMB PcP PcP 04 38 11.0 -1.3
LHV Little Huntoon 39.55 318 IAmb IAmb 04 36 12.7
comp=Z,30nm,0.6s
GBN Guysborough 39.58 27 IAmb IAmb 04 36 11.2
comp=Z,64nm,1.1s
MDPB Devils Postpil 39.60 317 IAmb IAmb 04 36 11.9
comp=Z,24nm,0.9s
KVN Kaiserville 39.74 319 P P 04 36 09.2 -0.8
KVN PcP PcP 04 38 11.6 -1.1
RYN Ryan 39.77 318 IAmb IAmb 04 36 13.5
comp=Z,30nm,1.1s
PRPB Parauapebas 39.80 114 *e*P P 04 36 10.2 -0.5
TMAB Tom-Au,PA,Br 39.86 108 *e*P P 04 36 09.8 -1.3
TMAB *e*pP P 04 36 11.9 +0.8
DGMT Dagmar 39.93 341 P P 04 36 11.3 0.0
baz=151,SNR=18
DGMT Dagmar 39.93 341 IAmb IAmb 04 36 13.4
comp=Z,50nm,0.7s
PMPB Monarch Peak 40.07 314 IAmb IAmb 04 36 15.0
comp=Z,47nm,0.8s
WAKR Walker 40.30 318 IAmb IAmb 04 36 17.8
comp=Z,49nm,1.2s
HLID Hailey 40.43 327 P P 04 36 16.1 +0.5
baz=134,SNR=23
HLID Hailey 40.43 327 P P 04 36 16.2 +0.5
YERR Yerington 40.44 318 IAmb IAmb 04 36 19.8
comp=Z,17nm,0.6s
BOZ Bozeman (W) 40.51 332 P P 04 36 16.8 +0.5
baz=139,SNR=20
PNTR Pine Nut 40.73 318 IAmb IAmb 04 36 23.4
comp=Z,18nm,0.7s
SAO San Andreas Ge 40.79 314 P P 04 36 19.1 +0.6
LRM Limekiln Ridge 41.06 331 P P 04 36 21.4 +0.5
MFID Camas Ranch 41.09 326 P P 04 36 21.7 +0.7
SNDB Serra Nova Dou 41.38 123 *e*P P 04 36 23.4 -0.2
AC02 Maricunga 41.40 157 P P 04 36 23.7 -0.4
AFDM Forest Hills D 41.56 317 P P 04 36 25.3 +0.5
EGMT Eagleton 41.58 336 P P 04 36 25.1 +0.2
baz=143
ORV Oroville 42.22 318 P P 04 36 30.6 +0.5
MSO Missoula 42.50 331 P P 04 36 32.3 -0.1
baz=137
J08A Circle Bar Ran 42.53 324 IAmb IAmb 04 36 36.9
comp=Z,12nm,0.4s
O03E Paynes Creek 42.81 318 P P 04 36 34.8 -0.1
baz=122,SNR=12
AC05 El Transito 42.81 160 P P 04 36 35.2 +0.1
SMTB Santa Maria do 42.98 117 *e*P P 04 36 36.4 -0.1
ARAG Araguaiana, MT 43.10 128 *e*P P 04 36 36.9 -0.5
AQDB Aquidauana 43.39 137 *e*P P 04 36 39.4 -0.3
O02D Mt. Diablo Mer 43.39 318 P P 04 36 39.1 -0.5
baz=121
M04C Macdoel 43.63 320 P P 04 36 41.6 +0.1
baz=123,SNR=12
KCPM Cahto Peak 43.67 317 IAmb IAmb 04 36 45.2
comp=Z,45nm,1.2s
N02D Trinity Center 43.75 319 P P 04 36 42.3 -0.1
baz=122,SNR=5.4
ROSB Rosrio 43.76 107 *e*P P 04 36 40.0 -2.8
ROSB *e*pP P 04 36 42.8 0.0
PEXB Peixe 43.94 121 *e*P P 04 36 43.5 -0.7
PEXB *e*pP P 04 36 46.5 +2.3
KMRM Mail Ridge 44.02 317 IAmb IAmb 04 36 47.6
comp=Z,37nm,1.1s
M02C Callahan 44.06 319 P P 04 36 44.1 -0.8
baz=122
J05D Fort Rock, OR 44.10 322 P P 04 36 45.0 -0.2
baz=125
L04D Klamath Falls 44.16 321 P P 04 36 45.5 -0.2
baz=123,SNR=11
DRLN Deer Lake 44.28 26 P P 04 36 47.4 +1.0
DRLN IAmb IAmb 04 36 48.2
comp=Z,184nm,1.1s
CO03 El Pedregal 44.53 161 P P 04 36 49.0 +0.3
JCC Jacoby Creek, 44.53 318 IAmb IAmb 04 36 50.7
comp=Z,32nm,0.9s
J04D Umpqua Nationa 44.60 322 P P 04 36 49.3 0.0
baz=124,SNR=11
I05D Terrebonne, OR 44.77 324 P P 04 36 51.4 +0.9
baz=126,SNR=6.7
L02E Cave Junction 44.94 320 P P 04 36 51.3 -0.5
baz=122
FFC Flin Flon 44.97 347 P P 04 36 51.6 -0.1
NEW Newport 45.04 331 P P 04 36 51.9 -0.6
baz=134
I04A Tendick Farm, 45.09 322 P P 04 36 52.5 -0.5
baz=124
K02D Willamette Mer 45.26 320 P P 04 36 54.3 -0.1
baz=122
G05D Wamic, OR 45.29 325 P P 04 36 55.5 +1.0
baz=127,SNR=5.3
KBO Bosley Butte 45.37 319 IAmb IAmb 04 36 58.5
comp=Z,27nm,0.8s
H04A Detroit Lake 45.47 323 IAmb IAmb 04 36 57.0
comp=Z,23nm,0.5s
I03D Drain, OR 45.61 322 P P 04 36 56.9 0.0
baz=123
J01E Myrtle Point 45.67 321 P P 04 36 58.1 +0.6
baz=122
SCHQ Schefferville 45.69 15 P P 04 36 57.4 0.0
comp=Z,99nm,0.5s,baz=216,slow=6.1,SNR=147
SCHQ PcP PcP 04 38 31.3 -0.8
comp=Z,5.6nm,0.4s,baz=262,slow=7.1,SNR=2.7
SCHQ Schefferville 45.69 15 P P 04 36 57.4 0.0
SCHQ IAmb IAmb 04 36 58.2
comp=Z,106nm,0.7s
SCHQ PcP 04 38 31.7 -0.4
H04D Lebanon 45.70 323 P P 04 36 57.6 -0.1
baz=125
F05D White Salmon 45.76 325 P P 04 36 58.8 +0.7
baz=127,SNR=6.9
KEBM Edson Butte 45.77 320 IAmb IAmb 04 37 00.5
comp=Z,52nm,1.1s
BDFB Brasilia 46.05 125 P P 04 37 00.6 -0.3
comp=Z,19nm,0.7s,baz=292,slow=10,SNR=38

BDFB	Brasilia	46.05	125	P	P	04 37 01.0	+0.1
I02D	Swisshome	46.13	322	P	P	04 37 01.5	+0.5
	baz=123						
G03D	McMinnville, O	46.40	323	P	P	04 37 03.6	+0.5
	baz=124						
ITRB	Iturama	46.64	131	eP	P	04 37 04.5	-0.8
CPUP	Villa Florida	46.66	144	P	P	04 37 05.0	-0.4
	comp=Z,8.8nm,0.7s,baz=334,slow=7.9,SNR=22						
CPUP				PcP	PcP	04 38 36.5	+0.4
	comp=Z,5.1nm,0.6s,baz=343,slow=1.9,SNR=11						
CPUP	Villa Florida	46.66	144	eP	P	04 37 04.5	-0.9
SDBA	SAO DESIDERIO	46.97	119	eP	P	04 37 06.8	-1.2
TRCB	Terra Rica	47.05	137	eP	P	04 37 07.7	-0.8
PCMB	Pacaembu	47.20	134	eP	P	04 37 08.9	-0.7
IPMB	Ipameri, GO	47.22	128	eP	P	04 37 08.8	-1.1
B05A	Bryant	47.55	328	P	P	04 37 10.9	-1.1
	baz=128						
D03D	Eldon	47.64	326	P	P	04 37 12.1	-0.6
	baz=126,SNR=7.0						
NBMO	Morrinhos-CE	47.74	105	eP	P	04 37 11.1	-2.9
A04D	Lummi Island	48.15	328	P	P	04 37 16.2	-0.3
	baz=128						
PTGB	Pitanga	48.74	138	eP	P	04 37 20.5	-1.0
JANB	Januaria	48.77	122	eP	P	04 37 20.5	-1.3
JANB				epP	P	04 37 23.5	+1.6
BB19B	Bebedouro	48.82	131	eP	P	04 37 21.0	-1.1
FRTB	Fartura	49.52	135	eP	P	04 37 26.2	-1.1
BI02	San Fabin de	49.83	165	P	P	04 37 30.1	+0.6
MC01	Montes Claros	49.92	123	eP	P	04 37 29.4	-1.1
RCLB	Rio Claro- Sao	50.38	132	eP	P	04 37 33.3	-0.6
RCLB				epP	P	04 37 35.4	+1.5
ITAB	Concordia	50.46	140	eP	P	04 37 33.3	-1.0
VAO	Valinhos	51.15	132	eP	P	04 37 39.0	-0.7
VAO				epP	P	04 37 40.7	+1.0
SPB	Sao Paulo	51.18	133	eP	P	04 37 38.4	-1.4
BSCB	Bom Sucesso	51.60	129	eP	P	04 37 41.9	-1.2
BSCB				epP	P	04 37 44.6	+1.5
PET01	Itanhaem-SP	51.73	134	eP	P	04 37 42.9	-0.9
LC01	Cunco	51.80	166	IAmb	IAmb	04 37 45.8	
	comp=Z,19nm,0.9s						
GDU01	Guandu, BA	52.17	118	eP	P	04 37 44.8	-2.5
GDU01				epP	P	04 37 47.1	-0.2
PARB	Paraibuna	52.34	132	eP	P	04 37 47.3	-1.2
CNLB	Canela	52.72	141	eP	P	04 37 49.5	-1.7
PLTB	Pedras Altas	52.90	145	eP	P	04 37 50.2	-2.2
PLTB				epP	P	04 37 53.0	+0.6
SJMB	Sao Joao De Ma	53.20	124	eP	P	04 37 53.8	-0.9
MAN01	Angra dos Reis	53.29	130	eP	P	04 37 54.0	-1.3
FRB	Frobisher Bay	53.53	9	P	P	04 37 55.5	-0.9
	comp=Z,42nm,0.3s,baz=215,slow=7.8,SNR=73						
PLCA	Paso Flores	53.86	166	P	P	04 37 59.9	+0.6
	comp=Z,18nm,0.9s,baz=346,slow=7.7,SNR=43						
PLCA				pP	pP	04 38 42.1	+0.3
	comp=Z,7.5nm,0.9s,baz=345,slow=6.8,SNR=3.0						
PLCA				PcP	sP	04 39 03.4	+0.7
	comp=Z,4.6nm,0.7s,baz=331,slow=4.3,SNR=4.2						
PLCA	Paso Flores	53.86	166	P	P	04 37 59.8	+0.6
PLCA				IAmb	IAmb	04 38 01.7	
	comp=Z,23nm,0.9s						
RIB01	Linhares ES	54.15	124	eP	P	04 38 00.5	-1.2
YKA	Yellowknife Ar	54.95	344	P	P	04 38 05.7	-1.0
	comp=Z,5.5nm,0.3s,baz=141,slow=7.3,SNR=66						
YKA				pP	pP	04 38 49.3	-0.3
	comp=Z,7.5nm,0.8s,baz=133,slow=7.5,SNR=6.1						
YKA				PcP	PcP	04 39 05.6	-0.5
	comp=Z,1.7nm,0.6s,baz=138,slow=4.5,SNR=6.1						
DLBC	Dease Lake	57.47	334	IAmb	IAmb	04 38 26.4	
	comp=Z,18nm,1.1s						
SFJD	Kangerlussuaq	60.14	15	P	P	04 38 41.7	-1.1
	comp=Z,30nm,0.8s,baz=191,slow=4.3,SNR=12						
SFJD	Kangerlussuaq	60.14	15	P	P	04 38 42.3	-0.5
SFJD				IAmb	IAmb	04 38 42.8	
	comp=Z,30nm,0.7s						
SFJD	Kangerlussuaq	60.14	15	iP	P	04 38 40.4	-2.4
SFJD	Kangerlussuaq	60.14	15	iP	P	04 38 40.4	-2.4
RES	Resolute Bay	63.35	357	P	P	04 39 03.2	-0.9
	comp=Z,15nm,0.5s,baz=181,slow=11,SNR=14						
RES	Resolute Bay	63.35	357	P	P	04 39 03.3	-0.9
RES				IAmb	IAmb	04 39 05.2	
	comp=Z,15nm,0.6s						
EPYK	Eagle Plains	64.51	340	IAmb	IAmb	04 39 14.2	
	comp=Z,15nm,0.8s						
INK	Inuvik	64.59	342	IAmb	IAmb	04 39 15.1	
	comp=Z,22nm,1.1s						
K27K	Chicken	65.34	336	P	P	04 39 17.4	+0.2
	baz=116						
DOT	Dot Lake	65.97	335	IAmb	IAmb	04 39 22.4	
	comp=Z,18nm,0.9s						
SCRK	Sand Creek	66.08	336	P	P	04 39 22.2	0.0
	baz=114,SNR=5.3						
RIDG	Independent Ri	66.33	335	IAmb	IAmb	04 39 24.8	
	comp=Z,28nm,1.1s						
KNK	Knik Glacier	67.05	332	IAmb	IAmb	04 39 28.9	
	comp=Z,18nm,0.9s						
SUMG	Summit	67.06	14	P	P	04 39 27.9	-0.6
SUMG				IAmb	IAmb	04 39 30.7	
	comp=Z,25nm,1.0s						
SUMG	Summit	67.06	14	iP	P	04 39 27.0	-1.5
	comp=Z,67nm,1.0s						
SUMG	Summit	67.06	14	iP	P	04 39 27.0	-1.5
SUMG				IAmb	IAmb	04 39 31.1	
	comp=Z,67nm,1.0s						
GHO	Glory Hole Cre	67.38	333	IAmb	IAmb	04 39 30.8	
	comp=Z,21nm,1.0s						
HDA	Harding Lake	67.44	336	P	P	04 39 30.1	-0.5
	baz=112,SNR=14						
HDA	Harding Lake	67.44	336	IAmb	IAmb	04 39 31.1	
	comp=Z,18nm,0.8s						
RC01	Rabbit Creek A	67.54	332	P	P	04 39 30.7	-0.6
	baz=108						
ILAR	Eielson Array	67.55	336	P	P	04 39 30.7	-0.6
	comp=Z,8.4nm,0.7s,baz=133,slow=4.5,SNR=86						
ILAR				pP	pP	04 40 15.8	-0.1
	comp=Z,1.7nm,0.8s,baz=131,slow=4.5,SNR=2.1						
ILAR	Eielson Array	67.55	336	P	P	04 39 30.9	-0.4
BMAR	Burnt Mountain	67.74	339	P	P	04 39 32.8	+0.3
RND	Reindeer	67.88	334	IAmb	IAmb	04 39 34.4	
	comp=Z,49nm,0.8s						
POKR	Poker Plat Res	67.89	336	P	P	04 39 33.0	-0.4
	baz=111,SNR=7.2						
COLA	College	67.97	336	P	P	04 39 33.7	-0.1
COLA				IAmb	IAmb	04 39 34.5	
	comp=Z,10.0nm,0.6s						
TCOL	CIGO, UAF Yank	67.97	336	P	P	04 39 33.1	-0.8
	baz=111						
MCK	McKinley	68.02	335	P	P	04 39 33.9	-0.4
	baz=109,SNR=9.1						
SUA	Susitna One	68.11	332	IAmb	IAmb	04 39 35.6	
	comp=Z,18nm,1.0s						
NEA2	Nenana	68.36	335	P	P	04 39 35.8	-0.6
	baz=110,SNR=9.8						
BWN	Browne	68.39	335	IAmb	IAmb	04 39 37.0	
	comp=Z,43nm,0.8s						
SKT	Skwentna	68.62	332	IAmb	IAmb	04 39 38.0	
	comp=Z,15nm,0.6s						
KTH	Kantishna Hill	68.81	334	IAmb	IAmb	04 39 39.5	
	comp=Z,18nm,1.0s						
BPAW	Bear Paw Mtn.	69.00	335	IAmb	IAmb	04 39 40.7	
	comp=Z,30nm,1.0s						
PPLA	Purkeypile	69.17	333	IAmb	IAmb	04 39 41.7	
	comp=Z,20nm,0.9s						
MLY	Manley	69.18	336	P	P	04 39 41.1	-0.4
	baz=108,SNR=36						
COLD	Coldfoot	69.68	338	P	P	04 39 45.1	+0.7
	baz=109,SNR=7.2						
TOLK	Toolik Lake Re	69.94	340	P	P	04 39 45.5	-0.6
	baz=110						
SVW2	Sparrevohn	70.28	331	IAmb	IAmb	04 39 47.5	
	comp=Z,8.2nm,0.5s						
MORF	Marmelete	72.84	54	eP	P	04 40 04.5	+0.5
MORF				AMb	AMB	04 40 09.4	
	comp=Z,35nm,0.2s						
MORF	Marmelete	72.84	54	eP	P	04 40 04.8	+0.8
	comp=Z,36nm,1.5s						
PCAS	Casmilo, Conde	72.91	52	eP	P	04 40 04.6	+0.3
	comp=Z,56nm,1.9s						
PNCL	Nicolau / Gran	72.92	54	eP	P	04 40 06.5	+2.1
	comp=Z,35nm,1.5s						
COI	Coimbra	72.97	51	eP	P	04 40 05.9	+1.3
	comp=Z,40nm,1.2s						
PGAV	Gavieira, Arco	73.06	50	eP	P	04 40 05.0	-0.3
	comp=Z,48nm,1.5s						
PMTG	Montargil	73.14	53	eP	P	04 40 05.3	-0.3
	comp=Z,28nm,1.2s						
EVO	Evora	73.32	53	eP	P	04 40 06.6	-0.1
	comp=Z,29nm,1.7s						
PCVE	Castro Verde	73.32	54	eP	P	04 40 07.0	+0.2
	comp=Z,25nm,1.8s						
PVIS	Viseu	73.36	51	eP	P	04 40 06.8	-0.2
	comp=Z,29nm,1.6s						
PBDV	Barranco-do-Ve	73.42	54	eP	P	04 40 07.1	-0.3
	comp=Z,27nm,1.9s						
PBEJ	Beja	73.45	54	eP	P	04 40 07.3	-0.2
	comp=Z,12nm,1.5s						
PVAQ	Vaqueiros	73.58	54	eP	P	04 40 08.3	0.0
	comp=Z,22nm,1.7s						
DAG	Danmarks Havn	73.66	13	iP	P	04 40 06.2	-1.8
DAG	Danmarks Havn	73.66	13	iP	P	04 40 06.3	-1.8
PCBR	Castelo Branco	73.70	52	eP	P	04 40 08.7	-0.2
	comp=Z,26nm,1.4s						
PMRV	Marv??o	73.78	52	eP	P	04 40 09.3	-0.1
	comp=Z,38nm,1.6s						
MVO	Moncorvo	74.00	50	eP	P	04 40 10.7	-0.1
	comp=Z,51nm,2.1s						
PBRG	Braganca	74.20	50	eP	P	04 40 10.4	-1.5
	comp=Z,33nm,1.7s						
EKA	Eskdalemuir Ar	76.37	36	P	P	04 40 22.7	-1.2
	comp=Z,14nm,0.6s,baz=261,slow=5.8,SNR=36						
EKA				pP	pP	04 41 08.8	-0.7
	comp=Z,4.3nm,0.8s,baz=262,slow=5.4,SNR=3.4						
ESDC	Sonseca Array	76.41	52	P	P	04 40 24.1	-0.5
	comp=Z,9.5nm,0.9s,baz=283,slow=5.8,SNR=34						
ESDC				pP	pP	04 41 10.8	+0.6
	comp=Z,2.7nm,0.8s,baz=282,slow=6.1,SNR=3.1						
ESDC	Sonseca Array	76.41	52	P	P	04 40 24.5	0.0
KOWA	Kowa	79.24	77	P	P	04 40 40.1	-0.4
TIC	Toumodi	79.60	85	eP	P	04 40 42.3	-0.2
LIC	Lamto	79.67	86	eP	P	04 40 42.0	-0.9
	comp=Z,86nm,0.6s						
DBIC	Dimbokro	79.76	85	P	P	04 40 42.6	-0.7
	comp=Z,4.6nm,0.4s,baz=277,slow=4.0,SNR=20						
DBIC	Dimbokro	79.76	85	P	P	04 40 43.3	0.0
KIC	Kosan Boka	79.93	86	eP	P	04 40 43.5	-0.8
	comp=Z,27nm,0.7s						
SPITS	Spitsbergen Ar	81.25	12	P	P	04 40 49.5	-0.6
	comp=Z,2.8nm,0.6s,baz=307,slow=5.2,SNR=3.8						
NB2	NORSAR Subarra	83.34	29	P	P	04 41 00.4	-0.8
	comp=Z,9.6nm,1.0s,baz=281,slow=5.1						
NOA	NORSAR Array B	83.34	29	P	P	04 41 00.6	-0.6
	comp=Z,3.2nm,0.8s,baz=284,slow=5.1,SNR=9.8						
TORD	Torodi Ar. Bea	84.94	78	P	P	04 41 08.3	-1.8
	comp=Z,1.4nm,0.5s,baz=291,slow=4.8,SNR=38						
TORD				PKKPbc	PKKPbc	04 59 18.5	+1.9
	comp=Z,1.1nm,0.5s,baz=79,slow=2.2,SNR=15						
TORD	Torodi Ar. Bea	84.94	78	P	P	04 41 08.3	-1.8
TUE	Stuetta	85.19	44	P	P	04 41 10.7	-0.4
DAVA	Damuels	85.38	43	eP	P	04 41 10.6	-1.4
	comp=Z,9.3nm,0.7s						
DAVOX	Davos/Dischmat	85.48	43	P	P	04 41 11.8	-0.7
	comp=Z,3.7nm,0.6s,baz=305,slow=4.0,SNR=7.3						
GRF	Grafenberg Arr	85.74	40	eP	P	04 41 12.2	-1.3
	comp=Z,6.9nm,1.0s,baz=273,slow=5.8						
FUORN	Ofenpass-Fuorn	85.78	43	P	P	04 41 13.9	-0.1
RETA	Reutte	85.92	43	eP	P	04 41 13.6	-0.9
	comp=Z,6.3nm,0.9s						
FETA	Feichten	86.00	43	iP	P	04 41 14.1	-0.9
	comp=Z,9.7nm,1.2s						
NKC	Novy Kostel	86.39	40	eP	P	04 41 16.3	-0.4
CLL	Collm	86.47	38	iP	P	04 41 17.0	0.0
ARCES	ARCESS Array B	86.49	19	P	P	04 41 15.5	-1.2
	comp=Z,1.2nm,0.4s,baz=281,slow=4.1,SNR=23						
ARCES				PP	PP	04 44 40.5	-0.1
	comp=Z,2.7nm,0.9s,baz=292,slow=3.8,SNR=4.2						
TEOL	Teolo	87.01	44	IAmb	IAmb	04 41 20.2	
	comp=Z,20nm,0.9s						
ABTA	Abfaltersbach	87.25	43	iP	P	04 41 20.3	-0.7
	comp=Z,6.8nm,0.8s						
KHC	Kasperske Hory	87.37	40	eP	P	04 41 20.4	-1.0
KEST	Kesra	87.40	54	P	P	04 41 21.9	0.0
	comp=Z,4.0nm,0.9s,baz=205,slow=3.5,SNR=5.9						
GERES	GERESS Array B	87.52	41	P	P	04 41 20.8	-1.5
	comp=Z,1.5nm,0.7s,baz=291,slow=4.0,SNR=9.1						
GERES				pP	pP	04 42 07.6	-1.4
	comp=Z,0.9nm,0.7s,baz=304,slow=5.8,SNR=3.0						
GERES	GERESS Array B	87.52	41	P	P	04 41 20.5	-1.7
KBA	Koelnbreinsper	87.73	42	eP	P	04 41 23.0	-0.3
	comp=Z,7.7nm,1.3s						
MOA	Molln	88.14	42	eP	P	04 41 24.3	-0.8
	comp=Z,7.2nm,1.5s						
DPC	Dobruska-Polom	88.76	39	eP	P	04 41 27.0	-1.0
CONA	Conrad Observa	89.15	41	eP	P	04 41 28.9	-1.0
	comp=Z,3.7nm,0.7s						
FINES	FINESS Array B	90.03	26	P	P	04 41 31.9	-1.6
	comp=Z,2.3nm,0.7s,baz=300,slow=4.2,SNR=6.0						
FINES				PP	PP	04 45 08.6	-0.4
	comp=Z,3.0nm,0.8s,baz=309,slow=9.1,SNR=4.8						
AKASG	Malin Array Be	96.28	35	PP	PP	04 45 57.8	-0.2
	comp=Z,2.2nm,0.8s,baz=303,slow=6.8,SNR=6.1						
BRTR	Keskin Array B	104.12	44	PP	PP	04 46 56.1	-1.6
	comp=Z,1.1nm,0.9s,baz=319,slow=5.4,SNR=4.6						
KBZ	Khabaz	107.85	37	PP	PP	04 47 17.0	-7.5
	comp=Z,3.3nm,1.0s,baz=277,slow=8.1,SNR=2.2						
SYO	Syowa Base	112.91	161⇓	ePKiKP	PKiKP	04 47 07.8	-1.6
BOSA	Boshof	113.76	116	PKiKP	PKiKP	04 47 12.3	-0.2
	comp=Z,2.9nm,0.7s,baz=269,slow=3.2,SNR=8.0						
BOSA				PKKPbc	PKKPbc	04 57 57.1	+1.0
	comp=Z,1.7nm,0.6s,baz=135,slow=1.4,SNR=5.1						
ZALV	Zalesovo Beam	114.28	6	PKP	PKPdf	04 47 11.2	-1.4
	comp=Z,1.3nm,0.3s,baz=302,slow=2.0,SNR=7.8						
ZALV				PP	PP	04 48 08.3	-1.6
	comp=Z,3.5nm,0.8s,baz=348,slow=6.2,SNR=8.2						
KURBB	Kurchatov Arra	116.59	11	PKKPbc	PKKPbc	04 57 44.6	-2.5
	comp=Z,0.7nm,0.8s,baz=167,slow=2.8,SNR=7.7						
SONM	Songino Array	119.93	351	PKP	PKPdf	04 47 22.9	-1.0
	comp=Z,1.8nm,0.3s,baz=294,slow=0.9,SNR=15						
SONM	Songino Array	119.93	351		PKPdf	04 47 23.4	-0.5
MAW	Mawson	120.26	167	PKP	PKPdf	04 47 23.5	-0.1
	comp=Z,3.6nm,0.4s,baz=241,slow=4.1,SNR=11						
GEYT	Alibeck	120.26	33	PKP	PKPdf	04 47 24.1	-0.6
	comp=Z,1.7nm,0.4s,baz=279,slow=4.9,SNR=5.5						
GEYT	Alibeck	120.26	33		PKPdf	04 47 24.2	-0.5
MKAR	Makanchi Array	120.95	10	PKP	PKPdf	04 47 24.2	-1.6
	comp=Z,0.7nm,0.5s,baz=352,slow=3.1,SNR=17						
MKAR	Makanchi Array	120.95	10		PKPdf	04 47 24.3	-1.4
KSRS	Korea Array	121.95	329	PKP	PKiKP	04 47 28.1	0.0
	comp=Z,2.5nm,0.5s,baz=26,slow=1.7,SNR=8.3						
CASY	Casey	124.22	188	PKPdf	PKiKP	04 47 31.8	+0.2
WMQ	Urumqi	124.59	6	eP	PKiKP	04 47 34.3	+1.1
WMQ				LR	LR		
	comp=N,320nm,28.9s						
WMQ				LR	LR		
	comp=E,350nm,29.0s						
WMQ				LR	LR		
	comp=Z,43nm,29.1s						
GAR	Garm	124.98	23	PKPdf	PKPdf	04 47 33.9	0.0
HHC	Hu-ho-hao-te	125.49	344	ePKP	PKiKP	04 47 40.0	+4.9
CTA	Charters Tower	129.46	253	PKP	PKiKP	04 47 44.2	+0.8
	comp=Z,7.5nm,0.8s,baz=168,slow=6.3,SNR=5.3						
CTAO	Charters Tower	129.46	253		PKPdf	04 47 42.3	-0.4
NJ2	Nanjing	130.70	332	ePKP	PKiKP	04 47 46.0	+0.4
LZH	Lanzhou	131.79	350	ePKP	PKiKP	04 47 49.5	+1.5
STKA	Stephens Creek	132.06	237	PKP	PKiKP	04 47 47.9	-0.4
	comp=Z,13nm,0.6s,baz=88,slow=3.9,SNR=29						
STKA	Stephens Creek	132.06	237	PKPdf	PKPdf	04 47 47.2	-0.1
CD2	Chengdu	136.84	348	PKP	PKPdf	04 47 55.5	-0.9
ASAR	Alice Springs	140.50	247	PKhKP	PKPpre	04 47 56.1	
	comp=Z,6.4nm,0.6s,baz=115,slow=3.0,SNR=36						
ASAR				PKP	PKPdf	04 48 04.2	+1.0
	comp=Z,24nm,0.6s,baz=98,slow=1.9,SNR=79						
ASAR				SKP	SKPbc	04 51 22.1	+0.1
	comp=Z,3.0nm,0.8s,baz=113,slow=2.5,SNR=12						
ASAR	Alice Springs	140.50	247		PKPpre	04 47 55.7	
ASAR					PKPdf	04 48 03.0	-0.3
WRA	Warramunga Arr	140.64	253	PKhKP	PKPpre	04 47 57.8	
	comp=Z,4.2nm,0.6s,baz=95,slow=3.1,SNR=64						
WRA				PKP	PKiKP	04 48 04.9	-1.3
	comp=Z,23nm,0.5s,baz=92,slow=2.3,SNR=106						
WRA				SKPbc	SKPbc	04 51 22.9	+0.5
	comp=Z,1.6nm,0.9s,baz=96,slow=2.4,SNR=7.3						
WRA	Warramunga Arr	140.64	253		PKPpre	04 47 56.7	
WRA					PKPdf	04 48 03.2	-0.3
HYB	Hyderabad	147.30	29	iPKP	PKPdf	04 48 16.0	+0.8
CMAR	Chiang Mai Arr	149.85	351	PKP	PKPdf	04 48 19.1	-0.3
	comp=Z,4.0nm,0.7s,baz=332,slow=1.6,SNR=5.4						
CMAR				PKPbc	PKPbc	04 48 23.9	-0.3
	comp=Z,4.2nm,0.7s,baz=337,slow=3.3,SNR=15						
CMAR	Chiang Mai Arr	149.85	351		PKPbc	04 48 23.7	-0.6
NWAO	Narrogin (SRO)	150.06	221	PKPbc	PKPbc	04 48 24.2	-0.2
KSM	Kuching	159.50	308		PKPab	04 49 11.0	-0.5

*IDC **07** 04:45:23.7±2.6, 6°.19N×125°.62E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/47, mbtmp3.5/4, MS3.7/2, Ms1 3.7/2, ms1mx2.7/34, Error ellipse: s-maj=285.0km s-min=21.8km az=66.0*

*MAN **07** 04:45:35.6, 6°.52N×126°.20E, h19km, mb4.5, ML3.3, MS3.1*

ISC 07 04:45:29.3±1.2**, 6°.20N**±0°.08×**126°.5E**±0°.1**, h35km, n11, σ2s.54**/12**, mb3.5**/4**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.76	263	eP	Pn	04 45 47.8	+4.3
DDMP				eS	Sn	04 45 55.4	+1.6
MATI	Mati	0.77	344	eP	Pn	04 45 44.3	+0.6
MATI				eS	Sn	04 45 55.9	+1.8
BIP	Bislig	2.02	354⇑	eP	Pn	04 46 03.6	+2.6
BIP				eS	Sn	04 46 25.0	0.0
BUKP	Musuan	2.18	320	eP	Pn	04 46 04.0	+1.0
BUKP				eS	Sn	04 46 27.4	-1.4
CGP	Cagayan de Oro	2.85	322⇓	eP	Pn	04 46 21.9	+10
CGP				eS	Sn	04 46 48.6	+3.2
GUMO	Guam	19.54	67	LR	LR	04 57 08.4	
	comp=Z,53nm,20.4s,baz=160,slow=35						
WRA	Warramunga Arr	27.11	164	P	P	04 51 11.4	+2.3
	0.3nm,0.6s,baz=342,slow=11,SNR=2.7						
ASAR	Alice Springs	30.56	167	P	P	04 51 40.5	+0.7
	0.2nm,0.3s,baz=342,slow=7.1,SNR=2.6						
MKAR	Makanchi Array	55.40	324	P	P	04 54 56.7	-3.5
	0.4nm,0.6s,baz=125,slow=7.0,SNR=4.6						
KURBB	Kurchatov Arra	59.54	327	P	P	04 55 25.4	-3.7
	0.4nm,0.6s,baz=116,slow=9.0,SNR=4.0						
RPZ	Rata Peaks	63.92	145	LR	LR	05 24 06.5	
	comp=Z,184nm,18.0s,baz=46,slow=36						

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*NEIC **07** 04:47:03.7±1.5, 16°.0S±0°.1×167°.9E±0°.2, h164km±12km, mb4.5/14, Error ellipse: s-maj=35.2km s-min=16.0km az=116.0*

*IDC **07** 04:47:05.5±3.6, 16°.06S×167°.88E, h166km±35km, mb3.9/8, mb1 4.0/9, mb1mx3.6/40, mbtmp4.4/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=32.1km s-min=23.0km az=144.0*

ISC 07 04:47:05.7±0.9**, 16°.06S**±0°.08×**167°.9E**±0°.2**, h177km, n35, σ1s.11**/36**, mb4.4**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.13	193	P	Pn	04 48 34.6	+0.2
	11nm,0.3s,baz=77,slow=11,SNR=108						
DZM				S	Sn	04 49 44.1	-0.3
	1.6nm,0.3s,baz=129,slow=23,SNR=3.3						
DZM	Mont Dzumac	6.13	193		Pn	04 48 33.9	-0.6
DZM					Sn	04 49 44.4	0.0
EIDS	Eidsvold	18.23	237	P	P	04 51 06.0	+0.3
EIDS				IAmb	IAmb	04 51 09.0	
	comp=Z,15nm,0.7s						
CTA	Charters Tower	20.95	256	P	P	04 51 36.6	+1.6
	comp=Z,6.0nm,0.6s,baz=92,slow=11,SNR=11						
CTAO	Charters Tower	20.95	256	P	P	04 51 36.0	+1.0
CTAO				IAmb	IAmb	04 51 38.3	
	comp=Z,7.2nm,0.6s						
PMG	Port Moresby	21.27	286	LR	LR	04 57 43.4	
	comp=Z,91nm,18.4s,baz=177,slow=30						
STKA	Stephens Creek	28.62	232	P	P	04 52 47.0	+1.4
	comp=Z,5.4nm,0.8s,baz=37,slow=8.0,SNR=8.2						
STKA	Stephens Creek	28.62	232	P	P	04 52 46.2	+0.6
WB0	Warramunga Arr	32.06	258	P	P	04 53 15.5	-0.5
WB0				IAmb	IAmb	04 53 16.0	
	comp=Z,7.2nm,0.7s						
WB2	Warramunga Arr	32.10	258	P	P	04 53 15.2	-1.3
WRA	Warramunga Arr	32.11	258	P	P	04 53 15.7	-0.8
	comp=Z,2.3nm,0.7s,baz=86,slow=8.6,SNR=21						
WRA	Warramunga Arr	32.11	258	P	P	04 53 13.9	-2.6
AS31	Alice Springs	32.79	251	P	P	04 53 22.6	+0.2
ASAR	Alice Springs	32.79	251	P	P	04 53 22.5	+0.1
	comp=Z,9.1nm,0.6s,baz=78,slow=8.9,SNR=79						
BBOO	Buckleboo	33.26	234	P	P	04 53 26.4	0.0
BBOO				IAmb	IAmb	04 53 46.2	
	comp=Z,14nm,1.0s						
KNRA	Kununurra	37.60	265	P	P	04 54 02.2	-1.3
KNRA				IAmb	IAmb	04 54 04.4	
	comp=Z,13nm,0.8s						
FORT	Forrest	39.16	241	P	P	04 54 16.0	-0.4
FITZ	Fitzroy Crossi	40.38	261	P	P	04 54 26.2	-0.4
FITZ				IAmb	IAmb	04 54 27.8	
	comp=Z,6.6nm,0.7s						
NWAO	Narrogin (SRO)	48.60	240	P	P	04 55 31.6	0.0
UGM	Wanagama	56.55	271	P	P	04 56 30.3	0.0
MJAR	Matsushiro Arr	59.36	332	P	P	04 56 49.7	+0.4
	comp=Z,0.9nm,0.3s,baz=170,slow=9.0,SNR=4.6						
QIZ	Qiongzhong	66.91	299	P	P	04 57 37.4	-1.9
USRK	Ussuriysk Ar.	68.34	333	P	P	04 57 50.1	+2.3
	comp=Z,3.0nm,0.2s,baz=138,slow=9.2,SNR=4.4						
USRK	Ussuriysk Ar.	68.34	333	P	P	04 57 47.0	-0.8
SONM	Songino Array	83.92	323	P	P	04 59 17.6	+1.7
	comp=Z,1.7nm,0.9s,baz=130,slow=6.6,SNR=6.5						
SONM	Songino Array	83.92	323	P	P	04 59 14.4	-1.4
ILAR	Eielson Array	87.61	18	P	P	04 59 32.5	-0.9
	comp=Z,0.3nm,0.6s,baz=238,slow=5.6,SNR=7.1						
ILAR	Eielson Array	87.61	18	P	P	04 59 33.1	-0.3
ARCES	ARCESS Array B	121.69	345	PKP	PKiKP	05 05 38.6	+0.7
	comp=Z,0.4nm,0.3s,baz=63,slow=2.5,SNR=14						
FINES	FINESS Array B	127.18	338	PKP	PKiKP	05 05 49.9	+0.8
	comp=Z,3.1nm,0.9s,baz=17,slow=2.0,SNR=4.0						
CLL	Collm	139.51	336	ePKPdf	PKiKP	05 06 14.0	-0.3
KEST	Kesra	152.62	320	PKPbc	PKiKP	05 06 43.9	+1.9
	comp=Z,1.5nm,0.5s,baz=16,slow=4.9,SNR=5.5						
KEST	Kesra	152.62	320		PKPbc	05 06 40.5	-1.2
TORD	Torodi Ar. Bea	166.33	260	PKPab	PKPab	05 07 53.3	+0.3
	comp=Z,0.3nm,0.7s,baz=86,slow=2.6,SNR=2.6						
TORD	Torodi Ar. Bea	166.33	260		PKPab	05 07 51.9	-1.1

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*GCG **07** 04:54:07.0±0.6, 13°.77N×93°.40W, h245km±37km, MD4.9*

*IDC **07** 04:54:11.0±2.2, 15°.21N×93°.63W, h0km, mb3.3/2, mb1 3.9/6, mb1mx3.7/35, mbtmp3.7/6, ML3.8/4, MS2.4/1, Ms1 2.4/1, ms1mx2.3/29, Error ellipse: s-maj=47.5km s-min=21.1km az=20.0*

*NEIC **07** 04:54:11.9±1.7, 14°.74N±0°.10×93°.63W±0°.04, h29km±9km, Error ellipse: s-maj=14.4km s-min=4.5km az=193.0*

*MEX **07** 04:54:12.4±0.5, 14°.82N×93°.61W, h10km, MD4.0*

ISC 07 04:54:10.4±2.0**, 14°.88N**±0°.06×**93°.64W**±0°.05**, h12km**±11km**, n37, σ1s.61**/47**, mb3.6**/3**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.91	26	eP	Pg	04 54 27.9	-0.2
PCIG				eS	Sg	04 54 40.0	0.0
THIG		1.33	89	eP	Pn	04 54 33.0	-1.7
THIG				iS	Sb	04 54 48.7	-3.5
RTAL	Retalhuleu	1.91	100		Pn	04 54 41.2	-1.6
RTAL				Sn	Sn	04 55 05.7	-1.2
TGIG		1.95	15	eP	Pn	04 54 44.1	+0.6
TGIG				eS	Sn	04 55 07.6	-0.3
CCIG	Comitan	2.01	46	eP	Pn	04 54 46.2	+1.9
CCIG				eS	Sn	04 55 07.6	-1.9
CCIG	Comitan	2.01	46		Pn	04 54 45.4	+1.1
CCIG				Sn	Sn	04 55 10.6	+1.1
CMIG	Matias Romero	2.50	332	eP	Pn	04 54 48.3	-2.7
CMIG				eS	Sn	04 55 16.8	-4.8
HUIG	Huatulco	2.54	291	eP	Pn	04 54 45.5	-6.1
HUIG				eS	Sn	04 55 12.3	-10
FUG	Fuego 3	2.74	99	eP	Pn	04 54 53.4	-0.9
FUG				eS	Sb	04 55 34.7	+1.6
PCG	Pacaya	2.97	99	eP	Pn	04 54 58.5	+0.9
PCG				eS	Sb	04 55 39.0	-0.9
APG	El Apazote	3.07	87	Pn	Pn	04 54 59.1	+0.1
	5.9nm,0.3s,baz=292,slow=10,SNR=56						
APG				Sn	Sn	04 55 39.2	+3.5
	18nm,0.3s,baz=194,slow=21,SNR=5.2						
APG				LR	LR	04 55 59.8	
	comp=Z,66nm,20.7s,baz=272,slow=36						
IXG	Ixpaco	3.17	102	eP	Pn	04 55 00.1	-0.3
NBG	Las Nubes	3.20	95	eP	Pn	04 55 05.4	+4.6
MRL	Marmol	3.83	86	eP	Pn	04 55 10.9	+1.6
TLIG	Tlapa	5.43	300	Pn	Pn	04 55 32.3	+0.9
TLIG					Sn	04 56 35.4	+1.4
TEIG	Tepich	7.38	43	Pn	Pn	04 55 57.8	-0.1
	8.5nm,0.3s,baz=233,slow=2.8,SNR=49						
TEIG				Sn	Sn	04 57 19.7	-2.0
	7.0nm,0.3s,baz=355,slow=21,SNR=7.8						
TEIG	Tepich	7.38	43		Pn	04 55 58.2	+0.3
TEIG					Sn	04 57 21.4	-0.3
MATN	Matagalpa	7.73	104		Pn	04 56 02.4	-0.6

JTS	**Las Juntas de**	**9.62**	**117**	Pn	Pn	04 56 35.0	+6.1
	0.8nm,0.3s,baz=32,slow=17,SNR=6.7						
JCT	**Junction City**	**16.53**	**341**	P	**Pn**	**04 58 03.0**	**+0.8**
TX31	**Lajitas Ar. Sí**	**17.11**	**329**	P	**Pn**	**04 58 09.8**	**+0.2**
TX32	**Lajitas Array**	**17.11**	**329**	P	**Pn**	**04 58 09.4**	**-0.3**
TXAR	**Lajitas Array**	**17.11**	**329**	Pn	**Pn**	**04 58 10.6**	**+1.0**
	0.0nm,0.3s,baz=147,slow=12,SNR=8.7						
LRAL	**Lakeview Retre**	**19.05**	**17**	P	**P**	**04 58 33.7**	**+1.1**
LRAL				IAmb	IAmb	04 58 37.0	
	comp=Z,5.3nm,1.0s						
MIAR	**Mount Ida**	**19.58**	**0**	P	**P**	**04 58 39.2**	**+0.8**
MIAR				IAmb	IAmb	04 58 45.2	
	comp=Z,6.1nm,1.1s						
154A	**Montrose**	**20.09**	**27**	P	**P**	**04 58 43.8**	**-0.1**
W41B	**Gary Mavity, V**	**20.25**	**3**	P	**P**	**04 58 46.4**	**+0.8**
W41B				IAmb	IAmb	04 58 57.7	
	comp=Z,6.9nm,1.1s						
WHAR	**Wooly Hollow**	**20.36**	**3**	P	**P**	**04 58 44.7**	**-2.1**
WHAR				IAmb	IAmb	04 58 54.3	
	comp=Z,5.9nm,0.9s						
X48A	**Hartselle**	**20.38**	**16**	P	**P**	**04 58 47.1**	**+0.1**
X48A				IAmb	IAmb	04 58 53.0	
	comp=Z,9.6nm,0.9s						
MSTX	**Muleshoe**	**20.73**	**338**	P	**P**	**04 58 51.8**	**+0.8**
Y52A	**Lilburn**	**20.79**	**23**	P	**P**	**04 58 52.1**	**+0.5**
Y52A				IAmb	IAmb	04 58 59.2	
	comp=Z,6.9nm,1.1s						
AMTX	**Amarillo**	**21.20**	**341**	P	**P**	**04 58 55.1**	**-0.9**
121A	**Cookes Peak, D**	**21.79**	**326**	P	**P**	**04 59 02.4**	**-0.1**
121A				IAmb	IAmb	04 59 11.2	
	comp=Z,6.7nm,0.9s						
NVAR	**Mina Array Bea**	**32.00**	**322**	P	**P**	**05 00 37.3**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=134,slow=8.5,SNR=5.1						
NVAR	**Mina Array Bea**	**32.00**	**322**	P	**P**	**05 00 36.3**	**-0.6**
ILAR	**Eielson Array**	**61.41**	**337**	P	**P**	**05 04 26.3**	**0.0**
	comp=Z,0.3nm,0.9s,baz=128,slow=6.9,SNR=4.3						
ILAR	**Eielson Array**	**61.41**	**337**	P	**P**	**05 04 26.7**	**+0.4**

NEIC ***07*** *04:58:48.6±1.3, 12°.3N±0°.1×46°.96E±0°.07, h14km±5km, mb4.3/7, Error ellipse: s-maj=14.8km s-min=8.9km az=192.0*

IDC ***07*** *04:58:48.4±1.4, 12°.23N×47°.03E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.6/41, mbtmp3.8/11, ML3.6/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/50, Error ellipse: s-maj=31.9km s-min=20.3km az=166.0*

ISC 07 04:58:48.9±0.7, 12°.30N±0°.09×46°.97E±0°.07, h10km, n48, σ1§07/40, mb3.9/13, MS3.6/10, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAMY	**Dhamar**	**3.38**	**312**			**Pn**	**04 59 41.5**	**-0.5**
DAMY				Sn		**Sn**	**05 00 20.9**	**-1.4**
ATD	**Arta Tunnel**	**4.11**	**260**	Pn		**Pn**	**04 59 52.0**	**+0.1**
	3.2nm,0.3s,baz=51,slow=8.5,SNR=28							
ATD	**Arta Tunnel**	**4.11**	**260**			**Pn**	**04 59 50.9**	**-1.0**
SOCY	**Socotra**	**6.86**	**90**	Pn		**Pn**	**05 00 28.9**	**-0.8**
UOSS	**Minazif**	**15.31**	**33**	Pn		**Pn**	**05 02 25.1**	**-0.1**
KMBO	**Kilima Mbogo**	**16.47**	**217**	Pn		**Pn**	**05 02 41.2**	**+0.7**
	baz=41,slow=19,SNR=2.5							
KMBO				LR		LR	05 08 16.9	
	comp=Z,88nm,19.5s,baz=342,slow=35							
KMBO	**Kilima Mbogo**	**16.47**	**217**			**Pn**	**05 02 39.0**	**-1.5**
EIL	**Elat**	**20.58**	**329**	LR		LR	05 10 38.3	
	comp=Z,190nm,19.4s,baz=118,slow=34							
ASF	**Jabal al Asfar**	**21.84**	**336**	P		**P**	**05 03 44.6**	**+2.9**
	5.3nm,1.1s,baz=335,slow=0.7,SNR=4.8							
MMAI	**Mount Meron Ar**	**23.18**	**335**	LR		LR	05 13 41.6	
	comp=Z,158nm,19.0s,baz=135,slow=38							
MARD	**Mardin**	**25.52**	**348**	P		**P**	**05 04 18.1**	**+0.3**
CSS	**Mathiatis**	**25.73**	**334**	P		**P**	**05 04 18.5**	**-1.1**
CSS				IAmb		IAmb	05 04 27.6	
	comp=Z,5.6nm,1.0s							
HRA	**Herat**	**26.01**	**30**	P		**P**	**05 04 21.5**	**-0.9**
HRA				IAmb		IAmb	05 04 39.0	
	comp=Z,4.8nm,0.8s							
GEYT	**Alibeck**	**27.40**	**19**	LR		LR	05 17 16.8	
	comp=Z,208nm,21.4s,baz=15,slow=40							
ELL	**Elmali**	**28.77**	**331**	P		**P**	**05 04 46.8**	**-0.2**
BRTR	**Keskin Array B**	**29.75**	**339**	P		**P**	**05 04 57.1**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=157,slow=12,SNR=5.9							
BRTR				LR		LR	05 17 13.7	
	comp=Z,59nm,18.1s,baz=164,slow=37							
BRTR	**Keskin Array B**	**29.75**	**339**	P		**P**	**05 04 54.8**	**-1.0**
BR131	**Keskin Array S**	**29.75**	**339**	P		**P**	**05 04 55.2**	**-0.6**
ILGA	**Ilgaz**	**30.91**	**340**	P		**P**	**05 05 06.4**	**+0.3**
KBZ	**Khabaz**	**31.51**	**354**	LR		LR	05 18 35.5	
	comp=Z,95nm,19.6s,baz=206,slow=38							
LIT	**Litokhoron**	**35.11**	**326**	P		**P**	**05 05 42.1**	**-0.4**
KK02	**Karatay Array**	**36.83**	**29**	P		**P**	**05 05 56.6**	**-0.7**
KK31	**Karatay Array**	**36.83**	**29**	P		**P**	**05 05 55.9**	**-1.4**
KK31				IAmb		IAmb	05 06 10.4	
	comp=Z,5.0nm,1.4s							
KKAR	**Karatay Array**	**36.83**	**29**	P		**P**	**05 05 56.6**	**-0.7**
AB07	**Akbulak array**	**38.37**	**14**	P		**P**	**05 06 08.8**	**-1.3**
ABKAR	**Akbulak array**	**38.38**	**14**	P		**P**	**05 06 09.6**	**-0.6**
ABKAR	**Akbulak array**	**38.38**	**14**	P		**P**	**05 06 10.0**	**-0.2**
BAR	**Bucovina Array**	**39.64**	**337**	P		**P**	**05 06 21.6**	**+0.6**
AKASG	**Malin Array Be**	**40.95**	**343**	P		**P**	**05 06 33.4**	**+1.8**
	comp=Z,2.5nm,0.9s,baz=146,slow=8.0,SNR=4.1							
AKASG	**Malin Array Be**	**40.95**	**343**	P		**P**	**05 06 32.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**44.13**	**276**	P		**P**	**05 06 60.0**	**+1.9**
	comp=Z,0.9nm,0.9s,baz=86,slow=6.9,SNR=5.2							
TORD	**Torodi Ar. Bea**	**44.13**	**276**	P		**P**	**05 06 57.4**	**-0.6**
ARU	**Arti**	**44.94**	**9**	LR		LR	05 29 39.3	
	comp=Z,123nm,19.7s,baz=180,slow=41							
MK31	**Makanchi Array**	**45.44**	**34**	P		**P**	**05 07 08.8**	**+0.8**
MK31				IAmb		IAmb	05 07 21.6	
	comp=Z,7.5nm,1.5s							
MKAR	**Makanchi Array**	**45.44**	**34**	P		**P**	**05 07 09.4**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=224,slow=8.5,SNR=10							
MKAR	**Makanchi Array**	**45.44**	**34**	P		**P**	**05 07 07.1**	**-1.0**
GERES	**GERESS Array B**	**45.67**	**330**	P		**P**	**05 07 11.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=129,slow=7.7,SNR=5.0							
GERES	**GERESS Array B**	**45.67**	**330**	P		**P**	**05 07 10.6**	**+0.6**
BOSA	**Boshof**	**45.78**	**207**	LR		LR	05 25 33.6	
	comp=Z,158nm,19.7s,baz=16,slow=35							
CMAR	**Chiang Mai Arr**	**50.35**	**76**	P		**P**	**05 07 47.4**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=273,slow=8.2,SNR=7.9							
CMAR	**Chiang Mai Arr**	**50.35**	**76**	P		**P**	**05 07 46.7**	**+0.1**
ZALV	**Zalesovo Beam**	**51.18**	**28**	P		**P**	**05 07 52.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=232,slow=7.1,SNR=2.5							
ZALV	**Zalesovo Beam**	**51.18**	**28**	P		**P**	**05 07 52.6**	**+0.4**
MDT	**Midelt**	**51.27**	**302**	LR		LR	05 29 08.4	
	comp=Z,104nm,19.0s,baz=138,slow=35							
NOA	**NORSAR Array B**	**55.19**	**340**	LR		LR	05 35 39.0	
	comp=Z,19nm,18.4s,baz=255,slow=40							
SONM	**Songino Array**	**60.57**	**42**	P		**P**	**05 09 01.1**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=250,slow=8.6,SNR=4.3							
SONM	**Songino Array**	**60.57**	**42**	P		**P**	**05 09 00.4**	**+0.5**
NRIK	**Norilʹsk**	**62.53**	**15**	LR		LR	05 41 44.6	
	comp=Z,89nm,18.1s,baz=195,slow=41							

SJA ***07*** *05:09:09.4±0.6, 19°.66S×69°.47W, h116km±3km, ML5.3, MW5.1*

NEIC ***07*** *05:09:10.6, 19°.66S×69°.50W, h99km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.87; Mθθ=0.06; Mφφ=0.93; Mrθ=0.08; Mrφ=-0.13; Mθφ=-1.89; Fault plane solution: M₀2.10000×10¹⁷ NP1:φs357.07000°, δ77.25000°, λ-87.95000°. NP2:φs167.86000°, δ12.91000°, λ-98.99000°. Principal axes: T 2.1370, Plg32.0000°, Azm85.0000°; N -0.0730, Plg2.0000°, Azm177.0000°; P -2.0640, Plg58.0000°, Azm270.0000°;*

NEIC ***07*** *05:09:10.5±2.1, 19°.60S±0°.04×69°.34W±0°.07, h104km±1km Error ellipse: s-maj=11.3km s-min=7.5km az=267.0*

GUC ***07*** *05:09:10.9±0.6, 19°.65S×69°.47W, h109km±2km, ML5.5, MW5.4*

MOS ***07*** *05:09:10.0±1.3, 19°.47S×69°.34W, h102km, mb5.6/19, Error ellipse: s-maj=11.0km s-min=5.8km az=102.4*

VAO ***07*** *05:09:10.8±0.4, 19°.55S×69°.18W, h102km±3km, mb5.9*

NEIC ***07*** *05:09:10.6, 19°.66S×69°.50W, h103km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.70; Mθθ=0.10; Mφφ=0.80; Mrθ=0.14; Mrφ=-0.13; Mθφ=-1.10; Fault plane solution: M₀1.35000×10¹⁷ NP1:φs170.83000°, δ17.22000°, λ-91.57000°. NP2:φs352.47000°, δ72.79000°, λ-89.51000°. Principal axes: T 1.4028, Plg28.0000°, Azm82.0000°; N -0.1186, Plg0.0000°, Azm172.0000°; P -1.2841, Plg62.0000°, Azm263.0000°;*

IDC ***07*** *05:09:11.7±0.4, 19°.49S×69°.24W, h106km±3km, mb5.1/38, mb1 5.2/41, mb1mx5.1/47, mbtmp5.4/41, MS4.3/17, Ms1 4.2/17, ms1mx4.1/26 Error ellipse: s-maj=9.9km s-min=7.2km az=77.0*

BJI ***07*** *05:09:13.0±0.0, 19°.60S×69°.50W, h109km, mB5.5/21*

NEIC ***07*** *05:09:14, 19°.66S×69°.64W, h125km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.81; Mθθ=0.01; Mφφ=0.80; Mrθ=0.11; Mrφ=-0.42; Mθφ=-1.34; Fault plane solution: M₀1.62000×10¹⁷ NP1:φs137.00000°, δ20.00000°, λ-124.00000°. NP2:φs353.00000°, δ74.00000°, λ-79.00000°. Principal axes: T 1.6676, Plg28.0000°, Azm74.0000°; N -0.0920, Plg11.0000°, Azm170.0000°; P -1.5756, Plg60.0000°, Azm279.0000°;*

GCMT ***07*** *05:09:14.0±0.1, 19°.60S±0°.01×69°.63W±0°.01, h122km, MW5.4/134, Moment Tensor Solution. s122,c189; s134,c254; Duration: 1§2 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.83±.02; Mθθ=0.12±.02; Mφφ=0.95±.02; Mrθ=0.06±.01; Mθφ=-0.49±.02; Mrφ=-1.20±.02; Best double couple: M₀1.56800×10¹⁷ NP1:φs137.00000°, δ23.00000°, λ-126.00000°. NP2:φs355.00000°, δ71.00000°, λ-76.00000°. Principal axes: T 1.6790, Plg25.0000°, Azm74.0000°; N -0.2210, Plg13.0000°, Azm170.0000°; P -1.4570, Plg61.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *05:09:15, 19°.66S×69°.44W, h100km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.89; Mθθ=0.20; Mφφ=0.69; Mrθ=0.08; Mθφ=-0.23; Mrφ=-1.22; Fault plane solution: M₀1.49000×10¹⁷ NP1:φs151.00000°, δ18.00000°, λ-110.00000°. NP2:φs353.00000°, δ73.00000°, λ-83.00000°. Principal axes: T 1.4076, Plg28.0000°, Azm77.0000°; N 0.1483, Plg6.0000°, Azm171.0000°; P -1.5559, Plg61.0000°, Azm272.0000°;*

ISC 07 05:09:10.6±0.3, 19°.65S±0°.03×69°.32W±0°.03, h103km±2km, h103km:pP-P, n1187, σ1§62/1091, mb5.7/284, 25C-20D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO01	**Chusmiza**	**0.12**	**98**	⇓*i*P		**Pn**	**05 09 26.5**	**+0.9**
GO01				*i* S		**Sn**	**05 09 38.7**	**+2.0**
GO01				IAML			05 09 40.5	
	comp=E,211μm,0.2s							
GO01	**Chusmiza**	**0.12**	**98**			**Pn**	**05 09 26.5**	**+0.9**
PB11	**IPOC Station P**	**0.33**	**251**	⇓*i*P		**Pn**	**05 09 26.0**	**+0.1**
PB11				*i* S		**Sn**	**05 09 37.5**	**+0.1**
PB11	**IPOC Station P**	**0.33**	**251**			**Pn**	**05 09 26.2**	**+0.3**
PB11	**IPOC Station P**	**0.33**	**251**	*e*P		**Pn**	**05 09 26.3**	**+0.4**
PB08	**IPOC Station P**	**0.51**	**162**	⇓*i*P		**Pn**	**05 09 28.6**	**+1.3**
PB08				*i* S		**Sn**	**05 09 41.9**	**+2.1**
PB08				IAML			05 09 44.0	
	comp=N,206μm,0.6s							
PB08	**IPOC Station P**	**0.51**	**162**	Pn		**Pn**	**05 09 28.6**	**+1.3**
PB08	**IPOC Station P**	**0.51**	**162**	*e*P		**Pn**	**05 09 28.4**	**+1.1**
PB08				*e*S		**Sn**	**05 09 42.2**	**+2.5**
PB08				IAML			05 09 47.5	
	comp=Z,89μm,0.6s							
MNMC	**Minye Minye**	**0.58**	**333**	⇓*i*P		**Pn**	**05 09 28.1**	**+0.5**
MNMC				*i* S		**Sn**	**05 09 40.8**	**+0.4**
MNMC	**Minye Minye**	**0.58**	**333**			**Pn**	**05 09 28.3**	**+0.7**
MNMCX	**Minye Minye**	**0.58**	**333**	*e*P		**Pn**	**05 09 27.9**	**+0.3**
MNMCX				*e*P		**Pn**	**05 09 27.9**	**+0.3**
PSGC	**Pisagua**	**0.76**	**274**	⇑*i*P		**Pn**	**05 09 28.0**	**-0.9**
PSGC				*i* S		**Sn**	**05 09 41.2**	**-1.5**
PSGC				IAML			05 09 42.1	
	comp=E,121μm,0.4s							
PSGCX	**Pisagua**	**0.76**	**274**			**Pn**	**05 09 28.0**	**-0.9**
PSGCX	**Pisagua**	**0.76**	**274**	*e*P		**Pn**	**05 09 28.2**	**-0.7**
PSGCX				*e*S		**Sn**	**05 09 42.8**	**+0.1**
PSGCX				IAML			05 09 49.0	
	comp=Z,84μm,1.0s							
TA02	**Huaiquique**	**0.98**	**231**	⇑*i*P		**Pn**	**05 09 30.4**	**-0.6**
TA02				*i* S		**Sn**	**05 09 44.9**	**-1.5**
TA02				IAML			05 09 47.1	
	comp=N,208μm,0.5s							
TA01	**Diego Aracena**	**1.22**	**221**	⇑*i*P		**Pn**	**05 09 32.9**	**-0.7**
TA01				*i* S		**Sn**	**05 09 49.3**	**-1.7**
TA01	**Diego Aracena**	**1.22**	**221**			**Pn**	**05 09 33.0**	**-0.7**
PB16	**IPOC Station P**	**1.32**	**352**	⇓*i*P		**Pn**	**05 09 36.6**	**+1.1**
PB16				*i* S		**Sn**	**05 09 55.2**	**+1.0**
PB16	**IPOC Station P**	**1.32**	**352**	Pn		**Pn**	**05 09 36.6**	**+1.1**
PB16	**IPOC Station P**	**1.32**	**352**	*e*P		**Pn**	**05 09 36.0**	**+0.5**
PB16				IAML			05 09 59.6	
	comp=Z,19μm,0.5s							
PB01	**IPOC Station P**	**1.39**	**186**	⇓*i*P		**Pn**	**05 09 36.6**	**+0.8**
PB01				*i* S		**Sn**	**05 09 55.4**	**+0.4**
PB01				IAML			05 09 57.1	
	comp=N,117μm,0.3s							
PB01	**IPOC Station P**	**1.39**	**186**			**Pn**	**05 09 36.7**	**+0.9**
PB01	**IPOC Station P**	**1.39**	**186**	*e*P		**Pn**	**05 09 36.4**	**+0.6**
PB01				*e*S		**Sn**	**05 09 55.8**	**+0.8**
PB01				IAML			05 09 56.4	
	comp=Z,29μm,0.8s							
PATCX	**Punta Patache**	**1.40**	**214**	⇑*i*P		**Pn**	**05 09 35.3**	**-0.6**
PATCX				*i* S		**Sn**	**05 09 53.1**	**-2.0**
PATCX	**Punta Patache**	**1.40**	**214**			**Pn**	**05 09 35.1**	**-0.7**
PATCX	**Punta Patache**	**1.40**	**214**	*e*P		**Pn**	**05 09 35.2**	**-0.7**
PATCX				*e*P		**Pn**	**05 09 35.2**	**-0.7**
PATCX				*e*P			05 09 35.4	
PATCX				IAML			05 09 58.0	
	comp=Z,32μm,0.6s							
AP01	**Chacalluta**	**1.60**	**323**	⇑*i*P		**Pn**	**05 09 37.4**	**-0.8**
AP01				*i* S		**Sn**	**05 09 57.9**	**-1.3**
AP01				IAML			05 10 01.3	
	comp=N,128μm,0.4s							
AP01	**Chacalluta**	**1.60**	**323**			**Pn**	**05 09 37.4**	**-0.8**
PB07	**IPOC Station P**	**2.13**	**194**	⇑*i*P		**Pn**	**05 09 45.2**	**+0.1**
PB07				*i* S		**Sn**	**05 10 09.0**	**-2.5**
PB07				IAML			05 10 14.9	
	comp=E,39μm,0.4s							
PB07	**IPOC Station P**	**2.13**	**194**			**Pn**	**05 09 45.3**	**+0.1**
PB07	**IPOC Station P**	**2.13**	**194**	*e*P		**Pn**	**05 09 45.2**	**+0.1**
PB07				*e*S		**Sn**	**05 10 11.0**	**-0.6**
PB07				IAML			05 10 13.3	
	comp=Z,23μm,0.5s							
PB09	**IPOC Station P**	**2.14**	**178**	*e*P		**Pn**	**05 09 46.1**	**+0.9**
PB09				*i* S		**Sn**	**05 10 10.6**	**-1.0**
PB09				IAML			05 10 15.8	
	comp=E,23μm,0.6s							
PB09	**IPOC Station P**	**2.14**	**178**			**Pn**	**05 09 46.6**	**+1.4**
PB09	**IPOC Station P**	**2.14**	**178**	*e*P		**Pn**	**05 09 46.4**	**+1.2**
PB09				*e*S		**Sn**	**05 10 11.0**	**-0.7**
PB09				IAML			05 10 23.2	
	comp=Z,20μm,0.8s							
PB03	**IPOC Station P**	**2.42**	**190**	⇑*i*P		**Pn**	**05 09 49.0**	**+0.1**
PB03				*i* S		**Sn**	**05 10 14.3**	**-4.0**
PB03	**IPOC Station P**	**2.42**	**190**	*e*P		**Pn**	**05 09 49.0**	**+0.1**
PB03				*e*S		**Sn**	**05 10 14.8**	**-3.5**
PB03				IAML			05 10 17.2	
	comp=Z,14μm,0.9s							
PB04	**IPOC Station P**	**2.78**	**196**	⇑*i*P		**Pn**	**05 09 53.0**	**-0.6**
PB04				*i* S		**Sn**	**05 10 19.4**	**-7.3**
PB04				IAML			05 10 58.9	
	comp=N,26μm,0.8s							
PB04	**IPOC Station P**	**2.78**	**196**			**Pn**	**05 09 53.5**	**-0.2**
PB04	**IPOC Station P**	**2.78**	**196**	*e*P		**Pn**	**05 09 53.4**	**-0.2**
PB04				*e*S		**Sn**	**05 10 20.2**	**-6.5**
LVC	**Limon Verde**	**2.97**	**173**	P		**Pn**	**05 09 58.0**	**+1.6**
	comp=N,203nm,0.3s,baz=3.5,slow=8.9,SNR=1684							
LVC				S		**Sn**	**05 10 25.3**	**-6.2**
	comp=N,983nm,0.3s,baz=336,slow=13,SNR=28							
LVC				LR		LR	05 11 22.2	
	comp=N,3μm,18.4s,baz=352,slow=42							
LVC	**Limon Verde**	**2.97**	**173**	P		**Pn**	**05 09 58.0**	**+1.6**
LVC	**Limon Verde**	**2.97**	**173**	Pn		**Pn**	**05 09 58.0**	**+1.6**
LVC	**Limon Verde**	**2.97**	**173**	*e*P		**Pn**	**05 09 58.0**	**+1.6**
LVC	**Limon Verde**	**2.97**	**173**	*e*P		**Pn**	**05 09 58.3**	**+1.9**
LVC				*e*S		**Sn**	**05 10 26.2**	**-5.3**
LVC				IAML			05 11 09.6	
	comp=Z,5μm,1.3s							
PB06	**IPOC Station P**	**3.05**	**184**			**Pn**	**05 09 57.4**	**+0.2**
PB06	**IPOC Station P**	**3.05**	**184**	*e*P		**Pn**	**05 09 57.4**	**+0.2**
PB06				*e*S		**Sn**	**05 10 30.2**	**-2.9**
PB06				IAML			05 10 55.1	
	comp=Z,16μm,1.0s							
PB05	**IPOC Station P**	**3.29**	**194**	*e*P		**Pn**	**05 09 59.8**	**-0.6**
PB05				*e*S		Sn	05 10 26.7	-12
PB05				IAML			05 11 11.0	
	comp=Z,11μm,0.8s							
I08BO	**LAS PENAS INFR**	**3.52**	**14**	P		Pn	05 10 09.8	+6.0
	baz=212,slow=19,SNR=1.7							
I08BO				*i*			05 30 00.0	
	baz=207,slow=323,SNR=1.4							
LPAZ	**La Paz**	**3.53**	**19**	P		**Pn**	**05 10 07.0**	**+2.8**
	comp=Z,41nm,0.3s,baz=197,slow=7.3,SNR=1203							
LPAZ				S		**Sn**	**05 10 40.9**	**-4.5**
	comp=Z,71nm,0.3s,baz=204,slow=13,SNR=4.8							
LPAZ				LR		LR	05 11 47.2	
	comp=Z,7μm,18.3s,baz=240,slow=46							
LPAZ	**La Paz**	**3.53**	**19**	P		**Pn**	**05 10 07.0**	**+2.8**
PB15	**IPOC Station P**	**3.54**	**182**			**Pn**	**05 10 04.4**	**+0.5**
PB15	**IPOC Station P**	**3.54**	**182**	*e*P		**Pn**	**05 10 04.4**	**+0.5**
PB10	**IPOC Station P**	**4.01**	**196**	Pn		**Pn**	**05 10 08.2**	**-1.7**
PB10	**IPOC Station P**	**4.01**	**196**	*e*P		**Pn**	**05 10 08.6**	**-1.4**
PB10				*e*S		**Sn**	**05 10 53.8**	**-2.2**
PB10				IAML			05 11 54.7	
	comp=Z,3μm,1.0s							
GO02	**Mina Guanaco**	**5.49**	**183**			**Pn**	**05 10 29.6**	**-0.7**
AC01	**Pan de Azucar**	**6.57**	**190**	Pn		**Pn**	**05 10 41.6**	**-3.1**
AC02	**Maricunga**	**7.15**	**179**	Pn		**Pn**	**05 10 52.2**	**-0.8**
GO03	**Copiap**	**7.95**	**186**	Pn		**Pn**	**05 11 00.1**	**-3.4**
GO03	**Copiap**	**7.95**	**186**	*e*P		**Pn**	**05 11 01.5**	**-2.0**
GO03				*e*S		**Sn**	**05 12 28.4**	**-3.4**
SIV	**San Ignacio**	**8.66**	**66**	P		**Pn**	**05 11 11.9**	**-1.2**
	comp=Z,238nm,0.3s,baz=263,slow=11,SNR=5110							
AC04	**Llanos de Chal**	**8.66**	**190**	Pn		Pn	05 11 07.7	-5.4
AC05	**El Transito**	**9.19**	**185**	Pn		**Pn**	**05 11 16.5**	**-3.8**
CYA	**Choya**	**9.32**	**161**	*e*P		**Pn**	**05 11 21.4**	**-0.7**
AGUA	**GUANDACOL**	**9.82**	**176**	*e*P		**Pn**	**05 11 26.8**	**-2.1**
ETMB	**Extrema**	**10.23**	**18**	*e*P		**Pn**	**05 11 31.8**	**-2.6**
CO01	**Juntas del Tor**	**10.30**	**184**	Pn		**Pn**	**05 11 33.0**	**-2.7**
AROD	**Rodeo**	**10.47**	**181**	*e*P		**Pn**	**05 11 36.0**	**-2.0**
ACDV	**Cuesta del Vie**	**10.48**	**179**	*e*P		**Pn**	**05 11 35.6**	**-2.3**
NNA	**Nana**	**10.51**	**315**	P		**Pn**	**05 11 35.1**	**-3.1**
	comp=Z,13nm,0.3s,baz=159,slow=12,SNR=25							
NNA				S		Sn	05 13 23.0	-11
	comp=Z,14nm,0.3s,baz=252,slow=19,SNR=2.6							
NNA	**Nana**	**10.51**	**315**	Pn		**Pn**	**05 11 34.9**	**-3.3**
GO04	**Tololo Observa**	**10.56**	**187**	Pn		Pn	05 11 34.2	-4.9
PTLB	**Pontes e Lacer**	**10.57**	**68**	*e*P		**Pn**	**05 11 37.4**	**-1.7**
ACCO	**Cerro Coronel**	**10.89**	**179**	*e*P		**Pn**	**05 11 41.0**	**-2.7**
VILB	**Vilhena**	**11.00**	**54**	*e*P		**Pn**	**05 11 43.1**	**-1.8**
VILB				*e*S		**Sn**	**05 13 41.4**	**-4.6**
CO03	**El Pedregal**	**11.21**	**186**	Pn		Pn	05 11 42.3	-5.4
CO02	**Combarbal**	**11.60**	**187**	Pn		Pn	05 11 47.5	-5.5
SAML	**Samuel**	**12.19**	**30**	P		**Pn**	**05 11 57.7**	**-3.0**
SAML	**Samuel**	**12.19**	**30**			**Pn**	**05 11 57.7**	**-3.0**
SAML	**Samuel**	**12.19**	**30**	*e*P		**Pn**	**05 11 57.7**	**-3.0**
AUSP	**Uspallata**	**12.52**	**180**	*e*P		**Pn**	**05 12 02.4**	**-2.9**
AQDB	**Aquidauana**	**12.83**	**96**	*e*P		**Pn**	**05 12 07.2**	**-1.9**
CPUP	**Villa Florida**	**12.89**	**123**	P		**Pn**	**05 12 08.0**	**-1.9**
	comp=Z,4.4nm,0.3s,baz=302,slow=12,SNR=166							
CPUP				LR		LR	05 18 22.3	
	comp=Z,1μm,18.9s,baz=311,slow=43							
CPUP	**Villa Florida**	**12.89**	**123**	P		**Pn**	**05 12 08.0**	**-1.9**
CPUP	**Villa Florida**	**12.89**	**123**	*e*P		**Pn**	**05 12 08.8**	**-1.1**
VA03	**San Esteban**	**13.11**	**185**	Pn		Pn	05 12 08.3	-4.6
ROC1	**El Roble**	**13.36**	**186**	Pn		**Pn**	**05 12 15.7**	**-0.6**
PEL	**Peldehue**	**13.49**	**185**	P		**Pn**	**05 12 19.0**	**+1.2**
PEL				pmax		pmax		
	comp=Z,159nm,1.3s							
BO02	**Sierra Bellavi**	**15.14**	**185**	IAmb		IAmb	05 12 45.5	
	comp=Z,419nm,0.8s							
ATAH	**Atahualpa**	**15.24**	**323**	P		**Pn**	**05 12 40.

RREF El Recreo 25.11 346 eP P P 05 14 23.9 -2.7
PLMC San Jos del P 25.34 344 eP P P 05 14 25.4 -2.7
GUY2C Guyana, Caldas 25.42 346 eP P P 05 14 27.1 -2.2
MCPB Macapa, AP 25.57 43 eP P P 05 14 29.1 -1.1
SPBC San Pablo de B 25.57 349 eP P P 05 14 27.4 -2.8
SPBC eP P 05 14 30.9 +0.7
RUSC La Rusia 25.65 351 eP P P 05 14 30.9 -0.5
CBOC Ciudad Bolivar 26.20 345 eP P P 05 14 34.6 -1.3
PTBC PUERTO BERRIO, 26.51 349 eP P P 05 14 33.9 -4.7
SJMB Sao Joao De Ma 26.58 93 eP P P 05 14 38.3 -1.0
SOLC Bahia Solano 26.92 342 eP P P 05 14 41.4 -0.9
TMAB Tom-Au,PA,Br 26.93 53 eP P P 05 14 41.5 -0.9
PAMC Pamplona, Colo 27.03 353 eP P P 05 14 40.5 -3.3
RIB01 Linhares ES 27.26 94 eP P P 05 14 44.3 -1.1
ZARC Zaragoza, Cauc 27.52 348 eP P P 05 14 42.0 -5.6
NAN01 Guarapari, ES 27.69 91 eP P P 05 14 47.1 -2.1
PAYG Puerto Ayora 27.88 310 P P P 05 14 51.3 +0.4
UREC San Jos de Ur 27.91 347 eP P P 05 14 46.8 -4.3
OCAC Ocana 27.99 352 eP P P 05 14 49.0 -3.1
SDV Santo Domingo 28.39 357 P P P 05 14 54.2 -1.3
comp=Z,52nm,0.9s,baz=189,slow=2.0,SNR=26
SDV Santo Domingo 28.39 357 P P 05 14 54.3 -1.3
SDV Santo Domingo 28.39 357 eP P 05 14 53.9 -1.6
SMLC San Martn de 28.66 350 eP P 05 14 53.0 -4.7
GDU01 Guandu, BA 29.07 83 eP P 05 15 00.4 -1.1
CAPC Capurgana 29.20 344 eP P 05 15 01.8 -0.8
MDP Montagnes des 29.57 35 P P P 05 15 03.5 -2.4
comp=Z,86nm,0.8s,baz=209,slow=9.1,SNR=22
ROSB Rosrio 29.72 59 eP P 05 15 06.6 -0.6
BCIP Isla Barro Col 30.45 339 P P 05 15 13.5 -0.1
BCIP pmax pmax
comp=Z,69nm,0.8s
BCIP Isla Barro Col 30.45 339 P P 05 15 13.5 -0.1
TOSP Speyside 31.95 16 IAmb IAmb 05 15 29.5
comp=Z,95nm,0.8s
NBMO Morrinhos-CE 32.87 64 eP P 05 15 33.7 -1.3
EFI East Falkland 33.16 167 c iP P 05 15 38.1 +1.1
EFI East Falkland 33.16 167 P P 05 15 38.7 +1.7
JTS Las Juntas de 33.50 331 P P 05 15 41.0 +0.7
comp=Z,54nm,0.9s,baz=229,slow=2.9,SNR=33
JTS LR LR 05 30 39.9
comp=Z,357nm,20.9s,baz=220,slow=39
JTS Las Juntas de 33.50 331 P P 05 15 39.8 -0.6
FDF Fort de France 35.10 14 P P 05 15 57.3 +3.1
USHA Ushuaia 35.13 179 P P 05 15 55.5 +1.6
comp=Z,42nm,0.7s,baz=28,slow=3.4,SNR=9.3
USHA PcP PcP 05 18 23.1 0.0
comp=Z,41nm,0.3s,baz=188,slow=0.1,SNR=11
MG01 Puerto William 35.24 178 P P 05 15 54.6 -0.4
MG01 IAmb IAmb 05 15 56.8
comp=Z,61nm,0.8s
RCBR Riachuelo 35.28 72 P P 05 15 56.2 +0.3
comp=Z,476nm,0.6s,baz=239,slow=8.6,SNR=190
RCBR Riachuelo 35.28 72 P P 05 15 55.9 0.0
RCBR Riachuelo 35.28 72 eP P 05 15 55.2 -0.7
MATN Matagalpa 36.27 332 P P 05 16 03.0 -1.3
MATN IAmb IAmb 05 16 17.1
comp=Z,61nm,0.9s
RPN Rapa Nui 37.35 251 P P 05 16 14.1 +0.8
comp=Z,86nm,0.8s,baz=77,slow=5.1,SNR=4.3
RPN Rapa Nui 37.35 251 P P 05 16 14.1 +0.8
RPN pmax pmax
comp=Z,315nm,1.2s
RPN Rapa Nui 37.35 251 IAmb IAmb 05 16 15.9
comp=Z,315nm,1.2s
ICMP Isla Caja de M 37.40 4 P P 05 16 11.7 -2.0
MLPR Magueyes Islan 37.45 4 P P 05 16 11.8 -2.3
MLPR IAmb IAmb 05 17 00.4
comp=Z,145nm,1.1s
CRPR Cabo Rojo, PR 37.49 3 P P 05 16 12.4 -1.9
CRPR IAmb IAmb 05 16 40.6
comp=Z,113nm,0.9s
OBIP Obispado Ponce 37.55 4 IAmb IAmb 05 16 42.3
comp=Z,248nm,1.4s
PDPR Patillas Dam, 37.57 5 IAmb IAmb 05 16 39.7
comp=Z,112nm,1.0s
MTP Monte Pirata 37.70 6 P P 05 16 13.5 -2.6
HUMP Col San Antoni 37.71 5 P P 05 16 14.1 -2.2
HUMP IAmb IAmb 05 17 03.6
comp=Z,259nm,1.9s
CBYP Canovanas 37.84 5 P P 05 16 14.9 -2.5
GCPR Guaynabo City 37.86 5 P P 05 16 15.6 -1.9
GCPR IAmb IAmb 05 16 23.2
comp=Z,73nm,1.0s
TGUH Tegucigalpa,Un 37.87 331 P P 05 16 17.7 -0.1
CUPR Culebra, Puert 37.93 6 P P 05 16 16.9 -1.2
CUPR IAmb IAmb 05 17 05.5
comp=Z,62nm,0.9s
PAPH Port-au-Prince 38.05 355 IAmb IAmb 05 16 21.0
comp=Z,100nm,0.9s
SDDR Presa de Saban 38.44 357 P P 05 16 20.8 -1.7
SC01 Santiago de lo 38.86 358 P P 05 16 24.8 -1.1
SC01 IAmb IAmb 05 16 25.8
comp=Z,145nm,0.9s
MTO3 Montecristo 39.16 328 P P 05 16 29.1 +0.3
MTO3 IAmb IAmb 05 16 30.5
comp=Z,175nm,1.0s
ESQI Esquipulas 39.29 328 P P 05 16 30.5 +0.8
GTBY Guantanamo Bay 39.74 351 P P 05 16 31.1 -2.1
GTBY IAmb IAmb 05 16 32.8
comp=Z,85nm,0.8s
APG El Apazote 40.23 327 P P 05 16 38.5 +0.9
comp=Z,131nm,0.8s,baz=157,slow=6.6,SNR=174
FSCY Frank Sound, G 40.43 343 P P 05 16 40.0 +1.1
LCCY Blossom Villag 40.47 344 P P 05 16 39.3 0.0
GRTK Grand Turk 40.95 357 P P 05 16 41.8 -1.3
GRTK IAmb IAmb 05 16 42.6
comp=Z,133nm,0.8s
PETF Flores 41.57 330 P P 05 16 49.1 +0.8
PETF IAmb IAmb 05 16 50.2
comp=Z,249nm,1.2s
CCIG Comitan 42.17 326 P P 05 16 53.7 +0.2
CCIG IAmb IAmb 05 16 54.8
comp=Z,104nm,1.0s
TEIG Tepich 43.77 334 P P 05 17 05.2 -0.8
comp=Z,115nm,0.8s,baz=152,slow=6.0,SNR=52
TEIG pP pP 05 17 30.2 -0.5
comp=Z,70nm,0.8s,baz=154,slow=7.1,SNR=5.5
TEIG Tepich 43.77 334 P P 05 17 05.6 -0.5
TEIG IAmb IAmb 05 17 06.6
comp=Z,151nm,0.8s
PMSA Palmer Station 45.23 177 P P 05 17 19.3 +2.2
comp=Z,22nm,0.7s,baz=7.7,slow=6.6,SNR=10
PMSA pP pP 05 17 43.7 +1.7
comp=Z,19nm,0.8s,baz=345,slow=4.9,SNR=4.0
PMSA Palmer Station 45.23 177 P P 05 17 18.8 +1.6
PMSA Palmer Station 45.23 177 eP P 05 17 19.1 +2.0
TLIG Tiapa 46.83 320 IAmb IAmb 05 17 32.6
comp=Z,104nm,1.0s
060A Indiantown 47.63 347 P P 05 17 35.9 -0.5
656A Willston 50.37 345 P P 05 17 57.5 +0.3
BBSR BB Station 51.92 5 P P 05 18 07.4 -1.3
BBSR IAmb IAmb 05 18 08.2
comp=Z,51nm,0.7s
451A Vernon 52.41 342 P P 05 18 12.0 -0.4
257A Skidaway Islan 52.54 347 P P 05 18 13.1 -0.2
TIGA Tifton 52.61 345 P P 05 18 13.4 -0.5
baz=164,SNR=14
255A Hazlehurst 52.81 346 P P 05 18 14.8 -0.5
158A Hollywood 53.12 349 P P 05 18 17.6 0.0
baz=168,SNR=9.9
ZAIG Zacatecas 53.21 321 P P 05 18 19.6 +0.7
ZAIG pP pP 05 18 44.9 +0.7
157A Early Branch 53.22 348 P P 05 18 18.3 -0.1
baz=167,SNR=17
BRAL Brewton 53.32 341 P P 05 18 18.7 -0.5
baz=160
CSU Charleston Sou 53.34 349 P P 05 18 19.0 -0.2
Z59A Georgetown, SC 53.45 350 P P 05 18 19.2 -0.8
baz=169
NHSC New Hope 53.48 349 P P 05 18 20.4 +0.2
baz=168,SNR=79
NHSC New Hope 53.48 349 P P 05 18 20.4 +0.2
Z58A St. Stephen 53.63 349 P P 05 18 21.2 -0.2
baz=168,SNR=32
Z57A Bowman 53.76 348 P P 05 18 22.1 -0.2
baz=167,SNR=73
250A Grady 53.84 342 P P 05 18 22.1 -0.8
Z56A Williston 53.92 348 P P 05 18 23.1 -0.3
baz=166,SNR=22
Y60A Bolivia 54.02 351 P P 05 18 23.6 -0.6
baz=170
Y60A Bolivia 54.02 351 IAmb IAmb 05 18 24.6
comp=Z,122nm,0.8s

152A Waverly Hall 54.07 344 IAmb IAmb 05 18 24.6
comp=Z,127nm,1.1s
Y59A Loris 54.11 350 P P 05 18 24.2 -0.7
baz=169,SNR=5.2
Y56A Pelion 54.36 348 P P 05 18 26.2 -0.4
baz=166,SNR=12
Y57A Sumter 54.40 349 P P 05 18 26.6 -0.3
baz=168,SNR=41
ASCN Ascension 54.42 86 P P 05 18 28.2 +0.6
GOGA Godfrey 54.47 345 P P 05 18 26.3 -1.1
baz=164,SNR=33
GOGA Godfrey 54.47 345 P P 05 18 26.8 -0.6
GOGA pmax pmax
comp=Z,72nm,1.2s
GOGA Godfrey 54.47 345 P P 05 18 26.8 -0.6
GOGA IAmb IAmb 05 18 27.6
comp=Z,72nm,1.1s
X60A Albert Glenn T 54.55 351 P P 05 18 27.2 -0.8
baz=170,SNR=8.3
X59A McDuffie Farm, 54.64 351 P P 05 18 27.8 -0.9
baz=170,SNR=6.9
X58A Rowland 54.74 350 P P 05 18 28.9 -0.5
baz=169,SNR=6.8
X57A Johnson Farm, 54.78 349 P P 05 18 29.3 -0.4
baz=168,SNR=15
Z51A Franklin 54.80 344 IAmb IAmb 05 18 30.0
comp=Z,116nm,1.4s
JSC Jenkinsville 54.82 348 IAmb IAmb 05 18 30.7
comp=Z,64nm,1.0s
HODGE Hodges 54.98 347 P P 05 18 30.6 -0.5
HODGE IAmb IAmb 05 18 31.8
comp=Z,105nm,1.3s
W60A Pink Hill 54.98 352 P P 05 18 30.4 -0.7
baz=171,SNR=6.3
X56A White Oak 54.98 348 P P 05 18 30.7 -0.4
baz=167,SNR=48
BIRD Birdtown, Kers 55.02 349 P P 05 18 31.2 -0.2
Y52A Lilburn 55.04 345 IAmb IAmb 05 18 31.6
comp=Z,80nm,1.1s
LRAL Lakeview Retre 55.05 342 P P 05 18 30.3 -1.3
baz=160,SNR=41
LRAL Lakeview Retre 55.05 342 P P 05 18 30.5 -1.1
LRAL IAmb IAmb 05 18 31.5
comp=Z,67nm,0.9s
X55A Gracelyn & Ava 55.08 348 P P 05 18 31.5 -0.4
baz=166,SNR=69
W58A Raeford 55.18 350 P P 05 18 32.2 -0.3
baz=169,SNR=109
CNNC Cliffs of the 55.19 351 P P 05 18 31.9 -0.7
baz=171
W59A Clinton 55.20 351 P P 05 18 32.2 -0.5
baz=170
X54A Belton 55.31 347 P P 05 18 33.0 -0.5
baz=165,SNR=39
146A Union 55.31 340 P P 05 18 32.2 -1.4
342A Flagon Creek P 55.33 336 pP pP 05 18 59.9 +0.4
VBMS Vicksburg 55.43 338 P P 05 18 33.4 -1.0
baz=156,SNR=6.6
W57A Gilead 55.44 349 P P 05 18 33.9 -0.5
baz=168,SNR=94
W57A Gilead 55.44 349 P P 05 18 34.0 -0.5
PAULI Pauline 55.46 348 P P 05 18 34.5 -0.1
PAULI IAmb IAmb 05 18 35.4
comp=Z,124nm,1.1s
Z47A Carrollton 55.52 341 IAmb IAmb 05 18 34.8
comp=Z,126nm,1.0s
W56A Indian Trail 55.52 349 P P 05 18 34.5 -0.5
baz=168,SNR=84
HKT Hockley 55.53 332 d iP P 05 18 35.2 +0.1
HKT pmax pmax
comp=Z,143nm,1.3s
HKT Hockley 55.53 332 P P 05 18 35.2 +0.1
HKT IAmb IAmb 05 18 36.6
comp=Z,132nm,1.2s
V61A Roper 55.56 353 P P 05 18 34.4 -0.9
baz=172
V60A Jim Taylor Roa 55.62 352 P P 05 18 35.0 -0.7
baz=171,SNR=11
V60A Jim Taylor Roa 55.62 352 P P 05 18 35.1 -0.7
Y49A Blount Mountai 55.65 343 P P 05 18 34.9 -1.1
Y49A IAmb IAmb 05 18 35.6
comp=Z,74nm,0.9s
KMSC Kings Mountain 55.67 348 P P 05 18 35.8 -0.3
baz=167,SNR=56
KMSC Kings Mountain 55.67 348 IAmb IAmb 05 18 36.9
comp=Z,119nm,0.9s
V59A Middlesex 55.76 351 P P 05 18 36.1 -0.6
baz=170,SNR=30
W54A Cherokee Point 55.79 347 P P 05 18 36.7 -0.2
baz=166,SNR=51
833A Chaparral WMA, 55.86 328 P P 05 18 37.4 -0.2
baz=146,SNR=42
X51A Calhoun 55.91 345 P P 05 18 36.6 -1.2
V58A Windy Hill, Pi 55.92 350 P P 05 18 37.1 -0.7
baz=169,SNR=42
V58A Windy Hill, Pi 55.92 350 IAmb IAmb 05 18 38.2
comp=Z,131nm,1.2s
FPAL Fort Paine 56.08 344 IAmb IAmb 05 18 38.8
comp=Z,102nm,1.2s
U61A Possum Corner 56.08 353 P P 05 18 38.3 -0.7
baz=172
U61A Possum Corner 56.08 353 P P 05 18 38.4 -0.6
V57A Coltrane Farms 56.12 350 P P 05 18 38.5 -0.7
baz=168,SNR=53
V56A Mocksville 56.16 349 P P 05 18 39.5 -0.1
baz=168,SNR=142
143A Socs Landing, 56.18 338 IAmb IAmb 05 18 40.1
comp=Z,134nm,1.4s
W52A Murphy 56.18 346 IAmb IAmb 05 18 40.2
comp=Z,105nm,1.1s
U59A Littleton 56.27 352 P P 05 18 39.6 -0.7
baz=171,SNR=16
U59A Littleton 56.27 352 P P 05 18 38.4 -2.0
U59A IAmb IAmb 05 18 40.8
comp=Z,74nm,1.2s
U60A Pendleton 56.31 352 P P 05 18 39.7 -0.8
baz=172,SNR=11
V55A Taylorsville 56.34 348 P P 05 18 40.7 -0.1
baz=167,SNR=92
V54A Nebo 56.41 348 P P 05 18 40.9 -0.4
baz=166,SNR=80
U58A Oxford 56.42 351 P P 05 18 40.8 -0.6
baz=170,SNR=28
V53A Saluda 56.48 347 IAmb IAmb 05 19 10.1
comp=Z,48nm,0.8s
U57A Blanch 56.58 350 P P 05 18 41.9 -0.6
baz=169,SNR=50
NATX Nacogdoches 56.60 334 P P 05 18 43.1 +0.4
baz=152,SNR=25
SACV Santiago Islan 56.62 56 P P 05 18 42.7 -0.5
SACV IAmb IAmb 05 18 47.5
comp=Z,76nm,0.8s
W50A Signal Mountai 56.62 344 P P 05 18 41.7 -1.2
CPCT Cooper Cave 56.66 345 IAmb IAmb 05 18 43.4
comp=Z,104nm,1.1s
U56A King 56.67 349 P P 05 18 43.2 +0.1
baz=168,SNR=48
TKL Tuckaleechee C 56.69 346 P P 05 18 42.2 -1.1
comp=Z,82nm,0.9s,baz=165,slow=8.0,SNR=82
TKL pP pP 05 19 08.4 -1.2
comp=Z,59nm,0.9s,baz=158,slow=8.1,SNR=6.8
TKL Tuckaleechee C 56.69 346 IAmb IAmb 05 18 43.4
comp=Z,128nm,1.1s
SWET Sewanee 56.80 344 IAmb IAmb 05 18 43.5
comp=Z,94nm,0.7s
T59A Double "B" Far 56.85 352 P P 05 18 43.7 -0.7
baz=171,SNR=38
T59A Double "B" Far 56.85 352 IAmb IAmb 05 18 44.8
comp=Z,116nm,1.0s
T60A Surry 56.91 353 P P 05 18 44.3 -0.5
baz=172
U55A TA2, Sparta 56.94 349 P P 05 18 44.7 -0.4
baz=167,SNR=51
T58A Grand View Acr 56.96 351 P P 05 18 44.7 -0.5
baz=170,SNR=48
V51A Loudon 56.96 345 P P 05 18 44.2 -1.0
V51A IAmb IAmb 05 18 45.3
comp=Z,82nm,1.1s
435B Jarrell 57.03 331 P P 05 18 45.4 -0.5
baz=148,SNR=10
U54A Nelsons Funny 57.10 348 P P 05 18 45.8 -0.5
baz=166,SNR=53
U54A Nelsons Funny 57.10 348 P P 05 18 45.8 -0.5
T57A Hurt 57.12 351 P P 05 18 45.9 -0.4
baz=169,SNR=52
T57A Hurt 57.12 351 P P 05 18 46.1 -0.2
OXF Oxford 57.15 340 P P 05 18 44.7 -1.9
baz=158
OXF Oxford 57.15 340 P P 05 18 44.8 -1.8
OXF pmax pmax
comp=Z,269nm,1.0s
OXF Oxford 57.15 340 P P 05 18 44.8 -1.8
PLAL Pickwick Lake 57.18 342 P P 05 18 44.9 -1.9
PLAL IAmb IAmb 05 18 46.2
comp=Z,133nm,0.9s
Z41A Richland Creek 57.19 337 P P 05 18 46.5 -0.4
baz=154,SNR=27
T56A Rocky Mt 57.27 350 P P 05 18 47.5 +0.1
baz=168,SNR=54
S60A Water View 57.47 353 P P 05 18 48.0 -0.7
baz=172
VWCC Virginia Weste 57.48 350 P P 05 18 48.8 -0.1
TZTN Tazewell 57.48 346 P P 05 18 47.8 -1.1
baz=164,SNR=19
TZTN Tazewell 57.48 346 IAmb IAmb 05 18 49.1
comp=Z,87nm,1.1s
T55A Pulaski 57.49 349 P P 05 18 49.1 +0.1
baz=168,SNR=79
BLA Blacksburg 57.52 350 P P 05 18 49.1 0.0
baz=168,SNR=29
S58A Poland Farm, P 57.55 352 P P 05 18 48.7 -0.6
baz=171,SNR=13
T54A Tazewell 57.58 348 P P 05 18 49.1 -0.6
baz=167,SNR=34
S59A Mechanicsville 57.60 353 P P 05 18 49.0 -0.6
baz=172,SNR=7.2
X43A Marvell 57.64 339 P P 05 18 49.3 -0.7
baz=156,SNR=39
X43A Marvell 57.64 339 P P 05 18 49.4 -0.7
WLAR White Oak Lake 57.69 337 P P 05 18 51.1 +0.7
T53A Wise 57.69 347 P P 05 18 49.7 -0.8
baz=166,SNR=47
S57A Dark Hollow, R 57.82 351 P P 05 18 51.0 -0.2
baz=170,SNR=41
S57A Dark Hollow, R 57.82 351 IAmb IAmb 05 18 52.2
comp=Z,132nm,1.1s
JCT Junction City 57.83 329 P P 05 18 50.9 -0.6
baz=146,SNR=31
JCT Junction City 57.83 329 IAmb IAmb 05 18 52.0
comp=Z,65nm,0.9s
S56A Natural Bridge 57.83 350 P P 05 18 51.1 -0.2
baz=169,SNR=8.8
R58B Mineral 57.87 352 P P 05 18 51.2 -0.4
baz=171,SNR=22
R58B Mineral 57.87 352 IAmb IAmb 05 18 52.3
comp=Z,60nm,1.0s
U49A Red Boiling Sp 57.99 344 P P 05 18 51.0 -1.4
U49A IAmb IAmb 05 18 51.7
comp=Z,58nm,0.7s
WHTX Lake Whitney, 58.00 332 P P 05 18 52.2 -0.4
baz=149,SNR=22
R59A King George, V 58.01 353 P P 05 18 52.0 -0.5
baz=172
R60A Leonardtown, M 58.01 353 P P 05 18 52.0 -0.5
baz=172
CBN Corbin Frederi 58.04 353 P P 05 18 52.2 -0.6
baz=171,SNR=5.9
S55A Lewisburg 58.08 350 P P 05 18 53.2 +0.1
baz=168,SNR=106
WVT Waverly 58.18 342 P P 05 18 52.0 -1.7
baz=160
WVT Waverly 58.18 342 P P 05 18 52.0 -1.7
WVT pmax pmax
comp=Z,181nm,0.8s
WVT Waverly 58.18 342 P P 05 18 52.0 -1.7
R58A Rapidan 58.22 352 P P 05 18 53.5 -0.5
baz=171,SNR=28
T50A Nancy 58.24 345 P P 05 18 53.1 -1.0
T50A IAmb IAmb 05 18 54.0
comp=Z,149nm,1.4s
S54A Dingess, Beckl 58.25 349 P P 05 18 53.8 -0.5
baz=167,SNR=43
R57A Stanardsville 58.28 351 P P 05 18 54.4 -0.1
baz=170,SNR=41
S53A Williamson 58.29 348 P P 05 18 53.7 -0.8
baz=166,SNR=12
X40A Basin Creek Fa 58.30 337 P P 05 18 53.3 -1.4
baz=154,SNR=12
UALR University of 58.38 338 IAmb IAmb 05 18 55.4
comp=Z,146nm,1.2s
R55A Marlinton 58.51 350 P P 05 18 56.5 +0.3
baz=168,SNR=36
R56A Bull Pasture M 58.52 351 P P 05 18 56.2 0.0
baz=169,SNR=18
S51A Beattyville 58.55 347 P P 05 18 54.9 -1.4
S51A IAmb IAmb 05 18 56.3
comp=Z,58nm,1.0s
R54A Victor 58.56 349 P P 05 18 56.1 -0.3
baz=168,SNR=48
MIAR Mount Ida 58.63 337 P P 05 18 56.1 -0.8
baz=154,SNR=84
LNXT Lenox 58.64 341 P P 05 18 55.6 -1.4
GNAR Gosnell 58.68 340 P P 05 18 56.2 -1.0
W41B Gary Mavity, V 58.71 338 P P 05 18 56.4 -1.1
baz=155,SNR=32
W41B Gary Mavity, V 58.71 338 P P 05 18 56.4 -1.1
W41B IAmb IAmb 05 18 57.6
comp=Z,134nm,1.4s
Q58A Fox Den Farm, 58.81 352 P P 05 18 57.7 -0.3
baz=171,SNR=17
WHAR Wooly Hollow 58.83 338 IAmb IAmb 05 18 58.3
comp=Z,76nm,1.0s
R53A Hurricane 58.88 348 P P 05 18 57.9 -0.7
baz=166,SNR=16
R53A Hurricane 58.88 348 P P 05 18 57.8 -0.9
R53A IAmb IAmb 05 18 59.1
comp=Z,108nm,1.1s
TX31 Lajitas Ar. Si 58.90 325 IAmb IAmb 05 18 59.2
comp=Z,87nm,0.9s
TXAR Lajitas Array 58.90 325 P P 05 18 58.4 -0.7
comp=Z,18nm,0.8s,baz=148,slow=8.3,SNR=191
TXAR pP pP 05 19 24.4 -0.6
comp=Z,8.2nm,0.8s,baz=139,slow=8.3,SNR=4.4
TXAR PKPPKP P'P'df 05 48 37.0 +5.0
comp=Z,0.5nm,1.0s,baz=318,slow=1.7,SNR=3.6
TXAR Lajitas Array 58.90 325 P P 05 18 57.7 -1.4
Q57A Strasburg 58.99 352 P P 05 18 59.5 +0.2
baz=170,SNR=55
LPIG La Paz 59.04 316 P P 05 19 00.4 +0.4
comp=Z,50nm,0.7s,baz=271,slow=2.3,SNR=9.5
Z35A Perchaven, San 59.05 333 P P 05 18 59.5 -0.4
Q56A Snyder Ridge, 59.11 351 P P 05 19 00.5 +0.3
baz=170,SNR=58
LCAR Lake Charles 59.15 339 IAmb IAmb 05 19 00.2
comp=Z,78nm,0.8s
Q55A Buckhannon 59.20 350 P P 05 19 01.3 +0.4
baz=169,SNR=48
P61A Hammonton 59.23 355 P P 05 19 00.5 -0.5
baz=174
W39A Magazine 59.28 337 P P 05 19 01.2 -0.2
baz=153,SNR=66
P58A Pank, Wackersv 59.30 353 P P 05 19 01.1 -0.4
baz=172,SNR=8.4
FCAR Ozark Folk Cen 59.31 339 IAmb IAmb 05 19 01.2
comp=Z,69nm,0.8s
Q53A Leroy 59.31 349 P P 05 19 01.1 -0.5
baz=167,SNR=39
Q54A Coxs Mills 59.31 350 P P 05 19 01.0 -0.6
baz=168,SNR=48
Q54A Coxs Mills 59.31 350 P P 05 19 01.3 -0.3
P59A Jarrettsville 59.32 354 P P 05 19 01.4 -0.2
baz=173,SNR=12
R50A Paris 59.32 346 IAmb IAmb 05 19 01.8
comp=Z,121nm,1.1s
P57A Homestead Farm 59.38 352 P P 05 19 02.3 +0.3
baz=171,SNR=25
P57A Homestead Farm 59.38 352 IAmb IAmb 05 19 03.4
comp=Z,62nm,0.8s
P60A Greenville 59.45 354 P P 05 19 01.7 -0.7
baz=174,SNR=8.8
P60A Greenville 59.45 354 pP 05 19 29.1 +0.1
P60A IAmb IAmb 05 19 50.3
comp=Z,68nm,1.1s
P56A Dayton Farm, R 59.51 351 P P 05 19 03.2 +0.3
baz=170,SNR=22
ABTX Abilene, Hawle 59.52 330 P P 05 19 02.5 -0.7
baz=147,SNR=34
R49A Shelbyville 59.53 346 IAmb IAmb 05 19 02.8
comp=Z,90nm,1.1s
R49A pP 05 19 28.3 -1.0
Q52A Bidwell 59.55 348 P P 05 19 02.3 -0.9
baz=166,SNR=24
WUPA West Chester U 59.56 354 P P 05 19 02.9 -0.4
O61A Allentown 59.63 355 P P 05 19 03.4 -0.4

P55A **Reedsville** 59.66 351 P P 05 19 04.2 +0.2
baz=169,SNR=36
MVL **Millersville** 59.70 354 IAmb IAmb 05 19 52.6
comp=Z,54nm,1.0s
WCI **Wyandotte Cave** 59.74 345 P P 05 19 03.0 -1.5
baz=162
WCI **Wyandotte Cave** 59.74 345 P P 05 19 03.0 -1.5
WCI pmax pmax
comp=Z,122nm,1.0s
WCI **Wyandotte Cave** 59.74 345 P P 05 19 03.0 -1.5
MCWV **Mont Chateau** 59.81 351 P P 05 19 05.1 +0.1
baz=169,SNR=49
Q51A **Peebles** 59.83 347 IAmb IAmb 05 19 05.2
comp=Z,85nm,1.0s
USIN **University of** 59.85 343 pP 05 19 30.5 -1.1
P54A **Burton** 59.86 350 P P 05 19 05.3 -0.1
baz=168,SNR=64
O58A **Lewisberry** 59.88 353 P P 05 19 05.3 -0.2
baz=172,SNR=10
P53A **Whipple** 59.90 349 P P 05 19 05.4 -0.2
baz=167,SNR=71
O60A **Telford** 59.93 355 P P 05 19 05.1 -0.6
baz=174
PAGS **Pennsylvania G** 59.97 353 IAmb IAmb 05 19 06.7
comp=Z,62nm,1.3s
U40A **Yellville** 59.98 338 P P 05 19 05.1 -1.2
baz=155,SNR=88
U40A **Yellville** 59.98 338 P P 05 19 05.5 -0.8
O59A **Robesonia** 59.99 354 P P 05 19 05.9 -0.4
baz=173,SNR=7.4
T42A **Van Buren** 60.00 340 IAmb IAmb 05 19 05.8
comp=Z,66nm,0.8s
O57A **Amberson** 60.05 353 P P 05 19 06.5 -0.1
baz=171,SNR=20
P52A **Corning** 60.18 349 P P 05 19 06.5 -0.9
baz=166,SNR=28
P51A **Williamsport** 60.21 348 P P 05 19 06.5 -1.2
baz=166,SNR=18
P51A **Williamsport** 60.21 348 IAmb IAmb 05 19 07.6
comp=Z,115nm,1.1s
BRNJ **Basking Ridge** 60.22 355 IAmb IAmb 05 19 56.1
comp=Z,110nm,1.4s
O56A **Blue Knob Stat** 60.23 352 P P 05 19 08.0 +0.2
baz=170,SNR=29
O56A **Blue Knob Stat** 60.23 352 IAmb IAmb 05 19 09.1
comp=Z,91nm,0.8s
N61A **South Mountain** 60.27 356 P P 05 19 07.6 -0.4
baz=175
O55A **Ligonier** 60.27 351 P P 05 19 08.2 0.0
baz=170,SNR=51
HHAR **Hobbs** 60.31 337 P P 05 19 07.2 -1.2
SHEL **Horse Pasture** 60.34 98 P P 05 19 11.0 +1.8
SHEL pmax pmax
comp=Z,177nm,1.0s
SHEL **Horse Pasture** 60.34 98 P P 05 19 11.0 +1.8
O54A **Avella** 60.41 350 P P 05 19 08.6 -0.4
baz=168,SNR=30
O54A **Avella** 60.41 350 P P 05 19 08.2 -0.9
O54A IAmb IAmb 05 19 09.6
comp=Z,85nm,0.8s
N60A **Cedar Hill Far** 60.45 355 P P 05 19 08.7 -0.6
baz=174,SNR=6.2
W35A **Tecumseh** 60.45 334 P P 05 19 07.7 -1.8
PAL **Palisades** 60.49 356 P P 05 19 08.9 -0.7
baz=175
SSPA **Standing Stone** 60.50 353 P P 05 19 09.5 -0.1
baz=171
SSPA **Standing Stone** 60.50 353 P P 05 19 08.8 -0.9
SSPA IAmb IAmb 05 19 10.7
comp=Z,154nm,1.6s
N59A **State Game Lan** 60.55 354 P P 05 19 09.7 -0.4
baz=173,SNR=6.8
N59A **State Game Lan** 60.55 354 P P 05 19 08.9 -1.2
N58A **Sunbury** 60.57 354 P P 05 19 09.9 -0.3
baz=172,SNR=16
N58A **Sunbury** 60.57 354 P P 05 19 09.5 -0.6
N58A IAmb IAmb 05 19 11.0
comp=Z,74nm,0.9s
N57A **Milroy** 60.58 353 P P 05 19 10.0 -0.2
baz=172,SNR=23
O52A **Adamsville** 60.59 349 P P 05 19 09.5 -0.8
baz=167,SNR=24
O52A **Adamsville** 60.59 349 P P 05 19 09.1 -1.2
O52A IAmb IAmb 05 19 10.6
comp=Z,128nm,1.0s
P49A **Miami Univ. Ec** 60.61 346 P P 05 19 08.8 -1.6
baz=164,SNR=25
U38A **Gravette** 60.61 337 IAmb IAmb 05 19 10.7
comp=Z,135nm,1.5s
O53A **New Philadelph** 60.61 350 P P 05 19 09.9 -0.6
baz=168,SNR=29
O53A **New Philadelph** 60.61 350 P P 05 19 09.8 -0.6
WSPT **Westport, CT** 60.62 357 IAmb IAmb 05 19 40.4
comp=Z,64nm,1.1s
BELA **Belgrano 2** 60.62 172 P P 05 19 11.3 +1.2
FVM **French Village** 60.67 341 P P 05 19 10.1 -0.8
FVM pmax pmax
comp=Z,245nm,0.8s
FVM **French Village** 60.67 341 P P 05 19 10.1 -0.8
TUL1 **Leonard** 60.68 335 P P 05 19 10.2 -0.8
baz=152,SNR=50
BLO **Bloomington** 60.69 345 PcP 05 19 55.0 +0.9
P48A **Milroy** 60.70 346 P P 05 19 09.2 -1.9
P48A IAmb IAmb 05 19 10.3
comp=Z,91nm,1.1s
O51A **Pataskala** 60.76 348 P P 05 19 10.4 -1.1
baz=166,SNR=24
RKT **Rikitea** 60.77 254 eS S 05 27 19.9 -1.6
comp=Z,825nm,24.0s
RKT eLR LR 05 37 13.5
comp=Z,912nm,34.2s
M61A **Granite Spring** 60.79 356 P P 05 19 11.0 -0.6
baz=176
N55A **Marion Center** 60.79 352 P P 05 19 11.7 +0.1
baz=170,SNR=76
M63A **Gales Ferry** 60.80 358 P P 05 19 11.2 -0.4
baz=177
N56A **West Decatur** 60.83 352 P P 05 19 11.8 -0.2
baz=171,SNR=29
M60A **Port Jervis** 60.87 355 P P 05 19 11.5 -0.6
baz=175
M62A **Hamden** 60.87 357 P P 05 19 11.9 -0.2
baz=176
WMOK **Wichita Mounta** 60.91 332 P P 05 19 11.2 -1.4
baz=148,SNR=21
WMOK **Wichita Mounta** 60.91 332 IAmb IAmb 05 19 56.5
comp=Z,40nm,0.8s
M64A **Tiverton** 60.91 358 P P 05 19 11.9 -0.5
baz=178
ACSO **Alum Creek Sta** 60.92 348 P P 05 19 11.5 -1.0
baz=166,SNR=45
CCM **Cathedral Cave** 60.99 340 P P 05 19 11.9 -1.1
baz=157
CCM **Cathedral Cave** 60.99 340 P P 05 19 11.7 -1.3
CCM pmax pmax
comp=Z,169nm,1.1s
CCM **Cathedral Cave** 60.99 340 P P 05 19 11.7 -1.3
M58A **Price's Panora** 61.07 354 P P 05 19 13.6 0.0
baz=173,SNR=25
N53A **Lisbon** 61.09 350 P P 05 19 13.3 -0.4
baz=168,SNR=26
M57A **Sunshine Farm,** 61.11 353 P P 05 19 13.9 +0.1
baz=172,SNR=18
M57A **Sunshine Farm,** 61.11 353 P P 05 19 13.4 -0.4
M57A IAmb IAmb 05 19 14.9
comp=Z,109nm,1.1s
N54A **Moraine State** 61.11 351 P P 05 19 13.8 0.0
baz=169,SNR=32
M59A **Waymart** 61.14 355 P P 05 19 13.7 -0.4
baz=174,SNR=14
KSPA **Keystone Colle** 61.19 354 IAmb IAmb 05 19 15.2
comp=Z,59nm,1.2s
SLM **Saint Louis** 61.21 341 IAmb IAmb 05 19 14.3
comp=Z,110nm,0.9s
L63A **North Scituate** 61.24 358 P P 05 19 14.2 -0.4
baz=178,SNR=7.9
N52A **McGinn's Farm,** 61.24 349 P P 05 19 13.9 -0.8
baz=167,SNR=33
OK029 **Liberty Lake** 61.25 334 IAmb IAmb 05 19 14.9
comp=Z,116nm,0.9s
P46A **Rosedale** 61.28 344 P P 05 19 13.5 -1.5
L64A **Middleborough** 61.29 359 P P 05 19 14.4 -0.5
baz=179
M56A **Emporium** 61.38 352 P P 05 19 15.3 -0.3
baz=171,SNR=41
M55A **Ridgway** 61.44 352 P P 05 19 15.8 -0.2
baz=170,SNR=30
N51A **Ashland** 61.47 349 P P 05 19 15.2 -1.0
baz=166,SNR=17
L60A **Shokan** 61.49 356 P P 05 19 16.2 -0.2
baz=175,SNR=6.7
R40A **Maddies Statio** 61.53 340 P P 05 19 15.6 -1.1
R40A IAmb IAmb 05 19 16.6
comp=Z,122nm,1.1s
M54A **Oil Creek Stat** 61.60 351 P P 05 19 16.8 -0.3
baz=169,SNR=33
L61A **Hillsdale 1, H** 61.66 356 P P 05 19 17.0 -0.4
baz=176
MNTX **Cornudas Mount** 61.66 325 P P 05 19 16.5 -1.2
baz=141,SNR=103
MNTX **Cornudas Mount** 61.66 325 P P 05 19 16.8 -0.9
MNTX IAmb IAmb 05 19 17.8
comp=Z,53nm,0.8s
L58A **Harry Jones Me** 61.68 354 P P 05 19 17.5 -0.1
baz=173,SNR=22
M53A **WI Miller and** 61.68 350 P P 05 19 17.3 -0.4
baz=168,SNR=22
L57A **Andrews Acres** 61.73 354 P P 05 19 17.8 -0.2
baz=172,SNR=14
WES **Weston** 61.75 358 P P 05 19 17.3 -0.7
WES pmax pmax
comp=Z,40nm,1.0s
WES **Weston** 61.75 358 P P 05 19 17.3 -0.7
L59A **Walton** 61.76 355 P P 05 19 18.0 -0.2
baz=174,SNR=13
L59A **Walton** 61.76 355 IAmb IAmb 05 19 19.3
comp=Z,102nm,1.1s
N49A **Columbus Grove** 61.83 347 P P 05 19 17.2 -1.3
M51A **Elyria** 61.83 349 P P 05 19 17.8 -0.8
baz=167,SNR=16
BINY **Binghamton** 61.84 354 P P 05 19 18.5 -0.2
baz=173,SNR=21
BINY **Binghamton** 61.84 354 P P 05 19 18.5 -0.2
BINY IAmb IAmb 05 19 19.8
comp=Z,130nm,1.0s
L61B **Northampton** 61.87 357 P P 05 19 18.3 -0.5
baz=177,SNR=10
HRV **Adam Dziewonsk** 61.88 358 P P 05 19 18.8 -0.2
baz=178
HRV **Adam Dziewonsk** 61.88 358 P P 05 19 18.7 -0.2
HRV *PP pP 05 19 46.0 +0.6
HRV pmax pmax
comp=Z,56nm,1.0s
HRV **Adam Dziewonsk** 61.88 358 P P 05 19 18.7 -0.2
HRV pP 05 19 46.0 +0.6
HRV IAmb IAmb 05 19 48.7
comp=Z,56nm,0.9s
M52A **Chesterland** 61.89 350 P P 05 19 18.4 -0.7
baz=168,SNR=11
M52A **Chesterland** 61.89 350 P P 05 19 18.3 -0.8
VNA3 **Neumayer Olymp** 61.94 162 P P 05 19 20.7 +1.6
L56A **Greenwood** 61.95 353 P P 05 19 19.1 -0.3
baz=172,SNR=24
L56A **Greenwood** 61.95 353 IAmb IAmb 05 19 20.2
comp=Z,103nm,0.9s
SFIN **Lafayette** 61.97 345 P P 05 19 17.6 -2.0
baz=161,SNR=47
SFIN **Lafayette** 61.97 345 P P 05 19 18.0 -1.6
K63A **Dunstable** 62.06 358 P P 05 19 19.7 -0.4
baz=178
K62A **Royalston** 62.06 358 P P 05 19 19.9 -0.2
baz=177
L55A **Hinsdale** 62.10 352 P P 05 19 20.2 -0.3
baz=171,SNR=21
K60A **Five Rivers En** 62.10 356 P P 05 19 20.1 -0.3
baz=176
K61A **Williamstown** 62.11 357 P P 05 19 20.2 -0.3
baz=176,SNR=7.6
O44A **Mansfield** 62.12 343 P P 05 19 18.5 -2.0
MSTX **Muleshoe** 62.12 329 P P 05 19 19.9 -1.0
baz=144,SNR=75
L53A **Girard** 62.12 351 P P 05 19 20.1 -0.4
baz=169,SNR=22
VNA1 **Neumayer--Stat** 62.15 161 P P 05 19 22.5 +2.1
TRY **Troy** 62.20 356 P P 05 19 20.7 -0.3
TRY IAmb IAmb 05 19 22.2
comp=Z,90nm,1.1s
TRY pP pP 05 19 48.6 +1.0
ERPA **Erie** 62.24 351 P P 05 19 21.2 -0.2
baz=169,SNR=14
ERPA **Erie** 62.24 351 pP pP 05 19 48.0 0.0
L54A **Sinclairville** 62.26 352 P P 05 19 21.4 -0.1
baz=170,SNR=34
K59A **Cooperstown** 62.32 355 P P 05 19 21.9 -0.1
baz=174,SNR=33
AMTX **Amarillo** 62.34 330 P P 05 19 21.1 -1.2
baz=146
AMTX **Amarillo** 62.34 330 P P 05 19 21.1 -1.2
AMTX IAmb IAmb 05 20 03.0
comp=Z,46nm,0.8s
K58A **Earlville** 62.37 355 P P 05 19 22.1 -0.2
baz=174,SNR=22
K58A **Earlville** 62.37 355 IAmb IAmb 05 19 23.2
comp=Z,153nm,1.1s
U32A **Winter Ranch,** 62.39 333 IAmb IAmb 05 19 23.0
comp=Z,114nm,1.1s
K57A **Scipio Center** 62.42 354 P P 05 19 22.1 -0.5
baz=173,SNR=17
KAN14 **Manchester OK** 62.45 334 P P 05 19 22.6 -0.4
K56A **Middlesex** 62.47 353 P P 05 19 22.4 -0.5
baz=172,SNR=13
VNA2 **Neumayer--Watz** 62.52 161 P P 05 19 24.5 +1.6
SRIG **Santa Rosalia** 62.52 317 P P 05 19 23.7 +0.2
SRIG IAmb IAmb 05 19 24.8
comp=Z,65nm,0.8s
K54A **Basiliko Farm,** 62.55 352 P P 05 19 23.2 -0.2
baz=170,SNR=16
K55A **Perry** 62.59 353 P P 05 19 23.3 -0.4
baz=171,SNR=14
J62A **Henniker** 62.61 358 P P 05 19 23.4 -0.3
baz=178,SNR=5.7
J63A **Strafford** 62.64 359 P P 05 19 23.3 -0.6
baz=178
J60A **Lant Hill Farm** 62.70 357 P P 05 19 24.3 0.0
baz=176,SNR=6.2
HDIL **Hopedale** 62.72 343 P P 05 19 22.8 -1.7
baz=159,SNR=47
J61A **Chester** 62.75 357 P P 05 19 24.8 +0.1
baz=177,SNR=5.4
FFD **Franklin Falls** 62.84 358 P P 05 19 25.4 +0.1
FFD IAmb IAmb 05 19 55.6
comp=Z,139nm,1.6s
L48A **N Adams** 62.86 347 IAmb IAmb 05 19 25.1
comp=Z,113nm,0.8s
HSIG 62.89 319 P P 05 19 23.4 -2.6
HSIG IAmb IAmb 05 19 27.5
comp=Z,235nm,1.6s
J58A **Remsen** 62.94 355 P P 05 19 25.6 -0.4
baz=174,SNR=11
J58A **Remsen** 62.94 355 P P 05 19 25.6 -0.4
J58A IAmb IAmb 05 19 27.0
comp=Z,165nm,1.6s
J59A **Piesco** 62.98 356 P P 05 19 26.3 0.0
baz=175,SNR=30
J59A **Piesco** 62.98 356 IAmb IAmb 05 19 27.4
comp=Z,150nm,1.1s
J56A **Wolcott** 63.00 354 P P 05 19 25.6 -0.8
baz=172,SNR=14
AAM **Ann Arbor** 63.05 348 P P 05 19 25.5 -1.2
baz=165
J57A **Williamstown** 63.05 355 P P 05 19 26.2 -0.4
baz=173,SNR=14
J57A **Williamstown** 63.05 355 P P 05 19 26.0 -0.7
J57A IAmb IAmb 05 19 27.3
comp=Z,92nm,0.9s
MEDO **Medina** 63.06 353 IAmb IAmb 05 19 27.4
comp=Z,73nm,0.9s
J55A **Hilton** 63.09 353 P P 05 19 26.4 -0.6
baz=171,SNR=8.7
J55A **Hilton** 63.09 353 IAmb IAmb 05 19 27.5
comp=Z,141nm,1.1s
HNH **Hanover** 63.10 358 IAmb IAmb 05 19 28.6
comp=Z,174nm,1.7s
P38A **Dawn** 63.16 339 IAmb IAmb 05 19 27.5
comp=Z,120nm,0.8s
J54A **Appleton** 63.20 352 P P 05 19 27.1 -0.5
baz=170,SNR=6.1
J54A **Appleton** 63.20 352 IAmb IAmb 05 19 28.3
comp=Z,111nm,0.9s
I62A **Tamworth** 63.24 358 P P 05 19 27.7 -0.2
baz=178
I58A **Old Forge** 63.24 355 P P 05 19 27.7 -0.3
baz=174,SNR=21
I64A **Boothbay** 63.26 360 P P 05 19 28.0 -0.1
baz=180
I59A **Olmsteadville** 63.27 356 P P 05 19 28.1 -0.1
baz=176,SNR=25
I60A **Shoreham** 63.29 357 P P 05 19 28.1 -0.1
baz=176,SNR=14
K50A **Casco** 63.31 349 P P 05 19 27.5 -0.9
I61A **Oroboro, Fairl** 63.33 358 P P 05 19 28.7 +0.2
baz=177,SNR=12
L46A **Eue Claire** 63.33 346 P P 05 19 26.9 -1.7
I63A **Otisfield** 63.40 359 P P 05 19 29.1 +0.1
baz=179
I63A **Otisfield** 63.40 359 P P 05 19 29.0 +0.1
NCB **Newcomb** 63.47 356 IAmb IAmb 05 19 30.5
comp=Z,132nm,1.6s
HQIL **Hanson Quary C** 63.50 345 IAmb IAmb 05 19 28.9
comp=Z,138nm,0.9s
HQIL pP 05 19 55.3 -1.0
I57A **Carthage** 63.54 355 P P 05 19 29.6 -0.4
baz=174,SNR=11
121A **Cookes Peak, D** 63.61 324 P P 05 19 31.6 +0.7
baz=140,SNR=34
121A **Cookes Peak, D** 63.61 324 P P 05 19 31.2 +0.3
121A IAmb IAmb 05 19 32.7
comp=Z,268nm,1.6s
LBNH **Lisbon** 63.62 358 P P 05 19 30.6 +0.1
baz=178,SNR=11
LBNH **Lisbon** 63.62 358 pP pP 05 19 58.2 +1.1
VT1 **Waterbury** 63.75 357 P P 05 19 31.5 +0.2
KSU1 **Kansas State U** 63.78 337 P P 05 19 30.5 -1.1
baz=152,SNR=19
KSU1 **Kansas State U** 63.78 337 P P 05 19 30.7 -0.9
KSU1 IAmb IAmb 05 19 31.7
comp=Z,116nm,1.0s
KSU1 pP 05 19 57.7 -0.4
L44A **Lake County Fo** 63.87 345 P P 05 19 30.4 -1.7
baz=161,SNR=8.9
WVL **Waterville** 63.90 360 pP 05 20 00.7 +1.5
H58A **Gabriels** 63.91 356 P P 05 19 32.1 -0.3
baz=175,SNR=31
H61A **Lyndonville** 63.91 358 P P 05 19 32.5 +0.1
baz=178,SNR=12
H62A **Milan** 63.93 359 P P 05 19 32.7 +0.2
baz=178
H60A **Morristown** 63.97 357 P P 05 19 32.7 0.0
baz=177,SNR=6.5
H64A **Troy** 63.98 0 P P 05 19 32.7 0.0
baz=180,SNR=6.2
H63A **New Sharon** 64.00 359 P P 05 19 33.2 +0.3
baz=180,SNR=12
R32A **Long Quarter,** 64.02 335 IAmb IAmb 05 19 33.8
comp=Z,181nm,1.1s
H57A **Richville** 64.04 355 P P 05 19 32.8 -0.4
baz=174,SNR=20
H65A **Eastbrook** 64.04 1 P P 05 19 33.0 -0.2
baz=182,SNR=6.5
I51A **Listowel** 64.05 351 P P 05 19 32.5 -0.7
baz=168,SNR=19
EMMW **East Machias** 64.07 1 P P 05 19 33.5 +0.1
EMMW pP pP 05 20 00.7 +0.5
H59A **Cadyville** 64.11 357 P P 05 19 33.6 -0.1
baz=176,SNR=18
LONY **Lake Ozonia** 64.14 356 P P 05 19 33.8 -0.1
baz=175,SNR=28
LONY **Lake Ozonia** 64.14 356 IAmb IAmb 05 19 34.9
comp=Z,97nm,0.9s
SNAA **Sanae** 64.14 161 P P 05 19 35.2 +1.4
SNAA **Sanae** 64.14 161 *d* iP P 05 19 35.0 +1.2
SNAA pmax pmax
comp=Z,100nm,1.7s
SNAA **Sanae** 64.14 161 P P 05 19 34.9 +1.2
H66A **Whiting** 64.15 2 P P 05 19 33.7 -0.1
baz=182,SNR=6.8
L42A **Oliver, Polo** 64.17 343 P P 05 19 32.8 -1.2
L42A IAmb IAmb 05 19 33.6
comp=Z,73nm,0.8s
BNM **Barren Site** 64.22 326 P P 05 19 34.8 -0.1
FRNY **Flat Rock** 64.29 357 IAmb IAmb 05 19 35.9
comp=Z,94nm,1.1s
DELO **Deloro Mine** 64.30 353 IAmb IAmb 05 19 35.4
comp=Z,111nm,1.1s
G63A **Kingsbury** 64.45 360 P P 05 19 35.8 -0.1
baz=180,SNR=6.4
H53A **Bobcaygeon** 64.47 353 P P 05 19 35.4 -0.6
baz=171,SNR=16
G60A **Masonville** 64.49 358 P P 05 19 36.2 0.0
baz=177,SNR=11
GGN **Saint George** 64.50 2 P P 05 19 36.0 -0.1
G59A **Clarenceville** 64.51 357 P P 05 19 36.2 0.0
baz=176
G65A **Princeton** 64.56 1 P P 05 19 36.3 -0.2
baz=182,SNR=9.9
G65A **Princeton** 64.56 1 IAmb IAmb 05 20 05.5
comp=Z,74nm,1.0s
G62A **West of Eustis** 64.56 359 P P 05 19 36.8 +0.2
baz=179,SNR=24
G62A **West of Eustis** 64.56 359 IAmb IAmb 05 20 06.1
comp=Z,97nm,0.9s
G64A **Maxfield** 64.59 0 P P 05 19 36.4 -0.3
baz=181,SNR=7.7
PKME **Peaks-Kenny Pk** 64.60 0 P P 05 19 36.5 -0.3
baz=180,SNR=9.2
PKME **Peaks-Kenny Pk** 64.60 0 P P 05 19 36.8 0.0
PKME IAmb IAmb 05 20 05.7
comp=Z,64nm,1.0s
G58A **Ormstown** 64.63 356 P P 05 19 36.7 -0.3
baz=175,SNR=16
G57A **Newington** 64.65 356 P P 05 19 37.0 -0.1
baz=174,SNR=34
G61A **St-Isidore-de-** 64.65 358 P P 05 19 37.6 +0.4
baz=178,SNR=20
L40A **Anamosa** 64.66 342 IAmb IAmb 05 19 37.1
comp=Z,167nm,1.0s
SADO **Sadowa** 64.73 352 P P 05 19 36.9 -0.8
comp=Z,87nm,0.8s,baz=190,slow=5.9,SNR=40
SADO pP pP 05 20 04.5 +0.1
comp=Z,48nm,0.8s,baz=189,slow=5.7,SNR=6.9
SADO **Sadowa** 64.73 352 IAmb IAmb 05 19 38.0
comp=Z,116nm,0.9s
ANMO **Albuquerque** 64.75 327 P P 05 19 38.3 0.0
baz=141
ANMO **Albuquerque** 64.75 327 *d* iP P 05 19 38.3 0.0
ANMO pmax pmax
comp=Z,77nm,1.7s
ANMO **Albuquerque** 64.75 327 P P 05 19 38.0 -0.2
PLVO **Plevna** 64.76 354 IAmb IAmb 05 19 38.6
comp=Z,157nm,1.3s
CBKS **Cedar Bluff** 64.77 334 P P 05 19 37.8 -0.4
baz=149,SNR=39
CBKS **Cedar Bluff** 64.77 334 IAmb IAmb 05 19 39.0
comp=Z,188nm,1.1s
F63A **Nahmakanta, Br** 65.04 0 P P 05 19 39.5 -0.2
baz=181
F63A **Nahmakanta, Br** 65.04 0 P P 05 19 39.9 +0.2
SCIA **State Center** 65.12 341 P P 05 19 39.1 -1.1
baz=156,SNR=18
TUC **Tucson** 65.15 322 P P 05 19 41.1 +0.3
baz=137
TUC **Tucson** 65.15 322 P P 05 19 40.6 -0.2
TUC pmax pmax
comp=Z,187nm,1.8s
TUC **Tucson** 65.15 322 P P 05 19 40.6 -0.2
TUC IAmb IAmb 05 19 42.6
comp=Z,187nm,1.8s
JFWS **Jewell Farm** 65.17 343 P P 05 19 39.5 -1.1
baz=159,SNR=33
JFWS **Jewell Farm** 65.17 343 IAmb IAmb 05 19 40.6
comp=Z,120nm,0.8s
F64A **Sherman** 65.21 1 P P 05 19 40.5 -0.2
baz=181,SNR=12
G54A **Lake Saint Pet** 65.22 353 P P 05 19 40.5 -0.4
baz=171,SNR=16
F62A **Pittston Farm,** 65.24 360 P P 05 19 41.0 0.0
baz=180
F62A **Pittston Farm,** 65.24 360 P P 05 19 41.0 0.0
F61A **St Evariste** 65.33 359 P P 05 19 41.1 -0.5
baz=179,SNR=9.7
F58A **St-Lin Laurent** 65.33 357 P P 05 19 41.1 -0.4
baz=176
F57A **Harrington** 65.33 356 P P 05 19 41.0 -0.5
baz=175
F60A **Warwick** 65.35 358 P P 05 19 41.1 -0.6
baz=178,SNR=11
T25A **Trinidad** 65.46 330 P P 05 19 42.9 0.0
baz=144,SNR=30
T25A **Trinidad** 65.46 330 P P 05 19 42.8 -0.1
T25A IAmb IAmb 05 19 44.2

K38A **Parkersburg** 65.65 341 IAmb IAmb 05 19 43.1
comp=Z,109nm,0.8s
GLMI **Grayling** 65.66 348 P **P** **05 19 42.4 -1.4**
baz=165,SNR=12
I42A **Draeger Farm,** 65.73 345 IAmb IAmb 05 19 44.4
comp=Z,137nm,0.9s
E63A **Oxbow** 65.76 1 P **P** **05 19 44.2 -0.2**
baz=181,SNR=8.1
E64A **Bridgewater** 65.77 1 P **P** **05 19 44.3 -0.1**
baz=182,SNR=9.3
ALGO **Algonquin Park** 65.77 353 P **P** **05 19 43.7 -0.7**
baz=171,SNR=24
E61A **Lac Etchemin** 65.78 359 P **P** **05 19 44.6 +0.2**
baz=179
E58A **La Victoria** 65.81 357 P **P** **05 19 44.4 -0.2**
baz=176,SNR=18
E59A **St. Maurice** 65.88 358 P **P** **05 19 45.2 +0.1**
baz=177
E57A **Chemin Saint G** 65.89 356 P **P** **05 19 44.8 -0.5**
baz=175,SNR=17
E62A **Clayton Lake** 65.96 360 P **P** **05 19 45.7 +0.1**
baz=180,SNR=13
E62A **Clayton Lake** 65.96 360 IAmb IAmb 05 20 14.9
comp=Z,48nm,0.8s
PQI **Presque Isle** 66.02 1 P **P** **05 19 45.7 -0.2**
PQI **pP** **05 20 13.0 +0.1**
E55A **Montcerf-Lytto** 66.07 355 P **P** **05 19 45.9 -0.4**
baz=173,SNR=17
G45A **Suttons Bay** 66.08 347 IAmb IAmb 05 19 46.1
comp=Z,95nm,0.8s
E56A **St. Veronique** 66.08 356 P **P** **05 19 46.0 -0.4**
baz=174,SNR=36
214A **Organ Pipe Nat** 66.10 320 P **P** **05 19 47.8 +0.9**
baz=135,SNR=109
214A **Organ Pipe Nat** 66.10 320 P **P** **05 19 47.7 +0.9**
214A IAmb IAmb 05 19 49.0
comp=Z,150nm,0.9s
KSCO **Kaye Shedlock'** 66.17 332 P **P** **05 19 47.2 -0.1**
baz=146,SNR=5.6
I40A **Norwalk** 66.18 343 IAmb IAmb 05 19 47.0
comp=Z,82nm,0.9s
PIX **Pinacate** 66.22 319 P **P** **05 19 47.0 -0.5**
PIX IAmb IAmb 05 19 48.1
comp=Z,68nm,1.1s
D60A **Saint Jean D'O** 66.27 359 P **P** **05 19 47.4 -0.1**
baz=179,SNR=5.8
BGNE **Belgrade** 66.37 337 P **P** **05 19 47.8 -0.5**
baz=151,SNR=46
D59A **Saint-Raymond** 66.38 358 P **P** **05 19 48.0 -0.2**
baz=178
D63A **Stockholm** 66.38 1 P **P** **05 19 48.0 -0.2**
baz=182,SNR=11
D62A **Allapoint, All** 66.42 0 P **P** **05 19 48.3 -0.2**
baz=181,SNR=22
D62A **Allapoint, All** 66.42 0 IAmb IAmb 05 20 17.6
comp=Z,67nm,0.8s
SDCO **Great Sand Dun** 66.47 329 P **P** **05 19 49.5 +0.1**
baz=143,SNR=129
SDCO **Great Sand Dun** 66.47 329 IAmb IAmb 05 19 50.9
comp=Z,134nm,1.2s
D57A **Chemin Vers le** 66.48 357 P **P** **05 19 48.8 -0.1**
baz=176,SNR=33
D58A **Chemin du LacG** 66.51 357 P **P** **05 19 48.9 -0.2**
baz=177,SNR=37
D61A **St Aubert, Com** 66.54 359 P **P** **05 19 49.3 0.0**
baz=179
D56A **ZEC Mazanza, M** 66.57 356 P **P** **05 19 49.0 -0.4**
baz=175,SNR=29
D55A **Sainte-Anne-du** 66.59 355 P **P** **05 19 49.2 -0.4**
baz=174,SNR=37
W18A **Petrified Fore** 66.62 325 P **P** **05 19 50.8 +0.5**
baz=139,SNR=20
W18A **Petrified Fore** 66.62 325 IAmb IAmb 05 19 52.1
comp=Z,139nm,1.3s
BATG **Bathurst New B** 66.68 2 IAmb IAmb 05 20 39.8
comp=Z,84nm,1.3s
LATQ **La Tuque** 66.79 357 P **P** **05 19 50.6 -0.3**
baz=177,SNR=12
LATQ **La Tuque** 66.79 357 P **P** **05 19 49.7 -1.2**
X16A **Lo Mia Camp, P** 67.06 323 IAmb IAmb 05 19 55.2
comp=Z,110nm,1.4s
E46A **Sault Ste Mari** 67.09 349 IAmb IAmb 05 19 52.6
comp=Z,107nm,1.0s
SPX **San Pedro Mart** 67.11 318 P **P** **05 19 53.4 -0.3**
SPX IAmb IAmb 05 19 54.6
comp=Z,64nm,1.0s
S22A **4UR Ranch, Cre** 67.11 328 P **P** **05 19 53.7 +0.2**
baz=142,SNR=38
113A **Mohawk Valley,** 67.24 320 IAmb IAmb 05 19 55.9
comp=Z,57nm,0.9s
Q24A **Divide** 67.27 330 P **P** **05 19 54.6 +0.1**
baz=144,SNR=22
MVCO **Mesa Verde** 67.54 327 P **P** **05 19 56.3 +0.2**
baz=140,SNR=53
Y14A **Wickenburg** 67.61 322 IAmb IAmb 05 19 58.2
comp=Z,55nm,0.8s
E43A **Lone Tree Farm** 67.64 347 IAmb IAmb 05 19 56.1
comp=Z,63nm,0.9s
K31A **O'Neill** 67.65 337 P **P** **05 19 55.9 -0.6**
WUAZ **Wupatki** 67.82 324 P **P** **05 19 58.8 +0.9**
baz=137,SNR=75
WUAZ **Wupatki** 67.82 324 IAmb IAmb 05 20 00.0
comp=Z,122nm,0.9s
VLDQ **Val d'Or** 67.84 354 IAmb IAmb 05 19 58.4
comp=Z,129nm,1.0s
COWI **Conover** 67.86 345 IAmb IAmb 05 19 58.0
comp=Z,118nm,1.4s
ECSD **EROS Data Cent** 67.86 339 P **P** **05 19 56.9 -0.8**
baz=153,SNR=42
ECSD **EROS Data Cent** 67.86 339 IAmb IAmb 05 19 58.2
comp=Z,162nm,1.4s
SPMN **Marine on St.** 68.01 342 P **P** **05 19 57.4 -1.3**
baz=156,SNR=26
SPMN **Marine on St.** 68.01 342 IAmb IAmb 05 19 58.6
comp=Z,131nm,1.1s
GLA **Glamis** 68.08 320 P **P** **05 20 00.3 +0.9**
baz=134,SNR=11
ISCO **Idaho Springs** 68.16 331 P **P** **05 20 00.0 0.0**
baz=144,SNR=46
ISCO **Idaho Springs** 68.16 331 IAmb IAmb 05 20 01.4
comp=Z,116nm,1.4s
LIC **Lamto** 68.26 75 *e*P **P** **05 19 59.9 -1.0**
comp=Z,110nm,0.6s
PV01 **Paradox Valley** 68.28 328 P **P** **05 20 00.6 -0.2**
PV01 IAmb IAmb 05 20 02.6
comp=Z,98nm,1.3s
PV15 **Paradox Valley** 68.40 328 P **P** **05 20 01.0 -0.5**
PV15 IAmb IAmb 05 20 03.5
comp=Z,119nm,1.1s
PV13 **Radium Mtn., P** 68.43 327 IAmb IAmb 05 20 03.3
comp=Z,98nm,1.4s
TIC **Toumodi** 68.44 74 *e*P **P** **05 20 01.1 -0.9**
KIC **Kosan Boka** 68.57 75 *e*P **P** **05 20 02.1 -0.7**
comp=Z,511nm,1.0s
DBIC **Dimbokro** 68.59 74 P **P** **05 20 02.3 -0.6**
comp=Z,174nm,0.8s,baz=227,slow=6.5,SNR=108
DBIC pP **pP** **05 20 30.1 -0.1**
comp=Z,89nm,0.6s,baz=231,slow=7.2,SNR=7.0
DBIC LR LR 05 48 50.4
comp=Z,286nm,20.5s,baz=224,slow=35
DBIC **Dimbokro** 68.59 74 IAmb IAmb 05 20 04.7
comp=Z,170nm,0.8s
IKP **In-Ko-Pah, Jac** 68.60 319 P **P** **05 20 03.8 +1.1**
baz=133,SNR=63
SWSC **Sam W. Stewart** 68.61 319 P **P** **05 20 03.6 +1.0**
baz=133,SNR=19
PV19 **Morning Glory** 68.63 327 P **P** **05 20 03.0 0.0**
D41A **Chassel** 68.63 346 IAmb IAmb 05 20 03.0
comp=Z,110nm,0.9s
NVL **N'lazarevskaya** 68.69 159 *e*P **P** **05 20 02.1 -0.5**
NVL *e*S **S** **05 29 00.3 +3.2**
NVL pmax pmax
comp=Z,65nm,1.0s
LSQQ **Lebel-sur-Quev** 68.74 355 P **P** **05 20 02.5 -0.6**
baz=173
TKX **Tecate** 68.85 318 P **P** **05 20 03.3 -0.9**
TKX IAmb IAmb 05 20 06.4
comp=Z,129nm,1.0s
BC3 **Big Chuckawall** 68.88 320 P **P** **05 20 05.3 +0.8**
baz=134,SNR=100
E38A **The Farm, Brul** 68.94 344 IAmb IAmb 05 20 04.4
comp=Z,89nm,1.1s
W13A **Hualapai Mount** 68.95 322 P **P** **05 20 05.1 +0.1**
MONP2 **Monument Peak** 68.95 319 P **P** **05 20 06.0 +1.0**
baz=133,SNR=63
BAR **Barrett** 68.97 318 IAmb IAmb 05 20 07.0
comp=Z,133nm,0.9s

U15A **North Rim** 68.99 324 IAmb IAmb 05 20 07.7
comp=Z,125nm,1.1s
IRM **Iron Mountain** 69.03 320 P **P** **05 20 06.3 +1.0**
baz=134,SNR=151
TAOE **Nuku Hiva Isla** 69.08 268 *e*LR LR 05 40 51.3
comp=Z,397nm,34.7s
TAOE **Nuku Hiva Isla** 69.08 268 *e*T T 06 34 43.5
comp=Z,54nm,0.2s
N23A **Red Feather La** 69.18 331 P **P** **05 20 06.6 +0.3**
baz=143,SNR=37
PHWY **Pilot Hill** 69.29 332 IAmb IAmb 05 20 08.5
comp=Z,236nm,1.8s
SUSD **Miller** 69.30 338 P **P** **05 20 05.8 -0.9**
baz=150,SNR=6.8
SUSD **Miller** 69.30 338 IAmb IAmb 05 20 06.9
comp=Z,126nm,1.0s
109C **Camp Elliot, M** 69.38 318 P **P** **05 20 08.2 +0.8**
baz=132,SNR=9.4
109C **Camp Elliot, M** 69.38 318 IAmb IAmb 05 20 09.5
comp=Z,124nm,1.5s
CHGQ **Chibougamau** 69.39 357 P **P** **05 20 06.5 -0.6**
baz=175,SNR=20
BELC **Belle Mtn. Jos** 69.44 320 P **P** **05 20 08.9 +0.9**
baz=133,SNR=76
TPFO **Pinon Flats** 69.45 319 P **P** **05 20 09.2 +1.2**
baz=133,SNR=112
PFO **Pinyon Flats O** 69.46 319 P **P** **05 20 09.1 +1.0**
comp=Z,81nm,0.9s,baz=126,slow=5.4,SNR=176
PFO **Pinyon Flats O** 69.46 319 P **P** **05 20 09.1 +1.0**
baz=133,SNR=92
PFO **Pinyon Flats O** 69.46 319 *d* *i*P **P** **05 20 09.0 +1.0**
PFO pmax pmax
comp=Z,148nm,0.9s
PFO **Pinyon Flats O** 69.46 319 P **P** **05 20 09.1 +1.0**
PFO IAmb IAmb 05 20 10.3
comp=Z,110nm,1.0s
MATQ **Magagami** 69.49 354 P **P** **05 20 06.7 -1.0**
baz=172,SNR=16
F33A **5 Mile Ranch,** 69.62 340 IAmb IAmb 05 20 08.5
comp=Z,79nm,0.8s
O20A **White River Ci** 69.66 329 P **P** **05 20 09.6 +0.3**
baz=141,SNR=41
KNB **Kanab** 69.71 324 P **P** **05 20 10.5 +0.9**
KNB pmax pmax
comp=Z,242nm,1.0s
KNB **Kanab** 69.71 324 P **P** **05 20 10.5 +0.9**
GMRC **Granite Mounta** 69.77 321 P **P** **05 20 11.1 +1.1**
baz=134,SNR=128
MURC **Murrieta** 69.91 319 P **P** **05 20 11.7 +1.1**
baz=132,SNR=16
EYMN **Ely** 70.17 344 P **P** **05 20 10.7 -1.2**
baz=158,SNR=15
EYMN **Ely** 70.17 344 IAmb IAmb 05 20 11.8
comp=Z,74nm,0.9s
BBRC **Big Bear Solar** 70.18 319 P **P** **05 20 14.0 +1.4**
baz=133,SNR=23
HEC **Hector,Ludlow** 70.21 320 P **P** **05 20 13.9 +1.4**
baz=133,SNR=104
SCI2 **San Clemente I** 70.35 317 P **P** **05 20 14.1 +0.8**
baz=131,SNR=9.8
TUQ **Turquoise Moun** 70.38 321 P **P** **05 20 14.7 +1.0**
baz=134,SNR=50
RWWY **Rawlins** 70.39 331 IAmb IAmb 05 20 14.3
comp=Z,264nm,1.9s
TMUT **Trail Mountain** 70.51 327 P **P** **05 20 14.8 +0.2**
QSPA **South Pole Qui** 70.53 180 P **P** **05 20 15.7 +1.6**
comp=Z,50nm,0.9s,baz=297,slow=0.6,SNR=29
QSPA **South Pole Qui** 70.53 180 IAmb IAmb 05 20 16.9
comp=Z,122nm,1.2s
CIS **Catalina Islan** 70.54 318 P **P** **05 20 15.4 +0.8**
baz=131,SNR=11
BFSC **Mount Baldy Ra** 70.62 319 P **P** **05 20 16.1 +0.9**
baz=132,SNR=49
RRX **Edison Barstow** 70.64 320 P **P** **05 20 16.5 +1.4**
baz=133,SNR=6.1
SHPR **Sheep Range** 70.67 322 IAmb IAmb 05 20 17.7
comp=Z,87nm,0.9s
FMP **Fort Macarthur** 70.67 318 P **P** **05 20 16.5 +1.2**
baz=132
GSC **Goldstone, Bar** 70.81 320 P **P** **05 20 17.4 +1.2**
baz=133,SNR=67
GSC **Goldstone, Bar** 70.81 320 IAmb IAmb 05 20 18.6
comp=Z,223nm,1.6s
K22A **Jasper** 70.84 332 P **P** **05 20 16.4 +0.1**
baz=143,SNR=25
MWC **Mount Wilson** 70.86 319 IAmb IAmb 05 20 18.8
comp=Z,128nm,1.0s
PASC **Pasadena Art C** 70.90 319 IAmb IAmb 05 20 19.0
comp=Z,136nm,1.1s
SHOC **Shoshone, Teco** 70.90 321 P **P** **05 20 17.5 +0.9**
baz=134,SNR=39
RSSD **Black Hills** 70.97 334 P **P** **05 20 17.3 +0.1**
baz=146
RSSD **Black Hills** 70.97 334 P **P** **05 20 17.2 +0.1**
RSSD pmax pmax
comp=Z,64nm,0.9s
RSSD **Black Hills** 70.97 334 P **P** **05 20 17.2 +0.1**
DECC **Green Verdugo** 71.05 319 P **P** **05 20 18.7 +1.1**
baz=132,SNR=11
B35A **Bob, Littlefor** 71.14 343 IAmb IAmb 05 20 17.7
comp=Z,120nm,1.0s
PRN **Pahroc Range** 71.24 323 P **P** **05 20 19.6 +0.8**
PRN IAmb IAmb 05 20 21.4
comp=Z,92nm,1.1s
EDW2 **Edwards Air Fo** 71.25 319 P **P** **05 20 19.5 +0.7**
baz=132,SNR=74
LRMC **Laurel Mtn Rad** 71.46 320 P **P** **05 20 21.1 +0.9**
baz=132,SNR=35
OSI **Osito Audit: C** 71.53 319 P **P** **05 20 21.2 +0.7**
baz=131,SNR=5.2
TPNV **Topopah Spring** 71.61 322 P **P** **05 20 22.5 +1.5**
baz=134,SNR=184
TPNV **Topopah Spring** 71.61 322 IAmb IAmb 05 20 23.6
comp=Z,151nm,1.1s
FURC **Furnace Creek,** 71.64 321 P **P** **05 20 22.4 +1.4**
baz=133,SNR=128
AGMN **Agassiz Nation** 71.69 342 P **P** **05 20 20.3 -0.8**
baz=154,SNR=51
AGMN **Agassiz Nation** 71.69 342 IAmb IAmb 05 20 21.2
comp=Z,96nm,0.8s
MPMC **Manual Prospec** 71.73 321 P **P** **05 20 22.6 +0.7**
baz=133,SNR=84
ARVC **Arvin** 71.93 319 P **P** **05 20 23.9 +1.0**
baz=131,SNR=8.3
DUG **Dugway, Tooele** 72.01 326 P **P** **05 20 24.3 +0.9**
baz=137,SNR=119
DUG **Dugway, Tooele** 72.01 326 IAmb IAmb 05 20 25.5
comp=Z,113nm,1.1s
SBC **Santa Barbara** 72.04 318 P **P** **05 20 24.3 +0.9**
baz=131
ISA **Isabella, Lake** 72.06 320 P **P** **05 20 25.0 +1.3**
baz=132,SNR=115
ISA **Isabella, Lake** 72.06 320 IAmb IAmb 05 20 26.0
comp=Z,115nm,0.8s
R11A **Troy Canyon, C** 72.20 323 P **P** **05 20 25.8 +1.2**
baz=135,SNR=122
PMAR **Madeira** 72.25 45 *e*P P 05 20 31.1 +6.0
comp=Z,98nm,1.1s
PMAR **Madeira** 72.25 45 *e*PcP **PcP** **05 20 44.4 +1.8**
GRAC **Grapevine Rang** 72.29 321 P **P** **05 20 26.3 +1.3**
baz=133,SNR=53
BW06 **Boulder Array** 72.32 330 P **P** **05 20 24.9 -0.4**
baz=141,SNR=29
BW06 **Boulder Array** 72.32 330 P **P** **05 20 24.4 -0.9**
PDAR **Pinedale Array** 72.32 330 P **P** **05 20 24.9 -0.5**
comp=Z,14nm,0.8s,baz=147,slow=6.9,SNR=47
PDAR **Pinedale Array** 72.32 330 P **P** **05 20 23.1 -2.3**
CWC **Cottonwood Cre** 72.34 320 P **P** **05 20 26.6 +1.1**
baz=132
PKM **Mcpherson Peak** 72.39 318 P **P** **05 20 27.0 +1.2**
baz=131,SNR=88
MDND **Maddock** 72.47 339 P **P** **05 20 25.9 +0.1**
baz=150,SNR=35
VES **Vestal, Richgr** 72.56 319 P **P** **05 20 27.6 +1.0**
baz=131,SNR=90
KOWA **Kowa** 72.65 67 P **P** **05 20 26.7 -0.8**
KOWA IAmb IAmb 05 20 55.8
comp=Z,127nm,0.8s
SMMC **Simmler** 72.78 319 P **P** **05 20 29.5 +1.5**
baz=131,SNR=74
TIN **Tinemaha, Big** 72.84 321 P **P** **05 20 29.6 +1.3**
baz=132,SNR=9.0
VOG **Valley Oaks Go** 73.05 320 P **P** **05 20 29.4 0.0**
baz=131
AHID **Auburn Hatcher** 73.06 329 IAmb IAmb 05 20 30.9
comp=Z,92nm,0.9s
SNOW **Snow King Moun** 73.42 330 P **P** **05 20 31.5 -0.3**
ULM **Lac du Bonnet** 73.45 343 P **P** **05 20 30.4 -1.0**
comp=Z,80nm,0.6s,baz=155,slow=5.8,SNR=137
ULM LR LR 05 55 03.4
comp=Z,101nm,20.1s,baz=147,slow=38
ULM **Lac du Bonnet** 73.45 343 *d* *i*P **P** **05 20 30.2 -1.2**
ULM **Lac du Bonnet** 73.45 343 P **P** **05 20 30.5 -1.0**
ULM IAmb IAmb 05 20 31.4
comp=Z,96nm,0.7s
MLAC **Mammoth, Mammo** 73.59 321 P **P** **05 20 34.0 +1.1**
baz=132,SNR=41
OMMB **Old Mammoth Mi** 73.67 321 IAmb IAmb 05 20 35.5
comp=Z,129nm,0.8s
ELK **Elko** 73.69 325 P **P** **05 20 33.9 +0.5**
comp=Z,38nm,0.9s,baz=131,slow=4.0,SNR=131
ELK pP **pP** **05 21 00.6 0.0**
comp=Z,12nm,0.7s,baz=136,slow=3.0,SNR=3.8
MDPB **Devils Postpil** 73.73 321 IAmb IAmb 05 20 35.7
comp=Z,80nm,0.9s
TBI **Tubuai** 73.73 251 *e*S **SKiKP** **05 29 55.2 +1.7**
comp=Z,433nm,24.0s
TBI **Tubuai** 73.73 251 *e*LR LR 05 43 13.8
comp=Z,798nm,32.2s
LHV **Little Huntoon** 73.80 322 IAmb IAmb 05 20 36.3
comp=Z,102nm,0.8s
NVAR **Mina Array Bea** 73.81 322 P **P** **05 20 35.0 +0.8**
comp=Z,53nm,0.8s,baz=152,slow=6.1,SNR=380
NVAR pP **pP** **05 21 01.8 +0.8**
comp=Z,17nm,0.8s,baz=153,slow=6.2,SNR=4.5
NVAR LR LR 05 52 52.3
comp=Z,99nm,18.7s,baz=140,slow=36
NVAR **Mina Array Bea** 73.81 322 P **P** **05 20 34.0 -0.2**
IMW **Indian Meadow** 73.84 330 IAmb IAmb 05 20 36.0
comp=Z,96nm,1.1s
PMPB **Monarch Peak** 73.86 319 IAmb IAmb 05 20 36.8
comp=Z,146nm,0.8s
FLWY **Flagg Ranch** 73.86 330 IAmb IAmb 05 20 36.4
comp=Z,143nm,0.9s
MEH **Mehetia** 73.91 256 *e*P **P** **05 20 36.4 +1.4**
comp=Z,37nm,1.4s
MEH *e*pP **pP** **05 21 02.7 +1.0**
comp=Z,30nm,1.3s
MEH **Mehetia** 73.91 256 *e*T T 06 40 52.1
comp=Z,6.6nm,0.2s
LAO **LASA Array** 73.96 335 P **P** **05 20 34.7 +0.1**
baz=144,SNR=17
LAO **LASA Array** 73.96 335 P **P** **05 20 34.7 +0.1**
LAO IAmb IAmb 05 20 36.0
comp=Z,130nm,1.1s
RLMT **Red Lodge** 74.01 332 P **P** **05 20 35.5 +0.3**
baz=141,SNR=57
RLMT **Red Lodge** 74.01 332 IAmb IAmb 05 20 36.8
comp=Z,144nm,1.4s
H17A **Grant Village** 74.05 331 P **P** **05 20 36.4 +1.0**
baz=140,SNR=16
H17A **Grant Village** 74.05 331 P **P** **05 20 35.5 0.0**
YPP **Pitchstone Pla** 74.06 330 P **P** **05 20 35.8 +0.2**
LKWY **Lake** 74.09 331 P **P** **05 20 36.0 +0.3**
LKWY pmax pmax
comp=Z,93nm,0.9s
LKWY **Lake** 74.09 331 P **P** **05 20 36.0 +0.3**
LKWY IAmb IAmb 05 20 38.5
comp=Z,93nm,0.9s
KVN **Kaiserville** 74.11 322 IAmb IAmb 05 20 37.5
comp=Z,113nm,0.9s
SCHQ **Schefferville** 74.21 1 P **P** **05 20 35.3 -0.5**
comp=Z,36nm,0.9s,baz=172,slow=4.9,SNR=21
SCHQ LR LR 05 55 18.2
comp=Z,42nm,18.0s,baz=53,slow=37
VAH **Vaihoa** 74.23 259 *e*P **P** **05 20 38.6 +1.7**
VAH *e*pP **pP** **05 21 04.6 +1.0**
comp=Z,87nm,1.1s
YNE **Yellowstone No** 74.25 331 P **P** **05 20 37.0 +0.3**
YNR **Norris Junctio** 74.34 331 P **P** **05 20 37.9 +0.8**
PMOR **Pomariorio Ree** 74.55 259 *e*P **P** **05 20 40.5 +1.8**
comp=Z,233nm,1.1s
PMOR *e*pP **pP** **05 21 06.5 +1.1**
comp=Z,174nm,1.1s
DGMT **Dagmar** 74.63 337 P **P** **05 20 38.9 +0.4**
baz=146,SNR=43
DGMT **Dagmar** 74.63 337 **P** **05 20 39.1 +0.7**
DGMT **Dagmar** 74.63 337 IAmb IAmb 05 20 40.0
comp=Z,157nm,0.9s
YERR **Yerington** 74.72 322 IAmb IAmb 05 20 41.7
comp=Z,175nm,1.3s
PNTR **Pine Nut** 75.00 322 IAmb IAmb 05 20 43.4
comp=Z,103nm,0.8s
TVO **Taravao** 75.02 256 *e*P **P** **05 20 43.3 +1.8**
comp=Z,46nm,1.3s
TVO **Taravao** 75.02 256 *e*T T 06 42 15.4
comp=Z,0.8nm,0.2s
VCNR **Virginia City** 75.17 322 IAmb IAmb 05 20 44.3
comp=Z,134nm,1.4s
TIAR **Tiarei** 75.17 256 *e*T T 06 42 26.8
comp=Z,1.7nm,0.2s
HLID **Hailey** 75.28 328 P **P** **05 20 43.5 +1.0**
baz=137,SNR=188
HLID **Hailey** 75.28 328 IAmb IAmb 05 20 44.8
comp=Z,96nm,0.9s
BCYI **Bear Canyon** 75.33 329 P **P** **05 20 43.0 +0.2**
PAE **Paea** 75.35 256 *e*P **P** **05 20 45.0 +1.7**
comp=Z,24nm,1.0s
PAE *e*pP **pP** **05 21 11.1 +1.0**
comp=Z,16nm,1.1s
PPT2 **Papeete2** 75.37 256 *e*P **P** **05 20 45.3 +1.8**
comp=Z,172nm,1.3s
PPT2 *e*pP **pP** **05 21 11.3 +1.0**
comp=Z,76nm,1.2s
PPT2 *e*S **S** **05 30 13.5 -2.0**
comp=Z,265nm,26.5s
PPT2 **Papeete2** 75.37 256 *e*LR LR 05 44 02.3
comp=Z,658nm,28.0s
PPT **Papeete** 75.38 256 P **P** **05 20 45.6 +2.1**
comp=Z,143nm,1.1s,baz=134,slow=6.4,SNR=8.6
BOZ **Bozeman (W)** 75.44 331 P **P** **05 20 43.6 +0.3**
baz=139,SNR=55
DLMT **Dillon** 75.72 330 IAmb IAmb 05 20 46.9
comp=Z,128nm,1.4s
MFID **Camas Ranch** 75.89 327 IAmb IAmb 05 20 48.2
comp=Z,122nm,1.1s
MCCM **Marconi Confer** 76.36 319 IAmb IAmb 05 20 50.4
comp=Z,128nm,0.9s
ORV **Oroville** 76.42 321 IAmb IAmb 05 20 51.1
comp=Z,183nm,1.1s
EGMT **Eagleton** 76.48 333 P **P** **05 20 49.0 -0.1**
baz=141,SNR=37
EGMT **Eagleton** 76.48 333 IAmb IAmb 05 20 50.2
comp=Z,138nm,1.1s
HOPS **Hopland Field** 77.01 320 P **P** **05 20 53.0 +0.8**
O03E **Paynes Creek** 77.07 322 P **P** **05 20 52.0 -0.6**
baz=130,SNR=55
TORD **Torodi Ar. Bea** 77.11 71 P **P** **05 20 52.3 -0.9**
comp=Z,47nm,0.5s,baz=255,slow=5.3,SNR=242
TORD PP PP 05 23 35.1 -13
comp=Z,25nm,0.9s,baz=249,slow=7.1,SNR=4.9
TORD PKKPbc **PKKPbc** **05 40 00.0 +0.4**
comp=Z,0.5nm,0.7s,baz=64,slow=1.4,SNR=5.0
TORD LR LR 05 54 06.4
comp=Z,394nm,19.3s,baz=175,slow=35
TORD **Torodi Ar. Bea** 77.11 71 P **P** **05 20 52.0 -1.2**
PLID **Pearl Lake** 77.17 328 IAmb IAmb 05 20 54.8
comp=Z,117nm,1.0s
MOD **Modoc Plateau** 77.26 324 IAmb IAmb 05 20 55.8
comp=Z,232nm,1.7s
MSO **Missoula** 77.43 330 P **P** **05 20 55.3 +0.8**
baz=138,SNR=49
O02D **Mt. Diablo Mer** 77.58 321 P **P** **05 20 55.5 0.0**
baz=130,SNR=29
BMO **Blue Mountains** 77.66 327 IAmb IAmb 05 20 57.5
comp=Z,75nm,0.8s
KCPM **Cahto Peak** 77.75 320 IAmb IAmb 05 20 58.9
comp=Z,74nm,0.9s
N02D **Trinity Center** 78.04 322 P **P** **05 20 57.5 -0.4**
baz=130,SNR=50
M04C **Macdoel** 78.05 323 P **P** **05 20 58.6 +0.5**
baz=130,SNR=61
K05A **Summer Lake** 78.13 324 IAmb IAmb 05 21 01.0
comp=Z,123nm,1.1s
KMRM **Mail Ridge** 78.16 321 IAmb IAmb 05 21 01.1
comp=Z,143nm,1.0s
I07A **Izee** 78.28 326 P **P** **05 20 60.0 +0.7**
SYO **Syowa Base** 78.36 160 *i*P **P** **05 20 59.2 0.0**
SYO **Syowa Base** 78.36 160 *e*PcP **PcP** **05 21 05.0 -3.1**
SYO **Syowa Base** 78.36 160 *i*pP pP 05 21 24.4 -2.2
SYO **Syowa Base** 78.36 160 *i*sP sP 05 21 35.0 -3.0
SYO **Syowa Base** 78.36 160 *e*PP PP 05 23 53.0 -4.2
M02C **Callahan** 78.39 322 P **P** **05 20 59.8 -0.1**
baz=130,SNR=29
YBH **Yreka Blue Hor** 78.52 322 P **P** **05 20 59.9 -0.7**

comp=Z,30nm,1.0s,baz=115,slow=3.7,SNR=83
K04D Chiloquin, OR 78.55 323 P **P** **05 21 01.4 +0.7**
baz=131,SNR=17
KHMM Horse Mountain 78.58 321 IAmb IAmb 05 21 03.2
comp=Z,83nm,1.0s
VNDA Vanda 78.59 190 P **P** **05 21 02.6 +2.2**
comp=Z,18nm,0.9s,baz=130,slow=4.9,SNR=40
VNDA Vanda 78.59 190 P **P** **05 21 02.4 +2.0**
L04D Klamath Falls 78.60 323 P **P** **05 21 01.1 +0.1**
baz=130,SNR=26
J05D Fort Rock, OR 78.69 324 P **P** **05 21 02.3 +0.7**
baz=131,SNR=44
JCC Jacoby Creek, 78.72 321 IAmb IAmb 05 21 03.8
comp=Z,143nm,1.1s
PINE Pine Mountain 78.86 325 IAmb IAmb 05 21 05.0
comp=Z,118nm,1.2s
WALA Waterton Lakes 79.06 332 IAmb IAmb 05 21 04.9
comp=Z,77nm,0.9s
J04D Umpqua Nationa 79.14 324 P **P** **05 21 04.7 +0.5**
baz=130,SNR=30
FFC Flin Flon 79.16 341 P **P** **05 21 03.2 -0.5**
FFC pmax pmax
comp=Z,50nm,1.0s
FFC Flin Flon 79.16 341 P **P** **05 21 03.2 -0.5**
L02E Cave Junction 79.31 322 P **P** **05 21 05.4 +0.6**
baz=129,SNR=37
I05D Terrebonne, OR 79.43 325 P **P** **05 21 06.6 +1.1**
baz=131,SNR=50
I04A Tendick Farm, 79.67 324 P **P** **05 21 06.8 0.0**
baz=130,SNR=24
K02D Willamette Mer 79.68 322 P **P** **05 21 07.7 +0.8**
baz=129,SNR=36
SUR Sutherland 79.84 121 P **P** **05 21 10.2 +1.9**
HAWA Hanford 79.85 327 IAmb IAmb 05 21 09.7
comp=Z,80nm,0.9s
NEW Newport 79.96 330 P **P** **05 21 07.8 -0.4**
baz=135,SNR=24
D08A Wollman Farm, 80.00 328 P **P** **05 21 08.7 +0.3**
D08A IAmb IAmb 05 21 10.6
comp=Z,124nm,1.5s
G05D Wamic, OR 80.01 326 P **P** **05 21 09.9 +1.3**
baz=131,SNR=30
J01E Myrtle Point 80.12 323 P **P** **05 21 10.2 +1.0**
baz=129,SNR=11
E07A Sunnyside 80.13 327 IAmb IAmb 05 21 11.5
comp=Z,104nm,1.3s
I03D Drain, OR 80.13 323 P **P** **05 21 09.8 +0.6**
baz=130,SNR=14
KEBM Edson Butte 80.17 322 P **P** **05 21 10.7 +1.2**
KEBM IAmb IAmb 05 21 11.8
comp=Z,186nm,1.1s
C09A Chrisman Ranch 80.19 329 IAmb IAmb 05 21 11.3
comp=Z,131nm,1.1s
PFVI Vila Bisbo 80.21 45 *e*PcP **PcP** **05 21 15.6 -1.1**
PFVI A A 05 21 22.2
comp=Z,65nm,1.8s
PFVI *e*pP **pP** **05 21 35.1 -2.7**
H04D Lebanon 80.32 324 P **P** **05 21 10.0 -0.1**
baz=130,SNR=6.7
MORF Marmelete 80.42 45 *e*P **P** **05 21 13.8 +2.8**
MORF AMb AMB 05 21 19.0
comp=Z,56nm,0.8s
MORF Marmelete 80.42 45 *e*P **P** **05 21 13.8 +2.8**
MORF Marmelete 80.42 45 *e*PcP **PcP** **05 21 16.1 -1.6**
MORF A A 05 21 21.1
comp=Z,71nm,0.9s
MORF *e*pP **pP** **05 21 40.0 +1.0**
PTEO Sao Teotonio 80.51 45 *e*PcP **PcP** **05 21 17.4 -0.6**
PTEO A A 05 21 21.8
comp=Z,191nm,1.2s
PTEO *e*pP **pP** **05 21 41.6 +2.2**
F05D White Salmon 80.51 326 P **P** **05 21 12.1 +0.9**
baz=131,SNR=20
I02D Swisshome 80.67 324 P **P** **05 21 13.0 +0.9**
baz=129,SNR=9.1
FCC Fort Churchill 80.75 347 IAmb IAmb 05 21 13.1
comp=Z,97nm,1.0s
PBDV Barranco-do-Ve 80.87 45 *e*PcP **PcP** **05 21 19.4 -0.2**
PBDV A A 05 21 23.3
comp=Z,51nm,0.9s
PBDV *e*pP **pP** **05 21 42.3 +0.9**
MDT Midelt 80.87 50 P **P** **05 21 14.2 +0.7**
comp=Z,18nm,0.8s,baz=247,slow=4.4,SNR=14
LIS Lisbon 80.88 43 *e*P **P** **05 21 15.8 +2.5**
LIS AMb AMB 05 21 16.5
comp=Z,79nm,1.6s
LIS Lisbon 80.88 43 *e*P **P** **05 21 15.8 +2.5**
PMAFR Mafra 80.93 43 *e*PcP **PcP** **05 21 21.1 +1.3**
PMAFR A A 05 21 33.5
comp=Z,148nm,1.8s
TSUM Tsumeb 80.95 107 P **P** **05 21 15.2 +0.8**
PNCL Nicolau / Gran 80.95 44 *e*PcP **PcP** **05 21 19.6 -0.3**
PNCL A A 05 21 23.9
comp=Z,64nm,1.5s
PNCL *e*pP **pP** **05 21 43.4 +1.6**
PCVE Castro Verde 81.01 45 *e*P **P** **05 21 15.4 +1.4**
comp=Z,51nm,1.2s
PCVE Castro Verde 81.01 45 *e*PcP **PcP** **05 21 20.0 -0.2**
PCVE *e*pP **pP** **05 21 44.0 +1.9**
LTY Liberty 81.01 327 IAmb IAmb 05 21 15.7
comp=Z,145nm,1.2s
G03D McMinnville, O 81.04 325 P **P** **05 21 14.7 +0.6**
baz=130,SNR=6.7
F04A Amboy 81.05 326 IAmb IAmb 05 21 15.6
comp=Z,177nm,1.0s
PVAQ Vaqueiros 81.10 45 *e*PcP **PcP** **05 21 20.4 -0.2**
PVAQ A A 05 21 23.1
comp=Z,35nm,1.9s
PVAQ *e*pP **pP** **05 21 39.5 -3.1**
PBEJ Beja 81.34 45 *e*PcP **PcP** **05 21 21.6 0.0**
PBEJ A A 05 21 25.4
comp=Z,52nm,0.9s
PBEJ *e*pP **pP** **05 21 45.5 +1.6**
F04D Rainier, OR 81.46 325 P **P** **05 21 17.3 +1.1**
baz=130
EVO Evora 81.52 44 *e*PcP **PcP** **05 21 22.3 -0.1**
EVO A A 05 21 48.2
comp=Z,44nm,1.6s
E04D Cinebar 81.53 326 P **P** **05 21 16.7 +0.1**
baz=131,SNR=15
PSBE So Bento 81.56 43 *e*PcP **PcP** **05 21 24.3 +1.7**
PSBE A A 05 21 38.4
comp=Z,68nm,1.7s
PSBE *e*pP **sP** **05 21 52.8 -3.8**
C06D Leavenworth 81.57 328 P **P** **05 21 16.8 0.0**
baz=132
D05A Enumclaw 81.64 327 IAmb IAmb 05 21 18.6
comp=Z,157nm,0.9s
PMTG Montargil 81.68 44 *e*PcP **PcP** **05 21 22.7 -0.4**
PMTG A A 05 21 27.3
comp=Z,80nm,0.9s
D04E Lakebay 82.04 326 P **P** **05 21 20.1 +0.9**
baz=130,SNR=6.3
PCAS Casmilo, Conde 82.05 43 *e*PcP **PcP** **05 21 26.4 +1.7**
PCAS A A 05 21 29.4
comp=Z,64nm,1.7s
E03A Lebam 82.05 326 IAmb IAmb 05 21 21.2
comp=Z,152nm,1.2s
COI Coimbra 82.19 42 *e*PcP **PcP** **05 21 30.4 +5.2**
COI A A 05 21 31.8
comp=Z,90nm,1.9s
COI *e*pP **pP** **05 21 52.9 +4.6**
B06A Marblemount 82.26 328 IAmb IAmb 05 21 21.2
comp=Z,110nm,0.8s
B05A Bryant 82.40 328 P **P** **05 21 20.8 -0.2**
baz=131,SNR=76
PMRV Marv??o 82.41 44 *e*PcP **PcP** **05 21 28.1 +1.8**
PMRV A A 05 21 31.1
comp=Z,45nm,1.7s
D03D Eldon 82.44 327 P **P** **05 21 21.8 +0.5**
baz=130,SNR=30
PCBR Castelo Branco 82.58 43 *e*PcP **PcP** **05 21 28.9 +1.9**
PCBR A A 05 21 32.8
comp=Z,36nm,2.1s
PVIS Viseu 82.80 42 *e*PcP **PcP** **05 21 31.0 +3.0**
PVIS A A 05 21 38.0
comp=Z,45nm,1.7s
PVIS *e*pP **pP** **05 21 54.2 +2.6**
A04D Lummi Island 83.00 328 P **P** **05 21 24.7 +0.5**
baz=131,SNR=53
PVRL Vila Real 83.22 42 *e*PcP **PcP** **05 21 32.6 +2.8**
PVRL A A 05 21 33.9
comp=Z,90nm,1.7s
PVRL *e*pP **pP** **05 21 54.9 +1.1**
PGAV Gavieira, Arco 83.25 41 *e*PcP **PcP** **05 21 32.4 +2.4**
PGAV A A 05 21 35.9
comp=Z,80nm,1.4s
PGAV *e*pP **pP** **05 21 54.3 +0.3**
PCAB Cabril 83.26 41 *e*PcP **PcP** **05 21 32.7 +2.7**
PCAB A A 05 21 34.7
comp=Z,95nm,2.2s
PGC Sidney 83.34 327 IAmb IAmb 05 21 27.6
comp=Z,114nm,0.9s
RAR Rarotonga 83.49 250 P **P** **05 21 28.7 +1.3**
comp=Z,28nm,0.9s,baz=171,slow=20,SNR=3.3
RAR LR LR 05 48 50.3
comp=Z,250nm,20.1s,baz=122,slow=28
RAR Rarotonga 83.49 250 P **P** **05 21 28.7 +1.3**
RAR pmax pmax
comp=Z,203nm,1.8s
RAR Rarotonga 83.49 250 IAmb IAmb 05 22 08.6
comp=Z,203nm,1.8s
MVO Moncorvo 83.59 42 *e*P **P** **05 21 27.9 +0.4**
comp=Z,70nm,1.7s
MVO Moncorvo 83.59 42 *e*PcP **PcP** **05 21 33.6 +2.1**
PBRG Braganca 84.12 42 *e*PcP **PcP** **05 21 33.1 -0.7**
PBRG A A 05 21 36.4
comp=Z,59nm,1.6s
PBRG *e*pP **pP** **05 21 59.0 +0.5**
PAB San Pablo 84.47 45 P **P** **05 21 32.9 +0.8**
PAB pmax pmax
comp=Z,29nm,0.7s
PAB San Pablo 84.47 45 P **P** **05 21 32.9 +0.8**
BOSA Boshof 84.66 118 P **P** **05 21 33.9 +0.5**
comp=Z,14nm,0.9s,baz=267,slow=5.4,SNR=11
BOSA LR LR 05 57 31.2
comp=Z,144nm,18.8s,baz=241,slow=34
ESDC Sonseca Array 84.80 45 P **P** **05 21 34.5 +0.9**
comp=Z,6.3nm,0.8s,baz=247,slow=4.4,SNR=23
ESDC LR LR 05 58 09.7
comp=Z,85nm,19.2s,baz=245,slow=35
ESDC Sonseca Array 84.80 45 P **P** **05 21 34.1 +0.5**
LBTB Lobatse 86.14 115 P **P** **05 21 41.7 +0.8**
LBTB pmax pmax
comp=Z,35nm,0.9s
LBTB Lobatse 86.14 115 P **P** **05 21 41.6 +0.8**
MAW Mawson 86.20 163 P **P** **05 21 41.6 +1.5**
comp=Z,18nm,1.0s,baz=222,slow=6.8,SNR=11
MAW PKKPbc **PKKPbc** **05 39 37.5 -2.4**
comp=Z,2.1nm,0.6s,baz=59,slow=5.9,SNR=3.6
MAW Mawson 86.20 163 P **P** **05 21 41.1 +1.0**
SFJD Kangerlussuaq 87.51 7 *i* P **P** **05 21 45.0 -1.2**
SFJD Kangerlussuaq 87.51 7 *i* P **P** **05 21 45.0 -1.2**
SFJD Kangerlussuaq 87.51 7 *i* P **P** **05 21 45.0 -1.2**
BBB Bella Bella 87.86 328 IAmb IAmb 05 21 49.4
comp=Z,57nm,1.0s
YKA Yellowknife Ar 89.32 341 P **P** **05 21 54.7 -0.1**
comp=Z,165nm,0.8s,baz=128,slow=4.6,SNR=446
YKA pP **pP** **05 22 22.5 -0.2**
comp=Z,36nm,0.8s,baz=127,slow=5.5,SNR=4.1
YKA LR LR 06 05 02.9
comp=Z,72nm,20.1s,baz=0.0,slow=38
MATP Matopo 90.25 112 *i* P **P** **05 22 05.0 +4.5**
MATP Matopo 90.25 112 *i* P **P** **05 22 05.0 +4.5**
BLWY Bulawayo 90.45 111 *i* P P 05 22 08.0 +6.6
BLWY Bulawayo 90.45 111 *i* P P 05 22 08.0 +6.6
BORG Borgarnes 91.80 19 P **P** **05 22 07.5 +1.2**
comp=Z,90nm,1.3s
BORG Borgarnes 91.80 19 P **P** **05 22 07.5 +1.2**
BORG pmax pmax
comp=Z,533nm,1.9s
WRAK Wrangell Islan 92.31 330 IAmb IAmb 05 22 09.9
comp=Z,30nm,0.9s
DLBC Dease Lake 92.39 333 IAmb IAmb 05 22 10.9
comp=Z,69nm,1.1s
KEST Kesra 92.50 53 P **P** **05 22 10.8 +0.4**
comp=Z,3.2nm,0.9s,baz=283,slow=3.6,SNR=4.9
KEST PKKPbc **PKKPbc** **05 39 24.8 +0.5**
comp=Z,2.6nm,0.7s,baz=108,slow=3.2,SNR=4.3
KEST LR LR 06 04 19.7
comp=Z,170nm,19.4s,baz=234,slow=36
EKA Eskdalemuir Ar 93.25 32 P **P** **05 22 12.1 -1.2**
comp=Z,1.0nm,0.6s,baz=233,slow=4.3,SNR=3.8
SUMG Summit 94.30 9 *i* P **P** **05 22 18.0 -0.2**
SUMG pmax pmax
comp=Z,86nm,1.1s
SUMG Summit 94.30 9 IAmb IAmb 05 23 12.1
comp=Z,39nm,1.0s
SUMG Summit 94.30 9 *i* P **P** **05 22 18.0 -0.2**
comp=Z,86nm,1.1s
SUMG Summit 94.30 9 *i* P **P** **05 22 18.0 -0.2**
SUMG IAmb IAmb 05 22 20.0
comp=Z,86nm,1.1s
CASY Casey 94.33 180 P **P** **05 22 19.6 +1.4**
CASY IAmb IAmb 05 22 20.8
comp=Z,44nm,0.9s
URZ Urewera 95.19 226 LR LR 05 54 38.8
comp=Z,278nm,21.4s,baz=212,slow=29
RPZ Rata Peaks 96.18 219 P **P** **05 22 29.3 +2.2**
comp=Z,18nm,0.8s,baz=193,slow=3.2,SNR=4.6
MOTA Moosalm 97.96 43 P Pdif 05 22 38.0 +2.8
comp=Z,16nm,1.1s
SQTA Sankt Quirin 97.98 43 P Pdif 05 22 38.8 +3.6
comp=Z,22nm,0.7s,SNR=5.7
WTTA Wattenberg 98.27 43 P Pdif 05 22 39.2 +2.6
comp=Z,21nm,0.7s,SNR=5.1
ABTA Abfaltersbach 98.67 44 P Pdif 05 22 39.2 +1.0
comp=Z,10nm,0.7s
GRF Grafenberg Arr 98.84 40 *e*Pdiff Pdif 05 22 50.0 +11
comp=Z,15nm,0.9s
INK Inuvik 99.08 340 P **Pdif** **05 22 38.9 -0.5**
comp=Z,9.0nm,0.8s,baz=59,slow=2.2,SNR=5.6
INK Inuvik 99.08 340 IAmb IAmb 05 23 08.8
comp=Z,44nm,1.6s
KBA Koelnbreinsper 99.31 43 P **Pdif** **05 22 46.0 +4.8**
comp=Z,10nm,0.8s
MYKA Tea Mystica 99.36 44 P **Pdif** **05 22 43.7 +2.4**
comp=Z,19nm,0.7s,SNR=8.3
OBKA Obir 99.92 44 P **Pdif** **05 22 49.0 +5.2**
comp=Z,21nm,0.8s,SNR=7.4
GERES GERESS Array B 100.10 42 P **Pdif** **05 22 45.5 +1.0**
comp=Z,0.2nm,0.2s,baz=226,slow=9.4,SNR=1.6
GERES PKKPbc **PKKPbc** **05 39 01.6 -2.6**
comp=Z,0.4nm,0.4s,baz=308,slow=4.4,SNR=4.4
KHC Kasperske Hory 100.11 41 *e*PDIFF **Pdif** **05 22 54.9 +10**
KHC *ex* x 05 30 00.1
K27K Chicken 100.20 335 Pdiff **Pdif** **05 22 44.5 0.0**
baz=114
SOKA Soboth 100.29 44 P **Pdif** **05 22 48.4 +3.0**
comp=Z,6.9nm,0.9s
CLL Collm 100.44 39 *e*SP SP 05 35 48.0 +4.8
CLL *e*PPS PPS 05 36 54.0
DAG Danmarks Havn 100.82 10 *i* P **Pdif** **05 22 45.3 -1.7**
DAG pmax pmax
comp=Z,5.0nm,1.1s
DAG Danmarks Havn 100.82 10 *i* P **Pdif** **05 22 45.3 -1.7**
comp=Z,5.3nm,1.1s
DAG Danmarks Havn 100.82 10 *i* P **Pdif** **05 22 45.4 -1.7**
DAG IAmb IAmb 05 22 47.5
comp=Z,5.3nm,1.1s
SCRK Sand Creek 100.96 334 Pdiff **Pdif** **05 22 46.8 -1.3**
baz=112
PRU Pruhonice 100.97 41 *e*PDIFF **Pdif** **05 22 59.3 +11**
CHVC Chvalec 102.07 41 *ex* x 05 29 50.9
OSTC Ostas 102.16 41 *e*PDIFF **Pdif** **05 23 05.7 +12**
DPC Dobruska-Polom 102.17 41 *e*PDIFF **Pdif** **05 23 04.9 +11**
DPC *ex* x 05 29 51.6
ILAR Eielson Array 102.42 335 P **Pdif** **05 22 53.5 -0.9**
comp=Z,0.9nm,0.8s,baz=145,slow=4.3,SNR=9.1
ILAR PP PP 05 26 56.6 -12
comp=Z,0.9nm,0.8s,baz=99,slow=9.5,SNR=5.8
ILAR PKKPbc **PKKPbc** **05 38 54.9 -3.0**
comp=Z,0.5nm,0.9s,baz=285,slow=4.7,SNR=4.6
ILAR Eielson Array 102.42 335 Pdif **Pdif** **05 22 53.1 -1.3**
NB2 NORSAR Subarra 102.51 29 P **Pdif** **05 23 07.0 +12**
comp=Z,30nm,1.4s,baz=253,slow=4.4
NB2 NORSAR Subarra 102.51 29 P **Pdif** **05 23 07.0 +12**
baz=253,slow=4.4
MDVR Moldovita 104.29 47 ⇑P **PKiKP** **05 27 14.0 -5.4**
BZS Buzias 104.42 46 ⇑P **PKiKP** **05 27 22.9 +3.4**
ARR Arges 106.44 47 ⇑P **PKiKP** **05 27 27.0 +3.6**
VOIR 106.74 47 ⇓P **PKiKP** **05 27 29.3 +5.3**
MLR Muntele Rosu 107.36 47 ⇑P PKiKP 05 27 34.3 +9.1
VRI Vrincioaia 107.97 47 ⇓P PKiKP 05 27 38.1 +12
CFR Carcaliu 108.83 48 ⇑P PKiKP 05 27 39.9 +12
FINES FINESS Array B 109.62 31 PKKPbc PKKPbc 05 38 33.9 -1.6
comp=Z,2.6nm,0.8s,baz=129,slow=2.7,SNR=5.8
ARCES ARCESS Array B 109.93 22 PKKPbc PKKPbc 05 38 32.7 -2.0
comp=Z,3.1nm,0.7s,baz=94,slow=4.1,SNR=15
ARCES PKKPab **PKKPab** **05 38 43.9 +1.6**
comp=Z,3.5nm,0.6s,baz=90,slow=4.9,SNR=10
AKASG Malin Array Be 110.31 42 PP **PP** **05 27 59.6 -7.2**
comp=Z,0.4nm,0.3s,baz=259,slow=7.8,SNR=3.2
AKASG PKKPbc **PKKPbc** **05 38 31.6 -1.2**
comp=Z,0.9nm,0.5s,baz=67,slow=3.9,SNR=4.8
DZM Mont Dzumac 111.53 236 *e*LQ LQ 05 56 04.0
comp=Z,2µm,40.9s
DZM *e*LR LR 06 00 40.3
comp=Z,373nm,30.6s
BRTR Keskin Array B 112.08 54 PKiKP **PKiKP** **05 27 34.4 +0.1**
comp=Z,1.6nm,0.9s,baz=2.3,slow=3.6,SNR=4.5
BRTR PKKPab **PKKPab** **05 38 35.4 +1.3**
comp=Z,3.1nm,0.8s,baz=94,slow=4.8,SNR=17
APA Apatity 112.85 24 ⇓ *i* PKiKP PKiKP 05 27 26.7 -8.0
APA pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 114.95 38 *i* PKiKP PKPdf 05 27 39.1 +0.1
OBN *e* 05 28 40.7
OBN pmax pmax
comp=Z,7.0nm,0.8s
MOS Moscow 115.53 37 *e*PKiKP **PKiKP** **05 27 36.0 -4.1**
MOS *e* 05 28 50.3
KLMR Klimovskoe 116.14 31 *e*PKiKP **PKPdf** **05 27 39.9 -1.3**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 116.14 31 *e*PKPdf **PKPdf** **05 27 39.9 -1.3**
KLMR AMP 05 27 42.7
comp=Z,8.0nm,0.8s
KLMR *e*PKKPbc **PKKPbc** **05 38 08.9 -4.6**
MARD Mardin 117.39 57 **PKiKP** **05 27 45.3 +0.8**
ARTV Artvin 118.50 53 PKPdf **PKiKP** **05 27 47.5 +0.8**
PRGR Permogore 118.92 30 *e*PKiKP **PKPdf** **05 27 46.2 -0.3**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
KIV Kislovodsk 119.10 50 *i* PKiKP **PKiKP** **05 27 47.7 +0.1**
KIV *e*PS **PS** **05 38 59.5 +1.1**
KIV *e*SS SS 05 45 25.9 +3.7
KIV pmax pmax
comp=Z,31nm,1.0s
KBZ Khabaz 119.25 50 PKP **PKiKP** **05 27 48.2 +0.5**
comp=Z,6.3nm,0.7s,baz=258,slow=3.3,SNR=9.0
KBZ pPKP **pPKPdf** **05 28 17.9 +0.7**
comp=Z,11nm,0.8s,baz=257,slow=0.5,SNR=6.3
KBZ PKKPab **PKKPab** **05 38 03.8 +1.7**
comp=Z,1.0nm,0.5s,baz=171,slow=4.8,SNR=3.7
KBZ Khabaz 119.25 50 ⇑ *i* PKiKP **PKPdf** **05 27 47.5 -0.2**
ZEI Tsey 119.99 51 *i* PKiKP **PKiKP** **05 27 49.7 +0.2**
ZEI pmax pmax
comp=Z,5.0nm,1.2s
BILL Bilibino 120.67 339 *i* PKiKP **PKPdf** **05 27 49.2 -0.5**
BILL pmax pmax
comp=Z,3.0nm,0.4s
STKA Stephens Creek 120.81 211 PKP **PKiKP** **05 27 51.6 +0.2**
comp=Z,9.5nm,0.8s,baz=119,slow=2.1,SNR=12
ARU Arti 126.83 33 PKP **PKiKP** **05 28 02.6 +0.3**
comp=Z,3.6nm,0.3s,baz=270,slow=1.1,SNR=16
ARU pPKP **pPKPdf** **05 28 31.5 +0.5**
comp=Z,2.7nm,0.2s,baz=214,slow=2.3,SNR=1.8
ARU Arti 126.83 33 *i* PKiKP **PKiKP** **05 28 02.8 +0.5**
ARU 05 30 05.6
ARU 05 35 04.3
ARU SS SS 05 47 13.2 +14
TIXI Tiksi 126.92 353 ⇓ *i* PKiKP **PKPdf** **05 28 00.8 -0.8**
TIXI pmax pmax
comp=Z,31nm,0.7s
CTA Charters Tower 127.33 223 PKP **PKiKP** **05 28 04.8 +0.3**
comp=Z,19nm,0.8s,baz=205,slow=2.1,SNR=18
CTAO Charters Tower 127.33 223 PKiKP **PKPdf** **05 28 04.3 +0.3**
CTAO Charters Tower 127.33 223 PKPdf **PKPdf** **05 28 04.3 +0.3**
NWAO Narrogin (SRO) 127.34 187 PKP **PKPdf** **05 28 04.1 +0.4**
comp=Z,15nm,0.8s,baz=192,slow=4.8,SNR=7.9
NRIK Noril'sk 128.33 10 PKP **PKiKP** **05 28 05.2 +0.2**
comp=Z,7.2nm,0.9s,baz=65,slow=2.4,SNR=8.0
NRIK pPKP **pPKPdf** **05 28 34.6 +1.1**
comp=Z,5.4nm,0.8s,baz=343,slow=3.1,SNR=3.1
NRIK Noril'sk 128.33 10 ⇑ PKiKP **PKPdf** **05 28 04.2 -0.1**
AKTO Aktyubinsk 128.50 41 PKP **PKiKP** **05 28 06.0 +0.2**
comp=Z,5.9nm,0.9s,baz=279,slow=3.5,SNR=13
UOSS Minazif 129.59 73 **PKPdf** **05 28 08.4 +0.3**
AB31 Akbulak array 130.04 42 *i* PKiKP **PKPdf** **05 28 08.0 -0.2**
ABKAR Akbulak array 130.04 42 PKPdf **PKiKP** **05 28 08.7 -0.3**
PEA0B Petropavlovsk- 130.85 324 ⇑ PKiKP **PKiKP** **05 28 10.3 -0.2**
PETK Petropavlovsk- 130.85 324 PKP **PKiKP** **05 28 10.3 -0.2**
comp=Z,17nm,0.8s,baz=85,slow=6.3,SNR=19
PETK Petropavlovsk- 130.85 324 PKPdf **PKPdf** **05 28 09.8 +0.1**
MA2 Magadan 130.90 334 ⇑ PKiKP **PKiKP** **05 28 10.3 -0.1**
MA2 pmax pmax
comp=Z,27nm,2.5s
GEYT Alibeck 131.12 56 PKP **PKiKP** **05 28 11.6 -0.1**
comp=Z,3.4nm,0.6s,baz=23,slow=11,SNR=8.2
GEYT PP **PP** **05 30 29.6 +0.3**
comp=Z,3.0nm,0.8s,baz=204,slow=3.3,SNR=4.6
ASAR Alice Springs 131.35 209 PKhKP PKPpre 05 27 52.1
comp=Z,1.0nm,0.7s,baz=136,slow=2.8,SNR=8.2
ASAR PKP **PKPdf** **05 28 11.7 +0.1**
comp=Z,20nm,0.9s,baz=132,slow=2.2,SNR=68
ASAR PP **PP** **05 30 27.5 -2.1**
comp=Z,10nm,1.2s,baz=140,slow=5.8,SNR=9.6
ASAR SKPbc **SKPbc** **05 31 26.6 -0.8**
comp=Z,9.2nm,1.1s,baz=148,slow=4.3,SNR=7.9
ASAR Alice Springs 131.35 209 PKPpre 05 27 51.1
PMG Port Moresby 133.91 235 PKP **PKiKP** **05 28 18.0 +0.1**
comp=Z,22nm,0.8s,baz=45,slow=22,SNR=6.0
PMG Port Moresby 133.91 235 *d* i PKiKP **PKiKP** **05 28 17.6 -0.3**
PMG pmax pmax
comp=Z,35nm,1.0s
PMG Port Moresby 133.91 235 PKPdf **PKiKP** **05 28 18.0 +0.1**
WRA Warramunga Arr 134.33 212 PKhKP PKPpre 05 28 03.7
comp=Z,2.1nm,0.6s,baz=136,slow=3.2,SNR=17
WRA PKP **PKPdf** **05 28 17.1 -0.2**
comp=Z,25nm,0.8s,baz=156,slow=1.8,SNR=76
WRA PP **PP** **05 30 47.6 -1.2**
comp=Z,5.6nm,1.1s,baz=150,slow=5.4,SNR=7.0
WRA SKPbc **SKPbc** **05 31 37.1 -0.6**
comp=Z,11nm,1.1s,baz=142,slow=2.9,SNR=8.3
WRA Warramunga Arr 134.33 212 **PKPdf** **05 28 16.3 -1.0**
WRAB Tennant Creek 134.33 212 PKiKP **PKPdf** **05 28 16.7 -0.6**
WRAB Tennant Creek 134.33 212 **PKPdf** **05 28 16.7 -0.6**
BRVK Borovoye 134.41 33 *c* i PKiKP **PKPdf** **05 28 16.4 +0.1**
BRVK pmax pmax
comp=Z,17nm,2.5s
BRVK Borovoye 134.41 33 PKPdf **PKiKP** **05 28 17.6 -0.1**
BVAR Borovoye Array 134.48 33 PKP **PKiKP** **05 28 17.8 -0.1**
comp=Z,2.5nm,0.7s,baz=206,slow=13,SNR=14
YAK Yakutsk 135.64 347 PKP **PKPdf** **05 28 18.5 +0.2**
comp=Z,11nm,0.4s,baz=261,slow=0.3,SNR=4.0
YAK Yakutsk 135.64 347 *ce* PKiKP **PKPdf** **05 28 17.7 -0.6**
YAK pmax pmax
comp=Z,20nm,0.8s
KK31 Karatay Array 139.03 46 *i* PKiKP **PKPdf** **05 28 24.4 -0.9**
KKAR Karatay Array 139.03 46 PKiKP **PKPdf** **05 28 24.6 -0.6**
KKAR Karatay Array 139.03 46 PKPdf **PKPdf** **05 28 24.6 -0.6**
FITZ Fitzroy Crossi 139.71 202 PKhKP PKPpre 05 28 18.9
comp=Z,5.5nm,0.8s,baz=162,slow=6.4,SNR=5.9
FITZ PKP **PKPdf** **05 28 27.9 +0.6**
comp=Z,18nm,0.6s,baz=199,slow=4.7,SNR=7.0
KURK Kurchatov 139.98 32 PKiKP **PKPdf** **05 28 27.0 +0.3**
KURK Kurchatov 139.98 32 **PKPdf** **05 28 27.0 +0.3**
KURK PP 05 31 36.1 +12
KURBB Kurchatov Arra 140.00 32 PKP **PKPdf** **05 28 27.0 +0.3**
comp=Z,7.1nm,0.9s,baz=305,slow=2.0,SNR=16
KURBB PP PP 05 31 36.1 +12
comp=Z,2.2nm,0.9s,baz=292,slow=6.1,SNR=3.7
KURBB Kurchatov Arra 140.00 32 PKHKP PKPpre 05 28 20.7
ZALV Zalesovo Beam 140.44 24 PKhKP PKPpre 05 28 23.4
comp=Z,17nm,0.6s,baz=315,slow=3.4,SNR=21
ZALV PKP **PKPdf** **05 28 27.9 +0.5**
comp=Z,38nm,0.8s,baz=290,slow=2.7,SNR=35
ZALV Zalesovo Beam 140.44 24 **PKPdf** **05 28 24.9 -2.5**
BOD Bodaibo 141.81 357 *e*PKHKP PKPpre 05 28 23.1
BOD pmax pmax
comp=Z,28nm,0.8s
YSS Yuzh-Sakhalins 142.24 324 *e*PKiKP **PKPdf** **05 28 28.4 -2.4**
YSS *e* 05 28 59.3
YSS pmax pmax
comp=Z,20nm,0.9s
JAY Jayapura 143.19 237 PKhKP PKPpre 05 28 31.3
comp=Z,51nm,1.0s,baz=196,slow=1.9,SNR=18
JAY Jayapura 143.19 237 PKP PKPbc 05 28 31.6 +0.8
JAY PKP **PKPdf** **05 28 31.9 -1.7**
GENI Genyem 143.56 236 PKP PKPbc 05 28 32.7 +0.9
ZEA Zeya 143.66 343 *e*PKiKP PKPbc 05 28 31.2 +0.3
ZEA pmax pmax
comp=Z,30nm,1.4s
ASAJ Asahikawa 143.91 320 PKP PKPbc 05 28 31.8 -0.1
comp=Z,28nm,0.9s,baz=292,slow=3.0,SNR=7.9
NIL Nilore 143.97 60 PKiKP PKPbc 05 28 32.7 +0.2

NIL	**Nilore**	**143.97**	**60**			PKPbc	05 28 32.7	+0.2
MAKZ	**Makanchi**	**144.17**	**34**		PKIKP	PKPbc	05 28 32.9	+0.2
MAKZ	**Makanchi**	**144.17**	**34**		PKPdf	PKPbc	05 28 32.9	+0.2
KSH	**Kashi**	**144.21**	**49**		PKP	PKPbc	05 28 33.1	-0.1
KSH					pPKP	pPKPdf	05 29 02.4	-1.9
KSH					AMB	AMB		
	comp=Z,150nm,5.1s							
MK31	**Makanchi Array**	**144.35**	**34**	*i*	PKIKP	**PKPab**	**05 28 32.4**	**-0.5**
MKAR	**Makanchi Array**	**144.35**	**34**		PKP	PKPbc	05 28 33.2	0.0
	comp=Z,13nm,0.6s,baz=314,slow=4.0,SNR=44							
MKAR	**Makanchi Array**	**144.35**	**34**		PKPdf	**PKPab**	**05 28 33.0**	**0.0**
ERM	**Erimo**	**144.63**	**316**	*c*	iPKIKP	**PKPdf**	**05 28 36.6**	**+1.4**
ERM					pmax	pmax		
	comp=Z,137nm,1.7s							
ERM	**Erimo**	**144.63**	**316**		PKPdf	**PKPdf**	**05 28 35.9**	**+0.7**
PDGK	**Podgornoye**	**144.78**	**41**		PKIKP	**PKPab**	**05 28 34.8**	**0.0**
POO	**Poona**	**145.22**	**86**	*ex*		**PKPbc**	**05 28 34.0**	**-2.8**
GUMO	**Guam**	**146.73**	**265**		PKP	**PKPdf**	**05 28 38.2**	**-1.4**
	comp=Z,565nm,1.0s,baz=174,slow=5.3,SNR=17							
GUMO					PKPbc	**PKPbc**	**05 28 41.5**	**+0.1**
	comp=Z,565nm,1.0s,baz=173,slow=3.5,SNR=17							
TEY	**Ternei**	**146.80**	**326**	⇑*e*	PKIKP	**PKPdf**	**05 28 38.6**	**-0.2**
TEY				*e*			05 29 09.4	
TEY					pmax	pmax		
	comp=N,10.0nm,1.5s							
TEY					pmax	pmax		
	comp=E,10.0nm,1.3s							
TEY					pmax	pmax		
	comp=Z,30nm,1.1s							
TEY					pmax	pmax		
	comp=N,30nm,1.0s							
TEY					pmax	pmax		
	comp=Z,70nm,1.0s							
IRK	**Irkutsk**	**147.09**	**7**	*e*	PKP2	**PKPbc**	**05 28 40.4**	**-1.0**
IRK					pmax	pmax		
	comp=Z,151nm,1.7s							
MOY	**Mondy**	**147.16**	**11**	*e*	PKP2	**PKPbc**	**05 28 40.9**	**-0.8**
MOY					pmax	pmax		
	comp=Z,131nm,1.4s							
TLY	**Talaya**	**147.56**	**8**		PKP	**PKPdf**	**05 28 41.1**	**+1.2**
	comp=Z,20nm,0.7s,baz=279,slow=1.7,SNR=20							
TLY					PKPbc	**PKPbc**	**05 28 43.7**	**+1.0**
	comp=Z,36nm,0.7s,baz=297,slow=1.5,SNR=20							
TLY	**Talaya**	**147.56**	**8**	*e*	PKP2	**PKPbc**	**05 28 43.2**	**+0.5**
TLY					pmax	pmax		
	comp=Z,140nm,0.9s							
BATI	**Baumata**	**147.69**	**204**		PKP	**PKPbc**	**05 28 43.2**	**-0.9**
	comp=Z,122nm,0.7s,baz=167,slow=0.8,SNR=12							
BATI					PKPbc	**PKiKP**	**05 28 45.8**	**-0.4**
	comp=Z,138nm,0.7s,baz=204,slow=1.6,SNR=12							
BATI	**Baumata**	**147.69**	**204**		PKP	**PKPdf**	**05 28 42.7**	**+1.4**
SOEI	**Soe**	**147.86**	**206**		PKP	**PKPbc**	**05 28 45.1**	**+0.4**
SOEI					PKP	**PKiKP**	**05 28 46.0**	**-0.6**
NDI	**New Delhi**	**148.26**	**67**	*ex*		**PKiKP**	**05 28 47.0**	**+0.1**
ZAK	**Zakamensk**	**148.78**	**9**	*e*	PKIKP	**PKPdf**	**05 28 42.4**	**+0.3**
ZAK					pmax	pmax		
	comp=Z,39nm,1.1s							
FAKI	**Fak Fak**	**149.14**	**226**		PKP	**PKPdf**	**05 28 44.9**	**+1.2**
WMQ	**Urumqi**	**149.17**	**33**	*e*	PKPbc	**PKPdf**	**05 28 42.9**	**0.0**
HYB	**Hyderabad**	**149.48**	**89**	*i*	PKP	**PKPdf**	**05 28 44.0**	**-0.1**
HYB				*e*			05 28 49.0	
HYB				*e*	pPKP	**pPKPbc**	**05 29 18.0**	**-0.2**
MMRI	**Maumere**	**149.67**	**203**		PKP	**PKPdf**	**05 28 45.8**	**+1.3**
USA0B	**Ussuriysk Arra**	**149.74**	**329**		PKPdf	**PKPdf**	**05 28 43.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**149.74**	**329**		PKP	**PKPdf**	**05 28 44.2**	**+0.6**
	comp=Z,79nm,0.8s,baz=305,slow=1.4,SNR=46							
USRK					PKPbc	**PKiKP**	**05 28 49.1**	**-0.3**
	comp=Z,80nm,0.8s,baz=2.9,slow=1.0,SNR=136							
USRK	**Ussuriysk Ar.**	**149.74**	**329**		PKPdf	**PKPdf**	**05 28 43.7**	**0.0**
JCJ	**Chichijima**	**150.20**	**290**		PKPbc	**PKPbc**	**05 28 50.0**	**-0.1**
	comp=Z,252nm,0.8s,baz=217,slow=3.2,SNR=6.3							
MDJ	**Mudanjiang**	**150.54**	**332**		PKPbc	**PKPdf**	**05 28 45.3**	**+0.4**
MAJO	**Matsushiro**	**150.60**	**311**		PKIKP	**PKPbc**	**05 28 51.1**	**+0.3**
MAJO	**Matsushiro**	**150.60**	**311**			**PKPbc**	**05 28 51.1**	**+0.3**
MAT	**Matsushiro**	**150.60**	**311**		PKP	**PKPbc**	**05 28 50.8**	**0.0**
MJAR	**Matsushiro Arr**	**150.60**	**311**		PKP	**PKPdf**	**05 28 46.9**	**+1.6**
	comp=Z,78nm,0.8s,baz=28,slow=0.2,SNR=69							
MJAR					PKPbc	**PKPbc**	**05 28 50.8**	**-0.1**
	comp=Z,79nm,0.8s,baz=87,slow=1.6,SNR=123							
PLAI	**Plampang**	**150.85**	**195**		PKP	**PKPdf**	**05 28 47.5**	**+1.2**
PLAI					PKP	**PKPbc**	**05 28 51.9**	**-0.1**
PLAI					PKP	**PKiKP**	**05 28 52.4**	**-0.2**
MSAI	**Masohi**	**150.95**	**220**		PKP	**PKPdf**	**05 28 47.5**	**+1.0**
AAI	**Ambon**	**151.11**	**218**		PKP	**PKPbc**	**05 28 51.5**	**-1.2**
TWSI	**Taliwang, Sumb**	**151.14**	**193**		PKP	**PKPbc**	**05 28 51.7**	**-1.0**
JBP	**Jabalpur**	**151.24**	**78**	*i*	P	**PKPbc**	**05 28 52.9**	**+0.3**
JBP				*ex*		x	05 29 22.4	
JBP					IAML		05 29 23.5	
	comp=Z,45nm,0.7s							
SIJI	**Sorong**	**151.30**	**227**		PKPbc	**PKiKP**	**05 28 54.0**	**+0.4**
	comp=Z,142nm,0.7s,baz=35,slow=5.8,SNR=23							
SONM	**Songino Array**	**151.67**	**6**		PKPdf	**PKPdf**	**05 28 47.8**	**+1.1**
	comp=Z,7.4nm,0.8s,baz=302,slow=0.6,SNR=31							
SONM					PKPbc	**PKiKP**	**05 28 53.4**	**0.0**
	comp=Z,60nm,0.7s,baz=317,slow=1.2,SNR=112							
SONM	**Songino Array**	**151.67**	**6**		PKPdf	**PKPdf**	**05 28 47.4**	**+0.6**
ULN	**Ulaanbaatar**	**151.70**	**5**		PKIKP	**PKPdf**	**05 28 48.1**	**+1.3**
ULN	**Ulaanbaatar**	**151.70**	**5**		PKPdf	**PKPdf**	**05 28 48.1**	**+1.3**
JAGI	**Jajag, Banyuwa**	**151.85**	**187**		PKP	**PKPdf**	**05 28 48.8**	**+0.9**
NLAI	**Namlea**	**152.11**	**217**		PKP	**PKPdf**	**05 28 49.4**	**+1.2**
GMJI	**Gumukmas**	**152.12**	**186**		PKP	**PKPdf**	**05 28 49.4**	**+1.2**
CN2	**Changchun**	**152.93**	**336**	*e*	PKPbc	**PKPbc**	**05 28 55.1**	**-0.7**
LEM	**Lembang**	**153.52**	**173**		PKPbc	**PKiKP**	**05 28 59.0**	**+0.6**
	comp=Z,95nm,0.7s,baz=148,slow=23,SNR=8.5							
LEM	**Lembang**	**153.52**	**173**		PKIKP	**PKiKP**	**05 28 59.0**	**+0.6**
KAPI	**Kappang**	**153.91**	**201**		PKPbc	**PKiKP**	**05 28 59.5**	**+0.6**
	comp=Z,34nm,0.7s,baz=184,slow=3.4,SNR=11							
KAPI					PKPab	**PKPab**	**05 29 13.8**	**+1.6**
	comp=Z,188nm,0.9s,baz=142,slow=2.9,SNR=36							
KSRS	**Korea Array**	**156.74**	**323**		PKP	**PKPdf**	**05 28 54.8**	**+0.8**
	comp=Z,6.9nm,0.9s,baz=66,slow=1.1,SNR=17							
KSRS					pPKP	**pPKPdf**	**05 29 23.4**	**+0.2**
	comp=Z,19nm,0.8s,baz=59,slow=4.3,SNR=15							
KSAR	**Wonju Array Be**	**156.77**	**323**		PKIKP	**PKPdf**	**05 28 54.4**	**+0.4**
KSAR	**Wonju Array Be**	**156.77**	**323**			**PKPdf**	**05 28 54.4**	**+0.4**
GTA	**Gaotai**	**158.19**	**23**		P	**PKPab**	**05 29 25.9**	**-4.2**
GTA					pP	sPKPdf	05 29 30.8	-5.5
GTA					sP	pPKPdf	05 29 33.3	+8.0
GTA					pmax	pmax		
	comp=Z,8.0nm,1.3s							
GTA	**Gaotai**	**158.19**	**23**	⇓	PKP	**PKPdf**	**05 28 56.6**	**+0.7**
GTA					pPKP	pPKPdf	05 29 26.6	+1.3
GTA					sPKP		05 29 36.6	
HHC	**Hu-ho-hao-te**	**158.86**	**358**	*e*	PKP	**PKPdf**	**05 28 56.1**	**-0.5**
BTO	**Baotou**	**159.11**	**1**	*e*	PKP	**PKPdf**	**05 28 57.4**	**+0.5**
BJI	**Beijing**	**159.14**	**348**		PKP	**PKPdf**	**05 28 57.5**	**+0.7**
RPSI	**Rantau Prapat**	**159.60**	**144**			**PKPdf**	**05 28 57.6**	**-0.5**
PSI	**Prapat**	**159.69**	**144**		PKP	**PKPdf**	**05 28 57.6**	**-0.8**
	baz=180,slow=10							
KSM	**Kuching**	**161.93**	**179**		PKPab	**PKPab**	**05 29 47.6**	**+0.8**
TIA	**Tai'an**	**162.56**	**342**		PKP	**PKPdf**	**05 29 01.4**	**+0.8**
XAN	**Xi'an**	**165.58**	**6**		PKP	**PKPdf**	**05 29 04.0**	**+0.5**
XAN					AMB	AMB		
	comp=Z,260nm,5.3s							
NJ2	**Nanjing**	**165.63**	**331**	*e*	PKP	**PKPdf**	**05 29 04.3**	**+0.8**
CD2	**Chengdu**	**167.17**	**28**		PKP	**PKPdf**	**05 29 03.1**	**-1.7**
WHN	**Wuhan**	**168.66**	**344**		PKP	**PKPdf**	**05 29 06.5**	**+0.7**
WHN					PKPab	**PKPab**	**05 30 15.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**168.84**	**94**		PKP	**PKPdf**	**05 29 06.7**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=270,slow=1.9,SNR=15							
CMAR					pPKP	**pPKPdf**	**05 29 36.0**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=286,slow=2.0,SNR=1.8							
CMAR					PKPab	**PKPab**	**05 30 18.0**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=255,slow=4.5,SNR=5.2							
CMAR	**Chiang Mai Arr**	**168.84**	**94**			**PKPdf**	**05 29 06.4**	**+0.1**
CHTO	**Chiang Mai**	**168.88**	**92**		PKIKP	**PKPdf**	**05 29 07.4**	**+1.1**
GYA	**Guiyang**	**172.28**	**28**	⇑	PKP	**PKPdf**	**05 29 08.7**	**+0.6**
GYA					pPKP	pPKPdf	05 29 38.5	+1.0
GYA					PP	**PP**	**05 34 25.5**	**+2.6**
GYA					SS	SS	05 55 25.0	+0.5
GYA					AMB	AMB		
	comp=Z,130nm,5.4s							
SLVN	**Son La**	**173.43**	**74**			**PKPdf**	**05 29 10.0**	**+1.4**

JMA ***07*** *05:09:13.4±0.2, 24.°59N×121.°98E, h70km±3km, M3.3*
TAP ***07*** *05:09:14.2, 24.°64N×121.°98E, h61km, ML3.7, B*
ISC 07 05:09:14.7±1.2, 24.°63N±0.°03×122.°03E±0.°02, h58km±6km, n95, σ0.°78/174, 15C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.17**	**265**	⇑*i*	P	**Pn**	**05 09 23.7**	**-0.1**
	baz=256							
ENAH	**Nanao**	**0.27**	**229**	⇑*i*	P	**Pn**	**05 09 24.5**	**+0.1**
	baz=221							
ENAH					S	**Sn**	**05 09 32.1**	**+0.7**
	baz=221							
ILA	**Ilan**	**0.29**	**299**	*e*	P	**Pn**	**05 09 24.7**	**+0.1**
	baz=307							
ILA				*i*	S	**Sn**	**05 09 32.7**	**+1.0**
	baz=307							
NTC	**Toucheng**	**0.29**	**322**		P	**Pn**	**05 09 24.6**	**0.0**
	baz=336							
NTC				*i*	S	**Sn**	**05 09 31.7**	**0.0**
	baz=336							
ENA	**Nanau**	**0.33**	**233**	⇑*i*	P	**Pn**	**05 09 25.7**	**+0.8**
	baz=225							
ENA				*i*	S	**Sn**	**05 09 33.0**	**+0.8**
	baz=225							
TWE	**Neicheng**	**0.34**	**286**	⇓*i*	P	**Pn**	**05 09 25.2**	**+0.2**
	baz=295							
TWE				*i*	S	**Sn**	**05 09 33.0**	**+0.5**
	baz=295							
TWB1	**Santiao Chiao**	**0.38**	**354**	⇑*i*	P	**Pn**	**05 09 24.9**	**-0.5**
	baz=2.0							
TWB1				*i*	S	**Sn**	**05 09 32.5**	**-0.6**
	baz=2.0							
TIPB	**Shuangxi**	**0.39**	**332**	⇓*i*	P	**Pn**	**05 09 25.2**	**-0.3**
	baz=338							
TIPB				*i*	S	**Sn**	**05 09 32.7**	**-0.6**
	baz=338							
ENTT	**Nioudou**	**0.42**	**272**	⇑*i*	P	**Pn**	**05 09 25.9**	**+0.2**
	baz=270							
ENTT				*i*	S	**Sn**	**05 09 34.6**	**+0.8**
	baz=270							
NDT	**Datong Townshi**	**0.47**	**267**	*i*	P	**Pn**	**05 09 26.3**	**+0.1**
	baz=269							
NDT				*i*	S	**Sn**	**05 09 35.4**	**+0.7**
	baz=269							
NWF	**Wu-fen Shan**	**0.50**	**333**	⇓*i*	P	**Pn**	**05 09 26.2**	**-0.4**
	baz=337							
NWF				*i*	S	**Sn**	**05 09 34.8**	**-0.5**
	baz=337							
WFSB	**Wu-fen Shan**	**0.50**	**333**	⇓	P	**Pn**	**05 09 26.2**	**-0.3**
	baz=337							
WFSB					S	**Sn**	**05 09 34.7**	**-0.4**
	baz=337							
NWLT	**Wulai**	**0.50**	**288**	*i*	P	**Pn**	**05 09 26.7**	**0.0**
	baz=299							
NWLT				*i*	S	**Sn**	**05 09 35.5**	**+0.3**
	baz=299							
TWA	**Mucha**	**0.54**	**311**	*i*	P	**Pn**	**05 09 26.6**	**-0.4**
	baz=322							
TWA				*i*	S	**Sn**	**05 09 35.5**	**-0.4**
	baz=322							
YHNB	**Yeheng**	**0.60**	**274**	⇑	P	**Pn**	**05 09 27.5**	**-0.2**
	baz=273							
YHNB					S	**Sn**	**05 09 37.0**	**-0.1**
	baz=273							
NACB	**Ninganchiao**	**0.60**	**222**	⇑	P	**Pn**	**05 09 26.9**	**-0.8**
	baz=209							
NACB					S	**Sn**	**05 09 36.6**	**-0.4**
	baz=209							
TATO	**Taipei**	**0.60**	**305**	⇓	P	**Pn**	**05 09 27.3**	**-0.4**
	baz=316							
TATO					S	**Sn**	**05 09 36.4**	**-0.8**
	baz=316							
NSK	**Sanguang**	**0.61**	**275**	⇑*i*	P	**Pn**	**05 09 27.7**	**-0.2**
	baz=274							
NSK				*i*	S	**Sn**	**05 09 37.2**	**-0.3**
	baz=274							
TAP1	**Taipei**	**0.62**	**312**	*e*	P	**Pn**	**05 09 27.5**	**-0.3**
	baz=314							
TAP1				*e*	S	**Sn**	**05 09 37.0**	**-0.5**
	baz=314							
NNSB	**Datong**	**0.62**	**252**	⇑	P	**Pn**	**05 09 27.9**	**-0.1**
	baz=242							
NNSB					S	**Sn**	**05 09 37.8**	**0.0**
	baz=242							
NNSH	**Datong**	**0.62**	**252**	⇑*i*	P	**Pn**	**05 09 27.9**	**-0.2**
	baz=243							
NNSH				*i*	S	**Sn**	**05 09 37.7**	**0.0**
	baz=243							
NNS	**Nan Shan**	**0.63**	**253**	⇑*i*	P	**Pn**	**05 09 28.0**	**-0.1**
	baz=243							
NNS				*i*	S	**Sn**	**05 09 37.9**	**0.0**
	baz=243							
TAP	**Taipei**	**0.63**	**311**	*i*	P	**Pn**	**05 09 27.4**	**-0.6**
	baz=314							
TAP				*i*	S	**Sn**	**05 09 37.0**	**-0.7**
	baz=314							
ETLH	**Xiulin Townshi**	**0.65**	**230**		P	**Pn**	**05 09 27.9**	**-0.4**
	baz=235							
ETLH					S	**Sn**	**05 09 38.3**	**0.0**
	baz=235							
TWD	**Chiawan**	**0.67**	**216**	⇑*i*	P	**Pn**	**05 09 27.9**	**-0.6**
	baz=224							
TWD					S	**Sn**	**05 09 38.5**	**-0.1**
	baz=224							
ANP	**Anpu**	**0.73**	**320**	*i*	P	**Pn**	**05 09 28.4**	**-0.9**
	baz=323							
ANP					S	**Sn**	**05 09 39.9**	**0.0**
	baz=323							
TWS1	**Kuangyinshan**	**0.73**	**311**	*i*	P	**Pn**	**05 09 29.0**	**-0.2**
	baz=318							
TWS1				*i*	S	**Sn**	**05 09 39.7**	**-0.2**
	baz=318							
HWA	**Hwalien**	**0.75**	**211**		P	**Pn**	**05 09 29.5**	**0.0**
	baz=195							
HWA				*e*	S	**Sn**	**05 09 41.5**	**+1.2**
	baz=195							
NTST	**Danshui**	**0.75**	**316**	*e*	P	**Pn**	**05 09 29.2**	**-0.3**
	baz=326							
NTST				*e*	S	**Sn**	**05 09 40.8**	**+0.5**
	baz=326							
TWY	**Chenhua**	**0.76**	**329**		S	**Sn**	**05 09 40.1**	**-0.4**
	baz=333							
FUSS	**Fushou**	**0.81**	**243**		P	**Pn**	**05 09 30.2**	**-0.3**
	baz=234							
FUSS					S	**Sn**	**05 09 42.0**	**0.0**
	baz=234							
NCU	**National Centr**	**0.84**	**294**	⇓*i*	P	**Pn**	**05 09 30.4**	**-0.2**
	baz=295							
NCU				*i*	S	**Sn**	**05 09 42.5**	**+0.2**
	baz=295							
NCUH	**Zhongli**	**0.84**	**294**	*e*	P	**Pn**	**05 09 30.3**	**-0.3**
	baz=295							
NCUH					S	**Sn**	**05 09 42.8**	**+0.4**
	baz=295							
WHF	**Hehuan Shan**	**0.84**	**236**	⇑*i*	P	**Pn**	**05 09 30.6**	**-0.5**
	baz=232							
WHF				*i*	S	**Sn**	**05 09 42.6**	**-0.5**
	baz=232							
JYNG	**Yonaguni jima**	**0.85**	**102**		P	**Pn**	**05 09 30.7**	**0.0**
JYNG					S	**Sn**	**05 09 42.9**	**+0.4**
TWT	**Tachien**	**0.86**	**245**	*i*	P	**Pn**	**05 09 31.3**	**+0.2**
	baz=234							
TWT				*i*	S	**Sn**	**05 09 43.5**	**+0.4**
	baz=234							
TDCB	**Techi**	**0.88**	**245**	⇑	P	**Pn**	**05 09 31.4**	**+0.1**
	baz=235							
TDCB					S	**Sn**	**05 09 43.5**	**+0.1**
	baz=235							
YOJ	**Yonaguni jima**	**0.91**	**100**	⇓	P	**Pn**	**05 09 31.5**	**0.0**
	baz=100							
YOJ					S	**Sn**	**05 09 44.4**	**+0.5**
	baz=100							
YOJ	**Yonaguni jima**	**0.91**	**100**		P	**Pn**	**05 09 31.4**	**0.0**
YOJ					S	**Sn**	**05 09 44.0**	**+0.2**
LIOB	**Emei**	**0.92**	**272**	*i*	P	**Pn**	**05 09 31.6**	**-0.2**
	baz=270							
LIOB				*i*	S	**Sn**	**05 09 44.1**	**-0.2**
	baz=270							
NSTT	**Nanjuang**	**0.94**	**271**	*i*	P	**Pn**	**05 09 31.7**	**-0.2**
	baz=269							
NSTT				*i*	S	**Sn**	**05 09 44.3**	**-0.2**
	baz=269							
CHGB	**Renai**	**0.96**	**234**	⇑	P	**Pn**	**05 09 32.2**	**-0.2**
	baz=231							
CHGB					S	**Sn**	**05 09 45.9**	**+0.4**
	baz=231							
SBCB	**Hsinchu**	**0.96**	**280**		P	**Pn**	**05 09 32.2**	**0.0**
	baz=280							
SBCB					*e*S	**Sn**	**05 09 44.9**	**-0.3**
	baz=280							
ESL	**Shilin**	**0.97**	**214**	*i*	P	**Pn**	**05 09 31.0**	**-1.4**
	baz=219							
ESL					S	**Sn**	**05 09 44.5**	**-0.9**
	baz=219							
HSN	**Hsinchu**	**0.98**	**281**	*i*	P	**Pn**	**05 09 31.7**	**-0.7**
	baz=282							
HSN					S	**Sn**	**05 09 44.5**	**-1.0**
	baz=282							
OWD	**Renai**	**1.03**	**230**		P	**Pn**	**05 09 32.8**	**-0.4**
	baz=218							
OWD					S	**Sn**	**05 09 46.9**	**0.0**
	baz=218							
WHP	**Taichung City**	**1.05**	**251**	*i*	P	**Pn**	**05 09 34.0**	**+0.6**
	baz=248							
WHP					S	**Sn**	**05 09 48.2**	**+1.0**
	baz=248							
EGFH	**Guangfu**	**1.10**	**210**	*e*	P	**Pn**	**05 09 33.1**	**-0.9**
	baz=216							
EGFH				*e*	S	**Sn**	**05 09 47.6**	**-0.7**
	baz=216							
NMLH	**Miaoli**	**1.13**	**266**	*e*	P	**Pn**	**05 09 34.5**	**+0.1**
	baz=264							
NMLH				*e*	S	**Sn**	**05 09 49.0**	**0.0**
	baz=264							
NSY	**Sanyi**	**1.17**	**260**		P	**Pn**	**05 09 35.1**	**+0.1**
	baz=258							
NSY					S	**Sn**	**05 09 50.7**	**+0.6**
	baz=258							
TWQ1	**Liyutan**	**1.18**	**257**		P	**Pn**	**05 09 35.2**	**+0.1**
	baz=254							
TWQ1					S	**Sn**	**05 09 49.8**	**-0.4**
	baz=254							
VWDT	**VWDT**	**1.19**	**223**		P	**Pn**	**05 09 35.0**	**-0.2**
	baz=212							
VWDT					S	**Sn**	**05 09 50.1**	**-0.3**
	baz=212							
PTSB	**Yuanli**	**1.22**	**262**	*e*	P	**Pn**	**05 09 35.2**	**-0.4**
	baz=260							
PTSB				*e*	S	**Sn**	**05 09 51.7**	**+0.5**
	baz=260							
HGSD	**Ruisui**	**1.26**	**206**		P	**Pn**	**05 09 35.3**	**-0.8**
	baz=203							
HGSD					S	**Sn**	**05 09 52.4**	**+0.3**
	baz=203							
SMLT	**Sun Moon Lake**	**1.27**	**235**		P	**Pn**	**05 09 36.8**	**+0.4**
	baz=231							
SMLT					S	**Sn**	**05 09 52.8**	**+0.3**
	baz=231							
EHY	**Hungye**	**1.29**	**210**		P	**Pn**	**05 09 36.5**	**0.0**
	baz=207							
EHY					S	**Sn**	**05 09 51.5**	**-1.3**
	baz=207							
SSLB	**Suanglung**	**1.29**	**230**	*e*	P	**Pn**	**05 09 36.8**	**+0.2**
	baz=220							
SSLB				*e*	S	**Sn**	**05 09 54.2**	**+1.3**
	baz=220							
TYC	**Yuchr**	**1.29**	**236**	*i*	P	**Pn**	**05 09 37.0**	**+0.4**
	baz=233							
TYC					S	**Sn**	**05 09 53.2**	**+0.4**
	baz=233							
WDJ	**Dajia District**	**1.30**	**258**		P	**Pn**	**05 09 36.9**	**+0.3**
	baz=256							
WDJ					S	**Sn**	**05 09 53.3**	**+0.3**
	baz=256							
TCU	**Taichung**	**1.32**	**249**	*e*	S	**Sn**	**05 09 54.8**	**+1.1**
	baz=246							
YULB	**Yu-li**	**1.40**	**209**		P	**Pn**	**05 09 35.6**	**-2.4**
	baz=206							
YULB				*e*	S	**Sn**	**05 09 53.2**	**-2.2**
	baz=206							
WHYT	**Xinyi Township**	**1.42**	**230**	*e*	P	**Pn**	**05 09 39.6**	**+1.3**
	baz=221							
EYUL	**Yuli**	**1.43**	**207**		P	**Pn**	**05 09 38.8**	**+0.4**
	baz=204							
EYUL				*e*	S	**Sn**	**05 09 56.7**	**+0.5**
	baz=204							
WJS	**Zhushan**	**1.43**	**236**	*e*	P	**Pn**	**05 09 39.0**	**+0.5**
	baz=246							
TWF1	**Yuli**	**1.43**	**208**	*i*	P	**Pn**	**05 09 36.9**	**-1.6**
	baz=205							
TWF1					S	**Sn**	**05 09 55.2**	**-1.1**
	baz=205							
WNT	**Mingjian**	**1.44**	**239**	*e*	P	**Pn**	**05 09 37.9**	**-0.6**
	baz=248							
WCHH	**Zhanghua**	**1.45**	**248**	*e*	P	**Pn**	**05 09 37.9**	**-0.8**
	baz=245							
WCHH				*e*	S	**Sn**	**05 09 56.7**	**0.0**
	baz=245							
FULB	**Fuli**	**1.57**	**206**		P	**Pn**	**05 09 39.8**	**-0.6**
	baz=210							
FULB					S	**Sn**	**05 10 00.1**	**+0.4**
	baz=210							
ALS	**Alishan**	**1.58**	**226**		P	**Pn**	**05 09 41.3**	**+0.6**
	baz=213							
ALS					S	**Sn**	**05 10 01.3**	**+1.1**
	baz=213							
IRIF	**Iriomote-Funau**	**1.58**	**100**		P	**Pn**	**05 09 40.1**	**-0.3**
IRIF					S	**Sn**	**05 09 59.9**	**+0.2**
CHN5	**Tsauling**	**1.60**	**231**	*i*	P	**Pn**	**05 09 41.5**	**+0.6**
	baz=238							
CHN5					S	**Sn**	**05 10 01.9**	**+1.3**
	baz=238							
CHKT	**Chengkung**	**1.64**	**202**		P	**Pn**	**05 09 39.2**	**-2.0**
	baz=191							
ELDTW	**Lidau**	**1.70**	**213**		P	**Pn**	**05 09 41.7**	**-0.6**
	baz=203							
HATJ	**Hateruma jima**	**1.71**	**109**		P	**Pn**	**05 09 42.5**	**+0.2**
HATJ					S	**Sn**	**05 10 03.7**	**+0.6**
WTK	**Tuku**	**1.77**	**238**	*e*	P	**Pn**	**05 09 42.4**	**-

s-min=13.3km az=71.0
*NEIC **07** 05:09:25.3±3.0, 30.04S±0.05×177.5W±0.1, h13km±1km, mb4.8/17, Error ellipse: s-maj=18.0km s-min=6.4km az=73.0*

ISC 07 05:09:28.5±0.6, 30.06S±0.06×177.5W±0.1, h35km, n77, σ1s69/64, mb4.8/16, MS4.0/14, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**333**	Pn	**Pn**	**05 09 43.1**	**-1.5**
	5μm,0.3s,baz=254,slow=1.4,SNR=208						
RAO				Sn	**Sn**	**05 09 54.6**	**-1.7**
	9μm,0.3s,baz=217,slow=20,SNR=29						
RAO	**Raoul Island**	**0.90**	**333**		**Pn**	**05 09 42.9**	**-1.7**
MXZ	**Matakaoa Point**	**8.28**	**204**	Pn	**Pn**	**05 11 24.2**	**-1.8**
OUZ	**Omahuta**	**9.14**	**233**	Pn	**Pn**	**05 11 41.9**	**+4.1**
URZ	**Urewera**	**9.34**	**207**	Pn	Pn	05 11 36.3	-4.2
	0.9nm,0.3s,baz=256,slow=3.8,SNR=7.4						
URZ				Sn	**Sn**	**05 13 18.4**	**-5.9**
	4.0nm,0.3s,baz=288,slow=3.2,SNR=3.0						
BKZ	**Black Stump Fm**	**10.37**	**207**	Pn	**Pn**	**05 11 52.8**	**-1.9**
NNZ	**Nelson**	**13.39**	**211**	Pn	**Pn**	**05 12 36.7**	**+0.7**
QRZ	**Quartz Range**	**13.49**	**214**	Pn	**Pn**	**05 12 40.7**	**+3.4**
BSWZ	**Blackbirch Sta**	**13.58**	**209**	Pn	**Pn**	**05 12 40.8**	**+2.2**
THZ	**Tophouse**	**14.04**	**211**	Pn	**Pn**	**05 12 45.9**	**+1.0**
KHZ	**Kahutara**	**14.31**	**208**	Pn	**Pn**	**05 12 46.0**	**-2.4**
OXZ	**Oxford**	**15.68**	**210**		**Pn**	**05 13 07.8**	**+1.1**
OXZ				IAmb	IAmb	05 13 11.7	
	comp=Z,35nm,1.0s						
RPZ	**Rata Peaks**	**16.42**	**211**	Pn	**Pn**	**05 13 14.2**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=34,slow=4.5,SNR=5.4						
RPZ				Sn	Sn	05 16 00.2	-17
	comp=Z,0.4nm,0.3s,baz=102,slow=18,SNR=2.7						
RPZ	**Rata Peaks**	**16.42**	**211**	Pn	**Pn**	**05 13 15.9**	**-0.2**
DZM	**Mont Dzumac**	**16.50**	**295**	Pn	**P**	**05 13 20.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=172,slow=14,SNR=6.3						
DZM				LR	LR	05 18 37.9	
	comp=Z,803nm,18.1s,baz=180,slow=34						
DZM	**Mont Dzumac**	**16.50**	**295**	*eP*	**P**	**05 13 22.5**	**+2.8**
	comp=Z,121nm,1.2s						
DZM				*e*LR	LR	05 17 16.9	
	comp=Z,1μm,24.1s						
DZM	**Mont Dzumac**	**16.50**	**295**	P	**P**	**05 13 19.4**	**-0.3**
DZM					**pP**	**05 13 23.6**	**-4.3**
DZM				IAmb	IAmb	05 13 37.2	
	comp=Z,66nm,1.3s						
ODZ	**Otahua Downs**	**17.66**	**209**	Pn	**Pn**	**05 13 29.6**	**-2.0**
ODZ				IAmb	IAmb	05 13 37.4	
	comp=Z,90nm,1.5s						
TBI	**Tubuai**	**25.84**	**82**	*e*LQ	LQ	05 19 55.0	
	comp=Z,370nm,26.0s						
TBI				*e*LR	LR	05 21 06.8	
	comp=Z,679nm,28.2s,baz=248						
TBI	**Tubuai**	**25.84**	**82**	*e*T	T	05 41 00.1	
	comp=Z,20nm,0.3s						
PAE	**Paea**	**28.23**	**70**	*e*T	T	05 44 00.6	
	comp=Z,8.1nm,0.3s						
PPT2	**Papeete2**	**28.27**	**70**	*e*LR	LR	05 22 14.0	
	comp=Z,600nm,25.8s,baz=233						
PPT2	**Papeete2**	**28.27**	**70**	*e*T	T	05 44 04.4	
	comp=Z,7.8nm,0.4s						
PPT	**Papeete**	**28.29**	**70**	LR	LR	05 23 31.3	
	comp=Z,167nm,20.8s,baz=246,slow=30						
TVO	**Taravao**	**28.44**	**71**	*e*T	T	05 44 16.0	
	comp=Z,1.1nm,0.3s						
HNR	**Honiara**	**29.44**	**310**	LR	LR	05 26 06.1	
	comp=Z,139nm,18.4s,baz=148,slow=34						
PMOR	**Pomariorio Ree**	**31.02**	**68**	*e*T	T	05 47 30.0	
	comp=Z,3.7nm,0.4s						
VAH	**Vaihoa**	**31.11**	**68**	*e*T	T	05 47 36.1	
	comp=Z,13nm,0.2s						
CTA	**Charters Tower**	**34.22**	**278**	P	**P**	**05 16 12.0**	**+1.0**
	comp=Z,8.8nm,0.5s,baz=104,slow=9.6,SNR=21						
CTA				LR	LR	05 28 21.4	
	comp=Z,447nm,20.7s,baz=63,slow=33						
CTAO	**Charters Tower**	**34.22**	**278**	P	**P**	**05 16 12.2**	**+1.2**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**05 16 19.1**	**+1.3**
	comp=Z,10nm,0.5s,baz=96,slow=9.0,SNR=9.9						
STKA				LR	LR	05 29 44.4	
	comp=Z,359nm,18.1s,baz=45,slow=35						
RKT	**Rikitea**	**38.44**	**90**	*e*LR	LR	05 27 03.0	
	comp=Z,825nm,24.0s						
PMG	**Port Moresby**	**38.89**	**294**	LR	LR	05 30 10.4	
	comp=Z,215nm,18.8s,baz=135,slow=32						
TAOE	**Nuku Hiva Isla**	**40.73**	**67**	*e*LR	LR	05 27 56.6	
	comp=Z,319nm,25.9s						
AS31	**Alice Springs**	**43.60**	**266**	P	**P**	**05 17 30.2**	**+0.6**
ASAR	**Alice Springs**	**43.60**	**266**	P	**P**	**05 17 29.3**	**-0.3**
	comp=Z,12nm,0.6s,baz=105,slow=7.2,SNR=67						
ASAR				LR	LR	05 35 25.8	
	comp=Z,492nm,18.4s,baz=114,slow=36						
WR0	**Warramunga Arr**	**44.38**	**272**	P	**P**	**05 17 35.4**	**-0.4**
WR0				IAmb	IAmb	05 17 38.1	
	comp=Z,32nm,1.4s						
WB2	**Warramunga Arr**	**44.55**	**272**	P	**P**	**05 17 36.5**	**-0.6**
WRAB	**Tennant Creek**	**44.55**	**272**	P	**P**	**05 17 36.7**	**-0.5**
WRAB				IAmb	IAmb	05 17 39.3	
	comp=Z,35nm,1.4s						
WRA	**Warramunga Arr**	**44.56**	**272**	P	**P**	**05 17 36.5**	**-0.8**
	comp=Z,9.2nm,0.3s,baz=110,slow=8.2,SNR=168						
WRA				PcP	**PcP**	**05 19 19.1**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=100,slow=3.1,SNR=2.4						
WRA				LR	LR	05 35 33.7	
	comp=Z,177nm,18.1s,baz=110,slow=35						
WRA	**Warramunga Arr**	**44.56**	**272**	P	**P**	**05 17 36.5**	**-0.8**
WB0	**Warramunga Arr**	**44.58**	**272**	P	**P**	**05 17 36.9**	**-0.5**
FORT	**Forrest**	**46.59**	**255**	P	**P**	**05 17 52.3**	**-0.9**
JAY	**Jayapura**	**48.16**	**297**	LR	LR	05 37 04.7	
	comp=Z,104nm,18.8s,baz=166,slow=34						
VNDA	**Vanda**	**48.49**	**186**	P	**P**	**05 18 09.3**	**+2.1**
	comp=Z,1.2nm,0.7s,baz=17,slow=5.9,SNR=12						
VNDA	**Vanda**	**48.49**	**186**	P	**P**	**05 18 10.7**	**+3.4**
KNRA	**Kununurra**	**51.16**	**274**	P	**P**	**05 18 27.0**	**-1.3**
KNRA				IAmb	IAmb	05 18 29.6	
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	P	**P**	**05 18 40.9**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=97,slow=6.7,SNR=5.6						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	P	**P**	**05 18 40.2**	**-0.6**
FITZ				IAmb	IAmb	05 18 48.6	
	comp=Z,6.0nm,0.8s						
CASY	**Casey**	**55.66**	**208**	P	**P**	**05 19 01.1**	**+0.4**
CASY				IAmb	IAmb	05 19 02.0	
	comp=Z,19nm,0.8s						
GUMO	**Guam**	**56.57**	**315**	LR	LR	05 39 56.9	
	comp=Z,85nm,18.9s,baz=116,slow=32						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**05 19 34.0**	**+2.2**
	comp=Z,5.7nm,0.9s,baz=30,slow=2.1,SNR=16						
MAW	**Mawson**	**72.80**	**200**	P	**P**	**05 20 54.4**	**+1.5**
	comp=Z,7.9nm,0.8s,baz=127,slow=8.6,SNR=17						
MAW	**Mawson**	**72.80**	**200**	P	**P**	**05 20 54.5**	**+1.5**
SYO	**Syowa Base**	**77.56**	**193**	*e*P	**P**	**05 21 19.8**	**-0.5**
MJAR	**Matsushiro Arr**	**78.23**	**325**	P	**P**	**05 21 23.7**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=163,slow=4.8,SNR=5.7						
PLCA	**Paso Flores**	**82.39**	**133**	LR	LR	05 49 32.3	
	comp=Z,95nm,20.8s,baz=228,slow=29						
KSRS	**Korea Array**	**84.39**	**319**	P	P	05 22 02.5	+5.4
	comp=Z,1.7nm,0.7s,baz=151,slow=4.4,SNR=6.1						
PETK	**Petropavlovsk-**	**85.60**	**345**	P	**P**	**05 22 03.1**	**+0.3**
	comp=Z,5.5nm,0.7s,baz=111,slow=8.9,SNR=12						
USRK	**Ussuriysk Ar.**	**87.14**	**326**	P	**P**	**05 22 11.1**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=104,slow=5.4,SNR=6.5						
USRK	**Ussuriysk Ar.**	**87.14**	**326**	P	**P**	**05 22 11.5**	**+1.0**
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**05 28 10.4**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=90,slow=5.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**121.19**	**314**	PKP	**PKPdf**	**05 28 16.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=78,slow=1.9,SNR=4.3						
ARCES	**ARCESS Array B**	**138.35**	**348**	PKhKP	PKPpre	05 28 40.9	
	comp=Z,1.0nm,0.6s,baz=48,slow=1.8,SNR=3.8						
ARCES				PKP	**PKPdf**	**05 28 49.7**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=40,slow=0.9,SNR=6.4						
FINES	**FINESS Array B**	**144.98**	**340**	PKP	**PKPab**	**05 28 60.0**	**-0.6**
	comp=Z,309nm,8.8s,baz=58,slow=3.9,SNR=61						
FINES	**FINESS Array B**	**144.98**	**340**		**PKPab**	**05 28 59.8**	**-0.8**
NB2	**NORSAR Subarra**	**148.48**	**352**	PKP	**PKPbc**	**05 29 10.2**	**-0.6**
	comp=Z,72nm,2.5s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**148.48**	**352**	PKP	**PKPbc**	**05 29 10.2**	**-0.6**
	baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.48**	**352**	PKPbc	**PKPbc**	**05 29 10.5**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=14,slow=4.3,SNR=11						
HFS	**Hagfors**	**149.00**	**349**	PKPbc	**PKPbc**	**05 29 11.4**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=76,slow=6.3,SNR=6.0						
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc	**PKPbc**	**05 29 17.4**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=47,slow=2.9,SNR=10						
AKASG				PKPab	**sPKPdf**	**05 29 24.1**	**-1.3**
	comp=Z,8.8nm,0.5s,baz=45,slow=3.4,SNR=23						
BRTR	**Keskin Array B**	**152.85**	**299**	PKPbc	**PKiKP**	**05 29 21.9**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=137,slow=5.5,SNR=4.3						
EKA	**Eskdalemuir Ar**	**154.41**	**8**	PKPab	**PKPab**	**05 29 38.6**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=332,slow=2.8,SNR=3.9						
GERES	**GERESS Array B**	**159.39**	**339**	PKPab	**PKPab**	**05 30 01.1**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=20,slow=4.3,SNR=7.8						
DAVOX	**Davos/Dischmat**	**162.35**	**343**	PKPab	**PKPab**	**05 30 12.7**	**-1.1**
	comp=Z,4.3nm,0.7s,baz=320,slow=7.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**163.16**	**177**	PKPab	**PKPab**	**05 30 18.4**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=159,slow=3.5,SNR=4.9						
ESDC	**Sonseca Array**	**169.02**	**27**	PKPab	**PKPab**	**05 30 43.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=298,slow=2.8,SNR=3.0						

IDC 07 05:22:05.3±344.0, 30.80N×132.23E, h0km, Error ellipse: s-maj=190.7km s-min=112.6km az=87.0, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I30JP	**ISUMI INFRASON**	**8.13**	**54**	*i*		06 07 50.0	
	baz=238,slow=314,SNR=1.9						
I45RU	**USSURIYSK INFR**	**13.38**	**359**	*i*		06 42 20.0	
	baz=175,slow=318,SNR=1.4						
I39PW	**PALAU INFRASON**	**23.25**	**174**	*i*		07 44 20.0	
	baz=352,slow=318,SNR=1.0						
I44RU	**PETROPAVLOVSK**	**28.98**	**32**	*i*		08 21 00.0	
	baz=232,slow=332,SNR=2.6						
I53US	**FAIRBANKS INFR**	**58.32**	**30**	*i*		11 23 50.0	
	baz=281,slow=325,SNR=0.8						

MAN 07 05:22:25.8, 10.18N×126.06E, h10km, mb4.5, ML3.4, MS3.2, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.40**	**170**	*e*P	Pg	05 22 34.0	+0.4
GLSP				*e*S	Sg	05 22 38.8	-0.2
MSLP	**Maasin**	**1.18**	**268**	*e*P	Pb	05 22 47.7	-0.6
MSLP				*e*S	Sn	05 23 04.2	-0.3
OCLP	**Ormoc**	**1.67**	**301**	*e*P	Pn	05 22 55.3	+0.2
OCLP				*e*S	Sg	05 23 19.0	-0.5
BIP	**Bislig**	**1.95**	**174**	*e*P	Pn	05 22 59.8	+0.7
BIP				*e*S	Sn	05 23 22.8	-0.8
LLP	**Lapu-Lapu**	**2.06**	**274**	*e*P	Pn	05 23 00.6	0.0
LLP				*i* S	Sb	05 23 27.8	-1.3
CGP	**Cagayan de Oro**	**2.18**	**218**	*e*P	Pn	05 23 02.7	+0.6
CGP				*e*S	Sn	05 23 26.0	-3.2
TBP	**Tagbilaran**	**2.22**	**258**	*i* P	Pn	05 23 02.6	0.0
TBP				*e*S	Sg	05 23 39.4	+2.3
MATI	**Mati**	**3.22**	**176**	*e*P	Pn	05 23 18.2	+1.7
MATI				*e*S	Sn	05 23 56.3	+1.4
KCP	**Kidapawan**	**3.29**	**197**	*i*P	Pn	05 23 17.9	+0.3
KCP				*i* S	Sg	05 24 19.9	+8.3
PVCP	**Virac**	**3.87**	**331**	*e*P	Pn	05 23 26.1	+0.7
PVCP				*e*S	Sg	05 24 26.6	-3.8
DDMP	**Don Marcelino,**	**4.06**	**185**	*e*P	Pn	05 23 29.9	+1.8
DDMP				*e*S	Sn	05 24 00.8	-15

*IDC **07** 05:39:23.1±1.1, 25.04S×176.65W, h0km, mb4.0/3, mb1 4.5/7, mb1mx4.1/24, mbtmp4.5/7, ML4.3/4, Error ellipse: s-maj=33.2km s-min=24.1km az=135.0*
*NEIC **07** 05:39:27.8±2.4, 25.02S±0.08×176.6W±0.2, h40km±8km, mb4.4/12, Error ellipse: s-maj=22.2km s-min=9.9km az=108.0*

ISC 07 05:39:26.9±0.6, 25.00S±0.07×176.6W±0.1, h35km, n29, σ2s06/31, mb4.2/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.40**	**195**	Pn	**Pn**	**05 40 31.7**	**+0.5**
	60nm,0.3s,baz=252,slow=20,SNR=3.5						
RAO				Sn	**Sn**	**05 41 16.8**	**-4.4**
	280nm,0.3s,baz=325,slow=22,SNR=8.0						
RAO	**Raoul Island**	**4.40**	**195**	Pn	**Pn**	**05 40 31.7**	**+0.5**
RAO					**Sn**	**05 41 17.3**	**-3.9**
NIUE	**Niue**	**8.54**	**48**	Pn	**Pn**	**05 41 29.5**	**+1.5**
AFI	**Afiamalu**	**11.93**	**23**	Pn	**Pn**	**05 42 16.3**	**+1.7**
	4.0nm,0.3s,baz=225,slow=20,SNR=6.8						
AFI				Sn	**Sn**	**05 44 21.5**	**-4.9**
	4.7nm,0.3s,baz=180,slow=20,SNR=4.6						
AFI	**Afiamalu**	**11.93**	**23**		**Pn**	**05 42 15.8**	**+1.2**
URZ	**Urewera**	**14.26**	**201**	Pn	**Pn**	**05 42 47.0**	**+0.7**
	0.9nm,0.3s,baz=19,slow=17,SNR=3.5						
URZ				Sn	Sn	05 45 04.3	-19
	0.8nm,0.3s,baz=309,slow=6.5,SNR=4.8						
BKZ	**Black Stump Fm**	**15.29**	**201**	Pn	**Pn**	**05 42 59.9**	**-0.2**
BKZ				IAmb	IAmb	05 43 00.5	
	comp=Z,54nm,1.5s						
RAR	**Rarotonga**	**15.92**	**80**	Pn	**Pn**	**05 43 07.8**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=275,slow=7.9,SNR=6.8						
RAR				Sn	Sn	05 45 48.6	-15
	comp=Z,0.9nm,0.3s,baz=145,slow=14,SNR=2.9						
RAR	**Rarotonga**	**15.92**	**80**	IAmb	IAmb	05 43 10.4	
	comp=Z,22nm,0.9s						
STKA	**Stephens Creek**	**37.23**	**250**	P	**P**	**05 46 36.9**	**+1.7**
	comp=Z,1.4nm,0.4s,baz=96,slow=17,SNR=6.0						
STKA	**Stephens Creek**	**37.23**	**250**	P	**P**	**05 46 36.8**	**+1.6**
BBOO	**Buckleboo**	**41.90**	**248**	P	**P**	**05 47 12.9**	**-1.2**
BBOO				IAmb	IAmb	05 47 26.9	
	comp=Z,40nm,1.5s						
AS31	**Alice Springs**	**44.93**	**261**	P	**P**	**05 47 39.8**	**+1.1**
ASAR	**Alice Springs**	**44.93**	**261**	P	**P**	**05 47 38.5**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=95,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**44.93**	**261**	P	**P**	**05 47 38.8**	**+0.1**
WB2	**Warramunga Arr**	**45.42**	**266**	P	**P**	**05 47 43.3**	**+0.7**
WB2				IAmb	IAmb	05 47 55.5	
	comp=Z,7.5nm,1.4s						
WB0	**Warramunga Arr**	**45.43**	**266**	P	**P**	**05 47 43.5**	**+0.9**
WB0				IAmb	IAmb	05 47 43.9	
	comp=Z,3.4nm,0.9s						
WRA	**Warramunga Arr**	**45.44**	**266**	P	**P**	**05 47 42.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=102,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**45.44**	**266**	IAmb	IAmb	05 47 44.0	
	comp=Z,0.3nm,1.2s						
FORT	**Forrest**	**48.85**	**250**	P	**P**	**05 48 07.7**	**-1.5**
VNDA	**Vanda**	**53.57**	**186**	P	**P**	**05 48 47.9**	**+4.0**
	comp=Z,0.8nm,0.5s,baz=9.5,slow=8.6,SNR=9.2						
VNDA	**Vanda**	**53.57**	**186**	P	**P**	**05 48 46.7**	**+2.8**
VNDA				IAmb	IAmb	05 48 48.5	
	comp=Z,0.9nm,0.7s						
CASY	**Casey**	**60.50**	**206**	P	**P**	**05 49 32.6**	**-0.5**
CASY				IAmb	IAmb	05 49 32.8	
	comp=Z,3.9nm,0.8s						
TPUB	**Ta-pu**	**77.51**	**303**	P	**P**	**05 51 17.2**	**-2.1**
SNAA	**Sanae**	**83.49**	**178**	P	**P**	**05 51 50.0**	**-0.8**
VNA3	**Neumayer Olymp**	**83.58**	**176**	P	**P**	**05 51 50.4**	**-0.7**
AKASG	**Malin Array Be**	**147.54**	**329**	PKPbc	**PKPbc**	**05 59 06.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=42,slow=3.0,SNR=3.4						
BRTR	**Keskin Array B**	**150.71**	**307**	PKPbc	**PKiKP**	**05 59 19.4**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=82,slow=3.1,SNR=2.3						
BRTR				PKPab	**sPKPdf**	**05 59 25.6**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=82,slow=3.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**168.10**	**172**	PKPab	**PKPab**	**06 00 38.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=193,slow=4.9,SNR=2.7						

*GUC **07** 05:59:36.3±0.5, 18.22S×69.49W, h130km±2km, ML3.5*
*IDC **07** 05:59:41.0±6.0, 17.83S×69.27W, h165km±38km, mb3.1/4, mb1 3.3/4, mb1mx3.1/23, mbtmp3.6/4, Error ellipse: s-maj=80.0km s-min=25.6km az=24.0*

ISC 07 05:59:35.8±0.9, 18.29S±0.05×69.53W±0.08, h137km±7km, n19, σ0s93/27, mb3.3/3, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.04**	**155**	*i*P	**Pn**	**05 59 55.0**	**0.0**
PB16				*i* S	**Sn**	**06 00 09.0**	**-0.5**
PB16				IAML		06 00 11.5	
	comp=N,2μm,0.3s						
AP01	**Chacalluta**	**0.78**	**264**	*e*P	**Pn**	**05 59 57.0**	**-0.4**
AP01				*i* S	**Sn**	**06 00 14.7**	**+0.8**
AP01				IAML		06 00 16.0	
	comp=E,7μm,0.4s						
MNMC	**Minye Minye**	**0.83**	**184**	*i*P	**Pn**	**05 59 58.4**	**+0.1**
MNMC				*i* S	**Sn**	**06 00 15.6**	**+0.2**
MNMC				IAML		06 00 20.1	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.40**	**167**	*i*P	**Pn**	**06 00 04.3**	**+0.5**
GO01				*e*S	**Sn**	**06 00 26.0**	**+0.7**
GO01				IAML		06 00 33.4	
	comp=E,657nm,0.1s						
PSGC	**Pisagua**	**1.41**	**203**	*i*P	**Pn**	**06 00 03.5**	**0.0**
PSGC				*i* S	**Sn**	**06 00 24.4**	**-0.3**
PSGC				IAML		06 00 25.2	
	comp=E,429nm,0.3s						
PB11	**IPOC Station P**	**1.46**	**185**	*i*P	**Pn**	**06 00 04.3**	**+0.1**
PB11				*i* S	**Sn**	**06 00 25.6**	**-0.3**
PB11				IAML		06 00 26.8	
	comp=N,389nm,0.5s						
PB08	**IPOC Station P**	**1.87**	**169**	*e*P	**Pn**	**06 00 09.5**	**+0.5**
PB08				*i* S	**Sn**	**06 00 34.5**	**0.0**
PB08				IAML		06 00 35.7	
	comp=E,177nm,0.1s						
TA02	**Huaiquique**	**2.05**	**196**	*e*S	**Sn**	**06 00 37.1**	**-0.4**
TA02				IAML		06 00 43.4	
	comp=N,644nm,0.1s						
TA01	**Diego Aracena**	**2.34**	**195**	*e*P	**Pn**	**06 00 14.3**	**0.0**
TA01				*i* S	**Sn**	**06 00 42.0**	**-2.0**
TA01				IAML		06 00 45.1	
	comp=N,140nm,0.2s						
LPAZ	**La Paz**	**2.40**	**34**	P	**Pn**	**06 00 16.2**	**+0.5**
	comp=N,7.6nm,0.3s,baz=212,slow=4.4,SNR=258						
LPAZ				S	**Sn**	**06 00 43.9**	**-2.3**
	comp=N,1.5nm,0.3s,baz=306,slow=24,SNR=9.5						
PATCX	**Punta Patache**	**2.58**	**193**	*e*P	**Pn**	**06 00 17.8**	**+0.4**
PATCX				*i* S	**Sn**	**06 00 47.8**	**-1.7**
PB01	**IPOC Station P**	**2.73**	**179**	*e*P	**Pn**	**06 00 19.5**	**+0.1**
PB01				*e*S	**Sn**	**06 00 51.0**	**-2.0**
PB01				IAML		06 00 52.8	
	comp=E,136nm,0.2s						
H03N1	**Juan Fernandez**	**17.27**	**207**	T	T	06 21 20.1	
	baz=30,slow=73,SNR=6.1						
H03N2	**Juan Fernandez**	**17.28**	**207**	T	T	06 21 19.9	
	baz=30,slow=73,SNR=8.7						
H03N3	**Juan Fernandez**	**17.29**	**207**	T	T	06 21 19.9	
	baz=30,slow=73,SNR=3.9						
BDFB	**Brasilia**	**20.74**	**86**	P	**P**	**06 04 06.4**	**+0.4**
	comp=E,1.2nm,0.5s,baz=270,slow=6.1,SNR=4.1						
TXAR	**Lajitas Array**	**57.69**	**325**	P	**P**	**06 09 12.8**	**+0.5**
	comp=E,0.1nm,0.6s,baz=146,slow=8.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.86**	**71**	P	**P**	**06 11 13.0**	**-0.3**
	comp=E,0.5nm,0.9s,baz=262,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**87.98**	**341**	P	**P**	**06 12 10.2**	**+0.3**
	comp=E,0.6nm,0.7s,baz=127,slow=5.4,SNR=4.3						

*IDC **07** 06:05:52.2±0.5, 6.03N×77.47W, h0km, mb4.5/23, mb1 4.7/27, mb1mx4.6/31, mbtmp4.5/27, ML4.1/3, MS4.0/21, Ms1 3.9/21, ms1mx3.8/33, Error ellipse: s-maj=17.2km s-min=10.4km az=54.0*
*UPA **07** 06:05:53.0±1.6, 6.08N×77.62W, h11km±14km, MW4.6*
*RSNC **07** 06:05:55.6±1.4, 6.15N×77.54W, h16km±4km, ML4.0, Mw4.8, Fault plane solution: NP1:φs3.00000°, δ68.00000°, λ-122.00000°.*
*NEIC **07** 06:05:56.5±2.8, 6.21N±0.06×77.57W±0.06, h25km±4km, mb4.7/170, Error ellipse: s-maj=9.7km s-min=7.9km az=47.0*
*VAO **07** 06:05:58.5±1.0, 5.74N×76.91W, h10km, mb4.8*

ISC 07 06:05:54.9±0.8, 6.14N±0.02×77.54W±0.03, h17km±4km, n453, σ1s73/472, mb4.7/100, MS3.9/14, 15C-5D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.16**	**55**	*i*P	**Pg**	**06 05 59.1**	**-0.1**
SOLC				*e*S	**Sg**	**06 06 02.5**	**+0.6**
SOLC	**Bahia Solano**	**0.16**	**55**	*i* P	**Pg**	**06 05 59.0**	**-0.1**
SOLC				*e*S	**Sg**	**06 06 02.2**	**+0.3**
PTAC	**Punta Ardita,**	**1.04**	**345**	*e*P	**Pb**	**06 06 12.8**	**-1.7**
PTAC				*e*S	**Sb**	**06 06 28.0**	**+0.1**
PTAC	**Punta Ardita,**	**1.04**	**345**	*e*P	**Pb**	**06 06 13.0**	**-1.5**
PIZC	**Pizarro, Choco**	**1.18**	**171**	*e*P	**Pb**	**06 06 14.9**	**-2.0**
PIZC				*e*S	**Sn**	**06 06 33.5**	**+1.2**
PIZC				*i*		06 06 48.7	
	comp=Z,5μm,0.5s						
CBOC	**Ciudad Bolivar**	**1.54**	**100**	*i*P	**

CHOR3 **La Chorrera** 3.52 321 ⇓*i*P Pn 06 06 46.9 -2.1
CHOR3 *e*S Sn 06 07 30.0 -0.3
VTON El Valle, Cocl 3.55 314 *e*P Pn 06 06 47.1 -2.2
VTON *e*S Sn 06 07 27.6 -3.4
PRAC Prado 3.57 132 *e*P Pn 06 06 50.4 +0.7
PRAC *e*S Sn 06 07 31.1 -0.5
PRAC *i* 06 07 56.6
comp=Z,337nm,0.6s
MARP Paez Belalcaza 3.63 154 *e*P Pn 06 06 52.0 +1.3
MARP *e*S Sn 06 07 37.6 +4.3
POPC Popayan, Colom 3.67 166 *e*P Pn 06 06 50.6 -0.7
BCIP Isla Barro Col 3.78 323 *e*P Pn 06 06 49.9 -2.5
BCIP *e*S Sn 06 07 33.6 -3.0
BCIP *i* 06 08 17.1
comp=Z,223nm,0.7s
BCIP Isla Barro Col 3.78 323 *e*P Pn 06 06 50.0 -2.5
BCIP *e*S Sn 06 07 34.0 -2.6
BCIP Isla Barro Col 3.78 323 Pn Pn 06 06 49.9 -2.5
PCON Cinco Dias 3.95 163 *e*P Pn 06 06 58.6 +3.2
BETC Betania 4.02 149 *e*P Pn 06 06 57.6 +1.8
BETC *e*S Sn 06 07 38.9 -3.7
CHIC Chingaza 4.07 111⇑*e*P Pn 06 06 59.4 +2.5
CHIC *e*S Sb 06 07 52.2 -3.5
BBAC Balboa, Cauca 4.10 176 *e*P Pn 06 06 57.1 0.0
VILC Villavicencio, 4.32 118 *e*P Pn 06 07 03.4 +3.3
SMLC San Martn de 4.34 52 *e*P Pn 06 07 01.1 +0.9
SMLC *e*S Sb 06 08 07.7 +4.8
SMLC *i* 06 08 24.2
comp=Z,203nm,0.7s
BARC Barichara 4.35 84 *e*P Pn 06 07 02.5 +1.9
BARC *e*S Sn 06 07 54.4 +3.2
BARC *i* 06 08 08.3
comp=Z,371nm,0.7s
SJCC San Jacinto, C 4.41 32 *e*P Pn 06 07 01.4 +0.2
SJCC *e*S Sn 06 07 50.8 -1.4
SJCC *i* 06 08 07.5
comp=Z,94nm,0.7s
SJCC San Jacinto, C 4.41 32 *e*P Pn 06 07 00.9 -0.3
SJCC *e*S Sn 06 07 51.1 -1.1
GARC Garzon, Huila 4.42 152 *e*P Pn 06 07 02.6 +1.0
RUSC La Rusia 4.44 93 *e*P Pn 06 07 03.6 +1.6
RUSC *e*S Sb 06 08 03.2 -3.0
RUSC *i* 06 08 08.9
comp=Z,406nm,0.7s
CRUC La Cruz 4.58 173 *e*P Pn 06 07 05.0 +1.2
OCAC Ocana 4.68 63 *e*P Pn 06 07 06.3 +1.3
OCAC *e*S Sn 06 08 05.0 +6.0
OCAC *i* 06 08 11.5
comp=Z,278nm,0.6s
GCUF Volcan Galeras 4.88 178 *e*P Pn 06 07 10.1 +1.9
GCUF *e*S Sb 06 08 23.8 +4.7
FLOC Florencia 4.90 157 *e*P Pn 06 07 09.2 +1.3
FLOC *e*P Pn 06 07 09.2 +1.3
FLOC *e*S Sb 06 08 20.1 +1.0
FLOC *i* 06 08 30.7
comp=Z,64nm,0.6s
FLOC *i* 06 08 30.7
comp=Z,64nm,0.6s
ARGC Ariguani, Magd 4.93 41 *e*P Pn 06 07 10.1 +1.8
ARGC *e*S Sb 06 08 20.0 +0.1
ARGC *e*S Sb 06 08 20.0 +0.1
ARGC *i* 06 08 34.0
comp=Z,82nm,0.6s
ARGC *i* 06 08 34.0
comp=Z,82nm,0.6s
PAMC Pamplona, Colo 4.95 76 *e*P Pn 06 07 11.1 +2.1
PAMC *e*P Pn 06 07 11.1 +2.1
PAMC *e*S Sn 06 08 10.1 +3.9
PAMC *e*S Sn 06 08 10.1 +3.9
CMBC Cumbal 5.17 183 *e*P Pn 06 07 13.7 +1.7
CMBC *e*P Pn 06 07 13.7 +1.7
MACC Macarena, Meta 5.41 137 *e*P Pn 06 07 15.5 +0.6
MACC *e*P Pn 06 07 15.5 +0.6
PUAC Puerto Asis, P 5.63 170 *e*P Pn 06 07 19.4 +1.4
PUAC *e*P Pn 06 07 19.4 +1.4
PTGC Puerto Gaitan, 5.71 109 *e*P Pn 06 07 19.8 +0.7
PTGC *e*P Pn 06 07 19.8 +0.7
PTGC *e*S Sg 06 08 55.9 -2.6
PTGC *e*S Sg 06 08 55.9 -2.6
PTGC *i* 06 10 07.1
comp=Z,32nm,0.6s
PTGC *i* 06 10 07.1
comp=Z,32nm,0.6s
TAMC Tame, Arauca 5.72 87 *e*P Pn 06 07 20.9 +1.6
TAMC *e*P Pn 06 07 20.9 +1.6
CUSE Cuicocha Este 5.86 188 *e*P Pn 06 07 22.3 +0.8
CUSE *e*P Pn 06 07 22.3 +0.8
OTAV Otavalo 5.93 189 *e*P Pn 06 07 23.3 +0.8
OTAV *e*P Pn 06 07 23.3 +0.8
OTAV *e*S Sg 06 09 04.0 -1.5
OTAV *e*S Sg 06 09 04.0 -1.5
OTAV Otavalo 5.93 189 Pn Pn 06 07 23.0 +0.5
OTAV Otavalo 5.93 189 *e*P Pn 06 07 23.5 +1.0
SMRC Santa Marta, M 5.97 33 *e*P Pn 06 07 26.0 +3.3
SMRC *e*P Pn 06 07 26.0 +3.3
SMRC *e*S Sn 06 08 29.6 -1.2
SMRC *e*S Sn 06 08 29.6 -1.2
EDSV San Vito 6.01 297 *e*P Pn 06 07 23.2 -0.1
GUVC San Jose del G 6.06 126 *e*P Pn 06 07 24.6 +0.8
GUVC *e*P Pn 06 07 24.6 +0.8
RIOS Rincon, Osa 6.45 294 *e*P Pn 06 07 28.8 -0.4
PTLC Puerto Leguiza 6.53 155 *e*P Pn 06 07 35.5 +5.2
PTLC *e*P Pn 06 07 35.5 +5.2
PTLC *e*S Sb 06 09 13.1 +7.2
PTLC *e*S Sb 06 09 13.1 +7.2
PEZE Perez Zeledon, 6.89 298 *e*P Pn 06 07 34.4 -1.0
CDM Cerro de Muert 7.04 299 *e*P Pn 06 07 38.0 +0.2
RIMA Rio Macho 7.23 300 *e*P Pn 06 07 39.5 -0.6
LCR2 La Lucha 2 7.34 300 *e*P Pn 06 07 41.6 0.0
SDV Santo Domingo 7.37 68 Pn Pn 06 07 42.9 +0.8
comp=Z,65nm,0.3s,baz=202,slow=2.9,SNR=104
SDV Sn **Sn** 06 09 06.4 +1.0
comp=Z,17nm,0.3s,baz=348,slow=14,SNR=2.0
SDV LR LR 06 10 47.7
comp=Z,3µm,18.4s,baz=224,slow=40
SDV Santo Domingo 7.37 68 *e*P Pn 06 07 42.8 +0.8
SDV *e*P Pn 06 07 42.8 +0.8
SDV *e*S Sn 06 09 03.2 -2.3
SDV *e*S Sn 06 09 03.2 -2.3
SDV *i* 06 09 18.8
comp=Z,83nm,0.7s
SDV *i* 06 09 18.8
comp=Z,83nm,0.7s
SDV Santo Domingo 7.37 68 Pn Pn 06 07 43.3 +1.3
SDV Santo Domingo 7.37 68 *e*P Pn 06 07 42.5 +0.5
HDC Heredia 7.56 301 Pn 06 07 43.9 -0.7
JTS Las Juntas de 8.42 300 Pn Pn 06 07 56.7 +0.4
comp=Z,2.0nm,0.3s,baz=164,slow=7.5,SNR=29
JTS LR LR 06 11 14.7
comp=Z,1µm,21.7s,baz=158,slow=38
JTS Las Juntas de 8.42 300 Pn Pn 06 07 57.2 +0.9
ESPN Las Esperanzas 8.99 313 Pn Pn 06 08 02.5 -1.6
ACON Acoyapa 9.51 308 Pn Pn 06 08 09.1 -2.1
MATN Matagalpa 10.68 310 Pn Pn 06 08 26.8 -0.5
LGNH Logne 13.21 21 Pn 06 09 02.5 +0.7
ATAH Atahualpa 13.21 184 Pn Pn 06 09 02.8 +0.5
comp=Z,0.1nm,0.3s,baz=34,slow=9.1,SNR=2.5
ATAH LR LR 06 15 31.6
comp=Z,794nm,18.0s,baz=13,slow=44
PAPH Port-au-Prince 13.33 22 Pn 06 09 04.4 +0.9
PAPH Sn 06 11 30.0 -1.4
SDDR Presa de Saban 14.15 25 Pn Pn 06 09 16.8 +2.1
MTO3 Montecristo 14.23 306 P Pn 06 09 17.7 +1.6
ORIV Oritupano 14.30 77 *e* Pn 06 09 18.2 +1.3
CZSB Cruzeiro do Su 14.59 161 *e*P Pn 06 09 18.0 -2.9
SC01 Santiago de lo 14.78 26 P Pn 06 09 27.0 +3.6
SC01 S 06 12 20.3 -4.9
DR12 Loma Pena Alta 14.88 32 Pn 06 09 24.6 -0.2
APG El Apazote 15.46 306 Pn Pn 06 09 31.6 -1.0
comp=Z,0.0nm,0.3s,baz=164,slow=18,SNR=3.6
APG LR LR 06 16 00.4
comp=Z,553nm,21.1s,baz=122,slow=39
CRPR Cabo Rojo, PR 15.58 40 P Pn 06 09 31.0 -3.0
CRPR IAmb IAmb 06 09 40.7
comp=Z,56nm,0.9s
MLPR Magueyes Islan 15.60 40 Pn Pn 06 09 31.3 -2.9
MLPR IAmb IAmb 06 09 40.5
comp=Z,32nm,0.8s
MPR Mayaguez 15.72 39 Pn Pn 06 09 33.7 -2.0
MPR IAmb IAmb 06 09 44.2
comp=Z,58nm,1.1s
OBIP Obispado Ponce 15.93 41 Pn Pn 06 09 37.0 -1.5

AOPR Arecibo Observ 16.06 40 Pn 06 09 40.9 +0.7
AOPR IAmb IAmb 06 09 47.5
comp=Z,47nm,0.7s
PDPR Patillas Dam, 16.30 43 P Pn 06 09 41.8 -1.5
GCPR Guaynabo City 16.47 42 Pn Pn 06 09 43.8 -1.6
HUMP Col San Antoni 16.51 43 Pn Pn 06 09 45.2 -0.7
HUMP IAmb IAmb 06 09 51.2
comp=Z,41nm,0.8s
TRN Trinidad (W) 16.58 73 *e* Pn 06 09 46.8 0.0
CBYP Canovanas 16.59 42 Pn 06 09 46.1 -0.9
CBYP IAmb IAmb 06 10 05.8
comp=Z,31nm,0.7s
MTP Monte Pirata 16.68 43 Pn 06 09 47.3 -0.7
MTP IAmb IAmb 06 09 55.4
comp=Z,57nm,1.1s
GRGR Grenville 16.77 68 *e* Pn 06 09 50.6 +1.3
GRGR Grenville 16.77 68 Pn Pn 06 09 49.4 +0.2
GRSS Sisters 16.86 68 *e* P 06 09 54.8 +2.4
CDVI St. Croix 17.00 46 Pn Pn 06 09 50.9 -1.2
CDVI IAmb IAmb 06 10 03.2
comp=Z,74nm,0.8s
CUPR Culebra, Puert 17.01 44 Pn Pn 06 09 50.6 -1.6
CUPR IAmb IAmb 06 10 09.8
comp=Z,40nm,0.7s
GCMP Grenada, Carri 17.10 67 *e* Pn 06 09 53.4 0.0
TEIG Tepich 17.46 324 P P 06 10 00.8 +1.8
comp=Z,0.4nm,0.3s,baz=284,slow=4.2,SNR=3.2
TEIG LR LR 06 18 14.4
comp=Z,346nm,18.3s,baz=122,slow=42
TEIG Tepich 17.46 324 Pn 06 09 58.6 +0.7
CCIG Comitan 17.50 306 Pn 06 10 00.2 +1.6
SVB Belmont 17.54 65 *e* Pn 06 09 58.2 -0.7
SVB Belmont 17.54 65 Pn Pn 06 09 59.0 +0.1
SVB IAmb IAmb 06 10 11.0
comp=Z,39nm,0.7s
TOSP Speyside 17.57 72 *e* Pn 06 09 57.5 -1.7
TOSP Speyside 17.57 72 Pn 06 09 59.8 +0.6
TOSP IAmb IAmb 06 10 16.9
comp=Z,100nm,1.5s
SVCV St. Vincent, C 17.64 65 *e* Pn 06 09 59.1 -1.0
MCLT Moule a Chique 17.99 64 *e* P 06 10 09.4 +4.5
NNA Nana 18.02 178 P P 06 10 06.8 +1.5
comp=Z,0.8nm,0.3s,baz=9.3,slow=5.7,SNR=4.8
NNA LR LR 06 18 01.3
comp=Z,255nm,19.1s,baz=360,slow=41
NNA Nana 18.02 178 Pn 06 10 05.5 +0.7
FDF Fort de France 18.23 61 Pn Pn 06 10 04.6 -2.8
FDF IAmb IAmb 06 10 23.9
comp=Z,91nm,1.2s
DSLB Salisbury 18.32 58 *e* P 06 10 11.2 +2.6
BBGH Gun Hill 19.03 67 *e* P 06 10 08.4 -8.0
MACA Manacapuru-AM 19.20 118 *e*P P 06 10 14.6 -3.6
ETMB Extrema 19.45 144 *e*P P 06 10 18.5 -2.5
SAML Samuel 20.72 136 P P 06 10 32.4 -2.3
ITTB Itaituba 24.14 115 *e*P P 06 11 07.8 -2.6
LPAZ La Paz 24.15 157 P P 06 11 08.8 -2.3
comp=Z,7.0nm,0.7s,baz=344,slow=8.2,SNR=16
LPAZ La Paz 24.15 157 *e*P P 06 11 09.1 -2.0
MALB Monte Alegre 24.55 108 *e*P P 06 11 11.9 -2.3
MDP Montagnes des 24.80 91 P P 06 11 14.2 -2.2
comp=Z,14nm,0.7s,baz=262,slow=9.0,SNR=7.6
MDP LR LR 06 21 05.7
comp=Z,591nm,19.6s,baz=244,slow=37
PB16 IPOC Station P 25.57 162 P P 06 11 22.4 -1.6
PB16 IAmb IAmb 06 11 35.8
comp=Z,14nm,0.8s
VILB Vilhena 25.62 138 *e*P P 06 11 22.9 -0.9
NPGB Novo Progresso 25.71 120 *e*P P 06 11 22.4 -2.3
MCPB Macapa, AP 26.24 103 *e*P P 06 11 27.6 -1.9
PSGCX Pisagua 26.59 164 IAmb IAmb 06 11 33.8
comp=Z,22nm,0.8s
GO01 Chusmiza 26.93 162 IAmb IAmb 06 11 39.8
comp=Z,12nm,0.7s
Z57A Bowman 27.19 354 P P 06 11 39.1 +1.4
baz=173
SIV San Ignacio 27.37 144 P P 06 11 37.9 -1.7
comp=Z,13nm,0.6s,baz=330,slow=8.9,SNR=61
SIV LR LR 06 22 59.4
comp=Z,488nm,18.4s,baz=333,slow=38
PB08 IPOC Station P 27.38 163 P P 06 11 40.1 0.0
PB08 IAmb IAmb 06 11 50.0
comp=Z,16nm,1.1s
CLDB Colider 27.46 128 *e*P P 06 11 37.4 -3.0
GOGA Godfrey 27.69 349 P P 06 11 43.6 +1.3
baz=167
Y59A Loris 27.74 358 P P 06 11 44.8 +2.0
baz=177
344A Westbrook Farm 28.05 335 IAmb IAmb 06 11 53.4
comp=Z,15nm,0.8s
PB01 IPOC Station P 28.14 164 P 06 11 46.6 +0.1
PTLB Pontes e Lacer 28.15 140 *e*P P 06 11 44.5 -2.0
LRAL Lakeview Retre 28.18 343 P P 06 11 48.0 +1.3
baz=160
X54A Belton 28.62 352 P P 06 11 52.3 +1.7
baz=170
Z47A Carrollton 28.65 341 IAmb IAmb 06 12 04.0
comp=Z,9.3nm,0.7s
PB07 IPOC Station P 28.69 165 P P 06 11 51.1 -0.4
PB07 IAmb IAmb 06 12 09.6
comp=Z,9.9nm,0.7s
Y49A Blount Mountai 28.79 345 P P 06 11 51.7 -0.4
PB09 IPOC Station P 28.93 164 P P 06 11 55.1 +1.5
PB09 IAmb IAmb 06 11 58.4
comp=Z,22nm,1.3s
W54A Cherokee Point 29.13 352 P P 06 11 56.9 +1.8
baz=171
V59A Middlesex 29.50 359 P P 06 11 59.7 +1.4
baz=179
V58A Windy Hill, Pi 29.55 357 P P 06 11 60.0 +1.1
baz=177
Y45A Yeager Farm, C 29.75 340 IAmb IAmb 06 12 03.7
comp=Z,17nm,0.8s
V54A Nebo 29.78 353 P P 06 12 02.5 +1.6
baz=171
LVC Limon Verde 29.79 164 P P 06 12 01.5 0.0
comp=Z,8.3nm,0.8s,baz=348,slow=8.1,SNR=6.6
LVC LR LR 06 25 43.2
comp=Z,138nm,18.2s,baz=314,slow=40
LVC Limon Verde 29.79 164 P P 06 12 02.2 +0.7
LVC IAmb IAmb 06 12 08.5
comp=Z,8.1nm,0.8s
LVC Limon Verde 29.79 164 *e*P P 06 12 02.2 +0.7
TKL Tuckaleechee C 29.94 350 P P 06 12 03.7 +1.5
comp=Z,1.6nm,1.0s,baz=90,slow=4.0,SNR=2.4
U58A Oxford 30.13 358 P P 06 12 05.4 +1.5
baz=178
U57A Blanch 30.20 357 P P 06 12 05.9 +1.4
baz=177
PRPB Parauapebas 30.25 113 *e*P P 06 12 04.4 -1.0
U54A Nelsons Funny 30.50 353 P P 06 12 08.7 +1.4
baz=172
V48A Smith Brothers 30.68 345 P P 06 12 08.1 -0.7
V48A IAmb IAmb 06 12 17.3
comp=Z,12nm,0.9s
T58A Grand View Acr 30.68 358 P P 06 12 09.8 +1.0
baz=178
T59A Double "B" Far 30.69 360 P P 06 12 10.2 +1.3
baz=180
T57A Hurt 30.76 357 P P 06 12 11.0 +1.5
baz=177
T56A Rocky Mt 30.83 356 P P 06 12 12.1 +1.9
baz=175
T54A Tazewell 31.00 354 P P 06 12 13.2 +1.5
baz=172
T53A Wise 31.04 352 P P 06 12 13.8 +1.7
baz=170
WVT Waverly 31.31 344 P P 06 12 15.2 +0.8
baz=160
WVT Waverly 31.31 344 P P 06 12 14.8 +0.4
PB14 IPOC Station P 31.36 167 P P 06 12 16.5 +1.2
X40A Basin Creek Fa 31.56 335 P P 06 12 17.3 +0.7
baz=150
LPAR Lepanto 31.59 340 P P 06 12 17.1 +0.2
S55A Lewisburg 31.61 356 P P 06 12 18.3 +1.3
baz=174
HBAR Harrisburg 31.67 339 P P 06 12 18.1 +0.5
MIAR Mount Ida 31.92 334 P P 06 12 20.1 +0.3
baz=149
T47A Sharon Grove 31.93 345 IAmb IAmb 06 12 25.8
comp=Z,25nm,1.4s
R58A Rapidan 32.02 359 P P 06 12 22.3 +1.7
baz=179
LCAR Lake Charles 32.31 339 P P 06 12 23.2 +0.1
LCAR IAmb IAmb 06 12 29.1
comp=Z,18nm,1.4s

T45A Paducah 32.37 343 P P 06 12 24.2 +0.5
PARMO **Parma** 32.38 341 P P 06 12 25.2 +1.5
W39A Magazine 32.57 335 P P 06 12 27.0 +1.6
W39A IAmb IAmb 06 12 31.0
comp=Z,15nm,1.2s
Q58A Fox Den Farm, 32.66 360 P P 06 12 28.2 +2.0
baz=180
PBMO Poplar Bluff 32.70 341 IAmb IAmb 06 12 28.6
comp=Z,7.1nm,0.6s
Q53A Leroy 32.77 354 P P 06 12 29.0 +1.8
baz=173
Q55A Buckhannon 32.79 356 P P 06 12 29.6 +2.2
baz=175
Q54A Coxs Mills 32.84 355 P P 06 12 29.2 +1.5
baz=174
WCI Wyandotte Cave 32.92 347 P P 06 12 29.7 +1.2
baz=164
USIN University of 32.99 345 P P 06 12 29.6 +0.4
T42A Van Buren 33.15 340 IAmb IAmb 06 12 31.8
comp=Z,8.2nm,0.8s
U40A Yellville 33.19 337 P P 06 12 31.4 +0.5
baz=152,SNR=7.3
U40A Yellville 33.19 337 IAmb IAmb 06 12 32.2
comp=Z,9.4nm,1.0s
P56A Dayton Farm, R 33.24 358 P P 06 12 33.6 +2.3
baz=178
P53A Whipple 33.38 355 P P 06 12 34.2 +1.7
baz=173
ABTX Abilene, Hawle 33.45 325 IAmb IAmb 06 12 38.4
comp=Z,11nm,0.8s
ARAG Araguaiana, MT 33.47 131 *e*P P 06 12 31.9 -1.6
TXAR Lajitas Array 33.77 316 P P 06 12 37.4 +1.2
comp=Z,0.5nm,0.5s,baz=143,slow=8.5,SNR=8.8
TXAR PcP **PcP** 06 15 16.6 +1.2
comp=Z,1.1nm,0.7s,baz=148,slow=6.3,SNR=9.7
TXAR LR LR 06 28 39.1
comp=Z,51nm,19.2s,baz=0.0,slow=40
TXAR Lajitas Array 33.77 316 P P 06 12 37.0 +0.8
OLIL Olney 33.83 345 IAmb IAmb 06 12 38.3
comp=Z,14nm,0.9s
O58A Lewisberry 33.84 1 P P 06 12 39.0 +2.5
baz=181
BLO Bloomington 33.88 347 P P 06 12 37.5 +0.7
U38A Gravette 33.88 335 IAmb IAmb 06 12 41.5
comp=Z,6.5nm,0.8s
O57A Amberson 33.93 360 P P 06 12 39.4 +2.2
baz=180
O54A Avella 33.99 356 P P 06 12 39.3 +1.4
baz=175
TUL1 Leonard 34.05 333 P P 06 12 39.1 +0.7
baz=146
TUL1 Leonard 34.05 333 P P 06 12 38.5 +0.2
TUL1 IAmb IAmb 06 12 45.8
comp=Z,7.8nm,0.8s
O52A Adamsville 34.05 354 P P 06 12 39.4 +1.1
baz=172
AQDB Aquidauana 34.06 141 *e*P P 06 12 37.3 -1.3
CCM Cathedral Cave 34.13 341 P P 06 12 39.5 +0.5
baz=155
CCM Cathedral Cave 34.13 341 P P 06 12 39.3 +0.3
O51A Pataskala 34.17 353 P P 06 12 40.8 +1.4
baz=171
PEXB Peixe 34.26 122 *e*P P 06 12 38.5 -1.9
FNO Franklin 34.27 330 P P 06 12 41.2 +0.9
SSPA Standing Stone 34.35 360 P P 06 12 42.9 +1.9
baz=180
N55A Marion Center 34.52 358 P P 06 12 44.2 +1.8
baz=178
S39A Bolivar 34.54 338 P P 06 12 42.4 -0.2
ROSB Rosrio 34.55 104 *e*P P 06 12 41.1 -1.9
WMOK Wichita Mounta 34.56 328 P P 06 12 43.4 +0.5
baz=141,SNR=9.8
WMOK Wichita Mounta 34.56 328 IAmb IAmb 06 12 48.0
comp=Z,5.4nm,0.7s
N53A Lisbon 34.65 356 P P 06 12 45.1 +1.5
baz=174
N59A State Game Lan 34.67 2 P P 06 12 45.2 +1.5
baz=183
R40A Maddies Statio 34.69 339 IAmb IAmb 06 12 45.1
comp=Z,5.9nm,0.6s
BCOK Bluff Creek, N 34.69 331 P P 06 12 43.5 -0.5
N52A McGinn's Farm, 34.73 354 P P 06 12 45.7 +1.5
baz=173
OK029 Liberty Lake 34.73 331 P P 06 12 44.6 +0.3
N54A Moraine State 34.75 357 P P 06 12 46.3 +1.9
baz=176
M57A Sunshine Farm, 35.05 1 P P 06 12 49.3 +2.3
baz=181
M56A Emporium 35.20 359 P P 06 12 50.0 +1.7
baz=179
T35A Sooner Cattle 35.20 333 P P 06 12 48.3 -0.1
M54A Oil Creek Stat 35.27 357 P P 06 12 51.0 +2.1
baz=176
AC05 El Transito 35.47 169 P P 06 12 51.7 +0.9
M64A Tiverton 35.71 8 P P 06 12 54.4 +1.8
baz=191
L57A Andrews Acres 35.72 1 P P 06 12 54.8 +2.0
baz=181
L58A Harry Jones Me 35.79 2 P P 06 12 54.9 +1.6
baz=183
L55A Hinsdale 35.91 359 P P 06 12 56.4 +2.0
baz=179
U32A Winter Ranch, 35.95 330 P P 06 12 54.5 -0.4
L61A Hillsdale 1, H 36.08 5 P P 06 12 57.4 +1.6
baz=187
MSTX Muleshoe 36.24 323 P P 06 12 57.7 +0.3
baz=134,SNR=6.8
MSTX Muleshoe 36.24 323 P P 06 12 56.5 -1.0
AMTX Amarillo 36.25 325 P P 06 12 59.6 +2.1
AMTX IAmb IAmb 06 13 02.5
comp=Z,6.6nm,0.7s
BDFB Brasilia 36.38 127 P P 06 12 57.2 -1.6
comp=Z,11nm,0.8s,baz=292,slow=10,SNR=13
BDFB LR LR 06 28 39.0
comp=Z,443nm,21.0s,baz=306,slow=38
BDFB Brasilia 36.38 127 P P 06 12 57.6 -1.2
BDFB IAmb IAmb 06 12 58.2
comp=Z,12nm,0.9s
MNTX Cornudas Mount 36.39 318 P P 06 12 59.4 +0.7
baz=129,SNR=7.5
MNTX Cornudas Mount 36.39 318 P P 06 12 58.8 +0.1
L61B Northampton 36.42 6 P P 06 13 00.4 +1.7
baz=188
K55A Perry 36.44 359 P P 06 13 00.3 +1.3
baz=179
HRV Adam Dziewonsk 36.61 7 P P 06 13 01.8 +1.5
baz=190
K62A Royalston 36.68 7 P P 06 13 02.9 +2.0
baz=189
J54A Appleton 37.00 359 P P 06 13 05.7 +2.1
baz=178
J58A Remsen 37.13 3 P P 06 13 06.3 +1.6
baz=184
J59A Piesco 37.27 4 P P 06 13 07.9 +1.9
baz=185
SDBA SAO DESIDERIO 37.31 120 *e*P P 06 13 05.2 -1.5
CO03 El Pedregal 37.34 170 IAmb IAmb 06 13 17.2
comp=Z,19nm,1.0s
I58A Old Forge 37.47 3 P P 06 13 09.4 +1.7
baz=184
IPMB Ipameri, GO 37.58 130 *e*P P 06 13 06.8 -2.1
I59A Olmsteadville 37.65 4 P P 06 13 11.0 +1.8
baz=186
I60A Shoreham 37.74 5 P P 06 13 11.9 +2.0
baz=187
CPUP Villa Florida 37.76 150 P P 06 13 07.0 -3.2
comp=Z,1.8nm,0.5s,baz=356,slow=11,SNR=3.9
CPUP LR LR 06 30 13.8
comp=Z,153nm,20.0s,baz=333,slow=39
CPUP Villa Florida 37.76 150 IAmb IAmb 06 13 14.8
comp=Z,3.9nm,0.8s
L40A Anamosa 37.79 343 IAmb IAmb 06 13 11.3
comp=Z,8.9nm,0.8s
H57A Richville 38.22 2 P P 06 13 15.5 +1.5
baz=184
H58A Gabriels 38.24 4 P P 06 13 15.8 +1.6
baz=186
I63A Otisfield 38.25 8 P P 06 13 15.5 +1.3
baz=191
I64A Boothbay 38.27 9 P P 06 13 16.3 +2.0
baz=193
LBNH Lisbon 38.27 7 P P 06 13 16.3 +1.9
baz=189
JFWS Jewell Farm 38.31 345 IAmb IAmb 06 13 15.0
comp=Z,9.3nm,0.8s
ZON Zonda 38.41 168 IAmb IAmb 06 13 25.1
comp=Z,16nm,0.9s

LONY	**Lake Ozonia**	38.42	3	P		P	06 13 17.4 +1.7
	baz=185						
H59A	**Cadyville**	38.51	4	P		P	06 13 18.0 +1.6
	baz=186						
H60A	**Morristown**	38.51	6	P		P	06 13 17.9 +1.5
	baz=188						
SADO	**Sadowa**	38.51	358	P		P	06 13 16.8 +0.4
SADO				IAmb		IAmb	06 13 34.9
	comp=Z,18nm,1.1s						
H61A	**Lyndonville**	38.56	6	P		P	06 13 18.2 +1.4
	baz=189						
H62A	**Milan**	38.69	7	P		P	06 13 19.5 +1.6
	baz=190						
PLVO	**Plevna**	38.75	1	P		P	06 13 19.5 +1.1
PLVO				IAmb		IAmb	06 13 20.7
	comp=Z,15nm,0.9s						
G57A	**Newington**	38.88	3	P		P	06 13 20.9 +1.4
	baz=184						
G59A	**Clarenceville**	38.98	5	P		P	06 13 21.9 +1.7
	baz=187						
G58A	**Ormstown**	38.98	4	P		P	06 13 21.9 +1.6
	baz=186						
G54A	**Lake Saint Pet**	39.11	359	P		P	06 13 22.9 +1.4
	baz=179						
ANMO	**Albuquerque**	39.15	321	P		P	06 13 23.9 +1.7
VA03	**San Esteban**	39.25	171	IAmb		IAmb	06 13 33.0
	comp=Z,23nm,0.8s						
G61A	**St-Isidore-de-**	39.34	7	P		P	06 13 25.2 +1.8
	baz=190						
G62A	**West of Eustis**	39.41	8	P		P	06 13 25.5 +1.6
	baz=191						
G62A	**West of Eustis**	39.41	8	P		P	06 13 25.7 +1.8
T25A	**Trinidad**	39.41	325	P		P	06 13 26.6 +2.2
	baz=135,SNR=18						
T25A	**Trinidad**	39.41	325	IAmb		IAmb	06 13 31.9
	comp=Z,24nm,1.0s						
EMMW	**East Machias**	39.42	11	P		P	06 13 25.6 +1.6
EMMW				IAmb		IAmb	06 13 35.1
	comp=Z,22nm,1.3s						
PTGB	**Pitanga**	39.44	142	*e*P		P	06 13 21.0 -3.6
PKME	**Peaks-Kenny Pk**	39.63	9	P		P	06 13 27.4 +1.6
	baz=193						
ALGO	**Algonquin Park**	39.67	359	P		P	06 13 27.4 +1.4
	baz=179						
G65A	**Princeton**	39.87	11	P		P	06 13 29.3 +1.5
	baz=196						
F60A	**Warwick**	39.98	6	P		P	06 13 30.4 +1.7
	baz=189						
FRTB	**Fartura**	40.07	138	*e*P		P	06 13 27.3 -2.4
F61A	**St Evariste**	40.09	7	P		P	06 13 31.3 +1.7
	baz=190						
E55A	**Montcerf-Lytto**	40.19	2	P		P	06 13 31.9 +1.5
	baz=182						
E57A	**Chemin Saint G**	40.23	4	P		P	06 13 32.6 +1.8
	baz=185						
MC01	**Montes Claros**	40.24	125	*e*P		P	06 13 29.7 -1.5
E58A	**La Victoria**	40.25	5	P		P	06 13 32.3 +1.4
	baz=187						
E56A	**St. Veronique**	40.31	3	P		P	06 13 32.8 +1.4
	baz=184						
F64A	**Sherman**	40.37	10	P		P	06 13 33.6 +1.7
	baz=194						
E60A	**Ste Agathe de**	40.43	7	P		P	06 13 33.7 +1.4
	baz=189						
SDCO	**Great Sand Dun**	40.45	325	P		P	06 13 34.8 +1.7
	baz=134,SNR=30						
SDCO	**Great Sand Dun**	40.45	325	IAmb		IAmb	06 13 39.9
	comp=Z,14nm,0.8s						
TUC	**Tucson**	40.48	314	P		P	06 13 35.2 +2.0
E61A	**Lac Etchemin**	40.60	7	P		P	06 13 35.5 +1.7
	baz=191						
D55A	**Sainte-Anne-du**	40.77	2	P		P	06 13 36.8 +1.6
	baz=183						
D56A	**ZEC Mazanza, M**	40.83	3	P		P	06 13 37.1 +1.4
	baz=184						
D57A	**Chemin Vers le**	40.85	4	P		P	06 13 37.2 +1.4
	baz=186						
E63A	**Oxbow**	40.90	10	P		P	06 13 37.7 +1.4
	baz=194						
E43A	**Lone Tree Farm**	40.91	350	P		P	06 13 36.4 0.0
E43A				IAmb		IAmb	06 13 48.2
	comp=Z,40nm,1.5s						
E62A	**Clayton Lake**	40.92	8	P		P	06 13 38.5 +2.1
	baz=192						
E62A	**Clayton Lake**	40.92	8	IAmb		IAmb	06 13 39.0
	comp=Z,13nm,0.8s						
E64A	**Bridgewater**	41.00	10	P		P	06 13 38.9 +1.8
	baz=195						
D58A	**Chemin du LacG**	41.00	5	P		P	06 13 39.0 +1.8
	baz=187						
D60A	**Saint Jean D'O**	41.02	7	P		P	06 13 38.8 +1.5
	baz=190						
ECSD	**EROS Data Cent**	41.03	339	P		P	06 13 36.8 -0.6
	baz=150						
LMN	**Caledonia Moun**	41.08	14	P		P	06 13 39.0 +1.2
LMN				IAmb		IAmb	06 13 39.5
	comp=Z,9.7nm,0.7s						
SPMN	**Marine on St.**	41.15	344	P		P	06 13 38.4 +0.1
	baz=157						
SPMN	**Marine on St.**	41.15	344	IAmb		IAmb	06 13 43.3
	comp=Z,18nm,1.4s						
S22A	**4UR Ranch, Cre**	41.22	324	P		P	06 13 41.4 +2.0
	baz=133,SNR=8.9						
LATQ	**La Tuque**	41.30	5	P		P	06 13 41.1 +1.6
	baz=187						
D62A	**Allapoint, All**	41.44	9	P		P	06 13 42.4 +1.7
	baz=193						
D63A	**Stockholm**	41.55	10	P		P	06 13 43.2 +1.6
	baz=194						
ISCO	**Idaho Springs**	41.96	327	P		P	06 13 47.5 +2.0
	baz=136,SNR=7.8						
X16A	**Lo Mia Camp, P**	42.10	317	P		P	06 13 48.8 +2.2
BATG	**Bathurst New B**	42.16	12	P		P	06 13 48.5 +1.9
PV01	**Paradox Valley**	42.51	323	P		P	06 13 51.3 +1.4
PV02	**Paradox Valley**	42.66	323	IAmb		IAmb	06 13 57.8
	comp=Z,12nm,0.8s						
PV13	**Radium Mtn., P**	42.67	323	IAmb		IAmb	06 13 58.3
	comp=Z,18nm,0.8s						
WUAZ	**Wupatki**	42.68	318	P		P	06 13 53.0 +1.8
	baz=125,SNR=5.5						
PV07	**Paradox Valley**	42.75	323			pP	06 13 57.6 +0.6
PV12	**Saucer Basin,**	42.77	323	IAmb		IAmb	06 13 58.6
	comp=Z,15nm,0.8s						
LSQQ	**Lebel-sur-Quev**	42.77	1	P		P	06 13 52.8 +1.2
	baz=181						
PV05	**Paradox Valley**	42.79	323	IAmb		IAmb	06 13 58.2
	comp=Z,13nm,0.9s						
EYMN	**Ely**	43.33	346	P		P	06 13 55.1 -1.0
EYMN				IAmb		IAmb	06 13 56.6
	comp=Z,16nm,1.1s						
MATQ	**Matagami**	43.47	360	P		P	06 13 58.4 +1.2
	baz=180						
SJMB	**Sao Joao De Ma**	43.51	125	*e*P		P	06 13 56.6 -1.4
CHGQ	**Chibougamau**	43.71	3	P		P	06 14 00.1 +1.0
	baz=185						
U15A	**North Rim**	43.81	318	P		P	06 14 02.1 +1.6
RSSD	**Black Hills**	44.39	333	P		P	06 14 06.5 +1.5
RSSD				IAmb		IAmb	06 14 11.5
	comp=Z,9.8nm,0.9s						
RIB01	**Linhares ES**	44.47	126	*e*P		P	06 14 03.8 -1.8
KNB	**Kanab**	44.49	319			pP	06 14 09.9 -1.1
BELC	**Belle Mtn. Jos**	45.09	313	P		P	06 14 11.9 +1.2
	baz=119						
LC01	**Cunco**	45.11	174	P		P	06 14 11.1 +0.6
CCUT	**Cedar City**	45.15	319			pP	06 14 17.3 +0.9
BW06	**Boulder Array**	46.16	327	P		P	06 14 20.6 +1.5
	baz=133,SNR=7.7						
PD31	**Pinedale Array**	46.16	327	IAmb		IAmb	06 14 24.8
	comp=Z,13nm,1.4s						
PDAR	**Pinedale Array**	46.16	327	P		P	06 14 20.3 +1.3
	comp=Z,3.6nm,1.1s,baz=128,slow=9.6,SNR=19						
PDAR				LR		LR	06 37 54.0
	comp=Z,57nm,18.8s,baz=136,slow=42						
DUG	**Dugway, Tooele**	46.37	322	P		P	06 14 22.4 +1.8
	baz=128,SNR=6.1						
DUG	**Dugway, Tooele**	46.37	322	IAmb		IAmb	06 14 27.1
	comp=Z,7.0nm,0.8s						
HWUT	**Hardware Ranch**	46.51	325	IAmb		IAmb	06 14 27.5
	comp=Z,7.1nm,0.8s						
ULM	**Lac du Bonnet**	46.58	344	P		P	06 14 20.8 -1.1
	comp=Z,8.2nm,0.6s,baz=154,slow=7.6,SNR=10.0						
ULM				LR		LR	06 34 19.9
	comp=Z,75nm,21.1s,baz=140,slow=37						
ULM	**Lac du Bonnet**	46.58	344	P		P	06 14 21.4 -0.5
ULM				IAmb		IAmb	06 14 22.4
	comp=Z,11nm,0.7s						
TPNV	**Topopah Spring**	46.76	317			pP	06 14 30.0 +1.0

BGU	**Big Grassy Mou**	46.94	323	P		P	06 14 26.2 +1.1
R11A	**Troy Canyon, C**	47.06	319	P		P	06 14 28.0 +1.9
	baz=123,SNR=6.7						
PLCA	**Paso Flores**	47.08	173	P		P	06 14 26.6 +0.6
	comp=Z,5.7nm,1.0s,baz=344,slow=10,SNR=10						
PLCA	**Paso Flores**	47.08	173	P		P	06 14 27.0 +1.0
PLCA	**Paso Flores**	47.08	173	*e*P		P	06 14 27.1 +1.0
SNOW	**Snow King Moun**	47.27	327	IAmb		IAmb	06 14 34.4
	comp=Z,15nm,1.1s						
LOHW	**Long Hollow**	47.29	327	IAmb		IAmb	06 14 33.9
	comp=Z,19nm,1.4s						
TPAW	**Teton Pass**	47.40	327	IAmb		IAmb	06 14 41.3
	comp=Z,6.2nm,0.9s						
IMW	**Indian Meadow**	47.66	327	IAmb		IAmb	06 14 36.7
	comp=Z,5.9nm,0.8s						
NV11	**Mina Array Sit**	48.81	317			pP	06 14 46.0 +1.1
NVAR	**Mina Array Bea**	48.91	317	P		P	06 14 42.4 +1.9
	comp=Z,3.7nm,0.7s,baz=126,slow=6.6,SNR=22						
NVAR	**Mina Array Bea**	48.91	317	P		P	06 14 43.3 +2.8
BOZ	**Bozeman (W)**	49.17	329	P		P	06 14 43.9 +1.5
	baz=133,SNR=6.6						
BOZ	**Bozeman (W)**	49.17	329	IAmb		IAmb	06 14 49.1
	comp=Z,8.9nm,1.1s						
SCHQ	**Schefferville**	49.32	8	P		P	06 14 43.6 +0.5
	comp=Z,12nm,0.8s,baz=245,slow=6.6,SNR=7.6						
SCHQ				LR		LR	06 35 36.8
	comp=Z,86nm,21.4s,baz=54,slow=36						
SCHQ	**Schefferville**	49.32	8	P		P	06 14 44.0 +1.0
SCHQ				IAmb		IAmb	06 14 44.9
	comp=Z,12nm,0.8s						
HLID	**Hailey**	49.37	325	P		P	06 14 44.9 +1.0
	baz=128						
HLID	**Hailey**	49.37	325	IAmb		IAmb	06 14 50.0
	comp=Z,5.0nm,0.8s						
MFID	**Camas Ranch**	50.10	324	IAmb		IAmb	06 14 55.5
	comp=Z,6.4nm,0.9s						
O02D	**Mt. Diablo Mer**	52.80	317	P		P	06 15 10.9 +1.2
	baz=118						
J04D	**Umpqua Nationa**	53.84	321	P		P	06 15 18.8 +1.5
	baz=120,SNR=5.1						
KRMB	**Red Mountain**	54.18	318	P		P	06 15 20.6 +0.9
KRMB				IAmb		IAmb	06 15 21.7
	comp=Z,11nm,1.3s						
KBO	**Bosley Butte**	54.70	319	P		P	06 15 25.6 +2.0
A04D	**Lummi Island**	57.06	326	P		P	06 15 41.4 +1.3
	baz=123						
YKA	**Yellowknife Ar**	62.46	342	P		P	06 16 16.8 -0.3
	comp=Z,2.0nm,0.6s,baz=132,slow=6.7,SNR=13						
SUMG	**Summit**	70.50	12	P		P	06 17 09.1 +0.3
SUMG	**Summit**	70.50	12	*i* P		P	06 17 09.2 +0.3
	comp=Z,78nm,0.7s						
SUMG	**Summit**	70.50	12	*i* P		P	06 17 09.3 +0.4
SUMG				IAmb		IAmb	06 17 10.1
	comp=Z,78nm,0.7s						
TIC	**Toumodi**	72.00	85	*e*P		P	06 17 18.2 -0.4
LIC	**Lamto**	72.03	85	*e*P		P	06 17 18.3 -0.4
	comp=Z,63nm,0.9s						
DBIC	**Dimbokro**	72.17	85	P		P	06 17 19.4 -0.2
	comp=Z,15nm,0.7s,baz=260,slow=7.4,SNR=23						
DBIC				LR		LR	06 46 48.5
	comp=Z,81nm,19.4s,baz=215,slow=34						
DBIC	**Dimbokro**	72.17	85	P		P	06 17 19.8 +0.2
INK	**Inuvik**	72.22	341	P		P	06 17 19.5 +0.7
	comp=Z,3.8nm,0.8s,baz=134,slow=5.5,SNR=3.4						
KIC	**Kosan Boka**	72.30	85	*e*P		P	06 17 20.2 -0.2
	comp=Z,52nm,1.0s						
KOWA	**Kowa**	72.57	77	P		P	06 17 22.7 +0.8
PAB	**San Pablo**	73.16	51	P		P	06 17 26.2 +1.1
PAB				IAmb		IAmb	06 17 26.9
	comp=Z,10nm,1.1s						
ESDC	**Sonseca Array**	73.47	51	P		P	06 17 27.8 +0.8
	comp=Z,5.0nm,0.9s,baz=273,slow=6.0,SNR=22						
ESDC	**Sonseca Array**	73.47	51	P		P	06 17 27.7 +0.8
Q23K	**Middleton Isla**	74.04	330	P		P	06 17 30.8 +1.1
	baz=105						
PPT	**Papeete**	74.89	250	LR		LR	06 43 50.9
	comp=Z,37nm,21.8s,baz=91,slow=30						
HDA	**Harding Lake**	75.67	335	P		P	06 17 39.5 +0.3
	baz=106						
HDA	**Harding Lake**	75.67	335	P		P	06 17 39.6 +0.5
HDA				IAmb		IAmb	06 17 53.5
	comp=Z,4.9nm,0.8s						
ILAR	**Eielson Array**	75.75	336	P		P	06 17 39.5 -0.1
	comp=Z,1.2nm,0.7s,baz=110,slow=4.6,SNR=14						
RND	**Reindeer**	76.22	334	P		P	06 17 43.5 +1.1
RND				IAmb		IAmb	06 17 55.0
	comp=Z,10nm,1.0s						
NEA2	**Nenana**	76.60	335	P		P	06 17 44.8 +0.3
	baz=104						
DAG	**Danmarks Havn**	77.19	12	*i* P		P	06 17 47.0 -0.5
	comp=Z,4.3nm,0.8s						
DAG	**Danmarks Havn**	77.19	12	*i* P		P	06 17 47.0 -0.5
DAG				IAmb		IAmb	06 17 48.2
	comp=Z,4.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	77.30	334	P		P	06 17 48.8 +0.4
MLY	**Manley**	77.40	335	P		P	06 17 48.9 -0.1
	baz=103						
PPLA	**Purkeypile**	77.59	333	P		P	06 17 49.5 -0.7
PPLA				IAmb		IAmb	06 17 50.8
	comp=Z,13nm,1.2s						
COLD	**Coldfoot**	77.69	338	P		P	06 17 51.0 +0.5
	baz=104						
COLD	**Coldfoot**	77.69	338	P		P	06 17 50.9 +0.5
COLD				IAmb		IAmb	06 18 04.4
	comp=Z,9.6nm,1.4s						
TOA0	**Torodi Ar. Sit**	78.17	78	IAmb		IAmb	06 17 54.6
	comp=Z,6.6nm,0.7s						
TORD	**Torodi Ar. Bea**	78.17	78	P		P	06 17 54.1 -0.1
	comp=Z,4.5nm,0.5s,baz=281,slow=6.1,SNR=49						
TORD				LR		LR	06 53 43.1
	comp=Z,60nm,18.6s,baz=205,slow=37						
TORD	**Torodi Ar. Bea**	78.17	78	P		P	06 17 53.9 -0.3
IMAR	**Indian Mountai**	78.82	336	P		P	06 17 56.6 -0.2
DAVA	**Damuels**	83.78	43	*e*P		P	06 18 24.6 +0.9
	comp=Z,14nm,1.2s						
KEST	**Kesra**	83.93	55	P		P	06 18 25.6 +1.0
	comp=Z,8.4nm,0.7s,baz=246,slow=3.9,SNR=11						
NOA	**NORSAR Array B**	84.07	29	P		P	06 18 25.6 +0.9
	comp=Z,1.2nm,0.7s,baz=276,slow=7.2,SNR=3.4						
FETA	**Feichten**	84.38	43	*i* P		P	06 18 27.7 +0.9
	comp=Z,6.1nm,0.8s						
RAR	**Rarotonga**	85.00	248	LR		LR	06 48 37.5
	comp=Z,628nm,19.7s,baz=166,slow=30						
CIMO	**Cimolais**	85.59	44	IAmb		IAmb	06 18 33.6
	comp=Z,6.1nm,0.8s						
CLL	**Collm**	85.60	39	*e*P		P	06 18 34.0 +1.5
	comp=Z,7.0nm,1.0s						
ABTA	**Abfaltersbach**	85.61	44	*i* P		P	06 18 33.6 +0.7
	comp=Z,6.8nm,0.6s						
KHC	**Kasperske Hory**	86.14	41	*e*P		P	06 18 36.0 +0.7
KHC	**Kasperske Hory**	86.14	41	IAmb		IAmb	06 18 37.6
	comp=Z,9.0nm,1.5s						
KBA	**Koelnbreinsper**	86.16	43	*e*P		P	06 18 36.2 +0.5
	comp=Z,6.2nm,0.9s						
BRG	**Berggiesshubel**	86.22	39	*i* P		P	06 18 36.4 +0.8
	comp=Z,10.0nm,0.9s						
GEC2	**GERESS Array S**	86.24	41	IAmb		IAmb	06 18 37.7
	comp=Z,6.8nm,0.9s						
GERES	**GERESS Array B**	86.24	41	P		P	06 18 36.4 +0.5
	comp=Z,3.2nm,0.7s,baz=266,slow=3.6,SNR=22						
MYKA	**Terra Mystica**	86.40	44	*e*P		P	06 18 37.3 +0.6
	comp=Z,8.5nm,0.7s						
MOA	**Molln**	86.71	42	*i* P		P	06 18 39.2 +1.0
	comp=Z,8.4nm,0.9s						
SOKA	**Soboth**	87.35	44	*e*P		P	06 18 41.9 +0.5
	comp=Z,3.9nm,1.1s						
ARSA	**Arzberg**	87.62	43	*e*P		P	06 18 43.1 +0.5
	comp=Z,6.4nm,0.8s						
CONA	**Conrad Observa**	87.77	42	*e*P		P	06 18 44.4 +1.0
	comp=Z,6.7nm,0.7s						
DPC	**Dobruska-Polom**	87.78	40	*e*P		P	06 18 44.8 +1.5
VNA3	**Neumayer Olymp**	88.81	163	P		P	06 18 47.3 -0.4
ARCES	**ARCESS Array B**	88.83	20	P		P	06 18 48.1 +0.3
	comp=Z,2.9nm,0.6s,baz=280,slow=3.6,SNR=11						
SNAA	**Sanae**	91.02	162	P		P	06 18 58.0 0.0
SNAA	**Sanae**	91.02	162	P		P	06 18 58.1 0.0
SNAA				IAmb		IAmb	06 19 08.2
	comp=Z,2.6nm,0.8s						
FINES	**FINESS Array B**	91.11	28	LR		LR	06 54 13.0
	comp=Z,62nm,20.1s,baz=78,slow=32						
MKAR	**Makanchi Array**	124.34	17	PKP		PKPdf	06 24 52.4 -1.0
	comp=Z,0.8nm,0.8s,baz=343,slow=2.5,SNR=5.6						
SONM	**Songino Array**	126.15	357	PKP		PKPdf	06 24 56.5 -0.4
	comp=Z,0.8nm,0.6s,baz=103,slow=2.0,SNR=4.0						
LZH	**Lanzhou**	137.98	358	*e*PKP		PKPdf	06 25 18.0 -1.6
LZH				sPKP			06 25 31.2
ASAR	**Alice Springs**	145.11	237	PKPbc		PKPbc	06 25 30.9 -1.1
	comp=Z,3.3nm,0.7s,baz=121,slow=3.5,SNR=16						
ASAR	**Alice Springs**	145.11	237			PKPbc	06 25 30.2 -1.7
WRA	**Warramunga Arr**	146.14	243	PKPbc		PKPdf	06 25 34.2 -0.1
	comp=Z,1.5nm,0.5s,baz=102,slow=3.2,SNR=27						
CMAR	**Chiang Mai Arr**	155.32	8	PKP		PKPdf	06 25 49.1 +0.6
	comp=Z,0.7nm,0.3s,baz=253,slow=1.6,SNR=4.7						
CMAR				PKPab		PKPab	06 26 12.6 -0.8
	comp=Z,1.0nm,0.3s,baz=335,slow=3.8,SNR=3.8						

IDC 07 06:08:06.0±23.0, 37.84S×77.67E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/31, mbtmpg3.6/4, MS3.8/6, Ms1 3.8/6, ms1mx3.4/30, 1C, Error ellipse: s-maj=792.1km s-min=37.5km az=33.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	29.39	96	T		T	T	06 44 23.4	
	baz=254,slow=75,SNR=120								
H01W3	**Cape Leeuwin H**	29.39	95	T		T	T	06 44 23.9	
	baz=254,slow=75,SNR=110								
H01W1	**Cape Leeuwin H**	29.41	95	T		T	T	06 44 24.7	
	baz=254,slow=75,SNR=134								
SYO	**Syowa Base**	37.40	201	*e*P		P		06 15 18.6	-1.6
BOSA	**Boshof**	44.31	266	LR		LR		06 30 40.9	
	comp=Z,66nm,18.0s,baz=164,slow=31								
ASAR	**Alice Springs**	49.66	90	P		P		06 16 60.0	+0.3
	0.6nm,0.9s,baz=243,slow=6.1,SNR=4.3								
ASAR				LR		LR		06 35 50.6	
	comp=Z,80nm,18.7s,baz=220,slow=34								
STKA	**Stephens Creek**	51.89	104	LR		LR		06 35 09.4	
	comp=Z,80nm,20.0s,baz=208,slow=31								
WRA	**Warramunga Arr**	51.95	87	P		P		06 17 16.4	-0.5
	0.7nm,0.8s,baz=241,slow=8.0,SNR=4.5								
KMBO	**Kilima Mbogo**	52.08	305	LR		LR		06 36 08.0	
	comp=Z,43nm,19.4s,baz=130,slow=32								
PMG	**Port Moresby**	68.10	85	LR		LR		06 46 28.0	
	comp=Z,59nm,19.4s,baz=252,slow=34								
DZM	**Mont Dzumac**	75.88	107	LR		LR		06 47 40.4	
	comp=Z,382nm,20.2s,baz=208,slow=31								
MKAR	**Makanchi Array**	84.36	3	P		P		06 20 40.3	+0.7
	0.6nm,0.9s,baz=177,slow=5.8,SNR=3.0								
KURBB	**Kurchatov Arra**	88.09	1	P		P		06 20 57.1	-0.7
	0.2nm,0.3s,baz=185,slow=5.5,SNR=2.8								

*IDC **07** 06:10:06.6±2.1, 24.40N×124.25E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/37, mbtmp3.8/8, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=152.8km s-min=19.8km az=64.0*

*JMA **07** 06:10:13.0±0.1, 23.97N×123.59E, h32km±1km, M3.8*

JMA Felt I J1.

*NIED **07** 06:10:13.1, 23.97N×123.59E, h32km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}5.32; $M_{\theta\theta}$-4.58; $M_{\phi\phi}$-0.74; $M_{r\theta}$5.45; $M_{\theta\phi}$-3.50; $M_{\phi r}$5.42; Fault plane solution: $M_0$9.77000×10^{14} NP1:ϕ_s47.00000°, δ72.00000°, λ80.00000°. NP2:ϕ_s256.00000°, δ21.00000°, λ117.00000°.*

ISC 07 06:10:12.8±1.1, 23.99N±0.09×123.57E±0.03, h34km±2km, n19, σ1s02/25, mb3.6/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	0.22	74	P		P	Pn	06 10 19.4	+0.3
HATJ				S		S	Sn	06 10 24.2	+2.5
IRIF	**Iriomote-Funau**	0.37	23	P		P	Pb	06 10 21.6	+0.1
IRIF				S		S	Sb	06 10 27.8	+0.3
JKRS	**Kuro-shima**	0.47	59	P		P	Pb	06 10 23.1	+0.2
JKRS				S		S	Sb	06 10 30.1	+0.2
JIJ	**Ishigaki jima**	0.64	55	P		P	Pn	06 10 25.3	-0.1
JIJ				S		S	Sn	06 10 33.9	-0.6
YOJ	**Yonaguni jima**	0.69	313	P		P	Pn	06 10 26.7	+0.5
YOJ				S		S	Sb	06 10 36.9	+1.0
JYNG	**Yonagunijimaku**	0.73	309	P		P	Pn	06 10 27.3	+0.6
JYNG				S		S	Sn	06 10 37.5	+0.8
JISG	**Ishigakijimahi**	0.90	49	P		P	Pn	06 10 29.4	+0.4
JISG				S		S	Sn	06 10 41.4	+0.6
JTJ	**Tarama**	1.22	58	P		P	Pn	06 10 51.5	+1.6
JTJ				S		S	Sb	06 10 51.5	+0.8
KSRS	**Korea Array**	13.93	15	LR		LR		06 19 05.6	
	comp=Z,50nm,20.9s,baz=200,slow=40								
MKAR	**Makanchi Array**	40.00	315	P		P		06 17 44.7	+0.3
	0.4nm,0.4s,baz=96,slow=12,SNR=4.7								
ZALV	**Zalesovo Beam**	41.60	326	P		P		06 17 55.8	-1.6
	1.3nm,0.5s,baz=110,slow=8.1,SNR=4.3								
KURBB	**Kurchatov Arra**	43.67	319	P		P		06 18 14.2	-0.1
	0.6nm,0.5s,baz=112,slow=10,SNR=6.8								
WRA	**Warramunga Arr**	44.91	166	P		P		06 18 24.6	+0.2
	0.7nm,0.7s,baz=346,slow=9.0,SNR=6.4								
ASAR	**Alice Springs**	48.43	167	P		P		06 18 53.2	+1.2
	0.3nm,0.5s,baz=357,slow=16,SNR=6.1								
NWAO	**Narrogin (SRO)**	56.92	186	LR		LR		06 45 40.5	
	comp=Z,80nm,18.9s,baz=286,slow=37								
AKASG	**Malin Array Be**	74.45	319	P		P		06 21 45.6	-1.9
	0.2nm,0.3s,baz=55,slow=7.1,SNR=4.4								
BRTR	**Keskin Array B**	75.03	307	P		P

0.1nm,0.3s,baz=225,slow=12,SNR=4.3
DAWY Dawson 16.49 40 P P 07 03 36.8 +2.1
DLBC Dease Lake 19.53 62 LR LR 07 11 23.7
comp=Z,117nm,18.4s,baz=284,slow=36
INK Inuvik 20.67 32 P P 07 04 20.3 -0.2
4.3nm,0.5s,baz=257,slow=5.5,SNR=11
INK Inuvik 20.67 32 IAmb IAmb 07 04 35.7
comp=Z,18nm,1.4s
PETK Petropavlovsk- 22.71 285 P P 07 04 40.1 -2.4
comp=Z,3.4nm,0.7s,baz=87,slow=13,SNR=6.1
PETK LR LR 07 13 21.2
comp=Z,77nm,20.2s,baz=73,slow=36
YKA Yellowknife Ar 27.07 51 P P 07 05 23.9 +1.0
comp=Z,0.4nm,0.6s,baz=271,slow=6.7,SNR=8.6
YKA LR LR 07 18 23.8
comp=Z,131nm,18.7s,baz=0.0,slow=42
YBH Yreka Blue Hor 29.80 96 LR LR 07 14 17.8
comp=Z,69nm,20.7s,baz=293,slow=29
NVAR Mina Array Bea 34.51 97 P P 07 06 30.4 +1.4
comp=Z,0.5nm,0.8s,baz=299,slow=7.9,SNR=4.5
ULM Lac du Bonnet 40.76 66 LR LR 07 24 16.0
comp=Z,58nm,18.4s,baz=134,slow=36
N35A Tabor 46.41 77 P P 07 08 09.2 +2.2
NRIK Noril'sk 46.99 333 P P 07 08 11.2 +0.1
comp=Z,2.5nm,0.5s,baz=74,slow=4.0,SNR=4.7
KSRS Korea Array 48.46 280 P P 07 08 23.4 +0.4
comp=Z,2.5nm,0.6s,baz=52,slow=7.6,SNR=11
TX31 Lajitas Ar. Si 49.54 94 P P 07 08 32.5 +1.1
TXAR Lajitas Array 49.54 94 P P 07 08 32.5 +1.0
comp=Z,0.6nm,0.7s,baz=302,slow=5.9,SNR=11
TXAR Lajitas Array 49.54 94 P P 07 08 31.8 +0.3
SONM Songino Array 53.48 303 P P 07 09 00.5 -0.2
comp=Z,2.0nm,0.8s,baz=49,slow=7.8,SNR=7.2
SONM Songino Array 53.48 303 P P 07 08 59.1 -1.7
ARCES ARCESS Array B 57.12 356 P P 07 09 25.8 -0.7
comp=Z,1.3nm,0.8s,baz=27,slow=8.2,SNR=4.9
ZALV Zalesovo Beam 58.75 320 P P 07 09 37.7 -0.4
comp=Z,0.8nm,0.3s,baz=15,slow=6.2,SNR=3.7
ZALV LR LR 07 37 02.3
comp=Z,54nm,18.1s,baz=29,slow=38
KURK Kurchatov 63.65 321 P P 07 10 11.8 +0.5
KURK Kurchatov 63.65 321 IAmb IAmb 07 10 14.2
comp=Z,1.8nm,0.8s
KURBB Kurchatov Arra 63.76 321 P P 07 10 11.8 -0.2
comp=Z,0.8nm,0.5s,baz=45,slow=7.1,SNR=9.1
BVAR Borovoye Array 64.63 327 P P 07 10 18.1 +0.3
comp=Z,3.2nm,0.7s,baz=251,slow=4.5,SNR=22
BRVK Borovoye 64.64 327 P P 07 10 18.2 +0.4
BRVK IAmb IAmb 07 10 18.7
comp=Z,4.2nm,0.8s
ARU Arti 65.06 336 P P 07 10 20.3 -0.1
comp=Z,2.3nm,0.2s,baz=11,slow=5.3,SNR=6.0
KIRV Kirov 65.08 341 LR LR 07 41 51.0
comp=Z,44nm,19.0s,baz=17,slow=39
FINES FINESS Array B 65.17 355 P P 07 10 21.1 +0.1
comp=Z,1.3nm,0.5s,baz=12,slow=9.8,SNR=6.1
MK31 Makanchi Array 65.34 316 P P 07 10 21.4 -1.1
MKAR Makanchi Array 65.34 316 P P 07 10 21.6 -1.0
comp=Z,1.6nm,0.7s,baz=46,slow=5.9,SNR=14
MKAR Makanchi Array 65.34 316 P P 07 10 21.0 -1.6
AKTO Aktyubinsk 70.61 333 P P 07 10 56.1 +0.6
comp=Z,6.7nm,0.7s,baz=40,slow=4.6,SNR=21
ABKAR Akbulak array 71.13 331 P P 07 10 59.3 +0.6
ABKAR IAmb IAmb 07 10 59.9
comp=Z,7.8nm,1.4s
ABKAR Akbulak array 71.13 331 P P 07 10 58.8 +0.1
BOOM Boomskoye usch 71.46 318 P P 07 11 01.9 +0.8
BOOM IAmb IAmb 07 11 02.0
comp=Z,3.8nm,0.7s
KK31 Karatay Array 73.05 321 P P 07 11 10.5 +0.2
KK31 IAmb IAmb 07 11 11.1
comp=Z,3.5nm,0.8s
KKAR Karatay Array 73.05 321 P P 07 11 10.5 +0.2
KKAR IAmb IAmb 07 11 11.1
comp=Z,3.5nm,0.8s
KKAR Karatay Array 73.05 321 P P 07 11 10.0 -0.3
BTK Batken 75.56 320 P P 07 11 25.7 +0.6
BTK IAmb IAmb 07 11 26.2
comp=Z,5.5nm,0.8s
AKASG Malin Array Be 75.62 351 P P 07 11 24.4 -0.7
comp=Z,0.5nm,0.3s,baz=12,slow=6.0,SNR=4.0
CHGR Chuyangaron 77.41 320 P P 07 11 36.0 +0.3
CMAR Chiang Mai Arr 79.48 287 P P 07 11 46.5 -0.6
comp=Z,1.3nm,0.3s,baz=15,slow=6.6,SNR=6.1
KBZ Khabaz 80.48 341 P P 07 11 54.0 +1.8
comp=Z,1.9nm,0.8s,baz=77,slow=2.5,SNR=3.6
GEYT Alibeck 81.96 328 P P 07 12 01.4 +1.2
comp=Z,2.6nm,0.8s,baz=270,slow=4.2,SNR=4.3
GEYT Alibeck 81.96 328 IAmb IAmb 07 12 02.1
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 85.95 346 P P 07 12 21.9 +1.2
comp=Z,2.1nm,0.8s,baz=22,slow=2.1,SNR=7.9
BRTR Keskin Array B 85.95 346 P P 07 12 20.2 -0.5

NNC 07 07:12:28.6±0.4, 50.01N×78.79E, h0km, mb3.6, mpv3.1, 15C-6D, Error ellipse: s-maj=8.1km s-min=2.1km az=77.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**343**	↑P	Pg	07 12 40.3	+0.3
KUR07				↓S	Sg	07 12 48.7	+1.0
KUR06	**Kurchatov Arra**	**0.61**	**344**	↓P	Pg	07 12 40.7	+0.3
KUR06				↑S	Sg	07 12 49.6	+1.3
KUR14	**Kurchatov Arra**	**0.61**	**348**	↑P	Pg	07 12 40.4	0.0
KUR14				↑S	Sg	07 12 49.3	+1.0
KUR15	**Kurchatov Arra**	**0.62**	**347**	↑P	Pg	07 12 40.6	+0.1
KUR15				↓S	Sg	07 12 49.6	+1.0
KURBB	**Kurchatov Arra** 20nm,0.3s	**0.63**	**345**	↑P	Pg	07 12 40.9	+0.2
KURBB				↓S	Sg	07 12 49.9	+1.0
KUR16	**Kurchatov Arra** 67nm,0.5s	**0.64**	**343**	↑P	Pg	07 12 41.0	+0.1
KUR16				↑S	Sg	07 12 50.0	+0.8
KUR05	**Kurchatov Arra**	**0.65**	**346**	↑P	Pg	07 12 41.2	+0.1
KUR05				↑S	Sg	07 12 50.2	+0.7
KUR17	**Kurchatov Arra**	**0.65**	**342**	↑P	Pg	07 12 41.3	+0.2
KUR17				↑S	Sg	07 12 50.7	+1.1
KUR04	**Kurchatov Arra**	**0.67**	**346**	↑P	Pg	07 12 41.6	+0.2
KUR04				↓S	Sg	07 12 51.0	+0.9
KURK	**Kurchatov** 10nm,0.4s	**0.71**	**351**	↓P	Pg	07 12 42.3	+0.1
KURK				↑S	Sg	07 12 52.7	+1.3
BRZS	**Berezniki** 7.0nm,0.6s	**3.94**	**272**	Pg	Pg	07 13 42.0	-2.2
BRZS				Lg	Lg	07 14 34.0	
MK31	**Makanchi Array** 1.0nm,0.5s,baz=126,slow=22,SNR=23	**3.98**	**143**	Pn	Pn	07 13 32.9	+2.0
MK31				↑Lg	Lg	07 14 35.0	
DJR	**Jarkent** 2.0nm,0.4s	**5.73**	**173**	Pg	Pb	07 14 12.4	+3.0
DJR				Lg	Lg	07 15 26.1	
MNBS	**Baschi** 2.0nm,0.6s	**5.94**	**183**	Pg	Pg	07 14 18.0	-4.4
MNBS				Lg	Lg	07 15 35.4	
PDGK	**Podgornoye** 0.4nm,0.8s	**6.71**	**176**	Pg	Pb	07 14 31.4	+5.3
PDGK				Lg	Lg	07 15 58.9	
SATY	**Saty** 1.4nm,0.4s	**6.96**	**182**	Pg	Pg	07 14 37.2	-4.7
SATY				Lg	Lg	07 16 08.9	

3.6nm,0.4s

WEL 07 07:43:53.2,39°S±1°×17°5E±°, h17km±1km, M2.0/21, ML2.2/19, MLv2.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=47.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.08**	**161**	P	Pg	07 43 56.9	+0.3
TWVZ	**Taurewa**	**0.17**	**33**	P	Pb	07 43 58.4	+0.4
FWVZ	**Far West T-bar**	**0.19**	**102**	P	Pb	07 43 58.5	+0.1
DRZ	**Dome Shelter**	**0.20**	**107**	P	Pb	07 43 58.8	+0.2
MTVZ	**Mangateitei**	**0.21**	**144**	P	Pg	07 43 58.2	0.0
NGZ	**Ngauruhoe**	**0.23**	**79**	P	Pb	07 43 59.1	+0.1
WTVZ	**West Tongariro**	**0.24**	**65**	P	Pb	07 43 59.3	+0.2
WNVZ	**Wahianoa**	**0.25**	**117**	P	Pb	07 43 59.1	-0.2
TUVZ	**Tukino**	**0.27**	**101**	P	Pb	07 43 59.7	0.0
OTVZ	**Oturere**	**0.28**	**79**	P	Pb	07 43 59.9	+0.1
KRVZ	**Karewarewa**	**0.28**	**64**	P	Pb	07 43 59.9	0.0
ETVZ	**East Tongariro**	**0.32**	**75**	P	Pb	07 44 00.6	0.0
TMVZ	**Te Maari**	**0.32**	**72**	P	Pb	07 44 00.6	+0.1
KATZ	**Kakaramea**	**0.38**	**51**	P	Pb	07 44 01.7	+0.1
MOVZ	**Moawhango**	**0.39**	**119**	P	Pg	07 44 01.0	-0.2
VRZ	**Vera Road**	**0.44**	**282**	P	Pb	07 44 02.4	-0.1
RITZ	**Rihia Road**	**0.49**	**61**	P	Pn	07 44 04.8	-0.7
RATZ	**Rangitukua**	**0.50**	**46**	P	Pn	07 44 05.2	-0.4
WATZ	**Wairara**	**0.60**	**33**	P	Pb	07 44 05.6	+0.3
BHHZ	**Black Hill Sta**	**0.64**	**115**	P	Pg	07 44 05.4	-0.4
HIZ	**Hauiti**	**0.79**	**333**	P	Pg	07 44 08.5	0.0
TLZ	**Tolley Road**	**0.90**	**11**	P	Pb	07 44 09.9	-0.5
PREZ	**Palmer Road**	**0.91**	**262**	P	Pb	07 44 10.5	0.0
KRHZ	**Kereru**	**0.92**	**118**	P	Pb	07 44 10.7	-0.1
PNHZ	**Pukenui**	**0.98**	**136**	P	Pb	07 44 11.5	-0.2
TSZ	**Takapari Road**	**0.98**	**149**	P	Pb	07 44 11.4	-0.3
DVHZ	**Dannevirke**	**1.26**	**149**	P	Pg	07 44 17.1	-0.5
MRZ	**Mangatainoka R**	**1.46**	**172**	P	Pb	07 44 19.8	-0.1
TOZ	**Tahuroa Road**	**1.49**	**6**	P	Pn	07 44 19.4	+0.2
OGWZ	**Otaki Gorge**	**1.60**	**184**	P	Pn	07 44 21.5	+0.7
HOWZ	**Holdsworth Sta**	**1.69**	**175**	P	Pn	07 44 22.0	+0.1

IDC 07 07:45:55.8±3.2, 30.20S×177.45W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.5/2, Error ellipse: s-maj=66.6km s-min=33.7km az=103.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**336**	Pn	Pn	07 46 17.6	+0.1
RAO	155nm,0.3s,baz=108,slow=21,SNR=12			Sn	Sg	07 46 26.9	-2.0
ASAR	**Alice Springs** 549nm,0.3s,baz=90,slow=20,SNR=40	**43.60**	**266**	P	P	07 54 02.1	+0.1
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=100,slow=7.5,SNR=5.9	**44.57**	**272**	P	P	07 54 09.5	-0.4
FINES	**FINESS Array B** 1.4nm,0.7s,baz=45,slow=3.0,SNR=7.0	**145.12**	**340**	PKPbc	PKPbc	08 05 33.1	-0.9

*MAN **07** 08:03:15.0, 13.55N×120.80E, h22km, mb4.9, ML3.8, MS3.8*
MAN Intensity IV - Puerto Galera; Calapan City Oriental Mindoro; Abra de Ilog Occidental Mindoro; San Teodoro Oriental Mindoro; Intensity III - Lobo Batangas; Pola and Naujan Oriental Mindoro; Intensity II - tagaytay City; Intensity I - Mulanay and Gumaca Quezon.
*IDC **07** 08:03:16.7±2.6, 13.75N×121.36E, h26km±19km, mb3.8/9, mb1 3.9/9, mb1mx3.7/36, mbtmp3.9/9, MS3.7/23, Ms1 3.7/23, ms1mx3.5/50, Error ellipse: s-maj=32.0km s-min=13.8km az=75.0*
*NEIC **07** 08:03:17.7±2.7, 13.73N±0.07×121.08E±0.10, h29km±6km, mb4.7/23, Error ellipse: s-maj=13.8km s-min=9.5km az=78.0*
*DJA **07** 08:03:22.3±2.3, 14°N±8°×12°1E±1°0, h58km±22km, M4.8/12, mb4.8/12, mB5.3/2, Mw(mB)4.7/2*

ISC 07 08:03:15.8±0.9, 13.62N±0.03×120.90E±0.03, h10km±6km, n85, σ2s43/77, mb4.5/22, MS3.7/20, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.13**	**157**	↑eP	**Pg**	**08 03 17.2**	**-1.6**
PGP				eS	**Sg**	**08 03 23.0**	**+2.0**
TGY	**Tagaytay City** 3μm,0.3s,baz=264,slow=1.4,SNR=61	**0.48**	**4**	Pg	**Pb**	**08 03 27.2**	**+0.9**
TGY				Lg	Lg	08 03 36.0	
TGY	**Tagaytay City** 10μm,0.3s,baz=73,slow=19,SNR=88	**0.48**	**4**	↑eP	**Pb**	**08 03 27.3**	**+0.9**
TGY				i S	**Sb**	**08 03 34.4**	**+0.9**
LUBP	**Lubang**	**0.65**	**280**	eP	**Pg**	**08 03 25.4**	**-3.0**
LUBP				eS	**Sg**	**08 03 34.4**	**-2.5**
LQP	**Lukban**	**0.79**	**51**	i P	**Pb**	**08 03 31.9**	**+0.2**
LQP				i S	**Sg**	**08 03 40.6**	**-0.8**
BOAC	**Boac**	**0.93**	**100**	eP	**Pg**	**08 03 32.3**	**-1.4**
BOAC				eS	**Sn**	**08 03 47.6**	**-0.5**
SJMP	**San Jose**	**1.17**	**170**	eP	**Pg**	**08 03 36.0**	**-2.2**
SJMP				eS	**Sb**	**08 03 52.9**	**-0.3**
GQP	**Guinayangan**	**1.53**	**79**	↑eP	**Pn**	**08 03 43.0**	**-0.1**
GQP				eS	**Sb**	**08 04 03.7**	**+0.2**
OTRP	**Odiongan**	**1.66**	**139**	eP	**Pn**	**08 03 41.0**	**-3.8**
OTRP				eS	**Sn**	**08 04 02.2**	**-4.0**
BUSP	**Coron**	**1.75**	**203**	eP	**Pn**	**08 03 43.3**	**-2.8**
BUSP				eS	**Sn**	**08 04 08.9**	**+0.5**
BALP	**Baler**	**2.21**	**17**	eP	**Pn**	**08 03 53.7**	**+1.2**
BALP				eS	**Sg**	**08 04 28.3**	**+1.5**
SMPP	**San Manuel, Pa**	**2.53**	**355**	eP	**Pn**	**08 03 56.6**	**-0.2**
SMPP				eS	**Sn**	**08 04 27.5**	**-0.2**
CUYO	**Cuyo Island**	**2.75**	**178**	eP	**Pn**	**08 03 57.1**	**-2.8**
CAUP	**Cauayan**	**3.42**	**15**	eP	**Pn**	**08 04 11.0**	**+1.8**
CAUP				eS	**Sg**	**08 05 06.9**	**+1.1**
CNOP	**Candoni, Negro**	**4.13**	**156**	eP	**Pn**	**08 04 17.4**	**-1.5**
CNOP				eS	**Sn**	**08 04 58.9**	**-8.5**
DAV	**Davao City (W)** 7.37nm,18.7s,baz=9.0,slow=44	**7.97**	**144**	LR	LR	08 08 59.6	
MYLDM	**Lahad Datu**	**8.71**	**196**	Pn	**Pn**	**08 05 24.0**	**+2.1**
TWG	**Pinlang**	**9.15**	**1**	Pn	**Pn**	**08 05 23.9**	**-4.0**
SBUM	**Sibu**	**14.03**	**218**	P	**P**	**08 06 46.5**	**+3.8**
BKB	**Balikpapan** 139nm,0.9s	**15.31**	**195**	P	**P**	**08 07 00.7**	**+3.9**
SPSI	**Sidrap Palu** 15nm,1.0s	**17.50**	**184**	P	P	08 07 28.8	+7.6
SIJI	**Sorong** comp=Z,165nm,20.7s,baz=222,slow=39	**17.68**	**144**	LR	LR	08 14 42.0	
KAPI	**Kappang** comp=Z,167nm,21.2s,baz=350,slow=36	**18.55**	**184**	LR	LR	08 14 31.4	
MSAI	**Masohi**	**18.64**	**154**	P	**Pn**	**08 07 38.0**	**+3.9**
FAKI	**Fak Fak** 2um38nm,1.1s	**19.92**	**145**	P	**Pn**	**08 07 51.3**	**+1.9**
CMAR	**Chiang Mai Arr** 2.3nm,0.6s,baz=97,slow=9.0,SNR=9.2	**21.64**	**286**	P	**P**	**08 08 08.7**	**+2.3**
CMAR				LR	LR	08 16 04.9	
CMAR	**Chiang Mai Arr** comp=Z,110nm,18.2s,baz=118,slow=35	**21.64**	**286**	P	**P**	**08 08 07.1**	**+0.7**
PLAI	**Plampang** 75nm,0.9s	**22.52**	**188**	P	**P**	**08 08 22.4**	**+6.6**
GUMO	**Guam** comp=Z,78nm,18.5s,baz=255,slow=41	**23.29**	**87**	LR	LR	08 18 44.2	
SOEI	**Soe** 34nm,2.2s	**23.46**	**172**	P	**P**	**08 08 31.2**	**+5.5**
SOEI				IAmb	IAmb	08 08 45.3	
SOEI	**Soe** comp=Z,27nm,1.0s	**23.46**	**172**	P	**P**	**08 08 28.1**	**+2.4**
BATI	**Baumata** comp=Z,68nm,0.7s,baz=351,slow=1.9,SNR=7.6	**23.83**	**173**	P	**P**	**08 08 28.5**	**-0.6**
BATI	**Baumata** comp=Z,58nm,0.9s	**23.83**	**173**	P	**P**	**08 08 33.3**	**+4.1**
JCJ	**Chichijima** comp=Z,138nm,20.3s,baz=228,slow=34	**23.99**	**53**	LR	LR	08 16 33.1	
PSI	**Prapat** comp=Z,152nm,21.4s,baz=273,slow=34	**24.23**	**246**	LR	LR	08 17 20.1	
KSAR	**Wonju Array Be**	**24.53**	**13**	P	**P**	**08 08 35.2**	**-0.3**
KSRS	**Korea Array** comp=Z,0.9nm,0.8s,baz=187,slow=9.3,SNR=4.2	**24.55**	**14**	P	**P**	**08 08 33.1**	**-2.5**
JAY	**Jayapura** comp=Z,93nm,18.1s,baz=354,slow=42	**25.35**	**128**	LR	LR	08 20 53.8	
JHJ	**Hachijo jima 2** comp=Z,107nm,19.9s,baz=319,slow=33	**25.94**	**38**	LR	LR	08 17 17.8	
SHL	**Shillong** comp=Z,12nm,0.8s	**29.74**	**298**	P	**P**	**08 09 21.9**	**-0.7**
SHL				IAmb	IAmb	08 09 23.3	
LSA	**Lhasa**	**31.82**	**305**	P	**P**	**08 09 43.1**	**+1.8**
USRK	**Ussuriysk Ar.** comp=Z,2.4nm,0.9s,baz=128,slow=9.3,SNR=2.9	**31.92**	**15**	P	**P**	**08 09 38.6**	**-2.8**
USRK	**Ussuriysk Ar.**	**31.92**	**15**	P	**P**	**08 09 39.2**	**-2.2**
WB0	**Warramunga Arr**	**35.73**	**158**	P	**P**	**08 10 12.7**	**-2.2**
WRAB	**Tennant Creek**	**35.87**	**158**	P	**P**	**08 10 15.5**	**-0.5**
WRAB				IAmb	IAmb	08 10 21.8	
WRA	**Warramunga Arr** comp=Z,1.9nm,0.4s,baz=333,slow=10,SNR=28	**35.88**	**158**	P	**P**	**08 10 12.8**	**-3.3**
WRA				LR	LR	08 27 17.5	
WRA	**Warramunga Arr** comp=Z,55nm,18.7s,baz=330,slow=40	**35.88**	**158**	P	**P**	**08 10 13.7**	**-2.3**
WB2	**Warramunga Arr**	**35.88**	**158**	P	**P**	**08 10 13.9**	**-2.2**
WR0	**Warramunga Arr**	**35.97**	**158**	P	**P**	**08 10 15.9**	**-0.9**
WR0				IAmb	IAmb	08 10 23.7	
SONM	**Songino Array** comp=Z,8.8nm,1.1s	**36.19**	**343**	P	**P**	**08 10 18.2**	**-0.4**
SONM	comp=Z,1.4nm,0.6s,baz=164,slow=10,SNR=8.1			LR	LR	08 26 14.8	
SONM	**Songino Array** comp=Z,254nm,20.2s,baz=150,slow=38	**36.19**	**343**	P	**P**	**08 10 19.3**	**+0.7**
AS31	**Alice Springs**	**39.18**	**161**	P	**P**	**08 10 44.6**	**+0.6**
ASAR	**Alice Springs** comp=Z,2.1nm,0.7s,baz=327,slow=7.3,SNR=19	**39.18**	**161**	P	**P**	**08 10 43.1**	**-0.9**
ASAR	**Alice Springs**	**39.18**	**161**	P	**P**	**08 10 43.9**	**-0.1**
TLY	**Talaya** comp=Z,185nm,20.5s,baz=142,slow=38	**40.43**	**343**	LR	LR	08 29 13.6	
MORW	**Morawa**	**42.70**	**186**	P	**P**	**08 11 14.4**	**+1.5**
MORW	comp=Z,12nm,1.1s			IAmb	IAmb	08 11 19.6	
MK31	**Makanchi Array**	**46.21**	**324**	P	**P**	**08 11 40.6**	**-0.4**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.9s,baz=123,slow=8.8,SNR=9.0	**46.21**	**324**	P	**P**	**08 11 40.9**	**-0.1**
MKAR				LR	LR	08 32 23.9	
MKAR	**Makanchi Array** comp=Z,197nm,18.9s,baz=110,slow=38	**46.21**	**324**	P	**P**	**08 11 40.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**46.41**	**184**	P	**P**	**08 11 46.9**	**+4.3**
PETK	**Petropavlovsk-** comp=Z,26nm,19.2s,baz=214,slow=40	**49.00**	**29**	LR	LR	08 35 26.3	
ZALV	**Zalesovo Beam** comp=Z,105nm,21.3s,baz=123,slow=37	**49.22**	**333**	LR	LR	08 33 51.2	
STKA	**Stephens Creek** comp=Z,5.7nm,1.0s,baz=318,slow=8.5,SNR=4.9	**49.40**	**157**	P	**P**	**08 12 05.7**	**-0.1**
STKA	**Stephens Creek**	**49.40**	**157**	P	**P**	**08 12 06.5**	**+0.8**
KURK	**Kurchatov**	**50.37**	**326**	P	**P**	**08 12 12.7**	**-0.2**
KURK	comp=Z,14nm,1.1s			IAmb	IAmb	08 12 13.7	
KK31	**Karatay Array**	**52.17**	**314**	P	**P**	**08 12 26.2**	**-0.5**
KK31	comp=Z,3.2nm,0.9s			IAmb	IAmb	08 12 27.1	
KKAR	**Karatay Array**	**52.17**	**314**	P	**P**	**08 12 26.2**	**-0.5**
KKAR	**Karatay Array**	**52.17**	**314**	P	**P**	**08 12 26.3**	**-0.3**
KKAR	comp=Z,3.2nm,0.9s			IAmb	IAmb	08 12 27.1	
BRVK	**Borovoye**	**56.02**	**326**	P	**P**	**08 12 53.7**	**-0.9**
BRVK	comp=Z,8.5nm,0.9s			IAmb	IAmb	08 12 55.1	
NRIK	**Noril'sk** comp=Z,205nm,19.2s,baz=195,slow=38	**59.54**	**347**	LR	LR	08 41 13.1	
GEYT	**Alibeck** comp=Z,47nm,18.2s,baz=340,slow=38	**60.34**	**306**	LR	LR	08 42 13.5	
ABKAR	**Akbulak array**	**60.92**	**319**	P	**P**	**08 13 27.6**	**-1.2**
KBZ	**Khabaz** comp=Z,94nm,18.1s,baz=64,slow=40	**72.08**	**312**	LR	LR	08 51 54.9	
IMAR	**Indian Mountai**	**75.77**	**25**	P	**P**	**08 15 01.8**	**+0.2**
BPAW	**Bear Paw Mtn.**	**77.04**	**27**	P	**P**	**08 15 09.1**	**+0.3**
PMR	**Palmer**	**78.13**	**29**	P	**P**	**08 15 14.2**	**-0.6**
PMR	comp=Z,11nm,1.1s			IAmb	IAmb	08 15 20.9	
WRH	**Wood River Hil**	**78.26**	**26**	P	**P**	**08 15 16.0**	**+0.5**
WRH	comp=Z,7.8nm,1.4s			IAmb	IAmb	08 15 21.9	
ILAR	**Eielson Array** comp=Z,0.3nm,0.9s,baz=236,slow=7.5,SNR=2.9	**78.74**	**26**	P	**P**	08 15 13.0	-5.2
ARCES	**ARCESS Array B** comp=Z,60nm,19.3s,baz=200,slow=39	**79.28**	**339**	LR	LR	08 54 58.2	
BRTR	**Keskin Array B** comp=Z,11nm,21.0s,baz=100,slow=37	**79.36**	**308**	LR	LR	08 52 58.1	
RIDG	**Independent Ri** 1.3nm,1.0s	**79.78**	**27**	P	**P**	**08 15 20.9**	**-3.1**
RIDG				IAmb	IAmb	08 15 30.9	
ANTO	**Ankara**	**79.97**	**309**	P	**P**	**08 15 22.6**	**-3.0**
FINES	**FINESS Array B** comp=Z,101nm,18.0s,baz=40,slow=38	**80.45**	**331**	LR	LR	08 54 43.5	
AKASG	**Malin Array Be** comp=Z,69nm,18.2s,baz=80,slow=39	**80.65**	**320**	LR	LR	08 55 19.9	
NOA	**NORSAR Array B** comp=Z,111nm,19.9s,baz=65,slow=38	**87.42**	**333**	LR	LR	08 58 29.5	

WEL 07 08:21:32.9, 40.6S±0.7×176E±°, h28km±2km, M3.6/19, ML4.0/19, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=89.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.08**	**47**	P	Pb	08 21 38.1	+0.3
TIWZ	**Tintock**	**0.17**	**182**	P	Pn	08 21 39.1	-0.5
POWZ	**Post Office Ro**	**0.24**	**337**	P	Pb	08 21 39.7	+0.3
MRZ	**Mangatainoka R**	**0.24**	**258**	P	Pb	08 21 39.9	+0.5
DVHZ	**Dannevirke**	**0.38**	**34**	P	Pb	08 21 41.2	-0.1
DVHZ				S	Sb	08 21 47.1	+0.1
CPWZ	**Castlepoint**	**0.38**	**142**	P	Pn	08 21 42.6	+0.1
CPWZ				S	Sn	08 21 51.3	+2.4
HOWZ	**Holdsworth Sta**	**0.41**	**225**	P	Pn	08 21 42.4	-0.5
HOWZ				S	Sn	08 21 49.3	-0.3
ANWZ	**Angora Road**	**0.47**	**71**	P	Pb	08 21 43.2	+0.4
ANWZ				S	Sn	08 21 50.9	-0.2
TMWZ	**Te Maipa**	**0.50**	**180**	P	Pn	08 21 44.0	-0.1
TMWZ				S	Sn	08 21 52.7	+0.8
TSZ	**Takapari Road**	**0.55**	**5**	P	Pb	08 21 44.2	+0.1
TSZ				S	Sb	08 21 52.1	+0.3
OGWZ	**Otaki Gorge**	**0.59**	**249**	P	Pn	08 21 45.4	+0.1
OHWZ	**Ohakea**	**0.60**	**312**	P	Pn	08 21 46.2	+0.7
OHWZ				S	Sn	08 21 56.0	+1.8
PRHZ	**Porangahau**	**0.66**	**59**	P	Pb	08 21 46.0	+0.1
PRHZ				S	Sn	08 21 56.5	+0.6
WPHZ	**Waipukurau**	**0.69**	**38**	P	Pn	08 21 46.7	0.0
WPHZ				S	Sn	08 21 57.5	+0.9
PNHZ	**Pukenui**	**0.73**	**19**	P	Pn	08 21 47.3	-0.1
PNHZ				S	Sn	08 21 58.2	+0.5
KIW	**Kapiti Island**	**0.79**	**251**	P	Pn	08 21 48.8	+0.7
KIW				S	Sn	08 21 59.7	+0.7
CAW	**Cannon Point**	**0.80**	**231**	P	Pn	08 21 48.5	+0.2
TRWZ	**Traveller**	**0.80**	**191**	P	Pb	08 21 48.1	-0.2
TRWZ				S	Sn	08 21 59.3	-0.1
PAWZ	**Paruwai Farm**	**0.85**	**204**	P	Pn	08 21 48.8	-0.2
MSWZ	**Moikau Station**	**0.94**	**211**	P	Pn	08 21 49.9	-0.4
PXZ	**Pawanui**	**0.94**	**52**	P	Pn	08 21 49.7	-0.5
KRHZ	**Kereru**	**1.03**	**21**	P	Pn	08 21 51.6	+0.1
KRHZ				S	Sb	08 22 06.3	+0.9
PLWZ	**Palliser**	**1.07**	**206**	P	Pn	08 21 51.5	-0.6
WEL	**Wellington**	**1.08**	**231**	P	Pn	08 21 52.3	+0.1
BHW	**Baring Head**	**1.11**	**224**	P	Pn	08 21 52.4	-0.2
KAHZ	**Kahuranaki**	**1.11**	**43**	P	Pn	08 21 52.4	-0.2
BHHZ	**Black Hill Sta**	**1.13**	**7**	P	Pb	08 21 53.4	-0.4
MOVZ	**Moawhango**	**1.21**	**355**	P	Pb	08 21 54.9	-0.3
KWHZ	**Kaweka Forest**	**1.25**	**19**	P	Pn	08 21 54.9	+0.

MHGZ	**Mahia Peninsul**	**2.13**	**47**	P		Pn	08 22 05.3	-1.2
PRRZ	**Plateau Road**	**2.14**	**11**	P		Pb	08 22 13.8	+2.8
HIZ	**Hauiti**	**2.24**	**339**	P		Pb	08 22 10.8	-1.9
PRGZ	**Paritu Road**	**2.28**	**43**	P		Pn	08 22 07.3	-1.3
TLZ	**Tolley Road**	**2.29**	**353**	P		Pb	08 22 12.1	-1.5
RRRZ	**Republican Roa**	**2.32**	**12**	P		Pb	08 22 13.3	-0.7
RIGZ	**Rimuhau**	**2.39**	**38**	P		Pn	08 22 08.7	-1.4
RAGZ	**Rawiri**	**2.42**	**30**	P		Pn	08 22 09.4	-1.3
TARZ	**Mount Tarawera**	**2.42**	**12**	P		Pn	08 22 11.9	+1.2
KHZ	**Kahutara**	**2.52**	**224**	P		Pn	08 22 10.5	-1.5
THZ	**Tophouse**	**2.53**	**242**	P		Pn	08 22 11.7	-0.5
URZ	**Urewera**	**2.53**	**22**	P		Pn	08 22 10.6	-1.5
QRZ	**Quartz Range**	**2.56**	**264**	P		Pn	08 22 12.8	+0.2
MWZ	**Matawai**	**2.60**	**30**	P		Pn	08 22 11.5	-1.6
TKGZ	**Te Karaka**	**2.64**	**36**	P		Pn	08 22 12.3	-1.3
TOZ	**Tahuroa Road**	**2.89**	**354**	P		Pb	08 22 21.9	-1.9
TWGZ	**Tauwhareparae**	**2.92**	**34**	P		Pn	08 22 16.9	-0.6
RUGZ	**Raukumara Rang**	**2.98**	**28**	P		Pn	08 22 16.9	-1.5
PUZ	**Puketiti**	**3.13**	**37**	P		Pn	08 22 18.7	-1.6
GVZ	**Greta Valley S**	**3.18**	**221**	P		Pn	08 22 21.0	0.0
HAZ	**Te Kaha**	**3.21**	**28**	P		Pn	08 22 20.3	-1.1
DSZ	**Denniston Nort**	**3.29**	**248**	P		Pn	08 22 22.7	+0.1
WMGZ	**Waiomatatini S**	**3.41**	**36**	P		Pn	08 22 22.6	-1.5
LTZ	**Lake Taylor**	**3.47**	**230**	P		Pn	08 22 24.1	-1.0
OKCZ	**Okains Bay**	**3.76**	**213**	P		Pn	08 22 28.4	-0.6
MQZ	**McQueen's Vall**	**3.92**	**217**	P		Pn	08 22 29.6	-1.5
AKCZ	**Akaroa Harbour**	**3.94**	**213**	P		Pn	08 22 33.0	+1.5
INZ	**Inchbonnie**	**3.94**	**236**	P		Pn	08 22 30.0	-1.5
CTZ	**Chatham Island**	**6.38**	**122**	P		Pn	08 23 04.2	-0.7

*NEIC **07** 08:29:10.1±1.9,6°.82S±0°.07×155°.34E±0°.05,h35km±1km, mb4.6/28, Error ellipse: s-maj=12.9km s-min=7.4km az=333.0*
*IDC **07** 08:29:15.6±3.1,6°.90S×155°.31E,h84km±26km,mb3.8/12, mb1 4.0/15,mb1mx3.8/36,mbtmp4.1/15,MS3.3/6, Ms1 3.3/6,ms1mx2.9/31,Error ellipse: s-maj=21.2km s-min=16.0km az=103.0*

ISC 07 08:29:11.7±0.5,6°.85S±0°.07×155°.40E±0°.07,h50km,n60, σ1s00/62,mb4.4/26,MS3.2/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.17**	**309**	Pn	**Pn**	**08 30 15.5**	**+2.7**
KRVT	**Keravat (AS076**	**4.21**	**307**	P	Pn	08 30 17.8	+4.4
	6.5nm,0.3s,baz=207,slow=4.5,SNR=5.0						
KRVT				S	Sn	08 31 13.9	+13
	14nm,0.3s,baz=108,slow=20,SNR=4.1						
KRVT				LR	LR	08 31 22.0	
	comp=Z,26nm,21.5s,baz=81,slow=30						
HNR	**Honiara**	**5.18**	**120**	LR	LR	08 32 49.6	
	comp=Z,230nm,19.1s,baz=280,slow=41						
HNR	**Honiara**	**5.18**	**120**	Pn	**Pn**	**08 30 27.3**	**+0.6**
PMG	**Port Moresby**	**8.55**	**252**	P	**Pn**	**08 31 14.0**	**+1.2**
	2.0nm,0.3s,baz=24,slow=1.7,SNR=3.8						
PMG				S	**Sn**	**08 32 49.9**	**+1.9**
	1.1nm,0.3s,baz=93,slow=18,SNR=3.0						
PMG	**Port Moresby**	**8.55**	**252**	Pn	**Pn**	**08 31 14.5**	**+1.6**
PATS	**Pohnpei**	**13.90**	**12**	Pn	**Pn**	**08 32 25.8**	**-0.4**
COEN	**Coen**	**13.94**	**239**	Pn	**Pn**	**08 32 27.4**	**+0.7**
DZM	**Mont Dzumac**	**18.51**	**146**	P	**Pn**	**08 33 25.8**	**+1.2**
	0.5nm,0.3s,baz=27,slow=2.3,SNR=5.3						
DZM				LR	LR	08 39 18.6	
	comp=Z,88nm,18.9s,baz=202,slow=33						
DZM	**Mont Dzumac**	**18.51**	**146**	P	**Pn**	**08 33 25.8**	**+1.2**
WR0	**Warramunga Arr**	**24.07**	**235**	P	**P**	**08 34 22.3**	**-0.3**
WR0				IAmb	IAmb	08 34 33.5	
	comp=Z,9.5nm,0.9s						
WB0	**Warramunga Arr**	**24.10**	**236**	P	**P**	**08 34 22.7**	**-0.2**
WB0				IAmb	IAmb	08 34 34.1	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**24.22**	**235**	P	**P**	**08 34 23.9**	**0.0**
WRAB				IAmb	IAmb	08 34 24.5	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**24.22**	**235**	P	**P**	**08 34 23.4**	**-0.6**
WRA	**Warramunga Arr**	**24.23**	**235**	P	**P**	**08 34 23.7**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=60,slow=9.4,SNR=53						
WRA				PcP	**PcP**	**08 38 03.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=64,slow=2.6,SNR=11						
WRA				LR	LR	08 43 56.5	
	comp=Z,48nm,18.8s,baz=310,slow=36						
WRA	**Warramunga Arr**	**24.23**	**235**	P	**P**	**08 34 23.0**	**-1.1**
ANA2	**Anatahan**	**24.96**	**337**	P	**P**	**08 34 29.2**	**-1.5**
AS31	**Alice Springs**	**26.57**	**229**	P	**P**	**08 34 44.3**	**-1.0**
ASAR	**Alice Springs**	**26.57**	**229**	P	**P**	**08 34 44.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=63,slow=9.2,SNR=32						
ASAR				PcP	**PcP**	**08 38 08.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=68,slow=2.4,SNR=8.4						
ASAR				LR	LR	08 43 53.2	
	comp=Z,70nm,18.3s,baz=102,slow=33						
ASAR	**Alice Springs**	**26.57**	**229**	P	**P**	**08 34 43.7**	**-1.6**
STKA	**Stephens Creek**	**28.04**	**206**	PcP	**PcP**	**08 38 12.0**	**-0.2**
	comp=Z,3.5nm,1.2s,baz=126,slow=8.7,SNR=3.1						
STKA				LR	LR	08 45 57.7	
	comp=Z,66nm,19.1s,baz=26,slow=36						
STKA	**Stephens Creek**	**28.04**	**206**	P	**P**	**08 34 58.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**31.08**	**246**	P	**P**	**08 35 24.8**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=129,slow=8.3,SNR=3.7						
FITZ	**Fitzroy Crossi**	**31.08**	**246**	P	**P**	**08 35 24.9**	**-0.5**
FITZ				IAmb	IAmb	08 35 37.2	
	comp=Z,6.5nm,1.2s						
BATI	**Baumata**	**31.56**	**262**	LR	LR	08 48 02.5	
	comp=Z,79nm,21.5s,baz=198,slow=36						
FORT	**Forrest**	**34.97**	**224**	P	**P**	**08 35 58.2**	**-1.0**
SBUM	**Sibu**	**44.08**	**281**	P	**P**	**08 37 14.1**	**-1.3**
SBUM				IAmb	IAmb	08 37 17.8	
	comp=Z,9.1nm,1.1s						
PET	**Petropavlovsk**	**59.71**	**2**	P	**P**	**08 39 13.0**	**+2.1**
PEA0B	**Petropavlovsk-**	**59.76**	**2**	P	**P**	**08 39 12.7**	**+1.4**
PETK	**Petropavlovsk-**	**59.76**	**2**	P	**P**	**08 39 11.7**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=153,slow=7.6,SNR=4.9						
PETK	**Petropavlovsk-**	**59.76**	**2**	P	**P**	**08 39 12.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**61.09**	**295**	P	**P**	**08 39 21.9**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=125,slow=5.4,SNR=21						
SONM	**Songino Array**	**69.44**	**327**	P	**P**	**08 40 14.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=140,slow=6.0,SNR=4.5						
VNDA	**Vanda**	**70.71**	**179**	P	**P**	**08 40 22.2**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=331,slow=6.5,SNR=6.1						
VNDA	**Vanda**	**70.71**	**179**	P	**P**	**08 40 22.7**	**+0.7**
CNPM	**China Poot**	**78.46**	**25**	P	**P**	**08 41 07.9**	**+0.7**
SUA	**Susitna One**	**79.79**	**23**	P	**P**	**08 41 14.0**	**-0.4**
SUA				IAmb	IAmb	08 41 31.5	
	comp=Z,16nm,1.2s						
PPLA	**Purkeypile**	**80.09**	**22**	P	**P**	**08 41 16.2**	**+0.1**
PPLA				IAmb	IAmb	08 41 29.3	
	comp=Z,14nm,1.3s						
RDOG	**Red Dog Mine**	**80.28**	**15**	P	**P**	**08 41 17.8**	**+0.9**
RDOG				IAmb	IAmb	08 41 34.1	
	comp=Z,7.2nm,1.1s						
PMR	**Palmer**	**80.50**	**24**	P	**P**	**08 41 17.9**	**-0.2**
PMR				IAmb	IAmb	08 41 25.5	
	comp=Z,10nm,1.3s						
KTH	**Kantishna Hill**	**80.94**	**21**	P	**P**	**08 41 19.8**	**-0.8**
KTH				IAmb	IAmb	08 41 21.6	
	comp=Z,5.8nm,1.0s						
TRF	**Thorofare Moun**	**81.11**	**22**	P	**P**	**08 41 21.0**	**-0.6**
TRF				IAmb	IAmb	08 41 24.1	
	comp=Z,8.4nm,1.4s						
IMAR	**Indian Mountai**	**81.46**	**19**	P	**P**	**08 41 23.4**	**+0.2**
BALM	**Baldy**	**83.02**	**26**	P	**P**	**08 41 31.7**	**+0.1**
BALM				IAmb	IAmb	08 41 38.4	
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**83.09**	**21**	P	**P**	**08 41 30.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=256,slow=4.6,SNR=7.1						
ILAR	**Eielson Array**	**83.09**	**21**	P	**P**	**08 41 31.5**	**-0.2**
QSPA	**South Pole Qui**	**83.12**	**180**	P	**P**	**08 41 32.0**	**-0.1**
QSPA				IAmb	IAmb	08 41 32.7	
	comp=Z,3.9nm,0.8s						
TABL	**Table Mountain**	**83.28**	**27**	P	**P**	**08 41 33.8**	**+0.7**
CTGM	**Chitina Glacie**	**83.43**	**26**	P	**P**	**08 41 34.7**	**+1.0**
CTGM				IAmb	IAmb	08 41 47.7	
	comp=Z,12nm,1.4s						
MKAR	**Makanchi Array**	**83.57**	**319**	P	**P**	**08 41 34.0**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=98,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**83.57**	**319**	P	**P**	**08 41 34.2**	**-0.4**
TOLK	**Toolik Lake Re**	**84.36**	**18**	P	**P**	**08 41 38.7**	**+0.5**
TOLK				IAmb	IAmb	08 41 39.5	
	comp=Z,6.7nm,1.0s						
MAW	**Mawson**	**84.68**	**203**	P	**P**	**08 41 39.0**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=96,slow=6.8,SNR=6.6						
MAW	**Mawson**	**84.68**	**203**	P	**P**	**08 41 39.8**	**0.0**
NVAR	**Mina Array Bea**	**91.31**	**52**	P	**P**	**08 42 13.8**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=250,slow=5.4,SNR=3.9						
NVAR	**Mina Array Bea**	**91.31**	**52**	P	**P**	**08 42 13.5**	**+1.0**
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**08 42 33.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=268,slow=3.8,SNR=6.4						
BDFB	**Brasilia**	**147.79**	**134**	PKPbc	**PKPbc**	**08 48 51.7**	**-0.6**
	comp=Z,5.1nm,0.6s,baz=230,slow=0.6,SNR=9.3						
TORD	**Torodi Ar. Bea**	**153.38**	**286**	PKPbc	**PKPbc**	**08 49 04.2**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=47,slow=2.1,SNR=6.2						
TORD				PKPab	**PKPab**	**08 49 16.1**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=61,slow=2.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**153.38**	**286**		**PKPbc**	**08 49 03.9**	**-1.6**
TORD					**sPKPdf**	**08 49 16.9**	**-1.4**

*VAO **07** 08:37:14.8±0.6,24°.15S×67°.59W,h233km±9km,mb3.9*
*NEIC **07** 08:37:14.4±1.5,24°.14S±0°.07×67°.2W±0°.1,h181km±11km, mb4.6/3,Error ellipse: s-maj=20.0km s-min=10.3km az=101.0*
*IDC **07** 08:37:14.4±1.8,24°.08S×67°.02W,h165km±17km,mb3.8/2, mb1 3.7/7,mb1mx3.4/25,mbtmp4.1/7,Error ellipse: s-maj=35.5km s-min=19.8km az=15.0*
*GUC **07** 08:37:16.1±0.6,24°.09S×67°.47W,h208km±7km,ML4.1*

ISC 07 08:37:13.6±0.7,24°.13S±0°.04×67°.23W±0°.05,h191km±8km, n73,σ1s38/92,12C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.68**	**111**	⇓*iP*	**Pn**	**08 37 49.0**	**+0.6**
SLA				*i* S	**S**	**08 38 14.2**	**-1.0**
LVC	**Limon Verde**	**2.16**	**314**	P	**Pn**	**08 37 55.0**	**+1.6**
	21nm,0.3s,baz=129,slow=7.6,SNR=246						
LVC				S	**S**	**08 38 24.5**	**0.0**
	37nm,0.3s,baz=63,slow=21,SNR=23						
LVC	**Limon Verde**	**2.16**	**314**	⇓*iP*	**Pn**	**08 37 55.0**	**+1.6**
LVC				*i* S	**S**	**08 38 24.7**	**+0.3**
LVC	**Limon Verde**	**2.16**	**314**	*eP*	**Pn**	**08 37 55.1**	**+1.6**
PB15	**IPOC Station P**	**2.25**	**294**	⇑*eP*	**Pn**	**08 37 55.9**	**+1.6**
PB15				*i* S	**S**	**08 38 25.9**	**0.0**
PB15	**IPOC Station P**	**2.25**	**294**	Pn	**Pn**	**08 37 56.1**	**+1.8**
GO02	**Mina Guanaco**	**2.38**	**244**	⇑*iP*	**Pn**	**08 37 57.5**	**+1.7**
GO02				*eS*	**S**	**08 38 29.9**	**+1.2**
GO02				IAML		08 38 31.5	
	comp=N,1μm,0.4s						
GO02	**Mina Guanaco**	**2.38**	**244**	Pn	**Pn**	**08 37 57.7**	**+1.8**
PB06	**IPOC Station P**	**2.57**	**303**	⇑*iP*	**Pn**	**08 37 59.6**	**+1.7**
PB06				*i* S	**S**	**08 38 32.3**	**-0.1**
PB06				IAML		08 38 34.4	
	comp=E,499nm,0.2s						
PB06	**IPOC Station P**	**2.57**	**303**	Pn	**Pn**	**08 37 59.7**	**+1.7**
PB14	**IPOC Station P**	**2.94**	**260**	⇑*iP*	**Pn**	**08 38 03.5**	**+1.3**
PB14				*i* S	**S**	**08 38 39.4**	**-0.7**
PB14				IAML		08 38 40.8	
	comp=E,179nm,0.5s						
PB14	**IPOC Station P**	**2.94**	**260**	Pn	**Pn**	**08 38 03.5**	**+1.3**
PB09	**IPOC Station P**	**2.97**	**321**	⇑*iP*	**Pn**	**08 38 04.3**	**+1.7**
PB09				*i* S	**S**	**08 38 41.0**	**+0.3**
PB09				IAML		08 38 43.7	
	comp=N,277nm,0.4s						
PB09	**IPOC Station P**	**2.97**	**321**	Pn	**Pn**	**08 38 04.6**	**+2.0**
PB05	**IPOC Station P**	**3.01**	**294**	⇑*iP*	**Pn**	**08 38 04.2**	**+1.2**
PB05				*i* S	**S**	**08 38 40.4**	**-1.0**
PB05				IAML		08 38 47.1	
	comp=E,125nm,0.4s						
PB10	**IPOC Station P**	**3.10**	**281**	⇑*iP*	**Pn**	**08 38 05.4**	**+1.4**
PB10				*i* S	**S**	**08 38 42.0**	**-1.3**
PB10				IAML		08 38 48.0	
	comp=E,151nm,0.2s						
PB10	**IPOC Station P**	**3.10**	**281**	Pn	**Pn**	**08 38 05.5**	**+1.6**
PB03	**IPOC Station P**	**3.11**	**311**	⇑*iP*	**Pn**	**08 38 05.5**	**+1.2**
PB03				*i* S	**S**	**08 38 43.0**	**-0.8**
PB03				IAML		08 38 44.2	
	comp=E,499nm,0.1s						
AC02	**Maricunga**	**3.20**	**212**	*eP*	**Pn**	**08 38 07.6**	**+2.0**
AC02				*eS*	**S**	**08 38 45.9**	**-0.3**
AC02	**Maricunga**	**3.20**	**212**		**Pn**	**08 38 07.5**	**+2.0**
PB04	**IPOC Station P**	**3.22**	**303**	⇑*iP*	**Pn**	**08 38 06.8**	**+1.2**
PB04				*i* S	**S**	**08 38 45.0**	**-1.1**
PB04				IAML		08 38 46.2	
	comp=N,374nm,0.2s						
PB04	**IPOC Station P**	**3.22**	**303**	Pn	**Pn**	**08 38 06.8**	**+1.2**
PB07	**IPOC Station P**	**3.42**	**314**	⇑*iP*	**Pn**	**08 38 09.1**	**+1.1**
PB07				*i* S	**S**	**08 38 48.9**	**-1.6**
PB07	**IPOC Station P**	**3.42**	**314**	Pn	**Pn**	**08 38 09.0**	**+1.0**
AC01	**Pan de Azucar**	**3.66**	**236**	⇑*iP*	**Pn**	**08 38 11.3**	**+0.6**
AC01				*eS*	**S**	**08 38 54.0**	**-1.4**
AC01	**Pan de Azucar**	**3.66**	**236**	Pn	**Pn**	**08 38 11.4**	**+0.7**
PB01	**IPOC Station P**	**3.71**	**325**	⇑*iP*	**Pn**	**08 38 12.2**	**+0.7**
PB01				*i* S	**S**	**08 38 55.0**	**-1.9**
PB01	**IPOC Station P**	**3.71**	**325**	Pn	**Pn**	**08 38 12.2**	**+0.7**
PATCX	**Punta Patache**	**4.26**	**320**	*eP*	**Pn**	**08 38 19.4**	**+1.0**
PATCX				*eS*	**S**	**08 39 05.8**	**-3.5**
PATCX	**Punta Patache**	**4.26**	**320**	Pn	**Pn**	**08 38 19.4**	**+1.0**
PB08	**IPOC Station P**	**4.35**	**335**	*eP*	**Pn**	**08 38 21.2**	**+1.4**
PB08				*eS*	**S**	**08 39 10.6**	**-1.1**
PB08	**IPOC Station P**	**4.35**	**335**	Pn	**Pn**	**08 38 21.2**	**+1.4**
GO03	**Copiap**	**4.39**	**217**	*eP*	**Pn**	**08 38 20.2**	**+0.3**
GO03				*eS*	**S**	**08 39 10.6**	**-1.5**
GO03	**Copiap**	**4.39**	**217**	Pn	**Pn**	**08 38 20.2**	**+0.3**
TA01	**Diego Aracena**	**4.47**	**322**	Pn	**Pn**	**08 38 21.7**	**+0.7**
GO01	**Chusmiza**	**4.80**	**337**	Pn	**Pn**	**08 38 28.0**	**+2.3**
PB11	**IPOC Station P**	**4.89**	**332**	Pn	**Pn**	**08 38 26.6**	**0.0**
PSGCX	**Pisagua**	**5.25**	**329**	Pn	**Pn**	**08 38 32.0**	**+0.9**
AC04	**Llanos de Chal**	**5.33**	**220**	Pn	**Pn**	**08 38 31.5**	**-0.4**
AC05	**El Transito**	**5.42**	**210**	Pn	**Pn**	**08 38 33.6**	**+0.3**
MNMC	**Minye Minye**	**5.44**	**336**	Pn	**Pn**	**08 38 34.3**	**+0.6**
PB16	**IPOC Station P**	**6.14**	**339**	Pn	**Pn**	**08 38 44.1**	**+1.0**
CO01	**Juntas del Tor**	**6.36**	**203**	Pn	**Pn**	**08 38 46.9**	**+1.3**
GO04	**Tololo Observa**	**6.81**	**207**	Pn	**Pn**	**08 38 50.3**	**-1.2**
CO03	**El Pedregal**	**7.36**	**204**	Pn	**Pn**	**08 38 58.3**	**-0.2**
CO02	**Combarbal**	**7.80**	**205**	Pn	**Pn**	**08 39 03.3**	**-1.0**
LPAZ	**La Paz**	**7.84**	**354**	P	**Pn**	**08 39 07.2**	**+1.8**
	comp=N,2.3nm,0.3s,baz=162,slow=6.3,SNR=54						
LPAZ	**La Paz**	**7.84**	**354**	Pn	**Pn**	**08 39 06.6**	**+1.2**
LPAZ	**La Paz**	**7.84**	**354**	*eP*	**Pn**	**08 39 06.8**	**+1.3**
CPUP	**Villa Florida**	**9.23**	**106**	P	**Pn**	**08 39 21.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=285,slow=12,SNR=2.3						
SIV	**San Ignacio**	**9.95**	**37**	P	**Pn**	**08 39 30.7**	**-1.7**
	comp=N,1.4nm,0.3s,baz=247,slow=10,SNR=29						
PTLB	**Pontes e Lacer**	**11.51**	**43**	*eP*	**P**	**08 39 56.3**	**-2.1**
ARAG	**Araguaiana, MT**	**16.73**	**63**	*eP*	**Pn**	**08 40 58.7**	**+1.4**
CLDB	**Colider**	**17.09**	**42**	*eP*	**P**	**08 40 60.0**	**-0.3**
VAO	**Valinhos**	**18.61**	**91**	*eP*	**Pn**	**08 41 18.8**	**-0.6**
IPMB	**Ipameri, GO**	**18.77**	**75**	*eP*	**Pn**	**08 41 19.7**	**-1.6**
BDFB	**Brasilia**	**19.93**	**68**	P	**P**	**08 41 32.2**	**+1.1**
	comp=N,1.1nm,0.3s,baz=246,slow=12,SNR=19						
BDFB	**Brasilia**	**19.93**	**68**	P	**P**	**08 41 31.9**	**+0.8**
BDFB				IAmb	IAmb	08 41 33.0	
	comp=Z,16nm,0.7s						
PEXB	**Peixe**	**21.57**	**60**	*eP*	**P**	**08 41 48.8**	**+0.5**
MACA	**Manacapuru-AM**	**21.78**	**18**	*eP*	**P**	**08 41 49.2**	**-1.3**
MC01	**Montes Claros**	**23.02**	**76**	*eP*	**P**	**08 42 01.7**	**-0.4**
JANB	**Januaria**	**23.37**	**72**	*eP*	**P**	**08 42 05.6**	**+0.3**
SMTB	**Santa Maria do**	**24.14**	**54**	*eP*	**P**	**08 42 13.0**	**+0.8**
SDBA	**SAO DESIDERIO**	**24.15**	**65**	*eP*	**P**	**08 42 13.3**	**+0.9**
SJMB	**Sao Joao De Ma**	**24.82**	**82**	*eP*	**P**	**08 42 19.9**	**+1.4**
NAN01	**Guarapari, ES**	**26.04**	**81**	*eP*	**P**	**08 42 29.8**	**+0.4**
PMSA	**Palmer Station**	**40.70**	**178**	*eP*	**P**	**08 44 32.1**	**-2.9**
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**08 48 46.7**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=258,slow=5.7,SNR=13						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**08 48 46.7**	**+2.0**
BOSA	**Boshof**	**80.86**	**117**	P	**P**	**08 49 09.4**	**+2.6**
	comp=Z,3.2nm,1.0s,baz=250,slow=3.1,SNR=4.1						
BOSA	**Boshof**	**80.86**	**117**	P	**P**	**08 49 09.6**	**+2.8**
BOSA				IAmb	IAmb	08 49 12.6	
	comp=Z,18nm,1.5s						
MKAR	**Makanchi Array**	**146.76**	**39**	PKPbc	**PKiKP**	**08 56 36.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=318,slow=1.6,SNR=8.6						
MKAR	**Makanchi Array**	**146.76**	**39**		**PKiKP**	**08 56 34.9**	**-0.6**

*SOME **07** 08:55:36.2,40°.67N×77°.63E,h5km*
*KRNET **07** 08:55:37.7±0.1,40°.74N×77°.73E,h15km,mb2.9*
*NNC **07** 08:55:37.3±1.1,40°.67N×77°.63E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=7.5km s-min=4.6km az=172.0*

ISC 07 08:55:34.2±2.2,40°.60N±0°.08×77°.63E±0°.03,h8km±14km, n47,σ1s39/76,23C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.14**	**6**	⇓*iP*	**Pn**	**08 55 56.5**	**-0.3**
	baz=3.0						
TARG				⇓*iS*	**Sb**	**08 56 10.6**	**-0.8**
	baz=3.0						
KDJ	**Kajisay**	**1.57**	**348**	⇓*iP*	**Pg**	**08 56 05.1**	**+0.9**
	baz=44						
KDJ				⇓*iS*	**Sg**	**08 56 25.1**	**+0.5**
	baz=44						
ULHL	**Ulahol**	**1.95**	**328**	⇑*iP*	**Pg**	**08 56 12.0**	**+0.4**
	baz=24						
ULHL				⇑*iS*	**Sg**	**08 56 38.3**	**+1.4**
	baz=24						
PRZ	**Przheval'sk**	**1.97**	**17**	⇓*iP*	**Pg**	**08 56 12.0**	**+0.1**
	baz=16						
PRZ				⇓*iS*	**Sg**	**08 56 36.5**	**-0.9**
	baz=16						
ANVS	**Anan'yevo**	**2.18**	**1**	⇑*iP*	**Pg**	**08 56 15.4**	**-0.6**
	baz=59						
ANVS				⇑*iS*	**Sg**	**08 56 42.6**	**-1.7**
	baz=59						
BOOM	**Boomskoye usch**	**2.28**	**327**	⇑*eP*	**Pg**	**08 56 17.8**	**0.0**
	baz=23						
BOOM				⇑*iS*	**Sg**	**08 56 46.9**	**-0.4**
	baz=23						
KZA	**Kyzart**	**2.33**	**310**	⇑*iP*	**Pg**	**08 56 19.1**	**+0.3**
	baz=6.0						
KZA				⇑*iS*	**Sg**	**08 56 49.1**	**+0.2**
	baz=6.0						
TNSS	**Tian-Shan**	**2.49**	**348**	*eP*	**Pg**	**08 56 22.0**	**+0.1**
	34nm,0.5s						
TNSS				*eS*	**Sg**	**08 56 55.2**	**+1.0**
	28nm,0.7s						
TNSS	**Tian-Shan**	**2.49**	**348**	Pg	**Pg**	**08 56 21.8**	**-0.1**
	34nm,0.5s						
TNSS				Lg	Lg	08 56 55.2	
	28nm,0.7s						
SATY	**Saty**	**2.52**	**13**	*eP*	**Pg**	**08 56 21.9**	**-0.7**
	14nm,0.9s						
SATY				*eS*	**Sg**	**08 56 55.1**	**-0.2**
	28nm,0.3s						
SATY	**Saty**	**2.52**	**13**	Pg	**Pg**	**08 56 21.9**	**-0.7**
	14nm,0.9s						
SATY				Lg	Lg	08 56 55.1	
	28nm,0.3s						
IZV	**Izvestkoviy**	**2.55**	**343**	*eP*	**Pg**	**08 56 23.4**	**+0.3**
	16nm,0.4s						
IZV				*eS*	**Sg**	**08 56 57.3**	**+1.1**
	62nm,0.7s						
IZV	**Izvestkoviy**	**2.55**	**343**	Pg	**Pg**	**08 56 23.4**	**+0.3**
	16nm,0.4s						
IZV				Lg	Lg	08 56 57.3	
	62nm,0.7s						
KOTS	**Kotyrbulak**	**2.66**	**352**	*eP*	**Pg**	**08 56 25.2**	**0.0**
	31nm,0.4s						
KOTS				*eS*	**Sg**	**08 57 00.4**	**+0.8**
	116nm,0.6s						
KOTS	**Kotyrbulak**	**2.66**	**352**	Pg	**Pg**	**08 56 25.2**	**0.0**
	31nm,0.4s						
KOTS				Lg	Lg	08 57 00.4	
	116nm,0.6s						
KST	**Kastek**	**2.74**	**333**	*eP*	**Pg**	**08 56 26.4**	**-0.3**
	12nm,0.3s						
KST				*eS*	**Sg**	**08 57 02.9**	**+0.6**
	13nm,0.7s						
KST	**Kastek**	**2.74**	**333**	Pg

ARXS					Lg	Lg	08 57 29.6	
	17nm,0.3s							
MRKS	**Merke**	**3.94**	**304**	*eP*	**Pg**	**Pg**	**08 56 48.4**	**-1.2**
	5.3nm,0.5s							
MRKS				*eS*	**Sg**	**Sg**	**08 57 40.6**	**0.0**
	4.2nm,0.6s							
MRKS	**Merke**	**3.94**	**304**	Pg	**Pg**	**Pg**	**08 56 48.4**	**-1.2**
	5.3nm,0.5s							
MRKS				Lg	Lg	Lg	08 57 40.6	
	4.2nm,0.6s							
DJR	**Jarkent**	**4.06**	**22**	*eP*	**Pg**	**Pg**	**08 56 50.1**	**-1.7**
	2.7nm,0.4s							
DJR				*eS*	**Sg**	**Sg**	**08 57 43.2**	**-1.3**
	7.9nm,0.6s							
DJR	**Jarkent**	**4.06**	**22**	Pg	**Pg**	**Pg**	**08 56 50.1**	**-1.7**
	2.7nm,0.4s							
DJR				Lg	Lg	Lg	08 57 43.2	
	7.9nm,0.6s							

IDC ***07*** *08:55:43.0±1.1,9.89S±160.92E,h120km±7km,mb4.3/21, mb1 4.4/23,mb1mx4.3/38,mbtmp4.6/23,MS3.6/12, Ms1 3.6/12,ms1mx3.4/29,Error ellipse: s-maj=17.3km s-min=11.4km az=100.0*

NEIC ***07*** *08:55:43.5±1.5,9.88S±0.08×160.91E±0.08,h122km±5km, mb4.7/127,Error ellipse: s-maj=13.3km s-min=9.9km az=214.0*

GCMT ***07*** *08:55:43.5±0.2,9.91S±0.02×161.07E±0.02,h116km±3km, MW5.0/96,Moment Tensor Solution. s31,c34; s96,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.63±.10; Mθθ=0.43±.14; Mϕϕ=0.20±.14; Mrθ=-1.52±.08; Mϕθ=3.75±.12; Mϕr=1.07±.07; Best double couple: M₀=4.21800×10¹⁶ NP1:ϕs=184.00000°,δ68.00000°,λ=-164.00000°. NP2: ϕs=88.00000°,δ75.00000°,λ=-23.00000°. Principal axes: T 4.0970, Plg5.0000°, Azm137.0000°; N 0.2420, Plg63.0000°, Azm236.0000°; P -4.3380, Plg26.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 08:55:41.0±0.3,9.89S±0.05×161.07E±0.05,h100km,n224, σ1s34/185,mb4.8/87,1C,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.20**	**292**	P		**Pn**	**08 56 05.4**	**+1.8**
	1μm,0.3s,baz=163,slow=3.7,SNR=142							
HNR				S		**Sn**	**08 56 22.9**	**+2.1**
	4μm,0.3s,baz=162,slow=20,SNR=114							
HNR	**Honiara**	**1.20**	**292**			**Pn**	**08 56 05.8**	**+2.2**
HNR				Sn		**Sn**	**08 56 22.9**	**+2.1**
SANVU	**Saraoutou**	**8.14**	**133**	Pn		**Pn**	**08 57 38.9**	**+2.6**
RABL	**Rabaul**	**10.50**	**302**	Pn		**Pn**	**08 58 12.3**	**+3.7**
KRVT	**Keravat (AS076**	**10.55**	**301**	P		Pn	08 58 13.7	+4.4
	7.4nm,0.3s,baz=70,slow=2.1,SNR=7.5							
KRVT				S		**Sn**	**09 00 05.2**	**-0.3**
	3.7nm,0.3s,baz=311,slow=20,SNR=1.8							
DZM	**Mont Dzumac**	**13.16**	**158**	P		**P**	**08 58 50.8**	**+0.4**
	2.3nm,0.3s,baz=8.5,slow=8.6,SNR=46							
DZM				S		**Sn**	**09 01 08.7**	**-0.3**
	1.9nm,0.3s,baz=119,slow=19,SNR=5.1							
DZM				LR		LR	09 03 33.4	
	comp=Z,387nm,18.4s,baz=19,slow=36							
DZM	**Mont Dzumac**	**13.16**	**158**			**P**	**08 58 50.6**	**+0.2**
PMG	**Port Moresby**	**13.73**	**271**	P		**Pn**	**08 58 52.4**	**+0.9**
	0.3nm,0.3s,baz=114,slow=13,SNR=2.6							
PMG				LR		LR	09 03 20.0	
	comp=Z,523nm,18.6s,baz=68,slow=34							
PMG	**Port Moresby**	**13.73**	**271**	Pn		**Pn**	**08 58 52.0**	**+0.5**
PATS	**Pohnpei**	**16.85**	**351**	P		**P**	**08 59 33.0**	**+1.8**
CTA	**Charters Tower**	**17.52**	**233**	P		**Pn**	**08 59 40.1**	**+1.0**
	0.4nm,0.3s,baz=53,slow=14,SNR=9.5							
CTAO	**Charters Tower**	**17.52**	**233**	P		**Pn**	**08 59 41.8**	**+2.7**
COEN	**Coen**	**17.97**	**255**	P		**Pn**	**08 59 47.0**	**+2.5**
EIDS	**Eidsvold**	**18.08**	**210**	P		**Pn**	**08 59 47.8**	**+2.1**
KWAJ	**Kwajalein Atol**	**19.68**	**20**	P		**Pn**	**09 00 05.1**	**+0.5**
JAY	**Jayapura**	**21.52**	**289**	P		**P**	**09 00 22.7**	**+0.5**
	11nm,0.8s,baz=97,slow=8.1,SNR=3.9							
JAY	**Jayapura**	**21.52**	**289**	P		**P**	**09 00 26.1**	**+3.9**
	15nm,1.5s							
ARMA	**Armidale**	**22.24**	**202**	P		**P**	**09 00 30.4**	**+0.7**
WR0	**Warramunga Arr**	**27.48**	**246**	P		**P**	**09 01 17.3**	**-0.8**
RAO	**Raoul Island**	**27.53**	**137**	LR		LR	09 09 18.6	
	comp=Z,160nm,19.8s,baz=154,slow=30							
WB0	**Warramunga Arr**	**27.55**	**246**	P		**P**	**09 01 17.9**	**-0.8**
WB0				IAmb		IAmb	09 01 18.5	
	comp=Z,22nm,0.7s							
CAN	**Canberra**	**27.60**	**202**	P		**P**	**09 01 20.3**	**+1.3**
CAN				IAmb		IAmb	09 01 20.9	
	comp=Z,20nm,1.1s							
WRAB	**Tennant Creek**	**27.64**	**246**	P		**P**	**09 01 18.8**	**-0.7**
WRAB				IAmb		IAmb	09 01 19.2	
	comp=Z,13nm,0.7s							
WB2	**Warramunga Arr**	**27.64**	**246**	P		**P**	**09 01 18.8**	**-0.8**
WB2				IAmb		IAmb	09 01 19.8	
	comp=Z,21nm,1.1s							
WRA	**Warramunga Arr**	**27.66**	**246**	P		**P**	**09 01 18.7**	**-0.9**
	comp=Z,15nm,0.7s,baz=76,slow=9.2,SNR=64							
WRA				ScP		**ScP**	**09 08 02.3**	**-4.2**
	comp=Z,0.2nm,0.5s,baz=77,slow=3.6,SNR=5.1							
WRA				LR		LR	09 11 13.6	
	comp=Z,90nm,19.9s,baz=65,slow=34							
WRA	**Warramunga Arr**	**27.66**	**246**	P		**P**	**09 01 17.8**	**-1.9**
KNTN	**Kanton**	**27.93**	**77**	P		**P**	**09 01 23.6**	**+1.4**
STKA	**Stephens Creek**	**28.36**	**217**	P		**P**	**09 01 25.9**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=35,slow=12,SNR=9.6							
STKA				LR		LR	09 11 43.5	
	comp=Z,165nm,18.2s,baz=33,slow=34							
STKA	**Stephens Creek**	**28.36**	**217**	P		**P**	**09 01 26.1**	**+0.4**
AS31	**Alice Springs**	**29.32**	**239**	P		**P**	**09 01 33.0**	**-1.4**
ASAR	**Alice Springs**	**29.32**	**239**	P		**P**	**09 01 32.8**	**-1.6**
	comp=Z,4.9nm,0.8s,baz=63,slow=10,SNR=47							
ASAR				LR		LR	09 12 33.2	
	comp=Z,196nm,20.7s,baz=66,slow=35							
ASAR	**Alice Springs**	**29.32**	**239**	P		**P**	**09 01 32.5**	**-1.9**
TOO	**Toolangi**	**30.93**	**205**	P		**P**	**09 01 49.4**	**+1.0**
TOO				IAmb		IAmb	09 02 05.6	
	comp=Z,16nm,1.3s							
KNRA	**Kununurra**	**32.00**	**256**	P		**P**	**09 01 57.1**	**-0.9**
BKZ	**Black Stump Fm**	**32.24**	**157**	P		**P**	**09 02 02.2**	**+2.2**
BKZ				IAmb		IAmb	09 02 18.6	
	comp=Z,27nm,1.4s							
BBOO	**Buckleboo**	**32.44**	**222**	P		**P**	**09 02 01.4**	**-0.2**
BBOO				IAmb		IAmb	09 02 02.0	
	comp=Z,18nm,0.7s							
KHZ	**Kahutara**	**34.19**	**163**	P		**P**	**09 02 17.9**	**+1.1**
RPZ	**Rata Peaks**	**34.80**	**167**	P		**P**	**09 02 21.6**	**-0.3**
	comp=Z,17nm,0.8s,baz=19,slow=4.8,SNR=4.3							
MQZ	**McQueen's Vall**	**35.16**	**165**	P		**P**	**09 02 26.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**35.28**	**253**	P		**P**	**09 02 26.5**	**0.0**
FORT	**Forrest**	**37.06**	**231**	P		**P**	**09 02 40.2**	**-1.3**
FORT				IAmb		IAmb	09 02 41.4	
	comp=Z,9.1nm,0.8s							
PSA00	**Pilbara Seismi**	**41.22**	**249**	P		**P**	**09 03 15.1**	**-1.2**
PSA00				IAmb		IAmb	09 03 15.6	
	comp=Z,11nm,0.8s							
MORW	**Morawa**	**46.20**	**239**	P		**P**	**09 03 54.5**	**-1.6**
MORW				IAmb		IAmb	09 03 59.6	
	comp=Z,31nm,1.4s							
NWAO	**Narrogin (SRO)**	**46.36**	**234**	LR		LR	09 22 42.4	
	comp=Z,96nm,21.6s,baz=86,slow=35							
NWAO	**Narrogin (SRO)**	**46.36**	**234**	P		**P**	**09 03 56.7**	**-0.7**
NWAO				IAmb		IAmb	09 04 11.2	
	comp=Z,22nm,1.2s							
JMN	**Monobe**	**50.50**	**330**	P		**P**	**09 04 28.8**	**-0.2**
MJAR	**Matsushiro Arr**	**50.95**	**336**	P		**P**	**09 04 30.8**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=167,slow=8.1,SNR=8.3							
MJAR				LR		LR	09 25 03.4	
	comp=Z,27nm,21.8s,baz=160,slow=35							
MJAR	**Matsushiro Arr**	**50.95**	**336**	P		**P**	**09 04 31.6**	**-0.8**
MAJO	**Matsushiro**	**50.95**	**336**	P		**P**	**09 04 32.5**	**+0.1**
MAJO				IAmb		IAmb	09 04 32.9	
	comp=Z,5.9nm,0.7s							
MAT	**Matsushiro**	**50.95**	**336**	P		**P**	**09 04 30.0**	**-2.4**
MAT				*eS*		**S**	**09 11 38.8**	**-2.9**
OPA	**Opana**	**50.97**	**52**	P		**P**	**09 04 34.6**	**+1.9**
JWT	**Wachi**	**51.07**	**333**	P		**P**	**09 04 33.1**	**-0.1**
JNU	**Nakatsue**	**51.55**	**327**	P		**P**	**09 04 36.4**	**-0.5**
AIN	**Ainahou**	**51.77**	**56**	P		**P**	**09 04 40.4**	**+1.4**
HLK	**Haleakala**	**51.85**	**54**	P		**P**	**09 04 41.5**	**+1.9**
HMH	**Humu'ula Sheep**	**51.87**	**56**	P		**P**	**09 04 41.9**	**+2.1**
ASAJ	**Asahikawa**	**56.31**	**344**	P		**P**	**09 05 11.2**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=178,slow=5.0,SNR=7.1							
KSRS	**Korea Array**	**56.42**	**329**	P		**P**	**09 05 11.7**	**-0.5**
	comp=Z,6.1nm,0.9s,baz=145,slow=7.5,SNR=14							
KSRS				LR		LR	09 28 14.7	
	comp=Z,23nm,19.4s,baz=131,slow=35							
NJ2	**Nanjing**	**58.03**	**318**	*eP*		**P**	**09 05 24.4**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
USA0B	**Ussuriysk Arra**	**59.95**	**336**	P		**P**	**09 05 37.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**59.95**	**336**	P		**P**	**09 05 36.8**	**+0.1**
	comp=Z,13nm,0.9s,baz=139,slow=6.0,SNR=17							
MDJ	**Mudanjiang**	**61.27**	**335**	P		**P**	**09 05 45.6**	**-0.1**
MDJ				pmax		pmax		
	comp=Z,19nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,210nm,4.2s							
CN2	**Changchun**	**62.47**	**332**	*eP*		**P**	**09 05 53.3**	**-0.4**
CN2				pmax		pmax		
	comp=Z,30nm,0.9s							
PETK	**Petropavlovsk-**	**62.82**	**358**	P		**P**	**09 05 55.2**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=155,slow=7.9,SNR=4.2							
PETK				LR		LR	09 29 57.1	
	comp=Z,40nm,21.6s,baz=169,slow=33							
PETK	**Petropavlovsk-**	**62.82**	**358**	P		**P**	**09 05 56.0**	**+0.1**
CASY	**Casey**	**65.83**	**200**	P		**P**	**09 06 15.0**	**-0.3**
CASY				IAmb		IAmb	09 06 15.5	
	comp=Z,8.5nm,0.8s							
XAN	**Xi'an**	**65.99**	**314**	P		**P**	**09 06 15.6**	**-1.4**
XAN				pP		pP	09 06 42.9	+1.1
XAN				pmax		pmax		
	comp=Z,18nm,0.8s							
CMAR	**Chiang Mai Arr**	**67.45**	**295**	P		**P**	**09 06 25.4**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=108,slow=4.4,SNR=5.6							
CMAR				LR		LR	09 34 16.1	
	comp=Z,12nm,21.4s,baz=145,slow=34							
CMAR	**Chiang Mai Arr**	**67.45**	**295**	P		**P**	**09 06 25.1**	**-1.4**
VNDA	**Vanda**	**67.61**	**180**	P		**P**	**09 06 26.7**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=338,slow=6.6,SNR=34							
VNDA				LR		LR	09 33 40.3	
	comp=Z,73nm,18.0s,baz=283,slow=34							
VNDA	**Vanda**	**67.61**	**180**	P		**P**	**09 06 26.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**68.03**	**322**	*eP*		**P**	**09 06 31.3**	**+1.4**
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
HHC				pmax		pmax		
	comp=Z,170nm,6.9s							
HIA	**Hailar**	**69.16**	**332**	P		**P**	**09 06 36.3**	**-0.4**
HIA				IAmb		IAmb	09 06 37.1	
	comp=Z,20nm,0.9s							
LZH	**Lanzhou**	**70.61**	**314**	*eP*		**P**	**09 06 46.9**	**+0.9**
LZH				pP		pP	09 07 14.7	+3.6
LZH				sP		sP	09 07 27.0	+5.1
LZH				pmax		pmax		
	comp=Z,18nm,1.5s							
ULN	**Ulaanbaatar**	**74.72**	**326**	P		**P**	**09 07 10.0**	**0.0**
GTA	**Gaotai**	**74.98**	**315**	⇑P		**P**	**09 07 11.7**	**0.0**
GTA				pP		pP	09 07 40.0	+2.9
GTA	**Gaotai**	**74.98**	**315**	sP		sP	09 07 51.7	+3.8
GTA	**Gaotai**	**74.98**	**315**	pmax		pmax		
	comp=Z,7.0nm,0.9s							
GTA	**Gaotai**	**74.98**	**315**	pmax		pmax		
	comp=Z,12nm,0.8s							
GTA	**Gaotai**	**74.98**	**315**	*eP*		sP	09 07 40.3	-7.6
GTA	**Gaotai**	**74.98**	**315**	pP		pP	09 07 43.8	+6.7
GTA	**Gaotai**	**74.98**	**315**	sP		sP	09 07 46.6	-1.3
SONM	**Songino Array**	**75.07**	**325**	P		**P**	**09 07 12.0**	**0.0**
	comp=Z,19nm,0.7s,baz=139,slow=5.9,SNR=68							
SONM	**Songino Array**	**75.07**	**325**	P		**P**	**09 07 11.2**	**-0.8**
YAK	**Yakutsk**	**75.76**	**345**	P		**P**	**09 07 14.7**	**-0.7**
BILL	**Bilibino**	**77.82**	**2**	P		**P**	**09 07 26.7**	**-0.2**
TLY	**Talaya**	**78.66**	**328**	P		**P**	**09 07 31.1**	**-0.9**
TLY				IAmb		IAmb	09 07 32.2	
	comp=Z,14nm,0.8s							
CNPM	**China Poot**	**78.98**	**23**	P		**P**	**09 07 34.1**	**+0.6**
TTA	**Tatalina**	**79.73**	**18**	P		**P**	**09 07 37.6**	**0.0**
TTA				IAmb		IAmb	09 07 39.2	
	comp=Z,14nm,1.4s							
QSPA	**South Pole Qui**	**80.10**	**180**	P		**P**	**09 07 38.9**	**-0.8**
QSPA				IAmb		IAmb	09 07 40.4	
	comp=Z,12nm,0.9s							
CUT	**Chulitna**	**81.26**	**21**	P		**P**	**09 07 45.9**	**+0.2**
	baz=229							
KTH	**Kantishna Hill**	**81.81**	**20**	IAmb		IAmb	09 07 49.3	
	comp=Z,14nm,1.0s							
RDOG	**Red Dog Mine**	**81.87**	**13**	IAmb		IAmb	09 07 50.1	
	comp=Z,12nm,0.9s							
TRF	**Thorofare Moun**	**81.95**	**20**	P		**P**	**09 07 48.7**	**-0.8**
TRF				IAmb		IAmb	09 07 49.8	
	comp=Z,14nm,1.1s							
RND	**Reindeer**	**82.41**	**20**	IAmb		IAmb	09 07 52.5	
	comp=Z,22nm,1.2s							
M24K	**Tolsona, Glenn**	**82.54**	**22**	P		**P**	**09 07 53.0**	**+0.4**
	baz=232							
MCK	**McKinley**	**82.59**	**20**	P		**P**	**09 07 52.2**	**-0.5**
	baz=230							
IMAR	**Indian Mountai**	**82.62**	**17**	P		**P**	**09 07 53.5**	**+0.7**
MLY	**Manley**	**82.86**	**19**	P		**P**	**09 07 53.7**	**-0.4**
	baz=228							
GLB	**Gilahina Butte**	**83.05**	**23**	IAmb		IAmb	09 07 56.4	
	comp=Z,17nm,1.0s							
VRDI	**Verde Repeater**	**83.06**	**24**	P		**P**	**09 07 56.1**	**+0.7**
VRDI				IAmb		IAmb	09 07 58.1	
	comp=Z,8.1nm,1.0s							
NEA2	**Nenana**	**83.11**	**19**	P		**P**	**09 07 54.7**	**-0.6**
	baz=230							
WRH	**Wood River Hil**	**83.35**	**20**	IAmb		IAmb	09 07 56.9	
	comp=Z,12nm,1.0s							
BALM	**Baldy**	**83.40**	**24**	IAmb		IAmb	09 07 58.3	
	comp=Z,14nm,0.8s							
MDM	**Murphy Dome**	**83.62**	**19**	IAmb		IAmb	09 07 58.2	
	comp=Z,12nm,1.0s							
TCOL	**CIGO, UAF Yank**	**83.68**	**20**	P		**P**	**09 07 57.7**	**-0.5**
	baz=231							
BARN	**Barnard Glacie**	**83.69**	**24**	IAmb		IAmb	09 08 00.3	
	comp=Z,14nm,0.8s							
COLA	**College**	**83.69**	**20**	P		**P**	**09 07 57.5**	**-0.7**
COLA				IAmb		IAmb	09 07 58.5	
	comp=Z,13nm,0.8s							
HDA	**Harding Lake**	**83.70**	**20**	P		**P**	**09 07 57.9**	**-0.4**
	baz=232							
HDA	**Harding Lake**	**83.70**	**20**	IAmb		IAmb	09 07 59.0	
	comp=Z,12nm,1.0s							
IL31		**83.94**	**20**	P		**P**	**09 07 57.5**	**-2.0**
ILAR	**Eielson Array**	**83.94**	**20**	P		**P**	**09 07 58.8**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=260,slow=4.4,SNR=14							
RIDG	**Independent Ri**	**84.02**	**21**	IAmb		IAmb	09 08 00.8	
	comp=Z,16nm,1.2s							
MAW	**Mawson**	**84.04**	**202**	P		**P**	**09 07 59.1**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=88,slow=4.2,SNR=10							
MAW	**Mawson**	**84.04**	**202**	P		**P**	**09 07 59.8**	**-0.3**
TIXI	**Tiksi**	**84.14**	**350**	P		**P**	**09 07 59.0**	**-1.3**
DOT	**Dot Lake**	**84.24**	**22**	IAmb		IAmb	09 08 02.4	
	comp=Z,10nm,0.8s							
SCRK	**Sand Creek**	**84.47**	**21**	P		**P**	**09 08 02.6**	**+0.2**
	baz=234							
BCAR	**Beaver Creek A**	**84.75**	**23**	P		**P**	**09 08 04.4**	**+0.7**
WMQ	**Urumqi**	**85.05**	**316**	*eP*		**P**	**09 08 05.8**	**+0.1**
K27K	**Chicken**	**85.18**	**22**	P		**P**	**09 08 07.3**	**+1.4**
	baz=236							
KRMB	**Red Mountain**	**85.50**	**47**	IAmb		IAmb	09 08 10.6	
	comp=Z,8.1nm,0.9s							
TOLK	**Toolik Lake Re**	**85.62**	**16**	P		**P**	**09 08 08.6**	**+0.6**
	baz=229							
O02D	**Mt. Diablo Mer**	**85.92**	**48**	P		**P**	**09 08 11.6**	**+1.5**
	baz=254,SNR=9.1							
K02D	**Willamette Mer**	**86.02**	**46**	P		**P**	**09 08 12.1**	**+1.5**
	baz=253							
N02D	**Trinity Center**	**86.21**	**47**	P		**P**	**09 08 13.0**	**+1.4**
	baz=254,SNR=6.3							
M02C	**Callahan**	**86.22**	**47**	P		**P**	**09 08 12.9**	**+1.4**
	baz=254,SNR=7.7							
BMAR	**Burnt Mountain**	**86.32**	**18**	P		**P**	**09 08 12.0**	**+0.6**
YBH	**Yreka Blue Hor**	**86.42**	**47**	P		**P**	**09 08 14.0**	**+1.4**
	comp=Z,5.3nm,0.8s,baz=204,slow=3.9,SNR=23							
YBH	**Yreka Blue Hor**	**86.42**	**47**	IAmb		IAmb	09 08 14.8	
	comp=Z,5.9nm,0.8s							
HUMO	**Hull Mountain**	**86.49**	**46**	IAmb		IAmb	09 08 15.2	
	comp=Z,7.5nm,0.9s							
O03E	**Paynes Creek**	**86.68**	**48**	P		**P**	**09 08 14.4**	**+0.5**
	baz=254,SNR=5.6							
PKM	**Mcpherson Peak**	**86.80**	**54**	P		**P**	**09 08 16.4**	**+1.7**
	baz=256							
L04D	**Klamath Falls**	**86.84**	**46**	P		**P**	**09 08 15.9**	**+1.2**
	baz=254							
M04C	**Macdoel**	**87.06**	**47**	P		**P**	**09 08 16.9**	**+1.1**
	baz=254							
I04A	**Tendick Farm,**	**87.21**	**45**	P		**P**	**09 08 17.1**	**+0.7**
	baz=254							
J04D	**Umpqua Nationa**	**87.27**	**45**	P		**P**	**09 08 17.8**	**+1.0**
	baz=254							
D03D	**Eldon**	**87.83**	**41**	P		**P**	**09 08 20.1**	**+1.0**
	baz=253							
E04D	**Cinebar**	**87.89**	**42**	P		**P**	**09 08 20.4**	**+1.0**
	baz=253							
J05D	**Fort Rock, OR**	**87.89**	**46**	P		**P**	**09 08 21.1**	**+1.3**
	baz=254							
K05A	**Summer Lake**	**87.99**	**46**	P		**P**	**09 08 21.2**	**+1.0**
K05A				IAmb		IAmb	09 08 22.5	
	comp=Z,12nm,1.0s							
ZSN	**Zaisan**	**88.05**	**319**	*eP*		**P**	**09 08 17.9**	**-2.3**
ISA	**Isabella, Lake**	**88.05**	**53**	P		**P**	**09 08 21.2**	**+0.6**
	baz=256							
MWC	**Mount Wilson**	**88.05**	**55**	IAmb		IAmb	09 08 22.5	
	comp=Z,13nm,1.2s							
OMMB	**Old Mammoth Mi**	**88.10**	**51**	P		**P**	**09 08 21.4**	**+0.3**
I05D	**Terrebonne, OR**	**88.11**	**45**	P		**P**	**09 08 21.5**	**+0.9**
	baz=254							
MOD	**Modoc Plateau**	**88.20**	**47**	IAmb		IAmb	09 08 23.1	
	comp=Z,6.9nm,1.1s							
PINE	**Pine Mountain**	**88.24**	**45**	IAmb		IAmb	09 08 23.8	
	comp=Z,7.6nm,0.9s							
EDW2	**Edwards Air Fo**	**88.25**	**54**	P		**P**	**09 08 21.9**	**+0.4**
	baz=257							
BFSC	**Mount Baldy Ra**	**88.38**	**55**	P		**P**	**09 08 22.7**	**+0.5**
	baz=257							
A04D	**Lummi Island**	**88.42**	**40**	P		**P**	**09 08 23.0**	**+1.2**
	baz=253							
CWC	**Cottonwood Cre**	**88.54**	**53**	P		**P**	**09 08 23.5**	**+0.5**
	baz=257							
LRMC	**Laurel Mtn Rad**	**88.64**	**54**	P		**P**	**09 08 24.8**	**+1.4**
	baz=257							
B05A	**Bryant**	**88.68**	**41**	P		**P**	**09 08 23.9**	**+0.8**
	baz=254							
NVAR	**Mina Array Bea**	**88.83**	**51**	P		**P**	**09 08 25.4**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=239,slow=6.1,SNR=28							
NVAR	**Mina Array Bea**	**88.83**	**51**	P		**P**	**09 08 25.2**	**+0.8**
MPMC	**Manual Prospec**	**88.92**	**53**	P		**P**	**09 08 25.6**	**+0.7**
	baz=257,SNR=9.3							
NV11	**Mina Array Sit**	**88.94**	**51**	IAmb		IAmb	09 08 26.9	
	comp=Z,13nm,1.5s							
MONP2	**Monument Peak**	**89.09**	**57**	P		**P**	**09 08 26.5**	**+0.8**
	baz=258,SNR=5.7							
KVN	**Kaiserville**	**89.13**	**50**	IAmb		IAmb	09 08 27.8	
	comp=Z,13nm,1.4s							
PFO	**Pinyon Flats O**	**89.21**	**56**	P		**P**	**09 08 26.8**	**+0.7**
	baz=258							
TPFO	**Pinon Flats**	**89.22**	**56**	P		**P**	**09 08 26.4**	**+0.2**
	baz=258							
GRAC	**Grapevine Rang**	**89.23**	**52**	P		**P**	**09 08 26.9**	**+0.9**
	baz=257							
ESJX	**Sierra Juarez**	**89.30**	**57**	IAmb		IAmb	09 08 29.2	
	comp=Z,11nm,1.4s							
GSC	**Goldstone, Bar**	**89.30**	**54**	P		**P**	**09 08 27.5**	**+1.0**
	baz=258							
IKP	**In-Ko-Pah, Jac**	**89.30**	**57**	P		**P**	**09 08 27.3**	**+0.8**
	baz=258							
FURC	**Furnace Creek,**	**89.51**	**53**	P		**P**	**09 08 28.2**	**+0.9**
	baz=257,SNR=22							
MK31	**Makanchi Array**	**89.56**	**318**	P		**P**	**09 08 25.8**	**-1.6**
MKAR	**Makanchi Array**	**89.56**	**318**	P		**P**	**09 08 25.9**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=101,slow=6.3,SNR=18							
MKAR	**Makanchi Array**	**89.56**	**318**	P		**P**	**09 08 25.2**	**-2.1**
HEC	**Hector Ludlow**	**89.57**	**55**	P		**P**	**09 08 28.4**	**+0.7**
	baz=256							
SWSC	**Sam W. Stewart**	**89.61**	**57**	P		**P**	**09 08 28.7**	**+0.8**
	baz=258							
BELC	**Belle Mtn. Jos**	**89.67**	**56**	P		**P**	**09 08 29.0**	**+0.7**
	baz=258,SNR=8.9							
E07A	**Sunnyside**	**89.69**	**43**	IAmb		IAmb	09 08 29.8	
	comp=Z,5.6nm,1.1s							
MAKZ	**Makanchi**	**89.77**	**318**	P		**P**	**09 08 26.6**	**-1.7**
MAKZ				IAmb		IAmb	09 08 27.7	
	comp=Z,8.8nm,1.4s							
SHOC	**Shoshone, Teco**	**89.85**	**54**	P		**P**	**09 08 29.6**	**+0.7**
	baz=258,SNR=6.6							
J08A	**Circle Bar Ran**	**89.86**	**46**	IAmb		IAmb	09 08 31.6	
	comp=Z,5.2nm,0.7s							
HAWA	**Hanford**	**89.87**	**43**	IAmb		IAmb	09 08 30.6	
	comp=Z,5.8nm,1.0s							
ZALV

*IDC **07** 08:59:35.8±4.7, 64°.45N×33°.29E, h0km, mb1 3.0/3, mb1mx2.9/38, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=64.4km s-min=14.0km az=110.0*
*KOLA **07** 08:59:42.9, 64°.66N×30°.36E, h0km*
ISC 07 08:59:43.4±1.4, 64.71N±0.08×30.5E±0.1, h0km, n5, σ1§00/9, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**3.08**	**18**	P	**Pn**	**09 00 33.0**	**-0.1**
APA0				S	**Sn**	**09 01 10.6**	**0.0**
APA	**Apatity**	**3.10**	**21**	P	**Pn**	**09 00 33.4**	**-0.1**
APA				S	**Sn**	**09 01 11.2**	**0.0**
FINES	**FINES Array B**	**3.85**	**214**	Pn	**Pn**	**09 00 44.2**	**+0.4**
	0.1nm,0.3s,baz=40,slow=13,SNR=5.4						
FINES				Sn	**Sb**	**09 01 37.3**	**-1.9**
	0.4nm,0.3s,baz=45,slow=26,SNR=7.7						
ARCES	**ARCESS Array B**	**5.22**	**340**	Pn	**Pn**	**09 01 02.6**	**0.0**
	baz=155,slow=14,SNR=13						
ARCES				Sn	**Sn**	**09 02 02.7**	**-0.8**
	baz=161,slow=17,SNR=2.8						
NOA	**NORSAR Array B**	**9.54**	**256**	Pn	**Pn**	**09 02 03.0**	**+1.2**
	0.0nm,0.3s,baz=68,slow=13,SNR=2.7						

*IDC **07** 09:23:41.9±0.8, 25°.16S×70°.85W, h0km, mb4.5/6, mb1 4.5/9, mb1mx4.2/25, mbtmp4.5/9, ML4.3/3, MS3.2/6, Ms1 3.2/6, ms1mx3.1/24, Error ellipse: s-maj=27.7km s-min=23.5km az=120.0*
*SJA **07** 09:23:41.5±0.6, 25°.03S×71°.12W, h12km±3km, ML4.5, MW4.3*
*NEIC **07** 09:23:42.4, 24°.97S×71°.10W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.15; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-3.19; $M_{r\theta}$0.53; $M_{r\phi}$0.87; $M_{\theta\phi}$-1.61; Fault plane solution: M_o3.70000×10^{15} NP1:ϕ_s163.77000°, δ58.65000°, λ87.70000°. NP2:ϕ_s348.19000°, δ31.43000°, λ93.77000°. Principal axes: T 3.5645, Plg76.0000°, Azm67.0000°; N 0.2511, Plg2.0000°, Azm165.0000°; P -3.8156, Plg14.0000°, Azm255.0000°;*
*NEIC **07** 09:23:42.4±2.4, 24°.97S±0.03×71°.10W±0.04, h10km±1km, mb4.8/30, Mwr4.3/44, ML4.4(GUC) Error ellipse: s-maj=5.9km s-min=4.7km az=288.0*
*GUC **07** 09:23:45.1±0.7, 24°.87S×70°.91W, h45km±2km, ML4.4*
*VAO **07** 09:23:48.9±0.5, 24°.83S×70°.33W, h10km, mb4.4*
ISC 07 09:23:43.2±1.7, 24°.94S±0.02×71°.04W±0.05, h14km±10km, n142, σ1§60/158, mb4.8/20, 5C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.66**	**62**	⇓*iP*	**Pb**	**09 23 56.6**	**0.0**
PB14				*i* S	**Sb**	**09 24 06.0**	**+0.3**
PB14				IAML		09 24 09.2	
	comp=N,18μm,0.6s						
PB14	**IPOC Station P**	**0.66**	**62**		**Pb**	**09 23 56.5**	**0.0**
PB14				Sg	**Sb**	**09 24 05.5**	**-0.2**
PB14	**IPOC Station P**	**0.66**	**62**	*eP*	**Pb**	**09 23 56.7**	**0.0**
PB14				*eS*	**Sn**	**09 24 08.2**	**-0.5**
PB14				IAML		09 24 08.8	
	comp=Z,13μm,0.9s						
AC01	**Pan de Azucar**	**1.27**	**162**	⇓*iP*	**Pn**	**09 24 05.5**	**-1.0**
AC01				*i* S	**Sb**	**09 24 21.1**	**-1.9**
AC01	**Pan de Azucar**	**1.27**	**162**		**Pn**	**09 24 05.5**	**-1.0**
AC01				Sn	**Sb**	**09 24 21.1**	**-1.9**
GO02	**Mina Guanaco**	**1.33**	**100**	⇓*iP*	**Pn**	**09 24 07.6**	**0.0**
GO02				*i* S	**Sb**	**09 24 24.5**	**-0.7**
GO02				IAML		09 24 27.8	
	comp=E,29μm,0.8s						
GO02	**Mina Guanaco**	**1.33**	**100**		**Pn**	**09 24 07.7**	**0.0**
GO02				Sn	**Sb**	**09 24 24.5**	**-0.7**
PB10	**IPOC Station P**	**1.49**	**17**	⇑*iP*	**Pn**	**09 24 09.3**	**-0.2**
PB10				*eS*	**Sn**	**09 24 27.0**	**-1.7**
PB10	**IPOC Station P**	**1.49**	**17**		**Pn**	**09 24 09.3**	**-0.2**
PB10				Sn	**Sn**	**09 24 28.4**	**-0.3**
PB10	**IPOC Station P**	**1.49**	**17**	*eP*	**Pn**	**09 24 09.5**	**0.0**
PB10				*eS*	**Sg**	**09 24 33.8**	**+2.6**
PB05	**IPOC Station P**	**2.21**	**20**	⇑*iP*	**Pn**	**09 24 19.4**	**-0.2**
PB05				*i* S	**Sn**	**09 24 45.2**	**-1.6**
PB05				IAML		09 25 01.1	
	comp=E,2μm,0.6s						
PB05	**IPOC Station P**	**2.21**	**20**	*eP*	**Pn**	**09 24 19.5**	**-0.1**
PB05				*eS*	**Sg**	**09 24 52.4**	**-2.1**
PB05				IAML		09 25 02.2	
	comp=Z,1μm,0.8s						
PB15	**IPOC Station P**	**2.24**	**40**	*eP*	**Pn**	**09 24 20.9**	**+0.9**
PB15				*eS*	**Sb**	**09 24 52.4**	**+1.1**
PB15	**IPOC Station P**	**2.24**	**40**		**Pb**	**09 24 21.8**	**-1.8**
PB15	**IPOC Station P**	**2.24**	**40**	*eP*	**Pb**	**09 24 22.8**	**-0.8**
PB15				*eS*	**Sg**	**09 24 54.8**	**-0.6**
PB15				IAML		09 25 03.2	
	comp=Z,7μm,0.8s						
AC02	**Maricunga**	**2.55**	**138**	*eP*	**Pn**	**09 24 26.2**	**+1.6**
AC02				*eS*	**Sn**	**09 24 56.5**	**+0.7**
AC02				IAML		09 25 03.0	
	comp=N,3μm,0.5s						
AC02	**Maricunga**	**2.55**	**138**	Pn	**Pn**	**09 24 26.3**	**+1.7**
AC02				Sn	**Sn**	**09 24 57.2**	**+1.4**
PB06	**IPOC Station P**	**2.60**	**31**	⇑*eP*	**Pn**	**09 24 25.6**	**+0.7**
PB06				*eS*	**Sn**	**09 24 54.5**	**-1.9**
PB06				IAML		09 25 10.5	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**2.60**	**31**		**Pn**	**09 24 24.9**	**-0.1**
PB06	**IPOC Station P**	**2.60**	**31**	*eP*	**Pn**	**09 24 27.1**	**+2.1**
PB06				IAML		09 25 11.9	
	comp=Z,2μm,0.7s						
PB04	**IPOC Station P**	**2.72**	**18**	*eP*	**Pn**	**09 24 26.3**	**-0.3**
PB04				*i* S	**Sn**	**09 24 57.6**	**-1.7**
PB04				IAML		09 25 15.7	
	comp=E,2μm,0.6s						
PB04	**IPOC Station P**	**2.72**	**18**		**Pn**	**09 24 26.5**	**-0.1**
PB04	**IPOC Station P**	**2.72**	**18**	*eP*	**Pn**	**09 24 29.0**	**+2.4**
PB04				IAML		09 25 15.1	
	comp=Z,2μm,1.1s						
GO03	**Copiap**	**2.74**	**165**	*eP*	**Pn**	**09 24 26.7**	**-0.1**
GO03				*eS*	**Sn**	**09 24 57.8**	**-1.9**
GO03				IAML		09 25 14.7	
	comp=E,1μm,0.5s						
GO03	**Copiap**	**2.74**	**165**		**Pn**	**09 24 26.6**	**-0.1**
GO03				Sn	**Sn**	**09 24 57.8**	**-1.9**
GO03	**Copiap**	**2.74**	**165**	*eP*	**Pn**	**09 24 27.1**	**+0.2**
GO03				*eS*	**Sn**	**09 25 00.3**	**+0.6**
LVC	**Limon Verde**	**3.03**	**40**	Pn	**Pb**	**09 24 34.3**	**-2.8**
	comp=E,40nm,0.3s,baz=242,slow=10,SNR=171						
LVC				Lg	Lg	09 25 15.7	
	comp=E,415nm,0.3s,baz=13,slow=15,SNR=17						
LVC	**Limon Verde**	**3.03**	**40**	*eP*	**Pn**	**09 24 33.6**	**+2.5**
LVC				*eS*	**Sn**	**09 25 08.2**	**+0.9**
LVC	**Limon Verde**	**3.03**	**40**		**Pn**	**09 24 33.2**	**+2.2**
LVC	**Limon Verde**	**3.03**	**40**	*eP*	**Pn**	**09 24 30.8**	**-0.3**
LVC	**Limon Verde**	**3.03**	**40**	*eP*	**Pb**	**09 24 34.3**	**-2.8**
LVC				*eS*	**Sb**	**09 25 16.5**	**+2.4**
LVC				IAML		09 25 23.3	
	comp=Z,1μm,0.5s						
PB03	**IPOC Station P**	**3.11**	**23**	*eP*	**Pn**	**09 24 32.2**	**+0.3**
PB03				*eS*	**Sn**	**09 25 07.2**	**-1.9**
PB03				IAML		09 25 27.3	
	comp=N,944nm,0.3s						
PB03	**IPOC Station P**	**3.11**	**23**	*eP*	**Pn**	**09 24 32.4**	**+0.4**
PB03				*eS*	**Sg**	**09 25 21.7**	**-1.5**
PB03				IAML		09 25 26.3	
	comp=Z,1μm,0.7s						
AC04	**Llanos de Chal**	**3.25**	**181**	*eP*	Pn	09 24 30.9	-2.8
AC04				*eS*	Sn	09 25 06.9	-5.4
AC04				IAML		09 25 38.4	
	comp=N,387nm,0.5s						
AC04	**Llanos de Chal**	**3.25**	**181**		Pn	09 24 31.0	-2.7
PB07	**IPOC Station P**	**3.37**	**19**	*eP*	**Pn**	**09 24 35.4**	**-0.2**
PB07				*i* S	**Sn**	**09 25 13.6**	**-1.8**
PB07				IAML		09 25 34.4	
	comp=E,983nm,0.8s						
PB07	**IPOC Station P**	**3.37**	**19**		**Pn**	**09 24 35.4**	**-0.2**
PB09	**IPOC Station P**	**3.54**	**28**	*eP*	**Pn**	**09 24 39.5**	**+1.6**
PB09				*eS*	**Sn**	**09 25 18.3**	**-1.3**
PB09				IAML		09 25 43.9	
	comp=E,926nm,0.6s						
PB09	**IPOC Station P**	**3.54**	**28**	Pn	**Pn**	**09 24 38.5**	**+0.7**
PB09	**IPOC Station P**	**3.54**	**28**	*eP*	**Pn**	**09 24 40.8**	**+2.9**
PB09				IAML		09 25 43.3	
	comp=Z,2μm,1.0s						
AC05	**El Transito**	**3.94**	**170**		**Pn**	**09 24 43.5**	**+0.1**
PB01	**IPOC Station P**	**4.13**	**21**		**Pn**	**09 24 46.8**	**+0.8**
PATCX	**Punta Patache**	**4.18**	**11**		**Pn**	**09 24 45.9**	**-0.7**
TA01	**Diego Aracena**	**4.42**	**10**		**Pn**	**09 24 49.5**	**-0.4**
SLA	**San Lorenzo**	**5.03**	**89**	*eP*	Pb	09 25 06.7	-4.5
PB08	**IPOC Station P**	**5.08**	**20**	Pn	**Pn**	**09 24 59.8**	**+0.5**
CO01	**Juntas del Tor**	**5.09**	**171**		**Pn**	**09 24 60.0**	**+0.7**
GO04	**Tololo Observa**	**5.22**	**178**		Pn	09 24 59.4	-1.6
PB11	**IPOC Station P**	**5.31**	**14**		**Pn**	**09 25 01.7**	**-0.5**
PSGCX	**Pisagua**	**5.38**	**9**		**Pn**	**09 25 02.7**	**-0.5**
AROD	**Rodeo**	**5.39**	**165**	*eP*	**Pn**	**09 25 05.8**	**+2.3**
HJA	**Humahuaca**	**5.43**	**73**	*eP*	**Pn**	**09 25 08.4**	**+4.4**
ACDV	**Cuesta del Vie**	**5.48**	**162**	*eP*	**Pn**	**09 25 07.5**	**+2.9**
ACDV				IAML		09 26 53.0	
	comp=Z,220nm,1.4s						
GO01	**Chusmiza**	**5.52**	**18**		**Pn**	**09 25 06.2**	**+0.8**
CYA	**Choya**	**5.84**	**128**	*eP*	**Pn**	**09 25 12.6**	**+3.2**
CYA				*eS*	**Sb**	**09 26 28.2**	**-6.4**
CO03	**El Pedregal**	**5.88**	**177**		**Pn**	**09 25 08.9**	**-1.2**
ACCO	**Cerro Coronel**	**5.89**	**163**	*eP*	**Pn**	**09 25 12.3**	**+1.9**
ACCO				IAML		09 27 04.6	
	comp=Z,125nm,1.3s						
MNMC	**Minye Minye**	**5.93**	**13**		**Pn**	**09 25 11.1**	**+0.2**
CO02	**Combarbal**	**6.24**	**180**		**Pn**	**09 25 15.5**	**+0.5**
AP01	**Chacalluta**	**6.57**	**6**	Pn	**Pn**	**09 25 19.1**	**-0.2**
PB16	**IPOC Station P**	**6.72**	**13**		**Pn**	**09 25 21.6**	**-0.5**
APLL	**PUNTA DE LOS L**	**6.75**	**145**	*eP*	**Pn**	**09 25 22.7**	**+0.8**
ZON	**Zonda**	**6.90**	**163**	Pn	**Pn**	**09 25 24.4**	**+0.3**
RTLS	**Leoncito**	**7.00**	**168**	*eP*	**Pn**	**09 25 26.6**	**+1.0**
RTLS				IAML		09 27 38.0	
	comp=Z,106nm,1.7s						
RTCV	**Cerro Valdivia**	**7.24**	**163**	*eP*	**Pn**	**09 25 30.0**	**+1.4**
RTCV				IAML		09 27 39.8	
	comp=Z,78nm,2.1s						
AUSP	**Uspallata**	**7.40**	**169**	*eP*	**Pn**	**09 25 32.6**	**+1.6**
VA03	**San Esteban**	**7.81**	**177**		Pn	09 25 34.0	-2.4
MT02	**Curacav**	**8.29**	**181**	Pn	Pn	09 25 39.6	-3.4
LPAZ	**La Paz**	**9.03**	**18**	Pn	**Pn**	**09 25 56.5**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=130,slow=3.9,SNR=21						
LPAZ				LR	LR	09 30 10.6	
	comp=Z,186nm,19.2s,baz=192,slow=42						
LPAZ	**La Paz**	**9.03**	**18**	Pn	**Pn**	**09 25 55.6**	**+1.8**
LPAZ	**La Paz**	**9.03**	**18**	*eP*	**Pn**	**09 25 56.1**	**+2.4**
BO02	**Sierra Bellavi**	**9.82**	**179**		**Pn**	**09 26 03.3**	**-0.7**
H03N1	**Juan Fernandez**	**10.91**	**217**	T	T	09 37 37.2	
	baz=44,slow=72,SNR=841						
H03N2	**Juan Fernandez**	**10.92**	**217**	T	T	09 37 35.1	
	baz=44,slow=72,SNR=524						
H03N3	**Juan Fernandez**	**10.93**	**217**	T	T	09 37 39.4	
	baz=44,slow=72,SNR=630						
VA04	**Juan Fernndez**	**11.02**	**216**		Pn	09 26 15.6	-4.7
CPUP	**Villa Florida**	**12.45**	**99**	LR	LR	09 30 52.7	
	comp=Z,78nm,20.2s,baz=279,slow=35						
SIV	**San Ignacio**	**12.90**	**48**	Pn	**Pn**	**09 26 46.1**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=243,slow=9.8,SNR=64						
SIV				Sn	**Sn**	**09 29 03.3**	**-6.3**
	comp=Z,0.0nm,0.3s,baz=183,slow=19,SNR=1.4						
SIV				LR	LR	09 31 24.2	
	comp=Z,39nm,21.0s,baz=276,slow=36						
PTLB	**Pontes e Lacer**	**14.62**	**52**	*eP*	**Pn**	**09 27 07.3**	**-2.4**
ETMB	**Extrema**	**15.73**	**18**	*eP*	**P**	**09 27 27.6**	**-0.8**
PLCA	**Paso Flores**	**15.76**	**179**	Pn	**Pn**	**09 27 26.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=311,slow=20,SNR=2.5						
PLCA				LR	LR	09 33 24.2	
	comp=Z,177nm,19.7s,baz=354,slow=38						
PLCA	**Paso Flores**	**15.76**	**179**	Pn	**Pn**	**09 27 24.0**	**-0.7**
PLCA	**Paso Flores**	**15.76**	**179**	*eP*	**P**	**09 27 32.9**	**+4.3**
SAML	**Samuel**	**17.58**	**27**	P	**P**	**09 27 49.7**	**+0.8**
SAML	**Samuel**	**17.58**	**27**	*eP*	**P**	**09 27 50.4**	**+1.5**
CLDB	**Colider**	**20.12**	**49**	*eP*	**P**	**09 28 16.4**	**-0.5**
ARAG	**Araguaiana, MT**	**20.21**	**67**	*eP*	**P**	**09 28 18.6**	**+0.7**
SPB	**Sao Paulo**	**21.56**	**91**	P	**P**	**09 28 32.7**	**+0.4**
SPB				IAmb	IAmb	09 28 36.1	
	comp=Z,26nm,0.8s						
RCLB	**Rio Claro- Sao**	**21.67**	**88**	*eP*	**P**	**09 28 33.7**	**+0.1**
VAO	**Valinhos**	**22.08**	**90**	*eP*	**P**	**09 28 37.1**	**-0.9**
IPMB	**Ipameri, GO**	**22.33**	**76**	*eP*	**P**	**09 28 39.8**	**-0.9**
NPGB	**Novo Progresso**	**23.27**	**43**	*eP*	**P**	**09 28 51.2**	**+0.7**
BDFB	**Brasilia**	**23.46**	**71**	P	**P**	**09 28 51.2**	**-1.3**
BDFB				LR	LR	09 38 22.0	
	comp=Z,8.4nm,0.8s,baz=253,slow=12,SNR=9.0						
	comp=Z,74nm,18.7s,baz=266,slow=38						
BDFB	**Brasilia**	**23.46**	**71**	P	**P**	**09 28 50.9**	**-1.7**
PEXB	**Peixe**	**25.00**	**63**	*eP*	**P**	**09 29 08.5**	**+1.7**
ITTB	**Itaituba**	**25.20**	**38**	*eP*	**P**	**09 29 09.2**	**+0.7**
JANB	**Januaria**	**26.93**	**74**	*eP*	**P**	**09 29 24.2**	**-0.1**
SMTB	**Santa Maria do**	**27.48**	**58**	*eP*	**P**	**09 29 30.1**	**+0.9**
PRPB	**Parauapebas**	**27.60**	**51**	*eP*	**P**	**09 29 30.4**	**+0.2**
PMSA	**Palmer Station**	**40.09**	**175**	LR	LR	09 44 54.2	
	comp=Z,63nm,21.6s,baz=144,slow=32						
VNA3	**Neumayer Olymp**	**57.49**	**160**	P	**P**	**09 33 32.4**	**+1.0**
SNAA	**Sanae**	**59.70**	**160**	P	**P**	**09 33 47.7**	**+0.8**
SNAA	**Sanae**	**59.70**	**160**	P	**P**	**09 33 47.5**	**+0.6**
SNAA				IAmb	IAmb	09 33 48.4	
	comp=Z,6.9nm,0.7s						
U59A	**Littleton**	**61.30**	**354**	P	**P**	**09 33 57.5**	**-0.5**
CPCT	**Cooper Cave**	**61.40**	**347**	P	**P**	**09 34 00.1**	**+1.3**
CPCT				IAmb	IAmb	09 34 09.3	
	comp=Z,10.0nm,1.3s						
SWET	**Sewanee**	**61.47**	**346**	P	**P**	**09 33 59.7**	**+0.4**
SWET				IAmb	IAmb	09 34 10.6	
	comp=Z,7.1nm,1.1s						
JCT	**Junction City**	**61.62**	**332**	P	**P**	**09 34 00.8**	**+0.4**
JCT				IAmb	IAmb	09 34 12.0	
	comp=Z,5.9nm,0.8s						
U54A	**Nelsons Funny**	**61.97**	**350**	P	**P**	**09 34 02.8**	**+0.1**
U54A				IAmb	IAmb	09 34 04.9	
	comp=Z,8.8nm,0.9s						
TXAR	**Lajitas Array**	**62.41**	**328**	P	**P**	**09 34 08.5**	**+2.7**
	comp=Z,1.0nm,0.9s,baz=146,slow=9.1,SNR=11						
TX31	**Lajitas Ar. Si**	**62.41**	**328**	P	**P**	**09 34 07.7**	**+1.8**
TX32	**Lajitas Array**	**62.41**	**328**	P	**P**	**09 34 06.9**	**+1.1**
TX32				IAmb	IAmb	09 34 16.6	
	comp=Z,16nm,1.9s						
R58B	**Mineral**	**62.90**	**354**	P	**P**	**09 34 10.2**	**+1.4**
R58B				IAmb	IAmb	09 34 11.6	
	comp=Z,9.7nm,0.9s						
T47A	**Sharon Grove**	**63.43**	**346**	P	**P**	**09 34 12.5**	**+0.2**
WCI	**Wyandotte Cave**	**64.45**	**347**	P	**P**	**09 34 18.4**	**-0.6**
MNTX	**Cornudas Mount**	**65.19**	**328**	P	**P**	**09 34 24.8**	**+0.8**
MNTX				IAmb	IAmb	09 34 35.2	
	comp=Z,3.3nm,0.9s						
QSPA	**South Pole Qui**	**65.27**	**180**	P	**P**	**09 34 25.0**	**+0.7**
R40A	**Maddies Statio**	**65.98**	**342**	P	**P**	**09 34 28.8**	**-0.1**
ANMO	**Albuquerque**	**68.37**	**329**	P	**P**	**09 34 45.4**	**+0.9**
SDCO	**Great Sand Dun**	**70.26**	**332**	P	**P**	**09 34 56.2**	**-0.1**
SDCO				IAmb	IAmb	09 35 03.7	
	comp=Z,5.6nm,1.2s						
X16A	**Lo Mia Camp, P**	**70.39**	**325**	P	**P**	**09 34 54.6**	**-2.4**
DBIC	**Dimbokro**	**71.59**	**73**	P	**P**	**09 35 05.2**	**+0.7**
	comp=Z,9.2nm,0.8s,baz=220,slow=7.3,SNR=8.7						
DBIC	**Dimbokro**	**71.59**	**73**	P	**P**	**09 35 04.5**	**0.0**
DBIC				IAmb	IAmb	09 35 06.2	
	comp=Z,9.2nm,0.8s						
D62A	**Allapoint, All**	**71.71**	**1**	P	**P**	**09 35 06.6**	**+2.2**
D62A				IAmb	IAmb	09 35 07.1	
	comp=Z,10nm,0.8s						
F36A	**Milaca**	**73.37**	**344**	P	**P**	**09 35 14.7**	**+0.3**
F36A				IAmb	IAmb	09 37 14.3	
	comp=Z,20nm,1.6s						
MSU	**Marysvale**	**73.96**	**328**	P	**P**	**09 35 16.4**	**-1.9**
SYO	**Syowa Base**	**73.98**	**159**	⇑*eP*	**P**	**09 35 17.4**	**-0.4**
SYO	**Syowa Base**	**73.98**	**159**	⇑*eP*	P	09 35 28.1	+10
HWUT	**Hardware Ranch**	**76.11**	**330**	P	**P**	**09 35 27.9**	**-2.7**
KOWA	**Kowa**	**76.18**	**67**	P	**P**	**09 35 32.2**	**+0.9**
KOWA				IAmb	IAmb	09 35 33.2	
	comp=Z,8.8nm,0.8s						
TOA0	**Torodi Ar. Sit**	**80.35**	**71**	P	**P**	**09 35 55.1**	**+0.7**
TOA0				IAmb	IAmb	09 35 56.1	
	comp=Z,14nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.35**	**71**	P	**P**	**09 35 55.0**	**+0.6**
	comp=Z,12nm,0.7s,baz=256,slow=5.0,SNR=64						
TORD	**Torodi Ar. Bea**	**80.35**	**71**	P	**P**	**09 35 55.0**	**+0.6**
MAW	**Mawson**	**81.60**	**164**	P	**P**	**09 36 00.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=252,slow=11,SNR=6.4						
BOSA	**Boshof**	**83.55**	**118**	P	**P**	**09 36 11.8**	**+0.5**
	comp=Z,5.3nm,0.8s,baz=253,slow=3.6,SNR=7.3						
ASAR	**Alice Springs**	**125.97**	**209**	PKP	**PKPdf**	**09 42 46.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=206,slow=2.6,SNR=4.9						
WRA	**Warramunga Arr**	**129.01**	**211**	PKP	**PKiKP**	**09 42 52.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=164,slow=2.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**145.89**	**26**	PKPbc	**PKPab**	**09 43 23.1**	**+0.9**
	comp=Z,5.3nm,0.6s,baz=306,slow=3.3,SNR=20						
KSH	**Kashi**	**148.74**	**54**	PKPbc	**PKPbc**	**09 43 29.6**	**-0.8**
MKAR	**Makanchi Array**	**149.55**	**37**	PKPbc	**PKPbc**	**09 43 31.6**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=324,slow=2.6,SNR=36						
MKAR	**Makanchi Array**	**149.55**	**37**		**PKiKP**	**09 43 33.3**	**+0.1**
GTA	**Gaotai**	**163.64**	**26**	*e*PKP	**PKPdf**	**09 43 45.7**	**-0.3**
LZH	**Lanzhou**	**168.05**	**20**	*e*PKP	**PKPdf**	**09 43 44.7**	**-5.0**
LZH				pPKP	sPKPdf	09 43 54.8	+0.1
LZH				sPKP		09 43 58.9	

DJA 07 09:30:41.1±0.6, 1°S±5°×113°2E±°, h141km±7km, M3.9/6, mb4.2/1, MLv3.7/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.76**	**172**	P	Pn	09 31 13.2	+0.2
FAKI				S	Sn	09 31 37.9	+0.5
RKPI	**Ransiki, Papua**	**2.19**	**99**	P	Pn	09 31 17.5	-0.5
RKPI				S	Sn	09 31 46.9	+0.5
AAI	**Ambon**	**4.56**	**237**	P	Pn	09 31 48.9	+0.3
TNTI	**Ternate**	**5.02**	**292**	P	Pn	09 31 54.2	-0.5

*IDC **07** 09:34:03.8±1.3, 13°.41N×120°.71E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/42, mbtmp3.4/3, Error ellipse: s-maj=38.6km s-min=10.0km az=101.0*
*MAN **07** 09:34:04.9, 13°.67N×120°.74E, h49km, mb4.7, ML3.5, MS3.4*
MAN Intensity IV - Puerto Galera Occidental Mindoro.
ISC 07 09:34:04.8±1.2, 13°.58N±0.03×120°.79E±0.04, h10km±8km, n15, σ1§43/25, mb3.5/3, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.17**	**116**	⇑*iP*	**Pg**	**09 34 08.5**	**-0.1**
PGP				*i* S	**Sg**	**09 34 10.8**	**-0.4**
TGY	**Tagaytay City**	**0.54**	**15**	Pg	**Pn**	**09 34 18.2**	**-0.4**
	813nm,0.3s,baz=154,slow=3.9,SNR=27						
TGY				Lg	Lg	09 34 26.9	
	2μm,0.3s,baz=287,slow=19,SNR=126						
TGY	**Tagaytay City**	**0.54**	**15**	⇑*eP*	**Pn**	**09 34 18.1**	**-0.4**
TGY				*i* S	**Sb**	**09 34 27.9**	**+3.7**
LUBP	**Lubang**	**0.55**	**286**	*eP*	**Pn**	**09 34 16.3**	**-2.5**
LUBP				*eS*	**Sb**	**09 34 26.4**	**+1.8**
LQP	**Lukban**	**0.90**	**54**	⇓*iP*	**Pn**	**09 34 22.8**	**-0.9**
LQP				*i* S	**Sn**	**09 34 35.1**	**-1.7**
BOAC	**Boac**	**1.03**	**97**	*eP*	**Pg**	**09 34 23.8**	**-0.8**
BOAC				*eS*	**Sg**	**09 34 38.2**	**+0.2**
SJMP	**San Jose**	**1.16**	**164**	*eP*	**Pg**	**09 34 27.6**	**+0.5**
SJMP				*eS*	**Sb**	**09 34 43.6**	**+1.7**
GQP	**Guinayangan**	**1.64**	**78**	⇓*eP*	**Pg**	**09 34 35.5**	**-0.8**
GQP				*eS*	**Sg**	**09 34 58.5**	**+1.0**
BUSP	**Coron**	**1.67**	**200**	*eP*	**Pn**	**09 34 34.6**	**+0.5**
BUSP				*eS*	**Sb**	**09 34 57.5**	**+0.8**
OTRP	**Odiongan**	**1.70**	**135**	*eP*	**Pn**	**09 34 33.1**	**-1.5**
OTRP				*eS*	**Sn**	**09 34 56.6**	**+0.2**
ENPP	**El Nido**	**2.71**	**210**	*eP*	**Pn**	**09 34 48.5**	**0.0**
ENPP				*eS*	**Sn**	**09 35 19.6**	**-1.8**
CUYO	**Cuyo Island**	**2.72**	**175**	*eP*	**Pn**	**09 34 48.6**	**0.0**
WRA	**Warramunga Arr**	**35.88**	**158**	P	**P**	**09 41 03.6**	**-1.6**
	0.5nm,0.6s,baz=331,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**39.18**	**161**	P	**P**	**09 41 33.0**	**-0.1**
	0.5nm,0.4s,baz=338,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**46.18**	**324**	P	**P**	**09 42 31.1**	**+1.2**
	0.3nm,0.6s,baz=134,slow=8.3,SNR=2.8						

*NEIC **07** 09:39:33.0±2.5, 31°.69N±0.02×115°.94W±0.02, h2km±7km, Error ellipse: s-maj=2.7km s-min=2.1km az=218.0*
*ECX **07** 09:39:33.7±0.9, 31°.67N×115°.95W, h6km±5km, MD2.8, ML3.0*
*PAS **07** 09:39:33.9±2.5, 31°.707N±0.004×115°.94W±0.02, h3km±6km, Error ellipse: s-maj=2.5km s-min=0.3km

BORC	Borrego Spring	1.66	347			Pb	09 40 03.2	+0.2
BORC						Sb	09 40 23.9	+0.4
GLA	Glamis	1.69	34	Pn		Pb	09 40 04.2	+0.6
PLM	Palomar	1.86	336			Pb	09 40 06.2	-0.4
FRD	Ford Ranch, An	1.92	344			Pb	09 40 08.0	+0.4
FRD	Ford Ranch, An	1.92	344			Pb	09 40 07.9	+0.4
BZNA	Buzz No.'s Pla	1.93	342			Pb	09 40 08.8	+1.0
SNDA	J Saunders Pla	1.98	344			Pb	09 40 09.6	+1.1
DNR	Dunn Ranch,Anz	1.99	344			Pb	09 40 09.4	+0.6
PFO	Pinyon Flats O	2.00	348			Pb	09 40 07.4	-1.5
CRY	Cary Ranch	2.02	341			Pb	09 40 09.5	+0.3
PIX	Pinacate	2.13	92	Pn		Pb	09 40 11.9	+0.8
113A	Mohawk Valley,	2.17	58			Pn	09 40 09.1	+1.1
DGR	Domenigoni Val	2.18	336			Sn	09 40 24.1	-11
HMTC	Hemet	2.23	337			Pb	09 40 13.8	+0.9
214A	Organ Pipe Nat	2.70	83	Pn		Pn	09 40 15.3	-0.1
SSK	Sunset Peak	2.94	331			Pb	09 40 24.1	-0.9
PASC	Pasadena Art C	3.14	324	Pn		Pn	09 40 23.3	+1.9
Y14A	Wickenburg	3.38	47			Pn	09 40 25.2	+0.5
X16A	Lo Mia Camp, P	4.69	53			Pn	09 40 43.5	+0.6

*ANF **07** 09:41:26.9±0.4, 62.°04N×149.°99W, h44^{km}±11^{km}, ML3.5/11, Error ellipse: s-maj=6.8km s-min=2.6km az=93.0*
*NEIC **07** 09:41:26.4±1.0, 62.°02N±0.°03×149.°92W±0.°05, h51^{km}±10^{km}, Error ellipse: s-maj=4.6km s-min=3.2km az=162.0*
*AEIC **07** 09:41:27.1±0.9, 62.°02N±0.°03×149.°91W±0.°05, h42^{km}±9^{km}, ML3.1, Error ellipse: s-maj=4.3km s-min=3.6km az=190.0*

ISC 07 09:41:26.7±1.2, 62.°02N±0.°02×149.°94W±0.°03, h42^{km}±14^{km}, n126, σ0.970/141, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUT	**Chulitna**	**0.41**	**338**	P	**Pn**	**09 41 36.2**	**-0.1**
	baz=157,SNR=171						
CUT				S	**Sn**	**09 41 43.9**	**+0.8**
	baz=157						
CUT	**Chulitna**	**0.41**	**338**		**Pn**	**09 41 36.3**	**-0.1**
GHO	**Glory Hole Cre**	**0.54**	**117**		**Pn**	**09 41 37.8**	**-0.3**
GHO					**Sn**	**09 41 46.6**	**+0.4**
PMR	**Palmer**	**0.58**	**138**		**Pn**	**09 41 37.7**	**-0.7**
PMR					**Sn**	**09 41 46.9**	**+0.1**
SUA	**Susitna One**	**0.68**	**215**		**Pn**	**09 41 39.9**	**-0.1**
SKT	**Skwentna**	**0.75**	**267**		**Pn**	**09 41 40.2**	**-0.7**
SKT					**Sn**	**09 41 51.2**	**+0.1**
SML	**Sawmill**	**0.79**	**105**		**Pn**	**09 41 40.6**	**-0.8**
FIS	**Fire Island**	**0.89**	**189**		**Pn**	**09 41 43.3**	**+0.6**
KNK	**Knik Glacier**	**0.93**	**130**		**Pn**	**09 41 42.8**	**-0.6**
RC01	**Rabbit Creek A**	**0.94**	**174**	P	**Pn**	**09 41 43.0**	**-0.4**
	baz=355,SNR=98						
RC01				S	**Sn**	**09 41 55.9**	**+0.2**
	baz=355						
RC01	**Rabbit Creek A**	**0.94**	**174**		**Pn**	**09 41 42.8**	**-0.6**
WAT7	**Susitna Watana**	**0.96**	**32**		**Pn**	**09 41 43.2**	**-0.5**
WAT7					**Sn**	**09 41 56.2**	**-0.1**
HUR	**Hurricane**	**0.97**	**8**		**Pn**	**09 41 43.7**	**-0.1**
WAT1	**Susitna Watana**	**1.04**	**38**		**Pn**	**09 41 44.1**	**-0.7**
STLK	**Strandline Lak**	**1.04**	**241**		**Pn**	**09 41 44.4**	**-0.4**
WAT2	**Susitna Watana**	**1.13**	**33**		**Pn**	**09 41 45.7**	**-0.5**
WAT6	**Susitna Watana**	**1.17**	**60**		**Pn**	**09 41 46.0**	**-0.7**
SPCG	**Spurr Capps Gl**	**1.23**	**234**		**Pn**	**09 41 47.2**	**-0.3**
SCM	**Sheep Creek Mo**	**1.25**	**98**		**Pn**	**09 41 47.5**	**-0.2**
SPCP	**Crater Peak Br**	**1.30**	**235**		**Pn**	**09 41 48.2**	**-0.3**
SPCN	**Chakachatna No**	**1.34**	**234**		**Pn**	**09 41 49.5**	**+0.6**
SPCR	**Spurr Chakacha**	**1.36**	**234**		**Pn**	**09 41 49.1**	**-0.2**
PPLA	**Purkeypile**	**1.36**	**311**		**Pn**	**09 41 49.0**	**-0.3**
CAPN	**Captain Cook N**	**1.39**	**205**	P	**Pn**	**09 41 51.2**	**+1.7**
	baz=25						
PWL	**Port Wells**	**1.40**	**146**		**Pn**	**09 41 49.5**	**-0.2**
TRF	**Thorofare Moun**	**1.44**	**354**		**Pn**	**09 41 50.3**	**-0.1**
SPNN	**North Nagishla**	**1.47**	**245**		**Pn**	**09 41 51.0**	**+0.2**
RND	**Reindeer**	**1.48**	**19**		**Pn**	**09 41 50.5**	**-0.3**
SLKM	**Skilak Lake**	**1.53**	**185**		**Pn**	**09 41 50.9**	**-0.5**
O22K	**Cooper Landing**	**1.55**	**176**	P	**Pn**	**09 41 52.0**	**+0.3**
	baz=357,SNR=22						
O22K				S	**Sn**	**09 42 11.4**	**+0.8**
	baz=357						
O22K	**Cooper Landing**	**1.55**	**176**		**Pn**	**09 41 51.3**	**-0.4**
DHY	**Denali Highway**	**1.59**	**47**		**Pn**	**09 41 52.4**	**0.0**
KTH	**Kantishna Hill**	**1.60**	**344**		**Pn**	**09 41 52.6**	**0.0**
CAST	**Castle Rocks**	**1.71**	**326**		**Pn**	**09 41 54.5**	**+0.5**
M24K	**Tolsona, Glenn**	**1.77**	**86**	P	**Pn**	**09 41 55.7**	**+0.8**
	baz=269,SNR=63						
M24K				S	**Sn**	**09 42 19.3**	**+3.1**
	baz=269						
M24K	**Tolsona, Glenn**	**1.77**	**86**	Pn	**Pn**	**09 41 55.7**	**+0.8**
MCK	**McKinley**	**1.78**	**15**	P	**Pn**	**09 41 55.3**	**+0.5**
	baz=195,SNR=26						
MCK				S	**Sn**	**09 42 16.9**	**+0.6**
	baz=195						
MCK	**McKinley**	**1.78**	**15**		**Pn**	**09 41 55.4**	**+0.5**
GLI	**Glacier Island**	**1.78**	**129**		**Pn**	**09 41 54.5**	**-0.5**
SEW	**Seward**	**1.94**	**173**		**Pn**	**09 41 56.1**	**-1.0**
DFR	**Drift River**	**1.95**	**224**		**Pn**	**09 41 57.8**	**+0.4**
KLU	**Klutina**	**1.98**	**104**		**Pn**	**09 41 57.4**	**-0.4**
NCT	**North Crescent**	**2.06**	**226**		**Pn**	**09 41 59.5**	**+0.7**
RSO	**Redoubt South**	**2.08**	**222**		**Pn**	**09 41 58.7**	**-0.5**
RDWB	**Redoubt West**	**2.08**	**224**		**Pn**	**09 41 59.4**	**+0.2**
FID	**Port Fidalgo**	**2.10**	**126**		**Pn**	**09 41 58.5**	**-0.7**
PS11	**TAPS Pump St11**	**2.10**	**86**		**Pn**	**09 42 00.0**	**+0.7**
RED	**Redoubt Volcan**	**2.11**	**222**		**Pn**	**09 41 59.9**	**+0.3**
BPAW	**Bear Paw Mtn.**	**2.14**	**348**		**Pn**	**09 41 59.4**	**-0.4**
BWN	**Browne**	**2.17**	**6**		**Pn**	**09 42 00.4**	**+0.2**
DIV	**Divide**	**2.19**	**112**		**Pn**	**09 41 59.9**	**-0.6**
PAX	**Paxson**	**2.28**	**63**		**Pn**	**09 42 02.8**	**+0.9**
BRLK	**Bradley Lake**	**2.31**	**192**		**Pn**	**09 42 02.2**	**0.0**
BRSE	**Bradley Lake S**	**2.32**	**190**		**Pn**	**09 42 01.6**	**-0.8**
HIN	**Hinchinbrook I**	**2.33**	**133**		**Pn**	**09 41 01.8**	**-0.7**
PS12	**TAPS Pump St12**	**2.35**	**101**		**Pn**	**09 42 02.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**2.51**	**124**		**Pn**	**09 42 04.2**	**-0.7**
CNPM	**China Poot**	**2.58**	**195**		**Pn**	**09 42 06.8**	**+0.9**
WRH	**Wood River Hil**	**2.60**	**18**		**Pn**	**09 42 05.9**	**-0.2**
NEA2	**Nenana**	**2.61**	**8**	P	**Pn**	**09 42 05.7**	**-0.6**
	baz=189,SNR=24						
NEA2				S	**Sn**	**09 42 35.8**	**-0.9**
	baz=189						
NEA2	**Nenana**	**2.61**	**8**		**Pn**	**09 42 05.7**	**-0.6**
HDA	**Harding Lake**	**2.75**	**28**	P	**Pn**	**09 42 08.2**	**0.0**
	baz=210,SNR=14						
HDA				S	**Sn**	**09 42 41.6**	**+1.4**
	baz=210						
HDA	**Harding Lake**	**2.75**	**28**		**Pn**	**09 42 08.1**	**-0.1**
BMRM	**Bremner River**	**2.77**	**110**		**Pn**	**09 42 07.6**	**-0.9**
CCB	**Clear Creek Bu**	**2.81**	**19**		**Pn**	**09 42 08.8**	**-0.2**
SVW2	**Sparrevohn**	**2.85**	**254**		**Pn**	**09 42 09.4**	**-0.3**
PS08	**TAPS Pump Stn8**	**2.90**	**28**		**Pn**	**09 42 09.9**	**-0.2**
RIDG	**Independent Ri**	**2.90**	**51**	Pn	**Pn**	**09 42 12.1**	**+1.8**
TT01	**Tatalina**	**2.96**	**290**		**Pn**	**09 42 11.1**	**-0.1**
TTA	**Tatalina**	**2.96**	**291**		**Pn**	**09 42 10.9**	**-0.3**
GLB	**Gilahina Butte**	**2.98**	**99**		**Pn**	**09 42 10.9**	**-0.4**
TCOL	**CIGO, UAF Yank**	**3.01**	**17**	P	**Pn**	**09 42 11.9**	**+0.2**
	baz=199,SNR=15						
TCOL				S	**Sn**	**09 42 46.8**	**+0.3**
	baz=199						
TCOL	**CIGO, UAF Yank**	**3.01**	**17**		**Pn**	**09 42 12.1**	**+0.4**
COLA	**College**	**3.01**	**17**	Pn	**Pn**	**09 42 11.9**	**+0.2**
MENT	**Mentasta**	**3.03**	**70**		**Pn**	**09 42 12.1**	**0.0**
RAGM	**Ragged Mountai**	**3.03**	**120**	Pn	**Pn**	**09 42 12.7**	**+0.6**
MLY	**Manley**	**3.04**	**354**	P	**Pn**	**09 42 11.9**	**-0.3**
	baz=173,SNR=29						
MLY				S	**Sn**	**09 42 46.6**	**-0.8**
	baz=173						
MLY	**Manley**	**3.04**	**354**		**Pn**	**09 42 11.9**	**-0.3**
MDM	**Murphy Dome**	**3.05**	**14**		**Pn**	**09 42 12.2**	**-0.1**
IL31		**3.08**	**25**		**Pn**	**09 42 12.5**	**-0.2**
ILAR	**Eielson Array**	**3.08**	**25**		**Pn**	**09 42 12.6**	**-0.2**
VRDI	**Verde Repeater**	**3.20**	**102**		**Pn**	**09 42 14.1**	**-0.5**
POKR	**Poker Plat Res**	**3.30**	**19**	P	**Pn**	**09 42 15.9**	**+0.1**
	baz=201,SNR=8.3						
POKR				S	**Sn**	**09 42 53.6**	**-0.2**
	baz=201						
POKR	**Poker Plat Res**	**3.30**	**19**		**Pn**	**09 42 15.9**	**+0.1**
SCRK	**Sand Creek**	**3.35**	**52**	P	**Pn**	**09 42 16.7**	**+0.1**
	baz=287						
SCRK	**Sand Creek**	**3.35**	**52**		**Pn**	**09 42 16.4**	**-0.1**
MCARA	**McCarthy VSAT**	**3.36**	**98**		**Pn**	**09 42 16.4**	**-0.1**
PS07	**TAPS Pump Stn7**	**3.38**	**12**		**Pn**	**09 42 17.2**	**+0.3**
CRQM	**Cirque**	**3.51**	**108**		**Pn**	**09 42 18.6**	**-0.2**
SUCK	**Suckling Hills**	**3.58**	**120**	Pn	**Pn**	**09 42 19.9**	**+0.3**
TGL	**Tana Glacier**	**3.65**	**107**		**Pn**	**09 42 20.1**	**-0.5**
PTPK	**Patty Peak**	**3.67**	**100**		**Pn**	**09 42 20.8**	**-0.2**
BALM	**Baldy**	**3.77**	**102**		**Pn**	**09 42 21.5**	**-0.8**
KIAG	**Kiagna River**	**3.80**	**104**		**Pn**	**09 42 21.9**	**-0.9**
BC03		**3.92**	**71**		**Pn**	**09 42 24.3**	**+0.1**
BCAR	**Beaver Creek A**	**3.92**	**71**		**Pn**	**09 42 24.8**	**+0.5**
ISLE	**Juniper Island**	**3.93**	**108**		**Pn**	**09 42 24.2**	**-0.3**
BARN	**Barnard Glacie**	**4.08**	**100**		**Pn**	**09 42 26.4**	**-0.2**
GRNC	**Granite Creek**	**4.15**	**105**		**Pn**	**09 42 26.7**	**-0.9**
CTGM	**Chitina Glacie**	**4.26**	**101**		**Pn**	**09 42 28.7**	**-0.3**
BVCY	**Beaver Creek**	**4.27**	**81**		**Pn**	**09 42 29.6**	**+0.5**
MESA	**MESA**	**4.30**	**112**	Pn	**Pn**	**09 42 29.3**	**-0.4**
YAH	**Yahtse**	**4.30**	**109**		**Pn**	**09 42 29.8**	**+0.1**
YUK2	**White River**	**4.31**	**89**		**Pn**	**09 42 29.5**	**-0.2**
IM03		**4.32**	**339**		**Pn**	**09 42 29.8**	**+0.1**
KDAK	**Kodiak Island**	**4.46**	**199**		**Pn**	**09 42 30.5**	**-1.1**
YUK3	**Moose Creek**	**4.49**	**89**		**Pn**	**09 42 32.1**	**-0.2**
TABL	**Table Mountain**	**4.54**	**107**		**Pn**	**09 42 31.9**	**-1.1**
EGAK	**Eagle**	**4.82**	**51**	Pn	**Pn**	**09 42 37.6**	**+1.0**
FYU	**Fort Yukon**	**5.00**	**22**	Pn	**Pn**	**09 42 40.7**	**+1.7**
PCA	**Pinnacle**	**5.08**	**108**		**Pn**	**09 42 38.7**	**-1.6**
OHAK	**Old Harbor**	**5.11**	**201**		**Pn**	**09 42 38.7**	**-1.9**
DAWY	**Dawson**	**5.22**	**62**	Pn	**Pn**	**09 42 42.4**	**+0.3**
COLD	**Coldfoot**	**5.23**	**359**	P	**Pn**	**09 42 42.3**	**+0.1**
	baz=178,SNR=6.3						
COLD				S	**Sn**	**09 43 38.9**	**-2.2**
	baz=178						
COLD	**Coldfoot**	**5.23**	**359**		**Pn**	**09 42 42.0**	**-0.2**
BMAR	**Burnt Mountain**	**5.89**	**21**	Pn	**Pn**	**09 42 51.5**	**+0.1**
HYT	**Haines Junctio**	**6.09**	**96**	Pn	**Pn**	**09 42 53.0**	**-1.1**
TOLK	**Toolik Lake Re**	**6.65**	**1**	S	**Sn**	**09 44 15.7**	**-0.4**
	baz=181						
TOLK	**Toolik Lake Re**	**6.65**	**1**	Pn	**Pn**	**09 43 02.9**	**+1.2**
EPYK	**Eagle Plains**	**7.22**	**47**	Pn	**Pn**	**09 43 09.3**	**-0.3**
WHY	**Whitehorse**	**7.37**	**94**	Pn	**Pn**	**09 43 11.3**	**-0.4**
ANM	**Nome**	**7.40**	**297**	Pn	**Pn**	**09 43 11.8**	**-0.1**
SKAG	**Skagway**	**7.61**	**103**	Pn	**Pn**	**09 43 14.7**	**-0.1**
BESE	**Bessie Mountai**	**8.24**	**108**	Pn	**Pn**	**09 43 23.3**	**-0.3**
JIS	**Juneau Island**	**8.61**	**109**	Pn	**Pn**	**09 43 27.0**	**-1.6**
TNA	**Tin City**	**8.70**	**302**	Pn	**Pn**	**09 43 30.3**	**+0.6**

*REY **07** 10:22:27.3, 64.°62N×17.°40W, h0^{km}*
*IEPN **07** 10:22:29.0, 64.°30N×17.°39W, h10^{km}*
*MOS **07** 10:22:30.1±1.2, 64.°54N×17.°37W, h9^{km}, mb5.4/145, MS5.2/70, Error ellipse: s-maj=6.5km s-min=3.5km az=111.5*
*BGS **07** 10:22:30.5±1.7, 64.°53N×17.°20W, h5^{km}, MS5.0*
*IDC **07** 10:22:30.3±0.4, 64.°49N×17.°34W, h0^{km}, mb4.7/39, mb1 4.8/46, mb1mx4.7/57, mbtmp4.7/46, ML3.4/6, MS5.2/51, Ms1 5.2/51, ms1mx5.2/53, Error ellipse: s-maj=11.4km s-min=7.9km az=23.0*
*NEIC **07** 10:22:30.8±1.3, 64.°53N±0.°07×17.°2W±0.°1, h4^{km}±1^{km}, mb5.3/482, Ms_20 5.3/789, Mwb5.4/52, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=12.8km s-min=9.8km az=195.0*
*BJI **07** 10:22:31.1±0.0, 65.°05N×17.°02W, h5^{km}, mB5.7/64, mb5.0/64, Ms5.6/63, Ms7 5.4/59*
*NAO **07** 10:22:31.7±5.5, 64.°47N×17.°09W, ML5.4*
*NEIC **07** 10:22:31.6, 64.°51N×17.°19W, h4^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr=1.57; Mθθ=0.70; Mφφ=0.88; Mrθ=0.55; Mθφ=0.15; Mφr=0.71; Fault plane solution: M0=1.64000×10^{17} NP1:φ1=30.21000°, δ1=27.47000°, λ1=-93.70000°. NP2:φ2=214.38000°, δ2=62.59000°, λ2=-88.08000°. Principal axes: T 1.2374, Plg18.0000°, Azm303.0000°; N 0.6189, Plg2.0000°, Azm33.0000°; P -1.8562, Plg72.0000°, Azm129.0000°;*
*GCMT **07** 10:22:33.8±0.1, 64.°62N×17.°26W, h12^{km}, MW5.5/155, Moment Tensor Solution. s112,c186; s155,c336; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; Mrr=2.97±.02; Mθθ=1.74±.02; Mφφ=1.23±.02; Mrθ=0.39±.06; Mθφ=0.02±.02; Mφr=0.77±.06; Best double couple: M0=2.46200×10^{17} NP1:φ1=91.00000°, δ1=39.00000°, λ1=-104.00000°. NP2:φ2=289.00000°, δ2=52.00000°, λ2=-79.00000°. Principal axes: T 1.7870, Plg6.0000°, Azm11.0000°; N 1.3500, Plg9.0000°, Azm102.0000°; P -3.1370, Plg79.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 10:22:34, 64.°59N×17.°24W, h12^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr=2.99; Mθθ=1.80; Mφφ=1.19; Mrθ=-0.08; Mθφ=-0.13; Mφr=-0.91; Fault plane solution: M0=2.77000×10^{17} NP1:φ1=92.00000°, δ1=45.00000°, λ1=-107.00000°. NP2:φ2=295.00000°, δ2=48.00000°, λ2=-74.00000°. Principal axes: T 1.8308, Plg2.0000°, Azm14.0000°; N 1.3520, Plg12.0000°, Azm104.0000°; P -3.1827, Plg78.0000°, Azm276.0000°;*
*NEIC **07** 10:22:34, 64.°51N×17.°48W, h12^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr=2.46; Mθθ=1.52; Mφφ=0.93; Mrθ=0.35; Mθφ=0.01; Mφr=0.18; Fault plane solution: M0=2.18000×10^{17} NP1:φ1=88.00000°, δ1=40.00000°, λ1=-94.00000°. NP2:φ2=274.00000°, δ2=50.00000°, λ2=-86.00000°. Principal axes: T 1.5541, Plg5.0000°, Azm1.0000°; N 0.9413, Plg3.0000°, Azm91.0000°; P -2.4954, Plg84.0000°, Azm211.0000°;*
*BGR **07** 10:22:34.5±0.0, 63.°93N×17.°95W, h10^{km}, mb5.6*
*DNK **07** 10:22:38.8±6.8, 64.°70N×17.°26W, h35^{km}±99^{km}, mb5.2, Ms5.2*

ISC 07 10:22:32.2±0.2, 64.°49N±0.°02×17.°37W±0.°02, h10^{km}, n1947, σ2.957/1922, mb5.3/411, MS5.3/506, 30C-38D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDJK	**Dyngjujokull**	**0.06**	**78**	P	**Pg**	**10 22 30.8**	**-3.7**
	baz=148						
IGRF	**Grimsfjall**	**0.10**	**153**	P	**Pg**	**10 22 32.3**	**-2.6**
	baz=164						
IHUS	**Husbondi**	**0.23**	**213**	P	**Pg**	**10 22 34.5**	**-2.5**
	baz=199						
IVOT	**Vottur**	**0.24**	**160**	P	**Pg**	**10 22 34.8**	**-2.3**
	baz=164						
IVON	**Vonarskard**	**0.25**	**318**	P	Pg	10 22 31.1	-6.2
	baz=290						
IBJK	**Brynkokull**	**0.27**	**95**	P	**Pg**	**10 22 33.9**	**-3.8**
	baz=118						
IDYN	**Dyngjuhals**	**0.30**	**0**	P	Pg	10 22 31.3	-6.9
	baz=5.4						
IURH	**Urdarhals**	**0.34**	**16**	P	Pg	10 22 32.5	-6.6
	baz=28						
IKVE	**Kverkfjoll**	**0.35**	**58**	P	Pg	10 22 34.2	-5.0
	baz=79						
IJOK	**Jokulheimar**	**0.41**	**245**	P	**Pg**	**10 22 36.4**	**-3.9**
	baz=230						
ISKR	**Skrokkalda**	**0.45**	**279**	P	Pg	10 22 35.8	-5.1
	baz=262						
IKSK	**Karasker**	**0.51**	**130**	P	**Pg**	**10 22 38.3**	**-3.9**
	baz=138						
IKRE	**Kreppuhraun**	**0.52**	**55**	P	Pg	10 22 36.4	-5.8
	baz=69						
IIEY	**Innrieyrar**	**0.52**	**220**	P	**Pg**	**10 22 38.8**	**-3.5**
	baz=211						
THOR	**Thorvaldshraun**	**0.53**	**34**	P	Pg	10 22 36.2	-6.4
	baz=44						
THOR				S	**Sg**	**10 22 44.5**	**-5.2**
	baz=44						
IKAL	**Kalfafell**	**0.56**	**194**	P	**Pg**	**10 22 40.0**	**-3.1**
	baz=190						
IMKO	**Mokollar**	**0.66**	**42**	P	Pg	10 22 38.3	-6.6
	baz=51						
IVAT	**Vatnsfell**	**0.74**	**246**	P	Pg	10 22 41.9	-4.6
	baz=237						
IVSH	**V-Sauoahnukur**	**0.77**	**65**	P	Pg	10 22 41.1	-6.1
	baz=74						
ISVA	**Svartarkot**	**0.85**	**3**	P	Pg	10 22 40.6	-8.0
	baz=5.0						
IADA	**Aoalbol**	**0.93**	**55**	P	Pg	10 22 43.0	-7.1
	baz=62						
ISNB	**Snabyli**	**0.94**	**217**	P	**Pg**	**10 22 46.2**	**-4.0**
	baz=212						
IHVE	**Hvervellir**	**1.02**	**293**	P	Pg	10 22 44.9	-6.8
	baz=286						
ISLY	**Slysaalda**	**1.02**	**230**	P	Pg	10 22 47.2	-4.6
	baz=224						
IRJU	**Rjupnafell**	**1.05**	**214**	P	**Pg**	**10 22 48.0**	**-4.3**
	baz=210						
IFED	**Fedgar**	**1.12**	**246**	P	Pg	10 22 48.4	-5.3
	baz=240						
IMEL	**Melhnausar**	**1.12**	**15**	P	Pb	10 22 45.4	-8.3
	baz=18						
IMJO	**Mjoaskard**	**1.15**	**242**	P	Pb	10 22 49.4	-4.9
	baz=236						
IHVO	**Lagu-Hvolar**	**1.17**	**215**	P	**Pb**	**10 22 50.2**	**-4.2**
	baz=211						
IREN	**Reynihlio**	**1.18**	**9**	P	Pb	10 22 46.3	-8.3
	baz=11						
IKVO	**Krokottuvotn**	**1.24**	**9**	P	Pn	10 22 47.4	-8.2
	baz=11						
IHAU	**Haukadalur**	**1.25**	**246**	P	Pn	10 22 50.5	-5.2
	baz=241						
IGRS	**Grimsstaoir**	**1.27**	**24**	P	Pn	10 22 48.1	-7.8
	baz=27						
IALF	**Alftagrof**	**1.28**	**219**	P	**Pn**	**10 22 52.1**	**-4.0**
	baz=216						
IESK	**Eystri-Skogar**	**1.34**	**224**	P	**Pn**	**10 22 52.4**	**-4.4**
	baz=220						
IMID	**Miomork**	**1.39**	**234**	P	**Pn**	**10 22 53.5**	**-4.0**
	baz=230						
IGHA	**Grjothals**	**1.39**	**12**	P	Pn	10 22 49.8	-7.8
	baz=14						
ISAU	**Saurbar**	**1.42**	**251**	P	Pn	10 22 52.5	-5.6
	baz=246						
IGRA	**Granastaoir**	**1.44**	**357**	P	Pn	10 22 50.6	-7.6
	baz=357						
IDIM	**Dimmadalss**	**1.49**	**7**	P	Pn	10 22 51.4	-7.5
	baz=8.2						
IHLA	**Hella**	**1.52**	**344**	P	Pn	10 22 51.8	-7.6
	baz=343						
IASM	**Asmuli**	**1.57**	**247**	P	Pn	10 22 55.4	-4.6
	baz=242						
IHED	**Heoinshofoi**	**1.60**	**1**	P	Pn	10 22 52.8	-7.6
	baz=1.5						
IGIL	**Gilhagi**	**1.65**	**15**	P	Pn	10 22 54.0	-7.1
	baz=16						
IBRE	**Brettingsstaoi**	**1.65**	**352**	P	Pn	10 22 54.1	-7.1
	baz=352						
ISOL	**Solvholt**	**1.66**	**252**	P	**Pn**	**10 22 56.8**	**-4.6**
	baz=247						
IVME	**Vestmannaeyjar**	**1.68**	**232**	P	**Pn**	**10 22 58.5**	**-3.0**
	baz=228						
IKRO	**Krokur**	**1.68**	**258**	P	Pn	10 22 56.4	-5.2
	baz=254						
BORG	**Borgarnes**	**1.73**	**280**	Pn	**Pn**	**10 22 58.3**	**-3.9**
	174nm,0.3s,baz=98,slow=9.8,SNR=161						
BORG				Sn	**Sn**	**10 23 22.8**	**-1.5**
	224nm,0.3s,baz=278,slow=22,SNR=13						
BORG				LR	LR	10 23 47.0	
	comp=Z,76μm,19.1s,baz=170,slow=44						
BORG	**Borgarnes**	**1.73**	**280**		Pn	10 22 56.8	-5.4
BORG					**Sb**	**10 23 24.2**	**-1.4**
ISIG	**Siglufjorour**	**1.77**	**339**	P	Pn	10 22 55.5	-7.3
	baz=338						
IBJA	**Bjarnastaoir**	**1.81**	**254**	P	**Pn**	**10 22 59.3**	**-4.0**
	baz=250						
ISAN	**Sandskeio**	**1.89**	**258**	P	**Pn**	**10 23 00.3**	**-4.1**
	baz=255						
IKUD	**Kuludalsa**	**1.96**	**267**	P	**Pn**	**10 23 01.0**	**-4.5**
	baz=263						
IHRN	**Hraun**	**2.00**	**326**	P	Pn	10 22 59.7	-6.2
	baz=324						
IHRN				S	**Sn**	**10 23 28.8**	**-2.1**
	baz=324						
IKAS	**Kald??rsel**	**2.01**	**258**	P	**Pn**	**10 23 02.1**	**-4.1**
	baz=255						
IGRI	**Grimsey**	**2.08**	**353**	P	Pn	10 23 00.2	-6.8
	baz=353						
IVOG	**Vogar**	**2.26**	**259**	P	**Pn**	**10 23 06.5**	**-3.0**
	baz=256						
JMIC	**Jan Mayen**	**7.33**	**23**	Pn	**Pn**	**10 24 21.5**	**+2.4**
JMIC	**Jan Mayen**	**7.33**	**23**	Pn	**Pn**	**10 24 21.5**	**+2.4**
LEWI	**Lewis, Hebride**	**8.12**	**137**	*e*P	**Pn**	**10 24 28.9**	**-1.1**
WAL1	**Wallis**	**8.45**	**113**	*e*P	**Pn**	**10 24 32.6**	**-1.9**
ANGG	**Ammassalik, Gr**	**8.63**	**287**	*e*P	**Pn**	**10 24 41.0**	**+4.1**
ANGG				IAMs_20	IAMs_20	10 27 47.1	
	comp=Z,32μm,11.8s						
KAC	**Achnashellach**	**9.13**	**135**	*e*P	**Pn**	**10 24 42.0**	**-1.7**
KPL	**Plockton**	**9.15**	**136**	*e*P	**Pn**	**10 24 42.5**	**-1.6**
KPL				IAMs_20	IAMs_20	10 28 56.1	
	comp=Z,14μm,13.9s						
ISOG	**Isortoq, Green**	**9.19**	**286**	*i* P	Pn	10 24 50.4	+5.8
ISOG				IAMs_20	IAMs_20	10 28 11.2	
	comp=Z,27μm,11.1s						
MDO	**Dochfour**	**9.47**	**132**	*e*P	**P

DAG MLR MLR
comp=Z,15µm,25.0s
DAG Danmarks Havn 12.35 359 *i* P **Pn 10 25 29.3 +1.6**
comp=Z,66nm,1.1s
comp=Z,15µm,25.0s
DAG Danmarks Havn 12.35 359 *i* P **Pn 10 25 29.4 +1.6**
DAG IAmb IAmb 10 25 33.8
comp=Z,66nm,1.1s
DAG IAMs_20 IAMs_20 10 28 52.3
comp=Z,15µm,24.8s
SKAR Skarslia 12.38 96 *e*P **Pn 10 25 27.1 -1.2**
NSS Namsos 12.58 77 *e*P **Pn 10 25 31.8 +0.9**
DSB Dublin 12.60 148 Pn **Pn 10 25 31.5 +0.2**
STOK Stokkvaagen 12.72 68 *e*P **Pn 10 25 30.3 -2.4**
KONS Konsvik 12.74 67 *e*P **Pn 10 25 32.6 -0.5**
WLF1 Llynfaes 13.04 143 *e*P **Pn 10 25 35.1 -2.2**
WLF1 IAMs_20 IAMs_20 10 30 44.6
comp=Z,25µm,17.0s
VAL Valentia 13.12 160 P **Pn 10 25 40.3 +1.9**
NC204 NORSAR Array S 13.17 91 Pn **Pn 10 25 35.9 -3.1**
NC204 NORSAR Array S 13.17 91 *e*P **Pn 10 25 36.5 -2.6**
NRS Narsarsuaq 13.19 268 P **Pn 10 25 39.2 0.0**
NRS Narsarsuaq 13.19 268 **Pn 10 25 39.2 0.0**
NRS Narsarsuaq 13.19 268 IAMs_20 IAMs_20 10 31 35.9
comp=Z,11µm,8.1s
NBO00 NORSAR Array S 13.29 92 **Pn 10 25 37.0 -3.6**
NBO00 NORSAR Array S 13.29 92 *e*P **Pn 10 25 37.7 -2.9**
MOR8 Moi Rana 13.31 68 *e*P **Pn 10 25 41.7 +0.8**
NC303 NORSAR Array S 13.45 91 Pn **Pn 10 25 41.6 -1.3**
KONO Kongsberg 13.47 99 P **Pn 10 25 41.2 -1.9**
KONO Kongsberg 13.47 99 Pn **Pn 10 25 41.2 -1.9**
NB2 NORSAR Subarra 13.47 92 Pn **Pn 10 25 39.4 -3.8**
comp=Z,572nm,3.3s,baz=297,slow=14
NOA NORSAR Array B 13.47 92 Pn **Pn 10 25 39.8 -3.4**
comp=Z,0.1nm,0.3s,baz=298,slow=13,SNR=13
NOA LR LR 10 30 53.4
comp=Z,6µm,19.8s,baz=300,slow=37
STEI Steigen 13.50 61 *e*P **Pn 10 25 40.0 -3.3**
NB201 NORSAR Array S 13.50 92 Pn **Pn 10 25 42.3 -1.2**
NB201 NORSAR Array S 13.50 92 *e*P **Pn 10 25 43.0 -0.6**
FAUS Fauske 13.53 63 *e*P **Pn 10 25 44.7 +0.8**
NC405 NORSAR Array S 13.65 91 **Pn 10 25 41.9 -3.8**
NC605 NORSAR Array S 13.68 93 Pn **Pn 10 25 44.2 -1.7**
LBWR Ladybower, Pea 13.69 137 *e*P **Pn 10 25 45.6 -0.5**
LBWR IAMs_20 IAMs_20 10 30 53.0
comp=Z,17µm,17.5s
FOEL Foel Wylfa 13.72 141 *e*P **Pn 10 25 45.8 -0.8**
FOEL IAMs_20 IAMs_20 10 31 16.4
comp=Z,15µm,15.8s
SFJD Kangerlussuaq 13.79 295 Pn **Pn 10 25 47.3 -0.1**
comp=Z,0.4nm,0.3s,baz=118,slow=9.1,SNR=5.2
SFJD LR LR 10 30 42.2
comp=Z,28µm,18.2s,baz=82,slow=36
SFJD Kangerlussuaq 13.79 295 *i* P **Pn 10 25 46.9 -0.5**
SFJD MLR MLR
comp=Z,2µm,17.0s
SFJD Kangerlussuaq 13.79 295 **Pn 10 25 47.7 +0.3**
SFJD Kangerlussuaq 13.79 295 *i* P **Pn 10 25 46.9 -0.5**
comp=Z,2µm,17.0s
SFJD Kangerlussuaq 13.79 295 *i* P **Pn 10 25 46.9 -0.5**
SFJD IAMs_20 IAMs_20 10 30 29.4
comp=Z,2µm,16.9s
ILULI Ilulissat 13.94 305 IAMs_20 IAMs_20 10 31 07.5
comp=Z,26µm,10.5s
HLM1 Long Mynd 14.14 141 *e*P **Pn 10 25 51.5 -0.8**
HLM1 IAMs_20 IAMs_20 10 31 45.8
comp=Z,10µm,15.5s
CWF Charnwood Fore 14.39 137 *e*P **Pn 10 25 55.1 -0.6**
CWF IAMs_20 IAMs_20 10 31 22.8
comp=Z,14µm,18.4s
MCH1 Michaelchurch 14.58 142 *e*P **Pn 10 25 57.3 -1.0**
MCH1 IAMs_20 IAMs_20 10 31 49.9
comp=Z,10µm,17.0s
MONM Monmouth 14.77 142 *e*P **Pn 10 26 00.2 -0.7**
MONM IAMs_20 IAMs_20 10 31 56.9
comp=Z,11µm,15.8s
TRO Tromso 14.87 54 P **Pn 10 26 02.0 -0.1**
TRO Tromso 14.87 54 P **Pn 10 26 02.0 -0.1**
GOET G??ttrup 14.89 108 *i* P **P 10 26 10.3 +2.2**
comp=Z,226nm,0.9s
GOET G??ttrup 14.89 108 *i* P **P 10 26 10.4 +2.2**
GOET IAmb IAmb 10 26 15.3
comp=Z,226nm,0.9s
NUUG Nuugaatsiaq 14.92 314 *i* P **P 10 26 09.4 +1.0**
NUUG IAMs_20 IAMs_20 10 31 26.8
comp=Z,18µm,13.1s
HFS Hagfors 14.98 93 P **Pn 10 26 04.2 +0.5**
baz=315,slow=8.6
HFS Hagfors 14.98 93 Pn **Pn 10 26 02.2 -1.4**
comp=Z,0.2nm,0.3s,baz=319,slow=6.3,SNR=3.4
HFS LR LR 10 31 40.1
comp=Z,7µm,20.4s,baz=286,slow=37
HFS Hagfors 14.98 93 P **Pn 10 26 04.2 +0.5**
baz=315,slow=8.6
MUD Monsted U'grnd 15.25 109 *e*P **P 10 26 09.9 -2.3**
MUD Monsted U'grnd 15.25 109 *i* P **P 10 26 12.9 +0.7**
MUD Monsted U'grnd 15.25 109 *i* P **P 10 26 13.0 +0.7**
BJO1 Bjornoya 15.86 36 P **Pn 10 26 14.5 -0.6**
BJO1 Bjornoya 15.86 36 P **Pn 10 26 14.5 -0.6**
UPNV Upernavik 16.05 318 *i* P **P 10 26 22.0 +1.1**
UPNV IAmb IAmb 10 26 23.6
comp=Z,92nm,1.0s
UPNV IAMs_20 IAMs_20 10 32 12.1
comp=Z,21µm,12.3s
HSPB Hornsund (broa 16.20 26 *e*P **Pn 10 26 20.9 +1.4**
HSPB *e*S **S 10 29 38.0 +6.0**
HSPB Hornsund (broa 16.20 26 *e*P **Pn 10 26 20.9 +1.4**
HAMF Hammerfest 16.53 50 P **Pn 10 26 23.3 -0.4**
HAMF Hammerfest 16.53 50 P **Pn 10 26 23.3 -0.4**
BRBA Barentsburg A 16.57 22 P **P 10 26 25.6 -1.1**
BRBA Barentsburg A 16.57 22 P **P 10 26 25.6 -1.1**
BRBB Barentsburg B 16.59 22 P **P 10 26 26.2 -0.8**
BRBB Barentsburg B 16.59 22 P **P 10 26 26.2 -0.8**
KBS Kingsbay 16.79 19 P **Pn 10 26 28.9 -0.2**
KBS Kingsbay 16.79 19 ⇓*i*P **Pn 10 26 26.6 -0.3**
KBS *e*S **Sn 10 29 36.0 +2.9**
KBS Kingsbay 16.79 19 *c*P **Pn 10 26 26.6 -0.3**
KBS Kingsbay 16.79 19 P **P 10 26 28.9 -0.2**
KBS Kingsbay 16.79 19 ⇑*i*P **P 10 26 29.5 +0.4**
KBS IAMs_20 IAMs_20 10 31 04.8
comp=Z,17µm,16.7s
SPB3 Spitsbergen Ar 17.00 23 Pn **Pn 10 26 27.1 -2.5**
SPB4 Spitsbergen Ar 17.00 23 Pn **Pn 10 26 26.0 -3.7**
SPA3 Spitsbergen Ar 17.00 23 Pn **Pn 10 26 26.3 -3.4**
SPA0 Spitsbergen Ar 17.01 23 P **Pn 10 26 29.6 -0.1**
SPA0 Spitsbergen Ar 17.01 23 Pn **Pn 10 26 26.1 -3.7**
SPA0 Spitsbergen Ar 17.01 23 P **Pn 10 26 29.6 -0.1**
SPITS Spitsbergen Ar 17.01 23 P **Pn 10 26 28.6 -1.1**
baz=229,slow=15,SNR=2.4
SPITS LR LR 10 31 12.4
comp=Z,11µm,21.9s,baz=220,slow=31
SPB2 Spitsbergen Ar 17.01 23 Pn **Pn 10 26 26.5 -3.2**
SPA1 Spitsbergen Ar 17.01 23 Pn **Pn 10 26 26.5 -3.2**
SPB5 Spitsbergen Ar 17.01 23 Pn **Pn 10 26 26.6 -3.1**
SPB1 Spitsbergen Ar 17.01 23 **Pn 10 26 26.6 -3.1**
COP Copenhagen 17.12 107 *i* P **P 10 26 33.1 +0.3**
COP pmax pmax
comp=Z,77nm,0.9s
COP MLR MLR
comp=Z,5µm,27.0s
COP Copenhagen 17.12 107 *i* P **P 10 26 33.1 +0.3**
comp=Z,77nm,0.9s
comp=Z,5µm,27.0s
COP Copenhagen 17.12 107 *i* P **P 10 26 33.2 +0.3**
COP IAmb IAmb 10 26 34.3
comp=Z,77nm,0.9s
COP IAMs_20 IAMs_20 10 31 38.9
comp=Z,5µm,26.8s
ARA0 ARCESS Array S 17.17 54 P **Pn 10 26 30.2 -1.6**
ARA0 ARCESS Array S 17.17 54 P **Pn 10 26 30.2 -1.6**
ARCES ARCESS Array B 17.17 54 P **Pn 10 26 30.7 -1.2**
baz=278,slow=8.5,SNR=24
ARCES LR LR 10 31 53.1
comp=Z,10µm,19.7s,baz=285,slow=33
NOR Nord 17.20 0 P **Pn 10 26 31.6 -0.5**
NOR Nord 17.20 0 ⇑*i*P **Pn 10 26 32.2 +0.1**
NOR pmax pmax
comp=Z,580nm,2.0s
NOR MLR MLR
comp=Z,11µm,26.0s
NOR Nord 17.20 0 P **Pn 10 26 31.6 -0.5**
NOR Nord 17.20 0 ⇑*i*P **Pn 10 26 32.2 +0.1**
comp=Z,578nm,2.0s
comp=Z,11µm,26.0s
NOR Nord 17.20 0 ⇑*i*P **Pn 10 26 32.2 +0.1**
NOR IAmb IAmb 10 26 36.2
comp=Z,578nm,2.0s
NOR IAMs_20 IAMs_20 10 31 29.8
comp=Z,11µm,25.9s
BSEG Bad Segeberg 17.51 114 P **Pn 10 26 35.3 -0.8**
KEV Kevo 17.68 53 P **Pn 10 26 35.3 -2.8**
KEV pmax pmax
comp=Z,57nm,0.8s
KEV Kevo 17.68 53 **Pn 10 26 35.3 -2.8**
SGF Sodankyl 17.83 61 P **Pn 10 26 39.9 0.0**
SGF pmax pmax
comp=Z,83nm,2.6s
UCC Uccle 17.84 130 P **Pn 10 26 40.0 -0.2**
UCC Uccle 17.84 130 P **Pn 10 26 38.9 -1.3**
UCC pmax pmax
comp=Z,211nm,1.7s
UCC Uccle 17.84 130 **Pn 10 26 38.9 -1.3**
ROSF Rostrenen 17.90 148 P **P 10 26 42.0 +0.4**
HOPEN Hopen 17.96 31 P **Pn 10 26 41.0 -0.4**
HOPEN Hopen 17.96 31 ⇑*i*P **P 10 26 42.0 0.0**
HOPEN *e*S **S 10 30 06.7 -1.0**
HOPEN Hopen 17.96 31 P **Pn 10 26 41.0 -0.4**
SNF Seneffe 18.07 131 P **Pn 10 26 42.2 -0.8**
comp=Z,86nm,0.0s
SGMF Saint Gilles 18.14 147 *e*P **P 10 26 44.7 +0.5**
SGMF pmax pmax
comp=Z,1µm,2.3s
OUL Oulu 18.18 69 P **Pn 10 26 41.3 -2.9**
FLN La Foliniere 18.19 142 *e*P **P 10 26 44.9 +0.1**
FLN pmax pmax
comp=Z,143nm,1.3s
RGN Rugen 18.28 109 *e*P **Pn 10 26 45.1 -0.4**
RGN Rugen 18.28 109 Pn **Pn 10 26 42.8 -2.8**
BEBN Eben Emael 18.29 128 P **Pn 10 26 44.9 -0.9**
BUG Bochum--Univer 18.31 124 P **P 10 26 47.9 +1.8**
BUG pmax pmax
comp=Z,120nm,2.3s
QUIF Quistinic 18.32 148 *e*P **P 10 26 46.6 +0.4**
QUIF pmax pmax
comp=Z,254nm,1.5s
BMRD Maredsous 18.40 130 P **P 10 26 45.8 -1.3**
comp=Z,108nm,2.2s
BSTI Sart Tilman 18.43 128 P **P 10 26 47.0 -0.4**
GRR Gorron 18.44 143 *e*P **P 10 26 46.8 -0.7**
GRR pmax pmax
comp=Z,155nm,1.1s
BGES Gesves 18.44 129 P **P 10 26 46.4 -1.1**
comp=Z,131nm,2.3s
LDF La Druitiere 18.45 142 *e*P **P 10 26 45.5 -2.1**
LDF pmax pmax
comp=Z,70nm,1.4s
BCLA Clavier 18.48 129 P **P 10 26 46.9 -1.1**
comp=Z,109nm,2.2s
DOU Dourbes 18.52 131 P **P 10 26 47.9 -0.5**
comp=Z,72nm,0.0s
BSD Bornholm Skovb 18.54 105 *i* P **Pn 10 26 48.9 +0.2**
BSD Bornholm Skovb 18.54 105 *i* P **Pn 10 26 48.9 +0.2**
BSD Bornholm Skovb 18.54 105 *i* P **Pn 10 26 49.0 +0.2**
MEM Membach 18.56 127 P **P 10 26 48.4 -0.4**
comp=Z,100nm,0.0s
MEM Membach 18.56 127 P **Pn 10 26 51.2 +2.2**
MEM pmax pmax
comp=Z,108nm,1.3s
BTNL Ternell 18.62 127 P **Pn 10 26 49.5 -0.3**
comp=Z,720nm,2.1s
RCHB Rochefort 18.68 130 P **P 10 26 48.6 -1.6**
BHOU Houyet 18.78 128 P **P 10 26 50.9 -0.3**
comp=Z,239nm,0.0s
SUF Sumiainen 19.15 75 P **Pn 10 26 55.6 -0.4**
MSF Maaselka 19.18 65 P **P 10 26 53.9 -1.6**
MSF pmax pmax
comp=Z,140nm,2.1s
WLF Walferdange 19.41 129 P **P 10 26 57.6 -0.6**
WLF Walferdange 19.41 129 P **P 10 26 57.4 -0.8**
WLF pmax pmax
comp=Z,224nm,1.7s
WLF Walferdange 19.41 129 P **P 10 26 57.4 -0.8**
WLF IAmb IAmb 10 27 06.6
comp=Z,224nm,1.7s
CLF Chambon-Foret 19.63 138 P **P 10 26 59.2 -1.3**
FIA0 FINESS Array S 19.68 79 P **Pn 10 27 01.7 -0.7**
baz=309,slow=9.3
FIA0 FINESS Array S 19.68 79 P **Pn 10 27 01.7 -0.7**
baz=309,slow=9.3
FIA1 FINESS Array S 19.68 79 **P 10 26 59.5 -1.5**
FINES FINESS Array B 19.68 79 P **P 10 26 59.8 -1.3**
comp=Z,0.3nm,0.3s,baz=301,slow=8.5,SNR=20
FINES LR LR 10 34 12.0
comp=Z,6µm,20.9s,baz=302,slow=36
TNS Taunus Mts 19.74 124 P **Pn 10 27 03.1 -0.2**
RUE Ruedersdorf 19.98 112 *e*P **Pn 10 27 06.3 +0.2**
TULEG Thule 20.03 328 P **P 10 27 05.0 +0.3**
TULEG IAMs_20 IAMs_20 10 34 22.3
comp=Z,13µm,18.0s
TULEG Thule 20.03 328 *i* P **Pn 10 27 07.2 +0.7**
TULEG IAmb IAmb 10 27 09.8
comp=Z,209nm,1.4s
TULEG IAMs_20 IAMs_20 10 34 34.5
comp=Z,18µm,12.6s
SLIT Slitere, Latvi 20.09 91 *e*P **P 10 27 05.0 -0.4**
APA0 Apatity Array 20.21 59 P **P 10 27 06.2 -0.5**
baz=270,slow=11
APA0 Apatity Array 20.21 59 P **P 10 27 06.2 -0.5**
baz=270,slow=11
APA Apatity 20.37 59 ⇓*i*P **P 10 27 07.4 -1.1**
APA *i* S **S 10 30 53.0 -3.3**
APA pmax pmax
comp=Z,40nm,1.1s
TOD Tromm 20.38 125 P **Pn 10 27 10.3 -0.6**
MOX Moxa 20.57 119 P **P 10 27 11.3 +0.5**
MOX pmax pmax
comp=Z,122nm,1.5s
CLL Collm 20.58 115 *i* P **P 10 27 10.5 -0.4**
comp=Z,406nm,1.7s
CLL *i* 10 27 16.8
CLL *e*Pmax 10 27 21.0
CLL *e* 10 28 48.0
CLL *e*S Sn 10 31 06.0 +1.1
CLL *e*SSS SSS 10 31 36.0
CLL Lmax 10 36 00.0
CLL Collm 20.58 115 P **P 10 27 10.5 -0.4**
CLL pmax pmax
comp=Z,245nm,1.4s
CLL MLR MLR
comp=Z,8µm,18.0s
CLL Collm 20.58 115 P **P 10 27 10.5 -0.4**
CLL IAmb IAmb 10 27 13.8
comp=Z,245nm,1.4s
LVZ Lovozero 20.74 57 ⇑*e*P **P 10 27 11.7 -0.8**
LVZ pmax pmax
comp=Z,180nm,1.7s
LVZ Lovozero 20.74 57 P **P 10 27 10.6 -1.9**
LVZ IAmb IAmb 10 27 17.3
comp=Z,275nm,1.7s
LOR Lormes 20.78 136 P **P 10 27 13.0 -0.1**
LOR pmax pmax
comp=Z,148nm,1.6s
GKP Gorka Klasztor 20.81 106 *e*P Pn 10 27 16.2 +0.4
GKP Gorka Klasztor 20.81 106 P Pn 10 27 15.0 -0.8
CDF Champ du Feu 20.87 129 *e*P **P 10 27 13.8 -0.3**
CDF pmax pmax
comp=Z,286nm,1.7s
PBUR Paburge 20.93 95 *e*P **P 10 27 14.2 -0.4**
ALE Alert 20.96 345 IAMs_20 IAMs_20 10 34 32.3
comp=Z,11µm,22.0s
ECH Echery 21.00 129 P **P 10 27 15.4 -0.1**
ECH pmax pmax
comp=Z,80nm,1.0s
ECH MLR MLR
comp=Z,6µm,19.0s
ECH Echery 21.00 129 P **P 10 27 15.4 -0.1**
AVF Avril sur Loir 21.06 137 *e*P **P 10 27 14.7 -1.4**
AVF pmax pmax
comp=Z,260nm,1.5s
BGF Bois d'Agland 21.13 139 *e*P **P 10 27 15.5 -1.3**
BGF pmax pmax
comp=Z,271nm,1.5s
TCF Toulx Ste Croi 21.19 140 *e*P **P 10 27 16.5 -1.1**
TCF pmax pmax
comp=Z,284nm,1.3s
GRA1 Grafenberg Arr 21.20 121 P **P 10 27 17.4 -0.2**
GRF Grafenberg Arr 21.20 121 P **P 10 27 17.4 -0.2**
GRF pmax pmax
comp=Z,87nm,0.9s
GRF MLR MLR
comp=Z,6µm,21.0s
GRF Grafenberg Arr 21.20 121 *e*P **P 10 27 18.7 +1.1**
comp=Z,702nm,2.0s,baz=322,slow=11
NKC Novy Kostel 21.22 118 *e*P **P 10 27 17.3 -0.5**
NKC *e*S Sn 10 31 17.4 -2.9
NKC AMS AMS 10 35 50.0
comp=Z,8µm,18.5s
NKC Novy Kostel 21.22 118 *e*P **P 10 27 17.3 -0.5**
NKC *e*S Sn 10 31 17.4 -2.9
NKC MLR MLR
comp=Z,8µm,18.5s
STU Stuttgart 21.23 125 P **P 10 27 18.6 +0.7**
STU pmax pmax
comp=Z,190nm,1.0s
STU MLR MLR
comp=Z,8µm,18.0s
STU Stuttgart 21.23 125 P **P 10 27 18.6 +0.7**
STU IAmb IAmb 10 27 25.3
comp=Z,190nm,1.0s
HINF Hinteralfeld 21.24 130 *e*P **P 10 27 18.7 +0.6**
HINF pmax pmax
comp=Z,443nm,2.0s
BRG Berggiesshubel 21.29 115 *i* P **P 10 27 18.2 -0.3**
comp=Z,531nm,1.9s
BRG S Sn 10 31 24.0 +2.1
comp=N,8µm,15.8s
comp=E,5µm,14.9s
comp=Z,10µm,17.4s
BRG Berggiesshubel 21.29 115 *i* P **P 10 27 18.2 -0.3**
BRG S Sn 10 31 24.0 +2.1
BRG pmax pmax
comp=Z,531nm,1.9s
BRG MLR MLR
comp=N,8µm,15.8s
BRG MLR MLR
comp=E,5µm,14.9s
BRG MLR MLR
comp=Z,10µm,17.4s
BFO Black Forest 21.30 127 P **P 10 27 18.8 +0.1**
BFO pmax pmax
comp=Z,315nm,1.4s
BFO MLR MLR
comp=Z,6µm,19.0s
BFO Black Forest 21.30 127 P **P 10 27 18.8 +0.1**
MOF Molkenrain 21.31 130 P **P 10 27 19.7 +0.8**
SMF Signal de Mont 21.34 137 *e*P **P 10 27 17.8 -1.3**
SMF pmax pmax
comp=Z,244nm,1.4s
VSU Vasula 21.52 86 *e*P **P 10 27 19.8 -1.2**
VSU Vasula 21.52 86 ⇑*e*P **P 10 27 21.3 +0.3**
VSU pmax pmax
comp=Z,393nm,1.0s
GRB1 Grafenberg Arr 21.60 121 P **P 10 27 22.6 +0.7**
GRB1 pmax pmax
comp=Z,144nm,2.0s
LOMF Lomont 21.64 131 P **P 10 27 25.2 +2.7**
PVCC Panska Ves 21.80 115 *e*P **P 10 27 25.6 +1.5**
PVCC *e*S Sn 10 31 33.9 -0.4
PVCC AMS AMS 10 37 00.0
comp=Z,8µm,17.1s
PVCC Panska Ves 21.80 115 *e*P **P 10 27 25.6 +1.5**
PVCC MLR MLR
comp=Z,8µm,17.1s
SLE Schleitheim 21.84 128 P **P 10 27 25.1 +0.6**
SLE pmax pmax
comp=Z,115nm,1.6s
FRB Frobisher Bay 21.86 292 P **P 10 27 24.9 +0.4**
comp=Z,21nm,0.9s,baz=70,slow=11,SNR=4.2
FRB LR LR 10 35 23.1
comp=Z,9µm,18.8s,baz=68,slow=35
FRB Frobisher Bay 21.86 292 P **P 10 27 25.0 +0.4**
GRC1 Grafenberg Arr 21.88 121 P **P 10 27 25.4 +0.5**
RJF Les Rejaudoux 21.91 142 *e*P **P 10 27 24.2 -1.1**
RJF pmax pmax
comp=Z,564nm,1.6s
CABF La Chapelle 22.06 133 *e*P **P 10 27 27.4 +0.5**
CABF pmax pmax
comp=Z,552nm,2.2s
SLVR Solovky 22.09 64 *e*P **P 10 27 25.1 -1.9**
comp=Z,320nm,1.7s
SLVR *e*S **S 10 31 29.2 -0.9**
PRA Prague 22.11 116 *e*P **P 10 27 28.5 +1.1**
PRA *e*S **S 10 31 35.3 +4.5**
PRA AMS AMS 10 37 10.0
comp=Z,3µm,17.3s
PRA Prague 22.11 116 *e*P **P 10 27 28.5 +1.1**
PRA *e*S **S 10 31 35.3 +4.5**
PRA MLR MLR
comp=Z,3µm,17.3s
PABE Paberze 22.14 94 *e*P **P 10 27 28.0 +0.4**
PRU Pruhonice 22.22 116 *e*P **P 10 27 29.3 +0.7**
PRU *e*S Sn 10 31 39.2 -5.1
PRU AMS AMS 10 37 20.0
comp=Z,6µm,17.5s
PRU Pruhonice 22.22 116 *e*P **P 10 27 29.3 +0.7**
PRU MLR MLR
comp=Z,6µm,17.5s
KSP Ksiaz 22.25 112 *e*P **P 10 27 30.3 +1.5**
KSP *e*S Sn 10 31 41.0 -3.9
KSP Ksiaz 22.25 112 *e*P **P 10 27 30.3 +1.5**
PBCC Pribram 22.25 117 *e*P **P 10 27 31.8 +2.9**
PBCC *ex* x 10 27 39.6
PBCC *e*S Sn 10 31 39.4 -5.7
WET Wettzell 22.27 119 P **P 10 27 30.9 +1.8**
WET pmax pmax
comp=Z,110nm,1.7s
PUL Pulkovo 22.34 80 *e*P **P 10 27 28.8 -0.9**
CHVC Chvalec 22.35 113 *e*P **P 10 27 31.6 +1.7**
CHVC *ex* x 10 27 46.3
CHVC *e*S Sn 10 31 44.9 -2.5
CHVC AMS AMS 10 36 10.0
comp=Z,7µm,18.5s
GOPC GO Pecny, Ondr 22.38 115 *e*P **P 10 27 31.5 +1.2**
GOPC *ex* x 10 27 35.6
GOPC *e*S **S 10 31 36.6 +0.7**
GOPC AMS AMS 10 37 30.0
comp=Z,7µm,17.3s
GOPC GO Pecny, Ondr 22.38 115 *e*P **P 10 27 31.5 +1.2**
GOPC *e* 10 27 35.6
GOPC *e*S **S 10 31 36.6 +0.7**
GOPC MLR MLR
comp=Z,7µm,17.3s
UPC Upice 22.39 113 *e*P **P 10 27 32.4 +2.0**
UPC *ex* x 10 27 36.6
UPC *e*S Sn 10 31 43.5 -4.9
UPC AMS AMS 10 36 10.0
comp=Z,8µm,19.5s
UPC Upice 22.39 113 *e*P **P 10 27 32.4 +2.0**
UPC *e* 10 27 36.6
UPC MLR MLR
comp=Z,8µm,19.5s
CAF Calviac 22.41 142 *e*P **P 10 27 29.3 -1.3**
CAF pmax pmax
comp=Z,215nm,1.6s
OSTC Ostas 22.44 112 *e*P **P 10 27 33.2 +2.3**
OSTC *e*S Sn 10 31 47.6 -1.9
OSTC AMS AMS 10 36 30.0
comp=Z,7µm,18.6s
FUR Furstenfeldbru 22.48 123 P **P 10 27 33.4 +2.0**
KHC Kasperske Hory 22.54 118 *e*P **P 10 27 31.7 -0.3**
KHC *ex* x 10 27 44.4
KHC *e*S **S 10 31 43.5 +4.5**
KHC AMS AMS 10 36 30.0
comp=Z,7µm,20.0s
KHC Kasperske Hory 22.54 118 *d*⇓*i*P **P 10 27 32.6 +0.6**
KHC pmax pmax
comp=Z,361nm,2.5s
KHC Kasperske Hory 22.54 118 P **P 10 27 31.5 -0.5**
DPC Dobruska-Polom 22.64 113 *e*P **P 10 27 33.2 +0.1**
DPC *ex* x 10 27 38.3
DPC *e*S Sn 10 31 49.0 -5.4
DPC AMS AMS 10 36 40.0
comp=Z,7µm,19.3s
DPC Dobruska-Polom 22.64 113 *e*P **P 10 27 33.2 +0.1**
DPC *e* 10 27 38.3
DPC MLR MLR
comp=Z,7µm,19.3s
SENIN Lac Senin/Sane 22.67 131 P **P 10 27 34.3 +0.8**
DAVA Damuels 22.73 126 *i* P **P 10 27 34.7 +0.5**
comp=Z,104nm,1.4s,SNR=16
DAVA S Sn 10 31 58.0 +1.2
comp=Z,2µm,5.9s
SSB Saint Sauveur 22.78 137 P **P 10 27 32.1 -2.5**

SSB pmax pmax
comp=Z,254nm,1.5s
SSB MLR MLR
comp=Z,10µm,19.0s
SSB Saint Sauveur 22.78 137 P **P** **10 27 32.1 -2.5**
SSB Saint Sauveur 22.78 137 IAMs_20 IAMs_20 10 36 42.2
comp=Z,10µm,19.0s
SUW Suwalki 22.80 98 *e*P **P** **10 27 34.8 +0.1**
SUW *e*S Sn 10 31 53.0 -5.1
SUW Suwalki 22.80 98 *e*P **P** **10 27 34.8 +0.1**
SUW Suwalki 22.80 98 P **P** **10 27 32.5 -2.2**
GEC2 GERESS Array S 22.82 118 P **P** **10 27 34.6 -0.5**
GEC2 IAMs_20 IAMs_20 10 37 22.6
comp=Z,8µm,19.0s
GEC2B GERESS ARRAY S 22.82 118 P **P** **10 27 35.0 0.0**
GERES GERESS Array B 22.82 118 P **P** **10 27 34.3 -0.7**
comp=Z,17nm,0.9s,baz=323,slow=8.4,SNR=35
GERES LR LR 10 37 33.6
comp=Z,8µm,19.1s,baz=329,slow=40
RETA Reutte 22.87 125 *i* P **P** **10 27 37.1 +1.6**
comp=Z,121nm,2.2s,SNR=21
RETA S Sn 10 32 00.2 +0.1
comp=Z,2µm,6.1s
IZAR Zarasai 22.97 92 *e*P **P** **10 27 36.1 -0.3**
ISAL Salakas 23.03 92 *e*P **P** **10 27 36.8 -0.3**
KRLC Kraliky 23.04 112 *e*P **P** **10 27 38.0 +0.7**
KRLC *ex* x 10 27 47.1
KRLC *e*S **S** **10 31 47.6 -0.2**
KRLC AMS AMS 10 36 50.0
comp=Z,6µm,18.9s
KRLC Kraliky 23.04 112 *e*P **P** **10 27 38.0 +0.7**
KRLC *e*S **S** **10 31 47.6 -0.2**
KRLC MLR MLR
comp=Z,6µm,18.9s
MOTA Moosalm 23.11 124 *i* P **P** **10 27 39.4 +1.3**
comp=Z,145nm,1.7s,SNR=27
MOTA S Sn 10 32 05.5 -0.4
comp=Z,1µm,8.9s
TREC Trest 23.15 115 *e*P **P** **10 27 38.9 +0.6**
TREC *e*S **S** **10 31 49.0 -0.6**
TREC AMS AMS 10 37 50.0
comp=Z,6µm,17.5s
TREC Trest 23.15 115 *e*P **P** **10 27 38.9 +0.6**
TREC *e*S **S** **10 31 49.0 -0.6**
TREC MLR MLR
comp=Z,6µm,17.5s
PGAV Gavieira, Arco 23.17 163 *e*P **P** **10 27 41.0 +2.3**
comp=Z,305nm,2.0s
PGAV *i* LQ LQ 10 31 59.1
PGAV *e*LR LR 10 33 47.5
comp=Z,8µm,20.0s
DAVOX Davos/Dischmat 23.17 127 P **P** **10 27 39.1 +0.3**
comp=Z,23nm,0.9s,baz=332,slow=10.0,SNR=16
DAVOX LR LR 10 37 51.1
comp=Z,7µm,18.7s,baz=298,slow=40
VIVF Saint-Julien-l 23.21 137 *e*P **P** **10 27 40.5 +1.5**
VIVF pmax pmax
comp=Z,204nm,1.5s
ZFI2 Zemlya Franca- 23.21 22⇑ *i*P **P** **10 27 38.8 +0.1**
comp=Z,46nm,1.3s
ZFI2 *e*S **S** **10 31 53.0 +2.9**
ZFI Zemlya Franca- 23.21 22⇓ *i*P **P** **10 27 37.7 -1.0**
comp=Z,265nm,1.9s
ZFI *e*S **S** **10 31 51.4 +1.3**
IIGN Ignalina 23.22 93 *e*P **P** **10 27 39.1 +0.2**
LPL La Plagne 23.24 133 *e*P **P** **10 27 38.2 -1.3**
LPL pmax pmax
comp=Z,289nm,2.0s
TUE Stuetta 23.25 128 P **P** **10 27 37.4 -2.2**
TUE IAMs_20 IAMs_20 10 36 53.3
comp=Z,8µm,20.0s
FETA Feichten 23.26 125 *i* P **P** **10 27 41.1 +1.5**
comp=Z,80nm,1.5s,SNR=11
FETA S Sn 10 32 03.0 -6.4
comp=Z,2µm,6.7s
SQTA Sankt Quirin 23.26 124 *i* P **P** **10 27 39.2 -0.4**
comp=Z,79nm,1.2s,SNR=30
LPG La Plagne 23.26 133 *e*P **P** **10 27 38.7 -1.1**
LPG pmax pmax
comp=Z,231nm,1.7s
WATA Walderalm 23.29 124 *i* P **P** **10 27 41.0 +1.1**
comp=Z,103nm,1.4s,SNR=23
BEL Belsk 23.34 105 *e*P **P** **10 27 41.3 +1.1**
BEL *e*S Sn 10 32 04.2 -6.8
BEL Belsk 23.34 105 *e*P **P** **10 27 41.3 +1.1**
WTTA Wattenberg 23.38 124 *i* P **P** **10 27 42.5 +1.6**
comp=Z,140nm,1.7s,SNR=28
WTTA S Sn 10 32 03.6 -8.6
comp=Z,795nm,4.9s
WTTA Wattenberg 23.38 124 P **P** **10 27 41.1 +0.3**
WTTA pmax pmax
comp=Z,152nm,1.7s
FUORN Ofenpass-Fuorn 23.44 127 P **P** **10 27 40.7 -0.9**
FUORN IAmb IAmb 10 28 35.9
comp=Z,156nm,1.6s
FUORN IAMs_20 IAMs_20 10 37 58.2
comp=Z,9µm,18.0s
PCAB Cabril 23.45 162 *e*P **P** **10 27 43.4 +2.0**
comp=Z,211nm,1.9s
IDID Didziasalis 23.46 92 *e*P **P** **10 27 41.0 -0.4**
ORIF Oris-en-Rattie 23.51 135 P **P** **10 27 43.4 +1.3**
ORIF pmax pmax
comp=Z,113nm,1.4s
PBRG Braganca 23.54 160 *e*P **P** **10 27 43.4 +1.1**
comp=Z,146nm,1.8s
VRAC Vranov 23.57 114 P **P** **10 27 43.1 +0.5**
comp=Z,20nm,0.8s,baz=324,slow=11,SNR=26
VRAC LR LR 10 38 17.3
comp=Z,8µm,18.2s,baz=325,slow=40
VRAC Vranov 23.57 114⇑ P **P** **10 27 43.5 +0.9**
VRAC Vranov 23.57 114⇓ *i*P **P** **10 27 43.0 +0.5**
VRAC *e*S Sn 10 32 07.6 -9.0
MORC Moravsky Berou 23.58 112⇑ P **P** **10 27 43.0 +0.3**
MORC Moravsky Berou 23.58 112⇓ *i*P **P** **10 27 43.0 +0.3**
MORC *e*S Sn 10 32 06.9 -10
MORC Moravsky Berou 23.58 112⇑ P **P** **10 27 43.0 +0.3**
MORC Moravsky Berou 23.58 112 P **P** **10 27 42.0 -0.7**
MORC IAmb IAmb 10 28 02.2
comp=Z,208nm,1.6s
BNI Bardonecchia 23.64 134 P **P** **10 27 42.3 -1.1**
BNI pmax pmax
comp=Z,442nm,1.9s
BNI MLR MLR
comp=Z,11µm,19.0s
BNI Bardonecchia 23.64 134 P **P** **10 27 42.2 -1.1**
BNI IAMs_20 IAMs_20 10 37 42.7
comp=Z,11µm,19.0s
ETSF Etsaut 23.66 148 *e*P **P** **10 27 47.1 +3.6**
ETSF pmax pmax
comp=Z,523nm,2.4s
KRUC Moravsky 23.69 115⇓ *i*P **P** **10 27 43.9 +0.2**
KRUC *e*S Sn 10 32 10.2 -9.2
KRUC Moravsky 23.69 115 P **P** **10 27 43.4 -0.3**
KRUC pmax pmax
comp=Z,80nm,2.4s
EPF Esparros 23.74 146 *e*P **P** **10 27 44.1 -0.2**
EPF pmax pmax
comp=Z,97nm,1.5s
NACGM Naroch 23.75 93 *e*P **P** **10 27 44.0 -0.2**
NACGM *e*PP PP 10 28 26.0
NACGM *e*S **S** **10 31 58.0 -1.2**
NACGM *e*SS SS 10 32 52.0
NACGM *e*LQ LQ 10 36 08.0
NACGM *e*LR LR 10 37 24.0
NACGM KRM 10 38 46.0
comp=Z,10nm,14.0s
EUNU Eureka 23.85 336 P **P** **10 27 44.2 -0.9**
MOA Molln 23.86 119 *i* P **P** **10 27 45.6 +0.2**
comp=Z,70nm,1.9s,SNR=16
MOA S Sn 10 32 16.8 -6.6
comp=Z,3µm,9.2s
PVRL Vila Real 23.92 162 *e*P **P** **10 27 48.1 +2.1**
comp=Z,200nm,1.8s
MBDF Montbardon 23.96 134 *e*P **P** **10 27 45.7 -0.8**
MBDF pmax pmax
comp=Z,273nm,1.8s
MVO Moncorvo 24.12 161 *e*P **P** **10 27 50.7 +2.7**
comp=Z,270nm,1.8s
MVO *i* LQ LQ 10 32 13.6
MVO *e*LR LR 10 34 26.0
comp=Z,5µm,20.0s
ABTA Abfaltersbach 24.13 123 *i* P **P** **10 27 49.2 +1.2**
comp=Z,64nm,1.6s,SNR=18
ABTA S S 10 32 27.5 +22
comp=Z,2µm,6.2s

OJC Ojcow 24.15 108 *e*P **P** **10 27 48.5 +0.4**
OJC *e*S **S** **10 32 12.2 +6.5**
OJC Ojcow 24.15 108 *e*P **P** **10 27 48.5 +0.4**
OJC Ojcow 24.15 108 P **P** **10 27 46.6 -1.5**
KBA Koelnbreinsper 24.16 121 *i* P **P** **10 27 50.1 +1.7**
comp=Z,117nm,1.5s,SNR=21
KBA S S 10 32 27.9 +22
comp=Z,1µm,7.1s
KBA Koelnbreinsper 24.16 121 P **P** **10 27 50.9 +2.5**
KBA pmax pmax
comp=Z,80nm,1.8s
JAVC Velka Javorina 24.36 113⇓ *i*P **P** **10 27 52.2 +2.1**
JAVC *e*S S 10 32 22.6 +13
SALO Salr 24.40 127 P **P** **10 27 47.0 -3.4**
CONA Conrad Observa 24.40 117 *e*P **P** **10 27 50.1 -0.4**
comp=Z,45nm,1.4s,SNR=18
CONA S S 10 32 25.0 +15
comp=Z,3µm,6.7s
CTI Castel Tesino 24.42 125 P **P** **10 27 50.6 -0.1**
CTI pmax pmax
comp=Z,160nm,1.3s
CTI MLR MLR
comp=Z,3µm,19.0s
CTI Castel Tesino 24.42 125 P **P** **10 27 50.5 -0.1**
PVIS Viseu 24.45 162 *e*P **P** **10 27 53.6 +2.7**
comp=Z,220nm,2.0s
ZOU Zoufplan 24.46 123 P **P** **10 27 49.9 -1.2**
CIMO Cimolais 24.48 124 P **P** **10 27 51.5 +0.4**
MICGM Minsk 24.50 93⇑ *i*P **P** **10 27 50.0 -1.2**
MICGM PM 10 27 52.0
comp=Z,4.3nm,4.0s
MICGM PM 10 27 52.0
comp=Z,0.7nm,1.4s
MICGM PM 10 27 53.0
comp=N,0.5nm,1.6s
MICGM PM 10 27 53.0
comp=E,0.5nm,1.8s
MICGM *e*PP **PnPn** **10 28 14.0 -7.7**
MICGM *e*S **S** **10 32 08.0 -3.1**
MICGM *e*SS **SnSn** **10 33 00.0 +5.0**
MICGM *e*LR LR 10 36 10.0
MICGM LRM MLR 10 39 28.0
MNK Minsk 24.50 93⇑ *i*P **P** **10 27 50.0 -1.2**
MNK *e*S **S** **10 32 08.0 -3.1**
MNK *e*SS **SnSn** **10 33 00.0 +5.0**
MNK pmax pmax
comp=Z,4µm,4.0s
MNK MLR MLR
comp=Z,7µm,14.0s
SMOL Smolenice 24.54 114 *e*P **P** **10 27 52.5 +0.9**
SMOL pmax pmax
comp=Z,75nm,1.3s
SMOL Smolenice 24.54 114 *e*P **P** **10 27 52.5 +0.9**
MODS Modra-Piesok 24.59 114 *e*P **P** **10 27 51.0 -1.1**
MODS pmax pmax
comp=Z,480nm,2.1s
MODS Modra-Piesok 24.59 114 *e*P **P** **10 27 51.0 -1.1**
STAL STALIGIAL 24.62 123 P **P** **10 27 50.5 -2.0**
MYKA Terra Mystica 24.64 122 *i* P **P** **10 27 53.8 +1.1**
comp=Z,47nm,1.2s,SNR=20
MYKA S **S** **10 32 19.7 +5.9**
comp=Z,1µm,6.0s
ZST Bratislava 24.67 115 *e*P **P** **10 27 53.9 +1.1**
ZST Bratislava 24.67 115 *e*P **P** **10 27 53.9 +1.1**
PRED Cave del Predi 24.77 122 P **P** **10 27 52.0 -1.9**
ARSA Arzberg 24.83 118 *i* P **P** **10 27 54.6 +0.3**
comp=Z,47nm,1.1s,SNR=15
LANS Liptovska Anna 24.85 110 *e*P **P** **10 27 55.0 +0.5**
LANS pmax pmax
comp=Z,28nm,0.9s
LANS Liptovska Anna 24.85 110 *e*P **P** **10 27 55.0 +0.5**
SOP Sopron 24.87 116 P **P** **10 27 54.8 +0.2**
SOP pmax pmax
comp=Z,59nm,2.6s
COI Coimbra 24.88 164 P **P** **10 27 54.2 -0.5**
COI pmax pmax
comp=Z,402nm,1.6s
COI MLR MLR
comp=Z,8µm,21.0s
COI Coimbra 24.88 164 *e*P **P** **10 27 57.5 +2.8**
comp=Z,256nm,1.6s
COI Coimbra 24.88 164 P **P** **10 27 54.2 -0.5**
COI IAMs_20 IAMs_20 10 35 53.7
comp=Z,8µm,21.0s
NIE Niedzica 24.98 109 *e*P **P** **10 27 57.8 +2.2**
NIE *e*S **S** **10 32 27.5 +8.4**
NIE Niedzica 24.98 109 *e*P **P** **10 27 57.8 +2.2**
CADS Cadrg 25.02 122 *i* P **P** **10 27 55.1 -0.9**
CADS *e*S **S** **10 32 28.9 +9.2**
TEOL Teolo 25.02 126 P **P** **10 27 55.5 -0.5**
TEOL IAmb IAmb 10 28 06.1
comp=Z,57nm,1.0s
PCAS Casmilo, Conde 25.02 164 *e*P **P** **10 27 58.6 +2.5**
comp=Z,323nm,1.7s
PRMA PARMA 25.08 129 P **P** **10 27 58.0 +1.6**
PRMA IAmb IAmb 10 28 01.6
comp=Z,101nm,1.1s
OBKA Obir 25.08 121 *i* P **P** **10 27 57.3 +0.7**
comp=Z,37nm,1.1s,SNR=11
OBKA S **S** **10 32 30.7 +10**
comp=Z,1µm,7.5s
VYHS Vyhne 25.11 112 *e*P **P** **10 27 56.9 +0.1**
VYHS pmax pmax
comp=Z,182nm,1.7s
VYHS Vyhne 25.11 112 *e*P **P** **10 27 56.9 +0.1**
SOKA Soboth 25.12 120 *i* P **P** **10 27 56.1 -0.8**
comp=Z,61nm,1.3s,SNR=36
SOKA S **S** **10 32 31.6 +10**
comp=Z,2µm,8.2s
PCBR Castelo Branco 25.36 162 *e*P **P** **10 28 01.6 +2.5**
comp=Z,167nm,1.7s
LJU Ljubljana 25.47 121 *e*P **P** **10 28 00.4 +0.4**
PSBE So Bento 25.52 164 *e*P **P** **10 28 02.5 +1.9**
comp=Z,224nm,1.6s
UCM Universidad Co 25.59 154 *i* P **P** **10 28 00.6 -0.6**
UCM *e*S S 10 32 42.1 +13
KLMR Klimovskoe 25.61 72 *e*P **P** **10 27 59.5 -1.6**
comp=Z,186nm,1.4s
KLMR *e*PcP **PcP** **10 31 31.9 +0.4**
KLMR *e*S **S** **10 32 28.3 -0.4**
KLMR Klimovskoe 25.61 72 *e*P **P** **10 27 59.5 -1.6**
KLMR *e* 10 31 31.7
KLMR *e*S **S** **10 32 28.3 -0.4**
KLMR pmax pmax
comp=Z,186nm,1.4s
KLMR MLR MLR
comp=Z,3µm,15.0s
KLMR Klimovskoe 25.61 72 *e*P **P** **10 27 59.5 -1.6**
KLMR AMP 10 28 06.9
comp=Z,186nm,1.4s
KLMR *e*PcP **PcP** **10 31 31.7 +0.3**
KLMR *e*S **S** **10 32 28.4 -0.4**
KLMR *e*S **S** **10 32 28.4 -0.4**
KLMR LQ LQ 10 35 00.7
KLMR LQ LQ 10 35 00.7
KLMR LR LR 10 36 09.8
KLMR AMP 10 37 40.9
comp=Z,3µm,14.7s
VLC Villacollemand 25.63 129 P **P** **10 28 03.0 +1.4**
ZCCA Zocca 25.66 128 P **P** **10 28 02.7 +0.8**
ZCCA IAMs_20 IAMs_20 10 38 14.1
comp=Z,7µm,19.0s
PMRV Marv??o 25.78 162 *e*P **P** **10 28 04.3 +1.4**
comp=Z,223nm,1.9s
PMRV *i* LQ LQ 10 32 48.3
PMRV *e*LR LR 10 35 12.5
comp=Z,8µm,20.0s
KECS Kecovo 25.79 110 *e*P **P** **10 28 04.7 +1.8**
KECS pmax pmax
comp=Z,27nm,1.0s
KECS Kecovo 25.79 110 *e*P **P** **10 28 04.7 +1.8**
KWP Kalwaria Pacla 25.81 106 *e*P **P** **10 28 04.5 +1.4**
KWP *e*S **S** **10 32 42.2 +10**
KWP Kalwaria Pacla 25.81 106 *e*P **P** **10 28 04.5 +1.4**
KWP Kalwaria Pacla 25.81 106 P **P** **10 28 02.7 -0.4**
CRVS Cervenica-Dubn 25.86 108 *e*P **P** **10 28 03.8 +0.2**
CRVS pmax pmax
comp=Z,159nm,1.3s
CRVS Cervenica-Dubn 25.86 108 *e*P **P** **10 28 03.8 +0.2**
PSZ Piszkesteto 26.00 112 P **P** **10 28 04.0 -0.9**
PSZ pmax pmax
comp=Z,305nm,1.6s
PSZ MLR MLR
comp=Z,5µm,19.0s

PSZ Piszkesteto 26.00 112 P **P** **10 28 04.0 -0.9**
BUD Budapest 26.00 113 P **P** **10 28 06.2 +1.3**
BUD pmax pmax
comp=Z,42nm,1.6s
PMAFR Mafra 26.02 166 *e*P **P** **10 28 07.1 +2.0**
comp=Z,287nm,1.9s
PMTG Montargil 26.03 164 *e*P **P** **10 28 06.4 +1.3**
comp=Z,128nm,2.0s
ES18 SONSECA Array 26.04 156 IAMs_20 IAMs_20 10 38 31.1
comp=Z,8µm,18.0s
ES17 SONSECA Array 26.04 156 IAMs_20 IAMs_20 10 38 30.2
comp=Z,8µm,18.0s
ES16 SONSECA Array 26.05 156 IAMs_20 IAMs_20 10 38 23.5
comp=Z,7µm,18.0s
ES19 SONSECA Array 26.06 156 IAMs_20 IAMs_20 10 38 31.5
comp=Z,8µm,18.0s
ES08 SONSECA Array 26.06 156 IAMs_20 IAMs_20 10 38 31.6
comp=Z,8µm,18.0s
ES07 SONSECA Array 26.06 156 IAMs_20 IAMs_20 10 38 23.6
comp=Z,8µm,18.0s
ESBB Sonseca Array 26.07 156 P **P** **10 28 05.5 -0.1**
ESBB IAMs_20 IAMs_20 10 38 31.9
comp=Z,7µm,18.0s
ESDC Sonseca Array 26.07 156 P **P** **10 28 05.5 -0.1**
comp=Z,5.9nm,0.8s,baz=349,slow=8.1,SNR=18
ESDC LR LR 10 38 25.0
comp=Z,7µm,18.1s,baz=340,slow=37
ESDC Sonseca Array 26.07 156 P **P** **10 28 05.1 -0.5**
ES06 SONSECA Array 26.07 156 IAMs_20 IAMs_20 10 38 30.9
comp=Z,8µm,18.0s
ES02 SONSECA Array 26.07 156 IAMs_20 IAMs_20 10 38 32.0
comp=Z,8µm,18.0s
ES15 SONSECA Array 26.07 156 IAMs_20 IAMs_20 10 38 43.0
comp=Z,8µm,18.0s
ES01 SONSECA Array 26.08 156 IAMs_20 IAMs_20 10 38 25.1
comp=Z,8µm,18.0s
ES09 SONSECA Array 26.08 156 IAMs_20 IAMs_20 10 38 33.1
comp=Z,8µm,18.0s
ES03 SONSECA Array 26.08 156 IAMs_20 IAMs_20 10 38 31.3
comp=Z,8µm,18.0s
ES05 SONSECA Array 26.08 156 IAMs_20 IAMs_20 10 38 24.3
comp=Z,8µm,18.0s
ES14 SONSECA Array 26.09 156 IAMs_20 IAMs_20 10 38 24.4
comp=Z,7µm,18.0s
ES04 SONSECA Array 26.09 156 IAMs_20 IAMs_20 10 38 24.5
comp=Z,7µm,18.0s
ES13 SONSECA Array 26.09 156 IAMs_20 IAMs_20 10 38 24.5
comp=Z,7µm,18.0s
ES10 SONSECA Array 26.10 156 IAMs_20 IAMs_20 10 38 32.6
comp=Z,8µm,18.0s
SCHQ Schefferville 26.10 272 P **P** **10 28 05.6 -0.1**
comp=Z,39nm,0.7s,baz=57,slow=6.4,SNR=16
SCHQ LR LR 10 37 24.3
comp=Z,5µm,18.4s,baz=56,slow=34
SCHQ Schefferville 26.10 272 P **P** **10 28 06.3 +0.6**
SCHQ IAmb IAmb 10 28 10.7
comp=Z,45nm,0.8s
ES11 SONSECA Array 26.10 156 IAMs_20 IAMs_20 10 38 24.8
comp=Z,7µm,18.0s
ES12 SONSECA Array 26.11 156 IAMs_20 IAMs_20 10 38 24.9
comp=Z,6µm,18.0s
DRLN Deer Lake 26.12 254 P **P** **10 28 07.9 +2.0**
PAB San Pablo 26.13 157 P **P** **10 28 06.3 +0.1**
PAB pmax pmax
comp=Z,167nm,1.8s
PAB MLR MLR
comp=Z,6µm,19.0s
PAB San Pablo 26.13 157 P **P** **10 28 06.3 +0.1**
PAB IAmb IAmb 10 28 11.8
comp=Z,167nm,1.8s
KOLS Kolonicke sedl 26.17 107 *e*P **P** **10 28 05.8 -0.6**
KOLS pmax pmax
comp=Z,183nm,1.5s
KOLS Kolonicke sedl 26.17 107 *e*P **P** **10 28 05.8 -0.6**
LVV L'vov 26.22 104 *d*/P **P** **10 28 08.6 +1.8**
LVV *i* S **S** **10 32 36.9 -1.7**
LVV MLR MLR
comp=Z,2µm,14.8s
PGRA Graciosa 26.26 199 *e*P **P** **10 28 10.3 +3.1**
LIS Lisbon 26.27 165 *e*P **P** **10 28 07.9 +0.6**
LIS *e*S **S** **10 32 41.1 +1.6**
LIS Lisbon 26.27 165 *e*P **P** **10 28 07.9 +0.6**
LIS *e*S **S** **10 32 41.1 +1.6**
UZH Uzhgorod 26.41 108 *e*P **P** **10 28 09.4 +0.8**
UZH *i* 10 28 11.7
UZH *e* 10 28 48.9
UZH *e*S **S** **10 32 40.2 -1.5**
H07S1 FLORES T-PHASE 26.43 205 *e*P **P** **10 28 12.1 +3.2**
OSSC Osservatorio P 26.49 129 P **P** **10 28 10.5 +1.2**
EVO Evora 26.58 163 *e*P **P** **10 28 12.9 +2.7**
EVO *e*S S 10 32 56.7 +12
EVO Evora 26.58 163 *e*P **P** **10 28 12.1 +1.9**
comp=Z,58nm,1.6s
ROSA Rosais 26.60 199 *e*P **P** **10 28 13.9 +3.6**
RES Resolute Bay 26.64 325 P **P** **10 28 09.2 -1.2**
comp=Z,12nm,1.0s,baz=100,slow=6.1,SNR=3.1
RES LR LR 10 38 51.3
comp=Z,7µm,18.7s,baz=79,slow=37
RES Resolute Bay 26.64 325 P **P** **10 28 12.1 +1.7**
RES IAMs_20 IAMs_20 10 38 21.1
comp=Z,7µm,20.0s
PNCL Nicolau / Gran 26.93 164 *e*P **P** **10 28 15.6 +2.3**
comp=Z,84nm,1.9s
PBEJ Beja 27.10 163 *e*P **P** **10 28 17.0 +2.2**
comp=Z,102nm,1.8s
MURB Monte Urbino 27.15 127 P **P** **10 28 13.7 -1.6**
PSET Sete Cidades 27.16 195 *e*P **P** **10 28 17.6 +2.1**
CMLA Cha da Macela 27.20 194 *e*P **P** **10 28 17.8 +2.0**
PCVE Castro Verde 27.47 164 *e*P **P** **10 28 20.4 +2.3**
comp=Z,86nm,2.0s
PTEO Sao Teotonio 27.47 165 *e*P **P** **10 28 20.0 +1.8**
comp=Z,144nm,1.8s
LATE Laterza 27.48 129 P **P** **10 28 17.4 -0.9**
PRGR Permogore 27.64 67 *e*P **P** **10 28 14.1 -5.4**
PRGR *e* 10 31 34.4
PRGR pmax pmax
comp=Z,35nm,1.1s
MORF Marmelete 27.72 165 *e*P **P** **10 28 20.9 +0.4**
MORF AMb AMB 10 28 30.0
comp=Z,63nm,1.9s
MORF *e*S **S** **10 33 03.9 +1.4**
MORF Marmelete 27.72 165 *e*P **P** **10 28 20.8 +0.4**
MORF *e*S **S** **10 33 03.9 +1.4**
PVAQ Vaqueiros 27.73 163 *e*P **P** **10 28 17.5 -3.0**
comp=Z,52nm,1.9s
PVAQ *i* LQ LQ 10 33 12.9
PVAQ *e*LR LR 10 35 58.8
comp=Z,7µm,20.0s
PVAQ Vaqueiros 27.73 163 P **P** **10 28 19.8 -0.7**
PVAQ IAmb IAmb 10 28 24.1
comp=Z,108nm,1.8s
PVAQ IAMs_20 IAMs_20 10 37 41.2
comp=Z,8µm,21.0s
AKASG Malin Array Be 27.76 97 P **P** **10 28 19.7 -1.0**
comp=Z,14nm,0.9s,baz=318,slow=8.8,SNR=15
AKASG LR LR 10 39 06.3
comp=Z,4µm,21.8s,baz=315,slow=36
AKASG Malin Array Be 27.76 97 P P 10 28 11.5 -9.2
AKBB Malin Array Si 27.76 97 P **P** **10 28 14.4 -6.3**
AKBB pmax pmax
comp=Z,64nm,1.0s
AKBB MLR MLR
comp=Z,4µm,22.0s
AKBB Malin Array Si 27.76 97 P **P** **10 28 14.4 -6.3**
AKBB IAmb IAmb 10 28 17.6
comp=Z,64nm,0.9s
OBN Obninsk 27.84 84 P **P** **10 28 22.0 +0.6**
comp=Z,7.3nm,0.4s,baz=2.6,slow=0.9,SNR=10
OBN LR LR 10 39 07.9
comp=Z,602nm,21.4s,baz=327,slow=36
OBN Obninsk 27.84 84⇓ *e*P **P** **10 28 20.0 -1.3**
OBN *e*PPP PPP 10 29 14.2
OBN *e* 10 31 35.7
OBN *e*S **S** **10 33 04.9 +0.8**
OBN pmax pmax
comp=Z,152nm,1.7s
OBN MLR MLR
comp=Z,2µm,16.0s
OBN Obninsk 27.84 84 P **P** **10 28 22.3 +1.0**
PBDV Barranco-do-Ve 27.86 164 *e*P **P** **10 28 24.0 +2.3**
comp=Z,81nm,2.0s
PFVI Vila Bisbo 27.87 165 *e*P **P** **10 28 24.1 +2.4**
comp=Z,114nm,1.5s
MOS Moscow 27.89 82 *e*P **P** **10 28 20.4 -1.3**
MOS *e* 10 29 05.1
MOS *e*S **S** **10 33 00.9 -3.9**

MOS eSS SnSn 10 34 20.7 +2.9
MOS pmax pmax
comp=Z,48nm,0.9s
MOS MLR MLR
comp=Z,3µm,16.0s
PSMN Pico do Norte, 27.91 193 eP P 10 28 24.8 +2.7
AQU L'Aquila 28.26 127 P P 10 28 25.3 0.0
AQU pmax pmax
comp=Z,40nm,0.9s
AQU MLR MLR
comp=Z,7µm,19.0s
AQU L'Aquila 28.26 127 P P 10 28 25.3 0.0
AQU IAmb IAmb 10 28 40.5
comp=Z,40nm,0.9s
AQU IAMs_20 IAMs_20 10 41 13.8
comp=Z,7µm,19.0s
BUR08 Bucovina Ar. S 28.39 106 P P 10 28 23.7 -2.8
BUR08 IAmb IAmb 10 28 29.7
comp=Z,107nm,1.8s
BURAR Bucovina Array 28.42 106 ⇑P P 10 28 24.8 -1.9
BURAR Bucovina Array 28.42 106 ⇑P P 10 28 24.8 -1.9
BURAR Bucovina Array 28.42 106 P P 10 28 26.6 -0.2
CART Cartagena 28.65 152 *i* P P 10 28 29.9 +1.2
CART *i* S S 10 33 30.0 +13
EMAL Malaga-Limoner 28.83 158 *e*P P 10 28 32.1 +1.8
EMAL *i* S S 10 33 30.0 +10
SFS San Fernando 28.85 161 *i* P P 10 28 32.6 +2.1
SFS *e*S S 10 33 32.6 +12
BIZ Bicaz 29.33 106 ⇓P P 10 28 35.5 +0.8
VSL Villasalto 29.52 135 P P 10 28 35.9 -0.5
VSL IAmb IAmb 10 28 39.1
comp=Z,61nm,1.5s
VSL IAMs_20 IAMs_20 10 41 15.4
comp=Z,8µm,18.0s
CEU Ceuta 29.53 160 *i* P P 10 28 38.1 +1.6
CEU *e*S S 10 33 41.5 +11
PAOL Paolisi 29.83 126 P P 10 28 38.8 -0.4
PAOL IAMs_20 IAMs_20 10 42 36.4
comp=Z,7µm,18.0s
PVLZ Peæn de 30.41 159 *i* P P 10 28 46.0 +1.7
PVLZ *i* S S 10 33 25.3 -19
KIS Kishinev 30.42 103 ⇓*i* P P 10 28 44.3 0.0
comp=Z,380nm,3.8s
KIS Kishinev 30.42 103 ⇓*i* S S 10 33 41.4 -3.3
comp=Z,1µm,16.0s
KIS *e*LR LR 10 40 41.0
comp=Z,1µm,17.0s
KIS Kishinev 30.42 103 *d i* P P 10 28 44.3 0.0
KIS *e* 10 29 41.0
KIS *i* S S 10 33 41.4 -3.3
KIS pmax pmax
comp=Z,380nm,3.8s
KIS smax smax
comp=E,1µm,16.0s
KIS MLR MLR
comp=Z,900nm,16.0s
KIS MLR MLR
comp=E,1µm,13.0s
MLR Muntele Rosu 30.42 108 P P 10 28 45.0 +0.5
comp=E,10.0nm,1.1s,baz=334,slow=7.8,SNR=9.1
MLR Muntele Rosu 30.42 108 ⇓P P 10 28 40.2 -4.3
MLR Muntele Rosu 30.42 108 P P 10 28 45.0 +0.5
MLR Muntele Rosu 30.42 108 P P 10 28 42.6 -1.9
MLR IAmb IAmb 10 29 09.9
comp=Z,46nm,1.3s
VRI Vrincioaia 30.44 106 ⇑P P 10 28 45.5 +0.9
VRI Vrincioaia 30.44 106 ⇓P P 10 28 38.1 -6.5
MELI Melilla 30.52 156 *i* P P 10 28 45.8 +0.6
MELI *e*S S 10 33 55.3 +9.0
LPSR Galich'ya Gora 30.59 86 *e*P P 10 28 45.0 -0.7
LPSR *e*S S 10 33 52.5 +5.3
LPSR pmax pmax
comp=Z,40nm,1.4s
LPSR smax smax
comp=N,680nm,9.0s
LPSR MLR MLR
comp=Z,2µm,13.0s
BISRR Bisoca 30.69 107 ⇑P P 10 28 50.6 +3.8
GBN Guysborough 30.83 253 P P 10 28 48.6 +0.6
GBN IAmb IAmb 10 28 54.0
comp=Z,78nm,1.4s
KIRV Kirov 30.99 69 P P 10 28 48.4 -0.8
comp=Z,18nm,0.6s,baz=352,slow=3.0,SNR=13
KIRV LR LR 10 40 44.3
comp=Z,7µm,20.4s,baz=311,slow=35
KIRV Kirov 30.99 69*de*P P 10 28 48.5 -0.7
RTC Rabat Centre 31.21 163 IAMs_20 IAMs_20 10 41 14.2
comp=Z,8µm,20.0s
DFRA Djebel Bou Aff 31.26 142 P P 10 28 51.8 -0.2
BATG Bathurst New B 31.27 260 P P 10 28 50.4 -1.3
BATG IAmb IAmb 10 28 58.5
comp=Z,44nm,1.3s
CAEH 'Ain El Ouahch 31.30 141 P P 10 28 54.8 +2.6
VORR Voronezh 31.37 87 *e*P P 10 28 51.0 -1.6
VORR pmax pmax
comp=Z,300nm,1.8s
TIR Tirane 31.48 119 P P 10 28 52.5 -1.2
TIR pmax pmax
comp=Z,70nm,1.1s
TIR MLR MLR
comp=Z,5µm,20.0s
TIR Tirane 31.48 119 P P 10 28 52.5 -1.2
TIR IAMs_20 IAMs_20 10 42 39.8
comp=Z,5µm,20.0s
CFR Carcaliu 31.59 106 ⇑P P 10 28 53.4 -1.2
CFR Carcaliu 31.59 106 ⇑P P 10 28 53.4 -1.2
CMAH Djebel Manchou 31.61 140 P P 10 28 57.0 +2.1
CKFL Kef-Lekhel 31.63 141 P P 10 28 53.7 -1.5
VSR Storozhevoye 31.68 87 *e*P P 10 28 54.0 -1.4
VSR *e*S S 10 34 02.9 -1.5
VSR pmax pmax
comp=Z,50nm,1.2s
VSR smax smax
comp=E,1µm,6.6s
VSR MLR MLR
comp=Z,3µm,17.0s
VTS Vitosha 31.70 114 *e*P P 10 28 56.7 +0.9
AVE Averroes 31.82 164 *e*P P 10 28 54.9 -1.9
AVE *i* S S 10 34 17.8 +11
IFR Ifrane 31.91 160 *i* P P 10 28 58.1 +0.4
IFR *i* S S 10 34 15.9 +7.4
VORD Divnogorie 31.92 88 *e*P P 10 28 56.7 -0.7
VORD pmax pmax
comp=Z,70nm,1.6s
VORD MLR MLR
comp=Z,3µm,14.0s
PGB Panagyurishte 32.13 113 *e*P P 10 29 01.1 +1.6
SZH Strazhica 32.24 110 *e*P P 10 29 01.3 +0.9
KKB Krupnik 32.28 115 *e*P P 10 29 02.9 +2.2
TIRR Tirgusor 32.28 106 IAMs_20 IAMs_20 10 43 33.6
comp=Z,5µm,18.0s
D63A Stockholm 32.33 262 P P 10 29 00.3 -0.8
baz=39
CLTB Caltabellotta 32.48 131 P P 10 29 01.8 -0.9
CLTB IAMs_20 IAMs_20 10 42 18.7
comp=Z,7µm,20.0s
PQI Presque Isle 32.58 261 IAMs_20 IAMs_20 10 40 04.0
comp=Z,5µm,20.0s
MDT Midelt 32.67 160 P P 10 29 04.5 +0.2
comp=Z,27nm,1.0s,baz=6.6,slow=9.6,SNR=36
MDT LR LR 10 41 38.0
comp=Z,4µm,21.6s,baz=29,slow=35
E64A Bridgewater 32.69 261 P P 10 29 03.8 -0.5
baz=38
E64A S S 10 34 25.4 +5.2
baz=38
D62A Allapoint, All 32.70 263 P P 10 29 04.0 -0.3
baz=39
D62A S S 10 34 26.0 +5.7
baz=39
PLD Plovdiv 32.72 113 *e*P P 10 29 05.3 +0.7
MMB Musomiste 32.77 114 *e*P P 10 29 07.1 +2.0
VRH Novokhopyorsk 32.80 85 *e*P P 10 29 05.2 +0.1
VRH *e*S S 10 34 12.4 -9.3
VRH pmax pmax
comp=Z,60nm,1.5s
VRH smax smax
comp=N,2µm,6.5s
VRH MLR MLR
comp=Z,4µm,14.0s
SRN Sarande 32.81 120 P P 10 29 07.1 +1.8
CHGQ Chibougamau 32.85 271 P P 10 29 04.9 -0.8
baz=42,SNR=6.6
KEK Kerkira 32.88 121 P P 10 29 06.8 +0.8
E63A Oxbow 32.94 262 P P 10 29 06.5 0.0
baz=38
E63A S S 10 34 29.7 +5.6
baz=38
E63A Oxbow 32.94 262 IAMs_20 IAMs_20 10 40 24.7
comp=Z,5µm,20.0s
PENT Pentalofos 32.96 119 P P 10 29 08.4 +1.6
VAE Valguarnera 32.97 130 LR LR 10 42 15.9
comp=Z,2µm,19.9s,baz=338,slow=36
KEST Kesra 32.99 138 P P 10 29 07.0 0.0
comp=Z,18nm,1.2s,baz=278,slow=4.4,SNR=20
KEST LR LR 10 42 37.1
comp=Z,5µm,18.1s,baz=306,slow=37
KEST Kesra 32.99 138 P P 10 29 06.8 -0.3
KEST IAMs_20 IAMs_20 10 42 26.4
comp=Z,5µm,19.0s
NVR Nevrokopi 33.03 114 P P 10 29 08.2 +0.9
RZN Rozhen 33.08 113 *e*P P 10 29 08.8 +0.9
D61A St Aubert, Com 33.09 264 P P 10 29 07.5 -0.3
baz=39
D61A S S 10 34 31.3 +4.9
baz=39
SRS Serrai 33.12 115 P P 10 29 05.2 -2.9
E62A Clayton Lake 33.26 263 P P 10 29 08.9 -0.3
baz=38
E62A S S 10 34 34.3 +5.2
baz=38
E62A Clayton Lake 33.26 263 IAMs_20 IAMs_20 10 40 27.1
comp=Z,5µm,21.0s
SOH Sokhos 33.28 116 P P 10 29 11.3 +1.8
THE Thessaloniki 33.29 116 P P 10 29 10.8 +1.3
F64A Sherman 33.35 261 P P 10 29 11.7 +1.7
baz=38
F64A S S 10 34 36.1 +5.6
baz=38
F64A Sherman 33.35 261 IAMs_20 IAMs_20 10 40 45.6
comp=Z,5µm,20.0s
HORT Hortiatis 33.37 116 P P 10 29 12.0 +1.6
G65A Princeton 33.55 259 P P 10 29 11.5 -0.3
baz=37
G65A S S 10 34 38.4 +5.0
baz=37
G65A Princeton 33.55 259 IAMs_20 IAMs_20 10 40 41.7
comp=Z,5µm,20.0s
LIT Litokhoron 33.56 117 P P 10 29 13.0 +1.0
KAVA Kavala 33.58 114 P P 10 29 12.0 -0.1
D60A Saint Jean D'O 33.63 265 P P 10 29 10.9 -1.5
baz=39
D60A S S 10 34 38.8 +4.0
baz=39
PLG Polygyros 33.70 116 P P 10 29 14.9 +1.7
EDRB Edirne 33.76 111 P P 10 29 14.8 +1.2
H66A Whiting 33.77 259 P P 10 29 13.4 -0.2
baz=36
H66A S S 10 34 41.9 +5.0
baz=36
F63A Nahmakanta, Br 33.80 261 P P 10 29 13.4 -0.6
baz=38
F63A S S 10 34 43.4 +5.9
baz=38
F63A Nahmakanta, Br 33.80 261 P P 10 29 14.7 +0.7
F63A IAmb IAmb 10 29 20.3
comp=Z,51nm,1.4s
F63A IAMs_20 IAMs_20 10 40 51.4
comp=Z,4µm,19.0s
E61A Lac Etchemin 33.83 264 P P 10 29 13.6 -0.6
baz=38
E61A S S 10 34 42.9 +5.1
baz=38
THL Volokotos Trika 33.84 118 P P 10 29 14.2 -0.2
RDO Rodhopi 33.86 113 P P 10 29 15.4 +0.9
OUR Ouranopolis 33.94 115 P P 10 29 16.8 +1.6
D59A Saint-Raymond 33.96 266 P P 10 29 15.9 +0.6
baz=39
THAS Thassos island 34.00 114 P P 10 29 16.6 +0.9
G64A Maxfield 34.01 261 P P 10 29 15.5 -0.3
baz=37
F62A Pittston Farm, 34.02 263 P P 10 29 13.8 -2.1
baz=38
F62A S S 10 34 45.6 +4.7
baz=38
F62A Pittston Farm, 34.02 263 P P 10 29 15.8 -0.1
F62A IAmb IAmb 10 29 22.2
comp=Z,53nm,1.4s
F62A IAMs_20 IAMs_20 10 40 58.9
comp=Z,4µm,20.0s
LATQ La Tuque 34.07 267 P P 10 29 16.2 -0.1
baz=39
LATQ La Tuque 34.07 267 P P 10 29 14.0 -2.3
PAIG Paliouri 34.17 116 P P 10 29 18.6 +1.4
PAIG Paliouri 34.17 116 P P 10 29 19.3 +2.1
PKME Peaks-Kenny Pk 34.23 261 P P 10 29 16.6 -1.0
baz=37
PKME Peaks-Kenny Pk 34.23 261 P P 10 29 14.6 -3.1
PKME IAmb IAmb 10 29 24.2
comp=Z,53nm,1.4s
PKME IAMs_20 IAMs_20 10 41 03.8
comp=Z,5µm,20.0s
H65A Eastbrook 34.24 260 P P 10 29 16.7 -1.0
baz=37
H65A S S 10 34 50.0 +5.8
baz=37
ALN Alexandroupoli 34.28 112 P P 10 29 16.6 -1.5
ALN Alexandroupoli 34.28 112 P P 10 29 15.9 -2.2
ALN MLR MLR
comp=Z,4µm,18.0s
ALN Alexandroupoli 34.28 112 P P 10 29 15.9 -2.2
ALN IAMs_20 IAMs_20 10 45 50.6
comp=Z,4µm,18.0s
E60A Ste Agathe de 34.29 265 P P 10 29 18.3 +0.1
baz=38
EVR Evrytania 34.33 119 P P 10 29 20.2 +1.5
D58A Chemin du LacG 34.34 267 P P 10 29 17.0 -1.6
baz=39
D58A S S 10 34 50.5 +4.7
baz=39
MATQ Matagami 34.37 274 P P 10 29 16.9 -2.0
baz=42
F61A St Evariste 34.40 264 P P 10 29 19.3 +0.1
baz=38
F61A S S 10 34 52.0 +5.2
baz=38
SMTH Samothraki Isl 34.44 113 P P 10 29 20.6 +1.1
AGG Agios Georgios 34.44 118 P P 10 29 19.8 +0.2
AGG Agios Georgios 34.44 118 P P 10 29 18.8 -0.8
AGG MLR MLR
comp=Z,6µm,19.0s
AGG Agios Georgios 34.44 118 P P 10 29 18.8 -0.8
AGG IAMs_20 IAMs_20 10 45 40.1
comp=Z,6µm,19.0s
ENEZ Enez 34.46 112 P P 10 29 20.9 +1.2
BELG Belogornoye 34.46 79*de*P P 10 29 18.6 -1.0
XOR Xorichti 34.47 117 P P 10 29 19.3 -0.5
G63A Kingsbury 34.49 261 P P 10 29 19.4 -0.6
baz=37
G63A S S 10 34 53.4 +5.3
baz=37
NEO Neokhori 34.53 117 P P 10 29 21.8 +1.4
LSQQ Lebel-sur-Quev 34.61 273 P P 10 29 22.0 +1.0
baz=41
E59A St. Maurice 34.66 266 S S 10 34 56.6 +6.0
baz=39
H64A Troy 34.70 260 P P 10 29 20.7 -1.0
baz=37
H64A S S 10 34 56.4 +5.1
baz=37
LIA Limnos Island 34.79 114 P P 10 29 23.9 +1.4
G62A West of Eustis 34.80 262 P P 10 29 21.3 -1.4
baz=37
G62A S S 10 34 58.8 +5.9
baz=37
F60A Warwick 34.82 265 P P 10 29 21.6 -1.1
baz=38
F60A S S 10 34 59.3 +6.2
baz=38
GADA Gvkgeada 34.82 113 P P 10 29 23.8 +1.0
D57A Chemin Vers le 34.84 268 P P 10 29 22.3 -0.7
baz=39,SNR=10.0
D57A S S 10 34 59.7 +6.3
baz=39
AOS Alonnisos 34.90 116 P P 10 29 23.5 -0.1
WVL Waterville 34.95 261 IAMs_20 IAMs_20 10 41 43.8
comp=Z,5µm,20.0s
ATAL Atalanti 34.99 118 P P 10 29 25.1 +0.8
H63A New Sharon 35.03 261 P P 10 29 23.5 -1.1
baz=37
H63A S S 10 35 01.8 +5.4
baz=37
E58A La Victoria 35.07 266 P P 10 29 22.8 -2.1
baz=38
E58A S S 10 35 02.7 +5.6
baz=38
G61A St-Isidore-de- 35.18 263 P P 10 29 24.8 -1.1
baz=38
G61A S S 10 35 05.5 +6.8
baz=38
D56A ZEC Mazanza, M 35.19 268 P P 10 29 24.8 -1.2
baz=39
D56A S S 10 35 04.6 +5.7
baz=39
F59A Saint Guilaume 35.27 265 S S 10 35 07.2 +7.2
baz=38
EZN Ezine 35.30 113 P P 10 29 28.7 +1.7
EZN Ezine 35.30 113 P P 10 29 29.0 +2.0
A36M Sachs Harbour 35.38 329 S S 10 35 09.3 +8.0
baz=45
A36M Sachs Harbour 35.38 329 IAMs_20 IAMs_20 10 44 47.9
comp=Z,4µm,18.0s
E57A Chemin Saint G 35.42 267 P P 10 29 28.9 +0.9
baz=39,SNR=7.7
E57A S S 10 35 09.4 +6.9
baz=39
KYMI Kymi, Euboea I 35.45 117 P P 10 29 29.8 +1.5
I64A Boothbay 35.46 260 P P 10 29 27.4 -0.8
baz=36
I64A S S 10 35 10.1 +7.2
baz=36
D55A Sainte-Anne-du 35.52 269 P P 10 29 28.6 -0.2
baz=39
D55A S S 10 35 09.6 +5.7
baz=39
VLDQ Val d'Or 35.54 272 P P 10 29 29.1 +0.2
VLDQ IAmb IAmb 10 29 35.6
comp=Z,69nm,1.5s
VLDQ IAMs_20 IAMs_20 10 42 51.0
comp=Z,4µm,18.0s
H62A Milan 35.58 262 P P 10 29 29.5 +0.1
baz=37
H62A S S 10 35 11.5 +6.5
baz=37
H62A Milan 35.58 262 IAMs_20 IAMs_20 10 41 47.5
comp=Z,4µm,21.0s
SIGR SIGRI 35.64 114 P P 10 29 29.6 -0.3
G60A Masonville 35.67 264 P P 10 29 30.2 +0.1
baz=37
G60A S S 10 35 13.1 +6.8
baz=37
E56A St. Veronique 35.70 268 P P 10 29 28.2 -2.2
baz=39
F58A St-Lin Laurent 35.70 266 S S 10 35 12.4 +5.8
baz=38
I63A Otisfield 35.76 261 P P 10 29 30.2 -0.6
baz=36
I63A S S 10 35 15.4 +7.9
baz=36
I63A Otisfield 35.76 261 IAMs_20 IAMs_20 10 42 09.1
comp=Z,5µm,20.0s
PRK Paraskevi 35.78 114 P P 10 29 34.0 +2.9
PTL Penteli 35.87 117 P P 10 29 33.0 +1.1
DION Dionisos Attik 35.87 117 P P 10 29 31.4 -0.6
ATH Athens Observa 35.88 118 P P 10 29 32.9 +0.9
ATHU Athens Univers 35.91 118 P P 10 29 33.2 +0.9
H61A Lyndonville 35.95 263 P P 10 29 31.1 -1.4
baz=37
H61A S S 10 35 18.0 +7.5
baz=37
G59A Clarenceville 36.05 265 P P 10 29 32.7 -0.6
baz=37
ARU Arti 36.10 66 P P 10 29 34.0 +0.3
comp=Z,2.2nm,0.2s,baz=317,slow=5.9,SNR=13
ARU LR LR 10 43 43.2
comp=Z,6µm,19.9s,baz=310,slow=35
ARU Arti 36.10 66*c i* P P 10 29 34.1 +0.4
ARU 10 30 55.9
ARU S S 10 35 16.7 +4.1
ARU pmax pmax
comp=Z,89nm,2.1s
ARU MLR MLR
comp=Z,6µm,18.0s
ARU Arti 36.10 66 P P 10 29 32.7 -0.9
ARU IAmb IAmb 10 29 49.6
comp=Z,57nm,1.4s
ARU IAMs_20 IAMs_20 10 43 30.8
comp=Z,6µm,19.0s
F57A Harrington 36.12 267 S S 10 35 18.8 +5.7
baz=38
LBNH Lisbon 36.18 263 P P 10 29 33.1 -1.4
baz=37
LBNH Lisbon 36.18 263 IAMs_20 IAMs_20 10 42 16.3
comp=Z,4µm,20.0s
E55A Montcerf-Lytto 36.21 269 P P 10 29 34.3 -0.5
baz=39
I62A Tamworth 36.22 262 P P 10 29 34.7 -0.1
baz=36
I62A S S 10 35 21.9 +7.2
baz=36
I62A Tamworth 36.22 262 IAMs_20 IAMs_20 10 42 15.4
comp=Z,4µm,19.0s
H60A Morristown 36.26 264 P P 10 29 35.2 +0.1
baz=37
H60A S S 10 35 23.1 +7.8
baz=37
G58A Ormstown 36.37 266 P P 10 29 35.9 -0.2
baz=38
G58A S S 10 35 24.1 +7.1
baz=38
FRNY Flat Rock 36.42 265 P P 10 29 37.3 +0.7
FRNY IAmb IAmb 10 29 43.3
comp=Z,47nm,1.3s
CHOS Chios island 36.43 115 P P 10 29 37.0 +0.2
VT1 Waterbury 36.46 264 P P 10 29 38.0 +1.0
VT1 IAMs_20 IAMs_20 10 42 25.0
comp=Z,5µm,21.0s
I61A Oroboro, Fairl 36.55 263 P P 10 29 37.2 -0.4
baz=36
I61A S S 10 35 27.5 +7.8
baz=36
NRIK Noril'sk 36.57 35 P P 10 29 37.0 -0.6
comp=Z,15nm,1.0s,baz=322,slow=8.0,SNR=15
NRIK LR LR 10 46 29.8
comp=Z,4µm,18.1s,baz=344,slow=39
NRIK Noril'sk 36.57 35*d i* P P 10 29 37.0 -0.6
NRIK pmax pmax
comp=Z,64nm,1.9s
J63A Strafford 36.59 261 P P 10 29 38.4 +0.4
baz=36
J63A S S 10 35 27.6 +7.2
baz=36
H59A Cadyville 36.62 265 P P 10 29 38.8 +0.5
baz=37
H59A S S 10 35 27.7 +7.0
baz=37
SVE Sverdlovsk 36.64 64 *e*P P 10 29 39.0 +0.8
SVE *e*S S 10 35 26.0 +5.2
SVE *e* 10 37 48.6
SVE pmax pmax
comp=Z,52nm,1.7s
SVE MLR MLR
comp=Z,5µm,17.0s
FFD Franklin Falls 36.68 262 IAMs_20 IAMs_20 10 42 28.6
comp=Z,4µm,20.0s
MDUB Mudurnu 36.74 107 P P 10 29 37.7 -1.7
MDUB IAMs_20 IAMs_20 10 46 57.5
comp=Z,6µm,19.0s
HNH Hanover 36.76 263 IAMs_20 IAMs_20 10 42 43.8
comp=Z,4µm,20.0s
G57A Newington 36.81 267 P P 10 29 39.9 +0.1
baz=38
G57A S S 10 35 30.6 +6.9
baz=38
BLCB Balcova 36.82 113 P P 10 29 40.8 +0.8
SERI Serifos 36.89 117 P P 10 29 41.2 +0.6
J62A Henniker 36.95 262 P P 10 29 41.4 +0.3
baz=36
J62A S S 10 35 34.0 +8.2
baz=36
C36M Paulatuk 37.00 326 P P 10 29 40.0 -1.2
baz=43
H58A Gabriels 37.01 265 P P 10 29 41.3 -0.2
baz=37
H58A S S 10 35 32.6 +5.8
baz=37
LONY Lake Ozonia 37.02 266 P P 10 29 41.4 -0.2
baz=37

LONY Lake Ozonia 37.02 266 P **P** **10 29 41.3 -0.4**
I60A Shoreham 37.08 264 P **P** **10 29 42.0 -0.1**
baz=36
I60A S **S** **10 35 34.8 +7.0**
baz=36
KTHR Kythira 37.12 120 P **P** **10 29 43.1 +0.6**
J61A Chester 37.17 262 P **P** **10 29 43.2 +0.3**
baz=36
J61A S **S** **10 35 36.5 +7.3**
baz=36
K63A Dunstable 37.26 261 P **P** **10 29 43.8 +0.1**
baz=35
K63A S **S** **10 35 38.2 +7.7**
baz=35
ILGA Ilgaz 37.30 104 P **P** **10 29 43.2 -1.2**
ILGA IAmb IAmb 10 29 54.0
comp=Z,51nm,1.1s
SMG Samos 37.33 114 P **P** **10 29 46.0 +1.7**
MANT Manisa 37.34 112 P **P** **10 29 43.7 -1.0**
MANT IAmb IAmb 10 29 46.7
comp=Z,74nm,1.1s
KULA Kula-Manisa 37.36 112 P **P** **10 29 46.7 +2.0**
APE Apeiranthos 37.37 116 P **P** **10 29 45.0 +0.2**
APE Apeiranthos 37.37 116*d i* P **P** **10 29 44.8 0.0**
APE pmax pmax
comp=Z,94nm,1.7s
I59A Olmsteadville 37.37 264 P **P** **10 29 44.5 -0.2**
baz=36
I59A S **S** **10 35 39.7 +7.4**
baz=36
BCX Boston College 37.40 260 IAMs_20 IAMs_20 10 43 48.6
comp=Z,4μm,18.0s
WES Weston 37.42 260 IAMs_20 IAMs_20 10 43 06.2
comp=Z,4μm,19.0s
HRV Adam Dziewonsk 37.42 261 P **P** **10 29 44.5 -0.6**
baz=35
HRV Adam Dziewonsk 37.42 261 IAMs_20 IAMs_20 10 43 17.3
comp=Z,5μm,19.0s
ALGO Algonquin Park 37.47 270 P **P** **10 29 45.4 0.0**
baz=38
H57A Richville 37.49 266 P **P** **10 29 45.2 -0.4**
baz=37
H57A S **S** **10 35 42.0 +7.9**
baz=37
ANKY Antikythira Is 37.58 120 P **P** **10 29 47.5 +1.1**
K62A Royalston 37.58 261 P **P** **10 29 45.8 -0.7**
baz=35
K62A S S 10 35 44.0 +8.6
baz=35
K62A Royalston 37.58 261 IAMs_20 IAMs_20 10 43 15.5
comp=Z,4μm,19.0s
L64A Middleborough 37.58 259 P **P** **10 29 46.3 -0.1**
baz=35
L64A S S 10 35 43.8 +8.3
baz=35
ACCN Adirondack Com 37.62 264 IAMs_20 IAMs_20 10 43 20.3
comp=Z,5μm,20.0s
J60A Lant Hill Farm 37.62 263 P **P** **10 29 45.9 -0.9**
baz=36
J60A S S 10 35 44.7 +8.6
baz=36
AMGA Amorgos Island 37.72 116 P **P** **10 29 44.5 -3.2**
SOC Sochi 37.79 95*c i* P **P** **10 29 49.7 +1.5**
SOC *e* 10 31 13.8
SOC *e*S **S** **10 35 42.7 +4.1**
SOC pmax pmax
comp=Z,7.0nm,0.6s
SOC MLR MLR
comp=Z,2μm,13.0s
M65A Busby, Falmout 37.81 259 IAMs_20 IAMs_20 10 43 19.5
comp=Z,3μm,19.0s
CMBO Columbo, Santo 37.84 117 P **P** **10 29 49.2 +0.5**
BRYW Bryant College 37.90 260 IAMs_20 IAMs_20 10 43 20.8
comp=Z,3μm,18.0s
SNT1 Gialos, Santor 37.90 117 P **P** **10 29 49.4 +0.2**
J59A Piesco 37.91 264 P **P** **10 29 48.8 -0.5**
baz=36
J59A S **S** **10 35 47.1 +6.6**
baz=36
J59A Piesco 37.91 264 P **P** **10 29 48.8 -0.5**
J59A IAMs_20 IAMs_20 10 43 20.1
comp=Z,4μm,20.0s
G54A Lake Saint Pet 37.92 270 P **P** **10 29 48.5 -0.8**
baz=38
G54A S **S** **10 35 45.5 +4.9**
baz=38
I58A Old Forge 37.93 265 P **P** **10 29 48.9 -0.5**
baz=36
I58A S **S** **10 35 47.2 +6.4**
baz=36
QUA2 Belchertown 37.95 261 IAMs_20 IAMs_20 10 43 52.2
comp=Z,5μm,18.0s
L61B Northampton 37.95 262 P **P** **10 29 48.1 -1.4**
baz=35
L61B S S 10 35 49.9 +8.9
baz=35
SANT Santorini 37.95 117 P **P** **10 29 49.8 +0.1**
SANT Santorini 37.95 117 P **P** **10 29 48.0 -1.7**
SANT IAmb IAmb 10 29 50.8
comp=Z,116nm,1.4s
L63A North Scituate 37.97 260 P **P** **10 29 49.6 -0.1**
baz=35
L63A S S 10 35 51.1 +10
baz=35
K61A Williamstown 38.02 263 P **P** **10 29 50.5 +0.3**
baz=36
K61A S S 10 35 51.2 +9.0
baz=36
I57A Carthage 38.03 266 P **P** **10 29 51.5 +1.2**
baz=37
I57A S **S** **10 35 49.9 +7.7**
baz=37
GOF Gofitskoye 38.05 91⇑*i* P **P** **10 29 52.2 +1.8**
GOF pmax pmax
comp=Z,193nm,1.4s
M64A Tiverton 38.06 259 P **P** **10 29 50.8 +0.4**
baz=34
M64A S S 10 35 51.5 +8.9
baz=34
BODT Bodrum 38.07 114 P **P** **10 29 50.6 -0.1**
ANAF Anafi Island 38.09 117 P **P** **10 29 51.0 +0.2**
TRY Troy 38.15 263 IAMs_20 IAMs_20 10 43 27.3
comp=Z,5μm,20.0s
IMMV Iera Moni Meta 38.19 119 P **P** **10 29 52.2 +0.6**
VAM Vamos 38.32 119 P **P** **10 29 53.9 +1.2**
J58A Remsen 38.33 265 P **P** **10 29 54.5 +1.7**
baz=36
J58A S **S** **10 35 54.3 +7.5**
baz=36
J58A Remsen 38.33 265 IAMs_20 IAMs_20 10 43 34.2
comp=Z,4μm,21.0s
BR131 Keskin Array S 38.38 105 P **P** **10 29 54.1 +0.8**
SNR=19
BR131 Keskin Array S 38.38 105 P **P** **10 29 52.4 -1.0**
BR131 pmax pmax
comp=Z,65nm,1.8s
BR131 Keskin Array S 38.38 105 P **P** **10 29 52.4 -1.0**
BRTR Keskin Array B 38.38 105 P **P** **10 29 53.8 +0.4**
comp=Z,11nm,0.8s,baz=330,slow=6.3,SNR=37
BRTR LR LR 10 48 29.6
comp=Z,708nm,18.0s,baz=306,slow=41
BRTR Keskin Array B 38.38 105 P **P** **10 29 52.6 -0.7**
YER Yerkesik 38.40 113 P **P** **10 29 52.0 -1.4**
YER Yerkesik 38.40 113 P **P** **10 29 55.3 +1.9**
DELO Deloro Mine 38.41 268 IAMs_20 IAMs_20 10 43 58.3
comp=Z,6μm,20.0s
NIS1 Nisyros Isl. 38.42 115 P **P** **10 29 54.2 +0.6**
L61A Hillsdale 1, H 38.53 262 P **P** **10 29 54.0 -0.4**
baz=35
L61A S S 10 35 59.5 +10
baz=35
M63A Gales Ferry 38.54 260 P **P** **10 29 54.3 -0.1**
baz=34
M63A S **S** **10 35 58.0 +8.1**
baz=34
J57A Williamstown 38.60 266 P **P** **10 29 54.3 -0.7**
baz=36
K59A Cooperstown 38.62 264 P **P** **10 29 56.9 +1.7**
baz=36
K59A S S 10 35 59.9 +8.6
baz=36
IDI Anoyia 38.69 118 P **P** **10 29 54.4 -1.5**
comp=Z,29nm,0.9s,baz=340,slow=8.6,SNR=8.1
IDI Anoyia 38.69 118 P **P** **10 29 54.1 -1.8**
IDI Anoyia 38.69 118 P **P** **10 29 53.9 -2.0**
ISP Isparta 38.71 110 P **P** **10 29 54.6 -1.5**
ISP pmax pmax
comp=Z,44nm,1.5s
ISP MLR MLR
comp=Z,3μm,22.0s
ISP Isparta 38.71 110 P **P** **10 29 54.6 -1.5**
GVDS Gavdos 38.78 120 P **P** **10 29 57.6 +1.0**
KIV Kislovodsk 38.78 92 *i* P **P** **10 29 57.7 +1.1**
SNR=6.7
KIV Kislovodsk 38.78 92 *e*P **P** **10 29 55.8 -0.8**
KIV *e* 10 31 24.7
KIV *e*S **S** **10 35 53.9 +0.2**
KIV pmax pmax
comp=Z,684nm,4.3s
KIV pmax pmax
comp=Z,65nm,1.0s
KIV MLR MLR
comp=Z,6μm,16.0s
KIV Kislovodsk 38.78 92 P **P** **10 29 56.0 -0.7**
H53A Bobcaygeon 38.79 269 P **P** **10 29 57.7 +1.2**
baz=37
H53A S **S** **10 36 00.9 +7.2**
baz=37
M62A Hamden 38.87 261 P **P** **10 29 57.3 +0.1**
baz=35
M62A S S 10 36 03.8 +9.0
baz=35
SADO Sadowa 38.87 270 IAMs_20 IAMs_20 10 44 22.4
comp=Z,5μm,20.0s
KSCT Kent School, K 38.89 262 IAMs_20 IAMs_20 10 44 13.9
comp=Z,4μm,18.0s
SIVA Sivas 38.90 119 P **P** **10 29 57.8 +0.3**
K58A Earlville 38.97 265 P **P** **10 29 57.4 -0.8**
baz=36
K58A S S 10 36 05.3 +8.8
baz=36
K58A Earlville 38.97 265 IAMs_20 IAMs_20 10 44 02.1
comp=Z,4μm,19.0s
NPS Neapolis 38.99 118 P **P** **10 29 57.5 -0.8**
L60A Shokan 38.99 263 P **P** **10 29 57.6 -0.7**
baz=35
L60A S S 10 36 07.0 +10
baz=35
YLE Yale 38.99 261 IAMs_20 IAMs_20 10 44 30.7
comp=Z,4μm,18.0s
LAST Lasithi 39.02 118 P **P** **10 29 56.3 -2.4**
KBZ Khabaz 39.05 92 P **P** **10 29 58.6 -0.1**
comp=Z,22nm,0.9s,baz=314,slow=8.4,SNR=22
KBZ LR LR 10 46 28.3
comp=Z,4μm,21.4s,baz=332,slow=37
KBZ Khabaz 39.05 92*de*P **P** **10 29 58.5 -0.2**
KBZ pmax pmax
comp=Z,93nm,2.1s
J56A Wolcott 39.08 267 P **P** **10 29 58.8 -0.2**
baz=36
ARG Arkhangelos 39.13 114 P **P** **10 29 59.6 +0.1**
FETY Fethiye 39.15 113 P **P** **10 30 00.1 +0.4**
L59A Walton 39.18 264 P **P** **10 30 01.1 +1.2**
baz=35
L59A S S 10 36 08.6 +8.9
baz=35
L59A Walton 39.18 264 IAMs_20 IAMs_20 10 43 58.6
comp=Z,4μm,21.0s
WSPT Westport, CT 39.28 261 IAMs_20 IAMs_20 10 44 40.2
comp=Z,4μm,18.0s
KARP Karpathos 39.34 116 P **P** **10 30 00.0 -1.3**
KARP Karpathos 39.34 116 IAMs_20 IAMs_20 10 47 50.6
comp=Z,4μm,21.0s
M61A Granite Spring 39.35 262 P **P** **10 30 00.4 -0.9**
baz=35
M61A S **S** **10 36 10.0 +7.9**
baz=35
ZKR Zakros 39.35 117 P **P** **10 30 00.6 -0.8**
K57A Scipio Center 39.37 266 P **P** **10 29 59.8 -1.7**
baz=36
K57A S **S** **10 36 10.5 +8.0**
baz=36
YKA Yellowknife Ar 39.37 313 P **P** **10 30 00.5 -0.7**
comp=Z,14nm,1.0s,baz=40,slow=9.0,SNR=27
YKA PcP **PcP** **10 32 10.0 +0.8**
comp=Z,9.6nm,1.0s,baz=38,slow=3.8,SNR=12
YKA LR LR 10 46 10.9
comp=Z,4μm,18.4s,baz=0.0,slow=36
YKA Yellowknife Ar 39.37 313 *i* P **P** **10 30 01.5 +0.3**
YKA pmax pmax
comp=Z,14nm,1.0s
ELL Elmali 39.38 112 P **P** **10 30 01.6 -0.2**
ELL pmax pmax
comp=Z,491nm,1.6s
ELL MLR MLR
comp=Z,10μm,19.0s
ELL Elmali 39.38 112 P **P** **10 30 01.6 -0.2**
J55A Hilton 39.50 267 P **P** **10 30 01.5 -1.0**
baz=36
J55A S **S** **10 36 11.2 +6.8**
baz=36
BINY Binghamton 39.58 265 P **P** **10 30 03.2 0.0**
baz=35
BINY Binghamton 39.58 265 IAMs_20 IAMs_20 10 44 21.1
comp=Z,3μm,19.0s
L58A Harry Jones Me 39.64 264 P **P** **10 30 02.8 -1.0**
baz=35
L58A S S 10 36 15.9 +9.3
baz=35
PAL Palisades 39.66 262 P **P** **10 30 03.0 -0.9**
baz=34
PAL S **S** **10 36 14.2 +7.4**
baz=34
PAL Palisades 39.66 262 P **P** **10 30 02.9 -0.9**
PAL pmax pmax
comp=Z,40nm,1.2s
PAL Palisades 39.66 262 P **P** **10 30 02.9 -0.9**
TRNY Table Rock, Ra 39.68 262 IAMs_20 IAMs_20 10 44 39.0
comp=Z,4μm,18.0s
M60A Port Jervis 39.70 263 P **P** **10 30 04.0 -0.2**
baz=35
M60A S **S** **10 36 15.2 +7.7**
baz=35
AKAS Kas 39.71 112 P **P** **10 30 02.3 -2.2**
AKAS IAmb IAmb 10 30 06.8
comp=Z,89nm,1.4s
K56A Middlesex 39.75 266 P **P** **10 30 03.6 -1.0**
baz=36
K56A S **S** **10 36 15.5 +7.3**
baz=36
KSL Kastellorizon 39.77 112 P **P** **10 30 02.8 -2.0**
E46A Sault Ste Mari 39.85 276 P **P** **10 30 05.8 +0.4**
E46A IAMs_20 IAMs_20 10 45 31.0
comp=Z,6μm,18.0s
J54A Appleton 39.85 268 P **P** **10 30 04.7 -0.8**
baz=36
J54A S **S** **10 36 17.5 +7.9**
baz=36
J54A Appleton 39.85 268 IAMs_20 IAMs_20 10 44 52.4
comp=Z,4μm,20.0s
CPNY Central Park 39.86 261 IAMs_20 IAMs_20 10 45 08.7
comp=Z,4μm,19.0s
MEDO Medina 39.86 268 IAMs_20 IAMs_20 10 44 42.6
comp=Z,4μm,21.0s
M59A Waymart 39.87 264 P **P** **10 30 05.7 0.0**
baz=35
M59A S **S** **10 36 17.5 +7.4**
baz=35
ODNJ Ogdensburg 39.90 262 IAMs_20 IAMs_20 10 44 46.6
comp=Z,5μm,18.0s
KSPA Keystone Colle 40.01 264 IAMs_20 IAMs_20 10 44 34.5
comp=Z,4μm,20.0s
INK Inuvik 40.02 329 P **P** **10 30 07.2 +0.7**
comp=Z,21nm,0.9s,baz=31,slow=9.5,SNR=9.1
INK PcP **PcP** **10 32 12.2 +1.1**
comp=Z,15nm,1.0s,baz=300,slow=2.0,SNR=4.4
INK LR LR 10 47 42.4
comp=Z,3μm,20.6s,baz=52,slow=38
INK Inuvik 40.02 329 P **P** **10 30 06.9 +0.3**
INK pmax pmax
comp=Z,43nm,1.2s
INK MLR MLR
comp=Z,4μm,22.0s
INK Inuvik 40.02 329 P **P** **10 30 06.8 +0.3**
INK IAMs_20 IAMs_20 10 47 30.5
comp=Z,5μm,22.0s
K55A Perry 40.05 267 P **P** **10 30 05.8 -1.3**
baz=36
K55A S **S** **10 36 20.4 +7.8**
baz=36
L57A Andrews Acres 40.11 265 P **P** **10 30 08.3 +0.7**
baz=35
L57A S **S** **10 36 21.6 +8.0**
baz=35
ONI Oni 40.21 93 P **P** **10 30 12.3 +3.8**
ZEI Tsey 40.24 92 *e*P **P** **10 30 07.0 -2.0**
ZEI pmax pmax
comp=Z,23nm,1.1s
BATM Batumi 40.25 95 P **P** **10 30 10.9 +2.1**
N60A Cedar Hill Far 40.28 263 P **P** **10 30 10.3 +1.3**
baz=34
N60A S S 10 36 25.2 +9.1
baz=34
AKTO Aktyubinsk 40.28 73 P **P** **10 30 08.6 -0.4**
comp=Z,7.6nm,0.7s,baz=329,slow=8.2,SNR=27
L56A Greenwood 40.30 266 P **P** **10 30 08.0 -1.3**
baz=35
L56A S S 10 36 26.0 +9.4
baz=35
L56A Greenwood 40.30 266 P **P** **10 30 09.6 +0.3**
L56A IAmb IAmb 10 30 18.1
comp=Z,91nm,1.7s
K54A Basiliko Farm, 40.41 268 P **P** **10 30 09.3 -0.8**
baz=36
K54A S **S** **10 36 25.9 +7.8**
baz=36
M58A Price's Panora 40.45 264 P **P** **10 30 09.5 -1.0**
baz=35
M58A S **S** **10 36 26.9 +8.2**
baz=35
I51A Listowel 40.46 271 P **P** **10 30 09.4 -1.1**
baz=37
I51A S **S** **10 36 25.6 +6.9**
baz=37
N59A State Game Lan 40.53 263 P **P** **10 30 10.7 -0.5**
baz=34
N59A S S 10 36 28.5 +8.6
baz=34
WVNY West Valley, N 40.54 267 IAMs_20 IAMs_20 10 45 14.5
comp=Z,3μm,21.0s
LUPA Lehigh Univers 40.62 263 IAMs_20 IAMs_20 10 45 00.9
comp=Z,5μm,19.0s
L55A Hinsdale 40.65 267 P **P** **10 30 11.0 -1.1**
baz=36
L55A S **S** **10 36 29.7 +8.1**
baz=36
ARTV Artvin 40.70 96 P **P** **10 30 11.7 -1.0**
FFC Flin Flon 40.73 298 P **P** **10 30 13.1 +0.5**
FFC pmax pmax
comp=Z,57nm,1.6s
FFC MLR MLR
comp=Z,10μm,18.0s
FFC Flin Flon 40.73 298 P **P** **10 30 13.1 +0.5**
GROC Groznyy 40.73 90 *e*P **P** **10 30 11.9 -0.8**
GROC *e* 10 31 50.1
GROC pmax pmax
comp=Z,84nm,1.3s
M57A Sunshine Farm, 40.77 265 P **P** **10 30 11.4 -1.7**
baz=35
M57A S **S** **10 36 31.7 +8.3**
baz=35
M57A Sunshine Farm, 40.77 265 P **P** **10 30 14.2 +1.1**
M57A IAMs_20 IAMs_20 10 44 58.8
comp=Z,4μm,21.0s
O60A Telford 40.87 262 P **P** **10 30 13.0 -0.9**
baz=34
O60A S S 10 36 34.4 +10
baz=34
L54A Sinclairville 40.98 268 P **P** **10 30 13.1 -1.8**
baz=36
L54A S **S** **10 36 33.4 +6.8**
baz=36
E43A Lone Tree Farm 40.99 278 IAMs_20 IAMs_20 10 45 53.3
comp=Z,5μm,20.0s
N58A Sunbury 41.00 264 P **P** **10 30 13.8 -1.2**
baz=34
N58A S **S** **10 36 34.0 +7.1**
baz=34
N58A Sunbury 41.00 264 P **P** **10 30 15.6 +0.6**
N58A IAMs_20 IAMs_20 10 45 05.9
comp=Z,4μm,21.0s
KOPT Kop Dagi 41.04 98 P **P** **10 30 14.3 -1.4**
M56A Emporium 41.11 266 P **P** **10 30 13.9 -2.0**
baz=35
M56A S **S** **10 36 35.7 +7.2**
baz=35
M56A Emporium 41.11 266 P **P** **10 30 17.2 +1.3**
M56A IAMs_20 IAMs_20 10 45 21.6
comp=Z,3μm,21.0s
D41A Chassel 41.13 280 IAMs_20 IAMs_20 10 45 46.8
comp=Z,5μm,21.0s
AKH Akhalkalaki 41.19 94 P **P** **10 30 16.5 -0.2**
AKH pmax pmax
comp=Z,67nm,1.2s
AKH MLR MLR
comp=Z,2μm,22.0s
AKH Akhalkalaki 41.19 94 P **P** **10 30 16.5 -0.2**
AKH IAmb IAmb 10 30 20.2
comp=Z,67nm,1.2s
GLMI Grayling 41.20 275 P **P** **10 30 14.7 -1.9**
baz=37
O59A Robesonia 41.21 263 P **P** **10 30 14.8 -2.0**
baz=34
O59A S S 10 36 39.1 +9.1
baz=34
PSUB Penn St. - Bra 41.21 262 IAMs_20 IAMs_20 10 45 17.5
comp=Z,3μm,20.0s
M55A Ridgway 41.37 267 P **P** **10 30 16.0 -2.0**
baz=35
M55A S **S** **10 36 40.0 +7.6**
baz=35
M55A Ridgway 41.37 267 P **P** **10 30 19.2 +1.1**
M55A IAMs_20 IAMs_20 10 45 18.6
comp=Z,3μm,22.0s
ERPA Erie 41.37 268 P **P** **10 30 16.2 -1.8**
baz=36
ERPA Erie 41.37 268 IAMs_20 IAMs_20 10 45 27.6
comp=Z,4μm,21.0s
P60A Greenville 41.39 262 P **P** **10 30 16.7 -1.4**
baz=34
P60A S **S** **10 36 39.6 +7.1**
baz=34
P60A Greenville 41.39 262 IAMs_20 IAMs_20 10 45 32.1
comp=Z,3μm,19.0s
N57A Milroy 41.43 265 P **P** **10 30 16.8 -1.7**
baz=34
N57A S **S** **10 36 40.6 +7.3**
baz=34
G45A Suttons Bay 41.47 276 IAMs_20 IAMs_20 10 46 23.1
comp=Z,4μm,18.0s
PAGS Pennsylvania G 41.51 264 IAMs_20 IAMs_20 10 45 30.3
comp=Z,6μm,20.0s
MALT Malatya 41.58 101 P **P** **10 30 21.1 +1.2**
KZRT Kazreti 41.60 93 P **P** **10 30 22.8 +2.8**
N56A West Decatur 41.62 266 P **P** **10 30 18.3 -1.8**
baz=35
N56A S **S** **10 36 43.3 +7.2**
baz=35
L53A Girard 41.62 268 P **P** **10 30 17.5 -2.5**
baz=35
L53A S **S** **10 36 42.7 +6.6**
baz=35
MAK Makhachkala 41.66 89 *e*P **P** **10 30 15.9 -4.5**
MAK *e* 10 31 53.7
MAK *e*PPP PPP 10 32 22.0
MAK *e*S **S** **10 36 28.5 -8.1**
MAK *e*SS **SS** **10 39 39.6 -1.8**
MAK pmax pmax
comp=Z,285nm,1.2s
MAK MLR MLR
comp=Z,3μm,19.0s
SSPA Standing Stone 41.67 265 P **P** **10 30 18.1 -2.5**
baz=34
SSPA Standing Stone 41.67 265 P **P** **10 30 21.2 +0.7**
EYMN Ely 41.68 283 P **P** **10 30 17.2 -3.3**
baz=39
EYMN Ely 41.68 283 P **P** **10 30 20.3 -0.2**
EYMN IAmb IAmb 10 30 29.7
comp=Z,90nm,1.8s
EYMN Ely 41.68 283 IAMs_20 IAMs_20 10 46 22.2
comp=Z,4μm,20.0s
O58A Lewisberry 41.68 264 P **P** **10 30 17.9 -2.7**
baz=34
O58A S **S** **10 36 44.2 +7.2**
baz=34
ULM Lac du Bonnet 41.71 289 P **P** **10 30 20.4 -0.3**
comp=Z,6.7nm,0.9s,baz=11,slow=6.8,SNR=4.6
ULM LR LR 10 46 29.5
comp=Z,2μm,19.2s,baz=40,slow=34
ULM Lac du Bonnet 41.71 289 P **P** **10 30 19.9 -0.8**
ULM pmax pmax

comp=Z,43nm,1.5s
ULM MLR MLR
comp=Z,3µm,18.0s
ULM Lac du Bonnet 41.71 289 P **P** **10 30 19.9 -0.8**
ULM IAMs_20 IAMs_20 10 47 11.9
comp=Z,3µm,18.0s
M54A Oil Creek Stat 41.73 268 P **P** **10 30 21.2 +0.2**
baz=35,SNR=6.3
M54A S **S** **10 36 45.1 +7.4**
baz=35
M54A Oil Creek Stat 41.73 268 P **P** **10 30 19.9 -1.1**
M54A IAmb IAmb 10 30 27.2
comp=Z,80nm,1.3s
M54A IAMs_20 IAMs_20 10 45 51.0
comp=Z,3µm,21.0s
ALLY Alegheny Colle 41.82 268 IAMs_20 IAMs_20 10 45 52.5
comp=Z,4µm,21.0s
P59A Jarrettsville 41.90 263 P **P** **10 30 20.2 -2.2**
baz=34
P59A S S 10 36 48.5 +8.3
baz=34
O57A Amberson 41.92 265 P **P** **10 30 20.3 -2.2**
baz=34
O57A S **S** **10 36 47.7 +7.2**
baz=34
F42A Maple Grove Fa 41.97 279 IAMs_20 IAMs_20 10 46 23.1
comp=Z,5µm,21.0s
AB05 Akbulak array 41.97 73 P **P** **10 30 21.4 -1.4**
AB09 Akbulak array 41.97 73 P **P** **10 30 21.6 -1.3**
K50A Casco 41.98 271 IAMs_20 IAMs_20 10 46 26.6
comp=Z,3µm,19.0s
AB04 Akbulak array 41.98 73 P **P** **10 30 21.6 -1.3**
AB02 Akbulak array 41.99 73 P **P** **10 30 21.7 -1.3**
AB31 Akbulak array 41.99 73 *i* P **P** **10 30 20.9 -2.1**
AB31 Akbulak array 41.99 73 P **P** **10 30 21.5 -1.5**
ABKAR Akbulak array 41.99 73 P **P** **10 30 21.8 -1.2**
ABKAR IAmb IAmb 10 30 25.0
comp=Z,96nm,1.8s
LGD Lagodekhi 42.03 91 P **P** **10 30 27.7 +4.3**
N55A Marion Center 42.03 266 P **P** **10 30 21.4 -2.1**
baz=35
N55A S **S** **10 36 49.5 +7.3**
baz=35
GAZ Gaziantep 42.03 104 P **P** **10 30 23.6 0.0**
GAZ IAmb IAmb 10 30 33.1
comp=Z,55nm,1.2s
COWI Conover 42.13 280 IAMs_20 IAMs_20 10 46 28.2
comp=Z,5µm,21.0s
TIXI Tiksi 42.19 15 *de* P **P** **10 30 24.3 0.0**
TIXI pmax pmax
comp=Z,580nm,2.5s
TIXI Tiksi 42.19 15 P **P** **10 30 24.3 0.0**
TIXI IAMs_20 IAMs_20 10 45 52.4
comp=Z,4µm,22.0s
M53A WI Miller and 42.22 268 P **P** **10 30 22.4 -2.5**
baz=35
M53A S **S** **10 36 51.3 +6.4**
baz=35
M53A WI Miller and 42.22 268 IAMs_20 IAMs_20 10 46 04.1
comp=Z,4µm,21.0s
O56A Blue Knob Stat 42.27 265 P **P** **10 30 22.7 -2.8**
baz=34
O56A S **S** **10 36 53.3 +7.5**
baz=34
O56A Blue Knob Stat 42.27 265 P **P** **10 30 26.7 +1.2**
B35A Bob, Littlefor 42.29 286 IAMs_20 IAMs_20 10 47 00.3
comp=Z,5µm,19.0s
CSS Mathiatis 42.31 109 P **P** **10 30 25.8 0.0**
N54A Moraine State 42.31 267 P **P** **10 30 26.4 +0.7**
baz=35,SNR=6.8
N54A S **S** **10 36 54.3 +7.9**
baz=35
N54A Moraine State 42.31 267 P **P** **10 30 25.3 -0.5**
N54A IAmb IAmb 10 30 32.9
comp=Z,56nm,1.1s
N54A IAMs_20 IAMs_20 10 46 09.6
comp=Z,4µm,22.0s
EPYK Eagle Plains 42.32 329 P **P** **10 30 25.8 +0.2**
ZKTA Zakatala 42.35 91 P **P** **10 30 27.4 +1.3**
P58A Pank, Wackersv 42.37 264 P **P** **10 30 23.3 -2.9**
baz=34
P58A S **S** **10 36 54.8 +7.7**
baz=34
M52A Chesterland 42.43 269 P **P** **10 30 24.4 -2.3**
baz=35
M52A S **S** **10 36 55.8 +7.7**
baz=35
M52A Chesterland 42.43 269 IAMs_20 IAMs_20 10 46 21.7
comp=Z,5µm,20.0s
I45A Fountain 42.52 276 IAMs_20 IAMs_20 10 47 03.9
comp=Z,4µm,19.0s
O55A Ligonier 42.64 266 S **S** **10 36 58.5 +7.3**
baz=34
P57A Homestead Farm 42.68 264 P **P** **10 30 27.7 -1.0**
baz=34
P57A S S 10 37 00.7 +9.0
baz=34
P57A Homestead Farm 42.68 264 P **P** **10 30 30.8 +2.1**
P57A IAMs_20 IAMs_20 10 46 17.3
comp=Z,5µm,20.0s
E38A The Farm, Brul 42.76 282 IAMs_20 IAMs_20 10 47 14.8
comp=Z,3µm,19.0s
AAM Ann Arbor 42.81 272 P **P** **10 30 28.1 -1.6**
baz=36
N53A Lisbon 42.81 268 P **P** **10 30 30.2 +0.4**
baz=35,SNR=7.1
N53A S **S** **10 37 00.8 +7.1**
baz=35
N53A Lisbon 42.81 268 P **P** **10 30 30.7 +0.9**
N53A IAmb IAmb 10 30 37.6
comp=Z,74nm,1.4s
N53A IAMs_20 IAMs_20 10 46 34.7
comp=Z,4µm,21.0s
H43A Windswept, Lux 42.84 277 IAMs_20 IAMs_20 10 46 48.1
comp=Z,5µm,21.0s
TOLK Toolik Lake Re 42.93 337 P **P** **10 30 29.0 -1.5**
baz=28,SNR=27
TOLK Toolik Lake Re 42.93 337 P **P** **10 30 31.7 +1.2**
TOLK IAmb IAmb 10 30 34.4
comp=Z,88nm,1.0s
TOLK IAMs_20 IAMs_20 10 50 07.1
comp=Z,4µm,19.0s
SEKA Sheki 42.95 91 P **P** **10 30 31.9 +0.9**
M51A Elyria 42.96 270 P **P** **10 30 29.4 -1.6**
baz=35
M51A S **S** **10 37 02.3 +6.5**
baz=35
AKT Akhty 42.96 90 *e* P **P** **10 30 31.8 +0.6**
AKT *e* 10 32 12.7
AKT pmax pmax
comp=Z,20nm,1.5s
Q58A Fox Den Farm, 42.99 264 P **P** **10 30 29.8 -1.5**
baz=33
Q58A S **S** **10 37 04.5 +8.2**
baz=33
P56A Dayton Farm, R 43.02 265 P **P** **10 30 30.0 -1.5**
baz=34
P56A S **S** **10 37 05.0 +8.3**
baz=34
GANJ Ganja 43.04 92 P **P** **10 30 32.4 +0.7**
BMAR Burnt Mountain 43.08 333 P **P** **10 30 32.0 +0.3**
O54A Avella 43.12 267 P **P** **10 30 29.8 -2.5**
baz=34
O54A S **S** **10 37 04.9 +6.6**
baz=34
O54A Avella 43.12 267 P **P** **10 30 32.5 +0.1**
O54A IAMs_20 IAMs_20 10 46 45.0
comp=Z,4µm,20.0s
BRVK Borovoye 43.16 62 *de* P **P** **10 30 32.0 -0.5**
BRVK pmax pmax
comp=Z,58nm,1.7s
BRVK Borovoye 43.16 62 P **P** **10 30 30.9 -1.5**
BRVK IAmb IAmb 10 30 35.7
comp=Z,96nm,1.7s
N52A McGinn's Farm, 43.17 269 S S 10 37 07.4 +8.5
baz=35
Q57A Strasburg 43.23 264 P **P** **10 30 30.9 -2.2**
baz=34
Q57A S S 10 37 08.9 +9.1
baz=34
AGMN Agassiz Nation 43.23 287 P **P** **10 30 32.5 -0.6**
baz=38,SNR=5.8
AGMN Agassiz Nation 43.23 287 P **P** **10 30 33.5 +0.4**
G40A Rib Lake 43.24 280 P **P** **10 30 33.5 +0.3**
G40A IAMs_20 IAMs_20 10 47 01.7
comp=Z,5µm,22.0s
MNGR Mingechevir, A 43.26 91 P **P** **10 30 34.8 +1.4**

M50A Fremont 43.28 270 P **P** **10 30 34.9 +1.4**
M50A IAmb IAmb 10 30 38.7
comp=Z,49nm,0.8s
M50A IAMs_20 IAMs_20 10 47 07.9
comp=Z,4µm,19.0s
MCWV Mont Chateau 43.33 266 P **P** **10 30 31.2 -2.8**
baz=34
MCWV Mont Chateau 43.33 266 P **P** **10 30 34.3 +0.3**
R59A King George, V 43.37 262 P **P** **10 30 32.1 -2.2**
baz=33
R59A S S 10 37 10.3 +8.6
baz=33
N51A Ashland 43.38 269 P **P** **10 30 32.6 -1.8**
baz=35
N51A S **S** **10 37 09.7 +7.7**
baz=35
N51A Ashland 43.38 269 P **P** **10 30 34.5 0.0**
N51A IAmb IAmb 10 30 39.0
comp=Z,50nm,0.9s
N51A IAMs_20 IAMs_20 10 46 50.8
comp=Z,5µm,20.0s
MARD Mardin 43.42 100 P **P** **10 30 35.1 +0.2**
MARD IAmb IAmb 10 30 38.8
comp=Z,81nm,1.1s
O53A New Philadelph 43.43 268 P **P** **10 30 32.5 -2.3**
baz=34
O53A S **S** **10 37 09.2 +6.5**
baz=34
O53A New Philadelph 43.43 268 P **P** **10 30 35.8 +1.0**
O53A IAmb IAmb 10 30 39.7
comp=Z,39nm,1.1s
O53A IAMs_20 IAMs_20 10 46 53.1
comp=Z,4µm,21.0s
L48A N Adams 43.44 272 P **P** **10 30 35.3 +0.5**
L48A IAmb IAmb 10 30 39.1
comp=Z,38nm,0.9s
P55A Reedsville 43.44 266 P **P** **10 30 32.7 -2.3**
baz=34
P55A S **S** **10 37 11.2 +8.2**
baz=34
CBN Corbin Frederi 43.47 263 P **P** **10 30 33.0 -2.2**
baz=33
CBN Corbin Frederi 43.47 263 IAMs_20 IAMs_20 10 47 05.3
comp=Z,4µm,18.0s
Q56A Snyder Ridge, 43.55 265 P **P** **10 30 32.8 -3.0**
baz=34
Q56A S **S** **10 37 12.4 +7.8**
baz=34
Q56A Snyder Ridge, 43.55 265 P **P** **10 30 36.3 +0.5**
Q56A IAMs_20 IAMs_20 10 46 36.5
comp=Z,3µm,21.0s
GEVA Gevas 43.56 97 P **P** **10 30 35.0 -1.1**
GEVA IAmb IAmb 10 30 39.9
comp=Z,92nm,1.7s
S60A Water View 43.58 262 P **P** **10 30 33.9 -2.1**
baz=33
S60A S S 10 37 14.3 +9.4
baz=33
P54A Burton 43.65 267 P **P** **10 30 34.3 -2.3**
baz=34
P54A S **S** **10 37 13.8 +7.8**
baz=34
R58A Rapidan 43.66 263 P **P** **10 30 33.5 -3.2**
baz=33
R58A S **S** **10 37 14.0 +7.8**
baz=33
S59A Mechanicsville 43.81 262 P **P** **10 30 36.2 -1.7**
baz=33
S59A S **S** **10 37 16.1 +7.9**
baz=33
O52A Adamsville 43.81 268 P **P** **10 30 38.2 +0.3**
baz=34,SNR=6.6
O52A S **S** **10 37 16.6 +8.3**
baz=34
O52A Adamsville 43.81 268 P **P** **10 30 38.8 +1.0**
O52A IAmb IAmb 10 30 42.5
comp=Z,50nm,1.1s
O52A IAMs_20 IAMs_20 10 47 15.1
comp=Z,4µm,20.0s
R57A Stanardsville 43.89 264 P **P** **10 30 36.0 -2.5**
baz=33
R57A S S 10 37 17.9 +8.5
baz=33
R58B Mineral 43.89 263 P **P** **10 30 36.3 -2.2**
baz=33
R58B S S 10 37 18.6 +9.2
baz=33
R58B Mineral 43.89 263 IAMs_20 IAMs_20 10 46 50.2
comp=Z,4µm,19.0s
NAX Nakhchivan 43.90 94 P **P** **10 30 39.9 +1.2**
FYU Fort Yukon 43.96 333 P **P** **10 30 39.0 +0.3**
Q55A Buckhannon 43.98 266 P **P** **10 30 37.0 -2.3**
baz=34
Q55A S S 10 37 20.2 +9.3
baz=34
T60A Surry 44.09 261 P **P** **10 30 38.0 -2.1**
baz=32
T60A S S 10 37 20.9 +8.5
baz=32
O51A Pataskala 44.12 269 P **P** **10 30 40.5 +0.2**
baz=34,SNR=7.8
O51A S **S** **10 37 20.3 +7.5**
baz=34
P53A Whipple 44.14 267 P **P** **10 30 40.9 +0.5**
baz=34,SNR=17
P53A S S 10 37 21.4 +8.4
baz=34
P53A Whipple 44.14 267 P **P** **10 30 40.5 0.0**
P53A IAmb IAmb 10 30 45.5
comp=Z,57nm,1.0s
P53A IAMs_20 IAMs_20 10 47 26.8
comp=Z,4µm,21.0s
N49A Columbus Grove 44.16 271 P **P** **10 30 41.3 +0.6**
N49A IAmb IAmb 10 30 45.2
comp=Z,67nm,1.0s
N49A IAMs_20 IAMs_20 10 47 35.4
comp=Z,3µm,19.0s
R56A Bull Pasture M 44.18 265 P **P** **10 30 38.3 -2.6**
baz=33
R56A S **S** **10 37 21.8 +8.0**
baz=33
F36A Milaca 44.18 283 P **P** **10 30 41.0 +0.2**
F36A IAMs_20 IAMs_20 10 47 48.4
comp=Z,3µm,20.0s
L46A Eue Claire 44.19 274 IAMs_20 IAMs_20 10 48 03.9
comp=Z,3µm,19.0s
ACSO Alum Creek Sta 44.21 269 P **P** **10 30 39.2 -1.8**
baz=34
ACSO Alum Creek Sta 44.21 269 P **P** **10 30 41.8 +0.7**
ACSO IAmb IAmb 10 30 45.5
comp=Z,40nm,0.9s
ACSO IAMs_20 IAMs_20 10 47 25.7
comp=Z,4µm,20.0s
S58A Poland Farm, P 44.26 263 P **P** **10 30 40.3 -1.2**
baz=33
S58A S S 10 37 23.7 +8.9
baz=33
S58A Poland Farm, P 44.26 263 P **P** **10 30 42.8 +1.3**
S58A IAmb IAmb 10 30 51.5
comp=Z,70nm,1.9s
S58A IAMs_20 IAMs_20 10 47 20.2
comp=Z,3µm,19.0s
COLD Coldfoot 44.30 336 P **P** **10 30 40.8 -0.7**
baz=27,SNR=16
COLD Coldfoot 44.30 336 P **P** **10 30 42.1 +0.6**
COLD IAMs_20 IAMs_20 10 51 14.3
comp=Z,3µm,20.0s
Q54A Coxs Mills 44.31 267 P **P** **10 30 41.9 0.0**
baz=34,SNR=6.9
Q54A S **S** **10 37 23.2 +7.5**
baz=34
Q54A Coxs Mills 44.31 267 P **P** **10 30 42.5 +0.6**
Q54A IAMs_20 IAMs_20 10 47 11.5
comp=Z,4µm,21.0s
P52A Corning 44.34 268 P **P** **10 30 41.8 -0.2**
baz=34,SNR=7.7
P52A S **S** **10 37 23.6 +7.7**
baz=34
P52A Corning 44.34 268 P **P** **10 30 42.2 +0.2**
P52A IAmb IAmb 10 30 46.5
comp=Z,45nm,1.1s
P52A IAMs_20 IAMs_20 10 47 10.1
comp=Z,3µm,21.0s
SPMN Marine on St. 44.38 282 P **P** **10 30 41.1 -1.3**
baz=37
SPMN S **S** **10 37 23.7 +7.2**
baz=37

SPMN Marine on St. 44.38 282 P **P** **10 30 42.6 +0.3**
SPMN IAmb IAmb 10 30 49.2
comp=Z,44nm,1.4s
I40A Norwalk 44.52 279 P **P** **10 30 44.2 +0.7**
S57A Dark Hollow, R 44.52 264 P **P** **10 30 42.1 -1.5**
baz=33
S57A S S 10 37 27.1 +8.4
baz=33
S57A Dark Hollow, R 44.52 264 P **P** **10 30 44.7 +1.1**
S57A IAMs_20 IAMs_20 10 47 12.1
comp=Z,5µm,20.0s
T59A Double "B" Far 44.59 262 P **P** **10 30 43.1 -0.9**
baz=32
T59A S S 10 37 27.9 +8.4
baz=32
T59A Double "B" Far 44.59 262 P **P** **10 30 43.6 -0.5**
R55A Marlinton 44.59 265 P **P** **10 30 43.3 -0.9**
baz=33
R55A S S 10 37 29.1 +9.3
baz=33
R55A Marlinton 44.59 265 IAMs_20 IAMs_20 10 47 19.8
comp=Z,4µm,21.0s
U61A Possum Corner 44.65 260 P **P** **10 30 43.7 -0.9**
baz=32
U61A S S 10 37 30.0 +10
baz=32
EGAK Eagle 44.66 330 P **P** **10 30 44.8 +0.4**
EGAK IAMs_20 IAMs_20 10 50 18.1
comp=Z,4µm,18.0s
Q53A Leroy 44.72 267 P **P** **10 30 45.7 +0.6**
baz=34,SNR=11
Q53A S S 10 37 30.1 +8.6
baz=34
L44A Lake County Fo 44.75 275 P **P** **10 30 44.4 -0.9**
baz=35
L44A S **S** **10 37 29.8 +8.0**
baz=35
L44A Lake County Fo 44.75 275 IAMs_20 IAMs_20 10 48 30.8
comp=Z,4µm,19.0s
O49A Covington 44.83 271 P **P** **10 30 44.7 -1.3**
O49A IAmb IAmb 10 30 50.8
comp=Z,36nm,0.8s
O49A IAMs_20 IAMs_20 10 48 05.1
comp=Z,4µm,18.0s
U60A Pendleton 44.84 261 P **P** **10 30 44.7 -1.4**
baz=32
U60A S S 10 37 32.1 +8.9
baz=32
N47A Urbana 44.85 272 P **P** **10 30 45.4 -0.8**
S56A Natural Bridge 44.86 264 S S 10 37 32.8 +9.2
baz=33
P51A Williamsport 44.86 269 P **P** **10 30 45.2 -1.1**
baz=34
P51A S **S** **10 37 31.5 +8.0**
baz=34
P51A Williamsport 44.86 269 P **P** **10 30 46.5 +0.2**
P51A IAmb IAmb 10 30 50.5
comp=Z,51nm,1.1s
P51A IAMs_20 IAMs_20 10 47 46.0
comp=Z,3µm,20.0s
DAWY Dawson 44.88 328 P **P** **10 30 46.4 +0.2**
DAWY IAmb IAmb 10 30 49.3
comp=Z,42nm,1.2s
DAWY IAMs_20 IAMs_20 10 50 37.9
comp=Z,4µm,20.0s
Q52A Bidwell 44.95 268 P **P** **10 30 44.9 -2.0**
baz=34
Q52A S S 10 37 33.2 +8.3
baz=34
T58A Grand View Acr 45.03 263 P **P** **10 30 45.7 -1.9**
baz=32
T58A S **S** **10 37 33.6 +7.6**
baz=32
HQIL Hanson Quary C 45.03 275 P **P** **10 30 47.1 -0.5**
HQIL IAMs_20 IAMs_20 10 48 39.3
comp=Z,3µm,19.0s
R54A Victor 45.05 266 P **P** **10 30 48.0 +0.1**
baz=33,SNR=6.2
R54A S **S** **10 37 34.6 +8.2**
baz=33
V62A Hyde County Ai 45.10 259 P **P** **10 30 46.1 -2.1**
baz=31
V62A Hyde County Ai 45.10 259 IAMs_20 IAMs_20 10 48 11.4
comp=Z,4µm,20.0s
MDND Maddock 45.12 290 P **P** **10 30 45.5 -2.7**
baz=37
JFWS Jewell Farm 45.16 278 P **P** **10 30 47.1 -1.5**
baz=36
JFWS Jewell Farm 45.16 278 P **P** **10 30 48.2 -0.4**
JFWS pmax pmax
comp=Z,94nm,1.9s
JFWS Jewell Farm 45.16 278 P **P** **10 30 48.1 -0.4**
JFWS IAmb IAmb 10 30 58.1
comp=Z,94nm,1.9s
V61A Roper 45.17 260 P **P** **10 30 47.8 -0.9**
baz=32
S55A Lewisburg 45.18 265 P **P** **10 30 48.3 -0.6**
baz=33
S55A S S 10 37 37.9 +10
baz=33
U59A Littleton 45.21 262 P **P** **10 30 47.1 -1.9**
baz=32
U59A S S 10 37 36.9 +8.3
baz=32
T57A Hurt 45.29 263 P **P** **10 30 50.2 +0.5**
baz=32,SNR=9.3
T57A Hurt 45.29 263 P **P** **10 30 48.3 -1.5**
T57A IAmb IAmb 10 30 57.0
comp=Z,53nm,1.4s
T57A IAMs_20 IAMs_20 10 48 02.3
comp=Z,4µm,18.0s
R53A Hurricane 45.34 267 P **P** **10 30 47.6 -2.5**
baz=33
R53A S **S** **10 37 38.5 +8.0**
baz=33
R53A Hurricane 45.34 267 P **P** **10 30 48.8 -1.3**
R53A IAMs_20 IAMs_20 10 48 03.7
comp=Z,5µm,20.0s
F33A 5 Mile Ranch, 45.36 285 P **P** **10 30 50.4 +0.2**
F33A IAmb IAmb 10 30 54.4
comp=Z,46nm,1.3s
F33A IAMs_20 IAMs_20 10 48 44.5
comp=Z,4µm,20.0s
Q51A Peebles 45.37 269 P **P** **10 30 48.5 -1.8**
Q51A IAmb IAmb 10 30 57.7
comp=Z,44nm,1.0s
Q51A IAMs_20 IAMs_20 10 48 12.3
comp=Z,3µm,20.0s
VWCC Virginia Weste 45.40 264 P **P** **10 30 50.2 -0.4**
M44A Midewin, Midew 45.45 275 P **P** **10 30 52.0 +1.1**
M44A IAMs_20 IAMs_20 10 48 51.3
comp=Z,3µm,19.0s
V60A Jim Taylor Roa 45.48 261 P **P** **10 30 48.8 -2.4**
baz=32
V60A S **S** **10 37 40.0 +7.5**
baz=32
RDOG Red Dog Mine 45.48 343 P **P** **10 30 50.4 -0.5**
U58A Oxford 45.50 262 P **P** **10 30 48.7 -2.7**
baz=32
U58A S **S** **10 37 39.8 +7.0**
baz=32
S54A Dingess, Beckl 45.51 266 P **P** **10 30 49.4 -2.1**
baz=33
S54A S S 10 37 42.0 +9.0
baz=33
S54A Dingess, Beckl 45.51 266 P **P** **10 30 50.9 -0.6**
S54A IAmb IAmb 10 30 56.0
comp=Z,33nm,1.1s
K27K Chicken 45.51 330 P **P** **10 30 48.3 -2.8**
baz=30
P49A Miami Univ. Ec 45.54 270 P **P** **10 30 49.0 -2.6**
baz=34
P49A S **S** **10 37 40.0 +6.6**
baz=34
P49A Miami Univ. Ec 45.54 270 P **P** **10 30 51.6 0.0**
P49A IAmb IAmb 10 30 55.5
comp=Z,38nm,1.1s
P49A IAMs_20 IAMs_20 10 48 18.8
comp=Z,4µm,19.0s
T56A Rocky Mt 45.60 264 P **P** **10 30 50.4 -1.8**
baz=32
T56A S S 10 37 43.1 +8.8
baz=32
I37A Lemond, Waseca 45.61 282 P **P** **10 30 51.3 -0.9**
I37A IAMs_20 IAMs_20 10 48 26.3
comp=Z,4µm,20.0s
BLA Blacksburg 45.62 265 P **P** **10 30 50.5 -1.8**

baz=33
BLA **Blacksburg** **45.62 265** P **P** **10 30 53.0 +0.7**
BLA pmax pmax
comp=Z,48nm,1.5s
BLA **Blacksburg** **45.62 265** P **P** **10 30 53.0 +0.7**
BLA IAmb IAmb 10 31 03.2
comp=Z,48nm,1.4s
BLA IAMs_20 IAMs_20 10 47 49.0
comp=Z,5µm,21.0s
L42A **Oliver, Polo** **45.65 277** P **P** **10 30 52.1 -0.4**
L42A IAmb IAmb 10 30 56.7
comp=Z,26nm,0.9s
L42A IAMs_20 IAMs_20 10 48 52.5
comp=Z,4µm,18.0s
POKR **Poker Plat Res** **45.67 333** P **P** **10 30 52.1 -0.2**
baz=27,SNR=10
LKRN **Lenkeran, Azer** **45.70 91** P **P** **10 30 54.3 +1.4**
U57A **Blanch** **45.81 263** P **P** **10 30 54.2 +0.4**
baz=32,SNR=9.3
U57A S **S** **10 37 44.4 +7.2**
baz=32
T55A **Pulaski** **45.85 265** P **P** **10 30 55.0 +0.8**
baz=32,SNR=7.4
IL18 **Eielson Array** **45.86 333** P **P** **10 30 54.4 +0.5**
IL18 PcP **PcP** **10 32 30.5 -0.3**
IL31 **45.87 333** P **P** **10 30 53.2 -0.7**
IL31 IAmb IAmb 10 30 58.1
comp=Z,56nm,1.4s
IL31 PcP **PcP** **10 32 30.9 +0.1**
ILAR **Eielson Array** **45.87 333** P **P** **10 30 54.1 +0.2**
comp=Z,27nm,1.1s,baz=25,slow=6.1,SNR=89
ILAR PcP **PcP** **10 32 31.2 +0.4**
comp=Z,13nm,1.0s,baz=348,slow=2.5,SNR=16
ILAR LR LR 10 52 30.3
comp=Z,3µm,19.2s,baz=30,slow=39
ILAR **Eielson Array** **45.87 333** P **P** **10 30 53.7 -0.3**
ILAR **Eielson Array** **45.87 333** P **P** **10 30 53.6 -0.3**
ILAR PcP **PcP** **10 32 30.9 0.0**
SFIN **Lafayette** **45.87 273** P **P** **10 30 54.6 +0.4**
baz=34,SNR=7.3
SFIN S **S** **10 37 45.6 +7.6**
baz=34
SFIN **Lafayette** **45.87 273** P **P** **10 30 54.4 +0.2**
SFIN IAmb IAmb 10 30 58.6
comp=Z,34nm,0.9s
SFIN IAMs_20 IAMs_20 10 48 56.5
comp=Z,2µm,18.0s
V59A **Middlesex** **45.90 262** P **P** **10 30 53.6 -0.9**
baz=32
V59A S S 10 37 47.1 +8.5
baz=32
P48A **Milroy** **45.91 271** P **P** **10 30 55.0 +0.5**
P48A IAmb IAmb 10 30 58.4
comp=Z,32nm,0.8s
P48A IAMs_20 IAMs_20 10 48 20.5
comp=Z,3µm,20.0s
S53A **Williamson** **45.96 267** P **P** **10 30 53.9 -1.1**
baz=33
S53A S S 10 37 48.0 +8.5
baz=33
MDM **Murphy Dome** **45.96 333** P **P** **10 30 55.7 +1.0**
COLA **College** **45.97 333***d i* P **P** **10 30 56.6 +1.9**
COLA pmax pmax
comp=Z,56nm,1.1s
COLA **College** **45.97 333** P **P** **10 30 55.9 +1.2**
TCOL **CIGO, UAF Yank** **45.97 333** P **P** **10 30 54.4 -0.3**
baz=27,SNR=18
IMAR **Indian Mountai** **46.04 337** P **P** **10 30 54.6 -0.7**
CCB **Clear Creek Bu** **46.16 333** P **P** **10 30 55.7 -0.6**
CCB IAmb IAmb 10 31 00.2
comp=Z,56nm,1.5s
HDA **Harding Lake** **46.20 332** P **P** **10 30 56.0 -0.6**
baz=27,SNR=16
HDA S **S** **10 37 49.8 +7.5**
baz=27
HDA **Harding Lake** **46.20 332** P **P** **10 30 56.0 -0.6**
HDA IAMs_20 IAMs_20 10 52 28.7
comp=Z,3µm,20.0s
T54A **Tazewell** **46.24 266** P **P** **10 30 57.7 +0.4**
baz=32,SNR=15
T54A S **S** **10 37 51.2 +7.6**
baz=32
V58A **Windy Hill, Pi** **46.25 262** P **P** **10 30 57.5 +0.2**
baz=32,SNR=5.4
V58A **Windy Hill, Pi** **46.25 262** P **P** **10 30 58.0 +0.7**
L40A **Anamosa** **46.27 278** P **P** **10 30 57.6 +0.3**
DOT **Dot Lake** **46.27 330** P **P** **10 30 57.4 +0.2**
DOT IAmb IAmb 10 31 00.8
comp=Z,26nm,1.1s
DOT IAMs_20 IAMs_20 10 53 37.8
comp=Z,3µm,19.0s
W60A **Pink Hill** **46.28 261** P **P** **10 30 57.1 -0.4**
baz=31
BCAR **Beaver Creek A** **46.29 329** P **P** **10 30 57.7 +0.4**
U56A **King** **46.33 264** P **P** **10 30 57.6 -0.3**
baz=32
U56A S **S** **10 37 52.6 +7.8**
baz=32
U56A **King** **46.33 264** P **P** **10 30 57.9 0.0**
U56A IAmb IAmb 10 31 05.2
comp=Z,59nm,1.4s
RIDG **Independent Ri** **46.36 331** P **P** **10 30 58.4 +0.4**
RIDG IAmb IAmb 10 31 01.7
comp=Z,40nm,1.1s
RIDG IAMs_20 IAMs_20 10 52 21.0
comp=Z,3µm,19.0s
WRH **Wood River Hil** **46.37 333** P **P** **10 30 58.0 +0.1**
WRH IAmb IAmb 10 31 03.1
comp=Z,37nm,1.3s
MLY **Manley** **46.37 335** P **P** **10 30 58.5 +0.5**
baz=26,SNR=33
R50A **Paris** **46.41 269** P **P** **10 30 59.1 +0.6**
R50A IAmb IAmb 10 31 05.4
comp=Z,25nm,1.1s
R50A IAMs_20 IAMs_20 10 48 53.9
comp=Z,3µm,20.0s
K38A **Parkersburg** **46.45 280** P **P** **10 31 00.8 +2.0**
K38A IAmb IAmb 10 31 02.7
comp=Z,28nm,0.8s
K38A IAMs_20 IAMs_20 10 48 49.7
comp=Z,5µm,21.0s
NEA2 **Nenana** **46.45 334** P **P** **10 30 58.8 +0.2**
baz=26,SNR=45
V57A **Coltrane Farms** **46.45 263** P **P** **10 30 58.4 -0.5**
baz=32
V57A S **S** **10 37 54.2 +7.6**
baz=32
DGMT **Dagmar** **46.47 294** P **P** **10 30 57.5 -1.4**
baz=36
DGMT **Dagmar** **46.47 294** P **P** **10 30 59.9 +0.9**
DGMT **Dagmar** **46.47 294** IAMs_20 IAMs_20 10 49 51.6
comp=Z,5µm,19.0s
U55A **TA2, Sparta** **46.48 265** P **P** **10 30 59.7 +0.5**
baz=32,SNR=19
U55A S **S** **10 37 55.3 +8.2**
baz=32
W59A **Clinton** **46.49 261** P **P** **10 30 58.3 -0.9**
baz=31
BRZS **Berezniki** **46.51 63**⇑ *i* P **P** **10 30 59.2 0.0**
comp=Z,412nm,4.2s
BRZS *e* PP **PP** **10 32 47.2 -0.9**
BRZS **Berezniki** **46.51 63***c i* P **P** **10 30 59.2 0.0**
BRZS *e* 10 32 47.2
BRZS pmax pmax
comp=Z,412nm,4.0s
P46A **Rosedale** **46.55 273** P **P** **10 30 59.0 -0.5**
P46A IAmb IAmb 10 31 06.3
comp=Z,30nm,1.1s
P46A IAMs_20 IAMs_20 10 49 18.4
comp=Z,2µm,18.0s
E28A **Huff** **46.58 289** P **P** **10 30 60.0 +0.2**
S51A **Beattyville** **46.63 268** P **P** **10 31 00.7 +0.4**
S51A IAmb IAmb 10 31 07.1
comp=Z,45nm,1.2s
S51A IAMs_20 IAMs_20 10 48 53.7
comp=Z,4µm,21.0s
O44A **Mansfield** **46.65 274** P **P** **10 30 59.6 -0.8**
O44A IAMs_20 IAMs_20 10 49 38.1
comp=Z,3µm,18.0s
HDIL **Hopedale** **46.67 275** P **P** **10 31 01.1 +0.5**
baz=34,SNR=6.6
HDIL **Hopedale** **46.67 275** P **P** **10 30 59.7 -0.8**
HDIL IAMs_20 IAMs_20 10 49 39.7
comp=Z,3µm,19.0s
WHY **Whitehorse** **46.69 323** P **P** **10 31 00.3 -0.2**
WHY IAMs_20 IAMs_20 10 50 44.0
comp=Z,4µm,20.0s
T53A **Wise** **46.72 267** P **P** **10 31 01.7 +0.6**
baz=32,SNR=12
T53A S **S** **10 37 58.4 +7.9**
baz=32
R49A **Shelbyville** **46.77 270** P **P** **10 31 00.9 -0.4**
R49A IAmb IAmb 10 31 08.6
comp=Z,78nm,1.9s
R49A IAMs_20 IAMs_20 10 48 55.3
comp=Z,4µm,20.0s
X60A **Albert Glenn T** **46.80 260** S **S** **10 37 59.4 +8.0**
baz=31
U54A **Nelsons Funny** **46.80 266** P **P** **10 31 01.5 -0.2**
baz=32,SNR=6.4
U54A S **S** **10 37 59.7 +8.0**
baz=32
U54A **Nelsons Funny** **46.80 266** P **P** **10 31 02.3 +0.6**
U54A IAmb IAmb 10 31 08.6
comp=Z,39nm,1.2s
U54A IAMs_20 IAMs_20 10 48 37.4
comp=Z,5µm,21.0s
MENT **Mentasta** **46.83 330** P **P** **10 31 01.5 -0.1**
MENT IAmb IAmb 10 31 07.3
comp=Z,40nm,1.2s
MENT IAMs_20 IAMs_20 10 51 50.4
comp=Z,3µm,18.0s
V56A **Mocksville** **46.83 264** P **P** **10 31 02.3 +0.4**
baz=32,SNR=16
V56A S **S** **10 37 58.7 +6.7**
baz=32
BWN **Browne** **46.91 334** IAMs_20 IAMs_20 10 53 13.5
comp=Z,3µm,19.0s
X59A **McDuffie Farm,** **47.07 261** P **P** **10 31 03.5 -0.2**
baz=31
X59A S S 10 38 04.0 +8.7
baz=31
V55A **Taylorsville** **47.10 264** P **P** **10 31 04.4 +0.4**
baz=32,SNR=8.3
V55A S **S** **10 38 03.6 +7.7**
baz=32
V55A **Taylorsville** **47.10 264** P **P** **10 31 03.2 -0.8**
V55A IAmb IAmb 10 31 11.4
comp=Z,50nm,1.3s
W57A **Gilead** **47.17 263** P **P** **10 31 02.8 -1.7**
baz=32,SNR=5.6
W57A **Gilead** **47.17 263** P **P** **10 31 03.6 -0.9**
PAX **Paxson** **47.18 331** P **P** **10 31 04.9 +0.5**
PAX pmax pmax
comp=Z,40nm,1.3s
PAX MLR MLR
comp=Z,3µm,18.0s
PAX **Paxson** **47.18 331** P **P** **10 31 04.9 +0.5**
PAX IAmb IAmb 10 31 09.8
comp=Z,40nm,1.3s
PAX IAMs_20 IAMs_20 10 51 52.6
comp=Z,3µm,18.0s
ECSD **EROS Data Cent** **47.19 284** P **P** **10 31 04.5 -0.1**
baz=35,SNR=9.5
ECSD **EROS Data Cent** **47.19 284** P **P** **10 31 04.1 -0.5**
ECSD IAmb IAmb 10 31 08.8
comp=Z,22nm,1.2s
MCK **McKinley** **47.20 333** P **P** **10 31 04.2 -0.3**
baz=26,SNR=12
HYT **Haines Junctio** **47.21 325** P **P** **10 31 05.3 +0.6**
N41A **Harden Midland** **47.22 277** P **P** **10 31 04.0 -0.8**
DLBC **Dease Lake** **47.24 319** LR LR 10 51 09.2
comp=Z,2µm,18.2s,baz=28,slow=36
DLBC **Dease Lake** **47.24 319** P **P** **10 31 04.5 -0.4**
DLBC IAMs_20 IAMs_20 10 51 07.9
comp=Z,3µm,18.0s
SCIA **State Center** **47.25 280** P **P** **10 31 03.5 -1.6**
baz=35
SCIA **State Center** **47.25 280** P **P** **10 31 04.2 -0.9**
SCIA IAmb IAmb 10 31 09.1
comp=Z,34nm,0.9s
SCIA IAMs_20 IAMs_20 10 49 46.7
comp=Z,4µm,20.0s
BPAW **Bear Paw Mtn.** **47.26 334** P **P** **10 31 04.9 -0.1**
WCI **Wyandotte Cave** **47.30 271** P **P** **10 31 03.7 -1.9**
baz=33
WCI **Wyandotte Cave** **47.30 271** P **P** **10 31 04.7 -0.8**
WCI pmax pmax
comp=Z,33nm,0.8s
WCI **Wyandotte Cave** **47.30 271** P **P** **10 31 04.7 -0.8**
Y60A **Bolivia** **47.39 260** P **P** **10 31 04.8 -1.4**
baz=31
Y60A S **S** **10 38 08.1 +8.2**
baz=31
X58A **Rowland** **47.40 262** P **P** **10 31 04.1 -2.2**
baz=31
X58A S **S** **10 38 06.9 +6.9**
baz=31
X58A **Rowland** **47.40 262** P **P** **10 31 07.3 +1.0**
X58A IAmb IAmb 10 31 10.9
comp=Z,41nm,1.2s
W56A **Indian Trail** **47.44 263** P **P** **10 31 04.6 -2.0**
baz=32,SNR=14
W56A S **S** **10 38 07.8 +7.2**
baz=32
DHY **Denali Highway** **47.48 332** P **P** **10 31 07.2 +0.4**
DHY IAmb IAmb 10 32 40.8
comp=Z,23nm,1.0s
RND **Reindeer** **47.48 333** P **P** **10 31 06.4 -0.3**
RND pmax pmax
comp=Z,27nm,1.0s
RND MLR MLR
comp=Z,3µm,20.0s
RND **Reindeer** **47.48 333** P **P** **10 31 06.4 -0.3**
RND IAmb IAmb 10 31 10.6
comp=Z,27nm,1.0s
RND IAMs_20 IAMs_20 10 51 57.5
comp=Z,3µm,20.0s
V54A **Nebo** **47.48 265** P **P** **10 31 07.0 0.0**
baz=32,SNR=16
V54A S **S** **10 38 08.7 +7.4**
baz=32
P43A **Skaggs, Pawnee** **47.53 275** P **P** **10 31 06.8 -0.4**
P43A IAMs_20 IAMs_20 10 50 06.3
comp=Z,3µm,20.0s
TZTN **Tazewell** **47.53 267** P **P** **10 31 06.0 -1.3**
baz=32
TZTN **Tazewell** **47.53 267** P **P** **10 31 08.3 +1.0**
TZTN IAMs_20 IAMs_20 10 49 21.6
comp=Z,3µm,20.0s
SUSD **Miller** **47.59 286** P **P** **10 31 05.8 -2.0**
baz=35
SUSD **Miller** **47.59 286** IAMs_20 IAMs_20 10 50 11.7
comp=Z,3µm,20.0s
OLIL **Olney** **47.67 273** P **P** **10 31 08.2 -0.1**
OLIL IAmb IAmb 10 31 12.4
comp=Z,33nm,0.9s
OLIL IAMs_20 IAMs_20 10 50 02.0
comp=Z,2µm,18.0s
Y59A **Loris** **47.68 261** S **S** **10 38 11.9 +7.8**
baz=31
T50A **Nancy** **47.69 269** P **P** **10 31 09.2 +0.7**
T50A IAmb IAmb 10 31 17.1
comp=Z,39nm,1.6s
T50A IAMs_20 IAMs_20 10 49 05.7
comp=Z,3µm,21.0s
ZAA0 **Zalesovo Array** **47.70 51** P **P** **10 31 06.4 -2.0**
ZAA0 IAmb IAmb 10 31 09.9
comp=Z,50nm,1.6s
ZALV **Zalesovo Beam** **47.70 51** P **P** **10 31 07.7 -0.7**
comp=Z,4.7nm,0.6s,baz=324,slow=9.2,SNR=13
ZALV PcP **PcP** **10 32 37.8 +0.3**
comp=Z,2.0nm,0.6s,baz=304,slow=3.4,SNR=4.6
ZALV LR LR 10 53 58.6
comp=Z,1µm,18.9s,baz=322,slow=40
ZALV **Zalesovo Beam** **47.70 51** P **P** **10 31 06.1 -2.2**
ZALV PcP **PcP** **10 32 37.5 0.0**
TRF **Thorofare Moun** **47.72 334** P **P** **10 31 08.9 +0.3**
TRF IAMs_20 IAMs_20 10 52 29.8
comp=Z,3µm,20.0s
BILL **Bilibino** **47.73 358**‖ *e* P **P** **10 31 08.8 +0.4**
BILL *e* 10 32 37.6
BILL *e* 10 33 01.2
BILL *e* PPP PPP 10 33 45.9
BILL *e* S **S** **10 38 04.4 +0.4**
BILL pmax pmax
comp=Z,24nm,1.3s
BILL MLR MLR
comp=Z,2µm,17.0s
KTH **Kantishna Hill** **47.75 334** P **P** **10 31 10.2 +1.5**
KTH IAmb IAmb 10 32 39.7
comp=Z,31nm,1.1s
KTH IAMs_20 IAMs_20 10 52 41.5
comp=Z,3µm,20.0s
KMSC **Kings Mountain** **47.76 264** P **P** **10 31 09.4 +0.3**
baz=32,SNR=5.8
KMSC S **S** **10 38 12.4 +7.3**
baz=32
KMSC **Kings Mountain** **47.76 264** P **P** **10 31 08.7 -0.4**
KMSC IAmb IAmb 10 31 13.6
comp=Z,30nm,1.1s
KMSC IAMs_20 IAMs_20 10 49 38.7
comp=Z,4µm,18.0s
BIRD **Birdtown, Kers** **47.80 263** P **P** **10 31 09.7 +0.3**
BIRD IAmb IAmb 10 31 17.2
comp=Z,36nm,1.4s
SKAG **Skagway** **47.83 323** P **P** **10 31 08.6 -0.7**
SKAG IAMs_20 IAMs_20 10 51 54.2
comp=Z,4µm,18.0s
Q44A **Meyer Farm, Va** **47.92 274** P **P** **10 31 10.4 +0.1**
Q44A IAmb IAmb 10 31 14.4
comp=Z,35nm,1.1s
Q44A IAMs_20 IAMs_20 10 50 09.8
comp=Z,2µm,19.0s
V53A **Saluda** **47.95 266** P **P** **10 31 10.7 +0.1**
BARN **Barnard Glacie** **48.02 327** IAMs_20 IAMs_20 10 51 34.9
comp=Z,3µm,21.0s
CTGM **Chitina Glacie** **48.02 327** P **P** **10 31 11.7 +0.7**
CTGM IAmb IAmb 10 31 16.2
comp=Z,61nm,1.6s
CTGM IAMs_20 IAMs_20 10 51 36.1
comp=Z,3µm,20.0s
USIN **University of** **48.12 272** P **P** **10 31 12.2 +0.4**
V52A **Sevierville** **48.14 267** P **P** **10 31 12.0 0.0**
V52A IAmb IAmb 10 31 19.1
comp=Z,26nm,1.1s
V52A IAMs_20 IAMs_20 10 50 13.8
comp=Z,4µm,18.0s
KURK **Kurchatov** **48.16 58***de* P **P** **10 31 10.8 -1.2**
KURK pmax pmax
comp=Z,57nm,1.7s
KURK **Kurchatov** **48.16 58** P **P** **10 31 10.4 -1.6**
KURK IAmb IAmb 10 31 23.0
comp=Z,38nm,1.1s
KURK **Kurchatov** **48.16 58** IAMs_20 IAMs_20 10 51 28.5
comp=Z,3µm,20.0s
GLB **Gilahina Butte** **48.17 329** P **P** **10 31 11.5 -0.5**
GLB IAMs_20 IAMs_20 10 52 35.9
comp=Z,4µm,19.0s
N38A **Joes South For** **48.17 279** P **P** **10 31 10.4 -1.8**
N38A IAmb IAmb 10 31 16.1
comp=Z,18nm,0.8s
W54A **Cherokee Point** **48.17 265** P **P** **10 31 11.3 -1.0**
baz=32,SNR=12
W54A S **S** **10 38 18.4 +7.4**
baz=32
X56A **White Oak** **48.18 263** P **P** **10 31 11.4 -0.9**
baz=31,SNR=7.5
X56A S **S** **10 38 18.8 +7.7**
baz=31
BALM **Baldy** **48.20 328** P **P** **10 31 12.2 -0.1**
BALM IAmb IAmb 10 31 17.3
comp=Z,31nm,1.4s
BALM IAMs_20 IAMs_20 10 51 59.6
comp=Z,3µm,20.0s
PAULI **Pauline** **48.24 264** P **P** **10 31 12.2 -0.5**
PAULI IAMs_20 IAMs_20 10 49 27.4
comp=Z,4µm,19.0s
VRDI **Verde Repeater** **48.28 328** IAMs_20 IAMs_20 10 52 29.9
comp=Z,4µm,18.0s
Y57A **Sumter** **48.31 262** P **P** **10 31 11.4 -1.9**
baz=31
Y57A S **S** **10 38 20.5 +7.5**
baz=31
Y57A **Sumter** **48.31 262** P **P** **10 31 14.0 +0.7**
Y57A IAmb IAmb 10 31 19.3
comp=Z,39nm,1.2s
TKL **Tuckaleechee C** **48.37 267** P **P** **10 31 13.0 -0.8**
TKL pmax pmax
comp=Z,26nm,1.1s
TKL **Tuckaleechee C** **48.37 267** P **P** **10 31 13.0 -0.8**
TKL IAmb IAmb 10 31 18.3
comp=Z,26nm,1.1s
TKL IAMs_20 IAMs_20 10 49 39.0
comp=Z,4µm,21.0s
TABL **Table Mountain** **48.44 327** IAMs_20 IAMs_20 10 52 33.1
comp=Z,4µm,18.0s
JSC **Jenkinsville** **48.46 263** P **P** **10 31 15.7 +1.2**
JSC pmax pmax
comp=Z,16nm,1.0s
JSC **Jenkinsville** **48.46 263** P **P** **10 31 15.7 +1.2**
X55A **Gracelyn & Ava** **48.46 264** P **P** **10 31 13.2 -1.3**
baz=31,SNR=12
X55A S **S** **10 38 21.3 +6.2**
baz=31
TNA **Tin City** **48.49 344** P **P** **10 31 15.0 +0.7**
BCPM **Bancas Point** **48.50 325** IAMs_20 IAMs_20 10 52 19.8
comp=Z,3µm,18.0s
V51A **Loudon** **48.50 267** P **P** **10 31 12.3 -2.5**
V51A IAmb IAmb 10 31 19.4
comp=Z,24nm,0.9s
V51A IAMs_20 IAMs_20 10 50 02.3
comp=Z,4µm,20.0s
U49A **Red Boiling Sp** **48.52 269** P **P** **10 31 13.6 -1.4**
U49A IAmb IAmb 10 31 22.3
comp=Z,26nm,1.1s
U49A IAMs_20 IAMs_20 10 49 41.8
comp=Z,3µm,20.0s
PCA **Pinnacle** **48.53 326** IAMs_20 IAMs_20 10 52 28.5
comp=Z,3µm,19.0s
L34A **Svendsen Farm,** **48.54 282** IAMs_20 IAMs_20 10 50 26.9
comp=Z,3µm,19.0s
TGL **Tana Glacier** **48.56 328** IAMs_20 IAMs_20 10 52 22.2
comp=Z,3µm,19.0s
BG3 **Lake Jocassee** **48.57 265** P **P** **10 31 14.7 -0.7**
BG3 IAMs_20 IAMs_20 10 49 42.3
comp=Z,4µm,21.0s
ISLE **Juniper Island** **48.58 327** IAMs_20 IAMs_20 10 52 02.8
comp=Z,4µm,20.0s
SCM **Sheep Creek Mo** **48.59 331** P **P** **10 31 16.1 +0.8**
SCM pmax pmax
comp=Z,71nm,1.2s
SCM MLR MLR
comp=Z,2µm,19.0s
SCM **Sheep Creek Mo** **48.59 331** P **P** **10 31 16.1 +0.8**
PPLA **Purkeypile** **48.59 334** P **P** **10 31 15.2 -0.1**
KLU **Klutina** **48.59 330** P **P** **10 31 14.5 -0.8**
KLU IAmb IAmb 10 31 20.4
comp=Z,28nm,1.2s
JIS **Juneau Island** **48.59 321** P **P** **10 31 13.6 -1.7**
JIS IAmb IAmb 10 31 25.1
comp=Z,48nm,1.4s
Z58A **St. Stephen** **48.65 261** P **P** **10 31 14.5 -1.4**
baz=31
YAH **Yahtse** **48.65 327** IAMs_20 IAMs_20 10 52 05.8
comp=Z,3µm,19.0s
CUT **Chulitna** **48.67 333** P **P** **10 31 12.8 -2.9**
baz=25
SLM **Saint Louis** **48.67 275** P **P** **10 31 16.7 +0.6**
SLM pmax pmax
comp=Z,50nm,1.2s
SLM **Saint Louis** **48.67 275** P **P** **10 31 16.7 +0.6**
SLM IAmb IAmb 10 31 20.0
comp=Z,50nm,1.1s
SLM IAMs_20 IAMs_20 10 50 51.6
comp=Z,3µm,18.0s
T47A **Sharon Grove** **48.70 271** P **P** **10 31 15.0 -1.3**
T47A IAMs_20 IAMs_20 10 49 56.3
comp=Z,4µm,20.0s
P40A **Paris** **48.71 277** P **P** **10 31 16.2 -0.2**
P40A IAMs_20 IAMs_20 10 50 46.5
comp=Z,4µm,18.0s
X54A **Belton** **48.71 265** P **P** **10 31 14.7 -1.7**
baz=31
X54A S **S** **10 38 26.0 +7.3**
baz=31
LAO **LASA Array** **48.72 294** P **P** **10 31 16.3 -0.1**
baz=35,SNR=6.9
LAO **LASA Array** **48.72 294** P **P** **10 31 16.0 -0.5**
LAO IAmb IAmb 10 31 20.6
comp=Z,42nm,1.1s
SML **Sawmill** **48.82 332** P **P** **10 31 15.9 -1.1**
SML IAmb IAmb 10 31 47.4
comp=Z,38nm,1.2s
SML IAMs_20 IAMs_20 10 52 56.9
comp=Z,3µm,18.0s
MESA **MESA** **48.86 327** IAMs_20 IAMs_20 10 52 13.3
comp=Z,3µm,20.0s
CPCT **Cooper Cave** **48.87 267** P **P** **10 31 17.1 -0.6**

CPCT IAmb IAmb 10 31 25.0
comp=Z,28nm,1.1s
CPCT IAMs_20 IAMs_20 10 50 14.2
comp=Z,4μm,20.0s
Y56A Pelion 48.90 263 S **S** **10 38 28.4 +7.1**
baz=31
W52A Murphy 48.92 266 P **P** **10 31 17.5 -0.6**
W52A IAmb IAmb 10 31 25.1
comp=Z,24nm,1.1s
HODGE Hodges 48.93 264 P **P** **10 31 18.4 +0.3**
HODGE IAmb IAmb 10 31 22.6
comp=Z,24nm,1.0s
HODGE IAMs_20 IAMs_20 10 50 15.8
comp=Z,3μm,18.0s
GHO Glory Hole Cre 48.97 332 P **P** **10 31 17.8 -0.4**
GHO IAmb IAmb 10 31 21.6
comp=Z,41nm,1.2s
GHO IAMs_20 IAMs_20 10 53 01.0
comp=Z,3μm,18.0s
NHSC New Hope 49.00 262 P **P** **10 31 18.0 -0.6**
baz=31,SNR=5.7
NHSC New Hope 49.00 262 P **P** **10 31 17.8 -0.8**
K31A O'Neill 49.00 285 P **P** **10 31 16.9 -1.8**
EGMT Eagleton 49.01 297 P **P** **10 31 18.4 -0.2**
baz=35,SNR=36
EGMT Eagleton 49.01 297 P **P** **10 31 17.8 -0.8**
S44A Carbondale 49.03 273 P **P** **10 31 18.6 -0.3**
S44A IAmb IAmb 10 31 22.8
comp=Z,19nm,0.8s
S44A IAMs_20 IAMs_20 10 50 54.2
comp=Z,3μm,18.0s
Z57A Bowman 49.06 262 P **P** **10 31 16.5 -2.6**
baz=31
Z57A S **S** **10 38 30.9 +7.4**
baz=31
CLTN Cedars of Leba 49.11 269 P **P** **10 31 20.3 +0.8**
CLTN IAmb IAmb 10 31 26.4
comp=Z,35nm,1.3s
CLTN IAMs_20 IAMs_20 10 49 59.5
comp=Z,3μm,21.0s
N35A Tabor 49.14 281 P **P** **10 31 18.8 -0.9**
N35A IAmb IAmb 10 31 29.8
comp=Z,39nm,1.3s
N35A IAMs_20 IAMs_20 10 50 37.8
comp=Z,4μm,21.0s
PMR Palmer 49.18 332 P **P** **10 31 20.3 +0.7**
PMR pmax pmax
comp=Z,40nm,1.2s
PMR MLR MLR
comp=Z,2μm,21.0s
PMR Palmer 49.18 332 P **P** **10 31 20.3 +0.7**
PMR IAmb IAmb 10 31 31.2
comp=Z,40nm,1.2s
PMR IAMs_20 IAMs_20 10 53 09.4
comp=Z,2μm,21.0s
KNK Knik Glacier 49.20 331 P **P** **10 31 21.2 +1.3**
KNK IAmb IAmb 10 32 46.0
comp=Z,34nm,1.2s
KNK IAMs_20 IAMs_20 10 53 09.0
comp=Z,3μm,18.0s
TTA Tatalina 49.24 336 P **P** **10 31 19.7 -0.6**
TTA pmax pmax
comp=Z,71nm,1.7s
TTA MLR MLR
comp=Z,2μm,20.0s
TTA Tatalina 49.24 336 P **P** **10 31 19.7 -0.6**
TTA IAmb IAmb 10 31 24.7
comp=Z,71nm,1.7s
P38A Dawn 49.27 278 P **P** **10 31 20.6 0.0**
P38A PcP **PcP** **10 32 43.5 +0.1**
FVM French Village 49.30 274 P **P** **10 31 20.3 -0.6**
FVM pmax pmax
comp=Z,21nm,0.8s
FVM French Village 49.30 274 P **P** **10 31 20.3 -0.6**
FVM IAmb IAmb 10 31 24.7
comp=Z,20nm,0.8s
FVM IAMs_20 IAMs_20 10 51 12.2
comp=Z,3μm,18.0s
SKT Skwentna 49.30 333 P **P** **10 31 20.3 -0.4**
SKT IAmb IAmb 10 31 23.0
comp=Z,42nm,1.2s
SKT IAMs_20 IAMs_20 10 54 37.6
comp=Z,3μm,19.0s
Z56A Williston 49.32 263 S **S** **10 38 34.5 +7.2**
baz=31
158A Hollywood 49.32 261 S S 10 38 35.7 +8.5
baz=30
EYAK Cordova Ski Ar 49.40 329 IAMs_20 IAMs_20 10 53 37.4
comp=Z,3μm,19.0s
W50A Signal Mountai 49.43 268 P **P** **10 31 21.3 -0.6**
W50A IAmb IAmb 10 31 26.4
comp=Z,40nm,1.1s
W50A IAMs_20 IAMs_20 10 50 30.8
comp=Z,4μm,20.0s
CCM Cathedral Cave 49.59 275 P **P** **10 31 20.9 -2.2**
baz=33
CCM Cathedral Cave 49.59 275 P **P** **10 31 22.8 -0.3**
CCM pmax pmax
comp=Z,10.0nm,0.8s
CCM Cathedral Cave 49.59 275 P **P** **10 31 22.8 -0.3**
CCM Cathedral Cave 49.59 275 IAMs_20 IAMs_20 10 51 29.9
comp=Z,3μm,18.0s
SUA Susitna One 49.62 333 IAMs_20 IAMs_20 10 54 15.0
comp=Z,3μm,19.0s
V48A Smith Brothers 49.62 270 P **P** **10 31 22.4 -1.0**
V48A IAmb IAmb 10 31 25.2
comp=Z,89nm,1.9s
V48A IAMs_20 IAMs_20 10 50 54.0
comp=Z,3μm,18.0s
SACV Santiago Islan 49.65 188 IAMs_20 IAMs_20 10 47 03.7
comp=Z,2μm,20.0s
SWET Sewanee 49.68 268 P **P** **10 31 22.9 -1.0**
SWET IAMs_20 IAMs_20 10 50 48.5
comp=Z,4μm,20.0s
157A Early Branch 49.72 262 P **P** **10 31 23.0 -1.2**
baz=30
157A S **S** **10 38 40.6 +7.8**
baz=30
WALA Waterton Lakes 49.72 301 P **P** **10 31 22.7 -1.4**
WALA IAmb IAmb 10 31 32.8
comp=Z,71nm,1.9s
WVT Waverly 49.73 271 P **P** **10 31 22.9 -1.4**
baz=32
WVT Waverly 49.73 271 P **P** **10 31 23.6 -0.6**
WVT pmax pmax
comp=Z,33nm,1.8s
WVT Waverly 49.73 271 P **P** **10 31 23.6 -0.6**
WVT Waverly 49.73 271 IAMs_20 IAMs_20 10 50 38.8
comp=Z,4μm,20.0s
BGNE Belgrade 49.75 283 P **P** **10 31 22.2 -2.2**
baz=34
BGNE S **S** **10 38 38.8 +5.6**
baz=34
BGNE Belgrade 49.75 283 P **P** **10 31 25.5 +1.1**
BGNE IAmb IAmb 10 32 54.2
comp=Z,34nm,1.1s
BGNE IAMs_20 IAMs_20 10 50 50.8
comp=Z,3μm,20.0s
RC01 Rabbit Creek A 49.76 332 P **P** **10 31 22.0 -2.1**
baz=25,SNR=7.5
X51A Calhoun 49.77 267 P **P** **10 31 23.5 -1.0**
X51A IAmb IAmb 10 31 29.0
comp=Z,35nm,1.0s
X51A IAMs_20 IAMs_20 10 50 43.9
comp=Z,3μm,20.0s
R40A Maddies Statio 49.83 276 P **P** **10 31 24.7 -0.3**
R40A IAMs_20 IAMs_20 10 51 30.3
comp=Z,3μm,18.0s
SIT Sitka 49.91 321 IAMs_20 IAMs_20 10 52 38.2
comp=Z,3μm,20.0s
HENM Henderson Moun 49.95 273 IAMs_20 IAMs_20 10 51 23.1
comp=Z,2μm,18.0s
RSSD Black Hills 49.95 290 P **P** **10 31 24.5 -1.6**
baz=34
RSSD Black Hills 49.95 290 P **P** **10 31 26.0 -0.1**
RSSD pmax pmax
comp=Z,15nm,1.1s
RSSD Black Hills 49.95 290 P **P** **10 31 26.0 -0.1**
RSSD Black Hills 49.95 290 IAMs_20 IAMs_20 10 51 06.8
comp=Z,3μm,21.0s
HICK Hickman 49.99 272 P **P** **10 31 26.6 +0.4**
Y52A Lilburn 50.02 266 P **P** **10 31 27.4 +0.9**
Y52A IAmb IAmb 10 31 30.9
comp=Z,26nm,0.9s
MBO M'Bour 50.05 179 IAMs_20 IAMs_20 10 51 26.8
comp=Z,4μm,18.0s

PARMO Parma 50.11 273 IAMs_20 IAMs_20 10 51 36.8
comp=Z,3μm,18.0s
FPAL Fort Paine 50.12 268 P **P** **10 31 27.5 +0.3**
FPAL IAMs_20 IAMs_20 10 50 52.1
comp=Z,3μm,20.0s
GOGA Godfrey 50.15 265 P **P** **10 31 26.0 -1.4**
baz=31,SNR=14
GOGA Godfrey 50.15 265 P **P** **10 31 26.9 -0.5**
GOGA pmax pmax
comp=Z,21nm,0.9s
GOGA Godfrey 50.15 265 P **P** **10 31 26.9 -0.5**
GOGA Godfrey 50.15 265 IAMs_20 IAMs_20 10 51 12.1
comp=Z,4μm,18.0s
PBMO Poplar Bluff 50.31 274 P **P** **10 31 27.2 -1.4**
PBMO IAmb IAmb 10 31 37.7
comp=Z,94nm,1.9s
PBMO IAMs_20 IAMs_20 10 51 43.0
comp=Z,3μm,18.0s
257A Skidaway Islan 50.33 262 IAMs_20 IAMs_20 10 50 48.0
comp=Z,2μm,20.0s
GYB4 ALIBECK ARRAY 50.38 84 P **P** **10 31 28.8 -0.4**
GYA3 ALIBECK ARRAY 50.38 84 P **P** **10 31 28.5 -0.7**
T42A Van Buren 50.38 274 P **P** **10 31 27.5 -1.7**
T42A IAMs_20 IAMs_20 10 51 44.9
comp=Z,2μm,18.0s
GYA2 ALIBECK ARRAY 50.38 84 P **P** **10 31 27.7 -1.5**
GEYT Alibeck 50.39 84 P **P** **10 31 27.4 -1.9**
comp=Z,3.2nm,0.7s,baz=291,slow=9.4,SNR=11
GEYT LR LR 10 55 13.2
comp=Z,3μm,18.7s,baz=345,slow=39
GEYT Alibeck 50.39 84 P **P** **10 31 28.2 -1.1**
GYA0 ALIBECK ARRAY 50.39 84 P **P** **10 31 28.0 -1.2**
GYA0 ALIBECK ARRAY 50.39 84 P **P** **10 31 28.0 -1.2**
GYA0B ALIBECK ARRAY 50.39 84 P **P** **10 31 27.4 -1.9**
GYA0B IAMs_20 IAMs_20 10 55 02.1
comp=Z,3μm,19.0s
GYA1 ALIBECK ARRAY 50.39 84 P **P** **10 31 28.1 -1.2**
GYB1 ALIBECK ARRAY 50.40 84 P **P** **10 31 28.2 -1.1**
LNXT Lenox 50.47 272 IAMs_20 IAMs_20 10 51 32.4
comp=Z,2μm,18.0s
MID Middleton Isla 50.54 329 IAMs_20 IAMs_20 10 53 59.6
comp=Z,2μm,18.0s
Q23K Middleton Isla 50.54 329 IAMs_20 IAMs_20 10 53 59.6
comp=Z,2μm,18.0s
HALT Halls 50.57 272 IAMs_20 IAMs_20 10 51 34.9
comp=Z,2μm,18.0s
SEW Seward 50.60 331 IAMs_20 IAMs_20 10 53 53.0
comp=Z,3μm,21.0s
GAMB Gambell 50.64 346 P **P** **10 31 29.9 -0.8**
GAMB IAmb IAmb 10 31 40.5
comp=Z,70nm,1.5s
154A Montrose 50.68 264 P **P** **10 31 29.9 -1.5**
154A IAmb IAmb 10 31 39.0
comp=Z,53nm,1.0s
154A IAMs_20 IAMs_20 10 51 18.1
comp=Z,2μm,18.0s
KOWA Kowa 50.78 163 P **P** **10 31 31.4 -0.9**
KOWA IAmb IAmb 10 31 34.8
comp=Z,52nm,1.2s
MGMO Mountain Grove 50.79 275 P **P** **10 31 32.0 -0.2**
MGMO IAmb IAmb 10 31 41.1
comp=Z,55nm,1.6s
MGMO IAMs_20 IAMs_20 10 52 08.6
comp=Z,3μm,18.0s
S39A Bolivar 50.79 277 P **P** **10 31 31.4 -0.9**
PLAL Pickwick Lake 50.81 270 P **P** **10 31 30.4 -2.0**
PLAL IAMs_20 IAMs_20 10 51 30.3
comp=Z,3μm,18.0s
X48A Hartselle 50.81 269 P **P** **10 31 30.7 -1.7**
X48A IAMs_20 IAMs_20 10 51 23.4
comp=Z,3μm,20.0s
GCMT Greycliff 50.81 296 P **P** **10 31 32.4 -0.1**
SVW2 Sparrevohn 50.87 335 P **P** **10 31 32.5 -0.1**
HRY Holter Researc 50.88 298 P **P** **10 31 31.6 -1.4**
JTMT Jette 50.95 300 P **P** **10 31 32.9 -0.6**
Z51A Franklin 50.97 266 P **P** **10 31 32.4 -1.3**
Z51A IAmb IAmb 10 31 42.1
comp=Z,55nm,1.6s
255A Hazlehurst 51.00 263 P **P** **10 31 32.6 -1.2**
KSU1 Kansas State U 51.02 280 P **P** **10 31 32.1 -1.8**
baz=33
KSU1 Kansas State U 51.02 280 P **P** **10 31 31.9 -2.0**
KSU1 IAmb IAmb 10 31 37.6
comp=Z,30nm,1.0s
Y49A Blount Mountai 51.04 268 P **P** **10 31 34.1 -0.1**
Y49A IAmb IAmb 10 31 37.5
comp=Z,43nm,1.4s
Y49A IAMs_20 IAMs_20 10 51 29.6
comp=Z,3μm,20.0s
BRLS Boroldav 51.07 70 *e*P **P** **10 31 35.3 +1.0**
comp=Z,202nm,3.6s
BRLS Boroldav 51.07 70 *e*P **P** **10 31 35.3 +1.0**
BRLS pmax pmax
comp=Z,202nm,3.6s
BTLS Baital 51.09 66 *e*P **P** **10 31 33.1 -1.3**
comp=Z,119nm,3.4s
BTLS *e*PP **PP** **10 33 29.4 -1.2**
BTLS *e*S S 10 39 00.7 +9.1
BTLS Baital 51.09 66 *e*P **P** **10 31 33.1 -1.3**
BTLS *e* 10 33 29.4
BTLS *e*S S 10 39 00.7 +9.1
BTLS pmax pmax
comp=Z,119nm,3.4s
W45A Hickory Valley 51.14 271 P **P** **10 31 33.2 -1.7**
W45A IAmb IAmb 10 31 43.1
comp=Z,59nm,1.4s
W45A IAMs_20 IAMs_20 10 51 32.1
comp=Z,3μm,20.0s
BRLK Bradley Lake 51.20 332 P **P** **10 31 34.3 -0.8**
BRLK IAmb IAmb 10 31 37.9
comp=Z,47nm,1.1s
BRLK IAMs_20 IAMs_20 10 54 33.4
comp=Z,2μm,18.0s
RLMT Red Lodge 51.21 295 P **P** **10 31 34.3 -1.3**
baz=34,SNR=24
RLMT Red Lodge 51.21 295 P **P** **10 31 34.9 -0.7**
RLMT IAmb IAmb 10 31 40.0
comp=Z,54nm,1.3s
LCAR Lake Charles 51.22 274 P **P** **10 31 35.3 -0.2**
LCAR IAmb IAmb 10 31 44.4
comp=Z,59nm,1.9s
LCAR IAMs_20 IAMs_20 10 52 11.1
comp=Z,3μm,19.0s
LPAR Lepanto 51.25 273 IAMs_20 IAMs_20 10 52 04.8
comp=Z,2μm,18.0s
KK09 Karatay Array 51.26 70 P **P** **10 31 35.1 -0.6**
KK05 Karatay Array 51.28 70 P **P** **10 31 35.2 -0.6**
KK31 Karatay Array 51.28 70 *i*P **P** **10 31 34.7 -1.2**
KK31 Karatay Array 51.28 70 P **P** **10 31 35.4 -0.5**
KKAR Karatay Array 51.28 70 P **P** **10 31 35.3 -0.6**
KKAR 10 31 35.7
KKAR pmax pmax
comp=Z,119nm,1.8s
KKAR Karatay Array 51.28 70 P **P** **10 31 35.7 -0.2**
KKAR Karatay Array 51.28 70 P **P** **10 31 35.3 -0.6**
152A Waverly Hall 51.33 266 P **P** **10 31 36.3 0.0**
YAK Yakutsk 51.42 19 ‖ *i*P **P** **10 31 36.6 0.0**
YAK pmax pmax
comp=Z,9.0nm,0.6s
HBAR Harrisburg 51.44 273 IAMs_20 IAMs_20 10 52 18.9
comp=Z,2μm,18.0s
MET Memphis–Engin 51.49 272 IAMs_20 IAMs_20 10 51 53.4
comp=Z,2μm,20.0s
CNPM China Poot 51.49 332 IAMs_20 IAMs_20 10 54 41.7
comp=Z,2μm,19.0s
NEW Newport 51.57 303 P **P** **10 31 34.1 -3.9**
baz=33
NEW Newport 51.57 303 P **P** **10 31 37.9 -0.1**
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW MLR MLR
comp=Z,5μm,18.0s
NEW Newport 51.57 303 P **P** **10 31 37.9 -0.1**
MSO Missoula 51.59 299 P **P** **10 31 37.3 -1.0**
baz=33,SNR=11
MSO Missoula 51.59 299 P **P** **10 31 37.5 -0.8**
YNE Yellowstone No 51.60 295 P **P** **10 31 37.4 -1.1**
U40A Yellville 51.71 275 P **P** **10 31 38.3 -0.9**
baz=32,SNR=13
U40A S **S** **10 39 07.1 +6.7**
baz=32
U40A Yellville 51.71 275 P **P** **10 31 38.9 -0.2**
U40A IAmb IAmb 10 31 48.1
comp=Z,103nm,1.9s
U40A IAMs_20 IAMs_20 10 52 38.0

comp=Z,3μm,19.0s
BOZ Bozeman (W) 51.74 297 P **P** **10 31 37.4 -2.0**
baz=33,SNR=67
BOZ Bozeman (W) 51.74 297 P **P** **10 31 38.2 -1.2**
BOZ pmax pmax
comp=Z,57nm,1.2s
BOZ MLR MLR
comp=Z,11μm,18.0s
BOZ Bozeman (W) 51.74 297 P **P** **10 31 38.2 -1.2**
BOZ IAmb IAmb 10 31 43.4
comp=Z,57nm,1.2s
OXF Oxford 51.78 271 P **P** **10 31 36.9 -2.8**
baz=32
OXF Oxford 51.78 271 IAMs_20 IAMs_20 10 52 11.1
comp=Z,4μm,19.0s
FCAR Ozark Folk Cen 51.79 274 P **P** **10 31 38.6 -1.2**
FCAR IAMs_20 IAMs_20 10 52 39.2
comp=Z,2μm,18.0s
DZA Taraz 51.79 69 *e*P **P** **10 31 38.5 -1.3**
DZA Taraz 51.79 69 *e*P **P** **10 31 38.4 -1.3**
456A Hilliard 51.84 262 IAMs_20 IAMs_20 10 51 52.9
comp=Z,2μm,19.0s
LRM Limekiln Ridge 51.86 298 P **P** **10 31 40.8 +0.3**
YMP Mirror Lake Pl 51.88 295 P **P** **10 31 41.0 +0.3**
IUG Iuzhnay 51.88 71 *e*P **P** **10 31 41.5 +1.0**
comp=Z,109nm,1.9s
IUG *e*PP **PP** **10 33 37.5 -0.6**
IUG *e*S **S** **10 39 06.2 +3.2**
IUG Iuzhnay 51.88 71 *e*P **P** **10 31 41.5 +1.0**
IUG *e* 10 33 37.4
IUG *e*S **S** **10 39 06.1 +3.2**
IUG pmax pmax
comp=Z,109nm,1.9s
TIGA Tifton 51.90 264 P **P** **10 31 39.1 -1.4**
baz=30
TIGA S **S** **10 39 11.3 +8.3**
baz=30
TIGA Tifton 51.90 264 P **P** **10 31 41.4 +0.8**
TIGA IAmb IAmb 10 31 44.9
comp=Z,25nm,0.9s
TIGA IAMs_20 IAMs_20 10 52 05.3
comp=Z,2μm,18.0s
BBB Bella Bella 51.98 313 LR LR 10 54 11.3
comp=Z,2μm,18.3s,baz=26,slow=37
BBB Bella Bella 51.98 313 IAMs_20 IAMs_20 10 54 00.6
comp=Z,2μm,18.0s
LRAL Lakeview Retre 52.00 268 P **P** **10 31 39.6 -1.8**
baz=31
LRAL Lakeview Retre 52.00 268 P **P** **10 31 41.1 -0.2**
LRAL IAMs_20 IAMs_20 10 52 00.9
comp=Z,2μm,20.0s
YNR Norris Junctio 52.10 296 P **P** **10 31 42.5 +0.2**
YHH Holmes Hill 52.11 296 P **P** **10 31 42.8 +0.4**
LKWY Lake 52.12 295 P **P** **10 31 42.4 -0.1**
LKWY pmax pmax
comp=Z,76nm,2.0s
LKWY MLR MLR
comp=Z,17μm,18.0s
LKWY Lake 52.12 295 P **P** **10 31 42.4 -0.1**
LKWY IAmb IAmb 10 31 54.1
comp=Z,76nm,1.9s
DGZ Jazzator, Alta 52.14 53 *de*P **P** **10 31 42.6 +0.2**
DGZ pmax pmax
comp=Z,66nm,2.2s
K22A Casper 52.18 291 P **P** **10 31 40.6 -2.2**
baz=33,SNR=14
K22A S **S** **10 39 13.3 +6.3**
baz=33
K22A Casper 52.18 291 P **P** **10 31 42.3 -0.5**
K22A IAMs_20 IAMs_20 10 52 38.8
comp=Z,4μm,21.0s
YHL Hebgen Lake 52.19 296 P **P** **10 31 43.4 +0.4**
HHAR Hobbs 52.24 276 IAMs_20 IAMs_20 10 53 03.1
comp=Z,3μm,18.0s
YMR Madison River 52.26 296 P **P** **10 31 44.0 +0.6**
U38A Gravette 52.30 277 P **P** **10 31 42.4 -1.2**
U38A IAmb IAmb 10 31 51.8
comp=Z,61nm,1.9s
DLMT Dillon 52.30 297 IAmb IAmb 10 31 53.1
comp=Z,55nm,1.8s
Z47A Carrollton 52.32 269 IAMs_20 IAMs_20 10 51 48.4
comp=Z,4μm,21.0s
H17A Grant Village 52.33 295 P **P** **10 31 44.7 +0.7**
baz=33,SNR=18
H17A Grant Village 52.33 295 P **P** **10 31 43.5 -0.5**
H17A IAmb IAmb 10 31 49.3
comp=Z,57nm,1.2s
WHAR Wooly Hollow 52.37 274 IAMs_20 IAMs_20 10 52 56.5
comp=Z,3μm,19.0s
C09A Chrisman Ranch 52.37 303 P **P** **10 31 42.9 -1.1**
352A Blakely 52.44 265 IAMs_20 IAMs_20 10 54 03.6
comp=Z,2μm,18.0s
DIB Dawson Inlet, 52.45 317 IAMs_20 IAMs_20 10 54 10.5
comp=Z,3μm,18.0s
W41B Gary Mavity, V 52.45 274 P **P** **10 31 42.8 -1.9**
baz=32
W41B S **S** **10 39 16.1 +5.6**
baz=32
W41B Gary Mavity, V 52.45 274 IAmb IAmb 10 31 53.8
comp=Z,58nm,1.7s
W41B IAMs_20 IAMs_20 10 52 58.7
comp=Z,3μm,19.0s
R32A Long Quarter, 52.48 282 P **P** **10 31 44.3 -0.6**
R32A IAmb IAmb 10 31 47.6
comp=Z,34nm,1.1s
R32A IAMs_20 IAMs_20 10 52 43.1
comp=Z,3μm,19.0s
YPP Pitchstone Pla 52.53 295 P **P** **10 31 45.9 +0.4**
BOD Bodaibo 52.53 30 *e*P **P** **10 31 41.7 -3.3**
BOD pmax pmax
comp=Z,22nm,2.5s
CBKS Cedar Bluff 52.58 283 P **P** **10 31 43.0 -2.7**
baz=32
CBKS Cedar Bluff 52.58 283 P **P** **10 31 44.7 -1.0**
CBKS pmax pmax
comp=Z,34nm,1.0s
CBKS Cedar Bluff 52.58 283 P **P** **10 31 44.7 -1.0**
CBKS IAmb IAmb 10 32 58.5
comp=Z,34nm,0.9s
CBKS IAMs_20 IAMs_20 10 52 40.8
comp=Z,3μm,21.0s
MAKZ Makanchi 52.64 59 P **P** **10 31 44.6 -1.4**
MAKZ pmax pmax
comp=Z,117nm,2.0s
MAKZ MLR MLR
comp=Z,2μm,22.0s
MAKZ Makanchi 52.64 59 P **P** **10 31 44.6 -1.4**
FLWY Flagg Ranch 52.64 295 P **P** **10 31 45.8 -0.4**
FLWY IAmb IAmb 10 31 59.4
comp=Z,30nm,1.1s
SGDS Sogindy 52.65 66 *e*P **P** **10 31 45.8 -0.4**
comp=Z,232nm,4.3s
SGDS *e*PP **PP** **10 33 45.1 +0.3**
SGDS *e*S **S** **10 39 18.5 +5.2**
SGDS Sogindy 52.65 66 *e*P **P** **10 31 45.7 -0.4**
SGDS *e* 10 33 45.1
SGDS *e*S **S** **10 39 18.4 +5.2**
SGDS pmax pmax
comp=Z,232nm,4.0s
SEY Seymchan 52.65 6 LR LR 10 55 03.6
comp=Z,1μm,18.6s,baz=354,slow=37
SEY Seymchan 52.65 6 ‖ *i*P **P** **10 31 46.9 +1.1**
USP Ospenovka 52.75 67 P **P** **10 31 48.3 +1.4**
SNR=10
MK31 Makanchi Array 52.77 58 P **P** **10 31 45.7 -1.2**
MK31 pmax pmax
comp=Z,43nm,1.7s
MK31 Makanchi Array 52.77 58 P **P** **10 31 45.7 -1.2**
MKAR Makanchi Array 52.77 58 P **P** **10 31 45.5 -1.4**
comp=Z,5.2nm,0.9s,baz=336,slow=4.5,SNR=26
MKAR PP **PP** **10 33 45.8 0.0**
comp=Z,0.8nm,0.7s,baz=1.9,slow=8.7,SNR=2.2
MKAR LR LR 10 54 49.8
comp=Z,1μm,21.1s,baz=316,slow=37
MKAR Makanchi Array 52.77 58 P **P** **10 31 44.9 -2.1**
T35A Sooner Cattle 52.81 279 P **P** **10 31 46.7 -0.7**
T35A IAmb IAmb 10 31 50.0
comp=Z,34nm,1.1s
TDK Taldyqorghan 52.82 62 *e*P **P** **10 31 48.0 +0.6**
TDK Taldyqorghan 52.82 62 *e*P **P** **10 31 47.9 +0.6**
UALR University of 52.83 274 P **P** **10 31 46.2 -1.3**
UALR IAMs_20 IAMs_20 10 53 20.7
comp=Z,3μm,19.0s
MCMT McKenzie Canyo 52.85 297 P **P** **10 31 46.9 -0.9**
PHWY Pilot Hill 52.88 289 P **P** **10 31 46.5 -1.6**
IMW Indian Meadow 52.89 295 P **P** **10 31 47.5 -0.7**

B06A Marblemount 52.91 306 IAMs_20 IAMs_20 10 54 26.4
comp=Z,2µm,18.0s
TOC1 Torodi Ar. Sit 52.94 156 IAMs_20 IAMs_20 10 54 28.5
comp=Z,2µm,18.0s
KUU Kurty 52.95 65 eP **P** **10 31 48.1 -0.2**
comp=Z,273nm,2.2s
KUU ePP **PP** **10 33 44.9 -2.6**
KUU eS **S** **10 39 24.2 +7.0**
KUU Kurty 52.95 65 eP **P** **10 31 48.1 -0.2**
KUU e 10 33 44.9
KUU eS **S** **10 39 24.2 +7.0**
KUU pmax pmax
comp=Z,273nm,2.2s
TOA0 Torodi Ar. Sit 52.96 157 P **P** **10 31 49.8 +1.2**
SNR=12
TOA0 Torodi Ar. Sit 52.96 157 P **P** **10 31 47.4 -1.2**
TOA0 IAmb IAmb 10 31 50.5
comp=Z,84nm,1.5s
TORD Torodi Ar. Bea 52.96 157 P **P** **10 31 47.1 -1.5**
comp=Z,13nm,0.9s,baz=342,slow=7.7,SNR=39
TORD LR LR 10 54 31.3
comp=Z,2µm,18.9s,baz=340,slow=36
TORD Torodi Ar. Bea 52.96 157 P **P** **10 31 47.0 -1.5**
EKS2 Erkin-Say 52.97 67 P **P** **10 31 49.5 +0.9**
SNR=24
TOC5 Torodi Ar. Sit 52.97 157 IAMs_20 IAMs_20 10 54 29.5
comp=Z,2µm,18.0s
LOHW Long Hollow 53.00 295 P **P** **10 31 47.9 -1.0**
CHMS Chumysh 53.08 67 P **P** **10 31 51.1 +1.9**
SNR=5.5
W39A Magazine 53.09 275 P **P** **10 31 46.8 -2.7**
baz=32
ZSN Zaisan 53.15 56⇑ *i*P **P** **10 31 49.9 +0.2**
comp=Z,190nm,3.4s
ZSN ePP **PP** **10 33 48.7 -0.5**
ZSN eS **S** **10 39 27.1 +7.1**
ZSN Zaisan 53.15 56*c i*P **P** **10 31 49.9 +0.2**
ZSN e 10 33 48.6
ZSN eS **S** **10 39 27.0 +7.1**
ZSN pmax pmax
comp=Z,190nm,3.4s
FRU1 Bishkek 53.19 67 IAMs_20 IAMs_20 10 54 02.7
comp=Z,4µm,20.0s
146A Union 53.23 270 IAMs_20 IAMs_20 10 52 27.5
comp=Z,4µm,21.0s
656A Willston 53.23 261 IAMs_20 IAMs_20 10 52 32.8
comp=Z,2µm,20.0s
TPAW Teton Pass 53.24 295 IAmb IAmb 10 31 57.7
comp=Z,32nm,1.2s
RWWY Rawlins 53.26 291 P **P** **10 31 49.5 -1.4**
AAK Ala-Archa 53.28 67 P **P** **10 31 50.9 0.0**
SNR=14
AAK Ala-Archa 53.28 67 *i* P **P** **10 31 50.7 -0.2**
SNR=16
AAK Ala-Archa 53.28 67*d i*P **P** **10 31 51.4 +0.5**
AAK pmax pmax
comp=Z,173nm,1.7s
X40A Basin Creek Fa 53.29 274 P **P** **10 31 49.5 -1.3**
baz=31,SNR=6.9
X40A Basin Creek Fa 53.29 274 P **P** **10 31 50.8 -0.1**
X40A IAMs_20 IAMs_20 10 53 43.8
comp=Z,3µm,18.0s
PD31 Pinedale Array 53.30 293 P **P** **10 31 48.6 -2.5**
PD31 IAmb IAmb 10 31 54.3
comp=Z,49nm,1.2s
PDAR Pinedale Array 53.30 293 P **P** **10 31 49.0 -2.2**
comp=Z,19nm,0.9s,baz=58,slow=7.0,SNR=72
PDAR LR LR 10 54 19.3
comp=Z,4µm,18.4s,baz=28,slow=36
PDAR Pinedale Array 53.30 293 P **P** **10 31 49.1 -2.1**
BW06 Boulder Array 53.30 293 P **P** **10 31 48.8 -2.3**
baz=32,SNR=43
BW06 Boulder Array 53.30 293 P **P** **10 31 48.8 -2.3**
BW06 IAmb IAmb 10 31 54.3
comp=Z,60nm,1.3s
REDW Red Top Meadow 53.31 295 P **P** **10 31 50.1 -1.1**
REDW IAmb IAmb 10 31 55.4
comp=Z,29nm,1.1s
CCAR Cane Creek 53.31 273 IAMs_20 IAMs_20 10 53 18.5
comp=Z,2µm,18.0s
553A Crawfordville 53.34 264 IAMs_20 IAMs_20 10 55 30.5
comp=Z,2µm,18.0s
TUL1 Leonard 53.35 278 P **P** **10 31 48.4 -3.0**
baz=32
KDAK Kodiak Island 53.38 332 LR LR 10 56 05.0
comp=Z,2µm,21.0s,baz=31,slow=38
KDAK Kodiak Island 53.38 332 IAMs_20 IAMs_20 10 55 53.5
comp=Z,3µm,21.0s
N23A Red Feather La 53.41 289 P **P** **10 31 51.5 -0.6**
baz=32,SNR=28
N23A Red Feather La 53.41 289 P **P** **10 31 50.9 -1.2**
N23A IAMs_20 IAMs_20 10 54 18.6
comp=Z,3µm,18.0s
KBK Karagaybulak 53.44 67 P **P** **10 31 51.7 -0.4**
SNR=6.3
TKM2 Tokmak 2 53.48 66 P **P** **10 31 52.1 -0.3**
SNR=19
PGC Sidney 53.48 308 IAMs_20 IAMs_20 10 54 27.3
comp=Z,3µm,22.0s
BCYI Bear Canyon 53.50 297 P **P** **10 31 51.4 -1.2**
451A Vernon 53.53 265 IAMs_20 IAMs_20 10 53 16.7
comp=Z,2µm,18.0s
MIAR Mount Ida 53.56 275 P **P** **10 31 51.7 -1.2**
baz=31,SNR=9.3
MIAR Mount Ida 53.56 275 IAMs_20 IAMs_20 10 53 45.9
comp=Z,3µm,18.0s
BRAL Brewton 53.62 267 P **P** **10 31 48.8 -4.6**
baz=30
UCH Uchtor 53.63 67 P **P** **10 31 54.4 +0.5**
SNR=15
KSCO Kaye Shedlock' 53.63 285 P **P** **10 31 50.9 -2.6**
baz=32
ECR Eagle Creek 53.77 295 P **P** **10 31 55.5 +0.9**
PLID Pearl Lake 53.83 300 P **P** **10 31 52.9 -2.2**
PLID IAmb IAmb 10 32 04.8
comp=Z,67nm,1.4s
MDOK Medeo 53.84 65 eP **P** **10 31 54.5 -0.5**
MDOK ePP **PP** **10 33 54.6 -1.1**
MDOK eS **S** **10 39 36.5 +6.8**
MDOK Medeo 53.84 65 eP **P** **10 31 54.5 -0.5**
MDOK e 10 33 54.6
MDOK eS **S** **10 39 36.4 +6.8**
TNSS Tian-Shan 53.91 65 eP **P** **10 31 55.1 -0.8**
TNSS Tian-Shan 53.91 65 eP **P** **10 31 55.0 -0.8**
BOOM Boomskoye usch 53.97 66 IAmb IAmb 10 32 10.7
comp=Z,44nm,1.3s
E07A Sunnyside 54.00 304 P **P** **10 31 55.8 -0.1**
HAWA Hanford 54.02 303 P **P** **10 31 55.2 -0.9**
HAWA PcP **PcP** **10 33 02.5 +1.5**
OHAK Old Harbor 54.04 332 P **P** **10 31 57.5 +1.5**
OHAK IAmb IAmb 10 31 59.2
comp=Z,48nm,1.2s
OHAK IAMs_20 IAMs_20 10 56 17.0
comp=Z,2µm,19.0s
OK029 Liberty Lake 54.16 279 P **P** **10 31 56.9 -0.4**
OK029 IAmb IAmb 10 33 21.3
comp=Z,21nm,0.6s
143A Socs Landing, 54.19 272 P **P** **10 31 56.6 -0.9**
143A IAMs_20 IAMs_20 10 53 36.8
comp=Z,3µm,20.0s
ISCO Idaho Springs 54.20 288 P **P** **10 31 57.3 -0.6**
baz=32,SNR=7.6
ISCO Idaho Springs 54.20 288 P **P** **10 31 57.9 0.0**
ISCO pmax pmax
comp=Z,12nm,1.3s
ISCO Idaho Springs 54.20 288 P **P** **10 31 57.9 0.0**
ISCO IAMs_20 IAMs_20 10 54 26.5
comp=Z,3µm,20.0s
D05A Enumclaw 54.22 306 IAMs_20 IAMs_20 10 55 10.1
comp=Z,3µm,20.0s
KPKS Kokpek 54.22 63 eP **P** **10 31 56.5 -1.2**
comp=Z,243nm,3.5s
KPKS ePP **PP** **10 33 59.1 0.0**
KPKS Kokpek 54.22 63 eP **P** **10 31 56.5 -1.2**
KPKS e 10 33 59.0
KPKS pmax pmax
comp=Z,243nm,3.5s
VBMS Vicksburg 54.22 271 P **P** **10 31 55.4 -2.3**
baz=31
VBMS Vicksburg 54.22 271 IAMs_20 IAMs_20 10 53 45.7
comp=Z,3µm,18.0s
X37A Clayton 54.29 276 P **P** **10 31 56.3 -1.9**
X37A IAMs_20 IAMs_20 10 54 27.4
comp=Z,3µm,18.0s
OK025 Westminster Rd 54.29 279 P **P** **10 31 57.7 -0.6**
OK025 IAmb IAmb 10 32 01.4
comp=Z,32nm,1.0s
D03D Eldon 54.31 307 P **P** **10 31 55.3 -2.9**
baz=31
Z41A Richland Creek 54.32 273 P **P** **10 31 57.0 -1.4**
baz=31
Z41A Richland Creek 54.32 273 P **P** **10 31 58.7 +0.3**
Z41A IAmb IAmb 10 32 02.0
comp=Z,20nm,0.8s
Z41A IAMs_20 IAMs_20 10 54 17.2
comp=Z,3µm,18.0s
U32A Winter Ranch, 54.33 281 P **P** **10 31 56.7 -1.8**
U32A IAmb IAmb 10 32 01.3
comp=Z,40nm,1.1s
BCOK Bluff Creek, N 54.35 279 P **P** **10 31 58.2 -0.4**
CHGR Chuyangaron 54.46 74 P **P** **10 31 58.0 -1.5**
SATY Saty 54.46 64 eP **P** **10 31 59.0 -0.6**
comp=Z,88nm,3.0s
SATY ePP **PP** **10 33 59.8 -1.4**
SATY Saty 54.46 64 eP **P** **10 31 58.9 -0.6**
SATY e 10 33 59.8
SATY pmax pmax
comp=Z,89nm,3.0s
W35A Tecumseh 54.46 278 P **P** **10 31 58.9 -0.5**
346A Big Creek Wild 54.48 269 IAMs_20 IAMs_20 10 53 57.5
comp=Z,3µm,19.0s
OKCFA Oklahoma City 54.48 279 P **P** **10 31 59.3 -0.3**
OKCFA IAmb IAmb 10 32 02.7
comp=Z,57nm,1.4s
BMO Blue Mountains 54.52 301 P **P** **10 31 58.8 -1.0**
BMO pmax pmax
comp=Z,20nm,1.2s
BMO MLR MLR
comp=Z,8µm,19.0s
BMO Blue Mountains 54.52 301 P **P** **10 31 58.8 -1.0**
HLID Hailey 54.52 298 P **P** **10 31 58.7 -1.3**
baz=32,SNR=9.2
HLID Hailey 54.52 298 P **P** **10 31 59.0 -1.0**
HLID IAmb IAmb 10 32 09.5
comp=Z,38nm,1.6s
LON Longmire 54.53 305 P **P** **10 31 58.3 -1.6**
LON pmax pmax
comp=Z,7.0nm,1.1s
LON MLR MLR
comp=Z,4µm,18.0s
LON Longmire 54.53 305 P **P** **10 31 58.3 -1.6**
F07A Phinny Hill Vi 54.59 303 P **P** **10 31 59.5 -0.8**
F07A IAmb IAmb 10 32 12.3
comp=Z,86nm,1.9s
FNO Franklin 54.60 279 P **P** **10 32 00.1 -0.3**
UZB Uzynbulak 54.62 63 eP **P** **10 32 00.2 -0.6**
comp=Z,126nm,3.0s
UZB ePP **PP** **10 34 00.2 -2.5**
UZB eS **S** **10 39 44.4 +4.2**
UZB Uzynbulak 54.62 63 eP **P** **10 32 00.1 -0.6**
UZB e 10 34 00.2
UZB eS **S** **10 39 44.4 +4.2**
UZB pmax pmax
comp=Z,126nm,3.0s
GAR Garm 54.65 73 P **P** **10 32 00.1 -0.8**
PDGK Podgornoye 54.65 63 P **P** **10 31 59.4 -1.5**
NLWA Neilton Lookou 54.70 307 IAMs_20 IAMs_20 10 55 18.8
comp=Z,3µm,19.0s
Q24A Divide 54.72 287 P **P** **10 31 59.3 -2.4**
baz=32
Q24A Divide 54.72 287 P **P** **10 32 01.9 +0.3**
MOY Mondy 54.75 42 eP **P** **10 32 01.4 -0.1**
MOY pmax pmax
comp=Z,199nm,3.2s
KDJ Kajisay 54.77 65 P **P** **10 32 01.2 -0.6**
KDJ pmax pmax
comp=Z,98nm,1.9s
KDJ MLR MLR
comp=Z,6µm,20.0s
KDJ Kajisay 54.77 65 P **P** **10 32 01.2 -0.6**
SHLS Shalkode 54.78 63 eP **P** **10 32 02.1 +0.3**
comp=Z,162nm,2.8s
SHLS ePP **PP** **10 34 05.0 +0.9**
SHLS eS S 10 39 54.8 +12
SHLS Shalkode 54.78 63 eP **P** **10 32 02.1 +0.3**
SHLS e 10 34 04.9
SHLS eS S 10 39 54.7 +12
SHLS pmax pmax
comp=Z,162nm,2.8s
SII Sitkinak Islan 54.84 332 IAMs_20 IAMs_20 10 57 03.1
comp=Z,3µm,21.0s
E04D Cinebar 54.97 306 P **P** **10 32 01.1 -1.9**
baz=30
344A Westbrook Farm 54.97 270 IAMs_20 IAMs_20 10 54 28.5
comp=Z,3µm,18.0s
O20A White River Ci 54.99 291 P **P** **10 32 02.6 -0.9**
baz=32,SNR=19
O20A White River Ci 54.99 291 P **P** **10 32 01.9 -1.5**
O20A IAMs_20 IAMs_20 10 54 19.3
comp=Z,2µm,19.0s
HWUT Hardware Ranch 55.07 294 P **P** **10 32 03.2 -0.9**
HWUT IAmb IAmb 10 32 07.7
comp=Z,45nm,1.1s
F05D White Salmon 55.15 304 P **P** **10 32 02.2 -2.1**
baz=31
HRA Herat 55.16 82 P **P** **10 32 03.5 -1.3**
RDMU Red Mountain 55.16 292 P **P** **10 32 03.3 -1.4**
IRK Irkutsk 55.17 40 eP **P** **10 32 03.2 -1.1**
IRK e 10 34 08.9
IRK pmax pmax
comp=Z,102nm,1.6s
E03A Lebam 55.33 306 IAMs_20 IAMs_20 10 55 29.3
comp=Z,2µm,19.0s
TARG Taragay, Kyrgy 55.35 65 P **P** **10 32 05.3 -1.0**
TCUT Toone Canyon 55.43 294 P **P** **10 32 06.7 0.0**
F04A Amboy 55.45 305 P **P** **10 32 05.9 -0.5**
F04A IAmb IAmb 10 32 10.0
comp=Z,21nm,0.9s
GRTK Grand Turk 55.46 246 IAMs_20 IAMs_20 10 51 37.2
comp=Z,3µm,21.0s
TLY Talaya 55.49 40 eP **P** **10 32 05.7 -1.0**
TLY e 10 33 07.7
TLY e 10 34 10.0
TLY eS **S** **10 39 53.5 +2.1**
TLY pmax pmax
comp=Z,40nm,1.3s
TLY MLR MLR
comp=Z,10µm,17.0s
TLY Talaya 55.49 40 P **P** **10 32 07.0 +0.3**
F04D Rainier, OR 55.53 306 P **P** **10 32 05.1 -1.9**
baz=30
WMOK Wichita Mounta 55.63 279 P **P** **10 32 07.1 -0.8**
baz=31,SNR=25
WMOK Wichita Mounta 55.63 279 P **P** **10 32 06.6 -1.3**
WMOK pmax pmax
comp=Z,33nm,1.3s
WMOK Wichita Mounta 55.63 279 P **P** **10 32 06.6 -1.3**
WMOK IAmb IAmb 10 32 11.2
comp=Z,33nm,1.2s
G05D Wamic, OR 55.65 304 P **P** **10 32 05.3 -2.6**
baz=30
SPUT South Promonto 55.68 295 P **P** **10 32 08.6 +0.3**
342A Flagon Creek P 55.73 272 IAMs_20 IAMs_20 10 54 45.5
comp=Z,3µm,20.0s
JLU Jordanelle 55.88 293 P **P** **10 32 10.3 +0.4**
CHGN Chignik 55.90 335 IAMs_20 IAMs_20 10 55 32.9
comp=Z,2µm,22.0s
SDCO Great Sand Dun 55.90 287 P **P** **10 32 08.8 -1.3**
baz=31,SNR=13
SDCO Great Sand Dun 55.90 287 IAMs_20 IAMs_20 10 54 51.4
comp=Z,2µm,19.0s
CTU Camp Tracy 55.92 294 P **P** **10 32 10.1 0.0**
MA2 Magadan 55.93 7 LR LR 10 57 02.0
comp=Z,699nm,18.2s,baz=330,slow=37
T25A Trinidad 55.96 286 P **P** **10 32 09.6 -1.0**
baz=31,SNR=6.8
T25A Trinidad 55.96 286 P **P** **10 32 09.5 -1.0**
T25A IAmb IAmb 10 32 14.9
comp=Z,31nm,1.4s
I07A Izee 55.99 302 P **P** **10 32 10.1 -0.4**
Z35A Perchaven, San 56.18 277 P **P** **10 32 12.2 +0.4**
Z35A IAMs_20 IAMs_20 10 55 29.2
comp=Z,3µm,18.0s
BGU Big Grassy Mou 56.23 295 P **P** **10 32 12.1 -0.3**
J08A Circle Bar Ran 56.23 301 P **P** **10 32 12.7 +0.4**
NATX Nacogdoches 56.41 274 P **P** **10 32 11.9 -1.6**
baz=30
NATX Nacogdoches 56.41 274 P **P** **10 32 13.3 -0.1**
NATX IAmb IAmb 10 32 22.9
comp=Z,23nm,1.1s
NATX IAMs_20 IAMs_20 10 56 01.4
comp=Z,2µm,18.0s
I05D Terrebonne, OR 56.44 303 P **P** **10 32 10.7 -3.0**
baz=30
H04A Detroit Lake 56.45 304 P **P** **10 32 13.6 -0.1**
H04A IAmb IAmb 10 32 23.6
comp=Z,43nm,1.6s
S22A 4UR Ranch, Cre 56.45 288 P **P** **10 32 14.2 +0.2**
baz=31,SNR=16
S22A 4UR Ranch, Cre 56.45 288 P **P** **10 32 13.1 -1.0**
S22A IAMs_20 IAMs_20 10 55 50.9
comp=Z,2µm,20.0s
KSH Kashi 56.51 68 P **P** **10 32 15.2 +0.9**
KSH pP sP 10 32 21.6 +2.1
KSH S **S** **10 40 08.8 +3.3**
KSH pmax pmax
comp=Z,100nm,1.5s
KSH pmax pmax
comp=Z,930nm,5.9s
KSH LR LR
comp=Z,4µm,16.7s
KSH LR LR
comp=Z,3µm,18.0s
KSH LR LR
comp=Z,6µm,20.0s
ZAK Zakamensk 56.55 41 eP **P** **10 32 12.3 -2.1**
ZAK pmax pmax
comp=Z,19nm,1.3s
P17A Butcher Ranch, 56.56 292 P **P** **10 32 14.9 +0.2**
PV22 Blue Mesa, Par 56.58 290 P **P** **10 32 14.9 +0.1**
PV22 IAmb IAmb 10 32 22.2
comp=Z,34nm,1.6s
PV07 Paradox Valley 56.60 290 P **P** **10 32 15.0 -0.1**
PV07 IAmb IAmb 10 32 25.3
comp=Z,53nm,1.8s
PV15 Paradox Valley 56.62 290 P **P** **10 32 14.7 -0.5**
PV15 IAMs_20 IAMs_20 10 56 56.3
comp=Z,3µm,19.0s
PV21 Cone Mtn., Par 56.63 290 P **P** **10 32 15.2 -0.1**
PV21 IAmb IAmb 10 32 21.4
comp=Z,39nm,1.2s
441A DeRidder 56.64 272 IAMs_20 IAMs_20 10 55 53.7
comp=Z,2µm,20.0s
237A Washetta, Mont 56.70 275 P **P** **10 32 16.1 +0.6**
237A IAmb IAmb 10 32 19.6
comp=Z,47nm,1.4s
PV23 Carpenter Ridg 56.74 290 P **P** **10 32 16.3 +0.2**
PV23 IAmb IAmb 10 32 18.5
comp=Z,24nm,0.9s
AMTX Amarillo 56.74 282 P **P** **10 32 14.0 -1.9**
baz=31
PV04 Paradox Valley 56.74 290 P **P** **10 32 15.6 -0.4**
PV04 IAmb IAmb 10 32 23.9
comp=Z,56nm,1.5s
PV12 Saucer Basin, 56.77 290 P **P** **10 32 15.2 -1.0**
PV12 IAmb IAmb 10 32 20.1
comp=Z,25nm,1.1s
PINE Pine Mountain 56.77 303 IAMs_20 IAMs_20 10 56 42.6
comp=Z,3µm,18.0s
DUG Dugway, Tooele 56.77 294 P **P** **10 32 15.9 -0.3**
baz=31,SNR=21
DUG Dugway, Tooele 56.77 294 P **P** **10 32 14.8 -1.4**
DUG pmax pmax
comp=Z,31nm,1.3s
DUG MLR MLR
comp=Z,4µm,19.0s
DUG Dugway, Tooele 56.77 294 P **P** **10 32 14.8 -1.4**
DUG IAmb IAmb 10 32 20.7
comp=Z,31nm,1.2s
SRU San Rafael Swe 56.78 292 P **P** **10 32 14.8 -1.5**
SRU pmax pmax
comp=Z,21nm,1.1s
SRU San Rafael Swe 56.78 292 P **P** **10 32 14.8 -1.5**
PV11 David Mesa, Pa 56.81 290 P **P** **10 32 15.0 -1.6**
PV20 West Nyswonger 56.81 290 P **P** **10 32 15.3 -1.3**
PV16 Nyswonger Mesa 56.82 290 IAMs_20 IAMs_20 10 56 29.6
comp=Z,3µm,18.0s
PV01 Paradox Valley 56.83 290 P **P** **10 32 15.7 -1.1**
PV01 IAmb IAmb 10 32 20.1
comp=Z,35nm,1.1s
PV02 Paradox Valley 56.83 290 IAMs_20 IAMs_20 10 56 39.0
comp=Z,3µm,21.0s
PV03 Paradox Valley 56.84 290 IAMs_20 IAMs_20 10 56 30.2
comp=Z,3µm,19.0s
PV19 Morning Glory 56.85 290 P **P** **10 32 15.5 -1.3**
PV19 IAmb IAmb 10 32 23.1
comp=Z,49nm,1.7s
PV18 Skein Mesa, Pa 56.87 290 IAMs_20 IAMs_20 10 56 41.0
comp=Z,3µm,18.0s
TMUT Trail Mountain 56.90 292 P **P** **10 32 17.2 -0.1**
PV13 Radium Mtn., P 56.91 290 IAMs_20 IAMs_20 10 56 34.0
comp=Z,3µm,19.0s
SDPT Sand Point 57.17 336 IAMs_20 IAMs_20 10 57 37.6
comp=Z,2µm,20.0s
Q16A Castle Valley 57.21 292 P **P** **10 32 19.0 -0.3**
ELK Elko 57.25 297 P **P** **10 32 20.3 +0.7**
ELK pmax pmax
comp=Z,76nm,2.0s
ELK MLR MLR
comp=Z,9µm,18.0s
ELK Elko 57.25 297 P **P** **10 32 20.3 +0.7**
ELK IAmb IAmb 10 32 30.8
comp=Z,76nm,2.0s
WMQ Urumqi 57.28 56 eP **P** **10 32 20.9 +1.3**
WMQ sP sP 10 32 28.8 +4.0
WMQ PP **PP** **10 34 30.7 +4.4**
WMQ S **S** **10 40 18.6 +3.2**
WMQ sS sS 10 40 23.7 +2.2
WMQ pmax pmax
comp=Z,13nm,1.9s
WMQ pmax pmax
comp=Z,350nm,5.3s
WMQ LR LR
comp=Z,1µm,16.5s
WMQ LR LR
comp=Z,760nm,18.5s
WMQ LR LR
comp=Z,890nm,21.3s
WMQ Urumqi 57.28 56 IAMs_20 IAMs_20 10 57 27.2
comp=Z,2µm,20.0s
I04A Tendick Farm, 57.30 304 P **P** **10 32 17.6 -2.2**
baz=30
J05D Fort Rock, OR 57.31 303 P **P** **10 32 18.7 -1.2**
baz=30,SNR=16
WHTX Lake Whitney, 57.41 277 P **P** **10 32 19.2 -1.4**
baz=30
WHTX Lake Whitney, 57.41 277 P **P** **10 32 20.4 -0.2**
WHTX IAmb IAmb 10 32 24.1
comp=Z,44nm,1.4s
WHTX IAMs_20 IAMs_20 10 55 18.0
comp=Z,2µm,20.0s
CNBA Chernabura Isl 57.52 335 P **P** **10 32 21.0 0.0**
CNBA IAMs_20 IAMs_20 10 57 42.5
comp=Z,3µm,22.0s
MVCO Mesa Verde 57.59 289 P **P** **10 32 21.9 -0.2**
baz=31,SNR=12
MVCO Mesa Verde 57.59 289 P **P** **10 32 20.8 -1.3**
MVCO IAmb IAmb 10 32 30.5
comp=Z,32nm,1.4s
J04D Umpqua Nationa 57.67 303 P **P** **10 32 19.0 -3.6**
baz=30
K05A Summer Lake 57.67 302 P **P** **10 32 23.1 +0.6**
I03D Drain, OR 57.72 304 P **P** **10 32 19.0 -3.6**
baz=29
ABTX Abilene, Hawle 57.81 279 P **P** **10 32 22.3 -1.1**
baz=30,SNR=8.1
ABTX Abilene, Hawle 57.81 279 P **P** **10 32 23.8 +0.3**
ABTX IAmb IAmb 10 32 26.6
comp=Z,42nm,1.2s
SDDR Presa de Saban 57.81 245 P **P** **10 32 24.0 +0.4**
KBL Kabul 57.92 76 P **P** **10 32 25.9 +1.5**
SNR=8.5
KBL Kabul 57.92 76 P **P** **10 32 23.5 -0.9**
KBL pmax pmax
comp=Z,57nm,1.9s
KBL MLR MLR
comp=Z,3µm,20.0s
KBL Kabul 57.92 76 P **P** **10 32 23.5 -0.9**
KBL IAmb IAmb 10 32 26.4
comp=Z,57nm,1.9s
KBL IAMs_20 IAMs_20 10 57 47.2
comp=Z,3µm,20.0s
MSU Marysvale 57.96 293 P **P** **10 32 24.6 -0.1**
MSU Marysvale 57.96 293 P **P** **10 32 24.6 -0.1**
FDF Fort de France 57.98 232 P **P** **10 32 24.4 -0.4**
FDF pmax pmax
comp=Z,103nm,1.1s

FDF Fort de France 57.98 232 P P 10 32 24.4 -0.4
FDF IAMs_20 IAMs_20 10 53 43.8
comp=Z,2µm,19.0s
MVU Marysvale 57.98 293 P P 10 32 24.4 -0.5
MSTX Muleshoe 57.98 282 P P 10 32 24.1 -0.7
baz=30,SNR=12
MSTX Muleshoe 57.98 282 P P 10 32 26.3 +1.6
MSTX IAmb IAmb 10 32 28.2
comp=Z,23nm,1.1s
MSTX IAMs_20 IAMs_20 10 56 07.8
comp=Z,2µm,21.0s
TCRU Three Creeks R 57.98 293 P P 10 32 24.7 -0.1
MOD Modoc Plateau 58.17 301 P P 10 32 24.7 -1.3
J01E Myrtle Point 58.39 305 P P 10 32 23.8 -3.6
baz=29
DBIC Dimbokro 58.41 165 P P 10 32 25.9 -1.8
comp=Z,23nm,1.1s,baz=335,slow=7.7,SNR=7.0
DBIC LR LR 10 58 15.2
comp=Z,3µm,18.8s,baz=341,slow=37
DBIC Dimbokro 58.41 165 P P 10 32 26.5 -1.2
DBIC pmax pmax
comp=Z,48nm,1.3s
DBIC Dimbokro 58.41 165 P P 10 32 26.5 -1.2
DBIC IAmb IAmb 10 32 29.2
comp=Z,48nm,1.2s
TIC Toumodi 58.41 166 eP P 10 32 25.3 -2.5
HKT Hockley 58.47 274 d iP P 10 32 26.5 -1.5
HKT pmax pmax
comp=Z,25nm,2.2s
HKT Hockley 58.47 274 IAMs_20 IAMs_20 10 58 27.9
comp=Z,2µm,18.0s
GTBY Guantanamo Bay 58.48 249 IAMs_20 IAMs_20 10 53 22.0
comp=Z,3µm,20.0s
435B Jarrell 58.51 276 P P 10 32 26.7 -1.6
baz=30
435B Jarrell 58.51 276 P P 10 32 28.0 -0.3
435B IAMs_20 IAMs_20 10 57 03.0
comp=Z,3µm,18.0s
HUMO Hull Mountain 58.53 304 IAMs_20 IAMs_20 10 58 32.2
comp=Z,2µm,18.0s
PSUT Pine Spring 58.61 294 P P 10 32 28.7 -0.5
L04D Klamath Falls 58.63 303 P P 10 32 26.7 -2.5
baz=29
ANMO Albuquerque 58.69 286 P P 10 32 28.9 -0.9
baz=30
ANMO Albuquerque 58.69 286 d iP P 10 32 30.0 +0.2
ANMO Albuquerque 58.69 286 P P 10 32 30.6 +0.9
K02D Willamette Mer 58.70 304 P P 10 32 27.4 -2.2
baz=29
KIC Kosan Boka 58.72 165 eP P 10 32 27.7 -2.2
comp=Z,214nm,1.8s
LIC Lamto 58.83 166 eP P 10 32 29.2 -1.4
comp=Z,146nm,1.4s
M04C Macdoel 58.84 302 P P 10 32 30.2 -0.5
baz=29
BBGH Gun Hill 58.92 230 IAMs_20 IAMs_20 10 53 14.0
comp=Z,3µm,20.0s
ZEA Zeya 58.98 24 eP P 10 32 31.7 +0.5
ZEA eS S 10 40 46.3 +9.2
ZEA e 10 40 56.9
ZEA eSS **SS 10 44 32.4 +2.6**
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZEA pmax pmax
comp=E,100nm,5.2s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA smax smax
comp=Z,200nm,5.1s
ZEA smax smax
comp=E,200nm,5.7s
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
SZCU Shurtz Canyon 59.11 293 P P 10 32 32.3 -0.4
L02E Cave Junction 59.15 304 P P 10 32 30.2 -2.4
baz=29
YBH Yreka Blue Hor 59.20 303 LR LR 10 58 33.6
comp=Z,3µm,18.3s,baz=28,slow=36
YBH Yreka Blue Hor 59.20 303 P P 10 32 33.4 +0.3
YBH pmax pmax
comp=Z,16nm,1.6s
YBH MLR MLR
comp=Z,2µm,18.0s
YBH Yreka Blue Hor 59.20 303 P P 10 32 33.4 +0.3
YBH IAMs_20 IAMs_20 10 58 23.0
comp=Z,2µm,18.0s
CCUT Cedar City 59.26 293 P P 10 32 33.4 -0.4
KBO Bosley Butte 59.33 304 IAMs_20 IAMs_20 10 58 21.3
comp=Z,3µm,20.0s
BNM Barren Site 59.45 286 P P 10 32 34.7 -0.4
R11A Troy Canyon, C 59.45 295 P P 10 32 34.5 -0.5
baz=30,SNR=31
R11A Troy Canyon, C 59.45 295 P P 10 32 34.0 -1.0
R11A IAmb IAmb 10 32 39.4
comp=Z,27nm,1.4s
KNB Kanab 59.51 292 P P 10 32 35.3 -0.1
KNB pmax pmax
comp=Z,30nm,1.2s
KNB Kanab 59.51 292 P P 10 32 35.3 -0.1
Y22D IRIS PASSCAL I 59.64 286 P P 10 32 35.7 -0.6
baz=30
Y22D IRIS PASSCAL I 59.64 286 P P 10 32 37.9 +1.6
Y22D IAMs_20 IAMs_20 10 57 37.4
comp=Z,2µm,18.0s
LCMT Little Creek M 59.68 293 P P 10 32 35.3 -1.3
SHME Shamm 59.72 93 i P P 10 32 36.6 -0.2
SNR=5.4
JCT Junction City 59.73 278 P P 10 32 36.2 -0.6
baz=30,SNR=24
JCT Junction City 59.73 278 P P 10 32 36.8 0.0
JCT pmax pmax
comp=Z,58nm,1.2s
JCT Junction City 59.73 278 P P 10 32 36.8 0.0
JCT IAMs_20 IAMs_20 10 57 03.1
comp=Z,3µm,20.0s
PAHR Pah Rah Range 59.73 299 P P 10 32 36.5 -0.4
PAHR IAmb IAmb 10 32 41.0
comp=Z,33nm,1.3s
SONM Songino Array 59.74 40 P P 10 32 36.1 -0.7
comp=Z,3.6nm,0.9s,baz=324,slow=7.2,SNR=17
SONM PP **PP 10 34 50.1 +2.1**
comp=Z,3.0nm,1.1s,baz=334,slow=8.5,SNR=3.7
SONM LR LR 11 00 44.5
comp=Z,4µm,20.0s,baz=337,slow=38
SONM Songino Array 59.74 40 P P 10 32 35.1 -1.7
U15A North Rim 59.80 292 IAMs_20 IAMs_20 10 57 07.6
comp=Z,2µm,20.0s
KVN Kaiserville 59.81 298 P P 10 32 37.8 +0.3
KVN pmax pmax
comp=Z,21nm,1.0s
KVN MLR MLR
comp=Z,9µm,18.0s
KVN Kaiserville 59.81 298 P P 10 32 37.8 +0.3
KVN IAmb IAmb 10 32 40.6
comp=Z,21nm,1.0s
N02D Trinity Center 59.86 302 P P 10 32 36.1 -1.6
baz=29,SNR=8.0
ULN Ulaanbaatar 59.89 40 de P P 10 32 37.3 -0.6
ULN pmax pmax
comp=Z,60nm,2.5s
ULN Ulaanbaatar 59.89 40 P P 10 32 36.8 -1.0
ULN IAmb IAmb 10 32 46.3
comp=Z,21nm,1.2s
BANOM Banah 59.90 93 i P P 10 32 38.2 +0.2
SNR=5.4
W18A Petrified Fore 59.90 289 P P 10 32 34.3 -3.8
baz=30
UMQ Umm Al-Quwin 59.97 93 P P 10 32 38.5 0.0
O03E Paynes Creek 60.12 301 P P 10 32 37.0 -2.4
baz=29
WUAZ Wupatki 60.22 290 P P 10 32 39.2 -1.1
baz=30,SNR=30
WUAZ Wupatki 60.22 290 P P 10 32 38.1 -2.2
WUAZ IAmb IAmb 10 32 47.0
comp=Z,40nm,1.1s
WUAZ IAMs_20 IAMs_20 11 00 28.7
comp=Z,2µm,18.0s
735A Kenedy 60.27 275 IAMs_20 IAMs_20 10 58 37.8
comp=Z,2µm,18.0s
YERR Yerington 60.31 299 P P 10 32 39.4 -1.5
YERR IAmb IAmb 10 32 44.4
comp=Z,32nm,1.1s

KHMM Horse Mountain 60.32 303 IAMs_20 IAMs_20 10 58 52.7
comp=Z,2µm,18.0s
TPH Tonopah 60.33 296 P P 10 32 40.9 -0.1
TPH Tonopah 60.33 296 P P 10 32 40.9 -0.1
MSFE Esma-Masafi 60.33 93 i P P 10 32 41.1 +0.1
SNR=6.5
PNTR Pine Nut 60.35 299 P P 10 32 41.2 0.0
PNTR IAmb IAmb 10 32 51.0
comp=Z,49nm,1.7s
NV11 Mina Array Sit 60.37 297 IAmb IAmb 10 32 50.4
comp=Z,40nm,1.9s
NVAR Mina Array Bea 60.43 298 P P 10 32 41.6 -0.2
comp=Z,4.2nm,0.9s,baz=49,slow=4.5,SNR=26
NVAR LR LR 10 58 52.2
comp=Z,9µm,19.1s,baz=24,slow=36
NVAR Mina Array Bea 60.43 298 P P 10 32 41.3 -0.4
NAZ Nazwa, Dubai 60.44 94 i P P 10 32 41.5 -0.2
SNR=8.3
NAZ Nazwa, Dubai 60.44 94 P P 10 32 43.0 +1.3
SNR=6.0
MDH Madha 60.44 93 i P P 10 32 41.6 -0.1
SNR=13
MDH Madha 60.44 93 P P 10 32 44.0 +2.3
SNR=5.8
NIL Nilore 60.45 74 P P 10 32 40.5 -1.2
NIL pmax pmax
comp=Z,64nm,1.3s
NIL MLR MLR
comp=Z,2µm,19.0s
NIL Nilore 60.45 74 P P 10 32 40.5 -1.2
NIL Nilore 60.45 74 IAMs_20 IAMs_20 11 00 05.2
comp=Z,2µm,19.0s
O02D Mt. Diablo Mer 60.59 302 P P 10 32 41.2 -1.4
baz=28
RUBR Rubicon Trail 60.59 299 P P 10 32 42.2 -0.7
RUBR IAmb IAmb 10 32 52.4
comp=Z,67nm,2.0s
ORV Oroville 60.66 301 P P 10 32 41.9 -1.1
ORV pmax pmax
comp=Z,45nm,2.0s
ORV MLR MLR
comp=Z,8µm,19.0s
ORV Oroville 60.66 301 P P 10 32 41.9 -1.1
ORV IAmb IAmb 10 32 51.6
comp=Z,46nm,2.0s
LHV Little Huntoon 60.66 298 IAmb IAmb 10 32 51.3
comp=Z,38nm,1.7s
UOSS Minazif 60.71 93 i P P 10 32 43.1 -0.4
SNR=10
UOSS Minazif 60.71 93 P P 10 32 43.2 -0.4
UOSS IAmb IAmb 10 32 45.0
comp=Z,50nm,1.5s
HATD Hatta, Dubai 60.78 93 i P P 10 32 43.8 -0.2
SNR=8.4
HATD Hatta, Dubai 60.78 93 P P 10 32 46.0 +1.9
SNR=16
WAKR Walker 60.80 298 P P 10 32 44.5 +0.3
WAKR IAmb IAmb 10 32 54.0
comp=Z,47nm,1.8s
ASHO Ashiyiah 60.88 94 i P P 10 32 44.3 -0.4
SNR=8.0
ASHO Ashiyiah 60.88 94 P P 10 32 46.0 +1.2
SNR=12
SHPR Sheep Range 60.88 294 P P 10 32 43.9 -0.9
SHPR IAmb IAmb 10 32 55.9
comp=Z,61nm,1.7s
KMRM Mail Ridge 60.89 303 P P 10 32 43.8 -0.9
KMRM IAmb IAmb 10 32 53.2
comp=Z,59nm,1.6s
KMRM IAMs_20 IAMs_20 10 59 10.1
comp=Z,3µm,20.0s
TPNV Topopah Spring 60.92 295 P P 10 32 44.8 -0.3
baz=29,SNR=16
TPNV Topopah Spring 60.92 295 P P 10 32 44.7 -0.4
TPNV pmax pmax
comp=Z,59nm,1.8s
TPNV MLR MLR
comp=Z,5µm,19.0s
TPNV Topopah Spring 60.92 295 P P 10 32 44.7 -0.4
TPNV IAmb IAmb 10 32 53.2
comp=Z,59nm,1.8s
AFDM Forest Hills D 60.99 300 P P 10 32 44.0 -1.3
MNTX Cornudas Mount 61.05 283 P P 10 32 45.2 -0.5
baz=30,SNR=17
MNTX Cornudas Mount 61.05 283 P P 10 32 44.7 -1.1
MNTX IAMs_20 IAMs_20 10 58 29.8
comp=Z,2µm,18.0s
X16A Lo Mia Camp, P 61.20 290 P P 10 32 46.7 -0.3
X16A IAmb IAmb 10 32 50.9
comp=Z,29nm,1.2s
X16A IAMs_20 IAMs_20 10 59 03.7
comp=Z,2µm,18.0s
ALNE Al Ain 61.29 94 i P P 10 32 47.7 +0.1
SNR=9.5
GRAC Grapevine Rang 61.32 296 P P 10 32 46.4 -1.2
baz=29
121A Cookes Peak, D 61.33 286 P P 10 32 48.0 +0.1
baz=29,SNR=9.8
121A Cookes Peak, D 61.33 286 P P 10 32 48.9 +1.0
121A IAmb IAmb 10 33 38.0
comp=Z,24nm,1.2s
121A IAMs_20 IAMs_20 10 58 41.3
comp=Z,2µm,19.0s
OMMB Old Mammoth Mi 61.41 298 P P 10 32 47.6 -1.0
OMMB IAmb IAmb 10 32 53.2
comp=Z,29nm,1.4s
833A Chaparral WMA, 61.42 276 P P 10 32 46.7 -1.7
baz=29
833A Chaparral WMA, 61.42 276 P P 10 32 48.4 +0.1
MDPB Devils Postpil 61.43 298 P P 10 32 48.2 -0.4
MDPB IAmb IAmb 10 32 52.4
comp=Z,16nm,1.1s
SOHO SOHO 61.56 93 i P P 10 32 49.3 0.0
SNR=9.2
CMB Columbia Colle 61.57 299 P P 10 32 48.1 -1.2
CMB pmax pmax
comp=Z,24nm,1.8s
CMB MLR MLR
comp=Z,4µm,19.0s
CMB Columbia Colle 61.57 299 P P 10 32 48.1 -1.2
FURC Furnace Creek, 61.59 295 P P 10 32 48.9 -0.5
baz=29,SNR=8.1
W13A Hualapai Mount 61.60 292 P P 10 32 48.9 -0.8
W13A IAmb IAmb 10 32 59.1
comp=Z,29nm,1.9s
W13A IAMs_20 IAMs_20 10 58 15.0
comp=Z,3µm,22.0s
HIA Hailar 61.75 30 IAMs_20 IAMs_20 11 00 05.0
comp=Z,2µm,19.0s
GDXM Geysers 61.80 301 P P 10 32 51.2 +0.4
SHOC Shoshone, Teco 61.85 295 P P 10 32 50.8 -0.4
baz=29,SNR=9.0
MPMC Manual Prospec 62.19 296 P P 10 32 52.4 -1.2
baz=29,SNR=13
Y14A Wickenburg 62.25 291 IAMs_20 IAMs_20 10 59 12.5
comp=Z,2µm,20.0s
TX31 Lajitas Ar. Si 62.37 280 P P 10 32 55.1 +0.3
TX32 Lajitas Array 62.37 280 P P 10 32 55.0 +0.2
TX32 IAmb IAmb 10 33 35.9
comp=Z,23nm,1.5s
TXAR Lajitas Array 62.37 280 P P 10 32 54.9 +0.1
comp=Z,7.4nm,1.0s,baz=50,slow=4.3,SNR=44
TXAR LR LR 10 59 35.8
comp=Z,5µm,18.8s,baz=0.0,slow=36
TXAR Lajitas Array 62.37 280 P P 10 32 53.2 -1.6
HOQ Hoqain 62.38 93 P P 10 32 56.0 +1.1
SNR=5.3
GMRC Granite Mounta 62.58 293 P P 10 32 56.4 +0.2
baz=29,SNR=14
GSC Goldstone, Bar 62.58 295 P P 10 32 55.7 -0.4
baz=29,SNR=7.8
GSC Goldstone, Bar 62.58 295 P P 10 32 55.7 -0.4
GSC pmax pmax
comp=Z,53nm,1.9s
GSC MLR MLR
comp=Z,4µm,18.0s
GSC Goldstone, Bar 62.58 295 P P 10 32 55.7 -0.4
GSC IAmb IAmb 10 33 09.9
comp=Z,53nm,1.9s
PEA0B Petropavlovsk- 62.67 3 j eP P 10 32 55.1 -1.3
PETK Petropavlovsk- 62.67 3 P P 10 32 57.4 +1.0
comp=Z,13nm,1.1s,baz=52,slow=9.3,SNR=6.1
PETK Petropavlovsk- 62.67 3 P P 10 32 55.6 -0.8
PETK Petropavlovsk- 62.67 3 P P 10 32 55.6 -0.8
TUC Tucson 62.77 288 P P 10 32 57.4 0.0
baz=29

TUC Tucson 62.77 288 P P 10 32 57.2 -0.2
TUC pmax pmax
comp=Z,25nm,1.3s
TUC MLR MLR
comp=Z,3µm,18.0s
TUC Tucson 62.77 288 P P 10 32 57.1 -0.2
TUC IAmb IAmb 10 33 01.6
comp=Z,25nm,1.2s
PET Petropavlovsk 62.78 3 eP P 10 32 58.5 +1.4
PET eS **S 10 41 20.5 -5.0**
BIDO Bidbid 62.79 92 P P 10 32 60.0 +2.4
SNR=6.0
HEC Hector,Ludlow 62.81 294 P P 10 32 56.7 -1.0
baz=29,SNR=8.9
ISA Isabella, Lake 62.92 296 P P 10 32 57.8 -0.6
baz=28,SNR=14
ISA Isabella, Lake 62.92 296 IAmb IAmb 10 33 08.1
comp=Z,42nm,1.6s
DHRM DHARAMSHALA 62.92 72 eP P 10 32 59.9 +1.2
IRM Iron Mountain 62.92 293 P P 10 32 58.2 -0.2
baz=29,SNR=16
BSY Bisya 63.07 94 P P 10 32 60.0 +0.5
SNR=7.0
SMDO Samad 63.16 93 P P 10 33 01.0 +0.8
SNR=7.2
BELC Belle Mtn. Jos 63.40 293 P P 10 33 01.7 0.0
baz=28,SNR=21
EDW2 Edwards Air Fo 63.42 295 P P 10 33 01.7 +0.1
baz=28,SNR=8.6
BC3 Big Chuckawall 63.48 293 P P 10 33 01.4 -0.9
baz=28,SNR=10.0
113A Mohawk Valley, 63.58 291 IAMs_20 IAMs_20 11 00 23.7
comp=Z,1µm,19.0s
TEIG Tepich 63.72 262 eP P 10 33 04.1 +0.4
TEIG Tepich 63.72 262 IAMs_20 IAMs_20 10 59 30.5
comp=Z,2µm,20.0s
GLA Glamis 63.76 292 P P 10 33 01.9 -2.1
baz=28
GLA Glamis 63.76 292 P P 10 33 03.6 -0.4
GLA pmax pmax
comp=Z,101nm,1.9s
GLA Glamis 63.76 292 P P 10 33 03.5 -0.4
GLA IAMs_20 IAMs_20 10 59 30.4
comp=Z,2µm,21.0s
214A Organ Pipe Nat 63.91 290 IAmb IAmb 10 33 11.8
comp=Z,23nm,1.4s
214A IAMs_20 IAMs_20 11 00 37.8
comp=Z,2µm,20.0s
XPFO Pion Flat 63.92 293 P P 10 33 05.5 +0.3
PFO Pinyon Flats O 63.92 293 P P 10 33 06.4 +1.3
PFO pmax pmax
comp=Z,10.0nm,1.2s
PFO MLR MLR
comp=Z,4µm,18.0s
PFO Pinyon Flats O 63.92 293 P P 10 33 06.4 +1.3
MWC Mount Wilson 64.02 295 P P 10 33 05.8 0.0
MWC pmax pmax
comp=Z,17nm,1.4s
MWC MLR MLR
comp=Z,4µm,19.0s
MWC Mount Wilson 64.02 295 P P 10 33 05.8 0.0
SMLA Simla 64.26 72 eP P 10 33 06.0 -1.2
SMLA IAmb IAmb 10 33 10.1
comp=Z,50nm,1.5s
UABX UABC, Campus M 64.38 292 IAMs_20 IAMs_20 10 59 02.7
comp=Z,2µm,21.0s
PIX Pinacate 64.52 290 P P 10 33 08.3 -0.6
PIX IAmb IAmb 10 33 11.2
comp=Z,28nm,1.6s
MONP2 Monument Peak 64.54 293 P P 10 33 10.0 +0.7
baz=28,SNR=11
IKP In-Ko-Pah, Jac 64.63 293 P P 10 33 10.5 +0.7
baz=28,SNR=6.8
RMX La Rumorosa 64.66 293 P P 10 33 09.6 -0.4
RMX IAmb IAmb 10 33 18.2
comp=Z,23nm,1.3s
RMX IAMs_20 IAMs_20 11 03 32.7
comp=Z,2µm,21.0s
URIC Uribia, Colomb 64.71 242 eP P 10 33 02.9 -7.4
109C Camp Elliot, M 64.81 294 P P 10 33 11.7 +0.9
BAR Barrett 64.83 293 P P 10 33 11.4 +0.4
BAR IAmb IAmb 10 33 18.9
comp=Z,25nm,1.4s
ESJX Sierra Juarez 65.13 292 P P 10 33 13.4 +0.3
ESJX IAMs_20 IAMs_20 11 00 27.6
comp=Z,2µm,21.0s
DDI Dehra Dun 65.33 71 eP P 10 33 15.6 +1.4
GTA Gaotai 65.37 49 P P 10 33 15.4 +0.9
GTA pP sP 10 33 19.6 -0.1
GTA sP pP 10 33 22.4 +4.1
GTA S **S 10 42 02.8 +4.4**
GTA SS **SS 10 46 12.2 +1.7**
GTA pmax pmax
comp=Z,22nm,1.8s
GTA pmax pmax
comp=Z,520nm,4.9s
GTA LR LR
comp=Z,1µm,19.3s
GTA LR LR
comp=Z,1µm,19.6s
GTA LR LR
comp=Z,2µm,18.5s
CCX Cicese 65.54 293 IAMs_20 IAMs_20 11 00 50.3
comp=Z,2µm,22.0s
65.71 286 P P 10 33 15.8 -0.9
HSIG IAmb IAmb 10 33 19.4
comp=Z,17nm,1.0s
HSIG IAMs_20 IAMs_20 11 03 23.2
comp=Z,2µm,19.0s
SPX San Pedro Mart 65.79 291 P P 10 33 16.9 -0.7
SPX IAmb IAmb 10 33 24.5
comp=Z,30nm,1.4s
SMRC Santa Marta, M 66.06 244 eP P 10 33 19.9 +0.9
SHAO Shalim 66.56 97 P P 10 33 21.2 -1.1
SDV Santo Domingo 66.78 240 eP P 10 33 23.1 -0.8
SDV Santo Domingo 66.78 240 P P 10 33 22.3 -1.6
SDV Santo Domingo 66.78 240 eP P 10 33 25.6 +1.7
ARGC Ariguani, Magd 67.27 243 eP P 10 33 25.8 -0.9
PETF Flores 67.34 262 IAMs_20 IAMs_20 11 03 30.4
comp=Z,1µm,20.0s
BTO Baotou 67.41 41 eP P 10 33 27.0 -0.5
SOCV Socops 67.42 239 eP P 10 33 24.8 -2.9
SJCC San Jacinto, C 67.59 244 eP P 10 33 29.9 +1.0
HHC Hu-ho-hao-te 67.61 40 eP P 10 33 24.6 -4.2
HHC PP **PP 10 35 55.3 -1.9**
HHC S **S 10 42 19.1 -6.3**
HHC SS **SS 10 46 41.2 -3.9**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,450nm,7.8s
HHC LR LR
comp=Z,550nm,19.7s
HHC LR LR
comp=Z,1µm,17.7s
HHC LR LR
comp=Z,710nm,19.6s
ZAIG Zacatecas 67.65 276 P P 10 33 30.1 +0.7
ZAIG IAmb IAmb 10 33 40.1
comp=Z,28nm,1.3s
ZAIG IAMs_20 IAMs_20 11 02 18.0
comp=Z,2µm,21.0s
YSS Yuzh-Sakhalins 67.81 15 j eP P 10 33 29.3 -0.4
YSS e 10 33 54.4
YSS eS **S 10 42 26.2 -1.1**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,400nm,9.2s
YSS smax smax
comp=N,300nm,10.9s
YSS smax smax
comp=E,200nm,6.3s
YSS MLR MLR
comp=Z,600nm,15.0s
BHUJ Bhuj 68.00 82 eP P 10 33 32.4 +1.1
ELOV Elorza 68.09 238 eP P 10 33 31.2 -0.7
CN2 Changchun 68.16 28 eP P 10 33 32.2 +0.1
CN2 eS **S 10 42 36.6 +4.9**
CN2 SS **SS 10 46 47.6 -5.6**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,1µm,17.0s

CN2 LR LR
comp=Z,800nm,17.0s
CN2 LR LR
comp=Z,2µm,19.0s
SMLC San Martn de 68.16 243 eP P 10 33 31.7 -0.7
MDJ Mudanjiang 68.18 25 IAMs_20 IAMs_20 11 05 50.1
comp=Z,1µm,18.0s
OCAC Ocana 68.39 242 eP P 10 33 25.3 -8.7
TGUH Tegucigalpa,Un 68.78 258 eP P 10 33 34.7 -1.7
MOTC Monteria, Cord 68.80 244 eP P 10 33 35.0 -1.4
CCIG Comitan 68.88 263 IAMs_20 IAMs_20 11 01 25.1
comp=Z,2µm,22.0s
PAMC Pamplona, Colo 68.98 241 eP P 10 33 37.4 -0.7
USRK Ussuriysk Ar. 69.00 23 P P 10 33 36.9 -0.4
comp=Z,3.9nm,1.0s,baz=325,slow=4.2,SNR=3.2
USRK LR LR 11 05 57.6
comp=Z,805nm,18.1s,baz=329,slow=38
USRK Ussuriysk Ar. 69.00 23 P P 10 33 36.7 -0.6
ESPN Las Esperanzas 69.20 254 IAMs_20 IAMs_20 11 03 03.1
comp=Z,1µm,18.0s
HUEH Huehuetenango 69.46 262 IAMs_20 IAMs_20 11 03 21.6
comp=Z,1µm,20.0s
TAMC Tame, Arauca 69.47 240 eP P 10 33 39.6 -0.9
BRRC Barranca, Sant 69.58 242 eP P 10 33 40.1 -1.1
CAPC Capurgana 69.60 246 eP P 10 33 37.8 -3.5
BJI Beijing 69.60 36 P P 10 33 41.9 +0.9
BJI S S 10 42 51.5 +2.7
BJI pmax pmax
comp=Z,13nm,1.6s
BJI pmax pmax
comp=Z,450nm,5.1s
BJI LR LR
comp=Z,3µm,17.5s
BJI LR LR
comp=Z,1µm,17.1s
BJI LR LR
comp=Z,2µm,18.4s
ZARC Zaragoza, Cauc 69.67 243 eP P 10 33 40.4 -1.3
UREC San Jos de Ur 69.69 244 eP P 10 33 40.0 -1.9
LZH Lanzhou 69.70 48 eP P 10 33 42.1 +0.1
LZH pP sP 10 33 46.8 -0.4
LZH sP pP 10 33 49.4 +3.6
LZH S S 10 42 49.6 -0.9
LZH sS sS 10 42 57.2 +0.4
LZH SS SS 10 47 15.6 -2.1
LZH pmax pmax
comp=Z,39nm,1.5s
LZH pmax pmax
comp=Z,150nm,4.6s
LZH LR LR
comp=Z,1µm,15.9s
LZH LR LR
comp=Z,2µm,16.6s
LZH LR LR
comp=Z,2µm,17.3s
ACON Acoyapa 69.77 255 IAMs_20 IAMs_20 11 01 09.1
comp=Z,2µm,21.0s
PTBC PUERTO BERRIO, 70.38 242 eP P 10 33 46.5 +0.3
RUSC La Rusia 70.45 241 eP P 10 33 46.0 -1.2
TLIG Tlapa 70.52 270 P P 10 33 46.6 -0.5
TLIG IAmb IAmb 10 33 54.4
comp=Z,28nm,1.2s
JKA Kamikawa-asahi 70.59 15 IAMs_20 IAMs_20 11 07 58.0
comp=Z,1µm,19.0s
DBBC Dabeiba 70.62 244 eP P 10 33 45.4 -2.4
SPBC San Pablo de B 71.05 242 eP P 10 33 49.5 -0.8
LSA Lhasa 71.05 61 P P 10 33 52.9 +2.2
HDC Heredia 71.10 253 IAMs_20 IAMs_20 11 01 48.3
comp=Z,2µm,21.0s
BHPL Bhopal 71.31 75 eP P 10 33 51.7 -0.1
MALB Monte Alegre 71.51 219 eP P 10 33 54.5 +1.6
AZU Azuero 71.53 248 eP P 10 33 50.3 -2.8
CBOC Ciudad Bolivar 71.60 244⇓eP P 10 33 53.3 -0.4
LODK Lodwar 71.63 123 P P 10 33 56.3 +2.5
SNR=10
PTGC Puerto Gaitan, 71.66 239 eP P 10 33 54.3 +0.4
CHIC Chingaza 71.86 241 eP P 10 33 52.7 -2.8
ROSC El Rosal 71.89 241 P P 10 33 55.8 +0.1
comp=Z,17nm,0.6s,baz=68,slow=3.9,SNR=16
ROSC El Rosal 71.89 241 eP P 10 33 54.6 -1.1
ROSC El Rosal 71.89 241 P P 10 33 55.0 -0.8
ROSC IAMs_20 IAMs_20 11 01 23.4
comp=Z,2µm,22.0s
GUY2C Guyana, Caldas 71.94 243 eP P 10 33 56.6 +0.5
DL2 Dalian 72.01 33 P P 10 33 56.5 +0.8
DL2 S S 10 43 20.4 +3.6
DL2 pmax pmax
comp=Z,450nm,4.2s
DL2 LR LR
comp=Z,2µm,17.1s
DL2 LR LR
comp=Z,930nm,16.7s
DL2 LR LR
comp=Z,3µm,18.9s
GTK Tadong 72.21 64 eP P 10 33 58.8 +1.5
RREF El Recreo 72.23 243 eP P 10 33 52.9 -5.1
VILC Villavicencio, 72.32 241 eP P 10 33 55.5 -2.5
TOLC Tolima 72.50 242 eP P 10 33 59.2 -0.1
PLMC San Jos del P 72.58 243 eP P 10 33 58.3 -1.2
ANIL Santa Ana 72.62 242⇑eP P 10 34 01.4 +1.4
ORTC Ortega, Tolima 73.10 242 eP P 10 33 59.1 -3.4
PRAC Prado 73.14 242 eP P 10 34 03.1 +0.4
XAN Xi'an 73.18 44 P P 10 34 02.7 -0.1
XAN sP sP 10 34 09.9 +1.9
XAN PcP PcP 10 34 20.0 +0.6
XAN PP PP 10 36 44.4 -0.7
XAN S S 10 43 29.9 -0.6
XAN ScS SKSac 10 44 06.8 -1.8
XAN SS SS 10 48 10.8 +0.1
XAN pmax pmax
comp=Z,23nm,2.2s
XAN pmax pmax
comp=Z,680nm,6.8s
XAN LR LR
comp=Z,3µm,23.0s
XAN LR LR
comp=Z,1µm,21.6s
XAN LR LR
comp=Z,4µm,23.5s
XAN Xi'an 73.18 44 P P 10 34 01.9 -0.9
XAN pmax pmax
comp=Z,87nm,1.9s
XAN MLR MLR
comp=Z,2µm,19.0s
XAN Xi'an 73.18 44 P P 10 34 01.9 -0.9
XAN Xi'an 73.18 44 IAMs_20 IAMs_20 11 10 17.7
comp=Z,2µm,19.0s
YOTC Yotoco, Valle 73.45 243 eP P 10 34 02.2 -2.5
TIA Tai'an 73.45 37 P P 10 34 05.3 +0.9
TIA pmax pmax
comp=Z,15nm,2.1s
TIA pmax pmax
comp=Z,430nm,4.7s
TIA LR LR
comp=Z,1µm,21.2s
TIA LR LR
comp=Z,460nm,21.6s
TIA LR LR
comp=Z,2µm,20.1s
MACC Macarena, Meta 74.19 240 eP P 10 34 00.6 -8.3
BOK Bokaro 74.29 68 eP P 10 34 10.0 +0.5
BOK IAmb IAmb 10 34 16.4
comp=Z,16nm,1.0s
BETC Betania 74.30 242 eP P 10 34 10.7 +1.1
ITTB Itaituba 74.32 220 eP P 10 34 11.4 +1.8
MARP Paez Belalcaza 74.35 242 eP P 10 34 09.2 -0.9
CD2 Chengdu 74.43 50 P P 10 34 08.9 -1.3
CD2 sP sP 10 34 17.0 +1.6
CD2 S S 10 43 44.6 -0.1
CD2 SKS SKSac 10 44 12.7 -5.4
CD2 SS SS 10 48 23.1 -6.9
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,430nm,4.7s
CD2 LR LR
comp=Z,2µm,19.4s
CD2 LR LR
comp=Z,1µm,15.1s
CD2 LR LR
comp=Z,3µm,16.3s
TEZP TEZPUR 74.45 61 eP P 10 34 11.1 +0.8
TEZP IAmb IAmb 10 34 16.4
comp=Z,25nm,1.1s
INCN Inchon 74.48 29 IAMs_20 IAMs_20 11 08 02.0

comp=Z,2µm,21.0s
MACA Manacapuru-AM 74.62 225 eP P 10 34 13.4 +2.0
GARC Garzon, Huila 74.77 242 eP P 10 34 11.0 -1.5
KSRS Korea Array 74.78 28 P P 10 34 12.7 +0.6
comp=Z,3.1nm,1.1s,baz=6.8,slow=4.3,SNR=6.7
KSRS LR LR 11 10 31.5
comp=Z,1µm,18.4s,baz=338,slow=38
PCON Cinco Dias 74.99 242 eP P 10 34 12.7 -1.5
SHL Shillong 75.05 62 eP P 10 34 13.8 -0.2
SHL IAmb IAmb 10 34 19.4
comp=Z,20nm,1.2s
SHL Shillong 75.05 62 P P 10 34 14.5 +0.5
SNR=9.8
SHL Shillong 75.05 62 P P 10 34 12.4 -1.7
SHL pmax pmax
comp=Z,76nm,1.7s
SHL MLR MLR
comp=Z,2µm,19.0s
SHL Shillong 75.05 62 P P 10 34 12.4 -1.7
SHL IAmb IAmb 10 34 15.2
comp=Z,76nm,1.7s
FLOC Florencia 75.39 241 eP P 10 34 11.6 -4.3
BBAC Balboa, Cauca 75.60 243 eP P 10 34 17.4 +0.1
KOHI KOHIMA 75.76 60 eP P 10 34 18.7 +0.6
AGT Agartala 76.33 63 eP P 10 34 22.7 +1.6
GCUF Volcan Galeras 76.36 243 eP P 10 34 22.0 0.0
KMBO Kilima Mbogo 76.52 123 LR LR 11 11 22.9
comp=Z,1µm,19.4s,baz=285,slow=38
KMBO Kilima Mbogo 76.52 123 IAMs_20 IAMs_20 11 11 29.2
comp=Z,1µm,19.0s
PUAC Puerto Asis, P 76.69 242 eP P 10 34 22.2 -1.0
NPGB Novo Progresso 76.77 219 eP P 10 34 24.9 +1.3
ENH Enshi 76.85 45 P P 10 34 23.0 -1.1
HYB Hyderabad 76.97 77 i P P 10 34 24.0 -0.8
MJAR Matsushiro Arr 77.47 20 P P 10 34 26.8 -0.7
comp=Z,4.0nm,1.0s,baz=350,slow=6.1,SNR=5.2
MJAR Matsushiro Arr 77.47 20 P P 10 34 26.7 -0.7
CUSE Cuicocha Este 77.61 244 eP P 10 34 26.2 -2.7
OTAV Otavalo 77.70 244 eP P 10 34 27.8 -1.6
OTAV Otavalo 77.70 244 P P 10 34 29.5 0.0
OTAV pmax pmax
comp=Z,30nm,1.4s
OTAV Otavalo 77.70 244 P P 10 34 29.4 0.0
OTAV IAmb IAmb 10 34 32.0
comp=Z,30nm,1.4s
OTAV Otavalo 77.70 244 IAMs_20 IAMs_20 11 04 29.4
comp=Z,1µm,22.0s
OTAV Otavalo 77.70 244 eP P 10 34 31.4 +2.0
PAC1 Pacto, Paraso 77.80 244 eP P 10 34 29.0 -0.7
NJ2 Nanjing 77.84 37 eP P 10 34 27.8 -1.7
NJ2 S S 10 44 19.7 -2.3
NJ2 sS sS 10 44 30.2 +1.8
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,680nm,4.3s
NJ2 LR LR
comp=Z,3µm,17.1s
NJ2 LR LR
comp=Z,600nm,11.4s
NJ2 LR LR
comp=Z,3µm,16.6s
JTU Tsushima 77.91 28 IAMs_20 IAMs_20 11 11 18.5
comp=Z,1µm,19.0s
WHN Wuhan 78.04 41 P P 10 34 31.0 +0.4
WHN S S 10 44 23.1 -1.1
WHN LR LR
comp=Z,6µm,20.5s
WHN LR LR
comp=Z,3µm,17.7s
WHN LR LR
comp=Z,4µm,20.8s
SSE Sheshan 79.35 35 P P 10 34 36.4 -1.4
SSE S S 10 44 37.8 -0.4
SSE pmax pmax
comp=Z,19nm,0.8s
SSE pmax pmax
comp=Z,170nm,6.8s
SSE LR LR
comp=Z,870nm,20.0s
SSE LR LR
comp=Z,550nm,18.6s
KMI Kunming 79.41 53⇑eP P 10 34 38.0 -0.6
KMI pmax pmax
comp=Z,17nm,1.3s
KMI Kunming 79.41 53 IAMs_20 IAMs_20 11 15 18.8
comp=Z,1µm,19.0s
GYA Guiyang 79.50 49 ⇑P P 10 34 39.2 +0.3
GYA PP PP 10 37 41.8 +3.1
GYA S S 10 44 41.8 +1.6
GYA pmax pmax
comp=Z,21nm,1.3s
GYA pmax pmax
comp=Z,190nm,3.5s
GYA LR LR
comp=Z,670nm,22.9s
GYA LR LR
comp=Z,770nm,19.1s
GYA LR LR
comp=Z,900nm,22.1s
JNU Nakatsue 79.56 27 IAMs_20 IAMs_20 11 14 49.2
comp=Z,1µm,19.0s
CLDB Colider 80.55 218 eP P 10 34 44.5 +0.1
SAML Samuel 80.86 226 eP P 10 34 44.9 -1.1
SAML Samuel 80.86 226 P P 10 34 45.7 -0.3
SAML pmax pmax
comp=Z,52nm,1.7s
SAML Samuel 80.86 226 P P 10 34 45.7 -0.3
SAML IAmb IAmb 10 34 47.9
comp=Z,52nm,1.6s
SAML Samuel 80.86 226 IAMs_20 IAMs_20 11 04 34.4
comp=Z,1µm,21.0s
JSU Suzuyama 81.04 27 IAMs_20 IAMs_20 11 14 34.3
comp=Z,1µm,18.0s
MDRS Chennai 81.57 78 eP P 10 34 50.8 +0.9
ETMB Extrema 82.64 228 eP P 10 34 54.8 -0.6
BDFB Brasilia 83.26 210 P P 10 34 58.6 -0.1
comp=Z,3.4nm,0.7s,baz=151,slow=9.0,SNR=3.3
BDFB LR LR 11 05 50.4
comp=Z,2µm,21.4s,baz=342,slow=31
BDFB Brasilia 83.26 210 P P 10 34 59.8 +1.1
BDFB IAmb IAmb 10 37 46.5
comp=Z,47nm,1.9s
BDFB IAMs_20 IAMs_20 11 05 28.9
comp=Z,2µm,21.0s
PAYG Puerto Ayora 83.30 254 IAMs_20 IAMs_20 11 06 16.7
comp=Z,1µm,20.0s
SLVN Son La 83.31 53 IAMs_20 IAMs_20 11 15 34.3
comp=Z,2µm,21.0s
VILB Vilhena 83.75 222 eP P 10 35 01.8 +0.6
CHTO Chiang Mai 83.85 59 P P 10 35 01.1 -0.7
CHTO pmax pmax
comp=Z,31nm,1.4s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 83.85 59 P P 10 35 01.1 -0.7
CHTO IAmb IAmb 10 35 03.0
comp=Z,31nm,1.4s
CHTO Chiang Mai 83.85 59 IAMs_20 IAMs_20 11 14 43.5
comp=Z,1µm,21.0s
CMAR Chiang Mai Arr 84.17 59 P P 10 35 02.0 -1.5
comp=Z,1.8nm,0.7s,baz=320,slow=5.1,SNR=12
CMAR PP PP 10 38 19.6 +2.3
comp=Z,0.8nm,0.3s,baz=332,slow=7.5,SNR=4.3
CMAR LR LR 11 15 14.1
comp=Z,911nm,19.4s,baz=358,slow=38
CMAR Chiang Mai Arr 84.17 59 P P 10 35 01.8 -1.7
IPMB Ipameri, GO 85.57 209 eP P 10 35 11.0 +0.7
PTLB Pontes e Lacer 85.83 220 eP P 10 35 13.6 +2.0
PALK Pallekele 86.96 80 IAMs_20 IAMs_20 11 15 53.7
comp=Z,1µm,20.0s
QIZ Qiongzhong 87.45 49 P P 10 35 17.5 -2.2
QIZ S S 10 45 58.4 -2.1
QIZ LR LR
comp=Z,1µm,17.7s
QIZ LR LR
comp=Z,990nm,17.7s
QIZ LR LR
comp=Z,2µm,20.2s
NNA Nana 88.33 237 IAMs_20 IAMs_20 11 14 33.3
comp=Z,1µm,19.0s
LPAZ La Paz 89.33 228 LR LR 11 12 55.7
comp=Z,471nm,19.6s,baz=5.5,slow=34
LPAZ La Paz 89.33 228 P P 10 35 28.4 -0.7
LPAZ pmax pmax
comp=Z,20nm,1.9s

LPAZ La Paz 89.33 228 P P 10 35 28.4 -0.7
SPB Sao Paulo 90.86 207 IAMs_20 IAMs_20 11 11 48.1
comp=Z,1µm,19.0s
DLV T Lat 93.60 53 IAMs_20 IAMs_20 11 22 56.5
comp=Z,1µm,20.0s
CPUP Villa Florida 95.73 215 LR LR 11 15 12.4
comp=Z,1µm,18.6s,baz=16,slow=33
KULM Kulim 96.89 62 IAMs_20 IAMs_20 11 28 32.2
comp=Z,994nm,20.0s
IPM Ipoh 97.78 62 IAMs_20 IAMs_20 11 25 07.8
comp=Z,880nm,22.0s
BOSA Boshof 98.59 143 LR LR 11 23 11.8
comp=Z,2µm,18.4s,baz=342,slow=37
MYKOM Kota Tinggi 101.32 61 IAMs_20 IAMs_20 11 26 03.6
comp=Z,901nm,20.0s
BKNI Bangkinang 101.59 64 IAMs_20 IAMs_20 11 27 10.8
comp=Z,935nm,21.0s
KKM Kota Kinabalu 101.69 47 IAMs_20 IAMs_20 11 24 40.9
comp=Z,941nm,22.0s
RGRI Rengat 102.71 63 P Pdif 10 36 29.1 -0.3
CO01 Juntas del Tor 102.74 225 IAMs_20 IAMs_20 11 18 24.2
comp=Z,1µm,22.0s
SBUM Sibu 103.73 52 IAMs_20 IAMs_20 11 29 39.1
comp=Z,911nm,18.0s
KSM Kuching 103.98 55 IAMs_20 IAMs_20 11 27 39.8
comp=Z,874nm,22.0s
PPBI Pangkal Pinang 105.82 60 P Pdif 10 36 41.0 -2.3
BO02 Sierra Bellavi 107.43 224 IAMs_20 IAMs_20 11 23 12.4
comp=Z,1µm,21.0s
DBJI Dramaga 110.09 61 P Pdif 10 37 15.6 +13
CISI Cisompet, Garu 111.41 61 IAMs_20 IAMs_20 11 34 52.1
comp=Z,845nm,20.0s
TAOE Nuku Hiva Isla 111.69 297 eLR LR 11 14 30.2
comp=Z,1µm,25.5s
SOEI Soe 119.10 44 IAMs_20 IAMs_20 11 34 47.4
comp=Z,723nm,21.0s
RKT Rikitea 122.45 285 eLR LR 11 19 30.0
comp=Z,1µm,23.8s
PPT2 Papeete2 123.24 302 eSS SS 11 00 09.0 +15
comp=Z,759nm,28.0s
PPT2 Papeete2 123.24 302 eLR LR 11 19 50.7
comp=Z,1µm,21.8s
TBI Tubuai 128.46 299 eSS SS 11 01 16.4 +17
comp=Z,466nm,40.2s
TBI Tubuai 128.46 299 eLR LR 11 22 15.6
comp=Z,1µm,22.5s
WB0 Warramunga Arr 131.47 36 PKPdf PKPdf 10 41 44.4 -0.1
WRA Warramunga Arr 131.63 37 PKP PKPdf 10 41 44.3 -0.5
comp=Z,6.8nm,1.2s,baz=329,slow=2.3,SNR=11
WR0 Warramunga Arr 131.70 36 PKPdf PKPdf 10 41 43.5 -1.4
AS31 Alice Springs 135.07 39 PKPdf 10 41 50.8 -0.4
ASAR Alice Springs 135.07 39 PKhKP PKPpre 10 41 41.2
comp=Z,0.6nm,0.9s,baz=351,slow=4.7,SNR=3.0
ASAR PKP PKPdf 10 41 50.7 -0.5
comp=Z,4.8nm,1.1s,baz=355,slow=1.7,SNR=13
SNAA Sanae 136.26 173 PKiKP PKiKP 10 41 52.4 -1.3
DZM Mont Dzumac 137.52 355 eLR LR 11 26 26.6
comp=Z,1µm,24.6s
SYO Syowa Base 139.09 153⇓ePdiff Pdif 10 39 09.4 -0.3
SYO Syowa Base 139.09 153⇓epPdiff pPdif 10 39 12.0 -1.6
MAW Mawson 143.56 141 PKP PKPdf 10 42 04.2 -0.9
comp=Z,1.3nm,0.8s,baz=319,slow=6.6,SNR=3.3
BBOO Buckleboo 144.31 40 PKPdf PKPab 10 42 05.0 -0.6
STKA Stephens Creek 144.84 32 PKP PKPab 10 42 06.2 -1.4
comp=Z,7.3nm,0.8s,baz=9.4,slow=8.0,SNR=9.2
STKA Stephens Creek 144.84 32 PKIKP PKPab 10 42 07.0 -0.6
STKA Stephens Creek 144.84 32 PKPdf PKPab 10 42 07.0 -0.6

ATH 07 10:26:44.6, 42.22N×19.99E, h13km±4km, ML3.2/1, Error ellipse: s-maj=6.1km s-min=1.7km az=190.0
RHSSO 07 10:26:46.9±0.7, 41.97N×20.17E, h6km±4km, ML3.1/9
TIR 07 10:26:47.6, 42.03N×20.12E, h10km±3km, Ml3.2
PDG 07 10:26:47.9±0.1, 42.04N×20.06E, h18km, MD3.1/5, ML3.1/14, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0
THE 07 10:26:47.0, 42.09N×20.14E, h7km±13km, ML2.7/1, Error ellipse: s-maj=13.1km s-min=0.8km az=141.0
SKO 07 10:26:48.5, 42.05N×20.06E, h20km
BEO 07 10:26:49.1±0.3, 42.02N×20.06E, h12km±4km, ML2.8/5
ISC 07 10:26:48.4±0.9**, 42.03N**±0.01×**20.06E**±0.02**, h11**km±6km**, n102,** σ1s**12**/153**, 17C-11D, Northwestern Balkan Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PUK Puka 0.12 276 P Pg 10 26 51.6 +0.1
baz=275
PUK S Sg 10 26 54.7 +0.9
baz=275
PUK AMP
comp=E,114nm,0.1s,baz=275
BCI Bajram Curri 0.34 1 P Pg 10 26 54.8 -0.3
baz=353
BCI S Sb 10 27 00.4 -1.5
baz=353
BCI AMP
comp=E,33nm,0.6s,baz=353
PHP Peshkopia 0.45 140 P Pg 10 26 55.8 -1.3
PHP S Sg 10 27 02.5 -0.6
PHP Peshkopia 0.45 140 P Pg 10 26 56.1 -1.1
baz=145
PHP S Sg 10 27 02.8 -0.3
baz=145
PHP AMP
comp=N,5.4nm,0.2s,baz=145
PVY Plav 0.57 353⇓iPg Pg 10 26 58.6 -0.9
PVY i Sg Sb 10 27 07.8 -0.8
PVY Plav 0.57 353 P Pg 10 26 59.1 -0.4
baz=349
ULC Ulcinj 0.61 264⇑iPg Pg 10 26 59.6 -0.6
ULC i Sg Sb 10 27 09.7 0.0
ULC Ulcinj 0.61 264 P Pg 10 26 59.9 -0.3
baz=265
DRME Dracevica, Mon 0.67 284⇓iPg Pg 10 27 00.6 -0.7
DRME i Sg Sb 10 27 11.4 +0.1
DRME Dracevica, Mon 0.67 284⇓iPg Pg 10 27 00.7 -0.6
DRME eSg Sb 10 27 11.4 +0.1
TIR Tirane 0.70 192 P Pg 10 27 01.3 -0.5
TIR S Sb 10 27 12.6 +0.5
comp=N,612nm,0.4s
TIR Tirane 0.70 192 ePg Pg 10 27 01.8 0.0
TIR eSg Sb 10 27 12.4 +0.3
TIR Tirane 0.70 192 P Pg 10 27 01.6 -0.2
TIR S Sb 10 27 13.1 +1.1
TIR AML AML 10 27 15.6
comp=E,3206µm,0.5s
TIR AML AML 10 27 15.9
comp=N,3038µm,0.5s
TIR Tirane 0.70 192 ⇑P Pg 10 27 01.6 -0.2
TIR Tirane 0.70 192 P Pg 10 27 01.8 0.0
baz=196
TIR S Sb 10 27 12.6 +0.5
baz=196
TIR AMP
comp=N,2.4nm,0.5s,baz=196
PDG Podgorica 0.72 304 ePg Pg 10 27 01.6 -0.7
PDG eSg Sb 10 27 13.3 +0.5
PDG Podgorica 0.72 304 ⇓P Pg 10 27 01.2 -1.1
PDG Podgorica 0.72 304 ⇑S Sn 10 27 13.7 -1.8
PDG Podgorica 0.72 304⇑iPg Pg 10 27 01.2 -1.1
PDG eSg Sb 10 27 12.9 +0.1
TTG Podgorica 0.72 304⇓iPg Pg 10 27 01.3 -1.0
TTG i Sg Sb 10 27 12.9 +0.1
IVA Berane 0.85 352⇑iPg Pg 10 27 03.6 -1.2
IVA i Sg Sb 10 27 17.0 +0.3
BUM Brajici-Budva 0.91 288⇑iPg Pg 10 27 04.8 -1.1
BUM i Sg Sn 10 27 19.1 -1.1
KOME Kolasin 0.91 334⇓iPg Pg 10 27 04.8 -1.2
KOME i Sg Sn 10 27 19.1 -1.4
CEME Cevo 0.99 302⇓iPg Pg 10 27 06.3 -1.2
CEME i Sg Sn 10 27 22.0 -0.3
SKO Skopje 1.03 93 ePg Pg 10 27 07.8 -0.4
SKO eSg Sg 10 27 21.1 -0.5
SKO Skopje 1.03 93 i Pg Pg 10 27 07.6 -0.6
SKO i Sg Sn 10 27 22.6 -0.5
SKO Skopje 1.03 93 P Pg 10 27 07.6 -0.6
baz=92
OHR Ohrid 1.07 149 i Pg Pb 10 27 07.5 -1.5
OHR i Sg Sn 10 27 24.3 0.0
OHR eLg Lg 10 27 24.4
comp=N,132nm,0.4s
OHR eLg Lg 10 27 25.3
comp=E,527nm,1.2s
NKME Niksic 1.10 312⇑iPg Pb 10 27 08.2 -1.3

NKME			*i* Sg	**Sn**	**10 27 25.5**	**+0.5**
NKY	**Niksic**	**1.11 315**	⇓*i*Pg	**Pb**	**10 27 08.4**	**-1.3**
NKY			*i* Sg	**Sn**	**10 27 25.8**	**+0.4**
SJES	**Sjenica**	**1.23 357**	*e*Pg	**Pn**	**10 27 11.0**	**-0.7**
SJES			*e*Sg	**Sn**	**10 27 29.5**	**+1.1**
HCY	**Herceg Novi**	**1.23 290**	⇑*i*Pg	**Pn**	**10 27 10.7**	**-0.8**
HCY			*i* Sg	**Sn**	**10 27 30.0**	**+1.8**
HCY	**Herceg Novi**	**1.23 290**	*e*Pg	**Pn**	**10 27 10.8**	**-0.8**
HCY			*e*Sg	**Sn**	**10 27 29.7**	**+1.5**
PLE	**Pljevlja**	**1.39 339**	⇑*i*Pg	**Pn**	**10 27 13.2**	**-0.6**
PLE			*i* Sg	**Sg**	**10 27 33.6**	**+0.4**
BRY	**Bratogost**	**1.42 308**	⇑*i*Pg	**Pn**	**10 27 13.8**	**-0.5**
BRY			*i* Sg	**Sg**	**10 27 34.5**	**+0.3**
BRY	**Bratogost**	**1.42 308**	*e*Pn	**Pn**	**10 27 14.0**	**-0.3**
BRY			*e*Sn	**Sg**	**10 27 35.2**	**+1.0**
SELS	**Selova**	**1.42 33**	*e*Pg	**Pg**	**10 27 15.2**	**-0.5**
UPM	**Unac-Piva**	**1.45 324**	⇓*i*Pg	**Pn**	**10 27 14.1**	**-0.6**
UPM			*i* Sg	**Sg**	**10 27 35.1**	**+0.1**
UPM	**Unac-Piva**	**1.45 324**	*e*Pn	**Pb**	**10 27 15.0**	**-0.5**
UPM			*e*Sn	**Sg**	**10 27 35.7**	**+0.7**
BARS	**Barje**	**1.52 58**	*e*Pg	**Pg**	**10 27 17.5**	**0.0**
BARS			*e*Sg	**Sg**	**10 27 38.5**	**+1.2**
IVAS	**Ivanjica**	**1.55 3**	*e*Pg	**Pg**	**10 27 17.6**	**-0.5**
IVAS			*e*Sg	**Sg**	**10 27 38.3**	**+0.1**
DBRK	**Dubrovnik**	**1.56 295**	*i* Pn	**Pb**	**10 27 17.1**	**-0.1**
DBRK			Sn	**Sg**	**10 27 40.9**	**+2.5**
RUDO	**Rudo**	**1.67 343**	*e*Pn	**Pn**	**10 27 17.7**	**+0.2**
RUDO			*e*Sn	**Sb**	**10 27 40.1**	**0.0**
NEST	**Nestorio**	**1.78 155**	P	**Pb**	**10 27 20.7**	**-0.3**
BOSS	**Bosilegrad**	**1.86 75**	*e*Pg	**Pb**	**10 27 22.1**	**-0.2**
BOSS			*e*Sg	**Sg**	**10 27 47.5**	**-0.5**
BBLS	**Lazići**	**1.90 346**	*e*Pg	**Pb**	**10 27 23.2**	**+0.2**
BBLS	**Lazići**	**1.90 346**	*e*Pn	**Pn**	**10 27 23.4**	**+0.7**
BBLS			*e*Sn	**Sb**	**10 27 46.8**	**0.0**
GRUS	**Gruza**	**1.92 14**	*e*Pg	**Pg**	**10 27 24.0**	**-1.2**
GRUS			*e*Sg	**Sg**	**10 27 51.1**	**+1.0**
LSK	**Leskovik**	**1.92 168**	P	**Pb**	**10 27 23.9**	**+0.5**
	baz=169					
STON	**Ston**	**1.94 297**	*e*Pn	**Pb**	**10 27 23.0**	**-0.6**
STON			Sn	**Sg**	**10 27 53.5**	**+2.8**
PENT	**Pentalofos**	**2.00 156**	P	**Pb**	**10 27 24.2**	**-0.7**
VAY	**Valandovo**	**2.01 110**	*e*Pg	**Pb**	**10 27 24.9**	**0.0**
VAY	**Valandovo**	**2.01 110**	*i* Pn	**Pb**	**10 27 24.8**	**0.0**
BOVS	**Bovan**	**2.01 36**	*e*Pg	**Pg**	**10 27 26.0**	**-0.9**
DIVS	**Divibare**	**2.07 359**	*e*Pg	**Pb**	**10 27 25.4**	**-0.6**
DIVS			*e*Sg	**Sg**	**10 27 54.8**	**-0.1**
DIVS	**Divibare**	**2.07 359**	⇓*i*Pn	**Pn**	**10 27 23.6**	**+0.5**
DIVS			*e*Sn	**Sn**	**10 27 49.6**	**+0.7**
KZN	**Kozani**	**2.15 143**	P	**Pn**	**10 27 24.0**	**-0.3**
TRUS	**Trudelj**	**2.21 6**	*e*Pg	**Pb**	**10 27 28.6**	**+0.3**
HAPS	**Han Pijesak,Bl**	**2.21 339**	*e*Pg	**Pb**	**10 27 27.5**	**-0.9**
HAPS	**Han Pijesak,Bl**	**2.21 339**	*e*Pn	**Pn**	**10 27 25.8**	**+0.7**
HAPS			*e*Sn	**Sn**	**10 27 53.3**	**+0.8**
KEK	**Kerkira**	**2.32 185**	P	**Pb**	**10 27 28.2**	**-2.0**
ZAGS	**Zajecar**	**2.39 41**	*e*Pg	**Pb**	**10 27 31.7**	**+0.3**
VTS	**Vitosha**	**2.43 75**	*e*P	**Pn**	**10 27 27.9**	**-0.2**
LSTV	**Lastovo**	**2.46 289**	*e*Pn	**Pn**	**10 27 29.4**	**+1.1**
LSTV			Sn	**Sg**	**10 28 09.4**	**+2.0**
BLKB	**Belogradchik**	**2.50 50**	⇑S	**Sg**	**10 28 10.0**	**+1.4**
TEKS	**Tekeris**	**2.55 351**	*e*Pn	**Pn**	**10 27 30.1**	**+0.5**
TEKS			*e*Sn	**Sb**	**10 28 02.6**	**-2.9**
MAKA	**Makarska**	**2.57 300**	*e*Pn	**Pn**	**10 27 31.6**	**+1.7**
NOCI	**Noci**	**2.57 242**	P	**Pn**	**10 27 28.8**	**-1.1**
RICI	**Ricice**	**2.60 305**	*e*Pn	**Pb**	**10 27 33.2**	**-1.8**
RICI			Sn	**Sb**	**10 28 06.7**	**-0.3**
LIT	**Litokhoron**	**2.66 136**	P	**Pn**	**10 27 31.5**	**+0.3**
HORT	**Hortiatis**	**2.70 121**	P	**Pn**	**10 27 33.0**	**+1.3**
THL	**Klokotos Trika**	**2.88 148**	P	**Pn**	**10 27 34.4**	**+0.4**
PLG	**Polygyros**	**3.04 122**	P	**Pn**	**10 27 36.5**	**0.0**
FRGS	**Fruska Gora**	**3.13 357**	*e*Pn	**Pn**	**10 27 38.4**	**+0.7**
FRGS	**Fruska Gora**	**3.13 357**	*e*Pn	**Pn**	**10 27 38.1**	**+0.4**
FRGS			*e*Sn	**Sn**	**10 28 15.5**	**+0.4**
TSLK	**Tsoukalades, L**	**3.23 172**	P	**Pn**	**10 27 40.5**	**+1.5**
HERR	**Herculane**	**3.33 30**	⇑P	**Pg**	**10 27 49.6**	**-2.5**
HERR	**Herculane**	**3.33 30**	⇑S	**Sb**	**10 28 29.1**	**+1.3**
KIJV	**Kijevo**	**3.33 308**	*e*Pn	**Pn**	**10 27 43.1**	**+2.7**
KIJV			Sn	**Sb**	**10 28 25.0**	**-2.8**
NYDR	**Nydri-Lefkada**	**3.35 171**	P	**Pn**	**10 27 40.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**3.40 152**	P	**Pn**	**10 27 43.1**	**+1.7**
BLY	**Banja Luka**	**3.43 323**	*e*Pn	**Pn**	**10 27 43.5**	**+1.7**
BLY	**Banja Luka**	**3.43 323**	*e*Pn	**Pn**	**10 27 42.1**	**+0.3**
BLY			*e*Sn	**Sn**	**10 28 23.9**	**+1.5**
PAIG	**Paliouri**	**3.45 126**	P	**Pn**	**10 27 42.3**	**+0.2**
AGG	**Agios Georgios**	**3.47 149**	P	**Pn**	**10 27 42.8**	**+0.5**
KAVA	**Kavala**	**3.50 106**	P	**Pn**	**10 27 42.7**	**0.0**
XOR	**Xorichti**	**3.57 137**	P	**Pn**	**10 27 43.7**	**0.0**
ANX	**Ano Chora**	**3.71 157**	P	**Pn**	**10 27 47.5**	**+1.8**
BZS	**Buzias**	**3.76 17**	*e*Pn	**Pn**	**10 27 46.0**	**-0.3**
BZS	**Buzias**	**3.76 17**	⇑P	**Pn**	**10 27 50.0**	**+3.7**
THAS	**Thassos island**	**3.79 110**	P	**Pn**	**10 27 46.4**	**-0.2**
TIP	**Timpagrande**	**3.80 223**	⇑P	**Pb**	**10 27 51.8**	**-3.6**
GZR	**Gura Zlata**	**3.90 29**	⇑P	**Pn**	**10 27 49.1**	**+0.8**
GZR	**Gura Zlata**	**3.90 29**	⇓S	**Sn**	**10 28 34.5**	**+0.5**
KALE	**Kalithea**	**3.97 156**	P	**Pn**	**10 27 50.4**	**+1.2**
MORH	**Mrgy, Hungar**	**4.31 347**	*e*Pn	**Pn**	**10 27 53.5**	**-0.3**
MORH			*e*Sn	**Sn**	**10 28 44.0**	**0.0**
VIL2	**Platees**	**4.54 146**	P	**Pn**	**10 27 59.2**	**+2.2**
NVLJ	**Novalja**	**4.55 306**	*e*Pn	**Pn**	**10 27 58.8**	**+1.7**
NVLJ			Sn	**Sn**	**10 28 53.2**	**+3.1**
VOIR		**4.97 45**	⇑P	**Pg**	**10 28 24.2**	**+0.7**
BEHE	**Becsehely**	**5.03 333**	*e*Pn	**Pn**	**10 28 03.1**	**-0.6**
CRES	**Cresnjev**	**5.04 320**	*e*Pn	**Pn**	**10 28 03.8**	**-0.1**
CEY	**Cerknica**	**5.51 314**	*e*Pn	**Pn**	**10 28 10.1**	**-0.2**

IDC ***07*** *10:34:43.9±2.5, 37.°12N×142.°31E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/41, mbtmp3.3/3, ML2.2/1, MS4.4/1, Ms1 4.4/1, ms1mx2.7/32, Error ellipse: s-maj=52.6km s-min=34.8km az=41.0*

JMA ***07*** *10:34:46.1±0.2, 37.°25N×142.°11E, h32km, M3.4*

ISC 07 10:34:45.9±3.1, 37.°31N±0.°06×142.°05E±0.°08, h13km±17km, n21, σ1°45/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.94**	**274**		P		**Pb**	**10 35 04.0**	**-0.1**
JFK					*e*S		**Sb**	**10 35 16.1**	**-0.3**
JMST	**Minamisoumatoc**	**1.01**	**294**		P		**Pb**	**10 35 05.3**	**0.0**
JMST					*e*S		**Sg**	**10 35 19.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**1.02**	**259**		P		**Pb**	**10 35 04.6**	**-0.9**
ONAJ					*e*S		**Sb**	**10 35 18.0**	**-0.8**
JIKH	**Ishinomakibobu**	**1.10**	**335**		P		**Pb**	**10 35 06.5**	**-0.3**
JIKH					*e*S		**Sb**	**10 35 19.7**	**-1.3**
JMM	**Marumori**	**1.14**	**299**		P		**Pb**	**10 35 07.4**	**-0.1**
JMM					*e*S		**Sn**	**10 35 22.5**	**-0.6**
JIO	**Ouri**	**1.27**	**334**		P		**Pn**	**10 35 09.0**	**-0.3**
JIO					S		**Sb**	**10 35 24.9**	**-1.0**
JFT	**Otama**	**1.38**	**279**		P		**Pb**	**10 35 11.5**	**-0.1**
JFT					*e*S		**Sb**	**10 35 28.9**	**-0.2**
JOU	**Okura**	**1.52**	**314**		P		**Pb**	**10 35 13.8**	**-0.2**
JOU					*e*S		**Sb**	**10 35 33.8**	**+0.6**
JMK	**Ichinoseki**	**1.76**	**338**		P		**Pb**	**10 35 17.5**	**-0.6**
JMK					*e*S		**Sb**	**10 35 39.8**	**-0.4**
JYK	**Kaneyama**	**2.09**	**321**		P		**Pb**	**10 35 22.3**	**-1.3**
MJAR	**Matsushiro Arr**	**3.17**	**257**		Pn		**Pn**	**10 35 37.6**	**+2.1**
	0.3nm,0.3s,baz=65,slow=10,SNR=14								
MJAR					Sn		**Sb**	**10 36 16.8**	**-3.9**
	0.3nm,0.3s,baz=108,slow=16,SNR=4.0								
MAT	**Matsushiro**	**3.17**	**257**		P		**Pn**	**10 35 37.7**	**+2.1**
MAT					S		**Sb**	**10 36 18.1**	**-2.6**
YAK	**Yakutsk**	**25.91**	**347**		LR		LR	10 51 51.4	
	comp=Z,976nm,21.9s,baz=350,slow=39								
H11N2	**WAKE ISLAND Hy 27.86**	**122**			T		T	11 09 44.7	
	baz=314,slow=75,SNR=4.2								
H11N1	**WAKE ISLAND Hy 27.87**	**122**			T		T	11 09 42.0	
	baz=314,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy 27.88**	**122**			T		T	11 09 42.5	
	baz=314,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy 28.59**	**124**			T		T	11 10 42.6	
	baz=316,slow=76,SNR=15								
H11S3	**WAKE ISLAND Hy 28.59**	**124**			T		T	11 10 40.0	
	baz=316,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hy 28.61**	**124**			T		T	11 10 40.6	
	baz=316,slow=76,SNR=16								
MKAR	**Makanchi Array**	**44.40**	**302**		P		**P**	**10 42 58.2**	**+2.0**
	0.3nm,0.5s,baz=77,slow=8.3,SNR=3.1								
WRA	**Warramunga Arr**	**57.41**	**189**		P		**P**	**10 44 33.1**	**-1.1**
	0.3nm,0.7s,baz=7.3,slow=7.1,SNR=5.5								

JMA ***07*** *10:37:08.4±0.1, 42.°73N×144.°29E, h62km±1km, M3.7*
JMA Felt I J1.
NIED ***07*** *10:37:08.4, 42.°73N×144.°29E, h62km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.95; $M_{\theta\theta}$0.78; $M_{\phi\phi}$2.17; $M_{r\theta}$2.10; $M_{r\phi}$-0.78; $M_{\theta\phi}$-1.01; Fault plane solution: $M_0$3.54000×10^{14} NP1: ϕ_S313.00000°, δ65.00000°, λ-106.00000°. NP2: ϕ_S167.00000°, δ29.00000°, λ-60.00000°.*
SKHL ***07*** *10:37:09.3±0.3, 42.°57N×144.°50E, h58km±7km, mb5.0/4*

ISC 07 10:37:08.2±1.5, 42.°67N±0.°06×144.°32E±0.°04, h59km±11km, n20, σ0°65/35, 1C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.42**	**304**			⇓P	**Pn**	**10 37 19.6**	**+0.3**
JOB						*e*S	**Sn**	**10 37 27.6**	**+0.3**
JAK	**Akkeshi**	**0.43**	**40**			⇓P	**Pn**	**10 37 19.4**	**+0.1**
JAK						*e*S	**Sn**	**10 37 27.6**	**+0.2**
JCH	**Churui**	**0.70**	**266**			⇑P	**Pn**	**10 37 22.7**	**+0.3**
JCH						*e*S	**Sn**	**10 37 32.7**	**-0.1**
JAR	**Ashorobuto**	**0.74**	**328**			P	**Pn**	**10 37 22.7**	**-0.2**
JAR						*e*S	**Sn**	**10 37 33.1**	**-0.6**
JKHN	**Kushirohamanak**	**0.75**	**56**			⇓P	**Pn**	**10 37 23.3**	**+0.4**
JKHN						*e*S	**Sn**	**10 37 34.1**	**+0.4**
JNK	**Nakash**	**0.96**	**18**			P	**Pn**	**10 37 25.2**	**-0.5**
JNK						*e*S	**Sn**	**10 37 37.8**	**-0.8**
JEM	**Erimo**	**1.08**	**233**			P	**Pn**	**10 37 27.8**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.22**	**252**			P	**Pn**	**10 37 28.7**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.25**	**55**		*i*	P	**Pn**	**10 37 29.0**	**-0.5**
NMR					*i*	S	**Sn**	**10 37 43.5**	**-1.9**
NEM2	**Nemuro 2**	**1.26**	**56**			P	**Pn**	**10 37 29.0**	**-0.6**
NEM2						*e*S	**Sn**	**10 37 43.9**	**-1.6**
JTKR	**Abashiri--Toko**	**1.33**	**347**			⇓P	**Pn**	**10 37 31.0**	**+0.4**
JTKR						*e*S	**Sn**	**10 37 47.8**	**+0.4**
JFR	**Furan**	**1.36**	**292**			P	**Pn**	**10 37 31.1**	**+0.2**
JFR						*e*S	**Sn**	**10 37 47.6**	**-0.4**
GLVR	**Golovnino**	**1.39**	**39**		*i*	P	**Pn**	**10 37 31.7**	**+0.4**
GLVR						AMB	AMB	10 37 33.0	
	719nm,0.3s								
GLVR					*i*	S	**Sn**	**10 37 48.9**	**+0.3**
GLVR						A	A	10 37 49.0	
	9μm,0.5s								
GLVR						A	A	10 37 49.0	
	6μm,0.5s								
JRA	**Rausu**	**1.40**	**25**			P	**Pn**	**10 37 31.7**	**+0.3**
JBT2	**Biratori 2**	**1.44**	**275**			P	**Pn**	**10 37 31.5**	**-0.5**
JMP	**Maruseppu**	**1.51**	**333**			P	**Pn**	**10 37 33.0**	**0.0**
JMP						*e*S	**Sn**	**10 37 51.2**	**-0.4**
JKK2	**Kamakawa 2**	**1.66**	**317**			⇓P	**Pn**	**10 37 35.3**	**+0.3**
GRPR	**Tuman**	**1.70**	**38**		*i*	P	**Pn**	**10 37 36.0**	**+0.5**
GRPR						AMB	AMB	10 37 36.0	
	632nm,0.4s								
GRPR					*i*	S	**Sn**	**10 37 55.9**	**-0.3**
GRPR						A	A	10 37 57.0	
	3μm,0.4s								
GRPR						A	A	10 37 57.0	
	1μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.77**	**39**		*i*	P	**Pn**	**10 37 37.0**	**+0.5**
YUK						AMB	AMB	10 37 39.0	
	1μm,0.4s								
YUK					*i*	S	**Sn**	**10 37 57.8**	**-0.1**
YUK						A	A	10 37 59.0	
	3μm,0.4s								
YUK						A	A	10 37 59.0	
	2μm,0.4s								
KUR	**Kuril'sk**	**3.63**	**44**		*e*	P	**Pn**	**10 38 03.0**	**+1.2**
KUR						AMB	AMB	10 38 05.0	
	136nm,0.5s								
KUR					*e*	S	**Sn**	**10 38 43.8**	**+0.5**
KUR						A	A	10 38 52.0	
	219nm,0.4s								
KUR						A	A	10 38 52.0	
	301nm,0.4s								

BER 07 10:43:18.1±0.9, 60.°25N×11.°74E, h0km, ML1.3, 2C, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**0.49**	**349**		*i*	P	Pg	10 43 26.9	-0.7
NC602						*e*S	Sg	10 43 33.4	-0.6
NAO01	**NORSAR Array S**	**0.73**	**325**		*e*	P	Pg	10 43 30.9	-1.2
NAO01						*e*S	Sg	10 43 40.6	-0.9
NB201	**NORSAR Array S**	**0.83**	**345**		*i*	P	Pg	10 43 32.9	-1.1
NB201						*e*S	Sg	10 43 43.2	-1.6
NBO00	**NORSAR Array S**	**0.91**	**329**		*e*	P	Pg	10 43 34.3	-1.2
NBO00						*e*S	Sg	10 43 46.9	-0.5
NC303	**NORSAR Array S**	**0.99**	**350**		*e*	P	Pg	10 43 36.0	-1.1
NC303						*e*S	Sg	10 43 49.4	-0.6
NC204	**NORSAR Array S**	**1.13**	**336**		*e*	P	Pg	10 43 38.4	-1.4
NC204						*e*S	Sg	10 43 52.9	-1.6
NC204						IAML		10 43 57.3	
	comp=Z,6.8nm,0.3s								
KONO	**Kongsberg**	**1.23**	**242**		*e*	P	Pg	10 43 40.5	-1.2
KONO						*e*S	Sg	10 43 55.8	-1.8
KONO						IAML		10 44 01.6	
	comp=Z,5.5nm,0.4s								
STRU	**Stroemstad**	**1.25**	**193**		*e*	P	Pg	10 43 40.6	-1.4
STRU						*e*S	Sg	10 43 56.7	-1.5
SKAR	**Skarslia**	**1.75**	**286**		*e*	P	Pn	10 43 48.3	-1.5
SKAR						*e*S	Sn	10 44 10.4	-2.4
SKAR						IAML		10 44 12.8	
	comp=Z,7.8nm,0.5s								
DOMB	**Dombas**	**2.22**	**325**		*e*	P	Pn	10 43 54.8	-1.4
DOMB						*e*S	Sn	10 44 21.6	-2.6
DOMB						IAML		10 44 27.5	
	comp=Z,3.4nm,0.4s								

HEL 07 10:43:52.7±0.3, 67.°81N×20.°41E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.64**	**67**			PG	Pg	10 44 04.3	-0.6
KIF	**Kilpisjarvi**	**1.21**	**7**			PG	Pg	10 44 15.5	-0.3
	baz=181								
KIF						SG	Sg	10 44 30.5	-1.0
KIF						MSG		10 44 30.6	
	comp=Z,4.0nm,0.2s								
ERTU	**Ertsjaerv**	**1.44**	**150**			PG	Pn	10 44 18.4	-1.5
ERTU						SN	Sg	10 44 38.9	+0.1
TOF	**Tornio**	**2.32**	**137**			PB	Pn	10 44 32.6	+0.5
	baz=311								
TOF						MSG		10 45 01.4	
	comp=Z,1.7nm,0.2s								
TOF						SG	Sb	10 45 04.6	+0.1
RNF	**Rovaniemi**	**2.49**	**116**			SG	Sb	10 45 10.0	+0.6
ARE0	**ARCESS Array S**	**2.54**	**45**			PB	Pn	10 44 36.6	+1.4
	baz=226								
ARE0						SG	Sb	10 45 12.4	+1.5

BEO ***07*** *10:45:54.9±0.3, 42.°13N×21.°27E, h8km±3km, ML2.6/10*
PDG ***07*** *10:45:54.7±0.2, 42.°15N×21.°28E, h9km, ML3.1/13, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
TIR ***07*** *10:45:54.1, 42.°06N×21.°27E, h19km±3km, Ml3.1*
RHSSO ***07*** *10:45:55.2±0.8, 42.°26N×21.°34E, h2km, ML2.8/7*
SKO ***07*** *10:45:55.5, 42.°15N×21.°28E, h1km*

ISC 07 10:45:54.5±0.9, 42.°15N±0.°02×21.°30E±0.°02, h8km±8km, n66, σ1°03/107, 20C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.21**	**150**		*e*	Pg	**Pg**	**10 45 58.8**	**0.0**
SKO					*e*	Sg	**Sg**	**10 46 02.2**	**+0.5**
SKO	**Skopje**	**0.21**	**150**		⇑*i*	Pg	**Pg**	**10 45 58.7**	**0.0**
SKO					*i*	Sg	**Sg**	**10 46 02.1**	**+0.5**
SKO					*e*	Lg	Lg	10 46 02.5	
	comp=E,174nm,0.3s								
SKO					*e*	Lg	Lg	10 46 02.6	
	comp=N,298nm,0.3s								
SKO	**Skopje**	**0.21**	**150**			P	**Pg**	**10 45 58.7**	**0.0**
	baz=124								
SKO						S	**Sg**	**10 46 02.1**	**+0.5**
	baz=124								
BARS	**Barje**	**0.77**	**30**		*e*	Pg	**Pg**	**10 46 09.1**	**-0.2**
BARS					*e*	Sg	**Sg**	**10 46 20.4**	**+1.2**
PHP	**Peshkopia**	**0.79**	**234**			P	**Pg**	**10 46 08.5**	**-1.3**
	baz=240								
PHP						S	**Sg**	**10 46 19.4**	**-0.7**
	baz=240								
PHP						AMP			
	comp=N,1.9nm,0.4s,baz=240								
BCI	**Bajram Curri**	**0.94**	**284**			P	**Pg**	**10 46 12.7**	**+0.1**
	baz=290								
BCI						S	**Sb**	**10 46 26.1**	**+0.4**
	baz=290								
BCI						AMP			
	comp=N,2.7nm,0.6s,baz=290								
BOSS	**Bosilegrad**	**0.94**	**68**		*e*	Pg	**Pg**	**10 46 12.1**	**-0.5**
PUK	**Puka**	**1.05**	**264**			P	**Pg**	**10 46 13.9**	**-0.9**
	baz=270								
PUK						S	**Sb**	**10 46 29.1**	**+0.1**
	baz=270								
PUK						AMP			
	comp=E,2.0nm,0.3s,baz=270								
SELS	**Selova**	**1.07**	**353**		*e*	Pg	**Pg**	**10 46 14.7**	**-0.5**
PVY	**Plav**	**1.09**	**294**		⇑*i*	Pg	**Pg**	**10 46 14.7**	**-0.7**
PVY					*i*	Sg	**Sn**	**10 46 31.7**	**+0.2**
OHR	**Ohrid**	**1.11**	**200**		*i*	Pg	**Pg**	**10 46 15.1**	**-0.7**
OHR					*i*	Sg	**Sb**	**10 46 30.4**	**-0.1**
OHR					*e*	Lg	Lg	10 46 30.6	
	comp=N,124nm,0.4s								
OHR					*e*	Lg	Lg	10 46 31.0	
	comp=E,153nm,0.5s								
VAY	**Valandovo**	**1.26**	**131**		*e*	Pg	**Pn**	**10 46 18.7**	**+0.2**
VAY					*e*	Sg	**Sg**	**10 46 35.9**	**+0.8**
VAY	**Valandovo**	**1.26**	**131**		*i*	Pg	**Pn**	**10 46 18.2**	**-0.3**
VAY					*i*	Sg	**Sn**	**10 46 36.1**	**+0.5**
VAY					*e*	Lg	Lg	10 46 36.4	
	comp=N,47nm,0.4s								
VAY					*e*	Lg	Lg	10 46 38.1	
	comp=E,230nm,0.7s								
IVA	**Berane**	**1.26**	**305**		⇑*i*	Pg	**Pn**	**10 46 17.9**	**-0.7**
IVA					*i*	Sg	**Sn**	**10 46 37.8**	**+2.0**
TIR	**Tirane**	**1.34**	**234**		⇑	P	**Pn**	**10 46 18.4**	**-1.1**
TIR	**Tirane**	**1.34**	**234**			P	**Pn**	**10 46 18.3**	**-1.3**
	baz=237								
TIR						S	**Sb**	**10 46 35.9**	**-1.4**
	baz=237								
SJES	**Sjenica**	**1.48**	**319**		*e*	Pg	**Pn**	**10 46 22.0**	**+0.4**
SJES					*e*	Sg	**Sg**	**10 46 42.4**	**+0.3**
ZAPS	**Zavoj**	**1.49**	**41**		*e*	Pg	**Pb**	**10 46 22.7**	**+0.2**
ZAPS					*e*	Sg	**Sg**	**10 46 43.5**	**+1.0**
KOME	**Kolasin**	**1.49**	**298**		⇓*i*	Pg	**Pn**	**10 46 22.1**	**+0.4**
KOME					*i*	Sg	**Sg**	**10 46 44.8**	**+2.3**
BOVS	**Bovan**	**1.51**	**11**		*e*	Pg	**Pn**	**10 46 22.2**	**+0.3**
BOVS					*e*	Sg	**Sg**	**10 46 43.3**	**+0.2**
PDG	**Podgorica**	**1.54**	**281**		⇓	P	**Pn**	**10 46 22.2**	**-0.1**
PDG	**Podgorica**	**1.54**	**281**		⇑	S	**Sg**	**10 46 45.2**	**+1.1**
PDG	**Podgorica**	**1.54**	**281**		⇓*i*	Pg	**Pn**	**10 46 22.5**	**+0.2**
PDG					*e*	Sg	**Sg**	**10 46 44.5**	**+0.4**
TTG	**Podgorica**	**1.54**	**281**		⇑*i*	Pg	**Pn**	**10 46 22.8**	**+0.5**
TTG					*i*	Sg	**Sg**	**10 46 46.0**	**+1.9**
ULC	**Ulcinj**	**1.54**	**264**		⇑*i*	Pg	**Pb**	**10 46 23.0**	**-0.4**
ULC					*i*	Sg	**Sg**	**10 46 46.0**	**+1.9**
DRME	**Dracevica, Mon**	**1.57**	**272**		*e*	Pg	**Pb**	**10 46 23.6**	**-0.3**
DRME					*i*	Sg	**Sg**	**10 46 46.6**	**+1.5**
DRME	**Dracevica, Mon**	**1.57**	**272**		⇑*i*	Pn	**Pb**	**10 46 24.0**	**+0.1**
DRME					*e*	Sn	**Sg**	**10 46 45.4**	**+0.3**
IVAS	**Ivanjica**	**1.65**	**330**		*e*	Pg	**Pn**	**10 46 23.6**	**-0.3**
GRUS	**Gruza**	**1.79**	**346**		*e*	Pg	**Pn**	**10 46 26.9**	**+1.2**
BUM	**Brajici-Budva**	**1.79**	**276**		⇑*i*	Pn	**Pn**	**10 46 26.7**	**+0.8**
BUM					*i*	Sn	**Sg**	**10 46 51.8**	**-0.4**
ZAGS	**Zajec

EGFH				S		Sg	10 46 34.4 -0.2
	baz=245						
IRIF	**Iriomote-Funau**	**1.12**	**69**	P		Pg	10 46 20.4 -0.3
IRIF				S		Sn	10 46 34.7 -0.2
HATJ	**Hateruma jima**	**1.12**	**83**	P		Pg	10 46 21.3 +0.5
HATJ				*eS*		Sg	10 46 35.3 -0.2
ILA	**Ilan**	**1.13**	**318**	*eP*		Pg	10 46 20.6 -0.3
	baz=315						
ILA				*eS*		Sg	10 46 37.1 +1.4
	baz=315						
NTC	**Toucheng**	**1.15**	**323**	*eP*		Pg	10 46 21.0 -0.3
	baz=321						
NTC				*eS*		Sg	10 46 37.2 +0.9
	baz=321						
TWE	**Neicheng**	**1.15**	**313**	*eP*		Pg	10 46 21.8 +0.4
	baz=311						
TWE				S		Sg	10 46 37.1 +0.7
	baz=311						
HGSD	**Ruisui**	**1.15**	**248**	*eP*		Pn	10 46 20.3 0.0
	baz=245						
HGSD				*eS*		Sb	10 46 35.0 -0.1
	baz=245						
ENTT	**Nioudou**	**1.17**	**307**	P		Pb	10 46 20.9 +0.2
	baz=304						
ENTT				*eS*		Sn	10 46 36.2 0.0
	baz=304						
NDT	**Datong Townshi**	**1.19**	**305**	P		Pg	10 46 21.8 -0.2
	baz=292						
NDT				S		Sg	10 46 37.4 -0.1
	baz=292						
TWB1	**Santiao Chiao**	**1.20**	**333**	*eP*		Pn	10 46 20.5 -0.6
	baz=331						
TWB1				S		Sb	10 46 35.3 -1.3
	baz=331						
NNSB	**Datong**	**1.21**	**294**	*eP*		Pb	10 46 21.4 0.0
	baz=291						
NNSB				*eS*		Sb	10 46 36.1 -0.7
	baz=291						
NNSH	**Datong**	**1.21**	**294**	*eP*		Pn	10 46 21.3 +0.1
	baz=291						
NNSH				S		Sb	10 46 36.5 -0.3
	baz=291						
WHF	**Hehuan Shan**	**1.23**	**280**	P		Pn	10 46 21.6 -0.2
	baz=277						
WHF				S		Sb	10 46 37.4 -0.3
	baz=277						
EHY	**Hungye**	**1.23**	**250**	P		Pn	10 46 21.4 -0.1
	baz=247						
EHY				S		Sb	10 46 37.9 +0.4
	baz=247						
TIPB	**Shuangxi**	**1.25**	**326**	P		Pb	10 46 22.2 +0.1
	baz=324						
TIPB				S		Sb	10 46 37.9 0.0
	baz=324						
FUSS	**Fushou**	**1.27**	**285**	*eP*		Pn	10 46 22.4 +0.2
	baz=282						
FUSS				*eS*		Sn	10 46 39.1 +0.2
	baz=282						
CHGB	**Renai**	**1.30**	**276**	P		Pn	10 46 22.8 +0.2
	baz=273						
CHGB				*eS*		Sb	10 46 39.5 -0.1
	baz=273						
YULB	**Yu-li**	**1.30**	**246**	*eP*		Pn	10 46 22.8 +0.4
	baz=236						
YULB				*eS*		Sb	10 46 39.1 -0.2
	baz=236						
NWLT	**Wulai**	**1.30**	**311**	P		Pg	10 46 24.2 0.0
	baz=308						
NWLT				S		Sb	10 46 39.4 -0.1
	baz=308						
EYUL	**Yuli**	**1.30**	**244**	*eP*		Pb	10 46 22.9 -0.1
	baz=241						
EYUL				*eS*		Sb	10 46 39.3 -0.1
	baz=241						
TWF1	**Yuli**	**1.32**	**244**	P		Pn	10 46 23.0 +0.4
	baz=242						
TWF1				S		Sn	10 46 40.2 +0.4
	baz=242						
YHNB	**Yeheng**	**1.33**	**304**	*eP*		Pb	10 46 23.4 -0.1
	baz=301						
YHNB				*eS*		Sb	10 46 40.0 -0.3
	baz=301						
JKRS	**Kuro-shima**	**1.33**	**77**	P		Pg	10 46 24.7 -0.1
JKRS				*eS*		Sb	10 46 41.0 +0.6
VWDT	**VWDT**	**1.33**	**263**	*eP*		Pn	10 46 23.3 +0.4
	baz=260						
VWDT				S		Sn	10 46 40.2 -0.1
	baz=260						
NSK	**Sanguang**	**1.34**	**304**	*eP*		Pn	10 46 22.9 -0.2
	baz=301						
NSK				S		Sn	10 46 39.4 -1.2
	baz=301						
TDCB	**Techi**	**1.34**	**284**	*eP*		Pn	10 46 23.5 +0.3
	baz=272						
TDCB				*eS*		Sn	10 46 40.2 -0.5
	baz=272						
FULB	**Fuli**	**1.39**	**239**	P		Pn	10 46 23.5 -0.2
	baz=226						
FULB				S		Sn	10 46 41.6 -0.1
	baz=226						
CHKT	**Chengkung**	**1.39**	**234**	*eS*		Sn	10 46 40.1 -1.6
	baz=222						
JIJ	**Ishigaki jima**	**1.48**	**73**	P		Pn	10 46 25.4 +0.5
JIJ				*eS*		Sn	10 46 43.6 -0.3
SSLB	**Suanglung**	**1.50**	**265**	P		Pb	10 46 26.4 -0.1
	baz=263						
SSLB				*eS*		Sn	10 46 45.0 +0.6
	baz=263						
EDH	**Donghe**	**1.52**	**231**	*eP*		Pn	10 46 25.7 +0.3
	baz=223						
EDH				S		Sn	10 46 42.8 -1.8
	baz=223						
WHP	**Taichung City**	**1.54**	**283**	P		Pg	10 46 28.2 -0.5
	baz=281						
WHP				*eS*		Sn	10 46 45.6 +0.3
	baz=281						
SMLT	**Sun Moon Lake**	**1.54**	**269**	P		Pn	10 46 27.1 -0.1
	baz=266						
SMLT				*eS*		Sn	10 46 45.3 -0.2
	baz=266						
YUS	**Yu-Shan**	**1.56**	**254**	P		Pn	10 46 27.1 +0.7
	baz=251						
TYC	**Yuchr**	**1.58**	**269**	*eP*		Pb	10 46 27.2 -0.6
	baz=267						
LIOB	**Emei**	**1.60**	**297**	*eP*		Pn	10 46 26.6 +0.1
	baz=294						
LIOB				S		Sb	10 46 47.9 -0.2
	baz=294						
NSTT	**Nanjuang**	**1.61**	**296**	P		Pb	10 46 27.6 -0.7
	baz=294						
NSTT				*eS*		Sn	10 46 47.4 +0.5
	baz=294						
ELDTW	**Lidau**	**1.62**	**243**	*eP*		Pn	10 46 27.2 +0.4
	baz=241						
ELDTW				S		Sn	10 46 46.1 -1.3
	baz=241						
LONT	**Longtian**	**1.68**	**233**	*eS*		Sn	10 46 48.9 0.0
	baz=225						
ALS	**Alishan**	**1.69**	**256**	P		Pb	10 46 29.4 -0.4
	baz=254						
ALS				*eS*		Sb	10 46 51.5 +0.6
	baz=254						
JISG	**Ishigakijimahi**	**1.70**	**67**	P		Pn	10 46 28.2 +0.3
JISG				*eS*		Sn	10 46 48.1 -1.2
WJS	**Zhushan**	**1.71**	**267**	*eP*		Pb	10 46 30.8 +0.9
	baz=265						
WJS				*eS*		Sg	10 46 52.6 -1.5
	baz=265						
TWQ1	**Liyutan**	**1.71**	**284**	*eP*		Pb	10 46 30.2 +0.2
	baz=283						
TWQ1				*eS*		Sb	10 46 52.4 +1.2
	baz=283						
WNT	**Mingjian**	**1.74**	**269**	*eP*		Pb	10 46 30.5 -0.1
	baz=267						
WNT				*eS*		Sb	10 46 53.4 +1.2
	baz=267						
NMLH	**Miaoli**	**1.75**	**291**	*eS*		Sb	10 46 52.6 +0.3
	baz=289						
TWGBT	**Beinan**	**1.77**	**232**	*eP*		Pn	10 46 29.2 +0.3
	baz=242						
TWGBT				*eS*		Sn	10 46 51.6 +0.5
	baz=242						
CHN5	**Tsauling**	**1.78**	**260**	P		Pb	10 46 31.4 +0.1
	baz=250						
CHN5				*eS*		Sb	10 46 52.9 -0.4
	baz=250						
WDJ	**Dajia District**	**1.83**	**284**	*eS*		Sn	10 46 53.1 +0.7
	baz=282						
STYT	**Tauyuan**	**1.84**	**246**	*eP*		Pb	10 46 31.6 -0.7
	baz=238						
STYT				*eS*		Sb	10 46 54.8 -0.3
	baz=238						
WDLH	**Douliu**	**1.89**	**263**	P		Pb	10 46 33.2 +0.1
	baz=261						
WDLH				*eS*		Sb	10 46 57.4 +1.0
	baz=261						
TPUB	**Ta-pu**	**1.90**	**251**	*eP*		Pb	10 46 32.9 -0.4
	baz=249						
TPUB				*eS*		Sn	10 46 55.6 +1.4
	baz=249						
CHN4	**Tsaushan**	**1.92**	**253**	P		Pb	10 46 33.4 -0.2
	baz=251						
CHN4				S		Sb	10 46 59.0 +1.8
	baz=251						
WTP	**Ta-pu**	**1.93**	**250**	*eP*		Pb	10 46 32.7 -1.1
	baz=248						
WTP				*eS*		Sb	10 46 57.7 0.0
	baz=248						
ECL	**Taimali**	**2.00**	**229**	*eP*		Pn	10 46 32.6 +0.5
	baz=237						
ECL				S		Sn	10 46 56.6 -0.1
	baz=237						
SLGT	**Liugui**	**2.01**	**243**	P		Pb	10 46 34.5 -0.6
	baz=234						
SLGT				S		Sb	10 47 00.5 +0.6
	baz=234						
SGST	**Jiashian**	**2.02**	**246**	*eP*		Pb	10 46 35.0 -0.4
	baz=236						
CHY	**Chiayi**	**2.03**	**258**	*eS*		Sb	10 46 59.8 -0.5
	baz=256						
CHN1	**Nanshi**	**2.03**	**249**	*eP*		Pb	10 46 35.2 -0.3
	baz=247						
CHN1				*eS*		Sb	10 47 01.8 +1.3
	baz=247						
TWK	**Hsinying**	**2.04**	**251**	*eP*		Pb	10 46 35.2 -0.4
	baz=249						
TWK				*eS*		Sb	10 47 00.9 +0.2
	baz=249						
SNST	**Tainan City**	**2.04**	**250**	*eP*		Pb	10 46 34.8 -0.9
	baz=248						
SNST				*eS*		Sb	10 47 00.6 -0.2
	baz=248						
SSD	**Sandimen**	**2.15**	**237**	*eP*		Pn	10 46 35.5 +1.4
	baz=232						
SSD				*eS*		Sn	10 47 00.6 +0.3
	baz=232						
TSMG	**Majia**	**2.16**	**236**	P		Pb	10 46 36.7 -1.0
	baz=231						
TSMG				*eS*		Sn	10 47 01.4 +0.8
	baz=231						
SCST	**Cishan**	**2.19**	**242**	*eP*		Pb	10 46 37.2 -0.9
	baz=230						
SCST				*eS*		Sb	10 47 05.6 +0.7
	baz=230						
MASBT	**Mashibuluo**	**2.23**	**234**	P		Pb	10 46 37.3 -1.5
	baz=229						
MASBT				*eS*		Sn	10 47 03.4 +1.2
	baz=229						

*IDC **07** 10:54:03.3±2.0,6°.03S×155°.15E,h0km,mb3.4/3, mb1 3.7/5,mb1mx3.5/24,mbtmp3.6/5,ML2.9/2,Error ellipse: s-maj=41.2km s-min=33.1km az=97.0*

ISC 07 10:54:13.4±2.2,6°.1S±0°.1×154°.8E±0°.2,h35km,n6,σ2s76/7, mb3.2/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.27**	**303**	Pn	**Pn**	**10 55 00.4**	**-1.8**
	11nm,0.3s,baz=61,slow=10,SNR=4.5						
KRVT				Sn	**Sn**	**10 55 42.2**	**+2.3**
	28nm,0.3s,baz=204,slow=20,SNR=4.5						
PMG	**Port Moresby**	**8.21**	**246**	Pn	**Pn**	**10 56 11.3**	**+1.3**
	1.7nm,0.3s,baz=106,slow=7.4,SNR=3.4						
PMG				Sn	**Sn**	**10 57 41.2**	**-0.4**
	1.0nm,0.3s,baz=74,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**24.13**	**233**	P	**P**	**10 59 23.6**	**-2.6**
	0.4nm,0.6s,baz=57,slow=9.7,SNR=6.8						
ASAR	**Alice Springs**	**26.58**	**227**	P	**P**	**10 59 46.6**	**-1.9**
	0.4nm,0.7s,baz=58,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**82.61**	**319**	P	P	11 06 29.6	-3.5
	0.1nm,0.4s,baz=121,slow=5.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**152.57**	**287**	PKPbc	**PKPdf**	**11 14 03.3**	**+3.1**
	0.3nm,0.6s,baz=56,slow=3.5,SNR=2.7						

*IDC **07** 11:25:54.8±1.2,18°.85N×147°.17E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.5/34,mbtmp3.5/6,Error ellipse: s-maj=45.3km s-min=21.3km az=90.0*

ISC 07 11:25:59.9±1.4,18.7N±0°.1×147.3E±0°.3,h35km,n7, σ1s50/8,mb3.5/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**19.45**	**338**	P	**P**	**11 30 23.7**	**+0.1**
MAT				S	**Pn**	**11 30 27.6**	**+2.7**
WRA	**Warramunga Arr**	**40.47**	**199**	P	**P**	**11 33 36.1**	**+0.7**
	0.2nm,0.3s,baz=32,slow=8.9,SNR=9.7						
SONM	**Songino Array**	**44.05**	**321**	P	**P**	**11 34 03.6**	**-0.9**
	0.3nm,0.4s,baz=117,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**44.11**	**198**	P	**P**	**11 34 05.5**	**+0.4**
	0.1nm,0.3s,baz=23,slow=6.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**58.89**	**322**	P	**P**	**11 35 54.1**	**-1.2**
	0.6nm,0.3s,baz=110,slow=8.3,SNR=3.3						
MKAR	**Makanchi Array**	**59.51**	**314**	P	**P**	**11 35 58.6**	**-1.1**
	0.7nm,0.6s,baz=93,slow=9.3,SNR=7.9						
ILAR	**Eielson Array**	**62.97**	**26**	P	**P**	**11 36 22.5**	**-0.3**
	0.3nm,0.8s,baz=229,slow=9.3,SNR=3.6						

*IDC **07** 11:48:08.4±2.2,36°.88N×141°.50E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/42,mbtmp3.4/4,ML2.3/1,Error ellipse: s-maj=49.3km s-min=26.9km az=43.0*

*JMA **07** 11:48:10.9±0.1,36°.84N×141°.35E,h28km±1km,M3.5*

ISC 07 11:48:10.4±1.9,36°.84N±0°.04×141°.37E±0°.08,h15km±10km, n21,σ0s78/27,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**300**	P	**Pg**	**11 48 21.0**	**+0.1**
ONAJ				S	**Sg**	**11 48 29.0**	**+1.0**
JFK	**Kawauchi**	**0.66**	**323**	P	**Pg**	**11 48 23.2**	**-0.2**
JFK				S	**Sg**	**11 48 32.1**	**0.0**
JHO	**Hitachi**	**0.68**	**251**	P	**Pb**	**11 48 23.7**	**-0.3**
JHO				S	**Sb**	**11 48 32.7**	**-0.6**
JFFD	**Fukushimafurud**	**0.70**	**291**	P	**Pb**	**11 48 23.6**	**-0.7**
JFFD				S	**Sb**	**11 48 32.4**	**-1.3**
JHYU	**Hitachinakayam**	**0.80**	**232**	P	**Pb**	**11 48 25.7**	**-0.4**
JHYU				S	**Sb**	**11 48 36.2**	**-0.5**
JFT	**Otama**	**1.07**	**310**	P	**Pb**	**11 48 30.4**	**-0.2**
JFT				S	**Sb**	**11 48 44.2**	**-0.3**
JMM	**Marumori**	**1.12**	**336**	P	**Pn**	**11 48 30.7**	**-0.9**
JMM				S	**Sb**	**11 48 45.3**	**-0.7**
JYT	**Yasato**	**1.13**	**238**	P	**Pn**	**11 48 30.3**	**-1.3**
JYT				S	**Sb**	**11 48 44.6**	**-1.5**
JSB	**Shiboa**	**1.17**	**277**	P	**Pn**	**11 48 32.3**	**0.0**
JSB				S	**Sb**	**11 48 47.7**	**+0.3**
JFY	**Yanaizu**	**1.45**	**294**	P	**Pn**	**11 48 36.4**	**+0.3**
JFY				S	**Sn**	**11 48 54.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.56**	**264**	Pn	**Pn**	**11 48 52.0**	**+0.6**
	0.5nm,0.3s,baz=85,slow=16,SNR=18						
MJAR				Sn	**Sb**	**11 49 27.0**	**-0.3**
	0.9nm,0.3s,baz=42,slow=44,SNR=5.1						
MAT	**Matsushiro**	**2.56**	**264**	P	**Pn**	**11 48 52.3**	**+0.9**
MAT				*eS*	**Sb**	**11 49 26.8**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	12 23 26.8	
	baz=313,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	12 23 27.4	
	baz=313,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	12 23 28.2	
	baz=313,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	12 24 21.1	
	baz=315,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	12 24 23.6	
	baz=315,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	12 24 24.8	
	baz=315,slow=76,SNR=27						
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**11 56 19.2**	**+0.5**
	0.6nm,0.6s,baz=88,slow=9.1,SNR=7.5						
WRA	**Warramunga Arr**	**56.86**	**188**	P	**P**	**11 57 54.6**	**+0.1**
	0.2nm,0.4s,baz=6.7,slow=7.4,SNR=8.1						
ASAR	**Alice Springs**	**60.59**	**188**	P	**P**	**11 58 21.9**	**+1.5**
	0.3nm,0.8s,baz=0.0,slow=7.4,SNR=4.0						

*IDC **07** 11:54:07.5±1.6,5°.39S×152°.70E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.5/30,mbtmp3.5/3,Error ellipse: s-maj=38.5km s-min=20.6km az=90.0*

*NEIC **07** 11:54:09.7±0.6,5°.51S±0°.08×152°.7E±0°.1,h19km±11km, mb4.2/7,Error ellipse: s-maj=19.0km s-min=10.2km az=107.0*

ISC 07 11:54:12.3±0.9,5°.48S±0°.06×152°.6E±0°.1,h40km,n16, σ0s85/18,mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.30**	**334**	Pn	**Pn**	**11 54 33.3**	**-0.7**
	394nm,0.3s,baz=140,slow=0.9,SNR=258						
KRVT				Sn	**Sn**	**11 54 50.1**	**0.0**
	287nm,0.3s,baz=336,slow=20,SNR=23						
RABL	**Rabaul**	**1.35**	**341**		**Pn**	**11 54 34.4**	**-0.3**
PMG	**Port Moresby**	**6.66**	**234**	Pn	**Sn**	**11 57 01.4**	**-0.9**
	0.8nm,0.3s,baz=127,slow=15,SNR=3.9						
PMG	**Port Moresby**	**6.66**	**234**	Pn	**Pn**	**11 55 47.0**	**-0.7**
PMG					**Sn**	**11 57 03.5**	**+1.3**
CTAO	**Charters Tower**	**15.78**	**202**	Pn	**Pn**	**11 57 51.2**	**-0.5**
CTAO				IAmb	IAmb	11 58 06.9	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**22.70**	**230**	P	**P**	**11 59 10.8**	**-0.1**
WB0				IAmb	IAmb	11 59 29.0	
	comp=Z,6.8nm,1.4s						
WB2	**Warramunga Arr**	**22.84**	**229**	P	**P**	**11 59 12.1**	**-0.2**
WRA	**Warramunga Arr**	**22.85**	**229**	P	**P**	**11 59 13.6**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=52,slow=9.8,SNR=9.7						
WRA	**Warramunga Arr**	**22.85**	**229**	P	**P**	**11 59 13.0**	**+0.6**
ARMA	**Armidale**	**24.82**	**182**	P	**P**	**11 59 30.7**	**-0.3**
ARMA				IAmb	IAmb	11 59 43.4	
	comp=Z,12nm,1.2s						
ASAR	**Alice Springs**	**25.52**	**223**	P	**P**	**11 59 39.3**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=61,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**25.52**	**223**	P	**P**	**11 59 38.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**29.16**	**242**	P	**P**	**12 00 10.1**	**+0.1**
FITZ				IAmb	IAmb	12 00 12.8	
	comp=Z,9.3nm,1.4s						
URZ	**Urewera**	**39.51**	**149**	P	**P**	**12 01 38.9**	**-0.3**
ILAR	**Eielson Array**	**82.86**	**22**	P	**P**	**12 06 32.6**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=258,slow=4.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.32**	**287**	PKPbc	**PKiKP**	**12 14 01.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=69,slow=2.0,SNR=2.7						

IDC 07 11:58:55.8±2.8,6°.99S×129°.79E,h93km±38km,mb3.0/1, mb1 3.5/5,mb1mx3.2/35,mbtmp3.7/5,Error ellipse: s-maj=68.1km s-min=22.6km az=91.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.26**	**14**	P	Pn	12 00 25.7	+0.1
	0.8nm,0.3s,baz=154,slow=20,SNR=9.2						
SIJI				S	Sn	12 01 31.6	-4.2
	2.7nm,0.3s,baz=245,slow=23,SNR=9.4						
FITZ	**Fitzroy Crossi**	**11.76**	**200**	P	Pn	12 01 40.7	+0.3
	0.3nm,0.3s,baz=25,slow=11,SNR=24						
FITZ				S	Sn	12 03 42.5	-7.1
	0.7nm,0.3s,baz=266,slow=21,SNR=7.5						
WRA	**Warramunga Arr**	**13.61**	**162**	P	Pn	12 02 03.0	-2.0
	0.4nm,0.3s,baz=340,slow=12,SNR=18						
WRA				S	Sn	12 04 23.8	-11
	0.6nm,0.3s,baz=336,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**17.04**	**167**	P	P	12 02 49.9	+1.1
	0.4nm,0.3s,baz=342,slow=8.5,SNR=42						
ASAR				S	Sn	12 05 50.6	-7.2
	0.1nm,0.3s,baz=341,slow=24,SNR=6.6						
MKAR	**Makanchi Array**	**68.10**	**327**	P	P	12 09 45.8	0.0
	0.2nm,0.5s,baz=140,slow=5.6,SNR=2.8						

*DJA **07** 12:07:43.7±0.2,1°.S±2°×12°.7E±°,h10km,M4.4/14,mB5.3/1, mb4.8/4,MLv4.2/14,Mw(mB)4.7/1*

*NEIC **07** 12:07:45.7±2.2,1°.17S±0°.07×127°.28E±0°.07,h36km±8km, mb4.5/21,Error ellipse: s-maj=11.2km s-min=9.6km az=51.0*

*IDC **07** 12:07:48.5±2.5,1°.17S×127°.41E,h62km±24km,mb3.9/12, mb1 4.0/16,mb1mx3.8/38,mbtmp4.2/16,ML4.0/4,MS3.3/2, Ms1 3.3/2,ms1mx2.8/42,Error ellipse: s-maj=18.3km s-min=13.8km az=96.0*

ISC 07 12:07:46.9±1.0,1°.13S±0°.04×127°.42E±0°.05,h51km±10km, n61,σ1s57/67,mb4.3/18,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.69**	**238**	P	**Pn**	**12 08 12.9**	**-1.2**
SANI				S	**Sn**	**12 08 35.2**	**+0.5**
TNTI	**Ternate**	**1.89**	**358**	P	**Pn**	**12 08 15.9**	**-0.9**
TNTI				S	**Sn**	**12 08 40.5**	**+1.0**
TNTI	**Ternate**	**1.89**	**358**		**Pn**	**12 08 15.4**	**-1.4**
NLAI	**Namlea**	**2.12**	**189**	P	**Pn**	**12 08 18.6**	**-1.3**
NLAI				S	**Sn**	**12 08 45.0**	**0.0**
AAI	**Ambon**	**2.65**	**163**	P	**Pn**	**12 08 26.4**	**-0.8**
AAI				S	**Sn**	**12 09 00.0**	**+1.8**
MSAI	**Masohi**	**2.67**	**146**	P	**Pn**	**12 08 27.4**	**0.0**
MSAI				S	**Sn**	**12 09 00.7**	**+2.2**
KMSI	**Cibinong**	**3.83**	**296**	P	**Pn**	**12 08 41.9**	**-1.5**
SIJI	**Sorong**	**3.86**	**86**	P	**Pn**	**12 08 44.7**	**+0.9**
	9.5nm,0.3s,baz=237,slow=23,SNR=17						
SIJI				S	**Sn**	**12 09 30.9**	**+3.1**
	1.5nm,0.3s,baz=135,slow=20,SNR=1.2						
SIJI				LR	LR	12 10 18.0	
	comp=Z,450nm,21.7s,baz=204,slow=39						
BNDI	**Bandanaira**	**4.18**	**144**	P	**Pn**	**12 08 48.2**	**0.0**
LUWI	**Luwuk**	**4.65**	**271**	P	**Pn**	**12 08 53.0**	**-1.6**
LUWI	**Luwuk**	**4.65**	**271**		**Pn**	**12 08 52.5**	**-2.1**
FAKI	**Fak Fak**	**5.14**	**110**	P	**Pn**	**12 09 01.6**	**+0.2**
	0.3nm52nm,1.2s						
FAKI	**Fak Fak**	**5.14**	**110**	Pn	**Pn**	**12 09 00.1**	**-1.3**
SGSI	**Sangihe**	**5.15**	**338**	P	**Pn**	**12 09 00.8**	**-0.7**
	0.6nm125nm,0.5s						
BNSI	**Bone**	**7.99**	**246**	P	Pn	12 09 44.8	+4.3
SPSI	**Sidrap Palu**	**8.14**	**250**	P	**Pn**	**12 09 43.0**	**+0.4**
	2μm114nm,0.5s						
BKSI	**Bulukumba**	**8.39**	**240**	P	Pn	12 09 50.5	+4.6
KAPI	**Kappang**	**8.57**	**243**	P	**Pn**	**12 09 50.3**	**+1.9**
	4.2nm,0.3s,baz=94,slow=3.8,SNR=4.5						
MTN	**Manton Dam**	**12.20**	**163**	Pn	**Pn**	**12 10 37.3**	**-0.8**
JAY	**Jayapura**	**13.35**	**96**	P	**P**	**12 10 58.0**	**-4.0**
	0.3nm,0.3s,baz=10.0,slow=17,SNR=1.7						
FITZ	**Fitzroy Crossi**	**16.95**	**186**	P	**P**	**12 11 42.0**	**+0.1**
	0.1nm,0.3s,baz=12,slow=9.0,SNR=2.3						
FITZ	**Fitzroy Crossi**	**16.95**	**186**	P	**P**	**12 11 42.3**	**+0.4**
WB0	**Warramunga Arr**	**19.74**	**160**	P	**P**	**12 12 11.8**	**-0.8**
WRA	**Warramunga Arr**	**19.88**	**161**	P	**P**	**12 12 13.2**	**-0.9**
	0.8nm,0.3s,baz=340,slow=12,SNR=36						
WRA				S	**S**	**12 15 49.7**	**-5.6**
	0.1nm,0.3s,baz=337,slow=21,SNR=3.8						
WRA	**Warramunga Arr**	**19.88**	**161**	P	**P**	**12 12 12.2**	**-2.0**
WB2	**Warramunga Arr**	**19.89**	**160**		**P**	**12 12 13.3**	**-0.9

MK31	**Makanchi Array**	**61.94**	**327**	P	**P**	**12 18 02.5**	**+1.0**
MK31				IAmb	IAmb	12 18 03.5	
	comp=Z,11nm,1.5s						
MKAR	**Makanchi Array**	**61.94**	**327**	P	**P**	**12 18 02.5**	**+1.0**
	comp=Z,3.9nm,0.3s,baz=116,slow=7.9,SNR=126						
MKAR	**Makanchi Array**	**61.94**	**327**	P	**P**	**12 18 02.4**	**+0.9**
MAKZ	**Makanchi**	**62.12**	**326**	P	**P**	**12 18 03.7**	**+1.0**
ZALV	**Zalesovo Beam**	**65.22**	**334**	P	**P**	**12 18 22.9**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=98,slow=5.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**65.22**	**334**	P	**P**	**12 18 22.7**	**-0.2**
GAR	**Garm**	**65.74**	**314**	P	**P**	**12 18 27.4**	**+0.7**
BTK	**Batken**	**65.81**	**315**	P	**P**	**12 18 28.1**	**+1.0**
BTK				IAmb	IAmb	12 18 46.6	
	comp=Z,8.6nm,1.4s						
KURK	**Kurchatov**	**66.20**	**328**	P	**P**	**12 18 29.6**	**+0.3**
KURK				IAmb	IAmb	12 18 30.9	
	comp=Z,7.3nm,0.8s						
SEY	**Seymchan**	**66.60**	**12**	LR	LR	12 50 16.9	
	comp=Z,24nm,18.8s,baz=260,slow=38						
KK31	**Karatay Array**	**67.27**	**318**	P	**P**	**12 18 37.5**	**+1.2**
KK31				IAmb	IAmb	12 18 38.1	
	comp=Z,2.8nm,0.9s						
KKAR	**Karatay Array**	**67.27**	**318**	P	**P**	**12 18 36.7**	**+0.4**
BRVK	**Borovoye**	**71.83**	**328**	P	**P**	**12 19 04.1**	**-0.1**
BRVK				IAmb	IAmb	12 19 06.4	
	comp=Z,6.5nm,1.1s						
NRIK	**Noril'sk**	**75.29**	**346**	P	**P**	**12 19 24.3**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=134,slow=5.2,SNR=3.7						
ABKAR	**Akbulak array**	**76.34**	**321**	P	**P**	**12 19 30.5**	**0.0**
ABKAR				IAmb	IAmb	12 19 32.0	
	comp=Z,3.8nm,0.9s						
VNDA	**Vanda**	**78.55**	**173**	P	**P**	**12 19 43.2**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=310,slow=5.7,SNR=3.6						
VNDA	**Vanda**	**78.55**	**173**	P	**P**	**12 19 43.1**	**+0.8**
VNDA				IAmb	IAmb	12 20 04.3	
	comp=Z,4.2nm,1.4s						
ILAR	**Eielson Array**	**89.17**	**25**	P	**P**	**12 20 36.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=251,slow=4.9,SNR=4.2						
ARCES	**ARCESS Array B**	**95.22**	**340**	P	**P**	**12 21 03.6**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=64,slow=6.1,SNR=1.3						

*IDC **07** 12:17:26.2±1.1, 1°.30S×127°.10E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.7/31, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=41.8km s-min=20.9km az=70.0*
*NEIC **07** 12:17:30.5±2.2, 1°.26S±0°.08×127°.06E±0°.07, h35km±7km, mb4.2/10, Error ellipse: s-maj=12.3km s-min=10.0km az=193.0*

ISC 07 12:17:30.3±0.7, 1°.25S±0°.08×127°.12E±0°.08, h35km, n24, σ1s43/25, mb4.2/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**2.02**	**7**			**Pn**	**12 18 01.7**	**-0.2**
SIJI	**Sorong**	**4.16**	**85**	Pn		**Pn**	**12 18 32.6**	**+1.2**
	2.7nm,0.3s,baz=240,slow=23,SNR=8.6							
SIJI				Sn		**Sn**	**12 19 16.1**	**-2.7**
	2.7nm,0.3s,baz=194,slow=19,SNR=2.1							
LUWI	**Luwuk**	**4.36**	**273**	Pn		**Pn**	**12 18 32.6**	**-1.5**
FAKI	**Fak Fak**	**5.38**	**108**	Pn		**Pn**	**12 18 49.0**	**+0.8**
MTN	**Manton Dak**	**12.19**	**161**	Pn		**Pn**	**12 20 23.3**	**+1.7**
WB0	**Warramunga Arr**	**19.73**	**159**	P		**Pn**	**12 21 58.6**	**-0.2**
WRA	**Warramunga Arr**	**19.88**	**160**	P		**P**	**12 21 58.0**	**-0.7**
	0.3nm,0.3s,baz=342,slow=12,SNR=14							
WRA				S		**S**	**12 25 37.0**	**-3.8**
	0.0nm,0.3s,baz=334,slow=24,SNR=2.8							
WRA	**Warramunga Arr**	**19.88**	**160**	P		**Pn**	**12 21 59.4**	**-1.1**
WB2	**Warramunga Arr**	**19.88**	**160**	P		**P**	**12 21 58.9**	**+0.1**
WB2				IAmb		IAmb	12 22 03.6	
	comp=Z,7.0nm,1.1s							
CISI	**Cisompet, Garu**	**20.24**	**251**	P		Pn	12 22 03.4	-1.5
COEN	**Coen**	**20.29**	**129**	P		Pn	12 22 04.3	-1.1
COEN				IAmb		IAmb	12 22 10.6	
	comp=Z,12nm,1.1s							
AS31	**Alice Springs**	**23.24**	**164**	P		**P**	**12 22 35.1**	**+0.4**
ASAR	**Alice Springs**	**23.24**	**164**	P		**P**	**12 22 35.0**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=344,slow=11,SNR=17							
ASAR				PcP		**PcP**	**12 26 23.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=352,slow=1.9,SNR=2.0							
ASAR	**Alice Springs**	**23.24**	**164**	P		**P**	**12 22 34.2**	**-0.5**
EIDS	**Eidsvold**	**33.31**	**138**	P		**P**	**12 24 04.7**	**-0.2**
EIDS				IAmb		IAmb	12 24 10.7	
	comp=Z,4.2nm,1.1s							
ARMA	**Armidale**	**37.18**	**144**	P		**P**	**12 24 38.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**45.45**	**5**	P		**P**	**12 25 46.4**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=183,slow=7.7,SNR=7.6							
USRK	**Ussuriysk Ar.**	**45.45**	**5**	P		**P**	**12 25 46.0**	**+0.1**
MK31	**Makanchi Array**	**61.87**	**327**	P		**P**	**12 27 46.7**	**+0.5**
MK31				IAmb		IAmb	12 27 48.9	
	comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**61.87**	**327**	P		**P**	**12 27 48.1**	**+1.9**
	comp=Z,1.3nm,0.4s,baz=117,slow=7.6,SNR=28							
MKAR	**Makanchi Array**	**61.87**	**327**	P		**P**	**12 27 47.8**	**+1.6**
KURK	**Kurchatov**	**66.14**	**329**	P		**P**	**12 28 15.3**	**+1.2**
KURK				IAmb		IAmb	12 28 16.3	
	comp=Z,3.9nm,1.0s							
KKAR	**Karatay Array**	**67.15**	**318**	P		**P**	**12 28 20.8**	**0.0**
ABKAR	**Akbulak array**	**76.25**	**322**	P		**P**	**12 29 14.0**	**-1.3**

IDC 07 12:29:12.2±7.5, 1°.28S×127°.54E, h107km±81km, mb3.1/2, mb1 3.1/4, mb1mx3.0/39, mbtmp3.4/4, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/21, Error ellipse: s-maj=65.9km s-min=24.0km az=80.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**3.75**	**84**	P		Pn	12 30 07.6	-0.6
	0.9nm,0.3s,baz=231,slow=23,SNR=7.4							
SIJI				S		Sn	12 30 52.5	+0.9
	1.0nm,0.3s,baz=127,slow=20,SNR=1.6							
WRA	**Warramunga Arr**	**19.70**	**161**	P		P	12 33 32.9	-0.4
	0.1nm,0.3s,baz=342,slow=12,SNR=5.1							
ASAR	**Alice Springs**	**23.09**	**165**	P		P	12 34 09.2	+0.2
	0.3nm,0.5s,baz=342,slow=11,SNR=7.6							
JNU	**Nakatsue**	**34.37**	**5**	LR		LR	12 49 09.2	
	comp=Z,60nm,19.3s,baz=194,slow=35							
MKAR	**Makanchi Array**	**62.13**	**326**	P		P	12 39 22.0	-0.1
	0.4nm,0.5s,baz=122,slow=8.5,SNR=6.5							

*IDC **07** 12:32:53.1±1.4, 10°.80N×41°.35W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/58, mbtmp4.0/3, ML5.4/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/36, Error ellipse: s-maj=78.3km s-min=23.8km az=3.0*
*NEIC **07** 12:32:54.3±0.8, 10°.7N±0°.2×41°.35W±0°.08, h10km±1km, mb4.7/8, Error ellipse: s-maj=26.5km s-min=11.9km az=169.0*

ISC 07 12:32:55.6±0.8, 10°.6N±0°.2×41°.35W±0°.10, h18km, n21, σ0s37/13, mb4.4/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDP	**Montagnes des**	**12.46**	**245**	Pn		**Pn**	**12 35 52.7**	**+0.5**
	24nm,0.3s,baz=57,slow=14,SNR=128							
RCBR	**Riachuelo**	**17.23**	**161**	Pn		**Pn**	**12 36 55.1**	**-0.4**
TOSP	**Speyside**	**18.84**	**274**	P		**P**	**12 37 14.2**	**-0.5**
TOSP				IAmb		IAmb	12 37 17.1	
	comp=Z,67nm,1.3s							
H05S1	**Guadeloupe/Mar**	**19.39**	**283**	T		T	12 57 20.3	
	SNR=12							
MTP	**Monte Pirata**	**24.57**	**290**	P		**P**	**12 38 15.2**	**+0.5**
MTP				IAmb		IAmb	12 38 16.4	
	comp=Z,11nm,0.8s							
CBYP	**Canovanas**	**24.89**	**291**	P		**P**	**12 38 17.4**	**-0.3**
CBYP				IAmb		IAmb	12 38 28.3	
	comp=Z,28nm,1.1s							
PDPR	**Patillas Dam,**	**24.98**	**290**	P		**P**	**12 38 18.7**	**+0.3**
BANI	**BANI**	**29.09**	**289**	P		**P**	**12 38 55.3**	**-0.2**
H10N3	**ASCENSION HYDR**	**32.42**	**123**	T		T	13 13 28.9	
	baz=304,slow=75,SNR=18							
H10N2	**ASCENSION HYDR**	**32.43**	**123**	T		T	13 13 38.8	
	baz=304,slow=75,SNR=18							
H10N1	**ASCENSION HYDR**	**32.44**	**123**	T		T	13 13 33.0	
	baz=304,slow=75,SNR=17							
H10S3	**ASCENSION HYDR**	**32.92**	**125**	T		T	13 14 06.8	
	baz=304,slow=74,SNR=21							
H10S2	**ASCENSION HYDR**	**32.94**	**125**	T		T	13 14 12.3	
	baz=276,slow=74,SNR=11							
DBIC	**Dimbokro**	**36.28**	**93**	P		**P**	**12 39 58.6**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=271,slow=11,SNR=5.9							
DBIC	**Dimbokro**	**36.28**	**93**	P		**P**	**12 39 58.4**	**0.0**
DBIC				IAmb		IAmb	12 40 13.8	
	comp=Z,13nm,1.2s							

TORD	**Torodi Ar. Bea**	**42.16**	**82**	P		**P**	**12 40 47.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=278,slow=8.9,SNR=7.2							
TKL	**Tuckaleechee C**	**45.78**	**310**	LR		LR	12 56 43.7	
	comp=Z,95nm,21.3s,baz=354,slow=31							
N47A	**Urbana**	**49.26**	**316**	P		**P**	**12 41 43.2**	**-0.1**
TXAR	**Lajitas Array**	**60.78**	**298**	P		**P**	**12 43 06.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=115,slow=6.1,SNR=8.8							
NC405	**NORSAR Array S**	**63.44**	**26**	P		**P**	**12 43 24.1**	**0.0**
RPN	**Rapa Nui**	**75.80**	**238**	LR		LR	13 13 29.9	
	comp=Z,117nm,18.8s,baz=211,slow=32							

*SJA **07** 12:33:20.6±0.7, 20°.01S×71°.08W, h19km±3km, ML5.0, MW5.2*
*IDC **07** 12:33:21.8±0.5, 19°.84S×70°.75W, h0km, mb4.6/27, mb1 4.8/30, mb1mx4.7/45, mbtmp4.6/30, ML4.3/3, MS4.5/24, Ms1 4.5/24, ms1mx4.5/30, Error ellipse: s-maj=16.6km s-min=11.9km az=46.0*
*NEIC **07** 12:33:22.8, 20°.02S×70°.99W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.93; Mθθ-0.17; Mϕϕ-0.76; Mrθ-0.01; Mθϕ-0.09; Mϕr-1.00; Fault plane solution: Mo 1.32000×10^17 NP1:ϕs 182.48000°, δ 69.91000°, λ 86.94000°. NP2:ϕs 11.32000°, δ 20.31000°, λ 98.30000°. Principal axes: T 1.3951, Plg 65.0000°, Azm 87.0000°; N -0.1607, Plg 3.0000°, Azm 184.0000°; P -1.2344, Plg 25.0000°, Azm 275.0000°;*
*NEIC **07** 12:33:22.8±1.9, 20°.02S±0°.03×70°.99W±0°.04, h12km±3km, mb5.3/303, Ms_20 4.8/302, Mwb5.3/15, Mwr5.1/40, Mww5.3, ML5.0(GUC) Error ellipse: s-maj=5.3km s-min=4.0km az=101.0*
*NEIC **07** 12:33:22.6, 20°.03S×71°.00W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 5.15; Mθθ 0.28; Mϕϕ-5.42; Mrθ 1.25; Mθϕ 1.86; Mϕr-3.16; Fault plane solution: Mo 6.56000×10^16 NP1:ϕs 160.41000°, δ 60.75000°, λ 86.77000°. NP2:ϕs 346.99000°, δ 29.41000°, λ 95.74000°. Principal axes: T 6.1129, Plg 74.0000°, Azm 62.0000°; N 0.8167, Plg 3.0000°, Azm 162.0000°; P -6.9296, Plg 16.0000°, Azm 253.0000°;*
*VAO **07** 12:33:24.1±0.3, 19°.86S×70°.70W, h10km, mb4.8*
*BJI **07** 12:33:24.0±0.0, 20°.00S×71°.00W, h8km, mB5.5/11, Ms5.4/2, Ms7 5.3/1*
*GUC **07** 12:33:24.3±0.7, 20°.01S×71°.04W, h33km±2km, ML5.0, MW5.5*
*MOS **07** 12:33:27.1±1.6, 19°.86S×70°.93W, h25km, mb5.3/39, MS4.6/10, Error ellipse: s-maj=13.1km s-min=6.1km az=111.8*
*NEIC **07** 12:33:27, 20°.13S×71°.03W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.62; Mθθ-0.10; Mϕϕ-0.52; Mrθ 0.43; Mθϕ 0.22; Mϕr-0.67; Fault plane solution: Mo 1.01000×10^17 NP1:ϕs 344.00000°, δ 19.00000°, λ 104.00000°. NP2:ϕs 149.00000°, δ 71.00000°, λ 85.00000°. Principal axes: T 1.0179, Plg 63.0000°, Azm 52.0000°; N -0.0172, Plg 5.0000°, Azm 151.0000°; P -1.0008, Plg 26.0000°, Azm 243.0000°;*
*GCMT **07** 12:33:28.8±0.2, 19°.98S±0°.01×71°.20W±0°.01, h20km, MW5.2/114, Moment Tensor Solution. s73,c99; s114,c190; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr 0.73±.02; Mθθ-0.04±.01; Mϕϕ-0.69±.02; Mrθ 0.09±.02; Mθϕ 0.18±.01; Mϕr-0.55±.03; Best double couple: Mo 0.92600×10^17 NP1:ϕs 342.00000°, δ 27.00000°, λ 84.00000°. NP2:ϕs 168.00000°, δ 64.00000°, λ 93.00000°. Principal axes: T 0.9210, Plg 71.0000°, Azm 85.0000°; N 0.0100, Plg 2.0000°, Azm 347.0000°; P -0.9310, Plg 19.0000°, Azm 256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 12:33:22.2±1.3, 20°.03S±0°.02×71°.02W±0°.04, h9km±7km, n996, σ1s32/914, mb5.3/180, MS4.7/177, 29C-15D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TA02	**Huaiquique**	**0.87**	**106**	*i*P		**Pg**	**12 33 39.4**	**+0.4**
TA02				*e*S		**Sb**	**12 33 51.5**	**+0.2**
TA02				IAML			12 33 52.5	
	comp=N,65μm,0.2s							
PSGC	**Pisagua**	**0.95**	**63**	*i*P		**Pg**	**12 33 40.3**	**-0.2**
PSGC				*i*S		**Sg**	**12 33 52.5**	**-0.3**
PSGCX	**Pisagua**	**0.95**	**63**			**Pg**	**12 33 40.2**	**-0.3**
PSGCX				Sg		**Sg**	**12 33 52.5**	**-0.3**
PSGCX	**Pisagua**	**0.95**	**63**	*e*P		**Pg**	**12 33 39.9**	**-0.6**
PSGCX				*e*P		**Pg**	**12 33 40.2**	**-0.3**
TA01	**Diego Aracena**	**0.95**	**124**	*i*P		**Pb**	**12 33 41.3**	**+0.3**
TA01				*e*S		**Sb**	**12 33 53.9**	**+0.2**
TA01	**Diego Aracena**	**0.95**	**124**			**Pb**	**12 33 41.4**	**+0.5**
TA01				Sg		**Sb**	**12 33 54.0**	**+0.3**
PATCX	**Punta Patache**	**1.13**	**134**	*i*P		**Pb**	**12 33 44.1**	**+0.1**
PATCX				*i*S		**Sg**	**12 33 58.8**	**0.0**
PATCX				IAML			12 34 05.8	
	comp=N,38μm,0.4s							
PATCX	**Punta Patache**	**1.13**	**134**			**Pb**	**12 33 44.2**	**+0.1**
PATCX	**Punta Patache**	**1.13**	**134**	*e*P		**Pb**	**12 33 44.1**	**+0.1**
PATCX				*e*P		**Pb**	**12 33 44.2**	**+0.1**
PATCX				*e*S		**Sn**	**12 34 00.2**	**+0.1**
PB11	**IPOC Station P**	**1.31**	**79**	*i*P		**Pn**	**12 33 46.5**	**-0.4**
PB11				*e*S		**Sb**	**12 34 03.7**	**-0.4**
PB11				IAML			12 34 05.5	
	comp=E,45μm,0.6s							
PB11	**IPOC Station P**	**1.31**	**79**			**Pn**	**12 33 46.6**	**-0.4**
PB11						**Sb**	**12 34 03.4**	**-0.8**
PB11	**IPOC Station P**	**1.31**	**79**	*e*P		**Pn**	**12 33 46.2**	**-0.7**
PB11				*e*S		**Sg**	**12 34 05.2**	**+0.7**
PB11				IAML			12 34 07.9	
	comp=Z,20μm,0.7s							
MNMC	**Minye Minye**	**1.61**	**57**	*i*P		**Pn**	**12 33 51.1**	**0.0**
MNMC				*e*S		**Sn**	**12 34 12.3**	**+0.1**
MNMC				IAML			12 34 20.2	
	comp=E,41μm,0.5s							
MNMC	**Minye Minye**	**1.61**	**57**			**Pn**	**12 33 51.3**	**+0.1**
MNMCX	**Minye Minye**	**1.61**	**57**	*e*P		**Pn**	**12 33 51.1**	**0.0**
MNMCX				*e*P		**Pn**	**12 33 51.2**	**0.0**
PB02	**IPOC Station P**	**1.66**	**141**	*i*P		**Pn**	**12 33 51.8**	**+0.1**
PB02				*e*S		**Sn**	**12 34 13.0**	**-0.1**
PB02				IAML			12 34 23.7	
	comp=N,46μm,0.4s							
PB02	**IPOC Station P**	**1.66**	**141**	*e*P		**Pn**	**12 33 51.9**	**+0.2**
PB02				*e*S		**Sg**	**12 34 15.9**	**+0.2**
PB02				IAML			12 34 23.0	
	comp=Z,37μm,0.3s							
PB01	**IPOC Station P**	**1.76**	**125**	*i*P		**Pn**	**12 33 53.2**	**+0.3**
PB01				*i*S		**Sn**	**12 34 15.6**	**+0.1**
PB01				IAML			12 34 23.4	
	comp=E,21μm,0.2s							
PB01	**IPOC Station P**	**1.76**	**125**			**Pn**	**12 33 53.5**	**+0.5**
PB01	**IPOC Station P**	**1.76**	**125**	*e*P		**Pn**	**12 33 53.3**	**+0.3**
PB01				*e*S		**Sb**	**12 34 16.9**	**0.0**
PB01				*e*S		**Sn**	**12 34 17.3**	**+1.8**
PB01				IAML			12 34 23.2	
	comp=Z,13μm,0.3s							
GO01	**Chusmiza**	**1.76**	**79**	*i*P		**Pn**	**12 33 53.4**	**+0.1**
GO01				*e*S		**Sn**	**12 34 16.0**	**0.0**
GO01				IAML			12 34 18.7	
	comp=N,57μm,0.2s							
GO01	**Chusmiza**	**1.76**	**79**			**Pn**	**12 33 53.5**	**+0.2**
PB08	**IPOC Station P**	**1.76**	**94**	*i*P		**Pn**	**12 33 53.2**	**0.0**
PB08				*e*S		**Sn**	**12 34 16.3**	**+0.3**
PB08				IAML			12 34 20.7	
	comp=N,14μm,0.5s							
PB08	**IPOC Station P**	**1.76**	**94**	Pn		**Pn**	**12 33 53.5**	**+0.3**
PB08	**IPOC Station P**	**1.76**	**94**	*e*P		**Pn**	**12 33 53.3**	**0.0**
PB08				*e*P		**Pn**	**12 33 53.6**	**+0.3**
PB08				*e*S		**Sg**	**12 34 18.4**	**-0.5**
PB08				IAML			12 34 20.6	
	comp=Z,9μm,0.5s							
AP01	**Chacalluta**	**1.77**	**21**	*i*P		**Pn**	**12 33 52.9**	**-0.1**
AP01				*e*S		**Sn**	**12 34 14.9**	**-0.8**
AP01				IAML			12 34 22.9	
	comp=E,51μm,0.5s							
AP01	**Chacalluta**	**1.77**	**21**			**Pn**	**12 33 52.9**	**-0.1**
PB07	**IPOC Station P**	**2.00**	**148**	*i*P		**Pn**	**12 33 56.4**	**+0.1**
PB07				*e*S		**Sn**	**12 34 20.6**	**-1.0**
PB07				IAML			12 34 34.7	
	comp=N,11μm,0.5s							
PB07	**IPOC Station P**	**2.00**	**148**			**Pn**	**12 33 56.6**	**+0.3**
PB07	**IPOC Station P**	**2.00**	**148**	*e*P		**Pn**	**12 33 56.6**	**+0.3**
PB07				*e*S		**Sg**	**12 34 28.8**	**+2.4**
PB07				IAML			12 34 34.3	
	comp=Z,11μm,0.4s							
PB16	**IPOC Station P**	**2.21**	**41**	*i*P		**Pn**	**12 33 59.9**	**+0.2**
PB16				*e*S		**Sn**	**12 34 28.5**	**+1.2**
PB16	**IPOC Station P**	**2.21**	**41**	Pn		**Pn**	**12 33 59.8**	**+0.2**
PB16	**IPOC Station P**	**2.21**	**41**	*e*P		**Pn**	**12 34 00.1**	**+0.5**
PB16				*e*S		**Sb**	**12 34 30.8**	**+0.4**
PB16				IAML			12 34 34.9	
	comp=E,8μm,0.8s							
PB03	**IPOC Station P**	**2.33**	**150**	*i*P		**Pn**	**12 34 01.2**	**+0.3**
PB03				*e*S		**Sn**	**12 34 28.3**	**-1.6**
PB03	**IPOC Station P**	**2.33**	**150**	*e*P		**Pn**	**12 34 01.2**	**+0.3**
PB03				*e*S		**Sg**	**12 34 45.3**	**+8.0**
PB03				IAML			12 34 48.6	
	comp=Z,4μm,0.6s							
PB09	**IPOC Station P**	**2.42**	**137**	*i*P		**Pn**	**12 34 03.6**	**+1.4**
PB09				*e*S		**Sn**	**12 34 33.5**	**+1.5**
PB09				IAML			12 34 47.3	
	comp=E,15μm,0.4s							
PB09	**IPOC Station P**	**2.42**	**137**			**Pn**	**12 34 03.4**	**+1.2**
PB09	**IPOC Station P**	**2.42**	**137**	*e*P		**Pn**	**12 34 03.5**	**+1.4**
PB09				*e*S		**Sg**	**12 34 39.7**	**-0.4**
PB09				IAML			12 34 50.4	
	comp=Z,14μm,0.5s							
PB04	**IPOC Station P**	**2.43**	**161**	*i*P		**Pn**	**12 34 02.2**	**-0.2**
PB04				*i*S		**Sn**	**12 34 29.6**	**-2.7**
PB04				IAML			12 34 51.3	
	comp=N,7μm,0.6s							
PB04	**IPOC Station P**	**2.43**	**161**			**Pn**	**12 34 02.1**	**-0.2**
PB04	**IPOC Station P**	**2.43**	**161**	*e*P		**Pn**	**12 34 02.3**	**0.0**
PB04				*e*S		**Sn**	**12 34 30.5**	**-1.8**
PB04				IAML			12 34 52.2	
	comp=Z,6μm,1.3s							
PB05	**IPOC Station P**	**2.91**	**165**	*e*P		**Pn**	**12 34 08.4**	**-0.5**
PB05				*e*S		**Sn**	**12 34 40.9**	**-3.2**
PB05	**IPOC Station P**	**2.91**	**165**	*e*P		**Pn**	**12 34 08.4**	**-0.5**
PB05				IAML			12 35 09.2	
	comp=Z,3μm,1.1s							
PB06	**IPOC Station P**	**2.99**	**153**	*i*P		**Pn**	**12 34 09.8**	**-0.2**
PB06				*e*S		**Sn**	**12 34 44.1**	**-1.9**
PB06				IAML			12 35 05.9	
	comp=N,4μm,0.5s							
PB06	**IPOC Station P**	**2.99**	**153**			**Pn**	**12 34 10.0**	**+0.1**
PB06	**IPOC Station P**	**2.99**	**153**	*e*P		**Pn**	**12 34 10.0**	**+0.1**
PB06				*e*S		**Sg**	**12 34 59.3**	**+1.1**
PB06				IAML			12 35 08.5	
	comp=Z,6μm,0.8s							
LVC	**Limon Verde**	**3.24**	**143**	Pn		**Pn**	**12 34 15.2**	**+1.7**
	comp=Z,67nm,0.3s,baz=310,slow=10.0,SNR=384							
LVC				Sn		**Sn**	**12 34 53.3**	**+0.9**
	comp=Z,221nm,0.3s,baz=190,slow=23,SNR=9.0							
LVC				Lg		Lg	12 35 03.7	
	comp=Z,257nm,0.3s,baz=5.3,slow=6.0,SNR=5.3							
LVC	**Limon Verde**	**3.24**	**143**	*e*P		**Pn**	**12 34 15.2**	**+1.7**
LVC				*i*S		**Sn**	**12 34 52.9**	**+0.5**
LVC	**Limon Verde**	**3.24**	**143**	*ce*P		**Pn**	**12 34 15.0**	**+1.4**
LVC				pmax		pmax		
	comp=Z,429nm,0.8s							
LVC	**Limon Verde**	**3.24**	**143**	Pn		**Pn**	**12 34 15.4**	**+1.8**
LVC	**Limon Verde**	**3.24**	**143**	*e*P		**Pn**	**12 34 15.3**	**+1.8**
LVC	**Limon Verde**	**3.24**	**143**	*e*P		**Pn**	**12 34 15.3**	**+1.7**
LVC				IAML			12 35 09.6	
	comp=Z,2μm,0.7s							
PB15	**IPOC Station P**	**3.48**	**156**			**Pn**	**12 34 16.6**	**-0.1**
PB15	**IPOC Station P**	**3.48**	**156**	*e*P		**Pn**	**12 34 16.9**	**+0.2**
PB15				IAML			12 35 22.4	
	comp=Z,5μm,0.5s							
PB10	**IPOC Station P**	**3.50**	**173**			**Pn**	**12 34 16.1**	**-0.7**
PB10	**IPOC Station P**	**3.50**	**173**	*e*P		**Pn**	**12 34 16.1**	**-0.7**
PB10				*e*S		**Sn**	**12 34 56.0**	**-2.3**
PB14	**IPOC Station P**	**4.61**	**173**	Pn		**Pn**	**12 34 31.6**	**-0.8**
PB14	**IPOC Station P**	**4.61**	**173**	*e*P		**Pn**	**12 34 31.8**	**-0.6**
PB14				*e*S		**Sn**	**12 35 23.0**	**-3.3**
PB14				IAML			12 36 11.1	
	comp=Z,732nm,0.7s							
LPAZ	**La Paz**	**4.62**	**37**	Pn		**Pn**	**12 34 35.4**	**+2.5**
	comp=Z,3.0nm,0.3s,baz=205,slow=9.5,SNR=53							
LPAZ				LR		LR	12 36 29.2	
	comp=Z,7μm,18.9s,baz=242,slow=43							
LPAZ	**La Paz**	**4.62**	**37**	*e*P		**Pn**	**12 34 35.8**	**+3.0**
LPAZ				*e*S		**Sn**	**12 35 32.6**	**+5.6**
LPAZ	**La Paz**	**4.62**	**37**	P		**Pn**	**12 34 35.9**	**+3.0**
LPAZ	**La Paz**	**4.62**	**37**	Pn		**Pn**	**12 34 35.9**	**+3.0**
GO02	**Mina Guanaco**	**5.28**	**166**			**Pn**	**12 34 41.1**	**-0.5**
AC01	**Pan de Azucar**	**6.10**	**176**	Pn		**Pn**	**12 34 51.2**	**-1.5**
HJA	**Humahuaca**	**6.10**	**122**	*e*P		**Pn**	**12 34 56.8**	**+3

TIJ01	Guaruva-PR	20.98	109	*e*P		P		12 38 06.2	+0.2		
BB19B	Bebedouro	21.09	97	*e*P		P		12 38 05.6	-1.6		
PUAC	Puerto Asis, P	21.16	344	*e*P		P		12 38 10.1	+2.1		
OTAV	Otavalo	21.42	339	*e*P		P		12 38 13.6	+2.5		
OTAV	Otavalo	21.42	339	P		P		12 38 09.5	-1.6		
OTAV				pmax	pmax						
	comp=Z,58nm,1.2s										
OTAV				MLR	MLR						
	comp=Z,700nm,21.0s										
OTAV	Otavalo	21.42	339	P		P		12 38 09.5	-1.6		
OTAV	Otavalo	21.42	339	*e*P		P		12 38 11.7	+0.6		
CUSE	Cuicocha Este	21.46	339	*e*P		P		12 38 13.3	+1.7		
ITTB	Itaituba	21.54	46	*e*P		P		12 38 09.5	-2.5		
PAC1	Pacto, Paraso	21.56	338	*e*P		P		12 38 14.3	+2.0		
IPMB	Ipameri, GO	21.66	88	*e*P		P		12 38 12.1	-1.3		
FLOC	Florencia	21.95	348	*e*P		P		12 38 17.7	+1.3		
GCUF	Volcan Galeras	22.01	343	*e*P		P		12 38 20.8	+3.2		
RCLB	Rio Claro- Sao	22.02	100	*e*P		P		12 38 15.6	-1.6		
SPB	Sao Paulo	22.18	103	P		P		12 38 17.5	-1.3		
SPB				IAmb	IAmb			12 38 34.4			
	comp=Z,161nm,1.8s										
SPB				IAMs_20	IAMs_20			12 48 11.7			
	comp=Z,3µm,18.0s										
SPB	Sao Paulo	22.18	103	*e*P		P		12 38 18.7	-0.1		
MACC	Macarena, Meta	22.21	353	*e*P		P		12 38 17.2	-1.9		
LL01	San Ignacio de	22.31	183	P		P		12 38 20.1	0.0		
BDFB	Brasilia	22.32	82	P		P		12 38 18.5	-2.1		
	comp=Z,20nm,0.8s,baz=258,slow=14,SNR=11										
BDFB				LR	LR			12 48 29.2			
	comp=Z,2µm,20.9s,baz=267,slow=41										
BDFB	Brasilia	22.32	82	P		P		12 38 18.1	-2.4		
BDFB				pmax	pmax						
	comp=Z,33nm,0.9s										
BDFB				MLR	MLR						
	comp=Z,4µm,18.0s										
BDFB	Brasilia	22.32	82	P		P		12 38 18.1	-2.4		
BDFB				IAMs_20	IAMs_20			12 48 17.4			
	comp=Z,4µm,18.0s										
PET01	Itanhaem-SP	22.39	105	*e*P		P		12 38 20.1	-1.0		
GARC	Garzon, Huila	22.51	348	*e*P		P		12 38 13.4	-9.3		
VAO	Valinhos	22.57	102	*e*P		P		12 38 20.7	-2.3		
SOTA	Rioblanco	22.70	345	*e*P		P		12 38 28.1	+3.2		
BBAC	Balboa, Cauca	22.75	344	*e*P		P		12 38 27.0	+1.9		
PCON	Cinco Dias	22.84	346	*e*P		P		12 38 28.7	+2.3		
BETC	Betania	22.98	349	*e*P		P		12 38 28.7	+1.3		
POPC	Popayan, Colom	23.11	345	*e*P		P		12 38 30.1	+1.3		
PEXB	Peixe	23.19	74	*e*P		P		12 38 26.5	-3.1		
MARP	Paez Belalcaza	23.24	347	*e*P		P		12 38 30.0	-0.3		
PARB	Paraibuna	23.82	103	*e*P		P		12 38 33.8	-2.0		
PRAC	Prado	23.90	350	*e*P		P		12 38 36.9	+0.4		
PTGC	Puerto Gaitan,	24.10	357	*e*P		P		12 38 37.0	-1.4		
VILC	Villavicencio,	24.13	353	*e*P		P		12 38 39.1	+0.3		
ORTC	Ortega, Tolima	24.15	350	*e*P		P		12 38 39.2	+0.4		
MALB	Monte Alegre	24.38	44	*e*P		P		12 38 39.9	-1.1		
YOTC	Yotoco, Valle	24.43	347	*e*P		P		12 38 42.1	+0.6		
BSCB	Bom Sucesso	24.59	97	*e*P		P		12 38 41.9	-1.2		
CHIC	Chingaza	24.65	354	*e*P		P		12 38 40.6	-3.2		
ANIL	Santa Ana	24.74	350	*e*P		P		12 38 46.8	+2.2		
PRPB	Parauapebas	24.78	59	*e*P		P		12 38 43.8	-0.9		
TOLC	Tolima	24.82	350	*e*P		P		12 38 45.7	+0.4		
ESAR	Angra dos Reis	24.89	102	*e*P		P		12 38 44.8	-0.7		
ROSC	El Rosal	24.93	352	P		P		12 38 48.3	+2.0		
	comp=Z,9.3nm,0.4s,baz=75,slow=12,SNR=4.4										
ROSC				LR	LR			12 48 52.7			
	comp=Z,3µm,19.6s,baz=199,slow=38										
ROSC	El Rosal	24.93	352	*e*P		P		12 38 47.3	+1.0		
ROSC	El Rosal	24.93	352	P		P		12 38 45.0	-1.3		
ROSC				IAmb	IAmb			12 39 30.6			
	comp=Z,87nm,1.2s										
ROSC				IAMs_20	IAMs_20			12 48 41.2			
	comp=Z,3µm,19.0s										
RREF	El Recreo	25.14	350	*e*P		P		12 38 46.6	-1.9		
SMTB	Santa Maria do	25.22	67	*e*P		P		12 38 47.5	-1.2		
PLMC	San Jos del P	25.31	348	*e*P		P		12 38 50.7	+1.3		
GUY2C	Guyana, Caldas	25.45	350	*e*P		P		12 38 52.0	+0.8		
SPBC	San Pablo de B	25.70	353	*e*P		P		12 38 53.0	+0.1		
VAS01	Vassouras-RJ	25.80	100	*e*P		P		12 38 52.8	-1.1		
RUSC	La Rusia	25.84	355	*e*P		P		12 38 55.0	+0.3		
MO01	Montes Claros	25.90	87	*e*P		P		12 38 52.8	-2.1		
JANB	Januaria	25.93	83	*e*P		P		12 38 53.5	-1.6		
SDBA	SAO DESIDERIO	26.17	77	*e*P		P		12 38 55.6	-1.7		
CBOC	Ciudad Bolivar	26.19	349	*e*P		P		12 38 57.6	+0.1		
BARC	Barichara	26.54	355	*e*P		P		12 39 01.3	+0.5		
PTBC	PUERTO BERRIO,	26.62	352	*e*P		P		12 39 00.2	-1.0		
SOLC	Bahia Solano	26.84	346	*e*P		P		12 39 09.3	+6.2		
MCPB	Macapa, AP	26.96	46	*e*P		P		12 39 03.2	-1.1		
BRRC	Barranca, Sant	27.09	354	*e*P		P		12 39 05.0	-0.5		
PAMC	Pamplona, Colo	27.25	356	*e*P		P		12 39 07.2	-0.3		
DBBC	Dabeiba	27.36	349	*e*P		P		12 39 08.3	+0.4		
ZARC	Zaragoza, Cauc	27.61	352	*e*P		P		12 39 09.4	-0.7		
UREC	San Jos de Ur	27.96	350	*e*P		P		12 39 05.7	-7.6		
SOCV	Socops	28.14	0	*e*P		P		12 39 14.1	-0.7		
SJMB	Sao Joao De Ma	28.16	92	*e*P		P		12 39 14.8	-0.3		
SDV	Santo Domingo	28.73	1	P		P		12 39 19.6	-0.8		
	comp=Z,8.3nm,1.0s,baz=215,slow=7.9,SNR=6.0										
SDV	Santo Domingo	28.73	1	*e*P		P		12 39 18.1	-2.3		
SDV	Santo Domingo	28.73	1	P		P		12 39 19.6	-0.8		
SDV	Santo Domingo	28.73	1	IAMs_20	IAMs_20			12 49 46.9			
	comp=Z,2µm,19.0s										
SDV	Santo Domingo	28.73	1	*e*P		P		12 39 20.0	-0.4		
SMLC	San Martn de	28.80	354	*e*P		P		12 39 18.5	-2.3		
MOTC	Monteria, Cord	28.99	350	*e*P		P		12 39 21.7	-0.8		
CAPC	Capurgana	29.16	347	*e*P		P		12 39 24.0	+0.1		
ARGC	Ariguani, Magd	29.87	354	*e*P		P		12 39 29.6	-0.6		
SJCC	San Jacinto, C	30.02	352	*e*P		P		12 39 29.6	-2.0		
MDP	Montagnes des	30.82	38	P		P		12 39 37.3	-1.5		
	comp=Z,7.1nm,0.8s,baz=204,slow=10.0,SNR=1.8										
ROSB	Rosrio	31.29	60	*e*P		P		12 39 41.7	-1.1		
TOSP	Speyside	32.80	19	P		P		12 39 54.9	-1.1		
TOSP				IAMs_20	IAMs_20			12 55 42.4			
	comp=Z,3µm,19.0s										
JTS	Las Juntas de	33.10	334	LR	LR			12 52 59.3			
	comp=Z,377nm,19.2s,baz=212,slow=36										
JTS	Las Juntas de	33.10	334	*de*P		P		12 40 01.9	+3.1		
JTS				pmax	pmax						
	comp=Z,31nm,1.7s										
GRGR	Grenville	33.26	17	IAMs_20	IAMs_20			12 54 39.8			
	comp=Z,2µm,18.0s										
BBGH	Gun Hill	34.84	20	IAMs_20	IAMs_20			12 54 36.6			
	comp=Z,3µm,20.0s										
FDF	Fort de France	35.88	16	IAMs_20	IAMs_20			12 56 42.3			
	comp=Z,2µm,18.0s										
RCBR	Riachuelo	36.92	72	P		P		12 40 30.8	-1.0		
	comp=Z,24nm,0.8s,baz=234,slow=10,SNR=8.7										
RCBR	Riachuelo	36.92	72	*ce*P		P		12 40 31.9	+0.1		
RCBR				pmax	pmax						
	comp=Z,65nm,1.3s										
RCBR	Riachuelo	36.92	72	IAMs_20	IAMs_20			12 56 33.2			
	comp=Z,3µm,20.0s										
RCBR	Riachuelo	36.92	72	*e*P		P		12 40 30.8	-1.0		
TGUH	Tegucigalpa,Un	37.45	333	IAMs_20	IAMs_20			12 58 46.4			
	comp=Z,1µm,18.0s										
ICMP	Isla Caja de M	37.94	7	P		P		12 40 38.4	-1.7		
MLPR	Magueyes Islan	37.96	6	P		P		12 40 39.5	-0.9		
CRPR	Cabo Rojo, PR	37.99	6	P		P		12 40 38.6	-2.0		
SKI	Saint Kitts	38.01	13	IAMs_20	IAMs_20			12 57 31.6			
	comp=Z,4µm,20.0s										
OBIP	Obispado Ponce	38.08	7	P		P		12 40 40.1	-1.3		
OBIP				IAmb	IAmb			12 40 43.4			
	comp=Z,73nm,1.2s										
SEUS	St. Eustatius	38.11	12	IAMs_20	IAMs_20			12 57 40.4			
	comp=Z,3µm,18.0s										
PDPR	Patillas Dam,	38.13	8	P		P		12 40 40.5	-1.3		
SABA	Saba	38.19	12	IAMs_20	IAMs_20			12 57 43.3			
	comp=Z,3µm,20.0s										
MPR	Mayaguez	38.19	6	P		P		12 40 41.4	-1.0		
MPR				IAmb	IAmb			12 41 02.7			
	comp=Z,66nm,1.1s										
MTP	Monte Pirata	38.27	8	P		P		12 40 41.5	-1.5		
MTP				IAmb	IAmb			12 40 42.3			
	comp=Z,63nm,1.1s										
CBYP	Canovanas	38.40	8	P		P		12 40 41.9	-2.2		
ANWB	Willy Bob	38.54	14	IAMs_20	IAMs_20			12 57 24.8			
	comp=Z,2µm,20.0s										
MTO3	Montecristo	38.68	331	P		P		12 40 46.7	0.0		
APG	El Apazote	39.72	330	P		P		12 40 55.5	0.0		
	comp=Z,2.1nm,0.4s,baz=172,slow=11,SNR=2.4										
CCIG	Comitan	41.62	329	IAMs_20	IAMs_20			12 56 10.0			
	comp=Z,976nm,22.0s										
TEIG	Tepich	43.43	336	P		P		12 41 25.7	+0.1		
	comp=Z,14nm,0.8s,baz=184,slow=4.2,SNR=2.9										
TEIG				LR	LR			12 59 13.8			
	comp=Z,352nm,21.8s,baz=235,slow=36										
TEIG	Tepich	43.43	336	P		P		12 41 25.6	0.0		
TEIG				IAmb	IAmb			12 41 34.2			
	comp=Z,89nm,1.4s										
BBSR	BB Station	52.45	7	P		P		12 42 34.1	-1.2		
BBSR				IAmb	IAmb			12 42 36.3			
	comp=Z,38nm,1.1s										
TIGA	Tifton	52.58	346	IAMs_20	IAMs_20			13 06 33.8			
	comp=Z,637nm,20.0s										
255A	Hazlehurst	52.81	348	P		P		12 42 37.2	-0.7		
255A				IAmb	IAmb			12 42 39.9			
	comp=Z,76nm,1.4s										
158A	Hollywood	53.20	350	P		P		12 42 41.7	+0.9		
	baz=169										
157A	Early Branch	53.27	349	P		P		12 42 43.2	+1.8		
	baz=168										
NHSC	New Hope	53.56	350	P		P		12 42 44.6	+1.2		
	baz=169										
NHSC	New Hope	53.56	350	P		P		12 42 42.3	-1.1		
NHSC				IAMs_20	IAMs_20			13 06 38.7			
	comp=Z,1µm,20.0s										
Z58A	St. Stephen	53.72	351	P		P		12 42 45.7	+1.0		
	baz=170,SNR=5.5										
250A	Grady	53.73	344	P		P		12 42 44.9	+0.1		
Z57A	Bowman	53.83	350	P		P		12 42 46.0	+0.6		
	baz=169										
Z56A	Williston	53.97	349	IAMs_20	IAMs_20			13 05 15.6			
	comp=Z,782nm,22.0s										
152A	Waverly Hall	54.01	346	P		P		12 42 46.6	-0.2		
152A				IAMs_20	IAMs_20			13 07 19.9			
	comp=Z,668nm,20.0s										
Y60A	Bolivia	54.17	353	P		P		12 42 49.1	+1.2		
	baz=172										
Y60A	Bolivia	54.17	353	P		P		12 42 48.1	+0.2		
Y59A	Loris	54.24	352	IAMs_20	IAMs_20			13 06 28.7			
	comp=Z,680nm,20.0s										
GOGA	Godfrey	54.45	347	P		P		12 42 50.1	+0.1		
	baz=166										
GOGA	Godfrey	54.45	347	P		P		12 42 49.5	-0.5		
GOGA				pmax	pmax						
	comp=Z,24nm,1.5s										
GOGA				MLR	MLR						
	comp=Z,400nm,19.0s										
GOGA	Godfrey	54.45	347	P		P		12 42 49.5	-0.5		
Y57A	Sumter	54.48	350	IAMs_20	IAMs_20			13 07 05.2			
	comp=Z,888nm,20.0s										
X60A	Albert Glenn T	54.70	353	P		P		12 42 52.0	+0.2		
	baz=172										
Z51A	Franklin	54.74	345	P		P		12 42 50.5	-1.6		
Z51A				IAMs_20	IAMs_20			13 07 43.2			
	comp=Z,632nm,19.0s										
X59A	McDuffie Farm,	54.77	352	P		P		12 42 52.6	+0.3		
	baz=171										
X58A	Rowland	54.85	352	P		P		12 42 53.5	+0.6		
	baz=170										
X58A	Rowland	54.85	352	P		P		12 42 52.8	0.0		
X58A				IAMs_20	IAMs_20			13 06 58.0			
	comp=Z,710nm,20.0s										
JSC	Jenkinsville	54.88	350	P		P		12 42 53.0	-0.1		
JSC				pmax	pmax						
	comp=Z,13nm,1.2s										
JSC				MLR	MLR						
	comp=Z,400nm,19.0s										
JSC	Jenkinsville	54.88	350	P		P		12 42 53.0	-0.1		
LRAL	Lakeview Retre	54.93	344	P		P		12 42 53.1	-0.3		
	baz=162										
LRAL	Lakeview Retre	54.93	344	P		P		12 42 53.2	-0.3		
LRAL				IAmb	IAmb			12 43 02.2			
	comp=Z,53nm,1.9s										
HODGE	Hodges	55.01	349	P		P		12 42 53.6	-0.4		
Y52A	Lilburn	55.02	347	P		P		12 42 54.2	+0.1		
Y52A				IAmb	IAmb			12 42 55.3			
	comp=Z,36nm,1.6s										
Y52A				IAMs_20	IAMs_20			13 08 39.4			
	comp=Z,545nm,18.0s										
342A	Flagon Creek P	55.05	338	P		P		12 42 54.3	0.0		
X56A	White Oak	55.05	350	P		P		12 42 54.7	+0.4		
	baz=169,SNR=8.8										
BIRD	Birdtown, Kers	55.11	351	P		P		12 42 55.6	+0.9		
BIRD				IAmb	IAmb			12 42 57.4			
	comp=Z,64nm,1.4s										
BIRD				IAMs_20	IAMs_20			13 07 24.8			
	comp=Z,707nm,21.0s										
X55A	Gracelyn & Ava	55.13	349	P		P		12 42 55.4	+0.6		
	baz=168,SNR=6.6										
HKT	Hockley	55.14	334	*de*P		P		12 42 57.1	+2.1		
HKT				pmax	pmax						
	comp=Z,37nm,1.6s										
HKT	Hockley	55.14	334	P		P		12 42 54.8	-0.2		
HKT				IAmb	IAmb			12 43 02.6			
	comp=Z,55nm,1.6s										
W58A	Raeford	55.30	352	P		P		12 42 57.0	+0.9		
	baz=171,SNR=12										
X54A	Belton	55.34	349	P		P		12 42 56.6	+0.2		
	baz=167,SNR=6.3										
833A	Chaparral WMA,	55.34	329	P		P		12 42 56.8	+0.3		
	baz=147										
PAULI	Pauline	55.50	349	P		P		12 42 57.6	+0.1		
PAULI				IAMs_20	IAMs_20			13 06 01.3			
	comp=Z,884nm,22.0s										
W57A	Gilead	55.53	351	P		P		12 42 58.3	+0.5		
	baz=170,SNR=6.6										
W57A	Gilead	55.53	351	P		P		12 42 58.2	+0.4		
W57A				IAmb	IAmb			12 42 59.7			
	comp=Z,48nm,1.4s										
W57A				IAMs_20	IAMs_20			13 07 58.1			
	comp=Z,636nm,19.0s										
W56A	Indian Trail	55.61	351	P		P		12 42 58.5	+0.2		
	baz=169,SNR=6.0										
KMSC	Kings Mountain	55.73	350	P		P		12 43 00.3	+1.1		
	baz=168										
KMSC	Kings Mountain	55.73	350	P		P		12 42 59.9	+0.6		
KMSC				IAmb	IAmb			12 43 01.2			
	comp=Z,36nm,1.3s										
KMSC				IAMs_20	IAMs_20			13 07 54.4			
	comp=Z,852nm,20.0s										
V60A	Jim Taylor Roa	55.80	354	P		P		12 43 00.2	+0.6		
	baz=173										
W54A	Cherokee Point	55.83	349	P		P		12 43 00.6	+0.7		
	baz=167,SNR=6.6										
X51A	Calhoun	55.87	346	P		P		12 42 58.9	-1.3		
X51A				IAmb	IAmb			12 43 02.2			
	comp=Z,42nm,1.4s										
BG3	Lake Jocassee	55.88	348	P		P		12 43 00.2	-0.1		
V59A	Middlesex	55.91	353	P		P		12 43 01.3	+0.8		
	baz=172,SNR=15										
FPAL	Fort Paine	56.01	345	P		P		12 43 01.2	-0.1		
V58A	Windy Hill, Pi	56.04	352	P		P		12 43 02.0	+0.6		
	baz=171,SNR=10										
V58A	Windy Hill, Pi	56.04	352	P		P		12 43 01.8	+0.4		
V58A				IAmb	IAmb			12 43 04.1			
	comp=Z,44nm,1.2s										
V58A				IAMs_20	IAMs_20			13 07 32.5			
	comp=Z,563nm,21.0s										
W52A	Murphy	56.17	347	P		P		12 43 01.6	-0.8		
W52A				IAmb	IAmb			12 43 04.1			
	comp=Z,35nm,1.4s										
W52A				IAMs_20	IAMs_20			13 08 41.0			
	comp=Z,537nm,19.0s										
V57A	Coltrane Farms	56.23	351	P		P		12 43 03.4	+0.6		
	baz=170										
V56A	Mocksville	56.25	351	P		P		12 43 03.8	+0.9		
	baz=169,SNR=11										
X48A	Hartselle	56.28	344	P		P		12 43 02.5	-0.7		
U61A	Possum Corner	56.29	355	P		P		12 43 04.0	+0.8		
	baz=174										
U61A	Possum Corner	56.29	355	P		P		12 43 03.7	+0.6		
V55A	Taylorsville	56.41	350	P		P		12 43 04.7	+0.6		
	baz=168,SNR=9.2										
V55A	Taylorsville	56.41	350	P		P		12 43 03.6	-0.5		
V55A				IAmb	IAmb			12 43 06.2			
	comp=Z,52nm,1.4s										
V55A				IAMs_20	IAMs_20			13 08 25.2			
	comp=Z,659nm,20.0s										
U59A	Littleton	56.44	353	P		P		12 43 05.0	+0.7		
	baz=172,SNR=8.0										
U59A	Littleton	56.44	353	P		P		12 43 04.2	0.0		
V54A	Nebo	56.46	349	P		P		12 43 04.8	+0.4		
	baz=168,SNR=12										
V53A	Saluda	56.51	348	P		P		12 43 05.0	+0.2		
V53A				IAMs_20	IAMs_20			13 06 44.9			
	comp=Z,746nm,22.0s										
U58A	Oxford	56.57	353	P		P		12 43 05.9	+0.7		
	baz=172,SNR=9.0										
W50A	Signal Mountai	56.58	346	P		P		12 43 03.6	-1.7		
W50A				IAmb	IAmb			12 43 06.7			
	comp=Z,42nm,1.5s										
CPCT	Cooper Cave	56.64	347	P		P		12 43 05.2	-0.6		
CPCT				IAmb	IAmb			12 43 07.2			
	comp=Z,43nm,1.5s										
CPCT				IAMs_20	IAMs_20			13 09 09.4			
	comp=Z,563nm,19.0s										
TKL	Tuckaleechee C	56.69	348	P		P		12 43 05.5	-0.5		
	comp=Z,17nm,1.1s,baz=170,slow=6.4,SNR=11										
TKL	Tuckaleechee C	56.69	348	P		P		12 43 06.0	0.0		
TKL				pmax	pmax						
	comp=Z,39nm,1.4s										
TKL				MLR	MLR						
	comp=Z,600nm,20.0s										
TKL	Tuckaleechee C	56.69	348	P		P		12 43 06.0	0.0		
TKL				IAmb	IAmb			12 43 08.0			
	comp=Z,39nm,1.4s										
TKL				IAMs_20	IAMs_20			13 08 14.6			
	comp=Z,577nm,20.0s										
U57A	Blanch	56.70	352	P		P		12 43 06.7	+0.6		
	baz=171,SNR=8.4										
U56A	King	56.76	351	P		P		12 43 07.3	+0.7		
	baz=170,SNR=5.4										
U56A	King	56.76	351	P		P		12 43 05.5	-1.1		
U56A				IAmb	IAmb			12 43 09.7			
	comp=Z,42nm,1.1s										
U56A				IAMs_20	IAMs_20			13 08 35.6			
	comp=Z,647nm,20.0s										
V52A	Sevierville	56.83	348	P		P		12 43 06.8	-0.2		
V52A				IAmb	IAmb			12 43 09.1			
	comp=Z,55nm,1.3s										
V52A				IAMs_20	IAMs_20			13 11 59.4			
	comp=Z,610nm,18.0s										
237A	Washetta, Mont	56.93	335	P		P		12 43 06.7	-1.1		
237A				IAmb	IAmb			12 43 15.5			
	comp=Z,59nm,1.2s										
V51A	Loudon	56.95	347	P		P		12 43 07.8	-0.1		
V51A				IAmb	IAmb			12 43 09.9			
	comp=Z,30nm,1.3s										
U55A	TA2, Sparta	57.02	350	P		P		12 43 09.0	+0.5		
	baz=169,SNR=5.3										
T59A	Double "B" Far	57.03	354	P		P		12 43 09.1	+0.7		
	baz=173,SNR=14										
T59A	Double "B" Far	57.03	354	P		P		12 43 09.1	+0.7		
PLAL	Pickwick Lake	57.06	343	P		P		12 43 07.8	-0.8		
T58A	Grand View Acr	57.11	353	P		P		12 43 09.6	+0.6		
	baz=172,SNR=20										
T60A	Surry	57.12	355	P		P		12 43 10.1	+1.1		
	baz=174										
U54A	Nelsons Funny	57.16	350	P		P		12 43 09.9	+0.4		
	baz=168,SNR=6.1										
U54A	Nelsons Funny	57.16	350	P		P		12 43 09.4	-0.1		
U54A				IAmb	IAmb			12 43 11.2			
	comp=Z,41nm,1.2s										
U54A				IAMs_20	IAMs_20			13 08 39.2			
	comp=Z,656nm,20.0s										
T57A	Hurt	57.25	352	P		P		12 43 10.8	+0.8		
	baz=171,SNR=12										
T57A	Hurt	57.25	352	P		P		12 43 10.7	+0.7		
T57A				IAmb	IAmb			12 43 16.8			
	comp=Z,38nm,1.1s										
T57A				IAMs_20	IAMs_20			13 08 30.4			
	comp=Z,539nm,21.0s										
JCT	Junction City	57.34	330	P		P		12 43 09.7	-1.2		
JCT				pmax	pmax						
	comp=Z,16nm,1.2s										
JCT	Junction City	57.34	330	P		P		12 43 09.7	-1.2		
T56A	Rocky Mt	57.38	351	P		P		12 43 12.0	+1.0		
	baz=170,SNR=8.2										
WLAR	White Oak Lake	57.42	338	P		P		12 43 12.7	+1.4		
V48A	Smith Brothers	57.45	345	P		P		12 43 11.2	-0.2		
V48A				IAmb	IAmb			12 43 13.4			
	comp=

W41B Gary Mavity, V 58.48 340 P P 12 43 18.7 +0.1
S51A Beattyville 58.57 348 IAMs_20 IAMs_20 13 07 48.4
comp=Z,707nm,22.0s
WHAR Wooly Hollow 58.60 340 P P 12 43 19.4 -0.1
R55A Marlinton 58.63 352 P P 12 43 20.9 +1.1
baz=170,SNR=6.0
R55A Marlinton 58.63 352 P P 12 43 20.6 +0.9
R55A IAmb IAmb 12 43 22.4
comp=Z,39nm,1.4s
R55A IAMs_20 IAMs_20 13 09 12.9
comp=Z,660nm,21.0s
R54A Victor 58.65 351 P P 12 43 20.3 +0.4
baz=169,SNR=6.1
R56A Bull Pasture M 58.66 352 P P 12 43 21.0 +1.0
baz=171
T47A Sharon Grove 58.71 345 P P 12 43 20.1 -0.1
T47A IAMs_20 IAMs_20 13 12 24.1
comp=Z,554nm,18.0s
R53A Hurricane 58.95 350 IAMs_20 IAMs_20 13 07 56.5
comp=Z,728nm,22.0s
LCAR Lake Charles 58.96 341 P P 12 43 21.9 -0.1
LCAR IAmb IAmb 12 43 27.8
comp=Z,55nm,1.8s
Q58A Fox Den Farm, 58.99 354 P P 12 43 23.0 +0.8
baz=173,SNR=7.4
W39A Magazine 59.02 338 P P 12 43 23.3 +0.8
baz=155
W39A Magazine 59.02 338 P P 12 43 23.1 +0.7
W39A IAmb IAmb 12 43 29.6
comp=Z,26nm,0.9s
X37A Clayton 59.05 337 P P 12 43 23.6 +0.9
ABTX Abilene, Hawle 59.08 332 P P 12 43 23.7 +0.7
baz=148
ABTX Abilene, Hawle 59.08 332 P P 12 43 23.3 +0.3
ABTX IAmb IAmb 12 43 32.2
comp=Z,32nm,1.2s
FCAR Ozark Folk Cen 59.10 340 P P 12 43 22.3 -0.6
RKT Rikitea 59.13 254 eLR LR 13 00 43.8
comp=Z,880nm,28.0s
Q57A Strasburg 59.16 353 P P 12 43 24.6 +1.3
baz=172,SNR=12
Q56A Snyder Ridge, 59.25 353 P P 12 43 25.3 +1.3
baz=171,SNR=10
Q56A Snyder Ridge, 59.25 353 P P 12 43 25.4 +1.3
Q55A Buckhannon 59.32 352 P P 12 43 25.2 +0.7
baz=170
R50A Paris 59.33 348 P P 12 43 24.6 0.0
R50A IAmb IAmb 12 43 25.8
comp=Z,41nm,1.6s
R50A IAMs_20 IAMs_20 13 08 36.7
comp=Z,581nm,21.0s
Q53A Leroy 59.40 350 P P 12 43 25.3 +0.3
baz=169,SNR=6.1
PBMO Poplar Bluff 59.40 342 P P 12 43 24.6 -0.4
PBMO IAmb IAmb 12 43 27.0
comp=Z,17nm,0.8s
Q54A Coxs Mills 59.42 351 P P 12 43 25.9 +0.8
baz=169
Q54A Coxs Mills 59.42 351 P P 12 43 24.5 -0.6
Q54A IAmb IAmb 12 43 26.7
comp=Z,33nm,1.5s
P58A Pank, Wackersv 59.50 354 P P 12 43 26.9 +1.3
baz=173
R49A Shelbyville 59.51 347 IAMs_20 IAMs_20 13 09 56.5
comp=Z,551nm,20.0s
P59A Jarrettsville 59.54 355 P P 12 43 26.9 +0.9
baz=174
P57A Homestead Farm 59.56 354 P P 12 43 27.5 +1.4
baz=172,SNR=6.7
P57A Homestead Farm 59.56 354 P P 12 43 27.4 +1.3
P57A IAmb IAmb 12 43 29.1
comp=Z,55nm,1.4s
Q52A Bidwell 59.62 350 P P 12 43 27.2 +0.6
baz=168
P56A Dayton Farm, R 59.67 353 P P 12 43 28.1 +1.3
baz=172,SNR=6.2
P60A Greenville 59.68 356 P P 12 43 27.4 +0.5
baz=175
WCI Wyandotte Cave 59.70 346 P P 12 43 26.6 -0.4
baz=163
WCI Wyandotte Cave 59.70 346 P P 12 43 26.6 -0.4
WCI pmax pmax
comp=Z,45nm,1.4s
WCI MLR MLR
comp=Z,500nm,19.0s
WCI Wyandotte Cave 59.70 346 P P 12 43 26.6 -0.4
WCI IAmb IAmb 12 43 28.0
comp=Z,45nm,1.4s
WCI IAMs_20 IAMs_20 13 10 45.4
comp=Z,519nm,19.0s
U40A Yellville 59.76 340 P P 12 43 28.2 +0.6
baz=156
U40A Yellville 59.76 340 P P 12 43 28.0 +0.4
USIN University of 59.77 345 P P 12 43 27.9 +0.4
PSUB Penn St. - Bra 59.79 356 P P 12 43 27.1 -0.5
PSUB IAmb IAmb 12 43 31.9
comp=Z,50nm,1.4s
P55A Reedsville 59.79 352 P P 12 43 28.8 +1.1
baz=170
WUPA West Chester U 59.80 356 P P 12 43 26.1 -1.6
T42A Van Buren 59.83 341 P P 12 43 26.5 -1.5
Q51A Peebles 59.87 349 P P 12 43 27.2 -1.1
Q51A IAmb IAmb 12 43 30.6
comp=Z,35nm,1.5s
MVL Millersville 59.92 355 P P 12 43 29.0 +0.5
MVL IAmb IAmb 12 43 30.9
comp=Z,44nm,1.3s
S44A Carbondale 59.92 343 P P 12 43 28.5 -0.2
P54A Burton 59.97 352 P P 12 43 29.8 +0.9
baz=170,SNR=11
P53A Whipple 59.99 351 P P 12 43 29.6 +0.5
baz=169
P53A Whipple 59.99 351 P P 12 43 29.5 +0.4
HHAR Hobbs 60.05 339 P P 12 43 29.9 +0.3
HHAR IAmb IAmb 12 43 36.0
comp=Z,44nm,1.4s
O58A Lewisberry 60.09 355 P P 12 43 30.8 +1.0
baz=174
O60A Telford 60.17 356 P P 12 43 31.1 +0.9
baz=175
O59A Robesonia 60.22 355 P P 12 43 31.6 +0.9
baz=174
O57A Amberson 60.24 354 P P 12 43 32.1 +1.3
baz=173,SNR=10
P52A Corning 60.25 350 P P 12 43 30.5 -0.4
baz=168
P52A Corning 60.25 350 IAMs_20 IAMs_20 13 10 47.0
comp=Z,567nm,19.0s
P51A Williamsport 60.26 349 P P 12 43 31.7 +0.8
baz=167
P51A Williamsport 60.26 349 P P 12 43 29.7 -1.2
P51A IAmb IAmb 12 43 36.4
comp=Z,28nm,1.2s
P51A IAMs_20 IAMs_20 13 10 16.2
comp=Z,485nm,20.0s
MGMO Mountain Grove 60.30 341 P P 12 43 31.7 +0.4
MGMO IAmb IAmb 12 43 37.5
comp=Z,44nm,1.4s
U38A Gravette 60.35 338 P P 12 43 31.0 -0.7
TUL1 Leonard 60.38 337 P P 12 43 32.4 +0.6
baz=153
TUL1 Leonard 60.38 337 P P 12 43 32.7 +0.9
TUL1 IAmb IAmb 12 43 38.4
comp=Z,33nm,1.0s
O56A Blue Knob Stat 60.40 353 P P 12 43 33.1 +1.2
baz=172,SNR=9.4
O56A Blue Knob Stat 60.40 353 P P 12 43 32.4 +0.5
O55A Ligonier 60.42 353 P P 12 43 33.1 +1.0
baz=171,SNR=7.8
LUPA Lehigh Univers 60.45 356 IAMs_20 IAMs_20 13 10 42.1
comp=Z,510nm,20.0s
FVM French Village 60.52 342 P P 12 43 32.9 +0.1
FVM pmax pmax
comp=Z,55nm,1.4s
FVM MLR MLR
comp=Z,400nm,18.0s
FVM French Village 60.52 342 P P 12 43 32.9 +0.1
FVM IAMs_20 IAMs_20 13 11 46.2
comp=Z,443nm,18.0s
WMOK Wichita Mounta 60.52 334 P P 12 43 33.1 +0.2
baz=150
O54A Avella 60.53 352 IAMs_20 IAMs_20 13 10 44.3
comp=Z,860nm,20.0s
N61A South Mountain 60.54 357 P P 12 43 33.7 +0.9
baz=176
OLIL Olney 60.61 345 P P 12 43 32.9 -0.4
OLIL IAmb IAmb 12 43 38.6
comp=Z,45nm,1.4s
OLIL IAMs_20 IAMs_20 13 09 39.5
comp=Z,528nm,22.0s
P49A Miami Univ. Ec 60.62 348 P P 12 43 32.9 -0.5
baz=165
P49A Miami Univ. Ec 60.62 348 P P 12 43 32.7 -0.6
P49A IAmb IAmb 12 43 34.0
comp=Z,51nm,1.4s
P49A IAMs_20 IAMs_20 13 09 24.7
comp=Z,586nm,20.0s
BLO Bloomington 60.65 346 P P 12 43 32.8 -0.8
BLO pmax pmax
comp=Z,40nm,1.3s
BLO MLR MLR
comp=Z,600nm,18.0s
BLO Bloomington 60.65 346 P P 12 43 32.8 -0.8
BLO IAmb IAmb 12 43 34.5
comp=Z,40nm,1.3s
BLO IAMs_20 IAMs_20 13 14 24.6
comp=Z,608nm,18.0s
OK025 Westminster Rd 60.67 336 P P 12 43 34.4 +0.5
OK025 IAmb IAmb 12 43 39.9
comp=Z,50nm,1.4s
O52A Adamsville 60.68 350 P P 12 43 33.6 -0.1
baz=168
O52A Adamsville 60.68 350 P P 12 43 33.6 -0.1
O52A IAmb IAmb 12 43 35.8
comp=Z,56nm,1.6s
O52A IAMs_20 IAMs_20 13 10 39.2
comp=Z,558nm,20.0s
SSPA Standing Stone 60.69 354 P P 12 43 34.7 +0.9
baz=173
SSPA Standing Stone 60.69 354 P P 12 43 34.2 +0.4
SSPA IAmb IAmb 12 43 36.3
comp=Z,44nm,1.4s
P48A Milroy 60.69 347 IAMs_20 IAMs_20 13 10 50.7
comp=Z,506nm,19.0s
O53A New Philadelph 60.71 351 IAMs_20 IAMs_20 13 09 14.2
comp=Z,555nm,21.0s
N57A Milroy 60.77 354 P P 12 43 35.3 +0.9
baz=173,SNR=8.4
PAL Palisades 60.78 357 IAMs_20 IAMs_20 13 09 49.8
comp=Z,530nm,21.0s
N58A Sunbury 60.79 355 P P 12 43 35.5 +1.1
baz=174,SNR=5.6
N58A Sunbury 60.79 355 P P 12 43 34.6 +0.2
N58A IAmb IAmb 12 43 59.7
comp=Z,27nm,1.0s
N59A State Game Lan 60.79 356 P P 12 43 34.8 +0.2
baz=175
CCM Cathedral Cave 60.82 342 P P 12 43 34.7 -0.1
baz=158
CCM Cathedral Cave 60.82 342 P P 12 43 34.6 -0.2
CCM pmax pmax
comp=Z,24nm,1.2s
CCM Cathedral Cave 60.82 342 P P 12 43 34.6 -0.2
CCM IAmb IAmb 12 43 40.7
comp=Z,24nm,1.2s
BCOK Bluff Creek, N 60.85 335 P P 12 43 35.1 +0.1
OK029 Liberty Lake 60.91 336 P P 12 43 35.9 +0.4
OK029 IAmb IAmb 12 43 38.2
comp=Z,18nm,0.8s
WSPT Westport, CT 60.92 358 IAMs_20 IAMs_20 13 11 01.6
comp=Z,534nm,20.0s
N55A Marion Center 60.95 353 P P 12 43 36.8 +1.2
baz=172,SNR=20
QUOK Quay 60.95 336 P P 12 43 36.1 +0.4
GDL2 Guadalupe Moun 60.96 328 P P 12 43 35.8 -0.3
ACSO Alum Creek Sta 60.98 350 P P 12 43 35.8 0.0
baz=167
ACSO Alum Creek Sta 60.98 350 P P 12 43 35.5 -0.3
ACSO IAMs_20 IAMs_20 13 13 44.2
comp=Z,514nm,18.0s
N56A West Decatur 61.01 354 P P 12 43 36.8 +0.8
baz=172
YLE Yale 61.05 358 IAMs_20 IAMs_20 13 13 52.1
comp=Z,528nm,19.0s
MNTX Cornudas Mount 61.08 327 P P 12 43 35.8 -0.9
S39A Bolivar 61.13 340 P P 12 43 37.0 +0.1
S39A IAmb IAmb 12 43 43.1
comp=Z,26nm,0.9s
O49A Covington 61.18 348 IAMs_20 IAMs_20 13 11 19.5
comp=Z,574nm,20.0s
N53A Lisbon 61.21 352 IAMs_20 IAMs_20 13 10 53.2
comp=Z,716nm,20.0s
P46A Rosedale 61.23 346 P P 12 43 37.4 -0.1
P46A IAmb IAmb 12 43 42.8
comp=Z,37nm,1.3s
N54A Moraine State 61.25 352 P P 12 43 38.1 +0.4
baz=170
N54A Moraine State 61.25 352 P P 12 43 38.7 +1.1
M58A Price's Panora 61.30 355 P P 12 43 38.8 +0.8
baz=174,SNR=9.0
R40A Maddies Statio 61.35 341 P P 12 43 37.6 -0.8
M59A Waymart 61.39 356 P P 12 43 39.6 +1.0
baz=175,SNR=6.7
KSCT Kent School, K 61.48 358 IAMs_20 IAMs_20 13 14 40.4
comp=Z,552nm,18.0s
N51A Ashland 61.55 350 P P 12 43 39.4 -0.3
baz=168
N51A Ashland 61.55 350 IAMs_20 IAMs_20 13 11 06.2
comp=Z,523nm,20.0s
M56A Emporium 61.56 354 P P 12 43 40.6 +0.9
baz=172,SNR=10.0
M56A Emporium 61.56 354 P P 12 43 40.2 +0.4
L63A North Scituate 61.58 360 P P 12 43 39.9 +0.1
baz=179
M55A Ridgway 61.60 353 P P 12 43 40.7 +0.7
baz=172,SNR=11
M55A Ridgway 61.60 353 P P 12 43 40.8 +0.7
MSTX Muleshoe 61.63 330 P P 12 43 41.0 +0.4
baz=146
MSTX Muleshoe 61.63 330 P P 12 43 40.9 +0.4
MSTX IAmb IAmb 12 43 47.1
comp=Z,46nm,1.4s
L64A Middleborough 61.65 0 P P 12 43 40.7 +0.4
baz=180
CROK Carrier 61.73 335 P P 12 43 41.3 +0.3
CROK IAMs_20 IAMs_20 13 12 11.5
comp=Z,559nm,21.0s
M54A Oil Creek Stat 61.74 353 P P 12 43 40.5 -0.5
baz=171
L60A Shokan 61.77 357 P P 12 43 42.0 +0.8
baz=177
M53A WI Miller and 61.81 352 P P 12 43 41.7 +0.3
baz=170
M53A WI Miller and 61.81 352 IAMs_20 IAMs_20 13 11 22.1
comp=Z,746nm,22.0s
P43A Skaggs, Pawnee 61.83 344 P P 12 43 41.0 -0.6
P43A IAMs_20 IAMs_20 13 13 46.7
comp=Z,461nm,18.0s
N49A Columbus Grove 61.86 349 P P 12 43 41.5 -0.2
L58A Harry Jones Me 61.92 356 P P 12 43 42.5 +0.4
baz=175,SNR=8.8
SFIN Lafayette 61.93 346 P P 12 43 41.5 -0.7
baz=163
SFIN Lafayette 61.93 346 P P 12 43 41.0 -1.2
SFIN IAmb IAmb 12 43 42.6
comp=Z,30nm,1.1s
SFIN IAMs_20 IAMs_20 13 11 01.6
comp=Z,514nm,20.0s
L57A Andrews Acres 61.95 355 P P 12 43 43.2 +0.8
baz=174
KAN13 South Haven SW 61.98 336 P P 12 43 41.6 -1.1
M52A Chesterland 62.00 351 IAMs_20 IAMs_20 13 11 51.2
comp=Z,696nm,19.0s
L59A Walton 62.02 357 P P 12 43 43.8 +1.0
baz=176,SNR=8.0
L59A Walton 62.02 357 P P 12 43 43.2 +0.4
BINY Binghamton 62.08 356 P P 12 43 44.5 +1.2
baz=175,SNR=5.9
BINY Binghamton 62.08 356 P P 12 43 44.4 +1.1
BINY IAmb IAmb 12 43 50.4
comp=Z,35nm,1.1s
VNA3 Neumayer Olymp 62.10 161 P P 12 43 44.8 +1.7
N47A Urbana 62.11 347 P P 12 43 42.8 -0.7
N47A IAmb IAmb 12 43 44.7
comp=Z,28nm,0.9s
N47A IAMs_20 IAMs_20 13 09 59.3
comp=Z,619nm,22.0s
M50A Fremont 62.13 350 IAMs_20 IAMs_20 13 11 34.6
comp=Z,557nm,19.0s
L56A Greenwood 62.15 355 P P 12 43 44.6 +0.9
baz=173,SNR=6.5
L56A Greenwood 62.15 355 P P 12 43 44.3 +0.6
L61B Northampton 62.18 359 P P 12 43 44.9 +1.0
baz=178
L55A Hinsdale 62.28 354 P P 12 43 45.6 +1.1
baz=172,SNR=6.7
VNA1 Neumayer--Stat 62.33 160 P P 12 43 45.7 +1.2
K61A Williamstown 62.42 358 P P 12 43 46.9 +1.4
baz=178
L54A Sinclairville 62.42 353 P P 12 43 46.4 +0.9
baz=171
P40A Paris 62.42 342 P P 12 43 45.1 -0.5
P40A IAmb IAmb 12 43 51.5
comp=Z,19nm,0.8s
TRY Troy 62.49 358 IAMs_20 IAMs_20 13 10 48.1
comp=Z,589nm,21.0s
WVNY West Valley, N 62.51 354 P P 12 43 47.0 +0.8
K59A Cooperstown 62.59 357 P P 12 43 47.4 +0.8
baz=176,SNR=11
K58A Earlville 62.62 356 P P 12 43 47.8 +1.0
baz=175,SNR=6.2
K58A Earlville 62.62 356 P P 12 43 48.2 +1.4
HDIL Hopedale 62.63 344 P P 12 43 46.4 -0.5
K57A Scipio Center 62.65 355 P P 12 43 47.6 +0.6
baz=174
K56A Middlesex 62.68 355 P P 12 43 47.6 +0.3
baz=173
VNA2 Neumayer--Watz 62.69 161 P P 12 43 45.8 -1.2
K54A Basiliko Farm, 62.72 354 P P 12 43 48.3 +0.8
baz=172
MMNY Mt. Morris Dam 62.77 354 P P 12 43 45.7 -2.1
K55A Perry 62.78 354 P P 12 43 48.7 +0.8
baz=173
L48A N Adams 62.90 349 P P 12 43 48.0 -0.7
L48A IAMs_20 IAMs_20 13 10 22.0
comp=Z,620nm,22.0s
J62A Henniker 62.94 359 P P 12 43 49.9 +1.0
baz=179
P38A Dawn 62.96 341 P P 12 43 49.2 +0.1
121A Cookes Peak, D 62.99 325 P P 12 43 50.7 +0.9
121A IAmb IAmb 12 44 00.2
comp=Z,30nm,1.3s
121A IAMs_20 IAMs_20 13 10 10.1
comp=Z,466nm,18.0s
J60A Lant Hill Farm 63.00 358 P P 12 43 50.4 +1.1
baz=178,SNR=5.1
J61A Chester 63.08 359 P P 12 43 51.0 +1.2
baz=178
AAM Ann Arbor 63.10 350 IAMs_20 IAMs_20 13 10 39.5
comp=Z,537nm,22.0s
M44A Midewin, Midew 63.11 346 IAMs_20 IAMs_20 13 12 53.7
comp=Z,458nm,19.0s
N41A Harden Midland 63.18 343 P P 12 43 49.0 -1.6
N41A IAmb IAmb 12 43 56.1
comp=Z,37nm,1.1s
N41A IAMs_20 IAMs_20 13 15 19.6
comp=Z,391nm,18.0s
J58A Remsen 63.20 357 P P 12 43 51.4 +0.7
baz=176
J56A Wolcott 63.22 355 P P 12 43 51.4 +0.7
baz=174
J56A Wolcott 63.22 355 IAMs_20 IAMs_20 13 12 39.4
comp=Z,446nm,19.0s
MEDO Medina 63.25 354 IAMs_20 IAMs_20 13 08 58.2
comp=Z,436nm,20.0s
J59A Piesco 63.26 357 P P 12 43 52.0 +0.9
baz=176,SNR=9.8
J59A Piesco 63.26 357 P P 12 43 52.2 +1.1
J55A Hilton 63.29 354 P P 12 43 51.9 +0.6
baz=173
J55A Hilton 63.29 354 IAMs_20 IAMs_20 13 15 04.3
comp=Z,404nm,18.0s
J57A Williamstown 63.29 356 P P 12 43 51.9 +0.6
baz=175
J57A Williamstown 63.29 356 P P 12 43 52.0 +0.8
L46A Eue Claire 63.33 347 IAMs_20 IAMs_20 13 10 48.3
comp=Z,547nm,22.0s
K50A Casco 63.40 350 IAMs_20 IAMs_20 13 12 24.2
comp=Z,654nm,19.0s
HQIL Hanson Quary C 63.46 346 IAMs_20 IAMs_20 13 13 02.9
comp=Z,568nm,19.0s
I58A Old Forge 63.51 357 P P 12 43 53.7 +0.9
baz=176
I59A Olmsteadville 63.56 358 P P 12 43 54.0 +0.9
baz=177,SNR=9.1
I60A Shoreham 63.59 358 P P 12 43 54.3 +1.1
baz=178
I61A Oroboro, Fairl 63.65 359 P P 12 43 55.0 +1.4
baz=179,SNR=9.1
BNM Barren Site 63.66 327 P P 12 43 53.7 -0.5
R32A Long Quarter, 63.69 336 P P 12 43 54.3 +0.3
R32A IAmb IAmb 12 43 57.4
comp=Z,35nm,1.2s
I63A Otisfield 63.77 0 P P 12 43 55.0 +0.7
baz=180
I63A Otisfield 63.77 0 P P 12 43 53.4 -1.0
I57A Carthage 63.79 356 P P 12 43 54.4 -0.2
baz=175
L44A Lake County Fo 63.83 346 IAMs_20 IAMs_20 13 12 07.8
comp=Z,668nm,20.0s
N38A Joes South For 63.94 341 P P 12 43 55.4 -0.2
N38A IAmb IAmb 12 44 01.6
comp=Z,29nm,1.1s
LBNH Lisbon 63.96 359 P P 12 43 56.8 +1.1
baz=179,SNR=5.1
LBNH Lisbon 63.96 359 P P 12 43 56.7 +1.1
LBNH pmax pmax
comp=Z,92nm,1.6s
LBNH Lisbon 63.96 359 P P 12 43 56.7 +1.1
L42A Oliver, Polo 64.08 345 IAMs_20 IAMs_20 13 15 48.5
comp=Z,520nm,20.0s
H58A Gabriels 64.19 357 P P 12 43 58.2 +0.9
baz=177,SNR=7.7
ANMO Albuquerque 64.20 328 P P 12 43 58.7 +1.0
baz=143
ANMO Albuquerque 64.20 328 ||i P P 12 43 59.9 +2.2
ANMO pmax pmax
comp=Z,30nm,2.2s
ANMO Albuquerque 64.20 328 P P 12 43 56.5 -1.2
J47A Sunmer 64.22 349 IAMs_20 IAMs_20 13 11 24.0
comp=Z,617nm,22.0s
H61A Lyndonville 64.25 359 P P 12 43 59.1 +1.5
baz=179,SNR=7.0
H62A Milan 64.29 360 P P 12 43 59.2 +1.4
baz=180
WVL Waterville 64.29 1 P P 12 43 57.6 -0.1
WVL IAmb IAmb 12 44 00.8
comp=Z,29nm,1.2s
H60A Morristown 64.29 359 P P 12 43 58.9 +1.1
baz=178
H57A Richville 64.30 357 P P 12 43 58.9 +1.0
baz=176
SNAA Sanae 64.31 161 P P 12 43 59.5 +1.7
SNAA Sanae 64.31 161 c i P P 12 43 59.0 +1.2
SNAA pmax pmax
comp=Z,37nm,1.9s
SNAA Sanae 64.31 161 P P 12 43 56.6 -1.1
H64A Troy 64.38 1 P P 12 43 59.5 +1.1
baz=182
H59A Cadyville 64.40 358 P P 12 43 59.7 +1.1
baz=177,SNR=7.8
LONY Lake Ozonia 64.42 357 P P 12 43 59.5 +0.9
baz=176
LONY Lake Ozonia 64.42 357 P P 12 43 59.6 +0.9
CBKS Cedar Bluff 64.42 335 P P 12 43 59.7 +0.8
baz=150
CBKS Cedar Bluff 64.42 335 P P 12 43 58.2 -0.7
CBKS pmax pmax
comp=Z,22nm,0.9s
CBKS Cedar Bluff 64.42 335 P P 12 43 58.2 -0.7
CBKS IAmb IAmb 12 44 03.0
comp=Z,22nm,0.9s
K43A Burlington 64.43 346 IAMs_20 IAMs_20 13 16 39.6
comp=Z,647nm,19.0s
H65A Eastbrook 64.46 2 P P 12 43 59.9 +1.0
baz=183
TUC Tucson 64.47 323 P P 12 43 59.1 -0.3
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 64.47 323 P P 12 43 59.1 -0.3
L40A Anamosa 64.54 343 P P 12 43 58.0 -1.5
L40A IAMs_20 IAMs_20 13 15 20.6
comp=Z,536nm,20.0s
I49A Point Hope 64.57 351 IAMs_20 IAMs_20 13 13 19.2
comp=Z,699nm,21.0s
FRNY Flat Rock 64.59 358 P P 12 44 00.4 +0.7
H53A Bobcaygeon 64.66 354 P P 12 44 00.5 +0.3
baz=172
G60A Masonville 64.82 359 P P 12 44 02.5 +1.2
baz=179

G59A Clarenceville 64.82 358 P **P** **12 44 01.8 +0.6**
baz=178
G63A Kingsbury 64.84 1 P **P** **12 44 02.6 +1.2**
baz=182
SADO Sadowa 64.91 354 P **P** **12 44 01.8 0.0**
comp=Z,26nm,1.1s,baz=173,slow=5.5,SNR=5.9
SADO Sadowa 64.91 354 P **P** **12 44 02.2 +0.4**
SADO IAMs_20 IAMs_20 13 09 46.1
comp=Z,490nm,22.0s
G57A Newington 64.92 357 P **P** **12 44 02.7 +0.8**
baz=176
G58A Ormstown 64.92 358 P **P** **12 44 02.9 +1.0**
baz=177
G62A West of Eustis 64.93 0 P **P** **12 44 03.5 +1.5**
baz=180,SNR=12
G62A West of Eustis 64.93 0 P **P** **12 44 02.8 +0.8**
SCIA State Center 64.96 342 P **P** **12 44 02.6 +0.3**
G65A Princeton 64.99 3 P **P** **12 44 03.6 +1.2**
baz=184
PKME Peaks-Kenny Pk 65.00 1 P **P** **12 44 03.6 +1.2**
baz=182
PKME Peaks-Kenny Pk 65.00 1 P **P** **12 44 02.7 +0.3**
T25A Trinidad 65.00 331 P **P** **12 44 04.6 +1.7**
baz=145
T25A Trinidad 65.00 331 P **P** **12 44 01.6 -1.3**
T25A IAmb IAmb 12 44 10.5
comp=Z,34nm,1.5s
G61A St-Isidore-de- 65.00 360 P **P** **12 44 04.1 +1.7**
baz=180,SNR=7.3
G64A Maxfield 65.00 2 P **P** **12 44 03.3 +0.9**
baz=182
JFWS Jewell Farm 65.09 345 P **P** **12 44 03.2 +0.1**
baz=160
JFWS Jewell Farm 65.09 345 P **P** **12 44 02.5 -0.6**
JFWS pmax pmax
comp=Z,108nm,1.9s
JFWS MLR MLR
comp=Z,500nm,19.0s
JFWS Jewell Farm 65.09 345 P **P** **12 44 02.5 -0.6**
JFWS Jewell Farm 65.09 345 IAMs_20 IAMs_20 13 16 27.0
comp=Z,488nm,19.0s
G54A Lake Saint Pet 65.43 355 P **P** **12 44 05.7 +0.5**
baz=173
F64A Sherman 65.62 2 P **P** **12 44 07.4 +1.0**
baz=183,SNR=6.2
F64A Sherman 65.62 2 P **P** **12 44 07.4 +1.0**
F64A IAmb IAmb 12 44 08.8
comp=Z,31nm,1.2s
F60A Warwick 65.69 359 P **P** **12 44 07.8 +0.9**
baz=179
F61A St Evariste 65.69 0 P **P** **12 44 07.8 +0.9**
baz=180
I42A Draeger Farm, 65.69 346 IAMs_20 IAMs_20 13 14 20.9
comp=Z,606nm,21.0s
LMN Caledonia Moun 65.81 5 P **P** **12 44 08.2 +0.5**
LMN IAMs_20 IAMs_20 13 11 55.8
comp=Z,426nm,19.0s
ALGO Algonquin Park 65.98 355 P **P** **12 44 09.0 +0.3**
baz=173
H43A Windswept, Lux 65.99 347 IAMs_20 IAMs_20 13 13 23.8
comp=Z,563nm,19.0s
SDCO Great Sand Dun 65.99 331 P **P** **12 44 11.3 +1.9**
baz=144
SDCO Great Sand Dun 65.99 331 P **P** **12 44 10.6 +1.1**
SDCO IAmb IAmb 12 44 17.3
comp=Z,50nm,1.6s
L34A Svendsen Farm, 65.99 340 P **P** **12 44 09.1 +0.1**
W18A Petrified Fore 66.02 326 P **P** **12 44 11.3 +1.8**
baz=140
W18A Petrified Fore 66.02 326 P **P** **12 44 10.7 +1.2**
W18A IAmb IAmb 12 44 19.9
comp=Z,44nm,1.5s
E60A Ste Agathe de 66.08 360 P **P** **12 44 11.0 +1.6**
baz=180
I40A Norwalk 66.10 345 IAMs_20 IAMs_20 13 14 49.8
comp=Z,446nm,19.0s
BGNE Belgrade 66.10 338 P **P** **12 44 10.5 +0.8**
baz=152
BGNE Belgrade 66.10 338 P **P** **12 44 10.0 +0.3**
E58A La Victoria 66.12 358 P **P** **12 44 10.2 +0.5**
baz=178
E61A Lac Etchemin 66.15 0 P **P** **12 44 10.1 +0.3**
baz=181
E63A Oxbow 66.18 2 P **P** **12 44 10.9 +0.9**
baz=183
E63A Oxbow 66.18 2 P **P** **12 44 10.0 0.0**
E63A IAmb IAmb 12 44 12.3
comp=Z,53nm,1.6s
E57A Chemin Saint G 66.19 358 P **P** **12 44 10.6 +0.5**
baz=177
E64A Bridgewater 66.19 2 P **P** **12 44 11.2 +1.1**
baz=183
E62A Clayton Lake 66.35 1 P **P** **12 44 12.4 +1.3**
baz=182
E62A Clayton Lake 66.35 1 P **P** **12 44 11.8 +0.7**
E62A IAmb IAmb 12 44 18.5
comp=Z,25nm,1.2s
E56A St. Veronique 66.36 357 P **P** **12 44 11.6 +0.4**
baz=176
X16A Lo Mia Camp, P 66.41 324 P **P** **12 44 14.2 +2.2**
X16A IAmb IAmb 12 44 20.6
comp=Z,39nm,1.5s
X16A IAMs_20 IAMs_20 13 11 39.5
comp=Z,457nm,20.0s
PQI Presque Isle 66.44 2 P **P** **12 44 11.7 0.0**
S22A 4UR Ranch, Cre 66.61 330 P **P** **12 44 13.6 +0.2**
D57A Chemin Vers le 66.78 358 P **P** **12 44 14.6 +0.7**
baz=177,SNR=7.2
D63A Stockholm 66.80 2 P **P** **12 44 14.9 +0.9**
baz=183
D62A Allapoint, All 66.82 1 P **P** **12 44 15.0 +0.9**
baz=182,SNR=5.8
D62A Allapoint, All 66.82 1 P **P** **12 44 15.3 +1.2**
Q24A Divide 66.82 332 P **P** **12 44 14.4 -0.4**
Q24A IAmb IAmb 12 44 22.4
comp=Z,45nm,1.6s
D58A Chemin du LacG 66.83 359 P **P** **12 44 15.0 +0.8**
baz=178,SNR=8.3
D56A ZEC Mazanza, M 66.85 357 P **P** **12 44 14.9 +0.6**
baz=176
D55A Sainte-Anne-du 66.85 357 P **P** **12 44 14.9 +0.6**
baz=176,SNR=6.3
Y14A Wickenburg 66.93 323 **P** **12 44 15.6 +0.4**
Y14A IAmb IAmb 12 44 23.8
comp=Z,43nm,1.9s
I37A Lemond, Waseca 66.95 343 P **P** **12 44 14.5 -0.6**
GUVIX Guadalupe Vict 66.97 320 IAMs_20 IAMs_20 13 11 39.6
comp=Z,942nm,21.0s
MVCO Mesa Verde 67.00 328 P **P** **12 44 16.6 +0.8**
baz=142
MVCO Mesa Verde 67.00 328 P **P** **12 44 15.9 +0.1**
LATQ La Tuque 67.12 359 P **P** **12 44 17.1 +1.1**
baz=178
BATG Bathurst New B 67.14 4 P **P** **12 44 16.3 +0.1**
BATG IAmb IAmb 12 44 18.3
comp=Z,40nm,1.4s
WUAZ Wupatki 67.19 325 P **P** **12 44 19.1 +2.1**
baz=139
WUAZ Wupatki 67.19 325 P **P** **12 44 18.7 +1.7**
WUAZ IAmb IAmb 12 44 25.6
comp=Z,24nm,1.1s
G40A Rib Lake 67.29 345 IAMs_20 IAMs_20 13 14 59.3
comp=Z,621nm,20.0s
F42A Maple Grove Fa 67.29 347 IAMs_20 IAMs_20 13 13 54.4
comp=Z,559nm,21.0s
TAOE Nuku Hiva Isla 67.47 269 *e*S **S** **12 53 16.1 +0.1**
comp=Z,124nm,23.6s
TAOE Nuku Hiva Isla 67.47 269 *e*LR LR 13 04 40.3
comp=Z,344nm,27.0s
E43A Lone Tree Farm 67.66 348 IAMs_20 IAMs_20 13 15 37.9
comp=Z,515nm,19.0s
ECSD EROS Data Cent 67.66 340 P **P** **12 44 20.0 +0.4**
baz=154,SNR=11
ECSD EROS Data Cent 67.66 340 P **P** **12 44 19.2 -0.3**
ISCO Idaho Springs 67.71 332 P **P** **12 44 21.4 +1.1**
baz=145
COWI Conover 67.83 346 P **P** **12 44 19.7 -0.9**
COWI IAmb IAmb 12 44 21.2
comp=Z,45nm,1.6s
IKP In-Ko-Pah, Jac 67.84 320 P **P** **12 44 23.1 +2.0**
baz=134
SWSC Sam W. Stewart 67.86 320 P **P** **12 44 23.0 +1.9**
baz=134
PV13 Radium Mtn., P 67.90 329 P **P** **12 44 22.3 +0.8**
PV05 Paradox Valley 67.98 328 IAmb IAmb 12 44 29.7
comp=Z,48nm,1.6s
PV18 Skein Mesa, Pa 68.01 329 IAMs_20 IAMs_20 13 19 00.9
comp=Z,361nm,18.0s
PV07 Paradox Valley 68.03 329 IAmb IAmb 12 44 30.5
comp=Z,42nm,1.7s
PV11 David Mesa, Pa 68.04 329 IAmb IAmb 12 44 54.4
comp=Z,47nm,1.6s
PV11 IAMs_20 IAMs_20 13 12 56.5
comp=Z,470nm,21.0s
PV17 East Wray Mesa 68.06 329 IAmb IAmb 12 44 41.3
comp=Z,26nm,1.4s
VLDQ Val d'Or 68.07 355 P **P** **12 44 23.0 +1.0**
VLDQ IAmb IAmb 12 44 24.7
comp=Z,39nm,1.3s
VLDQ IAMs_20 IAMs_20 13 18 55.5
comp=Z,544nm,19.0s
PV19 Morning Glory 68.10 329 IAMs_20 IAMs_20 13 13 45.2
comp=Z,450nm,21.0s
BC3 Big Chuckawall 68.15 321 P **P** **12 44 25.1 +2.1**
baz=135
PV14 Lion Creek, Pa 68.17 329 P **P** **12 44 23.9 +0.7**
PV14 IAmb IAmb 12 44 31.0
comp=Z,33nm,1.5s
MONP2 Monument Peak 68.20 320 P **P** **12 44 25.3 +1.9**
baz=134
W13A Hualapai Mount 68.27 323 P **P** **12 44 23.4 -0.5**
W13A IAmb IAmb 12 44 32.8
comp=Z,44nm,1.8s
PV21 Cone Mtn., Par 68.29 329 P **P** **12 44 25.2 +1.2**
PV21 IAmb IAmb 12 44 32.1
comp=Z,34nm,1.7s
IRM Iron Mountain 68.32 322 P **P** **12 44 26.1 +2.2**
baz=135
U15A North Rim 68.37 325 P **P** **12 44 24.4 -0.1**
U15A IAmb IAmb 12 44 33.3
comp=Z,24nm,1.1s
F36A Milaca 68.69 343 P **P** **12 44 25.1 -0.8**
F36A IAmb IAmb 12 44 27.2
comp=Z,49nm,1.8s
F36A IAMs_20 IAMs_20 13 19 52.3
comp=Z,596nm,18.0s
BELC Belle Mtn. Jos 68.71 321 P **P** **12 44 28.7 +2.1**
baz=135
PFO Pinyon Flats O 68.72 320 P **P** **12 44 29.3 +2.7**
comp=Z,6.4nm,0.7s,baz=103,slow=4.8,SNR=7.7
PFO Pinyon Flats O 68.72 320 P **P** **12 44 28.3 +1.8**
baz=134
PFO Pinyon Flats O 68.72 320 *i*P **P** **12 44 30.3 +3.7**
PFO pmax pmax
comp=Z,43nm,1.5s
PFO Pinyon Flats O 68.72 320 P **P** **12 44 26.7 +0.2**
N23A Red Feather La 68.75 332 P **P** **12 44 28.4 +1.6**
baz=145
N23A Red Feather La 68.75 332 P **P** **12 44 27.6 +0.8**
N23A IAmb IAmb 12 44 34.5
comp=Z,25nm,1.4s
PHWY Pilot Hill 68.87 333 P **P** **12 44 28.1 +0.5**
PHWY IAmb IAmb 12 44 35.2
comp=Z,63nm,1.9s
GMRC Granite Mounta 69.06 322 P **P** **12 44 30.8 +2.0**
baz=135,SNR=16
KNB Kanab 69.09 325 P **P** **12 44 30.2 +1.3**
KNB pmax pmax
comp=Z,105nm,1.5s
KNB Kanab 69.09 325 P **P** **12 44 30.1 +1.3**
O20A White River Ci 69.18 330 P **P** **12 44 31.4 +1.9**
baz=143
O20A White River Ci 69.18 330 P **P** **12 44 27.7 -1.7**
O20A IAmb IAmb 12 44 37.6
comp=Z,44nm,1.6s
LCMT Little Creek M 69.31 325 P **P** **12 44 30.3 +0.1**
F33A 5 Mile Ranch, 69.45 341 P **P** **12 44 30.9 +0.2**
F33A IAmb IAmb 12 44 36.8
comp=Z,56nm,1.7s
SRU San Rafael Swe 69.48 328 P **P** **12 44 30.8 -0.5**
SRU pmax pmax
comp=Z,15nm,0.9s
SRU San Rafael Swe 69.48 328 P **P** **12 44 30.8 -0.5**
HEC Hector,Ludlow 69.49 321 P **P** **12 44 34.0 +2.7**
baz=135,SNR=17
TUQ Turquoise Moun 69.68 322 P **P** **12 44 33.7 +1.2**
baz=135
BFSC Mount Baldy Ra 69.87 320 P **P** **12 44 36.4 +2.7**
baz=133
LIC Lamto 69.90 75 *e*P **P** **12 44 33.2 -1.0**
comp=Z,12nm,0.7s
RWWY Rawlins 69.95 332 IAmb IAmb 12 44 41.2
comp=Z,61nm,1.6s
SHPR Sheep Range 70.00 323 IAmb IAmb 12 44 45.5
comp=Z,49nm,1.6s
TIC Toumodi 70.08 75 *e*P **P** **12 44 32.9 -2.4**
GSC Goldstone, Bar 70.09 321 P **P** **12 44 36.7 +1.7**
baz=134
EYMN Ely 70.11 346 IAMs_20 IAMs_20 13 16 35.0
comp=Z,481nm,20.0s
QSPA South Pole Qui 70.15 180 P **P** **12 44 36.6 +1.6**
QSPA IAmb IAmb 12 44 43.5
comp=Z,20nm,0.9s
KIC Kosan Boka 70.22 75 *e*P **P** **12 44 34.6 -1.5**
comp=Z,16nm,0.9s
DBIC Dimbokro 70.24 75 P **P** **12 44 34.7 -1.6**
comp=Z,8.7nm,0.8s,baz=233,slow=8.1,SNR=9.1
DBIC LR LR 13 13 58.3
comp=Z,828nm,19.4s,baz=222,slow=35
DBIC Dimbokro 70.24 75 P **P** **12 44 34.0 -2.2**
DBIC pmax pmax
comp=Z,59nm,1.8s
DBIC Dimbokro 70.24 75 P **P** **12 44 34.0 -2.2**
DBIC IAmb IAmb 12 44 36.2
comp=Z,58nm,1.8s
EDW2 Edwards Air Fo 70.51 320 P **P** **12 44 39.9 +2.3**
baz=133,SNR=12
PRN Pahroc Range 70.59 324 P **P** **12 44 38.8 +0.8**
PRN IAmb IAmb 12 45 00.1
comp=Z,27nm,1.4s
RSSD Black Hills 70.63 335 P **P** **12 44 38.4 +0.1**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 70.63 335 P **P** **12 44 38.4 +0.1**
LRMC Laurel Mtn Rad 70.73 321 P **P** **12 44 41.4 +2.4**
baz=134,SNR=12
PSUT Pine Spring 70.76 326 P **P** **12 44 39.2 0.0**
TPNV Topopah Spring 70.93 323 P **P** **12 44 42.9 +2.7**
baz=135,SNR=22
TPNV Topopah Spring 70.93 323 P **P** **12 44 39.4 -0.8**
TPNV pmax pmax
comp=Z,64nm,1.6s
TPNV Topopah Spring 70.93 323 P **P** **12 44 39.4 -0.8**
FURC Furnace Creek, 70.94 322 P **P** **12 44 42.7 +2.7**
baz=135,SNR=21
MPMC Manual Prospec 71.02 322 P **P** **12 44 43.0 +2.2**
baz=134,SNR=13
B35A Bob, Littlefor 71.05 344 P **P** **12 44 40.7 +0.3**
B35A IAmb IAmb 12 44 41.5
comp=Z,55nm,1.6s
B35A IAMs_20 IAMs_20 13 17 10.7
comp=Z,596nm,21.0s
JLU Jordanelle 71.08 329 P **P** **12 44 42.6 +1.5**
CTU Camp Tracy 71.30 328 P **P** **12 44 43.3 +0.9**
ISA Isabella, Lake 71.33 321 P **P** **12 44 45.2 +2.6**
baz=133,SNR=19
SPR3 Spring Creek 3 71.35 326 P **P** **12 44 44.4 +1.5**
DUG Dugway, Tooele 71.45 327 P **P** **12 44 45.8 +2.5**
baz=139,SNR=16
DUG Dugway, Tooele 71.45 327 P **P** **12 44 45.0 +1.8**
DUG pmax pmax
comp=Z,51nm,1.5s
DUG Dugway, Tooele 71.45 327 P **P** **12 44 45.0 +1.8**
DUG IAmb IAmb 12 44 51.8
comp=Z,51nm,1.5s
TCUT Toone Canyon 71.45 329 P **P** **12 44 43.0 -0.4**
E28A Huff 71.51 339 P **P** **12 44 44.4 +1.1**
R11A Troy Canyon, C 71.56 324 P **P** **12 44 46.8 +2.8**
baz=136,SNR=22
AGMN Agassiz Nation 71.56 343 P **P** **12 44 44.8 +1.3**
baz=156
AGMN Agassiz Nation 71.56 343 P **P** **12 44 43.2 -0.4**
AGMN IAmb IAmb 12 45 03.2
comp=Z,51nm,1.9s
PKM Mcpherson Peak 71.62 319 P **P** **12 44 47.1 +2.6**
baz=132,SNR=11
CWC Cottonwood Cre 71.63 322 P **P** **12 44 46.9 +2.4**
baz=134
VES Vestal, Richgr 71.81 320 P **P** **12 44 47.4 +2.1**
baz=133
BW06 Boulder Array 71.86 331 P **P** **12 44 47.1 +1.3**
baz=142,SNR=8.8
BW06 Boulder Array 71.86 331 P **P** **12 44 45.0 -0.8**
PD31 Pinedale Array 71.86 331 P **P** **12 44 44.6 -1.2**
PDAR Pinedale Array 71.86 331 P **P** **12 44 46.5 +0.8**
comp=Z,2.0nm,1.0s,baz=139,slow=7.0,SNR=15
PDAR LR LR 13 17 36.9
comp=Z,174nm,19.8s,baz=126,slow=37
HWUT Hardware Ranch 71.90 329 P **P** **12 44 45.5 -0.5**
HWUT IAmb IAmb 12 44 53.5
comp=Z,47nm,1.6s
TBI Tubuai 72.10 251 *e*S **S** **12 54 09.8 -0.2**
comp=Z,542nm,24.5s
TBI Tubuai 72.10 251 *e*LR LR 13 06 43.5
comp=Z,905nm,27.5s,baz=107
BGU Big Grassy Mou 72.11 328 P **P** **12 44 48.5 +1.3**
SPUT South Promonto 72.11 328 P **P** **12 44 48.8 +1.6**
AHID Auburn Hatcher 72.57 330 P **P** **12 44 49.0 -1.0**
AHID IAmb IAmb 12 44 57.6
comp=Z,24nm,1.1s
SNOW Snow King Moun 72.95 331 P **P** **12 44 52.2 -0.1**
OMMB Old Mammoth Mi 72.97 322 P **P** **12 44 54.2 +1.6**
OMMB IAmb IAmb 12 45 01.1
comp=Z,30nm,1.1s
LOHW Long Hollow 73.00 331 P **P** **12 44 53.6 +1.0**
MDPB Devils Postpil 73.03 322 P **P** **12 44 52.8 -0.1**
ELK Elko 73.10 326 P **P** **12 44 54.6 +1.4**
comp=Z,2.6nm,0.9s,baz=198,slow=1.3,SNR=7.9
ELK Elko 73.10 326 P **P** **12 44 53.7 +0.4**
ELK pmax pmax
comp=Z,14nm,1.2s
ELK Elko 73.10 326 P **P** **12 44 53.7 +0.4**
LHV Little Huntoon 73.12 323 P **P** **12 44 54.2 +1.1**
NVAR Mina Array Bea 73.13 323 P **P** **12 44 54.6 +1.2**
comp=Z,3.4nm,0.8s,baz=151,slow=5.8,SNR=25
NVAR LR LR 13 14 30.0
comp=Z,157nm,19.8s,baz=125,slow=34
FXWY Fox Creek 73.22 331 P **P** **12 44 54.0 +0.2**
ULM Lac du Bonnet 73.34 344 P **P** **12 44 54.5 +0.4**
comp=Z,10nm,1.0s,baz=152,slow=8.4,SNR=4.6
ULM LR LR 13 19 23.5
comp=Z,418nm,20.4s,baz=138,slow=38
ULM Lac du Bonnet 73.34 344 P **P** **12 44 54.2 +0.1**
ULM IAmb IAmb 12 45 22.9
comp=Z,85nm,2.0s
IMW Indian Meadow 73.38 331 P **P** **12 44 55.5 +0.7**
IMW IAmb IAmb 12 45 02.8
comp=Z,48nm,1.6s
RYN Ryan 73.39 323 P **P** **12 44 55.6 +0.8**
FLWY Flagg Ranch 73.41 331 P **P** **12 44 56.6 +1.6**
FLWY IAmb IAmb 12 45 27.7
comp=Z,48nm,1.3s
KVN Kaiserville 73.44 323 pP 12 44 57.0 +0.2
RLMT Red Lodge 73.60 333 P **P** **12 44 57.7 +1.6**
baz=143,SNR=9.3
RLMT Red Lodge 73.60 333 P **P** **12 44 57.7 +1.6**
RLMT IAmb IAmb 12 45 04.0
comp=Z,70nm,1.7s
H17A Grant Village 73.60 332 P **P** **12 44 56.2 +0.1**
H17A IAMs_20 IAMs_20 13 19 47.7
comp=Z,673nm,19.0s
LAO LASA Array 73.62 336 P **P** **12 44 57.5 +1.6**
baz=146,SNR=11
LAO LASA Array 73.62 336 P **P** **12 44 57.0 +1.0**
LAO IAmb IAmb 12 45 03.5
comp=Z,47nm,1.2s
YMP Mirror Lake Pl 73.68 332 P **P** **12 44 57.1 +0.4**
PPT2 Papeete2 73.73 257 *e*S **S** **12 54 28.8 -0.1**
comp=Z,366nm,24.8s
PPT2 Papeete2 73.73 257 *e*LR LR 13 07 26.9
comp=Z,678nm,25.0s
PPT Papeete 73.73 257 LR LR 13 09 27.3
comp=Z,200nm,20.8s,baz=138,slow=29
YNE Yellowstone No 73.83 332 P **P** **12 44 58.5 +1.0**
CMB Columbia Colle 74.06 321 P **P** **12 44 59.0 +0.3**
CMB pmax pmax
comp=Z,31nm,1.6s
CMB Columbia Colle 74.06 321 P **P** **12 44 59.0 +0.3**
YHL Hebgen Lake 74.23 332 P **P** **12 45 01.0 +1.1**
KOWA Kowa 74.27 68 P **P** **12 44 59.1 -1.3**
comp=Z,4.3nm,0.6s,baz=231,slow=4.4,SNR=10
KOWA Kowa 74.27 68 P **P** **12 44 58.5 -1.8**
KOWA IAmb IAmb 12 45 00.6
comp=Z,52nm,1.7s
GCMT Greycliff 74.30 333 P **P** **12 44 58.8 -1.3**
PNTR Pine Nut 74.32 323 P **P** **12 45 00.1 -0.3**
QLMT Earthquake Lak 74.32 331 P **P** **12 45 00.7 +0.5**
DGMT Dagmar 74.36 338 P **P** **12 45 01.6 +1.5**
baz=148
DGMT Dagmar 74.36 338 P **P** **12 45 01.1 +1.0**
DGMT IAmb IAmb 12 45 08.0
comp=Z,50nm,1.1s
PAHR Pah Rah Range 74.62 323 P **P** **12 45 03.6 +1.6**
PAHR IAmb IAmb 12 45 10.9
comp=Z,30nm,0.9s
SCHQ Schefferville 74.64 3 LR LR 13 17 31.9
comp=Z,292nm,22.0s,baz=196,slow=36
HLID Hailey 74.76 329 P **P** **12 45 04.9 +2.1**
baz=138,SNR=31
HLID Hailey 74.76 329 P **P** **12 45 05.5 +2.7**
HLID IAmb IAmb 12 45 11.4
comp=Z,32nm,1.2s
BCYI Bear Canyon 74.84 330 P **P** **12 45 04.3 +1.0**
MCMT McKenzie Canyo 74.97 331 P **P** **12 45 05.9 +1.9**
BOZ Bozeman (W) 75.00 332 P **P** **12 45 05.9 +1.8**
baz=141,SNR=14
BOZ Bozeman (W) 75.00 332 P **P** **12 45 06.1 +2.0**
BOZ pmax pmax
comp=Z,19nm,1.3s
BOZ Bozeman (W) 75.00 332 P **P** **12 45 06.1 +2.0**
AFDM Forest Hills D 75.01 322 P **P** **12 45 04.5 +0.4**
DLMT Dillon 75.26 331 P **P** **12 45 07.2 +1.6**
MFID Camas Ranch 75.35 328 P **P** **12 45 07.0 +0.8**
MFID IAmb IAmb 12 45 14.8
comp=Z,49nm,1.2s
LRM Limekiln Ridge 75.55 331 P **P** **12 45 05.8 -1.5**
ORV Oroville 75.72 322 P **P** **12 45 09.9 +1.7**
ORV pmax pmax
comp=Z,65nm,1.3s
ORV Oroville 75.72 322 P **P** **12 45 09.9 +1.7**
HRY Holter Researc 75.96 332 P **P** **12 45 11.0 +1.5**
EGMT Eagleton 76.11 334 P **P** **12 45 11.8 +1.5**
baz=143
EGMT Eagleton 76.11 334 P **P** **12 45 11.4 +1.0**
EGMT IAmb IAmb 12 45 17.8
comp=Z,31nm,1.1s
O03E Paynes Creek 76.39 322 P **P** **12 45 13.2 +1.1**
baz=132
MOD Modoc Plateau 76.62 324 P **P** **12 45 15.1 +1.6**
MOD IAmb IAmb 12 45 21.8
comp=Z,55nm,1.6s
PLID Pearl Lake 76.65 329 P **P** **12 45 15.4 +1.7**
PLID IAmb IAmb 12 45 21.6
comp=Z,30nm,1.2s
PLID IAMs_20 IAMs_20 13 20 16.5
comp=Z,449nm,19.0s
O02D Mt. Diablo Mer 76.88 322 P **P** **12 45 16.1 +1.3**
baz=131
MSO Missoula 76.98 331 P **P** **12 45 16.7 +1.4**
baz=139
MSO Missoula 76.98 331 P **P** **12 45 14.0 -1.3**
MSO IAmb IAmb 12 45 23.8
comp=Z,39nm,1.6s
WDC Whiskeytown Da 77.00 322 P **P** **12 45 15.6 +0.2**
WDC pmax pmax
comp=Z,9.0nm,0.8s
WDC Whiskeytown Da 77.00 322 P **P** **12 45 15.6 +0.2**
BMO Blue Mountains 77.12 328 P **P** **12 45 17.8 +1.6**
BMO pmax pmax
comp=Z,16nm,1.0s
BMO Blue Mountains 77.12 328 P **P** **12 45 17.8 +1.6**
N02D Trinity Center 77.35 322 P **P** **12 45 19.0 +1.5**
baz=131
M04C Macdoel 77.39 324 P **P** **12 45 19.4 +1.6**
baz=132
KMRM Mail Ridge 77.44 321 P **P** **12 45 19.3 +1.2**
KMRM IAmb IAmb 12 45 26.9
comp=Z,48nm,1.3s
K05A Summer Lake 77.50 325 P **P** **12 45 18.2 -0.3**
K05A IAmb IAmb 12 45 27.3
comp=Z,50nm,1.2s
I07A Izee 77.69 326 P **P** **12 45 20.4 +1.0**
M02C Callahan 77.71 323 P **P** **12 45 20.8 +1.3**
baz=131
JTMT Jette 77.83 332 P **P** **12 45 21.0 +1.0**
YBH Yreka Blue Hor 77.85 323 P **P** **12 45 20.8 +0.5**
comp=Z,1.9nm,0.8s,baz=118,slow=4.8,SNR=7.1
YBH Yreka Blue Hor 77.85 323 P **P** **12 45 19.8 -0.5**

YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 77.85 323 P **P** **12 45 19.8 -0.5**
KHMM Horse Mountain 77.88 322 P **P** **12 45 21.5 +0.9**
KHMM IAmb IAmb 12 45 29.1
comp=Z,29nm,1.2s
L04D Klamath Falls 77.94 324 P **P** **12 45 22.4 +1.6**
baz=132
VNDA Vanda 77.94 190 P **P** **12 45 22.9 +2.7**
comp=Z,2.6nm,1.0s,baz=150,slow=4.1,SNR=10.0
VNDA Vanda 77.94 190 P **P** **12 45 21.9 +1.6**
VNDA pmax pmax
comp=Z,32nm,1.9s
VNDA Vanda 77.94 190 P **P** **12 45 21.9 +1.6**
J05D Fort Rock, OR 78.07 325 P **P** **12 45 23.2 +1.6**
baz=132
PINE Pine Mountain 78.25 326 P **P** **12 45 22.4 -0.2**
PINE IAmb IAmb 12 45 31.3
comp=Z,35nm,1.2s
G08A Pilot Rock 78.26 328 P **P** **12 45 23.4 +0.9**
J04D Umpqua Nationa 78.51 325 P **P** **12 45 25.6 +1.5**
baz=132
SYO Syowa Base 78.56 160⇑*eP* **P** **12 45 22.0 -1.7**
SYO Syowa Base 78.56 160‖*ep*P **P** **12 45 24.0 +0.3**
SYO Syowa Base 78.56 160‖*e*PcP **PcP** **12 45 29.2 -3.6**
L02E Cave Junction 78.63 323 P **P** **12 45 26.2 +1.7**
baz=130
WALA Waterton Lakes 78.66 333 P **P** **12 45 25.8 +1.1**
WALA IAmb IAmb 12 45 32.4
comp=Z,24nm,1.1s
TOC5 Torodi Ar. Sit 78.72 72 IAMs_20 IAMs_20 13 20 17.1
comp=Z,1µm,18.0s
E09A Wood Farm, Sta 78.72 329 P **P** **12 45 25.3 +0.4**
TOB4 Torodi Ar. Sit 78.73 72 IAMs_20 IAMs_20 13 20 25.4
comp=Z,1µm,18.0s
TOB5 Torodi Ar. Sit 78.73 71 IAMs_20 IAMs_20 13 19 59.5
comp=Z,984nm,18.0s
TOC7 Torodi Ar. Sit 78.74 71 IAMs_20 IAMs_20 13 20 25.6
comp=Z,1µm,18.0s
TOC4 Torodi Ar. Sit 78.74 72 IAMs_20 IAMs_20 13 20 17.6
comp=Z,1µm,18.0s
TOA3 Torodi Ar. Sit 78.74 72 IAMs_20 IAMs_20 13 20 17.7
comp=Z,1µm,18.0s
TOA0 Torodi Ar. Sit 78.75 72 P **P** **12 45 24.6 -1.1**
TOA0 IAMs_20 IAMs_20 13 20 17.8
comp=Z,1µm,18.0s
TORD Torodi Ar. Bea 78.75 72 P **P** **12 45 24.4 -1.3**
comp=Z,23nm,0.8s,baz=255,slow=4.9,SNR=84
TORD LR LR 13 18 34.5
comp=Z,826nm,20.8s,baz=240,slow=35
TORD Torodi Ar. Bea 78.75 72 P **P** **12 45 24.4 -1.3**
TOB1 Torodi Ar. Sit 78.75 71 IAMs_20 IAMs_20 13 20 17.9
comp=Z,1µm,18.0s
TOB3 Torodi Ar. Sit 78.75 72 IAMs_20 IAMs_20 13 20 17.9
comp=Z,1µm,18.0s
TOA2 Torodi Ar. Sit 78.75 72 IAMs_20 IAMs_20 13 20 17.9
comp=Z,1µm,18.0s
TOC1 Torodi Ar. Sit 78.76 71 IAMs_20 IAMs_20 13 20 17.2
comp=Z,1µm,18.0s
TOC3 Torodi Ar. Sit 78.76 72 IAMs_20 IAMs_20 13 20 17.3
comp=Z,1µm,18.0s
TOC2 Torodi Ar. Sit 78.77 72 IAMs_20 IAMs_20 13 20 09.5
comp=Z,1µm,18.0s
I05D Terrebonne, OR 78.83 326 P **P** **12 45 27.5 +1.9**
baz=133
K02D Willamette Mer 79.01 323 P **P** **12 45 27.8 +1.1**
baz=130
HAWA Hanford 79.32 328 P **P** **12 45 28.7 +0.6**
HAWA IAmb IAmb 12 45 36.6
comp=Z,45nm,1.4s
G05D Wamic, OR 79.43 326 P **P** **12 45 31.1 +2.3**
baz=133
J01E Myrtle Point 79.46 324 P **P** **12 45 31.2 +2.2**
baz=130
D08A Wollman Farm, 79.48 329 P **P** **12 45 27.5 -1.5**
D08A IAmb IAmb 12 45 37.4
comp=Z,53nm,1.9s
I03D Drain, OR 79.49 324 P **P** **12 45 31.3 +2.1**
baz=131
NEW Newport 79.50 331 P **P** **12 45 31.3 +2.2**
baz=136
NEW Newport 79.50 331 P **P** **12 45 29.1 0.0**
NEW pmax pmax
comp=Z,28nm,1.6s
NEW Newport 79.50 331 P **P** **12 45 29.1 0.0**
H04A Detroit Lake 79.51 326 P **P** **12 45 29.4 +0.1**
H04A IAMs_20 IAMs_20 13 21 57.4
comp=Z,344nm,18.0s
E07A Sunnyside 79.59 328 P **P** **12 45 28.2 -1.5**
C09A Chrisman Ranch 79.70 330 P **P** **12 45 30.0 -0.3**
F04A Amboy 80.47 326 P **P** **12 45 34.7 +0.3**
F04A IAmb IAmb 12 45 42.3
comp=Z,38nm,1.0s
LTY Liberty 80.48 328 P **P** **12 45 34.3 -0.2**
LTY IAmb IAmb 12 45 42.5
comp=Z,51nm,1.4s
B08A Colville Reser 80.60 330 P **P** **12 45 36.5 +1.4**
E04D Cinebar 80.96 327 P **P** **12 45 38.4 +1.4**
baz=132
D05A Enumclaw 81.09 328 P **P** **12 45 35.7 -2.0**
D05A IAmb IAmb 12 45 45.4
comp=Z,32nm,0.9s
B06A Marblemount 81.74 329 P **P** **12 45 42.1 +1.1**
B06A IAMs_20 IAMs_20 13 24 55.2
comp=Z,351nm,18.0s
B05A Bryant 81.87 328 P **P** **12 45 43.3 +1.6**
baz=132
D03D Eldon 81.88 327 P **P** **12 45 44.0 +2.2**
baz=132
MDT Midelt 82.35 51 P **P** **12 45 44.7 -0.1**
comp=Z,9.4nm,1.2s,baz=272,slow=6.5,SNR=7.4
MDT LR LR 13 21 24.7
comp=Z,404nm,19.6s,baz=248,slow=35
TSUM Tsumeb 82.36 108 P **P** **12 45 45.7 +0.4**
comp=Z,5.7nm,0.9s,baz=258,slow=6.5,SNR=9.8
TSUM Tsumeb 82.36 108 P **P** **12 45 45.5 +0.2**
TSUM IAmb IAmb 12 45 47.4
comp=Z,44nm,1.8s
A04D Lummi Island 82.48 328 P **P** **12 45 47.2 +2.3**
baz=132
PAB San Pablo 85.87 45 P **P** **12 46 02.8 +0.2**
PAB pmax pmax
comp=Z,34nm,1.5s
PAB San Pablo 85.87 45 P **P** **12 46 02.8 +0.2**
PAB IAmb IAmb 12 46 04.8
comp=Z,34nm,1.5s
BOSA Boshof 85.88 119 LR LR 13 21 00.7
comp=Z,368nm,18.6s,baz=246,slow=33
ESDC Sonseca Array 86.19 45 P **P** **12 46 04.2 0.0**
comp=Z,11nm,1.2s,baz=243,slow=5.3,SNR=19
ESDC LR LR 13 20 29.7
comp=Z,311nm,21.2s,baz=215,slow=33
ESDC Sonseca Array 86.19 45 P **P** **12 46 04.2 0.0**
MAW Mawson 86.29 164 P **P** **12 46 05.6 +1.5**
comp=Z,4.7nm,0.8s,baz=240,slow=7.5,SNR=11
MAW LR LR 13 26 57.0
comp=Z,268nm,18.0s,baz=244,slow=37
MAW Mawson 86.29 164 P **P** **12 46 04.9 +0.8**
MAW pmax pmax
comp=Z,6.0nm,1.5s
MAW Mawson 86.29 164 P **P** **12 46 04.9 +0.8**
SFJD Kangerlussuaq 88.09 8 LR LR 13 24 08.0
comp=Z,202nm,20.9s,baz=204,slow=35
YKA Yellowknife Ar 89.16 341 P **P** **12 46 18.4 +0.6**
comp=Z,4.2nm,0.8s,baz=130,slow=4.6,SNR=21
YKA LR LR 13 28 51.1
comp=Z,365nm,21.6s,baz=0.0,slow=37
MATP Matopo 91.59 112 P **P** **12 46 30.9 +0.5**
comp=Z,1.7nm,0.8s,baz=238,slow=9.0,SNR=3.6
DLBC Dease Lake 92.00 333 P **P** **12 46 32.5 +1.3**
comp=Z,4.4nm,1.0s,baz=67,slow=4.1,SNR=5.0
DLBC Dease Lake 92.00 333 P **P** **12 46 31.9 +0.7**
DLBC IAmb IAmb 12 46 38.7
comp=Z,21nm,1.2s
BORG Borgarnes 92.67 19 LR LR 13 26 20.7
comp=Z,120nm,18.2s,baz=231,slow=34
KEST Kesra 94.01 54 LR LR 13 29 50.4
comp=Z,523nm,20.0s,baz=190,slow=36
KEST Kesra 94.01 54 IAMs_20 IAMs_20 13 29 29.8
comp=Z,621nm,19.0s
CLTB Caltabellotta 97.57 53 IAMs_20 IAMs_20 13 35 02.0
comp=Z,511nm,21.0s
DAVOX Davos/Dischmat 98.34 43 LR LR 13 26 40.1
comp=Z,147nm,20.9s,baz=262,slow=33
VAE Valguarnera 98.44 53 LR LR 13 31 27.2
comp=Z,317nm,19.4s,baz=268,slow=36
PAOL Paolisi 99.67 50 IAMs_20 IAMs_20 13 40 13.4
comp=Z,249nm,19.0s
CEL Celeste 99.79 53 IAMs_20 IAMs_20 13 38 13.9
comp=Z,312nm,20.0s
PRED Cave del Predi 100.64 44 IAMs_20 IAMs_20 13 35 32.8
comp=Z,539nm,18.0s
TIP Timpagrande 100.71 52 IAMs_20 IAMs_20 13 37 04.2
comp=Z,562nm,19.0s
MBAR Mbarara 100.84 95 IAMs_20 IAMs_20 13 29 50.1
comp=Z,619nm,21.0s
DHY Denali Highway 101.66 333 IAMs_20 IAMs_20 13 28 47.8
comp=Z,381nm,18.0s
HDA Harding Lake 101.97 334 IAMs_20 IAMs_20 13 36 30.8
comp=Z,404nm,20.0s
ILAR Eielson Array 102.08 335 PP **PP** **12 51 28.9 +0.5**
comp=Z,1.1nm,1.1s,baz=127,slow=6.9,SNR=5.3
COLA College 102.50 335‖*eP* **Pdif** **12 47 19.4 +1.0**
COLA pmax pmax
comp=Z,9.0nm,1.5s
IDI Anoyia 105.96 58 IAMs_20 IAMs_20 13 39 45.5
comp=Z,292nm,18.0s
KMBO Kilima Mbogo 106.75 98 IAMs_20 IAMs_20 13 34 36.5
comp=Z,580nm,22.0s
MLR Muntele Rosu 108.80 48 IAMs_20 IAMs_20 13 36 53.9
comp=Z,334nm,19.0s
DZM Mont Dzumac 109.99 236 *e*LR LR 13 24 18.6
comp=Z,381nm,22.8s
TIRR Tirgusor 110.36 49 IAMs_20 IAMs_20 13 37 15.5
comp=Z,1µm,21.0s
FURI Furi 111.44 88 IAMs_20 IAMs_20 13 36 17.2
comp=Z,555nm,20.0s
CSS Mathiatis 112.68 60 IAMs_20 IAMs_20 13 47 58.5
comp=Z,197nm,19.0s
OBN Obninsk 116.23 38 *e*PKIKP **PKiKP** **12 52 07.1 +1.4**
OBN *e* 12 53 11.3
OBN *e*PPP PPP 12 55 38.6
OBN pmax pmax
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 117.28 31 *e*PKIKP **PKPdf** **12 52 06.9 -0.6**
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 117.28 31 *e*PKPdf **PKPdf** **12 52 07.0 -0.6**
KLMR AMP 12 52 16.1
comp=Z,19nm,1.5s
STKA Stephens Creek 119.66 212 PKP **PKiKP** **12 52 14.4 +1.1**
comp=Z,1.6nm,0.8s,baz=93,slow=2.7,SNR=3.1
BILL Bilibino 120.44 338 *e*PKIKP **PKiKP** **12 52 13.9 +0.3**
BILL *e* 12 53 42.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
KIV Kislovodsk 120.56 50 *i* PKIKP **PKiKP** **12 52 16.9 +2.2**
KIV *e* 12 53 43.9
KIV *e*PS **PS** **13 03 34.7 +1.5**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,331nm,22.0s
KBZ Khabaz 120.72 50 PKP **PKiKP** **12 52 15.2 +0.4**
comp=Z,1.5nm,0.6s,baz=192,slow=9.3,SNR=2.5
KBZ Khabaz 120.72 50 *i* PKIKP **PKiKP** **12 52 15.8 +1.0**
H11S2 WAKE ISLAND Hyl 125.72 279 T T 15 11 55.1
baz=101,slow=74
H11S1 WAKE ISLAND Hyl 125.73 279 T T 15 11 47.6
baz=101,slow=74
H11S3 WAKE ISLAND Hyl 125.73 279 T T 15 11 48.4
baz=101,slow=74
H11N3 WAKE ISLAND Hyl 125.77 280 T T 15 11 51.3
baz=100,slow=74
H11N2 WAKE ISLAND Hyl 125.78 280 T T 15 11 48.2
baz=100,slow=74
H11N1 WAKE ISLAND Hyl 125.78 280 T T 15 11 51.4
baz=100,slow=74
SOCY Socotra 126.79 90 IAMs_20 IAMs_20 13 58 50.3
comp=Z,474nm,19.0s
TIXI Tiksi 127.08 352‖ *i*PKIKP **PKiKP** **12 52 30.8 +4.2**
SEY Seymchan 127.97 337⇑ *i*PKIKP **PKiKP** **12 52 30.2 +1.6**
ARU Arti 128.02 33 *i* PKIKP **PKiKP** **12 52 29.4 +0.5**
ARU 12 54 28.5
ARU 12 59 40.4
ARU SS SS 13 11 38.2 -6.6
NRIK Noril'sk 128.97 10⇑ *i*PKIKP **PKiKP** **12 52 31.9 +1.4**
PETK Petropavlovsk- 130.21 324 PKP **PKPdf** **12 52 32.2 -0.5**
comp=Z,2.6nm,0.9s,baz=164,slow=27,SNR=4.0
ASAR Alice Springs 130.23 210 PKIKP **PKPdf** **12 52 34.1 +0.4**
comp=Z,0.9nm,0.5s,baz=128,slow=1.7,SNR=15
ASAR Alice Springs 130.23 210 PKIKP **PKPdf** **12 52 31.8 -1.9**
ASAR Alice Springs 130.23 210 PKPdf **PKPdf** **12 52 31.8 -1.9**
AB31 Akbulak array 131.38 41 *i* PKIKP **PKiKP** **12 52 35.5 -0.4**
PMG Port Moresby 132.38 236 IAMs_20 IAMs_20 13 59 30.9
comp=Z,788nm,22.0s
WR6 Warramunga Arr 133.08 214 IAMs_20 IAMs_20 14 03 33.8
comp=Z,644nm,20.0s
WRA Warramunga Arr 133.15 214 PKP **PKPdf** **12 52 39.9 +0.6**
comp=Z,1.5nm,0.8s,baz=154,slow=1.7,SNR=16
WRAB Tennant Creek 133.15 214‖*e*PKIKP **PKPdf** **12 52 39.4 +0.1**
WC1 Warramunga Array 133.16 214 IAMs_20 IAMs_20 14 03 56.0
comp=Z,762nm,19.0s
BRVK Borovoye 135.59 33*d i*PKIKP **PKiKP** **12 52 46.0 +1.7**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 135.64 346⇓ *i*PKIKP **PKiKP** **12 52 43.5 -0.6**
BVAR Borovoye Array 135.66 33 PKP **PKPdf** **12 52 42.7 -0.2**
comp=Z,0.5nm,0.6s,baz=206,slow=9.6,SNR=4.5
KURK Kurchatov 141.13 31 *d i*PKIKP **PKiKP** **12 52 56.0 +0.3**
ZAA0 Zalesovo Array 141.42 23 PKPdf **PKPdf** **12 52 54.4 +1.0**
ZALV Zalesovo Beam 141.42 23 PKhKP PKPpre 12 52 50.5
comp=Z,3.9nm,0.6s,baz=308,slow=2.5,SNR=5.5
ZALV PKP pPKPdf 12 52 54.4 -0.7
comp=Z,4.7nm,0.6s,baz=352,slow=2.6,SNR=14
ZALV Zalesovo Beam 141.42 23 PKIKP **PKPdf** **12 52 54.6 +1.2**
ZALV Zalesovo Beam 141.42 23 **PKPdf** **12 52 54.6 +1.2**
AAK Ala-Archa 143.29 44‖*e*PKIKP **PKPdf** **12 52 57.0 -0.3**
KDJ Kajisay 145.28 43 PKIKP **PKPdf** **12 53 00.8 -0.1**
KDJ Kajisay 145.28 43 **PKPdf** **12 53 00.8 -0.1**
MAKZ Makanchi 145.37 33 PKIKP **PKPab** **12 53 00.9 +0.2**
MAKZ Makanchi 145.37 33 **PKPab** **12 53 00.9 +0.2**
NIL Nilore 145.54 59 PKIKP **PKPab** **12 53 01.7 0.0**
NIL Nilore 145.54 59 **PKPab** **12 53 01.7 0.0**
MK31 Makanchi Array 145.54 33*c i*PKIKP **PKPab** **12 53 01.6 +0.3**
MK31 Makanchi Array 145.54 33 **PKPab** **12 53 01.8 +0.5**
MKAR Makanchi Array 145.54 33 PKPbc **PKPab** **12 53 01.7 +0.4**
comp=Z,8.2nm,0.6s,baz=322,slow=4.4,SNR=103
KSH Kashi 145.66 48 PKPbc **PKPab** **12 53 02.7 +0.6**
DGZ Jazzator, Alta 145.77 25 *i* PKP2 **PKPab** **12 53 02.7 +0.5**
TARG Taragay, Kyrgy 145.89 44 **PKPdf** **12 53 02.3 +0.1**
TEY Ternei 146.18 324‖*e*PKP2 **PKPab** **12 53 04.2 +0.6**
TEY pmax pmax
comp=E,10.0nm,0.7s
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=Z,10.0nm,1.2s
IRK Irkutsk 147.64 5 *e*PKP2 **PKiKP** **12 53 08.2 -0.9**
IRK pmax pmax
comp=Z,75nm,2.1s
MOY Mondy 147.81 9 *e*PKP2 **PKiKP** **12 53 09.0 -0.6**
MOY pmax pmax
comp=Z,46nm,1.6s
TLY Talaya 148.13 6 *e*PKP2 **PKiKP** **12 53 09.8 -0.3**
TLY pmax pmax
comp=Z,38nm,1.3s
USRK Ussuriysk Ar. 149.21 327 PKPbc **PKiKP** **12 53 12.6 +0.1**
comp=Z,9.8nm,1.0s,baz=34,slow=1.4,SNR=19
ZAK Zakamensk 149.38 7 *e*PKIKP **PKPdf** **12 53 08.6 +1.3**
ZAK pmax pmax
comp=Z,21nm,1.4s
MJAR Matsushiro Arr 149.61 309 PKPbc **PKiKP** **12 53 14.1 +0.4**
comp=Z,7.9nm,0.8s,baz=137,slow=0.4,SNR=16
MJAR Matsushiro Arr 149.61 309 PKHKP PKPpre 12 53 11.0
MJAR Matsushiro Arr 149.61 309 PKPbc **PKPbc** **12 53 11.0 -1.6**
MAJO Matsushiro 149.62 309‖ *i*PKP2 **PKiKP** **12 53 14.4 +0.8**
MAT Matsushiro 149.62 309 PKP **PKiKP** **12 53 13.9 +0.3**
VLA Vladivostok 150.00 325‖*e*PKHKP PKPpre 12 53 09.0
MDJ Mudanjiang 150.09 330 PKPbc **PKiKP** **12 53 14.4 0.0**
WMQ Urumqi 150.35 32 *e*PKPbc **PKPdf** **12 53 06.9 -2.1**
HYB Hyderabad 151.09 90 *i* PKP **PKPdf** **12 53 12.0 +1.2**
SONM Songino Array 152.18 4 PKP **PKPdf** **12 53 12.6 +0.9**
comp=Z,1.4nm,0.8s,baz=90,slow=1.3,SNR=8.6
SONM PKPbc **PKiKP** **12 53 19.0 +0.3**
comp=Z,4.9nm,0.6s,baz=322,slow=1.3,SNR=17
SONM Songino Array 152.18 4 PKIKP **PKiKP** **12 53 18.8 +0.1**
SONM Songino Array 152.18 4 **PKiKP** **12 53 18.8 +0.1**
ULN Ulaanbaatar 152.19 3‖ *e*PKIKP **PKPdf** **12 53 13.6 +1.8**
ULN Ulaanbaatar 152.19 3 PKPbc **PKiKP** **12 53 19.1 +0.3**
CN2 Changchun 152.59 334 *e*PKPbc **PKPdf** **12 53 08.3 -4.0**
KSRS Korea Array 156.05 320 PKP **PKPdf** **12 53 19.4 +2.0**
comp=Z,3.5nm,1.1s,baz=73,slow=2.1,SNR=7.0
HHC Hu-ho-hao-te 159.13 354 *e*PKP **PKPdf** **12 53 17.4 -3.8**
GTA Gaotai 159.13 20 PKP **PKPdf** **12 53 23.2 +1.9**
GTA pPKP sPKPdf 12 53 28.4 +4.8
GTA sPKP 12 53 31.2
TIA Tai'an 162.36 338 PKP **PKPdf** **12 53 26.7 +2.0**
LZH Lanzhou 163.38 15 *e*PKP **PKPdf** **12 53 24.6 -1.4**
LZH pPKP sPKPdf 12 53 35.0 +6.8
NJ2 Nanjing 165.11 325 *e*PKP **PKPdf** **12 53 27.1 -0.3**
XAN Xi'an 166.04 0 PKP **PKPdf** **12 53 32.9 +4.7**
CD2 Chengdu 168.19 22 PKP **PKPdf** **12 53 28.5 -1.4**
CMAR Chiang Mai Arr 170.39 98 PKPab **PKPab** **12 54 48.1 0.0**
comp=Z,1.2nm,1.1s,baz=264,slow=6.0,SNR=5.1
CMAR Chiang Mai Arr 170.39 98 PKP2 **PKPab** **12 54 47.5 -0.7**
CMAR Chiang Mai Arr 170.39 98 **PKPab** **12 54 47.5 -0.7**

IDC 07 12:49:31.1±2.5, 1.71N×127.46E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/37, mbtmp3.1/3, Error ellipse: s-maj=188.5km s-min=29.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.55**	**163**	P	P	12 54 33.5	+0.5
	0.3nm,0.4s,baz=342,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**25.99**	**166**	P	P	12 55 05.0	-0.7
	0.2nm,0.8s,baz=344,slow=9.0,SNR=1.7						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	12 59 37.1	+0.1
	0.2nm,0.4s,baz=127,slow=6.3,SNR=2.0						

*IDC **07** 13:05:49.8±0.7, 19°.83S×70°.80W, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.3/32, mbtmp4.3/13, ML4.4/2, MS4.2/4, Ms1 4.2/4, ms1mx3.8/20, Error ellipse: s-maj=23.2km s-min=19.4km az=42.0*

*NEIC **07** 13:05:51.7±1.8, 20°.07S±0°.04×70°.94W±0°.05, h16km±3km, mb4.7/66, Mww4.9, Error ellipse: s-maj=7.1km s-min=6.0km az=73.0*

*GUC **07** 13:05:51.4±0.7, 20°.02S×71°.12W, h31km±3km, ML4.5*

*VAO **07** 13:05:53.4±0.4, 19°.85S×70°.70W, h10km, mb4.4*

*GCMT **07** 13:05:57.7±0.4, 19°.87S±0°.03×71°.21W±0°.02, h21km±1km, MW4.9/67, Moment Tensor Solution. s24,c27; s67,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.97±.19; $M_{\theta\theta}$-0.32±.10; $M_{\phi\phi}$-2.65±.13; $M_{r\theta}$-0.37±.19; $M_{r\phi}$0.73±.08; $M_{\theta\phi}$-1.48±.19; Best double couple: $M_0$3.28300×10^{16} NP1:ϕ_s333.00000°, δ34.00000°, λ.70.00000°. NP2: ϕ_s177.00000°, δ58.00000°, λ.103.00000°. Principal axes: T 3.4140, Plg73.0000°, Azm120.0000°; N -0.2590, Plg11.0000°, Azm350.0000°; P -3.1530, Plg13.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 13:05:57, 19°.96S×70°.83W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.87; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$-2.54; $M_{r\theta}$0.05; $M_{\theta\phi}$0.92; $M_{r\phi}$-1.34; Fault plane solution: $M_0$3.17000×10^{16} NP1:ϕ_s333.00000°, δ33.00000°, λ.78.00000°. NP2:ϕ_s167.00000°, δ57.00000°, λ.98.00000°. Principal axes: T 3.1867, Plg76.0000°, Azm101.0000°; N -0.0421, Plg7.0000°, Azm343.0000°; P -3.1446, Plg12.0000°, Azm252.0000°;*

ISC 07 13:05:53.3±1.3, 19°.98S±0°.03×71°.02W±0°.05, h25km±9km, n207, σ1°96/214, mb4.7/38, MS4.3/7, 15C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.88**	**109**⇑	*iP*	**Pb**	**13 06 08.1**	**-1.8**
TA02				*eS*	**Sb**	**13 06 19.8**	**-1.4**
TA02				IAML		13 06 21.9	
	comp=E,16µm,0.3s						
PSGC	**Pisagua**	**0.92**	**66**⇑	*iP*	**Pb**	**13 06 08.7**	**-2.0**
PSGC				*eS*	**Sb**	**13 06 22.1**	**-0.5**
PSGC				IAML		13 06 23.9	
	comp=N,17µm,0.5s						
PSGCX	**Pisagua**	**0.92**	**66**		**Pb**	**13 06 08.7**	**-2.1**
PSGCX				Sg	**Sb**	**13 06 20.8**	**-1.9**
TA01	**Diego Aracena**	**0.97**	**127**⇑	*iP*	**Pb**	**13 06 09.2**	**-2.4**
TA01				*eS*	**Sb**	**13 06 21.9**	**-2.1**
TA01	**Diego Aracena**	**0.97**	**127**		**Pb**	**13 06 09.4**	**-2.1**
TA01				Sn	**Sb**	**13 06 21.4**	**-2.6**
PATCX	**Punta Patache**	**1.16**	**136**⇑	*iP*	**Pn**	**13 06 12.3**	**-1.8**
PATCX				*eS*	**Sb**	**13 06 27.2**	**-2.3**
PATCX	**Punta Patache**	**1.16**	**136**		**Pn**	**13 06 12.2**	**-1.9**
PB11	**IPOC Station P**	**1.30**	**80**⇑	*iP*	**Pn**	**13 06 14.7**	**-1.3**
PB11				*eS*	**Sn**	**13 06 32.4**	**-0.3**
PB11				IAML		13 06 34.2	
	comp=E,17µm,0.6s						
PB11	**IPOC Station P**	**1.30**	**80**		**Pn**	**13 06 14.7**	**-1.3**
MNMC	**Minye Minye**	**1.58**	**58**⇑	*iP*	**Pn**	**13 06 19.4**	**-0.7**
MNMC				*eS*	**Sb**	**13 06 40.9**	**-0.9**
MNMC				IAML		13 06 50.0	
	comp=E,15µm,0.5s						
MNMC	**Minye Minye**	**1.58**	**58**		**Pn**	**13 06 19.3**	**-0.7**
PB02	**IPOC Station P**	**1.69**	**142**⇑	*iP*	**Pn**	**13 06 19.0**	**-2.4**
PB02				*i* S	**Sn**	**13 06 40.8**	**-1.6**
PB02				IAML		13 06 45.8	
	comp=E,13µm,0.5s						
AP01	**Chacalluta**	**1.73**	**22**⇑	*iP*	**Pn**	**13 06 20.5**	**-1.3**
AP01				*eS*	**Sn**	**13 06 42.9**	**-0.1**
AP01				IAML		13 06 53.2	
	comp=N,14µm,0.4s						
AP01	**Chacalluta**	**1.73**	**22**		**Pn**	**13 06 20.5**	**-1.3**
GO01	**Chusmiza**	**1.74**	**80**⇑	*iP*	**Pn**	**13 06 21.6**	**-0.8**
GO01				*eS*	**Sb**	**13 06 46.0**	**-0.5**
GO01				IAML		13 06 50.8	
	comp=N,8µm,0.5s						
GO01	**Chusmiza**	**1.74**	**80**		**Pn**	**13 06 21.6**	**-0.8**
PB08	**IPOC Station P**	**1.76**	**95**⇑	*iP*	**Pn**	**13 06 21.6**	**-1.0**
PB08				*eS*	**Sb**	**13 06 45.7**	**-1.2**
PB08				IAML		13 06 55.5	
	comp=N,4µm,0.6s						
PB08	**IPOC Station P**	**1.76**	**95**		**Pn**	**13 06 21.7**	**-0.8**
PB01	**IPOC Station P**	**1.78**	**127**⇑	*iP*	**Pn**	**13 06 20.9**	**-1.7**
PB01				*eS*	**Sn**	**13 06 43.4**	**-1.1**
PB01				IAML		13 06 52.3	
	comp=N,6µm,0.6s						
PB01	**IPOC Station P**	**1.78**	**127**		**Pn**	**13 06 21.4**	**-1.2**
PB07	**IPOC Station P**	**2.03**	**149**	*eP*	**Pn**	**13 06 24.3**	**-1.8**
PB07				*eS*	**Sn**	**13 06 48.5**	**-2.3**
PB07				IAML		13 07 04.7	
	comp=E,3µm,0.5s						
PB07	**IPOC Station P**	**2.03**	**149**		**Pn**	**13 06 24.1**	**-2.1**
PB16	**IPOC Station P**	**2.17**	**41**⇑	*iP*	**Pn**	**13 06 27.9**	**-0.5**
PB16				*eS*	**Sb**	**13 06 57.3**	**-1.7**
PB16				IAML		13 07 08.9	
	comp=N,4µm,0.6s						
PB16	**IPOC Station P**	**2.17**	**41**		**Pn**	**13 06 28.0**	**-0.5**
PB03	**IPOC Station P**	**2.37**	**150**⇑	*iP*	**Pn**	**13 06 29.1**	**-1.6**
PB03				*eS*	**Sn**	**13 06 56.7**	**-2.4**
PB03				IAML		13 07 22.2	
	comp=N,1µm,0.5s						
PB09	**IPOC Station P**	**2.45**	**138**⇑	*iP*	**Pn**	**13 06 31.6**	**-0.3**
PB09				*eS*	**Sn**	**13 07 00.2**	**-1.0**
PB09				IAML		13 07 15.7	
	comp=E,5µm,0.7s						
PB09	**IPOC Station P**	**2.45**	**138**		**Pn**	**13 06 31.3**	**-0.6**
PB04	**IPOC Station P**	**2.48**	**161**	*eP*	**Pn**	**13 06 30.0**	**-2.2**
PB04				*i* S	**Sn**	**13 06 58.0**	**-3.7**
PB04				IAML		13 07 26.2	
	comp=N,2µm,0.5s						
PB04	**IPOC Station P**	**2.48**	**161**		**Pn**	**13 06 29.8**	**-2.4**
PB05	**IPOC Station P**	**2.96**	**165**‖	*eP*	**Pn**	**13 06 36.1**	**-2.7**
PB05				*eS*	**Sn**	**13 07 08.5**	**-5.1**
PB05				IAML		13 07 42.8	
	comp=N,822nm,0.5s						
PB06	**IPOC Station P**	**3.03**	**154**	*eP*	**Pn**	**13 06 37.5**	**-2.3**
PB06				*eS*	**Sn**	**13 07 12.2**	**-3.1**
PB06				IAML		13 07 37.0	
	comp=E,1µm,0.6s						
PB06	**IPOC Station P**	**3.03**	**154**		**Pn**	**13 06 37.6**	**-2.2**
LVC	**Limon Verde**	**3.27**	**143**	Pn	**Pn**	**13 06 43.4**	**0.0**
	comp=E,17nm,0.3s,baz=310,slow=9.2,SNR=75						
LVC					Sn	**13 07 21.6**	**0.0**
	comp=E,41nm,0.3s,baz=118,slow=22,SNR=10.0						
LVC				Lg	Lg	13 07 32.2	
	comp=E,88nm,0.3s,baz=90,slow=20,SNR=6.0						
LVC	**Limon Verde**	**3.27**	**143**	*eP*	**Pn**	**13 06 43.2**	**-0.2**
LVC				*eS*	**Sn**	**13 07 19.5**	**-2.2**
LVC	**Limon Verde**	**3.27**	**143**	Pn	**Pn**	**13 06 42.7**	**-0.6**

LVC	Limon Verde	3.27	143	eP	Pn	13 06 43.3	0.0
PB15	IPOC Station P	3.52	156		Pn	13 06 44.3	-2.3
PB10	IPOC Station P	3.54	173	Pn	Pn	13 06 43.6	-3.1
LPAZ	La Paz	4.58	37	Pn	Pn	13 07 03.7	+2.0
	comp=E,2.9nm,0.3s,baz=236,slow=6.8,SNR=35						
LPAZ	La Paz	4.58	37	eP	Pn	13 07 04.1	+2.4
LPAZ				eS	Sb	13 08 01.3	-7.2
LPAZ	La Paz	4.58	37		Pn	13 07 04.0	+2.3
PB14	IPOC Station P	4.66	173	Pn	Pn	13 06 58.9	-3.5
GO02	Mina Guanaco	5.32	166		Pn	13 07 09.2	-2.3
AC01	Pan de Azucar	6.15	177	Pn	Pn	13 07 19.0	-3.6
AC02	Maricunga	7.04	166		Pn	13 07 33.2	-2.0
GO03	Copiap	7.61	175		Pn	13 07 39.2	-3.5
NNA	Nana	9.72	324	Pn	Pn	13 08 14.8	+3.0
	comp=E,2.1nm,0.3s,baz=180,slow=17,SNR=1.8						
NNA				Sn	Sn	13 09 52.9	-7.3
	comp=E,3.1nm,0.3s,baz=129,slow=6.5,SNR=2.4						
NNA				LR	LR	13 11 44.3	
	comp=E,731nm,19.5s,baz=149,slow=36						
SIV	San Ignacio	10.26	69	Pn	Pn	13 08 16.0	-3.1
	comp=E,7.3nm,0.3s,baz=268,slow=10,SNR=85						
ETMB	Extrema	11.12	25	eP	Pn	13 08 29.2	-1.7
PTLB	Pontes e Lacer	12.18	70	eP	Pn	13 08 43.1	-2.3
VILB	Vilhena	12.50	58	eP	Pn	13 08 48.4	-1.4
VILB				eS	Sn	13 11 03.5	-4.9
PEL	Peldehue	13.11	179	Pn	Pn	13 08 57.8	-0.3
SAML	Samuel	13.33	36		Pn	13 08 57.5	-3.6
SAML	Samuel	13.33	36	eP	Pn	13 08 58.6	-2.5
CPUP	Villa Florida	14.08	119	Pn	Pn	13 09 11.9	+0.6
	comp=E,0.2nm,0.3s,baz=253,slow=14,SNR=1.5						
H03N1	Juan Fernandez	15.14	206	T	T	13 25 17.0	
	baz=33,slow=72						
H03N2	Juan Fernandez	15.15	206	T	T	13 25 11.4	
	baz=33,slow=72						
H03N3	Juan Fernandez	15.16	206	T	T	13 25 15.5	
	baz=33,slow=72						
CLDB	Colider	17.23	61	eP	Pn	13 09 50.1	-2.4
PTGB	Pitanga	18.15	109	eP	P	13 10 04.1	+0.1
ITAB	Concordia	18.74	116	eP	Pn	13 10 11.0	+0.1
ARAG	Araguaiana, MT	18.77	80	eP	P	13 10 08.8	-2.0
CPSB	Cacapava Do Su	18.97	127	eP	Pn	13 10 13.2	-0.5
MACA	Manacapuru-AM	19.52	32	eP	P	13 10 17.9	-1.2
NPGB	Novo Progresso	19.90	52	eP	P	13 10 22.1	-1.2
FRTB	Fartura	20.21	103	eP	P	13 10 26.5	-0.1
PTLC	Puerto Leguiza	20.37	349	eP	P	13 10 25.4	-2.9
PLCA	Paso Flores	20.69	179	P	Pn	13 10 32.7	-1.3
	comp=E,11nm,1.1s,baz=351,slow=14,SNR=8.0						
PLCA	Paso Flores	20.69	179		P	13 10 31.2	-0.4
PLCA	Paso Flores	20.69	179	eP	Pn	13 10 34.3	+0.3
PUAC	Puerto Asis, P	21.12	344	eP	P	13 10 39.9	+3.5
OTAV	Otavalo	21.38	339	P	P	13 10 41.5	+1.9
OTAV	Otavalo	21.38	339	eP	P	13 10 40.5	+0.9
ITTB	Itaituba	21.51	46	eP	P	13 10 38.3	-2.3
IPMB	Ipameri, GO	21.65	89	eP	P	13 10 40.1	-2.1
FLOC	Florencia	21.91	347	eP	P	13 10 42.0	-2.9
GCUF	Volcan Galeras	21.97	343	eP	P	13 10 55.4	+9.4
BDFB	Brasilia	22.31	83	P	P	13 10 46.9	-2.4
	comp=E,3.9nm,0.5s,baz=260,slow=13,SNR=4.6						
BDFB				LR	LR	13 19 60.0	
	comp=E,1μm,19.7s,baz=282,slow=38						
BDFB	Brasilia	22.31	83	P	P	13 10 46.1	-3.2
GARC	Garzon, Huila	22.47	348	eP	P	13 10 50.1	-1.0
BBAC	Balboa, Cauca	22.71	344	eP	P	13 10 56.0	+2.4
PCON	Cinco Dias	22.79	346	eP	P	13 10 55.2	+0.3
BETC	Betania	22.94	349	eP	P	13 10 52.7	-3.1
POPC	Popayan, Colom	23.06	345	eP	P	13 10 59.2	+1.9
PEXB	Peixe	23.17	74	eP	P	13 10 57.8	-0.5
PRAC	Prado	23.85	350	eP	P	13 11 03.2	-1.6
VILC	Villavicencio,	24.09	353	eP	P	13 11 05.7	-1.5
ORTC	Ortega, Tolima	24.10	350	eP	P	13 11 08.1	+0.8
PRPB	Parauapebas	24.75	59	eP	P	13 11 12.2	-1.0
TOLC	Tolima	24.78	350	eP	P	13 11 19.4	+5.6
ROSC	El Rosal	24.88	352	LR	LR	13 21 18.7	
	comp=E,1μm,18.8s,baz=202,slow=38						
SMTB	Santa Maria do	25.20	67	eP	P	13 11 17.3	+0.1
GUY2C	Guyana, Caldas	25.41	350	eP	P	13 11 21.8	+2.2
SPBC	San Pablo de B	25.65	353	eP	P	13 11 21.0	-0.4
RUSC	La Rusia	25.79	355	eP	P	13 11 24.2	+1.1
JANB	Januaria	25.92	83	eP	P	13 11 22.2	-1.6
TAMC	Tame, Arauca	26.26	358	eP	P	13 11 26.6	-0.3
PAMC	Pamplona, Colo	27.20	356	eP	P	13 11 34.6	-1.1
DBBC	Dabeiba	27.31	349	eP	P	13 11 41.0	+4.7
ZARC	Zaragoza, Cauc	27.56	352	eP	P	13 11 38.7	+0.2
SDV	Santo Domingo	28.69	1	P	P	13 11 50.3	+1.6
	comp=E,1.3nm,0.3s,baz=196,slow=9.0,SNR=3.1						
SDV	Santo Domingo	28.69	1	eP	P	13 11 51.4	+2.7
SMLC	San Martn de	28.76	354	eP	P	13 11 45.1	-4.1
RCBR	Riachuelo	36.90	72	P	P	13 12 59.2	-1.1
T59A	Double "B" Far	56.98	354	P	P	13 15 37.0	+0.3
T59A				IAmb	IAmb	13 16 04.9	
	comp=Z,13nm,1.1s						
WLAR	White Oak Lake	57.38	338	P	P	13 15 40.9	+1.3
WVT	Waverly	58.03	344	P	P	13 15 46.4	+2.2
WVT				IAmb	IAmb	13 15 48.1	
	comp=Z,7.0nm,1.1s						
TX31	Lajitas Ar. Si	58.27	326	P	P	13 15 46.9	+0.8
TX31				IAmb	IAmb	13 16 11.7	
	comp=Z,12nm,1.4s						
TX32	Lajitas Array	58.27	326	P	P	13 15 46.8	+0.7
TXAR	Lajitas Array	58.27	326	P	P	13 15 46.6	+0.5
	comp=Z,2.6nm,1.2s,baz=150,slow=8.5,SNR=4.8						
TXAR				LR	LR	13 39 47.6	
	comp=Z,91nm,18.8s,baz=0.0,slow=35						
TXAR	Lajitas Array	58.27	326	P	P	13 15 46.8	+0.7
MIAR	Mount Ida	58.32	338	P	P	13 15 46.6	+0.4
MIAR				IAmb	IAmb	13 15 51.6	
	comp=Z,13nm,1.3s						
R55A	Marlinton	58.58	352	P	P	13 15 47.5	-0.6
T47A	Sharon Grove	58.66	345	P	P	13 15 48.0	-0.6
T47A				IAmb	IAmb	13 15 53.1	
	comp=Z,8.5nm,1.0s						
LCAR	Lake Charles	58.92	341	P	P	13 15 49.9	-0.5
LCAR				IAmb	IAmb	13 15 54.2	
	comp=Z,8.4nm,1.3s						
X37A	Clayton	59.01	337	P	P	13 15 51.8	+0.8
MNTX	Cornudas Mount	61.05	327	P	P	13 16 05.4	+0.3
MNTX				IAmb	IAmb	13 16 19.0	
	comp=Z,5.1nm,1.1s						
S39A	Bolivar	61.09	340	P	P	13 16 05.1	-0.1
S39A				IAmb	IAmb	13 16 10.2	
	comp=Z,7.1nm,1.0s						
L56A	Greenwood	62.10	354	P	P	13 16 11.9	-0.1
121A	Cookes Peak, D	62.96	325	P	P	13 16 19.9	+1.8
121A				IAmb	IAmb	13 16 26.4	
	comp=Z,7.7nm,1.1s						
SNAA	Sanae	64.35	161	P	P	13 16 27.3	+0.7
FRNY	Flat Rock	64.54	358	P	P	13 16 28.6	+0.5
SDCO	Great Sand Dun	65.95	331	P	P	13 16 38.0	+0.2
SDCO				IAmb	IAmb	13 16 44.2	
	comp=Z,6.9nm,1.4s						
X16A	Lo Mia Camp, P	66.37	324	P	P	13 16 41.9	+1.5
X16A				IAmb	IAmb	13 16 49.2	
	comp=Z,8.0nm,1.4s						
Q24A	Divide	66.79	332	P	P	13 16 43.9	+0.8
Q24A				IAmb	IAmb	13 16 45.0	
	comp=Z,3.6nm,0.7s						
WUAZ	Wupatki	67.16	325	P	P	13 16 45.3	-0.1
WUAZ				IAmb	IAmb	13 16 54.1	
	comp=Z,7.0nm,1.2s						
TAOE	Nuku Hiva Isla	67.48	268	eLR	LR	13 37 04.7	
	comp=Z,160nm,26.0s						
ECSD	EROS Data Cent	67.61	340	P	P	13 16 48.4	+0.5
ECSD				IAmb	IAmb	13 16 54.9	
	comp=Z,7.1nm,1.1s						
PV01	Paradox Valley	67.72	329	P	P	13 16 50.8	+1.8
PV01				IAmb	IAmb	13 16 55.1	
	comp=Z,8.6nm,1.4s						
PV15	Paradox Valley	67.84	329	P	P	13 16 50.2	+0.4
PV15				IAmb	IAmb	13 17 15.6	
	comp=Z,6.2nm,0.9s						
U15A	North Rim	68.33	325	P	P	13 16 52.8	-0.1
KNB	Kanab	69.05	325	P	P	13 16 58.3	+1.1
LCMT	Little Creek M	69.28	325	P	P	13 16 59.1	+0.5
SRU	San Rafael Swe	69.44	328	P	P	13 16 59.4	-0.3
CCUT	Cedar City	69.74	325	P	P	13 17 03.3	+1.8
MSU	Marysvale	69.83	327	P	P	13 17 03.7	+1.6
MVU	Marysvale	69.84	327	P	P	13 17 03.6	+1.4
SHPR	Sheep Range	69.97	323	P	P	13 17 04.9	+2.0
SHPR				IAmb	IAmb	13 17 11.8	
	comp=Z,7.7nm,1.3s						
QSPA	South Pole Qui	70.20	180	P	P	13 17 04.8	+0.9
QSPA				IAmb	IAmb	13 17 12.2	
	comp=Z,13nm,1.5s						

DBIC	Dimbokro	70.22	75	P	P	13 17 03.3	-1.5
	comp=Z,12nm,1.1s,baz=221,slow=4.3,SNR=5.2						
DBIC	Dimbokro	70.22	75	P	P	13 17 03.0	-1.7
PSUT	Pine Spring	70.72	326	P	P	13 17 07.7	+0.1
TPNV	Topopah Spring	70.90	323	P	P	13 17 10.6	+2.0
TPNV				IAmb	IAmb	13 17 17.7	
	comp=Z,15nm,1.5s						
JLU	Jordanelle	71.04	329	P	P	13 17 11.4	+1.9
DUG	Dugway, Tooele	71.42	327	P	P	13 17 12.6	+1.0
R11A	Troy Canyon, C	71.52	324	P	P	13 17 14.2	+1.8
PDAR	Pinedale Array	71.83	331	P	P	13 17 14.1	-0.1
	comp=Z,0.2nm,0.3s,baz=154,slow=6.8,SNR=2.3						
PDAR	Pinedale Array	71.83	331	P	P	13 17 14.7	+0.5
BGU	Big Grassy Mou	72.07	328	P	P	13 17 15.6	+0.1
SPUT	South Promonto	72.07	328	P	P	13 17 15.6	0.0
TBI	Tubuai	72.12	251	eLR	LR	13 39 17.6	
	comp=Z,404nm,27.8s						
LOHW	Long Hollow	72.97	331	P	P	13 17 21.9	+1.0
TPAW	Teton Pass	73.03	331	P	P	13 17 23.2	+1.8
ELK	Elko	73.07	326	P	P	13 17 22.6	+1.0
NVAR	Mina Array Bea	73.09	323	P	P	13 17 22.7	+0.9
	comp=Z,1.0nm,0.9s,baz=145,slow=6.4,SNR=7.7						
NVAR	Mina Array Bea	73.09	323	P	P	13 17 23.3	+1.5
FXWY	Fox Creek	73.18	331	P	P	13 17 23.3	+1.1
IMW	Indian Meadow	73.34	331	P	P	13 17 24.5	+1.3
RYN	Ryan	73.36	323	P	P	13 17 23.2	-0.1
FLWY	Flagg Ranch	73.38	331	P	P	13 17 24.9	+1.5
FLWY				IAmb	IAmb	13 17 48.8	
	comp=Z,6.2nm,1.1s						
KVN	Kaiserville	73.41	323	P	P	13 17 23.3	-0.3
H17A	Grant Village	73.56	332	P	P	13 17 24.9	+0.4
H17A				IAmb	IAmb	13 17 37.6	
	comp=Z,8.0nm,1.4s						
YPP	Pitchstone Pla	73.57	331	P	P	13 17 25.1	+0.5
PPT2	Papeete2	73.74	257	eS	SKiKP	13 26 48.6	-5.7
	comp=Z,139nm,24.2s						
PPT2	Papeete2	73.74	257	eLR	LR	13 40 02.0	
	comp=Z,247nm,23.5s						
YNE	Yellowstone No	73.79	332	P	P	13 17 25.6	-0.2
WAKR	Walker	73.79	322	P	P	13 17 25.2	-0.7
YERR	Yerington	74.01	323	P	P	13 17 27.4	+0.2
YERR				IAmb	IAmb	13 17 46.9	
	comp=Z,8.7nm,1.4s						
KOWA	Kowa	74.25	68	P	P	13 17 26.8	-2.0
KOWA				IAmb	IAmb	13 17 37.3	
	comp=Z,8.2nm,1.2s						
PNTR	Pine Nut	74.28	323	P	P	13 17 28.1	-0.7
PNTR				IAmb	IAmb	13 17 38.0	
	comp=Z,6.5nm,1.1s						
PAHR	Pah Rah Range	74.58	323	P	P	13 17 30.4	0.0
PAHR				IAmb	IAmb	13 17 39.5	
	comp=Z,18nm,1.5s						
MCMT	McKenzie Canyo	74.93	331	P	P	13 17 31.9	-0.5
DLMT	Dillon	75.22	331	P	P	13 17 33.8	-0.2
DLMT				IAmb	IAmb	13 17 42.6	
	comp=Z,6.5nm,1.1s						
ORV	Oroville	75.69	322	P	P	13 17 37.2	+0.6
ORV				IAmb	IAmb	13 17 44.0	
	comp=Z,12nm,1.2s						
JCC	Jacoby Creek,	77.98	322	P	P	13 17 49.2	-0.2
VNDA	Vanda	77.99	190	P	P	13 17 51.8	+2.7
	comp=Z,1.9nm,1.3s,baz=133,slow=2.2,SNR=2.9						
SYO	Syowa Base	78.60	160⇑	epP	P	13 17 53.0	+0.5
SYO	Syowa Base	78.60	160⇓	esP	P	13 17 56.6	+4.1
TOA0	Torodi Ar. Sit	78.72	72	P	P	13 17 52.4	-1.7
TORD	Torodi Ar. Bea	78.72	72	P	P	13 17 52.5	-1.7
	comp=Z,12nm,0.8s,baz=252,slow=5.1,SNR=51						
TORD	Torodi Ar. Bea	78.72	72	P	P	13 17 52.5	-1.7
KBO	Bosley Butte	78.99	323	P	P	13 17 54.9	-0.2
MDT	Midelt	82.31	51	P	P	13 18 13.4	+0.3
	comp=Z,2.6nm,1.0s,baz=280,slow=6.0,SNR=3.7						
ESDC	Sonseca Array	86.16	45	P	P	13 18 32.3	-0.2
	comp=Z,1.5nm,0.9s,baz=242,slow=5.5,SNR=5.3						
ESDC	Sonseca Array	86.16	45	P	P	13 18 32.0	-0.6
YKA	Yellowknife Ar	89.12	341	P	P	13 18 45.6	-0.5
	comp=Z,1.1nm,0.7s,baz=131,slow=3.5,SNR=5.5						
DZM	Mont Dzumac	110.02	236	eLR	LR	13 56 50.0	
	comp=Z,206nm,25.5s						
H11S2	WAKE ISLAND Hyl	25.72	279	T	T	15 44 15.7	
	baz=101,slow=74						
H11S1	WAKE ISLAND Hyl	25.72	279	T	T	15 44 16.0	
	baz=101,slow=74						
H11S3	WAKE ISLAND Hyl	25.73	279	T	T	15 44 21.7	
	baz=101,slow=74						
H11N3	WAKE ISLAND Hyl	25.76	280	T	T	15 44 22.9	
	baz=100,slow=74						
H11N2	WAKE ISLAND Hyl	25.78	280	T	T	15 44 18.0	
	baz=100,slow=74						
H11N1	WAKE ISLAND Hyl	25.78	280	T	T	15 44 18.6	
	baz=100,slow=74						
ASAR	Alice Springs	130.28	210	PKP	PKPdf	13 25 02.0	-0.2
	comp=Z,0.3nm,0.6s,baz=117,slow=1.8,SNR=5.1						
WRA	Warramunga Arr	133.19	214	PKP	PKPdf	13 25 07.9	+0.1
	comp=Z,0.3nm,0.7s,baz=155,slow=1.9,SNR=2.2						
ZALV	Zalesovo Beam	141.37	23	PKP	PKPdf	13 25 21.3	-0.5
	comp=Z,0.9nm,0.4s,baz=319,slow=3.6,SNR=5.7						
MKAR	Makanchi Array	145.50	33	PKPbc	PKPbc	13 25 29.4	0.0
	comp=Z,6.0nm,1.0s,baz=316,slow=3.3,SNR=30						
MKAR	Makanchi Array	145.50	33	PKPdf	PKPdf	13 25 28.9	-0.5
KSH	Kashi	145.63	48	PKPbc	PKPab	13 25 30.8	+0.3
MJAR	Matsushiro Arr	149.59	309	PKPab	PKPab	13 25 45.8	-0.3
	comp=Z,2.0nm,0.6s,baz=69,slow=4.0,SNR=5.2						
WMQ	Urumqi	150.31	32	ePKPbc	PKPdf	13 25 37.1	-0.3
SONM	Songino Array	152.14	4	PKPbc	PKiKP	13 25 47.3	+0.2
	comp=Z,2.0nm,0.6s,baz=310,slow=1.5,SNR=12						
SONM	Songino Array	152.14	4		PKiKP	13 25 47.0	-0.1
HHC	Hu-ho-hao-te	159.08	355	ePKP	PKPdf	13 25 45.5	-4.1
GTA	Gaotai	159.09	20	ePKP	PKPdf	13 25 52.1	+2.4
GTA				pPKP	pPKPdf	13 25 56.9	+0.2
LZH	Lanzhou	163.33	15	ePKP	PKPdf	13 25 50.4	-4.0
LZH				pPKP	pPKPdf	13 25 57.6	-3.7
LZH				sPKP		13 26 01.7	
NJ2	Nanjing	165.07	326	ePKP	PKPdf	13 25 56.8	+1.0

JMA 07 13:07:32.2, 36.72N×138.49E, h4km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.29	232	P	Pg	13 07 38.1	+0.3
MAT				S	Sg	13 07 41.9	+0.3
MAT	Matsushiro	0.29	232	P	Pg	13 07 38.0	+0.2
MAT				S	Sg	13 07 41.9	+0.3

JMA 07 13:07:37.3, 36.72N×138.49E, h5km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.29	232	P	Pg	13 07 43.2	+0.3
MAT				S	Sg	13 07 47.1	+0.4
MAT	Matsushiro	0.29	232	P	Pg	13 07 43.2	+0.3
MAT				S	Sg	13 07 47.0	+0.3
JNG	Nsakai	0.44	225	eS	Sg	13 07 52.0	+0.3

*MEX **07** 13:08:51.8±0.5, 14.6°4N×92.2°56W, h78km±8km, MD3.6*
*GCG **07** 13:08:54.4±1.4, 15.2°4N×92.0°6W, h110km±54km, MD4.2*
ISC 07 13:08:52.8±2.7, 14.8°8N±0.2°×92.6°6W±0.2°, h66km±13km, n6, σ0.8°71/11, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.32	66	*i* P	Pn	13 09 03.1	-0.7
THIG				eS	Sn	13 09 12.2	+0.5
PCIG		1.12	326	eP	Pn	13 09 12.4	-0.2
PCIG				*i* S	Sn	13 09 28.3	+0.9
FUG	Fuego 3	1.71	101	eP	Pn	13 09 20.7	+0.1
FUG				eS	Sn	13 09 42.1	+0.5
TGIG		2.06	345	eP	Pn	13 09 24.4	-1.0
TGIG				*i* S	Sn	13 09 50.7	+0.7
IXG	Ixpaco	2.15	106	eP	Pn	13 09 26.1	-0.5
IXG				⇓eS	Sn	13 09 52.5	+0.2
NBG	Las Nubes	2.16	95	eP	Pn	13 09 26.6	-0.2
NBG				eS	Sn	13 09 44.8	-8.0

MAN 07 13:12:42.1, 8.59N×126.50E, h23km, mb3.9, ML2.7, MS2.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIP	Bislig	0.44	215⇓	eP	Pn	13 12 52.2	-0.8
BIP				eS	Sn	13 13 01.4	+1.1
BUKP	Musuan	1.59	244	eP	Pb	13 13 10.6	-0.2
BUKP				eS	Sb	13 13 34.9	+4.5
CGP	Cagayan de Oro	1.79	266⇑	eP	Pn	13 13 11.7	+0.1
CGP				eS	Sn	13 13 34.7	+1.0

*IDC **07** 13:36:30.4±0.8, 19.0°6N×146.2°1E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/43, mbtmp3.9/10, MS3.1/1, Ms1 3.1/1, ms1mx2.6/41, Error ellipse: s-maj=33.6km s-min=18.3km az=96.0*
*NEIC **07** 13:36:41.7±1.7, 19.0°0N±0.0°9×146.1°1E±0.1°, h91km±8km, mb4.4/19, Error ellipse: s-maj=17.9km s-min=12.6km az=78.0*
ISC 07 13:36:43.1±0.6, 18.9°6N±0.0°8×146.1°1E±0.1°, h109km, n39, σ1.9°02/33, mb4.2/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	2.63	188	Pn	Pn	13 37 23.6	-0.7
JHJ2	Mitsune	15.16	340	Pn	Pn	13 40 09.8	-1.7
JHJ	Hachijo jima 2	15.18	339	LR	LR	13 45 12.8	
	comp=Z,76nm,21.4s,baz=94,slow=34						
JMZ	Minamidaito 2	15.33	299	Pn	Pn	13 40 12.5	-1.1
PATS	Pohnpei	16.95	134	Pn	Pn	13 40 31.4	-2.3
INU	Inuyama	18.19	336	P	P	13 40 45.1	-2.3
INU				IAmb	IAmb	13 40 56.8	
	comp=Z,24nm,1.4s						
JGF	Kuroka	18.28	337		P	13 40 48.7	+0.2
JGF				IAmb	IAmb	13 41 03.7	
	comp=Z,15nm,1.3s						
H11S3	WAKE ISLAND Hy	19.53	88	T	T	14 01 57.4	
	baz=275,slow=74						
H11S1	WAKE ISLAND Hy	19.55	88	T	T	14 01 57.4	
	baz=275,slow=74						
H11S2	WAKE ISLAND Hy	19.55	88	T	T	14 01 58.1	
	baz=275,slow=74						
H11N1	WAKE ISLAND Hy	19.66	84	T	T	14 02 08.1	
	baz=271,slow=74						
H11N2	WAKE ISLAND Hy	19.67	84	T	T	14 02 08.5	
	baz=271,slow=74						
H11N3	WAKE ISLAND Hy	19.68	84	T	T	14 02 09.2	
	baz=271,slow=74						
KSRS	Korea Array	24.32	323	P	P	13 41 50.0	-0.5
	comp=Z,0.9nm,0.6s,baz=148,slow=8.6,SNR=5.7						
KKM	Kota Kinabalu	31.78	250	P	P	13 42 57.1	-0.4
KNRA	Kununurra	38.41	207	P	P	13 43 55.6	+1.5
WB0	Warramunga Arr	40.16	197	P	P	13 44 09.6	+0.9
WB0				IAmb	IAmb	13 44 13.1	
	comp=Z,6.0nm,1.2s						
WR0	Warramunga Arr	40.30	197	P	P	13 44 10.0	+0.1
WR0				IAmb	IAmb	13 44 22.4	
	comp=Z,13nm,1.4s						
WB2	Warramunga Arr	40.34	197	P	P	13 44 10.6	+0.4
WB2				IAmb	IAmb	13 44 12.0	
	comp=Z,8.7nm,1.4s						
WRA	Warramunga Arr	40.34	197	P	P	13 44 10.7	+0.5
	comp=Z,0.8nm,0.4s,baz=21,slow=8.4,SNR=5.6						
WRA				PcP	PcP	13 46 12.7	+1.1
	comp=Z,0.2nm,0.7s,baz=15,slow=3.4,SNR=1.5						
FITZ	Fitzroy Crossi	41.94	210	P	P	13 44 24.6	+1.3
	comp=Z,2.0nm,0.9s,baz=26,slow=11,SNR=18						
ASAR	Alice Springs	44.00	196	P	P	13 44 40.8	+0.8
	comp=Z,0.4nm,0.5s,baz=11,slow=9.5,SNR=2.9						
ZALV	Zalesovo Beam	58.02	322	P	P	13 46 25.2	+0.7
	comp=Z,1.6nm,0.6s,baz=104,slow=8.3,SNR=5.4						
MK31	Makanchi Array	58.53	314	P	P	13 46 28.7	+0.5
MKAR	Makanchi Array	58.53	314	P	P	13 46 29.4	+1.1
	comp=Z,0.5nm,0.6s,baz=90,slow=8.4,SNR=9.1						
MAKZ	Makanchi	58.75	314	P	P	13 46 29.4	-0.3
SKT	Skwentna	60.54	29	P	P	13 46 41.6	-0.1
SKT				IAmb	IAmb	13 47 05.4	
	comp=Z,6.7nm,1.4s						
KURK	Kurchatov	61.31	318	P	P	13 46 47.6	+0.5
KURK				IAmb	IAmb	13 46 49.5	
	comp=Z,3.2nm,1.3s						
BPAW	Bear Paw Mtn.	61.37	26	P	P	13 46 48.2	+0.9
BPAW				IAmb	IAmb	13 47 13.3	
	comp=Z,6.2nm,1.4s						
TRF	Thorofare Moun	61.49	27	P	P	13 46 48.4	+0.1
TRF				IAmb	IAmb	13 47 08.2	
	comp=Z,11nm,1.4s						
RND	Reindeer	62.10	28	P	P	13 46 53.5	+1.2
ILAR	Eielson Array	63.26	26	P	P	13 46 59.3	-0.5
	comp=Z,0.5nm,0.8s,baz=276,slow=5.3,SNR=4.3						
BCAR	Beaver Creek A	65.19	29	P	P	13 47 12.8	+0.3
ABKAR	Akbulak array	73.39	317	P	P	13 48 04.4	+1.2
ARCES	ARCESS Array B	82.35	342	P	P	13 48 53.7	+1.1
	comp=Z,0.6nm,0.5s,baz=67,slow=6.9,SNR=5.9						
NVAR	Mina Array Bea	82.70	52	P	P	13 48 56.5	+1.2
	comp=Z,0.8nm,0.7s,baz=265,slow=6.1,SNR=9.9						
NVAR	Mina Array Bea	82.70

KMI Sg **Sg** **13 51 11.2 +2.4**
KMI smax smax
comp=N,143µm,1.1s
KMI smax smax
comp=E,130µm,1.2s
KMI Kunming 2.71 49 P **Pn** **13 50 25.3 +0.1**
KMI Kunming 2.71 49 Pn **Pn** **13 50 25.3 +0.1**
MLAV Muong La stati 2.77 117 *e*Pn 13 50 25.6
MLAV *e*Sg 13 51 16.3
MLAV IAML 13 51 18.9
comp=E,25µm,2.1s
MLAV IAML 13 51 23.5
comp=N,23µm,4.0s
DBV Dienbien 3.04 129 *e*Pn 13 50 29.0
DBV IAML 13 51 31.3
comp=N,164µm,2.5s
DBV IAML 13 51 54.7
comp=E,107µm,1.9s
CRAI Chiangrai 3.10 182 P **Pn** **13 50 30.4 -0.1**
TGV Tuan Giao 3.21 122 *e*Pn 13 50 32.2
TGV IAML 13 51 37.0
comp=N,9µm,0.9s
TGV IAML 13 51 37.3
comp=E,6µm,1.3s
SLVN Son La 3.73 122 Pn **Pn** **13 50 38.4 -0.9**
SLVN Son La 3.73 122 *e*Pn 13 50 38.5
SLVN IAML 13 51 53.8
comp=N,12µm,2.8s
SLVN IAML 13 52 01.2
comp=E,9µm,1.9s
PAYA Payao 4.01 189 P **Pn** **13 50 44.2 +1.2**
CHTO Chiang Mai 4.74 198 P **Pn** **13 50 53.7 +0.7**
CHTO Chiang Mai 4.74 198 Pn **Pn** **13 50 53.6 +0.7**
PHRA Phrae 4.83 183 P **Pn** **13 50 55.4 +1.1**
CM09 Chiang Mai Arr 5.08 196 P **Pn** **13 50 58.8 +1.1**
CM31 Chiang Mai Arr 5.08 197 P **Pn** **13 50 59.1 +1.4**
SNR=71
CM31 Chiang Mai Arr 5.08 197 P **Pn** **13 50 58.9 +1.2**
CM31 Chiang Mai Arr 5.08 197 **Pn** **13 50 58.6 +0.9**
CMAR Chiang Mai Arr 5.08 197 Pn **Pn** **13 50 58.5 +0.9**
comp=E,18nm,0.3s,baz=12,slow=13,SNR=147
CMAR Pg **Pg** **13 51 17.9 -1.1**
comp=E,325nm,0.3s,baz=10,slow=16,SNR=67
CMAR Lg Lg 13 52 21.2
comp=E,126nm,0.3s,baz=44,slow=15,SNR=5.1
CMAR LR LR 13 53 28.7
comp=E,231µm,18.6s,baz=348,slow=44
CMAR Chiang Mai Arr 5.08 197 *i*P **Pn** **13 50 58.5 +0.9**
CMAR pmax pmax
comp=Z,57nm,0.4s
CMAR Chiang Mai Arr 5.08 197 Pn **Pn** **13 50 58.4 +0.8**
CM15 Chiang Mai Arr 5.08 197 P **Pn** **13 50 58.6 +0.9**
CM02 Chiang Mai Arr 5.10 197 P **Pn** **13 50 58.9 +1.0**
HBVN Hoa-Binh 5.15 118 *e*Pn 13 50 58.1
HBVN IAML 13 52 44.9
comp=E,8µm,1.3s
HBVN IAML 13 52 53.3
comp=N,12µm,1.6s
UTTA Uttaradit 5.57 179 P **Pn** **13 51 05.0 +0.5**
MHMT Maesarieng 5.67 206 P **Pn** **13 51 08.2 +2.3**
LKP Lekhapani 5.79 314 *e*P **Pn** **13 51 10.6 +3.2**
NONG Nongkai 5.81 154 P **Pn** **13 51 08.6 +0.9**
SUKH Sukhothai 5.89 188 P **Pn** **13 51 09.8 +1.0**
CCVB Con Cuong 5.91 135 *e*Pn 13 51 09.4
CCVB IAML 13 53 04.9
comp=N,29µm,1.5s
CCVB IAML 13 53 12.3
comp=E,35µm,9.8s
PHIT Phitsanulok 6.12 181 P **Pn** **13 51 13.0 +1.0**
KOHI KOHIMA 6.28 293 *ex* **Pn** **13 51 16.9 +2.5**
GYA Guiyang 6.40 60 ⇑Pn **Pn** **13 51 14.9 -1.0**
GYA Sn **Sn** **13 52 28.4 -0.5**
GYA Sg **Sg** **13 53 07.0 -0.2**
GYA smax smax
comp=E,4µm,2.2s
GYA smax smax
comp=E,3µm,2.1s
GYA LR LR
comp=E,539µm,8.5s
GYA LR LR
comp=E,236µm,6.7s
GYA LR LR
comp=E,361µm,7.5s
JORH JORHAT 6.60 302 *ex* **Pg** **13 51 51.1 +2.9**
SILR SILCHAR 7.18 283 *e*P **Pn** **13 51 29.5 +2.9**
ZIRO ZIRO 7.31 306 *e*P **Pn** **13 51 29.2 +0.7**
ZIRO IAMs_20 IAMs_20 13 54 45.2
comp=Z,588µm,12.5s
TEZP TEZPUR 7.71 297 *e*P **Pn** **13 51 31.2 -2.6**
CD2 Chengdu 8.07 20 P **Pn** **13 51 38.2 -0.7**
CD2 S **Sn** **13 53 12.1 +2.0**
CD2 pmax pmax
comp=Z,3µm,0.6s
CD2 pmax pmax
comp=Z,5µm,4.9s
CD2 LR LR
comp=Z,673µm,8.0s
CD2 LR LR
comp=Z,575µm,9.0s
CD2 LR LR
comp=Z,880µm,9.8s
SHL Shillong 8.16 287 *e*P **Pn** **13 51 39.4 -0.7**
SHL Shillong 8.16 287 P **Pn** **13 51 39.0 -1.2**
SHL Shillong 8.16 287 Pn **Pn** **13 51 39.0 -1.2**
AGT Agartala 8.50 275 *e*P **Pn** **13 51 45.3 +0.6**
TAWA Tawang 8.87 300 *e*P **Pn** **13 51 51.0 +0.9**
TURI Tura 9.52 285 *e*P **Pn** **13 51 58.3 -0.4**
TURI IAMs_20 IAMs_20 13 56 23.2
comp=Z,128µm,11.1s
QIZ Qiongzhong 9.71 114 P **Pn** **13 52 00.9 -0.5**
QIZ S **Sn** **13 53 54.1 +3.7**
QIZ pmax pmax
comp=Z,27nm,1.1s
QIZ pmax pmax
comp=Z,4µm,12.0s
QIZ LR LR
comp=Z,133µm,13.9s
QIZ LR LR
comp=Z,176µm,15.9s
QIZ LR LR
comp=Z,207µm,14.5s
QIZ Qiongzhong 9.71 114 Pn **Pn** **13 52 00.1 -1.2**
LSA Lhasa 10.49 309 S Sn 13 54 19.4 +9.3
LSA LR LR
comp=N,429µm,10.3s
LSA LR LR
comp=E,462µm,12.8s
LSA LR LR
comp=Z,649µm,13.2s
LSA Lhasa 10.49 309 P **Pn** **13 52 13.5 +1.1**
LSA S **Sn** **13 54 12.2 +2.1**
LSA LR LR
comp=Z,157µm,9.3s
LSA LR LR
comp=Z,230µm,11.0s
LSA LR LR
comp=Z,220µm,10.0s
LSA Lhasa 10.49 309 P **Pn** **13 52 09.0 -3.4**
LSA Lhasa 10.49 309 Pn **Pn** **13 52 09.0 -3.4**
ENH Enshi 10.58 47 Pn **Pn** **13 52 09.7 -3.5**
GTK Tadong 11.47 293 *e*P **Pn** **13 52 24.5 -1.0**
GZH Guangzhou 11.81 89 P **Pn** **13 52 32.4 +2.3**
GZH S **Sn** **13 54 49.6 +7.7**
GZH LR LR
comp=Z,79µm,5.3s
GZH LR LR
comp=Z,231µm,6.2s
MCO Taipa Grande 12.11 93 P **Pn** **13 52 36.0 +1.8**
HKPS Hong Kong Po S 12.63 92 Pn **Pn** **13 52 38.1 -3.1**
HKC Hong Kong Obse 12.65 92 ⇑P **Pn** **13 52 42.0 +0.4**
XAN Xi'an 12.96 33 P **Pn** **13 52 41.7 -4.1**
XAN PP **PnPn** **13 52 52.0 -1.8**
XAN S Sn 13 55 00.8 -9.1
XAN SS **SnSn** **13 55 19.4 -3.0**
XAN pmax pmax
comp=Z,110nm,0.7s
XAN pmax pmax
comp=Z,5µm,14.2s
XAN LR LR
comp=Z,468µm,11.8s
XAN LR LR
comp=Z,419µm,10.8s
XAN LR LR
comp=Z,561µm,14.7s
XAN Xi'an 12.96 33 P **Pn** **13 52 41.3 -4.5**

XAN Xi'an 12.96 33 Pn **Pn** **13 52 41.3 -4.5**
LZH Lanzhou 13.03 12 *e*P **Pn** **13 52 47.6 +0.8**
LZH pP P 13 52 50.6 -6.6
LZH sP 13 52 53.1
LZH S **Sn** **13 55 13.4 +1.7**
LZH sS S 13 55 21.0 -16
LZH SS **SnSn** **13 55 26.9 +2.6**
LZH pmax pmax
comp=Z,98nm,1.6s
LZH pmax pmax
comp=Z,3µm,7.0s
LZH LR LR
comp=Z,279µm,9.8s
LZH LR LR
comp=Z,281µm,9.8s
LZH LR LR
comp=Z,247µm,10.3s
DLV T Lat 13.65 145 Pn **Pn** **13 52 54.2 -1.2**
BWNR Bhubaneshwar 13.98 260 *e*P **Pn** **13 52 57.6 -2.1**
BWNR *e*S **S** **13 55 51.2 -5.3**
WHN Wuhan 14.28 57 P **Pn** **13 53 03.3 -0.4**
WHN S **Sn** **13 55 35.8 -6.1**
WHN LR LR
comp=Z,293µm,16.9s
GTA Gaotai 16.03 358 ⇓P **Pn** **13 53 24.2 -2.9**
GTA pP P 13 53 27.4 -3.1
GTA sP pP 13 53 30.2 -4.3
GTA S **Sn** **13 56 18.8 -6.0**
GTA sS S 13 56 27.8 -11
GTA SS **SnSn** **13 56 37.6 -0.5**
GTA pmax pmax
comp=Z,1µm,6.5s
GTA LR LR
comp=Z,205µm,12.0s
GTA LR LR
comp=Z,517µm,12.4s
GTA LR LR
comp=Z,270µm,12.4s
CHLP Challavanipeta 16.09 256 *e*P **Pn** **13 53 27.9 0.0**
CHLP IVmB_BB 13 53 32.6
comp=Z,2µm,2.7s
CHLP IVMs_BB IVMs_BB 14 03 15.3
comp=Z,14µm,10.3s
KNMB Chin-men Tao 16.40 83 P **Pn** **13 53 31.6 -0.2**
QZH Quanzhou 16.59 81 ⇑*i*P **Pn** **13 53 31.7 -2.5**
QZH S **Sn** **13 56 36.0 -2.4**
QZH LR LR
comp=Z,161µm,11.8s
TIY Taiyuan 17.61 33 *e*P **Pn** **13 53 44.0 -3.0**
TIY S **Sn** **13 57 00.1 -2.9**
TIY SS **SnSn** **13 57 22.4 +5.8**
TIY pmax pmax
comp=Z,210nm,0.8s
TIY pmax pmax
comp=Z,3µm,4.6s
TIY LR LR
comp=Z,183µm,10.2s
TIY LR LR
comp=Z,177µm,9.2s
TIY LR LR
comp=Z,211µm,11.9s
KULM Kulim 17.95 180 P **Pn** **13 53 51.3 0.0**
KULM Kulim 17.95 180 P **P** **13 53 54.0 +2.2**
LHMI Lhok Sumawe 18.33 191 P **Pn** **13 53 55.7 -0.3**
NJ2 Nanjing 18.40 58 ⇓*i*P **Pn** **13 53 57.4 +0.7**
NJ2 pP **pP** **13 54 00.7 0.0**
NJ2 S **Sn** **13 57 24.2 +2.0**
NJ2 pmax pmax
comp=Z,480nm,1.5s
NJ2 pmax pmax
comp=Z,1µm,4.3s
NJ2 LR LR
comp=Z,105µm,7.1s
NJ2 LR LR
comp=Z,169µm,7.3s
NJ2 LR LR
comp=Z,136µm,8.1s
TPUB Ta-pu 18.49 86 P **P** **13 53 55.8 -2.0**
PVM Polavaram 18.71 255 *e*P **P** **13 53 59.8 -0.4**
PVM IVmB_BB 13 54 06.2
comp=Z,6µm,2.6s
PVM IVMs_BB IVMs_BB 14 05 04.0
comp=Z,11µm,9.4s
SSLB Suanglung 18.76 85 P **P** **13 53 58.2 -2.5**
IPM Ipoh 18.76 178 **P** **13 53 59.1 -1.6**
IPM Ipoh 18.76 178 P **Pn** **13 54 02.0 +0.8**
JBP Jabalpur 18.86 274 *e*P **Pn** **13 54 02.6 +0.4**
JBP ⇑*ex* **Pn** **13 54 02.7 +0.4**
JBP *ex* x 13 57 37.3
JBP IAMs_20 IAMs_20 14 03 00.6
comp=Z,75µm,19.3s
TWG Pinlang 18.93 88 P **P** **13 53 59.6 -3.0**
BTO Baotou 18.99 23 *e*P **P** **13 54 01.6 -1.6**
BTO S **S** **13 57 38.4 -0.3**
YULB Yu-li 19.09 86 P **P** **13 54 02.1 -2.3**
YHNB Yeheng 19.12 82 P **P** **13 54 02.5 -2.2**
PTH Pithoragarh 19.18 293 *e*P **P** **13 54 03.1 -2.3**
PTH *e*S **S** **13 57 47.2 +4.5**
TIA Tai'an 19.27 45 P **P** **13 54 06.3 +0.1**
TIA pmax pmax
comp=Z,4µm,4.8s
TIA LR LR
comp=Z,274µm,17.0s
TIA LR LR
comp=Z,316µm,16.3s
TIA LR LR
comp=Z,158µm,12.8s
MLSI Meulaboh, Aceh 19.37 192 P **Pn** **13 54 12.8 +4.2**
comp=Z,45µmcomp=Z,20µmcomp=Z,1µm,1.5s
MYLAV Mylavaram 19.77 254 *e*P **P** **13 54 11.5 -0.3**
MYLAV IVmB_BB 13 54 20.7
comp=Z,5µm,3.5s
MYLAV IVMs_BB IVMs_BB 14 04 43.4
comp=Z,9µm,9.0s
GGR Gangavaram 19.77 258 *e*P **P** **13 54 11.8 -0.1**
GGR IVmBBB 13 54 18.6
comp=Z,4µm,2.4s
GGR IVMs_BB IVMs_BB 14 05 15.3
comp=Z,14µm,14.6s
HHC Hu-ho-hao-te 19.78 25 *e*P **Pn** **13 54 15.6 +2.2**
HHC PP sP 13 54 34.1 +16
HHC S **S** **13 57 51.5 -3.1**
HHC SS **SnSn** **13 58 19.1 +9.0**
HHC pmax pmax
comp=Z,150nm,1.3s
HHC LR LR
comp=Z,217µm,10.1s
HHC LR LR
comp=Z,175µm,9.5s
HHC LR LR
comp=Z,213µm,11.1s
TSI Tuntungan 19.82 186 P **Pn** **13 54 16.3 +2.5**
comp=Z,46µmcomp=Z,22µmcomp=Z,539nm,1.8s
SSE Sheshan 19.93 63 P **Pn** **13 54 17.4 +2.3**
SSE S **Sn** **13 57 58.4 -0.8**
SSE pmax pmax
comp=Z,69nm,1.7s
SSE pmax pmax
comp=Z,2µm,3.7s
SSE Sheshan 19.93 63 P **P** **13 54 11.3 -2.2**
NGP Nagpur 19.97 268 *e*P **P** **13 54 14.7 +0.6**
NGP *ex* x 13 57 55.6
NGP IAMs_20 IAMs_20 14 04 30.7
comp=E,46µm,8.0s
APYP Conner 20.16 102 *e*P Pn 13 54 20.8 +2.8
TPTI 20.22 190 P Pn 13 54 19.8 +1.2
comp=E,20µmcomp=E,6µmcomp=E,205nm,1.4s
RPR Rampur 20.28 261 *e*P **P** **13 54 16.2 -1.1**
RPR IVmB_BB 13 54 24.0
comp=Z,3µm,2.3s
RPR IVMs_BB IVMs_BB 14 05 41.0
comp=Z,12µm,10.5s
SMPP San Manuel, Pa 20.28 107 *e*P **P** **13 54 18.0 +0.6**
PSI Prapat 20.48 185 P Pn 13 54 23.2 +1.4
comp=Z,88nm,0.7s,baz=0.1,slow=10,SNR=33
PSI LR LR 14 03 11.8
comp=Z,61µm,20.3s,baz=273,slow=39
PSI Prapat 20.48 185 P Pn 13 54 21.5 -0.3
PSI pmax pmax
comp=Z,335nm,1.1s
PSI MLR MLR
comp=Z,83µm,18.0s
RPSI Rantau Prapat 20.58 184 P **P** **13 54 21.5 +0.9**
RPSI IAmb IAmb 13 54 36.0
comp=Z,335nm,1.1s

YOJ Yonaguni jima 20.61 82 IAMs_20 IAMs_20 14 03 13.3
comp=Z,91µm,19.0s
ADKI Addanki 20.72 253 *e*P **P** **13 54 21.8 -0.3**
ADKI IVmB_BB 13 54 32.5
comp=Z,3µm,3.8s
ADKI IVMs_BB IVMs_BB 14 07 01.6
comp=Z,8µm,13.9s
SGCP Mt. Cagua 20.77 100 *e*P Pn 13 54 30.0 +5.0
CAUP Cauayan 20.99 104 *e*P Pn 13 54 28.8 +1.1
LUBP Lubang 21.00 114 *e*P **P** **13 54 24.6 -0.6**
NJS Nagarjunasagar 21.02 255 *e*P **P** **13 54 24.7 -0.7**
NJS IVmB_BB 13 54 34.0
comp=Z,3µm,3.0s
NJS IVMs_BB IVMs_BB 14 05 36.2
comp=Z,11µm,10.1s
CUPL Choutuppal 21.10 257 *e*P **P** **13 54 25.6 -0.7**
CUPL IVmB_BB 13 54 34.5
comp=Z,3µm,3.0s
CUPL IVMs_BB IVMs_BB 14 06 02.8
comp=Z,11µm,11.4s
DDI Dehra Dun 21.18 294 *e*P **P** **13 54 27.3 +0.2**
DDI IAmb IAmb 13 54 34.4
comp=Z,6µm,2.0s
BHPL Bhopal 21.20 274 *e*P **P** **13 54 28.5 +1.2**
BHPL IAmb IAmb 13 54 36.6
comp=Z,5µm,2.0s
BALP Baler 21.24 107 *e*P **P** **13 54 30.5 +2.8**
BJT Baijiatuau 21.26 35 P **P** **13 54 26.7 -1.0**
BJT pmax pmax
comp=Z,1µm,1.4s
BJT MLR MLR
comp=Z,50µm,22.0s
BJT Baijiatuau 21.26 35 P **P** **13 54 26.7 -1.0**
BJT Baijiatuau 21.26 35 IAMs_20 IAMs_20 14 01 47.2
comp=Z,50µm,22.0s
BJI Beijing 21.27 35 P **P** **13 54 28.2 +0.3**
BJI S **S** **13 58 24.5 +0.4**
BJI pmax pmax
comp=Z,410nm,1.3s
BJI pmax pmax
comp=Z,6µm,8.4s
BJI LR LR
comp=Z,189µm,13.9s
BJI LR LR
comp=Z,220µm,13.7s
BJI LR LR
comp=Z,66µm,16.7s
HYB Hyderabad 21.39 258 *i*P **P** **13 54 28.0 -1.4**
HYB *e*S **S** **13 58 28.0 +1.2**
HYB *e*LR LR
comp=Z,40nm,16.0s
HYBB Hyderabad (bro 21.39 258 *e*P **P** **13 54 29.4 -0.1**
HYBB IVmB_BB 13 54 37.4
comp=Z,3µm,3.9s
HYBB IVMs_BB IVMs_BB 14 06 09.2
comp=Z,15µm,16.8s
TGY Tagaytay City 21.40 112 P **P** **13 54 32.1 +2.5**
comp=Z,84nm,0.4s,baz=243,slow=6.8,SNR=0.9
TGY LR LR 14 02 25.5
comp=Z,37µm,21.6s,baz=280,slow=36
SRLM Srisailam 21.56 254 *e*P **P** **13 54 31.4 +0.2**
SRLM IVmB_BB 13 54 35.6
comp=Z,2µm,1.4s
SRLM IVMs_BB IVMs_BB 14 06 00.2
comp=Z,8µm,9.8s
NDI New Delhi 21.58 289 *e*P **P** **13 54 30.0 -1.3**
SONA Sohna 21.63 288 *e*P **P** **13 54 31.7 -0.2**
MYKOM Kota Tinggi 21.67 171 P **P** **13 54 32.4 +0.1**
MYKOM IAMs_20 IAMs_20 14 03 36.4
comp=Z,79µm,18.0s
MYKOM Kota Tinggi 21.67 171 P **P** **13 54 36.0 +3.7**
ENPP El Nido 21.70 121 *e*P **P** **13 54 32.9 +0.2**
PGP Puerto Galera 21.71 113 ⇑*e*P **P** **13 54 34.1 +1.3**
SBSI Sibolga 21.72 184 P **P** **13 54 38.8 +5.9**
comp=Z,4µmcomp=Z,109nm,2.0s
MDRS Chennai 21.76 246 *e*P **P** **13 54 35.5 +2.2**
MDRS IAmb IAmb 13 54 39.3
comp=Z,230nm,1.0s
BUSP Coron 21.86 118 *e*P **P** **13 54 36.9 +2.4**
SKHT Srikalahasti 21.88 248 *e*P **P** **13 54 34.3 -0.3**
SKHT IVmBBB 13 54 40.1
comp=Z,2µm,2.6s
SKHT IVMs_BB IVMs_BB 14 06 14.5
comp=Z,5µm,17.6s
LQP Lukban 21.91 111 ⇑*i*P **P** **13 54 37.3 +2.0**
POLP Polilio Island 21.98 109 *e*P **P** **13 54 39.7 +4.0**
BATP Bataraza 22.00 128 *e*P **P** **13 54 39.1 +3.2**
GSI Gunungsitoli 22.09 188 P **P** **13 54 40.5 +3.6**
comp=Z,24µmcomp=Z,8µmcomp=Z,150nm,0.7s
GSI Gunungsitoli 22.09 188 P **P** **13 54 35.9 -1.0**
SMLA Simla 22.12 296 *e*P **P** **13 54 37.0 -0.1**
SMLA IAmb IAmb 13 54 43.0
comp=Z,3µm,1.5s
KUDL Kundal 22.14 288 *ex* **P** **13 54 36.3 -1.0**
KUDL *ex* x 13 58 38.5
MNSI Mandailing Nat 22.43 182 P **P** **13 54 42.8 +2.3**
comp=Z,17µmcomp=Z,12µmcomp=Z,88nm,0.7s
BHK Bhakra 22.82 296 *ex* **P** **13 54 44.8 +0.2**
BHK *ex* x 13 59 03.4
BKNI Bangkinang 22.89 179 P **P** **13 54 50.3 +5.0**
comp=Z,21µmcomp=Z,10µmcomp=Z,213nm,1.3s
BKNI Bangkinang 22.89 179 P **P** **13 54 44.4 -0.9**
BKNI IAmb IAmb 13 55 07.7
comp=Z,377nm,1.5s
BKNI IAMs_20 IAMs_20 14 04 23.7
comp=Z,85µm,18.0s
KKM Kota Kinabalu 22.91 136 P **P** **13 54 44.6 -1.1**
KKM IAmb IAmb 13 54 54.0
comp=Z,210nm,1.0s
KLRI Killari 22.95 261 *e*P **P** **13 54 45.3 -0.8**
KLRI IVmB_BB 13 54 53.0
comp=Z,5µm,2.3s
KLRI IVMs_BB IVMs_BB 14 04 58.0
comp=Z,13µm,8.4s
WMQ Urumqi 22.99 336 P **P** **13 54 47.0 +0.7**
WMQ pP pP 13 54 49.7 -0.6
WMQ S **S** **13 58 57.1 +0.6**
WMQ PcS **PcS** **14 02 10.5 -4.5**
WMQ pmax pmax
comp=Z,78nm,1.9s
WMQ pmax pmax
comp=Z,420nm,3.7s
WMQ LR LR
comp=Z,71µm,11.9s
WMQ LR LR
comp=Z,68µm,9.9s
WMQ LR LR
comp=Z,79µm,11.1s
WMQ Urumqi 22.99 336 P **P** **13 54 44.1 -2.2**
WMQ pmax pmax
comp=Z,428nm,1.3s
WMQ MLR MLR
comp=Z,57µm,21.0s
WMQ Urumqi 22.99 336 P **P** **13 54 44.1 -2.2**
WMQ IAmb IAmb 13 55 12.1
comp=Z,428nm,1.3s
WMQ Urumqi 22.99 336 IAMs_20 IAMs_20 14 03 24.2
comp=Z,57µm,21.0s
DHRM DHARAMSHALA 23.13 298 *e*P **P** **13 54 47.0 -1.1**
DHRM IAmb IAmb 13 54 59.8
comp=Z,5µm,2.0s
CUYO Cuyo Island 23.18 119 *e*P **P** **13 54 50.9 +2.5**
OTRP Odiongan 23.18 114 *e*P **P** **13 54 51.7 +3.3**
URV Uravakonda 23.46 253 *e*P **P** **13 54 50.1 -1.2**
URV IVmB_BB 13 55 13.8
comp=Z,3µm,3.7s
URV IVMs_BB IVMs_BB 14 08 18.9
comp=Z,8µm,8.2s
THN Thein Dam 23.66 298 *ex* **P** **13 54 52.5 -0.5**
THN *ex* **S** **13 59 09.5 +1.9**
SBUM Sibu 23.67 150 P **P** **13 54 52.2 -1.1**
SBUM IAmb IAmb 13 55 17.0
comp=Z,172nm,1.4s
SBUM Sibu 23.67 150 P **P** **13 54 55.0 +1.7**
KSM Kuching 23.73 155 P **P** **13 54 52.6 -1.2**
KSM IAmb IAmb 13 55 11.4
comp=Z,166nm,1.1s
KSM Kuching 23.73 155 P **P** **13 54 55.0 +1.2**
DL2 Dalian 23.74 44 ⇓*i*P **P** **13 54 53.8 0.0**
DL2 S **S** **13 59 11.5 +2.7**
DL2 pmax pmax
comp=Z,920nm,1.4s
DL2 pmax pmax
comp=Z,5µm,4.0s
DL2 LR LR

comp=Z,224μm,16.3s
DL2 LR LR
comp=Z,275μm,16.2s
DL2 LR LR
comp=Z,125μm,11.6s
DSRI Dabo 24.01 170 P **P** **13 55 00.9 +4.4**
comp=Z,8μmcomp=Z,4μmcomp=Z,89nm,1.6s
SPMM Sapulut 24.10 138 P **P** **13 55 03.0 +5.6**
SDSI Sungai Dareh 24.15 178 P **P** **13 54 59.6 +1.8**
comp=Z,17μmcomp=Z,9μmcomp=Z,158nm,2.1s
PVCP Virac 24.41 109 *e*P **P** **13 55 02.5 +2.3**
SISI Saibi 24.56 183 P **P** **13 55 05.5 +4.0**
comp=Z,11μmcomp=Z,5μmcomp=Z,183nm,1.4s
PALK Pallekele 24.84 233 P **P** **13 55 03.2 -1.0**
PALK pmax pmax
comp=Z,128nm,1.2s
PALK MLR MLR
comp=Z,39μm,19.0s
PALK Pallekele 24.84 233 P **P** **13 55 03.2 -1.0**
PALK IAmb IAmb 13 55 10.5
comp=Z,128nm,1.1s
PALK Pallekele 24.84 233 IAMs_20 IAMs_20 14 04 50.5
comp=Z,39μm,19.0s
SONM Songino Array 24.89 9 P **P** **13 55 04.2 -0.2**
comp=Z,76nm,0.8s,baz=191,slow=9.6,SNR=165
SONM LR LR 14 05 41.6
comp=Z,50μm,21.3s,baz=192,slow=39
SONM Songino Array 24.89 9 P **P** **13 55 03.7 -0.7**
SONM pmax pmax
comp=Z,360nm,1.4s
SONM Songino Array 24.89 9 P **P** **13 55 03.7 -0.7**
ULN Ulaanbaatar 25.02 10 *d*P **P** **13 55 05.2 -0.5**
ULN pmax pmax
comp=Z,382nm,1.7s
ULN MLR MLR
comp=Z,62μm,16.0s
ULN Ulaanbaatar 25.02 10 P **P** **13 55 04.7 -1.0**
ULN Ulaanbaatar 25.02 10 IAMs_20 IAMs_20 14 05 44.3
comp=Z,98μm,19.0s
MYLDM Lahad Datu 25.05 133 P **P** **13 55 04.8 -1.2**
MYLDM IAmb IAmb 13 55 13.4
comp=Z,218nm,1.3s
CNOP Candoni, Negro 25.07 119 *e*P **P** **13 55 06.9 +0.8**
KRJI Kerinci 25.30 178 P **P** 13 55 17.9 +10
KAD Karad 25.38 261 ⇓ *i*P **P** **13 55 09.2 +0.2**
STKI Sintang 25.48 154 P **P** 13 55 17.9 +8.0
PPBI Pangkal Pinang 25.94 167 P **P** **13 55 18.9 +4.9**
comp=Z,10μmcomp=Z,3μmcomp=Z,129nm,0.8s
NIL Nilore 25.99 299 P **P** **13 55 13.3 -1.1**
NIL pmax pmax
comp=Z,898nm,1.4s
NIL Nilore 25.99 299 P **P** **13 55 13.3 -1.1**
OCLP Ormoc 26.02 114 *e*P **P** **13 55 16.7 +1.8**
SUJ Sinuiju 26.25 45 P **P** **13 55 19.0 +2.3**
SUJ sP **sP** **13 55 25.1 +2.4**
SUJ S **S** **13 59 50.1 +1.3**
KSH Kashi 26.30 314 P **P** **13 55 18.5 +1.2**
KSH pP sP 13 55 23.5 +0.2
KSH S **S** **13 59 55.1 +5.2**
KSH pmax pmax
comp=Z,520nm,1.5s
KSH pmax pmax
comp=Z,2μm,4.0s
KSH LR LR
comp=Z,107μm,13.0s
KSH LR LR
comp=Z,51μm,12.8s
KSH LR LR
comp=Z,50μm,17.2s
GOA Goa 26.31 258 *e*P **P** **13 55 19.0 +1.5**
GOA IAmb IAmb 13 55 23.1
comp=Z,190nm,0.5s
SHLS Shalkode 26.33 324 *e*P **P** **13 55 17.6 0.0**
comp=Z,390nm,1.8s
SHLS *e*S **S** **13 59 55.3 +5.1**
comp=Z,668nm,4.7s
SHLS *e*LR LR 14 05 56.4
comp=Z,8μm,10.5s
SHLS Shalkode 26.33 324 *e*P **P** **13 55 17.5 0.0**
SHLS pmax pmax
comp=Z,390nm,1.8s
SHLS MLR MLR
comp=Z,8μm,10.0s
TARG Taragay, Kyrgy 26.37 319 P **P** **13 55 18.1 -0.2**
TARG IAmb IAmb 13 55 41.1
comp=Z,241nm,1.2s
TARG IAMs_20 IAMs_20 14 07 04.1
comp=Z,59μm,18.0s
PDGK Podgornoye 26.43 324 P **P** **13 55 19.8 +1.4**
PMBI Palembang 26.44 170 IAMs_20 IAMs_20 14 07 31.1
comp=Z,37μm,19.0s
INCN Inchon 26.47 52 P **P** **13 55 17.5 -1.2**
INCN pmax pmax
comp=Z,161nm,1.3s
INCN MLR MLR
comp=Z,53μm,19.0s
INCN Inchon 26.47 52 P **P** **13 55 17.5 -1.2**
INCN IAmb IAmb 13 55 26.1
comp=Z,161nm,1.3s
INCN Inchon 26.47 52 IAMs_20 IAMs_20 14 05 53.5
comp=Z,53μm,19.0s
PYAG Pyongyang 26.56 48 P **P** **13 55 22.2 +2.7**
PYAG pP **sP** **13 55 25.3 -0.2**
PYAG S **S** **14 00 03.9 +10**
UZB Uzynbulak 26.56 323 *e*P **P** **13 55 20.3 +0.6**
comp=Z,159nm,1.4s
UZB *e*S **S** **14 00 00.3 +6.2**
UZB *e*LR LR 14 07 15.8
comp=Z,10μm,10.4s
UZB Uzynbulak 26.56 323 *e*P **P** **13 55 20.2 +0.6**
UZB *e*S **S** **14 00 00.2 +6.2**
UZB pmax pmax
comp=Z,159nm,1.4s
UZB MLR MLR
comp=Z,10μm,10.0s
TJN Taejon 26.57 55 ⇓ *e*P **P** **13 55 22.2 +2.6**
SNY Shenyang 26.66 41 ⇑ P **P** **13 55 19.8 -0.5**
SNY S **S** **13 59 57.6 +2.5**
SNY pmax pmax
comp=Z,210nm,0.9s
SNY pmax pmax
comp=Z,1μm,3.8s
SNY LR LR
comp=Z,253μm,18.6s
SNY LR LR
comp=Z,218μm,20.4s
SNY LR LR
comp=Z,112μm,16.2s
PYS Pyongsong 26.72 48 P **P** **13 55 24.1 +3.1**
PAGZ Pagadian 26.82 121 *e*P **P** **13 55 24.2 +2.1**
SATY Saty 26.85 322 *e*P **P** **13 55 23.1 +0.9**
comp=Z,142nm,1.9s
SATY *e*S **S** **14 00 07.0 +8.5**
SATY *e*LR LR 14 06 47.9
comp=Z,6μm,10.6s
SATY Saty 26.85 322 *e*P **P** **13 55 23.1 +0.9**
SATY pmax pmax
comp=Z,142nm,1.9s
SATY MLR MLR
comp=Z,6μm,11.0s
TPI Tanjungpandan 26.86 164 P **P** **13 55 27.6 +5.2**
comp=Z,9μmcomp=Z,2μmcomp=Z,54nm,0.5s
ZHN Zhinishke 26.90 323 *e*S S 14 00 10.6 +11
KSI Kapahiang 26.91 175 P **P** **13 55 26.7 +3.8**
comp=Z,7μmcomp=Z,125nm,1.4s
KSI Kapahiang 26.91 175 P **P** **13 55 25.5 +2.6**
KSI pmax pmax
comp=Z,25nm,1.4s
KPKS Kokpek 26.96 323 *e*P **P** **13 55 24.6 +1.4**
comp=Z,179nm,2.1s
KPKS *e*S **S** **14 00 09.6 +10**
KPKS *e*LR LR 14 07 20.6
comp=Z,14μm,11.3s
KPKS Kokpek 26.96 323 *e*P **P** **13 55 24.5 +1.4**
KPKS pmax pmax
comp=Z,179nm,2.1s
KPKS MLR MLR
comp=Z,14μm,11.0s
KDJ Kajisay 26.98 320 P **P** **13 55 24.2 +0.7**
KDJ pmax pmax
comp=Z,396nm,1.4s
KDJ MLR MLR
comp=Z,64μm,19.0s
KDJ Kajisay 26.98 320 P **P** **13 55 24.2 +0.7**
KDJ IAMs_20 IAMs_20 14 07 15.2
comp=Z,64μm,19.0s

ZAK Zakamensk 27.08 4 *e*P **P** **13 55 24.3 +0.1**
ZAK pmax pmax
comp=Z,145nm,1.3s
ZSN Zaisan 27.12 336 *e*P **P** **13 55 25.9 +1.4**
comp=Z,125nm,2.4s
ZSN *e*S S 14 00 25.1 +23
ZSN *e*LR LR 14 06 25.6
comp=Z,11μm,10.3s
ZSN Zaisan 27.12 336 *e*P **P** **13 55 25.9 +1.4**
ZSN pmax pmax
comp=Z,125nm,2.4s
ZSN MLR MLR
comp=Z,11μm,10.0s
LHSI Lahat 27.16 173 P **P** **13 55 30.9 +5.8**
comp=Z,5μmcomp=Z,162nm,1.5s
KSAR Wonju Array Be 27.36 53 P **P** **13 55 25.4 -1.4**
KSAR Wonju Array Be 27.36 53 P **P** **13 55 25.4 -1.4**
KS19 Wonju Array Si 27.38 53 P **P** **13 55 25.3 -1.6**
KSRS Korea Array 27.40 53 P **P** **13 55 26.8 -0.3**
comp=Z,6.4nm,1.0s,baz=242,slow=8.5,SNR=14
KSRS LR LR 14 06 35.3
comp=Z,53μm,18.0s,baz=241,slow=37
JTU Tsushima 27.54 60 IAMs_20 IAMs_20 14 06 53.4
comp=Z,75μm,18.0s
MK31 Makanchi Array 27.61 332 *e*P **P** **13 55 28.8 -0.1**
MK31 Makanchi Array 27.61 332 P **P** **13 55 27.6 -1.3**
MK31 IAmb IAmb 13 55 37.4
comp=Z,103nm,1.1s
MKAR Makanchi Array 27.61 332 P **P** **13 55 29.4 +0.5**
comp=Z,50nm,0.7s,baz=140,slow=9.1,SNR=171
MKAR LR LR 14 06 45.7
comp=Z,47μm,21.0s,baz=142,slow=37
MKAR Makanchi Array 27.61 332 P **P** **13 55 27.2 -1.7**
ULHL Ulahol 27.61 319 P **P** **13 55 30.4 +1.2**
SNR=14
MNAI Manna 27.64 175 IAMs_20 IAMs_20 14 07 24.7
comp=Z,75μm,20.0s
TNSS Tian-Shan 27.67 321 *e*P **P** **13 55 30.7 +0.8**
TNSS Tian-Shan 27.67 321 *e*P **P** **13 55 30.7 +0.8**
MDOK Medeo 27.68 321 *e*P **P** **13 55 31.1 +1.3**
MDOK *e*S **S** **14 00 17.1 +5.4**
MDOK *e*LR LR 14 07 06.2
comp=Z,25μm,14.2s
MDOK Medeo 27.68 321 *e*P **P** **13 55 31.1 +1.3**
MDOK *e*S **S** **14 00 17.1 +5.4**
MDOK MLR MLR
comp=Z,25μm,14.0s
JSU Suzuyama 27.74 66 IAMs_20 IAMs_20 14 07 28.8
comp=Z,97μm,20.0s
MAKZ Makanchi 27.75 332 P **P** **13 55 31.0 +0.8**
MAKZ Makanchi 27.75 332 P **P** **13 55 29.1 -1.0**
MAKZ IAmb IAmb 13 55 39.7
comp=Z,155nm,1.4s
MAKZ IAMs_20 IAMs_20 14 06 42.5
comp=Z,70μm,22.0s
KNDC Almaty 27.77 321 P **P** **13 55 32.5 +2.1**
AAA Alma-Ata 27.79 321 *e*P **P** **13 55 31.5 +0.9**
AAA *e*S **S** **14 00 22.1 +8.9**
AAA *e*LR LR 14 06 38.1
comp=Z,18μm,13.3s
AAA Alma-Ata 27.79 321 *e*P **P** **13 55 31.5 +0.9**
AAA MLR MLR
comp=Z,18μm,13.0s
MDSI Maura Dua 27.89 172 P **P** **13 55 34.7 +3.1**
comp=Z,8μmcomp=Z,2μmcomp=Z,64nm,0.8s
MTKI Muara Teweh, K 27.91 148 P **P** **13 55 35.6 +3.8**
comp=Z,54nm,1.1s
BOOM Boomskoye usch 27.94 319 P **P** **13 55 31.4 -0.7**
BOOM pmax pmax
comp=Z,162nm,1.3s
BOOM MLR MLR
comp=Z,32μm,20.0s
BOOM Boomskoye usch 27.94 319 P **P** **13 55 31.4 -0.7**
BOOM IAmb IAmb 13 55 52.6
comp=Z,162nm,1.3s
GLSP General Luna, 27.95 115 *e*P **P** **13 55 29.6 -2.6**
JMZ Minamidaito 2 28.02 79 IAMs_20 IAMs_20 14 07 02.7
comp=Z,38μm,19.0s
MTBS Maitube 28.02 321 *e*P **P** **13 55 34.7 +1.9**
MTBS Maitube 28.02 321 *e*P **P** **13 55 34.6 +1.9**
PBKI Pangkalan Bun 28.09 156 P P 13 55 40.4 +7.0
comp=Z,128nm,1.0s
TDK Taldyqorghan 28.13 326 *e*P **P** **13 55 35.0 +1.3**
comp=Z,557nm,2.1s
TDK *e*S **S** **14 00 26.2 +7.7**
TDK *e*LR LR 14 06 43.6
comp=Z,30μm,14.6s
TDK Taldyqorghan 28.13 326 *e*P **P** **13 55 34.9 +1.3**
TDK *e*S **S** **14 00 26.2 +7.7**
TDK pmax pmax
comp=Z,557nm,2.1s
TDK MLR MLR
comp=Z,30μm,15.0s
BUKP Musuan 28.14 119 *e*P **P** **13 55 37.1 +3.2**
KLSI 28.17 171 P **P** **13 55 37.5 +3.4**
comp=Z,3μmcomp=Z,1μmcomp=47nm,1.7s
HHU Hamhung 28.18 48 P **P** **13 55 32.3 -1.7**
HHU S **S** **14 00 13.4 -5.8**
DGZ Jazzator, Alta 28.24 342 ⇑ *e*P **P** **13 55 35.4 +0.7**
DGZ pmax pmax
comp=Z,159nm,1.9s
DGZ MLR MLR
comp=Z,38μm,15.0s
MOY Mondy 28.28 1 *e*P **P** **13 55 35.9 +1.0**
MOY pmax pmax
comp=Z,439nm,2.7s
BHUJ Bhuj 28.31 276 *e*P **P** **13 55 36.9 +1.6**
TKM2 Tokmak 2 28.39 319 P **P** **13 55 37.0 +0.8**
SNR=31
TKM2 Tokmak 2 28.39 319 P **P** **13 55 36.0 -0.2**
TLY Talaya 28.39 4 P **P** **13 55 37.8 +2.0**
comp=Z,6.7nm,0.7s,baz=191,slow=9.7,SNR=12
TLY LR LR 14 08 28.4
comp=Z,46μm,21.3s,baz=172,slow=40
TLY Talaya 28.39 4 *d i*P **P** **13 55 36.3 +0.5**
TLY *e*S **S** **14 00 27.4 +5.0**
TLY pmax pmax
comp=Z,482nm,1.7s
TLY MLR MLR
comp=Z,104μm,11.0s
TLY Talaya 28.39 4 P **P** **13 55 35.4 -0.4**
TLY IAmb IAmb 13 55 48.1
comp=Z,110nm,1.4s
TLY IAMs_20 IAMs_20 14 08 04.4
comp=Z,55μm,19.0s
JNU Nakatsue 28.39 63 P **P** **13 55 38.1 +2.0**
comp=Z,30nm,1.1s,baz=234,slow=2.7,SNR=4.1
JNU Nakatsue 28.39 63 P **P** **13 55 34.9 -1.2**
KUU Kurty 28.54 322 *e*P **P** **13 55 39.0 +1.8**
comp=Z,197nm,1.6s
KUU *e*S S 14 00 35.5 +11
KUU *e*LR LR 14 08 52.5
comp=Z,14μm,9.9s
KUU Kurty 28.54 322 *e*P **P** **13 55 39.0 +1.8**
KUU pmax pmax
comp=Z,197nm,1.6s
KUU MLR MLR
comp=Z,14μm,10.0s
SKMP Bagumbayan, Su 28.54 122 *e*P **P** **13 55 41.8 +4.3**
KBK Karagaybulak 28.63 318 P **P** **13 55 40.1 +1.8**
SNR=41
UCH Uchtor 28.66 317 P **P** **13 55 41.3 +2.5**
SNR=21
KCP Kidapawan 28.68 121 ⇓ *e*P P 13 55 44.1 +5.3
AAK Ala-Archa 28.90 318 P **P** **13 55 41.7 +1.1**
SNR=28
AAK Ala-Archa 28.90 318 *i* P **P** **13 55 41.8 +1.1**
SNR=50
AAK Ala-Archa 28.90 318 ⇑ *i*P **P** **13 55 41.9 +1.3**
AAK pmax pmax
comp=Z,232nm,1.3s
AAK MLR MLR
comp=Z,121μm,16.0s
FRU1 Bishkek 28.91 318 P **P** **13 55 39.3 -1.3**
FRU1 pmax pmax
comp=Z,92nm,1.2s
FRU1 MLR MLR
comp=Z,33μm,22.0s
FRU1 Bishkek 28.91 318 P **P** **13 55 39.3 -1.3**
FRU1 IAmb IAmb 13 55 46.8
comp=Z,92nm,1.2s
CN2 Changchun 28.94 39 *e*P **P** **13 55 40.0 -0.7**
CN2 *e*S **S** **14 00 33.3 +2.2**
CN2 pmax pmax
comp=Z,600nm,7.0s
CN2 LR LR
comp=Z,125μm,20.0s
CN2 LR LR
comp=Z,93μm,20.0s
CN2 LR LR
comp=Z,96μm,16.0s
CHMS Chumysh 28.95 319 P P 13 55 46.1 +5.2
SNR=17
IRK Irkutsk 29.00 5 *e*P **P** **13 55 43.0 +1.8**
IRK pmax pmax
comp=Z,635nm,1.9s
DAV Davao City (W) 29.03 120 LR LR 14 07 16.6
comp=Z,30μm,20.2s,baz=316,slow=36
AML Almayashu 29.13 316 P **P** **13 55 46.1 +3.1**
SNR=19
BKB Balikpapan 29.20 145 IAMs_20 IAMs_20 14 08 57.3
comp=Z,86μm,20.0s
USP Ospenovka 29.25 319 P **P** **13 55 44.4 +0.8**
SNR=47
SGDS Sogindy 29.28 319 *e*P **P** **13 55 44.2 +0.4**
comp=Z,65nm,1.7s
SGDS *e*S S 14 00 47.0 +10
SGDS *e*LR LR 14 07 32.2
comp=Z,5μm,10.0s
SGDS Sogindy 29.28 319 *e*P **P** **13 55 44.2 +0.4**
SGDS pmax pmax
comp=Z,65nm,1.7s
SGDS MLR MLR
comp=Z,5μm,10.0s
EKS2 Erkin-Say 29.36 317 P **P** **13 55 46.4 +1.7**
SNR=32
KBL Kabul 29.59 299 P **P** **13 55 47.4 +0.5**
SNR=82
KBL P **P** **13 55 47.4 +0.5**
SNR=82
KBL Kabul 29.59 299 P **P** **13 55 45.5 -1.4**
KBL pmax pmax
comp=Z,171nm,1.4s
KBL MLR MLR
comp=Z,37μm,22.0s
KBL Kabul 29.59 299 P **P** **13 55 45.5 -1.4**
KBL IAmb IAmb 13 56 03.4
comp=Z,171nm,1.4s
MPSI Mapaga 29.63 138 P P 13 55 52.5 +5.4
comp=Z,4μmcomp=Z,22nm,1.1s
MATI Mati 29.64 119 *e*P **P** **13 55 48.4 +1.1**
DDMP Don Marcelino, 29.71 121 *e*P **P** **13 55 50.2 +2.4**
HIA Hailar 29.99 26 P **P** **13 55 48.0 -2.0**
HIA pmax pmax
comp=Z,99nm,1.1s
HIA MLR MLR
comp=Z,91μm,18.0s
HIA Hailar 29.99 26 P **P** **13 55 48.0 -2.0**
HIA IAmb IAmb 13 55 56.8
comp=Z,99nm,1.1s
HIA Hailar 29.99 26 IAMs_20 IAMs_20 14 09 03.0
comp=Z,91μm,18.0s
GAR Garm 30.00 308 P **P** **13 55 48.8 -1.6**
GAR IAMs_20 IAMs_20 14 08 11.5
comp=Z,80μm,22.0s
BTK Batken 30.07 311 P **P** **13 55 49.6 -1.3**
BTK MLR MLR
comp=Z,52μm,22.0s
BTK Batken 30.07 311 P **P** **13 55 49.6 -1.3**
BBKI Banjar Baru 30.09 150 P **P** **13 55 54.6 +3.4**
comp=Z,4μmcomp=Z,97nm,0.9s
CIT Chita 30.34 16 *e*P **P** **13 55 53.4 +0.3**
CIT pmax pmax
comp=Z,248nm,2.2s
BTLS Baital 30.54 322 *e*P **P** **13 55 55.2 +0.2**
comp=Z,120nm,2.0s
BTLS *e*S S 14 01 14.3 +18
BTLS *e*LR LR 14 09 27.6
comp=Z,4μm,9.7s
BTLS Baital 30.54 322 *e*P **P** **13 55 55.1 +0.2**
BTLS pmax pmax
comp=Z,120nm,2.0s
BTLS MLR MLR
comp=Z,4μm,10.0s
KBKI Kotabaru 30.57 148 P P 13 56 01.3 +5.9
comp=Z,895nmcomp=Z,43nm,0.9s
JHS Saijyo 30.62 60 IAMs_20 IAMs_20 14 09 39.9
comp=Z,42μm,18.0s
CHGR Chuyangaron 30.72 307 P **P** **13 55 55.2 -1.5**
CHGR IAMs_20 IAMs_20 14 08 21.5
comp=Z,77nm,18.0s
LEM Lembang 30.78 166 P **P** **13 56 01.2 +3.7**
comp=Z,39nm,0.7s,baz=354,slow=12,SNR=4.2
JMN Monobe 30.98 63 IAMs_20 IAMs_20 14 09 12.4
comp=Z,61μm,18.0s
DZA Taraz 31.02 316 *e*P **P** **13 55 59.2 0.0**
DZA *e*LR LR 14 09 12.7
comp=Z,6μm,11.0s
DZA Taraz 31.02 316 *e*P **P** **13 55 59.2 0.0**
DZA MLR MLR
comp=Z,6μm,11.0s
SGSI Sangihe 31.10 125 P P 13 56 11.5 +11
IUG Iuzhnay 31.51 314 *e*P **P** **13 56 05.2 +1.5**
comp=Z,119nm,2.1s
IUG *e*S **S** **14 01 15.6 +3.8**
IUG *e*LR LR 14 10 36.9
comp=Z,6μm,12.4s
IUG Iuzhnay 31.51 314 *e*P **P** **13 56 05.1 +1.5**
IUG *e*S **S** **14 01 15.6 +3.8**
IUG pmax pmax
comp=Z,119nm,2.1s
IUG MLR MLR
comp=Z,6μm,12.0s
CISI Cisompet, Garu 31.53 166 IAMs_20 IAMs_20 14 09 39.9
comp=Z,72nm,20.0s
KPJI Karang Pucung 31.58 164 P **P** **13 56 08.3 +4.0**
comp=Z,4μmcomp=Z,278nm,0.9s
KK31 Karatay Array 31.65 316 *e*P **P** **13 56 04.7 0.0**
KK31 Karatay Array 31.65 316 P **P** **13 56 02.9 -1.9**
KKAR Karatay Array 31.65 316 P **P** **13 56 02.6 -2.2**
KKAR Karatay Array 31.65 316 P **P** **13 56 02.4 -2.3**
KKAR Karatay Array 31.65 316 P **P** **13 56 02.6 -2.2**
SMRI Semarang 31.73 161 P P 13 56 18.3 +13
MDJ Mudanjiang 31.86 41 P **P** **13 56 05.4 -1.1**
MDJ pP pP 13 56 08.7 -2.1
MDJ sP sP 13 56 10.4 -2.2
MDJ S **S** **14 01 16.7 -0.1**
MDJ sS pS 14 01 22.1 +0.6
MDJ ScS **ScS** **14 06 36.6 -2.0**
MDJ pmax pmax
comp=Z,830nm,8.6s
MDJ LR LR
comp=Z,220μm,19.1s
MDJ LR LR
comp=Z,160μm,16.7s
MDJ LR LR
comp=Z,116μm,15.1s
MDJ Mudanjiang 31.86 41 P **P** **13 56 03.2 -3.3**
MDJ IAMs_20 IAMs_20 14 10 37.9
comp=Z,64μm,22.0s
BRLS Borolday 32.05 315 *e*P **P** **13 56 09.1 +0.8**
comp=Z,225nm,2.4s
BRLS *e*S **S** **14 01 24.9 +5.0**
BRLS *e*LR LR 14 10 11.8
comp=Z,5μm,11.4s
BRLS Borolday 32.05 315 *e*P **P** **13 56 09.0 +0.8**
BRLS *e*S **S** **14 01 24.9 +5.0**
BRLS pmax pmax
comp=Z,225nm,2.4s
BRLS MLR MLR
comp=Z,5μm,11.0s
KMSI Cibinong 32.12 131 P P 13 56 14.7 +5.5
comp=Z,2μmcomp=Z,169nm,0.9s
KURBB Kurchatov Arra 32.15 333 P **P** **13 56 09.0 0.0**
comp=Z,16nm,0.6s,baz=140,slow=9.9,SNR=87
KURBB PcP **PcP** **13 58 58.5 +0.7**
comp=Z,9.5nm,1.0s,baz=139,slow=2.7,SNR=4.7
KURK Kurchatov 32.18 334 *de*P **P** **13 56 09.0 -0.3**
KURK pmax pmax
comp=Z,166nm,2.2s
KURK MLR MLR
comp=Z,54μm,17.0s
KURK Kurchatov 32.18 334 P **P** **13 56 07.9 -1.4**
KURK IAmb IAmb 13 56 18.7
comp=Z,92nm,1.0s
KURK Kurchatov 32.18 334 **PcP** **13 58 58.5 +0.6**
KURK Kurchatov 32.18 334 IAMs_20 IAMs_20 14 08 45.7
comp=Z,79μm,21.0s
LUWI Luwuk 32.51 135 P **P** **13 56 17.0 +4.5**
comp=Z,224nm,1.1s
LUWI Luwuk 32.51 135 P **P** **13 56 10.2 -2.4**
JWT Wachi 32.51 61 IAMs_20 IAMs_20 14 09 47.0

	comp=Z,46µm,18.0s									
VLA	**Vladivostok**	**32.56**	**45**	*de*	P		**P**		**13 56 11.9**	**-0.8**
VLA					MLR		MLR			
	comp=Z,80µm,15.0s									
UGM	**Wanagama**	**32.57**	**161**		IAMs_20		IAMs_20	14 10 27.5		
	comp=Z,41µm,20.0s									
WOJI	**Wonogiri, Jawa**	**32.62**	**161**		P		P	13 56 25.2		+12
ZAA0	**Zalesovo Array**	**32.77**	**343**		P		**P**	**13 56 12.6**		**-1.8**
ZAA0					IAmb		IAmb	13 56 19.3		
	comp=Z,168nm,1.2s									
ZALV	**Zalesovo Beam**	**32.77**	**343**		P		**P**	**13 56 14.4**		**0.0**
	comp=Z,46nm,0.8s,baz=156,slow=8.9,SNR=88									
ZALV	**Zalesovo Beam**	**32.77**	**343**	*i*	P		**P**	**13 56 14.3**		**-0.1**
ZALV					pmax		pmax			
	comp=Z,46nm,0.8s									
ZALV	**Zalesovo Beam**	**32.77**	**343**		P		**P**	**13 56 12.9**		**-1.5**
SPSI	**Sidrap Palu**	**33.02**	**143**		P		**P**	**13 56 20.9**		**+4.0**
	comp=Z,3µmcomp=Z,96nm,1.4s									
USA0B	**Ussuriysk Arra**	**33.13**	**43**	*c*	*i* P		**P**	**13 56 17.1**		**-0.6**
USA0B	**Ussuriysk Arra**	**33.13**	**43**		P		**P**	**13 56 16.2**		**-1.5**
USA0B					IAMs_20		IAMs_20	14 10 44.9		
	comp=Z,50µm,18.0s									
USRK	**Ussuriysk Ar.**	**33.13**	**43**		P		**P**	**13 56 16.4**		**-1.2**
	comp=Z,63nm,1.1s,baz=250,slow=6.6,SNR=25									
USRK	**Ussuriysk Ar.**	**33.13**	**43**		P		**P**	**13 56 16.0**		**-1.7**
INU	**Inuyama**	**33.82**	**61**		P		**P**	**13 56 21.2**		**-2.6**
INU					IAMs_20		IAMs_20	14 09 15.9		
	comp=Z,40µm,18.0s									
KAPI	**Kappang**	**33.88**	**144**		LR		LR	14 11 21.2		
	comp=Z,23µm,18.8s,baz=308,slow=38									
KAPI	**Kappang**	**33.88**	**144**		P		**P**	**13 56 22.8**		**-1.7**
KAPI					pmax		pmax			
	comp=Z,74nm,1.4s									
KAPI					MLR		MLR			
	comp=Z,31µm,18.0s									
KAPI	**Kappang**	**33.88**	**144**		P		**P**	**13 56 22.8**		**-1.7**
KAPI					IAmb		IAmb	13 56 42.0		
	comp=Z,74nm,1.4s									
KAPI	**Kappang**	**33.88**	**144**		IAMs_20		IAMs_20	14 12 08.9		
	comp=Z,31µm,18.0s									
JGF	**Kuroka**	**34.14**	**61**		P		**P**	**13 56 23.8**		**-2.9**
JGF					IAmb		IAmb	13 56 38.9		
	comp=Z,105nm,1.5s									
JGF					IAMs_20		IAMs_20	14 10 55.1		
	comp=Z,39µm,18.0s									
JAGI	**Jajag, Banyuwa**	**34.32**	**156**		IAMs_20		IAMs_20	14 11 22.9		
	comp=Z,40µm,19.0s									
BKSI	**Bulukumba**	**34.34**	**144**		P		P	13 56 33.4		+5.0
	comp=Z,858nmcomp=Z,38nm,1.4s									
BRZS	**Berezniki**	**34.34**	**328**		*e*P		**P**	**13 56 29.4**		**+1.2**
	comp=Z,349nm,2.4s									
BRZS					*e*S		**S**	**14 01 58.2**		**+2.8**
BRZS					*e*LR		LR	14 11 50.1		
	comp=Z,9µm,11.0s									
BRZS	**Berezniki**	**34.34**	**328**		*e*P		**P**	**13 56 29.4**		**+1.2**
BRZS					*e*S		**S**	**14 01 58.2**		**+2.8**
BRZS					pmax		pmax			
	comp=Z,349nm,2.4s									
BRZS					MLR		MLR			
	comp=Z,9µm,11.0s									
TNTI	**Ternate**	**34.40**	**127**		P		P	13 56 34.8		+5.8
	comp=Z,3µmcomp=Z,55nm,2.1s									
JSG	**Sagara**	**34.65**	**62**		IAMs_20		IAMs_20	14 10 45.7		
	comp=Z,52µm,18.0s									
MJB9	**Matsu-Tunnel**	**35.00**	**59**		IAMs_20		IAMs_20	14 11 02.7		
	comp=Z,42µm,20.0s									
MAJO	**Matsushiro**	**35.00**	**59**	*c*	*i* P		**P**	**13 56 36.2**		**+2.1**
MAJO					pmax		pmax			
	comp=Z,144nm,1.9s									
MAJO					MLR		MLR			
	comp=Z,35µm,15.0s									
MAJO	**Matsushiro**	**35.00**	**59**		P		**P**	**13 56 32.0**		**-2.1**
MAJO					IAmb		IAmb	13 56 44.9		
	comp=Z,106nm,1.4s									
MAJO	**Matsushiro**	**35.00**	**59**		IAMs_20		IAMs_20	14 11 01.7		
	comp=Z,39µm,20.0s									
MAT	**Matsushiro**	**35.00**	**59**		P		**P**	**13 56 35.5**		**+1.4**
MAT					S		**S**	**14 02 03.8**		**-2.0**
MJAR	**Matsushiro Arr**	**35.00**	**59**		P		**P**	**13 56 32.4**		**-1.7**
	comp=Z,5.3nm,1.1s,baz=259,slow=5.2,SNR=4.1									
MJAR	**Matsushiro Arr**	**35.00**	**59**		P		**P**	**13 56 32.4**		**-1.7**
MJAR					pmax		pmax			
	comp=Z,28nm,1.3s									
HRA	**Herat**	**35.08**	**297**		P		**P**	**13 56 32.7**		**-2.3**
HRA					IAmb		IAmb	13 56 44.7		
	comp=Z,105nm,1.5s									
JSD	**Sado**	**35.36**	**57**		P		**P**	**13 56 35.1**		**-2.0**
JSD					IAMs_20		IAMs_20	14 09 58.2		
	comp=Z,46µm,18.0s									
TWSI	**Taliwang, Sumb**	**35.69**	**151**		P		P	13 56 45.5		+5.4
	comp=Z,2µmcomp=Z,1µmcomp=Z,37nm,0.9s									
JHJ	**Hachijo jima 2**	**35.78**	**65**		LR		LR	14 11 05.2		
	comp=Z,26µm,19.3s,baz=274,slow=36									
BOD	**Bodaibo**	**35.80**	**12**		*e*P		**P**	**13 56 40.5**		**-0.1**
BOD					pmax		pmax			
	comp=Z,76nm,2.2s									
JHJ2	**Mitsune**	**35.80**	**65**		IAMs_20		IAMs_20	14 10 54.3		
	comp=Z,30µm,18.0s									
PLAI	**Plampang**	**36.16**	**150**		P		P	13 56 51.1		+6.9
	comp=Z,3µmcomp=Z,2µmcomp=Z,95nm,1.2s									
ZEA	**Zeya**	**36.44**	**27**	*de*	P		**P**	**13 56 45.7**		**-0.4**
ZEA				*e*				13 58 16.8		
ZEA				*e*S			**S**	**14 02 23.7**		**-3.7**
ZEA				*e*SS			SS	14 05 22.8		+16
ZEA				pmax			pmax			
	comp=E,30nm,1.9s									
ZEA				pmax			pmax			
	comp=N,60nm,1.6s									
ZEA				pmax			pmax			
	comp=Z,110nm,1.7s									
ZEA				pmax			pmax			
	comp=Z,600nm,6.2s									
ZEA				pmax			pmax			
	comp=E,500nm,11.4s									
ZEA				pmax			pmax			
	comp=N,500nm,14.2s									
ZEA				pmax			pmax			
	comp=Z,1µm,14.1s									
ZEA				smax			smax			
	comp=N,4µm,13.1s									
ZEA				smax			smax			
	comp=E,3µm,13.9s									
ZEA				MLR			MLR			
	comp=E,38µm,13.0s									
ZEA				MLR			MLR			
	comp=N,58µm,16.0s									
TEY	**Ternei**	**36.45**	**45**	⇑ *i*	P		**P**	**13 56 49.3**		**+3.0**
TEY				*e*S			**S**	**14 02 28.8**		**+1.0**
TEY								14 05 15.8		
TEY				pmax			pmax			
	comp=Z,700nm,2.6s									
TEY				pmax			pmax			
	comp=E,30nm,1.2s									
TEY				pmax			pmax			
	comp=N,30nm,1.3s									
TEY				pmax			pmax			
	comp=Z,70nm,1.6s									
TEY				MLR			MLR			
	comp=E,143µm,14.0s									
TEY				MLR			MLR			
	comp=N,158µm,12.0s									
TEY				MLR			MLR			
	comp=Z,74µm,12.0s									
JYT	**Yasato**	**36.52**	**60**		P		**P**	**13 56 44.3**		**-2.8**
JYT					IAMs_20		IAMs_20	14 10 46.0		
	comp=Z,35µm,18.0s									
NLAI	**Namlea**	**37.02**	**132**		P		P	13 56 58.6		+7.1
	comp=Z,27nm,1.3s									
JMM	**Marumori**	**37.28**	**58**		P		**P**	**13 56 51.2**		**-2.4**
JMM					IAmb		IAmb	13 57 04.5		
	comp=Z,148nm,1.0s									
JMM					IAMs_20		IAMs_20	14 13 18.1		
	comp=Z,46µm,18.0s									
BVAR	**Borovoye Array**	**37.41**	**330**		P		**P**	**13 56 54.6**		**+0.2**
	comp=Z,8.2nm,0.7s,baz=185,slow=15,SNR=36									
BRVK	**Borovoye**	**37.48**	**330**	*d*	*i* P		**P**	**13 56 55.9**		**+0.8**
BRVK					pmax		pmax			
	comp=Z,88nm,1.3s									
BRVK					MLR		MLR			
	comp=Z,34µm,19.0s									
BRVK	**Borovoye**	**37.48**	**330**		P		**P**	**13 56 53.6**		**-1.5**
BRVK					IAmb		IAmb	13 57 06.0		
	comp=Z,95nm,1.0s									
BRVK	**Borovoye**	**37.48**	**330**		IAMs_20		IAMs_20	14 13 15.3		
	comp=Z,36µm,20.0s									
JCJ	**Chichijima**	**37.77**	**75**		LR		LR	14 11 21.3		
	comp=Z,16µm,21.6s,baz=260,slow=34									
JCJ	**Chichijima**	**37.77**	**75**		IAMs_20		IAMs_20	14 10 48.0		
	comp=Z,24µm,22.0s									
JLN	**Jalan Bani Buh**	**37.82**	**276**		P		**P**	**13 56 58.6**		**+0.3**
	SNR=9.8									
JLN					P		**P**	**13 56 58.6**		**+0.3**
	SNR=9.8									
JTM	**Tenmabayashi**	**38.14**	**53**		IAMs_20		IAMs_20	14 12 07.0		
	comp=Z,42µm,20.0s									
WBK	**Wadi Bani Khal**	**38.15**	**277**		P		**P**	**13 57 01.7**		**+0.5**
	SNR=7.1									
WBK					P		**P**	**13 57 01.7**		**+0.5**
	SNR=7.1									
WBK					P		**P**	**13 57 01.7**		**+0.5**
	SNR=7.1									
MMRI	**Maumere**	**38.24**	**144**		P		**P**	**13 57 05.6**		**+3.8**
	comp=Z,3µmcomp=Z,127nm,1.7s									
MMRI	**Maumere**	**38.24**	**144**		P		**P**	**13 56 59.8**		**-2.0**
MMRI					IAmb		IAmb	13 57 26.1		
	comp=Z,204nm,1.3s									
WSAR	**Wadi Sarin**	**38.36**	**278**		P		**P**	**13 57 05.0**		**+2.2**
	comp=Z,3.5nm,0.8s,baz=126,slow=8.2,SNR=9.0									
WSAR	**Wadi Sarin**	**38.36**	**278**		P		**P**	**13 57 03.5**		**+0.6**
	SNR=7.3									
MSAI	**Masohi**	**38.37**	**130**		P		P	13 57 08.5		+5.6
	comp=Z,615nmcomp=Z,24nm,1.0s									
BIDO	**Bidbid**	**38.77**	**279**		P		**P**	**13 57 06.9**		**+0.5**
	SNR=12									
BIDO					P		**P**	**13 57 06.9**		**+0.5**
	SNR=12									
SMDO	**Samad**	**38.92**	**278**		P		**P**	**13 57 08.3**		**+0.6**
	SNR=12									
SMDO					P		**P**	**13 57 08.3**		**+0.6**
	SNR=12									
GEYT	**Alibeck**	**38.92**	**302**		P		**P**	**13 57 08.0**		**+0.6**
	comp=Z,62nm,0.7s,baz=120,slow=5.8,SNR=68									
GEYT					PcP		**PcP**	**13 59 18.9**		**+0.9**
	comp=Z,11nm,0.8s,baz=126,slow=3.8,SNR=4.9									
GEYT					LR		LR	14 15 47.3		
	comp=Z,35µm,19.1s,baz=100,slow=40									
GEYT	**Alibeck**	**38.92**	**302**		P		**P**	**13 57 05.7**		**-1.7**
GYA0B	**ALIBECK ARRAY**	**38.92**	**302**		P		**P**	**13 57 06.2**		**-1.2**
GYA0B					IAmb		IAmb	13 57 13.2		
	comp=Z,263nm,1.4s									
JEW	**Eniwo**	**38.97**	**50**		P		**P**	**13 57 06.3**		**-1.4**
JEW					IAMs_20		IAMs_20	14 12 47.5		
	comp=Z,38µm,18.0s									
JMDO	**Jabal Madar**	**38.98**	**277**		P		**P**	**13 57 08.4**		**+0.3**
	SNR=9.2									
JMDO					P		**P**	**13 57 08.4**		**+0.3**
	SNR=9.2									
JMDO					P		**P**	**13 57 08.4**		**+0.3**
	SNR=9.2									
GRNR	**Gornyy**	**39.01**	**36**	⇓ *i*	P		**P**	**13 57 08.0**		**0.0**
GRNR				*e*				13 58 39.8		
GRNR				*e*S			**S**	**14 03 09.5**		**+2.9**
GRNR				*e*SS			**SnSn**	**14 05 50.4**		**-7.5**
GRNR				smax			smax			
	comp=N,4.0nm,0.8s									
GRNR				MLR			MLR			
	comp=N,21µm,12.0s									
GRNR				MLR			MLR			
	comp=E,17µm,12.0s									
GRNR				MLR			MLR			
	comp=Z,47µm,13.0s									
MHTO	**MHTO**	**39.36**	**275**		P		**P**	**13 57 12.0**		**+0.7**
	SNR=22									
MHTO					P		**P**	**13 57 12.0**		**+0.7**
	SNR=22									
MHTO					P		**P**	**13 57 12.0**		**+0.7**
	SNR=22									
HOQ	**Hoqain**	**39.51**	**279**		P		**P**	**13 57 14.0**		**+1.5**
	SNR=19									
HOQ					P		**P**	**13 57 14.0**		**+1.5**
	SNR=19									
HOQ					P		**P**	**13 57 14.0**		**+1.5**
	SNR=19									
ERM	**Erimo**	**39.96**	**52**	*de*	P		**P**	**13 57 18.3**		**+2.3**
ERM					pmax		pmax			
	comp=Z,277nm,1.2s									
ERM					MLR		MLR			
	comp=Z,27µm,15.0s									
ERM	**Erimo**	**39.96**	**52**		P		**P**	**13 57 14.5**		**-1.5**
ERM					IAmb		IAmb	13 57 24.8		
	comp=Z,268nm,1.2s									
ERM	**Erimo**	**39.96**	**52**		IAMs_20		IAMs_20	14 12 56.1		
	comp=Z,34µm,19.0s									
JEM	**Erimo**	**39.97**	**52**		P		**P**	**13 57 15.3**		**-0.7**
JEM					IAmb		IAmb	13 57 24.8		
	comp=Z,271nm,1.2s									
JEM					IAMs_20		IAMs_20	14 13 07.4		
	comp=Z,44µm,19.0s									
DQM	**DQM**	**39.97**	**274**		P		**P**	**13 57 17.4**		**+1.0**
	SNR=7.5									
DQM					P		**P**	**13 57 17.4**		**+1.0**
	SNR=7.5									
DQM					P		**P**	**13 57 17.4**		**+1.0**
	SNR=7.5									
BANOM	**Banah**	**40.12**	**283**	*i*	P		**P**	**13 57 17.4**		**-0.2**
	SNR=7.6									
BANOM	**Banah**	**40.12**	**283**		P		**P**	**13 57 19.1**		**+1.5**
	SNR=8.6									
BANOM					P		**P**	**13 57 19.1**		**+1.5**
	SNR=8.6									
SOHO	**SOHO**	**40.13**	**280**	*i*	P		**P**	**13 57 17.4**		**-0.3**
	SNR=21									
ASAJ	**Asahikawa**	**40.13**	**49**		P		**P**	**13 57 17.7**		**+0.3**
	comp=Z,263nm,1.1s,baz=340,slow=2.3,SNR=32									
ASAJ					LR		LR	14 13 16.5		
	comp=Z,14µm,18.4s,baz=252,slow=35									
JKA	**Kamikawa-asahi**	**40.14**	**49**		P		**P**	**13 57 16.3**		**-1.2**
MDH	**Madha**	**40.19**	**282**	*i*	P		**P**	**13 57 17.8**		**-0.3**
	SNR=21									
MDH	**Madha**	**40.19**	**282**		P		**P**	**13 57 18.3**		**+0.2**
	SNR=13									
MDH					P		**P**	**13 57 18.3**		**+0.2**
	SNR=13									
SHME	**Shamm**	**40.25**	**283**	*i*	P		**P**	**13 57 19.4**		**+0.8**
	SNR=28									
ARQ	**Araqi**	**40.26**	**279**		P		**P**	**13 57 19.9**		**+1.1**
	SNR=16									
ARQ					P		**P**	**13 57 19.9**		**+1.1**
	SNR=16									
ARQ					P		**P**	**13 57 19.9**		**+1.1**
	SNR=16									
SOEI	**Soe**	**40.28**	**142**		P		**P**	**13 57 19.0**		**-0.1**
SOEI	**Soe**	**40.28**	**142**		P		**P**	**13 57 17.7**		**-1.4**
SOEI					IAMs_20		IAMs_20	14 16 44.0		
	comp=Z,36µm,20.0s									
MSFE	**Esma-Masafi**	**40.31**	**282**	*i*	P		**P**	**13 57 19.2**		**+0.1**
	SNR=17									
BATI	**Baumata**	**40.32**	**143**		P		**P**	**13 57 21.3**		**+2.1**
	comp=Z,2µmcomp=Z,38nm,1.6s									
UOSS	**Minazif**	**40.32**	**282**	*i*	P		**P**	**13 57 19.0**		**-0.3**
	SNR=21									
UOSS	**Minazif**	**40.32**	**282**		P		**P**	**13 57 17.7**		**-1.5**
HATD	**Hatta, Dubai**	**40.40**	**281**	*i*	P		**P**	**13 57 19.8**		**-0.1**
	SNR=13									
HATD	**Hatta, Dubai**	**40.40**	**281**		P		**P**	**13 57 21.1**		**+1.2**
	SNR=34									
HATD					P		**P**	**13 57 21.1**		**+1.2**
	SNR=34									
FAKI	**Fak Fak**	**40.48**	**126**		P		**P**	**13 57 19.7**		**-0.8**
ASHO	**Ashiyiah**	**40.49**	**281**	*i*	P		**P**	**13 57 19.9**		**-0.7**
	SNR=29									
ASHO	**Ashiyiah**	**40.49**	**281**		P		**P**	**13 57 22.2**		**+1.6**
	SNR=48									
ASHO					P		**P**	**13 57 22.2**		**+1.6**
	SNR=48									
ASHO					P		**P**	**13 57 22.2**		**+1.6**
	SNR=48									
UMQ	**Umm Al-Quwin**	**40.74**	**283**	*i*	P		**P**	**13 57 24.0**		**+1.3**
	SNR=6.8									
NAZ	**Nazwa, Dubai**	**40.80**	**282**	*i*	P		**P**	**13 57 23.4**		**+0.2**
	SNR=42									
NAZ	**Nazwa, Dubai**	**40.80**	**282**		P		**P**	**13 57 24.4**		**+1.2**
	SNR=15									
NAZ					P		**P**	**13 57 24.4**		**+1.2**
	SNR=15									
NAZ					P		**P**	**13 57 24.4**		**+1.2**
	SNR=15									
ALNE	**Al Ain**	**40.85**	**280**	*i*	P		**P**	**13 57 23.9**		**+0.3**
	SNR=32									
FAQ	**Al Faqa, Dubai**	**40.90**	**281**	*i*	P		**P**	**13 57 24.2**		**+0.2**
	SNR=13									
AB31	**Akbulak array**	**40.96**	**319**	⇑ *e*	P		**P**	**13 57 23.2**		**-1.0**
AB31					pmax		pmax			
	comp=Z,41nm,0.8s									
ABKAR	**Akbulak array**	**40.96**	**319**		P		**P**	**13 57 23.6**		**-0.6**
ABKAR	**Akbulak array**	**40.96**	**319**		P		**P**	**13 57 23.7**		**-0.5**
ABKAR					IAmb		IAmb	13 57 33.7		
	comp=Z,121nm,1.4s									
YSS	**Yuzh-Sakhalins**	**41.14**	**44**	⇓ *e*	P		**P**	**13 57 26.1**		**+0.4**
YSS				*e*				13 57 34.5		
YSS				*e*S			**S**	**14 03 40.3**		**+1.8**
YSS				pmax			pmax			
	comp=Z,90nm,1.4s									
YSS				pmax			pmax			
	comp=Z,900nm,4.0s									
YSS				smax			smax			
	comp=N,4µm,13.2s									
YSS				MLR			MLR			
	comp=Z,83µm,14.0s									
YSS				MLR			MLR			
	comp=N,53µm,13.0s									
YSS				MLR			MLR			
	comp=E,63µm,14.0s									
YSS	**Yuzh-Sakhalins**	**41.14**	**44**		P		**P**	**13 57 24.3**		**-1.4**
YSS					IAmb		IAmb	13 57 35.7		
	comp=Z,139nm,1.2s									
YSS					IAMs_20		IAMs_20	14 13 10.2		
	comp=Z,40µm,19.0s									
AJN	**Ajban**	**41.47**	**281**	*i*	P		**P**	**13 57 28.5**		**-0.1**
	SNR=25									
AJN	**Ajban**	**41.47**	**281**		P		**P**	**13 57 29.7**		**+1.0**
	SNR=13									
SHAO	**Shalim**	**42.19**	**271**		P		**P**	**13 57 35.1**		**+0.5**
BAKI	**Biak**	**42.36**	**120**		P		P	13 57 46.5		+10
YUK	**Yuzh-Kuril'sk**	**42.38**	**50**	*d*	*i* P		P	13 57 28.0		-7.8
YUK				*e*				13 59 10.6		
YUK				*e*S			**S**	**14 03 52.8**		**-4.1**
YUK				*e*SSS			SSS	14 07 41.6		
YUK				pmax			pmax			
	comp=Z,725nm,1.6s									
YUK				pmax			pmax			
	comp=Z,484nm,1.2s									
YUK				pmax			pmax			
	comp=N,224nm,1.3s									
YUK				pmax			pmax			
	comp=E,339nm,1.3s									
NKL	**Nikolayevsk**	**42.48**	**35**	*e*	P		**P**	**13 57 35.3**		**-1.2**
NKL				*e*				13 59 22.4		
NKL				pmax			pmax			
	comp=N,12nm,0.8s									
NKL				pmax			pmax			
	comp=Z,140nm,1.4s									
NKL				pmax			pmax			
	comp=Z,200nm,3.7s									
NKL				MLR			MLR			
	comp=Z,50µm,13.0s									
TYV	**Tymovskoe**	**42.56**	**39**	*e*	P		**P**	**13 57 39.4**		**+2.2**
TYV				*e*S			**S**	**14 04 05.8**		**+6.4**
TYV				pmax			pmax			
	comp=Z,800nm,2.2s									
TYV				pmax			pmax			
	comp=Z,101nm,1.5s									
TYV				smax			smax			
	comp=E,3µm,8.4s									
TYV				smax			smax			
	comp=E,34nm,2.2s									
TYV				MLR			MLR			
	comp=Z,61µm,13.0s									
TYV				MLR			MLR			
	comp=E,54µm,13.0s									
AKTO	**Aktyubinsk**	**42.58**	**320**		P		**P**	**13 57 37.9**		**+0.5**
	comp=E,12nm,0.8s,baz=114,slow=7.5,SNR=26									
GUMO	**Guam**	**43.04**	**95**		LR		LR	14 13 57.3		
	comp=E,11µm,21.3s,baz=289,slow=34									
YAK	**Yakutsk**	**43.47**	**20**		P		**P**	**13 57 43.8**		**-0.6**
	comp=E,35nm,0.6s,baz=212,slow=1.9,SNR=23									
YAK	**Yakutsk**	**43.47**	**20**	*e*	P		**P**	**13 57 43.2**		**-1.2**
YAK				*e**PP			**pP**	**13 57 47.3**		**-1.5**
YAK				*e*				13 59 23.0		
YAK				*e*				13 59 31.2		
YAK				*e*S			**S**	**14 04 12.8**		**+0.5**
YAK				*e**SS			**sS**	**14 04 26.1**		**+6.5**
YAK				*e*SS			**SS**	**14 07 21.9**		**-4.6**
YAK				*e*				14 07 43.2		
YAK				pmax			pmax			
	comp=Z,82nm,0.9s									
YAK				pmax			pmax			
	comp=N,25nm,1.0s									
YAK				pmax			pmax			
	comp=E,47nm,1.5s									
YAK				pmax			pmax			
	comp=Z,77nm,1.9s									
YAK				pmax			pmax			
	comp=N,74nm,2.0s									
YAK				pmax			pmax			
	comp=E,61nm,1.9s									
YAK				smax			smax			
	comp=E,916nm,2.3s									
YAK				smax			smax			
	comp=N,533nm,1.9s									
YAK				MLR			MLR			
	comp=Z,65µm,20.0s									
YAK				MLR			MLR			
	comp=N,36µm,22.0s									
YAK				MLR			MLR			
	comp=E,36µm,18.0s									
YAK	**Yakutsk**	**43.47**	**20**		P		**P**	**13 57 42.5**		**-1.8**
YAK					IAmb		IAmb	13 57 51.3		
	comp=Z,119nm,0.8s									
RBK	**Rabkut**	**43.63**	**271**		P		**P**	**13 57 46.9**		**+0.5**
	SNR=23									
RBK					P		**P**	**13 57 46.9**		**+0.5**
	SNR=23									
RBK					P		**P**	**13 57 46.9**		**+0.5**
	SNR=23									
WHFO	**Wadi Hawf**	**43.92**	**272**		P		**P**	**13 57 48.4**		**-0.3**
	SNR=14									
WHFO					P		**P**	**13 57 48.4**		**-0.3**
	SNR=14									
WHFO					P		**P**	**13 57 48.4**		**-0.3**
	SNR=14									
KUR	**Kuril'sk**	**44.05**	**48**		P		**P**	**13 57 49.9**		**+0.5**
KUR				*e*S			**S**	**14 04 24.2**		**+2.8**
KUR				*e*				14 07 47.6		
KUR				SSS			SSS	14 08 19.0		
KUR				MLR			MLR			
	comp=N,20µm,14.0s									
KUR				MLR			MLR			
	comp=Z,20µm,14.0s									
KUR				MLR			MLR			

NRIK MLR MLR
comp=Z,64µm,20.0s
MTN Manton Dam 46.82 137 P **P** **13 58 09.1 -2.5**
JAY Jayapura 46.83 118 LR LR 14 16 16.9
comp=Z,3µm,21.3s,baz=329,slow=34
AKT Akhty 47.33 306 *e*P **P** **13 58 15.7 +0.2**
AKT *e* 13 59 43.3
AKT *e* 14 00 08.0
AKT pmax pmax
comp=Z,107nm,1.1s
KNRA Kununurra 47.62 142 P **P** **13 58 16.4 -1.4**
KNRA IAmb IAmb 13 58 22.4
comp=Z,85nm,1.0s
MAK Makhachkala 47.65 308 *e*P P 13 58 11.2 -6.6
MAK *e* 14 00 05.2
MAK *e*PPP PPP 14 00 53.4
MAK *e*S S 14 05 02.0 -11
MAK *e*SS **SS** **14 08 31.2 -10**
MAK *e*SSS SSS 14 09 44.3
MAK pmax pmax
comp=Z,205nm,1.1s
MAK MLR MLR
comp=Z,15µm,12.0s
SEKA Sheki 47.70 305 P **P** **13 58 18.8 +0.4**
MNGR Mingechevir, A 47.75 305 P **P** **13 58 19.4 +0.8**
FITZ Fitzroy Crossi 47.95 147 P **P** **13 58 19.3 -1.1**
FITZ IAmb IAmb 13 58 27.8
comp=Z,55nm,1.4s
ZKTA Zakatala 48.17 306 P **P** **13 58 22.8 +0.9**
GANJ Ganja 48.32 304 P **P** **13 58 22.6 -0.5**
PSA00 Pilbara Seismi 48.46 156 P **P** **13 58 23.4 -0.8**
PSA00 Pilbara Seismi 48.46 156 P **P** **13 58 23.6 -0.6**
PSA00 IAmb IAmb 13 58 32.6
comp=Z,90nm,1.2s
PSA00 IAMs_20 IAMs_20 14 18 32.8
comp=Z,13µm,20.0s
LGD Lagodekhi 48.47 306 P **P** **13 58 25.4 +1.2**
NAX Nakhchivan 48.88 302 P **P** **13 58 28.6 +1.1**
GROC Groznyy 48.92 308 *e*P **P** **13 58 28.2 +0.6**
GROC *e* 13 59 51.7
GROC *e*S **S** **14 05 33.7 +2.4**
GROC pmax pmax
comp=Z,225nm,1.3s
BELG Belogornoye 49.36 320*de*P **P** **13 58 31.8 +1.0**
KZRT Kazreti 49.82 305 P **P** **13 58 36.3 +1.7**
ZEI Tsey 50.27 307 *e*P **P** **13 58 35.7 -2.5**
ZEI pmax pmax
comp=Z,71nm,1.3s
MA2 Magadan 50.34 31 P **P** **13 58 37.7 -0.6**
comp=Z,59nm,0.8s,baz=229,slow=8.8,SNR=9.5
MA2 Magadan 50.34 31*d i*P **P** **13 58 38.3 +0.1**
MA2 pmax pmax
comp=Z,162nm,1.7s
MA2 MLR MLR
comp=Z,29µm,16.0s
MA2 Magadan 50.34 31 P **P** **13 58 37.1 -1.2**
MA2 IAmb IAmb 13 58 43.2
comp=Z,103nm,1.0s
MA2 IAMs_20 IAMs_20 14 22 05.1
comp=Z,36µm,18.0s
KIRV Kirov 50.35 328⇑*e*P **P** **13 58 38.3 0.0**
AKH Akhalkalaki 50.50 305 P **P** **13 58 36.9 -3.0**
AKH pmax pmax
comp=Z,85nm,1.1s
AKH MLR MLR
comp=Z,15µm,19.0s
AKH Akhalkalaki 50.50 305 P **P** **13 58 36.9 -3.0**
AKH IAmb IAmb 13 58 45.9
comp=Z,85nm,1.1s
ONI Oni 50.59 307 P **P** **13 58 42.6 +2.1**
SKR Severo-Kuril's 50.64 43 *e*P P 13 58 31.6 -9.0
SKR *e*S **S** **14 05 51.3 -3.7**
SKR *e*SS **SS** **14 09 30.0 +0.9**
SKR pmax pmax
comp=Z,400nm,11.4s
SKR smax smax
comp=E,2µm,23.2s
SKR MLR MLR
comp=Z,30µm,16.0s
SKR MLR MLR
comp=Z,32µm,15.0s
KARS Kars 50.78 304 P **P** **13 58 44.8 +2.7**
TIXI Tiksi 50.96 11*de*P **P** **13 58 41.1 -1.6**
TIXI pmax pmax
comp=Z,491nm,1.7s
TIXI Tiksi 50.96 11 P **P** **13 58 40.4 -2.3**
TIXI IAmb IAmb 13 58 51.9
comp=Z,379nm,1.0s
TIXI IAMs_20 IAMs_20 14 21 58.6
comp=Z,127µm,22.0s
KBZ Khabaz 51.07 308 P **P** **13 58 44.0 +0.1**
comp=Z,15nm,1.0s,baz=104,slow=8.1,SNR=9.6
KBZ LR LR 14 23 41.0
comp=Z,20µm,18.2s,baz=87,slow=40
KBZ Khabaz 51.07 308*ce*P **P** **13 58 44.0 +0.1**
KBZ pmax pmax
comp=Z,75nm,1.5s
KBZ MLR MLR
comp=Z,18µm,17.0s
GOF Gofitskoye 51.07 310⇓*i*P **P** **13 58 45.1 +1.2**
GOF *e*S **S** **14 06 01.3 +0.1**
GOF pmax pmax
comp=Z,240nm,1.4s
KIV Kislovodsk 51.24 308 *i* P **P** **13 58 45.4 0.0**
SNR=31
KIV Kislovodsk 51.24 308 *e*P **P** **13 58 46.6 +1.3**
KIV *e* 14 00 44.0
KIV *e*S **S** **14 06 05.7 +1.9**
KIV pmax pmax
comp=Z,287nm,3.1s
KIV pmax pmax
comp=Z,419nm,1.1s
KIV MLR MLR
comp=Z,34µm,16.0s
KIV Kislovodsk 51.24 308 P **P** **13 58 43.6 -1.7**
KIV IAmb IAmb 13 58 50.9
comp=Z,139nm,1.0s
ARTV Artvin 51.67 305 P **P** **13 58 47.5 -1.3**
ARTV IAmb IAmb 13 58 54.2
comp=Z,108nm,1.5s
BATM Batumi 51.86 305 P **P** **13 58 51.5 +1.6**
PEA0B Petropavlovsk- 52.08 40*de*P **P** **13 58 50.7 -0.7**
PETK Petropavlovsk- 52.08 40 P **P** **13 58 52.3 +0.9**
comp=Z,5,6nm,1.1s,baz=338,slow=7.2,SNR=3.4
PETK Petropavlovsk- 52.08 40 P **P** **13 58 50.5 -0.9**
SEY Seymchan 52.42 27 P **P** **13 58 53.5 -0.2**
comp=Z,12nm,0.9s,baz=255,slow=5.3,SNR=15
SEY Seymchan 52.42 27⇓*e*P **P** **13 58 55.4 +1.7**
MARD Mardin 52.61 300 P **P** **13 58 54.5 -1.2**
PET Petropavlovsk 52.63 40 *e*P P 13 59 01.2 +5.8
PET *e*S **S** **14 06 22.1 -0.3**
PET *e*SS **SS** **14 10 00.6 +0.1**
PET pmax pmax
comp=Z,800nm,15.0s
VRH Novokhopyorsk 52.70 317 *e*P **P** **13 58 56.5 +0.5**
VRH *e*S **S** **14 06 24.7 +1.3**
VRH pmax pmax
comp=Z,220nm,1.4s
VRH smax smax
comp=N,2µm,14.6s
VRH MLR MLR
comp=Z,20µm,15.0s
KOPT Kop Dagi 52.75 303 P **P** **13 58 54.7 -2.3**
PRGR Permogore 53.22 331 *e*P **P** **13 59 00.0 +0.4**
PRGR pmax pmax
comp=Z,75nm,0.8s
SOC Sochi 53.37 308*c i*P **P** **13 59 00.1 -0.9**
SOC *e* 14 00 57.7
SOC *i*S **S** **14 06 32.8 0.0**
SOC *e*SSS SSS 14 12 02.3
SOC pmax pmax
comp=Z,119nm,1.1s
SOC MLR MLR
comp=Z,13µm,18.0s
DAMY Dhamar 53.51 271 P **P** **13 59 00.2 -2.6**
DAMY IAmb IAmb 13 59 24.6
comp=Z,67nm,1.2s
WB0 Warramunga Arr 54.12 140 P **P** **13 59 04.7 -2.1**
WB0 IAmb IAmb 13 59 11.1
comp=Z,59nm,1.0s
VORD Divnogorie 54.19 317 *e*P **P** **13 59 06.6 -0.3**
VORD pmax pmax
comp=Z,160nm,1.9s
MORW Morawa 54.21 163 P **P** **13 59 04.7 -2.6**
MORW IAmb IAmb 13 59 16.2
comp=Z,69nm,1.1s
MORW IAMs_20 IAMs_20 14 21 36.4
comp=Z,20µm,21.0s
WRA Warramunga Arr 54.22 140 P **P** **13 59 07.2 -0.3**
comp=Z,34nm,0.8s,baz=330,slow=7.9,SNR=81
WRA LR LR 14 24 45.0
comp=Z,14µm,19.4s,baz=300,slow=39
WRA PKPPKP 14 29 22.5
comp=Z,1.1nm,0.9s,baz=188,slow=2.1,SNR=5.0
WRA Warramunga Arr 54.22 140 P **P** **13 59 05.6 -2.0**
WRAB Tennant Creek 54.22 140*ce*P **P** **13 59 07.1 -0.4**
WRAB pmax pmax
comp=Z,77nm,1.0s
WRAB MLR MLR
comp=Z,13µm,18.0s
WRAB Tennant Creek 54.22 140 P **P** **13 59 04.8 -2.7**
WRAB IAmb IAmb 13 59 12.1
comp=Z,62nm,0.9s
WB2 Warramunga Arr 54.23 140 P **P** **13 59 05.6 -2.0**
WB2 IAmb IAmb 13 59 12.1
comp=Z,60nm,0.9s
VSR Storozhevoye 54.30 317 *e*P **P** **13 59 07.4 -0.3**
VSR *e*S **S** **14 06 42.7 -2.4**
VSR *e*SS **SS** **14 10 30.1 +3.2**
VSR pmax pmax
comp=Z,210nm,2.0s
VSR smax smax
comp=N,930nm,8.5s
VSR MLR MLR
comp=Z,14µm,19.0s
VORR Voronezh 54.32 318 *e*P **P** **13 59 07.0 -0.9**
VORR pmax pmax
comp=Z,300nm,1.0s
WR0 Warramunga Arr 54.36 140 P **P** **13 59 07.1 -1.4**
WR0 IAmb IAmb 13 59 12.9
comp=Z,53nm,0.8s
MALT Malatya 54.42 301 P **P** **13 59 10.2 +1.2**
LPSR Galich'ya Gora 54.61 319 *e*P **P** **13 59 11.1 +1.1**
LPSR *e*S **S** **14 06 48.5 -0.8**
LPSR *e*SS **SS** **14 10 34.9 +3.1**
LPSR pmax pmax
comp=Z,240nm,1.6s
LPSR smax smax
comp=N,2µm,13.7s
LPSR MLR MLR
comp=Z,11µm,12.0s
ANN Anapa 55.04 309 *e*P **P** **13 59 10.9 -2.3**
ANN *e**PP **pP** **13 59 15.6 -2.1**
ANN *e* 14 01 15.3
ANN *e*S **S** **14 06 53.4 -1.8**
ANN *e*SSS SSS 14 12 43.8
ANN pmax pmax
comp=Z,68nm,1.2s
ANN MLR MLR
comp=Z,28µm,16.0s
ANN MLR MLR
comp=N,11µm,14.0s
GAZ Gaziantep 55.46 300 P **P** **13 59 15.4 -1.0**
GAZ IAmb IAmb 13 59 21.1
comp=Z,89nm,1.3s
MOS Moscow 55.81 323 *e*P **P** **13 59 19.4 +0.8**
MOS *e* 14 01 24.9
MOS *e*S **S** **14 07 06.2 +1.0**
MOS *e*SS **SS** **14 10 52.0 +1.5**
MOS pmax pmax
comp=Z,379nm,1.5s
MOS pmax pmax
comp=E,140nm,1.2s
MOS pmax pmax
comp=N,62nm,0.7s
MOS MLR MLR
comp=Z,15µm,14.0s
KLMR Klimovskoe 55.82 329 *e*P **P** **13 59 18.5 0.0**
KLMR *e* 14 01 21.6
KLMR *e*S **S** **14 07 07.7 +2.5**
KLMR pmax pmax
comp=Z,223nm,1.4s
KLMR MLR MLR
comp=Z,5µm,12.0s
KLMR Klimovskoe 55.82 329 *e*P **P** **13 59 18.5 0.0**
KLMR AMP 13 59 24.0
comp=Z,223nm,1.4s
KLMR *e*PP **PP** **14 01 21.7 -1.2**
KLMR *e*S **S** **14 07 07.7 +2.5**
KLMR *e*S **S** **14 07 07.7 +2.5**
KLMR LQ LQ 14 19 02.4
KLMR LQ LQ 14 19 02.4
KLMR LR LR 14 21 14.8
KLMR AMP 14 23 58.9
comp=Z,5µm,12.3s
TOKA Tokat 55.82 304 P **P** **13 59 17.5 -1.5**
TOKA IAmb IAmb 13 59 23.8
comp=Z,110nm,1.5s
COEN Coen 55.83 127 P **P** **13 59 18.9 -0.3**
ATD Arta Tunnel 55.93 268 P **P** **13 59 21.4 +1.3**
SNR=23
ATD Arta Tunnel 55.93 268 P **P** **13 59 19.4 -0.8**
PMG Port Moresby 56.05 120*d i*P **P** **13 59 23.0 +2.2**
PMG pmax pmax
comp=Z,72nm,1.0s
PMG Port Moresby 56.05 120 P **P** **13 59 20.3 -0.5**
PMG IAmb IAmb 13 59 26.3
comp=Z,49nm,0.8s
KVT Kavak 56.11 305 P **P** **13 59 22.7 +1.6**
OBN Obninsk 56.32 322⇑P **P** **13 59 24.8 +2.6**
OBN Obninsk 56.32 322*de*P **P** **13 59 23.0 +0.8**
OBN *e* 14 00 20.4
OBN *e* 14 01 27.0
OBN *e*PPP PPP 14 02 39.9
OBN *e*S **S** **14 07 11.7 -0.3**
OBN pmax pmax
comp=Z,551nm,2.5s
OBN MLR MLR
comp=Z,13µm,16.0s
OBN Obninsk 56.32 322 P **P** **13 59 21.4 -0.8**
AS31 Alice Springs 56.89 143 P **P** **13 59 26.1 -0.6**
ASAR Alice Springs 56.89 143 P **P** **13 59 26.6 -0.1**
comp=Z,36nm,0.9s,baz=323,slow=6.6,SNR=92
ASAR LR LR 14 25 26.0
comp=Z,9µm,20.5s,baz=316,slow=38
ASAR PKPPKP **P'P'df** **14 29 18.4 +3.9**
comp=Z,0.4nm,0.8s,baz=176,slow=1.6,SNR=4.5
ASAR PKP2bc 14 29 30.9
comp=Z,1.9nm,1.1s,baz=121,slow=2.9,SNR=5.0
ASAR Alice Springs 56.89 143 P **P** **13 59 26.1 -0.7**
BHL Bhannes 57.07 296 *e*P **P** **13 59 26.9 -1.2**
SHBL Chebaa 57.07 296 *e*P **P** **13 59 28.8 +0.6**
RABL Rabaul 57.32 112 P **P** **13 59 28.4 -1.5**
SIM Simferopol' 57.39 309⇑*e*P **P** **13 59 31.5 +1.5**
SIM pmax pmax
comp=Z,533nm,2.4s
BR131 Keskin Array S 58.04 303 P **P** **13 59 35.2 +0.4**
SNR=16
BR131 P **P** **13 59 35.2 +0.4**
SNR=16
BR131 Keskin Array S 58.04 303 P **P** **13 59 31.6 -3.3**
BR131 pmax pmax
comp=Z,21nm,1.3s
BR131 Keskin Array S 58.04 303 P **P** **13 59 31.6 -3.3**
BRTR Keskin Array B 58.04 303 P **P** **13 59 34.0 -0.8**
comp=Z,7.9nm,0.7s,baz=117,slow=7.9,SNR=30
BRTR LR LR 14 30 00.9
comp=Z,5µm,18.1s,baz=82,slow=42
BRTR Keskin Array B 58.04 303 *i* P **P** **13 59 34.7 -0.2**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 58.04 303 P **P** **13 59 31.8 -3.0**
NWAO Narrogin (SRO) 58.19 163 P **P** **13 59 35.9 +0.3**
comp=Z,41nm,0.7s,baz=344,slow=6.2,SNR=17
NWAO Narrogin (SRO) 58.19 163 P **P** **13 59 33.3 -2.2**
NWAO IAmb IAmb 13 59 44.4
comp=Z,86nm,1.1s
NWAO Narrogin (SRO) 58.19 163 P **P** **13 59 33.4 -2.2**
NWAO IAmb IAmb 13 59 44.4
comp=Z,68nm,1.1s
NWAO IAMs_20 IAMs_20 14 24 37.5
comp=Z,14µm,21.0s
ANTO Ankara 58.67 304 P **P** **13 59 36.0 -3.2**
ANTO MLR MLR
comp=Z,7µm,19.0s
ANTO Ankara 58.67 304 P **P** **13 59 36.0 -3.2**
BR231 Keskin MP Arra 58.69 303 P **P** **13 59 36.7 -2.7**
BR231 IAmb IAmb 13 59 42.3
comp=Z,31nm,0.8s
CSS Mathiatis 58.83 298 P **P** **13 59 37.9 -2.4**
CSS IAmb IAmb 13 59 46.2
comp=Z,52nm,0.9s
ANKE Ethiopia-Afar 59.48 267 *e*P **P** **13 59 45.1 -0.4**
ANKE *e*S **S** **14 07 52.1 -3.2**
LVZ Lovozero 59.53 336*de*P **P** **13 59 46.0 +1.4**
LVZ pmax pmax
comp=Z,96nm,1.4s
LVZ MLR MLR
comp=Z,26µm,17.0s
LVZ Lovozero 59.53 336 P **P** **13 59 43.2 -1.5**
LVZ IAmb IAmb 13 59 52.9
comp=Z,121nm,1.4s
LVZ IAMs_20 IAMs_20 14 27 47.0
comp=Z,32µm,20.0s
BILL Bilibino 59.54 23*de*P **P** **13 59 44.5 -0.1**
BILL *i* 14 00 28.0
BILL *i* 14 01 57.3
BILL *i* PPP PPP 14 03 18.2
BILL *e*S **S** **14 07 56.1 +2.3**
BILL *e*SS **SS** **14 11 53.9 +5.2**
BILL pmax pmax
comp=Z,67nm,1.3s
BILL MLR MLR
comp=Z,44µm,17.0s
BILL Bilibino 59.54 23 P **P** **13 59 43.2 -1.4**
BILL IAmb IAmb 13 59 56.3
comp=Z,71nm,1.2s
MDUB Mudurnu 59.83 304 P **P** **13 59 45.3 -1.9**
MDUB IAMs_20 IAMs_20 14 27 53.1
comp=Z,30µm,22.0s
APA Apatity 59.93 336⇑*i*P **P** **13 59 50.0 +2.7**
APA *i* 14 00 35.0
APA *i*S **S** **14 07 59.0 +0.2**
APA *i*PS 14 08 18.0
APA pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 60.55 316 P **P** **13 59 50.9 -0.9**
comp=Z,23nm,0.7s,baz=77,slow=6.4,SNR=38
AKASG LR LR 14 27 21.8
comp=Z,26µm,21.3s,baz=95,slow=37
AKASG Malin Array Be 60.55 316 *i* P **P** **13 59 51.5 -0.3**
AKASG pmax pmax
comp=Z,34nm,0.7s
AKASG Malin Array Be 60.55 316 P **P** **13 59 49.9 -2.0**
AKBB Malin Array Si 60.55 316 P **P** **13 59 49.1 -2.7**
AKBB pmax pmax
comp=Z,175nm,1.3s
AKBB MLR MLR
comp=Z,27µm,20.0s
AKBB Malin Array Si 60.55 316 P **P** **13 59 49.1 -2.7**
AKBB IAMs_20 IAMs_20 14 27 10.5
comp=Z,27µm,20.0s
ISP Isparta 60.67 301 P **P** **13 59 49.3 -3.7**
ISP pmax pmax
comp=Z,58nm,1.0s
ISP MLR MLR
comp=Z,8µm,22.0s
ISP Isparta 60.67 301 P **P** **13 59 49.3 -3.7**
ISP IAmb IAmb 13 59 56.3
comp=Z,58nm,1.0s
KIS Kishinev 60.99 312⇓*e*P **P** **13 59 55.0 +0.1**
comp=Z,280nm,2.8s
KIS Kishinev 60.99 312 *e*PcP **PcP** **14 00 33.0 -5.1**
KIS *e*S **S** **14 08 05.0 -8.1**
KIS Kishinev 60.99 312*de*P **P** **13 59 55.0 +0.1**
KIS *e* 14 00 05.0
KIS *e* 14 00 33.0
KIS *e*S **S** **14 08 05.0 -8.1**
KIS *e*PS 14 08 22.0
KIS pmax pmax
comp=Z,280nm,2.8s
KIS MLR MLR
comp=Z,4µm,19.0s
MILM Milestii Mici 61.00 312⇑P **P** **13 59 55.0 +0.1**
TLCR 61.13 310⇑P **P** **13 59 57.7 +1.8**
SORM Soroca 61.23 313⇓P **P** **13 59 57.4 +0.8**
SORM Soroca 61.23 313 P **P** **13 59 57.3 +0.8**
MICGM Minsk 61.30 321 *e*P **P** **13 59 58.0 +1.1**
MICGM PM 14 00 02.0
comp=Z,0.9nm,1.5s
MICGM PM 14 00 03.0
comp=E,0.7nm,1.5s
MICGM *e*PP **PP** **14 02 09.0 -2.6**
MICGM *e*PPP PPP 14 03 34.0
MICGM *e*S **S** **14 08 18.0 +1.2**
MICGM *e*SS **SS** **14 12 24.0 +7.2**
MICGM *e*SSS SSS 14 15 08.0
MICGM *e*LR LR 14 24 20.0
MICGM LRM MLR 14 29 08.0
comp=Z,20nm,18.0s
MNK Minsk 61.30 321 *e*P **P** **13 59 58.0 +1.1**
MNK *e* 14 02 09.0
MNK *e*S **S** **14 08 18.0 +1.2**
MNK *e*SS **SS** **14 12 24.0 +7.2**
MNK pmax pmax
comp=Z,870nm,1.5s
ELL Elmali 61.31 300 P **P** **13 59 54.9 -2.5**
ELL pmax pmax
comp=Z,1µm,1.4s
ELL Elmali 61.31 300 P **P** **13 59 54.9 -2.5**
TIRR Tirgusor 61.48 309⇓P **P** **13 59 59.4 +1.2**
TIRR Tirgusor 61.48 309 P **P** **13 59 59.4 +1.2**
SBV Sambava 61.53 239 P **P** **14 00 01.2 +2.2**
SNR=7.0
CFR Carcaliu 61.61 310⇓P **P** **14 00 00.9 +1.7**
CFR Carcaliu 61.61 310 P **P** **14 00 00.8 +1.7**
AKAS Kas 61.64 300 P **P** **13 59 57.0 -2.6**
VASR Vaslui 61.72 312⇑P **P** **14 00 00.9 +1.0**
HARR Harsova 61.80 309⇓P **P** **14 00 01.5 +1.1**
HARR Harsova 61.80 309 P **P** **14 00 01.5 +1.1**
NACGM Naroch 61.94 321 *e*P **P** **14 00 00.0 -1.1**
NACGM PM 14 00 04.0
comp=Z,0.5nm,1.0s
NACGM *e*PP **PP** **14 02 14.0 -3.2**
NACGM *e*PPP PPP 14 04 01.0
NACGM *e*S **S** **14 08 24.0 -0.8**
NACGM *e*PS **PnS** **14 08 40.0 +0.6**
NACGM *e*SS SS 14 12 40.0 +13
NACGM *e*SSS SSS 14 15 14.0
NACGM *e*LQ LQ 14 21 16.0
NACGM *e*LR LR 14 24 28.0
NACGM LRM MLR 14 29 01.0
comp=Z,42nm,16.0s
VSU Vasula 61.95 325 *e*P **P** **14 00 01.9 +0.7**
VSU Vasula 61.95 325⇓*e*P **P** **14 00 01.6 +0.4**
VSU pmax pmax
comp=Z,93nm,0.8s
VSU MLR MLR
comp=Z,57µm,18.0s
IDID Didziasalis 61.95 322 *e*P **P** **14 00 02.6 +1.3**
ICOR Ion Corvin 61.95 309⇑P **P** **14 00 02.4 +1.0**
CTAO Charters Tower 62.08 130 P **P** **14 00 00.1 -2.5**
CTAO pmax pmax
comp=Z,66nm,1.1s
CTAO MLR MLR
comp=Z,6µm,21.0s
CTAO Charters Tower 62.08 130 P **P** **14 00 00.1 -2.5**
CTAO IAmb IAmb 14 00 07.6
comp=Z,66nm,1.1s
IZAR Zarasai 62.23 322 *e*P **P** **14 00 04.6 +1.5**
IIGN Ignalina 62.25 322 *e*P **P** **14 00 04.3 +1.1**
ISAL Salakas 62.30 322 *e*P **P** **14 00 05.2 +1.6**
ODBI Odobesti 62.31 311⇑P **P** **14 00 04.4 +0.6**
FIA1 FINESS Array S 62.34 328 P **P** **14 00 01.1 -2.7**
FIA1 IAmb IAmb 14 00 13.6
comp=Z,51nm,1.1s
FINES FINESS Array B 62.35 328 P **P** **14 00 03.0 -0.7**
comp=Z,15nm,0.8s,baz=90,slow=7.8,SNR=16
FINES LR LR 14 27 32.2
comp=Z,16µm,20.6s,baz=88,slow=36
FINES FINESS Array B 62.35 328 *i* P **P** **14 00 03.5 -0.3**
FINES pmax pmax
comp=Z,15nm,0.8s
FINES FINESS Array B 62.35 328 P **P** **14 00 02.4 -1.4**
VRI Vrincioaia 62.53 311⇓P **P** **14 00 06.3 +0.9**
VRI Vrincioaia 62.53 311 P **P** **14 00 06.2 +0.9**
BISRR Bisoca 62.57 311⇓P **P** **14 00 07.2 +1.5**
PLOR Plostina 62.58 311⇑P **P** **14 00 06.4 +0.6**
PLOR Plostina 62.58 311 P **P** **14 00 06.3 +0.6**
KEV Kevo 62.60 338 P **P** **14 00 03.9 -1.4**
KEV pmax pmax
comp=Z,50nm,1.0s
KEV MLR MLR
comp=Z,20µm,19.0s

KEV	**Kevo**	**62.60**	**338**	P	**P**	**14 00 03.9**	**-1.4**	
KEV				IAmb	IAmb	14 00 15.5		
	comp=Z,50nm,1.0s							
KEV				IAMs_20	IAMs_20	14 29 54.9		
	comp=Z,20µm,19.0s							
BIZ	**Bicaz**	**62.85**	**312**	⇓P	**P**	**14 00 08.4**	**+1.0**	
NEHR	**Nehoiu**	**62.88**	**310**	⇑P	**P**	**14 00 09.6**	**+1.9**	
RAZG	**Razgrad**	**62.95**	**308**	⇓P	**P**	**14 00 10.0**	**+1.9**	
JMB	**Yambol**	**63.03**	**307**	*e*P	**P**	**14 00 09.7**	**+1.0**	
ARCES	**ARCESS Array B**	**63.09**	**338**	P	**P**	**14 00 07.6**	**-1.1**	
	comp=Z,9.2nm,0.9s,baz=64,slow=5.5,SNR=15							
ARCES				LR	LR	14 30 27.1		
	comp=Z,26µm,18.3s,baz=140,slow=39							
MLR	**Muntele Rosu**	**63.11**	**311**	⇑P	**P**	**14 00 10.7**	**+1.4**	
MLR	**Muntele Rosu**	**63.11**	**311**	P	**P**	**14 00 08.7**	**-0.7**	
MLR				MLR	MLR			
	comp=Z,22µm,21.0s							
MLR	**Muntele Rosu**	**63.11**	**311**	P	**P**	**14 00 08.7**	**-0.7**	
MLR				IAMs_20	IAMs_20	14 32 11.2		
	comp=Z,22µm,21.0s							
BURAR	**Bucovina Array**	**63.38**	**313**	⇑P	**P**	**14 00 12.0**	**+0.9**	
BURAR	**Bucovina Array**	**63.38**	**313**	P	**P**	**14 00 12.0**	**+0.9**	
BURAR	**Bucovina Array**	**63.38**	**313**	P	**P**	**14 00 10.2**	**-0.9**	
BUR08	**Bucovina Ar. S**	**63.39**	**313**	P	**P**	**14 00 09.9**	**-1.2**	
SZH	**Strazhica**	**63.40**	**308**	*e*P	**P**	**14 00 12.6**	**+1.4**	
DOPR	**Dopca**	**63.45**	**311**	⇓P	**P**	**14 00 12.5**	**+1.1**	
PABE	**Paberze**	**63.52**	**322**	*e*P	**P**	**14 00 12.5**	**+0.8**	
SMG	**Samos**	**63.58**	**302**	P	**P**	**14 00 12.1**	**-0.3**	
ALN	**Alexandroupoli**	**63.66**	**305**	P	**P**	**14 00 12.0**	**-0.9**	
ALN	**Alexandroupoli**	**63.66**	**305**	P	**P**	**14 00 11.6**	**-1.3**	
ALN				pmax	pmax			
	comp=Z,190nm,1.4s							
ALN	**Alexandroupoli**	**63.66**	**305**	P	**P**	**14 00 11.6**	**-1.3**	
KARP	**Karpathos**	**63.71**	**299**	P	**P**	**14 00 10.2**	**-3.2**	
VOIR		**63.75**	**311**	⇓P	**P**	**14 00 15.4**	**+1.9**	
COPA	**Copaceanca**	**63.80**	**309**	⇓P	**P**	**14 00 14.6**	**+0.8**	
PVL	**Pavlikeni**	**63.84**	**308**	*e*P	**P**	**14 00 16.3**	**+2.3**	
LVV	**L'vov**	**63.93**	**315**	*e*P	**P**	**14 00 15.3**	**+0.8**	
LVV				*e*		14 02 43.0		
LVV				*e*S	**S**	**14 08 47.4**	**-2.6**	
LVV				*e*PS		14 09 16.6		
LVV				*e*SS	**SS**	**14 12 54.9**	**-3.2**	
LVV				pmax	pmax			
	comp=Z,140nm,1.4s							
LVV				MLR	MLR			
	comp=N,13µm,16.0s							
LVV				MLR	MLR			
	comp=E,9µm,16.0s							
LVV				MLR	MLR			
	comp=Z,12µm,16.0s							
RDO	**Rodhopi**	**64.00**	**306**	P	**P**	**14 00 14.1**	**-1.0**	
ARCR	**ARCALIA**	**64.02**	**312**	⇓P	**P**	**14 00 17.2**	**+2.0**	
ARR	**Arges**	**64.05**	**311**	⇓P	**P**	**14 00 16.2**	**+0.7**	
CHOS	**Chios island**	**64.07**	**303**	P	**P**	**14 00 15.5**	**-0.2**	
SIGR	**SIGRI**	**64.08**	**304**	P	**P**	**14 00 14.9**	**-0.8**	
SUW	**Suwalki**	**64.08**	**320**	*e*P	**P**	**14 00 16.2**	**+0.8**	
SUW				*e*PcP	**PcP**	**14 00 49.9**	**-0.7**	
SUW				*e*S	**S**	**14 08 58.7**	**+7.0**	
SUW				*e*L	L	14 29 01.6		
	comp=Z,22µm,25.0s							
SUW	**Suwalki**	**64.08**	**320**	*e*P	**P**	**14 00 16.2**	**+0.8**	
SUW				*e*		14 00 49.9		
SUW				*e*S	**S**	**14 08 58.7**	**+7.0**	
SUW				MLR	MLR			
	comp=Z,22µm,25.0s							
SUW	**Suwalki**	**64.08**	**320**	P	**P**	**14 00 14.0**	**-1.4**	
SUW				IAMs_20	IAMs_20	14 30 22.7		
	comp=Z,18µm,19.0s							
SMTH	**Samothraki Isl**	**64.11**	**305**	P	**P**	**14 00 14.6**	**-1.3**	
PLD	**Plovdiv**	**64.47**	**307**	P	**P**	**14 00 19.4**	**+1.2**	
PLD				pmax	pmax			
	comp=Z,450nm,2.1s							
PLD	**Plovdiv**	**64.47**	**307**	*e*P	**P**	**14 00 19.0**	**+0.8**	
LIA	**Limnos Island**	**64.47**	**304**	P	**P**	**14 00 17.0**	**-1.2**	
AMGA	**Amorgos Island**	**64.47**	**301**	P	**P**	**14 00 16.9**	**-1.5**	
RZN	**Rozhen**	**64.53**	**306**	*e*P	**P**	**14 00 19.9**	**+1.1**	
ZKR	**Zakros**	**64.55**	**299**	P	**P**	**14 00 18.2**	**-0.7**	
CJR	**Cluj-Napoca**	**64.58**	**312**	⇑P	**P**	**14 00 20.8**	**+1.9**	
PBUR	**Paburge**	**64.64**	**322**	*e*P	**P**	**14 00 20.3**	**+1.3**	
ANAF	**Anafi Island**	**64.66**	**300**	P	**P**	**14 00 18.2**	**-1.4**	
APE	**Apeiranthos**	**64.72**	**301**	P	**P**	**14 00 18.9**	**-1.1**	
APE	**Apeiranthos**	**64.72**	**301**	⇓P	**P**	**14 00 20.5**	**+0.5**	
PGB	**Panagyurishte**	**64.79**	**307**	*e*P	**P**	**14 00 21.2**	**+0.8**	
KWP	**Kalwaria Pacla**	**64.81**	**315**	*e*P	**P**	**14 00 21.1**	**+0.8**	
KWP				*e*S	**S**	**14 09 08.8**	**+7.9**	
KWP				*e*L	L	14 29 43.4		
	comp=Z,28µm,21.7s							
KWP	**Kalwaria Pacla**	**64.81**	**315**	*e*P	**P**	**14 00 21.1**	**+0.8**	
KWP				*e*S	**S**	**14 09 08.8**	**+7.9**	
KWP				MLR	MLR			
	comp=Z,28µm,21.7s							
KWP	**Kalwaria Pacla**	**64.81**	**315**	P	**P**	**14 00 18.9**	**-1.3**	
KWP				IAMs_20	IAMs_20	14 29 56.6		
	comp=Z,27µm,20.0s							
SANT	**Santorini**	**64.91**	**301**	P	**P**	**14 00 19.9**	**-1.3**	
SANT	**Santorini**	**64.91**	**301**	⇓P	**P**	**14 00 20.7**	**-0.5**	
SANT	**Santorini**	**64.91**	**301**	P	**P**	**14 00 18.7**	**-2.5**	
THR3	**Thira Island,**	**64.94**	**301**	P	**P**	**14 00 20.3**	**-1.1**	
IOSP	**Ios island**	**64.97**	**301**	P	**P**	**14 00 20.8**	**-0.8**	
KOLS	**Kolonicke sedl**	**65.17**	**315**	*e*P	**P**	**14 00 23.2**	**+0.5**	
KOLS				pmax	pmax			
	comp=Z,79nm,1.7s							
KOLS	**Kolonicke sedl**	**65.17**	**315**	*e*P	**P**	**14 00 23.2**	**+0.5**	
KOLS				*e*S	**S**	**14 09 09.1**	**+3.6**	
KOLS				*e*L	L	14 30 18.0		
DEV	**Deva**	**65.18**	**311**	⇑P	**P**	**14 00 24.6**	**+1.9**	
DEV	**Deva**	**65.18**	**311**	P	**P**	**14 00 24.6**	**+1.9**	
UZH	**Uzhgorod**	**65.20**	**314**	*e*P	**P**	**14 00 23.7**	**+0.9**	
UZH				*i*		14 00 25.8		
UZH				*e*		14 00 36.4		
UZH				*e*		14 00 53.8		
UZH				*e*		14 02 54.9		
UZH				*e*S	**S**	**14 09 05.5**	**-0.2**	
UZH				MLR	MLR			
	comp=Z,3µm,16.0s							
MMB	**Musomiste**	**65.27**	**306**	*e*P	**P**	**14 00 22.9**	**-0.6**	
GZR	**Gura Zlata**	**65.34**	**311**	⇑P	**P**	**14 00 24.9**	**+1.0**	
BBOO	**Buckleboo**	**65.34**	**147**	P	**P**	**14 00 22.8**	**-1.0**	
BBOO				IAmb	IAmb	14 00 44.6		
	comp=Z,40nm,1.1s							
SRS	**Serrai**	**65.45**	**306**	P	**P**	**14 00 24.4**	**-0.3**	
SRS	**Serrai**	**65.45**	**306**	P	**P**	**14 00 25.7**	**+1.0**	
SRS				pmax	pmax			
	comp=Z,61nm,1.5s							
VTS	**Vitosha**	**65.46**	**308**	*e*P	**P**	**14 00 25.0**	**+0.2**	
KYMI	**Kymi, Euboea I**	**65.53**	**303**	P	**P**	**14 00 25.4**	**+0.2**	
IDI	**Anoyia**	**65.58**	**300**	P	**P**	**14 00 25.8**	**+0.2**	
IDI	**Anoyia**	**65.58**	**300**	⇑P	**P**	**14 00 25.4**	**-0.2**	
IDI	**Anoyia**	**65.58**	**300**	P	**P**	**14 00 23.4**	**-2.3**	
PAIG	**Paliouri**	**65.61**	**305**	P	**P**	**14 00 25.2**	**-0.4**	
PAIG	**Paliouri**	**65.61**	**305**	P	**P**	**14 00 27.0**	**+1.4**	
HERR	**Herculane**	**65.67**	**310**	⇑P	**P**	**14 00 27.3**	**+1.4**	
KKB	**Krupnik**	**65.70**	**307**	*e*P	**P**	**14 00 26.3**	**+0.1**	
PLG	**Polygyros**	**65.70**	**305**	P	**P**	**14 00 25.7**	**-0.6**	
CRVS	**Cervenica-Dubn**	**65.71**	**315**	*e*P	**P**	**14 00 27.3**	**+1.1**	
CRVS				pmax	pmax			
	comp=Z,328nm,1.4s							
CRVS	**Cervenica-Dubn**	**65.71**	**315**	*e*P	**P**	**14 00 27.3**	**+1.1**	
CRVS				*e*S	**S**	**14 09 12.7**	**+0.7**	
CRVS				*e*L	L	14 30 39.7		
LODK	**Lodwar**	**65.85**	**263**	P	**P**	**14 00 28.1**	**+0.4**	
	SNR=38							
KIBK	**Kibwezi**	**65.88**	**256**	P	**P**	**14 00 29.2**	**+1.4**	
	SNR=9.1							
HORT	**Hortiatis**	**65.92**	**306**	P	**P**	**14 00 27.4**	**-0.3**	
KNT	**Kendrikon**	**65.96**	**306**	P	**P**	**14 00 27.8**	**-0.1**	
KNT	**Kendrikon**	**65.96**	**306**	P	**P**	**14 00 27.9**	**0.0**	
SIRR	**Siria**	**65.97**	**312**	⇑P	**P**	**14 00 29.7**	**+1.7**	
THE	**Thessaloniki**	**66.01**	**306**	P	**P**	**14 00 30.8**	**+2.6**	
KMBO	**Kilima Mbogo**	**66.05**	**258**	P	**P**	**14 00 30.0**	**+0.8**	
	comp=Z,10nm,0.9s,baz=45,slow=10,SNR=14							
KMBO				LR	LR	14 31 25.3		
	comp=Z,7µm,18.3s,baz=62,slow=38							
KMBO	**Kilima Mbogo**	**66.05**	**258**	*i* P	**P**	**14 00 29.6**	**+0.5**	
	SNR=25							
KMBO	**Kilima Mbogo**	**66.05**	**258**	*i* P	**P**	**14 00 27.8**	**-1.4**	
KMBO	**Kilima Mbogo**	**66.05**	**258**	P	P	14 00 24.1	-5.1	
VAM	**Vamos**	**66.11**	**300**	P	**P**	**14 00 28.1**	**-0.8**	
BZS	**Buzias**	**66.11**	**311**	⇓P	**P**	**14 00 29.6**	**+0.9**	
BZS	**Buzias**	**66.11**	**311**	P	**P**	**14 00 31.0**	**+2.2**	
BZS				pmax	pmax			
	comp=Z,68nm,2.2s							

SPITS	**Spitsbergen Ar**	**66.11**	**347**	LR	LR	14 34 17.9		
	comp=Z,20µm,19.6s,baz=90,slow=40							
VAY	**Valandovo**	**66.18**	**306**	*i* P	**P**	**14 00 29.7**	**+0.4**	
VAY	**Valandovo**	**66.18**	**306**	P	**P**	**14 00 30.9**	**+1.6**	
VAY				pmax	pmax			
	comp=Z,79nm,1.5s							
MDVR	**Moldovita**	**66.18**	**310**	⇑P	**P**	**14 00 30.5**	**+1.2**	
IMMV	**Iera Moni Meta**	**66.27**	**300**	P	**P**	**14 00 28.4**	**-1.6**	
HSPB	**Hornsund (broa**	**66.30**	**346**	*e*P	**P**	**14 00 31.1**	**+1.7**	
HSPB				*e*L	L	14 33 49.8		
	comp=Z,23µm,18.4s							
HSPB	**Hornsund (broa**	**66.30**	**346**	*e*P	**P**	**14 00 31.1**	**+1.7**	
HSPB				MLR	MLR			
	comp=Z,23µm,18.4s							
GVD	**Gavdhos**	**66.32**	**299**	P	**P**	**14 00 30.1**	**-0.2**	
GRG	**Griva**	**66.37**	**306**	P	**P**	**14 00 30.9**	**+0.3**	
NIE	**Niedzica**	**66.39**	**315**	*e*P	**P**	**14 00 32.2**	**+1.6**	
NIE				*e*S	S	14 09 29.8	+9.4	
NIE				*e*L	L	14 30 59.2		
	comp=Z,15µm,21.4s							
NIE	**Niedzica**	**66.39**	**315**	*e*P	**P**	**14 00 32.2**	**+1.6**	
NIE				MLR	MLR			
	comp=Z,15µm,21.4s							
STIP	**Stip**	**66.39**	**307**	*i* P	**P**	**14 00 29.6**	**-1.1**	
KECS	**Kecovo**	**66.41**	**314**	*e*P	**P**	**14 00 31.4**	**+0.7**	
KECS				pmax	pmax			
	comp=Z,53nm,1.4s							
KECS	**Kecovo**	**66.41**	**314**	*e*P	**P**	**14 00 31.4**	**+0.7**	
LIT	**Litokhoron**	**66.47**	**305**	P	**P**	**14 00 29.9**	**-1.3**	
LIT	**Litokhoron**	**66.47**	**305**	P	**P**	**14 00 29.7**	**-1.5**	
LIT				pmax	pmax			
	comp=Z,84nm,1.1s							
LIT	**Litokhoron**	**66.47**	**305**	P	**P**	**14 00 29.7**	**-1.5**	
OJC	**Ojcow**	**66.59**	**316**	*e*P	**P**	**14 00 32.5**	**+0.7**	
OJC				*e*S	**S**	**14 09 28.4**	**+5.8**	
OJC				*e*L	L	14 29 51.3		
	comp=Z,17µm,21.6s							
OJC	**Ojcow**	**66.59**	**316**	*e*P	**P**	**14 00 32.5**	**+0.7**	
OJC				*e*S	**S**	**14 09 28.4**	**+5.8**	
OJC				MLR	MLR			
	comp=Z,17µm,21.6s							
OJC	**Ojcow**	**66.59**	**316**	P	**P**	**14 00 29.9**	**-1.9**	
OJC				IAmb	IAmb	14 00 36.5		
	comp=Z,91nm,1.2s							
AGG	**Agios Georgios**	**66.81**	**304**	P	**P**	**14 00 31.8**	**-1.6**	
AGG	**Agios Georgios**	**66.81**	**304**	P	**P**	**14 00 31.5**	**-1.9**	
AGG				pmax	pmax			
	comp=Z,216nm,1.4s							
AGG	**Agios Georgios**	**66.81**	**304**	P	**P**	**14 00 31.5**	**-1.9**	
SKO	**Skopje**	**66.89**	**307**	*i* P	**P**	**14 00 34.4**	**+0.6**	
PSZ	**Piszkesteto**	**66.89**	**314**	⇓P	**P**	**14 00 34.5**	**+0.6**	
PSZ	**Piszkesteto**	**66.89**	**314**	P	**P**	**14 00 33.6**	**-0.3**	
PSZ				pmax	pmax			
	comp=Z,135nm,1.5s							
PSZ				MLR	MLR			
	comp=Z,20µm,20.0s							
PSZ	**Piszkesteto**	**66.89**	**314**	P	**P**	**14 00 33.5**	**-0.3**	
PSZ				IAMs_20	IAMs_20	14 32 27.9		
	comp=Z,20µm,20.0s							
ABPO	**Ambohimpanom**	**66.90**	**236**	P	**P**	**14 00 33.1**	**-1.2**	
ABPO				pmax	pmax			
	comp=Z,136nm,1.4s							
ABPO	**Ambohimpanom**	**66.90**	**236**	P	**P**	**14 00 33.1**	**-1.2**	
ABPO	**Ambohimpanom**	**66.90**	**236**	IAMs_20	IAMs_20	14 26 37.4		
	comp=Z,15µm,20.0s							
KZN	**Kozani**	**66.97**	**305**	P	**P**	**14 00 34.0**	**-0.5**	
LANS	**Liptovska Anna**	**66.97**	**315**	*e*P	**P**	**14 00 36.2**	**+1.9**	
LANS				pmax	pmax			
	comp=Z,32nm,1.4s							
LANS	**Liptovska Anna**	**66.97**	**315**	*e*P	**P**	**14 00 36.2**	**+1.9**	
KBS	**Kingsbay**	**66.98**	**348**	IAMs_20	IAMs_20	14 31 14.3		
	comp=Z,29µm,21.0s							
FRGS	**Fruska Gora**	**67.44**	**311**	⇓*i*P	**P**	**14 00 37.8**	**+0.5**	
VYHS	**Vyhne**	**67.49**	**315**	*e*P	**P**	**14 00 38.3**	**+0.7**	
VYHS				pmax	pmax			
	comp=Z,141nm,1.5s							
VYHS	**Vyhne**	**67.49**	**315**	*e*P	**P**	**14 00 38.2**	**+0.7**	
VYHS				*e*S	**S**	**14 09 33.8**	**+0.2**	
VYHS				*e*L	L	14 31 35.9		
DIVS	**Divibare**	**67.52**	**310**	*e*P	**P**	**14 00 37.7**	**-0.2**	
DIVS	**Divibare**	**67.52**	**310**	P	**P**	**14 00 35.6**	**-2.3**	
DIVS				IAmb	IAmb	14 00 42.1		
	comp=Z,42nm,1.0s							
OHR	**Ohrid**	**67.53**	**306**	*i* P	**P**	**14 00 39.7**	**+1.7**	
STKA	**Stephens Creek**	**67.53**	**143**	P	**P**	**14 00 37.8**	**-0.1**	
	comp=Z,25nm,0.9s,baz=318,slow=5.8,SNR=14							
STKA				LR	LR	14 32 34.9		
	comp=Z,11µm,20.2s,baz=307,slow=38							
STKA	**Stephens Creek**	**67.53**	**143**	P	**P**	**14 00 36.7**	**-1.1**	
BUD	**Budapest**	**67.55**	**313**	P	**P**	**14 00 42.3**	**+4.4**	
BUD				pmax	pmax			
	comp=Z,88nm,1.5s							
SJES	**Sjenica**	**67.69**	**309**	*e*P	**P**	**14 00 39.1**	**0.0**	
OKC	**Ostrava-Krasne**	**67.70**	**316**	AMS	AMS	14 32 20.0		
	comp=Z,18µm,15.2s							
BBLS	**Lazići**	**67.98**	**310**	⇓*i*P	**P**	**14 00 41.6**	**+0.8**	
MORH	**Mrgy, Hungar**	**68.04**	**312**	*e*P	**P**	**14 00 40.6**	**-0.4**	
MORC	**Moravsky Berou**	**68.10**	**316**	⇑P	**P**	**14 00 42.1**	**+0.7**	
MORC	**Moravsky Berou**	**68.10**	**316**	*e*P	**P**	**14 00 42.7**	**+1.3**	
MORC				*e*S	**S**	**14 09 42.5**	**+1.6**	
MORC	**Moravsky Berou**	**68.10**	**316**	P	**P**	**14 00 39.0**	**-2.4**	
MORC				pmax	pmax			
	comp=Z,152nm,1.3s							
MORC				MLR	MLR			
	comp=Z,22µm,20.0s							
MORC	**Moravsky Berou**	**68.10**	**316**	P	**P**	**14 00 39.0**	**-2.4**	
MORC				IAMs_20	IAMs_20	14 32 58.6		
	comp=Z,22µm,20.0s							
TIR	**Tirane**	**68.17**	**307**	⇑P	**P**	**14 00 41.9**	**0.0**	
JAVC	**Velka Javorina**	**68.19**	**315**	*e*P	**P**	**14 00 44.3**	**+2.3**	
JAVC				*e*S	**S**	**14 09 43.8**	**+1.8**	
IGT	**Igoumenitsa**	**68.21**	**305**	P	**P**	**14 00 42.2**	**-0.1**	
GAMB	**Gambell**	**68.36**	**29**	IAMs_20	IAMs_20	14 31 08.3		
	comp=Z,25µm,19.0s							
PDG	**Podgorica**	**68.38**	**308**	⇑P	**P**	**14 00 43.9**	**+0.7**	
PDG	**Podgorica**	**68.38**	**308**	⇓*i*P	**P**	**14 00 43.5**	**+0.3**	
PDG	**Podgorica**	**68.38**	**308**	P	**P**	**14 00 42.0**	**-1.2**	
DRME	**Dracevica, Mon**	**68.48**	**308**	⇓*i*P	**P**	**14 00 44.2**	**+0.3**	
KRLC	**Kraliky**	**68.52**	**317**	*e*P	**P**	**14 00 43.7**	**-0.4**	
KRLC				*e*x	x	14 00 49.2		
KRLC				*e*S	**S**	**14 09 37.5**	**-8.5**	
KRLC				AMS	AMS	14 32 50.0		
	comp=Z,14µm,15.2s							
KRLC	**Kraliky**	**68.52**	**317**	*e*P	**P**	**14 00 43.7**	**-0.4**	
KRLC				*e*		14 00 49.2		
KRLC				*e*S	**S**	**14 09 37.5**	**-8.5**	
KRLC				MLR	MLR			
	comp=Z,14µm,15.2s							
MODS	**Modra-Piesok**	**68.53**	**315**	*e*P	**P**	**14 00 44.1**	**0.0**	
MODS				pmax	pmax			
	comp=Z,111nm,1.3s							
MODS	**Modra-Piesok**	**68.53**	**315**	*e*P	**P**	**14 00 44.1**	**0.0**	
MODS				*e*L	L	14 32 30.4		
ZST	**Bratislava**	**68.68**	**314**	*e*P	**P**	**14 00 44.6**	**-0.4**	
ZST				pmax	pmax			
	comp=Z,235nm,1.3s							
ZST	**Bratislava**	**68.68**	**314**	*e*P	**P**	**14 00 44.6**	**-0.4**	
KSP	**Ksiaz**	**68.68**	**317**	*e*P	**P**	**14 00 46.0**	**+1.0**	
KSP				*e*S	**S**	**14 09 55.9**	**+8.2**	
KSP				*e*L	L	14 33 31.8		
	comp=Z,22µm,18.9s							
KSP	**Ksiaz**	**68.68**	**317**	*e*P	**P**	**14 00 46.0**	**+1.0**	
KSP				MLR	MLR			
	comp=Z,22µm,18.9s							
DPC	**Dobruska-Polom**	**68.76**	**317**	*e*P	**P**	**14 00 45.8**	**+0.3**	
DPC				*e*x	x	14 00 50.9		
DPC				*e*S	**S**	**14 09 44.5**	**-4.3**	
DPC				AMS	AMS	14 33 30.0		
	comp=Z,19µm,14.7s							
DPC	**Dobruska-Polom**	**68.76**	**317**	*e*P	**P**	**14 00 45.8**	**+0.3**	
DPC				*e*		14 00 50.9		
DPC				*e*S	**S**	**14 09 44.5**	**-4.3**	
DPC				MLR	MLR			
	comp=Z,19µm,14.7s							
OSTC	**Ostas**	**68.79**	**317**	*e*P	**P**	**14 00 47.1**	**+1.4**	
OSTC				*e*x	x	14 00 51.0		
OSTC				*e*S	**S**	**14 09 44.5**	**-4.5**	
OSTC				AMS	AMS	14 33 30.0		
	comp=Z,20µm,15.0s							
VRAC	**Vranov**	**68.79**	**316**	⇑P	**P**	**14 00 46.8**	**+1.0**	
VRAC	**Vranov**	**68.79**	**316**	*e*P	**P**	**14 00 47.4**	**+1.7**	
VRAC				*e*S	**S**	**14 09 52.2**	**+3.1**	
VRAC	**Vranov**	**68.79**	**316**	P	**P**	**14 00 46.7**	**+1.0**	

BRY	**Bratogost**	**68.80**	**309**	*e*P	**P**	**14 00 45.9**	**-0.1**	
CHVC	**Chvalec**	**68.88**	**317**	*e*P	**P**	**14 00 47.9**	**+1.6**	
CHVC				*e*x	x	14 00 51.7		
CHVC				AMS	AMS	14 33 40.0		
	comp=Z,20µm,15.3s							
EIDS	**Eidsvold**	**68.89**	**131**	P	**P**	**14 00 45.0**	**-1.6**	
EIDS				IAmb	IAmb	14 00 51.7		
	comp=Z,77nm,1.3s							
UPC	**Upice**	**68.92**	**317**	*e*P	**P**	**14 00 47.6**	**+1.1**	
UPC				*e*x	x	14 00 52.0		
UPC				*e*S	**S**	**14 09 46.2**	**-4.4**	
UPC				AMS	AMS	14 33 30.0		
	comp=Z,22µm,14.7s							
UPC	**Upice**	**68.92**	**317**	*e*P	**P**	**14 00 47.6**	**+1.1**	
UPC				*e*		14 00 52.0		
UPC				*e*S	**S**	**14 09 46.2**	**-4.4**	
UPC				MLR	MLR			
	comp=Z,22µm,14.7s							
HCY	**Herceg Novi**	**68.93**	**308**	*e*P	**P**	**14 00 47.3**	**+0.6**	
VOI	**Vohitsoka**	**68.96**	**233**	P	**P**	**14 00 49.9**	**+2.7**	
	SNR=6.0							
KRUC	**Moravsky**	**68.97**	**315**	*e*P	**P**	**14 00 48.3**	**+1.5**	
KRUC				*e*S	**S**	**14 09 53.0**	**+1.8**	
KRUC	**Moravsky**	**68.97**	**315**	P	**P**	**14 00 48.0**	**+1.2**	
SOP	**Sopron**	**69.15**	**314**	P	**P**	**14 00 50.0**	**+2.1**	
SOP				pmax	pmax			
	comp=Z,22nm,1.4s							
BEHE	**Becsehely**	**69.26**	**313**	*e*P	P	14 00 54.8	+6.2	
NC405	**NORSAR Array S**	**69.27**	**329**	P	**P**	**14 00 46.3**	**-2.2**	
BLY	**Banja Luka**	**69.35**	**311**	*e*P	**P**	**14 00 48.4**	**-0.8**	
NC303	**NORSAR Array S**	**69.42**	**329**	P	**P**	**14 00 48.3**	**-1.1**	
NB201	**NORSAR Array S**	**69.49**	**329**	P	**P**	**14 00 48.6**	**-1.2**	
TREC	**Trest**	**69.50**	**316**	AMS	AMS	14 32 40.0		
	comp=Z,17µm,16.6s							
NB2	**NORSAR Subarra**	**69.53**	**329**	P	**P**	**14 00 48.3**	**-1.8**	
	comp=Z,244nm,2.0s,baz=78,slow=6.5							
NB2	**NORSAR Subarra**	**69.53**	**329**	P	**P**	**14 00 48.3**	**-1.8**	
	baz=78,slow=6.5							
NOA	**NORSAR Array B**	**69.53**	**329**	P	**P**	**14 00 48.7**	**-1.4**	
	comp=Z,4.9nm,0.7s,baz=79,slow=6.2,SNR=17							
NOA				PP	**PP**	**14 03 28.9**	**+5.5**	
	comp=Z,7.1nm,1.1s,baz=77,slow=9.1,SNR=3.5							
NOA				LR	LR	14 32 34.3		
	comp=Z,13µm,20.0s,baz=80,slow=37							
CONA	**Conrad Observa**	**69.55**	**314**	*e*P	**P**	**14 00 51.7**	**+1.2**	
	comp=Z,149nm,1.3s,SNR=67							
KOGS	**Kog**	**69.62**	**313**	*e*P	**P**	**14 00 51.9**	**+1.0**	
TNA	**Tin City**	**69.65**	**26**	P	**P**	**14 00 48.5**	**-2.2**	
TNA				IAmb	IAmb	14 01 12.9		
	comp=Z,40nm,1.2s							
NC204	**NORSAR Array S**	**69.69**	**329**	P	**P**	**14 00 48.8**	**-2.4**	
RGN	**Rugen**	**69.72**	**322**	IAMs_20	IAMs_20	14 32 32.2		
	comp=Z,16µm,20.0s							
GOPC	**GO Pecny, Ondr**	**69.82**	**317**	*e*P	**P**	**14 00 53.6**	**+1.5**	
GOPC				*e*x	x	14 00 57.4		
GOPC				*e*S	**S**	**14 09 58.4**	**-2.8**	
GOPC				AMS	AMS	14 33 30.0		
	comp=Z,23µm,14.4s							
GOPC	**GO Pecny, Ondr**	**69.82**	**317**	*e*P	**P**	**14 00 53.6**	**+1.5**	
GOPC				*e*		14 00 57.4		
GOPC				*e*S	**S**	**14 09 58.4**	**-2.8**	
GOPC				MLR	MLR			
	comp=Z,23µm,14.4s							
PVCC	**Panska Ves**	**69.82**	**317**	*e*P	**P**	**14 00 54.9**	**+2.9**	
PVCC				AMS	AMS	14 34 10.0		
	comp=Z,14µm,15.1s							
PVCC	**Panska Ves**	**69.82**	**317**	*e*P	**P**	**14 00 54.9**	**+2.9**	
PVCC				MLR	MLR			
	comp=Z,14µm,15.1s							
RUE	**Ruedersdorf**	**69.89**	**319**	*e*P	**P**	**14 00 54.8**	**+2.4**	
RUE	**Ruedersdorf**	**69.89**	**319**	*e*P	**P**	**14 00 52.4**	**+0.

comp=Z,86nm,1.0s,SNR=22
SG1 Sgolgore (BA) 70.63 307 *e*P **P 14 00 58.7 +1.5**
MATE Matera 70.66 307 ⇓P **P 14 00 57.5 +0.2**
FOMA Nahampoana Res 70.70 231 IAMs_20 IAMs_20 14 27 40.3
comp=Z,15µm,21.0s
OBKA Obir 70.75 313 *e*P **P 14 00 58.9 +0.9**
comp=Z,73nm,1.2s,SNR=24
GEC2 GERESS Array S 70.75 316 *e*P **P 14 00 57.9 0.0**
comp=Z,214nm,1.5s,baz=76,slow=6.0
GEC2 GERESS Array S 70.75 316 P **P 14 00 56.3 -1.6**
GEC2 IAMs_20 IAMs_20 14 33 52.8
comp=Z,20µm,20.0s
GERES GERESS Array B 70.75 316 P **P 14 00 57.5 -0.4**
comp=Z,9.0nm,0.7s,baz=64,slow=6.1,SNR=34
GERES LR LR 14 34 03.5
comp=Z,20µm,19.4s,baz=79,slow=38
GERES GERESS Array B 70.75 316 P **P 14 00 56.8 -1.1**
KHC Kasperske Hory 70.76 316 *e*P **P 14 00 58.7 +0.8**
KHC *e*pP **pP 14 01 02.8 +0.3**
KHC *e*S **S 14 10 07.0 -5.3**
KHC AMS AMS 14 33 20.0
comp=Z,24µm,20.2s
KHC Kasperske Hory 70.76 316⇓ *e*P **P 14 00 59.3 +1.4**
KHC pmax pmax
comp=Z,279nm,2.5s
KHC MLR MLR
comp=Z,43µm,18.0s
KHC Kasperske Hory 70.76 316 P **P 14 00 56.7 -1.2**
NOR Nord 70.85 352 *i* P **P 14 00 57.3 -0.5**
NOR MLR MLR
comp=Z,27µm,19.0s
NOR Nord 70.85 352 *i* P **P 14 00 57.3 -0.5**
comp=Z,27µm,19.0s
NOR Nord 70.85 352 *i* P **P 14 00 57.4 -0.5**
NOR IAMs_20 IAMs_20 14 32 03.5
comp=Z,27µm,19.0s
LJU Ljubljana 70.87 313 *e*P **P 14 00 59.5 +1.0**
LJU *i* pP **pP 14 01 02.0 -1.1**
LJU Ljubljana 70.87 313⇓ *i*P **P 14 00 59.7 +1.1**
ANM Nome 70.92 27 P **P 14 00 56.3 -2.2**
ANM pmax pmax
comp=Z,81nm,1.4s
ANM MLR MLR
comp=Z,25µm,20.0s
ANM Nome 70.92 27 P **P 14 00 56.3 -2.2**
ANM IAmb IAmb 14 01 11.4
comp=Z,81nm,1.4s
ANM IAMs_20 IAMs_20 14 34 11.8
comp=Z,25µm,20.0s
RDOG Red Dog Mine 71.01 23 P **P 14 00 56.8 -2.2**
CEY Cerknica 71.02 312 *e*P **P 14 00 59.4 -0.1**
RIY Rijeka 71.08 312 *e*P **P 14 00 59.8 0.0**
SGRT San Giovanni R 71.08 308 P **P 14 00 57.2 -2.8**
SGRT IAmb IAmb 14 01 03.6
comp=Z,77nm,1.3s
TANN Tannenbergstha 71.16 318 *e*P **P 14 01 00.1 -0.2**
comp=Z,212nm,1.3s,baz=76,slow=6.0
WET Wettzell 71.20 316 P **P 14 01 01.8 +1.2**
WET Wettzell 71.20 316 *e*P **P 14 01 00.6 0.0**
comp=Z,148nm,1.3s,baz=76,slow=6.0
NKC Novy Kostel 71.21 317 *e*P **P 14 01 02.1 +1.5**
NKC *ex* x 14 01 05.9
NKC *e*S **S 14 10 19.2 +1.7**
NKC AMS AMS 14 35 00.0
comp=Z,20µm,16.5s
NKC Novy Kostel 71.21 317 *e*P **P 14 01 02.1 +1.5**
NKC *e* 14 01 05.9
NKC *e*S **S 14 10 19.2 +1.7**
NKC MLR MLR
comp=Z,20µm,16.5s
WERN Wernitzgruen 71.24 317 *e*P **P 14 01 00.8 0.0**
comp=Z,122nm,1.3s,baz=76,slow=6.0
WERD Werda 71.25 318 *e*P **P 14 01 00.5 -0.3**
comp=Z,78nm,1.2s,baz=76,slow=6.0
GUNZ Gunzen 71.25 317 *e*P **P 14 01 00.8 -0.1**
comp=Z,147nm,1.2s,baz=76,slow=6.0
MYKA Terra Mystica 71.32 313 *i* P **P 14 01 01.9 +0.5**
comp=Z,42nm,1.0s,SNR=7.6
PLN Plauen 71.33 318 *e*P **P 14 01 01.1 -0.2**
comp=Z,131nm,1.5s,baz=76,slow=6.0
NEUB Neuenburg 71.39 318 *e*P **P 14 01 01.4 -0.2**
comp=Z,203nm,1.3s,baz=76,slow=6.0
KBA Koelnbreinsper 71.41 314 *e*P **P 14 01 01.6 -0.4**
comp=Z,52nm,1.0s,SNR=22
PRED Cave del Predi 71.42 313 P **P 14 01 00.9 -1.1**
PRED IAmb IAmb 14 01 06.0
comp=Z,52nm,0.9s
PRED IAMs_20 IAMs_20 14 35 35.8
comp=Z,16µm,20.0s
ROTZ Rotzenmuhle 71.48 317 *e*P **P 14 01 02.5 +0.3**
comp=Z,218nm,1.3s,baz=76,slow=6.0
MANZ Manzenberg 71.48 317 *e*P **P 14 01 02.6 +0.3**
comp=Z,185nm,1.6s,baz=76,slow=6.0
BSEG Bad Segeberg 71.58 321 *e*P **P 14 01 03.2 +0.6**
comp=Z,209nm,1.4s,baz=76,slow=6.0
MUD Monsted U'grnd 71.59 324 *i* P P 14 01 08.0 +5.4
MUD MLR MLR
comp=Z,22µm,15.0s
MUD Monsted U'grnd 71.59 324 *i* P P 14 01 08.0 +5.4
comp=Z,22µm,15.0s
MUD Monsted U'grnd 71.59 324 *i* P P 14 01 08.0 +5.4
MUD IAMs_20 IAMs_20 14 32 59.4
comp=Z,22µm,15.2s
MOX Moxa 71.63 318 P **P 14 01 04.5 +1.4**
MOX Moxa 71.63 318 *e*P **P 14 01 03.0 0.0**
comp=Z,145nm,1.5s,baz=76,slow=6.0
MBAR Mbarara 71.71 261 P **P 14 01 02.9 -1.5**
MBAR pmax pmax
comp=Z,25nm,1.1s
MBAR MLR MLR
comp=Z,6µm,18.0s
MBAR Mbarara 71.71 261 P **P 14 01 02.9 -1.5**
ZOU Zoufplan 71.79 313 P **P 14 01 03.2 -1.2**
ZOU IAmb IAmb 14 01 08.9
comp=Z,119nm,1.3s
ZOU IAMs_20 IAMs_20 14 33 42.5
comp=Z,13µm,21.0s
ASSE Asse, Remlinge 71.82 320 *e*P **P 14 01 04.0 -0.1**
comp=Z,134nm,1.5s,baz=76,slow=6.0
CEL Celeste 71.88 304 P **P 14 01 03.5 -1.4**
STAL STALIGIAL 72.04 313 P **P 14 01 03.8 -1.8**
ABTA Abfaltersbach 72.05 314 *i* P **P 14 01 05.6 -0.1**
comp=Z,71nm,1.0s,SNR=17
NRDL Niedersach Rie 72.07 320 *e*P **P 14 01 06.2 +0.7**
comp=Z,294nm,1.5s,baz=76,slow=6.0
CLZ Clausthal 72.08 319 *e*P **P 14 01 06.0 +0.2**
comp=Z,208nm,1.3s,baz=76,slow=6.0
NIKH Nikolski High 72.09 39 IAMs_20 IAMs_20 14 32 01.4
comp=Z,12µm,19.0s
GRA1 Grafenberg Arr 72.11 317 IAMs_20 IAMs_20 14 36 30.8
comp=Z,15µm,19.0s
GRF Grafenberg Arr 72.11 317 *e*P **P 14 01 06.5 +0.4**
comp=Z,272nm,1.5s,baz=76,slow=6.0
GRF *e*L L 14 35 19.2
comp=Z,17µm,19.5s
A21K Barrow 72.12 19 IAMs_20 IAMs_20 14 35 59.2
comp=Z,21µm,18.0s
CIMO Cimolais 72.21 313 P **P 14 01 05.2 -1.5**
CIMO IAMs_20 IAMs_20 14 33 57.5
comp=Z,15µm,21.0s
INTR Introdacqua 72.34 309 P **P 14 01 06.2 -1.3**
GTTG Gottingen 72.40 319 *e*P **P 14 01 07.7 +0.1**
comp=Z,158nm,1.3s,baz=76,slow=6.0
FUR Furstenfeldbru 72.48 315 *e*P **P 14 01 08.3 +0.1**
comp=Z,385nm,1.4s,baz=76,slow=6.0
WTTA Wattenberg 72.49 314 *i* P **P 14 01 08.9 +0.4**
comp=Z,122nm,1.1s,SNR=31
WTTA Wattenberg 72.49 314 P **P 14 01 09.1 +0.6**
WATA Walderalm 72.51 315 *e*P **P 14 01 09.4 +0.9**
comp=Z,90nm,1.0s,SNR=12
ARMA Armidale 72.56 135 P **P 14 01 07.8 -1.1**
ARMA IAmb IAmb 14 01 15.5
comp=Z,48nm,1.1s
UBBA Unterbreizbach 72.57 318 *e*P **P 14 01 08.7 +0.1**
comp=Z,193nm,1.7s,baz=76,slow=6.0
AQU L'Aquila 72.61 309 P **P 14 01 08.1 -1.0**
AQU pmax pmax
comp=Z,201nm,1.2s
AQU MLR MLR
comp=Z,18µm,20.0s
AQU L'Aquila 72.61 309 *e*P **P 14 01 10.8 +1.7**
AQU L'Aquila 72.61 309 P **P 14 01 08.1 -1.0**
AQU IAMs_20 IAMs_20 14 37 01.4
comp=Z,18µm,20.0s
NRCA Norcia 72.68 310 P **P 14 01 08.4 -1.2**
NRCA IAMs_20 IAMs_20 14 37 34.3
comp=Z,12µm,18.0s
SQTA Sankt Quirin 72.78 314 *e*P **P 14 01 09.8 -0.4**
comp=Z,119nm,1.0s,SNR=39
CTI Castel Tesino 72.81 313 P **P 14 01 08.7 -1.6**
CTI pmax pmax
comp=Z,63nm,1.0s
CTI MLR MLR
comp=Z,13µm,20.0s
CTI Castel Tesino 72.81 313 P **P 14 01 08.7 -1.6**
CTI IAmb IAmb 14 01 18.1
comp=Z,63nm,1.0s
CTI IAMs_20 IAMs_20 14 37 46.5
comp=Z,13µm,20.0s
MOTA Moosalm 72.81 315 *e*P **P 14 01 10.4 0.0**
comp=Z,149nm,1.0s,SNR=42
MOTA *e*P **PP 14 03 53.8 +1.6**
comp=Z,34nm,1.2s
TEOL Teolo 72.98 313 P **P 14 01 11.2 0.0**
RETA Reutte 73.00 315 *e*P **P 14 01 11.7 +0.3**
comp=Z,132nm,1.0s,SNR=26
FETA Feichten 73.15 314 *e*P **P 14 01 11.6 -0.8**
comp=Z,136nm,1.1s,SNR=45
UNV Unalaska Valle 73.21 38 IAMs_20 IAMs_20 14 32 35.8
comp=Z,14µm,20.0s
RAFF Raffo Rosso 73.34 304 P **P 14 01 12.6 -0.9**
UBR Ueberruh 73.37 315 *e*P **P 14 01 12.9 -0.7**
comp=Z,119nm,1.2s,baz=76,slow=6.0
IBBN Ibbenburen 73.50 320 *e*P **P 14 01 14.3 +0.2**
comp=Z,240nm,1.6s,baz=76,slow=6.0
FUORN Ofenpass-Fuorn 73.57 314 P **P 14 01 14.3 -0.7**
FUORN IAmb IAmb 14 01 27.0
comp=Z,73nm,1.3s
FUORN IAMs_20 IAMs_20 14 36 35.2
comp=Z,15µm,20.0s
DAVA Damuels 73.63 315 *e*P **P 14 01 15.9 +0.7**
comp=Z,59nm,1.0s,SNR=9.6
STU Stuttgart 73.64 316 *e*P **P 14 01 15.1 0.0**
comp=Z,284nm,1.3s,baz=76,slow=6.0
STU Stuttgart 73.64 316 IAMs_20 IAMs_20 14 36 24.3
comp=Z,20µm,20.0s
LATE Laterza 73.67 310 P **P 14 01 13.8 -1.6**
LATE IAmb IAmb 14 01 20.5
comp=Z,86nm,1.3s
SALO Salr 73.68 313 P **P 14 01 14.4 -1.1**
TNS Taunus Mts 73.69 318 *e*P **P 14 01 15.4 0.0**
comp=Z,103nm,1.3s,baz=76,slow=6.0
DAG Danmarks Havn 73.72 348 *i* P **P 14 01 13.0 -2.0**
DAG pmax pmax
comp=Z,47nm,1.4s
DAG MLR MLR
comp=Z,20µm,23.0s
DAG Danmarks Havn 73.72 348 *i* P **P 14 01 13.0 -2.0**
comp=Z,47nm,1.4s
comp=Z,20µm,23.0s
DAG Danmarks Havn 73.72 348 *i* P **P 14 01 13.0 -2.0**
DAG IAmb IAmb 14 01 19.6
comp=Z,47nm,1.4s
DAG IAMs_20 IAMs_20 14 36 10.3
comp=Z,20µm,23.1s
ZCCA Zocca 73.74 312 P **P 14 01 15.0 -0.8**
ZCCA IAMs_20 IAMs_20 14 37 20.3
comp=Z,17µm,19.0s
OSSC Osservatorio P 73.80 311 P **P 14 01 15.5 -0.6**
OSSC IAMs_20 IAMs_20 14 37 19.8
comp=Z,13µm,18.0s
TOO Toolangi 73.90 144 P **P 14 01 14.6 -2.1**
TOO pmax pmax
comp=Z,24nm,1.0s
TOO MLR MLR
comp=Z,14µm,22.0s
TOO Toolangi 73.90 144 P **P 14 01 14.6 -2.1**
TOO IAMs_20 IAMs_20 14 34 46.4
comp=Z,14µm,22.0s
ALE Alert 74.02 358 IAMs_20 IAMs_20 14 35 41.4
comp=Z,14µm,19.0s
BUG Bochum--Univer 74.05 319 *e*P **P 14 01 17.5 +0.1**
comp=Z,131nm,1.4s,baz=76,slow=6.0
PRMA PARMA 74.08 312 P **P 14 01 15.9 -1.7**
PRMA IAMs_20 IAMs_20 14 37 35.1
comp=Z,14µm,20.0s
CLTB Caltabellotta 74.11 304 P **P 14 01 15.8 -2.3**
CLTB IAmb IAmb 14 01 22.5
comp=Z,80nm,1.3s
VLC Villacollemand 74.20 312 P **P 14 01 16.8 -1.7**
VLC IAmb IAmb 14 01 31.4
comp=Z,130nm,1.2s
VLC IAMs_20 IAMs_20 14 39 02.5
comp=Z,13µm,20.0s
TUE Stuetta 74.22 314 P **P 14 01 17.5 -1.2**
TUE IAMs_20 IAMs_20 14 36 57.7
comp=Z,23µm,19.0s
CAN Canberra 74.26 140 P **P 14 01 18.4 -0.4**
CAN pmax pmax
comp=Z,28nm,1.3s
CAN Canberra 74.26 140 P **P 14 01 18.4 -0.4**
CAN IAMs_20 IAMs_20 14 39 42.9
comp=Z,15µm,18.0s
BFO Black Forest 74.32 316 P **P 14 01 17.3 -1.8**
BFO pmax pmax
comp=Z,83nm,1.2s
BFO MLR MLR
comp=Z,18µm,21.0s
BFO Black Forest 74.32 316 *e*P **P 14 01 18.7 -0.4**
comp=Z,126nm,1.4s,baz=76,slow=6.0
BFO Black Forest 74.32 316 P **P 14 01 17.2 -1.8**
BFO IAmb IAmb 14 01 24.4
comp=Z,82nm,1.2s
BFO IAMs_20 IAMs_20 14 36 55.3
comp=Z,18µm,21.0s
AHRW Bad Neuenahr-A 74.43 319 *e*P **P 14 01 19.9 +0.3**
comp=Z,95nm,1.2s,baz=76,slow=6.0
FALS False Pass 74.62 37 IAMs_20 IAMs_20 14 34 11.2
comp=Z,11µm,19.0s
BTNL Ternell 74.99 319 x x 14 01 27.6
MEM Membach 75.06 319 P **P 14 01 20.7 -2.6**
MEM sP **pP 14 01 25.5 -2.4**
ECH Echery 75.10 316 P **P 14 01 21.3 -2.3**
ECH pmax pmax
comp=Z,56nm,1.4s
ECH MLR MLR
comp=Z,12µm,22.0s
ECH Echery 75.10 316 P **P 14 01 21.3 -2.3**
ECH IAMs_20 IAMs_20 14 37 25.9
comp=Z,12µm,22.0s
BHOU Houvegnez 75.14 319 P **P 14 01 20.9 -2.9**
BHOU PcP **PcP 14 01 35.4 -1.9**
BEBN Eben Emael 75.20 319 x **P 14 01 27.2 +3.2**
WLF Walferdange 75.27 318 x P 14 01 29.9 +5.3
WLF Walferdange 75.27 318 P **P 14 01 23.0 -1.5**
WLF pmax pmax
comp=Z,271nm,1.3s
WLF MLR MLR
comp=Z,16µm,20.0s
WLF Walferdange 75.27 318 *e*P **P 14 01 25.2 +0.6**
comp=Z,313nm,1.3s,baz=76,slow=6.0
WLF Walferdange 75.27 318 P **P 14 01 23.0 -1.5**
WLF IAMs_20 IAMs_20 14 35 04.3
comp=Z,16µm,20.0s
BSTI Sart Tilman 75.33 319 x P 14 01 29.9 +5.0
TTA Tatalina 75.39 27 P **P 14 01 23.6 -1.5**
TTA pmax pmax
comp=Z,43nm,1.2s
TTA MLR MLR
comp=Z,26µm,18.0s
TTA Tatalina 75.39 27 P **P 14 01 23.6 -1.5**
TOLK Toolik Lake Re 75.41 21 P **P 14 01 23.5 -1.6**
BCLA Clavier 75.55 319 P **P 14 01 22.3 -3.8**
BCLA x x 14 01 30.7
BCLA x x 14 01 50.5
SENIN Lac Senin/Sane 75.60 314 IAMs_20 IAMs_20 14 33 32.8
comp=Z,19µm,20.0s
RCHB Rochefort 75.68 319 x **P 14 01 30.8 +4.0**
RCHB x x 14 01 40.1
BGES Gesves 75.69 319 x **P 14 01 31.4 +4.5**
SANVU Saraoutou 75.74 114 P **P 14 01 26.2 -1.5**
SANVU IAmb IAmb 14 01 33.1
comp=Z,84nm,1.1s
COLD Coldfoot 75.84 22 P **P 14 01 26.5 -0.9**
COLD IAmb IAmb 14 01 40.0
comp=Z,58nm,1.5s
BMRD Maredsous 75.91 319 x **P 14 01 32.8 +4.7**
UCC Uccle 75.99 319 IAMs_20 IAMs_20 14 36 22.1
comp=Z,19µm,21.0s
DOU Dourbes 76.08 319 x **P 14 01 33.9 +4.7**
SNF Seneffe 76.13 319 P **P 14 01 26.8 -2.7**
SNF x x 14 01 34.0
SVW2 Sparrevohn 76.29 29 IAMs_20 IAMs_20 14 35 20.2
comp=Z,16µm,20.0s
VSL Villasalto 76.37 307 P **P 14 01 29.4 -1.7**
VSL IAmb IAmb 14 01 52.4
comp=Z,53nm,1.2s
BNI Bardonecchia 76.44 313 IAMs_20 IAMs_20 14 34 07.5
comp=Z,24µm,21.0s
CNBA Chernabura Isl 76.72 36 IAMs_20 IAMs_20 14 34 44.4
comp=Z,18µm,22.0s
EUNU Eureka 76.74 1 P **P 14 01 31.1 -1.4**
EUNU IAmb IAmb 14 01 53.4
comp=Z,53nm,1.2s
CHGN Chignik 76.78 34 P **P 14 01 30.6 -2.4**
CHGN IAmb IAmb 14 01 44.1
comp=Z,37nm,1.0s
BPAW Bear Paw Mtn. 76.95 25 P **P 14 01 32.8 -1.1**
BPAW IAmb IAmb 14 01 42.9
comp=Z,31nm,0.8s
BPAW IAMs_20 IAMs_20 14 36 09.0
comp=Z,17µm,21.0s
PPLA Purkeypile 77.00 27 P **P 14 01 33.2 -1.1**
PPLA IAmb IAmb 14 01 47.0
comp=Z,91nm,1.2s
PPLA IAMs_20 IAMs_20 14 38 35.4
comp=Z,18µm,21.0s
KTH Kantishna Hill 77.22 26 IAMs_20 IAMs_20 14 35 29.2
comp=Z,17µm,21.0s
BWN Browne 77.51 25 P **P 14 01 35.9 -1.1**
BWN IAmb IAmb 14 01 50.6
comp=Z,89nm,1.2s
BWN IAMs_20 IAMs_20 14 39 24.5
comp=Z,19µm,18.0s
DRUM Mains of Drumt 77.52 327 IAMs_20 IAMs_20 14 35 46.4
comp=Z,16µm,18.2s
TRF Thorofare Moun 77.52 26 P **P 14 01 35.6 -1.7**
TRF IAMs_20 IAMs_20 14 35 37.7
comp=Z,18µm,21.0s
MDM Murphy Dome 77.61 24 P **P 14 01 35.6 -1.9**
MDM IAMs_20 IAMs_20 14 37 44.3
comp=Z,21µm,21.0s
KEST Kesra 77.64 304 P **P 14 01 38.8 +0.4**
comp=Z,19nm,0.9s,baz=96,slow=0.9,SNR=20
KEST LR LR 14 42 55.1
comp=Z,9µm,19.7s,baz=3.0,slow=41
KEST Kesra 77.64 304 P **P 14 01 35.8 -2.5**
KEST IAmb IAmb 14 01 43.8
comp=Z,96nm,1.3s
SKT Skwentna 77.68 27 P **P 14 01 36.5 -1.5**
SKT IAmb IAmb 14 01 49.8
comp=Z,84nm,1.2s
SKT IAMs_20 IAMs_20 14 38 42.4
comp=Z,19µm,20.0s
ELSH Elham, Standar 77.77 321 IAMs_20 IAMs_20 14 36 15.7
comp=Z,16µm,21.8s
SSB Saint Sauveur 77.78 314 P **P 14 01 36.2 -2.7**
SSB pmax pmax
comp=Z,86nm,1.3s
SSB Saint Sauveur 77.78 314 P **P 14 01 36.2 -2.7**
SSB IAmb IAmb 14 01 44.3
comp=Z,86nm,1.3s
SSB Saint Sauveur 77.78 314 IAMs_20 IAMs_20 14 42 08.9
comp=Z,10µm,20.0s
COLA College 77.79 24*de*P **P 14 01 38.3 -0.1**
COLA pmax pmax
comp=Z,41nm,1.1s
COLA MLR MLR
comp=Z,109µm,17.0s
COLA College 77.79 24 P **P 14 01 35.7 -2.7**
COLA College 77.79 24 IAMs_20 IAMs_20 14 37 49.0
comp=Z,22µm,20.0s
RSO Redoubt South 77.82 29 P **P 14 01 36.4 -2.6**
FYU Fort Yukon 77.88 22 P **P 14 01 38.2 -0.7**
FYU IAmb IAmb 14 01 46.9
comp=Z,66nm,1.3s
WRH Wood River Hil 77.89 24 P **P 14 01 37.2 -1.9**
WRH IAMs_20 IAMs_20 14 37 49.9
comp=Z,15µm,20.0s
CCB Clear Creek Bu 77.92 24 P **P 14 01 37.2 -2.0**
CCB IAMs_20 IAMs_20 14 37 42.5
comp=Z,16µm,20.0s
EDMD Edmundbyers 78.08 325 *e*P P 14 01 45.6 +5.3
EDMD IAmb IAmb 14 01 47.9
comp=Z,318nm,1.8s
EDMD IAMs_20 IAMs_20 14 38 18.4
comp=Z,13µm,18.8s
RND Reindeer 78.11 25 P **P 14 01 38.5 -1.9**
RND pmax pmax
comp=Z,51nm,0.9s
RND MLR MLR
comp=Z,16µm,21.0s
RND Reindeer 78.11 25 P **P 14 01 38.5 -1.9**
RND IAmb IAmb 14 01 47.7
comp=Z,51nm,0.9s
RND IAMs_20 IAMs_20 14 35 55.7
comp=Z,16µm,21.0s
IL31 78.20 24 P **P 14 01 37.9 -2.8**
ILAR Eielson Array 78.20 24 P **P 14 01 38.3 -2.5**
comp=Z,2.6nm,0.8s,baz=285,slow=4.8,SNR=22
ILAR LR LR 14 39 38.1
comp=Z,17µm,18.2s,baz=292,slow=38
ILAR Eielson Array 78.20 24 P **P 14 01 38.1 -2.7**
ILAR Eielson Array 78.20 24 P **P 14 01 38.1 -2.7**
HPK Haverah Park 78.24 324 IAMs_20 IAMs_20 14 36 05.6
comp=Z,16µm,18.9s
SUA Susitna One 78.25 28 P **P 14 01 39.7 -1.5**
SUA IAmb IAmb 14 01 54.0
comp=Z,76nm,1.0s
SUA IAMs_20 IAMs_20 14 39 00.4
comp=Z,19µm,20.0s
CLF Chambon-Foret 78.25 317 P **P 14 01 38.9 -2.5**
CLF IAMs_20 IAMs_20 14 37 28.1
comp=Z,14µm,21.0s
HMNX Herstmonceux 78.34 320 IAMs_20 IAMs_20 14 38 12.2
comp=Z,16µm,17.5s
HDA Harding Lake 78.36 24 P **P 14 01 39.2 -2.5**
HDA IAMs_20 IAMs_20 14 38 06.1
comp=Z,17µm,20.0s
CHIR Chirikof Islan 78.41 34 P **P 14 01 40.5 -1.6**
CHIR IAmb IAmb 14 01 56.8
comp=Z,106nm,1.2s
CHIR IAMs_20 IAMs_20 14 33 54.2
comp=Z,18µm,21.0s
DZM Mont Dzumac 78.44 120 *e*P **P 14 01 46.9 +4.0**
comp=Z,70nm,1.2s
DZM *e*S **S 14 11 42.8 +3.8**
comp=Z,5µm,32.5s
DZM *e*SS **SS 14 16 46.0 +3.4**
comp=Z,5µm,26.2s
DZM *e*LR LR 14 26 12.9
comp=Z,7µm,23.2s
DZM Mont Dzumac 78.44 120 P **P 14 01 41.1 -1.8**
DZM IAmb IAmb 14 01 55.5
comp=Z,75nm,1.5s
LBWR Ladybower, Pea 78.52 323 *e*P **P 14 01 47.5 +4.7**
LBWR IAmb IAmb 14 01 48.8
comp=Z,192nm,1.6s
LBWR IAMs_20 IAMs_20 14 35 39.5
comp=Z,19µm,21.8s
ESK Eskdalemuir 78.53 325 *e*P P 14 01 47.6 +4.9
ESK IAMs_20 IAMs_20 14 39 45.0
comp=Z,15µm,17.4s
ESK Eskdalemuir 78.53 325 IAMs_20 IAMs_20 14 39 13.9
comp=Z,17µm,20.0s
CWF Charnwood Fore 78.55 323 IAMs_20 IAMs_20 14 36 42.6
comp=Z,16µm,19.6s
TAU Tasmania Unive 78.77 147 IAMs_20 IAMs_20 14 39 44.2
comp=Z,12µm,20.0s
SII Sitkinak Islan 78.83 33 P **P 14 01 43.2 -1.2**
SII IAMs_20 IAMs_20 14 39 10.2
comp=Z,15µm,20.0s
DHY Denali Highway 78.86 25 IAMs_20 IAMs_20 14 33 20.0
comp=Z,16µm,21.0s
GHO Glory Hole Cre 78.87 27 P **P 14 01 43.6 -1.1**
GHO IAmb IAmb 14 01 58.4
comp=Z,96nm,1.2s
GHO IAMs_20 IAMs_20 14 39 14.4
comp=Z,19µm,18.0s
PMR Palmer 78.87 27 P **P 14 01 42.9 -1.6**
PMR pmax pmax
comp=Z,82nm,1.1s
PMR MLR MLR
comp=Z,22µm,19.0s
PMR Palmer 78.87 27 P **P 14 01 42.9 -1.6**
PMR IAmb IAmb 14 01 56.3
comp=Z,82nm,1.1s
CNPM China Poot 78.92 30 P **P 14 01 43.9 -1.0**

CNPM IAMs_20 IAMs_20 14 40 58.9
comp=Z,12µm,18.0s
BRLK Bradley Lake 78.97 29 P P 14 01 43.6 -1.6
BRLK IAmb IAmb 14 01 56.4
comp=Z,62nm,1.2s
OHAK Old Harbor 78.99 32 P P 14 01 43.9 -1.3
OHAK IAmb IAmb 14 01 59.5
comp=Z,57nm,1.0s
OHAK IAMs_20 IAMs_20 14 37 37.3
comp=Z,21µm,19.0s
KDAK Kodiak Island 79.08 31 IAMs_20 IAMs_20 14 39 28.7
comp=Z,18µm,19.0s
SML Sawmill 79.10 27 P P 14 01 44.6 -1.3
SML IAMs_20 IAMs_20 14 37 20.5
comp=Z,11µm,19.0s
KNK Knik Glacier 79.24 27 P P 14 01 45.6 -1.0
KNK IAmb IAmb 14 01 56.8
comp=Z,44nm,0.8s
SEW Seward 79.44 29 P P 14 01 46.9 -0.7
SEW IAmb IAmb 14 02 06.9
comp=Z,70nm,1.1s
SEW IAMs_20 IAMs_20 14 40 07.2
comp=Z,19µm,18.0s
RIDG Independent Ri 79.50 24 P P 14 01 46.3 -1.7
RIDG IAmb IAmb 14 01 59.8
comp=Z,55nm,1.0s
RIDG IAMs_20 IAMs_20 14 36 22.8
comp=Z,18µm,21.0s
SCM Sheep Creek Mo 79.50 27 P P 14 01 47.0 -1.1
SCM pmax pmax
comp=Z,63nm,1.0s
SCM MLR MLR
comp=Z,14µm,22.0s
SCM Sheep Creek Mo 79.50 27 P P 14 01 47.0 -1.1
SCM IAmb IAmb 14 01 57.0
comp=Z,63nm,1.0s
SCM IAMs_20 IAMs_20 14 40 05.1
comp=Z,14µm,22.0s
GAL1 Galloway 79.51 325 IAMs_20 IAMs_20 14 39 16.5
comp=Z,19µm,19.7s
HLM1 Long Mynd 79.52 323 *e*P **P 14 01 52.2 +3.9**
FOEL Foel Wylfa 79.54 323 *e*P **P 14 01 52.5 +4.1**
FOEL IAmb IAmb 14 01 54.7
comp=Z,148nm,1.4s
FOEL IAMs_20 IAMs_20 14 36 08.2
comp=Z,19µm,25.3s
PAX Paxson 79.66 25 P P 14 01 47.5 -1.5
PAX pmax pmax
comp=Z,21nm,0.9s
PAX MLR MLR
comp=Z,26µm,18.0s
PAX Paxson 79.66 25 P P 14 01 47.5 -1.5
MCH1 Michaelchurch 79.80 322 *e*P **P 14 01 54.4 +4.6**
MCH1 IAmb IAmb 14 01 55.2
comp=Z,111nm,1.4s
MCH1 IAMs_20 IAMs_20 14 41 09.0
comp=Z,13µm,18.2s
M24K Tolsona, Glenn 79.83 26 P P 14 01 48.5 -1.3
M24K IAMs_20 IAMs_20 14 39 59.8
comp=Z,17µm,18.0s
DOT Dot Lake 79.84 24 P P 14 01 48.6 -1.2
DOT IAMs_20 IAMs_20 14 36 34.3
comp=Z,13µm,21.0s
YLL Llanberis 79.97 324 *e*P **P 14 01 54.9 +4.3**
GLI Glacier Island 80.08 27 P **P 14 01 50.0 -1.2**
TULEG Thule 80.13 357 *i* P **P 14 01 49.8 -1.3**
TULEG IAMs_20 IAMs_20 14 40 01.1
comp=Z,24µm,17.1s
CLGH Cloghs, Cushen 80.14 326 IAMs_20 IAMs_20 14 40 30.9
comp=Z,16µm,22.5s
KLU Klutina 80.25 26 P P 14 01 51.1 -1.1
KLU IAmb IAmb 14 02 01.3
comp=Z,87nm,1.0s
KLU IAMs_20 IAMs_20 14 40 12.9
comp=Z,19µm,18.0s
EGAK Eagle 80.27 22 P P 14 01 50.4 -1.7
MENT Mentasta 80.36 25 IAMs_20 IAMs_20 14 38 17.6
comp=Z,18µm,21.0s
SUMG Summit 80.39 348 *i* P **P 14 01 51.7 -1.4**
SUMG MLR MLR
comp=Z,49µm,24.0s
SUMG Summit 80.39 348 P P 14 01 51.0 -2.1
SUMG IAmb IAmb 14 02 08.2
comp=Z,59nm,1.1s
SUMG IAMs_20 IAMs_20 14 42 34.9
comp=Z,15µm,20.0s
SUMG Summit 80.39 348 *i* P **P 14 01 51.7 -1.4**
comp=Z,49µm,24.0s
SUMG Summit 80.39 348 *i* P **P 14 01 51.7 -1.4**
SUMG IAMs_20 IAMs_20 14 36 34.5
comp=Z,49µm,23.7s
FID Port Fidalgo 80.41 27 P P 14 01 51.5 -1.4
FID IAmb IAmb 14 02 05.2
comp=Z,107nm,1.2s
LSZ Lusaka 80.42 249 *i* P **P 14 01 53.8 -0.1**
LSZ Lusaka 80.42 249 *i* P **P 14 01 53.8 -0.1**
JSA Saint Aubin 80.50 320 IAMs_20 IAMs_20 14 38 44.9
comp=Z,18µm,18.8s
INK Inuvik 80.50 18 P P 14 01 52.3 -0.9
comp=Z,22nm,1.0s,baz=300,slow=8.3,SNR=7.3
INK LR LR 14 41 10.1
comp=Z,6µm,21.0s,baz=271,slow=38
INK Inuvik 80.50 18 P P 14 01 52.3 -0.9
INK pmax pmax
comp=Z,73nm,1.3s
INK MLR MLR
comp=Z,28µm,19.0s
INK Inuvik 80.50 18 P P 14 01 52.3 -0.9
INK IAmb IAmb 14 02 01.2
comp=Z,73nm,1.2s
HIN Hinchinbrook I 80.58 28 P P 14 01 52.8 -1.1
EYAK Cordova Ski Ar 80.82 27 P P 14 01 54.1 -1.0
EYAK IAmb IAmb 14 02 04.3
comp=Z,82nm,0.9s
DYA Yadsworthy 81.00 321 IAMs_20 IAMs_20 14 39 27.6
comp=Z,21µm,21.9s
HTL Hartland 81.07 322 IAMs_20 IAMs_20 14 39 30.2
comp=Z,23µm,23.1s
DSB Dublin 81.11 324 IAMs_20 IAMs_20 14 40 56.8
comp=Z,13µm,20.0s
GLB Gilahina Butte 81.14 26 P P 14 01 55.7 -1.2
GLB IAmb IAmb 14 02 09.4
comp=Z,100nm,1.5s
GLB IAMs_20 IAMs_20 14 40 50.3
comp=Z,17µm,18.0s
Q23K Middleton Isla 81.14 28 IAMs_20 IAMs_20 14 35 20.6
comp=Z,16µm,19.0s
MID Middleton Isla 81.15 28 IAMs_20 IAMs_20 14 35 20.8
comp=Z,15µm,19.0s
DAWY Dawson 81.31 23 P P 14 01 56.4 -1.3
VRDI Verde Repeater 81.40 26 IAMs_20 IAMs_20 14 37 52.2
comp=Z,17µm,19.0s
MCARA McCarthy VSAT 81.48 26 P P 14 01 57.3 -1.3
MCARA IAmb IAmb 14 02 15.4
comp=Z,60nm,1.0s
MCARA IAMs_20 IAMs_20 14 41 03.5
comp=Z,16µm,19.0s
BORG Borgarnes 81.49 338 P P 14 01 58.3 -0.2
comp=Z,23nm,1.0s,baz=90,slow=1.0
BORG Borgarnes 81.49 338 P P 14 01 58.3 -0.2
BORG pmax pmax
comp=Z,61nm,1.2s
BORG Borgarnes 81.49 338 IAmb IAmb 14 02 02.5
comp=Z,61nm,1.2s
RES Resolute Bay 81.70 4 P P 14 01 58.9 -0.6
comp=Z,9.9nm,0.9s,baz=350,slow=4.9,SNR=1.9
RES LR LR 14 41 07.9
comp=Z,15µm,19.3s,baz=352,slow=38
RES Resolute Bay 81.70 4 P P 14 01 58.6 -0.9
RES IAMs_20 IAMs_20 14 40 56.2
comp=Z,20µm,18.0s
CRQM Cirque 81.79 26 IAMs_20 IAMs_20 14 38 55.1
comp=Z,11µm,20.0s
CCA1 Carnmenellis 81.86 321 IAMs_20 IAMs_20 14 39 54.2
comp=Z,15µm,20.5s
SUCK Suckling Hills 81.90 27 IAMs_20 IAMs_20 14 37 32.2
comp=Z,21µm,20.0s
TGL Tana Glacier 81.91 26 P P 14 02 00.1 -1.0
TGL IAmb IAmb 14 02 10.1
comp=Z,47nm,1.0s
TGL IAMs_20 IAMs_20 14 39 00.9
comp=Z,18µm,20.0s
BALM Baldy 81.95 26 P P 14 01 59.9 -1.4
BALM IAMs_20 IAMs_20 14 38 18.8
comp=Z,17µm,20.0s
C36M Paulatuk 82.18 15 P P 14 02 01.0 -1.1
C36M IAmb IAmb 14 02 24.4
comp=Z,61nm,1.0s
C36M IAMs_20 IAMs_20 14 42 38.2
comp=Z,12µm,21.0s
ISLE Juniper Island 82.20 26 IAMs_20 IAMs_20 14 39 10.0
comp=Z,15µm,20.0s
BARN Barnard Glacie 82.21 26 P P 14 02 01.4 -1.3
BARN IAmb IAmb 14 02 23.8
comp=Z,64nm,1.3s
BARN IAMs_20 IAMs_20 14 38 27.7
comp=Z,19µm,20.0s
BLWY Bulawayo 82.32 244 *i* P **P 14 02 05.1 +1.2**
BLWY Bulawayo 82.32 244 *i* P **P 14 02 05.1 +1.2**
CTGM Chitina Glacie 82.40 26 IAMs_20 IAMs_20 14 38 33.6
comp=Z,20µm,20.0s
MATP Matopo 82.55 244 P **P 14 02 04.7 -0.3**
baz=51,slow=5.0
MATP Matopo 82.55 244 *i* P **P 14 02 06.5 +1.4**
MATP Matopo 82.55 244 *i* P **P 14 02 06.5 +1.4**
YAH Yahtse 82.58 26 IAMs_20 IAMs_20 14 39 41.5
comp=Z,18µm,19.0s
MESA MESA 82.60 27 IAMs_20 IAMs_20 14 39 39.6
comp=Z,20µm,19.0s
TABL Table Mountain 82.78 26 IAMs_20 IAMs_20 14 38 46.4
comp=Z,21µm,21.0s
UPNV Upernavik 82.83 353 *e*P **P 14 02 05.7 +0.2**
UPNV IAMs_20 IAMs_20 14 40 35.4
comp=Z,36µm,19.9s
FUNA Funafuti 83.10 102 IAMs_20 IAMs_20 14 33 40.0
comp=Z,16µm,18.0s
PCA Pinnacle 83.34 26 IAMs_20 IAMs_20 14 39 56.6
comp=Z,17µm,20.0s
BCPM Bancas Point 83.67 26 IAMs_20 IAMs_20 14 40 07.4
comp=Z,20µm,20.0s
YKU2 Yakutat 83.92 26 IAMs_20 IAMs_20 14 46 52.0
comp=Z,15µm,18.0s
HYT Haines Junctio 83.98 25 P P 14 02 10.0 -1.8
HYT IAmb IAmb 14 02 24.0
comp=Z,33nm,1.2s
CART Cartagena 84.62 309 *e*P P 14 02 23.5 +8.1
CART *e*S S 14 12 15.5 -27
UCM Universidad Co 85.02 312 *e*P **P 14 02 18.3 +0.9**
WHY Whitehorse 85.08 24 P P 14 02 16.3 -1.1
WHY IAMs_20 IAMs_20 14 43 39.5
comp=Z,17µm,18.0s
ILULI Ilulissat 85.45 350 IAMs_20 IAMs_20 14 42 34.2
comp=Z,16µm,20.0s
SKAG Skagway 85.69 25 P P 14 02 17.2 -3.0
SKAG IAmb IAmb 14 02 37.1
comp=Z,43nm,1.0s
SKAG IAMs_20 IAMs_20 14 41 46.6
comp=Z,15µm,21.0s
ANGG Ammassalik, Gr 85.74 344 IAMs_20 IAMs_20 14 39 58.2
comp=Z,13µm,20.0s
ESDC Sonseca Array 85.79 311 P P 14 02 21.2 -0.1
comp=Z,6.0nm,1.0s,baz=43,slow=4.5,SNR=11
ESDC LR LR 14 44 40.1
comp=Z,7µm,18.0s,baz=35,slow=38
ESDC Sonseca Array 85.79 311 P P 14 02 18.6 -2.7
PAB San Pablo 86.12 311 P P 14 02 20.5 -2.4
PAB pmax pmax
comp=Z,22nm,1.7s
BESE Bessie Mountai 86.45 26 IAMs_20 IAMs_20 14 40 49.8
comp=Z,14µm,20.0s
JIS Juneau Island 86.84 26 IAMs_20 IAMs_20 14 45 01.0
comp=Z,15µm,18.0s
LBTB Lobatse 87.05 241 P P 14 02 24.6 -3.0
LBTB pmax pmax
comp=Z,87nm,1.4s
LBTB Lobatse 87.05 241 P P 14 02 24.6 -3.0
LBTB IAmb IAmb 14 02 32.1
comp=Z,87nm,1.4s
MVO Moncorvo 87.17 314 *e*P **P 14 02 30.6 +2.6**
comp=Z,82nm,1.9s
MVO Moncorvo 87.17 314 *e*S **S 14 13 05.4 -2.2**
MVO Moncorvo 87.17 314 *e*LR LR 14 36 36.0
comp=Z,6µm,20.0s
SIT Sitka 87.25 27 IAMs_20 IAMs_20 14 42 16.1
comp=Z,12µm,20.0s
SFJD Kangerlussuaq 87.36 349 IAMs_20 IAMs_20 14 46 12.0
comp=Z,13µm,18.0s
EMAL Malaga-Limoner 87.44 309 *e*P **P 14 02 32.8 +3.5**
EMAL *e*S **S 14 13 06.2 -3.9**
PGAV Gavieira, Arco 87.60 315 *e*S S 14 13 25.0 +13
PGAV Gavieira, Arco 87.60 315 *e*LR LR 14 36 13.5
comp=Z,7µm,18.0s
PVLZ Peæn de 88.08 308 *e*P **P 14 02 32.8 +0.4**
PVLZ *e*S **S 14 13 08.8 -7.5**
PCBR Castelo Branco 88.11 313 *e*P P 14 02 38.3 +5.9
comp=Z,46nm,1.8s
PMRV Marv??o 88.25 312 *e*P **P 14 02 36.2 +3.0**
comp=Z,52nm,1.9s
PMRV Marv??o 88.25 312 *e*S **S 14 13 10.7 -7.2**
PMRV Marv??o 88.25 312 *e*LR LR 14 33 35.3
comp=Z,7µm,18.0s
DLBC Dease Lake 88.41 24 P P 14 02 31.7 -1.8
DLBC IAmb IAmb 14 02 45.9
comp=Z,36nm,1.3s
DLBC IAMs_20 IAMs_20 14 43 17.4
comp=Z,14µm,19.0s
CEU Ceuta 88.52 309 *e*P **P 14 02 33.1 -1.3**
COI Coimbra 88.56 314 IAMs_20 IAMs_20 14 45 03.7
comp=Z,8µm,22.0s
SFS San Fernando 88.84 309 IAMs_20 IAMs_20 14 47 16.8
comp=Z,8µm,18.0s
WRAK Wrangell Islan 88.91 26 IAMs_20 IAMs_20 14 43 07.7
comp=Z,16µm,20.0s
BOSA Boshof 88.96 238 P P 14 02 36.6 -0.1
comp=Z,10.0nm,0.7s,baz=78,slow=3.6,SNR=9.7
BOSA LR LR 14 39 48.9
comp=Z,8µm,20.1s,baz=68,slow=34
BOSA Boshof 88.96 238 P P 14 02 34.7 -2.0
BOSA IAmb IAmb 14 03 01.0
comp=Z,36nm,1.2s
EVO Evora 89.11 312 *e*P **P 14 02 40.5 +3.3**
EVO *e*S **S 14 13 22.1 -3.8**
CRAG Craig 89.23 27 IAMs_20 IAMs_20 14 44 04.3
comp=Z,10µm,21.0s
PBEJ Beja 89.26 311 *e*P **P 14 02 41.1 +3.2**
comp=Z,32nm,1.7s
IFR Ifrane 89.44 306 *e*P **P 14 02 40.0 +0.9**
IFR *e*S **SKSac 14 13 14.1 +4.4**
PVAQ Vaqueiros 89.46 311 *e*P **P 14 02 42.8 +4.0**
comp=Z,59nm,1.9s
PVAQ Vaqueiros 89.46 311 *e*S **S 14 13 31.1 +1.9**
PVAQ Vaqueiros 89.46 311 *e*LR LR 14 34 17.5
comp=Z,6µm,20.0s
CASY Casey 89.67 176 P **P 14 02 38.6 -0.3**
CASY Casey 89.67 176 IAMs_20 IAMs_20 14 38 21.9
comp=Z,8µm,20.0s
PNCL Nicolau / Gran 89.67 312 *e*P **P 14 02 44.6 +4.8**
comp=Z,81nm,1.8s
PBDV Barranco-do-Ve 89.68 311 *e*P **P 14 02 43.7 +3.7**
comp=Z,85nm,1.9s
YKA Yellowknife Ar 90.01 15 P **P 14 02 41.7 +0.8**
comp=Z,3.5nm,0.7s,baz=332,slow=4.5,SNR=5.7
YKA LR LR 14 47 22.5
comp=Z,14µm,20.4s,baz=0.0,slow=38
YKA Yellowknife Ar 90.01 15 *i* P **P 14 02 42.5 +1.6**
YKA pmax pmax
comp=Z,4.0nm,0.7s
MORF Marmelete 90.15 311 *e*P **P 14 02 40.3 -1.9**
MORF *e*S **SKSac 14 13 10.5 -2.9**
MORF AMS AMS 14 44 26.9
comp=Z,9µm,21.3s
MORF Marmelete 90.15 311 *e*P **P 14 02 40.3 -1.9**
MORF *e*S **SKSac 14 13 10.4 -2.9**
MORF Marmelete 90.15 311 *e*P P 14 02 47.8 +5.6
comp=Z,69nm,1.7s
PFVI Vila Bisbo 90.36 311 IAMs_20 IAMs_20 14 43 58.7
comp=Z,12µm,22.0s
RTC Rabat Centre 90.49 308 IAMs_20 IAMs_20 14 49 26.6
comp=Z,14µm,20.0s
DIB Dawson Inlet, 91.04 29 P P 14 02 43.7 -2.2
DIB IAmb IAmb 14 02 51.2
comp=Z,43nm,1.1s
TSUM Tsumeb 91.24 250 P P 14 02 44.9 -2.7
TSUM Tsumeb 91.24 250 IAMs_20 IAMs_20 14 43 56.3
comp=Z,9µm,18.0s
NRS Narsarsuaq 91.41 344 IAMs_20 IAMs_20 14 46 53.0
comp=Z,9µm,20.0s
HON Honolulu 91.63 66 IAMs_20 IAMs_20 14 36 28.8
comp=Z,10µm,21.0s
WKZ Wanaka 92.14 138 IAMs_20 IAMs_20 14 44 33.2
comp=Z,12µm,21.0s
TOC2 Torodi Ar. Sit 92.72 285 IAMs_20 IAMs_20 14 48 59.8
comp=Z,9µm,20.0s
TOC3 Torodi Ar. Sit 92.73 285 IAMs_20 IAMs_20 14 48 60.0
comp=Z,9µm,20.0s
TOC1 Torodi Ar. Sit 92.74 285 IAMs_20 IAMs_20 14 49 00.0
comp=Z,10µm,20.0s
TOA2 Torodi Ar. Sit 92.75 285 IAMs_20 IAMs_20 14 49 00.3
comp=Z,9µm,19.0s
TOB1 Torodi Ar. Sit 92.75 285 IAMs_20 IAMs_20 14 49 00.4
comp=Z,8µm,19.0s
TOB3 Torodi Ar. Sit 92.75 285 IAMs_20 IAMs_20 14 49 00.4
comp=Z,8µm,19.0s
TOA0 Torodi Ar. Sit 92.75 285 P P 14 02 52.2 -2.4
TOA0 IAMs_20 IAMs_20 14 49 00.5
comp=Z,8µm,20.0s
TORD Torodi Ar. Bea 92.75 285 P P 14 02 54.2 -0.4
comp=Z,2.3nm,0.8s,baz=45,slow=4.1,SNR=12
TORD PP **PP 14 06 34.7 -1.8**
comp=Z,5.8nm,0.9s,baz=48,slow=6.7,SNR=6.0
TORD LR LR 14 49 11.6
comp=Z,8µm,19.2s,baz=75,slow=38
TORD Torodi Ar. Bea 92.75 285 P P 14 02 52.5 -2.0
TOA3 Torodi Ar. Sit 92.75 285 IAMs_20 IAMs_20 14 49 00.6
comp=Z,8µm,19.0s
TOC4 Torodi Ar. Sit 92.76 285 IAMs_20 IAMs_20 14 49 00.7
comp=Z,9µm,20.0s
TOC7 Torodi Ar. Sit 92.76 285 IAMs_20 IAMs_20 14 49 00.7
comp=Z,8µm,20.0s
TOB5 Torodi Ar. Sit 92.76 285 IAMs_20 IAMs_20 14 49 00.7
comp=Z,9µm,20.0s
TOB4 Torodi Ar. Sit 92.77 285 IAMs_20 IAMs_20 14 49 00.8
comp=Z,8µm,20.0s
TOC5 Torodi Ar. Sit 92.78 285 IAMs_20 IAMs_20 14 49 01.2
comp=Z,10µm,20.0s
RPZ Rata Peaks 92.83 137 IAMs_20 IAMs_20 14 51 19.7
comp=Z,9µm,20.0s
LTZ Lake Taylor 93.15 136 IAMs_20 IAMs_20 14 50 00.1
comp=Z,12µm,19.0s
ODZ Otahua Downs 93.24 138 IAMs_20 IAMs_20 14 46 27.5
comp=Z,8µm,21.0s
KHZ Kahutara 93.80 135 IAMs_20 IAMs_20 14 51 14.3
comp=Z,9µm,19.0s
SUR Sutherland 94.06 237 IAMs_20 IAMs_20 14 44 25.7
comp=Z,8µm,20.0s
BKZ Black Stump Fm 94.29 131 IAMs_20 IAMs_20 14 50 34.5
comp=Z,9µm,19.0s
MAW Mawson 94.88 194 P P 14 03 04.7 +1.7
comp=Z,5.0nm,0.9s,baz=356,slow=5.1,SNR=9.6
MAW LR LR 14 43 52.8
comp=Z,4µm,18.1s,baz=34,slow=34
KOWA Kowa 97.19 289 IAMs_20 IAMs_20 14 48 19.7
comp=Z,8µm,21.0s
NLWA Neilton Lookou 99.05 29 IAMs_20 IAMs_20 14 52 55.3
comp=Z,9µm,19.0s
B06A Marblemount 99.20 27 IAMs_20 IAMs_20 14 48 59.1
comp=Z,9µm,21.0s
E03A Lebam 99.83 29 IAMs_20 IAMs_20 14 54 23.9
comp=Z,8µm,18.0s
FFC Flin Flon 99.89 13 IAMs_20 IAMs_20 14 53 03.3
comp=Z,14µm,18.0s
D05A Enumclaw 100.03 28 IAMs_20 IAMs_20 14 55 09.0
comp=Z,9µm,19.0s
B08A Colville Reser 100.20 26 IAMs_20 IAMs_20 14 47 50.5
comp=Z,15µm,19.0s
LON Longmire 100.44 28 IAMs_20 IAMs_20 14 55 24.1
comp=Z,8µm,20.0s
LTY Liberty 100.53 27 IAMs_20 IAMs_20 14 48 02.5
comp=Z,10µm,20.0s
CMLA Cha da Macela 100.84 319 IAMs_20 IAMs_20 14 47 10.5
comp=Z,8µm,22.0s
C09A Chrisman Ranch 101.08 25 IAMs_20 IAMs_20 14 48 26.5
comp=Z,13µm,19.0s
NEW Newport 101.14 25 IAMs_20 IAMs_20 14 53 31.3
comp=Z,10µm,19.0s
KIC Kosan Boka 101.35 282 *e*P **PP 14 07 44.9 +2.0**
comp=Z,71nm,1.5s
SCHQ Schefferville 101.39 353 IAMs_20 IAMs_20 14 52 18.6
comp=Z,12µm,21.0s
D08A Wollman Farm, 101.42 26 IAMs_20 IAMs_20 14 49 07.6
comp=Z,7µm,20.0s
E07A Sunnyside 101.43 27 IAMs_20 IAMs_20 14 49 54.0
comp=Z,9µm,22.0s
TIC Toumodi 101.48 282 *e*P **PP 14 07 46.0 +2.1**
LIC Lamto 101.67 282 *e*P **PP 14 07 47.0 +1.8**
comp=Z,64nm,1.2s
HAWA Hanford 101.69 27 IAMs_20 IAMs_20 14 48 38.1
comp=Z,8µm,20.0s
ROSA Rosais 101.80 321 IAMs_20 IAMs_20 14 50 44.6
comp=Z,12µm,20.0s
E08A Dider Farm, El 101.81 27 IAMs_20 IAMs_20 14 48 43.2
comp=Z,9µm,20.0s
SYO Syowa Base 101.92 199 ‖ *e*PPdiff pPdif 14 03 40.5 +1.1
SYO Syowa Base 101.92 199 ‖ *e*PP **PP 14 07 47.0 +0.9**
SYO Syowa Base 101.92 199 ‖ *e*PKiKP **PKiKP 14 07 56.4 -0.9**
F07A Phinny Hill Vi 101.92 28 IAMs_20 IAMs_20 14 49 11.2
comp=Z,8µm,21.0s
E09A Wood Farm, Sta 102.17 26 IAMs_20 IAMs_20 14 49 40.5
comp=Z,8µm,20.0s
JTMT Jette 102.63 23 IAMs_20 IAMs_20 14 55 56.6
comp=Z,12µm,18.0s
G08A Pilot Rock 102.82 27 IAMs_20 IAMs_20 14 49 59.8
comp=Z,7µm,21.0s
F10A Beach Ranch, E 102.98 26 IAMs_20 IAMs_20 14 50 06.0
comp=Z,10µm,21.0s
PINE Pine Mountain 103.14 29 IAMs_20 IAMs_20 14 56 39.4
comp=Z,7µm,19.0s
I07A Izee 103.55 28 IAMs_20 IAMs_20 14 50 52.2
comp=Z,8µm,20.0s
BMO Blue Mountains 103.86 27 IAMs_20 IAMs_20 14 50 05.4
comp=Z,12µm,20.0s
EGMT Eagleton 103.94 20 IAMs_20 IAMs_20 14 54 22.0
comp=Z,9µm,21.0s
K05A Summer Lake 103.99 30 IAMs_20 IAMs_20 14 57 34.0
comp=Z,7µm,21.0s
KMRM Mail Ridge 104.54 33 IAMs_20 IAMs_20 14 48 27.3
comp=Z,7µm,20.0s
J08A Circle Bar Ran 104.57 28 IAMs_20 IAMs_20 14 51 23.4
comp=Z,7µm,20.0s
MOD Modoc Plateau 104.90 30 IAMs_20 IAMs_20 14 57 53.3
comp=Z,7µm,19.0s
DRLN Deer Lake 105.11 345 IAMs_20 IAMs_20 14 54 37.4
comp=Z,10µm,20.0s
DGMT Dagmar 105.17 17 IAMs_20 IAMs_20 14 58 06.1
comp=Z,11µm,20.0s
DLMT Dillon 105.27 24 IAMs_20 IAMs_20 14 57 41.4
comp=Z,14µm,19.0s
ULM Lac du Bonnet 105.31 11 IAMs_20 IAMs_20 14 54 30.6
comp=Z,14µm,21.0s
BOZ Bozeman (W) 105.42 23 IAMs_20 IAMs_20 14 57 48.3
comp=Z,13µm,20.0s
MFID Camas Ranch 105.65 27 IAMs_20 IAMs_20 14 59 11.7
comp=Z,6µm,19.0s
HLID Hailey 106.10 26 IAMs_20 IAMs_20 14 53 29.5
comp=Z,10µm,21.0s
LAO LASA Array 106.22 19 IAMs_20 IAMs_20 14 57 20.2
comp=Z,12µm,18.0s
RLMT Red Lodge 106.65 22 IAMs_20 IAMs_20 14 58 17.8
comp=Z,10µm,19.0s
PAHR Pah Rah Range 107.06 31 IAMs_20 IAMs_20 15 00 12.3
comp=Z,6µm,19.0s
FLWY Flagg Ranch 107.06 23 IAMs_20 IAMs_20 14 59 05.8
comp=Z,10µm,20.0s
IMW Indian Meadow 107.14 23 IAMs_20 IAMs_20 14 58 57.7
comp=Z,10µm,19.0s
AGMN Agassiz Nation 107.19 11 IAMs_20 IAMs_20 14 55 14.4
comp=Z,12µm,22.0s
FXWY Fox Creek 107.33 23 IAMs_20 IAMs_20 14 58 56.8
comp=Z,12µm,19.0s
TPAW Teton Pass 107.48 23 IAMs_20 IAMs_20 14 59 11.0
comp=Z,12µm,20.0s
B35A Bob, Littlefor 107.49 10 IAMs_20 IAMs_20 14 55 40.3
comp=Z,11µm,21.0s
SNOW Snow King Moun 107.58 23 IAMs_20 IAMs_20 14 59 43.5
comp=Z,11µm,19.0s
REDW Red Top Meadow 107.63 23 IAMs_20 IAMs_20 14 59 36.8
comp=Z,13µm,19.0s
YERR Yerington 107.69 32 IAMs_20 IAMs_20 14 59 02.3
comp=Z,6µm,20.0s
D32A Dogwood Acres, 108.09 12 IAMs_20 IAMs_20 15 00 21.2
comp=Z,12µm,18.0s
ELK Elko 108.10 28 IAMs_20 IAMs_20 14 53 46.6
comp=Z,8µm,22.0s
KVN Kaiserville 108.19 31 IAMs_20 IAMs_20 14 55 42.2
comp=Z,6µm,19.0s
MBO M'Bour 108.26 295 IAMs_20 IAMs_20 15 01 18.5
comp=Z,7µm,19.0s
SAO San Andreas Ge 108.31 34 IAMs_20 IAMs_20 14 55 30.8
comp=Z,6µm,18.0s
NVAR Mina Array Bea 108.58 31 PKiKP **PKiKP 14 08 11.8 +0.7**

comp=Z,1.3nm,0.9s,baz=352,slow=2.7,SNR=5.3
NVAR PKKPbc **PKKPbc 14 19 24.6 +3.7**
comp=Z,0.3nm,0.7s,baz=122,slow=4.4,SNR=3.9
BW06 Boulder Array 108.62 23 IAMs_20 IAMs_20 14 55 41.9
comp=Z,9µm,20.0s
PDAR Pinedale Array 108.62 23 PKiKP **PKiKP 14 08 12.8 +1.8**
comp=Z,0.2nm,0.4s,baz=67,slow=3.2,SNR=2.5
VLDQ Val d'Or 108.85 359 IAMs_20 IAMs_20 14 58 32.1
comp=Z,11µm,22.0s
HWUT Hardware Ranch 108.87 25 IAMs_20 IAMs_20 14 59 55.8
comp=Z,11µm,20.0s
OMMB Old Mammoth Mi 108.89 32 IAMs_20 IAMs_20 15 00 09.0
comp=Z,6µm,19.0s
D62A Allapoint, All 109.27 352 IAMs_20 IAMs_20 15 03 36.2
comp=Z,11µm,19.0s
D41A Chassel 109.45 7 IAMs_20 IAMs_20 15 00 35.0
comp=Z,12µm,19.0s
F33A 5 Mile Ranch, 109.47 12 IAMs_20 IAMs_20 14 59 38.8
comp=Z,13µm,19.0s
E38A The Farm, Brul 109.53 9 IAMs_20 IAMs_20 15 00 07.2
comp=Z,12µm,19.0s
PQI Presque Isle 109.55 352 IAMs_20 IAMs_20 14 59 48.4
comp=Z,11µm,20.0s
DUG Dugway, Tooele 109.58 27 IAMs_20 IAMs_20 15 00 31.6
comp=Z,8µm,19.0s
K22A Casper 109.76 21 IAMs_20 IAMs_20 14 59 07.9
comp=Z,11µm,19.0s
E63A Oxbow 109.84 352 IAMs_20 IAMs_20 14 59 56.3
comp=Z,10µm,20.0s
F36A Milaca 109.95 10 IAMs_20 IAMs_20 14 58 05.5
comp=Z,12µm,19.0s
SUSD Miller 110.23 15 IAMs_20 IAMs_20 14 58 26.0
comp=Z,12µm,21.0s
COWI Conover 110.34 7 IAMs_20 IAMs_20 14 56 21.4
comp=Z,11µm,19.0s
F64A Sherman 110.38 352 IAMs_20 IAMs_20 15 04 23.6
comp=Z,11µm,19.0s
F63A Nahmakanta, Br 110.64 352 IAMs_20 IAMs_20 14 58 12.3
comp=Z,10µm,21.0s
SPMN Marine on St. 110.69 10 IAMs_20 IAMs_20 15 00 28.0
comp=Z,11µm,18.0s
TPNV Topopah Spring 110.74 31 IAMs_20 IAMs_20 15 01 33.9
comp=Z,6µm,18.0s
F42A Maple Grove Fa 110.78 6 IAMs_20 IAMs_20 14 59 46.2
comp=Z,9µm,20.0s
GGN Saint George 110.90 350 IAMs_20 IAMs_20 15 03 59.2
comp=Z,12µm,19.0s
PRN Pahroc Range 110.92 30 IAMs_20 IAMs_20 15 01 03.6
comp=Z,7µm,18.0s
G40A Rib Lake 111.03 8 IAMs_20 IAMs_20 14 57 33.7
comp=Z,12µm,20.0s
PKME Peaks-Kenny Pk 111.09 352 IAMs_20 IAMs_20 15 01 14.4
comp=Z,11µm,20.0s
G62A West of Eustis 111.28 353 IAMs_20 IAMs_20 14 58 20.3
comp=Z,12µm,19.0s
PHWY Pilot Hill 111.32 21 IAMs_20 IAMs_20 15 01 07.2
comp=Z,9µm,19.0s
EMMW East Machias 111.39 351 IAMs_20 IAMs_20 14 58 27.3
comp=Z,12µm,19.0s
O20A White River Ci 111.40 23 IAMs_20 IAMs_20 14 58 33.5
comp=Z,10µm,21.0s
N23A Red Feather La 111.53 21 IAMs_20 IAMs_20 15 00 30.7
comp=Z,11µm,21.0s
I37A Lemond, Waseca 111.77 11 IAMs_20 IAMs_20 14 57 37.5
comp=Z,10µm,20.0s
WVL Waterville 111.83 352 IAMs_20 IAMs_20 14 59 06.8
comp=Z,13µm,20.0s
FRNY Flat Rock 111.94 355 IAMs_20 IAMs_20 15 02 57.7
comp=Z,7µm,20.0s
H62A Milan 111.98 354 IAMs_20 IAMs_20 15 05 02.9
comp=Z,9µm,18.0s
H43A Windswept, Lux 112.09 6 IAMs_20 IAMs_20 14 59 45.9
comp=Z,11µm,18.0s
LONY Lake Ozonia 112.22 356 IAMs_20 IAMs_20 14 59 32.1
comp=Z,7µm,19.0s
VT1 Waterbury 112.37 355 IAMs_20 IAMs_20 14 59 57.5
comp=Z,11µm,19.0s
LBNH Lisbon 112.39 354 IAMs_20 IAMs_20 15 03 02.7
comp=Z,8µm,20.0s
DELO Deloro Mine 112.45 359 IAMs_20 IAMs_20 14 58 13.2
comp=Z,10µm,21.0s
I42A Draeger Farm, 112.54 7 IAMs_20 IAMs_20 14 59 21.8
comp=Z,9µm,21.0s
PV22 Blue Mesa, Par 112.60 25 IAMs_20 IAMs_20 15 02 40.3
comp=Z,12µm,19.0s
ISCO Idaho Springs 112.62 22 IAMs_20 IAMs_20 15 02 30.7
comp=Z,8µm,20.0s
I62A Tamworth 112.69 354 IAMs_20 IAMs_20 15 03 25.7
comp=Z,9µm,20.0s
PV07 Paradox Valley 112.73 25 IAMs_20 IAMs_20 15 02 42.9
comp=Z,11µm,19.0s
PV16 Nyswonger Mesa 112.74 25 IAMs_20 IAMs_20 15 03 18.2
comp=Z,12µm,20.0s
PV18 Skein Mesa, Pa 112.80 25 IAMs_20 IAMs_20 15 03 19.8
comp=Z,13µm,20.0s
NCB Newcomb 112.84 356 IAMs_20 IAMs_20 14 59 12.5
comp=Z,6µm,20.0s
PV15 Paradox Valley 112.88 24 IAMs_20 IAMs_20 15 02 46.9
comp=Z,9µm,19.0s
HNH Hanover 112.95 354 IAMs_20 IAMs_20 14 58 31.6
comp=Z,8µm,21.0s
U15A North Rim 112.97 28 IAMs_20 IAMs_20 14 54 39.7
comp=Z,6µm,21.0s
PECO Prince Edward 113.02 358 IAMs_20 IAMs_20 14 58 41.2
comp=Z,10µm,20.0s
PV01 Paradox Valley 113.03 25 IAMs_20 IAMs_20 15 02 53.8
comp=Z,11µm,18.0s
FFD Franklin Falls 113.13 354 IAMs_20 IAMs_20 14 58 58.2
comp=Z,9µm,22.0s
PFO Pinyon Flats O 113.32 33 IAMs_20 IAMs_20 14 53 53.3
comp=Z,6µm,21.0s
XPFO Pion Flat 113.32 33 IAMs_20 IAMs_20 14 53 53.3
comp=Z,6µm,21.0s
J59A Piesco 113.36 356 IAMs_20 IAMs_20 15 00 25.5
comp=Z,7µm,19.0s
ACCN Adirondack Com 113.39 355 IAMs_20 IAMs_20 15 03 14.0
comp=Z,8µm,20.0s
SACV Santiago Islan 113.39 299 IAMs_20 IAMs_20 15 02 26.7
comp=Z,7µm,20.0s
J57A Williamstown 113.50 357 IAMs_20 IAMs_20 15 01 22.0
comp=Z,11µm,20.0s
J58A Remsen 113.52 357 IAMs_20 IAMs_20 15 00 21.4
comp=Z,11µm,19.0s
Q24A Divide 113.53 22 IAMs_20 IAMs_20 14 56 37.7
comp=Z,8µm,19.0s
J56A Wolcott 113.67 358 IAMs_20 IAMs_20 14 59 01.4
comp=Z,11µm,20.0s
J54A Appleton 113.71 359 IAMs_20 IAMs_20 14 59 30.6
comp=Z,11µm,20.0s
MEDO Medina 113.82 359 IAMs_20 IAMs_20 14 59 34.4
comp=Z,12µm,21.0s
MVCO Mesa Verde 113.86 25 IAMs_20 IAMs_20 15 03 53.9
comp=Z,11µm,20.0s
TJX Tijuana 113.89 34 IAMs_20 IAMs_20 15 04 06.5
comp=Z,6µm,19.0s
K62A Royalston 113.98 354 IAMs_20 IAMs_20 15 06 58.8
comp=Z,10µm,18.0s
S22A 4UR Ranch, Cre 114.02 23 IAMs_20 IAMs_20 15 00 21.0
comp=Z,10µm,21.0s
TRY Troy 114.04 355 IAMs_20 IAMs_20 15 00 53.2
comp=Z,6µm,20.0s
HRV Adam Dziewonsk 114.07 354 IAMs_20 IAMs_20 14 59 35.2
comp=Z,10µm,21.0s
K58A Earlville 114.13 357 IAMs_20 IAMs_20 15 01 42.6
comp=Z,10µm,20.0s
WUAZ Wupatki 114.13 28 IAMs_20 IAMs_20 14 57 43.4
comp=Z,7µm,19.0s
WES Weston 114.17 353 IAMs_20 IAMs_20 14 59 56.7
comp=Z,9µm,20.0s
BCX Boston College 114.20 353 IAMs_20 IAMs_20 15 00 06.6
comp=Z,10µm,20.0s
QUA2 Belchertown 114.38 354 IAMs_20 IAMs_20 15 00 09.2
comp=Z,10µm,20.0s
SDCO Great Sand Dun 114.50 22 IAMs_20 IAMs_20 15 03 47.5
comp=Z,8µm,18.0s
WVNY West Valley, N 114.58 359 IAMs_20 IAMs_20 14 59 12.5
comp=Z,9µm,20.0s
PPT2 Papeete2 114.65 99 *e*PS PS 14 19 00.2 +1.0
comp=Z,2µm,27.0s
PPT2 *e*SS SS 14 25 22.1 +7.3
comp=Z,3µm,30.0s
PPT2 Papeete2 114.65 99 *e*LQ LQ 14 38 05.2
comp=Z,4µm,30.8s
PPT2 *e*LR LR 14 42 55.0
comp=Z,6µm,25.0s,baz=293
BRYW Bryant College 114.65 353 IAMs_20 IAMs_20 15 00 02.5
comp=Z,10µm,19.0s
L59A Walton 114.67 356 IAMs_20 IAMs_20 15 02 01.0
comp=Z,9µm,21.0s

BINY Binghamton 114.71 357 IAMs_20 IAMs_20 15 00 07.9
comp=Z,10µm,19.0s
M65A Busby, Falmout 114.91 353 IAMs_20 IAMs_20 15 05 06.2
comp=Z,10µm,18.0s
KSCT Kent School, K 115.02 355 IAMs_20 IAMs_20 15 07 41.3
comp=Z,8µm,18.0s
X16A Lo Mia Camp, P 115.03 29 IAMs_20 IAMs_20 15 04 49.2
comp=Z,10µm,20.0s
W18A Petrified Fore 115.17 27 IAMs_20 IAMs_20 15 03 39.8
comp=Z,9µm,21.0s
KSPA Keystone Colle 115.34 357 IAMs_20 IAMs_20 15 01 15.6
comp=Z,10µm,19.0s
YLE Yale 115.38 355 IAMs_20 IAMs_20 15 00 47.9
comp=Z,7µm,21.0s
T25A Trinidad 115.42 22 IAMs_20 IAMs_20 15 03 36.9
comp=Z,9µm,18.0s
M52A Chesterland 115.42 2 IAMs_20 IAMs_20 14 56 57.9
comp=Z,10µm,21.0s
M54A Oil Creek Stat 115.48 0 IAMs_20 IAMs_20 15 01 50.4
comp=Z,12µm,20.0s
M56A Emporium 115.49 359 IAMs_20 IAMs_20 15 05 24.7
comp=Z,8µm,18.0s
M50A Fremont 115.50 3 IAMs_20 IAMs_20 15 00 49.0
comp=Z,11µm,20.0s
WSPT Westport, CT 115.56 355 IAMs_20 IAMs_20 14 59 57.5
comp=Z,10µm,22.0s
TRNY Table Rock, Ra 115.66 356 IAMs_20 IAMs_20 15 02 15.0
comp=Z,8µm,20.0s
ODNJ Ogdensburg 115.74 356 IAMs_20 IAMs_20 15 02 25.4
comp=Z,7µm,20.0s
PAL Palisades 115.77 355 IAMs_20 IAMs_20 15 05 28.1
comp=Z,8µm,19.0s
HDIL Hopedale 115.78 8 IAMs_20 IAMs_20 15 00 50.5
comp=Z,11µm,22.0s
N59A State Game Lan 115.98 357 IAMs_20 IAMs_20 15 01 46.5
comp=Z,10µm,20.0s
CPNY Central Park 115.99 355 IAMs_20 IAMs_20 15 04 25.8
comp=Z,7µm,20.0s
N54A Moraine State 116.02 0 IAMs_20 IAMs_20 15 02 12.8
comp=Z,12µm,20.0s
N58A Sunbury 116.09 358 IAMs_20 IAMs_20 15 00 26.7
comp=Z,11µm,21.0s
BRNJ Basking Ridge 116.14 356 IAMs_20 IAMs_20 15 01 03.8
comp=Z,8µm,20.0s
SFIN Lafette 116.21 6 IAMs_20 IAMs_20 15 06 20.9
comp=Z,11µm,20.0s
LUPA Lehigh Univers 116.27 356 IAMs_20 IAMs_20 15 01 55.3
comp=Z,11µm,18.0s
SSPA Standing Stone 116.33 359 IAMs_20 IAMs_20 15 01 37.0
comp=Z,11µm,19.0s
TBI Tubuai 116.41 105 *e*PS PS 14 19 16.2 +1.2
comp=Z,1µm,29.0s
TBI *e*SS SS 14 25 44.2 +6.7
comp=Z,2µm,29.5s
TBI Tubuai 116.41 105 *e*LQ LQ 14 38 47.7
comp=Z,3µm,35.2s
TBI *e*LR LR 14 43 44.1
comp=Z,7µm,37.5s,baz=288
ANMO Albuquerque 116.64 25 IAMs_20 IAMs_20 15 05 56.3
comp=Z,10µm,19.0s
ACSO Alum Creek Sta 116.67 3 IAMs_20 IAMs_20 15 01 42.9
comp=Z,9µm,19.0s
PAGS Pennsylvania G 116.70 358 IAMs_20 IAMs_20 15 00 56.8
comp=Z,11µm,19.0s
WUPA West Chester U 116.95 357 IAMs_20 IAMs_20 15 01 28.3
comp=Z,8µm,20.0s
TUC Tucson 117.10 30 IAMs_20 IAMs_20 15 06 05.1
comp=Z,6µm,19.0s
P61A Hammonton 117.16 356 IAMs_20 IAMs_20 15 03 36.8
comp=Z,9µm,20.0s
Y22D IRIS PASSCAL I 117.22 25 IAMs_20 IAMs_20 15 05 24.9
comp=Z,9µm,19.0s
P48A Miy 117.28 5 IAMs_20 IAMs_20 14 57 57.1
comp=Z,10µm,22.0s
P52A Corning 117.30 2 IAMs_20 IAMs_20 15 02 49.7
comp=Z,9µm,20.0s
MCWV Mont Chateau 117.33 0 IAMs_20 IAMs_20 15 01 45.3
comp=Z,6µm,19.0s
P51A Williamsport 117.42 3 IAMs_20 IAMs_20 15 06 26.6
comp=Z,9µm,19.0s
Q44A Meyer Farm, Va 117.44 8 IAMs_20 IAMs_20 15 01 41.5
comp=Z,11µm,20.0s
SDMD Soldier's Deli 117.53 358 IAMs_20 IAMs_20 15 01 20.5
comp=Z,5µm,20.0s
U32A Winter Ranch, 117.81 18 IAMs_20 IAMs_20 15 04 11.7
comp=Z,11µm,20.0s
Q51A Peebles 117.85 3 IAMs_20 IAMs_20 15 07 01.3
comp=Z,10µm,20.0s
Q60A Greensboro 117.89 357 IAMs_20 IAMs_20 15 04 07.1
comp=Z,11µm,19.0s
Q54A Cedar Mills 117.99 1 IAMs_20 IAMs_20 15 00 55.8
comp=Z,12µm,20.0s
121A Cookes Peak, D 118.22 27 IAMs_20 IAMs_20 15 06 55.4
comp=Z,8µm,19.0s
VNA3 Neumayer Olymp 118.38 200 PKiKP **PKiKP 14 08 30.7 +2.4**
AMTX Amarillo 118.38 21 IAMs_20 IAMs_20 15 05 01.2
comp=Z,9µm,20.0s
R49A Shelbyville 118.46 5 IAMs_20 IAMs_20 14 58 32.4
comp=Z,10µm,22.0s
USIN University of 118.54 7 IAMs_20 IAMs_20 15 02 55.4
comp=Z,10µm,19.0s
319A Douglas 118.57 29 IAMs_20 IAMs_20 15 06 19.8
comp=Z,7µm,19.0s
R53A Hurricane 118.61 2 IAMs_20 IAMs_20 15 02 30.2
comp=Z,7µm,20.0s
MSTX Muleshoe 118.85 22 IAMs_20 IAMs_20 15 05 25.7
comp=Z,8µm,18.0s
S54A Dingess, Beckl 119.16 2 IAMs_20 IAMs_20 15 02 24.8
comp=Z,11µm,20.0s
S51A Beattyville 119.22 4 IAMs_20 IAMs_20 15 02 25.5
comp=Z,10µm,20.0s
U40A Yellville 119.30 12 IAMs_20 IAMs_20 15 02 06.8
comp=Z,10µm,20.0s
WMOK Wichita Mounta 119.41 18 IAMs_20 IAMs_20 15 02 06.1
comp=Z,10µm,19.0s
EPT El Paso 119.41 26 IAMs_20 IAMs_20 14 58 42.8
comp=Z,6µm,20.0s
HENM Henderson Moun 119.53 9 IAMs_20 IAMs_20 15 00 21.7
comp=Z,9µm,21.0s
PARMO Parma 119.54 9 IAMs_20 IAMs_20 15 05 14.0
comp=Z,11µm,21.0s
HICK Hickman 119.73 9 IAMs_20 IAMs_20 15 00 27.2
comp=Z,12µm,21.0s
BLA Blacksburg 119.76 1 IAMs_20 IAMs_20 15 04 22.8
comp=Z,10µm,18.0s
PENMO Penman 119.77 9 IAMs_20 IAMs_20 15 05 21.0
comp=Z,10µm,20.0s
HSIG 119.77 32 IAMs_20 IAMs_20 15 10 35.1
comp=Z,5µm,18.0s
FCAR Ozark Folk Cen 119.89 12 IAMs_20 IAMs_20 15 03 51.5
comp=Z,11µm,20.0s
MNTX Cornudas Mount 119.92 25 PKPdf **PKPdf 14 08 30.0 -2.6**
MNTX IAMs_20 IAMs_20 15 07 52.4
comp=Z,9µm,19.0s
GLAT Glass 119.99 9 IAMs_20 IAMs_20 15 03 35.1
comp=Z,11µm,22.0s
TAOE Nuku'alofa Isla 120.36 87 *e*SS SS 14 26 35.0 +5.9
comp=Z,3µm,28.9s
TAOE Nuku Hiva Isla 120.36 87 *e*LQ LQ 14 40 12.4
comp=Z,5µm,32.5s
TAOE *e*LR LR 14 45 33.5
comp=Z,4µm,25.5s
U54A Nelsons Funny 120.42 2 IAMs_20 IAMs_20 15 08 20.1
comp=Z,9µm,19.0s
WHAR Wooly Hollow 120.44 12 IAMs_20 IAMs_20 15 00 09.1
comp=Z,10µm,20.0s
CLTN Cedars of Leba 120.54 6 IAMs_20 IAMs_20 15 05 27.3
comp=Z,11µm,20.0s
W41B Gary Mavity, V 120.56 12 IAMs_20 IAMs_20 15 02 45.3
comp=Z,10µm,21.0s
U61A Possum Corner 120.58 357 IAMs_20 IAMs_20 15 05 29.3
comp=Z,11µm,20.0s
MIAR Mount Ida 120.90 14 PKiKP **PKPdf 14 08 32.7 -1.6**
MIAR Mount Ida 120.90 14 PKPdf **PKPdf 14 08 32.7 -1.6**
V55A Taylorsville 121.11 2 IAMs_20 IAMs_20 15 05 15.3
comp=Z,9µm,18.0s
X40A Basin Creek Fa 121.11 13 IAMs_20 IAMs_20 15 02 44.8
comp=Z,10µm,19.0s
ABTX Abilene, Hawle 121.11 20 IAMs_20 IAMs_20 15 03 44.5
comp=Z,9µm,20.0s
Z35A Perchaven, San 121.16 17 IAMs_20 IAMs_20 15 06 33.3
comp=Z,11µm,20.0s
V53A Saluda 121.22 3 IAMs_20 IAMs_20 15 03 46.5
comp=Z,10µm,20.0s
CPCT Cooper Cave 121.33 5 IAMs_20 IAMs_20 15 04 24.4
comp=Z,11µm,20.0s
BELA Belgrano 2 121.52 190 PKPdf **PKPdf 14 08 33.5 -0.8**
OXF Oxford 121.70 10 IAMs_20 IAMs_20 15 07 14.2
comp=Z,10µm,19.0s

W57A Gilead 121.82 0 IAMs_20 IAMs_20 15 09 47.3
comp=Z,8µm,19.0s
BG3 Lake Jocassee 121.89 3 IAMs_20 IAMs_20 15 09 13.2
comp=Z,8µm,19.0s
PAULI Pauline 122.11 2 IAMs_20 IAMs_20 15 04 14.0
comp=Z,9µm,20.0s
BIRD Birdtown, Kers 122.32 1 IAMs_20 IAMs_20 15 03 28.6
comp=Z,11µm,21.0s
JSC Jenkinsville 122.67 2 IAMs_20 IAMs_20 15 04 34.7
comp=Z,6µm,18.0s
TX32 Lajitas Array 122.69 25 PKPdf **PKPdf 14 08 35.6 -2.5**
TXAR Lajitas Array 122.69 25 PKP **PKPdf 14 08 37.5 -0.6**
comp=Z,1.2nm,0.4s,baz=299,slow=0.1,SNR=18
TXAR PKKPab **PKKPab 14 18 33.8 +0.1**
comp=Z,0.4nm,0.9s,baz=152,slow=5.7,SNR=4.0
TXAR Lajitas Array 122.69 25 PKiKP **PKPdf 14 08 36.1 -2.0**
TXAR Lajitas Array 122.69 25 **PKPdf 14 08 36.1 -2.0**
237A Washetta, Mont 122.80 16 IAMs_20 IAMs_20 15 09 37.8
comp=Z,9µm,19.0s
BBSR BB Station 122.82 345 IAMs_20 IAMs_20 15 03 11.1
comp=Z,9µm,22.0s
Y57A Sumter 122.95 1 IAMs_20 IAMs_20 15 03 56.2
comp=Z,8µm,20.0s
Y60A Bolivia 122.96 359 IAMs_20 IAMs_20 15 04 34.3
comp=Z,10µm,20.0s
JCT Junction City 123.05 21 PKiKP **PKPdf 14 08 37.1 -1.6**
JCT Junction City 123.05 21 PKPdf **PKPdf 14 08 37.1 -1.6**
Z47A Carrollton 123.18 9 IAMs_20 IAMs_20 15 10 00.5
comp=Z,9µm,20.0s
Z56A Williston 123.62 2 IAMs_20 IAMs_20 15 09 43.9
comp=Z,10µm,19.0s
VBMS Vicksburg 123.76 11 IAMs_20 IAMs_20 15 06 49.8
comp=Z,11µm,20.0s
NHSC New Hope 123.86 1 IAMs_20 IAMs_20 15 04 43.3
comp=Z,9µm,19.0s
255A Hazlehurst 124.97 3 IAMs_20 IAMs_20 15 08 09.6
comp=Z,9µm,21.0s
257A Skidaway Islan 124.97 2 IAMs_20 IAMs_20 15 05 20.8
comp=Z,10µm,20.0s
833A Chaparral WMA, 125.17 22 IAMs_20 IAMs_20 15 09 27.9
comp=Z,9µm,20.0s
TIGA Tifton 125.39 4 IAMs_20 IAMs_20 15 09 06.8
comp=Z,10µm,20.0s
456A Hilliard 126.19 3 IAMs_20 IAMs_20 15 09 40.9
comp=Z,9µm,19.0s
KVTX Kingsville 126.38 20 IAMs_20 IAMs_20 15 06 56.9
comp=Z,9µm,20.0s
ZAIG Zacatecas 128.97 28 IAMs_20 IAMs_20 15 12 43.2
comp=Z,9µm,19.0s
RKT Rikitea 129.30 101 *e*SS SS 14 28 27.2 +5.7
comp=Z,2µm,29.0s
RKT Rikitea 129.30 101 *e*LR LR 14 49 38.2
comp=Z,6µm,31.0s
UNM Universidad Na 133.44 26 IAMs_20 IAMs_20 15 10 03.5
comp=Z,5µm,22.0s
GRTK Grand Turk 134.68 349 IAMs_20 IAMs_20 15 09 10.9
comp=Z,8µm,22.0s
TLIG Tlapa 135.28 26 IAMs_20 IAMs_20 15 17 33.2
comp=Z,6µm,20.0s
SMRT St. Maarten 135.84 337 IAMs_20 IAMs_20 15 10 45.5
comp=Z,7µm,21.0s
TEIG Tepich 135.86 12 IAMs_20 IAMs_20 15 15 14.4
comp=Z,6µm,19.0s
SABA Saba 136.30 337 IAMs_20 IAMs_20 15 10 59.6
comp=Z,7µm,21.0s
SEUS St. Eustatius 136.32 337 IAMs_20 IAMs_20 15 11 23.3
comp=Z,6µm,22.0s
SKI Saint Kitts 136.38 336 IAMs_20 IAMs_20 15 10 45.8
comp=Z,6µm,22.0s
SC01 Santiago de lo 136.64 348 IAMs_20 IAMs_20 15 14 13.9
comp=Z,6µm,20.0s
GTBY Guantanamo Bay 136.78 354 IAMs_20 IAMs_20 15 17 08.5
comp=Z,7µm,20.0s
PMSA Palmer Station 137.36 190 IAMs_20 IAMs_20 15 14 22.1
comp=Z,6µm,18.0s
DLPL La Plaine 137.62 333 IAMs_20 IAMs_20 15 06 22.9
comp=Z,5µm,19.0s
FDF Fort de France 138.12 333 IAMs_20 IAMs_20 15 09 10.0
comp=Z,5µm,22.0s
MTDJ Mount Denham 138.64 357 IAMs_20 IAMs_20 15 13 22.4
comp=Z,7µm,21.0s
PETF Flores 138.72 15 IAMs_20 IAMs_20 15 19 48.5
comp=Z,8µm,21.0s
CCIG Comitan 138.72 19 IAMs_20 IAMs_20 15 23 17.8
comp=Z,7µm,20.0s
BBGH Gun Hill 138.82 330 IAMs_20 IAMs_20 15 18 27.2
comp=Z,5µm,22.0s
MCLT Moule a Chique 138.94 332 IAMs_20 IAMs_20 15 13 51.5
comp=Z,5µm,22.0s
SVB Belmont 139.46 332 IAMs_20 IAMs_20 15 17 51.0
comp=Z,4µm,20.0s
HUEH Huehuenango 139.82 18 IAMs_20 IAMs_20 15 21 27.9
comp=Z,7µm,20.0s
ROSB Rosrio 140.20 295 *e*P **PKiKP 14 09 12.6 -1.1**
RTAL Retalhuleu 140.52 19 IAMs_20 IAMs_20 15 21 31.4
comp=Z,7µm,19.0s
GDU01 Guandu, BA 141.06 277 *e*P **PKiKP 14 09 15.8 +0.3**
ESQI Esquipulas 141.12 15 IAMs_20 IAMs_20 15 18 35.0
comp=Z,5µm,20.0s
MTO3 Montecristo 141.27 15 IAMs_20 IAMs_20 15 19 38.0
comp=Z,5µm,20.0s
SNET Serv Nac Est T 141.99 15 IAMs_20 IAMs_20 15 15 32.0
comp=Z,5µm,20.0s
TGUH Tegucigalpa,Un 142.06 12 IAMs_20 IAMs_20 15 18 20.7
comp=Z,5µm,20.0s
MATN Matagalpa 143.41 11 IAMs_20 IAMs_20 15 18 13.3
comp=Z,5µm,19.0s
CRIN San Cristobal 143.42 12 IAMs_20 IAMs_20 15 19 05.1
comp=Z,5µm,20.0s
RIB01 Linhares ES 143.43 269 *e*P **PKiKP 14 09 19.6 -0.6**
SJMB Sao Joao De Ma 144.01 270 *e*P **PKPdf 14 09 18.9 +1.0**
ESPN Las Esperanzas 144.37 8 **PKPab 14 09 16.4 -0.2**
ESPN IAMs_20 IAMs_20 15 16 36.7
comp=Z,4µm,20.0s
URIC Uribia, Colomb 144.40 347 *e*P PKPbc 14 09 17.4 +0.3
ACON Acoyapa 144.47 10 **PKPab 14 09 16.1 -0.9**
ACON IAMs_20 IAMs_20 15 20 01.5
comp=Z,5µm,19.0s
MCPB Macapa, AP 144.90 307 *e*P **PKPdf 14 09 21.4 +1.7**
SMRC Santa Marta, M 145.32 351 *e*P **PKPdf 14 09 20.9 +0.6**
SDBA SAO DESIDERIO 145.41 282 *e*P **PKPab 14 09 21.8 +1.1**
JANB Januaria 145.83 278 *e*P **PKPab 14 09 22.9 +0.7**
MC01 Montes Claros 146.01 275 *e*P **PKPab 14 09 22.9 +0.1**
JTS Las Juntas de 146.15 10 IAMs_20 IAMs_20 15 20 58.0
comp=Z,5µm,20.0s
SMTB Santa Maria do 146.23 290 *e*P **PKPbc 14 09 22.8 -0.1**
HDC Heredia 146.55 8 IAMs_20 IAMs_20 15 21 12.6
comp=Z,5µm,19.0s
ARGC Ariguani, Magd 146.60 351 *e*P **PKiKP 14 09 26.8 -0.1**
SJCC San Jacinto, C 146.69 352 *e*P **PKPab 14 09 25.1 -0.3**
PRPB Parauapebas 146.72 296 *e*P **PKPbc 14 09 24.0 -0.5**
SDV Santo Domingo 146.81 344 PKPbc **PKPdf 14 09 23.1 0.0**
comp=Z,42nm,0.7s,baz=62,slow=2.3,SNR=32
SDV Santo Domingo 146.81 344 *e*P **PKPdf 14 09 22.8 -0.3**
SDV Santo Domingo 146.81 344 PKPdf **PKPdf 14 09 21.0 -2.1**
SDV Santo Domingo 146.81 344 IAMs_20 IAMs_20 15 18 23.9
comp=Z,6µm,21.0s
SDV Santo Domingo 146.81 344 *e*P **PKPbc 14 09 24.4 -0.4**
MG01 Puerto William 147.23 193 IAMs_20 IAMs_20 15 12 07.2
comp=Z,8µm,21.0s
EFI East Falkland 147.25 205 PKiKP **PKPdf 14 09 21.8 -0.6**
EFI East Falkland 147.25 205 PKPdf **PKPdf 14 09 21.8 -0.6**
EFI East Falkland 147.25 205 IAMs_20 IAMs_20 15 10 48.2
comp=Z,4µm,22.0s
SOCV Socops 147.45 344 *e*P **PKPdf 14 09 23.8 -0.2**
MALB Monte Alegre 147.53 307 *e*P **PKPbc 14 09 27.4 +0.8**
SMLC San Martn de 147.62 350 *e*P **PKPdf 14 09 18.2 -6.0**
BCIP Isla Barro Col 147.69 1 IAMs_20 IAMs_20 15 18 00.5
comp=Z,5µm,22.0s
BSCB Bom Sucesso 147.80 267 *e*P **PKPbc 14 09 27.0 -0.3**
MOTC Monteria, Cord 147.86 353 *e*P **PKPbc 14 09 27.0 -0.5**
CAPC Capurgana 148.15 356 *e*P **PKPdf 14 09 25.3 +0.1**
PEXB Peixe 148.32 285 *e*P **PKPbc 14 09 27.8 -1.0**
PNME Penonome 148.36 2 *e*P **PKPdf 14 09 21.6 -3.9**
PAMC Pamplona, Colo 148.79 347 *e*P **PKPbc 14 09 29.4 -1.2**
UREC San Jos de Ur 148.85 352 *e*P **PKPbc 14 09 28.6 -1.5**
ZARC Zaragoza, Cauc 149.02 351 *e*P **PKPdf 14 09 27.8 +1.2**
BRRC Barranca, Sant 149.21 349 *e*P **PKPdf 14 09 28.6 +1.8**
BDFB Brasilia 149.40 279 PKPbc **PKPbc 14 09 31.2 -0.4**
comp=Z,20nm,0.9s,baz=130,slow=3.4,SNR=11
BDFB Brasilia 149.40 279 IAMs_20 IAMs_20 15 18 53.3
comp=Z,6µm,19.0s
TAMC Tame, Arauca 149.46 345 *e*P **PKiKP 14 09 34.6 +1.8**
BARC Barichara 149.61 348 *e*P **PKPdf 14 09 29.8 +2.0**
DBBC Dabeiba 149.65 354 *e*P **PKPdf 14 09 29.2 +1.5**

PTBC	**PUERTO BERRIO**	**49.89**	**350**	*e*P	**PKPdf**	14 09 24.1	**-3.9**
RUSC	**La Rusia**	**150.27**	**347**	*e*P	**PKPdf**	14 09 29.0	**-0.2**
IPMB	**Ipameri, GO**	**150.28**	**274**	*e*P	**PKPbc**	14 09 32.0	**-1.6**
ITTB	**Itaituba**	**150.29**	**306**	*e*P	**PKPbc**	14 09 32.3	**-1.5**
PET01	**Itanhaem-SP**	**150.54**	**262**	*e*P	**PKPdf**	14 09 30.8	**+2.1**
SPB	**Sao Paulo**	**150.62**	**263**	PKPdf	**PKPdf**	14 09 26.4	**-2.3**
SPB				IAMs_20	IAMs_20	15 24 27.9	
	comp=Z,5µm,20.0s						
SPB	**Sao Paulo**	**150.62**	**263**	*e*P	**PKPdf**	14 09 30.9	**+2.2**
SPBC	**San Pablo de B**	**150.70**	**349**	*e*P	**PKPdf**	14 09 30.2	**+0.9**
CBOC	**Ciudad Bolivar**	**150.77**	**353**	*e*P	**PKPdf**	14 09 30.6	**+1.1**
GUY2C	**Guyana, Caldas**	**151.32**	**351**	*e*P	**PKPdf**	14 09 26.4	**-4.4**
ROSC	**El Rosal**	**151.54**	**349**	PKPbc	**PKPbc**	14 09 36.3	**-0.8**
	comp=Z,15nm,0.5s,baz=354,slow=6.1,SNR=9.7						
ROSC	**El Rosal**	**151.54**	**349**	*e*P	**PKPdf**	14 09 33.5	**+2.5**
ROSC	**El Rosal**	**151.54**	**349**	PKPbc	**PKPbc**	14 09 34.3	**-2.8**
ROSC				IAMs_20	IAMs_20	15 23 09.5	
	comp=Z,6µm,20.0s						
GO09	**Cerro Castillo**	**151.57**	**189**	IAMs_20	IAMs_20	15 21 26.9	
	comp=Z,5µm,18.0s						
CHIC	**Chingaza**	**151.63**	**348**	*e*P	**PKPdf**	14 09 31.9	**+0.7**
RREF	**El Recreo**	**151.64**	**351**	*e*P	**PKPdf**	14 09 24.8	**-6.7**
PTGC	**Puerto Gaitan,**	**151.70**	**344**	*e*P	**PKPdf**	14 09 30.9	**+0.2**
NPGB	**Novo Progresso**	**151.70**	**301**	*e*P	**PKPdf**	14 09 32.9	**+2.1**
PLMC	**San Jos del P**	**151.75**	**353**	*e*P	**PKPdf**	14 09 27.8	**-3.1**
TOLC	**Tolima**	**151.94**	**351**	*e*P	**PKPdf**	14 09 33.4	**+1.8**
ANIL	**Santa Ana**	**152.05**	**351**	*e*P	**PKPdf**	14 09 33.2	**+1.6**
VILC	**Villavicencio,**	**152.13**	**348**	*e*P	**PKPdf**	14 09 34.5	**+3.0**
ORTC	**Ortega, Tolima**	**152.60**	**351**	*e*P	**PKPdf**	14 09 33.0	**+0.9**
YOTC	**Yotoco, Valle**	**152.66**	**353**	*e*P	**PKPdf**	14 09 32.3	**-0.1**
ITRB	**Iturama**	**152.67**	**272**	*e*P	**PKPdf**	14 09 33.3	**+1.3**
PRAC	**Prado**	**152.73**	**350**	*e*P	**PKPdf**	14 09 32.9	**+0.6**
MACA	**Manacapuru-AM**	**152.91**	**315**	*e*P	**PKPdf**	14 09 35.9	**+3.4**
MARP	**Paez Belalcaza**	**153.74**	**352**	*e*P	**PKPdf**	14 09 35.5	**+1.4**
MACC	**Macarena, Meta**	**154.07**	**347**	*e*P	**PKPdf**	14 09 30.9	**-3.3**
POPC	**Popayan, Colom**	**154.13**	**354**	*e*P	**PKPdf**	14 09 35.6	**+1.0**
CLDB	**Colider**	**154.22**	**295**	*e*P	**PKPdf**	14 09 37.9	**+3.5**
PCON	**Cinco Dias**	**154.31**	**353**	*e*P	**PKPdf**	14 09 38.0	**+2.7**
GARC	**Garzon, Huila**	**154.32**	**351**	*e*P	**PKPdf**	14 09 36.0	**+1.1**
SOTA	**Rioblanco**	**154.52**	**353**	*e*P	**PKPdf**	14 09 37.1	**+1.6**
BBAC	**Balboa, Cauca**	**154.59**	**353**	*e*P	**PKPdf**	14 09 35.0	**-0.4**
FLOC	**Florencia**	**154.90**	**351**	*e*P	**PKPdf**	14 09 37.4	**+1.9**
GCUF	**Volcan Galeras**	**155.49**	**355**	*e*P	**PKPdf**	14 09 38.5	**+1.7**
PUAC	**Puerto Asis, P**	**156.08**	**353**	*e*P	**PKPdf**	14 09 39.8	**+2.8**
PTLC	**Puerto Leguiza**	**156.18**	**348**	*e*P	**PKPdf**	14 09 35.1	**-2.0**
PAC1	**Pacto, Paraso**	**156.52**	**358**	*e*P	**PKPdf**	14 09 36.2	**-1.5**
OTAV	**Otavalo**	**156.54**	**357**	*e*P	**PKPdf**	14 09 38.0	**-0.2**
OTAV	**Otavalo**	**156.54**	**357**	IAMs_20	IAMs_20	15 31 31.1	
	comp=Z,3µm,20.0s						
OTAV	**Otavalo**	**156.54**	**357**	*e*P	**PKPdf**	14 09 41.2	**+3.0**
SAML	**Samuel**	**158.81**	**310**	*e*P	**PKPdf**	14 09 42.9	**+2.5**
SAML	**Samuel**	**158.81**	**310**	IAMs_20	IAMs_20	15 23 46.5	
	comp=Z,7µm,20.0s						
SAML	**Samuel**	**158.81**	**310**	*e*P	**PKPdf**	14 09 44.4	**+4.0**
PTLB	**Pontes e Lacer**	**159.27**	**289**	*e*P	**PKPdf**	14 09 43.9	**+3.2**
PLCA	**Paso Flores**	**161.09**	**301**	PKPab	**PKPab**	14 10 27.0	**+1.7**
	comp=Z,6.5nm,0.9s,baz=155,slow=5.7,SNR=5.5						
ETMB	**Extrema**	**161.50**	**314**	*e*P	**PKPdf**	14 09 46.6	**+3.3**
LPAZ	**La Paz**	**167.21**	**301**	PKP	**PKPdf**	14 09 49.7	**+0.6**
	comp=Z,1.6nm,1.0s,baz=108,slow=2.0,SNR=8.1						
LPAZ	**La Paz**	**167.21**	**301**	*e*P	**PKPdf**	14 09 48.9	**-0.2**
LPAZ	**La Paz**	**167.21**	**301**	PKIKP	**PKPdf**	14 09 48.6	**-0.5**
LPAZ	**La Paz**	**167.21**	**301**		**PKPdf**	14 09 48.6	**-0.5**

*IDC **07** 13:58:16.0±3.6, 18°.56N×121°.54E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/48, mbtmp3.7/4, Error ellipse: s-maj=335.3km s-min=24.3km az=62.0*
*MAN **07** 13:58:21.1, 18°.48N×120°.87E, h14km, mb4.6, ML3.5, MS3.4*
MAN Intensity III - Pasuquin and Bacarra Ilocos Norte; Intensity II - Laoag City.
*NEIC **07** 13:58:24.7±0.9, 18°.45N±0°.10×121°.3E±0°.2, h70km±12km, mb4.5/5, Error ellipse: s-maj=22.5km s-min=13.8km az=80.0*

ISC 07 13:58:18.4±1.6, **18°.35N**±0°.04×**120°.90E**±0°.05, **h6**km±11km, **n32**, σ2ᵗ**52**/**33**, **mb3.4**/**5**, **1C**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.59**	**146**	*e*P	**Pn**	**13 58 34.5**	**+1.1**
APYP				*e*S	**Sn**	**13 58 44.3**	**+1.0**
SIPP	**Brgy, Tapao**	**0.60**	**225**	*i*P	**Pn**	**13 58 34.6**	**+1.1**
SIPP				*e*S	**Sn**	**13 58 50.5**	**+6.9**
SGCP	**Mt. Cagua**	**1.10**	**96**	*e*P	**Pn**	**13 58 41.9**	**+1.6**
SGCP				*e*S	**Sn**	**13 58 59.0**	**+3.1**
CAUP	**Cauayan**	**1.65**	**148**	*e*P	**Pg**	**13 58 50.4**	**+0.2**
CAUP				*e*S	**Sg**	**13 59 16.2**	**+4.6**
BOLP	**Bolinao**	**2.17**	**206**	*e*P	**Pg**	**13 58 58.4**	**-1.7**
BOLP				*e*S	**Sb**	**13 59 23.6**	**-1.9**
SMPP	**San Manuel, Pa**	**2.20**	**185**	*e*P	**Pg**	**13 58 59.3**	**-1.3**
SMPP				*e*S	**Sn**	**13 59 23.9**	**+0.7**
BALP	**Baler**	**2.68**	**166**	*e*P	**Pb**	**13 59 06.7**	**-0.1**
BALP				*e*S	**Sg**	**13 59 42.8**	**-1.6**
TWG	**Pinlang**	**4.45**	**2**	Pn	**Pn**	**13 59 28.4**	**+1.9**
TPUB	**Ta-pu**	**4.93**	**357**	Pn	**Pn**	**13 59 31.1**	**-2.0**
YUB	**Yu-li**	**5.03**	**4**	Pn	**Pn**	**13 59 36.0**	**+1.5**
SSLB	**Suanglung**	**5.41**	**1**		**Pn**	**13 59 41.6**	**+1.9**
NACB	**Ninganchiao**	**5.83**	**6**	Pn	**Pn**	**13 59 46.8**	**+1.3**
YHNB	**Yeheng**	**6.30**	**4**	Pn	**Pn**	**13 59 53.9**	**+1.8**
MYLDM	**Lahad Datu**	**13.30**	**190**	P	**P**	**14 01 40.9**	**+3.1**
SLVN	**Son La**	**16.26**	**283**	Pn	**P**	**14 02 12.9**	**+2.1**
SLVN				IAmb	IAmb	14 02 35.8	
	comp=Z,27nm,1.3s						
XAN	**Xi'an**	**18.94**	**328**		**Pn**	**14 02 42.6**	**+1.7**
KSAR	**Wonju Array Be**	**19.98**	**16**	P	**P**	**14 02 47.5**	**-4.1**
COEN	**Coen**	**38.90**	**144**	P	**P**	**14 05 42.3**	**-2.9**
COEN				IAmb	IAmb	14 05 49.2	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**40.28**	**160**	P	**P**	**14 05 54.7**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=342,slow=8.9,SNR=1.8						
WRA	**Warramunga Arr**	**40.28**	**160**	P	**P**	**14 05 52.1**	**-4.5**
MKAR	**Makanchi Array**	**42.50**	**321**	P	**P**	**14 06 15.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=107,slow=9.0,SNR=1.9						
MKAR	**Makanchi Array**	**42.50**	**321**	P	**P**	**14 06 15.0**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**43.35**	**82**	T	T	14 51 34.8	
	baz=277,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**43.36**	**82**	T	T	14 51 35.6	
	baz=277,slow=74,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**43.37**	**82**	T	T	14 51 36.4	
	baz=277,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**43.40**	**80**	T	T	14 51 39.4	
	baz=275						
H11N2	**WAKE ISLAND Hy**	**43.40**	**80**	T	T	14 51 42.5	
	baz=275						
H11N3	**WAKE ISLAND Hy**	**43.42**	**80**	T	T	14 51 45.0	
	baz=275						
ASAR	**Alice Springs**	**43.65**	**163**	P	**P**	**14 06 22.8**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=338,slow=6.9,SNR=6.7						
KURK	**Kurchatov**	**46.50**	**324**	P	**P**	**14 06 46.4**	**-0.2**
KURBB	**Kurchatov Arra**	**46.51**	**324**	P	**P**	**14 06 46.4**	**-0.2**
	comp=Z,1.6nm,0.2s,baz=123,slow=8.0,SNR=1.5						
NWAO	**Narrogin (SRO)**	**51.11**	**184**	P	**P**	**14 07 21.3**	**-0.7**

*IDC **07** 14:06:55.6±3.0, 23°.48N×143°.03E, h40km±26km, mb3.8/13, mb1 3.9/16, mb1mx3.7/47, mbtmp4.0/16, ML3.6/3, Error ellipse: s-maj=31.8km s-min=14.1km az=84.0*
*NEIC **07** 14:06:55.3±1.0, 23°.49N±0°.09×143°.17E±0°.04, h44km±7km, mb4.4/30, Error ellipse: s-maj=12.9km s-min=4.5km az=185.0*

ISC 07 14:06:54.9±0.5, **23°.47N**±0°.06×**143°.2E**±0°.1, **h39**km, **n60**, σ0ᵗ**80**/**54**, **mb4.2**/**24**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.73**	**346**	P	**Pn**	**14 07 51.8**	**+1.9**
	14nm,0.3s,baz=84,slow=24,SNR=10						
JCJ				S	**Sn**	**14 08 31.9**	**-0.6**
	84nm,0.3s,baz=142,slow=23,SNR=17						
JGF	**Kuroka**	**13.11**	**339**		**Pn**	**14 09 59.8**	**+1.2**
MJAR	**Matsushiro Arr**	**13.72**	**343**	P	**Pn**	**14 10 07.0**	**+0.1**
	0.1nm,0.3s,baz=285,slow=9.9,SNR=4.0						
MAJO	**Matsushiro**	**13.72**	**343**	Pn	**Pn**	**14 10 07.7**	**+0.8**
JSU	**Suzuyama**	**13.84**	**308**	Pn	**Pn**	**14 10 08.0**	**-0.5**
JMM	**Marumori**	**14.50**	**352**	Pn	**Pn**	**14 10 16.4**	**-1.0**
JSD	**Sado**	**15.12**	**345**	Pn	**Pn**	**14 10 23.6**	**-2.1**
JSD				IAmb	IAmb	14 10 43.4	
	comp=Z,19nm,1.2s						
KSRS	**Korea Array**	**19.13**	**320**	P	**P**	**14 11 13.7**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=8.5						
YULB	**Yu-li**	**20.08**	**274**	P	**P**	**14 11 23.6**	**-1.6**
YULB				IAmb	IAmb	14 11 33.2	
	comp=Z,56nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**22.35**	**95**	T	T	14 35 46.9	
	baz=282,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**22.35**	**95**	T	T	14 35 47.0	
	baz=282,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**22.37**	**95**	T	T	14 35 47.3	
	baz=282,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**22.48**	**98**	T	T	14 35 30.3	
	baz=285,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**22.49**	**98**	T	T	14 35 55.9	
	baz=285,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**22.50**	**98**	T	T	14 35 43.6	
	baz=285,slow=75,SNR=9.8						
USRK	**Ussuriysk Ar.**	**22.63**	**339**	P	**P**	**14 11 51.8**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=141,slow=9.3,SNR=6.5						
SONM	**Songino Array**	**37.99**	**319**	P	**P**	**14 09 05.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=134,slow=7.8,SNR=2.3						
SONM	**Songino Array**	**37.99**	**319**	IAmb	IAmb	14 14 10.2	
	comp=Z,1.0nm,0.8s						
KNRA	**Kununurra**	**41.38**	**201**	P	**P**	**14 14 37.6**	**+0.2**
KNRA				IAmb	IAmb	14 14 40.9	
	comp=Z,26nm,1.3s						
CMAR	**Chiang Mai Arr**	**41.49**	**272**	P	**P**	**14 14 38.8**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=60,slow=7.4,SNR=6.2						
WB0	**Warramunga Arr**	**43.82**	**192**	P	**P**	**14 14 57.0**	**-0.2**
WB0				IAmb	IAmb	14 15 12.0	
	comp=Z,6.1nm,1.2s						
WR0	**Warramunga Arr**	**43.98**	**192**	P	**P**	**14 14 58.5**	**0.0**
WR0				IAmb	IAmb	14 14 60.0	
	comp=Z,6.8nm,1.2s						
WB2	**Warramunga Arr**	**44.00**	**192**	P	**P**	**14 14 58.8**	**+0.2**
WB2				IAmb	IAmb	14 14 59.7	
	comp=Z,7.8nm,1.3s						
WRA	**Warramunga Arr**	**44.00**	**192**	P	**P**	**14 14 59.0**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=13,slow=8.7,SNR=57						
WRA	**Warramunga Arr**	**44.00**	**192**	P	**P**	**14 14 58.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**44.72**	**204**	P	**P**	**14 15 04.5**	**0.0**
FITZ				IAmb	IAmb	14 15 19.1	
	comp=Z,9.0nm,1.3s						
PMBI	**Palembang**	**45.69**	**240**	P	**P**	**14 15 12.2**	**0.0**
NIKH	**Nikolski High**	**46.59**	**38**	P	**P**	**14 15 18.1**	**-0.8**
AS31	**Alice Springs**	**47.71**	**192**	P	**P**	**14 15 27.8**	**-0.1**
ASAR	**Alice Springs**	**47.71**	**192**	P	**P**	**14 15 27.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=14,slow=7.7,SNR=26						
AKUT	**Akutan**	**48.71**	**38**	P	**P**	**14 15 35.4**	**+0.1**
TIXI	**Tiksi**	**48.90**	**354**	P	**P**	**14 15 36.3**	**-0.1**
TIXI				IAmb	IAmb	14 15 46.2	
	comp=Z,13nm,1.2s						
DZM	**Mont Dzumac**	**50.61**	**152**	P	**P**	**14 15 50.4**	**+0.2**
ZALV	**Zalesovo Beam**	**52.84**	**321**	P	**P**	**14 16 05.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=111,slow=7.2,SNR=2.5						
MK31	**Makanchi Array**	**53.52**	**312**	P	**P**	**14 16 10.9**	**-0.7**
MKAR	**Makanchi Array**	**53.52**	**312**	P	**P**	**14 16 11.1**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=91,slow=9.0,SNR=23						
MKAR	**Makanchi Array**	**53.52**	**312**	P	**P**	**14 16 10.9**	**-0.7**
MAKZ	**Makanchi**	**53.73**	**312**	P	**P**	**14 16 12.7**	**-0.4**
STKA	**Stephens Creek**	**55.05**	**182**	P	**P**	**14 16 22.8**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=355,slow=8.3,SNR=3.7						
FORT	**Forrest**	**55.85**	**196**	P	**P**	**14 16 28.5**	**0.0**
KURK	**Kurchatov**	**56.20**	**316**	P	**P**	**14 16 30.5**	**-0.3**
HLP	**Hilina Pali**	**57.26**	**82**	P	**P**	**14 16 36.4**	**-1.1**
BOOM	**Boomskoye usch**	**58.05**	**306**	P	**P**	**14 16 45.0**	**+0.6**
RND	**Reindeer**	**59.43**	**29**	P	**P**	**14 16 55.4**	**+2.0**
RND				IAmb	IAmb	14 17 10.6	
	comp=Z,6.6nm,1.4s						
GLI	**Glacier Island**	**59.93**	**32**	P	**P**	**14 16 55.6**	**-1.2**
ILAR	**Eielson Array**	**60.48**	**28**	P	**P**	**14 17 02.0**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=250,slow=5.4,SNR=6.4						
ILAR	**Eielson Array**	**60.48**	**28**	P	**P**	**14 17 00.5**	**0.0**
TOO	**Toolangi**	**60.75**	**178**	P	**P**	**14 17 03.7**	**+1.1**
NIL	**Nilore**	**61.23**	**297**	P	**P**	**14 17 07.1**	**+0.9**
NIL				IAmb	IAmb	14 17 08.0	
	comp=Z,2.7nm,0.6s						
KK31	**Karatay Array**	**61.97**	**308**	P	**P**	**14 17 10.6**	**-0.4**
KK31				IAmb	IAmb	14 17 19.1	
	comp=Z,1.8nm,0.9s						
KKAR	**Karatay Array**	**61.97**	**308**	P	**P**	**14 17 10.9**	**-0.1**
KKAR	**Karatay Array**	**61.97**	**308**	P	**P**	**14 17 10.6**	**-0.4**
KKAR				IAmb	IAmb	14 17 19.1	
	comp=Z,1.8nm,0.9s						
CHGR	**Chuyangaron**	**63.63**	**303**	P	**P**	**14 17 22.7**	**+0.5**
KBL	**Kabul**	**64.49**	**298**	P	**P**	**14 17 28.0**	**-0.2**
KBL				IAmb	IAmb	14 17 29.2	
	comp=Z,4.8nm,0.8s						
ARU	**Arti**	**67.85**	**323**	P	**P**	**14 17 48.7**	**-0.2**
ABKAR	**Akbulak array**	**68.29**	**316**	P	**P**	**14 17 51.5**	**-0.3**
GEYT	**Alibeck**	**72.25**	**304**	P	**P**	**14 18 16.4**	**0.0**
	comp=Z,3.0nm,0.8s,baz=183,slow=14,SNR=4.1						
ARCES	**ARCESS Array B**	**77.25**	**341**	P	**P**	**14 18 45.4**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=89,slow=7.9,SNR=5.5						
KBZ	**Khabaz**	**81.15**	**314**	P	**P**	**14 19 07.0**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=85,slow=3.5,SNR=3.9						
FINES	**FINESS Array B**	**81.59**	**334**	P	**P**	**14 19 07.9**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=68,slow=5.4,SNR=11						

BJI 07 14:08:06.9±0.0, **23°.38N**×**100°.50E**, **h18**km, **ML3.6**/6, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**22.95**	**336**	*e*P	P	14 13 07.8	-2.5

*NEIC **07** 14:11:06.4±1.0, 15°.85N±0°.05×96°.43W±0°.05, h35km±8km, Error ellipse: s-maj=8.4km s-min=5.5km az=210.0*
*MEX **07** 14:11:07.4±0.6, 15°.78N×96°.44W, h41km±7km, MD4.5*

ISC 07 14:11:04.1±0.6, **15°.99N**±0°.03×**96°.44W**±0°.03, **h10**km, **n30**, σ1ᵍ**30**/**44**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.32**	**185**	*i*P	**Pb**	**14 11 13.0**	**+1.1**
PANG				*i*S	**Sb**	**14 11 17.9**	**+0.8**
PANG	**Puerto Angel**	**0.32**	**185**		**Pb**	**14 11 13.0**	**+1.1**
PANG					**Sb**	**14 11 17.9**	**+0.8**
HUIG	**Huatulco**	**0.39**	**124**	*i*P	**Pb**	**14 11 14.4**	**+1.4**
HUIG				*i*S	**Sb**	**14 11 19.9**	**+0.8**
HUIG	**Huatulco**	**0.39**	**124**		**Pb**	**14 11 14.4**	**+1.4**
HUIG					**Sb**	**14 11 19.9**	**+0.8**
PEIG	**Puerto Escondi**	**0.68**	**271**	*i*P	**Pb**	**14 11 19.1**	**+1.1**
PEIG				*i*S	**Sb**	**14 11 28.3**	**+0.8**
OXBJ	**Oaxaca**	**1.11**	**346**	*i*P	**Pn**	**14 11 27.7**	**+1.9**
OXBJ				*i*S	**Sn**	**14 11 43.4**	**+2.1**
OXBJ	**Oaxaca**	**1.11**	**346**		**Pn**	**14 11 27.7**	**+1.9**
OXBJ					**Sn**	**14 11 43.4**	**+2.1**
VHO	**Vista Hermosa**	**1.12**	**346**	*i*P	**Pn**	**14 11 27.8**	**+1.9**
VHO				*i*S	**Sn**	**14 11 43.8**	**+2.3**
YOIG	**Yosondua**	**1.37**	**309**	*i*P	**Pg**	**14 11 31.4**	**+1.0**
YOIG				*e*S	**Sg**	**14 11 48.3**	**+0.1**
PNIG	**Pinotepa**	**1.67**	**284**	*i*P	**Pn**	**14 11 33.4**	**0.0**
PNIG				*i*S	**Sn**	**14 11 52.7**	**-2.2**
PNIG	**Pinotepa**	**1.67**	**284**		**Pn**	**14 11 33.4**	**0.0**
CMIG	**Matias Romero**	**1.85**	**53**	*e*P	**Pn**	**14 11 36.3**	**+0.3**
CMIG				*i*S	**Sn**	**14 11 60.0**	**+0.5**
CMIG	**Matias Romero**	**1.85**	**53**		**Pn**	**14 11 36.5**	**+0.6**
TOIG	**Toxpalan**	**2.18**	**344**	*e*P	**Pb**	**14 11 43.5**	**-0.3**
TOIG				*i*S	**Sb**	**14 12 10.5**	**-0.4**
TLIG	**Tlapa**	**2.57**	**308**		**Pb**	**14 11 49.1**	**-1.3**
PCIG		**3.12**	**95**	*i*P	**Pn**	**14 11 53.0**	**-0.3**
PCIG				*i*S	**Sn**	**14 12 28.1**	**-2.4**
PCIG		**3.12**	**95**		**Pn**	**14 11 53.0**	**-0.3**
TGIG		**3.28**	**76**	*i*P	**Pn**	**14 11 56.8**	**+1.2**
TGIG		**3.28**	**76**		**Pn**	**14 11 56.8**	**+1.2**
CCIG	**Comitan**	**4.15**	**85**	*i*P	**Pn**	**14 12 08.1**	**+0.4**
CCIG				*i*S	**Sn**	**14 12 53.9**	**-2.5**
CCIG	**Comitan**	**4.15**	**85**		**Pn**	**14 12 08.1**	**+0.4**
PETF	**Flores**	**6.38**	**81**	Pn	**Pn**	**14 12 38.9**	**+0.8**
MTO3	**Montecristo**	**7.02**	**102**	Pn	**Pn**	**14 12 49.0**	**+1.8**
JCT	**Junction City**	**14.75**	**349**	Pn	**Pn**	**14 14 33.1**	**+0.2**
Y52A	**Lilburn**	**21.01**	**30**	P	**P**	**14 15 48.3**	**+0.4**
P52A	**Corning**	**26.67**	**25**	P	**P**	**14 16 43.1**	**-0.1**
P52A				IAmb	IAmb	14 16 44.1	
	comp=Z,9.6nm,0.8s						
PDPR	**Patillas Dam,**	**29.14**	**82**	P	**P**	**14 17 03.5**	**-2.1**
PDPR				IAmb	IAmb	14 17 04.4	
	comp=Z,25nm,1.2s						
LRM	**Limekiln Ridge**	**32.63**	**339**	P	**P**	**14 17 35.0**	**-1.4**
Q23K	**Middleton Isla**	**56.51**	**332**	P	**P**	**14 20 46.1**	**-0.1**
BCAR	**Beaver Creek A**	**56.53**	**337**	P	**P**	**14 20 45.8**	**-0.7**

*IDC **07** 14:38:50.2±0.8, 23°.39N×100°.70E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/43, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=25.6km s-min=14.3km az=83.0*
*BJI **07** 14:38:52.8±0.0, 23°.36N×100°.49E, h17km, mb4.4/16, ML4.2/10*
*NEIC **07** 14:38:52.8±1.9, 23°.36N±0°.07×100°.55E±0°.07, h16km±5km, mb4.2/19, Error ellipse: s-maj=10.1km s-min=9.3km az=123.0*

ISC 07 14:38:53.2±0.5, **23°.39N**±0°.04×**100°.50E**±0°.06, **h10**km, **n62**, σ1ᵍ**68**/**61**, **mb4.0**/**16**, **1C**, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.67**	**49**	*e*Pn	**Pn**	**14 39 36.2**	**-0.4**
KMI				Pg	**Pb**	**14 39 42.3**	**+1.0**
KMI				Sg	**Sg**	**14 40 21.0**	**+1.9**
KMI				smax	smax		
	comp=N,990nm,1.1s						
KMI				smax	smax		
	comp=E,830nm,1.0s						
KMI	**Kunming**	**2.67**	**49**		**Pn**	**14 39 35.7**	**-0.9**
CRAI	**Chiangrai**	**3.15**	**182**	S	**Sb**	**14 40 27.6**	**-0.3**
SLVN	**Son La**	**3.76**	**122**	Pn	**Pn**	**14 39 49.4**	**-1.9**
PAYA	**Payao**	**4.06**	**188**	P	**Pn**	**14 39 53.5**	**-1.9**
CHTO	**Chiang Mai**	**4.78**	**198**	Pn	**Pn**	**14 40 04.6**	**-0.8**
PHRA	**Phrae**	**4.88**	**183**	P	**Pn**	**14 40 06.8**	**+0.1**
CM31	**Chiang Mai Arr**	**5.12**	**197**	P	**Pn**	**14 40 10.2**	**+0.1**
CM31	**Chiang Mai Arr**	**5.12**	**197**		**Pn**	**14 40 09.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**5.12**	**197**	Pn	**Pn**	**14 40 09.1**	**-1.0**
	0.8nm,0.3s,baz=12,slow=13,SNR=26						
CMAR				Pg	**Pb**	**14 40 25.8**	**+2.8**
	12nm,0.3s,baz=10,slow=14,SNR=77						
CMAR				Lg	Lg	14 41 31.8	
	9.7nm,0.3s,baz=18,slow=28,SNR=12						
CMAR	**Chiang Mai Arr**	**5.12**	**197**	Pn	**Pn**	**14 40 08.9**	**-1.2**
CM09	**Chiang Mai Arr**	**5.12**	**196**	P	**Pn**	**14 40 10.8**	**+0.7**
CM15	**Chiang Mai Arr**	**5.13**	**197**	P	**Pn**	**14 40 10.8**	**+0.6**
CM02	**Chiang Mai Arr**	**5.14**	**197**	P	**Pn**	**14 40 10.3**	**0.0**
CM01	**Chiang Mai Arr**	**5.15**	**197**	P	**Pn**	**14 40 10.8**	**+0.3**
CM13	**Chiang Mai Arr**	**5.17**	**197**	P	**Pn**	**14 40 11.2**	**+0.5**
CM04	**Chiang Mai Arr**	**5.17**	**196**	P	**Pn**	**14 40 11.4**	**+0.7**
CM05	**Chiang Mai Arr**	**5.18**	**197**	P	**Pn**	**14 40 11.1**	**+0.2**
UTTA	**Uttaradit**	**5.62**	**179**	P	**Pn**	**14 40 16.8**	**-0.1**
MHMT	**Maesariang**	**5.72**	**205**	P	**Pn**	**14 40 19.9**	**+1.6**
NONG	**Nongkai**	**5.85**	**155**	P	**Pn**	**14

H11S3 T T 15 23 25.1
baz=275,slow=74,SNR=47
H11S1 WAKE ISLAND Hy 18.76 88 P **Pn** **15 04 21.5 +0.7**
H11S1 T T 15 23 25.8
baz=275,slow=74,SNR=66
H11S2 WAKE ISLAND Hy 18.77 88 P **P** **15 04 20.8 +0.6**
H11S2 T T 15 23 25.8
baz=275,slow=74,SNR=48
JMN Monobe 18.83 324 P **P** **15 04 20.6 -0.5**
JMN IAmb IAmb 15 04 33.3
comp=Z,109nm,1.4s
H11N1 WAKE ISLAND Hy 18.89 84 P **P** **15 04 21.7 +0.2**
baz=258,slow=14,SNR=6.0
H11N1 T T 15 23 38.6
H11N2 WAKE ISLAND Hy 18.90 84 P **P** **15 04 22.7 +1.1**
baz=258,slow=14,SNR=6.5
H11N2 T T 15 23 38.6
H11N3 WAKE ISLAND Hy 18.91 84 P **Pn** **15 04 23.6 +1.0**
baz=258,slow=14,SNR=6.1
H11N3 T T 15 23 38.6
MJAR Matsushiro Arr 19.21 338 P **P** **15 04 24.6 -0.5**
comp=Z,0.1nm,0.3s,baz=163,slow=9.7,SNR=15
MJAR Matsushiro Arr 19.21 338 P **P** **15 04 23.6 -1.6**
MAJO Matsushiro 19.21 338 P **P** **15 04 25.0 -0.1**
MAT Matsushiro 19.21 338 P **P** **15 04 25.4 +0.3**
MAT *e*S **S** **15 08 04.1 +3.3**
JWT Wachi 19.28 330 P **P** **15 04 25.2 -0.7**
JSU Suzuyama 19.47 313 Pn **Pn** **15 04 29.4 0.0**
JSU IAmb IAmb 15 04 32.0
comp=Z,52nm,1.0s
JMM Marumori 19.68 346 P **P** **15 04 30.8 +0.6**
JMM IAmb IAmb 15 04 58.2
comp=Z,77nm,1.1s
JNU Nakatsue 20.19 318 P Pn 15 04 36.5 -1.4
comp=Z,46nm,1.1s,baz=155,slow=1.9,SNR=7.3
JNU Nakatsue 20.19 318 P **P** **15 04 36.3 +0.4**
JNU IAmb IAmb 15 04 40.0
comp=Z,54nm,1.1s
JHS Saijyo 20.20 325 P **P** **15 04 36.3 +0.3**
JHS IAmb IAmb 15 04 40.3
comp=Z,61nm,1.3s
JSD Sado 20.55 340 P **P** **15 04 40.5 +0.8**
JSD IAmb IAmb 15 04 46.5
comp=Z,57nm,0.9s
JAY Jayapura 22.09 197 P **P** **15 04 57.9 +1.4**
comp=Z,20nm,0.9s,baz=37,slow=6.9,SNR=4.7
JAY Jayapura 22.09 197 P **P** **15 04 58.7 +2.2**
comp=Z,16nm,0.9s
GENI Genyem 22.32 198 P **P** **15 05 00.2 +1.3**
JTM Tenmabayashi 22.43 348 P **P** **15 05 00.1 +0.3**
JTM IAmb IAmb 15 05 19.0
comp=Z,78nm,1.2s
DAV Davao City (W) 23.82 243 LR LR 15 12 56.2
comp=Z,1µm,21.6s,baz=16,slow=32
KSRS Korea Array 24.88 322 P **P** **15 05 23.6 +0.1**
comp=Z,14nm,0.7s,baz=142,slow=8.9,SNR=38
KSAR Wonju Array Be 24.89 322 P **P** **15 05 23.1 -0.5**
KS19 Wonju Array Si 24.95 322 P **P** **15 05 23.3 -0.8**
TGY Tagaytay City 25.33 263 LR LR 15 13 44.4
comp=Z,1µm,20.9s,baz=26,slow=32
INCN Inchon 25.66 320 P **P** **15 05 30.9 +0.1**
INCN IAmb IAmb 15 05 33.8
comp=Z,58nm,1.1s
FAKI Fak Fak 26.00 215 P **P** **15 05 33.9 -0.1**
FAKI IAmb IAmb 15 05 51.0
comp=Z,57nm,1.2s
PMG Port Moresby 28.08 179 P **P** **15 05 53.0 +0.4**
comp=Z,15nm,0.8s,baz=8.9,slow=9.1,SNR=4.6
PMG Port Moresby 28.08 179 P **P** **15 05 52.6 0.0**
PMG IAmb IAmb 15 06 03.7
comp=Z,22nm,0.8s
USRK Ussuriysk Ar. 28.19 337 P **P** **15 05 54.1 +0.8**
comp=Z,7.0nm,0.8s,baz=153,slow=10.0,SNR=13
USRK Ussuriysk Ar. 28.19 337 P **P** **15 05 53.1 -0.3**
NJ2 Nanjing 28.43 303 *e*P **P** **15 05 56.6 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MDJ Mudanjiang 29.48 334 P **P** **15 06 05.8 +1.0**
MDJ sP pwP 15 06 28.7 +10
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ Mudanjiang 29.48 334 P **P** **15 06 03.0 -1.7**
TIA Tai'an 31.39 310 P **P** **15 06 22.3 +0.6**
TIA pmax pmax
comp=Z,7.0nm,0.8s
COEN Coen 32.81 187 P **P** **15 06 34.3 -0.1**
COEN IAmb IAmb 15 06 36.4
comp=Z,14nm,0.8s
BJI Beijing 33.82 315 P **P** **15 06 42.9 -0.1**
BJI PcP **PcP** **15 09 22.8 +1.3**
BJI pmax pmax
comp=Z,11nm,1.1s
PEA0B Petropavlovsk- 35.20 11 P **P** **15 06 55.7 +0.9**
PETK Petropavlovsk- 35.20 11 P **P** **15 06 55.9 +1.1**
comp=Z,5.3nm,1.0s,baz=101,slow=30,SNR=4.1
SOEI Soe 36.15 220 P **P** **15 07 01.9 -1.6**
MMRI Maumere 36.58 224 P **P** **15 07 06.1 -0.9**
HHC Hu-ho-hao-te 37.31 314 *e*P **P** **15 07 13.8 +0.7**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,790nm,7.6s
HIA Hailar 37.38 330 P **P** **15 07 13.1 -0.4**
HIA IAmb IAmb 15 07 24.9
comp=Z,17nm,1.1s
SBUM Sibu 37.66 249 P **P** **15 07 14.5 -1.7**
SBUM IAmb IAmb 15 07 27.8
comp=Z,20nm,1.2s
KNRA Kununurra 38.68 209 P **P** **15 07 23.8 -0.9**
KNRA IAmb IAmb 15 07 33.3
comp=Z,27nm,1.3s
SANVU Saraoutou 39.52 148 P **P** **15 07 31.0 -0.7**
KSM Kuching 39.80 249 P **P** **15 07 33.4 -0.8**
KSM IAmb IAmb 15 07 45.5
comp=Z,10nm,0.9s
WB0 Warramunga Arr 40.30 198 P **P** **15 07 38.0 -0.2**
WB0 IAmb IAmb 15 07 39.6
comp=Z,15nm,1.0s
WR0 Warramunga Arr 40.43 198 P **P** **15 07 38.2 -1.1**
WRAB Tennant Creek 40.47 198 P **P** **15 07 38.4 -1.1**
WRAB IAmb IAmb 15 07 41.1
comp=Z,26nm,1.2s
WB2 Warramunga Arr 40.47 198 P **P** **15 07 39.0 -0.7**
WB2 IAmb IAmb 15 07 41.2
comp=Z,16nm,0.9s
WRA Warramunga Arr 40.48 198 P **P** **15 07 39.3 -0.4**
comp=Z,8.7nm,0.8s,baz=25,slow=8.4,SNR=46
WRA ScP **ScP** **15 13 28.4 -0.2**
comp=Z,1.6nm,0.9s,baz=16,slow=3.9,SNR=5.9
WRA Warramunga Arr 40.48 198 P **P** **15 07 38.7 -1.0**
CD2 Chengdu 40.70 296 P **P** **15 07 41.0 -0.6**
LZH Lanzhou 41.51 303 *e*P **P** **15 07 48.5 +0.2**
LZH sP pwP 15 08 11.1 +8.4
LZH pmax pmax
comp=Z,18nm,1.5s
FITZ Fitzroy Crossi 42.25 211 P **P** **15 07 53.7 -0.5**
ULN Ulaanbaatar 43.36 321 P **P** **15 08 02.8 -0.3**
ULN IAmb IAmb 15 08 07.0
comp=Z,30nm,1.4s
PWJI Pagerwojo 43.71 235 P P 15 08 13.1 +6.9
comp=Z,42nm,1.5s
SONM Songino Array 43.74 321 P **P** **15 08 06.8 +0.7**
comp=Z,6.5nm,0.6s,baz=139,slow=8.6,SNR=34
SONM PcP **PcP** **15 09 52.7 +0.1**
comp=Z,4.4nm,0.8s,baz=143,slow=4.1,SNR=4.4
SONM ScP **ScP** **15 13 41.6 +0.1**
comp=Z,0.2nm,0.3s,baz=149,slow=3.5,SNR=4.1
SONM Songino Array 43.74 321 P **P** **15 08 06.2 +0.1**
SONM PcP **PcP** **15 09 53.0 +0.4**
GSTR Great Sitkin T 44.02 32 P **P** **15 08 07.7 -0.5**
AS31 Alice Springs 44.12 197 P **P** **15 08 09.0 -0.3**
ASAR Alice Springs 44.12 197 P **P** **15 08 09.8 +0.4**
comp=Z,3.8nm,0.8s,baz=23,slow=6.8,SNR=60
ASAR ScP **ScP** **15 13 43.0 -0.1**
comp=Z,0.9nm,0.8s,baz=14,slow=4.5,SNR=4.8
ASAR Alice Springs 44.12 197 P **P** **15 08 09.3 0.0**
SEY Seymchan 44.20 4 P **P** **15 08 09.9 +0.5**
comp=Z,2.0nm,0.6s,baz=170,slow=7.8,SNR=6.2
UGM Wanagama 44.66 237 P **P** **15 08 12.8 -0.9**
YAK Yakutsk 44.79 349 P **P** **15 08 14.2 +0.1**
YAK IAmb IAmb 15 08 21.7
comp=Z,35nm,1.1s
DZM Mont Dzumac 44.94 154 P **P** **15 08 15.4 -0.5**
CMAR Chiang Mai Arr 45.33 278 P **P** **15 08 19.3 +0.2**
comp=Z,3.2nm,0.9s,baz=66,slow=6.6,SNR=20
CMAR LR LR 15 25 36.1
comp=Z,568nm,20.9s,baz=66,slow=34
CMAR Chiang Mai Arr 45.33 278 P **P** **15 08 20.6 +1.5**
GTA Gaotai 45.36 307 P **P** **15 08 20.2 +1.0**
GTA pP pwP 15 08 36.5 +2.7
GTA sP sP 15 08 43.4 +10
GTA PcP **PcP** **15 09 57.9 -0.4**
GTA pmax pmax
comp=Z,5.0nm,1.2s
PSA00 Pilbara Seismi 48.12 215 P **P** **15 08 39.4 -1.4**
PSA00 IAmb IAmb 15 08 53.0
comp=Z,9.3nm,0.9s
PSA00 Pilbara Seismi 48.12 215 P **P** **15 08 39.6 -1.2**
PSA00 IAmb IAmb 15 09 09.2
comp=Z,12nm,0.6s
ARMA Armidale 49.20 175 P **P** **15 08 49.3 +0.3**
ARMA IAmb IAmb 15 09 13.2
comp=Z,20nm,1.3s
PSI Prapat 49.55 257 LR LR 15 29 10.8
comp=Z,396nm,18.9s,baz=272,slow=35
MNSI Mandailing Nat 49.73 254 P P 15 09 01.9 +8.5
STKA Stephens Creek 50.70 186 P **P** **15 09 00.2 -0.1**
comp=Z,3.7nm,0.8s,baz=315,slow=11,SNR=6.2
LHI Lord Howe Isla 51.43 167 P **P** **15 09 04.7 -1.1**
BBOO Buckleboo 52.41 192 P **P** **15 09 13.0 -0.1**
FORT Forrest 52.57 200 P **P** **15 09 14.1 -0.1**
TIXI Tiksi 53.85 353 P **P** **15 09 22.3 -0.9**
TIXI IAmb IAmb 15 09 27.9
comp=Z,28nm,1.2s
WMQ Urumqi 55.07 311 *e*P **P** **15 09 33.8 +1.2**
WMQ pP pP 15 09 44.0 +1.4
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ pmax pmax
comp=Z,550nm,9.5s
WMQ LR LR
comp=Z,440nm,16.5s
WMQ LR LR
comp=Z,470nm,15.1s
WMQ LR LR
comp=Z,170nm,19.7s
CHGN Chignik 55.12 34 P **P** **15 09 33.6 +0.9**
TNA Tin City 55.26 21 P **P** **15 09 34.7 +1.2**
TNA IAmb IAmb 15 09 35.7
comp=Z,17nm,1.1s
ANM Nome 55.61 23 P **P** **15 09 37.5 +1.4**
TOO Toolangi 56.14 181 P **P** **15 09 39.3 -0.9**
MORW Morawa 56.19 213 P **P** **15 09 40.6 -0.1**
MORW IAmb IAmb 15 09 58.0
comp=Z,18nm,1.0s
SII Sitkinak Islan 57.44 34 P **P** **15 09 50.4 +1.2**
ZSN Zaisan 57.50 315 *e*P **P** **15 09 50.3 +0.4**
comp=Z,10.0nm,0.9s
OHAK Old Harbor 58.09 34 P **P** **15 09 54.4 +0.7**
OHAK IAmb IAmb 15 10 11.7
comp=Z,18nm,1.1s
SVW2 Sparrevohn 58.14 29 P **P** **15 09 54.7 +0.6**
SVW2 IAmb IAmb 15 09 56.5
comp=Z,12nm,0.7s
RDOG Red Dog Mine 58.29 20 P **P** **15 09 55.4 +0.4**
RDOG IAmb IAmb 15 09 57.4
comp=Z,15nm,1.0s
ZAA0 Zalesovo Array 58.59 322 P **P** **15 09 56.9 -0.4**
ZALV Zalesovo Beam 58.59 322 P **P** **15 09 57.1 -0.2**
comp=Z,16nm,0.8s,baz=107,slow=7.7,SNR=41
ZALV Zalesovo Beam 58.59 322 P **P** **15 09 56.6 -0.7**
TTA Tatalina 58.60 27 P **P** **15 09 57.3 0.0**
TTA IAmb IAmb 15 09 59.1
comp=Z,7.8nm,0.8s
KDAK Kodiak Island 58.60 33 P **P** **15 09 56.9 -0.5**
comp=Z,9.1nm,0.8s,baz=260,slow=3.9,SNR=7.3
KDAK Kodiak Island 58.60 33 P **P** **15 09 57.5 +0.2**
NWAO Narrogin (SRO) 58.78 209 P **P** **15 09 57.6 -1.3**
NWAO Narrogin (SRO) 58.78 209 P **P** **15 09 57.6 -1.3**
NWAO IAmb IAmb 15 10 15.2
comp=Z,22nm,1.2s
MK31 Makanchi Array 59.18 314 P **P** **15 10 01.5 -0.1**
MK31 IAmb IAmb 15 10 03.0
comp=Z,9.5nm,0.8s
MKAR Makanchi Array 59.18 314 P **P** **15 10 01.8 +0.2**
comp=Z,13nm,0.7s,baz=91,slow=9.2,SNR=122
MKAR Makanchi Array 59.18 314 P **P** **15 10 01.2 -0.4**
RSO Redoubt South 59.26 30 P **P** **15 10 01.7 -0.4**
MAKZ Makanchi 59.39 314 P **P** **15 10 03.4 +0.3**
CNPM China Poot 59.73 31 P **P** **15 10 05.2 0.0**
BRLK Bradley Lake 59.97 31 P **P** **15 10 06.6 -0.2**
PPLA Purkeypile 60.23 27 P **P** **15 10 09.4 +0.7**
SKT Skwentna 60.26 29 P **P** **15 10 08.9 +0.2**
SKT IAmb IAmb 15 10 09.5
comp=Z,11nm,0.8s
SUA Susitna One 60.48 29 P **P** **15 10 09.6 -0.7**
SEW Seward 60.75 31 P **P** **15 10 11.9 -0.2**
KTH Kantishna Hill 60.98 27 P **P** **15 10 13.6 -0.1**
SHLS Shalkode 61.00 309 *e*P **P** **15 10 11.4 -2.8**
BPAW Bear Paw Mtn. 61.11 26 P **P** **15 10 15.0 +0.5**
TRF Thorofare Moun 61.22 27 P **P** **15 10 15.3 -0.1**
PMR Palmer 61.26 29 P **P** **15 10 14.3 -1.1**
PMR IAmb IAmb 15 10 16.1
comp=Z,9.9nm,0.8s
UZB Uzynbulak 61.32 309 *e*P **P** **15 10 15.1 -1.4**
GHO Glory Hole Cre 61.40 29 P **P** **15 10 16.5 -0.1**
GHO IAmb IAmb 15 10 17.4
comp=Z,15nm,0.8s
MLY Manley 61.49 25 P **P** **15 10 18.2 +1.1**
baz=253
KNK Knik Glacier 61.53 30 P **P** **15 10 17.3 -0.1**
KPKS Kokpek 61.57 310 *e*P **P** **15 10 16.5 -1.6**
SML Sawmill 61.68 29 P **P** **15 10 18.4 0.0**
BWN Browne 61.77 26 P **P** **15 10 19.8 +0.9**
SATY Saty 61.77 309 *e*P **P** **15 10 18.8 -0.7**
TDK Taldyqorghan 61.79 311 *e*P **P** **15 10 18.4 -1.1**
RND Reindeer 61.83 27 P **P** **15 10 19.1 -0.3**
NRIK Noril'sk 61.86 340 P **P** **15 10 19.8 +0.4**
comp=Z,14nm,1.0s,baz=109,slow=8.2,SNR=11
MCK McKinley 61.88 27 P **P** **15 10 19.8 +0.1**
baz=255,SNR=5.0
KURK Kurchatov 61.92 318 P **P** **15 10 19.4 -0.8**
NEA2 Nenana 62.05 26 P **P** **15 10 22.1 +1.3**
baz=255,SNR=14
GLI Glacier Island 62.06 30 P **P** **15 10 21.2 +0.3**
SCM Sheep Creek Mo 62.15 29 P **P** **15 10 22.0 +0.4**
HIN Hinchinbrook I 62.25 31 P **P** **15 10 22.6 +0.4**
FID Port Fidalgo 62.33 31 P **P** **15 10 23.2 +0.4**
COLD Coldfoot 62.36 23 P **P** **15 10 24.5 +1.6**
baz=252
COLD Coldfoot 62.36 23 P **P** **15 10 23.9 +1.0**
COLD IAmb IAmb 15 10 25.6
comp=Z,13nm,1.0s
WRH Wood River Hil 62.43 26 P **P** **15 10 23.2 -0.1**
WRH IAmb IAmb 15 10 24.5
comp=Z,14nm,0.9s
MDM Murphy Dome 62.49 26 P **P** **15 10 23.9 +0.1**
MDM IAmb IAmb 15 10 26.0
comp=Z,14nm,0.8s
CCB Clear Creek Bu 62.59 26 P **P** **15 10 24.4 0.0**
TCOL CIGO, UAF Yank 62.62 26 P **P** **15 10 26.4 +1.8**
baz=256
EYAK Cordova Ski Ar 62.65 31 P **P** **15 10 25.6 +0.8**
KDJ Kajisay 62.69 308 P **P** **15 10 25.7 0.0**
KDJ IAmb IAmb 15 10 29.5
comp=Z,8.2nm,1.1s
KLU Klutina 62.74 30 P **P** **15 10 25.9 +0.4**
MDOK Medeo 62.77 309 *e*P **P** **15 10 25.9 -0.3**
TNSS Tian-Shan 62.84 309 *e*P **P** **15 10 27.1 +0.1**
POKR Poker Plat Res 62.86 26 P **P** **15 10 26.3 +0.1**
baz=256,SNR=5.6
AAA Alma-Ata 62.86 309 *e*P **P** **15 10 28.9 +2.2**
HDA Harding Lake 62.89 27 P **P** **15 10 25.8 -0.7**
baz=257,SNR=7.7
HDA Harding Lake 62.89 27 P **P** **15 10 25.5 -0.9**
HDA IAmb IAmb 15 10 27.2
comp=Z,12nm,1.0s
IL31 63.00 26 P **P** **15 10 26.2 -0.9**
IL31 IAmb IAmb 15 10 27.8
comp=Z,15nm,0.9s
ILAR Eielson Array 63.00 26 P **P** **15 10 26.6 -0.5**
comp=Z,10nm,0.9s,baz=257,slow=5.4,SNR=68
ILAR Eielson Array 63.00 26 P **P** **15 10 25.9 -1.2**
TOLK Toolik Lake Re 63.03 22 P **P** **15 10 28.8 +1.5**
baz=252
TOLK Toolik Lake Re 63.03 22 P **P** **15 10 28.2 +0.9**
KAIM Kayak Island 63.20 32 P **P** **15 10 29.6 +1.1**
PAX Paxson 63.23 28 P **P** **15 10 29.0 +0.2**
KUU Kurty 63.27 310 *e*P **P** **15 10 28.1 -1.3**
N25K Chitina, Valde 63.38 30 P **P** **15 10 29.7 -0.2**
baz=260
RIDG Independent Ri 63.65 27 P **P** **15 10 31.8 +0.2**
KSH Kashi 63.71 305 P **P** **15 10 36.1 +3.6**
KSH pmax pmax
comp=Z,15nm,1.3s
GLB Gilahina Butte 63.73 30 P **P** **15 10 32.6 +0.6**
VRDI Verde Repeater 63.87 30 P **P** **15 10 33.9 +0.7**
VRDI IAmb IAmb 15 10 35.1
comp=Z,16nm,1.0s
DOT Dot Lake 63.98 28 P **P** **15 10 34.1 +0.4**
DOT IAmb IAmb 15 10 35.3
comp=Z,17nm,0.8s
BKZ Black Stump Fm 64.02 155 P **P** **15 10 34.1 -0.1**
SCRK Sand Creek 64.07 27 P **P** **15 10 35.0 +0.6**
baz=260
FYU Fort Yukon 64.08 24 P **P** **15 10 34.8 +0.6**
MCARA McCarthy VSAT 64.09 30 P **P** **15 10 35.2 +0.8**
MCARA IAmb IAmb 15 10 36.6
comp=Z,19nm,0.8s
TGL Tana Glacier 64.10 31 P **P** **15 10 35.2 +0.6**
TGL IAmb IAmb 15 10 53.9
comp=Z,19nm,1.3s
BALM Baldy 64.37 31 P **P** **15 10 37.1 +0.7**
BALM IAmb IAmb 15 10 37.8
comp=Z,12nm,0.9s
SGDS Sogindy 64.52 310 *e*P **P** **15 10 37.0 -0.7**
YAH Yahtse 64.58 31 P **P** **15 10 39.1 +1.2**
YAH IAmb IAmb 15 10 39.9
comp=Z,14nm,0.8s
BARN Barnard Glacie 64.70 31 P **P** **15 10 39.7 +1.0**
BARN IAmb IAmb 15 10 40.7
comp=Z,25nm,1.5s
CTGM Chitina Glacie 64.85 31 P **P** **15 10 40.6 +1.0**
CTGM IAmb IAmb 15 10 41.9
comp=Z,14nm,0.9s
BTLS Baital 64.88 312 *e*P **P** **15 10 38.6 -1.3**
K27K Chicken 64.91 27 P **P** **15 10 40.8 +1.1**
baz=262
THZ Tophouse 64.94 159 P **P** **15 10 40.9 +0.8**
PCA Pinnacle 65.29 32 P **P** **15 10 43.4 +1.0**
EGAK Eagle 65.42 27 P **P** **15 10 43.2 +0.2**
BCPM Bancas Point 65.59 32 P **P** **15 10 44.4 +0.2**
BCPM IAmb IAmb 15 11 04.4
comp=Z,24nm,1.0s
PLWZ Palliser 65.61 157 P **P** **15 10 44.1 -0.4**
BRZS Berezniki 65.70 317 *e*P **P** **15 10 43.6 -1.5**
KHZ Kahutara 65.73 159 P **P** **15 10 44.4 -0.8**
KHZ IAmb IAmb 15 10 50.5
comp=Z,19nm,1.0s
OXZ Oxford 66.05 160 P **P** **15 10 47.6 +0.3**
LBZ Lake Benmore 66.44 162 P **P** **15 10 50.2 +0.5**
HYT Haines Junctio 66.70 31 P **P** **15 10 53.3 +1.8**
HYT IAmb IAmb 15 10 54.4
comp=Z,20nm,0.9s
BRVK Borovoye 67.14 320 P **P** **15 10 54.2 0.0**
KK31 Karatay Array 67.55 310 P **P** **15 10 57.3 +0.2**
KK31 IAmb IAmb 15 11 00.4
comp=Z,9.7nm,0.9s
KKAR Karatay Array 67.55 310 P **P** **15 10 57.0 -0.1**
KKAR IAmb IAmb 15 11 00.4
comp=Z,9.7nm,0.9s
KKAR Karatay Array 67.55 310 P **P** **15 10 56.6 -0.4**
SKAG Skagway 67.75 33 P **P** **15 10 59.1 +1.1**
SKAG IAmb IAmb 15 11 00.7
comp=Z,18nm,1.4s
IUG Iuzhnay 67.99 309 *e*P **P** **15 10 58.8 -1.2**
GAR Garm 68.13 305 P **P** **15 11 00.3 -0.6**
GAR IAmb IAmb 15 11 03.1
comp=Z,11nm,0.8s
INK Inuvik 68.78 23 P **P** **15 11 04.7 +0.4**
comp=Z,11nm,0.9s,baz=279,slow=6.9,SNR=5.0
INK Inuvik 68.78 23 P **P** **15 11 04.6 +0.4**
INK IAmb IAmb 15 11 05.2
comp=Z,13nm,0.9s
CHGR Chuyangaron 69.07 305 P **P** **15 11 06.6 -0.2**
KBL Kabul 69.77 301 P **P** **15 11 08.6 -2.7**
KBL IAmb IAmb 15 11 13.8
comp=Z,17nm,0.9s
DLBC Dease Lake 70.53 34 P **P** **15 11 12.4 -2.9**
DLBC IAmb IAmb 15 11 13.6
comp=Z,7.3nm,0.7s
PPT Papeete 72.16 116 LR LR 15 36 16.7
comp=Z,558nm,20.4s,baz=10.0,slow=30
BBB Bella Bella 72.30 40 P **P** **15 11 26.7 +0.7**
comp=Z,8.8nm,1.0s,baz=27,slow=3.3,SNR=4.5
BBB Bella Bella 72.30 40 IAmb IAmb 15 11 27.4
comp=Z,17nm,1.1s
ARU Arti 73.60 325 P **P** **15 11 31.9 -1.7**
ABKAR Akbulak array 74.00 317 P **P** **15 11 35.1 -1.4**
ABKAR Akbulak array 74.00 317 P **P** **15 11 35.7 -0.4**
D03D Eldon 76.34 44 P **P** **15 11 50.8 +1.2**
baz=283
E04D Cinebar 76.91 45 P **P** **15 11 54.4 +1.5**
baz=284
L02E Cave Junction 77.23 50 P **P** **15 11 56.2 +1.4**
baz=284
YKA Yellowknife Ar 77.32 28 P **P** **15 11 55.1 +0.3**
comp=Z,4.5nm,0.8s,baz=293,slow=5.4,SNR=11
EUNU Eureka 77.41 8 P **P** **15 11 55.6 +0.4**
EUNU IAmb IAmb 15 11 57.1
comp=Z,9.6nm,0.9s
H04A Detroit Lake 77.62 47 P **P** **15 11 56.8 -0.2**
H04A IAmb IAmb 15 11 58.5
comp=Z,12nm,1.1s
I04A Tendick Farm, 77.68 48 P **P** **15 11 58.0 +0.7**
baz=284
GEYT Alibeck 77.73 306 P **P** **15 11 58.4 +0.7**
comp=Z,3.6nm,0.9s,baz=53,slow=5.7,SNR=5.4
GEYT Alibeck 77.73 306 P **P** **15 11 57.4 -0.3**
GYA0B ALIBECK ARRAY 77.73 306 P **P** **15 11 57.9 +0.2**
KIRV Kirov 77.94 328 P **P** **15 11 59.5 +1.2**
comp=Z,14nm,0.6s,baz=214,slow=3.9,SNR=6.1
M02C Callahan 77.96 50 P **P** **15 12 00.2 +1.2**
baz=285,SNR=5.1
YBH Yreka Blue Hor 77.98 50 P **P** **15 12 00.5 +1.4**
comp=Z,4.6nm,0.8s,baz=300,slow=2.2,SNR=15
J04D Umpqua Nationa 78.03 48 P **P** **15 12 00.7 +1.2**
baz=285
G05D Wamic, OR 78.08 46 P **P** **15 12 00.2 +0.7**
baz=285
L04D Klamath Falls 78.15 49 P **P** **15 12 01.0 +0.9**
baz=285
N02D Trinity Center 78.18 51 P **P** **15 12 01.9 +1.7**
baz=285
O02D Mt. Diablo Mer 78.32 51 P **P** **15 12 02.7 +1.7**
baz=285
B08A Colville Reser 78.59 43 P **P** **15 12 01.9 -0.3**
M04C Macdoel 78.60 50 P **P** **15 12 03.3 +0.7**
baz=285,SNR=6.2
J05D Fort Rock, OR 78.64 48 P **P** **15 12 03.6 +0.9**
baz=285,SNR=8.3
O03E Paynes Creek 79.02 51 P **P** **15 12 05.8 +0.9**
baz=285
C09A Chrisman Ranch 79.42 43 P **P** **15 12 07.0 +0.2**
ORV Oroville 79.44 52 P **P** **15 12 07.4 +0.4**
G08A Pilot Rock 79.67 46 P **P** **15 12 07.8 -0.5**
MOD Modoc Plateau 79.67 49 P **P** **15 12 08.3 -0.2**
E09A Wood Farm, Sta 79.87 44 P **P** **15 12 09.7 +0.4**
NEW Newport 80.03 42 P **P** **15 12 11.5 +1.3**
baz=287
NEW Newport 80.03 42 P **P** **15 12 09.6 -0.6**
J08A Circle Bar Ran 80.56 47 P **P** **15 12 13.0 -0.1**
CMB Columbia Colle 80.69 53 P **P** **15 12 13.5 -0.4**
CMB IAmb IAmb 15 12 16.1
comp=Z,16nm,1.4s
BMO Blue Mountains 80.92 46 P **P** **15 12 15.0 -0.1**
KLMR Klimovskoe 81.86 332 *e*P **P** **15 12 17.9 -1.6**
KLMR AMP 15 12 32.1
comp=Z,44nm,1.5s
OMMB Old Mammoth Mi 81.87 53 P **P** **15 12 19.1 -1.4**
JTMT Jette 82.00 42 P **P** **15 12 20.0 -0.8**
PKM Mcpherson Peak 82.05 56 P **P** **15 12 22.6 +1.3**
baz=287
KVN Kaiserville 82.11 52 P **P** **15 12 21.3 -0.3**
NVAR Mina Array Bea 82.14 52 P **P** **15 12 23.2 +1.4**
comp=Z,4.2nm,0.8s,baz=265,slow=5.8,SNR=26
NVAR Mina Array Bea 82.14 52 P **P** **15 12 22.0 +0.1**
NV11 Mina Array Sit 82.25 52 P **P** **15 12 22.7 +0.4**
MFID Camas Ranch 82.38 47 P **P** **15 12 23.3 +0.5**
GRAC Grapevine Rang 83.30 53 P **P** **15 12 29.2 +1.6**
baz=288
HLID Hailey 83.30 46 P **P** **15 12 28.6 +0.9**
baz=290
HLID Hailey 83.30 46 P **P** **15 12 28.0 +0.3**

EDW2	Edwards Air Fo	83.48	56	P		P	15 12 30.3 +1.7
	baz=288						
MPMC	Manual Prospec	83.50	54	P		P	15 12 29.8 +0.9
	baz=289						
LRMC	Laurel Mtn Rad	83.53	55	P		P	15 12 29.8 +0.9
	baz=288						
ELK	Elko	83.66	49	P		P	15 12 29.9 +0.3
BCYI	Bear Canyon	83.73	45	P		P	15 12 30.0 +0.1
TPNV	Topopah Spring	84.16	53	P		P	15 12 32.8 +0.6
	baz=289						
TPNV	Topopah Spring	84.16	53	P		P	15 12 32.3 +0.2
R11A	Troy Canyon, C	84.20	52	P		P	15 12 33.3 +1.0
	baz=289						
R11A	Troy Canyon, C	84.20	52	P		P	15 12 32.4 0.0
GSC	Goldstone, Bar	84.27	55	P		P	15 12 33.4 +0.7
	baz=289						
BOZ	Bozeman (W)	84.46	44	P		P	15 12 34.2 +0.7
	baz=291						
BOZ	Bozeman (W)	84.46	44	P		P	15 12 33.8 +0.3
EGMT	Eagleton	84.76	41	P		P	15 12 35.4 +0.5
	baz=292						
PRN	Pahroc Range	84.91	52	P		P	15 12 36.1 +0.2
PRN				IAmb		IAmb	15 12 59.6
	comp=Z,8.1nm,1.2s						
YHL	Hebgen Lake	85.03	44	P		P	15 12 37.1 +0.6
PFO	Pinyon Flats O	85.09	56	P		P	15 12 38.0 +1.1
	baz=289						
TPFO	Pinon Flats	85.09	56	P		P	15 12 38.1 +1.2
	baz=289						
YHH	Holmes Hill	85.27	44	P		P	15 12 36.8 -1.0
BELC	Belle Mtn. Jos	85.32	56	P		P	15 12 38.7 +0.6
	baz=290						
GMRC	Granite Mounta	85.33	55	P		P	15 12 39.0 +1.0
	baz=290						
MONP2	Monument Peak	85.36	57	P		P	15 12 39.1 +0.8
	baz=289						
YNR	Norris Junctio	85.41	44	P		P	15 12 37.8 -0.6
PSUT	Pine Spring	85.41	51	P		P	15 12 38.4 -0.1
DUG	Dugway, Tooele	85.58	49	P		P	15 12 40.4 +1.2
	baz=291						
H17A	Grant Village	85.60	45	P		P	15 12 42.1 +2.8
	baz=292						
AHID	Auburn Hatcher	85.85	46	P		P	15 12 40.9 +0.3
BC3	Big Chuckawall	85.86	56	P		P	15 12 41.7 +1.0
	baz=290						
IRM	Iron Mountain	85.94	55	P		P	15 12 42.1 +1.2
	baz=290						
HWUT	Hardware Ranch	85.96	47	P		P	15 12 41.2 +0.1
RLMT	Red Lodge	86.18	44	P		P	15 12 43.4 +1.2
	baz=293						
RLMT	Red Lodge	86.18	44	P		P	15 12 42.8 +0.6
RLMT				IAmb		IAmb	15 12 53.6
	comp=Z,6.4nm,0.9s						
LCMT	Little Creek M	86.40	52	P		P	15 12 43.0 -0.3
MVU	Marysvale	86.63	51	P		P	15 12 43.8 -0.8
KNB	Kanab	86.71	52	P		P	15 12 44.1 -0.9
KBZ	Khabaz	86.84	315	P		P	15 12 45.7 +0.6
	comp=Z,2.9nm,0.8s,baz=135,slow=4.8,SNR=4.5						
BW06	Boulder Array	86.90	46	P		P	15 12 46.8 +1.0
	baz=293						
PDAR	Pinedale Array	86.90	46	P		P	15 12 44.9 -0.9
	comp=Z,0.5nm,0.5s,baz=321,slow=1.9,SNR=5.2						
FINES	FINESS Array B	87.22	336	P		P	15 12 45.7 -0.9
	comp=Z,4.0nm,0.6s,baz=71,slow=4.9,SNR=20						
U15A	North Rim	87.32	52	P		P	15 12 47.6 -0.4
LAO	LASA Array	87.49	41	P		P	15 12 49.5 +1.1
	baz=295						
SRU	San Rafael Swe	87.63	49	P		P	15 12 48.9 -0.4
Y14A	Wickenburg	87.68	55	P		P	15 12 49.6 +0.1
WUAZ	Wupatki	88.35	53	P		P	15 12 54.7 +1.9
	baz=292						
WUAZ	Wupatki	88.35	53	P		P	15 12 52.0 -0.8
WUAZ				IAmb		IAmb	15 12 55.3
	comp=Z,8.7nm,0.9s						
ARTV	Artvin	88.51	313	P		P	15 12 52.6 -0.9
214A	Organ Pipe Nat	88.54	57	P		P	15 12 55.3 +1.7
	baz=291						
O20A	White River Ci	88.85	48	P		P	15 12 56.0 +0.8
	baz=294						
O20A	White River Ci	88.85	48	P		P	15 12 54.9 -0.2
O20A				IAmb		IAmb	15 12 56.8
	comp=Z,19nm,1.5s						
PV21	Cone Mtn., Par	88.95	50	P		P	15 12 55.2 -0.5
PV21				IAmb		IAmb	15 12 57.7
	comp=Z,10nm,1.3s						
PV23	Carpenter Ridg	88.97	50	P		P	15 12 54.9 -0.9
PV23				IAmb		IAmb	15 12 57.7
	comp=Z,13nm,1.2s						
PV14	Lion Creek, Pa	88.99	50	P		P	15 12 55.5 -0.4
PV14				IAmb		IAmb	15 12 57.8
	comp=Z,13nm,1.1s						
PV20	West Nyswonger	89.05	50	P		P	15 12 55.3 -0.8
PV20				IAmb		IAmb	15 12 58.0
	comp=Z,14nm,1.1s						
PV19	Morning Glory	89.05	50	P		P	15 12 54.9 -1.2
PV04	Paradox Valley	89.07	50	P		P	15 12 54.6 -1.6
PV04				IAmb		IAmb	15 12 58.2
	comp=Z,12nm,1.2s						
PV17	East Wray Mesa	89.08	50	P		P	15 12 55.6 -0.6
PV16	Nyswonger Mesa	89.10	50	P		P	15 12 55.8 -0.6
PV11	David Mesa, Pa	89.13	50	P		P	15 12 55.1 -1.3
PV03	Paradox Valley	89.17	50	P		P	15 12 55.7 -0.9
PV03				IAmb		IAmb	15 12 58.5
	comp=Z,9.5nm,1.2s						
PV12	Saucer Basin,	89.17	50	P		P	15 12 56.2 -0.5
PV13	Radium Mtn., P	89.22	50	P		P	15 12 57.2 +0.3
PV13				IAmb		IAmb	15 12 58.7
	comp=Z,8.5nm,1.2s						
PV02	Paradox Valley	89.27	50	P		P	15 12 56.2 -1.0
PV02				IAmb		IAmb	15 12 58.8
	comp=Z,7.7nm,1.1s						
MVCO	Mesa Verde	89.84	51	P		P	15 13 01.5 +1.6
	baz=294						
N23A	Red Feather La	90.13	46	P		P	15 13 00.6 -0.6
IZAR	Zarasai	90.46	331	*e*P		P	15 13 03.5 +1.5
IDID	Didziasalis	90.48	330	*e*P		P	15 13 02.4 +0.3
ISAL	Salakas	90.62	331	*e*P		P	15 13 03.4 +0.6
IIGN	Ignalina	90.70	331	*e*P		P	15 13 03.2 +0.1
ISCO	Idaho Springs	90.83	47	P		P	15 13 05.8 +1.2
	baz=296						
S22A	4UR Ranch, Cre	90.83	50	P		P	15 13 05.8 +1.2
	baz=295						
PABE	Paberze	91.65	331	*e*P		P	15 13 06.4 -1.1
SDCO	Great Sand Dun	91.78	49	P		P	15 13 09.7 +0.8
	baz=296						
AKASG	Malin Array Be	91.82	326	P		P	15 13 06.9 -1.5
	comp=Z,0.4nm,0.3s,baz=45,slow=5.9,SNR=7.2						
AKASG	Malin Array Be	91.82	326	IAmb		IAmb	15 13 10.7
	comp=Z,3.0nm,1.2s						
121A	Cookes Peak, D	92.25	55	P		P	15 13 12.8 +1.7
	baz=294						
ANMO	Albuquerque	92.27	52	P		P	15 13 12.9 +1.7
	baz=295						
HFS	Hagfors	92.66	339	P		P	15 13 10.8 -1.4
	comp=Z,5.1nm,0.9s,baz=90,slow=14,SNR=2.0						
MNTX	Cornudas Mount	94.45	55	P		P	15 13 22.5 +1.5
	baz=295						
BR131	Keskin Array S	94.82	315	P		P	15 13 21.6 -1.1
BRTR	Keskin Array B	94.82	315	P		P	15 13 21.2 -1.4
	comp=Z,2.2nm,1.0s,baz=108,slow=4.0,SNR=6.9						
TXAR	Lajitas Array	96.81	56	P		P	15 13 32.7 +0.8
	comp=Z,0.1nm,0.4s,baz=308,slow=35,SNR=2.6						
Q56A	Snyder Ridge,	108.06	36	P		PKiKP	15 18 27.0 -1.5
	baz=314						
O57A	Amberson	108.08	34	P		PKiKP	15 18 27.9 -0.7
	baz=316						
L64A	Middleborough	110.17	29	P		PKiKP	15 18 30.8 -1.5
	baz=322						
Q61A	Milford	110.28	34	P		PKiKP	15 18 30.6 -2.0
	baz=317						
W61A	Ground Anchor	112.01	38	P		PKiKP	15 18 33.5 -2.6
	baz=315						
Y60A	Bolivia	112.11	39	P		PKiKP	15 18 33.8 -2.5
	baz=314						
SNAA	Sanae	124.30	191	PKiKP		PKiKP	15 18 58.8 -0.1
VNA3	Neumayer Olymp	125.81	189	PKiKP		PKiKP	15 19 02.0 +0.2
TORD	Torodi Ar. Bea	133.23	310	PKP		PKPdf	15 19 17.4 +0.3
	comp=Z,1.9nm,0.8s,baz=7.2,slow=2.0,SNR=11						
TORD	Torodi Ar. Bea	133.23	310	PKPdf		PKPdf	15 19 16.3 -0.9
PLCA	Paso Flores	141.27	132	PKP		PKPdf	15 19 32.7 +1.3
	comp=Z,1.5nm,0.9s,baz=325,slow=4.6,SNR=3.3						
AC05	El Transito	144.70	113	PKPdf		PKPdf	15 19 38.0 +0.1
LPAZ	La Paz	146.54	91	PKPbc		PKPab	15 19 45.0 +0.6
	comp=Z,9.1nm,1.1s,baz=274,slow=1.5,SNR=16						
LPAZ	La Paz	146.54	91			PKPab	15 19 44.5 0.0

IDC 07 15:13:39.1±1.2, 23°28N×100°77E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/46, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=36.4km s-min=18.8km az=88.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.09	200	Pn	Pn	15 14 56.8	0.0
	0.6nm,0.3s,baz=11,slow=13,SNR=6.6						
CMAR				Pg	Pg	15 15 14.9	-1.9
	2.1nm,0.3s,baz=9.5,slow=17,SNR=33						
CMAR				Lg	Lg	15 16 21.4	
	2.7nm,0.3s,baz=13,slow=16,SNR=11						
SONM	Songino Array	24.91	9	P	P	15 19 04.3	+0.4
	0.7nm,0.6s,baz=196,slow=9.4,SNR=3.5						
MKAR	Makanchi Array	27.78	332	P	P	15 19 29.6	-0.1
	1.2nm,1.0s,baz=140,slow=9.6,SNR=6.2						
WRA	Warramunga Arr	54.02	140	P	P	15 23 05.0	-0.3
	0.4nm,0.6s,baz=329,slow=7.9,SNR=5.5						
ASAR	Alice Springs	56.69	143	P	P	15 23 24.6	0.0
	0.3nm,0.7s,baz=321,slow=7.5,SNR=6.5						

SOME 07 15:37:05.3, 42°27N×81°00E, h0km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.44	309	*e*P	Pn	15 37 28.3	-4.5
	2.0nm,0.2s						
SHLS				*e*S	Sg	15 37 44.9	-6.7
	7.4nm,0.3s						
UZB	Uzymbulak	1.70	302	*e*P	Pg	15 37 38.1	+0.1
	0.5nm,0.2s						
UZB				*e*S	Sg	15 38 01.6	+1.6
	1.4nm,0.2s						
SATY	Saty	2.07	293	*e*P	Pg	15 37 44.8	-0.2
	0.5nm,0.1s						
SATY				*e*S	Sg	15 38 13.2	+1.3
	3.2nm,0.2s						
KPKS	Kokpek	2.08	306	*e*P	Pb	15 37 43.7	-0.4
	2.6nm,0.4s						
KPKS				*e*S	Sb	15 38 11.1	+0.6
	6.5nm,0.5s						
DJR	Jarkent	2.25	337	*e*P	Pb	15 37 47.4	+0.6
	0.6nm,0.1s						
DJR				*e*S	Sg	15 38 17.5	+0.1
	1.1nm,0.2s						
MNBS	Baschi	2.63	314	*e*P	Pb	15 37 52.6	-0.7
	1.2nm,0.4s						
MNBS				*e*S	Sb	15 38 26.8	+0.7
	8.6nm,0.4s						

KRNET 07 15:37:48.3±0.1, 42°00N×78°52E, h29km, mb1.8, 6C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.49	349	↑*i*P	Pb	15 37 58.1	-0.6
	baz=51						
PRZ				↑*i*S	Sb	15 38 05.3	-0.5
	baz=51						
TARG	Taragay, Kyrgy	0.60	243	↓*i*P	Pb	15 38 00.3	-0.3
	baz=44						
TARG				↓*i*S	Sb	15 38 09.0	0.0
	baz=44						
ANVS	Anan'yevo	1.01	321	↓*i*P	Pb	15 38 07.5	+0.2
	baz=21						
ANVS				↓*i*S	Sb	15 38 21.3	+1.1
	baz=21						
KDJ	Kajisay	1.01	278	↓*e*P	Pn	15 38 06.8	+0.1
	baz=78						
KDJ				↓*e*S	Sn	15 38 20.0	0.0
	baz=78						
ULHL	Ulahol	1.71	279	↑*e*P	Pb	15 38 18.9	-0.4
	baz=79						
ULHL				↑*i*S	Sb	15 38 41.3	+0.8
	baz=79						
BOOM	Boomskoye usch	1.98	285	↑*i*P	Pb	15 38 22.3	-1.4
	baz=85						
BOOM				↑*i*S	Sb	15 38 47.3	-0.7
	baz=85						

*BJI **07** 15:42:10.0±0.0, 6°70S×146°80E, h100km, mB5.2/25, mb4.8/41*
*DJA **07** 15:42:12.7±0.4, 7°S±3°×14°7E±°, h82km±5km, M4.9/16, mb4.9/16, mB5.3/6, MLv5.0/5, Mw(mB)4.7/6, Mwp6.1/1*
*IDC **07** 15:42:13.7±0.5, 6°78S×146°74E, h111km±4km, mb4.2/20, mb1 4.3/24, mb1mx4.1/44, mbtmp4.5/24, MS3.6/1, Ms1 3.6/1, ms1mx3.1/37, Error ellipse: s-maj=14.3km s-min=7.1km az=96.0*
*NEIC **07** 15:42:13.9±1.9, 6°76S±0°06×146°75E±0°04, h113km±5km, mb4.7/72, Error ellipse: s-maj=9.8km s-min=2.9km az=206.0*

ISC 07 15:42:13.0±0.3, 6°74S±0°04×146°70E±0°07, h100km, n143, σ1s14/143, mb4.7/53, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.69	170	P	Pn	15 42 56.0	+1.4
	289nm,0.3s,baz=0.6,slow=5.7,SNR=920						
PMG				S	Sn	15 43 26.9	+0.3
	157nm,0.3s,baz=344,slow=21,SNR=4.6						
PMG				LR	LR	15 44 02.8	
	comp=Z,993nm,18.3s,baz=93,slow=41						
KRVT	Keravat (AS076	5.82	66	P	Pn	15 43 37.5	+0.6
	9.1nm,0.3s,baz=280,slow=0.8,SNR=6.7						
RABL	Rabaul	6.00	65	Pn	Pn	15 43 40.8	+1.5
JAY	Jayapura	7.30	305	P	Pn	15 43 59.6	+2.5
	0.9nm,0.3s,baz=161,slow=7.5,SNR=2.0						
JAY	Jayapura	7.30	305	P	Pn	15 43 54.2	-2.9
	0.1nm6.5nm,0.8s						
GENI	Genyem	7.71	302	P	Pn	15 44 00.7	-1.8
	0.6nm28nm,0.8s						
COEN	Coen	7.97	206	Pn	Pn	15 44 07.8	+1.7
SRPI	Serui, Papua	11.50	294	P	Pn	15 44 51.8	-2.3
	56nm,0.4s						
CTA	Charters Tower	13.28	182	P	P	15 45 22.4	-1.2
	9.1nm,0.3s,baz=359,slow=14,SNR=39						
CTAO	Charters Tower	13.28	182		P	15 45 22.0	-1.7
MTN	Manton Dam	16.50	247		P	15 45 59.9	+0.4
WB0	Warramunga Arr	17.63	222	P	P	15 46 12.2	+0.3
WR0	Warramunga Arr	17.67	221	P	P	15 46 12.2	-0.1
WRAB	Tennant Creek	17.77	221	P	P	15 46 13.4	-0.1
WB2	Warramunga Arr	17.78	221	P	P	15 46 13.9	+0.3
WRA	Warramunga Arr	17.79	221	P	P	15 46 14.3	+0.7
	2.0nm,0.3s,baz=45,slow=11,SNR=45						
WRA				S	Sn	15 49 28.7	-4.0
	0.6nm,0.3s,baz=43,slow=20,SNR=7.7						
WRA	Warramunga Arr	17.79	221	P	P	15 46 13.2	-0.4
EIDS	Eidsvold	19.00	168		Pn	15 46 28.1	-0.5
KNRA	Kununurra	19.70	242	P	P	15 46 34.7	+0.1
AS31	Alice Springs	20.85	215	P	P	15 46 47.6	+0.7
ASAR	Alice Springs	20.85	215	P	P	15 46 48.0	+1.1
	12nm,0.5s,baz=52,slow=7.9,SNR=85						
ASAR				S	S	15 50 34.3	+0.3
	3.3nm,0.9s,baz=39,slow=19,SNR=5.4						
ASAR	Alice Springs	20.85	215	P	P	15 46 47.1	+0.2
FITZ	Fitzroy Crossi	23.43	239	P	P	15 47 13.4	-0.1
	9.9nm,0.7s,baz=66,slow=8.5,SNR=12						
ARMA	Armidale	24.01	169	P	P	15 47 19.2	+0.5
ARMA				IAmb	IAmb	15 47 24.3	
	comp=Z,28nm,1.3s						
MMRI	Maumere	24.32	264	P	P	15 47 22.1	+0.5
STKA	Stephens Creek	25.46	190	P	P	15 47 31.1	-0.6
	comp=Z,5.2nm,0.3s,baz=9.7,slow=8.0,SNR=10.0						
STKA	Stephens Creek	25.46	190	P	P	15 47 31.8	+0.1
BBOO	Buckleboo	27.77	200	P	P	15 47 52.6	+0.2
BBOO				IAmb	IAmb	15 47 55.7	
	comp=Z,21nm,1.4s						
CAN	Canberra	28.52	176	P	P	15 47 60.0	+0.7
CAN				IAmb	IAmb	15 48 09.9	
	comp=Z,36nm,1.5s						
FORT	Forrest	29.63	214	P	P	15 48 09.4	+0.4
FORT				IAmb	IAmb	15 48 11.1	
	comp=Z,27nm,1.2s						
JCJ	Chichijima	33.92	353	P	P	15 48 46.0	-0.6
	comp=Z,26nm,0.3s,baz=283,slow=23,SNR=1.8						
STKI	Sintang	35.79	279	P	P	15 48 54.6	-8.3
MORW	Morawa	36.47	229	P	P	15 49 08.8	+0.3
MORW				IAmb	IAmb	15 49 35.5	
	comp=Z,22nm,1.4s						
NWAO	Narrogin (SRO)	37.79	222	P	P	15 49 19.6	0.0
	comp=Z,3.2nm,0.5s,baz=58,slow=16,SNR=1.5						

NWAO	Narrogin (SRO)	37.79	222	P		P	15 49 20.1 +0.4
TPUB	Ta-pu	39.25	320	P		P	15 49 31.2 -0.8
JMN	Monobe	42.04	344	P		P	15 49 54.1 -0.8
JNU	Nakatsue	42.40	340	P		P	15 49 56.8 -0.9
	comp=Z,12nm,1.0s,baz=17,slow=2.2,SNR=2.3						
JNU	Nakatsue	42.40	340	P		P	15 49 56.5 -1.2
JNU				IAmb		IAmb	15 49 59.1
	comp=Z,22nm,1.1s						
JGF	Kuroka	43.02	349	P		P	15 50 01.4 -1.3
JGF				IAmb		IAmb	15 50 12.7
	comp=Z,26nm,1.5s						
JWT	Wachi	43.13	346	P		P	15 50 02.5 -1.1
MQZ	McQueen's Vall	43.29	152	P		P	15 50 03.9 -0.9
JHS	Saijyo	43.45	344	P		P	15 50 05.0 -1.2
JHS				IAmb		IAmb	15 50 07.3
	comp=Z,23nm,1.2s						
MJAR	Matsushiro Arr	43.78	350	P		P	15 50 07.2 -1.6
	comp=Z,4.5nm,0.8s,baz=178,slow=9.3,SNR=6.5						
MJAR	Matsushiro Arr	43.78	350	IAmb		IAmb	15 50 08.2
	comp=Z,2.1nm,0.7s						
MAJO	Matsushiro	43.78	350	P		P	15 50 07.4 -1.4
MAJO				IAmb		IAmb	15 50 08.2
	comp=Z,8.6nm,0.7s						
MAT	Matsushiro	43.78	350	P		P	15 50 07.5 -1.3
QIZ	Qiongzhong	44.44	306	P		P	15 50 15.5 +1.1
JSD	Sado	45.23	351	P		P	15 50 19.4 -0.9
JSD				IAmb		IAmb	15 50 26.6
	comp=Z,12nm,1.1s						
NJ2	Nanjing	46.83	327	*e*P		P	15 50 34.7 +1.8
NJ2				pmax		pmax	
	comp=Z,9.0nm,0.5s						
KSRS	Korea Array	47.33	340	P		P	15 50 36.3 -0.4
	comp=Z,5.9nm,0.7s,baz=158,slow=9.0,SNR=18						
KSAR	Wonju Array Be	47.34	340	P		P	15 50 35.9 -0.9
KS19	Wonju Array Si	47.40	340	P		P	15 50 36.5 -0.8
KS19				IAmb		IAmb	15 50 41.5
	comp=Z,13nm,1.2s						
JTM	Tenmabayashi	47.57	354	P		P	15 50 37.7 -0.8
WHN	Wuhan	48.33	322	P		P	15 50 45.4 +0.9
JKA	Kamikawa-asahi	50.75	356	P		P	15 51 02.4 -0.4
JKA	Kamikawa-asahi	50.75	356	IAmb		IAmb	15 51 04.3
	comp=Z,34nm,1.3s						
ASAJ	Asahikawa	50.75	356	P		P	15 51 02.4 -0.4
	comp=Z,18nm,1.1s,baz=231,slow=7.3,SNR=2.6						
USA0B	Ussuriysk Arra	52.41	347	P		P	15 51 14.7 -0.4
USA0B				IAmb		IAmb	15 51 15.7
	comp=Z,8.2nm,1.1s						
USRK	Ussuriysk Ar.	52.41	347	P		P	15 51 14.9 -0.2
	comp=Z,3.2nm,0.5s,baz=178,slow=6.7,SNR=11						
USRK				pP		pP	15 51 41.5 +1.9
	comp=Z,2.1nm,0.7s,baz=168,slow=6.1,SNR=3.8						
USRK	Ussuriysk Ar.	52.41	347	P		P	15 51 14.4 -0.7
CMAR	Chiang Mai Arr	53.34	299	P		P	15 51 23.6 +1.1
	comp=Z,4.0nm,0.6s,baz=123,slow=5.9,SNR=12						
CMAR				pP		pP	15 51 49.8 +2.9
	comp=Z,1.3nm,0.5s,baz=125,slow=5.6,SNR=3.0						
CMAR	Chiang Mai Arr	53.34	299	P		P	15 51 23.3 +0.9
YSS	Yuzh-Sakhalins	53.57	357	P		P	15 51 22.6 -0.9
XAN	Xi'an	54.06	321	P		P	15 51 27.1 -0.4
XAN				pmax		pmax	
	comp=Z,12nm,0.9s						
XAN	Xi'an	54.06	321	P		P	15 51 26.5 -1.0
XAN				IAmb		IAmb	15 51 28.4
	comp=Z,14nm,1.2s						
HHC	Hu-ho-hao-te	57.30	329	*e*P		P	15 51 52.1 +1.5
HHC				pmax		pmax	
	comp=Z,11nm,0.7s						
HHC				pmax		pmax	
	comp=Z,150nm,7.5s						
LZH	Lanzhou	58.58	320	*e*P		P	15 52 01.1 +1.4
LZH				pP		pP	15 52 25.8 +1.4
LZH				sP		sP	15 52 35.9 +0.5
LZH				pmax		pmax	
	comp=Z,17nm,1.3s						
PEA0B	Petropavlovsk-	60.34	8	P		P	15 52 11.5 +0.3
PETK	Petropavlovsk-	60.34	8	P		P	15 52 11.2 0.0
	comp=Z,2.7nm,0.7s,baz=154,slow=6.0,SNR=2.7						
PETK	Petropavlovsk-	60.34	8	P		P	15 52 11.6 +0.3
KHU	Kahuku	62.39	64	P		P	15 52 26.9 +0.9
GTA	Gaotai	63.12	321	P		P	15 52 30.8 +0.4
GTA				pP		pP	15 52 52.8 -2.5
GTA				sP		PcP	15 53 07.8 +0.7
GTA				pmax		pmax	
	comp=Z,5.0nm,0.7s						
GTA				LR		LR	
	comp=Z,190nm,21.8s						
GTA				LR		LR	
	comp=Z,230nm,20.0s						
GTA				LR		LR	
	comp=Z,220nm,21.8s						
LSA	Lhasa	64.45	307	P		P	15 52 40.2 +0.5
ULN	Ulaanbaatar	64.61	332	P		P	15 52 40.1 +0.1
SONM	Songino Array	64.90	331	P		P	15 52 41.7 -0.1
	comp=Z,0.8nm,0.4s,baz=147,slow=6.3,SNR=4.4						
SONM	Songino Array	64.90	331	P		P	15 52 41.4 -0.5
SEY	Seymchan	69.61	3	P		P	15 53 11.0 -0.1
	comp=Z,3.4nm,0.8s,baz=216,slow=7.3,SNR=4.0						
VNDA	Vanda	71.20	177	P		P	15 53 20.9 +0.3
	comp=Z,0.8nm,0.6s,baz=324,slow=6.6,SNR=5.0						
VNDA				pP		pP	15 53 47.9 +1.4
	comp=Z,1.1nm,0.7s,baz=324,slow=7.4,SNR=4.0						
VNDA	Vanda	71.20	177	P		P	15 53 21.2 +0.6
UNV	Unalaska Valle	72.00	27	P		P	15 53 25.2 -0.5
AKUT	Akutan	72.52	27	P		P	15 53 26.9 -1.9
WMQ	Urumqi	73.16	320	*e*P		P	15 53 34.5 +1.5
CHGN	Chignik	77.19	28	P		P	15 53 54.8 -0.9
CHGN				IAmb		IAmb	15 53 55.5
	comp=Z,16nm,0.8s						
MK31	Makanchi Array	77.88	321	P		P	15 53 59.6 -0.2
MKAR	Makanchi Array	77.88	321	P		P	15 53 59.8 -0.1
	comp=Z,3.5nm,0.7s,baz=108,slow=6.1,SNR=33						
MKAR				pP		pP	15 54 28.7 +3.0
	comp=Z,1.0nm,0.6s,baz=100,slow=8.1,SNR=2.8						
MKAR	Makanchi Array	77.88	321	P		P	15 53 59.4 -0.4
MAKZ	Makanchi	78.08	321	P		P	15 54 00.8 -0.2
TIXI	Tiksi	79.11	354	P		P	15 54 04.5 -1.5
ZALV	Zalesovo Beam	79.48	328	P		P	15 54 07.2 -1.2
	comp=Z,2.8nm,0.6s,baz=105,slow=5

KK31	**Karatay Array**	**84.59**	**314**	P	**P**	**15 54 35.3**	**-0.1**
KK31				IAmb	IAmb	15 54 36.7	
	comp=Z,21nm,1.4s						
KKAR	**Karatay Array**	**84.59**	**314**	P	**P**	**15 54 35.5**	**+0.1**
KKAR	**Karatay Array**	**84.59**	**314**	P	**P**	**15 54 35.4**	**0.0**
KKAR				IAmb	IAmb	15 54 36.8	
	comp=Z,21nm,1.4s						
WRH	**Wood River Hil**	**85.67**	**23**	P	**P**	**15 54 38.8**	**-1.5**
WRH				IAmb	IAmb	15 54 39.8	
	comp=Z,8.3nm,0.8s						
CCB	**Clear Creek Bu**	**85.86**	**23**	P	**P**	**15 54 39.4**	**-1.8**
CCB				IAmb	IAmb	15 54 40.5	
	comp=Z,8.3nm,0.7s						
NRIK	**Noril'sk**	**85.88**	**342**	P	**P**	**15 54 40.2**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=129,slow=5.3,SNR=5.0						
COLA	**College**	**85.94**	**23**	P	**P**	**15 54 40.0**	**-1.5**
HDA	**Harding Lake**	**86.10**	**24**	P	**P**	**15 54 40.9**	**-1.6**
HDA				IAmb	IAmb	15 54 43.1	
	comp=Z,4.3nm,0.6s						
COLD	**Coldfoot**	**86.12**	**20**	P	**P**	**15 54 42.3**	**-0.1**
COLD				IAmb	IAmb	15 54 44.1	
	comp=Z,6.0nm,0.9s						
IL31		**86.27**	**23**	P	**P**	**15 54 41.1**	**-2.1**
IL31				IAmb	IAmb	15 54 42.7	
	comp=Z,9.4nm,0.8s						
ILAR	**Eielson Array**	**86.27**	**23**	P	**P**	**15 54 41.2**	**-2.1**
	comp=Z,8.3nm,0.7s,baz=253,slow=4.8,SNR=61						
ILAR	**Eielson Array**	**86.27**	**23**	P	**P**	**15 54 41.1**	**-2.2**
BARN	**Barnard Glacie**	**87.11**	**28**	P	**P**	**15 54 47.6**	**-0.1**
CTGM	**Chitina Glacie**	**87.23**	**28**	P	**P**	**15 54 48.0**	**-0.2**
CTGM				IAmb	IAmb	15 54 49.9	
	comp=Z,10.0nm,0.8s						
EGAK	**Eagle**	**88.55**	**24**	P	**P**	**15 54 53.6**	**-0.6**
EGAK				IAmb	IAmb	15 54 55.6	
	comp=Z,6.8nm,0.8s						
HRA	**Herat**	**89.21**	**305**	P	**P**	**15 54 58.1**	**-0.1**
HRA				IAmb	IAmb	15 54 59.9	
	comp=Z,9.1nm,1.2s						
SYO	**Syowa Base**	**89.80**	**200**	⇓*eX*	P	15 55 07.0	+7.0
ABKAR	**Akbulak array**	**92.94**	**319**	P	**P**	**15 55 13.8**	**-1.2**
GEYT	**Alibeck**	**92.98**	**308**	P	**P**	**15 55 14.6**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=114,slow=3.6,SNR=6.1						
GEYT	**Alibeck**	**92.98**	**308**	IAmb	IAmb	15 55 16.2	
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**98.05**	**52**	P	Pdif	15 55 39.3	+0.4
	comp=Z,0.6nm,0.6s,baz=248,slow=4.8,SNR=3.6						
PLCA	**Paso Flores**	**121.67**	**147**	PKP	**PKPdf**	**16 00 55.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=44,slow=23,SNR=1.9						
GERES	**GERESS Array B**	**122.34**	**325**	PKP	**PKPdf**	**16 00 56.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=45,slow=2.5,SNR=5.9						
SIV	**San Ignacio**	**144.42**	**130**	PKP	PKPbc	16 01 37.2	-0.1
	comp=Z,2.0nm,0.8s,baz=229,slow=3.9,SNR=5.9						
SIV				pPKP	pPKPdf	16 02 06.0	-0.5
	comp=Z,1.4nm,0.6s,baz=292,slow=2.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**144.98**	**283**	PKPbc	**PKPdf**	**16 01 39.3**	**-0.3**
	comp=Z,16nm,0.7s,baz=72,slow=3.8,SNR=60						
TORD				pPKPbc	**pPKPdf**	**16 02 07.5**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=74,slow=2.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**144.98**	**283**		**PKPbc**	**16 01 38.8**	**-0.3**
KIC	**Kosan Boka**	**151.63**	**271**	*e*PKP1	**PKPbc**	**16 01 56.7**	**-0.1**
	comp=Z,10.0nm,0.7s						
KIC	**Kosan Boka**	**151.63**	**271**	*e*PKIKP	pPKPbc	16 02 26.1	+1.8
	comp=Z,14nm,1.0s						
DBIC	**Dimbokro**	**151.76**	**272**	PKPbc	**PKiKP**	**16 01 57.2**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=84,slow=3.1,SNR=5.7						
DBIC				pPKPbc	**pPKPbc**	**16 02 26.0**	**+1.5**
	comp=Z,4.8nm,0.5s,baz=63,slow=1.9,SNR=4.8						
LIC	**Lamto**	**151.91**	**271**	*e*PKP1	**PKPbc**	**16 01 57.4**	**-0.1**
	comp=Z,45nm,1.0s						
LIC	**Lamto**	**151.91**	**271**	*e*PKIKP	pPKPbc	16 02 26.7	+1.8
	comp=Z,26nm,0.8s						
TIC	**Toumodi**	**151.92**	**271**	*e*PKP1	**PKPbc**	**16 01 57.4**	**-0.1**
TIC	**Toumodi**	**151.92**	**271**	*e*PKIKP	pPKPbc	16 02 26.8	+1.9
BDFB	**Brasilia**	**153.41**	**147**	PKPbc	**PKPbc**	**16 02 00.4**	**-0.4**
	comp=Z,3.1nm,0.4s,baz=233,slow=25,SNR=2.7						

*NEIC **07** 15:51:08.7±2.0,34°.22S±0°.04×71°.06W±0°.09,h82km±7km, Error ellipse: s-maj=11.2km s-min=5.0km az=103.0*
*IDC **07** 15:51:08.1±3.0,34°.20S×70°.72W,h68km±28km,mb3.6/7, mb1 3.8/11,mb1mx3.7/29,mbtmp3.9/11,ML4.2/4,Error ellipse: s-maj=37.5km s-min=16.2km az=87.0*
*SJA **07** 15:51:08.4±0.7,34°.24S×70°.99W,h78km±4km,ML3.7, MW4.0*
*GUC **07** 15:51:09.3±0.7,34°.23S×71°.02W,h85km±3km,ML4.2*

ISC 07 15:51:08.7±0.7,34°.20S±0°.03×71°.04W±0°.03,h83km±6km, n98,σ1§65/123,mb4.2/8,11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.63**	**160**	⇓*iP*		**Pn**	**15 51 23.8**	**-0.2**
BO02				*i* S		**Sn**	**15 51 35.1**	**-0.3**
BO02	**Sierra Bellavi**	**0.63**	**160**			**Pn**	**15 51 23.8**	**-0.2**
BO02				Sn		**Sn**	**15 51 34.9**	**-0.6**
LMEL	**Las Melosas**	**0.78**	**63**	⇓*iP*		**Pn**	**15 51 26.1**	**+0.4**
LMEL				*i* S		**Sn**	**15 51 39.1**	**+0.8**
LMEL				IAML			15 51 40.8	
	comp=E,16μm,0.3s							
MT03	**Universidad Ad**	**0.83**	**32**	⇓*iP*		**Pn**	**15 51 26.6**	**+0.4**
MT03				*i* S		**Sn**	**15 51 40.0**	**+0.8**
MT03				IAML			15 51 43.5	
	comp=N,8μm,0.3s							
FSR	**Penalolen**	**0.84**	**31**	*e*P		**Pn**	**15 51 27.6**	**+1.4**
FSR				*i* S		**Sn**	**15 51 41.3**	**+2.0**
MT05	**Renca**	**0.85**	**17**	⇓*iP*		**Pn**	**15 51 27.1**	**+0.8**
MT05				*i* S		**Sn**	**15 51 40.6**	**+1.2**
MT05				IAML			15 51 41.5	
	comp=N,22μm,0.3s							
MT05	**Renca**	**0.85**	**17**	Pn		**Pn**	**15 51 27.1**	**+0.8**
MT05				Sn		**Sn**	**15 51 40.2**	**+0.8**
MT02	**Curacav**	**0.94**	**355**	⇓*iP*		**Pn**	**15 51 28.3**	**+0.9**
MT02				*i* S		**Sn**	**15 51 42.5**	**+1.2**
MT02				IAML			15 51 44.0	
	comp=N,5μm,0.3s							
MT02	**Curacav**	**0.94**	**355**	Pn		**Pn**	**15 51 28.3**	**+0.9**
MT02				Sn		**Sn**	**15 51 41.7**	**+0.4**
GO05	**Huala**	**1.09**	**222**	⇓*iP*		**Pn**	**15 51 29.3**	**+0.2**
GO05				*i* S		**Sn**	**15 51 44.9**	**+0.6**
GO05				IAML			15 51 47.7	
	comp=E,9μm,0.2s							
GO05	**Huala**	**1.09**	**222**	Pn		**Pn**	**15 51 29.3**	**+0.2**
GO05				Sn		**Sn**	**15 51 44.3**	**0.0**
GO05	**Huala**	**1.09**	**222**	*e*P		**Pn**	**15 51 29.6**	**+0.5**
GO05				*e*S		**Sn**	**15 51 45.3**	**+1.0**
PEL	**Peldehue**	**1.10**	**16**	⇓*iP*		**Pn**	**15 51 30.1**	**+1.0**
PEL				*i* S		**Sn**	**15 51 46.0**	**+1.4**
PEL				IAML			15 51 47.4	
	comp=E,6μm,0.4s							
PEL	**Peldehue**	**1.10**	**16**			**Pn**	**15 51 29.9**	**+0.7**
PEL				Sn		**Sn**	**15 51 45.6**	**+1.1**
PEL	**Peldehue**	**1.10**	**16**	*e*P		**Pn**	**15 51 30.2**	**+1.0**
PEL				*e*S		**Sn**	**15 51 46.3**	**+1.8**
ROC1	**El Roble**	**1.22**	**1**			**Pn**	**15 51 31.8**	**+0.8**
ROC1	**El Roble**	**1.22**	**1**	*e*P		**Pn**	**15 51 31.9**	**+0.9**
ROC1				*e*S		**Sn**	**15 51 48.8**	**+1.2**
ROCH	**El Roble**	**1.23**	**1**	*e*P		**Pn**	**15 51 31.7**	**+0.7**
ROCH				*i* S		**Sn**	**15 51 48.7**	**+1.1**
ROCH				IAML			15 51 51.6	
	comp=E,7μm,0.5s							
VA01	**Torpederas**	**1.28**	**337**	*e*P		**Pn**	**15 51 33.0**	**+1.7**
VA01				*i* S		**Sn**	**15 51 49.6**	**+1.2**
VA01				IAML			15 51 55.2	
	comp=E,4μm,0.6s							
VA01	**Torpederas**	**1.28**	**337**	Pn		**Pn**	**15 51 32.8**	**+1.4**
VA03	**San Esteban**	**1.49**	**16**	⇓*iP*		**Pn**	**15 51 35.0**	**+0.8**
VA03				*i* S		**Sn**	**15 51 54.6**	**+1.2**
VA03				IAML			15 51 55.9	
	comp=E,4μm,0.4s							
VA03	**San Esteban**	**1.49**	**16**			**Pn**	**15 51 34.9**	**+0.8**
COIS	**El Sosneado**	**1.50**	**128**	*e*P		**Pn**	**15 51 33.9**	**-0.2**
LAMA	**Las Malvinas**	**1.68**	**116**	*e*P		**Pn**	**15 51 37.1**	**+0.6**
LAMA				*e*S		**Sn**	**15 52 04.0**	**+6.4**
PUMA	**Malargue**	**1.84**	**135**	*e*P		**Pn**	**15 51 39.8**	**+1.0**
PUMA				*e*S		**Sn**	**15 52 01.3**	**-0.1**
MORA	**Malargue**	**1.99**	**124**	*e*P		**Pn**	**15 51 40.7**	**+0.1**
AAGR	**Agrelo**	**2.16**	**60**	*e*P		**Pn**	**15 51 44.6**	**+1.7**
AAGR				*e*S		**Sn**	**15 52 11.3**	**+2.3**
AAGR				IAML			15 52 15.3	
	comp=Z,223nm,0.6s							
RFA	**San Rafael**	**2.20**	**106**	*e*P		**Pn**	**15 51 43.6**	**+0.1**
RFA				*e*S		**Sn**	**15 52 08.7**	**-1.3**
ARCO	**CERRO ARCO**	**2.22**	**53**	*e*P		**Pn**	**15 51 45.6**	**+1.7**
ARCO				*e*S		**Sn**	**15 52 11.9**	**+1.2**
ARCO				IAML			15 52 15.2	
	comp=Z,221nm,0.8s							
AUSP	**Uspallata**	**2.41**	**36**	*e*P		**Pn**	**15 51 48.8**	**+2.3**
AUSP				*e*S		**Sn**	**15 52 14.2**	**-1.1**
ASAL	**Salagasta**	**2.45**	**50**	*e*P		**Pn**	**15 51 48.9**	**+2.1**
ASAL				*e*S		**Sn**	**15 52 19.9**	**+3.9**
ASAL				IAML			15 52 57.7	
	comp=Z,176nm,0.7s							
BI02	**San Fabin de**	**2.46**	**184**	⇓*iP*		**Pn**	**15 51 47.8**	**+0.8**
BI02	**San Fabin de**	**2.46**	**184**	Pn		**Pn**	**15 51 47.6**	**+0.7**
RTLS	**Leoncito**	**2.81**	**32**	*e*P		**Pn**	**15 51 54.2**	**+2.4**
RTLS				*e*S		**Sn**	**15 52 16.8**	**-8.1**
RTLS				IAML			15 52 18.3	
	comp=Z,225nm,0.5s							
CO02	**Combarbal**	**2.99**	**1**	⇓*iP*		**Pn**	**15 51 54.9**	**+0.8**
CO02				*i* S		**Sn**	**15 52 29.2**	**+0.2**
CO02	**Combarbal**	**2.99**	**1**	Pn		**Pn**	**15 51 54.9**	**+0.8**
BI03	**Tigo**	**3.09**	**211**			**Pn**	**15 51 54.2**	**-1.1**
RTCV	**Cerro Valdivia**	**3.14**	**43**	*e*P		**Pn**	**15 51 57.2**	**+1.1**
RTCV				IAML			15 53 08.8	
	comp=Z,143nm,0.8s							
ZON	**Zonda**	**3.31**	**38**			**Pn**	**15 51 59.6**	**+1.2**
ZON	**Zonda**	**3.31**	**38**	*e*P		**Pn**	**15 51 59.7**	**+1.3**
ZON				IAML			15 53 10.5	
	comp=Z,90nm,0.8s							
CO03	**El Pedregal**	**3.37**	**5**	⇓*iP*		**Pn**	**15 52 00.3**	**+1.1**
CO03				*i* S		**Sn**	**15 52 38.4**	**+0.2**
CO03				IAML			15 52 40.2	
	comp=E,843nm,0.4s							
CO03				IAML			15 52 41.1	
	comp=N,712nm,0.3s							
CO03	**El Pedregal**	**3.37**	**5**			**Pn**	**15 52 00.2**	**+1.1**
RTLL	**Cerro Villicun**	**3.59**	**38**	*e*P		**Pn**	**15 52 03.3**	**+1.1**
RTLL				IAML			15 53 16.8	
	comp=Z,212nm,1.0s							
CANA	**Caviahue**	**3.68**	**180**	*e*P		**Pn**	**15 52 04.2**	**+0.7**
CANA				IAML			15 53 18.6	
	comp=Z,62nm,0.8s							
ACCO	**Cerro Coronel**	**3.97**	**25**	*e*P		**Pn**	**15 52 08.6**	**+1.0**
ACCO				IAML			15 53 20.3	
	comp=Z,156nm,0.9s							
GO04	**Tololo Observa**	**4.02**	**3**			**Pn**	**15 52 08.3**	**+0.1**
AROD	**Rodeo**	**4.24**	**19**	*e*P		**Pn**	**15 52 13.0**	**+1.8**
CO01	**Juntas del Tor**	**4.29**	**11**			**Pn**	**15 52 12.9**	**+1.0**
ACDV	**Cuesta del Vie**	**4.34**	**23**	*e*P		**Pn**	**15 52 13.7**	**+1.2**
ACDV				IAML			15 53 35.1	
	comp=Z,101nm,0.8s							
LC01	**Cunco**	**4.73**	**188**	Pn		**Pn**	**15 52 16.8**	**-0.9**
MRA	**San Martin**	**4.80**	**70**	*e*P		**Pn**	**15 52 19.9**	**+1.2**
MRA				IAML			15 54 01.6	
	comp=Z,36nm,0.6s							
AGUA	**GUANDACOL**	**5.18**	**25**	*e*P		**Pn**	**15 52 24.1**	**+0.3**
AGUA				IAML			15 53 59.8	
	comp=Z,96nm,2.2s							
AC05	**El Transito**	**5.39**	**7**	Pn		**Pn**	**15 52 26.7**	**-0.1**
ACLC	**CERRO LA CRUZ**	**5.90**	**37**	*e*P		**Pn**	**15 52 32.3**	**-1.4**
ACLC				IAML			15 54 32.1	
	comp=Z,52nm,0.8s							
AC04	**Llanos de Chal**	**5.98**	**360**	Pn		**Pn**	**15 52 34.1**	**-0.6**
TCA	**Tanti**	**6.13**	**64**	*e*P		**Pn**	**15 52 37.0**	**+0.1**
TCA				*e*S		**Sn**	**15 53 42.4**	**-3.3**
TCA				IAML			15 54 16.2	
	comp=Z,48nm,0.9s							
PLCA	**Paso Flores**	**6.53**	**177**	P		**Pn**	**15 52 42.0**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=338,slow=11,SNR=61							
PLCA	**Paso Flores**	**6.53**	**177**	Pn		**Pn**	**15 52 42.0**	**-0.2**
H03S1	**Juan Fernandez**	**6.54**	**271**	T	T		15 58 47.7	
	baz=96,slow=75,SNR=70							
H03S3	**Juan Fernandez**	**6.54**	**271**	T	T		15 58 51.6	
	baz=96,slow=75,SNR=365							
H03S2	**Juan Fernandez**	**6.56**	**271**	T	T		15 58 48.2	
	baz=96,slow=75,SNR=94							
GO03	**Copiap**	**6.62**	**6**			**Pn**	**15 52 42.2**	**-1.4**
CYA	**Choya**	**7.28**	**39**	*e*P		**Pn**	**15 52 50.1**	**-2.4**
CYA				IAML			15 55 09.5	
	comp=Z,14nm,0.5s							
AC02	**Maricunga**	**7.53**	**13**	Pn		**Pn**	**15 52 54.9**	**-1.4**
AC01	**Pan de Azucar**	**8.04**	**3**	Pn		**Pn**	**15 52 59.2**	**-3.5**
LL01	**San Ignacio de**	**8.23**	**187**	Pn		**Pn**	**15 53 04.2**	**-1.2**
GO02	**Mina Guanaco**	**9.10**	**8**			**Pn**	**15 53 13.7**	**-3.8**
PB14	**IPOC Station P**	**9.56**	**3**	Pn		**Pn**	**15 53 20.3**	**-3.5**
PB15	**IPOC Station P**	**11.04**	**8**	Pn		**Pn**	**15 53 43.7**	**-0.2**
LVC	**Limon Verde**	**11.70**	**10**	P		**Pn**	**15 53 50.0**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=268,slow=23,SNR=2.0							
LVC	**Limon Verde**	**11.70**	**10**	Pn		**Pn**	**15 53 50.4**	**-2.7**
CPUP	**Villa Florida**	**14.20**	**60**	P		**Pn**	**15 54 22.2**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=19,SNR=1.5							
PB11	**IPOC Station P**	**14.44**	**5**	Pn		**Pn**	**15 54 28.8**	**-0.4**
GO01	**Chusmiza**	**14.57**	**7**	Pn		**Pn**	**15 54 31.5**	**+0.3**
PSGCX	**Pisagua**	**14.57**	**3**	Pn		**Pn**	**15 54 30.7**	**-0.1**
MNMC	**Minye Minye**	**15.07**	**5**			**Pn**	**15 54 36.8**	**-0.5**
MNMC				IAmb	IAmb		15 54 43.9	
	comp=Z,22nm,0.7s							
PB12	**IPOC Station P**	**15.54**	**3**			**Pn**	**15 54 43.1**	**0.0**
PB12				IAmb	IAmb		15 54 49.0	
	comp=Z,20nm,1.1s							
AP01	**Chacalluta**	**15.78**	**2**	Pn		**Pn**	**15 54 46.4**	**+0.3**
PB16	**IPOC Station P**	**15.86**	**5**	P		**Pn**	**15 54 48.7**	**+1.0**
LPAZ	**La Paz**	**18.03**	**9**	P		**Pn**	**15 55 15.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=184,slow=8.1,SNR=14							
LPAZ	**La Paz**	**18.03**	**9**			**Pn**	**15 55 15.6**	**+1.1**
EFI	**East Falkland**	**19.83**	**156**	P		**P**	**15 55 31.3**	**-1.3**
SIV	**San Ignacio**	**20.23**	**29**	P		**P**	**15 55 36.9**	**-0.3**
	comp=Z,9.5nm,0.8s,baz=229,slow=12,SNR=25							
SNAA	**Sanae**	**51.09**	**158**	P		**P**	**16 00 02.5**	**+0.2**
SNAA	**Sanae**	**51.09**	**158**	P		**P**	**16 00 02.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=298,slow=10,SNR=7.1							
SNAA	**Sanae**	**51.09**	**158**	P		**P**	**16 00 02.0**	**-0.3**
SNAA				IAmb	IAmb		16 00 06.4	
	comp=Z,2.8nm,0.9s							
QSPA	**South Pole Qui**	**56.03**	**180**	P		**P**	**16 00 39.7**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=109,slow=1.0,SNR=8.6							
QSPA	**South Pole Qui**	**56.03**	**180**	IAmb	IAmb		16 01 02.1	
	comp=Z,5.7nm,1.4s							
TXAR	**Lajitas Array**	**70.32**	**330**	P		**P**	**16 02 15.0**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=147,slow=8.5,SNR=2.5							
V53A	**Saluda**	**70.38**	**350**	P		**P**	**16 02 13.0**	**-0.6**
V53A				IAmb	IAmb		16 02 13.6	
	comp=Z,5.1nm,1.0s							
WVT	**Waverly**	**71.70**	**346**	P		**P**	**16 02 21.6**	**+0.1**
LCAR	**Lake Charles**	**72.39**	**343**	P		**P**	**16 02 25.9**	**+0.3**
LCAR				IAmb	IAmb		16 02 26.6	
	comp=Z,3.2nm,0.6s							
MNTX	**Cornudas Mount**	**73.10**	**330**	P		**P**	**16 02 30.5**	**+0.6**
R40A	**Maddies Statio**	**74.77**	**343**	P		**P**	**16 02 40.2**	**+0.7**
BOSA	**Boshof**	**79.24**	**117**	P		**P**	**16 03 05.0**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=163,slow=7.3,SNR=3.1							
BOSA	**Boshof**	**79.24**	**117**	IAmb	IAmb		16 03 21.0	
	comp=Z,7.8nm,1.1s							
PDAR	**Pinedale Array**	**84.32**	**333**	P		**P**	**16 03 33.5**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=240,slow=5.0,SNR=2.8							
NVAR	**Mina Array Bea**	**84.53**	**325**	P		**P**	**16 03 34.3**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=145,slow=6.8,SNR=4.3							

WEL 07 16:05:05.9,44°S±2°×17°2E±°,h15km±3km,M2.4/6,ML2.6/6, MLv2.4/6,Error ellipse: s-maj=0.0km s-min=0.0km az=178.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.18**	**110**	P		Pb	16 05 11.2	+0.4
AKCZ	**Akaroa Harbour**	**0.42**	**123**	P		Pb	16 05 15.7	+0.7
OXZ	**Oxford**	**0.43**	**318**	P		Pb	16 05 15.1	0.0
OKCZ	**Okains Bay**	**0.47**	**100**	P		Pb	16 05 16.6	+0.8
AMCZ	**Amberley**	**0.50**	**19**	P		Pb	16 05 16.9	+0.6
WACZ	**Wakanui South**	**0.52**	**235**	P		Pn	16 05 18.1	-0.6
MHCZ	**Mount Hutt**	**0.63**	**280**	P		Pn	16 05 19.6	-0.8
LTZ	**Lake Taylor**	**0.87**	**352**	P		Pn	16 05 23.3	-0.3
INZ	**Inchbonnie**	**1.17**	**322**	P		Pg	16 05 29.0	+0.6
ODZ	**Otahua Downs**	**1.89**	**222**	P		Pn	16 05 38.0	+0.4
DSZ	**Denniston Nort**	**1.95**	**346**	P		Pb	16 05 41.4	+0.2
TSZ	**Takapari Road**	**4.45**	**38**	P		Pn	16 06 14.6	+1.8
NGRZ	**Ngongotaha**	**6.23**	**28**	P		Pn	16 06 36.4	-0.9

*AEIC **07** 16:28:20.0±3.5,52°.66N×0°.09×178°.65E±0°.07,h34km±6km, Error ellipse: s-maj=14.2km s-min=4.7km az=199.0*
*NEIC **07** 16:28:22.2±1.4,52°.0N±0°.2×178°.49E±0°.08,h109km±8km, mb4.2/15,Error ellipse: s-maj=22.0km s-min=7.4km az=183.0*
*IDC **07** 16:28:23.4±6.3,51°.97N×178°.54E,h121km±60km,mb3.0/7, mb1 3.4/9,mb1mx3.2/50,mbtmp3.6/9,Error ellipse: s-maj=48.5km s-min=17.8km az=166.0*

ISC 07 16:28:22.3±0.8,52°.1N±0°.2×178°.48E±0°.04,h113km,n40, σ1§46/37,mb3.5/11,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.73**	**100**			**Pn**	**16 28 51.9**	**-0.2**
GALAA						**Sn**	**16 29 15.2**	**+0.4**
TASE	**Tanaga Southea**	**2.17**	**95**			**Pn**	**16 28 56.9**	**-0.7**
TAFP	**Tanaga Falls P**	**2.20**	**94**			**Pn**	**16 28 57.2**	**-0.8**
TAFP						**Sn**	**16 29 24.1**	**-1.1**
KIMD	**Kanaga Island**	**2.68**	**95**			**Pn**	**16 29 03.4**	**-0.7**
KIKV	**Kanaga Island**	**2.70**	**93**			**Pn**	**16 29 03.9**	**-0.5**
SMY	**Shemya**	**2.76**	**285**			**Pn**	**16 29 04.5**	**-0.6**
SMY						**Sn**	**16 29 38.3**	**+0.2**
ADK	**Adak**	**3.00**	**92**			**Pn**	**16 29 07.6**	**-0.7**
GSMY	**Great Sitkin M**	**3.38**	**89**			**Pn**	**16 29 12.4**	**-0.9**
PETK	**Petropavlovsk-**	**12.67**	**283**	P		**Pn**	**16 31 20.9**	**+2.6**
	0.2nm,0.3s,baz=96,slow=19,SNR=18							
PETK				S		**Sn**	**16 33 32.2**	**-5.3**
	0.1nm,0.3s,baz=77,slow=32,SNR=1.2							
CNBA	**Chernabura Isl**	**13.34**	**70**	Pn		**Pn**	**16 31 26.7**	**-0.3**
CHGN	**Chignik**	**14.14**	**64**	Pn		**Pn**	**16 31 35.1**	**-2.1**
OHAK	**Old Harbor**	**17.05**	**61**	Pn		**Pn**	**16 32 11.7**	**-1.8**
OHAK				IAmb	IAmb		16 32 19.4	
	comp=Z,17nm,1.4s							
KDAK	**Kodiak Island**	**17.49**	**60**	P		**P**	**16 32 17.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=130,slow=3.0,SNR=13							
KDAK	**Kodiak Island**	**17.49**	**60**	IAmb	IAmb		16 32 45.4	
	comp=Z,27nm,1.4s							
CNPM	**China Poot**	**18.45**	**54**	P		**Pn**	**16 32 30.5**	**+0.2**
BRLK	**Bradley Lake**	**18.66**	**54**	P		**Pn**	**16 32 32.5**	**-0.4**
SEW	**Seward**	**19.44**	**53**	Pn		**Pn**	**16 32 41.7**	**-0.1**
BPAW	**Bear Paw Mtn.**	**19.88**	**41**			**P**	**16 32 45.4**	**+1.0**
GHO	**Glory Hole Cre**	**20.04**	**48**			**P**	**16 32 46.5**	**+0.4**
GHO				IAmb	IAmb		16 32 57.5	
	comp=Z,6.5nm,1.0s							
KNK	**Knik Glacier**	**20.17**	**50**			**P**	**16 32 47.8**	**+0.3**
SCM	**Sheep Creek Mo**	**20.79**	**49**			**P**	**16 32 55.1**	**+0.9**
SCM				IAmb	IAmb		16 32 59.8	
	comp=Z,18nm,1.3s							
DHY	**Denali Highway**	**21.07**	**45**			**P**	**16 32 58.5**	**+1.2**
ILAR	**Eielson Array**	**21.79**	**41**	P		**P**	**16 33 05.8**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=252,slow=9.1,SNR=2.2							
PAX	**Paxson**	**21.89**	**46**	P		**P**	**16 33 06.4**	**+0.5**
PAX				IAmb	IAmb		16 33 28.2	
	comp=Z,8.6nm,1.1s							
BARN	**Barnard Glacie**	**23.37**	**52**	P		**P**	**16 33 22.5**	**+1.8**
BARN				IAmb	IAmb		16 33 24.4	
	comp=Z,4.4nm,0.6s							
CTGM	**Chitina Glacie**	**23.52**	**52**	P		**P**	**16 33 24.1**	**+2.0**
CTGM				IAmb	IAmb		16 33 45.5	
	comp=Z,15nm,1.3s							
BCAR	**Beaver Creek A**	**23.55**	**47**	P		**P**	**16 33 24.7**	**+2.5**
TABL	**Table Mountain**	**23.59**	**53**	P		**P**	**16 33 24.4**	**+1.7**
TABL				IAmb	IAmb		16 33 51.3	
	comp=Z,18nm,1.2s							
H11N2	**WAKE ISLAND Hy**

Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.02; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-0.27; $M_{r\theta}$0.08; $M_{\theta\phi}$1.05; $M_{r\phi}$0.08; Fault plane solution: M_o1.08000×10^{15} NP1:ϕ_s6.77000°, δ86.18000°, λ175.45000°. NP2:ϕ_s97.07000°, δ85.46000°, λ3.84000°. Principal axes: T 1.0778, Plg6.0000°, Azm322.0000°; N 0.0087, Plg84.0000°, Azm147.0000°; P -1.0865, Plg1.0000°, Azm52.0000°,

ISC 07 16:51:13.0±0.9, 35°.95N±0'.02, 96.72W±0'.02, h12km±6km, n234, σ1§56/226, mb4.0/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.22**	**2**		**Pg**	**16 51 18.1**	**+0.3**
QUOK				Sg	**Sg**	**16 51 21.4**	**+0.3**
OK011	**Prague**	**0.46**	**177**		**Pg**	**16 51 22.4**	**+0.2**
OK011				Sg	**Sg**	**16 51 29.0**	**+0.8**
OK005	**Luther M Schoo**	**0.48**	**233**		**Pg**	**16 51 22.1**	**-0.4**
OK001	**Jones High Sch**	**0.60**	**231**	Pg	**Pg**	**16 51 24.2**	**-0.6**
ADOK	**Arcadia Dam**	**0.61**	**241**	Pg	**Pn**	**16 51 26.8**	**-0.8**
OK029	**Liberty Lake**	**0.62**	**256**		**Pg**	**16 51 24.4**	**-0.7**
OK029				IAmb_Lg		16 51 32.5	
	comp=Z,2μm,0.8s						
OK025	**Westminster Rd**	**0.62**	**234**		**Pg**	**16 51 24.5**	**-0.7**
OK025				IAmb_Lg		16 51 33.1	
	comp=Z,4μm,0.8s						
OK009	**Oakdale Elemen**	**0.68**	**238**		**Pg**	**16 51 25.5**	**-0.7**
TUL1	**Leonard**	**0.75**	**93**	P	**Pb**	**16 51 28.4**	**+0.3**
	baz=273,SNR=255						
TUL1				S	**Sb**	**16 51 39.1**	**+0.8**
	baz=273						
TUL1	**Leonard**	**0.75**	**93**	Pg	**Pb**	**16 51 28.4**	**+0.3**
BCOK	**Bluff Creek, N**	**0.78**	**248**		**Pg**	**16 51 27.3**	**-0.9**
OKCSW	**OKLAHOMA CITY**	**0.80**	**228**		**Pg**	**16 51 27.5**	**-1.0**
OKCFA	**Oklahoma City**	**0.80**	**229**		**Pg**	**16 51 27.5**	**-1.0**
OKCFA				IAmb_Lg		16 51 38.3	
	comp=Z,3μm,0.9s						
W35A	**Tecumseh**	**0.80**	**189**		**Pg**	**16 51 28.1**	**-0.4**
FNO	**Franklin**	**0.89**	**219**		**Pg**	**16 51 29.6**	**-0.6**
T35A	**Sooner Cattle**	**0.98**	**10**	Pg	**Pg**	**16 51 31.9**	**-0.1**
CROK	**Carrier**	**1.17**	**299**		**Pb**	**16 51 34.2**	**-0.9**
KAN13	**South Haven SW**	**1.23**	**330**		**Pn**	**16 51 35.7**	**-0.3**
KAN09	**Caldwell North**	**1.39**	**329**	Pn	**Pn**	**16 51 38.4**	**+0.1**
KAN14	**Manchester OK**	**1.42**	**315**	Pn	**Pn**	**16 51 38.7**	**-0.1**
KAN05	**Bluff City Nor**	**1.49**	**322**	Pn	**Pn**	**16 51 39.9**	**+0.2**
KAN10	**Anthony SW Sta**	**1.61**	**317**	Pn	**Pn**	**16 51 42.0**	**+0.6**
KAN12	**Harper NE Stat**	**1.70**	**323**		**Pb**	**16 51 43.6**	**-0.6**
X37A	**Clayton**	**1.75**	**140**	Pn	**Pb**	**16 51 45.1**	**+0.1**
U32A	**Winter Ranch,**	**1.90**	**284**	Pn	**Pn**	**16 51 45.9**	**+0.6**
U38A	**Gravette**	**1.95**	**75**	Pn	**Pb**	**16 51 48.1**	**-0.4**
U38A				IAmb_Lg		16 52 16.9	
	comp=Z,2μm,0.9s						
WMOK	**Wichita Mounta**	**2.07**	**235**	P	**Pn**	**16 51 48.6**	**+0.9**
	baz=53,SNR=1000						
WMOK				S	**Sb**	**16 52 15.9**	**-0.5**
	baz=53						
WMOK	**Wichita Mounta**	**2.07**	**235**	Pn	**Pn**	**16 51 48.7**	**+0.9**
WMOK				IAmb_Lg		16 52 17.6	
	comp=Z,2μm,1.1s						
HHAR	**Hobbs**	**2.27**	**81**		**Pb**	**16 51 52.4**	**-1.6**
W39A	**Magazine**	**2.51**	**107**	P	**Pn**	**16 51 55.7**	**+2.1**
	baz=288,SNR=58						
W39A				Sb	**Sg**	**16 52 31.8**	**-1.7**
	baz=288						
W39A	**Magazine**	**2.51**	**107**		**Pn**	**16 51 55.8**	**+2.1**
W39A				IAmb_Lg		16 52 39.1	
	comp=Z,2μm,0.8s						
Z35A	**Perchaven, San**	**2.65**	**190**	Pn	**Pn**	**16 51 56.9**	**+1.3**
MIAR	**Mount Ida**	**2.93**	**118**	P	**Pn**	**16 52 01.7**	**+2.3**
	baz=299,SNR=61						
MIAR				S	**Sn**	**16 52 37.4**	**+2.9**
	baz=299						
MIAR	**Mount Ida**	**2.93**	**118**	Pn	**Pn**	**16 52 01.5**	**+2.1**
R32A	**Long Quarter,**	**2.94**	**328**	Pn	**Pn**	**16 52 00.6**	**+1.0**
R32A				IAmb_Lg		16 52 50.7	
	comp=Z,972nm,1.2s						
Z38A	**Mt. Pleasant**	**3.04**	**151**		**Pn**	**16 52 02.4**	**+1.5**
Z38A				IAmb_Lg		16 52 55.9	
	comp=Z,762nm,0.7s						
KSU1	**Kansas State U**	**3.15**	**2**	P	**Pn**	**16 52 03.8**	**+1.3**
	baz=182,SNR=24						
KSU1	**Kansas State U**	**3.15**	**2**	Pn	**Pn**	**16 52 03.4**	**+0.9**
U40A	**Yellville**	**3.15**	**81**	P	**Pn**	**16 52 03.9**	**+1.4**
	baz=264,SNR=38						
U40A	**Yellville**	**3.15**	**81**	Pn	**Pn**	**16 52 04.1**	**+1.5**
U40A				IAmb_Lg		16 53 01.3	
	comp=Z,1μm,1.0s						
S39A	**Bolivar**	**3.23**	**56**	Pn	**Pn**	**16 52 05.4**	**+1.8**
S39A				IAmb_Lg		16 53 02.9	
	comp=Z,1μm,1.1s						
X40A	**Basin Creek Fa**	**3.50**	**113**	P	**Pn**	**16 52 09.2**	**+1.9**
	baz=296,SNR=16						
X40A	**Basin Creek Fa**	**3.50**	**113**		**Pn**	**16 52 09.4**	**+2.1**
X40A				IAmb_Lg		16 53 11.6	
	comp=Z,1μm,0.9s						
WHAR	**Wooly Hollow**	**3.67**	**99**	Pn	**Pn**	**16 52 11.5**	**+1.9**
WHAR				IAmb_Lg		16 53 20.6	
	comp=Z,797nm,0.8s						
W41B	**Gary Mavity, V**	**3.73**	**101**	P	**Pn**	**16 52 12.4**	**+2.0**
	baz=283,SNR=16						
W41B				S	**Sn**	**16 52 57.7**	**+3.5**
	baz=283						
W41B	**Gary Mavity, V**	**3.73**	**101**		**Pn**	**16 52 12.4**	**+2.0**
W41B				IAmb_Lg		16 53 16.5	
	comp=Z,912nm,0.9s						
WLAR	**White Oak Lake**	**3.73**	**126**	Pn	**Pn**	**16 52 12.1**	**+1.7**
FCAR	**Ozark Folk Cen**	**3.73**	**90**		**Pn**	**16 52 12.1**	**+1.7**
CBKS	**Cedar Bluff**	**3.74**	**321**	P	**Pn**	**16 52 11.2**	**+0.5**
	baz=140						
CBKS	**Cedar Bluff**	**3.74**	**321**	Pn	**Pn**	**16 52 11.4**	**+0.7**
CBKS				IAmb_Lg		16 53 19.6	
	comp=Z,501nm,0.8s						
UALR	**University of**	**3.76**	**107**	Pn	**Pn**	**16 52 12.8**	**+1.9**
UALR				IAmb_Lg		16 53 22.5	
	comp=Z,782nm,0.8s						
MGMO	**Mountain Grove**	**3.78**	**70**		**Pn**	**16 52 13.0**	**+1.8**
MGMO				IAmb_Lg		16 53 17.5	
	comp=Z,934nm,0.8s						
WHTX	**Lake Whitney,**	**3.99**	**189**	P	**Pn**	**16 52 15.1**	**+1.0**
	baz=7.9						
WHTX				Sb	**Sg**	**16 53 16.9**	**-4.4**
	baz=7.9						
WHTX	**Lake Whitney,**	**3.99**	**189**	Pn	**Pn**	**16 52 15.2**	**+1.1**
WHTX				IAmb_Lg		16 53 25.6	
	comp=Z,438nm,1.2s						
237A	**Washetta, Mont**	**4.01**	**169**	Pn	**Pn**	**16 52 14.8**	**+0.5**
ABTX	**Abilene, Hawle**	**4.11**	**217**	P	**Pn**	**16 52 16.2**	**+0.5**
	baz=35						
ABTX				S	**Sn**	**16 53 05.2**	**+1.6**
	baz=35						
ABTX	**Abilene, Hawle**	**4.11**	**217**		**Pn**	**16 52 16.0**	**+0.3**
ABTX				IAmb_Lg		16 53 29.0	
	comp=Z,513nm,1.0s						
AMTX	**Amarillo**	**4.19**	**257**	P	**Pn**	**16 52 17.6**	**+0.8**
	baz=74						
AMTX				Sb	**Sb**	**16 53 21.2**	**+3.8**
	baz=74						
AMTX	**Amarillo**	**4.19**	**257**	Pn	**Pn**	**16 52 17.2**	**+0.3**
AMTX				IAmb_Lg		16 53 32.6	
	comp=Z,871nm,0.9s						
Z41A	**Richland Creek**	**4.20**	**129**	P	**Pn**	**16 52 18.3**	**+1.3**
	baz=311,SNR=6.7						
Z41A				S	**Sn**	**16 53 08.1**	**+2.3**
	baz=311						
Z41A	**Richland Creek**	**4.20**	**129**		**Pn**	**16 52 18.2**	**+1.3**
R40A	**Maddies Stadio**	**4.26**	**55**		**Pn**	**16 52 19.3**	**+1.6**
P38A	**Dawn**	**4.45**	**34**	Pn	**Pn**	**16 52 22.0**	**+1.6**
ETX02	**Prairie Street**	**4.46**	**154**	Pn	**Pn**	**16 52 22.1**	**+1.5**
LCAR	**Lake Charles**	**4.51**	**87**	Pn	**Pn**	**16 52 22.2**	**+1.0**
LCAR				IAmb_Lg		16 53 39.1	
	comp=Z,521nm,0.8s						
NATX	**Nacogdoches**	**4.51**	**157**	Pn	**Pn**	**16 52 22.4**	**+1.1**
T42A	**Van Buren**	**4.66**	**75**		**Pn**	**16 52 24.4**	**+1.1**
T42A				IAmb_Lg		16 53 44.8	
	comp=Z,586nm,0.8s						
N33A	**J Bar K, Exete**	**4.82**	**353**	Pn	**Pn**	**16 52 26.2**	**+0.7**
CCM	**Cathedral Cave**	**4.86**	**63**	P	**Pn**	**16 52 27.4**	**+1.4**
	baz=246						
CCM				S	**Sn**	**16 53 25.1**	**+2.9**
	baz=246						
CCM	**Cathedral Cave**	**4.86**	**63**	Pn	**Pn**	**16 52 27.4**	**+1.4**
CCM				IAmb_Lg		16 53 57.5	
	comp=Z,639nm,0.8s						
N35A	**Tabor**	**4.98**	**9**		**Pn**	**16 52 28.5**	**+0.8**
X43A	**Marvell**	**4.99**	**105**	IAmb_Lg		16 53 58.6	
	comp=Z,831nm,0.9s						
PBMO	**Poplar Bluff**	**5.14**	**79**	Pn	**Pn**	**16 52 31.4**	**+1.5**
P40A	**Paris**	**5.15**	**45**	Pn	**Pn**	**16 52 30.9**	**+1.0**
P40A				IAmb_Lg		16 53 59.1	
	comp=Z,616nm,0.7s						
435B	**Jarrell**	**5.20**	**188**	P	**Pn**	**16 52 31.8**	**+1.1**
	baz=7.2						
435B				S	**Sn**	**16 53 32.3**	**+1.6**
	baz=7.2						
435B	**Jarrell**	**5.20**	**188**	Pn	**Pn**	**16 52 31.6**	**+0.8**
435B				IAmb_Lg		16 54 11.5	
	comp=Z,783nm,0.9s						
MSTX	**Muleshoe**	**5.35**	**250**	P	**Pn**	**16 52 32.9**	**+0.1**
	baz=66,SNR=7.5						
MSTX				S	**Sn**	**16 53 34.5**	**+0.1**
	baz=66						
MSTX	**Muleshoe**	**5.35**	**250**	Pn	**Pn**	**16 52 32.9**	**+0.1**
FVM	**French Village**	**5.43**	**66**		**Pn**	**16 52 34.6**	**+0.8**
FVM				IAmb_Lg		16 54 12.1	
	comp=Z,572nm,0.9s						
143A	**Socs Landing,**	**5.46**	**125**	IAmb_Lg		16 54 20.8	
	comp=Z,295nm,0.9s						
N38A	**Joes South For**	**5.56**	**28**		**Pn**	**16 52 36.6**	**+1.1**
BGNE	**Belgrade**	**5.57**	**349**	P	**Pn**	**16 52 36.1**	**+0.4**
	baz=168						
BGNE				S	**Sn**	**16 53 39.5**	**-0.1**
	baz=168						
BGNE	**Belgrade**	**5.57**	**349**		**Pn**	**16 52 36.2**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.61**	**305**	P	**Pn**	**16 52 37.8**	**+1.4**
	baz=122						
KSCO				S	**Sn**	**16 53 41.0**	**+0.2**
	baz=122						
KSCO	**Kaye Shedlock'**	**5.61**	**305**		**Pn**	**16 52 36.4**	**0.0**
KSCO				IAmb_Lg		16 54 23.2	
	comp=Z,485nm,0.9s						
PENMO	**Penman**	**5.75**	**83**	IAmb_Lg		16 54 21.1	
	comp=Z,556nm,0.8s						
SLM	**Saint Louis**	**5.82**	**61**	IAmb_Lg		16 54 23.6	
	comp=Z,440nm,0.8s						
441A	**DeRidder**	**5.96**	**149**	Pn	**Pn**	**16 52 42.4**	**+1.2**
JCT	**Junction City**	**6.03**	**206**	Pn	**Pn**	**16 52 42.4**	**+0.2**
JCT				IAmb_Lg		16 54 38.8	
	comp=Z,472nm,0.8s						
OXF	**Oxford**	**6.15**	**101**	P	**Pn**	**16 52 45.3**	**+1.5**
	baz=286						
OXF	**Oxford**	**6.15**	**101**	Pn	**Pn**	**16 52 44.9**	**+1.2**
W45A	**Hickory Valley**	**6.19**	**95**	Pn	**Pn**	**16 52 45.7**	**+1.4**
W45A				IAmb_Lg		16 54 35.5	
	comp=Z,626nm,0.8s						
S44A	**Carbondale**	**6.24**	**72**		**Pn**	**16 52 45.6**	**+0.7**
S44A				IAmb_Lg		16 54 38.4	
	comp=Z,576nm,0.7s						
Y45A	**Yeager Farm, C**	**6.25**	**107**	Pn	**Pn**	**16 52 46.0**	**+1.0**
Y45A				IAmb_Lg		16 54 40.9	
	comp=Z,302nm,0.8s						
T25A	**Trinidad**	**6.31**	**283**	P	**Pn**	**16 52 46.4**	**+0.3**
	baz=99						
T25A	**Trinidad**	**6.31**	**283**		**Pn**	**16 52 45.9**	**-0.2**
T25A				IAmb_Lg		16 54 43.6	
	comp=Z,490nm,0.7s						
OGNE	**Ogallala**	**6.50**	**322**	P	**Pn**	**16 52 49.4**	**+0.7**
	baz=139,SNR=8.3						
OGNE	**Ogallala**	**6.50**	**322**	Pn	**Pn**	**16 52 48.8**	**+0.2**
OGNE				IAmb_Lg		16 54 40.1	
	comp=Z,332nm,0.8s						
N41A	**Harden Midland**	**6.62**	**42**	Pn	**Pn**	**16 52 50.8**	**+0.7**
P43A	**Skaggs, Pawnee**	**6.79**	**55**	Pn	**Pn**	**16 52 53.0**	**+0.5**
P43A				IAmb_Lg		16 54 54.7	
	comp=Z,589nm,0.8s						
Q44A	**Meyer Farm, Va**	**6.80**	**62**		**Pn**	**16 52 53.8**	**+1.2**
Q44A				IAmb_Lg		16 55 02.8	
	comp=Z,472nm,0.8s						
CLNB	**Carlsbad**	**6.98**	**240**	Pn	**Pn**	**16 52 55.3**	**0.0**
PLAL	**Pickwick Lake**	**7.12**	**95**	Pn	**Pn**	**16 52 58.8**	**+1.8**
PLAL				IAmb_Lg		16 55 05.7	
	comp=Z,188nm,0.8s						
735A	**Kenedy**	**7.13**	**188**	IAmb_Lg		16 55 10.9	
	comp=Z,216nm,0.8s						
146A	**Union**	**7.15**	**115**	Pn	**Pn**	**16 52 58.9**	**+1.5**
146A				IAmb_Lg		16 55 20.7	
	comp=Z,204nm,1.0s						
WVT	**Waverly**	**7.20**	**86**	P	**Pn**	**16 52 59.3**	**+1.1**
	baz=271						
WVT				S	**Sn**	**16 54 20.1**	**+0.2**
	baz=271						
WVT	**Waverly**	**7.20**	**86**	Pn	**Pn**	**16 52 59.5**	**+1.4**
WVT				IAmb_Lg		16 55 08.2	
	comp=Z,236nm,0.8s						
SDCO	**Great Sand Dun**	**7.27**	**287**	P	**Pn**	**16 53 00.1**	**+0.7**
	baz=102						
SDCO	**Great Sand Dun**	**7.27**	**287**	Pn	**Pn**	**16 52 59.1**	**-0.3**
Q24A	**Divide**	**7.35**	**297**	P	**Pn**	**16 53 00.7**	**+0.2**
	baz=112						
Q24A	**Divide**	**7.35**	**297**	Pn	**Pn**	**16 53 00.5**	**0.0**
Q24A				IAmb_Lg		16 55 07.5	
	comp=Z,195nm,0.8s						
K38A	**Parkersburg**	**7.36**	**23**		**Pn**	**16 53 00.8**	**+0.5**
GDL2	**Guadalupe Moun**	**7.36**	**242**	Pn	**Pn**	**16 53 00.9**	**+0.5**
HDIL	**Hopedale**	**7.43**	**50**	P	**Pn**	**16 53 02.6**	**+1.3**
	baz=234,SNR=10						
HDIL	**Hopedale**	**7.43**	**50**	Pn	**Pn**	**16 53 02.5**	**+1.1**
HDIL				IAmb_Lg		16 55 27.2	
	comp=Z,442nm,0.8s						
L40A	**Anamosa**	**7.46**	**33**		**Pn**	**16 53 02.1**	**+0.5**
O44A	**Mansfield**	**7.74**	**55**		**Pn**	**16 53 06.5**	**+0.9**
O44A				IAmb_Lg		16 55 21.8	
	comp=Z,392nm,0.8s						
ECSD	**EROS Data Cent**	**7.78**	**1**	P	**Pn**	**16 53 06.5**	**+0.5**
	baz=181,SNR=15						
ECSD	**EROS Data Cent**	**7.78**	**1**	Pn	**Pn**	**16 53 06.2**	**+0.1**
ECSD				IAmb_Lg		16 55 31.9	
	comp=Z,240nm,1.0s						
T47A	**Sharon Grove**	**7.81**	**80**		**Pn**	**16 53 07.7**	**+1.1**
833A	**Chaparral WMA,**	**7.93**	**197**	P	**Pn**	**16 53 10.0**	**+1.8**
	baz=16						
833A	**Chaparral WMA,**	**7.93**	**197**	IAmb_Lg		16 55 33.2	
	comp=Z,214nm,0.9s						
ANMO	**Albuquerque**	**8.01**	**266**	P	**Pn**	**16 53 10.3**	**+0.8**
	baz=80						
ANMO	**Albuquerque**	**8.01**	**266**	IAmb_Lg		16 55 42.0	
	comp=Z,74nm,1.0s						
ANMO				IAmb_Lg		16 55 42.0	
	comp=Z,73nm,0.9s						
ISCO	**Idaho Springs**	**8.02**	**301**	P	**Pn**	**16 53 09.4**	**-0.3**
	baz=116,SNR=23						
ISCO	**Idaho Springs**	**8.02**	**301**	Pn	**Pn**	**16 53 09.4**	**-0.3**
V48A	**Smith Brothers**	**8.04**	**89**	IAmb_Lg		16 55 35.9	
	comp=Z,364nm,1.2s						
L42A	**Oliver, Polo**	**8.17**	**40**	Pn	**Pn**	**16 53 12.6**	**+1.2**
L42A				IAmb_Lg		16 55 31.7	
	comp=Z,355nm,0.8s						
BNM	**Barren Site**	**8.32**	**260**	Pn	**Pn**	**16 53 13.8**	**+0.1**
MNTX	**Cornudas Mount**	**8.36**	**242**	P	**Pn**	**16 53 14.1**	**0.0**
	baz=57,SNR=29						
MNTX	**Cornudas Mount**	**8.36**	**242**	Pn	**Pn**	**16 53 13.9**	**-0.2**
MNTX				IAmb_Lg		16 55 39.8	
	comp=Z,152nm,1.1s						
CLTN	**Cedars of Leba**	**8.42**	**86**	IAmb_Lg		16 55 40.6	
	comp=Z,254nm,1.1s						
LRAL	**Lakeview Retre**	**8.53**	**107**	Pn	**Pn**	**16 53 17.6**	**+1.2**
JFWS	**Jewell Farm**	**8.57**	**34**	P	**Pn**	**16 53 17.8**	**+0.9**
	baz=218,SNR=5.4						
JFWS	**Jewell Farm**	**8.57**	**34**		**Pn**	**16 53 17.5**	**+0.6**
JFWS				IAmb_Lg		16 55 52.0	
	comp=Z,404nm,0.9s						
Y22D	**IRIS PASSCAL I**	**8.58**	**260**	IAmb_Lg		16 56 07.9	
	comp=Z,254nm,0.8s						
LENM	**Lemitar**	**8.60**	**261**	Pn	**Pn**	**16 53 17.1**	**-0.4**
WCI	**Wyandotte Cave**	**8.64**	**72**	IAmb_Lg		16 55 47.1	
	comp=Z,320nm,1.0s						
SUSD	**Miller**	**8.66**	**349**	IAmb_Lg		16 56 05.7	
	comp=Z,356nm,0.8s						
PHWY	**Pilot Hill**	**8.68**	**311**		**Pn**	**16 53 18.3**	**-0.4**
PHWY				IAmb_Lg		16 55 48.8	
	comp=Z,145nm,0.9s						
M44A	**Midewin, Midew**	**8.69**	**49**	Pn	**Pn**	**16 53 19.9**	**+1.3**
M44A				IAmb_Lg		16 55 56.0	
	comp=Z,328nm,1.0s						
BLO	**Bloomington**	**8.71**	**65**		**Pn**	**16 53 20.5**	**+1.6**
BLO				IAmb_Lg		16 55 57.4	
	comp=Z,384nm,0.8s						
Y49A	**Blount Mountai**	**8.72**	**101**	IAmb_Lg		16 56 06.5	
	comp=Z,235nm,1.0s						
N23A	**Red Feather La**	**8.76**	**307**	P	**Pn**	**16 53 20.3**	**+0.4**
	baz=122,SNR=17						
N23A	**Red Feather La**	**8.76**	**307**	Pn	**Pn**	**16 53 20.2**	**+0.4**
N23A				IAmb_Lg		16 55 55.4	
	comp=Z,367nm,0.9s						
SFIN	**Lafayette**	**8.77**	**57**	P	**Pn**	**16 53 21.3**	**+1.6**
	baz=243						
SFIN	**Lafayette**	**8.77**	**57**	Pn	**Pn**	**16 53 21.0**	**+1.3**
SFIN				IAmb_Lg		16 56 07.7	
	comp=Z,180nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.82**	**224**		**Pn**	**16 53 20.1**	**-0.4**
TX32	**Lajitas Array**	**8.82**	**224**	Pn	**Pn**	**16 53 20.1**	**-0.4**
TXAR	**Lajitas Array**	**8.82**	**224**	Pn	**Pn**	**16 53 19.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=47,slow=12,SNR=23						
TXAR				Pg	Pg	16 53 52.8	-9.1
	comp=Z,2.6nm,0.3s,baz=33,slow=14,SNR=5.6						
TXAR				Lg	Lg	16 55 46.4	
	comp=Z,3.4nm,0.3s,baz=62,slow=14,SNR=3.6						
TXAR				LR	LR	16 57 14.7	
	comp=Z,146nm,21.3s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**8.82**	**224**		**Pn**	**16 53 19.0**	**-1.5**
U49A	**Red Boiling Sp**	**8.86**	**83**	IAmb_Lg		16 55 57.7	
	comp=Z,145nm,0.8s						
HQIL	**Hanson Quary C**	**9.05**	**47**	IAmb_Lg		16 55 55.0	
	comp=Z,300nm,1.1s						
FPAL	**Fort Paine**	**9.19**	**96**	IAmb_Lg		16 56 11.4	
	comp=Z,190nm,0.8s						
I40A	**Norwalk**	**9.21**	**29**	Pn	**Pn**	**16 53 26.3**	**+0.6**
I40A				IAmb_Lg		16 56 13.3	
	comp=Z,302nm,0.9s						
L44A	**Lake County Fo**	**9.25**	**45**	IAmb_Lg		16 56 09.0	
	comp=Z,363nm,0.9s						
W50A	**Signal Mountai**	**9.32**	**91**	IAmb_Lg		16 56 25.0	
	comp=Z,277nm,0.8s						
K43A	**Burlington**	**9.36**	**41**	Pn	**Pn**	**16 53 29.1**	**+1.3**
K43A				IAmb_Lg		16 56 11.5	
	comp=Z,340nm,0.8s						
R49A	**Shelbyville**	**9.51**	**72**	Pn	**Pn**	**16 53 30.6**	**+0.7**
P48A	**Milroy**	**9.61**	**65**		**Pn**	**16 53 32.0**	**+0.8**
P48A				IAmb_Lg		16 56 19.9	
	comp=Z,226nm,0.8s						
T50A	**Nancy**	**9.63**	**80**		**Pn**	**16 53 32.6**	**+1.1**
T50A				IAmb_Lg		16 56 42.8	
	comp=Z,234nm,1.2s						
SPMN	**Marine on St.**	**9.73**	**17**	IAmb_Lg		16 56 33.0	
	comp=Z,202nm,1.0s						
Z51A	**Franklin**	**9.87**	**102**		**Pn**	**16 53 36.1**	**+1.3**
Z51A				IAmb_Lg		16 56 38.3	
	comp=Z,200nm,1.1s						
F33A	**5 Mile Ranch,**	**9.89**	**2**	IAmb_Lg		16 56 24.4	
	comp=Z,241nm,0.8s						
RSSD	**Black Hills**	**9.90**	**328**	Pn	**Pn**	**16 53 35.5**	**+0.1**
CPCT	**Cooper Cave**	**9.93**	**89**		**Pn**	**16 53 36.4**	**+0.8**
CPCT				IAmb_Lg		16 56 29.0	
	comp=Z,342nm,1.1s						
PV12	**Saucer Basin,**	**9.94**	**287**	IAmb_Lg		16 56 41.7	
	comp=Z,125nm,1.2s						
I42A	**Draeger Farm,**	**9.94**	**35**	Pn	**Pn**	**16 53 36.0**	**+0.4**
N47A	**Urbana**	**9.95**	**57**	Pn	**Pn**	**16 53 36.1**	**+0.2**
N47A				IAmb_Lg		16 56 34.5	
	comp=Z,198nm,0.8s						
RWWY	**Rawlins**	**9.99**	**308**	IAmb_Lg		16 56 41.6	
	comp=Z,149nm,1.1s						
PV04	**Paradox Valley**	**10.03**	**288**	IAmb_Lg		16 56 42.7	
	comp=Z,114nm,1.1s						
K22A	**Casper**	**10.12**	**314**	P	**Pn**	**16 53 38.3**	**0.0**
	baz=128						
K22A	**Casper**	**10.12**	**314**	Pn	**Pn**	**16 53 37.7**	**-0.7**
R50A	**Paris**	**10.17**	**73**		**Pn**	**16 53 40.0**	**+1.2**
F36A	**Milaca**	**10.19**	**13**	Pn	**Pn**	**16 53 39.4**	**+0.2**
TKL	**Tuckaleechee C**	**10.52**	**88**	Pn	**Pn**	**16 53 46.6**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=223,slow=13,SNR=2.0						
TKL				Sn	**Sn**	**16 55 39.4**	**-2.1**
	comp=Z,1.6nm,0.3s,baz=300,slow=24,SNR=5.1						
TKL				Lg	Lg	16 56 40.0	
	comp=Z,5.4nm,0.3s,baz=175,slow=22,SNR=6.6						
TKL				LR	LR	16 57 57.4	
	comp=Z,120nm,22.0s,baz=236,slow=38						
TKL	**Tuckaleechee C**	**10.52**	**88**		**Pn**	**16 53 46.6**	**+2.9**
TKL					**Sn**	**16 55 39.4**	**-2.1**
G40A	**Rib Lake**	**10.54**	**26**	Pn	**Pn**	**16 53 43.9**	**-0.1**
S51A	**Beattyville**	**10.66**	**77**	Pn	**Pn**	**16 53 46.6**	**+1.0**
N49A	**Columbus Grove**	**11.01**	**59**		**Pn**	**16 53 49.7**	**-0.7**
GOGA	**Godfrey**	**11.20**	**99**	Pn	**Pn**	**16 53 54.3**	**+1.3**
L48A	**N Adams**	**11.28**	**54**	Pn	**Pn**	**16 53 55.4**	**+1.3**
P51A	**Williamsport**	**11.38**	**68**	Pn	**Pn**	**16 53 56.0**	**+0.7**
COWI	**Conover**	**11.64**	**27**		**Pn**	**16 53 59.5**	**+0.5**
Q52A	**Bidwell**	**11.87**	**71**	P	**Pn**	**16 54 02.3**	**+0.1**
	baz=260,SNR=8.6						
M50A	**Fremont**	**11.99**	**59**		**Pn**	**16 54 02.4**

	comp=Z,11nm,1.8s						
ILAR	**Eielson Array**	**41.34**	**330**	P	**P**	**16 58 59.9**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=109,slow=6.9,SNR=15						
ILAR	**Eielson Array**	**41.34**	**330**	P	**P**	**16 58 59.9**	**+1.5**
NOA	**NORSAR Array B**	**67.11**	**30**	LR	LR	17 31 14.2	
	comp=Z,35nm,18.3s,baz=90,slow=36						
FINES	**FINESS Array B**	**72.46**	**25**	P	**P**	**17 02 42.0**	**+2.9**
	comp=Z,1.9nm,0.8s,baz=306,slow=12,SNR=1.6						
FINES	**FINESS Array B**	**72.46**	**25**	P	**P**	**17 02 42.0**	**+2.9**
HHC	**Hu-ho-hao-te**	**99.28**	**339**	*e*P	**Pdif**	**17 04 58.2**	**+3.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,7.0s						
WMQ	**Urumqi**	**100.50**	**357**	*e*P	**Pdif**	**17 05 02.9**	**+2.4**
LZH	**Lanzhou**	**105.82**	**343**	Pdif	**Pdif**	**17 05 25.9**	**+1.5**

*IDC **07** 16:52:34.2±59.0, 16.°79S×179.°52E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=1064.0km s-min=157.4km az=77.0*
*NEIC **07** 16:53:10.2±1.3, 16.°2S±0.°2×179.°5E±0.°2, h376km±9km, mb4.0/9, Error ellipse: s-maj=38.4km s-min=18.8km az=141.0*

ISC 07 16:53:03.4±1.1, 16.°2S±0.°3×179.°5E±0.°2, h300km, n13, σ0s86/12, mb3.7/7, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**28.07**	**191**	P	**P**	**16 58 28.4**	**+0.7**
ARMA	**Armidale**	**29.15**	**236**	P	**P**	**16 58 37.5**	**-0.1**
ARMA				IAmb	IAmb	16 58 40.2	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**37.75**	**239**	P	**P**	**16 59 50.2**	**-1.1**
	comp=Z,3.9nm,1.1s,baz=90,slow=15,SNR=2.6						
STKA	**Stephens Creek**	**37.75**	**239**	IAmb	IAmb	16 59 55.8	
	comp=Z,2.2nm,1.3s						
WB0	**Warramunga Arr**	**42.94**	**258**	P	**P**	**17 00 34.4**	**+0.7**
WB0				IAmb	IAmb	17 01 00.7	
	comp=Z,6.9nm,1.5s						
WB2	**Warramunga Arr**	**42.97**	**258**	P	**P**	**17 00 34.8**	**+0.8**
WB2				IAmb	IAmb	17 00 45.4	
	comp=Z,5.5nm,1.4s						
WRAB	**Tennant Creek**	**42.97**	**258**	P	**P**	**17 00 34.2**	**+0.2**
WRAB				IAmb	IAmb	17 00 47.0	
	comp=Z,25nm,1.5s						
WRA	**Warramunga Arr**	**42.98**	**258**	P	**P**	**17 00 34.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=94,slow=7.8,SNR=9.3						
WRMHI	**West Rim**	**43.18**	**36**	P	**P**	**17 00 36.7**	**+1.1**
AS31	**Alice Springs**	**43.34**	**253**	P	**P**	**17 00 37.1**	**+0.2**
ASAR	**Alice Springs**	**43.34**	**253**	P	**P**	**17 00 37.3**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=89,slow=7.9,SNR=81						
ASAR	**Alice Springs**	**43.34**	**253**	P	**P**	**17 00 36.7**	**-0.2**
NVAR	**Mina Array Bea**	**79.59**	**45**	P	**P**	**17 04 36.5**	**-1.4**

*IDC **07** 17:06:51.5±3.9, 36.°43N×71.°36E, h138km±36km, mb3.3/7, mb1 3.4/13, mb1mx3.1/41, mbtmp3.8/13, Error ellipse: s-maj=23.8km s-min=18.6km az=3.0*
*NNC **07** 17:06:58.0±7.0, 37.°21N×71.°03E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=71.0km s-min=39.9km az=147.0*
*NEIC **07** 17:06:57.3±2.6, 36.°74N±0.°07×71.°31E±0.°04, h188km±6km, mb4.2/12, Error ellipse: s-maj=10.8km s-min=1.8km az=151.0*

ISC 07 17:06:57.6±0.7, 36.°78N±0.°07×71.°24E±0.°06, h200km, n62, σ1s72/67, mb3.5/10, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.34**	**342**		**Pn**	**17 07 39.8**	**0.0**
GAR				Sn	**Sn**	**17 08 10.4**	**-2.4**
CHGR	**Chuyangaron**	**2.50**	**319**		**Pn**	**17 07 41.4**	**-0.2**
CHGR				Sn	**Sn**	**17 08 13.7**	**-2.2**
KBL	**Kabul**	**2.86**	**219**	Pn	**Pn**	**17 07 45.6**	**-0.3**
BTK	**Batken**	**3.29**	**354**	Pn	**Pn**	**17 07 51.7**	**+0.9**
NIL	**Nilore**	**3.53**	**152**	Pn	**Pn**	**17 07 52.9**	**-0.7**
AML	**Almayashu**	**5.67**	**19**	P	**Pn**	**17 08 20.8**	**-0.1**
	SNR=32						
UCH	**Uchtor**	**6.00**	**24**	P	**Pn**	**17 08 24.4**	**-0.9**
	SNR=55						
EKS2	**Erkin-Say**	**6.19**	**18**	P	**Pn**	**17 08 27.6**	**+0.2**
	SNR=16						
KK31	**Karatay Array**	**6.34**	**355**	⇑P	**Pn**	**17 08 29.3**	**0.0**
	1.9nm,0.2s,baz=178,slow=13,SNR=72						
KK31				⇓S	**Sn**	**17 09 37.5**	**-4.4**
	16nm,0.5s,baz=185,slow=25,SNR=7.4						
KK31	**Karatay Array**	**6.34**	**355**	Pn	**Pn**	**17 08 29.4**	**+0.2**
KKAR	**Karatay Array**	**6.34**	**355**		**Pn**	**17 08 29.3**	**+0.1**
KKAR	**Karatay Array**	**6.34**	**355**	Pn	**Pn**	**17 08 29.4**	**+0.2**
AAK	**Ala-Archa**	**6.37**	**22**	P	**Pn**	**17 08 29.9**	**+0.2**
	SNR=31						
AAK	**Ala-Archa**	**6.37**	**22**	⇑P	**Pn**	**17 08 29.8**	**+0.2**
	14nm,0.4s						
AAK				⇓S	**Sn**	**17 09 40.3**	**-2.4**
	28nm,0.7s						
KBK	**Karagaybulak**	**6.53**	**25**	P	**Pn**	**17 08 32.3**	**+0.5**
	SNR=28						
FRU1	**Bishkek**	**6.56**	**22**		**Pn**	**17 08 32.5**	**+0.4**
BOOM	**Boomskoye usch**	**6.76**	**31**	Pn	**Pn**	**17 08 35.1**	**+0.3**
CHMS	**Chumysh**	**6.77**	**22**	P	**Pn**	**17 08 34.9**	**+0.1**
	SNR=8.8						
USP	**Ospenovka**	**6.95**	**20**	P	**Pn**	**17 08 37.3**	**+0.2**
	SNR=17						
TKM2	**Tokmak 2**	**6.99**	**27**	P	**Pn**	**17 08 38.3**	**+0.5**
	SNR=15						
TKM2	**Tokmak 2**	**6.99**	**27**	⇑P	**Pn**	**17 08 37.6**	**-0.2**
	13nm,0.5s						
TKM2				⇑S	**Sn**	**17 09 53.9**	**-3.4**
	15nm,0.9s						
KDJ	**Kajisay**	**7.05**	**39**	Pn	**Pn**	**17 08 38.2**	**-0.4**
TARG	**Taragay, Kyrgy**	**7.10**	**44**		**Pn**	**17 08 37.6**	**-1.8**
HRA	**Herat**	**7.71**	**255**	Pn	**Pn**	**17 08 45.3**	**-2.0**
GEYT	**Alibeck**	**10.51**	**280**	P	**Pn**	**17 09 22.4**	**-1.0**
	0.4nm,0.3s,baz=97,slow=12,SNR=8.2						
GEYT				S	**Sn**	**17 11 16.7**	**-4.1**
	0.6nm,0.3s,baz=334,slow=30,SNR=2.6						
GEYT	**Alibeck**	**10.51**	**280**	Pn	**Pn**	**17 09 24.4**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**10.51**	**280**	Pn	**Pn**	**17 09 23.7**	**+0.3**
MAKZ	**Makanchi**	**12.82**	**35**	Pn	**Pn**	**17 09 51.5**	**-1.2**
MK31	**Makanchi Array**	**12.95**	**36**	Pn	**Pn**	**17 09 54.6**	**+0.3**
MKAR	**Makanchi Array**	**12.95**	**36**	P	**Pn**	**17 09 52.7**	**-1.6**
	0.2nm,0.3s,baz=219,slow=9.4,SNR=6.5						
MKAR	**Makanchi Array**	**12.95**	**36**	Pn	**Pn**	**17 09 53.7**	**-0.7**
KURBB	**Kurchatov Arra**	**14.80**	**18**	P	**Pn**	**17 10 15.8**	**-1.3**
	0.3nm,0.3s,baz=207,slow=11,SNR=13						
KURK	**Kurchatov**	**14.91**	**19**	P	**Pn**	**17 10 15.8**	**-2.6**
AB31	**Akbulak array**	**14.94**	**330**	⇑P	**P**	**17 10 22.3**	**+2.7**
	0.5nm,0.3s,baz=163,slow=11,SNR=6.9						
ABKAR	**Akbulak array**	**14.94**	**330**	P	**P**	**17 10 19.8**	**+0.2**
ABKAR	**Akbulak array**	**14.94**	**330**	P	**Pn**	**17 10 18.3**	**-0.6**
BVAR	**Borovoye Array**	**16.26**	**358**	P	**Pn**	**17 10 35.4**	**+0.6**
	1.0nm,0.3s,baz=184,slow=20,SNR=14						
BRVK	**Borovoye**	**16.29**	**358**		**Pn**	**17 10 35.6**	**+0.4**
BRVK				IAmb	IAmb	17 10 37.5	
	comp=Z,6.1nm,1.1s						
AKTO	**Aktyubinsk**	**16.64**	**329**	P	**Pn**	**17 10 40.6**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=141,slow=8.6,SNR=16						
AKTO				S	**S**	**17 13 38.7**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=336,slow=23,SNR=2.0						
AKTO	**Aktyubinsk**	**16.64**	**329**	⇑P	**Pn**	**17 10 40.9**	**+1.6**
	comp=Z,3.0nm,0.5s						
ZAA0	**Zalesovo Array**	**19.58**	**24**	P	**P**	**17 11 10.7**	**+0.5**
ZAA0				IAmb	IAmb	17 11 12.0	
	comp=Z,5.6nm,0.6s						
ZALV	**Zalesovo Beam**	**19.58**	**24**	P	**P**	**17 11 11.4**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=224,slow=11,SNR=24						
ZALV	**Zalesovo Beam**	**19.58**	**24**	P	**P**	**17 11 10.6**	**+0.4**
ARU	**Arti**	**21.43**	**341**	P	**P**	**17 11 32.3**	**+2.5**
	comp=Z,0.5nm,0.4s,baz=117,slow=16,SNR=3.7						
ARU	**Arti**	**21.43**	**341**	IAmb	IAmb	17 11 47.5	
	comp=Z,5.9nm,1.3s						
GTA	**Gaotai**	**22.60**	**75**	*e*P	**P**	**17 11 38.2**	**-3.2**
GTA				pP	pP	17 12 13.1	-5.0
GTA				sP	PP	17 12 37.4	+0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ANTO	**Ankara**	**30.17**	**288**	P	**P**	**17 12 48.2**	**-0.8**
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**17 13 53.3**	**+2.7**
	comp=Z,4.2nm,1.0s,baz=120,slow=7.5,SNR=6.4						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**17 13 53.0**	**+2.4**
ARCES	**ARCESS Array B**	**40.96**	**337**	P	**P**	**17 14 23.2**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=110,slow=9.2,SNR=9.0						
NC303	**NORSAR Array S**	**44.22**	**323**	P	**P**	**17 14 49.6**	**+3.0**
NB201	**NORSAR Array S**	**44.24**	**323**	P	**P**	**17 14 49.1**	**+2.4**
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**17 14 49.5**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=103,slow=7.3,SNR=1.7						
NC204	**NORSAR Array S**	**44.52**	**323**	P	**P**	**17 14 51.3**	**+2.3**
TIXI	**Tiksi**	**45.44**	**22**	P	**P**	**17 14 57.9**	**+1.8**
TIXI				IAmb	IAmb	17 15 23.2	
	comp=Z,14nm,1.1s						
TOA0	**Torodi Ar. Sit**	**65.92**	**269**	P	**P**	**17 17 22.2**	**-0.2**
TOA0				IAmb	IAmb	17 17 48.3	
	comp=Z,12nm,1.5s						
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**17 17 22.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=50,slow=4.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**17 17 23.0**	**+0.6**
SFJD	**Kangerlussuaq**	**67.57**	**339**	P	**P**	**17 17 34.5**	**+2.6**
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**17 18 54.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=324,slow=4.9,SNR=7.3						
WRA	**Warramunga Arr**	**81.97**	**122**	IAmb	IAmb	17 18 55.0	
	comp=Z,0.1nm,1.1s						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**17 19 06.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=304,slow=4.7,SNR=7.6						

*KRSC **07** 17:21:23.9±0.5, 53.°48N×159.°65E, h87km±6km, ML3.9*
*IDC **07** 17:21:25.0±4.9, 53.°32N×159.°47E, h112km±25km, mb3.1/2, mb1 3.3/2, mb1mx2.8/35, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=72.7km s-min=34.1km az=68.0*

ISC 07 17:21:24.3±1.0, 53.°46N±0.°04×159.°66E±0.°06, h89km±6km, n46, σ1s51/57, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.35**	**213**	*e*P	**Pn**	**17 21 38.2**	**+0.4**
NLC				*e*S	**Sn**	**17 21 48.8**	**+1.0**
SPN	**Mys Shipunski**	**0.43**	**149**	*e*P	**Pn**	**17 21 38.4**	**+0.1**
SPN				*e*S	**Sn**	**17 21 49.1**	**+0.3**
SDLR	**Sedlovina**	**0.50**	**248**	*e*P	**Pn**	**17 21 39.5**	**+0.5**
UGLR	**Uglovaya**	**0.56**	**243**	*e*P	**Pn**	**17 21 40.3**	**+0.8**
KRER	**Koryakskii**	**0.57**	**254**	*e*P	**Pn**	**17 21 40.3**	**+0.6**
KRER				*e*S	**Sn**	**17 21 52.2**	**+1.1**
AVH	**Avacha**	**0.59**	**251**	*e*P	**Pn**	**17 21 40.6**	**+0.9**
AVH				*e*S	**Sn**	**17 21 52.5**	**+1.3**
KII	**Karymskiy**	**0.59**	**348**	*e*P	**Pn**	**17 21 39.9**	**+0.2**
KRX	**Arik**	**0.61**	**261**	*i* P	**Pn**	**17 21 40.5**	**+0.5**
KRX				*e*S	**Sn**	**17 21 52.0**	**+0.3**
KOK	**Koryaka**	**0.64**	**255**	*e*P	**Pn**	**17 21 40.8**	**+0.7**
DALK	**Dalny**	**0.69**	**232**	*e*P	**Pn**	**17 21 41.1**	**+0.5**
DALK				*e*S	**Sn**	**17 21 53.7**	**+1.0**
PET	**Petropavlovsk**	**0.75**	**234**	*e*P	**Pn**	**17 21 41.6**	**+0.5**
PET				*e*S	**Sn**	**17 21 54.5**	**+0.9**
GNL	**Ganaly**	**1.05**	**283**	*e*P	**Pn**	**17 21 44.9**	**+0.4**
GNL				*e*S	**Sn**	**17 22 00.4**	**+0.7**
KRMR	**Karymshinskiy**	**1.12**	**236**	*e*P	**Pn**	**17 21 46.6**	**+1.4**
KRMR				*e*S	**Sn**	**17 22 02.9**	**+2.0**
PETK	**Petropavlovsk-**	**1.23**	**254**	P	**Pn**	**17 21 47.0**	**+0.4**
	10.0nm,0.3s,baz=83,slow=17,SNR=371						
PETK				S	**Sn**	**17 22 04.4**	**+1.0**
	9.5nm,0.3s,baz=93,slow=20,SNR=6.7						
RUS	**Russkaya**	**1.24**	**214**	*e*P	**Pn**	**17 21 47.1**	**+0.4**
RUS				*e*S	**Sn**	**17 22 04.1**	**+0.5**
GRL	**Gorelyy**	**1.32**	**227**	*e*P	**Pn**	**17 21 49.4**	**+1.6**
GRL				*e*S	**Sn**	**17 22 08.4**	**+2.8**
ASAK	**Asacha**	**1.52**	**225**	*e*P	**Pn**	**17 21 51.3**	**+1.1**
ASAK				*e*S	**Sn**	**17 22 12.9**	**+3.0**
APC	**Apacha**	**1.60**	**251**	*e*P	**Pn**	**17 21 52.3**	**+1.2**
APC				*e*S	**Sn**	**17 22 12.9**	**+1.4**
KZV	**Kizimen**	**1.69**	**12**	*e*P	**Pn**	**17 21 53.4**	**+0.8**
KZV				*e*S	**Sn**	**17 22 16.2**	**+2.2**
TUMD	**Tumrok D**	**1.80**	**14**	*e*P	**Pn**	**17 21 54.4**	**+0.7**
TUMD				*e*S	**Sn**	**17 22 18.0**	**+1.8**
TUMR	**Tumrok**	**1.85**	**9**	*e*P	**Pn**	**17 21 55.7**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.92**	**211**	*e*P	**Pn**	**17 21 56.0**	**+0.7**
KDTR				*e*S	**Sn**	**17 22 19.9**	**+1.0**
KMNR	**Kamenistaya**	**2.32**	**8**	*e*P	**Pn**	**17 22 03.3**	**+1.6**
ESO	**Esso**	**2.53**	**348**	*e*P	**Pn**	**17 22 03.8**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.55**	**11**	*e*P	**Pn**	**17 22 05.7**	**+1.8**
KOZ	**Kozyrevsk**	**2.60**	**3**	*e*P	**Pn**	**17 22 05.3**	**+0.9**
ZLN	**Zelenaya**	**2.64**	**14**	*e*P	**Pn**	**17 22 07.2**	**+2.2**
PAU	**Pauzhetka**	**2.65**	**222**	*e*P	**Pn**	**17 22 07.0**	**+2.0**
LGNR	**Loginova**	**2.69**	**12**	*e*P	**Pn**	**17 22 07.9**	**+2.1**
CIRR	**Tsirk**	**2.73**	**13**	*e*P	**Pn**	**17 22 08.1**	**+1.9**
KRSR	**Krestovskiy**	**2.81**	**10**	*e*P	**Pn**	**17 22 08.5**	**+1.3**
SRDR	**Sredinnyy**	**2.86**	**1**	*e*P	**Pn**	**17 22 08.5**	**+0.6**
BDR	**Baidarnaya**	**3.24**	**15**	*e*P	**Pn**	**17 22 14.9**	**+1.9**
KBTR	**Krutoberegovo**	**3.30**	**32**	*e*P	**Pn**	**17 22 16.3**	**+2.6**
KBG	**Krutoberegovo**	**3.31**	**31**	*e*P	**Pn**	**17 22 14.2**	**+0.4**
SRKR	**Sorokina**	**3.31**	**15**	*e*P	**Pn**	**17 22 15.9**	**+1.9**
SKR	**Severo-Kuril's**	**3.54**	**220**	*e*P	**Pn**	**17 22 19.2**	**+2.2**
SKR				*e*S	**Sn**	**17 23 01.2**	**+3.5**
JHJ	**Hachijo jima 2**	**24.80**	**223**	LR	LR	17 36 24.3	
	comp=Z,88nm,20.7s,baz=314,slow=36						
H11N2	**WAKE ISLAND Hy**	**34.13**	**168**	T	T	18 03 54.7	
	baz=351,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**34.15**	**168**	T	T	18 03 54.7	
	baz=283,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**34.15**	**168**	T	T	18 03 58.2	
	SNR=16						
H11S1	**WAKE ISLAND Hy**	**35.31**	**168**	T	T	18 05 26.3	
	baz=354,slow=74,SNR=2.8						
H11S3	**WAKE ISLAND Hy**	**35.32**	**168**	T	T	18 05 30.7	
	baz=92,slow=74,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**35.33**	**168**	T	T	18 05 26.2	
MKAR	**Makanchi Array**	**47.76**	**295**	P	**P**	**17 29 49.7**	**-2.4**
	0.4nm,0.5s,baz=50,slow=6.1,SNR=9.5						
WRA	**Warramunga Arr**	**76.31**	**204**	P	**P**	**17 33 00.8**	**-2.4**
	0.3nm,0.9s,baz=20,slow=6.3,SNR=2.2						

*KRSC **07** 17:28:38.8±0.9, 53.°32N×160.°48E, h56km±9km, ML4.2*
*MOS **07** 17:28:39.8±0.7, 53.°28N×160.°52E, h46km, mb4.2/7, Error ellipse: s-maj=8.3km s-min=4.6km az=79.5*
*NEIC **07** 17:28:42.9±2.3, 53.°4N±0.°1×159.°9E±0.°1, h69km±6km, mb4.5/15, Error ellipse: s-maj=17.0km s-min=9.7km az=166.0*
*IDC **07** 17:28:43.9±3.0, 53.°51N×160.°11E, h80km±25km, mb3.4/7, mb1 3.6/8, mb1mx3.3/35, mbtmp3.8/8, Error ellipse: s-maj=29.9km s-min=22.0km az=91.0*

ISC 07 17:28:40.3±0.8, 53.°35N±0.°03×160.°37E±0.°05, h47km±7km, n129, σ1s79/161, mb4.0/15, 1C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.33**	**220**	*i* P	**Pn**	**17 28 49.7**	**+0.3**
SPN				*e*S	**Sn**	**17 28 56.1**	**+0.2**
SPN	**Mys Shipunski**	**0.33**	**220**	PN	**Pn**	**17 28 49.7**	**+0.3**
SPN				S	**Sn**	**17 28 56.1**	**+0.2**
NLC	**Nalytchevo**	**0.64**	**254**	*e*P	**Pn**	**17 28 53.8**	**+0.7**
NLC				*e*S	**Sn**	**17 29 03.9**	**+1.5**
NLC	**Nalytchevo**	**0.64**	**254**	PN	**Pn**	**17 28 53.8**	**+0.7**
NLC				S	**Sn**	**17 29 03.9**	**+1.5**
KII	**Karymskiy**	**0.88**	**322**	*e*P	**Pn**	**17 28 56.6**	**+0.2**
KII	**Karymskiy**	**0.88**	**322**	PN	**Pn**	**17 28 56.6**	**+0.2**
UGLR	**Uglovaya**	**0.94**	**262**	*e*P	**Pn**	**17 28 58.5**	**+1.3**
UGLR				*e*S	**Sn**	**17 29 11.9**	**+2.2**
UGLR	**Uglovaya**	**0.94**	**262**	PN	**Pn**	**17 28 58.5**	**+1.3**
UGLR				S	**Sn**	**17 29 11.9**	**+2.2**
SMAR	**Somma**	**0.95**	**265**	*e*P	**Pn**	**17 28 58.1**	**+0.7**
SMAR	**Somma**	**0.95**	**265**	PN	**Pn**	**17 28 58.1**	**+0.7**
KRER	**Koryakskii**	**0.97**	**268**	*e*P	**Pn**	**17 28 59.0**	**+1.2**
KRER				*e*S	**Sn**	**17 29 12.9**	**+2.3**
KRER	**Koryakskii**	**0.97**	**268**	PN	**Pn**	**17 28 59.0**	**+1.2**
KRER				S	**Sn**	**17 29 12.9**	**+2.3**
AVH	**Avacha**	**0.98**	**266**	*e*P	**Pn**	**17 28 59.1**	**+1.3**
AVH				*e*S	**Sn**	**17 29 13.3**	**+2.6**
AVH	**Avacha**	**0.98**	**266**	PN	**Pn**	**17 28 59.1**	**+1.3**
AVH				S	**Sn**	**17 29 13.3**	**+2.6**
DALK	**Dalny**	**1.02**	**252**	*e*P	**Pn**	**17 28 59.0**	**+0.7**
DALK				*e*S	**Sn**	**17 29 12.7**	**+1.2**
DALK	**Dalny**	**1.02**	**252**	PN	**Pn**	**17 28 59.0**	**+0.7**
DALK				S	**Sn**	**17 29 12.7**	**+1.2**
KRX	**Arik**	**1.03**	**271**	*e*P	**Pn**	**17 28 59.4**	**+0.9**
KRX				*e*S	**Sn**	**17 29 13.4**	**+1.5**
KRX	**Arik**	**1.03**	**271**	PN	**Pn**	**17 28 59.4**	**+0.9**
KRX				S	**Sn**	**17 29 13.4**	**+1.5**
KOK	**Koryaka**	**1.04**	**267**	*e*P	**Pn**	**17 28 59.7**	**+1.1**
KOK				*e*S	**Sn**	**17 29 14.0**	**+1.9**
KOK	**Koryaka**	**1.04**	**267**	PN	**Pn**	**17 28 59.7**	**+1.1**
KOK				S	**Sn**	**17 29 14.0**	**+1.9**
PET	**Petropavlovsk**	**1.08**	**253**	*i* P	**Pn**	**17 28 59.9**	**+0.9**
PET				*i* S	**Sn**	**17 29 14.3**	**+1.3**
PET	**Petropavlovsk**	**1.08**	**253**	⇓*i* PN	**Pn**	**17 29 00.0**	**+0.9**
PET				*e*S	**Sn**	**17 29 14.1**	**+1.1**
PET				pmax	pmax		
	comp=Z,280nm,0.3s						
PET				smax	smax		
	comp=E,980nm,0.5s						
PET				smax	smax		
	comp=N,810nm,0.4s						
PET	**Petropavlovsk**	**1.08**	**253**		**Pn**	**17 28 59.7**	**+0.6**
PET				Sn	**Sn**	**17 29 14.4**	**+1.5**
KRMR	**Karymshinskiy**	**1.45**	**250**	*e*P	**Pn**	**17 29 06.0**	**+2.0**
KRMR				*e*S	**Sn**	**17 29 25.4**	**+3.5**
KRMR	**Karymshinskiy**	**1.45**	**250**	PN	**Pn**	**17 29 06.0**	**+2.0**
KRMR				S	**Sn**	**17 29 25.4**	**+3.5**
RUS	**Russkaya**	**1.45**	**232**	*e*P	**Pn**	**17 29 04.6**	**+0.5**
RUS				*e*S	**Sn**	**17 29 22.2**	**+0.2**
RUS	**Russkaya**	**1.45**	**232**	PN	**Pn**	**17 29 04.6**	**+0.5**
RUS				S	**Sn**	**17 29 22.2**	**+0.2**
GNL	**Ganaly**	**1.49**	**284**	*e*P	**Pn**	**17 29 06.2**	**+1.5**
GNL	**Ganaly**	**1.49**	**284**	PN	**Pn**	**17 29 06.2**	**+1.5**
GRL	**Gorelyy**	**1.60**	**241**	*e*P	**Pn**	**17 29 07.8**	**+1.5**
GRL				*e*S	**Sn**	**17 29 27.6**	**+1.7**
GRL	**Gorelyy**	**1.60**	**241**	PN	**Pn**	**17 29 07.8**	**+1.5**
GRL				S	**Sn**	**17 29 27.6**	**+1.7**
PEA0B	**Petropavlovsk-**	**1.62**	**262**	*d* PN	**Pn**	**17 29 08.0**	**+1.5**
PEA0B	**Petropavlovsk-**	**1.62**	**262**		**Pn**	**17 29 08.1**	**+1.7**
PEA0B				Sn	**Sn**	**17 29 29.7**	**+3.5**
PETK	**Petropavlovsk-**	**1.62**	**262**	P	**Pn**	**17 29 08.1**	**+1.6**
	comp=N,46nm,0.3s,baz=82,slow=18,SNR=1071						
PETK				S	**Sn**	**17 29 28.7**	**+2.5**
	comp=N,29nm,0.3s,baz=94,slow=39,SNR=4.0						
PETK	**Petropavlovsk-**	**1.62**	**262**		**Pn**	**17 29 07.8**	**+1.4**
KZV	**Kizimen**	**1.77**	**359**	*e*P	**Pn**	**17 29 09.4**	**+0.9**
KZV				*e*S	**Sn**	**17 29 30.5**	**+0.6**
KZV	**Kizimen**	**1.77**	**359**	PN	**Pn**	**17 29 09.4**	**+0.9**
KZV				S	**Sn**	**17 29 30.5**	**+0.6**
ASAK	**Asacha**	**1.79**	**238**	*e*P	**Pn**	**17 29 10.5**	**+1.8**
ASAK				*e*S	**Sn**	**17 29 33.3**	**+3.1**
ASAK	**Asacha**	**1.79**	**238**	PN	**Pn**	**17 29 10.5**	**+1.8**
ASAK				S	**Sn**	**17 29 33.3**	**+3.1**
TUMD	**Tumrok D**	**1.86**	**0**	*e*P	**Pn**	**17 29 10.2**	**+0.6**
TUMD				*e*S	**Sn**	**17 29 32.2**	**+0.3**
TUMR	**Tumrok**	**1.94**	**356**	*e*P	**Pn**	**17 29 12.4**	**+1.5**
TUMR				*e*S	**Sn**	**17 29 36.2**	**+2.1**
TUMR	**Tumrok**	**1.94**	**356**	PN	**Pn**	**17 29 12.4**	**+1.5**
TUMR				S	**Sn**	**17 29 36.2**	**+2.1**
APC	**Apacha**	**1.98**	**259**	*e*P	**Pn**	**17 29 13.6**	**+2.3**
APC				*e*S	**Sn**	**17 29 38.7**	**+3.8**
APC	**Apacha**	**1.98**	**259**	PN	**Pn**	**17 29 13.6**	**+2.3**
APC				S	**Sn**	**17 29 38.7**	**+3.8**
KDTR	**Khodutka, Kamc**	**2.08**	**223**	*e*P	**Pn**	**17 29 14.1**	**+1.4**
KDTR				*e*S	**Sn**	**17 29 39.0**	**+1.6**
KDTR	**Khodutka, Kamc**	**2.08**	**223**	PN	**Pn**	**17 29 14.1**	**+1.4**
KDTR				S	**Sn**	**17 29 39.0**	**+1.6**
KMNR	**Kamenistaya**	**2.41**	**358**	*e*P	**Pn**	**17 29 19.2**	**+1.9**
KMNR	**Kamenistaya**	**2.41**	**358**	PN	**Pn**	**17 29 19.2**	**+1.9**

MKAR	**Makanchi Array**	**48.19**	**296**	P		**P**	**17 37 14.1**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=59,slow=7.8,SNR=9.8							
MKAR	**Makanchi Array**	**48.19**	**296**	P		**P**	**17 37 13.8**	**-1.9**
ARCES	**ARCES Array B**	**53.09**	**342**	P		**P**	**17 37 50.4**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=40,slow=9.9,SNR=4.2							
ARCES	**ARCES Array B**	**53.09**	**342**	*e*P		**P**	**17 37 51.3**	**-1.0**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FIA1	**FINESS Array S**	**59.95**	**337**	P		**P**	**17 38 39.8**	**-1.3**
FINES	**FINESS Array B**	**59.95**	**337**	P		**P**	**17 38 39.4**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=30,slow=9.3,SNR=9.4							
FINES	**FINESS Array B**	**59.95**	**337**	*e*P		**P**	**17 38 39.7**	**-1.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ECSD	**EROS Data Cent**	**63.03**	**52**	P		P	17 39 04.7	+2.5
ECSD				IAmb		IAmb	17 39 04.8	
	comp=Z,9.3nm,1.4s							
NC204	**NORSAR Array S**	**63.19**	**344**	P		**P**	**17 39 02.2**	**-0.8**
NOA	**NORSAR Array B**	**63.34**	**344**	P		**P**	**17 39 02.9**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=19,slow=6.3,SNR=2.4							
TXAR	**Lajitas Array**	**70.38**	**67**	P		**P**	**17 39 50.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=321,slow=5.0,SNR=5.1							
TXAR	**Lajitas Array**	**70.38**	**67**	P		**P**	**17 39 49.6**	**+0.3**
EKR7	**Eskdalemuir Ar**	**70.84**	**350**	P		**P**	**17 39 51.3**	**-0.3**
BUR08	**Bucovina Ar. S**	**72.41**	**330**	P		P	**17 39 60.0**	**-1.4**
BUR08				IAmb		IAmb	17 40 10.0	
	comp=Z,8.6nm,1.4s							
BURAR	**Bucovina Array**	**72.43**	**330**	P		**P**	**17 40 00.4**	**-1.0**
WRA	**Warramunga Arr**	**76.39**	**205**	P		**P**	**17 40 24.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=18,slow=6.6,SNR=1.8							
WRA	**Warramunga Arr**	**76.39**	**205**	P		**P**	**17 40 24.0**	**-0.4**
WRA	**Warramunga Arr**	**76.39**	**205**	IAmb		IAmb	17 40 26.4	
	comp=Z,0.1nm,1.1s							
ASAR	**Alice Springs**	**80.06**	**205**	P		**P**	**17 40 45.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=12,slow=4.8,SNR=9.2							

*ATH **07** 17:48:45.1,35°.50N×26°.13E, h24km±12km, ML2.8/6, Error ellipse: s-maj=13.8km s-min=1.3km az=172.0*
*THE **07** 17:48:46.3,35°.42N×26°.16E, h27km±3km, ML2.8/7, Error ellipse: s-maj=3.9km s-min=0.8km az=172.0*
*DDA **07** 17:48:53.1,37°.29N×26°.22E, h58km±7km, ML2.4*

ISC 07 17:48:43.0±1.2, 35°.61N±0°.04×26°.11E±0°.03, h12km±9km, **n21,σ1§26/42, Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STIA	**Sitia Lasithi**	**0.41**	**182**	P			**Pb**	**17 48 52.4**	**+0.3**
STIA				S			**Sg**	**17 48 57.0**	**+0.5**
ZKR	**Zakros**	**0.50**	**170**	P			**Pb**	**17 48 53.6**	**-0.2**
ZKR				S			**Sg**	**17 48 59.1**	**-0.4**
	600nm,0.2s								
ZKR	**Zakros**	**0.50**	**170**	P			**Pb**	**17 48 53.6**	**-0.2**
ZKR				S			**Sg**	**17 48 58.8**	**-0.7**
ZKR				AML		AML		17 48 59.3	
	comp=E,1760μm,0.3s								
ZKR				AML		AML		17 48 59.9	
	comp=N,631μm,0.2s								
NPS	**Neapolis**	**0.53**	**229**	P			**Pn**	**17 48 55.9**	**-0.6**
NPS				S			**Sb**	**17 49 02.4**	**+0.4**
	comp=N,3μm,0.3s								
NPS	**Neapolis**	**0.53**	**229**	P			**Pn**	**17 48 56.0**	**-0.4**
NPS				S			**Sb**	**17 49 03.0**	**+1.0**
NPS				AML		AML		17 49 03.0	
	comp=E,5099μm,0.3s								
NPS				AML		AML		17 49 03.2	
	comp=N,6786μm,0.3s								
FRMA	**Ierapetra Chan**	**0.67**	**207**	P			**Pg**	**17 48 56.1**	**+0.1**
FRMA				S			**Sg**	**17 49 03.4**	**-1.4**
	comp=N,1μm,0.3s								
LAST	**Lasithi**	**0.68**	**229**	P			**Pn**	**17 48 58.1**	**-0.5**
LAST				S			**Sb**	**17 49 06.8**	**+0.5**
	comp=N,1μm,0.3s								
LAST	**Lasithi**	**0.68**	**229**	P			**Pn**	**17 48 58.3**	**-0.3**
LAST				S			**Sb**	**17 49 06.9**	**+0.5**
LAST				AML		AML		17 49 07.4	
	comp=E,2426μm,0.4s								
LAST				AML		AML		17 49 07.8	
	comp=N,1886μm,0.2s								
KARP	**Karpathos**	**0.86**	**94**	P			**Pn**	**17 49 00.6**	**-0.4**
KARP				S			**Sb**	**17 49 12.0**	**+0.6**
	comp=N,492nm,0.2s								
KARP	**Karpathos**	**0.86**	**94**	P			**Pn**	**17 49 01.4**	**+0.4**
KARP				S			**Sn**	**17 49 12.8**	**-0.7**
KARP				AML		AML		17 49 15.4	
	comp=N,864μm,0.3s								
KARP				AML		AML		17 49 15.6	
	comp=E,1096μm,0.2s								
HRKL	**Herakleio**	**0.87**	**250**	P			**Pn**	**17 49 02.4**	**+1.3**
HRKL				S			**Sn**	**17 49 13.4**	**-0.4**
	comp=E,782nm,0.4s								
IACM	**Heraklion**	**0.90**	**251**	P			**Pn**	**17 49 02.9**	**+1.4**
IACM				S			**Sn**	**17 49 14.0**	**-0.4**
KSTL	**Kastelli Herak**	**0.90**	**250**	P			**Pg**	**17 48 59.9**	**-0.5**
KSTL				S			**Sg**	**17 49 09.2**	**-2.9**
IDI	**Anoyia**	**1.04**	**252**	P			**Pn**	**17 49 03.8**	**+0.3**
IDI				S			**Sn**	**17 49 17.8**	**-0.3**
	comp=E,378nm,0.2s								
IDI	**Anoyia**	**1.04**	**252**	P			**Pn**	**17 49 04.1**	**+0.6**
IDI				S			**Sn**	**17 49 18.9**	**+0.8**
IDI				AML		AML		17 49 21.1	
	comp=N,708μm,0.2s								
IDI				AML		AML		17 49 22.2	
	comp=E,794μm,0.3s								
SIVA	**Sivas**	**1.22**	**241**	P			**Pg**	**17 49 07.7**	**+1.4**
SIVA				S			**Sn**	**17 49 23.1**	**+0.9**
SIVA				AML		AML		17 49 26.8	
	comp=E,1319μm,0.2s								
SIVA				AML		AML		17 49 28.0	
	comp=N,766μm,0.5s								
DAT	**Datca**	**1.63**	**46**	*i* P			**Pg**	**17 49 16.1**	**+1.8**
DAT				*i* S			**Sn**	**17 49 31.9**	**-0.7**
TURN	**Turunc**	**2.08**	**55**	*i* P			**Pb**	**17 49 19.5**	**-1.2**
TURN				*i* S			**Sn**	**17 49 43.1**	**-0.5**
DALY	**Dalyan (Mula)**	**2.38**	**59**	*i* P			**Pb**	**17 49 24.9**	**-1.0**
DALY				*i* S			**Sn**	**17 49 51.1**	**0.0**
DALY				IAML				17 49 56.0	
	comp=N,23nm,0.6s								
DALY				IAML				17 50 32.0	
	comp=E,103nm,1.9s								
FETY	**Fethiye**	**2.62**	**66**	*i* P			**Pn**	**17 49 26.5**	**+1.3**
FETY				*i* S			**Sn**	**17 49 53.7**	**-3.2**
GOLH	**Golhisar**	**3.22**	**59**	*i* P			**Pn**	**17 49 36.3**	**+2.7**
GOLH				*i* S			**Sn**	**17 50 08.6**	**-3.4**
GOLH				IAML				17 50 23.0	
	comp=N,12nm,0.5s								
GOLH				IAML				17 51 02.0	
	comp=E,43nm,2.3s								

*TEH **07** 17:49:45.9,27°.61N×57°.76E, h18km, ML3.3*
*OMAN **07** 17:49:48.5,28°.00N×57°.81E, h35km, ml2.9/9*

ISC 07 17:49:49.3±1.5, 27°.82N±0°.05×57°.64E±0°.06, h19km±4km, **n22,σ1§69/24, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.14**	**25**	*e*Pg			**Pg**	**17 49 53.3**	**-0.4**
IBND	**Bandar-abas**	**1.04**	**250**	*e*				17 50 34.8	
IBND				*e*Pg			**Pb**	**17 50 07.6**	**-1.1**
GENO	**Geno**	**1.36**	**253**	*e*Pg			**Pn**	**17 50 11.6**	**-1.9**
GENO				*e*				17 50 32.5	
BNDS	**Bandar-Abbas**	**1.37**	**253**	*e*Pg			**Pn**	**17 50 12.7**	**-0.8**
KBAM	**BAM**	**1.50**	**28**	*e*Pg			**Pb**	**17 50 16.4**	**-0.2**
NGRK	**Negar Kerman**	**1.99**	**337**	*e*Pn			**Pn**	**17 50 23.3**	**+1.0**
NGRK				*e*				17 50 53.5	
CHMN	**Cheshme madani**	**2.04**	**358**	*e*Pn			**Pb**	**17 50 24.7**	**-1.2**
CHMN				*e*				17 50 28.3	
BANOM	**Banah**	**2.23**	**213**	P			**Pn**	**17 50 26.4**	**+1.1**
	SNR=15								
BANOM				S			**Sb**	**17 50 55.8**	**-0.5**
KRBR	**Kerman**	**2.29**	**341**	*e*Pn			**Pb**	**17 50 28.2**	**-2.0**
TVBK	**TV Kerman**	**2.29**	**341**	*e*Pn			**Pb**	**17 50 28.6**	**-1.7**
TVBK				*e*				17 51 03.7	
MDH	**Madha**	**2.78**	**206**	P			**Pn**	**17 50 31.9**	**-0.9**
UOSS	**Minazif**	**3.13**	**205**	P			**Pn**	**17 50 39.2**	**+1.4**
ZHSF	**Zahedan**	**3.29**	**56**	*e*Pn			**Pb**	**17 50 44.2**	**-2.9**
ASHO	**Ashiyiah**	**3.43**	**205**	P			**Pn**	**17 50 43.2**	**+1.4**
ASHO				S			**Sn**	**17 51 24.5**	**+2.6**
HOQ	**Hoqain**	**4.23**	**184**	P			**Pn**	**17 50 51.6**	**-1.2**
BSRN	**Basiran**	**4.33**	**17**	*e*Pn			**Pn**	**17 50 57.4**	**+3.1**
ARQ	**Araqi**	**4.57**	**193**	P			**Pn**	**17 50 58.4**	**+0.9**
	SNR=14								
WSAR	**Wadi Sarin**	**4.65**	**169**	P			**Pn**	**17 50 58.5**	**0.0**
	SNR=19								
IKOO	**Kooshah**	**4.74**	**14**	*e*Pn			**Pn**	**17 51 01.6**	**+1.6**
SMDO	**Samad**	**4.75**	**175**	P			**Pn**	**17 50 59.2**	**-0.8**
BSY	**Bisya**	**5.07**	**185**	P			**Pn**	**17 51 05.2**	**+0.9**
TPRV	**Parvadeh(Tabas**	**5.26**	**351**	*e*Pn			**Pn**	**17 51 09.1**	**+2.1**

*BJI **07** 18:08:07.0±0.0, 23°.70N×121°.57E, h14km, mB4.8/43, mb4.4/61, ML4.9/11, Ms4.5/64, Ms7 4.4/60*
*NEIC **07** 18:08:09.3, 23°.60N×121°.61E, h33km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.62; $M_{\theta\theta}$-0.68; $M_{\phi\phi}$0.06; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.74; $M_{\phi r}$0.92; Fault plane solution: $M_0$1.36000×10^{16} NP1:ϕ_s270.69000°, δ48.29000°, λ150.41000°. NP2:ϕ_s21.39000°, δ68.37000°, λ45.70000°. Principal axes: T 1.4844, Plg47.0000°, Azm245.0000°; N -0.2884, Plg40.0000°, Azm41.0000°; P -1.1960, Plg12.0000°, Azm142.0000°;*
*NIED **07** 18:08:09.3, 23°.63N×121°.59E, h31km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.17; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.13; $M_{r\theta}$0.31; $M_{\theta\phi}$-0.60; $M_{\phi r}$0.95; Fault plane solution: $M_0$1.63000×10^{16} NP1:ϕ_s20.00000°, δ64.00000°, λ86.00000°. NP2:ϕ_s209.00000°, δ26.00000°, λ99.00000°.*
*NEIC **07** 18:08:09.4±1.7, 23°.61N±0°.05×121°.61E±0°.04, h30km±4km, mb4.9/128, Mwr4.7/23, ML5.2(TAP) Error ellipse: s-maj=7.4km s-min=4.6km az=154.0*
*JMA **07** 18:08:09.2, 23°.63N×121°.58E, h31km±2km, M4.8*
*ASIES **07** 18:08:10.8, 23°.65N×121°.56E, h29km, MW4.6*
*TAP **07** 18:08:10.3, 23°.64N×121°.58E, h33km, ML5.2, B*
*GCMT **07** 18:08:10.5±0.4, 23°.60N±0°.02×121°.59E±0°.03, h37km±1km, MW4.9/54, Moment Tensor Solution. s31,c37; s54,c67; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.09±.17; $M_{\theta\theta}$-0.42±.10; $M_{\phi\phi}$-1.66±.11; $M_{r\theta}$-0.23±.10; $M_{\theta\phi}$-1.08±.06; $M_{\phi r}$1.02±.10; Best double couple: $M_0$2.43100×10^{16} NP1:ϕ_s227.00000°, δ38.00000°, λ118.00000°. NP2: ϕ_s13.00000°, δ57.00000°, λ70.00000°. Principal axes: T 2.4400, Plg70.0000°, Azm237.0000°; N -0.0080, Plg17.0000°, Azm24.0000°; P -2.4220, Plg10.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **07** 18:08:12.7±2.2, 23°.68N×121°.78E, h57km±19km, mb4.1/23, mb1 4.3/25, mb1mx4.1/38, mbtmp4.4/25, ML3.6/2, MS4.0/26, Ms1 4.0/26, ms1mx3.8/49 Error ellipse: s-maj=15.0km s-min=11.2km az=80.0*

ISC 07 18:08:09.8±0.6, 23°.62N±0°.01×121°.63E±0°.02, h30km±4km, **n385,σ1§48/518, mb4.8/96, MS4.1/28, 11C-42D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.19**	**284**	*i* P			**Pb**	**18 08 16.4**	**+0.4**
	baz=282								
EGFH				S			**Sb**	**18 08 20.6**	**+0.4**
	baz=282								
HGSD	**Ruisui**	**0.23**	**236**	*e*P			**Pn**	**18 08 17.4**	**+0.1**
	baz=224								
ESL	**Shilin**	**0.27**	**316**	*i* P			**Pb**	**18 08 16.8**	**-0.1**
	baz=318								
ESL				*e*S			**Sb**	**18 08 21.3**	**-0.4**
	baz=318								
HWA	**Hwalien**	**0.35**	**356**	*i* P			**Pb**	**18 08 18.6**	**+0.5**
	baz=11								
HWA				*e*S			**Sn**	**18 08 25.2**	**+0.2**
	baz=11								
YULB	**Yu-li**	**0.38**	**234**	*i* P			**Pb**	**18 08 18.6**	**+0.1**
	baz=237								
YULB				*e*S			**Sb**	**18 08 23.1**	**-1.3**
	baz=237								
YULB	**Yu-li**	**0.38**	**234**				**Pb**	**18 08 17.6**	**-0.9**
EYUL	**Yuli**	**0.40**	**227**	*i* P			**Pb**	**18 08 19.1**	**+0.4**
	baz=232								
EYUL				S			**Sb**	**18 08 24.9**	**+0.2**
	baz=232								
TWF1	**Yuli**	**0.41**	**229**	*i* P			**Pb**	**18 08 18.9**	**+0.1**
	baz=234								
TWF1				*e*S			**Sb**	**18 08 24.7**	**-0.4**
	baz=234								
TWD	**Chiawan**	**0.46**	**356**	*i* P			**Pb**	**18 08 19.7**	**0.0**
	baz=352								
TWD				*e*S			**Sb**	**18 08 26.6**	**+0.3**
	baz=352								
VWDT	**VWDT**	**0.47**	**286**	*i* P			**Pb**	**18 08 19.8**	**0.0**
	baz=287								
VWDT				*e*S			**Sb**	**18 08 26.1**	**-0.5**
	baz=287								
FULB	**Fuli**	**0.52**	**217**	*e*P			**Pn**	**18 08 21.3**	**0.0**
	baz=222								
FULB				*e*S			**Sn**	**18 08 30.4**	**+1.2**
	baz=222								
OWD	**Renai**	**0.53**	**309**	*i* P			**Pb**	**18 08 20.4**	**-0.5**
	baz=311								
OWD				*e*S			**Sb**	**18 08 27.4**	**-1.2**
	baz=311								
NACB	**Ninganchiao**	**0.55**	**356**	*i* P			**Pb**	**18 08 20.6**	**-0.6**
	baz=353								
NACB				*e*S			**Sb**	**18 08 28.2**	**-0.7**
	baz=353								
NACB	**Ninganchiao**	**0.55**	**356**				**Pb**	**18 08 20.4**	**-0.7**
NACB							**Sb**	**18 08 28.4**	**-0.5**
CHKT	**Chengkung**	**0.57**	**205**	*i* P			**Pn**	**18 08 21.7**	**-0.2**
	baz=188								
CHKT				*e*S			**Sn**	**18 08 30.1**	**-0.3**
	baz=188								
ETLH	**Xiulin Townshi**	**0.60**	**347**	P			**Pb**	**18 08 21.2**	**-0.8**
	baz=351								
ETLH				*e*S			**Sb**	**18 08 29.6**	**-0.6**
	baz=351								
CHGB	**Renai**	**0.61**	**316**	P			**Pb**	**18 08 21.8**	**-0.4**
	baz=328								
CHGB				*e*S			**Sb**	**18 08 29.6**	**-1.0**
	baz=328								
WHF	**Hehuan Shan**	**0.62**	**327**	P			**Pb**	**18 08 21.6**	**-0.9**
	baz=331								
WHF				*e*S			**Sb**	**18 08 30.0**	**-1.3**
	baz=331								
YUS	**Yu-Shan**	**0.64**	**258**	*e*P			**Pb**	**18 08 22.7**	**-0.1**
	baz=251								
SSLB	**Suanglung**	**0.64**	**285**	P			**Pb**	**18 08 21.9**	**-0.7**
	baz=290								
SSLB				*e*S			**Sb**	**18 08 29.8**	**-1.6**
	baz=290								
SSLB	**Suanglung**	**0.64**	**285**				**Pb**	**18 08 21.6**	**-1.1**
SSLB							**Sb**	**18 08 29.3**	**-2.1**
ELDTW	**Lidau**	**0.71**	**233**	*i* P			**Pb**	**18 08 23.0**	**-0.9**
	baz=227								
ELDTW				*e*S			**Sb**	**18 08 33.0**	**-0.4**
	baz=227								
EDH	**Donghe**	**0.71**	**205**	*e*P			**Pb**	**18 08 23.9**	**+0.1**
	baz=190								
EDH				*e*S			**Sn**	**18 08 34.1**	**+0.3**
	baz=190								
WHYT	**Xinyi Township**	**0.72**	**276**	*i* P			**Pn**	**18 08 23.8**	**-0.2**
	baz=271								
WHYT				*e*S			**Sb**	**18 08 33.0**	**-0.5**
	baz=271								
SMLT	**Sun Moon Lake**	**0.72**	**291**	*i* P			**Pn**	**18 08 23.4**	**-0.7**
	baz=295								
SMLT				*e*S			**Sb**	**18 08 33.2**	**-0.4**
	baz=295								
TDCB	**Techi**	**0.76**	**326**	*i* P			**Pn**	**18 08 24.2**	**-0.5**
	baz=328								
TDCB				*e*S			**Sb**	**18 08 33.5**	**-1.4**
	baz=328								
TYC	**Yuchr**	**0.76**	**292**	*i* P			**Pn**	**18 08 24.0**	**-0.6**
	baz=293								
TYC				S			**Sb**	**18 08 34.6**	**-0.2**
	baz=293								
ALS	**Alishan**	**0.77**	**262**	*i* P			**Pn**	**18 08 24.9**	**0.0**
	baz=268								
ALS				*i* S			**Sb**	**18 08 34.7**	**-0.5**
	baz=268								
ENA	**Nanau**	**0.81**	**7**	P			**Pn**	**18 08 25.5**	**+0.3**
	baz=358								
ENA				*e*S			**Sn**	**18 08 36.0**	**-0.2**
	baz=358								
NNSB	**Datong**	**0.84**	**344**	P			**Pn**	**18 08 24.9**	**-0.8**
	baz=355								
NNSB				*e*S			**Sn**	**18 08 34.6**	**-2.4**
	baz=355								
NNSH	**Datong**	**0.84**	**344**	P			**Pn**	**18 08 25.0**	**-0.7**
	baz=354								
NNSH				*e*S			**Sn**	**18 08 35.0**	**-2.0**
	baz=354								
ENAH	**Nanao**	**0.84**	**11**	P			**Pn**	**18 08 25.5**	**-0.1**
	baz=20								
ENAH				*e*S			**Sn**	**18 08 36.8**	**-0.2**
	baz=20								
LONT	**Longtian**	**0.85**	**213**	*i* P			**Pn**	**18 08 25.0**	**-0.8**
	baz=197								
NNS	**Nan Shan**	**0.85**	**344**	P			**Pn**	**18 08 25.2**	**-0.7**
	baz=355								
NNS				*e*S			**Sn**	**18 08 35.7**	**-1.7**
	baz=355								
WJS	**Zhushan**	**0.85**	**284**	*i* P			**Pn**	**18 08 26.4**	**+0.5**
	baz=284								
WJS				S			**Sn**	**18 08 37.6**	**+0.3**
	baz=284								
CHN5	**Tsauling**	**0.88**	**269**	*i* P			**Pn**	**18 08 26.6**	**+0.4**
	baz=268								
CHN5				S			**Sn**	**18 08 38.4**	**+0.4**
	baz=268								
WNT	**Mingjian**	**0.91**	**287**	*i* P			**Pb**	**18 08 27.2**	**+0.2**
	baz=287								
WNT				*e*S			**Sb**	**18 08 39.4**	**+0.7**
	baz=287								
WHP	**Taichung City**	**0.91**	**316**	*i* P			**Pn**	**18 08 26.6**	**0.0**
	baz=318								
WHP				S			**Sn**	**18 08 37.5**	**-1.3**
	baz=318								
TWGBT	**Beinan**	**0.95**	**213**	*i* P			**Pn**	**18 08 26.1**	**-1.1**
	baz=208								
TWGBT				*e*S			**Sn**	**18 08 38.3**	**-1.3**
	baz=208								
TWG	**Pinlang**	**0.95**	**213**	*i* P			**Pn**	**18 08 26.0**	**-1.2**
	baz=208								
TWG				*e*S			**Sn**	**18 08 38.2**	**-1.5**
	baz=208								
TWG	**Pinlang**	**0.95**	**213**				**Pn**	**18 08 25.9**	**-1.2**
LDUT	**Ludao**	**0.95**	**189**	P			**Pn**	**18 08 26.5**	**-0.7**
	baz=176								
LDUT				*e*S			**Sb**	**18 08 40.0**	**-0.1**
	baz=176								
TTN	**Taitung**	**0.97**	**207**	P			**Pn**	**18 08 27.5**	**0.0**
	baz=202								
TTN				*e*S			**Sb**	**18 08 41.3**	**+0.7**
	baz=202								
TPUB	**Ta-pu**	**0.97**	**251**	*i* P			**Pb**	**18 08 28.1**	**-0.1**
	baz=250								
TPUB				*i* S			**Sn**	**18 08 40.7**	**+0.4**
	baz=250								
TPUB	**Ta-pu**	**0.97**	**251**				**Pb**	**18 08 28.1**	**-0.1**
TPUB						Sn	**Sb**	**18 08 41.4**	**+0.7**
NDT	**Datong Townshi**	**0.98**	**354**	*i* P			**Pn**	**18 08 27.3**	**-0.4**
	baz=356								
NDT				*e*S			**Sn**	**18 08 39.1**	**-1.4**
	baz=356								
WGK	**Gukeng**	**0.98**	**274**	P			**Pn**	**18 08 28.1**	**+0.5**
	baz=274								
WGK				*e*S			**Sn**	**18 08 41.2**	**+0.7**
	baz=274								
CHN4	**Tsaushan**	**0.99**	**254**	P			**Pb**	**18 08 28.6**	**+0.1**
	baz=254								
CHN4				*e*S			**Sb**	**18 08 41.6**	**+0.4**
	baz=254								
TWC	**Suao**	**1.00**	**11**	*e*P			**Pn**	**18 08 28.1**	**+0.2**
	baz=24								
TWC				*e*S			**Sb**	**18 08 42.2**	**+0.7**
	baz=24								
WDLH	**Douliu**	**1.01**	**274**	*i* P			**Pb**	**18 08 28.6**	**-0.1**
	baz=274								
WDLH				*i* S			**Sn**	**18 08 41.6**	**+0.5**
	baz=274								
WTP	**Ta-pu**	**1.01**	**248**	P			**Pb**	**18 08 28.8**	**0.0**
	baz=248								
WTP				S			**Sb**	**18 08 42.6**	**+0.9**
	baz=248								
ENTT	**Nioudou**	**1.02**	**357**	P			**Pn**	**18 08 27.8**	**-0.3**
	baz=359								
ENTT				*e*S			**Sn**	**18 08 40.3**	**-1.1**
	baz=359								
TCU	**Taichung**	**1.02**	**301**	*i* P			**Pb**	**18 08 29.2**	**+0.2**
	baz=303								
TCU				S			**Sn**	**18 08 42.1**	**+0.7**
	baz=303								
YHNB	**Yeheng**	**1.07**	**347**	*i* P			**Pn**	**18 08 28.8**	**-0.1**
	baz=359								
YHNB				*e*S			**Sn**	**18 08 41.2**	**-1.6**
	baz=359								
YHNB	**Yeheng**	**1.07**	**347**				**Pn**	**18 08 28.6**	**-0.3**
YHNB						Sn	**Sn**	**18 08 42.0**	**-0.7**
NSK	**Sanguang**	**1.08**	**347**	P			**Pn**	**18 08 28.9**	**-0.1**
	baz=358								
NSK				*i* S			**Sn**	**18 08 42.2**	**-0.8**
	baz=358								
WCHH	**Zhanghua**	**1.08**	**295**	P			**Pb**	**18 08 30.1**	**+0.1**
	baz=296								
WCHH				*e*S			**Sb**	**18 08 44.3**	**+0.5**
	baz=296								
TWE	**Neicheng**	**1.10**	**2**	*e*P			**Pn**	**18 08 28.9**	**-0.2**
	baz=356								
TWE				*e*S			**Sn**	**18 08 42.7**	**-0.5**
	baz=356								
SLGT	**Liugui**	**1.10**	**236**	*i* P			**Pb**	**18 08 30.3**	**0.0**
	baz=242								
SLGT				*i* S			**Sb**	**18 08 45.0**	**+0.6**
	baz=242								
CHN1	**Nanshi**	**1.10**	**247**	P			**Pb**	**18 08 30.3**	**-0.1**
	baz=247								
CHN1				*e*S			**Sb**	**18 08 44.5**	**+0.1**
	baz=247								
SGST	**Jiashian**	**1.10**	**241**	*i* P			**Pn**	**18 08 29.5**	**+0.2**
	baz=240								
SGST				S			**Sb**	**18 08 45.1**	**+0.7**
	baz=240								
TWK	**Hsinying**	**1.11**	**252**	*i* P			**Pb**	**18 08 30.1**	**-0.3**
	baz=251								
TWK				*i* S			**Sb**	**18 08 44.4**	**-0.2**
	baz=251								
CHY	**Chiayi**	**1.12**	**264**	*i* P			**Pb**	**18 08 30.5**	**0.0**
	baz=264								
CHY				S			**Sn**	**18 08 44.2**	**+0.5**
	baz=264								
SNST	**Tainan City**	**1.12**	**249**	P			**Pb**	**18

baz=265
WLGB eS Sn 18 08 46.5 -0.1
baz=265
NTC Toucheng 1.24 8 eP Pn 18 08 31.4 +0.3
baz=359
EGS 1.25 13 eP Pb 18 08 32.4 -0.4
baz=3.0
WTCT Ta-ch'eng 1.26 281 eP Pn 18 08 32.2 +0.8
baz=273
WTCT eS Sb 18 08 49.4 +0.5
baz=273
SSD Sandimen 1.27 227 eP Pn 18 08 32.1 +0.6
baz=221
SSD eS Sb 18 08 49.1 0.0
baz=221
ICHU Yijhu 1.27 258 P Pn 18 08 32.5 +1.0
baz=259
ICHU S Sb 18 08 50.0 +0.9
baz=259
SCST Cishan 1.28 235 eP Pb 18 08 34.0 +0.8
baz=249
SCST eS Sb 18 08 51.0 +1.7
baz=249
CHN3 Shinhua 1.28 245 eP Pb 18 08 34.1 +0.7
baz=246
CHN3 eS Sb 18 08 52.4 +2.9
baz=246
TSMG Majia 1.29 225 eP Pb 18 08 33.4 -0.1
baz=221
TSMG eS Sb 18 08 50.5 +0.8
baz=221
WSF Szhu 1.29 271 P Pn 18 08 32.5 +0.6
baz=272
WSF eS Sb 18 08 49.8 0.0
baz=272
WMLT Mailiao 1.30 278 eP Pn 18 08 32.7 +0.7
baz=279
WMLT eS Sb 18 08 50.2 +0.1
baz=279
SBCB Hsinchu 1.31 333 eP Pb 18 08 33.6 -0.2
baz=322
SBCB S Sb 18 08 50.6 +0.3
baz=322
CHN8 Yiju 1.33 258⇑ iP Pn 18 08 33.5 +1.1
baz=259
CHN8 S Sb 18 08 50.5 -0.5
baz=259
TWA Mucha 1.35 358 eP Pn 18 08 33.5 +0.7
baz=359
TWA eS Sn 18 08 50.1 +0.4
baz=359
TATO Taipei 1.35 354 eP Pn 18 08 33.4 +0.6
baz=5.0
TATO eS Sn 18 08 50.7 +1.0
baz=5.0
TATO Taipei 1.35 354 Pn 18 08 33.3 +0.6
TATO Sn Sn 18 08 50.4 +0.7
TIPB Shuangxi 1.36 7 eP Pn 18 08 33.3 +0.5
baz=358
TIPB eS Sn 18 08 48.8 -1.0
baz=358
MASBT Mashibuluo 1.36 223⇑ eP Pn 18 08 33.1 +0.3
baz=222
MASBT eS Sb 18 08 52.9 +1.1
baz=222
TWM1 Shoushan 1.37 235 P Pb 18 08 36.0 +1.2
baz=247
TWM1 eS Sb 18 08 55.9 +4.0
baz=247
SGLT Jiouru 1.38 230 P Pb 18 08 35.7 +0.7
baz=212
SGLT eS Sb 18 08 56.2 +4.0
baz=212
SCLT Jiali 1.39 252 eP Pb 18 08 34.6 -0.6
baz=252
SCLT eS Sb 18 08 53.6 +0.9
baz=252
NCUH Zhongli 1.40 343 eP Pn 18 08 34.6 +1.2
baz=343
NCUH eS Sn 18 08 52.6 +1.7
baz=343
NCU National Centr 1.40 343 eP Pn 18 08 34.7 +1.3
baz=343
NCU eS Sb 18 08 53.4 +0.4
baz=343
TAI1 Yung-k'ang 1.42 246 eP Pb 18 08 35.9 +0.3
baz=263
TAI1 eS Sb 18 08 53.2 0.0
baz=263
TAP Taipei 1.42 355 eP Pn 18 08 34.1 +0.6
baz=356
TAP eS Sn 18 08 52.2 +1.0
baz=356
TWB1 Santiao Chiao 1.42 13 eP Pn 18 08 34.9 +1.3
baz=32
TWB1 eS Sn 18 08 52.5 +1.2
baz=32
EAST Anshuo 1.43 211 eP Pn 18 08 33.2 -0.6
baz=199
TAW Tawu 1.43 209 i P Pn 18 08 33.0 -0.7
baz=196
NWF Wu-fen Shan 1.45 5 P Pn 18 08 34.9 +0.8
baz=7.0
WFSB Wu-fen Shan 1.45 5 P Pn 18 08 34.8 +0.8
baz=7.0
JYNG Yonagunijimaku 1.46 55 P Pn 18 08 35.1 +1.0
JYNG S Sb 18 08 53.6 -0.9
SNJT Kaohsiung City 1.47 234⇑ iP Pb 18 08 36.8 +0.2
baz=235
SNJT eS Sb 18 08 57.9 +3.0
baz=235
TWS1 Kuangyinshan 1.49 352 eP Pn 18 08 35.3 +0.8
baz=4.0
TWS1 eS Sn 18 08 54.6 +1.7
baz=4.0
SSPT Xinbi 1.50 221 P Pb 18 08 36.4 -0.6
baz=204
SSPT eS Sb 18 08 57.2 +1.6
baz=204
YOJ Yonaguni jima 1.51 56⇑ iP Pn 18 08 36.1 +1.2
baz=57
YOJ eS Sb 18 08 55.2 -0.9
baz=57
YOJ Yonaguni jima 1.51 56 P Pn 18 08 35.9 +1.0
YOJ S Sb 18 08 55.1 -0.9
YOJ Yonaguni jima 1.51 56 Pn 18 08 36.1 +1.2
YOJ Sn Sn 18 08 54.8 +1.2
NTST Danshui 1.55 354 eP Pn 18 08 36.1 +0.8
baz=3.0
NTST eS Sn 18 08 55.7 +1.3
baz=3.0
SCZT Fangliau 1.55 217 P Pn 18 08 36.1 +0.6
baz=198
SCZT eS Sb 18 08 58.3 +1.1
baz=198
ANP Anpu 1.56 356 P Pn 18 08 35.8 +0.1
baz=355
ANP eS Sn 18 08 55.5 +0.5
baz=355
LAY Lan-yu 1.58 183 eP Pn 18 08 34.4 -1.4
baz=172
LAY eS Sn 18 08 54.7 -0.5
baz=172
SLIU Shizi 1.59 209 eP Pn 18 08 35.8 -0.3
baz=196
KAU Kaohsiung 1.61 230 eP Pn 18 08 37.5 +1.3
baz=245
TWY Chenhua 1.65 359 eP Pn 18 08 37.2 +0.5
baz=360
WLCH Liuqiu 1.71 223 eP Pb 18 08 40.4 -0.3
baz=220
HEN Hengchun 1.81 207 eP Pb 18 08 41.0 -1.3
baz=189
HEN eS Sn 18 09 01.7 +0.9
baz=189
TWK1 Hengchun 1.84 205 eP Pn 18 08 40.7 +1.4
baz=198
TWK1 eS Sn 18 09 01.6 0.0
baz=198
TWKBT Hengchun 1.84 205 eP Pn 18 08 39.3 -0.1
baz=198
TWKBT eS Sn 18 09 01.0 -0.6
baz=198
TSEB Hengchuen, Pin 1.84 202 eP Pb 18 08 41.1 -1.8
baz=197
TSEB eS Sn 18 09 02.8 +1.1
baz=197
SNW Nanwan 1.84 206 eP Pb 18 08 42.1 -0.8
baz=191
WDGT Dungji 1.85 259⇑ iP Pn 18 08 39.9 +0.4
baz=262
WDGT eS Sn 18 09 01.6 -0.2
baz=262
PHUB P'eng-hu 1.89 267 i P Pn 18 08 40.4 +0.3
baz=257
PHUB S Sn 18 09 02.0 -1.0
baz=257
PNG Penghu 1.91 269 P Pn 18 08 40.7 +0.4
baz=259
PNG eS Sn 18 09 02.7 -0.6
baz=259
HATJ Hateruma jima 2.04 77 P Pn 18 08 43.0 +0.9
HATJ eS Sn 18 09 07.4 +0.9
PCYT Pengchaiyu 2.04 11 eP Pn 18 08 44.4 +2.3
baz=357
IRIF Iriomote-Funau 2.05 69 P Pn 18 08 43.5 +1.3
IRIF S Sn 18 09 08.7 +2.0
JKRS Kuro-shima 2.26 74 P Pn 18 08 46.5 +1.4
JKRS S Sn 18 09 14.2 +2.2
JIJ Ishigaki jima 2.41 72 P Pn 18 08 48.0 +0.7
JIJ S Sn 18 09 16.3 +0.5
VWUC VWUC 2.41 305 eP Pn 18 08 46.7 -0.6
baz=305
PTTC Pingtan 2.52 318 eP Pn 18 08 48.1 -0.7
baz=318
JISG Ishigakijimahi 2.63 68 P Pn 18 08 51.0 +0.8
JISG S Sn 18 09 21.3 +0.2
PTMZ Houxiangcun 2.69 302 eP Pn 18 08 50.7 -0.4
baz=303
MATB Ma-tsu 2.95 329 eP Pn 18 08 53.9 -0.8
baz=327
JTJ Tarama 2.98 69 P Pn 18 08 56.0 +0.9
JTJ S Sn 18 09 31.0 +1.2
KNM Kinmen 3.03 286 eP Pn 18 08 57.2 +1.4
baz=286
QZH Quanzhou 3.07 296⇓ iPn Pn 18 08 55.8 -0.5
QZH Sn Sn 18 09 29.4 -2.6
QZH smax smax
comp=N,6μm,0.7s
QZH smax smax
comp=E,2μm,0.8s
KNMB Chin-men Tao 3.08 286⇓ eP Pn 18 08 56.2 -0.3
baz=287
KNMB Chin-men Tao 3.08 286 Pn Pn 18 08 55.9 -0.6
LYJJ Jianjiangzhen 3.38 330 eP Pn 18 08 59.8 -0.6
baz=329
MHZQ Yeshan 3.42 317 eP Pn 18 09 00.6 -0.5
baz=316
JIRB Irabujima 3.45 69 P Pn 18 09 02.5 +1.0
JIRB S Sn 18 09 41.7 +0.4
XPSS Dashiqiu 3.54 339 eP Pn 18 09 02.2 -0.6
baz=326
JIKM Ikemajima 3.54 68 P Pn 18 09 03.9 +1.1
JIKM S Sn 18 09 44.5 +0.8
JMJ Miyako jima 2 3.55 70 eP Pn 18 09 04.3 +1.5
baz=85
JMJ2 Miyako jima3 3.55 71 P Pn 18 09 04.5 +1.5
JMJ2 S Sn 18 09 45.3 +1.3
ZPLA Ao Xicun 3.57 276 eP Pn 18 09 03.2 0.0
baz=277
AXDP Jialang 3.58 292 eP Pn 18 09 02.9 -0.4
baz=292
JOGS Gusukube 3.63 71 P Pn 18 09 05.5 +1.5
JOGS eS Sn 18 09 47.1 +1.3
ZZJH Jiuhuzhen 3.76 284 eP Pn 18 09 05.1 -0.6
baz=284
VDOS Pratas Island 5.39 238 eP Pn 18 09 29.6 +1.4
baz=238
JOW Kunigami 6.81 61 Pn Pn 18 09 47.8 0.0
HKPS Hong Kong Po S 7.03 261 eP Pn 18 09 51.7 +0.9
baz=260
HKPS Hong Kong Po S 7.03 261 Pn Pn 18 09 49.9 -0.9
HKPS Sn 18 11 05.6 -4.2
GZH Guangzhou 7.63 268 Pn Pn 18 09 57.2 -1.9
GZH Sn Sn 18 11 17.4 -7.2
GZH smax smax
comp=N,660nm,0.9s
GZH smax smax
comp=E,510nm,1.0s
NJ2 Nanjing 8.75 344 eP Pn 18 10 13.5 -0.8
NJ2 pP 18 10 20.6
NJ2 sP 18 10 25.3
NJ2 S Sn 18 11 49.3 -2.7
NJ2 pmax pmax
comp=Z,40nm,0.5s
NJ2 smax smax
comp=N,270nm,1.0s
NJ2 smax smax
comp=E,170nm,1.0s
NJ2 LR LR
comp=N,2μm,13.3s
NJ2 LR LR
comp=E,1μm,7.1s
NJ2 LR LR
comp=Z,2μm,15.6s
JMZ Minamidaito 2 8.99 74 Pn Pn 18 10 14.7 -2.9
WHN Wuhan 9.47 318 P Pn 18 10 23.5 -0.6
WHN S Sn 18 12 04.3 -5.2
WHN LR LR
comp=N,4μm,5.1s
WHN LR LR
comp=E,4μm,6.1s
WHN LR LR
comp=Z,5μm,15.6s
TGY Tagaytay City 9.49 184 LR LR 18 14 10.7
comp=Z,608nm,20.1s,baz=44,slow=37
JSU Suzuyama 11.08 43 Pn Pn 18 10 43.8 -2.6
QIZ Qiongzhong 11.90 250 P Pn 18 10 57.8 +0.3
QIZ S Sn 18 13 09.0 -0.3
QIZ LR LR
comp=N,1μm,18.6s
QIZ LR LR
comp=E,950nm,19.2s
QIZ LR LR
comp=Z,1μm,15.3s
JNU Nakatsue 12.48 39 P Pn 18 11 07.5 +2.1
0.4nm,0.3s,baz=233,slow=11,SNR=3.4
JNU Nakatsue 12.48 39 Pn Pn 18 11 06.4 +1.0
JTU Tsushima 12.80 30 Pn Pn 18 11 09.7 -0.2
GYA Guiyang 13.86 285⇓ P Pn 18 11 27.3 +2.9
GYA S Sn 18 14 05.3 +7.9
GYA pmax pmax
comp=Z,12nm,1.1s
GYA pmax pmax
comp=Z,140nm,4.3s
GYA LR LR
comp=N,620nm,6.9s
GYA LR LR
comp=E,2μm,17.7s
GYA LR LR
comp=Z,2μm,16.2s
JMN Monobe 14.72 44 Pn Pn 18 11 31.6 -4.4
KSAR Wonju Array Be 14.79 20 P Pn 18 11 38.8 +2.0
KSRS Korea Array 14.81 20 P Pn 18 11 40.0 +2.9
2.5nm,0.3s,baz=195,slow=11,SNR=38
KSRS LR LR 18 18 13.0
comp=Z,390nm,19.4s,baz=204,slow=41
KS19 Wonju Array Si 14.83 20 P Pn 18 11 39.2 +1.7
JHS Saijyo 15.11 39 P Pn 18 11 39.0 -2.3
XAN Xi'an 15.21 316 P Pn 18 11 43.2 +0.6
XAN pP P 18 11 50.1 +2.8
XAN PP pP 18 11 56.3 +0.9
XAN S Sn 18 14 30.8 +0.7
XAN pmax pmax
comp=Z,11nm,1.1s
XAN pmax pmax
comp=Z,210nm,5.5s
XAN LR LR
comp=N,840nm,16.7s
XAN LR LR
comp=E,2μm,17.7s
XAN LR LR
comp=Z,2μm,17.7s
SLVN Son La 16.54 266 P Pn 18 11 57.3 -2.5
DAV Davao City (W) 16.89 166 LR LR 18 17 11.9
comp=Z,160nm,20.8s,baz=348,slow=32
BJI Beijing 17.01 346 P P 18 12 08.3 +1.2
BJI S Sn 18 15 14.7 +1.1
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI LR LR
comp=N,560nm,15.3s
BJI LR LR
comp=E,400nm,15.7s
CD2 Chengdu 17.46 298 P Pn 18 12 11.2 0.0
CD2 S Sn 18 15 21.3 -3.5
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=N,2μm,12.2s
CD2 LR LR
comp=E,2μm,9.4s
CD2 LR LR
comp=Z,3μm,11.0s
INU Inuyama 17.75 45 Pn 18 12 14.2 -0.5
JGF Kuroka 18.12 45 Pn 18 12 18.1 -1.3
JCJ Chichijima 18.89 75 P P 18 12 27.9 -0.1
HHC Hu-ho-hao-te 19.15 336 eP Pn 18 12 33.7 +1.9
HHC PP PnPn 18 12 50.8 +5.9
HHC S Sn 18 16 03.5 -2.0
HHC SS SnSn 18 16 29.5 +10
HHC pmax pmax
comp=Z,25nm,1.2s
HHC pmax pmax
comp=Z,200nm,6.3s
HHC LR LR
comp=N,530nm,14.8s
HHC LR LR
comp=E,580nm,13.5s
HHC LR LR
comp=Z,660nm,19.1s
MAJO Matsushiro 19.24 44 P P 18 12 31.6 -0.1
MAT Matsushiro 19.24 44 P P 18 12 30.5 -1.2
MAT eS S 18 16 09.2 +1.3
MJAR Matsushiro Arr 19.24 44 P P 18 12 31.0 -0.7
0.1nm,0.3s,baz=222,slow=7.9,SNR=11
MJAR LR LR 18 20 17.5
comp=Z,285nm,19.3s,baz=190,slow=38
MJAR Matsushiro Arr 19.24 44 P Pn 18 12 33.5 +0.7
MJB9 Matsu-Tunnel 19.24 44 P P 18 12 31.5 -0.3
MJB9 IAmb IAmb 18 12 45.5
comp=Z,25nm,0.5s
BTO Baotou 19.55 333 eP Pn 18 12 38.5 +1.9
LZH Lanzhou 19.77 313 eP Pn 18 12 40.7 +1.4
LZH pP pP 18 12 47.1 +1.2
LZH sP sP 18 12 51.0 +1.2
LZH P P 18 12 59.6 +22
LZH S S 18 16 15.7 -3.3
LZH sS sS 18 16 26.8 -4.7
LZH SS SnSn 18 16 45.2 +10
LZH pmax pmax
comp=Z,20nm,1.6s
LZH LR LR
comp=Z,990nm,12.1s
LZH LR LR
comp=Z,1μm,13.1s
LZH LR LR
comp=Z,2μm,13.8s
JSD Sado 20.21 41 P P 18 12 40.0 -2.3
JYT Yasato 20.37 48 P P 18 12 43.1 -0.8
CN2 Changchun 20.37 8 eP P 18 12 44.9 +0.9
CN2 eS S 18 16 28.1 -2.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,500nm,14.0s
CHTO Chiang Mai 21.68 262 P P 18 12 59.6 +1.3
CM31 Chiang Mai Arr 21.78 261 P P 18 13 00.3 +0.9
CMAR Chiang Mai Arr 21.78 261 P P 18 13 01.4 +1.9
comp=Z,7.9nm,0.9s,baz=65,slow=8.4,SNR=24
CMAR LR LR 18 22 17.3
comp=Z,553nm,18.4s,baz=113,slow=38
CMAR Chiang Mai Arr 21.78 261 P P 18 13 00.1 +0.7
MDJ Mudanjiang 21.93 15 P P 18 13 01.1 +0.3
MDJ pP pP 18 13 08.6 +0.5
MDJ sP pwP 18 13 12.7 +0.6
MDJ sS sS 18 17 13.7 -0.3
MDJ SS SnSn 18 17 32.6 +4.6
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,210nm,6.5s
MDJ LR LR
comp=Z,410nm,17.6s
MDJ LR LR
comp=Z,930nm,18.0s
MDJ LR LR
comp=Z,840nm,16.4s
USA0B Ussuriysk Arra 22.22 20 P P 18 13 03.5 -0.3
USRK Ussuriysk Ar. 22.22 20 P P 18 13 03.5 -0.4
comp=Z,3.8nm,0.7s,baz=205,slow=8.4,SNR=13
USRK LR LR 18 21 38.7
comp=Z,167nm,19.5s,baz=189,slow=36
SBUM Sibu 22.93 205 P P 18 13 10.9 -0.8
SBUM IAmb IAmb 18 13 13.5
comp=Z,25nm,0.7s
GTA Gaotai 24.27 316⇓ P P 18 13 25.7 +1.1
GTA pP pP 18 13 30.8 -2.5
GTA sP sP 18 13 34.0 -3.0
GTA S S 18 17 47.2 +5.6
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.6s
GTA LR LR
comp=Z,490nm,13.5s
GTA LR LR
comp=Z,810nm,15.3s
GTA LR LR
comp=Z,1μm,16.5s
KSM Kuching 24.60 208 P P 18 13 27.0 -0.6
MTKI Muara Teweh, K 25.28 196 P P 18 13 35.1 +1.4
comp=Z,3μmcomp=Z,10nm,0.6s
ASAJ Asahikawa 26.71 35 P P 18 13 46.0 -0.5
comp=Z,4.4nm,0.4s,baz=244,slow=7.1,SNR=15
ASAJ LR LR 18 24 40.7
comp=Z,427nm,20.7s,baz=218,slow=37
JKA Kamikawa-asahi 26.71 35 P P 18 13 46.4 0.0
JKA IAmb IAmb 18 14 21.0
comp=Z,45nm,1.4s
ULN Ulaanbaatar 26.84 338 P P 18 13 47.4 -0.4
SONM Songino Array 27.04 337 P P 18 13 49.4 -0.2
comp=Z,3.7nm,0.6s,baz=156,slow=9.2,SNR=15
SONM LR LR 18 25 48.3
comp=Z,771nm,18.0s,baz=147,slow=39
SONM Songino Array 27.04 337 P P 18 13 48.7 -0.9
SHL Shillong 27.10 280 P P 18 13 50.0 -0.3
SHL IAmb IAmb 18 13 57.7
comp=Z,33nm,1.0s
NLAI Namlea 27.22 168 P P 18 13 52.1 +0.8
comp=Z,23nm,1.4s
LSA Lhasa 27.86 289 P P 18 13 59.3 +1.8
LSA S S 18 18 46.9 +7.6
LSA LR LR
comp=Z,560nm,17.1s
LSA LR LR
comp=Z,3μm,16.0s
LSA LR LR
comp=Z,5μm,17.8s
RPSI Rantau Prapat 30.26 230 P P 18 14 18.4 0.0
RPSI IAmb IAmb 18 14 19.9
comp=Z,27nm,1.3s
TLY Talaya 31.25 338 LR LR 18 28 15.4
comp=Z,400nm,18.9s,baz=140,slow=38
KLSI 32.61 213 P P 18 14 40.3 +1.3
comp=Z,14nm,1.4s
MDSI Maura Dua 32.72 214 P P 18 14 41.4 +1.5
comp=Z,29nm,1.1s
PWJI Pagerwojo 32.88 198 P P 18 14 42.5 +1.1
comp=Z,69nm,0.9s
LEM Lembang 33.22 206 P P 18 14 46.8 +2.3
comp=Z,36nm,0.8s,baz=41,slow=9.3,SNR=8.2
WMQ Urumqi 34.34 314 eP P 18 14 54.9 +1.0
MTN Manton Dam 37.41 165 P P 18 15 20.1 -0.3
MTN IAmb IAmb 18 16 02.6
comp=Z,33nm,1.5s
YAK Yakutsk 38.78 6 LR LR 18 32 59.2
comp=Z,145nm,19.0s,baz=183,slow=38
YAK Yakutsk 38.78 6 P P 18 15 29.6 -1.9
YAK IAmb IAmb 18 15 30.7
comp=Z,11nm,0.7s
PATS Pohnpei 38.97 109 P P 18 15 32.0 -1.6

MK31	**Makanchi Array**	**39.03**	**316**	P	**P**	**18 15 33.7**	**-0.1**
MKAR	**Makanchi Array**	**39.03**	**316**	P	**P**	**18 15 34.0**	**+0.2**
	comp=Z,11nm,0.7s,baz=109,slow=9.5,SNR=103						
MKAR				PcP	**PcP**	**18 17 42.5**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=99,slow=4.0,SNR=3.8						
MKAR				ScP	**ScP**	**18 21 28.3**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=101,slow=4.9,SNR=2.4						
MKAR				LR	LR	18 33 00.4	
	comp=Z,461nm,19.0s,baz=96,slow=38						
MKAR	**Makanchi Array**	**39.03**	**316**	P	**P**	**18 15 33.5**	**-0.3**
MAKZ	**Makanchi**	**39.23**	**316**	P	**P**	**18 15 35.6**	**+0.1**
MAKZ				IAmb	IAmb	18 15 37.3	
	comp=Z,14nm,0.8s						
PETK	**Petropavlovsk-**	**40.10**	**33**	P	**P**	**18 15 41.1**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=224,slow=6.0,SNR=1.5						
PETK				LR	LR	18 32 13.7	
	comp=Z,204nm,20.2s,baz=222,slow=36						
ZAA0	**Zalesovo Array**	**40.94**	**327**	P	**P**	**18 15 48.3**	**-1.2**
ZALV	**Zalesovo Beam**	**40.94**	**327**	P	**P**	**18 15 48.8**	**-0.7**
	comp=Z,7.2nm,0.7s,baz=109,slow=8.4,SNR=18						
ZALV				PcP	**PcP**	**18 17 48.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=122,slow=3.4,SNR=2.3						
ZALV				LR	LR	18 34 01.6	
	comp=Z,301nm,20.1s,baz=119,slow=38						
ZALV	**Zalesovo Beam**	**40.94**	**327**	P	**P**	**18 15 48.1**	**-1.3**
KDJ	**Kajisay**	**41.12**	**308**	P	**P**	**18 15 50.1**	**-1.3**
PMG	**Port Moresby**	**41.24**	**140**	P	**P**	**18 15 49.9**	**-2.5**
MA2	**Magadan**	**41.35**	**22**	LR	LR	18 34 54.8	
	comp=Z,245nm,18.6s,baz=231,slow=39						
KSH	**Kashi**	**41.55**	**303**	P	**P**	**18 15 58.2**	**+3.3**
KSH				S	**S**	**18 22 16.4**	**+7.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				LR	LR		
	comp=Z,540nm,14.9s						
KSH				LR	LR		
	comp=Z,560nm,14.1s						
KSH				LR	LR		
	comp=Z,520nm,14.2s						
FITZ	**Fitzroy Crossi**	**41.65**	**174**	P	**P**	**18 15 54.5**	**-1.1**
BOOM	**Boomskoye usch**	**42.10**	**308**	P	**P**	**18 15 59.5**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**42.11**	**86**	T	T	19 01 08.7	
	baz=283,slow=74,SNR=219						
H11N2	**WAKE ISLAND Hy**	**42.11**	**86**	T	T	19 01 08.8	
	baz=283,slow=74,SNR=279						
H11N3	**WAKE ISLAND Hy**	**42.13**	**86**	T	T	19 01 10.0	
	baz=283,slow=74,SNR=276						
H11S3	**WAKE ISLAND Hy**	**42.23**	**88**	T	T	19 01 13.6	
	baz=284,slow=75,SNR=353						
H11S1	**WAKE ISLAND Hy**	**42.23**	**88**	T	T	19 01 12.1	
	baz=284,slow=75,SNR=129						
H11S2	**WAKE ISLAND Hy**	**42.24**	**88**	T	T	19 01 14.8	
	baz=284,slow=75,SNR=210						
TKM2	**Tokmak 2**	**42.43**	**308**	P	**P**	**18 16 03.4**	**+1.3**
	SNR=19						
KURK	**Kurchatov**	**42.78**	**320**	P	**P**	**18 16 03.9**	**-0.7**
KBK	**Karagaybulak**	**42.85**	**308**	P	**P**	**18 16 07.0**	**+1.5**
	SNR=7.3						
COEN	**Coen**	**42.88**	**148**	P	**P**	**18 16 07.1**	**+1.3**
COEN				IAmb	IAmb	18 16 36.2	
	comp=Z,19nm,1.1s						
CHMS	**Chumysh**	**43.06**	**308**	P	**P**	**18 16 07.8**	**+0.8**
	SNR=7.3						
UCH	**Uchtor**	**43.09**	**307**	P	**P**	**18 16 10.7**	**+2.9**
	SNR=8.9						
FRU1	**Bishkek**	**43.11**	**308**	P	**P**	**18 16 08.1**	**+0.6**
FRU1				IAmb	IAmb	18 16 14.2	
	comp=Z,8.4nm,0.6s						
NIL	**Nilore**	**43.29**	**295**	P	**P**	**18 16 08.9**	**-0.1**
USP	**Osepenovka**	**43.29**	**309**	P	**P**	**18 16 08.0**	**-0.9**
	SNR=7.8						
SEY	**Seymchan**	**44.37**	**20**	LR	LR	18 37 37.6	
	comp=Z,144nm,19.7s,baz=218,slow=40						
WB0	**Warramunga Arr**	**44.88**	**163**	P	**P**	**18 16 21.0**	**-0.8**
PSA00	**Pilbara Seismi**	**44.95**	**182**	P	**P**	**18 16 21.1**	**-1.2**
PSA00				IAmb	IAmb	18 16 21.7	
	comp=Z,17nm,1.1s						
WRAB	**Tennant Creek**	**45.03**	**163**	P	**P**	**18 16 22.0**	**-1.0**
WRAB				IAmb	IAmb	18 16 27.4	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**45.04**	**163**	P	**P**	**18 16 22.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=285,slow=5.9,SNR=35						
WRA				PcP	**PcP**	**18 18 02.3**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=339,slow=3.9,SNR=2.9						
WRA	**Warramunga Arr**	**45.04**	**163**	P	**P**	**18 16 21.9**	**-1.1**
WB2	**Warramunga Arr**	**45.04**	**163**	P	**P**	**18 16 22.0**	**-1.0**
WB2				IAmb	IAmb	18 16 23.0	
	comp=Z,22nm,1.6s						
WR0	**Warramunga Arr**	**45.11**	**163**	P	**P**	**18 16 21.9**	**-1.7**
BTK	**Batken**	**45.56**	**304**	P	**P**	**18 16 27.0**	**-0.1**
BTK				IAmb	IAmb	18 16 29.4	
	comp=Z,16nm,1.6s						
GAR	**Garm**	**45.86**	**302**	P	**P**	**18 16 29.4**	**-0.2**
GAR				IAmb	IAmb	18 16 43.5	
	comp=Z,15nm,0.9s						
KK31	**Karatay Array**	**46.14**	**308**	P	**P**	**18 16 31.3**	**-0.2**
KK31				IAmb	IAmb	18 16 33.6	
	comp=Z,21nm,1.6s						
KK31				PcP	**PcP**	**18 18 06.3**	**-1.0**
KKAR	**Karatay Array**	**46.14**	**308**	P	**P**	**18 16 31.5**	**-0.1**
KKAR				IAmb	IAmb	18 16 33.6	
	comp=Z,21nm,1.6s						
KKAR				PcP	**PcP**	**18 18 06.6**	**-0.7**
KKAR	**Karatay Array**	**46.14**	**308**	P	**P**	**18 16 31.3**	**-0.2**
KKAR				PcP	**PcP**	**18 18 06.3**	**-1.0**
CHGR	**Chuyangaron**	**46.74**	**302**	P	**P**	**18 16 36.8**	**+0.3**
KBL	**Kabul**	**46.78**	**296**	P	**P**	**18 16 37.0**	**0.0**
KBL				IAmb	IAmb	18 16 39.1	
	comp=Z,25nm,1.2s						
TIXI	**Tiksi**	**48.23**	**3**	P	**P**	**18 16 45.7**	**-1.7**
BRVK	**Borovoye**	**48.44**	**321**	P	**P**	**18 16 48.2**	**-1.1**
BRVK				IAmb	IAmb	18 16 55.2	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**48.49**	**165**	P	**P**	**18 16 49.5**	**-0.6**
ASAR	**Alice Springs**	**48.49**	**165**	P	**P**	**18 16 49.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=342,slow=6.7,SNR=47						
ASAR				PcP	**PcP**	**18 18 14.7**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=336,slow=3.7,SNR=2.4						
ASAR				ScP	**ScP**	**18 22 04.2**	**-4.3**
	comp=Z,0.9nm,1.1s,baz=349,slow=4.3,SNR=3.5						
ASAR	**Alice Springs**	**48.49**	**165**	P	**P**	**18 16 48.4**	**-1.7**
CTAO	**Charters Tower**	**49.63**	**149**	P	**P**	**18 17 00.1**	**+1.3**
CTAO				IAmb	IAmb	18 17 08.3	
	comp=Z,18nm,1.4s						
NRIK	**Noril'sk**	**50.05**	**345**	LR	LR	18 40 19.9	
	comp=Z,165nm,18.3s,baz=179,slow=38						
AMKA	**Amchitka**	**51.84**	**42**	P	**P**	**18 17 15.3**	**+0.3**
BILL	**Bilibino**	**52.07**	**20**	P	**P**	**18 17 15.9**	**-0.6**
BILL				IAmb	IAmb	18 17 18.0	
	comp=Z,9.4nm,1.0s						
HRA	**Herat**	**52.39**	**296**	P	**P**	**18 17 19.6**	**-0.2**
ABKAR	**Akbulak array**	**54.13**	**315**	P	**P**	**18 17 31.8**	**-0.2**
ABKAR				IAmb	IAmb	18 17 34.0	
	comp=Z,13nm,0.7s						
ABKAR					**PcP**	**18 18 35.0**	**-1.5**
ABKAR	**Akbulak array**	**54.13**	**315**	P	**P**	**18 17 31.7**	**-0.3**
ABKAR					**PcP**	**18 18 35.0**	**-1.5**
GEYT	**Alibeck**	**55.44**	**301**	P	**P**	**18 17 42.6**	**+0.8**
	comp=Z,4.1nm,0.9s,baz=96,slow=4.5,SNR=9.0						
GEYT				LR	LR	18 45 43.5	
	comp=Z,364nm,18.7s,baz=110,slow=40						
GEYT	**Alibeck**	**55.44**	**301**	P	**P**	**18 17 42.3**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**55.44**	**301**	P	**P**	**18 17 42.5**	**+0.7**
GYA0B				IAmb	IAmb	18 17 44.2	
	comp=Z,7.7nm,0.9s						
ARU	**Arti**	**55.80**	**323**	LR	LR	18 42 25.1	
	comp=Z,134nm,21.0s,baz=90,slow=37						
ARU	**Arti**	**55.80**	**323**	P	**P**	**18 17 42.7**	**-1.3**
ARU				IAmb	IAmb	18 17 44.6	
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**58.40**	**160**	P	**P**	**18 18 02.1**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=337,slow=8.5,SNR=16						
STKA	**Stephens Creek**	**58.40**	**160**	P	**P**	**18 18 02.5**	**-0.1**
TNA	**Tin City**	**60.66**	**27**	P	**P**	**18 18 18.4**	**+0.6**
TNA				IAmb	IAmb	18 18 31.5	
	comp=Z,13nm,1.1s						
JOHN	**Johnston Islan**	**64.45**	**82**	P	**P**	**18 18 44.0**	**+0.1**
SOCY	**Socotra**	**64.87**	**273**	P	**P**	**18 18 45.1**	**-1.7**
TOO	**Toolangi**	**64.88**	**159**	P	**P**	**18 18 47.0**	**+0.8**
CHGN	**Chignik**	**65.17**	**37**	P	**P**	**18 18 47.1**	**-0.8**
TTA	**Tatalina**	**65.79**	**30**	P	**P**	**18 18 53.1**	**+1.2**
TTA				IAmb	IAmb	18 18 54.1	
	comp=Z,16nm,1.0s						
KLMR	**Klimovskoe**	**65.86**	**328**	*eP*	**P**	**18 18 49.9**	**-2.4**
KLMR				AMP		18 18 53.0	
	comp=Z,21nm,1.3s						
AKH	**Akhalkalaki**	**66.15**	**306**	P	**P**	**18 18 55.4**	**+0.6**
AKH				IAmb	IAmb	18 18 57.2	
	comp=Z,7.0nm,0.7s						
KBZ	**Khabaz**	**66.15**	**309**	P	**P**	**18 18 55.3**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=123,slow=2.3,SNR=9.1						
KBZ				LR	LR	18 52 07.1	
	comp=Z,175nm,18.1s,baz=82,slow=40						
SVW2	**Sparrevohn**	**66.16**	**32**	P	**P**	**18 18 55.5**	**+1.2**
SVW2				IAmb	IAmb	18 18 56.8	
	comp=Z,12nm,0.9s						
CHIR	**Chirikof Islan**	**66.78**	**38**	P	**P**	**18 18 59.4**	**+1.1**
GEVA	**Gevas**	**67.11**	**303**	P	**P**	**18 19 01.1**	**+0.1**
GEVA				IAmb	IAmb	18 19 02.6	
	comp=Z,23nm,1.7s						
PPLA	**Purkeypile**	**67.53**	**30**	P	**P**	**18 19 04.5**	**+1.3**
RSO	**Redoubt South**	**67.61**	**32**	P	**P**	**18 19 04.3**	**+0.5**
COLD	**Coldfoot**	**67.76**	**25**	P	**P**	**18 19 03.6**	**-0.7**
COLD				IAmb	IAmb	18 19 06.6	
	comp=Z,16nm,1.4s						
TOLK	**Toolik Lake Re**	**67.80**	**23**	P	**P**	**18 19 04.1**	**-0.5**
TOLK				IAmb	IAmb	18 19 06.7	
	comp=Z,11nm,0.8s						
OHAK	**Old Harbor**	**67.84**	**36**	P	**P**	**18 19 05.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**67.89**	**28**	P	**P**	**18 19 05.8**	**+0.5**
BPAW				IAmb	IAmb	18 19 07.4	
	comp=Z,14nm,0.8s						
SKT	**Skwentna**	**67.97**	**31**	P	**P**	**18 19 06.2**	**+0.4**
KTH	**Kantishna Hill**	**68.00**	**29**	P	**P**	**18 19 06.6**	**+0.6**
KTH				IAmb	IAmb	18 19 07.9	
	comp=Z,12nm,1.0s						
TRF	**Thorofare Moun**	**68.30**	**29**	P	**P**	**18 19 07.5**	**-0.5**
TRF				IAmb	IAmb	18 19 15.7	
	comp=Z,13nm,1.0s						
SUA	**Susitna One**	**68.42**	**31**	P	**P**	**18 19 09.0**	**+0.3**
CNPM	**China Poot**	**68.52**	**33**	P	**P**	**18 19 08.8**	**-0.5**
BWN	**Browne**	**68.54**	**28**	P	**P**	**18 19 09.2**	**-0.1**
BRLK	**Bradley Lake**	**68.65**	**33**	P	**P**	**18 19 10.0**	**-0.1**
KOPT	**Kop Dagi**	**68.67**	**305**	P	**P**	**18 19 09.8**	**-1.2**
KOPT				IAmb	IAmb	18 19 52.0	
	comp=Z,5.6nm,0.8s						
MDM	**Murphy Dome**	**68.92**	**27**	P	**P**	**18 19 11.4**	**-0.3**
RND	**Reindeer**	**68.94**	**29**	P	**P**	**18 19 12.2**	**+0.3**
WRH	**Wood River Hil**	**69.07**	**28**	P	**P**	**18 19 13.7**	**+1.1**
WRH				IAmb	IAmb	18 19 15.7	
	comp=Z,18nm,1.0s						
COLA	**College**	**69.10**	**27**	P	**P**	**18 19 12.9**	**+0.2**
COLA				IAmb	IAmb	18 19 15.5	
	comp=Z,13nm,0.9s						
MARD	**Mardin**	**69.10**	**303**	P	**P**	**18 19 13.4**	**-0.1**
PMR	**Palmer**	**69.16**	**31**	P	**P**	**18 19 13.1**	**-0.1**
PMR				IAmb	IAmb	18 19 14.2	
	comp=Z,18nm,1.0s						
CCB	**Clear Creek Bu**	**69.16**	**27**	P	**P**	**18 19 13.6**	**+0.5**
SEW	**Seward**	**69.30**	**32**		**P**	**18 19 13.6**	**-0.4**
SML	**Sawmill**	**69.49**	**30**	P	**P**	**18 19 15.0**	**-0.3**
KNK	**Knik Glacier**	**69.51**	**31**	P	**P**	**18 19 15.1**	**-0.3**
IL31		**69.52**	**27**	P	**P**	**18 19 14.9**	**-0.4**
ILAR	**Eielson Array**	**69.52**	**27**	P	**P**	**18 19 14.7**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=265,slow=6.2,SNR=30						
ILAR				LR	LR	18 51 46.0	
	comp=Z,42nm,19.4s,baz=288,slow=38						
ILAR	**Eielson Array**	**69.52**	**27**	P	**P**	**18 19 13.8**	**-1.6**
HDA	**Harding Lake**	**69.57**	**28**	P	**P**	**18 19 14.9**	**-0.8**
HDA				IAmb	IAmb	18 19 16.3	
	comp=Z,16nm,1.1s						
DHY	**Denali Highway**	**69.66**	**29**	P	**P**	**18 19 16.4**	**0.0**
DHY				IAmb	IAmb	18 19 19.9	
	comp=Z,4.9nm,0.6s						
FYU	**Fort Yukon**	**69.81**	**25**	P	**P**	**18 19 17.9**	**+0.8**
FYU				IAmb	IAmb	18 19 19.6	
	comp=Z,14nm,0.9s						
SCM	**Sheep Creek Mo**	**69.95**	**30**	P	**P**	**18 19 18.1**	**-0.1**
ARCES	**ARCESS Array B**	**70.21**	**338**	P	**P**	**18 19 18.8**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=62,slow=8.6,SNR=7.0						
ARCES				LR	LR	18 53 28.8	
	comp=Z,86nm,18.2s,baz=100,slow=39						
KLU	**Klutina**	**70.68**	**31**	P	**P**	**18 19 22.5**	**-0.1**
KLU				IAmb	IAmb	18 19 25.0	
	comp=Z,22nm,1.2s						
DOT	**Dot Lake**	**70.98**	**28**	P	**P**	**18 19 24.6**	**+0.2**
DOT				IAmb	IAmb	18 19 26.0	
	comp=Z,8.3nm,0.8s						
MENT	**Mentasta**	**71.32**	**29**	P	**P**	**18 19 27.6**	**+1.2**
MENT				IAmb	IAmb	18 19 29.0	
	comp=Z,14nm,1.0s						
GLB	**Gilahina Butte**	**71.68**	**30**	P	**P**	**18 19 28.8**	**+0.2**
GLB				IAmb	IAmb	18 19 30.5	
	comp=Z,11nm,0.7s						
EGAK	**Eagle**	**71.90**	**27**	P	**P**	**18 19 29.7**	**-0.1**
EGAK				IAmb	IAmb	18 19 31.2	
	comp=Z,13nm,0.9s						
MCARA	**McCarthy VSAT**	**72.06**	**30**	P	**P**	**18 19 31.1**	**+0.3**
MCARA				IAmb	IAmb	18 19 34.0	
	comp=Z,18nm,0.9s						
FINES	**FINESS Array B**	**72.14**	**330**	P	**P**	**18 19 30.4**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=48,slow=6.3,SNR=11						
FINES				LR	LR	18 54 08.3	
	comp=Z,173nm,19.9s,baz=64,slow=38						
TGL	**Tana Glacier**	**72.32**	**31**	P	**P**	**18 19 33.1**	**+0.5**
TGL				IAmb	IAmb	18 19 34.7	
	comp=Z,18nm,1.1s						
CTGM	**Chitina Glacie**	**72.96**	**30**	P	**P**	**18 19 37.1**	**+0.7**
CTGM				IAmb	IAmb	18 19 38.6	
	comp=Z,15nm,0.9s						
AKASG	**Malin Array Be**	**73.56**	**319**	P	**P**	**18 19 38.4**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=61,slow=6.4,SNR=7.4						
BR131	**Keskin Array S**	**73.84**	**307**	P	**P**	**18 19 41.2**	**-0.8**
BRTR	**Keskin Array B**	**73.84**	**307**	P	**P**	**18 19 41.9**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=132,slow=3.2,SNR=28						
BRTR				LR	LR	18 57 54.3	
	comp=Z,42nm,18.5s,baz=70,slow=40						
BRTR	**Keskin Array B**	**73.84**	**307**	P	**P**	**18 19 41.4**	**-0.6**
CSS	**Mathiatis**	**75.55**	**302**	P	**P**	**18 19 50.9**	**-1.0**
CSS				IAmb	IAmb	18 19 52.5	
	comp=Z,9.2nm,0.7s						
SKAG	**Skagway**	**76.30**	**31**	IAmb	IAmb	18 20 08.6	
	comp=Z,16nm,0.9s						
MLR	**Muntele Rosu**	**77.33**	**314**	P	**P**	**18 20 02.0**	**+0.1**
MLR				IAmb	IAmb	18 20 35.1	
	comp=Z,26nm,1.6s						
KOLS	**Kolonicke sedl**	**78.39**	**318**	*eP*	**P**	**18 20 06.5**	**-1.1**
NC405	**NORSAR Array S**	**78.66**	**332**	P	**P**	**18 20 07.9**	**-0.9**
NB2	**NORSAR Subarra**	**78.91**	**332**	P	**P**	**18 20 08.8**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=62,slow=5.6						
NOA	**NORSAR Array B**	**78.91**	**332**	P	**P**	**18 20 09.1**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=58,slow=5.6,SNR=8.1						
NOA				LR	LR	18 58 28.7	
	comp=Z,273nm,19.8s,baz=70,slow=38						
ALN	**Alexandroupoli**	**78.92**	**310**	IAmb	IAmb	18 20 11.0	
	comp=Z,7.4nm,0.9s						
OJC	**Ojcow**	**79.37**	**320**	P	**P**	**18 20 12.5**	**-0.3**
OJC				IAmb	IAmb	18 20 13.8	
	comp=Z,10nm,0.8s						
VYHS	**Vyhne**	**80.66**	**319**	*eP*	**P**	**18 20 20.1**	**+0.2**
DPC	**Dobruska-Polom**	**81.33**	**321**	*eP*	**P**	**18 20 23.7**	**+0.2**
MODS	**Modra-Piesok**	**81.64**	**319**	*eP*	**P**	**18 20 24.9**	**-0.3**
CONA	**Conrad Observa**	**82.69**	**319**	*eP*	**P**	**18 20 30.8**	**+0.1**
	comp=Z,9.4nm,1.6s						
CLL	**Collm**	**82.75**	**323**	*eP*	**P**	**18 20 31.0**	**+0.2**
CLL				Lm	MLR	19 01 00.0	
	comp=Z,200nm,21.0s						
YKA	**Yellowknife Ar**	**83.33**	**23**	P	**P**	**18 20 33.1**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=318,slow=5.0,SNR=10.0						
YKA				LR	LR	19 00 18.7	
	comp=Z,42nm,20.3s,baz=0.0,slow=38						
KHC	**Kasperske Hory**	**83.47**	**321**	*eP*	**P**	**18 20 34.5**	**-0.2**
KHC	**Kasperske Hory**	**83.47**	**321**	P	**P**	**18 20 35.0**	**+0.3**
GEC2	**GERESS Array S**	**83.54**	**321**	IAmb	IAmb	18 20 35.8	
	comp=Z,12nm,1.1s						
GERES	**GERESS Array B**	**83.54**	**321**	P	**P**	**18 20 35.4**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=56,slow=5.0,SNR=27						
GERES	**GERESS Array B**	**83.54**	**321**	P	**P**	**18 20 34.2**	**-0.9**
SOKA	**Soboth**	**83.77**	**318**	*eP*	**P**	**18 20 36.1**	**-0.2**
	comp=Z,5.0nm,0.8s						
ABPO	**Ambohimpanom**	**84.02**	**246**	P	**P**	**18 20 37.5**	**-0.6**
OBKA	**Obir**	**84.14**	**318**	*eP*	**P**	**18 20 38.3**	**0.0**
	comp=Z,7.5nm,1.1s						
KBA	**Koelnbreinsper**	**84.60**	**319**	*eP*	**P**	**18 20 39.1**	**-1.5**
	comp=Z,3.9nm,0.8s						
ABTA	**Abfaltersbach**	**85.26**	**319**	*eP*	**P**	**18 20 43.0**	**-0.9**
	comp=Z,4.9nm,0.9s						
KMBO	**Kilima Mbogo**	**85.30**	**267**	P	**P**	**18 20 46.7**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=58,slow=5.1,SNR=10						
KMBO	**Kilima Mbogo**	**85.30**	**267**	P	**P**	**18 20 43.9**	**-0.9**
KMBO				IAmb	IAmb	18 20 47.0	
	comp=Z,9.4nm,1.0s						
WTTA	**Wattenberg**	**85.52**	**320**	*eP*	**P**	**18 20 45.0**	**-0.3**
	comp=Z,3.3nm,0.7s						
MOTA	**Moosalm**	**85.79**	**320**	*eP*	**P**	**18 20 46.5**	**-0.1**
	comp=Z,6.9nm,1.1s						
SQTA	**Sankt Quirin**	**85.79**	**320**	*eP*	**P**	**18 20 45.6**	**-0.9**
	comp=Z,7.7nm,1.1s						
LON	**Longmire**	**89.58**	**38**	IAmb	IAmb	18 21 10.6	
	comp=Z,5.0nm,0.9s						
LTY	**Liberty**	**89.92**	**37**	P	**P**	**18 21 06.7**	**+0.4**
LTY				IAmb	IAmb	18 21 34.0	
	comp=Z,7.3nm,1.2s						
B08A	**Colville Reser**	**90.00**	**36**	IAmb	IAmb	18 21 09.7	
	comp=Z,12nm,1.2s						
CASY	**Casey**	**90.02**	**184**	P	**P**	**18 21 04.8**	**-1.0**
D08A	**Wollman Farm,**	**91.00**	**37**	P	**P**	**18 21 12.0**	**+0.7**
D08A				IAmb	IAmb	18 21 14.4	
	comp=Z,4.6nm,0.9s						
PINE	**Pine Mountain**	**91.79**	**40**	P	**P**	**18 21 15.7**	**+0.5**
K05A	**Summer Lake**	**92.43**	**41**	P	**P**	**18 21 18.9**	**+0.7**
KEST	**Kesra**	**92.94**	**311**	P	**P**	**18 21 20.4**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=16,slow=7.4,SNR=4.6						
KEST	**Kesra**	**92.94**	**311**	IAmb	IAmb	18 21 21.3	
	comp=Z,5.1nm,0.9s						
ESDC	**Sonseca Array**	**99.13**	**321**	LR	LR	19 08 28.7	
	comp=Z,56nm,18.5s,baz=135,slow=36						
SNAA	**Sanae**	**122.83**	**198**	PKiKP	**PKPdf**	**18 27 00.7**	**-1.5**
VNA3	**Neumayer Olymp**	**124.95**	**197**	PKiKP	**PKPdf**	**18 27 05.1**	**-1.1**

AEIC ***07*** *18:29:38.0±3.0,51°.31N±0°.08×178°.80E±0°.05,h37km±5km, ML4.1,mb4.5/108(NEIC), Error ellipse: s-maj=11.5km s-min=4.5km az=182.0*

NEIC ***07*** *18:29:39.4±2.2,51°.46N±0°.08×178°.81E±0°.09,h51km±4km, Error ellipse: s-maj=11.9km s-min=7.7km az=183.0*

IDC ***07*** *18:29:40.3±4.1,51°.55N×178°.80E,h61km±36km, mb3.8/21, mb1 4.0/22,mb1mx3.8/62,mbtmp4.1/22,ML3.0/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/58, Error ellipse: s-maj=21.5km s-min=10.9km az=175.0*

ISC 07 18:29:37.6±0.5,51°.39N±0°.08×178°.73E±0°.04,h35km,n219, σ1°39/208,**mb4.5**/61,**1C**,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
AMKA	**Amchitka**	**0.36**	**91**	**Pn**	**18 29 46.7**	**+0.5**
AMKA				**Sn**	**18 29 52.8**	**+0.5**
LSPA	**Little Sitkin**	**0.58**	**351**	**Pn**	**18 29 51.3**	**+2.0**
LSSA	**Little Sitkin**	**0.58**	**347**	**Pn**	**18 29 51.2**	**+1.8**
LSNW	**Little Sitkin**	**0.60**	**347**	**Pn**	**18 29 51.2**	**+1.6**
CESW	**Semis' Southwe**	**0.73**	**45**	**Pn**	**18 29 52.5**	**+1.1**
CETU	**Semis' Tuman**	**0.75**	**39**	**Pn**	**18 29 53.1**	**+1.4**
CERAA	**Semis' Rag'd T**	**0.79**	**49**	**Pn**	**18 29 53.2**	**+1.0**
CEAP	**Semis' Anvil P**	**0.81**	**40**	**Pn**	**18 29 53.8**	**+1.3**
TANO	**Tanaga North**	**2.03**	**74**	**Pn**	**18 30 10.5**	**+1.2**
TASE	**Tanaga Southea**	**2.07**	**76**	**Pn**	**18 30 10.8**	**+1.0**
TAFP	**Tanaga Falls P**	**2.11**	**75**	**Pn**	**18 30 11.2**	**+0.8**
TAFP				**Sn**	**18 30 37.4**	**+1.9**
KIMD	**Kanaga Island**	**2.55**	**80**	**Pn**	**18 30 17.3**	**+1.0**
KICM	**Kanaga Island**	**2.59**	**77**	**Pn**	**18 30 18.2**	**+1.2**
KIKV	**Kanaga Island**	**2.60**	**77**	**Pn**	**18 30 18.2**	**+1.0**
ADK	**Adak**	**2.90**	**78**	Pn **Pn**	**18 30 22.1**	**+0.8**
SMY	**Shemya**	**3.16**	**297**	Pn **Pn**	**18 30 27.5**	**+2.8**
SMY	**Shemya**	**3.16**	**297**	LR	18 31 06.3	
GSMY	**Great Sitkin M**	**3.31**	**77**	**Pn**	**18 30 27.9**	**+1.0**
GSTR	**Great Sitkin T**	**3.32**	**76**	Pn **Pn**	**18 30 28.3**	**+1.3**
ATKA	**Atka Island**	**4.47**	**77**	Pn **Pn**	**18 30 44.3**	**+1.6**
SPIA	**Saint Paul Isl**	**8.67**	**44**	Pn **Pn**	**18 31 43.9**	**+3.6**
UNV	**Unalaska Vale**	**9.32**	**69**	Pn **Pn**	**18 31 51.8**	**+2.6**
AKUT	**Akutan**	**9.79**	**68**	Pn **Pn**	**18 31 56.2**	**+0.5**
FALS	**False Pass

baz=248
RAGM Ragged Mountai 22.14 52 P **P** 18 34 29.4 -0.5
IL31 22.22 40 P **P** 18 34 29.9 -0.7
ILAR Eielson Array 22.22 40 P **P** 18 34 27.8 -2.8
comp=Z,1.4nm,0.5s,baz=236,slow=8.8,SNR=12
ILAR PcP **PcP** 18 38 25.8 0.0
comp=Z,0.2nm,0.4s,baz=264,slow=3.4,SNR=2.0
ILAR Eielson Array 22.22 40 P **P** 18 34 30.2 -0.5
PAX Paxson 22.27 45 P **P** 18 34 30.6 -0.7
GLB Gilahina Butte 22.71 49 P **P** 18 34 35.6 -0.5
GLB IAmb IAmb 18 34 38.1
comp=Z,23nm,1.3s
RIDG Independent Ri 22.74 43 P **P** 18 34 34.0 -2.3
RIDG IAmb IAmb 18 34 44.2
comp=Z,27nm,1.6s
VRDI Verde Repeater 22.85 50 P **P** 18 34 36.5 -1.1
VRDI IAmb IAmb 18 34 40.1
comp=Z,11nm,0.6s
TOLK Toolik Lake Re 23.01 30 P **P** 18 34 38.2 -0.8
baz=257
TOLK Toolik Lake Re 23.01 30 P **P** 18 34 38.8 -0.2
TOLK IAmb IAmb 18 34 41.6
comp=Z,15nm,1.3s
MENT Mentasta 23.04 45 P **P** 18 34 38.8 -0.5
MENT IAmb IAmb 18 34 56.8
comp=Z,6.5nm,0.6s
DOT Dot Lake 23.05 44 P **P** 18 34 37.6 -1.9
DOT IAmb IAmb 18 34 41.1
comp=Z,11nm,0.8s
MCARA McCarthy VSAT 23.08 49 P **P** 18 34 37.5 -2.3
MCARA IAmb IAmb 18 34 42.3
comp=Z,12nm,0.6s
TGL Tana Glacier 23.09 51 P **P** 18 34 38.9 -1.0
SCRK Sand Creek 23.17 43 P **P** 18 34 38.7 -2.1
baz=254,SNR=14
BALM Baldy 23.36 50 P **P** 18 34 42.5 -0.2
YAH Yahtse 23.58 52 P **P** 18 34 45.3 +0.3
YAH IAmb IAmb 18 35 12.7
comp=Z,23nm,1.3s
BARN Barnard Glacie 23.69 51 P **P** 18 34 44.8 -1.1
BARN IAmb IAmb 18 34 48.3
comp=Z,9.6nm,0.6s
CTGM Chitina Glacie 23.84 51 P **P** 18 34 46.1 -1.2
CTGM IAmb IAmb 18 34 49.1
comp=Z,30nm,1.5s
K27K Chicken 24.00 43 P **P** 18 34 47.1 -1.5
baz=256,SNR=9.7
PCA Pinnacle 24.31 53 P **P** 18 34 50.2 -1.3
EGAK Eagle 24.56 42 P **P** 18 34 53.7 0.0
JKA Kamikawa-asahi 25.16 267 P **P** 18 35 01.0 +1.7
JKA Kamikawa-asahi 25.16 267 IAmb IAmb 18 35 01.7
comp=Z,47nm,1.3s
ASAJ Asahikawa 25.16 267 P **P** 18 35 01.0 +1.7
comp=Z,10nm,0.8s,baz=45,slow=11,SNR=2.2
INK Inuvik 28.34 35 P **P** 18 35 29.4 +1.8
comp=Z,3.5nm,0.7s,baz=219,slow=3.4,SNR=4.1
INK Inuvik 28.34 35 P **P** 18 35 29.2 +1.6
INK IAmb IAmb 18 35 48.6
comp=Z,13nm,1.2s
USRK Ussuriysk Ar. 31.75 276 P **P** 18 35 58.4 +0.3
comp=Z,0.7nm,0.4s,baz=64,slow=9.5,SNR=4.5
MJAR Matsushiro Arr 32.26 259 LR LR 18 46 40.4
comp=Z,19nm,20.6s,baz=100,slow=32
H11N2 WAKE ISLAND Hy 32.94 201 T T 19 11 11.1
baz=10,slow=74
H11N3 WAKE ISLAND Hy 32.95 201 T T 19 11 11.6
baz=10,slow=74
H11N1 WAKE ISLAND Hy 32.95 201 T T 19 11 22.4
baz=10
H11S1 WAKE ISLAND Hy 34.16 201 T T 19 12 48.3
baz=19
H11S2 WAKE ISLAND Hy 34.18 201 T T 19 12 43.1
baz=19
H11S3 WAKE ISLAND Hy 34.18 201 T T 19 12 55.5
baz=19
YKA Yellowknife Ar 36.34 46 P **P** 18 36 36.5 -1.2
comp=Z,3.4nm,0.6s,baz=285,slow=7.8,SNR=12
D03D Eldon 37.16 72 P **P** 18 36 43.8 -0.9
baz=298
KSRS Korea Array 38.09 269 P **P** 18 36 54.1 +1.4
comp=Z,1.0nm,0.7s,baz=70,slow=8.1,SNR=2.7
LON Longmire 38.30 73 P **P** 18 36 57.1 +2.5
KBO Bosley Butte 39.20 80 P **P** 18 37 06.0 +3.8
G05D Wamic, OR 39.36 75 P **P** 18 37 01.7 -1.6
baz=301
I04A Tendick Farm, 39.46 77 P **P** 18 37 02.3 -1.9
baz=302
L02E Cave Junction 39.62 80 P **P** 18 37 03.1 -2.4
baz=304
HUMO Hull Mountain 39.77 79 P **P** 18 37 08.2 +1.4
KRMB Red Mountain 39.79 81 P **P** 18 37 08.1 +1.0
KRMB IAmb IAmb 18 37 46.3
comp=Z,17nm,1.6s
KHMM Horse Mountain 40.27 82 P **P** 18 37 12.8 +1.7
KHMM IAmb IAmb 18 37 16.3
comp=Z,5.7nm,0.9s
NEW Newport 40.33 68 P **P** 18 37 10.4 -1.0
baz=299
L04D Klamath Falls 40.39 79 P **P** 18 37 12.2 +0.1
baz=304
YBH Yreka Blue Hor 40.41 80 P **P** 18 37 14.2 +2.0
comp=Z,5.3nm,0.8s,baz=310,slow=3.8,SNR=7.9
YBH Yreka Blue Hor 40.41 80 P **P** 18 37 14.4 +2.2
YBH IAmb IAmb 18 37 17.5
comp=Z,6.6nm,0.9s
J05D Fort Rock, OR 40.45 77 P **P** 18 37 12.4 -0.2
baz=303,SNR=5.4
M02C Callahan 40.51 81 P **P** 18 37 13.3 +0.2
baz=305
KMRM Mail Ridge 40.66 83 **P** 18 37 17.9 +3.6
KMRM IAmb IAmb 18 37 20.3
comp=Z,7.6nm,0.7s
N02D Trinity Center 40.84 81 P **P** 18 37 17.2 +1.5
baz=305
M04C Macdoel 40.92 79 P **P** 18 37 17.7 +1.3
baz=304
K05A Summer Lake 40.97 78 P **P** 18 37 17.9 +1.0
K05A IAmb IAmb 18 37 20.3
comp=Z,6.0nm,0.7s
I07A Izee 41.07 75 P **P** 18 37 18.0 +0.4
O02D Mt. Diablo Mer 41.26 82 P **P** 18 37 20.3 +1.1
baz=306
F10A Beach Ranch, E 41.43 71 P **P** 18 37 21.2 +0.6
HOPS Hopland Field 41.78 84 P **P** 18 37 23.9 +0.5
WALA Waterton Lakes 41.78 66 P **P** 18 37 23.5 0.0
WALA IAmb IAmb 18 37 25.7
comp=Z,13nm,1.4s
MOD Modoc Plateau 41.79 78 P **P** 18 37 23.6 -0.1
MOD IAmb IAmb 18 37 27.1
comp=Z,5.3nm,0.7s
O03E Paynes Creek 41.80 81 P **P** 18 37 24.7 +1.1
baz=306
BMO Blue Mountains 41.98 73 P **P** 18 37 25.6 +0.5
J08A Circle Bar Ran 42.09 75 P **P** 18 37 26.5 +0.5
JTMT Jette 42.23 68 P **P** 18 37 27.4 +0.2
ORV Oroville 42.42 82 P **P** 18 37 30.1 +1.5
PLID Pearl Lake 42.63 72 P **P** 18 37 31.5 +1.0
MSO Missoula 42.91 69 P **P** 18 37 32.8 +0.2
baz=302
PAHR Pah Rah Range 43.64 80 P **P** 18 37 41.2 +2.6
PAHR IAmb IAmb 18 37 43.1
comp=Z,11nm,1.2s
PNTR Pine Nut 43.88 81 P **P** 18 37 41.8 +1.1
PNTR IAmb IAmb 18 37 50.6
comp=Z,11nm,0.8s
HLID Hailey 44.42 73 P **P** 18 37 45.5 +0.6
baz=304
HLID Hailey 44.42 73 P **P** 18 37 46.4 +1.5
BCYI Bear Canyon 44.60 71 P **P** 18 37 45.2 -1.1
MCMT McKenzie Canyo 44.64 70 P **P** 18 37 45.0 -1.7
RYN Ryan 44.83 81 P **P** 18 37 49.0 +0.8
RYN IAmb IAmb 18 37 52.7
comp=Z,8.3nm,1.0s
BOZ Bozeman (W) 44.93 69 P **P** 18 37 48.5 -0.4
baz=304
LHV Little Huntoon 45.07 81 P **P** 18 37 49.1 -0.8
NVAR Mina Array Bea 45.09 81 P **P** 18 37 50.6 +0.3
comp=Z,4.5nm,0.7s,baz=294,slow=8.3,SNR=22
NVAR Mina Array Bea 45.09 81 P **P** 18 37 49.7 -0.6
SONM Songino Array 45.25 295 P **P** 18 37 52.1 +0.8
comp=Z,1.3nm,0.7s,baz=55,slow=9.4,SNR=7.7
SONM Songino Array 45.25 295 P **P** 18 37 51.3 -0.1
ELK Elko 45.57 76 P **P** 18 37 53.8 -0.4
comp=Z,5.9nm,0.9s,baz=304,slow=9.9,SNR=21
ELK Elko 45.57 76 P **P** 18 37 55.6 +1.5
ELK IAmb IAmb 18 37 57.3
comp=Z,4.0nm,0.7s
TPH Tonopah 45.97 81 P **P** 18 37 58.1 +0.8
HHC Hu-ho-hao-te 46.19 284 *e*P **P** 18 38 00.3 +1.4
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,160nm,8.5s
BGU Big Grassy Mou 46.80 75 P **P** 18 38 04.5 +0.8
R11A Troy Canyon, C 46.81 79 P **P** 18 38 02.6 -1.3
baz=308,SNR=9.3
R11A Troy Canyon, C 46.81 79 P **P** 18 38 03.5 -0.3
R11A IAmb IAmb 18 38 07.3
comp=Z,4.5nm,0.7s
NJ2 Nanjing 47.26 270 *e*P **P** 18 38 07.6 +0.4
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TPNV Topopah Spring 47.28 81 P **P** 18 38 07.2 -0.3
baz=309
DUG Dugway, Tooele 47.37 76 P **P** 18 38 07.7 -0.5
baz=308,SNR=6.3
DUG Dugway, Tooele 47.37 76 P **P** 18 38 08.2 +0.1
PRN Pahroc Range 47.73 80 P **P** 18 38 11.1 +0.1
PSUT Pine Spring 47.76 78 P **P** 18 38 10.9 -0.4
BW06 Boulder Array 47.78 71 P **P** 18 38 11.8 +0.5
PDAR Pinedale Array 47.78 71 P **P** 18 38 10.3 -1.1
comp=Z,4.8nm,0.7s,baz=312,slow=3.8,SNR=10
PDAR Pinedale Array 47.78 71 P **P** 18 38 11.7 +0.3
GSC Goldstone, Bar 47.99 83 P **P** 18 38 12.3 -0.6
baz=310
MVU Marysvale 48.78 77 P **P** 18 38 18.9 -0.3
LCMT Little Creek M 49.10 79 P **P** 18 38 21.0 -0.5
PFO Pinyon Flats O 49.31 85 P **P** 18 38 22.2 -1.0
baz=312
KNB Kanab 49.35 79 P **P** 18 38 24.6 +1.1
U15A North Rim 50.06 79 P **P** 18 38 28.5 -0.4
U15A IAmb IAmb 18 38 32.8
comp=Z,4.6nm,0.8s
SPITS Spitsbergen Ar 50.25 355 P **P** 18 38 27.9 -1.7
comp=Z,2.3nm,0.5s,baz=38,slow=7.3,SNR=7.3
PV17 East Wray Mesa 50.90 75 P **P** 18 38 35.9 +0.6
PV18 Skein Mesa, Pa 50.96 75 P **P** 18 38 35.7 +0.1
PV18 IAmb IAmb 18 38 39.1
comp=Z,8.3nm,0.9s
ULM Lac du Bonnet 50.96 55 P **P** 18 38 35.7 +0.4
comp=Z,2.8nm,0.5s,baz=324,slow=8.7,SNR=2.2
ULM Lac du Bonnet 50.96 55 IAmb IAmb 18 38 55.0
comp=Z,9.9nm,1.1s
PV13 Radium Mtn., P 51.07 75 P **P** 18 38 36.3 -0.3
ZALV Zalesovo Beam 52.89 312 P **P** 18 38 48.3 -1.2
comp=Z,0.8nm,0.4s,baz=47,slow=6.8,SNR=5.9
LZH Lanzhou 53.89 285 *e*P **P** 18 38 58.9 +1.5
LZH pP sP 18 39 11.5 -0.4
LZH sP pP 18 39 16.9 +9.1
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=N,350nm,10.3s
LZH LR LR
comp=E,210nm,10.3s
LZH LR LR
comp=Z,150nm,10.3s
GTA Gaotai 54.12 290 ⇑P **P** 18 38 59.3 +0.4
GTA pP pP 18 39 11.4 +2.0
GTA sP sP 18 39 16.3 +2.9
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,160nm,11.6s
GTA LR LR
comp=N,120nm,16.4s
GTA LR LR
comp=E,370nm,15.6s
GTA LR LR
comp=Z,140nm,17.8s
MNTX Cornudas Mount 57.47 79 P **P** 18 39 21.5 -1.5
baz=314
MNTX Cornudas Mount 57.47 79 P **P** 18 39 22.7 -0.2
ARCES ARCESS Array B 57.81 349 P **P** 18 39 23.3 -1.4
comp=Z,2.8nm,1.0s,baz=40,slow=8.6,SNR=1.8
KURK Kurchatov 57.88 312 P **P** 18 39 24.6 -0.9
WMQ Urumqi 58.02 301 *e*P **P** 18 39 29.4 +2.7
MK31 Makanchi Array 58.80 307 P **P** 18 39 30.6 -1.5
MKAR Makanchi Array 58.80 307 P **P** 18 39 30.9 -1.1
comp=Z,1.3nm,0.6s,baz=52,slow=6.9,SNR=15
MKAR Makanchi Array 58.80 307 P **P** 18 39 30.6 -1.5
MAKZ Makanchi 58.95 307 P **P** 18 39 32.0 -1.1
MAKZ IAmb IAmb 18 39 32.8
comp=Z,1.9nm,0.7s
BVAR Borovoye Array 59.87 318 P **P** 18 39 38.9 -0.3
comp=Z,3.4nm,0.6s,baz=235,slow=4.7,SNR=26
BRVK Borovoye 59.89 319 P **P** 18 39 38.8 -0.6
BRVK IAmb IAmb 18 39 39.9
comp=Z,4.1nm,0.7s
TXAR Lajitas Array 60.18 79 P **P** 18 39 41.3 -0.6
comp=Z,1.1nm,0.6s,baz=306,slow=4.6,SNR=11
U40A Yellville 61.71 66 P **P** 18 39 52.2 +0.1
U40A IAmb IAmb 18 39 53.5
comp=Z,3.0nm,0.8s
ARU Arti 61.77 327 P **P** 18 39 52.1 0.0
comp=Z,1.8nm,0.4s,baz=44,slow=4.8,SNR=11
ARU Arti 61.77 327 P **P** 18 39 51.6 -0.5
PMG Port Moresby 66.41 214 LR LR 19 05 41.4
comp=Z,28nm,19.5s,baz=90,slow=32
ABKAR Akbulak array 66.98 321 P **P** 18 40 26.1 -0.2
ABKAR IAmb IAmb 18 40 27.3
comp=Z,2.8nm,1.1s
ABKAR Akbulak array 66.98 321 P **P** 18 40 25.8 -0.5
KK31 Karatay Array 67.22 311 P **P** 18 40 27.3 -0.8
KK31 IAmb IAmb 18 40 28.6
comp=Z,2.7nm,0.9s
KKAR Karatay Array 67.22 311 P **P** 18 40 27.4 -0.6
KKAR IAmb IAmb 18 40 28.6
comp=Z,2.7nm,0.9s
KKAR Karatay Array 67.22 311 P **P** 18 40 27.1 -0.9
CMAR Chiang Mai Arr 69.47 274 P **P** 18 40 42.5 +0.2
comp=Z,0.8nm,0.6s,baz=31,slow=7.4,SNR=4.7
GAR Garm 70.47 308 P **P** 18 40 47.5 -0.9
CHGR Chuyangaron 71.31 309 P **P** 18 40 52.6 -0.8
AKASG Malin Array Be 75.04 340 P **P** 18 41 13.3 -1.8
comp=Z,0.8nm,0.5s,baz=22,slow=6.4,SNR=4.1
AKASG Malin Array Be 75.04 340 IAmb IAmb 18 41 21.2
comp=Z,0.8nm,0.7s
CLL Collm 76.97 351 *e*P **P** 18 41 27.0 +0.9
WRA Warramunga Arr 80.97 222 P **P** 18 41 47.1 -1.2
comp=Z,0.3nm,0.4s,baz=32,slow=6.2,SNR=2.1
ASAR Alice Springs 84.47 220 P **P** 18 42 06.0 -0.4
comp=Z,0.4nm,0.6s,baz=26,slow=6.2,SNR=7.8
H03N2 Juan Fernandez 122.64 104 T T 21 03 13.3
baz=315
H03N1 Juan Fernandez 122.66 104 T T 21 03 14.7
baz=315,slow=74
H03N3 Juan Fernandez 122.66 104 T T 21 03 11.1
baz=315,slow=74
MAW Mawson 145.54 218 PKPbc **PKPdf** 18 49 10.5 +0.1
comp=Z,0.4nm,0.3s,baz=128,slow=4.7,SNR=1.7
BOSA Boshof 149.79 309 PKPbc **PKPbc** 18 49 23.2 -0.4
comp=Z,3.0nm,0.9s,baz=42,slow=3.1,SNR=7.0
BOSA PKPab **PKPab** 18 49 27.7 -1.4
comp=Z,1.2nm,0.7s,baz=5.0,slow=4.9,SNR=5.2
BOSA Boshof 149.79 309 **PKPbc** 18 49 22.6 -1.0

*ISK **07** 18:39:40.4, 42.˚59N×35.˚84E, h8km, ML3.0/8*
*SIGU **07** 18:39:42.4±0.5, 42.˚37N×35.˚86E, h23km±5km*
*DDA **07** 18:39:43.4, 42.˚27N×35.˚88E, h32km±2km, ML2.6*

ISC 07 18:39:41.0±1.5, **42.˚47N**±0.˚04×**35.˚98E**±0.˚05, **h16**km±10km, **n23**, σ1§**24**/35, **Black Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SNOP	**Sinop**	**0.73**	**232**	PG	**Pg**		**18 39 55.1**	**-0.1**
SNOP				SG	**Sg**		**18 40 05.7**	**+0.8**
SINO	**SINOP_Merkez**	**0.73**	**232**	*i* P	**Pg**		**18 39 55.4**	**+0.1**
SINO				*i* S	**Sg**		**18 40 04.3**	**-0.7**
SINO				IAML			18 40 06.0	
	comp=E,242nm,0.1s							
DIKM	**Dikmen**	**0.98**	**213**	*e*Pg	**Pb**		**18 40 00.4**	**+0.8**
	baz=212							
DIKM	**Dikmen**	**0.98**	**213**	PG	**Pb**		**18 40 00.4**	**+0.8**
SAMS	**Samsun-Alacam**	**1.12**	**172**	*i* P	**Pn**		**18 40 01.7**	**-0.4**
SAMS				*i* S	**Sb**		**18 40 14.9**	**-1.5**
SAMS				IAML			18 40 16.0	
	comp=N,266nm,0.2s							
SAMS				IAML			18 40 17.0	
	comp=E,299nm,0.2s							
HAVZ Havza 1.41 188 *i* Pn **Pn** 18 40 06.4 +0.4
baz=185
HAVZ *i* Sn **Sn** 18 40 23.4 -1.0
baz=185
HAVZ Havza 1.41 188 *i* P **Pn** 18 40 06.5 +0.4
HAVZ *i* S **Sn** 18 40 23.4 -1.0
HAVZ IAML 18 40 26.0
comp=N,134nm,0.2s
HAVZ IAML 18 40 26.0
comp=E,181nm,0.5s
KAYA Kayacik-Havza(1.54 186 PN **Pb** 18 40 10.2 +1.1
BZK Bozkurt 1.55 251 PN **Pn** 18 40 08.0 0.0
BZK SN **Sn** 18 40 28.7 +0.9
ERBA Erbaa 1.88 162 *i* Pn **Pn** 18 40 12.2 -0.3
baz=158
ERBA *i* Sn **Sn** 18 40 35.0 -1.0
baz=158
ERBA Erbaa 1.88 162 *i* P **Pn** 18 40 12.2 -0.3
ERBA *i* S **Sn** 18 40 35.0 -1.0
CTAK Corum_Osmancik 2.03 206 *i* P **Pn** 18 40 15.1 +0.4
CTAK *i* S **Sn** 18 40 39.7 -0.1
CTAK IAML 18 40 44.0
comp=N,54nm,0.3s
TOKT Tokat 2.19 169 PN **Pb** 18 40 20.1 -0.2
RSDY Resadiye-TOKAT 2.31 153 PN **Pb** 18 40 22.0 -0.3
COAL Corum-Alaca 2.34 199 *i* P **Pn** 18 40 18.2 -0.7
COAL *i* S **Sn** 18 40 47.2 -0.2
ALU Alushta 2.49 333 *e*Sn **Sn** 18 40 52.1 +1.3
baz=336
ALU Snm 18 40 52.4
baz=336
ALU Snm 18 40 53.8
baz=336
CORM Corum 2.51 204 PN **Pn** 18 40 23.5 +2.3
SUDU Sudak 2.52 344 *e*Sn **Sb** 18 40 54.2 -2.3
baz=346
SUDU Snm 18 40 56.2
baz=346
SUDU Snm 18 40 56.2
baz=346
SEV Sevastopol' 2.67 322 *e*Sn **Sn** 18 40 53.9 -1.3
baz=325
SEV Snm 18 40 54.0
baz=325
SEV Snm 18 40 54.6
baz=325
SVSK Karacayir 2.67 163 PN **Pb** 18 40 26.9 -1.4
SUSE Susehri 2.82 143 *i* P **Pb** 18 40 30.4 -0.6
SUSE *i* S **Sn** 18 41 01.3 +2.1
SUSE IAML 18 41 12.0
comp=N,22nm,0.6s
BRTR Keskin Array B 3.27 214 PN **Pn** 18 40 33.6 +1.9
KELT Kelkit 3.39 132 *i* P **Pn** 18 40 36.2 +2.8
KELT *i* S **Sn** 18 41 15.3 +1.9

*IDC **07** 18:56:16.9±1.5, 7.˚01S×155.˚79E, h94km±15km, mb3.2/4, mb1 3.5/7, mb1mx3.2/43, mbtmp3.7/7, Error ellipse: s-maj=22.8km s-min=11.8km az=25.0*

ISC 07 18:56:16.9±0.9, **6.˚9S**±0.˚1×**155.˚84E**±0.˚08, **h100**km, **n13**, σ1§**15**/11, **mb3.3/4, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.61**	**304**	P	**Pn**		**18 57 23.9**	**-0.5**
	1.4nm,0.3s,baz=108,slow=3.2,SNR=1.5							
KRVT				S	**Sn**		**18 58 17.2**	**+0.4**
	5.5nm,0.3s,baz=210,slow=23,SNR=1.9							
HNR	**Honiara**	**4.76**	**122**	P	**Pn**		**18 57 25.0**	**-1.4**
	5.1nm,0.3s,baz=292,slow=5.4,SNR=1.9							
HNR				S	**Sn**		**18 58 22.1**	**+1.7**
	baz=217,slow=23,SNR=2.1							
PMG	**Port Moresby**	**8.94**	**254**	P	**Pn**		**18 58 22.7**	**-0.5**
	2.9nm,0.3s,baz=58,slow=9.9,SNR=11							
PMG				S	**Sn**		**19 00 03.3**	**+1.2**
	0.4nm,0.3s,baz=295,slow=18,SNR=3.7							
WRA	**Warramunga Arr**	**24.54**	**236**	P	**P**		**19 01 27.0**	**-0.4**
	0.4nm,0.5s,baz=62,slow=9.8,SNR=5.0							
WRA				PcP	**PcP**		**19 05 04.2**	**+0.8**
	0.3nm,0.7s,baz=65,slow=2.4,SNR=2.1							
ASAR	**Alice Springs**	**26.84**	**229**	P	**P**		**19 01 46.9**	**-1.3**
	0.3nm,0.7s,baz=60,slow=10,SNR=6.9							
ASAR				PcP	**PcP**		**19 05 09.7**	**+1.1**
	0.2nm,0.4s,baz=71,slow=3.0,SNR=4.1							
H11S3	**WAKE ISLAND Hy**	**27.45**	**23**	T	T		19 30 13.6	
	baz=203,slow=75,SNR=77							
H11S2	**WAKE ISLAND Hy**	**27.46**	**23**	T	T		19 30 21.6	
	baz=203,slow=75,SNR=71							
H11S1	**WAKE ISLAND Hy**	**27.46**	**23**	T	T		19 30 15.9	
	baz=203,slow=75,SNR=50							
H11N1	**WAKE ISLAND Hy**	**28.64**	**22**	T	T		19 31 46.6	
	baz=203,slow=79							
H11N3	**WAKE ISLAND Hy**	**28.65**	**22**	T	T		19 31 48.8	
	baz=203,slow=79							
H11N2	**WAKE ISLAND Hy**	**28.65**	**22**	T	T		19 31 51.8	
	baz=203,slow=79							
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**		**19 08 31.3**	**+0.4**
	0.3nm,0.4s,baz=251,slow=5.4,SNR=2.1							
MKAR	**Makanchi Array**	**83.92**	**318**	P	P		19 08 37.2	+1.3
	0.3nm,0.5s,baz=119,slow=6.8,SNR=1.4							

*IDC **07** 19:01:12.6±0.8, 23.˚37N×100.˚60E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.7/62, mbtmp3.9/10, ML4.1/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=26.3km s-min=15.0km az=77.0*

*BJI **07** 19:01:14.7±0.0, 23.˚36N×100.˚49E, h17km, mB4.5/8, mb4.1/18, ML4.3/9, Ms4.1/17, Ms7 4.0/11*

*NEIC **07** 19:01:15.3±1.5, 23.˚34N±0.˚05×100.˚52E±0.˚05, h15km±5km, mb4.2/15, Error ellipse: s-maj=9.6km s-min=4.0km az=218.0*

ISC 07 19:01:14.1±0.5, **23.˚26N**±0.˚04×**100.˚51E**±0.˚05, **h10**km, **n62**, σ1§**48**/68, **mb4.0**/15, **MS3.1**/4, **2D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KMI	**Kunming**	**2.75**	**47**	‖*e*Pn	**Pn**		**19 01 59.0**	**+0.5**
KMI				Sg	**Sg**		**19 02 40.9**	**-1.7**
KMI				smax	smax			
	comp=N,2μm,1.1s							
KMI				smax	smax			
	comp=E,2μm,0.9s							
KMI	**Kunming**	**2.75**	**47**	Pn	**Pn**		**19 01 58.6**	**0.0**
CRAI	**Chiangrai**	**3.02**	**182**	P	**Pn**		**19 02 04.7**	**+2.7**
SLVN	**Son La**	**3.68**	**121**		**Pn**		**19 02 12.1**	**+0.9**
PAYA	**Payao**	**3.93**	**189**	P	**Pn**		**19 02 16.4**	**+1.8**
CMMT	**Chiang Mai**	**4.66**	**199**	P	**Pn**		**19 02 26.3**	**+1.7**
CMMT				S	**Sg**		**19 03 42.6**	**-1.2**
CHTO	**Chiang Mai**	**4.66**	**199**		**Pn**		**19 02 26.4**	**+1.8**
PHRA	**Phrae**	**4.75**	**183**	P	**Pg**		**19 02 43.9**	**-1.2**
CM09	**Chiang Mai Arr**	**5.00**	**197**	P	**Pn**		**19 02 31.2**	**+1.9**
CM31	**Chiang Mai Arr**	**5.00**	**197**		**Pn**		**19 02 30.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**5.00**	**197**	Pn	**Pn**		**19 02 31.2**	**+1.9**
	1.8nm,0.3s,baz=9.5,slow=13,SNR=30							
CMAR				Pg	**Pg**		**19 02 49.4**	**-0.5**
	17nm,0.3s,baz=11,slow=16,SNR=150							
CMAR				Lg	Lg		19 03 54.7	
	17nm,0.3s,baz=8.3,slow=27,SNR=11							
CMAR				LR	LR		19 04 40.6	
	comp=Z,315nm,19.9s,baz=204,slow=41							
CMAR	**Chiang Mai Arr**	**5.00**	**197**		**Pn**		**19 02 31.7**	**+2.4**
CM15	**Chiang Mai Arr**	**5.01**	**198**	P	**Pn**		**19 02 31.4**	**+2.0**
CM02	**Chiang Mai Arr**	**5.02**	**197**	P	**Pn**		**19 02 31.4**	**+1.9**
CM01	**Chiang Mai Arr**	**5.03**	**197**	P	**Pn**		**19 02 31.6**	**+1.9**
CM04	**Chiang Mai Arr**	**5.04**	**197**	P	**Pn**		**19 02 32.0**	**+2.1**
CM04				S	**Sg**		**19 03 55.3**	**-0.9**
CM13	**Chiang Mai Arr**	**5.04**	**198**	P	**Pn**		**19 02 31.9**	**+2.1**
CM05	**Chiang Mai Arr**	**5.05**	**197**	P	**Pn**		**19 02 32.4**	**+2.4**
UTTA	**Uttaradit**	**5.49**	**180**	P	**Pn**		**19 02 38.6**	**+2.7**
UTTA				S	**Sg**		**19 04 08.5**	**-1.9**
MHMT	**Maesarieng**	**5.61**	**206**	P	**Pn**		**19 02 37.9**	**+0.3**
NONG	**Nongkai**	**5.73**	**154**	P	**Pn**		**19 02 40.5**	**+1.2**
GYA	**Guiyang**	**6.43**	**59**	‖Pn	**Pn**		**19 02 48.4**	**-0.6**
GYA				Sn	**Sn**		**19 04 08.1**	**+5.5**
GYA				Sg	**Sg**		**19 04 40.0**	**-0.6**
GYA				smax	smax			
	comp=N,78nm,1.4s							
GYA				smax	smax			
	comp=E,57nm,1.7s							
GYA				LR	LR			
	comp=N,350nm,3.8s							
GYA				LR	LR			
	comp=E,530nm,4.9s							
GYA				LR	LR			

comp=Z,310nm,4.4s
CD2 Chengdu 8.15 20 Pn **Pn** **19 03 12.5 0.0**
CD2 Pg **Pg** **19 03 49.5 -0.7**
CD2 Sg **Sg** **19 05 37.4 +1.7**
CD2 smax smax
comp=N,170nm,1.9s
CD2 smax smax
comp=E,130nm,1.5s
CD2 LR LR
comp=N,940nm,13.9s
CD2 LR LR
comp=E,2μm,11.3s
CD2 LR LR
comp=Z,880nm,10.5s
CD2 Chengdu 8.15 20 P **Pn** **19 03 12.3 -0.2**
CD2 S **Sn** **19 04 44.4 -0.4**
CD2 LR LR
comp=Z,810nm,6.7s
CD2 LR LR
comp=Z,820nm,8.2s
SHL Shillong 8.19 288 Pn **Pn** **19 03 12.7 -0.6**
LSA Lhasa 10.55 309 Pn **Pn** **19 03 46.6 +0.7**
ENH Enshi 10.63 47 Pn **Pn** **19 03 47.7 +1.2**
XAN Xi'an 13.03 33 P Pn 19 04 24.8 +5.5
XAN pP 19 04 31.4
XAN S **Sn** **19 06 47.0 +2.7**
XAN pmax pmax
comp=Z,20nm,0.7s
XAN LR LR
comp=Z,1μm,10.3s
XAN LR LR
comp=Z,770nm,12.2s
XAN Xi'an 13.03 33 Pn **Pn** **19 04 18.2 -1.1**
LZH Lanzhou 13.11 12 *e*P **Pn** **19 04 20.4 -0.1**
LZH pP P 19 04 27.1 -3.7
LZH sP 19 04 30.6
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,82nm,6.8s
LZH LR LR
comp=Z,470nm,10.3s
LZH LR LR
comp=Z,500nm,15.2s
WHN Wuhan 14.31 57 P **P** **19 04 44.0 0.0**
WHN S **Sn** **19 07 14.0 -1.7**
WHN LR LR
comp=Z,1μm,9.2s
GTA Gaotai 16.11 358 *e*P **P** **19 05 04.6 +0.4**
GTA pP sP 19 05 10.1 +1.3
GTA sP pP 19 05 13.0 +5.7
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,97nm,4.4s
GTA LR LR
comp=Z,140nm,9.8s
GTA LR LR
comp=Z,410nm,11.3s
GTA LR LR
comp=Z,170nm,11.3s
PSI Prapat 20.40 185 LR LR 19 15 32.9
comp=Z,88nm,18.8s,baz=90,slow=42
TGY Tagaytay City 21.36 112 LR LR 19 13 43.1
comp=Z,70nm,19.5s,baz=28,slow=35
WMQ Urumqi 23.07 336 *e*P **P** **19 06 21.2 +1.4**
SONM Songino Array 24.97 9 P **P** **19 06 36.5 -1.4**
comp=Z,1.8nm,0.7s,baz=189,slow=10,SNR=9.3
SONM Songino Array 24.97 9 P **P** **19 06 37.8 -0.1**
NIL Nilore 26.04 299 P **P** **19 06 47.0 -0.6**
NIL IAmb IAmb 19 07 32.4
comp=Z,14nm,1.2s
TARG Taragay, Kyrgy 26.44 320 P **P** **19 06 50.8 -0.8**
TARG IAmb IAmb 19 07 23.2
comp=Z,2.9nm,0.9s
MK31 Makanchi Array 27.69 332 P **P** **19 07 02.7 +0.3**
MKAR Makanchi Array 27.69 332 P **P** **19 07 02.5 +0.2**
comp=Z,1.6nm,0.6s,baz=138,slow=9.8,SNR=19
MKAR LR LR 19 18 25.9
comp=Z,66nm,18.4s,baz=172,slow=37
MKAR Makanchi Array 27.69 332 P **P** **19 07 02.1 -0.3**
MAKZ Makanchi 27.83 332 P **P** **19 07 03.7 +0.1**
MAKZ IAmb IAmb 19 07 20.5
comp=Z,6.3nm,1.6s
TLY Talaya 28.48 4 LR LR 19 18 13.9
comp=Z,33nm,20.4s,baz=174,slow=36
GAR Garm 30.06 309 P **P** **19 07 24.3 +0.6**
GAR IAmb IAmb 19 07 29.1
comp=Z,14nm,1.5s
KURBB Kurchatov Arra 32.23 333 P **P** **19 07 42.5 +0.1**
comp=Z,0.9nm,0.5s,baz=137,slow=9.9,SNR=8.3
KURK Kurchatov 32.26 334 P **P** **19 07 42.5 -0.2**
KURK Kurchatov 32.26 334 IAmb IAmb 19 07 52.4
comp=Z,6.6nm,1.6s
ZALV Zalesovo Beam 32.85 343 P **P** **19 07 47.6 -0.3**
comp=Z,1.7nm,0.8s,baz=155,slow=11,SNR=4.1
USRK Ussuriysk Ar. 33.18 43 P **P** **19 07 49.3 -1.6**
comp=Z,1.3nm,0.8s,baz=224,slow=6.0,SNR=2.9
USRK Ussuriysk Ar. 33.18 43 P **P** **19 07 50.3 -0.5**
GEYT Alibeck 38.97 302 P **P** **19 08 40.8 +0.2**
comp=Z,2.4nm,0.7s,baz=115,slow=9.7,SNR=5.3
GEYT Alibeck 38.97 302 IAmb IAmb 19 08 41.9
comp=Z,2.0nm,0.8s
GYA0B ALIBECK ARRAY 38.97 302 P **P** **19 08 41.7 +1.1**
ABKAR Akbulak array 41.03 320 P **P** **19 08 57.4 -0.1**
ABKAR Akbulak array 41.03 320 P **P** **19 08 56.3 -1.2**
ABKAR IAmb IAmb 19 09 46.5
comp=Z,8.5nm,1.7s
WRA Warramunga Arr 54.15 140 P **P** **19 10 40.1 +0.3**
comp=Z,0.7nm,0.7s,baz=335,slow=8.2,SNR=8.1
WB2 Warramunga Arr 54.16 140 P **P** **19 10 41.3 +1.4**
WR0 Warramunga Arr 54.29 140 P **P** **19 10 40.5 -0.2**
ASAR Alice Springs 56.82 143 P **P** **19 10 59.5 +0.6**
comp=Z,0.8nm,0.7s,baz=322,slow=6.6,SNR=8.3
AKASG Malin Array Be 60.62 316 P **P** **19 11 23.5 -1.5**
comp=Z,0.8nm,0.5s,baz=79,slow=6.4,SNR=2.0
FINES FINESS Array B 62.42 329 P **P** **19 11 37.4 +0.4**

*IDC **07** 19:07:27.5±0.6,36°.31N×143°.43E,h0km,mb4.3/23, mb1 4.4/26,mb1mx4.2/62,mbtmp4.3/26,ML2.5/2,MS3.1/9, Ms1 3.1/9,ms1mx2.8/39,Error ellipse: s-maj=16.8km s-min=15.0km az=146.0*
*JMA **07** 19:07:31.6±0.2,36°.45N×143°.26E,h57km,M4.0*
*NIED **07** 19:07:31.6,36°.45N×143°.26E,h57km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.74; Mθθ0.22; Mφφ0.52; Mrθ-0.50; Mθφ0.86; Mφr0.45; Fault plane solution: M0 1.28000×10¹⁵ NP1: φs187.00000°,δ58.00000°,λ-140.00000°. NP2: φs73.00000°,δ57.00000°,λ-39.00000°.*
*NEIC **07** 19:07:33.1±1.7,36°.41N±0°.06×143°.27E±0°.09,h34km±5km, mb4.8/40 Error ellipse: s-maj=11.0km s-min=8.6km az=102.0*
*BJI **07** 19:07:36.5±0.0,36°.73N×142°.98E,h40km,mB4.8/8, mb4.4/14*
ISC 07 19:07:32.7±4.1,36°.45N±0°.05×143°.31E±0°.06,h31km±29km, n124,σ1°40/139,mb4.6/40,MS3.2/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.12**	**289**	P	**Pn**	**19 08 04.9**	**-1.1**
ONAJ				*e*S	**Sn**	**19 08 29.5**	**-1.8**
CHOJ	**Chosi**	**2.12**	**250**	P	**Pn**	**19 08 05.0**	**-1.0**
CHOJ				*e*S	**Sn**	**19 08 30.1**	**-1.1**
JFK	**Kawauchi**	**2.15**	**296**	P	**Pn**	**19 08 05.4**	**-1.1**
JFK				*e*S	**Sn**	**19 08 30.1**	**-2.1**
JHYU	**Hitachinakayam**	**2.20**	**268**	P	**Pn**	**19 08 06.2**	**-0.8**
JHYU				*e*S	**Sn**	**19 08 31.3**	**-1.9**
JHO	**Hitachi**	**2.21**	**275**	P	**Pn**	**19 08 06.2**	**-1.0**
JHO				*e*S	**Sn**	**19 08 31.8**	**-1.7**
JMM	**Marumori**	**2.46**	**306**	Pn	**Pn**	**19 08 09.6**	**-1.0**
JMM				Sn	**Sn**	**19 08 36.5**	**-3.0**
JYT	**Yasato**	**2.52**	**266**	P	**Pn**	**19 08 10.2**	**-1.3**
JYT				*e*S	**Sn**	**19 08 39.2**	**-2.0**
JYT	**Yasato**	**2.52**	**266**		**Pn**	**19 08 09.9**	**-1.6**
JFT	**Otama**	**2.61**	**295**	P	**Pn**	**19 08 12.7**	**0.0**
JFT				*e*S	**Sn**	**19 08 42.5**	**-0.8**
BSO1	**Boso 1**	**2.61**	**227**	P	**Pn**	**19 08 11.4**	**-0.8**
BSO1				*e*S	**Sn**	**19 08 41.6**	**-1.0**
BSO3	**Boso 3**	**2.81**	**235**	P	**Pn**	**19 08 14.9**	**-0.3**
BSO3				*e*S	**Sn**	**19 08 46.7**	**-1.2**
JMK	**Ichinoseki**	**3.00**	**327**	P	**Pn**	**19 08 17.0**	**-1.0**
JMK				*e*S	**Sn**	**19 08 50.6**	**-2.3**
JAG	**Ashikaga**	**3.11**	**271**	P	**Pn**	**19 08 19.0**	**-0.6**
JAG				*e*S	**Sn**	**19 08 54.1**	**-1.6**
JHU	**Hanno**	**3.31**	**261**	P	**Pn**	**19 08 21.3**	**-1.1**
JYK	**Kaneyama**	**3.40**	**317**	P	**Pn**	**19 08 23.2**	**-0.3**
JYK				*e*S	**Sn**	**19 09 01.7**	**-1.1**
JOM	**Ohasama**	**3.41**	**333**	P	**Pn**	**19 08 22.7**	**-1.0**
JOM				*e*S	**Sn**	**19 09 00.7**	**-2.5**
JYN	**Shimob**	**3.98**	**258**	P	**Pn**	**19 08 31.6**	**0.0**
JYN				*e*S	**Sn**	**19 09 16.2**	**-1.0**
MJAR	**Matsushiro Arr**	**4.11**	**273**	Pn	**Pn**	**19 08 33.4**	**+0.1**
	0.4nm,0.3s,baz=89,slow=14,SNR=28						
MJAR				Sn	**Sn**	**19 09 18.0**	**-2.3**
	0.4nm,0.3s,baz=104,slow=19,SNR=4.4						
MJAR				LR	LR	19 10 24.5	
	comp=Z,155nm,20.4s,baz=100,slow=42						
MJAR	**Matsushiro Arr**	**4.11**	**273**		**Pn**	**19 08 33.2**	**-0.2**
MAJO	**Matsushiro**	**4.11**	**273**	Pn	**Pn**	**19 08 33.1**	**-0.2**
MAT	**Matsushiro**	**4.11**	**273**	P	**Pn**	**19 08 34.0**	**+0.6**
MAT				S	**Sn**	**19 09 21.5**	**+1.1**
MJB9	**Matsu-Tunnel**	**4.11**	**273**	Pn	**Pn**	**19 08 33.1**	**-0.3**
JSD	**Sado**	**4.33**	**293**	Pn	**Pn**	**19 08 35.9**	**-0.4**
JHJ2	**Mitsune**	**4.40**	**222**	Pn	**Pn**	**19 08 35.5**	**-1.8**
JHJ	**Hachijo jima 2**	**4.41**	**222**	Pn	**Pn**	**19 08 35.4**	**-2.1**
	30nm,0.3s,baz=54,slow=17,SNR=2.2						
JHJ				Sn	**Sn**	**19 09 21.4**	**-6.4**
	91nm,0.3s,baz=69,slow=22,SNR=7.6						
JHJ				LR	LR	19 10 24.8	
	comp=Z,122nm,20.2s,baz=81,slow=41						
JTM	**Tenmabayashi**	**4.67**	**339**	Pn	**Pn**	**19 08 40.9**	**-0.1**
JGF	**Kuroka**	**4.90**	**262**		**Pn**	**19 08 45.8**	**+1.6**
INU	**Inuyama**	**5.22**	**260**	Pn	**Pn**	**19 08 49.1**	**+0.5**
ERM	**Erimo**	**5.56**	**359**	Pn	**Pn**	**19 08 50.3**	**-2.9**
ERM				Sn	Sn	19 09 45.2	-11
JWT	**Wachi**	**6.53**	**262**	Pn	**Pn**	**19 09 07.6**	**+1.1**
JEW	**Eniwo**	**6.54**	**348**	Pn	**Pn**	**19 09 05.0**	**-1.7**
JEW				Sn	Sn	19 10 10.4	-10
ASAJ	**Asahikawa**	**7.68**	**356**	Pn	**Pn**	**19 09 19.9**	**-2.4**
	4.3nm,0.3s,baz=224,slow=10,SNR=25						
ASAJ				Sn	**Sn**	**19 10 42.6**	**-5.6**
	2.1nm,0.3s,baz=341,slow=31,SNR=8.5						
ASAJ				LR	LR	19 12 45.1	
	comp=Z,105nm,21.2s,baz=199,slow=41						
JKA	**Kamikawa-asahi**	**7.68**	**356**	Pn	**Pn**	**19 09 20.1**	**-2.2**
JMN	**Monobe**	**8.19**	**253**	Pn	**Pn**	**19 09 32.1**	**+2.7**
JHS	**Saijyo**	**8.41**	**263**	Pn	**Pn**	**19 09 33.7**	**+1.2**
JCJ	**Chichijima**	**9.38**	**186**	Sn	Sn	19 11 17.4	-13
	23nm,0.3s,baz=300,slow=23,SNR=5.7						
JCJ	**Chichijima**	**9.38**	**186**	Pn	Pn	19 09 42.5	-3.2
JNU	**Nakatsue**	**10.75**	**256**	Pn	**Pn**	**19 10 08.0**	**+3.5**
	0.2nm,0.3s,baz=30,slow=16,SNR=2.8						
JNU	**Nakatsue**	**10.75**	**256**	Pn	**Pn**	**19 10 04.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.59**	**315**	Pn	**Pn**	**19 10 18.0**	**+2.1**
	baz=126,slow=13,SNR=5.8						
USRK				LR	LR	19 14 14.1	
	comp=Z,140nm,19.4s,baz=194,slow=35						
KSRS	**Korea Array**	**12.35**	**279**	Pn	**Pn**	**19 10 28.9**	**+2.6**
	0.1nm,0.3s,baz=96,slow=13,SNR=4.8						
PETK	**Petropavlovsk-**	**19.48**	**27**	P	**P**	**19 11 56.3**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**26.55**	**122**	T	T	19 40 34.2	
	baz=314,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**26.55**	**123**	T	T	19 40 32.7	
	baz=314,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**26.57**	**122**	T	T	19 40 35.5	
	baz=314,slow=76,SNR=11						
YAK	**Yakutsk**	**26.99**	**346**	P	**P**	**19 13 11.2**	**-0.1**
	7.8nm,0.8s,baz=127,slow=2.9,SNR=7.5						
YAK				LR	LR	19 24 23.1	
	comp=Z,54nm,18.7s,baz=139,slow=37						
YAK	**Yakutsk**	**26.99**	**346**	P	**P**	**19 13 10.6**	**-0.8**
YAK				IAmb	IAmb	19 13 13.4	
	comp=Z,14nm,0.8s						
SEY	**Seymchan**	**27.10**	**9**	P	**P**	**19 13 13.1**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=211,slow=9.1,SNR=7.8						
ULN	**Ulaanbaatar**	**28.94**	**305**	P	**P**	**19 13 26.2**	**-3.0**
SONM	**Songino Array**	**29.37**	**304**	P	**P**	**19 13 33.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=94,slow=7.0,SNR=5.9						
SONM	**Songino Array**	**29.37**	**304**	P	**P**	**19 13 31.1**	**-1.9**
CD2	**Chengdu**	**33.21**	**272**	*e*P	**P**	**19 14 07.0**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**34.19**	**288**	*e*P	**P**	**19 14 16.8**	**+1.4**
GTA				pP	pwP	19 14 28.8	-3.1
GTA				sP	sP	19 14 34.6	+10
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANM	**Nome**	**41.31**	**31**	P	**P**	**19 15 15.8**	**+0.8**
ANM				IAmb	IAmb	19 15 43.3	
	comp=Z,20nm,1.2s						
LUW1	**Luwuk**	**41.91**	**212**	P	**P**	**19 15 21.6**	**+1.2**
ZAA0	**Zalesovo Array**	**43.43**	**313**	P	**P**	**19 15 32.4**	**0.0**
ZALV	**Zalesovo Beam**	**43.43**	**313**	P	**P**	**19 15 33.3**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=89,slow=6.8,SNR=13						
ZALV				PcP	**PcP**	**19 17 18.9**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=98,slow=2.8,SNR=4.5						
ZALV				LR	LR	19 35 39.8	
	comp=Z,27nm,18.4s,baz=108,slow=39						
ZALV	**Zalesovo Beam**	**43.43**	**313**	P	**P**	**19 15 33.1**	**+0.7**
ZALV				PcP	**PcP**	**19 17 18.7**	**-1.5**
MK31	**Makanchi Array**	**45.72**	**303**	P	**P**	**19 15 50.4**	**-0.4**
MKAR	**Makanchi Array**	**45.72**	**303**	P	**P**	**19 15 51.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=92,slow=9.0,SNR=8.2						
MKAR	**Makanchi Array**	**45.72**	**303**	P	**P**	**19 15 50.9**	**+0.1**
OHAK	**Old Harbor**	**46.16**	**42**	P	**P**	**19 15 53.6**	**-0.5**
OHAK				IAmb	IAmb	19 16 22.2	
	comp=Z,18nm,1.3s						
IMAR	**Indian Mountai**	**46.38**	**30**	P	**P**	**19 15 56.0**	**+0.3**
IMAR				PcP	**PcP**	**19 17 30.9**	**+0.7**
RSO	**Redoubt South**	**46.42**	**38**	P	**P**	**19 15 56.3**	**0.0**
KDAK	**Kodiak Island**	**46.52**	**42**	P	**P**	**19 15 56.7**	**-0.2**
	comp=Z,14nm,0.6s,baz=257,slow=5.0,SNR=18						
KDAK	**Kodiak Island**	**46.52**	**42**	P	**P**	**19 15 56.5**	**-0.3**
PPLA	**Purkeypile**	**46.78**	**35**	P	**P**	**19 16 00.3**	**+1.2**
PPLA				IAmb	IAmb	19 16 00.4	
	comp=Z,8.2nm,1.1s						
BPAW	**Bear Paw Mtn.**	**47.38**	**33**	P	**P**	**19 16 04.0**	**+0.4**
KURK	**Kurchatov**	**47.49**	**309**	P	**P**	**19 16 03.4**	**-1.2**
KURK				IAmb	IAmb	19 16 06.0	
	comp=Z,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**47.56**	**309**	P	**P**	**19 16 05.9**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=83,slow=7.8,SNR=15						
TRF	**Thorofare Moun**	**47.66**	**34**	P	**P**	**19 16 06.2**	**+0.2**
TRF				IAmb	IAmb	19 16 18.9	
	comp=Z,17nm,1.7s						
TOLK	**Toolik Lake Re**	**48.30**	**27**	P	**P**	**19 16 11.0**	**+0.3**
SML	**Sawmill**	**48.56**	**36**	P	**P**	**19 16 13.7**	**+0.9**
SML				IAmb	IAmb	19 16 29.5	
	comp=Z,12nm,1.1s						
MDM	**Murphy Dome**	**48.60**	**32**	P	**P**	**19 16 13.5**	**+0.4**
MDM				IAmb	IAmb	19 16 14.6	
	comp=Z,6.0nm,0.8s						
WRH	**Wood River Hil**	**48.66**	**33**	P	**P**	**19 16 13.9**	**+0.5**
WRH				IAmb	IAmb	19 16 18.9	
	comp=Z,16nm,1.7s						
DHY	**Denali Highway**	**48.98**	**34**	P	**P**	**19 16 16.2**	**+0.1**
SCM	**Sheep Creek Mo**	**49.04**	**36**	P	**P**	**19 16 16.9**	**+0.4**
SCM				IAmb	IAmb	19 16 25.4	
	comp=Z,22nm,1.4s						
IL31		**49.18**	**32**	P	**P**	**19 16 16.7**	**-0.6**
IL31				IAmb	IAmb	19 16 17.4	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**19 16 17.2**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=262,slow=6.4,SNR=25						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**19 16 16.6**	**-0.8**
HIN	**Hinchinbrook I**	**49.52**	**38**	P	**P**	**19 16 20.4**	**+0.3**
MCARA	**McCarthy VSAT**	**51.12**	**36**	P	**P**	**19 16 32.7**	**+0.4**
MCARA				IAmb	IAmb	19 16 43.5	
	comp=Z,9.7nm,1.0s						
BCAR	**Beaver Creek A**	**51.52**	**34**	P	**P**	**19 16 35.6**	**+0.4**
BARN	**Barnard Glacie**	**51.82**	**37**	P	**P**	**19 16 38.6**	**+0.9**
BARN				IAmb	IAmb	19 16 57.4	
	comp=Z,20nm,1.6s						
BRVK	**Borovoye**	**52.14**	**313**	P	**P**	**19 16 37.6**	**-2.4**
INK	**Inuvik**	**54.21**	**27**	P	**P**	**19 16 55.1**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=289,slow=5.6,SNR=4.2						
INK	**Inuvik**	**54.21**	**27**	P	**P**	**19 16 55.5**	**+0.6**
KKAR	**Karatay Array**	**54.73**	**301**	P	**P**	**19 16 58.0**	**-1.2**
WRA	**Warramunga Arr**	**56.72**	**190**	P	**P**	**19 17 11.3**	**-2.2**
	comp=Z,4.2nm,0.6s,baz=11,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**56.72**	**190**	P	**P**	**19 17 12.2**	**-1.2**
CHGR	**Chuyangaron**	**57.29**	**296**	P	**P**	**19 17 17.8**	**+0.2**
CHGR				IAmb	IAmb	19 17 31.4	
	comp=Z,9.3nm,0.7s						
C36M	**Paulatuk**	**57.32**	**25**	P	**P**	**19 17 17.6**	**+0.5**
ARU	**Arti**	**57.80**	**319**		**P**	**19 17 21.3**	**+0.5**
ARU				IAmb	IAmb	19 17 22.2	
	comp=Z,9.0nm,0.9s						
ABKAR	**Akbulak array**	**59.47**	**311**	P	**P**	**19 17 32.6**	**+0.1**
ABKAR	**Akbulak array**	**59.47**	**311**	P	**P**	**19 17 32.5**	**+0.1**
ASAR	**Alice Springs**	**60.45**	**190**	P	**P**	**19 17 38.7**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=9.2,slow=7.5,SNR=7.4						
RES	**Resolute Bay**	**62.78**	**15**	P	**P**	**19 17 55.1**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=314,slow=10,SNR=3.0						
RES	**Resolute Bay**	**62.78**	**15**	P	**P**	**19 17 55.0**	**+0.5**
YKA	**Yellowknife Ar**	**63.54**	**30**	P	**P**	**19 17 59.7**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=247,slow=13,SNR=2.4						
ARCES	**ARCESS Array B**	**65.07**	**340**	P	**P**	**19 18 10.3**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=51,slow=9.6,SNR=5.0						
GEYT	**Alibeck**	**65.45**	**300**	P	**P**	**19 18 12.8**	**+0.1**
STKA	**Stephens Creek**	**67.99**	**182**	LR	LR	19 47 04.2	
	comp=Z,17nm,21.8s,baz=27,slow=35						
FIA1	**FINESS Array S**	**70.03**	**333**	P	**P**	**19 18 40.5**	**-0.5**
FINES	**FINESS Array B**	**70.03**	**333**	P	**P**	**19 18 41.7**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=51,slow=6.1,SNR=7.7						
FINES				LR	LR	19 51 34.6	
	comp=Z,15nm,19.4s,baz=208,slow=38						
FINES	**FINESS Array B**	**70.03**	**333**	P	**P**	**19 18 42.0**	**+0.9**
SUMG	**Summit**	**71.26**	**1**	P	**P**	**19 18 50.0**	**+1.1**
SUMG				IAmb	IAmb	19 18 50.2	
	comp=Z,5.6nm,0.8s						
KBZ	**Khabaz**	**72.43**	**312**	P	**P**	**19 18 57.2**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=43,slow=18,SNR=3.9						
LRM	**Limekiln Ridge**	**73.49**	**45**	P	**P**	**19 19 02.7**	**+0.2**
DLMT	**Dillon**	**73.67**	**45**	P	**P**	**19 19 04.5**	**+1.0**
NVAR	**Mina Array Bea**	**74.11**	**54**	P	**P**	**19 19 06.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=288,slow=6.4,SNR=16						
NVAR	**Mina Array Bea**	**74.11**	**54**	P	**P**	**19 19 05.9**	**-0.3**
NC405	**NORSAR Array S**	**75.09**	**338**	P	**P**	**19 19 12.2**	**+0.9**
NC303	**NORSAR Array S**	**75.11**	**338**	P	**P**	**19 19 12.0**	**+0.6**
NC204	**NORSAR Array S**	**75.25**	**338**	P	**P**	**19 19 13.1**	**+0.9**
NB201	**NORSAR Array S**	**75.27**	**338**	P	**P**	**19 19 12.8**	**+0.5**
NB2	**NORSAR Subarra**	**75.30**	**338**	P	**P**	**19 19 13.2**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**75.30**	**338**	P	**P**	**19 19 12.9**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=38,slow=5.8,SNR=10						
AKASG	**Malin Array Be**	**75.68**	**323**	P	**P**	**19 19 15.7**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=40,slow=6.7,SNR=2.8						
AKASG	**Malin Array Be**	**75.68**	**323**	IAmb	IAmb	19 19 16.1	
	comp=Z,1.2nm,0.9s						
PDAR	**Pinedale Array**	**76.98**	**46**	P	**P**	**19 19 22.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=280,slow=2.8,SNR=5.5						
FRB	**Frobisher Bay**	**76.98**	**14**	P	**P**	**19 19 22.2**	**+0.3**
	comp=Z,6.1nm,0.5s,baz=326,slow=7.3,SNR=1.5						
BRTR	**Keskin Array B**	**80.37**	**313**	P	**P**	**19 19 41.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=30,slow=4.8,SNR=0.8						
BRTR				LR	LR	19 58 49.5	
	comp=Z,10nm,19.7s,baz=90,slow=38						
TXAR	**Lajitas Array**	**89.26**	**53**	P	**P**	**19 20 25.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=297,slow=3.3,SNR=7.9						
LPAZ	**La Paz**	**145.64**	**63**	PKPbc	**PKPdf**	**19 27 08.7**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=323,slow=5.1,SNR=4.6						

*NEIC **07** 19:13:42.9±2.0,7°.08S±0°.08×125°.0E±0°.1,h503km±10km, mb4.5/10,Error ellipse: s-maj=17.2km s-min=11.6km az=101.0*
*IDC **07** 19:13:43.5±1.2,7°.07S×124°.97E,h511km±16km,mb3.0/9, mb1 3.3/13,mb1mx3.1/37,mbtmp4.1/13,Error ellipse: s-maj=27.7km s-min=12.0km az=71.0*
*DJA **07** 19:13:43.9±0.3,7°.S±3°×12°.5E±°,h501km±4km,M4.2/12, mB4.8/4,mb4.3/12,MLv4.2/10,Mw(mB)4.1/4*
ISC 07 19:13:42.8±0.5,7°.15S±0°.05×124°.94E±0°.08,h500km,n41, σ1°40/53,mb3.5/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.67**	**194**	P	**P**	**19 14 52.6**	**+0.7**
SOEI				S	**S**	**19 15 49.9**	**+1.9**
SOEI	**Soe**	**2.67**	**194**	P	**P**	**19 14 53.9**	**+2.1**
SOEI				S	**S**	**19 15 47.4**	**-0.6**
MMRI	**Maumere**	**3.06**	**241**	P	**P**	**19 14 55.8**	**+1.6**
MMRI				S	**S**	**19 15 55.1**	**+2.8**
MMRI	**Maumere**	**3.06**	**241**	P	**P**	**19 14 55.0**	**+0.8**
MMRI				S	**S**	**19 15 54.6**	**+2.3**
BATI	**Baumata**	**3.29**	**202**	P	**P**	**19 14 57.7**	**+1.8**
	44nm,0.3s,baz=82,slow=1.8,SNR=97						
BATI				S	**S**	**19 15 53.8**	**-1.5**
	41nm,0.3s,baz=31,slow=19,SNR=7.4						
BATI	**Baumata**	**3.29**	**202**	P	**P**	**19 14 56.7**	**+0.8**
BATI				S	**S**	**19 15 53.7**	**-1.6**
NLAI	**Namlea**	**4.44**	**29**	P	**P**	**19 15 07.1**	**+2.1**
NLAI				S	**S**	**19 16 13.6**	**+1.8**
BKSI	**Bulukumba**	**5.12**	**290**	P	**P**	**19 15 12.0**	**+1.0**
	0.1nm17nm,1.0s						
SANI	**Sanana**	**5.17**	**12**	P	**P**	**19 15 13.4**	**+1.9**
	0.2nm85nm,0.9s						
BASI	**Baing, Sumba**	**5.28**	**234**	P	**P**	**19 15 12.8**	**+0.4**
	0.9nm2μm143nm,0.8s						
KAPI	**Kappang**	**5.58**	**292**	P	**P**	**19 15 17.7**	**+2.4**
	0.6nm,0.3s,baz=76,slow=12,SNR=4.3						
SPSI	**Sidrap Palu**	**6.04**	**301**	P	**P**	**19 15 22.3**	**+2.7**
	0.1nm39nm,0.7s						
KMSI	**Cibinong**	**7.73**	**353**	P	**P**	**19 15 37.6**	**+1.0**
	0.9nm3μm243nm,0.6s						
GTOI	**Gorontalo**	**7.97**	**346**	P	**P**	**19 15 42.2**	**+3.2**
	782nm71nm,0.9s						
MTN	**Manton Dam**	**8.32**	**133**	P	**P**	**19 15 44.2**	**+1.6**
FAKI	**Fak Fak**	**8.40**	**60**	P	**P**	**19 15 44.0**	**+0.5**
FAKI				S	S	19 17 18.5	-4.0
MPSI	**Mapaga**	**8.98**	**326**	P	**P**	**19 15 49.9**	**+0.4**
	26nm,1.3s						
KNRA	**Kununurra**	**9.26**	**156**	P	**P**	**19 15 54.2**	**+1.7**
FITZ	**

*IDC **07** 19:45:10.7±3.3,36°.31N×70°.86E,h184^{km}±31^{km},mb3.4/11, mb1 3.4/16,mb1mx3.2/45,mbtmp3.9/16,MS3.3/1, Ms1 3.3/1,ms1mx2.5/25,Error ellipse: s-maj=21.0km s-min=13.9km az=32.0*

*NEIC **07** 19:45:12.4±2.0,36°.53N±0°.06×70°.81E±0°.05,h198^{km}±5^{km}, mb4.5/22,Error ellipse: s-maj=8.6km s-min=5.2km az=168.0*

*NNC **07** 19:45:17.5±9.1,37°.01N×70°.67E,h174^{km}±139^{km},mb3.0, mpv3.8,Error ellipse: s-maj=87.3km s-min=52.6km az=2.0*

ISC 07 19:45:11.3±0.5,36°.52N±0°.05×70°.90E±0°.05,h188^{km},n76, σ1^{s}96/89,mb4.0/18,2C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.49**	**218**	Pn		**Pn**	**19 45 56.4**	**+1.8**
KBL				Sn		**Sn**	**19 46 28.4**	**+0.1**
GAR	**Garm**	**2.52**	**350**	Pn		**Pn**	**19 45 56.3**	**+1.6**
GAR				Sn		**Sn**	**19 46 27.8**	**-1.0**
CHGR	**Chuyangaron**	**2.54**	**328**	Pn		**Pn**	**19 45 56.3**	**+1.3**
CHGR				Sn		**Sn**	**19 46 28.3**	**-0.8**
CEP	**Cherat**	**2.82**	**163**	P		**P**	**19 46 00.2**	**+1.8**
CEP				S		**Sn**	**19 46 36.0**	**+1.0**
NIL	**Nilore**	**3.45**	**145**	Pn		**Pn**	**19 46 08.2**	**+2.3**
BTK	**Batken**	**3.53**	**359**	Pn		**Pn**	**19 46 09.0**	**+2.1**
BTK				Sn		**Sn**	**19 46 51.1**	**+0.7**
AML	**Almayashu**	**6.01**	**20**	P		**Pn**	**19 46 40.0**	**+1.2**
	SNR=12							
DHRM	**DHARAMSHALA**	**6.17**	**132**	*e*P		**Pn**	**19 46 43.0**	**+2.1**
DHRM				*e*S		**Sn**	**19 47 49.1**	**-2.4**
DHRM				IAML			19 47 51.5	
	comp=E,392nm,0.4s							
UCH	**Uchtor**	**6.35**	**25**	P		**Pn**	**19 46 44.3**	**+1.0**
	SNR=14							
EKS2	**Erkin-Say**	**6.52**	**19**	P		**Pn**	**19 46 46.8**	**+1.5**
	SNR=5.1							
KK31	**Karatay Array**	**6.58**	**358**	⇓P		**Pn**	**19 46 46.6**	**+0.7**
	comp=E,2.3nm,0.2s,baz=184,slow=13,SNR=148							
KK31				⇓S		**Sn**	**19 47 56.5**	**-4.3**
	comp=E,38nm,0.5s,baz=182,slow=22,SNR=7.7							
KK31	**Karatay Array**	**6.58**	**358**			**Pn**	**19 46 46.6**	**+0.7**
KKAR	**Karatay Array**	**6.58**	**358**			**Pn**	**19 46 46.6**	**+0.7**
KKAR	**Karatay Array**	**6.58**	**358**	Pn		**Pn**	**19 46 46.5**	**+0.6**
AAK	**Ala-Archa**	**6.71**	**23**	P		**Pn**	**19 46 49.3**	**+1.5**
	SNR=7.1							
AAK	**Ala-Archa**	**6.71**	**23**	⇓P		**Pn**	**19 46 49.3**	**+1.5**
	comp=E,1.8nm,0.3s							
AAK				⇓S		**Sn**	**19 48 03.1**	**-0.9**
	comp=E,9.6nm,0.3s							
BHK	**Bhakra**	**6.85**	**136**	*ex*		**Sn**	**19 48 07.0**	**-0.3**
BOOM	**Boomskoye usch**	**7.12**	**32**	Pn		**Pn**	**19 46 53.5**	**+0.4**
TKM2	**Tokmak 2**	**7.34**	**28**	P		**Pn**	**19 46 57.5**	**+1.4**
	SNR=7.6							
TKM2	**Tokmak 2**	**7.34**	**28**	⇑P		**Pn**	**19 46 57.0**	**+0.9**
	comp=E,5.3nm,0.8s							
TKM2				⇓S		**Sn**	**19 48 14.7**	**-4.4**
	comp=E,2.6nm,0.5s							
KDJ	**Kajisay**	**7.42**	**39**	Pn		**Pn**	**19 46 58.3**	**+1.3**
TARG	**Taragay, Kyrgy**	**7.47**	**44**	Pn		**Pn**	**19 46 56.2**	**-1.8**
SMLA	**Simla**	**7.49**	**134**	*e*P		**Pn**	**19 46 58.8**	**+0.9**
SMLA				*e*S		**Sn**	**19 48 18.4**	**-4.0**
SMLA				IAML			19 48 23.0	
	comp=E,200nm,0.1s							
DDI	**Dehra Dun**	**8.60**	**134**	*e*P		**Pn**	**19 47 13.2**	**+0.7**
DDI				*e*S		**Sn**	**19 48 43.7**	**-5.2**
KHET	**Khetri**	**9.39**	**152**	*e*P		**Pn**	**19 47 20.6**	**-2.2**
KHET				*e*S		**Sn**	**19 49 00.3**	**-7.4**
GEYT	**Alibeck**	**10.29**	**282**	P		**Pn**	**19 47 34.2**	**-0.3**
	comp=E,0.3nm,0.3s,baz=112,slow=11,SNR=10							
GEYT				S		**Sn**	**19 49 24.4**	**-4.7**
	comp=E,0.6nm,0.3s,baz=269,slow=28,SNR=3.1							
GEYT	**Alibeck**	**10.29**	**282**	Pn		**Pn**	**19 47 34.1**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**	Pn		**Pn**	**19 47 34.3**	**-0.2**
MAKZ	**Makanchi**	**13.18**	**35**	Pn		**Pn**	**19 48 11.8**	**+0.4**
MK31	**Makanchi Array**	**13.32**	**36**	Pn		**Pn**	**19 48 14.2**	**+1.0**
MKAR	**Makanchi Array**	**13.32**	**36**	P		**Pn**	**19 48 14.0**	**+0.8**
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=5.9							
MKAR	**Makanchi Array**	**13.32**	**36**	Pn		**Pn**	**19 48 12.7**	**-0.4**
BHPL	**Bhopal**	**14.39**	**155**	*i* P		**P**	**19 48 30.4**	**+2.1**
BHPL				*ex*		x	19 50 56.8	
AB31	**Akbulak array**	**15.03**	**331**	⇓P		**P**	**19 48 36.0**	**+0.9**
	comp=E,0.6nm,0.3s,baz=156,slow=11,SNR=12							
ABKAR	**Akbulak array**	**15.03**	**331**	P		**Pn**	**19 48 33.9**	**-0.2**
ABKAR	**Akbulak array**	**15.03**	**331**			**Pn**	**19 48 33.5**	**-0.7**
KURBB	**Kurchatov Arra**	**15.13**	**19**	P		**P**	**19 48 37.2**	**+1.0**
	comp=E,0.1nm,0.3s,baz=214,slow=8.6,SNR=10							
KURK	**Kurchatov**	**15.24**	**19**			**Pn**	**19 48 35.3**	**-1.4**
BVAR	**Borovoye Array**	**16.51**	**359**	P		**Pn**	**19 48 53.0**	**+1.0**
	comp=E,0.7nm,0.3s,baz=194,slow=18,SNR=8.9							
BRVK	**Borovoye**	**16.54**	**359**	P		**Pn**	**19 48 52.4**	**0.0**
AKTO	**Aktyubinsk**	**16.72**	**330**	P		**Pn**	**19 48 55.6**	**+1.0**
	comp=E,1.7nm,0.3s,baz=137,slow=11,SNR=28							
AKTO				S		**S**	**19 51 50.7**	**-7.8**
	comp=E,0.1nm,0.3s,baz=118,slow=17,SNR=1.5							
AKTO	**Aktyubinsk**	**16.72**	**330**	⇑P		**Pn**	**19 48 54.7**	**0.0**
	comp=E,6.4nm,0.6s							
LSA	**Lhasa**	**18.26**	**106**	Pn		**Pn**	**19 49 15.3**	**+1.7**
ZAA0	**Zalesovo Array**	**19.93**	**25**	P		**P**	**19 49 29.5**	**+1.0**
ZALV	**Zalesovo Beam**	**19.93**	**25**	P		**P**	**19 49 29.4**	**+1.0**
	comp=E,2.3nm,0.4s,baz=220,slow=11,SNR=16							
ZALV	**Zalesovo Beam**	**19.93**	**25**	P		**P**	**19 49 29.4**	**+0.9**
SHL	**Shillong**	**20.99**	**115**	P		**P**	**19 49 40.6**	**+0.3**
SHL				IAmb		IAmb	19 49 43.8	
	comp=E,11nm,1.1s							
ARU	**Arti**	**21.59**	**341**	P		**P**	**19 49 47.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=149,slow=8.3,SNR=4.9							
ARU	**Arti**	**21.59**	**341**	P		**P**	**19 49 46.8**	**+0.8**
ARU				IAmb		IAmb	19 49 49.3	
	comp=Z,10nm,1.2s							
CMAR	**Chiang Mai Arr**	**30.54**	**119**	P		**P**	**19 51 08.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=302,slow=10,SNR=3.6							
AKASG	**Malin Array Be**	**32.87**	**309**	P		**P**	**19 51 28.5**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=80,slow=7.4,SNR=4.2							
FIA1	**FINESS Array S**	**37.42**	**326**	P		**P**	**19 52 07.4**	**+1.5**
FINES	**FINESS Array B**	**37.42**	**326**	P		**P**	**19 52 07.3**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=124,slow=9.0,SNR=12							
FINES	**FINESS Array B**	**37.42**	**326**	P		**P**	**19 52 07.5**	**+1.6**
KEV	**Kevo**	**40.75**	**338**	P		**P**	**19 52 34.8**	**+1.4**
KEV				IAmb		IAmb	19 52 50.5	
	comp=Z,47nm,1.6s							
ARCES	**ARCESS Array B**	**41.09**	**338**	P		**P**	**19 52 37.9**	**+1.6**
	comp=Z,1.3nm,0.5s,baz=119,slow=8.5,SNR=15							
NC602	**NORSAR Array S**	**44.12**	**323**	P		**P**	**19 53 01.5**	**+0.8**
NC303	**NORSAR Array S**	**44.26**	**323**	P		**P**	**19 53 02.8**	**+1.0**
NC303				IAmb		IAmb	19 53 22.2	
	comp=Z,29nm,1.3s							
NB201	**NORSAR Array S**	**44.28**	**323**	P		**P**	**19 53 03.1**	**+1.1**
NB201				IAmb		IAmb	19 53 31.9	
	comp=Z,31nm,1.2s							
NB2	**NORSAR Subarra**	**44.31**	**323**	P		**P**	**19 53 03.0**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**	**19 53 03.1**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=97,slow=7.8,SNR=5.3							
NC204	**NORSAR Array S**	**44.55**	**323**	P		**P**	**19 53 05.3**	**+1.1**
NC204				IAmb		IAmb	19 53 20.9	
	comp=Z,29nm,1.3s							
MA2	**Magadan**	**54.40**	**38**	LR		LR	20 17 28.3	
	comp=Z,28nm,21.0s,baz=123,slow=36							
TOA0	**Torodi Ar. Sit**	**65.64**	**269**	P		**P**	**19 55 34.1**	**-1.4**
TOA0				IAmb		IAmb	19 55 35.0	
	comp=Z,4.4nm,1.1s							
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P		**P**	**19 55 34.2**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=48,slow=6.2,SNR=7.8							
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P		**P**	**19 55 34.5**	**-1.1**
KOWA	**Kowa**	**69.48**	**273**	P		**P**	**19 55 59.0**	**-0.7**
KOWA				IAmb		IAmb	19 56 27.2	
	comp=Z,7.7nm,1.6s							
TOLK	**Toolik Lake Re**	**70.92**	**15**	P		**P**	**19 56 08.2**	**+0.6**
IMAR	**Indian Mountai**	**72.18**	**18**	P		**P**	**19 56 15.8**	**+0.7**
PPLA	**Purkeypile**	**75.09**	**19**	P		**P**	**19 56 33.2**	**+1.0**
KNRA	**Kununurra**	**75.31**	**123**	P		**P**	**19 56 34.2**	**+0.2**
RND	**Reindeer**	**75.50**	**17**	P		**P**	**19 56 35.2**	**+0.7**
RND				IAmb		IAmb	19 56 35.3	
	comp=Z,6.0nm,0.5s							
RIDG	**Independent Ri**	**76.12**	**16**	P		**P**	**19 56 38.8**	**+0.8**
RIDG				IAmb		IAmb	19 56 60.0	
	comp=Z,17nm,1.6s							
YKA	**Yellowknife Ar**	**81.23**	**3**	P		**P**	**19 57 07.0**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=353,slow=5.4,SNR=1.5							
WRA	**Warramunga Arr**	**82.07**	**122**	P		**P**	**19 57 09.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=324,slow=5.0,SNR=22							
ASAR	**Alice Springs**	**84.33**	**125**	P		**P**	**19 57 21.6**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=311,slow=5.0,SNR=21							

IDC 07 20:01:15.4±1.7,8°.19S×149°.80E,h0^{km},mb3.6/3, mb1 3.8/4,mb1mx3.5/36,mbtmp3.5/4,ML1.3/1,Error ellipse: s-maj=90.7km s-min=28.6km az=138.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**2.88**	**245**	Pn		Pn	20 02 03.1	+0.5
	3.5nm,0.3s,baz=66,slow=19,SNR=7.2							
PMG				Sn		Sn	20 02 27.3	-11
	3.1nm,0.3s,baz=79,slow=8.1,SNR=2.3							
ASAR	**Alice Springs**	**21.65**	**223**	P		P	20 06 07.4	-0.3
	0.2nm,0.6s,baz=54,slow=9.4,SNR=4.5							
ILAR	**Eielson Array**	**86.40**	**23**	P		P	20 13 59.1	-0.4
	0.5nm,1.1s,baz=238,slow=5.2,SNR=1.7							
NVAR	**Mina Array Bea**	**96.51**	**52**	P		P	20 14 47.8	+0.3
	0.2nm,0.3s,baz=240,slow=5.1,SNR=1.6							

*MOS **07** 20:10:24.3±1.0,42°.65N×143°.58E,h127^{km},mb3.9/4,Error ellipse: s-maj=15.6km s-min=10.8km az=72.8*

*IDC **07** 20:10:25.1±2.6,42°.77N×143°.66E,h114^{km}±16^{km},mb3.5/8, mb1 3.6/8,mb1mx3.3/44,mbtmp3.9/8,Error ellipse: s-maj=28.0km s-min=23.2km az=144.0*

*NEIC **07** 20:10:25.6±2.5,42°.68N±0°.04×143°.5E±0°.1,h125^{km}±5^{km}, mb4.2/14,Error ellipse: s-maj=12.5km s-min=5.1km az=68.0*

*JMA **07** 20:10:26.4±0.1,42°.76N×143°.45E,h106^{km}±1^{km},M3.2*

*SKHL **07** 20:10:27.1±0.2,42°.86N×143°.63E,h121^{km}±13^{km},mb4.5/3, msh5.5/3*

ISC 07 20:10:24.9±0.6,42°.69N±0°.04×143°.53E±0°.03,h118^{km}±5^{km}, n76,σ1^{s}91/95,mb4.0/15,1C-1D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JCH	**Churui**	**0.15**	**240**	P		**Pn**	**20 10 41.2**	**+0.1**
JCH				*e*S		**Sn**	**20 10 51.7**	**-1.6**
JOB	**Onbets**	**0.31**	**46**	P		**Pn**	**20 10 42.2**	**+0.6**
JOB				*e*S		**Sn**	**20 10 54.0**	**-0.2**
JTHR	**Tokachihiroo**	**0.43**	**204**	P		**Pn**	**20 10 42.7**	**+0.5**
JTHR				*e*S		**Sn**	**20 10 54.6**	**-0.6**
JAR	**Ashorobuto**	**0.63**	**16**	P		**Pn**	**20 10 43.6**	**+0.1**
JAR				*e*S		**Sn**	**20 10 55.9**	**-1.7**
JNBK	**Urakawa-nobuka**	**0.71**	**235**	P		**Pn**	**20 10 45.0**	**+0.9**
JNBK				*e*S		**Sn**	**20 10 58.7**	**+0.2**
JEM	**Erimo**	**0.73**	**203**	P		**Pn**	**20 10 45.2**	**+0.9**
ERM	**Erimo**	**0.73**	**203**	PN		**Pn**	**20 10 45.9**	**+1.6**
ERM							20 10 59.1	
ERM	**Erimo**	**0.73**	**203**			**Pn**	**20 10 45.9**	**+1.6**
ERM				Sn		**Sn**	**20 10 59.1**	**+0.3**
JFR	**Furan**	**0.84**	**305**	P		**Pn**	**20 10 44.5**	**-0.7**
JBT2	**Biratori 2**	**0.87**	**276**	P		**Pn**	**20 10 45.5**	**+0.1**
JBT2				*e*S		**Sn**	**20 11 00.2**	**-0.8**
JAK	**Akkeshi**	**0.91**	**70**	P		**Pn**	**20 10 46.1**	**+0.3**
JAK				*e*S		**Sn**	**20 11 01.2**	**-0.4**
JAB	**Ashibetsu**	**1.26**	**311**	P		**Pn**	**20 10 49.5**	**+0.1**
JTKR	**Abashiri--Toko**	**1.31**	**12**	P		**Pn**	**20 10 49.8**	**-0.2**
JTKR				*e*S		**Sn**	**20 11 07.7**	**-1.3**
JKK2	**Kamakawa 2**	**1.31**	**334**	P		**Pn**	**20 10 50.0**	**-0.1**
JEW	**Eniwo**	**1.54**	**276**	P		**Pn**	**20 10 53.1**	**+0.4**
JEW				*e*S		**Sn**	**20 11 13.3**	**-0.5**
JEW	**Eniwo**	**1.54**	**276**			**Pn**	**20 10 53.2**	**+0.6**
JEW				Sn		**Sn**	**20 11 13.3**	**-0.5**
JKA	**Kamikawa-asahi**	**1.58**	**335**	*e*P		**Pn**	**20 10 53.4**	**+0.3**
JKA	**Kamikawa-asahi**	**1.58**	**335**			**Pn**	**20 10 53.5**	**+0.3**
JKA				Sn		**Sn**	**20 11 14.1**	**-0.5**
ASAJ	**Asahikawa**	**1.58**	**335**	P		**Pn**	**20 10 53.4**	**+0.3**
	35nm,0.3s,baz=183,slow=9.6,SNR=114							
ASAJ				S		**Sn**	**20 11 13.4**	**-1.2**
	6.8nm,0.3s,baz=90,slow=27,SNR=4.6							
ASAJ				LR		LR	20 11 41.0	
	comp=Z,73nm,18.5s,baz=148,slow=49							
JHR	**Hokuryu**	**1.69**	**309**	P		**Pn**	**20 10 54.8**	**+0.4**
JRA	**Rausu**	**1.70**	**42**	P		**Pn**	**20 10 55.3**	**+0.7**
JRA				*e*S		**Sn**	**20 11 17.9**	**+0.7**
NMR	**Nemuro--Hokkai**	**1.75**	**66**	*e*P		**Pn**	**20 10 54.8**	**-0.3**
NMR				*i* P		**Pn**	**20 10 54.8**	**-0.3**
NMR				*i* S		**Sn**	**20 11 15.7**	**-2.4**
NMR	**Nemuro--Hokkai**	**1.75**	**66**	⇑*i*PN		**Pn**	**20 10 54.8**	**-0.3**
NMR				*i* S		**Sn**	**20 11 16.7**	**-1.4**
NEM2	**Nemuro 2**	**1.75**	**67**	*e*S		**Sn**	**20 11 16.4**	**-1.9**
GLVR	**Golovnino**	**1.79**	**53**	*e*P		**Pn**	**20 10 57.0**	**+1.3**
GLVR				AMB		AMB	20 10 57.0	
	127nm,0.5s							
GLVR				*e*S		**Sn**	**20 11 19.3**	**+0.2**
GLVR				A		A	20 11 21.0	
	288nm,0.3s							
GLVR				A		A	20 11 21.0	
	858nm,0.3s							
GLVR	**Golovnino**	**1.79**	**53**	*e*PN		**Pn**	**20 10 56.9**	**+1.3**
GLVR				*e*S		**Sn**	**20 11 19.7**	**+0.6**
GLVR				pmax		pmax		
	comp=E,55nm,0.5s							
GLVR				pmax		pmax		
	comp=Z,127nm,0.5s							
GLVR				pmax		pmax		
	comp=N,59nm,0.3s							
GLVR				smax		smax		
	comp=N,288nm,0.3s							
GLVR				smax		smax		
	comp=E,858nm,0.3s							
GRPR	**Tuman**	**2.09**	**51**	*e*P		**Pn**	**20 11 00.5**	**+1.2**
GRPR				AMB		AMB	20 11 01.0	
	comp=E,70nm,0.2s							
GRPR				*e*S		**Sn**	**20 11 26.0**	**+0.3**
GRPR				A		A	20 11 28.0	
	comp=E,698nm,0.3s							
GRPR				A		A	20 11 28.0	
	comp=E,424nm,0.3s							
GRPR	**Tuman**	**2.09**	**51**	*e*PN		**Pn**	**20 11 00.3**	**+1.0**
GRPR				*e*S		**Sn**	**20 11 26.0**	**+0.3**
GRPR				pmax		pmax		
	comp=Z,70nm,0.2s							
GRPR				pmax		pmax		
	comp=E,37nm,0.1s							
GRPR				smax		smax		
	comp=N,698nm,0.3s							
GRPR				smax		smax		
	comp=E,424nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.17**	**51**	*i* P		**Pn**	**20 11 01.7**	**+1.4**
YUK				AMB		AMB	20 11 02.1	
	comp=E,73nm,0.2s							
YUK				*i* S		**Sn**	**20 11 27.8**	**+0.4**
YUK				A		A	20 11 31.0	
	comp=E,245nm,0.3s							
YUK				A		A	20 11 31.0	
	comp=E,448nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.17**	**51**	⇓*i*PN		**Pn**	**20 11 01.7**	**+1.4**
YUK				*i* S		**Sn**	**20 11 27.3**	**-0.1**
YUK				pmax		pmax		
	comp=Z,73nm,0.2s							
YUK				pmax		pmax		
	comp=E,4.0nm,0.1s							
YUK				smax		smax		
	comp=N,145nm,0.2s							
YUK				smax		smax		
	comp=E,348nm,0.4s							
JTM	**Tenmabayashi**	**2.65**	**225**	Pn		**Pn**	**20 11 07.2**	**+0.6**
JTM				Sn		**Sn**	**20 11 37.6**	**-0.9**
JMM	**Marumori**	**5.25**	**204**	Pn		**Pn**	**20 11 41.8**	**+0.5**
JMM				Sn		**Sn**	**20 12 38.6**	**-2.0**
JSD	**Sado**	**6.15**	**223**	Pn		**Pn**	**20 11 55.1**	**+1.8**
JYT	**Yasato**	**6.95**	**203**	Pn		**Pn**	**20 12 04.6**	**+0.5**
MJB9	**Matsu-Tunnel**	**7.38**	**216**	Pn		**Pn**	**20 12 10.6**	**+0.5**
MAJO	**Matsushiro**	**7.39**	**216**	PN		**Pn**	**20 12 09.8**	**-0.3**
MAJO	**Matsushiro**	**7.39**	**216**	Pn		**Pn**	**20 12 09.8**	**-0.3**
JGF	**Kuroka**	**8.55**	**216**	Pn		**Pn**	**20 12 26.9**	**+1.1**
INU	**Inuyama**	**8.91**	**217**	Pn		**Pn**	**20 12 32.7**	**+2.0**
JWT	**Wachi**	**9.73**	**223**	Pn		**Pn**	**20 12 42.2**	**+0.5**
JHJ2	**Mitsune**	**10.00**	**198**	Pn		**Pn**	**20 12 44.3**	**-1.1**
SEY	**Seymchan**	**20.93**	**11**	P		**P**	**20 14 56.7**	**-1.2**
	comp=E,3.8nm,0.5s,baz=164,slow=9.5,SNR=8.1							
SONM	**Songino Array**	**26.46**	**294**	P		**P**	**20 15 52.5**	**+1.5**
	comp=E,2.3nm,0.8s,baz=75,slow=9.1,SNR=9.0							
SONM	**Songino Array**	**26.46**	**294**	P		**P**	**20 15 52.5**	**+1.5**
TPUB	**Ta-pu**	**27.11**	**232**	P		**P**	**20 15 55.6**	**-1.2**
TPUB				IAmb		IAmb	20 16 12.2	
	comp=Z,34nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**30.20**	**132**	T		T	20 47 59.5	
	baz=327,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**30.21**	**132**	T		T	20 48 01.8	
	baz=327,slow=75,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**30.21**	**132**	T		T	20 48 00.8	
	baz=327,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**31.09**	**134**	T		T	20 49 06.6	
	baz=327,slow=76							
H11S3	**WAKE ISLAND Hy**	**31.09**	**134**	T		T	20 49 09.3	
	baz=327,slow=76							
H11S2	**WAKE ISLAND Hy**	**31.10**	**134**	T		T	20 49 14.5	
	baz=327,slow=76							
ZAA0	**Zalesovo Array**	**39.54**	**307**	P		**P**	**20 17 44.6**	**+0.6**
ZAA0				IAmb		IAmb	20 17 46.1	
	comp=Z,2.3nm,0.8s							
ZALV	**Zalesovo Beam**	**39.54**	**307**	P		**P**	**20 17 45.1**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=81,slow=9.2,SNR=8.5							
ZALV	**Zalesovo Beam**	**39.54**	**307**	P		**P**	**20 17 44.6**	**+0.6**
IMAR	**Indian Mountai**	**41.00**	**34**	P		**P**	**20 17 57.5**	**+1.6**
TOLK	**Toolik Lake Re**	**42.73**	**30**	P		**P**	**20 18 10.7**	**+0.7**
TOLK				IAmb		IAmb	20 18 24.3	
	comp=Z,11nm,1.4s							
MK31	**Makanchi Array**	**42.73**	**297**	P		**P**	**20 18 10.9**	**+0.6**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MK31	**Makanchi Array**	**42.73**	**297**	P		**P**	**20 18 10.9**	**+0.6**
MKAR	**Makanchi Array**	**42.73**	**297**	P		**P**	**20 18 11.1**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=85,slow=11,SNR=7.9							
MAKZ	**Makanchi**	**42.93**	**298**	P		**P**	**20 18 13.6**	**+1.7**
MAKZ				pmax		pmax		
	comp=Z,2.0nm,1.2s							
MAKZ	**Makanchi**	**42.93**	**298**	P		**P**	**20 18 13.6**	**+1.7**
ILAR	**Eielson Array**	**43.89**	**35**	P		**P**	**20 18 20.3**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=269,slow=6.3,SNR=2.3							
KURK	**Kurchatov**	**43.93**	**304**	*e*P		**P**	**20 18 20.2**	**+0.4**
KURK	**Kurchatov**	**43.93**	**304**	P		**P**	**20 18 20.2**	**+0.4**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**43.93**	**304**	P		**P**	**20 18 20.2**	**+0.4**
KURK				IAmb		IAmb	20 18 22.9	
	comp=Z,2.1nm,0.7s							
BRVK	**Borovoye**	**48.17**	**309**	*e*P		**P**	**20 18 54.4**	**+1.4**
BRVK	**Borovoye**	**48.17**	**309**	P		**P**	**20 18 54.4**	**+1.4**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**48.17**	**309**	P		**P**	**20 18 54.4**	**+1.4**
BRVK				IAmb		IAmb	20 18 56.3	
	comp=Z,1.8nm,0.7s							
SOEI	**Soe**	**55.09**	**203**	P		**P**	**20 19 42.8**	**-2.1**
HUH	**Hualalai**	**55.46**	**95**	P		**P**	**20 19 47.3**	**-0.5**
LHMI	**Lhok Sumawe**	**55.54**	**241**	P		**P**	**20 19 47.1**	**-1.0**
ABKAR	**Akbulak array**	**55.65**	**308**	P		**P**	**20 19 48.5**	**0.0**
ABKAR				IAmb		IAmb	20 19 53.0	
	comp=Z,1.4nm,0.6s							
ABKAR	**Akbulak array**	**55.65**	**308**	P		**P**	**20 19 49.5**	**+1.1**
RES	**Resolute Bay**	**56.72**	**16**	P		**P**	**20 19 55.0**	**-0.7**
	comp=Z,4.3nm,0.9s,baz=103,slow=4.9,SNR=3.9							
WRA	**Warramunga Arr**	**62.89**	**190**	P		**P**	**20 20 38.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=8.7,slow=6.6,SNR=2.2							
FINES	**FINESS Array B**	**64.59**	**332**	P		**P**	**20 20 48.8**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=35,slow=7.4,SNR=8.9							

*IDC **07** 20:21:23.8±1.4,21°.23S×171°.28E,h0^{km},mb3.8/6, mb1 4.2/8,mb1mx4.0/22,mbtmp4.0/8,ML4.4/2,MS4.0/28, Ms1 4.0/28,ms1mx4.0/34,Error ellipse: s-maj=38.9km s-min=24.6km az=159.0*

*NEIC **07** 20:21:27.9±2.4,21°.47S±0°.08×171°.47E±0°.08,h43^{km}±8^{km}, mb4.7/25,Error ellipse: s-maj=12.3km s-min=11.0km az=203.0*

*GCMT **07** 20:21:28.9±0.2,21°.32S±0°.01×171°.39E±0°.01,h17^{km}±1^{km}, MW5.0/

WRA	**Warramunga Arr**	**34.73**	**266**	P		**P**		**20**	**28**	**13.7**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=101,slow=7.8,SNR=20										
WRA				LR		LR		20	42	39.3	
	comp=Z,798nm,18.5s,baz=95,slow=37										
WRA	**Warramunga Arr**	**34.73**	**266**	P		**P**		**20**	**28**	**12.7**	**-2.1**
TBI	**Tubuai**	**36.08**	**101**	*e*LQ		LQ		20	36	30.6	
	comp=Z,633nm,31.2s										
TBI				*e*LR		LR		20	38	08.0	
	comp=Z,184nm,25.8s										
PPT2	**Papeete2**	**36.84**	**91**	*e*S		**S**		**20**	**34**	**13.0**	**-2.3**
	comp=Z,112nm,26.0s										
PPT2				*e*LQ		LQ		20	37	00.0	
	comp=Z,647nm,30.2s										
PPT2				*e*LR		LR		20	38	40.0	
	comp=Z,560nm,25.8s										
PPT	**Papeete**	**36.84**	**91**	LR		LR		20	39	19.6	
	comp=Z,311nm,20.4s,baz=306,slow=29										
KNRA	**Kununurra**	**40.81**	**271**	P		**P**		**20**	**29**	**08.4**	**+2.2**
H11N1	**WAKE ISLAND Hy**	**41.16**	**353**	T		T		21	13	02.4	
	baz=172,slow=76,SNR=9.8										
H11N3	**WAKE ISLAND Hy**	**41.16**	**353**	T		T		21	12	55.0	
	baz=172,slow=76,SNR=5.6										
H11N2	**WAKE ISLAND Hy**	**41.18**	**353**	T		T		21	12	55.1	
	baz=172,slow=76,SNR=4.6										
FITZ	**Fitzroy Crossi**	**43.16**	**266**	P		**P**		**20**	**29**	**25.7**	**+0.4**
FITZ				IAmb		IAmb		20	29	33.1	
	comp=Z,13nm,0.9s										
TAOE	**Nuku Hiva Isla**	**48.15**	**83**	*e*LR		LR		20	43	51.3	
	comp=Z,572nm,27.9s										
VNDA	**Vanda**	**56.31**	**183**	LR		LR		20	51	09.1	
	comp=Z,222nm,21.9s,baz=10.0,slow=32										
CASY	**Casey**	**58.97**	**204**	P		**P**		**20**	**31**	**23.1**	**-0.2**
CASY				IAmb		IAmb		20	31	30.8	
	comp=Z,10nm,1.5s										
MJAR	**Matsushiro Arr**	**65.69**	**331**	P		**P**		**20**	**32**	**06.5**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=142,slow=6.2,SNR=2.1										
MJAR				LR		LR		20	58	51.5	
	comp=Z,42nm,20.6s,baz=140,slow=34										
JNU	**Nakatsue**	**66.69**	**324**	LR		LR		20	57	32.3	
	comp=Z,52nm,21.1s,baz=66,slow=33										
QSPA	**South Pole Qui**	**68.61**	**180**	P		**P**		**20**	**32**	**27.5**	**+0.5**
QSPA				IAmb		IAmb		20	32	36.0	
	comp=Z,7.8nm,1.2s										
KSRS	**Korea Array**	**71.52**	**325**	LR		LR		21	02	17.0	
	comp=Z,53nm,19.7s,baz=150,slow=34										
NJ2	**Nanjing**	**73.26**	**315**	*e*P		**P**		**20**	**32**	**56.0**	**+0.5**
NJ2				pmax		pmax					
	comp=Z,13nm,0.5s										
USRK	**Ussuriysk Ar.**	**74.67**	**332**	LR		LR		21	01	08.3	
	comp=Z,89nm,21.8s,baz=120,slow=32										
PSI	**Prapat**	**74.86**	**279**	LR		LR		21	08	25.1	
	comp=Z,76nm,19.1s,baz=268,slow=38										
PETK	**Petropavlovsk-**	**75.21**	**351**	LR		LR		21	00	04.8	
	comp=Z,293nm,21.9s,baz=139,slow=31										
MAW	**Mawson**	**77.18**	**202**	LR		LR		21	04	57.4	
	comp=Z,50nm,18.0s,baz=66,slow=34										
HHC	**Hu-ho-hao-te**	**83.27**	**319**	*e*P		**P**		**20**	**33**	**51.4**	**+0.5**
HHC				pmax		pmax					
	comp=Z,23nm,1.2s										
HHC				pmax		pmax					
	comp=Z,100nm,7.4s										
SEY	**Seymchan**	**85.45**	**351**	LR		LR		21	06	19.2	
	comp=Z,354nm,21.4s,baz=160,slow=32										
LZH	**Lanzhou**	**85.77**	**311**	*e*P		**P**		**20**	**34**	**04.0**	**+0.3**
LZH				pP		pwP		20	34	17.4	-0.4
LZH				sP		sP		20	34	22.8	+5.3
LZH				pmax		pmax					
	comp=Z,18nm,1.3s										
SNAA	**Sanae**	**87.04**	**182**	P		**P**		**20**	**34**	**08.9**	**-0.4**
VNA3	**Neumayer Olymp**	**87.55**	**180**	P		**P**		**20**	**34**	**11.2**	**-0.5**
NVAR	**Mina Array Bea**	**88.71**	**48**	P		**P**		**20**	**34**	**20.6**	**+2.7**
	comp=Z,0.1nm,0.4s,baz=219,slow=7.0,SNR=2.2										
NVAR				LR		LR		21	06	14.2	
	comp=Z,76nm,21.4s,baz=254,slow=30										
YAK	**Yakutsk**	**89.62**	**342**	LR		LR		21	08	29.8	
	comp=Z,101nm,21.7s,baz=104,slow=32										
GTA	**Gaotai**	**90.17**	**313**	*e*P		P		20	34	29.1	+4.4
GTA				pP		pwP		20	34	41.3	+2.5
GTA				sP		sP		20	34	46.4	+7.9
GTA				pmax		pmax					
	comp=Z,1.0nm,1.0s										
GTA				LR		LR					
	comp=N,570nm,14.9s										
GTA				LR		LR					
	comp=E,380nm,14.5s										
GTA				LR		LR					
	comp=Z,540nm,17.4s										
SONM	**Songino Array**	**90.25**	**322**	P		**P**		**20**	**34**	**26.6**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=90,slow=4.8,SNR=2.1										
SONM				LR		LR		21	14	14.6	
	comp=Z,43nm,19.9s,baz=81,slow=35										
SONM	**Songino Array**	**90.25**	**322**	P		**P**		**20**	**34**	**24.0**	**-0.8**
ILAR	**Eielson Array**	**91.73**	**17**	LR		LR		21	09	42.7	
	comp=Z,94nm,19.9s,baz=234,slow=32										
H03S2	**Juan Fernandez**	**93.35**	**128**	T		T		22	18	23.0	
	baz=239,slow=74,SNR=3.8										
H03S1	**Juan Fernandez**	**93.36**	**128**	T		T		22	18	24.2	
	baz=239,slow=74,SNR=4.5										
H03S3	**Juan Fernandez**	**93.36**	**128**	T		T		22	18	26.1	
	baz=239,slow=74,SNR=5.0										
TLY	**Talaya**	**93.77**	**325**	LR		LR		21	13	57.2	
	comp=Z,48nm,21.9s,baz=128,slow=34										
PLCA	**Paso Flores**	**95.48**	**138**	LR		LR		21	09	56.6	
	comp=Z,51nm,18.5s,baz=172,slow=30										
TXAR	**Lajitas Array**	**95.98**	**61**	LR		LR		21	11	08.4	
	comp=Z,64nm,18.9s,baz=0.0,slow=31										
PDAR	**Pinedale Array**	**96.58**	**47**	LR		LR		21	13	38.3	
	comp=Z,51nm,18.8s,baz=294,slow=32										
INK	**Inuvik**	**97.98**	**18**	LR		LR		21	13	11.0	
	comp=Z,92nm,21.5s,baz=214,slow=32										
DPC	**Dobruska-Polom**	**145.16**	**332**	*e*PKP		**PKiKP**		**20**	**41**	**09.9**	**+4.5**
KHC	**Kasperske Hory**	**147.26**	**333**	*e*PKP		**PKiKP**		**20**	**41**	**10.0**	**+0.3**
KHC				*ep*PKP		**pPKPab**		**20**	**41**	**18.0**	**-1.4**
GERES	**GERESS Array B**	**147.43**	**332**	PKPbc		**PKPbc**		**20**	**41**	**07.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=90,slow=2.9,SNR=2.4										

BUC ***07*** *20:34:33.3±0.3, 45°.69N×26°.65E, h136km±2km, ml3.7/39, Error ellipse: s-maj=1.9km s-min=1.7km az=137.0*

ISC 07 20:34:32.7±1.4**, 45°.72N**±0°.03**×26°.67E**±0°.03**, h142**km±7km**, n104,** σ**0°92**/137**, 63C-70D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.13**	**354**	⇓P			**Pn**	**20 34 51.7**	**-0.2**
PLOR				⇓S			**Sn**	**20 35 05.4**	**-1.3**
PLOR	**Plostina**	**0.13**	**354**	⇓P			**Pn**	**20 34 51.7**	**-0.2**
VRI	**Vrincioaia**	**0.15**	**16**	⇑P			**Pn**	**20 34 52.1**	**+0.1**
VRI				⇓S			**Sn**	**20 35 05.5**	**-1.2**
VRI	**Vrincioaia**	**0.15**	**16**	⇑P			**Pn**	**20 34 52.1**	**+0.1**
BISRR	**Bisoca**	**0.17**	**170**	⇓P			**Pn**	**20 34 52.4**	**+0.3**
BISRR				⇓S			**Sn**	**20 35 07.2**	**+0.5**
BISRR	**Bisoca**	**0.17**	**170**	⇓P			**Pn**	**20 34 52.4**	**+0.3**
ODBI	**Odobesti**	**0.28**	**81**	⇑P			**Pn**	**20 34 52.7**	**+0.5**
ODBI				⇑S			**Sn**	**20 35 07.6**	**+0.6**
ODBI	**Odobesti**	**0.28**	**81**	⇑P			**Pn**	**20 34 52.7**	**+0.5**
NEHR	**Nehoiu**	**0.39**	**222**	⇓P			**Pn**	**20 34 53.0**	**+0.2**
NEHR				⇑S			**Sn**	**20 35 07.8**	**-0.1**
NEHR	**Nehoiu**	**0.39**	**222**	⇓P			**Pn**	**20 34 53.0**	**+0.2**
PETR	**Petresti**	**0.39**	**89**	⇓P			**Pn**	**20 34 53.2**	**+0.5**
PETR				⇓S			**Sn**	**20 35 08.1**	**+0.3**
PETR	**Petresti**	**0.39**	**89**	⇓P			**Pn**	**20 34 53.2**	**+0.5**
GRER		**0.40**	**148**	⇓P			**Pn**	**20 34 53.8**	**+1.0**
GRER		**0.40**	**148**	⇓P			**Pn**	**20 34 53.8**	**+1.0**
MLR	**Muntele Rosu**	**0.56**	**246**	⇓P			**Pn**	**20 34 53.7**	**0.0**
MLR				⇑S			**Sn**	**20 35 09.0**	**-0.5**
MLR	**Muntele Rosu**	**0.56**	**246**	⇓P			**Pn**	**20 34 53.7**	**0.0**
ISR	**Istrita**	**0.61**	**188**	⇑P			**Pn**	**20 34 54.5**	**+0.6**
ISR				⇑S			**Sn**	**20 35 09.4**	**-0.5**
ISR	**Istrita**	**0.61**	**188**	⇑P			**Pn**	**20 34 54.5**	**+0.6**
GHRR		**0.62**	**56**	⇓P			**Pn**	**20 34 54.3**	**+0.5**
GHRR				⇓S			**Sn**	**20 35 10.7**	**+0.8**
GHRR		**0.62**	**56**	⇓P			**Pn**	**20 34 54.3**	**+0.5**
TUDR		**0.71**	**100**	⇓P			**Pn**	**20 34 54.9**	**+0.5**
TUDR				⇑S			**Sn**	**20 35 11.0**	**+0.1**
TUDR		**0.71**	**100**	⇓P			**Pn**	**20 34 54.9**	**+0.5**
OZUR		**0.72**	**302**	⇑P			**Pn**	**20 34 54.1**	**-0.5**
OZUR		**0.72**	**302**	⇑P			**Pn**	**20 34 54.1**	**-0.5**
TESR	**Tescani**	**0.79**	**359**	⇓P			**Pn**	**20 34 54.7**	**-0.4**
TESR	**Tescani**	**0.79**	**359**	⇓P			**Pn**	**20 34 54.7**	**-0.4**
SECR		**0.81**	**212**	⇓P			**Pn**	**20 34 55.7**	**+0.5**
SECR		**0.81**	**212**	⇓P			**Pn**	**20 34 55.7**	**+0.5**
PGOR	**Pogoanele**	**0.84**	**165**	⇑P			**Pn**	**20 34 55.8**	**+0.4**
PGOR				⇓S			**Sn**	**20 35 12.8**	**+0.2**
PGOR	**Pogoanele**	**0.84**	**165**	⇑P			**Pn**	**20 34 55.8**	**+0.4**
SCHL	**Schela**	**0.84**	**105**	⇑P			**Pn**	**20 34 55.8**	**+0.4**
SCHL				⇑S			**Sn**	**20 35 12.3**	**-0.4**
SCHL	**Schela**	**0.84**	**105**	⇑P			**Pn**	**20 34 55.8**	**+0.4**
VARL	**Varlezi**	**0.84**	**77**	⇑P			**Pn**	**20 34 55.8**	**+0.4**
VARL				⇑S			**Sn**	**20 35 12.2**	**-0.5**
VARL	**Varlezi**	**0.84**	**77**	⇑P			**Pn**	**20 34 55.8**	**+0.4**
BIR	**Birlad**	**0.86**	**50**	⇓P			**Pn**	**20 34 56.1**	**+0.5**
BIR				⇓S			**Sn**	**20 35 12.7**	**-0.3**
BIR	**Birlad**	**0.86**	**50**	⇓P			**Pn**	**20 34 56.1**	**+0.5**
PLAR	**PLOIESTI**	**0.92**	**210**	⇓S			**Pn**	**20 35 14.2**	**+0.4**
PLAR	**PLOIESTI**	**0.92**	**210**	⇓S			**Sn**	**20 35 14.2**	**+0.4**
DOPR	**Dopca**	**0.93**	**286**	⇑P			**Pn**	**20 34 56.0**	**-0.1**
DOPR				⇑S			**Sn**	**20 35 13.4**	**-0.6**
DOPR	**Dopca**	**0.93**	**286**	⇑P			**Pn**	**20 34 56.0**	**-0.1**
GISR	**Galati**	**1.01**	**106**	⇑S			**Sn**	**20 35 15.1**	**0.0**
GISR	**Galati**	**1.01**	**106**	⇑S			**Sn**	**20 35 15.1**	**0.0**
SULR		**1.08**	**196**	⇓P			**Pn**	**20 34 57.9**	**+0.4**
SULR				⇑S			**Sn**	**20 35 16.6**	**+0.3**
SULR		**1.08**	**196**	⇓P			**Pn**	**20 34 57.9**	**+0.4**
GIUM	**Giurgiulesti**	**1.11**	**102**	⇑S			**Sn**	**20 35 16.4**	**-0.2**
GIUM	**Giurgiulesti**	**1.11**	**102**	⇑S			**Sn**	**20 35 16.4**	**-0.2**
CFR	**Carcaliu**	**1.17**	**117**	⇑P			**Pn**	**20 34 58.7**	**+0.4**
CFR				⇓S			**Sn**	**20 35 17.0**	**-0.7**
CFR	**Carcaliu**	**1.17**	**117**	⇑P			**Pn**	**20 34 58.7**	**+0.4**
VOIR		**1.17**	**257**	⇓P			**Pn**	**20 34 58.2**	**-0.2**
VOIR				⇓S			**Sn**	**20 35 17.0**	**-1.0**
VOIR		**1.17**	**257**	⇓P			**Pn**	**20 34 58.2**	**-0.2**
AMRR	**Amara**	**1.21**	**157**	⇑P			**Pn**	**20 34 59.1**	**+0.5**
AMRR				⇑S			**Sn**	**20 35 18.7**	**+0.3**
AMRR	**Amara**	**1.21**	**157**	⇑P			**Pn**	**20 34 59.1**	**+0.5**
VASR	**Vaslui**	**1.21**	**40**	⇑P			**Pn**	**20 34 59.1**	**+0.5**
VASR				⇑S			**Sn**	**20 35 17.9**	**-0.6**
VASR	**Vaslui**	**1.21**	**40**	⇑P			**Pn**	**20 34 59.1**	**+0.5**
MTUR	**Matau**	**1.23**	**247**	⇓P			**Pn**	**20 34 59.4**	**+0.3**
MTUR	**Matau**	**1.23**	**247**	⇓P			**Pn**	**20 34 59.4**	**+0.3**
GIRR	**Girov**	**1.24**	**355**	⇓P			**Pn**	**20 34 59.4**	**+0.4**
GIRR	**Girov**	**1.24**	**355**	⇓P			**Pn**	**20 34 59.4**	**+0.4**
LEHL	**Lehliu**	**1.25**	**175**	⇑P			**Pn**	**20 34 59.7**	**+0.6**
LEHL				⇑S			**Sn**	**20 35 19.4**	**+0.2**
LEHL	**Lehliu**	**1.25**	**175**	⇑P			**Pn**	**20 34 59.7**	**+0.6**
BIZ	**Bicaz**	**1.28**	**342**	⇓P			**Pn**	**20 35 00.2**	**+0.9**
BIZ				⇑S			**Sn**	**20 35 19.2**	**-0.6**
BIZ	**Bicaz**	**1.28**	**342**	⇓P			**Pn**	**20 35 00.2**	**+0.9**
HARR	**Harsova**	**1.36**	**139**	⇓P			**Pn**	**20 35 00.4**	**+0.2**
HARR	**Harsova**	**1.36**	**139**	⇓P			**Pn**	**20 35 00.4**	**+0.2**
BUC1	**Bucharest**	**1.45**	**199**	⇑P			**Pn**	**20 35 01.5**	**+0.4**
BUC1				⇑S			**Sn**	**20 35 22.6**	**-0.1**
BUC1	**Bucharest**	**1.45**	**199**	⇑P			**Pn**	**20 35 01.5**	**+0.4**
ARR	**Arges**	**1.47**	**257**	⇓P			**Pn**	**20 35 01.6**	**+0.2**
ARR				⇑S			**Sn**	**20 35 23.3**	**-0.1**
ARR	**Arges**	**1.47**	**257**	⇓P			**Pn**	**20 35 01.6**	**+0.2**
TLBR	**Topalu**	**1.53**	**140**	⇑P			**Pn**	**20 35 01.6**	**-0.3**
TLBR				⇑S			**Sn**	**20 35 23.3**	**-0.9**
TLBR	**Topalu**	**1.53**	**140**	⇑P			**Pn**	**20 35 01.6**	**-0.3**
SGRR	**Singureni**	**1.58**	**198**	⇑P			**Pn**	**20 35 02.4**	**-0.1**
SGRR				⇑S			**Sn**	**20 35 24.2**	**-1.1**
SGRR	**Singureni**	**1.58**	**198**	⇑P			**Pn**	**20 35 02.4**	**-0.1**
TLCR		**1.60**	**109**	⇑P			**Pn**	**20 35 02.1**	**-0.6**
TLCR				⇑S			**Sn**	**20 35 25.6**	**-0.1**
TLCR		**1.60**	**109**	⇑P			**Pn**	**20 35 02.1**	**-0.6**
PRAR	**RASCA**	**1.67**	**350**	⇓P			**Pn**	**20 35 04.2**	**+0.7**
PRAR	**RASCA**	**1.67**	**350**	⇓P			**Pn**	**20 35 04.2**	**+0.7**
HUMR	**Humele**	**1.69**	**226**	⇑P			**Pn**	**20 35 03.5**	**-0.2**
HUMR				⇑S			**Sn**	**20 35 26.0**	**-1.4**
HUMR	**Humele**	**1.69**	**226**	⇑P			**Pn**	**20 35 03.5**	**-0.2**
CVDA	**Cernavoda**	**1.69**	**145**	⇓S			**Sn**	**20 35 27.6**	**0.0**
CVDA	**Cernavoda**	**1.69**	**145**	⇓S			**Sn**	**20 35 27.6**	**0.0**
TIRR	**Tirgusor**	**1.77**	**135**	⇓P			**Pn**	**20 35 05.0**	**+0.4**
TIRR				⇓S			**Sn**	**20 35 28.2**	**-0.8**
TIRR	**Tirgusor**	**1.77**	**135**	⇓P			**Pn**	**20 35 05.0**	**+0.4**
ICOR	**Ion Corvin**	**1.79**	**153**	⇑S			**Sn**	**20 35 29.7**	**+0.1**
ICOR	**Ion Corvin**	**1.79**	**153**	⇑S			**Sn**	**20 35 29.7**	**+0.1**
COPA	**Copaceanca**	**1.89**	**214**	⇓P			**Pn**	**20 35 05.9**	**-0.1**
COPA				⇑S			**Sn**	**20 35 30.3**	**-1.3**
COPA	**Copaceanca**	**1.89**	**214**	⇓P			**Pn**	**20 35 05.9**	**-0.1**
MILM	**Milestii Mici**	**1.91**	**50**	⇑P			**Pn**	**20 35 06.6**	**+0.4**
MILM	**Milestii Mici**	**1.91**	**50**	⇑P			**Pn**	**20 35 06.6**	**+0.4**
KIS	**Kishinev**	**1.96**	**49**	*e*P			**Pn**	**20 35 06.6**	**-0.3**
	50nm,0.3s								
KIS				*i* S			**Sn**	**20 35 30.6**	**-2.5**
	2µm,0.3s								
KIS	**Kishinev**	**1.96**	**49**	⇓P			**Pn**	**20 35 07.3**	**+0.5**
KIS	**Kishinev**	**1.96**	**49**	⇓P			**Pn**	**20 35 07.3**	**+0.5**
BURAR	**Bucovina Array**	**2.14**	**333**	⇓P			**Pn**	**20 35 10.9**	**+1.8**
BURAR	**Bucovina Array**	**2.14**	**333**	⇓P			**Pn**	**20 35 10.9**	**+1.8**
RAZG	**Razgrad**	**2.16**	**183**	⇑S			**Sn**	**20 35 35.6**	**-1.7**
RAZG	**Razgrad**	**2.16**	**183**	⇑S			**Sn**	**20 35 35.6**	**-1.7**
ZIMR		**2.26**	**205**	⇑S			**Sn**	**20 35 37.7**	**-1.8**
ZIMR		**2.26**	**205**	⇑S			**Sn**	**20 35 37.7**	**-1.8**
VLAD	**Vladila**	**2.36**	**224**	⇓P			**Pn**	**20 35 11.2**	**-0.4**
VLAD	**Vladila**	**2.36**	**224**	⇓P			**Pn**	**20 35 11.2**	**-0.4**
SZH	**Strazhica**	**2.51**	**192**	*e*P			**Pn**	**20 35 13.2**	**-0.4**
SZH				*e*S			**Sn**	**20 35 52.4**	**+7.4**
SORM	**Soroca**	**2.68**	**25**	⇓P			**Pn**	**20 35 15.6**	**0.0**
SORM	**Soroca**	**2.68**	**25**	⇓P			**Pn**	**20 35 15.6**	**0.0**
GZR	**Gura Zlata**	**2.75**	**265**	⇑P			**Pn**	**20 35 17.3**	**+0.6**
GZR				⇓S			**Sn**	**20 35 50.9**	**+0.4**
GZR	**Gura Zlata**	**2.75**	**265**	⇑P			**Pn**	**20 35 17.3**	**+0.6**

IDC ***07*** *20:49:55.0±2.2, 21°.17S×171°.27E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/42, mbtmp4.1/6, ML3.8/2, MS3.5/16, Ms1 3.5/16, ms1mx3.4/33, Error ellipse: s-maj=51.1km s-min=34.9km az=10.0*

NEIC ***07*** *20:49:57.4±1.9, 21°.18S±0°.10×171°.48E±0°.10, h31km±7km, mb4.5/8, Error ellipse: s-maj=16.4km s-min=10.7km az=220.0*

ISC 07 20:49:58.9±1.0**, 21°.1S**±0°.1×**171°.40E**±0°.09**, h35**km**, n31,** σ**1°31**/21**, mb4.1/7, MS3.6**/12**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.71**	**258**	Pn			**Pn**	**20 51 07.0**	**-0.5**
	4.3nm,0.3s,baz=119,slow=16,SNR=39								
DZM				Sn			**Sn**	**20 51 58.9**	**-2.1**
	baz=203,slow=22,SNR=0.8								
DZM				LR		LR		20 52 03.2	
	comp=Z,102nm,20.7s,baz=68,slow=28								
DZM	**Mont Dzumac**	**4.71**	**258**				**Pn**	**20 51 07.4**	**-0.2**
SANVU	**Saraoutou**	**6.91**	**324**	Pn			**Pn**	**20 51 37.9**	**+0.2**
HNR	**Honiara**	**16.02**	**315**	LR		LR		20 59 05.3	
	comp=Z,175nm,20.0s,baz=142,slow=34								
AFI	**Afiamalu**	**17.57**	**69**	LR		LR		21 00 02.1	
	comp=Z,26nm,19.0s,baz=18,slow=34								
NIUE	**Niue**	**17.66**	**87**	P			**Pn**	**20 54 00.5**	**-1.8**
URZ	**Urewera**	**17.78**	**165**	P			**Pn**	**20 54 04.4**	**+0.8**
	0.3nm,0.3s,baz=15,slow=8.4,SNR=6.0								
URZ				LR		LR		20 59 09.9	
	comp=Z,299nm,21.2s,baz=31,slow=31								
URZ	**Urewera**	**17.78**	**165**	P			**Pn**	**20 54 03.7**	**+0.1**
URZ				IAmb		IAmb		20 54 06.7	
	comp=Z,27nm,1.0s								
EIDS	**Eidsvold**	**19.14**	**253**	P			**Pn**	**20 54 23.3**	**+3.0**
THZ	**Tophouse**	**20.62**	**177**	Pn			**P**	**20 54 35.7**	**+0.4**
THZ				IAmb		IAmb		20 54 51.2	
	comp=Z,106nm,1.6s								
RPZ	**Rata Peaks**	**22.53**	**181**	LR		LR		21 01 46.3	
	comp=Z,230nm,21.5s,baz=309,slow=32								
CTA	**Charters Tower**	**23.55**	**268**	P			**P**	**20 55 07.5**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=73,slow=8.8,SNR=1.6								
PMG	**Port Moresby**	**26.08**	**293**	LR		LR		21 04 25.1	
	comp=Z,119nm,18.1s,baz=95,slow=34								
RAR	**Rarotonga**	**26.87**	**95**	LR		LR		21 05 17.1	
	comp=Z,95nm,18.1s,baz=345,slow=34								
STKA	**Stephens Creek**	**28.66**	**242**	LR		LR		21 05 57.4	
	comp=Z,63nm,19.0s,baz=92,slow=34								
WR0	**Warramunga Arr**	**34.49**	**265**				**P**	**20 56 41.7**	**-2.2**
WR0				IAmb		IAmb		20 56 51.0	
	comp=Z,3.8nm,0.9s								
WC3	**Warramunga Arr**	**34.64**	**265**	P			**P**	**20 56 44.3**	**-0.9**
WB0	**Warramunga Arr**	**34.65**	**266**	P			**P**	**20 56 44.1**	**-1.2**
WB0				IAmb		IAmb		20 56 51.8	
	comp=Z,6.4nm,1.1s								
WB2	**Warramunga Arr**	**34.67**	**265**	P			**P**	**20 56 45.3**	**-0.2**
WB2				IAmb		IAmb		20 57 13.3	
	comp=Z,10nm,1.4s								
WRA	**Warramunga Arr**	**34.68**	**265**	P			**P**	**20 56 44.0**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=100,slow=8.1,SNR=10								
WRA				LR		LR		21 10 59.8	
	comp=Z,144nm,18.6s,baz=105,slow=37								
WRA	**Warramunga Arr**	**34.68**	**265**	P			**P**	**20 56 45.2**	**-0.4**
ASAR	**Alice Springs**	**34.70**	**259**	P			**P**	**20 56 45.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=90,slow=8.8,SNR=6.9								
ASAR				LR		LR		21 10 10.4	
	comp=Z,96nm,18.7s,baz=88,slow=35								
ASAR	**Alice Springs**	**34.70**	**259**	P			**P**	**20 56 45.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**43.10**	**266**	P			**P**	**20 57 56.7**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=75,slow=8.1,SNR=4.8								
FITZ				LR		LR		21 16 00.2	
	comp=Z,113nm,19.0s,baz=104,slow=36								
FITZ	**Fitzroy Crossi**	**43.10**	**266**	P			**P**	**20 57 55.8**	**-0.2**
JCJ	**Chichijima**	**55.66**	**328**	LR		LR		21 20 08.2	
	comp=Z,140nm,21.2s,baz=128,slow=33								
VNDA	**Vanda**	**56.63**	**182**	LR		LR		21 20 02.2	
	comp=Z,30nm,21.8s,baz=332,slow=32								
JNU	**Nakatsue**	**66.38**	**323**	LR		LR		21 25 01.5	
	comp=Z,40nm,19.5s,baz=298,slow=32								
PETK	**Petropavlovsk-**	**74.87**	**351**	LR		LR		21 27 49.8	
	comp=Z,66nm,20.1s,baz=128,slow=30								
PLCA	**Paso Flores**	**95.78**	**138**	LR		LR		21 36 56.0	
	comp=Z,16nm,21.0s,baz=157,slow=29								
GERES	**GERESS Array B**	**147.10**	**333**	PKPbc			**PKPbc**	**21 09 39.1**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=52,slow=6.4,SNR=1.5								

IDC ***07*** *20:53:29.9±3.7, 9°.60N×126°.13E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/60, mbtmp3.4/3, Error ellipse: s-maj=305.0km s-min=28.7km az=65.0*

MAN ***07*** *20:53:35.7, 9°.50N×126°.29E, h18km, mb4.4, ML3.2,

GEYT					S		**S**	**21 07 47.7**	**-1.5**
	0.5nm,0.3s,baz=198,slow=14,SNR=1.6									
GYA0B	**ALIBECK ARRAY**	**9.62**	**282**		Pn		**Pn**	**21 06 01.8**	**+0.5**
MAKZ	**Makanchi**	**13.56**	**37**		Pn		**Pn**	**21 06 50.7**	**-0.4**
MK31	**Makanchi Array**	**13.71**	**38**		Pn		**Pn**	**21 06 52.3**	**-0.6**
MKAR	**Makanchi Array**	**13.71**	**38**		P		**Pn**	**21 06 52.7**	**-0.2**
	0.5nm,0.3s,baz=216,slow=13,SNR=16									
MKAR	**Makanchi Array**	**13.71**	**38**		Pn		**Pn**	**21 06 52.4**	**-0.5**
AB31	**Akbulak array**	**14.68**	**333**		P		**Pn**	**21 07 04.6**	**-0.1**
	0.9nm,0.3s,baz=151,slow=12,SNR=40									
ABKAR	**Akbulak array**	**14.68**	**333**				**Pn**	**21 07 04.1**	**-0.7**
WMQ	**Urumqi**	**15.30**	**56**	*eP*			**P**	**21 07 12.9**	**+0.5**
KURBB	**Kurchatov Arra**	**15.33**	**21**		P		**P**	**21 07 11.8**	**-0.8**
	0.1nm,0.3s,baz=209,slow=11,SNR=7.4									
AKTO	**Aktyubinsk**	**16.37**	**332**		P		**Pn**	**21 07 26.2**	**+1.1**
	1.3nm,0.3s,baz=139,slow=8.7,SNR=9.3									
AKTO	**Aktyubinsk**	**16.37**	**332**	⇓	P		**Pn**	**21 07 25.5**	**+0.4**
	5.3nm,0.6s									
BRVK	**Borovoye**	**16.51**	**0**				**Pn**	**21 07 26.8**	**+0.1**
BRVK					IAmb		IAmb	21 07 29.9		
	comp=Z,5.4nm,0.6s									
LSA	**Lhasa**	**18.92**	**105**		P		**P**	**21 07 54.0**	**+1.4**
ZAA0	**Zalesovo Array**	**20.19**	**26**		P		**P**	**21 08 06.0**	**+0.6**
ZALV	**Zalesovo Beam**	**20.19**	**26**		P		**P**	**21 08 06.5**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=215,slow=11,SNR=9.6									
ZALV	**Zalesovo Beam**	**20.19**	**26**		P		**P**	**21 08 05.8**	**+0.4**
AKH	**Akhalkalaki**	**21.18**	**291**		P		**P**	**21 08 15.7**	**-0.5**
AKH					IAmb		IAmb	21 08 21.6		
	comp=Z,5.6nm,0.4s									
ARU	**Arti**	**21.35**	**342**		P		**P**	**21 08 19.0**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=185,slow=12,SNR=5.0									
ARU	**Arti**	**21.35**	**342**		P		**P**	**21 08 18.8**	**+1.2**
ARU					IAmb		IAmb	21 08 22.7		
	comp=Z,10nm,1.5s									
SHL	**Shillong**	**21.62**	**114**		P		**P**	**21 08 20.2**	**-0.6**
SHL					IAmb		IAmb	21 08 22.4		
	comp=Z,6.3nm,0.9s									
KIV	**Kislovodsk**	**22.09**	**298**		P		**P**	**21 08 25.8**	**+0.7**
KIV					IAmb		IAmb	21 08 29.6		
	comp=Z,6.2nm,1.1s									
GTA	**Gaotai**	**23.58**	**74**	*eP*			**P**	**21 08 40.8**	**+2.1**
GTA					pmax		pmax			
	comp=Z,2.0nm,0.6s									
SONM	**Songino Array**	**28.93**	**56**		P		**P**	**21 09 26.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=256,slow=12,SNR=4.8									
SONM	**Songino Array**	**28.93**	**56**		P		**P**	**21 09 27.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**31.15**	**118**		P		**P**	**21 09 46.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=291,slow=7.9,SNR=6.5									
CMAR	**Chiang Mai Arr**	**31.15**	**118**		P		**P**	**21 09 45.9**	**-0.3**
HHC	**Hu-ho-hao-te**	**32.46**	**70**	*eP*			**P**	**21 09 59.4**	**+1.9**
HHC					S		**S**	**21 14 56.7**	**+0.4**
HHC					pmax		pmax			
	comp=Z,22nm,0.8s									
HHC					pmax		pmax			
	comp=Z,120nm,7.5s									
HHC					LR		LR			
	comp=Z,250nm,18.4s									
HHC					LR		LR			
	comp=Z,340nm,14.3s									
HHC					LR		LR			
	comp=Z,250nm,9.7s									
BUR08	**Bucovina Ar. S**	**34.63**	**303**		P		**P**	**21 10 17.3**	**+1.2**
BUR08					IAmb		IAmb	21 10 23.3		
	comp=Z,7.5nm,1.4s									
FINES	**FINESS Array B**	**37.02**	**326**		P		**P**	**21 10 37.3**	**+1.2**
	comp=Z,3.0nm,0.9s,baz=109,slow=11,SNR=1.8									
FINES	**FINESS Array B**	**37.02**	**326**		P		**P**	**21 10 36.9**	**+0.8**
ARCES	**ARCESS Array B**	**40.81**	**338**		P		**P**	**21 11 08.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=99,slow=7.5,SNR=6.1									
NB201	**NORSAR Array S**	**43.85**	**323**		P		**P**	**21 11 32.5**	**+0.5**
NOA	**NORSAR Array B**	**43.88**	**323**		P		**P**	**21 11 32.5**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=98,slow=7.4,SNR=1.6									
KSRS	**Korea Array**	**45.58**	**71**		P		**P**	**21 11 46.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=277,slow=7.3,SNR=2.8									
USRK	**Ussuriysk Ar.**	**46.81**	**61**		P		**P**	**21 11 55.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=317,slow=8.3,SNR=1.9									
TORD	**Torodi Ar. Bea**	**64.96**	**268**		P		**P**	**21 14 03.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=49,slow=4.4,SNR=1.6									
IMAR	**Indian Mountai**	**72.35**	**17**		P		**P**	**21 14 49.5**	**+0.2**
DBIC	**Dimbokro**	**73.94**	**266**		P		**P**	**21 14 58.8**	**-0.6**
DBIC					IAmb		IAmb	21 15 04.9		
	comp=Z,11nm,1.4s									
LBTB	**Lobatse**	**74.21**	**221**		P		**P**	**21 14 59.7**	**-1.1**
ILAR	**Eielson Array**	**74.94**	**15**		P		**P**	**21 15 04.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=298,slow=3.9,SNR=2.9									
KTH	**Kantishna Hill**	**75.05**	**18**		P		**P**	**21 15 05.7**	**+0.6**
KTH					IAmb		IAmb	21 15 17.1		
	comp=Z,8.7nm,1.5s									
PPLA	**Purkeypile**	**75.28**	**19**		P		**P**	**21 15 06.8**	**+0.3**
WRA	**Warramunga Arr**	**82.66**	**121**		P		**P**	**21 15 45.2**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=322,slow=4.8,SNR=11									
WB2	**Warramunga Arr**	**82.67**	**121**		P		**P**	**21 15 45.1**	**-1.9**
ASAR	**Alice Springs**	**84.91**	**124**		P		**P**	**21 15 56.5**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=309,slow=4.8,SNR=11									
ASAR	**Alice Springs**	**84.91**	**124**		P		**P**	**21 15 56.8**	**-1.5**

WEL 07 21:07:13.9±0.9, 35°S±9°×17°9E±1°3, h248km±14km, M4.1/20, mB4.7/2, MLv4.1/20, Mw(mB)3.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=114.2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MXZ	**Matakaoa Point**	**3.01**	**192**	P		Pn	21 08 04.6			-1.6
MXZ				S		S	21 08 46.2			-1.6
WMGZ	**Waiomatatini S**	**3.25**	**190**	P		Pn	21 08 07.4			-1.4
WMGZ				S		S	21 08 53.4			+0.9
HAZ	**Te Kaha**	**3.31**	**199**	P		Pn	21 08 09.6			0.0
HAZ				S		S	21 08 54.7			+0.9
PKGZ	**Pakihiroa**	**3.37**	**194**	P		Pn	21 08 07.0			-3.3
GRZ	**Great Barrier**	**3.40**	**240**	P		Pn	21 08 09.8			-0.8
KUZ	**Kuaotunu**	**3.48**	**231**	P		Pn	21 08 12.2			+0.6
PUZ	**Puketiti**	**3.52**	**191**	P		Pn	21 08 10.0			-1.9
PUZ				S		S	21 08 58.3			+0.3
RUGZ	**Raukumara Rang**	**3.54**	**199**	P		Pn	21 08 10.7			-1.6
RUGZ				S		S	21 08 58.8			+0.2
TWGZ	**Tauwhareparae**	**3.67**	**194**	P		Pn	21 08 15.1			+1.4
TWGZ				S		S	21 09 03.8			+2.5
OPRZ	**Ohinepanea**	**3.83**	**212**	P		Pn	21 08 17.2			+1.7
MWZ	**Matawai**	**3.92**	**199**	P		Pn	21 08 15.1			-1.5
MWZ				S		S	21 09 07.0			+0.5
TKGZ	**Te Karaka**	**3.95**	**195**	P		Pn	21 08 17.8			+0.9
TKGZ				S		S	21 09 08.5			+1.6
URZ	**Urewera**	**3.98**	**203**	P		Pn	21 08 17.0			-0.2
URZ				S		S	21 09 08.0			+0.4
RIGZ	**Rimuhau**	**4.22**	**194**	P		Pn	21 08 21.0			+0.8
RIGZ				S		S	21 09 14.4			+1.4
RTZ	**Ruatahuna**	**4.34**	**203**	P		Pn	21 08 21.6			-0.1
RTZ				S		S	21 09 15.5			-0.1
SNGZ	**Shannon Statio**	**4.39**	**198**	P		Pn	21 08 22.7			+0.5
SNGZ				S		S	21 09 18.1			+1.5
PRGZ	**Paritu Road**	**4.41**	**193**	P		Pn	21 08 23.0			+0.6
MTHZ	**Maungataniwha**	**4.60**	**203**	P		Pn	21 08 25.6			+0.8
MTHZ				S		S	21 09 23.5			+2.3
MHGZ	**Mahia Peninsul**	**4.63**	**192**	P		Pn	21 08 25.6			+0.6
BKZ	**Black Stump Fm**	**5.00**	**204**	P		Pn	21 08 30.2			+0.6
MCHZ	**McNeill Hill**	**5.19**	**201**	P		Pn	21 08 31.9			0.0
WTVZ	**West Tongariro**	**5.30**	**211**	P		Pn	21 08 34.1			+0.7
FWVZ	**Far West T-bar**	**5.44**	**211**	P		Pn	21 08 35.7			+0.6
BHHZ	**Black Hill Sta**	**5.44**	**206**	P		Pn	21 08 31.9			-3.1
KAHZ	**Kahuranaki**	**5.47**	**198**	P		Pn	21 09 33.7			-1.6
KAHZ				S		S	21 09 40.7			+0.3
KRHZ	**Kereru**	**5.47**	**203**	P		Pn	21 08 33.6			-1.7
MOVZ	**Moawhango**	**5.48**	**208**	P		Pn	21 08 35.2			-0.3
MOVZ				S		S	21 09 37.6			-3.1
VRZ	**Vera Road**	**5.69**	**217**	P		Pn	21 08 40.9			+2.8
PNHZ	**Pukenui**	**5.77**	**203**	P		Pn	21 08 38.8			-0.3
OGWZ	**Otaki Gorge**	**6.93**	**206**	P		Pn	21 08 52.4			-1.2
OGWZ				S		S	21 10 10.6			-2.9
TMWZ	**Te Maipa**	**6.96**	**200**	P		Pn	21 08 52.6			-1.4
KIW	**Kapiti Island**	**7.07**	**207**	P		Pn	21 08 53.9			-1.3

*NEIC **07** 21:14:04.6±1.5, 30°20N±0°07×102°96E±0°08, h10km±1km, mb4.7/83, Error ellipse: s-maj=12.0km s-min=11.1km az=124.0*

*BJI **07** 21:14:06.2±0.0, 30°13N×102°91E, h18km, mB4.7/25, mb4.5/38, ML4.3/26, Ms4.2/31, Ms7 4.0/31*

*MOS **07** 21:14:06.6±0.9, 30°18N×102°92E, h27km, mb4.7/27, Error ellipse: s-maj=6.9km s-min=4.7km az=111.5*

*IDC **07** 21:14:08.6±2.8, 30°16N×102°85E, h36km±22km, mb4.1/27, mb1 4.1/29, mb1mx4.1/53, mbtmp4.3/29, ML4.3/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=14.5km s-min=10.8km az=42.0*

ISC 07 21:14:05.1±0.3, 30°21N±0°03×102°85E±0°04, h10km, n254, σ1°29/258, mb4.7/98, MS3.4/5, 20C-10D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CD2	**Chengdu**	**1.05**	**48**	⇓ *i*	Pg		**Pg**	**21 14 25.8**		**+0.6**
CD2					Sg		**Sg**	**21 14 40.6**		**+1.7**
CD2					smax		smax			
	comp=N,11μm,0.7s									
CD2					smax		smax			
	comp=E,9μm,0.5s									
GYA	**Guiyang**	**5.03**	**137**	⇑	Pn		**Pn**	**21 15 20.2**		**-0.5**
GYA					Sn		**Sn**	**21 16 25.9**		**+6.9**
GYA					Sg		**Sg**	**21 16 48.7**		**+2.1**
GYA					smax		smax			
	comp=N,440nm,0.8s									
GYA					smax		smax			
	comp=E,310nm,1.0s									
KMI	**Kunming**	**5.07**	**181**	⇑ *e*	Pn		**Pn**	**21 15 23.3**		**+1.9**
KMI					Sn		**Sn**	**21 16 20.0**		**-0.2**
KMI					smax		smax			
	comp=N,380nm,0.8s									
KMI					smax		smax			
	comp=E,570nm,0.6s									
KMI	**Kunming**	**5.07**	**181**		P		**Pn**	**21 15 23.0**		**+1.6**
KMI	**Kunming**	**5.07**	**181**		Pn		**Pn**	**21 15 23.0**		**+1.6**
ENH	**Enshi**	**5.74**	**88**		Pn		**Pn**	**21 15 30.2**		**-0.3**
LZH	**Lanzhou**	**5.92**	**8**		Pg		**Pb**	**21 15 46.8**		**-1.6**
LZH					Sg		**Sg**	**21 17 21.7**		**+6.6**
LZH					smax		smax			
	comp=N,84nm,1.5s									
LZH					smax		smax			
	comp=E,90nm,1.8s									
LZH					LR		LR			
	comp=N,1μm,6.9s									
LZH					LR		LR			
	comp=E,1μm,8.1s									
LZH					LR		LR			
	comp=Z,1μm,9.2s									
XAN	**Xi'an**	**6.41**	**52**		Pn		**Pn**	**21 15 38.3**		**-1.3**
XAN					Sn		**Sn**	**21 16 50.9**		**-1.9**
XAN					Sg		**Sg**	**21 17 30.1**		**-0.7**
XAN					smax		smax			
	comp=Z,700nm,1.0s									
XAN					smax		smax			
	comp=Z,510nm,1.1s									
XAN					LR		LR			
	comp=Z,620nm,4.3s									
XAN					LR		LR			
	comp=Z,970nm,9.6s									
XAN					LR		LR			
	comp=Z,1μm,13.9s									
XAN	**Xi'an**	**6.41**	**52**		P		**Pn**	**21 15 38.1**		**-1.5**
XAN	**Xi'an**	**6.41**	**52**		Pn		**Pn**	**21 15 38.1**		**-1.5**
SLVN	**Son La**	**8.89**	**174**		Pn		**Pn**	**21 16 14.0**		**+0.2**
GTA	**Gaotai**	**9.51**	**346**	*e*	P		Pn	21 16 27.4		+5.2
GTA					pP			21 16 31.1		
GTA					sP			21 16 33.4		
GTA					pmax		pmax			
	comp=Z,3.0nm,1.2s									
GTA					pmax		pmax			
	comp=Z,79nm,5.7s									
GTA					smax		smax			
	comp=Z,5.0nm,2.0s									
GTA					smax		smax			
	comp=Z,6.0nm,1.6s									
GTA					LR		LR			
	comp=Z,570nm,10.5s									
GTA					LR		LR			
	comp=Z,380nm,11.6s									
GTA					LR		LR			
	comp=Z,540nm,10.9s									
WHN	**Wuhan**	**9.94**	**85**		P		**Pn**	**21 16 27.4**		**-0.6**
WHN					LR		LR			
	comp=Z,790nm,4.0s									
WHN					LR		LR			
	comp=Z,2μm,10.2s									
WHN					LR		LR			
	comp=Z,2μm,11.3s									
LSA	**Lhasa**	**10.16**	**270**		P		**Pn**	**21 16 35.4**		**+3.9**
LSA	**Lhasa**	**10.16**	**270**		P		**Pn**	**21 16 34.6**		**+3.1**
LSA	**Lhasa**	**10.16**	**270**		Pn		**Pn**	**21 16 34.6**		**+3.1**
SHL	**Shillong**	**10.75**	**247**		P		**Pn**	**21 16 40.1**		**+0.8**
SHL	**Shillong**	**10.75**	**247**		Pn		**Pn**	**21 16 40.1**		**+0.8**
CHTO	**Chiang Mai**	**11.89**	**198**		P		**Pn**	**21 16 57.8**		**+3.0**
CHTO	**Chiang Mai**	**11.89**	**198**		Pn		**Pn**	**21 16 57.8**		**+3.0**
CM31	**Chiang Mai Arr**	**12.23**	**198**		Pn		**Pn**	**21 17 00.6**		**+1.1**
CMAR	**Chiang Mai Arr**	**12.23**	**198**		Pn		**Pn**	**21 17 01.3**		**+1.9**
	comp=Z,0.4nm,0.3s,baz=8.7,slow=14,SNR=10									
CMAR					LR		LR	21 22 07.3		
	comp=Z,86nm,18.4s,baz=155,slow=39									
CMAR	**Chiang Mai Arr**	**12.23**	**198**	*i*	P		**Pn**	**21 17 02.9**		**+3.4**
CMAR					pmax		pmax			
	comp=Z,2.0nm,0.7s									
CMAR	**Chiang Mai Arr**	**12.23**	**198**				**Pn**	**21 17 01.9**		**+2.5**
HHC	**Hu-ho-hao-te**	**12.76**	**31**	*e*	P		**Pn**	**21 17 08.8**		**+2.2**
HHC					pmax		pmax			
	comp=Z,20nm,1.0s									
HHC					pmax		pmax			
	comp=Z,170nm,7.8s									
NJ2	**Nanjing**	**13.83**	**78**	*e*	P		**Pn**	**21 17 21.6**		**+0.4**
NJ2					pmax		pmax			
	comp=Z,6.0nm,0.5s									
NJ2					LR		LR			
	comp=Z,480nm,7.1s									
NJ2					LR		LR			
	comp=Z,570nm,10.9s									
NJ2					LR		LR			
	comp=Z,610nm,8.5s									
BJT	**Baijiatuan**	**14.63**	**44**		P		**Pn**	**21 17 32.6**		**+0.5**
BJT	**Baijiatuan**	**14.63**	**44**		Pn		**Pn**	**21 17 32.6**		**+0.5**
BJI	**Beijing**	**14.65**	**44**		P		**Pn**	**21 17 33.6**		**+1.3**
BJI					pmax		pmax			
	comp=Z,4.0nm,0.8s									
SSLB	**Suanglung**	**17.35**	**107**				**Pn**	**21 18 06.2**		**-1.3**
SONM	**Songino Array**	**17.81**	**8**		P		**Pn**	**21 18 14.0**		**+0.9**
	comp=Z,1.4nm,0.3s,baz=186,slow=9.6,SNR=34									
SONM					PcP		**PcP**	**21 22 50.9**		**+0.8**
	comp=Z,0.1nm,0.3s,baz=197,slow=4.5,SNR=2.2									
SONM					LR		LR	21 25 50.7		
	comp=Z,160nm,18.2s,baz=239,slow=39									
SONM	**Songino Array**	**17.81**	**8**				**Pn**	**21 18 14.9**		**+1.8**
ULN	**Ulaanbaatar**	**17.92**	**9**	⇑ *eP*			**Pn**	**21 18 17.1**		**+2.6**
ULN	**Ulaanbaatar**	**17.92**	**9**				**Pn**	**21 18 15.4**		**+0.9**
WMQ	**Urumqi**	**18.15**	**323**	*eP*			**Pn**	**21 18 19.2**		**+1.9**
WMQ					pmax		pmax			
	comp=Z,12nm,0.9s									
WMQ					pmax		pmax			
	comp=Z,39nm,6.1s									
WMQ					LR		LR			
	comp=Z,170nm,7.9s									
WMQ					LR		LR			
	comp=Z,140nm,8.5s									
WMQ	**Urumqi**	**18.15**	**323**		P		**Pn**	**21 18 18.4**		**+1.1**
WMQ					pmax		pmax			
	comp=Z,10.0nm,0.6s									
WMQ	**Urumqi**	**18.15**	**323**		P		**Pn**	**21 18 18.4**		**+1.1**
ZAK	**Zakamensk**	**20.15**	**1**	*eP*			**P**	**21 18 41.7**		**+2.2**
ZAK					pmax		pmax			
	comp=Z,14nm,1.0s									
PBA	**Port Blair**	**20.71**	**209**		P		P	21 18 45.5		-0.2
TJN	**Taejon**	**21.36**	**67**	⇑ *eP*			**P**	**21 18 53.2**		**+0.6**
TLY	**Talaya**	**21.46**	**1**		LR		LR	21 28 02.9		
	comp=Z,139nm,19.7s,baz=167,slow=39									
TLY	**Talaya**	**21.46**	**1**		P		**P**	**21 18 52.8**		**-0.7**
TLY					pmax		pmax			
	comp=Z,8.0nm,1.0s									
TLY	**Talaya**	**21.46**	**1**		P		**P**	**21 18 52.8**		**-0.7**
MOY	**Mondy**	**21.48**	**357**	*eP*			**P**	**21 18 54.2**		**+0.4**
KS19	**Wonju Array Si**	**21.97**	**64**		P		**P**	**21 18 57.7**		**-1.4**
KSAR	**Wonju Array Be**	**21.97**	**64**		P		**P**	**21 18 58.0**		**-1.1**
KSAR	**Wonju Array Be**	**21.97**	**64**		P		**P**	**21 18 58.0**		**-1.1**
KSRS	**Korea Array**	**22.00**	**64**		P		**P**	**21 18 59.9**		**+0.4**
	comp=Z,5.5nm,0.6s,baz=246,slow=9.6,SNR=19									
IRK	**Irkutsk**	**22.04**	**2**	*eP**			**P**	**21 19 02.8**		**+3.1**
IRK					pmax		pmax			
	comp=Z,30nm,2.4s									
CN2	**Changchun**	**22.48**	**47**	*eP*			**P**	**21 19 05.2**		**+0.6**
DGZ	**Jazzator, Alta**	**22.69**	**333**	⇓ *eP*			**P**	**21 19 09.7**		**+2.8**
DGZ					pmax		pmax			
	comp=Z,25nm,1.7s									
PDGK	**Podgornoye**	**22.75**	**312**	*i*	P		**P**	**21 19 08.2**		**+0.7**
PDGK					pmax		pmax			
	comp=Z,18nm,0.8s									
MK31	**Makanchi Array**	**22.98**	**322**	*i*	P		**P**	**21 19 10.8**		**+1.0**
MK31					pmax		pmax			
	comp=Z,22nm,0.9s									
MK31	**Makanchi Array**	**22.98**	**322**		P		**P**	**21 19 10.9**		**+1.0**
MK31					IAmb		IAmb	21 19 21.5		
	comp=Z,18nm,0.9s									
MKAR	**Makanchi Array**	**22.98**	**322**		P		**P**	**21 19 11.2**		**+1.5**
	comp=Z,6.3nm,0.5s,baz=126,slow=10,SNR=79									
MKAR					PcP		**PcP**	**21 22 58.7**		**-0.9**
	comp=Z,0.8nm,0.7s,baz=124,slow=6.6,SNR=3.3									
MKAR					ScP		**ScP**	**21 26 34.7**		**-2.8**
	comp=Z,0.7nm,0.8s,baz=108,slow=4.0,SNR=5.1									
MKAR	**Makanchi Array**	**22.98**	**322**		P		**P**	**21 19 10.7**		**+0.9**
MAKZ	**Makanchi**	**23.16**	**322**		P		**P**	**21 19 12.6**		**+1.0**
MAKZ					pmax		pmax			
	comp=Z,10.0nm,0.7s									
MAKZ	**Makanchi**	**23.16**	**322**		P		**P**	**21 19 12.6**		**+1.0**
MAKZ					IAmb		IAmb	21 19 21.3		
	comp=Z,10nm,0.7s									
TARG	**Taragay, Kyrgy**	**23.22**	**306**		P		**P**	**21 19 13.2**		**+0.5**
TARG					IAmb		IAmb	21 19 29.9		
	comp=Z,29nm,1.2s									
KDJ	**Kajisay**	**23.80**	**307**		P		**P**	**21 19 18.8**		**+0.6**
KDJ					pmax		pmax			
	comp=Z,29nm,1.2s									
KDJ	**Kajisay**	**23.80**	**307**		P		**P**	**21 19 18.8**		**+0.6**
KDJ					IAmb		IAmb	21 19 36.4		
	comp=Z,29nm,1.1s									
KSH	**Kashi**	**23.86**	**300**		P		**P**	**21 19 21.3**		**+2.6**
KSH					S		**S**	**21 23 34.5**		**-0.3**
KSH					pmax		pmax			
	comp=Z,5.0nm,0.6s									
KSH					pmax		pmax			
	comp=Z,68nm,3.7s									
KSH					LR		LR			
	comp=Z,81nm,7.1s									
KSH					LR		LR			
	comp=Z,95nm,7.0s									
KSH					LR		LR			
	comp=Z,310nm,10.0s									
JNU	**Nakatsue**	**24.00**	**76**		P		**P**	**21 19 21.3**		**+1.2**
	comp=Z,4.5nm,0.6s,baz=259,slow=3.8,SNR=4.3									
JNU	**Nakatsue**	**24.00**	**76**		P		**P**	**21 19 18.7**		**-1.4**
JNU					IAmb		IAmb	21 19 31.4		
	comp=Z,29nm,1.4s									
BOOM	**Boomskoye usch**	**24.79**	**307**		P		**P**	**21 19 26.5**		**-0.8**
BOOM					pmax		pmax			
	comp=Z,10.0nm,1.3s									
BOOM	**Boomskoye usch**	**24.79**	**307**		P		**P**	**21 19 26.5**		**-0.8**
KULM	**Kulim**	**24.88**	**185**		P		**P**	**21 19 26.9**		**-1.2**
KULM					IAmb		IAmb	21 19 29.7		
	comp=Z,30nm,1.3s									
NIL	**Nilore**	**25.31**	**286**		P		**P**	**21 19 32.8**		**+0.8**
NIL					pmax		pmax			
	comp=Z,43nm,0.9s									
NIL	**Nilore**	**25.31**	**286**		P		**P**	**21 19 32.8**		**+0.8**
MDJ	**Mudanjiang**	**25.50**	**48**		P		**P**	**21 19 35.9**		**+2.3**
MDJ					pP		pP	21 19 39.4		+2.5
MDJ					PP		**PnPn**	**21 20 09.9**		**+0.9**
MDJ					pmax		pmax			
	comp=Z,9.0nm,0.7s									
AAK	**Ala-Archa**	**25.84**	**306**	⇑ *eP*			**P**	**21 19 36.9**		**0.0**
AAK					pmax		pmax			
	comp=Z,12nm,0.8s									
JHS	**Saijyo**	**25.89**	**71**		P		**P**	**21 19 36.2**		**-1.0**
JHS					IAmb		IAmb	21 19 46.2		
	comp=Z,14nm,1.0s									
USRK	**Ussuriysk Ar.**	**26.92**	**51**		P		**P**	**21 19 46.6**		**+0.2**
	comp=Z,1.3nm,0.8s,baz=247,slow=6.4,SNR=5.1									
USRK					PcP		**PcP**	**21 23 07.8**		**-0.5**
	comp=Z,0.6nm,0.5s,baz=257,slow=7.1,SNR=2.1									
USRK	**Ussuriysk Ar.**	**26.92**	**51**		P		**P**	**21 19 45.4**		**-1.0**
USRK	**Ussuriysk Ar.**	**26.92**	**51**		P		**P**	**21 19 45.4**		**-1.0**
ZAA0	**Zalesovo Array**	**27.08**	**336**		P		**P**	**21 19 47.6**		**-0.1**

NRIK	**Noril'sk**	**40.14 352**	P		**P**	**21 21 41.2**	**+0.4**
	comp=Z,4.3nm,0.5s,baz=127,slow=6.5,SNR=7.5							
NRIK	**Noril'sk**	**40.14 352**	*de*P		**P**	**21 21 41.5**	**+0.7**
NRIK			pmax	pmax				
	comp=Z,8.0nm,0.9s							
ARU	**Arti**	**40.49 323**	P		**P**	**21 21 44.2**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=132,slow=3.2,SNR=14							
ARU	**Arti**	**40.49 323**⇑	*e*P		**P**	**21 21 44.1**	**+0.2**
ARU			pmax	pmax				
	comp=Z,20nm,2.5s							
ARU	**Arti**	**40.49 323**	P		**P**	**21 21 44.0**	**+0.2**
ARU			IAmb	IAmb		21 21 45.1		
	comp=Z,7.2nm,0.7s							
MMRI	**Maumere**	**42.88 151**	P		**P**	**21 22 08.2**	**+4.3**
	comp=Z,46nm,1.5s							
TIXI	**Tiksi**	**43.84 12**⇑	*i*P		**P**	**21 22 10.2**	**-0.7**
TIXI			pmax	pmax				
	comp=Z,16nm,0.6s							
TIXI	**Tiksi**	**43.84 12**	P		**P**	**21 22 10.4**	**-0.6**
BATI	**Baumata**	**44.90 150**	P		**P**	**21 22 22.1**	**+2.0**
	comp=Z,22nm,0.8s							
AKT	**Akhty**	**45.39 300**	*e*P		**P**	**21 22 24.6**	**+0.7**
AKT			*e*			21 24 01.9		
AKT			pmax	pmax				
	comp=Z,9.0nm,0.6s							
KIRV	**Kirov**	**45.84 324**⇓	*i*P		**P**	**21 22 27.5**	**+0.4**
ZEI	**Tsey**	**48.12 302**	*e*P		**P**	**21 22 45.5**	**+0.1**
ZEI			pmax	pmax				
	comp=Z,8.0nm,1.0s							
PRGR	**Permogore**	**48.42 328**	*e*P		**P**	**21 22 47.0**	**-0.1**
PRGR			pmax	pmax				
	comp=Z,7.0nm,0.8s							
SOCY	**Socotra**	**48.56 259**	P		P	21 22 46.4	-2.6
SOCY			IAmb	IAmb		21 22 47.3		
	comp=Z,8.2nm,1.1s							
AKH	**Akhalkalaki**	**48.56 300**	P		**P**	**21 22 49.2**	**+0.4**
AKH			pmax	pmax				
	comp=Z,7.0nm,0.9s							
AKH	**Akhalkalaki**	**48.56 300**	P		**P**	**21 22 49.2**	**+0.4**
AKH			IAmb	IAmb		21 22 51.3		
	comp=Z,7.3nm,0.9s							
KBZ	**Khabaz**	**48.77 303**	P		**P**	**21 22 50.0**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=131,slow=8.9,SNR=10							
KBZ	**Khabaz**	**48.77 303**⇓	*i*P		**P**	**21 22 50.6**	**+0.5**
KBZ			pmax	pmax				
	comp=Z,10.0nm,2.0s							
KIV	**Kislovodsk**	**48.90 304**	*e*P		**P**	**21 22 52.6**	**+1.3**
KIV			pmax	pmax				
	comp=Z,63nm,1.0s							
KIV			MLR	MLR				
	comp=Z,124nm,16.0s							
KIV	**Kislovodsk**	**48.90 304**	P		**P**	**21 22 51.3**	**0.0**
VRH	**Novokhopyorsk**	**49.30 313**	*e*P		**P**	**21 22 52.7**	**-1.4**
VRH			pmax	pmax				
	comp=Z,7.0nm,0.8s							
ARTV	**Artvin**	**49.76 300**	P		**P**	**21 22 58.1**	**+0.1**
MTN	**Manton Dam**	**50.74 143**	P		**P**	**21 23 03.8**	**-1.5**
VSR	**Storozhevoye**	**50.91 313**	*e*P		**P**	**21 23 05.4**	**-0.9**
VSR			pmax	pmax				
	comp=Z,10.0nm,1.2s							
LPSR	**Galich'ya Gora**	**51.03 315**	*e*P		**P**	**21 23 06.7**	**-0.5**
LPSR			pmax	pmax				
	comp=Z,7.0nm,0.7s							
KLMR	**Klimovskoe**	**51.19 326**	*e*P		**P**	**21 23 07.3**	**-0.9**
KLMR			pmax	pmax				
	comp=Z,13nm,0.7s							
KLMR	**Klimovskoe**	**51.19 326**	*e*P		**P**	**21 23 07.4**	**-0.8**
KLMR			AMP			21 23 08.7		
	comp=Z,13nm,0.7s							
MARD	**Mardin**	**51.28 295**	P		**P**	**21 23 09.3**	**-0.2**
MARD			IAmb	IAmb		21 23 11.8		
	comp=Z,4.1nm,0.6s							
KNRA	**Kununurra**	**52.01 148**	P		**P**	**21 23 13.3**	**-1.5**
OBN	**Obninsk**	**52.42 318**	*e*P		**P**	**21 23 18.0**	**+0.5**
OBN			*e*			21 23 25.8		
OBN			*e*			21 24 26.6		
OBN			*e*			21 25 13.7		
OBN			*e*PPP	PPP		21 26 19.1		
OBN			pmax	pmax				
	comp=Z,37nm,2.3s							
BILL	**Bilibino**	**52.44 25**	*e*P		**P**	**21 23 17.4**	**-0.1**
BILL			*e*			21 24 23.1		
BILL			*e*PPP	PPP		21 26 17.4		
BILL			pmax	pmax				
	comp=Z,4.0nm,1.3s							
GAZ	**Gaziantep**	**54.10 296**	P		**P**	**21 23 30.0**	**-0.3**
GAZ			IAmb	IAmb		21 23 31.3		
	comp=Z,5.0nm,0.6s							
BR131	**Keskin Array S**	**56.24 300**	P		**P**	**21 23 45.3**	**-0.5**
BR131			pmax	pmax				
	comp=Z,4.0nm,1.3s							
BR131	**Keskin Array S**	**56.24 300**	P		**P**	**21 23 45.3**	**-0.5**
BRTR	**Keskin Array B**	**56.24 300**	P		**P**	**21 23 45.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=111,slow=6.0,SNR=6.7							
BRTR	**Keskin Array B**	**56.24 300**	P		**P**	**21 23 45.5**	**-0.4**
KEV	**Kevo**	**57.11 336**	P		**P**	**21 23 51.2**	**-0.1**
KEV			pmax	pmax				
	comp=Z,22nm,1.2s							
KEV	**Kevo**	**57.11 336**	P		**P**	**21 23 51.2**	**-0.1**
AKASG	**Malin Array Be**	**57.21 313**	P		**P**	**21 23 51.6**	**-0.6**
	comp=Z,8.2nm,0.5s,baz=67,slow=6.9,SNR=15							
AKASG	**Malin Array Be**	**57.21 313**	P		**P**	**21 23 51.9**	**-0.4**
AKBB	**Malin Array Si**	**57.21 313**	P		**P**	**21 23 51.8**	**-0.5**
AKBB			pmax	pmax				
	comp=Z,7.0nm,0.6s							
AKBB	**Malin Array Si**	**57.21 313**	P		**P**	**21 23 51.8**	**-0.5**
AKBB			IAmb	IAmb		21 23 52.3		
	comp=Z,6.5nm,0.6s							
ARCES	**ARCESS Array B**	**57.63 336**	P		**P**	**21 23 54.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=90,slow=7.7,SNR=37							
CSS	**Mathiatis**	**57.70 294**	P		**P**	**21 23 55.3**	**-0.8**
CSS			IAmb	IAmb		21 24 00.6		
	comp=Z,13nm,1.5s							
FIA1	**FINESS Array S**	**57.70 326**	P		**P**	**21 23 54.8**	**-0.8**
FINES	**FINESS Array B**	**57.71 326**	P		**P**	**21 23 55.1**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=94,slow=6.9,SNR=16							
FINES	**FINESS Array B**	**57.71 326**	*i* P		**P**	**21 23 55.0**	**-0.7**
FINES			pmax	pmax				
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**57.71 326**	P		**P**	**21 23 54.9**	**-0.7**
SORM	**Soroca**	**58.22 311**	⇑P		**P**	**21 23 58.4**	**-1.0**
SORM	**Soroca**	**58.22 311**	⇑P		**P**	**21 23 58.4**	**-1.0**
WB0	**Warramunga Arr**	**58.23 145**	P		P	21 23 58.1	-1.7
WRAB	**Tennant Creek**	**58.35 145**⇑	*e*P		**P**	**21 23 59.4**	**-1.2**
WRAB			pmax	pmax				
	comp=Z,31nm,2.3s							
WRA	**Warramunga Arr**	**58.35 145**	P		**P**	**21 23 59.4**	**-1.3**
	comp=Z,19nm,0.6s,baz=337,slow=7.7,SNR=92							
WRA	**Warramunga Arr**	**58.35 145**	P		P	21 23 59.0	-1.7
WB2	**Warramunga Arr**	**58.36 145**	P		P	21 23 58.9	-1.8
WR0	**Warramunga Arr**	**58.47 145**	P		P	**21 23 59.9**	**-1.5**
COEN	**Coen**	**58.62 133**	P		P	**21 24 00.9**	**-1.7**
COEN			IAmb	IAmb		21 24 06.9		
	comp=Z,10nm,1.0s							
GRER		**59.73 308**	⇓P		P	21 24 17.0	+7.0
VRI	**Vrincioaia**	**59.78 308**	⇑P		**P**	**21 24 11.3**	**+0.9**
VRI	**Vrincioaia**	**59.78 308**	⇑P		**P**	**21 24 11.3**	**+0.9**
PLOR	**Plostina**	**59.84 308**	⇑P		**P**	**21 24 11.9**	**+1.1**
PLOR	**Plostina**	**59.84 308**	⇑P		**P**	**21 24 11.9**	**+1.1**
BIZ	**Bicaz**	**59.96 310**	⇓P		**P**	**21 24 11.5**	**-0.1**
MORW	**Morawa**	**60.28 167**	P		P	21 24 11.7	-2.1
MORW			IAmb	IAmb		21 24 23.8		
	comp=Z,8.5nm,1.1s							
BURAR	**Bucovina Array**	**60.39 311**	⇑P		**P**	**21 24 14.6**	**0.0**
BURAR	**Bucovina Array**	**60.39 311**	⇑P		**P**	**21 24 14.6**	**0.0**
BURAR	**Bucovina Array**	**60.39 311**	P		**P**	**21 24 14.2**	**-0.5**
BUR08	**Bucovina Ar. S**	**60.39 311**	P		**P**	**21 24 14.5**	**-0.2**
BUR08			IAmb	IAmb		21 24 24.6		
	comp=Z,4.5nm,1.1s							
MLR	**Muntele Rosu**	**60.41 308**	⇑P		**P**	**21 24 15.0**	**+0.2**
MLR	**Muntele Rosu**	**60.41 308**	P		**P**	**21 24 14.9**	**+0.1**
MLR			pmax	pmax				
	comp=Z,13nm,1.4s							
MLR	**Muntele Rosu**	**60.41 308**	P		**P**	**21 24 14.9**	**+0.1**
MLR			IAmb	IAmb		21 24 32.9		
	comp=Z,13nm,1.4s							
VOIR		**61.03 308**	⇑P		**P**	**21 24 19.1**	**+0.1**
VOIR		**61.03 308**	⇑P		**P**	**21 24 19.1**	**+0.1**
ARCR	**ARCALIA**	**61.09 310**	⇑P		**P**	**21 24 21.5**	**+2.2**
AS31	**Alice Springs**	**61.31 147**	P		**P**	**21 24 19.9**	**-1.1**
ASAR	**Alice Springs**	**61.31 147**	P		**P**	**21 24 20.1**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=327,slow=6.7,SNR=30							
ASAR	**Alice Springs**	**61.31 147**	P		**P**	**21 24 19.8**	**-1.2**
ASAR	**Alice Springs**	**61.31 147**	P		**P**	**21 24 19.8**	**-1.2**

KWP	**Kalwaria Pacla**	**61.53 313**	P		**P**	**21 24 22.1**	**-0.1**
KWP			pmax	pmax				
	comp=Z,24nm,1.0s							
KWP	**Kalwaria Pacla**	**61.53 313**	P		**P**	**21 24 22.1**	**-0.1**
KOLS	**Kolonicke sedl**	**61.98 313**	*e*P		**P**	**21 24 23.9**	**-1.4**
KOLS	**Kolonicke sedl**	**61.98 313**	*e*P		**P**	**21 24 23.9**	**-1.4**
OJC	**Ojcow**	**63.19 314**	P		**P**	**21 24 33.1**	**-0.2**
OJC			pmax	pmax				
	comp=Z,5.0nm,0.5s							
OJC	**Ojcow**	**63.19 314**	P		**P**	**21 24 33.1**	**-0.2**
PSZ	**Piszkesteto**	**63.78 312**	P		**P**	**21 24 37.5**	**+0.1**
PSZ			pmax	pmax				
	comp=Z,6.0nm,1.0s							
PSZ	**Piszkesteto**	**63.78 312**	P		**P**	**21 24 37.5**	**+0.1**
PSZ			IAmb	IAmb		21 24 38.2		
	comp=Z,5.6nm,1.0s							
VYHS	**Vyhne**	**64.29 313**	*e*P		**P**	**21 24 39.4**	**-1.2**
VYHS	**Vyhne**	**64.29 313**	*e*P		**P**	**21 24 39.3**	**-1.3**
NB2	**NORSAR Subarra**	**64.83 327**	P		**P**	**21 24 42.6**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=72,slow=6.5							
NOA	**NORSAR Array B**	**64.83 327**	P		**P**	**21 24 42.5**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=108,slow=5.1,SNR=2.4							
AGG	**Agios Georgios**	**64.85 302**	P		P	21 24 42.4	-2.1
AGG			pmax	pmax				
	comp=Z,18nm,1.5s							
AGG	**Agios Georgios**	**64.85 302**	P		P	21 24 42.4	-2.1
CTA	**Charters Tower**	**65.16 135**	P		**P**	**21 24 45.7**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=333,slow=2.3,SNR=2.3							
GERES	**GERESS Array B**	**67.39 314**	P		**P**	**21 24 59.6**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=64,slow=4.6,SNR=8.0							
GERES	**GERESS Array B**	**67.39 314**	P		**P**	**21 25 00.1**	**-0.6**
TTA	**Tatalina**	**68.36 29**	P		**P**	**21 25 06.7**	**+0.1**
TTA			pmax	pmax				
	comp=Z,5.0nm,1.4s							
TTA	**Tatalina**	**68.36 29**	P		**P**	**21 25 06.7**	**+0.1**
TTA			IAmb	IAmb		21 25 19.8		
	comp=Z,5.0nm,1.4s							
KMBO	**Kilima Mbogo**	**69.65 256**	P		**P**	**21 25 14.7**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=51,slow=14,SNR=6.7							
BPAW	**Bear Paw Mtn.**	**69.88 27**	P		**P**	**21 25 15.5**	**-0.3**
BPAW			IAmb	IAmb		21 25 21.6		
	comp=Z,9.5nm,1.4s							
PPLA	**Purkeypile**	**69.96 28**	P		**P**	**21 25 16.1**	**-0.5**
NRCA	**Norcia**	**70.00 308**	P		**P**	**21 25 16.1**	**-1.0**
NRCA			IAmb	IAmb		21 25 29.0		
	comp=Z,11nm,1.5s							
BBOO	**Buckleboo**	**70.13 151**	P		**P**	**21 25 17.1**	**-0.5**
KTH	**Kantishna Hill**	**70.16 27**	P		**P**	**21 25 17.7**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**70.38 313**	P		**P**	**21 25 18.9**	**-0.6**
FUORN			IAmb	IAmb		21 25 38.0		
	comp=Z,8.9nm,1.4s							
BMAR	**Burnt Mountain**	**70.51 22**	P		**P**	**21 25 19.6**	**-0.1**
MDM	**Murphy Dome**	**70.51 25**	P		**P**	**21 25 19.7**	**-0.1**
MDM			IAmb	IAmb		21 25 20.7		
	comp=Z,7.2nm,0.9s							
COLA	**College**	**70.69 25**	*de*P		**P**	**21 25 20.8**	**0.0**
COLA			pmax	pmax				
	comp=Z,10.0nm,0.9s							
COLA	**College**	**70.69 25**	P		**P**	**21 25 20.3**	**-0.5**
WRH	**Wood River Hil**	**70.81 26**	P		**P**	**21 25 21.4**	**-0.1**
IL31		**71.10 25**	P		**P**	**21 25 22.6**	**-0.7**
ILAR	**Eielson Array**	**71.10 25**	P		**P**	**21 25 22.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=287,slow=4.3,SNR=8.6							
ILAR	**Eielson Array**	**71.10 25**	P		**P**	**21 25 22.5**	**-0.8**
ILAR	**Eielson Array**	**71.10 25**	P		**P**	**21 25 22.5**	**-0.8**
DHY	**Denali Highway**	**71.79 27**	P		**P**	**21 25 27.1**	**-0.5**
DHY			IAmb	IAmb		21 25 36.1		
	comp=Z,4.7nm,1.0s							
STKA	**Stephens Creek**	**71.86 146**	P		**P**	**21 25 27.1**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=327,slow=6.3,SNR=8.1							
STKA	**Stephens Creek**	**71.86 146**	P		**P**	**21 25 27.1**	**-1.2**
BRLK	**Bradley Lake**	**71.99 31**	P		**P**	**21 25 28.3**	**-0.5**
BRLK			IAmb	IAmb		21 25 37.8		
	comp=Z,7.9nm,1.0s							
EIDS	**Eidsvold**	**72.04 135**	P		**P**	**21 25 28.5**	**-0.9**
EIDS			IAmb	IAmb		21 25 34.3		
	comp=Z,12nm,1.2s							
KDAK	**Kodiak Island**	**72.17 33**	P		**P**	**21 25 29.1**	**-0.7**
KDAK			pmax	pmax				
	comp=Z,18nm,1.2s							
KDAK	**Kodiak Island**	**72.17 33**	P		**P**	**21 25 29.1**	**-0.7**
RIDG	**Independent Ri**	**72.41 26**	P		**P**	**21 25 30.0**	**-1.2**
RIDG			IAmb	IAmb		21 25 30.9		
	comp=Z,4.1nm,0.8s							
ABPO	**Ambohimpanom**	**72.53 235**	P		**P**	**21 25 31.9**	**-0.8**
ABPO			pmax	pmax				
	comp=Z,15nm,1.4s							
ABPO	**Ambohimpanom**	**72.53 235**	P		**P**	**21 25 31.9**	**-0.8**
ABPO			IAmb	IAmb		21 25 45.3		
	comp=Z,15nm,1.4s							
BNI	**Bardonecchia**	**73.31 313**	P		**P**	**21 25 36.0**	**-1.1**
BNI			pmax	pmax				
	comp=Z,19nm,1.5s							
BNI	**Bardonecchia**	**73.31 313**	P		**P**	**21 25 36.0**	**-1.1**
BNI			IAmb	IAmb		21 25 51.8		
	comp=Z,19nm,1.5s							
INK	**Inuvik**	**73.35 19**	P		**P**	**21 25 36.2**	**-0.4**
	comp=Z,6.3nm,0.6s,baz=337,slow=4.6,SNR=7.5							
INK	**Inuvik**	**73.35 19**	P		**P**	**21 25 36.2**	**-0.4**
INK			pmax	pmax				
	comp=Z,17nm,1.5s							
INK	**Inuvik**	**73.35 19**	P		**P**	**21 25 36.2**	**-0.4**
INK			IAmb	IAmb		21 25 44.1		
	comp=Z,17nm,1.5s							
BCAR	**Beaver Creek A**	**73.92 25**	P		**P**	**21 25 40.1**	**-0.1**
SUMG	**Summit**	**74.10 349**	P		**P**	**21 25 40.3**	**-1.2**
SUMG	**Summit**	**74.10 349**	P		**P**	**21 25 40.3**	**-1.2**
ESDC	**Sonseca Array**	**82.81 312**	P		**P**	**21 26 29.1**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=38,slow=6.4,SNR=2.6							
YKA	**Yellowknife Ar**	**82.85 17**	P		**P**	**21 26 29.1**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=335,slow=5.3,SNR=12							
TORD	**Torodi Ar. Bea**	**92.87 287**	P		**P**	**21 27 17.5**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=69,slow=4.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**92.87 287**	P		**P**	**21 27 17.4**	**-1.3**
TXAR	**Lajitas Array**	**115.61 26**	PKP		**PKiKP**	**21 32 47.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=325,slow=1.5,SNR=3.6							
TXAR	**Lajitas Array**	**115.61 26**	PKIKP		**PKiKP**	**21 32 46.7**	**-1.4**
TXAR	**Lajitas Array**	**115.61 26**			**PKiKP**	**21 32 46.7**	**-1.4**
SNAA	**Sanae**	**123.30 201**	PKiKP		**PKPdf**	**21 32 59.4**	**-2.0**
VNA1	**Neumayer--Stat**	**125.17 202**	PKiKP		**PKPdf**	**21 33 03.9**	**-1.0**
VNA3	**Neumayer Olymp**	**125.52 202**	PKiKP		**PKPdf**	**21 33 04.2**	**-1.4**
ROSC	**El Rosal**	**145.04 355**	PKPbc		**PKPab**	**21 33 42.9**	**-0.4**
	comp=Z,12nm,0.6s,baz=98,slow=5.0,SNR=5.8							
ROSC	**El Rosal**	**145.04 355**			**PKPab**	**21 33 42.6**	**-0.7**

IDC ***07*** *21:26:50.0±1.1, 1°.81N×122°.39E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/38, mbtmp3.9/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/33, Error ellipse: s-maj=134.8km s-min=18.2km az=65.0*

DJA ***07*** *21:26:51.2±1.2, 2°.N±5°×12°.2E±°, h12km±9km, M4.0/7, MLv4.0/7*

NEIC ***07*** *21:26:55.1±1.1, 1°.8N±0°.1×122°.4E±0°.2, h39km±12km, mb4.1/11, Error ellipse: s-maj=30.6km s-min=10.9km az=62.0*

ISC 07 21:26:54.6±0.8, 1°.80N±0°.07×122°.34E±0°.06, h35km, n30, σ1§10/30, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.34**	**150**	P	**Pn**	**21 27 14.6**	**-2.2**
GTOI				S	**Sn**	**21 27 32.0**	**-1.4**
KMSI	**Cibinong**	**2.04**	**127**	P	**Pn**	**21 27 26.8**	**+0.3**
KMSI				S	**Sn**	**21 27 53.9**	**+3.1**
MPSI	**Mapaga**	**2.84**	**239**	P	**Pn**	**21 27 36.7**	**-0.8**
LUWI	**Luwuk**	**2.86**	**171**	P	**Pn**	**21 27 37.6**	**-0.1**
LUWI	**Luwuk**	**2.86**	**171**	Pn	**Pn**	**21 27 39.7**	**+2.0**
SGSI	**Sangihe**	**3.69**	**59**	P	**Pn**	**21 27 48.2**	**-1.1**
MYLDM	**Lahad Datu**	**5.09**	**311**	Pn	**Pn**	**21 28 10.1**	**+1.6**
STKI	**Sintang**	**11.00**	**261**	P	Pn	21 29 15.7	-14
BATI	**Baumata**	**12.00**	**174**	LR	LR	21 34 22.2	
	comp=Z,65nm,21.3s,baz=306,slow=38						
KSM	**Kuching**	**12.03**	**269**	Pn	**Pn**	**21 29 43.2**	**-0.5**
DBJI	**Dramaga**	**17.64**	**242**	P	**P**	**21 30 58.6**	**+0.1**
KNRA	**Kununurra**	**18.49**	**160**		**P**	**21 31 07.4**	**-0.4**
KNRA				IAmb	IAmb	21 31 15.4	
	comp=Z,25nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.04**	**171**	P	**P**	**21 31 24.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=0.0,slow=9.1,SNR=7.3						
FITZ	**Fitzroy Crossi**	**20.04**	**171**	P	**P**	**21 31 24.5**	**-0.3**
FITZ				IAmb	IAmb	21 31 25.3	
	comp=Z,9.6nm,1.2s						
PSAC2	**Pilbara Seismi**	**23.34**	**186**	P	**P**	**21 31 58.5**	**-1.4**

WB0	**Warramunga Arr**	**24.48 152**	P		**P**	**21 32 10.7**	**0.0**
WB0			IAmb	IAmb		21 32 11.3		
	comp=Z,6.2nm,1.1s							
WRA	**Warramunga Arr**	**24.61 152**	P		**P**	**21 32 11.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=331,slow=9.9,SNR=19							
WRA	**Warramunga Arr**	**24.61 152**	P		**P**	**21 32 11.5**	**-0.3**
AS31	**Alice Springs**	**27.70 157**	P		**P**	**21 32 39.6**	**-0.2**
ASAR	**Alice Springs**	**27.70 157**	P		**P**	**21 32 40.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=344,slow=15,SNR=10							
ASAR			LR		LR	21 44 21.2		
	comp=Z,13nm,18.6s,baz=338,slow=38							
BBOO	**Buckleboo**	**36.79 161**	P		**P**	**21 33 58.9**	**-0.2**
STKA	**Stephens Creek**	**38.15 153**	P		**P**	**21 34 11.3**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=335,slow=8.1,SNR=5.8							
STKA	**Stephens Creek**	**38.15 153**	P		**P**	**21 34 10.2**	**-0.6**
STKA			IAmb	IAmb		21 34 23.3		
	comp=Z,2.1nm,1.4s							
MKAR	**Makanchi Array**	**56.74 328**	P		**P**	**21 36 36.3**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=112,slow=7.6,SNR=6.3							
MKAR	**Makanchi Array**	**56.74 328**	P		**P**	**21 36 36.0**	**+0.9**
ZAA0	**Zalesovo Array**	**60.41 336**	P		**P**	**21 37 01.0**	**+0.6**
ZAA0			IAmb	IAmb		21 37 01.8		
	comp=Z,2.9nm,0.9s							
ZALV	**Zalesovo Beam**	**60.41 336**	P		**P**	**21 37 00.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=122,slow=7.0,SNR=7.7							
ZALV	**Zalesovo Beam**	**60.41 336**	P		**P**	**21 37 00.6**	**+0.2**
KURK	**Kurchatov**	**61.10 330**	P		**P**	**21 37 05.6**	**+0.4**
VNDA	**Vanda**	**82.11 172**	P		**P**	**21 39 10.1**	**-1.0**

IDC ***07*** *22:19:37.4±0.8, 18°.98N×146°.97E, h0km, mb3.9/11, mb1 4.2/11, mb1mx3.8/48, mbtmp3.9/11, Error ellipse: s-maj=33.5km s-min=17.7km az=103.0*

NEIC ***07*** *22:19:55.0±1.0, 18°.56N±0°.07×146°.1E±0°.1, h109km±10km, mb4.5/19, Error ellipse: s-maj=18.4km s-min=9.7km az=72.0*

ISC 07 22:19:52.9±0.9, 18°.72N±0°.07×146°.3E±0°.2, h100km, n38, σ1§47/35, mb4.4/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.43**	**194**	Pn	**Pn**	**22 20 31.1**	**-0.1**
GUMO	**Guam**	**5.29**	**196**	Sn	**Sn**	**22 22 14.3**	**+5.0**
	6.2nm,0.3s,baz=5.6,slow=17,SNR=1.9						
GUMO	**Guam**	**5.29**	**196**	Pn	**Pn**	**22 21 09.2**	**-0.3**
JCJ	**Chichijima**	**9.17**	**336**	Pn	**Pn**	**22 22 04.2**	**+2.0**
SSLB	**Suanglung**	**24.16**	**286**	P	P	**22 25 00.9**	**+0.9**
SSLB				IAmb	IAmb	22 25 08.8	
	comp=Z,13nm,1.0s						
KKM	**Kota Kinabalu**	**31.92**	**251**	P	P	**22 26 08.3**	**-1.1**
MTN	**Manton Dam**	**34.75**	**207**	P	P	**22 26 33.0**	**-0.8**
MTN				IAmb	IAmb	22 26 35.2	
	comp=Z,12nm,1.1s						
SBUM	**Sibu**	**37.10**	**248**	P	P	**22 26 53.4**	**-0.5**
SBUM				IAmb	IAmb	22 26 53.7	
	comp=Z,5.1nm,0.5s						
KNRA	**Kununurra**	**38.30**	**208**	P	P	**22 27 03.0**	**-1.0**
KNRA				IAmb	IAmb	22 27 16.7	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**40.00**	**198**	P	P	**22 27 18.3**	**+0.3**
WB0				IAmb	IAmb	22 27 18.9	
	comp=Z,8.7nm,1.0s						
WB2	**Warramunga Arr**	**40.17**	**198**	P	P	**22 27 19.4**	**-0.1**
WB2				IAmb	IAmb	22 27 20.5	
	comp=Z,7.4nm,0.9s						
WRA	**Warramunga Arr**	**40.18**	**198**	P	P	**22 27 19.4**	**-0.2**
	comp=Z,6.8nm,0.9s,baz=17,slow=9.0,SNR=24						
WRA	**Warramunga Arr**	**40.18**	**198**	P	P	**22 27 19.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.85**	**210**	P	P	**22 27 32.9**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=28,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**41.85**	**210**	P	P	**22 27 33.0**	**-0.3**
FITZ				IAmb	IAmb	22 27 33.6	
	comp=Z,5.7nm,0.8s						
AS31	**Alice Springs**	**43.83**	**197**	P	P	**22 27 48.8**	**-0.4**
ASAR	**Alice Springs**	**43.84**	**197**	P	P	**22 27 49.1**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=21,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**43.84**	**197**	P	P	**22 27 48.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**44.80**	**278**	P	P	**22 27 56.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=67,slow=6.6,SNR=5.8						
CMAR	**Chiang Mai Arr**	**44.80**	**278**	P	P	**22 27 57.3**	**+0.2**
KULM	**Kulim**	**46.47**	**259**	P	P	**22 28 10.2**	**-0.1**
KULM				IAmb	I

PATCX IAML 22 35 11.4
comp=N,976nm,0.3s
PB15 IPOC Station P 1.87 210 ⇑*iP* **Pn 22 34 48.1 +0.7**
PB15 *i* S **Sn 22 35 13.7 +1.0**
TA01 Diego Aracena 1.90 302 ⇑*iP* **Pn 22 34 47.5 0.0**
TA01 *i* S **Sn 22 35 12.2 -0.5**
TA01 IAML 22 35 13.8
comp=E,636nm,0.3s
GO01 Chusmiza 2.02 340 *eP* **Pn 22 34 50.2 +0.7**
GO01 *i* S **Sn 22 35 17.7 +1.5**
GO01 IAML 22 35 19.8
comp=N,504nm,0.1s
TA02 Huaiquique 2.03 310 *eP* **Pn 22 34 48.9 -0.2**
TA02 *i* S **Sn 22 35 14.5 -1.2**
TA02 IAML 22 35 19.0
comp=E,1µm,0.2s
PB05 IPOC Station P 2.05 231 ⇑*iP* **Pn 22 34 49.5 0.0**
PB05 IAML 22 35 22.9
comp=E,134nm,0.4s
PB11 IPOC Station P 2.13 328 ⇓*iP* **Pn 22 34 50.5 0.0**
PB11 *i* S **Sn 22 35 17.7 -0.3**
PB11 IAML 22 35 19.8
comp=E,327nm,0.2s
PSGC Pisagua 2.51 321 *eP* **Sn 22 34 54.5 -0.7**
PSGC *i* S **Sn 22 35 25.6 -0.9**
PSGC IAML 22 35 27.8
comp=N,126nm,0.4s
MNMC Minye Minye 2.66 336 ⇑*iP* **Pn 22 34 57.9 +0.7**
MNMC *i* S **Sn 22 35 30.6 +0.6**
MNMC IAML 22 35 34.2
comp=N,316nm,0.2s
PB10 IPOC Station P 2.73 225 ⇑*iP* **Pn 22 34 57.8 0.0**
GO02 Mina Guanaco 3.71 196 ⇑*iP* **Pn 22 35 11.1 +0.2**
GO02 *i* S **Sn 22 35 53.9 -0.7**
LPAZ La Paz 5.27 3 P **Pn 22 35 32.4 +0.5**
comp=N,0.6nm,0.3s,baz=170,slow=16,SNR=12
SIV San Ignacio 8.94 53 P **Pn 22 36 17.4 -3.1**
comp=N,0.7nm,0.3s,baz=239,slow=14,SNR=12
TORD Torodi Ar. Bea 76.99 70 P **P 22 45 52.8 +0.1**
comp=N,0.4nm,0.9s,baz=249,slow=5.3,SNR=17
MKAR Makanchi Array 145.45 36 PKPbc **PKPab 22 53 37.6 +0.7**
comp=N,0.4nm,0.9s,baz=332,slow=2.1,SNR=2.8

*JMA **07** 22:45:01.9±0.3,30°.25N×139°.59E,h422km±5km,M3.2*
*IDC **07** 22:45:07.3±49.0,30°.77N×138°.92E,h449km±201km, mb2.9/3,mb1 2.9/4,mb1mx2.5/63,mbtmp3.6/4,Error ellipse: s-maj=769.3km s-min=93.7km az=167.0*
ISC 07 22:44:59.5±1.4,**29°.9N**±0°.2×**138°.8E**±0°.2,**h400**km,**n8, σ0°62/7,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.09**	**132**	S	**S**	**22 47 11.8**	**+0.1**
JKN2	**Miekihoku**	**4.82**	**334**	P	Pn	22 46 24.5	+5.0
JHU	**Hanno**	**5.94**	**4**	P	**Pn**	**22 46 31.9**	**+0.6**
JAG	**Ashikaga**	**6.52**	**5**	P	**Pn**	**22 46 37.5**	**-0.2**
MJAR	**Matsushiro Arr**	**6.63**	**356**	P	**Pn**	**22 46 39.2**	**+0.2**
	0.1nm,0.3s,baz=167,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**46.40**	**308**	P	**P**	**22 52 48.6**	**+0.8**
	0.1nm,0.5s,baz=93,slow=8.8,SNR=2.2						
KURBB	**Kurchatov Arra**	**48.95**	**313**	P	**P**	**22 53 06.7**	**-0.4**
	0.2nm,0.3s,baz=92,slow=8.3,SNR=5.5						
FINES	**FINESS Array B**	**74.10**	**333**	P	**P**	**22 55 52.2**	**-0.6**
	4.0nm,0.9s,baz=73,slow=4.7,SNR=2.6						

*IDC **07** 22:46:26.5±1.3,2°.32N×126°.99E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.6/54,mbtmp4.1/6,MS3.4/1,Ms1 3.4/1, ms1mx2.4/33,Error ellipse: s-maj=97.3km s-min=17.8km az=68.0*
*NEIC **07** 22:46:38.9±1.1,2°.27N±0°.04×127°.1E±0°.1,h106km±10km, mb4.3/20,Error ellipse: s-maj=18.8km s-min=6.0km az=84.0*
ISC 07 22:46:38.2±0.8,**2°.29N**±0°.09×**127°.1E**±0°.1,**h100**km,**n34, σ0°86/35,mb4.3/15,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.53**	**170**	Pn	**Pn**	**22 47 05.3**	**+0.3**
TNTI				Sn	**Sn**	**22 47 25.9**	**+0.7**
LUWI	**Luwuk**	**5.45**	**233**	Pn	**Pn**	**22 47 59.1**	**+2.0**
MYLDM	**Lahad Datu**	**9.05**	**289**	Pn	**Pn**	**22 48 46.9**	**+0.9**
SBUM	**Sibu**	**14.87**	**271**	Pn	**Pn**	**22 50 01.0**	**-2.4**
KNRA	**Kununurra**	**17.93**	**175**	P	**P**	**22 50 40.5**	**0.0**
KNRA				IAmb	IAmb	22 50 58.0	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.31**	**184**	P	**P**	**22 51 05.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=9.9,slow=10,SNR=9.8						
FITZ	**Fitzroy Crossi**	**20.31**	**184**	P	**P**	**22 51 05.5**	**-0.9**
GUMO	**Guam**	**20.85**	**56**	LR	LR	22 58 19.6	
	comp=Z,98nm,20.9s,baz=149,slow=34						
WB0	**Warramunga Arr**	**23.06**	**162**	P	**P**	**22 51 34.6**	**-0.7**
WB0				IAmb	IAmb	22 51 35.4	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**23.21**	**162**	P	**P**	**22 51 35.9**	**-0.8**
	comp=Z,8.0nm,0.6s,baz=338,slow=11,SNR=49						
WRA	**Warramunga Arr**	**23.21**	**162**	P	**P**	**22 51 35.0**	**-1.7**
WB2	**Warramunga Arr**	**23.21**	**162**	P	**P**	**22 51 35.8**	**-0.9**
WB2				IAmb	IAmb	22 51 36.9	
	comp=Z,10.0nm,0.6s						
PSA00	**Pilbara Seismi**	**24.76**	**196**	P	**P**	**22 51 51.0**	**+0.3**
AS31	**Alice Springs**	**26.64**	**166**	P	**P**	**22 52 07.3**	**-0.5**
ASAR	**Alice Springs**	**26.64**	**166**	P	**P**	**22 52 07.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=353,slow=7.6,SNR=16						
ASAR				PcP	**PcP**	**22 55 30.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=359,slow=2.8,SNR=4.2						
ASAR	**Alice Springs**	**26.64**	**166**	P	**P**	**22 52 06.8**	**-1.0**
GSI	**Gunungsitoli**	**29.52**	**269**	P	**P**	**22 52 32.2**	**-1.3**
GSI				IAmb	IAmb	22 52 41.6	
	comp=Z,16nm,1.2s						
MORW	**Morawa**	**32.94**	**198**	P	**P**	**22 53 03.8**	**+0.5**
MORW				IAmb	IAmb	22 53 18.5	
	comp=Z,14nm,1.4s						
BBOO	**Buckleboo**	**35.93**	**167**	P	**P**	**22 53 29.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**36.25**	**194**	P	**P**	**22 53 31.7**	**-0.2**
STKA	**Stephens Creek**	**36.66**	**159**	P	**P**	**22 53 35.5**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=332,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**36.66**	**159**	P	**P**	**22 53 35.6**	**+0.2**
TOO	**Toolangi**	**43.18**	**159**	P	**P**	**22 54 29.5**	**+0.3**
MK31	**Makanchi Array**	**58.94**	**326**	P	**P**	**22 56 27.0**	**-0.1**
MK31				IAmb	IAmb	22 56 45.2	
	comp=Z,2.8nm,1.5s						
MKAR	**Makanchi Array**	**58.94**	**326**	P	**P**	**22 56 27.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=118,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**58.94**	**326**	P	**P**	**22 56 27.3**	**+0.1**
MAKZ	**Makanchi**	**59.12**	**325**	P	**P**	**22 56 28.8**	**+0.4**
MAKZ				IAmb	IAmb	22 56 42.1	
	comp=Z,1.2nm,0.8s						
ZAA0	**Zalesovo Array**	**62.03**	**333**	P	**P**	**22 56 47.9**	**-0.1**
ZAA0				IAmb	IAmb	22 56 51.9	
	comp=Z,1.5nm,1.1s						
ZALV	**Zalesovo Beam**	**62.03**	**333**	P	**P**	**22 56 48.4**	**+0.5**
KURBB	**Kurchatov Arra**	**63.14**	**328**	P	**P**	**22 56 55.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=138,slow=6.6,SNR=5.2						
KURK	**Kurchatov**	**63.14**	**328**	P	**P**	**22 56 55.7**	**+0.2**
KURK				IAmb	IAmb	22 56 56.5	
	comp=Z,3.4nm,0.8s						
GAR	**Garm**	**63.16**	**313**	P	**P**	**22 56 56.1**	**+0.1**
GAR				IAmb	IAmb	22 56 57.0	
	comp=Z,4.7nm,1.2s						
SOCY	**Socotra**	**73.01**	**282**	P	**P**	**22 57 57.5**	**-0.4**
SOCY				IAmb	IAmb	22 58 02.1	
	comp=Z,17nm,1.4s						
ABKAR	**Akbulak array**	**73.49**	**321**	P	**P**	**22 58 01.0**	**+1.0**

BJI 07 22:51:55.6±0.0,**23°.41N**×**100°.41E**,**h10**km,**ML3.5/8,1D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.73**	**51**	⇓*eP*	Pg	22 52 48.3	+0.4
KMI				Sg	Sb	22 53 20.0	+1.8
KMI				smax	smax		
	comp=N,240nm,1.0s						
KMI				smax	smax		
	comp=E,150nm,1.0s						
WMQ	**Urumqi**	**22.89**	**336**	*eP*	P	22 56 59.1	-0.4

*IDC **07** 23:10:45.1±3.5,36°.21N×70°.21E,h215km±33km,mb3.2/8, mb1 3.3/13,mb1mx3.0/49,mbtmp3.9/13,Error ellipse: s-maj=24.1km s-min=16.5km az=157.0*
ISC 07 23:10:43.5±1.2,**36°.1N**±0°.1×**70°.27E**±0°.09,**h200**km,**n22, σ0°91/22,mb3.6/7,2C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.67**	**149**	⇑P	Pn	23 11 39.6	+10
CEP				S	Sn	23 12 17.0	+12
AML	**Almayashu**	**6.55**	**23**	P	**Pn**	**23 12 18.7**	**+0.4**
	SNR=9.2						
UCH	**Uchtor**	**6.92**	**27**	P	**Pn**	**23 12 23.8**	**+0.7**
	SNR=26						
KK31	**Karatay Array**	**6.96**	**1**	⇓Pn	**Pn**	**23 12 25.5**	**+2.3**
	0.3nm,0.2s,baz=172,slow=12,SNR=9.1						
KK31				Pg		23 12 41.9	
	0.9nm,0.2s,baz=166,slow=11,SNR=6.2						
KK31				⇑Lg	Lg	23 13 35.5	
	4.7nm,0.6s						
EKS2	**Erkin-Say**	**7.06**	**22**	P	**Pn**	**23 12 25.3**	**+0.7**
	SNR=22						
AAK	**Ala-Archa**	**7.27**	**25**	P	**Pn**	**23 12 28.4**	**+1.1**
	SNR=8.5						
KBK	**Karagaybulak**	**7.45**	**28**	P	**Pn**	**23 12 31.2**	**+1.4**
	SNR=10						
ULHL	**Ulahol**	**7.66**	**35**	P	**Pn**	**23 12 33.7**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**7.93**	**30**	P	**Pn**	**23 12 36.7**	**+0.7**
	SNR=9.9						
GEYT	**Alibeck**	**9.88**	**284**	P	**Pn**	**23 13 01.9**	**+0.8**
	0.9nm,0.3s,baz=118,slow=12,SNR=15						
GEYT				S	**Sn**	**23 14 51.7**	**+0.1**
	0.1nm,0.3s,baz=91,slow=17,SNR=1.1						
MKAR	**Makanchi Array**	**13.94**	**36**	P	**Pn**	**23 13 52.8**	**+0.2**
	0.4nm,0.3s,baz=228,slow=14,SNR=18						
KURBB	**Kurchatov Arra**	**15.66**	**20**	P	**Pn**	**23 14 13.9**	**+0.3**
	0.3nm,0.3s,baz=211,slow=9.5,SNR=5.5						
AKTO	**Aktyubinsk**	**16.81**	**332**	P	**P**	**23 14 26.0**	**-0.2**
	0.6nm,0.3s,baz=142,slow=7.3,SNR=9.6						
BVAR	**Borovoye Array**	**16.89**	**0**	P	**Pn**	**23 14 27.5**	**-0.7**
	0.4nm,0.3s,baz=179,slow=11,SNR=7.4						
ZALV	**Zalesovo Beam**	**20.49**	**25**	P	**P**	**23 15 05.8**	**-0.1**
	1.5nm,0.4s,baz=222,slow=12,SNR=8.6						
ARU	**Arti**	**21.79**	**342**	P	**P**	**23 15 18.6**	**-0.8**
	0.7nm,0.4s,baz=154,slow=11,SNR=5.7						
NRIK	**Noril'sk**	**34.59**	**11**	P	**P**	**23 17 12.5**	**-0.4**
	1.8nm,0.4s,baz=236,slow=3.7,SNR=3.8						
FINES	**FINESS Array B**	**37.46**	**327**	P	**P**	**23 17 36.4**	**-0.9**
	2.4nm,0.9s,baz=120,slow=8.5,SNR=1.4						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**23 18 08.1**	**-0.6**
	2.1nm,1.0s,baz=108,slow=8.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P	**P**	**23 21 03.0**	**-0.2**
	0.3nm,0.5s,baz=48,slow=5.2,SNR=7.8						
WRA	**Warramunga Arr**	**82.31**	**121**	P	**P**	**23 22 42.7**	**-0.3**
	0.2nm,0.7s,baz=318,slow=5.6,SNR=1.4						
ASAR	**Alice Springs**	**84.54**	**124**	P	**P**	**23 22 55.0**	**+0.7**
	0.2nm,0.5s,baz=317,slow=4.9,SNR=4.5						

*GCG **07** 23:16:12.5±0.3,14°.62N×90°.93W,h301km±124km,MD4.2*
*NEIC **07** 23:16:20.9±1.9,14°.59N±0°.09×90°.74W±0°.06,h232km±4km, mb4.2/7,Error ellipse: s-maj=13.2km s-min=8.2km az=187.0*
*IDC **07** 23:16:20.8±2.2,14°.51N×90°.28W,h222km±7km,mb3.7/2, mb1 3.5/4,mb1mx3.1/37,mbtmp3.9/4,Error ellipse: s-maj=45.5km s-min=37.7km az=148.0*
ISC 07 23:16:21.2±0.8,**14°.61N**±0°.08×**90°.73W**±0°.07,**h250**km,**n30, σ2°33/31,mb4.2/4,Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.19**	**214**	*eP*	**Pn**	**23 16 51.9**	**-1.9**
NBG	**Las Nubes**	**0.37**	**93**	*eP*	**Pn**	**23 16 53.0**	**-1.1**
APG	**El Apazote**	**0.47**	**33**	P	**Pn**	**23 16 52.0**	**-2.4**
	24nm,0.3s,baz=194,slow=4.2,SNR=160						
APG				S	**S**	**23 17 14.9**	**-5.4**
	4.0nm,0.3s,baz=197,slow=6.6,SNR=4.7						
IXG	**Ixpaco**	**0.52**	**147**	*eP*	**Pn**	**23 16 52.9**	**-1.5**
RTAL	**Retalhuleu**	**0.94**	**265**		**Pn**	**23 16 53.4**	**-2.6**
HUEH	**Huehuetenango**	**1.03**	**314**		**Pn**	**23 16 54.0**	**-2.6**
MRL	**Marmol**	**1.12**	**65**	*eP*	**Pn**	**23 16 56.1**	**-1.1**
MTO3	**Montecristo**	**1.34**	**99**		**Pn**	**23 16 56.8**	**-1.9**
ESQI	**Esquipulas**	**1.35**	**92**	Pn	**Pn**	**23 16 56.5**	**-2.0**
CCIG	**Comitan**	**2.15**	**321**		**Pn**	**23 17 03.8**	**-1.5**
PETF	**Flores**	**2.44**	**20**	Pn	**Pn**	**23 17 05.7**	**-2.2**
PCIG		**2.64**	**295**		**Pn**	**23 17 07.9**	**-1.9**
TGUH	**Tegucigalpa,Un**	**3.40**	**99**		**Pn**	**23 17 17.2**	**-1.1**
CRIN	**San Cristobal**	**4.05**	**117**	Pn	**Pn**	**23 17 25.7**	**-0.1**
TEIG	**Tepich**	**6.06**	**22**	P	**Pn**	**23 17 48.3**	**-1.8**
	5.5nm,0.3s,baz=190,slow=2.4,SNR=30						
TEIG	**Tepich**	**6.06**	**22**		**Pn**	**23 17 48.8**	**-1.2**
ESPN	**Las Esperanzas**	**6.70**	**110**	Pn	**Pn**	**23 17 56.5**	**-1.7**
JTS	**Las Juntas de**	**7.09**	**127**	P	**Pn**	**23 18 03.9**	**+0.8**
	1.9nm,0.3s,baz=323,slow=15,SNR=6.5						
JTS				S	**S**	**23 19 19.1**	**-5.8**
	4.9nm,0.3s,baz=359,slow=19,SNR=9.7						
TXAR	**Lajitas Array**	**18.91**	**323**	P	**Pn**	**23 20 28.9**	**+1.2**
	0.1nm,0.3s,baz=133,slow=10,SNR=4.1						
TXAR	**Lajitas Array**	**18.91**	**323**	P	**Pn**	**23 20 24.5**	**-3.2**
Z51A	**Franklin**	**19.30**	**14**	P	**Pn**	**23 20 30.6**	**-1.4**
W35A	**Tecumseh**	**21.19**	**346**	P	**P**	**23 20 47.5**	**-0.1**
TKL	**Tuckaleechee C**	**21.87**	**15**	P	**P**	**23 20 56.3**	**+2.3**
	2.4nm,0.4s,baz=187,slow=10,SNR=7.0						
TKL	**Tuckaleechee C**	**21.87**	**15**	IAmb	IAmb	23 20 56.7	
	comp=Z,5.1nm,0.8s						
PDPR	**Patillas Dam,**	**23.95**	**78**	P	**P**	**23 21 14.1**	**+1.0**
SAML	**Samuel**	**35.98**	**129**	P	**P**	**23 22 59.9**	**+1.2**
PLID	**Pearl Lake**	**37.15**	**330**	P	**P**	**23 23 10.9**	**+2.4**
PLID				IAmb	IAmb	23 23 21.0	
	comp=Z,11nm,1.4s						
MDM	**Murphy Dome**	**63.37**	**336**	P	**P**	**23 26 25.5**	**+1.7**
MDM				IAmb	IAmb	23 26 26.4	
	comp=Z,5.6nm,0.7s						
ARCES	**ARCESS Array B**	**85.18**	**18**	P	**P**	**23 28 30.1**	**+1.0**
	comp=Z,4.8nm,1.1s,baz=279,slow=6.0,SNR=2.0						
WRA	**Warramunga Arr**	**136.73**	**256**	PKP	**PKiKP**	**23 35 18.2**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=92,slow=2.6,SNR=5.4						

BJI 07 23:30:05.8±0.0,**23°.36N**×**100°.49E**,**h16**km,**ML3.4/8,1C, Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.70**	**49**	⇑*eP*	Pg	23 30 54.7	+0.8
KMI				Sg	Sg	23 31 33.1	+0.4
KMI				smax	smax		
	comp=N,160nm,1.1s						
KMI				smax	smax		
	comp=E,86nm,1.0s						
CD2	**Chengdu**	**8.06**	**20**	P	Pn	23 32 03.4	+1.1
CD2				smax	smax		
	comp=N,20nm,1.6s						
CD2				smax	smax		
	comp=E,30nm,1.6s						
WMQ	**Urumqi**	**22.97**	**336**	*eP*	P	23 35 09.0	-0.7

*IDC **07** 23:42:02.7±0.9,76°.16N×59°.77W,h0km,mb3.3/11, mb1 3.6/12,mb1mx3.5/38,mbtmp3.4/12,ML3.8/1,MS3.4/21, Ms1 3.4/21,ms1mx3.3/39,Error ellipse: s-maj=33.7km s-min=16.6km az=163.0*
*NEIC **07** 23:42:04.5±1.5,76°.10N±0°.09×59°.8W±0°.2,h10km±1km, mb4.2/9,Error ellipse: s-maj=15.6km s-min=9.3km az=10.0*
*DNK **07** 23:42:06.0±1.7,76°.00N×59°.42W,h6km±24km,ML3.3*
ISC 07 23:42:04.0±0.5,**76°.08N**±0°.07×**59°.62W**±0°.05,**h10**km,**n42, σ1°63/35,mb3.3/13,MS3.4/20,Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TULEG	**Thule**	**2.24**	**286**	Pn	**Pn**	**23 42 42.4**	**+1.4**
TULEG					**Pb**	**23 42 43.2**	**-1.3**
TULEG	**Thule**	**2.24**	**286**	*i* P	**Pb**	**23 42 44.7**	**+0.3**
TULEG				IAML		23 43 21.3	
	comp=Z,128nm,0.4s						
UPNV	**Upernavik**	**3.45**	**162**	*i* P	**Pn**	**23 42 57.7**	**0.0**
UPNV				*i* S	**Sb**	**23 43 47.6**	**+0.6**
UPNV				IAML		23 43 57.5	
	comp=Z,45nm,0.3s						
NUUG	**Nuugaatsiaq**	**4.91**	**155**	*i* P	**Pn**	**23 43 19.9**	**+2.2**
NUUG				*i* S	**Sn**	**23 44 13.0**	**-1.4**
NUUG				IAML		23 44 22.1	
	comp=Z,15nm,0.4s						
SUMG	**Summit**	**6.69**	**111**	Pn	**Pn**	**23 43 43.5**	**+0.9**
SUMG	**Summit**	**6.69**	**111**	*i* P	**Pn**	**23 43 43.8**	**+1.3**
SUMG				*i* S	**Sn**	**23 44 54.1**	**-4.8**
SUMG	**Summit**	**6.69**	**111**	*i* P	**Pn**	**23 43 43.9**	**+1.3**
SUMG				*i* S	**Sn**	**23 44 54.1**	**-4.8**
SUMG				IAML		23 45 07.2	
	comp=Z,21nm,0.4s						
ILULI	**Ilulissat**	**7.35**	**156**	Pn	**Pn**	**23 43 52.4**	**+1.2**
RES	**Resolute Bay**	**8.93**	**278**	Pn	**Pn**	**23 44 12.6**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=56,slow=13,SNR=11						
RES				Sn	**Sn**	**23 45 51.1**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=0.2,slow=7.4,SNR=2.9						
SFJD	**Kangerlussuaq**	**9.55**	**158**	LR	LR	23 47 54.9	
	comp=Z,246nm,20.9s,baz=343,slow=36						
SCHQ	**Schefferville**	**21.52**	**191**	LR	LR	23 55 32.3	
	comp=Z,104nm,19.5s,baz=14,slow=38						
YKA	**Yellowknife Ar**	**22.51**	**263**	P	**P**	**23 47 02.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=31,slow=11,SNR=2.3						
YKA				LR	LR	23 56 02.4	
	comp=Z,98nm,21.6s,baz=0.0,slow=37						
ARCES	**ARCESS Array B**	**23.72**	**61**	LR	LR	23 57 49.3	
	comp=Z,67nm,18.9s,baz=295,slow=40						
NOA	**NORSAR Array B**	**27.59**	**83**	LR	LR	23 58 53.7	
	comp=Z,59nm,18.2s,baz=320,slow=37						
IL31		**28.16**	**295**	P	**P**	**23 47 53.7**	**-2.2**
ILAR	**Eielson Array**	**28.16**	**295**	P	**P**	**23 47 54.5**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=30,slow=9.3,SNR=1.5						
HDA	**Harding Lake**	**28.49**	**295**	P	**P**	**23 47 58.4**	**-0.5**
ULM	**Lac du Bonnet**	**29.63**	**230**	LR	LR	23 59 43.1	
	comp=Z,91nm,19.8s,baz=352,slow=36						
NRIK	**Noril'sk**	**33.39**	**20**	LR	LR	00 02 34.3	
	comp=Z,36nm,20.5s,baz=15,slow=37						
OBN	**Obninsk**	**38.82**	**66**	LR	LR	00 05 37.2	
	comp=Z,12nm,19.0s,baz=352,slow=36						
VRAC	**Vranov**	**39.53**	**87**	LR	LR	00 04 38.3	
	comp=Z,45nm,21.4s,baz=342,slow=34						
PDAR	**Pinedale Array**	**39.54**	**242**	P	**P**	**23 49 35.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=48,slow=8.6,SNR=1.1						
PDAR				LR	LR	00 06 03.1	
	comp=Z,78nm,20.6s,baz=15,slow=36						
AKASG	**Malin Array Be**	**41.24**	**75**	P	**P**	**23 49 49.2**	**+0.6**
	comp=Z,0.1nm,0.2s,baz=334,slow=10,SNR=1.1						
AKASG				LR	LR	00 06 36.7	
	comp=Z,44nm,19.1s,baz=300,slow=36						
ESDC	**Sonseca Array**	**43.75**	**113**	P	**P**	**23 50 09.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=341,slow=8.2,SNR=1.3						
ESDC				LR	LR	00 06 43.4	
	comp=Z,33nm,21.6s,baz=335,slow=34						
MLR	**Muntele Rosu**	**45.35**	**80**	LR	LR	00 09 05.1	
	comp=Z,18nm,20.9s,baz=324,slow=36						
NV11	**Mina Array Sit**	**45.59**	**250**	P	**P**	**23 50 24.9**	**+0.9**
NVAR	**Mina Array Bea**	**45.62**	**250**	P	**P**	**23 50 24.7**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=8.9,slow=6.4,SNR=1.3						
NVAR				LR	LR	00 09 37.7	
	comp=Z,74nm,20.8s,baz=25,slow=36						
ZAA0	**Zalesovo Array**	**48.22**	**27**	P	**P**	**23 50 45.9**	**+1.8**
ZAA0				IAmb	IAmb	23 52 27.9	
	comp=Z,2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**48.22**	**27**	P	**P**	**23 50 43.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=340,slow=7.8,SNR=1.5						
ZALV				LR	LR	00 13 09.8	
	comp=Z,40nm,18.5s,baz=328,slow=39						
PETK	**Petropavlovsk-**	**48.85**	**331**	LR	LR	00 12 23.0	
	comp=Z,27nm,19.7s,baz=341,slow=37						
KBZ	**Khabaz**	**50.93**	**66**	LR	LR	00 11 07.9	
	comp=Z,40nm,18.6s,baz=320,slow=34						
TXAR	**Lajitas Array**	**51.33**	**231**	P	**P**	**23 51 08.3**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=32,slow=8.8,SNR=1.5						
TXAR				LR	LR	00 13 52.7	
	comp=Z,84nm,19.0s,baz=0.0,slow=37						
BR131	**Keskin Array S**	**52.63**	**76**	P	**P**	**23 51 18.7**	**+0.9**
BRTR	**Keskin Array B**	**52.63**	**76**	P	**P**	**23 51 17.6**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=355,slow=7.2,SNR=2.2						
ELL	**Elmali**	**54.58**	**80**	P	**P**	**23 51 33.0**	**+0.9**
MK31	**Makanchi Array**	**54.96**	**31**	P	**P**	**23 51 36.4**	**+1.7**
MK31				IAmb	IAmb	23 51 37.6	
	comp=Z,2.9nm,1.4s						
MKAR	**Makanchi Array**	**54.96**	**31**	P	**P**	**23 51 35.4**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=357,slow=5.8,SNR=2.2						
MKAR				LR	LR	00 18 44.9	
	comp=Z,41nm,18.0s,baz=334,slow=40						
KKAR	**Karatay Array**	**56.88**	**42**	P	**P**	**23 51 49.4**	**+0.9**
LPIG	**La Paz**	**57.71**	**237**	LR	LR	00 20 10.0	
	comp=Z,38nm,18.1s,baz=10,slow=40						
KSRS	**Korea Array**	**66.64**	**353**	P	**P**	**23 53 27.2**	
	comp=Z,23nm,19.6s,baz=0.0,slow=37						
CMAR	**Chiang Mai Arr**	**84.75**	**20**	P	**P**	**23 54 38.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=345,slow=6.5,SNR=1.3						
CMAR	**Chiang Mai Arr**	**84.75**	**20**	P	**P**	**23 54 38.0**	**-0.1**

*IDC **07** 23:52:07.1±1.2,24°.00S×13°.27W,h0km,mb4.1/5, mb1 4.2/5,mb1mx3.8/34,mbtmp4.1/5,MS3.5/8,Ms1 3.5/8, ms1mx3.2/21,Error ellipse: s-maj=40.4km s-min=33.2km az=153.0*
*NEIC **07** 23:52:08.8±1.6,24°.0S±0°.1×13°.1W±0°.2,h10km±1km, mb4.3/9,Error ellipse: s-maj=32.5km s-min=12.6km az=133.0*
ISC 07 23:52:09.0±0.9,**24°.0S**±0°.2×**13°.1W**±0°.1,**h10**km,**n21, σ0°80/13,mb4.2/7,MS3.5/8,Southern Mid-Atlantic Ridge**

| Code |

AVE				S	Sb	00 18 53.4	+3.3	
AVE	**Averroes**	**1.43**	**314**	*e*P	**Pn**	00 18 32.0	+0.9	
AVE				*e*S	**Sb**	00 18 53.1	+3.0	
MDT	**Midelt**	**1.44**	**69**	P	**Pn**	00 18 31.0	-0.3	
MDT				S	**Sn**	00 18 50.5	+0.5	
OUZM	**OUZ**	**1.47**	**199**	P	**Pn**	00 18 31.7	0.0	
IFR	**Ifrane**	**1.51**	**36**	*e*P	**Pn**	00 18 32.8	+0.4	
IFR				*e*S	**Sn**	00 18 53.8	+1.8	
TZRR	**Tazzarine**	**1.60**	**160**	P	**Pn**	00 18 33.8	+0.1	
TZRR				S	**Sb**	00 18 55.3	+0.1	
OUK	**Oukaimeden**	**1.79**	**233**	P	**Pn**	00 18 37.3	+0.9	
OUK				S	**Sb**	00 19 02.3	+1.5	
ARF	**Arif**	**1.89**	**117**	P	**Pn**	00 18 38.7	+1.1	
ARF				S	**Sb**	00 19 03.3	-0.2	
SICH	**Sidi Chahed**	**1.94**	**22**	P	**Pn**	00 18 41.6	+3.4	
SICH				S	**Sb**	00 19 08.2	+3.3	
ZGR	**Zagora**	**2.23**	**167**	P	**Pn**	00 18 43.2	+1.0	
TTIG	**Tnine Tigouga,**	**2.60**	**228**	P	**Pn**	00 18 48.3	+1.0	
PVLZ	**Peæn de**	**3.27**	**28**	P	**Pn**	00 18 58.1	+1.7	
PVLZ	**Peæn de**	**3.27**	**28**	*e*P	**Pn**	00 18 58.1	+1.7	
TDRA	**Tendrara**	**3.59**	**77**	P	**Pn**	00 19 01.0	0.0	
TDRA				Lg	Lg	00 19 57.4		
PBDV	**Barranco-do-Ve**	**5.13**	**344**	P	**Pn**	00 19 21.7	-0.3	
PBDV				S	**Sn**	00 20 19.1	-2.0	
PBDV	**Barranco-do-Ve**	**5.13**	**344**	*e*Pn	**Pn**	00 19 21.7	-0.3	
PBDV				*e*Sn	**Sn**	00 20 19.1	-2.0	
PVAQ	**Vaqueiros**	**5.24**	**347**	P	**Pn**	00 19 23.9	+0.4	
PVAQ				S	**Sn**	00 20 21.5	-2.2	
	1.9nm,0.4s							
PVAQ	**Vaqueiros**	**5.24**	**347**	*e*Pn	**Pn**	00 19 23.9	+0.4	
PVAQ				*e*Sn	**Sn**	00 20 21.5	-2.2	
PVAQ				A	A	00 20 26.5		
	1.9nm,0.4s							
PFVI	**Vila Bisbo**	**5.28**	**337**	P	**Pn**	00 19 23.4	-0.7	
	0.3nm,0.1s,SNR=7.9							
PFVI				S	**Sn**	00 20 22.7	-2.1	
	0.6nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.28**	**337**	*e*Pn	**Pn**	00 19 24.7	+0.6	
PFVI				*e*Sn	**Sn**	00 20 23.5	-1.3	
EGRO	**El Granado**	**5.33**	**349**	P	**Pn**	00 19 24.7	0.0	
	1.1nm,0.2s,SNR=7.9							
EGRO				S	**Sn**	00 20 22.5	-3.3	
	0.4nm,0.1s,SNR=7.9							
MORF	**Marmelete**	**5.38**	**339**	P	**Pn**	00 19 25.9	+0.4	
MORF				S	**Sn**	00 20 26.4	-1.0	
MORF	**Marmelete**	**5.38**	**339**	*e*Pn	**Pn**	00 19 25.9	+0.4	
MORF				*e*Sn	**Sn**	00 20 26.4	-1.0	
EMIN	**Mina Concepcio**	**5.47**	**356**	P	**Pn**	00 19 25.5	-1.1	
	0.1nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	00 20 26.3	-3.0	
	0.2nm,0.2s,SNR=7.9							
PCVE	**Castro Verde**	**5.53**	**345**	P	**Pn**	00 19 27.6	+0.1	
PCVE	**Castro Verde**	**5.53**	**345**	*e*Pn	**Pn**	00 19 27.6	+0.1	
PTEO	**Sao Teotonio**	**5.63**	**339**	P	**Pn**	00 19 30.1	+1.3	
PTEO				S	**Sn**	00 20 33.0	-0.3	
PTEO	**Sao Teotonio**	**5.63**	**339**	*e*Pn	**Pn**	00 19 30.1	+1.3	
PTEO				*e*Sn	**Sn**	00 20 33.0	-0.3	
ECAB	**El Cabril**	**5.80**	**6**	P	**Pn**	00 19 30.1	-1.0	
	0.1nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	00 20 34.7	-2.8	
	0.2nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.00**	**12**	P	**Pn**	00 19 32.7	-1.3	
	0.1nm,0.1s,SNR=7.9							
PNCL	**Nicolau / Gran**	**6.10**	**342**	P	**Pn**	00 19 35.7	+0.4	
PNCL				S	**Sn**	00 20 41.3	-3.6	
PNCL	**Nicolau / Gran**	**6.10**	**342**	*e*Pn	**Pn**	00 19 35.7	+0.4	
PNCL				*e*Sn	**Sn**	00 20 41.3	-3.6	
EVO	**Evora**	**6.39**	**347**	P	**Pn**	00 19 40.3	+1.0	
EVO	**Evora**	**6.39**	**347**	*e*Pn	**Pn**	00 19 40.3	+1.0	
PMTG	**Montargil**	**6.95**	**347**	P	**Pn**	00 19 47.0	0.0	
PMTG	**Montargil**	**6.95**	**347**	*e*Pn	**Pn**	00 19 47.0	0.0	
PMRV	**Marv??o**	**7.18**	**353**	P	**Pn**	00 19 50.1	0.0	
PMRV				S	**Sn**	00 21 08.2	-3.3	
PMRV	**Marv??o**	**7.18**	**353**	*e*Pn	**Pn**	00 19 50.1	0.0	
PMRV				*e*Sn	**Sn**	00 21 08.2	-3.3	
PSBE	**So Bento**	**7.50**	**344**	*e*Pn	**Pn**	00 19 56.7	+2.1	

*IDC **08** 00:22:45.7±2.1,10°.53N×92°.41E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.5/33,mbtmp3.6/5,ML4.1/1,Error ellipse: s-maj=74.0km s-min=24.6km az=64.0*
*NEIC **08** 00:22:53.6±1.8,10°.88N±0°.09×92°.7E±0°.2,h49km±11km, mb4.0/5,Error ellipse: s-maj=31.5km s-min=12.3km az=94.0*

ISC 08 00:22:50.2±1.8,10°.7N±0°.2×92°.5E±0°.3,h29km,n13, σ1s15/9,mb3.6/5,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.02**	**12**		Op	Sn	00 23 19.4	-2.5
CMAR	**Chiang Mai Arr**	**9.94**	**38**	Pn	**Pn**	**00 25 11.8**	**+0.7**
	0.5nm,0.3s,baz=230,slow=14,SNR=1.9							
H08S3	**Diego Garcia H**	**26.98**	**228**	T	T	00 55 14.3		
	baz=51,slow=76							
H08S2	**Diego Garcia H**	**26.98**	**228**	T	T	00 55 15.6		
	baz=51,slow=76							
H08S1	**Diego Garcia H**	**27.00**	**228**	T	T	00 55 15.6		
	baz=51,slow=76							
MK31	**Makanchi Array**	**37.05**	**348**	P	**P**	**00 29 56.7**	**-0.9**	
MKAR	**Makanchi Array**	**37.05**	**348**	P	**P**	**00 29 58.3**	**+0.7**	
	0.3nm,0.3s,baz=168,slow=9.3,SNR=8.0							
ZAA0	**Zalesovo Array**	**43.62**	**353**	P	**P**	**00 30 53.0**	**+1.2**	
ZAA0				IAmb	IAmb	00 32 19.1		
	comp=Z,5.7nm,1.8s							
ZALV	**Zalesovo Beam**	**43.62**	**353**	P	**P**	**00 30 52.2**	**+0.4**	
	comp=Z,0.4nm,0.3s,baz=164,slow=8.9,SNR=4.2							
MDJ	**Mudanjiang**	**46.47**	**36**	P	**P**	**00 31 13.2**	**-1.5**	
WB0	**Warramunga Arr**	**51.12**	**126**	P	**P**	**00 31 51.3**	**+0.5**	
WRA	**Warramunga Arr**	**51.17**	**126**	P	**P**	**00 31 50.1**	**-1.1**	
	comp=Z,0.2nm,0.5s,baz=301,slow=9.9,SNR=2.2							
ASAR	**Alice Springs**	**52.92**	**131**	P	**P**	**00 32 05.1**	**+1.0**	
	comp=Z,0.2nm,0.4s,baz=303,slow=7.4,SNR=4.3							

NNC 08 00:47:46.3±6.4,37°.69N×71°.13E,h212km±55km,mb2.4, mpv3.6,4C-2D,Error ellipse: s-maj=62.5km s-min=47.7km az=40.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.43**	**355**	⇑P		Pn	00 49 05.8	-0.5
	3.4nm,0.4s,baz=177,slow=13,SNR=56							
KK31				⇑S		S	00 50 10.3	+0.9
	1.6nm,0.3s,baz=174,slow=22,SNR=13							
AB31	**Akbulak array**	**14.11**	**329**	⇓P		P	00 50 59.9	+1.6
	0.2nm,0.3s,baz=0.0,slow=0.1,SNR=6.2							
AB31				⇑S		S	00 53 33.6	+0.6
	0.5nm,0.4s,baz=158,slow=22,SNR=4.2							
AKTO	**Aktyubinsk**	**15.81**	**328**	⇑P		P	00 51 15.3	-1.8
	1.0nm,0.8s							
AKTO				⇓S		S	00 54 12.4	+0.2
	2.2nm,1.1s							

LJU 08 00:54:58.9,45°.91N×14°.58E,h4km,ML0.1,2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GBAS	**Gorenja Brezov**	**0.10**	**286**	*i* Pg		Pg	00 55 01.0	0.0
GBAS				*i* Sg		Sg	00 55 02.4	+0.1
	comp=Z,2.0nm,0.0s							
LJU	**Ljubljana**	**0.14**	**345**	⇓*i* Pg		Pg	00 55 01.8	+0.1
	comp=Z,6.0nm,0.1s							
CEY	**Cerknica**	**0.20**	**213**	*i* Pg		Pg	00 55 02.9	+0.1
CEY				*i* Sg		Sg	00 55 05.8	+0.4
	comp=Z,1.0nm,0.1s							
VISS	**Visnje**	**0.21**	**120**	*i* Pg		Pg	00 55 03.0	0.0
VISS				*i* Sg		Sg	00 55 06.1	+0.4
	comp=Z,2.0nm,0.1s							
VNDS	**Vrh nad Dolski**	**0.21**	**23**	⇓*i* Pg		Pg	00 55 03.1	+0.1
	comp=Z,1.0nm,0.1s							
JAVS	**Javornik**	**0.36**	**268**	*i* Pg		Pg	00 55 06.1	+0.3
MOZS	**Mozjanca**	**0.40**	**346**	*i* Pg		Pg	00 55 06.8	+0.2

*BUC **08** 00:57:22.7±0.3,45°.70N×26°.76E,h119km±2km,ml3.6/42, Error ellipse: s-maj=1.6km s-min=1.6km az=20.0*

ISC 08 00:57:22.6±1.3,45°.73N±0°.03×26°.76E±0°.03,h122km±6km, n112,σ0s90/149,74C-70D,Romania

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

VRI	**Vrincioaia**	**0.14**	**350**	⇑P		**Pn**	**00 57 39.5**	**+0.1**
VRI				⇑S		**Sn**	**00 57 51.6**	**-0.6**
VRI	**Vrincioaia**	**0.14**	**350**	⇑P		**Pn**	**00 57 39.5**	**+0.1**
PLOR	**Plostina**	**0.15**	**327**	⇑P		**Pn**	**00 57 39.4**	**0.0**
PLOR				⇓S		**Sn**	**00 57 51.6**	**-0.6**
PLOR	**Plostina**	**0.15**	**327**	⇑P		**Pn**	**00 57 39.4**	**0.0**
BISRR	**Bisoca**	**0.18**	**192**	⇓P		**Pn**	**00 57 39.9**	**+0.3**
BISRR				⇑S		**Sn**	**00 57 53.0**	**+0.7**
BISRR	**Bisoca**	**0.18**	**192**	⇓P		**Pn**	**00 57 39.9**	**+0.3**
PETR	**Petresti**	**0.33**	**91**	⇑P		**Pn**	**00 57 40.2**	**+0.3**
PETR				⇑S		**Sn**	**00 57 53.4**	**+0.5**
PETR	**Petresti**	**0.33**	**91**	⇑P		**Pn**	**00 57 40.2**	**+0.3**
GRER		**0.38**	**157**	⇑P		**Pn**	**00 57 41.0**	**+0.8**
GRER		**0.38**	**157**	⇑P		**Pn**	**00 57 41.0**	**+0.8**
NEHR	**Nehoiu**	**0.45**	**228**	⇑P		**Pn**	**00 57 40.9**	**+0.4**
NEHR				⇑S		**Sn**	**00 57 54.2**	**+0.1**
NEHR	**Nehoiu**	**0.45**	**228**	⇑P		**Pn**	**00 57 40.9**	**+0.4**
GHRR		**0.56**	**53**	⇓P		**Pn**	**00 57 41.1**	**0.0**
GHRR				⇑S		**Sn**	**00 57 55.8**	**+0.7**
GHRR		**0.56**	**53**	⇓P		**Pn**	**00 57 41.1**	**0.0**
MLR	**Muntele Rosu**	**0.62**	**248**	⇓P		**Pn**	**00 57 41.9**	**+0.1**
MLR				⇑S		**Sn**	**00 57 56.1**	**-0.1**
MLR	**Muntele Rosu**	**0.62**	**248**	⇓P		**Pn**	**00 57 41.9**	**+0.1**
ISR	**Istrita**	**0.63**	**194**	⇓S		**Sn**	**00 57 56.5**	**+0.4**
ISR	**Istrita**	**0.63**	**194**	⇓S		**Sn**	**00 57 56.5**	**+0.4**
TUDR		**0.65**	**102**	⇑P		**Pn**	**00 57 42.0**	**+0.3**
TUDR				⇑S		**Sn**	**00 57 56.2**	**+0.1**
TUDR		**0.65**	**102**	⇑P		**Pn**	**00 57 42.0**	**+0.3**
OZUR		**0.78**	**299**	⇓P		**Pn**	**00 57 42.4**	**-0.4**
OZUR				⇑S		**Sn**	**00 57 57.3**	**-0.8**
OZUR		**0.78**	**299**	⇓P		**Pn**	**00 57 42.4**	**-0.4**
VARL	**Varlezi**	**0.78**	**77**	⇓P		**Pn**	**00 57 42.5**	**-0.4**
VARL				⇑S		**Sn**	**00 57 57.9**	**-0.1**
VARL	**Varlezi**	**0.78**	**77**	⇓P		**Pn**	**00 57 42.8**	**0.0**
SCHL	**Schela**	**0.78**	**106**	⇓P		**Pn**	**00 57 42.7**	**-0.1**
SCHL				⇑S		**Sn**	**00 57 57.7**	**-0.3**
SCHL	**Schela**	**0.78**	**106**	⇓P		**Pn**	**00 57 42.7**	**-0.1**
TESR	**Tescani**	**0.79**	**354**	⇓P		**Pn**	**00 57 42.5**	**-0.4**
TESR	**Tescani**	**0.79**	**354**	⇓P		**Pn**	**00 57 42.5**	**-0.4**
BIR	**Birlad**	**0.81**	**48**	⇓P		**Pn**	**00 57 43.3**	**+0.3**
BIR				⇓S		**Sn**	**00 57 58.2**	**-0.3**
BIR	**Birlad**	**0.81**	**48**	⇓P		**Pn**	**00 57 43.3**	**+0.3**
PGOR	**Pogoanele**	**0.83**	**169**	⇓S		**Sn**	**00 57 59.0**	**+0.2**
PGOR	**Pogoanele**	**0.83**	**169**	⇓S		**Sn**	**00 57 59.0**	**+0.2**
GISR	**Galati**	**0.95**	**107**	⇓P		**Pn**	**00 57 44.2**	**-0.1**
GISR				⇑S		**Sn**	**00 58 00.6**	**-0.1**
GISR	**Galati**	**0.95**	**107**	⇓P		**Pn**	**00 57 44.2**	**-0.1**
DOPR	**Dopca**	**0.99**	**285**	⇑P		**Pn**	**00 57 44.7**	**-0.1**
DOPR				⇑S		**Sn**	**00 58 00.7**	**-0.7**
DOPR	**Dopca**	**0.99**	**285**	⇑P		**Pn**	**00 57 44.7**	**-0.1**
GIUM	**Giurgiulesti**	**1.04**	**103**	⇑P		**Pn**	**00 57 45.3**	**+0.1**
GIUM				⇓S		**Sn**	**00 58 02.5**	**+0.2**
GIUM	**Giurgiulesti**	**1.04**	**103**	⇑P		**Pn**	**00 57 45.3**	**+0.1**
SULR		**1.11**	**199**	⇓P		**Pn**	**00 57 46.3**	**+0.4**
SULR				⇓S		**Sn**	**00 58 03.7**	**+0.2**
SULR		**1.11**	**199**	⇓P		**Pn**	**00 57 46.3**	**+0.4**
CFR	**Carcaliu**	**1.11**	**119**	⇑P		**Pn**	**00 57 46.0**	**+0.2**
CFR				⇑S		**Sn**	**00 58 02.9**	**-0.6**
CFR	**Carcaliu**	**1.11**	**119**	⇑P		**Pn**	**00 57 46.0**	**+0.2**
VASR	**Vaslui**	**1.16**	**38**	⇓P		**Pn**	**00 57 46.6**	**+0.2**
VASR				⇓S		**Sn**	**00 58 04.1**	**-0.4**
VASR	**Vaslui**	**1.16**	**38**	⇓P		**Pn**	**00 57 46.6**	**+0.2**
AMRR	**Amara**	**1.19**	**160**	⇑P		**Pn**	**00 57 47.1**	**+0.4**
AMRR				⇑S		**Sn**	**00 58 04.9**	**0.0**
AMRR	**Amara**	**1.19**	**160**	⇑P		**Pn**	**00 57 47.1**	**+0.4**
VOIR		**1.24**	**257**	⇑P		**Pn**	**00 57 47.2**	**-0.2**
VOIR				⇑S		**Sn**	**00 58 05.0**	**-1.1**
VOIR		**1.24**	**257**	⇑P		**Pn**	**00 57 47.2**	**-0.2**
GIRR	**Girov**	**1.24**	**352**	⇑P		**Pn**	**00 57 47.4**	**+0.1**
GIRR	**Girov**	**1.24**	**352**	⇑P		**Pn**	**00 57 47.4**	**+0.1**
LEHL	**Lehliu**	**1.25**	**178**	⇑P		**Pn**	**00 57 47.9**	**+0.4**
LEHL				⇓S		**Sn**	**00 58 06.5**	**+0.3**
LEHL	**Lehliu**	**1.25**	**178**	⇑P		**Pn**	**00 57 47.9**	**+0.4**
BIZ	**Bicaz**	**1.30**	**340**	⇑P		**Pn**	**00 57 48.5**	**+0.6**
BIZ				⇓S		**Sn**	**00 58 07.2**	**+0.1**
BIZ	**Bicaz**	**1.30**	**340**	⇑P		**Pn**	**00 57 48.5**	**+0.6**
JOSR	**Joseni**	**1.31**	**319**	⇓P		**Pn**	**00 57 48.0**	**0.0**
JOSR	**Joseni**	**1.31**	**319**	⇓P		**Pn**	**00 57 48.0**	**0.0**
HARR	**Harsova**	**1.32**	**141**	⇓P		**Pn**	**00 57 48.3**	**+0.1**
HARR	**Harsova**	**1.32**	**141**	⇓P		**Pn**	**00 57 48.3**	**+0.1**
INCR	**INCERC-Sediu C**	**1.35**	**199**	⇑S		**Sn**	**00 58 08.3**	**+0.2**
INCR	**INCERC-Sediu C**	**1.35**	**199**	⇑S		**Sn**	**00 58 08.3**	**+0.2**
BUC1	**Bucharest**	**1.48**	**201**	⇑S		**Sn**	**00 58 10.7**	**+0.2**
BUC1	**Bucharest**	**1.48**	**201**	⇑S		**Sn**	**00 58 10.7**	**+0.2**
TLBR	**Topalu**	**1.49**	**142**	⇓P		**Pn**	**00 57 49.8**	**-0.2**
TLBR				⇓S		**Sn**	**00 58 09.6**	**-1.3**
TLBR	**Topalu**	**1.49**	**142**	⇓P		**Pn**	**00 57 49.8**	**-0.2**
RASA	**Rasa**	**1.54**	**170**	⇓P		**Pn**	**00 57 50.5**	**-0.1**
RASA				⇓S		**Sn**	**00 58 11.2**	**-0.6**
RASA	**Rasa**	**1.54**	**170**	⇓P		**Pn**	**00 57 50.5**	**-0.1**
TLCR		**1.54**	**110**	⇓P		**Pn**	**00 57 51.1**	**+0.5**
TLCR				⇓S		**Sn**	**00 58 11.2**	**-0.7**
TLCR		**1.54**	**110**	⇓P		**Pn**	**00 57 51.1**	**+0.5**
SGRR	**Singureni**	**1.61**	**201**	⇑P		**Pn**	**00 57 51.4**	**0.0**
SGRR				⇑S		**Sn**	**00 58 12.1**	**-1.1**
SGRR	**Singureni**	**1.61**	**201**	⇑P		**Pn**	**00 57 51.4**	**0.0**
CVDA	**Cernavoda**	**1.66**	**147**	⇓P		**Pn**	**00 57 52.4**	**+0.4**
CVDA				⇓S		**Sn**	**00 58 13.1**	**-1.3**
CVDA	**Cernavoda**	**1.66**	**147**	⇓P		**Pn**	**00 57 52.4**	**+0.4**
PRAR	**RASCA**	**1.68**	**347**	⇑P		**Pn**	**00 57 52.5**	**+0.3**
PRAR	**RASCA**	**1.68**	**347**	⇑P		**Pn**	**00 57 52.5**	**+0.3**
TIRR	**Tirgusor**	**1.73**	**137**	⇑P		**Pn**	**00 57 52.7**	**-0.1**
TIRR				⇓S		**Sn**	**00 58 14.7**	**-1.7**
TIRR	**Tirgusor**	**1.73**	**137**	⇑P		**Pn**	**00 57 52.7**	**-0.1**
HUMR	**Humele**	**1.74**	**227**	⇓P		**Pn**	**00 57 52.8**	**-0.2**
HUMR				⇓S		**Sn**	**00 58 15.0**	**-1.2**
HUMR	**Humele**	**1.74**	**227**	⇓P		**Pn**	**00 57 52.8**	**-0.2**
ICOR	**Ion Corvin**	**1.77**	**155**	⇓P		**Pn**	**00 57 53.7**	**+0.3**
ICOR				⇑S		**Sn**	**00 58 15.9**	**-0.9**
ICOR	**Ion Corvin**	**1.77**	**155**	⇓P		**Pn**	**00 57 53.7**	**+0.3**
MILM	**Milestii Mici**	**1.85**	**49**	⇓P		**Pn**	**00 57 54.4**	**+0.1**
MILM	**Milestii Mici**	**1.85**	**49**	⇓P		**Pn**	**00 57 54.4**	**+0.1**
KIS	**Kishinev**	**1.91**	**47**	⇓*i*P		**Pn**	**00 57 55.1**	**+0.2**
	90nm,0.1s							
KIS					*i* S	**Sn**	**00 58 18.3**	**-1.4**
	190nm,0.3s							
KIS	**Kishinev**	**1.91**	**47**	⇑P		**Pn**	**00 57 55.2**	**+0.2**
KIS	**Kishinev**	**1.91**	**47**	⇑P		**Pn**	**00 57 55.2**	**+0.2**
COPA	**Copaceanca**	**1.94**	**215**	⇓P		**Pn**	**00 57 55.0**	**-0.3**
COPA				⇓S		**Sn**	**00 58 19.2**	**-1.2**
COPA	**Copaceanca**	**1.94**	**215**	⇓P		**Pn**	**00 57 55.0**	**-0.3**
MFTR	**Murfatlar**	**1.95**	**142**	⇓P		**Pn**	**00 57 55.6**	**+0.2**
MFTR	**Murfatlar**	**1.95**	**142**	⇓P		**Pn**	**00 57 55.6**	**+0.2**
EFOR	**EFORIE**	**2.12**	**140**	⇑P		**Pn**	**00 57 57.8**	**+0.2**
EFOR				⇑S		**Sn**	**00 58 24.2**	**-0.1**
EFOR	**EFORIE**	**2.12**	**140**	⇑P		**Pn**	**00 57 57.8**	**+0.2**
LOT	**Lotru**	**2.12**	**264**	⇑P		**Pn**	**00 57 57.0**	**-0.8**
LOT				⇑S		**Sn**	**00 58 24.5**	**-0.2**
LOT	**Lotru**	**2.12**	**264**	⇑P		**Pn**	**00 57 57.0**	**-0.8**
BURAR	**Bucovina Array**	**2.17**	**331**	⇓P		**Pn**	**00 57 59.9**	**+1.5**
BURAR	**Bucovina Array**	**2.17**	**331**	⇓P		**Pn**	**00 57 59.9**	**+1.5**
RAZG	**Razgrad**	**2.17**	**185**	⇑P		**Pn**	**00 57 58.2**	**-0.1**
RAZG				⇑S		**Sn**	**00 58 24.1**	**-1.5**
RAZG	**Razgrad**	**2.17**	**185**	⇑P		**Pn**	**00 57 58.2**	**-0.1**
PSN	**Preselentsi**	**2.28**	**153**	*i* P		**Pn**	**00 58 01.0**	**+1.3**
ZIMR		**2.30**	**206**	⇓S		**Sn**	**00 58 26.5**	**-1.9**
ZIMR		**2.30**	**206**	⇓S		**Sn**	**00 58 26.5**	**-1.9**
PURM	**Purcari**	**2.31**	**69**	⇑S		**Sn**	**00 58 29.4**	**+0.8**
PURM	**Purcari**	**2.31**	**69**	⇑S		**Sn**	**00 58 29.4**	**+0.8**
MANR	**Mangalia**	**2.31**	**145**	⇑S		**Sn**	**00 58 27.7**	**-1.0**
MANR	**Mangalia**	**2.31**	**145**	⇑S		**Sn**	**00 58 27.7**	**-1.0**
SZH	**Strazhica**	**2.53**	**194**	*i* P		**Pn**	**00 58 02.5**	**-0.4**
SORM	**Soroca**	**2.64**	**24**	⇓P		**Pn**	**00 58 03.7**	**-0.6**
SORM	**Soroca**	**2.64**	**24**	⇓P		**Pn**	**00 58 03.7**	**-0.6**
PVL	**Pavlikeni**	**2.71**	**203**	*i* P		**Pn**	**00 58 06.5**	**+1.3**
PVL				*i* S		**Sn**	**00 58 45.9**	**+8.0**
GZR	**Gura Zlata**	**2.82**	**265**	⇓P		**Pn**	**00 58 07.3**	**+0.7**
GZR				⇓S		**Sn**	**00 58 41.6**	**+1.0**
GZR	**Gura Zlata**	**2.82**	**265**	⇓P		**Pn**	**00 58 07.3**	**+0.7**
HERR	**Herculane**	**3.18**	**256**	⇑P		**Pn**	**00 58 10.4**	**-0.9**
HERR	**Herculane**	**3.18**	**256**	⇑P		**Pn**	**00 58 10.4**	**-0.9**

WEL 08 01:22:46.1,41°.S±2°×17°.3E±°,h156km±3km,M3.1/22, MLv3.1/22,Error ellipse: s-maj=0.0km s-min=0.0km az=97.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.56**	**111**	P		Pn	01 23 09.2	+0.7

DUWZ				S		Sn	01 23 26.0	+0.4
QRZ	**Quartz Range**	**0.58**	**247**	P		Pn	01 23 08.9	+0.4
QRZ				S		Sn	01 23 25.3	-0.4
NNZ	**Nelson**	**0.63**	**170**	P		Pn	01 23 09.4	+0.6
NNZ				S		Sn	01 23 26.3	+0.1
TCW	**Tory Channel**	**1.00**	**128**	P		Pn	01 23 12.6	+1.2
TCW				S		Sn	01 23 30.8	0.0
THZ	**Tophouse**	**1.19**	**192**	P		Pn	01 23 13.6	+0.4
THZ				S		Sn	01 23 33.7	-0.3
KIW	**Kapiti Island**	**1.30**	**102**	P		Pn	01 23 15.0	+0.8
KIW				S		Sn	01 23 34.6	-1.0
NBEZ	**Newall Road No**	**1.42**	**20**	P		Pn	01 23 15.5	+0.2
KHEZ	**Kahui Hut**	**1.43**	**25**	P		Pn	01 23 15.8	+0.2
CAVK	**Cannon Point**	**1.48**	**111**	P		Pn	01 23 16.7	+0.8
OGWZ	**Otaki Gorge**	**1.49**	**99**	P		Pn	01 23 16.8	+0.8
OGWZ				S		Sn	01 23 38.0	-0.9
DSZ	**Denniston Nort**	**1.57**	**223**	P		Pn	01 23 16.9	-0.1
MSWZ	**Moikau Station**	**1.73**	**119**	P		Pn	01 23 17.9	-0.7
MSWZ				S		Sn	01 23 42.0	-1.5
HOWZ	**Holdsworth Sta**	**1.76**	**101**	P		Pn	01 23 19.3	+0.4
HOWZ				S		Sn	01 23 42.6	-1.5
MRZ	**Mangatainoka R**	**1.79**	**93**	P		Pn	01 23 19.5	+0.3
PLWZ	**Palliser**	**1.81**	**123**	P		Pn	01 23 20.0	+0.5
PLWZ				S		Sn	01 23 43.8	-1.4
KHZ	**Kahutara**	**1.83**	**173**	P		Pn	01 23 20.0	+0.4
VRZ	**Vera Road**	**1.88**	**39**	P		Pn	01 23 19.8	-0.4
VRZ				S		Sn	01 23 46.3	-0.2
POWZ	**Post Office Ro**	**1.94**	**85**	P		Pn	01 23 21.1	+0.2
TMWZ	**Te Maipa**	**2.08**	**105**	P		Pn	01 23 23.0	+0.5
TSZ	**Takapari Road**	**2.15**	**76**	P		Pn	01 23 23.3	-0.1
CPWZ	**Castlepoint**	**2.28**	**99**	P		Pn	01 23 25.6	+0.8
LTZ	**Lake Taylor**	**2.30**	**198**	P		Pn	01 23 24.8	-0.3
PNHZ	**Pukenui**	**2.37**	**74**	P		Pn	01 23 25.6	-0.4
GVZ	**Greta Valley S**	**2.37**	**184**	P		Pn	01 23 25.9	-0.1
ANWZ	**Angora Road**	**2.47**	**88**	P		Pn	01 23

PTJ1	Puerto Jimnez	0.30	320	*eP*		Pg	01 38 51.8	+0.3	
PTJ1				*eS*		Sg	01 38 56.8	+1.0	
LESP3	La Esperanza,	0.33	72	*eP*		Pg	01 38 51.7	-0.4	
CDITO	Canoas	0.36	41	*eP*		Pg	01 38 52.9	+0.4	
CDITO				*eS*		Sb	01 38 58.3	-0.4	
EDSV	San Vito	0.53	15	*eP*		Pg	01 38 55.9	+0.1	
EDSV				*eS*		Sb	01 39 03.6	-0.3	
RIOS	Rincon, Osa	0.56	315	*eP*		Pg	01 38 55.8	-0.6	
RIOS				*eS*		Sg	01 39 03.4	-0.5	
BAGA3	Bagala, Chiriq	0.60	74	*eP*		Pb	01 38 58.4	+1.0	
BAGA3				*eS*		Sb	01 39 06.2	+0.5	
BRU2	Volcan	0.64	40	*eP*		Pg	01 38 58.1	+0.3	
BRU2				*eS*		Sb	01 39 07.1	0.0	
BRU2	Volcan	0.64	40	*eP*		Pg	01 38 58.1	+0.3	
BRU2				*eS*		Sb	01 39 07.1	0.0	
PEDE3	Pedregal, Chir	0.69	83	*eP*		Pg	01 38 57.5	-1.2	
PEDE3				*eS*		Sg	01 39 06.9	-0.8	
BCO2	Palmira	0.71	54	*eP*		Pb	01 38 59.6	+0.2	
BCO2				*eS*		Sb	01 39 09.3	+0.3	
BC3P	Paso Ancho	0.71	44	*eP*		Pg	01 38 59.2	0.0	
BC3P				*eS*		Sb	01 39 09.7	+0.6	
PTAR3	Potrerillos Ar	0.72	57	*eP*		Pb	01 39 00.0	+0.5	
PTAR3				*eS*		Sb	01 39 09.3	0.0	
EDPN	Palmar Norte	0.74	332	*eP*		Pg	01 38 58.6	-1.0	
EDPN				*eS*		Sg	01 39 08.4	-1.0	
GUAL3	Gualaca, Chiri	0.83	74	*eP*		Pg	01 39 01.3	-0.2	
GUAL3				*eS*		Sb	01 39 12.4	-0.1	
EDLM	Las Mercedes	1.08	334	*eP*		Pg	01 39 04.6	-1.5	
CHGR2	Aguacate	1.14	57	*eP*		Pb	01 39 06.2	-0.5	
CHGR2				*eS*		Sg	01 39 20.8	-1.5	
CDM	Cerro de Muert	1.40	333	*eP*		Pn	01 39 10.0	-0.7	
LCR2	La Lucha 2	1.68	328	*eP*		Pn	01 39 14.6	+0.2	
CVTR	Volcan Turrial	1.82	339	*eP*		Pn	01 39 17.7	+1.3	
CUI	Cuipilapa	3.10	319	*eP*		Pn	01 39 36.6	+2.9	
LAPC	Finca la Perla	3.35	317	*eP*		Pn	01 39 36.3	-0.9	

CERI ***08*** *01:48:28.0,35.75N×97.12W,h5km*
ANF ***08*** *01:48:28.0±0.6,35.72N×97.11W,h4km±4km,ML4.2/17, Error ellipse: s-maj=3.5km s-min=2.1km az=179.0*
TUL ***08*** *01:48:28±1.4,35.75N±0.01×97.12W±0.01,h5km±5km, ML3.4,Mwr3.2/22(NEIC),Error ellipse: s-maj=1.6km s-min=1.5km az=194.0*
NEIC ***08*** *01:48:28.2±0.7,35.761N±0.007×97.11W±0.01,h6km±5km, Error ellipse: s-maj=1.7km s-min=0.9km az=110.0*
NEIC ***08*** *01:48:28.1,35.75N×97.10W,h4km,Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr=0.57; Mθθ=7.00; Mϕϕ=-7.57; Mrθ=1.97; Mϕϕ5.49; Mϕr=-0.89; Fault plane solution: Mϕ9.39000×10¹³ NP1:ϕs116.76000°, δ88.39000°, λ13.48000°. NP2:ϕs26.38000°, δ76.52000°, λ178.34000°. Principal axes: T 9.1370, Plg11.0000°, Azm342.0000°; N 0.4835, Plg76.0000°, Azm123.0000°; P -9.6205, Plg8.0000°, Azm251.0000°;*

ISC 08 01:48:28.3±1.0,35.76N±0.02×97.11W±0.02,h4km±9km, n82,σθ87/108,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.12**	**212**		**Pg**	**01 48 30.7**	**0.0**
OK005				Sg	Sg	01 48 32.6	+0.3
OK001	**Jones High Sch**	**0.24**	**216**	Pg	Pg	01 48 33.0	0.0
OK001				Sg	Sg	01 48 36.5	+0.4
OK025	**Westminster Rd**	**0.25**	**226**		**Pg**	**01 48 33.2**	**0.0**
OK025				Sg	Sg	01 48 37.0	+0.4
OK029	**Liberty Lake**	**0.28**	**278**		**Pg**	**01 48 33.7**	**-0.1**
OK029				Sg	Sg	01 48 37.9	+0.4
OK009	**Oakdale Elemen**	**0.31**	**235**		**Pg**	**01 48 33.6**	**-0.6**
OK009				Sg	Sg	01 48 38.7	+0.5
BCOK	**Bluff Creek, N**	**0.41**	**256**		**Pg**	**01 48 36.2**	**-0.1**
BCOK				Sg	Sg	01 48 42.2	+0.4
OKCFA	**Oklahoma City**	**0.44**	**219**		**Pg**	**01 48 36.6**	**-0.1**
OKCFA				Sg	Sg	01 48 42.8	+0.4
OKCSW	**OKLAHOMA CITY**	**0.44**	**217**		**Pg**	**01 48 36.2**	**-0.5**
OKCSW				Sg	Sg	01 48 43.0	+0.5
OK011	**Prague**	**0.44**	**128**	Pg	Pg	01 48 36.9	+0.1
OK011				Sg	Sg	01 48 43.4	+0.8
QUOK	**Quay**	**0.53**	**38**		**Pg**	**01 48 38.8**	**+0.3**
QUOK				Sg	Sg	01 48 46.4	+1.0
FNO	**Franklin**	**0.55**	**205**		**Pg**	**01 48 38.9**	**0.0**
FNO				Sg	Sg	01 48 46.8	+0.8
W35A	**Tecumseh**	**0.63**	**162**		**Pg**	**01 48 40.0**	**-0.4**
W35A				Sg	Sg	01 48 49.0	+0.3
CROK	**Carrier**	**1.03**	**317**		**Pg**	**01 48 47.5**	**-0.5**
CROK				Sg	Sg	01 49 01.1	-0.3
TUL1	**Leonard** baz=262,SNR=154	**1.08**	**81**	P	**Pg**	**01 48 48.1**	**-1.0**
TUL1				S	**Sg**	**01 49 03.2**	**0.0**
	baz=262						
TUL1	**Leonard**	**1.08**	**81**	Pg	**Pg**	**01 48 48.1**	**-1.0**
TUL1				Sg	**Sg**	**01 49 03.0**	**-0.2**
T35A	**Sooner Cattle**	**1.26**	**23**	Pn	**Pg**	**01 48 51.5**	**-0.9**
T35A				Sn	**Sg**	**01 49 08.5**	**-0.2**
KAN13	**South Haven SW**	**1.29**	**347**		**Pn**	**01 48 52.2**	**-1.0**
KAN13				Sn	**Sn**	**01 49 10.4**	**-0.5**
KAN14	**Manchester OK**	**1.38**	**330**		**Pn**	**01 48 53.8**	**-0.7**
KAN14				Sn	**Sn**	**01 49 12.8**	**-0.4**
KAN09	**Caldwell North**	**1.44**	**344**		**Pn**	**01 48 54.7**	**-0.5**
KAN05	**Bluff City Nor**	**1.48**	**336**		**Pn**	**01 48 55.3**	**-0.5**
KAN10	**Anthony SW Sta**	**1.58**	**330**	Pn	**Pn**	**01 48 56.6**	**-0.6**
U32A	**Winter Ranch,**	**1.65**	**293**		**Pn**	**01 48 57.4**	**-0.8**
KAN12	**Harper NE Stat**	**1.69**	**335**		**Pn**	**01 48 58.5**	**-0.3**
WMOK	**Wichita Mounta** baz=53	**1.70**	**234**	P	**Pn**	**01 48 58.2**	**-0.7**
WMOK				S	**Sn**	**01 49 20.9**	**-0.2**
	baz=53						
WMOK	**Wichita Mounta**	**1.70**	**234**		**Pn**	**01 48 58.1**	**-0.7**
X37A	**Clayton**	**1.84**	**129**		**Pn**	**01 49 00.7**	**-0.1**
U38A	**Gravette**	**2.31**	**72**	Pn	**Pn**	**01 49 06.3**	**-0.9**
Z35A	**Perchaven, San**	**2.42**	**183**	Pn	**Pn**	**01 49 07.8**	**-1.0**
HHAR	**Hobbs**	**2.63**	**78**		**Pn**	**01 49 11.2**	**-0.4**
W39A	**Magazine** baz=282,SNR=20	**2.77**	**101**	P	**Pn**	**01 49 14.0**	**+0.4**
W39A				S	**Sn**	**01 49 48.0**	**+0.5**
	baz=282						
W39A	**Magazine**	**2.77**	**101**		**Pn**	**01 49 12.8**	**-0.8**
R32A	**Long Quarter,**	**2.95**	**335**	Pn	**Pn**	**01 49 15.4**	**-0.7**
Z38A	**Mt. Pleasant**	**3.05**	**144**	Pn	**Pn**	**01 49 16.9**	**-0.4**
MIAR	**Mount Ida** baz=294,SNR=7.9	**3.14**	**112**	P	**Pn**	**01 49 19.0**	**+0.4**
MIAR				S	**Sn**	**01 49 56.6**	**0.0**
	baz=294						
MIAR	**Mount Ida**	**3.14**	**112**	Pn	**Pn**	**01 49 18.3**	**-0.3**
KSU1	**Kansas State U** baz=187	**3.36**	**7**	S	**Sn**	**01 50 03.2**	**+1.1**
KSU1	**Kansas State U**	**3.36**	**7**	Pn	**Pn**	**01 49 21.8**	**+0.1**
U40A	**Yellville** baz=261,SNR=8.8	**3.50**	**79**	P	**Pn**	**01 49 23.2**	**-0.4**
U40A	**Yellville**	**3.50**	**79**	Pn	**Pn**	**01 49 23.5**	**-0.2**
S39A	**Bolivar**	**3.61**	**57**	Pn	**Pn**	**01 49 25.2**	**+0.2**
CBKS	**Cedar Bluff** baz=145,SNR=18	**3.70**	**326**	P	**Pn**	**01 49 26.2**	**-0.2**
CBKS				S	**Sn**	**01 50 10.8**	**+0.3**
	baz=145						
CBKS	**Cedar Bluff**	**3.70**	**326**	Pn	**Pn**	**01 49 25.8**	**-0.6**
X40A	**Basin Creek Fa** baz=291	**3.73**	**109**	P	**Pn**	**01 49 26.8**	**+0.1**
X40A	**Basin Creek Fa**	**3.73**	**109**		**Pn**	**01 49 25.9**	**-0.9**
ABTX	**Abilene, Hawle** baz=33	**3.76**	**215**	S	**Sn**	**01 50 11.5**	**-0.5**
ABTX	**Abilene, Hawle**	**3.76**	**215**	Pn	**Pn**	**01 49 25.1**	**-2.1**
WHTX	**Lake Whitney,** baz=4.2	**3.77**	**184**	Pb	**Pb**	**01 49 33.8**	**-1.6**
WHTX	**Lake Whitney,**	**3.77**	**184**	Pn	**Pn**	**01 49 26.3**	**-0.9**
AMTX	**Amarillo** baz=76	**3.83**	**258**	P	**Pn**	**01 49 27.4**	**-0.8**
AMTX				S	**Sn**	**01 50 14.3**	**+0.5**
	baz=76						
AMTX	**Amarillo**	**3.83**	**258**	Pn	**Pn**	**01 49 27.1**	**-1.1**
237A	**Washetta, Mont**	**3.90**	**163**	Pn	**Pn**	**01 49 28.2**	**-0.9**
WHAR	**Wooly Hollow**	**3.96**	**95**	Pn	**Pn**	**01 49 29.4**	**-0.6**
W41B	**Gary Mavity, V** baz=280,SNR=11	**4.01**	**97**	P	**Pn**	**01 49 30.8**	**+0.2**
W41B				S	**Sn**	**01 50 18.4**	**+0.3**
	baz=280						
W41B	**Gary Mavity, V**	**4.01**	**97**		**Pn**	**01 49 29.8**	**-0.8**
UALR	**University of**	**4.02**	**103**	Pn	**Pn**	**01 49 29.9**	**-0.8**
FCAR	**Ozark Folk Cen**	**4.06**	**87**		**Pn**	**01 49 30.8**	**-0.5**
MGMO	**Mountain Grove**	**4.15**	**69**		**Pn**	**01 49 31.8**	**-0.7**
Z41A	**Richland Creek** baz=306	**4.34**	**124**	S	**Sn**	**01 50 25.6**	**-0.7**
NATX	**Nacogdoches** baz=334	**4.48**	**152**	S	**Sn**	**01 50 28.3**	**-1.3**
R40A	**Maddies Statio**	**4.63**	**55**		**Pn**	**01 49 38.3**	**-0.7**
P38A	**Dawn**	**4.79**	**35**	Pn	**Pn**	**01 49 40.7**	**-0.6**
LCAR	**Lake Charles**	**4.85**	**85**	Pn	**Pn**	**01 49 41.2**	**-0.9**
435B	**Jarrell** baz=4.3	**4.98**	**185**	Sb	**Sb**	**01 50 59.4**	**+3.2**
435B	**Jarrell**	**4.98**	**185**	Pn	**Pn**	**01 49 42.9**	**-1.0**
MSTX	**Muleshoe** baz=67	**4.98**	**251**	P	**Pn**	**01 49 43.6**	**-0.4**
MSTX	**Muleshoe**	**4.98**	**251**	Pn	**Pn**	**01 49 43.7**	**-0.4**
N35A	**Tabor**	**5.23**	**12**	Pn	**Pn**	**01 49 46.5**	**-0.8**
CCM	**Cathedral Cave** baz=246	**5.23**	**62**	P	**Pn**	**01 49 47.4**	**+0.1**
CCM				Sb	**Sb**	**01 51 08.1**	**+4.5**
	baz=246						
CCM	**Cathedral Cave**	**5.23**	**62**	Pn	**Pn**	**01 49 46.6**	**-0.8**
P40A	**Paris**	**5.51**	**45**	Pn	**Pn**	**01 49 50.4**	**-0.8**
BGNE	**Belgrade** baz=172	**5.70**	**352**	P	**Pn**	**01 49 53.5**	**-0.3**
BGNE	**Belgrade**	**5.70**	**352**	Pn	**Pn**	**01 49 53.3**	**-0.5**
JCT	**Junction City**	**5.72**	**204**	Pn	**Pn**	**01 49 53.8**	**-0.4**
FVM	**French Village**	**5.80**	**66**	Pn	**Pn**	**01 49 54.3**	**-0.9**
OXF	**Oxford** baz=283	**6.43**	**99**	P	**Pn**	**01 50 03.0**	**-0.8**
OXF				S	**Sn**	**01 51 16.0**	**-1.8**
	baz=283						
OXF	**Oxford**	**6.43**	**99**		**Pn**	**01 50 02.9**	**-1.0**
SDCO	**Great Sand Dun** baz=104	**7.02**	**289**	P	**Pn**	**01 50 12.3**	**+0.1**
SDCO	**Great Sand Dun**	**7.02**	**289**	Pn	**Pn**	**01 50 11.5**	**-0.7**
HDIL	**Hopedale** baz=234	**7.80**	**50**	P	**Pn**	**01 50 22.0**	**-0.6**
ISCO	**Idaho Springs** baz=118	**7.85**	**303**	P	**Pn**	**01 50 23.7**	**+0.2**
ECSD	**EROS Data Cent** baz=183	**7.98**	**3**	P	**Pn**	**01 50 24.0**	**-1.1**
N23A	**Red Feather La** baz=124	**8.63**	**309**	P	**Pn**	**01 50 34.7**	**+0.4**

WEL ***08*** *01:52:34.0,38.5S±7.1×18.0W±.4,h40km±17km,M3.9/34, ML4.1/34,MLv3.9/34,Error ellipse: s-maj=0.0km s-min=0.0km az=30.5*
IDC ***08*** *01:52:34.0±2.5,37.67S×179.84E,h0km,mb3.5/2, mb1 3.9/4,mb1mx3.7/20,mbtmp3.8/4,ML3.5/2,MS3.4/1, Ms1 3.4/1,ms1mx2.5/25,Error ellipse: s-maj=79.1km s-min=29.1km az=150.0*

ISC 08 01:52:35.8±1.5,38.05S±0.06×179.87W±0.10,h27km,n69, σ1§50/67,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.38**	**279**	P	**Pn**	**01 52 58.7**	**-0.5**
WMGZ				S	**Sb**	**01 53 17.4**	**-0.6**
PUZ	**Puketiti**	**1.48**	**269**	P	**Pn**	**01 53 00.1**	**-0.5**
PUZ				S	**Sn**	**01 53 19.5**	**+0.4**
MXZ	**Matakaoa Point**	**1.52**	**288**	P	**Pn**	**01 53 00.5**	**-0.7**
CNGZ	**Carnagh Statio**	**1.57**	**254**	P	**Pn**	**01 53 02.0**	**+0.1**
PKGZ	**Pakihiroa**	**1.63**	**275**	P	**Pn**	**01 53 02.0**	**-0.8**
PKGZ				S	**Sn**	**01 53 22.9**	**0.0**
TWGZ	**Tauwhareparae**	**1.70**	**265**	P	**Pn**	**01 53 03.7**	**0.0**
TKGZ	**Te Karaka**	**1.84**	**257**	P	**Pn**	**01 53 05.7**	**+0.2**
HAZ	**Te Kaha**	**1.88**	**278**	P	**Pn**	**01 53 05.5**	**-0.6**
RUGZ	**Raukumara Rang**	**1.94**	**272**	P	**Pn**	**01 53 06.3**	**-0.7**
PRGZ	**Paritu Road**	**1.97**	**243**	P	**Pn**	**01 53 07.6**	**+0.3**
RIGZ	**Rimuhau**	**1.97**	**250**	P	**Pn**	**01 53 07.7**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.06**	**237**	P	**Pn**	**01 53 08.9**	**+0.4**
MWZ	**Matawai**	**2.07**	**261**	P	**Pn**	**01 53 08.4**	**-0.3**
KNZ	**Kokohu**	**2.16**	**243**	P	**Pn**	**01 53 09.9**	**0.0**
RAGZ	**Rawiri**	**2.18**	**257**	P	**Pn**	**01 53 11.6**	**+1.3**
SNGZ	**Shannon Statio**	**2.31**	**251**	P	**Pn**	**01 53 12.2**	**+0.1**
URZ	**Urewera** 15nm,0.3s,baz=72,slow=3.2,SNR=96	**2.39**	**264**	Pn	**Pn**	**01 53 13.2**	**+0.1**
URZ				Sn	**Sn**	**01 53 41.6**	**+0.1**
	28nm,0.3s,baz=122,slow=19,SNR=15						
URZ	**Urewera**	**2.39**	**264**	P	**Pn**	**01 53 13.4**	**+0.3**
WHHZ	**Waihua**	**2.49**	**245**	P	**Pn**	**01 53 14.9**	**+0.4**
WHRZ	**Whale Island**	**2.50**	**274**	P	**Pn**	**01 53 15.4**	**+0.8**
RAHZ	**Arahi**	**2.54**	**249**	P	**Pb**	**01 53 22.2**	**+1.6**
RTZ	**Ruatahuna**	**2.54**	**256**	P	**Pn**	**01 53 15.9**	**+0.6**
MTHZ	**Maungataniwha**	**2.70**	**252**	P	**Pn**	**01 53 17.9**	**+0.4**
OPRZ	**Ohinepanea**	**2.83**	**273**	P	**Pn**	**01 53 18.5**	**-0.7**
RRRZ	**Republican Roa**	**2.86**	**263**	P	**Pn**	**01 53 20.6**	**+1.0**
TARZ	**Mount Tarawera**	**2.86**	**265**	P	**Pn**	**01 53 20.2**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.87**	**235**	P	**Pn**	**01 53 19.7**	**0.0**
MRHZ	**Matea Rd**	**3.02**	**254**	P	**Pn**	**01 53 22.5**	**+0.7**
ALRZ	**Allen Road**	**3.02**	**259**	P	**Pn**	**01 53 22.7**	**+0.9**
MCHZ	**McNeill Hill**	**3.02**	**242**	P	**Pn**	**01 53 22.2**	**+0.4**
HSRZ	**Hossack Road**	**3.07**	**264**	P	**Pn**	**01 53 24.5**	**+2.0**
KAHZ	**Kahuranaki**	**3.08**	**235**	P	**Pn**	**01 53 22.7**	**+0.1**
KWHZ	**Kaweka Forest**	**3.21**	**244**	P	**Pn**	**01 53 25.1**	**+0.7**
KRHZ	**Kereru**	**3.34**	**240**	P	**Pn**	**01 53 26.1**	**-0.1**
RITZ	**Rihia Road**	**3.48**	**253**	P	**Pn**	**01 53 31.1**	**+3.0**
BHHZ	**Black Hill Sta**	**3.49**	**244**	P	**Pn**	**01 53 28.1**	**-0.2**
PNHZ	**Pukenui**	**3.58**	**238**	P	**Pn**	**01 53 29.7**	**+0.2**
TMVZ	**Te Maari**	**3.63**	**252**	P	**Pn**	**01 53 32.5**	**+2.3**
MOVZ	**Moawhango**	**3.68**	**247**	P	**Pn**	**01 53 32.7**	**+1.7**
ANWZ	**Angora Road**	**3.72**	**229**	P	**Pn**	**01 53 33.4**	**+2.0**
KUZ	**Kuaotunu**	**3.75**	**289**	P	**Pn**	**01 53 30.7**	**-1.1**
WNVZ	**Wahianoa**	**3.77**	**249**	P	**Pn**	**01 53 36.9**	**+4.7**
FWVZ	**Far West T-bar**	**3.78**	**250**	P	**Pn**	**01 53 34.8**	**+2.4**
TSZ	**Takapari Road**	**3.81**	**237**	P	**Pn**	**01 53 32.5**	**-0.2**
PRWZ	**Pori Road**	**4.08**	**231**	P	**Pn**	**01 53 35.1**	**-1.3**
POWZ	**Post Office Ro**	**4.12**	**234**	P	**Pn**	**01 53 37.5**	**+0.7**
GRZ	**Great Barrier**	**4.14**	**294**	P	**Pn**	**01 53 36.4**	**-0.8**
WIAZ	**Waiheke Island**	**4.17**	**286**	P	**Pn**	**01 53 37.1**	**-0.5**
VRZ	**Vera Road**	**4.34**	**254**	P	**Pn**	**01 53 42.0**	**+2.0**
MBAZ	**Motutapu North**	**4.36**	**285**	P	**Pn**	**01 53 40.5**	**+0.4**
WCZ	**Waipu Caves**	**5.09**	**293**	P	**Pn**	**01 53 50.2**	**0.0**
BHW	**Baring Head**	**5.26**	**229**	P	**Pn**	**01 53 52.9**	**+0.4**
OUZ	**Omahuta**	**5.96**	**296**	P	**Pn**	**01 54 02.6**	**+0.3**
QRZ	**Quartz Range**	**6.50**	**242**	P	**Pn**	**01 54 10.1**	**+0.4**
THZ	**Tophouse**	**6.68**	**234**	P	**Pn**	**01 54 13.0**	**+0.9**
LTZ	**Late Taylor**	**7.63**	**229**	P	**Pn**	**01 54 24.9**	**-0.2**
MQZ	**McQueen's Vall**	**8.00**	**223**	P	**Pn**	**01 54 30.6**	**+0.5**
RPZ	**Rata Peaks** 0.5nm,0.3s,baz=76,slow=8.3,SNR=2.1	**8.90**	**228**	Pn	**Pn**	**01 54 43.9**	**+1.4**
RPZ				S	**Sn**	**01 56 13.7**	**-8.1**
	1.1nm,0.3s,baz=321,slow=24,SNR=7.4						
DZM	**Mont Dzumac** comp=Z,96nm,18.6s,baz=34,slow=33	**19.81**	**320**	LR	LR	02 03 10.5	
ASAR	**Alice Springs** 0.7nm,0.8s,baz=114,slow=7.0,SNR=6.7	**41.77**	**276**	P	**P**	**02 00 22.7**	**-0.3**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=122,slow=7.6,SNR=5.1	**43.45**	**281**	P	**P**	**02 00 36.4**	**-0.2**
H03S2	**Juan Fernandez** baz=233	**77.56**	**123**	T	T	03 30 42.1	
H03S1	**Juan Fernandez** baz=233	**77.57**	**123**	T	T	03 30 48.3	
H03S3	**Juan Fernandez** baz=233	**77.58**	**123**	T	T	03 30 46.8	
H03N3	**Juan Fernandez** baz=234,slow=72,SNR=7.3	**77.79**	**123**	T	T	03 30 55.5	
H03N2	**Juan Fernandez** baz=234,slow=72,SNR=3.9	**77.80**	**123**	T	T	03 30 55.1	
H03N1	**Juan Fernandez** baz=234,slow=72,SNR=7.7	**77.81**	**123**	T	T	03 30 59.6	
ARCES	**ARCESS Array B** 1.9nm,0.7s,baz=57,slow=3.3,SNR=5.7	**145.63**	**345**	PKPbc	**PKPab**	**02 12 11.9**	**+0.8**
FINES	**FINESS Array B** 1.9nm,0.9s,baz=34,slow=5.2,SNR=1.0	**151.57**	**334**	PKPbc	**PKiKP**	**02 12 27.6**	**+0.7**

BJI ***08*** *02:28:51.3±0.0,23.36N×100.50E,h17km,mb3.9/1, ML3.7/6*
IDC ***08*** *02:28:52.3±1.3,23.35N×100.71E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/38,mbtmp3.4/5,MS2.8/1,Ms1 3.0/1, ms1mx2.5/41,Error ellipse: s-maj=33.7km s-min=18.4km az=94.0*

ISC 08 02:28:53.7±0.7,23.27N±0.06×100.5E±0.1,h10km,n22, σ1§79/28,mb3.5/4,1D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.75**	**47**	*e*Pg	**Pb**	**02 29 43.5**	**+0.3**
KMI				Sg	**Sb**	**02 30 18.7**	**+1.6**
KMI	comp=N,250nm,1.0s			smax	smax		
KMI	comp=E,200nm,1.2s			smax	smax		
CM09	**Chiang Mai Arr**	**5.00**	**197**	P	**Pg**	**02 30 27.9**	**-1.7**
CM09				S	**Sg**	**02 31 34.8**	**+0.4**
CM31	**Chiang Mai Arr**	**5.00**	**197**	P	**Pg**	**02 30 27.7**	**-1.9**
CMAR	**Chiang Mai Arr** baz=14,slow=12,SNR=5.3	**5.00**	**197**	Pn	**Pn**	**02 30 11.9**	**+3.0**
CMAR				Pg	**Pg**	**02 30 27.2**	**-2.4**
	2.8nm,0.3s,baz=9.2,slow=16,SNR=44						
CMAR				Lg	Lg	02 31 33.6	
	4.2nm,0.3s,baz=17,slow=28,SNR=16						
CMAR				LR	LR	02 31 54.0	
	comp=Z,86nm,18.1s,baz=13,slow=35						
CM15	**Chiang Mai Arr**	**5.01**	**197**	P	**Pg**	**02 30 29.8**	**0.0**
CM02	**Chiang Mai Arr**	**5.02**	**197**	P	**Pg**	**02 30 27.5**	**-2.5**
CM01	**Chiang Mai Arr**	**5.03**	**197**	P	**Pg**	**02 30 28.1**	**-2.0**
CM13	**Chiang Mai Arr**	**5.05**	**198**	P	**Pg**	**02 30 27.7**	**-2.7**
CM13				S	**Sg**	**02 31 35.7**	**-0.1**
CM04	**Chiang Mai Arr**	**5.05**	**197**	P	**Pg**	**02 30 28.1**	**-2.4**
CM04				S	**Sg**	**02 31 36.6**	**+0.7**
CM05	**Chiang Mai Arr**	**5.06**	**197**	P	**Pg**	**02 30 28.3**	**-2.3**
UTTA	**Uttaradit**	**5.49**	**180**	P	**Pg**	**02 30 37.9**	**-1.0**
MHMT	**Maesarieng**	**5.61**	**206**	P	**Pg**	**02 30 41.5**	**+0.4**
MHMT				S	**Sg**	**02 31 56.9**	**+3.1**
SUKH	**Sukhothai**	**5.81**	**188**	S	**Sg**	**02 31 58.8**	**-1.6**
GYA	**Guiyang**	**6.43**	**59**	*e*Pn	Pn	02 30 36.2	+7.6
GYA				Pg	Pg	02 31 02.0	+5.1
GYA				Sn	Sb	02 31 54.2	-8.6
GYA				Sg	Sg	02 32 29.0	+8.8
GYA	comp=N,18nm,1.2s			smax	smax		
GYA	comp=E,12nm,1.0s			smax	smax		
GYA	comp=N,240nm,4.3s			LR	LR		
GYA	comp=E,150nm,5.0s			LR	LR		
GYA	comp=Z,120nm,4.5s			LR	LR		
CD2	**Chengdu**	**8.15**	**20**	*e*P	**Pn**	**02 30 51.0**	**-1.1**
CD2	**Chengdu**	**8.15**	**20**	*e*P	**Pn**	**02 30 51.6**	**-0.5**
CD2				S	**Sn**	**02 32 26.2**	**+1.9**
CD2	comp=Z,20nm,2.2s			smax	smax		
CD2	comp=Z,20nm,1.2s			smax	smax		
LZH	**Lanzhou**	**13.10**	**12**	*e*P	**Pn**	**02 31 58.2**	**-1.8**
LZH				pP		02 32 01.5	
LZH				sP		02 32 05.0	
WMO	**Urumqi**	**23.06**	**336**	*e*P	**P**	**02 33 57.5**	**-1.9**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=187,slow=10,SNR=2.2	**24.96**	**9**	P	**P**	**02 34 17.1**	**-0.3**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=148,slow=9.8,SNR=2.8	**27.68**	**332**	P	**P**	**02 34 41.4**	**-0.5**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.8s,baz=330,slow=7.8,SNR=2.8	**54.16**	**140**	P	**P**	**02 38 18.7**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=322,slow=7.4,SNR=2.2	**56.82**	**143**	P	**P**	**02 38 38.6**	**0.0**

MEX ***08*** *02:40:49.1±1.8,23.70N×108.76W,h10km±28km,MD6.1*
BJI ***08*** *02:40:51.3±0.0,23.85N×108.50W,h10km,mB6.0/28, mb5.3/12,Ms6.2/33,Ms7 5.9/33*
IDC ***08*** *02:40:51.6±0.5,23.63N×108.74W,h0km,mb4.8/27, mb1 4.8/30,mb1mx4.8/38,mbtmp4.8/30,ML3.8/2,MS5.9/29, Ms1 5.9/29,ms1mx5.7/39,Error ellipse: s-maj=21.6km s-min=11.4km az=51.0*
NEIC ***08*** *02:40:53.1±0.7,23.84N±0.04×108.33W±0.06,h10km±1km, mb5.5/482,Ms_20 6.0/791,Mwb6.0/27,Mww6.1, Md6.1/104(MEX),Mwc6.1(GCMT),Error ellipse: s-maj=9.1km s-min=7.3km az=290.0*
NEIC ***08*** *02:40:54.6,23.88N×108.40W,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.16; Mθθ-1.02; Mϕϕ 1.18; Mrθ-0.13; Mϕϕ-0.23; Mϕr-0.15; Fault plane solution: Mϕ1.15000×10¹⁸ NP1:ϕs129.25000°, δ79.47000°, λ-177.45000°. NP2:ϕs38.78000°, δ87.49000°, λ-10.54000°. Principal axes: T 1.2165, Plg6.0000°, Azm84.0000°; N -0.1528, Plg79.0000°, Azm206.0000°; P -1.0637, Plg9.0000°, Azm354.0000°;*
NEIC ***08*** *02:40:56,23.83N×108.62W,h16km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.11; Mθθ-1.77; Mϕϕ 1.88; Mrθ0.00; Mϕϕ-0.50; Mϕr0.22; Fault plane solution: Mϕ1.91000×10¹⁸ NP1:ϕs307.00000°, δ85.00000°,λ176.00000°. NP2:ϕs38.00000°,δ86.00000°, λ5.00000°. Principal axes: T 1.

R15V Sn 02 43 40.5 +3.5
EZ5V 6.26 132 *e*P **Pn** 02 42 27.3 +1.3
EZ5V *e*S **Sn** 02 43 34.1 -3.9
EZ5V 6.26 132 **Pn** 02 42 27.3 +1.3
EZ5V **Sn** 02 43 34.1 -3.9
COIG Colima 6.41 135 *e*P **Pn** 02 42 29.5 +1.5
COIG *i* S **Sn** 02 43 41.3 -0.2
NZIG Nacozari, Sono 6.62 352‖ *e*P Pn 02 42 26.3 -4.6
NZIG *e*S **Sn** 02 43 46.1 -0.7
TX31 Lajitas Ar. Si 7.02 37 **Pn** 02 42 33.8 -2.4
TX32 Lajitas Array 7.02 37 Pn **Pn** 02 42 33.3 -3.0
TXAR Lajitas Array 7.02 37 Pn **Pn** 02 42 31.9 -4.4
2.5nm,0.3s,baz=212,slow=14,SNR=66
TXAR Lg Lg 02 44 33.5
11nm,0.3s,baz=214,slow=30,SNR=2.7
TXAR LR LR 02 45 42.1
comp=Z,62µm,19.2s,baz=0.0,slow=40
TXAR Lajitas Array 7.02 37 P **Pn** 02 42 32.9 -3.4
TXAR Lajitas Array 7.02 37 Pn **Pn** 02 42 32.9 -3.4
319A Douglas 7.59 355 Pn **Pn** 02 42 42.6 -1.5
MNIG Monterrey 7.69 75 *e*P **Pn** 02 42 44.2 -1.2
MNIG *e*S **Sn** 02 44 17.9 +5.1
MOIG Morelia 7.94 120 Pn **Pn** 02 42 47.8 -1.2
RPIG Rio Verde 8.09 102 *e*P **Pn** 02 42 47.3 -3.7
RPIG *e*P Pb 02 42 49.5 -24
LNIG Linares 8.32 81 *i* P **Pn** 02 42 53.2 -0.8
LNIG Linares 8.32 81 **Pn** 02 42 53.2 -0.8
MNTX Cornudas Mount 8.35 19 P **Pn** 02 42 51.7 -2.8
baz=200,SNR=69
MNTX Cornudas Mount 8.35 19 *e*P **Pn** 02 42 51.6 -2.9
MNTX Cornudas Mount 8.35 19 Pn **Pn** 02 42 51.2 -3.2
GTIG Gomez Farias 8.61 93 *e*P **Pn** 02 42 55.8 -2.1
TUC Tucson 8.72 347 P **Pn** 02 42 57.6 -2.0
baz=166
TUC Tucson 8.72 347 P **Pn** 02 42 59.8 +0.2
TUC Tucson 8.72 347‖ *i* P **Pn** 02 42 56.3 -3.3
TUC Tucson 8.72 347 **Pn** 02 42 59.8 +0.2
121A Cookes Peak, D 8.73 4 P **Pn** 02 42 58.1 -1.8
baz=184,SNR=6.5
121A Cookes Peak, D 8.73 4 *e*P **Pn** 02 42 58.3 -1.6
121A Cookes Peak, D 8.73 4 Pn **Pn** 02 42 58.9 -0.9
ACIG Acambay 8.86 114 *e*P **Pn** 02 43 02.0 +0.3
PIX Pinacate 8.90 332 Pn **Pn** 02 43 02.6 +0.7
214A Organ Pipe Nat 8.98 336 P **Pn** 02 43 00.1 -3.0
baz=154,SNR=9.6
214A S **Sn** 02 44 44.4 -0.2
baz=154
214A Organ Pipe Nat 8.98 336 *e*P **Pn** 02 43 00.5 -2.7
214A Organ Pipe Nat 8.98 336 **Pn** 02 43 03.5 +0.4
ATVM ATLACOMULCO 8.99 115 *e*P Pn 02 43 09.4 +5.8
GDL2 Guadalupe Moun 9.14 23 **Pn** 02 43 03.9 -1.5
SFX San Felipe 9.16 323 **Pn** 02 43 07.1 +1.6
833A Chaparral WMA, 9.35 59 P **Pn** 02 43 05.7 -2.5
baz=243,SNR=12
833A Chaparral WMA, 9.35 59 **Pn** 02 43 05.8 -2.5
ARIG Puente Sto Nin 9.38 124 *i* P **Pn** 02 43 10.1 +1.5
ARIG *e*S **Sn** 02 44 55.6 +1.1
ARIG Puente Sto Nin 9.38 124 **Pn** 02 43 10.1 +1.5
ARIG **Sn** 02 44 55.6 +1.1
DEIG Demacu 9.44 110 *e*P **Pn** 02 43 09.5 -0.2
SPX San Pedro Mart 9.50 321 *e*P Pn 02 43 03.2 -7.3
SPX *e*S **Sn** 02 44 54.1 -3.7
SPX San Pedro Mart 9.50 321 Pn **Pn** 02 43 11.3 +0.7
SPIG San Pedro Mart 9.51 321 *i* P **Pn** 02 43 11.8 +1.1
SPIG San Pedro Mart 9.51 321 **Pn** 02 43 11.8 +1.1
AZVM Cuida Lopez Ma 9.54 114 *e*P Pn 02 43 16.9 +5.8
ZUVM ZUMPANGO 9.61 112 *e*P Pn 02 43 17.1 +5.2
MAVM Malinalco, Edo 9.67 118 *e*P **Pn** 02 43 16.2 +3.3
MAVM Malinalco, Edo 9.67 118 **Pn** 02 43 16.2 +3.3
PTVM Pico Tres Padr 9.68 114 *e*P Pn 02 43 18.4 +5.5
CVM Colonia del Va 9.72 115 *e*P Pn 02 43 18.2 +5.0
UNM Universidad Na 9.75 115 *e*P **Pn** 02 43 17.0 +3.1
UNM ‖ *i* S **Sn** 02 45 02.5 -1.3
VTVM Tizayuca 9.89 112 *e*P Pn 02 43 21.5 +5.7
PLIG Platanillo 9.97 121 *e*P **Pn** 02 43 18.2 +1.4
PLIG *e*S **Sn** 02 45 13.5 +4.5
PLIG Platanillo 9.97 121 **Pn** 02 43 18.2 +1.4
PLIG **Sn** 02 45 13.5 +4.5
YAIG Yautepec 10.07 117 *e*P **Pn** 02 43 19.8 +1.6
YAIG *i* S **Sn** 02 45 17.8 +6.3
YAIG Yautepec 10.07 117 **Pn** 02 43 19.8 +1.6
YAIG **Sn** 02 45 17.8 +6.3
113A Mohawk Valley, 10.07 334 Pn **Pn** 02 43 18.5 +0.4
AMVM AMECAMECA 10.17 115 *e*P Pn 02 43 25.6 +6.0
JCT Junction City 10.22 47 P **Pn** 02 43 18.9 -1.2
baz=231,SNR=17
JCT Junction City 10.22 47 P **Pn** 02 43 18.2 -1.9
JCT Junction City 10.22 47 *i* P **Pn** 02 43 20.4 +0.3
JCT Junction City 10.22 47 **Pn** 02 43 18.2 -1.9
CAIG El Cayaco 10.23 129 *i* P **Pn** 02 43 22.0 +1.8
CAIG *e*S **Sn** 02 45 12.4 -2.8
CAIG El Cayaco 10.23 129 **Pn** 02 43 22.0 +1.8
CAIG **Sn** 02 45 12.4 -2.8
KVTX Kingsville 10.28 66 *e*P **Pn** 02 43 19.1 -1.7
KVTX Kingsville 10.28 66 **Pn** 02 43 18.8 -2.0
PPM Popocatepetl 10.33 115 *i* P **Pn** 02 43 25.1 +3.0
PPM *e*S **Sn** 02 45 23.5 +5.1
Y22D IRIS PASSCAL I 10.34 7 P **Pn** 02 43 21.2 -0.7
baz=188
MBIG Mexicali 10.42 327 *e*P **Pn** 02 43 23.4 +0.6
MBIG *e*S **Sn** 02 45 14.1 -5.7
LENM Lemitar 10.43 7 **Pn** 02 43 22.1 -0.9
BNM Barren Site 10.45 9 Pn **Pn** 02 43 22.6 -0.9
GLA Glamis 10.77 330 P **Pn** 02 43 27.6 -0.1
baz=147
GLA Glamis 10.77 330 P **Pn** 02 43 28.3 +0.6
GLA Glamis 10.77 330 **Pn** 02 43 28.3 +0.6
Y14A Wickenburg 10.85 340 Pn **Pn** 02 43 29.1 +0.3
X16A Lo Mia Camp, P 10.90 347 Pn **Pn** 02 43 29.3 -0.2
RMX La Rumorosa 11.03 324 **Pn** 02 43 30.6 -0.7
IKP In-Ko-Pah, Jac 11.08 324 P **Pn** 02 43 33.4 +1.5
baz=141,SNR=15
IKP S **Sn** 02 45 35.5 -0.7
baz=141
SWSC Sam W. Stewart 11.15 326 P **Pn** 02 43 33.6 +0.8
baz=143,SNR=6.2
TLIG Tlapa 11.17 122 Pn **Pn** 02 43 32.0 -1.3
ANMO Albuquerque 11.26 9 S **Sn** 02 45 44.9 +4.2
baz=189
ANMO Albuquerque 11.26 9 *d* *i* P **Pn** 02 43 34.5 0.0
ANMO pmax pmax
comp=Z,158nm,2.5s
ANMO Albuquerque 11.26 9 *i* P **Pn** 02 43 34.1 -0.4
ANMO Albuquerque 11.26 9 **Pn** 02 43 33.4 -1.1
MSTX Muleshoe 11.32 25 P **Pn** 02 43 33.9 -1.3
baz=207,SNR=35
MSTX Muleshoe 11.32 25 Pn **Pn** 02 43 33.7 -1.5
W18A Petrified Fore 11.34 355 P **Pn** 02 43 36.6 +1.1
baz=174,SNR=19
W18A Petrified Fore 11.34 355 **Pn** 02 43 35.1 -0.5
BAR Barrett 11.41 323 Pn **Pn** 02 43 37.2 +0.9
MONP2 Monument Peak 11.43 324 P **Pn** 02 43 38.2 +1.4
baz=140,SNR=12
BC3 Big Chuckawall 11.56 330 P **Pn** 02 43 38.4 -0.2
baz=146,SNR=54
HLIG Huajuapan de L 11.63 119 *i* P **Pn** 02 43 41.6 +2.0
HLIG *e*S **Sn** 02 45 52.2 +2.3
TPIG Tehuac#an 11.69 115 *i* P **Pn** 02 43 44.1 +3.6
TPIG *i* S **Sn** 02 45 48.5 -2.8
TPIG Tehuac#an 11.69 115 **Pn** 02 43 44.1 +3.6
TPIG **Sn** 02 45 48.5 -2.8
ABTX Abilene, Hawle 11.77 40 P **Pn** 02 43 40.5 -0.8
baz=224,SNR=22
ABTX Abilene, Hawle 11.77 40 Pn **Pn** 02 43 39.4 -1.8
109C Camp Elliot, M 11.81 322 P **Pn** 02 43 41.5 -0.2
baz=138
109C S **Sn** 02 45 54.9 +1.0
baz=138
109C Camp Elliot, M 11.81 322 **Pn** 02 43 42.8 +1.0
IRM Iron Mountain 11.85 332 P **Pn** 02 43 42.9 +0.5
baz=149,SNR=107
LVIG Laguna Verde 11.94 107 *i* P **Pn** 02 43 42.0 -1.6
LVIG *e*S **Sn** 02 46 03.7 +6.6
LVIG Laguna Verde 11.94 107 **Pn** 02 43 42.0 -1.6
LVIG **Sn** 02 46 03.7 +6.6
435B Jarrell 11.95 52 P **Pn** 02 43 43.7 0.0
baz=237,SNR=12
435B Jarrell 11.95 52 Pn **Pn** 02 43 41.7 -2.0
WUAZ Wupatki 11.95 349 P **Pn** 02 43 43.7 -0.2
baz=167,SNR=37
WUAZ Wupatki 11.95 349 Pn **Pn** 02 43 43.6 -0.2
PFO Pinyon Flats O 12.02 326 Pn **Pn** 02 43 45.0 +0.2
comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=15
PFO Sn **Sn** 02 45 57.9 -1.2
comp=Z,0.1nm,0.3s,baz=126,slow=18,SNR=1.3
PFO Pinyon Flats O 12.02 326 P **Pn** 02 43 46.0 +1.2
baz=142,SNR=12
PFO S **Sn** 02 45 59.6 +0.5
baz=142
PFO Pinyon Flats O 12.02 326 *d* *i* P **Pn** 02 43 47.4 +2.6
PFO Pinyon Flats O 12.02 326 **Pn** 02 43 45.3 +0.5
BELC Belle Mtn. Jos 12.10 329 P **Pn** 02 43 46.4 +0.4
baz=145,SNR=25
NEE2 Needles Airpor 12.17 335 P **Pn** 02 43 46.7 -0.1
baz=152
W13A Hualapai Mount 12.20 339 Pn **Pn** 02 43 47.5 +0.1
PNIG Pinotepa 12.21 125 *e*P **Pn** 02 43 44.1 -3.3
PNIG *e*S **Sn** 02 45 59.0 -4.9
PNIG Pinotepa 12.21 125 **Pn** 02 43 44.1 -3.3
PNIG **Sn** 02 45 59.0 -4.9
MURC Murrieta 12.39 324 P **Pn** 02 43 49.5 -0.3
baz=140
MURC S **Sn** 02 46 09.0 +0.8
baz=140
AMTX Amarillo 12.55 27 P **Pn** 02 43 50.7 -1.4
baz=210
AMTX Amarillo 12.55 27 Pn **Pn** 02 43 50.6 -1.4
GMRC Granite Mounta 12.61 332 P **Pn** 02 43 52.2 -0.6
baz=148,SNR=38
SCI2 San Clemente I 12.72 318 P **Pn** 02 43 57.4 +3.1
baz=133
WHTX Lake Whitney, 12.73 48 P **Pn** 02 43 53.8 -0.6
baz=232
WHTX Lake Whitney, 12.73 48 Pn **Pn** 02 43 52.7 -1.8
BBRC Big Bear Solar 12.76 327 P **Pn** 02 43 56.6 +1.5
baz=142,SNR=8.9
HKT Hockley 12.86 59 *c* *i* P **Pn** 02 43 53.6 -2.6
HKT pmax pmax
comp=Z,174nm,1.7s
HKT Hockley 12.86 59 Pn **Pn** 02 43 54.4 -1.8
CIS Catalina Islan 12.93 320 P **Pn** 02 43 57.5 +0.3
baz=135
HEC Hector Ludlow 12.94 330 P **Pn** 02 43 57.0 -0.3
baz=146,SNR=14
U15A North Rim 13.01 346 Pn **Pn** 02 43 58.3 -0.2
FMP Fort Macarthur 13.09 321 P **Pn** 02 43 59.6 +0.3
baz=136
BFSC Mount Baldy Ra 13.13 325 P **Pn** 02 44 00.4 +0.5
baz=140
TUQ Turquoise Moun 13.27 333 P **Pn** 02 44 02.3 +0.4
baz=149,SNR=14
RRX Edison Barstow 13.29 328 P **Pn** 02 44 02.6 +0.5
baz=144,SNR=7.9
MWC Mount Wilson 13.33 323 P **Pn** 02 44 03.4 +0.6
MWC Mount Wilson 13.33 323 Pn **Pn** 02 44 03.4 +0.6
MVCO Mesa Verde 13.38 0 P **Pn** 02 44 03.3 -0.2
baz=180,SNR=27
MVCO Mesa Verde 13.38 0 Pn **Pn** 02 44 02.7 -0.8
DECC Green Verdugo 13.51 323 P **Pn** 02 44 04.2 -0.8
baz=138
GSC Goldstone, Bar 13.55 330 P **Pn** 02 44 05.3 -0.3
baz=145,SNR=22
GSC Goldstone, Bar 13.55 330 P **Pn** 02 44 06.2 +0.5
GSC Goldstone, Bar 13.55 330 Pn **Pn** 02 44 06.2 +0.5
KNB Kanab 13.70 345 P **Pn** 02 44 07.7 -0.1
KNB Kanab 13.70 345 **Pn** 02 44 07.7 -0.1
T25A Trinidad 13.77 14 P **Pn** 02 44 08.6 -0.1
baz=196,SNR=21
T25A Trinidad 13.77 14 **Pn** 02 44 07.5 -1.2
LCMT Little Creek M 13.80 344 **Pn** 02 44 09.1 0.0
EDW2 Edwards Air Fo 13.80 325 P **Pn** 02 44 10.6 +1.5
baz=140,SNR=26
WMOK Wichita Mounta 13.81 36 P **Pn** 02 44 07.6 -1.6
baz=220,SNR=22
WMOK Wichita Mounta 13.81 36 **Pn** 02 44 07.6 -1.6
WMOK Wichita Mounta 13.81 36 Pn **Pn** 02 44 07.6 -1.6
SHOC Shoshone, Teco 13.82 333 P **Pn** 02 44 10.9 +1.7
baz=148
237A Washetta, Mont 13.88 51 Pn **Pn** 02 44 08.3 -1.9
SHPR Sheep Range 13.91 337 Pn **Pn** 02 44 10.9 +0.2
S22A 4UR Ranch, Cre 13.99 6 P **Pn** 02 44 12.3 +0.4
baz=186,SNR=32
S22A 4UR Ranch, Cre 13.99 6 Pn **Pn** 02 44 10.9 -0.9
OSI Osito Audit: C 13.99 323 P **Pn** 02 44 12.7 +1.1
baz=138
OSI Osito Audit: C 13.99 323 **Pn** 02 44 12.5 +0.9
LRMC Laurel Mtn Rad 14.11 328 P **Pn** 02 44 13.8 +0.4
baz=143,SNR=11
SDCO Great Sand Dun 14.15 10 P **Pn** 02 44 14.2 +0.1
baz=191,SNR=32
SDCO Great Sand Dun 14.15 10 Pn **Pn** 02 44 12.9 -1.1
PV05 Paradox Valley 14.25 358 **Pn** 02 44 15.7 +0.3
PV01 Paradox Valley 14.30 360 **Pn** 02 44 15.3 -0.8
SZCU Shurtz Canyon 14.31 345 **Pn** 02 44 16.2 0.0
PV13 Radium Mtn., P 14.33 359 **Pn** 02 44 15.8 -0.7
CCUT Cedar City 14.34 344 Pn **Pn** 02 44 16.4 -0.1
PV02 Paradox Valley 14.38 359 Pn **Pn** 02 44 16.4 -0.7
PV18 Skein Mesa, Pa 14.42 359 **Pn** 02 44 16.9 -0.8
PV03 Paradox Valley 14.42 359 **Pn** 02 44 16.9 -0.9
ARVC Arvin 14.43 324 P **Pn** 02 44 17.6 -0.1
baz=139,SNR=7.2
SBC Santa Barbara 14.43 320 P **Pn** 02 44 19.4 +1.7
baz=134
PV17 East Wray Mesa 14.45 359 **Pn** 02 44 17.0 -1.1
PV11 David Mesa, Pa 14.47 359 Pn **Pn** 02 44 17.2 -1.1
PV16 Nyswonger Mesa 14.48 359 **Pn** 02 44 17.5 -1.0
PV19 Morning Glory 14.48 358 **Pn** 02 44 17.5 -1.1
MPMC Manual Prospec 14.49 330 P **Pn** 02 44 18.3 -0.3
baz=145,SNR=47
PV12 Saucer Basin, 14.49 359 **Pn** 02 44 17.4 -1.2
PV15 Paradox Valley 14.51 0 **Pn** 02 44 17.9 -1.1
PV20 West Nyswonger 14.51 359 **Pn** 02 44 17.9 -1.1
PV14 Lion Creek, Pa 14.55 358 **Pn** 02 44 18.2 -1.2
FURC Furnace Creek, 14.55 332 P **Pn** 02 44 19.6 +0.3
baz=148,SNR=25
PV10 Paradox Valley 14.55 358 Pn **Pn** 02 44 17.4 -2.2
PV04 Paradox Valley 14.56 359 **Pn** 02 44 18.6 -1.1
NATX Nacogdoches 14.59 54 P **Pn** 02 44 19.1 -0.8
baz=240
NATX Nacogdoches 14.59 54 Pn **Pn** 02 44 17.5 -2.3
PV07 Paradox Valley 14.60 360 Pn **Pn** 02 44 19.2 -1.0
PV23 Carpenter Ridg 14.62 358 Pn **Pn** 02 44 19.4 -1.1
ISA Isabella, Lake 14.65 326 P **Pn** 02 44 20.0 -0.7
baz=141,SNR=22
ISA Isabella, Lake 14.65 326 P **Pn** 02 44 21.1 +0.4
ISA Isabella, Lake 14.65 326 Pn **Pn** 02 44 21.1 +0.4
PRN Pahroc Range 14.69 339 Pn **Pn** 02 44 21.1 -0.2
PV22 Blue Mesa, Par 14.70 359 **Pn** 02 44 20.5 -1.1
TPNV Topopah Spring 14.71 335 P **Pn** 02 44 19.8 -1.9
baz=151,SNR=109
TPNV Topopah Spring 14.71 335 P **Pn** 02 44 21.6 0.0
TPNV Topopah Spring 14.71 335 Pn **Pn** 02 44 21.6 0.0
PV21 Cone Mtn., Par 14.73 359 **Pn** 02 44 20.9 -1.1
PKM Mcpherson Peak 14.80 321 P **Pn** 02 44 24.2 +1.2
baz=135
FNO Franklin 14.95 38 **Pn** 02 44 22.9 -1.9
U32A Winter Ranch, 14.99 31 Pn **Pn** 02 44 23.5 -1.8
MVU Marysvale 15.01 349 **Pn** 02 44 25.1 -0.6
MSU Marysvale 15.01 349 P **Pn** 02 44 25.0 -0.7
MSU Marysvale 15.01 349 Pn **Pn** 02 44 25.0 -0.7
OKCFA Oklahoma City 15.04 37 Pn **Pn** 02 44 23.2 -2.8
CWC Cottonwood Cre 15.07 329 P **P** 02 44 28.3 -3.6
baz=144
VES Vestal, Richgr 15.10 325 P **Pn** 02 44 27.5 +0.8
baz=140,SNR=21
BCOK Bluff Creek, N 15.13 36 **Pn** 02 44 25.3 -1.8
Z38A Mt. Pleasant 15.16 49 **Pn** 02 44 25.4 -2.1
W35A Tecumseh 15.18 39 **Pn** 02 44 25.9 -1.9
GRAC Grapevine Rang 15.21 332 P **Pn** 02 44 28.7 +0.5
baz=147,SNR=22
SMMC Simmler 15.21 322 P **Pn** 02 44 27.2 -1.1
baz=136,SNR=8.2
OK025 Westminster Rd 15.23 37 **Pn** 02 44 26.4 -2.0
OK025 IAmb IAmb 02 44 44.9
comp=Z,161nm,1.0s
Q16A Castle Valley 15.25 352 **Pn** 02 44 28.2 -0.7
441A DeRidder 15.28 60 **Pn** 02 44 26.9 -2.1
441A IAmb IAmb 02 44 45.1
comp=Z,181nm,1.3s
OK029 Liberty Lake 15.32 36 Pn **Pn** 02 44 27.9 -1.8
OK029 IAmb IAmb 02 44 42.7
comp=Z,358nm,1.4s
SRU San Rafael Swe 15.37 354 P **Pn** 02 44 29.7 -0.8
SRU pmax pmax
comp=Z,113nm,1.1s
SRU San Rafael Swe 15.37 354 Pn **Pn** 02 44 29.7 -0.8
PSUT Pine Spring 15.39 344 Pn **Pn** 02 44 30.3 -0.5
Q24A Divide 15.40 10 P **Pn** 02 44 30.7 -0.2
baz=191
CROK Carrier 15.59 33 Pn **Pn** 02 44 31.3 -1.9
VOG Valley Oaks Go 15.62 326 P **Pn** 02 44 34.5 +0.9
baz=140
TMUT Trail Mountain 15.63 352 Pn **Pn** 02 44 33.1 -0.8
TIN Tinemaha, Big 15.64 330 P **Pn** 02 44 34.2 +0.2
baz=145,SNR=20
PAGB Antelope Grade 15.65 322 Pn **Pn** 02 44 34.6 +0.5
X37A Clayton 15.71 44 Pn **Pn** 02 44 32.8 -1.9
X37A IAmb IAmb 02 44 51.6
comp=Z,290nm,1.2s
R11A Troy Canyon, C 15.72 339 P **Pn** 02 44 35.1 +0.1
baz=155,SNR=53
R11A Troy Canyon, C 15.72 339 Pn **Pn** 02 44 34.8 -0.2
P17A Butcher Ranch, 15.75 354 Pn **Pn** 02 44 34.6 -0.8
KAN14 Manchester OK 15.95 32 Pn **Pn** 02 44 36.1 -1.8
KSCO Kaye Shedlock' 15.98 17 P **Pn** 02 44 38.1 -0.2
baz=200
QUOK Quay 16.01 37 Pn **Pn** 02 44 36.6 -1.9
ISCO Idaho Springs 16.15 8 P **Pn** 02 44 40.7 0.0
baz=189,SNR=85
ISCO Idaho Springs 16.15 8 P **P** 02 44 42.8 -1.2
ISCO pmax pmax
comp=Z,226nm,1.4s
ISCO Idaho Springs 16.15 8 IAmb IAmb 02 44 56.2
comp=Z,431nm,1.4s
342A Flagon Creek P 16.20 59 IAmb IAmb 02 44 58.1
comp=Z,358nm,0.8s
O20A White River Ci 16.30 1 P **Pn** 02 44 41.9 -0.6
baz=181,SNR=97
O20A White River Ci 16.30 1 IAmb IAmb 02 44 56.9
comp=Z,363nm,1.5s
TUL1 Leonard 16.34 39 P **Pn** 02 44 41.9 -0.9
baz=226,SNR=17
MLAC Mammoth, Mammo 16.39 330 P **P** 02 44 44.2 -2.4
baz=144,SNR=32
Z41A Richland Creek 16.70 52 P **Pn** 02 44 45.6 -1.8
baz=239
Z41A Richland Creek 16.70 52 IAmb IAmb 02 45 07.5
comp=Z,360nm,1.5s
WLAR White Oak Lake 16.70 50 IAmb IAmb 02 45 06.0
comp=Z,436nm,1.4s
CBKS Cedar Bluff 16.73 24 P **Pn** 02 44 45.9 -2.0
baz=209
LHV Little Huntoon 16.75 332 IAmb IAmb 02 45 02.2
comp=Z,518nm,1.4s
DUG Dugway, Tooele 16.76 348 P **P** 02 44 48.5 -2.0
baz=166,SNR=77
DUG Dugway, Tooele 16.76 348 P **P** 02 44 50.6 0.0
DUG pmax pmax
comp=Z,353nm,2.0s
R32A Long Quarter, 16.81 28 IAmb IAmb 02 45 02.6
comp=Z,322nm,1.2s
NVAR Mina Array Bea 16.82 332 Pn **Pn** 02 44 48.1 -1.0
comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=43
NVAR LR LR 02 50 51.8
comp=Z,32µm,19.1s,baz=148,slow=36
NVAR Mina Array Bea 16.82 332 **P** 02 44 49.9 -1.5
MIAR Mount Ida 16.86 47 P **Pn** 02 44 47.1 -2.3
baz=234,SNR=10
MIAR Mount Ida 16.86 47 P **Pn** 02 44 47.9 -1.5
MIAR pmax pmax
comp=Z,111nm,1.3s
MIAR Mount Ida 16.86 47 Pn **Pn** 02 44 47.9 -1.5
W39A Magazine 17.11 45 P **Pn** 02 44 51.1 -1.4
baz=232,SNR=62
W39A Magazine 17.11 45 IAmb IAmb 02 45 00.6
comp=Z,408nm,1.5s
N23A Red Feather La 17.19 7 P **P** 02 44 53.7 -1.8
baz=188,SNR=17
X40A Basin Creek Fa 17.33 49 P **Pn** 02 44 52.8 -2.5
baz=236,SNR=27
WAKR Walker 17.38 330 IAmb IAmb 02 45 09.8
comp=Z,454nm,1.5s
CMB Columbia Colle 17.46 327 P **P** 02 44 58.1 -0.1
143A Socs Landing, 17.47 56 IAmb IAmb 02 45 08.2
comp=Z,367nm,1.3s
344A Westbrook Farm 17.49 60 IAmb IAmb 02 45 11.6
comp=Z,454nm,1.1s
UALR University of 17.83 48 **Pn** 02 44 59.8 -1.8
ELK Elko 17.83 343 P **Pn** 02 44 59.3 -2.5
comp=Z,0.0nm,0.3s,baz=165,slow=14,SNR=3.1
ELK Lg Lg 02 50 14.1
comp=Z,0.1nm,0.3s,baz=227,slow=19,SNR=0.9
ELK LR LR 02 52 34.3
comp=Z,45µm,18.6s,baz=169,slow=39
ELK Elko 17.83 343 P **P** 02 45 02.1 -0.4
ELK pmax pmax
comp=Z,145nm,1.4s
ELK Elko 17.83 343 **P** 02 45 02.1 -0.4
PNTR Pine Nut 17.93 331 IAmb IAmb 02 45 16.3
comp=Z,540nm,1.4s
OGNE Ogallala 17.95 16 P **P** 02 45 02.7 -1.0
baz=199,SNR=14
OGNE Ogallala 17.95 16 IAmb IAmb 02 45 21.0
comp=Z,408nm,1.5s
VBMS Vicksburg 17.95 58 P **Pn** 02 45 00.0 -3.1
baz=246
HWUT Hardware Ranch 17.95 353 IAmb IAmb 02 45 14.7
comp=Z,451nm,1.4s
W41B Gary Mavity, V 18.11 48 P **Pn** 02 45 02.9 -2.1
baz=235,SNR=32
VCNR Virginia City 18.12 331 IAmb IAmb 02 45 18.4
comp=Z,402nm,1.4s
RUBR Rubicon Trail 18.15 330 IAmb IAmb 02 45 16.4
comp=Z,500nm,1.4s
KSU1 Kansas State U 18.30 31 P **P** 02 45 07.1 -0.4
baz=217,SNR=11
U40A Yellville 18.42 44 P **Pn** 02 45 06.6 -2.2
baz=231,SNR=29
X43A Marvell 18.71 51 P **P** 02 45 10.6 -1.4
baz=240
K22A Casper 18.88 5 P **P** 02 45 13.0 -1.1
baz=185,SNR=80
K22A S **S** 02 48 51.1 +2.0
baz=185
K22A Casper 18.88 5 IAmb IAmb 02 45 24.6
comp=Z,486nm,1.2s
BW06 Boulder Array 18.95 358 P **P** 02 45 14.0 -0.8
baz=177,SNR=55
PDAR Pinedale Array 18.95 358 P **P** 02 45 11.8 -3.1
comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=24
PDAR PcP **PcP** 02 49 39.0 -1.7
comp=Z,0.5nm,0.3s,baz=191,slow=4.2,SNR=9.7
PDAR Lg Lg 02 50 49.5
baz=186,slow=26,SNR=1.3
PDAR LR LR 02 52 51.0
comp=Z,39µm,19.9s,baz=184,slow=38
PDAR Pinedale Array 18.95 358 P **Pn** 02 45 14.7 -0.8
TEIG Tepich 19.09 97 P **Pn** 02 45 18.5 +1.5
comp=Z,0.6nm,0.3s,baz=288,slow=16,SNR=8.3
TEIG LR LR 02 52 25.0
comp=Z,28µm,21.9s,baz=265,slow=36
TEIG Tepich 19.09 97‖ *e*P **Pn** 02 45 16.2 -0.8
TEIG *e*S **Sn** 02 48 48.8 -2.4
TEIG Tepich 19.09 97 *i* P **P** 02 45 15.6 -0.6
TEIG *i* P **Pn** 02 45 15.8 -1.2
TEIG Tepich 19.09 97 **P** 02 45 15.1 -1.2
APG El Apazote 19.11 114 P **Pn** 02 45 17.0 -0.6
baz=304,slow=11,SNR=27
MGMO Mountain Grove 19.28 43 IAmb IAmb 02 45 36.1
comp=Z,349nm,1.1s
N33A J Bar K, Exete 19.29 26 IAmb IAmb 02 45 29.8
comp=Z,367nm,1.1s
LCAR Lake Charles 19.35 47 P **P** 02 45 17.9 -1.1
LCAR IAmb IAmb 02 45 30.6
comp=Z,407nm,1.3s
Y45A Yeager Farm, C 19.38 55 IAmb IAmb 02 45 37.4
comp=Z,423nm,1.1s
BGNE Belgrade 19.59 24 P **P** 02 45 20.9 -0.7
baz=209,SNR=24
REDW Red Top Meadow 19.62 355 IAmb IAmb 02 45 35.4
comp=Z,230nm,1.2s
SNOW Snow King Moun 19.71 355 IAmb IAmb 02 45 38.2
comp=Z,319nm,1.2s
TPAW Teton Pass 19.75 355 IAmb IAmb 02 45 39.5
comp=Z,418nm,1.3s
OXF Oxford 19.77 53 P **P** 02 45 23.3 -0.4
baz=242
OXF Oxford 19.77 53 IAmb IAmb 02 45 43.0
comp=Z,213nm,1.2s
LOHW Long Hollow 19.85 356 IAmb IAmb 02 45 36.6
comp=Z,190nm,1.1s
O03E Paynes Creek 19.91 329 P **Pn** 02 45 25.9 -0.9
baz=142,SNR=51

FXWY	**Fox Creek**	**19.91**	**355**	IAmb	IAmb	02 45 37.5			
	comp=Z,252nm,1.2s								
R40A	**Maddies Statio**	**20.02**	**40**	IAmb	IAmb	02 45 46.6			
	comp=Z,180nm,1.1s								
IMW	**Indian Meadow**	**20.16**	**355**	P	**P**	**02 45 27.1**	**-0.9**		
IMW				IAmb	IAmb	02 45 39.3			
	comp=Z,291nm,1.1s								
N35A	**Tabor**	**20.16**	**29**	P	**P**	**02 45 26.4**	**-1.5**		
Z47A	**Carrollton**	**20.23**	**58**	P	**P**	**02 45 27.0**	**-1.7**		
Z47A				IAmb	IAmb	02 45 44.1			
	comp=Z,244nm,1.1s								
Z47A				IAMs_20	IAMs_20	02 54 10.4			
	comp=Z,70µm,21.0s								
PBMO	**Poplar Bluff**	**20.24**	**46**	P	**P**	**02 45 26.9**	**-1.8**		
PBMO				IAmb	IAmb	02 45 40.3			
	comp=Z,187nm,1.2s								
PBMO				IAMs_20	IAMs_20	02 53 06.7			
	comp=Z,85µm,22.0s								
P38A	**Dawn**	**20.24**	**35**	P	**P**	**02 45 27.2**	**-1.5**		
P38A				IAMs_20	IAMs_20	02 53 14.2			
	comp=Z,48µm,18.0s								
W45A	**Hickory Valley**	**20.24**	**52**	P	**P**	**02 45 27.0**	**-1.8**		
W45A				IAmb	IAmb	02 45 42.0			
	comp=Z,318nm,0.9s								
PEBM	**Pemiscott Bayo**	**20.25**	**48**	IAMs_20	IAMs_20	02 53 38.0			
	comp=Z,74µm,18.0s								
ESQI	**Esquipulas**	**20.28**	**113**	IAMs_20	IAMs_20	02 53 35.1			
	comp=Z,50µm,21.0s								
O02D	**Mt. Diablo Mer**	**20.30**	**327**	P	Pn	02 45 30.1	-1.3		
	baz=139,SNR=15								
HLID	**Hailey**	**20.32**	**348**	P	Pn	02 45 30.0	-1.6		
	baz=164,SNR=76								
HLID	**Hailey**	**20.32**	**348**	P	**P**	**02 45 29.2**	**-0.4**		
FLWY	**Flagg Ranch**	**20.32**	**355**	P	**P**	**02 45 29.1**	**-0.7**		
FLWY				IAmb	IAmb	02 45 41.1			
	comp=Z,501nm,1.4s								
KCPM	**Cahto Peak**	**20.34**	**325**	P	Pn	02 45 30.2	-1.7		
KCPM				IAmb	IAmb	02 45 40.0			
	comp=Z,330nm,1.4s								
KCPM				IAMs_20	IAMs_20	02 52 29.2			
	comp=Z,58µm,20.0s								
MTO3	**Montecristo**	**20.34**	**114**	P	**P**	**02 45 28.8**	**-1.4**		
MTO3				IAmb	IAmb	02 45 42.7			
	comp=Z,391nm,1.5s								
MTO3				IAMs_20	IAMs_20	02 52 23.8			
	comp=Z,95µm,22.0s								
BRAL	**Brewton**	**20.39**	**64**	P	**P**	**02 45 30.0**	**-0.3**		
	baz=254								
BRAL	**Brewton**	**20.39**	**64**	P	**P**	**02 45 28.5**	**-1.9**		
BRAL				IAMs_20	IAMs_20	02 54 10.4			
	comp=Z,42µm,19.0s								
K31A	**O'Neill**	**20.45**	**21**	P	**P**	**02 45 29.8**	**-1.2**		
K31A				IAMs_20	IAMs_20	02 53 30.6			
	comp=Z,69µm,18.0s								
CCM	**Cathedral Cave**	**20.48**	**42**	P	Pn	02 45 31.5	-2.0		
	baz=231								
CCM	**Cathedral Cave**	**20.48**	**42**	P	**P**	**02 45 29.7**	**-1.6**		
CCM				pmax	pmax				
	comp=Z,66nm,1.1s								
CCM				MLR	MLR				
	comp=Z,71µm,19.0s								
CCM	**Cathedral Cave**	**20.48**	**42**		**P**	**02 45 29.7**	**-1.6**		
CCM	**Cathedral Cave**	**20.48**	**42**	IAMs_20	IAMs_20	02 53 55.4			
	comp=Z,71µm,19.0s								
WDC	**Whiskeytown Da**	**20.48**	**328**	P	Pn	02 45 31.6	-1.9		
WDC				pmax	pmax				
	comp=Z,102nm,1.2s								
WDC				MLR	MLR				
	comp=Z,26µm,18.0s								
WDC	**Whiskeytown Da**	**20.48**	**328**	P	Pn	02 45 31.6	-1.9		
MFID	**Camas Ranch**	**20.49**	**345**	P	**P**	**02 45 31.1**	**-0.4**		
MFID				IAMs_20	IAMs_20	02 52 59.5			
	comp=Z,41µm,18.0s								
HALT	**Halls**	**20.51**	**50**	IAMs_20	IAMs_20	02 53 55.8			
	comp=Z,64µm,19.0s								
YPP	**Pitchstone Pla**	**20.52**	**355**	P	**P**	**02 45 31.2**	**-0.8**		
PVMO	**Portageville**	**20.52**	**48**	IAMs_20	IAMs_20	02 53 25.3			
	comp=Z,51µm,22.0s								
MOD	**Modoc Plateau**	**20.57**	**334**	P	**P**	**02 45 32.4**	**0.0**		
MOD				IAmb	IAmb	02 45 46.6			
	comp=Z,362nm,1.4s								
PENMO	**Penman**	**20.59**	**48**	IAMs_20	IAMs_20	02 53 28.1			
	comp=Z,48µm,22.0s								
RSSD	**Black Hills**	**20.61**	**9**	P	Pn	02 45 33.1	-2.1		
	baz=192								
RSSD	**Black Hills**	**20.61**	**9**	P	**P**	**02 45 31.8**	**-1.2**		
RSSD				pmax	pmax				
	comp=Z,89nm,1.2s								
RSSD				MLR	MLR				
	comp=Z,126µm,18.0s								
RSSD	**Black Hills**	**20.61**	**9**	P	**P**	**02 45 31.8**	**-1.2**		
PARMO	**Parma**	**20.62**	**47**	P	**P**	**02 45 31.3**	**-1.6**		
PARMO				IAmb	IAmb	02 45 44.4			
	comp=Z,330nm,1.0s								
PARMO				IAMs_20	IAMs_20	02 53 26.9			
	comp=Z,60µm,21.0s								
H17A	**Grant Village**	**20.63**	**356**	P	**P**	**02 45 32.5**	**-0.6**		
	baz=174,SNR=55								
H17A	**Grant Village**	**20.63**	**356**	P	**P**	**02 45 32.3**	**-0.8**		
H17A				IAmb	IAmb	02 45 47.9			
	comp=Z,371nm,1.4s								
H17A				IAMs_20	IAMs_20	02 53 48.3			
	comp=Z,70µm,20.0s								
GLAT	**Glass**	**20.73**	**49**	IAMs_20	IAMs_20	02 53 52.7			
	comp=Z,57µm,18.0s								
L34A	**Svendsen Farm,**	**20.75**	**26**	P	**P**	**02 45 33.0**	**-1.3**		
L34A				IAmb	IAmb	02 45 47.1			
	comp=Z,146nm,0.9s								
LKWY	**Lake**	**20.78**	**356**	P	**P**	**02 45 34.1**	**-0.8**		
LKWY				pmax	pmax				
	comp=Z,387nm,1.2s								
LKWY				MLR	MLR				
	comp=Z,74µm,21.0s								
LKWY	**Lake**	**20.78**	**356**	P	**P**	**02 45 34.1**	**-0.8**		
LKWY				IAmb	IAmb	02 45 49.9			
	comp=Z,387nm,1.2s								
LKWY				IAMs_20	IAMs_20	02 53 32.4			
	comp=Z,74µm,21.0s								
KMRM	**Mail Ridge**	**20.80**	**326**	P	**P**	**02 45 34.8**	**0.0**		
KMRM				IAMs_20	IAMs_20	02 52 56.9			
	comp=Z,92nm,19.0s								
SNET	**Serv Nac Est T**	**20.81**	**115**	IAMs_20	IAMs_20	02 53 35.4			
	comp=Z,50nm,20.0s								
HENM	**Henderson Moun**	**20.84**	**47**	P	**P**	**02 45 33.6**	**-1.6**		
HENM				IAMs_20	IAMs_20	02 53 34.7			
	comp=Z,54µm,21.0s								
BCYI	**Bear Canyon**	**20.86**	**350**	P	**P**	**02 45 35.0**	**-0.7**		
N02D	**Trinity Center**	**20.87**	**329**	P	**P**	**02 45 35.5**	**-0.1**		
	baz=141,SNR=74								
HICK	**Hickman**	**20.91**	**48**	P	**P**	**02 45 34.3**	**-1.7**		
HICK				IAMs_20	IAMs_20	02 53 58.5			
	comp=Z,68µm,19.0s								
YMR	**Madison River**	**20.93**	**355**	P	**P**	**02 45 35.6**	**-0.8**		
YUF	**Upper Falls**	**20.94**	**356**	P	**P**	**02 45 35.6**	**-0.9**		
YMP	**Mirror Lake Pl**	**20.94**	**357**	P	**P**	**02 45 35.6**	**-1.1**		
FVM	**French Village**	**20.95**	**43**	P	**P**	**02 45 34.7**	**-1.7**		
FVM				pmax	pmax				
	comp=Z,151nm,1.1s								
FVM				MLR	MLR				
	comp=Z,82µm,18.0s								
FVM	**French Village**	**20.95**	**43**	P	**P**	**02 45 34.7**	**-1.7**		
FVM				IAMs_20	IAMs_20	02 54 17.5			
	comp=Z,82µm,18.0s								
YNR	**Norris Junctio**	**20.95**	**356**	P	**P**	**02 45 35.8**	**-0.8**		
PLAL	**Pickwick Lake**	**20.97**	**53**	P	**P**	**02 45 34.6**	**-2.0**		
PLAL				IAMs_20	IAMs_20	02 54 30.9			
	comp=Z,80µm,18.0s								
P40A	**Paris**	**20.98**	**38**	P	**P**	**02 45 35.2**	**-1.6**		
P40A				IAmb	IAmb	02 45 54.5			
	comp=Z,164nm,0.9s								
LRAL	**Lakeview Retre**	**21.01**	**59**	P	**P**	**02 45 36.8**	**-0.3**		
	baz=249,SNR=18								
LRAL	**Lakeview Retre**	**21.01**	**59**	P	**P**	**02 45 35.3**	**-1.8**		
LRAL				IAMs_20	IAMs_20	02 54 45.9			
	comp=Z,68µm,22.0s								
YHH	**Holmes Hill**	**21.04**	**355**	P	**P**	**02 45 36.6**	**-1.0**		
M04C	**Macdoel**	**21.11**	**331**	P	**P**	**02 45 38.7**	**+0.4**		
	baz=144,SNR=27								
YHL	**Hebgen Lake**	**21.12**	**355**	P	**P**	**02 45 37.5**	**-1.1**		
QLMT	**Earthquake Lak**	**21.13**	**354**	P	**P**	**02 45 37.8**	**-0.7**		
J08A	**Circle Bar Ran**	**21.18**	**340**	P	**P**	**02 45 38.8**	**-0.1**		
J08A				IAmb	IAmb	02 45 51.5			
	comp=Z,322nm,1.4s								
YNE	**Yellowstone No**	**21.20**	**357**	P	**P**	**02 45 38.6**	**-0.8**		
250A	**Grady**	**21.26**	**63**	P	**P**	**02 45 38.0**	**-1.7**		
N38A	**Joes South For**	**21.26**	**33**	P	**P**	**02 45 38.2**	**-1.4**		
N38A				IAmb	IAmb	02 45 52.4			
	comp=Z,300nm,1.3s								
M02C	**Callahan**	**21.26**	**329**	P	**P**	**02 45 38.5**	**-1.4**		
	baz=141								
MCMT	**McKenzie Canyo**	**21.29**	**351**	P	**P**	**02 45 39.4**	**-0.9**		
RLMT	**Red Lodge**	**21.29**	**359**	P	**P**	**02 45 39.1**	**-1.2**		
	baz=178,SNR=33								
RLMT	**Red Lodge**	**21.29**	**359**	P	**P**	**02 45 39.3**	**-1.0**		
RLMT				IAmb	IAmb	02 45 50.5			
	comp=Z,239nm,1.4s								
KHMM	**Horse Mountain**	**21.29**	**327**	P	**P**	**02 45 39.7**	**-0.6**		
KHMM				IAMs_20	IAMs_20	02 53 25.3			
	comp=Z,60µm,19.0s								
451A	**Vernon**	**21.33**	**66**	P	**P**	**02 45 38.8**	**-1.8**		
JCC	**Jacoby Creek,**	**21.40**	**326**	P	**P**	**02 45 41.6**	**+0.3**		
JCC				IAmb	IAmb	02 45 53.1			
	comp=Z,365nm,1.3s								
JCC				IAMs_20	IAMs_20	02 53 16.2			
	comp=Z,62µm,19.0s								
YBH	**Yreka Blue Hor**	**21.46**	**330**	P	**P**	**02 45 40.6**	**-1.4**		
	comp=Z,9.7nm,0.9s,baz=151,slow=7.2,SNR=9.8								
YBH				LR	LR	02 54 10.2			
	comp=Z,13µm,18.6s,baz=160,slow=37								
YBH	**Yreka Blue Hor**	**21.46**	**330**	P	**P**	**02 45 42.0**	**0.0**		
YBH				pmax	pmax				
	comp=Z,31nm,1.2s								
YBH				MLR	MLR				
	comp=Z,16µm,19.0s								
YBH	**Yreka Blue Hor**	**21.46**	**330**	P	**P**	**02 45 42.0**	**0.0**		
SLM	**Saint Louis**	**21.46**	**42**	P	**P**	**02 45 40.2**	**-1.8**		
SLM				pmax	pmax				
	comp=Z,208nm,1.2s								
SLM				MLR	MLR				
	comp=Z,98µm,19.0s								
SLM	**Saint Louis**	**21.46**	**42**	P	**P**	**02 45 40.2**	**-1.8**		
SLM				IAmb	IAmb	02 45 55.6			
	comp=Z,208nm,1.2s								
SLM				IAMs_20	IAMs_20	02 54 11.3			
	comp=Z,98µm,19.0s								
K05A	**Summer Lake**	**21.50**	**334**	P	**P**	**02 45 41.5**	**-1.0**		
X48A	**Hartselle**	**21.51**	**56**	P	**P**	**02 45 40.3**	**-2.1**		
X48A				IAmb	IAmb	02 45 55.5			
	comp=Z,149nm,1.1s								
X48A				IAMs_20	IAMs_20	02 53 37.2			
	comp=Z,43nm,19.0s								
S44A	**Carbondale**	**21.53**	**45**	P	**P**	**02 45 40.8**	**-1.9**		
T45A	**Paducah**	**21.56**	**48**	P	**P**	**02 45 41.1**	**-1.9**		
T45A				IAMs_20	IAMs_20	02 53 57.7			
	comp=Z,60µm,22.0s								
L04D	**Klamath Falls**	**21.67**	**331**	P	**P**	**02 45 43.7**	**-0.6**		
	baz=144,SNR=46								
WVT	**Waverly**	**21.68**	**51**	P	**P**	**02 45 43.1**	**-1.2**		
	baz=241								
WVT	**Waverly**	**21.68**	**51**	P	**P**	**02 45 43.1**	**-1.2**		
WVT				pmax	pmax				
	comp=Z,146nm,1.2s								
WVT				MLR	MLR				
	comp=Z,90µm,18.0s								
WVT	**Waverly**	**21.68**	**51**	P	**P**	**02 45 43.1**	**-1.2**		
WVT	**Waverly**	**21.68**	**51**	IAMs_20	IAMs_20	02 54 48.7			
	comp=Z,90µm,18.0s								
K04D	**Chiloquin, OR**	**21.76**	**333**	P	**P**	**02 45 45.5**	**+0.3**		
	baz=145,SNR=14								
Y49A	**Blount Mountai**	**21.76**	**58**	P	**P**	**02 45 43.0**	**-2.2**		
Y49A				IAMs_20	IAMs_20	02 55 07.9			
	comp=Z,71µm,18.0s								
DLMT	**Dillon**	**21.78**	**352**	P	**P**	**02 45 44.6**	**-0.8**		
DLMT				IAmb	IAmb	02 46 03.6			
	comp=Z,273nm,1.4s								
DLMT				IAMs_20	IAMs_20	02 54 20.8			
	comp=Z,47µm,20.0s								
KRMB	**Red Mountain**	**21.87**	**328**	P	**P**	**02 45 46.6**	**+0.2**		
KRMB				IAMs_20	IAMs_20	02 54 16.4			
	comp=Z,39µm,18.0s								
BOZ	**Bozeman (W)**	**21.91**	**354**	P	**P**	**02 45 45.1**	**-1.7**		
	baz=172,SNR=42								
BOZ	**Bozeman (W)**	**21.91**	**354**	P	**P**	**02 45 46.0**	**-0.8**		
BOZ				pmax	pmax				
	comp=Z,106nm,1.3s								
BOZ				MLR	MLR				
	comp=Z,47µm,18.0s								
BOZ	**Bozeman (W)**	**21.91**	**354**	P	**P**	**02 45 46.0**	**-0.8**		
BOZ				IAMs_20	IAMs_20	02 54 32.0			
	comp=Z,47µm,18.0s								
GCMT	**Greycliff**	**21.97**	**358**	P	**P**	**02 45 46.6**	**-0.9**		
SUSD	**Miller**	**22.04**	**18**	P	**P**	**02 45 46.3**	**-1.8**		
	baz=204								
SUSD	**Miller**	**22.04**	**18**	P	**P**	**02 45 46.7**	**-1.4**		
SUSD				IAmb	IAmb	02 45 58.3			
	comp=Z,233nm,1.1s								
SUSD				IAMs_20	IAMs_20	02 54 34.7			
	comp=Z,92µm,19.0s								
J05D	**Fort Rock, OR**	**22.10**	**335**	P	**P**	**02 45 49.1**	**+0.2**		
	baz=147,SNR=40								
PLID	**Pearl Lake**	**22.11**	**346**	P	**P**	**02 45 48.3**	**-0.7**		
SCIA	**State Center**	**22.11**	**32**	P	**P**	**02 45 49.0**	**+0.1**		
	baz=220								
SCIA	**State Center**	**22.11**	**32**	P	**P**	**02 45 47.2**	**-1.7**		
SCIA				IAmb	IAmb	02 46 02.5			
	comp=Z,228nm,1.2s								
I07A	**Izee**	**22.16**	**339**	P	**P**	**02 45 49.3**	**-0.3**		
ECSD	**EROS Data Cent**	**22.17**	**23**	P	**P**	**02 45 49.6**	**+0.1**		
	baz=210,SNR=44								
ECSD	**EROS Data Cent**	**22.17**	**23**	P	**P**	**02 45 47.9**	**-1.6**		
ECSD				IAmb	IAmb	02 45 59.4			
	comp=Z,321nm,1.4s								
ECSD	**EROS Data Cent**	**22.17**	**23**	IAMs_20	IAMs_20	02 54 08.9			
	comp=Z,37µm,18.0s								
BMO	**Blue Mountains**	**22.21**	**343**	P	**P**	**02 45 49.5**	**-0.5**		
BMO				pmax	pmax				
	comp=Z,164nm,1.4s								
BMO				MLR	MLR				
	comp=Z,38µm,21.0s								
BMO	**Blue Mountains**	**22.21**	**343**	P	**P**	**02 45 49.5**	**-0.5**		
BMO				IAmb	IAmb	02 46 07.3			
	comp=Z,164nm,1.4s								
L02E	**Cave Junction**	**22.21**	**329**	P	**P**	**02 45 48.1**	**-1.9**		
	baz=141								
LRM	**Limekiln Ridge**	**22.21**	**353**	P	**P**	**02 45 49.3**	**-0.9**		
352A	**Blakely**	**22.22**	**65**	P	**P**	**02 45 48.2**	**-2.0**		
V48A	**Smith Brothers**	**22.22**	**53**	P	**P**	**02 45 48.0**	**-2.1**		
V48A				IAMs_20	IAMs_20	02 55 40.1			
	comp=Z,83µm,20.0s								
HUMO	**Hull Mountain**	**22.27**	**331**	P	**P**	**02 45 50.7**	**+0.1**		
TGUH	**Tegucigalpa,Un**	**22.27**	**112**	eP	**P**	**02 45 51.9**	**+0.9**		
TGUH				eS	**S**	**02 49 57.8**	**+1.3**		
TGUH	**Tegucigalpa,Un**	**22.27**	**112**	*i* P	**P**	**02 45 50.6**	**-0.3**		
TGUH	**Tegucigalpa,Un**	**22.27**	**112**	P	**P**	**02 45 50.0**	**-0.9**		
TGUH				IAmb	IAmb	02 46 05.1			
	comp=Z,310nm,1.5s								
TGUH				IAMs_20	IAMs_20	02 54 31.8			
	comp=Z,43nm,21.0s								
Q44A	**Meyer Farm, Va**	**22.38**	**43**	P	**P**	**02 45 49.9**	**-1.9**		
J04D	**Umpqua Nationa**	**22.42**	**333**	P	**P**	**02 45 51.9**	**-0.5**		
	baz=146,SNR=18								
PINE	**Pine Mountain**	**22.42**	**336**	P	**P**	**02 45 52.0**	**-0.4**		
PINE				IAmb	IAmb	02 46 03.6			
	comp=Z,182nm,1.4s								
N41A	**Harden Midland**	**22.45**	**37**	P	**P**	**02 45 50.8**	**-1.7**		
N41A				IAmb	IAmb	02 46 08.1			
	comp=Z,118nm,0.8s								
N41A				IAMs_20	IAMs_20	02 54 09.8			
	comp=Z,54µm,19.0s								
P43A	**Skaggs, Pawnee**	**22.52**	**41**	P	**P**	**02 45 51.5**	**-1.8**		
P43A				IAmb	IAmb	02 46 09.3			
	comp=Z,116nm,1.1s								
P43A				IAMs_20	IAMs_20	02 54 43.4			
	comp=Z,58µm,18.0s								
Z51A	**Franklin**	**22.54**	**60**	P	**P**	**02 45 51.6**	**-2.0**		
Z51A				IAmb	IAmb	02 46 01.0			
	comp=Z,225nm,1.4s								
Z51A				IAMs_20	IAMs_20	02 56 06.6			
	comp=Z,73µm,18.0s								
KBO	**Bosley Butte**	**22.55**	**328**	P	**P**	**02 45 53.7**	**0.0**		
KBO				IAMs_20	IAMs_20	02 53 59.3			
	comp=Z,42µm,20.0s								
T47A	**Sharon Grove**	**22.61**	**49**	P	**P**	**02 45 52.1**	**-2.1**		
T47A				IAmb	IAmb	02 46 07.0			
	comp=Z,210nm,1.1s								
T47A				IAMs_20	IAMs_20	02 55 00.3			
	comp=Z,55µm,18.0s								
FPAL	**Fort Paine**	**22.63**	**57**	P	**P**	**02 45 52.4**	**-2.1**		
FPAL				IAmb	IAmb	02 46 08.7			
	comp=Z,179nm,1.0s								
SWET	**Sewanee**	**22.66**	**55**	P	**P**	**02 45 52.5**	**-2.3**		
SWET				IAMs_20	IAMs_20	02 55 01.5			
	comp=Z,46µm,20.0s								
K02D	**Willamette Mer**	**22.66**	**330**	P	**P**	**02 45 54.4**	**-0.4**		
	baz=141,SNR=26								
152A	**Waverly Hall**	**22.71**	**62**	P	**P**	**02 45 53.2**	**-2.1**		
152A				IAmb	IAmb	02 46 08.4			
	comp=Z,128nm,1.1s								
152A				IAMs_20	IAMs_20	02 56 11.0			
	comp=Z,42µm,21.0s								
USIN	**University of**	**22.73**	**47**	P	**P**	**02 45 53.5**	**-2.0**		
USIN				IAMs_20	IAMs_20	02 55 07.6			
	comp=Z,87µm,21.0s								
CLTN	**Cedars of Leba**	**22.73**	**52**	P	**P**	**02 45 53.5**	**-2.1**		
CLTN				IAmb	IAmb	02 46 08.0			
	comp=Z,97nm,0.9s								
CLTN				IAMs_20	IAMs_20	02 55 54.7			
	comp=Z,79µm,19.0s								
OLIL	**Olney**	**22.87**	**45**	P	**P**	**02 45 55.0**	**-1.9**		
OLIL				IAmb	IAmb	02 46 11.1			
	comp=Z,247nm,1.1s								
OLIL				IAMs_20	IAMs_20	02 54 49.4			
	comp=Z,59µm,20.0s								
K38A	**Parkersburg**	**22.89**	**31**	P	**P**	**02 45 55.4**	**-1.7**		
K38A				IAmb	IAmb	02 46 14.5			
	comp=Z,112nm,1.0s								
K38A				IAMs_20	IAMs_20	02 54 06.5			
	comp=Z,45µm,18.0s								
LAO	**LASA Array**	**22.92**	**4**	P	**P**	**02 45 56.4**	**-1.1**		
	baz=185,SNR=43								
LAO	**LASA Array**	**22.92**	**4**	P	**P**	**02 45 56.4**	**-1.1**		
LAO				IAmb	IAmb	02 46 14.7			
	comp=Z,280nm,1.2s								
LAO				IAMs_20	IAMs_20	02 55 17.9			
	comp=Z,43µm,19.0s								
I04A	**Tendick Farm,**	**23.00**	**334**	P	**P**	**02 45 57.6**	**-0.7**		
	baz=146,SNR=13								
HRY	**Holter Researc**	**23.03**	**354**	P	**P**	**02 45 57.7**	**-1.0**		
I05D	**Terrebonne, OR**	**23.04**	**336**	P	**P**	**02 45 58.5**	**-0.3**		
	baz=149,SNR=24								
G08A	**Pilot Rock**	**23.07**	**341**	P	**P**	**02 45 58.8**	**-0.4**		
KEBM	**Edson Butte**	**23.10**	**329**	P	**P**	**02 45 59.5**	**0.0**		
KEBM				IAMs_20	IAMs_20	02 54 30.0			
	comp=Z,37µm,20.0s								
W50A	**Signal Mountai**	**23.11**	**55**	P	**P**	**02 45 57.5**	**-2.2**		
W50A				IAMs_20	IAMs_20	02 55 50.7			
	comp=Z,45µm,20.0s								
CRIN	**San Cristobal**	**23.14**	**115**	IAMs_20	IAMs_20	02 55 00.4			
	comp=Z,54µm,19.0s								
J01E	**Myrtle Point**	**23.14**	**330**	P	**P**	**02 45 59.8**	**0.0**		
	baz=142,SNR=23								
L40A	**Anamosa**	**23.21**	**34**	P	**P**	**02 45 58.8**	**-1.7**		
L40A				IAmb	IAmb	02 46 11.1			
	comp=Z,230nm,1.1s								
X51A	**Calhoun**	**23.22**	**57**	P	**P**	**02 45 58.6**	**-2.1**		
X51A				IAmb	IAmb	02 46 13.0			
	comp=Z,134nm,0.8s								
X51A				IAMs_20	IAMs_20	02 55 42.5			
	comp=Z,41µm,19.0s								
F10A	**Beach Ranch, E**	**23.23**	**344**	P	**P**	**02 46 00.3**	**-0.4**		
F10A				IAmb	IAmb	02 46 19.2			
	comp=Z,148nm,1.3s								
HDIL	**Hopedale**	**23.24**	**39**	P	**P**	**02 45 59.6**	**-1.2**		
	baz=230,SNR=7.0								
HDIL	**Hopedale**	**23.24**	**39**	P	**P**	**02 45 59.0**	**-1.8**		
HDIL				IAMs_20	IAMs_20	02 54 24.5			
	comp=Z,44µm,20.0s								
I03D	**Drain, OR**	**23.31**	**332**	P	**P**	**02 46 00.9**	**-0.6**		
	baz=144								
U49A	**Red Boiling Sp**	**23.32**	**52**	P	**P**	**02 45 59.7**	**-1.9**		
U49A				IAMs_20	IAMs_20	02 55 42.2			
	comp=Z,82µm,20.0s								
TIGA	**Tifton**	**23.32**	**65**	P	**P**	**02 46 01.0**	**-0.7**		
	baz=257,SNR=9.8								
MSO	**Missoula**	**23.40**	**351**	P	**P**	**02 46 02.2**	**-0.3**		
	baz=167,SNR=45								
MSO	**Missoula**	**23.40**	**351**	P	**P**	**02 46 01.6**	**-0.9**		
MSO				IAMs_20	IAMs_20	02 55 37.7			
	comp=Z,50nm,19.0s								
O44A	**Mansfield**	**23.48**	**41**	P	**P**	**02 46 01.5**	**-1.7**		
O44A				IAmb	IAmb	02 46 18.7			
	comp=Z,165nm,0.9s								
O44A				IAMs_20	IAMs_20	02 55 38.7			
	comp=Z,74µm,20.0s								
E28A	**Huff**	**23.59**	**14**	P	**P**	**02 46 03.3**	**-1.0**		
E28A				IAMs_20	IAMs_20	02 55 24.1			
	comp=Z,42µm,18.0s								
Y52A	**Lilburn**	**23.60**	**59**	P	**P**	**02 46 02.8**	**-1.7**		
Y52A				IAMs_20	IAMs_20	02 56 17.5			
	comp=Z,82µm,19.0s								
H04A	**Detroit Lake**	**23.65**	**335**	P	**P**	**02 46 04.3**	**-0.6**		
I37A	**Lemond, Waseca**	**23.68**	**28**	P	**P**	**02 46 03.9**	**-1.3**		
H04D	**Lebanon**	**23.73**	**334**	P	**P**	**02 46 03.6**	**-2.0**		
	baz=146,SNR=14								
WCI	**Wyandotte Cave**

baz=177,SNR=20
EGMT Eagleton 24.21 358 P P 02 46 09.2 -1.0
T50A Nancy 24.22 52 P P 02 46 08.2 -2.1
T50A IAmb IAmb 02 46 21.1
comp=Z,180nm,1.0s
HAWA Hanford 24.24 341 P P 02 46 09.9 -0.5
HAWA IAmb IAmb 02 46 19.9
comp=Z,140nm,1.4s
HAWA IAMs_20 IAMs_20 02 56 03.0
comp=Z,34µm,18.0s
JFWS Jewell Farm 24.33 34 P P 02 46 10.9 -0.3
baz=224,SNR=6.7
JFWS Jewell Farm 24.33 34 P P 02 46 09.5 -1.8
JFWS pmax pmax
comp=Z,103nm,1.3s
JFWS Jewell Farm 24.33 34 P P 02 46 09.5 -1.8
JFWS IAmb IAmb 02 46 27.5
comp=Z,103nm,1.2s
JTMT Jette 24.35 351 P P 02 46 10.8 -0.8
JTMT IAmb IAmb 02 46 21.9
comp=Z,188nm,1.5s
255A Hazlehurst 24.36 65 P P 02 46 09.6 -2.0
F05D White Salmon 24.41 338 P P 02 46 11.2 -0.8
baz=150,SNR=12
TKL Tuckaleechee C 24.45 55 P P 02 46 10.2 -2.3
comp=Z,27nm,0.9s,baz=232,slow=8.0,SNR=30
TKL Lg Lg 02 53 55.7
comp=Z,3.9nm,1.0s,baz=302,slow=15,SNR=1.8
TKL LR LR 02 56 52.1
comp=Z,57µm,19.1s,baz=252,slow=39
TKL Tuckaleechee C 24.45 55 P P 02 46 10.3 -2.2
TKL pmax pmax
comp=Z,154nm,1.2s
TKL MLR MLR
comp=Z,68µm,18.0s
TKL Tuckaleechee C 24.45 55 P P 02 46 10.3 -2.2
TKL IAmb IAmb 02 46 27.7
comp=Z,154nm,1.1s
TKL IAMs_20 IAMs_20 02 56 43.0
comp=Z,68µm,18.0s
SFIN Lafayette 24.45 42 P P 02 46 11.5 -0.9
baz=234,SNR=31
SFIN Lafayette 24.45 42 P P 02 46 10.5 -1.9
E07A Sunnyside 24.49 341 P P 02 46 12.3 -0.4
E07A IAmb IAmb 02 46 22.8
comp=Z,194nm,1.4s
M44A Midewin, Midew 24.50 39 P P 02 46 11.1 -1.7
M44A IAmb IAmb 02 46 25.8
comp=Z,116nm,1.1s
M44A IAMs_20 IAMs_20 02 55 13.8
comp=Z,64µm,20.0s
G03D McMinnville, O 24.51 334 P P 02 46 12.8 -0.1
baz=146,SNR=23
R49A Shelbyville 24.58 49 P P 02 46 11.8 -1.9
R49A IAMs_20 IAMs_20 02 55 49.7
comp=Z,53µm,18.0s
V52A Sevierville 24.65 55 P P 02 46 12.2 -2.1
V52A IAmb IAmb 02 46 25.0
comp=Z,207nm,1.2s
D08A Wollman Farm, 24.68 343 P P 02 46 14.0 -0.4
D08A IAMs_20 IAMs_20 02 55 48.4
comp=Z,44µm,22.0s
F04A Amboy 24.80 336 P P 02 46 15.3 -0.2
F04A IAmb IAmb 02 46 33.2
comp=Z,125nm,1.3s
I40A Norwalk 24.86 32 P P 02 46 14.6 -1.4
I40A IAmb IAmb 02 46 24.1
comp=Z,125nm,1.2s
DGMT Dagmar 24.87 7 P P 02 46 15.8 -0.4
baz=189,SNR=6.8
DGMT Dagmar 24.87 7 P P 02 46 15.1 -1.0
DGMT IAmb IAmb 02 46 32.3
comp=Z,105nm,1.1s
HQIL Hanson Quary C 24.87 39 P P 02 46 14.6 -1.6
HQIL IAmb IAmb 02 46 31.6
comp=Z,134nm,1.2s
SPMN Marine on St. 24.91 27 P P 02 46 16.7 +0.3
baz=216,SNR=21
SPMN Marine on St. 24.91 27 P P 02 46 15.1 -1.4
SPMN IAmb IAmb 02 46 27.4
comp=Z,156nm,1.1s
SPMN IAMs_20 IAMs_20 02 56 57.1
comp=Z,40nm,18.0s
TZTN Tazewell 24.96 54 P P 02 46 16.9 -0.2
baz=246,SNR=36
TZTN Tazewell 24.96 54 P P 02 46 15.1 -2.0
TZTN IAMs_20 IAMs_20 02 56 45.6
comp=Z,68µm,19.0s
P48A Milroy 25.00 46 P P 02 46 15.6 -1.8
P48A IAmb IAmb 02 46 29.5
comp=Z,119nm,1.1s
P48A IAMs_20 IAMs_20 02 56 27.9
comp=Z,86µm,22.0s
MDND Maddock 25.04 14 P P 02 46 16.7 -0.9
baz=199
MDND Maddock 25.04 14 IAMs_20 IAMs_20 02 56 18.3
comp=Z,37µm,22.0s
D32A Dogwood Acres, 25.05 19 IAMs_20 IAMs_20 02 56 17.4
comp=Z,49µm,19.0s
ACON Acoyapa 25.08 114 IAMs_20 IAMs_20 02 55 46.4
comp=Z,44µm,20.0s
L44A Lake County Fo 25.08 38 P P 02 46 17.5 -0.6
baz=229
HODGE Hodges 25.14 60 P P 02 46 16.7 -2.0
HODGE IAMs_20 IAMs_20 02 57 14.2
comp=Z,75µm,19.0s
F36A Milaca 25.14 25 P P 02 46 17.1 -1.5
F36A IAmb IAmb 02 46 29.9
comp=Z,134nm,1.1s
F04D Rainier, OR 25.14 336 P P 02 46 18.1 -0.5
baz=147
X54A Belton 25.14 59 P P 02 46 17.3 -1.4
baz=252,SNR=75
R50A Paris 25.16 49 P P 02 46 16.9 -1.9
R50A IAMs_20 IAMs_20 02 56 08.9
comp=Z,43µm,22.0s
V53A Saluda 25.18 56 P P 02 46 17.1 -2.0
V53A IAMs_20 IAMs_20 02 57 06.4
comp=Z,64µm,19.0s
C09A Chrisman Ranch 25.20 344 P P 02 46 18.6 -0.4
C09A IAMs_20 IAMs_20 02 56 48.1
comp=Z,29µm,18.0s
LON Longmire 25.28 338 P P 02 46 19.6 -0.3
LON pmax pmax
comp=Z,180nm,1.5s
LON MLR MLR
comp=Z,34µm,21.0s
LON Longmire 25.28 338 P P 02 46 19.6 -0.3
LON IAmb IAmb 02 46 30.6
comp=Z,180nm,1.5s
LON IAMs_20 IAMs_20 02 55 47.8
comp=Z,34µm,21.0s
LTY Liberty 25.36 340 P P 02 46 20.3 -0.3
NEW Newport 25.37 346 P P 02 46 19.9 -0.8
baz=161,SNR=29
NEW Newport 25.37 346 P P 02 46 20.0 -0.7
NEW pmax pmax
comp=Z,120nm,1.3s
NEW Newport 25.37 346 P P 02 46 20.0 -0.7
NEW IAmb IAmb 02 46 33.0
comp=Z,120nm,1.2s
E04D Cinebar 25.38 337 P P 02 46 20.2 -0.5
baz=149
S51A Beattyville 25.39 51 P P 02 46 18.9 -2.0
W54A Cherokee Point 25.46 58 P P 02 46 20.6 -1.0
baz=251,SNR=21
P49A Miami Univ. Ec 25.51 46 P P 02 46 21.4 -0.6
baz=239,SNR=35
P49A Miami Univ. Ec 25.51 46 P P 02 46 20.3 -1.7
P49A IAMs_20 IAMs_20 02 55 42.3
comp=Z,32µm,19.0s
WALA Waterton Lakes 25.58 352 IAmb IAmb 02 46 34.3
comp=Z,156nm,1.1s
Z56A Williston 25.60 62 P P 02 46 22.4 -0.5
baz=255,SNR=7.1
N47A Urbana 25.61 43 P P 02 46 21.2 -1.7
N47A IAMs_20 IAMs_20 02 55 46.1
comp=Z,59µm,19.0s
PAULI Pauline 25.67 59 P P 02 46 21.5 -2.0
PAULI IAmb IAmb 02 46 39.5
comp=Z,112nm,0.8s
PAULI IAMs_20 IAMs_20 02 56 02.2
comp=Z,38µm,20.0s
ESPN Las Esperanzas 25.70 112 IAMs_20 IAMs_20 02 56 41.8
comp=Z,42µm,20.0s
X55A Gracelyn & Ava 25.70 59 P P 02 46 21.9 -1.9
baz=253,SNR=31
D05A Enumclaw 25.73 339 IAmb IAmb 02 46 37.5
comp=Z,129nm,1.5s
E03A Lebam 25.74 336 IAMs_20 IAMs_20 02 57 10.1
comp=Z,35µm,18.0s
157A Early Branch 25.75 64 P P 02 46 22.9 -1.3
baz=257,SNR=6.2
Y56A Pelion 25.77 61 P P 02 46 23.5 -0.9
baz=254,SNR=7.2
V54A Nebo 25.88 56 P P 02 46 24.6 -0.8
baz=250,SNR=22
T53A Wise 25.88 53 P P 02 46 24.9 -0.6
baz=247,SNR=25
L46A Eue Claire 25.91 40 IAMs_20 IAMs_20 02 57 04.2
comp=Z,59µm,20.0s
JSC Jenkinsville 25.94 60 IAMs_20 IAMs_20 02 57 48.5
comp=Z,42µm,18.0s
B08A Colville Reser 25.98 343 IAmb IAmb 02 46 36.0
comp=Z,185nm,1.4s
B08A IAMs_20 IAMs_20 02 56 36.9
comp=Z,31µm,21.0s
D04E Lakebay 25.99 337 P P 02 46 26.6 +0.4
baz=149
C06D Leavenworth 26.02 341 P P 02 46 25.2 -1.4
baz=153
G40A Rib Lake 26.09 30 IAMs_20 IAMs_20 02 56 24.2
comp=Z,33µm,18.0s
O49A Covington 26.10 45 IAMs_20 IAMs_20 02 58 27.9
comp=Z,33µm,19.0s
Z57A Bowman 26.13 62 P P 02 46 26.4 -1.3
baz=256,SNR=36
KMSC Kings Mountain 26.14 58 P P 02 46 26.9 -0.9
baz=252,SNR=21
KMSC Kings Mountain 26.14 58 IAmb IAmb 02 46 42.5
comp=Z,95nm,0.8s
KMSC IAMs_20 IAMs_20 02 57 58.8
comp=Z,44µm,20.0s
JTS Las Juntas de 26.16 117 P P 02 46 29.1 +0.9
comp=Z,22nm,1.1s,baz=25,slow=8.9,SNR=6.9
JTS LR LR 02 56 59.4
comp=Z,26µm,21.6s,baz=14,slow=37
JTS Las Juntas de 26.16 117 *d e* P **P 02 46 28.1 0.0**
JTS Las Juntas de 26.16 117 *c i* P **P 02 46 26.9 -1.2**
JTS pmax pmax
comp=Z,227nm,2.1s
JTS MLR MLR
comp=Z,23µm,18.0s
JTS Las Juntas de 26.16 117 P P 02 46 27.5 -0.6
X56A White Oak 26.18 60 P P 02 46 27.5 -0.7
baz=253,SNR=16
Q51A Peebles 26.19 49 IAMs_20 IAMs_20 02 57 31.2
comp=Z,51µm,20.0s
U54A Nelsons Funny 26.24 55 P P 02 46 27.0 -1.7
baz=248,SNR=20
U54A Nelsons Funny 26.24 55 IAmb IAmb 02 46 44.8
comp=Z,86nm,0.8s
U54A IAMs_20 IAMs_20 02 57 37.4
comp=Z,68µm,19.0s
D03D Eldon 26.40 337 P P 02 46 29.3 -0.7
baz=149,SNR=14
158A Hollywood 26.42 64 P P 02 46 29.2 -1.1
baz=258
AGMN Agassiz Nation 26.44 19 P P 02 46 30.4 0.0
baz=207,SNR=26
AGMN Agassiz Nation 26.44 19 IAmb IAmb 02 46 49.6
comp=Z,144nm,1.3s
AGMN IAMs_20 IAMs_20 02 57 22.1
comp=Z,58µm,19.0s
S53A Williamson 26.46 52 P P 02 46 30.6 -0.1
baz=246
V55A Taylorsville 26.46 57 P P 02 46 29.8 -0.8
baz=250,SNR=19
V55A Taylorsville 26.46 57 IAmb IAmb 02 46 46.2
comp=Z,77nm,1.0s
NHSC New Hope 26.51 63 P P 02 46 30.6 -0.5
baz=257,SNR=6.2
NLWA Neilton Lookou 26.56 336 IAmb IAmb 02 46 49.0
comp=Z,118nm,1.4s
Y57A Sumter 26.56 61 P P 02 46 31.7 +0.1
baz=255,SNR=9.5
N49A Columbus Grove 26.59 44 IAmb IAmb 02 46 50.3
comp=Z,91nm,0.8s
P51A Williamsport 26.60 48 P P 02 46 31.8 0.0
baz=241,SNR=10
P51A Williamsport 26.60 48 IAMs_20 IAMs_20 02 57 28.1
comp=Z,56µm,21.0s
T54A Tazewell 26.62 54 P P 02 46 32.3 +0.1
baz=248,SNR=28
BIRD Birdtown, Kers 26.68 60 IAmb IAmb 02 46 48.2
comp=Z,98nm,0.9s
BIRD IAMs_20 IAMs_20 02 58 10.0
comp=Z,66µm,18.0s
B05A Bryant 26.70 340 P P 02 46 31.2 -1.5
baz=151,SNR=13
W56A Indian Trail 26.73 59 P P 02 46 32.8 -0.3
baz=252,SNR=12
B06A Marblemount 26.73 341 IAMs_20 IAMs_20 02 57 31.0
comp=Z,27µm,19.0s
U55A TA2, Sparta 26.81 55 P P 02 46 32.4 -1.5
baz=249,SNR=13
R53A Hurricane 26.85 51 P P 02 46 34.1 -0.1
baz=245,SNR=15
R53A Hurricane 26.85 51 IAmb IAmb 02 46 44.5
comp=Z,134nm,0.8s
Z58A St. Stephen 26.86 63 P P 02 46 33.2 -1.1
baz=257
Q52A Bidwell 26.91 50 P P 02 46 32.3 -2.3
baz=243,SNR=17
X57A Johnson Farm, 26.92 60 P P 02 46 33.7 -1.1
baz=254
L48A N Adams 27.00 42 IAmb IAmb 02 46 51.1
comp=Z,66nm,0.8s
V56A Mocksville 27.00 57 P P 02 46 34.7 -0.9
baz=251,SNR=5.7
HDC Heredia 27.01 116 IAMs_20 IAMs_20 02 57 54.7
comp=Z,25µm,18.0s
ACSO Alum Creek Sta 27.01 47 P P 02 46 34.8 -0.8
baz=240
ACSO Alum Creek Sta 27.01 47 IAmb IAmb 02 46 50.8
comp=Z,116nm,1.1s
ACSO IAMs_20 IAMs_20 02 57 41.1
comp=Z,62nm,22.0s
S54A Dingess, Beckl 27.10 53 P P 02 46 34.4 -2.0
baz=247,SNR=16
S54A Dingess, Beckl 27.10 53 IAmb IAmb 02 46 42.0
comp=Z,128nm,1.3s
S54A IAMs_20 IAMs_20 02 57 51.2
comp=Z,59µm,21.0s
B35A Bob, Littlefor 27.18 22 IAmb IAmb 02 46 44.2
comp=Z,142nm,1.5s
B35A IAMs_20 IAMs_20 02 57 02.5
comp=Z,32µm,19.0s
W57A Gilead 27.19 59 P P 02 46 36.4 -0.9
baz=253,SNR=10
W57A Gilead 27.19 59 IAmb IAmb 02 46 50.0
comp=Z,90nm,1.1s
W57A IAMs_20 IAMs_20 02 58 40.6
comp=Z,52nm,21.0s
COWI Conover 27.20 30 IAmb IAmb 02 46 53.4
comp=Z,118nm,1.2s
COWI IAMs_20 IAMs_20 02 56 08.7
comp=Z,36µm,18.0s
I45A Fountain 27.22 37 IAMs_20 IAMs_20 02 56 38.0
comp=Z,32µm,19.0s
O51A Pataskala 27.22 47 P P 02 46 36.7 -0.8
baz=241
T55A Pulaski 27.23 54 P P 02 46 37.6 -0.1
baz=248,SNR=9.7
U56A King 27.26 56 P P 02 46 36.9 -1.0
baz=250
Z59A Georgetown, SC 27.28 63 P P 02 46 36.4 -1.7
baz=257
A04D Lummi Island 27.30 339 P P 02 46 37.1 -0.9
baz=151,SNR=15
P52A Corning 27.30 48 P P 02 46 36.3 -1.9
baz=242,SNR=23
P52A Corning 27.30 48 IAMs_20 IAMs_20 02 57 58.7
comp=Z,61µm,19.0s
Q53A Leroy 27.38 50 P P 02 46 37.7 -1.2
baz=244
R54A Victor 27.48 52 P P 02 46 39.3 -0.6
baz=246,SNR=17
J47A Sunmer 27.52 39 IAMs_20 IAMs_20 02 57 49.8
comp=Z,50µm,19.0s
BLA Blacksburg 27.53 54 P P 02 46 39.3 -1.0
baz=249
BLA Blacksburg 27.53 54 IAMs_20 IAMs_20 02 58 16.7
comp=Z,68µm,20.0s
X58A Rowland 27.55 60 P P 02 46 39.1 -1.3
baz=255
M50A Fremont 27.57 44 IAMs_20 IAMs_20 02 57 33.9
comp=Z,53µm,20.0s
V57A Coltrane Farms 27.58 57 P P 02 46 39.1 -1.6
baz=252
EYMN Ely 27.65 25 P P 02 46 40.7 -0.5
baz=215,SNR=13
EYMN Ely 27.65 25 IAmb IAmb 02 47 01.3
comp=Z,121nm,0.9s
AAM Ann Arbor 27.67 42 P P 02 46 40.0 -1.5
baz=236
S55A Lewisburg 27.68 53 P P 02 46 41.2 -0.4
baz=248,SNR=22
O52A Adamsville 27.73 48 P P 02 46 41.8 -0.3
baz=242,SNR=16
O52A Adamsville 27.73 48 IAmb IAmb 02 46 52.4
comp=Z,144nm,1.3s
O52A IAMs_20 IAMs_20 02 57 51.0
comp=Z,42µm,22.0s
P53A Whipple 27.75 49 P P 02 46 40.5 -1.7
baz=244,SNR=35
P53A Whipple 27.75 49 IAMs_20 IAMs_20 02 58 29.5
comp=Z,58µm,18.0s
W58A Raeford 27.75 60 P P 02 46 41.8 -0.5
baz=254
N51A Ashland 27.76 46 P P 02 46 40.9 -1.4
baz=240
N51A Ashland 27.76 46 IAmb IAmb 02 46 51.4
comp=Z,58nm,0.9s
N51A IAMs_20 IAMs_20 02 58 03.8
comp=Z,70µm,22.0s
T56A Rocky Mt 27.76 55 P P 02 46 40.9 -1.4
baz=250,SNR=8.7
Y59A Loris 27.78 62 P P 02 46 41.1 -1.4
baz=256
Y59A Loris 27.78 62 IAMs_20 IAMs_20 02 59 06.1
comp=Z,61µm,19.0s
Q54A Coxs Mills 27.92 51 P P 02 46 42.6 -1.1
baz=245,SNR=20
Q54A Coxs Mills 27.92 51 IAmb IAmb 02 46 49.5
comp=Z,80nm,1.1s
V58A Windy Hill, Pi 28.06 58 P P 02 46 43.7 -1.3
baz=253
V58A Windy Hill, Pi 28.06 58 IAMs_20 IAMs_20 02 58 44.7
comp=Z,34µm,21.0s
U57A Blanch 28.09 57 P P 02 46 44.8 -0.5
baz=251
M51A Elyria 28.09 45 P P 02 46 44.5 -0.8
baz=239
X59A McDuffie Farm, 28.14 61 P P 02 46 44.9 -0.8
baz=256
R55A Marlinton 28.15 52 P P 02 46 45.3 -0.7
baz=247,SNR=19
R55A Marlinton 28.15 52 IAmb IAmb 02 47 05.5
comp=Z,120nm,1.1s
N52A McGinn's Farm, 28.16 47 P P 02 46 44.5 -1.4
baz=241
D41A Chassel 28.18 30 IAMs_20 IAMs_20 02 56 40.7
comp=Z,34µm,19.0s
ULM Lac du Bonnet 28.19 17 P P 02 46 44.0 -2.1
comp=Z,9.6nm,0.9s,baz=218,slow=11,SNR=13
ULM PcP **PcP 02 50 00.6 +0.9**
comp=Z,11nm,1.0s,baz=270,slow=2.0,SNR=2.5
ULM Lg Lg 02 55 40.6
comp=Z,2.8nm,0.9s,baz=270,slow=20,SNR=1.6
ULM LR LR 02 57 53.9
comp=Z,30µm,20.6s,baz=202,slow=36
ULM Lac du Bonnet 28.19 17 *d i* P **P 02 46 44.9 -1.1**
ULM Lac du Bonnet 28.19 17 P P 02 46 44.8 -1.3
ULM IAmb IAmb 02 46 56.1
comp=Z,170nm,1.4s
ULM Lac du Bonnet 28.19 17 IAMs_20 IAMs_20 02 57 41.6
comp=Z,37µm,20.0s
O53A New Philadelph 28.21 48 P P 02 46 45.1 -1.3
baz=242,SNR=20
O53A New Philadelph 28.21 48 IAMs_20 IAMs_20 02 58 27.8
comp=Z,66µm,22.0s
Y60A Bolivia 28.31 62 P P 02 46 46.7 -0.5
baz=257
S56A Natural Bridge 28.34 54 P P 02 46 46.2 -1.3
baz=249
T57A Hurt 28.34 56 P P 02 46 45.9 -1.6
baz=250
W59A Clinton 28.42 60 P P 02 46 48.0 -0.2
baz=255
E43A Lone Tree Farm 28.42 32 IAmb IAmb 02 47 05.5
comp=Z,89nm,1.4s
P54A Burton 28.43 50 P P 02 46 48.2 -0.1
baz=245,SNR=22
Q55A Buckhannon 28.46 51 P P 02 46 47.4 -1.2
baz=246,SNR=20
GLMI Grayling 28.62 37 P P 02 46 48.8 -1.2
baz=231
X60A Albert Glenn T 28.64 61 P P 02 46 48.8 -1.4
baz=256
U58A Oxford 28.68 57 P P 02 46 49.2 -1.3
baz=252
R56A Bull Pasture M 28.72 53 P P 02 46 49.9 -1.1
baz=248
N53A Lisbon 28.72 47 P P 02 46 50.2 -0.7
baz=242,SNR=9.4
N53A Lisbon 28.72 47 IAmb IAmb 02 47 01.5
comp=Z,146nm,1.1s
N53A IAMs_20 IAMs_20 02 57 55.3
comp=Z,43µm,20.0s
M52A Chesterland 28.73 45 P P 02 46 50.4 -0.5
baz=240
V59A Middlesex 28.74 58 P P 02 46 51.0 -0.1
baz=254,SNR=7.0
O54A Avella 28.75 49 P P 02 46 50.3 -0.9
baz=244,SNR=14
O54A Avella 28.75 49 IAmb IAmb 02 46 57.1
comp=Z,174nm,1.4s
S57A Dark Hollow, R 28.82 54 P P 02 46 50.5 -1.3
baz=250
S57A Dark Hollow, R 28.82 54 IAMs_20 IAMs_20 02 58 57.7
comp=Z,59µm,22.0s
P55A Reedsville 28.85 50 P P 02 46 51.5 -0.6
baz=246,SNR=12
T58A Grand View Acr 28.86 56 P P 02 46 51.1 -1.0
baz=251
CNNC Cliffs of the 28.87 60 P P 02 46 52.0 -0.2
baz=255
CNNC Cliffs of the 28.87 60 IAMs_20 IAMs_20 02 59 27.1
comp=Z,46nm,18.0s
MCWV Mont Chateau 28.90 50 P P 02 46 51.6 -0.9
baz=245
MCWV Mont Chateau 28.90 50 IAMs_20 IAMs_20 02 59 25.9
comp=Z,37µm,18.0s
W60A Pink Hill 28.96 60 P P 02 46 52.6 -0.5
baz=256
Q56A Snyder Ridge, 29.12 52 P P 02 46 53.8 -0.7
baz=247
Q56A Snyder Ridge, 29.12 52 IAMs_20 IAMs_20 02 59 23.7
comp=Z,62µm,21.0s
M53A Wi Miller and 29.13 46 P P 02 46 52.9 -1.6
baz=241,SNR=6.3
U59A Littleton 29.25 58 P P 02 46 54.3 -1.3
baz=253
R57A Stanardsville 29.33 53 P P 02 46 54.2 -2.1
baz=249
N54A Moraine State 29.37 48 P P 02 46 55.3 -1.3
baz=243,SNR=15
N54A Moraine State 29.37 48 IAMs_20 IAMs_20 02 59 05.4
comp=Z,58µm,21.0s
MTDJ Mount Denham 29.40 95 eP **P 02 46 53.6 -3.7**
S58A Poland Farm, P 29.44 55 P P 02 46 55.2 -2.1
baz=251
V60A Jim Taylor Roa 29.50 59 P P 02 46 56.8 -1.1
baz=255
V60A Jim Taylor Roa 29.50 59 IAMs_20 IAMs_20 02 58 18.8
comp=Z,34µm,21.0s
O55A Ligonier 29.51 49 P P 02 46 56.9 -0.9
baz=245,SNR=10
P56A Dayton Farm, R 29.55 51 P P 02 46 56.5 -1.8
baz=247,SNR=12
T59A Double "B" Far 29.62 56 P P 02 46 58.1 -0.7
baz=252
L53A Girard 29.65 46 P P 02 46 57.2 -1.9
baz=241
Q57A Strasburg 29.68 52 P P 02 46 57.6 -1.8
baz=248
R58B Mineral 29.69 54 P P 02 46 58.5 -1.0
baz=250
R58A Rapidan 29.71 54 P P 02 46 58.4 -1.3
baz=250
U60A Pendleton 29.77 58 P P 02 46 59.5 -0.8

baz=254
E46A **Sault Ste Mari** 29.78 35 IAMs_20 IAMs_20 02 58 00.7
comp=Z,26µm,20.0s
M54A **Oil Creek Stat** 29.83 47 P P 02 46 59.9 -0.9
baz=242,SNR=9.9
ERPA **Erie** 29.91 45 P P 02 46 59.4 -1.9
baz=241
ERPA **Erie** 29.91 45 IAMs_20 IAMs_20 02 58 29.7
comp=Z,41µm,18.0s
N55A **Marion Center** 29.97 49 P P 02 47 01.0 -1.0
baz=244,SNR=12
O56A **Blue Knob Stat** 30.05 50 P P 02 47 01.7 -1.0
baz=246,SNR=9.0
V61A **Roper** 30.05 59 P P 02 47 01.6 -1.1
baz=255
V61A **Roper** 30.05 59 IAMs_20 IAMs_20 03 00 03.2
comp=Z,27µm,19.0s
S59A **Mechanicsville** 30.06 55 P P 02 47 02.3 -0.4
baz=251
PAYG **Puerto Ayora** 30.08 141 eP P 02 47 04.4 +1.3
I51A **Listowel** 30.11 42 P P 02 47 01.6 -1.6
baz=237
P57A **Homestead Farm** 30.13 51 P P 02 47 03.0 -0.4
baz=248,SNR=7.9
P57A **Homestead Farm** 30.13 51 IAmb IAmb 02 47 14.0
comp=Z,115nm,1.5s
P57A IAMs_20 IAMs_20 03 00 19.5
comp=Z,42µm,18.0s
CBN **Corbin Frederi** 30.14 54 P P 02 47 02.0 -1.5
baz=250
Q58A **Fox Den Farm,** 30.17 53 P P 02 47 03.8 0.0
baz=249,SNR=16
U61A **Possum Corner** 30.29 58 P P 02 47 03.5 -1.3
baz=254
U61A **Possum Corner** 30.29 58 IAMs_20 IAMs_20 02 58 41.6
comp=Z,33µm,18.0s
T60A **Surry** 30.29 57 P P 02 47 04.1 -0.8
baz=253
R59A **King George, V** 30.33 54 P P 02 47 03.3 -1.8
baz=251
L54A **Sinclairville** 30.40 46 P P 02 47 04.4 -1.4
baz=242
M55A **Ridgway** 30.42 47 P P 02 47 04.8 -1.1
baz=244,SNR=11
M55A **Ridgway** 30.42 47 IAMs_20 IAMs_20 02 59 24.2
comp=Z,34µm,22.0s
V62A **Hyde County Ai** 30.48 60 P P 02 47 05.1 -1.4
baz=256
V62A **Hyde County Ai** 30.48 60 IAMs_20 IAMs_20 03 00 26.7
comp=Z,41µm,19.0s
N56A **West Decatur** 30.50 49 P P 02 47 05.7 -1.0
baz=245,SNR=18
S60A **Water View** 30.52 56 P P 02 47 06.1 -0.7
baz=252
P58A **Pank, Wackersv** 30.64 52 P P 02 47 06.5 -1.4
baz=248,SNR=13
SSPA **Standing Stone** 30.67 49 P P 02 47 06.4 -1.8
baz=246
SSPA **Standing Stone** 30.67 49 P P 02 47 07.4 -0.7
SSPA IAmb IAmb 02 47 13.8
comp=Z,130nm,1.2s
O57A **Amberson** 30.68 50 P P 02 47 07.9 -0.4
baz=247,SNR=16
R60A **Leonardtown, M** 30.75 54 P P 02 47 07.6 -1.3
baz=251
M56A **Emporium** 30.82 48 P P 02 47 07.7 -1.8
baz=244
M56A **Emporium** 30.82 48 IAmb IAmb 02 47 19.7
comp=Z,88nm,1.2s
Q59A **Harwood** 30.90 53 P P 02 47 09.1 -1.0
baz=250
WVNY **West Valley, N** 30.95 46 IAMs_20 IAMs_20 02 59 00.2
comp=Z,41µm,21.0s
SDMD **Soldier's Deli** 30.95 52 IAMs_20 IAMs_20 03 00 44.1
comp=Z,39µm,18.0s
N57A **Milroy** 30.95 49 P P 02 47 09.5 -1.2
baz=246,SNR=19
L55A **Hinsdale** 30.96 46 P P 02 47 09.6 -1.1
baz=243,SNR=14
PNME **Penonome** 30.96 115⇑ eP P 02 47 08.3 -2.6
K54A **Basiliko Farm,** 30.99 45 P P 02 47 09.0 -2.0
baz=242
BCIP **Isla Barro Col** 31.01 113 eP P 02 47 05.5 -5.9
BCIP **Isla Barro Col** 31.01 113 IAMs_20 IAMs_20 03 00 55.5
comp=Z,36µm,19.0s
O58A **Lewisberry** 31.15 51 P P 02 47 11.1 -1.3
baz=248
GTBY **Guantanamo Bay** 31.19 91 eP P 02 47 13.7 +0.8
FFC **Flin Flon** 31.28 7 P P 02 47 12.1 -1.2
FFC pmax pmax
comp=Z,75nm,1.3s
FFC MLR MLR
comp=Z,118µm,20.0s
FFC **Flin Flon** 31.28 7 P P 02 47 12.1 -1.2
FFC IAmb IAmb 02 47 20.4
comp=Z,74nm,1.3s
P59A **Jarrettsville** 31.31 52 P P 02 47 10.6 -3.2
baz=249
PAGS **Pennsylvania G** 31.33 51 IAmb IAmb 02 47 19.1
comp=Z,51nm,1.2s
PAGS IAMs_20 IAMs_20 03 00 01.3
comp=Z,39µm,22.0s
J54A **Appleton** 31.33 44 P P 02 47 12.3 -1.6
baz=241
UPA **Univ. de Panam** 31.36 113⇑ eP P 02 47 12.4 -2.0
AZU **Azuero** 31.38 116 eP P 02 47 13.9 -0.7
MEDO **Medina** 31.40 45 IAmb IAmb 02 47 30.5
comp=Z,56nm,0.8s
K55A **Perry** 31.45 46 P P 02 47 13.6 -1.4
baz=243
M57A **Sunshine Farm,** 31.48 49 P P 02 47 14.7 -0.6
baz=246,SNR=9.8
M57A **Sunshine Farm,** 31.48 49 IAMs_20 IAMs_20 02 59 04.2
comp=Z,36µm,22.0s
MVL **Millersville** 31.51 51 IAMs_20 IAMs_20 03 00 07.1
comp=Z,35µm,21.0s
L56A **Greenwood** 31.52 47 P P 02 47 14.2 -1.5
baz=244
Q60A **Greensboro** 31.54 54 P P 02 47 15.1 -0.7
baz=251
MMNY **Mt. Morris Dam** 31.55 46 IAMs_20 IAMs_20 02 59 20.3
comp=Z,39µm,20.0s
N58A **Sunbury** 31.57 50 P P 02 47 15.1 -1.0
baz=247,SNR=11
N58A **Sunbury** 31.57 50 IAmb IAmb 02 47 21.4
comp=Z,74nm,1.1s
R61A **Willards** 31.70 55 P P 02 47 15.1 -2.2
baz=252
O59A **Robesonia** 31.74 51 P P 02 47 15.8 -1.8
baz=248
SADO **Sadowa** 31.77 42 P P 02 47 20.5 +2.8
comp=Z,5.4nm,0.7s,baz=234,slow=11,SNR=2.7
SADO **Sadowa** 31.77 42 P P 02 47 17.1 -0.7
J55A **Hilton** 31.86 45 P P 02 47 16.6 -1.9
baz=242
J55A **Hilton** 31.86 45 IAmb IAmb 02 47 36.0
comp=Z,95nm,1.4s
Q61A **Milford** 31.88 54 P P 02 47 17.8 -1.0
baz=252
K56A **Middlesex** 31.92 46 P P 02 47 17.7 -1.5
baz=244
L57A **Andrews Acres** 31.94 48 P P 02 47 19.0 -0.4
baz=245,SNR=12
M58A **Price's Panora** 31.95 49 P P 02 47 19.5 0.0
baz=247,SNR=13
P60A **Greenville** 31.96 52 P P 02 47 18.8 -0.7
baz=250
P60A **Greenville** 31.96 52 IAmb IAmb 02 47 25.2
comp=Z,82nm,1.3s
P60A IAMs_20 IAMs_20 03 00 59.9
comp=Z,51µm,20.0s
H53A **Bobcaygeon** 32.01 42 P P 02 47 18.8 -1.1
baz=239
WUPA **West Chester U** 32.02 52 IAMs_20 IAMs_20 03 01 03.6
comp=Z,31µm,21.0s
PSUB **Penn St. - Bra** 32.13 52 IAmb IAmb 02 47 40.4
comp=Z,53nm,1.1s
PSUB IAMs_20 IAMs_20 03 00 24.5
comp=Z,26µm,22.0s
N59A **State Game Lan** 32.26 50 P P 02 47 20.0 -2.1
baz=248
N59A **State Game Lan** 32.26 50 IAmb IAmb 02 47 27.9
comp=Z,51nm,1.2s
O60A **Telford** 32.30 51 P P 02 47 20.7 -1.8
baz=249
LUPA **Lehigh Univers** 32.42 51 IAmb IAmb 02 47 29.4
comp=Z,84nm,1.3s
LUPA IAMs_20 IAMs_20 03 00 47.2
comp=Z,51µm,20.0s
K57A **Scipio Center** 32.48 47 P P 02 47 22.5 -1.5
baz=244
J56A **Wolcott** 32.49 46 P P 02 47 22.4 -1.7
baz=243
J56A **Wolcott** 32.49 46 IAmb IAmb 02 47 37.0
comp=Z,89nm,1.0s
J56A IAMs_20 IAMs_20 03 00 26.0
comp=Z,36µm,19.0s
KSPA **Keystone Colle** 32.50 49 IAmb IAmb 02 47 43.5
comp=Z,56nm,1.0s
KSPA IAMs_20 IAMs_20 03 00 48.4
comp=Z,32µm,19.0s
P61A **Hammonton** 32.53 53 P P 02 47 22.6 -1.9
baz=251
P61A **Hammonton** 32.53 53 IAMs_20 IAMs_20 03 01 27.9
comp=Z,51µm,20.0s
DELO **Deloro Mine** 32.58 43 IAmb IAmb 02 47 40.9
comp=Z,36nm,0.9s
BINY **Binghamton** 32.61 48 P P 02 47 25.2 0.0
baz=246,SNR=20
L58A **Harry Jones Me** 32.64 48 P P 02 47 25.1 -0.4
baz=246,SNR=14
N60A **Cedar Hill Far** 32.72 51 P P 02 47 24.0 -2.1
baz=249
M59A **Waymart** 32.73 49 P P 02 47 24.2 -2.1
baz=248
G54A **Lake Saint Pet** 32.73 41 P P 02 47 24.9 -1.4
baz=239
O61A **Allentown** 32.84 52 P P 02 47 25.6 -1.6
baz=250
UPD2 **Meteti** 32.87 112⇑ eP P 02 47 26.3 -1.4
BRNJ **Basking Ridge** 33.03 51 IAmb IAmb 02 47 48.5
comp=Z,64nm,1.1s
BRNJ IAMs_20 IAMs_20 03 01 03.2
comp=Z,40µm,22.0s
K58A **Earlville** 33.07 47 P P 02 47 26.9 -2.4
baz=246
K58A **Earlville** 33.07 47 IAMs_20 IAMs_20 03 00 29.3
comp=Z,43µm,19.0s
J57A **Williamstown** 33.11 46 P P 02 47 28.1 -1.5
baz=244
J57A **Williamstown** 33.11 46 IAmb IAmb 02 47 46.9
comp=Z,98nm,1.1s
ODNJ **Ogdensburg** 33.14 50 IAmb IAmb 02 47 49.1
comp=Z,45nm,1.1s
ODNJ IAMs_20 IAMs_20 03 00 57.2
comp=Z,44µm,20.0s
PLVO **Plevna** 33.17 43 IAmb IAmb 02 47 46.3
comp=Z,49nm,0.9s
M60A **Port Jervis** 33.22 50 P P 02 47 28.6 -1.9
baz=249
N61A **South Mountain** 33.24 51 P P 02 47 29.2 -1.6
baz=250
L59A **Walton** 33.25 48 P P 02 47 30.8 -0.1
baz=247,SNR=14
CAPC **Capurgana** 33.39 112⇑ eP P 02 47 33.0 +0.7
J58A **Remsen** 33.56 46 P P 02 47 32.0 -1.5
baz=245
I57A **Carthage** 33.56 45 P P 02 47 32.0 -1.5
baz=244
K59A **Cooperstown** 33.61 47 P P 02 47 31.8 -2.1
baz=246
PAL **Palisades** 33.61 51 P P 02 47 31.8 -2.1
baz=250
L60A **Shokan** 33.74 49 P P 02 47 33.8 -1.3
baz=248
PTAC **Punta Ardita,** 33.78 114 eP P 02 47 34.9 -0.8
M61A **Granite Spring** 33.81 50 P P 02 47 33.0 -2.7
baz=250
N62A **Caumsett State** 33.90 51 P P 02 47 33.7 -2.7
baz=250
I58A **Old Forge** 33.90 46 P P 02 47 35.8 -0.7
baz=245
H57A **Richville** 33.97 44 P P 02 47 35.8 -1.2
baz=244
WSPT **Westport, CT** 34.08 51 IAMs_20 IAMs_20 03 01 47.0
comp=Z,44µm,20.0s
LCBC **Los crdobas,** 34.12 110⇑ eP P 02 47 40.0 +1.4
J59A **Piesco** 34.12 47 P P 02 47 36.6 -1.8
baz=246
J59A **Piesco** 34.12 47 IAmb IAmb 02 47 59.2
comp=Z,79nm,1.4s
J59A IAMs_20 IAMs_20 03 00 50.2
comp=Z,45µm,21.0s
KSCT **Kent School, K** 34.16 50 IAmb IAmb 02 47 54.8
comp=Z,64nm,0.9s
K60A **Five Rivers En** 34.20 48 P P 02 47 37.5 -1.5
baz=248
L61A **Hillsdale 1, H** 34.27 49 P P 02 47 38.4 -1.3
baz=249
TRY **Troy** 34.40 48 IAmb IAmb 02 47 58.5
comp=Z,63nm,0.9s
YLE **Yale** 34.40 51 IAMs_20 IAMs_20 03 01 44.6
comp=Z,35µm,19.0s
M62A **Hamden** 34.48 51 P P 02 47 40.7 -0.8
baz=250
E55A **Montcerf-Lytto** 34.49 41 P P 02 47 39.8 -1.7
baz=240
GRTK **Grand Turk** 34.50 86 IAMs_20 IAMs_20 03 03 41.7
comp=Z,21µm,22.0s
G57A **Newington** 34.51 44 P P 02 47 40.3 -1.4
baz=243
NCB **Newcomb** 34.51 46 IAmb IAmb 02 47 59.1
comp=Z,57nm,0.9s
VLDQ **Val d'Or** 34.55 38 IAmb IAmb 02 47 59.0
comp=Z,77nm,1.4s
VLDQ IAMs_20 IAMs_20 03 01 13.5
comp=Z,33µm,18.0s
LONY **Lake Ozonia** 34.55 45 P P 02 47 42.0 -0.1
baz=244
LONY **Lake Ozonia** 34.55 45 IAmb IAmb 02 47 59.7
comp=Z,56nm,1.2s
SOLC **Bahia Solano** 34.61 115 eP P 02 47 41.3 -1.6
K61A **Williamstown** 34.65 48 P P 02 47 43.3 +0.4
baz=248
SJCC **San Jacinto, C** 34.65 108⇑ eP P 02 47 43.1 -0.3
I59A **Olmsteadville** 34.67 46 P P 02 47 42.7 -0.4
baz=246
H58A **Gabriels** 34.73 45 P P 02 47 42.1 -1.5
baz=245
J60A **Lant Hill Farm** 34.76 47 P P 02 47 42.6 -1.3
baz=247
MOTC **Monteria, Cord** 34.76 110⇑ eP P 02 47 43.4 -0.8
L62A **Suffield** 34.84 50 P P 02 47 43.8 -0.7
baz=250
SDDR **Presa de Saban** 34.92 91 IAmb IAmb 02 47 57.7
comp=Z,124nm,1.5s
SMRC **Santa Marta, M** 34.92 105⇑ eP P 02 47 46.2 +0.6
L61B **Northampton** 34.97 49 P P 02 47 45.5 -0.2
baz=248
F57A **Harrington** 35.02 43 P P 02 47 46.0 0.0
baz=242
M63A **Gales Ferry** 35.07 51 P P 02 47 45.5 -1.1
baz=251
I60A **Shoreham** 35.08 47 P P 02 47 45.4 -1.2
baz=247
D55A **Sainte-Anne-du** 35.12 40 P P 02 47 45.6 -1.4
baz=240
G58A **Ormstown** 35.12 44 P P 02 47 47.5 +0.5
baz=244,SNR=11
QUA2 **Belchertown** 35.14 50 IAMs_20 IAMs_20 03 02 22.1
comp=Z,42µm,20.0s
H59A **Cadyville** 35.14 45 P P 02 47 47.4 +0.2
baz=245,SNR=11
E56A **St. Veronique** 35.15 41 P P 02 47 47.2 0.0
baz=241
DBBC **Dabeiba** 35.19 113 eP P 02 47 48.5 +0.6
FRNY **Flat Rock** 35.29 45 IAmb IAmb 02 48 06.0
comp=Z,66nm,1.1s
SC01 **Santiago de lo** 35.32 90 IAMs_20 IAMs_20 03 03 21.5
comp=Z,21µm,22.0s
LSQQ **Lebel-sur-Quev** 35.34 36 P P 02 47 48.6 -0.2
baz=236
K62A **Royalston** 35.36 49 P P 02 47 49.1 +0.1
baz=249
K62A **Royalston** 35.36 49 IAmb IAmb 02 48 01.0
comp=Z,86nm,1.3s
K62A IAMs_20 IAMs_20 03 02 40.8
comp=Z,45µm,21.0s
PIZC **Pizarro, Choco** 35.36 117 eP P 02 47 50.4 +1.0
J61A **Chester** 35.38 48 P P 02 47 48.8 -0.5
baz=248
UREC **San Jos de Ur** 35.38 111⇑ eP P 02 47 47.6 -1.9
MATQ **Matagami** 35.39 35 P P 02 47 49.1 -0.1
baz=234
ARGC **Ariguani, Magd** 35.48 107⇑ eP P 02 47 50.4 -0.1
L63A **North Scituate** 35.52 51 P P 02 47 49.4 -1.1
baz=251
D56A **ZEC Mazanza, M** 35.56 41 P P 02 47 49.9 -0.9
baz=241
F58A **St-Lin Laurent** 35.59 43 P P 02 47 51.2 +0.2
baz=244
BRYW **Bryant College** 35.59 50 IAMs_20 IAMs_20 03 02 42.0
comp=Z,33µm,19.0s
VT1 **Waterbury** 35.63 46 IAmb IAmb 02 48 09.0
comp=Z,50nm,0.9s
E57A **Chemin Saint G** 35.63 42 P P 02 47 50.8 -0.6
baz=242,SNR=5.7
G59A **Clarenceville** 35.65 45 P P 02 47 50.3 -1.2
baz=245
M64A **Tiverton** 35.71 51 P P 02 47 52.1 0.0
baz=252
H60A **Morristown** 35.75 46 P P 02 47 51.8 -0.6
baz=246,SNR=8.5
HRV **Adam Dziewonsk** 35.77 49 P P 02 47 51.3 -1.4
baz=250
HRV **Adam Dziewonsk** 35.77 49 P P 02 47 51.8 -0.8
HRV pmax pmax
comp=Z,51nm,1.0s
HRV MLR MLR
comp=Z,88µm,19.0s
HRV **Adam Dziewonsk** 35.77 49 P P 02 47 51.8 -0.8
HRV IAmb IAmb 02 48 02.8
comp=Z,51nm,1.0s
I61A **Oroboro, Fairl** 35.84 47 P P 02 47 51.8 -1.3
baz=248
J62A **Henniker** 35.84 48 P P 02 47 52.7 -0.5
baz=249
K63A **Dunstable** 35.85 49 P P 02 47 53.1 -0.2
baz=250
WES **Weston** 35.90 50 IAMs_20 IAMs_20 03 01 37.1
comp=Z,32µm,21.0s
CBOC **Ciudad Bolivar** 35.97 115⇑ eP P 02 47 54.6 -0.2
D57A **Chemin Vers le** 36.07 41 P P 02 47 54.8 -0.3
baz=242
ZARC **Zaragoza, Cauc** 36.09 111⇑ eP P 02 47 51.5 -4.1
L64A **Middleborough** 36.09 51 P P 02 47 54.8 -0.5
baz=252
M65A **Busby, Falmout** 36.12 51 P P 02 47 55.3 -0.3
baz=252
M65A **Busby, Falmout** 36.12 51 IAMs_20 IAMs_20 03 02 44.9
comp=Z,39µm,19.0s
SMLC **San Martn de** 36.13 109⇑ eP P 02 47 56.0 +0.1
LBNH **Lisbon** 36.14 47 P P 02 47 55.3 -0.5
baz=248
LBNH **Lisbon** 36.14 47 IAMs_20 IAMs_20 03 02 01.6
comp=Z,39µm,21.0s
E58A **La Victoria** 36.15 43 P P 02 47 53.8 -2.0
baz=244
TUMC **Tumaco** 36.16 123 eP P 02 47 47.0 -9.2
G60A **Masonville** 36.21 45 P P 02 47 55.6 -0.7
baz=246
F59A **Saint Guilaume** 36.23 44 P P 02 47 55.8 -0.6
baz=245
H61A **Lyndonville** 36.25 46 P P 02 47 56.9 +0.1
baz=247,SNR=9.0
PLMC **San Jos del P** 36.27 116⇑ eP P 02 47 56.9 -0.4
J63A **Strafford** 36.37 48 P P 02 47 55.5 -2.2
baz=250
I62A **Tamworth** 36.40 47 P P 02 47 58.3 +0.4
baz=249
FCC **Fort Churchill** 36.42 13 IAMs_20 IAMs_20 03 02 13.5
comp=Z,24µm,20.0s
CRAG **Craig** 36.49 336 IAmb IAmb 02 48 08.7
comp=Z,166nm,1.5s
E59A **St. Maurice** 36.67 43 P P 02 47 59.3 -0.9
baz=244
L65A **Cape Cod Natio** 36.68 51 P P 02 47 59.3 -1.1
baz=252
URIC **Uribia, Colomb** 36.68 103⇑ eP P 02 48 00.8 +0.1
D58A **Chemin du LacG** 36.72 42 P P 02 47 59.2 -1.5
baz=243
YOTC **Yotoco, Valle** 36.74 117⇑ eP P 02 48 02.1 +0.7
H62A **Milan** 36.78 46 P P 02 48 00.2 -1.0
baz=248
H62A **Milan** 36.78 46 IAmb IAmb 02 48 19.5
comp=Z,53nm,0.9s
G61A **St-Isidore-de-** 36.80 45 P P 02 48 00.4 -1.0
baz=247
F60A **Warwick** 36.81 44 P P 02 48 00.5 -1.0
baz=246
GUY2C **Guyana, Caldas** 36.85 115⇑ eP P 02 48 04.4 +1.7
LATQ **La Tuque** 36.91 41 P P 02 48 01.9 -0.3
baz=243
PTBC **PUERTO BERRIO,** 36.92 112⇑ eP P 02 48 02.3 -0.5
WRAK **Wrangell Islan** 36.96 338 IAmb IAmb 02 48 12.6
comp=Z,96nm,1.4s
WRAK **Wrangell Islan** 36.96 338 IAMs_20 IAMs_20 03 02 42.6
comp=Z,18µm,21.0s
I63A **Otisfield** 36.97 47 P P 02 48 03.5 +0.6
baz=249
OCAC **Ocana** 37.05 109 eP P 02 48 04.7 +0.7
RREF **El Recreo** 37.05 115⇑ eP P 02 48 02.4 -2.2
PAC1 **Pacto, Paraso** 37.12 125⇑ eP P 02 48 04.7 +0.2
BBAC **Balboa, Cauca** 37.19 121⇑ iP P 02 48 06.8 +1.5
ANIL **Santa Ana** 37.23 116⇑ eP P 02 48 05.7 0.0
CHGQ **Chibougamau** 37.23 37 P P 02 48 04.7 -0.2
baz=238
TOLC **Tolima** 37.24 116 eP P 02 48 07.8 +2.0
BRRC **Barranca, Sant** 37.27 111⇑ eP P 02 48 05.2 -0.4
E60A **Ste Agathe de** 37.29 44 P P 02 48 06.0 +0.4
baz=246
D59A **Saint-Raymond** 37.32 42 P P 02 48 04.5 -1.2
baz=244
POPC **Popayan, Colom** 37.33 120⇑ eP P 02 48 06.4 0.0
CUSE **Cuicocha Este** 37.39 124⇑ eP P 02 48 08.4 +1.2
OTAV **Otavalo** 37.39 124⇑ eP P 02 48 09.2 +1.9
OTAV **Otavalo** 37.39 124 P P 02 48 06.3 -0.9
OTAV pmax pmax
comp=Z,258nm,1.5s
OTAV **Otavalo** 37.39 124 P P 02 48 06.3 -0.9
OTAV **Otavalo** 37.39 124 eP P 02 48 07.2 0.0
F61A **St Evariste** 37.42 44 P P 02 48 05.4 -1.3
baz=246
G62A **West of Eustis** 37.43 46 P P 02 48 05.4 -1.3
baz=248
G62A **West of Eustis** 37.43 46 IAMs_20 IAMs_20 03 02 51.7
comp=Z,37µm,20.0s
H63A **New Sharon** 37.55 47 P P 02 48 06.5 -1.3
baz=249
I64A **Boothbay** 37.57 48 P P 02 48 08.0 +0.1
baz=250
GCUF **Volcan Galeras** 37.61 122⇑ eP P 02 48 09.8 +0.7
SOTA **Rioblanco** 37.63 120 i Pg P 02 48 10.5 +1.2
PCON **Cinco Dias** 37.68 120⇑ eP P 02 48 10.6 +0.8
ORTC **Ortega, Tolima** 37.69 116⇑ eP P 02 48 09.8 +0.5
CRUC **La Cruz** 37.70 121 eP P 02 48 10.6 +0.9
SPBC **San Pablo de B** 37.71 113⇑ eP P 02 48 08.6 -0.9
MARP **Paez Belalcaza** 37.73 119⇑ eP P 02 48 12.1 +2.2
D60A **Saint Jean D'O** 37.84 43 P P 02 48 09.3 -0.9
baz=246
DLBC **Dease Lake** 37.87 342 IAmb IAmb 02 48 20.8
comp=Z,135nm,1.4s
DLBC IAMs_20 IAMs_20 03 04 24.5
comp=Z,24µm,20.0s
E61A **Lac Etchemin** 37.92 44 P P 02 48 10.7 -0.2
baz=246
ROSC **El Rosal** 37.94 114 P P 02 48 14.5 +2.7
comp=Z,22nm,0.9s,baz=326,slow=8.3,SNR=30
ROSC LR LR 03 05 20.0
comp=Z,26µm,18.6s,baz=345,slow=39
ROSC **El Rosal** 37.94 114⇑ eP P 02 48 13.3 +1.5
ROSC **El Rosal** 37.94 114 IAmb IAmb 02 48 33.8
comp=Z,97nm,1.1s
ROSC IAMs_20 IAMs_20 03 05 09.1
comp=Z,26µm,18.0s
CTAB **Cerro Tablazo,** 37.94 114 eP P 02 48 16.2 +4.3
BARC **Barichara** 37.98 111 eP P 02 48 11.2 -0.7
G63A **Kingsbury** 37.99 46 P P 02 48 11.6 +0.1
baz=249
PAMC **Pamplona, Colo** 38.02 110 eP P 02 48 13.1 +0.5
F62A **Pittston Farm,** 38.05 45 P P 02 48 11.2 -0.8
baz=248
PRAC **Prado** 38.09 116⇑ eP P 02 48 13.7 +1.0
H64A **Troy** 38.09 47 P P 02 48 12.1 -0.2
baz=250
BETC **Betania** 38.23 118⇑ eP P 02 48 14.5 +0.5
PKME **Peaks-Kenny Pk** 38.26 46 P P 02 48 14.1 +0.4
baz=249
CVER **Cruz Verde, Cu** 38.31 115 eP P 02 48 17.7 +2.6
RUSC **La Rusia** 38.42 112⇑ eP P 02 48 16.3 +0.3
D61A **St Aubert, Com** 38.42 43 P P 02 48 14.4 -0.7
baz=246

GARC **Garzon, Huila** 38.48 119⇑ *e*P P 02 48 17.0 +0.8
CHIC **Chingaza** 38.54 114⇑ *e*P P 02 48 18.8 +1.8
F63A **Nahmakanta, Br** 38.54 46 P P 02 48 15.9 -0.2
baz=249
F63A **Nahmakanta, Br** 38.54 46 IAmb IAmb 02 48 34.1
comp=Z,68nm,1.1s
E62A **Clayton Lake** 38.61 44 P P 02 48 16.0 -0.7
baz=247
E62A **Clayton Lake** 38.61 44 IAMs_20 IAMs_20 03 04 03.1
comp=Z,38µm,20.0s
G64A **Maxfield** 38.61 46 P P 02 48 16.5 -0.2
baz=250
PUAC **Puerto Asis, P** 38.63 122⇑ *e*P P 02 48 18.2 +0.9
FLOC **Florencia** 38.72 120⇑ *e*P P 02 48 18.7 +0.7
H65A **Eastbrook** 38.77 47 P P 02 48 17.5 -0.5
baz=251
VILC **Villavicencio,** 38.85 115 *e*P P 02 48 20.3 +1.1
YKA **Yellowknife Ar** 38.91 355 P P 02 48 17.3 -1.6
comp=Z,16nm,1.1s,baz=167,slow=7.1,SNR=24
YKA LR LR 03 05 02.9
comp=Z,27µm,19.8s,baz=0.0,slow=37
D62A **Allapoint, All** 39.09 44 P P 02 48 20.2 -0.4
baz=247
F64A **Sherman** 39.09 46 P P 02 48 20.8 +0.1
baz=249
SDV **Santo Domingo** 39.10 106⇑ *e*P P 02 48 20.0 -1.4
SDV **Santo Domingo** 39.10 106 P P 02 48 20.4 -1.0
SDV IAmb IAmb 02 48 37.6
comp=Z,145nm,1.1s
SDV **Santo Domingo** 39.10 106 IAMs_20 IAMs_20 03 05 23.4
comp=Z,16µm,19.0s
SDV **Santo Domingo** 39.10 106 *e*P P 02 48 21.1 -0.3
JIS **Juneau Island** 39.10 339 IAmb IAmb 02 48 30.9
comp=Z,111nm,1.4s
JIS IAMs_20 IAMs_20 03 03 45.3
comp=Z,17µm,19.0s
SOCV **Socops** 39.17 107⇑ *e*P P 02 48 22.3 +0.4
E63A **Oxbow** 39.24 45 P P 02 48 20.9 -1.0
baz=249
TAMC **Tame, Arauca** 39.25 110⇑ *e*P P 02 48 22.3 -0.2
BBSR **BB Station** 39.37 67 IAMs_20 IAMs_20 03 07 26.0
comp=Z,16µm,18.0s
G65A **Princeton** 39.39 47 P P 02 48 23.0 -0.2
baz=251
G65A **Princeton** 39.39 47 IAMs_20 IAMs_20 03 04 39.6
comp=Z,35µm,19.0s
H66A **Whiting** 39.43 48 P P 02 48 23.5 0.0
baz=252
OBIP **Obispado Ponce** 39.45 90 IAmb IAmb 02 48 38.5
comp=Z,146nm,1.1s
OBIP IAMs_20 IAMs_20 03 06 04.9
comp=Z,21µm,22.0s
E64A **Bridgewater** 39.62 45 P P 02 48 24.7 -0.5
baz=249
D63A **Stockholm** 39.67 44 P P 02 48 24.2 -1.3
baz=248
MACC **Macarena, Meta** 39.84 117⇑ *e*P P 02 48 26.4 -0.9
SJG **San Juan** 39.85 90⇑ *e*P P 02 48 27.4 +0.1
SJG **San Juan** 39.85 90 P P 02 48 26.4 -1.0
SJG pmax pmax
comp=Z,182nm,1.2s
SJG MLR MLR
comp=Z,18µm,22.0s
SJG **San Juan** 39.85 90 P P 02 48 26.4 -1.0
SJG IAmb IAmb 02 48 41.9
comp=Z,182nm,1.1s
SJG **San Juan** 39.85 90 IAMs_20 IAMs_20 03 06 27.5
comp=Z,18µm,22.0s
GCPR **Guaynabo City** 39.86 90 IAmb IAmb 02 48 41.8
comp=Z,79nm,1.0s
PTGC **Puerto Gaitn,** 40.11 113⇑ *e*P P 02 48 28.2 -1.4
HUMP **Col San Antoni** 40.12 90 IAmb IAmb 02 48 45.7
comp=Z,164nm,1.2s
PTLC **Puerto Leguiza** 40.25 121⇑ *e*P P 02 48 33.2 +2.5
SKAG **Skagway** 40.33 339 P P 02 48 31.9 +1.1
SKAG IAMs_20 IAMs_20 03 05 21.7
comp=Z,13µm,18.0s
MTP **Monte Pirata** 40.40 90 P P 02 48 31.0 -1.0
CUPR **Culebra, Puert** 40.59 89 P P 02 48 32.5 -1.0
CUPR IAmb IAmb 02 48 42.4
comp=Z,102nm,1.1s
GUVC **San Jose del G** 40.61 116 *e*P P 02 48 34.2 +0.5
WHY **Whitehorse** 41.13 341 IAMs_20 IAMs_20 03 06 17.6
comp=Z,22µm,20.0s
CDVI **St. Croix** 41.22 90 P P 02 48 38.1 -0.5
BAUV **El Baul** 41.37 104 *e*P P 02 48 34.7 -5.3
LMN **Caledonia Moun** 41.43 47 P P 02 48 39.5 -0.6
LMN IAmb IAmb 02 48 50.7
comp=Z,62nm,1.0s
HAL **Halifax** 41.93 49 P P 02 48 43.6 -0.6
HAL pmax pmax
comp=Z,45nm,1.0s
HAL MLR MLR
comp=Z,64µm,19.0s
HAL **Halifax** 41.93 49 P P 02 48 43.6 -0.6
PCA **Pinnacle** 42.49 337 P P 02 48 49.6 +0.9
SABA **Saba** 42.65 89 *e*P P 02 48 48.6 -1.8
SABA **Saba** 42.65 89 IAMs_20 IAMs_20 03 06 14.6
comp=Z,15µm,22.0s
SMRT **St. Maarten** 42.68 89 *e*P P 02 48 40.2 -11
SEUS **St. Eustatius** 42.92 90 *e*P P 02 48 47.6 -5.0
MESA **MESA** 43.16 336 IAMs_20 IAMs_20 03 07 56.8
comp=Z,13µm,18.0s
SKI **Saint Kitts** 43.19 90 *e*P P 02 48 50.1 -4.8
SKI **Saint Kitts** 43.19 90 IAMs_20 IAMs_20 03 08 56.0
comp=Z,13µm,20.0s
YAH **Yahtse** 43.21 337 IAmb IAmb 02 49 05.3
comp=Z,87nm,1.5s
YAH IAMs_20 IAMs_20 03 08 08.1
comp=Z,12µm,18.0s
SCHQ **Schefferville** 43.70 34 P P 02 48 59.2 +0.8
comp=Z,23nm,0.9s,baz=242,slow=7.2,SNR=9.3
SCHQ LR LR 03 07 15.5
comp=Z,23µm,18.1s,baz=244,slow=36
SCHQ **Schefferville** 43.70 34 P P 02 48 58.1 -0.4
SCHQ IAmb IAmb 02 49 08.7
comp=Z,93nm,1.1s
SCHQ IAMs_20 IAMs_20 03 05 18.8
comp=Z,23µm,19.0s
POHA **Pohakuloa** 43.71 274 IAMs_20 IAMs_20 03 01 36.7
comp=Z,22µm,22.0s
MLOA **Mauna Loa Obse** 43.80 274 IAMs_20 IAMs_20 03 01 38.2
comp=Z,25µm,21.0s
MLYT **Lee's Yard** 43.87 90 *e*P P 02 48 59.0 -1.3
TGL **Tana Glacier** 43.87 336 IAmb IAmb 02 49 12.0
comp=Z,76nm,1.4s
KHU **Kahuku** 43.91 273 IAMs_20 IAMs_20 03 01 41.1
comp=Z,21µm,22.0s
ANWB **Willy Bob** 43.97 89 *e*P P 02 48 49.4 -12
KHLU **Kahalu`u** 44.08 274 IAMs_20 IAMs_20 03 01 36.5
comp=Z,29µm,22.0s
BPA **Boggy Peak** 44.08 90 *e*P P 02 48 49.4 -13
HLK **Haleakala** 44.12 276 IAMs_20 IAMs_20 03 02 17.7
comp=Z,20µm,20.0s
HMT **Hamilton** 44.13 335 IAmb IAmb 02 49 12.3
comp=Z,87nm,1.3s
ANBD **Bethesda, Anti** 44.16 90 *e*P P 02 48 55.2 -7.4
MCARA **McCarthy VSAT** 44.36 337 IAmb IAmb 02 49 16.3
comp=Z,88nm,1.4s
VRDI **Verde Repeater** 44.41 337 IAmb IAmb 02 49 16.6
comp=Z,63nm,1.2s
ABD **La Joyeuse, An** 44.58 90 *e*P P 02 48 57.5 -8.5
CBE **Ff, Capester** 44.59 91 *e*P P 02 49 05.4 -0.7
TBG **Guadaloupe-3** 44.62 91 *e*P P 02 49 02.9 -3.5
TDBA **Terre de Bas,** 44.63 91 *e*P P 02 49 00.8 -5.7
GLB **Gilahina Butte** 44.69 337 IAmb IAmb 02 49 16.7
comp=Z,67nm,1.2s
TAOE **Nuku Hiva Isla** 44.82 227 *e*LQ LQ 02 59 42.5
comp=Z,23µm,27.7s
TAOE *e*LR LR 03 01 31.2
comp=Z,31µm,26.1s,baz=44
TAOE **Nuku Hiva Isla** 44.82 227 *e*T T 03 36 43.3
comp=Z,60nm,0.3s
TAOE **Nuku Hiva Isla** 44.82 227 IAMs_20 IAMs_20 03 02 13.9
comp=Z,12µm,18.0s
EYAK **Cordova Ski Ar** 44.84 335 IAmb IAmb 02 49 20.0
comp=Z,50nm,1.1s
MAGL **Barre de l'ile** 44.93 91 *e*P P 02 49 02.9 -5.9
DSLB **Salisbury** 44.96 92 *e*P P 02 49 07.2 -1.9
MDN **Morne-Daniel** 45.02 92 *e*P P 02 49 07.1 -2.4
N25K **Chitina, Valde** 45.08 337 P P 02 49 08.9 -0.5
baz=130
BCAR **Beaver Creek A** 45.10 339 P P 02 49 07.9 -1.7
DLPL **La Plaine** 45.15 92 *e*P P 02 49 05.3 -5.3
FID **Port Fidalgo** 45.25 335 IAmb IAmb 02 49 23.2
comp=Z,84nm,1.2s

FDF **Fort de France** 45.43 93 *e*P P 02 49 09.4 -3.4
FDF **Fort de France** 45.43 93 IAMs_20 IAMs_20 03 10 18.6
comp=Z,14µm,20.0s
ORIV **Oritupano** 45.45 101 *e*P P 02 49 07.5 -5.4
OPA **Opana** 45.52 278 IAMs_20 IAMs_20 03 02 35.6
comp=Z,21µm,21.0s
GLI **Glacier Island** 45.57 335 IAmb IAmb 02 49 25.2
comp=Z,68nm,1.0s
BIM **Bigot** 45.57 93 *e*P P 02 49 08.6 -5.3
KIP **Kipapa** 45.58 277 IAMs_20 IAMs_20 03 03 08.2
comp=Z,19µm,21.0s
HON **Honolulu** 45.59 277 IAMs_20 IAMs_20 03 02 49.5
comp=Z,20µm,21.0s
ILAM **Ilet Lapin Mar** 45.67 92 *e*P P 02 49 10.9 -3.7
MPOM **Morne Pois Mar** 45.79 93 *e*P P 02 49 11.2 -4.4
SVB **Belmont** 45.83 94 *e*P P 02 49 11.6 -4.3
GRHS **Sauteurs** 45.84 96 *e*P P 02 49 16.0 0.0
GRGR **Grenville** 45.86 96 *e*P P 02 49 14.4 -1.8
K27K **Chicken** 45.88 340 P P 02 49 14.7 -1.0
baz=135
SVCV **St. Vincent, C** 45.92 94 *e*P P 02 49 17.1 +0.5
SLAC **Saint Lucia, A** 45.94 94 *e*P P 02 49 17.2 +0.4
GCMP **Grenada, Carri** 45.94 96 *e*P P 02 49 13.2 -3.6
MCLT **Moule a Chique** 45.96 94 *e*P P 02 49 11.2 -5.8
M24K **Tolsona, Glenn** 45.98 336 P P 02 49 17.1 +0.5
baz=129,SNR=12
SEW **Seward** 46.07 333 IAmb IAmb 02 49 28.1
comp=Z,81nm,1.4s
EGAK **Eagle** 46.14 341 IAMs_20 IAMs_20 03 08 02.1
comp=Z,11µm,20.0s
SCM **Sheep Creek Mo** 46.23 336 IAmb IAmb 02 49 30.5
comp=Z,60nm,1.2s
DOT **Dot Lake** 46.25 339 IAmb IAmb 02 49 28.3
comp=Z,83nm,1.5s
DOT IAMs_20 IAMs_20 03 07 15.2
comp=Z,12µm,20.0s
KDAK **Kodiak Island** 46.27 329 P P 02 49 17.7 -1.1
comp=Z,14nm,1.0s,baz=142,slow=2.6,SNR=8.8
KDAK **Kodiak Island** 46.27 329*d* *i*P P 02 49 20.5 +1.7
KDAK pmax pmax
KDAK comp=Z,82nm,1.5s MLR MLR
comp=Z,8µm,16.0s
KDAK **Kodiak Island** 46.27 329 P P 02 49 20.1 +1.2
KDAK IAmb IAmb 02 49 28.8
comp=Z,73nm,1.2s
PAX **Paxson** 46.27 338 IAmb IAmb 02 49 28.4
comp=Z,58nm,1.5s
O22K **Cooper Landing** 46.39 333 P P 02 49 19.9 +0.1
baz=124
KNK **Knik Glacier** 46.42 335 IAmb IAmb 02 49 31.9
comp=Z,66nm,1.1s
SCRK **Sand Creek** 46.45 339 P P 02 49 20.4 +0.1
baz=133,SNR=16
C36M **Paulatuk** 46.52 352 P P 02 49 22.2 +1.6
baz=160
CNPM **China Poot** 46.52 332 IAmb IAmb 02 49 30.5
comp=Z,45nm,1.2s
RIDG **Independent Ri** 46.57 339 IAMs_20 IAMs_20 03 07 34.7
comp=Z,14µm,18.0s
SML **Sawmill** 46.60 335 IAmb IAmb 02 49 39.0
comp=Z,56nm,1.0s
TRN **Trinidad (W)** 46.64 98 *e*P P 02 49 15.5 -6.8
RC01 **Rabbit Creek A** 46.74 334 P P 02 49 24.8 +2.3
baz=124
PMR **Palmer** 46.78 335 IAmb IAmb 02 49 32.2
comp=Z,89nm,1.4s
GHO **Glory Hole Cre** 46.81 335 IAmb IAmb 02 49 40.8
comp=Z,49nm,0.9s
CZSB **Cruzeiro do Su** 46.95 127 *e*P P 02 49 23.7 -1.0
DHY **Denali Highway** 47.02 337 IAmb IAmb 02 49 34.1
comp=Z,48nm,1.2s
INK **Inuvik** 47.08 348 P P 02 49 24.8 -0.2
comp=Z,22nm,1.0s,baz=133,slow=7.6,SNR=8.5
INK **Inuvik** 47.08 348 IAmb IAmb 02 49 38.7
comp=Z,38nm,1.1s
INK IAMs_20 IAMs_20 03 10 35.6
comp=Z,23µm,20.0s
DRLN **Deer Lake** 47.10 44 P P 02 49 24.9 -0.6
NNA **Nana** 47.15 136*c* *i*P P 02 49 26.6 +0.3
NNA pmax pmax
NNA comp=Z,393nm,3.7s MLR MLR
comp=Z,6µm,16.0s
NNA **Nana** 47.15 136 P P 02 49 26.1 -0.1
NNA IAmb IAmb 02 49 45.6
comp=Z,46nm,1.1s
TOSP **Speyside** 47.19 97 *e*P P 02 49 20.4 -6.2
TOSP **Speyside** 47.19 97 IAMs_20 IAMs_20 03 12 24.2
comp=Z,16µm,22.0s
SUA **Susitna One** 47.35 334 IAmb IAmb 02 49 39.1
comp=Z,66nm,1.1s
BBGH **Gun Hill** 47.42 94 *e*P P 02 49 23.8 -4.6
BBGH **Gun Hill** 47.42 94 IAMs_20 IAMs_20 03 12 09.2
comp=Z,21µm,22.0s
CUT **Chulitna** 47.69 335 P P 02 49 29.0 -0.8
baz=124,SNR=8.6
HDA **Harding Lake** 47.71 339 P P 02 49 29.6 -0.4
baz=130,SNR=12
HDA **Harding Lake** 47.71 339 IAmb IAmb 02 49 40.0
comp=Z,40nm,1.4s
HDA IAMs_20 IAMs_20 03 10 13.8
comp=Z,12µm,19.0s
FRB **Frobisher Bay** 47.82 23 LR LR 03 09 56.6
comp=Z,23µm,18.8s,baz=234,slow=36
ILAR **Eielson Array** 47.92 339 P P 02 49 28.0 -3.6
comp=Z,3.2nm,0.7s,baz=151,slow=6.8,SNR=17
ILAR LR LR 03 10 39.1
comp=Z,11µm,19.1s,baz=136,slow=37
ILAR **Eielson Array** 47.92 339 P P 02 49 29.5 -2.2
ILAR **Eielson Array** 47.92 339 P P 02 49 29.5 -2.2
MCK **McKinley** 47.97 337 P P 02 49 32.2 +0.1
baz=127,SNR=16
WRH **Wood River Hil** 48.13 338 P P 02 49 33.9 +0.6
WRH IAmb IAmb 02 49 42.1
comp=Z,57nm,1.4s
WRH IAMs_20 IAMs_20 03 08 33.1
comp=Z,12µm,21.0s
CCB **Clear Creek Bu** 48.15 339 IAMs_20 IAMs_20 03 10 27.4
comp=Z,12µm,19.0s
COLA **College** 48.30 339⇓ *i*P P 02 49 36.6 +2.0
COLA pmax pmax
COLA comp=Z,39nm,1.7s MLR MLR
comp=Z,11µm,17.0s
COLA **College** 48.30 339 P P 02 49 35.8 +1.2
COLA IAmb IAmb 02 49 44.4
comp=Z,34nm,1.2s
COLA **College** 48.30 339 IAMs_20 IAMs_20 03 10 31.6
comp=Z,12µm,19.0s
TCOL **CIGO, UAF Yank** 48.31 339 P P 02 49 33.6 -1.0
baz=129
POKR **Poker Plat Res** 48.32 339 P P 02 49 34.7 -0.1
baz=130,SNR=9.3
MDM **Murphy Dome** 48.48 339 IAMs_20 IAMs_20 03 10 37.3
comp=Z,11µm,20.0s
NEA2 **Nenana** 48.54 338 P P 02 49 36.2 -0.3
baz=127,SNR=23
FYU **Fort Yukon** 48.60 341 IAmb IAmb 02 49 59.0
comp=Z,83nm,1.2s
FYU IAMs_20 IAMs_20 03 13 51.2
comp=Z,14µm,19.0s
BPAW **Bear Paw Mtn.** 48.92 337 IAmb IAmb 02 49 48.4
comp=Z,88nm,1.3s
BPAW IAMs_20 IAMs_20 03 13 50.1
comp=Z,10µm,20.0s
A36M **Sachs Harbour** 49.15 353 P P 02 49 40.5 -0.5
baz=160
SVW2 **Sparrevohn** 49.18 332 IAmb IAmb 02 49 50.0
comp=Z,52nm,1.2s
MLY **Manley** 49.38 338 P P 02 49 42.4 -0.5
baz=126,SNR=9.8
TTA **Tatalina** 50.23 334 IAmb IAmb 02 49 57.8
comp=Z,56nm,1.3s
COLD **Coldfoot** 50.53 340 P P 02 49 50.4 -1.1
baz=128
COLD **Coldfoot** 50.53 340 IAmb IAmb 02 50 01.2
comp=Z,68nm,1.4s
COLD IAMs_20 IAMs_20 03 15 09.1
comp=Z,11µm,18.0s
RPN **Rapa Nui** 50.62 181 IAMs_20 IAMs_20 03 05 48.0
comp=Z,17µm,21.0s
IMAR **Indian Mountai** 50.95 338 P P 02 49 54.0 -0.8
TOLK **Toolik Lake Re** 51.23 342 P P 02 49 56.1 -0.8
baz=129,SNR=11
TOLK **Toolik Lake Re** 51.23 342 IAmb IAmb 02 50 10.8
comp=Z,40nm,1.1s

TOLK IAMs_20 IAMs_20 03 11 39.5
comp=Z,14µm,22.0s
RES **Resolute Bay** 51.44 5 P P 02 49 60.0 +1.6
comp=Z,11nm,1.0s,baz=194,slow=7.0,SNR=5.1
RES **Resolute Bay** 51.44 5 P P 02 49 59.0 +0.7
RES pmax pmax
RES comp=Z,23nm,1.0s MLR MLR
comp=Z,39µm,22.0s
RES **Resolute Bay** 51.44 5 P P 02 49 59.0 +0.7
PTCN **Pitcairn Islan** 52.88 205 IAMs_20 IAMs_20 03 06 14.6
comp=Z,10µm,20.0s
RKT **Rikitea** 53.25 211 *e*S S 02 57 41.8 -2.2
comp=Z,5µm,28.2s
RKT *e*LQ LQ 03 03 15.6
comp=Z,8µm,33.2s
RKT *e*LR LR 03 05 30.2
comp=Z,12µm,26.2s
MACA **Manacapuru-AM** 53.69 113 *e*P P 02 50 15.5 -0.4
VAH **Vaihoa** 54.46 228 *e*P P 02 50 23.1 +1.8
comp=Z,88nm,1.0s
PMOR **Pomariorio Ree** 54.48 229 *e*P P 02 50 23.5 +2.0
comp=Z,264nm,1.4s
PMOR **Pomariorio Ree** 54.48 229 *e*T T 03 48 47.6
comp=Z,2.1nm,0.2s
ANM **Nome** 54.69 334 IAmb IAmb 02 50 31.4
comp=Z,73nm,1.5s
SAML **Samuel** 54.95 121⇑ *e*P P 02 50 21.5 -3.5
SAML **Samuel** 54.95 121 P P 02 50 22.1 -2.9
SAML pmax pmax
comp=Z,85nm,1.2s
SAML MLR MLR
comp=Z,5µm,20.0s
SAML **Samuel** 54.95 121 P P 02 50 22.1 -2.9
SAML IAmb IAmb 02 50 36.0
comp=Z,85nm,1.2s
RDOG **Red Dog Mine** 55.10 338 IAmb IAmb 02 50 38.6
comp=Z,39nm,1.0s
RDOG IAMs_20 IAMs_20 03 18 30.2
comp=Z,11µm,18.0s
SFJD **Kangerlussuaq** 55.93 24 P P 02 50 33.7 +2.4
comp=Z,10.0nm,0.9s,baz=252,slow=7.4,SNR=6.0
SFJD LR LR 03 14 03.8
comp=Z,10µm,18.9s,baz=250,slow=36
SFJD **Kangerlussuaq** 55.93 24 P P 02 50 31.5 +0.2
SFJD pmax pmax
comp=Z,44nm,1.5s
SFJD **Kangerlussuaq** 55.93 24 P P 02 50 31.5 +0.2
SFJD IAmb IAmb 02 50 35.5
comp=Z,44nm,1.4s
LPAZ **La Paz** 56.05 131 P P 02 50 32.9 -0.7
comp=Z,2.7nm,0.7s,baz=330,slow=8.3,SNR=20
LPAZ LR LR 03 12 30.2
comp=Z,8µm,20.4s,baz=333,slow=34
LPAZ **La Paz** 56.05 131⇑ *e*P P 02 50 32.8 -0.7
LPAZ **La Paz** 56.05 131 P P 02 50 32.8 -0.8
LPAZ pmax pmax
comp=Z,35nm,1.3s
LPAZ **La Paz** 56.05 131 P P 02 50 32.8 -0.8
LPAZ **La Paz** 56.05 131 *e*P P 02 50 31.4 -2.1
NRS **Narsarsuaq** 56.51 31 IAMs_20 IAMs_20 03 14 24.6
comp=Z,20µm,20.0s
ILULI **Ilulissat** 56.58 21 *i*P P 02 50 38.9 +3.1
ILULI MLR MLR
comp=Z,28µm,13.0s
ILULI **Ilulissat** 56.58 21 *i*P P 02 50 38.9 +3.1
comp=Z,28µm,13.0s
ILULI **Ilulissat** 56.58 21 *i*P P 02 50 39.0 +3.1
ILULI IAMs_20 IAMs_20 03 15 21.7
comp=Z,28µm,12.7s
PB16 **IPOC Station P** 56.58 134 *i*P P 02 50 37.7 +0.5
MNMCX **Minye Minye** 57.09 135 *i*P P 02 50 41.2 +0.7
MNMC **Minye Minye** 57.10 135 IAmb IAmb 02 50 54.0
comp=Z,80nm,1.1s
PSGCX **Pisagua** 57.10 136 IAmb IAmb 02 50 58.9
comp=Z,93nm,1.5s
PSGCX **Pisagua** 57.10 136 *i*P P 02 50 40.3 0.0
TIAR **Tiarei** 57.26 228 *e*P P 02 50 43.3 +1.9
comp=Z,42nm,1.2s
TVO **Taravao** 57.35 228 *e*P P 02 50 43.6 +1.5
comp=Z,42nm,1.4s
PPT **Papeete** 57.42 228 LR LR 03 08 57.5
comp=Z,9µm,18.6s,baz=45,slow=30
PPTF **Pamatai, Papee** 57.43 228 IAMs_20 IAMs_20 03 07 54.1
comp=Z,13µm,22.0s
PPT2 **Papeete2** 57.44 228 *e*P P 02 50 44.8 +2.1
comp=Z,102nm,1.4s
PPT2 *e*S S 02 58 38.1 -2.3
comp=Z,8µm,26.2s
PPT2 *e*LQ LQ 03 05 08.5
comp=Z,6µm,25.8s
PPT2 *e*LR LR 03 07 22.7
comp=Z,34µm,26.5s,baz=32
PB11 **IPOC Station P** 57.51 136 *i*P P 02 50 42.3 -1.0
GO01 **Chusmiza** 57.74 135 IAmb IAmb 02 50 59.2
comp=Z,84nm,1.4s
TA01 **Diego Aracena** 57.77 137 P P 02 50 45.0 +0.1
TA01 IAmb IAmb 02 50 58.4
comp=Z,79nm,1.1s
PATCX **Punta Patache** 57.98 137 IAmb IAmb 02 50 60.0
comp=Z,95nm,1.3s
PB08 **IPOC Station P** 58.11 135 *i*P P 02 50 48.7 +0.9
ITTB **Itaituba** 58.52 111 *e*P P 02 50 49.6 -0.8
MALB **Monte Alegre** 58.52 108 *e*P P 02 50 50.6 +0.2
PB01 **IPOC Station P** 58.56 136 IAmb IAmb 02 51 04.2
comp=Z,61nm,1.1s
PB01 **IPOC Station P** 58.56 136 *i*P P 02 50 51.6 +1.0
PB07 **IPOC Station P** 58.81 137 *i*P P 02 50 53.5 +1.0
PB04 **IPOC Station P** 59.10 138 *i*P P 02 50 55.0 +0.6
PB03 **IPOC Station P** 59.13 137 *i*P P 02 50 55.1 +0.5
PB09 **IPOC Station P** 59.27 137 *i*P P 02 50 57.1 +1.5
PB05 **IPOC Station P** 59.46 138 *i*P P 02 50 57.3 +0.5
VILB **Vilhena** 59.69 123 *e*P P 02 50 58.1 -0.4
PB06 **IPOC Station P** 59.73 138 *i*P P 02 50 59.8 +1.0
PB10 **IPOC Station P** 59.74 139 *i*P P 02 50 59.5 +0.9
MCPB **Macapa, AP** 59.75 105 *e*P P 02 50 58.6 -0.4
LVC **Limon Verde** 60.07 137 P P 02 51 01.0 -0.4
LVC pmax pmax
comp=Z,114nm,1.5s
LVC **Limon Verde** 60.07 137 P P 02 51 01.0 -0.4
LVC **Limon Verde** 60.07 137 *e*P P 02 51 00.5 -0.9
LVC **Limon Verde** 60.07 137 *i*P P 02 51 02.8 +1.4
PB15 **IPOC Station P** 60.17 138 IAmb IAmb 02 51 23.1
comp=Z,66nm,1.3s
PB15 **IPOC Station P** 60.17 138 *i*P P 02 51 02.6 +0.7
NPGB **Novo Progresso** 60.24 114 *e*P P 02 51 01.7 -0.6
ICESG **Greenland Ices** 60.46 23 *e*P P 02 51 03.9 +0.4
ICESG IAmb IAmb 02 51 09.4
comp=Z,144nm,1.5s
PB14 **IPOC Station P** 60.67 140 *i*P P 02 51 05.7 +0.3
ANGG **Ammassalik, Gr** 60.69 27 IAMs_20 IAMs_20 03 15 01.3
comp=Z,14µm,19.0s
TBI **Tubuai** 61.46 223 *e*S S 02 59 30.2 -1.9
comp=Z,4µm,29.5s
TBI *e*LQ LQ 03 06 27.5
comp=Z,13µm,35.5s
TBI *e*LR LR 03 09 05.4
comp=Z,16µm,29.8s,baz=36
TBI **Tubuai** 61.46 223 *e*T T 03 57 30.4
comp=Z,10nm,0.2s
SUMG **Summit** 61.54 19 *i*P P 02 51 12.0 +1.3
SUMG pmax pmax
comp=Z,91nm,1.0s
SUMG MLR MLR
comp=Z,47µm,15.0s
SUMG **Summit** 61.54 19 P P 02 51 10.6 -0.1
SUMG IAmb IAmb 02 51 28.5
comp=Z,48nm,1.1s
SUMG **Summit** 61.54 19 *i*P P 02 51 12.0 +1.3
comp=Z,91nm,1.0s
comp=Z,47µm,15.0s
SUMG **Summit** 61.54 19 *i*P P 02 51 12.0 +1.3
SUMG IAmb IAmb 02 51 17.5
comp=Z,91nm,1.0s
SUMG IAMs_20 IAMs_20 03 19 26.3
comp=Z,47µm,14.7s
AC01 **Pan de Azucar** 61.72 141 P P 02 51 12.2 +0.1
AC01 IAmb IAmb 02 51 30.1
comp=Z,34nm,1.1s
YJA **Yavi** 61.93 134 *i*P P 02 51 15.0 +0.9
CLDB **Colider** 61.97 118 *e*P P 02 51 12.5 -1.5
PTLB **Pontes e Lacer** 62.03 124 *e*P P 02 51 13.7 -0.6
GO03 **Copiap** 63.03 142 IAmb IAmb 02 51 37.1
comp=Z,25nm,1.1s
H03N2 **Juan Fernandez** 63.50 153 T T 04 00 25.2
baz=332,slow=77,SNR=235

H03N1 Juan Fernandez 63.51 153 T T 04 00 24.0
baz=332,slow=77,SNR=290
H03N3 Juan Fernandez 63.52 153 T T 04 00 22.0
baz=332,slow=77,SNR=304
SLA San Lorenzo 63.74 136 *i* P P 02 51 25.7 -0.1
SMY Shemya 63.90 319 P P 02 51 31.6 +5.3
SMY pmax pmax
comp=Z,221nm,1.4s
TMAB Tom-Au,PA,Br 64.19 105 *e*P P 02 51 28.2 -0.6
PRPB Parauapebas 64.50 110 *e*P P 02 51 30.7 -0.2
CO01 Juntas del Tor 64.95 143 IAmb IAmb 02 51 53.0
comp=Z,47nm,1.2s
AHML Horco Molle 65.33 138 *i* P P 02 51 35.9 -0.1
AROD Rodeo 65.44 143 *i* P P 02 51 38.2 +1.2
AANI Anillaco 65.85 140 *i* P P 02 51 40.5 +1.1
ACCO Cerro Coronel 65.99 143 *i* P P 02 51 41.0 +0.5
CYA Choya 66.25 139 *i* P P 02 51 42.7 +0.8
SNDB Serra Nova Dou 66.25 116 *e*P P 02 51 42.4 +0.3
ACLC CERRO LA CRUZ 66.30 141 *i* P P 02 51 43.0 +0.6
BILL Bilibino 66.40 336 ||*i*P P 02 51 44.3 +2.0
BILL *e* 02 52 15.9
BILL *e* 02 54 14.9
BILL *i* S S 03 00 37.1 +4.7
BILL pmax pmax
comp=Z,53nm,1.3s
BILL MLR MLR
comp=Z,6μm,17.0s
BILL Bilibino 66.40 336 P P 02 51 42.9 +0.6
BILL IAmb IAmb 02 51 51.0
comp=Z,47nm,1.2s
BILL IAMs_20 IAMs_20 03 19 25.2
comp=Z,7μm,18.0s
RTLS Leoncito 66.79 144 *i* P P 02 51 47.4 +1.8
KNTN Kanton 66.85 256 IAMs_20 IAMs_20 03 12 43.1
comp=Z,14μm,20.0s
NOR Nord 66.89 9 *i* P P 02 51 47.0 +1.7
NOR pmax pmax
comp=Z,58nm,1.4s
NOR MLR MLR
comp=Z,53μm,14.0s
NOR Nord 66.89 9 *i* P P 02 51 47.0 +1.7
comp=Z,58nm,1.4s
comp=Z,53μm,14.0s
NOR Nord 66.89 9 *i* P P 02 51 47.0 +1.7
NOR IAmb IAmb 02 51 51.5
comp=Z,58nm,1.4s
NOR IAMs_20 IAMs_20 03 21 53.7
comp=Z,53μm,14.5s
ZON Zonda 66.93 144 *i* P P 02 51 45.8 -0.5
DAG Danmarks Havn 66.99 14 *i* P P 02 51 49.8 +3.9
DAG pmax pmax
comp=Z,21nm,1.0s
DAG MLR MLR
comp=Z,25μm,15.0s
DAG Danmarks Havn 66.99 14 *i* P P 02 51 49.8 +3.9
comp=Z,20nm,1.0s
comp=Z,24μm,15.0s
DAG Danmarks Havn 66.99 14 *i* P P 02 51 49.9 +3.9
DAG IAmb IAmb 02 51 52.0
comp=Z,20nm,1.0s
DAG IAMs_20 IAMs_20 03 22 03.4
comp=Z,25μm,15.3s
RAR Rarotonga 67.01 232 IAMs_20 IAMs_20 03 15 18.2
comp=Z,7μm,18.0s
AUSP Uspallata 67.08 145 *i* P P 02 51 46.0 -1.4
RTCV Cerro Valdivia 67.25 144 *i* P P 02 51 48.1 -0.1
APLL PUNTA DE LOS L 67.27 141 *i* P P 02 51 48.5 +0.1
MT05 Renca 67.29 146 P P 02 51 48.9 +0.4
BORG Borgarnes 67.56 28 IAMs_20 IAMs_20 03 21 28.0
comp=Z,12μm,18.0s
ASAL Salagasta 67.65 144 *i* P P 02 51 51.1 +0.3
SMTB Santa Maria do 67.75 111 *e*P P 02 51 52.8 +1.0
ARCO CERRO ARCO 67.80 145 *i* P P 02 51 53.1 +1.3
ARAG Araguaiana, MT 67.88 120 *e*P P 02 51 52.9 +0.4
ROSB Rosrio 67.95 104 *e*P P 02 51 51.0 -2.0
AAGR Agrelo 68.04 145 *i* P P 02 51 55.4 +2.2
PEXB Peixe 68.80 114 *e*P P 02 51 58.3 0.0
BI03 Tigo 68.97 150 IAMs_20 IAMs_20 03 17 06.5
comp=Z,8μm,18.0s
TCA Tanti 69.08 141 *i* P P 02 51 59.5 -0.3
MRA San Martin 69.23 142 *i* P P 02 52 01.8 +1.1
CPUP Villa Florida 70.22 132 P P 02 52 06.2 -0.6
comp=Z,23nm,0.9s,baz=318,slow=6.2,SNR=12
CPUP LR LR 03 22 32.7
comp=Z,2μm,19.6s,baz=332,slow=36
CPUP Villa Florida 70.22 132 P P 02 52 07.2 +0.4
CPUP pmax pmax
comp=Z,42nm,1.7s
CPUP Villa Florida 70.22 132 *e*P P 02 52 07.7 +0.9
BDFB Brasilia 70.90 117 P P 02 52 11.4 +0.1
comp=Z,16nm,0.8s,baz=308,slow=6.9,SNR=12
BDFB LR LR 03 24 41.2
comp=Z,5μm,20.7s,baz=304,slow=37
BDFB Brasilia 70.90 117 P P 02 52 10.8 -0.5
BDFB pmax pmax
comp=Z,138nm,1.3s
BDFB MLR MLR
comp=Z,6μm,18.0s
BDFB Brasilia 70.90 117 P P 02 52 10.8 -0.5
BDFB IAMs_20 IAMs_20 03 25 59.0
comp=Z,6μm,18.0s
LC01 Cunco 71.17 151 IAmb IAmb 02 52 25.3
comp=Z,52nm,1.1s
LC01 IAMs_20 IAMs_20 03 18 23.8
comp=Z,5μm,18.0s
ITRB Iturama 71.28 122 *e*P P 02 52 13.8 +0.4
TRCB Terra Rica 71.35 126 *e*P P 02 52 14.4 +0.6
PCMB Pacaembu 71.68 124 *e*P P 02 52 16.9 +1.2
SDBA SAO DESIDERIO 71.81 113 *e*P P 02 52 15.9 -0.9
IPMB Ipameri, GO 72.00 120 *e*P P 02 52 18.0 +0.1
AFI Afiamalu 72.29 246 IAMs_20 IAMs_20 03 16 32.3
comp=Z,8μm,19.0s
PTGB Pitanga 72.92 128 *e*P P 02 52 24.0 +0.8
PET Petropavlovsk 73.01 321 *e*P P 02 52 28.2 +4.9
PET *e*S S 03 01 49.4 -1.1
PET *e*SS SS 03 06 30.3 -0.3
SEY Seymchan 73.12 332 ||*e*P P 02 52 24.9 +1.1
PLCA Paso Flores 73.25 151 P P 02 52 24.3 -0.5
comp=Z,11nm,0.9s,baz=320,slow=7.3,SNR=11
PLCA LR LR 03 18 52.2
comp=Z,3μm,18.4s,baz=345,slow=31
PLCA Paso Flores 73.25 151 P P 02 52 26.2 +1.3
PLCA pmax pmax
comp=Z,59nm,1.4s
PLCA Paso Flores 73.25 151 IAmb IAmb 02 52 42.7
comp=Z,82nm,1.2s
PLCA Paso Flores 73.25 151 *e*P P 02 52 24.9 0.0
BB19B Bebedouro 73.46 122 *e*P P 02 52 26.9 +0.5
NIUE Niue 73.49 240 IAMs_20 IAMs_20 03 16 50.1
comp=Z,11μm,20.0s
PEA0B Petropavlovsk- 73.53 321 *ce*P P 02 52 27.4 +1.0
PETK Petropavlovsk- 73.53 321 P P 02 52 27.2 +0.8
comp=Z,16nm,1.0s,baz=82,slow=12,SNR=7.3
PETK LR LR 03 18 55.4
comp=Z,1μm,21.5s,baz=64,slow=31
PETK Petropavlovsk- 73.53 321 P P 02 52 27.5 +1.1
PETK Petropavlovsk- 73.53 321 P P 02 52 27.5 +1.1
JANB Januaria 73.64 115 *e*P P 02 52 28.6 +1.0
LL01 San Ignacio de 73.79 153 IAmb IAmb 02 52 45.6
comp=Z,71nm,1.2s
ITAB Concordia 74.39 130 *e*P P 02 52 32.2 +0.5
MC01 Montes Claros 74.79 116 *e*P P 02 52 34.9 +0.6
SKR Severo-Kuril's 75.23 319 *e*P P 02 52 37.4 +1.1
SKR *e*S S 03 02 16.6 +1.0
SKR pmax pmax
comp=Z,64nm,1.2s
SKR MLR MLR
comp=Z,800nm,15.0s
TRQA Tornquist 75.45 144 *e*P P 02 52 37.7 +0.1
CPSB Cacapava Do Su 75.45 133 *e*P P 02 52 38.3 +0.5
TIJ01 Guaruva-PR 75.52 126 *e*P P 02 52 37.7 -0.7
LPA La Plata 75.55 139 *ce*P P 02 52 34.6 -3.6
LPA PCP PcP 02 52 58.1 +6.9
LPA PPP PPP 02 57 23.1
LPA PKIKP PKiKP 02 58 21.4 -5.3
LPA S S 03 02 16.2 -3.1
LPA SS SS 03 07 00.9 -10
SPB Sao Paulo 75.71 124 IAmb IAmb 02 52 52.9
comp=Z,47nm,1.0s
SPB IAMs_20 IAMs_20 03 31 38.0
comp=Z,9μm,19.0s
SPB Sao Paulo 75.71 124 *e*P P 02 52 39.9 +0.5
VAO Valinhos 75.74 123 *e*P P 02 52 39.4 -0.4
PLTB Pedras Altas 76.20 134 *e*P P 02 52 42.0 -0.1
PET01 Itanhaem-SP 76.22 125 *e*P P 02 52 43.2 +0.9
BSCB Bom Sucesso 76.35 120 *e*P P 02 52 44.3 +1.0
RCBR Riachuelo 76.58 103 IAMs_20 IAMs_20 03 26 31.8
comp=Z,9μm,22.0s
GDU01 Guandu, BA 76.97 111 *e*P P 02 52 47.4 +0.6
TIXI Tiksi 77.06 344 *d*iP P 02 52 44.8 -1.5
TIXI Tiksi 77.06 344 P P 02 52 47.3 +1.0
SJMB Sao Joao De Ma 78.06 117 *e*P P 02 52 53.7 +0.9
NAN01 Guarapari, ES 78.50 115 *e*P P 02 52 55.9 +0.7
PMAR Madeira 78.79 59 *e*pP P 02 53 09.7 +13
PMAR A A 02 53 16.8
comp=Z,168nm,1.8s
TARA Tarawa 79.00 267 IAMs_20 IAMs_20 03 19 11.6
comp=Z,8μm,20.0s
RIB01 Linhares ES 79.01 117 *e*P P 02 52 58.8 +0.8
KWAJ Kwajalein Atol 80.94 276 IAMs_20 IAMs_20 03 20 30.2
comp=Z,8μm,21.0s
GO09 Cerro Castillo 81.23 158 IAMs_20 IAMs_20 03 21 17.7
comp=Z,11μm,20.0s
ARCES ARCESS Array B 81.28 15 P P 02 53 11.3 +1.8
comp=Z,19nm,1.1s,baz=310,slow=6.2,SNR=9.4
ARCES LR LR 03 29 38.8
comp=Z,8μm,20.7s,baz=325,slow=36
KEV Kevo 81.46 14 IAMs_20 IAMs_20 03 28 36.5
comp=Z,12μm,21.0s
PGAV Gavieira, Arco 81.62 48 *e*pP P 02 53 16.1 +4.2
PGAV A A 02 53 23.8
comp=Z,93nm,2.1s
PCAS Casmilo, Conde 82.25 50 *e*pP P 02 53 26.1 +11
PCAS A A 02 53 38.1
comp=Z,79nm,1.9s
LIS Lisbon 82.34 51 *e*pP P 02 53 31.1 +15
PVIS Viseu 82.39 49 *e*pP P 02 53 21.3 +5.3
PVIS A A 02 53 21.4
comp=Z,78nm,1.8s
NB2 NORSAR Subarra 82.57 25 P P 02 53 18.1 +1.6
comp=Z,167nm,1.7s,baz=307,slow=5.1
NB2 NORSAR Subarra 82.57 25 P P 02 53 18.1 +1.6
comp=Z,336nm,2.5s,baz=307,slow=5.3
NB2 NORSAR Subarra 82.57 25 P P 02 53 18.1 +1.6
baz=307,slow=5.3
NOA NORSAR Array B 82.57 25 P P 02 53 17.1 +0.6
comp=Z,1.9nm,1.0s,baz=309,slow=4.9,SNR=14
MSVF Nonsavu 82.68 247 IAMs_20 IAMs_20 03 20 31.9
comp=Z,9μm,21.0s
KONO Kongsberg 82.74 27 ||*e*P P 02 53 18.9 +1.6
KONO pmax pmax
comp=Z,192nm,1.4s
KONO MLR MLR
comp=Z,7μm,15.0s
KONO Kongsberg 82.74 27 IAMs_20 IAMs_20 03 28 44.1
comp=Z,7μm,20.0s
YAK Yakutsk 82.76 336 *e*P P 02 53 16.4 -0.9
YAK *e**PP PcP 02 53 22.9 +0.7
YAK *e* 02 53 33.7
YAK *e* 02 56 27.1
YAK *e*PPP PPP 02 58 20.9
YAK *e*S S 03 03 34.6 -0.8
YAK *e*SS SS 03 09 02.0 +5.3
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,27nm,1.2s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,362nm,6.8s
YAK pmax pmax
comp=N,199nm,5.7s
YAK pmax pmax
comp=E,199nm,4.4s
YAK smax smax
comp=N,983nm,6.7s
YAK smax smax
comp=E,718nm,8.6s
YAK MLR MLR
comp=N,2μm,15.0s
YAK Yakutsk 82.76 336 IAMs_20 IAMs_20 03 37 15.4
comp=Z,5μm,18.0s
MVO Moncorvo 82.80 48 *e*P P 02 53 20.8 +2.7
comp=Z,94nm,1.6s
MVO *e*pP PcP 02 53 26.6 +3.6
PMTG Montargil 82.85 51 *e*pP P 02 53 25.6 +7.3
PMTG A A 02 53 33.8
comp=Z,66nm,1.8s
NKL Nikolayevsk 82.87 325 *e*P P 02 53 18.3 +0.2
NKL *e* 02 56 34.0
NKL *e*S S 03 03 36.8 -0.1
NKL pmax pmax
comp=N,8.0nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.9s
NKL smax smax
comp=N,16nm,2.0s
NKL MLR MLR
comp=N,150nm,14.0s
NKL MLR MLR
comp=Z,2μm,16.0s
TYV Tymovskoe 82.94 323 *e*P P 02 53 26.6 +8.0
TYV pmax pmax
comp=Z,51nm,1.6s
TYV pmax pmax
comp=Z,1μm,4.4s
PNCL Nicolau / Gran 83.03 52 *e*pP P 02 53 27.5 +8.2
PNCL A A 02 53 37.3
comp=Z,59nm,1.8s
PCBR Castelo Branco 83.05 50 *e*pP P 02 53 24.7 +5.4
PCBR A A 02 53 35.4
comp=Z,50nm,1.8s
PTEO Sao Teotonio 83.13 52 *e*pP P 02 53 27.9 +8.1
PTEO A A 02 53 36.4
comp=Z,133nm,1.7s
PFVI Vila Bisbo 83.22 52 *e*pP P 02 53 28.7 +8.4
PFVI A A 02 53 43.4
comp=Z,77nm,2.3s
EVO Evora 83.22 51 *e*P P 02 53 21.1 +0.8
EVO *e*S S 03 03 43.8 +2.7
EVO Evora 83.22 51 *e*P P 02 53 21.7 +1.4
comp=Z,78nm,1.6s
MORF Marmelete 83.28 52 *e*P P 02 53 20.7 0.0
MORF AMb AMB 02 53 37.2
comp=Z,62nm,1.8s
MORF Marmelete 83.28 52 *e*P P 02 53 20.6 0.0
MORF Marmelete 83.28 52 *e*P P 02 53 20.8 +0.1
comp=Z,40nm,1.9s
MORF *e*pP PcP 02 53 24.6 -0.5
PMRV Marv??o 83.28 50 *e*P P 02 53 16.0 -4.6
comp=Z,74nm,1.4s
PMRV *e*pP PcP 02 53 27.9 +2.8
PBEJ Beja 83.54 51 *e*P P 02 53 24.1 +2.2
comp=Z,66nm,1.7s
PCVE Castro Verde 83.58 52 *e*P P 02 53 22.7 +0.5
comp=Z,139nm,1.7s
PCVE *e*pP PcP 02 53 36.8 +10
PBDV Barranco-do-Ve 83.83 52 *e*P P 02 53 26.2 +2.8
comp=Z,112nm,1.5s
PVAQ Vaqueiros 83.91 52 *e*P P 02 53 24.5 +0.7
comp=Z,43nm,1.9s
PVAQ Vaqueiros 83.91 52 P P 02 53 23.4 -0.4
PVAQ IAMs_20 IAMs_20 03 26 06.8
comp=Z,9μm,20.0s
HFS Hagfors 84.09 25 P P 02 53 27.2 +2.9
comp=Z,7.8nm,0.8s,baz=281,slow=4.3,SNR=1.3
YUK Yuzh-Kuril'sk 84.27 316 *e*P P 02 53 19.0 -6.5
YUK *e*S S 03 03 43.2 -8.2
YUK pmax pmax
comp=Z,701nm,1.7s
MUD Monsted U'grnd 84.41 30 *i* P P 02 53 27.9 +2.0
MUD MLR MLR
comp=Z,10μm,17.0s
MUD Monsted U'grnd 84.41 30 *i* P P 02 53 27.9 +2.0
comp=Z,10μm,17.0s
MUD Monsted U'grnd 84.41 30 *i* P P 02 53 27.9 +2.0
MUD IAMs_20 IAMs_20 03 31 42.1
comp=Z,10μm,17.4s
LVZ Lovozero 84.61 13 *ce*P P 02 53 28.1 +1.2
LVZ pmax pmax
comp=Z,137nm,2.5s
LVZ MLR MLR
comp=Z,9μm,17.0s
LVZ Lovozero 84.61 13 P P 02 53 27.4 +0.5
LVZ IAMs_20 IAMs_20 03 32 29.0
comp=Z,10μm,19.0s
APA Apatity 84.62 14 ||*i*P P 02 53 26.4 -0.4
APA *i* S S 03 03 52.0 -2.1
YSS Yuzh-Sakhalins 84.80 319 *e*P P 02 53 30.2 +2.1
YSS *e* 02 56 53.5
YSS *e* 03 03 53.3
YSS *e*S S 03 03 56.7 +0.1
YSS *e*PS PnS 03 04 54.2 +4.0
YSS pmax pmax
comp=Z,40nm,1.3s
YSS pmax pmax
comp=Z,300nm,2.6s
YSS smax smax
comp=N,2μm,12.9s
YSS MLR MLR
comp=N,600nm,15.0s
YSS MLR MLR
comp=E,1μm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS Yuzh-Sakhalins 84.80 319 P P 02 53 29.1 +1.0
GUD Guadarrama 84.98 48 P P 02 53 31.1 +1.7
GUD pmax pmax
comp=Z,74nm,1.3s
RAO Raoul Island 85.04 235 IAMs_20 IAMs_20 03 22 07.9
comp=Z,7μm,21.0s
HLG Helgoland 85.11 32 *e*S S 03 04 03.0 +3.6
baz=309,slow=9.6
SNF Seneffe 85.29 36 P P 02 53 32.4 +1.9
SNF x x 02 53 46.4
PAB San Pablo 85.35 49 P P 02 53 30.7 -0.4
PAB pmax pmax
comp=Z,83nm,1.5s
PAB San Pablo 85.35 49 P P 02 53 30.7 -0.4
SFS San Fernando 85.41 52 *e*P P 02 53 31.5 +0.1
SFS *i* S S 03 04 10.8 +7.8
SFS San Fernando 85.41 52 IAMs_20 IAMs_20 03 29 50.5
comp=Z,6μm,20.0s
SKMB Sankelmark Bun 85.55 31 *e*S S 03 04 09.6 +5.9
baz=309,slow=9.6
ESDC Sonseca Array 85.55 49 P P 02 53 32.5 +0.3
comp=Z,5.7nm,1.1s,baz=301,slow=5.2,SNR=16
ESDC LR LR 03 31 25.2
comp=Z,14μm,18.3s,baz=295,slow=35
ESDC Sonseca Array 85.55 49 P P 02 53 31.8 -0.4
BMRD Maredsous 85.66 36 P P 02 53 34.0 +1.6
BMRD x x 02 53 43.8
DOU Dourbes 85.68 36 P P 02 53 35.2 +2.7
DOU x x 02 53 55.0
UCM Universidad Co 85.75 48 *e*P P 02 53 36.8 +3.7
UCM *e*S S 03 04 08.5 +2.1
BGES Gesves 85.79 36 x x 02 53 43.9
MG01 Puerto William 85.86 158 IAMs_20 IAMs_20 03 23 52.2
comp=Z,10μm,22.0s
BEBN Eben Emael 85.88 35 P P 02 53 34.8 +1.4
BEBN x x 02 53 40.3
BCLA Clavier 85.89 36 P P 02 53 34.9 +1.4
AVE Averroes 85.90 55 *e*P P 02 53 34.5 +0.6
AVE *i* S S 03 04 10.8 +2.8
BSTI Sart Tilman 85.94 36 x P 02 53 39.4 +5.7
RCHB Rochefort 85.99 36 x P 02 53 42.7 +8.7
IBBN Ibbenburen 86.12 33 *e*S S 03 04 12.6 +3.2
baz=309,slow=9.6
MEM Membach 86.16 36 P P 02 53 37.9 +3.0
BHOU Houvegnez 86.30 36 P P 02 53 38.3 +2.7
BHOU x x 02 53 49.8
BUG Bochum--Univer 86.36 34 *e*S S 03 04 15.3 +3.5
baz=309,slow=9.6
GRNR Gornyy 86.37 325 *e*P P 02 53 37.7 +1.8
NRIK Noril'sk 86.41 354 P P 02 53 36.5 +0.7
comp=Z,7.3nm,0.8s,baz=14,slow=5.3,SNR=8.5
NRIK LR LR 03 33 52.6
comp=Z,6μm,20.4s,baz=35,slow=37
NRIK Noril'sk 86.41 354 *de*P P 02 53 34.8 -0.9
NRIK MLR MLR
comp=Z,7μm,20.0s
BSEG Bad Segeberg 86.43 31 *e*S S 03 04 15.3 +3.0
baz=309,slow=9.6
EMAL Malaga-Limoner 86.56 51 *e*P P 02 53 27.9 -9.2
EMAL *e*S S 03 04 03.7 -11
WLF Walferdange 86.76 36 P P 02 53 38.5 +0.6
WLF Walferdange 86.76 36 P P 02 53 38.4 +0.6
WLF pmax pmax
comp=Z,161nm,1.3s
WLF Walferdange 86.76 36 *e*S S 03 04 21.0 +5.2
baz=309,slow=9.6
AHRW Bad Neuenahr-A 86.76 35 *e*S S 03 04 20.6 +4.9
baz=309,slow=9.6
ERM Erimo 86.98 315 *ce*P P 02 53 42.6 +3.6
ERM pmax pmax
comp=Z,155nm,1.3s
ERM MLR MLR
comp=Z,2μm,18.0s
ERM Erimo 86.98 315 P P 02 53 40.0 +1.0
EFI East Falkland 87.17 151 IAMs_20 IAMs_20 03 28 03.2
comp=Z,4μm,18.0s
PVLZ Peæn de 87.37 53 *e*P P 02 53 35.8 -5.2
PVLZ *i* S S 03 04 22.6 +0.4
RGN Rugen 87.45 30 IAMs_20 IAMs_20 03 31 00.6
comp=Z,8μm,19.0s
IFR Ifrane 87.52 54 *e*P P 02 53 42.4 +0.4
IFR *e*S S 03 04 25.8 +1.7
FINES FINESS Array B 87.55 20 P P 02 53 39.4 -2.0
comp=Z,5.5nm,1.0s,baz=255,slow=14,SNR=2.6
FINES LR LR 03 32 08.9
comp=Z,9μm,18.7s,baz=315,slow=35
FINES FINESS Array B 87.55 20 *i* P P 02 53 44.0 +2.6
FINES pmax pmax
comp=Z,9.0nm,0.9s
TNS Taunus Mts 87.67 35 *e*S S 03 04 30.5 +5.9
baz=309,slow=9.6
ASSE Asse, Remlinge 87.68 33 *e*S S 03 04 27.5 +3.1
baz=309,slow=9.6
CLZ Clausthal 87.70 33 *e*S S 03 04 27.9 +3.0
baz=309,slow=9.6
UBBA Unterbreizbach 88.12 34 *e*S S 03 04 33.2 +4.6
baz=309,slow=9.6
MELI Melilla 88.31 52 *e*P P 02 53 49.5 +4.0
MELI *e*S S 03 04 34.7 +3.6
CART Cartagena 88.58 49 *e*P P 02 53 45.5 -1.3
CART *e*S S 03 04 43.6 +10
BFO Black Forest 88.70 37 *e*S S 03 04 37.8 +3.4
baz=309,slow=9.6
NEUB Neuenburg 88.78 33 *e*ScS S 03 04 40.8 +5.8
STU Stuttgart 88.91 36 *e*ScS S 03 04 40.5 +4.1
RUE Ruedersdorf 88.97 31 *e*ScS S 03 04 42.4 +5.7
MOX Moxa 89.05 33 *e*S S 03 04 41.6 +4.0
baz=309,slow=9.6
ZEA Zeya 89.06 331 *e*P P 02 53 50.7 +2.0
ZEA *e*S SKSac 03 04 13.8 -5.1
ZEA *e* 03 04 40.4
ZEA *e* 03 05 48.3
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,20nm,1.5s
ZEA pmax pmax
comp=N,200nm,5.9s
ZEA pmax pmax
comp=Z,300nm,6.7s
ZEA smax smax
comp=E,500nm,10.7s
ZEA MLR MLR
comp=N,1μm,16.0s
CLL Collm 89.33 32 *e*P P 02 53 49.0 -1.0
CLL comp=Z,20nm,1.5s *i* 02 53 54.7
CLL comp=Z,15nm,1.2s *i* 02 54 00.0
CLL *e*PP PP 02 57 24.0 +3.9
CLL *e*PPP PPP 02 59 24.0
CLL *e*SKSac SKSac 03 04 24.0 +3.4
CLL *e*S ScS 03 04 43.0 -2.0
CLL *e*SS SS 03 10 24.0 -10
CLL *e*SSS SSS 03 14 12.0
CLL *e*SSSS 03 17 18.0
CLL LmV 03 36 00.0
comp=N,6μm,19.3s
CLL LmV 03 36 00.0
comp=E,4μm,20.1s
CLL LmV 03 36 00.0
comp=Z,10μm,19.8s
CLL Collm 89.33 32 *e*P P 02 53 49.0 -1.0
CLL *i* 02 53 54.7
CLL pmax pmax
comp=Z,20nm,1.5s
CLL MLR MLR
comp=Z,10μm,19.8s
CLL Collm 89.33 32 *e*S S 03 04 44.7 +4.5

baz=309,slow=9.6
GRF Grafenberg Arr 89.43 34 *e*P **P 02 53 49.4 -1.2**
comp=Z,120nm,2.1s,baz=307,slow=4.3
GRF *e*S **S 03 04 45.6 +4.4**
baz=309,slow=9.6
GRF *e*L L 03 32 45.2
comp=Z,11µm,20.7s
NKC Novy Kostel 89.72 33 *e*P P 02 53 57.0 +5.1
NKC *ex* x 02 54 01.4
NKC *e*SKS **S 03 04 38.8 -5.2**
NKC AMS AMS 03 33 20.0
comp=Z,11µm,19.4s
NKC Novy Kostel 89.72 33 *e*P P 02 53 57.0 +5.1
NKC *e* 03 04 38.8
NKC MLR MLR
comp=Z,11µm,19.4s
BRG Berggiesshubel 90.06 32 *e*P **P 02 53 52.0 -1.5**
comp=Z,44nm,1.8s
BRG PP PP 02 57 35.0 +9.0
BRG SKS **SKSac 03 04 28.0 +3.1**
BRG S **ScS 03 04 52.0 +0.9**
BRG SS SS 03 10 27.0 -17
comp=N,7µm,19.1s
comp=E,6µm,15.9s
comp=Z,11µm,18.1s
BRG Berggiesshubel 90.06 32 *e*P **P 02 53 52.0 -1.5**
BRG 02 57 35.0
BRG pmax pmax
comp=Z,44nm,1.8s
BRG MLR MLR
comp=N,7µm,19.1s
BRG MLR MLR
comp=E,6µm,15.9s
BRG MLR MLR
comp=Z,11µm,18.1s
PVCC Panska Ves 90.59 32 AMS AMS 03 38 20.0
comp=Z,10µm,16.6s
JMM Marumori 90.64 312 IAMs_20 IAMs_20 03 28 44.5
comp=Z,4µm,20.0s
FETA Feichten 90.78 37 *e*P **P 02 53 58.8 +1.7**
comp=Z,8.5nm,1.4s
MOTA Moosalm 90.79 36 *e*P **P 02 53 56.6 -0.5**
comp=Z,23nm,2.1s
PRA Prague 90.82 33 *e*SKS **SKSac 03 04 34.9 +5.6**
PRU Pruhonice 90.92 33 *e*P P 02 54 02.3 +4.8
PRU *e*SKS **SKSac 03 04 23.2 -6.7**
PRU AMS AMS 03 34 20.0
comp=Z,12µm,19.1s
PRU Pruhonice 90.92 33 *e*P P 02 54 02.3 +4.8
PRU *e* 03 04 23.2
PRU MLR MLR
comp=Z,12µm,19.1s
KHC Kasperske Hory 90.98 34 *e*P **P 02 54 01.8 +3.9**
KHC *ex* x 02 54 08.5
KHC *e*SKS S 03 04 34.1 -22
KHC AMS AMS 03 36 30.0
comp=Z,11µm,17.0s
KHC Kasperske Hory 90.98 34 *e*P **P 02 54 01.8 +3.9**
KHC *e* 02 54 08.5
KHC MLR MLR
comp=Z,11µm,17.0s
KHC Kasperske Hory 90.98 34 IAMs_20 IAMs_20 03 32 28.2
comp=Z,4µm,20.0s
WATA Walderalm 91.05 36 *e*P **P 02 54 02.0 +3.6**
comp=Z,12nm,1.1s
SANVU Saraoutou 91.05 254 IAMs_20 IAMs_20 03 25 49.3
comp=Z,6µm,21.0s
GOPC GO Pecny, Ondr 91.09 33 *e*SKS **SKSac 03 04 31.0 0.0**
GOPC AMS AMS 03 34 30.0
comp=Z,12µm,18.8s
WTTA Wattenberg 91.12 36 *e*P **P 02 54 00.3 +1.5**
comp=Z,13nm,1.4s
GERES GERESS Array B 91.23 34 P **P 02 53 59.0 -0.1**
comp=Z,0.9nm,0.8s,baz=343,slow=4.2,SNR=6.2
GERES PKKPbc **PKKPbc 03 11 25.0 +2.9**
comp=Z,0.4nm,0.7s,baz=126,slow=1.3,SNR=3.8
GERES LR LR 03 35 32.7
comp=Z,9µm,18.3s,baz=310,slow=36
PABE Paberze 91.26 25 *e*P **P 02 53 59.7 +0.8**
CHVC Chvalec 91.27 32 AMS AMS 03 37 50.0
comp=Z,10µm,17.3s
BOD Bodaibo 91.29 339 *e*P **P 02 53 57.9 -1.1**
BOD pmax pmax
comp=Z,31nm,1.5s
UPC Upice 91.30 32 *e*SKS **SKSac 03 04 34.9 +2.8**
UPC AMS AMS 03 38 00.0
comp=Z,11µm,16.1s
OSTC Ostas 91.37 32 AMS AMS 03 38 00.0
comp=Z,10µm,17.6s
DPC Dobruska-Polom 91.56 32 *e*P **P 02 54 02.2 +1.7**
DPC *ex* x 02 54 07.6
DPC *e*SKS **SKSac 03 04 34.9 +1.2**
DPC AMS AMS 03 37 20.0
comp=Z,11µm,17.1s
DPC Dobruska-Polom 91.56 32 *e*P **P 02 54 02.2 +1.7**
DPC *e* 03 04 34.9
DPC MLR MLR
comp=Z,11µm,17.1s
MSSA Maissana 91.70 39 IAMs_20 IAMs_20 03 30 31.4
comp=Z,6µm,20.0s
KLMR Klimovskoe 91.76 15 *e*P **P 02 54 01.2 +0.1**
KLMR *e* 02 57 41.9
KLMR *e*S **SKSac 03 04 33.2 -0.9**
KLMR pmax pmax
comp=Z,35nm,1.2s
KLMR MLR MLR
comp=Z,2µm,15.0s
KLMR Klimovskoe 91.76 15 *e*P **P 02 54 01.2 +0.1**
KLMR AMP 02 54 11.7
comp=Z,35nm,1.2s
KLMR *e*PP **PP 02 57 41.9 +2.9**
KLMR *e*S **SKSac 03 04 33.3 -0.9**
KLMR *e*S **SKSac 03 04 33.3 -0.9**
KLMR LQ LQ 03 29 47.1
KLMR LQ LQ 03 29 47.1
KLMR LR LR 03 31 13.4
KLMR AMP 03 34 43.0
comp=Z,2µm,14.8s
TREC Trest 91.84 33 *e*SKS **SKSac 03 04 27.1 -8.1**
TREC AMS AMS 03 34 50.0
comp=Z,15µm,19.2s
MXZ Matakaoa Point 91.89 230 IAMs_20 IAMs_20 03 24 10.8
comp=Z,5µm,22.0s
IZAR Zarasai 91.94 24 *e*P **P 02 54 02.6 +0.6**
KRLC Kraliky 91.96 32 *e*SKS **SKSac 03 04 42.7 +6.8**
KRLC AMS AMS 03 37 00.0
comp=Z,10µm,16.7s
ISAL Salakas 92.03 24 *e*P **P 02 54 03.0 +0.5**
SUW Suwalki 92.05 26 IAMs_20 IAMs_20 03 36 11.3
comp=Z,7µm,21.0s
MOA Molln 92.15 35 *e*P P 02 54 07.7 +4.4
comp=Z,10nm,1.5s
IIGN Ignalina 92.23 24 *e*P **P 02 54 03.9 +0.5**
VLC Villacollemand 92.30 39 IAMs_20 IAMs_20 03 33 36.2
comp=Z,7µm,20.0s
PRGR Permogore 92.36 12 *e*P **P 02 54 04.6 +0.7**
PRGR pmax pmax
comp=Z,21nm,0.9s
IDID Didziasalis 92.45 24 *e*P **P 02 54 04.1 -0.3**
MORC Moravsky Berou 92.53 32 P **P 02 54 07.0 +2.0**
MORC pmax pmax
comp=Z,38nm,1.4s
USRK Ussuriysk Ar. 92.63 321 P **P 02 54 05.3 -0.2**
comp=Z,8.0nm,1.0s,baz=29,slow=4.4,SNR=12
OKC Ostrava-Krasne 92.78 31 AMS AMS 03 39 50.0
comp=Z,10µm,15.2s
CONA Conrad Observa 92.92 34 *e*P **P 02 54 08.3 +1.4**
comp=Z,8.9nm,2.1s
URZ Urewera 93.05 229 IAMs_20 IAMs_20 03 25 32.6
comp=Z,8µm,22.0s
MJAR Matsushiro Arr 93.09 312 P **P 02 54 07.5 -0.4**
comp=Z,5.7nm,0.9s,baz=57,slow=2.8,SNR=12
MJAR LR LR 03 31 00.7
comp=Z,3µm,19.8s,baz=70,slow=32
MJAR Matsushiro Arr 93.09 312 P **P 02 54 07.6 -0.2**
MJAR pmax pmax
comp=Z,40nm,1.3s
MJAR Matsushiro Arr 93.09 312 P **P 02 54 07.6 -0.2**
MAJO Matsushiro 93.09 312⇃ *e*P **P 02 54 09.5 +1.7**
MAJO pmax pmax
comp=Z,33nm,1.0s
MAJO MLR MLR
comp=Z,1µm,18.0s
MAJO Matsushiro 93.09 312 P **P 02 54 08.6 +0.8**
MAJO IAmb IAmb 02 54 14.4
comp=Z,23nm,0.9s
MAJO Matsushiro 93.09 312 IAMs_20 IAMs_20 03 30 40.3
comp=Z,4µm,20.0s
MAT Matsushiro 93.09 312 P **P 02 54 08.3 +0.5**
MAT S **S 03 05 15.2 +0.2**
MJB9 Matsu-Tunnel 93.09 312 IAMs_20 IAMs_20 03 30 41.3
comp=Z,4µm,20.0s
OBKA Obir 93.16 35 *e*P **P 02 54 09.4 +1.4**
comp=Z,12nm,1.4s
OSSC Osservatorio P 93.18 39 IAMs_20 IAMs_20 03 33 40.5
comp=Z,7µm,20.0s
ARSA Arzberg 93.19 34 *e*P **P 02 54 11.8 +3.7**
comp=Z,7.0nm,1.2s
MODS Modra-Piesok 93.34 33 *e*P **P 02 54 08.2 -0.5**
MODS Modra-Piesok 93.34 33 *e*P **P 02 54 08.2 -0.5**
MDJ Mudanjiang 93.72 323 P **P 02 54 10.7 +0.1**
MDJ pP pwP 02 54 13.4 -2.3
MDJ sP PcP 02 54 15.2 +4.1
MDJ sS S 03 05 25.9 +5.6
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,280nm,5.4s
MDJ LR LR
comp=Z,1µm,20.6s
MDJ LR LR
comp=Z,4µm,19.9s
MDJ LR LR
comp=Z,4µm,17.1s
BKZ Black Stump Fm 93.90 229 IAMs_20 IAMs_20 03 28 45.0
comp=Z,6µm,20.0s
VYHS Vyhne 94.02 32 *e*P **P 02 54 12.5 +0.6**
VYHS Vyhne 94.02 32 *e*P **P 02 54 12.5 +0.6**
MURB Monte Urbino 94.07 39 IAMs_20 IAMs_20 03 35 43.2
comp=Z,9µm,20.0s
OUZ Omahuta 94.19 233 IAMs_20 IAMs_20 03 30 52.9
comp=Z,5µm,20.0s
DZM Mont Dzumac 94.39 248 *e*PP **PP 02 57 54.3 -7.3**
comp=Z,253nm,26.3s
DZM *e*S **S 03 05 24.8 -2.1**
comp=Z,2µm,26.9s
DZM Mont Dzumac 94.39 248 *e*PS PS 03 06 41.7 -1.2
comp=Z,4µm,28.1s
DZM *e*SS SS 03 11 48.0 -1.2
comp=Z,3µm,31.1s
DZM *e*LQ LQ 03 20 40.4
comp=Z,3µm,25.2s
DZM *e*LR LR 03 24 39.1
comp=Z,16µm,24.1s
DZM Mont Dzumac 94.39 248 IAMs_20 IAMs_20 03 27 32.0
comp=Z,9µm,21.0s
VSL Villasalto 94.44 43 IAMs_20 IAMs_20 03 37 56.1
comp=Z,5µm,18.0s
NRCA Norcia 94.68 39 IAMs_20 IAMs_20 03 38 25.2
comp=Z,8µm,19.0s
PMSA Palmer Station 94.72 162 *e*P **P 02 54 14.5 +0.1**
PSZ Piszkesteto 94.93 32 P **P 02 54 18.1 +2.0**
PSZ pmax pmax
comp=Z,12nm,1.3s
KWP Kalwaria Pacla 95.03 29 IAMs_20 IAMs_20 03 36 59.3
comp=Z,9µm,22.0s
AQU L'Aquila 95.14 39 P **P 02 54 17.6 +0.4**
AQU pmax pmax
comp=Z,24nm,1.4s
LVV L'vov 95.48 29 *e*P **P 02 54 19.6 +1.1**
LVV *e* 03 04 47.9
LVV *e*S **S 03 05 33.3 -2.1**
LVV *e*PS **PS 03 06 46.6 -6.6**
LVV MLR MLR
comp=E,4µm,17.0s
LVV MLR MLR
comp=Z,6µm,17.0s
LVV MLR MLR
comp=N,3µm,16.0s
HIA Hailar 95.54 331⇑ *e*P **P 02 54 21.4 +2.6**
HIA pmax pmax
comp=Z,28nm,1.8s
HIA Hailar 95.54 331 IAMs_20 IAMs_20 03 44 15.0
comp=Z,5µm,19.0s
UZH Uzhgorod 95.56 30 *e*P **P 02 54 20.2 +1.3**
UZH *e* 02 54 35.5
UZH *i* 03 04 53.7
UZH *e*S **S 03 05 33.1 -3.0**
UZH MLR MLR
comp=Z,1µm,16.0s
MOS Moscow 95.70 18 *e*P **P 02 54 19.6 +0.2**
MOS *e* 02 58 11.4
MOS *e* 03 04 54.0
MOS *e* 03 06 47.0
MOS *e* 03 15 38.4
MOS MLR MLR
comp=E,5µm,20.0s
MOS MLR MLR
comp=Z,10µm,20.0s
MOS MLR MLR
comp=N,6µm,19.0s
KIRV Kirov 95.91 11⇃ *e*P **P 02 54 20.7 +0.5**
comp=N,4.5nm,0.7s,baz=323,slow=5.1,SNR=1.8
KIRV Kirov 95.91 11⇃ *e*P **P 02 54 22.8 +2.6**
OBN Obninsk 95.92 19⇃ *e*P **P 02 54 20.3 -0.1**
OBN *e* 02 58 17.2
OBN *i*S **SKSac 03 04 52.5 -4.6**
OBN *i*SS **SS 03 12 05.4 -2.1**
OBN pmax pmax
comp=Z,10.0nm,0.6s
SNZO South Karori 96.09 228 IAMs_20 IAMs_20 03 28 46.9
comp=Z,8µm,21.0s
CN2 Changchun 96.53 324 *e*P P 02 54 29.5 +6.1
CN2 Changchun 96.53 324 *e*S **S 03 05 45.7 +1.0**
CN2 Changchun 96.53 324 SS SS 03 12 22.2 +5.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,2µm,18.0s
CN2 LR LR
comp=E,3µm,18.0s
CN2 LR LR
comp=Z,2µm,19.0s
KEST Kesra 96.60 46 P **P 02 54 26.0 +2.0**
comp=Z,2.5nm,0.9s,baz=249,slow=13,SNR=2.5
KEST LR LR 03 38 51.9
comp=Z,6µm,18.0s,baz=262,slow=36
KEST Kesra 96.60 46 P **P 02 54 23.6 -0.4**
KEST IAmb IAmb 02 54 42.0
comp=Z,15nm,1.1s
KEST IAMs_20 IAMs_20 03 34 45.5
comp=Z,9µm,22.0s
NNZ Nelson 96.95 228 IAMs_20 IAMs_20 03 28 08.6
comp=Z,6µm,21.0s
AKASG Malin Array Be 96.98 26 P **P 02 54 25.5 +0.2**
comp=Z,0.2nm,0.2s,baz=320,slow=3.9,SNR=7.8
AKASG Malin Array Be 96.98 26*c**e*P P 02 54 29.5 +4.2
AKASG Malin Array Be 96.98 26 P **P 02 54 25.4 +0.2**
AKBB Malin Array Si 96.98 26⇃ *e*P **P 02 54 28.5 +3.2**
AKBB Malin Array Si 96.98 26 IAMs_20 IAMs_20 03 40 56.7
comp=Z,7µm,18.0s
KHZ Kahutara 97.35 227 IAMs_20 IAMs_20 03 31 13.3
comp=Z,7µm,19.0s
QRZ Quartz Range 97.36 229 IAMs_20 IAMs_20 03 32 57.7
comp=Z,6µm,19.0s
THZ Tophouse 97.50 228 IAMs_20 IAMs_20 03 28 14.3
comp=Z,6µm,22.0s
DIVS Divibare 97.62 35 IAMs_20 IAMs_20 03 40 40.0
comp=Z,7µm,19.0s
LTZ Lake Taylor 98.36 227 IAMs_20 IAMs_20 03 32 01.9
comp=Z,5µm,20.0s
MQZ McQueen's Vall 98.49 226 IAMs_20 IAMs_20 03 30 01.2
comp=Z,4µm,20.0s
OXZ Oxford 98.74 227 IAMs_20 IAMs_20 03 30 16.9
comp=Z,4µm,19.0s
LPSR Galich'ya Gora 98.80 19 *e*P **P 02 54 32.4 -1.0**
LPSR pmax pmax
comp=Z,20nm,1.5s
LPSR MLR MLR
comp=Z,6µm,16.0s
SNY Shenyang 98.87 323⇑ P Pdif 02 54 42.2 +8.2
SNY PP **PP 02 58 40.4 +5.6**
SNY Shenyang 98.87 323 S **S 03 06 08.3 +3.6**
SNY Shenyang 98.87 323 SS SS 03 12 54.0 +4.1
SNY pmax pmax
comp=Z,130nm,6.5s
SNY LR LR
comp=N,2µm,16.9s
SNY LR LR
comp=E,2µm,17.1s
SNY LR LR
comp=Z,3µm,20.2s
HOPE Hope Point 99.15 146 IAMs_20 IAMs_20 03 35 15.9
comp=Z,4µm,21.0s
CEL Celeste 99.21 41 IAMs_20 IAMs_20 03 41 16.2
comp=Z,6µm,19.0s
KSRS Korea Array 99.22 318 P **Pdif 02 54 37.4 +1.8**
comp=Z,0.6nm,0.3s,baz=46,slow=3.7,SNR=1.8
KSAR Wonju Array Be 99.25 318 P **Pdif 02 54 36.5 +0.7**
KSAR Wonju Array Be 99.25 318 P **Pdif 02 54 36.5 +0.7**
GUMO Guam 99.28 289 IAMs_20 IAMs_20 03 30 44.8
comp=Z,5µm,22.0s
ARU Arti 99.35 7 P **Pdif 02 54 35.9 +0.1**
comp=Z,1.0nm,0.4s,baz=326,slow=11,SNR=1.9
ARU Arti 99.35 7*c**i*P **Pdif 02 54 37.7 +1.9**
ARU 02 58 40.6
ARU S **SKSac 03 05 16.0 +1.3**
ARU SP **SP 03 07 37.7 +4.3**
ARU pmax pmax
comp=Z,13nm,1.7s
ARU Arti 99.35 7 P **Pdif 02 54 36.4 +0.5**
ARU IAmb IAmb 02 54 45.8
comp=Z,16nm,1.3s
RPZ Rata Peaks 99.55 226 IAMs_20 IAMs_20 03 31 22.4
comp=Z,6µm,20.0s
MLR Muntele Rosu 99.56 31 P **Pdif 02 54 37.9 +0.7**
comp=Z,2.1nm,0.8s,baz=344,slow=15
MLR Muntele Rosu 99.56 31 P **Pdif 02 54 37.0 -0.2**
MLR MLR
comp=Z,13µm,18.0s
MLR Muntele Rosu 99.56 31 P **Pdif 02 54 37.0 -0.2**
TLY Talaya 99.73 340 *e*P **Pdif 02 54 40.8 +3.1**
TLY *e* 02 58 51.1
TLY *e* 03 05 14.8
TLY *e*PS **PS 03 07 38.8 -0.4**
TLY *e*SS SS 03 13 00.1 -1.1
TLY pmax pmax
comp=Z,47nm,0.9s
TLY Talaya 99.73 340 IAMs_20 IAMs_20 03 39 47.2
comp=Z,4µm,22.0s
JNU Nakatsue 99.98 313 LR LR 03 34 32.4
comp=Z,2µm,19.9s,baz=62,slow=32
VSR Storozhevoye 100.08 20 *e*P **Pdif 02 54 39.0 -0.2**
VSR pmax pmax
comp=Z,9.0nm,1.2s
VSR MLR MLR
comp=Z,6µm,16.0s
FOZ Fox Glacier 100.30 227 IAMs_20 IAMs_20 03 29 23.5
comp=Z,4µm,22.0s
ODZ Otahua Downs 100.35 225 IAMs_20 IAMs_20 03 33 07.4
comp=Z,5µm,18.0s
LBZ Lake Benmore 100.39 226 IAMs_20 IAMs_20 03 31 27.6
comp=Z,6µm,19.0s
VRH Novokhopyorsk 100.86 19 *e*P **Pdif 02 54 42.6 0.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,6µm,18.0s
ZAA0 Zalesovo Array 101.73 352 IAMs_20 IAMs_20 03 44 55.2
comp=Z,5µm,21.0s
ZALV Zalesovo Beam 101.73 352 P **Pdif 02 54 46.2 -0.2**
comp=Z,0.7nm,0.6s,baz=1.9,slow=4.3,SNR=1.5
ULN Ulaanbaatar 101.84 336⇑ *e*P **Pdif 02 54 50.7 +3.4**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN MLR MLR
comp=Z,7µm,21.0s
ULN Ulaanbaatar 101.84 336 IAMs_20 IAMs_20 03 43 51.6
comp=Z,7µm,22.0s
DL2 Dalian 101.96 322 *e*P **Pdif 02 54 49.2 +1.4**
DL2 S **Sdif 03 06 32.5 +1.8**
DL2 pmax pmax
comp=Z,260nm,5.7s
DL2 LR LR
comp=Z,2µm,15.3s
DL2 LR LR
comp=Z,1µm,15.3s
DL2 LR LR
comp=Z,2µm,20.6s
SONM Songino Array 102.11 337 P **Pdif 02 54 48.3 -0.2**
comp=Z,0.6nm,0.6s,baz=90,slow=2.9,SNR=2.4
SONM PKKPbc **PKKPbc 03 10 52.7 0.0**
comp=Z,0.4nm,0.4s,baz=211,slow=1.7,SNR=4.0
TOC7 Torodi Ar. Sit 102.54 69 IAMs_20 IAMs_20 03 39 11.4
comp=Z,7µm,21.0s
TOB5 Torodi Ar. Sit 102.55 69 IAMs_20 IAMs_20 03 39 11.6
comp=Z,7µm,20.0s
TOB1 Torodi Ar. Sit 102.55 69 IAMs_20 IAMs_20 03 39 11.8
comp=Z,7µm,21.0s
TOB4 Torodi Ar. Sit 102.56 70 IAMs_20 IAMs_20 03 39 12.9
comp=Z,7µm,21.0s
TOC1 Torodi Ar. Sit 102.56 69 IAMs_20 IAMs_20 03 39 11.8
comp=Z,8µm,21.0s
TOA0 Torodi Ar. Sit 102.56 69 IAMs_20 IAMs_20 03 39 13.0
comp=Z,7µm,21.0s
TORD Torodi Ar. Bea 102.56 69 P **Pdif 02 54 51.4 +0.5**
comp=Z,1.2nm,1.1s,baz=267,slow=5.4,SNR=3.5
TORD PP **PKiKP 02 59 09.2 -3.0**
comp=Z,1.6nm,1.0s,baz=303,slow=7.8,SNR=4.2
TORD PKKP **PKKPdf 03 10 57.5 0.0**
comp=Z,1.3nm,1.0s,baz=138,slow=2.9,SNR=4.2
TORD Torodi Ar. Bea 102.56 69 **Pdif 02 54 50.2 -0.7**
TOA3 Torodi Ar. Sit 102.56 69 IAMs_20 IAMs_20 03 39 13.0
comp=Z,7µm,20.0s
TOA2 Torodi Ar. Sit 102.57 69 IAMs_20 IAMs_20 03 39 13.1
comp=Z,7µm,21.0s
TOB3 Torodi Ar. Sit 102.57 69 IAMs_20 IAMs_20 03 39 12.3
comp=Z,7µm,21.0s
TOC4 Torodi Ar. Sit 102.58 70 IAMs_20 IAMs_20 03 39 12.4
comp=Z,7µm,21.0s
TOC2 Torodi Ar. Sit 102.58 69 IAMs_20 IAMs_20 03 39 12.5
comp=Z,7µm,20.0s
TOC3 Torodi Ar. Sit 102.59 69 IAMs_20 IAMs_20 03 39 12.7
comp=Z,7µm,21.0s
PYZ Puysegur Point 103.35 225 IAMs_20 IAMs_20 03 33 09.8
comp=Z,6µm,20.0s
BVAR Borovoye Array 103.51 1 Pdiff **Pdif 02 54 55.4 +1.0**
comp=Z,1.0nm,0.7s,baz=76,slow=6.5,SNR=6.0
BVAR PKKPbc **PKKPbc 03 10 48.3 -0.3**
comp=Z,0.3nm,0.4s,baz=194,slow=12,SNR=4.2
MANU Manus Island 103.75 274 IAMs_20 IAMs_20 03 34 25.9
comp=Z,3µm,20.0s
BJT Baijiatuao 104.08 326 IAMs_20 IAMs_20 03 51 36.0
comp=Z,3µm,19.0s
AKTO Aktyubinsk 105.15 9 PP **PP 02 59 23.6 +2.3**
comp=Z,1.3nm,0.8s,baz=332,slow=12,SNR=3.2
KURBB Kurchatov Arra 105.66 355 PP **PP 02 59 27.6 +2.4**
comp=Z,2.5nm,1.1s,baz=3.2,slow=7.0,SNR=4.8
KURBB PKKPab **PKKPab 03 11 00.0 -1.1**
comp=Z,0.9nm,0.8s,baz=198,slow=3.8,SNR=4.7
SANT Santorini 106.05 37 IAMs_20 IAMs_20 03 43 39.0
comp=Z,5µm,20.0s
IDI Anoyia 106.51 38 IAMs_20 IAMs_20 03 47 54.3
comp=Z,3µm,19.0s
BRZS Berezniki 106.55 359 *e*LR LR 03 46 19.6
comp=Z,1µm,15.6s
ILGA Ilgaz 106.57 29 IAMs_20 IAMs_20 03 49 44.5
comp=Z,7µm,20.0s
ANTO Ankara 107.10 30 IAMs_20 IAMs_20 03 51 30.7
comp=Z,5µm,18.0s
KARP Karpathos 107.59 37 IAMs_20 IAMs_20 03 45 35.8
comp=Z,7µm,20.0s
SSE Sheshan 107.59 317 Pdif **Pdif 02 55 16.4 +3.4**
SSE SS SS 03 14 54.1 +3.5
SSE LR LR
comp=Z,900nm,19.0s
SSE LR LR
comp=Z,1µm,16.5s
SSE LR LR
comp=Z,1µm,18.2s
KIV Kislovodsk 107.59 21 IAMs_20 IAMs_20 03 42 35.5
comp=Z,6µm,21.0s
BRTR Keskin Array B 107.61 30 PP **PP 02 59 44.0 +3.8**
comp=Z,0.9nm,0.9s,baz=280,slow=7.1,SNR=4.0
SHEL Horse Pasture 107.71 100 IAMs_20 IAMs_20 03 45 55.5
comp=Z,3µm,18.0s
ZSN Zaisan 108.08 350 *e*LR LR 03 48 39.0
TOKA Tokat 108.36 28 IAMs_20 IAMs_20 03 48 09.0
comp=Z,5µm,20.0s
AKAS Kas 108.38 35 IAMs_20 IAMs_20 03 46 57.7
comp=Z,4µm,20.0s
EIDS Eidsvold 108.70 250 IAMs_20 IAMs_20 03 35 44.2
comp=Z,5µm,20.0s
MKAR Makanchi Array 109.08 352 PKiKP **PKiKP 02 59 24.1 +0.5**
comp=Z,3.0nm,1.2s,baz=31,slow=3.4,SNR=4.0
MKAR PKKPbc **PKKPbc 03 10 30.7 -0.7**
comp=Z,1.1nm,0.8s,baz=203,slow=4.6,SNR=5.5

MAKZ	**Makanchi**		**109.10**	**352**	IAMs_20	IAMs_20	03 49 50.0			
	comp=Z,6μm,20.0s									
MAK	**Makhachkala**		**110.00**	**19**	*e*P	**Pdif**	**02 55 18.7**	**-4.8**		
MAK					*e*		02 59 53.2			
MAK					*e*PPP	PPP	03 02 12.9			
MAK					*e*		03 05 55.7			
MAK					*e*PS	**PS**	**03 09 28.3**	**+2.1**		
MAK					*e*SS	SS	03 15 19.4	-2.3		
MAK					*e*SSS	SSS	03 19 25.0			
MAK					pmax	pmax				
	comp=Z,224nm,1.3s									
AKH	**Akhalkalaki**		**110.13**	**22**	IAMs_20	IAMs_20	03 47 48.5			
	comp=Z,6μm,20.0s									
KOPT	**Kop Dagi**		**110.25**	**25**	IAMs_20	IAMs_20	03 50 50.9			
	comp=Z,4μm,18.0s									
WMQ	**Urumqi**		**111.10**	**347**	*e*PKP	**PKiKP**	**02 59 27.8**	**+0.3**		
WMQ					LR	LR				
	comp=Z,3μm,19.5s									
WMQ					LR	LR				
	comp=Z,2μm,18.7s									
WMQ					LR	LR				
	comp=Z,2μm,21.7s									
TDK	**Taldyqorghan**		**111.25**	**355**	*e*LR	LR	03 48 12.4			
	comp=Z,4μm,18.7s									
CSS	**Mathiatis**		**111.27**	**33**	IAMs_20	IAMs_20	03 50 27.1			
	comp=Z,4μm,19.0s									
CTAO	**Charters Tower**		**111.30**	**257**	IAMs_20	IAMs_20	03 37 10.0			
	comp=Z,4μm,21.0s									
GAZ	**Gaziantep**		**111.30**	**29**	IAMs_20	IAMs_20	03 50 26.8			
	comp=Z,4μm,19.0s									
BTLS	**Baital**		**111.47**	**358**	*e*LR	LR	03 50 08.2			
	comp=Z,2μm,16.5s									
YHNB	**Yeheng**		**111.75**	**311**	IAMs_20	IAMs_20	03 56 04.6			
	comp=Z,3μm,20.0s									
GTA	**Gaotai**		**111.78**	**337**	*e*PKP	**PKiKP**	**02 59 29.6**	**+0.6**		
GTA					AMB	AMB				
	comp=Z,280nm,5.7s									
GTA					LR	LR				
	comp=Z,2μm,24.7s									
GTA					LR	LR				
	comp=Z,3μm,20.4s									
GTA					LR	LR				
	comp=Z,4μm,24.3s									
NACB	**Ninganchiao**		**111.92**	**311**	IAMs_20	IAMs_20	03 44 14.3			
	comp=Z,3μm,20.0s									
COEN	**Coen**		**112.06**	**264**	IAMs_20	IAMs_20	03 40 24.1			
	comp=Z,6μm,20.0s									
XAN	**Xi'an**		**112.37**	**327**	IAMs_20	IAMs_20	03 55 16.4			
	comp=Z,3μm,19.0s									
KUU	**Kurty**		**112.51**	**356**	*e*LR	LR	03 51 21.6			
	comp=Z,3μm,16.0s									
SSLB	**Suanglung**		**112.61**	**311**	IAMs_20	IAMs_20	03 45 57.7			
	comp=Z,3μm,20.0s									
KPKS	**Kokpek**		**112.75**	**354**	*e*LR	LR	03 52 29.1			
	comp=Z,4μm,16.8s									
SHLS	**Shalkode**		**112.98**	**354**	*e*LR	LR	03 52 15.8			
	comp=Z,1μm,15.4s									
SGDS	**Sogindy**		**113.03**	**358**	*e*LR	LR	03 49 42.7			
	comp=Z,1μm,15.8s									
UZB	**Uzynbulak**		**113.04**	**354**	*e*LR	LR	03 49 30.2			
	comp=Z,2μm,15.1s									
LZH	**Lanzhou**		**113.06**	**332**	*e*PKP	**PKiKP**	**02 59 27.9**	**-3.7**		
LZH					PP	**PP**	**03 00 21.6**	**+2.1**		
LZH					SKKS		03 07 09.4			
LZH					SS	**SS**	**03 15 58.4**	**-5.0**		
LZH					LR	LR				
	comp=Z,4μm,24.4s									
LZH					LR	LR				
	comp=Z,2μm,17.9s									
LZH					LR	LR				
	comp=Z,4μm,29.3s									
CAN	**Canberra**		**113.14**	**240**	IAMs_20	IAMs_20	03 35 53.0			
	comp=Z,4μm,22.0s									
AAA	**Alma-Ata**		**113.15**	**356**	*e*LR	LR	03 49 41.1			
	comp=Z,3μm,17.8s									
SATY	**Saty**		**113.18**	**354**	*e*LR	LR	03 53 22.2			
	comp=Z,2μm,16.4s									
MDOK	**Medeo**		**113.19**	**356**	*e*LR	LR	03 50 41.1			
	comp=Z,3μm,22.0s									
BRLS	**Boroldoy**		**113.50**	**1**	*e*LR	LR	03 50 20.7			
DZA	**Taraz**		**113.65**	**0**	*e*LR	LR	03 50 45.7			
QSPA	**South Pole Qui**		**113.67**	**180**	IAMs_20	IAMs_20	03 39 06.9			
	comp=Z,3μm,19.0s									
MMAI	**Mount Meron Ar**		**113.86**	**33**	PKKPab	PKKPab	03 10 23.5	-0.8		
	comp=Z,2.9nm,0.8s,baz=173,slow=6.3,SNR=3.7									
ENH	**Enshi**		**115.05**	**324**	IAMs_20	IAMs_20	03 57 10.5			
	comp=Z,3μm,18.0s									
TAU	**Tasmania Unive**		**115.91**	**232**	IAMs_20	IAMs_20	03 42 26.7			
	comp=Z,4μm,18.0s									
TOO	**Toolangi**		**116.37**	**238**	IAMs_20	IAMs_20	03 44 16.6			
	comp=Z,4μm,19.0s									
GEYT	**Alibeck**		**117.33**	**12**	PKP	**PKiKP**	**02 59 38.9**	**-0.7**		
	comp=Z,2.6nm,0.7s,baz=288,slow=4.0,SNR=3.0									
CD2	**Chengdu**		**117.43**	**329**	PKP	**PKPdf**	**02 59 36.6**	**-3.4**		
CD2					PP	**PP**	**03 00 49.5**	**-0.8**		
CD2					SKS	**SKSdf**	**03 06 51.3**	**-1.6**		
CD2					SS	**SS**	**03 17 00.3**	**-0.5**		
CD2					AMB	AMB				
	comp=Z,280nm,5.7s									
CD2					LR	LR				
	comp=Z,4μm,19.6s									
CD2					LR	LR				
	comp=Z,4μm,18.1s									
CD2					LR	LR				
	comp=Z,4μm,18.6s									
GAR	**Garm**		**117.53**	**1**	PKPdf	**PKPdf**	**02 59 38.6**	**-1.4**		
HKPS	**Hong Kong Po S**		**118.22**	**315**	IAMs_20	IAMs_20	03 58 58.5			
	comp=Z,2μm,18.0s									
STKA	**Stephens Creek**		**118.43**	**245**	PKP	**PKiKP**	**02 59 42.5**	**+0.8**		
	comp=Z,2.1nm,0.7s,baz=24,slow=2.8,SNR=2.9									
STKA	**Stephens Creek**		**118.43**	**245**	PKIKP	**PKiKP**	**02 59 42.4**	**+0.7**		
STKA	**Stephens Creek**		**118.43**	**245**		**PKiKP**	**02 59 42.4**	**+0.7**		
GYA	**Guiyang**		**119.57**	**324**	*e*PKP	**PKiKP**	**02 59 50.8**	**+6.4**		
GYA					PP	**PP**	**03 01 09.8**	**+4.4**		
GYA					SKKS		03 08 08.1			
GYA	**Guiyang**		**119.57**	**324**	SS	SS	03 17 27.9	-1.1		
GYA					AMB	AMB				
	comp=Z,250nm,5.4s									
GYA					LR	LR				
	comp=N,1μm,17.9s									
GYA					LR	LR				
	comp=E,2μm,20.5s									
GYA					LR	LR				
	comp=Z,2μm,21.6s									
TNTI	**Ternate**		**120.56**	**286**	IAMs_20	IAMs_20	03 42 45.4			
	comp=Z,3μm,22.0s									
HRA	**Herat**		**121.48**	**9**	IAMs_20	IAMs_20	03 57 58.2			
	comp=Z,6μm,20.0s									
WR0	**Warramunga Arr**		**121.78**	**261**	IAMs_20	IAMs_20	03 41 59.4			
	comp=Z,4μm,22.0s									
WR9	**Warramunga Arr**		**121.80**	**261**	IAMs_20	IAMs_20	03 40 52.2			
	comp=Z,3μm,21.0s									
WR8	**Warramunga Arr**		**121.82**	**261**	IAMs_20	IAMs_20	03 43 47.6			
	comp=Z,3μm,22.0s									
WR7	**Warramunga Arr**		**121.84**	**261**	IAMs_20	IAMs_20	03 42 02.2			
	comp=Z,4μm,22.0s									
WR6	**Warramunga Arr**		**121.86**	**261**	IAMs_20	IAMs_20	03 42 12.7			
	comp=Z,4μm,22.0s									
WB0	**Warramunga Arr**		**121.86**	**261**	PKPdf	**PKPdf**	**02 59 47.6**	**-1.0**		
WB0					IAMs_20	IAMs_20	03 45 44.8			
	comp=Z,4μm,20.0s									
WB9	**Warramunga Arr**		**121.88**	**261**	IAMs_20	IAMs_20	03 45 56.2			
	comp=Z,5μm,21.0s									
WR5	**Warramunga Arr**		**121.88**	**261**	IAMs_20	IAMs_20	03 42 02.2			
	comp=Z,3μm,21.0s									
WB8	**Warramunga Arr**		**121.89**	**261**	IAMs_20	IAMs_20	03 45 55.4			
	comp=Z,4μm,21.0s									
WR4	**Warramunga Arr**		**121.90**	**261**	IAMs_20	IAMs_20	03 42 03.8			
	comp=Z,4μm,22.0s									
WB6	**Warramunga Arr**		**121.91**	**261**	IAMs_20	IAMs_20	03 45 57.0			
	comp=Z,4μm,21.0s									
WB5	**Warramunga Arr**		**121.92**	**261**	IAMs_20	IAMs_20	03 45 56.2			
	comp=Z,3μm,22.0s									
WR3	**Warramunga Arr**		**121.92**	**261**	IAMs_20	IAMs_20	03 42 03.2			
	comp=Z,4μm,22.0s									
WB4	**Warramunga Arr**		**121.93**	**261**	IAMs_20	IAMs_20	03 55 08.6			
	comp=Z,3μm,18.0s									
WC2	**Warramunga Arr**		**121.93**	**261**	IAMs_20	IAMs_20	03 43 50.6			
	comp=Z,4μm,22.0s									
WC3	**Warramunga Arr**		**121.93**	**261**	IAMs_20	IAMs_20	03 42 04.7			
	comp=Z,4μm,22.0s									
WB3	**Warramunga Arr**		**121.94**	**261**	IAMs_20	IAMs_20	03 42 04.8			
	comp=Z,4μm,21.0s									
WR2	**Warramunga Arr**		**121.94**	**261**	IAMs_20	IAMs_20	03 42 41.8			
	comp=Z,4μm,22.0s									
KBL	**Kabul**		**121.94**	**2**	IAMs_20	IAMs_20	03 55 38.8			
	comp=Z,6μm,22.0s									
WRAB	**Tennant Creek**		**121.95**	**261**	*i* PKIKP	**PKiKP**	**02 59 49.4**	**+0.5**		
WRAB					MLR	MLR				
	comp=Z,3μm,17.0s									
WRAB	**Tennant Creek**		**121.95**	**261**	IAMs_20	IAMs_20	03 42 16.8			
	comp=Z,4μm,22.0s									
WB2	**Warramunga Arr**		**121.95**	**261**	IAMs_20	IAMs_20	03 42 17.1			
	comp=Z,5μm,22.0s									
WC1	**Warramunga Arr**		**121.95**	**261**	IAMs_20	IAMs_20	03 42 05.2			
	comp=Z,3μm,20.0s									
WB1	**Warramunga Ar.**		**121.96**	**261**	IAMs_20	IAMs_20	03 43 51.3			
	comp=Z,4μm,22.0s									
WR1	**Warramunga Arr**		**121.96**	**261**	IAMs_20	IAMs_20	03 42 16.3			
	comp=Z,4μm,22.0s									
WRA	**Warramunga Arr**		**121.96**	**261**	PKhKP	PKPpre	02 59 43.5			
	comp=Z,3.9nm,1.0s,baz=79,slow=1.7,SNR=18									
WRA					PKP	**PKPdf**	**02 59 48.0**	**-0.8**		
	comp=Z,3.7nm,1.0s,baz=68,slow=1.6,SNR=17									
WRA					PKKPab	**PKKPab**	**03 09 52.4**	**+6.1**		
	comp=Z,0.9nm,0.9s,baz=260,slow=2.6,SNR=5.7									
NVL	**N'lazarevskaya**		**122.12**	**160**	*e*PKIKP	PKiKP	02 59 56.3	+8.6		
NVL					*e*SS	SS	03 18 22.0	+21		
NVL					pmax	pmax				
	comp=Z,9.0nm,0.7s									
KMI	**Kunming**		**122.72**	**326**	IAMs_20	IAMs_20	04 01 02.6			
	comp=Z,4μm,20.0s									
BBOO	**Buckleboo**		**123.20**	**245**	IAMs_20	IAMs_20	03 43 08.0			
	comp=Z,4μm,20.0s									
ASAR	**Alice Springs**		**123.30**	**256**	PKhKP	PKPpre	02 59 45.6			
	comp=Z,3.7nm,1.0s,baz=75,slow=2.1,SNR=4.3									
ASAR					PKP	**PKPdf**	**02 59 50.4**	**-1.0**		
	comp=Z,3.7nm,1.0s,baz=90,slow=2.2,SNR=14									
ASAR					PP	**PP**	**03 01 38.0**	**+5.8**		
	comp=Z,4.0nm,1.2s,baz=72,slow=5.9,SNR=4.9									
ASAR					PKKPab	**PKKPbc**	**03 09 44.3**	**+3.7**		
	comp=Z,0.6nm,0.9s,baz=242,slow=4.0,SNR=2.3									
ASAR	**Alice Springs**		**123.30**	**256**	PKIKP	**PKiKP**	**02 59 51.1**	**-0.5**		
ASAR	**Alice Springs**		**123.30**	**256**		**PKiKP**	**02 59 51.0**	**-0.5**		
QIZ	**Qiongzhong**		**123.34**	**315**	PKP	**PKPdf**	**02 59 50.8**	**-0.7**		
QIZ					PP	**PP**	**03 01 30.6**	**-0.6**		
QIZ					SS	SS	03 18 17.4	-0.1		
QIZ					LR	LR				
	comp=Z,2μm,15.9s									
QIZ					LR	LR				
	comp=Z,1μm,19.8s									
QIZ					LR	LR				
	comp=Z,2μm,18.1s									
QIZ	**Qiongzhong**		**123.34**	**315**	IAMs_20	IAMs_20	04 04 57.0			
	comp=Z,3μm,18.0s									
LSA	**Lhasa**		**123.56**	**339**	IAMs_20	IAMs_20	03 57 58.6			
	comp=Z,3μm,22.0s									
SLVN	**Son La**		**125.16**	**322**	IAMs_20	IAMs_20	03 59 34.1			
	comp=Z,3μm,21.0s									
SHL	**Shillong**		**127.11**	**337**	IAMs_20	IAMs_20	04 02 38.7			
	comp=Z,4μm,20.0s									
KKM	**Kota Kinabalu**		**127.25**	**298**	IAMs_20	IAMs_20	03 48 02.8			
	comp=Z,2μm,22.0s									
SOEI	**Soe**		**127.86**	**276**	IAMs_20	IAMs_20	03 49 47.9			
	comp=Z,5μm,21.0s									
MMRI	**Maumere**		**129.27**	**278**	IAMs_20	IAMs_20	03 50 39.0			
	comp=Z,3μm,21.0s									
DLV	**T Lat**		**129.31**	**310**	IAMs_20	IAMs_20	04 08 31.1			
	comp=Z,2μm,19.0s									
UOSS	**Minazif**		**129.34**	**18**	IAMs_20	IAMs_20	04 00 15.2			
	comp=Z,4μm,22.0s									
TSUM	**Tsumeb**		**129.87**	**96**	IAMs_20	IAMs_20	03 52 42.5			
	comp=Z,3μm,21.0s									
CHTO	**Chiang Mai**		**129.90**	**325**	IAMs_20	IAMs_20	04 07 16.8			
	comp=Z,2μm,20.0s									
CMAR	**Chiang Mai Arr**		**130.19**	**325**	PKP	**PKiKP**	**03 00 05.8**	**+0.4**		
	comp=Z,3.0nm,0.8s,baz=326,slow=2.0,SNR=4.9									
CMAR	**Chiang Mai Arr**		**130.19**	**325**	PKIKP	**PKiKP**	**03 00 04.7**	**-0.8**		
CMAR	**Chiang Mai Arr**		**130.19**	**325**	PKPdf	**PKiKP**	**03 00 04.7**	**-0.8**		
BKB	**Balikpapan**		**130.68**	**290**	IAMs_20	IAMs_20	03 53 52.5			
	comp=Z,2μm,20.0s									
SYO	**Syowa Base**		**130.87**	**165**	*e*P	PKiKP	03 00 13.2	+8.0		
CASY	**Casey**		**130.89**	**200**	PKPdf	**PKiKP**	**03 00 06.2**	**+0.8**		
CASY	**Casey**		**130.89**	**200**	IAMs_20	IAMs_20	03 46 13.2			
	comp=Z,5μm,22.0s									
WSAR	**Wadi Sarin**		**131.61**	**16**	PKP	**PKiKP**	**03 00 08.0**	**-0.3**		
	comp=Z,3.5nm,0.8s,baz=302,slow=4.0,SNR=2.8									
DAMY	**Dhamar**		**133.57**	**38**	IAMs_20	IAMs_20	04 08 48.1			
	comp=Z,2μm,20.0s									
FURI	**Furi**		**134.35**	**48**	IAMs_20	IAMs_20	03 58 50.7			
	comp=Z,4μm,22.0s									
KSM	**Kuching**		**134.69**	**298**	IAMs_20	IAMs_20	03 48 55.0			
	comp=Z,2μm,21.0s									
SUR	**Sutherland**		**134.82**	**113**	IAMs_20	IAMs_20	03 58 58.9			
	comp=Z,3μm,20.0s									
ATD	**Arta Tunnel**		**135.09**	**42**	IAMs_20	IAMs_20	03 58 52.7			
	comp=Z,3μm,20.0s									
PSAC2	**Pilbara Seismi**		**135.45**	**263**	IAMs_20	IAMs_20	03 51 54.7			
	comp=Z,4μm,22.0s									
PSAB2	**Pilbara Seismi**		**135.48**	**263**	IAMs_20	IAMs_20	03 51 43.6			
	comp=Z,4μm,22.0s									
PSAD1	**Pilbara Seismi**		**135.49**	**263**	IAMs_20	IAMs_20	03 51 53.8			
	comp=Z,4μm,22.0s									
PSAA3	**Pilbara Seismi**		**135.49**	**263**	IAMs_20	IAMs_20	03 51 44.9			
	comp=Z,5μm,22.0s									
PSAB3	**Pilbara Seismi**		**135.50**	**263**	IAMs_20	IAMs_20	03 51 56.0			
	comp=Z,5μm,21.0s									
PSAA2	**Pilbara Seismi**		**135.50**	**263**	IAMs_20	IAMs_20	03 51 33.0			
	comp=Z,5μm,22.0s									
PSA00	**Pilbara Seismi**		**135.50**	**263**	IAMs_20	IAMs_20	03 51 55.1			
	comp=Z,5μm,22.0s									
PSAA1	**Pilbara Seismi**		**135.51**	**263**	IAMs_20	IAMs_20	03 51 56.3			
	comp=Z,4μm,20.0s									
MBWA	**Marble Bar**		**135.51**	**263**	IAMs_20	IAMs_20	03 51 37.5			
	comp=Z,5μm,22.0s									
PSAB1	**Pilbara Seismi**		**135.52**	**263**	IAMs_20	IAMs_20	03 52 18.6			
	comp=Z,5μm,22.0s									
PSAC1	**Pilbara Seismi**		**135.52**	**263**	IAMs_20	IAMs_20	03 51 44.7			
	comp=Z,5μm,22.0s									
PSAC3	**Pilbara Seismi**		**135.53**	**263**	IAMs_20	IAMs_20	03 51 44.8			
	comp=Z,5μm,22.0s									
PSAD3	**Pilbara Seismi**		**135.57**	**263**	IAMs_20	IAMs_20	03 51 47.1			
	comp=Z,5μm,22.0s									
MAW	**Mawson**		**135.85**	**175**	PKP	**PKPdf**	**03 00 13.5**	**-0.2**		
	comp=Z,6.2nm,0.9s,baz=273,slow=4.7,SNR=8.6									
MAW	**Mawson**		**135.85**	**175**	PKIKP	**PKiKP**	**03 00 15.3**	**0.0**		
MAW	**Mawson**		**135.85**	**175**	PKPdf	**PKiKP**	**03 00 15.3**	**0.0**		
CHLP	**Challavanipeta**		**136.21**	**343**	*e*PP	PP	03 02 51.3	-3.0		
CHLP						IVMs_BB	IVMs_BB	04 06 55.9		
	comp=Z,588nm,21.6s									
JAGI	**Jajag, Banyuwa**		**136.48**	**283**	IAMs_20	IAMs_20	03 56 42.5			
	comp=Z,3μm,21.0s									
RPR	**Rampur**		**136.94**	**349**	*e*PP	PP	03 02 55.1	-3.6		
RPR						IVMs_BB	IVMs_BB	04 09 24.4		
	comp=Z,825nm,15.2s									
GGR	**Gangavaram**		**137.78**	**348**	*e*PP	PP	03 03 00.5	-3.6		
GGR						IVMs_BB	IVMs_BB	04 10 18.1		
	comp=Z,762nm,16.0s									
PVM	**Polavaram**		**138.03**	**345**	*e*PP	PP	03 03 00.8	-4.7		
PVM						IVMs_BB	IVMs_BB	04 04 11.3		
	comp=Z,659nm,23.8s									
KLRI	**Killari**		**138.10**	**353**	*e*PP	PP	03 03 01.6	-4.4		
KLRI						IVMs_BB	IVMs_BB	04 05 18.6		
	comp=Z,1μm,20.5s									
BOSA	**Boshof**		**138.43**	**107**	PKP	**PKPdf**	**03 00 17.4**	**-2.5**		
	comp=Z,2.5nm,0.8s,baz=318,slow=0.8,SNR=3.6									
LSZ	**Lusaka**		**138.45**	**86**	PKIKP	**PKPdf**	**03 00 19.8**	**-0.4**		
LSZ					MLR	MLR				
	comp=Z,3μm,20.0s									
LSZ	**Lusaka**		**138.45**	**86**		**PKPdf**	**03 00 19.8**	**-0.4**		
LSZ	**Lusaka**		**138.45**	**86**	IAMs_20	IAMs_20	04 03 29.4			
	comp=Z,3μm,20.0s									
HYBB	**Hyderabad (bro**		**138.47**	**350**	*e*PP	PP	03 03 05.5	-2.8		
HYBB						IVMs_BB	IVMs_BB	04 08 59.3		
	comp=Z,874nm,21.4s									
MYLAV	**Mylavaram**		**138.73**	**347**	*e*PP	PP	03 03 07.3	-2.6		
MYLAV						IVMs_BB	IVMs_BB	04 10 19.3		
	comp=Z,978nm,16.5s									
NWAO	**Narrogin (SRO)**		**139.00**	**247**	IAMs_20	IAMs_20	03 53 26.3			
	comp=Z,4μm,22.0s									
NJS	**Nagarjunasagar**		**139.18**	**348**	*e*PP	PP	03 03 10.0	-2.7		
NJS						IVMs_BB	IVMs_BB	04 08 56.1		
	comp=Z,567nm,17.1s									
KULM	**Kulim**		**139.45**	**312**	IAMs_20	IAMs_20	04 15 23.7			
	comp=Z,3μm,18.0s									
MYKOM	**Kota Tinggi**		**139.55**	**304**	IAMs_20	IAMs_20	04 13 37.7			
	comp=Z,3μm,20.0s									
SRLM	**Srisailam**		**139.70**	**349**	*e*PP	PP	03 03 11.2	-4.8		
SRLM						IVMs_BB	IVMs_BB	04 07 56.9		
	comp=Z,780nm,20.2s									
ADKI	**Addanki**		**139.75**	**347**	*e*PP	PP	03 03 11.9	-4.3		
SOCY	**Socotra**		**140.36**	**27**	IAMs_20	IAMs_20	04 10 53.5			
	comp=Z,2μm,21.0s									
URV	**Uravakonda**		**141.09**	**351**	*e*PP	PP	03 03 21.9	-2.5		
URV						IVMs_BB	IVMs_BB	04 07 56.9		
	comp=Z,742nm,22.6s									
PMBI	**Palembang**		**141.74**	**298**	IAMs_20	IAMs_20	04 11 06.0			
	comp=Z,2μm,20.0s									
SKHT	**Srikalahasti**		**141.84**	**347**	*e*PP	PP	03 03 24.9	-4.1		
SKHT						IVMs_BB	IVMs_BB	04 10 31.0		
	comp=Z,814nm,19.4s									
LHMI	**Lhok Sumawe**		**141.94**	**316**	IAMs_20	IAMs_20	04 16 19.6			
	comp=Z,2μm,21.0s									
PSI	**Prapat**		**142.43**	**311**	PKP	**PKPdf**	**03 00 28.4**	**+0.8**		
	comp=Z,2.9nm,0.4s,baz=95,slow=13,SNR=4.8									
RPSI	**Rantau Prapat**		**142.51**	**311**		**PKPdf**	**03 00 28.4**	**+0.8**		
RPSI	**Rantau Prapat**		**142.51**	**311**	IAMs_20	IAMs_20	04 13 44.8			
	comp=Z,3μm,22.0s									
BKNI	**Bangkinang**		**142.62**	**306**	IAMs_20	IAMs_20	04 16 38.8			
	comp=Z,3μm,22.0s									
MNAI	**Manna**		**144.04**	**298**	IAMs_20	IAMs_20	03 59 26.9			
	comp=Z,2μm,21.0s									
GSI	**Gunungsitoli**		**144.44**	**311**	IAMs_20	IAMs_20	04 07 03.7			
	comp=Z,3μm,21.0s									
PALK	**Pallekele**		**147.84**	**343**	IAMs_20	IAMs_20	04 15 21.0			
	comp=Z,4μm,20.0s									
ABPO	**Ambohimpanom**		**156.93**	**83**	IAMs_20	IAMs_20	04 15 36.8			
	comp=Z,4μm,20.0s									
FOMA	**Nahampoana Res**		**157.65**	**98**	IAMs_20	IAMs_20	04 17 54.4			
	comp=Z,3μm,20.0s									

IDC 08 02:55:45.6±7.1, 24°.14N×108°.34W, h0km, mb1 3.5/3, mb1mx3.3/40, mbtmp3.0/3, ML3.3/3, Error ellipse: s-maj=86.2km s-min=34.4km az=157.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**5.85**	**205**	T	T	03 02 28.9	
	SNR=25						
TXAR	**Lajitas Array**	**6.65**	**38**	Pn	Pn	02 57 24.5	-0.2
	0.0nm,0.3s,baz=214,slow=13,SNR=2.6						
TXAR				Lg	Lg	02 59 15.4	
	0.1nm,0.3s,baz=219,slow=33,SNR=1.8						
NVAR	**Mina Array Bea**	**16.58**	**332**	Pn	P	02 59 42.4	-0.1
	0.0nm,0.3s,baz=153,slow=13,SNR=3.6						
PDAR	**Pinedale Array**	**18.61**	**357**	P	Pn	03 00 05.7	+0.7
	0.1nm,0.3s,baz=171,slow=12,SNR=2.4						
H03N2	**Juan Fernandez**	**63.74**	**153**	T	T	04 15 14.9	
	baz=329						
H03N1	**Juan Fernandez**	**63.75**	**153**	T	T	04 15 25.5	
	baz=329						
H03N3	**Juan Fernandez**	**63.76**	**153**	T	T	04 15 12.7	
	baz=329						

*IDC **08** 03:04:06.7±0.4, 30°.34N×41°.89W, h0km, mb4.6/46, mb1 4.7/46, mb1mx4.7/56, mbtmp4.6/46, MS5.4/17, Ms1 5.4/17, ms1mx5.2/39, Error ellipse: s-maj=12.4km s-min=9.2km az=142.0*

*MOS **08** 03:04:07.2±1.1, 30°.33N×41°.88W, h10km, mb5.3/98, Error ellipse: s-maj=7.6km s-min=4.1km az=47.5*

*NEIC **08** 03:04:08.4±1.1, 30°.31N±0°.09×41°.9W±0°.1, h10km±1km, mb5.1/358, Mwc5.6(GCMT), Error

E62A **Clayton Lake** 26.88 315 P **P** 03 09 51.9 +2.3
E62A IAmb IAmb 03 10 07.5
comp=Z,68nm,1.8s
G62A **West of Eustis** 26.91 312 P **P** 03 09 49.3 -0.6
baz=114
MDP **Montagnes des** 27.03 204 P **P** 03 09 52.0 +0.8
comp=Z,9.0nm,0.8s,baz=28,slow=7.4,SNR=5.2
F61A **St Evariste** 27.51 313 P **P** 03 09 56.7 +1.4
baz=115
H61A **Lyndonville** 27.57 309 P **P** 03 09 56.4 +0.6
baz=111
G61A **St-Isidore-de-** 27.58 311 P **P** 03 09 57.5 +1.6
baz=113
G60A **Masonville** 28.04 310 P **P** 03 10 00.9 +0.9
baz=112
F60A **Warwick** 28.12 312 P **P** 03 10 01.6 +0.9
baz=113
MORF **Marmelete** 28.41 67 *e*P P 03 10 09.3 +5.9
comp=Z,54nm,1.8s
M60A **Port Jervis** 28.56 302 P **P** 03 10 06.4 +1.7
baz=102
PNCL **Nicolau / Gran** 28.57 65 *e*P **P** 03 10 07.0 +2.2
comp=Z,38nm,1.9s
H59A **Cadyville** 28.79 309 P **P** 03 10 07.0 +0.3
baz=109
PCAS **Casmilo, Conde** 28.85 61 *e*P **P** 03 10 08.4 +1.1
comp=Z,94nm,1.7s
PCVE **Castro Verde** 28.92 66 *e*P **P** 03 10 08.5 +0.6
comp=Z,29nm,1.9s
PMTG **Montargil** 28.92 63 *e*P **P** 03 10 05.3 -2.6
comp=Z,46nm,1.8s
COI **Coimbra** 28.94 61 *e*P P 03 10 14.4 +6.3
comp=Z,57nm,1.4s
PBDV **Barranco-do-Ve** 28.98 67 *e*P **P** 03 10 07.5 -0.9
comp=Z,42nm,1.8s
EVO **Evora** 29.02 64 *e*P **P** 03 10 09.4 +0.6
comp=Z,38nm,1.6s
H58A **Gabriels** 29.05 308 P **P** 03 10 10.1 +1.0
baz=108
K59A **Cooperstown** 29.06 304 P **P** 03 10 10.1 +0.9
baz=105
PBEJ **Beja** 29.09 65 *e*P **P** 03 10 10.4 +1.0
comp=Z,42nm,1.4s
E58A **La Victoria** 29.13 312 P **P** 03 10 10.1 +0.4
baz=112
PCRV **Puerto La Cruz** 29.14 231 LR LR 03 21 23.5
comp=Z,4µm,19.5s,slow=36
PVAQ **Vaqueiros** 29.16 67 *e*P **P** 03 10 10.9 +0.9
comp=Z,26nm,1.7s
PVAQ *e*LQ LQ 03 15 39.9
PVAQ *e*LR LR 03 17 20.3
comp=Z,8µm,20.0s
D58A **Chemin du LacG** 29.16 314 P **P** 03 10 10.4 +0.4
baz=114
M59A **Waymart** 29.20 302 P **P** 03 10 11.0 +0.7
baz=102
PGAV **Gavieira, Arco** 29.38 57 *e*LQ LQ 03 14 45.5
PGAV *e*LR LR 03 20 49.3
comp=Z,12µm,22.0s
PCBR **Castelo Branco** 29.59 62 *e*P **P** 03 10 14.0 +0.1
comp=Z,43nm,1.9s
PMRV **Marv??o** 29.61 63 *e*P **P** 03 10 13.5 -0.5
comp=Z,37nm,1.5s
PMRV *e*LQ LQ 03 17 45.1
PMRV *e*LR LR 03 23 54.3
comp=Z,14µm,20.0s
PVRL **Vila Real** 29.65 59 *e*P **P** 03 10 14.9 +0.5
comp=Z,54nm,1.6s
BINY **Binghamton** 29.74 303 P **P** 03 10 16.1 +0.9
baz=102
D57A **Chemin Vers le** 29.77 313 P **P** 03 10 16.2 +0.9
baz=113
N58A **Sunbury** 30.02 300 P **P** 03 10 17.3 -0.4
baz=100
MVO **Moncorvo** 30.14 59 *e*LQ LQ 03 18 03.3
MVO *e*LR LR 03 22 04.3
comp=Z,14µm,20.0s
T59A **Double "B" Far** 30.29 292 P **P** 03 10 21.5 +1.5
baz=92
SCHQ **Schefferville** 30.32 331 P **P** 03 10 19.3 -0.8
comp=Z,5.4nm,0.4s,baz=127,slow=8.7,SNR=7.8
SCHQ LR LR 03 21 23.4
comp=Z,8µm,18.5s,baz=184,slow=34
SCHQ **Schefferville** 30.32 331 P **P** 03 10 19.5 -0.6
M57A **Sunshine Farm,** 30.41 301 P **P** 03 10 21.7 +0.6
baz=100
M57A **Sunshine Farm,** 30.41 301 P **P** 03 10 21.1 -0.1
M57A IAmb IAmb 03 10 28.9
comp=Z,19nm,1.0s
PBRG **Braganca** 30.47 58 *e*P **P** 03 10 19.1 -2.5
comp=Z,34nm,1.7s
R58B **Mineral** 30.59 294 P **P** 03 10 23.7 +1.0
baz=94,SNR=7.7
R58B **Mineral** 30.59 294 P **P** 03 10 22.0 -0.7
R58B IAmb IAmb 03 10 30.3
comp=Z,13nm,0.8s
N57A **Milroy** 30.64 300 P **P** 03 10 24.2 +1.1
baz=99
S58A **Poland Farm, P** 30.71 294 P **P** 03 10 24.5 +0.8
baz=93
R58A **Rapidan** 30.71 295 P **P** 03 10 24.6 +0.8
baz=94
D55A **Sainte-Anne-du** 30.77 312 P **P** 03 10 25.8 +1.6
baz=111
V59A **Middlesex** 30.82 290 P **P** 03 10 26.0 +1.2
baz=90
Y60A **Bolivia** 30.86 286 P **P** 03 10 25.2 +0.2
baz=87
Y60A **Bolivia** 30.86 286 P **P** 03 10 24.8 -0.3
SSPA **Standing Stone** 30.87 299 P **P** 03 10 26.0 +0.8
baz=98
U58A **Oxford** 31.07 291 P **P** 03 10 28.4 +1.5
baz=91
Q57A **Strasburg** 31.09 296 P **P** 03 10 28.6 +1.5
baz=95
R57A **Stanardsville** 31.12 295 P **P** 03 10 28.7 +1.3
baz=94
X59A **McDuffie Farm,** 31.15 288 P **P** 03 10 29.1 +1.4
baz=88
N56A **West Decatur** 31.22 300 P **P** 03 10 30.1 +1.8
baz=98
CHGQ **Chibougamau** 31.27 318 P **P** 03 10 29.7 +1.2
baz=117
Y59A **Loris** 31.40 287 P **P** 03 10 30.0 +0.2
baz=86
S57A **Dark Hollow, R** 31.43 294 P **P** 03 10 31.1 +1.0
baz=93
V58A **Windy Hill, Pi** 31.53 290 P **P** 03 10 32.2 +1.1
baz=89,SNR=6.9
V58A **Windy Hill, Pi** 31.53 290 P **P** 03 10 30.9 -0.1
V58A IAmb IAmb 03 10 35.1
comp=Z,16nm,0.9s
W58A **Raeford** 31.65 288 P **P** 03 10 31.7 -0.3
baz=88
M55A **Ridgway** 31.65 301 P **P** 03 10 32.6 +0.5
baz=99
Q56A **Snyder Ridge,** 31.69 296 P **P** 03 10 33.4 +1.0
baz=95
U57A **Blanch** 31.71 291 P **P** 03 10 33.7 +1.1
baz=90,SNR=6.1
R56A **Bull Pasture M** 31.82 295 P **P** 03 10 34.8 +1.1
baz=93
PAB **San Pablo** 31.96 63 P **P** 03 10 32.4 -2.5
PAB pmax pmax
comp=Z,23nm,1.2s
PAB **San Pablo** 31.96 63 P **P** 03 10 32.4 -2.5
PAB IAmb IAmb 03 10 42.7
comp=Z,22nm,1.1s
MCPB **Macapa, AP** 31.98 199 *e*P **P** 03 10 35.0 -0.1
V57A **Coltrane Farms** 32.07 290 P **P** 03 10 36.5 +0.8
baz=89,SNR=5.9
P55A **Reedsville** 32.23 297 P **P** 03 10 38.3 +1.2
baz=95
W57A **Gilead** 32.27 289 P **P** 03 10 38.7 +1.2
baz=88,SNR=5.7
W57A **Gilead** 32.27 289 P **P** 03 10 37.7 +0.3
ESDC **Sonseca Array** 32.27 63 P **P** 03 10 36.6 -0.9
comp=Z,6.2nm,1.1s,baz=262,slow=8.7,SNR=13
ESDC PcP **PcP** 03 13 26.0 +0.1
comp=Z,1.2nm,1.0s,baz=266,slow=3.8,SNR=3.5
ESDC **Sonseca Array** 32.27 63 P **P** 03 10 36.8 -0.7
ESDC **PcP** 03 13 25.6 -0.2
ESBB **Sonseca Array** 32.27 63 P **P** 03 10 36.9 -0.7
ESBB IAmb IAmb 03 10 45.4
comp=Z,30nm,1.4s
T56A **Rocky Mt** 32.27 292 P **P** 03 10 37.9 +0.4
baz=91

M54A **Oil Creek Stat** 32.33 301 P **P** 03 10 38.2 +0.3
baz=98
R55A **Marlinton** 32.38 295 P **P** 03 10 39.6 +1.1
baz=93
Q55A **Buckhannon** 32.39 296 P **P** 03 10 40.2 +1.7
baz=94
VLDQ **Val d'Or** 32.41 313 P **P** 03 10 40.4 +1.8
VLDQ IAmb IAmb 03 10 49.4
comp=Z,26nm,1.1s
N54A **Moraine State** 32.50 300 P **P** 03 10 41.5 +2.0
baz=97
NHSC **New Hope** 32.56 285 P **P** 03 10 41.7 +1.6
baz=84
BLA **Blacksburg** 32.58 293 P **P** 03 10 41.6 +1.3
baz=91
BLA **Blacksburg** 32.58 293 P **P** 03 10 40.4 +0.1
BLA pmax pmax
comp=Z,15nm,1.1s
BLA **Blacksburg** 32.58 293 P **P** 03 10 40.4 +0.1
V56A **Mocksville** 32.65 290 P **P** 03 10 42.3 +1.4
baz=89
Y57A **Sumter** 32.66 287 P **P** 03 10 42.3 +1.4
baz=86
S55A **Lewisburg** 32.66 294 P **P** 03 10 41.8 +0.9
baz=92
BIRD **Birdtown, Kers** 32.67 288 P **P** 03 10 41.2 +0.1
BIRD IAmb IAmb 03 10 51.9
comp=Z,22nm,1.3s
W56A **Indian Trail** 32.75 289 P **P** 03 10 43.3 +1.6
baz=88
L53A **Girard** 32.83 301 P **P** 03 10 43.8 +1.5
baz=98
Q54A **Coxs Mills** 32.97 296 P **P** 03 10 45.0 +1.4
baz=93
Z57A **Bowman** 32.98 285 P **P** 03 10 45.3 +1.6
baz=85
TMAB **Tom-Au,PA,Br** 33.02 191 *e*P **P** 03 10 44.4 +0.2
ROSB **Rosrio** 33.08 184 *e*P **P** 03 10 45.6 +0.9
U55A **TA2, Sparta** 33.09 291 P **P** 03 10 46.0 +1.3
baz=89
X56A **White Oak** 33.15 288 P **P** 03 10 46.4 +1.1
baz=86
V55A **Taylorsville** 33.24 290 P **P** 03 10 48.1 +2.1
baz=88
V55A **Taylorsville** 33.24 290 P **P** 03 10 46.3 +0.3
V55A IAmb IAmb 03 10 55.1
comp=Z,67nm,1.9s
KMSC **Kings Mountain** 33.36 289 P **P** 03 10 48.7 +1.6
baz=87
KMSC **Kings Mountain** 33.36 289 P **P** 03 10 47.4 +0.3
T54A **Tazewell** 33.51 292 P **P** 03 10 49.4 +1.0
baz=90
X55A **Gracelyn & Ava** 33.65 288 P **P** 03 10 50.4 +0.8
baz=86,SNR=5.1
U54A **Nelsons Funny** 33.71 291 P **P** 03 10 51.7 +1.5
baz=89
N52A **McGinn's Farm,** 33.76 299 P **P** 03 10 50.8 +0.2
baz=95
PAULI **Pauline** 33.78 288 P **P** 03 10 50.8 +0.1
PAULI IAmb IAmb 03 10 55.5
comp=Z,16nm,1.0s
R53A **Hurricane** 33.82 295 P **P** 03 10 51.9 +0.9
baz=92
V54A **Nebo** 33.84 290 P **P** 03 10 52.9 +1.7
baz=88
S53A **Williamson** 33.95 293 P **P** 03 10 53.8 +1.6
baz=90
W54A **Cherokee Point** 34.06 289 P **P** 03 10 56.0 +2.8
baz=87
MALB **Monte Alegre** 34.08 202 *e*P **P** 03 10 54.4 +1.0
MALB *e*pP **pwP** 03 10 56.3 -1.3
Q52A **Bidwell** 34.09 296 P **P** 03 10 55.5 +2.1
baz=92
M51A **Elyria** 34.19 300 P **P** 03 10 54.6 +0.5
baz=96
SDV **Santo Domingo** 34.26 238 *e*P **P** 03 10 55.7 +0.5
SDV **Santo Domingo** 34.26 238 P **P** 03 10 55.4 +0.1
SDV **Santo Domingo** 34.26 238 *e*P **P** 03 10 55.7 +0.5
SDV *e*pP **pwP** 03 10 58.7 -0.9
X54A **Belton** 34.26 288 P **P** 03 10 55.2 +0.3
baz=86
T53A **Wise** 34.27 292 P **P** 03 10 55.6 +0.5
baz=89
N51A **Ashland** 34.29 299 P **P** 03 10 56.3 +1.2
baz=95
CART **Cartagena** 34.50 67 P **P** 03 10 56.0 -0.9
255A **Hazlehurst** 34.63 283 P **P** 03 10 58.2 +0.1
255A IAmb IAmb 03 11 05.3
comp=Z,32nm,1.0s
BG3 **Lake Jocassee** 34.68 289 P **P** 03 10 58.5 -0.1
SJPF **Ste Jean** 34.70 57 *e*P **P** 03 11 02.1 +3.4
SJPF pmax pmax
comp=Z,42nm,1.5s
Q51A **Peebles** 34.93 296 P **P** 03 11 00.6 -0.1
Q51A IAmb IAmb 03 11 11.6
comp=Z,70nm,1.9s
TZTN **Tazewell** 35.10 291 P **P** 03 11 03.2 +1.0
baz=88
TZTN **Tazewell** 35.10 291 IAmb IAmb 03 11 10.2
comp=Z,46nm,1.6s
GOGA **Godfrey** 35.27 286 P **P** 03 11 03.9 +0.3
baz=84,SNR=5.6
GOGA **Godfrey** 35.27 286 P **P** 03 11 07.0 +3.4
TKL **Tuckaleechee C** 35.33 290 IAmb IAmb 03 11 12.5
comp=Z,46nm,1.7s
R50A **Paris** 35.69 295 IAmb IAmb 03 11 10.5
comp=Z,26nm,1.2s
EPF **Esparros** 35.83 57 *e*P **P** 03 11 10.0 +1.6
EPF pmax pmax
comp=Z,22nm,1.3s
P49A **Miami Univ. Ec** 36.00 297 P **P** 03 11 11.0 +1.1
baz=92
GRR **Gorron** 36.01 48 *e*P **P** 03 11 08.5 -1.3
GRR pmax pmax
comp=Z,65nm,1.5s
MFF **Saint Martin d** 36.06 51 *e*P **P** 03 11 10.7 +0.4
MFF pmax pmax
comp=Z,40nm,1.2s
T50A **Nancy** 36.12 292 P **P** 03 11 11.0 +0.1
T50A IAmb IAmb 03 11 20.0
comp=Z,77nm,1.9s
FLN **La Foliniere** 36.35 48 *e*P **P** 03 11 15.1 +2.4
FLN pmax pmax
comp=Z,111nm,1.9s
LFF **La Frestale** 36.38 54 *e*P **P** 03 11 13.7 +0.7
LFF pmax pmax
comp=Z,22nm,1.0s
352A **Blakely** 36.76 283 IAmb IAmb 03 11 24.9
comp=Z,22nm,0.8s
BORG **Borgarnes** 36.80 15 P **P** 03 11 16.3 0.0
comp=Z,19nm,1.0s,baz=214,slow=7.3,SNR=2.3
BORG **Borgarnes** 36.80 15 P **P** 03 11 15.9 -0.4
PAMC **Pamplona, Colo** 36.80 238 *e*P **P** 03 11 17.1 -0.4
SMLC **San Martn de** 36.87 241 *e*P **P** 03 11 16.7 -0.8
U49A **Red Boiling Sp** 36.90 292 P **P** 03 11 17.5 0.0
FPAL **Fort Paine** 36.92 288 P **P** 03 11 18.0 +0.2
ITTB **Itaituba** 36.92 203 *e*P **P** 03 11 18.2 +0.4
ITTB *e*pP **pwP** 03 11 20.7 -1.5
RJF **Les Rejaudoux** 36.97 54 *e*P **P** 03 11 22.5 +4.4
RJF pmax pmax
comp=Z,60nm,1.8s
SJCC **San Jacinto, C** 37.04 244 *e*P **P** 03 11 20.9 +1.9
PRPB **Parauapebas** 37.05 193 *e*P **P** 03 11 16.8 -2.1
PRPB *e*pP **pwP** 03 11 21.8 -1.0
EKA **Eskdalemuir Ar** 37.12 36 P **P** 03 11 18.2 -1.0
comp=Z,3.1nm,0.8s,baz=242,slow=6.7,SNR=5.0
MTLF **Montolieu** 37.23 57 *e*P **P** 03 11 20.0 -0.3
MTLF pmax pmax
comp=Z,58nm,1.4s
CLTN **Cedars of Leba** 37.37 291 P **P** 03 11 21.8 +0.2
CLTN IAmb IAmb 03 11 30.2
comp=Z,49nm,1.4s
FRB **Frobisher Bay** 37.49 341 P **P** 03 11 21.5 -0.7
comp=Z,11nm,0.9s,baz=183,slow=6.5,SNR=2.2
TCF **Toulx Ste Croi** 37.61 52 *e*P **P** 03 11 23.5 0.0
TCF pmax pmax
comp=Z,19nm,1.0s
Y49A **Blount Mountai** 37.65 287 P **P** 03 11 24.1 0.0
V48A **Smith Brothers** 37.79 290 P **P** 03 11 25.4 +0.2
MACA **Manacapuru-AM** 37.80 212 *e*P **P** 03 11 25.9 +0.6
MACA *e*pP **pwP** 03 11 28.4 -1.2
SFIN **Lafayette** 37.85 298 P **P** 03 11 25.9 +0.3
baz=91
P46A **Rosedale** 37.93 297 P **P** 03 11 26.2 -0.1
T47A **Sharon Grove** 37.93 292 P **P** 03 11 26.7 +0.4
RUSC **La Rusia** 38.06 237 *e*P **P** 03 11 28.2 0.0

BGF **Bois d'Agland** 38.09 52 *e*P P 03 11 33.0 +5.5
BGF pmax pmax
comp=Z,48nm,1.7s
MOTC **Monteria, Cord** 38.10 243 *e*P **P** 03 11 27.1 -0.9
X48A **Hartselle** 38.10 288 P **P** 03 11 27.7 -0.1
X48A IAmb IAmb 03 11 40.1
comp=Z,48nm,1.8s
KOWA **Kowa** 38.20 106 P **P** 03 11 28.3 -0.5
KOWA IAmb IAmb 03 11 41.7
comp=Z,38nm,1.3s
LRAL **Lakeview Retre** 38.25 286 P **P** 03 11 29.3 +0.3
baz=82,SNR=7.3
LRAL **Lakeview Retre** 38.25 286 P **P** 03 11 29.1 +0.1
ZARC **Zaragoza, Cauc** 38.31 240 *e*P **P** 03 11 29.2 -0.5
AVF **Avril sur Loir** 38.47 52 *e*P **P** 03 11 30.8 +0.1
AVF pmax pmax
comp=Z,33nm,1.8s
L44A **Lake County Fo** 38.52 301 P **P** 03 11 31.5 +0.3
baz=93
PTGC **Puerto Gaitan,** 38.57 234 *e*P P 03 11 18.8 -13
WVT **Waverly** 38.58 291 P **P** 03 11 32.7 +0.9
baz=85
WVT **Waverly** 38.58 291 P **P** 03 11 31.9 +0.2
WVT pmax pmax
comp=Z,15nm,1.0s
WVT **Waverly** 38.58 291 P **P** 03 11 31.9 +0.2
PTBC **PUERTO BERRIO,** 38.63 239 *e*P **P** 03 11 31.1 -1.3
OLIL **Olney** 38.64 295 P **P** 03 11 32.1 -0.1
UREC **San Jos de Ur** 38.65 241 *e*P **P** 03 11 36.6 +4.0
SMF **Signal de Mont** 38.78 52 *e*P **P** 03 11 33.4 +0.1
SMF pmax pmax
comp=Z,57nm,1.2s
ICESG **Greenland Ices** 38.85 1 *e*P **P** 03 11 33.6 -0.4
LOR **Lormes** 38.88 51 *e*P **P** 03 11 34.1 -0.1
LOR pmax pmax
comp=Z,41nm,1.4s
Z47A **Carrollton** 39.12 287 P **P** 03 11 36.3 0.0
Z47A IAmb IAmb 03 11 40.4
comp=Z,35nm,1.1s
NPGB **Novo Progresso** 39.31 201 *e*P **P** 03 11 38.1 +0.1
NPGB *e*pP **sP** 03 11 40.4 +2.4
SMTB **Santa Maria do** 39.31 189 *e*P **P** 03 11 39.1 +1.1
SMTB *e*pP **pwP** 03 11 41.4 -0.6
CHIC **Chingaza** 39.40 236 *e*P **P** 03 11 39.2 -0.1
DBBC **Dabeiba** 39.63 241 *e*P **P** 03 11 41.8 +0.9
ROSC **El Rosal** 39.67 237 P **P** 03 11 42.2 +0.6
comp=Z,8.7nm,0.5s,baz=12,slow=9.0,SNR=5.1
ROSC LR LR 03 29 42.4
comp=Z,2µm,18.7s,baz=36,slow=39
ROSC **El Rosal** 39.67 237 P **P** 03 11 41.6 0.0
W45A **Hickory Valley** 39.77 290 P **P** 03 11 41.8 0.0
ORIF **Oris-en-Rattie** 40.00 55 *e*P **P** 03 11 46.8 +3.1
ORIF pmax pmax
comp=Z,20nm,1.4s
146A **Union** 40.02 286 IAmb IAmb 03 11 52.1
comp=Z,51nm,0.8s
OXF **Oxford** 40.03 289 P **P** 03 11 44.8 +0.9
baz=82
OXF **Oxford** 40.03 289 P **P** 03 11 44.2 +0.2
OXF pmax pmax
comp=Z,26nm,0.7s
OXF **Oxford** 40.03 289 P **P** 03 11 44.1 +0.2
OXF IAmb IAmb 03 11 51.2
comp=Z,26nm,0.7s
PARMO **Parma** 40.07 292 IAmb IAmb 03 11 56.1
comp=Z,31nm,0.8s
GUY2C **Guyana, Caldas** 40.18 238 *e*P **P** 03 11 44.4 -1.5
CBOC **Ciudad Bolivar** 40.23 240 *e*P **P** 03 11 45.7 -0.3
Y45A **Yeager Farm, C** 40.23 288 P **P** 03 11 45.5 -0.1
Y45A IAmb IAmb 03 12 01.3
comp=Z,45nm,1.1s
JFWS **Jewell Farm** 40.27 302 P **P** 03 11 46.6 +0.8
baz=92
JFWS **Jewell Farm** 40.27 302 IAmb IAmb 03 11 55.0
comp=Z,32nm,0.9s
CABF **La Chapelle** 40.31 52 *e*P P 03 11 51.2 +5.0
CABF pmax pmax
comp=Z,41nm,1.3s
GNAR **Gosnell** 40.36 291 P **P** 03 11 46.8 +0.2
GNAR IAmb IAmb 03 11 50.3
comp=Z,65nm,1.0s
RREF **El Recreo** 40.38 238 *e*P **P** 03 11 43.9 -3.8
FVM **French Village** 40.50 294 P **P** 03 11 47.8 0.0
FVM pmax pmax
comp=Z,21nm,0.9s
FVM **French Village** 40.50 294 P **P** 03 11 47.8 0.0
BNI **Bardonecchia** 40.57 55 P **P** 03 11 47.8 -0.7
BNI pmax pmax
comp=Z,52nm,1.5s
BNI **Bardonecchia** 40.57 55 P **P** 03 11 47.8 -0.7
BNI IAmb IAmb 03 11 57.3
comp=Z,52nm,1.5s
TOLC **Tolima** 40.57 238 *e*P **P** 03 11 49.1 +0.1
I40A **Norwalk** 40.58 303 IAmb IAmb 03 11 57.0
comp=Z,35nm,1.1s
PBMO **Poplar Bluff** 40.60 292 P **P** 03 11 49.1 +0.4
MBDF **Montbardon** 40.62 55 *e*P **P** 03 11 52.1 +3.2
MBDF pmax pmax
comp=Z,38nm,1.4s
LPL **La Plagne** 40.65 54 *e*P P 03 11 54.6 +5.4
LPL pmax pmax
comp=Z,22nm,1.4s
HAU **Haudompre** 40.66 50 *e*P **P** 03 11 48.7 -0.3
HAU pmax pmax
comp=Z,37nm,1.3s
LPG **La Plagne** 40.66 54 *e*P **P** 03 11 51.4 +2.0
LPG pmax pmax
comp=Z,39nm,1.5s
ANIL **Santa Ana** 40.70 238 *e*P **P** 03 11 50.8 +0.9
ISO **Isola** 40.78 56 P **P** 03 11 54.8 +4.6
ISO pmax pmax
comp=Z,22nm,1.3s
PRAC **Prado** 40.85 236 *e*P P 03 11 44.7 -6.3
HBAR **Harrisburg** 40.92 291 P **P** 03 11 51.6 +0.4
HBAR IAmb IAmb 03 11 55.3
comp=Z,61nm,1.0s
HINF **Hinteralfeld** 40.97 51 *e*P **P** 03 11 55.9 +4.3
HINF pmax pmax
comp=Z,26nm,1.4s
ORTC **Ortega, Tolima** 40.98 237 *e*P **P** 03 11 49.0 -3.0
PLMC **San Jos del P** 41.07 239 *e*P **P** 03 11 53.8 +1.1
T42A **Van Buren** 41.11 293 P **P** 03 11 53.1 +0.3
T42A IAmb IAmb 03 11 56.0
comp=Z,25nm,0.9s
CCM **Cathedral Cave** 41.14 294 P **P** 03 11 53.7 +0.6
baz=86
CCM **Cathedral Cave** 41.14 294 P **P** 03 11 53.4 +0.3
CCM pmax pmax
comp=Z,14nm,0.9s
CCM **Cathedral Cave** 41.14 294 P **P** 03 11 53.4 +0.3
MACC **Macarena, Meta** 41.22 233 *e*P **P** 03 11 52.3 -1.7
X43A **Marvell** 41.24 289 P **P** 03 11 55.0 +1.1
baz=82
LCAR **Lake Charles** 41.26 291 P **P** 03 11 53.8 -0.3
VBMS **Vicksburg** 41.31 286 P **P** 03 11 55.0 +0.5
baz=79
CDF **Champ du Feu** 41.33 50 *e*P **P** 03 11 54.2 -0.4
CDF pmax pmax
comp=Z,33nm,1.5s
EYMN **Ely** 41.53 309 P **P** 03 11 56.5 +0.3
baz=97
344A **Westbrook Farm** 41.64 285 P **P** 03 11 57.6 +0.4
344A IAmb IAmb 03 12 05.0
comp=Z,32nm,1.1s
P40A **Paris** 41.67 297 IAmb IAmb 03 12 05.1
comp=Z,25nm,0.8s
YOTC **Yotoco, Valle** 41.73 238 *e*P **P** 03 11 56.5 -1.8
TIC **Toumodi** 41.86 117 *e*P **P** 03 11 58.8 -0.4
R40A **Maddies Statio** 41.93 295 P **P** 03 11 59.6 0.0
DBIC **Dimbokro** 41.97 116 P **P** 03 11 59.7 -0.4
comp=Z,18nm,0.8s,baz=284,slow=8.0,SNR=14
DBIC **Dimbokro** 41.97 116 P **P** 03 11 59.9 -0.2
DBIC pmax pmax
comp=Z,39nm,1.2s
DBIC **Dimbokro** 41.97 116 P **P** 03 11 59.9 -0.2
DBIC IAmb IAmb 03 12 08.3
comp=Z,39nm,1.2s
BFO **Black Forest** 42.02 50 P **P** 03 11 59.5 -0.7
BFO pmax pmax
comp=Z,29nm,1.2s
BFO **Black Forest** 42.02 50 P **P** 03 11 59.5 -0.7
MGMO **Mountain Grove** 42.03 293 P **P** 03 12 00.5 0.0
MGMO IAmb IAmb 03 12 03.7
comp=Z,37nm,1.4s
FCAR **Ozark Folk Cen** 42.06 291 IAmb IAmb 03 12 07.5

comp=Z,20nm,0.8s
LIC Lamto 42.11 117 *e*P **P 03 12 00.7 -0.6**
comp=Z,86nm,1.0s
PGF Pioggiola 42.17 59 *e*P **P 03 12 05.9 +4.3**
PGF pmax pmax
comp=Z,65nm,1.6s
SPMN Marine on St. 42.21 305 P **P 03 12 02.0 +0.3**
baz=93
KIC Kosan Boka 42.25 117 *e*P **P 03 12 02.3 -0.1**
comp=Z,75nm,1.1s
W41B Gary Mavity, V 42.26 290 P **P 03 12 02.3 0.0**
baz=82,SNR=14
W41B Gary Mavity, V 42.26 290 P **P 03 12 02.4 +0.1**
W41B IAmb IAmb 03 12 09.3
comp=Z,30nm,0.8s
WHAR Wooly Hollow 42.27 290 P **P 03 12 02.3 -0.1**
WHAR IAmb IAmb 03 12 09.7
comp=Z,25nm,0.8s
SUMG Summit 42.38 2 P **P 03 12 02.8 -0.4**
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 42.38 2 P **P 03 12 02.8 -0.4**
SUMG IAmb IAmb 03 12 10.0
comp=Z,44nm,0.9s
SUMG Summit 42.38 2 *i* P **P 03 12 02.1 -1.1**
comp=Z,49nm,1.0s
SUMG Summit 42.38 2 *i* P **P 03 12 02.2 -1.1**
SUMG IAmb IAmb 03 12 04.4
comp=Z,49nm,1.0s
UALR University of 42.39 290 P **P 03 12 03.6 +0.3**
UALR IAmb IAmb 03 12 10.7
comp=Z,53nm,0.8s
SCIA State Center 42.47 300 P **P 03 12 04.3 +0.4**
SCIA IAmb IAmb 03 12 11.9
comp=Z,25nm,0.8s
SDBA SAO DESIDERIO 42.56 184 *e*P **P 03 12 04.9 +0.1**
SDBA *e*pP **pwP 03 12 07.5 -1.3**
U40A Yellville 42.59 292 P **P 03 12 04.6 -0.4**
baz=83,SNR=12
PEXB Peixe 42.60 189 *e*P **P 03 12 05.8 +0.6**
P38A Dawn 42.81 297 P **P 03 12 06.9 +0.2**
P38A IAmb IAmb 03 12 15.3
comp=Z,27nm,1.0s
X40A Basin Creek Fa 42.84 289 P **P 03 12 06.6 -0.4**
baz=81,SNR=22
X40A Basin Creek Fa 42.84 289 P **P 03 12 07.1 +0.2**
TEIG Tepich 42.86 268 *e*P **P 03 12 08.0 +0.7**
PCON Cinco Dias 42.90 236 *e*P **P 03 12 06.1 -2.2**
DAVOX Davos/Dischmat 42.92 52 P **P 03 12 07.7 -0.1**
comp=Z,9.4nm,1.0s,baz=262,slow=8.6,SNR=4.7
KEST Kesra 42.93 69 P **P 03 12 07.5 -0.3**
comp=Z,6.3nm,0.9s,baz=263,slow=4.4,SNR=7.8
KEST Kesra 42.93 69 P **P 03 12 07.2 -0.6**
KEST IAmb IAmb 03 12 22.2
comp=Z,67nm,1.4s
POPC Popayan, Colom 42.95 237 *e*P P 03 12 00.8 -7.6
DAVA Damuels 42.96 52 *e*P **P 03 12 08.8 +0.8**
comp=Z,32nm,1.2s
SNDB Serra Nova Dou 42.99 194 *e*P **P 03 12 08.9 +0.6**
SNDB *e*pP **pwP 03 12 11.3 -0.9**
Z41A Richland Creek 43.02 288 P **P 03 12 08.5 +0.1**
baz=80
Z41A Richland Creek 43.02 288 P **P 03 12 08.0 -0.4**
Z41A IAmb IAmb 03 12 15.7
comp=Z,47nm,1.1s
CLDB Colider 43.06 200 *e*P **P 03 12 08.2 -0.7**
FUORN Ofenpass-Fuorn 43.18 53 P **P 03 12 08.7 -1.2**
WLAR White Oak Lake 43.20 288 P **P 03 12 10.1 +0.2**
WLAR IAmb IAmb 03 12 13.8
comp=Z,54nm,1.1s
PTLC Puerto Leguiza 43.30 232 *e*P **P 03 12 12.2 +1.2**
MIAR Mount Ida 43.43 290 P **P 03 12 12.0 +0.2**
baz=81,SNR=6.4
MIAR Mount Ida 43.43 290 P **P 03 12 11.8 0.0**
MIAR pmax pmax
comp=Z,20nm,1.2s
MIAR Mount Ida 43.43 290 P **P 03 12 11.8 0.0**
W39A Magazine 43.50 291 P **P 03 12 12.3 0.0**
baz=81,SNR=9.1
W39A Magazine 43.50 291 P **P 03 12 12.4 0.0**
W39A IAmb IAmb 03 12 21.4
comp=Z,28nm,1.1s
FETA Feichten 43.52 52 *e*P **P 03 12 14.2 +1.7**
comp=Z,27nm,1.2s
RETA Reutte 43.57 51 *e*P **P 03 12 13.7 +0.9**
comp=Z,15nm,1.1s
ZCCA Zocca 43.61 56 IAmb IAmb 03 12 19.6
comp=Z,46nm,1.1s
TOA0 Torodi Ar. Sit 43.66 103 P **P 03 12 13.5 -0.3**
TOA0 IAmb IAmb 03 12 16.0
comp=Z,24nm,1.1s
TORD Torodi Ar. Bea 43.66 103 P **P 03 12 12.3 -1.5**
comp=Z,16nm,1.0s,baz=309,slow=9.0,SNR=62
TORD Torodi Ar. Bea 43.66 103 P **P 03 12 12.9 -0.9**
MOTA Moosalm 43.79 52 P **P 03 12 15.4 +0.7**
comp=Z,33nm,1.6s
U38A Gravette 43.80 293 IAmb IAmb 03 12 22.3
comp=Z,28nm,0.8s
OSSC Osservatorio P 43.81 57 P **P 03 12 14.2 -0.6**
GDU01 Guandu, BA 43.82 177 *e*P **P 03 12 15.0 0.0**
SQTA Sankt Quirin 43.86 52 *e*P **P 03 12 16.0 +0.8**
comp=Z,15nm,1.0s
SAML Samuel 44.05 211 *e*P **P 03 12 17.4 +0.5**
SAML Samuel 44.05 211 *e*P **P 03 12 17.2 +0.3**
SAML *e*pP **pwP 03 12 19.9 -1.3**
GRF Grafenberg Arr 44.05 48 *e*P **P 03 12 16.2 -0.4**
comp=Z,24nm,1.1s,baz=262,slow=8.0
CTI Castel Tesino 44.11 54 P **P 03 12 16.5 -0.8**
CTI pmax pmax
comp=Z,37nm,1.1s
CTI Castel Tesino 44.11 54 P **P 03 12 16.5 -0.8**
CTI IAmb IAmb 03 12 24.4
comp=Z,37nm,1.1s
TEOL Teolo 44.11 55 IAmb IAmb 03 12 23.3
comp=Z,53nm,1.3s
WATA Walderalm 44.11 52 *e*P **P 03 12 17.7 +0.4**
comp=Z,38nm,1.6s
WTTA Wattenberg 44.15 52 *e*P **P 03 12 18.0 +0.4**
comp=Z,21nm,1.1s
LATE Laterza 44.24 59 P **P 03 12 17.6 -0.7**
LATE IAmb IAmb 03 12 26.8
comp=Z,71nm,1.4s
PUAC Puerto Asis, P 44.26 235 *e*P **P 03 12 17.4 -1.3**
GRB1 Grafenberg Arr 44.31 49 *e*P P 03 12 27.9 +9.3
baz=262,slow=8.0
N35A Tabor 44.34 299 P **P 03 12 19.2 +0.1**
N35A IAmb IAmb 03 12 27.1
comp=Z,42nm,0.9s
AGMN Agassiz Nation 44.48 310 P **P 03 12 19.8 -0.2**
baz=94
AGMN Agassiz Nation 44.48 310 IAmb IAmb 03 12 28.4
comp=Z,19nm,0.9s
ULM Lac du Bonnet 44.64 312 P **P 03 12 19.4 -1.9**
comp=Z,6.6nm,0.9s,baz=80,slow=9.2,SNR=5.0
ULM LR LR 03 29 44.2
comp=Z,3µm,19.6s,baz=92,slow=34
ULM Lac du Bonnet 44.64 312 ⇓ *e*P **P 03 12 22.8 +1.5**
ULM Lac du Bonnet 44.64 312 P **P 03 12 21.3 0.0**
ULM IAmb IAmb 03 12 28.7
comp=Z,19nm,0.9s
JTS Las Juntas de 44.67 253 ⇑ *e*P **P 03 12 23.4 +1.4**
JTS pmax pmax
comp=Z,19nm,1.2s
ABTA Abfaltersbach 44.73 53 *e*P **P 03 12 22.1 -0.1**
comp=Z,37nm,1.2s
MURB Monte Urbino 44.74 58 P **P 03 12 21.6 -0.8**
NATX Nacogdoches 44.85 286 P **P 03 12 22.7 -0.5**
baz=78
NATX Nacogdoches 44.85 286 P **P 03 12 23.6 +0.3**
X37A Clayton 44.88 290 P **P 03 12 23.4 -0.1**
X37A IAmb IAmb 03 12 32.9
comp=Z,24nm,1.0s
NKC Novy Kostel 44.89 48 *e*P **P 03 12 24.4 +1.1**
NKC *ex* x 03 12 33.0
NKC Novy Kostel 44.89 48 *e*P **P 03 12 24.4 +1.1**
NKC *e* 03 12 33.0
ECSD EROS Data Cent 44.92 303 P **P 03 12 23.0 -0.6**
baz=88
ECSD EROS Data Cent 44.92 303 P **P 03 12 23.7 0.0**
TUL1 Leonard 45.01 292 P **P 03 12 24.6 +0.1**
baz=81,SNR=14
TUL1 Leonard 45.01 292 P **P 03 12 24.5 +0.1**
ZOU Zoufplan 45.04 53 P **P 03 12 24.1 -0.6**
ZOU IAmb IAmb 03 12 31.6
comp=Z,35nm,1.2s

KONO Kongsberg 45.11 34 ⇓ *e*P **P 03 12 27.1 +2.3**
KONO pmax pmax
comp=Z,68nm,1.9s
JANB Januaria 45.15 183 *e*P **P 03 12 25.9 +0.2**
NRCA Norcia 45.19 58 P **P 03 12 24.5 -1.4**
NRCA IAmb IAmb 03 12 35.6
comp=Z,20nm,1.0s
KSU1 Kansas State U 45.23 297 P **P 03 12 25.5 -0.7**
baz=84
KSU1 Kansas State U 45.23 297 P **P 03 12 25.1 -1.1**
KSU1 IAmb IAmb 03 12 33.1
comp=Z,26nm,0.8s
KBA Koelnbreinsper 45.31 52 P **P 03 12 28.0 +1.1**
comp=Z,13nm,1.3s
CLL Collm 45.35 46 *e*P **P 03 12 26.0 -0.9**
CLL *i* 03 12 32.8
comp=Z,13nm,1.1s
CLL Collm 45.35 46 P **P 03 12 26.6 -0.3**
CLL pmax pmax
comp=Z,18nm,1.2s
CLL Collm 45.35 46 P **P 03 12 26.6 -0.3**
CLL IAmb IAmb 03 12 38.5
comp=Z,18nm,1.2s
AQU L'Aquila 45.43 59 P **P 03 12 27.4 -0.4**
AQU pmax pmax
comp=Z,48nm,1.1s
AQU L'Aquila 45.43 59 P **P 03 12 27.4 -0.4**
T35A Sooner Cattle 45.43 294 P **P 03 12 27.2 -0.6**
PRED Cave del Predi 45.45 53 P **P 03 12 26.7 -1.1**
PRED IAmb IAmb 03 12 34.7
comp=Z,42nm,1.2s
MYKA Terra Mystica 45.50 53 *e*P **P 03 12 27.8 -0.5**
comp=Z,14nm,1.1s
KHC Kasperske Hory 45.55 49 *e*P **P 03 12 28.2 -0.4**
KHC *e*pP **pwP 03 12 33.8 +1.3**
KHC Kasperske Hory 45.55 49 ⇓ *i*P **P 03 12 28.2 -0.4**
KHC pmax pmax
comp=Z,48nm,1.4s
KHC Kasperske Hory 45.55 49 P **P 03 12 27.6 -0.9**
GEC2 GERESS Array S 45.61 50 P **P 03 12 28.1 -1.1**
GEC2 IAmb IAmb 03 12 42.0
comp=Z,71nm,2.0s
GERES GERESS Array B 45.61 50 P **P 03 12 27.7 -1.4**
comp=Z,2.0nm,0.8s,baz=263,slow=6.6,SNR=12
GERES GERESS Array B 45.61 50 P **P 03 12 28.3 -0.9**
GERES GERESS Array B 45.61 50 P **P 03 12 28.3 -0.9**
QUOK Quay 45.70 293 P **P 03 12 29.2 -0.7**
QUOK IAmb IAmb 03 12 37.0
comp=Z,15nm,0.8s
CLTB Caltabellotta 45.76 65 P **P 03 12 29.2 -1.3**
OTAV Otavalo 45.82 236 *e*P **P 03 12 30.8 -0.7**
OTAV Otavalo 45.82 236 P **P 03 12 30.6 -1.0**
OTAV pmax pmax
comp=Z,69nm,1.6s
OTAV Otavalo 45.82 236 P **P 03 12 30.6 -1.0**
OTAV Otavalo 45.82 236 *e*P **P 03 12 31.8 +0.3**
INTR Introdacqua 45.83 59 P **P 03 12 29.9 -1.0**
INTR IAmb IAmb 03 12 38.0
comp=Z,34nm,1.4s
BRG Berggiesshubel 45.90 47 *e*P P 03 12 37.9 +6.6
comp=Z,36nm,1.7s
BRG *e* 03 12 43.9
comp=Z,116nm,2.3s
BRG Berggiesshubel 45.90 47 *e*P P 03 12 37.9 +6.6
BRG *e* 03 12 43.9
BRG pmax pmax
comp=Z,36nm,1.7s
BRG pmax pmax
comp=Z,116nm,2.3s
MOA Molln 45.95 51 *e*P **P 03 12 31.4 -0.4**
comp=Z,10nm,1.2s
W35A Tecumseh 46.00 291 P **P 03 12 31.9 -0.4**
BDFB Brasilia 46.05 188 P **P 03 12 33.3 +0.4**
comp=Z,13nm,0.8s,baz=4.9,slow=8.9,SNR=14
BDFB Brasilia 46.05 188 P **P 03 12 32.2 -0.6**
BDFB IAmb IAmb 03 12 41.5
comp=Z,27nm,0.9s
NBO00 NORSAR Array S 46.08 33 P **P 03 12 32.1 -0.5**
LJU Ljubljana 46.12 54 *e*P **P 03 12 33.1 0.0**
OBKA Obir 46.13 53 *e*P **P 03 12 32.2 -1.1**
comp=Z,36nm,0.8s
H10N2 ASCENSION HYDR 46.16 141 T T 04 01 44.2
baz=327,slow=75,SNR=858
H10N3 ASCENSION HYDR 46.16 141 T T 04 01 44.4
baz=327,slow=75,SNR=971
H10N1 ASCENSION HYDR 46.17 141 T T 04 01 45.6
baz=327,slow=75,SNR=1044
KAN13 South Haven SW 46.18 294 P **P 03 12 33.4 -0.3**
BGNE Belgrade 46.19 300 P **P 03 12 33.4 -0.4**
PRU Pruhonice 46.22 48 *e*P **P 03 12 35.5 +1.7**
PRU *ex* x 03 12 44.7
PRU Pruhonice 46.22 48 *e*P **P 03 12 35.5 +1.7**
PRU *e* 03 12 44.7
HKT Hockley 46.26 284 ⇓ *e*P **P 03 12 35.7 +1.4**
HKT Hockley 46.26 284 P **P 03 12 34.1 -0.2**
HKT IAmb IAmb 03 12 49.5
comp=Z,22nm,1.4s
NB2 NORSAR Subarra 46.28 33 P **P 03 12 33.9 -0.3**
comp=Z,87nm,1.7s,baz=252,slow=8.6
NB2 NORSAR Subarra 46.28 33 P **P 03 12 33.9 -0.3**
baz=252,slow=8.6
NOA NORSAR Array B 46.28 33 P **P 03 12 34.1 -0.1**
comp=Z,4.8nm,0.9s,baz=254,slow=8.1,SNR=6.5
OK025 Westminster Rd 46.30 292 P **P 03 12 34.0 -0.7**
VISS Visnje 46.34 54 *e*P **P 03 12 34.7 -0.2**
OK029 Liberty Lake 46.36 292 P **P 03 12 34.7 -0.4**
GOPC GO Pecny, Ondr 46.37 48 *e*P **P 03 12 35.8 +0.7**
GOPC GO Pecny, Ondr 46.37 48 *e*P **P 03 12 35.8 +0.7**
PAOL Paolisi 46.40 61 P **P 03 12 34.6 -0.9**
FNO Franklin 46.41 291 P **P 03 12 35.0 -0.6**
NC303 NORSAR Array S 46.41 32 P **P 03 12 34.3 -0.9**
SOKA Soboth 46.46 53 *e*P **P 03 12 34.5 -1.4**
comp=Z,15nm,1.1s
VILB Vilhena 46.47 205 *e*P **P 03 12 36.6 +0.5**
VILB *e*pP **pwP 03 12 39.2 -1.2**
KAN05 Bluff City Nor 46.48 294 P **P 03 12 35.2 -0.8**
KAN12 Harper NE Stat 46.55 294 P **P 03 12 35.9 -0.7**
KAN14 Manchester OK 46.58 294 P **P 03 12 36.1 -0.7**
KAN10 Anthony SW Sta 46.65 294 P **P 03 12 36.4 -1.1**
Z35A Perchaven, San 46.66 289 P **P 03 12 37.1 -0.4**
CROK Carrier 46.66 293 P **P 03 12 37.0 -0.5**
ARAG Araguaiana, MT 46.72 193 *e*P **P 03 12 38.7 +0.7**
ARAG *e*pP **pwP 03 12 41.1 -0.8**
MC01 Montes Claros 46.77 183 *e*P **P 03 12 38.9 +0.4**
GROS Grobnik 46.79 53 *e*P **P 03 12 36.4 -2.0**
ARSA Arzberg 46.80 52 *e*P **P 03 12 36.9 -1.5**
comp=Z,21nm,1.1s
R32A Long Quarter, 46.95 296 P **P 03 12 39.2 -0.5**
R32A IAmb IAmb 03 12 50.7
comp=Z,19nm,1.0s
H10S3 ASCENSION HYDR 47.00 142 T T 04 02 57.5
baz=326,slow=74,SNR=1178
H10S2 ASCENSION HYDR 47.01 142 T T 04 03 00.7
baz=254,slow=74,SNR=557
CONA Conrad Observa 47.03 51 *e*P **P 03 12 39.6 -0.7**
comp=Z,14nm,1.0s
WHTX Lake Whitney, 47.12 287 P **P 03 12 41.8 +0.7**
baz=77
WHTX Lake Whitney, 47.12 287 P **P 03 12 40.4 -0.7**
UPC Upice 47.19 48 *e*P **P 03 12 41.9 +0.5**
UPC *ex* x 03 12 51.6
UPC Upice 47.19 48 *e*P **P 03 12 41.9 +0.5**
HFS Hagfors 47.23 34 P **P 03 12 41.5 -0.1**
comp=Z,14nm,1.0s,baz=264,slow=12,SNR=6.8
OSTC Ostas 47.32 47 *e*P **P 03 12 40.8 -1.7**
DPC Dobruska-Polom 47.38 48 *e*P **P 03 12 43.0 0.0**
DPC Dobruska-Polom 47.38 48 *e*P **P 03 12 43.0 0.0**
KRUC Moravsky 47.39 50 *e*P **P 03 12 42.9 -0.1**
U32A Winter Ranch, 47.49 293 P **P 03 12 42.8 -1.2**
SOP Sopron 47.50 51 P **P 03 12 44.1 +0.3**
SOP pmax pmax
comp=Z,36nm,1.2s
435B Jarrell 47.52 285 P **P 03 12 44.9 +0.7**
baz=76
435B Jarrell 47.52 285 P **P 03 12 44.0 -0.2**
435B IAmb IAmb 03 12 47.9
comp=Z,25nm,1.1s
VRAC Vranov 47.53 49 P **P 03 12 43.5 -0.6**
comp=Z,1.9nm,0.6s,baz=308,slow=5.1,SNR=2.1
VRAC Vranov 47.53 49 *e*P **P 03 12 44.2 +0.1**
WMOK Wichita Mounta 47.62 291 P **P 03 12 44.6 -0.4**
baz=79,SNR=16
WMOK Wichita Mounta 47.62 291 P **P 03 12 44.4 -0.6**
WMOK pmax pmax
comp=Z,25nm,1.0s
WMOK Wichita Mounta 47.62 291 P **P 03 12 44.4 -0.6**
WMOK IAmb IAmb 03 12 54.0
comp=Z,25nm,1.0s
KRLC Kraliky 47.67 48 *e*P **P 03 12 45.1 -0.1**
KRLC *ex* x 03 12 58.4
KRLC Kraliky 47.67 48 *e*P **P 03 12 45.1 -0.1**
DAG Danmarks Havn 47.82 7 *i*P **P 03 12 45.0 -0.9**
DAG pmax pmax
comp=Z,9.0nm,1.1s
DAG Danmarks Havn 47.82 7 *i*P **P 03 12 45.0 -0.9**
comp=Z,9.4nm,1.1s
DAG Danmarks Havn 47.82 7 *i*P **P 03 12 45.0 -0.9**
DAG IAmb IAmb 03 12 46.5
comp=Z,9.4nm,1.1s
CCIG Comitan 47.83 265 P **P 03 12 46.0 -1.1**
CCIG IAmb IAmb 03 13 05.0
comp=Z,13nm,0.9s
NAN01 Guarapari, ES 47.89 178 *e*P **P 03 12 47.2 +0.1**
MODS Modra-Piesok 47.97 50 *e*P **P 03 12 46.8 -0.8**
MODS pmax pmax
comp=Z,32nm,1.3s
MODS Modra-Piesok 47.97 50 *e*P **P 03 12 46.8 -0.8**
CZSB Cruzeiro do Su 47.99 223 *e*P **P 03 12 47.1 -0.9**
SMOL Smolenice 48.07 50 *e*P **P 03 12 48.4 +0.1**
SMOL pmax pmax
comp=Z,8.0nm,1.1s
SMOL Smolenice 48.07 50 *e*P **P 03 12 48.4 +0.1**
MORC Moravsky Berou 48.15 49 ⇓ P **P 03 12 49.3 +0.4**
MORC Moravsky Berou 48.15 49 *e*P **P 03 12 50.1 +1.1**
MORC Moravsky Berou 48.15 49 P **P 03 12 48.4 -0.5**
MORC pmax pmax
comp=Z,40nm,1.8s
MORC Moravsky Berou 48.15 49 P **P 03 12 48.4 -0.5**
MORC IAmb IAmb 03 13 03.2
comp=Z,40nm,1.8s
JAVC Velka Javorina 48.23 50 *e*P **P 03 12 51.1 +1.5**
TIP Timpagrande 48.29 63 ⇑ P **P 03 12 48.9 -1.3**
TIP Timpagrande 48.29 63 IAmb IAmb 03 12 57.2
comp=Z,36nm,1.3s
IPMB Ipameri, GO 48.38 188 *e*P **P 03 12 51.1 +0.2**
PTLB Pontes e Lacer 48.41 202 *e*P **P 03 12 51.9 +0.7**
PTLB *e*pP **pwP 03 12 54.6 -0.8**
SJMB Sao Joao De Ma 48.72 179 *e*P **P 03 12 54.3 +0.8**
SJMB *e*pP **pwP 03 12 56.7 -0.7**
FFC Flin Flon 48.76 318 P **P 03 12 53.1 -0.4**
FFC pmax pmax
comp=Z,17nm,0.8s
FFC Flin Flon 48.76 318 P **P 03 12 53.1 -0.4**
FFC IAmb IAmb 03 13 01.1
comp=Z,17nm,0.8s
ABTX Abilene, Hawle 48.78 288 P **P 03 12 54.3 +0.3**
baz=76,SNR=11
ABTX Abilene, Hawle 48.78 288 P **P 03 12 53.4 -0.6**
VYHS Vyhne 49.01 50 *e*P **P 03 12 55.1 -0.4**
VYHS pmax pmax
comp=Z,17nm,1.2s
VYHS Vyhne 49.01 50 *e*P **P 03 12 55.1 -0.4**
OGNE Ogallala 49.15 300 P **P 03 12 57.0 +0.1**
baz=82
RIB01 Linhares ES 49.35 178 *e*P **P 03 12 59.3 +1.0**
RIB01 *e*pP **pwP 03 13 01.7 -0.5**
LANS Liptovska Anna 49.41 49 P P 03 13 03.6 +5.0
JCT Junction City 49.44 286 P **P 03 12 59.0 -0.1**
baz=75,SNR=16
JCT Junction City 49.44 286 P **P 03 12 58.4 -0.7**
JCT pmax pmax
comp=Z,46nm,0.9s
JCT Junction City 49.44 286 P **P 03 12 58.4 -0.7**
OJC Ojcow 49.61 48 *e*P **P 03 13 01.6 +1.5**
OJC Ojcow 49.61 48 *e*P **P 03 13 01.6 +1.5**
PSZ Piszkesteto 49.74 51 P **P 03 13 05.0 +3.8**
PSZ pmax pmax
comp=Z,24nm,1.5s
PDG Podgorica 49.74 58 ⇓ P **P 03 13 01.4 +0.2**
PDG Podgorica 49.74 58 P **P 03 13 00.4 -0.8**
PDG IAmb IAmb 03 13 14.4
comp=Z,34nm,1.1s
AMTX Amarillo 49.92 292 P **P 03 13 03.2 +0.3**
baz=78
NIE Niedzica 49.95 49 *e*P **P 03 13 04.6 +1.9**
NIE Niedzica 49.95 49 P **P 03 13 04.6 +1.9**
DGMT Dagmar 50.03 310 P **P 03 13 03.2 -0.2**
baz=88
DGMT Dagmar 50.03 310 IAmb IAmb 03 13 12.4
comp=Z,20nm,1.0s
DIVS Divibare 50.09 56 P **P 03 13 03.2 -0.8**
DIVS IAmb IAmb 03 13 11.2
comp=Z,21nm,1.1s
RSSD Black Hills 50.24 304 P P 03 13 12.2 +6.9
RSSD pmax pmax
comp=Z,16nm,1.5s
RSSD Black Hills 50.24 304 P P 03 13 12.2 +6.9
TIR Tirane 50.34 60 ⇓ P **P 03 13 04.9 -0.8**
TIR Tirane 50.34 60 P **P 03 13 04.9 -0.8**
TIR pmax pmax
comp=Z,54nm,1.2s
TIR Tirane 50.34 60 P **P 03 13 04.9 -0.8**
ITRB Iturama 50.37 190 *e*P **P 03 13 06.7 +0.6**
CRVS Cervenica-Dubn 50.73 50 *e*P **P 03 13 08.8 +0.2**
CRVS pmax pmax
comp=Z,44nm,1.2s
CRVS Cervenica-Dubn 50.73 50 *e*P **P 03 13 08.8 +0.2**
IGT Igoumenitsa 50.97 62 P **P 03 13 11.0 +0.4**
IGT pmax pmax
comp=Z,30nm,1.5s
PBUR Paburge 50.99 40 *e*P **P 03 13 11.2 +0.8**
MSTX Muleshoe 51.01 291 P **P 03 13 10.9 -0.2**
baz=76,SNR=14
MSTX Muleshoe 51.01 291 P **P 03 13 10.5 -0.6**
MSTX IAmb IAmb 03 13 19.9
comp=Z,37nm,1.0s
BSCB Bom Sucesso 51.07 183 *e*P **P 03 13 11.6 +0.1**
BZS Buzias 51.09 54 ⇑ P **P 03 13 11.7 +0.3**
BZS Buzias 51.09 54 P **P 03 13 11.9 +0.6**
BZS pmax pmax
comp=Z,52nm,1.0s
KOLS Kolonicke sedl 51.27 50 *e*P **P 03 13 12.9 +0.3**
KOLS pmax pmax
comp=Z,23nm,1.7s
KOLS Kolonicke sedl 51.27 50 *e*P **P 03 13 12.9 +0.3**
UZH Uzhgorod 51.30 50 *e*P **P 03 13 12.6 -0.2**
BB19B Bebedouro 51.46 188 *e*P **P 03 13 15.3 +0.9**
KWP Kalwaria Pacla 51.51 49 *e*P **P 03 13 14.8 +0.4**
KWP Kalwaria Pacla 51.51 49 *e*P **P 03 13 14.8 +0.4**
LAO LASA Array 51.52 308 P **P 03 13 14.9 +0.2**
baz=85
LAO LASA Array 51.52 308 P **P 03 13 14.2 -0.5**
T25A Trinidad 51.62 295 P **P 03 13 15.1 -0.7**
baz=78,SNR=7.0
T25A Trinidad 51.62 295 P **P 03 13 15.0 -0.7**
PHWY Pilot Hill 51.66 301 P **P 03 13 15.2 -0.9**
HERR Herculane 51.73 55 ⇓ P **P 03 13 15.1 -1.1**
Q24A Divide 51.83 298 P **P 03 13 17.2 -0.2**
baz=79
GZR Gura Zlata 51.92 54 ⇓ P **P 03 13 17.8 +0.1**
DEV Deva 51.95 53 ⇓ P **P 03 13 18.7 +0.9**
DEV Deva 51.95 53 P **P 03 13 18.7 +0.9**
STIP Stip 52.01 59 *i*P **P 03 13 19.0 +0.7**
ISCO Idaho Springs 52.03 299 P **P 03 13 18.4 -0.4**
baz=80
ISCO Idaho Springs 52.03 299 P **P 03 13 18.2 -0.7**
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 52.03 299 P **P 03 13 18.2 -0.7**
N23A Red Feather La 52.09 300 P **P 03 13 19.6 +0.4**
baz=80
N23A Red Feather La 52.09 300 P **P 03 13 18.6 -0.7**
PABE Paberze 52.13 41 *e*P **P 03 13 19.4 +0.4**
AQDB Aquidauana 52.20 196 *e*P **P 03 13 20.6 +0.8**
K22A Casper 52.23 303 P **P 03 13 20.5 +0.3**
baz=81
K22A Casper 52.23 303 P **P 03 13 18.4 -1.8**
NOR Nord 52.30 5 *i*P **P 03 13 19.0 -0.9**
NOR pmax pmax
comp=Z,14nm,1.0s
NOR Nord 52.30 5 *i*P **P 03 13 19.0 -0.9**
comp=Z,14nm,1.0s
NOR Nord 52.30 5 *i*P **P 03 13 19.0 -0.9**
NOR IAmb IAmb 03 13 20.3
comp=Z,14nm,1.0s
VAS01 Vassouras-RJ 52.30 182 *e*P **P 03 13 21.4 +0.9**
VAS01 *e*pP **pwP 03 13 23.9 -0.5**
SDCO Great Sand Dun 52.34 296 P **P 03 13 21.8 +0.6**

baz=78
SDCO Great Sand Dun 52.34 296 P P 03 13 20.3 -0.9
CJR Cluj-Napoca 52.34 52 ⇑P P 03 13 20.1 -0.6
VAY Valandovo 52.35 59 *i* P P 03 13 20.7 -0.2
LVV L'vov 52.35 48 *e*P P 03 13 21.4 +0.7
PCMB Pacaembu 52.38 191 *e*P P 03 13 21.9 +0.7
AGG Agios Georgios 52.59 62 P P 03 13 21.6 -1.1
AGG pmax pmax
comp=Z,34nm,1.0s
AGG Agios Georgios 52.59 62 P P 03 13 21.6 -1.1
AGG IAmb IAmb 03 13 30.6
comp=Z,34nm,1.0s
LPAZ La Paz 52.75 212 P P 03 13 24.8 0.0
comp=Z,9.8nm,0.8s,baz=27,slow=6.1,SNR=27
LPAZ LR LR 03 34 27.8
comp=Z,2µm,19.9s,baz=6.5,slow=34
LPAZ La Paz 52.75 212 *e*P P 03 13 24.5 -0.2
LPAZ La Paz 52.75 212 P P 03 13 23.5 -1.2
LPAZ IAmb IAmb 03 13 32.9
comp=Z,28nm,0.9s
LPAZ La Paz 52.75 212 *e*P P 03 13 25.1 +0.4
ARCR ARCALIA 52.82 52 ⇑P P 03 13 24.3 0.0
TXAR Lajitas Array 52.98 286 P P 03 13 25.2 -0.6
comp=Z,8.8nm,0.8s,baz=95,slow=8.4,SNR=30
TXAR PcP PcP 03 14 34.1 -0.6
comp=Z,2.0nm,0.8s,baz=87,slow=4.6,SNR=5.4
TXAR LR LR 03 34 47.1
comp=Z,1µm,20.1s,baz=0.0,slow=35
TXAR Lajitas Array 52.98 286 P P 03 13 25.3 -0.5
TX31 Lajitas Ar. Si 52.98 286 IAmb IAmb 03 13 33.2
comp=Z,30nm,0.9s
TX32 Lajitas Array 52.98 286 P P 03 13 25.4 -0.5
VAO Valinhos 53.22 186 *e*P P 03 13 28.3 +0.9
VAO *e*pP pwP 03 13 30.5 -0.8
BUR08 Bucovina Ar. S 53.33 51 P P 03 13 27.3 -0.8
BUR08 IAmb IAmb 03 13 36.1
comp=Z,25nm,1.2s
BURAR Bucovina Array 53.34 51 ⇓P P 03 13 27.7 -0.6
BURAR Bucovina Array 53.34 51 P P 03 13 27.6 -0.6
BURAR Bucovina Array 53.34 51 P P 03 13 27.5 -0.7
ISAL Salakas 53.35 41 *e*P P 03 13 27.4 -0.6
S22A 4UR Ranch, Cre 53.37 297 P P 03 13 28.6 -0.2
baz=78
IIGN Ignalina 53.41 41 *e*P P 03 13 28.9 +0.5
FINES FINESS Array B 53.42 34 P P 03 13 28.3 -0.1
comp=Z,8.3nm,0.8s,baz=237,slow=4.6,SNR=13
FINES FINESS Array B 53.42 34 P P 03 13 28.0 -0.4
IZAR Zarasai 53.42 41 *e*P P 03 13 24.8 -3.7
PARB Paraibuna 53.45 184 *e*P P 03 13 30.2 +1.1
VOIR 53.50 54 ⇓P P 03 13 29.1 -0.4
VOIR 53.50 54 P P 03 13 29.0 -0.4
VSU Vasula 53.66 37 *e*P P 03 13 30.0 -0.2
DOPR Dopca 53.67 53 ⇓P P 03 13 30.3 -0.2
IDID Didziasalis 53.71 41 *e*P P 03 13 31.2 +0.6
MNTX Cornudas Mount 53.72 289 P P 03 13 31.0 -0.1
baz=74
ANMO Albuquerque 53.73 293 P P 03 13 32.0 +0.6
baz=76
ANMO Albuquerque 53.73 293⇑*e*P P 03 13 34.2 +2.8
ANMO pmax pmax
comp=Z,49nm,2.7s
ANMO Albuquerque 53.73 293 P P 03 13 32.2 +0.9
ANMO IAmb IAmb 03 13 41.5
comp=Z,15nm,1.1s
EGMT Eagleton 53.77 310 P P 03 13 31.8 +0.4
baz=83
TRCB Terra Rica 53.78 192 *e*P P 03 13 32.6 +1.1
RLMT Red Lodge 53.82 306 P P 03 13 32.4 +0.5
baz=82
RLMT Red Lodge 53.82 306 IAmb IAmb 03 13 41.3
comp=Z,20nm,1.1s
SPB Sao Paulo 53.84 186 *e*P P 03 13 32.5 +0.6
O20A White River Ci 53.95 300 P P 03 13 33.3 +0.4
baz=78
O20A White River Ci 53.95 300 IAmb IAmb 03 13 41.8
comp=Z,21nm,0.9s
BIZ Bicaz 54.02 52 ⇑P P 03 13 33.8 +0.7
ARCES ARCESS Array B 54.08 24 P P 03 13 32.1 -1.0
comp=Z,11nm,0.8s,baz=252,slow=4.6,SNR=20
MLR Muntele Rosu 54.12 54 P P 03 13 33.7 -0.2
comp=Z,23nm,1.2s,baz=217,slow=5.1,SNR=4.8
MLR Muntele Rosu 54.12 54 ⇑P P 03 13 34.4 +0.4
MLR Muntele Rosu 54.12 54 P P 03 13 34.0 0.0
MLR pmax pmax
comp=Z,71nm,1.3s
MLR Muntele Rosu 54.12 54 P P 03 13 34.0 0.0
SPITS Spitsbergen Ar 54.20 12 P P 03 13 34.3 +0.3
comp=Z,7.8nm,0.9s,baz=218,slow=6.8,SNR=2.1
MICGM Minsk 54.41 42 *e*P P 03 13 38.0 +2.2
MICGM *e*S S 03 21 20.0 +5.2
MICGM *e*SS SS 03 25 12.0 +15
MICGM *e*SSS SSS 03 27 25.0
MICGM *e*LR LR 03 30 10.0
MICGM LRM MLR 03 38 40.0
comp=Z,8.5nm,16.0s
MNK Minsk 54.41 42 *e*P P 03 13 38.0 +2.2
MNK *e*S S 03 21 20.0 +5.2
MNK pmax pmax
comp=E,8µm,16.0s
BW06 Boulder Array 54.42 303 P P 03 13 35.8 -0.6
baz=80,SNR=29
PDAR Pinedale Array 54.42 303 P P 03 13 35.8 -0.6
comp=E,9.4nm,0.8s,baz=86,slow=8.7,SNR=37
PDAR LR LR 03 35 43.6
comp=E,7µm,19.1s,baz=64,slow=35
PDAR Pinedale Array 54.42 303 P P 03 13 34.5 -1.9
PET01 Itanhaem-SP 54.52 186 *e*P P 03 13 38.5 +1.7
PLOR Plostina 54.55 53 ⇓P P 03 13 37.5 +0.4
VRI Vrincioaia 54.60 53 ⇑P P 03 13 38.3 +0.9
VRI Vrincioaia 54.60 53 P P 03 13 38.2 +0.9
BISRR Bisoca 54.64 53 ⇑P P 03 13 37.6 -0.2
MVCO Mesa Verde 54.78 296 P P 03 13 39.4 +0.3
baz=76
MVCO Mesa Verde 54.78 296 IAmb IAmb 03 13 48.4
comp=Z,14nm,1.1s
ODBI Odobesti 54.85 53 ⇑P P 03 13 38.9 -0.2
H17A Grant Village 54.86 305 P P 03 13 39.9 +0.4
baz=80
H17A Grant Village 54.86 305 IAmb IAmb 03 13 49.6
comp=Z,13nm,1.0s
FLWY Flagg Ranch 55.00 305 IAmb IAmb 03 13 49.9
comp=Z,30nm,1.2s
ALN Alexandroupoli 55.01 59 IAmb IAmb 03 13 48.0
comp=Z,22nm,1.1s
PB16 IPOC Station P 55.17 212 IAmb IAmb 03 13 49.8
comp=Z,14nm,1.1s
IMW Indian Meadow 55.20 305 IAmb IAmb 03 13 51.3
comp=Z,28nm,1.0s
REDW Red Top Meadow 55.24 304 IAmb IAmb 03 13 53.6
comp=Z,24nm,1.0s
TPAW Teton Pass 55.29 304 IAmb IAmb 03 13 51.8
comp=Z,26nm,1.1s
FXWY Fox Creek 55.31 304 IAmb IAmb 03 13 51.8
comp=Z,16nm,0.9s
SORM Soroca 55.37 50 ⇓P P 03 13 44.1 +1.3
SORM Soroca 55.37 50 P P 03 13 44.1 +1.3
BOZ Bozeman (W) 55.39 307 P P 03 13 43.5 +0.3
baz=80
IDI Anoyia 55.43 66 P P 03 13 42.5 -1.0
comp=Z,14nm,0.9s,baz=295,slow=11,SNR=4.5
IDI Anoyia 55.43 66 ⇓P P 03 13 43.1 -0.4
IDI Anoyia 55.43 66 IAmb IAmb 03 13 51.6
comp=Z,45nm,1.2s
121A Cookes Peak, D 55.44 291 P P 03 13 43.9 +0.1
baz=73
121A Cookes Peak, D 55.44 291 IAmb IAmb 03 13 53.2
comp=Z,22nm,1.1s
EZN Ezine 55.45 60 P P 03 13 48.2 +4.7
AHID Auburn Hatcher 55.53 303 IAmb IAmb 03 13 53.2
comp=Z,32nm,1.2s
PTGB Pitanga 55.56 191 *e*P P 03 13 46.6 +2.1
AKASG Malin Array Be 55.58 47 P P 03 13 42.2 -2.1
comp=Z,5.2nm,0.7s,baz=275,slow=6.2,SNR=13
AKASG Malin Array Be 55.58 47 *i* P P 03 13 43.5 -0.8
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 55.58 47 P P 03 13 43.7 -0.6
AKBB Malin Array Si 55.58 47 ⇓*i*P P 03 13 43.8 -0.5
AKBB pmax pmax
comp=Z,28nm,1.4s
AKBB Malin Array Si 55.58 47 IAmb IAmb 03 13 56.5
comp=Z,30nm,1.4s
SANT Santorini 55.60 65 ⇓P P 03 13 44.4 -0.4
YKA Yellowknife Ar 55.66 328 P P 03 13 43.7 -1.0
comp=Z,2.3nm,0.9s,baz=87,slow=7.3,SNR=6.7
YKA PcP PcP 03 14 42.8 -1.3
comp=Z,2.9nm,0.9s,baz=87,slow=5.0,SNR=3.7
YKA LR LR 03 37 37.4
comp=Z,4µm,18.5s,baz=0.0,slow=36
KIS Kishinev 55.85 51 *e* P 03 13 47.0 +0.7
KIS Kishinev 55.85 51 *e*P P 03 13 47.0 +0.7
DLMT Dillon 56.10 307 IAmb IAmb 03 13 57.5
comp=Z,17nm,1.1s
HWUT Hardware Ranch 56.11 302 IAmb IAmb 03 13 57.3
comp=Z,26nm,0.9s
W18A Petrified Fore 56.28 294 P P 03 13 50.0 +0.1
baz=74
WALA Waterton Lakes 56.37 311 IAmb IAmb 03 13 58.5
comp=Z,21nm,1.0s
PURM Purcari 56.65 52 ⇓P P 03 13 52.6 +0.6
MSO Missoula 56.76 309 P P 03 13 53.5 +0.6
baz=80
APA Apatity 56.79 26⇓*i*P P 03 13 51.9 -0.8
APA pmax pmax
comp=Z,9.0nm,0.9s
319A Douglas 56.99 290 IAmb IAmb 03 14 07.3
comp=Z,16nm,1.1s
DUG Dugway, Tooele 57.35 301 P P 03 13 57.1 -0.2
baz=76,SNR=18
DUG Dugway, Tooele 57.35 301 IAmb IAmb 03 14 06.7
comp=Z,29nm,1.1s
WUAZ Wupatki 57.46 295 P P 03 13 58.4 +0.2
baz=74,SNR=10
WUAZ Wupatki 57.46 295 IAmb IAmb 03 14 08.2
comp=Z,24nm,1.1s
PB01 IPOC Station P 57.52 211 IAmb IAmb 03 14 07.5
comp=Z,30nm,0.9s
ARG Arkhangelos 57.72 64 P P 03 14 04.1 +4.3
HLID Hailey 57.74 305 P P 03 14 00.2 +0.2
baz=77
TUC Tucson 57.93 291 P P 03 14 01.6 +0.2
baz=72
TUC Tucson 57.93 291 P P 03 14 04.3 +2.9
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 57.93 291 P P 03 14 04.3 +2.9
U15A North Rim 57.93 296 IAmb IAmb 03 14 10.9
comp=Z,15nm,1.1s
CPUP Villa Florida 58.21 196 P P 03 14 02.4 -0.7
comp=Z,7.1nm,1.1s,baz=355,slow=7.7,SNR=7.4
CPUP Villa Florida 58.21 196 P P 03 14 02.7 -0.4
CPUP pmax pmax
comp=Z,35nm,1.4s
CPUP Villa Florida 58.21 196 P P 03 14 02.7 -0.4
CPUP IAmb IAmb 03 14 10.6
comp=Z,35nm,1.4s
CPUP Villa Florida 58.21 196 *e*P P 03 14 03.7 +0.6
PLID Pearl Lake 58.51 307 IAmb IAmb 03 14 14.4
comp=Z,19nm,1.1s
NEW Newport 58.60 311 P P 03 14 05.3 -0.5
baz=78,SNR=9.5
NEW Newport 58.60 311 IAmb IAmb 03 14 14.7
comp=Z,26nm,0.9s
LVC Limon Verde 58.65 209 P P 03 14 06.6 -0.1
LVC pmax pmax
comp=Z,28nm,1.0s
LVC Limon Verde 58.65 209 P P 03 14 06.6 -0.1
LVC IAmb IAmb 03 14 14.3
comp=Z,28nm,0.9s
LVC Limon Verde 58.65 209 *e*P P 03 14 06.7 0.0
AKAS Kas 58.86 64 IAmb IAmb 03 14 15.0
comp=Z,17nm,1.1s
ELL Elmali 58.95 63 P P 03 14 10.2 +1.7
ELK Elko 59.01 302 LR LR 03 38 15.0
comp=Z,4µm,19.4s,baz=73,slow=35
ISP Isparta 59.12 62 P P 03 14 12.6 +2.9
ISP Isparta 59.12 62 IAmb IAmb 03 14 21.6
comp=Z,21nm,1.2s
Y14A Wickenburg 59.20 294 IAmb IAmb 03 14 20.2
comp=Z,14nm,1.1s
OBN Obninsk 59.33 41⇓*e*P P 03 14 11.6 +1.0
OBN *e* 03 14 58.5
OBN *e* 03 16 27.5
OBN *e*S S 03 22 16.8 -2.9
OBN pmax pmax
comp=Z,114nm,1.3s
OBN MLR MLR
comp=Z,6µm,17.0s
C09A Chrisman Ranch 59.45 310 IAmb IAmb 03 14 22.4
comp=Z,9.1nm,0.8s
E09A Wood Farm, Sta 59.66 309 IAmb IAmb 03 14 23.4
comp=Z,11nm,1.1s
PRN Pahroc Range 59.77 298 IAmb IAmb 03 14 22.9
comp=Z,14nm,1.0s
MOS Moscow 59.81 40 *e*P P 03 14 19.6 +5.6
MOS pmax pmax
comp=Z,64nm,1.3s
CNLB Canela 59.89 189 *e*P P 03 14 15.7 +0.9
R11A Troy Canyon, C 59.91 299 P P 03 14 14.8 -0.4
baz=74
KLMR Klimovskoe 59.95 34 *e*P P 03 14 13.0 -1.8
KLMR pmax pmax
comp=Z,56nm,1.3s
KLMR Klimovskoe 59.95 34 *e*P P 03 14 13.1 -1.8
KLMR AMP 03 14 22.7
comp=Z,56nm,1.3s
D08A Wollman Farm, 60.05 310 IAmb IAmb 03 14 24.7
comp=Z,28nm,1.1s
SHPR Sheep Range 60.12 297 P P 03 14 17.4 +0.7
LPIG La Paz 60.34 282 LR LR 03 38 36.4
comp=Z,1µm,21.2s,baz=38,slow=34
HAWA Hanford 60.62 309 IAmb IAmb 03 14 27.5
comp=Z,16nm,0.9s
J08A Circle Bar Ran 60.66 306 IAmb IAmb 03 14 34.4
comp=Z,24nm,1.1s
E07A Sunnyside 60.79 309 P P 03 14 21.4 +0.5
E07A IAmb IAmb 03 14 33.5
comp=Z,14nm,0.9s
TPNV Topopah Spring 60.82 298 P P 03 14 21.7 +0.2
baz=72,SNR=12
TPNV Topopah Spring 60.82 298 IAmb IAmb 03 14 31.7
comp=Z,23nm,1.0s
IRM Iron Mountain 60.83 295 P P 03 14 21.9 +0.5
baz=72
BR131 Keskin Array S 60.92 59 P P 03 14 21.8 -0.3
BR131 pmax pmax
comp=Z,20nm,1.3s
BR131 Keskin Array S 60.92 59 P P 03 14 21.8 -0.3
BR131 IAmb IAmb 03 14 29.4
comp=Z,20nm,1.2s
BRTR Keskin Array B 60.92 59 P P 03 14 21.2 -0.8
comp=Z,6.6nm,1.0s,baz=274,slow=4.9,SNR=18
BRTR Keskin Array B 60.92 59 *i* P P 03 14 21.8 -0.3
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 60.92 59 P P 03 14 21.1 -0.9
GMRC Granite Mounta 61.03 295 P P 03 14 23.0 +0.2
baz=72
TUQ Turquoise Moun 61.03 296 P P 03 14 23.3 +0.4
baz=72
PB14 IPOC Station P 61.07 210 P P 03 14 22.9 -0.4
GO02 Mina Guanaco 61.20 209 P P 03 14 24.1 -0.1
LPSR Galich'ya Gora 61.20 43 *e*P P 03 14 23.9 +0.4
LPSR pmax pmax
comp=Z,60nm,1.0s
BC3 Big Chuckawall 61.23 294 P P 03 14 24.1 -0.1
baz=71
CPSB Cacapava Do Su 61.36 191 *e*P P 03 14 24.7 0.0
FURC Furnace Creek, 61.44 298 P P 03 14 25.8 +0.4
baz=72
BELC Belle Mtn. Jos 61.55 295 P P 03 14 25.8 -0.6
baz=71
GRAC Grapevine Rang 61.66 298 P P 03 14 26.9 -0.1
baz=72
VSR Storozhevoye 61.67 45 *e*P P 03 14 25.8 -0.9
VSR pmax pmax
comp=Z,20nm,1.0s
LEF Lefka 61.75 64 ⇓P P 03 14 26.9 -0.6
GSC Goldstone, Bar 61.76 296 P P 03 14 28.0 +0.2
baz=71
VORD Divnogorie 61.80 45 *e*P P 03 14 28.0 +0.4
VORD pmax pmax
comp=Z,20nm,0.9s
NV11 Mina Array Sit 61.82 300 IAmb IAmb 03 14 37.0
comp=Z,14nm,1.1s
B05A Bryant 61.84 312 P P 03 14 26.6 -1.3
baz=75
NVAR Mina Array Bea 61.93 300 P P 03 14 28.3 -0.7
comp=Z,3.5nm,0.8s,baz=65,slow=6.5,SNR=18
NVAR LR LR 03 40 09.9
comp=Z,6µm,19.8s,baz=54,slow=35
NVAR Mina Array Bea 61.93 300 P P 03 14 28.0 -1.0
RYN Ryan 62.03 300 IAmb IAmb 03 14 37.8
comp=Z,10nm,1.0s
PFO Pinyon Flats O 62.04 294 LR LR 03 39 10.0
comp=Z,4µm,19.7s,baz=35,slow=34
PFO Pinyon Flats O 62.04 294 P P 03 14 29.8 +0.1
baz=71
PFO Pinyon Flats O 62.04 294⇑*e*P P 03 14 33.0 +3.3
PFO pmax pmax
comp=Z,68nm,3.2s
F05D White Salmon 62.04 309 P P 03 14 28.9 -0.4
baz=74
LON Longmire 62.04 310 IAmb IAmb 03 14 36.7
comp=Z,10nm,1.1s
MPMC Manual Prospec 62.05 297 P P 03 14 29.5 -0.3
baz=72,SNR=6.2
RMX La Rumorosa 62.07 293 IAmb IAmb 03 14 39.6
comp=Z,18nm,1.2s
IKP In-Ko-Pah, Jac 62.08 293 P P 03 14 30.1 +0.2
baz=70
LHV Little Huntoon 62.13 300 IAmb IAmb 03 14 38.0
comp=Z,12nm,0.9s
MONP2 Monument Peak 62.25 294 P P 03 14 30.8 -0.4
baz=70
TIN Tinemaha, Big 62.30 299 P P 03 14 31.1 -0.3
baz=72
PAHR Pah Rah Range 62.34 302 IAmb IAmb 03 14 40.5
comp=Z,24nm,1.0s
MOD Modoc Plateau 62.36 304 IAmb IAmb 03 14 40.5
comp=Z,11nm,0.9s
CWC Cottonwood Cre 62.38 298 P P 03 14 32.6 +0.6
baz=71
I05D Terrebonne, OR 62.39 307 P P 03 14 31.6 -0.2
baz=74
AC02 Maricunga 62.49 207 P P 03 14 33.8 +0.7
K05A Summer Lake 62.54 305 P P 03 14 33.2 +0.3
J05D Fort Rock, OR 62.62 306 P P 03 14 32.6 -0.8
baz=73
PNTR Pine Nut 62.69 301 IAmb IAmb 03 14 41.3
comp=Z,7.4nm,0.8s
PRGR Permogore 62.69 32 *e*P P 03 14 31.1 -2.3
PRGR pmax pmax
comp=Z,34nm,0.9s
PLTB Pedras Altas 62.71 191 *e*P P 03 14 34.1 +0.3
MDPB Devils Postpil 62.76 299 IAmb IAmb 03 14 44.4
comp=Z,11nm,0.9s
INK Inuvik 62.81 335 P P 03 14 34.0 -0.1
INK pmax pmax
comp=Z,33nm,0.9s
INK Inuvik 62.81 335 P P 03 14 34.0 -0.1
EDW2 Edwards Air Fo 62.82 296 P P 03 14 35.1 +0.2
baz=71
H04A Detroit Lake 62.87 308 IAmb IAmb 03 14 51.7
comp=Z,9.6nm,1.0s
ISA Isabella, Lake 62.93 297 P P 03 14 35.8 +0.2
baz=71,SNR=6.2
ISA Isabella, Lake 62.93 297 IAmb IAmb 03 14 46.1
comp=Z,14nm,1.2s
VRH Novokhopyorsk 63.22 44 *e*P P 03 14 36.8 -0.3
VRH pmax pmax
comp=Z,50nm,1.2s
J04D Umpqua Nationa 63.24 306 P P 03 14 37.8 +0.1
baz=73
I04A Tendick Farm, 63.28 307 P P 03 14 37.3 -0.4
baz=73
H04D Lebanon 63.29 308 P P 03 14 36.6 -1.1
baz=73
M04C Macdoel 63.49 305 P P 03 14 38.9 -0.3
baz=72
L04D Klamath Falls 63.69 305 P P 03 14 40.5 -0.1
baz=72
DLBC Dease Lake 63.77 324 LR LR 03 42 04.9
comp=Z,5µm,18.8s,baz=63,slow=36
DLBC Dease Lake 63.77 324 IAmb IAmb 03 14 49.4
comp=Z,8.8nm,0.9s
VCA Vinchina 63.84 206 *i* P P 03 14 42.7 +1.1
O03E Paynes Creek 63.93 303 P P 03 14 41.8 -0.3
baz=71
ACLC CERRO LA CRUZ 64.01 204 *i* P P 03 14 42.8 +0.1
YBH Yreka Blue Hor 64.12 305 LR LR 03 40 51.8
comp=Z,3µm,21.9s,baz=62,slow=34
SOC Sochi 64.13 53 *e*P P 03 14 42.4 -0.8
SOC *e* 03 17 05.4
SOC *e*PPP PPP 03 18 33.0
SOC *e*S S 03 23 19.0 -1.9
SOC *e* 03 24 34.9
SOC pmax pmax
comp=Z,30nm,1.2s
M02C Callahan 64.33 304 P P 03 14 43.7 -1.0
baz=71
N02D Trinity Center 64.36 304 P P 03 14 43.4 -1.5
baz=71
GAZ Gaziantep 64.38 60 IAmb IAmb 03 14 52.6
comp=Z,26nm,1.3s
MMAI Mount Meron Ar 64.42 65 P P 03 14 44.9 -0.5
comp=Z,3.8nm,0.7s,baz=312,slow=4.7,SNR=5.6
BBB Bella Bella 64.48 317 LR LR 03 42 35.3
comp=Z,3µm,18.2s,baz=64,slow=36
K02D Willamette Mer 64.49 306 P P 03 14 43.8 -1.9
baz=72
L02E Cave Junction 64.62 305 P P 03 14 44.3 -2.2
baz=71
O02D Mt. Diablo Mer 64.68 303 P P 03 14 44.9 -2.2
baz=71
AC05 El Transito 64.73 207 IAmb IAmb 03 15 03.3
comp=Z,18nm,1.1s
TCA Tanti 64.97 201 *i* P P 03 14 47.7 -1.1
KHMM Horse Mountain 65.13 304 IAmb IAmb 03 14 57.9
comp=Z,6.9nm,0.8s
KMRM Mail Ridge 65.33 303 IAmb IAmb 03 15 00.4
comp=Z,17nm,1.0s
KIRV Kirov 65.35 35 P P 03 14 49.6 -1.3
comp=Z,4.6nm,0.5s,baz=315,slow=4.3,SNR=1.7
KIRV Kirov 65.35 35⇓*e*P P 03 14 51.0 +0.1
AROD Rodeo 65.61 206 *i* P P 03 14 54.3 +1.1
ACCO Cerro Coronel 65.83 206 *i* P P 03 14 55.1 +0.5
ASF Jabal al Asfar 65.90 66 P P 03 14 54.5 -0.6
comp=Z,5.2nm,1.1s,baz=13,slow=5.0,SNR=5.5
KIV Kislovodsk 66.05 52 *e*P P 03 14 53.8 -2.0
KIV pmax pmax
comp=Z,50nm,1.1s
KBZ Khabaz 66.27 52 P P 03 14 57.5 +0.5
comp=Z,4.6nm,1.0s,baz=310,slow=9.8,SNR=5.0
KBZ LR LR 03 42 48.4
comp=Z,6µm,20.3s,baz=322,slow=35
KBZ Khabaz 66.27 52⇓*i*P P 03 14 56.5 -0.6
KBZ pmax pmax
comp=Z,14nm,1.0s
BELG Belogornoye 66.36 42⇑*e*P P 03 14 56.1 -1.4
ARTV Artvin 66.46 55 P P 03 15 02.2 +3.5
ARTV IAmb IAmb 03 15 07.5
comp=Z,12nm,1.2s
RTCV Cerro Valdivia 66.78 205 *i* P P 03 15 01.1 +0.7
EGAK Eagle 66.80 333 IAmb IAmb 03 15 10.8
comp=Z,12nm,1.1s
MARD Mardin 67.00 59 P P 03 15 03.0 +0.9
MARD IAmb IAmb 03 15 10.0
comp=Z,22nm,1.0s
RTLS Leoncito 67.00 205 *i* P P 03 15 03.2 +1.1
ZEI Tsey 67.28 53 *e*P P 03 15 03.2 -0.7
ZEI pmax pmax
comp=Z,13nm,1.1s
AUSP Uspallata 67.42 205 *i* P P 03 15 05.7 +0.9
K27K Chicken 67.45 332 P P 03 15 03.8 -0.5
baz=67
AKH Akhalkalaki 67.49 54 IAmb IAmb 03 15 13.2
comp=Z,18nm,1.1s
ASAL Salagasta 67.55 204 *i* P P 03 15 06.3 +0.9
ARCO CERRO ARCO 67.81 204 *i* P P 03 15 09.2 +2.1
AAGR Agrelo 67.99 204 *i* P P 03 15 09.2 +1.0
SCRK Sand Creek 68.24 332 P P 03 15 08.8 -0.6
baz=66
GROC Groznyy 68.43 52 *e*P P 03 15 12.6 +1.8
GROC *e* 03 15 37.0
GROC *e* 03 17 42.3
GROC pmax pmax
comp=Z,14nm,0.7s
GROC MLR MLR
comp=Z,976nm,13.0s
RIDG Independent Ri 68.69 332 IAmb IAmb 03 15 19.5
comp=Z,8.0nm,0.8s
ILAR Eielson Array 69.04 334 P P 03 15 14.3 0.0
comp=Z,5.3nm,1.0s,baz=60,slow=4.5,SNR=38
ILAR PKP2bc 03 43 24.2
comp=Z,0.8nm,1.0s,baz=290,slow=3.7,SNR=4.9
ILAR LR LR 03 45 39.3

comp=Z,3µm,18.5s,baz=90,slow=36
ILAR Eielson Array 69.04 334 P **P** 03 15 13.0 -1.3
POKR Poker Flat Res 69.09 334 P **P** 03 15 14.8 +0.3
baz=63
COLD Coldfoot 69.10 337 P **P** 03 15 13.0 -1.6
baz=62
HDA Harding Lake 69.22 333 P **P** 03 15 15.2 -0.2
baz=63
GLB Gilahina Butte 69.23 330 IAmb IAmb 03 15 27.7
comp=Z,13nm,1.3s
COLA College 69.36 334⇑ *e*P **P** 03 15 16.6 +0.4
COLA pmax pmax
comp=Z,13nm,0.8s
TCOL CIGO, UAF Yank 69.36 334 P **P** 03 15 16.0 -0.2
baz=63
WRH Wood River Hil 69.64 334 P **P** 03 15 18.2 +0.2
NEA2 Nenana 69.95 334 P **P** 03 15 19.4 -0.6
baz=62,SNR=5.4
MCK McKinley 70.31 333 P **P** 03 15 21.6 -0.5
baz=61
MLY Manley 70.36 335 P **P** 03 15 22.9 +0.4
baz=60
ARU Arti 70.73 35 P **P** 03 15 23.1 -1.6
comp=Z,3.9nm,0.2s,baz=310,slow=3.9,SNR=4.4
ARU Arti 70.73 35*c* *i*P P 03 15 32.2 +7.4
ARU pmax pmax
comp=Z,36nm,1.3s
ARU Arti 70.73 35 **pwP 03 15 32.5 +3.8**
ARU IAmb IAmb 03 15 33.4
comp=Z,54nm,1.4s
BPAW Bear Paw Mtn. 70.92 334 IAmb IAmb 03 15 39.6
comp=Z,12nm,1.1s
SVE Sverdlovsk 71.58 34 *e*P P 03 15 37.2 +7.3
SVE pmax pmax
comp=Z,61nm,1.5s
PPLA Purkeypile 72.00 333 IAmb IAmb 03 15 49.7
comp=Z,22nm,1.1s
BI02 San Fabin de 72.08 204 IAmb IAmb 03 15 41.5
comp=Z,18nm,0.9s
H09N1 TRISTAN DA CUN 72.53 156 T T 04 34 48.9
SNR=48
H09W1 TRISTAN DA CUN 72.55 156 T T 04 34 51.5
SNR=14
AKTO Aktyubinsk 73.11 41 P **P** 03 15 38.4 -0.9
comp=Z,3.0nm,0.7s,baz=296,slow=7.9,SNR=6.2
NRIK Noril'sk 74.09 17 P **P**
comp=Z,13nm,1.1s,baz=54,slow=1.3,SNR=6.6 **03 15 44.5 -0.1**
NRIK Noril'sk 74.09 17*de*P **P** 03 15 44.8 +0.2
NRIK pmax pmax
comp=Z,14nm,1.0s
LC01 Cunco 74.29 204 IAmb IAmb 03 15 53.8
comp=Z,23nm,1.1s
ABKAR Akbulak array 74.76 42 P **P** 03 15 49.8 +0.9
MBAR Mbarara 75.37 99 P **P** 03 15 55.2 +2.1
MBAR pmax pmax
comp=Z,5.0nm,0.9s
MBAR Mbarara 75.37 99 P **P** 03 15 55.2 +2.1
PLCA Paso Flores 75.49 202 P **P** 03 15 51.9 -1.1
comp=Z,8.1nm,1.1s,baz=20,slow=7.2,SNR=10
PLCA Paso Flores 75.49 202 IAmb IAmb 03 16 01.5
comp=Z,23nm,1.1s
TIXI Tiksi 78.13 3*de*P **P** 03 16 07.6 0.0
TIXI Tiksi 78.13 3 P **P** 03 16 07.5 0.0
BRVK Borovoye 78.29 35⇑ *e*P **P** 03 16 08.9 +0.1
BRVK pmax pmax
comp=Z,28nm,1.4s
BRVK Borovoye 78.29 35 P **P** 03 16 09.1 +0.3
BRVK IAmb IAmb 03 16 17.9
comp=Z,31nm,1.4s
BVAR Borovoye Array 78.36 35 P **P** 03 16 08.8 -0.4
comp=Z,1.9nm,0.8s,baz=243,slow=14,SNR=9.5
GEYT Alibeck 79.16 52 P **P** 03 16 14.2 +0.3
comp=Z,0.8nm,0.3s,baz=27,slow=40,SNR=1.8
GEYT Alibeck 79.16 52 IAmb IAmb 03 16 22.9
comp=Z,6.0nm,1.2s
BILL Bilibino 79.72 350⇑ *e*P **P** 03 16 16.2 -0.2
BILL *e* 03 16 22.6
BILL *e* 03 19 22.3
BILL *e*S **SKSac 03 26 38.3 +4.4**
BILL pmax pmax
comp=Z,13nm,1.1s
BILL MLR MLR
comp=Z,1µm,17.0s
KMBO Kilima Mbogo 81.21 96 P **P** 03 16 27.8 +2.1
comp=Z,4.2nm,1.1s,baz=268,slow=11,SNR=3.0
KMBO Kilima Mbogo 81.21 96 P **P** 03 16 27.8 +2.1
KMBO pmax pmax
comp=Z,7.0nm,1.3s
KMBO Kilima Mbogo 81.21 96 IAmb IAmb 03 16 33.0
comp=Z,7.4nm,1.2s
EFI East Falkland 82.85 190⇓ *e*P **P** 03 16 33.4 +0.5
EFI pmax pmax
comp=Z,112nm,1.9s
KURK Kurchatov 83.79 33⇓ *i*P **P** 03 16 37.6 -0.6
KURK pmax pmax
comp=Z,14nm,1.2s
KURK Kurchatov 83.79 33 P **P** 03 16 37.9 -0.2
KURBB Kurchatov Arra 83.81 34 P **P** 03 16 37.5 -0.8
comp=Z,5.3nm,0.7s,baz=309,slow=5.1,SNR=26
KKAR Karatay Array 84.25 43 P **P** 03 16 40.5 -0.2
KKAR Karatay Array 84.25 43 P **P** 03 16 40.5 -0.2
UOSS Minazil 84.28 65 P **P** 03 16 40.6 -0.6
ZALV Zalesovo Beam 84.31 28 P **P** 03 16 40.0 -0.8
comp=Z,5.8nm,0.9s,baz=305,slow=5.2,SNR=10
ZALV PP **PP** 03 19 55.3 +0.6
comp=Z,0.4nm,0.3s,baz=304,slow=10,SNR=1.9
ZALV Zalesovo Beam 84.31 28 *i*P **P** 03 16 40.4 -0.4
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 84.31 28 P **P** 03 16 39.8 -1.0
SEY Seymchan 86.39 354⇑ *e*P **P** 03 16 50.4 -0.6
AAK Ala-Archa 86.85 41⇑ *e*P **P** 03 16 55.6 +1.7
AAK pmax pmax
comp=Z,21nm,1.3s
WSAR Wadi Sarin 87.06 65 P **P** 03 16 54.9 -0.2
comp=Z,10.0nm,1.0s,baz=275,slow=1.4,SNR=4.8
YAK Yakutsk 87.75 4⇓ *e*P **P** 03 16 56.7 -0.9
YAK pmax pmax
comp=Z,47nm,1.3s
MKAR Makanchi Array 88.24 35 P **P** 03 16 59.5 -0.8
comp=Z,2.0nm,1.0s,baz=316,slow=6.8,SNR=7.2
MKAR PKKPbc **PKKPbc 03 34 42.4 -1.6**
comp=Z,1.3nm,0.8s,baz=129,slow=3.9,SNR=4.3
MKAR Makanchi Array 88.24 35 *i*P **P** 03 17 01.7 +1.4
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 88.24 35 P **P** 03 16 59.1 -1.2
DGZ Jazzator, Alta 88.53 30⇑ *e*P **P** 03 17 02.1 +0.3
DGZ pmax pmax
comp=Z,10.0nm,2.4s
KSH Kashi 89.70 43 P **P** 03 17 07.0 -0.5
KSH pmax pmax
comp=Z,7.0nm,1.0s
BOD Bodaibo 89.92 13 *e*P **P** 03 17 05.9 -2.0
BOD pmax pmax
comp=Z,24nm,1.2s
NIL Nilore 91.71 49 P **P** 03 17 18.0 +1.2
NIL pmax pmax
comp=Z,28nm,1.6s
NIL Nilore 91.71 49 P **P** 03 17 18.0 +1.2
WMQ Urumqi 93.02 34 *e*P **P** 03 17 24.4 +1.7
WMQ pP pwP 03 17 30.7 +4.1
WMQ pmax pmax
comp=Z,15nm,0.9s
LZH Lanzhou 106.54 28 Pdif **Pdif** 03 18 20.4 -3.3
XAN Xi'an 110.33 26 PKP **PKiKP** 03 22 42.0 +0.5
XAN PP **PP** 03 23 21.2 +6.3
CD2 Chengdu 110.93 31 Pdif **Pdif** 03 18 41.5 -1.7
CMAR Chiang Mai Arr 118.60 43 PP PP 03 24 16.6 +2.7
comp=Z,0.9nm,0.3s,baz=311,slow=10,SNR=4.5
MAW Mawson 123.25 154 PKP **PKPdf** 03 23 04.1 -0.8
comp=Z,3.3nm,0.7s,baz=259,slow=2.7,SNR=8.1
VNDA Vanda 131.46 187 PKP **PKPdf** 03 23 20.1 -0.3
comp=Z,8.2nm,1.0s,baz=183,slow=2.3,SNR=30
VNDA Vanda 131.46 187 PKPdf **PKiKP** 03 23 21.0 -0.4
CASY Casey 140.29 163 PKPdf **PKPdf** 03 23 36.8 -0.3
URZ Urewera 146.98 245 **PKPbc** 03 23 52.1 +0.5
BKZ Black Stump Fm 147.42 244 **PKPab** 03 23 54.0 -0.9
RPZ Rata Peaks 150.67 234 PKPab **PKPab** 03 24 08.3 +0.3
WRA Warramunga Arr 169.15 19 PKP **PKPdf** 03 24 15.3 -1.6
comp=Z,1.0nm,1.0s,baz=306,slow=1.1,SNR=5.4
WRA PKPab **PKPab 03 25 27.8 -0.6**
comp=Z,1.6nm,1.1s,baz=349,slow=4.5,SNR=3.5
WRA PP **PP** 03 29 14.7 -2.0
comp=Z,1.4nm,1.0s,baz=349,slow=5.9,SNR=5.9
ASAR Alice Springs 172.41 30 PKP **PKPdf** 03 24 17.2 -1.3
comp=Z,1.9nm,1.0s,baz=251,slow=0.3,SNR=11
ASAR PKPab **PKPab 03 25 42.2 -0.7**
comp=Z,2.3nm,0.9s,baz=334,slow=4.1,SNR=10
ASAR PP **PP 03 29 32.4 -1.0**
comp=Z,0.6nm,0.9s,baz=340,slow=4.1,SNR=3.5
ASAR Alice Springs 172.41 30 **PKPdf 03 24 16.7 -1.9**
ASAR PKPab **PKPab 03 25 40.6 -2.2**

IDC 08 03:04:44.4±9.5, 23°.47N×108°.27W, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.3/39, mbtmp2.9/4, ML3.4/3, Error ellipse: s-maj=145.1km s-min=57.0km az=167.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.15**	**34**	Pn		Pn	03 06 31.3	+0.8
	0.1nm,0.3s,baz=211,slow=13,SNR=6.3							
TXAR				Lg		Lg	03 08 27.3	
	0.1nm,0.3s,baz=221,slow=31,SNR=2.8							
NVAR	**Mina Array Bea**	**17.20**	**332**	P		Pn	03 08 46.0	-0.4
	0.1nm,0.3s,baz=145,slow=13,SNR=2.6							
PDAR	**Pinedale Array**	**19.28**	**357**	P		Pn	03 09 11.5	-0.4
	0.0nm,0.3s,baz=170,slow=11,SNR=3.1							
ILAR	**Eielson Array**	**48.30**	**339**	P		P	03 13 27.0	-0.2
	0.2nm,0.6s,baz=144,slow=6.5,SNR=2.9							
H03N2	**Juan Fernandez**	**63.12**	**153**	T		T	04 24 34.7	
	baz=324							
H03N1	**Juan Fernandez**	**63.13**	**153**	T		T	04 24 36.7	
	baz=324							
H03N3	**Juan Fernandez**	**63.14**	**153**	T		T	04 24 32.1	
	baz=324							

*DDA **08** 03:08:49.1, 40°.75N×27°.48E, h17km±3km, ML3.2*
*ISK **08** 03:08:49.5, 40°.76N×27°.49E, h19km, ML3.3/42*
*ATH **08** 03:08:51.1, 40°.71N×27°.32E, h39km±3km, ML2.9/7, Error ellipse: s-maj=5.8km s-min=2.0km az=53.0*
*THE **08** 03:08:51.5, 40°.76N×27°.51E, h31km±21km, ML3.1/4, Error ellipse: s-maj=21.4km s-min=0.5km az=354.0*
*BEO **08** 03:08:51.2±1.1, 40°.51N×27°.34E, h15km, ML3.5/3*
ISC 08 03:08:49.8±0.8, 40°.76N±0°.02×27°.49E±0°.01, h19km±6km, n111, σ0s83/148, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAR4	**Marsite Statio**	**0.14**	**280**	PG		**Pg**	**03 08 53.9**	**-0.2**
MAR4				SG		**Sb**	**03 08 57.2**	**+3.2**
MAR6	**Marsite Statio**	**0.18**	**250**	PG		**Pb**	**03 08 54.9**	**+1.4**
MRMT	**Marmara Adasi**	**0.18**	**152**	PG		**Pg**	**03 08 54.4**	**-0.2**
MRMT				SG		**Sg**	**03 08 57.6**	**-0.3**
TKR	**Tekirdag**	**0.23**	**10**	PG		**Pb**	**03 08 55.6**	**+0.6**
TKR				SG		**Sb**	**03 08 59.5**	**+1.1**
SART	**Tekirdag**	**0.24**	**252**	*i* P		**Pg**	**03 08 55.7**	**+0.2**
SART				*i* S		**Sg**	**03 08 59.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.24**	**252**	PG		**Pg**	**03 08 55.6**	**+0.1**
RKY				SG		**Sb**	**03 08 59.8**	**+0.6**
KRBG	**Karabiga-Canak**	**0.40**	**201**	PG		**Pg**	**03 08 58.1**	**+0.1**
CRLT	**Corlu**	**0.41**	**27**	PG		**Pg**	**03 08 58.6**	**+0.3**
BOTS	**Marmara Eregli**	**0.44**	**59**	PG		**Pg**	**03 08 59.0**	**+0.2**
BOTS				SG		**Sb**	**03 09 06.0**	**+0.8**
EDC	**Edincik**	**0.51**	**145**	PG		**Pg**	**03 09 00.0**	**0.0**
KESN	**Edirne-Kesan**	**0.61**	**276**	*i* P		**Pg**	**03 09 01.9**	**-0.2**
KESN				*i* S		**Sg**	**03 09 09.6**	**-0.9**
KESN				IAML			03 09 11.0	
	comp=E,1µm,0.2s							
KESN				IAML			03 09 12.0	
	comp=N,954nm,0.3s							
LPK	**Lapseki**	**0.68**	**235**	PG		**Pg**	**03 09 02.9**	**-0.2**
SLVT	**Silivri**	**0.72**	**49**	PG		**Pb**	**03 09 04.2**	**+0.5**
GONE	**Gonen-Balikesi**	**0.73**	**168**	PG		**Pb**	**03 09 04.5**	**+0.6**
UKOP	**Uzunkopru-Edir**	**0.74**	**300**	PG		**Pg**	**03 09 05.1**	**+0.7**
ERIK	**Erikli-Kesan**	**0.74**	**263**	PG		**Pb**	**03 09 04.3**	**+0.2**
ELBA	**Catalca**	**0.81**	**62**	*i* P		**Pb**	**03 09 05.3**	**0.0**
ELBA				*i* S		**Sb**	**03 09 15.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.85**	**245**	PG		**Pb**	**03 09 05.7**	**-0.3**
PHSR	**Pinarhisar**	**0.87**	**2**	PG		**Pb**	**03 09 06.8**	**+0.6**
CTKS	**Kestanelik-??a**	**0.91**	**58**	PG		**Pb**	**03 09 06.8**	**-0.1**
YKBL	**Yakuplu-Istanb**	**0.93**	**75**	PG		**Pb**	**03 09 07.6**	**+0.4**
CTYL	**Yalikoy Yolu**	**0.94**	**40**	PG		**Pb**	**03 09 07.8**	**+0.4**
AVCI	**Avcilar-stanb**	**0.97**	**76**	PG		**Pb**	**03 09 07.9**	**0.0**
ENEZ	**Enez**	**1.01**	**269**	P		**Pb**	**03 09 09.0**	**+0.2**
ENEZ				S		**Sb**	**03 09 22.4**	**+0.8**
	comp=N,1µm,0.2s							
ENEZ	**Enez**	**1.01**	**269**	PG		**Pb**	**03 09 08.9**	**+0.2**
BALY	**Balya**	**1.03**	**174**	*i* P		**Pn**	**03 09 09.7**	**+0.4**
BALY				*i* S		**Sg**	**03 09 23.2**	**-0.1**
BALY				IAML			03 09 25.0	
	comp=N,799nm,0.3s							
BALY				IAML			03 09 25.0	
	comp=E,692nm,0.4s							
HVHR	**Bakirkoy-Istan**	**1.05**	**78**	PG		**Pb**	**03 09 09.8**	**+0.4**
BGKT	**Bogazkoy**	**1.06**	**66**	PG		**Pb**	**03 09 09.4**	**-0.1**
ARMT	**Armutlu**	**1.07**	**100**	PG		**Pb**	**03 09 09.4**	**-0.2**
ALN	**Alexandroupoli**	**1.10**	**277**	P		**Pb**	**03 09 10.2**	**0.0**
ALN				S		**Sb**	**03 09 25.0**	**+0.8**
	comp=E,710nm,0.3s							
ALN	**Alexandroupoli**	**1.10**	**277**	P		**Pb**	**03 09 10.1**	**-0.1**
ALN				S		**Sb**	**03 09 23.8**	**-0.4**
ALN				AML	AML		03 09 27.6	
	comp=E,1733µm,0.3s							
ALN				AML	AML		03 09 28.1	
	comp=N,1095µm,0.3s							
ALN	**Alexandroupoli**	**1.10**	**277**	PN		**Pb**	**03 09 10.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.14**	**110**	PN		**Pn**	**03 09 10.4**	**-0.3**
BALB	**Balikesir**	**1.16**	**165**	PN		**Pn**	**03 09 11.1**	**+0.1**
EDRB	**Edirne**	**1.22**	**333**	P		**Pn**	**03 09 11.8**	**0.0**
EDRB				S		**Sb**	**03 09 27.6**	**0.0**
	comp=N,430nm,0.3s							
EDRB	**Edirne**	**1.22**	**333**	PN		**Pn**	**03 09 12.2**	**+0.4**
ISK	**Istanbul-Kandi**	**1.23**	**75**	P		**Pn**	**03 09 11.7**	**-0.2**
ISK				S		**Sb**	**03 09 26.7**	**-1.2**
	comp=N,852nm,0.5s							
ISK	**Istanbul-Kandi**	**1.23**	**75**	PN		**Pn**	**03 09 11.8**	**-0.2**
KAVV	**Kandilli-Istan**	**1.23**	**75**	PN		**Pn**	**03 09 11.9**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.25**	**215**	*i* P		**Pn**	**03 09 12.1**	**-0.2**
BAYC				*i* S		**Sb**	**03 09 28.6**	**+0.1**
BAYC				IAML			03 09 30.0	
	comp=N,399nm,0.5s							
BAYC				IAML			03 09 31.0	
	comp=E,393nm,0.2s							
KLYT	**Kilyos**	**1.28**	**67**	PN		**Pn**	**03 09 12.8**	**+0.2**
EZN	**Ezine**	**1.29**	**224**	P		**Pn**	**03 09 13.1**	**+0.3**
EZN	**Ezine**	**1.29**	**224**	PN		**Pn**	**03 09 13.0**	**+0.3**
TRML	**Termal-Yalova**	**1.29**	**96**	PN		**Pn**	**03 09 11.5**	**-1.4**
ORLT	**Orhaneli**	**1.29**	**123**	PN		**Pn**	**03 09 12.9**	**0.0**
GOKA	**anakkale-Gk**	**1.33**	**245**	*i* P		**Pn**	**03 09 13.7**	**+0.3**
GOKA				*i* S		**Sb**	**03 09 32.1**	**+1.3**
GOKA				IAML			03 09 38.0	
	comp=E,409nm,0.3s							
GOKA				IAML			03 09 42.0	
	comp=N,390nm,0.6s							
GADA	**Gvkgeada**	**1.34**	**245**	P		**Pn**	**03 09 13.7**	**+0.2**
GADA	**Gvkgeada**	**1.34**	**245**	PN		**Pn**	**03 09 13.6**	**+0.1**
GEMT	**Gemlik**	**1.34**	**104**	PN		**Pn**	**03 09 13.4**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.40**	**173**	*i* P		**Pg**	**03 09 16.7**	**-0.1**
STEP				*i* S		**Sn**	**03 09 32.7**	**+0.5**
STEP				IAML			03 09 38.0	
	comp=E,356nm,0.6s							
STEP				IAML			03 09 39.0	
	comp=N,337nm,0.4s							
ULDT	**Uludag**	**1.41**	**116**	*i* P		**Pn**	**03 09 14.8**	**+0.2**
ULDT				*i* S		**Sb**	**03 09 33.7**	**+0.6**
BOZC	**Bozcaada**	**1.43**	**230**	PN		**Pn**	**03 09 15.1**	**+0.4**
BOZC	**Bozcaada**	**1.43**	**230**	*i* P		**Pn**	**03 09 15.6**	**+0.8**
BOZC				*i* S		**Sn**	**03 09 32.7**	**-0.3**
YLVH	**Yalova**	**1.44**	**92**	PN		**Pn**	**03 09 15.2**	**+0.4**
DST	**Dursunbey**	**1.45**	**143**	PN		**Pn**	**03 09 15.3**	**+0.3**
SMTH	**Samothraki Isl**	**1.52**	**260**	P		**Pn**	**03 09 15.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.52**	**260**	P		**Pn**	**03 09 15.8**	**-0.2**
SMTH				S		**Sn**	**03 09 32.9**	**-2.3**
SMTH				AML	AML		03 09 41.0	
	comp=E,813µm,0.2s							
SMTH				AML	AML		03 09 43.2	
	comp=N,884µm,0.4s							
RDO	**Rodhopi**	**1.52**	**285**	P		**Pn**	**03 09 16.5**	**+0.5**
RDO	**Rodhopi**	**1.52**	**285**	P		**Pn**	**03 09 16.7**	**+0.7**
RDO				S		**Sn**	**03 09 33.8**	**-1.5**
RDO				AML	AML		03 09 39.8	
	comp=E,2015µm,0.3s							
RDO				AML	AML		03 09 40.7	
	comp=N,1063µm,0.2s							
RDO	**Rodhopi**	**1.52**	**285**	PN		**Pn**	**03 09 16.5**	**+0.5**
AYVA	**Ayvalik**	**1.58**	**203**	*i* P		**Pb**	**03 09 19.4**	**+1.1**
AYVA				*i* S		**Sb**	**03 09 38.6**	**+0.8**
AYVA				IAML			03 09 42.0	
	comp=N,781nm,0.3s							
AYVA				IAML			03 09 42.0	
	comp=E,518nm,0.4s							
HRT	**Hereke**	**1.66**	**87**	PN		**Pn**	**03 09 17.5**	**-0.4**
SILT	**Sile**	**1.68**	**76**	PN		**Pn**	**03 09 18.8**	**+0.6**
ADVT	**Abdulvahap**	**1.75**	**100**	PN		**Pn**	**03 09 19.2**	**+0.1**
DKL	**Dikili**	**1.75**	**195**	PN		**Pn**	**03 09 19.7**	**+0.5**
PRK	**Paraskevi**	**1.78**	**212**	P		**Pn**	**03 09 20.5**	**+1.0**
PRK				S		**Sn**	**03 09 40.3**	**-1.3**
PRK				AML	AML		03 09 49.1	
	comp=N,669µm,0.3s							
PRK				AML	AML		03 09 54.9	
	comp=E,677µm,0.4s							
KDZ	**Kurdzhali**	**1.79**	**300**	PN		**Pn**	**03 09 20.4**	**+0.6**
KDZ	**Kurdzhali**	**1.79**	**300**	*e*P		**Pn**	**03 09 20.6**	**+0.8**
ZEDA	**zmir-Bergama**	**1.82**	**190**	*i* P		**Pn**	**03 09 20.6**	**+0.5**
ZEDA				*i* S		**Sn**	**03 09 42.7**	**0.0**
CAVI	**Cavuskoy**	**1.88**	**107**	PN		**Pn**	**03 09 21.1**	**+0.1**
AKHS	**Akhisar**	**1.90**	**172**	*i* P		**Pb**	**03 09 23.8**	**-0.1**
AKHS				*i* S		**Sb**	**03 09 48.6**	**+1.4**
DIM	**Dimitrovgrad**	**1.95**	**312**	*e*P		**Pn**	**03 09 22.3**	**+0.4**
LIA	**Limnos Island**	**1.96**	**245**	P		**Pn**	**03 09 22.1**	**0.0**
LIA	**Limnos Island**	**1.96**	**245**	P		**Pn**	**03 09 22.0**	**0.0**
SIGR	**SIGRI**	**1.99**	**219**	P		**Pn**	**03 09 22.7**	**+0.2**
SIGR	**SIGRI**	**1.99**	**219**	P		**Pn**	**03 09 22.6**	**+0.1**
SIGR				S		**Sn**	**03 09 45.9**	**-1.0**
SIGR				AML	AML		03 09 57.5	
	comp=N,489µm,0.4s							
SIGR				AML	AML		03 09 57.9	
	comp=E,293µm,0.3s							
SIGR	**SIGRI**	**1.99**	**219**	PN		**Pn**	**03 09 22.6**	**+0.1**
TVSB	**Tavsanli**	**2.00**	**130**	PN		**Pn**	**03 09 23.3**	**+0.5**
KAND	**Kocaeli-Kandir**	**2.08**	**80**	*i* P		**Pn**	**03 09 24.5**	**+0.9**
KAND				*i* S		**Sn**	**03 09 48.6**	**-0.4**
THAS	**Thassos island**	**2.11**	**267**	P		**Pn**	**03 09 24.0**	**-0.1**
THAS	**Thassos island**	**2.11**	**267**	P		**Pn**	**03 09 23.2**	**-0.8**
THAS				S		**Sn**	**03 09 47.5**	**-2.2**
THAS				AML	AML		03 10 00.0	
	comp=E,157µm,0.2s							
THAS				AML	AML		03 10 00.0	
	comp=N,157µm,0.3s							
AUBOZ	**BOZOYUK**	**2.13**	**113**	*i* P		**Pg**	**03 09 29.7**	**-0.9**
AUBOZ				*i* S		**Sb**	**03 09 54.4**	**+0.6**
GEYV	**SAKARYA_Geyve**	**2.16**	**97**	*i* P		**Pn**	**03 09 25.7**	**+1.0**
GEYV				*i* S		**Sb**	**03 09 56.0**	**+1.4**
KAVA	**Kavala**	**2.27**	**277**	P		**Pn**	**03 09 26.7**	**+0.5**
KAVA	**Kavala**	**2.27**	**277**	P		**Pn**	**03 09 26.3**	**+0.1**
KAVA				S		**Sn**	**03 09 52.9**	**-0.7**
KAVA				AML	AML		03 10 04.5	
	comp=E,253µm,0.3s							
KAVA				AML	AML		03 10 04.8	
	comp=N,334µm,0.3s							
EFSA	**Agios Efstrati**	**2.27**	**238**	P		**Pn**	**03 09 25.9**	**-0.4**
GDZ	**Gediz**	**2.27**	**137**	*i* P		**Pn**	**03 09 26.8**	**+0.4**
GDZ				*i* S		**Sb**	**03 10 00.0**	**+2.0**
RZN	**Rozhen**	**2.28**	**295**	*e*P		**Pn**	**03 09 27.2**	**+0.5**
USAK	**Uak-Merkez**	**2.36**	**149**	*i* P		**Pn**	**03 09 28.9**	**+1.2**
USAK				*i* S		**Sb**	**03 10 00.5**	**-0.1**
MANT	**Manisa**	**2.42**	**160**	*i* P		**Pn**	**03 09 28.9**	**+0.3**
MANT				*i* S		**Sb**	**03 10 02.7**	**+0.4**
URLA	**Izmir**	**2.50**	**196**	*i* P		**Pb**	**03 09 35.9**	**+1.9**
URLA				*i* S		**Sg**	**03 10 07.5**	**-2.5**
CHOS	**Chios island**	**2.62**	**205**	P		**Pn**	**03 09 31.2**	**0.0**
CHOS	**Chios island**	**2.62**	**205**	P		**Pn**	**03 09 31.1**	**0.0**
OUR	**Ouranopolis**	**2.70**	**262**	P		**Pn**	**03 09 32.2**	**0.0**
OUR	**Ouranopolis**	**2.70**	**262**	P		**Pn**	**03 09 31.7**	**-0.6**
NVR	**Nevrokopi**	**2.80**	**283**	P		**Pn**	**03 09 34.4**	**+0.7**
MMB	**Musomiste**	**2.95**	**287**	*e*P		**Pn**	**03 09 36.5**	**+0.8**
SRS	**Serrai**	**2.97**	**278**	P		**Pn**	**03 09 36.3**	**+0.4**
SRS	**Serrai**	**2.97**	**278**	*e*Pg		**Pb**	**03 09 42.6**	**+0.5**
SRS				*e*Sg		**Sg**	**03 10 23.5**	**-1.7**
SRS	**Serrai**	**2.97**	**278**	P		**Pn**	**03 09 36.0**	**+0.1**
PAIG	**Paliouri**	**3.02**	**255**	P		**Pn**	**03 09 35.6**	**-1.1**
SMG	**Samos**	**3.09**	**190**	P		**Pn**	**03 09 37.5**	**-0.1**
PLG	**Polygyros**	**3.10**	**264**	P		**Pn**	**03 09 37.9**	**+0.1**
PLG	**Polygyros**	**3.10**	**264**	P		**Pn**	**03 09 37.7**	**-0.1**
KKB	**Krupnik**	**3.49**	**290**	*e*P		**Pn**	**03 09 43.9**	**+0.8**
KNT	**Kendrikon**	**3.50**	**278**	P		**Pn**	**03 09 43.4**	**+0.3**
VAY	**Valandovo**	**3.76**	**280**	*e*Pn		**Pn**	**03 09 48.3**	**+1.6**
STIP	**Stip**	**4.10**	**285**	*i* Pn		**Pn**	**03 09 50.2**	**-1.3**
BOSS	**Bosilegrad**	**4.13**	**296**	*e*Pn		**Pn**	**03 09 54.5**	**+2.6**
ZAPS	**Zavoj**	**4.40**	**306**	*e*Pn		**Pn**	**03 09 57.7**	**+2.1**
BARS	**Barje**	**4.71**	**298**	*e*Pn		**Pn**	**03 10 01.5**	**+1.7**
BARS				*e*Sn		**Sn**	**03 10 55.0**	**+1.1**

*IDC **08** 03:10:37.2±5.2, 35°.95N×71°.31E, h60km±45km, mb3.5/6, mb1 3.6/9, mb1mx3.3/46, mbtmp3.8/9, ML3.5/3, MS4.1/1, Ms1 4.1/1, ms1mx3.5/35, Error ellipse: s-maj=34.8km s-min=28.5km az=161.0*
*NNC **08** 03:10:47.3±2.6, 36°.94N×69°.96E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=23.5km s-min=18.1km az=119.0*
ISC 08 03:10:37.1±1.2, 36°.1N±0°.1×71°.2E±0°.1, h50km, n13, σ1s70/14, mb3.7/5, 6C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.02**	**356**	⇑P		**Pn**	**03 12 19.4**	**+2.1**
	2.4nm,0.3s,baz=181,slow=12,SNR=48							
KK31				⇑S		**Sn**	**03 13 32.4**	**-3.3**
	2.5nm,0.3s,baz=189,slow=26,SNR=7.0							
GEYT	**Alibeck**	**10.65**	**284**	P		**Pn**	**03 13 08.9**	**+1.9**
	0.7nm,0.3s,baz=114,slow=9.4,SNR=7.0							
GEYT				S		**Sn**	**03 15 03.5**	**-1.4**
	0.6nm,0.3s,baz=104,slow=19,SNR=1.8							
KURBB	**Kurchatov Arra**	**15.44**	**18**	P		**Pn**	**03 14 12.9**	**+1.4**
	0.1nm,0.3s,baz=208,slow=11,SNR=2.1							
AB31	**Akbulak array**	**15.53**	**331**	⇑P		**Pn**	**03 14 11.4**	**-1.2**
	0.6nm,0.3s,baz=138,slow=12,SNR=56							
AB31				⇑S		Sn	03 16 51.6	-12
	1.5nm,0.7s,baz=160,slow=22,SNR=3.0							
AKTO	**Akty

baz=327,slow=75,SNR=41
H10S3 ASCENSION HYDR 47.00 142 T T 04 44 12.0
baz=254,slow=74,SNR=27
H10S2 ASCENSION HYDR 47.01 142 T T 04 44 06.5
baz=326,slow=74,SNR=14
SIV San Ignacio 49.59 204 P **P** **03 54 19.5 +0.1**
comp=Z,0.6nm,0.7s,baz=55,slow=11,SNR=2.4
LPAZ La Paz 52.76 212 P **P** **03 54 45.0 +1.1**
comp=Z,0.9nm,0.9s,baz=2.6,slow=9.2,SNR=2.7
LPAZ La Paz 52.76 212 P **P** **03 54 43.0 -1.0**
LPAZ IAmb IAmb 03 54 44.6
comp=Z,9.2nm,1.9s
TXAR Lajitas Array 52.98 286 P **P** **03 54 45.5 +0.4**
comp=Z,0.4nm,0.8s,baz=65,slow=6.4,SNR=5.0
TXAR PcP **PcP** **03 55 54.1 +0.3**
comp=Z,0.2nm,0.7s,baz=114,slow=4.4,SNR=3.5
TXAR Lajitas Array 52.98 286 P **P** **03 54 45.1 0.0**
TXAR **PcP** **03 55 52.7 -1.0**
ARCES ARCESS Array B 54.07 24 P **P** **03 54 52.5 +0.1**
comp=Z,3.2nm,0.7s,baz=265,slow=9.0,SNR=5.3
BW06 Boulder Array 54.42 303 P **P** **03 54 55.3 -0.2**
BW06 IAmb IAmb 03 55 02.6
comp=Z,6.0nm,1.1s
PD31 Pinedale Array 54.42 303 P **P** **03 54 54.3 -1.3**
PD31 IAmb IAmb 03 55 02.6
comp=Z,5.3nm,1.1s
PDAR Pinedale Array 54.42 303 P **P** **03 54 56.0 +0.4**
comp=Z,0.9nm,0.7s,baz=87,slow=7.4,SNR=8.6
PDAR Pinedale Array 54.42 303 P **P** **03 54 55.4 -0.2**
IMW Indian Meadow 55.21 305 P **P** **03 55 01.2 -0.1**
AKASG Malin Array Be 55.58 47 P **P** **03 55 02.8 -0.7**
comp=Z,0.5nm,0.4s,baz=273,slow=7.1,SNR=2.4
AKASG Malin Array Be 55.58 47 P **P** **03 55 03.3 -0.1**
SRU San Rafael Swe 55.89 299 P **P** **03 55 06.0 -0.2**
GO01 Chusmiza 56.20 211 P **P** **03 55 08.2 -0.5**
BRTR Keskin Array B 60.92 59 P **P** **03 55 41.9 +0.7**
comp=Z,1.1nm,0.8s,baz=257,slow=5.9,SNR=7.2
BRTR Keskin Array B 60.92 59 P **P** **03 55 41.0 -0.2**
NVAR Mina Array Bea 61.93 300 P **P** **03 55 48.8 +0.6**
comp=Z,0.4nm,0.7s,baz=81,slow=8.4,SNR=3.9
NVAR Mina Array Bea 61.93 300 P **P** **03 55 48.1 -0.1**
ILAR Eielson Array 69.04 334 P **P** **03 56 34.5 +1.1**
comp=Z,1.5nm,1.1s,baz=56,slow=3.8,SNR=8.8
ILAR Eielson Array 69.04 334 P **P** **03 56 33.9 +0.5**
VNDA Vanda 131.47 187 PKP **PKiKP** **04 04 41.1 +0.6**
comp=Z,0.5nm,0.8s,baz=190,slow=6.1,SNR=5.0

*IDC **08** 04:23:01.4±4.5, 36.°03N×71.°43E, h90km±37km, mb3.5/7, mb1 3.6/12, mb1mx3.3/59, mbtmp3.8/12, MS4.4/1, Ms1 4.4/1, ms1mx3.3/40, Error ellipse: s-maj=34.3km s-min=27.6km az=9.0*
*NNC **08** 04:23:12.2±8.0, 36.°83N×70.°32E, h70km±149km, mb3.9, mpv4.2, Error ellipse: s-maj=68.1km s-min=55.0km az=68.0*
ISC 08 04:23:04.9±1.2, 36.°5N±0.°1×71.°05E±0.°08, h100km, n22, σ3s25/24, mb3.8/6, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.99**	**19**	P		**Pn**		**04 24 33.0**	**+1.7**
	SNR=22								
UCH	**Uchtor**	**6.32**	**24**	P		**Pn**		**04 24 37.5**	**+1.7**
	SNR=8.1								
EKS2	**Erkin-Say**	**6.50**	**18**	P		**Pn**		**04 24 40.2**	**+2.1**
	SNR=12								
KK31	**Karatay Array**	**6.61**	**357**	⇑P		**Pn**		**04 24 41.8**	**+2.4**
	7.6nm,0.3s,baz=178,slow=13,SNR=161								
KK31				⇑S		**Sn**		**04 25 53.1**	**-0.1**
	10nm,0.3s,baz=182,slow=21,SNR=13								
AAK	**Ala-Archa**	**6.68**	**22**	P		Pn		04 24 45.5	+4.9
	SNR=11								
USP	**Ospenovka**	**7.26**	**20**	P		**Pn**		**04 24 50.3**	**+2.0**
	SNR=8.7								
TKM2	**Tokmak 2**	**7.31**	**27**	P		Pn		04 24 55.9	+6.8
	SNR=7.2								
GEYT	**Alibeck**	**10.41**	**282**	P		**Pn**		**04 25 32.6**	**+1.5**
	0.5nm,0.3s,baz=101,slow=7.6,SNR=1.7								
GEYT				S		**Sn**		**04 27 24.6**	**-1.3**
	0.8nm,0.3s,baz=120,slow=20,SNR=1.9								
MKAR	**Makanchi Array**	**13.27**	**36**	P		**Pn**		**04 26 07.9**	**-1.3**
	0.1nm,0.3s,baz=227,slow=15,SNR=3.5								
AB31	**Akbulak array**	**15.10**	**331**	⇓P		**Pn**		**04 26 33.1**	**+0.3**
	0.7nm,0.3s,baz=160,slow=11,SNR=31								
AB31				⇑S		**Sn**		**04 29 10.9**	**-8.3**
	3.3nm,0.7s,baz=148,slow=23,SNR=10.0								
KURBB	**Kurchatov Arra**	**15.11**	**19**	P		**P**		**04 26 35.9**	**+0.2**
	0.2nm,0.3s,baz=206,slow=11,SNR=4.5								
BVAR	**Borovoye Array**	**16.53**	**359**	P		**P**		**04 26 54.4**	**+3.0**
	0.3nm,0.3s,baz=194,slow=18,SNR=4.3								
AKTO	**Aktyubinsk**	**16.80**	**330**	P		**P**		**04 26 57.2**	**+2.9**
	0.5nm,0.3s,baz=138,slow=11,SNR=8.6								
AKTO				S		**Sn**		**04 29 53.8**	**-6.4**
	0.2nm,0.3s,baz=142,slow=19,SNR=2.0								
AKTO	**Aktyubinsk**	**16.80**	**330**	⇑P		**P**		**04 26 57.3**	**+2.9**
	7.9nm,1.1s								
AKTO				⇓S		**Sn**		**04 29 56.5**	**-3.7**
	3.1nm,0.6s								
ZALV	**Zalesovo Beam**	**19.90**	**24**	P		**P**		**04 27 28.1**	**-0.1**
	4.1nm,0.3s,baz=205,slow=10,SNR=20								
ARU	**Arti**	**21.64**	**341**	P		**P**		**04 27 50.7**	**+3.8**
	2.2nm,0.2s,baz=158,slow=10,SNR=5.0								
FINES	**FINESS Array B**	**37.50**	**326**	P		**P**		**04 30 10.7**	**+2.1**
	1.4nm,0.8s,baz=146,slow=11,SNR=3.3								
ARCES	**ARCESS Array B**	**41.10**	**338**	P		**P**		**04 30 41.2**	**+2.3**
	1.8nm,0.7s,baz=110,slow=9.2,SNR=7.5								
NOA	**NORSAR Array B**	**44.40**	**323**	P		**P**		**04 31 06.5**	**+1.2**
	0.7nm,0.7s,baz=97,slow=7.7,SNR=1.8								
ESDC	**Sonseca Array**	**57.49**	**298**	LR		LR		05 01 03.8	
	comp=Z,308nm,21.1s,baz=35,slow=39								
ILAR	**Eielson Array**	**74.77**	**16**	P		**P**		**04 34 32.5**	**-1.1**
	0.2nm,0.7s,baz=309,slow=5.6,SNR=2.2								
WRA	**Warramunga Arr**	**81.96**	**122**	P		**P**		**04 35 09.4**	**-4.4**
	0.2nm,0.4s,baz=322,slow=4.6,SNR=1.3								

*REY **08** 04:38:32.3, 64.°68N×17.°46W, h6km*
*IDC **08** 04:38:33.4±0.8, 64.°54N×17.°79W, h0km, mb3.5/9, mb1 3.8/10, mb1mx3.6/47, mbtmp3.5/10, ML4.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/43, Error ellipse: s-maj=26.6km s-min=12.2km az=17.0*
ISC 08 04:38:32.5±0.8, 64.°67N±0.°02×17.°48W±0.°02, h8km±5km, n66, σ1s81/80, mb3.7/9, Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**270**	P		**Pg**		**04 38 35.0**	**-0.2**
	baz=269								
IVON				S		**Sg**		**04 38 37.6**	**+0.4**
	baz=269								
IDYN	**Dyngjuhals**	**0.13**	**22**	P		**Pg**		**04 38 35.1**	**-0.3**
	baz=18								
IDYN				S		**Sg**		**04 38 38.2**	**+0.8**
	baz=18								
IDJK	**Dyngjujokull**	**0.20**	**149**	P		**Pb**		**04 38 36.2**	**-0.4**
	baz=151								
IURH	**Urdarhals**	**0.20**	**44**	P		**Pg**		**04 38 36.4**	**-0.3**
	baz=42								
IGRF	**Grimsfjall**	**0.28**	**161**	P		**Pb**		**04 38 38.2**	**-1.7**
	baz=163								
IBJK	**Bruarjokull**	**0.37**	**123**	P		**Pb**		**04 38 39.1**	**-2.3**
	baz=124								
ISKR	**Skrokkalda**	**0.41**	**254**	P		**Pb**		**04 38 40.0**	**-2.0**
	baz=254								
IVOT	**Vottur**	**0.42**	**162**	P		**Pb**		**04 38 40.5**	**-1.8**
	baz=164								
THOR	**Thorvaldshraun**	**0.43**	**52**	P		**Pg**		**04 38 40.3**	**-0.6**
	baz=52								
THOR				S		**Sb**		**04 38 47.1**	**-1.9**
	baz=52								
IKRE	**Kreppuhraun**	**0.48**	**76**	P		**Pg**		**04 38 40.9**	**-1.0**
	baz=76								
IKRE				S		**Sg**		**04 38 47.9**	**-0.3**
	baz=76								
IJOK	**Jokulheimar**	**0.48**	**222**	P		**Pb**		**04 38 41.5**	**-1.8**
	baz=223								
IMKO	**Mokollar**	**0.57**	**57**	P		**Pg**		**04 38 42.6**	**-1.0**
	baz=57								
IMKO				S		**Sb**		**04 38 51.3**	**-1.8**
	baz=57								
IIEY	**Innrieyrar**	**0.65**	**206**	P		**Pb**		**04 38 43.9**	**-2.1**
	baz=207								
IIEY				S		**Sb**		**04 38 53.5**	**-1.6**
	baz=207								
ISVA	**Svartarkot**	**0.67**	**8**	P		**Pg**		**04 38 44.4**	**-1.1**
	baz=7.2								
ISVA				S		**Sg**		**04 38 54.3**	**+0.1**
	baz=7.2								
IKSK	**Karasker**	**0.67**	**139**	P		**Pg**		**04 38 43.8**	**-1.6**
	baz=140								
IKAL	**Kalfafell**	**0.73**	**187**	P		**Pb**		**04 38 45.5**	**-1.9**
	baz=188								
IKAL				S		**Sn**		**04 38 58.2**	**-2.2**
	baz=188								
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P		**Pg**		**04 38 45.5**	**-1.6**
	baz=79								
IVSH				S		**Sg**		**04 38 56.4**	**-0.7**
	baz=79								
IVAT	**Vatnsfell**	**0.79**	**233**	P		**Pb**		**04 38 47.1**	**-1.5**
	baz=233								
IADA	**Aoalbol**	**0.88**	**66**	P		**Pg**		**04 38 47.4**	**-2.0**
	baz=66								
IADA				S		**Sg**		**04 38 59.8**	**-1.1**
	baz=66								
IHVE	**Hveravellir**	**0.92**	**283**	P		**Pg**		**04 38 48.2**	**-1.8**
	baz=283								
IMEL	**Melhnausar**	**0.96**	**21**	P		**Pb**		**04 38 49.1**	**-2.3**
	baz=20								
IREN	**Reynihlio**	**1.01**	**14**	P		**Pb**		**04 38 49.9**	**-2.3**
	baz=13								
ISNB	**Snabyli**	**1.07**	**209**	P		**Pg**		**04 38 51.3**	**-1.7**
	baz=209								
ISNB				S		**Sn**		**04 39 05.5**	**-3.2**
	baz=209								
IKVO	**Krokottuvotn**	**1.07**	**13**	P		**Pb**		**04 38 51.0**	**-2.4**
	baz=13								
ISLY	**Slysaalda**	**1.11**	**221**	P		**Pb**		**04 38 52.0**	**-2.0**
	baz=221								
IGRS	**Grimsstaoir**	**1.12**	**30**	P		**Pb**		**04 38 51.8**	**-2.4**
	baz=30								
IGRS				S		**Sg**		**04 39 08.2**	**-0.5**
	baz=30								
IFED	**Fedgar**	**1.16**	**237**	P		**Pg**		**04 38 53.2**	**-1.5**
	baz=237								
IFED				S		**Sn**		**04 39 08.7**	**-2.4**
	baz=237								
IRJU	**Rjupnafell**	**1.18**	**207**	P		**Pg**		**04 38 53.3**	**-1.9**
	baz=207								
IMJO	**Mjoaskard**	**1.21**	**233**	P		**Pg**		**04 38 54.1**	**-1.6**
	baz=233								
ISKI	**Skildingahlsh**	**1.22**	**9**	P		**Pn**		**04 38 53.2**	**-2.5**
	baz=8.4								
ISKI				S		**Sb**		**04 39 10.4**	**-1.2**
	baz=8.4								
IGHA	**Grjothals**	**1.22**	**16**	P		**Pn**		**04 38 53.5**	**-2.4**
	baz=16								
IGYG	**Gygjarholskot**	**1.25**	**253**	P		**Pb**		**04 38 54.5**	**-1.8**
	baz=253								
IGRA	**Granastaoir**	**1.25**	**358**	P		**Pn**		**04 38 53.9**	**-2.3**
	baz=358								
IHAU	**Haukadalur**	**1.29**	**238**	P		**Pg**		**04 38 55.5**	**-1.7**
	baz=238								
IHVO	**Lagu-Hvolar**	**1.30**	**208**	P		**Pg**		**04 38 55.8**	**-1.6**
	baz=208								
IDIM	**Dimmadalss**	**1.31**	**10**	P		**Pn**		**04 38 54.7**	**-2.4**
	baz=9.4								
IHLA	**Hella**	**1.33**	**344**	P		**Pn**		**04 38 55.4**	**-1.9**
	baz=343								
IHLA				S		**Sn**		**04 39 13.4**	**-1.8**
	baz=343								
IALF	**Alftagrof**	**1.41**	**213**	P		**Pb**		**04 38 56.8**	**-2.1**
	baz=213								
IHED	**Heoinshofoi**	**1.42**	**3**	P		**Pn**		**04 38 56.7**	**-1.8**
	baz=2.4								
IHED				S		**Sn**		**04 39 16.0**	**-1.3**
	baz=2.4								
IESK	**Eystri-Skogar**	**1.44**	**218**	P		**Pb**		**04 38 57.6**	**-1.9**
	baz=218								
ISAU	**Saurbar**	**1.45**	**243**	P		**Pb**		**04 38 57.4**	**-2.3**
	baz=243								
IBRE	**Brettingsstaoi**	**1.47**	**353**	P		**Pn**		**04 38 57.3**	**-1.9**
	baz=353								
IGIL	**Gilhagi**	**1.49**	**18**	P		**Pn**		**04 38 57.3**	**-2.2**
	baz=18								
ISIG	**Siglufjorour**	**1.58**	**338**	P		**Pn**		**04 38 59.2**	**-1.6**
	baz=338								
IASM	**Asmuli**	**1.61**	**240**	P		**Pb**		**04 39 00.2**	**-2.1**
	baz=240								
BORG	**Borgarnes**	**1.66**	**274**	Pg		**Pn**		**04 39 00.5**	**-1.2**
	28nm,0.3s,baz=89,slow=7.8,SNR=28								
BORG				Lg		Lg		04 39 22.6	
	18nm,0.3s,baz=55,slow=8.1,SNR=3.9								
IKRO	**Krokur**	**1.69**	**252**	P		**Pn**		**04 39 01.0**	**-1.2**
	baz=252								
ISOL	**Solvholt**	**1.69**	**245**	P		**Pn**		**04 39 00.9**	**-1.2**
	baz=245								
IHEI	**Heioarbar**	**1.70**	**255**	P		**Pn**		**04 39 01.1**	**-1.3**
	baz=255								
IHRN	**Hraun**	**1.82**	**324**	P		**Pn**		**04 39 02.8**	**-1.2**
	baz=323								
IHRN				S		**Sb**		**04 39 27.4**	**-1.5**
	baz=323								
IBJA	**Bjarnastaoir**	**1.82**	**248**	P		**Pb**		**04 39 03.4**	**-2.6**
	baz=248								
ISAN	**Sandskeio**	**1.89**	**253**	P		**Pn**		**04 39 03.8**	**-1.1**
	baz=253								
IGRI	**Grimsey**	**1.89**	**354**	P		**Pn**		**04 39 03.3**	**-1.7**
	baz=353								
JMIC	**Jan Mayen**	**7.18**	**24**	LR		LR		04 42 33.4	
	comp=Z,245nm,19.0s,baz=107,slow=33								
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**		**04 41 21.6**	**+1.3**
	baz=323,slow=13,SNR=5.9								
NOA	**NORSAR Array B**	**12.52**	**92**	Pn		**P**		**04 41 52.1**	**-1.5**
	0.0nm,0.3s,baz=306,slow=16,SNR=3.5								
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**		**04 43 39.6**	**+2.7**
	1.0nm,0.8s,baz=325,slow=9.6,SNR=2.0								
GERES				LR		LR		04 53 49.6	
	comp=Z,256nm,19.8s,baz=95,slow=40								
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**		**04 44 09.8**	**+2.0**
	0.3nm,0.3s,baz=340,slow=11,SNR=2.0								
RES	**Resolute Bay**	**26.47**	**324**	LR		LR		04 55 00.1	
	comp=Z,230nm,19.9s,baz=39,slow=37								
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**		**04 46 55.9**	**+2.8**
	1.4nm,1.1s,baz=7.6,slow=3.9,SNR=7.7								
ZALV	**Zalesovo Beam**	**47.62**	**51**	P		P		04 47 12.4	+4.0
	0.6nm,0.5s,baz=309,slow=9.1,SNR=2.6								
MKAR	**Makanchi Array**	**52.71**	**58**	P		**P**		**04 47 49.8**	**+2.7**
	0.8nm,0.9s,baz=297,slow=9.5,SNR=2.6								
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**		**04 47 52.1**	**+1.6**
	0.8nm,0.9s,baz=341,slow=9.0,SNR=3.6								
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**		**04 47 52.0**	**+1.1**
	0.9nm,0.9s,baz=48,slow=6.6,SNR=4.9								
NVAR	**Mina Array Bea**	**60.31**	**297**	P		**P**		**04 48 43.5**	**+2.0**
	0.5nm,1.0s,baz=14,slow=7.7,SNR=2.5								
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**		**04 48 56.5**	**+1.6**
	0.9nm,1.1s,baz=354,slow=2.5,SNR=4.2								

*IDC **08** 04:42:02.7±1.2, 15.°76S×174.°98W, h303km±14km, mb3.2/8, mb1 3.5/10, mb1mx3.3/27, mbtmp3.9/10, Error ellipse: s-maj=32.7km s-min=14.8km az=147.0*
ISC 08 04:42:02.4±0.7, 15.°8S±0.°2×175.°0W±0.°2, h300km, n10, σ0s97/12, mb3.4/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.66**	**60**	P		**Pn**		**04 43 05.9**	**+0.8**
	22nm,0.3s,baz=186,slow=1.5,SNR=17								
AFI				S		**S**		**04 43 54.8**	**-0.4**
	13nm,0.3s,baz=18,slow=13,SNR=4.0								
DZM	**Mont Dzumac**	**18.60**	**248**	P		**P**		**04 45 58.1**	**-0.6**
	0.2nm,0.3s,baz=72,slow=20,SNR=2.1								
STKA	**Stephens Creek**	**42.48**	**240**	P		**P**		**04 49 29.1**	**+0.1**
	2.2nm,0.3s,baz=74,slow=11,SNR=4.5								
WRA	**Warramunga Arr**	**48.23**	**257**	P		**P**		**04 50 14.2**	**+0.3**
	0.5nm,0.4s,baz=93,slow=6.7,SNR=31								
WRA				PcP		**PcP**		**04 51 36.1**	**+0.1**
	0.2nm,0.5s,baz=100,slow=3.4,SNR=1.6								
ASAR	**Alice Springs**	**48.50**	**252**	P		**P**		**04 50 16.5**	**+0.6**
	6.5nm,0.6s,baz=87,slow=8.0,SNR=93								
VNDA	**Vanda**	**62.84**	**186**	P		**P**		**04 51 57.4**	**+1.0**
	0.9nm,0.9s,baz=16,slow=6.9,SNR=5.2								
NVAR	**Mina Array Bea**	**75.67**	**43**	P		**P**		**04 53 13.7**	**-1.7**
	0.2nm,0.6s,baz=211,slow=6.2,SNR=1.6								
ILAR	**Eielson Array**	**83.13**	**12**	P		**P**		**04 53 55.2**	**+0.6**
	0.5nm,0.5s,baz=229,slow=5.4,SNR=9.9								
PDAR	**Pinedale Array**	**83.60**	**42**	P		**P**		**04 53 57.8**	**0.0**
	0.2nm,0.6s,baz=262,slow=6.3,SNR=1.7								
MAW	**Mawson**	**86.93**	**199**	P		**P**		**04 54 11.9**	**-1.5**
	0.2nm,0.3s,baz=172,slow=7.1,SNR=4.5								

*IDC **08** 05:14:49.1±1.1, 5.°08N×127.°76E, h0km, mb4.2/8, mb1 4.3/8, mb1mx3.9/41, mbtmp4.2/8, Error ellipse: s-maj=107.2km s-min=16.2km az=72.0*
*MAN **08** 05:15:00.5, 4.°71N×127.°03E, h6km, mb4.8, ML3.7, MS3.6*
*NEIC **08** 05:15:04.1±1.1, 4.°91N±0.°07×127.°6E±0.°3, h128km±10km, mb4.4/12, Error ellipse: s-maj=38.8km s-min=3.1km az=74.0*
ISC 08 05:15:02.1±0.8, 4.°79N±0.°09×127.°3E±0.°2, h100km, n30, σ2s07/33, mb4.2/15, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.02**	**310**	*eP*		**Pn**		**05 15 33.3**	**-1.6**
DDMP				*eS*		**Sn**		**05 16 01.6**	**+1.6**
DAV	**Davao City (W)**	**2.81**	**324**	Sn		**Sn**		**05 16 26.6**	**+7.9**
	107nm,0.3s,baz=248,slow=22,SNR=8.0								
DAV	**Davao City (W)**	**2.81**	**324**	Pn		**Pn**		**05 15 48.9**	**+3.5**
KCP	**Kidapawan**	**3.08**	**316**	*eP*		**Pn**		**05 15 51.3**	**+2.3**
SKMP	**Bagumbayan, Su**	**3.20**	**303**	*eP*		**Pn**		**05 15 51.1**	**+0.6**
SKMP				*eS*		**Sn**		**05 16 27.5**	**-0.4**
BUKP	**Musuan**	**3.76**	**325**	*eP*		**Pn**		**05 15 58.8**	**+0.6**
BUKP				*eS*		**Sn**		**05 16 44.7**	**+3.1**
TNTI	**Ternate**	**3.99**	**178**	Pn		**Pn**		**05 16 05.0**	**+3.7**
FITZ	**Fitzroy Crossi**	**22.80**	**184**	P		**P**		**05 19 56.3**	**-0.2**
	3.4nm,1.1s,baz=359,slow=15,SNR=4.2								
FITZ	**Fitzroy Crossi**	**22.80**	**184**	P		**P**		**05 19 56.4**	**-0.2**
WB0	**Warramunga Arr**	**25.39**	**164**	P		**P**		**05 20 20.1**	**-0.3**
WB0				IAmb		IAmb		05 20 23.7	
	comp=Z,9.3nm,0.5s								
WRA	**Warramunga Arr**	**25.55**	**164**	P		**P**		**05 20 21.6**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=338,slow=11,SNR=46								
WRA	**Warramunga Arr**	**25.55**	**164**	P		**P**		**05 20 18.6**	**-3.2**
WB2	**Warramunga Arr**	**25.55**	**164**	P		**P**		**05 20 21.2**	**-0.6**
WB2				IAmb		IAmb		05 20 25.3	
	comp=Z,4.6nm,0.5s								
WR0	**Warramunga Arr**	**25.62**	**164**	P		**P**		**05 20 22.3**	**-0.1**
WR0				IAmb		IAmb		05 20 25.6	
	comp=Z,4.3nm,0.8s								
ASAR	**Alice Springs**	**29.02**	**167**	P		**P**		**05 20 52.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=352,slow=7.4,SNR=12								
ASAR				PcP		**PcP**		**05 23 58.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=339,slow=2.4,SNR=1.9								
FORT	**Forrest**	**35.38**	**179**	P		**P**		**05 21 47.7**	**-0.6**
BBOO	**Buckleboo**	**38.32**	**168**	P		**P**		**05 22 12.9**	**-0.3**
BBOO				IAmb		IAmb		05 22 17.2	
	comp=Z,16nm,1.5s								
STKA	**Stephens Creek**	**38.94**	**160**	P		**P**		**05 22 18.2**	**-0.2**
	comp=Z,6.0nm,0.4s,baz=326,slow=20,SNR=3.8								
STKA	**Stephens Creek**	**38.94**	**160**	IAmb		IAmb		05 22 19.9	
	comp=Z,1.8nm,1.1s								
SONM	**Songino Array**	**46.47**	**341**	P		**P**		**05 23 18.3**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=158,slow=8.7,SNR=2.2								
MK31	**Makanchi Array**	**56.99**	**325**	P		**P**		**05 24 37.3**	**-0.2**
MK31				IAmb		IAmb		05 24 38.0	
	comp=Z,2.8nm,0.8s								
MKAR	**Makanchi Array**	**56.99**	**325**	P		**P**		**05 24 37.5**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=116,slow=7.8,SNR=68								
MKAR	**Makanchi Array**	**56.99**	**325**	P		**P**		**05 24 37.2**	**-0.3**
MAKZ	**Makanchi**	**57.18**	**324**	P		**P**		**05 24 38.7**	**-0.1**
MAKZ				IAmb		IAmb		05 24 39.3	
	comp=Z,7.7nm,1.0s								
ZALV	**Zalesovo Beam**	**59.89**	**333**	P		**P**		**05 24 56.3**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=121,slow=7.1,SNR=3.9								
KURK	**Kurchatov**	**61.14**	**327**	P		**P**		**05 25 05.9**	**0.0**
KKAR	**Karatay Array**	**62.82**	**316**	P		**P**		**05 25 17.0**	**-0.4**
ABKAR	**Akbulak array**	**71.67**	**320**	P		**P**		**05 26 12.7**	**-0.4**
ABKAR	**Akbulak array**	**71.67**	**320**	P		**P**		**05 26 11.8**	**-1.3**
ABKAR				IAmb		IAmb		05 26 12.4	
	comp=Z,3.0nm,1.4s								
ARCES	**ARCESS Array B**	**89.64**	**340**	P		**P**		**05 27 46.7**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=89,slow=4.9,SNR=7.5								

*IDC **08** 05:17:53.3±0.6, 30.°37N×41.°89W, h0km, mb4.0/19, mb1 4.2/19, mb1mx4.0/42, mbtmp4.0/19, MS4.0/27, Ms1 4.0/27, ms1mx3.9/51, Error ellipse: s-maj=18.7km s-min=15.5km az=158.0*
*NEIC **08** 05:17:54.7±1.7, 30.°3N±0.°1×41.°9W±0.°1, h10km±1km, mb4.6/67, Error ellipse: s-maj=18.9km s-min=16.8km az=164.0*
*GCMT **08** 05:17:56.7±0.4, 30.°62N±0.°05×41.°88W±0.°03, h17km±1km, MW5.0/79, Moment Tensor Solution. s10,c10; s79,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.67±.29; $M_{\theta\theta}$0.19±.17; $M_{\phi\phi}$2.47±.18; $M_{r\theta}$2.41±.64; $M_{\theta\phi}$0.47±.10; $M_{\phi r}$-0.12±.42; Best double couple: $M_0$3.33100×10^{16} NP1:ϕ_s349.00000°, δ46.00000°, λ-132.00000°. NP2: ϕ_s222.00000°, δ58.00000°, λ-55.00000°. Principal axes: T 2.6020, Plg7.0000°, Azm287.0000°; N 1.4480, Plg29.0000°, Azm21.0000°; P -4.0590, Plg60.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
**ISC 08 05:17:55.4±0.5, 30.°29N±0.°09×41.°89W±0.°08, h15km, n120, σ1s20/89, mb4.4/39, MS4.0/28, Northern

ECSD					IAmb	IAmb	05 26 10.6	
	comp=Z,7.7nm,1.4s							
TUL1	**Leonard**	**45.03**	**292**	P	**P**		**05 26 10.3**	**-0.2**
CLL	**Collm**	**45.34**	**46**	*e*S	S		05 32 42.0	-11
CLL				LmV			05 41 00.0	
	comp=Z,200nm,21.9s							
CLL				Lm	MLR		10 47 00.0	
	comp=Z,200nm,21.3s							
OTAV	**Otavalo**	**45.82**	**236**	P	**P**		**05 26 18.3**	**+0.8**
OTAV				IAmb	IAmb		05 26 25.6	
	comp=Z,13nm,1.4s							
BDFB	**Brasilia**	**46.04**	**188**	P	**P**		**05 26 19.7**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=34,slow=3.6,SNR=2.3							
BDFB	**Brasilia**	**46.04**	**188**	IAmb	IAmb		05 26 21.1	
	comp=Z,15nm,1.4s							
H10N2	**ASCENSION HYDR**	**46.13**	**141**	T	T		06 15 35.9	
	baz=327,slow=75,SNR=248							
H10N3	**ASCENSION HYDR**	**46.14**	**141**	T	T		06 15 36.1	
	baz=327,slow=75,SNR=281							
H10N1	**ASCENSION HYDR**	**46.15**	**141**	T	T		06 15 37.3	
	baz=327,slow=75,SNR=181							
NOA	**NORSAR Array B**	**46.28**	**33**	P	**P**		**05 26 20.3**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=254,slow=8.0,SNR=2.6							
NOA				LR	LR		05 42 24.7	
	comp=Z,51nm,19.6s,baz=190,slow=32							
VAE	**Valguarnera**	**46.70**	**65**	LR	LR		05 42 48.8	
	comp=Z,289nm,20.0s,baz=276,slow=32							
H10S3	**ASCENSION HYDR**	**46.98**	**142**	T	T		06 16 39.2	
	baz=326,slow=74,SNR=118							
H10S2	**ASCENSION HYDR**	**46.99**	**142**	T	T		06 16 40.3	
	baz=254,slow=74,SNR=45							
HFS	**Hagfors**	**47.23**	**34**	LR	LR		05 42 44.0	
	comp=Z,153nm,20.8s,baz=242,slow=32							
VRAC	**Vranov**	**47.52**	**49**	LR	LR		05 43 45.6	
	comp=Z,105nm,21.4s,baz=212,slow=33							
JCT	**Junction City**	**49.46**	**286**	P	**P**		**05 26 45.2**	**0.0**
AMTX	**Amarillo**	**49.95**	**292**	P	**P**		**05 26 50.0**	**+1.1**
AMTX				IAmb	IAmb		05 27 02.1	
	comp=Z,12nm,1.2s							
LPAZ	**La Paz**	**52.75**	**212**	P	**P**		**05 27 10.9**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=35,slow=9.2,SNR=7.9							
LPAZ	**La Paz**	**52.75**	**212**	P	**P**		**05 27 11.0**	**+0.4**
LPAZ				IAmb	IAmb		05 27 14.7	
	comp=Z,16nm,1.5s							
TXAR	**Lajitas Array**	**53.00**	**286**	P	**P**		**05 27 11.7**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=96,slow=6.4,SNR=7.5							
TXAR	**Lajitas Array**	**53.00**	**286**	P	**P**		**05 27 11.4**	**-0.5**
BURAR	**Bucovina Array**	**53.34**	**51**	P	**P**		**05 27 14.5**	**+0.5**
FINES	**FINESS Array B**	**53.42**	**34**	P	**P**		**05 27 13.1**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=257,slow=18,SNR=1.5							
ANMO	**Albuquerque**	**53.75**	**293**	P	**P**		**05 27 18.5**	**+1.1**
ARCES	**ARCESS Array B**	**54.08**	**24**	P	**P**		**05 27 17.6**	**-1.5**
	comp=Z,3.9nm,0.8s,baz=288,slow=6.3,SNR=5.4							
BNM	**Barren Site**	**54.09**	**292**	P	**P**		**05 27 20.3**	**+0.3**
MLR	**Muntele Rosu**	**54.11**	**54**	LR	LR		05 47 24.9	
	comp=Z,60nm,21.1s,baz=254,slow=33							
SPITS	**Spitsbergen Ar**	**54.21**	**12**	LR	LR		05 44 28.6	
	comp=Z,130nm,21.1s,baz=260,slow=30							
BW06	**Boulder Array**	**54.44**	**303**	P	**P**		**05 27 21.8**	**-0.6**
BW06				IAmb	IAmb		05 27 32.6	
	comp=Z,7.0nm,1.1s							
PD31	**Pinedale Array**	**54.44**	**303**	IAmb	IAmb		05 27 32.6	
	comp=Z,6.4nm,1.1s							
PDAR	**Pinedale Array**	**54.44**	**303**	P	**P**		**05 27 22.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=86,slow=7.6,SNR=15							
PDAR				LR	LR		05 49 47.8	
	comp=Z,736nm,19.4s,baz=102,slow=35							
PDAR	**Pinedale Array**	**54.44**	**303**	P	**P**		**05 27 21.3**	**-1.1**
YHH	**Holmes Hill**	**55.01**	**306**	P	**P**		**05 27 27.0**	**+0.5**
LOHW	**Long Hollow**	**55.04**	**304**	IAmb	IAmb		05 27 35.9	
	comp=Z,5.7nm,1.4s							
YMR	**Madison River**	**55.11**	**306**	P	**P**		**05 27 28.2**	**+1.0**
SNOW	**Snow King Moun**	**55.18**	**304**	P	**P**		**05 27 28.1**	**+0.4**
IMW	**Indian Meadow**	**55.23**	**305**	P	**P**		**05 27 28.1**	**-0.1**
IMW				IAmb	IAmb		05 27 30.1	
	comp=Z,7.8nm,1.2s							
TPAW	**Teton Pass**	**55.31**	**304**	P	**P**		**05 27 28.4**	**-0.3**
TPAW				IAmb	IAmb		05 27 47.2	
	comp=Z,9.8nm,1.4s							
IDI	**Anoyia**	**55.42**	**66**	LR	LR		05 49 46.6	
	comp=Z,24nm,20.8s,baz=293,slow=34							
AKASG	**Malin Array Be**	**55.58**	**47**	P	**P**		**05 27 29.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=282,slow=6.9,SNR=6.6							
AKASG				LR	LR		05 49 33.8	
	comp=Z,189nm,18.3s,baz=215,slow=34							
AKASG	**Malin Array Be**	**55.58**	**47**	IAmb	IAmb		05 27 30.1	
	comp=Z,0.9nm,1.0s							
YKA	**Yellowknife Ar**	**55.68**	**328**	LR	LR		05 50 54.0	
	comp=Z,332nm,20.1s,baz=0.0,slow=36							
SRU	**San Rafael Swe**	**55.91**	**299**	P	**P**		**05 27 33.2**	**+0.1**
DLMT	**Dillon**	**56.12**	**307**	P	**P**		**05 27 33.9**	**-0.5**
DLMT				IAmb	IAmb		05 27 35.7	
	comp=Z,8.6nm,1.3s							
HWUT	**Hardware Ranch**	**56.13**	**302**	IAmb	IAmb		05 27 50.9	
	comp=Z,5.0nm,1.2s							
GO01	**Chusmiza**	**56.19**	**211**	P	**P**		**05 27 34.9**	**-0.5**
PB08	**IPOC Station P**	**56.58**	**211**	P	**P**		**05 27 38.2**	**+0.1**
MSU	**Marysvale**	**57.31**	**299**	P	**P**		**05 27 42.3**	**-0.7**
MVU	**Marysvale**	**57.34**	**299**	P	**P**		**05 27 43.7**	**+0.5**
DUG	**Dugway, Tooele**	**57.37**	**301**	P	**P**		**05 27 43.8**	**+0.5**
U15A	**North Rim**	**57.95**	**296**	P	**P**		**05 27 48.0**	**+0.4**
U15A				IAmb	IAmb		05 27 59.4	
	comp=Z,7.4nm,1.5s							
NEW	**Newport**	**58.62**	**311**	P	**P**		**05 27 51.5**	**-0.3**
MFID	**Camas Ranch**	**58.80**	**305**	P	**P**		**05 27 53.2**	**0.0**
MFID				IAmb	IAmb		05 27 55.2	
	comp=Z,7.0nm,1.2s							
KLMR	**Klimovskoe**	**59.95**	**34**	*e*P	**P**		**05 27 59.5**	**-1.2**
KLMR				AMP			05 28 11.6	
	comp=Z,16nm,1.4s							
J08A	**Circle Bar Ran**	**60.68**	**306**	P	**P**		**05 28 06.7**	**+0.5**
BRTR	**Keskin Array B**	**60.92**	**59**	P	**P**		**05 28 08.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=253,slow=5.8,SNR=5.3							
BRTR				LR	LR		05 53 38.6	
	comp=Z,74nm,19.1s,baz=229,slow=35							
BRTR	**Keskin Array B**	**60.92**	**59**	P	**P**		**05 28 07.5**	**-0.4**
LTY	**Liberty**	**61.18**	**310**	IAmb	IAmb		05 28 20.8	
	comp=Z,5.2nm,1.3s							
KVN	**Kaiserville**	**61.61**	**301**	P	**P**		**05 28 13.2**	**+0.5**
KVN				IAmb	IAmb		05 28 13.3	
	comp=Z,7.8nm,1.5s							
NVAR	**Mina Array Bea**	**61.95**	**300**	P	**P**		**05 28 15.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=79,slow=5.3,SNR=5.9							
NVAR				LR	LR		05 53 04.6	
	comp=Z,575nm,21.4s,baz=88,slow=34							
MOD	**Modoc Plateau**	**62.38**	**304**	P	**P**		**05 28 16.8**	**-0.9**
MOD				IAmb	IAmb		05 28 24.1	
	comp=Z,4.9nm,1.2s							
DLBC	**Dease Lake**	**63.80**	**324**	LR	LR		05 55 30.4	
	comp=Z,502nm,20.7s,baz=90,slow=35							
HUMO	**Hull Mountain**	**64.05**	**306**	IAmb	IAmb		05 28 25.2	
	comp=Z,3.5nm,0.8s							
KBZ	**Khabaz**	**66.26**	**52**	LR	LR		05 55 44.9	
	comp=Z,43nm,19.2s,baz=63,slow=34							
BCAR	**Beaver Creek A**	**67.72**	**331**	P	**P**		**05 28 52.4**	**+0.4**
IL31		**69.06**	**334**	P	**P**		**05 29 01.0**	**+0.9**
ILAR	**Eielson Array**	**69.06**	**334**	P	**P**		**05 29 00.8**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=60,slow=5.4,SNR=17							
ILAR				LR	LR		05 59 14.6	
	comp=Z,196nm,19.4s,baz=106,slow=36							
CCB	**Clear Creek Bu**	**69.47**	**334**	P	**P**		**05 29 02.9**	**+0.2**
WRH	**Wood River Hil**	**69.66**	**334**	P	**P**		**05 29 05.0**	**+1.1**
WRH				IAmb	IAmb		05 29 12.4	
	comp=Z,6.3nm,1.0s							
NRIK	**Noril'sk**	**74.09**	**17**	P	**P**		**05 29 30.7**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=305,slow=10,SNR=1.7							
ABKAR	**Akbulak array**	**74.76**	**42**	P	**P**		**05 29 35.0**	**+0.2**
PLCA	**Paso Flores**	**75.48**	**202**	P	**P**		**05 29 39.6**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=23,slow=9.8,SNR=2.9							
PLCA	**Paso Flores**	**75.48**	**202**	P	**P**		**05 29 39.2**	**+0.3**
PLCA				IAmb	IAmb		05 29 40.4	
	comp=Z,11nm,1.4s							
GEYT	**Alibeck**	**79.15**	**52**	LR	LR		06 04 58.2	
	comp=Z,75nm,19.5s,baz=190,slow=36							
KMBO	**Kilima Mbogo**	**81.19**	**96**	LR	LR		06 06 00.6	
	comp=Z,313nm,18.6s,baz=278,slow=36							
KURK	**Kurchatov**	**83.79**	**33**	P	**P**		**05 30 23.2**	**-0.8**
ZAA0	**Zalesovo Array**	**84.31**	**28**	P	**P**		**05 30 27.2**	**+0.6**
ZALV	**Zalesovo Beam**	**84.31**	**28**	P	**P**		**05 30 26.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=298,slow=6.4,SNR=7.9							
ZALV	**Zalesovo Beam**	**84.31**	**28**	P	**P**		**05 30 26.3**	**-0.3**
BOSA	**Boshof**	**86.77**	**126**	LR	LR		06 02 36.9	
	comp=Z,73nm,21.2s,baz=274,slow=31							
MKAR	**Makanchi Array**	**88.24**	**35**	P	**P**		**05 30 46.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=316,slow=9.0,SNR=2.8							
PETK	**Petropavlovsk-**	**95.22**	**348**	LR	LR		06 12 36.8	
	comp=Z,102nm,18.6s,baz=60,slow=34							
VNDA	**Vanda**	**131.45**	**187**	PKP	**PKiKP**		**05 37 07.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=310,slow=2.4,SNR=4.4							

*ROM **08** 05:40:32.5±0.1, 43.˚245N±0.˚003×13.˚251E±0.˚005, h22km, ML2.5/20, Error ellipse: s-maj=0.4km s-min=0.0km az=257.0*

ISC 08 05:40:32.5±0.9, 43.˚24N±0.˚03×13.˚32E±0.˚03, h23km±5km, n45, σ1ˢ26/49, 7C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SSM1	**San Severino M**	**0.10**	**264**	*e*P		**Pb**		**05 40 36.5**	**-0.5**
SSM1				S		**Sb**		**05 40 39.5**	**-0.4**
MDAR	**Monte D'Aria**	**0.14**	**250**	⇓P		**Pb**		**05 40 36.8**	**-0.6**
MDAR				S		**Sb**		**05 40 39.9**	**-0.8**
MDAR				AML	AML				
	comp=E,5255μm,0.1s								
MDAR				AML	AML				
	comp=N,5375μm,0.7s								
MDAR				AML	AML				
	comp=N,5370μm,0.7s								
MNTP	**Montappone**	**0.15**	**133**	⇑P		**Pb**		**05 40 38.4**	**+1.0**
MNTP				AML	AML				
	comp=N,2905μm,0.2s								
MNTP				AML	AML				
	comp=E,3355μm,1.3s								
CING	**Cingoli**	**0.16**	**326**	⇑P		**Pb**		**05 40 37.3**	**-0.3**
CING				S		**Sb**		**05 40 40.7**	**-0.3**
CING				AML	AML				
	comp=E,3815μm,0.1s								
CING				AML	AML				
	comp=N,3210μm,0.4s								
EL6	**Elcito**	**0.18**	**299**	⇓P		**Pb**		**05 40 37.3**	**-0.6**
EL6				S		**Sb**		**05 40 40.8**	**-0.7**
EL6				AML	AML				
	comp=E,6270μm,1.1s								
EL6				AML	AML				
	comp=N,6020μm,0.9s								
EL6				AML	AML				
	comp=E,6275μm,1.1s								
EL6				AML	AML				
	comp=N,6025μm,0.9s								
EL6				AML	AML				
	comp=N,6010μm,0.9s								
EL6				AML	AML				
	comp=E,6265μm,1.1s								
GAG1	**Gagliole**	**0.18**	**269**	⇓P		**Pb**		**05 40 37.1**	**-0.7**
GAG1				S		**Sb**		**05 40 40.6**	**-0.8**
CRM1	**Catelraimondo**	**0.19**	**261**	⇓P		**Pb**		**05 40 37.4**	**-0.6**
CRM1				S		**Sb**		**05 40 41.1**	**-0.5**
FDMO	**Fiordimonte**	**0.27**	**220**	⇑P		**Pb**		**05 40 38.5**	**-0.4**
FDMO				AML	AML				
	comp=E,3635μm,0.2s								
FDMO				AML	AML				
	comp=N,2180μm,0.2s								
SNTG	**Esanatoglia**	**0.28**	**273**	⇓P		**Pb**		**05 40 38.3**	**-0.8**
SNTG				S		**Sb**		**05 40 42.7**	**-0.9**
SNTG				AML	AML				
	comp=E,758μm,0.1s								
SNTG				AML	AML				
	comp=N,1650μm,0.2s								
FIU1	**Fiuminata**	**0.29**	**260**	AML	AML				
	comp=E,2020μm,1.6s								
FIU1				AML	AML				
	comp=N,2950μm,1.6s								
ARVD	**Arcevia**	**0.38**	**313**	⇑P		**Pb**		**05 40 40.1**	**-0.6**
ARVD				S		**Sb**		**05 40 45.9**	**-0.3**
ARVD				AML	AML				
	comp=E,404μm,0.9s								
ARVD				AML	AML				
	comp=N,563μm,0.2s								
CESI	**CESI - Serrava**	**0.38**	**232**	⇓P		**Pb**		**05 40 40.2**	**-0.6**
CESI				S		**Sb**		**05 40 46.1**	**-0.3**
CESI				AML	AML				
	comp=E,272μm,0.5s								
CESI				AML	AML				
	comp=E,271μm,0.5s								
CESI				AML	AML				
	comp=N,620μm,0.5s								
FOSV	**Fossato di Vic**	**0.41**	**278**	P		**Pb**		**05 40 40.3**	**-0.9**
FOSV				S		**Sb**		**05 40 46.3**	**-0.8**
FOSV				AML	AML				
	comp=E,466μm,0.6s								
FOSV				AML	AML				
	comp=N,730μm,1.1s								
FOSV				AML	AML				
	comp=N,731μm,1.1s								
FOSV				AML	AML				
	comp=E,467μm,0.6s								
NRCA	**Norcia**	**0.43**	**200**	⇓P		**Pb**		**05 40 41.3**	**-0.3**
NRCA				S		**Sb**		**05 40 48.3**	**+0.5**
NRCA				AML	AML				
	comp=E,1315μm,0.1s								
NRCA				AML	AML				
	comp=N,965μm,0.1s								
SSFR	**Montelago di S**	**0.44**	**297**	AML	AML				
	comp=E,840μm,0.2s								
SSFR				AML	AML				
	comp=N,1205μm,0.3s								
SSFR				AML	AML				
	comp=N,1130μm,1.5s								
SSFR				AML	AML				
	comp=E,903μm,1.0s								
COR1	**Corinaldo**	**0.46**	**329**	P		**Pb**		**05 40 41.4**	**-0.5**
GUMA	**Gualdo di Mace**	**0.48**	**111**	⇑P		Pb		05 40 38.1	-4.3
GUMA				S		**Sb**		**05 40 42.4**	**-6.8**
GUMA				AML	AML				
	comp=N,2985μm,0.3s								
GUMA				AML	AML				
	comp=E,3465μm,0.2s								
GUMA				AML	AML				
	comp=E,2685μm,0.3s								
GUMA				AML	AML				
	comp=N,2990μm,0.3s								
GUMA				AML	AML				
	comp=N,2465μm,0.3s								
GUMA				AML	AML				
	comp=E,3460μm,0.2s								
ATCC	**AVT- Casa Cast**	**0.50**	**264**	⇓P		**Pb**		**05 40 41.9**	**-0.8**
ATCC				S		**Sb**		**05 40 49.1**	**-0.5**
ATCC				AML	AML				
	comp=E,455μm,0.3s								
ATCC				AML	AML				
	comp=N,396μm,0.7s								
ATCC				AML	AML				
	comp=E,454μm,0.3s								
ATCC				AML	AML				
	comp=N,397μm,0.7s								
FRON	**Frontone**	**0.51**	**303**	P		**Pb**		**05 40 42.3**	**-0.6**
FRON				S		**Sb**		**05 40 49.3**	**-0.7**
ASSB	**Assisi San Ben**	**0.52**	**248**	⇓P		**Pb**		**05 40 42.1**	**-1.0**
ASSB				S		**Sb**		**05 40 49.6**	**-0.7**
ASSB				AML	AML				
	comp=N,894μm,0.2s								
ASSB				AML	AML				
	comp=E,512μm,0.2s								
ATFO	**Monte Foce - G**	**0.56**	**283**	S		**Sb**		**05 40 50.6**	**-0.8**
ATFO				AML	AML				
	comp=E,468μm,0.3s								
ATFO				AML	AML				
	comp=N,423μm,0.3s								
ATFO				AML	AML				
	comp=E,467μm,0.3s								
MPAG	**Monte Paganucc**	**0.56**	**314**	⇑P		**Pb**		**05 40 43.1**	**-0.7**
MPAG				AML	AML				
	comp=N,248μm,0.3s								
MPAG				AML	AML				
	comp=E,248μm,1.3s								
MPAG				AML	AML				
	comp=N,248μm,0.3s								
MURB	**Monte Urbino**	**0.58**	**272**	⇓P		**Pb**		**05 40 43.3**	**-0.8**
MURB				S		**Sb**		**05 40 51.1**	**-0.9**
MURB				AML	AML				
	comp=E,1260μm,0.2s								
MURB				AML	AML				
	comp=N,912μm,0.2s								
MURB				AML	AML				
	comp=E,1130μm,0.2s								
MURB				AML	AML				
	comp=N,938μm,0.2s								
PIEI	**Pieia**	**0.64**	**298**	P		**Pb**		**05 40 44.4**	**-0.8**
PIEI				S		**Sb**		**05 40 53.3**	**-0.5**
PIEI				AML	AML				
	comp=E,310μm,1.1s								
PIEI				AML	AML				
	comp=N,235μm,0.7s								
TERO	**Teramo**	**0.65**	**161**	AML	AML				
	comp=N,103μm,0.5s								
TERO				AML	AML				
	comp=E,137μm,0.3s								
TERO				AML	AML				
	comp=N,103μm,0.5s								
TERO				AML	AML				
	comp=E,137μm,0.3s								
NARO	**Abbazia di Nar**	**0.65**	**305**	⇓P		**Pb**		**05 40 44.6**	**-0.7**
NARO				AML	AML				
	comp=E,235μm,0.8s								
NARO				AML	AML				
	comp=N,162μm,0.5s								
NARO				AML	AML				
	comp=E,236μm,0.8s								
LNSS	**Leonessa**	**0.67**	**198**	⇑P		**Pb**		**05 40 45.2**	**-0.4**
LNSS				AML	AML				
	comp=E,452μm,0.7s								
LNSS				AML	AML				
	comp=N,378μm,0.4s								
ATPI	**Pietralunga -**	**0.70**	**288**	AML	AML				
	comp=N,308μm,0.4s								
ATPI				AML	AML				
	comp=E,318μm,0.4s								
MOMA	**Monte Martano**	**0.70**	**232**	S		**Sb**		**05 40 55.4**	**-0.1**
MOMA				AML	AML				
	comp=N,948μm,1.1s								
MOMA				AML	AML				
	comp=E,876μm,0.2s								
MOMA				AML	AML				
	comp=N,896μm,1.1s								
MOMA				AML	AML				
	comp=N,947μm,1.1s								
MOMA				AML	AML				
	comp=E,876μm,0.2s								
MOMA				AML	AML				
	comp=N,895μm,1.1s								
MOMA				AML	AML				
	comp=E,820μm,0.2s								
RM33	**Pellescritta (**	**0.73**	**186**	AML	AML				
	comp=N,216μm,1.4s								
RM33				AML	AML				
	comp=E,219μm,1.3s								
RM33				AML	AML				
	comp=E,220μm,1.4s								
RM33				AML	AML				
	comp=N,216μm,1.4s								
PE3	**Peglio**	**0.75**	**308**	AML	AML				
	comp=E,498μm,0.4s								
PE3				AML	AML				
	comp=N,680μm,0.4s								
ARRO	**Arrone**	**0.78**	**212**	AML	AML				
	comp=N,252μm,0.2s								
ARRO				AML	AML				
	comp=E,358μm,0.3s								
PESA	**Pesaro**	**0.78**	**334**	AML	AML				
	comp=E,256μm,1.3s								
PESA				AML	AML				
	comp=N,343μm,1.5s								
BADI	**Badiali**	**0.83**	**289**	AML	AML				
	comp=E,168μm,1.4s								
BADI				AML	AML				
	comp=N,191μm,0.5s								
BADI				AML	AML				
	comp=N,192μm,0.5s								
BADI				AML	AML				
	comp=E,168μm,1.4s								
VCEL	**Villa Celiera**	**0.93**	**155**	AML	AML				
	comp=N,230μm,1.0s								
VCEL				AML	AML				
	comp=E,210μm,0.3s								
MGAB	**Montegabbione**	**0.94**	**250**	AML	AML				
	comp=N,224μm,0.6s								
MGAB				AML	AML				
	comp=E,158μm,0.5s								
FIAM	**Fiamignano**	**0.98**	**189**	AML	AML				
	comp=N,105μm,1.1s								
FIAM				AML	AML				
	comp=E,89μm,1.0s								
FIAM				AML	AML				
	comp=N,105μm,1.1s								
FIAM				AML	AML				
	comp=E,89μm,1.0s								
CAFI	**Castiglion Fio**	**0.99**	**276**	AML	AML				
	comp=N,90μm,0.6s								
CAFI				AML	AML				
	comp=E,50μm,0.8s								
FAGN	**Fagnano**	**0.99**	**169**	AML	AML				
	comp=N,210μm,0.5s								
FAGN				AML	AML				
	comp=E,230μm,0.4s								
INTR	**Introdacqua**	**1.30**	**160**	AML	AML				
	comp=E,76μm,0.9s								
INTR				AML	AML				
	comp=N,71μm,0.6s								
DUGI	**Dugi Otok**	**1.47**	**59**	*e*Pn		**Pb**		**05 40 59.3**	**+0.2**
DUGI				Sn		**Sn**		**05 41 17.6**	**+1.5**
NVLJ	**Novalja**	**1.73**	**40**	Sn		**Sn**		**05 41 22.4**	**-0.3**
MORI	**Morici**	**1.84**	**69**	*e*Pn		**Pn**		**05 41 03.4**	**+0.6**
MORI				Sn		**Sn**		**05 41 26.2**	**+0.8**
RIY	**Rijeka**	**2.25**	**21**	Sn		**Sn**		**05 41 35.0**	**-0.3**
KIJV	**Kijevo**	**2.37**	**70**	*e*Pn		**Pn**		**05 41 11.6**	**+1.6**
KIJV				Sn		**Sn**		**05 41 39.9**	**+1.6**

*IDC **08** 05:40:54.0±0.5, 10.˚68N×86.˚76W, h0km, mb4.5/23, mb1 4.6/25, mb1mx4.5/36, mbtmp4.5/25, ML3.3/2, MS3.8/9, Ms1 3.9/9, ms1mx3.5/31, Error ellipse: s-maj=18.9km s-min=10.9km az=51.0*

*UCR **08** 05:40:56.4±1.9, 10.˚71N×86.˚85W, h5km, ML4.2, MW4.5, mb4.8(NEIC)*

*GCMT **08** 05:40:57.8±0.5, 10.˚60N±0.˚04×87.˚20W±0.˚05, h22km±1km, MW4.9/70, Moment Tensor Solution. s15,c17; s70,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-3.21±.24; $M_{\theta\theta}$1.77±.15; $M_{\phi\phi}$1.44±.15; $M_{r\theta}$0.35±.24; $M_{\theta\phi}$-1.07±.08; $M_{\phi r}$0.20±.26; Best double couple: M_o2.97100×10¹⁶ NP1:φs305.00000°, δ47.00000°, λ-98.00000°. NP2: φs136.00000°, δ44.00000°, λ-82.00000°. Principal axes: T 2.6910, Plg1.0000°, Azm40.0000°; N 0.5600, Plg6.0000°, Azm310.0000°; P -3.2500, Plg84.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*INET **08** 05:40:57.3, 10.˚55N×86.˚94W, h15km, ML4.9*

*NEIC **08** 05:40:58.9±1.6, 10.˚63N±0.˚06×86.˚83W±0.˚06, h33km±2km, mb4.8/343, Error ellipse: s-maj=11.3km s-min=6.3km az=221.0*

*SNET **08** 05:41:00.0±1.0, 10.˚91N×87.˚13W, h30km±134km, ML4.4*

*GCG **08** 05:41:08.2±3.4, 10.˚99N×87.˚90W, h288km±999km, MD4.6*

ISC 08 05:40:56.5±0.8, 10.˚60N±0.˚05×86.˚89W±0.˚04, h16km±4km, n660, σ1ˢ14/583, mb4.8/171, MS4.0/7, 13C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUAI	**GUAI**	**1.40**	**103**	*i* P			**Pn**	**05 41 20.1**	**-1.2**
GBS3	**Finca Las Img**	**1.43**	**83**	*i* P			**Pn**	**05 41 21.5**	**-0.2**
ORTG	**Ortega, Santa**	**1.43**	**99**	⇑

JTS Las Juntas de 1.93 99 Pn Pn 05 41 28.6 -0.1
CRIN San Cristobal 2.09 356 Pn 05 41 31.5 +0.5
LAFE Finca La Fe, P 2.10 112⇑ iP Pn 05 41 29.7 -1.3
CEDE Laguna Cedeo 2.16 93 i P Pn 05 41 32.6 +0.8
ACON Acoyapa 2.17 51 Pn 05 41 32.2 +0.3
JACO JACO, Garabito 2.39 113⇑ eP Pn 05 41 35.8 +0.9
SRA1 San Ramn 2.43 102 eP Pn 05 41 36.0 +0.3
MATN Matagalpa 2.50 22 Pn 05 41 36.9 +0.3
HDC Heredia 2.80 102⇑ eP Pn 05 41 41.8 +1.1
HDC Heredia 2.80 102 Pn 05 41 41.8 +1.1
LCND La Caada 2.87 340 eP Pn 05 41 41.8 +0.3
LCND IAML 05 42 18.4
comp=Z,3µm,0.3s
LCND La Caada 2.87 340 eP Pn 05 41 41.8 +0.3
LCND eS Sn 05 42 14.6 -1.2
LCND IAML 05 42 18.4
comp=Z,3µm,0.3s
SJS Escuela Geolog 2.87 103 eP Pn 05 41 44.0 +2.3
LCR2 La Lucha 2 2.97 106 eP Pn 05 41 44.2 +1.1
RIMA Rio Macho 3.10 105 eP Pn 05 41 46.3 +1.5
CVTR Volcan Turrial 3.14 100 eP Pn 05 41 47.1 +1.4
TRT1 Tortuguero 3.14 90⇑ eP Pn 05 41 47.8 +2.5
ALJI Alcalda de J 3.17 329 eP Pn 05 41 45.7 0.0
ALJI IAML 05 42 27.6
comp=Z,1µm,0.2s
ALJI Alcalda de J 3.17 329 eP Pn 05 41 45.7 0.0
ALJI eS Sn 05 42 20.5 -2.7
ALJI IAML 05 42 27.6
comp=Z,1µm,0.2s
CDM Cerro de Muert 3.25 108⇓ eP Pn 05 41 48.5 +1.2
TECA Tecapa 3.28 331 eP Pn 05 41 47.9 +0.5
TECA Tecapa 3.28 331 eP Pn 05 41 47.9 +0.5
COEB Comit de Eme 3.30 331 eP Pn 05 41 47.7 +0.1
COEB eS Sn 05 42 25.5 -1.1
COEB IAML 05 42 28.5
comp=Z,1µm,0.4s
COEB Comit de Eme 3.30 331 eP Pn 05 41 47.7 +0.1
COEB eS Sn 05 42 25.5 -1.1
COEB IAML 05 42 28.5
comp=Z,1µm,0.4s
FAGO Alcalda de S 3.30 339 eP Pn 05 41 47.9 +0.4
FAGO eS Sn 05 42 25.6 -0.8
FAGO IAML 05 42 28.7
comp=Z,682nm,0.5s
FAGO Alcalda de S 3.30 339 eP Pn 05 41 47.9 +0.4
FAGO eS Sn 05 42 25.6 -0.8
FAGO IAML 05 42 28.7
comp=Z,682nm,0.5s
PEZE Perez Zeledon, 3.39 111⇑ eP Pn 05 41 49.9 +1.0
TGUH Tegucigalpa,Un 3.46 354⇑ iP Pn 05 41 50.6 +0.9
TGUH eS Sn 05 42 23.8 -6.8
TGUH Tegucigalpa,Un 3.46 354 Pn 05 41 50.8 +1.0
EDLM Las Mercedes 3.51 112 eP Pn 05 41 51.4 +0.9
LFRS El Faro 3.68 325 eP Pn 05 41 52.8 0.0
LFRS El Faro 3.68 325 eP Pn 05 41 52.8 0.0
PAVA Las Pavas 3.68 327 eP Pn 05 41 53.5 +0.6
PAVA IAML 05 42 43.8
comp=Z,1µm,0.4s
PAVA Las Pavas 3.68 327 eP Pn 05 41 53.5 +0.6
PAVA eS Sn 05 42 35.8 -0.3
PAVA IAML 05 42 43.8
comp=Z,1µm,0.4s
EDPN Palmar Norte 3.76 115 eP Pn 05 41 54.6 +0.8
LBRS Las Brisas 3.76 326 eP Pn 05 41 54.9 +0.9
LBRS Las Brisas 3.76 326 eP Pn 05 41 54.9 +0.9
SNET Serv Nac Est T 3.83 324 Pn 05 41 55.3 +0.5
RIOS Rincon, Osa 3.83 119 eP Pn 05 41 55.4 +0.7
EDBA Buenos Aires 3.84 111 eP Pn 05 41 55.2 +0.2
BOQS Boqueron 3.89 323 eP Pn 05 41 56.7 +0.8
BOQS Boqueron 3.89 323 eP Pn 05 41 56.7 +0.8
CEDA San Andres 4.01 323 eP Pn 05 41 57.7 +0.3
CEDA IAML 05 42 55.2
comp=Z,1µm,0.4s
CEDA San Andres 4.01 323 eP Pn 05 41 57.7 +0.3
CEDA IAML 05 42 55.2
comp=Z,1µm,0.4s
TACO Tacachico 4.12 325 eP Pn 05 41 59.5 +0.6
TACO Tacachico 4.12 325 eP Pn 05 41 59.5 +0.6
SBLS San Blas 4.18 321 eP Pn 05 42 01.2 +1.3
SBLS San Blas 4.18 321 eP Pn 05 42 01.2 +1.3
EDSV San Vito 4.25 114 eP Pn 05 42 02.6 +2.0
MTO3 Montecristo 4.48 328 Pn 05 42 04.7 +0.7
BRU2 Volcan 4.51 113 eP Pn 05 42 06.3 +2.0
ESQI Esquipulas 4.61 329 Pn 05 42 07.1 +1.6
IXG Ixpaco 4.96 316 eP Pn 05 42 12.0 +1.4
NBG Las Nubes 5.20 320 eP Pn 05 42 17.8 +3.8
MRL Marmol 5.22 329 eP Pn 05 42 19.1 +4.9
FUG Fuego 3 5.43 315 eP Pn 05 42 19.5 +2.5
FUG eS Sn 05 43 17.2 -2.1
APG El Apazote 5.59 322 Pn Pn 05 42 20.5 +1.2
comp=Z,2.4nm,0.3s,baz=143,slow=10,SNR=21
RTAL Retalhuleu 6.10 310 Pn 05 42 27.4 +1.4
HUEH Huehuetenango 6.50 317 Pn 05 42 34.5 +2.9
PNME Penonome 6.81 107 eP Pn 05 42 38.6 +2.9
PETF Flores 6.91 336 Pn 05 42 39.4 +2.2
BCIP Isla Barro Col 7.10 101 eP Pn 05 42 41.0 +1.2
BCIP Isla Barro Col 7.10 117 Pn Pn 05 42 41.0 +1.2
AZU Azuero 7.11 113 eP Pn 05 42 40.0 +0.1
CCIG Comitan 7.61 318 Pn 05 42 49.5 +2.6
UPD2 Meteti 8.99 102 eP Pn 05 43 04.6 -1.1
TEIG Tepich 9.66 352 Pn Pn 05 43 17.5 +2.6
comp=Z,0.8nm,0.3s,baz=339,slow=12,SNR=7.6
TEIG LR LR 05 47 37.1
comp=Z,420nm,19.6s,baz=114,slow=42
DBBC Dabeiba 11.14 108 eP Pn 05 43 34.7 -0.6
DBBC eS Pn 05 43 36.4 +1.1
MOTC Monteria, Cord 11.22 98 eP Pn 05 43 38.8 +2.6
SJCC San Jacinto, C 11.55 92 eP Pn 05 43 39.8 -1.1
UREC San Jos de Ur 11.57 103 eP Pn 05 43 41.3 +0.3
PLMC San Jos del P 11.94 117 eP Pn 05 43 43.2 -3.0
ZARC Zaragoza, Cauc 12.28 104 eP Pn 05 43 52.0 +1.2
GUY2C Guyana, Caldas 12.60 114 eP Pn 05 43 54.2 -1.5
SMLC San Martn de 12.77 97 eP P 05 44 09.5 +1.0
BBAC Balboa, Cauca 12.82 131 eP Pn 05 44 01.4 +3.0
TOLC Tolima 12.93 117 eP P 05 44 05.8 -4.9
PTBC PUERTO BERRIO, 12.94 107 eP Pn 05 44 03.5 +3.6
TLIG Tlapa 13.27 303 Pn 05 44 07.2 +2.7
PCON Cinco Dias 13.27 128 eP P 05 44 11.9 -2.8
MARP Paez Belalcaza 13.31 125 eP P 05 44 18.6 +3.7
OCAC Ocana 13.60 99 eP P 05 44 22.3 +4.4
SPBC San Pablo de B 13.61 110 eP P 05 44 19.6 +1.6
ROSC El Rosal 13.71 114 Pn P 05 44 23.3 +3.9
comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=6.5
PRAC Prado 13.73 119 eP Pn 05 44 13.4 +2.7
BARC Barichara 14.13 105 eP P 05 44 24.3 +0.4
FLOC Florencia 14.31 126 eP Pn 05 44 19.7 +1.2
CHIC Chingaza 14.32 113 eP P 05 44 23.4 -2.9
PAMC Pamplona, Colo 14.39 102 eP P 05 44 26.2 -0.9
RUSC La Rusia 14.44 108 eP P 05 44 30.7 +3.1
UNM Universidad Na 14.70 308 P 05 44 31.7 +1.5
MACC Macarena, Meta 15.44 122 eP P 05 44 36.8 -1.5
PTGC Puerto Gaitan, 15.95 112 eP P 05 44 45.9 +1.9
SDV Santo Domingo 16.12 95 Pn Pn 05 44 41.6 -1.2
comp=Z,0.4nm,0.3s,baz=359,slow=17,SNR=2.1
SDV LR LR 05 52 08.0
comp=Z,197nm,20.7s,baz=272,slow=42
SDV Santo Domingo 16.12 95 eP Pn 05 44 42.9 +0.1
SDV Santo Domingo 16.12 95 P Pn 05 44 44.3 +1.6
SDV Santo Domingo 16.12 95 eP P 05 44 44.7 -1.3
PAPH Port-au-Prince 16.16 59 P P 05 44 51.2 +4.9
MOIG Morelia 16.48 305 P 05 44 50.3 +0.3
MOIG pwP 05 44 59.8 +0.4
MOIG IAmb IAmb 05 45 02.4
comp=Z,78nm,1.0s
656A Willston 19.11 12 P Pn 05 45 19.9 +0.3
656A IAmb IAmb 05 45 29.8
comp=Z,117nm,1.4s
ZAIG Zacatecas 19.26 311 P Pn 05 45 22.6 +0.9
553A Crawfordville 19.63 6 P Pn 05 45 25.5 -0.3
553A IAmb IAmb 05 45 41.2
comp=Z,68nm,0.8s
451A Vernon 19.95 3 P Pn 05 45 29.4 -0.1
456A Hilliard 20.53 12 P P 05 45 35.1 +0.8
MLPR Magueyes Islan 20.57 67 P P 05 45 35.2 +0.4
MLPR IAmb IAmb 05 45 40.7
comp=Z,27nm,0.7s
346A Big Creek Wild 20.82 354 P Pn 05 45 39.0 -0.9
346A IAmb IAmb 05 45 48.2
comp=Z,26nm,0.9s
352A Blakely 20.86 5 P P 05 45 38.7 +1.0
441A DeRidder 20.89 345 P P 05 45 38.1 +0.1
AOPR Arecibo Observ 20.95 66 P P 05 45 36.7 -2.3
AOPR IAmb IAmb 05 45 48.1
comp=Z,70nm,1.2s
TIGA Tifton 20.96 8 P P 05 45 38.9 0.0
baz=189,SNR=5.2
HKT Hockley 20.98 338 P P 05 45 39.3 +0.2
OBIP Obispado Ponce 20.99 67 P P 05 45 38.6 -0.7
OBIP IAmb IAmb 05 45 47.1
comp=Z,27nm,0.8s
ICMP Isla Caja de M 21.02 68 P P 05 45 38.6 -1.0
344A Westbrook Farm 21.05 351 P Pn 05 45 42.3
344A IAmb IAmb 05 45 54.7
comp=Z,51nm,0.8s
833A Chaparral WMA, 21.18 328 P P 05 45 40.5 -0.7
baz=144
833A Chaparral WMA, 21.18 328 P P 05 45 40.6 -0.7
833A IAmb IAmb 05 45 54.4
comp=Z,29nm,0.8s
342A Flagon Creek P 21.28 347 P P 05 45 45.5 +3.2
342A IAmb IAmb 05 45 57.6
comp=Z,37nm,0.9s
250A Grady 21.28 1 P P 05 45 44.5 +2.1
250A IAmb IAmb 05 45 56.5
comp=Z,65nm,1.2s
SJG San Juan 21.42 67 P P 05 45 43.4 -0.6
comp=Z,16nm,0.4s,baz=277,slow=8.9,SNR=8.9
SJG San Juan 21.42 67 P P 05 45 43.0 -1.0
SJG IAmb IAmb 05 45 48.0
comp=Z,29nm,0.8s
PDPR Patillas Dam, 21.51 68 P 05 45 45.8 +0.9
GCPR Guaynabo City 21.54 67 P P 05 45 46.0 +0.7
255A Hazlehurst 21.61 10 IAmb IAmb 05 45 51.0
comp=Z,55nm,1.3s
HUMP Col San Antoni 21.70 67 IAmb IAmb 05 46 00.5
comp=Z,29nm,0.9s
CBYP Canovanas 21.74 67 IAmb IAmb 05 45 50.0
comp=Z,22nm,0.7s
VBMS Vicksburg 21.77 352 P P 05 45 50.3 +2.7
VBMS IAmb IAmb 05 46 03.6
comp=Z,45nm,0.8s
MTP Monte Pirata 21.96 68 IAmb IAmb 05 45 56.6
comp=Z,40nm,0.8s
146A Union 22.02 355 P P 05 45 50.8 +0.6
146A IAmb IAmb 05 46 10.5
comp=Z,33nm,0.9s
NATX Nacogdoches 22.25 342 P P 05 45 54.9 +2.1
NATX IAmb IAmb 05 46 05.5
comp=Z,43nm,0.9s
LRAL Lakeview Retre 22.33 360 P P 05 45 53.4 -0.2
baz=180,SNR=11
LRAL Lakeview Retre 22.33 360 P P 05 45 53.7 +0.1
LRAL IAmb IAmb 05 46 04.1
comp=Z,30nm,0.8s
435B Jarrell 22.41 335 P P 05 45 55.3 +0.8
435B IAmb IAmb 05 46 09.3
comp=Z,19nm,0.7s
Z47A Carrollton 22.52 357 P P 05 45 57.0 +1.5
Z47A IAmb IAmb 05 46 06.4
comp=Z,38nm,1.1s
CDVI St. Croix 22.59 69 P P 05 45 56.0 -0.5
157A Early Branch 22.64 13 P P 05 45 56.4 -0.5
baz=195
Z51A Franklin 22.67 4 IAmb IAmb 05 46 09.0
comp=Z,79nm,1.4s
237A Washetta, Mont 22.84 340 P 05 45 59.1 +0.1
237A IAmb IAmb 05 46 15.5
comp=Z,27nm,0.9s
GOGA Godfrey 22.92 7 P P 05 45 59.5 -0.3
baz=188,SNR=14
GOGA Godfrey 22.92 7 P P 05 45 59.6 -0.3
GOGA IAmb IAmb 05 46 10.4
comp=Z,50nm,1.0s
CZSB Cruzeiro do Su 23.04 142 eP P 05 46 03.4 +2.2
JCT Junction City 23.14 331 P P 05 46 02.5 +0.3
baz=146
Y49A Blount Mountai 23.16 1 P P 05 46 01.6 -0.6
Y49A IAmb IAmb 05 46 11.9
comp=Z,26nm,0.8s
Z56A Williston 23.18 12 P P 05 46 03.6 +1.1
baz=194,SNR=5.8
NHSC New Hope 23.24 14 P P 05 46 03.8 +0.8
baz=197
NHSC New Hope 23.24 14 P P 05 46 04.2 +1.2
Y45A Yeager Farm, C 23.29 354 IAmb IAmb 05 46 20.5
comp=Z,36nm,1.1s
Z57A Bowman 23.30 13 P P 05 46 04.6 +0.9
baz=195
Y52A Lilburn 23.30 6 IAmb IAmb 05 46 14.7
comp=Z,33nm,1.0s
WHTX Lake Whitney, 23.42 337 IAmb IAmb 05 46 17.9
comp=Z,26nm,0.9s
Z58A St. Stephen 23.55 15 P P 05 46 06.2 +0.1
baz=197,SNR=6.3
Y56A Pelion 23.65 12 P P 05 46 08.3 +1.2
baz=194
WLAR White Oak Lake 23.68 347 P P 05 46 07.7 +0.3
WLAR IAmb IAmb 05 46 16.7
comp=Z,25nm,1.1s
Z38A Mt. Pleasant 23.75 343 P P 05 46 08.7 +0.5
Z38A IAmb IAmb 05 46 12.0
comp=Z,25nm,0.8s
FPAL Fort Paine 23.86 3 P P 05 46 08.8 -0.4
FPAL IAmb IAmb 05 46 18.8
comp=Z,30nm,1.2s
HODGE Hodges 23.90 10 IAmb IAmb 05 46 19.4
comp=Z,24nm,0.8s
OXF Oxford 23.91 355 P P 05 46 08.8 -0.8
baz=174
OXF Oxford 23.91 355 IAmb IAmb 05 46 19.1
comp=Z,39nm,0.9s
X51A Calhoun 23.93 4 IAmb IAmb 05 46 20.5
comp=Z,22nm,1.0s
Y57A Sumter 24.06 13 P P 05 46 11.5 +0.4
baz=196
Y57A Sumter 24.06 13 IAmb IAmb 05 46 20.8
comp=Z,34nm,1.0s
JSC Jenkinsville 24.13 11 IAmb IAmb 05 46 15.7
comp=Z,17nm,0.8s
X54A Belton 24.19 9 P P 05 46 12.0 -0.3
baz=191
X55A Gracelyn & Ava 24.24 11 P P 05 46 12.5 -0.3
baz=192,SNR=12
TX32 Lajitas Array 24.35 322 IAmb IAmb 05 46 25.8
comp=Z,19nm,0.8s
TXAR Lajitas Array 24.35 322 P P 05 46 15.0 +1.0
comp=Z,6.1nm,0.7s,baz=136,slow=9.7,SNR=58
TXAR PcP PcP 05 49 54.5 +1.0
comp=Z,1.0nm,0.9s,baz=157,slow=4.1,SNR=3.7
TXAR Lajitas Array 24.35 322 P P 05 46 14.2 +0.2
TX31 Lajitas Ar. Si 24.36 322 P P 05 46 14.8 +0.8
X56A White Oak 24.38 12 P P 05 46 13.7 -0.3
baz=194,SNR=12
X40A Basin Creek Fa 24.39 348 P P 05 46 13.5 -0.6
baz=166
Y59A Loris 24.41 16 P P 05 46 13.7 -0.6
baz=199
SWET Sewanee 24.52 2 IAmb IAmb 05 46 25.4
comp=Z,36nm,0.9s
W52A Murphy 24.53 6 IAmb IAmb 05 46 26.6
comp=Z,21nm,0.8s
W45A Hickory Valley 24.54 355 IAmb IAmb 05 46 26.9
comp=Z,24nm,0.8s
BG3 Lake Jocassee 24.55 8 IAmb IAmb 05 46 26.4
comp=Z,20nm,0.9s
PAULI Pauline 24.55 10 IAmb IAmb 05 46 26.4
comp=Z,34nm,1.0s
X57A Johnson Farm, 24.55 14 P P 05 46 15.4 -0.2
baz=196,SNR=6.7
H06E1 SOCORRO T-PHAS 24.61 292 T T 06 11 53.4
SNR=4.5
MIAR Mount Ida 24.61 347 P P 05 46 14.8 -1.3
baz=164,SNR=11
MIAR Mount Ida 24.61 347 IAmb IAmb 05 46 25.7
comp=Z,15nm,0.8s
BIRD Birdtown, Kers 24.65 13 P P 05 46 16.2 -0.2
BIRD IAmb IAmb 05 46 26.9
comp=Z,28nm,0.9s
W54A Cherokee Point 24.75 9 P P 05 46 17.0 -0.4
baz=191,SNR=28
GRGR Grenville 24.79 84 P P 05 46 15.5 -2.4
X58A Rowland 24.82 15 P P 05 46 17.6 -0.4
baz=198,SNR=8.5
X58A Rowland 24.82 15 P P 05 46 17.8 -0.2
X58A IAmb IAmb 05 46 28.0
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 24.87 334 P P 05 46 17.6 -1.0
baz=149
ABTX Abilene, Hawle 24.87 334 IAmb IAmb 05 46 28.4
comp=Z,21nm,1.2s
W41B Gary Mavity, V 24.95 350 P P 05 46 18.3 -0.8
baz=167
KMSC Kings Mountain 24.95 11 P P 05 46 18.4 -0.8
baz=193,SNR=9.0
V48A Smith Brothers 25.03 0 IAmb IAmb 05 46 30.4
comp=Z,26nm,0.9s
X59A McDuffie Farm, 25.04 16 P P 05 46 19.3 -0.6
baz=199
W56A Indian Trail 25.09 12 P P 05 46 19.4 -1.0
baz=195,SNR=5.7
X37A Clayton 25.11 343 P P 05 46 20.5 0.0
TKL Tuckaleechee C 25.11 6 P P 05 46 20.4 -0.2
comp=Z,20nm,1.0s,baz=176,slow=11,SNR=25
TKL Tuckaleechee C 25.11 6 P P 05 46 20.3 -0.2
X60A Albert Glenn T 25.22 17 P P 05 46 21.3 -0.3
baz=201
SVB Belmont 25.22 81 P P 05 46 21.2 -0.6
V53A Saluda 25.23 8 IAmb IAmb 05 46 33.9
comp=Z,28nm,0.7s
W57A Gilead 25.24 13 P P 05 46 21.0 -0.7
baz=196,SNR=13
W57A Gilead 25.24 13 IAmb IAmb 05 46 31.2
comp=Z,35nm,0.9s
W39A Magazine 25.28 347 P P 05 46 21.3 -0.8
baz=164
W58A Raeford 25.29 15 P P 05 46 21.7 -0.6
baz=198,SNR=10
V52A Sevierville 25.31 6 P P 05 46 22.5 +0.1
CLTN Cedars of Leba 25.38 1 IAmb IAmb 05 46 34.0
comp=Z,30nm,0.9s
WVT Waverly 25.43 358 P P 05 46 23.1 -0.4
baz=178
FDF Fort de France 25.44 78 P P 05 46 23.0 -0.9
FDF IAmb IAmb 05 46 32.1
comp=Z,20nm,0.7s
V54A Nebo 25.46 9 P P 05 46 23.5 -0.3
baz=191,SNR=12
V55A Taylorsville 25.66 11 P P 05 46 25.6 0.0
baz=193,SNR=18
V55A Taylorsville 25.66 11 IAmb IAmb 05 46 30.7
comp=Z,31nm,0.8s
W60A Pink Hill 25.74 18 P P 05 46 26.4 +0.1
baz=201
V56A Mocksville 25.76 12 P P 05 46 26.1 -0.5
baz=194,SNR=13
U49A Red Boiling Sp 25.82 2 IAmb IAmb 05 46 39.1
comp=Z,34nm,1.1s
V57A Coltrane Farms 25.99 13 P P 05 46 28.4 -0.2
baz=196,SNR=14
TZTN Tazewell 26.01 6 P P 05 46 28.3 -0.4
TZTN IAmb IAmb 05 46 41.4
comp=Z,26nm,0.9s
LPIG La Paz 26.02 304 P P 05 46 22.9 -6.0
comp=Z,12nm,0.3s,baz=72,slow=24,SNR=12
V58A Windy Hill, Pi 26.06 15 P P 05 46 28.5 -0.7
baz=197,SNR=20
U40A Yellville 26.21 349 P P 05 46 29.1 -1.4
baz=166,SNR=7.4
U54A Nelsons Funny 26.21 9 P P 05 46 30.3 -0.4
baz=191,SNR=7.1
U54A Nelsons Funny 26.21 9 P P 05 46 30.5 -0.2
V59A Middlesex 26.26 16 P P 05 46 30.5 -0.5
baz=199,SNR=12
T47A Sharon Grove 26.27 360 IAmb IAmb 05 46 42.9
comp=Z,13nm,0.8s
U56A King 26.30 12 P P 05 46 31.1 -0.3
baz=194
U55A TA2, Sparta 26.33 11 P P 05 46 31.2 -0.5
baz=193,SNR=13
HHAR Hobbs 26.35 347 IAmb IAmb 05 46 41.1
comp=Z,10.0nm,0.6s
WMOK Wichita Mounta 26.37 338 P P 05 46 32.1 0.0
baz=153,SNR=25
TUL1 Leonard 26.46 344 P P 05 46 33.1 +0.2
baz=160
TUL1 Leonard 26.46 344 IAmb IAmb 05 46 42.6
comp=Z,27nm,0.8s
V60A Jim Taylor Roa 26.54 18 P P 05 46 33.0 -0.5
baz=201
V60A Jim Taylor Roa 26.54 18 P P 05 46 33.9 +0.4
T53A Wise 26.56 8 P P 05 46 33.1 -0.8
baz=189
U57A Blanch 26.61 14 P P 05 46 33.8 -0.4
baz=197,SNR=17
OK025 Westminster Rd 26.62 341 P P 05 46 34.1 -0.2
OK025 IAmb IAmb 05 46 48.3
comp=Z,17nm,0.9s
U58A Oxford 26.77 15 P P 05 46 34.9 -0.7
baz=198,SNR=9.6
T54A Tazewell 26.78 9 P P 05 46 35.3 -0.6
baz=192,SNR=7.2
OK029 Liberty Lake 26.86 341 IAmb IAmb 05 46 46.4
comp=Z,20nm,0.9s
U59A Littleton 26.93 16 P P 05 46 36.5 -0.5
baz=200,SNR=7.0
U59A Littleton 26.93 16 P P 05 46 35.2 -1.9
T55A Pulaski 26.97 11 P P 05 46 37.1 -0.4
baz=193,SNR=6.0
T56A Rocky Mt 27.03 12 P P 05 46 37.6 -0.4
baz=195
MNTX Cornudas Mount 27.08 324 P P 05 46 38.5 -0.1
baz=137
MNTX Cornudas Mount 27.08 324 P P 05 46 38.9 +0.3
S51A Beattyville 27.09 6 P P 05 46 37.4 -1.1
S51A IAmb IAmb 05 46 45.3
comp=Z,32nm,1.5s
BLA Blacksburg 27.13 11 P P 05 46 38.7 -0.2
BLA IAmb IAmb 05 46 48.8
comp=Z,25nm,1.1s
T57A Hurt 27.17 13 P P 05 46 38.8 -0.4
baz=196,SNR=6.1
T57A Hurt 27.17 13 IAmb IAmb 05 46 48.8
comp=Z,34nm,1.1s
U60A Pendleton 27.22 17 P P 05 46 39.4 -0.3
baz=201
VWCC Virginia Weste 27.25 12 P P 05 46 39.5 -0.5
T58A Grand View Acr 27.30 15 P P 05 46 39.2 -1.1
baz=198
S53A Williamson 27.30 8 P P 05 46 39.9 -0.6
baz=190
MSTX Muleshoe 27.44 330 P P 05 46 40.9 -0.9
baz=144,SNR=15
MSTX Muleshoe 27.44 330 IAmb IAmb 05 46 51.6
comp=Z,32nm,0.9s
WCI Wyandotte Cave 27.52 1 P P 05 46 41.9 -0.4
baz=181
WCI Wyandotte Cave 27.52 1 P P 05 46 41.4 -0.9
WCI IAmb IAmb 05 46 51.9
comp=Z,48nm,1.4s
T59A Double "B" Far 27.58 16 P P 05 46 42.7 -0.1
baz=200
RCRC Randolf Colleg 27.59 13 P P 05 46 42.0 -0.9
S39A Bolivar 27.59 349 IAmb IAmb 05 46 52.8
comp=Z,14nm,0.7s
T35A Sooner Cattle 27.61 343 P P 05 46 42.1 -1.0
T35A pwP 05 46 51.8 +1.2
CCM Cathedral Cave 27.62 353 P P 05 46 43.1 -0.1
baz=171
CCM Cathedral Cave 27.62 353 P P 05 46 41.2 -2.1
CCM IAmb IAmb 05 46 52.4
comp=Z,11nm,0.8s
R49A Shelbyville 27.62 3 IAmb IAmb 05 46 52.2
comp=Z,13nm,0.7s
S55A Lewisburg 27.66 11 P P 05 46 43.6 -0.1
baz=193
CROK Carrier 27.68 341 P P 05 46 43.3 -0.5
CROK IAmb IAmb 05 46 52.6
comp=Z,28nm,1.1s
AMTX Amarillo 27.68 333 P P 05 46 44.0 0.0
baz=147
AMTX Amarillo 27.68 333 IAmb IAmb 05 46 58.8
comp=Z,22nm,0.8s
S56A Natural Bridge 27.76 13 P P 05 46 44.2 -0.3
baz=195
U32A Winter Ranch, 27.91 339 P P 05 46 45.6 -0.3
U32A IAmb IAmb 05 46 52.9
comp=Z,18nm,0.7s
R53A Hurricane 27.97 8 P P 05 46 45.8 -0.6
baz=190
R53A Hurricane 27.97 8 IAmb IAmb 05 46 55.5
comp=Z,23nm,0.8s
R54A Victor 27.97 10 P P 05 46 45.7 -0.8
baz=192
S57A Dark Hollow, R 27.97 13 P P 05 46 46.2 -0.2
baz=197
S58A Poland Farm, P 28.05 15 P P 05 46 46.5 -0.6

baz=198,SNR=6.4
S58A Poland Farm, P 28.05 15 IAmb IAmb 05 46 48.0
comp=Z,12nn,0.5s
R55A Marlinton 28.23 11 P **P** **05 46 48.8 0.0**
baz=194
R55A Marlinton 28.23 11 IAmb IAmb 05 46 58.7
comp=Z,17nn,0.8s
Q44A Meyer Farm, Va 28.25 356 P **P** **05 46 46.6 -2.2**
Q44A IAmb IAmb 05 46 56.2
comp=Z,15nn,0.8s
R58B Mineral 28.43 15 P **P** **05 46 50.7 +0.2**
baz=199
R58B Mineral 28.43 15 P **P** **05 46 49.7 -0.8**
BLO Bloomington 28.46 1 IAmb IAmb 05 46 59.2
comp=Z,15nn,0.8s
R56A Bull Pasture M 28.49 12 P **P** **05 46 51.1 0.0**
baz=195
S60A Water View 28.52 17 P **P** **05 46 51.2 0.0**
baz=201
Q52A Bidwell 28.55 8 P **P** **05 46 51.2 -0.3**
baz=189
Q53A Leroy 28.55 9 P **P** **05 46 51.1 -0.5**
baz=191
R57A Stanardsville 28.58 14 P **P** **05 46 51.5 -0.3**
baz=197
R58A Rapidan 28.71 15 P **P** **05 46 52.5 -0.4**
baz=198
P48A Milroy 28.77 2 IAmb IAmb 05 47 02.4
comp=Z,17nn,0.8s
Q54A Coxs Mills 28.78 10 P **P** **05 46 52.6 -1.0**
baz=192,SNR=6.3
Q54A Coxs Mills 28.78 10 P **P** **05 46 51.9 -1.7**
Q54A IAmb IAmb 05 47 03.0
comp=Z,30nn,0.9s
CBN Corbin Frederi 28.78 16 P **P** **05 46 53.2 -0.4**
baz=200
P49A Miami Univ. Ec 28.88 3 P **P** **05 46 53.9 -0.6**
baz=184
P49A Miami Univ. Ec 28.88 3 IAmb IAmb 05 47 02.8
comp=Z,12nn,0.7s
ETMB Extrema 28.89 134 *e*P **P** **05 46 55.3 +0.5**
Q55A Buckhannon 28.93 11 P **P** **05 46 54.3 -0.7**
baz=194
Q56A Snyder Ridge, 29.15 12 P **P** **05 46 56.5 -0.4**
baz=196
Q56A Snyder Ridge, 29.15 12 IAmb IAmb 05 47 07.2
comp=Z,23nn,0.8s
P53A Whipple 29.18 9 P **P** **05 46 56.6 -0.5**
baz=191
P52A Corning 29.22 8 P **P** **05 46 56.4 -1.1**
baz=189,SNR=7.1
P52A Corning 29.22 8 P **P** **05 46 56.3 -1.3**
319A Douglas 29.28 318 P **P** **05 46 59.7 +1.3**
319A IAmb IAmb 05 47 01.6
comp=Z,13nn,1.0s
Q57A Strasburg 29.31 14 P **P** **05 46 58.4 0.0**
baz=197
Q58A Fox Den Farm, 29.40 15 P **P** **05 46 58.7 -0.4**
baz=198
P54A Burton 29.44 10 P **P** **05 46 58.8 -0.7**
baz=193
MACA Manacapuru-AM 29.45 116 *e*P **P** **05 47 01.3 +1.4**
P55A Reedsville 29.47 11 P **P** **05 46 58.8 -1.0**
baz=194
P38A Dawn 29.50 350 IAmb IAmb 05 47 09.1
comp=Z,10nn,0.6s
MCWV Mont Chateau 29.61 11 P **P** **05 47 00.7 -0.2**
baz=194
MCWV Mont Chateau 29.61 11 P **P** **05 47 00.1 -0.9**
R32A Long Quarter, 29.66 341 P **P** **05 47 01.7 +0.2**
R32A pP **pwP** **05 47 10.8 +0.1**
R32A IAmb IAmb 05 47 11.5
comp=Z,9.8nm,0.8s
SFIN Lafayette 29.66 360 P **P** **05 47 00.3 -1.1**
baz=179
SFIN Lafayette 29.66 360 IAmb IAmb 05 47 10.3
comp=Z,18nn,0.7s
P56A Dayton Farm, R 29.67 13 P **P** **05 47 01.1 -0.4**
baz=196,SNR=5.2
O51A Pataskala 29.67 7 P **P** **05 47 01.1 -0.4**
baz=188
KSU1 Kansas State U 29.68 345 P **P** **05 47 00.4 -1.2**
KSU1 IAmb IAmb 05 47 11.4
comp=Z,26nn,1.1s
ACSO Alum Creek Sta 29.72 6 P **P** **05 47 01.4 -0.5**
baz=188
ACSO Alum Creek Sta 29.72 6 IAmb IAmb 05 47 11.4
comp=Z,30nn,1.1s
O52A Adamsville 29.74 8 P **P** **05 47 01.7 -0.4**
baz=190
BBSR BB Station 29.81 40 P **P** **05 47 06.3 +3.5**
BBSR IAmb IAmb 05 47 12.5
comp=Z,22nn,0.8s
P57A Homestead Farm 29.83 14 P **P** **05 47 02.9 0.0**
baz=198,SNR=8.5
P57A Homestead Farm 29.83 14 IAmb IAmb 05 47 13.1
comp=Z,24nn,0.9s
O53A New Philadelph 29.96 9 P **P** **05 47 03.7 -0.3**
baz=191
P58A Pank, Wackersv 30.01 15 P **P** **05 47 04.4 -0.1**
baz=199
O54A Avella 30.02 10 P **P** **05 47 04.4 -0.2**
baz=193
O54A Avella 30.02 10 IAmb IAmb 05 47 13.6
comp=Z,14nn,0.8s
SDMD Soldier's Deli 30.06 16 IAmb IAmb 05 47 15.0
comp=Z,12nn,0.9s
ANMO Albuquerque 30.09 327 P **P** **05 47 05.6 +0.1**
baz=139
ANMO Albuquerque 30.09 327 P **P** **05 47 06.7 +1.2**
O55A Ligonier 30.25 12 P **P** **05 47 06.7 +0.1**
baz=195
P59A Jarrettsville 30.36 16 P **P** **05 47 07.7 +0.1**
baz=200
O56A Blue Knob Stat 30.46 13 P **P** **05 47 08.8 +0.2**
baz=196
N51A Ashland 30.46 7 P **P** **05 47 08.7 +0.2**
baz=189
SAML Samuel 30.56 129 P **P** **05 47 09.4 -0.2**
N53A Lisbon 30.56 9 P **P** **05 47 09.0 -0.3**
baz=192
O57A Amberson 30.61 14 P **P** **05 47 09.9 0.0**
baz=198
O58A Lewisberry 30.71 15 P **P** **05 47 10.8 +0.1**
baz=199
MVL Millersville 30.74 16 P **P** **05 47 11.2 +0.2**
MVL IAmb IAmb 05 47 20.9
comp=Z,20nn,0.9s
T25A Trinidad 30.79 332 P **P** **05 47 12.1 +0.4**
baz=145
N55A Marion Center 30.86 12 P **P** **05 47 12.1 0.0**
baz=195
TUC Tucson 30.86 318 P **P** **05 47 12.8 +0.6**
baz=129
TUC Tucson 30.86 318 P **P** **05 47 14.2 +2.0**
SSPA Standing Stone 30.96 13 P **P** **05 47 12.8 -0.1**
baz=197
SSPA Standing Stone 30.96 13 P **P** **05 47 11.4 -1.4**
O59A Robesonia 31.08 16 P **P** **05 47 14.0 +0.1**
baz=200
N56A West Decatur 31.14 13 P **P** **05 47 13.7 -0.8**
baz=196,SNR=7.4
N57A Milroy 31.15 14 P **P** **05 47 14.3 -0.3**
baz=198
M53A WI Miller and 31.20 9 P **P** **05 47 14.7 -0.3**
baz=192
N58A Sunbury 31.43 15 P **P** **05 47 17.0 -0.1**
baz=199
M54A Oil Creek Stat 31.44 10 P **P** **05 47 16.9 -0.3**
baz=194
M54A Oil Creek Stat 31.44 10 P **P** **05 47 16.4 -0.8**
M54A IAmb IAmb 05 47 26.5
comp=Z,20nn,0.9s
M56A Emporium 31.70 13 P **P** **05 47 19.1 -0.4**
baz=196,SNR=6.4
M56A Emporium 31.70 13 P **P** **05 47 18.7 -0.8**
N59A State Game Lan 31.75 16 P **P** **05 47 19.9 0.0**
baz=201,SNR=10
L53A Girard 31.77 9 P **P** **05 47 19.9 -0.1**
baz=192
SDCO Great Sand Dun 31.79 331 P **P** **05 47 21.0 +0.4**
baz=143,SNR=15
M57A Sunshine Farm, 31.80 14 P **P** **05 47 20.5 +0.2**
baz=198,SNR=8.2
N60A Cedar Hill Far 31.90 17 P **P** **05 47 21.5 +0.3**
baz=202
M58A Price's Panora 32.00 15 P **P** **05 47 22.3 +0.2**
baz=199
214A Organ Pipe Nat 32.01 316 P **P** **05 47 23.1 +0.7**
214A IAmb IAmb 05 47 34.0
comp=Z,14nm,1.1s
BGNE Belgrade 32.25 344 P **P** **05 47 24.9 +0.7**
baz=159
L55A Hinsdale 32.32 12 P **P** **05 47 24.7 -0.2**
baz=196
M59A Waymart 32.43 16 P **P** **05 47 26.1 +0.3**
baz=201
S22A 4UR Ranch, Cre 32.43 330 P **P** **05 47 26.9 +0.7**
baz=141,SNR=7.2
S22A 4UR Ranch, Cre 32.43 330 **PcP** **05 50 14.8 +1.4**
M60A Port Jervis 32.46 17 P **P** **05 47 26.4 +0.3**
baz=203
L56A Greenwood 32.46 13 P **P** **05 47 26.3 +0.1**
baz=197
L56A Greenwood 32.46 13 P **P** **05 47 25.8 -0.4**
L56A IAmb IAmb 05 47 35.7
comp=Z,18nm,0.8s
L57A Andrews Acres 32.50 14 P **P** **05 47 26.3 -0.1**
baz=198
LPAZ La Paz 32.53 145 P **P** **05 47 28.0 +0.4**
comp=Z,1.7nm,0.7s,baz=344,slow=9.3,SNR=6.2
LPAZ La Paz 32.53 145 P **P** **05 47 28.5 +0.8**
LPAZ La Paz 32.53 145 *e*P **P** **05 47 28.4 +0.8**
M61A Granite Spring 32.70 18 P **P** **05 47 28.5 +0.3**
baz=204
L58A Harry Jones Me 32.79 15 P **P** **05 47 29.1 +0.1**
baz=200,SNR=9.6
MVCO Mesa Verde 32.88 327 P **P** **05 47 30.8 +0.7**
baz=138,SNR=6.3
MVCO Mesa Verde 32.88 327 P **P** **05 47 29.9 -0.2**
MVCO IAmb IAmb 05 47 43.9
comp=Z,8.1nm,0.8s
BINY Binghamton 32.90 15 P **P** **05 47 30.0 0.0**
baz=200,SNR=6.5
BINY Binghamton 32.90 15 P **P** **05 47 29.1 -0.8**
K56A Middlesex 33.05 13 P **P** **05 47 31.1 -0.2**
baz=197
L59A Walton 33.14 16 P **P** **05 47 32.1 0.0**
baz=202
L59A Walton 33.14 16 pP pP 05 47 41.0 +5.0
L60A Shokan 33.19 17 P **P** **05 47 32.5 0.0**
baz=203
K57A Scipio Center 33.27 14 P **P** **05 47 32.9 -0.2**
baz=199
WUAZ Wupatki 33.32 322 P **P** **05 47 34.1 +0.2**
baz=132,SNR=6.2
WUAZ Wupatki 33.32 322 P **P** **05 47 35.0 +1.1**
Y14A Wickenburg 33.33 318 P **P** **05 47 35.4 +1.5**
PB16 IPOC Station P 33.48 149 P **P** **05 47 34.8 -1.1**
PB16 IAmb IAmb 05 47 46.6
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 33.50 333 P **P** **05 47 35.5 -0.1**
baz=145
K58A Earlville 33.51 15 P **P** **05 47 35.5 +0.2**
baz=200
L61A Hilldale 1, H 33.57 18 P **P** **05 47 36.4 +0.6**
baz=204
PV01 Paradox Valley 33.61 328 P **P** **05 47 37.0 +0.6**
J56A Wolcott 33.71 13 P **P** **05 47 36.7 -0.2**
baz=198
PV15 Paradox Valley 33.72 329 P **P** **05 47 37.0 -0.4**
PV15 IAmb IAmb 05 47 41.1
comp=Z,8.0nm,0.9s
K59A Cooperstown 33.73 16 P **P** **05 47 37.0 -0.2**
baz=202
PV13 Radium Mtn., P 33.76 328 IAmb IAmb 05 47 39.5
comp=Z,10nn,0.9s
PV03 Paradox Valley 33.84 328 P **P** **05 47 38.5 +0.1**
PV03 IAmb IAmb 05 47 40.1
comp=Z,12nn,0.8s
PV18 Skein Mesa, Pa 33.87 328 P **P** **05 47 38.8 +0.1**
PV07 Paradox Valley 33.88 329 IAmb IAmb 05 47 49.3
comp=Z,8.3nn,0.9s
PV16 Nyswonger Mesa 33.92 328 IAmb IAmb 05 47 50.3
comp=Z,13nn,0.8s
PV19 Morning Glory 33.95 328 P **P** **05 47 39.5 +0.1**
PV20 West Nyswonger 33.97 328 P **P** **05 47 39.8 +0.2**
PV20 IAmb IAmb 05 47 41.0
comp=Z,12nn,0.8s
PV04 Paradox Valley 33.98 328 IAmb IAmb 05 47 50.4
comp=Z,16nm,0.8s
PV14 Lion Creek, Pa 34.02 328 P **P** **05 47 40.1 0.0**
PV10 Paradox Valley 34.03 328 P **P** **05 47 39.9 -0.3**
PV10 **pwP** **05 47 48.8 -1.2**
J57A Williamstown 34.03 14 P **P** **05 47 39.6 -0.2**
baz=199
ECSD ERS Data Cent 34.07 347 IAmb IAmb 05 47 49.0
comp=Z,11nm,0.9s
L61B Northampton 34.08 19 P **P** **05 47 39.8 -0.3**
baz=205
K61A Williamstown 34.09 18 P **P** **05 47 40.6 +0.2**
baz=204
MNMC Minye Minye 34.11 150 IAmb IAmb 05 47 52.1
comp=Z,18nm,1.0s
J58A Remsen 34.16 15 P **P** **05 47 40.9 -0.1**
baz=200,SNR=5.1
J58A Remsen 34.16 15 IAmb IAmb 05 47 50.5
comp=Z,14nm,0.8s
ITTB Itaituba 34.40 114 *e*P **P** **05 47 43.4 +0.1**
U15A North Rim 34.48 322 P **P** **05 47 44.4 +0.3**
I58A Old Forge 34.55 15 P **P** **05 47 44.0 -0.3**
baz=201
J60A Lant Hill Farm 34.57 17 P **P** **05 47 44.6 +0.1**
baz=204
H53A Bobcaygeon 34.60 10 P **P** **05 47 44.0 -0.7**
baz=194
W13A Hualapai Mount 34.62 319 P **P** **05 47 46.0 +0.8**
W13A IAmb IAmb 05 47 48.5
comp=Z,10nm,1.1s
SADO Sadowa 34.70 10 P **P** **05 47 43.9 -1.7**
comp=Z,11nn,0.5s,baz=221,slow=8.3,SNR=10
SADO PcP **PcP** **05 50 19.3 0.0**
comp=Z,4.2nm,0.8s,baz=252,slow=6.4,SNR=1.7
GO01 Chusmiza 34.76 150 P **P** **05 47 47.1 +0.2**
GO01 IAmb IAmb 05 48 05.3
comp=Z,5.3nm,0.7s
BC3 Big Chuckawall 34.81 316 P **P** **05 47 47.9 +1.1**
baz=124,SNR=7.1
IRM Iron Mountain 34.89 317 P **P** **05 47 47.9 +0.6**
baz=126,SNR=5.6
I59A Olmsteadville 34.95 17 P **P** **05 47 47.6 -0.1**
baz=203
O20A White River Ci 34.98 331 P **P** **05 47 48.9 +0.6**
baz=141,SNR=12
J62A Henniker 35.05 19 P **P** **05 47 49.2 +0.5**
baz=206
I60A Shoreham 35.16 17 P **P** **05 47 50.0 +0.5**
baz=204
KNB Kanab 35.19 323 P **P** **05 47 51.1 +1.0**
VILB Vilhena 35.35 131 *e*P **P** **05 47 52.2 +0.7**
SRU San Rafael Swe 35.36 327 P **P** **05 47 51.8 +0.2**
BELC Belle Mtn. Jos 35.38 316 P **P** **05 47 52.7 +1.0**
baz=124,SNR=7.2
H58A Gabriels 35.44 16 P **P** **05 47 51.4 -0.5**
baz=202
G54A Lake Saint Pet 35.49 11 P **P** **05 47 52.1 -0.3**
baz=195
LONY Lake Ozonia 35.52 15 P **P** **05 47 52.4 -0.3**
baz=201
LONY Lake Ozonia 35.52 15 IAmb IAmb 05 47 52.8
comp=Z,11nm,0.6s
F36A Milaca 35.59 352 P **P** **05 47 51.3 -1.9**
F36A IAmb IAmb 05 48 01.5
comp=Z,16nm,1.0s
MSU Marysvale 35.83 325 P **P** **05 47 55.7 +0.1**
NPGB Novo Progresso 35.96 118 *e*P **P** **05 47 56.4 -0.3**
H60A Morristown 35.99 17 P **P** **05 47 56.4 -0.2**
baz=204
ALGO Algonquin Park 36.03 11 P **P** **05 47 56.4 -0.6**
baz=195
H61A Lyndonville 36.20 18 P **P** **05 47 58.2 -0.3**
baz=205
SHPR Sheep Range 36.30 320 P **P** **05 48 01.8 +2.2**
PB09 IPOC Station P 36.56 152 IAmb IAmb 05 48 13.2
comp=Z,16nm,0.9s
G60A Masonville 36.58 17 P **P** **05 48 01.6 -0.1**
baz=204
SHOC Shoshone, Teco 36.66 318 P **P** **05 48 03.8 +1.3**
baz=126
BFSC Mount Baldy Ra 36.66 315 P **P** **05 48 03.8 +1.1**
baz=122
GSC Goldstone, Bar 36.66 317 P **P** **05 48 03.8 +1.2**
baz=125
PRN Pahroc Range 36.80 321 P **P** **05 48 01.4 -2.5**
PSUT Pine Spring 36.81 324 P **P** **05 48 03.1 -0.9**
G61A St-Isidore-de- 36.99 18 P **P** **05 48 05.6 +0.4**
baz=206
H64A Troy 37.18 21 P **P** **05 48 07.3 +0.5**
baz=209
EDW2 Edwards Air Fo 37.24 315 P **P** **05 48 08.7 +1.2**
baz=123
G62A West of Eustis 37.25 19 P **P** **05 48 07.8 +0.4**
baz=207
G62A West of Eustis 37.25 19 P **P** **05 48 07.0 -0.4**
G62A IAmb IAmb 05 48 17.5
comp=Z,15nm,0.8s
TPNV Topopah Spring 37.26 320 P **P** **05 48 09.6 +1.8**
baz=127,SNR=13
TPNV Topopah Spring 37.26 320 P **P** **05 48 08.1 +0.3**
TPNV IAmb IAmb 05 48 11.3
comp=Z,12nm,1.0s
LRMC Laurel Mtn Rad 37.35 316 P **P** **05 48 09.9 +1.3**
baz=124
DUG Dugway, Tooele 37.36 327 P **P** **05 48 10.0 +1.3**
baz=135
DUG Dugway, Tooele 37.36 327 pP pP 05 48 18.1 +6.0
FURC Furnace Creek, 37.37 318 P **P** **05 48 10.3 +1.7**
baz=126,SNR=6.3
F60A Warwick 37.49 17 P **P** **05 48 08.8 -0.6**
baz=204
E58A La Victoria 37.49 16 P **P** **05 48 09.0 -0.4**
baz=202
MPMC Manual Prospec 37.55 317 P **P** **05 48 11.7 +1.4**
baz=125,SNR=12
CLDB Colider 37.56 124 *e*P **P** **05 48 08.9 -1.5**
D55A Sainte-Anne-du 37.57 13 P **P** **05 48 09.5 -0.6**
baz=198
H65A Eastbrook 37.58 22 P **P** **05 48 10.3 +0.1**
baz=211
BW06 Boulder Array 37.65 332 P **P** **05 48 10.7 -0.5**
baz=142,SNR=6.5
BW06 Boulder Array 37.65 332 P **P** **05 48 09.8 -1.4**
PDAR Pinedale Array 37.65 332 P **P** **05 48 10.6 -0.5**
comp=Z,2.7nm,0.7s,baz=126,slow=9.9,SNR=24
PDAR PcP **PcP** **05 50 28.7 +0.2**
comp=Z,0.6nm,0.8s,baz=180,slow=1.5,SNR=3.8
PDAR Pinedale Array 37.65 332 P **P** **05 48 09.6 -1.5**
PKME Peaks-Kenny Pk 37.70 20 P **P** **05 48 11.5 +0.3**
baz=209
R11A Troy Canyon, C 37.72 322 P **P** **05 48 12.5 +0.8**
baz=129
E28A Huff 37.73 344 IAmb IAmb 05 48 21.2
comp=Z,24nm,1.1s
HWUT Hardware Ranch 37.73 329 IAmb IAmb 05 48 13.1
comp=Z,15nm,0.8s
PTLB Pontes e Lacer 37.76 133 *e*P **P** **05 48 12.1 +0.1**
F61A St Evariste 37.78 18 P **P** **05 48 11.5 -0.4**
baz=206
D57A Chemin Vers le 37.93 15 P **P** **05 48 12.2 -1.0**
baz=201
BGU Big Grassy Mou 38.00 327 P **P** **05 48 13.7 -0.3**
GRAC Grapevine Rang 38.01 319 P **P** **05 48 16.2 +2.2**
baz=126,SNR=12
F62A Pittston Farm, 38.03 19 P **P** **05 48 13.9 -0.1**
baz=208
F63A Nahmakanta, Br 38.15 20 P **P** **05 48 15.1 +0.1**
baz=209
G65A Princeton 38.27 22 P **P** **05 48 16.5 +0.6**
baz=212
AGMN Agassiz Nation 38.33 350 IAmb IAmb 05 48 26.9
comp=Z,29nm,1.2s
AHID Auburn Hatcher 38.37 331 IAmb IAmb 05 48 19.6
comp=Z,9.6nm,0.8s
VES Vestal, Richgr 38.51 316 P **P** **05 48 19.8 +1.7**
baz=123,SNR=6.6
F64A Sherman 38.55 21 P **P** **05 48 18.6 +0.2**
baz=210
LATQ La Tuque 38.55 15 P **P** **05 48 18.0 -0.4**
baz=202
TPH Tonopah 38.56 320 P **P** **05 48 20.0 +1.2**
REDW Red Top Meadow 38.71 332 IAmb IAmb 05 48 21.3
comp=Z,18nm,0.8s
SNOW Snow King Moun 38.74 332 IAmb IAmb 05 48 21.7
comp=Z,17nm,0.8s
E62A Clayton Lake 38.82 19 P **P** **05 48 20.6 0.0**
baz=208
TPAW Teton Pass 38.86 332 P **P** **05 48 21.4 +0.1**
E63A Oxbow 39.01 20 P **P** **05 48 22.1 -0.1**
baz=210
D61A St Aubert, Com 39.13 18 P **P** **05 48 22.9 -0.2**
baz=206
LSQQ Lebeˆsur-Quev 39.22 10 P **P** **05 48 22.4 -1.6**
baz=195
GO02 Mina Guanaco 39.34 155 P **P** **05 48 26.1 +0.6**
GO02 IAmb IAmb 05 48 36.4
comp=Z,13nm,0.8s
NV11 Mina Array Sit 39.36 320 IAmb IAmb 05 48 28.8
comp=Z,17nm,1.1s
D62A Allapoint, All 39.38 19 P **P** **05 48 25.1 -0.2**
baz=208
D62A Allapoint, All 39.38 19 IAmb IAmb 05 48 34.6
comp=Z,17nm,1.1s
RLMT Red Lodge 39.40 335 P **P** **05 48 25.6 -0.2**
baz=144
NVAR Mina Array Bea 39.45 320 P **P** **05 48 28.4 +2.1**
comp=Z,9.6nm,0.8s,baz=139,slow=7.2,SNR=74
NVAR PcP **PcP** **05 50 35.2 +1.0**
comp=Z,2.4nm,0.7s,baz=135,slow=4.0,SNR=10
NVAR Mina Array Bea 39.45 320 P **P** **05 48 27.9 +1.6**
NVAR **PcP** **05 50 34.9 +0.7**
LHV Little Huntoon 39.48 320 P **P** **05 48 28.3 +2.1**
LHV IAmb IAmb 05 48 29.9
comp=Z,18nm,0.9s
MDPB Devils Postpil 39.49 318 IAmb IAmb 05 48 29.8
comp=Z,12nn,0.9s
D63A Stockholm 39.65 20 P **P** **05 48 27.6 0.0**
baz=210
RYN Ryan 39.71 320 P **P** **05 48 29.4 +1.0**
MATQ Matagami 39.79 9 P **P** **05 48 27.8 -0.9**
baz=194
LMN Caledonia Moun 39.88 24 IAmb IAmb 05 48 29.9
comp=Z,16nm,0.6s
GCMT Greycliff 40.11 335 P **P** **05 48 31.0 -0.6**
WAKR Walker 40.22 319 IAmb IAmb 05 48 36.1
comp=Z,16nm,1.1s
ULM Lac du Bonnet 40.22 351 P **P** **05 48 29.4 -2.9**
comp=Z,4.9nm,0.5s,baz=177,slow=8.8,SNR=7.1
ULM PcP **PcP** **05 50 35.7 -0.4**
comp=Z,3.4nm,0.6s,baz=97,slow=3.4,SNR=2.9
ULM Lac du Bonnet 40.22 351 P **P** **05 48 29.5 -2.8**
ULM IAmb IAmb 05 48 40.5
comp=Z,14nm,0.8s
YERR Yerington 40.37 320 IAmb IAmb 05 48 36.9
comp=Z,15nm,1.0s
DGMT Dagmar 40.44 342 P **P** **05 48 33.5 -0.6**
baz=153
DGMT Dagmar 40.44 342 IAmb IAmb 05 48 44.4
comp=Z,20nm,0.9s
CMB Columbia Colle 40.58 318 pP pP 05 48 44.4 +5.5
HLID Hailey 40.60 329 P **P** **05 48 36.1 +0.4**
baz=136,SNR=8.2
BCYI Bear Canyon 40.64 331 P **P** **05 48 36.1 0.0**
PNTR Pine Nut 40.66 320 IAmb IAmb 05 48 39.3
comp=Z,16nm,0.9s
BOZ Bozeman (W) 40.79 333 P **P** **05 48 37.4 +0.1**
baz=141,SNR=7.2
AC02 Maricunga 41.02 155 P **P** **05 48 41.4 +1.7**
DLMT Dillon 41.05 332 P **P** **05 48 38.8 -0.6**
HRY Holter Researc 41.75 334 P **P** **05 48 45.2 +0.2**
EGMT Eagleton 41.96 337 P **P** **05 48 47.4 +0.6**
baz=145
ORV Orovville 42.14 319 P **P** **05 48 50.4 +2.2**
PLID Pearl Lake 42.48 329 P **P** **05 48 50.4 -0.8**
O03E Paynes Creek 42.74 320 P **P** **05 48 53.7 +0.4**
baz=124,SNR=7.0
MSO Missoula 42.77 333 P **P** **05 48 53.0 -0.3**
baz=139,SNR=5.7
O02D Mt. Diablo Mer 43.31 319 P **P** **05 48 57.9 +0.1**
baz=123
ARAG Araguaiana, MT 43.47 126 *e*P **P** **05 48 58.9 -0.4**
AQDB Aquidauana 43.53 135 *e*P **P** **05 48 59.7 0.0**
M04C Macdoel 43.61 322 P **P** **05 49 00.9 +0.7**
baz=125,SNR=9.3
N02D Trinity Center 43.69 320 P **P** **05 49 00.2 -0.7**
baz=124
KMRM Mail Ridge 43.93 319 P **P** **05 49 05.2 +2.4**
KMRM IAmb IAmb 05 49 15.4
comp=Z,24nm,1.1s
M02C Callahan 44.02 321 P **P** **05 49 03.2 -0.3**
baz=124
YBH Yreka Blue Hor 44.12 321 P **P** **05 49 03.3 -1.1**

J05D	**Fort Rock, OR**	**44.14 324**	P	**P**	**05 49 04.9**	**+0.4**
	baz=127					
L04D	**Klamath Falls**	**44.15 322**	P	**P**	**05 49 04.8**	**+0.2**
	baz=125,SNR=8.7					
KHMM	**Horse Mountain**	**44.29 319**	P	**P**	**05 49 07.0**	**+1.3**
KHMM			IAmb	IAmb	05 49 08.0	
	comp=Z,10nm,0.8s					
H03N2	**Juan Fernandez**	**44.45 170**	T	T	06 36 30.2	
	baz=351,slow=74					
H03N1	**Juan Fernandez**	**44.45 170**	T	T	06 36 41.1	
	baz=351,slow=74					
JCC	**Jacoby Creek,**	**44.45 319**	IAmb	IAmb	05 49 09.3	
	comp=Z,31nm,1.3s					
H03N3	**Juan Fernandez**	**44.46 170**	T	T	06 36 32.9	
	baz=351					
PEXB	**Peixe**	**44.48 119**	*e*P	**P**	**05 49 06.7**	**-0.7**
J04D	**Umpqua Nationa**	**44.62 323**	P	**P**	**05 49 09.1**	**+0.6**
	baz=126,SNR=6.3					
KRMB	**Red Mountain**	**44.75 320**	P	**P**	**05 49 10.0**	**+0.6**
KRMB			IAmb	IAmb	05 49 11.6	
	comp=Z,17nm,1.3s					
L02E	**Cave Junction**	**44.91 321**	P	**P**	**05 49 10.4**	**-0.1**
	baz=124					
I04A	**Tendick Farm,**	**45.13 324**	P	**P**	**05 49 12.2**	**-0.1**
	baz=126,SNR=7.2					
D08A	**Wollman Farm,**	**45.31 329**	IAmb	IAmb	05 49 14.5	
	baz=129					
G05D	**Wamic, OR**	**45.39 326**	P	**P**	**05 49 15.3**	**+1.0**
	baz=129					
E07A	**Sunnyside**	**45.45 328**	P	**P**	**05 49 14.8**	**0.0**
E07A			IAmb	IAmb	05 49 15.9	
	comp=Z,13nm,0.8s					
H04A	**Detroit Lake**	**45.53 325**	IAmb	IAmb	05 49 16.6	
	comp=Z,28nm,1.5s					
I03D	**Drain, OR**	**45.62 323**	P	**P**	**05 49 17.0**	**+0.9**
	baz=125					
DRLN	**Deer Lake**	**45.63 27**	P	**P**	**05 49 15.3**	**-0.7**
J01E	**Myrtle Point**	**45.67 322**	P	**P**	**05 49 17.1**	**+0.7**
	baz=124					
H04D	**Lebanon**	**45.75 324**	P	**P**	**05 49 17.2**	**+0.1**
	baz=126					
VA03	**San Esteban**	**45.85 161**	P	**P**	**05 49 18.9**	**+0.8**
F05D	**White Salmon**	**45.87 326**	P	**P**	**05 49 18.9**	**+0.8**
	baz=129					
I02D	**Swisshome**	**46.15 323**	P	**P**	**05 49 21.1**	**+0.8**
	baz=125					
B08A	**Colville Reser**	**46.40 330**	P	**P**	**05 49 22.1**	**-0.2**
G03D	**McMinnville, O**	**46.46 325**	P	**P**	**05 49 23.5**	**+0.8**
	baz=126					
BDFB	**Brasilia**	**46.49 124**	P	**P**	**05 49 23.4**	**-0.1**
	comp=Z,11nm,0.9s,baz=329,slow=5.8,SNR=10					
BDFB	**Brasilia**	**46.49 124**	P	**P**	**05 49 26.3**	**+2.8**
BDFB			IAmb	IAmb	05 49 28.8	
	comp=Z,16nm,1.0s					
CPUP	**Villa Florida**	**46.62 142**	P	**P**	**05 49 23.1**	**-1.1**
	comp=Z,3.2nm,1.0s,baz=313,slow=8.1,SNR=4.6					
E04D	**Cinebar**	**46.89 327**	P	**P**	**05 49 26.4**	**+0.3**
	baz=128					
SCHQ	**Schefferville**	**46.89 16**	P	**P**	**05 49 23.6**	**-2.4**
	comp=Z,5.7nm,0.4s,baz=226,slow=5.4,SNR=5.5					
SCHQ			PcP	**PcP**	**05 50 58.6**	**+0.1**
	comp=Z,7.9nm,0.6s,baz=227,slow=1.0,SNR=5.1					
SCHQ			LR	LR	06 08 36.2	
	comp=Z,255nm,20.2s,baz=226,slow=36					
SCHQ	**Schefferville**	**46.89 16**	P	**P**	**05 49 24.3**	**-1.7**
D04E	**Lakebay**	**47.39 327**	P	**P**	**05 49 30.1**	**+0.3**
	baz=128					
PCMB	**Pacaembu**	**47.41 133**	*e*P	**P**	**05 49 30.1**	**-0.4**
SDBA	**SAO DESIDERIO**	**47.55 118**	*e*P	**P**	**05 49 31.6**	**-0.2**
B06A	**Marblemount**	**47.58 329**	IAmb	IAmb	05 49 31.9	
	comp=Z,9.2nm,0.7s					
D03D	**Eldon**	**47.78 327**	P	**P**	**05 49 33.4**	**+0.4**
	baz=128					
NLWA	**Neilton Lookou**	**48.11 327**	IAmb	IAmb	05 49 37.4	
	comp=Z,14nm,1.1s					
MC01	**Montes Claros**	**50.40 122**	*e*P	**P**	**05 49 55.0**	**+1.4**
ITAB	**Concordia**	**50.51 139**	*e*P	**P**	**05 49 53.9**	**-0.3**
PLCA	**Paso Flores**	**53.26 165**	P	**P**	**05 50 14.5**	**0.0**
	comp=Z,6.4nm,0.8s,baz=341,slow=8.7,SNR=17					
PLCA			PcP	**PcP**	**05 51 21.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=304,slow=7.3,SNR=1.8					
PLCA	**Paso Flores**	**53.26 165**	P	**P**	**05 50 14.3**	**-0.2**
PLCA			IAmb	IAmb	05 50 15.3	
	comp=Z,6.5nm,0.8s					
PLCA	**Paso Flores**	**53.26 165**	*e*P	**P**	**05 50 14.6**	**+0.1**
FRB	**Frobisher Bay**	**54.64 10**	P	**P**	**05 50 22.0**	**-2.2**
	comp=Z,8.1nm,0.9s,baz=248,slow=11,SNR=2.1					
YKA	**Yellowknife Ar**	**55.53 345**	P	**P**	**05 50 29.3**	**-1.3**
	comp=Z,3.9nm,0.8s,baz=135,slow=7.2,SNR=11					
YKA			PcP	**PcP**	**05 51 30.6**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=138,slow=3.9,SNR=5.9					
YKA			LR	LR	06 15 18.0	
	comp=Z,139nm,18.5s,baz=0.0,slow=37					
DLBC	**Dease Lake**	**57.80 335**	P	**P**	**05 50 47.9**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=115,slow=5.4,SNR=20					
DLBC	**Dease Lake**	**57.80 335**	P	**P**	**05 50 46.9**	**-0.2**
DLBC			IAmb	IAmb	05 50 48.9	
	comp=Z,8.7nm,0.9s					
RES	**Resolute Bay**	**64.22 358**	P	**P**	**05 51 28.4**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=160,slow=9.3,SNR=5.1					
RES	**Resolute Bay**	**64.22 358**	IAmb	IAmb	05 51 28.7	
	comp=Z,12nm,1.2s					
INK	**Inuvik**	**65.12 343**	P	**P**	**05 51 35.5**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=135,slow=6.8,SNR=4.5					
INK	**Inuvik**	**65.12 343**	IAmb	IAmb	05 51 47.8	
	comp=Z,7.5nm,1.0s					
BCAR	**Beaver Creek A**	**65.15 336**	P	**P**	**05 51 36.3**	**-0.3**
N25K	**Chitina, Valde**	**65.69 334**	P	**P**	**05 51 40.1**	**0.0**
	baz=114					
K27K	**Chicken**	**65.72 337**	P	**P**	**05 51 40.3**	**+0.2**
	baz=118					
KLU	**Klutina**	**66.23 333**	IAmb	IAmb	05 51 53.5	
	comp=Z,16nm,1.4s					
DOT	**Dot Lake**	**66.33 336**	IAmb	IAmb	05 51 46.4	
	comp=Z,5.8nm,0.7s					
SCRK	**Sand Creek**	**66.45 336**	P	**P**	**05 51 45.1**	**+0.1**
	baz=116					
RIDG	**Independent Ri**	**66.69 336**	P	**P**	**05 51 47.0**	**+0.6**
RIDG			IAmb	IAmb	05 51 47.9	
	comp=Z,16nm,1.4s					
KNK	**Knik Glacier**	**67.33 333**	P	**P**	**05 51 50.5**	**-0.1**
SML	**Sawmill**	**67.42 333**	IAmb	IAmb	05 51 52.4	
	comp=Z,9.4nm,0.9s					
RC01	**Rabbit Creek A**	**67.80 332**	P	**P**	**05 51 53.7**	**+0.2**
	baz=109,SNR=6.4					
HDA	**Harding Lake**	**67.81 336**	P	**P**	**05 51 53.3**	**-0.1**
	baz=113,SNR=8.9					
HDA	**Harding Lake**	**67.81 336**	IAmb	IAmb	05 52 03.5	
	comp=Z,5.3nm,0.8s					
IL31		**67.92 336**	IAmb	IAmb	05 51 55.3	
	comp=Z,7.3nm,0.9s					
ILAR	**Eielson Array**	**67.92 336**	P	**P**	**05 51 54.0**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=139,slow=4.4,SNR=36					
ILAR	**Eielson Array**	**67.92 336**	P	**P**	**05 51 53.5**	**-0.7**
BRLK	**Bradley Lake**	**67.93 331**	pP	pP	05 52 03.2	+4.9
BMAR	**Burnt Mountain**	**68.19 339**	P	**P**	**05 51 56.2**	**+0.3**
CCB	**Clear Creek Bu**	**68.24 336**	IAmb	IAmb	05 51 56.8	
	comp=Z,11nm,1.4s					
POKR	**Poker Flat Res**	**68.28 337**	P	**P**	**05 51 56.2**	**-0.2**
	baz=113					
WRH	**Wood River Hil**	**68.29 336**	P	**P**	**05 51 55.9**	**-0.6**
WRH			IAmb	IAmb	05 51 57.0	
	comp=Z,18nm,1.4s					
MCK	**McKinley**	**68.36 335**	P	**P**	**05 51 57.0**	**0.0**
	baz=111					
OHAK	**Old Harbor**	**68.44 328**	P	**P**	**05 51 59.1**	**+1.6**
CUT	**Chulitna**	**68.48 333**	P	**P**	**05 51 58.0**	**+0.4**
	baz=109					
NEA2	**Nenana**	**68.73 336**	P	**P**	**05 51 59.7**	**+0.5**
	baz=111					
TRF	**Thorofare Moun**	**68.83 334**	P	**P**	**05 51 59.6**	**-0.5**
KTH	**Kantishna Hill**	**69.13 334**	IAmb	IAmb	05 52 02.7	
	comp=Z,12nm,0.8s					
PPLA	**Purkeypile**	**69.47 334**	P	**P**	**05 52 04.0**	**-0.1**
PPLA			IAmb	IAmb	05 52 04.5	
	comp=Z,12nm,0.9s					
MLY	**Manley**	**69.55 336**	P	**P**	**05 52 04.4**	**0.0**
	baz=110,SNR=13					
COLD	**Coldfoot**	**70.11 338**	P	**P**	**05 52 08.5**	**+0.8**
	baz=111					
COLD	**Coldfoot**	**70.11 338**	IAmb	IAmb	05 52 10.1	
	comp=Z,8.8nm,0.9s					
TOLK	**Toolik Lake Re**	**70.41 340**	P	**P**	**05 52 10.4**	**+0.9**
	baz=112					
SVW2	**Sparrevohn**	**70.53 331**	IAmb	IAmb	05 52 10.9	
	comp=Z,8.3nm,0.8s					
IMAR	**Indian Mountai**	**71.04 337**	P	**P**	**05 52 13.1**	**-0.3**
TTA	**Tatalina**	**71.17 333**	IAmb	IAmb	05 52 14.8	
	comp=Z,8.3nm,0.8s					
TTA				pP	05 52 22.9	+4.6
ESDC	**Sonseca Array**	**77.90 52**	P	**P**	**05 52 52.7**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=290,slow=5.5,SNR=3.8					
ESDC			LR	LR	06 25 36.0	
	comp=Z,55nm,18.0s,baz=280,slow=34					
ESDC	**Sonseca Array**	**77.90 52**	P	**P**	**05 52 53.1**	**-0.8**
KOWA	**Kowa**	**80.59 77**	P	**P**	**05 53 09.1**	**+0.1**
KOWA			IAmb	IAmb	05 53 15.2	
	comp=Z,14nm,1.5s					
TIC	**Toumodi**	**80.85 85**	*e*P	**P**	**05 53 10.0**	**-0.4**
LIC	**Lamto**	**80.91 85**	*e*P	**P**	**05 53 10.5**	**-0.2**
	comp=Z,37nm,0.9s					
DBIC	**Dimbokro**	**81.00 85**	P	**P**	**05 53 10.7**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=242,slow=5.8,SNR=4.3					
DBIC	**Dimbokro**	**81.00 85**	IAmb	IAmb	05 53 19.9	
	comp=Z,5.0nm,0.8s					
KIC	**Kosan Boka**	**81.17 85**	*e*P	**P**	**05 53 11.9**	**-0.2**
	comp=Z,11nm,0.8s					
ADK	**Adak**	**81.63 321**	P	**P**	**05 53 13.7**	**-0.1**
SPITS	**Spitsbergen Ar**	**82.40 12**	P	**P**	**05 53 17.3**	**-0.1**
	comp=Z,14nm,1.1s,baz=256,slow=12,SNR=1.6					
NOA	**NORSAR Array B**	**84.71 29**	LR	LR	06 27 45.3	
	comp=Z,32nm,21.8s,baz=335,slow=33					
TORD	**Torodi Ar. Bea**	**86.28 77**	P	**P**	**05 53 37.2**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=274,slow=3.6,SNR=5.0					
TORD	**Torodi Ar. Bea**	**86.28 77**	P	**P**	**05 53 36.9**	**-1.4**
ARCES	**ARCESS Array B**	**87.75 19**	P	**P**	**05 53 43.4**	**-0.9**
	comp=Z,5.2nm,1.0s,baz=319,slow=7.2,SNR=4.4					
GERES	**GERESS Array B**	**88.98 40**	P	**P**	**05 53 51.5**	**+0.8**
	comp=Z,0.3nm,0.2s,baz=302,slow=5.6,SNR=2.8					
GERES			LR	LR	06 26 35.6	
	comp=Z,88nm,20.8s,baz=294,slow=31					
FINES	**FINESS Array B**	**91.38 26**	LR	LR	06 31 15.8	
	comp=Z,62nm,21.9s,baz=253,slow=33					
VYHS	**Vyhne**	**92.34 40**	*e*P	**P**	**05 54 06.1**	**-0.2**
TIXI	**Tiksi**	**94.55 349**	P	**P**	**05 54 16.0**	**+0.1**
AKASG	**Malin Array Be**	**97.71 35**	LR	LR	06 35 23.7	
	comp=Z,44nm,21.8s,baz=335,slow=34					
ZALV	**Zalesovo Beam**	**115.32 5**	PKP	**PKiKP**	**05 59 37.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=324,slow=4.6,SNR=2.2					
KSRS	**Korea Array**	**122.12 328**	PKP	**PKPdf**	**05 59 50.8**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=352,slow=1.2,SNR=9.9					
STKA	**Stephens Creek**	**130.57 237**	PKP	**PKPdf**	**06 00 06.2**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=126,slow=2.1,SNR=4.4					
LZH	**Lanzhou**	**132.47 348**	*e*PKP	**PKPdf**	**06 00 10.0**	**-1.0**
LZH			sPKP		06 00 25.4	
ASAR	**Alice Springs**	**139.06 246**	PKhKP	PKPpre	06 00 12.2	
	comp=Z,0.5nm,0.8s,baz=113,slow=3.9,SNR=5.0					
ASAR			PKP	**PKPdf**	**06 00 22.3**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=105,slow=1.6,SNR=16					
ASAR			SKP	**SKPdf**	**06 03 58.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=106,slow=2.3,SNR=2.7					
WRA	**Warramunga Arr**	**139.25 252**	PKhKP	PKPpre	06 00 14.9	
	comp=Z,0.6nm,0.7s,baz=106,slow=3.1,SNR=7.3					
WRA			PKP	**PKPdf**	**06 00 23.6**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=89,slow=1.7,SNR=21					
WRA			SKP	**SKPdf**	**06 04 02.5**	**+4.3**
	comp=Z,0.4nm,0.7s,baz=93,slow=2.7,SNR=2.1					
WRA	**Warramunga Arr**	**139.25 252**		PKPpre	06 00 15.1	
FITZ	**Fitzroy Crossi**	**147.65 253**	PKPbc	**PKPbc**	**06 00 41.0**	**-0.2**
	comp=Z,5.9nm,0.7s,baz=115,slow=1.6,SNR=16					
FITZ	**Fitzroy Crossi**	**147.65 253**		**PKPbc**	**06 00 41.1**	**-0.1**
HYB	**Hyderabad**	**148.67 27**	*i* PKP	**PKPbc**	**06 00 43.0**	**-1.0**
HYB			*e*		06 00 51.5	
CMAR	**Chiang Mai Arr**	**150.56 349**	PKPbc	**PKPbc**	**06 00 48.5**	**0.0**
	comp=Z,8.0nm,0.8s,baz=307,slow=3.2,SNR=4.1					

*IDC **08** 05:46:44.3±1.3, 7°.40S×107°.41E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/32, mbtmp4.1/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/32, Error ellipse: s-maj=26.1km s-min=9.1km az=95.0*

*NEIC **08** 05:46:45.0±1.3, 7°.4S±0°.1×107°.43E±0°.07, h10km±2km, mb4.2/8, Error ellipse: s-maj=24.6km s-min=5.3km az=334.0*

*DJA **08** 05:46:45.9±0.2, 7°.5±3°×107°.8E±°, h10km, M4.4/19, mB5.9/2, mb4.8/5, MLv4.3/19, Mw(mB)5.4/2*

ISC 08 05:46:46.0±0.6, 7°.36S±0°.04×107°.56E±0°.03, h10km, n48, σ1s02/45, mb4.1/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.32**	**128**	P		**Pg**	**05 46 52.4**	**+0.1**
CISI	**Cisompet, Garu**	**0.32**	**128**			**Pg**	**05 46 51.8**	**-0.5**
CNJI	**Cibinong**	**0.43**	**277**	P		**Pb**	**05 46 55.2**	**-0.5**
LEM	**Lembang**	**0.53**	**6**	Pg		**Pg**	**05 46 56.2**	**-0.2**
	922nm,0.3s,baz=280,slow=21,SNR=87							
LEM				Lg		Lg	05 47 04.3	
	1μm,0.3s,baz=0.0,slow=20,SNR=12							
LEM				LR		LR	05 47 18.1	
	comp=Z,810nm,20.8s,baz=40,slow=56							
LEM	**Lembang**	**0.53**	**6**	P		**Pg**	**05 46 56.2**	**-0.2**
CMJI	**Cimerak**	**0.97**	**116**	P		**Pg**	**05 47 03.3**	**-1.4**
CMJI				S		**Sg**	**05 47 15.9**	**-1.5**
SKJI	**Sukabumi**	**1.06**	**289**	P		**Pg**	**05 47 05.8**	**-0.6**
JCJI	**Jatiwangi**	**1.11**	**39**	P		**Pb**	**05 47 03.9**	**-3.4**
DBJI	**Dramaga**	**1.14**	**315**	P		**Pn**	**05 47 07.9**	**-0.1**
KPJI	**Karang Pucung**	**1.36**	**89**	P		**Pn**	**05 47 10.3**	**-0.7**
KPJI				S		**Sb**	**05 47 29.2**	**+0.3**
TNG	**Tangerang**	**1.49**	**322**	P		**Pg**	**05 47 14.0**	**-0.6**
CGJI	**Cibinong**	**2.00**	**292**	P		**Pn**	**05 47 20.0**	**+0.2**
YOGI	**Yogyakarta**	**2.75**	**100**	P		**Pn**	**05 47 31.7**	**+1.6**
SMRI	**Semarang**	**2.87**	**84**	P		**Pn**	**05 47 32.0**	**+0.1**
SMRI	**Semarang**	**2.87**	**84**			**Pn**	**05 47 33.4**	**+1.5**
UGM	**Wanagama**	**2.98**	**101**	P		**Pn**	**05 47 34.1**	**+0.7**
UGM	**Wanagama**	**2.98**	**101**			**Pn**	**05 47 34.2**	**+0.7**
BLSI	**Bandar Lampung**	**3.04**	**311**	P		**Pg**	**05 47 43.8**	**-0.5**
WOJI	**Wonogiri, Jawa**	**3.36**	**98**	P		**Pn**	**05 47 38.8**	**+0.2**
XMIS	**Christmas Isla**	**3.63**	**211**	Pn		**Pn**	**05 47 40.2**	**-2.1**
KLSI		**3.87**	**313**	P		**Pn**	**05 47 46.3**	**+0.7**
LWLI	**Liwa**	**4.19**	**304**	P		**Pb**	**05 47 59.7**	**-0.2**
PWJI	**Pagerwojo**	**4.25**	**99**	P		**Pn**	**05 47 52.2**	**+1.3**
LHSI	**Lahat**	**5.34**	**311**	P		Pn	05 48 11.3	+5.5
PPBI	**Pangkal Pinang**	**5.36**	**345**	P		**Pn**	**05 48 07.7**	**+1.6**
	0.8nm30nm,0.6s							
GMJI	**Gumukmas**	**5.90**	**99**	P		**Pn**	**05 48 14.5**	**+1.0**
	0.2nm39nm,0.6s							
JAGI	**Jajag, Banyuwa**	**6.62**	**100**	P		**Pn**	**05 48 23.2**	**-0.2**
	0.3nm48nm,0.7s							
JAGI	**Jajag, Banyuwa**	**6.62**	**100**	Pn		**Pn**	**05 48 23.8**	**+0.4**
JAGI						**Sn**	**05 49 40.6**	**+1.6**
STKI	**Sintang**	**8.35**	**28**	P		Pn	05 48 52.4	+5.3
KAPI	**Kappang**	**12.34**	**80**	LR		LR	05 54 38.1	
	comp=Z,41nm,21.5s,baz=275,slow=38							
FITZ	**Fitzroy Crossi**	**20.59**	**123**	P		**P**	**05 51 26.6**	**+1.3**
	6.0nm,0.7s,baz=251,slow=2.7,SNR=12							
FITZ				LR		LR	06 00 24.6	
	comp=Z,56nm,18.3s,baz=135,slow=40							
FITZ	**Fitzroy Crossi**	**20.59**	**123**	P		**P**	**05 51 26.0**	**+0.7**
FITZ				IAmb		IAmb	05 51 30.2	
	comp=Z,5.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.03**	**342**	P		**P**	**05 52 28.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=181,slow=8.6,SNR=1.8							
WB0	**Warramunga Arr**	**28.79**	**118**	P		**P**	**05 52 45.2**	**+0.8**
WB0				IAmb		IAmb	05 53 02.1	
	comp=Z,5.3nm,1.4s							
WRA	**Warramunga Arr**	**28.81**	**118**	P		**P**	**05 52 44.3**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=290,slow=12,SNR=12							
WRA	**Warramunga Arr**	**28.81**	**118**	P		**P**	**05 52 44.7**	**+0.1**
WRAB	**Tennant Creek**	**28.82**	**118**	P		**P**	**05 52 44.5**	**-0.1**
WRAB				IAmb		IAmb	05 53 00.8	
	comp=Z,5.5nm,0.7s							
WB2	**Warramunga Arr**	**28.82**	**118**	P		**P**	**05 52 44.2**	**-0.5**
WB2				IAmb		IAmb	05 52 49.6	
	comp=Z,3.6nm,0.9s							
WR0	**Warramunga Arr**	**28.99**	**118**	P		**P**	**05 52 46.3**	**+0.1**
WR0				IAmb		IAmb	05 53 02.3	
	comp=Z,5.9nm,1.4s							
ASAR	**Alice Springs**	**30.02**	**126**	P		**P**	**05 52 56.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=310,slow=9.6,SNR=10							
H08S2	**Diego Garcia H**	**34.77**	**267**	T		T	06 29 03.9	
	baz=92,slow=76,SNR=7.3							
H08S3	**Diego Garcia H**	**34.78**	**267**	T		T	06 29 18.9	
	baz=92,slow=76,SNR=6.8							
H08S1	**Diego Garcia H**	**34.78**	**267**	T		T	06 29 05.3	
	baz=92,slow=76,SNR=6.7							
CTAO	**Charters Tower**	**39.55**	**113**	P		**P**	**05 54 18.0**	**+0.5**
STKA	**Stephens Creek**	**39.98**	**132**	P		**P**	**05 54 21.9**	**+0.8**
	comp=Z,3.9nm,0.5s,baz=317,slow=7.6,SNR=10							
STKA	**Stephens Creek**	**39.98**	**132**	P		**P**	**05 54 21.8**	**+0.8**
BRTR	**Keskin Array B**	**82.48**	**312**	P		**P**	**05 59 08.3**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=139,slow=7.0,SNR=3.9							
TXAR	**Lajitas Array**	**143.38**	**49**	PKP		**PKPdf**	**06 06 21.8**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=202,slow=1.9,SNR=2.5							

*SNET **08** 05:59:15.1±1.8, 13°.56N×90°.61W, h13km±7km, ML3.3*
*GCG **08** 05:59:15.7±0.6, 13°.54N×90°.70W, h32km±5km, MD3.9*

ISC 08 05:59:15.1±2.4, 13°.53N±0°.09×90°.63W±0°.06, h20km±10km, n20, σ0s62/29, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.67**	**161**	*e*P		**Pn**	**05 59 29.3**	**-0.4**
PCG	**Pacaya**	**0.86**	**2**	*e*P		**Pg**	**05 59 32.0**	**0.0**
FUG	**Fuego 3**	**0.94**	**348**	*e*P		**Pb**	**05 59 32.9**	**0.0**
RTR	**El Retiro**	**1.03**	**69**	*e*P		**Pb**	**05 59 34.2**	**-0.1**
SBLS	**San Blas**	**1.03**	**72**	*e*P		**Pb**	**05 59 34.2**	**-0.2**
SNJE	**San Jose**	**1.06**	**71**	*e*P		**Pb**	**05 59 34.6**	**-0.3**
NBG	**Las Nubes**	**1.09**	**15**	*e*P		**Pg**	**05 59 36.4**	**0.0**
NBG				*e*S		**Sg**	**05 59 51.3**	**+0.4**
CEDA	**San Andres**	**1.24**	**77**	*e*P		**Pn**	**05 59 36.8**	**-0.5**
CEDA				*e*S		**Sb**	**05 59 52.9**	**-0.5**
CEDA				IAML			06 00 00.9	
	comp=Z,1μm,0.3s							
TACO	**Tacachico**	**1.32**	**70**	*e*P		**Pn**	**05 59 38.1**	**-0.4**
TACO				*e*S		**Sn**	**05 59 55.8**	**+0.3**
TACO				IAML			05 59 59.1	
	comp=Z,142nm,0.4s							
SNET	**Serv Nac Est T**	**1.37**	**83**	*e*P		**Pn**	**05 59 39.0**	**-0.3**
SNET				*e*S		**Sn**	**05 59 56.5**	**-0.4**
SNET				IAML			06 00 00.8	
	comp=Z,770nm,0.3s							
RTAL	**Retalhuleu**	**1.43**	**314**	*e*P		**Pn**	**05 59 38.7**	**-1.2**
MTO3	**Montecristo**	**1.51**	**55**	*e*P		**Pn**	**05 59 40.3**	**-1.0**
LFRS	**El Faro**	**1.53**	**86**	*e*P		**Pn**	**05 59 41.5**	**0.0**
LBRS	**Las Brisas**	**1.56**	**82**	*e*P		**Pb**	**05 59 42.9**	**-0.5**
COEG	**Centro de Oper**	**1.71**	**87**	*e*P		**Pn**	**05 59 44.0**	**+0.1**
COEG				*e*S		**Sb**	**06 00 06.8**	**-0.2**
COEG				IAML			06 00 12.0	
	comp=Z,364nm,0.2s							
MRL	**Marmol**	**1.80**	**31**	*e*P		**Pn**	**05 59 45.5**	**+0.3**
HUEH	**Huehuetenango**	**1.97**	**335**	*e*P		**Pn**	**05 59 48.7**	**+1.1**
HUEH				*e*S		**Sb**	**06 00 14.6**	**-0.1**
ALJI	**Alcalda de J**	**2.02**	**95**	*e*P		**Pn**	**05 59 48.7**	**+0.7**
ALJI				*e*S		**Sn**	**06 00 13.8**	**+1.2**
COEB	**Comit de Eme**	**2.05**	**91**	*e*P		**Pn**	**05 59 48.5**	**-0.1**
COEB				*e*S		**Sn**	**06 00 13.5**	**0.0**
COEB				IAML			06 00 23.1	
	comp=Z,169nm,0.3s							
LCND	**La Caada**	**2.68**	**94**	*e*P		**Pn**	**05 59 56.9**	**-0.2**
LCND				*e*S		**Sn**	**06 00 30.6**	**+1.5**
LCND				IAML			06 00 40.4	
	comp=Z,218nm,0.5s							

*DSN **08** 05:59:35.1±1.7, 27°.44N×58°.35E, h10km, ML4.0/5, Error ellipse: s-maj=35.0km s-min=10.2km az=155.0*
*OMAN **08** 05:59:36.8, 27°.95N×57°.93E, h36km, mb5.0/1, ml3.7/8*
*TEH **08** 05:59:37.3, 27°.86N×57°.63E, h19km, ML3.6*
*THR **08** 05:59:39.8±0.9, 27°.96N×57°.39E, h14km±9km, ML3.3*

ISC 08 05:59:37.2±1.6, 27°.76N±0°.04×57°.68E±0°.05, h5km±13km, n37, σ1s34/43, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.19**	**6**	*e*Pg		**Pg**	**05 59 41.6**	**+0.7**
IBND	**Bandar-abas**	**1.06**	**253**	*e*Pg		**Pg**	**05 59 58.7**	**+0.7**
IBND				*e*			06 00 19.7	
GENO	**Geno**	**1.39**	**255**	*e*Pg		**Pn**	**06 00 02.2**	**-1.2**
GENO				*e*			06 00 25.7	
BNDS	**Bandar-Abbas**	**1.39**	**255**	*e*Pg		**Pn**	**06 00 02.4**	**-1.0**
BNDS				IAML			06 00 22.9	
	comp=E,536nm,0.4s							
BNDS

JMK				*e*S	Sn	06 27 03.2	+1.1
JYS	**Shirataka**	**1.53 296**	P		Pb	06 26 47.4	-0.5
JYS			S		Sb	06 27 06.1	-0.9
JFY	**Yanaizu**	**1.69 265**	P		Pn	06 26 48.8	+1.5
JYK	**Kaneyama**	**1.77 320**	P		Pn	06 26 49.7	+1.3
MAT	**Matsushiro**	**3.07 252**	P		Pn	06 27 07.3	+1.0
MAT				*e*S	Sb	06 27 48.8	-2.2

JMA ***08*** *06:35:56.0±0.1,24˚.89N×122˚.40E,h17km±4km,M3.0*
TAP ***08*** *06:35:56.3,24˚.91N×122˚.33E,h8km±1km,ML3.3,D*
ISC 08 06:35:54.2±1.2,24˚.93N±0˚.03×122˚.50E±0˚.03,h10km±9km, n47,σ0s.50/87,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=286	**0.47 280**		*i* P	**Pb**	**06 36 04.0**	**-0.5**
TWB1				*i* S	**Sg**	**06 36 09.6**	**0.0**
NTC	**Toucheng** baz=262	**0.61 263**		P	**Pb**	**06 36 07.2**	**+0.2**
NTC				*e*S	**Sb**	**06 36 14.9**	**-0.7**
TIPB	**Shuangxi** baz=277	**0.61 274**		P	**Pb**	**06 36 06.9**	**0.0**
TIPB				S	**Sg**	**06 36 14.4**	**+0.2**
JYNG	**Yonagunijimaku**	**0.63 139**		P	**Pn**	**06 36 08.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.66 135**		P	**Pn**	**06 36 09.2**	**-0.4**
NWF	**Wu-fen Shan** baz=287	**0.66 282**		*i* P	**Pb**	**06 36 08.0**	**0.0**
NWF				*i* S	**Sg**	**06 36 15.9**	**0.0**
WFSB	**Wu-fen Shan** baz=287	**0.66 282**		P	**Pb**	**06 36 08.1**	**+0.2**
WFSB				*e*S	**Sb**	**06 36 16.5**	**-0.7**
TWC	**Suao** baz=234	**0.67 242**		P	**Pg**	**06 36 07.4**	**+0.2**
TWC				*e*S	**Sg**	**06 36 16.4**	**+0.5**
ILA	**Ilan** baz=254	**0.70 257**		*e*P	**Pb**	**06 36 08.8**	**+0.3**
ILA				S	**Sg**	**06 36 16.8**	**-0.1**
TWE	**Neicheng** baz=251	**0.78 255**		P	**Pb**	**06 36 10.3**	**+0.4**
TWE				S	**Sb**	**06 36 21.3**	**+0.8**
ENAH	**Nanao** baz=225	**0.79 233**		*e*P	**Pb**	**06 36 09.6**	**-0.4**
ENAH				*e*S	**Sg**	**06 36 20.0**	**+0.3**
PCYT	**Pengchaiyu** baz=342	**0.80 331**		P	**Pn**	**06 36 11.3**	**-0.2**
PCYT				*e*S	**Sn**	**06 36 23.0**	**-0.4**
TWA	**Mucha** baz=275	**0.83 274**		P	**Pb**	**06 36 11.0**	**+0.3**
TWA				*e*S	**Sb**	**06 36 21.6**	**-0.3**
ENA	**Nanau** baz=227	**0.85 234**		*e*S	**Sn**	**06 36 23.9**	**-0.8**
TWY	**Chenhua** baz=298	**0.88 293**		P	**Pb**	**06 36 12.2**	**+0.6**
TWY				*e*S	**Sb**	**06 36 23.4**	**0.0**
TAP1	**Taipei** baz=279	**0.89 277**		*e*P	**Pn**	**06 36 13.0**	**+0.3**
TAP1				*e*S	**Sn**	**06 36 25.1**	**-0.6**
ENTT	**Nioudou** baz=248	**0.89 251**		*e*P	**Pg**	**06 36 11.5**	**+0.1**
ENTT				*e*S	**Sb**	**06 36 23.7**	**-0.1**
NWLT	**Wulai** baz=259	**0.92 261**		*e*P	**Pb**	**06 36 12.4**	**+0.2**
NWLT				*e*S	**Sg**	**06 36 23.0**	**-0.9**
ANP	**Anpu** baz=290	**0.92 286**		*e*P	**Pb**	**06 36 12.6**	**+0.2**
ANP				*e*S	**Sg**	**06 36 24.2**	**+0.2**
NDT	**Datong Townshi** baz=247	**0.95 250**		P	**Pb**	**06 36 13.2**	**+0.4**
NDT				S	**Sb**	**06 36 25.7**	**+0.2**
NTST	**Danshui** baz=287	**0.98 284**		*e*S	**Sn**	**06 36 27.3**	**-0.5**
TWS1	**Kuangyinshan** baz=282	**0.99 280**		*e*P	**Pb**	**06 36 13.8**	**+0.3**
TWS1				*e*S	**Sb**	**06 36 26.9**	**+0.3**
YHNB	**Yeheng** baz=254	**1.05 256**		*e*P	**Pg**	**06 36 14.2**	**-0.3**
YHNB				*e*S	**Sb**	**06 36 28.4**	**0.0**
NSK	**Sanguang** baz=254	**1.06 256**		P	**Pb**	**06 36 14.8**	**+0.1**
NSK				S	**Sg**	**06 36 27.7**	**-0.9**
NACB	**Ninganchiao** baz=222	**1.11 228**		*e*P	**Pg**	**06 36 15.2**	**-0.5**
NACB				S	**Sg**	**06 36 29.7**	**-0.4**
NNSB	**Datong** baz=240	**1.13 244**		*e*P	**Pg**	**06 36 15.8**	**-0.1**
NNSB				*e*S	**Sg**	**06 36 30.3**	**-0.4**
NNSH	**Datong** baz=240	**1.13 244**		*e*P	**Pg**	**06 36 15.7**	**-0.2**
NNSH				*e*S	**Sg**	**06 36 29.6**	**-1.1**
ETLH	**Xiulin Townshi** baz=227	**1.17 232**		*e*P	**Pb**	**06 36 16.5**	**-0.1**
ETLH				*e*S	**Sb**	**06 36 31.8**	**0.0**
TWD	**Chiawan** baz=218	**1.18 224**		P	**Pn**	**06 36 16.9**	**+0.2**
TWD				*e*S	**Sn**	**06 36 32.8**	**-0.1**
FUSS	**Fushou** baz=236	**1.33 239**		*e*P	**Pb**	**06 36 19.4**	**0.0**
FUSS				*e*S	**Sn**	**06 36 37.1**	**+0.2**
WHF	**Hehuan Shan** baz=231	**1.37 235**		*e*P	**Pg**	**06 36 20.6**	**0.0**
WHF				*e*S	**Sb**	**06 36 37.6**	**-0.2**
LIOB	**Emei** baz=257	**1.38 258**		*e*P	**Pg**	**06 36 21.5**	**+0.8**
LIOB				*e*S	**Sg**	**06 36 38.8**	**+0.2**
TWT	**Tachien** baz=238	**1.38 241**		*e*P	**Pb**	**06 36 20.2**	**+0.1**
TWT				*e*S	**Sg**	**06 36 40.6**	**+1.9**
TDCB	**Techi** baz=238	**1.39 241**		*e*P	**Pn**	**06 36 19.9**	**+0.1**
TDCB				*e*S	**Sg**	**06 36 39.5**	**+0.4**
ESL	**Shilin** baz=216	**1.48 221**		*e*P	**Pg**	**06 36 22.5**	**0.0**
ESL				*e*S	**Sg**	**06 36 41.9**	**+0.2**
CHGB	**Renai** baz=231	**1.48 235**		*e*P	**Pg**	**06 36 22.5**	**-0.2**
CHGB				*e*S	**Sb**	**06 36 41.3**	**+0.3**
JKRS	**Kuro-shima**	**1.54 116**		P	**Pg**	**06 36 24.6**	**+0.8**
WHP	**Taichung City** baz=243	**1.55 246**		*e*P	**Pg**	**06 36 24.5**	**+0.4**
WHP				*e*S	**Sg**	**06 36 43.7**	**-0.5**
EGFH	**Guangfu** baz=213	**1.59 218**		*e*P	**Pg**	**06 36 24.2**	**-0.6**
JIJ	**Ishigaki jima**	**1.60 110**		P	**Pg**	**06 36 24.9**	**-0.1**
TWQ1	**Liyutan** baz=248	**1.67 250**		*e*P	**Pg**	**06 36 25.7**	**-0.7**
TWQ1				*e*S	**Sg**	**06 36 47.4**	**-0.7**
VWDT	**VWDT** baz=223	**1.70 227**		*e*P	**Pb**	**06 36 24.9**	**-0.7**
VWDT				*e*S	**Sb**	**06 36 47.0**	**0.0**
HGSD	**Ruisui** baz=210	**1.73 215**		*e*P	**Pb**	**06 36 25.5**	**-0.6**
HGSD				*e*S	**Sb**	**06 36 48.7**	**+0.7**
SMLT	**Sun Moon Lake** baz=231	**1.79 235**		*e*P	**Pb**	**06 36 26.7**	**-0.4**
SMLT				*e*S	**Sn**	**06 36 48.5**	**+0.4**
SSLB	**Suanglung** baz=228	**1.81 231**		*e*P	**Pb**	**06 36 27.0**	**-0.4**
SSLB				*e*S	**Sn**	**06 36 49.3**	**+0.8**
TYC	**Yuchr** baz=233	**1.81 236**		*e*P	**Pb**	**06 36 27.2**	**-0.3**
TYC				*e*S	**Sn**	**06 36 49.0**	**+0.6**
YULB	**Yu-li** baz=212	**1.88 216**		*e*P	**Pn**	**06 36 27.3**	**+0.9**
YULB				*e*S	**Sb**	**06 36 52.8**	**+0.5**

JMA ***08*** *06:36:35.9±0.3,24˚.84N×122˚.40E,h17km,M2.7*
TAP ***08*** *06:36:35.1,24˚.92N×122˚.35E,h9km±1km,ML2.9,D*
ISC 08 06:36:34.9±1.2,24˚.90N±0˚.04×122˚.41E±0˚.04,h14km±9km, n18,σ0s.50/34,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=284	**0.40 285**		*i* P	**Pg**	**06 36 42.5**	**-0.3**
TWB1				*i* S	**Sg**	**06 36 48.3**	**+0.2**
TIPB	**Shuangxi** baz=275	**0.53 277**		*i* P	**Pg**	**06 36 45.5**	**+0.2**
TIPB				*i* S	**Sg**	**06 36 52.9**	**+0.3**
TWC	**Suao** baz=235	**0.59 240**		P	**Pg**	**06 36 45.9**	**-0.5**
TWC				S	**Sb**	**06 36 55.4**	**+0.3**
NWF	**Wu-fen Shan** baz=285	**0.59 286**		P	**Pg**	**06 36 46.9**	**+0.3**
NWF				S	**Sb**	**06 36 55.0**	**-0.4**
WFSB	**Wu-fen Shan** baz=285	**0.59 286**		*e*P	**Pg**	**06 36 46.7**	**+0.2**
WFSB				*e*S	**Sg**	**06 36 54.9**	**+0.5**
JYNG	**Yonagunijimaku**	**0.67 133**		P	**Pg**	**06 36 48.1**	**+0.2**
TWE	**Neicheng** baz=251	**0.70 255**		*e*P	**Pg**	**06 36 48.3**	**-0.2**
TWE				*e*S	**Sg**	**06 36 57.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.70 129**		P	**Pg**	**06 36 48.9**	**+0.3**
YOJ				S	**Sg**	**06 36 56.8**	**-1.1**
ENAH	**Nanao** baz=226	**0.71 230**		*e*P	**Pb**	**06 36 48.9**	**-0.2**
ENAH				*e*S	**Sb**	**06 36 59.5**	**+0.9**
ENA	**Nanau** baz=227	**0.77 232**		P	**Pb**	**06 36 50.4**	**+0.3**
ENA				S	**Sb**	**06 37 01.1**	**+0.6**
PCYT	**Pengchaiyu** baz=340	**0.79 337**		*e*P	**Pg**	**06 36 49.8**	**-0.4**
ENTT	**Nioudou** baz=248	**0.81 251**		*e*P	**Pb**	**06 36 51.0**	**+0.2**
ENTT				*e*S	**Sb**	**06 37 02.3**	**+0.8**
TWY	**Chenhua** baz=297	**0.82 297**		*e*P	**Pg**	**06 36 50.7**	**-0.2**
TWY				*e*S	**Sg**	**06 37 01.6**	**0.0**
NDT	**Datong Townshi** baz=247	**0.87 250**		*e*P	**Pg**	**06 36 50.7**	**-1.0**
NDT				*e*S	**Sn**	**06 37 04.1**	**-1.1**
YHNB	**Yeheng** baz=254	**0.97 256**		*e*P	**Pb**	**06 36 53.8**	**+0.3**
YHNB				*e*S	**Sb**	**06 37 06.5**	**+0.3**
NACB	**Ninganchiao** baz=222	**1.04 226**		*e*P	**Pg**	**06 36 54.9**	**0.0**
NACB				*e*S	**Sn**	**06 37 09.3**	**0.0**
NNSH	**Datong** baz=240	**1.04 243**		*e*P	**Pn**	**06 36 55.3**	**0.0**
NNSH				*e*S	**Sn**	**06 37 09.6**	**-0.1**
NNSB	**Datong** baz=240	**1.05 243**		*e*P	**Pb**	**06 36 54.9**	**0.0**
NNSB				*e*S	**Sg**	**06 37 08.7**	**0.0**

JMA ***08*** *06:37:29.6±0.1,24˚.86N×122˚.38E,h15km*
TAP ***08*** *06:37:29.5,24˚.90N×122˚.33E,h10km,ML2.8,D*
ISC 08 06:37:28.8±1.3,24˚.90N±0˚.03×122˚.37E±0˚.05,h12km±11km, n32,σ0s.42/52,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=288	**0.36 287**		P	**Pb**	**06 37 36.8**	**-0.4**
TWB1				S	**Sb**	**06 37 42.2**	**-0.6**
NTC	**Toucheng** baz=263	**0.49 265**		*e*P	**Pb**	**06 37 39.9**	**+0.5**
NTC				*e*S	**Sb**	**06 37 47.4**	**+0.8**
TIPB	**Shuangxi** baz=278	**0.50 278**		P	**Pb**	**06 37 39.7**	**+0.1**
TIPB				S	**Sb**	**06 37 46.9**	**+0.1**
TWC	**Suao** baz=235	**0.55 239**		*e*P	**Pb**	**06 37 40.1**	**-0.3**
TWC				*e*S	**Sb**	**06 37 48.3**	**0.0**
NWF	**Wu-fen Shan** baz=288	**0.56 288**		*e*P	**Pb**	**06 37 40.8**	**+0.2**
NWF				S	**Sb**	**06 37 48.8**	**+0.2**
WFSB	**Wu-fen Shan** baz=288	**0.56 288**		*e*P	**Pb**	**06 37 40.9**	**+0.3**
WFSB				S	**Sb**	**06 37 48.7**	**+0.2**
TWE	**Neicheng** baz=252	**0.66 254**		*e*P	**Pb**	**06 37 42.6**	**+0.3**
TWE				*e*S	**Sb**	**06 37 51.9**	**+0.4**
ENAH	**Nanao** baz=226	**0.68 229**		*e*P	**Pb**	**06 37 42.8**	**+0.2**
TWA	**Mucha** baz=276	**0.72 277**		*e*P	**Pb**	**06 37 43.6**	**+0.3**
TWA				*e*S	**Sb**	**06 37 53.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.73 127**		P	**Pg**	**06 37 43.0**	**0.0**
ENA	**Nanau** baz=228	**0.74 231**		*e*P	**Pb**	**06 37 44.5**	**+0.9**
ENA				S	**Sb**	**06 37 54.5**	**+0.8**
ENTT	**Nioudou** baz=249	**0.77 251**		*e*P	**Pb**	**06 37 44.8**	**+0.5**
ENTT				*e*S	**Sb**	**06 37 55.6**	**+0.9**
PCYT	**Pengchaiyu** baz=342	**0.77 340**		P	**Pg**	**06 37 44.0**	**+0.2**
PCYT				*e*S	**Sb**	**06 37 54.6**	**-0.1**
TWY	**Chenhua** baz=299	**0.79 298**		P	**Pb**	**06 37 44.8**	**+0.3**
TWY				S	**Sb**	**06 37 55.7**	**+0.5**
NWLT	**Wulai** baz=260	**0.80 261**		P	**Pb**	**06 37 44.9**	**+0.3**
ANP	**Anpu** baz=290	**0.82 290**		P	**Pb**	**06 37 45.2**	**+0.1**
ANP				*e*S	**Sb**	**06 37 56.7**	**+0.6**
NDT	**Datong Townshi** baz=248	**0.83 249**		*e*P	**Pb**	**06 37 45.8**	**+0.5**
NDT				*e*S	**Sn**	**06 37 57.8**	**-0.7**
YHNB	**Yeheng** baz=255	**0.93 256**		*e*P	**Pn**	**06 37 47.6**	**-0.2**
NSK	**Sanguang** baz=255	**0.94 257**		*e*P	**Pb**	**06 37 47.6**	**+0.5**
NACB	**Ninganchiao** baz=222	**1.01 224**		*e*P	**Pg**	**06 37 48.1**	**-0.2**
NACB				*e*S	**Sn**	**06 38 02.6**	**-0.3**
NNSB	**Datong** baz=241	**1.01 243**		*e*P	**Pb**	**06 37 48.5**	**+0.2**
NNSB				*e*S	**Sn**	**06 38 02.8**	**-0.4**
NNSH	**Datong** baz=241	**1.01 243**		*e*P	**Pb**	**06 37 48.5**	**+0.1**
ETLH	**Xiulin Townshi** baz=228	**1.06 230**		P	**Pn**	**06 37 49.6**	**0.0**
ETLH				*e*S	**Sn**	**06 38 03.9**	**-0.5**
TWD	**Chiawan** baz=218	**1.08 221**		P	**Pn**	**06 37 49.8**	**+0.1**
FUSS	**Fushou** baz=236	**1.21 238**		*e*P	**Pb**	**06 37 51.9**	**+0.1**
WHF	**Hehuan Shan** baz=231	**1.25 233**		P	**Pg**	**06 37 52.9**	**-0.1**
WHF				*e*S	**Sn**	**06 38 09.8**	**+0.2**
TDCB	**Techi** baz=238	**1.28 240**		P	**Pb**	**06 37 53.1**	**+0.2**
CHGB	**Renai** baz=231	**1.37 233**		*e*P	**Pg**	**06 37 55.0**	**-0.2**
CHGB				*e*S	**Sg**	**06 38 13.5**	**+0.4**
WHP	**Taichung City** baz=243	**1.44 245**		*e*P	**Pg**	**06 37 56.4**	**-0.1**
VWDT	**VWDT** baz=223	**1.60 225**		*e*P	**Pb**	**06 37 58.4**	**+0.1**
VWDT				*e*S	**Sg**	**06 38 19.5**	**-0.8**
TYC	**Yuchr** baz=233	**1.70 235**		*e*P	**Pb**	**06 37 59.8**	**-0.1**
SSLB	**Suanglung** baz=228	**1.70 230**		*e*P	**Pb**	**06 37 60.0**	**-0.1**

WEL 08 06:45:20.1,39˚.3S±1˚.0×17˚.8E±˚,h43km±2km,M3.2/21, ML3.5/21,MLv3.2/21,Error ellipse: s-maj=0.0km s-min=0.0km az=87.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MHGZ	**Mahia Peninsul**	**0.13**	**16**	P	Pn	06 45 27.5	+0.3
MHGZ				S	Sn	06 45 33.0	+0.9
KNZ	**Kokohu**	**0.29**	**331**	P	Pn	06 45 28.0	-0.5
PRGZ	**Paritu Road**	**0.36**	**3**	P	Pn	06 45 29.3	+0.1
WHHZ	**Waihua**	**0.53**	**292**	P	Pn	06 45 31.3	+0.1
RIGZ	**Rimuhau**	**0.58**	**352**	P	Pn	06 45 32.2	+0.2
RIGZ				S	Sn	06 45 41.2	+0.8
SNGZ	**Shannon Statio**	**0.64**	**321**	P	Pn	06 45 32.8	0.0
RAHZ	**Arahi**	**0.70**	**301**	P	Pn	06 45 33.8	+0.2
CKHZ	**Cape Kidnapper**	**0.71**	**238**	P	Pn	06 45 34.5	+0.7
CKHZ				S	Sn	06 45 44.5	+0.9
NMHZ	**Naumai**	**0.84**	**282**	P	Pn	06 45 36.1	+0.5
NMHZ				S	Sn	06 45 47.2	+0.5
TKGZ	**Te Karaka**	**0.84**	**359**	P	Pn	06 45 35.9	+0.4
CNGZ	**Carnagh Statio**	**0.84**	**19**	P	Pn	06 45 36.3	+0.8
RAGZ	**Rawiri**	**0.85**	**336**	P	Pn	06 45 35.9	+0.2
RAGZ				S	Sn	06 45 47.1	0.0
MTHZ	**Maungataniwha**	**0.90**	**298**	P	Pn	06 45 36.4	0.0
MCHZ	**McNeill Hill**	**0.92**	**259**	P	Pn	06 45 37.3	+0.8
KAHZ	**Kahuranaki**	**0.92**	**236**	P	Pn	06 45 37.6	+1.0
RTZ	**Ruatahuna**	**0.95**	**314**	P	Pn	06 45 37.2	+0.1
RTZ				S	Sn	06 45 48.7	-0.8
MWZ	**Matawai**	**0.98**	**345**	P	Pn	06 45 37.5	+0.1
MWZ				S	Sn	06 45 49.2	-0.9
BKZ	**Black Stump Fm**	**1.07**	**276**	P	Pn	06 45 39.0	+0.4
BKZ				S	Sn	06 45 51.7	-0.6
PXZ	**Pawanui**	**1.08**	**225**	P	Pn	06 45 38.9	+0.2
PXZ				S	Sn	06 45 53.2	+0.7
TWGZ	**Tauwhareparae**	**1.10**	**5**	P	Pn	06 45 39.8	+0.6
KWHZ	**Kaweka Forest**	**1.12**	**262**	P	Pn	06 45 39.9	+0.5
URZ	**Urewera**	**1.17**	**330**	P	Pn	06 45 40.2	+0.1
MRHZ	**Matea Rd**	**1.21**	**291**	P	Pn	06 45 41.0	+0.5
KRHZ	**Kereru**	**1.21**	**252**	P	Pn	06 45 40.8	+0.3
PUZ	**Puketiti**	**1.25**	**15**	P	Pn	06 45 41.3	+0.2
RUGZ	**Raukumara Rang**	**1.32**	**354**	P	Pn	06 45 41.9	-0.2
WPHZ	**Waipukurau**	**1.35**	**234**	P	Pn	06 45 42.8	+0.4
ALRZ	**Allen Road**	**1.38**	**301**	P	Pn	06 45 43.3	+0.4
PRRZ	**Plateau Road**	**1.38**	**304**	P	Pn	06 45 44.4	+1.5
PKGZ	**Pakihiroa**	**1.40**	**7**	P	Pn	06 45 43.5	+0.3
BHHZ	**Black Hill Sta**	**1.41**	**261**	P	Pn	06 45 43.7	+0.4
RRRZ	**Republican Roa**	**1.41**	**311**	P	Pn	06 45 43.6	+0.3
HATZ	**Hinemaiaia**	**1.43**	**285**	P	Pn	06 45 44.3	+0.8
PNHZ	**Pukenui**	**1.43**	**243**	P	Pn	06 45 43.8	+0.2
TARZ	**Mount Tarawera**	**1.48**	**314**	P	Pn	06 45 45.5	+1.1
HRRZ	**Handcock Road**	**1.52**	**305**	P	Pn	06 45 45.1	+0.3
HAZ	**Te Kaha**	**1.52**	**358**	P	Pn	06 45 45.0	+0.2
WMGZ	**Waiomatatini S**	**1.52**	**17**	P	Pn	06 45 45.3	+0.6
WPRZ	**Whakapapatarin**	**1.52**	**299**	P	Pn	06 45 47.3	+2.4
RITZ	**Rihia Road**	**1.58**	**280**	P	Pn	06 45 46.7	+1.0
HSRZ	**Hossack Road**	**1.59**	**307**	P	Pn	06 45 47.3	+1.6
MOVZ	**Moawhango**	**1.64**	**265**	P	Pn	06 45 47.6	+1.1
DVHZ	**Dannevirke**	**1.66**	**231**	P	Pn	06 45 46.5	-0.1
TSZ	**Takapari Road**	**1.66**	**241**	P	Pn	06 45 46.8	0.0
ETVZ	**East Tongariro**	**1.68**	**274**	P	Pn	06 45 47.9	+0.9
RATZ	**Rangitukua**	**1.68**	**284**	P	Pn	06 45 49.6	+2.6
TMVZ	**Te Maari**	**1.68**	**275**	P	Pn	06 45 48.0	+0.8
OTVZ	**Oturere**	**1.71**	**273**	P	Pn	06 45 48.3	+0.8
KRVZ	**Karewarewa**	**1.73**	**275**	P	Pn	06 45 48.6	+0.8
MXZ	**Matakaoa Point**	**1.75**	**12**	P	Pn	06 45 48.2	+0.3
WNVZ	**Wahianoa**	**1.75**	**268**	P	Pn	06 45 49.1	+0.9
NGZ	**Ngauruhoe**	**1.76**	**273**	P	Pn	06 45 49.3	+1.2
WTVZ	**West Tongariro**	**1.77**	**275**	P	Pn	06 45 49.4	+1.1
KUTZ	**Kaahu Road**	**1.77**	**296**	P	Pn	06 45 48.6	+0.3
FWVZ	**Far West T-bar**	**1.79**	**270**	P	Pn	06 45 49.5	+0.8
TWVZ	**Taurewa**	**1.89**	**276**	P	Pn	06 45 50.4	+0.4
PRWZ	**Pori Road**	**1.93**	**228**	P	Pn	06 45 51.3	+0.8
MRZ	**Mangatainoka R**	**2.23**	**231**	P	Pn	06 45 54.2	-0.3
TMWZ	**Te Maipa**	**2.37**	**219**	P	Pn	06 45 55.7	-0.8
TOZ	**Tahuroa Road**	**2.41**	**309**	P	Pn	06 45 57.9	+1.0
VRZ	**Vera Road**	**2.41**	**273**	P	Pn	06 45 57.9	+0.9
HOWZ	**Holdsworth Sta**	**2.42**	**227**	P	Pn	06 45 56.9	-0.2
HIZ	**Hauiti**	**2.46**	**287**	P	Pn	06 45 58.8	+1.0
OGWZ	**Otaki Gorge**	**2.57**	**232**	P	Pn	06 45 58.7	-0.6
KIW	**Kapiti Island**	**2.76**	**234**	P	Pn	06 46 01.3	-0.5
PREZ	**Palmer Road**	**2.87**	**268**	P	Pn	06 46 05.4	+2.0
NEZ	**North Egmont**	**2.92**	**269**	P	Pn	06 46 06.3	+2.2
KHEZ	**Kahui Hut**	**2.98**	**268**	P	Pn	06 46 07.3	+2.3
PKE	**Pukeiti**	**3.01**	**270**	P	Pn	06 46 07.2	+2.0
PLWZ	**Palliser**	**3.03**	**220**	P	Pn	06 46 03.9	-1.7
ETAZ	**East Tamaki Re**	**3.28**	**314**	P	Pn	06 46 10.3	+1.4
TCW	**Tory Channel**	**3.35**	**234**	P	Pn	06 46 08.7	-1.2
DUWZ	**D'Urville Isla**	**3.38**	**242**	P	Pn	06 46 09.4	-1.0
WTAZ	**Waiatarua**	**3.49**	**311**	P	Pn	06 46 13.2	+1.3
TUWZ	**Tuamarina**	**3.68**	**233**	P	Pn	06 46 12.5	-2.0
NNZ	**Nelson**	**3.94**	**239**	P	Pn	06 46 16.7	-1.2
THZ	**Tophouse**	**4.52**	**235**	P	Pn	06 46 23.9	-2.1
DSZ	**Denniston Nort**	**5.23**	**240**	P	Pn	06 46 34.1	-1.7
LTZ	**Lake Taylor**	**5.49**	**229**	P	Pn	06 46 37.3	-2.0
CTZ	**Chatham Island**	**6.08**	**139**	P	Pn	06 46 49.5	+2.1

IDC 08 06:50:37.7±2.5,6˚.10S×130˚.11E,h0km,mb3.6/1, mb1 3.4/3,mb1mx3.2/33,mbtmp3.3/3,ML3.0/2,Error ellipse: s-maj=156.6km s-min=32.8km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=347,slow=13,SNR=2.6	**14.36**	**164**	Pn	Pn	06 54 01.9	-0.5
WRA	0.3nm,0.3s,baz=331,slow=23,SNR=8.2			Sn	Sn	06 56 30.7	-12
ASAR	**Alice Springs** 0.1nm,0.3s,baz=340,slow=9.8,SNR=6.1	**17.84**	**169**	P	Pn	06 54 48.0	+0.3
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=116,slow=7.3,SNR=4.2	**67.54**	**327**	P	P	07 01 36.0	0.0

IDC ***08*** *06:58:43.0±1.2,38˚.08N×144˚.40E,h0km,mb3.4/5, mb1 3.7/6,mb1mx3.5/33,mbtmp3.4/6,ML3.0/1,MS3.0/3, Ms1 3.0/3,ms1mx2.5/32,Error ellipse: s-maj=37.4km s-min=27.1km az=123.0*
JMA ***08*** *06:58:46.4±0.3,38˚.61N×143˚.86E,h38km,M3.2*
ISC 08 06:58:45.0±1.0,38˚.71N±0˚.05×143˚.89E±0˚.06,h14km,n29, σ1s.98/32,mb3.5/6,Off east coast of Honshu

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

OFUJ	**Ofunato**	**1.78**	**283**	P		**Pb**	**06 59 15.8**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.83**	**299**	P		**Pb**	**06 59 16.8**	**-1.4**
MIYJ				*e*S		**Sb**	**06 59 39.3**	**-1.7**
JKMT	**Kesennumamotoy**	**1.90**	**274**	P		**Pb**	**06 59 17.2**	**-2.1**
JIKH	**Ishinomakikobu**	**1.95**	**259**	P		**Pn**	**06 59 17.3**	**-0.3**
JMK	**Ichinoseki**	**2.10**	**277**	P		**Pb**	**06 59 20.6**	**-2.2**
JOM	**Ohasama**	**2.16**	**291**	P		**Pb**	**06 59 21.8**	**-2.1**
JOM				*e*S		**Sb**	**06 59 48.2**	**-2.4**
JANG	**Nango**	**2.48**	**313**	P		**Pn**	**06 59 26.1**	**+1.2**
JYK	**Kaneyama**	**2.77**	**275**	P		**Pn**	**06 59 30.4**	**+1.5**
JFT	**Otama**	**3.05**	**248**	P		**Pn**	**06 59 33.6**	**+0.9**
JFT				*e*S		**Sn**	**07 00 09.0**	**0.0**
JAW	**Awa shima**	**3.65**	**267**	P		**Pn**	**06 59 42.8**	**+1.8**
JNBK	**Urakawa-nobuka**	**3.67**	**347**	P		**Pn**	**06 59 43.5**	**+2.2**
JNBK				*e*S		**Sn**	**07 00 25.7**	**+1.3**
JNS	**Sasagawa**	**3.71**	**258**	P		**Pn**	**06 59 42.9**	**+1.1**
JKB	**Kayabe**	**3.86**	**326**	P		**Pn**	**06 59 45.2**	**+1.4**
JKB				*e*S		**Sn**	**07 00 28.7**	**-0.2**
JCH	**Churui**	**3.92**	**354**	P		**Pn**	**06 59 45.8**	**+1.1**
JCH				*e*S		**Sn**	**07 00 29.6**	**-0.9**
JAG	**Ashikaga**	**4.20**	**238**	P		**Pn**	**06 59 48.3**	**-0.3**
JAK	**Akkeshi**	**4.33**	**8**	*e*S		**Sn**	**07 00 38.2**	**-2.3**
MJAR	**Matsushiro Arr**	**5.00**	**246**	Pn		**Pn**	**07 00 01.2**	**+1.5**
	0.6nm,0.3s,baz=59,slow=11,SNR=17							
MJAR				LR		LR	07 02 11.4	
	comp=Z,54nm,19.6s,baz=230,slow=40							
MAT	**Matsushiro**	**5.01**	**246**	P		**Pn**	**07 00 01.2**	**+1.5**
MAT				*e*S		**Sn**	**07 01 00.4**	**+3.1**
MAT	**Matsushiro**	**5.01**	**246**	P		**Pg**	**07 00 24.3**	**+3.5**
MAT				S		Sn	07 00 28.3	-29
ASAJ	**Asahikawa**	**5.49**	**350**	Pn		**Pn**	**07 00 08.3**	**+2.0**
	1.7nm,0.3s,baz=251,slow=10,SNR=2.8							
ASAJ				Sn		**Sn**	**07 01 09.0**	**-0.2**
	0.8nm,0.3s,baz=126,slow=25,SNR=2.3							
USRK	**Ussuriysk Ar.**	**10.48**	**305**	Pn		Pn	07 01 19.9	+5.2
	baz=104,slow=13,SNR=3.3							
KSRS	**Korea Array**	**12.65**	**269**	LR		LR	07 06 28.5	
	comp=Z,41nm,19.3s,baz=20,slow=36							
ZALV	**Zalesovo Beam**	**42.27**	**311**	P		P	07 06 47.8	+10
	0.7nm,0.5s,baz=87,slow=7.7,SNR=1.8							
MKAR	**Makanchi Array**	**44.91**	**301**	P		P	07 07 04.7	+5.6
	0.4nm,0.7s,baz=97,slow=9.0,SNR=2.3							
ILAR	**Eielson Array**	**47.02**	**33**	P		**P**	**07 07 17.6**	**+2.1**
	0.2nm,0.7s,baz=267,slow=6.0,SNR=1.8							
WRA	**Warramunga Arr**	**59.03**	**190**	P		**P**	**07 08 41.5**	**-2.9**
	0.7nm,0.8s,baz=8.8,slow=6.9,SNR=5.4							
ASAR	**Alice Springs**	**62.75**	**190**	P		**P**	**07 09 05.5**	**-4.2**
	0.3nm,0.8s,baz=19,slow=5.9,SNR=2.2							
DZM	**Mont Dzumac**	**64.05**	**157**	LR		LR	07 37 17.9	
	comp=Z,35nm,18.2s,baz=16,slow=37							
TXAR	**Lajitas Array**	**87.55**	**54**	P		**P**	**07 11 33.9**	**+1.1**
	0.2nm,0.6s,baz=316,slow=5.0,SNR=2.1							

IDC 08 07:08:26.3±3.0, 4°.80S×130°.58E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/22, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=201.0km s-min=32.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.50**	**167**	Pn	Pn	07 12 04.6	-1.8
	0.1nm,0.3s,baz=350,slow=13,SNR=1.7						
WRA				Sn	Sn	07 14 49.8	-9.1
	0.1nm,0.3s,baz=340,slow=26,SNR=4.6						
ASAR	**Alice Springs**	**19.03**	**171**	P	Pn	07 12 50.9	+0.1
	0.1nm,0.3s,baz=350,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**66.72**	**326**	P	P	07 19 19.3	0.0
	0.2nm,0.4s,baz=119,slow=6.5,SNR=2.0						

*SOME **08** 07:11:48.0,40°.00N×75°.85E, h0km*
*KRNET **08** 07:11:48.6±0.1, 39°.63N×75°.87E, mb3.7*
ISC 08 07:11:46.9±2.3, 39°.6N±0°.1×75°.80E±0°.04, h10km, n39, σ1§73/69, 26C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**2.50**	**334**	⇓*i*P	**Pb**	**07 12 30.6**	**-1.4**
	baz=33						
ARLS				⇓*i*S	**Sn**	**07 13 00.5**	**+2.1**
	baz=33						
TARG	**Taragay, Kyrgy**	**2.60**	**35**	⇑*i*P	**Pn**	**07 12 30.7**	**+1.3**
	baz=34						
TARG				⇑*i*S	**Sn**	**07 13 01.3**	**0.0**
	baz=34						
ULHL	**Ulahol**	**2.64**	**7**	⇑*i*P	**Pn**	**07 12 31.4**	**+1.6**
	baz=6.0						
ULHL				⇑*i*S	**Sn**	**07 13 03.0**	**+1.0**
	baz=6.0						
ULHL	**Ulahol**	**2.64**	**7**	P	**Pb**	**07 12 33.6**	**-0.8**
	SNR=27						
KDJ	**Kajisay**	**2.72**	**22**	⇑*i*P	**Pn**	**07 12 32.2**	**+1.4**
	baz=22						
KDJ				⇑*i*S	**Sn**	**07 13 04.3**	**+0.5**
	baz=22						
UCH	**Uchtor**	**2.78**	**340**	⇑*i*P	**Pn**	**07 12 34.1**	**+2.2**
	baz=39						
UCH				⇑*i*S	**Sn**	**07 13 07.2**	**+1.5**
	baz=39						
UCH	**Uchtor**	**2.78**	**340**	P	**Pn**	**07 12 34.4**	**+2.5**
	SNR=51						
BOOM	**Boomskoye usch**	**2.87**	**2**	⇑*i*P	**Pn**	**07 12 34.6**	**+1.8**
	baz=1.0						
BOOM				⇑*i*S	**Sn**	**07 13 08.5**	**+1.0**
	baz=1.0						
AML	**Almayashu**	**2.97**	**328**	⇑*e*P	**Pn**	**07 12 36.7**	**+2.3**
	baz=27						
AML				⇑*i*S	**Sn**	**07 13 11.7**	**+1.4**
	baz=27						
AML	**Almayashu**	**2.97**	**328**	P	**Pb**	**07 12 40.5**	**+0.4**
	SNR=5.7						
KBK	**Karagaybulak**	**3.10**	**348**	⇑*i*P	**Pn**	**07 12 38.0**	**+2.0**
	baz=47						
KBK				⇑*i*S	**Sn**	**07 13 14.2**	**+1.0**
	baz=47						
KBK	**Karagaybulak**	**3.10**	**348**	P	**Pb**	**07 12 42.4**	**+0.2**
	SNR=29						
AAK	**Ala-Archa**	**3.17**	**342**	⇓*i*P	**Pn**	**07 12 39.1**	**+2.1**
	baz=41						
AAK				⇓*i*S	**Sn**	**07 13 16.2**	**+1.3**
	baz=41						
AAK	**Ala-Archa**	**3.17**	**342**	P	**Pn**	**07 12 40.0**	**+3.1**
	SNR=14						
TKM2	**Tokmak 2**	**3.30**	**357**	⇑*i*P	**Pn**	**07 12 40.8**	**+2.0**
	baz=57						
TKM2				⇑*i*S	**Sn**	**07 13 18.9**	**+0.7**
	baz=57						
TKM2	**Tokmak 2**	**3.30**	**357**	P	**Pn**	**07 12 42.0**	**+3.2**
	SNR=7.6						
EKS2	**Erkin-Say**	**3.40**	**334**	⇑*i*P	**Pn**	**07 12 42.3**	**+2.2**
	baz=33						
EKS2				⇑*i*S	**Sn**	**07 13 21.4**	**+0.9**
	baz=33						
EKS2	**Erkin-Say**	**3.40**	**334**	P	**Pn**	**07 12 44.0**	**+3.9**
	SNR=7.5						
KST	**Kastek**	**3.42**	**2**	*e*P	**Pn**	**07 12 43.6**	**+3.3**
	34nm,0.5s						
KST				*e*S	**Sn**	**07 13 23.8**	**+2.7**
	35nm,0.7s						
ANVS	**Anan'yevo**	**3.46**	**23**	⇑*e*P	**Pn**	**07 12 42.7**	**+1.7**
	baz=23						
ANVS				⇑*i*S	**Sn**	**07 13 21.9**	**-0.2**
	baz=23						
CHMS	**Chumysh**	**3.46**	**347**	⇑*i*P	**Pn**	**07 12 42.9**	**+2.0**
	baz=46						
CHMS				⇑*i*S	**Sn**	**07 13 22.8**	**+0.8**
	baz=46						
CHMS	**Chumysh**	**3.46**	**347**	P	**Pn**	**07 12 43.8**	**+2.9**
	SNR=7.3						
IZV	**Izvestkoviy**	**3.47**	**10**	*e*P	**Pb**	**07 12 47.4**	**-1.0**
	17nm,0.5s						
IZV				*e*S	**Sb**	**07 13 29.9**	**-0.8**
	36nm,0.5s						
TNSS	**Tian-Shan**	**3.52**	**14**	*e*P	**Pb**	**07 12 48.0**	**-1.5**
	10nm,0.4s						
TNSS				*e*S	**Sb**	**07 13 31.0**	**-1.5**
	15nm,0.6s						
MTBS	**Maitube**	**3.54**	**8**	*e*P	**Pb**	**07 12 48.4**	**-1.2**
	6.8nm,0.4s						
MTBS				*e*S	**Sb**	**07 13 32.2**	**-0.5**
	25nm,0.5s						
MDOK	**Medeo**	**3.66**	**15**	*e*P	**Pb**	**07 12 50.2**	**-1.6**
	8.8nm,0.4s						
MDOK				*e*S	**Sb**	**07 13 34.9**	**-1.4**
	21nm,0.7s						
MRKS	**Merke**	**3.67**	**329**	*e*P	**Pb**	**07 12 50.9**	**-1.0**
	8.4nm,0.5s						
MRKS				*e*S	**Sb**	**07 13 36.7**	**+0.2**
	17nm,0.5s						
USP	**Ospenovka**	**3.77**	**345**	⇑*i*P	**Pn**	**07 12 47.1**	**+2.0**
	baz=45						
USP				⇑*i*S	**Sn**	**07 13 29.9**	**+0.3**
	baz=45						
USP	**Ospenovka**	**3.77**	**345**	P	**Pn**	**07 12 48.3**	**+3.2**
	SNR=11						
MNAS	**Manas**	**3.79**	**320**	⇑*i*P	**Pn**	**07 12 47.9**	**+2.4**
	baz=19						
MNAS				⇑*i*S	**Sn**	**07 13 31.2**	**+0.9**
	baz=19						
SATY	**Saty**	**3.96**	**29**	*e*P	**Pb**	**07 12 56.1**	**-0.7**
	3.1nm,0.4s						
SATY				*e*S	**Sb**	**07 13 44.9**	**+0.1**
	24nm,0.8s						
ZHN	**Zhinishke**	**4.06**	**28**	*e*P	**Pb**	**07 12 58.1**	**-0.4**
	1.3nm,0.3s						
ZHN				*e*S	**Sb**	**07 13 48.7**	**+0.9**
	9.8nm,0.3s						
KTBS	**Karatobe**	**4.14**	**9**	*e*P	**Pb**	**07 12 58.3**	**-1.6**
	1.2nm,0.4s						
KTBS				*e*S	**Sb**	**07 13 49.1**	**-0.8**
	52nm,0.8s						
KURS	**Kuram**	**4.25**	**24**	*e*P	**Pb**	**07 12 59.8**	**-2.0**
	3.2nm,0.5s						
KURS				*e*S	**Sb**	**07 13 51.8**	**-1.4**
	15nm,1.1s						
UZB	**Uzynbulak**	**4.28**	**34**	*e*P	**Pb**	**07 13 02.7**	**+0.5**
	3.3nm,0.5s						
UZB				*e*S	**Sb**	**07 13 56.2**	**+2.3**
	13nm,0.9s						
KUU	**Kurty**	**4.29**	**5**	*e*P	**Pb**	**07 13 01.3**	**-1.0**
	1.4nm,0.2s						
KUU				*e*S	**Sb**	**07 13 54.0**	**-0.2**
	75nm,0.8s						
KPKS	**Kokpek**	**4.41**	**28**	*e*P	**Pb**	**07 13 03.4**	**-1.0**
	6.7nm,0.5s						
KPKS				*e*S	**Sb**	**07 13 57.8**	**+0.1**
	57nm,0.6s						
ARXS	**Arharly**	**4.83**	**18**	*e*P	**Pb**	**07 13 10.8**	**-0.8**
	3.8nm,0.5s						
ARXS				*e*S	**Sb**	**07 14 10.8**	**+0.9**
	8.7nm,0.6s						
IUG	**Iuzhnay**	**5.04**	**302**	*e*P	**Pg**	**07 13 20.6**	**-2.9**
	2.5nm,0.4s						
IUG				*e*S	**Sg**	**07 14 26.8**	**-2.0**
	21nm,0.9s						

*IDC **08** 07:24:02.4±1.5, 0°.28S×145°.89E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/37, mbtmp3.9/6, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=47.4km s-min=23.0km az=119.0*
ISC 08 07:24:07.2±1.4, 0°.4S±0°.2×146°.0E±0°.2, h35km, n7, σ1§48/7, mb3.8/5, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.73**	**248**	Pn	**Pn**	**07 25 29.1**	**-0.8**
	0.8nm,0.3s,baz=76,slow=7.1,SNR=1.2						
JAY				Sn	**Sn**	**07 26 36.0**	**+1.5**
	1.1nm,0.3s,baz=4.6,slow=21,SNR=1.8						
HNR	**Honiara**	**16.53**	**123**	LR	LR	07 34 37.1	
	comp=Z,54nm,19.1s,baz=284,slow=38						
WRA	**Warramunga Arr**	**22.57**	**210**	P	**P**	**07 29 05.7**	**+0.9**
	4.8nm,0.5s,baz=31,slow=11,SNR=104						
ASAR	**Alice Springs**	**25.98**	**206**	P	**P**	**07 29 37.6**	**+0.7**
	1.6nm,0.9s,baz=35,slow=9.5,SNR=14						
FITZ	**Fitzroy Crossi**	**26.68**	**228**	P	**P**	**07 29 41.3**	**-1.9**
	1.3nm,0.5s,baz=37,slow=13,SNR=8.0						
ZALV	**Zalesovo Beam**	**73.76**	**327**	P	**P**	**07 35 37.4**	**-0.3**
	0.7nm,0.3s,baz=108,slow=4.7,SNR=2.0						
ILAR	**Eielson Array**	**80.73**	**24**	P	**P**	**07 36 17.4**	**+0.8**
	0.3nm,0.9s,baz=215,slow=7.7,SNR=1.6						

*IDC **08** 07:49:17.6±0.9, 0°.71S×133°.54E, h0km, mb4.0/6, mb1 4.2/9, mb1mx3.9/40, mbtmp4.1/9, ML4.5/4, MS3.3/11, Ms1 3.2/11, ms1mx3.0/45, Error ellipse: s-maj=29.4km s-min=16.7km az=76.0*
*NEIC **08** 07:49:22.4±2.0, 0°.79S±0°.09×133°.41E±0°.09, h31km±7km, mb4.2/13, Error ellipse: s-maj=15.0km s-min=11.2km az=221.0*
*DJA **08** 07:49:23.5±0.4, 1°.S±6°×13°.3E±°, h44km±7km, M4.8/11, mB5.4/4, mb4.8/11, MLv4.7/6, Mw(mB)4.8/4*
ISC 08 07:49:22.3±0.9, 0°.78S±0°.09×133°.42E±0°.07, h29km, n43, σ1§51/39, mb4.2/8, MS3.3/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.15**	**268**	Pn	**Pn**	**07 49 57.2**	**+1.0**
	128nm,0.3s,baz=245,slow=23,SNR=200						
SIJI				Sn	**Sn**	**07 50 21.7**	**-0.3**
	98nm,0.3s,baz=80,slow=14,SNR=5.9						
FAKI	**Fak Fak**	**2.43**	**209**	P	**Pn**	**07 50 00.9**	**+0.9**
FAKI	**Fak Fak**	**2.43**	**209**	Pn	**Pn**	**07 50 01.1**	**+1.0**
BAKI	**Biak**	**2.72**	**99**	P	**Pn**	**07 50 04.7**	**+0.7**
BNDI	**Bandanaira**	**5.11**	**223**	P	**Pn**	**07 50 38.4**	**+1.4**
	2.0nm350nm,0.8s						
MSAI	**Masohi**	**5.16**	**240**	P	**Pn**	**07 50 41.8**	**+4.2**
AAI	**Ambon**	**5.97**	**241**	P	**Pn**	**07 50 50.9**	**+2.2**
	0.8nm2μm219nm,0.7s						
NLAI	**Namlea**	**6.77**	**249**	P	**Pn**	**07 51 00.5**	**+0.8**
	0.3nm2μm79nm,0.6s						
JAY	**Jayapura**	**7.49**	**103**	LR	LR	07 54 13.6	
	comp=Z,177nm,20.1s,baz=226,slow=40						
GTOI	**Gorontalo**	**10.50**	**278**	P	**Pn**	**07 51 55.6**	**+4.6**
	23nm,0.8s						
MTN	**Manton Dam**	**12.20**	**191**	Pn	**Pn**	**07 52 13.1**	**-1.1**
SOEI	**Soe**	**12.74**	**225**	P	**Pn**	**07 52 23.2**	**+1.4**
	70nm,0.9s						
SOEI	**Soe**	**12.74**	**225**	Pn	**Pn**	**07 52 20.9**	**-0.9**
BATI	**Baumata**	**13.48**	**226**	Pn	**Pn**	**07 52 32.8**	**+1.0**
	9.9nm,0.3s,baz=297,slow=0.9,SNR=13						
BATI				LR	LR	07 57 24.4	
	comp=Z,124nm,21.8s,baz=100,slow=36						
BATI	**Baumata**	**13.48**	**226**	P	**Pn**	**07 52 33.0**	**+1.2**
	106nm,0.9s						
KAPI	**Kappang**	**14.28**	**253**	Pn	**Pn**	**07 52 47.8**	**-1.7**
	1.3nm,0.3s,baz=74,slow=3.5,SNR=6.9						
KNRA	**Kununurra**	**15.50**	**197**	Pn	**Pn**	**07 52 57.0**	**-2.0**
COEN	**Coen**	**16.27**	**144**	Pn	**Pn**	**07 53 09.3**	**+0.5**
GUMO	**Guam**	**18.23**	**38**	LR	LR	07 59 32.8	
	comp=Z,48nm,19.4s,baz=204,slow=34						
FITZ	**Fitzroy Crossi**	**18.83**	**203**	P	**P**	**07 53 38.7**	**-1.2**
	1.1nm,0.3s,baz=39,slow=12,SNR=27						
FITZ				S	Sn	07 56 57.3	-13
	0.2nm,0.3s,baz=164,slow=12,SNR=5.7						
FITZ				LR	LR	08 03 23.9	
	comp=Z,31nm,18.3s,baz=64,slow=45						
FITZ	**Fitzroy Crossi**	**18.83**	**203**		**P**	**07 53 37.7**	**-2.2**
WB0	**Warramunga Arr**	**18.90**	**177**		**P**	**07 53 39.8**	**-0.9**
WB0				IAmb	IAmb	07 53 57.4	
	comp=Z,22nm,1.1s						
WRAB	**Tennant Creek**	**19.06**	**177**	P	**P**	**07 53 42.2**	**-0.2**
WRAB				IAmb	IAmb	07 53 50.4	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**19.07**	**177**	P	**P**	**07 53 42.0**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=357,slow=13,SNR=44						
WRA				S	Sn	07 57 03.2	-13
	comp=Z,0.2nm,0.3s,baz=0.8,slow=23,SNR=4.5						
WRA				LR	LR	08 01 58.7	
	comp=Z,82nm,19.8s,baz=40,slow=40						
WRA	**Warramunga Arr**	**19.07**	**177**	P	**P**	**07 53 41.9**	**-0.6**
WB2	**Warramunga Arr**	**19.07**	**177**	P	**P**	**07 53 42.0**	**-0.5**
WB2				IAmb	IAmb	07 53 50.5	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**19.10**	**177**		**P**	**07 53 42.3**	**-0.5**
WR0				IAmb	IAmb	07 54 01.0	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**22.76**	**179**	P	**P**	**07 54 22.2**	**-0.2**
AS31				IAmb	IAmb	07 54 35.4	
	comp=Z,4.6nm,0.6s						
ASAR	**Alice Springs**	**22.76**	**179**	P	**P**	**07 54 22.2**	**-0.2**
	comp=Z,6.7nm,0.7s,baz=6.0,slow=12,SNR=82						
ASAR				S	**S**	**07 58 31.3**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=1.0,slow=17,SNR=2.7						
ASAR				LR	LR	08 04 12.8	
	comp=Z,106nm,19.6s,baz=346,slow=39						
ASAR	**Alice Springs**	**22.76**	**179**	P	**P**	**07 54 20.6**	**-1.9**
CTA	**Charters Tower**	**22.94**	**148**	P	**P**	**07 54 24.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=310,slow=14,SNR=2.0						
PSA00	**Pilbara Seismi**	**24.54**	**212**	P	**P**	**07 54 40.3**	**+0.6**
LEM	**Lembang**	**26.42**	**256**	LR	LR	08 06 53.0	
	comp=Z,56nm,18.5s,baz=146,slow=40						
JCJ	**Chichijima**	**28.97**	**16**	LR	LR	08 04 28.2	
	comp=Z,91nm,21.1s,baz=121,slow=32						
STKA	**Stephens Creek**	**31.88**	**167**	P	**P**	**07 55 45.8**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=354,slow=10,SNR=6.0						
STKA				LR	LR	08 10 09.0	
	comp=Z,105nm,19.8s,baz=20,slow=39						
KSRS	**Korea Array**	**38.38**	**353**	LR	LR	08 12 08.5	
	comp=Z,25nm,18.3s,baz=183,slow=36						
MK31	**Makanchi Array**	**65.08**	**324**	P	**P**	**08 00 00.5**	**+0.3**
MK31				IAmb	IAmb	08 00 03.4	
	comp=Z,3.8nm,1.1s						
MKAR	**Makanchi Array**	**65.08**	**324**	P	**P**	**08 00 00.9**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=115,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**65.08**	**324**	P	**P**	**08 00 00.5**	**+0.3**
KURK	**Kurchatov**	**69.14**	**326**	P	**P**	**08 00 25.4**	**-0.4**
KURBB	**Kurchatov Arra**	**69.15**	**326**	P	**P**	**08 00 25.4**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=119,slow=5.7,SNR=9.1						
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**	**08 02 00.0**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=257,slow=4.7,SNR=8.9						
SPITS	**Spitsbergen Ar**	**96.14**	**349**	LR	LR	08 48 51.7	
	comp=Z,12nm,19.8s,baz=320,slow=37						

IDC 08 07:57:54.5±1.5, 28°.21N×66°.54E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/41, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=44.9km s-min=33.6km az=128.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**8.68**	**237**	Pn	Pn	07 59 56.1	-5.3
	1.1nm,0.3s,baz=71,slow=12,SNR=11						
WSAR				Sn	Sn	08 01 22.7	-17
	1.4nm,0.3s,baz=28,slow=18,SNR=6.3						
MKAR	**Makanchi Array**	**22.29**	**29**	P	P	08 02 52.1	-1.2
	1.3nm,0.8s,baz=211,slow=12,SNR=4.8						
MKAR				LR	LR	08 12 06.0	
	comp=Z,34nm,18.4s,baz=200,slow=38						
KURBB	**Kurchatov Arra**	**24.16**	**19**	P	P	08 03 13.3	+1.1
	0.7nm,0.8s,baz=210,slow=8.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**61.85**	**270**	P	P	08 08 15.7	-0.2
	0.2nm,0.6s,baz=56,slow=6.7,SNR=1.6						
ASAR	**Alice Springs**	**82.89**	**121**	P	P	08 10 21.5	+0.1
	0.3nm,0.6s,baz=304,slow=5.3,SNR=5.6						

*IDC **08** 08:13:32.2±3.7, 19°.97S×168°.92E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/28, mbtmp4.1/6, ML3.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/29, Error ellipse: s-maj=73.5km s-min=40.7km az=30.0*
ISC 08 08:13:37.4±1.7, 20°.6S±0°.2×168°.6E±0°.2, h10km, n7, σ1§56/9, mb4.1/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.53**	**233**	*e*Pn	**Pb**	**08 14 20.9**	**-2.0**
	31nm,0.3s						
DZM				*e*Sn	**Sn**	**08 14 50.6**	**+1.1**
	27nm,0.2s						
DZM	**Mont Dzumac**	**2.53**	**233**	Pn	**Pb**	**08 14 21.4**	**-1.6**
	6.0nm,0.3s,baz=105,slow=12,SNR=148						
DZM				Sn	**Sb**	**08 14 54.8**	**+0.7**
	9.3nm,0.3s,baz=169,slow=24,SNR=3.8						
DZM				LR	LR	08 15 11.7	
	comp=Z,130nm,20.2s,baz=38,slow=32						
CTA	**Charters Tower**	**20.97**	**267**	P	**P**	**08 18 21.7**	**+0.8**
	1.8nm,0.4s,baz=88,slow=12,SNR=1.8						
STKA	**Stephens Creek**	**26.66**	**239**	P	**P**	**08 19 18.7**	**+2.1**
	1.1nm,0.6s,baz=64,slow=9.7,SNR=4.6						
STKA				LR	LR	08 28 55.3	
	comp=Z,31nm,18.6s,baz=25,slow=34						
WRA	**Warramunga Arr**	**32.13**	**265**	P	**P**	**08 20 04.2**	**-1.1**
	1.4nm,0.5s,baz=92,slow=8.3,SNR=40						
WRA				LR	LR	08 32 24.4	
	comp=Z,51nm,20.3s,baz=80,slow=35						
ASAR	**Alice Springs**	**32.26**	**258**	P	**P**	**08 20 06.3**	**-0.2**
	7.4nm,0.7s,baz=87,slow=9.1,SNR=121						
QSPA	**South Pole Qui**	**69.51**	**180**	P	**P**	**08 24 46.2**	**+0.1**
	1.5nm,1.0s,baz=13,slow=5.1,SNR=2.6						

*SJA **08** 08:27:55.9±0.4, 35°.89S×72°.70W, h51km±26km, ML3.8, MW4.1*
*IDC **08** 08:27:56.1±1.4, 35°.95S×71°.99W, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.8/26, mbtmp3.8/8, ML4.1/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/24, Error ellipse: s-maj=47.5km s-min=23.6km az=83.0*
*GUC **08** 08:27:59.7±0.6, 36°.00S×72°.14W, h29km±5km, ML4.3*
*NEIC **08** 08:28:00.9±2.5, 36°.03S±0°.04×72°.15W±0°.03, h35km±8km, Error ellipse: s-maj=6.5km s-min=3.9km az=192.0*
ISC 08 08:27:56.2±1.2, 35°.94S±0°.03×72°.18W±0°.04, h3km±8km, n67, σ1§54/64, mb4.0/8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.95**	**13**	⇓*i*P	**Pn**	**08 28 17.1**	**+0.7**
GO05				*i* S	**Sn**	**08 28 30.0**	**-0.4**
GO05				IAML		08 28 31.0	
	comp=E,15μm,0.3s						
GO05	**Huala**	**0.95**	**13**		**Pn**	**08 28 17.4**	**+1.1**

CO02	**Combarbal**	**4.82**	**12**			**Pn**	**08 29 12.4**	**+2.6**
PLCA	**Paso Flores**	**4.96**	**165**	Pn		**Pn**	**08 29 13.3**	**+1.7**
	comp=Z,3.9nm,0.3s,baz=336,slow=12,SNR=72							
PLCA				Lg		Lg	08 30 26.3	
	comp=Z,2.4nm,0.3s,baz=244,slow=22,SNR=1.7							
PLCA				LR		LR	08 31 12.5	
	comp=Z,84nm,19.5s,baz=338,slow=40							
PLCA	**Paso Flores**	**4.96**	**165**			**Pn**	**08 29 13.8**	**+2.2**
CO03	**El Pedregal**	**5.24**	**14**			**Pn**	**08 29 17.1**	**+1.6**
GO04	**Tololo Observa**	**5.86**	**12**			**Pn**	**08 29 26.3**	**+2.0**
H03S1	**Juan Fernandez**	**5.91**	**289**	T		T	08 35 07.2	
	baz=113,slow=76,SNR=750							
H03S3	**Juan Fernandez**	**5.92**	**289**	T		T	08 35 08.5	
	baz=113,slow=76,SNR=1277							
H03S2	**Juan Fernandez**	**5.92**	**289**	T		T	08 35 03.6	
	baz=113,slow=76,SNR=808							
VA04	**Juan Fernndez**	**5.93**	**291**	Pn		**Pn**	**08 29 27.0**	**+2.1**
H03N1	**Juan Fernandez**	**6.08**	**292**	T		T	08 35 17.0	
	baz=110,slow=76,SNR=7.3							
H03N3	**Juan Fernandez**	**6.08**	**292**	T		T	08 35 13.7	
	baz=110,slow=76,SNR=8.2							
H03N2	**Juan Fernandez**	**6.09**	**292**	T		T	08 35 16.4	
	baz=110,slow=76,SNR=7.6							
LL01	**San Ignacio de**	**6.44**	**182**			**Pn**	**08 29 31.7**	**-0.2**
AC05	**El Transito**	**7.26**	**13**			**Pn**	**08 29 45.0**	**+1.6**
AC04	**Llanos de Chal**	**7.77**	**7**	Pn		**Pn**	**08 29 51.6**	**+1.5**
AC02	**Maricunga**	**9.44**	**17**	Pn		**Pn**	**08 30 16.3**	**+2.8**
LVC	**Limon Verde**	**13.58**	**13**	LR		LR	08 36 42.8	
	comp=Z,47nm,18.9s,baz=195,slow=39							
PB11	**IPOC Station P**	**16.27**	**9**	Pn		**Pn**	**08 31 46.9**	**+1.1**
PB11				IAmb		IAmb	08 32 00.5	
	comp=Z,7.2nm,1.2s							
MNMC	**Minye Minye**	**16.90**	**8**			**P**	**08 31 58.1**	**+2.0**
MNMC				IAmb		IAmb	08 32 10.8	
	comp=Z,6.3nm,0.8s							
PB16	**IPOC Station P**	**17.69**	**8**	Pn		**P**	**08 32 07.7**	**+2.4**
LPAZ	**La Paz**	**19.90**	**12**	P		**P**	**08 32 30.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=195,slow=9.1,SNR=2.0							
SIV	**San Ignacio**	**22.20**	**29**	P		**P**	**08 32 53.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=211,slow=11,SNR=2.5							
NNA	**Nana**	**24.21**	**349**	LR		LR	08 40 14.9	
	comp=Z,23nm,21.4s,baz=207,slow=30							
PMSA	**Palmer Station**	**29.28**	**173**	LR		LR	08 44 20.4	
	comp=Z,45nm,19.0s,baz=301,slow=34							
SNAA	**Sanae**	**49.84**	**157**	P		**P**	**08 36 49.9**	**-0.3**
SNAA				IAmb		IAmb	08 36 55.8	
	comp=Z,6.2nm,1.4s							
QSPA	**South Pole Qui**	**54.30**	**180**	P		**P**	**08 37 23.6**	**0.0**
QSPA				IAmb		IAmb	08 37 27.6	
	comp=Z,3.6nm,1.1s							
MAW	**Mawson**	**71.36**	**163**	P		**P**	**08 39 16.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=225,slow=7.1,SNR=1.8							
MAW	**Mawson**	**71.36**	**163**	IAmb		IAmb	08 39 28.5	
	comp=Z,1.0nm,1.4s							
TXAR	**Lajitas Array**	**71.37**	**331**	P		**P**	**08 39 18.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=150,slow=9.2,SNR=5.2							
DBIC	**Dimbokro**	**75.92**	**71**	P		**P**	**08 39 44.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=224,slow=8.5,SNR=1.5							
BOSA	**Boshof**	**79.28**	**117**	P		**P**	**08 40 02.6**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=246,slow=3.7,SNR=2.5							
BOSA	**Boshof**	**79.28**	**117**	IAmb		IAmb	08 40 05.5	
	comp=Z,13nm,1.4s							
TORD	**Torodi Ar. Bea**	**84.98**	**70**	P		**P**	**08 40 32.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=235,slow=4.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**84.98**	**70**	IAmb		IAmb	08 40 33.5	
	comp=Z,1.0nm,0.9s							

WEL 08 08:29:57.6,45°S±9°×16°8E±1°2,h5km±15km,M3.5/13, ML3.5/13,MLv3.5/13,Error ellipse: s-maj=0.0km s-min=0.0km az=53.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.10**	**60**	P	Pg	08 30 01.1	+1.5
MLZ	**Mavora Lakes**	**0.68**	**161**	P	Pb	08 30 12.4	+0.5
WKZ	**Wanaka**	**0.87**	**97**	P	Pb	08 30 15.4	+0.3
JCZ	**Jackson Bay**	**0.95**	**48**	P	Pg	08 30 14.7	-1.2
WHZ	**Wether Hill Ro**	**1.17**	**175**	P	Pg	08 30 19.2	-0.9
LBZ	**Lake Benmore**	**1.73**	**80**	P	Pb	08 30 30.0	+0.2
TUZ	**Tuapeka**	**1.78**	**134**	P	Pg	08 30 32.1	+0.4
FOZ	**Fox Glacier**	**1.87**	**51**	P	Pb	08 30 31.5	-0.7
SYZ	**Scrubay Hill**	**2.04**	**153**	P	Pb	08 30 35.3	+0.2
ODZ	**Otahua Downs**	**2.04**	**100**	P	Pb	08 30 34.2	-1.0
GCSZ	**Gaunt Creek Bo**	**2.30**	**53**	P	Pb	08 30 39.8	+0.3
ARCZ	**Arundel**	**2.54**	**73**	P	Pn	08 30 39.7	+0.3
RPZ	**Rata Peaks**	**2.54**	**68**	P	Pn	08 30 40.5	+1.0
WACZ	**Wakanui South**	**3.00**	**76**	P	Pn	08 30 45.9	+0.2
OXZ	**Oxford**	**3.35**	**67**	P	Pn	08 30 49.8	-0.8
MQZ	**McQueen's Vall**	**3.63**	**75**	P	Pn	08 30 54.6	+0.2
LTZ	**Lake Taylor**	**3.77**	**61**	P	Pn	08 30 57.9	+1.5
DSZ	**Denniston Nort**	**4.17**	**46**	P	Pn	08 30 59.6	-2.2
QRZ	**Quartz Range**	**5.22**	**43**	P	Pn	08 31 14.4	-1.8
KRHZ	**Kereru**	**8.13**	**54**	P	Pn	08 32 01.2	+5.0

IDC 08 08:34:29.4±3.7,5°87S×153°09E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/39,mbtmp3.3/3,Error ellipse: s-maj=80.9km s-min=30.7km az=93.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.88**	**326**	Pn	Pn	08 35 02.5	-0.3
	111nm,0.3s,baz=166,slow=1.4,SNR=122						
KRVT				Sn	Sn	08 35 19.9	-7.2
	197nm,0.3s,baz=310,slow=21,SNR=35						
WRA	**Warramunga Ar**	**22.98**	**231**	P	P	08 39 35.6	-0.3
	0.4nm,0.9s,baz=55,slow=9.6,SNR=2.4						
ASAR	**Alice Springs**	**25.58**	**224**	P	P	08 39 59.6	-0.8
	0.5nm,0.8s,baz=59,slow=8.7,SNR=3.6						
FITZ	**Fitzroy Crossi**	**29.42**	**243**	P	P	08 40 35.5	+0.6
	0.6nm,0.5s,baz=61,slow=13,SNR=1.7						
TORD	**Torodi Ar. Bea**	**150.90**	**286**	PKPbc	PKPbc	08 54 25.4	+0.3
	0.2nm,0.4s,baz=102,slow=1.8,SNR=2.6						

NNC 08 08:45:59.1±2.4,53°.41N×87°.49E,h1km±12km,mb3.9, mpv3.5,5C-6D,Error ellipse: s-maj=16.1km s-min=14.0km az=52.0,Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.10**	**247**	⇓Pn	Pn	08 47 29.6	-0.6
	2.0nm,0.6s						
KURK				⇓Lg	Lg	08 49 10.8	
	9.2nm,1.2s						
KURBB	**Kurchatov Arra**	**6.19**	**247**	⇑Pn	Pn	08 47 31.8	+0.3
	4.3nm,0.6s						
KURBB				⇑Sn	Sn	08 48 43.9	+1.1
	5.3nm,0.6s						
KURBB				⇑Lg	Lg	08 49 18.8	
	11nm,0.8s						
MK31	**Makanchi Array**	**7.41**	**209**	⇑Pn	Pn	08 47 48.9	+0.6
	1.2nm,0.6s,baz=29,slow=13,SNR=7.8						
MK31				⇑Sn	Sn	08 49 14.1	+1.1
	3.7nm,1.0s,baz=32,slow=26,SNR=5.2						
MK31				⇓Lg	Lg	08 49 54.7	
	3.8nm,0.8s						
MAKZ	**Makanchi**	**7.49**	**210**	⇓Pn	Pn	08 47 49.3	-0.1
	6.1nm,1.2s						
MAKZ				⇓Sn	Sn	08 49 16.4	+1.5
	2.2nm,0.8s						
MAKZ				⇓Lg	Lg	08 49 55.4	
	6.5nm,1.1s						

*IDC **08** 09:01:48.7±1.1,23°.36N×100°.56E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.6/36,mbtmp3.6/6,ML4.0/1,MS3.3/11, Ms1 3.3/11,ms1mx3.1/39,Error ellipse: s-maj=37.9km s-min=16.1km az=89.0*

*BJI **08** 09:01:49.5±0.0,23°.37N×100°.49E,h10km,mb4.1/4, ML4.2/8*

*NEIC **08** 09:01:50.6±0.9,23°.29N±0°.06×100°.42E±0°.09,h15km±5km, mb4.1/7,Error ellipse: s-maj=13.5km s-min=7.2km az=120.0*

ISC 08 09:01:49.3±0.6,23°.34N±0°.04×100°.46E±0°.07,h10km,n41, σ1§92/39,mb3.7/8,MS3.2/10,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.74**	**49**	⇑eP	**Pb**	**09 02 37.9**	**-0.6**
KMI				Sg	**Sb**	**09 03 15.1**	**+2.9**
KMI				smax	smax		
	comp=N,840nm,1.1s						
KMI				smax	smax		
	comp=E,430nm,1.3s						
KMI	**Kunming**	**2.74**	**49**		**Pn**	**09 02 35.5**	**+2.0**
CRAI	**Chiangrai**	**3.10**	**181**	P	**Pn**	**09 02 38.9**	**+0.7**
CRAI				S	**Sg**	**09 03 30.0**	**+1.2**
SLVN	**Son La**	**3.76**	**121**		**Pn**	**09 02 47.9**	**+0.4**
PAYA	**Payao**	**4.00**	**188**	P	**Pn**	**09 02 51.7**	**+1.1**
PAYA				S	**Sg**	**09 03 56.6**	**-1.1**
CHMO	**Chiang Mai**	**4.72**	**198**		**Pn**	**09 02 59.7**	**-0.9**
CMMT	**Chiang Mai**	**4.72**	**198**	P	**Pn**	**09 03 01.6**	**+1.0**
CMMT				S	**Sb**	**09 04 15.0**	**+5.9**
PHRA	**Phrae**	**4.82**	**183**	P	**Pn**	**09 03 03.3**	**+1.4**
PHRA				S	**Sg**	**09 04 19.4**	**-4.8**
CM31	**Chiang Mai Arr**	**5.06**	**197**		**Pn**	**09 03 05.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**5.06**	**197**	Pn	**Pn**	**09 03 07.0**	**+1.7**
	1.4nm,0.3s,baz=11,slow=13,SNR=11						
CMAR				Pg	**Pg**	**09 03 23.2**	**-3.0**
	17nm,0.3s,baz=11,slow=20,SNR=90						
CMAR				Lg	Lg	09 04 29.6	
	13nm,0.3s,baz=6.9,slow=31,SNR=14						
CMAR				LR	LR	09 05 33.3	
	comp=Z,210nm,19.1s,baz=54,slow=44						
CM09	**Chiang Mai Arr**	**5.06**	**196**	P	Pb	09 03 13.6	-4.4
UTTA	**Uttaradit**	**5.57**	**179**	P	**Pn**	**09 03 11.8**	**-0.4**
MHMT	**Maesarieng**	**5.66**	**205**	P	**Pn**	**09 03 14.1**	**+0.7**
SUKH	**Sukhothai**	**5.88**	**188**	P	**Pn**	**09 03 17.9**	**+1.4**
CD2	**Chengdu**	**8.09**	**21**	P	**Pn**	**09 03 48.9**	**+2.0**
CD2				smax	smax		
	comp=N,80nm,1.8s						
CD2				smax	smax		
	comp=E,140nm,1.8s						
XAN	**Xi'an**	**12.99**	**33**	Pg	**Pn**	**09 04 51.6**	**-2.3**
XAN				Sg		09 04 58.7	
XAN				smax	smax		
	comp=N,21nm,0.9s						
XAN				smax	smax		
	comp=E,26nm,0.8s						
XAN	**Xi'an**	**12.99**	**33**	Pn	**Pn**	**09 04 55.4**	**+1.4**
LZH	**Lanzhou**	**13.04**	**12**	eP	**Pn**	**09 04 55.3**	**+0.5**
LZH				pP	P	09 04 58.7	-6.6
LZH				sP		09 05 01.2	
LZH				pmax	pmax		
	comp=E,20nm,1.3s						
GTA	**Gaotai**	**16.03**	**358**	eP	**Pn**	**09 05 30.4**	**-4.6**
GTA				pP	P	09 05 35.4	-3.1
GTA				sP	pP	09 05 38.6	-3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,170nm,5.4s						
GTA				LR	LR		
	comp=N,240nm,13.1s						
GTA				LR	LR		
	comp=E,290nm,11.6s						
GTA				LR	LR		
	comp=Z,270nm,13.1s						
PSI	**Prapat**	**20.47**	**184**	LR	LR	09 14 16.2	
	comp=Z,77nm,21.3s,baz=9.0,slow=36						
WMQ	**Urumqi**	**22.98**	**336**	eP	**P**	**09 06 53.6**	**-0.5**
SBUM	**Sibu**	**23.69**	**150**	P	**P**	**09 07 01.8**	**+0.5**
SONM	**Songino Array**	**24.90**	**10**	P	**P**	**09 07 13.4**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=190,slow=10,SNR=6.2						
SONM				LR	LR	09 18 55.8	
	comp=Z,50nm,18.1s,baz=278,slow=41						
SONM	**Songino Array**	**24.90**	**10**	P	**P**	**09 07 13.2**	**+0.8**
ULN	**Ulaanbaatar**	**25.04**	**11**	P	**P**	**09 07 14.6**	**+0.9**
ULN				IAmb	IAmb	09 07 41.0	
	comp=Z,2.4nm,0.5s						
NIL	**Nilore**	**25.95**	**299**	P	**P**	**09 07 22.2**	**+0.1**
KSRS	**Korea Array**	**27.43**	**53**	LR	LR	09 19 23.1	
	comp=Z,81nm,18.8s,baz=216,slow=39						
MK31	**Makanchi Array**	**27.59**	**332**	P	**P**	**09 07 37.6**	**+0.9**
MK31				IAmb	IAmb	09 07 39.2	
	comp=Z,7.0nm,1.4s						
MKAR	**Makanchi Array**	**27.59**	**332**	P	**P**	**09 07 38.3**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=143,slow=11,SNR=5.9						
TLY	**Talaya**	**28.40**	**4**	LR	LR	09 20 25.3	
	comp=Z,61nm,20.8s,baz=164,slow=39						
JNU	**Nakatsue**	**28.43**	**63**	LR	LR	09 20 10.8	
	comp=Z,94nm,19.4s,baz=225,slow=39						
KKAR	**Karatay Array**	**31.62**	**316**	P	**P**	**09 08 12.3**	**-0.2**
ZAA0	**Zalesovo Array**	**32.76**	**343**	P	**P**	**09 08 22.5**	**+0.2**
ZAA0				IAmb	IAmb	09 08 31.0	
	comp=Z,2.7nm,1.1s						
ZALV	**Zalesovo Beam**	**32.76**	**343**	P	**P**	**09 08 22.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=134,slow=6.2,SNR=1.5						
ZALV				LR	LR	09 20 36.4	
	comp=Z,44nm,18.4s,baz=60,slow=34						
ZALV	**Zalesovo Beam**	**32.76**	**343**	P	**P**	**09 08 22.2**	**0.0**
GEYT	**Alibeck**	**38.89**	**302**	LR	LR	09 27 44.4	
	comp=Z,33nm,18.2s,baz=75,slow=40						
ABKAR	**Akbulak array**	**40.94**	**319**	P	**P**	**09 09 32.8**	**+0.9**
NRIK	**Noril'sk**	**46.67**	**354**	LR	LR	09 31 19.8	
	comp=Z,75nm,19.7s,baz=202,slow=38						
WRA	**Warramunga Arr**	**54.24**	**140**	P	**P**	**09 11 16.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=329,slow=7.8,SNR=5.2						
WRA				LR	LR	09 37 47.5	
	comp=Z,32nm,18.1s,baz=180,slow=40						
ASAR	**Alice Springs**	**56.91**	**143**	P	**P**	**09 11 35.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=317,slow=6.0,SNR=4.4						
KMBO	**Kilima Mbogo**	**66.01**	**258**	LR	LR	09 43 33.8	
	comp=Z,18nm,18.9s,baz=95,slow=38						

WEL 08 09:07:37.2,40°.6S±0°.8×17°6E±°,h34km±2km,M3.0/12, ML3.3/12,MLv3.0/12,Error ellipse: s-maj=0.0km s-min=0.0km az=94.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.11**	**52**	P	Pb	09 07 43.4	+0.3
TIWZ	**Tintock**	**0.16**	**173**	P	Pb	09 07 43.8	+0.3
MRZ	**Mangatainoka R**	**0.22**	**259**	P	Pb	09 07 44.3	+0.2
POWZ	**Post Office Ro**	**0.24**	**343**	P	Pb	09 07 44.5	+0.2
HOWZ	**Holdsworth Sta**	**0.38**	**223**	P	Pn	09 07 46.6	+0.1
CPWZ	**Castlepoint**	**0.39**	**138**	P	Pn	09 07 47.3	+0.8
CPWZ				S	Sn	09 07 55.1	+2.5
DVHZ	**Dannevirke**	**0.40**	**36**	P	Pb	09 07 46.4	0.0
ANWZ	**Angora Road**	**0.50**	**71**	P	Pn	09 07 48.2	+0.2
ANWZ				S	Sn	09 07 56.6	+1.2
OGWZ	**Otaki Gorge**	**0.56**	**249**	P	Pb	09 07 49.3	+0.5
OGWZ				S	Sn	09 07 57.5	+0.6
TSZ	**Takapari Road**	**0.57**	**8**	P	Pb	09 07 49.1	+0.2
TSZ				S	Sn	09 07 57.3	+0.1
PNHZ	**Pukenui**	**0.75**	**20**	P	Pb	09 07 52.2	+0.1
PNHZ				S	Sb	09 08 03.0	+0.9
PXZ	**Pawanui**	**0.97**	**53**	P	Pn	09 07 54.6	+0.2
KRHZ	**Kereru**	**1.05**	**22**	P	Pn	09 07 56.2	+0.5
WEL	**Wellington**	**1.06**	**231**	P	Pn	09 07 56.0	+0.3
KAHZ	**Kahuranaki**	**1.14**	**44**	P	Pn	09 07 57.1	+0.3
BHHZ	**Black Hill Sta**	**1.14**	**8**	P	Pb	09 07 58.0	-0.6
MOVZ	**Moawhango**	**1.22**	**356**	P	Pb	09 07 59.2	-0.6
MTVZ	**Mangateitei**	**1.27**	**346**	P	Pb	09 08 01.4	+0.7
KWHZ	**Kaweka Forest**	**1.27**	**20**	P	Pn	09 07 59.3	+0.6
WNVZ	**Wahianoa**	**1.31**	**351**	P	Pb	09 08 01.3	-0.1
TCW	**Tory Channel**	**1.34**	**243**	P	Pn	09 07 59.8	+0.3
MCHZ	**McNeill Hill**	**1.34**	**29**	P	Pn	09 08 00.1	+0.6
FWVZ	**Far West T-bar**	**1.38**	**350**	P	Pb	09 08 02.5	-0.3
PKVZ	**Pokaka**	**1.39**	**343**	P	Pb	09 08 02.7	0.0
NGZ	**Ngauruhoe**	**1.46**	**352**	P	Pb	09 08 03.4	-0.5
DUWZ	**D'Urville Isla**	**1.48**	**262**	P	Pn	09 08 02.3	+0.7
ETVZ	**East Tongariro**	**1.49**	**356**	P	Pb	09 08 03.7	-0.7
TMVZ	**Te Maari**	**1.51**	**355**	P	Pb	09 08 03.9	-0.8
WTVZ	**West Tongariro**	**1.52**	**352**	P	Pb	09 08 04.0	-0.9
KRVZ	**Karewarewa**	**1.53**	**354**	P	Pb	09 08 04.3	-0.8
TWVZ	**Taurewa**	**1.58**	**348**	P	Pb	09 08 05.0	-0.9
LREZ	**Lake Rotokare**	**1.61**	**316**	P	Pb	09 08 06.7	+0.4
ARHZ	**Aropaoanui**	**1.61**	**33**	P	Pn	09 08 03.9	+0.6
RITZ	**Rihia Road**	**1.64**	**360**	P	Pb	09 08 05.4	-1.6
KATZ	**Kakaramea**	**1.65**	**356**	P	Pb	09 08 09.6	+2.5
TUWZ	**Tuamarina**	**1.66**	**240**	P	Pn	09 08 03.6	-0.3
VRZ	**Vera Road**	**1.72**	**330**	P	Pb	09 08 07.1	-1.1
PREZ	**Palmer Road**	**1.83**	**314**	P	Pb	09 08 10.2	+0.2
BSWZ	**Blackbirch Sta**	**1.85**	**233**	P	Pn	09 08 06.3	-0.3
NEZ	**North Egmont**	**1.91**	**314**	P	Pb	09 08 11.3	-0.2
KHEZ	**Kahui Hut**	**1.94**	**312**	P	Pb	09 08 12.0	-0.1
NMEZ	**Namu Road**	**1.94**	**308**	P	Pb	09 08 11.9	0.0
NNZ	**Nelson**	**1.97**	**252**	P	Pn	09 08 08.7	+0.5
PKE	**Pukeiti**	**2.03**	**314**	P	Pb	09 08 13.3	-0.1
NBEZ	**Newall Road No**	**2.04**	**311**	P	Pb	09 08 14.0	+0.3
HIZ	**Hauiti**	**2.24**	**339**	P	Pb	09 08 17.4	+0.3
THZ	**Tophouse**	**2.50**	**242**	P	Pn	09 08 15.2	-0.5
QRZ	**Quartz Range**	**2.54**	**264**	P	Pn	09 08 16.5	+0.4
MWZ	**Matawai**	**2.62**	**30**	P	Pn	09 08 16.0	-1.2
LTZ	**Lake Taylor**	**3.45**	**230**	P	Pn	09 08 27.8	-0.8
MQZ	**McQueen's Vall**	**3.90**	**217**	P	Pn	09 08 37.4	+2.7

*IDC **08** 09:19:08.4±2.7,20°.02S×168°.73E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/31,mbtmp4.0/7,ML3.6/1,MS3.0/1, Ms1 2.9/1,ms1mx2.5/30,Error ellipse: s-maj=77.9km s-min=33.1km az=138.0*

ISC 08 09:19:12.5±2.2,20°.2S±0°.3×168°.7E±0°.3,h25km,n8, σ1§19/10,mb3.9/6,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.81**	**228**	ePn	**Pn**	**09 19 56.0**	**-0.1**
	77nm,0.3s						
DZM				eSn	**Sn**	**09 20 27.9**	**-1.4**
	200nm,0.3s						
DZM	**Mont Dzumac**	**2.81**	**228**	Pn	**Pn**	**09 19 56.0**	**-0.1**
	9.2nm,0.3s,baz=74,slow=18,SNR=185						
DZM				Sn	**Sn**	**09 20 28.9**	**-0.4**
	33nm,0.3s,baz=312,slow=22,SNR=8.8						
CTA	**Charters Tower**	**21.06**	**266**	P	**P**	**09 23 55.3**	**+0.2**
	1.5nm,0.4s,baz=80,slow=13,SNR=2.1						
STKA	**Stephens Creek**	**26.91**	**239**	P	**P**	**09 24 54.0**	**+2.2**
	1.6nm,0.8s,baz=68,slow=11,SNR=3.1						
STKA				LR	LR	09 34 47.7	
	comp=Z,29nm,18.0s,baz=31,slow=35						
WRA	**Warramunga Arr**	**32.23**	**264**	P	**P**	**09 25 37.7**	**-1.4**
	1.0nm,1.0s,baz=100,slow=7.9,SNR=5.8						
ASAR	**Alice Springs**	**32.41**	**257**	P	**P**	**09 25 40.6**	**-0.1**
	1.9nm,0.6s,baz=86,slow=8.2,SNR=32						
FITZ	**Fitzroy Crossi**	**40.64**	**265**	P	**P**	**09 26 51.0**	**+0.1**
	3.5nm,0.7s,baz=90,slow=10,SNR=6.7						
ILAR	**Eielson Array**	**91.28**	**17**	P	**P**	**09 32 14.5**	**-0.9**
	0.5nm,0.8s,baz=224,slow=6.3,SNR=3.1						

*GCG **08** 09:24:17.5±0.4,14°.61N×93°.35W,h35km±384km,MD4.9*

*INET **08** 09:24:22.5,15°.10N×92°.85W,h30km,ML4.6*

*NEIC **08** 09:24:26.4±3.0,14°.61N±0°.07×92°.51W±0°.06,h82km±3km, Error ellipse: s-maj=11.1km s-min=5.8km az=213.0*

*MEX **08** 09:24:26.0±0.6,14°.56N×92°.50W,h82km±10km,MD4.6*

*IDC **08** 09:24:26.7±0.5,14°.58N×92°.62W,h69km±4km,mb4.1/14, mb1 4.4/17,mb1mx4.1/41,mbtmp4.5/17,MS3.4/15, Ms1 3.4/15,ms1mx3.3/26,Error ellipse: s-maj=10.4km s-min=7.2km az=25.0*

*UCR **08** 09:24:27.7±1.5,14°.80N×92°.46W,h20km±685km,ML4.6, mb4.7(NEIC)*

*SNET **08** 09:24:28.0±1.4,15°.07N×92°.42W,h35km±999km,ML5.2*

ISC 08 09:24:26.2±0.4,14°.60N±0°.04×92°.62W±0°.04,h70km±3km, h70km:pP-P,n550,σ1§83/572,mb4.7/100,2C,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.46**	**48**	eP	**Pn**	**09 24 37.8**	**-0.9**
THIG				*i* S	**Sn**	**09 24 47.4**	**-0.4**
THIG		**0.46**	**48**		**Pn**	**09 24 37.8**	**-0.9**
THIG					**Sn**	**09 24 47.4**	**-0.4**
RTAL	**Retalhuleu**	**0.90**	**94**		**Pn**	**09 24 43.4**	**-0.1**
RTAL				Sn	**Sn**	**09 24 55.5**	**-0.8**
PCIG		**1.24**	**332**	eP	**Pn**	**09 24 47.8**	**0.0**
PCIG				*i* S	**Sn**	**09 25 04.4**	**+0.4**
PCIG		**1.24**	**332**		**Pn**	**09 24 47.8**	**0.0**
PCIG					**Sn**	**09 25 03.6**	**-0.5**
HUEH	**Huehuetenango**	**1.30**	**56**		**Pn**	**09 24 49.9**	**+1.1**
FUG	**Fuego 3**	**1.73**	**95**	eP	**Pn**	**09 24 55.5**	**+1.1**
CCIG	**Comitan**	**1.74**	**15**	eP	**Pn**	**09 24 56.3**	**+1.7**
CCIG				eS	**Sn**	**09 25 19.8**	**+3.8**
CCIG	**Comitan**	**1.74**	**15**		**Pn**	**09 24 56.1**	**+1.5**
CCIG					**Sn**	**09 25 20.5**	**+4.5**
PCG	**Pacaya**	**1.96**	**96**	eP	**Pn**	**09 24 58.9**	**+1.3**
APG	**El Apazote**	**2.12**	**79**	P	**Pn**	**09 25 00.5**	**+0.7**
	193nm,0.3s,baz=294,slow=9.0,SNR=797						
APG				S	**Sn**	**09 25 26.9**	**+1.6**
	238nm,0.3s,baz=261,slow=16,SNR=11						
APG				LR	LR	09 25 56.2	
	comp=Z,771nm,18.4s,baz=278,slow=42						
IXG	**Ixpaco**	**2.15**	**101**	eP	**Pn**	**09 25 01.4**	**+1.2**
NBG	**Las Nubes**	**2.20**	**90**	eP	**Pn**	**09 25 02.7**	**+1.8**
NBG				eS	Sn	09 25 37.5	+10
TGBT	**Tuxtla Gutierr**	**2.21**	**348**	eP	**Pn**	**09 25 00.7**	**-0.1**
TGBT				eS	**Sn**	**09 25 27.3**	**+0.2**
**TGB

EDPN Palmar Norte 10.57 121 eP Pn 09 26 57.9 +2.9
ZAIG Zacatecas 12.44 312 Pn Pn 09 27 24.7 +4.0
735A Kenedy 14.98 342 Pn Pn 09 27 55.7 +1.6
735A IAmb IAmb 09 27 57.4
comp=Z,50nm,0.9s
833A Chaparral WMA, 15.04 336 P Pn 09 27 55.8 +1.0
baz=153,SNR=14
833A Chaparral WMA, 15.04 336 Pn Pn 09 27 56.1 +1.3
833A IAmb IAmb 09 27 58.2
comp=Z,24nm,0.6s
HKT Hockley 15.56 350 Pn Pn 09 28 02.2 +0.7
061Z Ochoppi 15.69 43 Pn 09 28 01.8 -1.3
441A DeRidder 16.09 358 P Pn 09 28 09.3 +1.2
441A IAmb IAmb 09 28 16.6
comp=Z,57nm,0.9s
342A Flagon Creek P 16.70 1 Pn 09 28 16.4 +0.6
342A IAmb IAmb 09 28 20.0
comp=Z,34nm,0.9s
435B Jarrell 16.74 345 P Pn 09 28 17.2 +0.9
baz=162
435B Jarrell 16.74 345 P Pn 09 28 17.0 +0.7
435B IAmb IAmb 09 28 36.0
comp=Z,38nm,0.9s
060A Indiantown 16.85 41 P Pn 09 28 17.0 -0.6
344A Westbrook Farm 16.87 6 P Pn 09 28 19.0 +1.1
344A IAmb IAmb 09 28 20.4
comp=Z,84nm,1.2s
346A Big Creek Wild 16.96 9 P Pn 09 28 20.0 +1.0
346A IAmb IAmb 09 28 35.4
comp=Z,56nm,1.1s
JCT Junction City 17.13 339 P P 09 28 22.7 +0.8
baz=155,SNR=10.0
JCT Junction City 17.13 339 P 09 28 22.5 +0.6
451A Vernon 17.15 20 P Pn 09 28 21.7 +0.4
NATX Nacogdoches 17.19 354 P P 09 28 23.0 +0.6
baz=172
NATX Nacogdoches 17.19 354 Pn 09 28 22.8 +1.0
NATX IAmb IAmb 09 28 24.3
comp=Z,81nm,1.1s
553A Crawfordville 17.25 25 P Pn 09 28 21.9 -0.7
553A IAmb IAmb 09 28 26.5
comp=Z,57nm,0.9s
BRAL Brewton 17.27 16 P Pn 09 28 22.8 +0.1
baz=198,SNR=17
BRAL Brewton 17.27 16 P Pn 09 28 23.4 +0.6
656A Willston 17.41 31 P Pn 09 28 23.3 -1.2
237A Washetta, Mont 17.57 351 P Pn 09 28 23.9 -2.6
VBMS Vicksburg 17.65 6 P Pn 09 28 26.9 -0.4
baz=186,SNR=7.7
VBMS Vicksburg 17.65 6 P Pn 09 28 26.4 -0.9
SJCC San Jacinto, C 17.67 103 eP Pn 09 28 26.4 -1.5
TXAR Lajitas Array 17.87 327 P Pn 09 28 32.6 +2.3
comp=Z,0.4nm,0.3s,baz=144,slow=11,SNR=58
TXAR PcP PcP 09 33 04.5 +1.0
comp=Z,0.1nm,0.3s,baz=165,slow=5.2,SNR=3.6
TXAR ScP ScP 09 36 40.8 +8.1
baz=131,slow=5.2,SNR=4.4
TXAR Lajitas Array 17.87 327 Pn 09 28 32.8 +2.5
WHTX Lake Whitney, 17.87 347 P P 09 28 30.7 +0.8
baz=164
WHTX Lake Whitney, 17.87 347 P P 09 28 30.2 +0.3
TX31 Lajitas Ar. Sí 17.87 327 P Pn 09 28 31.7 +1.4
TX31 IAmb IAmb 09 28 36.2
comp=Z,72nm,1.0s
TX32 Lajitas Array 17.87 327 P Pn 09 28 32.8 +2.6
143A Socs Landing, 18.06 3 P P 09 28 32.8 +0.8
352A Blakely 18.22 21 P P 09 28 33.5 -0.3
352A IAmb IAmb 09 28 37.4
comp=Z,69nm,0.9s
250A Grady 18.25 17 P P 09 28 33.8 -0.3
Z41A Richland Creek 18.58 360 P P 09 28 38.2 +0.5
baz=179,SNR=11
Z41A Richland Creek 18.58 360 P Pn 09 28 40.1 +1.5
TIGA Tifton 18.70 25 P P 09 28 38.2 -0.8
baz=208
TIGA Tifton 18.70 25 P P 09 28 38.6 -0.4
TIGA IAmb IAmb 09 29 06.5
comp=Z,42nm,0.7s
Z38A Mt. Pleasant 18.70 354 P P 09 28 39.9 +0.8
Z38A IAmb IAmb 09 28 46.5
comp=Z,49nm,0.9s
PLMC San Jos del P 18.75 119 eP Pn 09 28 51.2 +10
Z47A Carrollton 18.98 12 P P 09 28 42.9 +0.9
Z47A IAmb IAmb 09 28 45.8
comp=Z,44nm,0.7s
WLAR White Oak Lake 19.01 359 Pn 09 28 44.9 +1.1
SMLC San Martn de 19.05 106 eP Pn 09 28 46.8 +2.3
ABTX Abilene, Hawle 19.05 342 P Pn 09 28 44.5 +0.1
baz=158
ABTX Abilene, Hawle 19.05 342 P P 09 28 43.7 +0.8
LRAL Lakeview Retre 19.05 15 P P 09 28 43.2 +0.3
baz=196,SNR=41
LRAL Lakeview Retre 19.05 15 P P 09 28 41.4 -1.5
Z35A Perchaven, San 19.12 348 P 09 28 43.8 +0.2
Z35A IAmb IAmb 09 28 51.1
comp=Z,38nm,1.1s
LPIG La Paz 19.16 302 LR LR 09 36 30.7
comp=Z,64nm,18.8s,baz=128,slow=38
YOTC Yotoco, Valle 19.20 122 eP P 09 28 45.3 +0.6
GUY2C Guyana, Caldas 19.37 117 eP Pn 09 28 49.8 +1.1
152A Waverly Hall 19.38 20 P P 09 28 46.0 -0.4
152A IAmb IAmb 09 29 05.2
comp=Z,40nm,0.8s
Y45A Yeager Farm, C 19.39 8 Pn 09 28 48.3 +0.1
255A Hazlehurst 19.59 27 P P 09 28 48.8 +0.1
255A IAmb IAmb 09 29 17.6
comp=Z,37nm,1.1s
BBAC Balboa, Cauca 19.66 128 eP P 09 28 49.7 -0.2
ANIL Santa Ana 19.71 119 eP P 09 28 51.2 +0.7
TOLC Tolima 19.73 119 eP P 09 28 49.7 -1.1
POPC Popayan, Colom 19.78 126 eP Pn 09 28 54.1 +0.8
X40A Basin Creek Fa 19.81 359 P P 09 28 51.9 +0.9
baz=179,SNR=8.8
X40A Basin Creek Fa 19.81 359 P P 09 28 52.0 +0.9
Z51A Franklin 19.83 19 P P 09 28 50.2 -1.1
MIAR Mount Ida 19.88 358 P P 09 28 53.0 +1.1
baz=177,SNR=67
MIAR Mount Ida 19.88 358 P P 09 28 51.3 -0.6
X43A Marvell 19.90 4 P P 09 28 51.9 -0.1
baz=184,SNR=10
X43A Marvell 19.90 4 P Pn 09 28 56.4 +2.2
154A Montrose 19.92 24 P P 09 28 52.0 -0.3
Y49A Blount Mountai 19.98 15 P P 09 28 52.6 -0.5
OTAV Otavalo 20.00 134 eP Pn 09 28 57.0 +0.9
OTAV Otavalo 20.00 134 P P 09 28 55.0 +1.2
OTAV Otavalo 20.00 134 eP Pn 09 28 56.8 +0.7
OXF Oxford 20.04 8 P P 09 28 54.9 +1.3
baz=188,SNR=28
OXF Oxford 20.04 8 P P 09 28 55.1 +1.5
X37A Clayton 20.06 353 Pn 09 28 57.2 +1.0
UALR University of 20.09 1 P P 09 28 55.6 +1.4
UALR IAmb IAmb 09 29 19.5
comp=Z,37nm,0.8s
GCUF Volcan Galeras 20.11 130 eP P 09 28 54.1 -1.0
PCON Cinco Dias 20.13 126 eP Pn 09 28 57.0 -0.7
ORTC Ortega, Tolima 20.15 120 eP P 09 28 55.5 +0.5
MARP Paez Belalcaza 20.17 124 eP Pn 09 28 58.5 +0.5
X48A Hartselle 20.40 13 P P 09 28 56.9 -0.7
X48A IAmb IAmb 09 29 03.2
comp=Z,35nm,0.8s
GOGA Godfrey 20.49 22 P P 09 28 57.9 -0.6
baz=206,SNR=21
GOGA Godfrey 20.49 22 P P 09 28 56.7 -1.8
GOGA IAmb IAmb 09 29 04.2
comp=Z,40nm,0.9s
W41B Gary Mavity, V 20.49 1 P P 09 28 59.1 +0.6
baz=180,SNR=16
W41B Gary Mavity, V 20.49 1 P Pn 09 29 00.7 -0.6
W41B IAmb IAmb 09 29 06.3
comp=Z,27nm,1.0s
W39A Magazine 20.54 357 P P 09 28 59.8 +0.8
baz=176,SNR=14
W39A Magazine 20.54 357 P P 09 28 59.0 +0.1
W39A IAmb IAmb 09 29 08.1
comp=Z,50nm,1.1s
PRAC Prado 20.56 120 eP Pn 09 29 01.4 -0.8
WHAR Wooly Hollow 20.61 1 P P 09 28 54.7 -5.1
WHAR IAmb IAmb 09 29 21.9
comp=Z,34nm,1.1s
MNTX Cornudas Mount 20.64 328 P P 09 29 01.9 +1.7
baz=142,SNR=25
MNTX Cornudas Mount 20.64 328 P P 09 29 01.1 +0.9
Y52A Lilburn 20.69 21 P P 09 29 00.2 -0.5
Y52A IAmb IAmb 09 29 14.6
comp=Z,38nm,0.7s
PLAL Pickwick Lake 20.71 11 P P 09 28 59.3 -1.5
PLAL IAmb IAmb 09 29 06.7
comp=Z,30nm,0.8s
WMOK Wichita Mounta 20.81 346 P P 09 29 03.0 +1.0
baz=162,SNR=6.9
WMOK Wichita Mounta 20.81 346 P P 09 28 58.8 -3.2
W35A Tecumseh 20.82 350 P P 09 29 02.4 +0.4
PAMC Pamplona, Colo 20.83 108 eP P 09 29 04.3 +1.4
FPAL Fort Paine 20.84 16 P P 09 29 00.7 -1.6
FPAL IAmb IAmb 09 29 21.7
comp=Z,38nm,1.0s
GARC Garzon, Huila 20.93 125 eP Pn 09 29 07.2 +0.3
FNO Franklin 21.02 349 P P 09 29 06.0 +1.8
RUSC La Rusia 21.07 112 eP P 09 29 13.1 +7.7
CHIC Chingaza 21.07 116 eP P 09 29 07.2 +1.8
X51A Calhoun 21.08 18 P P 09 29 04.3 -0.6
X51A IAmb IAmb 09 29 26.2
comp=Z,34nm,1.1s
PUAC Puerto Asis, P 21.13 130 eP P 09 29 04.3 -1.3
FLOC Florencia 21.17 126 eP P 09 29 07.2 +1.2
FCAR Ozark Folk Cen 21.21 1 P P 09 29 08.2 +2.0
Z56A Williston 21.26 27 P P 09 29 07.0 +0.2
baz=211
OK025 Westminster Rd 21.32 349 P P 09 29 05.8 -1.6
MSTX Muleshoe 21.37 336 P P 09 29 10.0 +1.9
baz=151,SNR=9.6
MSTX Muleshoe 21.37 336 P P 09 29 05.7 -2.4
SWET Sewanee 21.40 15 P P 09 29 07.3 -1.0
SWET IAmb IAmb 09 29 15.2
comp=Z,24nm,0.7s
TUL1 Leonard 21.41 353 P P 09 29 10.1 +1.7
baz=171,SNR=9.5
LCAR Lake Charles 21.42 3 P P 09 29 08.3 -0.2
LCAR IAmb IAmb 09 29 15.8
comp=Z,30nm,1.0s
BCOK Bluff Creek, N 21.44 349 P P 09 29 07.5 -1.2
Z57A Bowman 21.53 28 P P 09 29 09.6 -0.1
baz=212
W50A Signal Mountai 21.54 16 P P 09 29 11.6 +1.7
W50A IAmb IAmb 09 29 26.9
comp=Z,35nm,0.8s
OK029 Liberty Lake 21.55 349 P P 09 29 10.1 +0.2
OK029 IAmb IAmb 09 29 28.4
comp=Z,71nm,1.4s
NHSC New Hope 21.62 29 P P 09 29 09.7 -0.9
baz=214,SNR=16
HHAR Hobbs 21.63 357 P P 09 29 09.4 -1.2
HHAR IAmb IAmb 09 29 19.0
comp=Z,72nm,1.4s
U40A Yellville 21.67 359 P P 09 29 11.9 +0.8
baz=179
U40A Yellville 21.67 359 P P 09 29 08.3 -2.9
V48A Smith Brothers 21.69 13 P P 09 29 10.3 -1.0
AMTX Amarillo 21.79 340 P P 09 29 13.5 +1.0
baz=165
AMTX Amarillo 21.79 340 P P 09 29 13.1 +0.6
AMTX IAmb IAmb 09 29 31.5
comp=Z,36nm,0.8s
QUOK Quay 21.80 351 P P 09 29 15.9 +3.5
QUOK IAmb IAmb 09 29 22.9
comp=Z,54nm,1.1s
W52A Murphy 21.86 19 P P 09 29 12.1 -1.1
W52A IAmb IAmb 09 29 41.2
comp=Z,32nm,1.1s
WVT Waverly 21.87 10 P P 09 29 12.5 -0.7
baz=192
WVT Waverly 21.87 10 P P 09 29 12.4 -0.8
X54A Belton 21.91 23 P P 09 29 13.3 -0.4
baz=207,SNR=5.6
Z58A St. Stephen 21.98 30 P P 09 29 14.8 +0.3
baz=214,SNR=13
CPCT Cooper Cave 22.00 18 P P 09 29 13.2 -1.5
CPCT IAmb IAmb 09 29 30.8
comp=Z,25nm,0.6s
BG3 Lake Jocassee 22.11 22 P P 09 29 14.2 -1.6
BG3 IAmb IAmb 09 29 34.2
comp=Z,18nm,0.5s
PARMO Parma 22.12 6 P P 09 29 10.6 -5.3
CLTN Cedars of Leba 22.13 14 P P 09 29 11.7 -4.4
X55A Gracelyn & Ava 22.14 25 P P 09 29 15.2 -1.0
baz=209
PBMO Poplar Bluff 22.18 5 P P 09 29 14.7 -1.9
PBMO IAmb IAmb 09 29 25.5
comp=Z,29nm,0.8s
SDV Santo Domingo 22.25 102 P P 09 29 16.9 -0.9
comp=Z,4.7nm,0.5s,baz=348,slow=9.2,SNR=1.5
Y57A Sumter 22.28 28 P P 09 29 16.8 -0.9
baz=212
Y57A Sumter 22.28 28 P P 09 29 17.1 -0.6
MACC Macarena, Meta 22.29 122 eP P 09 29 20.3 +2.4
CROK Carrier 22.34 349 P P 09 29 18.7 +0.4
PAULI Pauline 22.37 24 P P 09 29 15.8 -2.8
PAULI IAmb IAmb 09 29 26.6
comp=Z,37nm,1.0s
T42A Van Buren 22.38 3 P P 09 29 16.4 -2.3
V51A Loudon 22.38 18 P P 09 29 17.4 -1.4
V51A IAmb IAmb 09 29 37.5
comp=Z,21nm,0.6s
X56A White Oak 22.40 26 P P 09 29 18.4 -0.6
baz=210
TKL Tuckaleechee C 22.43 19 P P 09 29 18.4 -0.8
comp=Z,13nm,0.8s,baz=188,slow=12,SNR=20
TKL Tuckaleechee C 22.43 19 P P 09 29 18.0 -1.3
TKL IAmb IAmb 09 29 36.8
comp=Z,24nm,0.7s
W54A Cherokee Point 22.46 23 P P 09 29 19.0 -0.6
baz=207,SNR=9.3
MGMO Mountain Grove 22.47 1 P P 09 29 17.5 -2.2
MGMO IAmb IAmb 09 29 29.1
comp=Z,19nm,0.8s
T35A Sooner Cattle 22.50 352 P P 09 29 21.6 +1.6
121A Cookes Peak, D 22.58 325 P P 09 29 23.1 +2.0
baz=138
121A Cookes Peak, D 22.58 325 P P 09 29 23.1 +2.0
121A IAmb IAmb 09 29 39.8
comp=Z,29nm,0.9s
V52A Sevierville 22.65 19 P P 09 29 19.9 -1.8
V52A IAmb IAmb 09 29 30.5
comp=Z,28nm,1.1s
U49A Red Boiling Sp 22.67 14 P P 09 29 19.9 -1.9
U49A IAmb IAmb 09 29 30.8
comp=Z,48nm,1.1s
PTLC Puerto Leguiza 22.72 128 eP P 09 29 27.6 +5.0
V53A Saluda 22.76 21 P P 09 29 22.0 -0.9
V53A IAmb IAmb 09 29 42.0
comp=Z,36nm,0.9s
BIRD Birdtown, Kers 22.78 27 P P 09 29 21.6 -1.4
BIRD IAmb IAmb 09 29 42.7
comp=Z,18nm,0.7s
T47A Sharon Grove 22.84 11 P P 09 29 22.0 -1.5
T47A IAmb IAmb 09 29 43.4
comp=Z,28nm,0.6s
KMSC Kings Mountain 22.84 24 P P 09 29 22.3 -1.4
baz=209,SNR=8.1
KMSC Kings Mountain 22.84 24 P P 09 29 22.1 -1.6
KMSC IAmb IAmb 09 29 41.6
comp=Z,22nm,0.9s
S39A Bolivar 23.01 359 P P 09 29 22.9 -2.5
W56A Indian Trail 23.14 26 P P 09 29 25.0 -1.6
baz=210,SNR=8.2
V54A Nebo 23.16 23 P P 09 29 25.6 -1.3
baz=207,SNR=10
S44A Carbondale 23.20 7 P P 09 29 25.7 -1.4
BNM Barren Site 23.23 329 P P 09 29 29.8 +2.1
TZTN Tazewell 23.31 19 P P 09 29 27.4 -0.8
baz=202,SNR=8.8
TZTN Tazewell 23.31 19 P P 09 29 25.8 -2.5
T50A Nancy 23.39 16 P P 09 29 26.2 -2.7
W57A Gilead 23.41 27 P P 09 29 27.7 -1.5
baz=212
W57A Gilead 23.41 27 P P 09 29 23.7 -5.5
V55A Taylorsville 23.51 24 P P 09 29 28.5 -1.6
baz=208,SNR=8.3
V55A Taylorsville 23.51 24 P P 09 29 27.6 -2.4
R40A Maddies Statio 23.60 1 P P 09 29 27.7 -3.2
W58A Raeford 23.64 28 P P 09 29 30.1 -1.2
baz=214
USIN University of 23.69 10 P P 09 29 28.8 -2.8
USIN IAmb IAmb 09 29 31.0
comp=Z,19nm,0.8s
V56A Mocksville 23.76 25 P P 09 29 30.7 -1.6
baz=210,SNR=9.4
ANMO Albuquerque 23.79 331 P P 09 29 34.2 +1.4
baz=144
ANMO Albuquerque 23.79 331 P P 09 29 33.9 +1.1
U54A Nelsons Funny 23.87 22 P P 09 29 32.3 -1.1
baz=206,SNR=8.8
U54A Nelsons Funny 23.87 22 P P 09 29 31.8 -1.5
U54A IAmb IAmb 09 29 52.1
comp=Z,28nm,0.8s
T53A Wise 24.04 20 P P 09 29 33.6 -1.3
baz=204,SNR=12
V57A Coltrane Farms 24.13 26 P P 09 29 34.1 -1.5
baz=211,SNR=17
U55A TA2, Sparta 24.14 23 P P 09 29 34.4 -1.4
baz=208,SNR=12
WCI Wyandotte Cave 24.20 12 P P 09 29 35.0 -1.2
baz=194
WCI Wyandotte Cave 24.20 12 P P 09 29 34.7 -1.5
WCI IAmb IAmb 09 29 37.6
comp=Z,29nm,0.8s
U56A King 24.27 25 P P 09 29 35.7 -1.2
baz=209,SNR=8.8
U56A King 24.27 25 P P 09 29 35.7 -1.2
U56A IAmb IAmb 09 29 36.3
comp=Z,34nm,1.1s
S51A Beattyville 24.31 18 P P 09 29 35.9 -1.3
S51A IAmb IAmb 09 30 01.6
comp=Z,20nm,0.8s
R32A Long Quarter, 24.34 348 P P 09 29 36.6 -0.9
V58A Windy Hill, Pi 24.34 27 P P 09 29 36.0 -1.5
baz=213,SNR=12
V58A Windy Hill, Pi 24.34 27 P P 09 29 35.7 -1.8
V58A IAmb IAmb 09 29 36.7
comp=Z,21nm,0.8s
OLIL Olney 24.37 9 P P 09 29 37.2 -0.5
OLIL IAmb IAmb 09 29 56.2
comp=Z,26nm,0.9s
Q44A Meyer Farm, Va 24.42 7 P P 09 29 38.0 -0.2
Q44A IAmb IAmb 09 29 52.0
comp=Z,33nm,1.1s
T54A Tazewell 24.44 22 P P 09 29 36.7 -1.8
baz=206,SNR=8.5
R49A Shelbyville 24.50 14 P P 09 29 37.0 -1.9
R49A IAmb IAmb 09 29 53.0
comp=Z,26nm,1.0s
KSU1 Kansas State U 24.66 353 P P 09 29 39.9 -0.5
baz=170
KSU1 Kansas State U 24.66 353 P P 09 29 38.6 -1.8
KSU1 IAmb IAmb 09 30 03.5
comp=Z,19nm,0.8s
R50A Paris 24.71 16 P P 09 29 38.9 -2.0
V59A Middlesex 24.71 29 P P 09 29 38.7 -2.2
baz=215
U57A Blanch 24.78 26 P P 09 29 40.0 -1.4
baz=212,SNR=14
T55A Pulaski 24.78 23 P P 09 29 40.2 -1.4
baz=208
T25A Trinidad 24.79 337 P P 09 29 44.2 +2.4
baz=151,SNR=12
T25A Trinidad 24.79 337 P P 09 29 43.9 +2.0
T25A IAmb IAmb 09 30 01.9
comp=Z,25nm,0.8s
S53A Williamson 24.81 20 P P 09 29 40.0 -1.8
baz=204,SNR=12
P40A Paris 24.84 1 P P 09 29 41.1 -1.0
CBKS Cedar Bluff 24.93 347 P P 09 29 42.0 -0.9
baz=163
T56A Rocky Mt 25.00 24 P P 09 29 41.8 -1.7
baz=209
BLA Blacksburg 25.00 24 P P 09 29 42.1 -1.5
baz=208
BLO Bloomington 25.06 11 P P 09 29 42.3 -1.8
BLO IAmb IAmb 09 29 44.9
comp=Z,19nm,0.7s
U58A Oxford 25.09 28 P P 09 29 42.3 -2.1
baz=213
S54A Dingess, Beckl 25.20 21 P P 09 29 43.5 -1.9
baz=206
S54A Dingess, Beckl 25.20 21 P P 09 29 43.5 -1.9
VWCC Virginia Weste 25.21 24 P P 09 29 43.7 -1.8
T57A Hurt 25.29 26 P P 09 29 44.5 -1.7
baz=211
T57A Hurt 25.29 26 P P 09 29 44.1 -2.1
P46A Rosedale 25.38 10 P P 09 29 43.6 -3.3
R53A Hurricane 25.46 20 P P 09 29 46.5 -1.2
baz=204
S55A Lewisburg 25.47 23 P P 09 29 45.9 -1.9
baz=208
T58A Grand View Acr 25.56 27 P P 09 29 46.6 -1.9
baz=213
P48A Milroy 25.56 13 P P 09 29 46.1 -2.5
P48A IAmb IAmb 09 30 06.7
comp=Z,18nm,0.8s
SJG San Juan 25.63 79 LR LR 09 39 40.4
comp=Z,52nm,19.0s,baz=232,slow=36
R54A Victor 25.65 22 P P 09 29 47.9 -1.5
baz=206
Q51A Peebles 25.67 17 P P 09 29 46.7 -2.9
Q51A IAmb IAmb 09 30 07.6
comp=Z,26nm,0.7s
SDCO Great Sand Dun 25.73 336 P P 09 29 52.2 +1.7
S56A Natural Bridge 25.75 24 P P 09 29 48.6 -1.7
baz=210
ATAH Atahualpa 25.79 146 P P 09 29 51.9 +0.5
comp=Z,16nm,0.8s,baz=343,slow=9.0,SNR=9.2
P49A Miami Univ. Ec 25.80 14 P P 09 29 48.9 -1.8
baz=197
P49A Miami Univ. Ec 25.80 14 P P 09 29 48.8 -2.0
P49A IAmb IAmb 09 30 08.2
comp=Z,22nm,1.0s
U60A Pendleton 25.80 30 P P 09 29 48.6 -2.1
baz=216
Q52A Bidwell 25.93 19 P P 09 29 50.4 -1.6
baz=203
T59A Double "B" Far 26.02 28 P P 09 29 50.8 -2.0
baz=215
T59A Double "B" Far 26.02 28 P P 09 29 50.9 -1.8
T59A IAmb IAmb 09 30 10.7
comp=Z,19nm,1.1s
R55A Marlinton 26.06 23 P P 09 29 51.6 -1.6
baz=208
R55A Marlinton 26.06 23 P P 09 29 52.4 -0.8
S57A Dark Hollow, R 26.07 25 P P 09 29 51.5 -1.6
baz=211
Q53A Leroy 26.07 20 P P 09 29 51.6 -1.6
baz=205
SFIN Lafayette 26.14 10 P P 09 29 52.0 -1.7
baz=192
SFIN Lafayette 26.14 10 P P 09 29 52.4 -1.4
P51A Williamsport 26.18 17 P P 09 29 53.0 -1.1
baz=201
P51A Williamsport 26.18 17 P P 09 29 52.9 -1.3
P51A IAmb IAmb 09 29 55.8
comp=Z,22nm,0.8s
S22A 4UR Ranch, Cre 26.28 334 P P 09 29 57.6 +2.1
baz=147,SNR=7.8
S22A 4UR Ranch, Cre 26.28 334 P P 09 29 56.9 +1.4
S58A Poland Farm, P 26.32 27 P P 09 29 53.7 -1.8
baz=213
S58A Poland Farm, P 26.32 27 P P 09 29 52.1 -3.4
Q54A Coxs Mills 26.42 21 P P 09 29 54.8 -1.6
baz=206
Q54A Coxs Mills 26.42 21 P P 09 29 52.5 -3.8
R56A Bull Pasture M 26.44 24 P P 09 29 55.5 -1.2
baz=209
Q49A Covington 26.51 14 P P 09 29 54.3 -2.8
Q49A IAmb IAmb 09 29 56.4
comp=Z,21nm,1.1s
MVCO Mesa Verde 26.59 331 P P 09 30 00.7 +2.5
baz=143,SNR=18
MVCO Mesa Verde 26.59 331 P P 09 30 00.3 +2.1
Q24A Divide 26.67 338 P P 09 29 58.2 -0.8
baz=152
P53A Whipple 26.69 20 P P 09 29 57.1 -1.7
baz=204
R58B Mineral 26.69 27 P P 09 29 57.0 -1.8
baz=213
R58B Mineral 26.69 27 P P 09 29 55.7 -3.1
Q55A Buckhannon 26.70 22 P P 09 29 56.7 -2.2
baz=207
R57A Stanardsville 26.70 25 P P 09 29 56.7 -2.2
baz=211
S59A Mechanicsville 26.78 28 P P 09 29 57.8 -1.8
baz=214
R58A Rapidan 26.92 26 P P 09 29 59.1 -1.8
baz=212
Q56A Snyder Ridge, 27.07 23 P P 09 30 01.3 -1.0
baz=209
Q56A Snyder Ridge, 27.07 23 P P 09 29 59.8 -2.5

P54A Burton 27.10 21 P P 09 30 00.9 -1.6
baz=206
CBN Corbin Frederi 27.11 27 P P 09 30 01.2 -1.3
baz=214
O52A Adamsville 27.12 18 P P 09 30 01.2 -1.4
baz=203
O52A Adamsville 27.12 18 P P 09 30 00.7 -1.9
O52A IAmb IAmb 09 30 05.1
comp=Z,18nm,0.8s
R59A King George, V 27.22 27 P P 09 30 01.9 -1.7
baz=214
PV01 Paradox Valley 27.37 332 P P 09 30 02.2 -3.0
Q57A Strasburg 27.38 25 P P 09 30 03.4 -1.6
baz=211
PV13 Radium Mtn., P 27.50 332 P P 09 30 08.6 +2.2
PV13 IAmb IAmb 09 30 26.4
comp=Z,33nm,1.1s
PV02 Paradox Valley 27.51 332 P P 09 30 04.6 -1.8
PV02 IAmb IAmb 09 30 26.6
comp=Z,41nm,1.3s
PV05 Paradox Valley 27.57 331 P P 09 30 07.6 +0.6
PV03 Paradox Valley 27.59 332 P P 09 30 09.3 +2.1
PV03 IAmb IAmb 09 30 27.1
comp=Z,29nm,1.1s
P56A Dayton Farm, R 27.61 23 P P 09 30 05.2 -1.9
baz=209
PV18 Skein Mesa, Pa 27.62 332 P P 09 30 09.5 +2.1
PV18 IAmb IAmb 09 30 27.2
comp=Z,32nm,1.1s
PV12 Saucer Basin, 27.62 332 P P 09 30 09.8 +2.4
PV11 David Mesa, Pa 27.64 332 P P 09 30 09.8 +2.2
O54A Avella 27.65 20 P P 09 30 05.6 -1.8
baz=206
O54A Avella 27.65 20 P P 09 30 05.1 -2.3
PV07 Paradox Valley 27.65 332 P P 09 30 10.1 +2.4
PV07 IAmb IAmb 09 30 27.7
comp=Z,18nm,0.9s
PV17 East Wray Mesa 27.67 332 P P 09 30 07.9 +0.1
PV17 IAmb IAmb 09 30 27.6
comp=Z,30nm,0.9s
PV16 Nyswonger Mesa 27.67 332 P P 09 30 10.0 +2.1
PV16 IAmb IAmb 09 30 27.7
comp=Z,37nm,1.2s
PV20 West Nyswonger 27.72 332 P P 09 30 09.8 +1.5
PV20 IAmb IAmb 09 30 28.0
comp=Z,25nm,1.1s
PV04 Paradox Valley 27.73 332 P P 09 30 09.2 +0.8
PV04 IAmb IAmb 09 30 28.3
comp=Z,30nm,1.0s
PV14 Lion Creek, Pa 27.77 332 P P 09 30 10.8 +2.1
PV14 IAmb IAmb 09 30 28.5
comp=Z,29nm,1.1s
PV22 Blue Mesa, Par 27.80 332 P P 09 30 11.8 +2.8
PV22 IAmb IAmb 09 30 29.8
comp=Z,17nm,0.9s
N52A McGinn's Farm, 27.80 18 P P 09 30 07.0 -1.8
baz=203
PV23 Carpenter Ridg 27.83 332 P P 09 30 10.7 +1.3
PV21 Cone Mtn., Par 27.90 332 P P 09 30 08.3 -1.7
P57A Homestead Farm 27.92 25 P P 09 30 08.3 -1.5
baz=211
P57A Homestead Farm 27.92 25 P P 09 30 06.4 -3.3
P57A IAmb IAmb 09 30 09.4
comp=Z,10.0nm,0.7s
O55A Ligonier 28.05 22 P P 09 30 09.5 -1.5
baz=208
N53A Lisbon 28.06 19 P P 09 30 09.6 -1.5
baz=204
BC3 Big Chuckawall 28.07 317 P P 09 30 12.3 +1.0
baz=127
L48A N Adams 28.16 13 P P 09 30 08.9 -3.0
JFWS Jewell Farm 28.29 4 P P 09 30 12.3 -0.8
baz=184
N54A Moraine State 28.48 20 P P 09 30 13.5 -1.3
baz=206
N55A Marion Center 28.67 22 P P 09 30 14.9 -1.6
baz=208
P59A Jarrettsville 28.69 27 P P 09 30 15.0 -1.6
baz=214
O57A Amberson 28.69 24 P P 09 30 14.7 -1.9
baz=211
O58A Lewisberry 28.91 25 P P 09 30 16.4 -2.2
baz=212
SSPA Standing Stone 28.95 24 P P 09 30 17.2 -1.8
baz=210
SRU San Rafael Swe 29.07 331 P P 09 30 18.0 -2.2
ECSD EROS Data Cent 29.24 354 P P 09 30 20.7 -0.8
baz=172
P17A Butcher Ranch, 29.45 331 P P 09 30 21.6 -2.0
M56A Emporium 29.58 22 P P 09 30 22.5 -2.1
baz=209
CZSB Cruzeiro do Su 29.70 137 eP P 09 30 27.5 +1.7
M57A Sunshine Farm, 29.85 24 P P 09 30 25.4 -1.5
baz=211
O61A Allentown 29.92 28 P P 09 30 26.9 -0.7
baz=217
N59A State Game Lan 30.05 26 P P 09 30 27.5 -1.2
baz=214
M58A Price's Panora 30.14 25 P P 09 30 27.7 -1.8
baz=212
L56A Greenwood 30.37 22 P P 09 30 30.0 -1.6
baz=209
SPMN Marine on St. 30.53 360 P P 09 30 32.0 -0.9
baz=179
SPMN Marine on St. 30.53 360 P P 09 30 30.8 -2.1
SPMN IAmb IAmb 09 30 58.6
comp=Z,21nm,1.4s
NNA Nana 30.69 149 LR LR 09 40 59.7
comp=Z,38nm,19.4s,baz=308,slow=32
K55A Perry 30.71 21 P P 09 30 32.9 -1.6
baz=208
M59A Waymart 30.71 26 P P 09 30 32.9 -1.6
baz=214
GLMI Grayling 30.89 11 P P 09 30 34.7 -1.3
baz=195
K56A Middlesex 30.95 22 P P 09 30 34.8 -1.8
baz=209
L58A Harry Jones Me 30.96 25 P P 09 30 34.7 -2.1
baz=212
BINY Binghamton 31.03 24 P P 09 30 35.3 -2.0
baz=212
L59A Walton 31.41 26 P P 09 30 39.1 -1.7
baz=214
J56A Wolcott 31.62 22 P P 09 30 40.5 -2.0
baz=210
PDAR Pinedale Array 31.63 336 P P 09 30 42.9 0.0
comp=Z,0.6nm,0.8s,baz=145,slow=5.4,SNR=5.6
PDAR pP pP 09 30 59.5 -0.2
comp=Z,1.0nm,0.7s,baz=134,slow=13,SNR=6.7
PDAR PcP PcP 09 33 35.0 +1.4
comp=Z,0.4nm,0.5s,baz=143,slow=5.2,SNR=5.7
PDAR LR LR 09 46 16.7
comp=Z,23nm,21.6s,baz=147,slow=41
PDAR Pinedale Array 31.63 336 P P 09 30 42.2 -0.7
K58A Earlville 31.64 24 P P 09 30 40.9 -1.8
baz=212
K58A Earlville 31.64 24 P P 09 30 40.7 -2.1
BGU Big Grassy Mou 31.68 330 P P 09 30 39.0 -4.3
H53A Bobcaygeon 32.17 19 P P 09 30 45.2 -2.1
baz=206
SADO Sadowa 32.18 18 P P 09 30 44.8 -2.6
comp=Z,4.2nm,0.5s,baz=223,slow=9.1,SNR=4.9
SADO pP pP 09 31 03.1 -1.1
comp=Z,9.9nm,0.9s,baz=267,slow=15,SNR=3.3
SADO Sadowa 32.18 18 P P 09 30 42.9 -4.5
J58A Remsen 32.29 24 P P 09 30 46.1 -2.3
baz=212
K61A Williamstown 32.56 27 P P 09 30 49.4 -1.4
baz=216
REDW Red Top Meadow 32.65 335 P P 09 30 52.6 +0.7
ELK Elko 32.67 327 P P 09 30 54.7 +2.7
I58A Old Forge 32.69 24 P P 09 30 49.8 -2.1
baz=212,SNR=5.5
SNOW Snow King Moun 32.69 335 P P 09 30 53.6 +1.4
NV11 Mina Array Sit 32.74 321 P P 09 30 50.8 -1.8
NV11 IAmb IAmb 09 31 14.3
comp=Z,8.2nm,0.9s
LOHW Long Hollow 32.76 336 P P 09 30 54.1 +1.3
LOHW IAmb IAmb 09 31 11.8
comp=Z,14nm,1.3s
TPAW Teton Pass 32.80 335 P P 09 30 54.0 +0.8
TPAW IAmb IAmb 09 31 13.1
comp=Z,21nm,1.4s
NVAR Mina Array Bea 32.83 321 P P 09 30 55.4 +1.9
comp=Z,2.7nm,0.7s,baz=132,slow=8.5,SNR=28
NVAR pP pP 09 31 11.7 +1.4
comp=Z,5.6nm,0.7s,baz=131,slow=8.8,SNR=9.7
NVAR PcP PcP 09 33 38.4 +1.4
comp=Z,1.7nm,0.8s,baz=137,slow=3.6,SNR=5.7
NVAR ScP ScP 09 37 21.6 +6.5
comp=Z,1.0nm,0.8s,baz=137,slow=3.3,SNR=6.5
NVAR LR LR 09 46 00.0
comp=Z,60nm,19.1s,baz=138,slow=40
NVAR Mina Array Bea 32.83 321 P P 09 30 54.9 +1.4
LHV Little Huntoon 32.84 321 P P 09 30 54.1 +0.9
LHV IAmb IAmb 09 31 15.4
comp=Z,7.5nm,0.8s
FXWY Fox Creek 32.95 335 P P 09 30 53.6 -0.9
KVN Kaiserville 33.11 322 P P 09 30 57.3 +1.4
IMW Indian Meadow 33.13 335 P P 09 30 57.6 +1.5
ALGO Algonquin Park 33.58 18 P P 09 30 57.4 -2.2
baz=206
H58A Gabriels 33.61 24 P P 09 30 57.5 -2.4
baz=213
LONY Lake Ozonia 33.62 24 P P 09 30 57.9 -2.1
baz=212
YERR Yerington 33.75 321 P P 09 30 59.9 -1.6
YERR IAmb IAmb 09 31 23.5
comp=Z,12nm,1.4s
YMR Madison River 33.78 336 P P 09 30 59.9 -1.7
H59A Cadyville 33.99 24 P P 09 31 01.0 -2.2
baz=214
HLID Hailey 34.37 331 P P 09 31 08.6 +1.9
baz=140,SNR=9.7
HLID Hailey 34.37 331 P P 09 31 06.6 0.0
HLID IAmb IAmb 09 31 26.5
comp=Z,9.6nm,1.2s
MCMT McKenzie Canyo 34.68 334 P P 09 31 11.4 +2.0
MFID Camas Ranch 34.93 330 P P 09 31 09.0 -2.4
MFID IAmb IAmb 09 31 32.7
comp=Z,8.8nm,1.1s
E56A St. Veronique 35.09 21 P P 09 31 10.4 -2.3
baz=210
E57A Chemin Saint G 35.30 22 P P 09 31 12.8 -1.7
baz=212
D55A Sainte-Anne-du 35.35 20 P P 09 31 12.8 -2.1
baz=209
E58A La Victoria 35.59 23 P P 09 31 14.4 -2.6
baz=213
ULM Lac du Bonnet 35.66 356 LR LR 09 47 26.4
comp=Z,58nm,19.5s,baz=50,slow=39
ETMB Extrema 35.69 131 eP P 09 31 18.8 +0.7
F60A Warwick 35.78 25 P P 09 31 16.4 -2.2
baz=215
D57A Chemin Vers le 35.91 22 P P 09 31 17.7 -2.0
baz=212
J08A Circle Bar Ran 36.22 327 P P 09 31 25.1 +2.6
MOD Modoc Plateau 36.23 324 P P 09 31 24.6 +1.9
PLID Pearl Lake 36.27 332 P P 09 31 24.4 +1.4
PLID IAmb IAmb 09 31 41.7
comp=Z,12nm,1.0s
E60A Ste Agathe de 36.31 25 P P 09 31 20.4 -2.7
baz=216
D58A Chemin du LacG 36.34 23 P P 09 31 21.1 -2.3
baz=213
PKME Peaks-Kenny Pk 36.38 28 P P 09 31 21.7 -2.0
baz=220
LATQ La Tuque 36.62 23 P P 09 31 23.7 -2.0
baz=213
LSQQ Lebel-sur-Quev 36.69 17 P P 09 31 24.3 -2.0
baz=206
BMO Blue Mountains 36.70 330 P P 09 31 23.8 -2.9
E61A Lac Etchemin 36.76 26 P P 09 31 25.9 -1.0
baz=217
MATQ Matagami 37.14 16 P P 09 31 27.8 -2.3
baz=204
I07A Izee 37.26 327 P P 09 31 31.4 +0.1
SAML Samuel 37.41 127 P P 09 31 30.6 -2.2
SAML IAmb IAmb 09 31 33.0
comp=Z,12nm,0.8s
SAML Samuel 37.41 127 eP P 09 31 31.9 -0.9
D61A St Aubert, Com 37.50 25 P P 09 31 31.6 -1.5
baz=217
F10A Beach Ranch, E 37.50 332 P P 09 31 33.0 -0.4
YBH Yreka Blue Hor 37.53 322 P P 09 31 34.2 +0.5
comp=Z,0.4nm,0.4s,baz=142,slow=6.7,SNR=2.5
YBH pP pP 09 31 50.6 -0.2
comp=Z,0.9nm,0.6s,baz=166,slow=6.8,SNR=4.3
YBH Yreka Blue Hor 37.53 322 P P 09 31 32.1 -1.6
PINE Pine Mountain 37.83 326 P P 09 31 36.2 0.0
G08A Pilot Rock 37.83 329 P P 09 31 37.2 +1.0
D62A Allapoint, All 37.88 26 P P 09 31 34.5 -1.9
baz=219
D62A Allapoint, All 37.88 26 P P 09 31 34.7 -1.8
D62A IAmb IAmb 09 31 37.1
comp=Z,6.2nm,0.6s
D63A Stockholm 38.26 27 P P 09 31 37.8 -1.8
baz=220
E09A Wood Farm, Sta 38.33 331 P P 09 31 40.2 0.0
E09A IAmb IAmb 09 31 43.5
comp=Z,5.1nm,0.7s
I05D Terrebonne, OR 38.40 326 P P 09 31 42.6 +1.7
baz=131
G05D Wamic, OR 38.99 327 P P 09 31 48.6 +2.8
baz=132
LPAZ La Paz 39.08 141 P P 09 31 47.5 0.0
comp=Z,3.4nm,0.7s,baz=336,slow=7.9,SNR=17
LPAZ pP pP 09 32 04.7 +0.1
comp=Z,1.4nm,0.5s,baz=265,slow=2.8,SNR=3.5
LPAZ LR LR 09 47 28.3
comp=Z,37nm,21.3s,baz=349,slow=35
LPAZ La Paz 39.08 141 P P 09 31 44.4 -3.1
LPAZ La Paz 39.08 141 eP P 09 31 48.1 +0.7
H04A Detroit Lake 39.09 326 P P 09 31 43.5 -3.1
NEW Newport 39.20 334 P P 09 31 49.2 +1.7
baz=140
F05D White Salmon 39.50 328 P P 09 31 52.2 +2.1
baz=132
PB16 IPOC Station P 39.87 144 P P 09 31 53.3 -0.8
PB16 IAmb IAmb 09 31 57.3
comp=Z,7.9nm,0.8s
LTY Liberty 40.06 330 P P 09 31 52.3 -2.4
LTY IAmb IAmb 09 32 13.7
comp=Z,16nm,1.4s
LON Longmire 40.27 329 P P 09 31 57.5 +1.0
LON IAmb IAmb 09 32 02.5
comp=Z,5.7nm,0.8s
MNMC Minye Minye 40.46 145 P P 09 31 55.3 -3.3
PB11 IPOC Station P 40.94 146 P P 09 31 58.9 -3.4
D04E Lakebay 41.05 329 P P 09 32 04.4 +1.7
baz=132
GO01 Chusmiza 41.12 145 P P 09 32 00.8 -3.4
GO01 IAmb IAmb 09 32 06.9
comp=Z,10nm,0.7s
D03D Eldon 41.44 329 P P 09 32 07.1 +1.1
baz=132
B05A Bryant 41.45 330 P P 09 32 07.1 +1.1
baz=134
PB08 IPOC Station P 41.52 146 P P 09 32 05.1 -2.3
PB08 IAmb IAmb 09 32 09.8
comp=Z,8.4nm,0.8s
A04D Lummi Island 42.06 330 P P 09 32 12.2 +1.2
baz=133,SNR=6.3
PB01 IPOC Station P 42.08 147 P P 09 32 07.6 -3.9
VILB Vilhena 42.19 129 eP P 09 32 12.3 -0.1
PGC Sidney 42.38 330 P P 09 32 09.9 -3.7
PGC IAmb IAmb 09 32 16.1
comp=Z,8.0nm,0.8s
NPGB Novo Progresso 42.76 118 eP P 09 32 15.4 -1.8
PB09 IPOC Station P 42.83 147 P P 09 32 15.7 -2.0
PB09 IAmb IAmb 09 32 20.2
comp=Z,19nm,1.1s
SIV San Ignacio 43.53 133 P P 09 32 23.2 -0.1
comp=Z,9.1nm,0.7s,baz=317,slow=7.6,SNR=54
SIV pP pP 09 32 41.9 +1.2
comp=Z,14nm,0.7s,baz=318,slow=8.8,SNR=18
SIV PcP PcP 09 34 10.4 +0.2
comp=Z,3.1nm,0.8s,baz=310,slow=5.4,SNR=3.2
LVC Limon Verde 43.67 147 P P 09 32 24.9 +0.2
comp=Z,4.7nm,0.7s,baz=298,slow=6.1,SNR=5.8
LVC Limon Verde 43.67 147 P P 09 32 19.8 -4.9
LVC Limon Verde 43.67 147 eP P 09 32 26.6 +1.9
CLDB Colider 44.41 123 eP P 09 32 28.1 -2.3
PTLB Pontes e Lacer 44.57 131 eP P 09 32 31.1 -0.5
SCHQ Schefferville 44.88 21 LR LR 09 52 04.4
comp=Z,131nm,20.8s,baz=279,slow=37
AC02 Maricunga 47.09 151 P P 09 32 50.2 -1.7
AC02 IAmb IAmb 09 32 54.7
comp=Z,13nm,1.1s
CO02 Combarbal 50.05 156 P P 09 33 10.8 -3.3
YKA Yellowknife Ar 50.31 347 P P 09 33 14.9 -0.6
comp=Z,4.0nm,0.7s,baz=145,slow=7.4,SNR=13
YKA pP pP 09 33 32.2 -1.1
comp=Z,2.4nm,0.7s,baz=141,slow=7.9,SNR=5.3
ARAG Araguaiana, MT 50.33 125 eP P 09 33 15.7 -0.6
DLBC Dease Lake 51.87 336 P P 09 33 26.0 -1.3
DLBC IAmb IAmb 09 33 30.9
comp=Z,10nm,1.0s
CPUP Villa Florida 53.23 140 P P 09 33 36.6 -1.1
comp=Z,4.0nm,0.9s,baz=330,slow=7.5,SNR=6.8
CPUP pP pP 09 33 53.9 -1.8
comp=Z,2.1nm,0.7s,baz=310,slow=8.3,SNR=2.2
CPUP LR LR 09 55 24.4
comp=Z,55nm,18.5s,baz=5.0,slow=35
CPUP Villa Florida 53.23 140 P P 09 33 35.1 -2.6
CPUP IAmb IAmb 09 33 57.8
comp=Z,5.2nm,1.0s
BDFB Brasilia 53.35 123 P P 09 33 38.5 -0.5
comp=Z,5.5nm,0.7s,baz=290,slow=3.9,SNR=6.1
BDFB Brasilia 53.35 123 P P 09 33 34.8 -4.2
BDFB IAmb IAmb 09 33 41.3
comp=Z,7.7nm,0.9s
BI02 San Fabin de 54.82 159 P P 09 33 45.4 -3.8
PLCA Paso Flores 58.73 160 P P 09 34 17.7 +0.8
comp=Z,6.3nm,0.9s,baz=336,slow=7.6,SNR=14
PLCA LR LR 09 53 34.6
comp=Z,39nm,21.8s,baz=334,slow=30
PLCA Paso Flores 58.73 160 P P 09 34 10.6 -6.4
PLCA Paso Flores 58.73 160 eP P 09 34 17.8 +0.8
MCARA McCarthy VSAT 58.90 334 P P 09 34 17.8 +0.1
DAWY Dawson 58.90 338 P P 09 34 14.4 -3.4
BCAR Beaver Creek A 59.25 336 P P 09 34 21.0 +0.7
GLB Gilahina Butte 59.26 334 P P 09 34 20.4 +0.1
N25K Chitina, Valde 59.67 334 P P 09 34 25.1 +2.0
baz=118
LL01 San Ignacio de 59.67 163 P P 09 34 21.4 -1.8
INK Inuvik 59.70 344 P P 09 34 23.2 +0.1
comp=Z,5.7nm,0.5s,baz=117,slow=5.6,SNR=16
INK Inuvik 59.70 344 P P 09 34 19.4 -3.8
K27K Chicken 59.87 337 P P 09 34 26.0 +1.6
baz=122
KLU Klutina 60.18 334 P P 09 34 28.1 +1.4
DOT Dot Lake 60.44 336 P P 09 34 27.6 -0.7
DOT IAmb IAmb 09 34 30.6
comp=Z,7.3nm,1.0s
SCRK Sand Creek 60.57 337 P P 09 34 31.1 +1.8
baz=120
PAX Paxson 60.67 335 P P 09 34 27.5 -2.5
PAX IAmb IAmb 09 34 50.1
comp=Z,9.6nm,1.2s
RIDG Independent Ri 60.78 336 P P 09 34 30.6 -0.1
RIDG IAmb IAmb 09 34 51.7
comp=Z,7.9nm,1.0s
GHO Glory Hole Cre 61.60 333 P P 09 34 34.7 -1.5
PMR Palmer 61.61 333 P P 09 34 37.2 +0.9
PMR IAmb IAmb 09 34 56.4
comp=Z,9.0nm,1.0s
RC01 Rabbit Creek A 61.69 332 P P 09 34 38.6 +1.9
baz=112
BRLK Bradley Lake 61.73 331 P P 09 34 38.8 +1.7
HDA Harding Lake 61.91 336 P P 09 34 39.0 +0.8
baz=117,SNR=6.9
HDA Harding Lake 61.91 336 P P 09 34 37.8 -0.5
IL31 62.06 337 P P 09 34 40.1 +0.9
IL31 IAmb IAmb 09 34 41.5
comp=Z,8.7nm,1.1s
ILAR Eielson Array 62.06 337 P P 09 34 40.2 +1.0
comp=Z,3.3nm,0.6s,baz=126,slow=5.1,SNR=38
ILAR pP pP 09 34 58.8 +1.2
comp=Z,4.0nm,0.9s,baz=126,slow=4.9,SNR=8.2
ILAR LR LR 10 03 27.6
comp=Z,36nm,18.2s,baz=188,slow=38
ILAR Eielson Array 62.06 337 P P 09 34 39.1 -0.1
RND Reindeer 62.24 335 P P 09 34 39.8 -0.7
CCB Clear Creek Bu 62.35 336 P P 09 34 41.8 +0.7
MCK McKinley 62.41 335 P P 09 34 42.8 +1.2
baz=114
COLA College 62.47 337 P P 09 34 41.1 -0.9
COLA IAmb IAmb 09 34 46.6
comp=Z,5.5nm,0.8s
TCOL CIGO, UAF Yank 62.48 337 P P 09 34 42.4 +0.5
baz=116
BMAR Burnt Mountain 62.53 340 P P 09 34 42.7 +0.4
MDM Murphy Dome 62.65 337 P P 09 34 39.2 -4.0
SKT Skwentna 62.82 333 P P 09 34 40.9 -3.4
RSO Redoubt South 62.84 331 P P 09 34 42.4 -2.3
TRF Thorofare Moun 62.84 335 P P 09 34 43.4 -1.3
BPAW Bear Paw Mtn. 63.38 335 P P 09 34 46.8 -1.3
BPAW IAmb IAmb 09 34 49.7
comp=Z,7.0nm,0.9s
PPLA Purkeypile 63.43 334 P P 09 34 48.9 +0.3
MLY Manley 63.65 336 P P 09 34 50.7 +0.8
baz=113,SNR=14
TOLK Toolik Lake Re 64.76 340 P P 09 34 58.6 +1.5
baz=116
TOLK Toolik Lake Re 64.76 340 P P 09 34 56.2 -0.9
TOLK IAmb IAmb 09 34 59.0
comp=Z,7.0nm,0.7s
TTA Tatalina 65.10 333 P P 09 34 58.5 -0.9
TTA IAmb IAmb 09 35 00.7
comp=Z,6.4nm,0.8s
ESDC Sonseca Array 79.82 52 LR LR 10 05 52.7
comp=Z,29nm,22.0s,baz=215,slow=31
ARCES ARCESS Array B 85.76 18 P P 09 36 55.8 -1.7
comp=Z,2.8nm,0.9s,baz=284,slow=4.4,SNR=5.6
BFO Black Forest 86.34 41 P P 09 36 59.1 -1.7
PETK Petropavlovsk- 89.81 325 LR LR 10 17 46.5
comp=Z,18nm,18.2s,baz=71,slow=36
TORD Torodi Ar. Bea 90.82 76 LR LR 10 18 15.5
comp=Z,15nm,18.9s,baz=350,slow=36
KSRS Korea Array 115.71 325 PKP PKiKP 09 43 01.6 +0.6
comp=Z,0.8nm,0.6s,baz=356,slow=2.2,SNR=2.8
BOSA Boshof 121.15 115 PKP PKPdf 09 43 11.6 -0.2
comp=Z,1.3nm,0.6s,baz=290,slow=2.4,SNR=3.7
BOSA pPKP pPKPdf 09 43 32.6 +0.7
comp=Z,2.6nm,0.8s,baz=274,slow=4.6,SNR=2.3
LZH Lanzhou 127.24 343 ePKP PKPdf 09 43 22.0 -1.5
STKA Stephens Creek 127.82 241 PKP PKPdf 09 43 24.1 -0.3
comp=Z,3.1nm,0.7s,baz=28,slow=1.6,SNR=5.5
STKA pPKP pPKPdf 09 43 44.6 +0.1
comp=Z,4.5nm,0.7s,baz=104,slow=2.8,SNR=6.8
STKA Stephens Creek 127.82 241 PKiKP 09 43 25.4 +0.5
STKA pPKPdf 09 43 46.3 +1.8
WRA Warramunga Arr 134.95 256 PKhKP PKPpre 09 43 24.9
comp=Z,0.5nm,0.9s,baz=93,slow=2.8,SNR=2.9
WRA PKP PKPdf 09 43 39.0 +0.8
comp=Z,1.6nm,0.8s,baz=86,slow=2.1,SNR=16
WRA pPKP pPKPdf 09 43 58.6 +0.3
comp=Z,2.2nm,0.7s,baz=83,slow=2.0,SNR=8.6
WRA Warramunga Arr 134.95 256 PKPdf 09 43 37.3 -0.9
WRA pPKPdf 09 43 59.9 +1.6
ASAR Alice Springs 135.29 251 PKhKP PKPpre 09 43 26.5
comp=Z,0.2nm,0.3s,baz=93,slow=2.0,SNR=1.8
ASAR PKP PKPdf 09 43 39.8 +1.0
comp=Z,1.0nm,0.7s,baz=110,slow=1.5,SNR=9.6
ASAR pPKP pPKPdf 09 43 58.9 0.0
comp=Z,1.8nm,0.7s,baz=113,slow=1.6,SNR=8.4
ASAR Alice Springs 135.29 251 PKPdf 09 43 37.0 -1.7
ASAR pPKPdf 09 43 59.3 +0.4
CMAR Chiang Mai Arr 145.23 341 PKPbc PKPdf 09 43 57.5 +0.6
comp=Z,2.0nm,0.4s,baz=343,slow=3.6,SNR=13
CMAR pPKPbc pPKPab 09 44 15.3 -1.0
comp=Z,4.2nm,0.6s,baz=329,slow=5.3,SNR=4.0
CMAR Chiang Mai Arr 145.23 341 PKPbc 09 43 54.0 -2.5

ROM 08 09:28:04.8±0.1, 42°07.0N±0.01×12°17.7E±0.01, h9km±1km, ML0.9/2,1C, Error ellipse: s-maj=1.5km s-min=0.7km az=225.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ARRO	Arrone	0.12	181	P	Pg		09 28 07.6	-0.1
ARRO				S	Sg		09 28 10.9	+1.2
CESX	Cesi	0.17	236	P	Pg		09 28 09.4	+1.0
CESX				S	Sg		09 28 11.7	+0.8
CESX				AML	AML			
	comp=E,52μm,0.3s							
CESX				AML	AML			
	comp=N,66μm,1.6s							
MOMA	Monte Martano	0.18	304	P	Pg		09 28 09.2	+0.6
MOMA				S	Sg		09 28 12.2	+1.0
MOMA				AML	AML			
	comp=E,57μm,0.2s							
MOMA				AML	AML			
	comp=N,60μm,0.9s							
MOMA				AML	AML			
	comp=E,57μm,0.2s							

LNSS	**Leonessa**	**0.23**	**117**	P	Pg	09 28 10.3	+0.8
NRCA	**Norcia**	**0.29**	**63**	P	Pg	09 28 11.3	+0.7
NRCA				S	Sb	09 28 16.1	-1.0
CESI	**CESI - Serrava**	**0.32**	**19**	P	Pg	09 28 11.9	+0.7
CESI				S	Sb	09 28 17.1	-0.9
TOLF	**Tolfa**	**0.86**	**222**	⇑P	Pg	09 28 19.6	-1.7

IDC 08 09:33:15.8±46.0, 16°44S×174°21W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/24, mbtmp3.8/3, Error ellipse: s-maj=877.3km s-min=177.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.85**	**241**	P	P	09 41 15.9	-0.1
	0.9nm,0.6s,baz=101,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**48.86**	**258**	P	P	09 42 03.3	-0.3
	0.3nm,0.5s,baz=94,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**49.06**	**253**	P	P	09 42 05.2	0.0
	1.6nm,0.5s,baz=88,slow=8.3,SNR=36						

*OSPL **08** 09:39:15.9±2.2, 19°.68N×68°.29W, h11km±19km, ML2.6*
*RSPR **08** 09:39:19.3, 18°.70N×68°.22W, h132km±1km, MD3.4/11*
*NEIC **08** 09:39:21.0±4.2, 18°.6N±0°.2×68°.21W±0°.04, h111km±10km, Error ellipse: s-maj=26.3km s-min=3.6km az=190.0*

ISC 08 09:39:20.1±1.6, 18°.5N±0°.1×68°.23W±0°.04, h128km±10km, n53, σ1°.03/65, 8C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.15**	**284**	⇑*e*P	**Pn**	**09 39 36.8**	**-0.8**
PCDR	**Punta Cana, DR**	**0.15**	**284**	*e*S	**Sn**	**09 39 51.2**	**+0.4**
PCDR	**Punta Cana, DR**	**0.15**	**284**		**Pn**	**09 39 36.6**	**-1.0**
PCDR					**Sn**	**09 39 50.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.15**	**284**	*i* P	**Pn**	**09 39 36.8**	**-0.8**
PCDR				*e*S	**Sn**	**09 39 50.9**	**+0.1**
PCDR				IAML		09 39 54.2	
	comp=Z,123nm,0.2s						
AGPR	**Aguadilla, PR**	**1.06**	**90**	⇓*e*P	**Pn**	**09 39 43.7**	**+0.3**
AGPR	**Aguadilla, PR**	**1.06**	**90**	*e*S	**Sn**	**09 40 01.3**	**+0.2**
AGPR	**Aguadilla, PR**	**1.06**	**90**		**Pn**	**09 39 43.3**	**-0.1**
AGPR					**Sn**	**09 40 00.9**	**-0.2**
AGPR	**Aguadilla, PR**	**1.06**	**90**	*i* P	**Pn**	**09 39 43.9**	**+0.5**
AGPR				*e*S	**Sn**	**09 40 03.2**	**+2.1**
AGPR				IAML		09 40 12.0	
	comp=Z,85nm,1.6s						
MPR	**Mayaguez**	**1.07**	**104**	*i* P	**Pn**	**09 39 43.7**	**+0.2**
MPR				IAML		09 40 09.9	
	comp=Z,24nm,0.7s						
LSP	**Las Mesas**	**1.12**	**105**	⇓*e*P	**Pn**	**09 39 43.8**	**-0.3**
LSP	**Las Mesas**	**1.12**	**105**	*e*S	**Sn**	**09 40 03.2**	**+0.9**
LSP	**Las Mesas**	**1.12**	**105**		**Pn**	**09 39 43.8**	**-0.3**
LSP					**Sn**	**09 40 03.2**	**+0.9**
DR12	**Loma Pena Alta**	**1.14**	**286**		**Pn**	**09 39 43.5**	**-0.8**
DR12				Sn	**Sn**	**09 40 01.5**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.16**	**114**	⇑*e*P	**Pn**	**09 39 43.2**	**-1.2**
CRPR	**Cabo Rojo, PR**	**1.16**	**114**	*e*S	**Sn**	**09 40 03.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.16**	**114**		**Pn**	**09 39 42.9**	**-1.6**
CRPR				Sn	**Sn**	**09 40 04.4**	**+1.5**
MLPR	**Magueyes Islan**	**1.23**	**114**	⇑*e*P	**Pn**	**09 39 43.8**	**-1.4**
MLPR	**Magueyes Islan**	**1.23**	**114**	*e*S	**Sn**	**09 40 05.4**	**+1.2**
MLPR	**Magueyes Islan**	**1.23**	**114**		**Pn**	**09 39 43.8**	**-1.4**
MLPR					**Sn**	**09 40 05.8**	**+1.7**
AOPR	**Arecibo Observ**	**1.40**	**95**	⇓*e*P	**Pn**	**09 39 46.9**	**-0.1**
AOPR	**Arecibo Observ**	**1.40**	**95**	*e*S	**Sn**	**09 40 08.3**	**+0.8**
AOPR	**Arecibo Observ**	**1.40**	**95**		**Pn**	**09 39 46.9**	**-0.1**
AOPR					**Sn**	**09 40 08.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.45**	**99**		**Pn**	**09 39 48.5**	**+1.0**
UUPR					**Sn**	**09 40 09.8**	**+1.5**
OBIP	**Obispado Ponce**	**1.60**	**105**	⇓*e*P	**Pn**	**09 39 48.5**	**-0.8**
OBIP	**Obispado Ponce**	**1.60**	**105**	*e*S	**Sn**	**09 40 12.8**	**+1.4**
OBIP	**Obispado Ponce**	**1.60**	**105**		**Pn**	**09 39 48.2**	**-1.1**
SDD	**Santo Domingo**	**1.60**	**270**	Pn	**Pn**	**09 39 48.9**	**-0.4**
SDD	**Santo Domingo**	**1.60**	**270**	*e*S	**Sn**	**09 40 10.5**	**-0.9**
EMPR	**Esperanza - Ma**	**1.61**	**90**	⇑*e*P	**Pn**	**09 39 49.4**	**+0.1**
EMPR	**Esperanza - Ma**	**1.61**	**90**	*e*S	**Sn**	**09 40 12.3**	**+0.7**
EMPR	**Esperanza - Ma**	**1.61**	**90**		**Pn**	**09 39 49.1**	**-0.2**
EMPR				Sn	**Sn**	**09 40 12.6**	**+0.9**
CELP	**Cerrillos**	**1.62**	**104**	⇑*e*P	**Pn**	**09 39 49.2**	**-0.2**
CELP	**Cerrillos**	**1.62**	**104**	*e*S	**Sn**	**09 40 13.2**	**+1.4**
CELP	**Cerrillos**	**1.62**	**104**		**Pn**	**09 39 49.2**	**-0.2**
CELP					**Sn**	**09 40 13.2**	**+1.4**
ICMP	**Isla Caja de M**	**1.72**	**110**	Pn	**Pn**	**09 39 49.2**	**-1.4**
IGPR	**InterUniversit**	**2.08**	**104**	⇓*e*P	**Pn**	**09 39 55.5**	**+0.5**
IGPR	**InterUniversit**	**2.08**	**104**	*e*S	**Sn**	**09 40 22.7**	**+1.1**
PDPR	**Patillas Dam,**	**2.14**	**102**	⇑*e*P	**Pn**	**09 39 56.2**	**+0.4**
PDPR	**Patillas Dam,**	**2.14**	**102**	*e*S	**Sn**	**09 40 23.1**	**0.0**
PDPR	**Patillas Dam,**	**2.14**	**102**		**Pn**	**09 39 56.0**	**+0.2**
CBYP	**Canovanas**	**2.26**	**95**	⇑*e*P	**Pn**	**09 39 56.2**	**-1.1**
CBYP	**Canovanas**	**2.26**	**95**	*e*S	**Sn**	**09 40 24.6**	**-1.1**
CBYP	**Canovanas**	**2.26**	**95**		**Pn**	**09 39 55.5**	**-1.8**
HUMP	**Col San Antoni**	**2.28**	**98**	⇓*e*P	**Pn**	**09 39 57.0**	**-0.5**
HUMP	**Col San Antoni**	**2.28**	**98**	*e*S	**Sn**	**09 40 25.1**	**-1.0**
HUMP	**Col San Antoni**	**2.28**	**98**		**Pn**	**09 39 56.7**	**-0.8**
MTP	**Monte Pirata**	**2.57**	**98**	⇑*e*P	**Pn**	**09 40 00.6**	**-0.5**
MTP	**Monte Pirata**	**2.57**	**98**	*e*S	**Sn**	**09 40 32.5**	**-0.1**
MTP	**Monte Pirata**	**2.57**	**98**		**Pn**	**09 40 00.3**	**-0.8**
CUPR	**Culebra, Puert**	**2.80**	**93**	⇓*e*P	**Pn**	**09 40 02.8**	**-1.3**
CUPR	**Culebra, Puert**	**2.80**	**93**	*e*S	**Sn**	**09 40 36.1**	**-1.8**
CUPR	**Culebra, Puert**	**2.80**	**93**		**Pn**	**09 40 03.0**	**-1.1**
SDDR	**Presa de Saban**	**2.94**	**280**	Pn	**Pn**	**09 40 08.4**	**+2.4**

*SOME **08** 09:39:56.9, 43°.73N×69°.68E*
*NNC **08** 09:39:57.9±2.8, 43°.67N×69°.65E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=23.3km s-min=7.8km az=122.0, Suspected Mining explosion.*

ISC 08 09:39:56.6±2.9, 43°.78N±0°.10×69°.5E±0°.2, h0km, n8, σ1°.26/10, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.80**	**160**	P	**Pb**	**09 40 14.2**	**+0.7**
	23nm,0.2s						
BRLS				S	**Sb**	**09 40 26.0**	**+1.2**
	38nm,0.5s						
IUG	**Iuzhnay**	**1.69**	**165**	P	**Pn**	**09 40 27.6**	**+0.2**
	20nm,0.3s						
IUG				S	**Sn**	**09 40 49.3**	**-0.6**
	68nm,0.4s						
MRKS	**Merke**	**2.94**	**109**	Pg	**Pb**	**09 40 48.7**	**-1.3**
	2.4nm,0.4s						
MRKS				Lg	Lg	09 41 26.7	
	14nm,0.4s						
BTLS	**Baital**	**3.52**	**68**	Pg	**Pb**	**09 41 00.8**	**+1.0**
	7.9nm,0.4s						
BTLS				Lg	Lg	09 41 47.3	
	4.0nm,0.4s						
KST	**Kastek**	**4.80**	**97**	Pg	**Pb**	**09 41 22.4**	**+0.7**
	3.0nm,0.4s						
KST				Lg	Lg	09 42 23.4	
	6.8nm,0.5s						
KUU	**Kurty**	**4.98**	**86**	Pg	**Pb**	**09 41 25.5**	**+0.9**
	1.5nm,0.4s						
KUU				Lg	Lg	09 42 29.6	
	9.5nm,0.5s						
IZV	**Izvestkoviy**	**5.27**	**96**	Pg	**Pb**	**09 41 31.2**	**+1.6**
	1.8nm,0.5s						
IZV				Lg	Lg	09 42 39.5	
	11nm,0.5s						
WMQ	**Urumqi**	**13.18**	**84**	*e*P	**P**	**09 43 13.8**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,44nm,3.9s						

WEL 08 10:01:09.1, 45°S±3°×16°8E±°, h11km±7km, M3.7/18, ML3.9/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=64.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.38**	**83**	P	Pb	10 01 17.9	+0.1
WHZ	**Wether Hill Ro**	**0.54**	**152**	P	Pb	10 01 21.2	+0.6
MSZ	**Milford Sound**	**0.78**	**18**	P	Pg	10 01 22.3	-1.8
PYZ	**Puysegur Point**	**0.98**	**220**	P	Pg	10 01 27.6	-0.4
WKZ	**Wanaka**	**1.17**	**60**	P	Pb	10 01 31.1	-0.3
APZ	**The Paps**	**1.45**	**169**	P	Pn	10 01 35.5	+0.3
TUZ	**Tuapeka**	**1.53**	**111**	P	Pb	10 01 37.6	+0.1
SYZ	**Scrubby Hill**	**1.56**	**137**	P	Pb	10 01 38.1	+0.1
JCZ	**Jackson Bay**	**1.59**	**33**	P	Pn	10 01 36.4	-0.9
LBZ	**Lake Benmore**	**2.12**	**62**	P	Pn	10 01 44.0	-0.4
HHSZ	**Highcliff Hill**	**2.17**	**104**	P	Pn	10 01 46.5	+1.4
ODZ	**Otahua Downs**	**2.19**	**81**	P	Pn	10 01 45.8	+0.3
FOZ	**Fox Glacier**	**2.47**	**41**	P	Pn	10 01 49.1	-0.1
GCSZ	**Gaunt Creek Bo**	**2.88**	**44**	P	Pn	10 01 54.2	-0.6
ARCZ	**Arundel**	**2.95**	**61**	P	Pn	10 01 54.5	-1.5
RPZ	**Rata Peaks**	**3.01**	**57**	P	Pn	10 01 55.3	-1.4
WVZ	**Waitaha Valley**	**3.26**	**45**	P	Pn	10 01 59.8	-0.2
WACZ	**Wakanui South**	**3.37**	**66**	P	Pn	10 02 00.4	-1.3
MHCZ	**Mount Hutt**	**3.42**	**58**	P	Pn	10 02 00.5	-1.8
OXZ	**Oxford**	**3.82**	**58**	P	Pn	10 02 05.5	-2.3
INZ	**Inchbonnie**	**3.87**	**47**	P	Pn	10 02 07.3	-1.2
MQZ	**McQueen's Vall**	**4.01**	**67**	P	Pn	10 02 08.8	-1.6
AKCZ	**Akaroa Harbour**	**4.10**	**70**	P	Pn	10 02 10.4	-1.3
LTZ	**Lake Taylor**	**4.28**	**54**	P	Pn	10 02 12.4	-1.9
DSZ	**Denniston Nort**	**4.78**	**41**	P	Pn	10 02 19.5	-1.5
THZ	**Tophouse**	**5.32**	**49**	P	Pn	10 02 26.5	-2.0
QRZ	**Quartz Range**	**5.84**	**40**	P	Pn	10 02 34.6	-1.0

IDC 08 10:07:02.4±2.6, 10°.46N×125°.17E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/40, mbtmp3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/27, Error ellipse: s-maj=201.3km s-min=28.1km az=65.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.53**	**163**	P	P	10 13 26.1	-0.4
	0.2nm,0.3s,baz=343,slow=10,SNR=5.8						
USRK	**Ussuriysk Ar.**	**34.13**	**9**	LR	LR	10 29 23.5	
	comp=Z,18nm,18.8s,baz=156,slow=39						
ASAR	**Alice Springs**	**34.98**	**166**	P	P	10 13 57.0	+0.3
	0.2nm,0.3s,baz=351,slow=7.5,SNR=5.4						
MKAR	**Makanchi Array**	**51.22**	**323**	P	P	10 16 07.7	-0.1
	0.9nm,0.8s,baz=107,slow=8.3,SNR=4.7						

TAP 08 10:08:34.9, 24°.85N×121°.82E, h69km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.01**	**51**	*e*P	Pn	10 08 45.2	+0.3
	baz=51						
TIPB	**Shuangxi**	**0.13**	**4**	P	Pn	10 08 45.5	+0.3
	baz=3.0						
TIPB				S	Sn	10 08 53.1	+0.4
	baz=3.0						
TWE	**Neicheng**	**0.18**	**228**	*e*P	Pn	10 08 45.8	+0.5
	baz=223						
TWB1	**Santiao Chiao**	**0.23**	**44**	*e*P	Pn	10 08 45.9	+0.3
	baz=45						
TWC	**Suao**	**0.24**	**173**	*e*P	Pn	10 08 45.6	0.0
	baz=170						
TWC				S	Sn	10 08 53.9	+0.5
	baz=170						
TWA	**Mucha**	**0.25**	**302**	*e*P	Pn	10 08 46.0	+0.2
	baz=303						
NWLT	**Wulai**	**0.29**	**257**	P	Pn	10 08 46.2	+0.2
	baz=256						
NWLT				S	Sn	10 08 54.6	+0.5
	baz=256						
ENTT	**Nioudou**	**0.31**	**228**	P	Pn	10 08 46.4	+0.3
	baz=226						
ENTT				*e*S	Sn	10 08 55.0	+0.7
	baz=226						
NDT	**Datong Townshi**	**0.37**	**229**	P	Pn	10 08 46.8	+0.3
	baz=228						
NDT				*e*S	Sn	10 08 55.8	+0.8
	baz=228						
ENA	**Nanau**	**0.42**	**189**	*e*P	Pn	10 08 47.6	+0.6
	baz=188						
ENA				S	Sn	10 08 56.5	+0.8
	baz=188						
YHNB	**Yeheng**	**0.44**	**247**	*e*P	Pn	10 08 47.3	+0.1
	baz=246						
YHNB				*e*S	Sn	10 08 56.5	+0.3
	baz=246						
NSK	**Sanguang**	**0.45**	**248**	P	Pn	10 08 47.5	+0.2
	baz=247						
NSK				*e*S	Sn	10 08 56.5	+0.2
	baz=247						
NNS	**Nan Shan**	**0.57**	**225**	P	Pn	10 08 48.9	+0.3
	baz=224						
NNS				*e*S	Sn	10 08 59.5	+1.0
	baz=224						
NNSB	**Datong**	**0.57**	**224**	P	Pn	10 08 48.8	+0.2
	baz=223						
NNSB				S	Sn	10 08 59.0	+0.5
	baz=223						
NNSH	**Datong**	**0.57**	**224**	*e*P	Pn	10 08 48.7	+0.2
	baz=223						
NNSH				*e*S	Sn	10 08 58.8	+0.2
	baz=223						
NACB	**Ninganchiao**	**0.70**	**197**	*e*P	Pn	10 08 50.4	+0.6
	baz=196						
LIOB	**Emei**	**0.76**	**255**	P	Pn	10 08 51.0	+0.6
	baz=254						
LIOB				*e*S	Sn	10 09 03.0	+1.2
	baz=254						
FUSS	**Fushou**	**0.79**	**221**	P	Pn	10 08 51.4	+0.3
	baz=221						
FUSS				*e*S	Sn	10 09 03.2	+0.2
	baz=221						
TDCB	**Techi**	**0.84**	**226**	*e*P	Pn	10 08 52.3	+0.7
	baz=225						
WHF	**Hehuan Shan**	**0.86**	**216**	*e*P	Pn	10 08 51.9	-0.2
	baz=215						
WHF				*e*S	Sn	10 09 04.4	-0.4
	baz=215						
WHP	**Taichung City**	**0.97**	**235**	*e*P	Pn	10 08 53.8	+0.7
	baz=234						
WHP				*e*S	Sn	10 09 07.8	+1.1
	baz=234						
CHGB	**Renai**	**0.98**	**217**	*e*P	Pn	10 08 53.4	+0.1
	baz=216						
CHGB				*e*S	Sn	10 09 06.7	-0.2
	baz=216						

WEL 08 10:09:01.3, 44°S±4°×17°0E±°, h15km±4km, M2.6/5, ML2.6/5, MLv2.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=94.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.47**	**128**	P	Pb	10 09 11.9	+0.5
LBZ				S	Sb	10 09 18.3	+0.1
FOZ	**Fox Glacier**	**0.57**	**11**	P	Pb	10 09 13.3	+0.3
FOZ				S	Sg	10 09 20.5	+0.2
JCZ	**Jackson Bay**	**0.64**	**272**	P	Pb	10 09 14.4	+0.2
WKZ	**Wanaka**	**0.87**	**212**	P	Pb	10 09 17.8	-0.3
GCSZ	**Gaunt Creek Bo**	**0.92**	**32**	P	Pn	10 09 21.1	+1.4
RPZ	**Rata Peaks**	**1.07**	**70**	P	Pg	10 09 22.9	+0.8
RPZ				S	Sg	10 09 36.2	+0.1
ARCZ	**Arundel**	**1.10**	**83**	P	Pg	10 09 23.5	+0.9
ODZ	**Otahua Downs**	**1.18**	**144**	P	Pg	10 09 24.2	+0.2
ODZ				S	Sb	10 09 38.8	+0.3
WVZ	**Waitaha Valley**	**1.28**	**38**	P	Pg	10 09 26.7	+0.7
WVZ				S	Sg	10 09 44.8	+2.0
MHCZ	**Mount Hutt**	**1.49**	**68**	P	Pg	10 09 30.1	+0.2
WACZ	**Wakanui South**	**1.57**	**85**	P	Pg	10 09 31.5	-0.1
MLZ	**Mavora Lakes**	**1.68**	**220**	P	Pb	10 09 32.6	+0.6
TUZ	**Tuapeka**	**1.86**	**181**	P	Pb	10 09 35.4	+0.4
SYZ	**Scrubby Hill**	**2.47**	**188**	P	Pb	10 09 44.5	-0.9

*IDC **08** 10:26:04.1±0.9, 3°.63N×82°.89W, h0km, mb3.7/10, mb1 4.1/15, mb1mx4.1/38, mbtmp4.0/15, ML3.5/5, MS4.1/25, Ms1 4.1/25, ms1mx4.0/35, Error ellipse: s-maj=27.7km s-min=14.8km az=59.0*
*NEIC **08** 10:26:06.6±3.0, 3°.53N±0°.07×82°.79W±0°.09, h10km±1km, mb4.7/128, Error ellipse: s-maj=16.8km s-min=9.6km az=242.0*
*GCMT **08** 10:26:08.6±0.3, 3°.55N±0°.01×82°.91W±0°.02, h16km±1km, MW4.8/92, Moment Tensor Solution. s18,c21; s92,c126; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.24±.08; Mθθ0.41±.08; Mϕϕ-0.16±.09; Mrθ-0.10±.23; Mθϕ2.23±.08; Mϕr0.5±.24; Best double couple: Mo2.33300×10¹⁶ NP1:ϕs93.00000°, δ75.00000°, λ-5.00000°. NP2: ϕs184.00000°, δ85.00000°, λ-165.00000°. Principal axes: T 2.4070, Plg7.0000°, Azm318.0000°; N -0.1500, Plg74.0000°, Azm203.0000°; P -2.2580, Plg14.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UPA **08** 10:26:13.1±0.6, 4°.30N×83°.10W, h10km±65km, MW4.9*

ISC 08 10:26:06.5±0.5, 3°.56N±0°.05×82°.71W±0°.07, h10km, n235, σ2°.13/202, mb4.7/67, MS4.1/23, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**4.19**	**26**	*e*P	**Pn**	**10 27 08.7**	**-1.8**
CACAO				*e*S	**Sn**	**10 27 54.4**	**-5.1**
GR1C	**Gorgona, Isla**	**4.56**	**97**	*e*P	**Pn**	**10 27 13.6**	**-2.1**
AZU	**Azuero**	**4.85**	**30**	*e*P	**Pn**	**10 27 18.9**	**-0.7**
AZU				*e*S	**Sn**	**10 28 11.0**	**-4.9**
CHIT3	**Chitre**	**4.93**	**27**	*e*P	**Pn**	**10 27 20.4**	**-0.3**
PAC1	**Pacto, Paraso**	**5.10**	**130**	*e*P	**Pn**	**10 27 22.2**	**-0.9**
BCO2	**Palmira**	**5.13**	**2**	*e*P	**Pn**	**10 27 20.3**	**-3.3**
BRU2	**Volcan**	**5.20**	**0**	*e*P	**Pn**	**10 27 21.2**	**-3.4**
BRU2				*e*S	Sn	10 28 16.4	-8.4
BC3P	**Paso Ancho**	**5.22**	**1**	*e*P	Pn	10 27 20.9	-4.1
CHGR2	**Aguacate**	**5.38**	**6**	*e*P	**Pn**	**10 27 23.8**	**-3.0**
OTAV	**Otavalo**	**5.38**	**128**	*e*P	**Pn**	**10 27 25.6**	**-1.6**
OTAV	**Otavalo**	**5.38**	**128**	Pn	**Pn**	**10 27 26.2**	**-1.1**
OTAV				Sn	**Sn**	**10 28 26.4**	**-3.2**
CUSE	**Cuicocha Este**	**5.38**	**127**	*e*P	**Pn**	**10 27 24.4**	**-2.9**
PNME	**Penonome**	**5.44**	**26**	*e*P	**Pn**	**10 27 28.1**	**+0.5**
CMBC	**Cumbal**	**5.53**	**118**	*e*P	**Pn**	**10 27 29.2**	**-0.1**
VTON	**El Valle, Cocl**	**5.64**	**27**	*e*P	**Pn**	**10 27 31.4**	**+0.8**
BBAC	**Balboa, Cauca**	**5.66**	**105**	*e*P	**Pn**	**10 27 31.1**	**+0.1**
GCUF	**Volcan Galeras**	**5.83**	**113**	*e*P	**Pn**	**10 27 34.4**	**+0.9**
SOLC	**Bahia Solano**	**5.91**	**63**	*e*P	**Pn**	**10 27 32.9**	**-1.2**
CHOR3	**La Chorrera**	**6.06**	**29**	*e*P	**Pn**	**10 27 37.1**	**+0.9**
CRUC	**La Cruz**	**6.08**	**109**	*e*P	**Pn**	**10 27 38.5**	**+1.7**
POPC	**Popayan, Colom**	**6.11**	**99**	*e*P	**Pn**	**10 27 38.0**	**+0.9**
UPA	**Univ. de Panam**	**6.24**	**30**	*e*P	**Pn**	**10 27 38.9**	**+0.2**
BCIP	**Isla Barro Col**	**6.26**	**27**	*e*P	**Pn**	**10 27 37.2**	**-1.7**
BCIP	**Isla Barro Col**	**6.26**	**27**	Pn	**Pn**	**10 27 39.4**	**+0.5**
YOTC	**Yotoco, Valle**	**6.36**	**86**	*e*P	**Pn**	**10 27 41.0**	**+0.5**
PCON	**Cinco Dias**	**6.42**	**101**	*e*P	**Pn**	**10 27 44.2**	**+2.6**
PLMC	**San Jos del P**	**6.54**	**78**	*e*P	**Pn**	**10 27 44.2**	**+1.3**
HDC	**Heredia**	**6.55**	**348**		**Pn**	**10 27 39.2**	**-3.5**
HDC				Sn	**Sn**	**10 28 58.4**	**+0.3**
CHPO	**Chepo, Panama**	**6.62**	**32**	*e*P	**Pn**	**10 27 44.8**	**+0.9**
MARP	**Paez Belalcaza**	**6.78**	**96**	*e*P	**Pn**	**10 27 48.9**	**+2.6**
UPD2	**Meteti**	**6.81**	**43**	*e*P	**Pn**	**10 27 49.5**	**+3.0**
PUAC	**Puerto Asis, P**	**6.82**	**116**	*e*P	**Pn**	**10 27 47.2**	**+0.5**
JTS	**Las Juntas de**	**7.05**	**342**	Pn	Pn	10 27 45.2	-4.7
	7.8nm,0.3s,baz=30,slow=14,SNR=49						
JTS				Sn	**Sn**	**10 29 05.2**	**-5.0**
	2.8nm,0.3s,baz=304,slow=21,SNR=5.7						
JTS	**Las Juntas de**	**7.05**	**342**	Pn	Pn	10 27 45.0	-4.9
JTS				Sn	**Sn**	**10 29 05.0**	**-5.2**
CBOC	**Ciudad Bolivar**	**7.05**	**71**	*e*P	**Pn**	**10 27 51.2**	**+1.2**
BETC	**Betania**	**7.30**	**97**	*e*P	Pn	10 27 47.0	-6.4
FLOC	**Florencia**	**7.31**	**105**	*e*P	**Pn**	**10 27 54.9**	**+1.4**
DBBC	**Dabeiba**	**7.33**	**62**	*e*P	**Pn**	**10 27 55.2**	**+1.6**
GARC	**Garzon, Huila**	**7.33**	**101**	*e*P	Pn	10 27 49.3	-4.6
CAPC	**Capurgana**	**7.33**	**46**	*e*P	**Pn**	**10 27 54.7**	**+1.0**
ANIL	**Santa Ana**	**7.34**	**82**	*e*P	**Pn**	**10 27 55.1**	**+0.9**
TOLC	**Tolima**	**7.44**	**82**	*e*P	**Pn**	**10 27 58.1**	**+2.6**
ORTC	**Ortega, Tolima**	**7.45**	**87**	*e*P	**Pn**	**10 27 59.0**	**+3.6**
RREF	**El Recreo**	**7.46**	**79**	*e*P	**Pn**	**10 27 53.9**	**-2.1**
GUY2C	**Guyana, Caldas**	**7.50**	**77**	*e*P	**Pn**	**10 27 59.3**	**+2.8**
PRAC	**Prado**	**7.80**	**89**	*e*P	**Pn**	**10 28 02.8**	**+2.5**
UREC	**San Jos de Ur**	**8.26**	**59**	*e*P	**Pn**	**10 28 09.2**	**+2.7**
ROSC	**El Rosal**	**8.46**	**81**	Pn	**Pn**	**10 28 11.4**	**+1.9**
	2.1nm,0.3s,baz=140,slow=23,SNR=5.4						
ROSC				LR	LR	10 31 26.7	
	comp=Z,986nm,20.4s,baz=286,slow=37						
ROSC	**El Rosal**	**8.46**	**81**	*e*P	**Pn**	**10 28 13.5**	**+3.9**
ROSC	**El Rosal**	**8.46**	**81**		**Pn**	**10 28 13.3**	**+3.7**
PTLC	**Puerto Leguiza**	**8.59**	**113**	*e*P	**Pn**	**10 28 13.1**	**+2.1**
MOTC	**Monteria, Cord**	**8.71**	**53**	*e*P	**Pn**	**10 28 15.3**	**+2.6**
ZARC	**Zaragoza, Cauc**	**8.73**	**63**	*e*P	**Pn**	**10 28 15.6**	**+2.6**
PTBC	**PUERTO BERRIO,**	**8.73**	**70**	*e*P	**Pn**	**10 28 16.1**	**+3.1**
SPBC	**San Pablo de B**	**8.85**	**76**	*e*P	**Pn**	**10 28 18.4**	**+3.7**
MACC	**Macarena, Meta**	**8.96**	**99**	*e*P	**Pn**	**10 28 16.4**	**+0.4**
VILC	**Villavicencio,**	**9.01**	**86**	*e*P	Pn	10 28 23.2	+6.4
CHIC	**Chingaza**	**9.01**	**83**	*e*P	**Pn**	**10 28 20.9**	**+3.8**
BRRC	**Barranca, Sant**	**9.62**	**68**	*e*P	**Pn**	**10 28 24.2**	**-1.0**
SJCC	**San Jacinto, C**	**9.77**	**49**	*e*P	**Pn**	**10 28 27.4**	**+0.1**

BG3	**Lake Jocassee**	**31.28**	**360**	P	**P**	**10 32 29.4**	**+2.7**	
BG3				IAmb	IAmb	10 32 36.7		
	comp=Z,16nm,1.5s							
W52A	**Murphy**	**31.40**	**358**	P	**P**	**10 32 27.8**	**0.0**	
W52A				IAmb	IAmb	10 32 44.4		
	comp=Z,14nm,1.4s							
WLAR	**White Oak Lake**	**31.51**	**343**	P	**P**	**10 32 32.2**	**+3.5**	
V51A	**Loudon**	**32.12**	**357**	P	**P**	**10 32 37.0**	**+2.8**	
V51A				IAmb	IAmb	10 32 46.8		
	comp=Z,11nm,1.2s							
V52A	**Sevierville**	**32.14**	**359**	P	**P**	**10 32 37.4**	**+3.1**	
X40A	**Basin Creek Fa**	**32.19**	**344**	P	**P**	**10 32 38.9**	**+4.2**	
X40A				IAmb	IAmb	10 32 41.1		
	comp=Z,15nm,1.6s							
MIAR	**Mount Ida**	**32.45**	**343**	P	**P**	**10 32 38.9**	**+1.9**	
MIAR				IAmb	IAmb	10 32 43.5		
	comp=Z,18nm,1.6s							
TXAR	**Lajitas Array**	**32.45**	**324**	P	**P**	**10 32 34.8**	**-2.3**	
	comp=Z,0.1nm,0.4s,baz=119,slow=7.3,SNR=2.4							
TXAR				LR	LR	10 45 08.9		
	comp=Z,156nm,19.8s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**32.45**	**324**	P	**P**	**10 32 40.4**	**+3.2**	
TX31	**Lajitas Ar. Si**	**32.45**	**324**	P	**P**	**10 32 40.2**	**+3.0**	
TX31				IAmb	IAmb	10 32 44.6		
	comp=Z,17nm,1.6s							
LPAR	**Lepanto**	**32.65**	**348**	P	**P**	**10 32 38.9**	**+0.2**	
W41B	**Gary Mavity, V**	**32.68**	**345**	IAmb	IAmb	10 32 48.6		
	comp=Z,13nm,1.1s							
U56A	**King**	**32.70**	**3**	P	**P**	**10 32 41.7**	**+2.5**	
U56A				IAmb	IAmb	10 32 48.6		
	comp=Z,7.1nm,0.8s							
TZTN	**Tazewell**	**32.84**	**359**	P	**P**	**10 32 43.9**	**+3.5**	
TZTN				IAmb	IAmb	10 32 49.3		
	comp=Z,14nm,1.2s							
W39A	**Magazine**	**33.12**	**343**	P	**P**	**10 32 45.2**	**+2.4**	
LCAR	**Lake Charles**	**33.28**	**347**	IAmb	IAmb	10 32 53.7		
	comp=Z,13nm,1.1s							
FCAR	**Ozark Folk Cen**	**33.33**	**346**	IAmb	IAmb	10 32 56.9		
	comp=Z,10nm,1.2s							
T50A	**Nancy**	**33.36**	**357**	P	**P**	**10 32 47.7**	**+2.8**	
T50A				IAmb	IAmb	10 32 53.3		
	comp=Z,12nm,1.3s							
T47A	**Sharon Grove**	**33.52**	**354**	P	**P**	**10 32 47.2**	**+0.9**	
T47A				IAmb	IAmb	10 32 54.2		
	comp=Z,19nm,1.6s							
PBMO	**Poplar Bluff**	**33.82**	**349**	P	**P**	**10 32 52.5**	**+3.6**	
U40A	**Yellville**	**33.95**	**345**		**P**	**10 32 53.1**	**+2.9**	
T42A	**Van Buren**	**34.19**	**348**	P	**P**	**10 32 54.8**	**+2.7**	
S44A	**Carbondale**	**34.50**	**351**	P	**P**	**10 32 57.4**	**+2.6**	
USIN	**University of**	**34.55**	**353**	P	**P**	**10 32 57.2**	**+2.0**	
USIN				IAmb	IAmb	10 33 18.5		
	comp=Z,11nm,0.8s							
MGMO	**Mountain Grove**	**34.57**	**346**	P	**P**	**10 32 53.2**	**-2.3**	
R50A	**Paris**	**34.59**	**358**	P	**P**	**10 32 56.1**	**+0.5**	
R49A	**Shelbyville**	**34.65**	**357**	P	**P**	**10 33 00.5**	**+4.4**	
R49A				IAmb	IAmb	10 33 04.2		
	comp=Z,9.7nm,0.9s							
WCI	**Wyandotte Cave**	**34.66**	**355**	P	**P**	**10 33 01.0**	**+4.7**	
WCI				IAmb	IAmb	10 33 04.2		
	comp=Z,8.9nm,0.9s							
CCM	**Cathedral Cave**	**35.21**	**348**	P	**P**	**10 32 58.9**	**-2.1**	
CCM				IAmb	IAmb	10 33 12.6		
	comp=Z,14nm,1.2s							
R61A	**Willards**	**35.26**	**10**	P	**P**	**10 33 01.8**	**+0.4**	
Q51A	**Peebles**	**35.31**	**359**	P	**P**	**10 33 03.9**	**+2.0**	
Q51A				IAmb	IAmb	10 33 14.1		
	comp=Z,17nm,1.0s							
S39A	**Bolivar**	**35.34**	**345**	IAmb	IAmb	10 33 14.5		
	comp=Z,17nm,1.1s							
OLIL	**Olney**	**35.36**	**353**	P	**P**	**10 33 04.0**	**+1.8**	
OLIL				IAmb	IAmb	10 33 11.1		
	comp=Z,17nm,1.2s							
T35A	**Sooner Cattle**	**35.54**	**341**	P	**P**	**10 33 06.5**	**+2.6**	
MSTX	**Muleshoe**	**35.57**	**331**	IAmb	IAmb	10 33 13.8		
	comp=Z,21nm,1.3s							
Q44A	**Meyer Farm, Va**	**35.65**	**352**	P	**P**	**10 33 05.6**	**+0.9**	
Q44A				IAmb	IAmb	10 33 12.7		
	comp=Z,17nm,1.1s							
AMTX	**Amarillo**	**35.80**	**333**	IAmb	IAmb	10 33 13.9		
	comp=Z,9.2nm,0.9s							
P48A	**Milroy**	**35.82**	**356**	P	**P**	**10 33 08.4**	**+2.2**	
P40A	**Paris**	**36.80**	**348**	P	**P**	**10 33 16.2**	**+1.6**	
P40A				IAmb	IAmb	10 33 26.2		
	comp=Z,15nm,1.1s							
O44A	**Mansfield**	**36.80**	**353**	P	**P**	**10 33 16.2**	**+1.7**	
O44A				IAmb	IAmb	10 33 19.1		
	comp=Z,18nm,1.1s							
H03N2	**Juan Fernandez**	**36.97**	**175**	T	T	11 12 30.2		
	baz=354,slow=76,SNR=13							
H03N1	**Juan Fernandez**	**36.97**	**175**	T	T	11 12 29.5		
	baz=354,slow=76,SNR=13							
H03N3	**Juan Fernandez**	**36.98**	**175**	T	T	11 12 29.8		
	baz=354,slow=76,SNR=12							
HDIL	**Hopedale**	**37.31**	**352**	P	**P**	**10 33 21.1**	**+2.2**	
HDIL				IAmb	IAmb	10 33 44.1		
	comp=Z,18nm,1.1s							
LENM	**Lemitar**	**37.92**	**326**	P	**P**	**10 33 25.1**	**+0.7**	
CPUP	**Villa Florida**	**38.55**	**142**	LR	LR	10 51 07.9		
	comp=Z,313nm,18.7s,baz=336,slow=39							
L42A	**Oliver, Polo**	**38.78**	**352**	P	**P**	**10 33 35.3**	**+4.0**	
TUC	**Tucson**	**38.88**	**321**	P	**P**	**10 33 36.3**	**+3.9**	
T25A	**Trinidad**	**38.91**	**332**	P	**P**	**10 33 32.3**	**-0.5**	
T25A				IAmb	IAmb	10 33 40.0		
	comp=Z,14nm,1.1s							
BDFB	**Brasilia**	**39.27**	**120**	LR	LR	10 51 57.3		
	comp=Z,317nm,18.9s,baz=307,slow=39							
N33A	**J Bar K, Exete**	**39.33**	**342**	P	**P**	**10 33 39.7**	**+3.8**	
N33A				IAmb	IAmb	10 34 06.9		
	comp=Z,21nm,1.1s							
KSCO	**Kaye Shedlock'**	**39.67**	**335**	P	**P**	**10 33 39.1**	**+0.1**	
Q24A	**Divide**	**40.73**	**333**	P	**P**	**10 33 47.8**	**-0.1**	
WUAZ	**Wupatki**	**41.41**	**324**		**P**	**10 33 53.7**	**+0.3**	
K31A	**O'Neill**	**41.45**	**342**	P	**P**	**10 33 53.1**	**-0.3**	
PV15	**Paradox Valley**	**41.85**	**329**	P	**P**	**10 33 56.4**	**-0.8**	
PV15				IAmb	IAmb	10 34 09.2		
	comp=Z,22nm,1.6s							
PV03	**Paradox Valley**	**41.98**	**329**	P	**P**	**10 33 57.7**	**-0.4**	
PV18	**Skein Mesa, Pa**	**42.00**	**329**	P	P	10 34 03.7	+5.4	
W13A	**Hualapai Mount**	**42.65**	**321**	P	**P**	**10 34 03.0**	**-0.6**	
PHWY	**Pilot Hill**	**42.78**	**335**	P	**P**	**10 34 04.3**	**-0.4**	
KNB	**Kanab**	**43.28**	**324**	P	**P**	**10 34 08.4**	**-0.3**	
SRU	**San Rafael Swe**	**43.49**	**328**	P	**P**	**10 34 09.0**	**-1.4**	
P17A	**Butcher Ranch,**	**43.87**	**328**	P	**P**	**10 34 13.3**	**-0.1**	
CCUT	**Cedar City**	**43.96**	**324**	P	**P**	**10 34 13.5**	**-0.8**	
RDMU	**Red Mountain**	**44.09**	**330**	P	**P**	**10 34 14.2**	**-1.0**	
SHPR	**Sheep Range**	**44.35**	**322**	P	**P**	**10 34 16.6**	**-0.7**	
RSSD	**Black Hills**	**44.57**	**338**		**P**	**10 34 18.6**	**-0.4**	
RSSD				IAmb	IAmb	10 34 29.2		
	comp=Z,20nm,1.5s							
PSUT	**Pine Spring**	**44.91**	**325**	P	**P**	**10 34 22.5**	**+0.6**	
CTU	**Camp Tracy**	**45.29**	**329**	P	**P**	**10 34 23.8**	**-0.9**	
PLCA	**Paso Flores**	**45.46**	**167**	P	**P**	**10 34 25.4**	**-0.5**	
	comp=Z,1.2nm,0.8s,baz=349,slow=10,SNR=2.2							
PLCA	**Paso Flores**	**45.46**	**167**	P	**P**	**10 34 25.9**	**0.0**	
PLCA				IAmb	IAmb	10 34 53.7		
	comp=Z,11nm,1.4s							
PD31	**Pinedale Array**	**45.78**	**332**	P	**P**	**10 34 28.3**	**-0.3**	
PDAR	**Pinedale Array**	**45.78**	**332**	P	**P**	**10 34 27.0**	**-1.6**	
	comp=Z,0.7nm,0.9s,baz=134,slow=10,SNR=2.8							
PDAR	**Pinedale Array**	**45.78**	**332**	P	**P**	**10 34 27.4**	**-1.3**	
BW06	**Boulder Array**	**45.78**	**332**	P	**P**	**10 34 27.9**	**-0.7**	
R11A	**Troy Canyon, C**	**45.80**	**323**	P	**P**	**10 34 27.4**	**-1.4**	
HWUT	**Hardware Ranch**	**45.87**	**330**	IAmb	IAmb	10 34 56.8		
	comp=Z,7.0nm,1.1s							
BGU	**Big Grassy Mou**	**46.13**	**328**	P	**P**	**10 34 29.9**	**-1.5**	
MDND	**Maddock**	**46.46**	**344**	P	**P**	**10 34 33.3**	**-0.4**	
AHID	**Auburn Hatcher**	**46.51**	**331**	P	**P**	**10 34 35.4**	**+1.1**	
AHID				IAmb	IAmb	10 34 58.0		
	comp=Z,8.0nm,1.4s							
REDW	**Red Top Meadow**	**46.84**	**332**	P	**P**	**10 34 35.6**	**-1.4**	
SNOW	**Snow King Moun**	**46.87**	**332**	P	**P**	**10 34 36.8**	**-0.5**	
SNOW				IAmb	IAmb	10 34 48.5		
	comp=Z,8.5nm,1.4s							
TPAW	**Teton Pass**	**46.99**	**332**	P	**P**	**10 34 37.8**	**-0.4**	
TPAW				IAmb	IAmb	10 35 03.6		
	comp=Z,10nm,1.4s							
ELK	**Elko**	**47.20**	**326**	P	**P**	**10 34 40.3**	**+0.5**	
ELK				IAmb	IAmb	10 34 49.0		
	comp=Z,6.6nm,1.4s							
FLWY	**Flagg Ranch**	**47.32**	**333**	P	**P**	**10 34 40.4**	**-0.3**	
FLWY				IAmb	IAmb	10 34 54.8		
	comp=Z,13nm,1.4s							
NV11	**Mina Array Sit**	**47.41**	**322**	P	**P**	**10 34 40.4**	**-1.1**	
NV11				IAmb	IAmb	10 34 56.3		
	comp=Z,10nm,1.4s							
OMMB	**Old Mammoth Mi**	**47.45**	**320**	P	**P**	**10 34 41.4**	**-0.5**	
NVAR	**Mina Array Bea**	**47.50**	**322**	P	**P**	**10 34 40.6**	**-1.6**	
	comp=Z,1.4nm,0.9s,baz=133,slow=6.6,SNR=10							
NVAR				LR	LR	10 54 14.6		
	comp=Z,232nm,19.4s,baz=69,slow=36							
NVAR	**Mina Array Bea**	**47.50**	**322**	P	**P**	**10 34 40.9**	**-1.3**	
LHV	**Little Huntoon**	**47.52**	**321**	P	P	10 34 48.4	+6.4	
LHV				IAmb	IAmb	10 34 56.6		
	comp=Z,9.2nm,1.2s							
YNE	**Yellowstone No**	**47.73**	**334**	P	**P**	**10 34 47.9**	**+3.9**	
YHL	**Hebgen Lake**	**48.14**	**333**	P	**P**	**10 34 47.3**	**+0.2**	
QLMT	**Earthquake Lak**	**48.23**	**333**	P	**P**	**10 34 47.2**	**-0.5**	
BOZ	**Bozeman (W)**	**48.91**	**333**	P	**P**	**10 34 51.9**	**-1.0**	
DLMT	**Dillon**	**49.17**	**332**	P	**P**	**10 34 55.0**	**+0.1**	
MFID	**Camas Ranch**	**49.36**	**328**		**P**	**10 34 56.1**	**-0.2**	
MFID				IAmb	IAmb	10 35 06.1		
	comp=Z,14nm,1.6s							
ORV	**Oroville**	**50.17**	**321**	P	**P**	**10 35 01.5**	**-0.9**	
ORV				IAmb	IAmb	10 35 08.5		
	comp=Z,11nm,1.4s							
J08A	**Circle Bar Ran**	**50.74**	**327**		**P**	**10 35 09.6**	**+2.8**	
F10A	**Beach Ranch, E**	**51.85**	**330**	P	**P**	**10 35 15.4**	**+0.3**	
F10A				IAmb	IAmb	10 35 26.4		
	comp=Z,14nm,1.3s							
G08A	**Pilot Rock**	**52.28**	**328**	P	**P**	**10 35 19.0**	**+0.6**	
KHMM	**Horse Mountain**	**52.33**	**321**	P	**P**	**10 35 17.9**	**-0.9**	
PINE	**Pine Mountain**	**52.39**	**326**	P	**P**	**10 35 21.6**	**+2.3**	
PINE				IAmb	IAmb	10 35 26.2		
	comp=Z,14nm,1.6s							
JCC	**Jacoby Creek,**	**52.48**	**321**	P	**P**	**10 35 23.0**	**+3.3**	
JCC				IAmb	IAmb	10 35 29.0		
	comp=Z,15nm,1.3s							
E09A	**Wood Farm, Sta**	**52.69**	**330**	P	**P**	**10 35 22.1**	**+1.0**	
E09A				IAmb	IAmb	10 35 31.2		
	comp=Z,15nm,1.3s							
KRMB	**Red Mountain**	**52.80**	**322**	P	**P**	**10 35 23.7**	**+1.4**	
KRMB				IAmb	IAmb	10 35 33.5		
	comp=Z,14nm,1.3s							
F07A	**Phinny Hill Vi**	**53.19**	**328**	P	**P**	**10 35 27.6**	**+2.7**	
F07A				IAmb	IAmb	10 35 37.4		
	comp=Z,5.8nm,0.7s							
D08A	**Wollman Farm,**	**53.45**	**330**	P	**P**	**10 35 29.0**	**+2.2**	
B06A	**Marblemount**	**55.71**	**330**	P	**P**	**10 35 43.8**	**+0.6**	
B06A				IAmb	IAmb	10 35 48.3		
	comp=Z,18nm,1.7s							
TAOE	**Nuku Hiva Isla**	**58.58**	**257**	*e*LR	LR	10 53 17.1		
	comp=Z,173nm,23.3s							
PPT	**Papeete**	**69.17**	**250**	LR	LR	10 59 31.4		
	comp=Z,337nm,19.6s,baz=60,slow=29							
PPT2	**Papeete2**	**69.18**	**250**	*e*LR	LR	10 58 12.7		
	comp=Z,453nm,25.0s,baz=72							
TBI	**Tubuai**	**70.26**	**244**	*e*LR	LR	10 58 40.5		
	comp=Z,319nm,27.5s,baz=71							
ILAR	**Eielson Array**	**76.00**	**337**	P	**P**	**10 37 52.1**	**-1.5**	
	comp=Z,0.4nm,0.8s,baz=114,slow=3.7,SNR=1.8							
ILAR				LR	LR	11 13 38.3		
	comp=Z,115nm,19.2s,baz=122,slow=38							
TIC	**Toumodi**	**77.38**	**84**	*e*P	P	10 38 12.1	+10	
LIC	**Lamto**	**77.39**	**84**	*e*P	P	10 38 08.0	+5.5	
	comp=Z,13nm,0.6s							
DBIC	**Dimbokro**	**77.54**	**84**	LR	LR	11 11 11.2		
	comp=Z,75nm,18.2s,baz=278,slow=35							
KIC	**Kosan Boka**	**77.66**	**84**	*e*P	P	10 38 10.5	+6.5	
	comp=Z,19nm,1.4s							
ESDC	**Sonseca Array**	**79.07**	**50**	P	**P**	**10 38 10.9**	**-0.5**	
	comp=Z,1.1nm,0.8s,baz=243,slow=5.6,SNR=2.4							
RAR	**Rarotonga**	**79.27**	**248**	LR	LR	11 04 10.1		
	comp=Z,117nm,21.7s,baz=41,slow=29							
TTA	**Tatalina**	**79.28**	**334**	P	**P**	**10 38 10.3**	**-1.8**	
TORD	**Torodi Ar. Bea**	**83.75**	**77**	P	**P**	**10 38 37.4**	**+0.7**	
	comp=Z,0.9nm,1.0s,baz=264,slow=2.9,SNR=3.3							
TORD				LR	LR	11 15 28.8		
	comp=Z,38nm,19.8s,baz=330,slow=35							
TORD	**Torodi Ar. Bea**	**83.75**	**77**	P	**P**	**10 38 35.9**	**-0.8**	
BELA	**Belgrano 2**	**85.37**	**171**	P	**P**	**10 38 43.5**	**0.0**	
NOA	**NORSAR Array B**	**88.82**	**29**	LR	LR	11 14 52.1		
	comp=Z,40nm,20.8s,baz=270,slow=33							
DAVOX	**Davos/Dischmat**	**89.21**	**43**	LR	LR	11 12 39.4		
	comp=Z,43nm,21.3s,baz=266,slow=31							
HFS	**Hagfors**	**90.13**	**30**	LR	LR	11 15 04.7		
	comp=Z,36nm,18.5s,baz=247,slow=33							
VRAC	**Vranov**	**93.38**	**40**	LR	LR	11 14 59.3		
	comp=Z,76nm,21.5s,baz=252,slow=31							
FINES	**FINESS Array B**	**95.76**	**27**	LR	LR	11 18 09.3		
	comp=Z,52nm,21.9s,baz=226,slow=33							
RAO	**Raoul Island**	**96.27**	**241**	LR	LR	11 12 19.5		
	comp=Z,96nm,21.2s,baz=47,slow=29							
DZM	**Mont Dzumac**	**110.64**	**248**	*e*LR	LR	11 17 23.9		
	comp=Z,116nm,27.2s							
ASAR	**Alice Springs**	**139.39**	**237**	PKP	**PKPdf**	**10 45 34.0**	**-1.0**	
	comp=Z,0.2nm,0.7s,baz=111,slow=1.8,SNR=1.7							
LZH	**Lanzhou**	**140.09**	**352**	*e*PKP	**PKPdf**	**10 45 32.1**	**-4.1**	
WRA	**Warramunga Arr**	**140.39**	**243**	PKP	**PKPdf**	**10 45 34.5**	**-2.4**	
	comp=Z,0.4nm,0.7s,baz=108,slow=2.0,SNR=6.0							

BJI ***08*** *10:29:54.0±0.0, 80.60N×2.20W, h5km, mB5.0/23, mb4.7/30, Ms4.8/15, Ms7 4.4/15*

DNK ***08*** *10:29:55.8±5.9, 80.71N×2.80W, h22km±89km, ML4.3*

IDC ***08*** *10:29:56.8±0.4, 80.70N×2.71W, h0km, mb4.2/27, mb1 4.4/28, mb1mx4.3/42, mbtmp4.2/28, ML5.6/2, MS3.9/30, Ms1 3.9/30, ms1mx3.8/46, Error ellipse: s-maj=13.1km s-min=9.8km az=40.0*

GCMT ***08*** *10:29:57.8±0.2, 80.68N±0.02×2.61W±0.05, h12km, MW5.0/114, Moment Tensor Solution. s52,c68; s114,c183; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.44±.06; Mθθ-0.20±.06; Mϕϕ2.64±.05; Mrθ-1.63±.23; Mθϕ0.56±.05; Mϕr-1.27±.17; Best double couple: M₀3.32300×10¹⁶ NP1:ϕs170.00000°, δ33.00000°, λ-129.00000°. NP2:ϕs34.00000°, δ65.00000°, λ-67.00000°. Principal axes: T 3.2180, Plg17.0000°, Azm107.0000°; N 0.2040, Plg20.0000°, Azm204.0000°; P -3.4270, Plg63.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BER ***08*** *10:29:57.2±3.4, 80.77N×2.22W, h10km, ML3.8, MS3.8, ML4.3(DNK), Confirmed Earthquake*

NEIC ***08*** *10:29:58.9±1.3, 80.63N±0.08×2.75W±0.4, h10km±1km, mb4.9/228, Error ellipse: s-maj=14.5km s-min=9.8km az=17.0*

IEPN ***08*** *10:30:01.0, 80.56N×0.99W, h15km*

ISC 08 10:29:57.4±1.3, 80.63N±0.04×2.60W±0.03, h8km±8km, n405, σ2.8/24/414, mb4.9/131, MS4.0/29, 4C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.39**	**301**	Pn		**Pn**	**10 30 34.5**	**-2.1**
NOR				Sn		**Sn**	**10 31 00.8**	**-5.3**
NOR	**Nord**	**2.39**	**301**	⇑*i*P		**Pn**	**10 30 34.5**	**-2.1**
NOR				*e*			10 30 34.6	
	baz=117,slow=14							
NOR				*i* P		Pb	10 30 34.8	-5.7
NOR				*i* S		**Sn**	**10 31 00.1**	**-6.0**
NOR				*e*S		**Sn**	**10 31 01.0**	**-5.0**
NOR				IAML			10 31 06.6	
	comp=Z,191nm,0.5s							
NOR	**Nord**	**2.39**	**301**	*i* P		**Pn**	**10 30 34.8**	**-1.9**
NOR				*i* S		**Sn**	**10 31 00.0**	**-6.0**
NOR	**Nord**	**2.39**	**301**	*e*		**Pn**	**10 30 34.6**	**-2.1**
	baz=117,slow=14							
NOR				*i* P		**Pn**	**10 30 34.8**	**-1.9**
NOR				*i* S		**Sn**	**10 31 00.1**	**-6.0**
NOR				IAML			10 31 06.6	
	comp=Z,191nm,0.5s							
KBS	**Kingsbay**	**3.10**	**116**	Pn		**Pn**	**10 30 44.4**	**-2.1**
KBS				Sn		**Sn**	**10 31 16.4**	**-7.2**
KBS	**Kingsbay**	**3.10**	**116**	⇑*i*P		**Pn**	**10 30 44.1**	**-2.4**
KBS				*i* S		**Sn**	**10 31 16.4**	**-7.2**
KBS	**Kingsbay**	**3.10**	**116**			**Pn**	**10 30 44.4**	**-2.1**
KBS				Sn		**Sn**	**10 31 16.5**	**-7.2**
KBS	**Kingsbay**	**3.10**	**116**	*e*P		**Pn**	**10 30 44.1**	**-2.4**
KBS				*e*S		**Sn**	**10 31 16.4**	**-7.2**
KBS				IVMs_BB	IVMs_BB		10 31 30.4	
	comp=Z,2μm,24.3s							
KBS	**Kingsbay**	**3.10**	**116**	*i* P		**Pn**	**10 30 44.4**	**-2.1**
KBS				*e*			10 31 14.6	
KBS				IAML			10 31 17.7	
	comp=Z,827nm,0.3s							
BRBB	**Barentsburg B**	**4.01**	**121**	Pn		**Pn**	**10 30 58.1**	**-0.8**
BRBB				Sn		**Sn**	**10 31 40.0**	**-6.0**
BRBB	**Barentsburg B**	**4.01**	**121**	*e*P		**Pn**	**10 30 58.3**	**-0.7**
BRBB				*e*S		**Sn**	**10 31 40.4**	**-5.6**
BRBA	**Barentsburg A**	**4.04**	**121**	Pn		**Pn**	**10 30 58.5**	**-0.8**
BRBA	**Barentsburg A**	**4.04**	**121**	*e*P		**Pn**	**10 30 58.8**	**-0.6**
BRBA				*e*S		**Sn**	**10 31 40.8**	**-5.9**
SPB4	**Spitsbergen Ar**	**4.26**	**116**	Pn		**Pn**	**10 31 00.9**	**-1.5**
SPA0	**Spitsbergen Ar**	**4.26**	**116**	Pn		**Pn**	**10 31 00.7**	**-1.7**
	baz=330,slow=11							
SPA0				Sn		**Sn**	**10 31 45.2**	**-7.1**
	baz=330,slow=37							
SPA0	**Spitsbergen Ar**	**4.26**	**116**	⇑*i*P		**Pn**	**10 31 00.9**	**-1.6**
SPA0				*i* S		**Sn**	**10 31 45.1**	**-7.1**
SPA0	**Spitsbergen Ar**	**4.26**	**116**	Pn		**Pn**	**10 31 00.8**	**-1.7**
SPA0				Sn		**Sn**	**10 31 49.2**	**-3.1**
SPA0	**Spitsbergen Ar**	**4.26**	**116**	Pn		**Pn**	**10 31 00.7**	**-1.7**
	baz=330,slow=11							
SPA0				Sn		**Sn**	**10 31 45.2**	**-7.1**
	baz=330,slow=37							
SPA1	**Spitsbergen Ar**	**4.26**	**116**	Pn		**Pn**	**10 31 00.7**	**-1.8**
SPITS	**Spitsbergen Ar**	**4.26**	**116**	Pn		**Pn**	**10 31 01.2**	**-1.2**
	baz=325,slow=8.6,SNR=745							
SPITS				Sn		**Sn**	**10 31 45.1**	**-7.1**
	baz=325,slow=10,SNR=1.0							
SPITS				LR		LR	10 32 35.5	
	comp=Z,3μm,20.5s,baz=320,slow=37							
DAG	**Danmarks Havn**	**4.98**	**227**	*i* P		**Pn**	**10 31 11.2**	**-1.1**
DAG				*i* S		**Sn**	**10 32 05.4**	**-4.4**
DAG				IAML			10 32 08.2	
	comp=Z,541nm,0.3s							
DAG	**Danmarks Havn**	**4.98**	**227**	*i* P		**Pn**	**10 31 11.1**	**-1.1**
DAG				*i* S		**Sn**	**10 32 05.4**	**-4.4**
DAG	**Danmarks Havn**	**4.98**	**227**	*i* P		**Pn**	**10 31 11.2**	**-1.1**
DAG				*i* S		**Sn**	**10 32 05.4**	**-4.4**
DAG				IAML			10 32 08.2	
	comp=Z,541nm,0.3s							
HOPEN	**Hopen**	**6.78**	**113**	Pn		**Pn**	**10 31 35.0**	**-2.0**
HOPEN				Sn		**Sn**	**10 32 47.0**	**-7.2**
HOPEN	**Hopen**	**6.78**	**113**	*e*P		**Pn**	**10 31 34.6**	**-2.4**
HOPEN				*e*S		Sn	10 32 44.5	-10
HOPEN	**Hopen**	**6.78**	**113**	*e*P		**Pn**	**10 31 34.8**	**-2.2**
HOPEN				*e*S		**Sn**	**10 32 46.0**	**-8.2**
HOPEN				IAML			10 32 50.4	
	comp=Z,59nm,0.4s							
HOPEN				IVMs_BB	IVMs_BB		10 35 19.7	
	comp=Z,1μm,4.2s							
BJO1	**Bjornoya**	**7.64**	**132**	*e*P		**Pn**	**10 31 47.8**	**-0.9**
ZFI2	**Zemlya Franca-**	**7.90**	**64**	⇑*i*P		**Pn**	**10 31 49.1**	**-3.2**
ZFI2				*e*S		Sn	10 33 08.6	-13
	comp=Z,87nm,0.4s							
ZFI	**Zemlya Franca-**	**7.91**	**64**	*e*P		**Pn**	**10 31 50.0**	**-2.3**
ZFI				*e*S		Sn	10 33 10.2	-12
	comp=Z,106nm,1.0s							
JMIC	**Jan Mayen**	**9.80**	**191**	Pn		**Pn**	**10 32 20.0**	**+1.7**
JMIC	**Jan Mayen**	**9.80**	**191**	Pn		**Pn**	**10 32 18.4**	**0.0**
	baz=221,slow=2.5,SNR=8.3							
JMIC				Sn		**Sn**	**10 34 00.3**	**-8.0**
	baz=144,slow=16,SNR=2.0							
JMIC				LR		LR	10 34 54.4	
	comp=Z,91nm,21.9s,baz=53,slow=30							
JMIC	**Jan Mayen**	**9.80**	**191**	*e*P		**Pn**	**10 32 19.4**	**+1.1**
JMIC				*e*S		**Sn**	**10 34 00.4**	**-8.0**
SUMG	**Summit**	**11.29**	**244**	Pn		**Pn**	**10 32 37.2**	**-1.9**
SUMG	**Summit**	**11.29**	**244**	*i* P		**Pn**	**10 32 37.1**	**-1.9**
SUMG				*i*			10 34 34.9	
SUMG				IAML			10 34 39.3	
	comp=Z,185nm,0.4s							
SUMG	**Summit**	**11.29**	**244**	*i* P		**Pn**	**10 32 37.1**	**-1.9**
SUMG				*i*			10 34 34.8	
SUMG	**Summit**	**11.29**	**244**	*i* P		**Pn**	**10 32 37.1**	**-1.9**
SUMG				*i*			10 34 34.9	
SUMG				IAML			10 34 39.3	
	comp=Z,185nm,0.4s							
HAMF	**Hammerfest**	**11.76**

comp=Z,392nm,21.8s,baz=6.0,slow=35
FINES FINESS Array B 20.90 140 P **P** **10 34 36.9 -2.7**
HFS Hagfors 21.14 157 P **P** **10 34 43.5 +1.3**
baz=356,slow=8.6
HFS Hagfors 21.14 157 P **P** **10 34 43.6 +1.3**
comp=Z,9.5nm,0.5s,baz=349,slow=6.8,SNR=24
HFS LR LR 10 42 03.6
comp=Z,281nm,18.7s,baz=356,slow=34
HFS Hagfors 21.14 157 P **P** **10 34 43.5 +1.3**
baz=356,slow=8.6
NRIK Noril'sk 22.76 67 P **P** **10 35 00.6 +1.0**
comp=Z,20nm,0.9s,baz=347,slow=10,SNR=7.0
NRIK LR LR 10 45 01.8
comp=Z,561nm,19.4s,baz=8.0,slow=40
NRS Narsarsuaq 22.92 238 P **P** **10 35 03.4 +2.1**
NRS IAmb IAmb 10 35 13.4
comp=Z,44nm,0.8s
KLMR Klimovskoe 23.12 123 *e*P **P** **10 35 03.8 +0.5**
KLMR AMP 10 35 09.1
comp=Z,55nm,1.1s
KLMR *e*PcP **PcP** **10 38 50.9 -0.5**
KLMR LQ LQ 10 41 32.1
KLMR LQ LQ 10 41 32.1
KLMR LR LR 10 43 04.2
FRB Frobisher Bay 24.04 265 P **P** **10 35 12.9 +0.6**
comp=Z,8.7nm,0.7s,baz=31,slow=10,SNR=6.5
FRB LR LR 10 44 52.4
comp=Z,426nm,19.7s,baz=16,slow=37
EKA Eskdalemuir Ar 25.42 181 P **P** **10 35 26.6 +1.7**
comp=Z,1.6nm,0.6s,baz=6.3,slow=10,SNR=4.0
KIRV Kirov 26.73 113 LR LR 10 47 15.1
comp=Z,496nm,19.3s,baz=341,slow=39
OBN Obninsk 28.31 130 LR LR 10 47 06.6
comp=Z,82nm,19.8s,baz=359,slow=36
INK Inuvik 28.85 324 P **P** **10 35 53.8 -1.8**
comp=Z,2.8nm,1.0s,baz=6.3,slow=10,SNR=3.1
INK LR LR 10 48 49.3
comp=Z,76nm,21.1s,baz=45,slow=39
INK Inuvik 28.85 324 P **P** **10 35 56.0 +0.4**
TOLK Toolik Lake Re 29.82 336 P **P** **10 36 07.4 +3.2**
BRG Berggiesshubel 30.38 159 *e*P **P** **10 36 11.1 +1.8**
comp=Z,8.4nm,1.3s
BMAR Burnt Mountain 30.66 332 P **P** **10 36 12.9 +1.2**
EPYK Eagle Plains 31.04 326 P **P** **10 36 15.3 +0.3**
EPYK IAmb IAmb 10 36 24.2
comp=Z,21nm,1.3s
RDOG Red Dog Mine 31.11 346 P **P** **10 36 17.2 +1.6**
RDOG IAmb IAmb 10 36 25.5
comp=Z,26nm,1.1s
FYU Fort Yukon 31.56 332 P **P** **10 36 21.0 +1.5**
FYU IAmb IAmb 10 36 30.6
comp=Z,18nm,1.1s
AKASG Malin Array Be 31.80 140 P **P** **10 36 21.6 -0.2**
comp=Z,3.5nm,0.6s,baz=352,slow=9.4,SNR=2.7
AKASG LR LR 10 49 13.0
comp=Z,82nm,21.9s,baz=325,slow=36
AKASG Malin Array Be 31.80 140 IAmb IAmb 10 36 29.2
comp=Z,1.7nm,1.3s
SCHQ Schefferville 32.24 258 LR LR 10 49 29.4
comp=Z,259nm,18.4s,baz=353,slow=36
YKA Yellowknife Ar 32.30 306 P **P** **10 36 26.3 +0.2**
comp=Z,2.2nm,0.9s,baz=14,slow=9.6,SNR=4.9
YKA PcP **PcP** **10 39 14.2 +0.6**
comp=Z,1.1nm,0.7s,baz=40,slow=2.7,SNR=3.8
YKA LR LR 10 49 19.5
comp=Z,689nm,18.7s,baz=0.0,slow=36
GEC2 GERESS Array S 32.39 160 P **P** **10 36 29.3 +2.2**
GERES GERESS Array B 32.39 160 P **P** **10 36 29.4 +2.3**
comp=Z,1.6nm,0.8s,baz=1.9,slow=8.0,SNR=9.7
GERES LR LR 10 49 09.7
comp=Z,152nm,18.3s,baz=30,slow=36
GERES GERESS Array B 32.39 160 P **P** **10 36 29.0 +1.9**
IMAR Indian Mountai 32.72 339 P **P** **10 36 30.1 +0.4**
EGAK Eagle 32.99 329 P **P** **10 36 32.7 +0.5**
EGAK IAmb IAmb 10 36 41.9
comp=Z,22nm,1.4s
VYHS Vyhne 33.07 154 *e*P **P** **10 36 34.8 +1.8**
MODS Modra-Piesok 33.08 155 *e*P **P** **10 36 35.0 +1.9**
MDM Murphy Dome 33.37 334 P **P** **10 36 37.1 +1.7**
COLA College 33.43 334 P **P** **10 36 37.7 +1.8**
COLA IAmb IAmb 10 36 46.8
comp=Z,15nm,1.1s
IL31 33.46 333 P **P** **10 36 37.4 +1.3**
ILAR Eielson Array 33.46 333 P **P** **10 36 37.4 +1.2**
comp=Z,3.0nm,0.9s,baz=6.4,slow=7.2,SNR=19
ILAR PcP **PcP** **10 39 17.2 +0.4**
comp=Z,1.6nm,0.7s,baz=335,slow=3.8,SNR=8.7
ILAR Eielson Array 33.46 333 P **P** **10 36 37.2 +1.1**
IL18 Eielson Array 33.46 333 P **P** **10 36 37.8 +1.6**
DAWY Dawson 33.54 327 P **P** **10 36 37.2 +0.2**
CCB Clear Creek Bu 33.65 334 P **P** **10 36 38.4 +0.6**
CCB IAmb IAmb 10 36 48.3
comp=Z,13nm,1.1s
PSZ Piszkesteto 33.72 152 P **P** **10 36 40.5 +1.8**
PSZ IAmb IAmb 10 36 51.6
comp=Z,14nm,1.2s
HDA Harding Lake 33.82 333 P **P** **10 36 40.4 +1.0**
WRH Wood River Hil 33.84 334 P **P** **10 36 40.3 +0.8**
WRH IAmb IAmb 10 36 50.0
comp=Z,12nm,1.0s
DOT Dot Lake 34.35 330 P **P** **10 36 45.4 +1.5**
BPAW Bear Paw Mtn. 34.41 336 P **P** **10 36 45.4 +0.9**
BPAW IAmb IAmb 10 36 55.0
comp=Z,16nm,1.2s
BURAR Bucovina Array 34.47 146 P **P** **10 36 46.4 +1.2**
PERS Pernice 34.67 158 *e*P P 10 36 57.2 +10
BCAR Beaver Creek A 34.73 329 P **P** **10 36 48.8 +1.5**
CIMO Cimolais 34.85 162 P **P** **10 36 50.5 +2.1**
KTH Kantishna Hill 34.95 336 P **P** **10 36 50.6 +1.4**
KTH IAmb IAmb 10 37 00.0
comp=Z,19nm,1.2s
YAK Yakutsk 35.11 37 P **P** **10 36 50.2 -0.3**
PAX Paxson 35.13 331 P **P** **10 36 52.0 +1.2**
DHY Denali Highway 35.17 333 P **P** **10 36 51.7 +0.5**
DHY IAmb IAmb 10 37 02.0
comp=Z,25nm,1.1s
LEGS Legarje 35.37 158 *e*P **P** **10 36 57.3 +4.4**
SCM Sheep Creek Mo 36.40 333 P **P** **10 37 02.8 +1.1**
SCM IAmb IAmb 10 37 12.4
comp=Z,19nm,1.0s
SML Sawmill 36.50 333 P **P** **10 37 03.1 +0.6**
SML IAmb IAmb 10 37 12.8
comp=Z,21nm,1.0s
GLB Gilahina Butte 36.51 330 P **P** **10 37 04.4 +1.8**
GLB IAmb IAmb 10 37 13.8
comp=Z,31nm,1.4s
HYT Haines Junctio 36.55 324 P **P** **10 37 03.6 +0.5**
GHO Glory Hole Cre 36.58 334 P **P** **10 37 03.0 -0.2**
GHO IAmb IAmb 10 37 13.5
comp=Z,15nm,0.8s
VRDI Verde Repeater 36.69 329 P **P** **10 37 05.6 +1.3**
ZALV Zalesovo Beam 36.86 80 P **P** **10 37 06.2 +0.6**
comp=Z,1.6nm,0.7s,baz=356,slow=8.3,SNR=4.7
ZALV LR LR 10 55 31.2
comp=Z,258nm,20.0s,baz=356,slow=42
ZALV Zalesovo Beam 36.86 80 P **P** **10 37 07.1 +1.6**
SUA Susitna One 37.01 335 P **P** **10 37 08.1 +1.1**
SUA IAmb IAmb 10 37 17.3
comp=Z,30nm,1.0s
AB06 Akbulak array 37.37 107 P **P** **10 37 09.5 -0.4**
AB01 Akbulak array 37.37 107 P **P** **10 37 10.9 +1.0**
ABKAR Akbulak array 37.37 107 P **P** **10 37 10.9 +1.0**
KURK Kurchatov 38.98 87 P **P** **10 37 24.9 +1.4**
PDG Podgorica 39.13 154 P **P** **10 37 26.2 +1.4**
BATG Bathurst New B 39.44 254 P **P** **10 37 28.5 +1.2**
KBZ Khabaz 40.29 127 P **P** **10 37 36.7 +2.3**
comp=Z,4.6nm,0.8s,baz=321,slow=3.6,SNR=6.4
KBZ LR LR 10 54 45.6
comp=Z,138nm,18.1s,baz=348,slow=37
KDAK Kodiak Island 40.80 336 P **P** **10 37 39.6 +1.2**
KDAK IAmb IAmb 10 37 48.8
comp=Z,30nm,0.9s
ESDC Sonseca Array 41.09 182 P **P** **10 37 42.6 +1.4**
comp=Z,1.3nm,0.5s,baz=1.7,slow=8.1,SNR=8.9
ESDC Sonseca Array 41.09 182 P **P** **10 37 41.8 +0.7**
ULM Lac du Bonnet 41.38 284 P **P** **10 37 43.0 -0.3**
comp=Z,4.8nm,0.7s,baz=18,slow=6.9,SNR=5.1
ULM Lac du Bonnet 41.38 284 P **P** **10 37 44.3 +0.9**
OHAK Old Harbor 41.40 336 P **P** **10 37 45.0 +1.6**
OHAK IAmb IAmb 10 37 54.1
comp=Z,20nm,1.0s
BR131 Keskin Array S 43.12 138 P **P** **10 37 59.4 +1.5**
BRTR Keskin Array B 43.12 138 P **P** **10 37 59.8 +1.9**
comp=Z,1.6nm,0.7s,baz=12,slow=6.3,SNR=5.4
BRTR LR LR 10 57 04.8
comp=Z,66nm,21.7s,baz=8.0,slow=38
BRTR Keskin Array B 43.12 138 P **P** **10 37 58.4 +0.6**
MAKZ Makanchi 43.31 85 P **P** **10 38 00.8 +1.6**
MK31 Makanchi Array 43.38 85 P **P** **10 38 01.1 +1.4**
MKAR Makanchi Array 43.38 85 P **P** **10 38 01.1 +1.3**
comp=Z,2.9nm,0.6s,baz=346,slow=7.7,SNR=16
MKAR LR LR 11 00 22.2
comp=Z,218nm,18.5s,baz=338,slow=42
MKAR Makanchi Array 43.38 85 P **P** **10 38 01.2 +1.5**
KK09 Karatay Array 45.03 98 P **P** **10 38 15.0 +2.0**
KK04 Karatay Array 45.04 98 P **P** **10 38 15.1 +2.0**
KK08 Karatay Array 45.04 98 P **P** **10 38 14.7 +1.6**
KK31 Karatay Array 45.05 98 P **P** **10 38 14.8 +1.7**
KKAR Karatay Array 45.05 98 P **P** **10 38 14.2 +1.1**
WALA Waterton Lakes 45.26 300 P **P** **10 38 16.1 +1.3**
WALA IAmb IAmb 10 38 26.2
comp=Z,21nm,1.4s
PETK Petropavlovsk- 46.05 16 P **P** **10 38 20.7 -0.2**
comp=Z,3.1nm,0.9s,baz=46,slow=4.3,SNR=4.2
PETK Petropavlovsk- 46.05 16 P **P** **10 38 21.4 +0.6**
SONM Songino Array 46.13 62 P **P** **10 38 22.5 +0.8**
comp=Z,1.1nm,0.7s,baz=349,slow=8.0,SNR=7.9
SONM PcP **PcP** **10 39 57.8 +0.3**
comp=Z,1.0nm,0.8s,baz=325,slow=1.8,SNR=2.3
SONM LR LR 10 59 09.3
comp=Z,535nm,20.2s,baz=352,slow=38
SONM Songino Array 46.13 62 P **P** **10 38 22.6 +0.8**
ULN Ulaanbaatar 46.19 61 P **P** **10 38 23.3 +1.1**
ULN IAmb IAmb 10 38 34.3
comp=Z,10nm,1.0s
LAO LASA Array 46.45 293 P **P** **10 38 26.1 +1.9**
NEW Newport 46.49 303 P **P** **10 38 26.2 +1.8**
NEW IAmb IAmb 10 38 35.1
comp=Z,9.2nm,1.1s
JTMT Jette 46.60 300 P **P** **10 38 26.6 +1.2**
B08A Colville Reser 46.70 305 P **P** **10 38 27.6 +1.5**
B08A IAmb IAmb 10 38 37.3
comp=Z,23nm,1.6s
WMQ Urumqi 47.15 81 *e*P **P** **10 38 33.0 +3.3**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,83nm,4.5s
WMQ LR LR
comp=Z,340nm,17.3s
WMQ LR LR
comp=Z,350nm,23.3s
HRY Holter Researc 47.26 298 P **P** **10 38 31.4 +0.8**
MSO Missoula 47.45 300 P **P** **10 38 33.4 +1.4**
ECSD EROS Data Cent 47.84 283 P **P** **10 38 36.1 +1.1**
GCMT Greycliff 47.84 296 P **P** **10 38 36.0 +0.8**
BTK Batken 48.07 99 P **P** **10 38 38.3 +1.4**
GEYT Alibeck 48.15 112 P **P** **10 38 39.7 +2.2**
comp=Z,2.2nm,0.6s,baz=348,slow=22,SNR=2.2
GEYT LR LR 11 02 05.5
comp=Z,120nm,18.1s,baz=0.0,slow=40
GEYT Alibeck 48.15 112 P **P** **10 38 36.5 -1.0**
GYA0 ALIBECK ARRAY 48.15 112 P **P** **10 38 39.2 +1.7**
LRM Limekiln Ridge 48.22 298 P **P** **10 38 39.5 +1.3**
BOZ Bozeman (W) 48.32 297 P **P** **10 38 40.9 +2.0**
BOZ IAmb IAmb 10 38 49.9
comp=Z,10nm,1.2s
E09A Wood Farm, Sta 48.34 303 P **P** **10 38 37.2 -1.7**
RLMT Red Lodge 48.44 295 P **P** **10 38 41.4 +1.5**
LON Longmire 48.60 307 P **P** **10 38 42.3 +1.4**
LON IAmb IAmb 10 38 51.9
comp=Z,12nm,1.2s
RSSD Black Hills 48.62 290 P **P** **10 38 42.8 +1.5**
DLMT Dillon 48.69 298 P **P** **10 38 43.9 +2.2**
YMP Mirror Lake Pl 48.94 296 P **P** **10 38 45.2 +1.3**
YHL Hebgen Lake 48.99 297 P **P** **10 38 44.9 +0.8**
YHH Holmes Hill 49.00 296 P **P** **10 38 45.6 +1.3**
GAR Garm 49.02 99 P **P** **10 38 44.7 +0.4**
QLMT Earthquake Lak 49.04 297 P **P** **10 38 45.2 +0.7**
CHGR Chuyangaron 49.17 101 P **P** **10 38 47.3 +1.9**
MCMT McKenzie Canyo 49.25 298 P **P** **10 38 47.8 +1.6**
H17A Grant Village 49.34 296 P **P** **10 38 50.0 +3.1**
YPP Pitchstone Pla 49.50 296 P **P** **10 38 50.9 +2.8**
G08A Pilot Rock 49.65 304 P **P** **10 38 51.1 +2.1**
G08A IAmb IAmb 10 39 00.0
comp=Z,18nm,1.6s
FLWY Flagg Ranch 49.67 296 P **P** **10 38 51.4 +2.2**
FLWY IAmb IAmb 10 39 00.7
comp=Z,18nm,1.2s
P51A Williamsport 49.78 268 P **P** **10 38 50.5 +0.6**
P51A IAmb IAmb 10 39 01.8
comp=Z,20nm,1.1s
BCYI Bear Canyon 49.84 299 P **P** **10 38 52.0 +1.4**
BMO Blue Mountains 49.86 302 P **P** **10 38 51.7 +1.1**
BMO IAmb IAmb 10 39 02.2
comp=Z,15nm,1.3s
IMW Indian Meadow 49.88 296 P **P** **10 38 53.2 +2.2**
IMW IAmb IAmb 10 39 03.6
comp=Z,14nm,0.8s
Q54A Coxs Mills 49.90 266 P P 10 38 55.7 +4.8
Q54A IAmb IAmb 10 39 02.9
comp=Z,11nm,0.9s
P49A Miami Univ. Ec 50.00 270 P **P** **10 38 52.0 +0.4**
P49A IAmb IAmb 10 39 03.4
comp=Z,12nm,0.8s
LOHW Long Hollow 50.11 296 P **P** **10 38 54.1 +1.4**
LOHW IAmb IAmb 10 39 04.3
comp=Z,13nm,1.2s
FXWY Fox Creek 50.15 296 P **P** **10 38 54.4 +1.4**
FXWY IAmb IAmb 10 39 05.4
comp=Z,23nm,1.2s
P48A Milroy 50.19 271 P **P** **10 38 54.3 +1.3**
Q51A Peebles 50.27 268 P **P** **10 38 54.8 +1.1**
Q51A IAmb IAmb 10 39 05.5
comp=Z,9.2nm,0.9s
SNOW Snow King Moun 50.28 296 P **P** **10 38 54.1 +0.1**
TPAW Teton Pass 50.28 296 P **P** **10 38 55.0 +0.9**
TPAW IAmb IAmb 10 39 05.0
comp=Z,11nm,1.1s
REDW Red Top Meadow 50.39 296 P **P** **10 38 56.6 +1.8**
K22A Casper 50.44 292 P **P** **10 38 55.7 +0.6**
K22A IAmb IAmb 10 39 04.5
comp=Z,18nm,0.9s
N35A Tabor 50.48 281 P **P** **10 38 56.6 +1.3**
N35A IAmb IAmb 10 39 12.2
comp=Z,20nm,1.2s
HLID Hailey 50.72 299 P **P** **10 38 58.3 +1.1**
BW06 Boulder Array 50.78 295 P **P** **10 38 59.1 +1.4**
BW06 IAmb IAmb 10 39 09.2
comp=Z,13nm,1.2s
PD31 Pinedale Array 50.78 295 P **P** **10 38 59.0 +1.2**
PD31 IAmb IAmb 10 39 09.2
comp=Z,13nm,1.2s
PDAR Pinedale Array 50.78 295 P **P** **10 38 59.0 +1.2**
comp=Z,0.9nm,0.6s,baz=40,slow=4.8,SNR=8.5
PDAR LR LR 11 00 55.4
comp=Z,280nm,19.8s,baz=9.5,slow=37
PDAR Pinedale Array 50.78 295 P **P** **10 38 58.2 +0.4**
I07A Izee 50.91 304 P **P** **10 39 01.8 +3.2**
AHID Auburn Hatcher 51.02 296 P **P** **10 39 01.1 +1.7**
MFID Camas Ranch 51.06 301 P **P** **10 39 00.4 +0.7**
R50A Paris 51.16 269 P **P** **10 39 01.7 +1.4**
R50A IAmb IAmb 10 39 11.5
comp=Z,30nm,1.4s
R49A Shelbyville 51.29 270 P **P** **10 39 02.5 +1.1**
R49A IAmb IAmb 10 39 13.2
comp=Z,16nm,0.9s
J08A Circle Bar Ran 51.48 303 P **P** **10 39 05.5 +2.6**
RWWY Rawlins 51.49 292 P **P** **10 39 03.1 -0.1**
RWWY IAmb IAmb 10 39 11.9
comp=Z,20nm,1.0s
N23A Red Feather La 52.07 291 P **P** **10 39 08.8 +1.3**
HWUT Hardware Ranch 52.22 296 P **P** **10 39 10.0 +1.5**
K05A Summer Lake 52.43 305 P **P** **10 39 13.0 +3.0**
K05A IAmb IAmb 10 39 28.2
comp=Z,24nm,1.7s
R40A Maddies Statio 52.45 277 P **P** **10 39 10.0 +0.1**
R40A IAmb IAmb 10 39 21.5
comp=Z,12nm,1.1s
U54A Nelsons Funny 52.47 266 P **P** **10 39 11.9 +1.7**
U54A IAmb IAmb 10 39 21.8
comp=Z,20nm,1.1s
T50A Nancy 52.47 269 P **P** **10 39 10.7 +0.5**
T50A IAmb IAmb 10 39 21.2
comp=Z,27nm,1.2s
TZTN Tazewell 52.73 268 P **P** **10 39 13.9 +1.8**
TZTN IAmb IAmb 10 39 23.7
comp=Z,28nm,1.2s
T47A Sharon Grove 52.88 272 P **P** **10 39 13.8 +0.7**
T47A IAmb IAmb 10 39 24.7
comp=Z,18nm,1.2s
RDMU Red Mountain 52.94 294 P **P** **10 39 15.2 +1.4**
USRK Ussuriysk Ar. 52.94 40 P **P** **10 39 13.5 0.0**
comp=Z,1.6nm,0.9s,baz=347,slow=7.8,SNR=4.5
USRK Ussuriysk Ar. 52.94 40 P **P** **10 39 13.3 -0.2**
V55A Taylorsville 53.02 266 P **P** **10 39 14.1 -0.1**
V55A IAmb IAmb 10 39 26.0
comp=Z,16nm,1.1s
ISCO Idaho Springs 53.09 290 P **P** **10 39 16.4 +1.3**
BGU Big Grassy Mou 53.10 297 P **P** **10 39 16.0 +1.1**
CBKS Cedar Bluff 53.14 284 P **P** **10 39 15.1 -0.1**
CBKS IAmb IAmb 10 39 27.9
comp=Z,26nm,1.4s
MOD Modoc Plateau 53.16 304 P **P** **10 39 16.6 +1.2**
MOD IAmb IAmb 10 39 27.1
comp=Z,20nm,1.6s
O20A White River Ci 53.16 293 P **P** **10 39 16.9 +1.4**
S39A Bolivar 53.20 278 P **P** **10 39 16.6 +1.0**
S39A IAmb IAmb 10 39 26.7
comp=Z,11nm,1.1s
R32A Long Quarter, 53.36 283 P **P** **10 39 17.2 +0.5**
R32A IAmb IAmb 10 39 28.0
comp=Z,16nm,0.8s
GTA Gaotai 53.38 71 *e*P **P** **10 39 18.3 +1.3**
GTA pP pwP 10 39 24.4 +1.4
GTA sP sP 10 39 27.6 +8.4
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,4.6s
GTA LR LR
comp=Z,140nm,18.9s
GTA LR LR
comp=Z,310nm,18.9s
GTA LR LR
comp=Z,180nm,20.7s
V52A Sevierville 53.42 268 P **P** **10 39 18.4 +1.3**
V52A IAmb IAmb 10 39 28.7
comp=Z,18nm,1.1s
V53A Saluda 53.46 267 P **P** **10 39 19.2 +1.7**
V53A IAmb IAmb 10 39 29.2
comp=Z,25nm,1.2s
V51A Loudon 53.58 269 P **P** **10 39 19.7 +1.3**
V51A IAmb IAmb 10 39 30.3
comp=Z,22nm,1.4s
ELK Elko 53.60 299 P **P** **10 39 20.3 +1.6**
CLTN Cedars of Leba 53.63 271 P **P** **10 39 19.5 +0.8**
CLTN IAmb IAmb 10 39 30.1
comp=Z,14nm,1.2s
TKL Tuckaleechee C 53.63 268 P **P** **10 39 19.9 +1.2**
TKL IAmb IAmb 10 39 30.1
comp=Z,28nm,1.4s
HHC Hu-ho-hao-te 53.71 59 *e*P **P** **10 39 20.8 +1.4**
HHC sP pwP 10 39 30.5 +5.1
HHC S **S** **10 46 55.7 +2.5**
HHC sS sS 10 46 59.6 +4.0
HHC ScS **ScS** **10 49 08.2 -0.4**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.9s
HHC LR LR
comp=Z,200nm,17.3s
HHC LR LR
comp=Z,260nm,14.5s
HHC LR LR
comp=Z,200nm,15.1s
KMSC Kings Mountain 53.74 265 P **P** **10 39 21.1 +1.7**
KMSC IAmb IAmb 10 39 31.6
comp=Z,20nm,1.1s
DUG Dugway, Tooele 53.78 297 P **P** **10 39 20.5 +0.5**
Q24A Divide 53.84 290 P **P** **10 39 21.8 +1.2**
KRMB Red Mountain 54.01 308 P **P** **10 39 22.9 +1.3**
V48A Smith Brothers 54.05 271 P **P** **10 39 21.9 +0.1**
V48A IAmb IAmb 10 39 32.2
comp=Z,18nm,1.2s
PAULI Pauline 54.13 266 P **P** **10 39 23.7 +1.4**
BG3 Lake Jocassee 54.14 267 P **P** **10 39 23.2 +0.7**
BG3 IAmb IAmb 10 39 33.9
comp=Z,15nm,1.2s
W52A Murphy 54.21 268 P **P** **10 39 24.3 +1.3**
W52A IAmb IAmb 10 39 34.3
comp=Z,18nm,1.3s
W50A Signal Mountai 54.33 269 P **P** **10 39 24.5 +0.6**
W50A IAmb IAmb 10 39 35.0
comp=Z,7.8nm,0.9s
KAN08 Anthony NE Sta 54.41 282 P **P** **10 39 25.3 +0.9**
SWET Sewanee 54.42 270 P **P** **10 39 23.9 -0.6**
TMUT Trail Mountain 54.43 295 P **P** **10 39 26.2 +1.3**
LCAR Lake Charles 54.44 275 P **P** **10 39 24.7 +0.2**
LCAR IAmb IAmb 10 39 35.4
comp=Z,11nm,1.1s
T35A Sooner Cattle 54.48 281 P **P** **10 39 25.8 +0.8**
KAN13 South Haven SW 54.54 282 P **P** **10 39 26.6 +1.2**
FCAR Ozark Folk Cen 54.77 276 P **P** **10 39 26.7 -0.3**
HODGE Hodges 54.78 266 P **P** **10 39 27.4 +0.3**
HODGE IAmb IAmb 10 39 38.2
comp=Z,24nm,1.3s
Q16A Castle Valley 54.80 295 P **P** **10 39 29.2 +1.8**
PV22 Blue Mesa, Par 54.81 293 P **P** **10 39 29.9 +2.3**
PV21 Cone Mtn., Par 54.82 293 P **P** **10 39 29.0 +1.3**
PV07 Paradox Valley 54.89 293 P **P** **10 39 28.9 +0.8**
PV23 Carpenter Ridg 54.93 293 P **P** **10 39 30.1 +1.6**
PV15 Paradox Valley 54.96 293 P **P** **10 39 30.5 +1.9**
PV15 IAmb IAmb 10 39 39.1
comp=Z,16nm,1.0s
PV04 Paradox Valley 54.97 293 P **P** **10 39 30.3 +1.6**
PLAL Pickwick Lake 55.00 272 P **P** **10 39 28.7 +0.1**
PLAL IAmb IAmb 10 39 39.1
comp=Z,22nm,1.5s
PV10 Paradox Valley 55.01 293 P **P** **10 39 31.7 +2.6**
PV14 Lion Creek, Pa 55.01 293 P **P** **10 39 30.6 +1.5**
FPAL Fort Paine 55.02 270 P **P** **10 39 29.2 +0.3**
FPAL IAmb IAmb 10 39 39.6
comp=Z,11nm,1.0s
PV12 Saucer Basin, 55.03 293 P **P** **10 39 31.1 +1.9**
PV20 West Nyswonger 55.03 293 P **P** **10 39 30.8 +1.7**
PV16 Nyswonger Mesa 55.05 293 P **P** **10 39 30.9 +1.6**
PV11 David Mesa, Pa 55.06 293 P **P** **10 39 30.7 +1.4**
PV19 Morning Glory 55.06 293 P **P** **10 39 30.8 +1.4**
PV19 IAmb IAmb 10 39 39.9
comp=Z,17nm,0.9s
SDCO Great Sand Dun 55.09 290 P **P** **10 39 30.8 +1.1**
SDCO IAmb IAmb 10 39 41.4
comp=Z,9.4nm,0.9s
PV17 East Wray Mesa 55.09 293 P **P** **10 39 31.3 +1.7**
PV03 Paradox Valley 55.10 293 P **P** **10 39 31.2 +1.6**
PV18 Skein Mesa, Pa 55.12 293 P **P** **10 39 31.5 +1.8**
PV01 Paradox Valley 55.17 293 P **P** **10 39 31.9 +1.7**
PV13 Radium Mtn., P 55.19 293 P **P** **10 39 32.0 +1.7**
S22A 4UR Ranch, Cre 55.29 291 P **P** **10 39 32.9 +1.8**
PV05 Paradox Valley 55.31 293 P **P** **10 39 32.4 +1.2**
MSU Marysvale 55.34 296 P **P** **10 39 33.4 +2.0**
MVU Marysvale 55.35 296 P **P** **10 39 33.3 +1.7**
WHAR Wooly Hollow 55.38 276 P **P** **10 39 34.2 +2.7**
WHAR IAmb IAmb 10 39 42.6
comp=Z,11nm,1.1s
Y52A Lilburn 55.43 268 P **P** **10 39 32.6 +0.8**
Y52A IAmb IAmb 10 39 42.9
comp=Z,25nm,1.4s
PSUT Pine Spring 55.57 298 P **P** **10 39 34.4 +1.4**
VCNR Virginia City 55.64 303 P **P** **10 39 35.0 +1.5**
KVN Kaiserville 55.66 302 P **P** **10 39 35.2 +1.6**
KVN IAmb IAmb 10 39 45.1
comp=Z,27nm,1.7s
OXF Oxford 55.67 273 P **P** **10 39 33.8 +0.2**
OXF IAmb IAmb 10 39 42.8
comp=Z,13nm,0.7s
GOGA Godfrey 55.78 267 P **P** **10 39 35.3 +1.0**
GOGA IAmb IAmb 10 39 45.1
comp=Z,17nm,1.1s
Y49A Blount Mountai 55.82 270 P **P** **10 39 34.3 -0.3**
Y49A IAmb IAmb 10 39 44.5
comp=Z,12nm,1.1s
PNTR Pine Nut 55.83 303 P **P** **10 39 36.3 +1.3**
PNTR IAmb IAmb 10 39 45.7
comp=Z,8.1nm,0.9s
YERR Yerington 55.88 303 P **P** **10 39 36.8 +1.5**
YERR IAmb IAmb 10 39 46.8
comp=Z,14nm,1.4s
R11A Troy Canyon, C 56.00 299 P **P** **10 39 37.1 +1.1**
MVCO Mesa Verde 56.07 292 P **P** **10 39 38.4 +1.7**
RYN Ryan 56.14 302 P **P** **10 39 39.0 +1.9**

AFDM	**Forest Hills D**	**56.16**	**304**	P	**P**	**10 39 38.1 +1.1**
W35A	**Tecumseh**	**56.26**	**281**	P	**P**	**10 39 38.6 +0.9**
NV11	**Mina Array Sit**	**56.28**	**302**	P	**P**	**10 39 39.2 +1.2**
NVAR	**Mina Array Bea**	**56.30**	**302**	P	**P**	**10 39 39.0 +0.7**
	comp=Z,4.3nm,1.1s,baz=23,slow=4.9,SNR=13					
NVAR	**Mina Array Bea**	**56.30**	**302**	P	**P**	**10 39 39.4 +1.1**
MIAR	**Mount Ida**	**56.32**	**277**	P	**P**	**10 39 39.2 +1.1**
MIAR				IAmb	IAmb	10 39 47.6
	comp=Z,14nm,1.1s					
Y45A	**Yeager Farm, C**	**56.33**	**273**	P	**P**	**10 39 39.3 +1.1**
Y45A				IAmb	IAmb	10 39 48.5
	comp=Z,17nm,0.9s					
SZCU	**Shurtz Canyon**	**56.38**	**297**	P	**P**	**10 39 41.1 +2.3**
WAKR	**Walker**	**56.38**	**303**	P	**P**	**10 39 40.9 +2.0**
CCUT	**Cedar City**	**56.46**	**297**	P	**P**	**10 39 41.6 +2.1**
TPH	**Tonopah**	**56.50**	**301**	P	**P**	**10 39 41.1 +1.4**
X37A	**Clayton**	**56.57**	**279**	P	**P**	**10 39 41.1 +1.1**
X37A				IAmb	IAmb	10 39 49.5
	comp=Z,14nm,1.1s					
152A	**Waverly Hall**	**56.71**	**268**	P	**P**	**10 39 43.7 +2.7**
152A				IAmb	IAmb	10 39 51.5
	comp=Z,25nm,1.6s					
PRN	**Pahroc Range**	**56.84**	**298**	P	**P**	**10 39 43.5 +1.4**
PRN				IAmb	IAmb	10 39 53.6
	comp=Z,19nm,1.5s					
KNB	**Kanab**	**56.90**	**296**	P	**P**	**10 39 44.1 +1.5**
LCMT	**Little Creek M**	**56.97**	**297**	P	**P**	**10 39 44.4 +1.4**
WMOK	**Wichita Mounta**	**56.97**	**282**	P	**P**	**10 39 44.0 +1.2**
WLAR	**White Oak Lake**	**57.09**	**277**	P	**P**	**10 39 45.2 +1.6**
MDPB	**Devils Postpil**	**57.19**	**302**	P	**P**	**10 39 46.8 +2.1**
OMMB	**Old Mammoth Mi**	**57.20**	**302**	P	**P**	**10 39 46.3 +1.5**
OMMB				IAmb	IAmb	10 39 57.0
	comp=Z,13nm,1.5s					
LZH	**Lanzhou**	**57.25**	**67**	*eP*	**P**	**10 39 46.5 +1.5**
LZH				pP	sP	10 39 49.8 +2.7
LZH				sP	pwP	10 39 51.8 +0.8
LZH				pmax	pmax	
	comp=Z,17nm,1.2s					
LZH				LR	LR	
	comp=Z,200nm,15.7s					
LZH				LR	LR	
	comp=Z,310nm,12.5s					
LZH				LR	LR	
	comp=Z,160nm,10.8s					
U15A	**North Rim**	**57.40**	**296**	P	**P**	**10 39 47.3 +1.1**
TPNV	**Topopah Spring**	**57.47**	**299**	P	**P**	**10 39 47.1 +0.7**
SHPR	**Sheep Range**	**57.75**	**298**	P	**P**	**10 39 49.6 +1.1**
SHPR				IAmb	IAmb	10 40 00.1
	comp=Z,16nm,1.6s					
Z38A	**Mt. Pleasant**	**57.81**	**278**	P	**P**	**10 39 50.1 +1.4**
ANMO	**Albuquerque**	**57.98**	**290**	P	**P**	**10 39 51.6 +1.5**
ANMO				IAmb	IAmb	10 40 01.1
	comp=Z,17nm,1.4s					
WUAZ	**Wupatki**	**58.16**	**295**	P	**P**	**10 39 52.4 +1.0**
WUAZ				IAmb	IAmb	10 40 01.9
	comp=Z,12nm,1.1s					
W18A	**Petrified Fore**	**58.31**	**293**	P	**P**	**10 39 53.3 +0.8**
MSTX	**Muleshoe**	**58.36**	**286**	P	**P**	**10 39 54.0 +1.3**
MSTX				IAmb	IAmb	10 40 06.8
	comp=Z,11nm,1.2s					
BNM	**Barren Site**	**58.78**	**290**	P	**P**	**10 39 56.9 +1.0**
W13A	**Hualapai Mount**	**58.94**	**297**	P	**P**	**10 39 58.3 +1.4**
ISA	**Isabella, Lake**	**59.04**	**301**	P	**P**	**10 39 58.5 +1.1**
ISA				IAmb	IAmb	10 40 08.1
	comp=Z,16nm,1.4s					
KS19	**Wonju Array Si**	**59.10**	**45**	P	**P**	**10 39 58.5 +0.8**
KS19				IAmb	IAmb	10 39 59.5
	comp=Z,7.1nm,0.7s					
KSRS	**Korea Array**	**59.16**	**45**	P	**P**	**10 39 58.0 0.0**
	comp=Z,0.8nm,0.3s,baz=0.1,slow=5.7,SNR=5.3					
KSRS				LR	LR	11 06 32.0
	comp=Z,54nm,18.8s,baz=340,slow=37					
GSC	**Goldstone, Bar**	**59.16**	**300**	P	**P**	**10 39 59.8 +1.5**
GSC				IAmb	IAmb	10 40 10.6
	comp=Z,10nm,1.1s					
KSAR	**Wonju Array Be**	**59.16**	**45**	P	**P**	**10 39 57.7 -0.4**
X16A	**Lo Mia Camp, P**	**59.25**	**294**	P	**P**	**10 40 00.1 +1.1**
GDL2	**Guadalupe Moun**	**60.34**	**287**	P	**P**	**10 40 08.0 +1.5**
435B	**Jarrell**	**60.65**	**280**	P	**P**	**10 40 10.3 +1.9**
MNTX	**Cornudas Mount**	**60.99**	**288**	P	**P**	**10 40 11.6 +0.8**
TUC	**Tucson**	**61.22**	**293**	P	**P**	**10 40 14.3 +2.0**
TUC				IAmb	IAmb	10 40 24.5
	comp=Z,7.3nm,0.9s					
JCT	**Junction City**	**61.30**	**282**	P	**P**	**10 40 14.2 +1.2**
319A	**Douglas**	**61.91**	**292**	P	P	10 40 22.0 +4.9
CD2	**Chengdu**	**62.31**	**69**	*eP*	**P**	**10 40 19.0 -0.7**
WSAR	**Wadi Sarin**	**62.64**	**115**	LR	LR	11 11 07.1
	comp=Z,73nm,19.4s,baz=12,slow=39					
TX31	**Lajitas Ar. Si**	**63.04**	**286**	P	**P**	**10 40 24.9 +0.3**
TX32	**Lajitas Array**	**63.04**	**286**	P	**P**	**10 40 25.1 +0.4**
TX32				IAmb	IAmb	10 40 35.2
	comp=Z,13nm,1.4s					
TXAR	**Lajitas Array**	**63.04**	**286**	P	**P**	**10 40 25.2 +0.6**
	comp=Z,2.2nm,0.7s,baz=39,slow=4.5,SNR=25					
TXAR				LR	LR	11 08 41.4
	comp=Z,348nm,19.0s,baz=0.0,slow=37					
TXAR	**Lajitas Array**	**63.04**	**286**	P	**P**	**10 40 24.9 +0.2**
833A	**Chaparral WMA,**	**63.35**	**282**	P	**P**	**10 40 28.0 +1.4**
NJ2	**Nanjing**	**63.36**	**54**	*eP*	**P**	**10 40 25.6 -1.0**
NJ2				pmax	pmax	
	comp=Z,12nm,0.6s					
TOA0	**Torodi Ar. Sit**	**67.54**	**175**	P	**P**	**10 40 54.6 +0.8**
TOA0				IAmb	IAmb	10 40 55.5
	comp=Z,9.7nm,0.9s					
TORD	**Torodi Ar. Bea**	**67.54**	**175**	P	**P**	**10 40 54.8 +1.0**
	comp=Z,6.3nm,0.7s,baz=351,slow=6.4,SNR=31					
TORD	**Torodi Ar. Bea**	**67.54**	**175**	P	**P**	**10 40 54.3 +0.5**
PAPH	**Port-au-Prince**	**68.57**	**253**	P	**P**	**10 41 01.9 +1.6**
ZAIG	**Zacatecas**	**69.30**	**284**	P	**P**	**10 41 06.5 +1.4**
ZAIG				IAmb	IAmb	10 41 17.0
	comp=Z,14nm,1.4s					
TEIG	**Tepich**	**69.47**	**269**	P	**P**	**10 41 06.7 +0.9**
CMAR	**Chiang Mai Arr**	**73.78**	**76**	P	**P**	**10 41 32.5 +0.7**
	comp=Z,5.0nm,1.1s,baz=351,slow=7.8,SNR=13					
CMAR	**Chiang Mai Arr**	**73.78**	**76**	P	**P**	**10 41 31.9 +0.1**
TIC	**Toumodi**	**73.98**	**183**	*eP*	**P**	**10 41 36.6 +3.6**
KIC	**Kosan Boka**	**74.26**	**182**	*eP*	**P**	**10 41 34.9 +0.3**
	comp=Z,23nm,1.1s					
LIC	**Lamto**	**74.40**	**183**	*eP*	**P**	**10 41 34.7 -0.7**
	comp=Z,4.4nm,0.4s					
QIZ	**Qiongzhong**	**74.90**	**65**	P	**P**	**10 41 37.0 -1.3**
QIZ				S	**S**	**10 51 14.3 -1.1**
QIZ				LR	LR	
	comp=Z,440nm,16.5s					
QIZ				LR	LR	
	comp=Z,370nm,12.4s					
SDV	**Santo Domingo**	**77.77**	**250**	P	**P**	**10 41 56.4 +1.5**
SDV				IAmb	IAmb	10 41 56.9
	comp=Z,8.5nm,0.7s					
SMLC	**San Martn de**	**78.38**	**253**	*eP*	**P**	**10 41 58.4 +0.4**
MOTC	**Monteria, Cord**	**78.66**	**255**	*eP*	P	10 41 52.3 -7.3
ZARC	**Zaragoza, Cauc**	**79.79**	**254**	*eP*	**P**	**10 42 05.1 -0.6**
BARC	**Barichara**	**80.41**	**252**	*eP*	**P**	**10 42 09.5 +0.1**
DBBC	**Dabeiba**	**80.47**	**255**	*eP*	**P**	**10 42 11.1 +1.6**
RUSC	**La Rusia**	**81.08**	**252**	*eP*	**P**	**10 42 13.9 +0.6**
GUY2C	**Guyana, Caldas**	**82.09**	**254**	*eP*	**P**	**10 42 19.2 +0.6**
ROSC	**El Rosal**	**82.31**	**253**	LR	LR	11 20 36.2
	comp=Z,50nm,18.2s,baz=35,slow=37					
ROSC	**El Rosal**	**82.31**	**253**	P	**P**	**10 42 21.1 +1.5**
ROSC				IAmb	IAmb	10 42 30.8
	comp=Z,14nm,0.9s					
RREF	**El Recreo**	**82.41**	**254**	*eP*	P	10 42 14.2 -6.2
CHIC	**Chingaza**	**82.42**	**252**	*eP*	**P**	**10 42 20.0 -0.2**
PLMC	**San Jos del P**	**82.55**	**255**	*eP*	**P**	**10 42 22.1 +1.6**
TOLC	**Tolima**	**82.71**	**254**	*eP*	**P**	**10 42 23.8 +2.1**
ORTC	**Ortega, Tolima**	**83.36**	**253**	*eP*	**P**	**10 42 26.2 +1.5**
YOTC	**Yotoco, Valle**	**83.47**	**255**	*eP*	**P**	**10 42 24.7 -0.6**
OTAV	**Otavalo**	**87.47**	**256**	P	**P**	**10 42 46.8 +1.1**
OTAV				IAmb	IAmb	10 42 58.2
	comp=Z,6.9nm,1.0s					
ITTB	**Itaituba**	**88.66**	**233**	*eP*	P	10 42 45.8 -4.9
RPSI	**Rantau Prapat**	**89.23**	**78**	P	**P**	**10 42 52.5 -0.9**
SAML	**Samuel**	**94.19**	**240**	*eP*	P	10 43 10.7 -5.6
CLDB	**Colider**	**95.08**	**232**	*eP*	P	10 43 15.2 -5.2
VILB	**Vilhena**	**97.71**	**236**	*eP*	P	10 43 26.9 -5.5
BDFB	**Brasilia**	**98.83**	**224**	LR	LR	11 23 52.6
	comp=Z,42nm,18.1s,baz=209,slow=33					
PTLB	**Pontes e Lacer**	**100.02**	**235**	*eP*	**Pdif**	**10 43 37.4 -5.2**
WRA	**Warramunga Arr**	**116.56**	**46**	PKP	**PKPdf**	**10 48 40.0 -1.1**
	comp=Z,0.4nm,0.7s,baz=339,slow=2.2,SNR=5.6					
WRA	**Warramunga Arr**	**116.56**	**46**		**PKPdf**	**10 48 40.8 -0.4**
ASAR	**Alice Springs**	**120.18**	**47**	PKP	**PKPdf**	**10 48 47.5 -0.5**
	comp=Z,0.8nm,0.6s,baz=359,slow=1.9,SNR=23					
ASAR	**Alice Springs**	**120.18**	**47**		**PKiKP**	**10 48 48.0 -0.1**
PLCA	**Paso Flores**	**126.48**	**241**	PKP	**PKiKP**	**10 49 00.6 +0.5**
	comp=Z,2.1nm,0.8s,baz=81,slow=7.4,SNR=4.2					
PMSA	**Palmer Station**	**149.07**	**227**	PKP	**PKPdf**	**10 49 38.2 -1.5**
	comp=Z,3.5nm,0.9s,baz=315,slow=2.9,SNR=1.4					
PMSA				PKPbc	**PKPbc**	**10 49 44.0 +0.1**
	comp=Z,7.8nm,0.9s,baz=0.8,slow=6.2,SNR=4.4					
PMSA	**Palmer Station**	**149.07**	**227**		**PKPdf**	**10 49 38.9 -0.8**
PMSA					**PKiKP**	**10 49 45.1 -0.1**
MAW	**Mawson**	**152.27**	**131**	PKPbc	**PKiKP**	**10 49 52.3 +0.7**
	comp=Z,7.7nm,1.1s,baz=317,slow=3.2,SNR=9.9					
MAW	**Mawson**	**152.27**	**131**		**PKiKP**	**10 49 52.7 +1.0**
MAW				PKPab	**pPKPab**	**10 50 03.1 0.0**

WEL 08 10:40:55.3, 42°S ± 2°, × 17°3E ± °, h11 km ± 4 km, M2.8/16, ML2.8/16, MLv2.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=24.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.52**	**21**	P	Pg	10 41 05.9	+0.5
LTZ	**Lake Taylor**	**0.60**	**208**	P	Pb	10 41 08.1	+0.2
LTZ				S	Sb	10 41 16.1	-0.3
KHZ	**Kahutara**	**0.68**	**105**	P	Pb	10 41 09.2	+0.1
GVZ	**Greta Valley S**	**0.77**	**159**	P	Pn	10 41 11.6	-0.5
DSZ	**Denniston Nort**	**0.81**	**308**	P	Pn	10 41 12.6	0.0
DSZ				S	Sn	10 41 23.9	-0.7
AMCZ	**Amberley**	**0.93**	**180**	P	Pn	10 41 15.0	+0.7
INZ	**Inchbonnie**	**1.01**	**242**	P	Pn	10 41 15.7	+0.3
BSWZ	**Blackbirch Sta**	**1.05**	**60**	P	Pn	10 41 16.0	0.0
NNZ	**Nelson**	**1.16**	**28**	P	Pb	10 41 17.2	-0.2
OXZ	**Oxford**	**1.17**	**203**	P	Pg	10 41 17.9	+0.2
OXZ				S	Sn	10 41 34.3	+0.7
TUWZ	**Tuamarina**	**1.26**	**50**	P	Pb	10 41 19.1	0.0
CMWZ	**Cape Campbell**	**1.26**	**67**	P	Pg	10 41 21.2	+1.6
QRZ	**Quartz Range**	**1.42**	**356**	P	Pg	10 41 22.5	-0.1
MQZ	**McQueen's Vall**	**1.46**	**180**	P	Pn	10 41 21.4	-0.1
MQZ				S	Sn	10 41 40.0	-0.6
OKCZ	**Okains Bay**	**1.50**	**169**	P	Pn	10 41 22.6	+0.4
MHCZ	**Mount Hutt**	**1.51**	**212**	P	Pb	10 41 23.4	0.0
TCW	**Tory Channel**	**1.59**	**50**	P	Pb	10 41 24.6	-0.1
AKCZ	**Akaroa Harbour**	**1.64**	**174**	P	Pn	10 41 24.2	+0.2
WVZ	**Waitaha Valley**	**1.64**	**239**	P	Pg	10 41 27.0	+0.3
DUWZ	**D'Urville Isla**	**1.73**	**34**	P	Pg	10 41 27.8	-0.6
WACZ	**Wakanui South**	**1.80**	**199**	P	Pn	10 41 26.3	+0.1
RPZ	**Rata Peaks**	**1.88**	**218**	P	Pg	10 41 31.8	+0.5
CAW	**Cannon Point**	**2.13**	**59**	P	Pn	10 41 31.9	+1.1
OGWZ	**Otaki Gorge**	**2.37**	**54**	P	Pb	10 41 38.2	+0.3

*SSNC **08** 10:41:25.5±0.8, 19°.30N×78°.58W, h30 km, MD3.4, ML3.1, MW3.5*
*JSN **08** 10:41:27.3±1.0, 19°.44N×78°.45W, h30 km ± 999 km, MD4.1*

ISC 08 10:41:23.1±1.9, 19°.45N±0°.05×78°.54W±0°.05, h16 km ± 13 km, n13, σ1°.946/23, 4C, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTDJ	**Mount Denham**	**1.55**	**142**	*eP*	**Pn**	**10 41 50.5**	**+0.4**
LMGC	**Las Mercedes**	**1.57**	**67**	*eP*	**Pb**	**10 41 51.4**	**-0.3**
LMGC				*eS*	**Sn**	**10 42 10.4**	**+0.1**
LMGC				IAML		10 42 11.6	
	comp=E,175nm,0.2s						
LMGC				IAML		10 42 11.8	
	comp=N,250nm,0.1s						
BBJ	**Bamboo Saint A**	**1.61**	**131**	*iP*	**Pn**	**10 41 51.9**	**+0.9**
BBJ				*i* S	**Sn**	**10 42 10.2**	**-1.2**
MCJ	**Malvern**	**1.72**	**152**	*iP*	**Pn**	**10 41 53.8**	**+1.4**
MCJ				*i* S	**Sn**	**10 42 13.1**	**-1.1**
BNJ	**Bonny Gate**	**1.88**	**126**	*i* P	**Pn**	**10 41 55.4**	**+0.8**
CCCC	**Cccc**	**1.89**	**23**	*eP*	**Pg**	**10 41 59.5**	**+0.2**
CCCC				*eS*	**Sg**	**10 42 22.5**	**-1.4**
CCCC				IAML		10 42 34.5	
	comp=E,28nm,0.4s						
CCCC				IAML		10 42 34.9	
	comp=N,26nm,0.4s						
STH	**Stony Hill**	**2.14**	**129**	*iP*	**Pn**	**10 41 58.9**	**+0.7**
PCJ	**Portland Cotta**	**2.15**	**142**	*iP*	**Pn**	**10 42 00.2**	**+1.9**
PCJ				*i* S	**Sn**	**10 42 24.3**	**-0.3**
RCC	**Rio Carpintero**	**2.74**	**78**	*eP*	**Pn**	**10 42 07.4**	**+1.0**
RCC				*eS*	**Sn**	**10 42 37.1**	**-2.0**
RCC				IAML		10 42 39.4	
	comp=N,17nm,0.1s						
RCC				IAML		10 42 41.0	
	comp=E,18nm,0.2s						
MGV	**Manicaragua**	**2.97**	**333**	*eP*	**Pn**	**10 42 11.1**	**+1.6**
MGV				*eS*	**Sn**	**10 42 44.6**	**-0.2**
GTMO	**Guantanamo**	**3.27**	**78**	*eP*	**Pn**	**10 42 16.6**	**+3.0**
GTMO				*eS*	**Sn**	**10 42 53.1**	**+0.9**
GTMO				IAML		10 42 57.1	
	comp=N,138nm,0.6s						
GTMO				IAML		10 42 57.7	
	comp=E,83nm,0.4s						
MASC	**Masc**	**4.12**	**79**	*eP*	**Pn**	**10 42 25.8**	**+0.4**
MASC				*eS*	**Sn**	**10 43 11.7**	**-1.6**
MASC				IAML		10 43 17.8	
	comp=E,26nm,0.5s						
MASC				IAML		10 43 18.7	
	comp=N,27nm,0.8s						
SOR	**Soroa**	**5.33**	**309**	*eP*	**Pn**	**10 42 43.4**	**+1.3**
SOR				*eS*	**Sn**	**10 43 40.7**	**-2.5**
SOR				IAML		10 43 48.6	
	comp=E,5.9nm,0.3s						
SOR				IAML		10 43 48.6	
	comp=N,4.0nm,0.4s						

*IDC **08** 11:06:23.1±0.5, 7°.46N×94°.30E, h0 km, mb4.3/19, mb1 4.3/20, mb1mx4.1/51, mbtmp4.3/20, ML4.3/1, MS3.7/24, Ms1 3.7/24, ms1mx3.5/45, Error ellipse: s-maj=24.9km s-min=13.5km az=66.0*
*NEIC **08** 11:06:26.5±1.7, 7°.46N±0°.07×94°.23E±0°.09, h23 km ± 4 km, mb4.7/29, Error ellipse: s-maj=13.9km s-min=8.5km az=55.0*
*DJA **08** 11:06:28.7±0.4, 8°N±3°×97°5E±°, h10 km, M4.5/12, mb4.5/12, mB5.0/5, MLv4.6/6, Mw(mB)4.3/5*

ISC 08 11:06:27.0±0.4, 7°.49N±0°.06×94°.26E±0°.07, h24 km, n113, σ1°22/104, mb4.6/33, MS3.7/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.48**	**130**	P	**Pn**	**11 07 18.4**	**-1.3**
LHMI	**Lhok Sumawe**	**3.48**	**130**	Pn	**Pn**	**11 07 20.1**	**+0.4**
MLSI	**Meulaboh, Aceh**	**3.84**	**146**	P	**Pn**	**11 07 25.8**	**+1.1**
PKDT	**Phuket**	**4.06**	**84**	P	**Pn**	**11 07 27.7**	**+0.1**
PKDT				S	Sn	11 07 57.2	-17
PBA	**Port Blair**	**4.41**	**340**	Pn	Pn	11 07 30.4	-2.1
SURT	**Suratani**	**4.72**	**72**	P	**Pn**	**11 07 37.5**	**+0.7**
KRAB	**Krabi**	**4.94**	**81**	P	**Pn**	**11 07 40.7**	**+0.9**
TPTI		**5.10**	**145**	P	**Pn**	**11 07 43.0**	**+1.0**
TRTT	**Trang**	**5.39**	**86**	P	**Pn**	**11 07 45.9**	**-0.1**
PSI	**Prapat**	**6.57**	**135**	Pn	**Pn**	**11 08 04.2**	**+1.9**
	2.4nm,0.3s,baz=0.1,slow=14,SNR=5.5						
PSI				Sn	**Sn**	**11 09 15.2**	**-1.4**
	2.8nm,0.3s,baz=7.9,slow=14,SNR=1.7						
RPSI	**Rantau Prapat**	**6.65**	**135**	Pn	**Pn**	**11 08 04.4**	**+1.1**
RPSI				Sn	**Sn**	**11 09 17.8**	**-0.5**
RPSI	**Rantau Prapat**	**6.65**	**135**		**Pn**	**11 08 04.2**	**+1.0**
RPSI					**Sn**	**11 09 15.2**	**-3.1**
KULM	**Kulim**	**6.71**	**109**	Pn	**Pn**	**11 08 03.0**	**-1.1**
KULM				Sn	**Sn**	**11 09 18.8**	**-1.1**
GSI	**Gunungsitoli**	**6.97**	**152**	P	**Pn**	**11 08 10.1**	**+2.4**
	0.3nm32nm,1.7s						
GSI	**Gunungsitoli**	**6.97**	**152**	Pn	**Pn**	**11 08 08.6**	**+0.9**
IPM	**Ipoh**	**7.36**	**114**	Pn	**Pn**	**11 08 11.3**	**-1.7**
IPM				Sn	**Sn**	**11 09 34.7**	**-1.2**
PHET	**Kaeng Krachan**	**7.55**	**44**	P	**Pn**	**11 08 15.7**	**+0.1**
SRDT	**SRDT**	**8.32**	**35**	P	**Pn**	**11 08 27.5**	**+1.3**
PATY	**Pattaya**	**8.45**	**50**	P	**Pn**	**11 08 28.6**	**+0.6**
MNSI	**Mandailing Nat**	**8.50**	**141**	P	**Pn**	**11 08 26.6**	**-2.1**
SDSI	**Sungai Dareh**	**11.00**	**139**	P	**Pn**	**11 09 03.9**	**+0.9**
	7um11nm,0.5s						
MYKOM	**Kota Tinggi**	**11.10**	**120**	Pn	**Pn**	**11 09 04.1**	**-0.3**
CHAI	**Chaiyaphum**	**11.27**	**41**	P	**Pn**	**11 09 08.5**	**+1.7**
PHIT	**Phitsanulok**	**11.36**	**31**	P	**Pn**	**11 09 10.5**	**+2.6**
CM31	**Chiang Mai Arr**	**11.82**	**22**	Pn	**Pn**	**11 09 17.2**	**+3.0**
CMAR	**Chiang Mai Arr**	**11.82**	**22**	Pn	**Pn**	**11 09 15.3**	**+1.1**
	0.6nm,0.3s,baz=215,slow=15,SNR=12						
UTTA	**Uttaradit**	**11.90**	**30**	P	**Pn**	**11 09 17.1**	**+1.8**
CMMT	**Chiang Mai**	**12.15**	**22**	P	**Pn**	**11 09 19.9**	**+1.2**
PHRA	**Phrae**	**12.39**	**27**	P	**Pn**	**11 09 25.6**	**+3.6**
KSM	**Kuching**	**17.07**	**110**		**Pn**	**11 10 23.7**	**-0.5**
SHL	**Shillong**	**18.12**	**353**	P	**Pn**	**11 10 35.9**	**-1.5**
SBUM	**Sibu**	**18.57**	**105**		**P**	**11 10 41.6**	**-0.9**
LEM	**Lembang**	**19.48**	**137**	LR	LR	11 20 21.0	
	comp=Z,405nm,18.8s,baz=278,slow=43						
LSA	**Lhasa**	**22.29**	**353**	P	**P**	**11 11 22.7**	**-0.6**
LSA				IAmb	IAmb	11 11 26.8	
	comp=Z,23nm,0.8s						
BLJI	**Banyuglugur**	**24.50**	**128**	P	**P**	**11 11 45.9**	**+1.2**
	comp=Z,63nm,0.8s						
H08S3	**Diego Garcia H**	**26.40**	**236**	T	T	11 38 45.4	
	baz=55,slow=75,SNR=281						
H08S2	**Diego Garcia H**	**26.40**	**236**	T	T	11 38 41.7	
	baz=55,slow=75,SNR=375						
H08S1	**Diego Carcia H**	**26.42**	**236**	T	T	11 38 46.3	
	baz=55,slow=75,SNR=64						
MPSI	**Mapaga**	**26.53**	**104**	P	**P**	**11 12 04.1**	**+1.0**
	comp=Z,30nm,1.0s						
TGY	**Tagaytay City**	**27.00**	**74**	LR	LR	11 21 10.5	
	comp=Z,196nm,21.9s,baz=282,slow=33						
KAPI	**Kappang**	**28.30**	**115**	LR	LR	11 23 20.9	
	comp=Z,159nm,20.8s,baz=300,slow=36						
KNMB	**Chin-men Tao**	**28.60**	**51**	P	**P**	**11 12 22.0**	**+0.4**
BKSI	**Bulukumba**	**28.77**	**116**	P	**P**	**11 12 24.7**	**+1.5**
XAN	**Xi'an**	**29.69**	**25**	P	**P**	**11 12 31.2**	**0.0**
XAN				IAmb	IAmb	11 12 38.9	
	comp=Z,8.8nm,0.9s						
NIL	**Nilore**	**32.49**	**326**	P	**P**	**11 12 55.4**	**-0.5**
GAR	**Garm**	**38.07**	**329**	P	**P**	**11 13 43.2**	**-0.7**
GAR				IAmb	IAmb	11 13 59.1	
	comp=Z,14nm,0.9s						
CHGR	**Chuyangaron**	**38.42**	**328**	P	**P**	**11 13 45.2**	**-1.6**
CHGR				IAmb	IAmb	11 13 57.3	
	comp=Z,18nm,0.8s						
BTK	**Batken**	**38.63**	**331**	P	**P**	**11 13 48.6**	**0.0**
BTK				IAmb	IAmb	11 14 01.9	
	comp=Z,12nm,0.9s						
MK31	**Makanchi Array**	**40.49**	**347**	P	**P**	**11 14 03.6**	**-0.3**
MKAR	**Makanchi Array**	**40.49**	**347**	P	**P**	**11 14 03.6**	**-0.4**
	comp=Z,7.2nm,0.6s,baz=168,slow=7.9,SNR=41						
MKAR				PcP	**PcP**	**11 16 06.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=190,slow=3.5,SNR=2.0						
MKAR				LR	LR	11 34 18.1	
	comp=Z,59nm,19.5s,baz=82,slow=41						
MKAR	**Makanchi Array**	**40.49**	**347**	P	**P**	**11 14 03.4**	**-0.5**
MAKZ	**Makanchi**	**40.58**	**347**	P	**P**	**11 14 04.2**	**-0.5**
MAKZ				IAmb	IAmb	11 14 04.9	
	comp=Z,8.1nm,0.7s						
KK31	**Karatay Array**	**41.16**	**333**	P	**P**	**11 14 08.9**	**-0.7**
KKAR	**Karatay Array**	**41.16**	**333**	P	**P**	**11 14 09.1**	**-0.4**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**11 14 12.8**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=196,slow=8.4,SNR=8.4						
SONM				PcP	**PcP**	**11 16 09.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=214,slow=3.7,SNR=1.9						
SONM				LR	LR	11 33 27.2	
	comp=Z,68nm,21.3s,baz=155,slow=39						
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**11 14 12.7**	**+0.3**
JNU	**Nakatsue**	**42.41**	**48**	LR	LR	11 32 37.6	
	comp=Z,146nm,20.2s,baz=260,slow=37						
KSRS	**Korea Array**	**42.68**	**41**	LR	LR	11 34 10.0	
	comp=Z,94nm,20.6s,baz=215,slow=39						
GEYT	**Alibeck**	**44.57**	**318**	P	**P**	**11 14 37.5**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=127,slow=9.4,SNR=4.9						
GEYT				LR	LR	11 36 23.8	
	comp=Z,81nm,18.5s,baz=50,slow=40						
GEYT	**Alibeck**	**44.57**	**318**	P	**P**	**11 14 36.1**	**-1.2**
KURBB	**Kurchatov Arra**	**44.95**	**346**	P	**P**	**11 14 40.1**	**+0.1**
	comp=Z,10nm,0.7s,baz=167,slow=7.1,SNR=55						
KURBB				PcP	**PcP**	**11 16 20.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=160,slow=3.0,SNR=1.5						
KURK	**Kurchatov**	**45.02**	**346**	P	**P**	**11 14 40.8**	**+0.3**
KURK				IAmb	IAmb	11 14 41.6	
	comp=Z,13nm,0.9s					

comp=Z,60nm,18.9s,baz=62,slow=35
NVAR Mina Array Bea 125.19 31 PKP **PKPdf 11 25 26.8 +0.5**
comp=Z,0.4nm,0.7s,baz=333,slow=3.2,SNR=4.6
NVAR Mina Array Bea 125.19 31 PKPdf 11 25 27.1 +0.7
PDAR Pinedale Array 125.48 21 PKP **PKPdf 11 25 26.6 -0.3**
comp=Z,0.4nm,0.8s,baz=64,slow=2.1,SNR=3.0
PDAR Pinedale Array 125.48 21 PKPdf 11 25 24.8 -2.0
TXAR Lajitas Array 139.53 24 PKP **PKPdf 11 25 53.3 -0.1**
comp=Z,0.2nm,0.7s,baz=0.0,slow=0.3,SNR=3.8
TXAR Lajitas Array 139.53 24 PKPdf 11 25 50.1 -3.3
PLCA Paso Flores 144.23 200 PKP **PKPab 11 26 00.2 +1.0**
comp=Z,1.2nm,0.8s,baz=143,slow=5.1,SNR=4.1
PLCA Paso Flores 144.23 200 PKPbc 11 26 01.1 +1.5
CPUP Villa Florida 147.12 232 PKPbc **PKPdf 11 26 07.8 +1.2**
comp=Z,0.6nm,0.4s,baz=142,slow=1.4,SNR=1.5
CPUP Villa Florida 147.12 232 PKPbc 11 26 09.2 +0.4

NEIC ***08*** *11:15:39.4±1.9,5.38N±0.0°×94.25E±0.0°,d4,h35km±2km, mb4.6/26, Error ellipse: s-maj=14.6km s-min=6.8km az=170.0*
DJA ***08*** *11:15:39.8±0.5,5.5°N±4.4°×9.4°E±.°, h26km±4km, M4.5/10, mb4.5/10, mB5.7/1, MLv4.5/9, Mw(mB)5.2/1*
IDC ***08*** *11:15:41.2±3.9,5.33N×94.27E, h52km±33km, mb4.0/14, mb1 4.2/16, mb1mx3.9/47, mbtmp4.3/16, ML4.3/2, Error ellipse: s-maj=35.3km s-min=13.6km az=54.0*
ISC 08 11:15:40.7±0.5,5.40N±0.06°×94.35E±0.06, h46km, n79, σ1°22/78, mb4.5/33, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MLSI	**Meulaboh, Aceh**	**2.33**	**119**	P		**Pn**	**11 16 17.8**	**+1.1**
LHMI	**Lhok Sumawe**	**2.59**	**94**	P		**Pn**	**11 16 22.0**	**+1.8**
LHMI	**Lhok Sumawe**	**2.59**	**94**	Pn		**Pn**	**11 16 21.6**	**+1.5**
TPTI		**3.53**	**127**	P		**Pn**	**11 16 33.6**	**+0.5**
GSI	**Gunungsitoli**	**5.18**	**142**	P		**Pn**	**11 16 57.1**	**+1.3**
	0.3nm38nm,0.6s							
GSI	**Gunungsitoli**	**5.18**	**142**			**Pn**	**11 16 56.7**	**+0.8**
GSI				Sn		**Sn**	**11 17 54.9**	**+0.5**
PSI	**Prapat**	**5.24**	**119**	P		**Pn**	**11 16 58.8**	**+2.1**
	3.5nm,0.3s,baz=356,slow=0.8,SNR=15							
PSI				S		**Sn**	**11 17 55.3**	**-0.6**
	3.2nm,0.3s,baz=179,slow=18,SNR=2.1							
RPSI	**Rantau Prapat**	**5.29**	**120**			**Pn**	**11 16 57.2**	**-0.1**
RPSI				Sn		**Sn**	**11 17 56.3**	**-0.8**
RPSI	**Rantau Prapat**	**5.29**	**120**			**Pn**	**11 16 58.8**	**+1.5**
RPSI						**Sn**	**11 17 55.3**	**-1.7**
KULM	**Kulim**	**6.27**	**91**			**Pn**	**11 17 11.7**	**+0.9**
IPM	**Ipoh**	**6.71**	**98**			**Pn**	**11 17 16.6**	**-0.2**
IPM				Sn		**Sn**	**11 18 33.1**	**+1.1**
MNSI	**Mandailing Nat**	**6.94**	**131**	P		**Pn**	**11 17 19.5**	**-0.4**
	0.2nm49nm,0.5s							
SISI	**Saibi**	**8.18**	**145**	P		**Pn**	**11 17 37.8**	**+0.8**
	23nm,1.3s							
PALK	**Pallekele**	**13.69**	**279**	Pn		**Pn**	**11 18 54.1**	**+1.7**
CM31	**Chiang Mai Arr**	**13.73**	**19**			**Pn**	**11 18 52.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**13.73**	**19**	P		**Pn**	**11 18 56.0**	**+3.0**
	1.1nm,0.3s,baz=207,slow=14,SNR=20							
CMAR	**Chiang Mai Arr**	**13.73**	**19**			**Pn**	**11 18 51.7**	**-1.2**
CHTO	**Chiang Mai**	**14.07**	**18**	P		**P**	**11 19 02.4**	**-1.8**
SHL	**Shillong**	**20.20**	**354**	P		**P**	**11 20 10.2**	**-1.7**
KMI	**Kunming**	**21.20**	**21**	⇑*eP*		**P**	**11 20 25.9**	**+3.0**
KMI				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA	**Guiyang**	**24.02**	**28**	⇑P		**P**	**11 20 52.3**	**+0.7**
GYA				pmax		pmax		
	comp=Z,31nm,0.7s							
LSA	**Lhasa**	**24.36**	**353**	P		**P**	**11 20 56.1**	**+0.9**
LSA				lAmb		lAmb	11 20 57.5	
	comp=Z,12nm,0.5s							
H08S2	**Diego Garcia H**	**25.36**	**239**	T		T	11 47 11.3	
	baz=59,slow=75,SNR=402							
H08S3	**Diego Garcia H**	**25.36**	**240**	T		T	11 46 57.1	
	baz=59,slow=75,SNR=384							
H08S1	**Diego Carcia H**	**25.38**	**240**	T		T	11 46 58.7	
	baz=59,slow=75,SNR=312							
CD2	**Chengdu**	**26.88**	**18**	*eP*		**P**	**11 21 18.5**	**+1.1**
BKSI	**Bulukumba**	**27.85**	**112**	P		P	11 21 40.3	+14
XAN	**Xi'an**	**31.55**	**24**	P		**P**	**11 21 57.8**	**-1.0**
XAN				pP		pP	11 22 08.6	-1.7
XAN				pmax		pmax		
	comp=Z,20nm,0.7s							
XAN				pmax		pmax		
	comp=Z,130nm,4.9s							
XAN	**Xi'an**	**31.55**	**24**	P		**P**	**11 21 58.1**	**-0.7**
LZH	**Lanzhou**	**31.77**	**15**	*eP*		**P**	**11 22 05.5**	**+4.6**
LZH				pP		pP	11 22 10.4	-2.0
LZH				sP		pwP	11 22 14.9	-0.3
LZH				pmax		pmax		
	comp=Z,18nm,1.5s							
GTA	**Gaotai**	**34.22**	**8**	P		**P**	**11 22 21.8**	**-0.4**
GTA				pP		pP	11 22 32.7	-1.0
GTA				sP		pwP	11 22 36.8	-0.3
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,79nm,4.5s							
GTA				LR		LR		
	comp=N,120nm,16.0s							
GTA				LR		LR		
	comp=E,130nm,15.6s							
GTA				LR		LR		
	comp=Z,80nm,14.5s							
NJ2	**Nanjing**	**35.05**	**38**	*eP*		**P**	**11 22 30.5**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**38.53**	**21**	*eP*		P	11 22 49.4	-10
HHC				pmax		pmax		
	comp=Z,15nm,1.1s							
HHC				pmax		pmax		
	comp=Z,100nm,4.7s							
FITZ	**Fitzroy Crossi**	**38.70**	**128**	P		**P**	**11 22 59.6**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=282,slow=9.4,SNR=5.3							
FITZ	**Fitzroy Crossi**	**38.70**	**128**	P		**P**	**11 23 00.1**	**-0.5**
FITZ				lAmb		lAmb	11 23 07.5	
	comp=Z,11nm,1.4s							
WMQ	**Urumqi**	**38.72**	**352**	*eP*		**P**	**11 23 02.2**	**+1.8**
WMQ				pP		pP	11 23 12.4	+0.4
WMQ				pmax		pmax		
	comp=Z,15nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,47nm,4.5s							
TARG	**Taragay, Kyrgy**	**39.08**	**340**	P		**P**	**11 23 05.4**	**+1.5**
KNRA	**Kununurra**	**39.99**	**122**	P		**P**	**11 23 09.9**	**-1.4**
KNRA				lAmb		lAmb	11 23 17.3	
	comp=Z,21nm,1.4s							
MTN	**Manton Dam**	**40.79**	**117**	P		**P**	**11 23 16.5**	**-1.5**
MTN				lAmb		lAmb	11 23 30.5	
	comp=Z,13nm,1.3s							
MK31	**Makanchi Array**	**42.54**	**348**	P		**P**	**11 23 32.5**	**+0.6**
MK31				lAmb		lAmb	11 23 32.9	
	comp=Z,8.0nm,0.7s							
MKAR	**Makanchi Array**	**42.54**	**348**	P		**P**	**11 23 32.1**	**+0.2**
	comp=Z,13nm,0.7s,baz=167,slow=8.1,SNR=61							
MKAR	**Makanchi Array**	**42.54**	**348**	P		**P**	**11 23 31.9**	**0.0**
MAKZ	**Makanchi**	**42.62**	**347**	P		**P**	**11 23 33.1**	**+0.6**
MAKZ				lAmb		lAmb	11 23 33.4	
	comp=Z,11nm,0.7s							
KK31	**Karatay Array**	**43.06**	**334**	P		**P**	**11 23 36.5**	**+0.3**
KKAR	**Karatay Array**	**43.06**	**334**	P		**P**	**11 23 36.8**	**+0.6**
SONM	**Songino Array**	**43.53**	**12**	P		**P**	**11 23 39.6**	**-0.4**
	comp=Z,5.2nm,1.0s,baz=193,slow=8.9,SNR=15							
SONM				PcP		**PcP**	**11 25 27.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=169,slow=2.9,SNR=2.6							
SONM	**Songino Array**	**43.53**	**12**	P		**P**	**11 23 39.8**	**-0.2**
H01W3	**Cape Leeuwin H**	**44.19**	**156**	T		T	12 11 25.9	
	baz=331							
H01W2	**Cape Leeuwin H**	**44.20**	**156**	T		T	12 11 28.9	
	baz=331							
H01W1	**Cape Leeuwin H**	**44.21**	**156**	T		T	12 11 22.1	
	baz=331							
KSRS	**Korea Array**	**44.21**	**39**	P		**P**	**11 23 45.9**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=211,slow=9.8,SNR=5.5							
GEYT	**Alibeck**	**46.19**	**320**	P		**P**	**11 24 01.1**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=159,slow=13,SNR=4.1							
GEYT	**Alibeck**	**46.19**	**320**	lAmb		lAmb	11 24 02.7	
	comp=Z,2.1nm,0.7s							
WB0	**Warramunga Arr**	**46.65**	**124**	P		**P**	**11 24 04.7**	**-0.4**
WB0				lAmb		lAmb	11 24 21.0	
	comp=Z,10nm,1.3s							
WRA	**Warramunga Arr**	**46.69**	**124**	P		**P**	**11 24 05.3**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=306,slow=8.7,SNR=46							
WRA	**Warramunga Arr**	**46.69**	**124**	P		**P**	**11 24 04.8**	**-0.5**
WB2	**Warramunga Arr**	**46.70**	**124**	P		**P**	**11 24 05.5**	**0.0**
WB2				lAmb		lAmb	11 24 19.6	
	comp=Z,6.0nm,0.6s							
WR0	**Warramunga Arr**	**46.86**	**124**	P		**P**	**11 24 06.2**	**-0.5**
WR0				lAmb		lAmb	11 24 20.2	
	comp=Z,5.0nm,0.8s							
KURK	**Kurchatov**	**47.05**	**346**	P		**P**	**11 24 08.0**	**+0.3**
KURK				lAmb		lAmb	11 24 09.3	
	comp=Z,9.6nm,0.8s							
ASAR	**Alice Springs**	**48.20**	**128**	P		**P**	**11 24 17.0**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=301,slow=7.5,SNR=34							
ASAR				pP		**pP**	**11 24 31.1**	**+2.0**
	comp=Z,1.9nm,0.4s,baz=301,slow=8.1,SNR=14							
ASAR				PcP		**PcP**	**11 25 44.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=290,slow=2.7,SNR=1.8							
AS31	**Alice Springs**	**48.20**	**128**	P		**P**	**11 24 16.0**	**-1.1**
ZAA0	**Zalesovo Array**	**49.02**	**353**	P		**P**	**11 24 23.4**	**+0.5**
ZALV	**Zalesovo Beam**	**49.02**	**353**	P		**P**	**11 24 23.2**	**+0.3**
	comp=Z,7.0nm,0.4s,baz=185,slow=6.2,SNR=33							
BRVK	**Borovoye**	**51.45**	**342**	P		**P**	**11 24 40.6**	**-0.7**
BRVK				lAmb		lAmb	11 24 41.8	
	comp=Z,3.2nm,0.6s							
ABKAR	**Akbulak array**	**52.50**	**332**	P		**P**	**11 24 49.5**	**+0.3**
ABKAR				lAmb		lAmb	11 24 50.0	
	comp=Z,5.8nm,1.2s							
ABKAR	**Akbulak array**	**52.50**	**332**	P		**P**	**11 24 49.0**	**-0.1**
BRTR	**Keskin Array B**	**64.21**	**312**	P		**P**	**11 26 10.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=153,slow=3.7,SNR=2.4							
TIXI	**Tiksi**	**69.61**	**11**	P		**P**	**11 26 44.1**	**-0.7**
AKASG	**Malin Array Be**	**70.22**	**322**	P		**P**	**11 26 47.6**	**-1.3**
	comp=Z,0.4nm,0.2s,baz=93,slow=5.2,SNR=4.1							
FINES	**FINESS Array B**	**74.99**	**332**	P		**P**	**11 27 16.2**	**-0.8**
	comp=Z,6.4nm,1.0s,baz=131,slow=5.3,SNR=4.7							
ARCES	**ARCESS Array B**	**77.65**	**340**	P		**P**	**11 27 31.7**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=98,slow=6.7,SNR=4.1							
GERES	**GERESS Array B**	**79.81**	**319**	P		**P**	**11 27 44.9**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=84,slow=5.5,SNR=14							
GERES	**GERESS Array B**	**79.81**	**319**	P		**P**	**11 27 45.6**	**+1.1**
GRA1	**Grafenberg Arr**	**81.47**	**319**	P		**P**	**11 27 52.4**	**-0.8**
RDOG	**Red Dog Mine**	**89.77**	**22**	P		**P**	**11 28 33.6**	**-0.4**
ILAR	**Eielson Array**	**96.94**	**22**	P		**P**	**11 29 07.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=293,slow=5.2,SNR=2.9							
NVAR	**Mina Array Bea**	**126.91**	**32**	PKP		**PKiKP**	**11 34 41.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=75,slow=1.7,SNR=4.2							
PDAR	**Pinedale Array**	**127.38**	**22**	PKP		**PKPdf**	**11 34 41.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=79,slow=4.7,SNR=2.7							
TXAR	**Lajitas Array**	**141.37**	**26**	PKP		**PKPdf**	**11 35 04.8**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=194,slow=1.9,SNR=4.4							

IDC 08 11:31:40.7±2.4,7.30S×130.10E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/34, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=132.2km s-min=34.0km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**13.22**	**162**	Pn		Pn	11 34 48.5	-1.4
	0.3nm,0.3s,baz=344,slow=14,SNR=22							
WRA				Sn		Sn	11 37 11.4	-6.4
	0.4nm,0.3s,baz=346,slow=24,SNR=11							
ASAR	**Alice Springs**	**16.68**	**168**	Pn		P	11 35 37.5	-1.0
	0.2nm,0.3s,baz=354,slow=8.4,SNR=3.7							
ASAR				Sn		Sn	11 38 38.4	-3.6
	0.2nm,0.3s,baz=360,slow=28,SNR=4.5							
MKAR	**Makanchi Array**	**68.53**	**327**	P		P	11 42 45.1	0.0
	0.9nm,0.9s,baz=126,slow=6.4,SNR=2.8							

NEIC ***08*** *11:42:49.8±2.0, 16.60N±0.08°×94.68W±0.0d, h99km±8km, Error ellipse: s-maj=11.2km s-min=5.6km az=181.0*
MEX ***08*** *11:42:51.8±1.2, 16.50N×94.67W, h91km±18km, MD4.0*
ISC 08 11:42:49.8±1.3, 16.56N±0.06°×94.68W±0.03, h99km±11km, n19, σ0°97/37, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CMIG	**Matias Romero**	**0.56**	**339**	*i* P		**Pn**	**11 43 06.2**	**+0.1**
CMIG				*i* S		**Sn**	**11 43 17.8**	**-0.4**
CMIG	**Matias Romero**	**0.56**	**339**			**Pn**	**11 43 06.2**	**+0.1**
CMIG						**Sn**	**11 43 17.8**	**-0.4**
TGIG		**1.50**	**82**	*e*P		**Pn**	**11 43 16.6**	**+0.5**
TGIG				*i* S		**Sn**	**11 43 35.8**	**-0.3**
TGIG		**1.50**	**82**			**Pn**	**11 43 16.6**	**+0.5**
TGIG						**Sn**	**11 43 35.8**	**-0.3**
HUIG	**Huatulco**	**1.59**	**240**	*e*P		**Pn**	**11 43 16.3**	**-0.8**
HUIG				*i* S		**Sn**	**11 43 37.7**	**-0.1**
HUIG	**Huatulco**	**1.59**	**240**			**Pn**	**11 43 16.3**	**-0.8**
HUIG						**Sn**	**11 43 37.7**	**-0.1**
PCIG		**1.64**	**121**	*e*P		**Pn**	**11 43 18.9**	**+1.2**
PCIG				*e*S		**Sn**	**11 43 39.6**	**+0.6**
PCIG		**1.64**	**121**			**Pn**	**11 43 18.9**	**+1.2**
PCIG						**Sn**	**11 43 39.6**	**+0.6**
OXBJ	**Oaxaca**	**2.03**	**285**	*i* P		**Pn**	**11 43 24.3**	**+1.4**
OXBJ				*i* S		**Sn**	**11 43 48.0**	**-0.1**
OXBJ	**Oaxaca**	**2.03**	**285**			**Pn**	**11 43 24.3**	**+1.4**
OXBJ						**Sn**	**11 43 48.0**	**-0.1**
VHO	**Vista Hermosa**	**2.04**	**285**	*e*P		**Pn**	**11 43 24.5**	**+1.5**
VHO				*i* S		**Sn**	**11 43 49.5**	**+1.1**
CCIG	**Comitan**	**2.45**	**96**	*i* P		**Pn**	**11 43 28.3**	**-0.2**
CCIG				*i* S		**Sn**	**11 43 57.7**	**-0.3**
CCIG	**Comitan**	**2.45**	**96**			**Pn**	**11 43 29.8**	**+1.4**
CCIG						**Sn**	**11 43 57.4**	**-0.6**
TOIG	**Toxpalan**	**2.75**	**304**	*i* P		**Pn**	**11 43 32.7**	**+0.4**
TOIG				*i* S		**Sn**	**11 44 03.9**	**-1.0**
PNIG	**Pinotepa**	**3.32**	**268**	*i* P		**Pn**	**11 43 39.5**	**-0.3**
PNIG				*i* S		**Sn**	**11 44 16.9**	**-1.5**
PNIG	**Pinotepa**	**3.32**	**268**			**Pn**	**11 43 39.5**	**-0.3**
PNIG						**Sn**	**11 44 16.9**	**-1.5**
TLIG	**Tlapa**	**3.85**	**286**	Pn		**Pn**	**11 43 48.6**	**+1.5**
TLIG				Sn		**Sn**	**11 44 32.6**	**+1.1**
PETF	**Flores**	**4.62**	**85**	Pn		**Pn**	**11 43 57.3**	**-0.1**
PETF				Sn		**Sn**	**11 44 48.6**	**-1.3**
TEIG	**Tepich**	**7.08**	**58**	Pn		**Pn**	**11 44 28.9**	**-2.0**

IDC ***08*** *11:43:53.8±7.6, 22.05N×142.93E, h96km±69km, mb3.7/15, mb1 3.8/15, mb1mx3.6/51, mbtmp4.0/15, Error ellipse: s-maj=25.8km s-min=15.5km az=78.0*
NEIC ***08*** *11:43:57.7±1.2, 22.09N±0.04°×142.9E±0.2, h129km±8km, mb4.4/15, Error ellipse: s-maj=21.5km s-min=3.3km az=79.0*
ISC 08 11:43:54.4±0.7, 22.10N±0.09°×142.9E±0.1, h100km, n48, σ0°97/43, mb4.2/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHJ2	**Mitsune**	**11.30**	**347**	Pn		**Pn**	**11 46 35.9**	**+3.2**
JSU	**Suzuyama**	**14.52**	**313**	Pn		**P**	**11 47 17.0**	**-1.9**
MJAR	**Matsushiro Arr**	**14.95**	**345**	Pn		**P**	**11 47 22.2**	**-1.4**
KSRS	**Korea Array**	**20.03**	**323**	P		**Pn**	**11 48 21.8**	**-0.3**
	1.7nm,0.7s,baz=142,slow=7.7,SNR=10							
H11N1	**WAKE ISLAND Hy**	**22.54**	**92**	T		T	12 11 56.4	
	baz=280,slow=75,SNR=22							
H11N2	**WAKE ISLAND Hy**	**22.54**	**92**	T		T	12 11 59.5	
	baz=280,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**22.56**	**92**	T		T	12 11 57.6	
	baz=280,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**22.60**	**95**	T		T	12 11 58.3	
	baz=284,slow=74,SNR=115							
H11S1	**WAKE ISLAND Hy**	**22.61**	**95**	T		T	12 11 59.0	
	baz=284,slow=74,SNR=61							
H11S2	**WAKE ISLAND Hy**	**22.61**	**95**	T		T	12 12 11.1	
	baz=284,slow=74,SNR=73							
SONM	**Songino Array**	**38.86**	**320**	P		**P**	**11 51 09.9**	**-0.1**
	1.1nm,0.7s,baz=141,slow=7.8,SNR=4.7							
SONM	**Songino Array**	**38.86**	**320**	P		**P**	**11 51 10.4**	**+0.4**
YAK	**Yakutsk**	**40.93**	**351**	P		**P**	**11 51 25.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**41.28**	**273**	P		**P**	**11 51 29.6**	**-0.7**
	0.4nm,0.3s,baz=64,slow=8.1,SNR=2.0							
CMAR	**Chiang Mai Arr**	**41.28**	**273**	P		**P**	**11 51 30.0**	**-0.2**
CTAO	**Charters Tower**	**42.06**	**175**	P		**P**	**11 51 37.7**	**+1.2**
CTAO				lAmb		lAmb	11 51 58.8	
	comp=Z,12nm,1.4s							
TLY	**Talaya**	**42.28**	**324**	P		**P**	**11 51 38.4**	**+0.4**
TLY				lAmb		lAmb	11 51 40.3	
	comp=Z,4.6nm,0.9s							
WB0	**Warramunga Arr**	**42.44**	**192**	P		**P**	**11 51 41.5**	**+2.0**
WB0				lAmb		lAmb	11 51 41.9	
	comp=Z,14nm,1.5s							
WR0	**Warramunga Arr**	**42.59**	**192**	P		**P**	**11 51 40.5**	**-0.3**
WB2	**Warramunga Arr**	**42.61**	**192**	P		**P**	**11 51 41.2**	**+0.3**
WB2				lAmb		lAmb	11 51 44.2	
	comp=Z,9.7nm,1.4s							
WRA	**Warramunga Arr**	**42.62**	**192**	P		**P**	**11 51 40.5**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=17,slow=9.4,SNR=14							
WRA	**Warramunga Arr**	**42.62**	**192**	P		**P**	**11 51 40.8**	**-0.2**
ASAR	**Alice Springs**	**46.33**	**191**	P		**P**	**11 52 09.2**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=15,slow=9.9,SNR=8.2							
ASAR	**Alice Springs**	**46.33**	**191**	P		**P**	**11 52 09.6**	**-0.9**
ZAA0	**Zalesovo Array**	**53.73**	**322**	P		**P**	**11 53 06.0**	**-0.1**
ZAA0				lAmb		lAmb	11 53 06.6	
	comp=Z,3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**53.73**	**322**	P		**P**	**11 53 05.9**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=98,slow=6.6,SNR=9.7							
ZALV	**Zalesovo Beam**	**53.73**	**322**	P		**P**	**11 53 06.0**	**-0.1**
MK31	**Makanchi Array**	**54.23**	**312**	P		**P**	**11 53 11.1**	**+1.1**
MK31				lAmb		lAmb	11 53 11.9	
	comp=Z,5.7nm,1.2s							
MKAR	**Makanchi Array**	**54.23**	**312**	P		**P**	**11 53 10.3**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=99,slow=7.6,SNR=7.9							
MKAR				PcP		**PcP**	**11 54 13.5**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=82,slow=3.1,SNR=2.6							
MKAR	**Makanchi Array**	**54.23**	**312**	P		**P**	**11 53 09.7**	**-0.2**
KURK	**Kurchatov**	**57.00**	**317**	P		**P**	**11 53 29.1**	**-0.5**
KURK				lAmb		lAmb	11 53 31.0	
	comp=Z,4.3nm,0.8s							
KURBB	**Kurchatov Arra**	**57.05**	**317**	P		**P**	**11 53 30.1**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=94,slow=7.8,SNR=36							
ILAR	**Eielson Array**	**61.80**	**27**	P		**P**	**11 54 01.3**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=256,slow=5.6,SNR=7.1							
ILAR	**Eielson Array**	**61.80**	**27**	P		**P**	**11 54 01.2**	**-1.3**
BVAR	**Borovoye Array**	**62.19**	**319**	P		**P**	**11 54 05.7**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=170,slow=10,SNR=18							
BRVK	**Borovoye**	**62.25**	**319**	P		**P**	**11 54 05.9**	**+0.3**
KK31	**Karatay Array**	**62.59**	**308**	P		**P**	**11 54 08.5**	**+0.3**
KKAR	**Karatay Array**	**62.59**	**308**	P		**P**	**11 54 08.6**	**+0.5**
CHGR	**Chuyangaron**	**64.14**	**303**	P		**P**	**11 54 19.6**	**+1.1**
ABKAR	**Akbulak array**	**69.07**	**316**	P		**P**	**11 54 49.9**	**+0.3**
ABKAR	**Akbulak array**	**69.07**	**316**	P		**P**	**11 54 49.7**	**+0.2**
YKA	**Yellowknife Ar**	**76.22**	**28**	P		**P**	**11 55 31.4**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=292,slow=5.8,SNR=3.7							
ARCES	**ARCESS Array B**	**78.45**	**341**	P		**P**	**11 55 44.4**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=70,slow=7.0,SNR=7.1							
FINES	**FINESS Array B**	**82.70**	**334**	P		**P**	**11 56 05.1**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=88,slow=6.3,SNR=6.9							
NVAR	**Mina Array Bea**	**83.10**	**51**	P		**P**	**11 56 10.3**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=265,slow=5.4,SNR=10							
KNB	**Kanab**	**87.64**	**51**	P		**P**	**11 56 32.1**	**-0.1**
BRTR	**Keskin Array B**	**89.87**	**313**	P		**P**	**11 56 42.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=36,slow=7.6,SNR=2.5							
LPAZ	**La Paz**	**150.17**	**84**	PKPbc		**PKiKP**	**12 03 36.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=288,slow=6.4,SNR=5.2							

IDC 08 11:46:21.0±1.4,22.25N×142.92E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/52, mbtmp3.7/5, Error ellipse: s-maj=51.1km s-min=32.9km az=72.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
H11N1	**WAKE ISLAND Hy**	**22.52**	**92**	T		T	12 14 36.5	
	baz=280							
H11N2	**WAKE ISLAND Hy**	**22.52**	**92**	T		T	12 14 34.2	
	baz=280							
H11N3	**WAKE ISLAND Hy**	**22.53**	**92**	T		T	12 14 33.8	
	baz=280							
H11S3	**WAKE ISLAND Hy**	**22.58**	**95**	T		T	12 14 38.3	
	baz=286							
H11S1	**WAKE ISLAND Hy**	**22.59**	**95**	T		T	12 14 38.9	
	baz=286							
H11S2	**WAKE ISLAND Hy**	**22.60**	**95**	T		T	12 14 39.7	
	baz=286							
WRA	**Warramunga Arr**	**42.77**	**192**	P		P	11 54 20.4	0.0
	0.3nm,0.6s,baz=16,slow=9.4,SNR=2.4							
ZALV	**Zalesovo Beam**	**53.63**	**321**	P

SABA	**Saba**	**2.29**	**329**	*e*S		Sn	11 53 02.6	+2.1
SVV	**Soufriere Volc**	**2.44**	**162**	*e*S		Sn	11 53 05.9	+1.6
SVB	**Belmont**	**2.48**	**163**	*e*S		Sn	11 53 06.5	+1.3
SVCV	**St. Vincent, C**	**2.51**	**161**	*e*S		Sn	11 53 08.2	+2.3
SMRT	**St. Maarten**	**2.60**	**337**	*e*P		Pn	11 52 39.6	+2.1
SMRT				*e*S		Sn	11 53 10.8	+2.7
GCMP	**Grenada, Carri**	**3.20**	**170**	*e*P		Pn	11 52 47.7	+1.9
GRGR	**Grenville**	**3.52**	**175**	*e*P		Pn	11 52 52.9	+2.8
GRGR				*e*S		Sn	11 53 31.1	+0.2
TOSP	**Speyside**	**4.56**	**162**	*e*P		Pn	11 53 07.3	+2.8
TRN	**Trinidad (W)**	**5.01**	**173**	*e*P		Pn	11 53 12.3	+1.6

*IDC **08** 12:11:26.4±2.1, 17°.25S×178°.49W, h560km±40km, mb3.4/5, mb1 3.5/7, mb1mx2.9/44, mbtmp4.3/7, Error ellipse: s-maj=95.2km s-min=35.3km az=157.0*

ISC 08 12:11:26.1±1.3, 17°.2S±0°.8×178°.6W±0°.3, h550km, n7, σ0s50/8, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.33**	**64**	P	**P**	**12 13 17.6**	**+0.1**
	2.1nm,0.3s,baz=59,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**14.91**	**249**	P	**P**	**12 14 34.8**	**0.0**
	0.3nm,0.3s,baz=104,slow=18,SNR=2.2						
CTA	**Charters Tower**	**33.41**	**260**	P	**P**	**12 17 20.0**	**+0.2**
	2.6nm,0.7s,baz=79,slow=9.3,SNR=4.2						
STKA	**Stephens Creek**	**38.82**	**240**	P	**P**	**12 18 04.5**	**+0.2**
	2.1nm,0.4s,baz=83,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**44.61**	**259**	P	**P**	**12 18 49.7**	**-0.4**
	1.8nm,0.5s,baz=95,slow=6.7,SNR=67						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**12 18 51.8**	**0.0**
	16nm,0.5s,baz=88,slow=8.2,SNR=268						
ASAR				PcP	**PcP**	**12 20 20.9**	**-0.9**
	0.2nm,0.5s,baz=95,slow=3.2,SNR=1.6						
FITZ	**Fitzroy Crossi**	**52.99**	**260**	P	**P**	**12 19 52.5**	**+0.4**
	0.8nm,0.4s,baz=86,slow=5.1,SNR=7.6						

*IDC **08** 12:36:15.7±1.2, 42°.28N×42°.91E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/49, mbtmp3.7/10, ML3.0/2, MS2.9/9, Ms1 2.9/9, ms1mx2.6/44, Error ellipse: s-maj=18.9km s-min=11.7km az=77.0*

*DDA **08** 12:36:15.8, 42°.32N×43°.04E, h2km±2km, MW4.0*

*TIF **08** 12:36:15.8, 42°.36N×43°.01E, h7km*

*NORS **08** 12:36:15.6±0.0, 42°.25N×43°.08E, h8km, MPVA4.4*

*MOS **08** 12:36:16.5±1.1, 42°.31N×43°.03E, h10km, mb4.2/8, Error ellipse: s-maj=4.8km s-min=3.7km az=88.8*

*ISK **08** 12:36:16.6, 42°.30N×42°.97E, h5km, ML3.9/13*

*NEIC **08** 12:36:18.1±2.3, 42°.32N±0°.04×43°.10E±0°.04, h10km±2km, mb4.0/9, Error ellipse: s-maj=7.4km s-min=4.7km az=27.0*

ISC 08 12:36:16.4±1.0, 42°.31N±0°.01×43°.03E±0°.01, h2km±7km, n154, σ1s58/205, mb3.8/14, MS2.8/3, 1C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKB	**Tkibuli**	**0.05**	**329**	PG	**Pg**	**12 36 17.0**	**-0.4**
TKB	**Tkibuli**	**0.05**	**329**	P	**Pg**	**12 36 17.1**	**-0.4**
TKB				S	**Sg**	**12 36 18.5**	**+0.3**
ONI	**Oni**	**0.42**	**48**	*e*PG	**Pg**	**12 36 24.5**	**0.0**
ONI				*i* S	**Sb**	**12 36 31.4**	**-2.1**
ONI	**Oni**	**0.42**	**48**	P	**Pg**	**12 36 24.2**	**-0.3**
ONI				S	**Sg**	**12 36 30.5**	**+0.6**
BKRG	**Bakuriani**	**0.66**	**146**	PG	**Pb**	**12 36 30.4**	**-0.3**
BKRG				S	**Sb**	**12 36 41.1**	**+0.7**
BKRG	**Bakuriani**	**0.66**	**146**	P	**Pb**	**12 36 30.5**	**-0.3**
BKRG				S	**Sb**	**12 36 41.1**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.72**	**34**	*e*Pg	**Pg**	**12 36 30.1**	**-0.1**
DIGR				*e*Sg	**Sb**	**12 36 41.1**	**-1.0**
DIGR	**Digorskoe uzhe**	**0.72**	**34**	*e*PG	**Pg**	**12 36 30.0**	**-0.1**
DIGR				*e*S	**Sb**	**12 36 41.1**	**-1.0**
ZEI	**Tsey**	**0.80**	**53**	*e*Pg	**Pg**	**12 36 31.8**	**0.0**
ZEI				*e*Sg	**Sb**	**12 36 44.0**	**-0.6**
ZEI	**Tsey**	**0.80**	**53**	*e*PG	**Pg**	**12 36 31.8**	**0.0**
CHVG	**Ch'k'valeri**	**0.81**	**301**	PG	**Pg**	**12 36 31.9**	**0.0**
EPOS	**Posof**	**0.83**	**196**	*i* P	**Pb**	**12 36 33.2**	**-0.4**
EPOS				*i* S	**Sn**	**12 36 47.4**	**-0.8**
EPOS				IAML		12 36 55.0	
	comp=N,1μm,0.9s						
AKH	**Akhalkalaki**	**0.96**	**159**	PG	**Pn**	**12 36 36.2**	**-0.9**
AKH				SG	**Sn**	**12 36 50.7**	**-0.7**
AKH	**Akhalkalaki**	**0.96**	**159**	*e*PG	**Pb**	**12 36 35.7**	**-0.1**
AKH				*e*S	**Sn**	**12 36 50.0**	**-1.4**
AKH	**Akhalkalaki**	**0.96**	**159**	Pg	**Pb**	**12 36 35.8**	**-0.1**
AKH	**Akhalkalaki**	**0.96**	**159**	P	**Pn**	**12 36 36.1**	**-1.0**
AKH				S	**Sn**	**12 36 51.0**	**-0.4**
LACR	**Lac**	**1.07**	**61**	*e*Pg	**Pg**	**12 36 36.3**	**-0.6**
LACR				*e*Sg	**Sb**	**12 36 51.8**	**-0.4**
LACR	**Lac**	**1.07**	**61**	*e*PG	**Pg**	**12 36 36.3**	**-0.6**
LACR				*e*S	**Sn**	**12 36 53.1**	**-0.9**
KORR	**Kora**	**1.09**	**44**	*e*Pg	**Pb**	**12 36 37.6**	**-0.4**
KORR				*e*Sg	**Sn**	**12 36 53.2**	**-1.2**
KORR	**Kora**	**1.09**	**44**	*e*PG	**Pb**	**12 36 37.5**	**-0.4**
KORR				*e*S	**Sn**	**12 36 54.2**	**-0.2**
TRLG	**Trialeti**	**1.11**	**133**	PG	**Pb**	**12 36 38.1**	**-0.2**
TRLG				S	**Sn**	**12 36 54.5**	**-0.5**
TRLG	**Trialeti**	**1.11**	**133**	P	**Pn**	**12 36 38.2**	**-0.2**
TRLG				S	**Sn**	**12 36 54.6**	**-0.5**
LSNR	**Lesken**	**1.13**	**31**	*e*Pg	**Pn**	**12 36 38.3**	**-1.0**
LSNR				*e*Sg	**Sn**	**12 36 55.4**	**-0.1**
LSNR	**Lesken**	**1.13**	**31**	*e*PG	**Pn**	**12 36 38.3**	**-1.0**
LSNR				*e*S	**Sn**	**12 36 55.3**	**-0.1**
PNSH	**Pansheti**	**1.22**	**74**	PG	**Pb**	**12 36 38.5**	**-1.7**
PNSH	**Pansheti**	**1.22**	**74**	P	**Pb**	**12 36 38.5**	**-1.7**
BATM	**Batumi**	**1.22**	**235**	PN	**Pg**	**12 36 39.9**	**+0.2**
BATM				SN	**Sn**	**12 36 57.7**	**+0.2**
BATM	**Batumi**	**1.22**	**235**	*i* P	**Pn**	**12 36 39.5**	**-1.0**
BATM				*i* S	**Sn**	**12 36 58.0**	**+0.6**
BATM	**Batumi**	**1.22**	**235**	PG	**Pg**	**12 36 40.1**	**+0.4**
BATM				S	**Sn**	**12 36 58.1**	**+0.6**
BATM	**Batumi**	**1.22**	**235**	P	**Pg**	**12 36 40.1**	**+0.4**
BATM				S	**Sn**	**12 36 58.1**	**+0.6**
STDR	**Stavd-Durt**	**1.30**	**35**	*e*Pg	**Pg**	**12 36 42.8**	**+1.5**
STDR				*e*Sg	**Sg**	**12 37 03.4**	**+5.1**
STDR	**Stavd-Durt**	**1.30**	**35**	*e*PG	**Pg**	**12 36 42.9**	**+1.5**
STDR				*e*S	**Sg**	**12 37 03.4**	**+5.1**
DMNI	**Dmanisi**	**1.31**	**138**	PG	**Pb**	**12 36 41.2**	**-0.5**
DMNI				S	**Sg**	**12 37 00.1**	**+1.8**
DMNI	**Dmanisi**	**1.31**	**138**	P	**Pb**	**12 36 41.3**	**-0.5**
DMNI				S	**Sg**	**12 37 00.1**	**+1.8**
BCA	**Borcka**	**1.36**	**231**	PN	**Pb**	**12 36 41.9**	**-0.7**
BCA				SN	**Sg**	**12 37 02.0**	**+2.0**
KZRT	**Kazreti**	**1.38**	**132**	*i* P	**Pn**	**12 36 42.0**	**-0.7**
KZRT				*i* S	**Sg**	**12 37 01.2**	**+0.6**
KZRT	**Kazreti**	**1.38**	**132**	PG	**Pb**	**12 36 42.4**	**-0.4**
KZRT				S	**Sg**	**12 37 01.3**	**+0.8**
KZRT	**Kazreti**	**1.38**	**132**	P	**Pb**	**12 36 42.4**	**-0.4**
KZRT				S	**Sg**	**12 37 01.3**	**+0.8**
ARTV	**Artvin**	**1.39**	**217**	*i* P	**Pb**	**12 36 42.9**	**-0.3**
ARTV				*i* S	**Sg**	**12 37 02.8**	**+1.7**
ARTV				IAML		12 37 06.0	
	comp=N,1μm,0.4s						
ARTV				IAML		12 37 06.0	
	comp=E,1μm,0.4s						
ARTV	**Artvin**	**1.39**	**217**	Pn	**Pb**	**12 36 43.0**	**-0.2**
ARTV				Sn	**Sg**	**12 37 03.3**	**+2.2**
DBOC	**Borcka**	**1.40**	**227**	*i* P	**Pb**	**12 36 42.9**	**-0.4**
DBOC				*i* S	**Sg**	**12 37 02.9**	**+1.5**
DBOC				IAML		12 37 04.0	
	comp=E,2μm,0.6s						
VLKR	**Vladikavkaz**	**1.42**	**58**	*e*PG	**Pg**	**12 36 44.7**	**+1.1**
VLKR				*e*S	**Sg**	**12 37 05.7**	**+3.6**
KBZ	**Khabaz**	**1.42**	**356**	Pg	**Pg**	**12 36 43.5**	**-0.1**
	comp=E,30nm,0.3s,baz=186,slow=7.9,SNR=131						
KBZ				Lg	Lg	12 37 01.8	
	comp=E,14nm,0.3s,baz=111,slow=20,SNR=6.0						
KBZ	**Khabaz**	**1.42**	**356**	*d* PG	**Pb**	**12 36 42.8**	**-0.8**
KBZ				pmax	pmax		
	comp=Z,115nm,0.5s						
DOMR	**Dombai**	**1.43**	**314**	*i* PG	**Pg**	**12 36 44.6**	**+0.9**
DOMR				pmax	pmax		
	comp=Z,300nm,0.4s						
SEAG	**Tbilisi Sea**	**1.43**	**112**	PG	**Pn**	**12 36 42.7**	**-0.6**
SEAG				S	**Sg**	**12 37 03.3**	**+1.1**
SEAG	**Tbilisi Sea**	**1.43**	**112**	P	**Pn**	**12 36 42.8**	**-0.6**
SEAG				S	**Sg**	**12 37 03.3**	**+1.1**
SHA1	**Shidzhatmaz**	**1.46**	**349**	*e*Pg	**Pg**	**12 36 44.4**	**0.0**
SHA1				*e*Sg	**Sg**	**12 37 05.7**	**+2.5**
SHA1	**Shidzhatmaz**	**1.46**	**349**	*e*PG	**Pg**	**12 36 44.3**	**0.0**
SHA1				*e*S	**Sg**	**12 37 04.2**	**+1.0**
BTKR	**Batakoyurt**	**1.54**	**46**	*e*PG	**Pg**	**12 36 47.2**	**+1.3**
BTKR				*e*S	**Sg**	**12 37 10.7**	**+4.9**
DBAD	**Bademkaya**	**1.63**	**218**	*i* P	**Pb**	**12 36 46.9**	**-0.3**
DBAD				*i* S	**Sg**	**12 37 10.4**	**+1.7**
DBAD				IAML		12 37 12.0	
	comp=E,2μm,0.7s						
DBAD				IAML		12 37 16.0	
	comp=N,2μm,0.7s						
KVAR	**Kislovodsk Arr**	**1.67**	**352**	Pg	**Pg**	**12 36 48.4**	**+0.1**
	baz=273,slow=18,SNR=61						
KVAR				Lg	Lg	12 37 10.5	
	baz=132,slow=15,SNR=4.5						
KVAR				LR	LR	12 37 38.8	
	comp=N,212nm,21.9s,baz=127,slow=50						
KIV	**Kislovodsk**	**1.67**	**351**	PN	**Pg**	**12 36 48.2**	**-0.1**
KIV	**Kislovodsk**	**1.67**	**351**	*e*PN	**Pb**	**12 36 47.8**	**-0.1**
KIV				*e*S	**Sg**	**12 37 11.3**	**+1.4**
KIV	**Kislovodsk**	**1.67**	**351**		**Pb**	**12 36 47.7**	**-0.1**
EAK	**Akyaka**	**1.68**	**165**	*i* P	**Pb**	**12 36 47.1**	**-0.9**
EAK				*i* S	**Sg**	**12 37 09.9**	**-0.3**
EAK				IAML		12 37 13.0	
	comp=E,980nm,0.6s						
EAK				IAML		12 37 17.0	
	comp=N,1μm,0.6s						
KARS	**Kars**	**1.68**	**179**	PN	**Pg**	**12 36 48.3**	**-0.3**
KARS	**Kars**	**1.68**	**179**	PN	**Pg**	**12 36 49.8**	**+1.2**
BEYR	**Belyy Ugol+**	**1.71**	**355**	*e*PN	**Pb**	**12 36 48.1**	**-0.5**
BEYR				*e*S	**Sg**	**12 37 12.0**	**+0.7**
PRTR	**Priterechnaya**	**1.71**	**32**	*e*PN	**Pg**	**12 36 50.1**	**+0.9**
PRTR				*e*S	**Sg**	**12 37 14.5**	**+3.2**
ARXR	**Arkhyz**	**1.80**	**315**	*d* PN	**Pg**	**12 36 50.3**	**-0.5**
ARXR				*i* S	**Sg**	**12 37 15.8**	**+1.7**
ARXR				pmax	pmax		
	comp=Z,546nm,0.8s						
SENK	**Senkaya-Erzuru**	**1.82**	**197**	PN	**Pb**	**12 36 50.1**	**-0.4**
TRKR	**Terskaya**	**1.89**	**41**	*e*PN	**Pg**	**12 36 52.5**	**0.0**
TRKR				*e*S	**Sg**	**12 37 17.2**	**+0.2**
DIGO	**Kars**	**1.91**	**172**	*i* P	**Pg**	**12 36 52.5**	**-0.5**
DIGO				*i* S	**Sg**	**12 37 19.8**	**+2.1**
DIGO				IAML		12 37 23.0	
	comp=E,508nm,0.6s						
DIGO				IAML		12 37 24.0	
	comp=N,573nm,0.7s						
CHOM	**Cayeli-Rize**	**2.09**	**235**	PN	**Pb**	**12 36 53.2**	**-1.7**
CHAY	**Cayeli-Rize**	**2.11**	**235**	PN	**Pb**	**12 36 53.8**	**-1.6**
GROC	**Groznyy**	**2.23**	**65**	*e*PN	**Pb**	**12 36 56.8**	**-0.5**
GROC				*e*		12 37 28.2	
GROC				pmax	pmax		
	comp=Z,108nm,0.6s						
GROC				smax	smax		
	comp=E,310nm,0.8s						
GROC				smax	smax		
	comp=E,236nm,0.6s						
GROC				smax	smax		
	comp=N,204nm,0.6s						
GROC				MLR	MLR		
	comp=Z,521nm,2.0s						
DVE	**Vedeno**	**2.38**	**73**	*d* PN	**Pb**	**12 37 00.6**	**+0.7**
DVE				pmax	pmax		
	comp=Z,196nm,0.9s						
BTLR	**Botlikh**	**2.39**	**80**	*i* PN	**Pb**	**12 36 59.7**	**-0.4**
HOMI	**Horasan**	**2.42**	**201**	*i* P	**Pb**	**12 37 01.1**	**+0.4**
HOMI				IAML		12 37 51.0	
	comp=N,519nm,1.4s						
HOMI				IAML		12 37 52.0	
	comp=E,705nm,1.5s						
LGD	**Lagodekhi**	**2.44**	**100**	*e*PN	**Pb**	**12 37 00.1**	**-0.8**
LGD				*e*S	**Sg**	**12 37 33.1**	**-1.6**
LGD	**Lagodekhi**	**2.44**	**100**	P	**Pb**	**12 36 59.4**	**-1.5**
LGD				S	**Sg**	**12 37 33.5**	**-1.2**
ALER	**Alexandrovskoy**	**2.46**	**358**	*e*PN	**Pb**	**12 37 01.8**	**+0.6**
ALER				*e*S	**Sg**	**12 37 36.5**	**+1.2**
RPOR	**Krasnaya Polya**	**2.46**	**305**	*i* PN	**Pb**	**12 36 58.8**	**-2.5**
RPOR				*i* S	**Sg**	**12 37 33.9**	**-1.4**
EATA	**Eleskirt**	**2.48**	**190**	*i* P	**Pb**	**12 37 01.1**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**2.48**	**201**	PN	**Pn**	**12 36 59.2**	**+1.3**
TASB	**TASBURUN-IGDIR**	**2.50**	**158**	PN	**Pb**	**12 36 59.9**	**-2.0**
KRIK	**Erzurum-spir**	**2.53**	**220**	*i* P	**Pb**	**12 37 02.4**	**-0.1**
KRIK				*i* S	**Sg**	**12 37 36.8**	**-0.8**
ERZM	**Erzurum**	**2.71**	**208**	*i* P	**Pb**	**12 37 06.7**	**+1.0**
SOC	**Sochi**	**2.75**	**299**	*e*PN	**Pb**	**12 37 05.6**	**-0.6**
SOC				*e*S	**Sb**	**12 37 38.5**	**-1.8**
GOF	**Gofitskoye**	**2.75**	**0**	*e*PN	**Pb**	**12 37 05.0**	**-1.2**
GOF				*e*S	**Sb**	**12 37 40.5**	**+0.1**
ZKTA	**Zakatala**	**2.76**	**103**	PN	**Pb**	**12 37 04.4**	**-2.0**
KTUT	**Trabzon**	**2.78**	**243**	PN	**Pn**	**12 37 03.1**	**+1.2**
DBC	**Dubki**	**2.89**	**74**	*e*PN	**Pb**	**12 37 07.3**	**-1.4**
DBC				*e*S	**Sb**	**12 37 42.2**	**-2.3**
BAYT	**Aydıntepe-Bayb**	**2.90**	**230**	PN	**Pn**	**12 37 05.2**	**+1.5**
GNBR	**Gunib**	**2.92**	**87**	*i* PN	**Pb**	**12 37 07.9**	**-1.2**
BAYB	**BAYBURT**	**2.92**	**226**	*i* P	**Pb**	**12 37 08.9**	**-0.5**
BAYB				*i* S	**Sg**	**12 37 51.1**	**+0.8**
BAYB				IAML		12 37 54.0	
	comp=N,462nm,1.1s						
BAYB				IAML		12 37 58.0	
	comp=E,336nm,0.8s						
GANJ	**Ganja**	**2.98**	**123**	PN	**Pb**	**12 37 07.1**	**-3.1**
KOPT	**Kop Dagi**	**2.98**	**221**	*i* P	**Pb**	**12 37 07.4**	**-2.9**
KOPT				*i* S	**Sg**	**12 37 53.9**	**+1.7**
KOPT				IAML		12 38 06.0	
	comp=E,355nm,1.2s						
KOPT				IAML		12 38 09.0	
	comp=N,288nm,1.2s						
KOPT	**Kop Dagi**	**2.98**	**221**		**Pb**	**12 37 08.0**	**-2.3**
CLDR	**Caldiran**	**3.23**	**168**	PN	**Pn**	**12 37 10.6**	**+2.3**
SEKA	**Sheki**	**3.31**	**108**	PN	**Pb**	**12 37 12.1**	**-3.7**
TPSR	**Tuapse**	**3.38**	**303**	*e*PN	**Pb**	**12 37 12.8**	**-4.1**
TPSR				*e*S	**Sb**	**12 37 53.8**	**-4.6**
URKR	**Urkarakh**	**3.42**	**91**	*e*PN	**Pb**	**12 37 14.9**	**-2.9**
URKR				*e*S	**Sb**	**12 37 56.4**	**-3.4**
YEDI	**Yedisu-Bingol**	**3.43**	**214**	PN	**Pn**	**12 37 12.7**	**+1.7**
ESPY	**Espiye-Giresun**	**3.51**	**248**	PN	**Pn**	**12 37 13.3**	**+1.3**
AKT	**Akhty**	**3.60**	**102**	*e*PN	**Pn**	**12 37 16.4**	**+3.1**
AKT				*e*		12 37 24.9	
AKT				*e*		12 37 28.1	
AKT				*e*S	**Sn**	**12 37 57.9**	**+1.4**
AKT				*e*		12 38 10.5	
AKT				*e*		12 38 18.7	
AKT				pmax	pmax		
	comp=Z,28nm,0.6s						
AKT				smax	smax		
	comp=N,110nm,0.6s						
AKT				smax	smax		
	comp=E,91nm,0.4s						
AKT				smax	smax		
	comp=N,87nm,0.5s						
AKT				MLR	MLR		
	comp=Z,137nm,2.0s						
NAX	**Nakhchivan**	**3.65**	**148**	PN	**Pn**	**12 37 14.1**	**+0.2**
ERZN	**Erzincan**	**3.70**	**224**	PN	**Pn**	**12 37 16.4**	**+1.8**
GEVA	**Gevas**	**3.99**	**180**		**Pb**	**12 37 25.2**	**-2.3**
ANN	**Anapa**	**4.77**	**303**	*e*PN	**Pn**	**12 37 28.5**	**-0.7**
ANN				*e*S	**Sn**	**12 38 26.4**	**+1.4**
ANN				pmax	pmax		
	comp=Z,18nm,0.7s						
MARD	**Mardin**	**5.28**	**200**	Pn	**Pn**	**12 37 40.3**	**+4.0**
TOKA	**Tokat**	**5.32**	**250**	Pn	**Pn**	**12 37 38.9**	**+2.1**
BRTR	**Keskin Array B**	**7.55**	**253**	LR	LR	12 41 27.9	
	comp=Z,24nm,20.4s,baz=133,slow=42						
VSR	**Storozhevoye**	**9.30**	**345**	*e*P	**Pn**	**12 38 30.0**	**-1.3**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
BELG	**Belogornoye**	**10.56**	**16**	*i* P	**Pn**	**12 38 46.9**	**-1.7**
LPSR	**Galich'ya Gora**	**10.66**	**346**	*e*P	Pn	12 38 54.1	+4.1
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
MMAI	**Mount Meron Ar**	**11.07**	**216**	LR	LR	12 43 36.2	
	comp=Z,72nm,19.9s,baz=35,slow=40						
AKTO	**Aktyubinsk**	**13.14**	**47**	Pn	**Pn**	**12 39 23.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=1.7						
AKTO				LR	LR	12 45 52.0	
	comp=Z,47nm,19.7s,baz=215,slow=44						
OBN	**Obninsk**	**13.50**	**344**	*e*P	**Pn**	**12 39 29.2**	**+0.5**
OBN				pmax	pmax		
	comp=Z,41nm,0.4s						
OBN				MLR	MLR		
	comp=Z,90nm,14.0s						
ABKAR	**Akbulak array**	**13.68**	**54**		**Pn**	**12 39 29.5**	**-1.8**
ABKAR	**Akbulak array**	**13.68**	**54**	Pn	**Pn**	**12 39 29.5**	**-1.8**
EIL	**Elat**	**14.20**	**210**	LR	LR	12 45 36.2	
	comp=Z,46nm,19.4s,baz=102,slow=40						
APE	**Apeiranthos**	**14.45**	**255**	*i* P	**P**	**12 39 45.3**	**-3.6**
KIRV	**Kirov**	**16.78**	**12**	LR	LR	12 46 30.5	
	comp=Z,33nm,19.2s,baz=210,slow=37						
KIRV	**Kirov**	**16.78**	**12**	*i* P	**Pn**	**12 40 09.0**	**-3.3**
ARU	**Arti**	**17.32**	**30**	P	**P**	**12 40 19.1**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=213,slow=17,SNR=1.6						
ARU				LR	LR	12 49 00.0	
	comp=Z,57nm,19.6s,baz=244,slow=44						
ARU	**Arti**	**17.32**	**30**	*d* P	**P**	**12 40 21.6**	**+1.1**
ARU				S	**S**	**12 43 41.4**	**+0.2**
ARU				pmax	pmax		
	comp=Z,11nm,1.6s						
PDG	**Podgorica**	**17.56**	**278**	P	**P**	**12 40 24.2**	**+0.9**
SVE	**Sverdlovsk**	**18.40**	**32**	*e*P	**Pn**	**12 40 29.9**	**-2.5**
VSU	**Vasula**	**19.13**	**333**	*i* P	**Pn**	**12 40 42.4**	**+1.1**
CHGR	**Chuyangaron**	**20.18**	**92**		**Pn**	12 40 53.7	-0.3
CHGR				IAmb	IAmb	12 41 00.0	
	comp=Z,8.4nm,0.8s						
KK31	**Karatay Array**	**20.18**	**78**	P	Pn	12 40 53.1	-0.9
KK31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KK31	**Karatay Array**	**20.18**	**78**		Pn	12 40 53.1	-0.9
KK31				IAmb	IAmb	12 40 55.4	
	comp=Z,7.8nm,1.1s						
KKAR	**Karatay Array**	**20.18**	**78**	P	Pn	12 40 53.1	-0.9
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**20.18**	**78**	P	Pn	12 40 53.1	-0.9
KKAR				IAmb	IAmb	12 40 55.4	
	comp=Z,7.8nm,1.1s						
KKAR	**Karatay Array**	**20.18**	**78**	P	Pn	12 40 52.9	-1.1
BTK	**Batken**	**21.00**	**87**	P	**P**	**12 41 00.3**	**-0.8**
BTK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BTK	**Batken**	**21.00**	**87**	P	**P**	**12 41 00.3**	**-0.8**
CEL	**Celeste**	**21.06**	**268**	P	**P**	**12 41 03.2**	**+1.5**
BRVK	**Borovoye**	**21.14**	**50**	*i* P	**P**	**12 41 02.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRVK	**Borovoye**	**21.14**	**50**		**P**	**12 41 02.3**	**-0.1**
BRVK				IAmb	IAmb	12 41 04.7	
	comp=Z,6.4nm,1.1s						
BVAR	**Borovoye Array**	**21.18**	**50**	P	**P**	**12 41 03.4**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=200,slow=17,SNR=7.4						
GERES	**GERESS Array B**	**21.46**	**298**	P	**P**	**12 41 05.4**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=108,slow=7.6,SNR=7.1						
GERES	**GERESS Array B**	**21.46**	**298**	P	**P**	**12 41 07.5**	**+1.5**
GERES	**GERESS Array B**	**21.46**	**298**	P	**P**	**12 41 07.5**	**+1.5**
FINES	**FINESS Array B**	**21.71**	**338**	P	**P**	**12 41 06.4**	**-2.0**
	comp=Z,3.9nm,0.8s,baz=157,slow=3.9,SNR=4.7						
FINES	**FINESS Array B**	**21.71**	**338**	*i* P	**P**	**12 41 13.8**	**+5.4**
FINES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LATE	**Laterza**	**22.98**	**281**	P	**P**	**12 41 22.5**	**+0.4**
AAK	**Ala-Archa**	**23.15**	**78**	*i* P	**P**	**12 41 26.2**	**+2.1**
AAK				pmax	pmax		
	comp=Z,16nm,1.2s						
HFS	**Hagfors**	**25.28**	**325**	LR	LR	12 51 23.3	
	comp=Z,26nm,19.8s,baz=107,slow=36						
KURBB	**Kurchatov Arra**	**25.62**	**59**	P	**P**	**12 41 47.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=269,slow=9.8,SNR=1.7						
KURK	**Kurchatov**	**25.69**	**59**	P	**P**	**12 41 47.3**	**-0.3**
NOA	**NORSAR Array B**	**26.79**	**325**	LR	LR	12 53 44.7	
	comp=Z,18nm,18.6s,baz=120,slow=39						
MKAR	**Makanchi Array**	**28.13**	**67**	P	**P**	**12 42 09.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=280,slow=8.0,SNR=1.7						
ZALV	**Zalesovo Beam**	**29.79**	**52**	P	**P**	**12 42 23.0**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=279,slow=10,SNR=1.5						
ZALV				LR	LR	12 55 04.3	
	comp=Z,32nm,18.0s,baz=107,slow=38						
ZALV	**Zalesovo Beam**	**29.79**	**52**	P	**P**	**12 42 23.0**	**-1.3**
NRIK	**Noril'sk**	**35.45**	**25**	*i* P	**P**	**12 43 15.9**	**+2.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY	**Talaya**	**41.29**	**55**	*i* P	**P**	**12 44 04.5**	**+1.6**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**

baz=55,slow=75,SNR=79
H08S1 Diego Carcia H 26.65 236 T T 13 15 06.8
baz=55,slow=75,SNR=100
KAPI Kappang 28.21 116 LR LR 12 59 36.0
comp=Z,117nm,20.9s,baz=278,slow=36
BATI Baumata 34.07 121 LR LR 13 03 44.6
comp=Z,204nm,19.4s,baz=284,slow=37
SIJI Sorong 37.69 101 LR LR 13 07 14.2
comp=Z,44nm,18.6s,baz=161,slow=39
FITZ Fitzroy Crossi 40.03 130 LR LR 13 08 18.4
comp=Z,46nm,20.2s,baz=299,slow=38
MK31 Makanchi Array 40.38 347 P **P** **12 50 19.2 +0.1**
MKAR Makanchi Array 40.38 347 P **P** **12 50 19.0 -0.2**
1.9nm,0.6s,baz=168,slow=7.2,SNR=12
MKAR Makanchi Array 40.38 347 P **P** **12 50 19.1 -0.1**
KKAR Karatay Array 41.11 333 P **P** **12 50 24.5 -0.6**
SONM Songino Array 41.33 12 P **P** **12 50 28.8 +1.8**
1.1nm,0.9s,baz=202,slow=7.4,SNR=2.6
SONM LR LR 13 08 27.2
comp=Z,53nm,20.2s,baz=232,slow=37
SONM Songino Array 41.33 12 P **P** **12 50 26.3 -0.7**
MTN Manton Dam 41.75 119 P **P** **12 50 26.9 -3.9**
JNU Nakatsue 42.18 48 LR LR 13 09 54.6
comp=Z,78nm,20.5s,baz=210,slow=38
KSRS Korea Array 42.45 41 LR LR 13 12 35.2
comp=Z,39nm,18.5s,baz=230,slow=42
GEYT Alibeck 44.57 318 LR LR 13 10 47.9
comp=Z,49nm,21.0s,baz=5.0,slow=38
GEYT Alibeck 44.57 318 P **P** **12 50 52.9 -0.5**
GYA0 ALIBECK ARRAY 44.57 318 P **P** **12 50 53.0 -0.4**
KURBB Kurchatov Arra 44.85 346 P **P** **12 50 55.4 +0.1**
2.2nm,0.6s,baz=168,slow=7.2,SNR=23
KURK Kurchatov 44.91 346 P **P** **12 50 56.0 +0.2**
KURK IAmb IAmb 12 51 05.5
comp=Z,6.5nm,1.1s
ZAA0 Zalesovo Array 46.83 352 P **P** **12 51 10.4 -0.4**
ZAA0 IAmb IAmb 12 51 12.7
comp=Z,3.4nm,1.1s
ZALV Zalesovo Beam 46.83 352 P **P** **12 51 11.4 +0.5**
comp=Z,1.5nm,0.3s,baz=176,slow=7.4,SNR=12
ZALV LR LR 13 15 14.9
comp=Z,38nm,19.1s,baz=146,slow=42
ZALV Zalesovo Beam 46.83 352 P **P** **12 51 10.0 -0.9**
WRA Warramunga Arr 47.88 126 P **P** **12 51 18.8 -0.9**
comp=Z,0.2nm,0.4s,baz=306,slow=8.4,SNR=5.6
WRA LR LR 13 13 15.5
comp=Z,62nm,19.1s,baz=70,slow=38
WRA Warramunga Arr 47.88 126 P **P** **12 51 16.7 -2.9**
BVAR Borovoye Array 49.31 341 P **P** **12 51 29.5 -0.6**
comp=Z,0.9nm,0.7s,baz=164,slow=16,SNR=4.5
ASAR Alice Springs 49.54 130 P **P** **12 51 31.2 -1.1**
comp=Z,0.2nm,0.5s,baz=302,slow=7.4,SNR=2.8
ASAR LR LR 13 14 35.6
comp=Z,47nm,20.0s,baz=303,slow=39
ASAR Alice Springs 49.54 130 P **P** **12 51 29.8 -2.6**
ABKAR Akbulak array 50.58 331 P **P** **12 51 39.6 -0.2**
ABKAR IAmb IAmb 12 51 48.8
comp=Z,3.2nm,1.1s
KMBO Kilima Mbogo 57.69 264 LR LR 13 15 28.3
comp=Z,47nm,18.2s,baz=92,slow=34
STKA Stephens Creek 59.73 134 LR LR 13 19 17.0
comp=Z,41nm,21.3s,baz=326,slow=37
NRIK Noril'sk 61.79 357 LR LR 13 23 44.6
comp=Z,44nm,20.2s,baz=201,slow=40
BRTR Keskin Array B 62.81 311 LR LR 13 22 56.5
comp=Z,18nm,19.6s,baz=111,slow=39
FINES FINESS Array B 73.06 332 P **P** **12 54 10.0 -0.9**
comp=Z,5.3nm,1.1s,baz=116,slow=8.7,SNR=3.9
FINES FINESS Array B 73.06 332 P **P** **12 54 10.3 -0.6**
ARCES ARCESS Array B 75.59 340 LR LR 13 30 23.5
comp=Z,82nm,20.1s,baz=70,slow=38
GERES GERESS Array B 78.20 318 P **P** **12 54 40.0 -0.8**
comp=Z,0.3nm,0.2s,baz=71,slow=6.3,SNR=1.6
NOA NORSAR Array B 80.08 331 LR LR 13 34 16.8
comp=Z,25nm,19.0s,baz=65,slow=39
TORD Torodi Ar. Bea 90.94 283 LR LR 13 36 30.5
comp=Z,22nm,18.6s,baz=285,slow=36

IDC 08 12:44:50.5±1.1, 5.08S×151.50E, h132km±12km, mb3.4/3, mb1 3.7/3, mb1mx3.1/42, mbtmp3.7/3, Error ellipse: s-maj=100.6km s-min=24.4km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.93**	**35**	P	Pn	12 45 13.6	+0.6
KRVT	57nm,0.3s,baz=216,slow=17,SNR=41			S	Sn	12 45 30.4	+0.3
WRA	**Warramunga Arr**	**22.29**	**227**	P	P	12 49 36.7	-0.5
	26nm,0.3s,baz=111,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**25.08**	**221**	P	P	12 50 03.3	+0.4
	0.5nm,0.5s,baz=54,slow=9.3,SNR=5.7						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	P	12 58 03.8	+0.1
	1.2nm,0.8s,baz=279,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.15**	**287**	PKPbc	PKPbc	13 04 23.5	-1.0
	0.4nm,0.7s,baz=98,slow=2.9,SNR=2.6						

IDC 08 12:55:39.0±12.0, 22.12N×142.96E, h151km±124km, mb3.2/7, mb1 3.4/7, mb1mx3.2/45, mbtmp3.7/7, Error ellipse: s-maj=44.2km s-min=17.5km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.05**	**323**	P	P	13 00 00.6	+0.2
	0.7nm,0.7s,baz=141,slow=7.9,SNR=1.6						
H11N1	**WAKE ISLAND Hy**	**22.48**	**92**	T	T	13 23 34.4	
	baz=280,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**22.48**	**92**	T	T	13 23 39.1	
	baz=280,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**22.50**	**92**	T	T	13 23 35.8	
	baz=280,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**22.54**	**95**	T	T	13 23 45.4	
	baz=284,slow=75,SNR=166						
H11S1	**WAKE ISLAND Hy**	**22.55**	**95**	T	T	13 23 41.7	
	baz=284,slow=75,SNR=97						
H11S2	**WAKE ISLAND Hy**	**22.56**	**95**	T	T	13 23 42.4	
	baz=284,slow=75,SNR=90						
SONM	**Songino Array**	**38.88**	**320**	P	P	13 02 49.2	-0.6
	0.6nm,0.4s,baz=111,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**42.64**	**192**	P	P	13 03 19.9	-0.7
	0.1nm,0.3s,baz=18,slow=8.1,SNR=6.6						
ASAR	**Alice Springs**	**46.35**	**191**	P	P	13 03 50.7	+0.6
	0.5nm,0.8s,baz=9.2,slow=8.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**53.75**	**322**	P	P	13 04 45.6	+0.1
	2.2nm,0.8s,baz=91,slow=6.2,SNR=7.7						
ILAR	**Eielson Array**	**61.76**	**27**	P	P	13 05 41.6	+0.4
	0.7nm,0.8s,baz=258,slow=5.6,SNR=7.2						
NVAR	**Mina Array Bea**	**83.05**	**51**	P	P	13 07 47.6	-0.4
	0.9nm,0.8s,baz=271,slow=5.3,SNR=7.4						

*IDC **08** 13:01:27.2±1.8, 2.82N×128.83E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/33, mbtmp3.6/5, Error ellipse: s-maj=93.8km s-min=22.4km az=70.0*
*NEIC **08** 13:01:32.0±0.4, 2.8N±0.1×129.0E±0.1, h35km±2km, mb4.1/12, Error ellipse: s-maj=27.7km s-min=11.6km az=120.0*

ISC 08 13:01:33.1±1.0, 2.8N±0.1×129.0E±0.2, h44km, n16, σ0s63/16, mb3.9/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**18.39**	**181**	P	**Pn**	**13 05 46.6**	**+1.7**
KNRA				IAmb	IAmb	13 06 15.1	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.05**	**189**	P	**P**	**13 06 13.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=18,slow=7.9,SNR=6.1						
FITZ	**Fitzroy Crossi**	**21.05**	**189**	P	**P**	**13 06 12.9**	**-0.7**
FITZ				IAmb	IAmb	13 06 33.8	
	comp=Z,7.3nm,1.4s						
WB0	**Warramunga Arr**	**23.07**	**167**	P	**P**	**13 06 34.7**	**-0.4**
WB0				IAmb	IAmb	13 06 37.4	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**23.23**	**167**	P	**P**	**13 06 36.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=345,slow=11,SNR=25						
WRA	**Warramunga Arr**	**23.23**	**167**	P	**P**	**13 06 36.4**	**-0.3**
WB2	**Warramunga Arr**	**23.23**	**167**	P	**P**	**13 06 36.2**	**-0.4**
WB2				IAmb	IAmb	13 06 38.2	
	comp=Z,7.8nm,1.2s						
WR0	**Warramunga Arr**	**23.29**	**167**	P	**P**	**13 06 37.1**	**-0.1**
WR0				IAmb	IAmb	13 06 53.3	
	comp=Z,9.5nm,1.4s						
AS31	**Alice Springs**	**26.76**	**170**	P	**P**	**13 07 08.2**	**-0.9**
ASAR	**Alice Springs**	**26.76**	**170**	P	**P**	**13 07 08.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=356,slow=8.3,SNR=10.0						
KULM	**Kulim**	**28.38**	**276**	P	**P**	**13 07 23.6**	**+0.1**
STKA	**Stephens Creek**	**36.53**	**162**	P	**P**	**13 08 34.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=336,slow=12,SNR=1.7						
NWAO	**Narrogin (SRO)**	**37.26**	**196**	P	**P**	**13 08 40.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**55.44**	**21**	P	**P**	**13 11 03.5**	**+0.4**
MK31	**Makanchi Array**	**59.59**	**325**	P	**P**	**13 11 32.4**	**-0.2**
MKAR	**Makanchi Array**	**59.59**	**325**	P	**P**	**13 11 32.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=121,slow=8.2,SNR=8.8						

IDC 08 13:31:06.0±5.4, 24.21N×93.48E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/55, mbtmp3.3/3, ML3.2/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/30, Error ellipse: s-maj=233.0km s-min=102.0km az=49.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.66**	**137**	Pn	Pn	13 32 59.0	+0.1
	0.1nm,0.3s,baz=314,slow=12,SNR=4.2						
DAV	**Davao City (W)**	**35.16**	**114**	LR	LR	13 54 22.3	
	comp=Z,60nm,19.0s,baz=166,slow=40						
ASAJ	**Asahikawa**	**44.49**	**51**	LR	LR	13 58 44.6	
	comp=Z,66nm,19.1s,baz=172,slow=37						
WRA	**Warramunga Arr**	**59.24**	**134**	P	P	13 41 09.4	-0.1
	0.2nm,0.4s,baz=320,slow=7.6,SNR=9.8						
ASAR	**Alice Springs**	**61.67**	**138**	P	P	13 41 26.1	0.0
	0.3nm,0.4s,baz=318,slow=6.8,SNR=16						

RSNC 08 13:44:22.2±1.1, 6.81N×73.15W, h146km±4km, ML3.3, Mw3.6, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**189**	eP	Pn	13 44 42.2	-0.2
BARC				eS	Sn	13 44 57.4	-0.4
BARC				*i*		13 44 59.3	
	comp=Z,580nm,0.3s						
BRRC	**Barranca, Sant**	**0.63**	**298**	eP	Pn	13 44 44.0	+0.1
BRRC				eS	Sn	13 45 00.6	+0.2
BRRC				*i*		13 45 02.1	
	comp=Z,193nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**40**	*i*P	Pn	13 44 45.0	+0.2
PAMC				eS	Sn	13 45 01.7	-0.3
PAMC				*i*		13 45 04.4	
	comp=Z,492nm,0.4s						
RUSC	**La Rusia**	**0.92**	**176**	eP	Pn	13 44 46.2	-0.4
RUSC				eS	Sn	13 45 04.3	-0.7
RUSC				*i*		13 45 06.1	
	comp=Z,276nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	eP	Pn	13 44 48.5	-1.2
PTBC				eS	Sn	13 45 09.8	-1.0
PTBC				*i*		13 45 17.0	
	comp=Z,168nm,0.3s						
TAMC	**Tame, Arauca**	**1.40**	**105**	*i*P	Pn	13 44 50.6	+0.2
TAMC				eS	Sn	13 45 10.9	-1.1
OCAC	**Ocana**	**1.43**	**353**	eP	Pn	13 44 50.2	-0.7
OCAC				eS	Sn	13 45 11.8	-1.1
OCAC				*i*		13 45 17.0	
	comp=Z,187nm,0.5s						
SPBC	**San Pablo de B**	**1.47**	**219**	eP	Pn	13 44 50.9	-0.4
SPBC				eS	Sn	13 45 12.7	-0.9
SPBC				*i*		13 45 15.8	
	comp=Z,317nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	eP	Pn	13 44 54.4	-0.8
ZARC				eS	Sn	13 45 19.8	-0.6
ZARC				*i*		13 45 28.9	
	comp=Z,119nm,0.5s						
SMLC	**San Martn de**	**2.18**	**335**	eP	Pn	13 44 58.5	-0.8
SMLC				eS	Sn	13 45 27.8	0.0
SMLC				*i*		13 45 31.7	
	comp=Z,207nm,0.1s						
CHIC	**Chingaza**	**2.24**	**195**	eP	Pn	13 45 00.3	-0.1
CHIC				eS	Sn	13 45 29.4	-0.5
CHIC				*i*		13 45 33.2	
	comp=Z,106nm,0.5s						
ROSC	**El Rosal**	**2.28**	**211**	eP	Pn	13 45 01.4	+0.6
ROSC				eS	Sn	13 45 31.2	+0.7
ROSC				*i*		13 45 40.4	
	comp=Z,161nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**292**	eP	Pn	13 45 02.0	-1.8
UREC				eS	Sn	13 45 34.1	-1.6
UREC				*i*		13 45 44.9	
	comp=Z,110nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.71**	**235**	eP	Pn	13 45 06.3	+0.1
GUY2C				eS	Sn	13 45 39.7	-0.5
GUY2C				*i*		13 45 48.4	
	comp=Z,88nm,0.3s						
VILC	**Villavicencio,**	**2.74**	**191**	eP	Pn	13 45 05.5	-0.7
VILC				eS	Sn	13 45 40.0	-0.2
VILC				*i*		13 45 42.9	
	comp=Z,122nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.78**	**159**	eP	Pn	13 45 05.4	-1.3
PTGC				eS	Sn	13 45 38.4	-2.7
PTGC				*i*		13 45 43.7	
	comp=Z,138nm,0.3s						
RREF	**El Recreo**	**2.90**	**229**	eP	Pn	13 45 05.4	-3.3
RREF				eS	Sn	13 45 41.9	-2.7
RREF				*i*		13 45 50.4	
	comp=Z,100nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	eP	Pn	13 45 09.8	+0.2
CBOC				eS	Sn	13 45 45.4	-0.8
CBOC				*i*		13 45 59.6	
	comp=Z,22nm,0.7s						
DBBC	**Dabeiba**	**3.05**	**274**	eP	Pn	13 45 09.6	-0.6
DBBC				eS	Sn	13 45 46.3	-0.8
DBBC				*i*		13 45 49.9	
	comp=Z,205nm,0.7s						
TOLC	**Tolima**	**3.09**	**224**	eP	Pn	13 45 11.7	+0.8
TOLC				eS	Sn	13 45 50.3	+1.7
TOLC				*i*		13 45 55.8	
	comp=Z,194nm,0.5s						
ANIL	**Santa Ana**	**3.22**	**224**	eP	Pn	13 45 12.6	0.0
ANIL				eS	Sn	13 45 53.2	+1.9
ANIL				*i*		13 45 59.0	
	comp=Z,24nm,0.3s						
ARGC	**Ariguani, Magd**	**3.22**	**340**	eP	Pn	13 45 11.8	-0.4
ARGC				eS	Sn	13 45 50.3	-0.7
ARGC				*i*		13 46 02.5	
	comp=Z,53nm,0.2s						
SDV	**Santo Domingo**	**3.23**	**50**	eP	Pn	13 45 10.4	-2.2
SDV				eS	Sn	13 45 48.9	-2.7
SDV				*i*		13 45 52.4	
	comp=Z,39nm,0.3s						
PRAC	**Prado**	**3.53**	**209**	eP	Pn	13 45 15.6	-0.8
PRAC				eS	Sn	13 45 57.5	-0.8
PRAC				*i*		13 46 06.4	
	comp=Z,58nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	eP	Pn	13 45 16.3	-0.4
ORTC				eS	Sn	13 45 59.2	+0.2
ORTC				*i*		13 46 03.5	
	comp=Z,51nm,0.3s						
PLMC	**San Jos del P**	**3.65**	**239**	eP	Pn	13 45 17.8	-0.1
PLMC				eS	Sn	13 46 00.5	-0.6
PLMC				*i*		13 46 06.0	
	comp=Z,32nm,0.3s						
SJCC	**San Jacinto, C**	**3.67**	**327**	eP	Pn	13 45 16.4	-1.7
SJCC				eS	Sn	13 45 57.1	-4.3
SJCC				*i*		13 46 05.0	
	comp=Z,25nm,0.4s						
GUVC	**San Jose del G**	**4.27**	**173**	eP	Pn	13 45 22.8	-3.2
GUVC				eS	Sn	13 46 11.3	-4.2
GUVC				*i*		13 46 18.4	
	comp=Z,94nm,0.3s						
SMRC	**Santa Marta, M**	**4.45**	**346**	eP	Pn	13 45 26.7	-1.7
SMRC				eS	Sn	13 46 14.8	-5.1
SMRC				*i*		13 46 18.6	
	comp=Z,29nm,0.3s						
CAPC	**Capurgana**	**4.54**	**294**	eP	Pn	13 45 26.7	-2.8
CAPC				eS	Sn	13 46 16.4	-5.6
CAPC				*i*		13 46 20.2	
	comp=Z,14nm,0.4s						
MACC	**Macarena, Meta**	**4.69**	**189**	eP	Pn	13 45 29.0	-2.5
MACC				eS	Sn	13 46 04.5	-21
MARP	**Paez Belalcaza**	**4.83**	**215**	eP	Pn	13 45 32.7	-1.0
MARP				eS	Sn	13 46 26.1	-3.2
GARC	**Garzon, Huila**	**5.15**	**207**	eP	Pn	13 45 36.2	-1.7
GARC				eS	Sn	13 46 32.6	-4.3
GARC				*i*		13 46 38.6	
	comp=Z,23nm,0.3s						
BBAC	**Balboa, Cauca**	**6.27**	**221**	eP	Pn	13 45 52.8	0.0
BBAC				*e*S	Sn	13 47 01.8	-1.8
BBAC				*i*		13 47 07.8	
	comp=Z,5.1nm,0.3s						

*NEIC **08** 13:47:40.3±2.1, 0.07N±0.05×123.67E±0.07, h115km±6km, mb4.4/38, Error ellipse: s-maj=12.2km s-min=3.2km az=127.0*
*IDC **08** 13:47:41.9±2.3, 0.03N×123.74E, h127km±21km, mb3.7/11, mb1 3.9/14, mb1mx3.6/37, mbtmp4.2/14, MS2.9/2, Ms1 2.9/2, ms1mx2.5/37, Error ellipse: s-maj=21.3km s-min=11.3km az=77.0*
*DJA **08** 13:47:41.7±0.3, 0°S±2°×124°E±°, h87km±6km, M4.5/16, mB5.1/5, mb4.5/7, MLv4.5/16, Mw(mB)4.4/5*

ISC 08 13:47:39.8±0.4, 0.06S±0.04×123.83E±0.04, h110km, n74, σ1s39/80, mb4.3/26, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.65**	**14**	P	**Pn**	**13 48 00.0**	**+2.2**
KMSI				S	Sn	**13 48 14.3**	**+3.1**
LUWI	**Luwuk**	**1.44**	**227**	P	**Pn**	**13 48 06.4**	**+0.5**
LUWI				S	Sn	**13 48 24.9**	**-0.8**
LUWI	**Luwuk**	**1.44**	**227**	Pn	**Pn**	**13 48 06.3**	**+0.5**
SANI	**Sanana**	**2.93**	**132**	P	**Pn**	**13 48 24.4**	**-0.5**
SANI				S	Sn	**13 48 56.3**	**-3.4**
TNTI	**Ternate**	**3.64**	**77**	P	**Pn**	**13 48 36.3**	**+2.0**
TNTI				S	Sn	**13 49 17.6**	**+1.1**
TNTI	**Ternate**	**3.64**	**77**	Pn	**Pn**	**13 48 36.8**	**+2.5**
MPSI	**Mapaga**	**3.95**	**276**	P	**Pn**	**13 48 41.0**	**+2.5**
MPSI				S	Sn	**13 49 26.9**	**+3.0**
KDI	**Kendari**	**4.06**	**197**	P	**Pn**	**13 48 40.5**	**+0.5**
SGSI	**Sangihe**	**4.09**	**25**	P	Pn	13 48 54.0	+14
NLAI	**Namlea**	**4.55**	**134**	P	**Pn**	**13 48 47.9**	**+1.3**
NLAI				S	Sn	**13 49 38.4**	**-0.1**
SPSI	**Sidrap Palu**	**5.61**	**226**	P	**Pn**	**13 49 02.6**	**+1.6**
SPSI				S	Sn	**13 50 02.6**	**-1.6**
BNSI	**Bone**	**5.69**	**221**	P	**Pn**	**13 49 03.4**	**+1.3**
	0.4nm1µm106nm,0.8s						
MSAI	**Masohi**	**6.06**	**123**	P	**Pn**	**13 49 05.8**	**-1.2**
	0.1nm17nm,0.6s						
KAPI	**Kappang**	**6.39**	**220**	P	**Pn**	**13 49 13.4**	**+2.0**
	20nm,0.3s,baz=38,slow=4.9,SNR=10						
KAPI				S	**Sn**	**13 50 23.4**	**+0.4**
	17nm,0.3s,baz=216,slow=22,SNR=3.8						
KAPI				LR	LR	13 52 16.5	
	comp=Z,61nm,18.5s,baz=302,slow=43						
BKSI	**Bulukumba**	**6.40**	**215**	P	**Pn**	**13 49 13.1**	**+1.4**
KCP	**Kidapawan**	**7.13**	**10**	*i*P	Pn	13 49 26.1	+4.5
MYLDM	**Lahad Datu**	**7.44**	**314**	Pn	Pn	13 49 29.8	+4.0
SIJI	**Sorong**	**7.48**	**96**	P	Pn	13 49 31.6	+5.2
	1.5nm,0.3s,baz=223,slow=22,SNR=2.7						
MMRI	**Maumere**	**8.67**	**190**	Pn	**Pn**	**13 49 45.0**	**+2.6**
FAKI	**Fak Fak**	**8.89**	**109**	Pn	**Pn**	**13 49 45.9**	**+0.5**
KKM	**Kota Kinabalu**	**9.72**	**309**	Pn	Pn	13 50 00.7	+3.9
BATI	**Baumata**	**10.08**	**181**	LR	LR	13 54 00.8	
	comp=Z,93nm,18.6s,baz=70,slow=37						
MTN	**Manton Dam**	**14.62**	**151**	Pn	**P**	**13 51 04.8**	**0.0**
KNRA	**Kununurra**	**16.27**	**163**		**P**	**13 51 24.0**	**+1.0**
KNRA				IAmb	IAmb	13 51 27.1	
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.02**	**174**	P	**P**	**13 51 43.7**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=8.4,slow=8.4,SNR=9.1						
FITZ	**Fitzroy Crossi**	**18.02**	**174**	IAmb	IAmb	13 51 56.1	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**22.16**	**153**	P	**P**	**13 52 27.0**	**0.0**
WRAB	**Tennant Creek**	**22.28**	**153**	P	**P**	**13 52 28.9**	**+0.7**
WRA	**Warramunga Arr**	**22.29**	**153**	P	**P**	**13 52 29.1**	**+0.9**
	comp=Z,5.3nm,0.7s,baz=333,slow=9.9,SNR=66						
WRA				PcP	**PcP**	**13 56 20.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=329,slow=2.2,SNR=6.5						
WRA				S	**S**	**13 56 24.1**	**-2.0**
	comp=Z,0.5nm,0.9s,baz=333,slow=16,SNR=4.6						
WRA	**Warramunga Arr**	**22.29**	**153**	P	**P**	**13 52 28.5**	**+0.2**
WB2	**Warramunga Arr**	**22.29**	**153**	P	**P**	**13 52 28.8**	**+0.5**
WR0	**Warramunga Arr**	**22.39**	**153**	P	**P**	**13 52 29.4**	**+0.1**
IPM	**Ipoh**	**23.22**	**281**	P	**P**	**13 52 34.5**	**-3.0**
IPM				IAmb	IAmb	13 52 38.6	
	comp=Z,9.4nm,0.7s						
COEN	**Coen**	**23.61**	**127**	P	**P**	**13 52 42.0**	**+0.9**
COEN				IAmb	IAmb	13 52 42.1	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**25.43**	**158**	P	**P**	**13 52 58.2**	**+0.7**
ASAR	**Alice Springs**	**25.43**	**158**	P	**P**	**13 52 58.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=340,slow=8.3,SNR=22						
ASAR				PcP	**PcP**	**13 56 27.3**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=350,slow=2.3,SNR=16						
CMAR	**Chiang Mai Arr**	**30.60**	**308**	P	**P**	**13 53 44.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=149,slow=8.3,SNR=6.0						
CMAR				PcP	**PcP**	**13 56 39.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=160,slow=2.5,SNR=5.6						
FORT	**Forrest**	**30.82**	**173**	P	**P**	**13 53 46.6**	**+1.2**
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**13 54 30.3**	**+1.4**
	comp=Z,3.1nm,0.4s,baz=333,slow=8.7,SNR=14						
STKA				PcP	**PcP**	**13 56 54.8**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=277,slow=3.7,SNR=3.7						
STKA	**Stephens Creek**	**35.84**	**154**	IAmb	IAmb	13 54 31.2	
	comp=Z,0.7nm,0.6s						
XAN	**Xi'an**	**36.69**	**339**	P	**P**	**13 54 37.2**	**+1.0**
XAN				IAmb	IAmb	13 54 51.5	
	comp=Z,4.4nm,0.5s						
JWT	**Wachi**	**36.78**	**16**	P	**P**	**13 54 36.9**	**0.0**
JGF	**Kuroka**	**37.65**	**18**	P	**P**	**13 54 44.7**	**+0.3**
JGF				IAmb	IAmb	13 55 10.4	
	comp=Z,9.1nm,1.1s						
MJAR	**Matsushiro Arr**	**38.79**	**19**	P	**P**	**13 54 52.7**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=193,slow=9.1,SNR=4.3						
ARMA	**Armidale**	**40.13**	**141**	P	**P**	**13 55 07.5**	**+2.3**
ARMA				IAmb	IAmb	13 55 09.1	
	comp=Z,21nm,1.4s						
JSD	**Sado**	**40.17**	**18**	P	**P**	**13 55 06.6**	**+1.3**
JSD				IAmb	IAmb	13 55 29.9	
	comp=Z,4.8nm,0.9s						
JMM	**Marumori**	**40.85**	**21**	P	**P**	**13 55 10.7**	**-0.2**
JMM				IAmb	IAmb	13 55 15.0	
	comp=Z,10nm,1.0s						
CAN	**Canberra**	**42.21**	**149**	P	**P**	**13 55 24.3**	**+2.2**
CAN				IAmb	IAmb	13 55 45.5	
	comp=Z,22nm,1.5s						
JTM	**Tenmabayashi**	**43.57**	**19**	P	**P**	**13 55 33.0**	**+0.1**
USA0B	**Ussuriysk Arra**	**44.66**	**8**	P	**P**	**13 55 41.3**	**-0.3**
USA0B		

ARCES ARCESS Array B 92.97 340 P **P** **14 00 37.5 -2.9**
comp=Z,3.2nm,0.9s,baz=90,slow=2.4,SNR=4.1
TORD Torodi Ar. Bea 121.22 285 PKP **PKPdf** **14 06 20.0 -0.9**
comp=Z,0.6nm,0.4s,baz=126,slow=1.9,SNR=7.0

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*IDC **08** 13:48:57.9±0.8,20°.74N×144°.84E,h137km±7km,mb4.1/25, mb1 4.2/29,mb1mx4.1/41,mbtmp4.5/29,Error ellipse: s-maj=13.8km s-min=8.5km az=90.0*
*NEIC **08** 13:48:59.0±1.1,20°.72N±0°.07×144°.8E±0°.1,h146km±5km, mb4.6/207,Error ellipse: s-maj=13.8km s-min=10.3km az=80.0*
ISC 08 13:48:57.2±0.3,**20°.74N**±0°.04×**144°.76E**±0°.06,**h129**km, **n329**,σ0**83**/333,**mb4.6**/113,**1C-1D**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.75**	**340**	P	**Pn**	**13 50 34.2**	**+0.3**
	26nm,0.3s,baz=96,slow=24,SNR=13						
JCJ				S	**Sn**	**13 51 48.0**	**-1.5**
	53nm,0.3s,baz=266,slow=21,SNR=11						
GUMO	**Guam**	**7.11**	**179**	P	**Pn**	**13 50 39.9**	**+1.1**
	2.3nm,0.3s,baz=190,slow=21,SNR=4.8						
GUMO				S	**Sn**	**13 51 59.8**	**+1.6**
	baz=330,slow=14,SNR=1.3						
JYT	**Yasato**	**15.94**	**346**		**P**	**13 52 36.3**	**+1.1**
INU	**Inuyama**	**16.07**	**337**		**P**	**13 52 36.9**	**+0.2**
JMN	**Monobe**	**16.14**	**326**	P	**P**	**13 52 38.4**	**+0.8**
JMN				IAmb	IAmb	13 52 44.2	
	comp=Z,34nm,1.2s						
JGF	**Kuroka**	**16.17**	**338**	P	**P**	**13 52 38.1**	**+0.2**
JOW	**Kunigami**	**16.26**	**295**	P	**P**	**13 52 39.6**	**+0.8**
JWT	**Wachi**	**16.67**	**332**	P	**P**	**13 52 43.5**	**+0.2**
JSU	**Suzuyama**	**16.72**	**313**	P	**P**	**13 52 45.0**	**+1.1**
JSU				IAmb	IAmb	13 52 47.4	
	comp=Z,35nm,0.9s						
MJAR	**Matsushiro Arr**	**16.76**	**341**	P	**P**	**13 52 44.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=8.0,SNR=8.2						
MJAR	**Matsushiro Arr**	**16.76**	**341**	P	**P**	**13 52 44.6**	**+0.3**
MAJO	**Matsushiro**	**16.76**	**341**	P	**Pn**	**13 52 43.9**	**-0.3**
MAT	**Matsushiro**	**16.76**	**341**	P	**Pn**	**13 52 43.8**	**-0.5**
JMM	**Marumori**	**17.41**	**349**		**Pn**	**13 52 52.6**	**+0.5**
JMM				IAmb	IAmb	13 53 00.9	
	comp=Z,21nm,0.5s						
JNU	**Nakatsue**	**17.45**	**318**	P	**Pn**	**13 52 53.6**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=312,slow=1.7,SNR=12						
JNU	**Nakatsue**	**17.45**	**318**	P	**Pn**	**13 52 53.0**	**+0.3**
JNU				IAmb	IAmb	13 52 56.9	
	comp=Z,26nm,1.0s						
JHS	**Saijyo**	**17.52**	**327**	P	**Pn**	**13 52 54.2**	**+0.7**
JHS				IAmb	IAmb	13 52 55.5	
	comp=Z,19nm,0.8s						
JSD	**Sado**	**18.14**	**343**	P	**P**	**13 52 59.9**	**+0.5**
JSD				IAmb	IAmb	13 53 22.1	
	comp=Z,24nm,1.3s						
PATS	**Pohnpei**	**19.06**	**135**	P	**P**	**13 53 10.0**	**+0.3**
JTU	**Tsushima**	**19.30**	**319**	P	**P**	**13 53 12.3**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**20.77**	**92**	T	T	14 15 28.4	
	baz=280,slow=74,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**20.78**	**92**	T	T	14 15 09.5	
	baz=280,slow=74,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**20.79**	**89**	T	T	14 15 07.1	
	baz=276,slow=74,SNR=1.3						
H11S2	**WAKE ISLAND Hy**	**20.79**	**92**	T	T	14 15 25.4	
	baz=280,slow=74,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**20.79**	**89**	T	T	14 14 49.3	
	baz=276,slow=74,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**20.81**	**89**	T	T	14 15 08.7	
	baz=276,slow=74,SNR=4.9						
ERM	**Erimo**	**21.26**	**357**	P	**P**	**13 53 36.8**	**+3.7**
ERM				IAmb	IAmb	13 53 58.2	
	comp=Z,30nm,1.1s						
NACB	**Ninganchiao**	**21.68**	**283**	P	**P**	**13 53 38.3**	**+0.6**
YULB	**Yu-li**	**21.90**	**281**	P	**P**	**13 53 40.8**	**+0.6**
YHNB	**Yeheng**	**21.92**	**285**	P	**P**	**13 53 41.0**	**+0.6**
TWG	**Pinlang**	**22.09**	**280**	P	**P**	**13 53 42.2**	**+0.1**
KSRS	**Korea Array**	**22.17**	**322**	P	**P**	**13 53 43.6**	**+1.0**
	comp=Z,31nm,0.9s,baz=148,slow=9.0,SNR=103						
KSAR	**Wonju Array Be**	**22.18**	**322**	P	**P**	**13 53 43.8**	**+0.9**
JEW	**Eniwo**	**22.21**	**354**	P	**P**	**13 53 44.3**	**+1.2**
KS19	**Wonju Array Si**	**22.23**	**322**	P	**P**	**13 53 43.5**	**+0.1**
KS19				IAmb	IAmb	13 53 45.5	
	comp=Z,24nm,0.8s						
SSLB	**Suanglung**	**22.23**	**282**	P	**P**	**13 53 44.6**	**+1.0**
TPUB	**Ta-pu**	**22.51**	**281**	P	**P**	**13 53 47.1**	**+0.8**
TPUB				IAmb	IAmb	13 54 05.1	
	comp=Z,24nm,0.9s						
JKA	**Kamikawa-asahi**	**23.38**	**356**	P	**P**	**13 53 55.5**	**+1.2**
JKA				IAmb	IAmb	13 53 58.7	
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**23.38**	**356**	P	**P**	**13 53 55.6**	**+1.3**
	comp=Z,5.5nm,0.4s,baz=222,slow=9.5,SNR=16						
USA0B	**Ussuriysk Arra**	**25.70**	**338**	P	**P**	**13 54 15.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**25.70**	**338**	P	**P**	**13 54 15.8**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=136,slow=8.6,SNR=12						
USRK	**Ussuriysk Ar.**	**25.70**	**338**	P	**P**	**13 54 15.3**	**+0.1**
NJ2	**Nanjing**	**25.73**	**301**	*e*P	**P**	**13 54 16.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
MDJ	**Mudanjiang**	**26.93**	**336**	P	**P**	**13 54 27.7**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,260nm,5.2s						
LUWI	**Luwuk**	**30.52**	**227**	P	**P**	**13 54 58.2**	**-0.3**
PETK	**Petropavlovsk-**	**33.82**	**14**	P	**P**	**13 55 27.6**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=205,slow=6.4,SNR=1.8						
HHC	**Hu-ho-hao-te**	**34.56**	**313**	*e*P	**P**	**13 55 34.9**	**+1.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,170nm,8.0s						
GYA	**Guiyang**	**35.28**	**287**	⇑P	**P**	**13 55 40.4**	**+0.4**
GYA				sP	pwP	13 56 14.1	+2.6
GYA				S	S	**14 01 07.7**	**+3.0**
GYA				sS	ScP	14 01 41.3	-0.5
GYA				SS	**SnSn**	**14 03 29.7**	**-7.7**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
GYA				pmax	pmax		
	comp=Z,300nm,5.0s						
GYA				LR	LR		
	comp=N,160nm,4.7s						
GYA				LR	LR		
	comp=E,270nm,4.9s						
GYA				LR	LR		
	comp=Z,250nm,5.8s						
MTN	**Manton Dam**	**35.96**	**203**	P	**P**	**13 55 45.1**	**-0.6**
SBUM	**Sibu**	**36.55**	**244**	P	**P**	**13 55 52.0**	**+1.1**
SLVN	**Son La**	**38.06**	**278**	P	**P**	**13 56 04.3**	**+0.8**
SLVN				IAmb	IAmb	13 56 05.9	
	comp=Z,9.4nm,0.8s						
CD2	**Chengdu**	**38.09**	**294**	*e*P	**P**	**13 56 03.0**	**-0.7**
LZH	**Lanzhou**	**38.80**	**302**	*e*P	**P**	**13 56 11.5**	**+1.8**
LZH				pP	pwP	13 56 44.2	+2.9
LZH				sP	sP	13 56 51.6	-0.4
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
KMI	**Kunming**	**38.84**	**285**	⇓*e*P	**P**	**13 56 10.5**	**+0.3**
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**39.45**	**205**	P	**P**	**13 56 14.9**	**-0.1**
KNRA				IAmb	IAmb	13 56 15.6	
	comp=Z,16nm,0.9s						
ULN	**Ulaanbaatar**	**40.64**	**321**	P	**P**	**13 56 24.5**	**-0.2**
SONM	**Songino Array**	**41.01**	**320**	P	**P**	**13 56 27.9**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=128,slow=8.6,SNR=17						
SONM				PcP	**PcP**	**13 58 24.6**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=121,slow=4.3,SNR=2.8						
SONM	**Songino Array**	**41.01**	**320**	P	**P**	**13 56 27.2**	**-0.6**
SONM				IAmb	IAmb	13 56 32.5	
	comp=Z,3.1nm,0.6s						
WB0	**Warramunga Arr**	**41.52**	**195**	P	**P**	**13 56 31.6**	**-0.3**
WR0	**Warramunga Arr**	**41.66**	**195**	P	**P**	**13 56 33.2**	**0.0**
WRAB	**Tennant Creek**	**41.69**	**195**	P	**P**	**13 56 33.4**	**+0.1**
WRAB				IAmb	IAmb	13 56 35.2	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**41.69**	**195**	P	**P**	**13 56 33.3**	**-0.1**
WRA	**Warramunga Arr**	**41.70**	**195**	P	**P**	**13 56 33.4**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=8.1,slow=8.5,SNR=23						
WRA				pP	**pwP**	**13 57 04.8**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=14,slow=8.7,SNR=2.7						
WRA	**Warramunga Arr**	**41.70**	**195**	P	**P**	**13 56 33.0**	**-0.4**
SEY	**Seymchan**	**42.49**	**5**	P	**P**	**13 56 40.1**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=184,slow=7.4,SNR=7.7						
YAK	**Yakutsk**	**42.56**	**350**	P	**P**	**13 56 39.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.91**	**207**	P	**P**	**13 56 43.3**	**0.0**
	baz=26,slow=12						
FITZ	**Fitzroy Crossi**	**42.91**	**207**	P	**P**	**13 56 43.2**	**0.0**
FITZ				IAmb	IAmb	13 56 44.2	
	comp=Z,13nm,0.7s						
CHTO	**Chiang Mai**	**43.05**	**276**	P	**P**	**13 56 45.4**	**+0.8**
CM31	**Chiang Mai Arr**	**43.12**	**275**	P	**P**	**13 56 46.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**43.12**	**275**	P	**P**	**13 56 46.3**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=73,slow=6.6,SNR=12						
CMAR				PcP	**PcP**	**13 58 33.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=68,slow=1.7,SNR=7.1						
CMAR	**Chiang Mai Arr**	**43.12**	**275**	P	**P**	**13 56 46.0**	**+0.9**
MYKOM	**Kota Tinggi**	**44.12**	**250**	P	**P**	**13 56 54.7**	**+1.6**
AS31	**Alice Springs**	**45.38**	**194**	P	**P**	**13 57 02.5**	**-0.5**
ASAR	**Alice Springs**	**45.38**	**194**	P	**P**	**13 57 02.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=16,slow=6.8,SNR=20						
ASAR				pP	**pwP**	**13 57 34.4**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=13,slow=7.3,SNR=3.5						
IPM	**Ipoh**	**45.45**	**255**	P	**P**	**13 57 04.9**	**+1.2**
IPM				IAmb	IAmb	13 57 06.0	
	comp=Z,14nm,0.8s						
KULM	**Kulim**	**45.46**	**257**	P	**P**	**13 57 05.4**	**+1.7**
CISI	**Cisompet, Garu**	**45.92**	**236**	P	**P**	**13 57 07.8**	**+0.4**
DZM	**Mont Dzumac**	**47.52**	**152**	P	**P**	**13 57 18.7**	**-1.1**
DZM				IAmb	IAmb	13 57 21.1	
	comp=Z,26nm,1.4s						
PSI	**Prapat**	**48.05**	**254**	P	**P**	**13 57 25.2**	**+1.1**
	comp=Z,6.5nm,0.6s,baz=257,slow=10.0,SNR=3.7						
RPSI	**Rantau Prapat**	**48.10**	**254**	P	**P**	**13 57 23.4**	**-0.9**
RPSI				IAmb	IAmb	13 57 26.2	
	comp=Z,14nm,1.2s						
RPSI	**Rantau Prapat**	**48.10**	**254**	P	**P**	**13 57 25.2**	**+1.0**
PSA00	**Pilbara Seismi**	**48.59**	**212**	P	**P**	**13 57 27.6**	**-0.2**
PSA00				IAmb	IAmb	13 57 38.8	
	comp=Z,23nm,1.4s						
SHL	**Shillong**	**48.60**	**286**	P	**P**	**13 57 27.8**	**-0.4**
SHL				IAmb	IAmb	13 57 28.6	
	comp=Z,9.6nm,0.8s						
GSI	**Gunungsitoli**	**49.91**	**253**	P	**P**	**13 57 37.8**	**-0.4**
WMQ	**Urumqi**	**52.32**	**310**	*e*P	**P**	**13 57 57.6**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,77nm,5.3s						
STKA	**Stephens Creek**	**52.40**	**183**	P	**P**	**13 57 55.5**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=17,slow=5.9,SNR=7.9						
STKA	**Stephens Creek**	**52.40**	**183**	P	**P**	**13 57 54.9**	**-1.4**
GIRL	**Giralia**	**52.40**	**216**	P	**P**	**13 57 57.3**	**+0.8**
FORT	**Forrest**	**53.68**	**198**	P	**P**	**13 58 05.1**	**-0.6**
BBOO	**Buckleboo**	**53.89**	**189**	P	**P**	**13 58 08.1**	**+0.9**
BBOO				IAmb	IAmb	13 58 22.8	
	comp=Z,15nm,1.2s						
ZAA0	**Zalesovo Array**	**55.87**	**322**	P	**P**	**13 58 20.2**	**-1.0**
ZALV	**Zalesovo Beam**	**55.87**	**322**	P	**P**	**13 58 20.9**	**-0.4**
	comp=Z,13nm,0.5s,baz=110,slow=7.9,SNR=42						
ZALV				PcP	**PcP**	**13 59 17.0**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=99,slow=3.4,SNR=1.8						
ZALV	**Zalesovo Beam**	**55.87**	**322**	P	**P**	**13 58 20.4**	**-0.9**
MK31	**Makanchi Array**	**56.43**	**313**	P	**P**	**13 58 25.3**	**-0.1**
MK31				IAmb	IAmb	13 58 27.1	
	comp=Z,4.2nm,0.6s						
MKAR	**Makanchi Array**	**56.43**	**313**	P	**P**	**13 58 25.6**	**+0.2**
	comp=Z,6.1nm,0.5s,baz=89,slow=9.2,SNR=48						
MKAR				PcP	**PcP**	**13 59 19.9**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=104,slow=4.8,SNR=1.6						
MKAR	**Makanchi Array**	**56.43**	**313**	P	**P**	**13 58 25.2**	**-0.3**
MAKZ	**Makanchi**	**56.64**	**313**	P	**P**	**13 58 27.0**	**0.0**
MAKZ				IAmb	IAmb	13 58 28.0	
	comp=Z,8.9nm,0.8s						
MORW	**Morawa**	**56.74**	**210**	P	**P**	**13 58 26.5**	**-1.2**
SVW2	**Sparrevohn**	**57.49**	**30**	P	**P**	**13 58 33.6**	**+0.9**
SVW2				IAmb	IAmb	13 58 34.3	
	comp=Z,5.2nm,0.8s						
OHAK	**Old Harbor**	**57.67**	**35**	P	**P**	**13 58 33.3**	**-0.6**
KURK	**Kurchatov**	**59.18**	**317**	P	**P**	**13 58 43.9**	**-0.6**
CNPM	**China Poot**	**59.21**	**32**	P	**P**	**13 58 44.0**	**-0.6**
CNPM				IAmb	IAmb	13 58 44.9	
	comp=Z,7.1nm,0.8s						
NRIK	**Noril'sk**	**59.40**	**340**	P	**P**	**13 58 45.3**	**-0.5**
	comp=Z,6.7nm,0.7s,baz=116,slow=9.9,SNR=14						
BRLK	**Bradley Lake**	**59.43**	**32**	P	**P**	**13 58 45.4**	**-0.7**
BRLK				IAmb	IAmb	13 58 47.9	
	comp=Z,10nm,1.0s						
NWAO	**Narrogin (SRO)**	**59.49**	**207**	P	**P**	**13 58 46.3**	**-0.5**
PPLA	**Purkeypile**	**59.52**	**28**	P	**P**	**13 58 47.2**	**+0.4**
SUA	**Susitna One**	**59.85**	**30**	P	**P**	**13 58 48.6**	**-0.4**
KDJ	**Kajisay**	**59.95**	**307**	P	**P**	**13 58 51.0**	**+0.8**
O22K	**Cooper Landing**	**60.14**	**31**	P	**P**	**13 58 50.3**	**-0.6**
	baz=259						
SEW	**Seward**	**60.20**	**32**	P	**P**	**13 58 50.7**	**-0.6**
KTH	**Kantishna Hill**	**60.24**	**28**	P	**P**	**13 58 51.8**	**+0.1**
KTH				IAmb	IAmb	13 58 53.8	
	comp=Z,15nm,1.5s						
CUT	**Chulitna**	**60.27**	**29**	P	**P**	**13 58 52.1**	**+0.3**
	baz=258						
BPAW	**Bear Paw Mtn.**	**60.34**	**27**	P	**P**	**13 58 52.6**	**+0.3**
BPAW				IAmb	IAmb	13 58 53.4	
	comp=Z,9.5nm,1.0s						
TRF	**Thorofare Moun**	**60.49**	**28**	P	**P**	**13 58 53.2**	**-0.3**
TRF				IAmb	IAmb	13 58 54.1	
	comp=Z,8.9nm,1.0s						
PMR	**Palmer**	**60.63**	**30**	P	**P**	**13 58 53.7**	**-0.5**
PMR				IAmb	IAmb	13 58 59.5	
	comp=Z,13nm,1.4s						
MLY	**Manley**	**60.67**	**26**	P	**P**	**13 58 55.2**	**+0.7**
	baz=256						
GHO	**Glory Hole Cre**	**60.76**	**30**	P	**P**	**13 58 55.0**	**-0.3**
GHO				IAmb	IAmb	13 58 55.9	
	comp=Z,5.9nm,0.8s						
BOOM	**Boomskoye usch**	**60.86**	**308**	P	**P**	**13 58 57.3**	**+0.9**
KNK	**Knik Glacier**	**60.91**	**30**	P	**P**	**13 58 56.0**	**-0.2**
BWN	**Browne**	**61.01**	**27**	P	**P**	**13 58 57.1**	**+0.3**
SML	**Sawmill**	**61.05**	**30**	P	**P**	**13 58 57.0**	**-0.1**
MCK	**McKinley**	**61.14**	**28**	P	**P**	**13 58 57.7**	**-0.1**
	baz=258						
COLD	**Coldfoot**	**61.45**	**24**	P	**P**	**13 59 00.7**	**+1.0**
	baz=255						
COLD	**Coldfoot**	**61.45**	**24**	P	**P**	**13 59 00.3**	**+0.6**
COLD				IAmb	IAmb	13 59 01.3	
	comp=Z,4.8nm,1.1s						
GLI	**Glacier Island**	**61.48**	**31**	P	**P**	**13 58 59.9**	**-0.1**
SCM	**Sheep Creek Mo**	**61.52**	**30**	P	**P**	**13 59 00.6**	**+0.2**
WRH	**Wood River Hil**	**61.66**	**27**	P	**P**	**13 59 00.2**	**-0.9**
MDM	**Murphy Dome**	**61.70**	**26**	P	**P**	**13 59 01.0**	**-0.4**
HIN	**Hinchinbrook I**	**61.70**	**32**	P	**P**	**13 59 02.0**	**+0.5**
DHY	**Denali Highway**	**61.71**	**29**	P	**P**	**13 59 01.4**	**-0.3**
DHY				IAmb	IAmb	13 59 03.2	
	comp=Z,6.7nm,1.3s						
FID	**Port Fidalgo**	**61.76**	**31**	P	**P**	**13 59 02.1**	**+0.2**
CCB	**Clear Creek Bu**	**61.81**	**27**	P	**P**	**13 59 01.5**	**-0.7**
TOLK	**Toolik Lake Re**	**62.04**	**22**	P	**P**	**13 59 04.7**	**+1.0**
	baz=255						
M24K	**Tolsona, Glenn**	**62.10**	**30**	P	**P**	**13 59 04.6**	**+0.4**
	baz=262						
KLU	**Klutina**	**62.13**	**31**	P	**P**	**13 59 04.7**	**+0.2**
KLU				IAmb	IAmb	13 59 06.1	
	comp=Z,14nm,1.2s						
HDA	**Harding Lake**	**62.13**	**27**	P	**P**	**13 59 03.2**	**-1.1**
	baz=260						
HDA	**Harding Lake**	**62.13**	**27**	P	**P**	**13 59 03.3**	**-1.0**
HDA				IAmb	IAmb	13 59 04.0	
	comp=Z,4.5nm,1.0s						
IL31		**62.22**	**27**	P	**P**	**13 59 03.6**	**-1.2**
ILAR	**Eielson Array**	**62.22**	**27**	P	**P**	**13 59 03.6**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=259,slow=5.5,SNR=27						
ILAR	**Eielson Array**	**62.22**	**27**	P	**P**	**13 59 03.5**	**-1.4**
PAX	**Paxson**	**62.55**	**29**	P	**P**	**13 59 06.9**	**-0.3**
PAX				IAmb	IAmb	13 59 07.7	
	comp=Z,3.7nm,0.6s						
N25K	**Chitina, Valde**	**62.77**	**30**	P	**P**	**13 59 09.1**	**+0.4**
	baz=263						
RIDG	**Independent Ri**	**62.94**	**28**	P	**P**	**13 59 09.4**	**-0.4**
RIDG				IAmb	IAmb	13 59 10.2	
	comp=Z,7.0nm,0.9s						
GLB	**Gilahina Butte**	**63.13**	**31**	P	**P**	**13 59 11.6**	**+0.5**
GLB				IAmb	IAmb	13 59 12.4	
	comp=Z,6.9nm,1.2s						
FYU	**Fort Yukon**	**63.22**	**25**	P	**P**	**13 59 12.2**	**+0.7**
DOT	**Dot Lake**	**63.27**	**28**	P	**P**	**13 59 11.5**	**-0.4**
DOT				IAmb	IAmb	13 59 12.4	
	comp=Z,4.2nm,0.6s						
VRDI	**Verde Repeater**	**63.28**	**31**	P	**P**	**13 59 12.3**	**+0.1**
VRDI				IAmb	IAmb	13 59 12.8	
	comp=Z,5.4nm,1.0s						
MENT	**Mentasta**	**63.34**	**29**	P	**P**	**13 59 12.7**	**+0.4**
SCRK	**Sand Creek**	**63.35**	**28**	P	**P**	**13 59 12.2**	**-0.3**
	baz=263,SNR=6.8						
MCARA	**McCarthy VSAT**	**63.50**	**31**	P	**P**	**13 59 13.2**	**-0.2**
MCARA				IAmb	IAmb	13 59 14.6	
	comp=Z,5.7nm,0.7s						
TGL	**Tana Glacier**	**63.54**	**32**	P	**P**	**13 59 13.9**	**+0.1**
TGL				IAmb	IAmb	13 59 16.3	
	comp=Z,5.2nm,0.8s						
NIL	**Nilore**	**63.78**	**298**	P	**P**	**13 59 15.6**	**-0.3**
BALM	**Baldy**	**63.80**	**31**	P	**P**	**13 59 15.4**	**-0.1**
BALM				IAmb	IAmb	13 59 16.0	
	comp=Z,5.0nm,0.5s						
YAH	**Yahtse**	**64.05**	**32**	P	**P**	**13 59 17.6**	**+0.3**
YAH				IAmb	IAmb	13 59 18.4	
	comp=Z,8.5nm,0.8s						
BARN	**Barnard Glacie**	**64.14**	**31**	P	**P**	**13 59 18.2**	**+0.4**
BARN				IAmb	IAmb	13 59 28.1	
	comp=Z,12nm,1.5s						
BRVK	**Borovoye**	**64.42**	**320**	P	**P**	**13 59 19.6**	**+0.1**
EGAK	**Eagle**	**64.66**	**27**	P	**P**	**13 59 20.6**	**-0.3**
EGAK				IAmb	IAmb	13 59 24.4	
	comp=Z,5.6nm,1.1s						
KK31	**Karatay Array**	**64.80**	**309**	P	**P**	**13 59 22.5**	**+0.2**
KKAR	**Karatay Array**	**64.80**	**309**	P	**P**	**13 59 22.5**	**+0.2**
KKAR	**Karatay Array**	**64.80**	**309**	P	**P**	**13 59 22.6**	**+0.3**
KKAR				IAmb	IAmb	13 59 23.5	
	comp=Z,14nm,1.1s						
BTK	**Batken**	**64.89**	**305**	P	**P**	**13 59 23.1**	**+0.1**
BCPM	**Bancas Point**	**65.08**	**33**	P	**P**	**13 59 23.8**	**0.0**
GAR	**Garm**	**65.41**	**304**	P	**P**	**13 59 26.6**	**+0.2**
HYT	**Haines Junctio**	**66.15**	**32**	P	**P**	**13 59 31.8**	**+1.0**
HYT				IAmb	IAmb	13 59 32.7	
	comp=Z,5.1nm,0.8s						
CHGR	**Chuyangaron**	**66.35**	**304**	P	**P**	**13 59 32.5**	**+0.1**
BKZ	**Black Stump Fm**	**66.58**	**154**	P	**P**	**13 59 35.2**	**+1.6**
EPYK	**Eagle Plains**	**66.59**	**25**	P	**P**	**13 59 33.6**	**+0.3**
	baz=268						
KBL	**Kabul**	**67.09**	**300**	P	**P**	**13 59 37.1**	**-0.2**
SKAG	**Skagway**	**67.27**	**33**	P	**P**	**13 59 38.5**	**+0.8**
SKAG				IAmb	IAmb	13 59 39.0	
	comp=Z,8.8nm,1.3s						
WHY	**Whitehorse**	**67.45**	**32**	P	**P**	**13 59 39.6**	**+0.7**
JIS	**Juneau Island**	**67.82**	**34**	P	**P**	**13 59 41.1**	**-0.1**
INK	**Inuvik**	**67.86**	**23**	P	**P**	**13 59 41.2**	**0.0**
INK				IAmb	IAmb	13 59 46.0	
	comp=Z,10.0nm,1.1s						
DIB	**Dawson Inlet,**	**69.38**	**40**	P	**P**	**13 59 51.5**	**+0.5**
ARU	**Arti**	**70.90**	**324**	P	**P**	**13 59 58.9**	**-1.3**
ARU				IAmb	IAmb	14 00 00.2	
	comp=Z,7.0nm,0.5s						
ABKAR	**Akbulak array**	**71.26**	**316**	P	**P**	**14 00 01.5**	**-0.9**
HRA	**Herat**	**72.62**	**301**	P	**P**	**14 00 10.8**	**-0.4**
HRA				IAmb	IAmb	14 00 12.5	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**75.00**	**305**	P	**P**	**14 00 25.6**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=38,slow=5.6,SNR=6.1						
GEYT	**Alibeck**	**75.00**	**305**	IAmb	IAmb	14 00 26.4	
	comp=Z,4.7nm,1.1s						
EUNU	**Eureka**	**75.84**	**8**	P	**P**	**14 00 28.8**	**0.0**
EUNU				IAmb	IAmb	14 00 29.7	
	comp=Z,6.1nm,0.7s						
PGC	**Sidney**	**75.87**	**43**	P	**P**	**14 00 30.1**	**+0.7**
NLWA	**Neilton Lookou**	**75.93**	**44**	P	**P**	**14 00 30.8**	**+0.9**
NLWA				IAmb	IAmb	14 00 33.3	
	comp=Z,15nm,1.4s						
D03D	**Eldon**	**76.40**	**44**	P	**P**	**14 00 33.8**	**+1.3**
	baz=286						
YKA	**Yellowknife Ar**	**76.61**	**28**	P	**P**	**14 00 33.1**	**-0.2**
	comp=Z,8.3nm,0.6s,baz=295,slow=5.3,SNR=34						
B05A	**Bryant**	**76.84**	**43**	P	**P**	**14 00 35.8**	**+0.9**
	baz=286						
LON	**Longmire**	**77.46**	**45**	P	**P**	**14 00 37.7**	**-0.9**
KRMB	**Red Mountain**	**77.52**	**50**	P	**P**	**14 00 38.0**	**-1.0**
RES	**Resolute Bay**	**77.66**	**14**	P	**P**	**14 00 38.9**	**-0.1**
RES				IAmb	IAmb	14 00 40.4	
	comp=Z,7.2nm,0.8s						
H04A	**Detroit Lake**	**77.81**	**47**	P	**P**	**14 00 40.4**	**-0.

NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**14 01 06.7**	**+0.3**
	comp=Z,5.9nm,0.7s,baz=272,slow=5.8,SNR=56						
NVAR				pP	**pP**	**14 01 38.6**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=273,slow=5.2,SNR=2.9						
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**14 01 06.4**	**0.0**
PKM	**Mcpherson Peak**	**82.66**	**56**	P	**P**	**14 01 07.2**	**+0.4**
	baz=290						
NV11	**Mina Array Sit**	**82.69**	**52**	P	**P**	**14 01 06.9**	**0.0**
NV11				IAmb	IAmb	14 01 08.1	
	comp=Z,4.9nm,0.8s						
CWC	**Cottonwood Cre**	**83.45**	**54**	P	**P**	**14 01 10.5**	**-0.4**
	baz=291						
HLID	**Hailey**	**83.46**	**46**	P	**P**	**14 01 11.7**	**+0.9**
	baz=292						
HLID	**Hailey**	**83.46**	**46**	P	**P**	**14 01 10.9**	**+0.2**
BCYI	**Bear Canyon**	**83.84**	**45**	P	**P**	**14 01 13.0**	**+0.2**
LRM	**Limekiln Ridge**	**83.87**	**43**	P	**P**	**14 01 12.9**	**0.0**
HRY	**Holter Researc**	**83.91**	**42**	P	**P**	**14 01 13.1**	**+0.1**
ELK	**Elko**	**83.95**	**49**	P	**P**	**14 01 13.4**	**0.0**
ELK				IAmb	IAmb	14 01 14.6	
	comp=Z,5.0nm,0.8s						
MPMC	**Manual Prospec**	**84.03**	**54**	P	**P**	**14 01 13.9**	**0.0**
	baz=291,SNR=9.1						
EDW2	**Edwards Air Fo**	**84.07**	**55**	P	**P**	**14 01 13.9**	**0.0**
	baz=291						
KBZ	**Khabaz**	**84.09**	**315**	P	**P**	**14 01 14.2**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=72,slow=3.9,SNR=6.1						
LRMC	**Laurel Mtn Rad**	**84.09**	**54**	P	**P**	**14 01 14.4**	**+0.3**
	baz=291						
FURC	**Furnace Creek,**	**84.35**	**53**	P	**P**	**14 01 15.4**	**+0.3**
	baz=292						
BOZ	**Bozeman (W)**	**84.49**	**43**	P	**P**	**14 01 16.0**	**0.0**
	baz=294,SNR=5.6						
BOZ	**Bozeman (W)**	**84.49**	**43**	P	**P**	**14 01 16.1**	**+0.2**
R11A	**Troy Canyon, C**	**84.60**	**51**	P	**P**	**14 01 16.7**	**0.0**
	baz=292,SNR=6.5						
R11A	**Troy Canyon, C**	**84.60**	**51**	P	**P**	**14 01 16.6**	**-0.1**
TPNV	**Topopah Spring**	**84.63**	**53**	P	**P**	**14 01 16.9**	**0.0**
	baz=292,SNR=8.8						
TPNV	**Topopah Spring**	**84.63**	**53**	P	**P**	**14 01 16.7**	**-0.2**
TPNV				IAmb	IAmb	14 01 17.8	
	comp=Z,7.5nm,1.1s						
EGMT	**Eagleton**	**84.66**	**41**	P	**P**	**14 01 16.8**	**+0.1**
	baz=295						
FINES	**FINESS Array B**	**84.67**	**335**	P	**P**	**14 01 14.8**	**-1.5**
	comp=Z,10nm,0.4s,baz=63,slow=4.6,SNR=93						
GSC	**Goldstone, Bar**	**84.82**	**54**	P	**P**	**14 01 17.5**	**-0.2**
	baz=292						
QLMT	**Earthquake Lak**	**84.93**	**44**	P	**P**	**14 01 18.6**	**+0.3**
SHOC	**Shoshone, Teco**	**85.00**	**54**	P	**P**	**14 01 18.6**	**+0.1**
	baz=292						
YHL	**Hebgen Lake**	**85.08**	**44**	P	**P**	**14 01 19.5**	**+0.4**
YMR	**Madison River**	**85.30**	**44**	P	**P**	**14 01 21.0**	**+0.9**
YHH	**Holmes Hill**	**85.32**	**44**	P	**P**	**14 01 21.0**	**+0.7**
HEC	**Hector,Ludlow**	**85.36**	**55**	P	**P**	**14 01 20.9**	**+0.5**
	baz=292						
BGU	**Big Grassy Mou**	**85.43**	**48**	P	**P**	**14 01 20.6**	**-0.1**
TUQ	**Turquoise Moun**	**85.44**	**54**	P	**P**	**14 01 21.3**	**+0.4**
	baz=292						
SHPR	**Sheep Range**	**85.61**	**53**	P	**P**	**14 01 21.7**	**-0.1**
IMW	**Indian Meadow**	**85.64**	**45**	P	**P**	**14 01 22.4**	**+0.5**
IMW				IAmb	IAmb	14 01 23.4	
	comp=Z,8.6nm,0.7s						
H17A	**Grant Village**	**85.67**	**44**	P	**P**	**14 01 24.1**	**+2.1**
	baz=295						
FXWY	**Fox Creek**	**85.69**	**45**	P	**P**	**14 01 22.5**	**+0.5**
PFO	**Pinyon Flats O**	**85.71**	**56**	P	**P**	**14 01 22.1**	**-0.2**
	baz=292						
FLWY	**Flagg Ranch**	**85.72**	**44**	P	**P**	**14 01 23.0**	**+0.8**
PSUT	**Pine Spring**	**85.79**	**50**	P	**P**	**14 01 22.6**	**0.0**
YMP	**Mirror Lake PI**	**85.79**	**44**	P	**P**	**14 01 23.9**	**+1.2**
TPAW	**Teton Pass**	**85.80**	**45**	P	**P**	**14 01 23.0**	**+0.3**
TPAW				IAmb	IAmb	14 01 24.0	
	comp=Z,15nm,1.4s						
DUG	**Dugway, Tooele**	**85.87**	**49**	P	**P**	**14 01 23.0**	**+0.1**
	baz=294,SNR=9.3						
DUG	**Dugway, Tooele**	**85.87**	**49**	P	**P**	**14 01 23.0**	**+0.1**
DUG				IAmb	IAmb	14 01 24.0	
	comp=Z,8.5nm,0.8s						
GMRC	**Granite Mounta**	**85.89**	**54**	P	**P**	**14 01 23.1**	**0.0**
	baz=292						
BELC	**Belle Mtn. Jos**	**85.92**	**55**	P	**P**	**14 01 22.9**	**-0.4**
	baz=292						
HWUT	**Hardware Ranch**	**86.16**	**47**	P	**P**	**14 01 24.5**	**+0.1**
HWUT				IAmb	IAmb	14 01 25.5	
	comp=Z,7.4nm,0.8s						
RLMT	**Red Lodge**	**86.20**	**43**	P	**P**	**14 01 25.3**	**+0.7**
	baz=296						
RLMT	**Red Lodge**	**86.20**	**43**	P	**P**	**14 01 25.1**	**+0.5**
RLMT				IAmb	IAmb	14 01 27.2	
	comp=Z,6.2nm,0.7s						
TCUT	**Toone Canyon**	**86.47**	**47**	P	**P**	**14 01 25.6**	**-0.4**
BC3	**Big Chuckawall**	**86.47**	**55**	P	**P**	**14 01 25.5**	**-0.5**
	baz=293						
SOCY	**Socotra**	**86.48**	**282**	P	**P**	**14 01 25.3**	**-0.9**
IRM	**Iron Mountain**	**86.52**	**55**	P	**P**	**14 01 26.3**	**+0.2**
	baz=293						
JLU	**Jordanelle**	**86.66**	**48**	P	**P**	**14 01 26.8**	**-0.1**
LCMT	**Little Creek M**	**86.83**	**52**	P	**P**	**14 01 27.6**	**-0.1**
MSU	**Marysvale**	**87.00**	**50**	P	**P**	**14 01 28.7**	**+0.1**
BW06	**Boulder Array**	**87.03**	**45**	P	**P**	**14 01 28.9**	**+0.2**
	baz=296						
PD31	**Pinedale Array**	**87.03**	**45**	P	**P**	**14 01 28.1**	**-0.6**
PDAR	**Pinedale Array**	**87.03**	**45**	P	**P**	**14 01 28.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=263,slow=2.5,SNR=7.2						
KNB	**Kanab**	**87.14**	**52**	P	**P**	**14 01 29.6**	**+0.4**
GLA	**Glamis**	**87.19**	**56**	P	**P**	**14 01 29.6**	**+0.3**
	baz=293						
TMUT	**Trail Mountain**	**87.37**	**49**	P	**P**	**14 01 30.4**	**0.0**
LAO	**LASA Array**	**87.40**	**41**	P	**P**	**14 01 30.2**	**+0.1**
	baz=298						
Q16A	**Castle Valley**	**87.55**	**49**	P	**P**	**14 01 32.0**	**+0.8**
P17A	**Butcher Ranch,**	**87.62**	**49**	P	**P**	**14 01 31.6**	**+0.1**
U15A	**North Rim**	**87.77**	**52**	P	**P**	**14 01 32.4**	**+0.1**
U15A				IAmb	IAmb	14 01 33.7	
	comp=Z,5.6nm,0.9s						
SRU	**San Rafael Swe**	**87.93**	**49**	P	**P**	**14 01 32.7**	**-0.3**
RDMU	**Red Mountain**	**87.97**	**47**	P	**P**	**14 01 32.8**	**-0.4**
Y14A	**Wickenburg**	**88.24**	**54**	P	**P**	**14 01 34.5**	**+0.1**
WUAZ	**Wupatki**	**88.82**	**52**	P	**P**	**14 01 38.1**	**+0.9**
	baz=295						
WUAZ	**Wupatki**	**88.82**	**52**	P	**P**	**14 01 37.6**	**+0.4**
WUAZ				IAmb	IAmb	14 01 38.7	
	comp=Z,6.6nm,1.0s						
O20A	**White River Ci**	**89.07**	**47**	P	**P**	**14 01 38.4**	**+0.1**
	baz=297						
AKASG	**Malin Array Be**	**89.14**	**325**	P	**P**	**14 01 37.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=56,slow=3.7,SNR=2.9						
214A	**Organ Pipe Nat**	**89.19**	**56**	P	**P**	**14 01 39.6**	**+0.8**
	baz=294						
PV21	**Cone Mtn., Par**	**89.25**	**49**	P	**P**	**14 01 39.2**	**0.0**
PV21				IAmb	IAmb	14 01 40.2	
	comp=Z,7.8nm,1.0s						
PV23	**Carpenter Ridg**	**89.28**	**49**	P	**P**	**14 01 39.1**	**-0.4**
PV23				IAmb	IAmb	14 01 40.2	
	comp=Z,8.2nm,0.9s						
PV14	**Lion Creek, Pa**	**89.30**	**49**	P	**P**	**14 01 39.2**	**-0.3**
PV17	**East Wray Mesa**	**89.39**	**49**	P	**P**	**14 01 39.6**	**-0.3**
PV17				IAmb	IAmb	14 01 40.6	
	comp=Z,7.5nm,0.9s						
PV16	**Nyswonger Mesa**	**89.41**	**49**	P	**P**	**14 01 39.3**	**-0.7**
PV16				IAmb	IAmb	14 01 40.8	
	comp=Z,12nm,1.2s						
PV11	**David Mesa, Pa**	**89.44**	**49**	P	**P**	**14 01 39.8**	**-0.3**
PV03	**Paradox Valley**	**89.48**	**49**	P	**P**	**14 01 40.0**	**-0.3**
PV12	**Saucer Basin,**	**89.48**	**49**	P	**P**	**14 01 40.3**	**-0.1**
PV12				IAmb	IAmb	14 01 41.3	
	comp=Z,9.5nm,1.1s						
PV13	**Radium Mtn., P**	**89.54**	**49**	P	**P**	**14 01 40.3**	**-0.3**
PV13				IAmb	IAmb	14 01 41.1	
	comp=Z,4.4nm,0.6s						
RSSD	**Black Hills**	**89.98**	**42**	P	**P**	**14 01 42.8**	**+0.2**
	baz=299						
N23A	**Red Feather La**	**90.28**	**46**	P	**P**	**14 01 44.3**	**+0.3**
	baz=298						
N23A	**Red Feather La**	**90.28**	**46**	P	**P**	**14 01 44.5**	**+0.4**
NOA	**NORSAR Array B**	**90.36**	**339**	P	**P**	**14 01 43.3**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=52,slow=5.7,SNR=4.4						
ISCO	**Idaho Springs**	**91.02**	**47**	P	**P**	**14 01 47.2**	**-0.3**
	baz=298						
S22A	**4UR Ranch, Cre**	**91.13**	**49**	P	**P**	**14 01 48.1**	**0.0**
	baz=297						
SDCO	**Great Sand Dun**	**92.06**	**48**	P	**P**	**14 01 53.1**	**+0.7**
	baz=298						
ANMO	**Albuquerque**	**92.69**	**51**	P	**P**	**14 01 55.4**	**+0.2**
	baz=298						
ANMO	**Albuquerque**	**92.69**	**51**	P	**P**	**14 01 55.6**	**+0.4**
ANMO				IAmb	IAmb	14 01 56.4	
	comp=Z,3.4nm,1.1s						
MNTX	**Cornudas Mount**	**94.99**	**54**	P	**P**	**14 02 05.7**	**+0.1**
	baz=298						
TXAR	**Lajitas Array**	**97.41**	**55**	P	**P**	**14 02 16.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=256,slow=2.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**130.49**	**310**	PKP	**PKPdf**	**14 07 53.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=95,slow=0.5,SNR=8.4						
PLCA	**Paso Flores**	**144.02**	**132**	PKP	**PKPab**	**14 08 14.9**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=211,slow=5.9,SNR=7.2						
LPAZ	**La Paz**	**148.53**	**87**	PKPbc	**PKPbc**	**14 08 29.9**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=272,slow=2.6,SNR=4.1						
LVC	**Limon Verde**	**148.69**	**100**	PKPbc	**PKPbc**	**14 08 29.7**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=300,slow=4.0,SNR=4.6						
MDP	**Montagnes des**	**149.16**	**36**	PKPbc	**PKPbc**	**14 08 30.9**	**-0.6**
	comp=Z,7.1nm,0.5s,baz=355,slow=2.8,SNR=7.5						

*IDC **08** 14:05:22.3±0.8,3°.64N×82°.88W, h0km, mb3.9/10, mb1 4.2/16, mb1mx4.1/34, mbtmp4.1/16, ML3.7/6, MS3.9/21, Ms1 3.9/21, ms1mx3.7/35, Error ellipse: s-maj=28.4km s-min=14.9km az=56.0*

*UCR **08** 14:05:22.1±1.2,3°.64N×83°.12W, h10km, mb4.6(NEIC)*

*NEIC **08** 14:05:24.1±1.6,3°.60N±0°.07×82°.83W±0°.07, h10km±1km, mb4.6/36, Error ellipse: s-maj=11.7km s-min=11.0km az=144.0*

*GCMT **08** 14:05:27.1±0.4,3°.58N±0°.02×82°.88W±0°.02, h17km±1km, MW4.7/74, Moment Tensor Solution. s7,c8; s74,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.09±.07; Mθθ 0.20±.06; Mϕϕ -0.29±.07; Mrθ -0.03±.17; Mrϕ 1.39±.07; Mθϕ 0.23±.17; Best double couple: M0 1.43100×10^16 NP1 ϕs 95.00000°, δ 81.00000°, λ -1.00000°. NP2: ϕs 185.00000°, δ 89.00000°, λ -171.00000°. Principal axes: T 1.3790, Plg 6.0000°, Azm 320.0000°; N 0.1040, Plg 81.0000°, Azm 191.0000°; P -1.4830, Plg 7.0000°, Azm 50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 14:05:23.4±0.6, 3°.64N±0°.07×82°.94W±0°.09, h10km, n95, σ 1§64/82, mb4.6/25, MS3.9/18, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
OTAV	**Otavalo**	**5.61**	**127**	Pn	**Pn**	**14 06 43.6**	**-3.8**
CDM	**Cerro de Muert**	**5.93**	**352**	*e*P	**Pn**	**14 06 48.6**	**-3.2**
LCR2	**La Lucha 2**	**6.16**	**350**	*e*P	**Pn**	**14 06 52.6**	**-2.0**
LCR2				*e*S	**Sn**	**14 08 04.3**	**-1.0**
RIMA	**Rio Macho**	**6.16**	**351**	*e*P	**Pn**	**14 06 52.5**	**-2.1**
JACO	**JACO, Garabito**	**6.22**	**344**	*e*P	**Pn**	**14 06 52.5**	**-2.9**
JACO				*e*S	**Sn**	**14 08 05.9**	**-0.8**
UPA	**Univ. de Panam**	**6.29**	**32**	*e*P	**Pn**	**14 06 56.1**	**-0.2**
BCIP	**Isla Barro Col**	**6.30**	**29**	*e*P	**Pn**	**14 06 56.8**	**+0.4**
BCIP	**Isla Barro Col**	**6.30**	**29**		**Pn**	**14 06 56.9**	**+0.4**
HDC	**Heredia**	**6.43**	**350**	Pn	**Pn**	**14 06 58.5**	**+0.1**
LAFE	**Finca La Fe, P**	**6.43**	**342**	*e*P	**Pn**	**14 06 55.5**	**-2.8**
DUNO	**Dulce Nombre,**	**6.88**	**338**	*e*P	**Pn**	**14 07 03.4**	**-1.1**
JTS	**Las Juntas de**	**6.91**	**343**	Pn	**Pn**	**14 07 03.0**	**-1.8**
	12nm,0.3s,baz=208,slow=12,SNR=19						
JTS				Sn	**Sn**	**14 08 22.2**	**-1.3**
	2.1nm,0.3s,baz=128,slow=19,SNR=1.1						
JTS	**Las Juntas de**	**6.91**	**343**	*e*P	**Pn**	**14 07 02.6**	**-2.2**
JTS	**Las Juntas de**	**6.91**	**343**	Pn	**Pn**	**14 07 02.5**	**-2.2**
PLVR	**Palo Verde**	**7.08**	**340**	*e*P	**Pn**	**14 07 06.3**	**-1.1**
ORTG	**Ortega, Santa**	**7.13**	**340**	*e*P	**Pn**	**14 07 06.7**	**-1.3**
ORTG				*e*S	**Sn**	**14 08 27.4**	**-1.8**
COVE	**Coope Vega, Sa**	**7.18**	**348**	*e*P	**Pn**	**14 07 07.4**	**-1.2**
ACON	**Acoyapa**	**8.57**	**345**		**Pn**	**14 07 26.6**	**-1.1**
ESPN	**Las Esperanzas**	**8.61**	**351**	Pn	**Pn**	**14 07 27.1**	**-1.1**
ROSC	**El Rosal**	**8.68**	**82**	Pn	**Pn**	**14 07 30.7**	**+1.3**
	5.7nm,0.3s,baz=299,slow=9.6,SNR=6.3						
ROSC				LR	LR	14 10 44.8	
	comp=Z,759nm,20.1s,baz=285,slow=37						
CRIN	**San Cristobal**	**9.88**	**336**	*e*P	**Pn**	**14 07 44.2**	**-1.4**
CRIN	**San Cristobal**	**9.88**	**336**	Pn	**Pn**	**14 07 43.9**	**-1.8**
ATAH	**Atahualpa**	**11.62**	**157**	Pn	**Pn**	**14 08 09.2**	**-0.6**
	0.2nm,0.3s,baz=18,slow=6.6,SNR=5.0						
ATAH				LR	LR	14 12 24.4	
	comp=Z,2μm,19.0s,baz=332,slow=36						
MTO3	**Montecristo**	**12.43**	**330**	Pn	**Pn**	**14 08 21.1**	**+0.3**
SDV	**Santo Domingo**	**13.29**	**66**	Pn	**Pn**	**14 08 32.5**	**+0.1**
	0.7nm,0.3s,baz=252,slow=13,SNR=1.5						
SDV				LR	LR	14 13 20.6	
	comp=Z,923nm,21.4s,baz=256,slow=36						
APG	**El Apazote**	**13.51**	**327**	LR	LR	14 12 53.6	
	comp=Z,756nm,21.9s,baz=115,slow=33						
NNA	**Nana**	**16.66**	**159**	Pn	**Pn**	**14 09 16.2**	**-1.1**
	0.5nm,0.3s,baz=294,slow=15,SNR=1.6						
NNA				LR	LR	14 15 15.7	
	comp=Z,284nm,19.3s,baz=320,slow=36						
NNA	**Nana**	**16.66**	**159**	Pn	**Pn**	**14 09 17.8**	**+0.5**
NNA				IAmb	IAmb	14 09 34.3	
	comp=Z,58nm,1.1s						
TEIG	**Tepich**	**17.29**	**343**	LR	LR	14 15 46.1	
	comp=Z,402nm,18.6s,baz=300,slow=36						
PCRV	**Puerto La Cruz**	**19.28**	**69**	P	**Pn**	**14 09 50.2**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=290,slow=12,SNR=2.0						
PLCV	**Puerto La Cruz**	**19.32**	**69**	P	**Pn**	**14 09 50.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**21.08**	**46**		**P**	**14 10 09.3**	**+1.3**
SJG	**San Juan**	**21.84**	**48**	LR	LR	14 18 39.9	
	comp=Z,156nm,21.9s,baz=252,slow=37						
SAML	**Samuel**	**23.33**	**123**	P	**P**	**14 10 31.2**	**-0.8**
SAML				IAmb	IAmb	14 10 36.8	
	comp=Z,15nm,0.8s						
LPAZ	**La Paz**	**24.62**	**144**	P	**P**	**14 10 44.5**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=335,slow=10,SNR=5.0						
LPAZ				LR	LR	14 21 10.4	
	comp=Z,242nm,20.7s,baz=311,slow=39						
LPAZ	**La Paz**	**24.62**	**144**	P	**P**	**14 10 43.8**	**-1.1**
LPAZ				IAmb	IAmb	14 10 59.5	
	comp=Z,21nm,1.2s						
PB16	**IPOC Station P**	**25.53**	**149**	P	**P**	**14 10 53.3**	**+0.3**
PB16				IAmb	IAmb	14 11 13.8	
	comp=Z,17nm,1.2s						
MNMC	**Minye Minye**	**26.16**	**150**	P	**P**	**14 10 58.8**	**+0.3**
PSGCX	**Pisagua**	**26.30**	**152**	P	**P**	**14 10 60.0**	**+0.4**
PSGCX				IAmb	IAmb	14 11 28.4	
	comp=Z,21nm,1.2s						
PB11	**IPOC Station P**	**26.67**	**151**	P	**P**	**14 11 01.8**	**-1.1**
PB11				IAmb	IAmb	14 11 16.6	
	comp=Z,13nm,0.9s						
SIV	**San Ignacio**	**29.12**	**133**	P	**P**	**14 11 23.8**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=294,slow=20,SNR=2.0						
SIV				LR	LR	14 24 02.8	
	comp=Z,540nm,18.8s,baz=308,slow=38						
LVC	**Limon Verde**	**29.47**	**153**	LR	LR	14 23 57.5	
	comp=Z,214nm,20.8s,baz=338,slow=38						
TXAR	**Lajitas Array**	**32.25**	**325**	LR	LR	14 25 12.8	
	comp=Z,76nm,18.6s,baz=0.0,slow=37						
W41B	**Gary Mavity, V**	**32.55**	**346**	P	**P**	**14 11 56.1**	**+1.3**
W41B				IAmb	IAmb	14 11 56.6	
	comp=Z,7.7nm,1.0s						
LCAR	**Lake Charles**	**33.15**	**348**	P	**P**	**14 12 00.1**	**+0.1**
LCAR				IAmb	IAmb	14 12 02.1	
	comp=Z,8.9nm,0.9s						
T47A	**Sharon Grove**	**33.41**	**354**	P	**P**	**14 12 03.1**	**+0.8**
MGMO	**Mountain Grove**	**34.44**	**347**	P	**P**	**14 12 12.0**	**+0.8**
MNTX	**Cornudas Mount**	**34.99**	**325**	P	**P**	**14 12 17.5**	**+1.3**
CCM	**Cathedral Cave**	**35.09**	**349**	P	**P**	**14 12 16.9**	**+0.1**
CCM				IAmb	IAmb	14 12 24.0	
	comp=Z,16nm,1.4s						
S39A	**Bolivar**	**35.20**	**346**	P	**P**	**14 12 18.3**	**+0.4**
S39A				IAmb	IAmb	14 12 20.1	
	comp=Z,11nm,1.1s						
MSTX	**Muleshoe**	**35.39**	**331**	P	**P**	**14 12 21.1**	**+1.5**
H03N2	**Juan Fernandez**	**37.07**	**174**	T	T	14 51 46.5	
	baz=354,slow=76,SNR=9.9						
H03N1	**Juan Fernandez**	**37.07**	**174**	T	T	14 51 48.7	
	baz=354,slow=76,SNR=18						
H03N3	**Juan Fernandez**	**37.09**	**174**	T	T	14 51 47.7	
	baz=354,slow=76,SNR=16						
ANMO	**Albuquerque**	**38.03**	**328**	P	**P**	**14 12 44.5**	**+2.3**
CPUP	**Villa Florida**	**38.75**	**142**	LR	LR	14 31 49.4	
	comp=Z,152nm,18.2s,baz=352,slow=41						
BDFB	**Brasilia**	**39.51**	**120**	LR	LR	14 29 33.5	
	comp=Z,184nm,18.4s,baz=295,slow=37						
JFWS	**Jewell Farm**	**39.65**	**352**	P	**P**	**14 12 56.0**	**+0.6**
JFWS				IAmb	IAmb	14 12 56.2	
	comp=Z,22nm,1.2s						
J54A	**Appleton**	**39.65**	**5**	P	**P**	**14 12 56.6**	**+1.1**
SDCO	**Great Sand Dun**	**39.74**	**332**	P	**P**	**14 12 58.1**	**+1.5**
X16A	**Lo Mia Camp, P**	**40.49**	**323**	P	**P**	**14 13 04.2**	**+1.4**
PV13	**Radium Mtn., P**	**41.70**	**329**	P	**P**	**14 13 14.5**	**+1.7**
PV03	**Paradox Valley**	**41.79**	**329**	P	**P**	**14 13 15.6**	**+2.1**
PV12	**Saucer Basin,**	**41.81**	**329**	P	**P**	**14 13 15.7**	**+1.9**
PV12				IAmb	IAmb	14 13 27.2	
	comp=Z,8.6nm,0.9s						
PLCA	**Paso Flores**	**45.59**	**167**	P	**P**	**14 13 45.5**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=342,slow=19,SNR=2.2						
PDAR	**Pinedale Array**	**45.60**	**332**	P	**P**	**14 13 45.3**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=132,slow=8.8,SNR=5.1						
PDAR				PcP	**PcP**	**14 15 24.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=3.7,SNR=2.0						
PDAR				LR	LR	14 34 22.8	
	comp=Z,134nm,18.7s,baz=142,slow=38						
HWUT	**Hardware Ranch**	**45.68**	**330**	P	**P**	**14 13 46.1**	**+1.3**
HWUT				IAmb	IAmb	14 13 56.9	
	comp=Z,9.6nm,1.3s						
NV11	**Mina Array Sit**	**47.21**	**322**	P	**P**	**14 13 58.8**	**+2.0**
NV11				IAmb	IAmb	14 14 10.2	
	comp=Z,6.6nm,1.1s						
NVAR	**Mina Array Bea**	**47.30**	**322**	P	**P**	**14 13 59.0**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=141,slow=6.5,SNR=11						
NVAR				LR	LR	14 33 31.8	
	comp=Z,119nm,19.7s,baz=130,slow=36						
NVAR	**Mina Array Bea**	**47.30**	**322**	P	**P**	**14 13 59.1**	**+1.5**
MDPB	**Devils Postpil**	**47.30**	**320**	P	**P**	**14 13 58.4**	**+0.7**
MDPB				IAmb	IAmb	14 14 15.0	
	comp=Z,4.6nm,1.1s						
LHV	**Little Huntoon**	**47.31**	**321**	P	**P**	**14 13 58.9**	**+1.6**
ULM	**Lac du Bonnet**	**47.72**	**349**	P	**P**	**14 13 59.5**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=146,slow=6.8,SNR=2.4						
ULM	**Lac du Bonnet**	**47.72**	**349**	IAmb	IAmb	14 14 05.6	
	comp=Z,12nm,1.3s						
BOZ	**Bozeman (W)**	**48.74**	**333**	P	**P**	**14 14 10.6**	**+2.1**
KHMM	**Horse Mountain**	**52.12**	**321**	P	**P**	**14 14 34.9**	**+0.7**
E09A	**Wood Farm, Sta**	**52.50**	**330**	P	**P**	**14 14 38.4**	**+1.7**
E09A				IAmb	IAmb	14 14 49.1	
	comp=Z,10nm,1.1s						
KRMB	**Red Mountain**	**52.59**	**322**	P	**P**	**14 14 39.6**	**+2.0**
YKA	**Yellowknife Ar**	**63.24**	**344**	P	**P**	**14 15 52.1**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=142,slow=6.2,SNR=6.1						
YKA				LR	LR	14 44 03.5	
	comp=Z,42nm,20.9s,baz=0.0,slow=37						
PPT	**Papeete**	**68.99**	**250**	*e*LR	LR	14 38 25.6	
	comp=Z,193nm,18.9s,baz=9.0,slow=29						
PPT2	**Papeete2**	**68.99**	**250**	*e*LR	LR	14 37 27.3	
	comp=Z,324nm,25.0s						
TBI	**Tubuai**	**70.09**	**244**	*e*LR	LR	14 37 57.9	
	comp=Z,209nm,26.8s						
DOT	**Dot Lake**	**74.25**	**336**	P	**P**	**14 17 01.8**	**+1.2**
DOT				IAmb	IAmb	14 17 17.9	
	comp=Z,5.0nm,1.1s						
ILAR	**Eielson Array**	**75.83**	**337**	P	**P**	**14 17 10.4**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=112,slow=4.2,SNR=8.2						
ILAR				LR	LR	14 52 45.1	
	comp=Z,62nm,19.6s,baz=140,slow=38						
DBIC	**Dimbokro**	**77.76**	**84**	LR	LR	14 50 39.1	
	comp=Z,29nm,18.0s,baz=232,slow=35						
ESDC	**Sonseca Array**	**79.20**	**50**	P	**P**	**14 17 29.4**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=255,slow=4.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.96**	**77**	P	**P**	**14 17 53.5**	**-1.1**
	comp=Z,1.0nm,1.0s,baz=264,slow=5.6,SNR=2.2						
NOA	**NORSAR Array B**	**88.86**	**29**	LR	LR	14 54 30.1	
	comp=Z,29nm,20.3s,baz=65,slow=33						
VNDA	**Vanda**	**98.86**	**191**	LR	LR	14 54 37.6	
	comp=Z,31nm,20.3s,baz=259,slow=30						
DZM	**Mont Dzumac**	**110.46**	**248**	*e*LR	LR	14 56 40.4	
	comp=Z,98nm,26.4s						
**AS

KMSI	**Cibinong**	**1.06**	**320**	P		**Pn**		**14 31 27.0**	**-0.9**
KMSI				S		**Sn**		**14 31 41.1**	**-0.5**
GTOI	**Gorontalo**	**1.87**	**298**	P		**Pn**		**14 31 40.0**	**+1.0**
GTOI				S		**Sn**		**14 32 07.3**	**+5.9**
LUWI	**Luwuk**	**2.05**	**247**	P		**Pn**		**14 31 42.4**	**+0.9**
LUWI				S		**Sn**		**14 32 09.6**	**+3.7**
LUWI	**Luwuk**	**2.05**	**247**	Pn		**Pn**		**14 31 42.6**	**+1.2**
SANI	**Sanana**	**2.23**	**144**	P		**Pn**		**14 31 43.2**	**-0.8**
TNTI	**Ternate**	**2.89**	**70**	P		**Pn**		**14 31 54.9**	**+1.9**
TNTI				S		**Sn**		**14 32 29.1**	**+2.6**
TNTI	**Ternate**	**2.89**	**70**	Pn		**Pn**		**14 31 54.7**	**+1.7**
NLAI	**Namlea**	**3.85**	**141**	P		**Pn**		**14 32 06.6**	**+0.4**
NLAI				S		**Sn**		**14 32 48.2**	**-2.0**
SGSI	**Sangihe**	**4.00**	**13**	P		**Pn**		**14 32 12.2**	**+4.0**
SGSI				S		**Sn**		**14 33 00.7**	**+6.9**
KDI	**Kendari**	**4.22**	**209**	P		**Pn**		**14 32 11.0**	**-0.2**
MPSI	**Mapaga**	**4.80**	**277**	P		**Pn**		**14 32 19.8**	**+0.6**
MSAI	**Masohi**	**5.26**	**126**	P		**Pn**		**14 32 28.3**	**+2.7**
	0.8nm2µm200nm,0.7s								
MSAI				S		**Sn**		**14 33 26.5**	**+1.5**
	0.8nm2µm200nm,0.7s								
SPSI	**Sidrap Palu**	**6.13**	**233**	P		**Pn**		**14 32 39.3**	**+1.8**
	0.5nm2µm112nm,0.5s								
SPSI				S		**Sn**		**14 33 46.9**	**+0.6**
	0.5nm2µm112nm,0.5s								
BNSI	**Bone**	**6.14**	**228**	P		**Pn**		**14 32 38.9**	**+1.2**
	0.3nm1µm106nm,0.7s								
SIJI	**Sorong**	**6.63**	**95**	P		**Pn**		**14 32 47.3**	**+2.8**
	4.0nm,0.3s,baz=267,slow=22,SNR=14								
SIJI				S		**Sn**		**14 34 02.9**	**+4.1**
	baz=198,slow=20,SNR=1.0								
BKSI	**Bulukumba**	**6.78**	**222**	P		**Pn**		**14 32 47.9**	**+1.5**
	0.3nm42nm,0.6s								
BKSI				S		**Sn**		**14 34 00.6**	**-1.8**
	0.3nm42nm,0.6s								
KAPI	**Kappang**	**6.82**	**226**	P		**Pn**		**14 32 48.3**	**+1.3**
	9.8nm,0.3s,baz=41,slow=0.3,SNR=13								
KAPI				S		**Sn**		**14 34 04.3**	**+1.0**
	5.6nm,0.3s,baz=119,slow=19,SNR=2.0								
KAPI				LR		LR		14 36 09.9	
	comp=Z,272nm,19.1s,baz=74,slow=44								
KAPI	**Kappang**	**6.82**	**226**	Pn		**Pn**		**14 32 48.1**	**+1.1**
KCP	**Kidapawan**	**7.21**	**3**	*eP*		**Pn**		**14 32 55.2**	**+2.7**
DAV	**Davao City (W)**	**7.32**	**7**	LR		LR		14 36 06.0	
	comp=Z,112nm,20.3s,baz=176,slow=41								
MYLDM	**Lahad Datu**	**8.18**	**311**	Pn		**Pn**		**14 33 06.8**	**+1.2**
EDFI	**Ende, Flores**	**8.96**	**199**	P		**Pn**		**14 33 18.3**	**+2.0**
	9.5nm,0.7s								
BATI	**Baumata**	**9.95**	**186**	P		**Pn**		**14 33 33.4**	**+3.5**
	0.7nm,0.3s,baz=306,slow=19,SNR=4.5								
BATI				LR		LR		14 38 05.6	
	comp=Z,205nm,18.3s,baz=16,slow=42								
BBKI	**Banjar Baru**	**10.32**	**252**	P		**Pn**		**14 33 37.3**	**+2.3**
KKM	**Kota Kinabalu**	**10.49**	**307**	Pn		**Pn**		**14 33 37.1**	**-0.3**
MTN	**Manton Dam**	**14.07**	**153**	Pn		**Pn**		**14 34 26.2**	**+0.1**
KSM	**Kuching**	**14.45**	**277**	P		**Pn**		**14 34 37.6**	**+0.8**
TGY	**Tagaytay City**	**14.72**	**346**	LR		LR		14 40 16.0	
	comp=Z,83nm,18.2s,baz=124,slow=37								
KNRA	**Kununurra**	**15.86**	**165**	Pn		**Pn**		**14 34 50.1**	**+0.5**
JAY	**Jayapura**	**16.20**	**98**	P		**P**		**14 34 56.9**	**+0.6**
	0.2nm,0.3s,baz=182,slow=24,SNR=5.8								
FITZ	**Fitzroy Crossi**	**17.77**	**177**	P		**P**		**14 35 14.6**	**+1.0**
	0.3nm,0.3s,baz=15,slow=9.0,SNR=12								
FITZ				LR		LR		14 42 59.4	
	comp=Z,47nm,18.6s,baz=348,slow=40								
FITZ	**Fitzroy Crossi**	**17.77**	**177**	P		**P**		**14 35 14.3**	**+0.7**
LEM	**Lembang**	**18.22**	**249**	P		**Pn**		**14 35 19.4**	**+0.4**
	1.9nm,0.3s,baz=124,slow=23,SNR=4.1								
LEM				LR		LR		14 42 39.5	
	comp=Z,204nm,18.7s,baz=38,slow=38								
DLV	**T Lat**	**20.11**	**308**			**P**		**14 35 40.0**	**+0.5**
DLV				IAmb		IAmb		14 35 45.2	
	comp=Z,33nm,0.9s								
MYKOM	**Kota Tinggi**	**20.91**	**276**	P		**P**		**14 35 47.9**	**-0.1**
WB0	**Warramunga Arr**	**21.62**	**154**	P		**P**		**14 35 54.6**	**-1.0**
WB0				IAmb		IAmb		14 36 14.8	
	comp=Z,11nm,0.7s								
PSA00	**Pilbara Seismi**	**21.72**	**192**	P		**P**		**14 35 56.0**	**-0.5**
PSA00	**Pilbara Seismi**	**21.72**	**192**	P		**P**		**14 35 56.1**	**-0.5**
PSA00				IAmb		IAmb		14 36 21.4	
	comp=Z,12nm,1.1s								
WRAB	**Tennant Creek**	**21.75**	**155**	P		**P**		**14 35 55.7**	**-1.2**
WRAB				IAmb		IAmb		14 36 19.4	
	comp=Z,20nm,0.8s								
WRA	**Warramunga Arr**	**21.75**	**155**	P		**P**		**14 35 56.4**	**-0.6**
	comp=Z,4.3nm,0.5s,baz=331,slow=11,SNR=83								
WRA				PcP		**PcP**		**14 39 56.6**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=331,slow=1.6,SNR=5.4								
WRA	**Warramunga Arr**	**21.75**	**155**	P		**P**		**14 35 55.0**	**-1.9**
WB2	**Warramunga Arr**	**21.76**	**155**	P		**P**		**14 35 55.7**	**-1.3**
WB2				IAmb		IAmb		14 36 19.0	
	comp=Z,23nm,0.9s								
WR0	**Warramunga Arr**	**21.86**	**154**	P		**P**		**14 35 57.1**	**-0.9**
WR0				IAmb		IAmb		14 36 20.7	
	comp=Z,30nm,1.3s								
COEN	**Coen**	**22.84**	**127**	P		**P**		**14 36 08.8**	**+0.2**
YULB	**Yu-li**	**23.72**	**352**	P		**P**		**14 36 15.5**	**-1.5**
YULB				IAmb		IAmb		14 36 31.7	
	comp=Z,52nm,1.4s								
TPUB	**Ta-pu**	**23.73**	**351**	P		**P**		**14 36 16.0**	**-1.2**
TPUB				IAmb		IAmb		14 36 19.9	
	comp=Z,56nm,1.2s								
IPM	**Ipoh**	**24.07**	**282**	P		**P**		**14 36 19.5**	**-1.0**
IPM				IAmb		IAmb		14 36 20.7	
	comp=Z,12nm,0.7s								
PMG	**Port Moresby**	**24.18**	**113**	P		**P**		**14 36 22.0**	**+0.7**
	comp=Z,3.5nm,0.4s,baz=335,slow=17,SNR=1.8								
PMG	**Port Moresby**	**24.18**	**113**	P		**P**		**14 36 21.9**	**+0.5**
GIRL	**Giralia**	**24.47**	**204**	P		**P**		**14 36 25.0**	**+1.1**
KULM	**Kulim**	**24.60**	**283**	P		**P**		**14 36 24.5**	**-0.7**
AS31	**Alice Springs**	**24.95**	**160**	P		**P**		**14 36 28.6**	**+0.2**
ASAR	**Alice Springs**	**24.95**	**160**	P		**P**		**14 36 28.7**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=329,slow=7.1,SNR=58								
ASAR				PcP		**PcP**		**14 40 03.5**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=350,slow=2.0,SNR=17								
ASAR				S		**S**		**14 40 50.7**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=345,slow=20,SNR=2.4								
ASAR				ScP		**ScP**		**14 43 38.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=316,slow=2.6,SNR=3.6								
ASAR				LR		LR		14 46 19.5	
	comp=Z,76nm,20.1s,baz=330,slow=36								
ASAR	**Alice Springs**	**24.95**	**160**	P		**P**		**14 36 28.5**	**+0.1**
PSI	**Prapat**	**25.90**	**277**	LR		LR		14 46 22.1	
	comp=Z,103nm,21.2s,baz=91,slow=35								
FORT	**Forrest**	**30.54**	**174**	P		**P**		**14 37 18.5**	**+0.3**
FORT				IAmb		IAmb		14 37 35.1	
	comp=Z,28nm,1.4s								
CMAR	**Chiang Mai Arr**	**31.37**	**308**	P		**P**		**14 37 25.7**	**0.0**
	comp=Z,2.0nm,0.6s,baz=132,slow=7.1,SNR=16								
CMAR				PcP		**PcP**		**14 40 19.4**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=141,slow=1.2,SNR=5.9								
CMAR				LR		LR		14 52 03.8	
	comp=Z,38nm,18.1s,baz=171,slow=40								
CHTO	**Chiang Mai**	**31.56**	**308**	P		**P**		**14 37 26.9**	**-0.5**
CHTO				IAmb		IAmb		14 37 28.4	
	comp=Z,11nm,0.8s								
JSU	**Suzuyama**	**32.05**	**9**	P		**P**		**14 37 31.2**	**-0.3**
NJ2	**Nanjing**	**32.59**	**351**	*eP*		**P**		**14 37 37.2**	**+1.0**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.6s								
KMI	**Kunming**	**32.95**	**322**	*eP*		**P**		**14 37 38.1**	**-1.6**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
JNU	**Nakatsue**	**33.70**	**9**	P		**P**		**14 37 45.3**	**-0.6**
STKA	**Stephens Creek**	**35.31**	**155**	P		**P**		**14 38 00.7**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=334,slow=8.6,SNR=11								
STKA	**Stephens Creek**	**35.31**	**155**	P		**P**		**14 38 00.7**	**+0.8**
JHS	**Saijyo**	**35.94**	**12**	P		**P**		**14 38 06.0**	**+0.8**
JWT	**Wachi**	**36.74**	**15**	P		**P**		**14 38 12.4**	**+0.4**
CD2	**Chengdu**	**36.80**	**329**	*eP*		**P**		**14 38 12.0**	**-0.7**
XAN	**Xi'an**	**37.16**	**338**	P		**P**		**14 38 15.2**	**-0.5**
XAN				pP		pP		14 38 21.4	-6.2
XAN				pmax		pmax			
	comp=Z,10.0nm,0.8s								
INU	**Inuyama**	**37.24**	**17**	P		**P**		**14 38 16.5**	**+0.2**
INU				IAmb		IAmb		14 38 28.2	
	comp=Z,17nm,1.2s								
JGF	**Kuroka**	**37.57**	**17**	P		**P**		**14 38 19.2**	**+0.1**
JGF				IAmb		IAmb		14 38 19.4	
	comp=Z,9.5nm,0.9s								
KSRS	**Korea Array**	**37.63**	**4**	P		**P**		**14 38 19.8**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=181,slow=9.1,SNR=6.7								
KSRS				LR		LR		14 56 10.9	
	comp=Z,15nm,18.0s,baz=230,slow=40								
MAT	**Matsushiro**	**38.70**	**18**	P		**P**		**14 38 27.3**	**-1.3**
MJAR	**Matsushiro Arr**	**38.70**	**18**	P		**P**		**14 38 27.8**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=192,slow=8.9,SNR=8.9								
MJAR	**Matsushiro Arr**	**38.70**	**18**	P		**P**		**14 38 28.1**	**-0.5**
JSD	**Sado**	**40.10**	**17**	P		**P**		**14 38 39.8**	**-0.4**
JSD				IAmb		IAmb		14 39 06.9	
	comp=Z,12nm,1.2s								
JMM	**Marumori**	**40.74**	**20**	P		**P**		**14 38 45.8**	**+0.3**
LZH	**Lanzhou**	**41.00**	**334**	*eP*		**P**		**14 38 49.0**	**+1.1**
LZH				pP		pwP		14 39 04.5	-0.5
LZH				sP		sP		14 39 11.4	+5.9
LZH				pmax		pmax			
	comp=Z,9.0nm,0.4s								
HHC	**Hu-ho-hao-te**	**42.60**	**345**	*eP*		**P**		**14 39 01.0**	**+0.2**
HHC				pmax		pmax			
	comp=Z,28nm,0.9s								
HHC				pmax		pmax			
	comp=Z,160nm,5.0s								
USA0B	**Ussuriysk Arra**	**44.73**	**7**	P		**P**		**14 39 17.5**	**-0.2**
USA0B				IAmb		IAmb		14 39 19.5	
	comp=Z,16nm,1.3s								
USRK	**Ussuriysk Ar.**	**44.73**	**7**	P		**P**		**14 39 17.9**	**+0.1**
	comp=Z,4.4nm,0.3s,baz=190,slow=7.2,SNR=45								
USRK				LR		LR		15 00 05.4	
	comp=Z,13nm,18.1s,baz=170,slow=39								
USRK	**Ussuriysk Ar.**	**44.73**	**7**	P		**P**		**14 39 17.4**	**-0.3**
GTA	**Gaotai**	**45.55**	**333**	P		**P**		**14 39 24.6**	**+0.1**
GTA				pP		pwP		14 39 40.0	-1.7
GTA				sP		sP		14 39 47.5	+5.4
GTA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,120nm,4.7s								
GTA				LR		LR			
	comp=N,87nm,16.7s								
GTA				LR		LR			
	comp=E,170nm,16.7s								
GTA				LR		LR			
	comp=Z,140nm,14.5s								
ASAJ	**Asahikawa**	**46.97**	**18**	P		**P**		**14 39 35.5**	**0.0**
	comp=Z,2.4nm,0.4s,baz=218,slow=12,SNR=14								
SONM	**Songino Array**	**50.45**	**344**	P		**P**		**14 40 01.4**	**-0.9**
	comp=Z,3.3nm,0.7s,baz=158,slow=8.4,SNR=13								
SONM				PcP		**PcP**		**14 41 19.1**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=132,slow=2.1,SNR=2.0								
SONM	**Songino Array**	**50.45**	**344**	P		**P**		**14 40 00.9**	**-1.4**
TLY	**Talaya**	**54.70**	**344**	P		**P**		**14 40 34.5**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=154,slow=2.5,SNR=4.7								
TLY	**Talaya**	**54.70**	**344**	IAmb		IAmb		14 40 35.5	
	comp=Z,3.9nm,0.5s								
WMQ	**Urumqi**	**54.87**	**328**	*eP*		**P**		**14 40 36.1**	**+1.1**
WMQ				pmax		pmax			
	comp=Z,11nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,82nm,4.5s								
NIL	**Nilore**	**58.80**	**310**	P		**P**		**14 41 00.7**	**-2.3**
NIL				IAmb		IAmb		14 41 04.3	
	comp=Z,4.1nm,0.6s								
MK31	**Makanchi Array**	**59.70**	**328**	P		**P**		**14 41 06.9**	**-2.0**
MK31				IAmb		IAmb		14 41 09.6	
	comp=Z,4.9nm,0.7s								
MKAR	**Makanchi Array**	**59.70**	**328**	P		**P**		**14 41 07.0**	**-1.9**
	comp=Z,7.9nm,0.6s,baz=122,slow=8.0,SNR=70								
MKAR				PcP		**PcP**		**14 41 54.2**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=126,slow=4.4,SNR=5.7								
MKAR	**Makanchi Array**	**59.70**	**328**	P		**P**		**14 41 06.8**	**-2.1**
RPZ	**Rata Peaks**	**59.80**	**143**	LR		LR		15 06 31.6	
	comp=Z,50nm,18.8s,baz=357,slow=35								
PETK	**Petropavlovsk-**	**59.86**	**22**	P		**P**		**14 41 11.2**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=196,slow=3.5,SNR=7.9								
PETK				PcP		**PcP**		**14 41 56.2**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=223,slow=2.5,SNR=6.1								
PETK	**Petropavlovsk-**	**59.86**	**22**	P		**P**		**14 41 10.3**	**+0.4**
MAKZ	**Makanchi**	**59.88**	**327**	P		**P**		**14 41 07.8**	**-2.3**
KBL	**Kabul**	**62.37**	**310**	P		**P**		**14 41 25.1**	**-2.4**
GAR	**Garm**	**63.15**	**315**	P		**P**		**14 41 31.2**	**-1.3**
ZAA0	**Zalesovo Array**	**63.23**	**335**	P		**P**		**14 41 31.2**	**-1.3**
ZAA0				IAmb		IAmb		14 41 32.7	
	comp=Z,5.7nm,1.1s								
ZALV	**Zalesovo Beam**	**63.23**	**335**	P		**P**		**14 41 29.9**	**-2.6**
	comp=Z,3.4nm,0.4s,baz=137,slow=8.2,SNR=18								
ZALV	**Zalesovo Beam**	**63.23**	**335**	P		**P**		**14 41 29.7**	**-2.8**
CHGR	**Chuyangaron**	**63.84**	**314**	P		**P**		**14 41 34.0**	**-3.0**
CHGR				IAmb		IAmb		14 41 37.1	
	comp=Z,17nm,1.3s								
KURK	**Kurchatov**	**64.02**	**329**	P		**P**		**14 41 35.3**	**-2.5**
KKAR	**Karatay Array**	**64.78**	**319**	P		**P**		**14 41 39.9**	**-3.1**
BRVK	**Borovoye**	**69.62**	**328**	P		**P**		**14 42 11.4**	**-2.0**
BRVK				IAmb		IAmb		14 42 13.8	
	comp=Z,5.9nm,0.6s								
TIXI	**Tiksi**	**71.83**	**1**	P		**P**		**14 42 25.5**	**-1.0**
NRIK	**Noril'sk**	**73.79**	**347**	P		**P**		**14 42 36.8**	**-1.3**
	comp=Z,5.3nm,0.6s,baz=122,slow=6.8,SNR=7.2								
ABKAR	**Akbulak array**	**73.94**	**322**	P		**P**		**14 42 37.2**	**-2.2**
ARU	**Arti**	**77.20**	**329**	P		**P**		**14 42 55.1**	**-2.8**
ARU				IAmb		IAmb		14 42 56.1	
	comp=Z,5.3nm,0.9s								
MAW	**Mawson**	**79.34**	**200**	P		**P**		**14 43 09.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=94,slow=8.2,SNR=6.7								
VNDA	**Vanda**	**79.78**	**172**	P		**P**		**14 43 12.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=319,slow=6.7,SNR=8.4								
VNDA	**Vanda**	**79.78**	**172**	P		**P**		**14 43 12.1**	**+0.3**
RDOG	**Red Dog Mine**	**83.71**	**21**	P		**P**		**14 43 33.6**	**+0.9**
KBZ	**Khabaz**	**84.20**	**314**	P		**P**		**14 43 37.3**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=72,slow=3.2,SNR=2.1								
KMBO	**Kilima Mbogo**	**87.40**	**269**	P		**P**		**14 43 53.9**	**+1.4**
	comp=Z,1.7nm,0.4s,baz=76,slow=3.1,SNR=3.9								
KLMR	**Klimovskoe**	**87.83**	**331**	*eP*		**P**		**14 43 50.9**	**-2.3**
KLMR				AMP				14 43 55.8	
	comp=Z,6.0nm,0.7s								
COLD	**Coldfoot**	**88.33**	**23**	P		**P**		**14 43 56.0**	**+0.5**
ILAR	**Eielson Array**	**89.55**	**25**	P		**P**		**14 44 00.0**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=254,slow=4.5,SNR=16								
BARN	**Barnard Glacie**	**92.00**	**29**	P		**P**		**14 44 13.6**	**+0.6**
CTGM	**Chitina Glacie**	**92.16**	**29**	P		**P**		**14 44 14.4**	**+0.7**
ARCES	**ARCESS Array B**	**93.43**	**340**	P		**P**		**14 44 17.0**	**-2.2**
	comp=Z,3.3nm,0.9s,baz=66,slow=6.0,SNR=5.7								
FINES	**FINESS Array B**	**94.32**	**332**	P		**P**		**14 44 21.0**	**-2.4**
	comp=Z,5.5nm,1.1s,baz=58,slow=5.6,SNR=4.5								
H02S1	**DAWSON INLET T**	**97.89**	**36**	T		T		16 32 02.3	
	SNR=2078								
TORD	**Torodi Ar. Bea**	**122.07**	**285**	PKP		**PKPdf**		**14 49 58.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=74,slow=1.4,SNR=7.1								
TXAR	**Lajitas Array**	**125.63**	**53**	PKP		**PKiKP**		**14 50 06.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=267,slow=4.5,SNR=2.4								
DBIC	**Dimbokro**	**129.24**	**278**	PKP		**PKPdf**		**14 50 13.2**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=90,slow=7.2,SNR=4.2								

*IDC **08** 14:46:21.9±1.4, 10°.66S×165°.61E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/47, mbtmp4.1/8, ML3.9/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/35, Error ellipse: s-maj=34.5km s-min=24.7km az=132.0*
*NEIC **08** 14:46:22.5±1.7, 10°.7S±0°.1×165°.7E±0°.1, h6km±6km, mb4.4/18, Error ellipse: s-maj=18.2km s-min=11.9km az=220.0*

ISC 08 14:46:27.4±1.0, 10°.9S±0°.1×165°.6E±0°.1, h35km, n38, σ1°.34/27, mb4.2/10, MS3.4/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.81**	**161**	Pn	**Pn**	**14 47 37.1**	**-0.3**
HNR	**Honiara**	**5.76**	**284**	Pn	**Pn**	**14 47 48.3**	**-2.2**
	5.8nm,0.3s,baz=73,slow=19,SNR=1.6						
HNR				Sn	**Sn**	**14 48 56.0**	**+0.6**
	5.7nm,0.3s,baz=107,slow=23,SNR=0.9						
HNR				LR	LR	14 50 16.5	
	comp=Z,595nm,19.7s,baz=100,slow=41						
DZM	**Mont Dzumac**	**11.17**	**176**	Pn	**Pn**	**14 49 05.9**	**+1.1**
	0.5nm,0.3s,baz=313,slow=18,SNR=15						
DZM				Sn	**Sn**	**14 51 04.4**	**-4.1**
	0.1nm,0.3s,baz=330,slow=20,SNR=1.5						
PMG	**Port Moresby**	**18.23**	**273**	LR	LR	14 57 12.8	
	comp=Z,229nm,19.6s,baz=112,slow=36						
EIDS	**Eidsvold**	**19.95**	**222**	Pn	**Pn**	**14 50 59.3**	**+0.9**
EIDS				IAmb	IAmb	14 51 00.0	
	comp=Z,9.5nm,0.9s						
CTA	**Charters Tower**	**20.77**	**241**	P	**P**	**14 51 07.1**	**+1.5**
	comp=Z,7.7nm,0.8s,baz=77,slow=13,SNR=6.6						
CTAO	**Charters Tower**	**20.77**	**241**	P	**P**	**14 51 05.0**	**-0.7**
CTAO				IAmb	IAmb	14 51 13.4	
	comp=Z,8.7nm,0.9s						
AFI	**Afiamalu**	**22.28**	**100**	LR	LR	14 58 11.1	
	comp=Z,132nm,19.0s,baz=247,slow=32						
RAO	**Raoul Island**	**23.90**	**142**	LR	LR	14 58 36.3	
	comp=Z,70nm,19.1s,baz=346,slow=30						
RAO	**Raoul Island**	**23.90**	**142**	P	**P**	**14 51 40.6**	**+2.6**
MXZ	**Matakaoa Point**	**28.93**	**159**	P	**P**	**14 52 23.1**	**-0.2**
URZ	**Urewera**	**29.16**	**161**	P	**P**	**14 52 24.6**	**-0.7**
H11S2	**WAKE ISLAND Hy**	**29.19**	**2**	T	T	15 22 49.7	
	baz=181,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.19**	**2**	T	T	15 22 51.4	
	baz=181,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.21**	**2**	T	T	15 22 51.1	
	baz=181,slow=76,SNR=11						
BKZ	**Black Stump Fm**	**29.80**	**163**	P	**P**	**14 52 30.2**	**-1.0**
H11N1	**WAKE ISLAND Hy**	**30.41**	**2**	T	T	15 24 21.3	
	baz=182,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**30.42**	**2**	T	T	15 24 18.9	
	baz=182,slow=76,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**30.43**	**2**	T	T	15 24 22.6	
	baz=182,slow=76,SNR=11						
STKA	**Stephens Creek**	**30.49**	**223**	P	**P**	**14 52 38.5**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=40,slow=9.4,SNR=4.6						
STKA				LR	LR	15 04 21.9	
	comp=Z,101nm,18.2s,baz=23,slow=35						
STKA	**Stephens Creek**	**30.49**	**223**	IAmb	IAmb	14 52 43.0	
	comp=Z,2.1nm,1.5s						
NNZ	**Nelson**	**31.00**	**169**	P	**P**	**14 52 42.2**	**+0.6**
WB0	**Warramunga Arr**	**31.34**	**250**	P	**P**	**14 52 44.6**	**-0.3**
WB0				IAmb	IAmb	14 52 46.0	
	comp=Z,3.3nm,0.7s						
WB2	**Warramunga Arr**	**31.42**	**250**	P	**P**	**14 52 45.4**	**-0.2**
WB2				IAmb	IAmb	14 52 47.1	
	comp=Z,6.6nm,1.4s						
WRA	**Warramunga Arr**	**31.43**	**250**	P	**P**	**14 52 45.4**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=81,slow=9.0,SNR=17						
WRA	**Warramunga Arr**	**31.43**	**250**	IAmb	IAmb	14 52 54.8	
	comp=Z,0.2nm,1.1s						
TOO	**Toolangi**	**32.16**	**211**	P	**P**	**14 52 52.9**	**+1.0**
TOO				IAmb	IAmb	14 53 09.6	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**32.76**	**243**	P	**P**	**14 52 57.0**	**-0.4**
ASAR	**Alice Springs**	**32.76**	**243**	P	**P**	**14 52 56.9**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=67,slow=10.0,SNR=45						
ASAR				LR	LR	15 04 49.7	
	comp=Z,76nm,19.9s,baz=76,slow=34						
RAR	**Rarotonga**	**34.74**	**112**	LR	LR	15 04 18.8	
	comp=Z,64nm,19.6s,baz=318,slow=31						
BBOO	**Buckleboo**	**34.86**	**227**	P	**P**	**14 53 16.2**	**+0.7**
BBOO				IAmb	IAmb	14 53 29.0	
	comp=Z,18nm,1.4s						
SIJI	**Sorong**	**35.54**	**284**	LR	LR	15 07 30.5	
	comp=Z,71nm,19.6s,baz=310,slow=36						
FITZ	**Fitzroy Crossi**	**39.31**	**255**	P	**P**	**14 53 53.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**49.46**	**236**	P	**P**	**14 55 15.2**	**+0.8**
MORW	**Morawa**	**49.60**	**241**	P	**P**	**14 55 16.6**	**+1.1**
QSPA	**South Pole Qui**	**79.14**	**180**	P	**P**	**14 58 29.1**	**+0.7**
QSPA				IAmb	IAmb	14 58 39.3	
	comp=Z,6.5nm,1.4s		

ISC 08 15:23:58.4±1.4,**51°89N**±0°.04×**158°98E**±0°.05,**h27**km±10km,
n52,σ1°**10**/59,**mb3.6**/6,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.57**	**262**	*eP*		**Pn**	**15 24 10.6**	**0.0**
KDTR				*eS*		**Sb**	**15 24 18.1**	**+0.6**
RUS	**Russkaya**	**0.62**	**332**	*eP*		**Pb**	**15 24 10.9**	**+0.3**
RUS				*eS*		**Sb**	**15 24 18.7**	**-0.2**
MTVR	**Mutnovka**	**0.77**	**321**	*eP*		**Pn**	**15 24 13.5**	**-0.1**
MTVR				*eS*		**Sb**	**15 24 23.0**	**-0.5**
ASAK	**Asacha**	**0.83**	**307**	*eP*		**Pn**	**15 24 14.4**	**0.0**
ASAK				*eS*		**Sb**	**15 24 24.8**	**-0.3**
GRL	**Gorelyy**	**0.87**	**320**	*eP*		**Pn**	**15 24 15.0**	**+0.1**
GRL				*eS*		**Sb**	**15 24 26.2**	**0.0**
KRMR	**Karymshinskiy**	**1.08**	**331**	*eP*		**Pb**	**15 24 18.8**	**+0.5**
KRMR				*eS*		**Sb**	**15 24 32.0**	**0.0**
DALK	**Dalny**	**1.15**	**353**	*eP*		**Pn**	**15 24 18.4**	**-0.3**
DALK				*eS*		**Sn**	**15 24 32.1**	**-1.4**
PET	**Petropavlovsk**	**1.15**	**350**	*eP*		**Pn**	**15 24 18.4**	**-0.3**
PET				*eS*		**Sn**	**15 24 31.9**	**-1.7**
PET	**Petropavlovsk**	**1.15**	**350**			**Pn**	**15 24 18.1**	**-0.6**
NLC	**Nalytchevo**	**1.30**	**10**	*eP*		**Pn**	**15 24 19.7**	**-1.0**
NLC				*eS*		**Sn**	**15 24 34.2**	**-3.0**
UGLR	**Uglovaya**	**1.32**	**356**	*eP*		**Pn**	**15 24 20.7**	**-0.5**
SPN	**Mys Shipunski**	**1.37**	**27**	*eP*		**Pb**	**15 24 22.4**	**-0.9**
SPN				*eS*		**Sb**	**15 24 39.5**	**-0.8**
SMAR	**Somma**	**1.38**	**355**	*eP*		**Pn**	**15 24 21.6**	**-0.4**
SMAR				*eS*		**Sn**	**15 24 38.2**	**-1.3**
AVH	**Avacha**	**1.39**	**354**	*eP*		**Pn**	**15 24 22.2**	**+0.2**
AVH				*eS*		**Sn**	**15 24 39.0**	**-0.4**
SDLR	**Sedlovina**	**1.39**	**358**	*eP*		**Pn**	**15 24 21.6**	**-0.5**
PAU	**Pauzhetka**	**1.42**	**253**	*eP*		**Pb**	**15 24 23.6**	**-0.5**
KOK	**Koryaka**	**1.42**	**352**	*eP*		**Pn**	**15 24 22.9**	**+0.4**
KRER	**Koryakskii**	**1.42**	**354**	*eP*		**Pn**	**15 24 22.6**	**0.0**
PEA0B	**Petropavlovsk-**	**1.45**	**328**			**Pn**	**15 24 23.2**	**+0.4**
PETK	**Petropavlovsk-** 39nm,0.3s,baz=135,slow=17,SNR=128	**1.45**	**328**	Pn		**Pn**	**15 24 23.6**	**+0.7**
PETK	39nm,0.3s,baz=126,slow=17,SNR=7.9			Sn		**Sn**	**15 24 41.8**	**+0.8**
PETK	**Petropavlovsk-**	**1.45**	**328**			**Pn**	**15 24 22.9**	**+0.1**
KRX	**Arik**	**1.49**	**352**	*eP*		**Pn**	**15 24 23.5**	**+0.1**
KRX				*eS*		**Sn**	**15 24 40.7**	**-1.3**
APC	**Apacha**	**1.52**	**314**	*eP*		**Pn**	**15 24 24.3**	**+0.5**
APC				*eS*		**Sn**	**15 24 43.4**	**+0.7**
GNL	**Ganaly**	**1.92**	**341**	*eP*		**Pn**	**15 24 29.9**	**+0.6**
GNL				*eS*		**Sn**	**15 24 51.7**	**-0.9**
KII	**Karymskiy**	**2.17**	**7**	*eP*		**Pn**	**15 24 33.7**	**+1.0**
KII				*eS*		**Sn**	**15 25 00.2**	**+1.5**
SKR	**Severo-Kuril's**	**2.17**	**237**	*eP*		**Pn**	**15 24 33.3**	**+0.7**
SKR				*eS*		**Sn**	**15 24 57.7**	**-0.9**
KZV	**Kizimen**	**3.32**	**13**	*eP*		**Pn**	**15 24 51.7**	**+3.0**
TUMD	**Tumrok D**	**3.42**	**14**	*eP*		**Pn**	**15 24 52.5**	**+2.5**
TUMD				*eS*		**Sn**	**15 25 30.5**	**+0.9**
TUMR	**Tumrok**	**3.47**	**11**	*eP*		**Pn**	**15 24 54.0**	**+3.4**
LGNR	**Loginova**	**4.32**	**13**	*eP*		Pn	15 25 07.3	+4.8
MJAR	**Matsushiro Arr** 0.8nm,0.5s,baz=34,slow=8.9,SNR=4.2	**21.27**	**232**	P		**P**	**15 28 42.1**	**-0.3**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.7s	**21.27**	**232**	IAmb		IAmb	15 28 45.0	
CHGN	**Chignik**	**25.06**	**63**	P		**P**	**15 29 20.1**	**0.0**
IMAR	**Indian Mountai**	**27.35**	**41**	P		**P**	**15 29 41.0**	**+0.2**
PPLA	**Purkeypile**	**27.81**	**48**	P		**P**	**15 29 44.0**	**-1.0**
PPLA	comp=Z,20nm,1.4s			IAmb		IAmb	15 29 52.3	
JCJ	**Chichijima**	**27.81**	**214**	P		**P**	**15 29 43.9**	**-1.3**
SKT	**Skwentna**	**28.13**	**50**	P		**P**	**15 29 45.7**	**-2.0**
SKT	comp=Z,5.9nm,0.5s			IAmb		IAmb	15 29 46.5	
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=270,slow=7.0,SNR=5.1	**30.15**	**44**	P		**P**	**15 30 05.5**	**-0.1**
BCAR	**Beaver Creek A**	**32.53**	**47**	P		**P**	**15 30 27.4**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=351,slow=76,SNR=62	**32.69**	**166**	T		T	16 05 30.2	
H11N3	**WAKE ISLAND Hy** baz=351,slow=76,SNR=63	**32.70**	**166**	T		T	16 05 32.1	
H11N1	**WAKE ISLAND Hy** baz=351,slow=76,SNR=68	**32.70**	**166**	T		T	16 05 31.5	
H11S1	**WAKE ISLAND Hy** baz=352,slow=76,SNR=24	**33.86**	**167**	T		T	16 06 55.7	
H11S3	**WAKE ISLAND Hy** baz=352,slow=76,SNR=64	**33.87**	**167**	T		T	16 06 56.6	
H11S2	**WAKE ISLAND Hy** baz=352,slow=76,SNR=19	**33.88**	**167**	T		T	16 06 57.2	
GUMO	**Guam** comp=Z,80nm,20.9s,baz=206,slow=34	**39.86**	**202**	LR		LR	15 46 28.4	
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=308,slow=4.4,SNR=5.2	**71.74**	**66**	P		**P**	**15 35 18.5**	**+0.3**
BURAR	**Bucovina Array**	**73.27**	**329**	P		**P**	**15 35 27.7**	**+0.7**
ASAR	**Alice Springs** comp=Z,0.1nm,0.7s,baz=14,slow=5.1,SNR=2.0	**78.38**	**203**	P		**P**	**15 35 56.9**	**+0.8**
H03N2	**Juan Fernandez** baz=314,slow=77,SNR=19	**134.89**	**89**	T		T	18 13 27.7	
H03N1	**Juan Fernandez** baz=314,slow=77,SNR=24	**134.90**	**89**	T		T	18 13 19.7	
H03N3	**Juan Fernandez** baz=314,slow=77,SNR=22	**134.90**	**89**	T		T	18 13 33.5	

*BGR **08** 15:24:06.6±0.0,65°.11N×19°.77W,h10km,mb4.5, mB_BB4.3*
*MOS **08** 15:24:14.6±1.1,64°.67N×17°.55W,h9km,mb4.7/59,Error ellipse: s-maj=9.8km s-min=5.4km az=110.7*
*IDC **08** 15:24:14.7±0.5,64°.60N×17°.62W,h0km,mb4.1/22, mb1 4.3/26,mb1mx4.1/49,mbtmp4.2/26,ML2.8/3,MS3.6/28, Ms1 3.6/28,ms1mx3.5/42,Error ellipse: s-maj=16.3km s-min=8.4km az=13.0*
*REY **08** 15:24:14.1,64°.68N×17°.49W,h5km*
*NEIC **08** 15:24:16.5±1.3,64°.60N±0°.06×17°.5W±0°.1,h9km±4km, mb4.6/114,Error ellipse: s-maj=10.4km s-min=5.1km az=144.0*

ISC 08 15:24:15.6±0.7,**64°68N**±0°.02×**17°52W**±0°.02,**h5**km±4km,
n363,σ1°**70**/359,**mb4.6**/134,**MS3.5**/29,**19C-1D**,**Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard** baz=267	**0.10**	**265**	P		**Pg**	**15 24 16.5**	**-1.3**
IDYN	**Dyngjuhals** baz=26	**0.13**	**31**	P		**Pg**	**15 24 16.9**	**-1.4**
IURH	**Urdarhals** baz=46	**0.21**	**49**	P		**Pg**	**15 24 18.2**	**-1.6**
IDJK	**Dyngjujokull** baz=148	**0.22**	**146**	P		**Pg**	**15 24 18.6**	**-1.2**
IGRF	**Grimsfjall** baz=160	**0.30**	**159**	P		**Pg**	**15 24 19.7**	**-1.7**
IHUS	**Husbondi** baz=191	**0.39**	**189**	P		**Pg**	**15 24 21.3**	**-1.9**
ISKR	**Skrokkalda** baz=253	**0.39**	**252**	P		**Pg**	**15 24 21.5**	**-1.8**
IVOT	**Vottur** baz=162	**0.44**	**161**	P		**Pg**	**15 24 21.9**	**-2.2**
THOR	**Thorvaldshraun** baz=54	**0.44**	**55**	P		**Pg**	**15 24 21.9**	**-2.1**
THOR	baz=54			S		**Sg**	**15 24 29.1**	**-0.7**
IJOK	**Jokulheimar** baz=221	**0.48**	**220**	P		**Pg**	**15 24 23.0**	**-1.8**
IKRE	**Kreppuhraun** baz=77	**0.50**	**78**	P		**Pg**	**15 24 22.7**	**-2.5**
IKRE	baz=77			S		**Sg**	**15 24 30.1**	**-1.6**
IMKO	**Mokollar** baz=58	**0.58**	**59**	P		**Pg**	**15 24 24.5**	**-2.4**
IMKO	baz=58			S		**Sg**	**15 24 33.0**	**-1.4**
IIEY	**Innrieyrar** baz=205	**0.65**	**204**	P		**Pg**	**15 24 25.5**	**-2.5**
ISVA	**Svartarkot** baz=8.6	**0.67**	**9**	P		**Pg**	**15 24 26.0**	**-2.4**
IKSK	**Karasker** baz=139	**0.69**	**139**	P		**Pg**	**15 24 25.9**	**-3.0**
IKSK	baz=139			S		**Sg**	**15 24 35.5**	**-2.3**
IKAL	**Kalfafell** baz=187	**0.74**	**186**	P		**Pg**	**15 24 27.0**	**-2.8**
IVSH	**V-Sauoahnukur** baz=80	**0.78**	**80**	P		**Pg**	**15 24 27.6**	**-2.9**
IVAT	**Vatnsfell** baz=232	**0.79**	**231**	P		**Pg**	**15 24 28.6**	**-2.1**
IHVE	**Hveravellir** baz=283	**0.90**	**283**	P		**Pg**	**15 24 29.8**	**-3.0**
IMEL	**Melhnausar** baz=21	**0.96**	**22**	P		**Pg**	**15 24 30.8**	**-3.2**
IREN	**Reynihlio** baz=14	**1.00**	**15**	P		**Pg**	**15 24 31.5**	**-3.3**
IKVO	**Krokottuvotn** baz=14	**1.07**	**14**	P		**Pg**	**15 24 32.6**	**-3.5**
ISLY	**Slysaalda** baz=220	**1.11**	**220**	P		**Pg**	**15 24 33.6**	**-3.3**
IGRS	**Grimsstaoir** baz=30	**1.13**	**31**	P		**Pg**	**15 24 33.5**	**-3.7**
IFED	**Fedgar** baz=236	**1.15**	**236**	P		**Pg**	**15 24 34.6**	**-3.0**
IMJO	**Mjoaskard** baz=233	**1.20**	**232**	P		**Pg**	**15 24 35.5**	**-3.1**
IMJO	baz=233			S		**Sg**	**15 24 50.6**	**-3.6**
ISKI	**Skildingahlsh** baz=9.1	**1.21**	**10**	P		**Pg**	**15 24 35.0**	**-3.8**
IGHA	**Grjothals** baz=16	**1.22**	**17**	P		**Pg**	**15 24 35.0**	**-4.0**
IGRA	**Granastaoir** baz=358	**1.24**	**359**	P		**Pg**	**15 24 35.5**	**-3.9**
IHAU	**Haukadalur** baz=238	**1.28**	**237**	P		**Pg**	**15 24 36.4**	**-3.8**
IHVO	**Lagu-Hvolar** baz=208	**1.30**	**207**	P		**Pg**	**15 24 37.1**	**-3.3**
IDIM	**Dimmadalss** baz=10	**1.31**	**11**	P		**Pn**	**15 24 36.5**	**-3.9**
IHLA	**Hella** baz=344	**1.32**	**344**	P		**Pn**	**15 24 36.9**	**-3.7**
IALF	**Alftagrof** baz=213	**1.40**	**212**	P		**Pn**	**15 24 38.7**	**-3.1**
IHED	**Heoinshofoi** baz=3.0	**1.41**	**3**	P		**Pn**	**15 24 38.1**	**-3.7**
IESK	**Eystri-Skogar** baz=218	**1.44**	**217**	P		**Pn**	**15 24 39.0**	**-3.3**
ISAU	**Saurbar** baz=243	**1.44**	**242**	P		**Pn**	**15 24 38.5**	**-3.8**
IBRE	**Brettingsstaoi** baz=353	**1.46**	**354**	P		**Pn**	**15 24 38.9**	**-3.6**
IMID	**Miomork** baz=227	**1.46**	**226**	P		**Pn**	**15 24 39.9**	**-2.7**
IGIL	**Gilhagi** baz=18	**1.48**	**19**	P		**Pn**	**15 24 39.0**	**-3.8**
ISIG	**Siglufjorour** baz=338	**1.57**	**339**	P		**Pn**	**15 24 40.7**	**-3.3**
BORG	**Borgarnes** 22nm,0.3s,baz=96,slow=9.6,SNR=72	**1.64**	**274**	Pg		**Pn**	**15 24 42.1**	**-2.9**
BORG	23nm,0.3s,baz=10.0,slow=17,SNR=11			Lg		Lg	15 25 05.6	
BORG	**Borgarnes**	**1.64**	**274**			**Pn**	**15 24 41.6**	**-3.4**
IKRO	**Krokur** baz=251	**1.67**	**251**	P		**Pn**	**15 24 42.5**	**-2.9**
ISOL	**Solvholt** baz=245	**1.67**	**245**	P		**Pn**	**15 24 42.4**	**-3.1**
IHEI	**Heioarbar** baz=255	**1.68**	**255**	P		**Pn**	**15 24 42.9**	**-2.8**
IHRN	**Hraun** baz=324	**1.80**	**324**	P		**Pn**	**15 24 44.5**	**-2.7**
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	15 27 00.2	+7.6
SUMG	**Summit**	**10.93**	**325**	*e*P		Pn	15 27 00.2	+7.6
EKA	**Eskdalemuir Ar** baz=323,slow=13,SNR=9.5	**11.78**	**136**	Pn		**Pn**	**15 27 03.4**	**-0.6**
ESK	**Eskdalemuir**	**11.78**	**136**	P		**Pn**	**15 27 03.6**	**-0.4**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn		**Pn**	**15 27 03.6**	**-0.4**
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P		**Pn**	**15 27 11.6**	**+2.5**
DAG	comp=Z,24nm,1.4s			pmax		pmax		
DAG	**Danmarks Havn** comp=Z,24nm,1.4s	**12.16**	**359**	*i* P		**Pn**	**15 27 11.7**	**+2.5**
DAG	comp=Z,24nm,1.4s			IAmb		IAmb	15 27 13.9	
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=296,slow=14,SNR=2.3	**13.54**	**92**	Pn		**Pn**	**15 27 25.4**	**-2.7**
NOA	comp=Z,157nm,21.3s,baz=300,slow=37			LR		LR	15 32 39.6	
SFJD	**Kangerlussuaq** comp=Z,498nm,18.7s,baz=84,slow=36	**13.65**	**295**	LR		LR	15 32 21.1	
HFS	**Hagfors** comp=Z,131nm,22.0s,baz=310,slow=37	**15.05**	**93**	LR		LR	15 33 37.2	
KBS	**Kingsbay**	**16.63**	**19**	*i* P		**Pn**	**15 28 07.6**	**-1.3**
KBS	comp=Z,41nm,1.4s			pmax		pmax		
SPITS	**Spitsbergen Ar** comp=Z,134nm,20.0s,baz=235,slow=31	**16.86**	**23**	LR		LR	15 33 07.6	
NOR	**Nord**	**17.01**	**0**	*e*P		**P**	**15 28 16.0**	**+0.4**
NOR	comp=Z,45nm,1.3s			pmax		pmax		
NOR	**Nord** comp=Z,45nm,1.3s	**17.01**	**0**	*i*P		**P**	**15 28 16.0**	**+0.4**
NOR	**Nord**	**17.01**	**0**	*e*P		**P**	**15 28 16.0**	**+0.4**
NOR	comp=Z,45nm,1.3s			IAmb		IAmb	15 28 18.8	
ARCES	**ARCESS Array B** baz=270,slow=11,SNR=2.8	**17.11**	**55**	P		**Pn**	**15 28 15.8**	**+0.6**
ARCES	comp=Z,313nm,21.9s,baz=290,slow=33			LR		LR	15 33 38.3	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=277,slow=11,SNR=2.2	**19.71**	**79**	P		**Pn**	**15 28 46.2**	**-0.6**
APA	**Apatity**	**20.33**	**59**	*i*P		Pn	15 28 54.4	+0.3
APA	comp=Z,11nm,0.9s			pmax		pmax		
APA	comp=Z,300nm,15.0s			MLR		MLR		
MOX	**Moxa**	**20.72**	**119**	P		**P**	**15 28 57.3**	**+0.8**
MOX	comp=Z,18nm,1.4s			pmax		pmax		
CLL	**Collm** comp=Z,49nm,1.5s	**20.72**	**116**	*i*P		**P**	**15 28 56.9**	**+0.5**
CLL	**Collm**	**20.72**	**116**	*i*P		**P**	**15 28 56.9**	**+0.5**
CLL	comp=Z,49nm,1.5s			pmax		pmax		
CLL	**Collm**	**20.72**	**116**	P		**P**	**15 28 56.7**	**+0.3**
CLL	comp=Z,50nm,1.5s			IAmb		IAmb	15 28 59.0	
LOR	**Lormes**	**20.96**	**136**	P		**P**	**15 28 59.3**	**+0.1**
LOR	comp=Z,28nm,1.2s			pmax		pmax		
SSF	**Saint Saulge**	**21.05**	**137**	*e*P		**P**	**15 28 59.4**	**-0.6**
SSF	comp=Z,81nm,1.5s			pmax		pmax		
HAU	**Haudompre**	**21.09**	**131**	*e*P		**P**	**15 29 00.8**	**+0.3**
HAU	comp=Z,17nm,1.0s			pmax		pmax		
ECH	**Echery**	**21.17**	**129**	P		**P**	**15 29 02.1**	**+0.7**
ECH	comp=Z,18nm,1.1s			pmax		pmax		
ECH	**Echery**	**21.17**	**129**	P		**P**	**15 29 02.1**	**+0.7**
AVF	**Avril sur Loir**	**21.25**	**138**	*e*P		**P**	**15 29 01.5**	**-0.7**
AVF	comp=Z,14nm,1.0s			pmax		pmax		
BGF	**Bois d'Agland**	**21.31**	**139**	*e*P		**P**	**15 29 02.2**	**-0.7**
BGF	comp=Z,49nm,1.3s			pmax		pmax		
GRF	**Grafenberg Arr** comp=Z,32nm,1.5s,baz=324,slow=10	**21.35**	**121**	*e*P		**P**	**15 29 04.5**	**+1.2**
NKC	**Novy Kostel**	**21.36**	**118**	*e*P		**P**	**15 29 04.1**	**+0.6**
NKC	**Novy Kostel**	**21.36**	**118**	*e*P		**P**	**15 29 04.1**	**+0.6**
TCF	**Toulx Ste Croi**	**21.38**	**140**	*e*P		**P**	**15 29 03.3**	**-0.4**
TCF	comp=Z,34nm,1.1s			pmax		pmax		
STU	**Stuttgart**	**21.39**	**125**	P		**P**	**15 29 04.6**	**+0.9**
STU	comp=Z,34nm,0.9s			pmax		pmax		
STU	**Stuttgart**	**21.39**	**125**	P		**P**	**15 29 04.6**	**+0.9**
STU				IAmb		IAmb	15 29 06.2	
HINF	**Hinteralfeld**	**21.42**	**130**	*e*P		**P**	**15 29 07.7**	**+3.6**
HINF	comp=Z,44nm,1.7s			pmax		pmax		
BRG	**Berggiesshubel** comp=Z,50nm,1.5s	**21.43**	**115**	*i* P		**P**	**15 29 04.1**	**0.0**
BRG				S		Sn	15 33 12.0	+2.4
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P		**P**	**15 29 04.1**	**0.0**
BRG				S		Sn	15 33 12.0	+2.4
BRG	comp=Z,50nm,1.5s			pmax		pmax		
BFO	**Black Forest**	**21.47**	**127**	P		**P**	**15 29 05.2**	**+0.6**
BFO	comp=Z,20nm,1.0s			pmax		pmax		
BFO	**Black Forest**	**21.47**	**127**	P		**P**	**15 29 05.2**	**+0.6**
SMF	**Signal de Mont**	**21.52**	**137**	*e*P		**P**	**15 29 04.6**	**-0.6**
SMF	comp=Z,24nm,1.1s			pmax		pmax		
VSU	**Vasula**	**21.57**	**86**	*e*P		**P**	**15 29 05.7**	**+0.1**
VSU	**Vasula**	**21.57**	**86**	*i* P		**P**	**15 29 06.7**	**+1.1**
VSU	comp=Z,72nm,0.9s			pmax		pmax		
FRB	**Frobisher Bay** comp=Z,215nm,18.9s,baz=40,slow=36	**21.74**	**291**	LR		LR	15 37 15.1	
GRB1	**Grafenberg Arr**	**21.75**	**121**	P		**P**	**15 29 08.6**	**+1.0**
GRB1	comp=Z,30nm,1.4s			pmax		pmax		
SLE	**Schleitheim**	**22.01**	**128**	P		**P**	**15 29 11.5**	**+1.1**
SLE	comp=Z,17nm,1.2s			pmax		pmax		
RJF	**Les Rejaudoux**	**22.10**	**142**	*e*P		**P**	**15 29 14.4**	**+3.0**
RJF	comp=Z,26nm,1.1s			pmax		pmax		
PABE	**Paberze**	**22.22**	**95**	*e*P		**P**	**15 29 12.7**	**+0.2**
LFF	**La Frestale**	**22.24**	**144**	*e*P		**P**	**15 29 14.3**	**+1.4**
LFF	comp=Z,62nm,1.4s			pmax		pmax		
PRU	**Pruhonice**	**22.36**	**116**	*e*P		**P**	**15 29 15.1**	**+1.0**
PRU	**Pruhonice**	**22.36**	**116**	*e*P		**P**	**15 29 15.1**	**+1.0**
KSP	**Ksiaz**	**22.38**	**112**	*e*P		**P**	**15 29 15.2**	**+0.9**
KSP	**Ksiaz**	**22.38**	**112**	*e*P		**P**	**15 29 15.2**	**+0.9**
WET	**Wettzell**	**22.41**	**119**	P		**P**	**15 29 16.5**	**+1.8**
WET	comp=Z,14nm,2.0s			pmax		pmax		
CHVC	**Chvalec**	**22.48**	**113**	*e*P		**P**	**15 29 20.7**	**+5.3**
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*e*P		**P**	**15 29 16.5**	**+0.7**
GOPC	comp=Z,200nm,9.8s			AMS		AMS	15 40 30.0	
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*e*P		**P**	**15 29 16.5**	**+0.7**
GOPC	comp=Z,200nm,9.8s			MLR		MLR		
OSTC	**Ostas**	**22.57**	**113**	*e*P		**P**	**15 29 18.0**	**+1.6**
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P		**P**	**15 29 17.8**	**+0.1**
KHC				epP		**sP**	**15 29 23.5**	**+3.1**
KHC	comp=Z,300nm,10.9s			AMS		AMS	15 41 20.0	
KHC	**Kasperske Hory**	**22.69**	**118**	*ce*P		**P**	**15 29 17.0**	**-0.7**
KHC	comp=Z,26nm,1.3s			pmax		pmax		
KHC	**Kasperske Hory**	**22.69**	**118**	P		**P**	**15 29 17.2**	**-0.4**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P		**P**	**15 29 19.3**	**+0.7**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P		**P**	**15 29 19.3**	**+0.7**
SUW	**Suwalki**	**22.89**	**98**	P		**P**	**15 29 20.5**	**+0.8**
SUW	comp=Z,39nm,1.1s			pmax		pmax		
DAVA	**Damuels** comp=Z,20nm,1.2s	**22.90**	**126**	*e*P		**P**	**15 29 20.9**	**+0.9**
GEC2	**GERESS Array S**	**22.97**	**119**	P		**P**	**15 29 19.4**	**-1.3**
GEC2	comp=Z,34nm,1.4s			IAmb		IAmb	15 29 28.5	
GERES	**GERESS Array B** comp=Z,3.2nm,1.0s,baz=317,slow=7.3,SNR=13	**22.97**	**119**	P		**P**	**15 29 20.8**	**+0.1**
GERES	comp=Z,219nm,21.8s,baz=324,slow=38			LR		LR	15 38 39.4	
GERES	**GERESS Array B**	**22.97**	**119**	P		**P**	**15 29 19.9**	**-0.7**
RETA	**Reutte** comp=Z,8.8nm,0.9s	**23.03**	**125**	*e*P		**P**	**15 29 22.4**	**+1.1**
IZAR	**Zarasai**	**23.04**	**92**	*e*P		**P**	**15 29 21.2**	**0.0**
ISAL	**Salakas**	**23.10**	**93**	*e*P		**P**	**15 29 21.8**	**-0.1**
MOTA	**Moosalm** comp=Z,16nm,1.2s	**23.28**	**124**	*e*P		**P**	**15 29 26.1**	**+2.2**
TREC	**Trest**	**23.29**	**116**	P		**P**	**15 29 24.8**	**+1.0**
TREC	comp=Z,8.0nm,1.2s			pmax		pmax		
IIGN	**Ignalina**	**23.29**	**93**	*e*P		**P**	**15 29 23.8**	**+0.1**
DAVOX	**Davos/Dischmat** comp=Z,4.3nm,0.9s,baz=326,slow=18,SNR=2.8	**23.33**	**127**	P		**P**	**15 29 24.0**	**-0.5**
DAVOX	comp=Z,146nm,19.1s,baz=86,slow=39			LR		LR	15 39 26.5	
SQTA	**Sankt Quirin** comp=Z,14nm,1.1s	**23.42**	**124**	*e*P		**P**	**15 29 26.2**	**+0.9**
FETA	**Feichten** comp=Z,13nm,1.3s	**23.42**	**125**	*e*P		**P**	**15 29 24.0**	**-1.4**
WATA	**Walderalm** comp=Z,9.5nm,0.8s	**23.45**	**124**	*e*P		**P**	**15 29 26.6**	**+0.9**
IDID	**Didziasalis**	**23.53**	**92**	*e*P		**P**	**15 29 25.5**	**-0.7**
WTTA	**Wattenberg** comp=Z,16nm,1.3s	**23.53**	**124**	*e*P		**P**	**15 29 27.6**	**+1.1**
WTTA	**Wattenberg**	**23.53**	**124**	P		**P**	**15 29 27.2**	**+0.7**
WTTA	comp=Z,17nm,1.8s			pmax		pmax		
EUNU	**Eureka**	**23.65**	**336**	P		**P**	**15 29 28.8**	**+1.5**
ORIF	**Oris-en-Rattie**	**23.69**	**135**	P		**P**	**15 29 30.3**	**+2.3**
ORIF	comp=Z,18nm,2.2s			pmax		pmax		
VRAC	**Vranov** comp=Z,1.6nm,0.4s,baz=322,slow=10,SNR=8.1	**23.71**	**114**	P		**P**	**15 29 28.1**	**+0.1**
VRAC	comp=Z,127nm,18.7s,baz=326,slow=40			LR		LR	15 40 02.1	
VRAC	**Vranov**	**23.71**	**114**	*e*P		**P**	**15 29 27.9**	**-0.1**
MORC	**Moravsky Berou**	**23.71**	**112**	*e*P		**P**	**15 29 27.9**	**-0.2**
MORC	**Moravsky Berou**	**23.71**	**112**	P		**P**	**15 29 28.1**	**0.0**
MORC	comp=Z,15nm,1.2s			pmax		pmax		
MORC	**Moravsky Berou**	**23.71**	**112**	P		**P**	**15 29 28.1**	**0.0**
KRUC	**Moravsky**	**23.83**	**115**	*e*P		**P**	**15 29 28.4**	**-0.8**
KRUC	**Moravsky**	**23.83**	**115**	P		**P**	**15 29 29.9**	**+0.7**
KRUC	comp=Z,10.0nm,2.0s			pmax		pmax		
MOA	**Molln** comp=Z,14nm,1.7s	**24.00**	**119**	*e*P		**P**	**15 29 31.4**	**+0.5**
OJC	**Ojcow**	**24.27**	**109**	*e*P		**P**	**15 29 33.6**	**+0.3**
OJC	**Ojcow**	**24.27**	**109**	*e*P		**P**	**15 29 33.6**	**+0.3**
OJC	**Ojcow**	**24.27**	**109**	P		**P**	**15 29 32.9**	**-0.4**
ABTA	**Abfaltersbach** comp=Z,7.8nm,1.1s	**24.29**	**123**	*e*P		P	15 29 26.0	-7.6
KBA	**Koelnbreinsper** comp=Z,7.4nm,1.3s	**24.31**	**122**	*e*P		**P**	**15 29 37.0**	**+3.1**
JAVC	**Velka Javorina**	**24.49**	**113**	*e*P		**P**	**15 29 37.9**	**+2.5**
CONA	**Conrad Observa** comp=Z,8.0nm,1.0s	**24.55**	**117**	*e*P		**P**	**15 29 36.3**	**+0.4**
CTI	**Castel Tesino**	**24.58**	**125**	P		**P**	**15 29 37.3**	**+1.0**
CTI	comp=Z,17nm,1.1s			pmax		pmax		
CTI	**Castel Tesino**	**24.58**	**125**	P		**P**	**15 29 37.3**	**+1.0**
CTI	comp=Z,17nm,1.1s			IAmb		IAmb	15 29 45.9	
CIMO	**Cimolais**	**24.64**	**124**	P		**P**	**15 29 37.4**	**+0.7**
MODS	**Modra-Piesok**	**24.73**	**115**	*e*P		**P**	**15 29 36.6**	**-0.9**
MODS	comp=Z,28nm,1.5s			pmax		pmax		
MODS	**Modra-Piesok**	**24.73**	**115**	*e*P		**P**	**15 29 36.6**	**-0.9**
MYKA	**Terra Mystica** comp=Z,9.7nm,1.0s	**24.80**	**122**	*e*P		**P**	**15 29 41.6**	**+3.4**
PRED	**Cave del Predi**	**24.93**	**122**	P		**P**	**15 29 39.7**	**+0.3**
PRED	comp=Z,21nm,1.3s			IAmb		IAmb	15 29 44.6	
ARSA	**Arzberg** comp=Z,6.0nm,1.2s	**24.98**	**118**	*e*P		**P**	**15 29 34.0**	**-5.7**

comp=Z,86nm,19.5s,baz=315,slow=36
ESDC Sonseca Array 26.27 156 P **P** **15 29 52.0 +0.4**
KOLS Kolonicke sedl 26.29 108 *e*P **P** **15 29 51.6 0.0**
KOLS pmax pmax
comp=Z,21nm,1.3s
KOLS Kolonicke sedl 26.29 108 *e*P **P** **15 29 51.6 0.0**
LVV L'vov 26.33 104 *e*P **P** **15 29 51.6 -0.3**
RES Resolute Bay 26.45 324 LR LR 15 40 23.4
comp=Z,138nm,19.4s,baz=66,slow=37
UZH Uzhgorod 26.53 108⇑ *i*P **P** **15 29 54.5 +0.7**
UZH *e* 15 29 57.5
AKASG Malin Array Be 27.85 98 P **P** **15 30 05.4 -0.2**
comp=Z,3.4nm,0.8s,baz=326,slow=9.7,SNR=6.5
AKASG LR LR 15 41 56.3
comp=Z,55nm,18.9s,baz=275,slow=38
AKASG Malin Array Be 27.85 98 IAmb IAmb 15 30 09.4
comp=Z,2.2nm,1.2s
AKBB Malin Array Si 27.85 98*ce*P **P** **15 30 06.2 +0.6**
OBN Obninsk 27.89 84 P **P** **15 30 05.3 -0.5**
comp=Z,2.5nm,0.4s,baz=288,slow=12,SNR=4.5
OBN Obninsk 27.89 84⇑ *e*P **P** **15 30 05.8 0.0**
OBN *e* 15 30 50.6
OBN *i* S **S** **15 34 39.9 -9.5**
OBN pmax pmax
comp=Z,35nm,1.7s
OBN MLR MLR
comp=Z,102nm,15.0s
OBN Obninsk 27.89 84 IAmb IAmb 15 30 07.1
comp=Z,12nm,0.6s
KMPD K-Podol'skiy 28.31 103 P **P** **15 30 10.0 +0.3**
PDG Podgorica 30.47 119 P **P** **15 30 27.8 -1.1**
LPSR Galich'ya Gora 30.64 86 *e*P **P** **15 30 28.5 -1.8**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
KIRV Kirov 30.98 69*ce*P **P** **15 30 32.1 -1.1**
VSR Storozhevoye 31.74 88 *e*P **P** **15 30 37.9 -2.1**
VSR pmax pmax
comp=Z,7.0nm,1.0s
VRH Novokhopyorsk 32.84 85 *e*P **P** **15 30 48.2 -1.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
KEST Kesra 33.17 138 LR LR 15 44 18.5
comp=Z,108nm,18.2s,baz=298,slow=36
BELG Belogornoye 34.49 79 *i*P **P** **15 31 03.7 -0.3**
ARU Arti 36.08 66*c i*P **P** **15 31 18.1 +0.5**
ARU 15 32 37.2
ARU S **S** **15 36 59.5 +2.6**
ARU SS **SnSn** **15 39 23.9 +2.8**
ARU pmax pmax
comp=Z,14nm,2.1s
ARU MLR MLR
comp=Z,223nm,19.0s
NRIK Noril'sk 36.45 35 P **P** **15 31 21.4 +0.8**
comp=Z,6.5nm,1.0s,baz=318,slow=4.9,SNR=7.6
NRIK Noril'sk 36.45 35*ce*P **P** **15 31 20.0 -0.6**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
SOC Sochi 37.88 96 *e*P **P** **15 31 35.0 +2.0**
SOC *e* 15 32 57.9
SOC *e*S **S** **15 37 27.7 +3.2**
SOC *e*SS **SnSn** **15 39 57.5 -7.3**
SOC pmax pmax
comp=Z,5.0nm,0.3s
SOC MLR MLR
comp=Z,71nm,18.0s
GOF Gofitskoye 38.12 91⇑ *e*P **P** **15 31 36.7 +1.6**
BR131 Keskin Array S 38.49 105 P **P** **15 31 39.6 +1.2**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BR131 Keskin Array S 38.49 105 P **P** **15 31 39.6 +1.2**
BRTR Keskin Array B 38.49 105 P **P** **15 31 39.7 +1.3**
comp=Z,2.6nm,0.8s,baz=297,slow=5.4,SNR=6.8
BRTR Keskin Array B 38.49 105 P **P** **15 31 39.4 +1.0**
KIV Kislovodsk 38.85 92 *e*P **P** **15 31 41.1 -0.2**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,257nm,16.0s
KIV Kislovodsk 38.85 92 P **P** **15 31 41.8 +0.4**
KIV IAmb IAmb 15 31 42.7
comp=Z,12nm,1.0s
KBZ Khabaz 39.12 92 P **P** **15 31 45.0 +1.5**
comp=Z,6.5nm,0.9s,baz=344,slow=9.6,SNR=6.5
KBZ LR LR 15 48 58.5
comp=Z,64nm,18.1s,baz=332,slow=38
KBZ Khabaz 39.12 92 *i*P **P** **15 31 44.4 +0.9**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 39.20 313 P **P** **15 31 43.9 0.0**
comp=Z,2.3nm,0.9s,baz=36,slow=9.4,SNR=4.3
YKA LR LR 15 47 31.8
comp=Z,130nm,19.6s,baz=0.0,slow=36
ZEI Tsey 40.31 92 *e*P P 15 31 47.5 -6.2
ZEI pmax pmax
comp=Z,14nm,1.8s
AKH Akhalkalaki 41.27 94 P **P** **15 32 03.2 +1.7**
AKH pmax pmax
comp=Z,19nm,1.2s
AKH Akhalkalaki 41.27 94 P **P** **15 32 03.2 +1.7**
AKH IAmb IAmb 15 32 07.5
comp=Z,19nm,1.2s
ULM Lac du Bonnet 41.59 289 LR LR 15 47 55.5
comp=Z,76nm,18.5s,baz=142,slow=34
MALT Malatya 41.68 101 P **P** **15 32 08.4 +3.5**
ABKAR Akbulak array 41.99 73 P **P** **15 32 07.4 +0.2**
TIXI Tiksi 42.02 15*ce*P **P** **15 32 06.9 -0.2**
TIXI pmax pmax
comp=Z,58nm,1.3s
TIXI Tiksi 42.02 15 P **P** **15 32 08.8 +1.7**
TOLK Toolik Lake Re 42.73 336 P **P** **15 32 14.1 +1.1**
O54A Avella 43.07 267 P **P** **15 32 16.5 +0.4**
O54A IAmb IAmb 15 32 18.8
comp=Z,19nm,1.1s
BRVK Borovoye 43.13 62*ce*P **P** **15 32 15.9 -0.5**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 43.13 62 P **P** **15 32 16.9 +0.5**
BBSR BB Station 43.25 245 P **P** **15 32 17.9 +0.4**
BBSR IAmb IAmb 15 32 18.5
comp=Z,14nm,1.2s
O53A New Philadelph 43.37 268 P **P** **15 32 19.5 +1.0**
MARD Mardin 43.52 100 P **P** **15 32 21.4 +1.5**
MARD IAmb IAmb 15 32 26.0
comp=Z,17nm,1.2s
FYU Fort Yukon 43.76 333 P **P** **15 32 23.0 +1.7**
P53A Whipple 44.08 267 P **P** **15 32 25.1 +0.9**
N49A Columbus Grove 44.10 271 P **P** **15 32 25.1 +0.8**
COLD Coldfoot 44.10 336 P **P** **15 32 25.6 +1.5**
P52A Corning 44.28 268 P **P** **15 32 26.6 +0.9**
T57A Hurt 45.25 263 P **P** **15 32 32.9 -0.6**
IL31 45.67 332 P **P** **15 32 37.9 +1.4**
IL31 IAmb IAmb 15 32 39.5
comp=Z,7.4nm,1.1s
ILAR Eielson Array 45.67 332 P **P** **15 32 37.5 +1.0**
comp=Z,4.4nm,1.1s,baz=26,slow=5.5,SNR=24
ILAR PcP **PcP** **15 34 14.1 -0.3**
comp=Z,1.8nm,1.0s,baz=349,slow=3.0,SNR=6.4
ILAR LR LR 15 54 12.8
comp=Z,57nm,18.8s,baz=20,slow=39
ILAR Eielson Array 45.67 332 P **P** **15 32 37.7 +1.2**
ILAR Eielson Array 45.67 332 P **P** **15 32 37.6 +1.2**
ILAR **PcP** **15 34 14.4 +0.1**
MDM Murphy Dome 45.76 333 P **P** **15 32 39.1 +1.8**
HDA Harding Lake 46.00 332 P **P** **15 32 40.4 +1.3**
DOT Dot Lake 46.08 330 P **P** **15 32 41.6 +1.8**
DOT IAmb IAmb 15 32 42.7
comp=Z,12nm,1.3s
RIDG Independent Ri 46.16 331 P **P** **15 32 42.0 +1.5**
RIDG IAmb IAmb 15 32 43.0
comp=Z,11nm,1.2s
BILL Bilibino 47.53 358⇑ *e*P **P** **15 32 49.8 -1.3**
BILL *e* 15 34 48.3
BILL pmax pmax
comp=Z,5.0nm,1.3s
ZAA0 Zalesovo Array 47.63 51 P **P** **15 32 52.2 +0.3**
ZAA0 IAmb IAmb 15 32 53.5
comp=Z,6.8nm,1.2s
ZALV Zalesovo Beam 47.63 51 P **P** **15 32 51.5 -0.4**
comp=Z,1.2nm,0.6s,baz=339,slow=7.9,SNR=6.8
ZALV LR LR 15 54 26.8
comp=Z,43nm,18.4s,baz=18,slow=38
ZALV Zalesovo Beam 47.63 51 P **P** **15 32 51.8 -0.2**
ZALV Zalesovo Beam 47.63 51 P **P** **15 32 51.8 -0.2**
KURK Kurchatov 48.11 58*ce*P **P** **15 32 55.4 -0.4**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 48.11 58 P **P** **15 32 55.6 -0.1**
TNA Tin City 48.28 344 P **P** **15 32 58.7 +1.8**
T47A Sharon Grove 48.63 270 P **P** **15 33 00.8 +0.9**
EGMT Eagleton 48.86 297 P **P** **15 33 03.2 +1.5**
W50A Signal Mountai 49.37 268 P **P** **15 33 06.7 +1.0**
CCM Cathedral Cave 49.51 275 P **P** **15 33 07.7 +1.0**
CCM pmax pmax
comp=Z,3.0nm,1.0s
CCM Cathedral Cave 49.51 275 P **P** **15 33 07.7 +1.0**
GEYT Alibeck 50.43 84 P **P** **15 33 14.3 +0.6**
comp=Z,1.0nm,0.4s,baz=15,slow=6.0,SNR=4.5
GEYT LR LR 15 57 08.4
comp=Z,55nm,20.5s,baz=35,slow=39
GEYT Alibeck 50.43 84 P **P** **15 33 13.9 +0.2**
GYA0B ALIBECK ARRAY 50.43 84 P **P** **15 33 14.0 +0.3**
GYA0B IAmb IAmb 15 33 15.7
comp=Z,7.4nm,1.1s
GCMT Greycliff 50.67 295 P **P** **15 33 16.7 +1.1**
HRY Holter Researc 50.74 298 P **P** **15 33 16.2 +0.2**
X48A Hartselle 50.75 269 P **P** **15 33 16.1 0.0**
X48A IAmb IAmb 15 33 17.1
comp=Z,9.3nm,1.2s
255A Hazlehurst 50.96 263 P **P** **15 33 18.7 +1.0**
KOWA Kowa 50.98 163 P **P** **15 33 18.1 +0.1**
KOWA IAmb IAmb 15 33 18.6
comp=Z,6.7nm,1.1s
RLMT Red Lodge 51.07 295 P **P** **15 33 20.2 +1.4**
RLMT IAmb IAmb 15 33 24.3
comp=Z,14nm,1.4s
YAK Yakutsk 51.26 19 *i*P **P** **15 33 18.9 -0.6**
YNE Yellowstone No 51.46 295 P **P** **15 33 22.6 +0.9**
BOZ Bozeman (W) 51.59 297 P **P** **15 33 23.5 +1.0**
BOZ pmax pmax
comp=Z,10.0nm,1.2s
BOZ Bozeman (W) 51.59 297 P **P** **15 33 23.5 +1.0**
BOZ IAmb IAmb 15 33 24.8
comp=Z,10nm,1.1s
LRM Limekiln Ridge 51.72 297 P **P** **15 33 24.3 +0.7**
YMP Mirror Lake Pl 51.74 295 P **P** **15 33 24.8 +1.0**
YHL Hebgen Lake 52.05 296 P **P** **15 33 27.0 +0.9**
DGZ Jazzator, Alta 52.08 53 *i*P **P** **15 33 27.0 +0.9**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
H17A Grant Village 52.19 295 P **P** **15 33 28.3 +1.2**
H17A IAmb IAmb 15 33 31.7
comp=Z,8.2nm,1.1s
MCMT McKenzie Canyo 52.71 297 P **P** **15 33 32.0 +1.1**
MK31 Makanchi Array 52.72 58 P **P** **15 33 31.7 +1.0**
MK31 pmax pmax
comp=Z,11nm,1.5s
MK31 Makanchi Array 52.72 58 P **P** **15 33 31.7 +1.0**
MK31 IAmb IAmb 15 33 32.6
comp=Z,11nm,1.5s
MKAR Makanchi Array 52.72 58 P **P** **15 33 30.6 -0.1**
comp=Z,2.1nm,0.9s,baz=1.3,slow=5.3,SNR=6.2
MKAR Makanchi Array 52.72 58 P **P** **15 33 31.0 +0.3**
MKAR Makanchi Array 52.72 58 P **P** **15 33 31.0 +0.3**
PHWY Pilot Hill 52.75 289 P **P** **15 33 31.2 -0.2**
IMW Indian Meadow 52.75 295 P **P** **15 33 32.2 +0.8**
FXWY Fox Creek 53.01 295 P **P** **15 33 34.3 +1.1**
TPAW Teton Pass 53.10 295 P **P** **15 33 34.5 +0.6**
TPAW IAmb IAmb 15 33 41.3
comp=Z,8.2nm,1.2s
TOA0 Torodi Ar. Sit 53.16 156 P **P** **15 33 33.2 -1.0**
TORD Torodi Ar. Bea 53.16 156 P **P** **15 33 33.1 -1.1**
comp=Z,4.2nm,1.1s,baz=341,slow=7.1,SNR=10
TORD LR LR 15 57 55.5
comp=Z,21nm,18.1s,baz=135,slow=38
TORD Torodi Ar. Bea 53.16 156 P **P** **15 33 32.9 -1.3**
BW06 Boulder Array 53.16 293 P **P** **15 33 34.4 +0.1**
BW06 IAmb IAmb 15 33 35.5
comp=Z,12nm,1.2s
PD31 Pinedale Array 53.16 293 P **P** **15 33 34.0 -0.3**
PD31 IAmb IAmb 15 33 35.4
comp=Z,11nm,1.2s
PDAR Pinedale Array 53.16 293 P **P** **15 33 34.2 -0.1**
comp=Z,4.2nm,1.0s,baz=62,slow=6.9,SNR=18
PDAR Pinedale Array 53.16 293 P **P** **15 33 34.0 -0.3**
REDW Red Top Meadow 53.17 295 P **P** **15 33 35.0 +0.6**
REDW IAmb IAmb 15 33 41.6
comp=Z,10.0nm,1.3s
AAK Ala-Archa 53.26 67 *i*P **P** **15 33 34.1 -0.8**
AAK pmax pmax
comp=Z,27nm,1.0s
N23A Red Feather La 53.29 289 P **P** **15 33 35.9 +0.5**
BTK Batken 53.96 72 P **P** **15 33 40.3 +0.3**
BTK pmax pmax
comp=Z,24nm,1.1s
BTK Batken 53.96 72 P **P** **15 33 40.2 +0.3**
D05A Enumclaw 54.06 305 P **P** **15 33 40.9 +0.4**
BMO Blue Mountains 54.37 300 P **P** **15 33 42.5 -0.4**
BMO pmax pmax
comp=Z,5.0nm,1.3s
BMO Blue Mountains 54.37 300 P **P** **15 33 42.5 -0.4**
MOY Mondy 54.65 42 *e*P **P** **15 33 46.9 +2.0**
MOY pmax pmax
comp=Z,31nm,1.9s
HWUT Hardware Ranch 54.94 294 P **P** **15 33 47.7 +0.5**
RDMU Red Mountain 55.03 292 P **P** **15 33 48.6 +0.7**
HRA Herat 55.20 82 P **P** **15 33 50.0 +0.8**
HRA IAmb IAmb 15 33 51.0
comp=Z,8.2nm,1.4s
TCUT Toone Canyon 55.29 294 P **P** **15 33 50.3 +0.4**
S22A 4UR Ranch, Cre 56.33 288 P **P** **15 33 57.8 +0.4**
ZAK Zakamensk 56.45 41 *e*P **P** **15 33 58.7 +0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
PV21 Cone Mtn., Par 56.50 290 P **P** **15 33 58.1 -0.4**
PV21 IAmb IAmb 15 34 03.1
comp=Z,7.5nm,1.1s
PV23 Carpenter Ridg 56.61 290 P **P** **15 33 59.5 +0.1**
PV23 IAmb IAmb 15 34 01.4
comp=Z,9.1nm,1.1s
PV04 Paradox Valley 56.62 290 P **P** **15 33 59.6 +0.3**
PV04 IAmb IAmb 15 34 00.3
comp=Z,8.7nm,1.3s
DUG Dugway, Tooele 56.63 294 P **P** **15 34 01.1 +1.7**
DUG pmax pmax
comp=Z,6.0nm,1.2s
DUG Dugway, Tooele 56.63 294 P **P** **15 34 01.1 +1.7**
DUG IAmb IAmb 15 34 15.4
comp=Z,5.9nm,1.2s
PV12 Saucer Basin, 56.64 290 P **P** **15 34 00.1 +0.6**
PV12 IAmb IAmb 15 34 00.6
comp=Z,6.8nm,1.1s
SRU San Rafael Swe 56.66 292 P **P** **15 34 00.4 +0.9**
SRU pmax pmax
comp=Z,11nm,1.3s
SRU San Rafael Swe 56.66 292 P **P** **15 34 00.4 +0.9**
PV11 David Mesa, Pa 56.69 290 P **P** **15 34 01.0 +1.2**
PV11 IAmb IAmb 15 34 01.6
comp=Z,8.2nm,1.0s
PV02 Paradox Valley 56.71 290 P **P** **15 34 00.4 +0.4**
PV02 IAmb IAmb 15 34 04.9
comp=Z,7.1nm,1.0s
PV03 Paradox Valley 56.71 290 P **P** **15 33 59.7 -0.3**
PV03 IAmb IAmb 15 34 01.8
comp=Z,11nm,1.2s
PV17 East Wray Mesa 56.74 290 P **P** **15 34 00.0 -0.2**
PV17 IAmb IAmb 15 34 04.9
comp=Z,11nm,1.2s
PV18 Skein Mesa, Pa 56.75 290 P **P** **15 34 00.2 -0.1**
PV18 IAmb IAmb 15 34 02.0
comp=Z,9.9nm,1.1s
PV13 Radium Mtn., P 56.78 290 P **P** **15 34 01.1 +0.6**
ELK Elko 57.10 296 P **P** **15 34 04.1 +1.3**
ELK pmax pmax
comp=Z,6.0nm,1.5s
ELK Elko 57.10 296 P **P** **15 34 04.1 +1.3**
WMQ Urumqi 57.23 56 *e*P **P** **15 34 07.6 +4.2**
MSU Marysvale 57.83 293 P **P** **15 34 08.7 +0.8**
MSU Marysvale 57.83 293 P **P** **15 34 08.7 +0.8**
MVU Marysvale 57.85 293 P **P** **15 34 09.2 +1.1**
PSUT Pine Spring 58.47 294 P **P** **15 34 13.6 +1.2**
ANMO Albuquerque 58.58 286*ce*P **P** **15 34 13.5 +0.4**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 58.58 286 P **P** **15 34 13.6 +0.4**
DBIC Dimbokro 58.61 165 P **P** **15 34 11.7 -1.5**
comp=Z,6.1nm,1.0s,baz=19,slow=5.2,SNR=4.2
DBIC LR LR 16 00 20.4
comp=Z,35nm,19.1s,baz=5.5,slow=37
DBIC Dimbokro 58.61 165 IAmb IAmb 15 34 16.1
comp=Z,12nm,1.3s
TIC Toumodi 58.61 165 *e*P **P** **15 34 12.3 -1.0**
KIC Kosan Boka 58.92 165 *e*P **P** **15 34 14.6 -0.9**
comp=Z,18nm,1.1s
LIC Lamto 59.03 165 *e*P **P** **15 34 15.3 -0.9**
comp=Z,34nm,1.4s
CCUT Cedar City 59.13 293 P **P** **15 34 18.1 +1.1**
R11A Troy Canyon, C 59.31 295 P **P** **15 34 19.1 +0.9**
R11A IAmb IAmb 15 34 20.5
comp=Z,6.3nm,1.4s
BNM Barren Site 59.34 285 P **P** **15 34 19.2 +0.8**
KNB Kanab 59.38 292 P **P** **15 34 19.2 +0.6**
KNB pmax pmax
comp=Z,6.0nm,1.2s
KNB Kanab 59.38 292 P **P** **15 34 19.2 +0.6**
PAHR Pah Rah Range 59.58 299 P **P** **15 34 21.0 +1.0**
PAHR IAmb IAmb 15 34 22.1
comp=Z,9.5nm,1.4s
SONM Songino Array 59.63 40 P **P** **15 34 20.3 +0.2**
comp=Z,1.1nm,0.8s,baz=335,slow=10.0,SNR=7.3
SONM LR LR 16 02 27.3
comp=Z,122nm,18.4s,baz=300,slow=38
SONM Songino Array 59.63 40 P **P** **15 34 20.4 +0.2**
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 59.63 40 P **P** **15 34 20.4 +0.2**
JCT Junction City 59.64 277 P **P** **15 34 20.8 +0.5**
JCT pmax pmax
comp=Z,19nm,1.3s
JCT Junction City 59.64 277 P **P** **15 34 20.8 +0.5**
KVN Kaiserville 59.67 298 P **P** **15 34 21.1 +0.4**
KVN pmax pmax
comp=Z,5.0nm,1.2s
KVN Kaiserville 59.67 298 P **P** **15 34 21.1 +0.4**
KVN IAmb IAmb 15 34 22.5
comp=Z,4.8nm,1.2s
U15A North Rim 59.67 291 P **P** **15 34 20.6 -0.2**
U15A IAmb IAmb 15 34 22.1
comp=Z,5.6nm,1.1s
ULN Ulaanbaatar 59.79 40*ce*P **P** **15 34 20.7 -0.6**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 59.79 40 P **P** **15 34 22.0 +0.7**
ULN IAmb IAmb 15 34 23.1
comp=Z,6.1nm,1.1s
WUAZ Wupatki 60.09 290 P **P** **15 34 23.9 +0.3**
YERR Yerington 60.16 298 P **P** **15 34 24.6 +0.6**
YERR IAmb IAmb 15 34 27.0
comp=Z,7.4nm,1.1s
NVAR Mina Array Bea 60.29 297 P **P** **15 34 25.6 +0.6**
comp=Z,0.7nm,0.8s,baz=54,slow=6.0,SNR=4.8
NVAR LR LR 16 00 14.5
comp=Z,198nm,21.4s,baz=26,slow=36
UOSS Minazif 60.78 93 P **P** **15 34 30.0 +1.8**
AFDM Forest Hills D 60.84 300 P **P** **15 34 29.1 +0.6**
MNTX Cornudas Mount 60.94 283 P **P** **15 34 29.7 +0.5**
MNTX IAmb IAmb 15 34 32.9
comp=Z,5.7nm,1.4s
X16A Lo Mia Camp, P 61.08 290 P **P** **15 34 31.1 +0.7**
X16A IAmb IAmb 15 34 40.4
comp=Z,6.5nm,1.2s
TX31 Lajitas Ar. Si 62.27 280 P **P** **15 34 39.0 +0.7**
TXAR Lajitas Array 62.27 280 P **P** **15 34 38.9 +0.5**
comp=Z,1.4nm,1.0s,baz=64,slow=5.7,SNR=7.7
TXAR LR LR 16 01 18.5
comp=Z,79nm,18.2s,baz=0.0,slow=36
TXAR Lajitas Array 62.27 280 P **P** **15 34 38.1 -0.2**
ISA Isabella, Lake 62.78 296 P **P** **15 34 41.1 -0.5**
ISA pmax pmax
comp=Z,3.0nm,1.0s
ISA Isabella, Lake 62.78 296 P **P** **15 34 41.1 -0.5**
GTA Gaotai 65.30 49 *e*P **P** **15 34 58.9 +0.7**
GTA pP sP 15 35 03.2 +2.0
GTA sP pP 15 35 05.9 +5.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
HHC Hu-ho-hao-te 67.50 40 *e*P **P** **15 35 14.1 +1.8**
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,200nm,6.0s
LZH Lanzhou 69.62 48 *e*P **P** **15 35 26.9 +1.2**
LZH pP sP 15 35 32.2 +3.6
LZH sP pP 15 35 34.9 +7.1
LZH pmax pmax
comp=Z,12nm,0.5s
ROSC El Rosal 71.92 241 LR LR 16 02 46.4
comp=Z,27nm,21.7s,baz=82,slow=32
KSRS Korea Array 74.64 28 LR LR 16 10 57.6
comp=Z,28nm,18.3s,baz=290,slow=38
NJ2 Nanjing 77.73 37 *e*P **P** **15 36 13.9 +0.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s
CMAR Chiang Mai Arr 84.13 59 P **P** **15 36 47.6 +0.2**
comp=Z,2.0nm,1.0s,baz=313,slow=5.2,SNR=9.2
CMAR LR LR 16 18 39.3
comp=Z,23nm,18.1s,baz=340,slow=39
WRA Warramunga Arr 131.51 36 PKP **PKiKP** **15 43 29.5 -0.3**
comp=Z,1.1nm,1.1s,baz=3.6,slow=1.3,SNR=4.8
ASAR Alice Springs 134.96 38 PKP **PKPdf** **15 43 32.9 -2.3**
comp=Z,0.8nm,0.9s,baz=353,slow=1.6,SNR=6.3
ASAR Alice Springs 134.96 38 PKIKP **PKPdf** **15 43 35.6 +0.4**
ASAR Alice Springs 134.96 38 **PKPdf** **15 43 35.6 +0.4**
STKA Stephens Creek 144.71 32 PKP **PKPab** **15 43 50.6 -0.7**
comp=Z,3.0nm,1.1s,baz=0.5,slow=8.6,SNR=3.5

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*SOME **08** 15:30:49.3,39˚.72N×74˚.52E,h10km*
*KRNET **08** 15:30:52.0±0.1,39˚.60N×74˚.52E,mb3.7*
*IDC **08** 15:31:06.5±5.2,40˚.86N×79˚.99E,h0km,mb3.4/2,*
mb1 3.5/3,mb1mx3.2/43,mbtmp3.2/3,ML2.4/1,MS3.1/2,
Ms1 3.1/2,ms1mx2.5/28,Error ellipse: s-maj=172.9km
s-min=25.6km az=91.0

ISC 08 15:30:55.1±1.1,**39˚.60N**±0˚.06×**74˚.44E**±0˚.04,**h10**km,**n38,**
σ2s05/62,29C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**2.26**	**358**	⇑*i*P		**Pn**	**15 31 32.2**	**-0.5**
	baz=56							
ARLS				⇑*i*S		**Sn**	**15 32 02.3**	**+1.5**
	baz=56							
AML	**Almayashu**	**2.59**	**348**	⇑*i*P		**Pn**	**15 31 37.6**	**+0.1**
	baz=46							
AML				⇑*i*S		**Sn**	**15 32 10.7**	**+1.4**
	baz=46							
AML	**Almayashu**	**2.59**	**348**	P		**Pn**	**15 31 37.9**	**+0.4**
	SNR=16							
UCH	**Uchtor**	**2.63**	**1**	⇓*i*P		**Pn**	**15 31 37.9**	**-0.1**
	baz=60							
UCH				⇓*i*S		**Sn**	**15 32 11.3**	**+1.1**
	baz=60							
UCH	**Uchtor**	**2.63**	**1**	P		**Pn**	**15 31 37.6**	**-0.5**
	SNR=117							
BTK	**Batken**	**2.83**	**280**	⇑*e*P		**Pn**	**15 31 41.6**	**+1.1**
	baz=80							
BTK				⇑*i*S		**Sn**	**15 32 17.4**	**+2.7**
	baz=80							
ULHL	**Ulahol**	**2.98**	**27**	⇑*i*P		**Pn**	**15 31 42.4**	**-0.2**
	baz=26							
ULHL				⇑*i*S		**Sn**	**15 32 18.7**	**+0.3**
	baz=26							
ULHL	**Ulahol**	**2.98**	**27**	P		**Pn**	**15 31 42.9**	**+0.3**
	SNR=17							
AAK	**Ala-Archa**	**3.04**	**1**	⇑*i*P		**Pn**	**15 31 43.3**	**-0.1**
	baz=60							
AAK				⇑*i*S		**Sn**	**15 32 20.9**	**+1.0**
	baz=60							
AAK	**Ala-Archa**	**3.04**	**1**	P		**Pn**	**15 31 46.5**	**+3.1**
	SNR=19							
KBK	**Karagaybulak**	**3.08**	**7**	⇑*i*P		**Pn**	**15 31 43.9**	**-0.1**
	baz=6.0							
KBK				⇑*i*S		**Sn**	**15 32 21.8**	**+0.9**
	baz=6.0							
KBK	**Karagaybulak**	**3.08**	**7**	P		**Pn**	**15 31 44.5**	**+0.5**
	SNR=16							
EKS2	**Erkin-Say**	**3.10**	**351**	⇑*i*P		**Pn**	**15 31 44.5**	**+0.3**
	baz=50							
EKS2				⇑*i*S		**Sn**	**15 32 22.9**	**+1.5**
	baz=50							
EKS2	**Erkin-Say**	**3.10**	**351**	P		**Pn**	**15 31 44.8**	**+0.5**
	SNR=12							
BOOM	**Boomskoye usch**	**3.10**	**21**	⇑*i*P		**Pn**	**15 31 44.1**	**-0.2**
	baz=20							
BOOM				⇑*i*S		**Sn**	**15 32 22.1**	**+0.6**
	baz=20							

MNAS	**Manas**	**3.24**	**334**	⇑*i*P		**Pn**	**15 31 46.4**	**+0.3**
	baz=33								
MNAS				⇑*e*S		**Sn**	**15 32 26.5**	**+1.7**
	baz=33								
GAR	**Garm**	**3.26**	**261**	⇑*i*P		**Pn**	**15 31 47.4**	**+1.0**
	baz=61								
GAR				⇑*i*S		**Sn**	**15 32 27.2**	**+1.9**
	baz=61								
MRKS	**Merke**	**3.27**	**344**	*e*P		**Pn**	**15 31 46.9**	**+0.3**
	7.0nm,0.5s								
MRKS				*e*S		**Sn**	**15 32 29.2**	**+3.6**
	24nm,0.4s								
CHMS	**Chumysh**	**3.41**		4⇑*e*P		**Pn**	**15 31 48.2**	**-0.1**
	baz=3.0								
CHMS				⇑*i*S		**Sn**	**15 32 29.0**	**+0.2**
	baz=3.0								
TKM2	**Tokmak 2**	**3.43**	**14**	P		**Pn**	**15 31 49.7**	**+0.9**
	SNR=25								
KST	**Kastek**	**3.63**	**18**	*e*P		**Pn**	**15 31 52.4**	**+0.9**
	23nm,0.5s								
KST				*e*S		**Sn**	**15 32 38.2**	**+3.8**
	120nm,0.6s								
USP	**Ospenovka**	**3.67**	**1**	P		**Pn**	**15 31 51.6**	**-0.3**
	SNR=6.6								
IZV	**Izvestkoviy**	**3.80**	**25**	*e*P		**Pb**	**15 31 58.7**	**-3.7**
	7.8nm,0.7s								
IZV				*e*S		**Sb**	**15 32 49.8**	**+1.1**
	49nm,0.3s								
MTBS	**Maitube**	**3.83**	**22**	*e*P		**Pn**	**15 31 55.3**	**+1.1**
	38nm,0.6s								
MTBS				*e*S		**Sn**	**15 32 43.6**	**+4.2**
	14nm,0.7s								
TNSS	**Tian-Shan**	**3.92**	**28**	*e*P		**Pb**	**15 32 00.6**	**-3.9**
	6.3nm,0.5s								
TNSS				*e*S		**Sb**	**15 32 53.2**	**+1.0**
	18nm,0.6s								
ANVS	**Anan'yevo**	**4.00**		36⇑*i*P		**Pn**	**15 31 56.0**	**-0.7**
	baz=36								
ANVS				⇑*i*S		**Sn**	**15 32 43.6**	**-0.2**
	baz=36								
DZA	**Taraz**	**4.04**	**326**	⇑*i*P		**Pb**	**15 32 02.7**	**-3.7**
	46nm,0.1s								
DZA				⇑*i*S		**Sb**	**15 32 56.7**	**+1.4**
	115nm,0.2s								
KOTS	**Kotyrbulak**	**4.15**	**28**	*e*P		**Pb**	**15 32 05.3**	**-3.0**
	66nm,0.7s								
KOTS				*e*S		**Sb**	**15 33 00.8**	**+2.3**
	39nm,0.7s								
KTBS	**Karatobe**	**4.44**	**21**	*e*P		**Pb**	**15 32 10.9**	**-2.3**
	6.7nm,0.6s								
KTBS				*e*S		**Sb**	**15 33 10.1**	**+3.3**
	23nm,0.7s								
KUU	**Kurty**	**4.52**	**18**	*e*P		**Pb**	**15 32 10.6**	**-3.9**
	3.0nm,0.4s								
KUU				*e*S		**Sb**	**15 33 09.7**	**+0.7**
	29nm,0.6s								
KK31	**Karatay Array**	**4.58**	**321**	⇑Pn		**Pn**	**15 32 01.9**	**-2.6**
	0.6nm,0.3s,baz=124,slow=12,SNR=18								
KK31				⇑Pg		**Pb**	**15 32 15.7**	**+0.1**
	4.3nm,0.6s,baz=139,slow=17,SNR=8.2								
KK31				⇑Sn		**Sn**	**15 32 54.5**	**-3.4**
	10nm,0.7s,baz=133,slow=18,SNR=4.5								
KK31				⇓Lg		Lg	15 33 11.8		
	4.5nm,0.3s,baz=126,slow=28,SNR=3.6								
BRLS	**Borolday**	**4.88**	**316**	*e*P		**Pb**	**15 32 16.6**	**-4.0**
	21nm,0.3s								
BRLS				*e*S		**Sb**	**15 33 20.5**	**+1.2**
	24nm,0.4s								
ARXS	**Arharly**	**5.26**	**28**	*e*P		**Pb**	**15 32 25.1**	**-2.1**
	15nm,0.7s								
ARXS				*e*S		**Sb**	**15 33 34.8**	**+4.4**
	12nm,0.7s								
WMQ	**Urumqi**	**10.77**	**63**	*e*P		**Pn**	**15 33 30.8**	**+1.4**
WMQ				smax		smax			
	comp=N,12nm,0.7s								
WMQ				smax		smax			
	comp=E,11nm,0.5s								
SONM	**Songino Array**	**24.38**	**60**	LR		LR	15 44 06.4		
	comp=E,50nm,18.4s,baz=31,slow=39								
YKA	**Yellowknife Ar**	**77.99**	**4**	LR		LR	16 18 52.0		
	comp=E,11nm,18.6s,baz=0.0,slow=38								
WRA	**Warramunga Arr**	**81.41**	**125**	P		**P**	**15 43 10.2**	**-2.1**
	comp=E,0.2nm,0.6s,baz=329,slow=5.4,SNR=4.9								
ASAR	**Alice Springs**	**83.88**	**127**	P		**P**	**15 43 26.5**	**+1.3**
	comp=E,0.2nm,0.9s,baz=336,slow=6.1,SNR=2.0								

*ISN **08** 15:34:29.0±2.1,32.°69N×47.°76E,h6km±12km,ML2.9*
*TEH **08** 15:34:30.8,32.°64N×47.°74E,h10km,ML2.9*
ISC 08 15:34:27.5±1.3**,32.°46N**±0.°08×**47.°67E**±0.°04,**h10**km,**n15,**
σ1s**00**/17,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**1.21**	**29**	*e*Pg			**Pn**	**15 34 50.0**	**-0.5**
IKMR				*e*				15 34 55.1	
IDOB	**Doab**	**1.39**	**18**	*e*Pg			**Pg**	**15 34 54.3**	**0.0**
IDOB				*e*				15 35 17.2	
BMDN	**Meydan**	**1.55**	**38**	*e*Pg			**Pg**	**15 34 58.0**	**+0.7**
BMDN				*e*				15 34 59.0	
IBDR	**Badra**	**1.60**	**294**	*e*Pg			**Pg**	**15 34 58.0**	**-0.2**
	baz=105								
IBDR				*e*Sg			**Sg**	**15 35 22.0**	**+3.0**
IBDR				AML			AML	15 35 25.6	
	comp=E,160nm,0.5s								
IBDR				AML			AML	15 35 25.6	
	comp=N,175nm,0.6s								
IKOM	**Komasi**	**1.71**	**356**	*e*Pg			**Pg**	**15 35 00.1**	**-0.3**
IKOM				*e*				15 35 01.6	
KCHF	**Cheshme Sefid,**	**1.89**	**344**	*e*Pg			**Pg**	**15 35 04.0**	**+0.3**
HSAM	**Samen**	**1.92**	**24**	*e*Pg			**Pg**	**15 35 03.7**	**-0.6**
KER	**Kermanshah**	**1.97**	**347**	*e*Pn			**Pg**	**15 35 04.3**	**-1.0**
KER				*e*				15 35 41.8	
IBZA	**Bozab**	**2.01**	**5**	*e*Pn			**Pb**	**15 35 04.7**	**+0.3**
IGHG	**Ghaleghazi**	**2.08**	**334**	*e*				15 35 41.6	
IGHG				*e*Pg			**Pg**	**15 35 07.3**	**-0.1**
IDHR	**Dehrash**	**2.48**	**335**	*e*Pn			**Pb**	**15 35 12.1**	**-0.1**
IDHR				*e*				15 35 52.3	
JHBN	**Jahan bin**	**2.55**	**94**	*e*Pn			**Pb**	**15 35 13.6**	**+0.1**
JHBN				*e*				15 36 02.4	
IPIR	**Pirpir**	**2.73**	**84**	*e*Pn			**Pb**	**15 35 16.3**	**-0.4**
IPIR				*e*				15 36 14.1	
HSRG	**Sareghieh**	**2.82**	**10**	*e*Pn			**Pb**	**15 35 17.1**	**-1.1**
HSRG				*e*				15 35 18.4	
BHD	**Baghdad**	**2.88**	**287**	*e*Pn			**Pb**	**15 35 18.0**	**-1.0**
BHD				*e*Sn			**Sb**	**15 35 54.0**	**-0.3**

IDC 08 15:46:55.5±1.4**,11.°32N**×**144.°71E,h0**km**,mb3.3**/3**,**
mb1 3.6/4**,mb1mx3.4**/42**,mbtmp3.3**/4**,ML3.4**/1**,Error**
ellipse: s-maj=138.4km s-min=20.6km az=102.0,South
of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.26**	**4**	Pn			Pn	15 47 34.5	+0.4
	9.8nm,0.3s,baz=167,slow=19,SNR=2.5								
GUMO				Sn			Sn	15 48 03.0	+0.2
	8.8nm,0.3s,baz=165,slow=20,SNR=2.2								
WRA	**Warramunga Arr**	**32.70**	**198**	P			P	15 53 29.5	-0.5
	0.7nm,0.8s,baz=21,slow=9.8,SNR=5.5								
ASAR	**Alice Springs**	**36.35**	**197**	P			P	15 54 01.8	+0.3
	0.2nm,0.6s,baz=19,slow=10,SNR=4.1								
ILAR	**Eielson Array**	**70.67**	**25**	P			P	15 58 12.9	0.0
	0.2nm,0.6s,baz=249,slow=6.7,SNR=1.6								

*IDC **08** 15:59:11.7±10.0,34.°13S×53.°63E,h0km,mb3.8/4,*
mb1 3.9/4,mb1mx3.6/36,mbtmp3.8/4,Error ellipse:
s-maj=282.8km s-min=39.3km az=131.0
*NEIC **08** 15:59:11.5±0.9,33.°9S±0.°1×53.°5E±0.°2,h10km±1km,*
mb4.4/4,Error ellipse: s-maj=30.6km s-min=11.3km
az=228.0
ISC 08 15:59:11.4±0.9**,33.°9S**±0.°2×**53.°5E**±0.°2**,h10**km**,n17,**
σ0s**69**/9**,mb3.7**/5**,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**24.66**	**275**	P			**P**	**16 04 32.5**	**0.0**
H08S1	**Diego Carcia H**	**31.47**	**38**	T			T	16 38 38.4	
	baz=208,slow=75,SNR=90								
H08S2	**Diego Garcia H**	**31.48**	**38**	T			T	16 38 39.4	
	baz=208,slow=75,SNR=54								
H08S3	**Diego Garcia H**	**31.49**	**38**	T			T	16 38 42.1	
	baz=208,slow=75,SNR=81								
MAW	**Mawson**	**34.18**	**174**	P			**P**	**16 05 56.1**	**-0.5**
	1.8nm,1.1s,baz=336,slow=9.4,SNR=2.8								
MAW	**Mawson**	**34.18**	**174**	IAmb		IAmb		16 05 56.5	
	comp=Z,0.7nm,1.1s								
MBAR	**Mbarara**	**39.39**	**322**				**S**	**16 12 43.8**	**+0.3**
H01W2	**Cape Leeuwin H**	**49.36**	**109**	T		T	T	16 59 45.2	
	baz=252								
H01W3	**Cape Leeuwin H**	**49.37**	**109**	T		T	T	16 59 44.1	
	baz=252								
H01W1	**Cape Leeuwin H**	**49.38**	**109**	T		T	T	16 59 45.4	
	baz=252								
QSPA	**South Pole Qui**	**56.28**	**180**	P			**P**	**16 08 52.1**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=272,slow=7.5,SNR=6.4								
QSPA	**South Pole Qui**	**56.28**	**180**	IAmb		IAmb	IAmb	16 08 53.9	
	comp=Z,8.5nm,1.4s								
CMAR	**Chiang Mai Arr**	**67.72**	**47**	P			**P**	**16 10 08.5**	**-0.8**
ASAR	**Alice Springs**	**69.60**	**105**	P			**P**	**16 10 21.9**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=235,slow=5.9,SNR=10								
WRA	**Warramunga Arr**	**71.78**	**102**	P			**P**	**16 10 35.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=237,slow=5.4,SNR=6.7								
WRA	**Warramunga Arr**	**71.78**	**102**	P			**P**	**16 10 34.7**	**+0.3**
WB0	**Warramunga Arr**	**71.92**	**102**	P			**P**	**16 10 35.6**	**+0.3**
WB0				IAmb		IAmb	IAmb	16 11 03.6	
	comp=Z,9.6nm,1.5s								

*TAP **08** 16:22:28.8,24.°41N×121.°92E,h20km,ML3.8,C*
*JMA **08** 16:22:28.5,24.°37N×121.°91E,h29km±3km,M3.2*
ISC 08 16:22:28.5±0.8**,24.°40N**±0.°01×**121.°97E**±0.°02**,h15**km±6km**,**
n121,σ0s**82**/215**,14C-8D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.16**	**290**	⇓*i*P			**Pg**	**16 22 32.7**	**+0.2**
	baz=301								
ENAH				*i* S			**Sg**	**16 22 35.4**	**+0.3**
	baz=301								
ENA	**Nanau**	**0.21**	**279**	⇓*i*P			**Pb**	**16 22 34.1**	**0.0**
	baz=277								
ENA				*i* S			**Sg**	**16 22 37.1**	**+0.5**
	baz=277								
TWC	**Suao**	**0.24**	**332**	⇓*i*P			**Pg**	**16 22 34.1**	**+0.3**
	baz=348								
TWC				*i* S			**Sg**	**16 22 37.4**	**0.0**
	baz=348								
NACB	**Ninganchiao**	**0.41**	**238**	P			**Pg**	**16 22 36.4**	**-0.3**
	baz=238								
NACB				S			**Sg**	**16 22 41.3**	**-1.0**
	baz=238								
ILA	**Ilan**	**0.42**	**331**	⇓*i*P			**Pb**	**16 22 37.5**	**-0.2**
	baz=333								
ILA				S			**Sb**	**16 22 43.5**	**-0.4**
	baz=333								
TWE	**Neicheng**	**0.43**	**320**	⇓*i*P			**Pg**	**16 22 37.2**	**+0.1**
	baz=324								
TWE				*e*S			**Sg**	**16 22 42.6**	**-0.3**
	baz=324								
ENTT	**Nioudou**	**0.44**	**304**	⇑*i*P			**Pg**	**16 22 37.3**	**-0.1**
	baz=306								
ENTT				*e*S			**Sg**	**16 22 42.9**	**-0.5**
	baz=306								
EGS		**0.45**	**355**	*e*P			**Pg**	**16 22 37.7**	**+0.2**
	baz=358								
EGS				*e*S			**Sg**	**16 22 43.8**	**+0.2**
	baz=358								
TWD	**Chiawan**	**0.47**	**228**	P			**Pg**	**16 22 37.6**	**-0.2**
	baz=227								
TWD				*e*S			**Sb**	**16 22 46.1**	**+0.9**
	baz=227								
NDT	**Datong Townshi**	**0.47**	**296**	⇑*i*P			**Pg**	**16 22 37.8**	**0.0**
	baz=299								
NDT				S			**Sg**	**16 22 43.6**	**-0.5**
	baz=299								
NTC	**Toucheng**	**0.48**	**344**	⇓*i*P			**Pb**	**16 22 38.3**	**-0.3**
	baz=348								
NTC				S			**Sg**	**16 22 44.3**	**-0.1**
	baz=348								
ETLH	**Xiulin Townshi**	**0.48**	**247**	⇑*i*P			**Pg**	**16 22 37.7**	**-0.5**
	baz=252								
ETLH				*e*S			**Sg**	**16 22 44.4**	**-0.3**
	baz=252								
HWA	**Hwalien**	**0.53**	**219**	*e*P			**Pb**	**16 22 40.3**	**+0.7**
	baz=225								
HWA				*e*S			**Sn**	**16 22 49.6**	**-0.8**
	baz=225								
NNSB	**Datong**	**0.54**	**274**	⇑*i*P			**Pg**	**16 22 38.8**	**-0.4**
	baz=280								
NNSB				S			**Sg**	**16 22 45.1**	**-1.3**
	baz=280								
NNSH	**Datong**	**0.54**	**274**	⇑*i*P			**Pg**	**16 22 38.8**	**-0.4**
	baz=278								
NNSH				S			**Sg**	**16 22 44.8**	**-1.6**
	baz=278								
NNS	**Nan Shan**	**0.55**	**275**	⇑*i*P			**Pg**	**16 22 38.9**	**-0.4**
	baz=281								
NNS				S			**Sg**	**16 22 45.5**	**-1.2**
	baz=281								
NWLT	**Wulai**	**0.57**	**312**	⇑P			**Pg**	**16 22 39.6**	**-0.2**
	baz=311								
NWLT				S			**Sg**	**16 22 46.7**	**-0.8**
	baz=311								
TIPB	**Shuangxi**	**0.59**	**347**	⇓*i*P			**Pb**	**16 22 40.4**	**-0.2**
	baz=358								
TIPB				S			**Sg**	**16 22 47.8**	**-0.2**
	baz=358								
YHNB	**Yeheng**	**0.61**	**297**	⇑*i*P			**Pg**	**16 22 40.3**	**-0.2**
	baz=298								
YHNB				S			**Sg**	**16 22 47.8**	**-0.8**
	baz=298								
TWB1	**Santiao Chiao**	**0.61**	**1**	⇓*i*P			**Pb**	**16 22 40.8**	**-0.1**
	baz=358								
TWB1				S			**Sg**	**16 22 48.7**	**0.0**
	baz=358								
NSK	**Sanguang**	**0.63**	**297**	⇑*i*P			**Pg**	**16 22 40.4**	**-0.4**
	baz=298								
NSK				S			**Sg**	**16 22 48.2**	**-0.9**
	baz=298								
FUSS	**Fushou**	**0.68**	**258**	⇑P			**Pg**	**16 22 41.5**	**-0.4**
	baz=262								
FUSS				S			**Sg**	**16 22 49.7**	**-1.2**
	baz=262								
TWA	**Mucha**	**0.68**	**329**	P			**Pg**	**16 22 41.8**	**0.0**
	baz=321								
TWA				*e*S			**Sg**	**16 22 50.4**	**-0.5**
	baz=321								
WHF	**Hehuan Shan**	**0.69**	**249**	⇑*i*P			**Pg**	**16 22 41.5**	**-0.6**
	baz=254								
WHF				*e*S			**Sg**	**16 22 50.2**	**-1.1**
	baz=254								
NWF	**Wu-fen Shan**	**0.70**	**346**	*i* P			**Pb**	**16 22 42.5**	**+0.1**
	baz=340								
NWF				S			**Sb**	**16 22 51.8**	**-0.2**
	baz=340								
WFSB	**Wu-fen Shan**	**0.70**	**346**	⇑*i*P			**Pb**	**16 22 42.6**	**+0.2**
	baz=340								
WFSB				*i* S			**Sb**	**16 22 51.6**	**-0.3**
	baz=340								
TWT	**Tachien**	**0.74**	**259**	P			**Pg**	**16 22 42.9**	**0.0**
	baz=259								
TWT				*e*S			**Sg**	**16 22 51.1**	**-1.7**
	baz=259								
TDCB	**Techi**	**0.76**	**259**	⇑*i*P			**Pg**	**16 22 42.9**	**-0.4**
	baz=259								
TDCB				*e*S			**Sg**	**16 22 51.7**	**-1.6**
	baz=259								
ESL	**Shilin**	**0.76**	**221**	P			**Pg**	**16 22 43.2**	**-0.1**
	baz=224								
ESL				*e*S			**Sn**	**16 22 55.3**	**-0.7**
	baz=224								
TAP1	**Taipei**	**0.76**	**328**	*i* P			**Pb**	**16 22 43.7**	**+0.2**
	baz=321								
TAP1				S			**Sb**	**16 22 54.2**	**+0.6**
	baz=321								
TAP	**Taipei**	**0.77**	**327**	P			**Pb**	**16 22 43.9**	**+0.3**
	baz=321								
TAP				S			**Sb**	**16 22 54.3**	**+0.4**
	baz=321								
CHGB	**Renai**	**0.80**	**246**	⇑*i*P			**Pg**	**16 22 43.7**	**-0.4**
	baz=251								
CHGB				*e*S			**Sg**	**16 22 54.0**	**-0.7**
	baz=251								
OWD	**Renai**	**0.85**	**239**	*e*P			**Pg**	**16 22 43.6**	**-1.4**
	baz=230								
EGFH	**Guangfu**	**0.88**	**215**	P			**Pg**	**16 22 45.0**	**-0.5**
	baz=227								
EGFH				*e*S			**Sn**	**16 22 58.7**	**-0.1**
	baz=227								
JYNG	**Yonagunijimaku**	**0.89**	**86**	P			**Pb**	**16 22 45.9**	**+0.2**
JYNG				S			**Sb**	**16 22 58.0**	**+0.7**

ANP	**Anpu**	**0.89**	**333**	P			**Pb**	**16 22 46.1**	**+0.3**
	baz=326								
ANP				*e*S			**Sb**	**16 22 57.5**	**0.0**
	baz=326								
NTST	**Danshui**	**0.90**	**328**	*e*P			**Pn**	**16 22 46.4**	**-0.3**
	baz=330								
NTST				*e*S			**Sn**	**16 22 59.3**	**-0.2**
	baz=330								
LIOB	**Emei**	**0.91**	**286**	P			**Pb**	**16 22 46.2**	**+0.3**
	baz=287								
LIOB				*e*S			**Sb**	**16 22 57.9**	**0.0**
	baz=287								
NCU	**National Centr**	**0.92**	**309**	P			**Pn**	**16 22 47.0**	**+0.1**
	baz=317								
NCU				*e*S			**Sb**	**16 22 58.3**	**+0.1**
	baz=317								
NCUH	**Zhongli**	**0.92**	**309**	*e*P			**Pn**	**16 22 46.9**	**0.0**
	baz=317								
NCUH				*e*S			**Sb**	**16 22 58.9**	**+0.7**
	baz=317								
NSTT	**Nanjuang**	**0.92**	**285**	P			**Pg**	**16 22 46.1**	**-0.1**
	baz=279								
NSTT				*e*S			**Sg**	**16 22 57.5**	**-0.7**
	baz=279								
TWY	**Chenhua**	**0.94**	**339**	P			**Pn**	**16 22 47.5**	**+0.2**
	baz=341								
TWY				*e*S			**Sg**	**16 22 59.2**	**+0.1**
	baz=341								
WHP	**Taichung City**	**0.94**	**263**	*e*P			**Pn**	**16 22 47.1**	**-0.2**
	baz=270								
WHP				*e*S			**Sg**	**16 22 58.9**	**-0.3**
	baz=270								
YOJ	**Yonaguni jima**	**0.95**	**86**	P			**Pb**	**16 22 46.6**	**-0.1**
YOJ				*e*S			**Sg**	**16 23 00.2**	**+0.9**
SBCB	**Hsinchu**	**0.98**	**294**	*e*P			**Pn**	**16 22 48.1**	**+0.3**
	baz=286								
SBCB				*e*S			**Sn**	**16 23 02.3**	**+0.8**
	baz=286								
VWDT	**VWDT**	**0.99**	**230**	P			**Pb**	**16 22 47.4**	**0.0**
	baz=230								
VWDT				*e*S			**Sn**	**16 23 01.8**	**+0.1**
	baz=230								
HSN	**Hsinchu**	**1.00**	**294**	*e*P			**Pg**	**16 22 47.8**	**0.0**
	baz=298								
HSN				*e*S			**Sb**	**16 23 00.4**	**-0.1**
	baz=298								
HGSD	**Ruisui**	**1.03**	**209**	*e*P			**Pb**	**16 22 47.9**	**-0.2**
	baz=209								
HGSD				*e*S			**Sn**	**16 23 05.3**	**+2.7**
	baz=209								
EHY	**Hungye**	**1.07**	**214**	*e*P			**Pb**	**16 22 47.3**	**-1.4**
	baz=212								
NMLH	**Miaoli**	**1.09**	**278**	*e*P			**Pg**	**16 22 50.0**	**+0.5**
	baz=288								
NMLH				*e*S			**Sn**	**16 23 03.9**	**-0.2**
	baz=288								
TWQ1	**Liyutan**	**1.09**	**268**	P			**Pg**	**16 22 50.0**	**+0.3**
	baz=269								
TWQ1				*e*S			**Sn**	**16 23 05.6**	**+1.3**
	baz=269								
SMLT	**Sun Moon Lake**	**1.10**	**243**	*e*P			**Pb**	**16 22 49.5**	**+0.1**
	baz=236								
SMLT				*e*S			**Sb**	**16 23 03.9**	**+0.2**
	baz=236								
NSY	**Sanyi**	**1.10**	**271**	*e*P			**Pg**	**16 22 50.3**	**+0.5**
	baz=278								
NSY				*e*S			**Sn**	**16 23 05.1**	**+0.6**
	baz=278								
SSLB	**Suanglung**	**1.11**	**237**	P			**Pb**	**16 22 49.4**	**-0.1**
	baz=237								
SSLB				*e*S			**Sn**	**16 23 04.7**	**0.0**
	baz=237								
TYC	**Yuchr**	**1.13**	**245**	P			**Pb**	**16 22 49.8**	**+0.1**
	baz=254								
TYC				*e*S			**Sn**	**16 23 06.8**	**+1.7**
	baz=254								
PTSB	**Yuanli**	**1.16**	**273**	*e*P			**Pg**	**16 22 51.3**	**+0.4**
	baz=274								
YULB	**Yu-li**	**1.17**	**212**	P			**Pn**	**16 22 49.0**	**-1.5**
	baz=210								
EYUL	**Yuli**	**1.20**	**210**	*e*P			**Pn**	**16 22 50.2**	**-0.7**
	baz=222								
TWF1	**Yuli**	**1.21**	**211**	P			**Pn**	**16 22 49.4**	**-1.5**
	baz=223								
TCU	**Taichung**	**1.21**	**259**	P			**Pg**	**16 22 52.2**	**+0.4**
	baz=259								
TCU				*e*S			**Sg**	**16 23 08.8**	**+1.2**
	baz=259								
WDJ	**Dajia District**	**1.22**	**268**	*e*P			**Pg**	**16 22 52.3**	**+0.3**
	baz=269								
WDJ				*e*S			**Sb**	**16 23 06.9**	**+0.1**
	baz=269								
PCYT	**Pengchaiyu**	**1.23**	**4**	*e*P			**Pg**	**16 22 52.8**	**+0.5**
	baz=6.0								
WHYT	**Xinyi Township**	**1.24**	**236**	P			**Pb**	**16 22 51.9**	**+0.3**
	baz=237								
WHYT				*e*S			**Sb**	**16 23 07.5**	**+0.1**
	baz=237								
WJS	**Zhushan**	**1.27**	**244**	*e*P			**Pg**	**16 22 53.0**	**0.0**
	baz=245								
WJS				*e*S			**Sg**	**16 23 12.8**	**+3.2**
	baz=245								
WNT	**Mingjian**	**1.28**	**247**	*e*P			**Pg**	**16 22 53.5**	**+0.2**
	baz=248								
WNT				*e*S			**Sg**	**16 23 12.4**	**+2.4**
	baz=248								
WCHH	**Zhanghua**	**1.33**	**257**	P			**Pg**	**16 22 53.9**	**-0.2**
	baz=258								
WCHH				*e*S			**Sg**	**16 23 13.5**	**+2.1**
	baz=258								
FULB	**Fuli**	**1.34**	**208**	P			**Pn**	**16 22 52.3**	**-0.5**
	baz=223								
FULB				*e*S			**Sg**	**16 23 12.4**	**+0.5**
	baz=223								
ALS	**Alishan**	**1.38**	**231**	*i* P			**Pb**	**16 22 54.3**	**0.0**
	baz=219								
ALS				*e*S			**Sb**	**16 23 12.4**	**+0.5**
	baz=219								
CHKT	**Chengkung**	**1.40**	**203**	*e*P			**Pn**	**16 22 52.4**	**-1.2**
	baz=186								
CHN5	**Tsauling**	**1.43**	**236**	P			**Pb**	**16 22 55.2**	**+0.3**
	baz=238								
CHN5				*e*S			**Sg**	**16 23 14.3**	**-0.3**
	baz=238								
WGK	**Gukeng**	**1.47**	**242**	P			**Pg**	**16 22 56.2**	**-0.6**
	baz=243								
WGK				*e*S			**Sg

WSF				*e*S		**Sg**	**16 23 24.3**	**-1.2**
	baz=247								
TWGBT	**Beinan**	**1.77**	**208**	*e*P		**Pn**	**16 22 57.3**	**-1.4**
	baz=193								
LDUT	**Ludao**	**1.77**	**195**	*e*P		**Pn**	**16 22 57.8**	**-0.9**
	baz=182								
WLGB	**Puzi**	**1.78**	**240**	*e*P		**Pn**	**16 22 59.4**	**+0.6**
	baz=241								
WLGB				*e*S		**Sg**	**16 23 24.9**	**-1.0**
	baz=241								
SNST	**Tainan City**	**1.79**	**229**	P		**Pb**	**16 23 01.2**	**+0.2**
	baz=231								
SNST				*e*S		**Sg**	**16 23 26.1**	**0.0**
	baz=231								
CHN1	**Nanshi**	**1.79**	**228**	*e*P		**Pb**	**16 23 00.6**	**-0.5**
	baz=230								
CHN1				*e*S		**Sg**	**16 23 25.5**	**-0.6**
	baz=230								
SGST	**Jiashian**	**1.82**	**225**	P		**Pn**	**16 23 00.1**	**+0.7**
	baz=211								
SGST				*e*S		**Sb**	**16 23 24.9**	**+0.6**
	baz=211								
SLGT	**Liugui**	**1.85**	**221**	P		**Pb**	**16 23 01.4**	**-0.6**
	baz=223								
SLGT				*e*S		**Sg**	**16 23 26.7**	**-1.3**
	baz=223								
ICHU	**Yijhu**	**1.86**	**237**	*e*P		**Pb**	**16 23 02.4**	**+0.2**
	baz=223								
ICHU				*e*S		**Sg**	**16 23 27.6**	**-0.8**
	baz=223								
JKRS	**Kuro-shima**	**1.86**	**94**	P		**Pn**	**16 23 00.4**	**+0.5**
JKRS				S		**Sn**	**16 23 22.9**	**-0.3**
CHN8	**Yiju**	**1.92**	**237**	*e*P		**Pn**	**16 23 01.9**	**+1.1**
	baz=224								
CHN8				*e*S		**Sg**	**16 23 28.9**	**-1.4**
	baz=224								
CHN3	**Shinhua**	**1.97**	**229**	*e*P		**Pb**	**16 23 03.9**	**-0.3**
	baz=230								
CHN3				*e*S		**Sg**	**16 23 31.3**	**-0.7**
	baz=230								
JIJ	**Ishigaki jima**	**1.98**	**90**	P		**Pn**	**16 23 01.3**	**-0.2**
JIJ				S		**Sn**	**16 23 24.9**	**-1.2**
ECL	**Taimali**	**2.02**	**208**	P		**Pn**	**16 23 01.6**	**-0.5**
	baz=195								
SCST	**Cishan**	**2.02**	**222**	*e*P		**Pn**	**16 23 02.3**	**+0.2**
	baz=224								
SCST				*e*S		**Sb**	**16 23 30.9**	**+0.8**
	baz=224								
SCLT	**Jiali**	**2.03**	**234**	*e*S		**Sb**	**16 23 32.0**	**+1.8**
	baz=235								
SSD	**Sandimen**	**2.05**	**217**	P		**Pb**	**16 23 04.3**	**-1.2**
	baz=218								
SSD				*e*S		**Sb**	**16 23 31.7**	**+0.8**
	baz=218								
TSMG	**Majia**	**2.08**	**216**	*e*P		**Pb**	**16 23 04.8**	**-1.2**
	baz=217								
TSMG				*e*S		**Sb**	**16 23 33.2**	**+1.6**
	baz=217								
TWM1	**Shoushan**	**2.11**	**223**	*e*P		**Pb**	**16 23 05.1**	**-1.4**
	baz=222								
JISG	**Ishigakijimahi**	**2.14**	**84**	P		**Pn**	**16 23 03.7**	**0.0**
JISG				*e*S		**Sn**	**16 23 28.9**	**-1.1**
MASBT	**Mashibuluo**	**2.16**	**215**	*e*P		**Pn**	**16 23 04.6**	**+0.6**
	baz=216								
MASBT				*e*S		**Sb**	**16 23 34.4**	**+0.4**
	baz=216								
EAST	**Anshuo**	**2.25**	**208**	*e*P		**Pn**	**16 23 05.1**	**-0.2**
	baz=198								
EAST				*e*S		**Sn**	**16 23 33.2**	**+0.3**
	baz=198								
PTTC	**Pingtan**	**2.28**	**299**	P		**Pn**	**16 23 05.1**	**-0.6**
	baz=301								
PTTC				*e*S		**Sn**	**16 23 32.9**	**-0.7**
	baz=301								
SSPT	**Xinbi**	**2.30**	**214**	*e*P		**Pb**	**16 23 08.5**	**-1.2**
	baz=199								
PNG	**Penghu**	**2.36**	**250**	P		**Pn**	**16 23 07.0**	**+0.3**
	baz=252								
PNG				*e*S		**Sb**	**16 23 37.8**	**-2.0**
	baz=252								
PHUB	**P'eng-hu**	**2.37**	**249**	P		**Pn**	**16 23 07.1**	**+0.3**
	baz=251								
PHUB				*e*S		**Sn**	**16 23 35.9**	**+0.3**
	baz=251								
SCZT	**Fangliau**	**2.37**	**212**	P		**Pn**	**16 23 08.5**	**+1.6**
	baz=213								
SCZT				*e*S		**Sn**	**16 23 37.9**	**+2.2**
	baz=213								
VWUC	**VWUC**	**2.37**	**285**	*e*P		**Pn**	**16 23 06.5**	**-0.4**
	baz=286								
VWUC				*e*S		**Sn**	**16 23 35.2**	**-0.6**
	baz=286								
WDGT	**Dungji**	**2.40**	**242**	*e*P		**Pn**	**16 23 07.3**	**0.0**
	baz=244								
WDGT				*e*S		**Sn**	**16 23 38.6**	**+2.1**
	baz=244								
SLIU	**Shizi**	**2.42**	**207**	*e*P		**Pn**	**16 23 08.0**	**+0.3**
	baz=197								
HEN	**Hengchun**	**2.63**	**206**	*e*P		**Pn**	**16 23 12.7**	**+2.1**
	baz=197								
PTMZ	**Houxiangcun**	**2.67**	**285**	*e*P		**Pn**	**16 23 10.4**	**-0.7**
	baz=286								
LYJJ	**Jianjiangzhen**	**2.93**	**317**	*e*P		**Pn**	**16 23 14.2**	**-0.4**
	baz=317								
XPSS	**Dashiqiu**	**2.99**	**328**	*e*P		**Pn**	**16 23 14.8**	**-0.6**
	baz=327								
MHZQ	**Yeshan**	**3.16**	**303**	*e*P		**Pn**	**16 23 17.1**	**-0.6**
	baz=304								
KNMB	**Chin-men Tao**	**3.27**	**272**	*e*P		**Pn**	**16 23 18.7**	**-0.5**
	baz=274								
AXDP	**Jialang**	**3.68**	**279**	*e*P		**Pn**	**16 23 24.5**	**-0.4**
	baz=280								
ZPLA	**Ao Xicun**	**3.88**	**264**	*e*P		**Pn**	**16 23 27.5**	**-0.2**
	baz=266								

*TAP **08** 16:25:43.5,24°.90N×122°.72E,h130km,ML3.0,D*
*JMA **08** 16:25:43.2±0.2,24°.77N×122°.76E,h131km±2km,M2.1*
ISC 08 16:25:45.1±1.9,**24°.82N**±0°.07×**122°.77E**±0°.03,
h114km±12km,**n63**,σ0**84**/117,**1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.40**	**156**	P	**Pn**	**16 26 01.8**	**+0.1**
JYNG				*e*S	**Sn**	**16 26 16.3**	**+2.1**
TWB1	**Santiao Chiao**	**0.73**	**285**	*e*P	**Pn**	**16 26 03.0**	**-1.0**
	baz=275						
TWC	**Suao**	**0.86**	**256**	*e*P	**Pn**	**16 26 06.0**	**+0.8**
	baz=243						
TWC				S	**Sn**	**16 26 20.5**	**+0.1**
	baz=243						
TIPB	**Shuangxi**	**0.87**	**280**	*i* P	**Pn**	**16 26 05.1**	**-0.2**
	baz=270						
TIPB				S	**Sn**	**16 26 21.7**	**+1.1**
	baz=270						
NWF	**Wu-fen Shan**	**0.93**	**286**	P	**Pn**	**16 26 05.8**	**-0.1**
	baz=281						
WFSB	**Wu-fen Shan**	**0.93**	**286**	*e*P	**Pn**	**16 26 05.8**	**0.0**
	baz=281						
IRIF	**Iriomote-Funau**	**1.00**	**119**	P	**Pn**	**16 26 06.2**	**-0.3**
IRIF				*e*S	**Sn**	**16 26 23.5**	**+0.8**
TWE	**Neicheng**	**1.01**	**265**	P	**Pn**	**16 26 06.5**	**-0.1**
	baz=253						
TWE				S	**Sn**	**16 26 23.6**	**+0.7**
	baz=253						
ENA	**Nanau**	**1.01**	**248**	P	**Pn**	**16 26 07.6**	**+0.9**
	baz=237						
ENA				*e*S	**Sn**	**16 26 22.8**	**-0.3**
	baz=237						
ENTT	**Nioudou**	**1.11**	**261**	P	**Pn**	**16 26 07.8**	**0.0**
	baz=256						
ENTT				S	**Sn**	**16 26 24.8**	**0.0**
	baz=256						
NWLT	**Wulai**	**1.15**	**268**	*e*P	**Pn**	**16 26 07.4**	**-0.8**
	baz=270						
NWLT				*e*S	**Sn**	**16 26 25.2**	**-0.5**
	baz=270						
NDT	**Datong Townshi**	**1.16**	**260**	*i* P	**Pn**	**16 26 08.6**	**+0.4**
	baz=251						
NDT				S	**Sn**	**16 26 27.1**	**+1.2**
	baz=251						
NACB	**Ninganchiao**	**1.25**	**239**	P	**Pn**	**16 26 08.5**	**-0.7**
	baz=230						
NACB				S	**Sn**	**16 26 26.3**	**-1.2**
	baz=230						
JKRS	**Kuro-shima**	**1.27**	**117**	P	**Pn**	**16 26 09.1**	**-0.3**
JKRS				S	**Sn**	**16 26 28.8**	**+1.0**
YHNB	**Yeheng**	**1.28**	**264**	P	**Pn**	**16 26 09.4**	**-0.2**
	baz=259						
YHNB				S	**Sn**	**16 26 28.0**	**-0.2**
	baz=259						
NSK	**Sanguang**	**1.29**	**264**	*i* P	**Pn**	**16 26 09.2**	**-0.6**
	baz=259						
NSK				*i* S	**Sn**	**16 26 27.9**	**-0.6**
	baz=259						
TWD	**Chiawan**	**1.30**	**236**	*e*S	**Sn**	**16 26 28.8**	**+0.3**
	baz=227						
NNSB	**Datong**	**1.32**	**253**	P	**Pn**	**16 26 10.0**	**-0.2**
	baz=243						
NNSB				S	**Sn**	**16 26 28.2**	**-0.9**
	baz=243						
NNSH	**Datong**	**1.32**	**253**	*e*P	**Pn**	**16 26 09.8**	**-0.3**
	baz=243						
NNSH				*e*S	**Sn**	**16 26 28.6**	**-0.6**
	baz=243						
ETLH	**Xiulin Townshi**	**1.32**	**243**	P	**Pn**	**16 26 09.9**	**-0.2**
	baz=233						
ETLH				S	**Sn**	**16 26 28.8**	**-0.3**
	baz=233						
NNS	**Nan Shan**	**1.33**	**254**	⇓ *i* P	**Pn**	**16 26 10.0**	**-0.2**
	baz=244						
NNS				*i* S	**Sn**	**16 26 29.4**	**+0.1**
	baz=244						
JIJ	**Ishigaki jima**	**1.33**	**110**	P	**Pn**	**16 26 09.9**	**-0.2**
JIJ				S	**Sn**	**16 26 28.3**	**-0.8**
JISG	**Ishigakijimahi**	**1.42**	**99**	P	**Pn**	**16 26 10.8**	**-0.3**
JISG				S	**Sn**	**16 26 30.5**	**-0.4**
FUSS	**Fushou**	**1.50**	**248**	*e*P	**Pn**	**16 26 12.4**	**+0.1**
	baz=239						
FUSS				S	**Sn**	**16 26 33.0**	**-0.1**
	baz=239						
WHF	**Hehuan Shan**	**1.53**	**244**	*i* P	**Pn**	**16 26 12.5**	**-0.3**
	baz=240						
WHF				S	**Sn**	**16 26 33.2**	**-0.7**
	baz=240						
TWT	**Tachien**	**1.56**	**249**	P	**Pn**	**16 26 13.4**	**+0.5**
	baz=240						
TWT				S	**Sn**	**16 26 34.3**	**+0.1**
	baz=240						
TDCB	**Techi**	**1.57**	**249**	*e*P	**Pn**	**16 26 13.2**	**+0.1**
	baz=239						
TDCB				S	**Sn**	**16 26 34.4**	**0.0**
	baz=239						
ESL	**Shilin**	**1.58**	**231**	P	**Pn**	**16 26 12.1**	**-0.9**
	baz=222						
ESL				S	**Sn**	**16 26 32.8**	**-1.5**
	baz=222						
LIOB	**Emei**	**1.60**	**264**	P	**Pn**	**16 26 12.5**	**-0.8**
	baz=260						
LIOB				S	**Sn**	**16 26 34.2**	**-0.7**
	baz=260						
NSTT	**Nanjuang**	**1.62**	**264**	*i* P	**Pn**	**16 26 13.1**	**-0.5**
	baz=260						
NSTT				*i* S	**Sn**	**16 26 34.0**	**-1.1**
	baz=260						
CHGB	**Renai**	**1.64**	**243**	P	**Pn**	**16 26 13.7**	**-0.3**
	baz=234						
CHGB				S	**Sn**	**16 26 34.6**	**-1.4**
	baz=234						
EGFH	**Guangfu**	**1.68**	**227**	P	**Pn**	**16 26 13.1**	**-1.2**
	baz=219						
EGFH				S	**Sn**	**16 26 36.0**	**-0.4**
	baz=219						
WHP	**Taichung City**	**1.75**	**252**	*i* P	**Pn**	**16 26 15.4**	**+0.2**
	baz=256						
WHP				*i* S	**Sn**	**16 26 38.3**	**+0.2**
	baz=256						
HGSD	**Ruisui**	**1.80**	**223**	P	**Pn**	**16 26 15.2**	**-0.6**
	baz=220						
HGSD				S	**Sn**	**16 26 38.8**	**-0.4**
	baz=220						
VWDT	**VWDT**	**1.82**	**235**	P	**Pn**	**16 26 15.7**	**-0.3**
	baz=228						
VWDT				S	**Sn**	**16 26 39.0**	**-0.7**
	baz=228						
EHY	**Hungye**	**1.86**	**226**	*i* P	**Pn**	**16 26 15.2**	**-1.3**
	baz=217						
EHY				*i* S	**Sn**	**16 26 38.4**	**-2.0**
	baz=217						
TWQ1	**Liyutan**	**1.88**	**256**	*e*P	**Pn**	**16 26 16.1**	**-0.6**
	baz=252						
TWQ1				*e*S	**Sn**	**16 26 40.0**	**-0.8**
	baz=252						
SMLT	**Sun Moon Lake**	**1.94**	**242**	P	**Pn**	**16 26 18.0**	**+0.4**
	baz=234						
SMLT				*i* S	**Sn**	**16 26 43.4**	**+0.9**
	baz=234						
SSLB	**Suanglung**	**1.95**	**239**	P	**Pn**	**16 26 17.1**	**-0.5**
	baz=232						
SSLB				S	**Sn**	**16 26 43.2**	**+0.7**
	baz=232						
YULB	**Yu-li**	**1.96**	**224**	P	**Pn**	**16 26 16.4**	**-1.3**
	baz=228						
YULB				S	**Sn**	**16 26 40.7**	**-1.9**
	baz=228						
TYC	**Yuchr**	**1.97**	**243**	P	**Pn**	**16 26 18.2**	**+0.4**
	baz=239						
TYC				S	**Sn**	**16 26 44.1**	**+1.3**
	baz=239						
EYUL	**Yuli**	**1.98**	**222**	*e*P	**Pn**	**16 26 17.8**	**-0.1**
	baz=228						
EYUL				*e*S	**Sn**	**16 26 44.2**	**+1.2**
	baz=228						
TWF1	**Yuli**	**1.98**	**223**	P	**Pn**	**16 26 16.9**	**-1.1**
	baz=227						
TWF1				S	**Sn**	**16 26 41.8**	**-1.5**
	baz=227						
WHYT	**Xinyi Township**	**2.08**	**238**	P	**Pn**	**16 26 20.1**	**+0.9**
	baz=230						
WHYT				S	**Sn**	**16 26 46.9**	**+1.6**
	baz=230						
FULB	**Fuli**	**2.10**	**220**	P	**Pn**	**16 26 20.1**	**+0.5**
	baz=213						
FULB				S	**Sn**	**16 26 45.3**	**-0.6**
	baz=213						
WJS	**Zhushan**	**2.11**	**242**	*e*P	**Pn**	**16 26 19.6**	**0.0**
	baz=239						
WJS				*e*S	**Sn**	**16 26 47.2**	**+1.2**
	baz=239						
WNT	**Mingjian**	**2.12**	**244**	P	**Pn**	**16 26 20.3**	**+0.6**
	baz=241						
WNT				S	**Sn**	**16 26 47.8**	**+1.5**
	baz=241						
ALS	**Alishan**	**2.22**	**234**	P	**Pn**	**16 26 21.9**	**+0.7**
	baz=226						
ALS				S	**Sn**	**16 26 49.7**	**+0.8**
	baz=226						
CHN5	**Tsauling**	**2.26**	**238**	P	**Pn**	**16 26 21.9**	**+0.2**
	baz=243						
CHN5				S	**Sn**	**16 26 50.4**	**+0.7**
	baz=243						
EDH	**Donghe**	**2.27**	**216**	*e*S	**Sn**	**16 26 48.0**	**-1.9**
	baz=208						
ELDTW	**Lidau**	**2.28**	**225**	P	**Pn**	**16 26 21.0**	**-0.9**
	baz=221						
ELDTW				*e*S	**Sn**	**16 26 49.2**	**-0.9**
	baz=221						
WDLH	**Douliu**	**2.33**	**242**	*e*P	**Pn**	**16 26 22.4**	**0.0**
	baz=238						
WDLH				*e*S	**Sn**	**16 26 52.2**	**+1.2**
	baz=238						
WTK	**Tuku**	**2.45**	**243**	*e*P	**Pn**	**16 26 23.6**	**-0.3**
	baz=241						
CHN4	**Tsaushan**	**2.47**	**234**	P	**Pn**	**16 26 24.7**	**+0.5**
	baz=241						
CHN4				S	**Sn**	**16 26 55.5**	**+1.2**
	baz=241						
STYT	**Tauyuan**	**2.47**	**229**	P	**Pn**	**16 26 24.9**	**+0.6**
	baz=225						
STYT				S	**Sn**	**16 26 55.9**	**+1.5**
	baz=225						
TPUB	**Ta-pu**	**2.47**	**233**	*e*P	**Pn**	**16 26 24.3**	**0.0**
	baz=230						
TPUB				*e*S	**Sn**	**16 26 53.9**	**-0.5**
	baz=230						
WTP	**Ta-pu**	**2.52**	**232**	P	**Pn**	**16 26 25.4**	**+0.5**
	baz=229						
WTP				*e*S	**Sn**	**16 26 56.6**	**+1.1**
	baz=229						
TWK	**Hsinying**	**2.59**	**234**	*e*P	**Pn**	**16 26 25.9**	**0.0**
	baz=231						
CHN1	**Nanshi**	**2.62**	**232**	*e*P	**Pn**	**16 26 26.3**	**+0.1**
	baz=229						
CHN1				*e*S	**Sn**	**16 26 59.2**	**+1.5**
	baz=229						
SNST	**Tainan City**	**2.62**	**233**	*e*P	**Pn**	**16 26 25.6**	**-0.6**
	baz=231						
SGST	**Jiashian**	**2.64**	**230**	P	**Pn**	**16 26 26.3**	**-0.2**
	baz=226						
SGST				*e*S	**Sn**	**16 26 59.4**	**+1.0**
	baz=226						
SLGT	**Liugui**	**2.66**	**227**	*e*P	**Pn**	**16 26 27.3**	**+0.6**
	baz=224						
SLGT				*e*S	**Sn**	**16 27 00.6**	**+1.9**
	baz=224						
SSD	**Sandimen**	**2.84**	**224**	*e*P	**Pn**	**16 26 30.0**	**+0.8**
	baz=222						

*IDC **08** 16:31:42.4±11.0,39°.90N×142°.89E,h0km,mb3.1/2,*
mb1 3.4/3,mb1mx3.2/37,mbtmp3.1/3,ML2.3/1,Error
ellipse: s-maj=255.3km s-min=70.2km az=168.0
*JMA **08** 16:31:51.8±0.1,39°.27N×142°.36E,h31km±1km,M3.5*
JMA Felt I J1,
ISC 08 16:31:51.2±2.1,**39°.26N**±0°.04×**142°.4E**±0°.1,**h25**km±13km,
n19,σ1**818**/23,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.55**	**305**	P	**Pb**	**16 32 02.2**	**+0.1**
MIYJ				S	**Sb**	**16 32 09.5**	**-0.1**
OFUJ	**Ofunato**	**0.59**	**252**	P	**Pb**	**16 32 03.1**	**+0.2**
OFUJ				S	**Sb**	**16 32 10.8**	**-0.1**
JTH	**Tanohata**	**0.79**	**329**	P	**Pb**	**16 32 06.1**	**-0.2**
JTH				*e*S	**Sb**	**16 32 16.5**	**-0.1**
JKMT	**Kesennumamotoy**	**0.85**	**238**	P	**Pn**	**16 32 06.8**	**-0.7**
JKMT				S	**Sb**	**16 32 17.2**	**-0.9**
JOM	**Ohasama**	**0.88**	**284**	P	**Pn**	**16 32 07.6**	**-0.4**
JOM				S	**Sb**	**16 32 18.7**	**-0.4**
JMK	**Ichinoseki**	**0.96**	**252**	P	**Pn**	**16 32 08.7**	**-0.4**
JMK				S	**Sn**	**16 32 20.7**	**-1.3**
JKZ	**Kuzumaki**	**1.09**	**312**	P	**Pn**	**16 32 11.1**	**+0.1**
JKZ				S	**Sn**	**16 32 24.9**	**-0.5**
JIO	**Ouri**	**1.15**	**226**	P	**Pn**	**16 32 11.0**	**-0.6**
JIO				S	**Sn**	**16 32 24.9**	**-1.6**
JANG	**Nango**	**1.30**	**329**	P	**Pn**	**16 32 13.8**	**0.0**
JANG				S	**Sn**	**16 32 30.3**	**-0.1**
JRG	**Rokugo**	**1.37**	**276**	P	**Pn**	**16 32 15.6**	**+0.9**
JRG				*e*S	**Sn**	**16 32 33.6**	**+1.5**
MJAR	**Matsushiro Arr**	**4.28**	**232**	Pn	**Pn**	**16 32 58.8**	**+4.0**
	0.1nm,0.3s,baz=40,slow=13,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**28.72**	**126**	T	T	17 08 06.8	
	baz=318,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy**	**28.73**	**126**	T	T	17 08 08.5	
	baz=318,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**28.74**	**126**	T	T	17 08 12.3	
	baz=318,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.51**	**128**	T	T	17 09 07.8	
	baz=318,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**29.51**	**128**	T	T	17 09 07.4	
	baz=318,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.53**	**128**	T	T	17 09 07.4	
	baz=318,slow=76,SNR=10.0						
WRA	**Warramunga Arr**	**59.37**	**189**	P	**P**	**16 41 50.7**	**-0.6**
	0.2nm,0.4s,baz=6.2,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**63.10**	**189**	P	**P**	**16 42 16.8**	**+0.2**
	0.2nm,0.9s,baz=13,slow=8.7,SNR=1.2						

*RSNC **08** 16:33:03.0±1.1,6°.82N×73°.14W,h150km±5km,ML3.1,*
Mw3.4
*IDC **08** 16:33:04.5±6.9,6°.67N×75°.62W,h150km±86km,mb1 3.3/1,*
mb1mx2.9/24,mbtmp3.7/1,Error ellipse: s-maj=359.4km
s-min=87.2km az=62.0
ISC 08 16:33:01.3±1.1,**6.83N**±0°.03×**73°.11W**±0°.04,**h161**km±7km,
n34,σ1**986**/64,**1C-1D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**198**	⇓ *e*P	**Pn**	**16 33 23.1**	**-0.3**
BARC				*e*S	**Sn**	**16 33 38.8**	**-1.5**
BARC				*i*		16 33 40.0	
	comp=Z,320nm,0.4s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	*e*P	**Pn**	**16 33 25.7**	**+0.4**
PAMC				*e*S	**Sn**	**16 33 43.2**	**-0.5**
BRRC	**Barranca, Sant**	**0.66**	**295**	⇑ *e*P	**Pn**	**16 33 24.9**	**+0.1**
BRRC				*e*S	**Sn**	**16 33 42.2**	**-0.6**
BRRC				*i*		16 33 47.2	
	comp=Z,119nm,0.1s						
RUSC	**La Rusia**	**0.93**	**179**	*e*P	**Pn**	**16 33 26.9**	**-0.4**
RUSC				*e*S	**Sn**	**16 33 45.7**	**-1.4**
RUSC				*i*		16 33 48.3	
	comp=Z,120nm,0.5s						
TAMC	**Tame, Arauca**	**1.36**	**107**	*e*P	**Pn**	**16 33 31.0**	**+0.6**
TAMC				*e*S	**Sn**	**16 33 52.8**	**-0.1**
TAMC				*i*		16 33 56.2	
	comp=Z,55nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*P	**Pn**	**16 33 29.5**	**-1.0**
PTBC				*e*S	**Sn**	**16 33 51.1**	**-1.8**
PTBC				*i*		16 33 55.7	
	comp=Z,175nm,0.3s						
OCAC	**Ocana**	**1.42**	**351**	*e*P	**Pn**	**16 33 31.7**	**+0.6**
OCAC				*e*S	**Sn**	**16 33 53.4**	**-0.7**
OCAC				*i*		16 33 57.3	
	comp=Z,81nm,0.2s						
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P	**Pn**	**16 33 31.8**	**-0.2**
SPBC				*e*S	**Sn**	**16 33 54.4**	**-1.2**
SPBC				*i*		16 33 59.0	
	comp=Z,147nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**16 33 35.4**	**-0.1**
ZARC				*e*S	**Sn**	**16 34 01.1**	**-0.9**
ZARC				*i*		16 34 08.0	
	comp=Z,186nm,0.3s						
SMLC	**San Martn de**	**2.18**	**334**	*e*P	**Pn**	**16 33 39.4**	**+0.2**
SMLC				*e*S	**Sn**	**16 34 08.4**	**-0.1**
SMLC				*i*		16 34 11.0	
	comp=Z,81nm,0.3s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**16 33 41.0**	**+0.3**
CHIC				*e*S	**Sn**	**16 34 10.4**	**-0.8**
CHIC				*i*		16 34 16.3	
	comp=Z,61nm,0.3s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**16 33 42.8**	**+1.6**
	comp=Z,19nm,0.3s,baz=315,slow=19,SNR=17						
ROSC				S	**Sn**	**16 34 12.7**	**+0.7**
	comp=Z,51nm,0.3s,baz=124,slow=15,SNR=16						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**16 33 42.8**	**+1.6**
ROSC				*e*S	**Sn**	**16 34 13.0**	**+1.0**
ROSC				*i*		16 34 16.7	
	comp=Z,109nm,0.5s						
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P	**Pn**	**16 33 42.7**	**-1.2**
UREC				*e*S	**Sn**	**16 34 13.7**	**-3.2**
UREC				*i*		16 34 28.1	
	comp=Z,100nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**16 33 47.2**	**+0.6**
GUY2C				*e*S	**Sn**	**16 34 23.4**	**+1.9**
GUY2C				*i*		16 34 28.9	
	comp=Z,57nm,0.5s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**16 33 45.5**	**-0.8**
VILC				*e*S	**Sn**	**16 34 20.3**	**-1.0**
VILC				*i*		16 34 27.3	
	comp=Z,72nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*e*P	**Pn**	**16 33 44.0**	**-2.6**
PTGC				*e*S	**Sn**	**16 34 19.1**	**-2.5**
PTGC				*i*		16 34 20.3	
	comp=Z,54nm,0.3s						
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**	**16 33 46.0**	**-3.0**
RREF				*e*S	**Sn**	**16 34 23.1**	**-2.8**
RREF				*i*		16 34 30.4	
	comp=Z,81nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P	**Pn**	**16 33 51.0**	**+1.2**
CBOC				*e*S	**Sn**	**16 34 27.6**	**+0.1**

PRAC				*i*			16 34 42.1	
	comp=Z,52nm,0.7s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	*eP*	**Pn**		**16 33 57.2**	**+0.5**
ORTC				*eS*	**Sn**		**16 34 40.3**	**+0.3**
ORTC				*i*			16 34 46.8	
	comp=Z,30nm,0.6s							
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*	**Pn**		**16 33 56.8**	**-0.9**
SJCC				*eS*	**Sn**		**16 34 38.5**	**-3.2**
SJCC				*i*			16 34 43.3	
	comp=Z,14nm,0.3s							
PLMC	**San Jos del P**	**3.69**	**239**	*eP*	**Pn**		**16 33 58.6**	**+0.6**
PLMC				*eS*	**Sn**		**16 34 40.0**	**-2.1**
PLMC				*i*			16 34 47.0	
	comp=Z,22nm,0.3s							
GUVC	**San Jose del G**	**4.28**	**174**	*eS*	**Sn**		**16 34 54.2**	**-1.6**
GUVC				*i*			16 34 58.2	
	comp=Z,43nm,0.3s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*	**Pn**		**16 34 05.0**	**-0.7**
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**		**16 34 08.2**	**+0.5**
SMRC				*eS*	**Sn**		**16 34 55.2**	**-4.3**
SMRC				*i*			16 35 00.6	
	comp=Z,29nm,0.2s							
CAPC	**Capurgana**	**4.57**	**293**	*eP*	**Pn**		**16 34 07.0**	**-2.3**
CAPC				*eS*	**Sn**		**16 34 59.2**	**-3.3**
CAPC				*i*			16 35 05.0	
	comp=Z,11nm,0.2s							
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*	**Pn**		**16 34 09.1**	**-2.1**
MACC				*eS*	**Sn**		**16 34 59.0**	**-6.9**
MACC				*i*			16 35 05.7	
	comp=Z,9.8nm,0.3s							
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPdf**		**16 52 30.2**	**+3.1**
	comp=Z,0.2nm,0.7s,baz=88,slow=3.1,SNR=1.8							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPdf**		**16 52 32.4**	**+3.3**
	comp=Z,0.4nm,1.0s,baz=116,slow=2.6,SNR=2.3							

AEIC 08 16:35:06.0±0.6,**51°.87N**±0°.07×**178°.45E**±0°.10,**h108**km±4km, **ML3.1**/8,**Error ellipse: s-maj=10.5km s-min=7.9km az=213.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.09**	**28**		Pn	16 35 20.9	0.0
LSSE	**Little Sitkin**	**0.10**	**52**		Pn	16 35 21.1	+0.3
LSNW	**Little Sitkin**	**0.10**	**24**		Pn	16 35 20.6	-0.3
LSPA	**Little Sitkin**	**0.11**	**43**		Pn	16 35 21.1	+0.2
LSPA					Sn	16 35 33.1	+1.0
CESW	**Semis' Southwe**	**0.69**	**87**		Pn	16 35 23.6	-0.4
CEAP	**Semis' Anvil P**	**0.71**	**79**		Pn	16 35 24.1	0.0
CEAP					Sn	16 35 37.9	+0.1
AMKA	**Amchitka**	**0.73**	**133**		Pn	16 35 24.2	-0.1
AMKA					Sn	16 35 37.7	-0.4
CERAA	**Semis' Rag'd T**	**0.77**	**87**		Pn	16 35 24.4	-0.3
TASE	**Tanaga Southea**	**2.18**	**90**		Pn	16 35 40.8	-0.4
TAFP	**Tanaga Falls P**	**2.21**	**88**		Pn	16 35 41.1	-0.5
KIMD	**Kanaga Island**	**2.68**	**91**		Pn	16 35 47.2	-0.5
SMY	**Shemya**	**2.80**	**289**	Pn	Pn	16 35 48.6	-0.6
ADK	**Adak**	**3.02**	**88**		Pn	16 35 51.2	-0.8
GSTR	**Great Sitkin T**	**3.40**	**84**	Pn	Pn	16 35 55.6	-1.6

IDC 08 16:38:14.3±6.7,**53°.55N**×**159°.04E**,**h0**km,**Error ellipse: s-maj=38.6km s-min=21.2km az=62.0,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**0.91**	**242**	*i*		16 43 34.4	
	baz=61,slow=315,SNR=3.8						
PETK	**Petropavlovsk-**	**0.92**	**242**	Pg	Pg	16 38 32.1	+0.2
	0.5nm,0.3s,baz=80,slow=16,SNR=16						
PETK				Lg	Lg	16 38 44.5	
	0.8nm,0.3s,baz=71,slow=28,SNR=4.4						
PETK				*i*		16 43 29.4	
	0.2nm,0.3s,baz=73,slow=20,SNR=6.8						
I53US	**FAIRBANKS INFR**	**28.53**	**46**	*i*		19 26 40.0	
	baz=272,slow=330,SNR=1.0						
I56US	**NEWPORT INFRAS**	**50.22**	**60**	*i*		21 49 00.0	
	baz=315,slow=312,SNR=0.7						

IDC 08 16:42:14.2±1.9,**6°.77S**×**130°.44E**,**h0**km,**mb3.3**/1, **mb1 3.6**/5,**mb1mx3.4**/30,**mbtmp3.4**/5,**ML3.3**/4,**Error ellipse: s-maj=78.1km s-min=25.5km az=87.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.92**	**8**	Pn	Pn	16 43 42.3	-1.0
	0.6nm,0.3s,baz=197,slow=19,SNR=13						
SIJI				Sn	Sn	16 44 41.9	-10
	1.3nm,0.3s,baz=248,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**12.19**	**202**	Pn	Pn	16 45 08.7	-0.6
	0.2nm,0.3s,baz=21,slow=14,SNR=2.2						
FITZ				Sn	Sn	16 47 15.5	-11
	0.3nm,0.3s,baz=88,slow=24,SNR=7.8						
WRA	**Warramunga Arr**	**13.63**	**164**	Pn	Pn	16 45 28.3	-0.7
	0.2nm,0.3s,baz=339,slow=14,SNR=11						
WRA				Sn	Sn	16 47 53.6	-7.7
	0.2nm,0.3s,baz=341,slow=19,SNR=1.7						
ASAR	**Alice Springs**	**17.12**	**169**	P	Pn	16 46 15.8	+0.6
	0.1nm,0.3s,baz=351,slow=8.8,SNR=9.7						
ASAR				S	Sn	16 49 18.7	-7.7
	0.1nm,0.3s,baz=346,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	16 53 17.6	+0.5
	0.2nm,0.5s,baz=117,slow=5.0,SNR=1.3						

IDC 08 16:53:04.5±2.8,**4°.22S**×**154°.42E**,**h0**km,**mb3.0**/2, **mb1 3.3**/3,**mb1mx3.1**/26,**mbtmp3.0**/3,**ML2.9**/1,**Error ellipse: s-maj=63.9km s-min=41.0km az=178.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.39**	**268**	Pn	Pn	16 53 44.8	-0.2
	3.0nm,0.3s,baz=33,slow=1.8,SNR=9.1						
KRVT				Sn	Sn	16 54 14.7	-0.3
	14nm,0.3s,baz=130,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**25.04**	**230**	P	P	16 58 30.0	-0.7
	0.2nm,0.6s,baz=66,slow=8.2,SNR=1.9						
ASAR	**Alice Springs**	**27.67**	**224**	P	P	16 58 56.1	+1.6
	0.2nm,1.0s,baz=55,slow=9.4,SNR=1.3						
TORD	**Torodi Ar. Bea**	**151.65**	**290**	PKPbc	PKPbc	17 13 01.3	-0.7
	0.2nm,0.4s,baz=40,slow=2.8,SNR=1.7						

*IDC **08** 16:59:46.5±2.2, 10°.62S×117°.31E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.4/30, mbtmp3.4/5, ML3.3/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/19, Error ellipse: s-maj=78.6km s-min=26.9km az=44.0*
*DJA **08** 16:59:52.6±0.7, 11°.S±9°.×11°.7E±°, h58km±43km, M3.8/11, mb3.9/4, MLv3.8/11*
ISC 08 16:59:49.9±0.9,**10°.77S**±0°.08×**117°.42E**±0°.07,**h35**km,**n15, s2**s**17/18,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.96**	**10**	P	**Pn**	**17 00 20.3**	**-0.4**
PLAI				S	**Sn**	**17 00 42.5**	**-1.5**
TWSI	**Taliwang, Sumb**	**2.08**	**345**	P	**Pn**	**17 00 22.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.95**	**305**	P	**Pn**	**17 00 48.8**	**+0.7**
JAGI				S	**Sn**	**17 01 31.3**	**-1.9**
GMJI	**Gumukmas**	**4.64**	**302**	P	**Pn**	**17 00 58.4**	**+0.8**
EDFI	**Ende, Flores**	**4.66**	**65**	P	**Pn**	**17 00 59.0**	**+1.1**
BKSI	**Bulukumba**	**6.03**	**27**	P	**Pn**	**17 01 18.0**	**+1.3**
	0.1nm22nm,0.6s						
BATI	**Baumata**	**6.16**	**85**	Pn	**Pn**	**17 01 20.9**	**+2.4**
	1.7nm,0.3s,baz=318,slow=16,SNR=1.6						
BATI				Sn	**Sn**	**17 02 23.8**	**-4.0**
	2.4nm,0.3s,baz=281,slow=24,SNR=1.8						
BATI	**Baumata**	**6.16**	**85**	P	**Pn**	**17 01 21.7**	**+3.2**
	0.1nm16nm,2.4s						
PWJI	**Pagerwojo**	**6.18**	**296**	P	**Pn**	**17 01 18.2**	**-0.5**
	0.2nm25nm,1.8s						
BNSI	**Bone**	**6.86**	**23**	Pn	**Pn**	**17 01 28.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**10.79**	**133**	Pn	**Pn**	**17 02 23.6**	**+1.7**
	0.3nm,0.3s,baz=320,slow=12,SNR=14						
FITZ				Sn	**Sn**	**17 04 16.8**	**-4.8**
	0.2nm,0.3s,baz=130,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**18.68**	**121**	P	**P**	**17 04 06.5**	**+1.3**
	0.1nm,0.3s,baz=297,slow=14,SNR=3.2						
WRA				S	Sn	17 07 22.1	-12
	0.0nm,0.3s,baz=214,slow=39,SNR=1.6						
ASAR	**Alice Springs**	**20.28**	**131**	P	Pn	17 04 27.4	+2.5
	0.6nm,0.6s,baz=311,slow=11,SNR=10.0						
ASAR				S	**S**	**17 08 08.1**	**-0.3**
	0.2nm,0.6s,baz=322,slow=29,SNR=2.5						
JCJ	**Chichijima**	**44.65**	**32**	LR	LR	17 28 19.1	
	comp=Z,45nm,18.6s,baz=73,slow=38						
MKAR	**Makanchi Array**	**65.34**	**334**	P	**P**	**17 10 29.3**	**+0.7**
	0.2nm,0.4s,baz=151,slow=6.6,SNR=2.3						

*KRNET **08** 17:14:16.5±0.1, 42°.63N×74°.65E, h19km, mb3.0*
*KNET **08** 17:14:16.1±0.3, 42°.62N×74°.66E, h9km±3km, ml2.0, Error ellipse: s-maj=1.6km s-min=1.1km az=149.0*
*NNC **08** 17:14:17.1±0.5, 42°.71N×74°.63E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=6.8km s-min=2.6km az=170.0*
*SOME **08** 17:14:17.2, 42°.67N×74°.65E, h15km*
ISC 08 17:14:15.2±0.8,**42°.57N**±0°.03×**74°.66E**±0°.02,**h16**km±5km, **n62**,σ0**s90**/115,**33C-9D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.14**	**301**	⇑*iP*	**Pg**	**17 14 19.3**	**0.0**
	baz=75						
AAK				⇑*iS*	**Sg**	**17 14 21.5**	**-0.5**
	baz=75						
AAK	**Ala-Archa**	**0.14**	**301**	P	**Pg**	**17 14 19.3**	**0.0**
	333nm,0.2s,SNR=505						
AAK				⇓*S*	**Sg**	**17 14 21.5**	**-0.5**
	753nm,0.2s						
KBK	**Karagaybulak**	**0.23**	**67**	⇑*iP*	**Pb**	**17 14 21.5**	**+0.3**
	baz=83						
KBK				⇑*iS*	**Sb**	**17 14 25.1**	**0.0**
	baz=83						
KBK	**Karagaybulak**	**0.23**	**67**	⇑P	**Pb**	**17 14 21.4**	**+0.3**
	118nm,0.1s,SNR=492						
KBK				⇓S	**Sb**	**17 14 25.1**	**0.0**
	341nm,0.1s						
FRU1	**Bishkek**	**0.24**	**355**	⇑*iP*	**Pg**	**17 14 20.9**	**+0.1**
	baz=56						
FRU1				⇑*iS*	**Sg**	**17 14 23.8**	**-0.7**
	baz=56						
UCH	**Uchtor**	**0.35**	**197**	⇑*iP*	**Pn**	**17 14 24.7**	**-1.4**
	baz=94						
UCH				⇑*iS*	**Sn**	**17 14 30.4**	**-2.5**
	baz=94						
UCH	**Uchtor**	**0.35**	**197**	⇓P	**Pn**	**17 14 24.7**	**-1.4**
	11nm,0.1s,SNR=179						
UCH				⇑S	**Sn**	**17 14 30.4**	**-2.5**
	146nm,0.2s						
CHMS	**Chumysh**	**0.44**	**9**	⇑*iP*	**Pg**	**17 14 24.2**	**+0.1**
	baz=12						
CHMS				⇑*iS*	**Sg**	**17 14 29.6**	**-0.5**
	baz=12						
CHMS	**Chumysh**	**0.44**	**9**	⇓P	**Pg**	**17 14 24.0**	**0.0**
	20nm,0.1s,SNR=9.4						
CHMS				⇑S	**Sg**	**17 14 29.6**	**-0.5**
	133nm,0.1s						
EKS2	**Erkin-Say**	**0.66**	**279**	⇑*iP*	**Pb**	**17 14 28.9**	**+0.6**
	baz=73						
EKS2				⇑*iS*	**Sb**	**17 14 37.6**	**+0.4**
	baz=73						
EKS2	**Erkin-Say**	**0.66**	**279**	⇑P	**Pn**	**17 14 29.5**	**-0.4**
	23nm,0.2s,SNR=87						
EKS2				⇓S	**Sn**	**17 14 38.7**	**-1.3**
	25nm,0.2s						
USP	**Ospenovka**	**0.71**	**351**	⇑*iP*	**Pb**	**17 14 29.1**	**-0.1**
	baz=50						
USP				⇑*iS*	**Sg**	**17 14 37.9**	**-0.6**
	baz=50						
USP	**Ospenovka**	**0.71**	**351**	⇓P	**Pb**	**17 14 28.9**	**-0.3**
	28nm,0.1s,SNR=7.5						
USP				⇑S	**Sg**	**17 14 37.9**	**-0.6**
	55nm,0.2s						
ARLS	**Aral**	**0.75**	**200**	⇑*iP*	**Pn**	**17 14 31.5**	**+0.3**
	baz=97						
ARLS				⇑*iS*	**Sn**	**17 14 42.2**	**0.0**
	baz=97						
TKM2	**Tokmak 2**	**0.78**	**63**	⇑*iP*	**Pg**	**17 14 30.8**	**+0.4**
	baz=67						
TKM2				⇑*iS*	**Sg**	**17 14 41.5**	**+0.7**
	baz=67						
TKM2	**Tokmak 2**	**0.78**	**63**	⇑P	**Pg**	**17 14 30.6**	**+0.2**
	20nm,0.1s,SNR=124						
TKM2				⇓S	**Sg**	**17 14 41.7**	**+1.0**
	45nm,0.1s						
AML	**Almayashu**	**0.83**	**239**	⇑*iP*	**Pn**	**17 14 32.9**	**+0.3**
	baz=35						
AML				⇑*iS*	**Sn**	**17 14 44.7**	**-0.1**
	baz=35						
AML	**Almayashu**	**0.83**	**239**	⇑P	**Pn**	**17 14 32.9**	**+0.3**
	7.2nm,0.1s,SNR=17						
BOOM	**Boomskoye usch**	**0.95**	**94**	⇑*iP*	**Pn**	**17 14 34.6**	**+0.6**
	baz=98						
BOOM				⇑*iS*	**Sn**	**17 14 47.7**	**+0.4**
	baz=98						
MRKS	**Merke**	**1.07**	**280**	*eP*	**Pg**	**17 14 36.6**	**+0.7**
	baz=77						
MRKS				*eS*	**Sn**	**17 14 50.6**	**+0.5**
	baz=77						
MRKS	**Merke**	**1.07**	**280**	*eP*	**Pg**	**17 14 36.6**	**+0.7**
	11nm,0.1s						
MRKS				*eS*	**Sn**	**17 14 50.6**	**+0.5**
	31nm,0.3s						
MRKS	**Merke**	**1.07**	**280**	P	**Pg**	**17 14 36.6**	**+0.7**
	11nm,0.1s						
MRKS				S	**Sn**	**17 14 50.6**	**+0.5**
	31nm,0.3s						
KST	**Kastek**	**1.07**	**63**	*eP*	**Pg**	**17 14 36.4**	**+0.4**
	baz=66						
KST				*eS*	**Sg**	**17 14 50.3**	**+0.2**
	baz=66						
KST	**Kastek**	**1.07**	**63**	*eP*	**Pg**	**17 14 36.4**	**+0.4**
	17nm,0.1s						
KST				*eS*	**Sg**	**17 14 50.3**	**+0.2**
	19nm,0.3s						
KST	**Kastek**	**1.07**	**63**	P	**Pg**	**17 14 36.4**	**+0.4**
	17nm,0.1s						
KST				S	**Sg**	**17 14 50.3**	**+0.2**
	19nm,0.3s						
ULHL	**Ulahol**	**1.22**	**105**	⇑*iP*	**Pg**	**17 14 39.4**	**+0.7**
	baz=7.0						
ULHL				⇑*iS*	**Sg**	**17 14 55.9**	**+1.3**
	baz=7.0						
KRBS	**Karabastau**	**1.35**	**33**	*eP*	**Pg**	**17 14 41.2**	**-0.1**
	baz=35						
KRBS				*eS*	**Sb**	**17 14 58.0**	**+0.7**
	baz=35						
KRBS	**Karabastau**	**1.35**	**33**	*eP*	**Pg**	**17 14 41.2**	**-0.1**
	4.5nm,0.1s						
KRBS				*eS*	**Sb**	**17 14 58.0**	**+0.7**
	47nm,0.3s						
KRBS	**Karabastau**	**1.35**	**33**	P	**Pg**	**17 14 41.2**	**-0.1**
	4.5nm,0.1s						
KRBS				S	**Sb**	**17 14 58.0**	**+0.7**
	47nm,0.3s						
MTBS	**Maitube**	**1.42**	**66**	*eP*	**Pg**	**17 14 42.8**	**+0.3**
	baz=68						
MTBS				*eS*	**Sg**	**17 15 01.2**	**+0.1**
	baz=68						
MTBS	**Maitube**	**1.42**	**66**	*eP*	**Pg**	**17 14 42.8**	**+0.3**
	7.0nm,0.2s						
MTBS				*eS*	**Sg**	**17 15 01.2**	**+0.1**
	9.2nm,0.2s						
MTBS	**Maitube**	**1.42**	**66**	P	**Pg**	**17 14 42.8**	**+0.3**
	7.0nm,0.2s						
MTBS				S	**Sg**	**17 15 01.2**	**+0.1**
	9.2nm,0.2s						
TNSS	**Tian-Shan**	**1.75**	**74**	*eP*	**Pg**	**17 14 48.8**	**-0.1**
	baz=75						
TNSS				*eS*	**Sg**	**17 15 11.3**	**-0.4**
	baz=75						
TNSS	**Tian-Shan**	**1.75**	**74**	*eP*	**Pg**	**17 14 48.8**	**-0.1**
	5.2nm,0.1s						
TNSS				*eS*	**Sg**	**17 15 11.3**	**-0.4**
	16nm,1.7s						
TNSS	**Tian-Shan**	**1.75**	**74**	P	**Pg**	**17 14 48.8**	**-0.1**
	5.2nm,0.1s						
TNSS				S	**Sg**	**17 15 11.3**	**-0.4**
	16nm,1.7s						
KUU	**Kurty**	**1.81**	**42**	*eP*	**Pb**	**17 14 49.0**	**+1.1**
	baz=44						
KUU				*eS*	**Sb**	**17 15 11.6**	**+1.2**
	baz=44						
KUU	**Kurty**	**1.81**	**42**	*eP*	**Pb**	**17 14 49.0**	**+1.1**
	9.7nm,0.2s						
KUU				*eS*	**Sb**	**17 15 11.5**	**+1.2**
	30nm,0.3s						
KUU	**Kurty**	**1.81**	**42**	P	**Pb**	**17 14 48.9**	**+1.1**
	9.7nm,0.2s						
KUU				S	**Sb**	**17 15 11.5**	**+1.2**
	30nm,0.3s						
MDOK	**Medeo**	**1.86**	**70**	*eP*	**Pg**	**17 14 50.6**	**-0.3**
	baz=72						
MDOK				*eS*	**Sg**	**17 15 14.5**	**-0.5**
	baz=72						
MDOK	**Medeo**	**1.86**	**70**	*eP*	**Pg**	**17 14 50.6**	**-0.3**
	6.2nm,0.2s						
MDOK				*eS*	**Sg**	**17 15 14.4**	**-0.5**
	8.8nm,0.1s						
MDOK	**Medeo**	**1.86**	**70**	Pg	**Pg**	**17 14 50.6**	**-0.3**
	6.2nm,0.2s						
MDOK				Lg	Lg	17 15 14.4	
	8.8nm,0.1s						
KTBS	**Karatobe**	**1.87**	**52**	*eP*	**Pb**	**17 14 50.0**	**+1.0**
	baz=53						
KTBS				*eS*	**Sb**	**17 15 13.8**	**+1.6**
	baz=53						
KTBS	**Karatobe**	**1.87**	**52**	*eP*	**Pb**	**17 14 50.0**	**+1.0**
	6.5nm,0.1s						
KTBS				*eS*	**Sb**	**17 15 13.8**	**+1.6**
	35nm,0.3s						
KTBS	**Karatobe**	**1.87**	**52**	P	**Pb**	**17 14 50.0**	**+1.0**
	6.5nm,0.1s						
KTBS				S	**Sb**	**17 15 13.9**	**+1.6**
	35nm,0.3s						
KDJ	**Kajisay**	**1.92**	**102**	⇓*iP*	**Pg**	**17 14 51.9**	**-0.2**
	baz=4.0						
KDJ				⇓*iS*	**Sg**	**17 15 17.6**	**+0.6**
	baz=4.0						
KOTS	**Kotyrbulak**	**1.92**	**69**	*eP*	**Pg**	**17 14 52.2**	**+0.1**
	15nm,0.2s						
KOTS				*eS*	**Sg**	**17 15 17.3**	**+0.1**
	54nm,0.9s						
KOTS	**Kotyrbulak**	**1.92**	**69**	P	**Pg**	**17 14 52.2**	**+0.1**
	15nm,0.2s						
KOTS				S	**Sg**	**17 15 17.3**	**+0.1**
	54nm,0.9s						
ANVS	**Anan'yevo**	**2.23**	**83**	⇑*iP*	**Pb**	**17 14 54.9**	**-0.3**
	baz=85						
ANVS				⇑*iS*	**Sb**	**17 15 23.4**	**+0.8**
	baz=85						
BTLS	**Baital**	**2.51**	**350**	*eP*	**Pb**	**17 15 00.6**	**+0.7**
	3.3nm,0.3s						
BTLS				*eS*	**Sb**	**17 15 31.3**	**+0.7**
	8.5nm,0.3s						
BTLS	**Baital**	**2.51**	**350**	Pg	**Pb**	**17 14 59.9**	**0.0**
	3.3nm,0.3s						
BTLS				Lg	Lg	17 15 30.2	
	8.5nm,0.3s						
SATY	**Saty**	**2.80**	**79**	*eP*	**Pg**	**17 15 08.8**	**-0.1**
	3.1nm,0.2s						
SATY				*eS*	**Sg**	**17 15 45.6**	**+0.3**
	42nm,1.4s						
SATY	**Saty**	**2.80**	**79**	Pg	**Pg**	**17 15 08.8**	**-0.1**
	3.1nm,0.2s						
SATY				Lg	Lg	17 15 45.6	
	42nm,1.4s						
ARXS	**Arharly**	**2.84**	**53**	*eP*	**Pg**	**17 15 07.9**	**-1.7**
	5.3nm,0.5s						
ARXS				*eS*	**Sg**	**17 15 44.0**	**-2.3**
	15nm,0.7s						
ARXS	**Arharly**	**2.84**	**53**	Pg	**Pg**	**17 15 07.9**	**-1.7**
	5.3nm,0.5s						
ARXS				Lg	Lg	17 15 44.0	
	15nm,0.7s						
KPKS	**Kokpek**	**3.09**	**72**	*eP*	**Pg**	**17 15 12.9**	**-1.5**
	5.9nm,0.3s						
KPKS				*eS*	**Sg**	**17 15 52.4**	**-2.0**
	11nm,0.4s						
MNBS	**Baschi**	**3.12**	**60**	*eP*	**Pg**	**17 15 13.2**	**-1.8**
	1.2nm,0.2s						
MNBS				*eS*	**Sg**	**17 15 53.0**	**-2.5**
	8.8nm,0.3s						
MNBS	**Baschi**	**3.12**	**60**	Pg	**Pg**	**17 15 13.2**	**-1.8**
	1.2nm,0.2s						
MNBS				Lg	Lg	17 15 53.0	
	8.8nm,0.3s						
UZB	**Uzynbulak**	**3.26**	**78**	*eP*	**Pg**	**17 15 17.2**	**-0.4**
	5.9nm,0.4s						
UZB				*eS*	**Sg**	**17 15 60.0**	**0.0**
	20nm,1.7s						
UZB	**Uzynbulak**	**3.26**	**78**	Pg	**Pg**	**17 15 17.3**	**-0.4**
	5.9nm,0.4s						
UZB				Lg	Lg	17 15 60.0	
	20nm,1.7s						
IUG	**Iuzhnay**	**3.45**	**265**	*eP*	**Pg**	**17 15 21.3**	**-0.1**
	2.1nm,0.2s						
IUG				*eS*	**Sg**	**17 16 06.8**	**+0.7**
	12nm,0.6s						
IUG	**Iuzhnay**	**3.45**	**265**	Pg	**Pg**	**17 15 21.3**	**-0.1**
	2.1nm,0.2s						
IUG				Lg	Lg	17 16 06.8	
	12nm,0.6s						
PDGK	**Podgornoye**	**3.63**	**76**	Pg	**Pg**	**17 15 22.2**	**-2.5**
	3.0nm,1.7s						
PDGK				Lg	Lg	17 16 08.4	
	11nm,2.5s						

*IDC **08** 17:18:33.0±1.8, 20°.65S×68°.69W, h111km±16km, mb3.3/2, mb1 3.5/4, mb1mx3.2/25, mbtmp3.8/4, Error ellipse: s-maj=52.6km s-min=14.6km az=104.0*
*GUC **08** 17:18:32.3±0.5, 20°.57S×69°.05W, h97km±2km, ML3.7*
ISC 08 17:18:31.4±1.0,**20°.56S**±0°.03×**69°.10W**±0°.07,**h100**km±8km, **n22**,σ0**s94**/37,**14C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.42**	**353**	⇑*iP*	**Pn**	**17 18 47.4**	**+0.1**
PB08				*eS*	**Sn**	**17 18 59.3**	**+0.3**
PB08				IAML		17 19 00.0	
	comp=E,4μm,0.3s						
PB01	**IPOC Station P**	**0.60**	**217**	⇑*iP*	**Pn**	**17 18 48.2**	**+0.1**
PB01				*eS*	**Sn**	**17 19 01.0**	**+0.3**
GO01	**Chusmiza**	**0.89**	**354**	⇑*iP*	**Pn**	**17 18 51.8**	**+0.5**
GO01				*eS*	**Sn**	**17 19 06.8**	**+0.6**
GO01				IAML		17 19 09.4	
	comp=E,8μm,0.1s						
PB11	**IPOC Station P**	**0.95**	**327**	⇑*iP*	**Pn**	**17 18 51.7**	**+0.2**
PB11				*eS*	**Sn**	**17 19 07.2**	**+0.6**
PB11				IAML		17 19 08.4	
	comp=N,4μm,0.2s						
TA02	**Huaiquique**	**1.01**	**287**	⇑*iP*	**Pn**	**17 18 52.4**	**+0.5**
TA02				*eS*	**Sn**	**17 19 07.9**	**+0.4**
TA02				IAML		17 19 11.5	
	comp=N,4μm,0.1s						
TA01	**Diego Aracena**	**1.01**	**270**	⇑*iP*	**Pn**	**17 18 52.1**	**+0.2**
TA01				*eS*	**Sn**	**17 19 07.6**	**+0.1**
TA01				IAML		17 19 09.2	
	comp=E,1μm,0.4s						
PATCX	**Punta Patache**	**1.02**	**255**	⇑*iP*	**Pn**	**17 18 52.4**	**+0.3**
PATCX				*eS*	**Sn**	**17 19 08.2**	**+0.4

PB12	**IPOC Station P**	**2.26**	**329**	*e*P		**Pn**	**17 19 07.4**	**-0.1**
PB12				*i* S		**Sn**	**17 19 35.4**	**+0.4**
PB12				IAML			17 19 46.0	
	comp=E,359nm,0.4s							
PB12				IAML			17 19 46.7	
	comp=N,337nm,0.5s							
LPAZ	**La Paz**	**4.35**	**12**	P		**Pn**	**17 19 38.5**	**+2.5**
	comp=N,1.0nm,0.3s,baz=198,slow=8.2,SNR=32							
LPAZ				S		Sn	17 20 17.8	-8.1
	comp=N,0.6nm,0.3s,baz=230,slow=14,SNR=1.9							
SIV	**San Ignacio**	**8.88**	**61**	P		**Pn**	**17 20 33.9**	**-3.1**
	comp=N,2.2nm,0.3s,baz=254,slow=11,SNR=24							
PLCA	**Paso Flores**	**20.14**	**183**	P		**P**	**17 22 58.1**	**+0.5**
	comp=N,0.9nm,0.4s,baz=10,slow=11,SNR=3.9							
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P		**P**	**17 30 13.3**	**-1.6**
	comp=N,0.3nm,0.3s,baz=255,slow=4.4,SNR=4.8							
MKAR	**Makanchi Array**	**144.98**	**35**	PKP		PKPbc	17 37 56.3	-0.1
	comp=N,0.9nm,0.9s,baz=320,slow=3.2,SNR=5.1							

NEIC ***08*** *17:20:19.4±1.2, 13°.1N±0°.1×143°.6E±0°.2, h208km±11km, mb4.3/10, Error ellipse: s-maj=29.0km s-min=17.5km az=78.0*

IDC ***08*** *17:20:19.1±1.0, 13°.09N×143°.46E, h195km±11km, mb3.6/12, mb1 3.8/13, mb1mx3.5/49, mbtmp4.2/13, Error ellipse: s-maj=24.1km s-min=11.1km az=82.0*

ISC 08 17:20:19.2±0.6, 13°.07N±0°.09×143°.5E±0°.1, h200km, n28, σ0s81/29, mb4.1/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**69**	P	**Pn**	**17 20 52.8**	**+0.4**
	13nm,0.3s,baz=349,slow=7.0,SNR=12						
GUMO				S	**Sn**	**17 21 17.4**	**-0.7**
	39nm,0.3s,baz=316,slow=22,SNR=16						
JCJ	**Chichijima**	**14.01**	**355**	P	**Pn**	**17 23 29.4**	**+0.1**
	11nm,0.3s,baz=277,slow=21,SNR=4.9						
WB0	**Warramunga Arr**	**33.84**	**196**	P	**P**	**17 26 42.9**	**0.0**
WB0				IAmb	IAmb	17 26 43.6	
	comp=Z,7.0nm,0.7s						
WR0	**Warramunga Arr**	**33.98**	**195**	P	**P**	**17 26 43.9**	**-0.2**
WR0				IAmb	IAmb	17 26 44.9	
	comp=Z,6.5nm,1.0s						
WRAB	**Tennant Creek**	**34.01**	**195**	P	**P**	**17 26 43.7**	**-0.5**
WB2	**Warramunga Arr**	**34.01**	**195**	P	**P**	**17 26 44.5**	**+0.1**
WB2				IAmb	IAmb	17 26 45.3	
	comp=Z,8.3nm,0.7s						
WRA	**Warramunga Arr**	**34.02**	**196**	P	**P**	**17 26 44.7**	**+0.3**
	comp=Z,5.6nm,0.6s,baz=16,slow=9.4,SNR=72						
WRA	**Warramunga Arr**	**34.02**	**196**	P	**P**	**17 26 43.7**	**-0.6**
AS31	**Alice Springs**	**37.69**	**194**	P	**P**	**17 27 15.7**	**+0.1**
ASAR	**Alice Springs**	**37.69**	**194**	P	**P**	**17 27 15.7**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=18,slow=12,SNR=59						
ASAR	**Alice Springs**	**37.69**	**194**	P	**P**	**17 27 15.6**	**0.0**
DZM	**Mont Dzumac**	**41.55**	**147**	P	**P**	**17 27 49.5**	**+1.9**
	comp=Z,2.6nm,0.4s,baz=325,slow=3.2,SNR=14						
DZM	**Mont Dzumac**	**41.55**	**147**	P	**P**	**17 27 47.2**	**-0.3**
STKA	**Stephens Creek**	**44.73**	**182**	P	**P**	**17 28 11.8**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=355,slow=8.4,SNR=7.3						
STKA	**Stephens Creek**	**44.73**	**182**	P	**P**	**17 28 12.3**	**-0.3**
SONM	**Songino Array**	**46.39**	**326**	P	**P**	**17 28 27.0**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=154,slow=8.5,SNR=4.4						
SONM	**Songino Array**	**46.39**	**326**	P	**P**	**17 28 25.8**	**0.0**
MKAR	**Makanchi Array**	**60.93**	**316**	P	**P**	**17 30 11.7**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**60.93**	**316**	P	**P**	**17 30 11.6**	**+0.4**
ZALV	**Zalesovo Beam**	**61.27**	**325**	P	**P**	**17 30 13.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=131,slow=8.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**61.27**	**325**	P	**P**	**17 30 13.2**	**0.0**
KURK	**Kurchatov**	**64.12**	**320**	P	**P**	**17 30 32.6**	**+0.6**
KURK				IAmb	IAmb	17 30 33.5	
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**64.15**	**320**	P	**P**	**17 30 32.9**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=101,slow=6.7,SNR=9.0						
ILAR	**Eielson Array**	**69.61**	**25**	P	**P**	**17 31 06.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=208,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**	**87.16**	**342**	P	**P**	**17 32 42.0**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=57,slow=8.8,SNR=4.3						
NVAR	**Mina Array Bea**	**88.29**	**51**	P	**P**	**17 32 49.0**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=269,slow=7.0,SNR=4.8						
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**17 32 59.7**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=106,slow=2.8,SNR=9.5						
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**17 32 58.1**	**-2.6**

NEIC ***08*** *17:29:56.8±1.1, 15°.4S±0°.1×174°.1W±0°.1, h149km±3km, mb4.2/5, Error ellipse: s-maj=22.3km s-min=15.7km az=134.0*

IDC ***08*** *17:29:56.8±2.4, 15°.41S×174°.10W, h147km±22km, mb3.5/6, mb1 3.9/7, mb1mx3.5/36, mbtmp4.0/7, MS2.5/1, Ms1 2.5/1, ms1mx2.4/34, Error ellipse: s-maj=116.7km s-min=17.2km az=151.0*

ISC 08 17:29:56.7±0.8, 15°.40S±0°.08×174°.01W±0°.10, h150km, n20, σ1s13/24, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**56**	P	**Pn**	**17 30 40.5**	**+1.2**
	74nm,0.3s,baz=204,slow=2.8,SNR=77						
AFI				S	**Sn**	**17 31 10.7**	**-1.5**
	52nm,0.3s,baz=199,slow=19,SNR=8.4						
AFI				LR	LR	17 31 27.0	
	comp=Z,86nm,19.6s,baz=275,slow=33						
AFI	**Afiamalu**	**2.62**	**56**		**Pn**	**17 30 40.6**	**+1.2**
AFI					**Sn**	**17 31 09.5**	**-2.7**
NIUE	**Niue**	**5.34**	**134**	Pn	**Pn**	**17 31 15.7**	**+0.9**
NIUE					**Sn**	**17 32 14.3**	**-1.3**
WR0	**Warramunga Arr**	**49.09**	**257**	P	**P**	**17 38 29.0**	**-0.2**
WB0	**Warramunga Arr**	**49.24**	**257**	P	**P**	**17 38 29.8**	**-0.6**
WB0				IAmb	IAmb	17 38 30.8	
	comp=Z,3.4nm,0.6s						
WB2	**Warramunga Arr**	**49.27**	**257**	P	**P**	**17 38 30.0**	**-0.6**
WRA	**Warramunga Arr**	**49.28**	**257**	P	**P**	**17 38 30.2**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=92,slow=6.7,SNR=82						
WRA	**Warramunga Arr**	**49.28**	**257**	P	**P**	**17 38 29.3**	**-1.4**
AS31	**Alice Springs**	**49.55**	**252**	P	**P**	**17 38 32.2**	**-0.6**
AS31				IAmb	IAmb	17 38 33.3	
	comp=Z,3.5nm,0.7s						
ASAR	**Alice Springs**	**49.56**	**252**	P	**P**	**17 38 32.3**	**-0.5**
	comp=Z,12nm,0.6s,baz=85,slow=8.3,SNR=240						
ASAR	**Alice Springs**	**49.56**	**252**	P	**P**	**17 38 31.4**	**-1.4**
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**17 41 21.7**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=228,slow=9.8,SNR=5.9						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**17 41 21.0**	**+0.6**
TXAR	**Lajitas Array**	**81.10**	**56**	P	**P**	**17 41 56.8**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=206,slow=8.3,SNR=3.5						
TXAR	**Lajitas Array**	**81.10**	**56**	P	**P**	**17 41 57.1**	**+1.4**
ILAR	**Eielson Array**	**82.56**	**11**	P	**P**	**17 42 02.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=230,slow=7.0,SNR=1.7						
PDAR	**Pinedale Array**	**82.65**	**42**	P	**P**	**17 42 03.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=222,slow=2.0,SNR=3.6						
PDAR	**Pinedale Array**	**82.65**	**42**	P	**P**	**17 42 03.5**	**-0.2**
BRTR	**Keskin Array B**	**145.78**	**320**	PKPbc	**PKPab**	**17 49 19.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=95,slow=2.9,SNR=6.1						
BRTR	**Keskin Array B**	**145.78**	**320**	PKPdf	**PKPdf**	**17 49 16.9**	**-1.0**
BRTR					**PKPab**	**17 49 19.4**	**0.0**

IDC 08 17:48:31.8±2.2, 7°.50N×94°.06E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/45, mbtmp3.6/6, MS2.8/2, Ms1 2.9/2, ms1mx2.5/49, Error ellipse: s-maj=100.9km s-min=22.2km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.73**	**134**	LR	LR	17 53 26.9	
	comp=Z,93nm,21.0s,baz=271,slow=43						
CMAR	**Chiang Mai Arr**	**11.88**	**23**	LR	LR	17 55 56.0	
	comp=Z,39nm,18.1s,baz=175,slow=37						
H08S3	**Diego Garcia H**	**26.24**	**236**	T	T	18 20 46.8	
	baz=54,slow=75,SNR=29						
H08S2	**Diego Garcia H**	**26.24**	**235**	T	T	18 20 50.6	
	baz=54,slow=75,SNR=27						
H08S1	**Diego Carcia H**	**26.26**	**235**	T	T	18 20 50.9	
	baz=54,slow=75,SNR=28						
MKAR	**Makanchi Array**	**40.43**	**348**	P	P	17 56 10.2	-1.8
	1.0nm,0.8s,baz=171,slow=7.0,SNR=1.8						
SONM	**Songino Array**	**41.54**	**13**	P	P	17 56 20.9	-0.3
	0.3nm,0.5s,baz=204,slow=9.5,SNR=2.2						
ZALV	**Zalesovo Beam**	**46.91**	**353**	P	P	17 57 05.2	+1.2
	0.5nm,0.4s,baz=179,slow=5.9,SNR=5.0						
WRA	**Warramunga Arr**	**48.12**	**125**	P	P	17 57 13.9	0.0
	0.3nm,0.7s,baz=309,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**49.74**	**130**	P	P	17 57 26.1	-0.3
	0.2nm,0.5s,baz=301,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**73.00**	**332**	P	P	18 00 03.4	+0.2
	2.9nm,0.9s,baz=146,slow=10,SNR=1.1						

ISN ***08*** *17:59:48.1±2.6, 32°.74N×47°.54E, h15km±13km, ML2.2*
TEH ***08*** *17:59:49.4, 32°.74N×47°.47E, h16km, ML3.1*

ISC 08 17:59:50.3±0.9, 32°.72N±0°.04×47°.44E±0°.04, h10km, n28, σ1s10/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.14**	**254**	*e*Pg	**Pg**	**17 59 53.0**	**-0.5**
IKMR	**Kamar-syah**	**1.12**	**44**	*e*		18 00 29.6	
IKMR				*e*Pg	**Pb**	**18 00 09.1**	**-2.6**
IDOB	**Doab**	**1.23**	**30**	*e*Pg	**Pb**	**18 00 12.5**	**-1.2**
IBDR	**Badra**	**1.33**	**287**	*e*Pg	**Pn**	**18 00 12.0**	**-2.9**
	baz=105						
IBDR				*e*Sg	**Sn**	**18 00 33.0**	**+0.3**
IBDR				AML	AML	18 00 40.0	
	comp=E,47nm,0.7s						
IBDR				AML	AML	18 00 42.1	
	comp=N,36nm,0.8s						
IKOM	**Komasi**	**1.45**	**2**	*e*Pg	**Pn**	**18 00 16.1**	**-0.6**
IKOM				*e*		18 00 20.1	
BMDN	**Meydan**	**1.50**	**50**	*e*Pg	**Pn**	**18 00 16.5**	**-0.9**
BMDN				*e*		18 00 46.4	
KCHF	**Cheshme Sefid,**	**1.59**	**348**	*e*Pg	**Pn**	**18 00 19.0**	**+0.4**
KCHF				*e*		18 00 48.5	
KER	**Kermanshah**	**1.68**	**351**	*e*Pg	**Pb**	**18 00 20.9**	**-0.5**
AHWZ	**Ahwaz**	**1.72**	**143**	*e*Pg	**Pb**	**18 00 22.3**	**+0.3**
AHWZ				*e*Sg	**Sg**	**18 00 46.5**	**+0.9**
IGHG	**Ghaleghazi**	**1.76**	**336**	*e*Pg	**Pb**	**18 00 23.0**	**+0.1**
IGHG				*e*		18 00 57.5	
HSAM	**Samen**	**1.78**	**33**	*e*Pn	**Pn**	**18 00 21.7**	**+0.4**
HSAM				*e*		18 00 51.3	
IBZA	**Bozab**	**1.78**	**11**	*e*Pg	**Pb**	**18 00 22.6**	**-0.6**
IBZA				*e*		18 00 50.8	
IVIS	**Veis**	**1.87**	**345**	*e*Pn	**Pb**	**18 00 23.9**	**-0.7**
IVIS				*e*		18 00 56.9	
IDHR	**Dehrash**	**2.16**	**336**	*e*Pn	**Pn**	**18 00 27.9**	**+1.4**
IDHR				*e*		18 01 05.8	
ILIN	**Lien**	**2.23**	**350**	*e*Pn	**Pn**	**18 00 28.2**	**+0.7**
ILIN				*e*		18 01 05.2	
HAGD	**Aghdareh**	**2.53**	**34**	*e*Pn	**Pn**	**18 00 32.4**	**+0.8**
HSRG	**Sareghieh**	**2.61**	**15**	*e*Pn	**Pn**	**18 00 34.2**	**+1.4**
BHD	**Baghdad**	**2.63**	**283**	*e*Pn	**Pn**	**18 00 33.0**	**+0.2**
BHD				*e*Sn	**Sn**	**18 01 07.0**	**+2.2**
BHD				AML	AML	18 01 09.5	
	comp=E,19nm,0.7s						
JHBN	**Jahan bin**	**2.77**	**99**	*e*Pn	**Pn**	**18 00 34.7**	**-0.3**
IPIR	**Pirpir**	**2.91**	**90**	*e*Pn	**Pn**	**18 00 37.5**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.47**	**30**	*e*Pn	**Pn**	**18 00 44.5**	**0.0**
QAM	**Ghamsar**	**3.51**	**72**	*e*Pn	**Pn**	**18 00 46.0**	**+1.0**
IKLH	**Kolahroud**	**3.53**	**79**	*e*Pn	**Pn**	**18 00 45.5**	**+0.1**
IGAR	**Gharneh**	**3.90**	**93**	*e*Pn	**Pn**	**18 00 51.3**	**+0.9**
KLNJ	**Kolanjah**	**3.92**	**115**	*e*Pn	**Pn**	**18 00 50.1**	**-0.8**
IZEF	**Zefreh**	**4.12**	**86**	*e*Pn	**Pn**	**18 00 53.7**	**+0.2**
KRSH	**Karshahi**	**4.12**	**71**	*e*Pn	**Pn**	**18 00 53.8**	**+0.3**
IRAM	**Ramesheh**	**4.28**	**101**	*e*Pn	**Pn**	**18 00 54.9**	**-0.8**

NEIC ***08*** *18:04:50.9±1.0, 43°.77N±0°.05×105°.20W±0°.06, h0km±2km, ML3.4/63, Error ellipse: s-maj=10.0km s-min=6.4km az=328.0*

IDC ***08*** *18:04:50.1±1.9, 43°.78N×105°.50W, h0km, mb1 3.6/5, mb1mx3.3/56, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=58.7km s-min=8.8km az=149.0*

ISC 08 18:04:50.2±1.0, 43°.78N±0°.06×105°.25W±0°.06, h0km, n76, σ1s07/77, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**68**		**Pg**	**18 05 08.4**	**+0.2**
K22A	**Casper**	**1.46**	**220**	Pn	**Pn**	**18 05 16.7**	**-1.3**
K22A				IAML		18 05 41.8	
	comp=E,505nm,0.3s						
K22A				IAML		18 05 43.0	
	comp=N,520nm,0.3s						
PHWY	**Pilot Hill**	**2.48**	**184**	Pn	**Pn**	**18 05 33.1**	**+1.0**
RWWY	**Rawlins**	**2.54**	**215**		**Pn**	**18 05 33.0**	**+0.2**
RWWY				IAML		18 06 08.8	
	comp=N,188nm,0.8s						
RWWY				IAML		18 06 10.9	
	comp=N,160nm,0.3s						
N23A	**Red Feather La**	**2.93**	**190**	Pn	**Pn**	**18 05 38.9**	**+0.6**
N23A				IAML		18 06 23.8	
	comp=E,88nm,0.7s						
N23A				IAML		18 06 24.0	
	comp=N,86nm,0.6s						
LAO	**LASA Array**	**2.99**	**347**		**Pn**	**18 05 39.9**	**+1.0**
RLMT	**Red Lodge**	**3.17**	**296**	Pn	**Pn**	**18 05 41.9**	**+0.3**
RLMT				IAML		18 06 34.9	
	comp=N,86nm,0.3s						
RLMT				IAML		18 06 40.1	
	comp=N,97nm,0.7s						
BW06	**Boulder Array**	**3.30**	**254**		**Pn**	**18 05 44.1**	**+0.8**
BW06				IAML		18 06 36.2	
	comp=N,79nm,0.3s						
PD31	**Pinedale Array**	**3.30**	**254**		**Pn**	**18 05 44.1**	**+0.7**
PDAR	**Pinedale Array**	**3.30**	**254**	Pn	**Pn**	**18 05 43.6**	**+0.3**
	comp=N,4.5nm,0.3s,baz=69,slow=16,SNR=103						
PDAR				Pg	**Pb**	**18 05 48.2**	**-1.6**
	comp=N,27nm,0.3s,baz=79,slow=19,SNR=61						
PDAR				Lg	Lg	18 06 29.3	
	comp=N,15nm,0.3s,baz=81,slow=38,SNR=3.0						
PDAR	**Pinedale Array**	**3.30**	**254**		**Pn**	**18 05 44.3**	**+0.9**
YNE	**Yellowstone No**	**3.62**	**291**		**Pn**	**18 05 48.1**	**+0.4**
YMP	**Mirror Lake Pl**	**3.65**	**287**		**Pn**	**18 05 48.5**	**+0.3**
GCMT	**Greycliff**	**3.73**	**304**		**Pn**	**18 05 49.5**	**+0.4**
H17A	**Grant Village**	**3.88**	**281**		**Pn**	**18 05 53.1**	**+1.7**
H17A				IAML		18 07 08.3	
	comp=N,48nm,0.1s						
H17A				IAML		18 07 08.9	
	comp=E,62nm,0.2s						
FLWY	**Flagg Ranch**	**3.94**	**276**		**Pn**	**18 05 53.0**	**+0.8**
FLWY				IAML		18 07 04.9	
	comp=E,47nm,2.0s						
ISCO	**Idaho Springs**	**3.99**	**184**		**Pn**	**18 05 53.8**	**+1.0**
YPP	**Pitchstone Pla**	**4.03**	**279**		**Pn**	**18 05 53.9**	**+0.5**
REDW	**Red Top Meadow**	**4.09**	**266**		**Pn**	**18 05 56.5**	**+2.3**
REDW				IAML		18 07 06.6	
	comp=E,47nm,1.8s						
REDW				IAML		18 07 13.0	
	comp=E,48nm,1.8s						
IMW	**Indian Meadow**	**4.11**	**274**		**Pn**	**18 05 55.9**	**+1.3**
IMW				IAML		18 07 03.4	
	comp=E,32nm,0.7s						
IMW				IAML		18 07 05.7	
	comp=E,30nm,0.8s						
YHH	**Holmes Hill**	**4.14**	**286**		**Pn**	**18 05 56.1**	**+1.1**
TPAW	**Teton Pass**	**4.14**	**268**	Pn	**Pn**	**18 05 56.3**	**+1.3**
TPAW				IAML		18 07 20.9	
	comp=E,38nm,0.8s						
FXWY	**Fox Creek**	**4.19**	**270**	Pn	**Pn**	**18 05 56.8**	**+1.3**
YMR	**Madison River**	**4.20**	**284**		**Pn**	**18 05 57.4**	**+1.7**
E28A	**Huff**	**4.27**	**47**	Pn	**Pn**	**18 05 56.9**	**+0.5**
E28A				IAML		18 07 16.4	
	comp=E,65nm,1.3s						
O20A	**White River Ci**	**4.27**	**212**	Pn	**Pn**	**18 05 57.3**	**+0.7**
O20A				IAML		18 07 21.0	
	comp=N,56nm,2.2s						
O20A				IAML		18 08 01.1	
	comp=E,44nm,2.0s						
AHID	**Auburn Hatcher**	**4.39**	**259**		**Pn**	**18 05 57.6**	**-0.6**
AHID				IAML		18 07 28.6	
	comp=E,32nm,1.8s						
YHL	**Hebgen Lake**	**4.39**	**286**	Pn	**Pn**	**18 05 59.2**	**+0.9**
ECR	**Eagle Creek**	**4.51**	**263**		**Pn**	**18 06 01.4**	**+1.3**
RDMU	**Red Mountain**	**4.53**	**226**		**Pn**	**18 06 01.5**	**+1.2**
QLMT	**Earthquake Lak**	**4.56**	**285**		**Pn**	**18 06 01.5**	**+0.9**
DGMT	**Dagmar**	**4.75**	**9**	Pn	**Pn**	**18 06 03.9**	**+0.8**
Q24A	**Divide**	**4.81**	**179**	Pn	**Pn**	**18 06 04.4**	**+0.3**
Q24A				IAML		18 07 24.3	
	comp=E,35nm,0.3s						
BOZ	**Bozeman (W)**	**4.90**	**294**		**Pn**	**18 06 05.7**	**+0.5**
BOZ				IAML		18 07 22.0	
	comp=E,16nm,2.2s						
HWUT	**Hardware Ranch**	**5.13**	**247**	Pn	**Pn**	**18 06 09.1**	**+0.6**
HWUT				IAML		18 07 44.8	
	comp=E,24nm,1.0s						
HWUT				IAML		18 07 50.3	
	comp=E,26nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.16**	**157**	Pn	**Pn**	**18 06 08.9**	**+0.1**
TCUT	**Toone Canyon**	**5.27**	**242**		**Pn**	**18 06 10.9**	**+0.5**
EGMT	**Eagleton**	**5.28**	**325**		**Pn**	**18 06 10.4**	**0.0**
DLMT	**Dillon**	**5.48**	**289**		**Pn**	**18 06 13.9**	**+0.7**
HRY	**Holter Researc**	**5.49**	**305**	Pn	**Pn**	**18 06 13.4**	**+0.1**
LRM	**Limekiln Ridge**	**5.51**	**294**	Pn	**Pn**	**18 06 14.2**	**+0.4**
JLU	**Jordanelle**	**5.59**	**238**	Pn	**Pn**	**18 06 15.4**	**+0.6**
SPUT	**South Promonto**	**5.86**	**248**	Pn	**Pn**	**18 06 19.7**	**+1.2**
PV22	**Blue Mesa, Par**	**5.88**	**208**		**Pn**	**18 06 20.7**	**+2.0**
PV07	**Paradox Valley**	**5.92**	**207**	Pn	**Pn**	**18 06 20.8**	**+1.5**
PV21	**Cone Mtn., Par**	**5.92**	**210**		**Pn**	**18 06 20.1**	**+0.7**
P17A	**Butcher Ranch,**	**5.95**	**226**		**Pn**	**18 06 20.7**	**+1.0**
PV23	**Carpenter Ridg**	**6.03**	**209**	Pn	**Pn**	**18 06 21.1**	**+0.2**
PV04	**Paradox Valley**	**6.05**	**208**		**Pn**	**18 06 21.9**	**+0.8**
PV12	**Saucer Basin,**	**6.08**	**207**	Pn	**Pn**	**18 06 22.5**	**+0.9**
PV14	**Lion Creek, Pa**	**6.11**	**209**		**Pn**	**18 06 22.9**	**+1.0**
PV10	**Paradox Valley**	**6.11**	**209**	Pn	**Pn**	**18 06 23.7**	**+1.8**
PV20	**West Nyswonger**	**6.11**	**209**		**Pn**	**18 06 23.3**	**+1.4**
SRU	**San Rafael Swe**	**6.12**	**222**		**Pn**	**18 06 22.0**	**0.0**
PV11	**David Mesa, Pa**	**6.12**	**208**		**Pn**	**18 06 23.0**	**+1.0**
PV16	**Nyswonger Mesa**	**6.12**	**208**		**Pn**	**18 06 23.1**	**+1.0**
PV19	**Morning Glory**	**6.15**	**209**	Pn	**Pn**	**18 06 23.2**	**+0.7**
PV03	**Paradox Valley**	**6.15**	**207**		**Pn**	**18 06 23.7**	**+1.2**
PV02	**Paradox Valley**	**6.16**	**206**	Pn	**Pn**	**18 06 23.6**	**+1.0**
PV17	**East Wray Mesa**	**6.17**	**208**	Pn	**Pn**	**18 06 23.7**	**+1.0**
PV18	**Skein Mesa, Pa**	**6.18**	**208**		**Pn**	**18 06 23.8**	**+0.9**
PV13	**Radium Mtn., P**	**6.23**	**207**		**Pn**	**18 06 23.8**	**+0.2**
TMUT	**Trail Mountain**	**6.32**	**227**		**Pn**	**18 06 25.0**	**0.0**
NLU	**North Lily Min**	**6.37**	**235**	Pn	**Pn**	**18 06 26.2**	**+0.7**
BGU	**Big Grassy Mou**	**6.43**	**246**		**Pn**	**18 06 28.0**	**+1.8**
Q16A	**Castle Valley**	**6.59**	**225**		**Pn**	**18 06 29.4**	**+0.9**
T25A	**Trinidad**	**6.66**	**174**	Pn	**Pn**	**18 06 29.7**	**+0.1**
DUG	**Dugway, Tooele**	**6.67**	**240**	Pn	**Pn**	**18 06 30.5**	**+0.9**
MSU	**Marysvale**	**7.41**	**227**	Pn	**Pn**	**18 06 41.1**	**+1.3**
MVU	**Marysvale**	**7.44**	**227**	Pn	**Pn**	**18 06 41.1**	**+0.9**
JTMT	**Jette**	**7.46**	**305**	Pn	**Pn**	**18 06 41.1**	**+0.8**
ELK	**Elko**	**8.00**	**251**	Pn	**Pn**	**18 06 50.1**	**+2.1**
	comp=E,0.7nm,0.3s,baz=66,slow=10.0,SNR=8.2						
ELK				Lg	Lg	18 08 55.6	
	comp=E,0.2nm,0.3s,baz=191,slow=5.2,SNR=2.0						
PSUT	**Pine Spring**	**8.34**	**234**	Pn	**Pn**	**18 06 54.1**	**+1.6**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**18 07 01.8**	**-0.9**
	comp=E,0.9nm,0.3s,baz=235,slow=11,SNR=6.9						
ULM				Lg	Lg	18 09 35.1	
	comp=E,0.6nm,0.3s,baz=111,slow=23,SNR=2.4						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**18 07 33.1**	**+1.4**
	comp=E,0.1nm,0.3s,baz=50,slow=14,SNR=2.2						
YBH	**Yreka Blue Hor**	**12.99**	**267**	Pn	**Pn**	**18 07 58.5**	**+2.4**
	comp=E,0.1nm,0.3s,baz=97,slow=8.1,SNR=1.8						

IDC 08 18:12:20.5±2.2, 1°.86N×126°.47E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/43, mbtmp3.5/3, Error ellipse: s-maj=171.8km s-min=27.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**161**	P	P	18 17 27.3	+0.1
	0.6nm,0.4s,baz=340,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.38**	**165**	P	P	18 17 58.9	+0.1
	0.4nm,0.9s,baz=345,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**58.94**	**326**	P	P	18 22 21.6	-0.2
	0.8nm,0.8s,baz=115,slow=7.4,SNR=3.4						

IDC ***08*** *18:27:54.1±1.1, 53°.84S×140°.13E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/35, mbtmp3.9/6, MS3.5/8, Ms1 3.5/8, ms1mx3.3/31, Error ellipse: s-maj=98.1km s-min=17.8km az=83.0*

NEIC ***08*** *18:27:56.3±1.5, 53°.7S±0°.1×140°.0E±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=25.0km s-min=

comp=Z,3.6nm,0.9s
RETA Reutte 148.03 279 *e*P **PKPab 18 47 46.0 +1.7**
comp=Z,3.0nm,0.8s
DAVA Damuels 148.45 279 *e*P **PKPab 18 47 51.1 +5.1**
comp=Z,14nm,1.9s

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*AEIC **08** 18:29:03.3±3.1, 51.51N±0.04×173.72W±0.08, h13km±2km, ML3.5/2, mb4.1/34(NEIC), Error ellipse: s-maj=7.9km s-min=4.8km az=65.0*
*NEIC **08** 18:29:04.1±1.8, 51.58N±0.06×173.53W±0.10, h37km±5km, Error ellipse: s-maj=9.4km s-min=8.3km az=143.0*
*IDC **08** 18:29:06.6±5.2, 51.57N×173.55W, h63km±47km, mb3.7/18, mb1 3.9/20, mb1mx3.8/58, mbtmp4.0/20, ML3.7/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/56, Error ellipse: s-maj=23.6km s-min=13.1km az=174.0*

ISC 08 18:29:03.8±0.6, 51.53N±0.08×173.53W±0.05, h37km, n88, σ1§04/83, mb4.2/21, MS3.0/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.79**	**329**		**Pn**	**18 29 17.9**	**-0.4**
ATKA	**Atka Island**	**0.79**	**329**		**Sn**	**18 29 27.6**	**-1.3**
KOFP	**Korovin Flat P**	**0.82**	**335**		**Pn**	**18 29 19.2**	**+0.4**
KOSE	**Korovin Southe**	**0.88**	**339**		**Pn**	**18 29 20.3**	**+0.7**
KOSE					**Sn**	**18 29 31.8**	**+0.6**
KOWE	**Korovin West**	**0.95**	**332**		**Pn**	**18 29 21.2**	**+0.7**
GSMY	**Great Sitkin M**	**1.65**	**289**		**Pn**	**18 29 30.3**	**+0.2**
GSTD	**Great Sitkin T**	**1.70**	**289**		**Pn**	**18 29 31.3**	**+0.3**
GSTD					**Sn**	**18 29 52.9**	**+1.3**
ADAG	**Mount Adagdak**	**1.96**	**284**		**Pn**	**18 29 35.5**	**+1.1**
ADK	**Adak**	**1.99**	**281**	Pn	**Pn**	**18 29 34.8**	**0.0**
KIKV	**Kanaga Island**	**2.29**	**280**		**Pn**	**18 29 39.5**	**+0.5**
KIMD	**Kanaga Island**	**2.32**	**277**		**Pn**	**18 29 39.4**	**+0.1**
AMKA	**Amchitka**	**4.48**	**271**	Pn	**Pn**	**18 30 08.4**	**-0.7**
UNV	**Unalaska Valle**	**4.86**	**59**	Pn	**Pn**	**18 30 15.2**	**+0.9**
CNPM	**China Poot**	**14.89**	**49**	Pn	**Pn**	**18 32 30.9**	**-0.4**
SKT	**Skwentna**	**15.88**	**40**	P	**P**	**18 32 47.3**	**-0.2**
SKT				IAmb	IAmb	18 32 55.9	
	comp=Z,26nm,1.7s						
PPLA	**Purkeypile**	**16.12**	**37**	P	**P**	**18 32 50.6**	**+0.2**
PPLA				IAmb	IAmb	18 33 00.6	
	comp=Z,29nm,1.3s						
GHO	**Glory Hole Cre**	**16.86**	**43**	Pn	**Pn**	**18 32 56.4**	**-0.4**
GHO				IAmb	IAmb	18 33 50.2	
	comp=Z,16nm,1.3s						
KNK	**Knik Glacier**	**16.91**	**44**	Pn	**Pn**	**18 32 56.2**	**-1.0**
KNK				IAmb	IAmb	18 33 50.2	
	comp=Z,13nm,1.2s						
KTH	**Kantishna Hill**	**16.97**	**36**	P	**Pn**	**18 32 58.6**	**+0.5**
TRF	**Thorofare Moun**	**17.15**	**37**	Pn	**Pn**	**18 33 01.0**	**+0.6**
TRF				IAmb	IAmb	18 33 43.7	
	comp=Z,27nm,1.7s						
BPAW	**Bear Paw Mtn.**	**17.27**	**35**		**Pn**	**18 33 02.1**	**+0.4**
FID	**Port Fidalgo**	**17.55**	**48**	Pn	**Pn**	**18 33 03.8**	**-1.4**
FID				IAmb	IAmb	18 33 39.7	
	comp=Z,36nm,1.5s						
SCM	**Sheep Creek Mo**	**17.57**	**44**	Pn	**Pn**	**18 33 04.5**	**-1.1**
SCM				IAmb	IAmb	18 33 51.1	
	comp=Z,50nm,1.8s						
PEA0B	**Petropavlovsk-**	**17.61**	**286**	P	**P**	**18 33 07.0**	**+0.3**
PETK	**Petropavlovsk-**	**17.61**	**286**	P	**P**	**18 33 06.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=89,slow=14,SNR=9.7						
KLU	**Klutina**	**18.06**	**46**	Pn	**Pn**	**18 33 10.2**	**-1.4**
KLU				IAmb	IAmb	18 33 32.5	
	comp=Z,18nm,1.6s						
DHY	**Denali Highway**	**18.10**	**40**	Pn	**P**	**18 33 12.2**	**0.0**
DHY				IAmb	IAmb	18 33 27.6	
	comp=Z,19nm,1.6s						
M24K	**Tolsona, Glenn**	**18.18**	**44**	Pn	**P**	**18 33 13.6**	**+0.6**
WRH	**Wood River Hil**	**18.52**	**36**	P	**P**	**18 33 14.9**	**-1.7**
CCB	**Clear Creek Bu**	**18.72**	**36**	P	**P**	**18 33 17.8**	**-1.0**
MDM	**Murphy Dome**	**18.74**	**34**	P	**P**	**18 33 18.0**	**-1.1**
HDA	**Harding Lake**	**18.91**	**37**	P	**P**	**18 33 20.7**	**-0.3**
HDA				IAmb	IAmb	18 33 22.5	
	comp=Z,8.2nm,1.0s						
GLB	**Gilahina Butte**	**19.00**	**47**	P	**P**	**18 33 20.3**	**-1.7**
GLB				IAmb	IAmb	18 34 16.6	
	comp=Z,20nm,1.7s						
VRDI	**Verde Repeater**	**19.10**	**48**	P	**P**	**18 33 22.6**	**-0.6**
VRDI				IAmb	IAmb	18 33 34.1	
	comp=Z,30nm,1.8s						
CRQM	**Cirque**	**19.12**	**49**	P	**P**	**18 33 23.9**	**+0.5**
IL31		**19.12**	**36**	P	**P**	**18 33 22.5**	**-0.6**
IL31				IAmb	IAmb	18 33 24.3	
	comp=Z,5.1nm,0.6s						
ILAR	**Eielson Array**	**19.12**	**36**	P	**P**	**18 33 22.8**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=227,slow=9.1,SNR=49						
ILAR				LR	LR	18 41 37.8	
	comp=Z,86nm,19.0s,baz=257,slow=39						
RIDG	**Independent Ri**	**19.41**	**40**	P	**P**	**18 33 26.2**	**-0.3**
RIDG				IAmb	IAmb	18 33 27.6	
	comp=Z,36nm,1.8s						
BALM	**Baldy**	**19.57**	**49**	P	**P**	**18 33 27.2**	**-1.0**
DOT	**Dot Lake**	**19.69**	**41**	P	**P**	**18 33 29.5**	**0.0**
YAH	**Yahtse**	**19.69**	**51**	P	**P**	**18 33 30.4**	**+0.6**
BARN	**Barnard Glacie**	**19.89**	**49**	P	**P**	**18 33 32.9**	**+1.0**
BARN				IAmb	IAmb	18 33 41.5	
	comp=Z,12nm,1.4s						
CTGM	**Chitina Glacie**	**20.03**	**49**	P	**P**	**18 33 33.9**	**+0.6**
CTGM				IAmb	IAmb	18 33 36.7	
	comp=Z,6.9nm,0.9s						
PCA	**Pinnacle**	**20.37**	**52**	P	**P**	**18 33 37.2**	**+0.3**
BCAR	**Beaver Creek A**	**20.43**	**43**	P	Pn	18 33 39.5	-0.3
TOLK	**Toolik Lake Re**	**20.65**	**25**	P	**P**	**18 33 40.4**	**+0.5**
EGAK	**Eagle**	**21.31**	**39**	P	**P**	**18 33 47.1**	**+0.2**
BMAR	**Burnt Mountain**	**21.35**	**31**	P	**P**	**18 33 47.7**	**+0.3**
INK	**Inuvik**	**25.47**	**34**	P	**P**	**18 34 28.0**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=214,slow=12,SNR=6.5						
INK	**Inuvik**	**25.47**	**34**	P	**P**	**18 34 28.2**	**+0.3**
DLBC	**Dease Lake**	**25.52**	**57**	P	**P**	**18 34 30.7**	**+2.2**
	comp=Z,6.8nm,0.9s,baz=259,slow=10,SNR=11						
ASAJ	**Asahikawa**	**30.00**	**273**	LR	LR	18 47 30.3	
	comp=Z,37nm,19.6s,baz=69,slow=37						
YKA	**Yellowknife Ar**	**32.72**	**47**	P	**P**	**18 35 32.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=274,slow=8.4,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**35.26**	**213**	T	T	19 13 54.3	
	baz=21,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**35.27**	**213**	T	T	19 13 54.1	
	baz=21,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**35.28**	**213**	T	T	19 13 47.1	
	baz=21,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**36.47**	**213**	T	T	19 15 18.1	
	baz=20,slow=75,SNR=44						
H11S2	**WAKE ISLAND Hy**	**36.48**	**213**	T	T	19 15 17.7	
	baz=20,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hy**	**36.48**	**213**	T	T	19 15 17.2	
	baz=20,slow=75,SNR=17						
USRK	**Ussuriysk Ar.**	**36.53**	**280**	P	**P**	**18 36 05.0**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=61,slow=9.4,SNR=10.0						
NVAR	**Mina Array Bea**	**40.26**	**87**	P	**P**	**18 36 36.4**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=294,slow=8.1,SNR=4.3						
NVAR	**Mina Array Bea**	**40.26**	**87**	P	**P**	**18 36 38.5**	**+1.4**
KSRS	**Korea Array**	**42.92**	**275**	P	**P**	**18 36 59.8**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=59,slow=7.6,SNR=8.7						
KSRS				LR	LR	18 54 06.6	
	comp=Z,19nm,20.9s,baz=190,slow=35						
KSAR	**Wonju Array Be**	**42.95**	**275**	P	**P**	**18 36 59.5**	**+0.6**
PDAR	**Pinedale Array**	**43.10**	**76**	P	**P**	**18 37 00.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=310,slow=4.5,SNR=8.3						
PDAR	**Pinedale Array**	**43.10**	**76**	P	**P**	**18 37 01.7**	**+1.3**
ULM	**Lac du Bonnet**	**46.81**	**59**	LR	LR	18 58 00.3	
	comp=Z,42nm,18.1s,baz=132,slow=37						
TLY	**Talaya**	**48.72**	**305**	P	**P**	**18 37 45.0**	**+0.7**
TLY				IAmb	IAmb	18 38 36.6	
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**49.49**	**299**	P	**P**	**18 37 50.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=43,slow=8.8,SNR=9.3						
SONM	**Songino Array**	**49.49**	**299**	P	**P**	**18 37 51.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**50.78**	**289**	*e*P	**P**	**18 38 02.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,6.1s						
TXAR	**Lajitas Array**	**55.37**	**85**	P	**P**	**18 38 33.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=295,slow=6.6,SNR=4.0						
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**18 38 55.0**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=22,slow=6.7,SNR=4.7						
ARCES				PcP	**PcP**	**18 39 45.5**	**0.0**
	comp=Z,4.6nm,1.1s,baz=26,slow=5.9,SNR=5.4						
GTA	**Gaotai**	**58.53**	**295**	P	**P**	**18 38 56.7**	**+0.3**
GTA				pP	pP	18 39 03.0	-3.3
GTA				sP	pwP	18 39 05.7	-5.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MKAR	**Makanchi Array**	**62.46**	**311**	P	**P**	**18 39 22.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=46,slow=6.6,SNR=19						
FINES	**FINESS Array B**	**66.29**	**350**	P	**P**	**18 39 47.0**	**-0.6**
	comp=Z,4.0nm,0.9s,baz=359,slow=9.5,SNR=5.3						
AKASG	**Malin Array Be**	**76.33**	**345**	P	**P**	**18 40 46.7**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=18,slow=6.1,SNR=6.8						
CLL	**Collm**	**77.39**	**356**	*e*P	**P**	**18 40 59.0**	**+4.6**
CLL				*e*pP	**pP**	**18 41 01.0**	**-3.5**
GERES	**GERESS Array B**	**79.81**	**355**	P	**P**	**18 41 07.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=19,slow=6.2,SNR=4.9						
GERES	**GERESS Array B**	**79.81**	**355**	P	**P**	**18 41 07.8**	**-0.1**
KBZ	**Khabaz**	**80.00**	**334**	P	**P**	**18 41 09.2**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=290,slow=3.8,SNR=3.9						
GEYT	**Alibeck**	**80.12**	**321**	P	**P**	**18 41 10.3**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=13,slow=3.3,SNR=4.6						
GEYT	**Alibeck**	**80.12**	**321**	P	**P**	**18 41 10.5**	**+0.8**
WRA	**Warramunga Arr**	**84.49**	**228**	P	**P**	**18 41 31.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=36,slow=6.0,SNR=1.8						
ASAR	**Alice Springs**	**87.91**	**227**	P	**P**	**18 41 49.0**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=26,slow=5.0,SNR=8.6						
ASAR	**Alice Springs**	**87.91**	**227**	P	**P**	**18 41 49.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**115.46**	**5**	PKP	**PKiKP**	**18 47 39.9**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=15,slow=6.4,SNR=3.6						
MAW	**Mawson**	**148.62**	**218**	PKPbc	**PKPbc**	**18 48 45.0**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=184,slow=1.4,SNR=4.2						

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*IDC **08** 18:41:56.4±1.7, 7.99S×120.23E, h214km±15km, mb3.2/4, mb1 3.2/8, mb1mx3.0/56, mbtmp3.7/8, Error ellipse: s-maj=54.7km s-min=9.7km az=53.0*

ISC 08 18:41:54.6±1.1, 8.3S±0.1×119.9E±0.2, h201km, n8, σ2§12/12, mb3.8/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.22**	**357**	P	**Pn**	**18 42 46.5**	**-0.5**
	3.8nm,0.3s,baz=165,slow=6.6,SNR=12						
BATI	**Baumata**	**4.18**	**118**	P	**Pn**	**18 43 00.0**	**+1.3**
	2.3nm,0.3s,baz=276,slow=23,SNR=2.4						
BATI				S	**S**	**18 43 47.8**	**-0.7**
	5.1nm,0.3s,baz=130,slow=0.7,SNR=3.1						
FITZ	**Fitzroy Crossi**	**11.26**	**151**	P	**Pn**	**18 44 32.2**	**+2.1**
	0.2nm,0.3s,baz=323,slow=9.6,SNR=10.0						
FITZ				S	**S**	**18 46 31.1**	**-4.7**
	0.2nm,0.3s,baz=84,slow=20,SNR=2.1						
WRA	**Warramunga Ar**	**18.17**	**131**	P	**Pn**	**18 45 53.4**	**-1.3**
	0.4nm,0.3s,baz=309,slow=12,SNR=26						
WRA				S	**S**	**18 49 09.8**	**-0.2**
	0.1nm,0.3s,baz=328,slow=28,SNR=2.3						
ASAR	**Alice Springs**	**20.36**	**140**	P	**P**	**18 46 17.5**	**+1.5**
	0.6nm,0.4s,baz=320,slow=8.4,SNR=20						
ASAR				S	**S**	**18 49 52.1**	**-1.0**
	0.3nm,0.8s,baz=321,slow=23,SNR=2.4						
STKA	**Stephens Creek**	**30.97**	**142**	P	**P**	**18 47 55.1**	**+1.9**
	1.1nm,0.4s,baz=324,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**64.21**	**332**	P	**P**	**18 52 08.0**	**-0.1**
	0.9nm,0.6s,baz=155,slow=7.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**68.67**	**339**	P	**P**	**18 52 34.5**	**-1.6**
	0.7nm,0.5s,baz=140,slow=7.3,SNR=3.7						

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*IDC **08** 18:48:58.5±0.6, 64.59N×17.61W, h0km, mb3.9/16, mb1 4.1/20, mb1mx3.9/57, mbtmp3.9/20, ML2.7/3, MS3.2/8, Ms1 3.2/8, ms1mx2.9/49, Error ellipse: s-maj=18.1km s-min=9.6km az=12.0*
*REY **08** 18:48:58.8, 64.67N×17.46W, h4km*
*NEIC **08** 18:48:59.4±1.4, 64.6N±0.1×17.9W±0.2, h8km±4km, mb4.6/31, Error ellipse: s-maj=18.1km s-min=10.2km az=190.0*
*BGR **08** 18:49:17.5±0.0, 64.26N×14.71W, h33km, mb4.1*

ISC 08 18:48:59.2±0.8, 64.67N±0.02×17.45W±0.02, h7km±5km, n144, σ1§93/155, mb4.2/43, MS3.2/6, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.13**	**273**	P	**Pg**	**18 49 01.5**	**-0.5**
	baz=270						
IVON				S	**Sg**	**18 49 04.2**	**+0.2**
	baz=270						
IDYN	**Dyngjuhals**	**0.13**	**17**	P	**Pg**	**18 49 01.6**	**-0.5**
	baz=18						
IDYN				S	**Sg**	**18 49 04.3**	**+0.3**
	baz=18						
IDJK	**Dyngjujokull**	**0.19**	**150**	P	**Pg**	**18 49 02.8**	**-0.2**
	baz=151						
IURH	**Urdarhals**	**0.20**	**40**	P	**Pg**	**18 49 02.8**	**-0.5**
	baz=42						
IURH				S	**Sg**	**18 49 07.0**	**+1.0**
	baz=42						
IGRF	**Grimsfjall**	**0.27**	**163**	P	**Pb**	**18 49 04.2**	**-2.3**
	baz=163						
IHUS	**Husbondi**	**0.38**	**193**	P	**Pb**	**18 49 06.3**	**-2.1**
	baz=193						
IHUS				S	**Sb**	**18 49 12.2**	**-2.4**
	baz=193						
IVOT	**Vottur**	**0.41**	**163**	P	**Pb**	**18 49 06.7**	**-2.2**
	baz=164						
IVOT				S	**Sn**	**18 49 13.7**	**+1.0**
	baz=164						
ISKR	**Skrokkalda**	**0.42**	**256**	P	**Pg**	**18 49 06.4**	**-0.9**
	baz=255						
ISKR				S	**Sg**	**18 49 12.6**	**-0.2**
	baz=255						
IKRE	**Kreppuhraun**	**0.47**	**75**	P	**Pg**	**18 49 07.2**	**-1.1**
	baz=76						
IKRE				S	**Sg**	**18 49 14.9**	**+0.3**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**224**	P	**Pg**	**18 49 07.5**	**-1.0**
	baz=223						
IJOK				S	**Sb**	**18 49 14.8**	**-2.6**
	baz=223						
IMKO	**Mokollar**	**0.57**	**56**	P	**Pg**	**18 49 09.0**	**-1.2**
	baz=57						
IMKO				S	**Sg**	**18 49 18.0**	**+0.4**
	baz=57						
IIEY	**Innrieyrar**	**0.64**	**207**	P	**Pg**	**18 49 10.3**	**-1.2**
	baz=207						
IKSK	**Karasker**	**0.66**	**140**	P	**Pg**	**18 49 10.4**	**-1.6**
	baz=140						
IKSK				S	**Sn**	**18 49 20.1**	**-5.7**
	baz=140						
ISVA	**Svartarkot**	**0.68**	**7**	P	**Pb**	**18 49 10.9**	**-2.5**
	baz=7.2						
ISVA				S	**Sb**	**18 49 20.6**	**-2.4**
	baz=7.2						
IKAL	**Kalfafell**	**0.73**	**188**	P	**Pb**	**18 49 12.0**	**-2.2**
	baz=188						
IKAL				S	**Sn**	**18 49 22.3**	**-5.0**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.75**	**78**	P	**Pb**	**18 49 11.9**	**-2.8**
	baz=79						
IVSH				S	**Sb**	**18 49 22.5**	**-2.7**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**234**	P	**Pb**	**18 49 13.3**	**-2.1**
	baz=233						
IHVE	**Hveravellir**	**0.93**	**284**	P	**Pb**	**18 49 14.8**	**-2.9**
	baz=283						
IHVE				S	**Sb**	**18 49 27.6**	**-2.6**
	baz=283						
IMEL	**Melhnausar**	**0.97**	**20**	P	**Pb**	**18 49 15.6**	**-2.7**
	baz=20						
IMEL				S	**Sb**	**18 49 29.1**	**-2.2**
	baz=20						
IREN	**Reynihlio**	**1.01**	**13**	P	**Pb**	**18 49 16.4**	**-2.7**
	baz=13						
IKVO	**Krokottuvotn**	**1.08**	**13**	P	**Pn**	**18 49 17.4**	**-3.4**
	baz=13						
ISLY	**Slysaalda**	**1.11**	**221**	P	**Pb**	**18 49 18.5**	**-2.4**
	baz=221						
IGRS	**Grimsstaoir**	**1.13**	**29**	P	**Pn**	**18 49 18.3**	**-3.1**
	baz=30						
IGRS				S	**Sb**	**18 49 34.4**	**-1.5**
	baz=30						
IFED	**Fedgar**	**1.17**	**238**	P	**Pn**	**18 49 19.8**	**-2.2**
	baz=237						
IRJU	**Rjupnafell**	**1.18**	**207**	P	**Pb**	**18 49 19.7**	**-2.2**
	baz=207						
IMJO	**Mjoaskard**	**1.22**	**234**	P	**Pn**	**18 49 20.1**	**-2.6**
	baz=233						
ISKI	**Skildingahlsh**	**1.22**	**8**	P	**Pn**	**18 49 19.9**	**-2.9**
	baz=8.3						
IGHA	**Grjothals**	**1.23**	**15**	P	**Pn**	**18 49 19.7**	**-3.1**
	baz=16						
IGRA	**Granastaoir**	**1.26**	**358**	P	**Pn**	**18 49 20.2**	**-3.0**
	baz=358						
IGRA				S	**Sn**	**18 49 37.5**	**-2.8**
	baz=358						
IHVO	**Lagu-Hvolar**	**1.30**	**209**	P	**Pn**	**18 49 21.7**	**-2.1**
	baz=209						
IHAU	**Haukadalur**	**1.30**	**239**	P	**Pn**	**18 49 21.3**	**-2.5**
	baz=238						
IDIM	**Dimmadalss**	**1.32**	**9**	P	**Pn**	**18 49 21.3**	**-2.8**
	baz=9.4						
IHLA	**Hella**	**1.34**	**343**	P	**Pn**	**18 49 21.8**	**-2.5**
	baz=343						
IHLA				S	**Sn**	**18 49 40.3**	**-2.1**
	baz=343						
IALF	**Alftagrof**	**1.40**	**214**	P	**Pn**	**18 49 23.4**	**-1.8**
	baz=213						
IHED	**Heoinshofoi**	**1.42**	**2**	P	**Pn**	**18 49 22.8**	**-2.7**
	baz=2.4						
IESK	**Eystri-Skogar**	**1.44**	**218**	P	**Pn**	**18 49 23.7**	**-2.0**
	baz=218						
ISAU	**Saurbar**	**1.46**	**244**	P	**Pn**	**18 49 23.2**	**-2.7**
	baz=243						
IMID	**Miomork**	**1.47**	**228**	P	**Pn**	**18 49 24.4**	**-1.7**
	baz=227						
IBRE	**Brettingsstaoi**	**1.48**	**353**	P	**Pn**	**18 49 23.7**	**-2.4**
	baz=353						
IGIL	**Gilhagi**	**1.49**	**18**	P	**Pn**	**18 49 23.6**	**-2.7**
	baz=18						
ISIG	**Siglufjorour**	**1.59**	**338**	P	**Pn**	**18 49 25.6**	**-2.2**
	baz=338						
ISIG				S	**Sn**	**18 49 47.1**	**-1.5**
	baz=338						
BORG	**Borgarnes**	**1.67**	**275**	Pg	**Pn**	**18 49 26.6**	**-2.2**
	19nm,0.3s,baz=101,slow=10,SNR=49						
BORG				Lg	Lg	18 49 49.9	
	19nm,0.3s,baz=40,slow=20,SNR=9.0						
BORG	**Borgarnes**	**1.67**	**275**		**Pn**	**18 49 26.2**	**-2.5**
ISOL	**Solvholt**	**1.69**	**246**	P	**Pn**	**18 49 27.1**	**-2.0**
	baz=245						
IKRO	**Krokur**	**1.69**	**252**	P	**Pn**	**18 49 27.0**	**-2.2**
	baz=252						
IHEI	**Heioarbar**	**1.71**	**256**	P	**Pn**	**18 49 27.4**	**-1.9**
	baz=256						
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn	**Pn**	**18 51 46.9**	**-0.1**
	baz=321,slow=13,SNR=20						
ESK	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**18 51 47.4**	**+0.4**
NOA	**NORSAR Array B**	**13.51**	**92**	Pn	**Pn**	**18 52 09.5**	**-1.6**
	0.0nm,0.3s,baz=293,slow=21,SNR=2.8						
NOA				LR	LR	18 57 10.1	
	comp=Z,35nm,20.1s,baz=295,slow=36						
SPITS	**Spitsbergen Ar**	**16.86**	**23**	LR	LR	18 57 37.1	
	comp=Z,95nm,19.3s,baz=185,slow=31						
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**P**	**18 53 00.3**	**+0.2**
	baz=269,slow=9.8,SNR=1.1						
FINES	**FINESS Array B**	**19.68**	**79**	P	**Pn**	**18 53 29.9**	**-0.1**
	0.1nm,0.3s,baz=291,slow=12,SNR=3.1						
CLL	**Collm**	**20.69**	**116**	*i* P	Pn	18 53 40.7	-1.1
	comp=Z,12nm,1.2s						
CLL				*i*		18 53 47.8	
	comp=Z,41nm,1.9s						
CLL	**Collm**	**20.69**	**116**	P	Pn	18 53 40.9	-0.9
CLL				IAmb	IAmb	18 53 50.5	
	comp=Z,51nm,2.0s						
GRF	**Grafenberg Arr**	**21.32**	**121**	*e*P	**P**	**18 53 48.0**	**+1.7**
	comp=Z,17nm,1.4s,baz=325,slow=11						
BRG	**Berggiesshubel**	**21.39**	**115**	*e*P	**P**	**18 53 48.4**	**+1.2**
	comp=Z,38nm,1.7s						
BRG				*e*		18 54 01.5	
	comp=Z,23nm,1.4s						
VSU	**Vasula**	**21.55**	**86**	*e*P	**P**	**18 53 48.3**	**-0.3**
PABE	**Paberze**	**22.19**	**95**	*e*P	**P**	**18 53 58.0**	**+2.4**
CHVC	**Chvalec**	**22.45**	**113**	*e*P	**P**	**18 54 01.3**	**+2.8**
OSTC	**Ostas**	**22.54**	**113**	*e*P	**P**	**18 54 02.4**	**+3.0**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**18 54 03.5**	**+2.8**
KHC	**Kasperske Hory**	**22.66**	**118**	P	**P**	**18 54 01.1**	**+0.3**
DPC	**Dobruska-Polom**	**22.74**	**113**	*e*P	**P**	**18 54 03.6**	**+2.0**
DAVA	**Damuels**	**22.86**	**126**	*e*P	P	18 54 12.8	+10
	comp=Z,8.8nm,1.4s						
GEC2	**GERESS Array S**	**22.94**	**119**	P	**P**	**18 54 04.9**	**+1.1**
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**18 54 05.1**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=323,slow=8.7,SNR=8.3						
GERES				LR	LR	19 04 10.0	
	comp=Z,58nm,18.5s,baz=339,slow=40						
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**18 54 05.4**	**+1.7**
RETA	**Reutte**	**23.00**	**125**	*e*P	**P**	**18 54 07.8**	**+3.4**
	comp=Z,9.4nm,1.2s						
IZAR	**Zarasai**	**23.01**	**92**	*e*P	**P**	**18 54 04.8**	**+0.6**
ISAL	**Salakas**	**23.07**	**93**	*e*P	**P**	**18 54 07.0**	**+2.0**
MOTA	**Moosalm**	**23.24**	**125**	*e*P	**P**	**18 54 07.6**	**+0.7**
	comp=Z,11nm,1.2s						
IIGN	**Ignalina**	**23.26**	**93**	*e*P	**P**	**18 54 09.6**	**+2.7**
SQTA	**Sankt Quirin**	**23.39**	**125**	*e*P	**P**	**18 54 07.6**	**-0.8**
	comp=Z,7.7nm,1.2s						
FETA	**Feichten**	**23.39**	**126**	*e*P	P	18 54 18.2	+10
	comp=Z,6.8nm,2.2s						
WATA	**Walderalm**	**23.42**	**124**	*e*

	comp=Z,9.0nm,0.9s								
EGMT	**Eagleton**	**48.89**	**297**	P		**P**		**18 57 47.0**	**+1.6**
KK31	**Karatay Array**	**51.26**	**70**	P		**P**		**18 58 05.2**	**+2.0**
KK31				IAmb		IAmb		18 58 06.5	
	comp=Z,6.7nm,1.2s								
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**		**18 58 05.4**	**+2.1**
KKAR				IAmb		IAmb		18 58 06.5	
	comp=Z,6.7nm,1.2s								
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**		**18 58 04.5**	**+1.3**
BOZ	**Bozeman (W)**	**51.62**	**297**	P		**P**		**18 58 07.8**	**+1.7**
BOZ				IAmb		IAmb		18 58 09.6	
	comp=Z,6.9nm,1.2s								
MKAR	**Makanchi Array**	**52.71**	**58**	P		**P**		**18 58 13.2**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=352,slow=7.6,SNR=5.0								
MKAR	**Makanchi Array**	**52.71**	**58**	P		**P**		**18 58 14.0**	**0.0**
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P		**P**		**18 58 17.2**	**-0.2**
	comp=Z,2.0nm,1.1s,baz=345,slow=10,SNR=6.6								
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P		**P**		**18 58 17.1**	**-0.2**
PD31	**Pinedale Array**	**53.20**	**293**	P		**P**		**18 58 18.1**	**+0.2**
PDAR	**Pinedale Array**	**53.20**	**293**	P		**P**		**18 58 18.3**	**+0.4**
	comp=Z,3.0nm,1.1s,baz=60,slow=8.8,SNR=13								
PDAR	**Pinedale Array**	**53.20**	**293**	P		**P**		**18 58 18.6**	**+0.7**
N23A	**Red Feather La**	**53.32**	**289**	P		**P**		**18 58 20.8**	**+1.8**
N23A				IAmb		IAmb		18 58 21.8	
	comp=Z,9.8nm,1.2s								
BTK	**Batken**	**53.94**	**72**	P		**P**		**18 58 25.2**	**+1.9**
CHGR	**Chuyangaron**	**54.45**	**74**	P		**P**		**18 58 28.7**	**+1.8**
GAR	**Garm**	**54.63**	**73**	P		**P**		**18 58 30.1**	**+1.7**
HWUT	**Hardware Ranch**	**54.97**	**294**	P		**P**		**18 58 31.1**	**+0.3**
HWUT				IAmb		IAmb		18 58 33.9	
	comp=Z,6.9nm,1.1s								
WMOK	**Wichita Mounta**	**55.56**	**279**	P		**P**		**18 58 36.2**	**+1.2**
PV03	**Paradox Valley**	**56.75**	**290**	P		**P**		**18 58 42.6**	**-1.0**
PV03				IAmb		IAmb		18 58 46.0	
	comp=Z,5.1nm,1.1s								
PV13	**Radium Mtn., P**	**56.82**	**290**	P		**P**		**18 58 45.5**	**+1.3**
PV13				IAmb		IAmb		18 58 46.6	
	comp=Z,9.4nm,1.0s								
MSU	**Marysvale**	**57.86**	**293**	P		**P**		**18 58 53.3**	**+1.8**
MVU	**Marysvale**	**57.88**	**293**	P		**P**		**18 58 54.2**	**+2.5**
DBIC	**Dimbokro**	**58.58**	**165**	P		**P**		**18 58 54.5**	**-1.9**
	comp=Z,4.4nm,1.0s,baz=0.6,slow=4.5,SNR=3.0								
SONM	**Songino Array**	**59.63**	**40**	P		**P**		**18 59 04.5**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=330,slow=8.6,SNR=5.4								
SONM	**Songino Array**	**59.63**	**40**	P		**P**		**18 59 04.8**	**+1.3**
WUAZ	**Wupatki**	**60.13**	**290**	P		**P**		**18 59 08.3**	**+1.2**
NIL	**Nilore**	**60.43**	**74**	P		**P**		**18 59 10.5**	**+1.3**
NIL				IAmb		IAmb		18 59 11.9	
	comp=Z,8.7nm,1.0s								
TXAR	**Lajitas Array**	**62.30**	**280**	P		**P**		**18 59 22.1**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=56,slow=3.2,SNR=4.4								
TXAR	**Lajitas Array**	**62.30**	**280**	P		**P**		**18 59 22.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**		**19 01 30.9**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=317,slow=5.9,SNR=4.9								
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**		**19 01 30.6**	**-0.2**
ASAR	**Alice Springs**	**134.95**	**38**	PKP		**PKiKP**		**19 08 19.5**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=39,slow=0.6,SNR=4.7								

*IDC **08** 19:04:21.7±1.1, 19.°13N×121.°36E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/56, mbtmp3.8/9, ML3.8/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/53, Error ellipse: s-maj=30.3km s-min=21.9km az=78.0*
*MAN **08** 19:04:26.2, 19.°17N×121.°23E, h23km, mb4.7, ML3.6, MS3.5*
*NEIC **08** 19:04:28.6±1.2, 19.°24N±0.°06×121.°2E±0.°2, h48km±9km, mb4.4/3, Error ellipse: s-maj=26.4km s-min=9.2km az=88.0*

ISC 08 19:04:27.5±0.6, 19°21N±0.°03×121°14E±0.°07, h39km, n45, σ1§23/42, mb3.7/10, MS3.2/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.29**	**138**	*eP*	**Pn**	**19 04 47.9**	**-1.1**
SGCP				*eS*	**Sn**	**19 05 03.8**	**-1.2**
APYP	**Conner**	**1.34**	**176**	*eP*	**Pn**	**19 04 48.1**	**-1.6**
APYP				*eS*	**Sn**	**19 05 03.5**	**-2.8**
SIPP	**Brgy, Tapao**	**1.43**	**207**	*iP*	**Pn**	**19 04 51.1**	**+0.1**
SIPP				*eS*	Sn	19 05 24.5	+16
BBP	**Basco**	**1.45**	**32**	*eP*	**Pn**	**19 04 51.1**	**-0.1**
BBP				*eS*	**Sn**	**19 05 09.6**	**+0.5**
ABRA	**Dolores**	**1.60**	**195**	*eP*	**Pn**	**19 04 52.0**	**-1.3**
ABRA				*eS*	**Sn**	**19 05 13.6**	**+0.9**
CAUP	**Cauayan**	**2.34**	**164**	*eP*	**Pn**	**19 05 05.2**	**+1.8**
CAUP				*eS*	Sn	19 05 49.3	+18
SMPP	**San Manuel, Pa**	**3.07**	**188**	*eP*	**Pn**	**19 05 13.7**	**+0.1**
BALP	**Baler**	**3.47**	**173**	*eP*	**Pn**	**19 05 19.6**	**+0.6**
BALP				*eS*	**Sn**	**19 06 00.5**	**+1.6**
TWG	**Pinlang**	**3.60**	**359**	Pn	**Pn**	**19 05 19.8**	**-1.0**
TWG				Sn	**Sn**	**19 05 59.9**	**-2.0**
TPUB	**Ta-pu**	**4.10**	**353**	Pn	**Pn**	**19 05 26.9**	**-0.8**
YULB	**Yu-li**	**4.17**	**2**	Pn	**Pn**	**19 05 29.7**	**+1.1**
SSLB	**Suanglung**	**4.56**	**358**		**Pn**	**19 05 35.2**	**+1.2**
NACB	**Ninganchiao**	**4.96**	**5**	Pn	**Pn**	**19 05 39.6**	**+0.2**
LQP	**Lukban**	**5.08**	**176**	*eP*	**Pn**	**19 05 41.7**	**+0.3**
TGY	**Tagaytay City**	**5.08**	**182**	Pn	**Pn**	**19 05 42.9**	**+1.7**
	baz=115,slow=17,SNR=0.8						
YHNB	**Yeheng**	**5.44**	**2**	Pn	**Pn**	**19 05 48.0**	**+1.9**
KNMB	**Chin-men Tao**	**5.82**	**334**	Pn	**Pn**	**19 05 49.7**	**-1.6**
HKPS	**Hong Kong Po S**	**7.23**	**296**	Pn	**Pn**	**19 06 08.6**	**-2.1**
DAV	**Davao City (W)**	**12.81**	**160**	LR	LR	19 11 50.0	
	comp=Z,70nm,19.7s,baz=22,slow=35						
KSRS	**Korea Array**	**19.12**	**17**	P	**P**	**19 08 46.6**	**-0.5**
	0.3nm,0.3s,baz=197,slow=11,SNR=9.8						
CMAR	**Chiang Mai Arr**	**21.03**	**272**	P	**P**	**19 09 10.9**	**+2.9**
	0.6nm,0.8s,baz=71,slow=9.3,SNR=4.7						
MJAR	**Matsushiro Arr**	**22.87**	**37**	P	**P**	**19 09 27.8**	**+0.2**
	1.1nm,0.6s,baz=319,slow=9.2,SNR=2.8						
MJAR	**Matsushiro Arr**	**22.87**	**37**	P	**P**	**19 09 27.3**	**-0.3**
GUMO	**Guam**	**23.42**	**100**	LR	LR	19 17 14.7	
	comp=Z,58nm,19.5s,baz=192,slow=33						
ASAJ	**Asahikawa**	**30.64**	**31**	LR	LR	19 22 10.8	
	comp=Z,31nm,19.2s,baz=242,slow=35						
SONM	**Songino Array**	**30.98**	**341**	P	**P**	**19 10 42.3**	**+1.1**
	1.1nm,1.0s,baz=159,slow=8.7,SNR=5.1						
SONM	**Songino Array**	**30.98**	**341**	P	**P**	**19 10 41.4**	**+0.2**
MKAR	**Makanchi Array**	**41.99**	**320**	P	**P**	**19 12 15.6**	**+0.7**
	0.8nm,0.8s,baz=134,slow=3.5,SNR=4.5						
MKAR				LR	LR	19 29 30.3	
	comp=Z,46nm,18.5s,baz=101,slow=36						
MKAR	**Makanchi Array**	**41.99**	**320**	P	**P**	**19 12 15.2**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**43.01**	**83**	T	T	19 58 13.8	
	baz=279,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**43.02**	**83**	T	T	19 58 06.1	
	SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**43.03**	**83**	T	T	19 58 08.6	
	baz=290,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**43.04**	**81**	T	T	19 58 06.4	
	baz=277,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**43.04**	**81**	T	T	19 58 06.4	
	baz=277,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**43.05**	**81**	T	T	19 58 06.4	
	baz=277,slow=75,SNR=7.1						
ASAR	**Alice Springs**	**44.39**	**163**	P	**P**	**19 12 33.0**	**-1.5**
	0.4nm,0.5s,baz=343,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**44.39**	**163**	P	**P**	**19 12 33.4**	**-1.1**
ZALV	**Zalesovo Beam**	**44.45**	**330**	P	**P**	**19 12 35.1**	**+0.5**
	0.9nm,0.7s,baz=99,slow=9.2,SNR=4.4						
ZALV				LR	LR	19 31 49.2	
	comp=Z,35nm,18.1s,baz=50,slow=37						
NIL	**Nilore**	**44.85**	**299**	P	**P**	**19 12 38.2**	**+0.1**
NIL				IAmb	IAmb	19 12 39.1	
	comp=Z,7.4nm,0.8s						
KKAR	**Karatay Array**	**48.57**	**311**	P	**P**	**19 13 06.2**	**-0.9**
NRIK	**Noril'sk**	**54.19**	**346**	P	**P**	**19 13 49.0**	**+0.3**
	comp=Z,4.0nm,0.5s,baz=129,slow=7.9,SNR=8.0						
ABKAR	**Akbulak array**	**56.95**	**317**	P	**P**	**19 14 08.8**	**0.0**
ABKAR	**Akbulak array**	**56.95**	**317**	P	**P**	**19 14 08.9**	**0.0**
ABKAR				IAmb	IAmb	19 14 09.4	
	comp=Z,3.0nm,1.2s						
BCAR	**Beaver Creek A**	**76.22**	**28**	P	**P**	**19 16 11.8**	**+0.1**
YKA	**Yellowknife Ar**	**87.55**	**23**	P	**P**	**19 17 10.8**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=314,slow=4.7,SNR=6.4						

*JMA **08** 19:20:55.4±0.2, 39.°64N×143.°72E, h15km, M3.8*
*NIED **08** 19:20:55.4, 39.°64N×143.°72E, h15km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.99; Mϑϑ0.23; Mϕϕ-3.22; Mrϑ1.52; Mϕϑ-1.08; Mrϕ1.34; Fault plane solution: Mo3.86000×10¹⁴ NP1:ϕs34.00000°, δ61.00000°, λ109.00000°. NP2:ϕs177.00000°, δ34.00000°, λ59.00000°.*
*IDC **08** 19:20:59.5±1.9, 39.°86N×143.°04E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/57, mbtmp3.7/7, ML3.1/2 Error ellipse: s-maj=38.1km s-min=25.8km az=135.0*

ISC 08 19:20:58.8±1.2, 39.°68N±0.°06×143.°42E±0.°09, h10km, n25, σ1§46/29, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.23**	**283**	P	**Pn**	**19 21 21.2**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.24**	**266**	P	**Pb**	**19 21 21.7**	**-0.6**
JKEN	**Kujiedanarisaw**	**1.42**	**292**	P	**Pn**	**19 21 24.0**	**-0.6**
OFUJ	**Ofunato**	**1.48**	**247**	P	**Pn**	**19 21 24.7**	**-0.9**
JANG	**Nango**	**1.62**	**296**	P	**Pn**	**19 21 26.7**	**-0.7**
JOM	**Ohasama**	**1.66**	**264**	P	**Pb**	**19 21 28.1**	**-1.4**
JMK	**Ichinoseki**	**1.86**	**248**	P	**Pn**	**19 21 30.2**	**-0.5**
JIO	**Ouri**	**2.02**	**234**	P	**Pn**	**19 21 31.6**	**-1.4**
JTM	**Tenmabayashi**	**2.12**	**302**	P	**Pn**	**19 21 34.6**	**+0.4**
JOT	**Ohata**	**2.48**	**314**	P	**Pn**	**19 21 39.5**	**+0.2**
JYK	**Kaneyama**	**2.50**	**253**	P	**Pn**	**19 21 39.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.65**	**349**	P	**Pn**	**19 21 42.0**	**+0.5**
JNBK				*eS*	**Sn**	**19 22 15.2**	**+1.5**
JKB	**Kayabe**	**2.86**	**321**	P	**Pn**	**19 21 45.3**	**+0.9**
JCH	**Churui**	**2.93**	**359**	P	**Pn**	**19 21 44.5**	**-1.0**
JFT	**Otama**	**3.24**	**229**	P	**Pn**	**19 21 49.0**	**-0.7**
JAK	**Akkeshi**	**3.45**	**16**	P	**Pn**	**19 21 50.6**	**-2.0**
JAK				*eS*	**Sn**	**19 22 30.9**	**-2.6**
ASAJ	**Asahikawa**	**4.48**	**352**	Pn	**Pn**	**19 22 07.1**	**+0.4**
	1.6nm,0.3s,baz=201,slow=7.9,SNR=18						
ASAJ				Sn	**Sn**	**19 22 57.5**	**-1.4**
	1.0nm,0.3s,baz=295,slow=2.8,SNR=1.8						
MAT	**Matsushiro**	**5.17**	**234**	P	**Pn**	**19 22 16.8**	**+0.6**
MAT				*eS*	**Sn**	**19 23 15.1**	**-0.8**
MJAR	**Matsushiro Arr**	**5.17**	**234**	Pn	**Pn**	**19 22 16.8**	**+0.6**
	0.2nm,0.3s,baz=41,slow=12,SNR=17						
USRK	**Ussuriysk Ar.**	**9.64**	**302**	Pn	**Pn**	**19 23 21.4**	**+3.9**
	baz=105,slow=13,SNR=5.0						
SEY	**Seymchan**	**23.90**	**10**	P	**P**	**19 26 13.4**	**+1.0**
	1.7nm,0.3s,baz=86,slow=24,SNR=8.6						
SONM	**Songino Array**	**27.74**	**299**	P	**P**	**19 26 47.5**	**-0.1**
	0.8nm,0.8s,baz=104,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.36**	**310**	P	**P**	**19 28 42.8**	**-1.9**
	0.5nm,0.3s,baz=80,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	**19 29 06.2**	**-1.0**
	0.7nm,0.8s,baz=91,slow=7.2,SNR=3.2						
NVAR	**Mina Array Bea**	**72.16**	**55**	P	**P**	**19 32 27.0**	**+3.0**
	0.2nm,0.6s,baz=300,slow=7.1,SNR=2.0						

DJA 08 19:21:34.2±1.6, 11°E±8°×11°7E±°, h20km±19km, M4.2/11, mB4.6/1, mb4.3/5, MLv4.2/11, Mw(mB)3.8/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.01**	**12**	P	Pn	19 22 06.1	-0.9
PLAI				S	Sn	19 22 29.1	-2.5
TWSI	**Taliwang, Sumb**	**2.11**	**347**	P	Pn	19 22 07.9	-0.6
TWSI				S	Sn	19 22 35.1	+0.9
JAGI	**Jajag, Banyuwa**	**3.93**	**306**	P	Pn	19 22 34.3	+0.8
EDFI	**Ende, Flores**	**4.72**	**65**	P	Pn	19 22 43.9	-0.6
BKSI	**Bulukumba**	**6.10**	**27**	P	Pn	19 23 04.6	+1.4
	0.2nm465nm18nm,0.5s						
BATI	**Baumata**	**6.22**	**85**	P	Pn	19 23 05.2	+0.3
	0.1nm7.0nm,0.9s						
BNSI	**Bone**	**6.92**	**23**	P	Pn	19 23 13.5	-1.1
	0.1nm13nm,0.7s						
UGM	**Wanagama**	**7.34**	**292**	P	Pn	19 23 19.7	-0.7
	0.9nm158nm,1.7s						

*IDC **08** 19:22:52.1±1.6, 10.°67S×117.°11E, h0km, mb3.9/6, mb1 3.9/9, mb1mx3.7/48, mbtmp3.9/9, ML3.5/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/32, Error ellipse: s-maj=54.7km s-min=20.5km az=55.0*
*NEIC **08** 19:22:56.4±1.7, 10.°88S±0.°09×117.°22E±0.°09, h44km±9km, mb4.0/7, Error ellipse: s-maj=14.8km s-min=10.2km az=48.0*
*DJA **08** 19:22:57.2±1.1, 11°S±7°×11°8E±°, h34km±22km, M4.3/12, mB4.7/1, mb4.6/4, MLv4.2/12, Mw(mB)3.9/1*

ISC 08 19:22:56.0±0.6, 10.°83S±0.°06×117.°45E±0.°05, h35km, n42, σ1§81/41, mb4.0/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.01**	**9**	P	**Pn**	**19 23 26.9**	**-0.6**
TWSI	**Taliwang, Sumb**	**2.15**	**345**	P	**Pn**	**19 23 29.3**	**-0.1**
WSI	**Waingapu**	**3.02**	**68**	P	**Pn**	**19 23 38.5**	**-3.0**
BASI	**Baing, Sumba**	**3.13**	**79**	S	**Sn**	**19 24 19.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.01**	**305**	P	**Pn**	**19 23 56.6**	**+1.6**
JAGI	**Jajag, Banyuwa**	**4.01**	**305**	Pn	**Pn**	**19 23 53.7**	**-1.3**
JAGI				Sn	**Sn**	**19 24 37.8**	**-3.1**
EDFI	**Ende, Flores**	**4.66**	**64**	P	**Pn**	**19 24 01.6**	**-2.4**
GMJI	**Gumukmas**	**4.70**	**302**	P	**Pn**	**19 24 05.6**	**+1.1**
MMRI	**Maumere**	**5.19**	**66**	P	**Pn**	**19 24 11.5**	**+0.2**
	0.3nm72nm,0.9s						
BKSI	**Bulukumba**	**6.07**	**26**	P	**Pn**	**19 24 24.2**	**+0.8**
	0.2nm544nm61nm,0.6s						
BATI	**Baumata**	**6.14**	**85**	P	Pn	19 24 11.1	-13
KAPI	**Kappang**	**6.21**	**22**	Pn	**Pn**	**19 24 27.1**	**+1.9**
	1.3nm,0.3s,baz=127,slow=9.6,SNR=4.2						
KAPI				Sn	**Sn**	**19 25 31.4**	**-3.6**
	2.0nm,0.3s,baz=98,slow=22,SNR=6.3						
KAPI				LR	LR	19 27 05.0	
	comp=Z,243nm,18.9s,baz=230,slow=41						
KAPI	**Kappang**	**6.21**	**22**		**Pn**	**19 24 26.9**	**+1.7**
SOEI	**Soe**	**6.79**	**82**	P	**Pn**	**19 24 34.4**	**+1.1**
	0.3nm33nm,0.9s						
SOEI	**Soe**	**6.79**	**82**	Pn	**Pn**	**19 24 34.0**	**+0.7**
BNSI	**Bone**	**6.90**	**23**	P	**Pn**	**19 24 36.7**	**+1.9**
UGM	**Wanagama**	**7.43**	**292**	Pn	**Pn**	**19 24 39.4**	**-2.6**
FITZ	**Fitzroy Crossi**	**10.73**	**133**	Pn	**Pn**	**19 25 30.7**	**+3.5**
	0.4nm,0.3s,baz=328,slow=9.4,SNR=8.7						
FITZ				Sn	**Sn**	**19 27 24.9**	**-1.2**
	0.3nm,0.3s,baz=84,slow=20,SNR=2.0						
FITZ				LR	LR	19 29 55.1	
	comp=Z,115nm,19.1s,baz=313,slow=38						
FITZ	**Fitzroy Crossi**	**10.73**	**133**		**Pn**	**19 25 29.0**	**+1.7**
PSA00	**Pilbara Seismi**	**10.93**	**168**	Pn	**Pn**	**19 25 30.9**	**+0.8**
KNRA	**Kununurra**	**12.02**	**115**	Pn	**Pn**	**19 25 47.6**	**+2.7**
GIRL	**Giralia**	**12.15**	**194**	Pn	**Pn**	**19 25 45.5**	**-1.2**
MORW	**Morawa**	**18.20**	**184**	P	**P**	**19 27 04.2**	**-1.8**
WB0	**Warramunga Arr**	**18.59**	**121**	P	**Pn**	**19 27 12.0**	**+1.3**
WB0				IAmb	IAmb	19 27 46.1	
	comp=Z,22nm,1.9s						
WRA	**Warramunga Arr**	**18.62**	**121**	P	**Pn**	**19 27 15.0**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=295,slow=14,SNR=2.9						
WRA				LR	LR	19 35 33.9	
	comp=Z,53nm,20.1s,baz=275,slow=40						
WRA	**Warramunga Arr**	**18.62**	**121**	P	**Pn**	**19 27 13.1**	**+2.0**
WB2	**Warramunga Arr**	**18.63**	**121**	P	**P**	**19 27 10.8**	**0.0**
WB2				IAmb	IAmb	19 27 56.3	
	comp=Z,19nm,1.7s						
SDSI	**Sungai Dareh**	**18.71**	**301**	P	**Pn**	**19 27 15.6**	**+3.3**
WR0	**Warramunga Arr**	**18.80**	**121**	P	**P**	**19 27 12.7**	**+0.1**
WR0				IAmb	IAmb	19 28 11.0	
	comp=Z,15nm,1.8s						
AS31	**Alice Springs**	**20.22**	**131**	Pn	Pn	19 27 31.0	+0.7
ASAR	**Alice Springs**	**20.22**	**131**	P	Pn	19 27 33.9	+3.6
	comp=Z,2.0nm,0.9s,baz=300,slow=9.5,SNR=9.9						
ASAR	**Alice Springs**	**20.22**	**131**	P	**P**	**19 27 28.3**	**+0.1**
STKA	**Stephens Creek**	**30.59**	**137**	LR	LR	19 42 22.6	
	comp=Z,48nm,18.6s,baz=212,slow=38						
KSRS	**Korea Array**	**49.02**	**11**	P	**P**	**19 31 39.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=187,slow=9.4,SNR=4.3						
USRK	**Ussuriysk Ar.**	**56.33**	**13**	P	**P**	**19 32 33.5**	**0.0**
	comp=Z,1.8nm,0.6s,baz=192,slow=6.7,SNR=7.9						
USRK	**Ussuriysk Ar.**	**56.33**	**13**	P	**P**	**19 32 33.0**	**-0.4**
SONM	**Songino Array**	**59.22**	**351**	P	**P**	**19 32 53.4**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=164,slow=8.7,SNR=7.4						
SONM	**Songino Array**	**59.22**	**351**	P	**P**	**19 32 53.8**	**-0.1**
MKAR	**Makanchi Array**	**65.40**	**334**	P	**P**	**19 33 35.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=154,slow=6.6,SNR=9.0						
MKAR	**Makanchi Array**	**65.40**	**334**	P	**P**	**19 33 35.4**	**+0.3**
ZALV	**Zalesovo Beam**	**70.21**	**340**	P	**P**	**19 34 05.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=138,slow=4.8,SNR=4.5						
ABKAR	**Akbulak array**	**78.18**	**326**	P	**P**	**19 34 51.0**	**-0.8**

WEL 08 19:24:35.0, 38°S±2°×17°7E±°, h185km±4km, M3.4/57, MLv3.4/57, Error ellipse: s-maj=0.0km s-min=0.0km az=5.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.25**	**176**	P	Pn	19 24 59.5	-0.1
TGRZ	**Tauranga**	**0.25**	**238**	P	Pn	19 24 59.7	+0.1
MYRZ	**Mayor Island**	**0.39**	**323**	P	Pn	19 25 00.4	+0.4
MARZ	**Manawahe**	**0.41**	**164**	P	Pn	19 25 00.4	+0.4
OMRZ	**Omania**	**0.53**	**194**	P	Pn	19 25 00.8	+0.2
KMRZ	**Kaimai**	**0.53**	**242**	P	Pn	19 25 00.7	+0.2
TARZ	**Mount Tarawera**	**0.64**	**182**	P	Pn	19 25 01.8	+0.7
UTU	**Utuhina**	**0.64**	**205**	P	Pn	19 25 01.5	+0.5
RRRZ	**Republican Roa**	**0.74**	**181**	P	Pn	19 25 01.9	+0.3
URZ	**Urewera**	**0.81**	**146**	P	Pn	19 25 01.5	-0.4
URZ				S	Sn	19 25 21.4	-1.4
GRRZ	**Galatos Road**	**0.82**	**204**	P	Pn	19 25 02.4	+0.4
TOZ	**Tahuroa Road**	**0.83**	**260**	P	Pn	19 25 02.3	+0.3
PRRZ	**Plateau Road**	**0.91**	**187**	P	Pn	19 25 03.6	+1.0
ALRZ	**Allen Road**	**0.98**	**189**	P	Pn	19 25 03.3	+0.2
RUGZ	**Raukumara Rang**	**0.98**	**113**	P	Pn	19 25 02.2	-1.0
RUGZ				S	Sn	19 25 22.6	-2.4
HAZ	**Te Kaha**	**1.01**	**100**	P	Pn	19 25 02.8	-0.5
HAZ				S	Sn	19 25 23.8	-1.2
KUTZ	**Kaahu Road**	**1.05**	**212**	P	Pn	19 25 03.9	+0.3
KUZ	**Kuaotunu**	**1.07**	**322**	P	Pn	19 25 03.7	0.0
TLZ	**Tolley Road**	**1.08**	**227**	P	Pn	19 25 04.1	+0.3
MWZ	**Matawai**	**1.08**	**134**	P	Pn	19 25 03.4	-0.5
RTZ	**Ruatahuna**	**1.08**	**161**	P	Pn	19 25 03.7	-0.2
RAGZ	**Rawiri**	**1.14**	**143**	P	Pn	19 25 04.4	0.0
MRHZ	**Matea Rd**	**1.24**	**184**	P	Pn	19 25 05.0	-0.1
MRHZ				S	Sn	19 25 28.1	-0.6
PKGZ	**Pakihiroa**	**1.26**	**104**	P	Pn	19 25 05.2	-0.1
WATZ	**Wairara**	**1.28**	**209**	P	Pn	19 25 06.3	+0.8
MTHZ	**Maungataniwha**	**1.28**	**169**	P	Pn	19 25 05.4	-0.1
MTHZ				S	Sn	19 25 28.1	-1.1
TWGZ	**Tauwhareparae**	**1.29**	**117**	P	Pn	19 25 05.7	+0.2
TKGZ	**Te Karaka**	**1.34**	**129**	P	Pn	19 25 06.0	+0.1
SNGZ	**Shannon Statio**	**1.35**	**152**	P	Pn	19 25 06.2	+0.2
WIAZ	**Waiheke Island**	**1.37**	**305**	P	Pn	19 25 06.5	+0.2
RAHZ	**Arahi**	**1.39**	**162**	P	Pn	19 25 06.9	+0.5
RATZ	**Rangitukua**	**1.41**	**205**	P	Pn	19 25 06.9	+0.4
MXZ	**Matakaoa Point**	**1.41**	**89**	P	Pn	19 25 06.7	+0.1
ETAZ	**East Tamaki Re**	**1.43**	**296**	P	Pn	19 25 07.1	+0.3
PUZ	**Puketiti**	**1.45**	**110**	P	Pn	19 25 06.5	-0.4
RIGZ	**Rimuhau**	**1.48**	**139**	P	Pn	19 25 07.5	+0.3
RITZ	**Rihia Road**	**1.48**	**201**	P	Pn	19 25 08.1	+0.8
WMGZ	**Waiomatatini S**	**1.51**	**99**	P	Pn	19 25 07.6	+0.1
NMHZ	**Naumai**	**1.52**	**172**	P	Pn	19 25 08.6	+1.0
MBAZ	**Motutapu North**	**1.54**	**302**	P	Pn	19 25 08.2	+0.4
BKZ	**Black Stump Fm**	**1.57**	**181**	P	Pn	19 25 07.5	-0.6
WHKZ	**Waihua**	**1.58**	**160**	P	Pn	19 25 08.4	+0.2
GRZ	**Great Barrier**	**1.59**	**327**	P	Pn	19 25 08.4	+0.1

RWWY				IAML			19 37 52.3	
	comp=N,90nm,0.7s							
PHWY	**Pilot Hill**	**2.66**	**182**		**Pn**		**19 37 02.5**	**+0.9**
LAO	**LASA Array**	**2.80**	**347**		**Pn**		**19 37 05.7**	**+2.3**
LAO				IAML			19 37 48.9	
	comp=N,172nm,0.7s							
RLMT	**Red Lodge**	**3.04**	**294**		**Pn**		**19 37 07.6**	**+0.8**
RLMT				IAML			19 38 00.4	
	comp=N,58nm,0.8s							
N23A	**Red Feather La**	**3.09**	**189**		**Pn**		**19 37 09.7**	**+2.2**
N23A				IAML			19 38 02.5	
	comp=E,70nm,0.7s							
N23A				IAML			19 38 10.1	
	comp=N,66nm,0.8s							
BW06	**Boulder Array**	**3.30**	**250**		**Pn**		**19 37 11.2**	**+0.8**
BW06				IAML			19 38 04.1	
	comp=N,50nm,0.7s							
PD31	**Pinedale Array**	**3.30**	**250**		**Pn**		**19 37 11.7**	**+1.3**
PDAR	**Pinedale Array**	**3.30**	**250**	Pn	**Pn**		**19 37 11.4**	**+1.1**
	comp=N,3.9nm,0.3s,baz=61,slow=16,SNR=32							
PDAR				Pg		**Pb**	**19 37 15.9**	**-0.8**
	comp=N,4.3nm,0.3s,baz=74,slow=18,SNR=26							
PDAR				Lg	Lg		19 37 58.2	
	comp=N,7.9nm,0.3s,baz=70,slow=30,SNR=15							
PDAR	**Pinedale Array**	**3.30**	**250**			**Pn**	**19 37 11.8**	**+1.5**
YNE	**Yellowstone No**	**3.50**	**289**			**Pn**	**19 37 13.0**	**-0.1**
YMP	**Mirror Lake PI**	**3.54**	**284**			**Pn**	**19 37 13.8**	**+0.1**
GCMT	**Greycliff**	**3.58**	**302**			**Pn**	**19 37 14.8**	**+0.7**
FLWY	**Flagg Ranch**	**3.87**	**274**			**Pn**	**19 37 18.9**	**+0.8**
FLWY				IAML			19 38 33.6	
	comp=N,39nm,0.9s							
FLWY				IAML			19 38 36.1	
	comp=N,39nm,1.8s							
YPP	**Pitchstone Pla**	**3.95**	**276**			**Pn**	**19 37 21.5**	**+2.2**
YHH	**Holmes Hill**	**4.04**	**284**			**Pn**	**19 37 21.8**	**+1.2**
REDW	**Red Top Meadow**	**4.04**	**263**			**Pn**	**19 37 21.9**	**+1.3**
REDW				IAML			19 38 37.4	
	comp=N,60nm,0.8s							
REDW				IAML			19 38 37.4	
	comp=N,45nm,0.8s							
IMW	**Indian Meadow**	**4.04**	**271**			**Pn**	**19 37 22.6**	**+2.0**
IMW				IAML			19 38 35.0	
	comp=N,37nm,0.8s							
IMW				IAML			19 38 40.8	
	comp=N,26nm,0.6s							
TPAW	**Teton Pass**	**4.09**	**265**			**Pn**	**19 37 23.8**	**+2.5**
TPAW				IAML			19 38 46.0	
	comp=N,33nm,0.8s							
FXWY	**Fox Creek**	**4.13**	**268**			**Pn**	**19 37 23.4**	**+1.7**
ISCO	**Idaho Springs**	**4.16**	**183**	Pn		**Pn**	**19 37 23.1**	**+0.9**
ISCO				IAML			19 38 33.0	
	comp=N,37nm,0.7s							
ISCO				IAML			19 38 36.9	
	comp=N,23nm,0.8s							
E28A	**Huff**	**4.20**	**50**	Pn		**Pn**	**19 37 22.9**	**+0.4**
E28A				IAML			19 38 51.7	
	comp=E,56nm,0.8s							
YHL	**Hebgen Lake**	**4.28**	**284**			**Pn**	**19 37 25.5**	**+1.6**
AHID	**Auburn Hatcher**	**4.37**	**256**	Pn		**Pn**	**19 37 25.7**	**+0.7**
AHID				IAML			19 38 48.5	
	comp=E,33nm,0.8s							
AHID				IAML			19 38 49.3	
	comp=N,32nm,0.8s							
QLMT	**Earthquake Lak**	**4.45**	**283**	Pn		**Pn**	**19 37 27.9**	**+1.8**
DGMT	**Dagmar**	**4.58**	**10**			**Pn**	**19 37 29.6**	**+1.8**
BOZ	**Bozeman (W)**	**4.77**	**292**			**Pn**	**19 37 30.5**	**+0.1**
EGMT	**Eagleton**	**5.10**	**324**			**Pn**	**19 37 35.6**	**+0.7**
HWUT	**Hardware Ranch**	**5.15**	**245**			**Pn**	**19 37 37.6**	**+1.9**
HRY	**Holter Researc**	**5.34**	**303**			**Pn**	**19 37 39.2**	**+0.9**
KSCO	**Kaye Shedlock'**	**5.35**	**157**	Pn		**Pn**	**19 37 39.9**	**+1.5**
LRM	**Limekiln Ridge**	**5.38**	**293**	Pn		**Pn**	**19 37 39.6**	**+0.7**
SPUT	**South Promonto**	**5.87**	**246**	Pn		**Pn**	**19 37 47.7**	**+2.1**
PV22	**Blue Mesa, Par**	**6.01**	**207**	Pn		**Pn**	**19 37 48.5**	**+0.9**
PV04	**Paradox Valley**	**6.17**	**207**	Pn		**Pn**	**19 37 52.3**	**+2.5**
SDCO	**Great Sand Dun**	**6.21**	**181**	Pn		**Pn**	**19 37 52.7**	**+2.3**
SRU	**San Rafael Swe**	**6.21**	**221**	Pn		**Pn**	**19 37 51.9**	**+1.6**
S22A	**4UR Ranch, Cre**	**6.31**	**191**	Pn		**Pn**	**19 37 53.9**	**+2.2**
ECSD	**EROS Data Cent**	**6.32**	**89**	Pn		**Pn**	**19 37 52.5**	**+1.0**
MSO	**Missoula**	**6.70**	**298**	Pn		**Pn**	**19 37 57.5**	**+0.6**
DUG	**Dugway, Tooele**	**6.71**	**238**	Pn		**Pn**	**19 37 58.8**	**+1.7**
JTMT	**Jette**	**7.30**	**304**	Pn		**Pn**	**19 38 06.4**	**+1.2**
MSU	**Marysvale**	**7.49**	**226**	Pn		**Pn**	**19 38 07.8**	**-0.1**
ELK	**Elko**	**8.00**	**250**	Pn		**Pn**	**19 38 15.7**	**+0.8**
	comp=N,0.1nm,0.3s,baz=73,slow=12,SNR=4.1							
KAN05	**Bluff City Nor**	**8.89**	**138**	Pn		**Pn**	**19 38 26.8**	**-0.1**
I10CA	**LAC DU BONNET**	**8.91**	**42**	*i*			20 30 40.0	
	baz=222,slow=324,SNR=2.7							
ULM	**Lac du Bonnet**	**9.01**	**42**	Pn		**Pn**	**19 38 27.7**	**-0.8**
	comp=N,1.0nm,0.3s,baz=236,slow=12,SNR=7.1							
ULM				Lg	Lg		19 41 01.7	
	comp=N,0.4nm,0.3s,baz=127,slow=21,SNR=4.5							
ULM	**Lac du Bonnet**	**9.01**	**42**			**Pn**	**19 38 28.4**	**-0.1**
NVAR	**Mina Array Bea**	**11.21**	**245**	Pn		**Pn**	**19 38 59.5**	**+0.6**
	comp=N,0.1nm,0.3s,baz=50,slow=14,SNR=4.9							
NVAR	**Mina Array Bea**	**11.21**	**245**			**Pn**	**19 38 59.8**	**+0.8**
TXAR	**Lajitas Array**	**14.66**	**174**	Pn		**Pn**	**19 39 44.9**	**-1.0**
	comp=N,0.0nm,0.3s,baz=360,slow=11,SNR=1.4							

*NEIC **08** 19:44:12.6,36°.17N×97°.28W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.16; $M_{\theta\theta}$=0.59; $M_{\phi\phi}$=-0.44; $M_{r\theta}$=-0.05; $M_{\theta\phi}$=0.73; $M_{\phi r}$=-0.52; Fault plane solution: $M_0$1.05000×10^{14} NP1:ϕ_s285.00000°, δ60.00000°, λ=-10.00000°. NP2:ϕ_s20.00000°, δ81.00000°, λ=-150.00000°. Principal axes: T 1.0471, Plg14.0000°, Azm149.0000°; N 0.0002, Plg59.0000°, Azm34.0000°; P -1.0473, Plg27.0000°, Azm247.0000°;*

*TUL **08** 19:44:12.6±1.5,36°.18N±0°.02×97°.26W±0°.04,h5km±7km, ML3.5,Mwr3.3/16(SLM) Error ellipse: s-maj=5.0km s-min=2.5km az=68.0*

*ANF **08** 19:44:13.0±0.8,36°.18N×97°.21W,h5km,ML4.4/8,Error ellipse: s-maj=11.7km s-min=6.6km az=17.0*

*NEIC **08** 19:44:13.1±1.3,36°.17N±0°.02×97°.28W±0°.06,h5km±2km, Error ellipse: s-maj=8.3km s-min=3.1km az=256.0*

ISC 08 19:44:12.7±1.2,36°.18N±0°.02×97°.25W±0°.03,h2km±11km, n82,σ0°79/90,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.41**	**204**		**Pg**	**19 44 20.7**	**+0.2**
OK029				Sg	**Sg**	**19 44 26.8**	**+0.8**
QUOK	**Quay**	**0.44**	**90**		**Pg**	**19 44 21.5**	**+0.4**
QUOK				Sg	**Sg**	**19 44 28.0**	**+1.2**
OK005	**Luther M Schoo**	**0.52**	**175**	Sg	**Sg**	**19 44 30.8**	**+1.3**
ADOK	**Arcadia Dam**	**0.53**	**191**	Pg	**Pg**	**19 44 22.7**	**-0.1**
BCOK	**Bluff Creek, N**	**0.59**	**209**		**Pg**	**19 44 24.1**	**+0.1**
BCOK				Sg	**Sg**	**19 44 32.4**	**+0.6**
OK025	**Westminster Rd**	**0.60**	**187**		**Pg**	**19 44 24.4**	**+0.3**
OK001	**Jones High Sch**	**0.61**	**183**	Sg	**Sg**	**19 44 33.0**	**+0.6**
CROK	**Carrier**	**0.68**	**299**		**Pg**	**19 44 25.6**	**0.0**
OKCFA	**Oklahoma City**	**0.78**	**192**		**Pg**	**19 44 27.5**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.78**	**191**		**Pg**	**19 44 27.8**	**+0.1**
KAN13	**South Haven SW**	**0.85**	**348**		**Pg**	**19 44 28.9**	**-0.2**
FNO	**Franklin**	**0.92**	**188**		**Pg**	**19 44 30.5**	**+0.2**
T35A	**Sooner Cattle**	**0.95**	**39**		**Pg**	**19 44 30.8**	**-0.1**
KAN09	**Caldwell North**	**1.00**	**343**		**Pg**	**19 44 31.7**	**-0.2**
KAN05	**Bluff City Nor**	**1.06**	**332**		**Pg**	**19 44 32.6**	**-0.3**
W35A	**Tecumseh**	**1.07**	**163**		**Pg**	**19 44 32.2**	**-0.9**
KAN10	**Anthony SW Sta**	**1.16**	**325**		**Pg**	**19 44 34.5**	**-0.6**
KAN08	**Anthony NE Sta**	**1.20**	**331**		**Pg**	**19 44 35.1**	**-0.5**
TUL1	**Leonard**	**1.21**	**102**	P	**Pg**	**19 44 35.0**	**-0.9**
	baz=283						
TUL1				S	**Sg**	**19 44 51.5**	**-0.1**
	baz=283						
TUL1	**Leonard**	**1.21**	**102**		**Pg**	**19 44 35.0**	**-0.9**
KAN12	**Harper NE Stat**	**1.27**	**332**		**Pg**	**19 44 36.4**	**-0.6**
U32A	**Winter Ranch,**	**1.43**	**279**	Pn	**Pn**	**19 44 38.9**	**-0.8**
WMOK	**Wichita Mounta**	**1.90**	**221**	P	**Pn**	**19 44 46.5**	**+0.3**
	baz=40						
WMOK				S	**Sb**	**19 45 11.6**	**-0.7**
	baz=40						
WMOK	**Wichita Mounta**	**1.90**	**221**	Pn	**Pn**	**19 44 46.3**	**+0.2**
X37A	**Clayton**	**2.21**	**135**		**Pn**	**19 44 50.5**	**+0.3**
U38A	**Gravette**	**2.33**	**83**		**Pn**	**19 44 52.8**	**+0.8**
R32A	**Long Quarter,**	**2.53**	**333**	Pn	**Pn**	**19 44 55.0**	**+0.2**
HHAR	**Hobbs**	**2.68**	**87**		**Pn**	**19 44 57.0**	**+0.1**
Z35A	**Perchaven, San**	**2.84**	**180**		**Pn**	**19 44 59.2**	**+0.2**
KSU1	**Kansas State U**	**2.96**	**10**	P	**Pn**	**19 45 00.9**	**+0.1**
	baz=190						
KSU1				S	**Sn**	**19 45 38.7**	**+1.8**
	baz=190						
KSU1	**Kansas State U**	**2.96**	**10**		**Pn**	**19 45 00.8**	**0.0**
W39A	**Magazine**	**2.99**	**108**	P	**Pn**	**19 45 01.3**	**+0.3**
	baz=290						
W39A				S	**Sn**	**19 45 39.3**	**+1.9**
	baz=290						
W39A	**Magazine**	**2.99**	**108**		**Pn**	**19 45 01.6**	**+0.6**
CBKS	**Cedar Bluff**	**3.29**	**324**	P	**Pn**	**19 45 04.8**	**-0.5**
	baz=143						
CBKS	**Cedar Bluff**	**3.29**	**324**	Pn	**Pn**	**19 45 05.4**	**+0.1**
MIAR	**Mount Ida**	**3.42**	**117**	P	**Pn**	**19 45 07.2**	**+0.2**
	baz=299						
MIAR				S	**Sn**	**19 45 48.9**	**+0.9**
	baz=299						
MIAR	**Mount Ida**	**3.42**	**117**		**Pn**	**19 45 07.6**	**+0.7**
Z38A	**Mt. Pleasant**	**3.46**	**147**		**Pn**	**19 45 07.8**	**+0.3**
S39A	**Bolivar**	**3.49**	**63**		**Pn**	**19 45 09.4**	**+1.4**
U40A	**Yellville**	**3.56**	**86**	P	**Pn**	**19 45 08.9**	**0.0**
	baz=268						
U40A	**Yellville**	**3.56**	**86**		**Pn**	**19 45 09.3**	**+0.4**
AMTX	**Amarillo**	**3.84**	**252**	P	**Pn**	**19 45 13.1**	**+0.3**
	baz=69						
AMTX	**Amarillo**	**3.84**	**252**	Pn	**Pn**	**19 45 12.6**	**-0.2**
X40A	**Basin Creek Fa**	**3.98**	**114**		**Pn**	**19 45 15.7**	**+1.0**
MGMO	**Mountain Grove**	**4.12**	**75**		**Pn**	**19 45 17.7**	**+1.0**
WHAR	**Wooly Hollow**	**4.13**	**101**		**Pn**	**19 45 17.6**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.17**	**92**		**Pn**	**19 45 18.1**	**+0.9**
WHTX	**Lake Whitney,**	**4.18**	**182**		**Pn**	**19 45 17.4**	**0.0**
W41B	**Gary Mavity, V**	**4.19**	**102**		**Pn**	**19 45 17.7**	**+0.1**
UALR	**University of**	**4.24**	**108**		**Pn**	**19 45 20.1**	**+1.8**
237A	**Washetta, Mont**	**4.33**	**164**	Pn	**Pn**	**19 45 19.0**	**-0.6**
R40A	**Maddies Statio**	**4.50**	**61**		**Pn**	**19 45 22.2**	**+0.3**
P38A	**Dawn**	**4.53**	**39**		**Pn**	**19 45 23.1**	**+0.9**
N35A	**Tabor**	**4.85**	**15**		**Pn**	**19 45 27.4**	**+0.8**
LCAR	**Lake Charles**	**4.94**	**89**		**Pn**	**19 45 28.4**	**+0.6**
T42A	**Van Buren**	**5.03**	**78**		**Pn**	**19 45 31.0**	**+1.9**
MSTX	**Muleshoe**	**5.03**	**246**	Pn	**Pn**	**19 45 28.4**	**-0.9**
KSCO	**Kaye Shedlock'**	**5.12**	**305**		**Pn**	**19 45 30.1**	**-0.4**
CCM	**Cathedral Cave**	**5.15**	**67**		**Pn**	**19 45 30.9**	**+0.1**
BGNE	**Belgrade**	**5.27**	**353**	Pn	**Pn**	**19 45 32.0**	**-0.5**
P40A	**Paris**	**5.31**	**49**		**Pn**	**19 45 34.7**	**+1.8**
N38A	**Joes South For**	**5.58**	**33**		**Pn**	**19 45 37.4**	**+0.7**
FVM	**French Village**	**5.75**	**70**	Pn	**Pn**	**19 45 39.6**	**+0.6**
T25A	**Trinidad**	**5.83**	**282**		**Pn**	**19 45 40.3**	**-0.1**
SCIA	**State Center**	**6.53**	**28**	Pn	**Pn**	**19 45 50.0**	**+0.3**
S44A	**Carbondale**	**6.58**	**74**	Pn	**Pn**	**19 45 51.0**	**+0.5**
N41A	**Harden Midland**	**6.76**	**46**		**Pn**	**19 45 53.8**	**+0.9**
SDCO	**Great Sand Dun**	**6.79**	**286**	Pn	**Pn**	**19 45 54.2**	**+0.6**
Q24A	**Divide**	**6.86**	**296**	Pn	**Pn**	**19 45 53.9**	**-0.7**
P43A	**Skaggs, Pawnee**	**7.02**	**58**	Pn	**Pn**	**19 45 57.2**	**+0.7**
GDL2	**Guadalupe Moun**	**7.10**	**238**	Pn	**Pn**	**19 45 56.9**	**-0.8**
K38A	**Parkersburg**	**7.33**	**27**	Pn	**Pn**	**19 46 01.1**	**+0.4**
L40A	**Anamosa**	**7.52**	**37**		**Pn**	**19 46 04.4**	**+1.1**
ISCO	**Idaho Springs**	**7.53**	**301**	Pn	**Pn**	**19 46 03.9**	**+0.2**
ECSD	**EROS Data Cent**	**7.56**	**4**	Pn	**Pn**	**19 46 01.7**	**-2.2**
PLAL	**Pickwick Lake**	**7.57**	**96**	Pn	**Pn**	**19 46 02.2**	**-1.9**
HDIL	**Hopedale**	**7.63**	**53**	Pn	**Pn**	**19 46 04.3**	**-0.5**
BNM	**Barren Site**	**7.94**	**258**	Pn	**Pn**	**19 46 09.2**	**-0.2**
MNTX	**Cornudas Mount**	**8.10**	**239**	Pn	**Pn**	**19 46 10.3**	**-1.0**
N23A	**Red Feather La**	**8.28**	**307**	Pn	**Pn**	**19 46 14.3**	**+0.3**
L42A	**Oliver, Polo**	**8.28**	**43**	Pn	**Pn**	**19 46 13.8**	**0.0**
I37A	**Lemond, Waseca**	**8.37**	**19**	Pn	**Pn**	**19 46 15.1**	**+0.2**

IDC 08 19:53:01.0±1.4,0°.37S×124°.92E,h0km,mb3.3/3, mb1 3.6/5,mb1mx3.4/41,mbtmp3.5/5,ML3.2/2,MS2.5/1, Ms1 2.5/1,ms1mx2.2/19,Error ellipse: s-maj=50.6km s-min=23.1km az=62.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.36**	**94**	Pn	Pn	19 54 36.0	-0.1
	0.6nm,0.3s,baz=115,slow=21,SNR=1.5						
KAPI	**Kappang**	**6.92**	**228**	LR	LR	19 58 12.3	
	comp=Z,41nm,20.3s,baz=34,slow=45						
FITZ	**Fitzroy Crossi**	**17.63**	**178**	P	P	19 57 08.8	-0.5
	0.1nm,0.3s,baz=4.6,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**21.53**	**155**	P	P	19 57 50.4	-1.6
	0.3nm,0.5s,baz=332,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.74**	**160**	P	P	19 58 25.6	+1.1
	0.2nm,0.4s,baz=345,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	20 03 09.1	-0.1
	0.4nm,0.4s,baz=124,slow=8.4,SNR=13						

*NEIC **08** 19:59:20.0±1.5, 18°.8N±0°.1×147°.2E±0°.2,h54km±8km, mb4.4/18, Error ellipse: s-maj=27.1km s-min=14.3km az=104.0*

*IDC **08** 19:59:23.4±5.4, 18°.84N×146°.85E,h70km±39km,mb3.8/10, mb1 3.9/12,mb1mx3.6/53,mbtmp4.1/12,ML3.8/2,MS3.3/2, Ms1 3.3/2,ms1mx2.6/36,Error ellipse: s-maj=77.4km s-min=14.1km az=85.0*

ISC 08 19:59:20.1±0.8,18°.85N±0°.07×147°.2E±0°.2,h50km,n42, σ1°09/36,mb4.3/16,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.69**	**203**	P	**Pn**	**20 00 42.8**	**+0.7**
	8.7nm,0.3s,baz=15,slow=13,SNR=8.0						
GUMO				S	**Sn**	**20 01 47.2**	**+0.9**
	baz=9.4,slow=20,SNR=1.0						
GUMO	**Guam**	**5.69**	**203**		**Pn**	**20 00 42.4**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**18.47**	**88**	T	T	20 22 47.9	
	baz=275,slow=74,SNR=32						
H11S1	**WAKE ISLAND Hy**	**18.48**	**88**	T	T	20 22 45.1	
	baz=275,slow=74,SNR=35						
H11S2	**WAKE ISLAND Hy**	**18.49**	**88**	T	T	20 22 42.3	
	baz=275,slow=74,SNR=32						
H11N1	**WAKE ISLAND Hy**	**18.61**	**84**	T	T	20 23 01.8	
	baz=285						
H11N2	**WAKE ISLAND Hy**	**18.62**	**84**	T	T	20 22 55.9	
	baz=285						
H11N3	**WAKE ISLAND Hy**	**18.63**	**84**	T	T	20 23 02.0	
	baz=285						
JGF	**Kuroka**	**18.82**	**334**	P	**Pn**	**20 03 36.3**	**-0.3**
MJAR	**Matsushiro Arr**	**19.32**	**338**	P	**P**	**20 03 40.8**	**-0.3**
	0.1nm,0.3s,baz=169,slow=11,SNR=2.8						
MJAR	**Matsushiro Arr**	**19.32**	**338**	P	**P**	**20 03 39.4**	**-1.7**
MAJO	**Matsushiro**	**19.32**	**338**	P	**Pn**	**20 03 41.6**	**-0.9**
JWT	**Wachi**	**19.42**	**330**	P	**P**	**20 03 41.9**	**-0.3**
JWT				IAmb	IAmb	20 03 52.2	
	comp=Z,15nm,1.1s						
JSD	**Sado**	**20.64**	**340**	P	**P**	**20 03 54.7**	**-0.8**
JSD				IAmb	IAmb	20 04 01.1	
	comp=Z,8.4nm,0.7s						
KSRS	**Korea Array**	**25.05**	**322**	P	**P**	**20 04 39.4**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=147,slow=9.3,SNR=13						
USRK	**Ussuryisk Ar.**	**28.30**	**337**	P	**P**	**20 05 10.6**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=165,slow=9.8,SNR=4.7						
WB2	**Warramunga Arr**	**40.56**	**199**	P	**P**	**20 06 53.4**	**-1.5**
WB2				IAmb	IAmb	20 07 11.9	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**40.57**	**199**	P	**P**	**20 06 55.3**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=22,slow=8.4,SNR=18						
WRA	**Warramunga Arr**	**40.57**	**199**	P	**P**	**20 06 53.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**42.39**	**211**	P	**P**	**20 07 08.7**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=207,slow=4.6,SNR=2.9						
FITZ	**Fitzroy Crossi**	**42.39**	**211**	P	**P**	**20 07 08.6**	**-1.3**
FITZ				IAmb	IAmb	20 07 10.0	
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**43.92**	**321**	P	**P**	**20 07 21.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=137,slow=8.4,SNR=7.4						
SONM	**Songino Array**	**43.92**	**321**	P	**P**	**20 07 22.2**	**+0.1**
ASAR	**Alice Springs**	**44.21**	**198**	P	**P**	**20 07 24.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=22,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**44.21**	**198**	P	**P**	**20 07 22.9**	**-1.6**
ZAA0	**Zalesovo Array**	**58.76**	**322**	P	**P**	**20 09 12.4**	**-0.5**
ZAA0				IAmb	IAmb	20 09 14.1	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**58.76**	**322**	P	**P**	**20 09 12.5**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=108,slow=7.3,SNR=10						
ZALV				LR	LR	20 34 01.8	
	comp=Z,29nm,18.1s,baz=76,slow=36						
MK31	**Makanchi Array**	**59.38**	**314**	P	**P**	**20 09 18.0**	**+0.6**
MK31				IAmb	IAmb	20 09 38.3	
	comp=Z,5.6nm,1.4s						
MKAR	**Makanchi Array**	**59.38**	**314**	P	**P**	**20 09 17.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=93,slow=6.7,SNR=12						
CNPM	**China Poot**	**59.59**	**31**	P	**P**	**20 09 21.2**	**+2.6**
BPAW	**Bear Paw Mtn.**	**60.99**	**26**	P	**P**	**20 09 29.5**	**+1.4**
BPAW				IAmb	IAmb	20 09 33.8	
	comp=Z,6.1nm,1.2s						
NRIK	**Noril'sk**	**61.95**	**340**	LR	LR	20 36 57.1	
	comp=Z,17nm,21.1s,baz=199,slow=36						
BRVK	**Borovoye**	**67.32**	**320**	P	**P**	**20 10 08.9**	**-0.9**
BRVK				IAmb	IAmb	20 10 12.1	
	comp=Z,4.3nm,0.8s						
KKAR	**Karatay Array**	**67.76**	**310**	P	**P**	**20 10 13.3**	**+0.5**
CHGR	**Chuyangaron**	**69.30**	**305**	P	**P**	**20 10 22.9**	**+0.3**
CHGR				IAmb	IAmb	20 10 31.9	
	comp=Z,4.9nm,0.5s						
ABKAR	**Akbulak array**	**74.19**	**317**	P	**P**	**20 10 51.8**	**+0.1**
ABKAR	**Akbulak array**	**74.19**	**317**	P	**P**	**20 10 51.7**	**+0.1**
ARCES	**ARCESS Array B**	**82.78**	**342**	P	**P**	**20 11 39.4**	**+0.9**
	comp=Z,7.0nm,1.1s,baz=32,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**87.33**	**336**	P	**P**	**20 12 00.9**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=52,slow=3.1,SNR=13						
FINES	**FINESS Array B**	**87.33**	**336**	P	**P**	**20 12 01.3**	**-0.2**
ISCO	**Idaho Springs**	**90.62**	**47**	P	**P**	**20 12 15.6**	**-2.2**
E28A	**Huff**	**90.76**	**40**	P	**P**	**20 12 16.6**	**-1.4**

*IDC **08** 20:02:10.4±1.5,43°.86N×105°.47W,h0km,mb1 3.8/5, mb1mx3.5/41,mbtmp3.5/5,ML2.9/4, Error ellipse: s-maj=40.9km s-min=8.6km az=148.0*

*NEIC **08** 20:02:13±1.2,43°.75N±0°.05×105°.3W±0°.1,h0km±2km, ML3.4/63,Error ellipse: s-maj=12.8km s-min=8.5km az=106.0*

ISC 08 20:02:11.6±0.9,43°.76N±0°.05×105°.30W±0°.06,h0km,n76, σ1°40/75,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**68**	Pg	**Pg**	**20 02 31.3**	**+0.9**
K22A	**Casper**	**1.43**	**219**		**Pn**	**20 02 38.0**	**-0.9**
K22A				IAML		20 03 02.8	
	comp=N,768nm,0.3s						
K22A				IAML		20 03 03.3	
	comp=E,626nm,0.3s						
PHWY	**Pilot Hill**	**2.46**	**183**	Pn	**Pn**	**20 02 53.9**	**+0.6**
RWWY	**Rawlins**	**2.50**	**215**		**Pn**	**20 02 54.8**	**+1.0**
RWWY				IAML		20 03 30.6	
	comp=E,251nm,0.7s						
RWWY				IAML		20 03 33.3	
	comp=E,279nm,0.9s						
N23A	**Red Feather La**	**2.90**	**190**		**Pn**	**20 03 00.8**	**+1.5**
N23A				IAML		20 03 56.5	
	comp=E,90nm,1.0s						
LAO	**LASA Array**	**3.00**	**348**	Pn	**Pn**	**20 03 01.9**	**+1.4**
RLMT	**Red Lodge**	**3.15**	**297**	Pn	**Pn**	**20 03 03.5**	**+0.8**
RLMT				IAML		20 03 59.5	
	comp=E,77nm,0.4s						
RLMT				IAML		20 04 00.9	
	comp=E,82nm,0.9s						
BW06	**Boulder Array**	**3.27**	**254**		**Pn**	**20 03 05.2**	**+0.9**
BW06				IAML		20 03 56.6	
	comp=E,70nm,0.4s						
PD31	**Pinedale Array**	**3.27**	**254**		**Pn**	**20 03 04.3**	**0.0**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**20 03 05.2**	**+0.9**
	comp=E,5.2nm,0.3s,baz=69,slow=16,SNR=53						
PDAR				Pg	**Pb**	**20 03 10.3**	**-0.2**
	comp=E,16nm,0.3s,baz=72,slow=19,SNR=35						
PDAR				Lg	Lg	20 03 49.7	
	comp=E,24nm,0.3s,baz=70,slow=31,SNR=11						
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**20 03 04.8**	**+0.6**
YNE	**Yellowstone No**	**3.60**	**292**		**Pn**	**20 03 09.5**	**+0.6**
YMP	**Mirror Lake PI**	**3.63**	**287**		**Pn**	**20 03 10.1**	**+0.8**
GCMT	**Greycliff**	**3.72**	**305**	Pn	**Pn**	**20 03 11.2**	**+0.8**
H17A	**Grant Village**	**3.86**	**281**		**Pn**	**20 03 14.1**	**+

comp=N,0.1nm,0.3s,baz=47,slow=12,SNR=4.9
TXAR Lajitas Array 14.46 174 Pg P 20 06 41.4 +57
comp=N,0.1nm,0.3s,baz=0.0,slow=16,SNR=1.7
TXAR Lg Lg 20 09 49.2
baz=42,slow=44,SNR=1.9
YKA Yellowknife Ar 19.54 347 P **P** **20 06 38.7 -1.8**
comp=N,0.1nm,0.3s,baz=161,slow=9.0,SNR=3.0

MAN 08 20:38:04.4, 12.85N×121.07E, h28km, mb4.4, ML3.3, MS3.0, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.66**	**350**↑	*e*P	**Pb**	20 38 14.3	-3.2
PGP				*e*S	Sb	20 38 22.3	-4.1
BOAC	**Boac**	**0.97**	**51**	*e*P	**Pn**	20 38 22.3	+0.2
BOAC				*e*S	Sn	20 38 34.7	-0.2
LUBP	**Lubang**	**1.19**	**318**	*e*P	Pn	20 38 24.1	-1.2
LUBP				*e*S	Sb	20 38 41.6	+0.2
BUSP	**Coron**	**1.20**	**226**	*e*P	Pn	20 38 25.1	-0.2
BUSP				*e*S	Sb	20 38 41.2	-0.3
LQP	**Lukban**	**1.34**	**20**	*e*P	Pn	20 38 26.3	-1.1
LQP				*i* S	Sn	20 38 45.0	+0.6
CUYO	**Cuyo Island**	**1.98**	**182**	*e*P	Pn	20 38 37.5	+1.4
ENPP	**El Nido**	**2.29**	**225**	*e*P	Pn	20 38 40.4	+0.1
ENPP				*e*S	Sn	20 39 07.8	+0.2
KCP	**Kidapawan**	**7.02**	**145**↓	*e*P	Pb	20 40 10.9	+5.2

*VIE **08** 21:04:32.8±0.5, 50.31N×18.70E, h0km, mb2.0/2, ml2.5/4, Error ellipse: s-maj=4.7km s-min=3.0km az=179.0 21 km WNW of Katowice Suspected Mining induced.*
*IPEC **08** 21:04:34.0±0.2, 50.19N×18.72E, h0km, ML1.8/4, Error ellipse: s-maj=1.7km s-min=1.1km az=162.0*
*PRU **08** 21:04:34.2±0.0, 50.20N×18.66E, h0km*
ISC 08 21:04:33.4±0.8, 50.19N±0.04×18.69E±0.02, h0km, n28, σ0s92/54, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.50**	**225**	*e*PG	**Pb**	**21 04 44.6**	**-0.4**
OKC				*e*SG	**Sg**	**21 04 50.7**	**+1.3**
	comp=Z,36nm,0.4s						
OJC	**Ojcow**	**0.71**	**87**	*e*Pg	**Pg**	**21 04 47.0**	**0.0**
OJC				*e*Sg	**Sg**	**21 04 56.4**	**+0.1**
MORC	**Moravsky Berou**	**0.85**	**241**	*e*PG	**Pb**	**21 04 50.5**	**-0.6**
MORC				*e*SG	**Sg**	**21 05 00.9**	**+0.3**
MORC	**Moravsky Berou**	**0.85**	**241**	*e*Pg	**Pb**	**21 04 50.4**	**-0.6**
	baz=61						
MORC				*e*Sg	**Sg**	**21 05 00.8**	**+0.2**
	20nm,0.2s,baz=61						
LANS	**Liptovska Anna**	**1.16**	**154**	*e*PG	**Pn**	**21 04 56.7**	**-0.2**
LANS				*e*SG	**Sn**	**21 05 12.8**	**-0.7**
LANS				*e*LG	Lg	21 05 16.7	
KRLC	**Kraliky**	**1.23**	**265**	*e*PG	**Pb**	**21 04 57.0**	**-0.6**
KRLC				*e*SG	**Sg**	**21 05 12.8**	**-0.2**
	comp=Z,30nm,0.3s						
NIE	**Niedzica**	**1.30**	**126**	*e*Pg	**Pb**	**21 04 58.5**	**-0.2**
NIE				*e*Sg	**Sn**	**21 05 16.8**	**-0.2**
JAVC	**Velka Javorina**	**1.49**	**207**	*e*PN	**Pb**	**21 05 02.1**	**+0.1**
JAVC				*e*SG	**Sg**	**21 05 20.5**	**-0.7**
JAVC	**Velka Javorina**	**1.49**	**207**	*e*Pn	**Pb**	**21 05 02.0**	**+0.1**
	baz=27						
JAVC				*e*Sg	**Sg**	**21 05 20.5**	**-0.7**
	8.2nm,0.4s,baz=27						
DPC	**Dobruska-Polom**	**1.53**	**277**	*e*PG	**Pb**	**21 05 02.0**	**-0.6**
DPC				*e*SG	**Sn**	**21 05 22.9**	**+0.3**
	comp=Z,30nm,0.3s						
VRAC	**Vranov**	**1.62**	**238**	*e*PN	**Pg**	**21 05 04.2**	**-0.3**
VRAC				*e*SG	**Sg**	**21 05 25.1**	**-0.4**
VRAC	**Vranov**	**1.62**	**238**	*e*Pn	**Pg**	**21 05 04.2**	**-0.3**
	baz=57						
VRAC				*e*Sg	**Sg**	**21 05 25.0**	**-0.4**
	14nm,0.2s,baz=57						
OSTC	**Ostas**	**1.62**	**284**	*e*PG	**Pg**	**21 05 04.2**	**-0.3**
OSTC				*e*SG	**Sg**	**21 05 25.4**	**-0.2**
	comp=Z,15nm,0.4s						
KSP	**Ksiaz**	**1.66**	**294**	*e*Pg	**Pg**	**21 05 05.6**	**+0.4**
KSP				*e*Sb	**Sb**	**21 05 26.1**	**-0.3**
KSP				*e*Sg	**Sg**	**21 05 27.7**	**+1.0**
VYHS	**Vyhne**	**1.70**	**177**	*e*PN	**Pn**	**21 05 04.2**	**-0.2**
CHVC	**Chvalec**	**1.73**	**284**	*e*PG	**Pg**	**21 05 06.0**	**-0.6**
CHVC				*e*SG	**Sb**	**21 05 28.2**	**-0.2**
	comp=Z,14nm,0.5s						
UPC	**Upice**	**1.74**	**281**	*e*PG	**Pg**	**21 05 06.7**	**-0.1**
UPC				*e*SG	**Sg**	**21 05 29.6**	**+0.2**
KRUC	**Moravsky**	**1.87**	**234**	*e*PN	**Pb**	**21 05 07.5**	**-0.9**
KRUC				*e*SG	**Sg**	**21 05 33.1**	**-0.5**
KRUC	**Moravsky**	**1.87**	**234**	*e*Pn	**Pb**	**21 05 07.5**	**-0.9**
	baz=52						
KRUC				*e*Sg	**Sg**	**21 05 33.0**	**-0.5**
	4.4nm,0.2s,baz=52						
GOPC	**GO Pecny, Ondr**	**2.53**	**265**	*e*SG	**Sb**	**21 05 52.5**	**+1.2**
PVCC	**Panska Ves**	**2.66**	**279**	*e*PG	**Pg**	**21 05 23.4**	**-0.9**
PVCC				*e*SG	**Sg**	**21 05 58.4**	**-0.4**
	comp=Z,16nm,0.5s						
PRU	**Pruhonice**	**2.68**	**267**	*e*PG	**Pb**	**21 05 22.0**	**-0.2**
PRU				*e*SG	**Sb**	**21 05 57.1**	**+1.5**
	comp=Z,8.5nm,0.4s						
CONA	**Conrad Observa**	**2.93**	**220**	*e*Pn	**Pn**	**21 05 22.0**	**+0.7**
CONA				*e*Sn	**Sn**	**21 05 57.4**	**+0.2**
	1.9nm,0.4s						
BRG	**Berggiesshubel**	**3.10**	**284**	PG	**Pg**	**21 05 32.8**	**-0.1**
BRG				SG	**Sg**	**21 06 12.3**	**-0.8**
	6.8nm,0.5s						
KHC	**Kasperske Hory**	**3.49**	**254**	*e*PN	**Pn**	**21 05 28.5**	**-0.4**
KHC				*e*PG	**Pb**	**21 05 35.5**	**-0.5**
KHC				*e*SG	**Sg**	**21 06 22.3**	**-3.0**
	comp=Z,12nm,0.7s						
MOA	**Molln**	**3.74**	**233**	*e*Pn	**Pn**	**21 05 34.0**	**+1.6**
	0.1nm,0.1s						
MOA				*e*Sn	**Sn**	**21 06 20.0**	**+3.0**
	3.4nm,0.3s						
CLL	**Collm**	**3.78**	**289**	*e*Sg	**Sg**	**21 06 35.0**	**+0.3**
	comp=Z,6.0nm,0.6s						
NKC	**Novy Kostel**	**4.01**	**273**	*e*SG	**Sg**	**21 06 39.5**	**-2.6**

*ATA **08** 21:19:12.6±1.6, 39.60N×38.73E, h7km±50km, ML0.9, MW3.5*
*DDA **08** 21:19:13.6, 39.62N×38.68E, h5km±4km, ML1.4*
*ISK **08** 21:19:13.5, 39.61N×38.65E, h11km, ML1.8/10*
ISC 08 21:19:13.6±0.9, 39.62N±0.02×38.62E±0.03, h17km±7km, n22, σ1s22/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.18**	**193**	PG	**Pg**	**21 19 17.6**	**-0.5**
ILIC				SG	**Sg**	**21 19 20.7**	**-0.5**
REFA	**Refahiye_ERZN**	**0.26**	**153**	*e*P	**Pg**	**21 19 20.7**	**+1.3**
REFA				*e*S	**Sg**	**21 19 23.9**	**+0.6**
REFA				IAML		21 19 25.3	
	comp=Z,20nm,0.4s						
REFA	**Refahiye_ERZN**	**0.26**	**153**	*i* P	**Pg**	**21 19 20.2**	**+0.9**
REFA				*i* S	**Sg**	**21 19 22.5**	**-0.8**
KEMA	**Kemaliye**	**0.37**	**195**	*e*P	**Pg**	**21 19 20.2**	**-1.0**
KEMA				*e*S	**Sg**	**21 19 26.5**	**+0.1**
KEMA				IAML		21 19 28.4	
	comp=Z,6.4nm,0.3s						
KEMA	**Kemaliye**	**0.37**	**195**	*i* P	**Pg**	**21 19 20.7**	**-0.5**
KEMA				*i* S	**Sg**	**21 19 25.6**	**-0.8**
KEMA				IAML		21 19 28.0	
	comp=N,30nm,0.4s						
ARPR	**Arapgir-MALATY**	**0.57**	**203**	PG	**Pg**	**21 19 25.0**	**0.0**
ARPR				SG	**Sb**	**21 19 33.5**	**+0.3**
SUSE	**Susehri**	**0.67**	**331**	*i* P	**Pg**	**21 19 27.0**	**+0.3**
SUSE				*i* S	**Sg**	**21 19 35.5**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.70**	**292**	*i* P	**Pg**	**21 19 27.8**	**+0.4**
KELT	**Kelkit**	**0.72**	**43**	*e*P	**Pg**	**21 19 26.4**	**-1.3**
KELT				*e*S	**Sg**	**21 19 36.9**	**-0.4**
KELT				IAML		21 19 44.9	
	comp=Z,4.5nm,0.8s						
KELT	**Kelkit**	**0.72**	**43**	*i* P	**Pg**	**21 19 26.9**	**-0.8**
KELT				*i* S	**Sg**	**21 19 34.3**	**-3.0**
TNCL	**Tunceli-Merkez**	**0.88**	**125**	*i* P	**Pb**	**21 19 30.0**	**-0.4**
TNCL				*i* S	**Sg**	**21 19 40.3**	**-2.0**
HEKM	**Malatya_Hekimh**	**0.90**	**215**	*i* P	**Pg**	**21 19 31.5**	**+0.4**
HEKM				*i* S	**Sg**	**21 19 39.8**	**-3.3**
HEKM				IAML		21 19 47.0	
	comp=E,8.9nm,0.5s						
HEKM				IAML		21 19 51.0	
	comp=N,12nm,0.9s						
CUKAN	**kangal_SIVAS**	**0.94**	**251**	*i* P	**Pg**	**21 19 30.6**	**-1.3**
CUKAN				*i* S	**Sg**	**21 19 42.4**	**-1.9**
CUKAN				IAML		21 19 46.0	
	comp=N,11nm,0.4s						
CUKAN				IAML		21 19 47.0	
	comp=E,9.6nm,0.5s						
PTK	**Pertek**	**0.95**	**140**	PG	**Pb**	**21 19 31.7**	**+0.1**
PTK				SG	**Sb**	**21 19 44.7**	**+0.7**
ELZG	**Elazig**	**1.16**	**166**	*i* P	**Pg**	**21 19 35.3**	**-0.7**
ELZG				*i* S	**Sg**	**21 19 49.9**	**-1.3**
ELZG				IAML		21 19 53.0	
	comp=N,23nm,0.4s						
SVSK	**Karacayir**	**1.28**	**284**	PN	**Pn**	**21 19 38.4**	**+1.7**
ESPY	**Espiye-Giresun**	**1.29**	**4**	PN	**Pn**	**21 19 38.3**	**+1.4**
MALT	**Malatya**	**1.32**	**187**	PN	**Pn**	**21 19 37.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.35**	**156**	PN	**Pb**	**21 19 38.7**	**+0.1**
BAYT	**Aydıntepe-Bayb**	**1.40**	**56**	PN	**Pb**	**21 19 39.4**	**0.0**
YEDI	**Yedisu-Bingol**	**1.50**	**97**	PN	**Pb**	**21 19 40.7**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**2.52**	**81**	PN	**Pn**	**21 19 55.2**	**+1.3**

*JMA **08** 21:23:52.9±0.1, 23.63N×121.66E, h36km±3km, M3.9*
*TAP **08** 21:23:54.0, 23.64N×121.64E, h34km, ML3.9, C*
*NEIC **08** 21:23:54.4±1.4, 23.64N±0.03×121.63E±0.05, h35km±12km, Error ellipse: s-maj=6.3km s-min=4.3km az=107.0*
ISC 08 21:23:54.0±0.9, 23.63N±0.02×121.69E±0.02, h29km±5km, n139, σ1s08/241, 6C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.24**	**280**↑	*i* P	**Pn**	**21 24 01.0**	**-0.5**
	baz=287						
EGFH				*i* S	**Sn**	**21 24 05.7**	**+0.6**
	baz=287						
HGSD	**Ruisui**	**0.28**	**240**↓	*i* P	**Pn**	**21 24 01.5**	**-0.6**
	baz=233						
HGSD				*e*S	**Sn**	**21 24 07.8**	**+0.5**
	baz=233						
ESL	**Shilin**	**0.29**	**309**↑	*i* P	**Pb**	**21 24 01.2**	**-0.2**
	baz=303						
ESL				S	**Sn**	**21 24 06.0**	**-1.8**
	baz=303						
HWA	**Hwalien**	**0.35**	**348**	*e*P	**Pb**	**21 24 02.3**	**+0.2**
	baz=357						
HWA				*i* S	**Sn**	**21 24 08.8**	**-0.4**
	baz=357						
EHY	**Hungye**	**0.35**	**250**↓	*i* P	**Pb**	**21 24 02.0**	**-0.1**
	baz=255						
EHY				*e*S	**Sn**	**21 24 07.9**	**-1.3**
	baz=255						
YULB	**Yu-li**	**0.43**	**237**↓	*i* P	**Pb**	**21 24 03.1**	**-0.2**
	baz=242						
YULB				*e*S	**Sb**	**21 24 09.2**	**-0.4**
	baz=242						
YULB	**Yu-li**	**0.43**	**237**	Pn	**Pb**	**21 24 02.7**	**-0.6**
YULB				Sn	**Sb**	**21 24 09.4**	**-0.2**
EYUL	**Yuli**	**0.44**	**230**	P	**Pb**	**21 24 03.5**	**0.0**
	baz=236						
EYUL				*e*S	**Sb**	**21 24 11.5**	**+1.7**
	baz=236						
TWF1	**Yuli**	**0.45**	**232**↓	*i* P	**Pb**	**21 24 03.5**	**-0.1**
	baz=238						
TWF1				*e*S	**Sb**	**21 24 10.4**	**+0.2**
	baz=238						
TWD	**Chiawan**	**0.46**	**350**	P	**Pb**	**21 24 03.2**	**-0.5**
	baz=359						
TWD				S	**Sb**	**21 24 10.3**	**0.0**
	baz=359						
VWDT	**VWDT**	**0.51**	**284**↓	*i* P	**Pb**	**21 24 04.4**	**-0.2**
	baz=283						
VWDT				S	**Sb**	**21 24 11.3**	**-0.5**
	baz=283						
NACB	**Ninganchiao**	**0.55**	**351**↓	*i* P	**Pn**	**21 24 04.5**	**-1.3**
NACB				S	**Sb**	**21 24 12.1**	**-0.7**
NACB	**Ninganchiao**	**0.55**	**351**	Pn	**Pn**	**21 24 04.5**	**-1.3**
NACB				Sn	**Sb**	**21 24 12.3**	**-0.6**
FULB	**Fuli**	**0.56**	**220**↓	*i* P	**Pn**	**21 24 05.2**	**-0.7**
	baz=206						
FULB				*e*S	**Sn**	**21 24 16.3**	**+2.0**
	baz=206						
OWD	**Renai**	**0.57**	**305**	*e*P	**Pn**	**21 24 04.9**	**-1.3**
	baz=306						
OWD				*e*S	**Sb**	**21 24 11.7**	**-1.8**
	baz=306						
CHKT	**Chengkung**	**0.60**	**209**↓	*i* P	**Pn**	**21 24 05.5**	**-1.0**
	baz=194						
CHKT				*e*S	**Sn**	**21 24 14.0**	**-1.3**
	baz=194						
ETLH	**Xiulin Townshi**	**0.60**	**342**↓	*i* P	**Pn**	**21 24 05.2**	**-1.4**
	baz=335						
ETLH				S	**Sb**	**21 24 12.6**	**-1.9**
	baz=335						
CHGB	**Renai**	**0.64**	**313**	*i* P	**Pn**	**21 24 06.2**	**-1.0**
	baz=314						
CHGB				*e*S	**Sn**	**21 24 14.2**	**-2.2**
	baz=314						
SSLB	**Suanglung**	**0.69**	**283**	*i* P	**Pn**	**21 24 06.6**	**-1.2**
	baz=282						
SSLB				*e*S	**Sn**	**21 24 14.6**	**-2.9**
	baz=282						
SSLB	**Suanglung**	**0.69**	**283**	Pn	**Pn**	**21 24 06.4**	**-1.3**
FUSS	**Fushou**	**0.74**	**327**	↓P	**Pn**	**21 24 07.6**	**-1.0**
	baz=327						
FUSS				S	**Sn**	**21 24 16.8**	**-2.2**
	baz=327						
EDH	**Donghe**	**0.74**	**208**	↓P	**Pn**	**21 24 07.3**	**-1.1**
	baz=197						
EDH				*e*S	**Sn**	**21 24 17.0**	**-1.8**
	baz=197						
ELDTW	**Lidau**	**0.75**	**235**↓	*i* P	**Pn**	**21 24 07.4**	**-1.3**
	baz=231						
ELDTW				*e*S	**Sn**	**21 24 17.1**	**-2.1**
	baz=231						
SMLT	**Sun Moon Lake**	**0.76**	**290**	*i* P	**Pn**	**21 24 08.1**	**-0.7**
	baz=291						
SMLT				S	**Sn**	**21 24 18.8**	**-0.6**
	baz=291						
WHYT	**Xinyi Township**	**0.77**	**275**↑	*i* P	**Pn**	**21 24 08.5**	**-0.3**
	baz=269						
WHYT				S	**Sn**	**21 24 18.5**	**-1.0**
	baz=269						
TDCB	**Techi**	**0.79**	**322**↓	*i* P	**Pn**	**21 24 08.6**	**-0.7**
	baz=317						
TDCB				S	**Sn**	**21 24 17.9**	**-2.2**
	baz=317						
ENA	**Nanau**	**0.80**	**4**	*i* P	**Pn**	**21 24 09.1**	**-0.1**
	baz=19						
ENA				*e*S	**Sn**	**21 24 19.8**	**-0.3**
	baz=19						
TYC	**Yuchr**	**0.81**	**290**↑	*i* P	**Pn**	**21 24 08.8**	**-0.6**
	baz=297						
TYC				*e*S	**Sn**	**21 24 20.1**	**-0.3**
	baz=297						
ALS	**Alishan**	**0.82**	**262**↓	*i* P	**Pn**	**21 24 09.5**	**-0.3**
	baz=267						
ALS				*e*S	**Sn**	**21 24 20.2**	**-0.8**
	baz=267						
ENAH	**Nanao**	**0.82**	**8**	*e*P	**Pn**	**21 24 08.7**	**-0.9**
	baz=10.0						
ENAH				*e*S	**Sn**	**21 24 20.1**	**-0.7**
	baz=10.0						
NNSB	**Datong**	**0.84**	**341**	P	**Pn**	**21 24 09.0**	**-0.9**
	baz=342						
NNSB				*e*S	**Sn**	**21 24 19.2**	**-2.3**
	baz=342						
NNSH	**Datong**	**0.84**	**341**	↓P	**Pn**	**21 24 09.1**	**-0.8**
	baz=341						
NNSH				*e*S	**Sn**	**21 24 19.0**	**-2.4**
	baz=341						
NNS	**Nan Shan**	**0.86**	**341**	P	**Pn**	**21 24 09.3**	**-0.9**
	baz=342						
NNS				*e*S	**Sn**	**21 24 19.7**	**-2.1**
	baz=342						
LONT	**Longtian**	**0.88**	**215**	P	**Pn**	**21 24 09.1**	**-1.3**
	baz=212						
LONT				*e*S	**Sn**	**21 24 20.9**	**-1.3**
	baz=212						
WJS	**Zhushan**	**0.90**	**283**	*e*P	**Pn**	**21 24 11.2**	**+0.6**
	baz=281						
WJS				*e*S	**Sn**	**21 24 23.7**	**+1.0**
	baz=281						
CHN5	**Tsauling**	**0.92**	**268**↑	*i* P	**Pn**	**21 24 11.4**	**+0.3**
	baz=276						
CHN5				S	**Sn**	**21 24 23.4**	**0.0**
	baz=276						
WHP	**Taichung City**	**0.94**	**314**	*e*P	**Pn**	**21 24 11.1**	**-0.1**
	baz=317						
WHP				*e*S	**Sn**	**21 24 23.1**	**-0.6**
	baz=317						
WNT	**Mingjian**	**0.95**	**285**	*e*P	**Pn**	**21 24 11.8**	**+0.5**
	baz=284						
WNT				*e*S	**Sn**	**21 24 24.6**	**+0.7**
	baz=284						
STYT	**Tauyuan**	**0.97**	**242**↓	*i* P	**Pn**	**21 24 11.5**	**-0.1**
	baz=238						
STYT				S	**Sn**	**21 24 24.1**	**-0.4**
	baz=238						
LDUT	**Ludao**	**0.97**	**192**	*e*P	**Pn**	**21 24 09.8**	**-1.9**
	baz=190						
LDUT				*e*S	**Sn**	**21 24 22.1**	**-2.3**
	baz=190						
TWGBT	**Beinan**	**0.98**	**215**	P	**Pn**	**21 24 10.1**	**-1.7**
	baz=211						
TWGBT				*e*S	**Sn**	**21 24 22.6**	**-2.1**
	baz=211						
NDT	**Datong Townshi**	**0.98**	**351**	P	**Pn**	**21 24 11.2**	**-0.6**
	baz=343						
NDT				*e*S	**Sn**	**21 24 23.0**	**-1.7**
	baz=343						
TWG	**Pinlang**	**0.98**	**215**	P	**Pn**	**21 24 10.2**	**-1.6**
	baz=211						
TWG				*e*S	**Sn**	**21 24 22.8**	**-1.9**
	baz=211						
TWG	**Pinlang**	**0.98**	**215**	Pn	**Pn**	**21 24 10.0**	**-1.8**
TWC	**Suao**	**0.99**	**9**	*e*P	**Pn**	**21 24 11.5**	**-0.4**
	baz=11						
TWC				*e*S	**Sn**	**21 24 24.7**	**-0.1**
	baz=11						
TTN	**Taitung**	**1.00**	**210**	*e*P	**Pn**	**21 24 11.6**	**-0.4**
	baz=206						
ENTT	**Nioudou**	**1.01**	**354**	P	**Pn**	**21 24 11.6**	**-0.7**
	baz=345						
ENTT				*e*S	**Sn**	**21 24 24.5**	**-1.0**
	baz=345						
TPUB	**Ta-pu**	**1.02**	**252**↓	*i* P	**Pn**	**21 24 12.7**	**+0.3**
	baz=249						
TPUB				*e*S	**Sn**	**21 24 26.3**	**+0.5**
	baz=249						
TPUB	**Ta-pu**	**1.02**	**252**	Pn	**Pn**	**21 24 12.7**	**+0.3**
WGK	**Gukeng**	**1.03**	**273**	*e*P	**Pn**	**21 24 12.8**	**+0.4**
	baz=271						
WGK				S	**Sn**	**21 24 26.7**	**+0.8**
	baz=271						
CHN4	**Tsaushan**	**1.04**	**255**	*i* P	**Pn**	**21 24 13.1**	**+0.5**
	baz=252						
CHN4				*e*S	**Sn**	**21 24 27.6**	**+1.5**
	baz=252						
WDLH	**Douliu**	**1.05**	**273**	*e*P	**Pn**	**21 24 13.2**	**+0.4**
	baz=272						
WDLH				*e*S	**Sn**	**21 24 27.3**	**+0.8**
	baz=272						
TCU	**Taichung**	**1.06**	**299**	*e*P	**Pn**	**21 24 13.5**	**+0.7**
	baz=299						
TCU				*i* S	**Sb**	**21 24 29.0**	**+1.8**
	baz=299						
YHNB	**Yeheng**	**1.07**	**345**↓	*i* P	**Pn**	**21 24 12.7**	**-0.4**
	baz=355						
YHNB				*e*S	**Sn**	**21 24 25.8**	**-1.3**
	baz=355						
YHNB	**Yeheng**	**1.07**	**345**	Pn	**Pn**	**21 24 12.7**	**-0.4**
YHNB				Sn	**Sn**	**21 24 25.6**	**-1.5**
NSK	**Sanguang**	**1.08**	**344**↓	*i* P	**Pn**	**21 24 12.8**	**-0.4**
	baz=355						
NSK				S	**Sn**	**21 24 25.6**	**-1.7**
	baz=355						
TWE	**Neicheng**	**1.09**	**359**	P	**Pn**	**21 24 12.6**	**-0.6**
	baz=352						
TWE				*e*S	**Sn**	**21 24 27.6**	**+0.3**
	baz=352						
WCHH	**Zhanghua**	**1.12**	**294**	*e*P	**Pn**	**21 24 14.4**	**+0.7**
	baz=292						
WCHH				*e*S	**Sn**	**21 24 29.2**	**+1.0**
	baz=292						
SLGT	**Liugui**	**1.15**	**237**	*i* P	**Pn**	**21 24 14.5**	**+0.5**
	baz=224						
SLGT				*e*S	**Sn**	**21 24 29.3**	**+0.6**
	baz=224						
SGST	**Jiashian**	**1.15**	**242**	*e*P	**Pn**	**21 24 13.8**	**-0.3**
	baz=239						
SGST				*e*S	**Sn**	**21 24 29.8**	**+0.9**
	baz=239						
CHN1	**Nanshi**	**1.15**	**248**	P	**Pn**	**21 24 14.8**	**+0.7**
	baz=244						
CHN1				*e*S	**Sn**	**21 24 29.7**	**+0.8**
	baz=244						
NSY	**Sanyi**	**1.15**	**313**	*e*P	**Pn**	**21 24 15.0**	**+0.8**
	baz=312						
NSY				*e*S	**Sn**	**21 24 30.0**	**+1.0**
	baz=312						
NWLT	**Wulai**	**1.16**	**352**	*e*P	**Pn**	**21 24 14.0**	**-0.2**
	baz=345						
NWLT				*e*S	**Sn**	**21 24 26.8**	**-2.2**
	baz=345						
TWK	**Hsinying**	**1.16**	**252**	*e*P	**Pn**	**21 24 14.6**	**+0.3**
	baz=249						
TWK				*e*S	**Sn**	**21 24 29.4**	**+0.3**
	baz=249						
CHY	**Chiayi**	**1.17**	**264**	*e*P	**Pn**	**21 24 14.8**	**+0.5**
	baz=261						
CHY				S	**Sn**	**21 24 30.0**	**+0.8**
	baz=261						
SNST	**Tainan City**	**1.17**	**250**	*e*P	**Pn**	**21 24 14.8**	**+0.5**
	baz=247						
SNST				*e*S	**Sn**	**21 24 31.0**	**+1.8**
	baz=247						
NSTT	**Nanjuang**	**1.18**	**328**	*i* P	**Pn**	**21 24 15.2**	**+0.8**
	baz=328						
NSTT				*e*S	**Sn**	**21 24 28.1**	**-1.4**
	baz=328						
LIOB	**Emei**	**1.18**	**329**↑	*i*P	**Pn**	**21 24 15.5**	**+0.9**
	baz=329						
LIOB				*e*S	**Sn**	**21 24 29.9**	**+0.2**
	baz=329						
WTK	**Tuku**	**1.19**	**273**	*e*P	**Pn**	**21 24 15.1**	**+0.5**
	baz=271						
WTK				*e*S	**Sn**	**21 24 30.6**	**+0.8**
	baz=271						
WDJ	**Dajia District**	**1.19**	**307**	*e*P	**Pn**	**21 24 15.6**	**+0.9**
	baz=306						
WDJ				*e*S	**Sn**	**21 24 32.1**	**+2.2**
	baz=306						
PTSB	**Yuanli**	**1.21**	**312**	*e*P	**Pn**	**21 24 15.0**	**+0.1**
	baz=312						
PTSB				S	**Sn**	**21 24 31.6**	**+1.2**
	baz=312						
NMLH	**Miaoli**	**1.22**	**318**	*e*P	**Pn**	**21 24 15.6**	**+0.6**
	baz=317						
NMLH				*e*S	**Sn**	**21 24 31.3**	**+0.8**
	baz=317						
NTC	**Toucheng**	**1.23**	**6**	*e*P	**Pn**	**21 24 14.9**	**-0.2**
	baz=18						
NTC				*e*S	**Sn**	**21 24 31.1**	**+0.3**
	baz=18						
ECL	**Taimali**	**1.23**	**213**	*e*P	**Pn**	**21 24 13.3**	**-1.8**
	baz=209						
ECL				*e*S	**Sn**	**21 24 30.0**	**-0.7**
	baz=209						
EGS		**1.23**	**10**	*e*P	**Pn**	**21 24 15.7**	**+0.5**
	baz=13						
EGS				*e*S	**Sn**	**21 24 31.1**	**+0.3**
	baz=13					

	baz=318							
SBCB				*e*S		**Sn**	**21 24 34.2**	**+1.1**
	baz=318							
TSMG	**Majia**	**1.33**	**226**	*e*P		**Pn**	**21 24 17.3**	**+0.8**
	baz=221							
TSMG				*e*S		**Sn**	**21 24 33.6**	**+0.4**
	baz=221							
CHN3	**Shinhua**	**1.33**	**246**	*e*P		**Pn**	**21 24 18.5**	**+1.9**
	baz=243							
CHN3				*e*S		**Sn**	**21 24 35.5**	**+2.2**
	baz=243							
HSN	**Hsinchu**	**1.34**	**331**	*e*P		**Pn**	**21 24 17.7**	**+1.0**
	baz=319							
HSN				*e*S		**Sb**	**21 24 36.2**	**+1.0**
	baz=319							
WSF	**Szhu**	**1.34**	**271**	*e*P		**Pn**	**21 24 17.6**	**+0.9**
	baz=269							
TIPB	**Shuangxi**	**1.34**	**5**	*e*P		**Pn**	**21 24 17.0**	**+0.2**
	baz=355							
TIPB				*e*S		**Sn**	**21 24 34.3**	**+0.7**
	baz=355							
TWA	**Mucha**	**1.35**	**356**	*e*P		**Pn**	**21 24 16.7**	**-0.2**
	baz=357							
TWA				*e*S		**Sn**	**21 24 32.8**	**-1.0**
	baz=357							
TATO	**Taipei**	**1.35**	**352**	Pn		**Pn**	**21 24 16.7**	**-0.1**
CHN8	**Yiju**	**1.38**	**259**	*e*P		**Pn**	**21 24 17.7**	**+0.4**
	baz=256							
MASBT	**Mashibuluo**	**1.40**	**224**	*e*P		**Pn**	**21 24 17.2**	**-0.4**
	baz=221							
MASBT				*e*S		**Sn**	**21 24 35.2**	**+0.2**
	baz=221							
TWB1	**Santiao Chiao**	**1.40**	**11**	*e*P		**Pn**	**21 24 18.0**	**+0.5**
	baz=13							
TWB1				*e*S		**Sn**	**21 24 36.0**	**+1.0**
	baz=13							
NCUH	**Zhongli**	**1.41**	**341**	*e*P		**Pn**	**21 24 18.3**	**+0.7**
	baz=341							
NCUH				*e*S		**Sn**	**21 24 37.0**	**+1.8**
	baz=341							
NCU	**National Centr**	**1.41**	**341**	*e*P		**Pn**	**21 24 18.2**	**+0.6**
	baz=341							
NCU				*e*S		**Sn**	**21 24 36.9**	**+1.7**
	baz=341							
TAP1	**Taipei**	**1.41**	**354**	*e*P		**Pn**	**21 24 18.1**	**+0.5**
	baz=355							
TWM1	**Shoushan**	**1.41**	**236**	*e*P		**Pb**	**21 24 21.2**	**+1.5**
	baz=232							
JYNG	**Yonagunijimaku**	**1.41**	**54**	P		**Pn**	**21 24 18.2**	**+0.5**
JYNG				S		**Sn**	**21 24 35.6**	**+0.3**
SGLT	**Jiouru**	**1.42**	**231**	*e*P		**Pn**	**21 24 20.5**	**+2.7**
	baz=216							
NWF	**Wu-fen Shan**	**1.44**	**3**	*e*P		**Pn**	**21 24 18.4**	**+0.3**
	baz=351							
NWF				*e*S		**Sn**	**21 24 37.3**	**+1.2**
	baz=351							
WFSB	**Wu-fen Shan**	**1.44**	**3**	*e*P		**Pn**	**21 24 18.2**	**+0.2**
	baz=351							
WFSB				*e*S		**Sn**	**21 24 38.1**	**+2.1**
	baz=351							
TAW	**Tawu**	**1.46**	**210**	*e*P		**Pn**	**21 24 17.3**	**-1.0**
	baz=207							
EAST	**Anshuo**	**1.46**	**212**	*e*P		**Pn**	**21 24 16.9**	**-1.5**
	baz=208							
EAST				*e*S		**Sn**	**21 24 34.9**	**-1.7**
	baz=208							
YOJ	**Yonaguni jima**	**1.47**	**55**	P		**Pn**	**21 24 18.4**	**-0.1**
YOJ				S		**Sn**	**21 24 36.8**	**+0.1**
YOJ	**Yonaguni jima**	**1.47**	**55**	Pn		**Pn**	**21 24 19.2**	**+0.8**
YOJ				Sn		**Sn**	**21 24 36.9**	**+0.2**
TWS1	**Kuangyinshan**	**1.48**	**351**	*e*P		**Pn**	**21 24 19.2**	**+0.5**
	baz=3.0							
TWS1				*e*S		**Sn**	**21 24 37.4**	**+0.3**
	baz=3.0							
SNJT	**Kaohsiung City**	**1.52**	**235**	*e*P		**Pn**	**21 24 20.8**	**+1.6**
	baz=232							
SSPT	**Xinbi**	**1.54**	**222**	*e*P		**Pn**	**21 24 20.9**	**+1.5**
	baz=219							
NTST	**Danshui**	**1.54**	**352**	*e*P		**Pn**	**21 24 19.8**	**+0.3**
	baz=353							
ANP	**Anpu**	**1.56**	**354**	*e*P		**Pn**	**21 24 19.4**	**-0.4**
	baz=356							
LAY	**Lan-yu**	**1.59**	**184**	*e*P		**Pn**	**21 24 18.3**	**-1.8**
	baz=177							
LAY				*e*S		**Sn**	**21 24 37.2**	**-2.4**
	baz=177							
SCZT	**Fangliau**	**1.59**	**218**	*e*P		**Pn**	**21 24 20.2**	**0.0**
	baz=205							
SLIU	**Shizi**	**1.63**	**210**	*e*P		**Pn**	**21 24 19.7**	**-0.9**
	baz=207							
WLCH	**Liuqiu**	**1.75**	**224**	*e*P		**Pb**	**21 24 26.1**	**+0.6**
	baz=221							
HEN	**Hengchun**	**1.84**	**209**	*e*P		**Pn**	**21 24 23.6**	**0.0**
	baz=195							
TWK1	**Hengchun**	**1.86**	**206**	*e*P		**Pn**	**21 24 23.9**	**-0.1**
	baz=195							
WDGT	**Dungji**	**1.90**	**259**	*e*P		**Pn**	**21 24 24.0**	**-0.3**
	baz=257							
PHUB	**P'eng-hu**	**1.94**	**267**	*e*P		**Pn**	**21 24 24.9**	**-0.1**
	baz=265							
PNG	**Penghu**	**1.96**	**269**	*e*P		**Pn**	**21 24 24.6**	**-0.6**
	baz=266							
HATJ	**Hateruma jima**	**1.99**	**77**	P		**Pn**	**21 24 25.9**	**+0.3**
HATJ				S		**Sn**	**21 24 49.8**	**+0.3**
IRIF	**Iriomote-Funau**	**2.00**	**69**	P		**Pn**	**21 24 26.3**	**+0.6**
IRIF				S		**Sn**	**21 24 50.5**	**+0.7**
JKRS	**Kuro-shima**	**2.21**	**74**	P		**Pn**	**21 24 29.9**	**+1.2**
JKRS				S		**Sn**	**21 24 55.9**	**+0.9**
JIJ	**Ishigaki jima**	**2.36**	**71**	P		**Pn**	**21 24 30.9**	**+0.1**
JIJ				S		**Sn**	**21 24 58.1**	**-0.7**
VWUC	**VWUC**	**2.45**	**304**	*e*P		**Pn**	**21 24 31.2**	**-0.7**
	baz=302							
PTTC	**Pingtan**	**2.55**	**317**	*e*P		**Pn**	**21 24 32.7**	**-0.6**
	baz=316							
JISG	**Ishigakijimahi**	**2.58**	**68**	P		**Pn**	**21 24 33.9**	**+0.1**
JISG				S		**Sn**	**21 25 03.4**	**-0.8**
PTMZ	**Houxiangcun**	**2.73**	**301**	*e*P		**Pn**	**21 24 35.1**	**-0.7**
	baz=300							
JTJ	**Tarama**	**2.93**	**69**	P		**Pn**	**21 24 39.3**	**+0.7**
JTJ				S		**Sn**	**21 25 13.8**	**+0.9**
MATB	**Ma-tsu**	**2.97**	**328**	*e*P		**Pn**	**21 24 37.7**	**-1.4**
	baz=327							
KNM	**Kinmen**	**3.08**	**285**	*e*P		**Pn**	**21 24 41.1**	**+0.5**
	baz=283							
KNMB	**Chin-men Tao**	**3.13**	**286**	*e*P		**Pn**	**21 24 40.6**	**-0.7**
	baz=284							
KNMB	**Chin-men Tao**	**3.13**	**286**	Pn		**Pn**	**21 24 40.6**	**-0.7**
LYJJ	**Jianjiangzhen**	**3.39**	**329**	*e*P		**Pn**	**21 24 44.0**	**-1.0**
	baz=328							
JIRB	**Irabujima**	**3.40**	**69**	P		**Pn**	**21 24 45.6**	**+0.6**
JIRB				S		**Sn**	**21 25 25.1**	**+0.7**
MHZQ	**Yeshan**	**3.44**	**316**	*e*P		**Pn**	**21 24 44.4**	**-1.2**
	baz=314							
JIKM	**Ikemajima**	**3.50**	**68**	P		**Pn**	**21 24 46.8**	**+0.4**
JIKM				*e*S		**Sn**	**21 25 27.3**	**+0.5**
JMJ2	**Miyako jima3**	**3.51**	**71**	S		**Sn**	**21 25 27.8**	**+0.8**
XPSS	**Dashiqiu**	**3.55**	**338**	*e*P		**Pn**	**21 24 46.0**	**-1.2**
	baz=351							
AXDP	**Jialang**	**3.62**	**291**	*e*P		**Pn**	**21 24 47.2**	**-0.9**
	baz=289							
ZZJH	**Jiuhuzhen**	**3.80**	**284**	*e*P		**Pn**	**21 24 48.8**	**-1.7**
	baz=282							

*NIC **08** 21:34:03.3±0.0,3, 34°.76N×29°.12E, h19km±2km, MI2.6/3*
*DDA **08** 21:34:05.9, 35°.13N×29°.12E, h6km±1km, ML1.7*
*GII **08** 21:34:05.4±0.0,0, 34°.48N×29°.30E, h19km*
*HLW **08** 21:34:07.8, 34°.08N×29°.06E, h10km±14km, Md3.0*

ISC 08 21:34:01.4±1.2, 34°.73N±0°.04×29°.02E±0°.03, h32km±14km, n28, σ2^{s}18/40, 1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**1.49**	**18**	P	**Pb**	**21 34 28.0**	**-0.4**
KSL				S	**Sb**	**21 34 47.7**	**+0.8**
AKAS	**Kas**	**1.57**	**17**	*i* P	**Pb**	**21 34 29.2**	**-0.8**
AKAS				*i* S	**Sb**	**21 34 48.4**	**-1.1**
KARP	**Karpathos**	**1.73**	**299**	P	**Pb**	**21 34 32.8**	**+0.2**
KARP				S	**Sb**	**21 34 56.5**	**+2.7**
AKUM	**Antalya-Kumluc**	**1.92**	**34**	*i* P	**Pn**	**21 34 33.4**	**+1.6**
AKUM				*i* S	**Sn**	**21 34 53.3**	**-1.5**
AKUM				IAML		21 34 58.0	
	comp=E,11nm,1.1s						
AKUM				IAML		21 35 14.0	
	comp=N,11nm,0.7s						
TURN	**Turunc**	**2.13**	**343**	*i* P	**Pb**	**21 34 37.3**	**-2.1**
TURN				*i* S	**Sn**	**21 34 56.6**	**-3.6**
TURN				IAML		21 35 05.0	
	comp=N,5.9nm,0.5s						
TURN				IAML		21 35 07.0	
	comp=E,8.3nm,0.8s						
ELL	**Elmali**	**2.14**	**19**	P	**Pb**	**21 34 37.9**	**-1.6**
OSC1	**CSNet OBS 1**	**2.24**	**123**	P	**Pn**	**21 34 38.8**	**+2.6**
OSC1				S	**Sb**	**21 35 06.3**	**-2.1**
DAT	**Datca**	**2.31**	**330**	*i* P	**Pn**	**21 34 40.3**	**+2.9**
DAT				*i* S	**Sn**	**21 35 00.7**	**-4.1**
DAT				IAML		21 35 12.0	
	comp=N,9.7nm,1.1s						
GOLH	**Golhisar**	**2.54**	**10**	*i* P	**Pn**	**21 34 41.5**	**+1.1**
GOLH				*i* S	**Sn**	**21 35 09.0**	**-1.3**
GOLH				IAML		21 35 20.0	
	comp=N,5.6nm,0.6s						
GOLH				IAML		21 35 27.0	
	comp=E,21nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.73**	**358**	*i* P	**Pn**	**21 34 45.6**	**+2.6**
TAVA				*i* S	**Sn**	**21 35 14.0**	**-1.0**
TAVA				IAML		21 35 21.0	
	comp=N,4.3nm,0.3s						
AKMS	**Akamas**	**2.74**	**83**	P	**Pn**	**21 34 44.9**	**+1.8**
AKMS				AML	AML	21 35 17.2	
	comp=N,0.1nm,0.3s						
AKMS				AML	AML	21 35 17.2	
	comp=N,0.1nm,0.2s						
NATA	**Nata**	**2.92**	**88**	P	**Pn**	**21 34 48.1**	**+2.4**
ALFC	**Alefka**	**2.97**	**81**	P	**Pn**	**21 34 48.7**	**+2.4**
ALFC				AML	AML	21 35 22.9	
	comp=N,0.1nm,0.2s						
ALFC				AML	AML	21 35 23.5	
	comp=N,0.1nm,0.1s						
OSC2	**CSNet OBS 4**	**3.17**	**121**	S	**Sn**	**21 35 28.3**	**+2.7**
SZAC	**Souni**	**3.18**	**88**	P	**Pn**	**21 34 51.3**	**+2.1**
SZAC				⇓S	**Sn**	**21 35 28.5**	**+2.4**
SZAC				AML	AML	21 35 28.8	
	comp=N,0.1nm,0.6s						
SZAC				AML	AML	21 35 28.8	
	comp=N,0.1nm,0.6s						
ASGA	**Asgata**	**3.48**	**88**	S	**Sn**	**21 35 36.7**	**+3.3**
CSS	**Mathiatis**	**3.55**	**85**	Pn	**Pn**	**21 34 57.2**	**+2.9**
SLUM	**Salum**	**4.54**	**226**	P	**Pn**	**21 35 11.1**	**+3.2**
	baz=233						
SLUM				S	**Sn**	**21 35 57.6**	**-2.1**
	baz=233						
GLL	**Jalalah**	**5.62**	**155**	P	**Pn**	**21 35 23.5**	**+0.7**
	baz=152						
GEM	**Giv'at Ha'Em**	**5.72**	**104**	Sn	**Sn**	**21 36 27.6**	**-1.1**
NATI	**Neve Ativ**	**5.77**	**103**	Sn	**Sn**	**21 36 29.5**	**-0.3**
HMDT	**Nahal Hemdat**	**5.97**	**113**	Sn	**Sn**	**21 36 33.5**	**-1.3**
YTIR	**Yattir**	**6.12**	**122**	Sn	**Sn**	**21 36 37.4**	**-1.3**
DSI	**Dead Sea**	**6.20**	**119**	Pn	**Pn**	**21 35 31.4**	**+0.8**
DSI				Sn	**Sn**	**21 36 39.5**	**-0.8**
SWA2		**6.25**	**210**	P	**Pn**	**21 35 34.1**	**+2.7**
	baz=214						
MBRI	**Mt Berech**	**7.01**	**133**	Sn	**Sn**	**21 36 58.6**	**-1.9**
EIL	**Elat**	**7.12**	**134**	Sn	**Sn**	**21 37 00.9**	**-2.3**
HFRF	**Wahat Farafira**	**7.58**	**185**	P	**Pn**	**21 35 49.3**	**-0.4**
	baz=186						

WEL 08 21:40:42.9, 38°S±2°×17°6E±°, h193km±4km, M3.0/62, MLv3.0/62, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRRZ	**Galatos Road**	**0.09**	**181**	P	Pn	21 41 08.4	+0.2
HSRZ	**Hossack Road**	**0.12**	**115**	P	Pn	21 41 08.4	+0.2
OMRZ	**Omania**	**0.26**	**53**	P	Pn	21 41 08.5	0.0
WPRZ	**Whakapapatarin**	**0.26**	**171**	P	Pn	21 41 08.5	+0.1
KARZ	**Kaharoa**	**0.26**	**23**	P	Pn	21 41 08.4	-0.1
TARZ	**Mount Tarawera**	**0.31**	**85**	P	Pn	21 41 08.7	+0.1
KUTZ	**Kaahu Road**	**0.32**	**225**	P	Pn	21 41 08.7	+0.1
RRRZ	**Republican Roa**	**0.33**	**104**	P	Pn	21 41 08.4	-0.1
ALRZ	**Allen Road**	**0.35**	**149**	P	Pn	21 41 08.4	-0.2
TLZ	**Tolley Road**	**0.46**	**262**	P	Pn	21 41 09.3	+0.3
MARZ	**Manawahe**	**0.52**	**58**	P	Pn	21 41 09.2	-0.1
WATZ	**Wairara**	**0.53**	**214**	P	Pn	21 41 09.5	+0.2
OPRZ	**Ohinepanea**	**0.55**	**40**	P	Pn	21 41 09.0	-0.3
MRHZ	**Matea Rd**	**0.62**	**157**	P	Pn	21 41 09.4	-0.2
RATZ	**Rangitukua**	**0.66**	**204**	P	Pn	21 41 09.8	0.0
TOZ	**Tahuroa Road**	**0.72**	**318**	P	Pn	21 41 10.3	+0.2
RITZ	**Rihia Road**	**0.74**	**195**	P	Pn	21 41 10.5	+0.3
RTZ	**Ruatahuna**	**0.77**	**118**	P	Pn	21 41 10.2	-0.2
RTZ				S	Sn	21 41 30.5	-1.4
KATZ	**Kakaramea**	**0.78**	**205**	P	Pn	21 41 10.7	+0.1
URZ	**Urewera**	**0.79**	**90**	P	Pn	21 41 09.8	-0.6
URZ				S	Sn	21 41 29.4	-2.4
MTHZ	**Maungataniwha**	**0.82**	**136**	P	Pn	21 41 10.7	0.0
MTHZ				S	Sn	21 41 30.8	-1.6
KRVZ	**Karewarewa**	**0.91**	**204**	P	Pn	21 41 11.3	-0.1
TMVZ	**Te Maari**	**0.91**	**200**	P	Pn	21 41 11.3	-0.1
ETVZ	**East Tongariro**	**0.93**	**200**	P	Pn	21 41 11.6	+0.1
WTVZ	**West Tongariro**	**0.94**	**206**	P	Pn	21 41 11.6	0.0
BKZ	**Black Stump Fm**	**0.95**	**162**	P	Pn	21 41 11.5	0.0
BKZ				S	Sn	21 41 31.8	-2.1
OTTZ	**Oturere**	**0.96**	**201**	P	Pn	21 41 12.0	+0.2
TWVZ	**Taurewa**	**0.96**	**213**	P	Pn	21 41 11.6	-0.1
NMHZ	**Naumai**	**0.99**	**147**	P	Pn	21 41 12.8	+0.9
NMHZ				S	Sn	21 41 34.2	-0.3
NGZ	**Ngauruhoe**	**0.99**	**204**	P	Pn	21 41 12.1	+0.1
RAHZ	**Arahi**	**1.00**	**131**	P	Pn	21 41 12.4	+0.5
RAHZ				S	Sn	21 41 33.8	-0.7
HIZ	**Hauiti**	**1.02**	**255**	P	Pn	21 41 12.2	+0.2
RAGZ	**Rawiri**	**1.05**	**103**	P	Pn	21 41 12.3	0.0
TUVZ	**Tukino**	**1.06**	**200**	P	Pn	21 41 12.5	+0.1
FWVZ	**Far West T-bar**	**1.08**	**204**	P	Pn	21 41 12.5	-0.2
SNGZ	**Shannon Statio**	**1.09**	**119**	P	Pn	21 41 12.9	+0.4
SNGZ				S	Sn	21 41 34.2	-1.4
MWZ	**Matawai**	**1.12**	**94**	P	Pn	21 41 12.6	-0.1
MWZ				S	Sn	21 41 33.8	-2.0
WNVZ	**Wahianoa**	**1.14**	**201**	P	Pn	21 41 12.9	-0.1
MOVZ	**Moawhango**	**1.18**	**194**	P	Pn	21 41 12.8	-0.4
KWHZ	**Kaweka Forest**	**1.18**	**168**	P	Pn	21 41 13.6	+0.4
PKVZ	**Pokaka**	**1.19**	**210**	P	Pn	21 41 13.2	-0.1
WHHZ	**Waihua**	**1.20**	**133**	P	Pn	21 41 13.8	+0.6
ARHZ	**Aropaoanui**	**1.21**	**146**	P	Pn	21 41 14.1	+0.7
ARHZ				S	Sn	21 41 36.4	-0.8
BHHZ	**Black Hill Sta**	**1.23**	**182**	P	Pn	21 41 13.4	-0.2
MTVZ	**Mangateitei**	**1.23**	**204**	P	Pn	21 41 13.5	-0.1
MCHZ	**McNeill Hill**	**1.26**	**159**	P	Pn	21 41 14.6	+0.8
RUGZ	**Raukumara Rang**	**1.27**	**77**	P	Pn	21 41 12.8	-1.2
RUGZ				S	Sn	21 41 34.4	-3.8
VRZ	**Vera Road**	**1.36**	**231**	P	Pn	21 41 14.8	+0.2
RIGZ	**Rimuhau**	**1.37**	**109**	P	Pn	21 41 15.1	+0.4
TKGZ	**Te Karaka**	**1.38**	**98**	P	Pn	21 41 15.1	+0.3
TKGZ				S	Sn	21 41 38.9	-0.6
KRHZ	**Kereru**	**1.39**	**172**	P	Pn	21 41 15.1	+0.2
HAZ	**Te Kaha**	**1.41**	**70**	P	Pn	21 41 14.4	-0.7
HAZ				S	Sn	21 41 36.9	-3.2
KNZ	**Kokohu**	**1.44**	**122**	P	Pn	21 41 15.6	+0.3
TWGZ	**Tauwhareparae**	**1.47**	**87**	P	Pn	21 41 15.9	+0.2
PRGZ	**Paritu Road**	**1.54**	**116**	P	Pn	21 41 16.5	+0.3
KUZ	**Kuaotunu**	**1.55**	**348**	P	Pn	21 41 16.3	-0.1
CKHZ	**Cape Kidnapper**	**1.58**	**152**	P	Pn	21 41 17.1	+0.5
PKGZ	**Pakihiroa**	**1.59**	**77**	P	Pn	21 41 16.7	-0.2
PNHZ	**Pukenui**	**1.65**	**178**	P	Pn	21 41 17.1	-0.2
MHGZ	**Mahia Peninsul**	**1.66**	**123**	P	Pn	21 41 18.0	+0.6
WIAZ	**Waiheke Island**	**1.66**	**332**	P	Pn	21 41 17.7	+0.3
CNGZ	**Carnagh Statio**	**1.66**	**98**	P	Pn	21 41 18.2	+0.8
AWAZ	**Awhitu Peninsu**	**1.67**	**315**	P	Pn	21 41 17.7	+0.2
PUZ	**Puketiti**	**1.70**	**84**	P	Pn	21 41 17.7	-0.1
MBAZ	**Motutapu North**	**1.78**	**327**	P	Pn	21 41 18.7	+0.2
LREZ	**Lake Rotokare**	**1.79**	**228**	P	Pn	21 41 19.1	+0.5
TSZ	**Takapari Road**	**1.80**	**184**	P	Pn	21 41 18.5	-0.2
WTAZ	**Waiatarua**	**1.81**	**317**	P	Pn	21 41 19.2	+0.4
WPHZ	**Waipukurau**	**1.82**	**172**	P	Pn	21 41 18.8	0.0
PXZ	**Pawanui**	**1.86**	**162**	P	Pn	21 41 19.3	0.0
NEZ	**North Egmont**	**1.87**	**237**	P	Pn	21 41 20.1	+0.6
MXZ	**Matakaoa Point**	**1.87**	**69**	P	Pn	21 41 20.0	+0.5
WMGZ	**Waiomatatini S**	**1.87**	**77**	P	Pn	21 41 19.3	-0.1
PKE	**Pukeiti**	**1.90**	**240**	P	Pn	21 41 20.6	+0.8
KHEZ	**Kahui Hut**	**1.94**	**237**	P	Pn	21 41 20.4	+0.2
DVHZ	**Dannevirke**	**2.03**	**179**	P	Pn	21 41 20.5	-0.6
OHWZ	**Ohakea**	**2.04**	**197**	P	Pn	21 41 21.2	+0.1
PRHZ	**Porangahau**	**2.04**	**169**	P	Pn	21 41 21.0	-0.1
GRZ	**Great Barrier**	**2.08**	**345**	P	Pn	21 41 21.6	0.0
POWZ	**Post Office Ro**	**2.14**	**187**	P	Pn	21 41 21.7	-0.6
PRWZ	**Pori Road**	**2.29**	**183**	P	Pn	21 41 23.4	-0.5
BFZ	**Birch Farm**	**2.42**	**178**	P	Pn	21 41 24.4	-0.9
MRZ	**Mangatainoka R**	**2.43**	**190**	P	Pn	21 41 24.4	-1.0
TIWZ	**Tintock**	**2.52**	**184**	P	Pn	21 41 25.7	-0.7
CPWZ	**Castlepoint**	**2.64**	**179**	P	Pn	21 41 26.9	-0.9
OGWZ	**Otaki Gorge**	**2.65**	**196**	P	Pn	21 41 26.9	-1.0
HOWZ	**Holdsworth Sta**	**2.67**	**190**	P	Pn	21 41 26.9	-1.3
WCZ	**Waipu Caves**	**2.72**	**328**	P	Pn	21 41 29.5	+0.7
KIW	**Kapiti Island**	**2.76**	**199**	P	Pn	21 41 27.7	-1.4
TMWZ	**Te Maipa**	**2.84**	**183**	P	Pn	21 41 28.8	-1.4
CAW	**Cannon Point**	**2.95**	**196**	P	Pn	21 41 30.0	-1.4
DUWZ	**D'Urville Isla**	**3.05**	**213**	P	Pn	21 41 30.9	-1.7
TRWZ	**Traveller**	**3.15**	**186**	P	Pn	21 41 32.2	-1.6
PAWZ	**Paruwai Farm**	**3.16**	**189**	P	Pn	21 41 32.2	-1.8
WEL	**Wellington**	**3.19**	**199**	P	Pn	21 41 32.7	-1.6
TCW	**Tory Channel**	**3.27**	**205**	P	Pn	21 41 33.4	-1.8
BHW	**Baring Head**	**3.28**	**197**	P	Pn	21 41 33.4	-2.0
PLWZ	**Palliser**	**3.37**	**191**	P	Pn	21 41 34.3	-2.2
TUWZ	**Tuamarina**	**3.58**	**207**	P	Pn	21 41 36.9	-2.0
NNZ	**Nelson**	**3.62**	**215**	P	Pn	21 41 37.4	-2.2
OUZ	**Omahuta**	**3.65**	**326**	P	Pn	21 41 40.5	+0.5
QRZ	**Quartz Range**	**3.77**	**226**	P	Pn	21 41 38.6	-2.9
CMWZ	**Cape Campbell**	**3.77**	**202**	P	Pn	21 41 40.2	-1.2
BSWZ	**Blackbirch Sta**	**3.85**	**206**	P	Pn	21 41 40.4	-2.0
THZ	**Tophouse**	**4.28**	**214**	P	Pn	21 41 45.1	-2.7
KHZ	**Kahutara**	**4.59**	**205**	P	Pn	21 41 49.6	-2.1
DSZ	**Denniston Nort**	**4.80**	**222**	P	Pn	21 41 51.0	-3.4
GVZ	**Greta Valley S**	**5.25**	**206**	P	Pn	21 41 57.9	-2.3
LTZ	**Lake Taylor**	**5.38**	**212**	P	Pn	21 41 58.8	-3.1
INZ	**Inchbonnie**	**5.70**	**217**	P	Pn	21 42 02.7	-3.3
OKCZ	**Okains Bay**	**5.92**	**202**	P	Pn	21 42 06.2	-2.7
OXZ	**Oxford**	**5.93**	**210**	P	Pn	21 42 05.7	-3.2
MOZ	**McQueen's Vall**	**6.03**	**205**	P	Pn	21 42 06.6	-3.7
AKCZ	**Akaroa Harbour**	**6.10**	**202**	P	Pn	21 42 08.2	-3.1
MHCZ	**Mount Hutt**	**6.29**	**212**	P	Pn	21 42 10.9	-2.8
WACZ	**Wakanui South**	**6.53**	**208**	P	Pn	21 42 13.4	-3.4
RPZ	**Rata Peaks**	**6.65**	**213**	P	Pn	21 42 15.8	-2.6
ARCZ	**Arundel**	**6.79**	**212**	P	Pn	21 42 17.3	-2.9
ODZ	**Otahua Downs**	**7.91**	**209**	P	Pn	21 42 32.1	-2.8

*IDC **08** 21:48:14.6±1.9, 6°.91S×154°.93E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/38, mbtmp3.6/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=64.1km s-min=26.9km az=113.0*

ISC 08 21:48:20.5±1.7, 7°.0S±0°.2×154°.9E±0°.4, h41km, n7, σ0^{s}85/7, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.77**	**235**	P	**P**	**21 53 28.3**	**-1.3**
	1.4nm,0.9s,baz=58,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**26.14**	**228**	P	**P**	**21 53 51.5**	**+0.4**
	0.2nm,0.4s,baz=57,slow=9.5,SNR=3.2						
ASAR				LR	LR	22 02 16.3	
	comp=Z,19nm,18.4s,baz=302,slow=32						
STKA	**Stephens Creek**	**27.74**	**205**	P	**P**	**21 54 05.7**	**+0.4**
	0.6nm,0.4s,baz=16,slow=14,SNR=3.0						
CMAR	**Chiang Mai Arr**	**60.59**	**296**	P	**P**	**21 58 28.2**	**0.0**
	0.3nm,0.3s,baz=126,slow=4.3,SNR=2.1						
MKAR	**Makanchi Array**	**83.32**	**319**	P	**P**	**22 00 43.5**	**+0.2**
	0.7nm,0.7s,baz=94,slow=5.8,SNR=4.1						
ILAR	**Eielson Array**	**83.36**	**22**	P	**P**	**22 00 42.5**	**-0.5**
	0.2nm,0.5s,baz=235,slow=6.4,SNR=1.3						
KURBB	**Kurchatov Arra**	**86.78**	**322**	P	**P**	**22 01 01.3**	**+0.8**
	0.2nm,0.6s,baz=104,slow=5.8,SNR=1.5						

*ATA **08** 21:50:58.3±1.6, 39°.73N×38°.95E, h7km±226km, ML0.6, MW3.5*
*DDA **08** 21:50:58.5, 39°.72N×38°.91E, h7km±4km, ML1.0*

**ISC 08 21:50:55.8±1.4, 39°.75N±0°.04×38°.96E±0°.04, h2km±13

SVX	**San Vicente**	**0.36**	**267**	⇑*iP*	**Pg**	**22 26 48.8**	**+0.5**
SVX				*eS*	**Sg**	**22 26 53.5**	**+0.5**
SJX	**San Joaquin**	**0.43**	**345**	*eP*	**Pn**	**22 26 53.5**	**-0.6**
SJX				*eS*	**Sb**	**22 27 02.4**	**+4.2**
SPIG	**San Pedro Mart**	**0.43**	**134**	⇓*iP*	**Pg**	**22 26 50.4**	**+0.7**
	baz=300,slow=16						
SPIG				*i S*	**Sg**	**22 26 56.6**	**+1.2**
SPIG	**San Pedro Mart**	**0.43**	**134**	*eP*	**Pg**	**22 26 50.0**	**+0.3**
SPIG				*eS*	**Sg**	**22 26 56.8**	**+1.4**
SPX	**San Pedro Mart**	**0.44**	**134**	⇓*iP*	**Pg**	**22 26 49.4**	**-0.4**
SPX				*eS*	**Sg**	**22 26 55.9**	**+0.2**
SPX				IAML		22 26 56.8	
	comp=E,194nm,0.1s						
SPX				IAML		22 26 57.2	
	comp=N,176nm,0.1s						
SPX				*e*		22 26 57.2	
ECBX	**El Chinero**	**0.68**	**79**	⇑*iP*	**Pg**	**22 26 54.7**	**+0.4**
ECBX				*i S*	**Sg**	**22 27 03.8**	**+0.7**
SQX	**San Quintin**	**0.77**	**183**	*eP*	**Pg**	**22 26 56.2**	**+0.1**
SQX				*eS*	**Sb**	**22 27 07.0**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**1.32**	**350**	*eP*	**Pn**	**22 27 05.2**	**-1.3**
IKP				*eS*	**Sb**	**22 27 21.9**	**-2.1**
BAR	**Barrett**	**1.51**	**332**	*eP*	**Pn**	**22 27 07.9**	**-1.2**

IDC 08 22:53:16.9±2.4, 2°12N×127°14E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.5/3, Error ellipse: s-maj=194.9km s-min=26.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**162**	P	P	22 58 22.7	-1.3
	0.7nm,0.8s,baz=341,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**26.46**	**166**	P	P	22 58 57.4	+1.4
	0.5nm,0.6s,baz=345,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**59.10**	**326**	P	P	23 03 18.8	-0.4
	0.8nm,0.7s,baz=112,slow=6.0,SNR=4.4						

WEL 08 22:58:26.5, 41°S±2°×17°4E±°, h118km±4km, M3.3/44, MLv3.3/44, Error ellipse: s-maj=0.0km s-min=0.0km az=70.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.29**	**158**	P	Pn	22 58 43.8	+0.6
DUWZ				S	Sn	22 58 55.9	0.0
NNZ	**Nelson**	**0.75**	**204**	P	Pn	22 58 46.6	+0.6
NNZ				S	Sn	22 59 00.9	+0.2
TCW	**Tory Channel**	**0.77**	**151**	P	Pn	22 58 47.1	+0.9
TCW				S	Sn	22 59 00.8	-0.4
TUWZ	**Tuamarina**	**0.90**	**172**	P	Pn	22 58 47.9	+0.5
KIW	**Kapiti Island**	**0.92**	**111**	P	Pn	22 58 48.1	+0.6
KIW				S	Sn	22 59 02.5	-1.0
QRZ	**Quartz Range**	**0.99**	**253**	P	Pn	22 58 48.1	-0.2
QRZ				S	Sn	22 59 03.3	-1.4
OGWZ	**Otaki Gorge**	**1.10**	**105**	P	Pn	22 58 50.0	+0.7
OGWZ				S	Sn	22 59 05.7	-0.8
CAW	**Cannon Point**	**1.13**	**121**	P	Pn	22 58 50.4	+0.7
LREZ	**Lake Rotokare**	**1.18**	**24**	P	Pn	22 58 51.3	+1.2
BSWZ	**Blackbirch Sta**	**1.18**	**176**	P	Pn	22 58 51.5	+1.3
BHW	**Baring Head**	**1.20**	**137**	P	Pn	22 58 51.0	+0.6
KHEZ	**Kahui Hut**	**1.25**	**8**	P	Pn	22 58 51.4	+0.4
CMWZ	**Cape Campbell**	**1.26**	**165**	P	Pn	22 58 52.5	+1.4
CMWZ				S	Sn	22 59 10.7	+1.0
NEZ	**North Egmont**	**1.29**	**11**	P	Pn	22 58 51.8	+0.4
PKE	**Pukeiti**	**1.35**	**7**	P	Pn	22 58 52.7	+0.6
HOWZ	**Holdsworth Sta**	**1.37**	**106**	P	Pn	22 58 52.7	+0.4
MRZ	**Mangatainoka R**	**1.38**	**96**	P	Pn	22 58 52.7	+0.4
THZ	**Tophouse**	**1.39**	**208**	P	Pn	22 58 53.0	+0.4
MSWZ	**Moikau Station**	**1.42**	**129**	P	Pn	22 58 53.4	+0.6
MSWZ				S	Sn	22 59 11.6	-1.3
PAWZ	**Paruwai Farm**	**1.51**	**125**	P	Pn	22 58 54.4	+0.5
PAWZ				S	Sn	22 59 13.5	-1.3
PLWZ	**Palliser**	**1.52**	**133**	P	Pn	22 58 54.6	+0.5
TIWZ	**Tintock**	**1.62**	**99**	P	Pn	22 58 55.6	+0.4
PRWZ	**Pori Road**	**1.67**	**91**	P	Pn	22 58 56.3	+0.5
TRWZ	**Traveller**	**1.68**	**121**	P	Pn	22 58 56.5	+0.5
TMWZ	**Te Maipa**	**1.70**	**110**	P	Pn	22 58 56.6	+0.4
PKVZ	**Pokaka**	**1.73**	**45**	P	Pn	22 58 57.2	+0.6
MTVZ	**Mangateitei**	**1.73**	**49**	P	Pn	22 58 57.1	+0.5
TSZ	**Takapari Road**	**1.74**	**75**	P	Pn	22 58 56.7	+0.1
DVHZ	**Dannevirke**	**1.84**	**83**	P	Pn	22 58 57.7	-0.2
WNVZ	**Wahianoa**	**1.85**	**50**	P	Pn	22 58 58.4	+0.3
FWVZ	**Far West T-bar**	**1.87**	**47**	P	Pn	22 58 59.3	+0.8
CPWZ	**Castlepoint**	**1.88**	**102**	P	Pn	22 58 59.2	+0.9
BFZ	**Birch Farm**	**1.89**	**95**	P	Pn	22 58 58.4	+0.1
KHZ	**Kahutara**	**1.89**	**185**	P	Pn	22 58 59.0	+0.6
MOVZ	**Moawhango**	**1.89**	**54**	P	Pn	22 58 58.4	-0.1
TUVZ	**Tukino**	**1.92**	**49**	P	Pn	22 58 59.2	+0.3
DSZ	**Denniston Nort**	**1.92**	**230**	P	Pn	22 58 58.8	0.0
DSZ				S	Sn	22 59 22.2	-1.4
TWVZ	**Taurewa**	**1.94**	**42**	P	Pn	22 58 59.3	+0.1
NGZ	**Ngauruhoe**	**1.95**	**47**	P	Pn	22 58 60.0	+0.6
PNHZ	**Pukenui**	**1.96**	**72**	P	Pn	22 58 59.1	-0.2
WTVZ	**West Tongariro**	**1.99**	**45**	P	Pn	22 58 60.0	+0.2
OTVZ	**Oturere**	**2.00**	**47**	P	Pn	22 59 00.1	+0.1
BHHZ	**Black Hill Sta**	**2.04**	**60**	P	Pn	22 59 00.0	-0.4
TMVZ	**Te Maari**	**2.05**	**47**	P	Pn	22 59 01.0	+0.4
ANWZ	**Angora Road**	**2.06**	**89**	P	Pn	22 59 00.7	+0.2
WPHZ	**Waipukurau**	**2.09**	**78**	P	Pn	22 59 00.9	0.0
KRHZ	**Kereru**	**2.18**	**67**	P	Pn	22 59 01.6	-0.5
HIZ	**Hauiti**	**2.18**	**23**	P	Pn	22 59 02.0	-0.1
PXZ	**Pawanui**	**2.41**	**79**	P	Pn	22 59 04.6	-0.4
KAHZ	**Kahuranaki**	**2.49**	**74**	P	Pn	22 59 05.8	-0.2
MCHZ	**McNeill Hill**	**2.49**	**65**	P	Pn	22 59 05.7	-0.4
GVZ	**Greta Valley S**	**2.49**	**193**	P	Pn	22 59 05.6	-0.5
LTZ	**Lake Taylor**	**2.51**	**206**	P	Pn	22 59 06.0	-0.4
TLZ	**Tolley Road**	**2.59**	**32**	P	Pn	22 59 07.5	+0.1
CKHZ	**Cape Kidnapper**	**2.68**	**72**	P	Pn	22 59 08.3	-0.2
AMCZ	**Amberley**	**2.77**	**197**	P	Pn	22 59 09.1	-0.6
INZ	**Inchbonnie**	**2.80**	**218**	P	Pn	22 59 09.9	-0.2
OXZ	**Oxford**	**3.08**	**204**	P	Pn	22 59 12.3	-1.5
OKCZ	**Okains Bay**	**3.23**	**189**	P	Pn	22 59 14.7	-1.0
MQZ	**McQueen's Vall**	**3.28**	**194**	P	Pn	22 59 14.3	-2.0
KNZ	**Kokohu**	**3.36**	**65**	P	Pn	22 59 15.5	-1.9
AKCZ	**Akaroa Harbour**	**3.40**	**191**	P	Pn	22 59 16.4	-1.5
MHCZ	**Mount Hutt**	**3.42**	**208**	P	Pn	22 59 16.9	-1.3
MHGZ	**Mahia Peninsul**	**3.46**	**68**	P	Pn	22 59 17.4	-1.4
AWAZ	**Awhitu Peninsu**	**3.53**	**11**	P	Pn	22 59 20.4	+0.7
PRGZ	**Paritu Road**	**3.55**	**64**	P	Pn	22 59 18.2	-1.8
MWZ	**Matawai**	**3.64**	**54**	P	Pn	22 59 19.0	-2.2
WACZ	**Wakanui South**	**3.70**	**202**	P	Pn	22 59 20.8	-1.0
ARCZ	**Arundel**	**3.92**	**209**	P	Pn	22 59 24.0	-0.8
CNGZ	**Carnagh Statio**	**3.99**	**61**	P	Pn	22 59 23.9	-1.9
TWGZ	**Tauwhareparae**	**4.02**	**55**	P	Pn	22 59 24.9	-1.4
ODZ	**Otahua Downs**	**5.06**	**206**	P	Pn	22 59 38.9	-1.3
CTZ	**Chatham Island**	**7.82**	**117**	P	Pn	23 00 17.7	+0.3

LSZ 08 23:10:16.6±0.3, 12°27S×31°93E, h10km, MD2.5, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VWZMW	**Thunduwike**	**1.95**	**56**	*i* P	Pg	23 10 58.1	+4.1
VWZMW				S	Sn	23 11 13.0	-1.5
KSMZ	**Kasama**	**2.20**	**342**	*i* P	Pn	23 10 53.6	+0.3
KSMZ				*i*		23 10 53.7	
	baz=162,slow=12						
KSMZ				*i S*	Sn	23 11 20.7	-0.1
KOND	**Kondoa**	**8.25**	**28**	*i* P	Pb	23 12 32.1	-7.7
KOND				*i S*		23 12 44.6	

IDC 08 23:52:11.0±3.6, 7°80N×94°09E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, MS3.2/3, Ms1 3.2/3, ms1mx2.7/39, Error ellipse: s-maj=152.2km s-min=24.4km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.91**	**136**	LR	LR	23 57 12.1	
	comp=Z,44nm,18.3s,baz=269,slow=43						
CMAR	**Chiang Mai Arr**	**11.60**	**24**	LR	LR	23 59 33.5	
	comp=Z,42nm,18.4s,baz=75,slow=38						
H08S3	**Diego Garcia H**	**26.44**	**235**	T	T	00 24 23.6	
	baz=55,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**26.44**	**235**	T	T	00 24 25.5	
	baz=55,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**26.46**	**235**	T	T	00 24 33.2	
	baz=55,slow=75,SNR=16						

MKAR	**Makanchi Array**	**40.15**	**347**	P	P	23 59 48.3	-0.6
	0.5nm,0.6s,baz=154,slow=6.5,SNR=7.8							
SONM	**Songino Array**	**41.25**	**13**	P	P	23 59 57.5	-0.5
	0.4nm,0.4s,baz=180,slow=5.8,SNR=1.3							
ZALV	**Zalesovo Beam**	**46.63**	**352**	P	P	00 00 41.8	+0.8
	0.5nm,0.4s,baz=172,slow=12,SNR=1.5							
WRA	**Warramunga Arr**	**48.25**	**125**	P	P	00 00 54.1	-0.1
	0.4nm,1.0s,baz=303,slow=9.2,SNR=2.4							
ASAR	**Alice Springs**	**49.90**	**130**	P	P	00 01 06.7	-0.1
	0.3nm,0.6s,baz=297,slow=7.5,SNR=4.1							
CTA	**Charters Tower**	**58.31**	**119**	LR	LR	00 28 15.8		
	comp=Z,200nm,21.3s,baz=81,slow=37							

*IDC **09** 00:19:44.8±2.5, 7°22S×155°14E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/34, mbtmp3.9/6, ML3.9/1, MS3.0/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=66.7km s-min=32.7km az=105.0*

*NEIC **09** 00:19:47.7±1.4, 7°2S±0°1×154°83E±0°08, h10km±1km, mb4.5/11, Error ellipse: s-maj=23.4km s-min=3.0km az=213.0*

ISC 09 00:19:51.7±0.7, 7°15S±0°09×154°8E±0°1, h35km, n26, σ0°92/27, mb4.3/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.91**	**319**	Pn	**Pn**	**00 20 46.5**	**-2.8**
KRVT	**Keravat (AS076**	**3.92**	**316**	Pn	**Pn**	**00 20 50.4**	**+1.0**
	6.4nm,0.3s,baz=158,slow=19,SNR=2.6						
KRVT				Sn	**Sn**	**00 21 33.8**	**-0.5**
	11nm,0.3s,baz=113,slow=20,SNR=6.1						
HNR	**Honiara**	**5.61**	**114**	Pn	Pn	00 21 06.8	-5.9
PATS	**Pohnpei**	**14.34**	**14**	Pn	**Pn**	**00 23 12.9**	**+0.6**
ARMA	**Armidale**	**23.33**	**187**	P	**P**	**00 24 56.5**	**-0.5**
ARMA				IAmb	IAmb	00 24 57.7	
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**23.52**	**235**	P	**P**	**00 24 58.6**	**-0.3**
WRA	**Warramunga Arr**	**23.53**	**235**	P	**P**	**00 24 58.9**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=58,slow=9.2,SNR=8.8						
WRA				LR	LR	00 33 23.6	
	comp=Z,31nm,18.6s,baz=175,slow=34						
WRA	**Warramunga Arr**	**23.53**	**235**	P	**P**	**00 24 58.4**	**-0.6**
MSVF	**Nonsavu**	**25.03**	**117**	P	**P**	**00 25 11.3**	**-1.5**
MSVF				IAmb	IAmb	00 25 25.5	
	comp=Z,9.5nm,1.0s						
ASAR	**Alice Springs**	**25.89**	**228**	P	**P**	**00 25 21.5**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=61,slow=9.6,SNR=2.9						
STKA	**Stephens Creek**	**27.50**	**205**	LR	LR	00 36 14.6	
	comp=Z,29nm,18.1s,baz=20,slow=36						
STKA	**Stephens Creek**	**27.50**	**205**	P	**P**	**00 25 34.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**60.64**	**296**	P	**P**	**00 30 01.6**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=121,slow=4.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**60.64**	**296**	P	**P**	**00 29 59.7**	**0.0**
IMAR	**Indian Mountai**	**81.95**	**19**	P	**P**	**00 32 07.8**	**+0.3**
QSPA	**South Pole Qui**	**82.83**	**180**	P	**P**	**00 32 12.9**	**+0.6**
QSPA				IAmb	IAmb	00 32 30.0	
	comp=Z,6.8nm,1.5s						
MK31	**Makanchi Array**	**83.36**	**319**	P	**P**	**00 32 16.3**	**+0.9**
MK31				IAmb	IAmb	00 32 19.5	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**83.36**	**319**	P	**P**	**00 32 15.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=100,slow=5.0,SNR=7.7						
MKAR	**Makanchi Array**	**83.36**	**319**	P	**P**	**00 32 16.1**	**+0.7**
BALM	**Baldy**	**83.57**	**26**	P	**P**	**00 32 16.1**	**0.0**
BALM				IAmb	IAmb	00 32 29.8	
	comp=Z,8.5nm,1.4s						
BARN	**Barnard Glacie**	**83.88**	**26**	P	**P**	**00 32 18.0**	**+0.2**
DOT	**Dot Lake**	**84.10**	**23**	P	**P**	**00 32 18.5**	**-0.2**
ZALV	**Zalesovo Beam**	**84.18**	**326**	P	**P**	**00 32 19.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=100,slow=6.0,SNR=2.4						
HYT	**Haines Junctio**	**85.62**	**27**	P	**P**	**00 32 26.8**	**+0.2**
HYT				IAmb	IAmb	00 32 29.6	
	comp=Z,5.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**152.84**	**285**	PKPbc	**PKiKP**	**00 39 46.5**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=69,slow=3.4,SNR=4.5						
TORD				PKPab	**pPKPbc**	**00 39 56.2**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=84,slow=2.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**152.84**	**285**		**PKPbc**	**00 39 46.3**	**+0.1**
TORD					**PKPab**	**00 39 56.7**	**-0.5**

WEL 09 00:45:50.3±1.2, 33°S±17°×18°0E±2°5, h435km±25km, M3.8/24, mB4.3/12, MLv4.5/24, Mw(mB)3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=103.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**4.96**	**222**	P	P	00 47 13.3	0.0
MXZ	**Matakaoa Point**	**5.02**	**192**	P	P	00 47 14.5	+0.6
MXZ				S	S	00 48 21.8	-0.4
WMGZ	**Waiomatatini S**	**5.25**	**190**	P	P	00 47 16.2	0.0
WMGZ				S	S	00 48 28.2	+1.8
HAZ	**Te Kaha**	**5.31**	**196**	P	P	00 47 17.0	+0.3
HAZ				S	S	00 48 28.4	+0.9
PKGZ	**Pakihiroa**	**5.38**	**193**	P	P	00 47 17.7	+0.2
RUGZ	**Raukumara Rang**	**5.53**	**196**	P	P	00 47 18.6	-0.6
RUGZ				S	S	00 48 29.6	-2.3
TWGZ	**Tauwhareparae**	**5.67**	**193**	P	P	00 47 20.8	+0.3
TWGZ				S	S	00 48 37.6	+3.2
OPRZ	**Ohinepanea**	**5.75**	**205**	P	P	00 47 22.9	+1.6
MWZ	**Matawai**	**5.92**	**196**	P	P	00 47 21.6	-1.5
CNGZ	**Carnagh Statio**	**5.93**	**191**	P	P	00 47 24.0	+0.8
TKGZ	**Te Karaka**	**5.95**	**193**	P	P	00 47 22.9	-0.4
TKGZ				S	S	00 48 39.6	0.0
URZ	**Urewera**	**5.96**	**199**	P	P	00 47 20.9	-2.5
URZ				S	S	00 48 39.3	-0.3
RAGZ	**Rawiri**	**6.10**	**196**	P	P	00 47 25.1	+0.1
RIGZ	**Rimuhau**	**6.23**	**193**	P	P	00 47 26.4	+0.2
RTZ	**Ruatahuna**	**6.33**	**199**	P	P	00 47 26.9	-0.4
PRGZ	**Paritu Road**	**6.42**	**192**	P	P	00 47 28.6	+0.4
KNZ	**Kokohu**	**6.55**	**193**	P	P	00 47 29.0	-0.7
RAHZ	**Arahi**	**6.58**	**197**	P	P	00 47 30.7	+0.6
MHGZ	**Mahia Peninsul**	**6.63**	**191**	P	P	00 47 31.4	+0.7
NMHZ	**Naumai**	**6.82**	**199**	P	P	00 47 33.8	+1.0
ARHZ	**Aropaoanui**	**6.93**	**197**	P	P	00 47 34.4	+0.6
BKZ	**Black Stump Fm**	**6.97**	**200**	P	P	00 47 33.6	-0.8
HIZ	**Hauiti**	**7.01**	**212**	P	P	00 47 37.5	+2.8
MCHZ	**McNeill Hill**	**7.18**	**198**	P	P	00 47 36.3	-0.2
ETVZ	**East Tongariro**	**7.20**	**205**	P	P	00 47 36.7	-0.2
CKHZ	**Cape Kidnapper**	**7.29**	**196**	P	P	00 47 38.1	+0.4
BHHZ	**Black Hill Sta**	**7.40**	**202**	P	P	00 47 37.8	-1.2
WNVZ	**Wahianoa**	**7.41**	**205**	P	P	00 47 39.0	-0.3
KRHZ	**Kereru**	**7.45**	**200**	P	P	00 47 38.9	-0.6
KAHZ	**Kahuranaki**	**7.46**	**196**	P	P	00 47 39.5	-0.1

*ATA **09** 00:45:57.8±1.1, 39°26N×43°62E, h37km±8km, ML1.3, MW4.1*

*DDA **09** 00:45:57.9, 39°15N×43°90E, h6km, ML1.7*

*ISK **09** 00:45:58.3, 39°16N×43°87E, h4km, ML1.9/5*

ISC 09 00:45:57.5±0.8, 39°15N±0°03×43°88E±0°04, h9km±6km, n24, σ1°31/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.03**	**93**	PG	**Pg**	**00 45 59.5**	**0.0**
CLDR				SG	**Sg**	**00 46 00.7**	**-0.2**
CLDR	**Caldiran**	**0.03**	**93**	*i* P	**Pg**	**00 45 59.4**	**-0.2**
CLDR				IAML		00 46 00.0	
	comp=N,2μm,0.2s						
CLDR				*i S*	**Sg**	**00 46 00.1**	**-0.9**
VMUR	**Van-Muradiye**	**0.29**	**237**	*i* P	**Pg**	**00 46 04.4**	**+1.1**
VMUR				*i S*	**Sg**	**00 46 08.8**	**+1.6**
VMUR				IAML		00 46 10.0	
	comp=N,153nm,0.3s						
VMUR				IAML		00 46 13.0	
	comp=E,117nm,0.6s						
DYDN	**Diyadin**	**0.43**	**339**	*eP*	**Pg**	**00 46 06.7**	**+0.8**
DYDN				*eS*	**Sb**	**00 46 13.1**	**-0.8**
DYDN				IAML		00 46 15.0	
	comp=Z,65nm,0.2s						
DYDN	**Diyadin**	**0.43**	**339**	*i* P	**Pg**	**00 46 06.4**	**+0.4**
DYDN				*i S*	**Sb**	**00 46 13.2**	**-0.8**
DYDN				IAML		00 46 14.0	
	comp=E,131nm,0.2s						
DYDN				IAML		00 46 14.0	
	comp=N,120nm,0.2s						
ERCV	**ERCIS-VAN**	**0.44**	**254**	PG	**Pb**	**00 46 07.9**	**+0.3**
VANB	**Van**	**0.67**	**215**	PG	**Pn**	**00 46 13.6**	**+0.3**
VANB				SG	**Sn**	**00 46 24.3**	**+0.4**

TVAN	**Van**	**0.72**	**211**	*eP*	**Pb**	**00 46 13.0**	**+0.7**
TVAN				*eS*	**Sn**	**00 46 25.6**	**+0.4**
TVAN				IAML		00 46 32.3	
	comp=Z,14nm,0.4s						
TVAN	**Van**	**0.72**	**211**	*i* P	**Pb**	**00 46 12.8**	**+0.5**
TVAN				*i S*	**Sb**	**00 46 23.2**	**+0.9**
TVAN				IAML		00 46 27.0	
	comp=N,42nm,0.5s						
TVAN				IAML		00 46 34.0	
	comp=E,36nm,0.5s						
IGDI	**IGDIR**	**0.74**	**12**	*eP*	**Pb**	**00 46 12.7**	**+0.1**
IGDI				*eS*	**Sb**	**00 46 23.7**	**+0.9**
IGDI				IAML		00 46 28.5	
	comp=Z,2.7nm,0.3s						
IGDI	**IGDIR**	**0.74**	**12**	*i* P	**Pg**	**00 46 11.8**	**0.0**
IGDI				*i S*	**Sb**	**00 46 22.4**	**-0.4**
IGDI				IAML		00 46 28.0	
	comp=E,28nm,1.0s						
IGDI				IAML		00 46 28.0	
	comp=N,25nm,0.3s						
TASB	**TASBURUN-IGDIR**	**0.88**	**18**	PG	**Pb**	**00 46 15.6**	**+0.6**
TASB				SG	**Sb**	**00 46 28.6**	**+1.7**
ADCV	**BITLIS_Adilcev**	**0.96**	**250**	*i* P	**Pg**	**00 46 15.2**	**-0.8**
ADCV				*i S*	**Sb**	**00 46 30.6**	**+1.2**
ADCV				IAML		00 46 39.0	
	comp=E,22nm,0.4s						
ADCV				IAML		00 46 40.0	
	comp=N,24nm,0.0s						
MLAZ	**Malazgirt-MUS**	**1.04**	**270**	PG	**Pb**	**00 46 18.3**	**+0.6**
GEVA	**Gevas**	**1.05**	**218**	*i* P	**Pg**	**00 46 13.8**	**-4.0**
GEVA				IAML		00 46 41.0	
	comp=N,14nm,0.5s						
AKDM	**Akdamar-Van**	**1.08**	**221**	PN	**Pb**	**00 46 19.4**	**+1.0**
EATA	**Eleskirt**	**1.29**	**304**	*eP*	**Pg**	**00 46 19.1**	**-3.3**
EATA				IAML		00 46 28.1	
	comp=Z,1.6nm,0.3s						
EATA	**Eleskirt**	**1.29**	**304**	*i* P	**Pg**	**00 46 21.3**	**-1.1**
EATA				*i S*	**Sn**	**00 46 40.3**	**+0.7**
DIGO	**Kars**	**1.33**	**343**	*eP*	**Pn**	**00 46 19.4**	**-3.1**
DIGO				IAML		00 46 50.2	
	comp=Z,3.1nm,0.5s						
DIGO	**Kars**	**1.33**	**343**	*i* P	**Pb**	**00 46 24.3**	**+1.6**
EAK	**Akyaka**	**1.55**	**352**	*i* P	**Pg**	**00 46 28.4**	**+1.1**
EAK				IAML		00 46 59.0	
	comp=E,10nm,0.7s						
EAK				IAML		00 46 59.0	
	comp=N,17nm,1.3s						
BLIS	**Bitlis-Merkez**	**1.56**	**243**	*i* P	**Pn**	**00 46 25.2**	**-0.4**
BLIS				*i S*	**Sg**	**00 46 48.5**	**+0.7**
BLIS				IAML		00 46 49.0	
	comp=N,7.8nm,1.3s						
BLIS				IAML		00 46 58.0	
	comp=E,9.9nm,0.7s						
GURO	**Guroymak-BITLI**	**1.56**	**248**	PN	**Pg**	**00 46 27.5**	**0.0**
HAKT	**HAKKARI**	**1.59**	**185**	*i* P	**Pb**	**00 46 27.7**	**+0.5**

*IDC **09** 01:09:34.7±2.2, 51°54N×173°67W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/57, mbtmp3.7/9, ML4.1/1, Error ellipse: s-maj=62.6km s-min=23.1km az=8.0*

*AEIC **09** 01:09:40±1.6, 51°60N±0°03×173°64W±0°07, h14km±5km, ML2.9, Error ellipse: s-maj=6.4km s-min=4.9km az=97.0*

ISC 09 01:09:40.4±0.9, 51°5N±0°1×173°50W±0°07, h37km, n18, σ0°90/21, mb3.9/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.80**	**327**		**Pn**	**01 09 54.7**	**-0.3**
ATKA					**Sn**	**01 10 04.1**	**-1.6**
KOFP	**Korovin Flat P**	**0.83**	**334**		**Pn**	**01 09 55.6**	**0.0**
KOSE	**Korovin Southe**	**0.88**	**337**		**Pn**	**01 09 57.0**	**+0.7**
KOSE					**Sn**	**01 10 09.8**	**+1.9**
KOWE	**Korovin West**	**0.95**	**331**		**Pn**	**01 09 57.6**	**+0.4**
GSMY	**Great Sitkin M**	**1.67**	**289**		**Pn**	**01 10 07.1**	**+0.1**
GSTD	**Great Sitkin T**	**1.73**	**289**		**Pn**	**01 10 08.0**	**+0.2**
GSTD					**Sn**	**01 10 30.6**	**+2.0**
ADK	**Adak**	**2.01**	**281**		**Pn**	**01 10 11.5**	**-0.2**
ADK	**Adak**	**2.01**	**281**	Sn	**Sn**	**01 10 35.8**	**+0.2**
KIMD	**Kanaga Island**	**2.34**	**277**		**Pn**	**01 10 16.6**	**+0.4**
ILAR	**Eielson Array**	**19.11**	**36**	P	**P**	**01 13 59.4**	**-0.3**
	0.5nm,0.3s,baz=228,slow=9.4,SNR=20						
YKA	**Yellowknife Ar**	**32.70**	**47**	P	**P**	**01 16 09.0**	**+0.3**
	0.4nm,0

2.7nm,0.5s,baz=329,slow=7.2,SNR=14
FITZ Fitzroy Crossi 45.22 134 P **P** **01 49 35.2 +0.1**
FITZ IAmb IAmb 01 49 35.8
comp=Z,2.6nm,0.6s
WB0 Warramunga Arr 52.67 129 P **P** **01 50 32.7 +0.4**
WRA Warramunga Arr 52.73 129 P **P** **01 50 33.2 +0.5**
comp=Z,1.8nm,0.7s,baz=302,slow=9.9,SNR=18
WRA PcP **PcP** **01 51 43.4 +1.2**
comp=Z,0.8nm,0.5s,baz=318,slow=3.0,SNR=9.0
WRA Warramunga Arr 52.73 129 P **P** **01 50 31.9 -0.9**
WRA PcP **PcP** **01 51 41.3 -0.9**
WB2 Warramunga Arr 52.74 129 P **P** **01 50 33.3 +0.5**
WB2 IAmb IAmb 01 50 34.1
comp=Z,4.2nm,0.8s
WR0 Warramunga Arr 52.90 129 P **P** **01 50 33.4 -0.6**
WR0 IAmb IAmb 01 50 35.6
comp=Z,4.0nm,1.1s
ASAR Alice Springs 54.69 133 P **P** **01 50 47.8 +0.7**
comp=Z,2.1nm,0.4s,baz=307,slow=6.7,SNR=47
ASAR PcP **PcP** **01 51 50.7 +1.1**
comp=Z,0.4nm,0.5s,baz=312,slow=4.1,SNR=1.9
ASAR Alice Springs 54.69 133 P **P** **01 50 47.0 0.0**
FINES FINESS Array B 66.88 331 P **P** **01 52 09.4 +0.1**
comp=Z,3.6nm,1.1s,baz=103,slow=6.3,SNR=1.6
FINES FINESS Array B 66.88 331 P **P** **01 52 07.6 -1.7**
GERES GERESS Array B 72.66 317 P **P** **01 52 45.8 +0.5**
comp=Z,0.1nm,0.3s,baz=72,slow=6.5,SNR=1.6
GERES GERESS Array B 72.66 317 P **P** **01 52 45.4 0.0**
BOSA Boshof 78.07 236 P **P** **01 53 18.0 +1.2**
comp=Z,2.2nm,0.5s,baz=76,slow=8.3,SNR=10
BOSA Boshof 78.07 236 P **P** **01 53 15.9 -0.9**
BOSA IAmb IAmb 01 53 18.5
comp=Z,2.3nm,0.6s
TORD Torodi Ar. Bea 88.25 283 P **P** **01 54 10.1 +0.6**
comp=Z,0.5nm,0.8s,baz=76,slow=6.1,SNR=2.6
TORD Torodi Ar. Bea 88.25 283 P **P** **01 54 10.0 +0.6**

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*BER **09** 02:03:04.3±2.3, 72.12N×2.62E, h30km±23km, ML2.2, ML2.8(DNK)*
*IEPN **09** 02:03:05.0, 78.80N×3.60E, h15km*
ISC 09 02:03:01.3±2.2, 79.1N±0.1×3.4E±0.1, h10km, n16, σ1§75/21, 3C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.65**	**92**	*eP*			**Pn**	**02 03 30.9**	**+0.6**
KBS				*eS*			**Sn**	**02 03 50.2**	**-1.4**
KBS	**Kingsbay**	**1.65**	**92**	↑*iP*			**Pn**	**02 03 31.2**	**+0.9**
KBS				*eS*			**Sn**	**02 03 50.2**	**-1.4**
KBS				IAML				02 03 51.4	
	comp=Z,47nm,0.1s								
KBS				IAML				02 03 52.3	
	comp=Z,99nm,0.3s								
KBS	**Kingsbay**	**1.65**	**92**	*e*			**Pn**	**02 03 30.6**	**+0.2**
	baz=341,slow=7.4								
KBS				*i* P			**Pn**	**02 03 31.2**	**+0.9**
KBS				*eS*			**Sn**	**02 03 47.9**	**-3.7**
KBS				IAML				02 03 52.3	
	comp=Z,99nm,0.3s								
BRBB	**Barentsburg B**	**2.38**	**110**	*eP*			**Pn**	**02 03 41.3**	**+1.1**
BRBB				*eS*			**Sn**	**02 04 08.9**	**-0.5**
BRBA	**Barentsburg A**	**2.40**	**110**	↑*iP*			**Pn**	**02 03 43.0**	**+2.5**
BRBA				*eS*			**Sn**	**02 04 11.3**	**+1.4**
BRBA				IAML				02 04 14.2	
	comp=Z,28nm,0.5s								
SPA0	**Spitsbergen Ar**	**2.73**	**103**	↓*iP*			**Pn**	**02 03 47.1**	**+2.0**
SPA0				*eS*			**Sn**	**02 04 17.9**	**-0.2**
SPA0	**Spitsbergen Ar**	**2.73**	**103**	↑*iP*			**Pn**	**02 03 47.3**	**+2.1**
SPA0				*eS*			**Sn**	**02 04 18.0**	**-0.2**
SPA0				IAML				02 04 25.0	
	comp=Z,19nm,0.8s								
NOR	**Nord**	**4.18**	**316**	*i* P			Pn	02 04 03.0	-2.1
NOR				*eS*			Sn	02 04 47.0	-6.9
NOR	**Nord**	**4.18**	**316**	*i* P			Pn	02 04 03.0	-2.1
NOR				*eS*			Sn	02 04 47.0	-6.9
NOR	**Nord**	**4.18**	**316**	*i* P			Pn	02 04 03.0	-2.1
NOR				*eS*			Sn	02 04 47.0	-6.9
DAG	**Danmarks Havn**	**5.15**	**254**	*eS*			Sn	02 05 07.8	-10
DAG				IAML				02 05 12.3	
	comp=Z,3.1nm,0.4s								
DAG	**Danmarks Havn**	**5.15**	**254**	*eS*			Sn	02 05 07.8	-10
DAG				IAML				02 05 12.3	
	comp=Z,3.1nm,0.4s								
HOPEN	**Hopen**	**5.24**	**109**	*eP*			**Pn**	**02 04 20.6**	**+1.0**
HOPEN				*eS*			**Sn**	**02 05 17.0**	**-2.9**
HOPEN	**Hopen**	**5.24**	**109**	*eP*			**Pn**	**02 04 20.3**	**+0.7**
HOPEN				*eS*			**Sn**	**02 05 18.4**	**-1.5**
HOPEN				IAML				02 05 22.4	
	comp=Z,15nm,0.9s								
DBG	**Daneborg**	**7.19**	**240**	*i* P			**Pn**	**02 04 44.9**	**-1.4**
DBG				*eS*			Sn	02 05 56.2	-12
DBG				IAML				02 06 03.1	
	comp=Z,2.2nm,0.4s								
ZFI2	**Zemlya Franca-**	**7.76**	**56**	*eP*			**Pn**	**02 04 55.9**	**+1.8**
ZFI2				*eS*			Sn	02 06 17.4	-4.3
	comp=Z,4.9nm,1.3s								

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*IDC **09** 02:14:28.7±0.3, 32.10S×111.07W, h0km, mb5.4/31, mb1 5.5/32, mb1mx5.5/33, mbtmp5.4/32, ML5.1/1, MS6.8/24, Ms1 6.8/24, ms1mx6.7/30, Error ellipse: s-maj=9.7km s-min=8.9km az=176.0*
*MOS **09** 02:14:29.6±1.2, 32.03S×110.86W, h10km, mb6.5/58, MS6.6/20, Error ellipse: s-maj=9.5km s-min=6.4km az=78.4*
*BJI **09** 02:14:31.6±0.0, 31.87S×110.92W, h20km, mB6.9/63, Ms7.0/73, Ms7 7.0/68*
*NEIC **09** 02:14:31.4±0.9, 32.11S±0.07×110.81W±0.09, h17km±2km, mb6.4/403, Ms_20 6.9/511, Mww7.0, Mwc6.9(GCMT), Error ellipse: s-maj=11.4km s-min=10.1km az=46.0*
*HON **09** 02:14:32±1.6, 32.10S±0.08×111.0W±0.1, h10km±3km, Error ellipse: s-maj=12.5km s-min=10.8km az=108.0*
*GUC **09** 02:14:32.0, 32.12S×110.78W, h16km, MW7.1(NEIC)*
*PMR **09** 02:14:34±1.6, 32.10S±0.08×111.00W±0.10, h10km±1km, Error ellipse: s-maj=14.4km s-min=12.6km az=120.0*
*NEIC **09** 02:14:40, 32.39S×110.86W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}2.90; $M_{\theta\theta}$-3.18; $M_{\phi\phi}$0.28; $M_{r\theta}$-0.48; $M_{\theta\phi}$0.89; $M_{\phi r}$0.76; Fault plane solution: M_o3.30000×10^{19} NP1:φs90.00000°, δ41.00000°, λ69.00000°. NP2:φs296.00000°, δ52.00000°, λ107.00000°. Principal axes: T 3.1121, Plg75.0000°, Azm261.0000°; N 0.3495, Plg13.0000°, Azm106.0000°; P -3.4615, Plg6.0000°, Azm14.0000°;*
*GCMT **09** 02:14:42.4±0.0, 32.34S×110.81W, h12km, MW7.0/171, Moment Tensor Solution. s168,c419; s171,c892; Duration: 73 Moment tensor: Scale 10^{19}Nm; M_{rr}2.89±.01; $M_{\theta\theta}$-3.17±.01; $M_{\phi\phi}$0.28±.01; $M_{r\theta}$-0.72±.03; $M_{\theta\phi}$0.85±.01; $M_{\phi r}$0.82±.03; Best double couple: M_o3.32700×10^{19} NP1:φs90.00000°, δ39.00000°, λ69.00000°. NP2:φs296.00000°, δ54.00000°, λ106.00000°. Principal axes: T 3.1610, Plg75.0000°, Azm253.0000°; N 0.3380, Plg13.0000°, Azm106.0000°; P -3.4940, Plg8.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 02:14:47, 32.31S×110.93W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}3.14; $M_{\theta\theta}$-3.84; $M_{\phi\phi}$0.70; $M_{r\theta}$-0.80; $M_{\theta\phi}$1.13; $M_{\phi r}$1.54; Fault plane solution: M_o4.10000×10^{19} NP1:φs80.00000°, δ41.00000°, λ53.00000°. NP2:φs305.00000°, δ58.00000°, λ118.00000°. Principal axes: T 3.8960, Plg65.0000°, Azm266.0000°; N 0.3880, Plg23.0000°, Azm109.0000°; P -4.2840, Plg9.0000°, Azm16.0000°;*
ISC 09 02:14:29.7±0.4, 32.30S±0.03×110.92W±0.03, h4km±2km, h5§km:pP-P, n2073, σ3§06/2248, mb6.3/239, MS6.9/357, 72C-83D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.34**	**15**	Pn			**Pn**	**02 15 47.6**	**-2.6**
	73nm,0.3s,baz=196,slow=7.8,SNR=41								
RPN				Sn			**Sn**	**02 16 49.3**	**-2.8**
	baz=212,slow=7.9,SNR=1.2								
RPN				LR			LR	02 17 24.6	
	comp=Z,2120μm,19.7s,baz=262,slow=34								
RPN	**Rapa Nui**	**5.34**	**15**	Pn			**Pn**	**02 15 49.3**	**-0.9**
RPN							**Sn**	**02 16 46.2**	**-5.9**
PTCN	**Pitcairn Islan**	**18.28**	**288**				**P**	**02 18 44.8**	**+0.2**
RKT	**Rikitea**	**23.13**	**287**	*eS*			**S**	**02 23 46.9**	**-2.2**
	90μm,31.0s								
RKT				*e*LR			LR	02 25 19.9	
	comp=Z,196μm,31.2s								
H03S2	**Juan Fernandez**	**26.80**	**102**	P			**P**	**02 20 12.6**	**+2.0**
	baz=315,slow=14,SNR=8.4								
H03S2				T			T	02 48 20.9	
	baz=263,slow=75								
H03S3	**Juan Fernandez**	**26.82**	**102**	P			**P**	**02 20 12.9**	**+2.0**
	baz=315,slow=14,SNR=4.7								
H03S3				T			T	02 48 13.4	
	baz=263,slow=75								
H03S1	**Juan Fernandez**	**26.82**	**102**	P			**P**	**02 20 12.4**	**+1.6**
	baz=315,slow=14,SNR=5.7								
H03S1				T			T	02 48 24.0	
	baz=263,slow=75								
H03N2	**Juan Fernandez**	**26.84**	**101**	T			T	02 48 21.0	
	baz=268,slow=74								
H03N3	**Juan Fernandez**	**26.85**	**101**	T			T	02 48 22.3	
	baz=268,slow=74								
H03N1	**Juan Fernandez**	**26.86**	**101**	T			T	02 48 13.8	
	baz=268,slow=74								
VA04	**Juan Fernndez**	**26.91**	**102**	P			**P**	**02 20 11.0**	**-0.9**
VA04				IAmb			IAmb	02 20 38.3	
	comp=Z,1μm,1.7s								
BI03	**Tigo**	**31.39**	**109**	P			**P**	**02 20 51.2**	**-0.5**
LL01	**San Ignacio de**	**31.99**	**119**	P			**P**	**02 20 56.7**	**-0.2**
LC01	**Cunco**	**32.24**	**113**	P			**P**	**02 20 59.9**	**+0.7**
GO05	**Huala**	**32.43**	**106**	P			**P**	**02 21 00.2**	**-0.8**
BI02	**San Fabin de**	**32.81**	**109**	P			**P**	**02 21 03.6**	**-0.7**
BI02				IAmb			IAmb	02 21 22.7	
	comp=Z,838nm,1.3s								
BI02				PcP			**PcP**	**02 23 47.0**	**-2.4**
VA01	**Torpederas**	**32.95**	**102**	P			**P**	**02 21 05.7**	**+0.3**
VA01				IAmb			IAmb	02 21 26.6	
	comp=Z,702nm,1.6s								
PLCA	**Paso Flores**	**33.28**	**116**	P			**P**	**02 21 09.7**	**+1.3**
	comp=Z,75nm,1.1s,baz=273,slow=8.4,SNR=26								
PLCA				PcP			**PcP**		
	comp=Z,29nm,1.0s,baz=259,slow=7.1,SNR=3.8								
PLCA				S			**S**	**02 26 34.7**	**+5.3**
	comp=Z,5.1nm,1.1s,baz=332,slow=7.6,SNR=1.6								
PLCA				LR			LR	02 31 15.0	
	comp=Z,92μm,18.7s,baz=270,slow=30								
PLCA	**Paso Flores**	**33.28**	**116**	P			**P**	**02 21 07.6**	**-0.8**
PLCA				IAmb			IAmb	02 21 26.3	
	comp=Z,1μm,1.8s								
PLCA							**PcP**	**02 23 49.8**	**-0.8**
MT02	**Curacav**	**33.33**	**103**	P			**P**	**02 21 08.5**	**-0.3**
MT02				IAmb			IAmb	02 21 27.4	
	comp=Z,886nm,1.8s								
ROC1	**El Roble**	**33.48**	**102**	P			**P**	**02 21 08.9**	**-1.4**
MT05	**Renca**	**33.64**	**103**	P			**P**	**02 21 10.4**	**-1.1**
MT05				PcP			**PcP**	**02 23 49.9**	**-1.9**
PEL	**Peldehue**	**33.72**	**103**	P			**P**	**02 21 14.1**	**+1.8**
PEL				pmax			pmax		
	comp=Z,521nm,2.0s								
CO02	**Combarbal**	**33.83**	**99**	P			**P**	**02 21 12.2**	**-1.2**
VA03	**San Esteban**	**33.90**	**102**	P			**P**	**02 21 13.8**	**0.0**
VA03				IAmb			IAmb	02 21 36.0	
	comp=Z,1μm,1.6s								
GO09	**Cerro Castillo**	**33.94**	**135**	P			**P**	**02 21 15.4**	**+1.5**
CO03	**El Pedregal**	**34.17**	**98**	P			**P**	**02 21 16.3**	**0.0**
CO03				IAmb			IAmb	02 21 33.6	
	comp=Z,712nm,1.4s								
GO04	**Tololo Observa**	**34.24**	**97**	P			**P**	**02 21 16.8**	**-0.3**
AC04	**Llanos de Chal**	**34.53**	**94**	P			**P**	**02 21 19.2**	**-0.1**
CO01	**Juntas del Tor**	**34.88**	**97**	P			**P**	**02 21 22.5**	**0.0**
CO01				IAmb			IAmb	02 21 43.4	
	comp=Z,1μm,2.0s								
AC05	**El Transito**	**35.03**	**95**	P			**P**	**02 21 22.6**	**-1.1**
TBI	**Tubuai**	**35.08**	**275**	*eP*			**P**	**02 21 27.3**	**+3.3**
	comp=Z,537nm,1.3s								
TBI				*eS*			**S**	**02 26 59.0**	**+1.8**
	comp=Z,35μm,28.2s								
TBI				*e*LQ			LQ	02 29 19.0	
	comp=Z,64μm,25.5s								
TBI				*e*LR			LR	02 30 40.6	
	comp=Z,77μm,27.5s,baz=114								
TBI	**Tubuai**	**35.08**	**275**	*eT*			T	02 58 07.0	
	comp=Z,99nm,0.3s								
GO03	**Copiap**	**35.42**	**93**	P			**P**	**02 21 25.2**	**-1.8**
GO03				IAmb			IAmb	02 21 44.6	
	comp=Z,747nm,1.4s								
TAOE	**Nuku Hiva Isla**	**35.74**	**304**	*eS*			**S**	**02 27 08.5**	**+0.9**
	comp=Z,30μm,35.1s								
TAOE				*e*LQ			LQ	02 29 36.9	
	comp=Z,107μm,26.5s								
TAOE				*e*LR			LR	02 31 07.0	
	comp=Z,216μm,28.1s								
PB14	**IPOC Station P**	**36.27**	**88**	P			**P**	**02 21 32.0**	**-2.6**
PB14				IAmb			IAmb	02 21 52.9	
	comp=Z,861nm,1.9s								
MEH	**Mehetia**	**36.38**	**284**	*eP*			**P**	**02 21 38.3**	**+3.1**
	comp=Z,114nm,1.3s								
MEH	**Mehetia**	**36.38**	**284**	*eT*			T	02 59 38.7	
	comp=Z,292nm,0.2s								
PB10	**IPOC Station P**	**36.56**	**87**	P			**P**	**02 21 36.4**	**-0.4**
PB10				IAmb			IAmb	02 21 59.9	
	comp=Z,876nm,1.8s								
AC02	**Maricunga**	**36.59**	**93**	P			**P**	**02 21 36.3**	**-1.3**
AC02				IAmb			IAmb	02 21 55.7	
	comp=Z,1μm,1.8s								
GO02	**Mina Guanaco**	**36.76**	**90**	P			**P**	**02 21 37.5**	**-1.3**
GO02				IAmb			IAmb	02 21 58.8	
	comp=Z,751nm,1.4s								
PAYG	**Puerto Ayora**	**36.99**	**36**	P			**P**	**02 21 38.6**	**-1.9**
PAYG				IAmb			IAmb	02 22 03.6	
	comp=Z,943nm,1.6s								
NNA	**Nana**	**37.24**	**65**	P			**P**	**02 21 42.2**	**-0.5**
	comp=Z,50nm,1.1s,baz=231,slow=6.9,SNR=10								
NNA				S			**S**	**02 27 32.9**	**+2.3**
	comp=Z,3.1nm,0.3s,baz=275,slow=14,SNR=1.7								
NNA	**Nana**	**37.24**	**65**	*ceP*			**P**	**02 21 41.4**	**-1.3**
NNA				pmax			pmax		
	comp=Z,193nm,1.1s								
NNA				MLR			MLR		
	comp=Z,51μm,11.0s								
NNA	**Nana**	**37.24**	**65**	P			**P**	**02 21 40.9**	**-1.8**
NNA							**S**	**02 27 24.6**	**-6.0**
NNA	**Nana**	**37.24**	**65**	IAMs_20		IAMs_20		02 33 01.3	
	comp=Z,164μm,20.0s								
USHA	**Ushuaia**	**37.34**	**140**	P			**P**	**02 21 44.8**	**+1.7**
	comp=Z,48nm,0.9s,baz=275,slow=10,SNR=8.3								
USHA				LR			LR	02 33 52.4	
	comp=Z,312μm,19.2s,baz=339,slow=31								
PB04	**IPOC Station P**	**37.37**	**85**	P			**P**	**02 21 43.0**	**-0.9**
PB04				IAmb			IAmb	02 22 01.3	
	comp=Z,903nm,1.8s								
TVO	**Taravao**	**37.40**	**283**	*eP*			**P**	**02 21 46.5**	**+2.5**
	comp=Z,203nm,1.5s								
TVO	**Taravao**	**37.40**	**283**	*eT*			T	03 00 57.7	
	comp=Z,11nm,0.3s								
VAH	**Vaihoa**	**37.41**	**288**	*eP*			**P**	**02 21 46.2**	**+2.2**
	comp=Z,768nm,1.3s								
TIAR	**Tiarei**	**37.59**	**284**	*eP*			**P**	**02 21 48.3**	**+2.7**
	comp=Z,209nm,1.4s								
TIAR	**Tiarei**	**37.59**	**284**	*eT*			T	03 01 10.7	
	comp=Z,22nm,0.2s								
PB15	**IPOC Station P**	**37.59**	**87**	P			**P**	**02 21 44.8**	**-1.0**
PB06	**IPOC Station P**	**37.71**	**86**	P			**P**	**02 21 45.8**	**-0.9**
PAE	**Paea**	**37.73**	**283**	*eP*			**P**	**02 21 49.2**	**+2.5**
	comp=Z,120nm,1.2s								
PAE	**Paea**	**37.73**	**283**	*eT*			T	03 01 24.6	
	comp=Z,4.7nm,0.2s								
PMOR	**Pomariorio Ree**	**37.75**	**288**	*eP*			**P**	**02 21 49.0**	**+2.1**
	comp=Z,694nm,1.4s								
PPT2	**Papeete2**	**37.76**	**283**	*eP*			**P**	**02 21 49.7**	**+2.6**
	comp=Z,716nm,1.3s								
PPT2				*eS*			**S**	**02 27 40.0**	**+1.5**
	comp=Z,26μm,25.8s								
PPT2				*e*LQ			LQ	02 30 28.6	
	comp=Z,50μm,23.2s								
PPT2				*e*LR			LR	02 31 51.2	
	comp=Z,145μm,27.8s,baz=112								
PPT2	**Papeete2**	**37.76**	**283**	*eT*			T	03 01 11.7	
	comp=Z,11nm,0.3s								
PPT	**Papeete**	**37.77**	**283**	P			**P**	**02 21 46.4**	**-0.7**
	comp=Z,123nm,1.0s,baz=166,slow=4.2,SNR=4.2								
PB07	**IPOC Station P**	**37.85**	**84**	P			**P**	**02 21 47.0**	**-1.0**
PATCX	**Punta Patache**	**38.01**	**83**	P			**P**	**02 21 47.9**	**-1.3**
PATCX				IAmb			IAmb	02 22 16.5	
	comp=Z,700nm,1.4s								
TA01	**Diego Aracena**	**38.10**	**82**	P			**P**	**02 21 49.4**	**-0.4**
LVC	**Limon Verde**	**38.31**	**86**	P			**P**	**02 21 51.9**	**-0.1**
	comp=Z,68nm,0.9s,baz=239,slow=8.4,SNR=28								
LVC	**Limon Verde**	**38.31**	**86**	P			**P**	**02 21 51.3**	**-0.7**
LVC				pmax			pmax		
	comp=Z,558nm,1.4s								
LVC	**Limon Verde**	**38.31**	**86**	P			**P**	**02 21 51.3**	**-0.7**
PB09	**IPOC Station P**	**38.36**	**85**	P			**P**	**02 21 51.4**	**-0.9**
PSGCX	**Pisagua**	**38.58**	**81**	P			**P**	**02 21 53.0**	**-1.1**
PSGCX				IAmb			IAmb	02 22 12.4	
	comp=Z,1μm,1.9s								
PB11	**IPOC Station P**	**38.90**	**82**	IAmb			IAmb	02 22 15.0	
	comp=Z,1μm,2.0s								
PB08	**IPOC Station P**	**39.15**	**82**	P			**P**	**02 21 57.7**	**-1.4**
MNMC	**Minye Minye**	**39.24**	**81**	P			**P**	**02 21 57.5**	**-2.2**
MNMC				IAmb			IAmb	02 22 23.2	
	comp=Z,1μm,2.0s								
ATAH	**Atahualpa**	**39.27**	**57**	P			**P**	**02 21 59.3**	**-0.9**
	comp=Z,33nm,0.9s,baz=256,slow=7.7,SNR=16								
ATAH				S			**S**	**02 28 04.6**	**+2.7**
	comp=Z,3.5nm,0.9s,baz=219,slow=19,SNR=1.3								
GO01	**Chusmiza**	**39.33**	**82**	P			**P**	**02 21 59.3**	**-1.4**
PB16	**IPOC Station P**	**39.69**	**80**	P			**P**	**02 22 02.7**	**-1.1**
LPAZ	**La Paz**	**41.84**	**78**	P			**P**	**02 22 22.0**	**+0.3**
	comp=Z,52nm,1.0s,baz=244,slow=5.1,SNR=68								
LPAZ				S			**S**	**02 28 42.3**	**+1.6**
	comp=Z,5.7nm,1.1s,baz=296,slow=18,SNR=2.3								
LPAZ	**La Paz**	**41.84**	**78**	P			**P**	**02 22 20.5**	**-1.2**
LPAZ				pmax			pmax		
	comp=Z,519nm,1.6s								
LPAZ	**La Paz**	**41.84**	**78**	P			**P**	**02 22 20.5**	**-1.2**
EFI	**East Falkland**	**42.74**	**133**	*i* P			**P**	**02 22 27.9**	**0.0**
EFI				pmax			pmax		
	comp=Z,74nm,1.1s								
EFI	**East Falkland**	**42.74**	**133**	P			**P**	**02 22 27.5**	**-0.3**
EFI				IAmb			IAmb	02 22 44.7	
	comp=Z,2μm,1.6s								
EFI	**East Falkland**	**42.74**	**133**	IAMs_20		IAMs_20		02 36 02.9	
	comp=Z,217μm,22.0s								
CZSB	**Cruzeiro do Su**	**43.08**	**64**	*eP*			**P**	**02 22 30.8**	**-0.3**
PMSA	**Palmer Station**	**43.23**	**153**	P			**P**	**02 22 33.6**	**+1.9**
	comp=Z,9.7nm,0.8s,baz=312,slow=8.3,SNR=12								
PMSA				PcP			**PcP**	**02 24 22.5**	**+1.7**
	comp=Z,14nm,0.9s,baz=270,slow=6.1,SNR=1.6								
PMSA				LR			LR	02 35 46.9	
	comp=Z,144μm,18.5s,baz=308,slow=29								
PMSA	**Palmer Station**	**43.23**	**153**	P			**P**	**02 22 33.9**	**+2.2**
PMSA							**PcP**	**02 24 20.8**	**0.0**
PMSA	**Palmer Station**	**43.23**	**153**	IAMs_20		IAMs_20		02 35 16.7	
	comp=Z,182μm,21.0s								
LPA	**La Plata**	**43.79**	**108**	*d iP*			**P**	**02 22 35.4**	**-1.2**
LPA				PP			**PcP**	**02 24 22.5**	**-0.8**
LPA				PPP			PPP	02 24 44.1	
LPA				S			**S**	**02 29 08.7**	**+0.9**
LPA				SS			**SS**	**02 32 26.4**	**+3.1**
PAC1	**Pacto, Paraso**	**44.38**	**50**	*eP*			**P**	**02 22 43.8**	**+2.1**
OTAV	**Otavalo**	**44.58**	**50**	P			**P**	**02 22 42.1**	**-1.5**
OTAV				pmax			pmax		
	comp=Z,1μm,1.8s								
OTAV	**Otavalo**	**44.58**	**50**	P			**P**	**02 22 42.1**	**-1.5**
OTAV				IAmb			IAmb	02 22 57.2	
	comp=Z,1μm,1.8s								
OTAV	**Otavalo**	**44.58**	**50**	IAMs_20		IAMs_20		02 36 58.2	
	comp=Z,118μm,21.0s								
CUSE	**Cuicocha Este**	**44.66**	**50**	*eP*			**P**	**02 22 41.3**	**-3.0**
CMBC	**Cumbal**	**45.52**	**50**	*eP*			P	02 22 55.7	+4.6
TUMC	**Tumaco**	**45.62**	**48**	*eP*			**P**	**02 22 54.9**	**+3.5**
GCUF	**Volcan Galeras**	**46.04**	**50**	*eP*			**P**	**02 22 56.5**	**+1.2**
CCUFI	**Cufio, Nario**	**46.05**	**50**	*eP*			**P**	**02 22 57.3**	**+1.9**
PUAC	**Puerto Asis, P**	**46.05**	**52**	*eP*			**P**	**02 22 54.9**	**+0.1**
BBAC	**Balboa, Cauca**	**46.71**	**50**	*eP*			**P**	**02 22 59.9**	**-0.4**
CPUP	**Villa Florida**	**46.71**	**97**	P			**P**	**02 22 59.6**	**-0.4**
	comp=Z,31nm,1.1s,baz=263,slow=8.2,SNR=22								
CPUP				S			**S**	**02 29 53.3**	**+2.9**
	comp=Z,2.6nm,0.9s,baz=336,slow=19,SNR=1.6								
CPUP	**Villa Florida**	**46.71**	**97**	P			**P**	**02 22 59.4**	**-0.5**
CPUP				pmax			pmax		
	comp=Z,548nm,1.7s								
CPUP	**Villa Florida**	**46.71**	**97**	P			**P**	**02 22 59.4**	**-0.5**
CPUP				IAmb			IAmb	02 23 16.7	
	comp=Z,548nm,1.6s								
GR1C	**Gorgona, Isla**	**46.88**	**48**	*eP*			**P**	**02 23 04.9**	**+3.7**
ETMB	**Extrema**	**46.90**	**72**	*eP*			**P**	**02 23 00.2**	**-1.3**
FLOC	**Florencia**	**47.42**	**52**	*eP*			**P**	**02 23 05.0**	**-0.6**
POPC	**Popayan, Colom**	**47.47**	**50**	*eP*			**P**	**02 23 05.4**	**-0.8**
PCON	**Cinco Dias**	**47.49**	**50**	*eP*			**P**	**02 23 08.1**	**+1.3**
GARC	**Garzon, Huila**	**47.98**	**51**	*eP*			**P**	**02 23 08.9**	**-1.2**
PLTB	**Pedras Altas**	**48.08**	**106**	*eP*			**P**	**02 23 10.2**	**-0.4**
MARP	**Paez Belalcaza**	**48.17**	**50**	*eP*			**P**	**02 23 10.8**	**-0.9**
MALC	**Bahia Malaga**	**48.18**	**48**	*eP*			**P**	**02 23 12.1**	**+0.7**
BETC	**Betania**	**48.38**	**51**	*eP*			**P**	**02 23 16.5**	**+3.4**
CPSB	**Cacapava Do Su**	**48.62**	**104**	*eP*			**P**	**02 23 14.3**	**-0.4**
YOTC	**Yotoco, Valle**	**48.78**	**49**	*eP*			**P**	**02 23 16.2**	**-0.1**
PIZC	**Pizarro, Choco**	**48.90

comp=Z,159µm,21.0s
PTGC Puerto Gaitan, 51.71 53 *e*P P **02 23 39.6 +1.3**
PTGB Pitanga 51.73 97 *e*P P **02 23 39.0 +0.5**
CAPC Capurgana 51.80 44 *e*P P **02 23 38.6 -0.3**
PTBC PUERTO BERRIO, 51.94 49 *e*P P **02 23 41.0 +1.0**
TRCB Terra Rica 52.00 95 *e*P P **02 23 40.4 -0.2**
UREC San Jos de Ur 52.20 47 *e*P P **02 23 44.5 +2.6**
RUSC La Rusia 52.33 50 *e*P P **02 23 44.5 +1.0**
ZARC Zaragoza, Cauc 52.42 47 *e*P P **02 23 42.8 -0.8**
ZARC *e*P P **02 23 44.9 +1.4**
MOIG Morelia 52.52 12 P P **02 23 42.1 -2.3**
LCBC Los crdobas, 52.56 45 *e*P P **02 23 47.7 +3.1**
BARC Barichara 52.79 50 *e*P P **02 23 46.8 +0.1**
BRRC Barranca, Sant 52.84 49 *e*P P **02 23 47.0 +0.4**
TAMC Tame, Arauca 53.59 51 *e*P P **02 23 54.4 +2.1**
PCMB Pacaembu 53.65 94 *e*P P **02 23 52.3 -0.4**
PAMC Pamplona, Colo 53.67 50 *e*P P **02 23 51.8 -1.6**
SMLC San Martn de 53.92 47 *e*P P **02 23 54.0 -0.6**
OCAC Ocana 53.96 48 *e*P P **02 23 55.8 +0.8**
TIJ01 Guaruva-PR 54.06 100 *e*P P **02 23 55.9 +0.1**
SJCC San Jacinto, C 54.09 45 *e*P P **02 23 55.9 0.0**
FRTB Fartura 54.37 97 *e*P P **02 23 58.5 +0.5**
ARGC Ariguani, Magd 54.63 46 *e*P P **02 23 58.6 -1.2**
CLDB Colider 54.88 80 *e*P P **02 23 59.4 -2.3**
CLDB *e*pP P **02 24 04.1 +2.4**
ITRB Iturama 55.23 93 *e*P P **02 24 03.7 -0.4**
MACA Manacapuru-AM 55.25 69 *e*P P **02 24 02.5 -1.8**
ZAIG Zacatecas 55.34 9 P P **02 24 03.1 -1.9**
ZAIG IAmb IAmb 02 24 10.6
comp=Z,550nm,1.9s
SMRC Santa Marta, M 55.66 45 *e*P P **02 24 07.7 +0.5**
HOPE Hope Point 55.67 137 P P **02 24 08.3 +1.5**
HOPE pmax pmax
comp=Z,833nm,1.6s
HOPE Hope Point 55.67 137 P P **02 24 08.2 +1.5**
HOPE IAmb IAmb 02 24 23.8
comp=Z,833nm,1.6s
XMAS Kiritimati 55.70 299 P P **02 24 07.8 +0.3**
ARAG Araguaiana, MT 55.82 88 *e*P P **02 24 08.7 +0.2**
PET01 Itanhaem-SP 55.91 99 *e*P P **02 24 09.3 +0.3**
SPB Sao Paulo 56.05 98 *e*P P **02 24 12.1 +2.0**
LPIG La Paz 56.09 1 P P **02 24 07.9 -2.1**
comp=Z,14nm,0.3s,baz=56,slow=1.8,SNR=2.9
LPIG S **S** **02 31 59.2 -0.3**
comp=Z,24nm,0.3s,baz=144,slow=9.4,SNR=1.8
SDV Santo Domingo 56.17 50 P P **02 24 09.8 -1.3**
comp=Z,180nm,1.2s,baz=236,slow=7.6,SNR=39
SDV Santo Domingo 56.17 50 P P **02 24 09.0 -2.1**
SDV IAmb IAmb 02 24 22.2
comp=Z,719nm,1.6s
BB19B Bebedouro 56.18 95 *e*P P **02 24 11.5 +0.4**
TEIG Tepich 56.55 26 P P **02 24 12.3 -1.1**
comp=Z,77nm,1.1s,baz=211,slow=6.5,SNR=12
TEIG Tepich 56.55 26 P P **02 24 12.5 -0.9**
VAO Valinhos 56.69 98 *e*P P **02 24 15.3 +0.6**
MXZ Matakaoa Point 57.01 243 IAMs_20 IAMs_20 02 41 58.4
comp=Z,152µm,22.0s
NPGB Novo Progresso 57.31 77 *e*P P **02 24 17.5 -1.6**
BFZ Birch Farm 57.63 239 P P **02 24 22.2 +1.2**
BFZ IAmb IAmb 02 24 38.0
comp=Z,782nm,1.9s
BFZ IAMs_20 IAMs_20 02 42 48.8
comp=Z,140µm,22.0s
PARB Paraibuna 57.67 99 *e*P P **02 24 22.6 +1.0**
URZ Urewera 57.70 242 LR LR 02 43 03.5
comp=Z,173µm,21.6s,baz=114,slow=30
URZ Urewera 57.70 242 P P **02 24 22.4 +0.9**
IPMB Ipameri, GO 57.81 92 *e*P P **02 24 22.4 -0.2**
BKZ Black Stump Fm 57.89 241 P P **02 24 24.7 +1.8**
BKZ IAMs_20 IAMs_20 02 42 49.7
comp=Z,141µm,22.0s
QSPA South Pole Qui 57.89 180 S **S** **02 32 29.2 +6.3**
comp=Z,12nm,0.9s,baz=106,slow=0.9,SNR=28
QSPA LR LR 02 45 51.6
comp=Z,128µm,19.2s,baz=106,slow=32
QSPA PKP2bc 02 54 16.9
comp=Z,35nm,1.1s,baz=295,slow=2.8,SNR=9.7
QSPA South Pole Qui 57.89 180 P P **02 24 24.9 +2.2**
QSPA IAmb IAmb 02 24 37.4
comp=Z,634nm,1.6s
QSPA South Pole Qui 57.89 180 IAMs_20 IAMs_20 02 45 31.0
comp=Z,128µm,20.0s
PLWZ Palliser 58.09 238 P P **02 24 25.0 +0.7**
VNDA Vanda 58.13 195 P P **02 24 25.4 +1.5**
comp=Z,22nm,1.1s,baz=94,slow=6.8,SNR=40
VNDA S **S** **02 32 31.4 +6.0**
comp=Z,1.4nm,1.0s,baz=179,slow=0.7,SNR=1.9
VNDA LR LR 02 45 16.1
comp=Z,178µm,18.2s,baz=89,slow=32
VNDA PKPPKP P'P'df 02 54 03.4 -10
comp=Z,4.0nm,1.2s,baz=276,slow=4.0,SNR=4.1
VNDA Vanda 58.13 195 P P **02 24 25.6 +1.7**
VNDA pmax pmax
comp=Z,559nm,1.9s
VNDA Vanda 58.13 195 P P **02 24 25.6 +1.7**
VNDA IAmb IAmb 02 24 39.2
comp=Z,559nm,1.9s
MSWZ Moikau Station 58.14 238 P P **02 24 25.5 +0.9**
AFI Afiamalu 58.16 273 P P **02 24 25.4 +0.3**
AFI pmax pmax
comp=Z,209nm,1.3s
AFI MLR MLR
comp=Z,30µm,18.0s
AFI Afiamalu 58.16 273 P P **02 24 25.4 +0.3**
BHW Baring Head 58.41 238 P P **02 24 27.4 +1.0**
ITTB Itaituba 58.51 74 *e*P P **02 24 26.0 -1.5**
SNZO South Karori 58.56 238 IAMs_20 IAMs_20 02 43 09.6
comp=Z,94µm,21.0s
ESAR Angra dos Reis 58.80 99 *e*P P **02 24 30.4 +1.0**
BDFB Brasilia 59.07 90 P P **02 24 31.7 +0.2**
comp=Z,66nm,1.1s,baz=263,slow=6.6,SNR=22
BDFB S **S** **02 32 43.1 +3.7**
comp=Z,0.8nm,0.3s,baz=151,slow=24,SNR=1.0
BDFB PKP2ab 02 54 29.9
comp=Z,6.2nm,1.0s,baz=72,slow=7.2,SNR=4.3
BDFB Brasilia 59.07 90 P P **02 24 31.1 -0.4**
BDFB pmax pmax
comp=Z,1µm,1.9s
BDFB Brasilia 59.07 90 P P **02 24 31.1 -0.4**
KHZ Kahutara 59.07 237 P P **02 24 32.9 +1.9**
KHZ IAmb IAmb 02 24 46.4
comp=Z,506nm,1.5s
KHZ IAMs_20 IAMs_20 02 44 03.1
comp=Z,112µm,20.0s
TUWZ Tuamarina 59.07 238 P P **02 24 32.2 +1.1**
MCJ Malvern 59.22 37 *i* P P **02 24 33.0 +0.7**
MAN01 Angra dos Reis 59.26 99 *e*P P **02 24 33.9 +1.2**
SRIG Santa Rosalia 59.30 359 P P **02 24 32.0 -0.6**
HIZ Hauiti 59.31 241 IAMs_20 IAMs_20 02 43 56.2
comp=Z,116µm,21.0s
MQZ McQueen's Vall 59.31 235 P P **02 24 33.6 +1.0**
MQZ IAMs_20 IAMs_20 02 43 45.6
comp=Z,75µm,21.0s
BSCB Bom Sucesso 59.38 97 *e*P P **02 24 34.1 +0.5**
NNZ Nelson 59.54 238 P P **02 24 35.2 +0.9**
NNZ IAmb IAmb 02 24 49.9
comp=Z,486nm,1.6s
MTDJ Mount Denham 59.55 37 P P **02 24 32.9 -1.8**
THZ Tophouse 59.72 237 P P **02 24 37.4 +1.8**
THZ IAmb IAmb 02 24 46.5
comp=Z,292nm,1.3s
STH Stony Hill 59.80 38 *i* P P **02 24 35.3 -1.0**
BBJ Bamboo Saint A 59.82 38 *i* P P **02 24 36.2 -0.2**
LTZ Lake Taylor 59.85 236 P P **02 24 38.4 +1.9**
LTZ IAMs_20 IAMs_20 02 43 53.9
comp=Z,108µm,22.0s
OXZ Oxford 59.85 235 P P **02 24 37.3 +0.8**
OXZ IAMs_20 IAMs_20 02 43 49.9
comp=Z,82µm,22.0s
VAS01 Vassouras-RJ 59.94 99 *e*P P **02 24 38.7 +1.4**
CMJ Castle Mountai 60.08 38 *i* P P **02 24 38.2 0.0**
QRZ Quartz Range 60.27 238 P P **02 24 40.2 +0.8**
QRZ IAMs_20 IAMs_20 02 44 13.0
comp=Z,148µm,22.0s
ODZ Otahua Downs 60.30 233 P P **02 24 40.5 +1.0**
ODZ IAMs_20 IAMs_20 02 44 00.7
comp=Z,103µm,21.0s
RPZ Rata Peaks 60.42 235 LR LR 02 43 44.9
comp=Z,93µm,21.8s,baz=98,slow=29
RPZ Rata Peaks 60.42 235 P P **02 24 42.3 +1.9**
RPZ IAMs_20 IAMs_20 02 43 21.9
comp=Z,82µm,21.0s
PEXB Peixe 60.55 86 *e*P P **02 24 41.7 +0.1**
KVTX Kingsville 60.79 13 P P **02 24 42.2 -0.7**
KVTX IAMs_20 IAMs_20 02 46 20.0
comp=Z,100µm,21.0s
LBZ Lake Benmore 60.81 234 P P **02 24 45.0 +2.0**
LBZ IAMs_20 IAMs_20 02 45 55.2
comp=Z,94µm,20.0s
HSIG 60.98 360 P P **02 24 42.2 -1.9**
PCRV Puerto La Cruz 61.13 54 P P **02 24 45.3 -0.2**
comp=Z,152nm,1.2s,baz=339,slow=2.1,SNR=16
MALB Monte Alegre 61.16 72 *e*P P **02 24 44.9 -0.8**
833A Chaparral WMA, 61.28 12 P P **02 24 45.1 -1.1**
baz=191,SNR=12
833A S **S** **02 33 12.8 +5.9**
baz=191
FOZ Fox Glacier 61.33 235 P P **02 24 47.6 +1.1**
FOZ IAMs_20 IAMs_20 02 44 47.0
comp=Z,97µm,21.0s
OUZ Omahuta 61.37 245 P P **02 24 47.1 +0.2**
OUZ IAmb IAmb 02 25 02.1
comp=Z,510nm,1.8s
WKZ Wanaka 61.47 233 IAmb IAmb 02 25 36.6
comp=Z,581nm,1.6s
WKZ IAMs_20 IAMs_20 02 44 16.6
comp=Z,108µm,22.0s
TX32 Lajitas Array 61.68 7 P P **02 24 47.4 -1.6**
TX32 IAmb IAmb 02 25 16.6
comp=Z,415nm,1.9s
TXAR Lajitas Array 61.68 7 P P **02 24 47.5 -1.5**
comp=Z,12nm,1.1s,baz=187,slow=6.3,SNR=50
TXAR S **S** **02 33 13.1 +0.8**
comp=Z,0.2nm,0.9s,baz=86,slow=4.0,SNR=0.8
TXAR LR LR 02 47 30.7
comp=Z,84µm,18.6s,baz=0.0,slow=32
TXAR PKP2bc 02 54 08.9
comp=Z,3.1nm,1.0s,baz=353,slow=0.8,SNR=9.9
TX31 Lajitas Ar. Si 61.68 7 P P **02 24 47.2 -1.8**
WHZ Wether Hill Ro 61.85 232 IAmb IAmb 02 25 01.7
comp=Z,386nm,1.4s
WHZ IAMs_20 IAMs_20 02 44 41.7
comp=Z,121µm,22.0s
MLZ Mavora Lakes 61.90 232 IAmb IAmb 02 25 06.9
comp=Z,388nm,1.6s
MLZ IAMs_20 IAMs_20 02 45 04.1
comp=Z,121µm,22.0s
GTBY Guantanamo Bay 62.23 38 P P **02 24 51.9 -0.8**
GTBY IAMs_20 IAMs_20 02 46 03.7
comp=Z,108µm,22.0s
PRPB Parauapebas 62.38 79 *e*P P **02 24 52.7 -1.3**
JANB Januaria 62.48 91 *e*P P **02 24 54.9 +0.1**
DCZ Deep Cove 62.51 232 IAMs_20 IAMs_20 02 45 45.3
comp=Z,83µm,21.0s
PYZ Puysegur Point 62.60 231 IAMs_20 IAMs_20 02 45 25.5
comp=Z,133µm,22.0s
SMTB Santa Maria do 62.81 83 *e*P P **02 24 57.1 +0.3**
SFX San Felipe 63.10 356 IAmb IAmb 02 25 03.0
comp=Z,342nm,1.6s
SPX San Pedro Mart 63.14 356 IAmb IAmb 02 25 03.2
comp=Z,520nm,1.5s
SPX IAMs_20 IAMs_20 02 45 51.2
comp=Z,59µm,18.0s
SDBA SAO DESIDERIO 63.27 88 *e*P P **02 25 00.9 +0.9**
VNA3 Neumayer Olymp 63.27 159 P P **02 24 59.0 -0.1**
JCT Junction City 63.32 11 P P **02 24 58.3 -1.6**
baz=190
JCT S **S** **02 33 37.1 +4.5**
baz=190
JCT Junction City 63.32 11 IAmb IAmb 02 25 04.3
comp=Z,226nm,1.1s
SJMB Sao Joao De Ma 63.42 96 *e*P P **02 25 01.2 +0.4**
HKT Hockley 63.54 15 P P **02 25 00.7 -0.5**
HKT pmax pmax
comp=Z,583nm,1.6s
HKT Hockley 63.54 15 P P **02 25 00.7 -0.5**
HKT IAmb IAmb 02 25 29.8
comp=Z,583nm,1.6s
HKT Hockley 63.54 15 IAMs_20 IAMs_20 02 50 22.1
comp=Z,89µm,18.0s
PIX Pinacate 63.56 358 IAmb IAmb 02 25 05.4
comp=Z,549nm,1.6s
SDDR Presa de Saban 63.56 42 IAMs_20 IAMs_20 02 47 55.2
comp=Z,60µm,20.0s
BSFB Barra de Sao F 63.65 96 *e*P P **02 25 02.0 -0.3**
RIB01 Linhares ES 63.80 97 *e*P P **02 25 03.4 0.0**
MCPB Macapa, AP 63.82 73 *e*P P **02 25 02.8 -0.7**
TBH Brigand Hill 63.84 57 *e*P P 02 25 09.2 +5.6
MNTX Cornudas Mount 63.87 5 P P **02 25 01.7 -1.7**
baz=185
MNTX S **S** **02 33 44.2 +4.8**
baz=185
VNA1 Neumayer--Stat 63.93 159 P P **02 25 04.4 +1.0**
214A Organ Pipe Nat 63.93 358 P P **02 25 02.7 -1.1**
baz=178,SNR=106
214A S **S** **02 33 47.2 +7.0**
baz=178
435B Jarrell 64.00 13 P P **02 25 03.2 -1.1**
baz=192,SNR=28
435B S **S** **02 33 46.6 +5.5**
baz=192
KNTN Kanton 64.00 284 P P **02 25 05.3 +0.6**
CCX Cicese 64.05 355 IAmb IAmb 02 25 09.5
comp=Z,363nm,1.7s
VNA2 Neumayer--Watz 64.08 159 P P **02 25 04.4 0.0**
baz=242,slow=5.5
SC01 Santiago de Io 64.23 43 IAMs_20 IAMs_20 02 46 21.0
comp=Z,88µm,22.0s
TUC Tucson 64.26 0 P P **02 25 05.1 -1.0**
baz=180
TUC S **S** **02 33 49.5 +5.1**
baz=180
TUC Tucson 64.26 0 P P **02 25 05.5 -0.5**
TUC pmax pmax
comp=Z,416nm,1.5s
TUC Tucson 64.26 0 P P **02 25 05.5 -0.5**
TUC IAmb IAmb 02 25 11.1
comp=Z,416nm,1.5s
MCQ Macquarie Isla 64.47 220 IAMs_20 IAMs_20 02 45 19.5
comp=Z,83µm,21.0s
TPR Prospect 64.53 57 *e*P P **02 25 08.7 +0.6**
121A Cookes Peak, D 64.55 3 P P **02 25 07.1 -1.0**
baz=183,SNR=54
121A S S 02 33 56.5 +8.3
baz=183
GRGR Grenville 64.57 55 IAmb IAmb 02 25 20.4
comp=Z,244nm,1.1s
GRHS Sauteurs 64.65 55 *e*P P **02 25 10.4 +1.5**
NAN01 Guarapari, ES 64.71 96 *e*P P **02 25 09.7 +0.3**
UABX UABC, Campus M 64.72 356 IAMs_20 IAMs_20 02 47 21.0
comp=Z,71µm,22.0s
RMX La Rumorosa 64.74 355 IAMs_20 IAMs_20 02 46 33.0
comp=Z,89µm,19.0s
TOSP Speyside 64.78 57 *e*P P **02 25 09.9 +0.2**
IKP In-Ko-Pah, Jac 64.79 355 P P **02 25 08.6 -0.9**
baz=175,SNR=76
IKP S **S** **02 33 54.5 +3.6**
baz=175
MSVF Nonsavu 64.95 264 *c i*P P **02 25 10.5 -0.5**
MSVF pmax pmax
comp=Z,565nm,2.4s
MSVF Nonsavu 64.95 264 P P **02 25 11.9 +0.9**
GCMP Grenada, Carri 64.98 55 *i e*P P 02 25 03.6 -7.4
MONP2 Monument Peak 65.05 355 P P **02 25 10.3 -1.0**
baz=175,SNR=67
MONP2 S **S** **02 33 57.4 +3.0**
baz=175
SWSC Sam W. Stewart 65.06 355 P P **02 25 10.3 -0.9**
baz=175,SNR=49
SWSC S S 02 34 02.6 +8.6
baz=175
SNAA Sanae 65.08 161 P P **02 25 10.8 -0.2**
SNAA Sanae 65.08 161 S **S** **02 33 57.6 +3.7**
comp=Z,3.0nm,1.3s,baz=248,slow=9.8,SNR=1.3
SNAA PKPPKP 02 53 54.2
comp=Z,24nm,1.3s,baz=103,slow=2.7,SNR=12
SNAA Sanae 65.08 161 *d i*P P **02 25 12.3 +1.2**
SNAA pmax pmax
comp=Z,123nm,1.1s
SNAA MLR MLR
comp=Z,37µm,17.0s
SNAA Sanae 65.08 161 P P **02 25 10.8 -0.2**
SNAA S **S** **02 33 54.3 +0.4**
SNAA IAMs_20 IAMs_20 02 49 26.6
comp=Z,58µm,19.0s
109C Camp Elliot, M 65.10 354 P P **02 25 10.2 -1.2**
baz=174,SNR=7.9
109C S **S** **02 34 01.7 +7.2**
baz=174
GLA Glamis 65.11 356 P P **02 25 10.0 -1.5**
baz=176,SNR=27
GLA S **S** **02 33 58.9 +4.2**
baz=176
GLA Glamis 65.11 356 IAMs_20 IAMs_20 02 46 50.1
comp=Z,88µm,21.0s
WHTX Lake Whitney, 65.20 13 P P **02 25 10.1 -2.0**
baz=192,SNR=66
WHTX S **S** **02 34 02.5 +6.7**
baz=192
MLPR Magueyes Islan 65.29 47 P P **02 25 12.0 -0.9**
SCI2 San Clemente I 65.33 353 P P **02 25 11.7 -1.2**
baz=173,SNR=5.7
SCI2 S S 02 34 05.5 +8.1
baz=173
ABTX Abilene, Hawle 65.45 10 P P **02 25 12.1 -1.6**
baz=190,SNR=20
ABTX S **S** **02 34 04.1 +5.2**
baz=190
NATX Nacogdoches 65.54 15 S S **02 34 07.1 +7.1**
baz=195
ICMP Isla Caja de M 65.55 47 P P **02 25 12.8 -1.8**
OBIP Obispado Ponce 65.62 47 P P **02 25 13.0 -2.1**
OBIP IAmb IAmb 02 25 30.4
comp=Z,613nm,1.8s
SVB Belmont 65.65 55 *e*P P **02 25 12.2 -3.2**
SVB Belmont 65.65 55 P P **02 25 11.6 -3.8**
SVB IAmb IAmb 02 25 17.6
comp=Z,288nm,1.2s
SVB IAMs_20 IAMs_20 02 49 51.8
comp=Z,77µm,22.0s
GRTK Grand Turk 65.66 41 P P **02 25 13.7 -1.6**
GRTK IAMs_20 IAMs_20 02 47 37.8
comp=Z,65µm,22.0s
SVV Soufriere Volc 65.71 55 *e*P P **02 25 13.4 -2.3**
CIS Catalina Islan 65.73 353 P P **02 25 14.1 -1.5**
baz=173,SNR=21
CIS S **S** **02 34 08.7 +6.3**
baz=173
BC3 Big Chuckawall 65.74 356 P P **02 25 14.7 -1.0**
baz=176,SNR=168
BC3 S **S** **02 34 06.5 +3.8**
baz=176
AOPR Arecibo Observ 65.76 47 P P **02 25 14.2 -1.8**
TPFO Pinon Flats 65.76 355 P P **02 25 14.6 -1.3**
baz=175,SNR=74
TPFO S **S** **02 34 07.2 +4.3**
baz=175
XPFO Pion Fiat 65.77 355 IAMs_20 IAMs_20 02 47 05.6
comp=Z,62µm,18.0s
PFO Pinyon Flats O 65.77 355 P P **02 25 14.4 -1.5**
comp=Z,46nm,1.1s,baz=154,slow=6.0,SNR=20
PFO Pinyon Flats O 65.77 355 P P **02 25 14.5 -1.4**
baz=175,SNR=75
PFO S **S** **02 34 06.6 +3.6**
baz=175
PFO Pinyon Flats O 65.77 355 *c i*P P **02 25 15.2 -0.7**
PFO pmax pmax
comp=Z,237nm,1.3s
PFO MLR MLR
comp=Z,11µm,15.0s
PFO Pinyon Flats O 65.77 355 P P **02 25 14.0 -1.9**
PFO IAmb IAmb 02 25 21.4
comp=Z,667nm,1.6s
PFO Pinyon Flats O 65.77 355 IAMs_20 IAMs_20 02 47 01.6
comp=Z,86µm,21.0s
MURC Murrieta 65.81 354 P P **02 25 15.1 -1.0**
baz=174,SNR=38
MURC S **S** **02 34 09.8 +6.4**
baz=174
TMAB Tom-Au,PA,Br 65.91 77 *e*P P **02 25 17.3 +0.2**
SJG San Juan 65.95 47 P P **02 25 15.5 -1.7**
comp=Z,57nm,1.1s,baz=284,slow=3.9,SNR=9.3
SJG San Juan 65.95 47 P P **02 25 15.1 -2.2**
SJG IAmb IAmb 02 25 27.9
comp=Z,610nm,1.9s
SJG San Juan 65.95 47 IAMs_20 IAMs_20 02 49 59.7
comp=Z,60µm,22.0s
PDPR Patillas Dam, 65.96 47 P P **02 25 14.7 -2.6**
PDPR IAmb IAmb 02 25 20.1
comp=Z,247nm,1.1s
FMP Fort Macarthur 66.03 353 P P **02 25 16.7 -0.7**
baz=173
FMP S **S** **02 34 11.1 +5.3**
baz=173
BELC Belle Mtn. Jos 66.12 355 P P **02 25 16.9 -1.3**
baz=175,SNR=158
BELC S S 02 34 15.2 +7.9
baz=175
Y22D IRIS PASSCAL I 66.13 4 P P **02 25 17.0 -1.3**
baz=184,SNR=9.3
Y22D S **S** **02 34 14.2 +6.8**
baz=184
GCPR Guaynabo City 66.14 47 P P **02 25 16.7 -1.8**
GCPR IAmb IAmb 02 25 28.9
comp=Z,445nm,1.8s
HUMP Col San Antoni 66.16 47 P P **02 25 16.8 -1.8**
MCLT Moule a Chique 66.17 54 *e*P P **02 25 15.8 -2.9**
MCLT Moule a Chique 66.17 54 IAMs_20 IAMs_20 02 50 29.0
comp=Z,63µm,21.0s
SLB Belfond 66.19 54 *e*P P **02 25 19.1 +0.2**
LENM Lemitar 66.22 4 P P **02 25 16.8 -2.0**
BNM Barren Site 66.22 4 P P **02 25 16.8 -2.2**
IRM Iron Mountain 66.22 356 P P **02 25 17.7 -1.0**
baz=176,SNR=112
IRM S **S** **02 34 13.6 +5.3**
baz=176
CBYP Canovanas 66.26 47 P P **02 25 17.4 -1.9**
MTP Monte Pirata 66.32 48 P P **02 25 17.9 -1.7**
SLAC Saint Lucia, A 66.33 54 *e*P P **02 25 19.9 +0.1**
MSTX Muleshoe 66.36 7 P P **02 25 18.2 -1.5**
baz=187,SNR=105
MSTX S **S** **02 34 15.1 +4.9**
baz=187
SLBI Saint Lucia, B 66.37 54 *e*P P **02 25 18.5 -1.5**
BBRC Big Bear Solar 66.45 355 P P **02 25 19.1 -1.2**
baz=174,SNR=6.8
BBRC S **S** **02 34 19.0 +7.6**
baz=174
BFSC Mount Baldy Ra 66.49 354 P P **02 25 19.3 -1.2**
baz=174,SNR=98
BFSC S **S** **02 34 16.4 +4.7**
baz=174
MWC Mount Wilson 66.51 354 P P **02 25 19.0 -1.7**
MWC pmax pmax
comp=Z,641nm,1.8s
MWC MLR MLR
comp=Z,12µm,19.0s
MWC Mount Wilson 66.51 354 P P **02 25 19.0 -1.7**
MWC IAmb IAmb 02 25 26.0
comp=Z,641nm,1.8s
CDVI St. Croix 66.55 49 P P **02 25 19.0 -2.1**
DECC Green Verdugo 66.57 353 P P **02 25 20.0 -0.8**
baz=173
DECC S **S** **02 34 19.2 +6.7**
baz=173
HLP Hilina Pali 66.61 314 P P **02 25 20.8 -0.8**
PUH Pauahi 66.61 314 P P **02 25 20.7 -0.9**
MDP Montagnes des 66.64 67 LR LR 02 51 27.9
comp=Z,62µm,20.9s,baz=252,slow=33
MDP PKP2ab **P'P'ab** **02 53 57.2 +0.4**
comp=Z,2.1nm,0.8s,baz=29,slow=8.8,SNR=1.1
CUPR Culebra, Puert 66.64 48 P P **02 25 19.5 -2.1**
CUPR IAmb IAmb 02 25 24.3
comp=Z,220nm,1.1s
BIM Bigot 66.65 54 *e*P P **02 25 19.4 -2.5**
BCHC Barbados, Cave 66.68 56 *e*P P 02 25 27.2 +5.2
MPOM Morne Pois Mar 66.74 54 *e*P P **02 25 19.4 -3.0**
H05S1 Guadeloupe/Mar 66.75 54 P P **02 25 19.9 -2.5**
SNR=168
FDF Fort de France 66.75 54 *e*P P **02 25 19.9 -2.5**
AIN Ainahou 66.76 314 P P **02 25 21.5 -1.1**
KHU Kahuku 66.76 314 P P **02 25 21.6 -1.1**
KHU pmax pmax
comp=Z,784nm,1.3s
KHU Kahuku 66.76 314 P P **02 25 21.6 -1.1**
BBSP Saint Philip 66.78 56 *e*P P 02 25 27.6 +5.0
NEE2 Needles Airpor 66.80 357 P P **02 25 20.9 -1.4**
baz=176,SNR=6.9
NEE2 S **S** **02 34 23.1 +7.8**
baz=176
MLH Mauna Loa 66.81 314 P P **02 25 21.8 -1.2**
GMRC Granite Mounta 66.88 356 P P **02 25 22.6 -0.4**
baz=176,SNR=124
GMRC S **S** **02 34 22.9 +6.5**
baz=176
SBC Santa Barbara 66.90 352 P P **02 25 22.4 -0.5**

baz=172
SBC S **S** **02 34 19.0 +2.6**
baz=172
HMH Humu'ula Sheep 66.95 314 P **P** **02 25 22.7 -1.2**
MLOA Mauna Loa Obse 66.96 314 P **P** **02 25 22.2 -1.9**
OSI Osito Audit: C 66.96 353 P **P** **02 25 22.8 -0.6**
baz=173
OSI S **S** **02 34 22.3 +5.0**
baz=173
OSI Osito Audit: C 66.96 353 P **P** **02 25 22.2 -1.2**
OSI IAmb IAmb 02 25 28.4
comp=Z,500nm,1.8s
ILAM Ilet Lapin Mar 66.97 54 *e*P **P** **02 25 20.7 -3.0**
HEC Hector,Ludlow 66.97 355 P **P** **02 25 22.7 -0.8**
baz=175,SNR=26
HEC S **S** **02 34 23.5 +6.1**
baz=175
MDN Morne-Daniel 67.00 53 *e*P **P** **02 25 22.2 -1.8**
VBMS Vicksburg 67.00 19 P **P** **02 25 23.1 -0.5**
baz=199
VBMS S **S** **02 34 23.7 +5.9**
baz=199
ANMO Albuquerque 67.02 4 P **P** **02 25 22.8 -1.1**
comp=Z,1.2nm,0.9s,baz=175,slow=9.5,SNR=25
ANMO Albuquerque 67.02 4 P **P** **02 25 22.7 -1.3**
baz=184
ANMO S S 02 34 26.5 +8.2
baz=184
ANMO Albuquerque 67.02 4 P **P** **02 25 23.3 -0.7**
ANMO pmax pmax
comp=Z,243nm,1.9s
ANMO Albuquerque 67.02 4 P **P** **02 25 23.3 -0.7**
ANMO Albuquerque 67.02 4 IAms_20 IAms_20 02 49 01.5
comp=Z,77µm,20.0s
BRAL Brewton 67.05 22 P **P** **02 25 22.8 -1.1**
baz=202
BRAL S **S** **02 34 25.7 +7.4**
baz=202
BRAL Brewton 67.05 22 IAms_20 IAms_20 02 51 34.5
comp=Z,94µm,19.0s
DSLB Salisbury 67.06 53 *e*P **P** **02 25 21.4 -3.1**
RRX Edison Barstow 67.06 355 P **P** **02 25 23.1 -1.0**
baz=174
RRX S **S** **02 34 25.3 +6.8**
baz=174
W18A Petrified Fore 67.07 1 P **P** **02 25 22.7 -1.6**
baz=181,SNR=28
W18A S **S** **02 34 24.2 +5.3**
baz=181
POHA Pohakuloa 67.10 314 P **P** **02 25 23.7 -1.2**
POHA IAmb IAmb 02 25 42.7
comp=Z,336nm,1.1s
DLPL La Plaine 67.11 53 *e*P **P** **02 25 24.3 -0.4**
DLPL La Plaine 67.11 53 P **P** **02 25 22.9 -1.8**
DLPL IAms_20 IAms_20 02 53 48.3
comp=Z,53µm,18.0s
GDU01 Guandu, BA 67.14 92 *e*P **P** **02 25 25.0 0.0**
EDW2 Edwards Air Fo 67.16 354 P **P** **02 25 23.8 -0.9**
baz=173,SNR=62
EDW2 S S 02 34 27.6 +7.9
baz=173
KHLU Kahalu`u 67.19 314 P **P** **02 25 24.4 -0.9**
TBG Guadaloupe-3 67.21 52 *e*P **P** **02 25 27.5 +2.2**
TDBA Terre de Bas, 67.21 52 *e*P **P** **02 25 23.9 -1.5**
HUH Hualalai 67.23 314 P **P** **02 25 24.7 -1.0**
HUH IAmb IAmb 02 25 39.9
comp=Z,467nm,1.3s
PKM Mcpherson Peak 67.35 352 P **P** **02 25 25.3 -0.8**
baz=172,SNR=64
PKM S **S** **02 34 27.1 +4.8**
baz=172
CBE Ff, Capester 67.39 52 *e*P **P** **02 25 25.1 -1.4**
CBE Ff, Capester 67.39 52 *e*S **S** **02 34 22.7 -0.4**
AMTX Amarillo 67.39 8 P **P** **02 25 25.0 -1.2**
baz=188
AMTX S **S** **02 34 27.0 +4.5**
baz=188
AMTX Amarillo 67.39 8 P **P** **02 25 24.6 -1.6**
AMTX IAmb IAmb 02 25 53.3
comp=Z,521nm,1.7s
AMTX IAms_20 IAms_20 02 50 46.9
comp=Z,79µm,19.0s
Z41A Richland Creek 67.41 16 P **P** **02 25 25.0 -1.2**
baz=196,SNR=23
Z41A S **S** **02 34 28.7 +6.1**
baz=196
SABA Saba 67.43 50 *e*P **P** **02 25 26.6 -0.1**
WUAZ Wupatki 67.46 360 P **P** **02 25 25.7 -1.1**
baz=180
WUAZ S S 02 34 33.7 +10
baz=180
WUAZ Wupatki 67.46 360 P **P** **02 25 25.0 -1.7**
WUAZ IAmb IAmb 02 25 32.0
comp=Z,596nm,1.6s
WUAZ IAms_20 IAms_20 02 49 13.3
comp=Z,84µm,20.0s
MLYT Lee's Yard 67.47 51 *e*P **P** **02 25 27.9 +0.9**
GSC Goldstone, Bar 67.47 355 P **P** **02 25 25.5 -1.2**
baz=174,SNR=205
GSC S **S** **02 34 30.2 +6.7**
baz=174
GSC Goldstone, Bar 67.47 355 P **P** **02 25 25.4 -1.3**
GSC pmax pmax
comp=Z,1µm,1.6s
GSC Goldstone, Bar 67.47 355 P **P** **02 25 25.4 -1.3**
GSC IAms_20 IAms_20 02 47 57.8
comp=Z,81µm,21.0s
ARVC Arvin 67.48 353 P **P** **02 25 25.8 -0.8**
baz=173
ARVC S **S** **02 34 30.2 +6.8**
baz=173
SEUS St. Eustatius 67.51 50 *e*P **P** **02 25 27.9 +0.7**
MAGL Barre de l'ile 67.52 52 *e*P **P** **02 25 24.9 -2.4**
SKOC St. Kitts, UWI 67.53 50 *e*P **P** **02 25 28.9 +1.7**
TUQ Turquoise Moun 67.54 356 P **P** **02 25 26.3 -0.9**
baz=175,SNR=109
TUQ S **S** **02 34 30.0 +5.6**
baz=175
SKI Saint Kitts 67.55 50 *e*P **P** **02 25 26.7 -0.8**
SKI Saint Kitts 67.55 50 P **P** **02 25 25.7 -1.8**
SKI pmax pmax
comp=Z,5µm,2.0s
SKI Saint Kitts 67.55 50 P **P** **02 25 25.7 -1.8**
SKI IAms_20 IAms_20 02 52 19.0
comp=Z,98µm,21.0s
WMOK Wichita Mounta 67.65 11 P **P** **02 25 26.2 -1.6**
baz=191
WMOK S **S** **02 34 30.5 +4.9**
baz=191
WMOK Wichita Mounta 67.65 11 P **P** **02 25 26.5 -1.3**
WMOK pmax pmax
comp=Z,47nm,1.3s
WMOK Wichita Mounta 67.65 11 P **P** **02 25 26.5 -1.3**
LRMC Laurel Mtn Rad 67.72 354 P **P** **02 25 27.0 -1.3**
baz=174,SNR=111
LRMC S **S** **02 34 30.0 +3.4**
baz=174
WLAR White Oak Lake 67.75 16 P **P** **02 25 27.1 -1.2**
ABD La Joyeuse, An 67.76 52 *e*P **P** **02 25 27.4 -1.3**
ABD La Joyeuse, An 67.76 52 *e*S **S** **02 34 28.4 +1.0**
SMMC Simmler 67.80 352 P **P** **02 25 27.6 -1.1**
baz=172,SNR=18
SMMC S **S** **02 34 33.3 +6.0**
baz=172
SMRT St. Maarten 67.86 50 *e*P **P** **02 25 25.6 -3.8**
BPA Boggy Peak 67.92 51 *e*P **P** **02 25 31.3 +1.5**
H05N1 Guadeloupe/Mar 67.93 52 P **P** **02 25 28.2 -1.7**
SNR=96
ISA Isabella, Lake 67.98 353 P **P** **02 25 29.1 -0.8**
baz=173,SNR=101
ISA S **S** **02 34 31.0 +1.5**
baz=173
ISA Isabella, Lake 67.98 353 P **P** **02 25 28.6 -1.2**
ISA pmax pmax
comp=Z,791nm,1.7s
ISA Isabella, Lake 67.98 353 P **P** **02 25 28.6 -1.2**
ANBD Bethesda, Anti 67.98 51 *e*P **P** **02 25 29.1 -1.1**
SHOC Shoshone, Teco 68.03 355 P **P** **02 25 29.5 -0.6**
baz=175,SNR=109
SHOC S **S** **02 34 36.5 +6.6**
baz=175
VES Vestal, Richgr 68.21 353 P **P** **02 25 30.0 -1.2**
baz=172,SNR=37
VES S **S** **02 34 36.0 +3.8**
baz=172
PAGB Antelope Grade 68.24 352 P **P** **02 25 30.1 -1.3**

MPMC Manual Prospec 68.28 354 P **P** **02 25 30.4 -1.5**
baz=174,SNR=325
MPMC S **S** **02 34 39.8 +6.5**
baz=174
HLK Haleakala 68.29 314 P **P** **02 25 31.2 -1.2**
HLK IAmb IAmb 02 25 46.9
comp=Z,508nm,1.3s
W35A Tecumseh 68.38 12 P **P** **02 25 30.5 -1.9**
FNO Franklin 68.39 12 P **P** **02 25 31.1 -1.3**
ANWB Willy Bob 68.42 51 P **P** **02 25 31.3 -1.6**
ANWB IAms_20 IAms_20 02 51 23.0
comp=Z,81µm,22.0s
MIAR Mount Ida 68.46 15 P **P** **02 25 31.1 -1.7**
baz=196
MIAR S **S** **02 34 41.0 +5.8**
baz=196
MIAR Mount Ida 68.46 15 P **P** **02 25 31.2 -1.7**
MIAR pmax pmax
comp=Z,276nm,1.5s
MIAR Mount Ida 68.46 15 P **P** **02 25 31.2 -1.7**
TIGA Tifton 68.47 25 P **P** **02 25 30.9 -2.0**
baz=205,SNR=49
TIGA S **S** **02 34 42.8 +7.5**
baz=205
FUNA Funafuti 68.50 273 P **P** **02 25 34.4 +0.8**
SHPR Sheep Range 68.56 356 IAms_20 IAms_20 02 48 52.5
comp=Z,93µm,22.0s
X40A Basin Creek Fa 68.58 16 P **P** **02 25 31.9 -1.6**
baz=196
X40A S **S** **02 34 42.4 +5.8**
baz=196
FURC Furnace Creek, 68.63 355 P **P** **02 25 32.5 -1.3**
baz=174,SNR=120
FURC S **S** **02 34 44.4 +7.3**
baz=174
CWC Cottonwood Cre 68.71 354 P **P** **02 25 33.8 -0.7**
baz=173
CWC S **S** **02 34 42.5 +4.1**
baz=173
OK025 Westminster Rd 68.72 12 P **P** **02 25 33.0 -1.4**
OK025 IAmb IAmb 02 25 38.5
comp=Z,807nm,2.0s
VOG Valley Oaks Go 68.72 353 P **P** **02 25 33.3 -1.1**
baz=172
VOG S **S** **02 34 44.3 +6.2**
baz=172
BCOK Bluff Creek, N 68.74 12 P **P** **02 25 33.1 -1.5**
PMPB Monarch Peak 68.78 351 P **P** **02 25 33.6 -1.3**
LRAL Lakeview Retre 68.79 21 P **P** **02 25 33.1 -1.8**
baz=202
LRAL S **S** **02 34 46.6 +7.5**
baz=202
LRAL Lakeview Retre 68.79 21 P **P** **02 25 33.7 -1.2**
LRAL IAmb IAmb 02 25 39.6
comp=Z,467nm,1.4s
LRAL IAms_20 IAms_20 02 51 55.8
comp=Z,79µm,20.0s
ROSB Rosrio 68.91 80 *e*P **P** **02 25 37.5 +1.4**
OK029 Liberty Lake 68.91 12 P **P** **02 25 34.0 -1.6**
OK029 IAmb IAmb 02 26 02.5
comp=Z,578nm,1.6s
KNB Kanab 68.98 358 P **P** **02 25 34.9 -1.4**
KNB pmax pmax
comp=Z,544nm,1.5s
KNB Kanab 68.98 358 P **P** **02 25 34.9 -1.4**
W39A Magazine 69.04 15 P **P** **02 25 34.7 -1.7**
baz=195,SNR=35
W39A S **S** **02 34 48.1 +6.1**
baz=195
TPNV Topopah Spring 69.07 355 P **P** **02 25 34.9 -1.9**
baz=175
TPNV S S 02 34 52.8 +10
baz=175
TPNV Topopah Spring 69.07 355 IAms_20 IAms_20 02 49 21.1
comp=Z,64µm,22.0s
X43A Marvell 69.08 18 P **P** **02 25 35.1 -1.6**
baz=198
X43A S **S** **02 34 49.5 +7.0**
baz=198
MVCO Mesa Verde 69.19 2 P **P** **02 25 35.2 -2.4**
baz=182
MVCO S **S** **02 34 50.9 +6.7**
baz=182
MVCO Mesa Verde 69.19 2 P **P** **02 25 36.2 -1.4**
MVCO IAms_20 IAms_20 02 49 40.9
comp=Z,96µm,20.0s
TUL1 Leonard 69.32 13 P **P** **02 25 36.3 -1.9**
baz=194,SNR=38
TUL1 S **S** **02 34 49.3 +4.0**
baz=194
TIN Tinemaha, Big 69.33 354 P **P** **02 25 37.5 -0.9**
baz=173
TIN S **S** **02 34 49.8 +4.2**
baz=173
T25A Trinidad 69.35 6 P **P** **02 25 37.5 -1.1**
baz=186,SNR=50
T25A S **S** **02 34 51.7 +5.7**
baz=186
W41B Gary Mavity, V 69.37 16 P **P** **02 25 37.1 -1.4**
baz=197,SNR=69
W41B S **S** **02 34 51.3 +5.4**
baz=197
QUOK Quay 69.40 12 P **P** **02 25 37.1 -1.6**
QUOK IAmb IAmb 02 26 05.2
comp=Z,314nm,1.4s
QUOK IAms_20 IAms_20 02 52 06.1
comp=Z,76µm,19.0s
SAO San Andreas Ge 69.41 351 P **P** **02 25 38.4 -0.3**
SAO pmax pmax
comp=Z,602nm,1.9s
SAO San Andreas Ge 69.41 351 P **P** **02 25 38.4 -0.3**
SAO IAmb IAmb 02 25 43.9
comp=Z,602nm,1.9s
PRN Pahroc Range 69.45 356 P **P** **02 25 37.5 -1.6**
PRN IAmb IAmb 02 25 45.0
comp=Z,702nm,1.8s
PRN IAms_20 IAms_20 02 49 21.2
comp=Z,100µm,21.0s
OXF Oxford 69.47 19 P **P** **02 25 37.5 -1.6**
baz=199
OXF S **S** **02 34 51.8 +4.7**
baz=199
OXF Oxford 69.47 19 P **P** **02 25 37.5 -1.6**
OXF pmax pmax
comp=Z,399nm,1.3s
OXF Oxford 69.47 19 P **P** **02 25 37.5 -1.6**
OXF IAmb IAmb 02 25 57.2
comp=Z,399nm,1.3s
OXF IAms_20 IAms_20 02 54 27.5
comp=Z,51µm,19.0s
WHAR Wooly Hollow 69.47 16 P **P** **02 25 37.7 -1.4**
CROK Carrier 69.51 11 P **P** **02 25 38.1 -1.2**
NVL N'lazarevskaya 69.52 163 *e*P **P** **02 25 39.8 +0.7**
NVL *e*S **S** **02 34 47.9 +0.9**
NVL pmax pmax
comp=Z,271nm,1.8s
CCUT Cedar City 69.53 358 P **P** **02 25 38.5 -1.1**
SZCU Shurtz Canyon 69.56 358 P **P** **02 25 38.4 -1.5**
HON Honolulu 69.79 313 P **P** **02 25 40.5 -0.8**
HON pmax pmax
comp=Z,645nm,1.2s
HON Honolulu 69.79 313 P **P** **02 25 40.5 -0.8**
S22A 4UR Ranch, Cre 69.79 3 P **P** **02 25 40.6 -0.8**
baz=184,SNR=118
S22A S **S** **02 34 56.2 +4.8**
baz=184
SDCO Great Sand Dun 69.87 5 P **P** **02 25 40.8 -1.0**
baz=185
SDCO S **S** **02 34 59.6 +7.3**
baz=185
SDCO Great Sand Dun 69.87 5 P **P** **02 25 40.3 -1.5**
SDCO IAmb IAmb 02 25 46.6
comp=Z,341nm,1.6s
SDCO IAms_20 IAms_20 02 50 22.8
comp=Z,86µm,22.0s
KIP Kipapa 69.87 313 P **P** **02 25 42.0 +0.1**
KIP pmax pmax
comp=Z,329nm,1.2s
KIP Kipapa 69.87 313 P **P** **02 25 42.0 +0.1**
KIP IAmb IAmb 02 25 47.3
comp=Z,329nm,1.1s
KIP Kipapa 69.87 313 IAms_20 IAms_20 02 48 47.2
comp=Z,46µm,19.0s
MLAC Mammoth, Mammo 69.96 353 P **P** **02 25 41.9 -0.5**
baz=173,SNR=9.1
MLAC S **S** **02 34 58.9 +5.6**
baz=173

OMMB Old Mammoth Mi 69.96 353 P **P** **02 25 41.0 -1.4**
MDPB Devils Postpil 69.99 353 P **P** **02 25 41.1 -1.5**
HHAR Hobbs 70.05 15 IAmb IAmb 02 26 09.6
comp=Z,346nm,1.3s
HHAR IAms_20 IAms_20 02 52 31.2
comp=Z,66µm,20.0s
OPA Opana 70.06 314 P **P** **02 25 42.3 -0.8**
OPA pmax pmax
comp=Z,289nm,1.3s
OPA Opana 70.06 314 P **P** **02 25 42.3 -0.8**
OPA IAms_20 IAms_20 02 49 07.5
comp=Z,62µm,22.0s
FCAR Ozark Folk Cen 70.08 16 P **P** **02 25 41.3 -1.6**
KAN13 South Haven SW 70.09 11 P **P** **02 25 41.5 -1.4**
KAN10 Anthony SW Sta 70.10 11 P **P** **02 25 41.3 -1.7**
PV13 Radium Mtn., P 70.12 2 P **P** **02 25 41.8 -1.6**
PV13 IAmb IAmb 02 25 47.8
comp=Z,667nm,1.9s
PV02 Paradox Valley 70.17 2 IAmb IAmb 02 25 48.1
comp=Z,451nm,1.6s
KAN09 Caldwell North 70.19 11 P **P** **02 25 42.0 -1.5**
PV18 Skein Mesa, Pa 70.21 2 P **P** **02 25 42.2 -1.7**
PV03 Paradox Valley 70.22 2 IAmb IAmb 02 25 48.2
comp=Z,390nm,1.7s
PV17 East Wray Mesa 70.24 2 P **P** **02 25 42.7 -1.3**
PV17 IAmb IAmb 02 25 48.4
comp=Z,398nm,1.6s
TPH Tonopah 70.26 355 P **P** **02 25 42.7 -1.5**
TPH pmax pmax
comp=Z,4µm,1.6s
TPH Tonopah 70.26 355 P **P** **02 25 42.7 -1.5**
PV11 David Mesa, Pa 70.26 2 P **P** **02 25 43.0 -1.2**
PV11 IAmb IAmb 02 25 48.5
comp=Z,614nm,1.7s
PV19 Morning Glory 70.27 2 IAmb IAmb 02 25 48.6
comp=Z,464nm,1.6s
PV16 Nyswonger Mesa 70.27 2 IAmb IAmb 02 25 48.6
comp=Z,545nm,1.8s
KAN12 Harper NE Stat 70.28 11 P **P** **02 25 42.5 -1.6**
PV12 Saucer Basin, 70.28 2 IAmb IAmb 02 25 48.7
comp=Z,294nm,1.2s
GOGA Godfrey 70.30 24 P **P** **02 25 43.1 -1.1**
baz=204
GOGA S **S** **02 35 04.0 +7.2**
baz=204
GOGA Godfrey 70.30 24 P **P** **02 25 42.6 -1.6**
GOGA pmax pmax
comp=Z,307nm,1.3s
GOGA Godfrey 70.30 24 P **P** **02 25 42.6 -1.6**
GOGA IAmb IAmb 02 25 48.5
comp=Z,307nm,1.2s
PV20 West Nyswonger 70.30 2 P **P** **02 25 42.7 -1.7**
PV20 IAmb IAmb 02 25 48.8
comp=Z,455nm,1.7s
PV15 Paradox Valley 70.32 2 IAmb IAmb 02 25 49.1
comp=Z,272nm,1.2s
PV14 Lion Creek, Pa 70.33 2 P **P** **02 25 43.0 -1.7**
PV14 IAmb IAmb 02 25 49.1
comp=Z,513nm,1.4s
PV10 Paradox Valley 70.34 2 IAmb IAmb 02 25 48.6
comp=Z,502nm,1.5s
PV04 Paradox Valley 70.36 2 IAmb IAmb 02 25 49.2
comp=Z,370nm,1.3s
U40A Yellville 70.36 15 P **P** **02 25 42.6 -1.9**
baz=196,SNR=43
U40A S **S** **02 35 03.7 +6.2**
baz=196
PV07 Paradox Valley 70.41 2 P **P** **02 25 43.4 -1.7**
PV23 Carpenter Ridg 70.41 2 IAmb IAmb 02 25 49.6
comp=Z,344nm,1.2s
R11A Troy Canyon, C 70.42 356 P **P** **02 25 44.2 -0.9**
baz=176,SNR=302
R11A S **S** **02 35 04.0 +5.5**
baz=176
MVU Marysvale 70.45 359 P **P** **02 25 43.9 -1.5**
MSU Marysvale 70.46 359 P **P** **02 25 43.9 -1.5**
MSU Marysvale 70.46 359 P **P** **02 25 43.9 -1.5**
LCAR Lake Charles 70.49 17 IAmb IAmb 02 26 12.2
comp=Z,321nm,1.5s
PV22 Blue Mesa, Par 70.50 2 P **P** **02 25 44.1 -1.5**
PV21 Cone Mtn., Par 70.52 2 P **P** **02 25 44.1 -1.7**
PV21 IAmb IAmb 02 25 50.3
comp=Z,289nm,1.2s
PSUT Pine Spring 70.52 358 P **P** **02 25 44.3 -1.5**
CMB Columbia Colle 70.53 352 IAmb IAmb 02 25 51.0
comp=Z,642nm,1.8s
157A Early Branch 70.53 27 P **P** **02 25 44.8 -0.9**
baz=206,SNR=26
157A S **S** **02 35 05.9 +6.3**
baz=206
LHV Little Huntoon 70.54 354 P **P** **02 25 44.3 -1.3**
FPAL Fort Paine 70.62 22 IAms_20 IAms_20 02 52 13.1
comp=Z,99µm,21.0s
NV11 Mina Array Sit 70.69 354 P **P** **02 25 45.2 -1.6**
NVAR Mina Array Bea 70.70 354 P **P** **02 25 45.8 -1.1**
comp=Z,76nm,1.1s,baz=181,slow=5.8,SNR=124
NVAR S **S** **02 35 03.5 +1.6**
comp=Z,0.3nm,0.4s,baz=126,slow=50,SNR=1.6
NVAR LR LR 02 50 08.6
comp=Z,103µm,20.0s,baz=168,slow=30
NVAR PKPPKP P'P'df 02 53 46.8 +8.8
comp=Z,1.0nm,1.0s,baz=323,slow=2.2,SNR=4.2
NVAR Mina Array Bea 70.70 354 P **P** **02 25 46.3 -0.6**
Q16A Castle Valley 70.86 360 P **P** **02 25 46.1 -1.6**
WAKR Walker 70.89 353 P **P** **02 25 46.7 -1.3**
158A Hollywood 70.89 27 P **P** **02 25 47.3 -0.5**
baz=207
158A S **S** **02 35 09.2 +5.4**
baz=207
RYN Ryan 70.92 354 IAmb IAmb 02 25 53.8
comp=Z,670nm,1.6s
MCCM Marconi Confer 70.96 350 P **P** **02 25 47.0 -1.1**
Z56A Williston 70.97 26 P **P** **02 25 47.3 -1.1**
baz=206,SNR=21
Z56A S **S** **02 35 10.9 +6.1**
baz=206
SRU San Rafael Swe 71.05 0 P **P** **02 25 47.6 -1.3**
SRU pmax pmax
comp=Z,293nm,1.2s
SRU San Rafael Swe 71.05 0 P **P** **02 25 47.6 -1.3**
Q24A Divide 71.10 5 P **P** **02 25 47.9 -1.5**
baz=185,SNR=29
Q24A S **S** **02 35 13.4 +6.7**
baz=185
SWET Sewanee 71.14 21 IAmb IAmb 02 25 53.3
comp=Z,438nm,1.1s
SWET IAms_20 IAms_20 02 53 02.9
comp=Z,90µm,21.0s
Z57A Bowman 71.20 26 P **P** **02 25 48.1 -1.5**
baz=207,SNR=30
Z57A S **S** **02 35 13.9 +6.6**
baz=207
NHSC New Hope 71.23 27 P **P** **02 25 48.9 -1.0**
baz=207
NHSC S **S** **02 35 15.1 +7.4**
baz=207
NHSC New Hope 71.23 27 IAms_20 IAms_20 02 56 37.2
comp=Z,54µm,21.0s
KSCO Kaye Shedlock' 71.37 7 P **P** **02 25 49.7 -1.1**
baz=187,SNR=9.0
KSCO S **S** **02 35 15.0 +5.6**
baz=187
Y56A Pelion 71.41 26 P **P** **02 25 49.5 -1.5**
baz=206,SNR=7.3
Y56A S **S** **02 35 16.4 +6.6**
baz=206
WVT Waverly 71.43 20 P **P** **02 25 48.5 -2.5**
baz=200
WVT S **S** **02 35 12.7 +2.8**
baz=200
WVT Waverly 71.43 20 P **P** **02 25 50.6 -0.4**
WVT pmax pmax
comp=Z,286nm,1.4s
WVT Waverly 71.43 20 P **P** **02 25 50.6 -0.4**
WVT Waverly 71.43 20 IAms_20 IAms_20 02 54 29.5
comp=Z,60µm,20.0s
HODGE Hodges 71.46 25 IAmb IAmb 02 25 55.9
comp=Z,288nm,1.1s
HODGE IAms_20 IAms_20 02 51 43.5
comp=Z,96µm,22.0s
PNTR Pine Nut 71.48 353 IAmb IAmb 02 25 57.2
comp=Z,527nm,1.5s
AFDM Forest Hills D 71.50 352 IAmb IAmb 02 25 56.6
comp=Z,616nm,1.7s
CBKS Cedar Bluff 71.51 9 P **P** **02 25 49.8 -1.7**
baz=190

CBKS S **S** **02 35 15.9 +5.0**
baz=190
CBKS **Cedar Bluff** **71.51 9** IAmb IAmb 02 25 56.1
comp=Z,476nm,1.6s
CBKS IAMs_20 IAMs_20 02 52 59.0
comp=Z,73µm,19.0s
HENM **Henderson Moun** **71.53 18** P **P** **02 25 50.0 -1.7**
HENM IAmb IAmb 02 25 55.9
comp=Z,384nm,1.2s
Z58A **St. Stephen** **71.57 27** P **P** **02 25 50.6 -1.3**
baz=207,SNR=22
Z58A S **S** **02 35 17.9 +6.3**
baz=207
VCNR **Virginia City** **71.69 353** IAmb IAmb 02 25 58.4
comp=Z,466nm,1.6s
Z59A **Georgetown, SC** **71.69 28** P **P** **02 25 51.6 -1.1**
baz=208,SNR=5.9
Z59A S **S** **02 35 18.7 +5.6**
baz=208
X54A **Belton** **71.71 25** P **P** **02 25 51.7 -1.0**
baz=205,SNR=60
X54A S **S** **02 35 18.8 +5.5**
baz=205
CPCT **Cooper Cave** **71.80 22** IAmb IAmb 02 25 57.5
comp=Z,283nm,1.1s
CLTN **Cedars of Leba** **71.83 21** IAmb IAmb 02 26 05.6
comp=Z,431nm,1.8s
CLTN IAMs_20 IAMs_20 02 54 09.2
comp=Z,76µm,20.0s
X55A **Gracelyn & Ava** **71.90 25** P **P** **02 25 52.9 -1.0**
baz=206,SNR=70
X55A S **S** **02 35 22.2 +6.8**
baz=206
ISCO **Idaho Springs** **71.91 4** P **P** **02 25 52.9 -1.4**
baz=185
ISCO S **S** **02 35 21.0 +5.0**
baz=185
BG3 **Lake Jocassee** **71.92 24** IAmb IAmb 02 25 58.8
comp=Z,315nm,1.2s
BG3 IAMs_20 IAMs_20 02 51 59.5
comp=Z,100µm,22.0s
Y57A **Sumter** **71.95 26** P **P** **02 25 53.2 -1.1**
baz=207,SNR=7.2
Y57A S **S** **02 35 22.5 +6.5**
baz=207
PAHR **Pah Rah Range** **72.07 353** IAmb IAmb 02 26 00.6
comp=Z,636nm,1.6s
O20A **White River Ci** **72.11 2** P **P** **02 25 53.9 -1.4**
baz=182,SNR=64
O20A S **S** **02 35 21.2 +3.1**
baz=182
Y58A **Scranton** **72.13 27** S **SKiKP** **02 35 26.5 -6.5**
baz=207
X56A **White Oak** **72.14 26** P **P** **02 25 53.7 -1.6**
baz=206,SNR=75
X56A S **SKiKP** **02 35 24.8 -8.2**
baz=206
DUG **Dugway, Tooele** **72.15 358** P **P** **02 25 54.5 -1.0**
baz=178
DUG S **S** **02 35 23.3 +4.9**
baz=178
DUG **Dugway, Tooele** **72.15 358** IAmb IAmb 02 26 00.6
comp=Z,437nm,1.6s
PAULI **Pauline** **72.15 25** IAmb IAmb 02 26 00.1
comp=Z,459nm,1.2s
PAULI IAMs_20 IAMs_20 02 52 14.7
comp=Z,72µm,21.0s
ORV **Oroville** **72.16 351** IAmb IAmb 02 26 00.9
comp=Z,610nm,1.8s
TKL **Tuckaleechee C** **72.24 23** P **P** **02 25 55.2 -0.8**
comp=Z,91nm,1.0s,baz=185,slow=8.0,SNR=23
TKL S **S** **02 35 20.1 +0.7**
comp=Z,1.1nm,0.7s,baz=156,slow=5.4,SNR=1.0
W54A **Cherokee Point** **72.26 24** P **P** **02 25 54.8 -1.3**
baz=205,SNR=100
W54A S **SKiKP** **02 35 26.1 -7.0**
baz=205
KSU1 **Kansas State U** **72.27 12** P **P** **02 25 54.7 -1.3**
baz=193
KSU1 S **S** **02 35 23.2 +3.7**
baz=193
KSU1 **Kansas State U** **72.27 12** IAmb IAmb 02 26 00.8
comp=Z,724nm,1.9s
CCM **Cathedral Cave** **72.36 16** P **P** **02 25 55.0 -1.6**
baz=197
CCM S **S** **02 35 21.0 +0.5**
baz=197
CCM **Cathedral Cave** **72.36 16** P **P** **02 25 56.3 -0.3**
CCM pmax pmax
comp=Z,230nm,1.3s
CCM **Cathedral Cave** **72.36 16** P **P** **02 25 56.2 -0.3**
X57A **Johnson Farm,** **72.46 26** P **P** **02 25 55.4 -1.9**
baz=207,SNR=29
X57A S **SKiKP** **02 35 29.0 -4.4**
baz=207
BIRD **Birdtown, Kers** **72.49 26** IAmb IAmb 02 26 02.2
comp=Z,437nm,1.3s
BIRD IAMs_20 IAMs_20 02 54 18.5
comp=Z,67µm,19.0s
Y59A **Loris** **72.51 28** P **P** **02 25 56.3 -1.3**
baz=208,SNR=9.8
Y59A S **SKiKP** **02 35 31.6 -1.9**
baz=208
DZM **Mont Dzumac** **72.58 255** *e*P **P** **02 26 00.8 +2.2**
comp=Z,267nm,1.6s
DZM **Mont Dzumac** **72.58 255** *e*PP PP 02 28 38.2 -1.6
comp=Z,5µm,37.4s
DZM *e*S **S** **02 35 24.9 +0.7**
comp=Z,40µm,25.4s
DZM *e*LQ LQ 02 45 07.2
comp=Z,65µm,28.4s
DZM *e*LR LR 02 48 08.5
comp=Z,190µm,31.2s
KCPM **Cahto Peak** **72.58 350** P **P** **02 25 56.2 -1.8**
KCPM IAmb IAmb 02 26 03.8
comp=Z,730nm,1.7s
KMSC **Kings Mountain** **72.61 25** P **P** **02 25 56.6 -1.6**
baz=206,SNR=75
KMSC S **SKiKP** **02 35 30.5 -3.2**
baz=206
CTU **Camp Tracy** **72.63 359** P **P** **02 25 56.6 -1.8**
Y60A **Bolivia** **72.78 28** P **P** **02 25 57.6 -1.6**
baz=208
Y60A S **SKiKP** **02 35 32.1 -1.8**
baz=208
ELK **Elko** **72.79 357** P **P** **02 25 57.5 -1.9**
ELK pmax pmax
comp=Z,520nm,1.9s
ELK **Elko** **72.79 357** P **P** **02 25 57.5 -1.9**
ELK IAmb IAmb 02 26 04.5
comp=Z,520nm,1.9s
ELK IAMs_20 IAMs_20 02 51 50.5
comp=Z,86µm,22.0s
X58A **Rowland** **72.83 27** P **P** **02 25 58.1 -1.4**
baz=208,SNR=16
X58A S **SKiKP** **02 35 34.1 +0.1**
baz=208
W56A **Indian Trail** **72.88 26** P **P** **02 25 58.4 -1.4**
baz=206,SNR=56
W56A S **SKiKP** **02 35 33.2 -0.8**
baz=206
BGU **Big Grassy Mou** **72.89 358** P **P** **02 25 57.9 -2.0**
O03E **Paynes Creek** **72.93 351** P **P** **02 25 58.9 -1.1**
baz=170,SNR=54
O03E S **SKiKP** **02 35 30.6 -3.5**
baz=170
O02D **Mt. Diablo Mer** **72.94 351** P **P** **02 25 59.2 -0.9**
baz=169,SNR=72
O02D S **SKiKP** **02 35 34.1 0.0**
baz=169
V54A **Nebo** **72.97 24** P **P** **02 25 59.4 -0.9**
baz=205,SNR=98
V54A S **SKiKP** **02 35 34.3 +0.1**
baz=205
N23A **Red Feather La** **72.97 4** P **P** **02 25 59.5 -1.1**
baz=184,SNR=83
N23A S **SKiKP** **02 35 34.4 0.0**
baz=184
W57A **Gilead** **73.11 26** P **P** **02 25 59.1 -2.1**
baz=207,SNR=60
W57A S **SKiKP** **02 35 34.6 +0.2**
baz=207
TZTN **Tazewell** **73.12 23** P **P** **02 25 59.5 -1.6**
baz=204
TZTN S **SKiKP** **02 35 35.4 +1.0**
baz=204
TZTN **Tazewell** **73.12 23** IAmb IAmb 02 26 05.7
comp=Z,532nm,1.2s

KMRM **Mail Ridge** **73.12 350** P **P** **02 26 00.8 -0.3**
X59A **McDuffie Farm,** **73.13 27** P **P** **02 25 59.8 -1.4**
baz=208,SNR=18
X59A S **SKiKP** **02 35 35.3 +0.8**
baz=208
W58A **Raeford** **73.28 27** P **P** **02 26 00.9 -1.3**
baz=208,SNR=97
W58A S **SKiKP** **02 35 36.2 +1.5**
baz=208
V55A **Taylorsville** **73.29 25** P **P** **02 26 00.6 -1.6**
baz=206,SNR=65
V55A S **SKiKP** **02 35 36.8 +2.1**
baz=206
WDC **Whiskeytown Da** **73.31 351** IAmb IAmb 02 26 06.8
comp=Z,564nm,1.5s
X60A **Albert Glenn T** **73.38 28** P **P** **02 26 01.2 -1.5**
baz=209,SNR=17
X60A S **SKiKP** **02 35 37.9 +3.1**
baz=209
PHWY **Pilot Hill** **73.41 4** IAmb IAmb 02 26 07.8
comp=Z,429nm,1.6s
PHWY IAMs_20 IAMs_20 02 53 04.6
comp=Z,79µm,20.0s
V56A **Mocksville** **73.51 25** P **P** **02 26 02.0 -1.5**
baz=206,SNR=54
V56A S **SKiKP** **02 35 38.7 +3.7**
baz=206
HWUT **Hardware Ranch** **73.54 359** IAMs_20 IAMs_20 02 52 23.3
comp=Z,96µm,20.0s
U54A **Nelsons Funny** **73.68 24** P **P** **02 26 03.3 -1.3**
baz=205,SNR=48
U54A S **S** **02 35 40.8 +5.0**
baz=205
W59A **Clinton** **73.72 27** P **P** **02 26 02.7 -2.0**
baz=208,SNR=6.6
W59A S **S** **02 35 43.3 +7.2**
baz=208
N02D **Trinity Center** **73.72 351** P **P** **02 26 03.3 -1.4**
baz=170,SNR=204
N02D S **S** **02 35 43.2 +7.2**
baz=170
JCC **Jacoby Creek,** **73.75 350** IAmb IAmb 02 26 10.2
comp=Z,585nm,1.6s
KHMM **Horse Mountain** **73.77 350** IAmb IAmb 02 26 10.8
comp=Z,804nm,1.6s
WCI **Wyandotte Cave** **73.82 20** P **P** **02 26 03.2 -2.0**
baz=202
WCI S **S** **02 35 41.4 +4.2**
baz=202
WCI **Wyandotte Cave** **73.82 20** P **P** **02 26 04.9 -0.4**
WCI pmax pmax
comp=Z,323nm,1.4s
WCI **Wyandotte Cave** **73.82 20** P **P** **02 26 04.9 -0.4**
V57A **Coltrane Farms** **73.85 26** P **P** **02 26 04.0 -1.5**
baz=207,SNR=86
V57A S **S** **02 35 44.1 +6.5**
baz=207
T53A **Wise** **73.86 23** P **P** **02 26 03.6 -2.0**
baz=205,SNR=46
T53A S **S** **02 35 42.4 +4.7**
baz=205
W60A **Pink Hill** **73.90 28** P **P** **02 26 04.7 -1.1**
baz=209,SNR=8.9
W60A S **S** **02 35 45.6 +7.4**
baz=209
U55A **TA2, Sparta** **73.94 25** P **P** **02 26 04.6 -1.4**
baz=206,SNR=45
U55A S **S** **02 35 45.2 +6.5**
baz=206
CNNC **Cliffs of the** **74.00 28** P **P** **02 26 04.9 -1.4**
baz=209
CNNC S S 02 35 47.8 +8.5
baz=209
V58A **Windy Hill, Pi** **74.01 26** P **P** **02 26 05.1 -1.3**
baz=208,SNR=38
V58A S **S** **02 35 46.2 +6.8**
baz=208
U56A **King** **74.03 25** P **P** **02 26 05.3 -1.3**
baz=206,SNR=40
U56A S **S** **02 35 46.3 +6.6**
baz=206
M02C **Callahan** **74.15 351** P **P** **02 26 07.0 -0.2**
baz=169,SNR=183
M02C S **S** **02 35 48.1 +7.1**
baz=169
T54A **Tazewell** **74.25 24** P **P** **02 26 05.9 -2.0**
baz=205,SNR=62
T54A S **S** **02 35 48.2 +5.9**
baz=205
RCBR **Riachuelo** **74.25 87** P **P** **02 26 08.1 -0.4**
RCBR pmax pmax
comp=Z,1µm,2.0s
RCBR **Riachuelo** **74.25 87** P **P** **02 26 08.1 -0.4**
RCBR IAmb IAmb 02 26 20.6
comp=Z,1µm,2.0s
BGNE **Belgrade** **74.28 10** P **P** **02 26 07.0 -1.0**
baz=191,SNR=7.1
BGNE S **S** **02 35 49.0 +6.6**
baz=191
W61A **Ground Anchor** **74.30 28** S **S** **02 35 50.2 +7.5**
baz=209
JOHN **Johnston Islan** **74.30 302** P **P** **02 26 08.7 +0.2**
JOHN IAmb IAmb 02 26 14.1
comp=Z,454nm,1.1s
V59A **Middlesex** **74.32 27** P **P** **02 26 07.2 -1.0**
baz=208,SNR=61
V59A S **S** **02 35 48.6 +5.7**
baz=208
MOD **Modoc Plateau** **74.34 353** IAmb IAmb 02 26 13.8
comp=Z,883nm,1.6s
M04C **Macdoel** **74.40 352** P **P** **02 26 07.8 -1.0**
baz=170,SNR=114
M04C S **S** **02 35 50.7 +6.8**
baz=170
KRMB **Red Mountain** **74.43 350** IAmb IAmb 02 26 14.4
comp=Z,654nm,1.8s
YBH **Yreka Blue Hor** **74.46 351** P **P** **02 26 07.8 -1.2**
comp=Z,46nm,1.1s,baz=154,slow=4.5,SNR=30
U57A **Blanch** **74.49 26** P **P** **02 26 07.8 -1.4**
baz=207,SNR=58
U57A S **S** **02 35 51.3 +6.5**
baz=207
T55A **Pulaski** **74.58 25** P **P** **02 26 08.0 -1.7**
baz=206,SNR=55
T55A S **S** **02 35 51.2 +5.4**
baz=206
S53A **Williamson** **74.62 23** P **P** **02 26 08.7 -1.3**
baz=205,SNR=8.7
S53A S **S** **02 35 53.2 +6.9**
baz=205
K22A **Casper** **74.69 3** P **P** **02 26 09.1 -1.4**
baz=184,SNR=141
K22A S **S** **02 35 50.8 +3.6**
baz=184
AHID **Auburn Hatcher** **74.70 360** IAmb IAmb 02 26 14.4
comp=Z,579nm,1.8s
V60A **Jim Taylor Roa** **74.70 28** P **P** **02 26 08.8 -1.6**
baz=209,SNR=41
V60A S **S** **02 35 54.2 +7.1**
baz=209
BW06 **Boulder Array** **74.71 1** P **P** **02 26 08.9 -1.7**
baz=181
BW06 S **S** **02 35 47.4 -0.1**
baz=181
BW06 **Boulder Array** **74.71 1** IAmb IAmb 02 26 14.5
comp=Z,550nm,1.6s
BW06 IAMs_20 IAMs_20 02 53 02.8
comp=Z,85µm,21.0s
PD31 **Pinedale Array** **74.71 1** IAmb IAmb 02 26 14.5
comp=Z,501nm,1.6s
PDAR **Pinedale Array** **74.71 1** P **P** **02 26 08.4 -2.2**
comp=Z,40nm,1.1s,baz=164,slow=6.0,SNR=83
PDAR LR LR 02 54 02.5
comp=Z,73µm,18.2s,baz=170,slow=32
PDAR **Pinedale Array** **74.71 1** P **P** **02 26 07.7 -3.0**
U58A **Oxford** **74.75 27** P **P** **02 26 09.1 -1.6**
baz=208,SNR=54
U58A S **S** **02 35 54.0 +6.2**
baz=208
T56A **Rocky Mt** **74.77 25** P **P** **02 26 09.7 -1.1**
baz=207,SNR=38
T56A S **S** **02 35 52.9 +5.0**
baz=207
BLA **Blacksburg** **74.79 25** P **P** **02 26 09.6 -1.4**
baz=206
BLA S **S** **02 35 54.2 +6.0**
baz=206
BLA **Blacksburg** **74.79 25** IAmb IAmb 02 26 15.6
comp=Z,408nm,1.1s

L04D **Klamath Falls** **74.89 351** P **P** **02 26 10.4 -1.2**
baz=170,SNR=169
L04D S **S** **02 35 53.5 +4.2**
baz=170
V61A **Roper** **75.00 28** P **P** **02 26 10.4 -1.7**
baz=210,SNR=32
V61A S **S** **02 35 57.1 +6.7**
baz=210
L02E **Cave Junction** **75.00 350** P **P** **02 26 11.0 -1.0**
baz=169,SNR=71
L02E S **S** **02 35 58.2 +7.9**
baz=169
S54A **Dingess, Beckl** **75.01 24** P **P** **02 26 10.1 -2.2**
baz=206,SNR=22
S54A S **S** **02 35 57.8 +7.1**
baz=206
U59A **Littleton** **75.01 27** P **P** **02 26 10.1 -2.1**
baz=208,SNR=84
U59A S **S** **02 35 56.6 +6.0**
baz=208
T57A **Hurt** **75.03 26** P **P** **02 26 11.4 -0.9**
baz=207,SNR=48
T57A S **S** **02 35 57.3 +6.5**
baz=207
V62A **Hyde County Ai** **75.05 29** P **P** **02 26 11.7 -0.7**
baz=210
V62A S S 02 35 59.1 +8.1
baz=210
HDIL **Hopedale** **75.20 17** P **P** **02 26 11.8 -1.4**
baz=199
HDIL S **S** **02 35 54.8 +2.3**
baz=199
HDIL **Hopedale** **75.20 17** IAmb IAmb 02 26 17.5
comp=Z,443nm,1.4s
HDIL IAMs_20 IAMs_20 02 56 14.5
comp=Z,70µm,19.0s
K04D **Chiloquin, OR** **75.22 352** P **P** **02 26 12.5 -1.0**
baz=170,SNR=14
K04D S **S** **02 35 59.4 +6.5**
baz=170
T58A **Grand View Acr** **75.25 26** P **P** **02 26 12.1 -1.5**
baz=208,SNR=47
T58A S **S** **02 35 58.0 +4.8**
baz=208
S55A **Lewisburg** **75.27 25** P **P** **02 26 12.6 -1.1**
baz=206,SNR=86
S55A S **S** **02 35 59.8 +6.3**
baz=206
R53A **Hurricane** **75.27 23** P **P** **02 26 12.5 -1.2**
baz=205,SNR=27
R53A S **S** **02 36 01.0 +7.5**
baz=205
REDW **Red Top Meadow** **75.30 0** IAmb IAmb 02 26 18.3
comp=Z,784nm,1.8s
HUMO **Hull Mountain** **75.36 351** IAmb IAmb 02 26 19.4
comp=Z,500nm,1.6s
U60A **Pendleton** **75.36 28** P **P** **02 26 13.0 -1.1**
baz=209,SNR=30
U60A S **S** **02 36 02.0 +7.6**
baz=209
SNOW **Snow King Moun** **75.40 0** IAmb IAmb 02 26 19.0
comp=Z,586nm,1.7s
TPAW **Teton Pass** **75.42 360** IAmb IAmb 02 26 19.1
comp=Z,705nm,1.8s
R54A **Victor** **75.46 24** P **P** **02 26 13.9 -0.9**
baz=206,SNR=51
R54A S **S** **02 36 01.6 +5.9**
baz=206
MFID **Camas Ranch** **75.48 356** IAmb IAmb 02 26 19.8
comp=Z,528nm,1.7s
MFID IAMs_20 IAMs_20 02 53 44.7
comp=Z,46µm,21.0s
P49A **Miami Univ. Ec** **75.50 21** P **P** **02 26 13.6 -1.3**
baz=203,SNR=22
P49A S **S** **02 35 58.8 +3.0**
baz=203
S56A **Natural Bridge** **75.51 25** P **P** **02 26 13.1 -2.0**
baz=207,SNR=41
S56A S **S** **02 36 02.9 +6.7**
baz=207
U61A **Possum Corner** **75.52 28** P **P** **02 26 14.2 -0.9**
baz=210,SNR=47
U61A S **S** **02 36 03.0 +6.8**
baz=210
K02D **Willamette Mer** **75.54 350** P **P** **02 26 14.0 -1.2**
baz=169,SNR=210
K02D S **S** **02 36 03.0 +6.6**
baz=169
HLID **Hailey** **75.56 357** P **P** **02 26 14.3 -1.2**
baz=177
HLID S **S** **02 36 03.1 +6.3**
baz=177
HLID **Hailey** **75.56 357** IAmb IAmb 02 26 20.6
comp=Z,718nm,1.4s
HLID IAMs_20 IAMs_20 02 53 02.8
comp=Z,59µm,22.0s
FXWY **Fox Creek** **75.57 360** IAmb IAmb 02 26 20.0
comp=Z,482nm,1.6s
SFIN **Lafayette** **75.60 19** P **P** **02 26 13.6 -1.9**
baz=201,SNR=28
SFIN S **S** **02 36 01.8 +4.8**
baz=201
SCIA **State Center** **75.62 14** P **P** **02 26 14.3 -1.3**
baz=195
SCIA S **S** **02 35 59.0 +1.9**
baz=195
SCIA **State Center** **75.62 14** IAMs_20 IAMs_20 02 55 57.6
comp=Z,71µm,20.0s
T59A **Double "B" Far** **75.64 27** P **P** **02 26 14.0 -1.8**
baz=209,SNR=56
T59A S **S** **02 36 04.2 +6.7**
baz=209
Q52A **Bidwell** **75.74 23** P **P** **02 26 14.8 -1.6**
baz=205,SNR=30
Q52A S **S** **02 36 03.1 +4.5**
baz=205
J05D **Fort Rock, OR** **75.81 352** P **P** **02 26 15.9 -1.0**
baz=171,SNR=292
J05D S **S** **02 36 06.3 +6.8**
baz=171
S57A **Dark Hollow, R** **75.81 26** P **P** **02 26 15.6 -1.2**
baz=207,SNR=32
S57A S **S** **02 36 05.2 +5.8**
baz=207
IMW **Indian Meadow** **75.83 360** IAmb IAmb 02 26 21.5
comp=Z,667nm,1.9s
R55A **Marlinton** **75.86 25** P **P** **02 26 16.2 -0.9**
baz=206,SNR=22
R55A S **S** **02 36 06.6 +6.6**
baz=206
J04D **Umpqua Nationa** **75.87 352** P **P** **02 26 15.9 -1.4**
baz=170,SNR=55
J04D S **S** **02 36 06.6 +6.3**
baz=170
Q53A **Leroy** **75.89 23** P **P** **02 26 16.5 -0.7**
baz=205,SNR=63
Q53A S **S** **02 36 05.7 +5.4**
baz=205
P51A **Williamsport** **75.96 22** P **P** **02 26 16.0 -1.5**
baz=204,SNR=34
P51A S **S** **02 36 06.1 +5.1**
baz=204
S58A **Poland Farm, P** **76.02 26** P **P** **02 26 16.1 -1.8**
baz=208,SNR=98
S58A S **S** **02 36 08.1 +6.4**
baz=208
FLWY **Flagg Ranch** **76.02 0** IAmb IAmb 02 26 22.7
comp=Z,521nm,1.4s
J01E **Myrtle Point** **76.04 350** P **P** **02 26 16.7 -1.2**
baz=169,SNR=41
J01E S **S** **02 36 09.3 +7.6**
baz=169
T60A **Surry** **76.11 28** P **P** **02 26 16.8 -1.7**
baz=209,SNR=47
T60A S **S** **02 36 09.2 +6.5**
baz=209
R56A **Bull Pasture M** **76.22 25** P **P** **02 26 18.0 -1.2**
baz=207,SNR=106
R56A S **S** **02 36 11.0 +6.9**
baz=207
Q54A **Coxs Mills** **76.24 24** P **P** **02 26 17.9 -1.3**
baz=206,SNR=32
Q54A S **S** **02 36 10.5 +6.5**
baz=206
RSSD **Black Hills** **76.31 5** P **P** **02 26 18.4 -1.4**
baz=186
RSSD S **S** **02 36 08.3 +3.2**
baz=186

RSSD **Black Hills** 76.31 5 P P 02 26 19.3 -0.5
RSSD pmax pmax
comp=Z,422nm,1.6s
RSSD **Black Hills** 76.31 5 P P 02 26 19.3 -0.5
RSSD IAmb IAmb 02 26 24.4
comp=Z,422nm,1.6s
RSSD **Black Hills** 76.31 5 IAMs_20 IAMs_20 02 54 37.4
comp=Z,76µm,21.0s
H17A **Grant Village** 76.33 0 P P 02 26 19.3 -0.6
baz=180,SNR=38
H17A S S 02 36 12.2 +6.8
baz=180
R58B **Mineral** 76.39 26 P P 02 26 18.8 -1.2
baz=208,SNR=80
R58B S S 02 36 13.7 +7.9
baz=208
P52A **Corning** 76.39 22 P P 02 26 18.6 -1.5
baz=205,SNR=73
P52A S S 02 36 12.0 +6.2
baz=205
S59A **Mechanicsville** 76.43 27 P P 02 26 19.7 -0.6
baz=209,SNR=44
S59A S S 02 36 14.5 +8.3
baz=209
R57A **Stanardsville** 76.44 26 P P 02 26 19.3 -1.1
baz=208,SNR=86
R57A S S 02 36 14.0 +7.6
baz=208
I04A **Tendick Farm,** 76.45 351 P P 02 26 19.6 -0.7
baz=170,SNR=143
I04A S S 02 36 12.2 +5.9
baz=170
TAU **Tasmania Unive** 76.47 228 P P 02 26 22.5 +1.8
TAU pmax pmax
comp=Z,558nm,1.9s
TAU **Tasmania Unive** 76.47 228 P P 02 26 22.5 +1.8
TAU IAmb IAmb 02 26 36.3
comp=Z,558nm,1.9s
TAU **Tasmania Unive** 76.47 228 IAMs_20 IAMs_20 02 56 18.6
comp=Z,45µm,18.0s
I03D **Drain, OR** 76.48 351 P P 02 26 19.5 -1.0
baz=169,SNR=81
I03D S S 02 36 10.6 +4.2
baz=169
P53A **Whipple** 76.50 23 P P 02 26 19.4 -1.2
baz=205,SNR=59
P53A S S 02 36 12.0 +5.1
baz=205
Q55A **Buckhannon** 76.51 24 P P 02 26 19.9 -0.9
baz=206
Q55A S S 02 36 14.3 +7.2
baz=206
S60A **Water View** 76.63 27 P P 02 26 20.4 -1.0
baz=209,SNR=16
S60A S S 02 36 15.0 +6.6
baz=209
R58A **Rapidan** 76.64 26 P P 02 26 20.2 -1.2
baz=208,SNR=52
R58A S S 02 36 15.1 +6.6
baz=208
YUF **Upper Falls** 76.65 0 P P 02 26 21.3 -0.4
ACSO **Alum Creek Sta** 76.67 22 P P 02 26 20.7 -0.9
baz=204
ACSO S S 02 36 13.0 +4.3
baz=204
SYO **Syowa Base** 76.68 169 eP P 02 26 18.0 -3.4
SYO **Syowa Base** 76.68 169 pP pP 02 26 23.0 +1.0
O51A **Pataskala** 76.71 22 P P 02 26 20.4 -1.4
baz=204,SNR=65
O51A S S 02 36 13.8 +4.6
baz=204
CASY **Casey** 76.73 196 P P 02 26 23.5 +1.7
HQIL **Hanson Quary C** 76.73 18 IAmb IAmb 02 26 26.4
comp=Z,601nm,1.4s
HQIL IAMs_20 IAMs_20 02 57 26.0
comp=Z,57µm,20.0s
CBN **Corbin Frederi** 76.79 27 P P 02 26 21.6 -0.7
baz=209
CBN S S 02 36 16.4 +6.3
baz=209
ECSD **EROS Data Cent** 76.79 11 P P 02 26 21.1 -1.2
baz=192
ECSD S S 02 36 15.6 +5.6
baz=192
I05D **Terrebonne, OR** 76.86 352 P P 02 26 21.4 -1.3
baz=171,SNR=61
I05D S S 02 36 16.3 +5.4
baz=171
Q56A **Snyder Ridge,** 76.86 25 P P 02 26 21.8 -1.0
baz=207,SNR=48
Q56A S S 02 36 18.6 +7.7
baz=207
R59A **King George, V** 76.88 27 P P 02 26 21.1 -1.8
baz=209,SNR=39
R59A S S 02 36 17.0 +5.9
baz=209
P54A **Burton** 76.91 24 P P 02 26 21.7 -1.3
baz=206,SNR=86
P54A S S 02 36 17.8 +6.3
baz=206
O52A **Adamsville** 76.92 23 P P 02 26 22.3 -0.8
baz=205,SNR=126
O52A S S 02 36 14.4 +2.8
baz=205
I02D **Swisshome** 76.95 350 P P 02 26 22.3 -0.7
baz=169,SNR=35
I02D S S 02 36 19.0 +7.4
baz=169
S61A **Accomac** 77.00 28 P P 02 26 22.5 -1.0
baz=210,SNR=5.5
S61A S S 02 36 21.1 +8.7
baz=210
BMO **Blue Mountains** 77.00 355 IAmb IAmb 02 26 28.6
comp=Z,575nm,1.7s
BMO IAMs_20 IAMs_20 02 53 53.1
comp=Z,76µm,20.0s
P55A **Reedsville** 77.05 24 P P 02 26 22.5 -1.3
baz=207,SNR=59
P55A S S 02 36 19.7 +6.7
baz=207
RLMT **Red Lodge** 77.07 1 P P 02 26 22.6 -1.4
baz=181
RLMT S S 02 36 18.0 +4.6
baz=181
RLMT **Red Lodge** 77.07 1 IAmb IAmb 02 26 28.7
comp=Z,676nm,1.9s
RLMT IAMs_20 IAMs_20 02 54 58.5
comp=Z,54µm,20.0s
L44A **Lake County Fo** 77.08 17 P P 02 26 22.9 -0.9
baz=200,SNR=13
L44A S S 02 36 19.9 +6.8
baz=200
Q57A **Strasburg** 77.14 25 P P 02 26 23.4 -0.9
baz=208,SNR=63
Q57A S S 02 36 21.3 +7.4
baz=208
R60A **Leonardtown, M** 77.15 27 P P 02 26 23.1 -1.2
baz=209,SNR=16
R60A S S 02 36 20.3 +6.2
baz=209
SUSD **Miller** 77.15 9 P P 02 26 22.8 -1.5
baz=190,SNR=5.9
SUSD S S 02 36 20.9 +7.0
baz=190
PLID **Pearl Lake** 77.16 356 IAmb IAmb 02 26 29.3
comp=Z,600nm,1.6s
MCWV **Mont Chateau** 77.18 24 P P 02 26 23.2 -1.3
baz=206
MCWV S S 02 36 19.5 +5.2
baz=206
H04D **Lebanon** 77.21 351 P P 02 26 23.7 -0.9
baz=170,SNR=24
H04D S S 02 36 18.8 +4.3
baz=170
JFWS **Jewell Farm** 77.21 15 P P 02 26 23.5 -1.2
baz=198
JFWS S S 02 36 18.8 +4.2
baz=198
JFWS **Jewell Farm** 77.21 15 IAMs_20 IAMs_20 02 57 29.7
comp=Z,44µm,20.0s
O53A **New Philadelph** 77.25 23 P P 02 26 23.3 -1.6
baz=205,SNR=52
O53A S S 02 36 21.4 +6.3
baz=205
DLMT **Dillon** 77.31 359 IAmb IAmb 02 26 30.2
comp=Z,556nm,1.9s
DLMT IAMs_20 IAMs_20 02 56 01.0
comp=Z,46µm,18.0s

Q58A **Fox Den Farm,** 77.32 26 P P 02 26 23.6 -1.7
baz=208,SNR=74
Q58A S S 02 36 22.4 +6.5
baz=208
COR **Corvallis** 77.35 351 P P 02 26 25.3 0.0
COR pmax pmax
comp=Z,878nm,1.4s
COR **Corvallis** 77.35 351 P P 02 26 25.3 0.0
COR **Corvallis** 77.35 351 IAMs_20 IAMs_20 02 53 06.4
comp=Z,88µm,21.0s
H09W1 **TRISTAN DA CUN** 77.39 126 P P 02 26 23.9 -2.2
baz=150
P56A **Dayton Farm, R** 77.40 25 P P 02 26 24.5 -1.2
baz=207,SNR=54
P56A S S 02 36 23.9 +7.2
baz=207
H09N1 **TRISTAN DA CUN** 77.42 126 P P 02 26 27.4 +1.2
O54A **Avella** 77.47 24 P P 02 26 24.5 -1.6
baz=206,SNR=20
O54A S S 02 36 25.5 +8.0
baz=206
N51A **Ashland** 77.48 22 P P 02 26 24.4 -1.8
baz=204,SNR=43
N51A S S 02 36 22.7 +5.1
baz=204
BOZ **Bozeman (W)** 77.53 359 P P 02 26 25.4 -1.1
baz=179
BOZ S S 02 36 23.3 +5.0
baz=179
BOZ **Bozeman (W)** 77.53 359 IAmb IAmb 02 26 31.4
comp=Z,494nm,1.7s
BOZ IAMs_20 IAMs_20 02 54 07.9
comp=Z,56µm,22.0s
N52A **McGinn's Farm,** 77.60 22 P P 02 26 25.9 -1.0
baz=205,SNR=23
N52A S S 02 36 25.7 +6.8
baz=205
Q59A **Harwood** 77.64 27 P P 02 26 25.6 -1.4
baz=209,SNR=7.0
Q59A S S 02 36 26.4 +7.1
baz=209
P57A **Homestead Farm** 77.68 25 P P 02 26 26.0 -1.3
baz=208,SNR=63
P57A S S 02 36 28.4 +8.6
baz=208
R61A **Willards** 77.69 28 P P 02 26 26.4 -1.0
baz=210
R61A S S 02 36 29.6 +10
baz=210
BBSR **BB Station** 77.74 39 P P 02 26 27.4 -0.4
BBSR IAmb IAmb 02 26 32.8
comp=Z,637nm,1.5s
BBSR **BB Station** 77.74 39 IAMs_20 IAMs_20 02 53 51.5
comp=Z,59µm,22.0s
G05D **Wamic, OR** 77.75 353 P P 02 26 27.0 -0.6
baz=171,SNR=50
G05D S S 02 36 28.7 +8.3
baz=171
O55A **Ligonier** 77.86 24 P P 02 26 27.4 -1.0
baz=207,SNR=34
O55A S S 02 36 26.5 +4.8
baz=207
N53A **Lisbon** 77.87 23 P P 02 26 27.8 -0.6
baz=206,SNR=53
N53A S S 02 36 28.3 +6.5
baz=206
M51A **Elyria** 77.92 22 P P 02 26 27.5 -1.1
baz=204,SNR=6.9
M51A S S 02 36 27.4 +5.2
baz=204
P58A **Pank, Wackersv** 77.94 26 P P 02 26 28.1 -0.6
baz=209,SNR=52
P58A S S 02 36 29.3 +6.7
baz=209
G03D **McMinnville, O** 77.96 351 P P 02 26 27.5 -1.2
baz=169,SNR=17
G03D S S 02 36 29.8 +7.3
baz=169
SDMD **Soldier's Deli** 78.05 26 IAMs_20 IAMs_20 02 57 47.7
comp=Z,46µm,19.0s
Q60A **Greensboro** 78.07 27 P P 02 26 28.1 -1.4
baz=210,SNR=8.7
Q60A S S 02 36 32.9 +8.9
baz=210
Q61A **Milford** 78.17 28 P P 02 26 28.3 -1.7
baz=210,SNR=6.9
Q61A S S 02 36 32.2 +7.2
baz=210
O56A **Blue Knob Stat** 78.17 25 P P 02 26 28.1 -2.0
baz=208,SNR=66
O56A S S 02 36 32.8 +7.7
baz=208
N54A **Moraine State** 78.30 23 P P 02 26 29.1 -1.6
baz=206,SNR=64
N54A S S 02 36 34.1 +7.7
baz=206
AAM **Ann Arbor** 78.35 20 P P 02 26 29.7 -1.3
baz=203
AAM S S 02 36 28.8 +1.9
baz=203
AAM **Ann Arbor** 78.35 20 IAmb IAmb 02 26 35.7
comp=Z,418nm,1.2s
AAM IAMs_20 IAMs_20 02 56 39.8
comp=Z,83µm,22.0s
M52A **Chesterland** 78.37 22 P P 02 26 30.1 -1.0
baz=205,SNR=9.3
M52A S S 02 36 34.5 +7.4
baz=205
P59A **Jarrettsville** 78.37 27 P P 02 26 29.7 -1.4
baz=209,SNR=60
P59A S S 02 36 34.0 +6.7
baz=209
F05D **White Salmon** 78.40 353 P P 02 26 30.5 -0.7
baz=171,SNR=56
F05D S S 02 36 34.0 +6.7
baz=171
O57A **Amberson** 78.45 25 P P 02 26 30.1 -1.5
baz=208,SNR=59
O57A S S 02 36 35.5 +7.4
baz=208
N55A **Marion Center** 78.48 24 P P 02 26 30.7 -1.1
baz=207,SNR=84
N55A S S 02 36 36.3 +7.8
baz=207
M53A **WI Miller and** 78.50 23 P P 02 26 31.0 -0.8
baz=206,SNR=24
M53A S S 02 36 35.8 +7.3
baz=206
O58A **Lewisberry** 78.64 26 P P 02 26 31.5 -1.1
baz=209,SNR=50
O58A S S 02 36 37.1 +7.0
baz=209
HAWA **Hanford** 78.71 354 IAmb IAmb 02 26 38.5
comp=Z,625nm,1.7s
LAO **LASA Array** 78.74 3 S S 02 36 35.3 +4.3
baz=184
LAO **LASA Array** 78.74 3 IAmb IAmb 02 26 38.0
comp=Z,938nm,1.8s
LAO IAMs_20 IAMs_20 02 58 17.6
comp=Z,55µm,19.0s
SSPA **Standing Stone** 78.74 25 P P 02 26 31.9 -1.3
baz=208
SSPA S S 02 36 35.4 +4.2
baz=208
SSPA **Standing Stone** 78.74 25 P P 02 26 32.8 -0.3
SSPA IAmb IAmb 02 26 37.9
comp=Z,457nm,1.4s
MVL **Millersville** 78.74 26 IAmb IAmb 02 26 37.8
comp=Z,372nm,1.4s
F04D **Rainier, OR** 78.78 351 P P 02 26 32.5 -0.7
baz=170
F04D S S 02 36 37.2 +5.9
baz=170
MSO **Missoula** 78.81 358 P P 02 26 32.5 -1.1
baz=177
MSO S S 02 36 34.8 +2.9
baz=177
MSO **Missoula** 78.81 358 IAmb IAmb 02 26 38.6
comp=Z,510nm,1.7s
MSO IAMs_20 IAMs_20 02 56 38.7
comp=Z,44µm,18.0s
N56A **West Decatur** 78.84 25 P P 02 26 32.5 -1.2
baz=208,SNR=36
N56A S S 02 36 40.0 +7.7
baz=208
P60A **Greenville** 78.85 27 P P 02 26 32.2 -1.5
baz=210,SNR=5.4
P60A S S 02 36 38.3 +6.0
baz=210
ALLY **Alegheny Colle** 78.86 23 IAmb IAmb 02 26 38.6
comp=Z,603nm,1.3s
M54A **Oil Creek Stat** 78.89 23 P P 02 26 33.2 -0.8
baz=206,SNR=20
M54A S S 02 36 38.5 +5.7
baz=206
SPMN **Marine on St.** 78.90 13 P P 02 26 32.3 -1.6
baz=196,SNR=9.1
SPMN S S 02 36 40.3 +7.7
baz=196
N57A **Milroy** 78.96 25 P P 02 26 32.6 -1.7
baz=208,SNR=46
N57A S S 02 36 38.9 +5.4
baz=208
P61A **Hammonton** 79.06 28 P P 02 26 34.1 -0.8
baz=210,SNR=10
P61A S S 02 36 41.2 +6.6
baz=210
O59A **Robesonia** 79.08 26 P P 02 26 33.4 -1.7
baz=209,SNR=34
O59A S S 02 36 41.3 +6.5
baz=209
L53A **Girard** 79.09 23 P P 02 26 33.5 -1.6
baz=206,SNR=5.5
L53A S S 02 36 43.1 +8.2
baz=206
M55A **Ridgway** 79.17 24 P P 02 26 33.5 -2.0
baz=207,SNR=53
M55A S S 02 36 42.3 +6.6
baz=207
E04D **Cinebar** 79.19 352 P P 02 26 34.6 -0.9
baz=170,SNR=57
E04D S S 02 36 42.9 +7.3
baz=170
ERPA **Erie** 79.33 23 P P 02 26 35.5 -0.9
baz=206
ERPA S S 02 36 42.2 +4.8
baz=206
ERPA **Erie** 79.33 23 P P 02 26 36.1 -0.3
ERPA IAmb IAmb 02 26 41.1
comp=Z,484nm,1.5s
N58A **Sunbury** 79.34 26 P P 02 26 35.0 -1.4
baz=209,SNR=27
N58A S S 02 36 44.4 +6.9
baz=209
O60A **Telford** 79.38 27 P P 02 26 35.1 -1.5
baz=210,SNR=23
O60A S S 02 36 45.2 +7.3
baz=210
M56A **Emporium** 79.38 24 P P 02 26 35.7 -1.0
baz=208,SNR=47
M56A S S 02 36 43.5 +5.5
baz=208
O61A **Allentown** 79.52 28 P P 02 26 35.4 -2.0
baz=211,SNR=7.4
O61A S S 02 36 45.4 +6.0
baz=211
M57A **Sunshine Farm,** 79.63 25 P P 02 26 36.7 -1.3
baz=208,SNR=24
M57A S S 02 36 46.5 +6.0
baz=208
LUPA **Lehigh Univers** 79.63 27 IAmb IAmb 02 26 42.5
comp=Z,539nm,1.8s
L54A **Sinclairville** 79.66 23 P P 02 26 36.8 -1.4
baz=207,SNR=6.6
L54A S S 02 36 47.3 +6.4
baz=207
N59A **State Game Lan** 79.76 26 P P 02 26 37.5 -1.2
baz=210,SNR=35
N59A S S 02 36 48.4 +6.4
baz=210
D04E **Lakebay** 79.83 352 P P 02 26 38.6 -0.3
baz=170,SNR=20
D04E S S 02 36 52.9 +11
baz=170
M58A **Price's Panora** 79.90 26 P P 02 26 38.2 -1.3
baz=209,SNR=17
M58A S S 02 36 48.6 +5.1
baz=209
L55A **Hinsdale** 79.91 24 P P 02 26 39.0 -0.6
baz=207,SNR=64
L55A S S 02 36 49.8 +6.2
baz=207
EGMT **Eagleton** 79.97 1 P P 02 26 38.9 -0.9
baz=181
EGMT S S 02 36 51.0 +7.0
baz=181
EGMT **Eagleton** 79.97 1 IAmb IAmb 02 26 45.4
comp=Z,802nm,1.6s
N60A **Cedar Hill Far** 79.97 27 P P 02 26 38.3 -1.6
baz=210,SNR=19
N60A S S 02 36 50.1 +5.9
baz=210
WVNY **West Valley, N** 80.05 24 IAmb IAmb 02 26 45.4
comp=Z,803nm,1.4s
L56A **Greenwood** 80.17 25 P P 02 26 39.6 -1.4
baz=208,SNR=62
L56A S S 02 36 52.4 +5.9
baz=208
NLWA **Neilton Lookou** 80.18 351 IAmb IAmb 02 26 46.3
comp=Z,595nm,1.4s
N61A **South Mountain** 80.18 27 P P 02 26 39.8 -1.2
baz=211,SNR=6.5
N61A S S 02 36 52.4 +6.0
baz=211
K54A **Basiliko Farm,** 80.20 24 P P 02 26 39.9 -1.3
baz=207,SNR=7.1
K54A S S 02 36 52.5 +5.9
baz=207
D03D **Eldon** 80.22 352 P P 02 26 39.7 -1.3
baz=170,SNR=190
D03D S S 02 36 53.7 +7.1
baz=170
MAW **Mawson** 80.30 178 P P 02 26 41.7 +0.3
comp=Z,55nm,0.9s,baz=207,slow=5.7,SNR=50
MAW S S 02 36 51.0 +3.8
comp=Z,1.4nm,1.0s,baz=199,slow=15,SNR=2.3
MAW SKKPbc **SKKPbc** 02 48 55.8 -2.4
comp=Z,2.1nm,0.8s,baz=227,slow=20,SNR=2.1
MAW LR LR 02 58 59.7
comp=Z,119µm,21.7s,baz=186,slow=33
MAW **Mawson** 80.30 178 P P 02 26 42.0 +0.6
MAW **Mawson** 80.30 178 P P 02 26 42.0 +0.6
L57A **Andrews Acres** 80.31 25 P P 02 26 40.0 -1.7
baz=209,SNR=25
L57A S S 02 36 54.2 +6.4
baz=209
KSPA **Keystone Colle** 80.32 26 IAmb IAmb 02 26 46.2
comp=Z,486nm,1.6s
CPNY **Central Park** 80.35 28 IAmb IAmb 02 26 46.0
comp=Z,427nm,1.4s
NEW **Newport** 80.39 356 P P 02 26 41.1 -0.9
baz=175
NEW S S 02 36 56.0 +7.5
baz=175
NEW **Newport** 80.39 356 IAmb IAmb 02 26 47.2
comp=Z,796nm,1.5s
NEW **Newport** 80.39 356 IAMs_20 IAMs_20 02 56 32.6
comp=Z,74µm,20.0s
GLMI **Grayling** 80.41 19 P P 02 26 41.4 -0.7
baz=202
GLMI S S 02 36 55.2 +6.6
baz=202
M59A **Waymart** 80.43 26 P P 02 26 40.8 -1.5
baz=210,SNR=18
M59A S S 02 36 55.5 +6.4
baz=210
MDND **Maddock** 80.43 8 P P 02 26 40.6 -1.5
baz=190,SNR=8.2
MDND S S 02 36 55.5 +6.7
baz=190
COWI **Conover** 80.49 15 IAmb IAmb 02 26 47.4
comp=Z,607nm,1.8s
COWI IAMs_20 IAMs_20 03 00 39.4
comp=Z,44µm,18.0s
TOO **Toolangi** 80.51 232 P P 02 26 43.3 0.0
TOO pmax pmax
comp=Z,610nm,1.4s
TOO **Toolangi** 80.51 232 P P 02 26 43.3 0.0
TOO IAmb IAmb 02 26 58.8
comp=Z,610nm,1.4s
I51A **Listowel** 80.52 21 P P 02 26 41.4 -1.3
baz=205,SNR=8.3
I51A S S 02 36 56.5 +6.7
baz=205
K55A **Perry** 80.52 24 P P 02 26 41.2 -1.6
baz=208,SNR=37

K55A S S 02 36 56.5 +6.6
baz=208
M60A Port Jervis 80.55 27 P P 02 26 41.4 -1.6
baz=210,SNR=7.8
M60A S S 02 36 55.5 +5.2
baz=210
PAL Palisades 80.55 28 P P 02 26 41.7 -1.2
baz=211,SNR=17
PAL S S 02 36 55.5 +5.3
baz=211
DGMT Dagmar 80.63 5 P P 02 26 42.2 -1.1
baz=186
DGMT S S 02 36 57.3 +6.4
baz=186
N62A Caumsett State 80.66 28 P P 02 26 42.6 -1.0
baz=211
N62A S S 02 36 57.3 +5.9
baz=211
L58A Harry Jones Me 80.71 26 P P 02 26 43.2 -0.6
baz=209,SNR=12
L58A S S 02 36 57.0 +5.0
baz=209
K56A Middlesex 80.75 24 P P 02 26 42.5 -1.5
baz=208
K56A S S 02 36 59.5 +7.1
baz=208
BINY Binghamton 80.79 26 P P 02 26 43.5 -0.9
baz=209
BINY S S 02 36 56.4 +3.5
baz=209
BINY Binghamton 80.79 26 P P 02 26 42.9 -1.5
BINY IAMs_20 IAMs_20 02 58 56.4
comp=Z,80µm,20.0s
J54A Appleton 80.81 23 P P 02 26 42.5 -1.8
baz=207
J54A S S 02 36 59.8 +6.9
baz=207
B05A Bryant 80.82 352 P P 02 26 43.5 -0.7
baz=170,SNR=59
B05A S S 02 36 59.2 +6.4
baz=170
M61A Granite Spring 80.86 27 P P 02 26 43.2 -1.5
baz=211
M61A S S 02 36 59.5 +5.9
baz=211
WSPT Westport, CT 80.92 28 P P 02 26 43.3 -1.6
WSPT IAMs_20 IAMs_20 02 57 23.7
comp=Z,57µm,21.0s
WALA Waterton Lakes 81.04 358 P P 02 26 44.0 -1.5
WALA IAmb IAmb 02 26 51.1
comp=Z,596nm,1.7s
WALA IAMs_20 IAMs_20 02 57 16.6
comp=Z,59µm,20.0s
K57A Scipio Center 81.07 25 P P 02 26 44.4 -1.3
baz=209,SNR=16
K57A S S 02 37 02.9 +7.2
baz=209
J55A Hilton 81.08 24 P P 02 26 44.4 -1.3
baz=208,SNR=8.1
J55A S S 02 37 01.8 +6.1
baz=208
N63A Mattituck 81.08 28 P P 02 26 44.8 -1.0
baz=212
N63A S S 02 37 01.8 +6.0
baz=212
L59A Walton 81.13 26 P P 02 26 44.3 -1.8
baz=210,SNR=21
L59A S S 02 37 02.7 +6.2
baz=210
YLE Yale 81.20 28 P P 02 26 44.6 -1.8
YLE IAmb IAmb 02 26 50.8
comp=Z,390nm,1.2s
YLE IAMs_20 IAMs_20 02 56 56.9
comp=Z,63µm,22.0s
L60A Shokan 81.27 27 P P 02 26 45.9 -0.9
baz=211,SNR=5.1
L60A S S 02 37 04.5 +6.7
baz=211
M62A Hamden 81.32 28 P P 02 26 45.6 -1.4
baz=212,SNR=6.1
M62A S S 02 37 04.2 +5.9
baz=212
KSCT Kent School, K 81.33 27 P P 02 26 45.6 -1.5
KSCT IAmb IAmb 02 26 51.4
comp=Z,410nm,1.3s
A04D Lummi Island 81.34 352 P P 02 26 46.1 -0.8
baz=170,SNR=75
A04D S S 02 37 04.8 +6.7
baz=170
AGMN Agassiz Nation 81.36 10 P P 02 26 46.1 -1.0
baz=193
AGMN S S 02 37 03.9 +5.5
baz=193
AGMN Agassiz Nation 81.36 10 IAmb IAmb 02 27 00.3
comp=Z,647nm,2.0s
K58A Earlville 81.41 25 P P 02 26 46.7 -0.9
baz=210
K58A S S 02 37 05.8 +6.6
baz=210
J56A Wolcott 81.42 24 P P 02 26 46.1 -1.5
baz=209,SNR=6.8
J56A S S 02 37 05.9 +6.7
baz=209
M63A Gales Ferry 81.63 29 P P 02 26 47.0 -1.7
baz=212
M63A S S 02 37 07.0 +5.5
baz=212
L61A Hillsdale 1, H 81.70 27 P P 02 26 47.3 -1.8
baz=211
L61A S S 02 37 08.5 +6.3
baz=211
K59A Cooperstown 81.71 26 P P 02 26 47.5 -1.7
baz=210,SNR=17
K59A S S 02 37 08.0 +5.6
baz=210
EYMN Ely 81.76 13 P P 02 26 47.8 -1.5
baz=196
EYMN S S 02 37 07.8 +5.2
baz=196
J57A Williamstown 81.84 25 P P 02 26 48.2 -1.6
baz=209
J57A S S 02 37 11.6 +7.9
baz=209
L62A Suffield 81.91 28 P P 02 26 49.0 -1.2
baz=212
L62A S S 02 37 10.8 +6.4
baz=212
K60A Five Rivers En 81.94 27 P P 02 26 49.1 -1.2
baz=211
K60A S S 02 37 09.8 +5.2
baz=211
SADO Sadowa 81.98 22 IAmb IAmb 02 26 55.1
comp=Z,403nm,1.2s
H53A Bobcaygeon 81.98 23 P P 02 26 48.8 -1.8
baz=207,SNR=24
H53A S S 02 37 11.7 +6.7
baz=207
J58A Remsen 82.06 25 P P 02 26 49.5 -1.4
baz=210,SNR=15
J58A S S 02 37 12.7 +6.8
baz=210
M64A Tiverton 82.09 29 P P 02 26 50.0 -1.1
baz=213
M64A S S 02 37 12.3 +6.0
baz=213
TRY Troy 82.12 27 P P 02 26 51.1 -0.1
TRY IAMs_20 IAMs_20 02 59 13.5
comp=Z,76µm,21.0s
L63A North Scituate 82.19 29 P P 02 26 51.4 -0.2
baz=213
L63A S S 02 37 14.0 +6.7
baz=213
K61A Williamstown 82.22 27 P P 02 26 50.9 -0.9
baz=211
K61A S S 02 37 13.5 +5.9
baz=211
QUA2 Belchertown 82.24 28 IAMs_20 IAMs_20 02 57 04.8
comp=Z,64µm,22.0s
L61B Northampton 82.26 28 P P 02 26 50.4 -1.6
baz=212
L61B S S 02 37 13.7 +5.8
baz=212
BRYW Bryant College 82.27 29 IAMs_20 IAMs_20 02 59 58.2
comp=Z,60µm,19.0s
M65A Busby, Falmout 82.33 29 P P 02 26 51.4 -1.0
baz=213
M65A S S 02 37 14.7 +6.0
baz=213

I57A Carthage 82.42 25 P P 02 26 51.5 -1.4
baz=210,SNR=31
I57A S S 02 37 16.3 +6.7
baz=210
J59A Piesco 82.43 26 P P 02 26 51.7 -1.2
baz=210
J59A S S 02 37 16.4 +6.6
baz=210
I58A Old Forge 82.46 25 P P 02 26 52.5 -0.6
baz=210,SNR=33
I58A S S 02 37 17.6 +7.6
baz=210
L64A Middleborough 82.57 29 P P 02 26 52.3 -1.3
baz=213,SNR=7.1
L64A S S 02 37 17.1 +6.0
baz=213
K62A Royalston 82.62 28 P P 02 26 52.3 -1.6
baz=212,SNR=13
K62A S S 02 37 17.3 +5.7
baz=212
J60A Lant Hill Farm 82.65 27 P P 02 26 52.7 -1.4
baz=211,SNR=31
J60A S S 02 37 18.6 +6.7
baz=211
WES Weston 82.75 28 IAmb IAmb 02 26 59.2
comp=Z,515nm,1.4s
WES IAMs_20 IAMs_20 03 00 20.1
comp=Z,47µm,19.0s
HRV Adam Dziewonsk 82.75 28 P P 02 26 53.3 -1.3
baz=213
HRV S S 02 37 19.3 +6.3
baz=213
HRV Adam Dziewonsk 82.75 28 P P 02 26 54.4 -0.2
HRV pmax pmax
comp=Z,801nm,1.7s
HRV Adam Dziewonsk 82.75 28 P P 02 26 54.4 -0.2
HRV Adam Dziewonsk 82.75 28 IAMs_20 IAMs_20 02 57 26.1
comp=Z,62µm,22.0s
BCX Boston College 82.77 29 IAMs_20 IAMs_20 03 00 21.6
comp=Z,50µm,20.0s
G54A Lake Saint Pet 82.88 23 P P 02 26 54.0 -1.2
baz=208,SNR=22
G54A S S 02 37 21.6 +7.3
baz=208
K63A Dunstable 82.92 28 P P 02 26 54.8 -0.6
baz=213,SNR=8.2
K63A S S 02 37 21.2 +6.5
baz=213
I59A Olmsteadville 82.95 26 P P 02 26 54.4 -1.3
baz=211,SNR=29
I59A S S 02 37 22.5 +7.5
baz=211
L65A Cape Cod Natio 82.97 29 P P 02 26 54.8 -0.9
baz=214
L65A S S 02 37 22.0 +6.8
baz=214
H57A Richville 82.98 25 P P 02 26 54.5 -1.2
baz=210,SNR=32
H57A S S 02 37 21.5 +6.3
baz=210
J61A Chester 83.07 27 P P 02 26 55.6 -0.6
baz=212
J61A S S 02 37 21.4 +5.2
baz=212
EIDS Eidsvold 83.11 244 P P 02 26 56.8 -0.2
EIDS IAmb IAmb 02 27 18.4
comp=Z,328nm,1.6s
EIDS IAMs_20 IAMs_20 02 57 26.4
comp=Z,47µm,22.0s
I60A Shoreham 83.21 26 P P 02 26 56.0 -0.9
baz=211,SNR=12
I60A S S 02 37 23.8 +6.3
baz=211
J62A Henniker 83.26 28 P P 02 26 56.5 -0.7
baz=212,SNR=26
J62A S S 02 37 24.1 +5.9
baz=212
ULM Lac du Bonnet 83.26 10 P P 02 26 55.7 -1.3
comp=Z,98nm,1.2s,baz=200,slow=4.7,SNR=24
ULM S S 02 37 17.9 0.0
comp=Z,2.1nm,0.7s,baz=93,slow=22,SNR=1.9
ULM LR LR 03 00 26.9
comp=Z,101µm,19.5s,baz=180,slow=33
ULM Lac du Bonnet 83.26 10*c /P* 02 26 54.9 -2.1
ULM Lac du Bonnet 83.26 10 IAmb IAmb 02 27 01.1
comp=Z,716nm,1.8s
H58A Gabriels 83.37 26 P P 02 26 56.2 -1.6
baz=211,SNR=76
H58A S S 02 37 25.8 +6.5
baz=211
ALGO Algonquin Park 83.38 22 P P 02 26 56.3 -1.5
baz=208,SNR=9.5
ALGO S S 02 37 26.5 +7.2
baz=208
LONY Lake Ozonia 83.40 25 P P 02 26 57.0 -1.0
baz=210
LONY S S 02 37 27.1 +7.6
baz=210
LONY Lake Ozonia 83.40 25 P P 02 26 56.6 -1.4
HNH Hanover 83.48 27 P P 02 26 56.8 -1.5
FFD Franklin Falls 83.53 28 IAMs_20 IAMs_20 02 58 45.7
comp=Z,60µm,21.0s
J63A Strafford 83.59 28 P P 02 26 57.3 -1.6
baz=213,SNR=6.4
J63A S S 02 37 27.5 +6.0
baz=213
G57A Newington 83.67 25 P P 02 26 57.5 -1.7
baz=210,SNR=78
G57A S S 02 37 30.8 +8.6
baz=210
I61A Oroboro, Fairl 83.70 27 P P 02 26 58.2 -1.3
baz=212,SNR=22
I61A S S 02 37 31.5 +8.9
baz=212
H59A Cadyville 83.75 26 P P 02 26 58.1 -1.6
baz=211,SNR=38
H59A S S 02 37 31.2 +8.1
baz=211
VT1 Waterbury 83.83 26 P P 02 26 58.5 -1.7
VT1 IAmb IAmb 02 27 11.8
comp=Z,543nm,1.8s
VT1 IAMs_20 IAMs_20 03 02 12.5
comp=Z,59µm,18.0s
FRNY Flat Rock 83.95 26 P P 02 26 59.2 -1.4
I62A Tamworth 83.99 28 P P 02 26 60.0 -0.9
baz=213,SNR=25
I62A S S 02 37 33.0 +7.5
baz=213
H60A Morristown 84.05 26 P P 02 27 00.1 -1.2
baz=212,SNR=28
H60A S S 02 37 33.8 +7.8
baz=212
G58A Ormstown 84.05 25 P P 02 27 00.4 -0.7
baz=211,SNR=56
G58A S S 02 37 33.3 +7.3
baz=211
LBNH Lisbon 84.07 27 P P 02 27 00.6 -0.8
baz=212
LBNH S S 02 37 34.1 +7.8
baz=212
LBNH Lisbon 84.07 27 P P 02 26 59.8 -1.6
LBNH pmax pmax
comp=Z,1µm,2.0s
LBNH Lisbon 84.07 27 P P 02 26 59.8 -1.6
HNR Honiara 84.30 262 LR LR 02 56 36.0
comp=Z,11µm,20.6s,baz=133,slow=30
G59A Clarenceville 84.31 26 P P 02 27 02.0 -0.4
baz=211
H61A Lyndonville 84.32 27 P P 02 27 01.7 -1.0
baz=212,SNR=34
H61A S S 02 37 36.9 +8.1
baz=212
F57A Harrington 84.39 25 P P 02 27 02.1 -0.8
baz=210,SNR=18
F57A S S 02 37 36.7 +7.3
baz=210
I63A Otisfield 84.44 28 P P 02 27 02.0 -1.2
baz=213,SNR=10
I63A S S 02 37 37.0 +7.0
baz=213
E55A Montcerf-Lytto 84.48 23 P P 02 27 02.3 -1.0
baz=209,SNR=42
E55A S S 02 37 36.0 +5.8
baz=209
G60A Masonville 84.64 26 P P 02 27 03.8 -0.5
baz=212,SNR=7.4
G60A S S 02 37 40.3 +8.3
baz=212

H62A Milan 84.65 27 P P 02 27 03.3 -1.0
baz=213,SNR=10
H62A S S 02 37 39.7 +7.7
baz=213
I64A Boothbay 84.71 29 P P 02 27 03.0 -1.5
baz=214,SNR=6.3
I64A S S 02 37 38.9 +6.3
baz=214
F58A St-Lin Laurent 84.75 25 P P 02 27 03.1 -1.6
baz=211
F58A S S 02 37 40.3 +7.3
baz=211
E56A St. Veronique 84.91 24 P P 02 27 04.1 -1.4
baz=210,SNR=69
E56A S S 02 37 41.0 +6.5
baz=210
G61A St-Isidore-de- 85.10 27 P P 02 27 05.9 -0.6
baz=213,SNR=26
G61A S S 02 37 43.2 +6.6
baz=213
E57A Chemin Saint G 85.10 25 P P 02 27 05.1 -1.5
baz=210,SNR=39
E57A S S 02 37 42.6 +6.0
baz=210
F59A Saint Guilaume 85.11 26 P P 02 27 05.1 -1.4
baz=212,SNR=21
F59A S S 02 37 43.2 +6.7
baz=212
H63A New Sharon 85.16 28 P P 02 27 05.1 -1.7
baz=214,SNR=7.6
H63A S S 02 37 44.0 +6.9
baz=214
D55A Sainte-Anne-du 85.17 23 P P 02 27 05.4 -1.4
baz=209,SNR=79
D55A S S 02 37 42.4 +5.2
baz=209
WVL Waterville 85.23 28 IAMs_20 IAMs_20 03 02 57.8
comp=Z,38µm,19.0s
E58A La Victoria 85.38 25 P P 02 27 07.3 -0.5
baz=211,SNR=50
E58A S S 02 37 44.5 +5.4
baz=211
G62A West of Eustis 85.43 27 P P 02 27 07.2 -1.0
baz=213,SNR=19
G62A S S 02 37 45.4 +5.6
baz=213
D56A ZEC Mazanza, M 85.44 24 P P 02 27 06.8 -1.4
baz=210,SNR=75
D56A S S 02 37 47.7 +7.9
baz=210
BBB Bella Bella 85.46 349 IAMs_20 IAMs_20 02 57 17.2
comp=Z,38µm,18.0s
H64A Troy 85.47 28 P P 02 27 07.2 -1.2
baz=214,SNR=6.6
H64A S S 02 37 47.3 +7.1
baz=214
F60A Warwick 85.52 26 P P 02 27 07.3 -1.2
baz=212,SNR=26
F60A S S 02 37 47.5 +6.9
baz=212
G63A Kingsbury 85.70 28 P P 02 27 09.4 -0.2
baz=214,SNR=7.8
G63A S S 02 37 50.2 +7.7
baz=214
D57A Chemin Vers le 85.71 24 P P 02 27 08.3 -1.2
baz=211,SNR=55
D57A S S 02 37 49.6 +7.1
baz=211
E59A St. Maurice 85.75 26 P P 02 27 08.6 -1.1
baz=212
E59A S S 02 37 50.4 +7.6
baz=212
F61A St Evariste 85.88 27 P P 02 27 09.6 -0.8
baz=213,SNR=8.3
F61A S S 02 37 52.8 +8.6
baz=213
H65A Eastbrook 85.91 29 P P 02 27 09.1 -1.4
baz=215,SNR=7.6
H65A S S 02 37 50.0 +5.6
baz=215
PKME Peaks-Kenny Pk 85.95 28 P P 02 27 09.9 -0.9
baz=214
PKME S S 02 37 49.8 +4.9
baz=214
PKME Peaks-Kenny Pk 85.95 28 IAmb IAmb 02 27 15.0
comp=Z,411nm,1.7s
PKME IAMs_20 IAMs_20 03 03 29.0
comp=Z,40µm,21.0s
E60A Ste Agathe de 86.05 26 P P 02 27 10.2 -1.0
baz=213,SNR=16
E60A S S 02 37 53.0 +7.3
baz=213
D58A Chemin du LacG 86.14 25 P P 02 27 09.6 -2.0
baz=211,SNR=28
D58A S S 02 37 52.9 +6.2
baz=211
G64A Maxfield 86.16 28 P P 02 27 09.9 -1.9
baz=215,SNR=7.5
G64A S S 02 37 53.6 +6.7
baz=215
F62A Pittston Farm, 86.21 27 P P 02 27 10.1 -2.0
baz=214,SNR=17
F62A S S 02 37 54.4 +7.0
baz=214
EMMW East Machias 86.25 29 P P 02 27 10.8 -1.4
EMMW IAmb IAmb 02 27 16.4
comp=Z,471nm,1.7s
EMMW IAMs_20 IAMs_20 03 00 24.8
comp=Z,65µm,21.0s
H66A Whiting 86.37 29 P P 02 27 11.3 -1.6
baz=216,SNR=8.2
H66A S S 02 37 55.2 +6.2
baz=216
STKA Stephens Creek 86.39 234 P P 02 27 13.6 +0.1
comp=Z,33nm,1.1s,baz=118,slow=5.2,SNR=16
STKA S S 02 37 42.5 -7.7
comp=Z,0.4nm,0.4s,baz=325,slow=24,SNR=1.4
STKA LR LR 02 59 27.4
comp=Z,22µm,21.1s,baz=126,slow=31
STKA Stephens Creek 86.39 234 P P 02 27 13.6 +0.1
F63A Nahmakanta, Br 86.39 28 P P 02 27 11.6 -1.3
baz=214,SNR=16
F63A S S 02 37 56.4 +7.2
baz=214
LATQ La Tuque 86.42 25 P P 02 27 11.3 -1.6
baz=212,SNR=26
LATQ S S 02 37 55.4 +6.1
baz=212
D59A Saint-Raymond 86.44 26 P P 02 27 11.1 -2.0
baz=212,SNR=5.6
D59A S S 02 37 56.1 +6.5
baz=212
E61A Lac Etchemin 86.46 27 P P 02 27 11.6 -1.7
baz=213,SNR=6.7
E61A S S 02 37 57.3 +7.5
baz=213
LSQQ Lebel-sur-Quev 86.47 22 P P 02 27 11.8 -1.4
baz=208
LSQQ S S 02 37 55.7 +5.9
baz=208
G65A Princeton 86.60 29 P P 02 27 12.4 -1.5
baz=216,SNR=6.1
G65A S S 02 37 57.5 +6.2
baz=216
D60A Saint Jean D'O 86.70 26 P P 02 27 12.9 -1.4
baz=213,SNR=6.4
D60A S S 02 37 58.5 +6.5
baz=213
F64A Sherman 86.83 28 P P 02 27 14.1 -1.0
baz=215,SNR=6.4
F64A S S 02 37 59.7 +6.3
baz=215
GGN Saint George 86.84 30 P P 02 27 13.6 -1.5
GGN IAmb IAmb 02 27 19.0
comp=Z,267nm,1.4s
GGN IAMs_20 IAMs_20 03 00 51.5
comp=Z,63µm,20.0s
MATQ Matagami 86.89 21 P P 02 27 14.3 -1.0
baz=208,SNR=57
MATQ S S 02 38 01.1 +7.4
baz=208
E62A Clayton Lake 86.99 27 P P 02 27 15.2 -0.6
baz=214,SNR=14
E62A S S 02 38 00.5 +5.5
baz=214
FFC Flin Flon 87.01 5 P P 02 27 14.6 -1.1
FFC pmax pmax
comp=Z,544nm,1.6s

FFC Flin Flon 87.01 5 P **P** **02 27 14.6 -1.1**
FFC IAmb IAmb 02 27 20.0
comp=Z,544nm,1.6s
H02S1 DAWSON INLET T 87.19 347 P **P** **02 27 15.5 -1.1**
baz=225
H02S1 T T 04 03 55.2
SNR=7.1
D61A St Aubert, Com 87.22 26 P **P** **02 27 16.3 -0.6**
baz=214
D61A S **S** **02 38 02.1 +5.1**
baz=214
H02N1 VAN INLET T-PH 87.25 347 P **P** **02 27 15.8 -1.2**
H02N1 T T 04 04 01.5
SNR=3.3
E63A Oxbow 87.25 28 P **P** **02 27 16.4 -0.7**
baz=215,SNR=6.9
E63A S **S** **02 38 02.3 +4.8**
baz=215
E64A Bridgewater 87.49 28 P **P** **02 27 16.9 -1.3**
baz=215,SNR=6.4
E64A S **S** **02 38 04.0 +4.3**
baz=215
D62A Allapoint, All 87.55 27 P **P** **02 27 17.4 -1.2**
baz=214,SNR=7.0
D62A S **S** **02 38 03.7 +3.4**
baz=214
PQI Presque Isle 87.62 28 P **P** **02 27 17.5 -1.3**
PQI IAmb IAmb 02 27 22.8
comp=Z,351nm,1.5s
PQI IAMs_20 IAMs_20 03 03 03.0
comp=Z,55µm,20.0s
HAL Halifax 87.86 32 P **P** **02 27 18.7 -1.3**
HAL pmax pmax
comp=Z,301nm,1.3s
HAL Halifax 87.86 32 P **P** **02 27 18.7 -1.3**
HAL IAmb IAmb 02 27 24.0
comp=Z,301nm,1.3s
D63A Stockholm 87.88 28 P **P** **02 27 18.8 -1.3**
baz=215,SNR=8.3
D63A S **S** **02 38 08.8 +5.3**
baz=215
CHGQ Chibougamau 88.04 23 P **P** **02 27 20.1 -0.7**
baz=210
CHGQ S **S** **02 38 11.8 +6.9**
baz=210
LMN Caledonia Moun 88.28 30 P **P** **02 27 20.7 -1.3**
LMN IAmb IAmb 02 27 25.3
comp=Z,214nm,1.4s
BATG Bathurst New B 88.90 29 P **P** **02 27 23.7 -1.2**
BATG IAmb IAmb 02 27 28.8
comp=Z,359nm,1.6s
CRAG Craig 89.46 348 IAMs_20 IAMs_20 02 58 11.1
comp=Z,75µm,21.0s
BBOO Buckleboo 89.55 231 P **P** **02 27 28.8 +0.1**
BBOO IAmb IAmb 02 27 41.8
comp=Z,438nm,1.4s
BBOO IAMs_20 IAMs_20 03 01 43.8
comp=Z,64µm,20.0s
CTA Charters Tower 89.72 246 LR LR 03 04 13.0
comp=Z,9µm,18.2s,baz=136,slow=33
CTA Charters Tower 89.72 246 P **P** **02 27 28.8 -0.8**
CTA pmax pmax
comp=Z,197nm,3.0s
CTAO Charters Tower 89.72 246 P **P** **02 27 29.2 -0.5**
CTAO pmax pmax
comp=Z,667nm,1.8s
CTAO Charters Tower 89.72 246 P **P** **02 27 29.1 -0.5**
WRAK Wrangell Islan 90.23 348 P **P** **02 27 30.1 -0.8**
DLBC Dease Lake 91.80 350 IAmb IAmb 02 27 43.1
comp=Z,244nm,1.4s
DLBC IAMs_20 IAMs_20 03 01 20.6
comp=Z,48µm,22.0s
SKAG Skagway 93.63 348 IAMs_20 IAMs_20 03 01 05.4
comp=Z,35µm,22.0s
KRVT Keravat (AS076 93.67 263 LR LR 03 03 07.9
comp=Z,11µm,21.7s,baz=148,slow=31
DRLN Deer Lake 94.08 32 IAMs_20 IAMs_20 03 02 49.9
comp=Z,67µm,22.0s
YKA Yellowknife Ar 94.51 358 P **P** **02 27 48.7 -1.9**
comp=Z,19nm,1.0s,baz=166,slow=4.3,SNR=29
YKA S **SKSac** **02 38 25.6 -0.3**
comp=Z,0.9nm,0.8s,baz=290,slow=19,SNR=2.0
YKA PKKPbc **PKKPbc** **02 44 51.1 -0.5**
comp=Z,2.7nm,0.8s,baz=357,slow=4.1,SNR=6.3
YKA LR LR 03 06 03.7
comp=Z,44µm,18.2s,baz=0.0,slow=33
WHY Whitehorse 94.68 348 P **P** **02 27 50.6 -1.0**
SCHQ Schefferville 94.69 24 P **P** **02 27 50.9 -0.7**
comp=Z,110nm,1.1s,baz=239,slow=3.3,SNR=21
SCHQ LR LR 03 08 21.5
comp=Z,29µm,18.7s,baz=208,slow=34
SCHQ Schefferville 94.69 24 P **P** **02 27 50.4 -1.2**
SCHQ IAmb IAmb 02 27 55.5
comp=Z,234nm,1.2s
SCHQ IAMs_20 IAMs_20 03 06 16.1
comp=Z,44µm,22.0s
PMG Port Moresby 94.95 256 LR LR 03 03 00.6
comp=Z,16µm,21.1s,baz=114,slow=31
PMG Port Moresby 94.95 256 P **P** **02 27 54.5 +0.7**
PMG pmax pmax
comp=Z,116nm,1.3s
PMG Port Moresby 94.95 256 P **P** **02 27 54.5 +0.7**
HYT Haines Junctio 95.31 347 P **P** **02 27 53.4 -1.0**
HYT IAmb IAmb 02 27 59.2
comp=Z,164nm,1.5s
HYT IAMs_20 IAMs_20 03 05 53.6
comp=Z,26µm,18.0s
COEN Coen 95.61 250 IAMs_20 IAMs_20 03 06 06.7
comp=Z,35µm,20.0s
TABL Table Mountain 95.68 345 IAMs_20 IAMs_20 03 01 56.6
comp=Z,34µm,21.0s
Q23K Middleton Isla 95.99 343 P **P** **02 27 56.6 -0.7**
baz=150
FORT Forrest 96.02 228 P **P** **02 27 57.0 -1.5**
FORT IAmb IAmb 02 28 10.2
comp=Z,243nm,1.3s
OHAK Old Harbor 96.08 338 P **P** **02 27 57.0 -0.8**
OHAK IAmb IAmb 02 28 02.3
comp=Z,188nm,1.4s
AS31 Alice Springs 96.78 237 P **P** **02 28 01.9 -0.2**
ASAR Alice Springs 96.78 237 P **P** **02 28 01.9 -0.2**
comp=Z,11nm,1.1s,baz=132,slow=4.4,SNR=23
ASAR PP **PP** **02 31 57.0 +0.4**
comp=Z,2.1nm,1.1s,baz=112,slow=7.5,SNR=4.1
ASAR PKKPbc **PKKPbc** **02 44 41.9 -1.6**
comp=Z,3.6nm,0.9s,baz=341,slow=2.3,SNR=12
ASAR LR LR 03 08 30.5
comp=Z,18µm,18.2s,baz=143,slow=34
EYAK Cordova Ski Ar 96.82 343 P **P** **02 28 00.4 -0.8**
EYAK IAmb IAmb 02 28 05.4
comp=Z,132nm,1.4s
EYAK IAMs_20 IAMs_20 03 02 60.0
comp=Z,39µm,20.0s
CHGN Chignik 97.04 336 IAMs_20 IAMs_20 03 01 08.5
comp=Z,62µm,22.0s
SEW Seward 97.38 342 P **P** **02 28 02.9 -0.8**
SEW IAMs_20 IAMs_20 03 01 53.8
comp=Z,48µm,20.0s
N25K Chitina, Valde 97.48 344 P **P** **02 28 03.0 -1.2**
baz=152
N25K S **S** **02 39 32.2 +3.1**
baz=152
O22K Cooper Landing 97.77 342 P **P** **02 28 04.4 -1.0**
baz=148
O22K S **S** **02 39 24.3 -7.1**
baz=148
FALS False Pass 97.80 332 IAMs_20 IAMs_20 03 02 00.0
comp=Z,50µm,20.0s
BCAR Beaver Creek A 98.19 346 P **P** **02 28 06.3 -1.0**
AKUT Akutan 98.22 331 IAMs_20 IAMs_20 03 01 22.4
comp=Z,44µm,22.0s
M24K Tolsona, Glenn 98.28 344 Pdiff **P** **02 28 06.3 -1.5**
baz=150
RC01 Rabbit Creek A 98.28 342 Pdiff **P** **02 28 07.2 -0.6**
baz=147
RC01 S **S** **02 39 36.9 +1.1**
baz=147
UNV Unalaska Valle 98.32 330 IAMs_20 IAMs_20 03 02 01.0
comp=Z,49µm,22.0s
CAPN Captain Cook N 98.39 341 Pdiff **P** **02 28 07.1 -1.1**
baz=146
MENT Mentasta 98.47 345 P **P** **02 28 07.4 -1.2**
MENT IAMs_20 IAMs_20 03 05 54.4
comp=Z,34µm,22.0s
PMR Palmer 98.56 343 P **P** **02 28 08.1 -0.8**
PMR pmax pmax
comp=Z,147nm,1.2s
PMR Palmer 98.56 343 P **P** **02 28 08.1 -0.8**
PMR IAmb IAmb 02 28 13.3
comp=Z,147nm,1.2s
PMR IAMs_20 IAMs_20 03 03 23.0
comp=Z,50µm,21.0s
RSO Redoubt South 98.58 340 P **P** **02 28 08.3 -1.1**
WR0 Warramunga Arr 98.65 240 P **P** **02 28 10.5 -0.1**
WR0 IAMs_20 IAMs_20 03 07 13.1
comp=Z,46µm,22.0s
WR9 Warramunga Arr 98.67 240 IAMs_20 IAMs_20 03 07 02.6
comp=Z,47µm,21.0s
WR8 Warramunga Arr 98.68 240 IAMs_20 IAMs_20 03 07 24.9
comp=Z,48µm,21.0s
WR7 Warramunga Arr 98.70 240 IAMs_20 IAMs_20 03 07 13.4
comp=Z,55µm,22.0s
WR6 Warramunga Arr 98.71 240 IAMs_20 IAMs_20 03 07 13.9
comp=Z,55µm,21.0s
NIKH Nikolski High 98.72 329 IAMs_20 IAMs_20 03 01 32.7
comp=Z,42µm,22.0s
WR5 Warramunga Arr 98.73 240 IAMs_20 IAMs_20 03 07 25.3
comp=Z,56µm,21.0s
WR4 Warramunga Arr 98.75 240 IAMs_20 IAMs_20 03 07 25.8
comp=Z,57µm,21.0s
WR3 Warramunga Arr 98.77 240 IAMs_20 IAMs_20 03 07 14.2
comp=Z,62µm,21.0s
WR2 Warramunga Arr 98.79 240 IAMs_20 IAMs_20 03 07 26.7
comp=Z,53µm,21.0s
WB2 Warramunga Arr 98.80 240 P **P** **02 28 10.7 -0.6**
WC2 Warramunga Arr 98.80 240 IAMs_20 IAMs_20 03 07 16.0
comp=Z,61µm,21.0s
WRAB Tennant Creek 98.80 240 P **P** **02 28 09.6 -1.7**
WRAB pmax pmax
comp=Z,31nm,1.3s
WRAB Tennant Creek 98.80 240 P **P** **02 28 09.6 -1.7**
WB3 Warramunga Arr 98.81 240 IAMs_20 IAMs_20 03 07 16.3
comp=Z,62µm,21.0s
WR1 Warramunga Arr 98.81 240 IAMs_20 IAMs_20 03 07 15.3
comp=Z,56µm,21.0s
WRA Warramunga Arr 98.81 240 P **P** **02 28 10.9 -0.4**
comp=Z,2.3nm,0.9s,baz=130,slow=3.4,SNR=17
WRA PP **PP** **02 32 12.6 +0.4**
comp=Z,2.0nm,1.1s,baz=118,slow=4.5,SNR=7.0
WRA PKiKP **PKiKP** **02 32 41.8 -0.7**
comp=Z,1.0nm,0.8s,baz=125,slow=1.6,SNR=2.0
WRA PKKPbc **PKKPbc** **02 44 37.9 +0.1**
comp=Z,5.4nm,1.1s,baz=314,slow=2.6,SNR=9.6
WRA LR LR 03 07 38.5
comp=Z,47µm,20.9s,baz=135,slow=32
WRA Warramunga Arr 98.81 240 P **P** **02 28 11.2 -0.1**
WRA **PP** **02 32 12.8 +0.6**
WB4 Warramunga Arr 98.82 240 IAMs_20 IAMs_20 03 07 27.5
comp=Z,56µm,21.0s
WC1 Warramunga Arr 98.82 240 IAMs_20 IAMs_20 03 07 27.6
comp=Z,60µm,21.0s
WB5 Warramunga Arr 98.83 240 IAMs_20 IAMs_20 03 07 16.8
comp=Z,46µm,21.0s
WB6 Warramunga Arr 98.84 240 IAMs_20 IAMs_20 03 07 07.2
comp=Z,49µm,21.0s
WB8 Warramunga Arr 98.86 240 IAMs_20 IAMs_20 03 07 07.6
comp=Z,44µm,21.0s
WB9 Warramunga Arr 98.87 240 IAMs_20 IAMs_20 03 07 08.9
comp=Z,42µm,21.0s
WB0 Warramunga Arr 98.88 240 **P** **02 28 11.3 -0.3**
WB0 IAMs_20 IAMs_20 03 07 09.1
comp=Z,38µm,21.0s
PAX Paxson 98.88 345 P **P** **02 28 09.5 -1.0**
PAX pmax pmax
comp=Z,108nm,1.5s
PAX Paxson 98.88 345 P **P** **02 28 09.5 -1.0**
PAX IAMs_20 IAMs_20 03 05 38.3
comp=Z,33µm,21.0s
K27K Chicken 99.11 347 Pdiff **Pdif** **02 28 10.8 -0.6**
baz=154
DOT Dot Lake 99.17 346 **Pdif** **02 28 10.8 -0.9**
DOT IAmb IAmb 02 28 15.8
comp=Z,137nm,1.6s
SCRK Sand Creek 99.45 346 Pdiff **Pdif** **02 28 12.1 -1.0**
baz=152
CUT Chulitna 99.53 343 Pdiff **Pdif** **02 28 12.1 -1.2**
baz=147
EGAK Eagle 99.61 347 **Pdif** **02 28 12.2 -1.5**
EGAK IAMs_20 IAMs_20 03 05 26.4
comp=Z,36µm,21.0s
MCK McKinley 100.33 344 Pdiff **Pdif** **02 28 16.2 -0.7**
baz=148
PPLA Purkeypile 100.44 342 IAMs_20 IAMs_20 03 05 38.7
comp=Z,42µm,20.0s
HDA Harding Lake 100.46 345 Pdiff **Pdif** **02 28 16.5 -0.9**
baz=150
ILAR Eielson Array 100.76 345 P **Pdif** **02 28 17.4 -1.4**
comp=Z,8.7nm,1.2s,baz=163,slow=4.3,SNR=12
ILAR PP **PP** **02 32 24.8 -2.0**
comp=Z,10nm,1.3s,baz=157,slow=4.6,SNR=5.6
ILAR Eielson Array 100.76 345 P **Pdif** **02 28 17.9 -0.8**
ILAR 02 32 24.9
ILAR Eielson Array 100.76 345 Pdif **Pdif** **02 28 17.9 -0.8**
ILAR **PP** **02 32 24.9 -1.9**
NWAO Narrogin (SRO) 100.80 220 IAMs_20 IAMs_20 03 05 00.6
comp=Z,50µm,21.0s
H01W1 Cape Leeuwin H 100.88 216 T T 04 21 36.3
baz=142,slow=76,SNR=4609
H01W2 Cape Leeuwin H 100.89 216 T T 04 21 32.5
baz=142,slow=76,SNR=7188
H01W3 Cape Leeuwin H 100.90 216 T T 04 21 31.1
baz=142,slow=76,SNR=5966
COLA College 101.06 345 IAMs_20 IAMs_20 03 07 12.0
comp=Z,30µm,20.0s
TCOL CIGO, UAF Yank 101.06 345 Pdiff **Pdif** **02 28 18.6 -1.5**
baz=149
NEA2 Nenana 101.09 344 Pdiff **Pdif** **02 28 19.3 -1.0**
baz=148
POKR Poker Plat Res 101.18 345 Pdiff **Pdif** **02 28 20.3 -0.3**
baz=149
TTA Tatalina 101.50 341 IAMs_20 IAMs_20 03 04 16.9
comp=Z,40µm,21.0s
INK Inuvik 101.71 352 P **Pdif** **02 28 22.0 -0.8**
comp=Z,10nm,1.1s,baz=139,slow=3.7,SNR=6.4
INK PP **PP** **02 32 32.4 -1.4**
comp=Z,8.6nm,1.1s,baz=159,slow=11,SNR=4.9
C36M Paulatuk 101.81 355 Pdiff **Pdif** **02 28 22.0 -1.2**
baz=169
MLY Manley 101.85 344 Pdiff **Pdif** **02 28 22.4 -1.3**
baz=146
SPIA Saint Paul Isl 102.16 331 IAMs_20 IAMs_20 03 04 44.5
comp=Z,27µm,20.0s
H07S1 FLORES T-PHASB 102.64 51 *e*PP **PKiKP** **02 32 47.1 -1.7**
H07N1 FLORES T-PHASB 102.86 51 *e*PP **PKiKP** **02 32 46.0 -3.2**
COLD Coldfoot 103.57 345 Pdiff **Pdif** **02 28 31.9 +0.7**
baz=146
COLD Coldfoot 103.57 345 IAMs_20 IAMs_20 03 14 06.2
comp=Z,27µm,19.0s
CALA Caldeira 103.91 53 *e*PP **PKiKP** **02 32 55.5 +4.3**
PCED Cedros 103.94 53 *e*PP **PKiKP** **02 32 55.1 +4.0**
PCAN Candelaria 104.00 53 *e*PP **PKiKP** **02 32 56.4 +5.1**
PICO Pico 104.06 53 *e*PP **PKiKP** **02 32 49.0 -2.4**
ROSA Rosais 104.29 53 *e*PP **PKiKP** **02 32 55.7 +3.9**
ROSA Rosais 104.29 53 *e*SS SS 02 47 47.3 +2.7
ROSA Rosais 104.29 53 *e*LQ LQ 02 58 25.6
ROSA *e*LR LR 03 04 31.5
comp=Z,9µm,23.0s
MORW Morawa 104.41 221 IAMs_20 IAMs_20 03 08 47.4
comp=Z,51µm,20.0s
A36M Sachs Harbour 104.48 355 Pdiff **Pdif** **02 28 35.0 -0.1**
baz=167
PGRA Graciosa 104.62 53 *e*PP **PP** **02 32 58.4 +2.0**
PGRA Graciosa 104.62 53 *e*SS SS 02 48 01.3 +12
PGRA Graciosa 104.62 53 *e*LQ LQ 02 58 08.3
PGRA *e*LR LR 03 04 37.3
comp=Z,4µm,21.1s
TOLK Toolik Lake Re 104.63 346 Pdiff **Pdif** **02 28 36.3 +0.4**
baz=147
ADH Angra Heroismo 104.95 54 *e*PP **PP** **02 32 59.4 +0.6**
PSCM Serra do Cume 105.05 54 *e*PP **PP** **02 32 59.5 -0.1**
PSET Sete Cidades 105.58 55 *e*PP **PP** **02 33 06.2 +2.6**
PSET Sete Cidades 105.58 55 *e*SS SS 02 48 07.6 +5.3
PSET Sete Cidades 105.58 55 *e*LQ LQ 02 58 34.2
PSET *e*LR LR 03 03 48.3
comp=Z,5µm,18.8s
PDA Ponta Delgada 105.59 55 *e*PP **PP** **02 33 02.7 -0.8**
PSMA Santa Maria 105.60 56 *e*PP PP 02 32 54.4 -9.2
KNRA Kununurra 105.60 240 IAMs_20 IAMs_20 03 11 44.3
comp=Z,51µm,21.0s
PSMN Pico do Norte, 105.65 56 *e*PP PP 02 32 54.4 -10
PSMN Pico do Norte, 105.65 56 *e*SS SS 02 47 59.8 -3.4
PSMN Pico do Norte, 105.65 56 *e*LQ LQ 02 58 25.6
PSMN *e*LR LR 03 04 14.2
comp=Z,6µm,25.4s
GRON Grota Negra 105.69 55 *e*PP **PP** **02 33 04.3 -0.1**
CMLA Cha da Macela 105.69 55 *e*PP **PP** **02 33 01.6 -2.7**
CMLA Cha da Macela 105.69 55 *e*SS SS 02 48 06.0 +2.2
CMLA Cha da Macela 105.69 55 *e*LQ LQ 02 58 48.6
CMLA *e*LR LR 03 04 05.6
comp=Z,5µm,19.6s
PCALD Caldeiras da R 105.73 55 *e*PP **PP** **02 33 02.3 -2.3**
BART Pico Bartolome 105.94 55 *e*PP **PP** **02 33 05.8 -0.5**
FITZ Fitzroy Crossi 106.24 236 PKKPbc PKKPbc 02 44 14.4 -1.6
comp=Z,2.5nm,1.1s,baz=320,slow=3.3,SNR=2.2
FITZ Fitzroy Crossi 106.24 236 IAMs_20 IAMs_20 03 12 20.1
comp=Z,34µm,20.0s
BOSA Boshof 106.49 141 PP **PP** **02 33 10.9 +1.5**
comp=Z,4.3nm,1.0s,baz=193,slow=8.3,SNR=2.4
BOSA PKKPbc **PKKPbc** **02 44 15.2 -0.5**
comp=Z,3.5nm,1.0s,baz=5.8,slow=8.6,SNR=2.1
BOSA Boshof 106.49 141 PKKPbc 02 44 14.6 -1.1
TNA Tin City 106.96 339 IAMs_20 IAMs_20 03 06 59.4
comp=Z,51µm,22.0s
GAMB Gambell 107.02 336 IAMs_20 IAMs_20 03 09 47.7
comp=Z,37µm,20.0s
DBIC Dimbokro 107.11 93 PP **PP** **02 33 15.2 +0.2**
comp=Z,9.8nm,1.0s,baz=215,slow=11,SNR=4.7
DBIC PKKPbc **PKKPbc** **02 44 14.7 +1.4**
comp=Z,2.7nm,0.9s,baz=80,slow=6.6,SNR=2.1
NRS Narsarsuaq 107.15 28 *e*PP **PP** **02 33 18.3 +3.9**
NRS IVMs_BB IVMs_BB 03 09 20.6
comp=Z,28µm,26.3s
PSAD2 Pilbara Seismi 107.60 229 IAMs_20 IAMs_20 03 10 04.9
comp=Z,55µm,21.0s
PSAC3 Pilbara Seismi 107.68 229 IAMs_20 IAMs_20 03 10 36.1
comp=Z,49µm,20.0s
PSAB3 Pilbara Seismi 107.69 229 IAMs_20 IAMs_20 03 10 36.2
comp=Z,51µm,20.0s
PSAA3 Pilbara Seismi 107.70 229 IAMs_20 IAMs_20 03 10 36.5
comp=Z,51µm,20.0s
PSAD3 Pilbara Seismi 107.70 229 IAMs_20 IAMs_20 03 10 46.5
comp=Z,51µm,21.0s
PSA00 Pilbara Seismi 107.71 229 IAMs_20 IAMs_20 03 10 37.8
comp=Z,50µm,20.0s
PSAB2 Pilbara Seismi 107.71 229 IAMs_20 IAMs_20 03 10 36.8
comp=Z,50µm,20.0s
PSAA1 Pilbara Seismi 107.71 229 IAMs_20 IAMs_20 03 10 07.8
comp=Z,53µm,21.0s
PSAA2 Pilbara Seismi 107.71 229 IAMs_20 IAMs_20 03 10 07.9
comp=Z,52µm,21.0s
PSAB1 Pilbara Seismi 107.72 229 IAMs_20 IAMs_20 03 10 37.2
comp=Z,50µm,20.0s
SAUI Saumlaki 108.51 248 IAMs_20 IAMs_20 03 17 36.6
comp=Z,46µm,20.0s
SFJD Kangerlussuaq 108.91 21 IAMs_20 IAMs_20 03 16 05.9
comp=Z,23µm,20.0s
SFJD Kangerlussuaq 108.91 21 *e*PP **PP** **02 33 21.0 -6.2**
SFJD IAMs_20 IAMs_20 03 12 08.2
comp=Z,4µm,26.9s
TSUM Tsumeb 108.93 129 IAMs_20 IAMs_20 03 12 56.1
comp=Z,28µm,18.0s
PMOZ Porto Moniz, M 109.47 63 *e*PP **PP** **02 33 37.1 +4.9**
PMOZ Porto Moniz, M 109.47 63 *e*SS SS 02 49 09.6 +14
PMOZ Porto Moniz, M 109.47 63 *e*LQ LQ 02 59 53.3
PMOZ *e*LR LR 03 06 50.6
comp=Z,22µm,24.0s
ILULI Ilulissat 110.17 19 *i* PP **PP** **02 33 38.4 +2.2**
ILULI IAMs_20 IAMs_20 03 15 28.8
comp=Z,88µm,21.2s
PMPST Porto Santo, M 110.23 63 *e*PP **PP** **02 33 40.3 +2.7**
FAKI Fak Fak 110.78 252 IAMs_20 IAMs_20 03 13 58.7
comp=Z,34µm,22.0s
NUUG Nuugaatsiaq 111.10 17 *e*PP **PP** **02 33 41.8 -1.1**
NUUG IAMs_20 IAMs_20 03 16 54.6
comp=Z,112µm,19.3s
UPNV Upernavik 111.24 15 *e*PP **PP** **02 33 41.1 -2.8**
UPNV IAMs_20 IAMs_20 03 16 38.6
comp=Z,80µm,21.0s
TULEG Thule 111.70 10 *e*PP **PP** **02 33 51.5 +4.4**
TULEG IAMs_20 IAMs_20 03 14 24.8
comp=Z,133µm,26.2s
ISOQ Isortoq, Green 111.98 25 *e*PP **PP** **02 33 50.1 +0.8**
ISOG IAMs_20 IAMs_20 03 13 47.1
comp=Z,79µm,23.8s
ANGG Ammassalik, Gr 112.50 25 *i* PP **PP** **02 33 50.1 -2.9**
ANGG IAMs_20 IAMs_20 03 13 37.8
comp=Z,108µm,22.2s
SIJI Sorong 112.77 254 PP **PP** **02 33 55.8 0.0**
comp=Z,8.3nm,0.4s,baz=139,slow=8.4,SNR=1.2
BATI Baumata 112.92 241 PP **PP** **02 33 58.7 +2.1**
comp=Z,19nm,0.4s,baz=91,slow=6.1,SNR=1.6
ICESG Greenland Ices 113.50 22 *i* PP **PP** **02 34 01.2 +0.6**
MATP Matopo 114.76 138 PKKPbc PKKPbc 02 43 46.8 -2.0
comp=Z,3.2nm,1.0s,baz=36,slow=3.3,SNR=3.0
MMRI Maumere 115.01 241 IAMs_20 IAMs_20 03 18 43.6
comp=Z,38µm,20.0s
PET Petropavlovsk 115.31 318 *e*P **Pdif** **02 29 31.1 +7.4**
PET *i* 02 34 12.2
PET *e* 02 40 06.8
PET *e*PS **PKKPbc** **02 43 44.6 -2.7**
PET *e*SS SS 02 50 03.5 -8.4
PET pmax pmax
comp=Z,1µm,16.2s
PET Petropavlovsk 115.31 318 IAMs_20 IAMs_20 03 11 05.7
comp=Z,30µm,21.0s
SUMG Summit 115.48 19 *e*PP **PP** **02 34 11.2 -3.3**
SUMG IAMs_20 IAMs_20 03 20 03.4
comp=Z,202µm,18.3s
PEA0B Petropavlovsk- 115.88 318 *i* PKIKP **PKiKP** **02 33 13.6 +0.5**
PEA0B Petropavlovsk- 115.88 318 IAMs_20 IAMs_20 03 13 19.8
comp=Z,24µm,21.0s
PETK Petropavlovsk- 115.88 318 PKP **PKPdf** **02 33 11.6 -1.5**
comp=Z,5.8nm,1.0s,baz=110,slow=6.3,SNR=2.7
PETK PP **PP** **02 34 15.7 -1.8**
comp=Z,11nm,1.1s,baz=109,slow=6.2,SNR=2.5
PETK Petropavlovsk- 115.88 318 **PKPdf** **02 33 12.7 -0.4**
PETK **PP** **02 34 15.9 -1.5**
TOC5 Torodi Ar. Sit 115.92 91 IAMs_20 IAMs_20 03 21 05.5
comp=Z,26µm,21.0s
TOB4 Torodi Ar. Sit 115.93 91 IAMs_20 IAMs_20 03 17 27.9
comp=Z,35µm,22.0s
TOB5 Torodi Ar. Sit 115.93 90 IAMs_20 IAMs_20 03 17 28.0
comp=Z,38µm,22.0s
TOC4 Torodi Ar. Sit 115.93 91 IAMs_20 IAMs_20 03 17 28.0
comp=Z,34µm,22.0s
TOC7 Torodi Ar. Sit 115.94 90 IAMs_20 IAMs_20 03 17 28.1
comp=Z,36µm,22.0s
TOA3 Torodi Ar. Sit 115.94 91 IAMs_20 IAMs_20 03 17 29.1
comp=Z,34µm,22.0s
TOA0 Torodi Ar. Sit 115.94 90 **PKPdf** **02 33 12.7 -1.7**
TOA0 IAMs_20 IAMs_20 03 17 28.2
comp=Z,35µm,22.0s
TORD Torodi Ar. Bea 115.94 90 Pdiff **Pdif** **02 29 26.3 -1.1**
comp=Z,1.3nm,1.1s,baz=250,slow=4.4,SNR=6.5
TORD PP **PKPdf** **02 33 13.0 -1.4**
comp=Z,19nm,1.0s,baz=282,slow=1.5,SNR=16
TORD PP **PP** **02 34 18.6 +0.1**
comp=Z,19nm,1.2s,baz=244,slow=5.0,SNR=5.4
TORD PKKPbc **PKKPbc** **02 43 42.6 -1.7**
comp=Z,2.3nm,1.0s,baz=51,slow=2.2,SNR=4.9
TORD SKKPbc SKKPbc 02 47 27.1 -3.6
comp=Z,2.1nm,1.0s,baz=94,slow=3.0,SNR=4.4
TORD Torodi Ar. Bea 115.94 90 **PKPdf** **02 33 12.8 -1.6**
TOB3 Torodi Ar. Sit 115.95 91 IAMs_20 IAMs_20 03 17 16.3
comp=Z,33µm,22.0s
TOA2 Torodi Ar. Sit 115.95 91 IAMs_20 IAMs_20 03 17 16.4
comp=Z,35µm,22.0s
TOB1 Torodi Ar. Sit 115.95 90 IAMs_20 IAMs_20 03 17 28.4
comp=Z,36µm,22.0s
TOC3 Torodi Ar. Sit 115.96 91 IAMs_20 IAMs_20 03 17 28.7
comp=Z,35µm,22.0s
TOC1 Torodi Ar. Sit 115.96 90 IAMs_20 IAMs_20 03 17 29.1
comp=Z,42µm,22.0s
TOC2 Torodi Ar. Sit 115.97 91 IAMs_20 IAMs_20 03 17 28.3
comp=Z,36µm,22.0s
SKR Severo-Kuril's 115.98 315 *i* PKIKP **PKiKP** **02 33 19.6 +6.2**
SKR *e* 02 34 16.9
SKR *e*PPP PPP 02 36 51.7
SKR pmax pmax
comp=Z,2µm,5.6s
SKR MLR MLR
comp=Z,4µm,14.0s
BILL Bilibino 116.92 335 *i* PKIKP **PKPdf** **02 33 14.3 -0.4**
AVE Averroes 117.15 66 PKP **PKiKP** **02 33 19.9 +3.7**
AVE Averroes 117.15 66 PS PS 02 44 04.9 -5.5
PFVI Vila Bisbo 117.48 62 *e*PP PP 02 34 33.0 +4.0
PFVI Vila Bisbo 117.48 62 IAMs_20 IAMs_20 03 20 00.0
comp=Z,22µm,20.0s
MORF Marmelete 117.68 62 *e*Pdif **Pdif** **02 29 35.1 +0.4**

MORF ePP PP 02 34 30.0 -0.5
MORF eSS SS 02 50 43.3 -0.4
MORF AMS AMS 03 15 02.5
comp=Z,26µm,27.1s
MORF Marmelete 117.68 62 eP **Pdif 02 29 35.1 +0.4**
MORF e 02 34 29.9
MORF Marmelete 117.68 62 ePP PP 02 34 21.4 -9.0
PTEO Sao Teotonio 117.71 61 eP PP 02 34 16.8 -14
PMAFR Mafra 117.79 60 eP PP 02 34 35.9 +4.8
LIS Lisbon 117.80 60 ePdif **Pdif 02 29 36.0 +0.8**
LIS eP **PP 02 34 30.9 -0.3**
LIS eSS SS 02 50 44.6 -0.6
LIS AMS AMS 03 15 19.7
comp=Z,26µm,23.5s
LIS Lisbon 117.80 60 eP **Pdif 02 29 35.9 +0.8**
LIS e 02 34 30.9
LIS Lisbon 117.80 60 ePKPdf PKiKP 02 33 26.5 +9.2
LIS Lisbon 117.80 60 ePP PP 02 34 35.8 +4.6
PNCL Nicolau / Gran 118.05 61 ePKPdf **PKiKP 02 33 20.9 +3.1**
PNCL Nicolau / Gran 118.05 61 ePP PP 02 34 37.5 +4.6
PBDV Barranco-do-Ve 118.19 62 ePKPdf **PKiKP 02 33 22.0 +3.8**
PBDV Barranco-do-Ve 118.19 62 ePP PP 02 34 38.9 +4.9
PCVE Castro Verde 118.25 61 ePKPdf **PKiKP 02 33 21.3 +3.1**
PCVE Castro Verde 118.25 61 ePP PP 02 34 39.5 +5.2
PSBE So Bento 118.34 59 ePP PP 02 34 39.5 +4.6
PVAQ Vaqueiros 118.41 62 ePKPdf **PKiKP 02 33 22.1 +3.6**
PVAQ Vaqueiros 118.41 62 ePP PP 02 34 40.5 +5.1
PVAQ Vaqueiros 118.41 62 eSS SS 02 51 05.4 +12
PVAQ Vaqueiros 118.41 62 eLQ LQ 03 02 15.4
PVAQ eLR LR 03 10 35.5
comp=Z,27µm,24.0s
PVAQ Vaqueiros 118.41 62 IAMs_20 IAMs_20 03 16 42.5
comp=Z,29µm,22.0s
PBEJ Beja 118.51 61 ePKPdf **PKPdf 02 33 17.4 -1.3**
PBEJ Beja 118.51 61 ePP PP 02 34 14.8 -21
EVO Evora 118.58 61 PKP **PKiKP 02 33 22.8 +4.0**
EVO Evora 118.58 61 PS PS 02 44 25.6 +2.5
EVO Evora 118.58 61 ePKPdf **PKiKP 02 33 22.2 +3.4**
EVO Evora 118.58 61 ePP PP 02 34 41.5 +4.9
LSZ Lusaka 118.60 134 IAMs_20 IAMs_20 03 15 22.3
comp=Z,31µm,22.0s
PMTG Montargil 118.60 60 ePP PP 02 34 41.9 +5.2
PCAS Casmilo, Conde 118.73 59 ePKPdf **PKiKP 02 33 22.4 +3.3**
PCAS Casmilo, Conde 118.73 59 ePP PP 02 34 42.2 +4.6
COI Coimbra 118.85 59 ePP PP 02 34 40.3 +1.9
IFR Ifrane 119.00 67 PKP **PKiKP 02 33 21.8 +1.7**
MDT Midelt 119.16 68 PKKPab PKKPab 02 43 35.3 +0.7
comp=Z,2.6nm,1.1s,baz=24,slow=3.5,SNR=3.6
SFS San Fernando 119.22 63 PKP **PKiKP 02 33 22.1 +2.0**
SFS San Fernando 119.22 63 PS PS 02 44 31.3 +2.4
KAPI Kappang 119.24 242 PKP **PKPdf 02 33 20.5 -0.3**
comp=Z,19nm,0.9s,baz=199,slow=2.7,SNR=5.3
KAPI Kappang 119.24 242 PKPdf **PKiKP 02 33 21.0 +0.1**
PVIS Viseu 119.39 58 ePKPdf **PKiKP 02 33 22.3 +1.9**
PVIS Viseu 119.39 58 ePP PP 02 34 46.1 +3.9
PCBR Castelo Branco 119.40 59 ePKPdf **PKiKP 02 33 23.8 +3.4**
PCBR Castelo Branco 119.40 59 ePP PP 02 34 46.4 +4.1
PGAV Gavieira, Arco 119.51 57 ePP PP 02 34 46.1 +3.0
PGAV Gavieira, Arco 119.51 57 eSS SS 02 51 14.8 +7.4
PGAV Gavieira, Arco 119.51 57 eLQ LQ 03 04 39.5
PGAV eLR LR 03 11 29.7
comp=Z,17µm,20.0s
PCAB Cabril 119.61 57 ePKPdf **PKiKP 02 33 24.3 +3.5**
CEU Ceuta 119.66 64 PKP **PKiKP 02 33 23.6 +2.6**
CEU Ceuta 119.66 64 PS PS 02 44 28.6 -4.3
MVO Moncorvo 120.15 58 ePKPdf **PKiKP 02 33 22.6 +0.7**
MVO Moncorvo 120.15 58 ePP PP 02 34 49.7 +2.2
MVO Moncorvo 120.15 58 eSS SS 02 51 23.6 +8.0
MVO Moncorvo 120.15 58 eLQ LQ 03 04 50.6
MVO eLR LR 03 11 54.0
comp=Z,19µm,24.0s
PVLZ Peæn de 120.23 65 PKP **PKiKP 02 33 22.7 +0.6**
PVLZ Peæn de 120.23 65 PKP **PKiKP 02 33 22.7 +0.6**
PVLZ Peæn de 120.23 65 PS PS 02 44 31.1 -6.9
YUK Yuzh-Kuril'sk 120.53 305 *i* P **Pdif 02 29 44.5 -2.6**
YUK *e* 02 34 45.5
YUK *i* PS **PS 02 44 44.2 +3.7**
YUK *i* SS SS 02 51 29.8 +10
PBRG Braganca 120.55 57 ePP PP 02 34 52.7 +2.5
EMAL Malaga-Limoner 120.66 64 PKP **PKiKP 02 33 24.3 +1.3**
EMAL Malaga-Limoner 120.66 64 PS PS 02 44 38.7 -3.2
JAGI Jajag, Banyuwa 120.92 235 **PKiKP 02 33 24.3 +0.1**
JAGI IAMs_20 IAMs_20 03 21 56.0
comp=Z,21µm,20.0s
DBG Daneborg 120.97 19 ePP PP 02 35 00.3 +8.3
DBG IAMs_20 IAMs_20 03 23 06.7
comp=Z,80µm,18.5s
SEY Seymchan 121.20 328 PKP **PKPdf 02 33 22.4 -0.6**
comp=Z,4.2nm,0.3s,baz=134,slow=19,SNR=7.8
SEY PP **PP 02 34 53.0 -0.9**
comp=Z,2.4nm,0.3s,baz=97,slow=8.9,SNR=1.8
SEY PKKPbc **PKKPbc 02 43 27.0 +0.8**
comp=Z,4.3nm,0.8s,baz=343,slow=5.7,SNR=3.4
SEY Seymchan 121.20 328 *i* PKIKP **PKiKP 02 33 23.7 +0.5**
MELI Melilla 121.32 66 PKP **PKiKP 02 33 25.2 +0.9**
MELI Melilla 121.32 66 PS PS 02 44 41.8 -6.0
MA2 Magadan 121.33 324 PP PP 02 34 53.9 -1.1
comp=Z,5.7nm,0.4s,baz=107,slow=9.6,SNR=1.5
MA2 Magadan 121.33 324 *i* PKIKP **PKPdf 02 33 23.0 -0.4**
MA2 pmax pmax
comp=Z,18nm,1.1s
DAG Danmarks Havn 121.68 16 ePP PP 02 34 56.6 -0.2
DAG IAMs_20 IAMs_20 03 23 53.7
comp=Z,80µm,20.8s
ERM Erimo 121.85 302 PKIKP **PKiKP 02 33 25.7 +0.6**
ERM Erimo 121.85 302 PKPdf **PKiKP 02 33 25.7 +0.6**
ES16 SONSECA Array 121.91 60 IAMs_20 IAMs_20 03 17 26.0
comp=Z,27µm,22.0s
ESDC Sonseca Array 121.93 60 PKP **PKPdf 02 33 24.4 -0.9**
comp=Z,24nm,1.0s,baz=291,slow=2.3,SNR=22
ESDC PP **PP 02 34 59.5 -0.2**
comp=Z,26nm,1.2s,baz=251,slow=6.7,SNR=8.4
ESDC Sonseca Array 121.93 60 PKPdf **PKPdf 02 33 23.9 -1.4**
ES12 SONSECA Array 121.93 60 IAMs_20 IAMs_20 03 17 26.0
comp=Z,27µm,21.0s
ES11 SONSECA Array 121.95 60 IAMs_20 IAMs_20 03 17 27.2
comp=Z,31µm,22.0s
NOR Nord 122.36 10 *i* PP PP 02 35 03.0 +1.6
NOR IAMs_20 IAMs_20 03 20 55.3
comp=Z,97µm,25.3s
UCM Universidad Co 122.64 60 PKP **PKiKP 02 33 31.3 +4.5**
UCM Universidad Co 122.64 60 PS PS 02 44 45.3 -14
ASAJ Asahikawa 122.81 305 PKP **PKPdf 02 33 25.9 -0.9**
comp=Z,4.8nm,0.3s,baz=221,slow=9.4,SNR=4.4
ASAJ PP **PP 02 35 04.7 -0.8**
comp=Z,3.8nm,0.3s,baz=82,slow=6.7,SNR=1.4
YSS Yuzh-Sakhalins 123.40 308 eP **Pdif 02 30 08.3 +8.5**
YSS *i* 02 33 28.8
YSS ePS PS 02 45 08.8 +2.9
YSS ePPS PPS 02 46 32.0
YSS eSS SS 02 52 07.2 +11
YSS pmax pmax
comp=Z,40nm,1.8s
ODJA Bouhanifia 123.49 66 P **PKiKP 02 33 31.0 +2.3**
CART Cartagena 123.52 64 PKP **PKiKP 02 33 29.2 +0.6**
CCA1 Carnmenellis 123.69 48 eP PKPpre 02 33 21.6
CCA1 IAMs_20 IAMs_20 03 13 36.2
comp=Z,62µm,37.1s
UGM Wanagama 123.79 232 IAMs_20 IAMs_20 03 19 58.0
comp=Z,43µm,21.0s
MJAR Matsushiro Arr 123.93 295 PKP **PKPdf 02 33 27.7 -1.5**
comp=Z,9.6nm,1.0s,baz=156,slow=2.2,SNR=10
MJAR Matsushiro Arr 123.93 295 **PKiKP 02 33 29.7 +0.3**
MAJO Matsushiro 123.93 295 PKIKP **PKiKP 02 33 29.8 +0.3**
MAJO Matsushiro 123.93 295 PKPdf **PKiKP 02 33 29.8 +0.3**
MAJO Matsushiro 123.93 295 IAMs_20 IAMs_20 03 33 31.1
comp=Z,22µm,22.0s
MAT Matsushiro 123.93 295 P **Pdif 02 30 04.3 +1.8**
MAT eS **Pdif 02 30 08.2 +5.7**
MAT Matsushiro 123.93 295 P **Pdif 02 30 05.2 +2.7**
MAT eS **Pdif 02 30 09.0 +6.5**
MAT Matsushiro 123.93 295 PKP **PKPdf 02 33 27.3 -1.9**
MJB9 Matsu-Tunnel 123.94 295 IAMs_20 IAMs_20 03 33 20.1
comp=Z,26µm,22.0s
CLGH Cloghs, Cushen 124.03 42 eP PKPpre 02 33 20.9
CLGH IAMs_20 IAMs_20 03 14 15.7
comp=Z,68µm,37.1s
LEWI Lewis, Hebride 124.05 38 eP PKPpre 02 33 22.7
LEWI IAMs_20 IAMs_20 03 14 18.3
comp=Z,61µm,39.9s
JMIC Jan Mayen 124.20 23 ePKPdf **PKiKP 02 33 29.5 +0.6**
JMIC IVmB_BB 02 33 33.3
comp=Z,4µm,3.6s

JMIC ePP **PP 02 35 12.9 -1.0**
JMIC eSP SP 02 45 10.2 -0.4
JMIC eSS **SS 02 52 00.9 -4.4**
JMIC IVMs_BB IVMs_BB 03 17 22.2
comp=Z,16µm,32.2s
OJGS Djebel Guires 124.24 67 P **PKiKP 02 33 35.0 +4.8**
TYV Tymovskoe 124.27 313 ePKIKP **PKiKP 02 33 32.2 +2.6**
TYV pmax pmax
comp=Z,800nm,5.0s
TYV pmax pmax
comp=Z,24nm,1.7s
HTL Hartland 124.30 47 eP PKPpre 02 33 22.9
HTL IAMs_20 IAMs_20 03 15 18.3
comp=Z,50µm,31.4s
OKGL Djebel Kef Gue 124.32 66 P **PKiKP 02 33 36.0 +5.7**
KSMZ Kasama 124.41 133 *i* P PKPpre 02 33 21.3
KPL Plockton 124.59 39 eP PKPpre 02 33 21.8
KPL IAMs_20 IAMs_20 03 14 33.7
comp=Z,75µm,37.3s
LAWE Loch Awe, Argy 124.59 41 eP PKPpre 02 33 22.6
LAWE IAMs_20 IAMs_20 03 14 31.9
comp=Z,70µm,36.6s
IOMK Kirk Michael 124.79 43 eP PKPpre 02 33 24.0
IOMK IAMs_20 IAMs_20 03 14 40.8
comp=Z,137µm,36.1s
SJPF Ste Jean 124.83 57 ePKIKP **PKiKP 02 33 31.3 +0.3**
SJPF pmax pmax
comp=Z,131nm,1.2s
ABPO Ambohimpanom 124.85 155 PKIKP **PKPdf 02 33 31.8 0.0**
ABPO Ambohimpanom 124.85 155 PKPdf **PKPdf 02 33 31.8 0.0**
XMIS Christmas Isla 124.95 226 IAMs_20 IAMs_20 03 22 44.7
comp=Z,23µm,20.0s
PGBU Glenifferbraes 125.05 41 eP PKPpre 02 33 24.7
PGBU IAMs_20 IAMs_20 03 14 45.8
comp=Z,66µm,34.2s
OPO Ambohidratompo 125.25 154 PKP **PKPdf 02 33 32.6 +0.1**
comp=Z,11nm,1.0s,baz=254,slow=1.8,SNR=4.3
OPO PP **PP 02 35 22.5 +1.7**
comp=Z,3.5nm,0.9s,baz=140,slow=4.1,SNR=1.4
ETSF Etsaut 125.26 58 ePKIKP **PKiKP 02 33 32.2 +0.2**
ETSF pmax pmax
comp=Z,94nm,1.4s
INVG Invergeldie, C 125.36 41 eP PKPpre 02 33 23.9
INVG IAMs_20 IAMs_20 03 15 06.4
comp=Z,68µm,37.3s
MCH1 Michaelchurch 125.39 46 eP PKPpre 02 33 25.4
MCH1 IAMs_20 IAMs_20 03 14 15.8
comp=Z,43µm,37.6s
FOEL Foel Wylfa 125.40 45 eP PKPpre 02 33 24.3
FOEL IAMs_20 IAMs_20 03 15 02.9
comp=Z,58µm,38.8s
JSA Saint Aubin 125.45 50 eP PKPpre 02 33 25.4
JSA IAMs_20 IAMs_20 03 17 02.1
comp=Z,25µm,25.8s
MONM Monmouth 125.48 46 eP PKPpre 02 33 25.1
HLM1 Long Mynd 125.54 46 eP PKPpre 02 33 24.1
HLM1 IAMs_20 IAMs_20 03 15 07.7
comp=Z,46µm,34.7s
OLDB Oldbury-Upon-S 125.61 47 eP PKPpre 02 33 23.9
OLDB IAMs_20 IAMs_20 03 15 54.8
comp=Z,54µm,35.1s
KESW Keswick, Cumbr 125.68 43 eP PKPpre 02 33 25.1
KESW IAMs_20 IAMs_20 03 15 15.3
comp=Z,60µm,35.3s
ESK Eskdalemuir 125.71 42 eP PKPpre 02 33 25.1
ESK IAMs_20 IAMs_20 03 15 03.9
comp=Z,64µm,36.7s
EDI Edinburgh 125.79 41 eP PKPpre 02 33 24.4
EDI IAMs_20 IAMs_20 03 15 05.3
comp=Z,71µm,37.7s
NKL Nikolayevsk 125.84 315 *i* PKIKP **PKPdf 02 33 32.0 -0.2**
NKL *e* 02 35 23.4
NKL eSS SS 02 52 24.3 -2.6
NKL eSSS SSS 02 57 04.8
STRD Stroud 125.87 47 eP PKPpre 02 33 25.4
STRD IAMs_20 IAMs_20 03 16 03.5
comp=Z,43µm,29.5s
GRR Gorron 126.16 51 ePKIKP **PKiKP 02 33 35.7 +2.2**
GRR pmax pmax
comp=Z,222nm,1.4s
DRUM Mains of Drumt 126.27 40 eP PKPpre 02 33 24.9
DRUM IAMs_20 IAMs_20 03 15 18.9
comp=Z,71µm,38.3s
LBWR Ladybower, Pea 126.35 45 eP PKPpre 02 33 26.0
LBWR IAMs_20 IAMs_20 03 15 29.6
comp=Z,55µm,35.9s
EDMD Edmundbyers 126.37 43 eP PKPpre 02 33 25.8
EDMD IAMs_20 IAMs_20 03 15 22.6
comp=Z,53µm,38.2s
HPK Haverah Park 126.47 44 eP PKPpre 02 33 26.0
HPK IAMs_20 IAMs_20 03 15 29.9
comp=Z,57µm,34.0s
LEM Lembang 126.51 230 PKP **PKiKP 02 33 35.4 -0.1**
comp=Z,121nm,1.2s,baz=270,slow=3.0,SNR=1.7
CWF Charnwood Fore 126.52 45 eP PKPpre 02 33 26.4
CWF IAMs_20 IAMs_20 03 15 36.9
comp=Z,45µm,33.3s
GDLE Glaisdale, N Y 126.99 43 eP PKPpre 02 33 28.1
GDLE IAMs_20 IAMs_20 03 15 40.6
comp=Z,66µm,40.3s
HMNX Herstmonceux 127.30 48 eP PKPpre 02 33 28.2
HMNX IAMs_20 IAMs_20 03 15 34.9
comp=Z,56µm,32.2s
KBS Kingsbay 127.63 12 ePKPdf **PKiKP 02 33 37.1 +1.5**
KBS IVmB_BB 02 33 40.0
comp=Z,1µm,5.5s
KBS *e* PP **PP 02 35 37.6 +1.1**
KBS eSP SP 02 45 38.3 -2.0
KBS eSS **SS 02 52 45.3 -2.7**
KBS IVMs_BB IVMs_BB 03 24 00.7
comp=Z,17µm,22.6s
KBS Kingsbay 127.63 12 ePP PP 02 35 40.7 +4.2
KBS IVMs_BB IVMs_BB 03 24 00.5
comp=Z,39µm,22.2s
ELSH Elham, Standar 127.83 48 eP PKPpre 02 33 29.3
ELSH IAMs_20 IAMs_20 03 15 49.6
comp=Z,53µm,32.3s
SET Setif 128.06 67 P **PKiKP 02 33 38.0 +0.2**
DFRA Djebel Bou Aff 128.52 67 P **PKiKP 02 33 41.6 +2.9**
AVF Avril sur Loir 128.73 53 ePKIKP **PKiKP 02 33 40.3 +1.7**
AVF pmax pmax
comp=Z,66nm,1.3s
SPA0 Spitsbergen Ar 128.77 12 ePKPdf **PKPdf 02 33 35.0 -2.2**
SPA0 IVmB_BB 02 33 43.0
comp=Z,2µm,3.5s
SPA0 *e* PP **PP 02 35 41.1 -2.9**
SPA0 ePS PS 02 45 52.7 +0.5
SPA0 IVMs_BB IVMs_BB 03 23 13.5
comp=Z,17µm,24.8s
CASM Ain Smara 128.92 67 P **PKiKP 02 33 41.8 +2.3**
LOR Lormes 129.14 53 ePKIKP **PKiKP 02 33 39.6 +0.1**
LOR pmax pmax
comp=Z,137nm,1.6s
CKFL Kef-Lekhel 129.14 67 P **PKiKP 02 33 42.0 +2.0**
HSPB Hornsund (broa 129.19 14 ePKiKP **PKiKP 02 33 41.6 +2.9**
HSPB eP PP **PP 02 35 51.0 +4.2**
HSPB eL L 03 24 20.8
comp=Z,84µm,23.8s
HSPB Hornsund (broa 129.19 14 *i* PKIKP **PKiKP 02 33 41.6 +2.9**
HSPB *e* 02 35 51.0
TGY Tagaytay City 129.51 262 PKP **PKPdf 02 33 40.3 -0.2**
comp=Z,117nm,0.3s,baz=290,slow=2.8,SNR=5.4
CMAH Djebel Manchou 129.74 67 P **PKiKP 02 33 43.0 +1.9**
TIXI Tiksi 129.74 339*c* *i* PKIKP **PKPdf 02 33 37.0 -2.2**
TIXI Tiksi 129.74 339 PKPdf **PKPdf 02 33 37.9 -1.2**
SNF Seneffe 129.76 49 PKPdf **PKPdf 02 33 39.9 +0.1**
SNF PKIKP **sPKPdf 02 33 43.0 +2.3**
UCC Uccle 129.83 48 PKPdf **PKPdf 02 33 38.8 -1.1**
UCC PKiKP **sPKPdf 02 33 42.9 +2.1**
UCC x 02 33 52.4
DOU Dourbes 129.93 49 PKPdf **PKPdf 02 33 40.3 +0.2**
DOU PKiKP **sPKPdf 02 33 43.2 +2.2**
SUE Sulen 130.03 35 ePKPdf **PKiKP 02 33 41.2 +0.5**
SUE ePP PP **02 35 53.0 +0.3**
SUE eSKPdf SKPbc 02 37 09.1 +5.7
SUE eSP **SP 02 46 01.8 -0.2**
SUE eSS **SS 02 53 17.9 -0.4**
SUE IVMs_BB IVMs_BB 03 18 32.9
comp=Z,16µm,23.0s
BMRD Maredsous 130.05 49 PKPdf **PKiKP 02 33 41.4 +0.3**
BMRD PKiKP **sPKPdf 02 33 43.0 +1.7**
BMRD x x 02 33 51.6
FOO Floro 130.12 34 ePKPdf **PKiKP 02 33 41.1 +0.2**
FOO ePP **PP 02 35 54.6 +1.4**

FOO eSKPdf **SKPdf 02 37 11.7 -4.4**
FOO eSP **SP 02 46 00.3 -2.4**
FOO eSS **SS 02 53 16.4 -3.0**
FOO IVMs_BB IVMs_BB 03 17 15.8
comp=Z,18µm,40.2s
VLA Vladivostok 130.21 301 *i* PKIKP **PKPdf 02 33 41.0 +0.1**
VLA pmax pmax
comp=Z,27nm,0.9s
BGES Gesves 130.26 49 PKPdf **PKPdf 02 33 41.0 +0.2**
BGES PKiKP **sPKPdf 02 33 43.0 +1.4**
BGES x x 02 33 54.8
ASK Askoy 130.29 36 ePKPdf **PKiKP 02 33 41.6 +0.4**
USA0B Ussuriysk Arra 130.30 303 *i* PKIKP **PKPdf 02 33 38.0 -3.1**
USRK Ussuriysk Ar. 130.30 303 PKP **PKPdf 02 33 40.2 -0.9**
comp=Z,13nm,1.1s,baz=80,slow=2.1,SNR=18
USRK PP **PP 02 35 55.0 -0.1**
comp=Z,8.7nm,1.2s,baz=90,slow=5.9,SNR=3.2
USRK Ussuriysk Ar. 130.30 303 **PKPdf 02 33 40.0 -1.0**
USRK **PP 02 35 53.5 -1.6**
RCHB Rochefort 130.34 49 PKiKP **PKiKP 02 33 43.9 +2.2**
BER Bergen 130.36 36 ePKPdf **PKiKP 02 33 41.4 0.0**
BER ePP **PP 02 35 57.3 +2.4**
BER eSKPdf **SKiKP 02 37 10.8 -7.3**
BER eSKSac **SKSac 02 40 50.5 +0.1**
BER eSP SKKPbc 02 46 02.1 -44
BER eSS **SS 02 53 22.7 +0.1**
BER IVMs_BB IVMs_BB 03 18 40.8
comp=Z,11µm,28.1s
BCLA Clavier 130.40 49 PKiKP **PKiKP 02 33 42.8 +0.9**
KMY Karmoy 130.40 37 ePKPdf **PKiKP 02 33 43.1 +1.5**
KMY ePP **PP 02 35 55.6 +0.4**
KMY eSKPdf **SKPbc 02 37 07.6 +2.8**
KMY eSP **SP 02 46 04.7 -0.6**
KMY eSS **SS 02 53 22.3 -0.8**
BSTI Sart Tilman 130.58 49 PKPdf **PKPdf 02 33 41.6 +0.2**
BSTI x x 02 33 54.8
BEBN Eben Emael 130.66 48 PKiKP **PKiKP 02 33 44.9 +2.5**
BEBN x x 02 34 13.0
BNI Bardonecchia 130.79 56 IAMs_20 IAMs_20 03 27 07.6
comp=Z,21µm,20.0s
BHOU Houvegnez 130.85 49 PKPdf **PKiKP 02 33 42.8 0.0**
BHOU x x 02 33 53.9
MEM Membach 130.86 49 PKPdf **PKiKP 02 33 42.4 -0.4**
MEM PKiKP **sPKPdf 02 33 44.9 +2.1**
MEM x x 02 33 54.4
LPG La Plagne 130.90 55 ePKIKP **PKiKP 02 33 43.7 +0.3**
LPG pmax pmax
comp=Z,291nm,1.6s
WLF Walferdange 130.90 50 PKPdf **PKiKP 02 33 42.7 -0.2**
WLF PKiKP **sPKPdf 02 33 45.5 +2.6**
WLF Walferdange 130.90 50 IAMs_20 IAMs_20 03 38 02.9
comp=Z,19µm,19.0s
BTNL Ternell 130.94 49 x **PKPdf 02 33 37.9 -4.2**
SBV Sambava 130.94 155 PKiKP **PKiKP 02 33 45.5 +1.4**
SNR=6.3
AKN Aaknes 130.97 33 ePdif **Pdif 02 30 33.8 +0.6**
AKN IVmB_BB 02 33 46.6
comp=Z,4µm,5.0s
AKN ePP **PP 02 36 05.0 +6.2**
AKN ePS PS 02 46 12.4 +0.6
AKN eSS SS 02 53 29.2 -0.8
AKN IVMs_BB IVMs_BB 03 18 49.4
comp=Z,21µm,26.6s
BLS5 Blasjo 131.01 37 ePKPdf **PKPdf 02 33 42.1 +0.2**
BLS5 ePP **PP 02 35 58.2 -0.9**
BLS5 eSKPdf **SKPab 02 37 12.1 +4.8**
BLS5 eSP **SP 02 46 06.0 -4.5**
BLS5 eSS **SS 02 53 26.8 -3.8**
BLS5 IVMs_BB IVMs_BB 03 17 58.1
comp=Z,10µm,43.2s
KEST Kesra 131.03 69 PKP **PKPdf 02 33 40.9 -2.0**
comp=Z,11nm,1.1s,baz=127,slow=5.1,SNR=4.4
KEST PP **PP 02 36 00.5 +0.3**
comp=Z,16nm,1.1s,baz=216,slow=8.3,SNR=7.8
KEST Kesra 131.03 69 IAMs_20 IAMs_20 03 25 01.4
comp=Z,25µm,22.0s
ODD1 Odda 131.05 36 ePKPdf **PKiKP 02 33 43.1 +0.1**
ODD1 ePP **PP 02 35 59.0 -0.5**
ODD1 eSKPdf **SKPdf 02 37 12.7 -5.4**
MOL Molde 131.17 33 ePKPdf **PKiKP 02 33 42.5 -0.5**
MOL ePP **PP 02 35 59.3 -0.7**
MOL eSKPdf **SKiKP 02 37 14.1 -5.7**
MOL eSP **SP 02 46 09.7 -2.0**
MOL eSS **SS 02 53 31.2 -1.1**
MOL IVMs_BB IVMs_BB 03 17 48.8
comp=Z,19µm,37.0s
BJO1 Bjornoya 131.17 16 ePdif **Pdif 02 30 35.3 +1.5**
BJO1 ePKPdf **PKiKP 02 33 42.3 -0.5**
BJO1 eSKPdf **SKPab 02 37 10.6 +3.1**
BJO1 eSS **SS 02 53 28.9 -2.7**
BJO1 IVMs_BB IVMs_BB 03 27 39.9
comp=Z,11µm,21.8s
MBAR Mbarara 131.20 124 pPKPdf pPKPdf 02 33 48.5 +3.8
MBAR Mbarara 131.20 124 *i* PKIKP **PKPdf 02 33 41.6 -2.4**
MBAR Mbarara 131.20 124 PKPdf **PKPdf 02 33 43.6 -0.3**
HOPEN Hopen 131.28 13 ePKPdf **PKiKP 02 33 43.6 +0.6**
HOPEN IVmBBB 02 33 47.9
comp=Z,2µm,4.5s
HOPEN ePP **PP 02 36 02.7 +2.4**
HOPEN eSKPdf **SKPdf 02 37 12.9 -5.0**
HOPEN eSP **SP 02 46 08.4 -3.5**
HOPEN eSS **SS 02 53 27.1 -5.8**
HOPEN IVMs_BB IVMs_BB 03 24 35.5
comp=Z,20µm,25.4s
SNART Snartemo 131.48 38 ePKPdf **PKPdf 02 33 39.8 -3.1**
SNART ePP **PP 02 36 01.7 -0.5**
YAK Yakutsk 131.68 327 PKP **PKPdf 02 33 41.8 -1.3**
comp=Z,12nm,0.3s,baz=157,slow=1.3,SNR=10
YAK Yakutsk 131.68 327 ePKIKP **PKiKP 02 33 45.9 +1.8**
YAK *e* 02 36 07.9
YAK eSS SS 02 54 06.5 +28
YAK pmax pmax
comp=Z,138nm,1.5s
YAK pmax pmax
comp=N,27nm,1.3s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=Z,813nm,3.1s
YAK Yakutsk 131.68 327 **PKPdf 02 33 41.7 -1.3**
YAK IAMs_20 IAMs_20 03 27 34.4
comp=Z,19µm,21.0s
SKAR Skarslia 131.79 35 ePKPdf **PKiKP 02 33 44.9 +0.5**
SKAR IVmBBB 02 33 49.0
comp=Z,3µm,2.8s
SKAR ePP **PP 02 36 05.9 +1.7**
SKAR eSKPdf **SKPab 02 37 14.2 +3.6**
SKAR eSP **SP 02 46 15.6 -1.7**
SKAR eSS **SS 02 53 41.6 +1.4**
SKAR IVMs_BB IVMs_BB 03 19 48.2
comp=Z,13µm,31.0s
DOMB Dombas 131.95 33 ePKPdf **PKPdf 02 33 42.1 -1.5**
DOMB ePP **PP 02 36 06.5 +1.3**
DOMB eSKPdf **SKPdf 02 37 16.6 -3.0**
DOMB eSP **SP 02 46 17.6 -0.9**
DOMB eSS **SS 02 53 45.3 +3.4**
DOMB IVMs_BB IVMs_BB 03 19 16.2
comp=Z,20µm,30.4s
MDJ Mudanjiang 132.06 303 PKP **PKiKP 02 33 47.9 +2.5**
MDJ PP **PP 02 36 05.9 -0.6**
MDJ AMB AMB
comp=Z,5µm,7.8s
MDJ LR LR
comp=Z,7µm,25.6s
MDJ LR LR
comp=Z,7µm,25.6s
MDJ LR LR
comp=Z,18µm,24.9s
KSRS Korea Array 132.12 293 PKP **PKPdf 02 33 44.5 -0.2**
comp=Z,11nm,0.9s,baz=120,slow=2.8,SNR=15
KSAR Wonju Array Be 132.15 293 PKIKP **PKPdf 02 33 44.6 -0.2**
KSAR Wonju Array Be 132.15 293 **PKPdf 02 33 44.6 -0.2**
HOMB Homborsund 132.17 38 ePKPdf **PKPdf 02 33 44.0 -0.1**
HOMB IVmB_BB 02 33 51.5
comp=Z,3µm,6.8s
HOMB ePP **PP 02 36 06.2 -0.5**
HOMB eSKPdf **SKPdf 02 37 17.1 -2.9**
HOMB eSP SKKPbc 02 46 14.0 -25
HOMB eSS **SS 02 53 40.6 -4.1**
HOMB IVMs_BB IVMs_BB 03 18 33.5
comp=Z,12µm,31.8s
BFO Black Forest 132.24 52 PKIKP **PKPdf 02 33 44.7 0.0**
BFO Black Forest 132.24 52 PKPdf **PKPdf 02 33 44.7 0.0**

LOF	**Lofoten**	**132.27**	**25**	*e*PKPdf	**PKiKP**	**02 33 44.5**	**-0.6**
LOF				IVmB_BB		02 33 48.1	
	comp=Z,3µm,4.0s						
LOF				*e*SKPdf	**SKPab**	**02 37 15.9**	**+3.6**
LOF				*e*SP	**SP**	**02 46 13.9**	**-6.9**
LOF				*e*SS	SS	02 53 34.1	-11
LOF				IVMs_BB	IVMs_BB	03 20 08.9	
	comp=Z,13µm,34.9s						
TBLU	**Trondheim**	**132.27**	**32**	*e*PKPdf	**PKiKP**	**02 33 45.4**	**+0.1**
TBLU				IVmBBB		02 33 51.7	
	comp=Z,3µm,6.4s						
TBLU				*e*PP	**PP**	**02 36 07.8**	**+0.7**
TBLU				*e*SKPdf	**SKPdf**	**02 37 16.1**	**-4.0**
TBLU				*e*SP	**SP**	**02 46 18.0**	**-3.1**
TBLU				*e*SS	**SS**	**02 53 45.2**	**-0.4**
TBLU				IVMs_BB	IVMs_BB	03 18 24.5	
	comp=Z,16µm,37.3s						
KONO	**Kongsberg**	**132.57**	**36**	IAMs_20	IAMs_20	03 26 04.0	
	comp=Z,34µm,22.0s						
KONO	**Kongsberg**	**132.57**	**36**	*e*PKPdf	**PKPdf**	**02 33 44.8**	**-0.1**
KONO				*e*PP	**PP**	**02 36 09.0**	**-0.2**
KONO				*e*SKPdf	**SKPdf**	**02 37 18.4**	**-2.4**
KONO				*e*SP	**SP**	**02 46 19.6**	**-4.4**
KONO				*e*SS	**SS**	**02 53 45.3**	**-4.2**
KONO				IVMs_BB	IVMs_BB	03 19 43.2	
	comp=Z,10µm,29.3s						
KONS	**Konsvik**	**132.63**	**27**	*e*PKPdf	**PKiKP**	**02 33 45.9**	**+0.1**
KONS				*e*SKPdf	**SKPdf**	**02 37 19.1**	**-1.5**
STOK	**Stokkvaagen**	**132.64**	**27**	*e*PP	PP	02 36 10.0	+0.7
MSSA	**Maissana**	**132.71**	**57**	IAMs_20	IAMs_20	03 23 51.5	
	comp=Z,20µm,22.0s						
NSS	**Namsos**	**132.72**	**30**	*e*PKPdf	**PKPdf**	**02 33 43.1**	**-1.9**
NSS				IVmB_BB		02 33 49.3	
	comp=Z,4µm,5.4s						
NSS				*e*PP	**PP**	**02 36 13.1**	**+3.2**
NSS				*e*SKPdf	**SKPab**	**02 37 17.6**	**+3.2**
NSS				*e*SP	**SP**	**02 46 24.8**	**-0.1**
NSS				*e*SS	**SS**	**02 53 50.6**	**-0.3**
NSS				IVMs_BB	IVMs_BB	03 18 39.4	
	comp=Z,21µm,43.8s						
TUE	**Stuetta**	**132.79**	**54**	IAMs_20	IAMs_20	03 26 26.6	
	comp=Z,26µm,21.0s						
STU	**Stuttgart**	**132.84**	**51**	IAMs_20	IAMs_20	03 29 14.4	
	comp=Z,26µm,20.0s						
HHU	**Hamhung**	**132.90**	**297**	PKPbc	**PKiKP**	**02 33 48.6**	**+1.4**
HHU				pP	**PP**	**02 36 12.6**	**+0.6**
STEI	**Steigen**	**132.94**	**25**	*e*PKPdf	**PKPdf**	**02 33 45.7**	**+0.4**
STEI				*e*PP	**PP**	**02 36 13.8**	**+2.6**
STEI				*e*SKPdf	**SKPdf**	**02 37 20.7**	**-0.4**
STEI				*e*SP	**SP**	**02 46 21.8**	**-4.7**
STEI				*e*SS	**SS**	**02 53 51.8**	**-1.6**
STEI				IVMs_BB	IVMs_BB	03 20 28.9	
	comp=Z,15µm,30.1s						
OSL	**Oslo**	**133.09**	**36**	*e*PKPdf	**PKiKP**	**02 33 47.5**	**+0.5**
OSL				IVmB_BB		02 33 53.0	
	comp=Z,4µm,6.0s						
OSL				*e*PP	**PP**	**02 36 11.7**	**-0.8**
OSL				*e*SKPdf	**SKiKP**	**02 37 19.8**	**-3.9**
OSL				*e*SP	**SP**	**02 46 23.5**	**-4.8**
OSL				*e*SS	**SS**	**02 54 00.3**	**+4.5**
OSL				IVMs_BB	IVMs_BB	03 20 13.5	
	comp=Z,12µm,25.4s						
NB2	**NORSAR Subarra1**	**133.14**	**34**	PKPdf	**PKPdf**	**02 33 45.4**	**-0.6**
	comp=Z,668nm,2.5s,baz=289,slow=1.9						
NB2	**NORSAR Subarra1**	**133.14**	**34**	PKPdf	**PKPdf**	**02 33 45.4**	**-0.6**
	baz=289,slow=1.9						
NOA	**NORSAR Array B**	**133.14**	**34**	PKP	**PKPdf**	**02 33 44.9**	**-1.0**
	comp=Z,41nm,1.3s,baz=292,slow=1.8,SNR=14						
NOA				PP	**PP**	**02 36 12.1**	**-0.7**
	comp=Z,3.6nm,1.2s,baz=284,slow=6.2,SNR=2.8						
FAUS	**Fauske**	**133.15**	**25**	*e*PKPdf	**PKiKP**	**02 33 47.0**	**+0.1**
FAUS				IVmB_BB		02 33 50.0	
	comp=Z,3µm,5.2s						
FAUS				*e*PP	**PP**	**02 36 13.5**	**+0.9**
FAUS				*e*SKPdf	**SKPdf**	**02 37 20.8**	**-0.8**
FAUS				*e*SP	**SKKPbc**	**02 46 27.8**	**-8.7**
FAUS				*e*SS	**SS**	**02 53 53.8**	**-2.2**
FAUS				IVMs_BB	IVMs_BB	03 20 17.8	
	comp=Z,20µm,28.3s						
DAVA	**Damuels**	**133.22**	**53**	*i* P	**PKiKP**	**02 33 47.5**	**-0.4**
	comp=Z,177nm,1.7s,SNR=23						
DAVA				*e*P	**PP**	**02 36 15.1**	**+1.1**
	comp=Z,44nm,1.8s						
MOR8	**Moi Rana**	**133.24**	**27**	*e*PKPdf	**PKiKP**	**02 33 46.8**	**-0.4**
MOR8				IVmB_BB		02 33 50.4	
	comp=Z,3µm,5.2s						
MOR8				*e*PP	**PP**	**02 36 13.8**	**+0.6**
MOR8				*e*SKPdf	**SKPab**	**02 37 19.2**	**+2.5**
MOR8				*e*SP	**SKKPbc**	**02 46 29.7**	**-6.4**
MOR8				*e*SS	**SS**	**02 53 57.9**	**+0.6**
MOR8				IVMs_BB	IVMs_BB	03 19 26.9	
	comp=Z,24µm,32.6s						
VLC	**Villacollemand**	**133.31**	**58**	IAMs_20	IAMs_20	03 24 29.5	
	comp=Z,18µm,22.0s						
PRMA	**PARMA**	**133.32**	**57**	IAMs_20	IAMs_20	03 26 46.7	
	comp=Z,33µm,20.0s						
NC602	**NORSAR Array S**	**133.35**	**35**	*e*PKPdf	**PKPdf**	**02 33 46.7**	**+0.4**
NC602				*e*PP	**PP**	**02 36 16.9**	**+2.8**
NC602				*e*SKPdf	**SKiKP**	**02 37 21.4**	**-2.9**
NC602				*e*SP	**SKKPbc**	**02 46 29.0**	**-6.4**
NC602				*e*SS	**SS**	**02 53 55.8**	**-3.2**
NC602				IVMs_BB	IVMs_BB	03 20 49.7	
	comp=Z,13µm,28.8s						
TRO	**Tromso**	**133.48**	**22**	*e*PKPdf	**PKPdf**	**02 33 46.7**	**+0.4**
TRO				IVmB_BB		02 33 50.3	
	comp=Z,4µm,4.1s						
TRO				*e*PP	**PP**	**02 36 17.5**	**+3.0**
TRO				*e*SKPdf	**SKiKP**	**02 37 22.8**	**-1.4**
TRO				*e*SP	**SKKPbc**	**02 46 27.2**	**-8.1**
TRO				*e*SS	**SS**	**02 54 00.8**	**+1.0**
TRO				IVMs_BB	IVMs_BB	03 22 11.1	
	comp=Z,14µm,27.3s						
SALO	**Salr**	**133.54**	**56**	IAMs_20	IAMs_20	03 36 46.5	
	comp=Z,18µm,19.0s						
ZCCA	**Zocca**	**133.75**	**57**	IAMs_20	IAMs_20	03 34 57.2	
	comp=Z,21µm,21.0s						
FETA	**Feichten**	**133.78**	**54**	*i* P	**PKiKP**	**02 33 48.4**	**-0.7**
	comp=Z,96nm,1.1s,SNR=16						
FETA				*e*P	**PP**	**02 36 17.5**	**-0.1**
	comp=Z,53nm,1.7s						
RETA	**Reutte**	**133.83**	**53**	*i* P	**PKPdf**	**02 33 47.5**	**-0.2**
	comp=Z,107nm,1.3s,SNR=18						
RETA				*e*P	**PP**	**02 36 17.8**	**0.0**
	comp=Z,27nm,1.7s						
ZEA	**Zeya**	**133.87**	**316**	*e*PKIKP	**PKPdf**	**02 33 47.6**	**+0.1**
ZEA				*e*		02 36 17.6	
ZEA				pmax	pmax		
	comp=Z,40nm,1.5s						
ZEA				pmax	pmax		
	comp=E,300nm,9.2s						
ZEA				pmax	pmax		
	comp=N,300nm,4.0s						
ZEA				pmax	pmax		
	comp=Z,2µm,8.3s						
ZEA				pmax	pmax		
	comp=E,1µm,7.9s						
ZEA				pmax	pmax		
	comp=N,600nm,6.9s						
ZEA				pmax	pmax		
	comp=Z,2µm,8.4s						
MOTA	**Moosalm**	**134.05**	**53**	*i* P	**PKPdf**	**02 33 48.1**	**-0.1**
	comp=Z,167nm,1.0s,SNR=44						
MOTA				*e*P	**PP**	**02 36 19.0**	**-0.3**
	comp=Z,63nm,2.9s						
PYS	**Pyongsong**	**134.06**	**295**	PKPbc	**PKiKP**	**02 33 52.9**	**+3.3**
PYAG	**Pyongyang**	**134.10**	**295**	PKPbc	**PKiKP**	**02 33 50.3**	**+0.6**
PYAG				pP	**PP**	**02 36 22.0**	**+2.3**
SQTA	**Sankt Quirin**	**134.12**	**54**	*i* P	**PKPdf**	**02 33 48.3**	**0.0**
	comp=Z,132nm,1.1s,SNR=39						
SQTA				*e*P	**PP**	**02 36 19.1**	**-0.6**
	comp=Z,31nm,1.4s						
GRA2	**Grafenberg Arr**	**134.28**	**50**	*e*PKPdf	**PKPdf**	**02 33 48.9**	**+0.5**
	baz=245,slow=2.2						
GRA2				*e*PP	**PP**	**02 36 18.8**	**-1.7**
GRA2				*e*L	L	03 24 60.0	
	comp=Z,18µm,22.0s						
CTI	**Castel Tesino**	**134.36**	**55**	IAMs_20	IAMs_20	03 29 56.0	
	comp=Z,19µm,21.0s						
WATA	**Walderalm**	**134.37**	**53**	*i* P	**PKPdf**	**02 33 48.6**	**-0.3**
	comp=Z,185nm,2.0s,SNR=19						
WATA				*e*P	**PP**	**02 36 23.3**	**+1.9**
	comp=Z,30nm,1.6s						
HAMF	**Hammerfest**	**134.40**	**19**	*e*PKPdf	**PKiKP**	**02 33 50.5**	**+1.1**
HAMF				*e*PP	**PP**	**02 36 19.5**	**-0.9**
HAMF				*e*SKPdf	**SKPdf**	**02 37 22.8**	**-1.0**
HAMF				*e*SP	**SP**	**02 46 37.5**	**-1.3**
HAMF				IVMs_BB	IVMs_BB	03 27 39.2	
	comp=Z,16µm,21.4s						
WTTA	**Wattenberg**	**134.41**	**53**	*i* P	**PKiKP**	**02 33 51.8**	**+1.4**
	comp=Z,225nm,1.4s,SNR=23						
WTTA				*e*P	**PP**	**02 36 22.1**	**+0.5**
	comp=Z,41nm,1.8s						
WTTA	**Wattenberg**	**134.41**	**53**	PKIKP	**PKiKP**	**02 33 52.3**	**+1.9**
CLTB	**Caltabellotta**	**134.47**	**67**	IAMs_20	IAMs_20	03 36 56.3	
	comp=Z,23µm,20.0s						
HFS	**Hagfors**	**134.52**	**35**	PKP	**PKPdf**	**02 33 48.1**	**-0.4**
	comp=Z,12nm,0.9s,baz=270,slow=1.5,SNR=8.8						
KIBK	**Kibwezi**	**134.71**	**134**	pPKPdf	pPKPdf	02 33 53.9	+2.7
	SNR=16						
MURB	**Monte Urbino**	**134.76**	**59**	IAMs_20	IAMs_20	03 39 01.1	
	comp=Z,19µm,20.0s						
CN2	**Changchun**	**134.94**	**302**	*e*PKP	**PKPdf**	**02 33 47.6**	**-2.2**
CN2				*e*PP	**PP**	**02 36 22.9**	**-2.0**
CN2				AMB	AMB		
	comp=Z,4µm,8.0s						
CN2				LR	LR		
	comp=Z,8µm,21.0s						
CN2				LR	LR		
	comp=Z,8µm,21.0s						
CN2				LR	LR		
	comp=Z,13µm,23.0s						
NKC	**Novy Kostel**	**134.97**	**49**	*e*PKPDF	**PKPdf**	**02 33 49.5**	**-0.2**
NKC				*ex*	x	02 33 59.9	
NKC				*e*PP	**PP**	**02 36 20.2**	**-4.7**
NKC				*e*SP	SP	02 46 35.7	-10
NKC				*e*SS	**SS**	**02 54 21.0**	**+1.7**
NKC				AMS	AMS	03 19 10.0	
	comp=Z,36µm,30.3s						
NKC	**Novy Kostel**	**134.97**	**49**	*e*PKIKP	**PKPdf**	**02 33 49.5**	**-0.2**
NKC				*e*		02 36 20.2	
NKC				*e*SP	SP	02 46 35.7	-10
NKC				*e*SS	**SS**	**02 54 21.0**	**+1.7**
ABTA	**Abfaltersbach**	**134.99**	**54**	*i* P	**PKPdf**	**02 33 49.1**	**-0.8**
	comp=Z,71nm,1.3s,SNR=11						
ABTA				*e*P	**PP**	**02 36 24.0**	**-1.2**
	comp=Z,52nm,1.8s						
NRCA	**Norcia**	**135.15**	**60**	IAMs_20	IAMs_20	03 29 40.4	
	comp=Z,22µm,21.0s						
KMBO	**Kilima Mbogo**	**135.16**	**132**	PKhKP	PKPpre	02 33 38.1	
	comp=Z,1.0nm,0.5s,baz=168,slow=3.0,SNR=3.3						
KMBO				PKP	**PKPdf**	**02 33 51.2**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=251,slow=1.9,SNR=3.9						
KMBO	**Kilima Mbogo**	**135.16**	**132**	pPKPdf	pPKPdf	02 33 56.9	+4.8
KMBO	**Kilima Mbogo**	**135.16**	**132**	IAMs_20	IAMs_20	03 24 47.1	
	comp=Z,34µm,22.0s						
RGN	**Rugen**	**135.22**	**43**	*e*P	**PKiKP**	**02 33 52.7**	**+1.3**
SUJ	**Sinuiju**	**135.23**	**296**	PKPbc	**PKiKP**	**02 33 53.3**	**+1.3**
SUJ				pP	PP	02 36 35.5	+8.7
CLL	**Collm**	**135.29**	**48**	*e*Pdif	**Pdif**	**02 30 53.0**	**+0.4**
CLL				*e*PKPpre	PKPpre	02 33 41.0	
CLL				*e*PKPdf	**PKPdf**	**02 33 50.0**	**-0.2**
CLL				*i* PKiKP	**sPKPdf**	**02 33 53.5**	**+2.4**
	comp=Z,1µm,2.7s						
CLL				*e*		02 34 17.0	
CLL				*e*PP	**PP**	**02 36 23.0**	**-3.8**
CLL				*e*		02 36 40.0	
CLL				*e*SKPbc	**SKPbc**	**02 37 19.0**	**-2.8**
CLL				*e*PKSdf	PKSdf	02 37 25.0	-1.3
CLL				*e*PPP	PPP	02 39 12.0	
CLL				*e*SKKSac	**SKKSac**	**02 43 18.0**	**-4.2**
CLL				*e*SSdiff		02 44 59.0	
CLL				*e*SKKPbc	**SKKPbc**	**02 46 23.0**	**-4.5**
CLL				*e*PS	PS	02 46 41.0	-8.2
CLL				*e*PPS	PPS	02 48 30.0	
CLL				*e*PPPrev		02 49 38.0	
CLL				*e*PPPPrev		02 53 12.0	
CLL				*e*SS	**SS**	**02 54 18.0**	**-4.9**
CLL				*e*SKSSKSac		02 56 24.0	
CLL				*e*SSS	SSS	02 59 13.0	
CLL				*e*		03 02 36.0	
CLL	**Collm**	**135.29**	**48**	*e*PKHKP	PKPpre	02 33 41.0	
CLL				*e*		02 33 50.0	
CLL				*i*		02 33 53.5	
RAFF	**Raffo Rosso**	**135.30**	**68**	IAMs_20	IAMs_20	03 31 28.7	
	comp=Z,19µm,20.0s						
AQU	**L'Aquila**	**135.31**	**61**	*e*P	PKPpre	02 33 44.1	
AQU	**L'Aquila**	**135.31**	**61**	IAMs_20	IAMs_20	03 26 44.9	
	comp=Z,19µm,21.0s						
ARCES	**ARCESS Array B**	**135.53**	**20**	PKP	**PKPdf**	**02 33 49.6**	**-0.6**
	comp=Z,27nm,1.2s,baz=302,slow=1.7,SNR=14						
ARCES				PP	**PP**	**02 36 29.3**	**+1.7**
	comp=Z,20nm,1.2s,baz=321,slow=8.1,SNR=4.1						
KBA	**Koelnbreinsper**	**135.57**	**54**	*i* P	**PKPdf**	**02 33 50.1**	**-1.0**
	comp=Z,62nm,1.3s,SNR=14						
KBA				*e*P	**PP**	**02 36 29.0**	**0.0**
	comp=Z,23nm,1.4s						
KBA	**Koelnbreinsper**	**135.57**	**54**	PKIKP	**PKPdf**	**02 33 50.1**	**-1.0**
INTR	**Introdacqua**	**135.65**	**61**		PKPpre	02 33 38.1	
INTR				PKPdf	**PKPdf**	**02 33 50.2**	**-1.1**
INTR				IAMs_20	IAMs_20	03 26 54.7	
	comp=Z,27µm,22.0s						
RUE	**Ruedersdorf**	**135.69**	**46**	*e*P	**PKiKP**	**02 33 52.1**	**-0.3**
RUE				*e*PP	**PP**	**02 36 26.3**	**-2.9**
KHC	**Kasperske Hory**	**135.73**	**51**	*e*PKPDF	**PKPdf**	**02 33 50.2**	**-1.0**
KHC				*ex*	x	02 34 07.1	
KHC				*e*PP	**PP**	**02 36 23.7**	**-6.0**
KHC				*e*SP	SP	02 46 38.1	-14
KHC				*e*SS	**SS**	**02 54 25.5**	**-3.0**
KHC				AMS	AMS	03 19 40.0	
	comp=Z,54µm,33.4s						
KHC	**Kasperske Hory**	**135.73**	**51**	*c* iPKIKP	**PKPdf**	**02 33 49.8**	**-1.4**
KHC				pmax	pmax		
	comp=Z,292nm,1.7s						
MYKA	**Terra Mystica**	**135.76**	**54**	*i* P	**PKPdf**	**02 33 50.2**	**-1.2**
	comp=Z,50nm,1.4s,SNR=6.7						
MYKA				*e*P	**PP**	**02 36 29.3**	**-0.7**
	comp=Z,45nm,1.6s						
GEC2	**GERESS Array S**	**135.82**	**51**	IAMs_20	IAMs_20	03 34 34.2	
	comp=Z,20µm,20.0s						
GERES	**GERESS Array B**	**135.82**	**51**	PKhKP	PKPpre	02 33 44.1	
	comp=Z,1.4nm,0.9s,baz=246,slow=2.6,SNR=6.4						
GERES				PKP	**PKPdf**	**02 33 50.6**	**-0.8**
	comp=Z,31nm,1.1s,baz=141,slow=0.6,SNR=18						
GERES				PP	**PP**	**02 36 29.5**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=266,slow=5.5,SNR=2.2						
GERES	**GERESS Array B**	**135.82**	**51**		**PKPdf**	**02 33 50.6**	**-0.8**
GERES					**PP**	**02 36 28.1**	**-2.3**
CADS	**Cadrg**	**135.82**	**55**	*i* PKPdf	**PKiKP**	**02 33 52.6**	**-0.5**
CADS				*e*PP	**PP**	**02 36 28.4**	**-2.0**
KEV	**Kevo**	**135.84**	**20**	PKIKP	**PKiKP**	**02 33 51.8**	**-0.5**
KEV	**Kevo**	**135.84**	**20**	PKPdf	**PKiKP**	**02 33 51.8**	**-0.5**
BRG	**Berggiesshubel**	**135.90**	**48**	PDIFF	**Pdif**	**02 30 56.0**	**+0.6**
BRG	**Berggiesshubel**	**135.90**	**48**	PKP	PKPdf	02 33 40.0	-11
BRG				*i*		02 33 49.5	
	comp=Z,27nm,1.3s						
BRG				*i*		02 33 55.0	
	comp=Z,474nm,2.3s						
BRG				SDIFF		02 45 05.0	
BRG				PDIFF		02 48 45.0	
BRG	**Berggiesshubel**	**135.90**	**48**	P	**Pdif**	**02 30 56.0**	**+0.6**
BRG				*i*		02 33 49.5	
BRG				*i*		02 33 55.0	
BRG				SS	SS	02 54 28.0	-2.3
BRG				pmax	pmax		
	comp=Z,27nm,1.3s						
PBCC	**Pribram**	**135.99**	**50**	*e*PKPDF	**PKPdf**	**02 33 51.5**	**-0.1**
PBCC				*ex*	x	02 34 03.4	
PBCC				*e*SP	SP	02 46 43.0	-11
PBCC				*e*SS	**SS**	**02 54 33.8**	**+2.3**
SSE	**Sheshan**	**136.01**	**283**	PKP	**PKiKP**	**02 33 55.4**	**+1.6**
SSE				PP	**PP**	**02 36 33.1**	**+1.1**
SSE				AMB	AMB		
	comp=Z,980nm,8.6s						
SSE				LR	LR		
	comp=Z,5µm,21.2s						
SSE				LR	LR		
	comp=Z,1µm,20.0s						
SNY	**Shenyang**	**136.12**	**299**	⇑PKP	PKPdf	02 33 42.9	-9.2
SNY				PP	**PP**	**02 36 33.2**	**+0.8**
BKNI	**Bangkinang**	**136.18**	**230**	IAMs_20	IAMs_20	03 29 08.3	
	comp=Z,26µm,21.0s						
MOA	**Molln**	**136.20**	**53**	*i* P	**PKPdf**	**02 33 51.9**	**-0.2**
	comp=Z,74nm,1.2s,SNR=11						
MOA				*e*P	**PP**	**02 36 31.7**	**-1.0**
	comp=Z,21nm,1.4s						
QZH	**Quanzhou**	**136.23**	**273**	PKP	**PKiKP**	**02 33 56.3**	**+1.8**
QZH				PP	**PP**	**02 36 35.3**	**+1.9**
QZH				LR	LR		
	comp=Z,5µm,20.1s						
QZH				LR	LR		
	comp=Z,9µm,20.5s						
QZH				LR	LR		
	comp=Z,13µm,20.9s						
PRA	**Prague**	**136.26**	**49**	*e*PKPDF	**PKiKP**	**02 33 52.9**	**-0.8**
PRA				*e*PP	PP	02 36 22.6	-10
PRA				*e*SKKP		02 46 21.0	
PRA				*e*SS	SS	02 54 21.1	-14
PRA				AMS	AMS	03 20 00.0	
	comp=Z,18µm,29.6s						
PRA	**Prague**	**136.26**	**49**	*e*PKIKP	**PKiKP**	**02 33 52.9**	**-0.8**
CEY	**Cerknica**	**136.28**	**56**	*e*P	PKPpre	02 33 48.3	
RIY	**Rijeka**	**136.31**	**56**	*e*P	**PKPdf**	**02 33 50.7**	**-1.6**
PVCC	**Panska Ves**	**136.32**	**49**	*e*PKPDF	**PKPdf**	**02 33 52.6**	**+0.4**
PVCC				*ex*	x	02 34 06.7	
PVCC				*e*PP	PP	02 36 22.6	-11
PVCC				*e*SP	SP	02 46 33.2	-23
PVCC				*e*SS	**SS**	**02 54 40.2**	**+4.9**
PVCC				AMS	AMS	03 19 20.0	
	comp=Z,23µm,39.4s						
PVCC	**Panska Ves**	**136.32**	**49**	*e*PKIKP	**PKPdf**	**02 33 52.6**	**+0.4**
PRU	**Pruhonice**	**136.33**	**50**	*e*PKPDF	**PKPdf**	**02 33 50.5**	**-1.7**
PRU				*e*pPKP	**sPKPdf**	**02 33 56.0**	**+2.9**
PRU				*ex*	x	02 34 04.2	
PRU				*e*PP	**PP**	**02 36 27.5**	**-5.9**
PRU				*e*SP	SP	02 46 43.0	-14
PRU				*e*SS	**SS**	**02 54 33.9**	**-1.6**
PRU				AMS	AMS	03 20 00.0	
	comp=Z,34µm,28.7s						
PRU	**Pruhonice**	**136.33**	**50**	*e*PKIKP	**PKPdf**	**02 33 50.5**	**-1.7**
PRU				*e*		02 33 56.0	
PRU				*e*		02 36 27.5	
PRU				*e*SS	SS	02 54 33.9	-1.6
LJU	**Ljubljana**	**136.36**	**55**	*e*PKPdf	**PKiKP**	**02 33 53.7**	**-0.4**
LJU				*e*PP	**PP**	**02 36 32.8**	**-0.9**
LJU				*e*SS	SS	02 54 28.1	-8.1
LJU				*e*		02 59 48.3	
LJU				*e*		03 03 17.6	
LJU				*e*		03 10 04.7	
LJU	**Ljubljana**	**136.36**	**55**	*e*P	PKPpre	02 33 44.8	
OBKA	**Obir**	**136.39**	**55**	*i* P	**PKPdf**	**02 33 52.1**	**-0.5**
	comp=Z,60nm,1.4s,SNR=6.9						
OBKA				*e*P	**PP**	**02 36 32.7**	**-1.3**
	comp=Z,34nm,1.9s						
GOPC	**GO Pecny, Ondr**	**136.49**	**50**	*e*PKPDF	**PKPdf**	**02 33 53.0**	**+0.4**
GOPC				*ex*	x	02 34 04.9	
GOPC				*e*PP	PP	02 36 20.2	-14
GOPC				*e*SP	SP	02 46 45.5	-13
GOPC				*e*SS	**SS**	**02 54 35.6**	**-1.9**
GOPC				AMS	AMS	03 20 00.0	
	comp=Z,37µm,28.8s						
GOPC	**GO Pecny, Ondr**	**136.49**	**50**	*e*PKIKP	**PKPdf**	**02 33 53.0**	**+0.4**
GOPC				*e*SS	SS	02 54 35.6	-1.9
CEL	**Celeste**	**136.67**	**67**	IAMs_20	IAMs_20	03 28 16.5	
	comp=Z,21µm,22.0s						
SOKA	**Soboth**	**136.72**	**54**	*i* P	**PKPdf**	**02 33 52.8**	**-0.4**
	comp=Z,71nm,1.3s,SNR=14						
SOKA				*e*P	**PP**	**02 36 35.9**	**-0.2**
	comp=Z,35nm,1.8s						
BOJS	**Bojanci**	**136.85**	**56**	*e*Pdiff	**Pdif**	**02 31 08.4**	**+8.7**
BOJS				*e*PKPdf	**PKiKP**	**02 33 54.8**	**-0.3**
BOJS				*i*		02 33 56.8	
BOJS				*e*		02 34 24.6	
BOJS				*e*PP	**PP**	**02 36 35.9**	**-0.9**
BOJS				*e*		02 37 05.1	
BOJS				*e*		02 45 15.4	
BOJS				*e*SP	SP	02 46 45.2	-16
BOJS				*e*PS	PS	02 46 53.0	-10
BOJS				*e*		02 48 54.6	
TREC	**Trest**	**136.98**	**51**	*e*PKPDF	**PKPdf**	**02 33 52.1**	**-1.4**
TREC				*ex*	x	02 34 06.3	
TREC				*e*PP	**PP**	**02 36 30.0**	**-7.5**
TREC				*e*SP	SP	02 46 25.9	-36
TREC				*e*SS	SS	02 54 25.4	-18
TREC				AMS	AMS	03 20 20.0	
	comp=Z,62µm,41.2s						
TREC	**Trest**	**136.98**	**51**	*e*PKIKP	**PKPdf**	**02 33 52.1**	**-1.4**
CRES	**Cresnjev**	**137.00**	**56**	*e*P	PKPpre	02 33 41.5	
ARSA	**Arzberg**	**137.06**	**54**	*e*P	**PKPdf**	**02 33 52.9**	**-0.8**
	comp=Z,98nm,1.5s						
ARSA				*e*P	**PP**	**02 36 37.8**	**-0.3**
	comp=Z,24nm,1.5s						
UPC	**Upice**	**137.24**	**49**	*e*PKPpre	PKPpre	02 33 45.4	
UPC				*e*PKPDF	pPKPdf	02 33 55.7	+1.1
UPC				*e*PP	PP	02 36 25.1	-14
UPC				*e*SP	SP	02 46 50.4	-14
UPC				*e*SS	**SS**	**02 54 53.2**	**+6.9**
UPC				AMS	AMS	03 21 00.0	
	comp=Z,23µm,30.6s						
UPC	**Upice**	**137.24**	**49**	*e*PKHKP	PKPpre	02 33 45.4	
DL2	**Dalian**	**137.26**	**294**	Pdif	**Pdif**	**02 31 13.8**	**+12**
DL2				PKP	PKPpre	02 33 43.9	
DL2				PP	**PP**	**02 36 41.2**	**+1.6**
DL2				PKS		02 37 14.7	
CHVC	**Chvalec**	**137.26**	**49**	*e*PKPpre	PKPpre	02 33 44.2	
CHVC				*e*PKPDF	**PKPdf**	**02 33 54.7**	**+0.7**
CHVC				AMS	AMS	03 21 00.0	
	comp=Z,22µm,28.8s						
CONA	**Conrad Observa**	**137.28**	**53**	*

comp=Z,17µm,21.7s
KRLC Kraliky 137.77 49 *e*PKHKP PKPpre 02 33 45.7
KRLC *e* 02 33 54.9
KRLC MLR MLR
comp=Z,17µm,21.7s
BAI Bari 137.78 63 *e*P **PKiKP 02 33 59.9 +2.8**
BEHE Becsehely 137.92 55 *e*P PKPpre 02 33 47.9
ZST Bratislava 138.10 52 *e*PKIKP **PKiKP 02 33 56.7 -0.9**
ZST *e* 02 36 44.1
ZST Bratislava 138.10 52 *e* **PKiKP 02 33 56.7 -0.9**
ZST *e*PP **PP 02 36 44.1 -0.4**
ZST *e*SS SS 02 55 14.8 +18
ZST *e* 03 00 20.6
NJ2 Nanjing 138.18 284 *e*PKP **PKiKP 02 33 57.8 -0.4**
NJ2 sPKP 02 34 01.4
NJ2 PP **PP 02 36 47.7 +2.2**
NJ2 PKS 02 37 29.8
NJ2 SKS **SKSdf 02 41 04.8 -2.8**
NJ2 SS **SS 02 54 53.7 -4.8**
NJ2 AMB AMB
comp=Z,4µm,8.8s
NJ2 LR LR
comp=Z,6µm,23.2s
NJ2 LR LR
comp=Z,4µm,19.9s
NJ2 LR LR
comp=Z,7µm,20.0s
CGL1 Ceglie Messapi 138.19 63 *e*P **PKiKP 02 33 58.1 +0.1**
BLY Banja Luka 138.20 57⇓ *i*P PKPpre 02 33 44.3
MODS Modra-Piesok 138.20 52 *e*PKIKP **PKPdf 02 33 49.9 -5.9**
MODS *e* 02 36 42.6
MODS *e*SS SS 02 55 01.6 +3.7
MODS *e* 03 00 10.0
MODS Modra-Piesok 138.20 52 *e*PKP PKPpre 02 33 49.9
MODS *e*PP **PP 02 36 42.6 -2.6**
MODS *e*SS SS 02 55 01.6 +3.7
MODS *e* 03 00 10.0
MORC Moravsky Berou 138.28 50⇑ *e*PKP PKPpre 02 33 49.2
MORC Moravsky Berou 138.28 50 *e*PKP PKPpre 02 33 46.1
MORC *e* 02 34 27.8
MORC *e*PP **PP 02 36 44.6 -1.0**
MORC Moravsky Berou 138.28 50⇑ PKIKP PKPpre 02 33 49.2
MORC Moravsky Berou 138.28 50 IAMs_20 IAMs_20 03 29 09.2
comp=Z,22µm,21.0s
JAVC Velka Javorina 138.44 51 *e*PKP PKPpre 02 33 46.1
JAVC *e* 02 34 29.6
JAVC *e*PP **PP 02 36 46.3 -0.3**
HIA Hailar 138.89 310 IAMs_20 IAMs_20 03 47 45.5
comp=Z,22µm,21.0s
APA Apatity 139.03 20⇓ *i*PKIKP **PKPdf 02 33 55.4 -1.3**
APA *i* 02 36 48.0
APA *i* 02 41 06.0
APA pmax pmax
comp=Z,39nm,1.1s
HCY Herceg Novi 139.08 61⇓ *i*PKP PKPpre 02 33 51.3
HCY Herceg Novi 139.08 61 *e*P PKPpre 02 33 50.6
GSI Gunungsitoli 139.12 227 IAMs_20 IAMs_20 03 33 34.5
comp=Z,29µm,20.0s
BRY Bratogost 139.13 60⇑ *i*PKP PKPpre 02 33 50.9
BRY Bratogost 139.13 60 *e*P PKPpre 02 33 47.9
LVZ Lovozero 139.16 19 *i*PKIKP **PKPdf 02 33 54.7 -2.3**
MORH Mrgy, Hungar 139.22 55 *e*P PKPpre 02 33 46.8
VYHS Vyhne 139.23 52 *e*PKHKP PKPpre 02 33 50.7
VYHS *e* 02 36 48.2
VYHS Vyhne 139.23 52 *e*PKP PKPpre 02 33 50.7
VYHS *e*PP **PP 02 36 48.2 -3.3**
VYHS *e*SS SS 02 55 18.7 +8.7
VYHS *e* 03 00 32.1
BUM Brajici-Budva 139.37 61⇓ *i*PKP PKPpre 02 33 51.7
CEME Cevo 139.40 61⇓ *i*PKP PKPpre 02 33 51.7
UPM Unac-Piva 139.41 60⇓ *i*PKP PKPpre 02 33 51.0
UPM Unac-Piva 139.41 60 *e*P PKPpre 02 33 51.3
PSI Prapat 139.42 230 PKhKP PKPpre 02 33 49.6
comp=Z,12nm,1.0s,baz=154,slow=6.7,SNR=5.0
PSI PKP **PKPdf 02 33 57.7 -1.5**
comp=Z,18nm,1.0s,baz=174,slow=9.7,SNR=8.3
NKME Niksic 139.43 60⇑ *i*PKP PKPpre 02 33 51.6
NKY Niksic 139.46 60⇓ *i*PKP PKPpre 02 33 51.6
SLIT Slitere, Latvi 139.48 37 *e*P **PKPdf 02 33 58.1 +0.4**
SLIT *e*PP **PP 02 36 47.1 -5.5**
DRME Dracevica, Mon 139.58 61⇓ *i*PKP PKPpre 02 33 52.1
DRME Dracevica, Mon 139.58 61⇓ *i*P PKPpre 02 33 49.1
LANS Liptovska Anna 139.59 50 *e*PKIKP **PKPdf 02 33 55.0 -3.3**
LANS Liptovska Anna 139.59 50 *e*PKP **PKPdf 02 33 55.0 -3.3**
ULC Ulcinj 139.61 62⇑ *i*PKP PKPpre 02 33 52.0
PDG Podgorica 139.64 61⇑ *i*P PKPpre 02 33 51.3
PDG Podgorica 139.64 61⇓ *i*P PKPpre 02 33 49.8
PDG Podgorica 139.64 61 IAMs_20 IAMs_20 03 29 54.5
comp=Z,17µm,22.0s
TTG Podgorica 139.64 61⇓ *i*PKP PKPpre 02 33 52.2
OJC Ojcow 139.68 49 *e*PKP PKPpre 02 33 50.7
OJC *e*PKiKP sPKPdf 02 34 01.7 +2.4
OJC *e*PP **PP 02 36 56.0 +1.8**
OJC *e*SS SS 02 55 24.1 +8.9
OJC *e*SSS SSS 03 00 51.4
OJC *e*L L 03 28 37.3
comp=Z,21µm,22.8s
OJC Ojcow 139.68 49 *e*PKHKP PKPpre 02 33 50.7
OJC *e* 02 36 56.0
VLO Vlora 139.70 64 P PKPpre 02 33 52.2
PLE Pljevlja 139.77 59⇓ *i*PKP PKPpre 02 33 51.9
PBUR Paburge 139.77 40 *e*P **PKPdf 02 33 58.1 -0.2**
PBUR *e*PP **PP 02 36 49.5 -5.0**
BBLS Lazići 139.79 59 *e*P PKPpre 02 33 50.6
FINES FINESS Array B 139.82 31 PKhKP PKPpre 02 33 51.4
comp=Z,22nm,1.1s,baz=116,slow=4.4,SNR=10
FINES PP **PP 02 36 53.1 -1.3**
comp=Z,13nm,1.1s,baz=306,slow=4.7,SNR=3.3
FINES FINESS Array B 139.82 31 PKHKP PKPpre 02 33 51.1
FINES 02 36 54.3
FINES FINESS Array B 139.82 31 PKPpre 02 33 51.1
FINES **PP 02 36 54.3 -0.2**
KOME Kolasin 139.85 60⇓ *i*PKP PKPpre 02 33 52.4
KEK Kerkira 139.87 65 P PKPpre 02 33 51.7
TEKS Tekeris 139.88 58 *e*P PKPpre 02 33 52.8
GZH Guangzhou 139.98 268 PKP **PKPdf 02 33 57.0 -2.7**
GZH SS SS 02 55 13.1 -6.7
GZH LR LR
comp=Z,11µm,20.9s
GZH LR LR
comp=Z,11µm,21.8s
PSZ Piszkesteto 139.98 52⇑ *i*P **PKPdf 02 33 55.1 -4.0**
PSZ Piszkesteto 139.98 52⇑ PKIKP **PKPdf 02 33 55.1 -4.0**
SRN Sarande 140.04 65 P PKPpre 02 33 50.5
SRN Sarande 140.04 65 P PKPpre 02 33 49.0
TIR Tirane 140.04 63 P PKPpre 02 33 50.5
TIR Tirane 140.04 63⇑ *i*P **PKPdf 02 33 57.5 -1.8**
TIR Tirane 140.04 63⇑ PKIKP **PKPdf 02 33 57.5 -1.8**
TIR Tirane 140.04 63 IAMs_20 IAMs_20 03 45 27.2
comp=Z,17µm,21.0s
TIR Tirane 140.04 63 P PKPpre 02 33 51.3
BEL Belsk 140.06 46 *e*PKP **PKPdf 02 33 53.6 -5.4**
BEL *e*PKiKP **sPKPdf 02 34 02.7 +2.8**
BEL *e*SSS SSS 03 00 47.6
BEL *e*L L 03 30 12.1
comp=Z,17µm,23.4s
BEL Belsk 140.06 46 *e*PKIKP PKPpre 02 33 53.6
FRGS Fruska Gora 140.07 57⇓ *i*P PKPpre 02 33 51.5
PUK Puka 140.10 61 P PKPdf 02 33 50.2 -9.3
NIE Niedzica 140.10 50 *e*PKP **PKPdf 02 33 52.6 -6.6**
NIE *e*PKiKP **sPKPdf 02 34 02.7 +2.5**
NIE *e*PP **PP 02 36 58.4 +1.5**
NIE *e*SS SS 02 55 28.0 +7.8
NIE *e*SSS SSS 03 00 48.0
NIE *e*L L 03 26 12.1
comp=Z,11µm,25.3s
NIE Niedzica 140.10 50 *e*PKHKP PKPpre 02 33 52.6
NIE *e* 02 36 58.4
IVA Berane 140.12 60⇓ *i*PKP **PKPdf 02 33 53.0 -6.6**
PVY Plav 140.17 61⇓ *i*PKP **PKPdf 02 33 53.2 -6.5**
DIVS Divibare 140.21 58⇓ *i*P PKPpre 02 33 52.1
BCI Bajram Curri 140.24 61 P **PKPdf 02 33 58.0 -1.7**
IGT Igoumenitsa 140.27 65 P PKPdf 02 33 49.3 -11
BOD Bodaibo 140.36 324 *e*PKHKP PKPpre 02 33 52.4
BOD pmax pmax
comp=Z,227nm,1.5s
TIA Tai'an 140.41 289 PKP PKPdf 02 33 51.7 -8.5
TIA sPKP 02 34 34.7
TIA PP **PP 02 36 58.6 -0.6**
LKD2 Lefkada island 140.45 67 P PKPdf 02 33 51.1 -9.1
PHP Peshkopia 140.49 62 P PKPdf 02 33 47.4 -13
PHP Peshkopia 140.49 62 P **PKPdf 02 33 58.1 -2.1**
LSK Leskovik 140.52 64 P **PKPdf 02 33 53.6 -6.8**
LSK Leskovik 140.52 64 P **PKPdf 02 33 52.6 -7.7**
OHR Ohrid 140.73 63 *i*P **PKPdf 02 33 57.1 -3.5**
NEST Nestorio 140.88 64 P **PKPdf 02 33 54.8 -6.2**
CRVS Cervenica-Dubn 140.92 51 *e*PKIKP **PKPdf 02 33 56.9 -3.8**
CRVS Cervenica-Dubn 140.92 51 *e*PKP **PKPdf 02 33 56.9 -3.8**
CRVS *e*SS SS 02 55 49.0 +19
CRVS *e* 03 00 54.5
BANR Banloc 141.00 56⇑ P **PKPdf 02 33 54.3 -6.6**
SUW Suwalki 141.00 42 *e*PKP **PKPdf 02 33 54.9 -5.7**
SUW *e*PKiKP **PKiKP 02 34 03.2 -0.1**
SUW *e*PP **PP 02 37 00.0 -2.0**
SUW *e*SS SS 02 55 33.9 +3.8
SUW *e*L L 03 28 44.4
comp=Z,34µm,24.4s
SUW Suwalki 141.00 42 *e*PKIKP **PKPdf 02 33 54.9 -5.7**
SUW *i* 02 34 03.2
SUW *e* 02 37 00.0
SUW *e*SS SS 02 55 33.9 +3.7
SUW Suwalki 141.00 42 IAMs_20 IAMs_20 03 32 12.4
comp=Z,22µm,22.0s
PABE Paberze 141.02 40 *e*P **PKPdf 02 33 54.2 -6.4**
PABE *e*PP **PP 02 36 59.4 -2.7**
QIZ Qiongzhong 141.18 260 PKP **PKPdf 02 34 02.5 +0.5**
QIZ PP **PP 02 37 05.5 +1.5**
QIZ SS SS 02 55 36.5 +2.6
QIZ AMB AMB
comp=Z,4µm,11.5s
QIZ LR LR
comp=Z,10µm,22.2s
QIZ LR LR
comp=Z,1µm,35.7s
QIZ LR LR
comp=Z,12µm,22.7s
SKO Skopje 141.25 62 *i*P **PKPdf 02 33 55.5 -6.0**
BZS Buzias 141.32 56⇑ P **PKPdf 02 33 55.2 -6.3**
BZS Buzias 141.32 56⇑ PKHKP PKPpre 02 33 55.2
EVR Evrytania 141.35 67 P PKPdf 02 33 53.0 -8.9
VSU Vasula 141.39 35 *e*P **PKPdf 02 33 55.1 -6.1**
VSU Vasula 141.39 35 *i*PKIKP **PKPdf 02 34 00.6 -0.6**
VSU MLR MLR
comp=Z,30µm,16.0s
KZN Kozani 141.43 64 P PKPdf 02 33 52.4 -10
KOLS Kolonicke sedl 141.45 50 *e*PKIKP **PKPdf 02 33 57.4 -4.2**
KOLS *e* 02 37 02.4
KOLS *e*SS SS 02 56 03.0 +27
KOLS Kolonicke sedl 141.45 50 *e*PKP **PKPdf 02 33 57.4 -4.2**
KOLS *e*PP **PP 02 37 02.4 -2.7**
KOLS *e*SS SS 02 56 03.0 +27
KOLS *e* 03 01 05.7
NRIK Noril'sk 141.47 350 PKhKP PKPpre 02 33 56.3
comp=Z,20nm,1.0s,baz=8.7,slow=1.9,SNR=17
NRIK Noril'sk 141.47 350 *i*PKHKP PKPpre 02 33 50.7
NRIK pmax pmax
comp=Z,97nm,1.3s
NRIK MLR MLR
comp=Z,32µm,19.0s
UZH Uzhgorod 141.50 51 *e*PKIKP **PKPdf 02 33 57.0 -4.7**
UZH *i* 02 37 05.0
WHN Wuhan 141.54 280⇑ PKP **PKPdf 02 33 55.7 -6.7**
WHN AMB AMB
comp=Z,6µm,10.3s
WHN LR LR
comp=Z,18µm,19.3s
WHN LR LR
comp=Z,28µm,19.4s
WHN LR LR
comp=Z,47µm,21.8s
THL Klokotos Trika 141.56 66 P PKPdf 02 33 53.6 -8.5
BJI Beijing 141.57 295 PKP **PKiKP 02 34 05.3 +0.4**
BJI PP **PP 02 37 09.5 +3.4**
BJI LR LR
comp=Z,3µm,22.1s
BJI LR LR
comp=Z,7µm,23.0s
BJI LR LR
comp=Z,10µm,27.5s
TRIP Tripoli 141.57 69 P **PKPdf 02 33 56.0 -6.3**
MAKR Makrakomi, Fth 141.61 66 P **PKPdf 02 33 57.3 -5.0**
KWP Kalwaria Pacla 141.63 49 *e*PKP **PKPdf 02 33 57.5 -4.4**
KWP *e*PKiKP **PKiKP 02 34 04.8 0.0**
KWP *e*SSS SSS 03 01 13.7
KWP *e*L L 03 30 37.0
comp=Z,25µm,25.1s
KWP Kalwaria Pacla 141.63 49 *e*PKIKP **PKPdf 02 33 57.5 -4.4**
KWP *i* 02 34 04.8
AGG Agios Georgios 141.77 66 P PKPdf 02 33 54.2 -8.4
STIP Stip 141.80 62 *i*P **PKPdf 02 33 57.5 -5.0**
HERR Herculane 141.92 57⇓ P **PKPdf 02 33 56.5 -6.1**
LIT Litokhoron 141.97 65 P PKPdf 02 33 53.6 -9.3
DRGR 141.99 54⇑ P **PKiKP 02 34 12.2 +6.5**
VAY Valandovo 142.08 63 *i*P **PKPdf 02 33 58.5 -4.4**
GZR Gura Zlata 142.15 56⇑ P **PKPdf 02 33 57.0 -6.1**
GZR Gura Zlata 142.15 56⇑ PKIKP **PKPdf 02 33 57.0 -6.1**
ISAL Salakas 142.16 39 *e*P **PKPdf 02 33 59.1 -3.5**
IZAR Zarasai 142.16 39 *e*P **PKPdf 02 33 59.5 -3.2**
DEV Deva 142.20 55⇓ P **PKPdf 02 33 58.3 -4.8**
DEV Deva 142.20 55⇓ PKIKP **PKPdf 02 33 58.3 -4.8**
IIGN Ignalina 142.29 39 *e*P **PKPdf 02 33 58.6 -4.3**
KNT Kendrikon 142.32 63 P **PKPdf 02 33 56.2 -7.3**
PUNG Punghina 142.32 58⇑ P **PKPdf 02 34 04.6 +1.3**
CIT Chita 142.33 315 *e*PKHKP PKPpre 02 33 53.0
LVV L'vov 142.44 49 *i*PKIKP **PKPdf 02 34 00.2 -3.2**
LVV *i* 02 37 08.3
LVV MLR MLR
comp=N,9µm,20.0s
LVV MLR MLR
comp=E,10µm,20.0s
LVV MLR MLR
comp=Z,16µm,21.0s
PUL Pulkovo 142.45 31 *e*P **PKPdf 02 33 58.4 -4.6**
HORT Hortiatis 142.45 64 P **PKPdf 02 33 57.3 -6.5**
VILL Villia 142.46 68 P **PKPdf 02 33 57.9 -6.0**
KKB Krupnik 142.47 62 *i*P **PKPdf 02 34 01.1 -2.6**
LHMI Lhok Sumawe 142.53 230 IAMs_20 IAMs_20 03 26 15.8
comp=Z,26µm,22.0s
IDID Didziasalis 142.58 39 *e*P **PKPdf 02 33 58.3 -5.1**
VTS Vitosha 142.59 61 *i*P **PKPdf 02 34 01.4 -2.7**
CJR Cluj-Napoca 142.60 54⇓ P **PKPdf 02 34 01.8 -2.1**
CJR Cluj-Napoca 142.60 54⇓ PKIKP **PKPdf 02 34 01.8 -2.1**
SOH Sokhos 142.65 64 P **PKPdf 02 33 56.7 -7.4**
PLG Polygyros 142.71 64 P **PKPdf 02 33 57.3 -6.9**
NACGM Naroch 142.74 40 *e*PKP **PKPdf 02 33 57.0 -6.7**
NACGM *e*PP **PP 02 37 10.0 -2.6**
NACGM *e*PPP PPP 02 39 34.0
NACGM *e*SKS SKSdf 02 40 48.0 -26
NACGM *e*SKKS 02 43 02.0
NACGM *e*PS 02 46 20.0
NACGM *e*SS **SS 02 55 46.0 -4.3**
NACGM *e*SSS SSS 03 01 16.0
NACGM *e*LQ LQ 03 16 10.0
NACGM *e*LR LR 03 22 26.0
NACGM LRM MLR 03 30 10.0
comp=Z,46nm,24.0s
SRS Serrai 142.84 63 P **PKPdf 02 33 58.5 -5.9**
MMB Musomiste 142.95 62 *i*P **PKPdf 02 34 02.6 -2.0**
NVR Nevrokopi 143.05 63 P PKPab 02 33 59.1 -1.0
ARCR ARCALIA 143.08 53⇑ P PKPbc 02 34 01.4 0.0
PGB Panagyurishte 143.27 61 *i*P **PKPdf 02 34 03.7 -1.5**
IDI Anoyia 143.38 73 PKhKP PKPpre 02 34 02.2
comp=Z,109nm,0.9s,baz=341,slow=5.2,SNR=16
IDI PP **PP 02 37 17.7 +0.3**
comp=Z,20nm,1.1s,baz=238,slow=5.0,SNR=2.3
IDI Anoyia 143.38 73 P PKPab 02 34 00.4 -1.3
IDI Anoyia 143.38 73⇑ P PKPbc 02 34 02.7 0.0
ARR Arges 143.46 56⇓ P PKPbc 02 34 03.1 +0.5
FURI Furi 143.47 123 IAMs_20 IAMs_20 03 32 41.3
comp=Z,28µm,21.0s
MICGM Minsk 143.48 40⇓ *e*PKP PKPab 02 34 01.0 -0.3
MICGM ⇓ *e*PKP PKPbc 02 34 02.0 -0.3
MICGM PKPM 02 34 04.0
comp=Z,1.4nm,1.5s
MICGM PKPM 02 34 04.0
comp=Z,0.3nm,4.0s
MICGM PKPM 02 34 06.0
comp=Z,20nm,2.0s
MICGM PKPM 02 34 07.0
comp=N,0.4nm,1.5s
MICGM PKPM 02 34 08.0
comp=Z,12nm,8.0s
MICGM PKPM 02 34 08.0
comp=E,0.6nm,1.5s
MICGM *e*PP **PP 02 37 14.0 -3.0**
MICGM PPM 02 37 16.0
comp=Z,20nm,8.0s
MICGM PPM 02 37 18.0
comp=Z,22nm,6.0s
MICGM *e*SKP 02 37 40.0
MICGM *e*PKS 02 37 48.0
MICGM *e*PPP PPP 02 39 40.0
MICGM *e*SKS **SKSdf 02 41 08.0 -7.1**
MICGM *e*SKKS 02 43 08.0
MICGM *e*SKKKS 02 44 30.0
MNK Minsk 143.48 40 *e*PKIKP PKPbc 02 34 02.0 -0.3
MNK *e* 02 37 14.0
MNK *e* 02 41 05.0
MNK *e*SS SS 02 55 50.0 -8.8
MNK pmax pmax
comp=Z,11µm,4.0s
BURAR Bucovina Array 143.58 52⇑ P PKPab 02 34 01.6 -0.5
BURAR Bucovina Array 143.58 52⇑ PKIKP PKPab 02 34 01.6 -0.5
AAE Adis Abeba 143.62 123 *i*P PKPbc 02 34 05.6 +1.3
PLD Plovdiv 143.68 61 *i*P **PKPdf 02 34 05.3 -0.5**
RZN Rozhen 143.69 62 *i*P **PKPdf 02 34 05.0 -1.1**
STFAR Stefanesti-Arg 143.73 57⇓ P **PKPdf 02 34 06.9 +1.0**
VOIR 143.74 56⇓ P PKPbc 02 34 03.3 -0.2
VOIR 143.74 56⇓ PKIKP PKPbc 02 34 03.3 -0.2
LAST Lasithi 143.84 73 P PKPab 02 34 03.5 0.0
DOPR Dopca 143.92 55⇓ P PKPbc 02 34 04.8 +0.9
NPS Neapolis 143.96 73 P PKPab 02 34 02.8 -1.0
COPA Copaceanca 143.97 58⇑ P PKPbc 02 34 03.9 -0.1
ZIMR 144.11 59⇑ P **PKPdf 02 34 05.4 -1.1**
ZIMR 144.11 59⇑ PKIKP **PKPdf 02 34 05.4 -1.1**
PVL Pavlikeni 144.11 60 *i*P **PKPdf 02 34 07.3 +0.8**
APE Apeiranthos 144.11 70 *i*PKIKP **PKPab 02 34 02.9 -1.5**
OZUR 144.18 55⇑ P PKPbc 02 34 04.7 -0.1
KDZ Kurdzhali 144.22 62 *i*P **PKPdf 02 34 06.8 0.0**
BIZ Bicaz 144.28 53⇑ P **PKPab 02 34 03.7 -1.0**
DIM Dimitrovgrad 144.30 62 *i*P **PKPdf 02 34 08.1 +1.2**
PRAR RASCA 144.30 52⇓ P **PKPab 02 34 03.2 -1.5**
SMTH Samothraki Isl 144.30 64 P **PKPab 02 34 04.7 -0.2**
RDO Rodhopi 144.31 63 P **PKPab 02 34 04.1 -0.8**
MLR Muntele Rosu 144.36 56 PKP **PKPab 02 34 04.1 -1.1**
comp=Z,186nm,1.0s,baz=265,slow=2.1,SNR=45
MLR Muntele Rosu 144.36 56⇓ P **PKPab 02 34 04.1 -1.1**
MLR Muntele Rosu 144.36 56 IAMs_20 IAMs_20 03 46 01.8
comp=Z,26µm,20.0s
SECR 144.50 56⇑ P **PKPab 02 34 04.9 -0.6**
SGRR Singureni 144.51 58⇓ P **PKPab 02 34 03.0 -2.6**
SZH Strazhica 144.54 59 *i*P **PKPdf 02 34 08.4 +1.1**
GADA Gvkgeada 144.58 65 P **PKPab 02 34 02.8 -3.1**
GADA Gvkgeada 144.58 65 *e*P **PKPab 02 34 04.2 -1.7**
NEHR Nehoiu 144.62 56⇓ P **PKPab 02 34 05.1 -0.9**
CHOS Chios island 144.63 68 P **PKPab 02 34 04.1 -2.2**
SULR 144.67 57⇑ P **PKPab 02 34 05.1 -1.0**
BOZC Bozcaada 144.69 65 *e*P **PKPab 02 34 04.2 -2.2**
ANKE Ethiopia-Afar 144.69 123 *e*P PKPbc 02 34 08.1 +0.4
ALN Alexandroupoli 144.70 64 P **PKPab 02 34 03.5 -2.8**
TESR Tescani 144.72 54⇓ P **PKPab 02 34 04.9 -1.4**
ENEZ Enez 144.78 64 P **PKPab 02 34 05.3 -1.4**
PRK Paraskevi 144.84 66 P **PKPab 02 34 05.9 -1.0**
VRI Vrincioaia 144.86 55⇓ P **PKPab 02 34 05.5 -1.3**
VRI Vrincioaia 144.86 55⇓ PKIKP **PKPab 02 34 05.5 -1.3**
EZN Ezine 144.90 65 P PKPbc 02 34 07.1 -0.1
EZN Ezine 144.90 65 *e*P **PKPab 02 34 05.2 -1.9**
RAZG Razgrad 144.94 59⇓ P **PKPab 02 34 06.5 -0.7**
GELI Tayfur-Gelibol 145.02 64 *e*P PKPbc 02 34 05.1 -2.4
URLA Izmir 145.05 68 *e*P **PKPbc 02 34 05.9 -1.9**
JMB Yambol 145.06 61 *i*P **PKiKP 02 34 10.2 -1.8**
LEHL Lehliu 145.09 57⇓ P **PKPdf 02 34 07.8 -0.3**
GRER 145.10 56⇑ P **PKPab 02 34 07.7 0.0**
ODBI Odobesti 145.10 55⇓ P **PKPdf 02 34 07.9 -0.2**
HHC Hu-ho-hao-te 145.11 296 *e*PKP **PKPbc 02 34 06.1 -1.9**
HHC SS SS 02 56 13.0 -6.0
HHC AMB AMB
comp=Z,9µm,7.7s
HHC LR LR
comp=Z,15µm,19.2s
HHC LR LR
comp=Z,12µm,18.6s
HHC LR LR
comp=Z,23µm,18.7s
SMG Samos 145.20 69 P **PKPbc 02 34 05.9 -2.4**
EDRB Edirne 145.21 62 P **PKPbc 02 34 05.0 -3.1**
EDRB Edirne 145.21 62 *e*P **PKPbc 02 34 05.3 -2.8**
KOSK Kos Island 145.24 71 P **PKPbc 02 34 02.8 -5.5**
GHRR 145.30 54⇑ P **PKPbc 02 34 07.3 -1.0**
DKL Dikili 145.33 67 *e*P **PKPbc 02 34 06.3 -2.3**
NIS1 Nisyros Isl. 145.38 71 P **PKPbc 02 34 07.1 -1.8**
BLCB Balcova 145.40 68 P **PKPbc 02 34 07.1 -1.7**
BLCB Balcova 145.40 68 *e*P **PKPbc 02 34 07.1 -1.7**
BIR Birlad 145.42 54⇑ P **PKPbc 02 34 07.7 -1.0**
BIR Birlad 145.42 54⇑ PKIKP **PKPbc 02 34 07.7 -1.0**
AMRR Amara 145.44 57⇑ P **PKPbc 02 34 07.8 -0.9**
AMRR Amara 145.44 57⇑ PKIKP **PKPbc 02 34 07.8 -0.9**
AKASG Malin Array Be 145.47 46 PKPbc **PKPbc 02 34 06.0 -2.1**
comp=Z,72nm,0.9s,baz=282,slow=3.4,SNR=105
AKASG Malin Array Be 145.47 46*c* *i*PKP2 **PKPbc 02 34 06.0 -2.7**
AKASG pmax pmax
comp=Z,73nm,0.9s
AKASG Malin Array Be 145.47 46 PKPbc 02 34 06.0 -2.7
AKBB Malin Array Si 145.47 46*c* *i*PKP2 **PKPbc 02 34 05.2 -3.4**
AKBB Malin Array Si 145.47 46 IAMs_20 IAMs_20 03 38 17.1
comp=Z,18µm,22.0s
VASR Vaslui 145.47 53⇑ P **PKPbc 02 34 07.7 -1.1**
KLMR Klimovskoe 145.52 25 *e*PKIKP **PKPdf 02 34 06.6 -1.8**
KLMR *e* 02 37 27.9
KLMR *e*SS SS 02 56 21.4 0.0
KLMR *e*SSS SSS 03 01 50.3
KLMR pmax pmax
comp=Z,3µm,1.5s
KLMR Klimovskoe 145.52 25 *e*PKPdf **PKPdf 02 34 06.6 -1.8**
KLMR AMP 02 34 13.8
comp=Z,3µm,1.5s
KLMR *e*PP **PP 02 37 28.0 -0.8**
KLMR *e*PKS **PKSdf 02 37 38.0 -5.5**
KLMR *e*PKS **PKSdf 02 37 38.0 -5.5**
KLMR *e*SKKSac **SKKSac 02 44 18.2 -3.2**
KLMR *e*SKKSac **SKKSac 02 44 18.2 -3.2**
KLMR *e*SS **SS 02 56 21.5 +0.1**
KLMR *e*SS **SS 02 56 21.5 +0.1**
KLMR *e*SSS SSS 03 01 50.3
KLMR *e*SSS SSS 03 01 50.3
KLMR LQ LQ 03 24 42.0
KLMR LQ LQ 03 24 42.0
KLMR LR LR 03 26 14.1
KLMR AMP 03 31 29.9
comp=Z,13µm,22.1s
BODT Bodrum 145.53 70 P **PKPdf 02 34 07.8 -1.4**
BODT Bodrum 145.53 70 *e*P **PKPdf 02 34 06.4 -2.8**
ENH Enshi 145.55 278 IAMs_20 IAMs_20 03 48 09.4
comp=Z,26µm,22.0s
TUDR 145.55 55⇑ P **PKPdf 02 34 07.6 -1.3**
RKY Sarkoy-Tekirda 145.56 64 *e*P **PKPdf 02 34 07.6 -1.6**
SORM Soroca 145.56 51⇓ P **PKPdf 02 34 07.2 -1.6**
SORM Soroca 145.56 51⇓ PKIKP **PKPdf 02 34 07.2 -1.6**
VARL Varlezi 145.63 55⇑ P **PKPdf 02 34 07.6 -1.5**
SCHL Schela 145.68 55⇑ P **PKPbc 02 34 09.3 -0.2**
PHSR Pinarhisar 145.80 62 *e*P **PKPdf 02 34 07.9 -1.6**
ICOR Ion Corvin 145.82 58⇑ P **PKPab 02 34 10.3 -0.1**
HARR Harsova 145.85 57⇑ P **PKPdf 02 34 09.0 -0.5**
HARR Harsova 145.85 57⇑ PKIKP **PKPdf 02 34 09.0 -0.5**
MRMT Marmara Adasi 145.88 64 *e*P **PKPdf 02 34 07.9 -1.9**
MLSB Milas 145.92 70 *e*P **PKPdf 02 34 09.4 -0.5**
GIUM Giurgiulesti 145.94 55⇓ P **PKPdf 02 34 09.0 -0.6**
TLBR Topalu 145.95 57⇓ P **PKPdf 02 34 09.0 -0.7**
CRLT Corlu 145.97 63 *e*P **PKPdf 02 34 09.0 -0.8**
AYDB Zeytinkoy-Aydi 146.05 69 *e*P **PKPdf 02 34 09.4 -0.8**
EDC Edincik 146.08 64 *e*P **PKPdf 02 34 07.7 -2.3**
BALB Balikesir 146.09 66 *e*P **PKPdf 02 34 06.9 -3.1**
KIS Kishinev 146.10 52⇓ P **PKPdf 02 34 09.7 -0.1**
KIS Kishinev 146.10 52⇓ PKP2 **PKPdf 02 34 09.7 -0.1**
ARG Arkhangelos 146.11 72 P **PKPdf 02 34 09.6 -0.6**
MILM Milestii Mici 146.12 53⇑ **PKPbc 02 34 10.4 -0.3**
TIRR Tirgusor 146.22 57⇑ P **PKPdf 02 34 10.2 +0.1**
TIRR Tirgusor 146.22 57⇑ PKP2 **PKPdf 02 34 10.2 +0.1**
TURN Turunc 146.25 71 *e*P **PKPdf 02 34 09.0 -1.4**
MFTR Murfatlar 146.26 58⇑ P **PKPbc 02 34 11.0 -0.3**
BTO Baotou 146.28 296 *e*PKPbc **PKPdf 02 34 09.4 -1.1**
YER Yerkesik 146.31 70 P **PKPdf 02 34 09.6 -1.0**
YER Yerkesik 146.31 70 *e*P **PKPdf 02 34 09.4 -1.2**
SLVT Silivri 146.33 63 *e*P **PKPdf 02 34 09.3 -1.1**
CTYL Yalikoy Yolu 146.38 62 *e*P **PKPdf 02 34 10.1 -0.4**
TLCR 146.41 56⇑ P **PKPdf 02 34 09.1 -1.3**

TLCR		**146.41**	**56**	⇑PKIKP	**PKPdf**	**02 34 09.1**	**-1.3**
MANR	**Mangalia**	**146.42**	**58**	⇓P	**PKPbc**	**02 34 11.6**	**-0.1**
EFOR	**EFORIE**	**146.42**	**58**	⇓P	**PKPdf**	**02 34 05.8**	**-4.7**
JURR	**Jurilovca**	**146.51**	**56**	⇓P	**PKiKP**	**02 34 17.4**	**+2.5**
CTKS	**Kestanelik-??a**	**146.55**	**63**	*e*P	**PKPdf**	**02 34 10.4**	**-0.3**
DALY	**Dalyan (Mula)**	**146.58**	**71**	*e*P	**PKPdf**	**02 34 09.6**	**-1.3**
KULA	**Kula-Manisa**	**146.68**	**68**	P	**PKPbc**	**02 34 12.7**	**-0.2**
KULA	**Kula-Manisa**	**146.68**	**68**	*e*P	**PKPdf**	**02 34 09.6**	**-1.6**
XAN	**Xi'an**	**146.74**	**284**	PKPbc	**PKPdf**	**02 34 11.1**	**-0.3**
XAN				pPKP	sPKPab	02 34 21.4	+6.2
XAN				PP	**PP**	**02 37 41.9**	**+4.4**
XAN				SKS	**SKSdf**	**02 41 12.2**	**-8.9**
XAN				SKKS	**SKKSac**	**02 44 30.8**	**+0.9**
XAN				AMB	AMB		
	comp=Z,12µm,6.9s						
XAN				LR	LR		
	comp=Z,11µm,22.6s						
XAN				LR	LR		
	comp=Z,19µm,21.6s						
XAN				LR	LR		
	comp=Z,25µm,25.5s						
XAN	**Xi'an**	**146.74**	**284**	IAMs_20	IAMs_20	03 54 46.4	
	comp=Z,19µm,22.0s						
BGKT	**Bogazkoy**	**146.75**	**63**	*e*P	**PKPdf**	**02 34 10.7**	**-0.4**
ARMT	**Armutlu**	**146.84**	**64**	*e*P	**PKPdf**	**02 34 10.7**	**-0.6**
GYA	**Guiyang**	**146.85**	**270**	⇑PKPbc	**PKPbc**	**02 34 13.2**	**-0.6**
GYA				PP	**PP**	**02 37 43.9**	**+5.6**
GYA				AMB	AMB		
	comp=Z,8µm,7.7s						
GYA				LR	LR		
	comp=Z,8µm,20.9s						
GYA				LR	LR		
	comp=Z,6µm,24.1s						
GYA				LR	LR		
	comp=Z,11µm,21.5s						
MDNY	**Mudanya-Bursa**	**146.86**	**64**	*e*P	**PKPdf**	**02 34 09.6**	**-1.7**
PURM	**Purcari**	**146.91**	**53**	⇑P	**PKPbc**	**02 34 13.1**	**+0.1**
FETY	**Fethiye**	**146.91**	**71**	P	**PKPdf**	**02 34 11.5**	**-0.1**
FETY	**Fethiye**	**146.91**	**71**	*e*P	**PKPdf**	**02 34 11.5**	**-0.1**
SIMA	**Simav-Kutahya**	**146.94**	**67**	*e*P	**PKPdf**	**02 34 11.2**	**-0.4**
KLYT	**Kilyos**	**146.95**	**63**	*e*P	**PKPdf**	**02 34 10.7**	**-0.7**
PRGR	**Permogore**	**146.96**	**20**	*e*PKP2	**PKPdf**	**02 34 10.6**	**-0.2**
PRGR				pmax	pmax		
	comp=Z,431nm,1.2s						
ISK	**Istanbul-Kandi**	**146.97**	**63**	P	**PKPdf**	**02 34 10.8**	**-0.7**
ISK	**Istanbul-Kandi**	**146.97**	**63**	*e*P	**PKPdf**	**02 34 10.9**	**-0.6**
KAVV	**Kandilli-Istan**	**146.97**	**63**	*e*P	**PKPdf**	**02 34 10.7**	**-0.8**
GEMT	**Gemlik**	**147.09**	**64**	*e*P	**PKPdf**	**02 34 11.5**	**-0.2**
TEND	**Ethiopian Broa**	**147.10**	**122**	*e*P	**PKPbc**	**02 34 15.1**	**+0.4**
KSL	**Kastellorizon**	**147.28**	**72**	P	**PKPbc**	**02 34 13.9**	**-0.6**
AKAS	**Kas**	**147.30**	**72**	*e*P	**PKPdf**	**02 34 13.1**	**+0.7**
TVSB	**Tavsanli**	**147.32**	**66**	*e*P	**PKPdf**	**02 34 09.9**	**-2.4**
SILT	**Sile**	**147.41**	**63**	*e*P	**PKPdf**	**02 34 11.2**	**-1.0**
ULN	**Ulaanbaatar**	**147.42**	**310**	PKIKP	**PKPdf**	**02 34 10.6**	**-1.7**
ULN	**Ulaanbaatar**	**147.42**	**310**	PKPdf	**PKPdf**	**02 34 10.6**	**-1.7**
ULN	**Ulaanbaatar**	**147.42**	**310**	IAMs_20	IAMs_20	03 53 04.3	
	comp=Z,25µm,22.0s						
HRT	**Hereke**	**147.44**	**64**	*e*P	**PKPdf**	**02 34 11.2**	**-1.2**
ADVT	**Abdulvahap**	**147.51**	**64**	*e*P	**PKPdf**	**02 34 10.7**	**-1.7**
ELL	**Elmali**	**147.58**	**71**	*e*P	**PKPdf**	**02 34 11.9**	**-0.9**
CAVI	**Cavuskoy**	**147.60**	**65**	*e*P	**PKPdf**	**02 34 13.3**	**+0.7**
IRK	**Irkutsk**	**147.66**	**319**	*e*PKP2	**PKPab**	**02 34 17.7**	**+0.4**
IRK				pmax	pmax		
	comp=Z,1µm,1.9s						
OBN	**Obninsk**	**147.73**	**35**	PKPbc	**PKPbc**	**02 34 13.7**	**-1.4**
	comp=Z,224nm,1.1s,baz=100,slow=1.4,SNR=16						
OBN	**Obninsk**	**147.73**	**35**	⇓P	**PKPbc**	**02 34 13.6**	**-1.5**
OBN	**Obninsk**	**147.73**	**35**	*e*PKIKP	**PKPdf**	**02 34 12.1**	**-0.2**
OBN				*e*		02 37 47.6	
OBN				*e*		02 41 07.9	
OBN				*i* SS	SS	02 56 39.7	-7.2
OBN				pmax	pmax		
	comp=Z,1µm,1.2s						
OBN				MLR	MLR		
	comp=Z,11µm,19.0s						
OBN	**Obninsk**	**147.73**	**35**	PKPdf	**PKPdf**	**02 34 12.4**	**+0.2**
ORH	**Orhaniye**	**147.75**	**63**	P	PKPdf	02 34 04.7	-8.1
SONM	**Songino Array**	**147.86**	**310**	PKPbc	**PKPdf**	**02 34 13.4**	**+0.5**
	comp=Z,88nm,1.2s,baz=111,slow=1.6,SNR=41						
SONM				PP	**PP**	**02 37 43.7**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=70,slow=4.7,SNR=3.5						
SONM	**Songino Array**	**147.86**	**310**	PKIKP	**PKPdf**	**02 34 12.1**	**-0.8**
SONM	**Songino Array**	**147.86**	**310**	PKPdf	**PKPdf**	**02 34 12.1**	**-0.8**
MOS	**Moscow**	**147.90**	**34**α	*i* PKIKP	**PKPdf**	**02 34 12.2**	**-0.3**
MOS				*e*		02 37 41.4	
MOS				*e*PPP	PPP	02 41 04.0	
MOS				*e*		02 41 15.5	
MOS				*e*SS	SS	02 56 47.9	-0.9
MOS				*e*SSS	SSS	03 02 25.0	
MOS				pmax	pmax		
	comp=Z,1µm,1.6s						
MOS				pmax	pmax		
	comp=N,417nm,1.3s						
MOS				pmax	pmax		
	comp=E,167nm,1.2s						
MOS				MLR	MLR		
	comp=Z,22µm,19.0s						
MOS				MLR	MLR		
	comp=N,14µm,18.0s						
SPNC	**Sapanca-Adapaz**	**147.94**	**64**	*e*P	**PKPdf**	**02 34 12.5**	**-0.6**
SAUV	**Serdivan-Sakar**	**147.95**	**64**	*e*P	**PKPdf**	**02 34 13.9**	**+0.8**
KORT	**Korkueli**	**147.95**	**71**	*e*P	**PKPdf**	**02 34 12.5**	**-0.9**
SHUT	**Suhut-Afyon**	**148.16**	**68**	*e*P	**PKPdf**	**02 34 11.9**	**-1.8**
BCK	**Bucak**	**148.16**	**70**	*e*P	**PKPdf**	**02 34 11.5**	**-2.2**
ANTB	**Antalya**	**148.19**	**71**	*e*P	**PKPdf**	**02 34 13.1**	**-0.5**
SRCK	**Saricakaya, Es**	**148.21**	**65**	*e*P	**PKPdf**	**02 34 12.3**	**-1.3**
ATD	**Arta Tunnel**	**148.23**	**125**	PKPbc	**PKPbc**	**02 34 17.5**	**-0.2**
	comp=N,91nm,1.0s,baz=355,slow=0.5,SNR=22						
ATD	**Arta Tunnel**	**148.23**	**125**	PKPbc	**PKPbc**	**02 34 17.0**	**-0.8**
SNR=39							
ATD	**Arta Tunnel**	**148.23**	**125**	*i* P	**PKPbc**	**02 34 16.9**	**-0.9**
ATD				*i* S	SS	02 57 09.9	+16
TLY	**Talaya**	**148.25**	**318**	PKPbc	**PKPbc**	**02 34 15.4**	**-1.2**
	comp=N,77nm,0.8s,baz=221,slow=3.8,SNR=24						
TLY				PP	**PP**	**02 37 44.1**	**-1.2**
	comp=N,7.0nm,0.9s,baz=125,slow=2.6,SNR=2.2						
TLY	**Talaya**	**148.25**	**318**	*i* PKIKP	**PKPdf**	**02 34 11.5**	**-1.8**
TLY				pmax	pmax		
	comp=Z,166nm,1.1s						
TLY	**Talaya**	**148.25**	**318**	PKPdf	**PKPdf**	**02 34 13.0**	**-0.3**
CIFT	**Cifteler, Eski**	**148.56**	**66**	*e*P	**PKPdf**	**02 34 12.5**	**-1.8**
MDUB	**Mudurnu**	**148.62**	**64**	*e*P	**PKPdf**	**02 34 11.5**	**-2.9**
KDZE	**Karadeniz Ereo**	**148.75**	**62**	⇑P	**PKPbc**	**02 34 17.9**	**-0.4**
SVRH	**Sivrihisar-ESK**	**148.91**	**66**	*e*P	**PKPdf**	**02 34 13.1**	**-1.8**
ZAK	**Zakamensk**	**148.97**	**316**	*e*PKP2	**PKPbc**	**02 34 18.1**	**-0.6**
ZAK				*e*		02 37 49.0	
ZAK				pmax	pmax		
	comp=Z,235nm,1.7s						
KIZT	**Kizilcal**	**149.20**	**67**	*e*P	**PKPdf**	**02 34 12.8**	**-2.6**
GAZI	**Gazipasa**	**149.49**	**72**	*e*P	**PKPdf**	**02 34 13.9**	**-1.9**
KONT	**Konya--Tatoy**	**149.58**	**69**	*e*P	**PKPdf**	**02 34 14.4**	**-1.5**
LADK	**Ladik-KONYA**	**149.59**	**68**	*e*P	**PKPdf**	**02 34 14.9**	**-1.1**
KURC	**Kurucasile-Bar**	**149.68**	**61**	*e*P	**PKPdf**	**02 34 12.3**	**-3.6**
KMI	**Kunming**	**149.71**	**265**	PKPbc	**PKPdf**	**02 34 16.2**	**-0.6**
KMI				pPKP	PKiKP	02 34 22.5	0.0
KMI	**Kunming**	**149.71**	**265**	IAMs_20	IAMs_20	03 44 12.9	
	comp=Z,16µm,22.0s						
MOY	**Mondy**	**149.74**	**319**	*e*PKP2	**PKPbc**	**02 34 18.7**	**-1.9**
MOY				pmax	pmax		
	comp=Z,1µm,3.2s						
CMAR	**Chiang Mai Arr**	**149.82**	**250**	PKPbc	**PKPbc**	**02 34 20.3**	**-1.3**
	comp=Z,105nm,1.0s,baz=178,slow=0.9,SNR=31						
CMAR	**Chiang Mai Arr**	**149.82**	**250**	PKHKP	PKPpre	02 34 17.1	
CMAR	**Chiang Mai Arr**	**149.82**	**250**	PKPdf	**PKPdf**	**02 34 17.1**	**+0.2**
LOD	**Lodumlu**	**149.85**	**65**	*e*P	**PKPdf**	**02 34 14.9**	**-1.5**
LEF	**Lefka**	**149.87**	**75**	⇑P	**PKPdf**	**02 34 17.7**	**+1.3**
LEF	**Lefka**	**149.87**	**75**	*e*P	**PKPdf**	**02 34 14.4**	**-2.0**
ANTO	**Ankara**	**149.88**	**65**	IAMs_20	IAMs_20	03 51 23.2	
	comp=Z,15µm,20.0s						
CHBY	**Cihanbeyli**	**150.00**	**68**	*e*P	**PKPdf**	**02 34 14.4**	**-2.3**
CHTO	**Chiang Mai**	**150.01**	**251**	PKIKP	**PKPdf**	**02 34 17.4**	**+0.3**
CHTO	**Chiang Mai**	**150.01**	**251**	PKPdf	**PKPdf**	**02 34 17.4**	**+0.3**
CHTO	**Chiang Mai**	**150.01**	**251**	IAMs_20	IAMs_20	03 35 24.3	
	comp=Z,30µm,22.0s						
KULU	**Kulu**	**150.07**	**67**	*e*P	**PKPdf**	**02 34 13.1**	**-3.7**
TEKE	**Tekeli-Mersin**	**150.12**	**73**	*e*P	**PKPdf**	**02 34 14.1**	**-2.7**
SIM	**Simferopol'**	**150.14**	**55***d*	*i* PKHKP	PKPpre	02 34 18.6	
SIM				PPP	PPP	02 41 25.0	
SIM				pmax	pmax		
	comp=Z,1µm,1.9s						
CSS	**Mathiatis**	**150.22**	**75**	IAMs_20	IAMs_20	03 55 30.3	
	comp=Z,14µm,21.0s						
BERE	**Bereket-Mersin**	**150.22**	**72**	*e*P	**PKPdf**	**02 34 15.5**	**-1.6**
LPSR	**Galich'ya Gora**	**150.24**	**38**	*e*PKIKP	**PKPdf**	**02 34 14.7**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,80nm,1.7s						
LPSR				MLR	MLR		
	comp=Z,27µm,20.0s						
TEVE	**Tevekalti-Mers**	**150.41**	**72**	*e*P	**PKPdf**	**02 34 15.5**	**-1.8**
CANT	**Cankiri**	**150.46**	**64**	*e*P	**PKPdf**	**02 34 14.9**	**-2.4**
AKKU	**Akkuyu-Mersin**	**150.48**	**73**	*e*P	**PKPdf**	**02 34 14.9**	**-2.4**
SULT	**Sultanhani-AKS**	**150.49**	**68**	*e*P	**PKPdf**	**02 34 15.7**	**-1.7**
CD2	**Chengdu**	**150.50**	**277**	PKPbc	**PKPdf**	**02 34 18.0**	**+0.4**
CD2				sPKP		02 34 25.0	
CD2				PP	**PP**	**02 38 00.5**	**+1.0**
CD2				AMB	AMB		
	comp=Z,15µm,8.4s						
CD2				LR	LR		
	comp=Z,35µm,23.5s						
CD2				LR	LR		
	comp=Z,33µm,21.6s						
CD2				LR	LR		
	comp=Z,36µm,23.0s						
SERE	**Sereflikochisa**	**150.51**	**67**	*e*P	**PKPdf**	**02 34 17.1**	**-0.4**
BRTR	**Keskin Array B**	**150.53**	**65**	PKP	**PKPdf**	**02 34 16.1**	**-1.4**
	comp=Z,6.7nm,0.9s,baz=221,slow=2.8,SNR=12						
BRTR				PKPbc	**PKPbc**	**02 34 22.2**	**-0.7**
	comp=Z,156nm,1.0s,baz=222,slow=1.9,SNR=42						
KIRV	**Kirov**	**150.54**	**21**	PKPbc	**PKPbc**	**02 34 20.2**	**-1.9**
	comp=Z,127nm,1.0s,baz=307,slow=2.5,SNR=26						
IKL	**Isikli**	**150.59**	**72**	*e*P	**PKPdf**	**02 34 15.2**	**-2.3**
BZK	**Bozkurt**	**150.60**	**61**	⇑P	**PKPbc**	**02 34 19.9**	**-2.8**
BZK	**Bozkurt**	**150.60**	**61**	*e*P	**PKPdf**	**02 34 16.8**	**-0.5**
YESY	**Yesilyurt**	**150.67**	**69**	*e*P	**PKPdf**	**02 34 15.5**	**-2.3**
EIL	**Elat**	**150.70**	**86**	PKP	**PKPdf**	**02 34 17.8**	**-0.1**
	comp=Z,73nm,1.2s,baz=17,slow=2.3,SNR=13						
EIL				PKPbc	**PKPbc**	**02 34 23.3**	**-0.1**
	comp=Z,130nm,1.1s,baz=313,slow=2.6,SNR=12						
YAYX	**Yaylak**	**150.71**	**67**	*e*P	**PKPdf**	**02 34 15.7**	**-2.1**
SILI	**Silifke-Mersin**	**150.79**	**72**	*e*P	**PKPdf**	**02 34 15.7**	**-2.1**
EREN	**Erenkoy**	**150.94**	**74**	*e*P	**PKPdf**	**02 34 16.8**	**-1.3**
VSR	**Storozhevoye**	**151.06**	**40**	*e*PKIKP	**PKPdf**	**02 34 15.7**	**-2.0**
VSR				pmax	pmax		
	comp=Z,210nm,1.1s						
LZH	**Lanzhou**	**151.09**	**287**	⇑PKPbc	**PKPdf**	**02 34 16.6**	**-1.9**
LZH				sPKP		02 34 24.5	
LZH				PP	**PP**	**02 38 04.5**	**+1.7**
LZH				AMB	AMB		
	comp=Z,10µm,7.6s						
LZH				LR	LR		
	comp=Z,24µm,19.5s						
LZH				LR	LR		
	comp=Z,15µm,18.4s						
LZH				LR	LR		
	comp=Z,28µm,20.1s						
VORD	**Divnogorie**	**151.25**	**41**	*e*PKIKP	**PKPdf**	**02 34 17.0**	**-1.0**
VORD				pmax	pmax		
	comp=Z,140nm,1.2s						
CORM	**Corum**	**151.26**	**64**	*e*P	**PKPdf**	**02 34 17.1**	**-1.5**
MERS	**Mersin**	**151.29**	**71**	*e*P	**PKPdf**	**02 34 16.0**	**-2.7**
DAMY	**Dhamar**	**151.40**	**122**	PKPdf	**PKPdf**	**02 34 21.2**	**+1.5**
SNR=47							
SNOP	**Sinop**	**151.47**	**60**	*e*P	**PKPdf**	**02 34 16.3**	**-2.4**
DIKM	**Dikmen**	**151.57**	**61**	*e*P	**PKPdf**	**02 34 17.1**	**-1.7**
MMAI	**Mount Meron Ar**	**151.71**	**79**	PKP	**PKPdf**	**02 34 18.1**	**-1.3**
	comp=Z,47nm,1.1s,baz=228,slow=2.1,SNR=33						
MMAI				PKPbc	**PKPbc**	**02 34 25.6**	**-0.1**
	comp=Z,198nm,1.1s,baz=243,slow=1.6,SNR=21						
KARA	**Karaisali**	**151.72**	**70**	*e*P	**PKPdf**	**02 34 17.9**	**-1.3**
KRTS	**Karatas**	**151.97**	**72**	*e*P	**PKPdf**	**02 34 18.7**	**-0.9**
BHL	**Bhannes**	**152.02**	**78**	*e*P	**PKPdf**	**02 34 16.4**	**-3.6**
KVT	**Kavak**	**152.23**	**62**	*e*P	**PKPdf**	**02 34 17.3**	**-2.6**
CEYT	**Ceyhan**	**152.27**	**71**	*e*P	**PKPdf**	**02 34 19.2**	**-0.8**
BNN	**Bunyan**	**152.30**	**67**	*e*P	**PKPdf**	**02 34 18.9**	**-1.3**
HWQ	**Hawqa**	**152.30**	**77**	*e*P	**PKPdf**	**02 34 15.6**	**-4.7**
KOZT	**Kozan**	**152.33**	**70**	*e*P	**PKPdf**	**02 34 16.8**	**-3.4**
VRH	**Novokhopyorsk**	**152.44**	**39**	*e*PKIKP	**PKPdf**	**02 34 17.8**	**-2.0**
VRH				pmax	pmax		
	comp=Z,150nm,1.4s						
ANN	**Anapa**	**152.47**	**54**	*e*PKIKP	**PKPdf**	**02 34 18.4**	**-1.6**
ANN				*e*		02 34 22.2	
ANN				pmax	pmax		
	comp=Z,677nm,1.3s						
ANN				pmax	pmax		
	comp=N,105nm,1.4s						
YAYL	**Yayladag**	**152.54**	**73**	*e*P	**PKPdf**	**02 34 19.5**	**-1.2**
TAHT	**Tahtakopru-Hat**	**152.61**	**72**	*e*P	**PKPdf**	**02 34 19.5**	**-1.1**
TOKT	**Tokat**	**152.71**	**64**	*e*P	**PKPdf**	**02 34 19.2**	**-1.5**
SARI	**SarD1z-Kayseri**	**152.77**	**68**	*e*P	**PKPdf**	**02 34 20.0**	**-1.0**
ASF	**Jabal al Asfar**	**152.83**	**82**	PKP	**PKPdf**	**02 34 20.5**	**-0.6**
	comp=N,41nm,1.3s,baz=190,slow=0.2,SNR=18						
ASF				PKPbc	**PKPbc**	**02 34 27.9**	**-0.4**
	comp=N,145nm,1.1s,baz=193,slow=1.9,SNR=16						
PALK	**Pallekele**	**152.85**	**206**	PKPdf	**PKPdf**	**02 34 17.0**	**-4.7**
PALK	**Pallekele**	**152.85**	**206**	PKIKP	**PKPdf**	**02 34 21.6**	**-0.1**
PALK	**Pallekele**	**152.85**	**206**	PKPdf	**PKPdf**	**02 34 21.6**	**-0.1**
SVSK	**Karacayir**	**153.10**	**65**	*e*P	**PKPdf**	**02 34 20.0**	**-1.1**
KMRS	**Kahramanmaras**	**153.18**	**70**	*e*P	**PKPdf**	**02 34 20.0**	**-1.4**
RSDY	**Resadiye-TOKAT**	**153.29**	**63**	*e*P	**PKPdf**	**02 34 18.6**	**-2.9**
GAZ	**Gaziantep**	**153.44**	**71**	*e*P	**PKPdf**	**02 34 21.1**	**-0.8**
GTA	**Gaotai**	**154.18**	**295**	PKPbc	**PKPdf**	**02 34 21.6**	**-1.3**
GTA				pPKP	sPKPdf	02 34 25.9	+2.1
GTA				sPKP		02 34 28.7	
GTA				PP	**PP**	**02 38 22.7**	**+2.5**
GTA				AMB	AMB		
	comp=N,5µm,7.6s						
GTA				LR	LR		
	comp=N,14µm,22.9s						
GTA				LR	LR		
	comp=N,12µm,21.8s						
GTA				LR	LR		
	comp=N,25µm,22.2s						
ESPY	**Espiye-Giresun**	**154.26**	**62**	*e*P	**PKPdf**	**02 34 20.0**	**-2.8**
MALT	**Malatya**	**154.35**	**68**	*e*P	**PKPdf**	**02 34 22.4**	**-0.8**
ILIC	**ilic-Erzincan**	**154.35**	**65**	*e*P	**PKPdf**	**02 34 22.7**	**-0.5**
SOC	**Sochi**	**154.38**	**55***c*	*i* PKIKP	**PKPdf**	**02 34 21.6**	**-1.3**
SOC				*e*		02 38 15.8	
SOC				*e*SS	SS	02 58 01.4	-0.4
SOC				pmax	pmax		
	comp=Z,177nm,1.1s						
URFA	**Urfa**	**154.71**	**70**	*e*P	**PKPdf**	**02 34 21.6**	**-2.1**
SVE	**Sverdlovsk**	**154.79**	**11**	*e*PKIKP	**PKPdf**	**02 34 23.5**	**+0.5**
SVE				pmax	pmax		
	comp=Z,189nm,1.9s						
ARU	**Arti**	**154.79**	**14**	PKP	**PKPdf**	**02 34 22.3**	**-0.7**
	comp=Z,7.9nm,1.0s,baz=266,slow=1.1,SNR=11						
ARU				PP	**PP**	**02 38 22.4**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=335,slow=4.0,SNR=1.8						
ARU	**Arti**	**154.79**	**14**	*i* PKIKP	**PKPdf**	**02 34 22.9**	**-0.1**
ARU				PPP	PPP	02 41 28.0	
ARU	**Arti**	**154.79**	**14**	PKPdf	**PKPdf**	**02 34 22.9**	**-0.1**
ARU					**PP**	**02 38 20.6**	**-1.4**
KTUT	**Trabzon**	**155.03**	**61**	⇑P	**PKPdf**	**02 34 24.1**	**+0.4**
KTUT	**Trabzon**	**155.03**	**61**	*e*P	**PKPdf**	**02 34 22.7**	**-1.1**
SVRC	**Sivrice-ELAZID**	**155.03**	**68**	*e*P	**PKPdf**	**02 34 23.2**	**-1.0**
PTK	**Pertek**	**155.05**	**66**	*e*P	**PKPdf**	**02 34 23.5**	**-0.7**
ZAA0	**Zalesovo Array**	**155.61**	**337**	PKPdf	**PKPdf**	**02 34 22.7**	**-1.5**
ZALV	**Zalesovo Beam**	**155.61**	**337**	PKP	**PKPdf**	**02 34 23.2**	**-1.0**
	comp=Z,75nm,1.2s,baz=338,slow=0.2,SNR=23						
ZALV				PKPab	**PKPab**	**02 34 46.5**	**-3.7**
	comp=Z,62nm,1.1s,baz=17,slow=1.5,SNR=6.4						
ZALV				PP	**PP**	**02 38 26.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=20,slow=4.6,SNR=1.5						
ZALV	**Zalesovo Beam**	**155.61**	**337**	PKIKP	**PKPdf**	**02 34 22.1**	**-2.1**
ZALV						02 38 25.9	
ZALV	**Zalesovo Beam**	**155.61**	**337**	PKPdf	**PKPdf**	**02 34 22.1**	**-2.1**
ZALV					**PP**	**02 38 25.9**	**-0.9**
SOCY	**Socotra**	**155.65**	**142**	PKPdf	**PKPdf**	**02 34 28.1**	**+2.5**
SNR=27							
SOCY	**Socotra**	**155.65**	**142**	PKPdf	**PKPdf**	**02 34 25.6**	**0.0**
CHOM	**Cayeli-Rize**	**155.74**	**61**	*e*P	**PKPdf**	**02 34 23.8**	**-1.1**
KOPT	**Kop Dagi**	**155.75**	**63**	IAMs_20	IAMs_20	03 47 34.0	
	comp=Z,23µm,22.0s						
YEDI	**Yedisu-Bingol**	**155.87**	**65**	*e*P	**PKPdf**	**02 34 24.8**	**-0.5**
BNGB	**Bingl**	**156.04**	**66**	*e*P	**PKPdf**	**02 34 24.8**	**-0.6**
GOF	**Gofitskoye**	**156.13**	**50**‖	*e*PKIKP	**PKPdf**	**02 34 26.3**	**+1.1**
GOF				pmax	pmax		
	comp=Z,309nm,1.5s						
MARD	**Mardin**	**156.28**	**70**	PKPdf	**PKPdf**	**02 34 24.9**	**-1.0**
KARO	**Karliova-Bingo**	**156.28**	**65**	*e*P	**PKPdf**	**02 34 25.9**	**0.0**
CHVG	**Ch'k'valeri**	**156.29**	**56**	⇑P	**PKPdf**	**02 34 23.0**	**-2.5**
BCA	**Borcka**	**156.30**	**60**	⇓P	**PKPdf**	**02 34 20.6**	**-5.0**
BCA	**Borcka**	**156.30**	**60**	*e*P	**PKPdf**	**02 34 24.8**	**-0.8**
KIV	**Kislovodsk**	**156.31**	**53**	⇓P	**PKPdf**	**02 34 27.0**	**+1.4**
KIV	**Kislovodsk**	**156.31**	**53**	*i* PKPdf	**PKPdf**	**02 34 24.2**	**-1.4**
SNR=30							
KIV	**Kislovodsk**	**156.31**	**53**	*e*PKIKP	**PKPdf**	**02 34 25.4**	**-0.2**
KIV				*e*		02 38 29.4	
KIV				*e*SS	SS	02 58 20.2	-2.5
KIV				*e*SSS	SSS	03 04 21.7	
KIV				pmax	pmax		
	comp=Z,224nm,1.0s						
KIV	**Kislovodsk**	**156.31**	**53**	PKPdf	**PKPdf**	**02 34 25.9**	**+0.3**
KVAR	**Kislovodsk Arr**	**156.31**	**53**	PKP	**PKPdf**	**02 34 25.0**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=90,slow=20,SNR=2.3						
KBZ	**Khabaz**	**156.53**	**53**	PKP	**PKPdf**	**02 34 26.1**	**+0.4**
	comp=Z,48nm,1.1s,baz=318,slow=5.0,SNR=9.6						
SVAN	**Silvan-Diyarba**	**156.54**	**68**	*e*P	**PKPdf**	**02 34 25.1**	**-0.9**
ARTV	**Artvin**	**156.58**	**60**	PKPdf	**PKPdf**	**02 34 25.3**	**-1.0**
VRTB	**Varto-Mus**	**156.61**	**65**	*e*P	**PKPdf**	**02 34 25.9**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**156.78**	**63**	*e*P	**PKPdf**	**02 34 25.9**	**-0.6**
SENK	**Senkaya-Erzuru**	**157.03**	**61**	*e*P	**PKPdf**	**02 34 26.7**	**-0.1**
GURO	**Guroymak-BITLI**	**157.14**	**67**	*e*P	**PKPdf**	**02 34 26.4**	**-0.5**
MLAZ	**Malazgirt-MUS**	**157.46**	**65**	*e*P	**PKPdf**	**02 34 26.4**	**-0.9**
ZEI	**Tsey**	**157.54**	**55**	*i* PKIKP	**PKPdf**	**02 34 25.9**	**-1.5**
ZEI				pmax	pmax		
	comp=Z,73nm,1.9s						
KARS	**Kars**	**157.56**	**61**	*e*P	**PKPdf**	**02 34 27.3**	**-0.1**
SIRT	**Sirnak**	**157.58**	**69**	*e*P	**PKPdf**	**02 34 26.4**	**-1.1**
AKH	**Akhalkalaki**	**157.66**	**59**	⇓P	**PKPdf**	**02 34 23.8**	**-3.7**
AKDM	**Akdamar-Van**	**157.91**	**67**	*e*P	**PKPdf**	**02 34 26.9**	**-1.0**
GEVA	**Gevas**	**157.97**	**67**	PKPdf	**PKPdf**	**02 34 26.6**	**-1.4**
GEVA				IAMs_20	IAMs_20	03 57 55.4	
	comp=Z,28µm,21.0s						
VANB	**Van**	**158.19**	**66**	*e*P	**PKPdf**	**02 34 28.1**	**-0.1**
CLDR	**Caldiran**	**158.50**	**64**	*e*P	**PKPdf**	**02 34 27.5**	**-1.2**
TASB	**TASBURUN-IGDIR**	**158.57**	**62**	*e*P	**PKPdf**	**02 34 27.5**	**-1.1**
GROC	**Groznyy**	**158.68**	**53**	*e*PKIKP	**PKPdf**	**02 34 28.9**	**+0.4**
GROC				*e*		02 38 48.5	
GROC				pmax	pmax		
	comp=Z,97nm,1.4s						
BRVK	**Borovoye**	**159.23**	**358**	PKIKP	**PKPdf**	**02 34 29.3**	**+0.5**
BRVK	**Borovoye**	**159.23**	**358**	PKPdf	**PKPdf**	**02 34 29.5**	**+0.7**
BVAR	**Borovoye Array**	**159.26**	**358**	PKP	**PKPdf**	**02 34 28.2**	**-0.7**
	comp=Z,9.5nm,1.0s,baz=129,slow=2.0,SNR=22						
B

KPKS	**Kokpek**	**166.53**	**329**	*d*	iPKIKP	**PKPdf**	**02 34 37.8**	**+1.5**
KPKS				*e*			02 39 27.0	
UOSS	**Minazif**	**166.54**	**120**	*i*	PKPdf	**PKPdf**	**02 34 35.4**	**-1.4**
	SNR=9.8							
UOSS	**Minazif**	**166.54**	**120**		pPKPdf	pPKPdf	02 34 39.6	+2.2
UOSS	**Minazif**	**166.54**	**120**			**PKPdf**	**02 34 36.4**	**-0.4**
SMDO	**Samad**	**166.59**	**131**		pPKPdf	pPKPdf	02 34 39.7	+2.1
	SNR=30							
UZB	**Uzyunbulak**	**166.62**	**327**				iPKP	**PKPdf**	**02 34 38.5**	**+1.9**
UZB					*e*PP		**PP**	**02 39 27.1**	**+0.7**
UZB	**Uzyunbulak**	**166.62**	**327**	*d*	iPKIKP	**PKPdf**	**02 34 38.4**	**+1.9**
UZB				*e*			02 39 27.0	
BTLS	**Baital**	**166.70**	**345**				iPKP	**PKPdf**	**02 34 37.6**	**+1.3**
BTLS	**Baital**	**166.70**	**345**	*d*	iPKIKP	**PKPdf**	**02 34 37.5**	**+1.3**
JLN	**Jalan Bani Buh**	**166.74**	**137**		pPKPdf	pPKPdf	02 34 40.7	+3.0
	SNR=30							
MSFE	**Esma-Masafi**	**166.74**	**118**	*i*	PKPdf	**PKPdf**	**02 34 35.5**	**-1.5**
	SNR=11							
MDH	**Madha**	**166.81**	**119**	*i*	PKPdf	**PKPdf**	**02 34 41.1**	**+4.1**
	SNR=11							
MDH	**Madha**	**166.81**	**119**		pPKPdf	pPKPdf	02 34 39.9	+2.3
	SNR=5.2							
WBK	**Wadi Bani Khal**	**166.83**	**135**		pPKPdf	pPKPdf	02 34 40.7	+2.9
	SNR=15							
BIDO	**Bidbid**	**166.96**	**129**		pPKPdf	pPKPdf	02 34 40.7	+2.9
	SNR=12							
SATY	**Saty**	**166.97**	**328**				iPKP	**PKPdf**	**02 34 39.0**	**+2.2**
SATY					*e*PP		**PP**	**02 39 29.8**	**+1.7**
SATY	**Saty**	**166.97**	**328**	*d*	iPKIKP	**PKPdf**	**02 34 38.9**	**+2.2**
SATY				*e*			02 39 29.7	
WSAR	**Wadi Sarin**	**167.09**	**132**		PKP	**PKPdf**	**02 34 37.0**	**-0.3**
	comp=Z,51nm,1.1s,baz=226,slow=1.7,SNR=15							
WSAR					PP	**PP**	**02 39 30.3**	**+1.3**
	comp=Z,7.4nm,1.0s,baz=288,slow=4.3,SNR=2.9							
WSAR	**Wadi Sarin**	**167.09**	**132**		pPKPdf	pPKPdf	02 34 41.2	+3.2
	SNR=9.5							
KUU	**Kurty**	**167.10**	**336**				iPKP	**PKPdf**	**02 34 38.2**	**+1.6**
KUU	**Kurty**	**167.10**	**336**	*d*	iPKIKP	**PKPdf**	**02 34 38.2**	**+1.6**
SHME	**Shamm**	**167.10**	**116**	*i*	PKPdf	**PKPdf**	**02 34 35.6**	**-1.6**
	SNR=7.8							
BANOM	**Banah**	**167.16**	**116**	*i*	PKPdf	**PKPdf**	**02 34 35.6**	**-1.7**
	SNR=5.6							
MDOK	**Medeo**	**167.46**	**332**				iPKP	**PKPdf**	**02 34 36.6**	**-0.6**
MDOK	**Medeo**	**167.46**	**332**	*d*	iPKIKP	**PKPdf**	**02 34 36.5**	**-0.6**
AAA	**Alma-Ata**	**167.47**	**333**				iPKP	**PKPdf**	**02 34 40.1**	**+3.0**
AAA	**Alma-Ata**	**167.47**	**333**	*d*	iPKIKP	**PKPdf**	**02 34 40.0**	**+3.0**
SGDS	**Sogindy**	**168.04**	**340**				iPKP	**PKPdf**	**02 34 39.3**	**+1.9**
SGDS	**Sogindy**	**168.04**	**340**	*d*	iPKIKP	**PKPdf**	**02 34 39.3**	**+1.9**
TKM2	**Tokmak 2**	**168.21**	**336**		P	**PKPdf**	**02 34 40.4**	**+2.7**
	SNR=8.6							
USP	**Ospenovka**	**168.24**	**340**		P	**PKPdf**	**02 34 37.5**	**0.0**
	SNR=15							
CHMS	**Chumysh**	**168.41**	**339**		P	**PKPdf**	**02 34 40.8**	**+3.2**
	SNR=9.2							
KBK	**Karagaybulak**	**168.66**	**337**		P	**PKPdf**	**02 34 41.3**	**+3.3**
	SNR=8.0							
AAK	**Ala-Archa**	**168.82**	**339**		P	**PKPdf**	**02 34 41.3**	**+3.2**
	SNR=7.9							
AAK	**Ala-Archa**	**168.82**	**339**	*i*	PKPdf	**PKPdf**	**02 34 35.4**	**-2.7**
	SNR=8.6							
EKS2	**Erkin-Say**	**169.00**	**342**		P	**PKPdf**	**02 34 40.4**	**+2.2**
	SNR=15							
KK31	**Karatay Array**	**169.15**	**354**		PKIKP	**PKPdf**	**02 34 37.4**	**-0.7**
KK31	**Karatay Array**	**169.15**	**354**			**PKPdf**	**02 34 37.4**	**-0.7**
KKAR	**Karatay Array**	**169.15**	**354**		PKIKP	**PKPdf**	**02 34 37.7**	**-0.4**
KKAR	**Karatay Array**	**169.15**	**354**			**PKPdf**	**02 34 37.7**	**-0.4**
UCH	**Uchtor**	**169.19**	**338**		P	**PKPdf**	**02 34 42.5**	**+3.8**
	SNR=11							
BRLS	**Borolday**	**169.27**	**357**				iPKP	**PKPdf**	**02 34 39.6**	**+1.5**
BRLS					*i* PP		**PP**	**02 39 43.3**	**+4.1**
BRLS	**Borolday**	**169.27**	**357**	*d*	iPKIKP	**PKPdf**	**02 34 39.6**	**+1.5**
BRLS					*i*		02 39 43.2	
GEYT	**Alibeck**	**169.41**	**55**		PKP	**PKPdf**	**02 34 37.7**	**-0.7**
	comp=Z,26nm,1.2s,baz=276,slow=4.0,SNR=25							
GEYT					PP	**PP**	**02 39 41.0**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=251,slow=4.4,SNR=4.2							
GEYT	**Alibeck**	**169.41**	**55**			**PKPdf**	**02 34 38.5**	**+0.1**
AML	**Almayashu**	**169.52**	**341**		P	**PKPdf**	**02 34 42.4**	**+3.6**
	SNR=10.0							
IUG	**Iuzhnay**	**170.14**	**356**				iPKP	**PKPdf**	**02 34 39.4**	**+0.5**
IUG					*i* PP		**PP**	**02 39 45.6**	**+2.0**
IUG	**Iuzhnay**	**170.14**	**356**	*d*	iPKIKP	**PKPdf**	**02 34 39.3**	**+0.5**
IUG					*i*		02 39 45.6	
KSH	**Kashi**	**170.88**	**324**		PKP	PKPdf	02 34 27.9	-11
KSH					pPKP	sPKPdf	02 34 56.1	+16
KSH					PP	**PP**	**02 39 46.2**	**-1.8**
KSH					AMB	AMB		
	comp=Z,13μm,8.1s							
KSH					LR	LR		
	comp=N,15μm,18.5s							
KSH					LR	LR		
	comp=E,18μm,17.7s							
KSH					LR	LR		
	comp=Z,10μm,16.2s							
NIL	**Nilore**	**176.24**	**292**		PKIKP	**PKPdf**	**02 34 40.6**	**-0.8**
NIL	**Nilore**	**176.24**	**292**			**PKPdf**	**02 34 40.5**	**-0.8**
KBL	**Kabul**	**177.76**	**1**		PKIKP	**PKPdf**	**02 34 41.8**	**-0.1**
KBL							02 36 27.1	
KBL	**Kabul**	**177.76**	**1**		PKPdf	**PKPdf**	**02 34 41.8**	**-0.1**
KBL						PKPab	02 36 27.1	-1.3

*IDC **09** 02:20:30.6±1.3, 7.°03N×93.°91E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.7/61, mbtmp3.8/9, ML4.1/2, Error ellipse: s-maj=56.8km s-min=20.1km az=53.0*

ISC 09 02:20:34.0±1.0, 7.°1N±0.°1×93.°9E±0.°2, h21km, n13, σ1°27/10, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.54**	**130**	Pn	**Pn**	**02 22 09.9**	**+0.7**
	1.2nm,0.3s,baz=90,slow=21,SNR=2.8						
CMAR	**Chiang Mai Arr**	**12.32**	**23**	Pn	**Pn**	**02 23 28.3**	**-0.1**
	0.7nm,0.3s,baz=230,slow=13,SNR=2.3						
H08S3	**Diego Garcia H**	**25.90**	**236**	T	T	02 52 58.7	
	baz=55,slow=75,SNR=27						
H08S2	**Diego Garcia H**	**25.90**	**236**	T	T	02 52 56.5	
	baz=55,slow=75,SNR=40						
H08S1	**Diego Carcia H**	**25.92**	**236**	T	T	02 52 57.8	
	baz=55,slow=75,SNR=6.8						
MKAR	**Makanchi Array**	**40.82**	**348**	P	**P**	**02 28 12.7**	**-1.4**
	0.7nm,0.6s,baz=158,slow=7.8,SNR=7.4						
GEYT	**Alibeck**	**44.66**	**319**	P	**P**	**02 28 47.1**	**+1.7**
	1.7nm,0.6s,baz=112,slow=9.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**45.27**	**346**	PcP	**PcP**	**02 30 28.3**	**-1.3**
	0.2nm,0.4s,baz=156,slow=3.2,SNR=1.6						
ZALV	**Zalesovo Beam**	**47.31**	**353**	P	**P**	**02 29 07.5**	**+1.5**
	2.0nm,0.6s,baz=168,slow=7.6,SNR=5.0						
WRA	**Warramunga Arr**	**47.97**	**125**	P	**P**	**02 29 11.9**	**+0.2**
	0.4nm,0.5s,baz=306,slow=8.5,SNR=1.5						
ASAR	**Alice Springs**	**49.57**	**129**	P	**P**	**02 29 22.7**	**-1.2**
	0.5nm,0.8s,baz=292,slow=8.9,SNR=0.8						
FINES	**FINESS Array B**	**73.32**	**332**	P	**P**	**02 32 03.7**	**-0.1**
	0.6nm,0.4s,baz=92,slow=4.2,SNR=1.4						
GERES	**GERESS Array B**	**78.28**	**318**	P	**P**	**02 32 31.9**	**-0.8**
	0.2nm,0.5s,baz=106,slow=5.6,SNR=2.0						

*IDC **09** 02:29:45.6±1.1, 35.°01N×135.°91E, h357km±15km, mb3.1/5, mb1 3.3/8, mb1mx3.0/75, mbtmp3.9/8, Error ellipse: s-maj=31.4km s-min=17.1km az=61.0*

*JMA **09** 02:29:46.5±0.1, 35.°08N×135.°81E, h350km±1km, M3.3*

ISC 09 02:29:45.8±0.9, 35.°02N±0.°09×135.°8E±0.°1, h354km±8km, n16, σ0.°71/21, mb3.2/5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.44**	**307**	P	**Pn**	**02 30 30.7**	**+0.4**
JWT				S	**S**	**02 31 04.8**	**-1.2**
JIE	**Ise**	**0.96**	**130**	P	**Pn**	**02 30 32.6**	**+0.8**
JIE				S	**S**	**02 31 08.4**	**-0.3**
JTNC	**Tanabenakahech**	**1.21**	**189**	P	**Pn**	**02 30 33.4**	**+0.4**
JTNC				S	**S**	**02 31 10.1**	**-0.7**
TK02	**Tokai 2**	**1.92**	**123**	P	**Pn**	**02 30 37.8**	**+1.2**
MAT	**Matsushiro**	**2.46**	**51**	P	**Pn**	**02 30 40.7**	**-0.1**
MAT				*e*S	**S**	**02 31 24.1**	**-1.1**
MAT	**Matsushiro**	**2.46**	**51**	P	**Pn**	**02 30 41.0**	**+0.2**
MJAR	**Matsushiro Arr**	**2.46**	**51**	P	**Pn**	**02 30 41.3**	**+0.5**
	1.5nm,0.3s,baz=217,slow=8.6,SNR=46						
MJAR				S	**S**	**02 31 25.3**	**+0.1**
	0.2nm,0.3s,baz=243,slow=14,SNR=5.4						
JOD2	**Odawara 2**	**2.69**	**84**	P	**Pn**	**02 30 43.1**	**+0.4**
JRY	**Ryogami san**	**2.70**	**67**	P	**Pn**	**02 30 43.3**	**+0.5**
KSRS	**Korea Array**	**6.83**	**293**	P	**Pn**	**02 31 27.2**	**+1.0**
	0.5nm,0.3s,baz=106,slow=13,SNR=7.9						
USRK	**Ussuriysk Ar.**	**9.64**	**343**	P	**Pn**	**02 32 00.0**	**+0.9**
	baz=151,slow=11,SNR=32						
MKAR	**Makanchi Array**	**41.39**	**303**	P	**P**	**02 36 58.7**	**+0.2**
	2.6nm,0.8s,baz=68,slow=8.5,SNR=1.1						
KURBB	**Kurchatov Arra**	**43.71**	**309**	P	**P**	**02 37 16.4**	**-0.4**
	1.4nm,0.8s,baz=98,slow=5.5,SNR=7.3						
WRA	**Warramunga Arr**	**54.67**	**182**	P	**P**	**02 38 38.8**	**-0.5**
	0.4nm,0.4s,baz=0.7,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**68.43**	**331**	P	**P**	**02 40 09.6**	**-0.3**
	3.6nm,1.1s,baz=73,slow=4.7,SNR=3.8						
NOA	**NORSAR Array B**	**74.21**	**335**	P	**P**	**02 40 44.3**	**+0.1**
	0.3nm,0.7s,baz=40,slow=5.6,SNR=1.0						

*MOS **09** 02:32:02.6±0.6, 32.°21S×110.°89W, h10km, mb6.0/80, Error ellipse: s-maj=16.3km s-min=7.1km az=83.0*

*NEIC **09** 02:32:05.1±0.9, 32.°10S±0.°08×110.°9W±0.°1, h10km±1km, mb6.0/403, Ms_20 6.7/118, Mwc6.6/99, Mww6.6, Mwc6.6(GCMT), Error ellipse: s-maj=15.3km s-min=12.9km az=109.0*

*IDC **09** 02:32:05.2±0.3, 32.°23S×111.°01W, h0km, mb5.5/26, mb1 5.5/27, mb1mx5.5/28, mbtmp5.4/27, ML5.5/1, MS6.5/22, Ms1 6.5/22, ms1mx6.3/26, Error ellipse: s-maj=12.8km s-min=11.3km az=93.0*

*NEIC **09** 02:32:13, 32.°41S×111.°08W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=0.68; Mθθ=-8.72; Mφφ=8.05; Mrθ=-1.94; Mrφ=-0.86; Mθφ=0.56; Fault plane solution: M0=8.69000×10^18 NP1:φs42.00000°, δ79.00000°, λ-4.00000°. NP2:φs132.00000°, δ86.00000°, λ-169.00000°. Principal axes: T 8.1504, Plg5.0000°, Azm266.0000°; N 0.9891, Plg78.0000°, Azm152.0000°; P -9.1395, Plg11.0000°, Azm357.0000°;*

*GCMT **09** 02:32:14.1±0.1, 32.°38S×111.°07W, h18km, MW6.6/166, Moment Tensor Solution. s88,c137; s166,c692; Duration: 4s7 Moment tensor: Scale 10^19 Nm; Mrr=0.07±.01; Mθθ=-0.86±.01; Mφφ=0.78±.01; Mrθ=-0.30±.02; Mrφ=-0.10±.01; Mθφ=-0.09±.02; Best double couple: M0=0.87500×10^19 NP1:φs133.00000°, δ74.00000°, λ-172.00000°. NP2:φs41.00000°, δ83.00000°, λ-16.00000°. Principal axes: T 0.7980, Plg6.0000°, Azm88.0000°; N 0.1560, Plg73.0000°, Azm196.0000°; P -0.9530, Plg16.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 02:32:14, 32.°20S×110.°99W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^19 Nm; Mrr=0.08; Mθθ=-0.89; Mφφ=0.80; Mrθ=-0.70; Mrφ=-0.12; Mθφ=0.35; Fault plane solution: M0=1.16000×10^19 NP1:φs39.00000°, δ48.00000°, λ1.00000°. NP2:φs308.00000°, δ90.00000°, λ138.00000°. Principal axes: T 1.0314, Plg29.0000°, Azm255.0000°; N 0.2227, Plg48.0000°, Azm128.0000°; P -1.2540, Plg28.0000°, Azm2.0000°;*

*NEIC **09** 02:32:23.9, 32.°64S×111.°11W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=0.68; Mθθ=-8.81; Mφφ=8.13; Mrθ=0.64; Mφθ=-1.50; Mrφ=2.03; Fault plane solution: M0=8.88000×10^18 NP1:φs309.26000°, δ76.77000°, λ173.64000°. NP2:φs40.72000°, δ83.80000°, λ13.31000°. Principal axes: T 8.7501, Plg14.0000°, Azm266.0000°; N 0.2641, Plg75.0000°, Azm65.0000°; P -9.0142, Plg5.0000°, Azm174.0000°;*

ISC 09 02:32:06.1±0.6, 32.°16S±0.°05×110.°92W±0.°05, h10km±3km, h11km:pP-P, n1550, σ1961/1519, mb5.9/232, MS6.7/88, 54C-48D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.20**	**16**	Pn	**Pn**	**02 33 25.1**	**+1.1**
	170nm,0.3s,baz=196,slow=7.6,SNR=33						
RPN				Sn	**Sn**	**02 34 24.5**	**+0.5**
	baz=216,slow=16,SNR=1.0						
RPN	**Rapa Nui**	**5.20**	**16**	Pn	**Pn**	**02 33 22.2**	**-1.8**
RPN				Sn	**Sn**	**02 34 21.5**	**-2.5**
PTCN	**Pitcairn Islan**	**18.24**	**288**	P	**Pn**	**02 36 18.7**	**-0.7**
PTCN				IAmb	IAmb	02 36 36.1	
	comp=Z,2μm,1.3s						
RKT	**Rikitea**	**23.09**	**287**	*e*LR	LR	02 42 36.9	
	comp=Z,251μm,27.5s						
H03S2	**Juan Fernandez**	**26.83**	**102**	P	**P**	**02 37 48.0**	**+1.7**
	SNR=3.3						
H03S2				T	T	03 06 00.8	
	baz=262,slow=75,SNR=492						
H03S3	**Juan Fernandez**	**26.85**	**102**	P	**P**	**02 37 48.4**	**+1.9**
	SNR=3.0						
H03S3				T	T	03 06 00.3	
	baz=262,slow=75,SNR=231						
H03S1	**Juan Fernandez**	**26.85**	**102**	P	**P**	**02 37 48.0**	**+1.5**
	SNR=4.2						
H03S1				T	T	03 06 01.7	
	baz=262,slow=75,SNR=191						
H03N2	**Juan Fernandez**	**26.87**	**101**	T	T	03 06 03.1	
	baz=267,slow=74,SNR=726						
H03N3	**Juan Fernandez**	**26.87**	**101**	T	T	03 06 06.7	
	baz=267,slow=74,SNR=884						
H03N1	**Juan Fernandez**	**26.88**	**101**	T	T	03 06 02.6	
	baz=267,slow=74,SNR=517						
VA04	**Juan Fernndez**	**26.93**	**102**	P	**P**	**02 37 46.0**	**-1.5**
VA04				IAmb	IAmb	02 37 57.5	
	comp=Z,526nm,1.3s						
BI03	**Tigo**	**31.44**	**109**	P	**P**	**02 38 26.3**	**-1.2**
BI03				IAMs_20	IAMs_20	02 47 15.5	
	comp=Z,148μm,21.0s						
LL01	**San Ignacio de**	**32.06**	**120**	P	**P**	**02 38 31.6**	**-1.3**
LL01				IAmb	IAmb	02 38 42.3	
	comp=Z,199nm,1.3s						
GO05	**Huala**	**32.47**	**106**	P	**P**	**02 38 35.3**	**-1.3**
GO05				IAmb	IAmb	02 38 44.9	
	comp=Z,400nm,1.5s						
GO05				IAMs_20	IAMs_20	02 48 09.7	
	comp=Z,127μm,19.0s						
BI02	**San Fabin de**	**32.85**	**109**	P	**P**	**02 38 38.7**	**-1.4**
BI02				IAMs_20	IAMs_20	02 48 35.9	
	comp=Z,120μm,18.0s						
VA01	**Torpederas**	**32.97**	**102**	P	**P**	**02 38 39.7**	**-1.3**
PLCA	**Paso Flores**	**33.34**	**116**	P	**P**	**02 38 45.6**	**+1.3**
	comp=Z,46nm,0.9s,baz=268,slow=8.8,SNR=24						
PLCA				PcP	**PcP**	**02 41 27.1**	**+1.0**
	comp=Z,15nm,1.0s,baz=262,slow=13,SNR=3.5						
PLCA				LR	LR	02 48 53.3	
	comp=Z,100μm,19.9s,baz=278,slow=30						
PLCA	**Paso Flores**	**33.34**	**116**	P	**P**	**02 38 42.9**	**-1.4**
PLCA					**PcP**	**02 41 25.9**	**-0.2**
PLCA	**Paso Flores**	**33.34**	**116**	*e*P	**P**	**02 38 46.6**	**+2.3**
MT02	**Curacav**	**33.35**	**103**	P	**P**	**02 38 43.0**	**-1.4**
MT02				IAMs_20	IAMs_20	02 48 18.2	
	comp=Z,143μm,20.0s						
BO02	**Sierra Bellavi**	**33.43**	**106**	P	**P**	**02 38 43.7**	**-1.5**
BO02				IAMs_20	IAMs_20	02 48 23.2	
	comp=Z,106μm,20.0s						
ROC1	**El Roble**	**33.50**	**102**	P	**P**	**02 38 44.4**	**-1.6**
MT05	**Renca**	**33.66**	**103**	P	**P**	**02 38 45.8**	**-1.4**
MT05				IAMs_20	IAMs_20	02 48 45.4	
	comp=Z,106μm,20.0s						
PEL	**Peldehue**	**33.75**	**103**	P	**P**	**02 38 50.0**	**+2.1**
CO02	**Combarbal**	**33.85**	**99**	P	**P**	**02 38 47.3**	**-1.6**
VA03	**San Esteban**	**33.92**	**102**	P	**P**	**02 38 48.0**	**-1.5**
GO09	**Cerro Castillo**	**34.04**	**136**	P	**P**	**02 38 49.4**	**-0.7**
CO03	**El Pedregal**	**34.19**	**99**	P	**P**	**02 38 50.3**	**-1.6**
GO04	**Tololo Observa**	**34.25**	**97**	P	**P**	**02 38 50.9**	**-1.7**
GO04				IAMs_20	IAMs_20	02 48 40.9	
	comp=Z,112μm,20.0s						
AC04	**Llanos de Chal**	**34.53**	**94**	P	**P**	**02 38 53.2**	**-1.5**
AC04				IAMs_20	IAMs_20	02 48 47.3	
	comp=Z,154μm,20.0s						
CO01	**Juntas del Tor**	**34.89**	**97**	P	**P**	**02 38 56.5**	**-1.6**
CO01				IAmb	IAmb	02 39 08.7	
	comp=Z,350nm,1.5s						
CO01				IAMs_20	IAMs_20	02 49 01.9	
	comp=Z,138μm,22.0s						
AC05	**El Transito**	**35.03**	**95**	P	**P**	**02 38 57.7**	**-1.5**
TBI	**Tubuai**	**35.07**	**275**	*e*S	**S**	**02 44 33.3**	**+1.5**
	comp=Z,16μm,29.0s						
TBI				*e*LQ	LQ	02 46 53.3	
	comp=Z,75μm,29.0s						
TBI				*e*LR	LR	02 48 11.5	
	comp=Z,155μm,27.0s,baz=113						
TBI	**Tubuai**	**35.07**	**275**	*e*T	T	03 15 32.2	
	comp=Z,64nm,0.3s						
GO03	**Copiap**	**35.42**	**93**	P	**P**	**02 39 00.8**	**-1.6**
GO03				IAmb	IAmb	02 39 17.3	
	comp=Z,208nm,1.1s						
GO03				IAMs_20	IAMs_20	02 49 14.9	
	comp=Z,148μm,22.0s						
AC01	**Pan de Azucar**	**35.57**	**91**	P	**P**	**02 39 02.1**	**-1.5**
TAOE	**Nuku Hiva Isla**	**35.66**	**304**	*e*S	**S**	**02 44 42.8**	**+1.6**
	comp=Z,18μm,25.8s						
TAOE				*e*LQ	LQ	02 47 11.7	
	comp=Z,95μm,24.6s						
PB14	**IPOC Station P**	**36.26**	**89**	P	**P**	**02 39 07.9**	**-2.0**
PB14				IAmb	IAmb	02 39 21.3	
	comp=Z,603nm,1.8s						
PB14				IAMs_20	IAMs_20	02 49 42.0	
	comp=Z,144μm,21.0s						
MEH	**Mehetia**	**36.35**	**284**	*e*P	**P**	**02 39 13.1**	**+2.7**
	comp=Z,43nm,1.2s						
MEH	**Mehetia**	**36.35**	**284**	*e*T	T	03 17 11.8	
	comp=Z,265nm,0.2s						
PB10	**IPOC Station P**	**36.55**	**87**	P	**P**	**02 39 10.5**	**-1.6**
PB10				IAMs_20	IAMs_20	02 49 51.7	
	comp=Z,121μm,20.0s						
AC02	**Maricunga**	**36.59**	**93**	P	**P**	**02 39 10.9**	**-2.1**
AC02				IAMs_20	IAMs_20	02 50 20.8	
	comp=Z,117μm,20.0s						
GO02	**Mina Guanaco**	**36.76**	**90**	P	**P**	**02 39 12.3**	**-1.9**
PAYG	**Puerto Ayora**	**36.88**	**36**	P	**P**	**02 39 13.2**	**-1.7**
NNA	**Nana**	**37.18**	**65**	*i* P	**P**	**02 39 19.4**	**+1.8**
NNA				pmax	pmax		
	comp=Z,661nm,1.4s						
NNA	**Nana**	**37.18**	**65**	P	**P**	**02 39 15.8**	**-1.8**
NNA				IAmb	IAmb	02 39 28.0	
	comp=Z,438nm,1.4s						
NNA	**Nana**	**37.18**	**65**	IAMs_20	IAMs_20	02 50 20.3	
	comp=Z,80μm,19.0s						
PB04	**IPOC Station P**	**37.36**	**85**	P	**P**	**02 39 17.4**	**-1.8**
PB04				IAmb	IAmb	02 39 25.2	
	comp=Z,691nm,1.9s						
PB04				IAMs_20	IAMs_20	02 50 13.1	
	comp=Z,125μm,21.0s						
TVO	**Taravao**	**37.37**	**283**	*e*P	**P**	**02 39 21.7**	**+2.5**
TVO	**Taravao**	**37.37**	**283**	*e*T	T	03 18 22.6	
	comp=Z,7.6nm,0.2s						
VAH	**Vaihoa**	**37.37**	**288**	*e*P	**P**	**02 39 22.0**	**+2.9**
	comp=Z,591nm,1.4s						
USHA	**Ushuaia**	**37.45**	**140**	P	**P**	**02 39 20.0**	**+0.7**
	comp=Z,69nm,0.9s,baz=273,slow=8.0,SNR=9.5						
TIAR	**Tiarei**	**37.56**	**283**	*e*P	**P**	**02 39 22.9**	**+2.2**
	comp=Z,70nm,1.2s						
TIAR	**Tiarei**	**37.56**	**283**	*e*T	T	03 18 39.0	
	comp=Z,27nm,0.2s						
PB15	**IPOC Station P**	**37.58**	**87**	P	**P**	**02 39 19.3**	**-1.8**
PB06	**IPOC Station P**	**37.70**	**86**	P	**P**	**02 39 20.2**	**-1.8**
PB06				IAmb	IAmb	02 39 31.9	
	comp=Z,266nm,1.1s						
PAE	**Paea**	**37.70**	**283**	*e*P	**P**	**02 39 24.2**	**+2.3**
	comp=Z,33nm,1.2s						
PAE	**Paea**	**37.70**	**283**	*e*T	T	03 18 43.5	
	comp=Z,5.1nm,0.3s						
PMOR	**Pomariorio Ree**	**37.71**	**288**	*e*P	**P**	**02 39 23.9**	**+1.9**
	comp=Z,538nm,1.6s						
PPT2	**Papeete2**	**37.73**	**283**	*e*P	**P**	**02 39 24.7**	**+2.4**
	comp=Z,321nm,1.3s						
PPT2				*e*S	**S**	**02 45 14.6**	**+1.8**
	comp=Z,25μm,24.8s						
PPT2				*e*LQ	LQ	02 47 53.2	
	comp=Z,63μm,24.5s						
PPT2				*e*LR	LR	02 49 21.5	
	comp=Z,257μm,24.8s,baz=123						
PPT2	**Papeete2**	**37.73**	**283**	*e*T	T	03 18 36.0	
	comp=Z,10nm,0.3s						
PPT	**Papeete**	**37.74**	**283**	P	**P**	**02 39 22.1**	**-0.2**
	comp=Z,76nm,1.0s,baz=83,slow=15,SNR=4.8						
PPT				LR	LR	02 50 25.5	
	comp=Z,123μm,18.9s,baz=107,slow=29						
PB07	**IPOC Station P**	**37.83**	**84**	P	**P**	**02 39 21.4**	**-1.8**
PB07				IAMs_20	IAMs_20	02 50 26.6	
	comp=Z,153μm,22.0s						
MG01	**Puerto William**	**37.92**	**140**	P	**P**	**02 39 22.6**	**-0.6**
MG01				IAmb	IAmb	02 39 29.7	
	comp=Z,491nm,1.8s						
PATCX	**Punta Patache**	**37.99**	**83**	P	**P**	**02 39 22.8**	**-1.6**
TA01	**Diego Aracena**	**38.08**	**83**	P	**P**	**02 39 23.7**	**-1.4**
TA01				IAmb	IAmb	02 39 34.1	
	comp=Z,741nm,2.0s						
LVC	**Limon Verde**	**38.29**	**86**	P	**P**	**02 39 25.4**	**-1.9**
LVC				pmax	pmax		
	comp=Z,584nm,1.4s						
LVC	**Limon Verde**	**38.29**	**86**	P	**P**	**02 39 25.4**	**-1.9**
LVC				IAmb	IAmb	02 39 39.6	
	comp=Z,584nm,1.4s						
LVC	**Limon Verde**	**38.29**	**86**	IAMs_20	IAMs_20	02 50 55.9	
	comp=Z,101μm,19.0s						
PB09	**IPOC Station P**	**38.34**	**85**	P	**P**	**02

CPUP Villa Florida 46.73 97 P P 02 40 34.0 -1.5
CPUP IAmb IAmb 02 40 44.2
comp=Z,291nm,1.6s
CPUP Villa Florida 46.73 97 eP P 02 40 37.2 +1.8
ETMB Extrema 46.86 72 eP P 02 40 37.1 +0.5
ETMB epP pP 02 40 39.2 +0.3
PTLC Puerto Leguiza 46.88 54 eP P 02 40 36.5 -0.3
FLOC Florencia 47.34 52 eP P 02 40 41.9 +1.6
POPC Popayan, Colom 47.38 50 eP P 02 40 41.9 +1.0
PCON Cinco Dias 47.40 50 eP P 02 40 44.0 +2.6
GARC Garzon, Huila 47.89 51 eP P 02 40 46.7 +1.8
MARP Paez Belalcaza 48.08 50 eP P 02 40 48.3 +1.9
PLTB Pedras Altas 48.12 106 eP P 02 40 47.0 +0.8
BETC Betania 48.29 51 eP P 02 40 51.2 +3.5
CPSB Cacapava Do Su 48.65 104 eP P 02 40 50.8 +0.5
YOTC Yotoco, Valle 48.69 49 eP P 02 40 51.2 +0.4
MACC Macarena, Meta 48.96 53 eP P 02 40 54.6 +1.7
JTS Las Juntas de 48.97 35 *i* P **P 02 40 54.5 +1.6**
JTS pmax pmax
comp=Z,91nm,1.2s
JTS Las Juntas de 48.97 35 P **P 02 40 51.1 -1.8**
JTS IAmb IAmb 02 40 57.6
comp=Z,183nm,1.4s
ORTC Ortega, Tolima 49.34 50 eP P 02 40 58.0 +2.2
PRAC Prado 49.43 51 eP P 02 40 58.0 +1.5
PLMC San Jos del P 49.43 48 eP P 02 40 56.5 -0.1
ANIL Santa Ana 49.68 49 eP P 02 41 02.2 +3.5
PTLB Pontes e Lacer 49.74 83 eP P 02 40 59.9 +1.1
SOLC Bahia Solano 49.76 46 eP P 02 41 00.6 +1.7
SAML Samuel 49.80 73 P **P 02 40 57.6 -1.7**
SAML pmax pmax
comp=Z,218nm,1.3s
SAML Samuel 49.80 73 P **P 02 40 57.6 -1.7**
SAML IAmb IAmb 02 41 02.3
comp=Z,218nm,1.3s
SAML Samuel 49.80 73 IAMs_20 IAMs_20 02 58 21.1
comp=Z,63µm,22.0s
SAML Samuel 49.80 73 eP P 02 41 00.3 +1.0
TOLC Tolima 49.80 49 eP P 02 41 01.5 +1.8
RREF El Recreo 50.03 49 eP P 02 41 00.2 -1.5
VILB Vilhena 50.10 80 eP P 02 41 02.4 +0.8
GUY2C Guyana, Caldas 50.26 49 eP P 02 41 05.1 +1.8
CBOC Ciudad Bolivar 50.34 48 eP P 02 41 05.6 +2.1
VILC Villavicencio, 50.51 51 eP P 02 41 09.0 +4.2
H06S1 SOCORRO T 50.60 360 P **P 02 41 06.3 +1.1**
H06S1 T T 03 35 41.6
SNR=6.0
ROSC El Rosal 50.65 50 P **P 02 41 07.4 +1.3**
comp=Z,168nm,1.0s,baz=198,slow=3.5,SNR=54
ROSC LR LR 02 58 51.3
comp=Z,43µm,18.6s,baz=215,slow=32
ROSC El Rosal 50.65 50 eP P 02 41 09.5 +3.4
ROSC El Rosal 50.65 50 P **P 02 41 04.0 -2.1**
H06E1 SOCORRO T-PHAS 50.65 360 T T 03 35 50.3
SNR=22
BCIP Isla Barro Col 50.70 41 P **P 02 41 04.4 -1.6**
BCIP pmax pmax
comp=Z,174nm,1.4s
BCIP Isla Barro Col 50.70 41 P **P 02 41 04.4 -1.6**
BCIP IAmb IAmb 02 41 16.7
comp=Z,174nm,1.4s
ITAB Concordia 50.77 101 eP P 02 41 07.9 +1.4
TLIG Tlapa 50.84 15 P **P 02 41 05.4 -1.7**
TLIG IAmb IAmb 02 41 19.7
comp=Z,222nm,1.4s
CHIC Chingaza 50.87 51 eP P 02 41 10.4 +2.6
DBBC Dabeiba 51.11 47 eP P 02 41 11.4 +2.1
CNLB Canela 51.12 104 eP P 02 41 11.3 +2.0
TGUH Tegucigalpa,Un 51.23 30 P **P 02 41 08.6 -1.5**
TGUH IAmb IAmb 02 41 19.5
comp=Z,230nm,1.5s
SPBC San Pablo de B 51.42 50 eP P 02 41 12.1 +0.5
CCIG Comitan 51.42 23 P **P 02 41 10.1 -1.5**
PTGC Puerto Gaitan, 51.62 53 eP P 02 41 14.1 +1.1
CAPC Capurgana 51.70 44 eP P 02 41 13.9 +0.4
PTGB Pitanga 51.74 98 eP P 02 41 15.2 +1.2
PTBC PUERTO BERRIO, 51.84 49 eP P 02 41 16.5 +1.8
TRCB Terra Rica 52.01 95 eP P 02 41 17.2 +1.2
UREC San Jos de Ur 52.10 47 eP P 02 41 18.3 +1.7
RUSC La Rusia 52.24 51 eP P 02 41 19.6 +1.4
ZARC Zaragoza, Cauc 52.32 48 eP P 02 41 19.6 +1.4
MOIG Morelia 52.38 12 P **P 02 41 16.8 -2.0**
MOIG IAmb IAmb 02 41 30.1
comp=Z,155nm,1.1s
BARC Barichara 52.70 50 eP P 02 41 21.8 +0.5
BRRC Barranca, Sant 52.75 49 eP P 02 41 22.5 +1.2
PAMC Pamplona, Colo 53.58 50 eP P 02 41 29.2 +1.2
PCMB Pacaembu 53.66 94 eP P 02 41 29.0 +0.9
SMLC San Martn de 53.82 47 eP P 02 41 30.0 +0.7
SJCC San Jacinto, C 53.99 45 eP P 02 41 32.3 +1.8
TIJ01 Guaruva-PR 54.08 100 eP P 02 41 31.3 0.0
FRTB Fartura 54.38 97 eP P 02 41 33.6 +0.2
ARGC Ariguani, Magd 54.53 46 eP P 02 41 35.0 +0.6
CLDB Colider 54.85 80 eP P 02 41 36.4 -0.5
MACA Manacapuru-AM 55.20 69 eP P 02 41 39.3 0.0
ZAIG Zacatecas 55.20 9 P **P 02 41 37.9 -1.5**
ITRB Iturama 55.23 93 eP P 02 41 40.7 +1.2
SMRC Santa Marta, M 55.56 45 eP P 02 41 42.5 +0.6
HOPE Hope Point 55.77 137 P **P 02 41 42.1 -0.8**
HOPE pmax pmax
comp=Z,212nm,1.1s
HOPE Hope Point 55.77 137 P **P 02 41 42.1 -0.8**
HOPE IAmb IAmb 02 41 48.9
comp=Z,212nm,1.1s
ARAG Araguaiana, MT 55.81 88 eP P 02 41 44.7 +1.0
PET01 Itanhaem-SP 55.92 99 eP P 02 41 45.9 +1.4
SPB Sao Paulo 56.07 98 eP P 02 41 47.6 +2.1
SDV Santo Domingo 56.08 50 P **P 02 41 44.3 -1.6**
SDV IAmb IAmb 02 41 59.8
comp=Z,178nm,1.2s
SDV Santo Domingo 56.08 50 eP P 02 41 45.9 0.0
BB19B Bebedouro 56.19 95 eP P 02 41 47.6 +1.1
VAO Valinhos 56.70 98 eP P 02 41 51.4 +1.2
RAO Raoul Island 56.83 254 LR LR 03 00 00.6
comp=Z,39µm,21.3s,baz=113,slow=30
RAO Raoul Island 56.83 254 IAMs_20 IAMs_20 02 59 15.0
comp=Z,62µm,22.0s
MXZ Matakaoa Point 57.08 243 IAMs_20 IAMs_20 03 00 02.1
comp=Z,65µm,20.0s
NPGB Novo Progresso 57.27 77 eP P 02 41 53.9 -0.3
URIC Uribia, Colomb 57.35 47 eP P 02 41 54.6 0.0
PARB Paraibuna 57.69 99 eP P 02 41 58.7 +1.5
BFZ Birch Farm 57.70 239 P **P 02 41 56.4 -0.5**
BFZ IAMs_20 IAMs_20 02 59 44.6
comp=Z,56µm,20.0s
URZ Urewera 57.77 242 P **P 02 41 57.6 +0.3**
comp=Z,29nm,1.1s,baz=335,slow=3.7,SNR=4.9
URZ LR LR 03 01 14.4
comp=Z,76µm,20.3s,baz=116,slow=30
URZ Urewera 57.77 242 P **P 02 41 56.8 -0.5**
IPMB Ipameri, GO 57.81 92 eP P 02 41 58.6 +0.6
BKZ Black Stump Fm 57.96 241 P **P 02 41 58.2 -0.6**
BKZ IAMs_20 IAMs_20 03 00 39.3
comp=Z,55µm,20.0s
QSPA South Pole Qui 58.03 180 P **P 02 41 59.7 +0.8**
comp=Z,53nm,1.1s,baz=114,slow=3.5,SNR=48
QSPA LR LR 03 03 57.6
comp=Z,34µm,18.2s,baz=88,slow=33
QSPA South Pole Qui 58.03 180 P **P 02 41 58.8 -0.2**
SNDB Serra Nova Dou 58.07 84 eP P 02 42 01.2 +1.4
AFI Afiamalu 58.15 273 LR LR 03 00 28.3
comp=Z,51µm,21.2s,baz=118,slow=29
AFI Afiamalu 58.15 273 P **P 02 41 59.5 -0.9**
AFI pmax pmax
comp=Z,137nm,1.2s
AFI Afiamalu 58.15 273 P **P 02 41 59.5 -0.9**
AFI IAmb IAmb 02 42 14.1
comp=Z,137nm,1.2s
MSWZ Moikau Station 58.21 238 P **P 02 41 59.9 -0.6**
VNDA Vanda 58.27 195 P **P 02 42 01.4 +1.1**
comp=Z,58nm,1.3s,baz=98,slow=7.6,SNR=22
VNDA LR LR 03 02 36.2
comp=Z,85µm,18.4s,baz=92,slow=32
VNDA PKPPKP P'P'df 03 11 39.5 -8.4
comp=Z,2.2nm,1.1s,baz=287,slow=7.8,SNR=3.9
VNDA Vanda 58.27 195 P **P 02 42 00.5 +0.2**
VNDA IAmb IAmb 02 42 07.0
comp=Z,297nm,1.7s
ITTB Itaituba 58.47 74 eP P 02 42 02.2 -0.4
SNZO South Karori 58.64 238 IAMs_20 IAMs_20 02 59 37.0
comp=Z,64µm,21.0s
ESAR Angra dos Reis 58.81 99 eP P 02 42 06.6 +1.7
BDFB Brasilia 59.06 90 P **P 02 42 07.5 +0.7**
comp=Z,177nm,1.1s,baz=250,slow=7.6,SNR=72
BDFB LR LR 03 05 25.6
comp=Z,51µm,18.6s,baz=256,slow=34
BDFB Brasilia 59.06 90 P **P 02 42 05.1 -1.7**
BDFB IAMs_20 IAMs_20 03 05 06.1
comp=Z,55µm,20.0s
BSWZ Blackbird Sta 59.11 238 P **P 02 42 06.5 -0.3**
KHZ Kahutara 59.15 237 P **P 02 42 06.7 -0.2**
TUWZ Tuamarina 59.15 238 P **P 02 42 06.5 -0.5**
SRIG Santa Rosalia 59.16 359 P **P 02 42 05.8 -1.2**
SRIG IAmb IAmb 02 42 17.9
comp=Z,201nm,1.3s
MAN01 Angra dos Reis 59.28 99 eP P 02 42 09.7 +1.5
HIZ Hauiti 59.38 241 P **P 02 42 08.0 -0.5**
HIZ IAmb IAmb 02 42 16.2
comp=Z,262nm,1.4s
BSCB Bom Sucesso 59.39 97 eP P 02 42 10.1 +1.1
NNZ Nelson 59.62 238 P **P 02 42 09.8 -0.4**
NNZ IAmb IAmb 02 42 16.3
comp=Z,153nm,1.2s
THZ Tophouse 59.79 237 P **P 02 42 11.0 -0.5**
THZ IAmb IAmb 02 42 17.5
comp=Z,121nm,1.0s
THZ IAMs_20 IAMs_20 03 03 43.5
comp=Z,52µm,19.0s
LTZ Lake Taylor 59.93 236 P **P 02 42 12.1 -0.3**
OXZ Oxford 59.94 235 IAMs_20 IAMs_20 03 03 27.1
comp=Z,36µm,18.0s
VAS01 Vassouras-RJ 59.96 99 eP P 02 42 13.2 +0.3
QRZ Quartz Range 60.35 238 P **P 02 42 14.9 -0.3**
RPZ Rata Peaks 60.50 235 P **P 02 42 16.4 +0.1**
comp=Z,38nm,1.0s,baz=106,slow=7.0,SNR=7.3
RPZ LR LR 03 03 44.6
comp=Z,23µm,18.3s,baz=93,slow=31
RPZ Rata Peaks 60.50 235 P **P 02 42 15.8 -0.4**
PEXB Peixe 60.54 86 eP P 02 42 17.9 +1.0
KVTX Kingsville 60.66 13 P **P 02 42 16.0 -1.3**
KVTX IAmb IAmb 02 42 29.3
comp=Z,99nm,1.0s
HSIG 60.84 360 P **P 02 42 17.4 -1.1**
HSIG IAmb IAmb 02 42 31.5
comp=Z,126nm,1.2s
HSIG IAMs_20 IAMs_20 03 02 48.9
comp=Z,43µm,21.0s
LBZ Lake Benmore 60.90 234 P **P 02 42 18.5 -0.5**
MALB Monte Alegre 61.12 72 eP P 02 42 21.5 +0.7
833A Chaparral WMA, 61.14 12 P **P 02 42 22.5 +2.0**
baz=191,SNR=5.4
OUZ Omahuta 61.43 244 P **P 02 42 22.1 -0.6**
OUZ IAmb IAmb 02 42 28.3
comp=Z,90nm,1.1s
TX31 Lajitas Ar. Si 61.54 7 P **P 02 42 22.0 -1.4**
TX32 Lajitas Array 61.54 7 P **P 02 42 22.0 -1.4**
TX32 IAmb IAmb 02 42 37.8
comp=Z,181nm,1.9s
TXAR Lajitas Array 61.54 7 P **P 02 42 25.1 +1.7**
comp=Z,7.6nm,0.9s,baz=191,slow=6.6,SNR=67
TXAR LR LR 03 03 46.0
comp=Z,17µm,20.4s,baz=0.0,slow=31
TXAR PKP2bc 03 11 41.8
comp=Z,1.0nm,1.0s,baz=357,slow=5.1,SNR=4.3
TXAR Lajitas Array 61.54 7 P **P 02 42 22.1 -1.3**
WKZ Wanaka 61.55 233 P **P 02 42 23.0 -0.4**
WKZ IAmb IAmb 02 42 32.7
comp=Z,205nm,1.4s
WHZ Wether Hill Ro 61.94 231 P **P 02 42 25.6 -0.3**
WHZ IAmb IAmb 02 42 40.1
comp=Z,102nm,1.2s
GTBY Guantanamo Bay 62.12 39 P **P 02 42 25.8 -1.5**
LGNH Logne 62.33 42 P **P 02 42 26.6 -2.2**
PRPB Parauapebas 62.35 79 eP P 02 42 29.8 +0.7
JANB Januaria 62.48 91 eP P 02 42 30.8 +0.8
PAPH Port-au-Prince 62.52 42 P **P 02 42 28.5 -1.5**
PYZ Puysegur Point 62.69 231 IAMs_20 IAMs_20 03 05 45.6
comp=Z,34µm,18.0s
SMTB Santa Maria do 62.79 83 eP P 02 42 33.7 +1.6
SFX San Felipe 62.97 356 P **P 02 42 31.8 -0.9**
SFX IAmb IAmb 02 42 39.0
comp=Z,97nm,1.2s
SPX San Pedro Mart 63.00 356 P **P 02 42 32.2 -1.2**
SPX IAmb IAmb 02 42 43.3
comp=Z,152nm,1.4s
JCT Junction City 63.19 11 P **P 02 42 36.6 +2.3**
baz=190
JCT Junction City 63.19 11 P **P 02 42 33.3 -1.0**
JCT pmax pmax
comp=Z,72nm,1.0s
JCT Junction City 63.19 11 P **P 02 42 33.3 -1.0**
JCT IAmb IAmb 02 42 37.9
comp=Z,72nm,1.0s
SDBA SAO DESIDERIO 63.26 88 eP P 02 42 36.3 +1.0
VNA3 Neumayer Olymp 63.40 159 P **P 02 42 35.0 -0.3**
HKT Hockley 63.41 15 P **P 02 42 34.6 -1.0**
HKT pmax pmax
comp=Z,237nm,1.8s
HKT Hockley 63.41 15 P **P 02 42 34.6 -1.0**
HKT IAmb IAmb 02 42 47.6
comp=Z,237nm,1.8s
PIX Pinacate 63.42 358 P **P 02 42 34.6 -1.2**
PIX IAmb IAmb 02 42 41.4
comp=Z,96nm,1.3s
SJMB Sao Joao De Ma 63.43 96 eP P 02 42 37.4 +1.1
SDDR Presa de Saban 63.46 42 P **P 02 42 34.7 -1.6**
SDDR IAmb IAmb 02 42 50.5
comp=Z,234nm,1.6s
BANI BANI 63.53 44 P **P 02 42 35.2 -1.7**
BSFB Barra de Sao F 63.66 96 eP P 02 42 38.7 +1.0
MNTX Cornudas Mount 63.73 5 P **P 02 42 40.0 +2.1**
baz=185
MNTX Cornudas Mount 63.73 5 P **P 02 42 36.6 -1.2**
MCPB Macapa, AP 63.78 73 eP P 02 42 39.2 +0.6
214A Organ Pipe Nat 63.80 358 P **P 02 42 40.5 +2.2**
baz=178,SNR=37
RIB01 Linhares ES 63.82 97 eP P 02 42 39.7 +0.8
SDD Santo Domingo 63.84 44 P **P 02 42 37.3 -1.5**
435B Jarrell 63.86 13 P **P 02 42 41.0 +2.2**
baz=192,SNR=8.2
CCX Cicese 63.91 355 P **P 02 42 37.9 -1.2**
KNTN Kanton 63.97 284 P **P 02 42 38.6 -1.3**
ESJX Sierra Juarez 64.00 355 P **P 02 42 38.6 -1.2**
VNA1 Neumayer--Stat 64.06 159 P **P 02 42 39.7 +0.1**
TUC Tucson 64.12 0 P **P 02 42 43.1 +2.6**
baz=180
TUC Tucson 64.12 0 P **P 02 42 39.4 -1.1**
TUC pmax pmax
comp=Z,82nm,1.2s
TUC Tucson 64.12 0 P **P 02 42 39.4 -1.1**
SC01 Santiago de lo 64.13 43 P **P 02 42 39.2 -1.5**
VNA2 Neumayer--Watz 64.21 159 P **P 02 42 40.3 -0.4**
baz=220,slow=6.1
GUVIX Guadalupe Vict 64.24 356 P **P 02 42 40.1 -1.0**
GDL2 Guadalupe Moun 64.31 6 P **P 02 42 40.7 -1.1**
CPBX Cerro Prieto 64.37 356 P **P 02 42 40.9 -1.1**
121A Cookes Peak, D 64.41 3 P **P 02 42 44.9 +2.4**
baz=183,SNR=22
DR12 Loma Pena Alta 64.42 44 P **P 02 42 41.1 -1.6**
CLNB Carlsbad 64.42 7 P **P 02 42 41.2 -1.3**
GRGR Grenville 64.49 55 P **P 02 42 41.4 -1.8**
GRGR IAmb IAmb 02 42 45.6
comp=Z,95nm,0.9s
RMX La Rumorosa 64.60 355 P **P 02 42 42.2 -1.5**
RMX IAmb IAmb 02 42 50.2
comp=Z,146nm,1.2s
TKX Tecate 64.61 355 P **P 02 42 42.5 -1.1**
TKX IAmb IAmb 02 42 58.5
comp=Z,130nm,1.2s
IKP In-Ko-Pah, Jac 64.65 355 P **P 02 42 46.4 +2.4**
baz=175,SNR=25
TOSP Speyside 64.70 57 P **P 02 42 42.9 -1.6**
NAN01 Guarapari, ES 64.72 96 eP P 02 42 45.7 +0.9
BAR Barrett 64.72 355 P **P 02 42 43.2 -1.1**
BAR IAmb IAmb 02 42 51.7
comp=Z,192nm,1.4s
MONP2 Monument Peak 64.91 355 P **P 02 42 48.1 +2.3**
baz=175,SNR=25
SWSC Sam W. Stewart 64.92 355 P **P 02 42 48.1 +2.6**
baz=175,SNR=14
109C Camp Elliot, M 64.96 354 P **P 02 42 48.0 +2.1**
baz=174,SNR=8.7
MSVF Nonsavu 64.97 264 *i* P **P 02 42 47.5 +1.0**
MSVF pmax pmax
comp=Z,93nm,1.2s
MSVF Nonsavu 64.97 264 P **P 02 42 45.5 -1.0**
GLA Glamis 64.97 356 P **P 02 42 48.2 +2.2**
baz=176,SNR=10
GLA Glamis 64.97 356 P **P 02 42 44.8 -1.2**
GLA pmax pmax
comp=Z,144nm,1.3s
GLA Glamis 64.97 356 P **P 02 42 44.8 -1.2**
GLA IAmb IAmb 02 43 04.4
comp=Z,144nm,1.2s
WHTX Lake Whitney, 65.06 13 P **P 02 42 47.8 +1.2**
baz=192,SNR=22
CPRX Cap Rock 65.18 7 P **P 02 42 47.7 +0.2**
CRPR Cabo Rojo, PR 65.19 47 P **P 02 42 46.0 -1.6**
SCI2 San Clemente I 65.19 353 P **P 02 42 49.5 +2.2**
baz=173
MLPR Magueyes Islan 65.20 47 P **P 02 42 46.2 -1.5**
MLPR IAmb IAmb 02 42 55.7
comp=Z,159nm,1.2s
SNAA Sanae 65.21 161 P **P 02 42 46.8 -0.5**
SNAA Sanae 65.21 161 P **P 02 42 47.1 -0.1**
baz=229,slow=5.1
SNAA Sanae 65.21 161 *i* P **P 02 42 47.6 +0.4**
SNAA pmax pmax
comp=Z,353nm,2.2s
SNAA Sanae 65.21 161 P **P 02 42 46.9 -0.3**
SNAA IAmb IAmb 02 42 52.4
comp=Z,184nm,1.2s
ABTX Abilene, Hawle 65.31 10 P **P 02 42 49.1 +0.9**
baz=190,SNR=10.0
MPR Mayaguez 65.32 46 P **P 02 42 46.9 -1.6**
MPR IAmb IAmb 02 43 00.1
comp=Z,129nm,1.4s
ICMP Isla Caja de M 65.45 47 P **P 02 42 47.9 -1.5**
OBIP Obispado Ponce 65.52 47 P **P 02 42 48.3 -1.5**
OBIP IAmb IAmb 02 43 00.2
comp=Z,308nm,1.9s
GRTK Grand Turk 65.56 41 P **P 02 42 48.1 -1.9**
SVB Belmont 65.57 55 P **P 02 42 48.5 -1.7**
SVB IAmb IAmb 02 42 50.4
comp=Z,169nm,1.2s
CIS Catalina Islan 65.59 353 P **P 02 42 51.7 +1.7**
baz=173,SNR=8.7
BC3 Big Chuckawall 65.61 356 P **P 02 42 52.3 +2.2**
baz=176,SNR=108
TPFO Pinon Flats 65.62 355 P **P 02 42 52.8 +2.5**
baz=175,SNR=41
XPFO Pion Flat 65.63 355 P **P 02 42 49.2 -1.2**
XPFO IAmb IAmb 02 43 04.9
comp=Z,150nm,1.4s
PFO Pinyon Flats O 65.63 355 P **P 02 42 53.3 +2.9**
baz=175,SNR=35
PFO Pinyon Flats O 65.63 355 *i* P **P 02 42 52.8 +2.4**
PFO pmax pmax
comp=Z,172nm,1.4s
PFO Pinyon Flats O 65.63 355 P **P 02 42 49.1 -1.3**
PFO IAmb IAmb 02 43 04.9
comp=Z,150nm,1.4s
AOPR Arecibo Observ 65.66 47 P **P 02 42 49.1 -1.6**
AOPR IAmb IAmb 02 43 07.2
comp=Z,106nm,1.3s
MURC Murrieta 65.68 354 P **P 02 42 53.0 +2.5**
baz=174,SNR=12
SJG San Juan 65.86 47 P **P 02 42 50.4 -1.6**
SJG pmax pmax
comp=Z,116nm,1.3s
SJG San Juan 65.86 47 P **P 02 42 50.4 -1.6**
SJG IAmb IAmb 02 43 08.4
comp=Z,116nm,1.3s
PDPR Patillas Dam, 65.87 47 P **P 02 42 50.5 -1.5**
PDPR IAmb IAmb 02 43 08.3
comp=Z,200nm,1.4s
TMAB Tom-Au,PA,Br 65.87 77 eP P 02 42 53.8 +1.6
FMP Fort Macarthur 65.89 353 P **P 02 42 54.1 +2.2**
baz=173
BELC Belle Mtn. Jos 65.98 355 P **P 02 42 55.5 +2.8**
baz=175,SNR=60
Y22D IRIS PASSCAL I 65.99 4 P **P 02 42 55.7 +3.0**
baz=184,SNR=5.8
GCPR Guaynabo City 66.05 47 P **P 02 42 51.6 -1.6**
HUMP Col San Antoni 66.07 47 P **P 02 42 51.8 -1.5**
HUMP IAmb IAmb 02 43 08.8
comp=Z,110nm,1.4s
LENM Lemitar 66.08 4 P **P 02 42 52.1 -1.2**
BNM Barren Site 66.08 4 P **P 02 42 53.4 0.0**
IRM Iron Mountain 66.09 356 P **P 02 42 55.9 +2.7**
baz=176,SNR=49
MCLT Moule a Chique 66.09 55 P **P 02 42 51.8 -1.7**
CBYP Canovanas 66.16 47 P **P 02 42 52.3 -1.7**
MTP Monte Pirata 66.22 48 P **P 02 42 52.8 -1.5**
MTP IAmb IAmb 02 43 10.3
comp=Z,91nm,1.3s
MSTX Muleshoe 66.22 7 P **P 02 42 55.6 +1.4**
baz=188,SNR=39
BBRC Big Bear Solar 66.31 355 P **P 02 42 57.2 +2.4**
baz=174,SNR=10
BFSC Mount Baldy Ra 66.35 354 P **P 02 42 57.4 +2.4**
baz=174,SNR=24
MWC Mount Wilson 66.37 354 P **P 02 42 54.4 -0.8**
MWC pmax pmax
comp=Z,180nm,1.5s
MWC Mount Wilson 66.37 354 P **P 02 42 54.4 -0.8**
MWC IAmb IAmb 02 43 09.4
comp=Z,180nm,1.5s
DECC Green Verdugo 66.43 353 P **P 02 42 57.5 +2.2**
baz=173
CDVI St. Croix 66.46 49 P **P 02 42 54.5 -1.3**
HLP Hilina Pali 66.52 314 P **P 02 42 54.7 -1.6**
PUH Pauahi 66.52 314 P **P 02 42 54.7 -1.6**
CUPR Culebra, Puert 66.55 48 P **P 02 42 54.6 -1.7**
CUPR IAmb IAmb 02 43 12.5
comp=Z,210nm,1.5s
KKO Keanakako`i 66.57 314 P **P 02 42 55.5 -1.2**
WRMHI West Rim 66.60 314 P **P 02 42 56.0 -0.8**
BBGH Gun Hill 66.66 56 P **P 02 42 55.4 -1.8**
H05S1 Guadeloupe/Mar 66.66 54 P **P 02 42 56.3 -0.9**
SNR=69
AIN Ainahou 66.67 314 P **P 02 42 56.2 -1.1**
NEE2 Needles Airpor 66.67 357 P **P 02 42 59.6 +2.8**
baz=176,SNR=6.4
KHU Kahuku 66.67 314 P **P 02 42 56.1 -1.4**
KHU pmax pmax
comp=Z,287nm,1.4s
KHU Kahuku 66.67 314 P **P 02 42 56.1 -1.4**
MLH Mauna Loa 66.72 314 P **P 02 42 56.1 -1.7**
GMRC Granite Mounta 66.74 356 P **P 02 43 00.3 +2.8**
baz=176,SNR=48
SBC Santa Barbara 66.77 352 P **P 02 43 00.1 +2.7**
baz=172
OSI Osito Audit: C 66.83 353 P **P 02 43 00.1 +2.1**
baz=173
OSI Osito Audit: C 66.83 353 P **P 02 42 57.1 -0.8**
HEC Hector, Ludlow 66.83 355 P **P 02 43 00.8 +2.8**
baz=175,SNR=13
MWH Moku`aweowe 66.84 314 P **P 02 42 57.2 -1.7**
MWH IAmb IAmb 02 43 09.8
comp=Z,128nm,1.2s
HMH Humu`ula Sheep 66.86 314 P **P 02 42 57.3 -1.4**
VBMS Vicksburg 66.87 19 P **P 02 43 00.8 +2.6**
baz=199
VBMS Vicksburg 66.87 19 P **P 02 42 57.0 -1.2**
VBMS IAmb IAmb 02 43 07.6
comp=Z,186nm,1.5s
ANMO Albuquerque 66.89 4 P **P 02 43 00.9 +2.4**
baz=184
ANMO Albuquerque 66.89 4 P **P 02 42 57.3 -1.2**
ANMO pmax pmax
comp=Z,55nm,1.4s
ANMO Albuquerque 66.89 4 P **P 02 42 57.3 -1.2**
BRAL Brewton 66.92 22 P **P 02 43 01.0 +2.5**
baz=202
BRAL Brewton 66.92 22 P **P 02 42 57.3 -1.2**
RRX Edison Barstow 66.93 355 P **P 02 43 01.3 +2.8**
baz=174
W18A Petrified Fore 66.93 1 P **P 02 43 01.0 +2.2**
baz=181,SNR=13
EDW2 Edwards Air Fo 67.02 354 P **P 02 43 01.2 +2.0**
baz=174,SNR=27
DLPL La Plaine 67.02 53 P **P 02 42 57.6 -1.9**
GDU01 Guandu, BA 67.14 92 eP P 02 43 00.9 +0.5
PKM Mcpherson Peak 67.22 352 P **P 02 43 02.9 +2.3**
baz=172,SNR=25
AMTX Amarillo 67.25 8 P **P 02 43 02.6 +1.9**
baz=188
AMTX Amarillo 67.25 8 P **P 02 42 59.4 -1.3**
AMTX IAmb IAmb 02 43 14.3
comp=Z,164nm,1.6s
Z41A Richland Creek 67.28 16 P **P 02 43 02.8 +2.1**
baz=196,SNR=11

WUAZ **Wupatki** 67.32 360 P **P** 02 43 03.6 +2.3
baz=180
WUAZ **Wupatki** 67.32 360 P **P** 02 42 59.8 -1.4
WUAZ IAmb IAmb 02 43 12.2
comp=Z,131nm,1.4s
GSC **Goldstone, Bar** 67.33 355 P **P** 02 43 03.7 +2.6
baz=175,SNR=80
GSC **Goldstone, Bar** 67.33 355 P **P** 02 43 00.1 -1.1
GSC pmax pmax
comp=Z,265nm,1.4s
GSC **Goldstone, Bar** 67.33 355 P **P** 02 43 00.1 -1.1
ARVC **Arvin** 67.34 353 P **P** 02 43 03.6 +2.4
baz=173
TUQ **Turquoise Moun** 67.41 356 P **P** 02 43 04.4 +2.7
baz=175,SNR=27
SKI **Saint Kitts** 67.46 50 P **P** 02 43 00.7 -1.6
SKI pmax pmax
comp=Z,860nm,1.5s
SKI **Saint Kitts** 67.46 50 P **P** 02 43 00.7 -1.6
WMOK **Wichita Mounta** 67.52 11 P **P** 02 43 01.1 -1.2
WMOK pmax pmax
comp=Z,48nm,1.7s
WMOK **Wichita Mounta** 67.52 11 P **P** 02 43 01.1 -1.2
LRMC **Laurel Mtn Rad** 67.58 354 P **P** 02 43 05.3 +2.5
baz=174,SNR=35
WLAR **White Oak Lake** 67.61 16 P **P** 02 43 01.7 -1.1
SMMC **Simmler** 67.66 352 P **P** 02 43 05.8 +2.6
baz=172,SNR=14
ISA **Isabella, Lake** 67.84 353 P **P** 02 43 07.0 +2.7
baz=173,SNR=47
ISA **Isabella, Lake** 67.84 353 P **P** 02 43 03.2 -1.2
ISA pmax pmax
comp=Z,238nm,1.6s
ISA **Isabella, Lake** 67.84 353 P **P** 02 43 03.2 -1.2
ISA IAmb IAmb 02 43 22.4
comp=Z,238nm,1.6s
H05N1 **Guadeloupe/Mar** 67.85 52 P **P** 02 43 04.4 -0.4
SNR=28
SHOC **Shoshone, Teco** 67.89 355 P **P** 02 43 07.3 +2.7
baz=175,SNR=23
VES **Vestal, Richgr** 68.08 353 P **P** 02 43 08.1 +2.4
baz=172,SNR=35
PAGB **Antelope Grade** 68.10 352 P **P** 02 43 04.8 -1.1
MPMC **Manual Prospec** 68.14 354 P **P** 02 43 08.4 +2.0
baz=174,SNR=140
W35A **Tecumseh** 68.25 12 P **P** 02 43 05.7 -1.1
FNO **Franklin** 68.25 12 P **P** 02 43 05.8 -1.1
ANWB **Willy Bob** 68.33 51 P **P** 02 43 06.1 -1.6
MIAR **Mount Ida** 68.33 15 P **P** 02 43 09.0 +1.7
baz=196
MIAR **Mount Ida** 68.33 15 P **P** 02 43 06.3 -1.1
MIAR pmax pmax
comp=Z,47nm,1.3s
MIAR **Mount Ida** 68.33 15 P **P** 02 43 06.2 -1.1
TIGA **Tifton** 68.34 25 P **P** 02 43 08.8 +1.3
baz=205,SNR=14
OKCSW **OKLAHOMA CITY** 68.39 12 P **P** 02 43 06.6 -1.1
OKCFA **Oklahoma City** 68.40 12 P **P** 02 43 06.6 -1.2
OKCFA IAmb IAmb 02 43 22.6
comp=Z,257nm,1.7s
SHPR **Sheep Range** 68.42 356 P **P** 02 43 06.8 -1.3
SHPR IAmb IAmb 02 43 16.0
comp=Z,190nm,1.4s
X40A **Basin Creek Fa** 68.44 16 P **P** 02 43 09.6 +1.5
baz=196
FUNA **Funafuti** 68.50 273 P **P** 02 43 07.9 -1.0
FURC **Furnace Creek,** 68.50 355 P **P** 02 43 10.8 +2.5
baz=175,SNR=44
CWC **Cottonwood Cre** 68.57 354 P **P** 02 43 12.1 +3.0
baz=173
OK025 **Westminster Rd** 68.58 12 P **P** 02 43 07.9 -1.1
OK025 IAmb IAmb 02 43 18.8
comp=Z,165nm,1.7s
VOG **Valley Oaks Go** 68.58 353 P **P** 02 43 10.8 +1.9
baz=172
BCOK **Bluff Creek, N** 68.61 12 P **P** 02 43 07.9 -1.1
PMPB **Monarch Peak** 68.65 351 P **P** 02 43 08.3 -1.1
LRAL **Lakeview Retre** 68.66 21 P **P** 02 43 11.1 +1.6
baz=202
LRAL **Lakeview Retre** 68.66 21 P **P** 02 43 08.2 -1.2
LRAL IAmb IAmb 02 43 20.7
comp=Z,88nm,1.2s
OK029 **Liberty Lake** 68.77 12 P **P** 02 43 09.1 -1.1
KNB **Kanab** 68.84 358 P **P** 02 43 09.5 -1.2
KNB pmax pmax
comp=Z,181nm,1.5s
KNB **Kanab** 68.84 358 P **P** 02 43 09.5 -1.2
LCMT **Little Creek M** 68.85 358 P **P** 02 43 09.5 -1.2
ROSB **Rosrio** 68.88 80 *e*P **P** 02 43 12.8 +1.5
W39A **Magazine** 68.91 15 P **P** 02 43 12.6 +1.7
baz=195,SNR=12
TPNV **Topopah Spring** 68.93 355 P **P** 02 43 14.0 +2.7
baz=175
TPNV **Topopah Spring** 68.93 355 P **P** 02 43 10.0 -1.3
TPNV pmax pmax
comp=Z,237nm,1.3s
TPNV **Topopah Spring** 68.93 355 P **P** 02 43 10.0 -1.3
X43A **Marvell** 68.95 18 P **P** 02 43 13.4 +2.2
baz=198
MVCO **Mesa Verde** 69.05 2 P **P** 02 43 14.0 +1.9
baz=182
MVCO **Mesa Verde** 69.05 2 P **P** 02 43 10.8 -1.3
MVCO IAmb IAmb 02 43 15.9
comp=Z,173nm,1.2s
TUL1 **Leonard** 69.19 13 P **P** 02 43 13.6 +0.9
baz=194,SNR=18
TIN **Tinemaha, Big** 69.19 354 P **P** 02 43 15.7 +2.9
baz=173,SNR=32
T25A **Trinidad** 69.21 6 P **P** 02 43 15.4 +2.4
baz=186,SNR=23
W41B **Gary Mavity, V** 69.24 16 P **P** 02 43 15.1 +2.1
baz=197,SNR=24
QUOK **Quay** 69.27 12 P **P** 02 43 12.1 -1.1
SAO **San Andreas Ge** 69.27 351 P **P** 02 43 12.2 -1.0
SAO pmax pmax
comp=Z,110nm,1.4s
SAO **San Andreas Ge** 69.27 351 P **P** 02 43 12.2 -1.0
SAO IAmb IAmb 02 43 31.4
comp=Z,110nm,1.4s
PRN **Pahroc Range** 69.32 356 P **P** 02 43 12.4 -1.2
PRN IAmb IAmb 02 43 28.3
comp=Z,239nm,1.6s
OXF **Oxford** 69.34 19 P **P** 02 43 15.1 +1.5
baz=199
OXF **Oxford** 69.34 19 P **P** 02 43 12.3 -1.3
OXF pmax pmax
comp=Z,196nm,1.5s
OXF **Oxford** 69.34 19 P **P** 02 43 12.3 -1.3
OXF IAmb IAmb 02 43 23.1
comp=Z,196nm,1.5s
WHAR **Wooly Hollow** 69.34 16 P **P** 02 43 12.6 -1.0
WHAR IAmb IAmb 02 43 24.1
comp=Z,166nm,1.6s
CROK **Carrier** 69.37 11 P **P** 02 43 12.7 -1.1
CROK IAmb IAmb 02 43 28.6
comp=Z,182nm,1.4s
CCUT **Cedar City** 69.39 358 P **P** 02 43 12.8 -1.4
SZCU **Shurtz Canyon** 69.43 358 P **P** 02 43 12.9 -1.5
NVL **N'lazarevskaya** 69.65 163 ↑*i*P **P** 02 43 15.6 +0.4
NVL pmax pmax
comp=Z,359nm,1.8s
S22A **4UR Ranch, Cre** 69.65 3 P **P** 02 43 18.3 +2.4
baz=184,SNR=45
SDCO **Great Sand Dun** 69.73 5 P **P** 02 43 18.8 +2.4
baz=185
SDCO **Great Sand Dun** 69.73 5 P **P** 02 43 15.1 -1.3
OMMB **Old Mammoth Mi** 69.82 353 P **P** 02 43 15.7 -1.3
OMMB IAmb IAmb 02 43 27.5
comp=Z,125nm,1.5s
MLAC **Mammoth, Mammo** 69.82 353 P **P** 02 43 19.5 +2.6
baz=173,SNR=13
MDPB **Devils Postpil** 69.85 353 P **P** 02 43 15.8 -1.3
MDPB IAMs_20 IAMs_20 03 07 03.4
comp=Z,46µm,21.0s
HHAR **Hobbs** 69.92 15 P **P** 02 43 16.0 -1.2
FCAR **Ozark Folk Cen** 69.95 16 P **P** 02 43 16.2 -1.1
KAN13 **South Haven SW** 69.95 11 P **P** 02 43 16.0 -1.4
KAN10 **Anthony SW Sta** 69.96 11 P **P** 02 43 16.2 -1.2
PV01 **Paradox Valley** 69.97 2 P **P** 02 43 16.6 -1.2
PV01 IAmb IAmb 02 43 27.9
comp=Z,169nm,1.7s
PV13 **Radium Mtn., P** 69.99 2 P **P** 02 43 16.6 -1.2
HBAR **Harrisburg** 69.99 17 P **P** 02 43 16.6 -1.1
HBAR IAmb IAmb 02 43 27.6
comp=Z,108nm,1.1s
PV02 **Paradox Valley** 70.04 2 P **P** 02 43 17.2 -1.0
PV02 IAmb IAmb 02 43 28.3
comp=Z,214nm,1.6s
KAN09 **Caldwell North** 70.05 11 P **P** 02 43 16.8 -1.2
PV18 **Skein Mesa, Pa** 70.07 2 P **P** 02 43 17.0 -1.3
PV03 **Paradox Valley** 70.08 2 P **P** 02 43 17.4 -1.1
KAN08 **Anthony NE Sta** 70.08 11 P **P** 02 43 17.1 -1.1
PV17 **East Wray Mesa** 70.10 2 P **P** 02 43 17.6 -0.9
PV17 IAmb IAmb 02 43 28.6
comp=Z,143nm,1.5s
TPH **Tonopah** 70.12 355 P **P** 02 43 17.3 -1.3
TPH pmax pmax
comp=Z,1µm,1.5s
TPH **Tonopah** 70.12 355 P **P** 02 43 17.3 -1.3
PV11 **David Mesa, Pa** 70.12 2 P **P** 02 43 17.4 -1.2
PV11 IAmb IAmb 02 43 24.5
comp=Z,98nm,1.2s
LPAR **Lepanto** 70.13 18 P **P** 02 43 17.2 -1.3
PV19 **Morning Glory** 70.13 2 P **P** 02 43 17.3 -1.5
PV19 IAmb IAmb 02 43 28.9
comp=Z,242nm,1.6s
PV16 **Nyswonger Mesa** 70.14 2 P **P** 02 43 17.1 -1.6
PV16 IAmb IAmb 02 43 28.8
comp=Z,133nm,1.4s
PV12 **Saucer Basin,** 70.15 2 P **P** 02 43 17.2 -1.6
PV12 IAmb IAmb 02 43 24.8
comp=Z,132nm,1.2s
KAN12 **Harper NE Stat** 70.15 11 P **P** 02 43 17.3 -1.3
PLAL **Pickwick Lake** 70.16 20 P **P** 02 43 17.3 -1.3
PV20 **West Nyswonger** 70.17 2 P **P** 02 43 17.0 -1.9
PV20 IAmb IAmb 02 43 29.0
comp=Z,122nm,1.2s
GOGA **Godfrey** 70.17 24 P **P** 02 43 20.6 +1.8
baz=204
GOGA **Godfrey** 70.17 24 P **P** 02 43 16.8 -2.0
GOGA pmax pmax
comp=Z,69nm,1.2s
GOGA **Godfrey** 70.17 24 P **P** 02 43 16.8 -2.0
PV15 **Paradox Valley** 70.18 2 P **P** 02 43 17.6 -1.5
PV15 IAmb IAmb 02 43 22.6
comp=Z,99nm,1.1s
PV14 **Lion Creek, Pa** 70.19 2 P **P** 02 43 17.8 -1.3
PV10 **Paradox Valley** 70.20 2 P **P** 02 43 17.2 -2.0
PV10 IAmb IAmb 02 43 28.7
comp=Z,216nm,1.5s
PV04 **Paradox Valley** 70.22 2 P **P** 02 43 17.9 -1.3
PV04 IAmb IAmb 02 43 22.8
comp=Z,127nm,1.1s
U40A **Yellville** 70.23 15 P **P** 02 43 20.7 +1.5
baz=196,SNR=20
PV07 **Paradox Valley** 70.27 2 P **P** 02 43 18.2 -1.4
PV23 **Carpenter Ridg** 70.28 2 P **P** 02 43 18.4 -1.3
PV23 IAmb IAmb 02 43 29.8
comp=Z,270nm,1.5s
R11A **Troy Canyon, C** 70.28 356 P **P** 02 43 22.1 +2.5
baz=176,SNR=63
MVU **Marysvale** 70.31 359 P **P** 02 43 18.6 -1.3
MSU **Marysvale** 70.32 359 P **P** 02 43 18.5 -1.4
MSU **Marysvale** 70.32 359 P **P** 02 43 18.5 -1.4
LCAR **Lake Charles** 70.36 17 P **P** 02 43 18.8 -1.0
PV22 **Blue Mesa, Par** 70.36 2 P **P** 02 43 18.8 -1.4
PV21 **Cone Mtn., Par** 70.39 2 P **P** 02 43 18.8 -1.6
PV21 IAmb IAmb 02 43 31.3
comp=Z,125nm,1.2s
PSUT **Pine Spring** 70.39 358 P **P** 02 43 18.6 -1.6
CMB **Columbia Colle** 70.39 352 P **P** 02 43 19.1 -1.0
CMB pmax pmax
comp=Z,147nm,1.5s
CMB **Columbia Colle** 70.39 352 P **P** 02 43 19.1 -1.0
CMB IAmb IAmb 02 43 36.9
comp=Z,147nm,1.5s
LHV **Little Huntoon** 70.41 354 P **P** 02 43 19.2 -0.9
157A **Early Branch** 70.41 27 P **P** 02 43 22.5 +2.3
baz=207,SNR=9.1
TCRU **Three Creeks R** 70.42 359 P **P** 02 43 19.3 -1.2
FPAL **Fort Paine** 70.49 22 P **P** 02 43 19.6 -1.2
GNAR **Gosnell** 70.55 18 P **P** 02 43 19.9 -1.1
NV11 **Mina Array Sit** 70.56 354 P **P** 02 43 20.1 -1.1
NVAR **Mina Array Bea** 70.57 354 P **P** 02 43 22.9 +1.6
comp=Z,86nm,1.0s,baz=184,slow=5.6,SNR=224
NVAR LR LR 03 07 44.4
comp=Z,53µm,21.1s,baz=146,slow=30
NVAR **Mina Array Bea** 70.57 354 P **P** 02 43 20.1 -1.3
HALT **Halls** 70.67 18 P **P** 02 43 20.6 -1.2
Q16A **Castle Valley** 70.72 360 P **P** 02 43 21.1 -1.2
WAKR **Walker** 70.75 353 P **P** 02 43 21.2 -1.3
158A **Hollywood** 70.77 27 P **P** 02 43 24.5 +2.0
baz=207
RYN **Ryan** 70.78 354 P **P** 02 43 21.5 -1.1
RYN IAmb IAmb 02 43 39.9
comp=Z,171nm,1.5s
MCCM **Marconi Confer** 70.83 350 P **P** 02 43 21.8 -0.8
Z56A **Williston** 70.85 26 P **P** 02 43 25.0 +2.1
baz=206,SNR=9.0
SRU **San Rafael Swe** 70.91 0 P **P** 02 43 22.3 -1.2
SRU **San Rafael Swe** 70.91 0 P **P** 02 43 22.3 -1.2
Q24A **Divide** 70.97 5 P **P** 02 43 25.5 +1.6
baz=185,SNR=7.7
SWET **Sewanee** 71.01 21 P **P** 02 43 22.3 -1.7
SWET IAmb IAmb 02 43 27.0
comp=Z,105nm,1.1s
GLAT **Glass** 71.03 18 P **P** 02 43 22.9 -1.0
CSU **Charleston Sou** 71.04 27 P **P** 02 43 22.4 -1.7
Z57A **Bowman** 71.07 26 P **P** 02 43 26.0 +1.7
baz=207,SNR=9.6
TMUT **Trail Mountain** 71.10 360 P **P** 02 43 23.4 -1.3
NHSC **New Hope** 71.10 27 P **P** 02 43 26.2 +1.7
baz=207
NHSC **New Hope** 71.10 27 P **P** 02 43 23.2 -1.2
NHSC IAmb IAmb 02 43 31.2
comp=Z,166nm,1.2s
PENMO **Penman** 71.11 18 P **P** 02 43 23.3 -1.1
KVN **Kaiserville** 71.16 354 P **P** 02 43 23.6 -1.4
KVN pmax pmax
comp=Z,285nm,1.2s
KVN **Kaiserville** 71.16 354 P **P** 02 43 23.6 -1.4
YERR **Yerington** 71.21 353 P **P** 02 43 24.0 -1.2
YERR IAmb IAmb 02 43 32.3
comp=Z,155nm,1.2s
KSCO **Kaye Shedlock'** 71.23 7 P **P** 02 43 27.2 +1.9
baz=187
P17A **Butcher Ranch,** 71.27 0 P **P** 02 43 24.5 -1.1
PARMO **Parma** 71.28 18 P **P** 02 43 24.2 -1.3
Y56A **Pelion** 71.29 26 P **P** 02 43 27.5 +1.9
baz=206,SNR=5.1
HICK **Hickman** 71.30 18 P **P** 02 43 24.6 -1.0
WVT **Waverly** 71.30 20 P **P** 02 43 26.9 +1.4
baz=200
WVT **Waverly** 71.30 20 P **P** 02 43 24.3 -1.3
WVT pmax pmax
comp=Z,76nm,1.3s
WVT **Waverly** 71.30 20 P **P** 02 43 24.3 -1.3
HODGE **Hodges** 71.34 25 P **P** 02 43 24.7 -1.2
PNTR **Pine Nut** 71.35 353 P **P** 02 43 25.3 -0.8
PNTR IAmb IAmb 02 43 33.0
comp=Z,116nm,1.1s
AFDM **Forest Hills D** 71.36 352 P **P** 02 43 25.0 -0.9
AFDM IAmb IAmb 02 43 36.6
comp=Z,158nm,1.5s
RUBR **Rubicon Trail** 71.37 352 P **P** 02 43 25.2 -1.1
CBKS **Cedar Bluff** 71.38 9 P **P** 02 43 27.9 +1.9
baz=190
CBKS **Cedar Bluff** 71.38 9 P **P** 02 43 25.0 -1.1
CBKS pmax pmax
comp=Z,129nm,1.4s
CBKS **Cedar Bluff** 71.38 9 P **P** 02 43 25.0 -1.1
CBKS IAmb IAmb 02 43 36.3
comp=Z,129nm,1.4s
HENM **Henderson Moun** 71.40 18 P **P** 02 43 25.1 -1.1
Z58A **St. Stephen** 71.45 27 P **P** 02 43 27.9 +1.4
baz=207,SNR=9.5
GDXM **Geysers** 71.47 350 P **P** 02 43 24.8 -1.9
GDXM IAmb IAmb 02 43 37.6
comp=Z,133nm,1.5s
VCNR **Virginia City** 71.56 353 P **P** 02 43 26.1 -1.2
VCNR IAmb IAmb 02 43 39.3
comp=Z,145nm,1.6s
Z59A **Georgetown, SC** 71.57 28 P **P** 02 43 29.7 +2.4
baz=208
X54A **Belton** 71.58 25 P **P** 02 43 28.8 +1.4
baz=205,SNR=21
CPCT **Cooper Cave** 71.67 22 P **P** 02 43 26.7 -1.2
HOPS **Hopland Field** 71.69 350 P **P** 02 43 26.9 -1.0
CLTN **Cedars of Leba** 71.70 21 P **P** 02 43 26.9 -1.2
JSC **Jenkinsville** 71.74 26 P **P** 02 43 27.2 -1.1
JSC pmax pmax
comp=Z,56nm,1.2s
JSC **Jenkinsville** 71.74 26 P **P** 02 43 27.2 -1.1
ISCO **Idaho Springs** 71.77 4 P **P** 02 43 30.7 +1.9
baz=185
ISCO **Idaho Springs** 71.77 4 P **P** 02 43 27.5 -1.3
ISCO pmax pmax
comp=Z,100nm,1.4s
ISCO **Idaho Springs** 71.77 4 P **P** 02 43 27.5 -1.3
X55A **Gracelyn & Ava** 71.78 25 P **P** 02 43 29.8 +1.3
baz=206,SNR=26
BG3 **Lake Jocassee** 71.79 24 P **P** 02 43 27.3 -1.3
Y57A **Sumter** 71.83 26 P **P** 02 43 30.7 +1.8
baz=207
PAHR **Pah Rah Range** 71.94 353 P **P** 02 43 28.5 -1.1
PAHR IAmb IAmb 02 43 44.0
comp=Z,296nm,1.7s
O20A **White River Ci** 71.98 2 P **P** 02 43 31.3 +1.4
baz=182,SNR=19
DUG **Dugway, Tooele** 72.01 358 P **P** 02 43 32.1 +2.1
baz=178
DUG **Dugway, Tooele** 72.01 358 P **P** 02 43 29.0 -1.0
DUG pmax pmax
comp=Z,137nm,1.5s
DUG **Dugway, Tooele** 72.01 358 P **P** 02 43 29.0 -1.0
DUG IAmb IAmb 02 43 40.6
comp=Z,137nm,1.5s
X56A **White Oak** 72.02 26 P **P** 02 43 31.2 +1.3
baz=206,SNR=20
ORV **Oroville** 72.03 351 P **P** 02 43 28.9 -1.0
ORV pmax pmax
comp=Z,190nm,1.8s
ORV **Oroville** 72.03 351 P **P** 02 43 28.9 -1.0
ORV IAmb IAmb 02 43 41.9
comp=Z,190nm,1.8s
PAULI **Pauline** 72.03 25 P **P** 02 43 28.8 -1.3
PAULI IAmb IAmb 02 43 36.4
comp=Z,133nm,1.1s
TKL **Tuckaleechee C** 72.11 23 P **P** 02 43 30.2 -0.3
TKL pmax pmax
comp=Z,56nm,1.1s
TKL **Tuckaleechee C** 72.11 23 P **P** 02 43 30.2 -0.3
W54A **Cherokee Point** 72.13 24 P **P** 02 43 32.2 +1.5
baz=205,SNR=31
KSU1 **Kansas State U** 72.14 12 P **P** 02 43 32.6 +2.0
baz=193
KSU1 **Kansas State U** 72.14 12 P **P** 02 43 29.0 -1.6
KSU1 IAmb IAmb 02 43 45.7
comp=Z,152nm,1.5s
CCM **Cathedral Cave** 72.22 16 P **P** 02 43 32.5 +1.3
baz=197
CCM **Cathedral Cave** 72.22 16 P **P** 02 43 30.2 -0.9
CCM pmax pmax
comp=Z,61nm,1.2s
CCM **Cathedral Cave** 72.22 16 P **P** 02 43 30.2 -0.9
X57A **Johnson Farm,** 72.34 26 P **P** 02 43 33.6 +1.7
baz=207,SNR=12
BIRD **Birdtown, Kers** 72.36 26 P **P** 02 43 31.0 -1.0
BIRD IAmb IAmb 02 43 35.3
comp=Z,108nm,1.2s
RDMU **Red Mountain** 72.38 1 P **P** 02 43 30.7 -1.6
Y59A **Loris** 72.39 28 P **P** 02 43 33.9 +1.7
baz=208,SNR=7.7
JLU **Jordanelle** 72.40 360 P **P** 02 43 31.0 -1.5
KMSC **Kings Mountain** 72.49 25 P **P** 02 43 34.1 +1.3
baz=206,SNR=25
CTU **Camp Tracy** 72.49 359 P **P** 02 43 31.8 -1.1
DZM **Mont Dzumac** 72.62 255 *e*P **P** 02 43 35.8 +1.6
comp=Z,160nm,1.1s
DZM **Mont Dzumac** 72.62 255 *e*LQ LQ 03 02 43.8
comp=Z,32µm,25.9s
DZM *e*LR LR 03 05 49.0
comp=Z,107µm,30.2s
DZM **Mont Dzumac** 72.62 255 LR LR 03 07 57.0
comp=Z,32µm,21.8s,baz=120,slow=30
ELK **Elko** 72.65 357 P **P** 02 43 33.8 -0.2
ELK pmax pmax
comp=Z,94nm,1.5s
ELK **Elko** 72.65 357 P **P** 02 43 33.8 -0.2
Y60A **Bolivia** 72.66 28 P **P** 02 43 35.4 +1.6
baz=209
X58A **Rowland** 72.71 27 P **P** 02 43 35.4 +1.4
baz=208
BGU **Big Grassy Mou** 72.75 358 P **P** 02 43 33.6 -0.8
W56A **Indian Trail** 72.75 26 P **P** 02 43 35.4 +1.0
baz=206,SNR=17
O03E **Paynes Creek** 72.79 351 P **P** 02 43 36.0 +1.4
baz=170,SNR=19
O02D **Mt. Diablo Mer** 72.81 351 P **P** 02 43 36.9 +2.2
baz=170,SNR=23
N23A **Red Feather La** 72.84 4 P **P** 02 43 36.6 +1.5
baz=184,SNR=59
V54A **Nebo** 72.84 24 P **P** 02 43 36.3 +1.4
baz=205,SNR=28
TCUT **Toone Canyon** 72.92 360 P **P** 02 43 33.4 -2.2
KMRM **Mail Ridge** 72.99 350 P **P** 02 43 35.1 -0.7
KMRM IAmb IAmb 02 43 53.8
comp=Z,192nm,1.3s
W57A **Gilead** 72.99 26 P **P** 02 43 37.2 +1.5
baz=207,SNR=20
TZTN **Tazewell** 72.99 23 P **P** 02 43 37.3 +1.6
baz=204
TZTN **Tazewell** 72.99 23 P **P** 02 43 35.6 -0.2
TZTN IAmb IAmb 02 43 39.4
comp=Z,116nm,1.1s
X59A **McDuffie Farm,** 73.01 27 P **P** 02 43 37.6 +1.8
baz=208,SNR=8.0
SPUT **South Promonto** 73.12 359 P **P** 02 43 36.0 -0.6
W58A **Raeford** 73.16 27 P **P** 02 43 38.2 +1.5
baz=208,SNR=24
V55A **Taylorsville** 73.17 25 P **P** 02 43 38.2 +1.4
baz=206,SNR=20
WDC **Whiskeytown Da** 73.17 351 P **P** 02 43 34.8 -1.9
WDC pmax pmax
comp=Z,149nm,1.3s
WDC **Whiskeytown Da** 73.17 351 P **P** 02 43 34.8 -1.9
WDC IAmb IAmb 02 43 43.3
comp=Z,149nm,1.2s
X60A **Albert Glenn T** 73.26 28 P **P** 02 43 39.0 +1.7
baz=209
PHWY **Pilot Hill** 73.27 4 P **P** 02 43 37.3 -0.4
V56A **Mocksville** 73.39 25 P **P** 02 43 39.9 +1.8
baz=206,SNR=16
HWUT **Hardware Ranch** 73.41 359 P **P** 02 43 38.1 -0.2
U54A **Nelsons Funny** 73.55 24 P **P** 02 43 40.3 +1.1
baz=205,SNR=14
RWWY **Rawlins** 73.56 3 P **P** 02 43 38.4 -0.9
N02D **Trinity Center** 73.58 351 P **P** 02 43 40.6 +1.3
baz=170,SNR=78
W59A **Clinton** 73.59 27 P **P** 02 43 41.0 +1.7
baz=208
HVU **Hansel Valley** 73.60 359 P **P** 02 43 39.3 -0.1
HVU pmax pmax
comp=Z,196nm,1.9s
HVU **Hansel Valley** 73.60 359 P **P** 02 43 39.3 -0.1
JCC **Jacoby Creek,** 73.62 350 P **P** 02 43 38.5 -0.8
JCC IAmb IAmb 02 43 54.3
comp=Z,191nm,1.4s
JCC IAMs_20 IAMs_20 03 08 33.6
comp=Z,45µm,21.0s
KHMM **Horse Mountain** 73.63 350 P **P** 02 43 37.9 -1.7
KHMM IAmb IAmb 02 43 47.2
comp=Z,231nm,1.2s
WCI **Wyandotte Cave** 73.69 20 P **P** 02 43 40.6 +0.8
baz=202
WCI **Wyandotte Cave** 73.69 20 P **P** 02 43 38.9 -0.9
WCI pmax pmax
comp=Z,79nm,1.3s
WCI **Wyandotte Cave** 73.69 20 P **P** 02 43 38.9 -0.9
V57A **Coltrane Farms** 73.72 26 P **P** 02 43 41.5 +1.5
baz=207,SNR=28
T53A **Wise** 73.73 23 P **P** 02 43 41.8 +1.6
baz=205,SNR=8.6
W60A **Pink Hill** 73.78 28 P **P** 02 43 42.5 +2.1
baz=209
U55A **TA2, Sparta** 73.81 25 P **P** 02 43 42.1 +1.4
baz=206,SNR=15
CNNC **Cliffs of the** 73.87 28 P **P** 02 43 42.4 +1.5
baz=209
CNNC **Cliffs of the** 73.87 28 P **P** 02 43 40.1 -0.8
V58A **Windy Hill, Pi** 73.89 26 P **P** 02 43 42.7 +1.7
baz=208,SNR=12
U56A **King** 73.91 25 P **P** 02 43 42.9 +1.7
baz=206,SNR=10
M02C **Callahan** 74.01 351 P **P** 02 43 43.5 +1.8

baz=170,SNR=79
LHI Lord Howe Isla 74.02 243 IAMs_20 IAMs_20 03 10 13.6
comp=Z,25µm,18.0s
T54A Tazewell 74.12 24 P **P** **02 43 43.5 +1.0**
baz=206,SNR=20
BGNE Belgrade 74.15 10 P **P** **02 43 44.7 +2.2**
baz=191
W61A Ground Anchor 74.18 28 P **P** **02 43 44.5 +1.8**
baz=209
V59A Middlesex 74.20 27 P **P** **02 43 44.4 +1.6**
baz=208,SNR=21
MOD Modoc Plateau 74.20 353 P **P** **02 43 41.4 -1.6**
MOD IAmb IAmb 02 43 54.5
comp=Z,273nm,1.5s
RCBR Riachuelo 74.24 87 P **P** **02 43 42.9 -0.8**
RCBR pmax pmax
comp=Z,278nm,1.4s
RCBR Riachuelo 74.24 87 P **P** **02 43 42.9 -0.8**
RCBR IAmb IAmb 02 43 53.4
comp=Z,278nm,1.4s
RCBR Riachuelo 74.24 87 eP **P** **02 43 44.6 +0.8**
M04C Macdoel 74.26 352 P **P** **02 43 45.0 +1.7**
baz=170,SNR=53
KRMB Red Mountain 74.29 350 P **P** **02 43 41.8 -1.7**
KRMB IAmb IAmb 02 43 56.5
comp=Z,215nm,1.7s
KRMB IAMs_20 IAMs_20 03 09 23.0
comp=Z,45µm,20.0s
YBH Yreka Blue Hor 74.33 351 P **P** **02 43 41.8 -1.8**
YBH pmax pmax
comp=Z,51nm,1.2s
YBH Yreka Blue Hor 74.33 351 P **P** **02 43 41.8 -1.8**
U57A Blanch 74.37 26 P **P** **02 43 45.3 +1.5**
baz=207,SNR=22
T55A Pulaski 74.45 25 P **P** **02 43 46.0 +1.6**
baz=206,SNR=14
S53A Williamson 74.50 23 P **P** **02 43 46.2 +1.6**
baz=205,SNR=6.1
K22A Casper 74.56 3 P **P** **02 43 47.0 +2.0**
baz=184,SNR=59
AHID Auburn Hatcher 74.56 360 P **P** **02 43 44.4 -0.7**
AHID IAmb IAmb 02 43 57.9
comp=Z,267nm,2.0s
BW06 Boulder Array 74.57 1 P **P** **02 43 46.4 +1.2**
baz=181
BW06 Boulder Array 74.57 1 P **P** **02 43 44.3 -0.8**
PD31 Pinedale Array 74.57 1 P **P** **02 43 43.0 -2.2**
PDAR Pinedale Array 74.57 1 P **P** **02 43 45.8 +0.6**
comp=Z,57nm,1.1s,baz=165,slow=6.2,SNR=140
PDAR LR LR 03 12 13.4
comp=Z,20µm,18.2s,baz=150,slow=32
PDAR Pinedale Array 74.57 1 P **P** **02 43 44.3 -0.8**
V60A Jim Taylor Roa 74.58 28 P **P** **02 43 46.8 +1.8**
baz=209,SNR=13
U58A Oxford 74.63 27 P **P** **02 43 46.8 +1.5**
baz=208,SNR=19
T56A Rocky Mt 74.64 25 P **P** **02 43 47.4 +1.9**
baz=207,SNR=12
BLA Blacksburg 74.67 25 P **P** **02 43 46.8 +1.2**
baz=206
BLA Blacksburg 74.67 25 P **P** **02 43 45.1 -0.5**
BLA pmax pmax
comp=Z,111nm,1.1s
BLA Blacksburg 74.67 25 P **P** **02 43 45.1 -0.5**
BLA IAmb IAmb 02 43 49.3
comp=Z,111nm,1.1s
L04D Klamath Falls 74.75 351 P **P** **02 43 47.6 +1.5**
baz=170,SNR=50
VWCC Virginia Weste 74.86 25 P **P** **02 43 45.4 -1.3**
L02E Cave Junction 74.87 350 P **P** **02 43 48.7 +2.1**
baz=169,SNR=32
V61A Roper 74.88 28 P **P** **02 43 48.4 +1.7**
baz=210,SNR=8.9
S54A Dingess, Beckl 74.88 24 P **P** **02 43 48.5 +1.6**
baz=206,SNR=10
U59A Littleton 74.88 27 P **P** **02 43 48.7 +1.9**
baz=209,SNR=27
T57A Hurt 74.90 26 P **P** **02 43 48.3 +1.4**
baz=207,SNR=12
V62A Hyde County Ai 74.93 29 P **P** **02 43 48.9 +1.9**
baz=210
KBO Bosley Butte 75.01 350 P **P** **02 43 47.2 -0.4**
KBO IAMs_20 IAMs_20 03 09 44.1
comp=Z,48µm,21.0s
HDIL Hopedale 75.07 17 P **P** **02 43 49.3 +1.6**
baz=199
HDIL Hopedale 75.07 17 P **P** **02 43 46.8 -1.0**
K04D Chiloquin, OR 75.08 352 P **P** **02 43 50.1 +2.1**
baz=170,SNR=10
T58A Grand View Acr 75.12 26 P **P** **02 43 49.7 +1.5**
baz=208,SNR=16
S55A Lewisburg 75.14 25 P **P** **02 43 50.0 +1.7**
baz=206,SNR=21
R53A Hurricane 75.14 23 P **P** **02 43 49.9 +1.6**
baz=205,SNR=8.5
REDW Red Top Meadow 75.16 0 P **P** **02 43 49.0 +0.4**
REDW IAmb IAmb 02 43 59.4
comp=Z,222nm,1.6s
HUMO Hull Mountain 75.22 351 P **P** **02 43 47.7 -1.0**
HUMO IAmb IAmb 02 44 03.6
comp=Z,131nm,1.4s
U60A Pendleton 75.23 28 P **P** **02 43 50.4 +1.6**
baz=209,SNR=22
SNOW Snow King Moun 75.26 0 P **P** **02 43 47.7 -1.4**
SNOW IAmb IAmb 02 43 59.0
comp=Z,143nm,1.3s
RCRC Randolf Colleg 75.28 26 P **P** **02 43 48.4 -0.7**
TPAW Teton Pass 75.28 360 P **P** **02 43 47.5 -1.8**
TPAW IAmb IAmb 02 43 55.8
comp=Z,227nm,1.4s
R54A Victor 75.33 24 P **P** **02 43 50.8 +1.3**
baz=206,SNR=22
MFID Camas Ranch 75.34 356 P **P** **02 43 48.8 -0.7**
MFID IAmb IAmb 02 44 00.7
comp=Z,202nm,1.7s
P49A Miami Univ. Ec 75.36 21 P **P** **02 43 49.8 +0.3**
baz=203,SNR=22
S56A Natural Bridge 75.39 25 P **P** **02 43 51.3 +1.6**
baz=207,SNR=10.0
U61A Possum Corner 75.40 28 P **P** **02 43 51.5 +1.8**
baz=210,SNR=16
K02D Willamette Mer 75.41 350 P **P** **02 43 51.8 +2.0**
baz=169,SNR=72
HLID Hailey 75.43 357 P **P** **02 43 51.8 +1.8**
baz=177
HLID Hailey 75.43 357 P **P** **02 43 47.9 -2.1**
HLID IAmb IAmb 02 43 57.3
comp=Z,257nm,1.3s
FXWY Fox Creek 75.43 360 P **P** **02 43 50.4 +0.3**
FXWY IAmb IAmb 02 44 00.0
comp=Z,168nm,1.4s
SFIN Lafayette 75.47 19 P **P** **02 43 50.7 +0.6**
baz=201,SNR=7.3
SCIA State Center 75.48 14 P **P** **02 43 48.5 -1.7**
T59A Double "B" Far 75.52 27 P **P** **02 43 52.0 +1.6**
baz=209,SNR=19
Q52A Bidwell 75.61 23 P **P** **02 43 52.3 +1.4**
baz=205,SNR=13
J05D Fort Rock, OR 75.67 352 P **P** **02 43 53.8 +2.4**
baz=171,SNR=81
KEBM Edson Butte 75.68 350 P **P** **02 43 50.6 -0.7**
KEBM IAmb IAmb 02 44 06.2
comp=Z,221nm,1.4s
S57A Dark Hollow, R 75.69 26 P **P** **02 43 52.9 +1.5**
baz=208,SNR=9.2
IMW Indian Meadow 75.69 360 P **P** **02 43 50.5 -1.2**
R55A Marlinton 75.73 25 P **P** **02 43 53.4 +1.7**
baz=206,SNR=9.0
J04D Umpqua Nationa 75.73 352 P **P** **02 43 53.2 +1.4**
baz=170,SNR=33
Q53A Leroy 75.76 23 P **P** **02 43 53.4 +1.6**
baz=205,SNR=22
P51A Williamsport 75.83 22 P **P** **02 43 53.5 +1.3**
baz=204,SNR=8.1
FLWY Flagg Ranch 75.88 0 P **P** **02 43 52.7 +0.1**
FLWY IAmb IAmb 02 43 56.2
comp=Z,106nm,1.1s
S58A Poland Farm, P 75.89 26 P **P** **02 43 54.2 +1.6**
baz=208,SNR=29
J01E Myrtle Point 75.90 350 P **P** **02 43 54.3 +1.8**
baz=169,SNR=18
T60A Surry 75.98 28 P **P** **02 43 54.8 +1.7**
baz=209,SNR=24
YPP Pitchstone Pla 76.07 0 P **P** **02 43 53.5 -0.3**
R56A Bull Pasture M 76.09 25 P **P** **02 43 56.3 +2.4**
baz=207,SNR=36
Q54A Coxs Mills 76.11 24 P **P** **02 43 55.0 +1.2**
baz=206,SNR=14
RSSD Black Hills 76.18 5 P **P** **02 43 56.0 +1.7**
baz=186
RSSD Black Hills 76.18 5 P **P** **02 43 53.0 -1.3**
RSSD pmax pmax
comp=Z,126nm,1.4s
RSSD Black Hills 76.18 5 P **P** **02 43 53.0 -1.3**
RSSD IAmb IAmb 02 44 00.3
comp=Z,126nm,1.4s
H17A Grant Village 76.19 0 P **P** **02 43 56.3 +1.8**
baz=180,SNR=23
P52A Corning 76.26 23 P **P** **02 43 56.3 +1.6**
baz=205,SNR=24
R58B Mineral 76.26 26 P **P** **02 43 55.8 +1.2**
baz=208,SNR=35
S59A Mechanicsville 76.31 27 P **P** **02 43 56.3 +1.4**
baz=209,SNR=12
I04A Tendick Farm, 76.32 351 P **P** **02 43 56.9 +1.9**
baz=170,SNR=67
R57A Stanardsville 76.32 26 P **P** **02 43 56.8 +1.8**
baz=208,SNR=31
I03D Drain, OR 76.34 351 P **P** **02 43 57.0 +2.0**
baz=169,SNR=23
LKWY Lake 76.36 0 P **P** **02 43 54.1 -1.4**
LKWY pmax pmax
comp=Z,57nm,1.2s
LKWY Lake 76.36 0 P **P** **02 43 54.1 -1.4**
P53A Whipple 76.37 23 P **P** **02 43 57.6 +2.3**
baz=205,SNR=16
Q55A Buckhannon 76.38 24 P **P** **02 43 57.8 +2.4**
baz=206,SNR=6.4
YMR Madison River 76.46 360 P **P** **02 43 56.2 +0.2**
S60A Water View 76.51 27 P **P** **02 43 57.6 +1.6**
baz=209,SNR=12
YUF Upper Falls 76.51 0 P **P** **02 43 55.5 -0.8**
R58A Rapidan 76.51 26 P **P** **02 43 57.9 +1.8**
baz=208,SNR=20
YNR Norris Junctio 76.51 0 P **P** **02 43 54.9 -1.4**
YNM Yellowstone No 76.52 0 P **P** **02 43 55.0 -1.4**
ACSO Alum Creek Sta 76.53 22 P **P** **02 43 57.9 +1.7**
baz=204
ACSO Alum Creek Sta 76.53 22 P **P** **02 43 55.0 -1.2**
YMP Mirror Lake Pl 76.54 1 P **P** **02 43 54.6 -1.9**
O51A Pataskala 76.58 22 P **P** **02 43 58.0 +1.6**
baz=204,SNR=20
YHH Holmes Hill 76.58 0 P **P** **02 43 55.5 -1.2**
HQIL Hanson Quary C 76.60 18 P **P** **02 43 54.4 -2.1**
HQIL IAmb IAmb 02 44 06.6
comp=Z,226nm,1.4s
YHL Hebgen Lake 76.65 360 P **P** **02 43 55.3 -1.8**
ECSD EROS Data Cent 76.65 11 P **P** **02 43 58.8 +2.0**
baz=192
ECSD EROS Data Cent 76.65 11 P **P** **02 43 56.0 -0.8**
CBN Corbin Frederi 76.67 27 P **P** **02 43 59.1 +2.2**
baz=209
CBN Corbin Frederi 76.67 27 P **P** **02 43 54.9 -2.0**
CBN IAmb IAmb 02 44 10.9
comp=Z,128nm,1.3s
I05D Terrebonne, OR 76.72 352 P **P** **02 43 59.9 +2.6**
baz=171,SNR=25
Q56A Snyder Ridge, 76.73 25 P **P** **02 43 59.4 +2.1**
baz=207,SNR=24
R59A King George, V 76.76 27 P **P** **02 43 59.2 +1.7**
baz=209,SNR=10
P54A Burton 76.78 24 P **P** **02 43 59.9 +2.2**
baz=206,SNR=26
O52A Adamsville 76.80 23 P **P** **02 43 59.5 +1.8**
baz=205,SNR=46
YNE Yellowstone No 76.81 1 jP **P** **02 43 56.2 -1.8**
SYO Syowa Base 76.81 170 jiP **P** **02 43 56.0 -1.5**
SYO Syowa Base 76.81 170 jiP **P** **02 43 58.0 +0.5**
I02D Swisshome 76.81 350 P **P** **02 44 00.6 +2.9**
baz=169,SNR=11
CASY Casey 76.86 196 P **P** **02 43 57.0 -0.8**
CASY IAmb IAmb 02 44 04.3
comp=Z,228nm,1.5s
BMO Blue Mountains 76.87 355 P **P** **02 43 55.8 -2.3**
BMO pmax pmax
comp=Z,129nm,1.4s
BMO Blue Mountains 76.87 355 P **P** **02 43 55.8 -2.3**
BMO IAmb IAmb 02 44 08.6
comp=Z,129nm,1.4s
BMO IAMs_20 IAMs_20 03 11 39.1
comp=Z,34µm,20.0s
S61A Accomac 76.87 28 P **P** **02 44 00.3 +2.1**
baz=210
P55A Reedsville 76.92 24 P **P** **02 44 00.5 +2.1**
baz=207,SNR=25
RLMT Red Lodge 76.93 1 P **P** **02 44 00.9 +2.3**
baz=181
RLMT Red Lodge 76.93 1 P **P** **02 43 57.7 -0.9**
RLMT IAmb IAmb 02 44 13.2
comp=Z,173nm,1.6s
L44A Lake County Fo 76.94 17 P **P** **02 44 00.9 +2.5**
baz=200
Q57A Strasburg 77.01 25 P **P** **02 44 00.7 +1.8**
baz=208,SNR=29
SUSD Miller 77.02 9 P **P** **02 44 00.8 +2.0**
baz=190
PLID Pearl Lake 77.02 356 P **P** **02 43 57.4 -1.7**
PLID IAmb IAmb 02 44 09.3
comp=Z,146nm,1.4s
R60A Leonardtown, M 77.03 27 P **P** **02 44 00.8 +1.8**
baz=209,SNR=6.1
MCWV Mont Chateau 77.05 24 P **P** **02 44 00.8 +1.7**
baz=207
MCWV Mont Chateau 77.05 24 P **P** **02 43 58.2 -0.9**
H04D Lebanon 77.08 351 P **P** **02 44 01.7 +2.6**
baz=170,SNR=18
JFWS Jewell Farm 77.08 15 P **P** **02 43 57.8 -1.4**
JFWS pmax pmax
comp=Z,27nm,1.0s
JFWS Jewell Farm 77.08 15 P **P** **02 43 57.8 -1.4**
O53A New Philadelph 77.12 23 P **P** **02 44 01.8 +2.3**
baz=205,SNR=20
DLMT Dillon 77.17 359 P **P** **02 43 58.9 -0.9**
DLMT IAmb IAmb 02 44 16.4
comp=Z,148nm,1.6s
Q58A Fox Den Farm, 77.19 26 P **P** **02 44 01.8 +1.8**
baz=208,SNR=32
COR Corvallis 77.21 351 P **P** **02 43 59.0 -0.9**
COR pmax pmax
comp=Z,555nm,1.7s
COR Corvallis 77.21 351 P **P** **02 43 59.0 -0.9**
P56A Dayton Farm, R 77.27 25 P **P** **02 44 02.3 +2.0**
baz=207,SNR=16
O54A Avella 77.34 24 P **P** **02 44 02.6 +1.9**
baz=206,SNR=7.3
N51A Ashland 77.35 22 P **P** **02 44 02.5 +1.7**
baz=204,SNR=14
BOZ Bozeman (W) 77.39 359 P **P** **02 44 02.8 +1.7**
baz=179
BOZ Bozeman (W) 77.39 359 P **P** **02 44 00.0 -1.1**
N52A McGinn's Farm, 77.47 22 P **P** **02 44 03.0 +1.5**
baz=205,SNR=8.8
Q59A Harwood 77.52 27 P **P** **02 44 03.9 +2.2**
baz=209
P57A Homestead Farm 77.55 26 P **P** **02 44 04.1 +2.2**
baz=208,SNR=23
R61A Willards 77.56 28 P **P** **02 44 04.4 +2.4**
baz=210
G05D Wamic, OR 77.61 352 P **P** **02 44 04.7 +2.5**
baz=171,SNR=22
BBSR BB Station 77.63 39 P **P** **02 44 00.0 -2.4**
BBSR IAmb IAmb 02 44 14.0
comp=Z,259nm,1.5s
O55A Ligonier 77.73 24 P **P** **02 44 04.6 +1.6**
baz=207,SNR=14
N53A Lisbon 77.75 23 P **P** **02 44 05.0 +2.0**
baz=206,SNR=17
M51A Elyria 77.79 22 P **P** **02 44 05.5 +2.3**
baz=205
P58A Pank, Wackersv 77.82 26 P **P** **02 44 05.1 +1.7**
baz=209,SNR=19
G03D McMinnville, O 77.82 351 P **P** **02 44 06.0 +2.7**
baz=169
SDMD Soldier's Deli 77.92 26 P **P** **02 44 02.8 -1.2**
Q60A Greensboro 77.95 27 P **P** **02 44 05.8 +1.7**
baz=210,SNR=6.1
O56A Blue Knob Stat 78.04 25 P **P** **02 44 06.7 +2.0**
baz=208,SNR=26
Q61A Milford 78.04 28 P **P** **02 44 06.9 +2.3**
baz=210
N54A Moraine State 78.17 23 P **P** **02 44 07.8 +2.5**
baz=206,SNR=21
AAM Ann Arbor 78.22 20 P **P** **02 44 07.9 +2.4**
baz=203
AAM Ann Arbor 78.22 20 P **P** **02 44 05.2 -0.4**
AAM pmax pmax
comp=Z,120nm,1.2s
AAM Ann Arbor 78.22 20 P **P** **02 44 05.2 -0.4**
AAM IAmb IAmb 02 44 09.4
comp=Z,120nm,1.2s
M52A Chesterland 78.24 22 P **P** **02 44 07.9 +2.2**
baz=205
P59A Jarrettsville 78.25 27 P **P** **02 44 07.6 +1.8**
baz=209,SNR=16
F05D White Salmon 78.27 353 P **P** **02 44 08.2 +2.4**
baz=171,SNR=13
O57A Amberson 78.33 25 P **P** **02 44 07.8 +1.6**
baz=208,SNR=24
N55A Marion Center 78.35 24 P **P** **02 44 08.4 +2.1**
baz=207,SNR=33
M53A WI Miller and 78.37 23 P **P** **02 44 08.6 +2.1**
baz=206,SNR=10
O58A Lewisberry 78.51 26 P **P** **02 44 09.0 +1.7**
baz=209,SNR=18
HAWA Hanford 78.58 354 P **P** **02 44 07.0 -0.4**
LAO LASA Array 78.60 3 P **P** **02 44 09.7 +2.0**
baz=184
LAO LASA Array 78.60 3 P **P** **02 44 06.7 -0.9**
SSPA Standing Stone 78.61 25 P **P** **02 44 09.4 +1.6**
baz=208
SSPA Standing Stone 78.61 25 P **P** **02 44 07.7 0.0**
MVL Millersville 78.62 26 P **P** **02 44 06.2 -1.6**
MVL IAmb IAmb 02 44 13.9
comp=Z,160nm,1.5s
F04D Rainier, OR 78.64 351 P **P** **02 44 10.6 +2.8**
baz=170
MSO Missoula 78.67 358 P **P** **02 44 09.5 +1.4**
baz=177
MSO Missoula 78.67 358 P **P** **02 44 07.4 -0.7**
N56A West Decatur 78.71 25 P **P** **02 44 10.2 +1.8**
baz=208,SNR=13
P60A Greenville 78.73 27 P **P** **02 44 09.4 +1.0**
baz=210
ALLY Alegheny Colle 78.73 23 P **P** **02 44 07.6 -0.9**
ALLY IAmb IAmb 02 44 15.6
comp=Z,166nm,1.3s
SPMN Marine on St. 78.76 13 P **P** **02 44 09.9 +1.4**
baz=196,SNR=7.7
M54A Oil Creek Stat 78.77 23 P **P** **02 44 10.6 +2.0**
baz=207,SNR=7.2
N57A Milroy 78.84 25 P **P** **02 44 10.4 +1.4**
baz=208,SNR=23
WUPA West Chester U 78.84 27 P **P** **02 44 07.9 -1.2**
P61A Hammonton 78.94 28 P **P** **02 44 11.4 +1.8**
baz=210
O59A Robesonia 78.95 26 P **P** **02 44 11.2 +1.6**
baz=209,SNR=9.9
L53A Girard 78.97 23 P **P** **02 44 11.6 +1.9**
baz=206
M55A Ridgway 79.04 24 P **P** **02 44 11.9 +1.7**
baz=207,SNR=18
E04D Cinebar 79.06 352 P **P** **02 44 12.2 +2.1**
baz=170,SNR=35
N58A Sunbury 79.22 26 P **P** **02 44 12.5 +1.4**
baz=209,SNR=7.6
M56A Emporium 79.25 24 P **P** **02 44 13.3 +1.9**
baz=208,SNR=22
O60A Telford 79.25 27 P **P** **02 44 12.7 +1.4**
baz=210,SNR=9.1
O61A Allentown 79.39 28 P **P** **02 44 13.7 +1.7**
baz=211
M57A Sunshine Farm, 79.50 25 P **P** **02 44 14.5 +1.8**
baz=209,SNR=8.0
LUPA Lehigh Univers 79.51 27 P **P** **02 44 12.3 -0.4**
L54A Sinclairville 79.53 23 P **P** **02 44 15.0 +2.2**
baz=207
N59A State Game Lan 79.63 26 P **P** **02 44 14.8 +1.4**
baz=210,SNR=12
D04E Lakebay 79.69 352 P **P** **02 44 15.6 +2.1**
baz=170,SNR=12
M58A Price's Panora 79.77 26 P **P** **02 44 15.6 +1.4**
baz=209,SNR=6.5
L55A Hinsdale 79.78 24 P **P** **02 44 16.5 +2.3**
baz=208,SNR=25
EGMT Eagleton 79.83 1 P **P** **02 44 16.8 +2.4**
baz=181
EGMT Eagleton 79.83 1 P **P** **02 44 12.7 -1.6**
EGMT IAmb IAmb 02 44 30.8
comp=Z,364nm,1.9s
N60A Cedar Hill Far 79.85 27 P **P** **02 44 15.9 +1.3**
baz=210,SNR=6.3
WVNY West Valley, N 79.92 24 P **P** **02 44 12.7 -2.3**
WVNY IAmb IAmb 02 44 18.5
comp=Z,169nm,1.2s
NLWA Neilton Lookou 80.04 351 P **P** **02 44 12.9 -2.5**
NLWA IAmb IAmb 02 44 23.4
comp=Z,208nm,1.3s
NLWA IAMs_20 IAMs_20 03 12 36.1
comp=Z,42µm,21.0s
L56A Greenwood 80.05 25 P **P** **02 44 17.2 +1.6**
baz=208,SNR=21
N61A South Mountain 80.06 27 P **P** **02 44 17.2 +1.6**
baz=211
K54A Basiliko Farm, 80.08 24 P **P** **02 44 17.6 +1.9**
baz=207
D03D Eldon 80.08 352 P **P** **02 44 17.6 +2.0**
baz=170,SNR=94
ARMA Armidale 80.10 240 P **P** **02 44 14.9 -1.7**
ARMA IAmb IAmb 02 44 25.7
comp=Z,225nm,1.9s
L57A Andrews Acres 80.18 25 P **P** **02 44 18.0 +1.7**
baz=209,SNR=10
KSPA Keystone Colle 80.19 26 P **P** **02 44 15.5 -0.9**
C06D Leavenworth 80.22 353 P **P** **02 44 18.7 +2.3**
baz=171
NEW Newport 80.25 356 P **P** **02 44 18.6 +2.0**
baz=175
NEW Newport 80.25 356 P **P** **02 44 14.2 -2.4**
NEW pmax pmax
comp=Z,192nm,1.3s
NEW Newport 80.25 356 P **P** **02 44 14.2 -2.4**
NEW IAmb IAmb 02 44 27.1
comp=Z,192nm,1.3s
NEW Newport 80.25 356 IAMs_20 IAMs_20 03 14 17.7
comp=Z,41µm,20.0s
GLMI Grayling 80.28 19 P **P** **02 44 15.1 -1.6**
MDND Maddock 80.29 8 P **P** **02 44 18.5 +1.8**
baz=190,SNR=9.2
M59A Waymart 80.30 26 P **P** **02 44 18.2 +1.2**
baz=210,SNR=8.5
COWI Conover 80.35 15 P **P** **02 44 15.4 -1.7**
I51A Listowel 80.39 21 P **P** **02 44 18.6 +1.2**
baz=205,SNR=6.4
K55A Perry 80.39 24 P **P** **02 44 19.0 +1.5**
baz=208,SNR=15
TRNY Table Rock, Ra 80.42 27 P **P** **02 44 16.2 -1.4**
M60A Port Jervis 80.42 27 P **P** **02 44 18.5 +0.9**
baz=210,SNR=6.5
PAL Palisades 80.43 28 P **P** **02 44 18.7 +1.1**
baz=211,SNR=9.2
PAL Palisades 80.43 28 P **P** **02 44 15.7 -1.9**
PAL pmax pmax
comp=Z,66nm,1.0s
PAL Palisades 80.43 28 P **P** **02 44 15.7 -1.9**
MAW Mawson 80.43 178 P **P** **02 44 18.0 +0.6**
comp=Z,55nm,1.0s,baz=202,slow=6.7,SNR=70
MAW LR LR 03 17 44.8
comp=Z,43µm,18.1s,baz=180,slow=34
MAW Mawson 80.43 178 P **P** **02 44 15.7 -1.8**
MMNY Mt. Morris Dam 80.45 24 P **P** **02 44 16.5 -1.2**
MMNY IAmb IAmb 02 44 21.6
comp=Z,256nm,1.1s
DGMT Dagmar 80.49 5 P **P** **02 44 20.1 +2.2**
baz=186
DGMT Dagmar 80.49 5 P **P** **02 44 16.6 -1.3**
DGMT IAmb IAmb 02 44 21.9
comp=Z,182nm,1.2s
L58A Harry Jones Me 80.58 26 P **P** **02 44 20.1 +1.6**
baz=210,SNR=6.7
TOO Toolangi 80.60 232 P **P** **02 44 18.0 -1.0**
TOO pmax pmax
comp=Z,667nm,2.0s
TOO Toolangi 80.60 232 P **P** **02 44 18.0 -1.0**
K56A Middlesex 80.62 24 P **P** **02 44 20.5 +1.8**
baz=208,SNR=9.0
BINY Binghamton 80.67 26 P **P** **02 44 20.6 +1.7**
baz=209
J54A Appleton 80.68 23 P **P** **02 44 21.2 +2.3**
baz=207
B05A Bryant 80.69 352 P **P** **02 44 20.7 +1.9**
baz=170,SNR=28

M61A Granite Spring 80.74 27 P P 02 44 20.7 +1.4
baz=211
WSPT Westport, CT 80.79 28 P P 02 44 17.8 -1.8
WALA Waterton Lakes 80.90 358 P P 02 44 18.1 -2.1
K57A Scipio Center 80.94 25 P P 02 44 21.7 +1.4
baz=209,SNR=7.6
J55A Hilton 80.95 24 P P 02 44 22.2 +1.8
baz=208,SNR=6.2
L59A Walton 81.01 26 P P 02 44 22.2 +1.4
baz=210,SNR=9.2
YLE Yale 81.07 28 P P 02 44 19.0 -2.1
L60A Shokan 81.15 27 P P 02 44 23.0 +1.5
baz=211
M62A Hamden 81.20 28 P P 02 44 23.0 +1.3
baz=212,SNR=5.1
A04D Lummi Island 81.20 352 P P 02 44 23.8 +2.2
baz=170,SNR=67
KSCT Kent School, K 81.21 27 P P 02 44 20.7 -1.1
KSCT IAmb IAmb 02 44 25.1
comp=Z,123nm,1.2s
AGMN Agassiz Nation 81.22 10 P P 02 44 23.8 +2.1
baz=193
AGMN Agassiz Nation 81.22 10 P P 02 44 20.8 -1.0
PGC Sidney 81.22 352 P P 02 44 19.8 -1.8
PGC IAmb IAmb 02 44 29.3
comp=Z,158nm,1.3s
K58A Earlville 81.28 25 P P 02 44 24.2 +2.0
baz=210
J56A Wolcott 81.30 24 P P 02 44 24.3 +2.1
baz=209
M63A Gales Ferry 81.50 29 P P 02 44 25.0 +1.6
baz=212
L61A Hillsdale 1, H 81.58 27 P P 02 44 25.6 +1.9
baz=211
K59A Cooperstown 81.58 26 P P 02 44 25.0 +1.2
baz=210,SNR=7.8
EYMN Ely 81.63 13 P P 02 44 26.0 +2.1
baz=196
EYMN Ely 81.63 13 P P 02 44 22.8 -1.1
J57A Williamstown 81.72 25 P P 02 44 26.3 +1.8
baz=209
SADO Sadowa 81.85 22 P P 02 44 23.1 -2.0
SADO IAmb IAmb 02 44 31.2
comp=Z,118nm,1.1s
H53A Bobcaygeon 81.86 23 P P 02 44 27.2 +2.0
baz=207,SNR=7.5
J58A Remsen 81.93 25 P P 02 44 27.5 +1.9
baz=210
M64A Tiverton 81.97 29 P P 02 44 27.8 +1.9
baz=213
L63A North Scituate 82.07 29 P P 02 44 28.6 +2.3
baz=213
K61A Williamstown 82.09 27 P P 02 44 28.0 +1.5
baz=211,SNR=9.2
L61B Northampton 82.14 28 P P 02 44 28.9 +2.2
baz=212
BRYW Bryant College 82.14 29 P P 02 44 25.1 -1.7
BRYW IAmb IAmb 02 44 40.4
comp=Z,359nm,1.9s
I57A Carthage 82.30 25 P P 02 44 29.6 +2.0
baz=210,SNR=8.8
J59A Piesco 82.31 26 P P 02 44 29.0 +1.4
baz=210,SNR=6.1
I58A Old Forge 82.33 25 P P 02 44 29.1 +1.4
baz=210,SNR=12
L64A Middleborough 82.44 29 P P 02 44 30.0 +1.7
baz=213
K62A Royalston 82.49 28 P P 02 44 30.2 +1.6
baz=212,SNR=8.6
J60A Lant Hill Farm 82.53 27 P P 02 44 30.5 +1.7
baz=211,SNR=11
ACCN Adirondack Com 82.55 26 P P 02 44 27.4 -1.5
WES Weston 82.62 28 P P 02 44 29.0 -0.2
WES pmax pmax
comp=Z,280nm,1.6s
WES Weston 82.62 28 P P 02 44 29.0 -0.2
HRV Adam Dziewonsk 82.63 28 P P 02 44 30.6 +1.4
baz=213
HRV Adam Dziewonsk 82.63 28 P P 02 44 26.9 -2.4
HRV pmax pmax
comp=Z,176nm,1.4s
HRV Adam Dziewonsk 82.63 28 P P 02 44 26.9 -2.4
HRV IAmb IAmb 02 44 35.4
comp=Z,176nm,1.4s
G54A Lake Saint Pet 82.75 23 P P 02 44 31.6 +1.7
baz=208,SNR=9.2
PLVO Plevna 82.77 23 P P 02 44 28.6 -1.3
K63A Dunstable 82.79 28 P P 02 44 31.5 +1.4
baz=213,SNR=5.6
I59A Olmsteadville 82.83 26 P P 02 44 31.9 +1.6
baz=211,SNR=11
NCB Newcomb 82.85 26 P P 02 44 28.5 -1.9
NCB IAmb IAmb 02 44 34.4
comp=Z,198nm,1.4s
H57A Richville 82.85 25 P P 02 44 32.1 +1.7
baz=210,SNR=17
J61A Chester 82.95 27 P P 02 44 33.0 +2.1
baz=212
I60A Shoreham 83.09 26 P P 02 44 33.0 +1.4
baz=211,SNR=9.9
ULM Lac du Bonnet 83.13 10 P P 02 44 32.8 +1.1
comp=Z,36nm,1.0s,baz=194,slow=5.6,SNR=15
ULM LR LR 03 18 03.9
comp=Z,13µm,19.0s,baz=161,slow=33
ULM Lac du Bonnet 83.13 10 *e*P P 02 44 33.0 +1.3
ULM pmax pmax
comp=Z,36nm,1.0s
ULM Lac du Bonnet 83.13 10 P P 02 44 31.0 -0.6
ULM IAmb IAmb 02 44 41.0
comp=Z,135nm,1.4s
J62A Henniker 83.13 28 P P 02 44 33.8 +1.9
baz=212,SNR=11
EIDS Eidsvold 83.17 244 P P 02 44 32.1 -0.6
EIDS IAmb IAmb 02 44 45.2
comp=Z,117nm,1.5s
H58A Gabriels 83.25 26 P P 02 44 33.9 +1.4
baz=211,SNR=30
ALGO Algonquin Park 83.25 22 P P 02 44 34.4 +2.0
baz=208
LONY Lake Ozonia 83.28 25 P P 02 44 34.5 +1.9
baz=210
LONY Lake Ozonia 83.28 25 P P 02 44 31.2 -1.4
HNH Hanover 83.35 27 P P 02 44 32.2 -0.8
HNH IAmb IAmb 02 44 44.5
comp=Z,291nm,1.9s
FFD Franklin Falls 83.40 28 P P 02 44 30.9 -2.3
J63A Strafford 83.47 28 P P 02 44 35.4 +1.8
baz=213
G57A Newington 83.55 25 P P 02 44 35.5 +1.6
baz=210,SNR=35
I61A Oroboro, Fairl 83.58 27 P P 02 44 35.7 +1.6
baz=212,SNR=11
H59A Cadyville 83.62 26 P P 02 44 36.1 +1.7
baz=211,SNR=23
VT1 Waterbury 83.70 26 P P 02 44 33.3 -1.6
VT1 IAmb IAmb 02 44 48.8
comp=Z,181nm,1.5s
FRNY Flat Rock 83.82 26 P P 02 44 33.8 -1.6
FRNY IAmb IAmb 02 44 38.6
comp=Z,139nm,1.3s
I62A Tamworth 83.87 28 P P 02 44 37.2 +1.6
baz=213,SNR=10
H60A Morristown 83.92 26 P P 02 44 37.6 +1.7
baz=212,SNR=14
G58A Ormstown 83.92 25 P P 02 44 37.8 +1.9
baz=211,SNR=34
LBNH Lisbon 83.94 27 P P 02 44 37.6 +1.6
baz=212
LBNH Lisbon 83.94 27 P P 02 44 34.3 -1.8
LBNH pmax pmax
comp=Z,169nm,1.5s
LBNH Lisbon 83.94 27 P P 02 44 34.3 -1.8
LBNH IAmb IAmb 02 44 46.3
comp=Z,169nm,1.5s
G59A Clarenceville 84.18 26 P P 02 44 38.7 +1.6
baz=211,SNR=6.4
H61A Lyndonville 84.19 27 P P 02 44 39.0 +1.7
baz=212,SNR=10
F57A Harrington 84.27 25 P P 02 44 39.3 +1.7
baz=210,SNR=6.4
I63A Otisfield 84.31 28 P P 02 44 39.8 +1.9
baz=213
E55A Montcerf-Lytto 84.35 23 P P 02 44 39.7 +1.7
baz=209,SNR=20
G60A Masonville 84.51 26 P P 02 44 41.1 +2.2
baz=212
H62A Milan 84.52 27 P P 02 44 40.6 +1.7
baz=213,SNR=8.8
I64A Boothbay 84.58 29 P P 02 44 41.4 +2.1
baz=214
F58A St-Lin Laurent 84.62 25 P P 02 44 41.0 +1.6
baz=211
MOQ Mont Orford 84.72 26 P P 02 44 38.5 -1.6
E56A St. Veronique 84.78 24 P P 02 44 41.3 +1.1
baz=210,SNR=25
E57A Chemin Saint G 84.97 25 P P 02 44 42.3 +1.0
baz=211,SNR=20
G61A St-Isidore-de- 84.97 27 P P 02 44 42.5 +1.2
baz=213,SNR=10.0
F59A Saint Guilaume 84.99 26 P P 02 44 42.4 +1.2
baz=212,SNR=9.8
H63A New Sharon 85.04 28 P P 02 44 43.0 +1.4
baz=214,SNR=7.7
D55A Sainte-Anne-du 85.04 23 P P 02 44 43.1 +1.6
baz=210,SNR=33
E58A La Victoria 85.25 25 P P 02 44 43.6 +1.1
baz=211,SNR=24
G62A West of Eustis 85.31 27 P P 02 44 44.1 +1.2
baz=213,SNR=7.4
D56A ZEC Mazanza, M 85.31 24 P P 02 44 44.0 +1.1
baz=210,SNR=39
BBB Bella Bella 85.33 349 P P 02 44 42.3 -0.5
BBB IAmb IAmb 02 44 52.6
comp=Z,176nm,1.2s
H64A Troy 85.35 28 P P 02 44 44.0 +1.0
baz=214,SNR=8.6
VLDQ Val d'Or 85.36 22 P P 02 44 40.8 -2.2
F60A Warwick 85.39 26 P P 02 44 44.0 +0.7
baz=212,SNR=13
G63A Kingsbury 85.58 28 P P 02 44 45.7 +1.4
baz=214
D57A Chemin Vers le 85.59 24 P P 02 44 45.8 +1.5
baz=211,SNR=26
E59A St. Maurice 85.62 26 P P 02 44 45.6 +1.2
baz=212
F61A St Evariste 85.76 27 P P 02 44 46.6 +1.4
baz=213
H65A Eastbrook 85.79 29 P P 02 44 46.4 +1.2
baz=215
PKME Peaks-Kenny Pk 85.83 28 P P 02 44 46.9 +1.4
baz=214
E60A Ste Agathe de 85.92 26 P P 02 44 47.0 +1.1
baz=213,SNR=7.1
D58A Chemin du LacG 86.01 25 P P 02 44 47.7 +1.4
baz=212,SNR=16
G64A Maxfield 86.04 28 P P 02 44 47.7 +1.2
baz=215
F62A Pittston Farm, 86.09 27 P P 02 44 48.1 +1.3
baz=214,SNR=7.5
H66A Whiting 86.25 29 P P 02 44 48.7 +1.2
baz=216
F63A Nahmakanta, Br 86.27 28 P P 02 44 48.6 +0.9
baz=214,SNR=12
LATQ La Tuque 86.29 25 P P 02 44 49.0 +1.3
baz=212,SNR=7.9
D59A Saint-Raymond 86.31 26 P P 02 44 49.5 +1.7
baz=212
E61A Lac Etchemin 86.33 27 P P 02 44 49.8 +1.9
baz=213
LSQQ Lebel-sur-Quev 86.34 22 P P 02 44 49.4 +1.5
208
STKA Stephens Creek 86.47 234 P P 02 44 48.7 -0.5
comp=Z,23nm,1.0s,baz=120,slow=6.3,SNR=28
STKA PKKPbc **PKKPbc** 03 02 45.9 +1.0
comp=Z,6.1nm,1.0s,baz=347,slow=6.9,SNR=7.7
STKA LR LR 03 17 32.5
comp=Z,8µm,19.2s,baz=130,slow=32
STKA Stephens Creek 86.47 234 *e*P P 02 44 49.8 +0.5
STKA pmax pmax
comp=Z,23nm,1.0s
STKA Stephens Creek 86.47 234 P P 02 44 47.7 -1.5
G65A Princeton 86.48 29 P P 02 44 50.2 +1.5
baz=216
D60A Saint Jean D'O 86.57 26 P P 02 44 51.0 +1.9
baz=213
F64A Sherman 86.70 28 P P 02 44 51.5 +1.7
baz=215
MATQ Matagami 86.75 21 P P 02 44 51.1 +1.2
baz=208,SNR=18
E62A Clayton Lake 86.86 27 P P 02 44 52.3 +1.7
baz=214
FFC Flin Flon 86.87 5 P P 02 44 49.2 -1.2
FFC pmax pmax
comp=Z,71nm,1.0s
FFC Flin Flon 86.87 5 P P 02 44 49.2 -1.2
FFC IAmb IAmb 02 44 53.4
comp=Z,71nm,1.0s
DIB Dawson Inlet, 87.06 347 P P 02 44 49.0 -2.3
DIB IAmb IAmb 02 45 03.1
comp=Z,162nm,1.5s
DIB IAMs_20 IAMs_20 03 15 05.7
comp=Z,32µm,20.0s
H02S1 DAWSON INLET T 87.06 347 P P 02 44 51.6 +0.3
SNR=4.1
H02S1 T T 04 21 25.2
SNR=3.1
E63A Oxbow 87.13 28 P P 02 44 53.7 +1.8
baz=215
E64A Bridgewater 87.36 28 P P 02 44 54.7 +1.7
baz=215
D62A Allapoint, All 87.43 27 P P 02 44 54.2 +0.9
baz=214,SNR=6.5
PQI Presque Isle 87.50 28 P P 02 44 51.2 -2.4
PQI IAmb IAmb 02 44 59.5
comp=Z,95nm,1.4s
D63A Stockholm 87.76 28 P P 02 44 56.2 +1.4
baz=215
CHGQ Chibougamau 87.91 23 P P 02 44 56.5 +0.9
baz=210,SNR=17
BATG Bathurst New B 88.77 29 P P 02 44 58.3 -1.4
BATG IAmb IAmb 02 45 02.3
comp=Z,70nm,1.2s
GBN Guysborough 89.27 32 P 02 45 01.4 -0.6
GBN IAmb IAmb 02 45 04.9
comp=Z,133nm,1.1s
CRAG Craig 89.33 348 IAMs_20 IAMs_20 03 16 30.8
comp=Z,23µm,18.0s
BBOO Buckleboo 89.64 231 P 02 45 03.1 -1.3
BBOO IAmb IAmb 02 45 10.1
comp=Z,160nm,1.2s
CTAO Charters Tower 89.78 246 P P 02 45 03.6 -1.6
CTAO pmax pmax
comp=Z,85nm,1.2s
CTAO Charters Tower 89.78 246 P P 02 45 03.6 -1.6
CTAO IAmb IAmb 02 45 11.9
comp=Z,85nm,1.1s
WRAK Wrangell Islan 90.10 348 P P 02 45 03.4 -2.2
SIT Sitka 91.24 347 P P 02 45 08.7 -2.2
SIT pmax pmax
comp=Z,116nm,1.4s
SIT Sitka 91.24 347 P P 02 45 08.7 -2.2
SIT IAmb IAmb 02 45 24.8
comp=Z,116nm,1.4s
DLBC Dease Lake 91.66 350 P P 02 45 13.6 +0.7
comp=Z,40nm,1.1s,baz=190,slow=5.4,SNR=24
DLBC Dease Lake 91.66 350 P P 02 45 11.1 -1.9
DLBC IAmb IAmb 02 45 20.9
comp=Z,69nm,1.1s
SKAG Skagway 93.50 348 P P 02 45 19.7 -1.6
KRVT Keravat (AS076 93.69 263 P P 02 45 23.6 +0.2
comp=Z,37nm,0.5s,baz=25,slow=6.7,SNR=6.9
WAKE Wake Island 93.92 290 P P 02 45 22.2 -2.1
WAKE IAmb IAmb 02 45 38.1
comp=Z,86nm,1.1s
YKA Yellowknife Ar 94.37 358 P P 02 45 26.7 +1.4
comp=Z,29nm,1.0s,baz=168,slow=4.2,SNR=40
YKA PKKPbc **PKKPbc** 03 02 27.1 -0.2
comp=Z,2.2nm,0.8s,baz=346,slow=3.5,SNR=4.3
YKA LR LR 03 23 24.4
comp=Z,24µm,19.0s,baz=0.0,slow=33
YKA Yellowknife Ar 94.37 358 *e*P P 02 45 26.9 +1.7
YKA pmax pmax
comp=Z,29nm,1.0s
WHY Whitehorse 94.55 348 P P 02 45 24.0 -2.3
SCHQ Schefferville 94.56 24 P P 02 45 27.6 +1.2
comp=Z,45nm,1.0s,baz=205,slow=2.9,SNR=14
SCHQ Schefferville 94.56 24 P P 02 45 25.3 -1.1
SCHQ IAmb IAmb 02 45 29.0
comp=Z,66nm,1.1s
PMG Port Moresby 94.98 256 P P 02 45 30.0 +0.7
comp=Z,7.3nm,0.4s,baz=94,slow=3.8,SNR=5.6
PMG Port Moresby 94.98 256 P P 02 45 27.4 -1.9
PMG IAmb IAmb 02 45 42.0
comp=Z,96nm,1.8s
PCA Pinnacle 95.05 346 P P 02 45 26.8 -1.7
PCA IAmb IAmb 02 45 42.1
comp=Z,65nm,1.3s
HYT Haines Junctio 95.17 347 P P 02 45 27.8 -1.4
HYT IAmb IAmb 02 45 36.2
comp=Z,46nm,1.2s
FORT Forrest 96.11 228 P P 02 45 33.1 -1.1
KDAK Kodiak Island 96.19 339 P P 02 45 34.1 +0.4
comp=Z,17nm,1.0s,baz=183,slow=5.0,SNR=5.9
KDAK Kodiak Island 96.19 339 P P 02 45 33.1 -0.6
KDAK IAmb IAmb 02 45 40.3
comp=Z,54nm,1.2s
ASAR Alice Springs 96.86 237 P P 02 45 37.1 -0.7
comp=Z,4.0nm,0.8s,baz=119,slow=3.5,SNR=17
ASAR PKKPbc **PKKPbc** 03 02 18.6 +0.1
comp=Z,4.3nm,0.9s,baz=327,slow=2.2,SNR=22
ASAR LR LR 03 26 20.4
comp=Z,16µm,18.1s,baz=142,slow=34
SEW Seward 97.25 342 P P 02 45 36.4 -2.0
SEW IAmb IAmb 02 45 41.7
comp=Z,36nm,0.9s
N25K Chitina, Valde 97.35 344 Pdiff Pdif 02 45 41.3 +2.3
baz=152
O22K Cooper Landing 97.64 342 Pdiff Pdif 02 45 42.4 +2.2
baz=148
BCAR Beaver Creek A 98.05 346 P P 02 45 41.5 -0.6
M24K Tolsona, Glenn 98.15 344 Pdiff Pdif 02 45 44.5 +1.9
baz=150
RC01 Rabbit Creek A 98.16 342 Pdiff Pdif 02 45 44.8 +2.2
baz=148
UNV Unalaska Valle 98.20 330 IAMs_20 IAMs_20 03 21 13.3
comp=Z,19µm,20.0s
PMR Palmer 98.43 343 P P 02 45 42.3 -1.4
PMR pmax pmax
comp=Z,87nm,1.2s
PMR Palmer 98.43 343 P P 02 45 42.3 -1.4
RSO Redoubt South 98.45 340 P P 02 45 42.1 -2.0
MANU Manus Island 98.82 262 IAMs_20 IAMs_20 03 21 30.7
comp=Z,12µm,22.0s
WRA Warramunga Arr 98.88 240 P P 02 45 45.9 -1.1
comp=Z,2.2nm,0.8s,baz=127,slow=4.3,SNR=3.9
WRA PP PP 02 49 47.4 -0.7
comp=Z,1.6nm,1.1s,baz=130,slow=4.9,SNR=4.6
WRA PKiKP **PKiKP** 02 50 18.3 +0.3
comp=Z,1.5nm,1.0s,baz=128,slow=1.6,SNR=4.6
WRA PKKPbc **PKKPdf** 03 02 14.6 -1.3
comp=Z,3.6nm,1.0s,baz=304,slow=2.5,SNR=13
WRA LR LR 03 27 08.7
comp=Z,15µm,18.4s,baz=155,slow=33
WRA Warramunga Arr 98.88 240 P P 02 45 45.8 -1.1
K27K Chicken 98.98 347 Pdiff Pdif 02 45 48.3 +2.2
baz=154
DOT Dot Lake 99.04 346 **Pdif** 02 45 44.5 -2.0
SCRK Sand Creek 99.31 346 Pdiff **Pdif** 02 45 48.7 +0.9
baz=152
CUT Chulitna 99.40 343 Pdiff **Pdif** 02 45 49.7 +1.7
baz=147
MCK McKinley 100.20 344 Pdiff **Pdif** 02 45 53.0 +1.4
baz=148
HDA Harding Lake 100.33 345 Pdiff **Pdif** 02 45 53.8 +1.7
baz=150
ILAR Eielson Array 100.63 345 P **Pdif** 02 45 54.5 +1.0
comp=Z,2.3nm,0.9s,baz=176,slow=4.4,SNR=7.6
ILAR PP PP 02 50 02.3 +1.1
comp=Z,1.8nm,1.1s,baz=163,slow=6.5,SNR=4.4
ILAR PKKPbc **PKKPbc** 03 02 08.4 -1.4
comp=Z,1.2nm,1.0s,baz=309,slow=2.7,SNR=4.2
ILAR Eielson Array 100.63 345 Pdif **Pdif** 02 45 53.1 -0.4
NEA2 Nenana 100.96 344 Pdiff **Pdif** 02 45 56.2 +1.2
baz=148
H01W1 Cape Leeuwin H 100.99 216 T T 04 38 51.4
baz=141,slow=76,SNR=288
H01W2 Cape Leeuwin H 101.00 216 T T 04 38 44.4
baz=141,slow=76,SNR=277
H01W3 Cape Leeuwin H 101.01 216 T T 04 38 45.2
baz=141,slow=76,SNR=288
POKR Poker Plat Res 101.04 345 Pdiff **Pdif** 02 45 56.2 +0.9
baz=149
INK Inuvik 101.58 352 P **Pdif** 02 45 58.6 +1.0
comp=Z,8.5nm,1.0s,baz=230,slow=2.9,SNR=4.3
INK PP PP 02 50 09.5 +1.3
comp=Z,10nm,1.1s,baz=161,slow=12,SNR=2.3
INK Inuvik 101.58 352 PP 02 50 06.8 -1.4
MLY Manley 101.72 344 Pdiff **Pdif** 02 45 59.5 +1.1
baz=146
COLD Coldfoot 103.44 345 Pdiff **Pdif** 02 46 07.7 +1.8
baz=146
MORW Morawa 104.52 221 IAMs_20 IAMs_20 03 25 08.1
comp=Z,23µm,19.0s
FITZ Fitzroy Crossi 106.32 236 PKKPbc PKKPbc 03 01 51.8 +0.7
comp=Z,4.2nm,0.9s,baz=18,slow=3.2,SNR=5.7
DBIC Dimbokro 107.11 93 PKiKP **PKiKP** 02 50 33.1 +0.1
comp=Z,3.8nm,0.9s,baz=207,slow=4.5,SNR=2.9
GUMO Guam 109.03 274 IAMs_20 IAMs_20 03 28 54.7
comp=Z,10µm,20.0s
KOWA Kowa 111.75 86 PKiKP **PKiKP** 02 50 42.2 +0.6
comp=Z,8.2nm,1.0s,baz=157,slow=1.9,SNR=11
TORD Torodi Ar. Bea 115.94 90 PKP **PKPdf** 02 50 49.6 -0.1
comp=Z,14nm,0.8s,baz=297,slow=1.4,SNR=33
TORD PP PP 02 51 54.2 +0.4
comp=Z,37nm,1.2s,baz=254,slow=5.5,SNR=12
TORD PKKPbc **PKKPbc** 03 01 21.0 +1.4
comp=Z,1.3nm,0.9s,baz=45,slow=3.7,SNR=4.6
TORD Torodi Ar. Bea 115.94 90 **PKPdf** 02 50 47.8 -1.9
BILL Bilibino 116.80 335 *i* PKiKP **PKiKP** 02 50 50.9 +1.1
BILL *i* 02 52 02.5
BILL pmax pmax
comp=Z,4.0nm,1.0s
PBEJ Beja 118.44 61 *e*PKPdf **PKiKP** 02 50 55.2 +1.3
EVO Evora 118.50 60 *e*PKPdf **PKiKP** 02 50 56.0 +2.0
PCAS Casmilo, Conde 118.66 59 *e*PKPdf **PKPdf** 02 50 53.2 -1.0
LSZ Lusaka 118.69 134 PKP **PKiKP** 02 50 55.9 +0.7
comp=Z,2.6nm,0.9s,baz=47,slow=4.7,SNR=4.1
LSZ Lusaka 118.69 134 PKiKP **PKPdf** 02 50 53.2 -2.0
LSZ Lusaka 118.69 134 **PKPdf** 02 50 53.2 -2.0
MDT Midelt 119.10 68 PKP **PKiKP** 02 50 56.8 +1.3
comp=Z,7.1nm,0.8s,baz=303,slow=2.3,SNR=20
PVIS Viseu 119.31 58 *e*PKPdf **PKiKP** 02 50 56.3 +0.7
PCBR Castelo Branco 119.33 59 *e*PKPdf **PKiKP** 02 50 56.9 +1.4
PCBR *i* LQ LQ 02 52 18.2
SEY Seymchan 121.08 328 PKP **PKPdf** 02 50 58.1 0.0
comp=Z,3.7nm,0.7s,baz=62,slow=2.8,SNR=5.3
SEY PP PP 02 52 27.6 -0.8
comp=Z,1.5nm,0.4s,baz=102,slow=3.2,SNR=3.5
SEY Seymchan 121.08 328 *i* PKiKP **PKiKP** 02 51 01.1 +2.9
MA2 Magadan 121.22 324 *i* PKiKP **PKiKP** 02 51 01.8 +3.2
MA2 pmax pmax
comp=Z,16nm,1.2s
ES13 SONSECA Array 121.84 60 IAMs_20 IAMs_20 03 27 12.1
comp=Z,15µm,20.0s
ESDC Sonseca Array 121.86 60 PKP **PKiKP** 02 51 01.4 +0.8
comp=Z,12nm,0.9s,baz=290,slow=2.2,SNR=39
ESDC PP PP 02 52 35.2 +0.7
comp=Z,14nm,1.2s,baz=250,slow=7.2,SNR=8.0
ESDC PKKPbc **PKKPbc** 03 00 58.7 +0.1
comp=Z,1.2nm,0.9s,baz=77,slow=3.6,SNR=4.8
ES03 SONSECA Array 121.87 60 IAMs_20 IAMs_20 03 27 14.2
comp=Z,14µm,20.0s
ES02 SONSECA Array 121.88 60 IAMs_20 IAMs_20 03 27 13.3
comp=Z,14µm,20.0s
ES18 SONSECA Array 121.88 60 IAMs_20 IAMs_20 03 27 13.2
comp=Z,15µm,20.0s
ES11 SONSECA Array 121.88 60 IAMs_20 IAMs_20 03 27 12.0
comp=Z,14µm,20.0s
ES08 SONSECA Array 121.89 60 IAMs_20 IAMs_20 03 34 36.6
comp=Z,12µm,20.0s
ES19 SONSECA Array 121.91 60 IAMs_20 IAMs_20 03 27 12.8
comp=Z,15µm,20.0s
YSS Yuzh-Sakhalins 123.31 308 *i* PKiKP **PKiKP** 02 51 05.0 +1.9
YSS pmax pmax
comp=Z,10.0nm,1.1s
ODJA Bouhanifia 123.43 66 P **PKiKP** 02 51 11.0 +7.2
MJA0 Matsu Arr-Jizo 123.85 295 *e*PKiKP **PKiKP** 02 51 06.8 +2.2
MJA0 pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 123.88 295 PKP **PKPdf** 02 51 04.2 -0.2
comp=Z,2.3nm,0.8s,baz=126,slow=2.1,SNR=2.9
OJGS Djebel Guires 124.18 66 P **PKiKP** 02 51 13.0 +7.6
OKGL Djebel Kef Gue 124.26 66 P **PKiKP** 02 51 12.0 +6.6
SJPF Ste Jean 124.75 57 *e*PKiKP **PKiKP** 02 51 07.5 +1.3
SJPF pmax pmax
comp=Z,48nm,1.1s
ETSF Etsaut 125.18 57 *e*PKiKP **PKiKP** 02 51 08.4 +1.3
ETSF pmax pmax
comp=Z,53nm,1.2s
OPO Ambohidratompo 125.37 154 PKP **PKiKP** 02 51 08.5 +0.1
comp=Z,4.9nm,0.9s,baz=262,slow=2.2,SNR=2.1

EKA Eskdalemuir Ar 125.63 42 PKP **PKPdf** 02 51 07.3 +0.2
comp=Z,13nm,1.0s,baz=260,slow=1.5,SNR=12
EPF Esparros 125.85 57 *e*PKIKP **PKiKP** 02 51 08.4 0.0
EPF pmax pmax
comp=Z,66nm,1.3s
GRR Gorron 126.07 51 *e*PKIKP **PKiKP** 02 51 09.3 +0.7
GRR pmax pmax
comp=Z,56nm,1.1s
LDF La Druitiere 126.59 51 *e*PKIKP **PKiKP** 02 51 09.9 +0.3
LDF pmax pmax
comp=Z,23nm,1.0s
LEM Lembang 126.60 230 PKP **PKPdf** 02 51 10.4 0.0
comp=Z,25nm,0.6s,baz=170,slow=8.5,SNR=1.8
RJF Les Rejaudoux 127.14 55 *e*PKIKP **PKPdf** 02 51 10.3 0.0
RJF pmax pmax
comp=Z,43nm,1.4s
CAF Calviac 127.45 55 *e*PKIKP **PKiKP** 02 51 11.3 -0.2
CAF pmax pmax
comp=Z,32nm,1.2s
SET Setif 128.00 67 P **PKiKP** 02 51 14.0 +1.0
AVF Avril sur Loir 128.64 53 *e*PKIKP **PKiKP** 02 51 16.3 +2.5
AVF pmax pmax
comp=Z,41nm,1.5s
LOR Lormes 129.05 53 *e*PKIKP **PKPdf** 02 51 14.0 +0.1
LOR pmax pmax
comp=Z,26nm,1.2s
VIVF Saint-Julien-l 129.27 56 *e*PKIKP **PKiKP** 02 51 16.8 +1.6
VIVF pmax pmax
comp=Z,32nm,1.3s
BAIF Baives 129.58 49 *e*PKIKP **PKiKP** 02 51 16.2 +0.7
BAIF pmax pmax
comp=Z,40nm,1.1s
TIXI Tiksi 129.62 339 *i* PKIKP **PKiKP** 02 51 17.7 +2.7
SNF Seneffe 129.67 49 PKiKP **PKiKP** 02 51 15.4 -0.2
UCC Uccle 129.74 48 PKiKP **PKPdf** 02 51 15.1 +0.1
UCC sPKiKP **sPKiKP** 02 51 19.3 0.0
UCC x x 02 51 38.8
DOU Dourbes 129.83 49 PKiKP **PKiKP** 02 51 16.7 +0.7
DOU sPKiKP **sPKiKP** 02 51 20.4 +0.9
DOU x x 02 51 27.1
BMRD Maredsous 129.96 49 sPKiKP **PKiKP** 02 51 20.4 +4.1
BMRD x x 02 51 26.6
BGES Gesves 130.17 49 PKPdf **PKPdf** 02 51 13.0 -2.9
USA0B Ussuriysk Arra 130.23 303 *i* PKIKP **PKiKP** 02 51 18.8 +1.8
USRK Ussuriysk Ar. 130.23 303 PKP **PKPdf** 02 51 16.4 +0.2
comp=Z,6.2nm,1.0s,baz=86,slow=6.0,SNR=6.3
RCHB Rochefort 130.24 49 PKiKP **PKiKP** 02 51 17.2 +0.3
BCLA Clavier 130.31 49 PKiKP **PKPdf** 02 51 15.9 -0.2
BCLA sPKiKP **sPKiKP** 02 51 20.6 +0.1
FRF La Foret Royal 130.47 58 *e*PKIKP **PKPdf** 02 51 16.9 +0.2
FRF pmax pmax
comp=Z,128nm,1.6s
CABF La Chapelle 130.49 54 *e*PKIKP **PKiKP** 02 51 18.4 +0.8
CABF pmax pmax
comp=Z,85nm,1.7s
BSTI Sart Tilman 130.49 49 PKiKP **PKiKP** 02 51 17.5 +0.1
BSTI x x 02 51 25.2
BEBN Eben Emael 130.57 48 PKiKP **PKiKP** 02 51 17.7 +0.2
MBDF Montbardon 130.73 56 *e*PKIKP **PKiKP** 02 51 19.0 +0.7
MBDF pmax pmax
comp=Z,40nm,1.4s
BHOU Houvegnez 130.75 49 PKiKP **PKiKP** 02 51 17.8 -0.2
BHOU x x 02 51 27.6
MEM Membach 130.77 49 PKiKP **PKiKP** 02 51 17.9 0.0
MEM sPKiKP **sPKiKP** 02 51 22.1 +0.6
HAU Haudompre 130.80 52 *e*PKIKP **PKiKP** 02 51 18.5 +0.4
HAU pmax pmax
comp=Z,32nm,1.3s
WLF Walferdange 130.81 50 sPKiKP **PKiKP** 02 51 22.6 +4.6
WLF x x 02 51 26.2
WLF Walferdange 130.81 50 PKIKP **PKPdf** 02 51 14.9 -2.2
WLF Walferdange 130.81 50 **PKPdf** 02 51 14.9 -2.2
LPG La Plagne 130.81 55 *e*PKIKP **PKiKP** 02 51 20.0 +1.4
LPG pmax pmax
comp=Z,103nm,1.4s
BTNL Ternell 130.85 49 PKiKP **PKiKP** 02 51 17.8 -0.3
BTNL sPKiKP **sPKiKP** 02 51 22.6 +0.9
BTNL x x 02 51 27.9
KEST Kesra 130.98 69 PKP **PKiKP** 02 51 18.9 -0.1
comp=Z,20nm,0.9s,baz=239,slow=4.4,SNR=13
KEST Kesra 130.98 69 PKPdf **PKPdf** 02 51 16.7 -1.3
HINF Hinteralfeld 131.13 52 *e*PKIKP **PKiKP** 02 51 19.0 +0.2
HINF pmax pmax
comp=Z,62nm,1.6s
YAK Yakutsk 131.56 327 *i* PKIKP **PKiKP** 02 51 20.6 +1.5
YAK pmax pmax
comp=Z,11nm,0.9s
MDJ Mudanjiang 131.99 303 PKP **PKiKP** 02 51 20.6 0.0
MDJ Mudanjiang 131.99 303 IAMs_20 IAMs_20 03 40 33.2
comp=Z,10μm,20.0s
KSRS Korea Array 132.07 293 PKP **PKPdf** 02 51 20.4 +0.5
comp=Z,3.9nm,0.8s,baz=123,slow=3.1,SNR=6.9
KSAR Wonju Array Be 132.09 293 PKIKP **PKPdf** 02 51 19.0 -1.0
KSAR Wonju Array Be 132.09 293 **PKPdf** 02 51 19.0 -1.0
BFO Black Forest 132.15 52 PKIKP **PKPdf** 02 51 19.2 -0.6
BFO Black Forest 132.15 52 PKPdf **PKPdf** 02 51 19.2 -0.6
NOA NORSAR Array B 133.03 34 PKP **PKiKP** 02 51 21.9 -0.3
comp=Z,10nm,1.2s,baz=291,slow=2.1,SNR=6.8
NB201 NORSAR Array S 133.06 34 **PKPdf** 02 51 19.9 -1.2
NC303 NORSAR Array S 133.06 34 PKPdf **PKPdf** 02 51 20.4 -0.7
INCN Inchon 133.08 293 IAMs_20 IAMs_20 04 01 30.1
comp=Z,15μm,20.0s
DAVOX Davos/Dischmat 133.10 54 PKP **PKiKP** 02 51 22.8 -0.2
comp=Z,23nm,0.9s,baz=105,slow=2.8,SNR=19
DAVA Damuels 133.13 53 *i* P **PKiKP** 02 51 23.1 +0.1
comp=Z,68nm,1.4s,SNR=11
FETA Feichten 133.70 54 *i* P **PKiKP** 02 51 24.3 +0.1
comp=Z,39nm,1.0s,SNR=12
RETA Reutte 133.74 53 *e*P **PKiKP** 02 51 24.4 +0.2
comp=Z,25nm,1.2s
RETA *e*P **PP** 02 53 53.5 +1.0
comp=Z,14nm,1.6s
ZEA Zeya 133.78 316 *e*PKIKP **PKPdf** 02 51 23.1 +0.5
ZEA pmax pmax
comp=Z,10.0nm,0.5s
MOTA Moosalm 133.97 53 *i* P **PKiKP** 02 51 24.7 0.0
comp=Z,59nm,1.0s,SNR=17
MOTA *e*P **PP** 02 53 55.4 +1.2
comp=Z,24nm,1.6s
SQTA Sankt Quirin 134.03 53 *i* P **PKiKP** 02 51 24.7 -0.1
comp=Z,44nm,1.0s,SNR=14
SQTA *e*P **PP** 02 53 54.6 +0.1
comp=Z,22nm,1.7s
GRA2 Grafenberg Arr 134.19 50 *e*PKPdf **PKPdf** 02 51 22.6 -1.0
baz=270,slow=2.1
WATA Walderalm 134.29 53 *i* P **PKiKP** 02 51 24.8 -0.5
comp=Z,40nm,1.2s,SNR=8.6
WTTA Wattenberg 134.33 53 *i* P **PKiKP** 02 51 25.4 -0.1
comp=Z,51nm,1.3s,SNR=11
WTTA *e*P **PP** 02 53 56.2 -0.2
comp=Z,23nm,1.5s
WTTA Wattenberg 134.33 53 PKIKP **PKiKP** 02 51 25.3 -0.1
HFS Hagfors 134.41 35 PKP **PKPdf** 02 51 24.3 +0.7
comp=Z,5.8nm,0.8s,baz=253,slow=1.5,SNR=5.1
CN2 Changchun 134.87 302 *e*PKP **PKPdf** 02 51 19.8 -5.2
NKC Novy Kostel 134.88 49 *e*PKPDF **PKiKP** 02 51 26.4 +0.1
NKC *ex* x 02 51 36.4
NKC Novy Kostel 134.88 49 *e*PKIKP **PKiKP** 02 51 26.4 +0.1
ABTA Abfaltersbach 134.91 54 *e*P **PKPdf** 02 51 22.3 -2.8
comp=Z,32nm,1.2s
ABTA *e*P **PP** 02 54 00.3 +0.3
comp=Z,15nm,1.5s
CLL Collm 135.19 48 *e*PKPpre PKPpre 02 51 15.0
CLL *e*PKiKP **PKiKP** 02 51 27.0 +0.2
comp=Z,31nm,1.0s
CLL *e* 02 51 36.0
CLL *e* 02 51 46.0
CLL *e*PP **PP** 02 54 03.0 +1.5
CLL Collm 135.19 48 PKIKP **PKPdf** 02 51 25.2 -0.1
CLL Collm 135.19 48 PKPdf **PKPdf** 02 51 25.2 -0.1
KMBO Kilima Mbogo 135.25 132 PKhKP PKPpre 02 51 23.0
comp=Z,1.2nm,0.5s,baz=243,slow=2.3,SNR=2.2
KMBO Kilima Mbogo 135.25 132 PKIKP **PKPdf** 02 51 25.0 -2.0
KMBO Kilima Mbogo 135.25 132 PKPdf **PKPdf** 02 51 25.0 -2.0
VAE Valguarnera 135.33 67 PKP **PKPdf** 02 51 26.6 +0.5
comp=Z,4.9nm,0.8s,baz=274,slow=16,SNR=2.9
ARCES ARCESS Array B 135.40 20 PKP **PKPdf** 02 51 25.6 +0.4
comp=Z,10nm,1.1s,baz=318,slow=1.2,SNR=5.2
KBA Koelnbreinsper 135.49 54 *e*P **PKPdf** 02 51 26.9 +0.7
comp=Z,17nm,1.1s
KBA *e*P **PP** 02 54 05.1 +1.3
comp=Z,13nm,1.6s
INTR Introdacqua 135.58 61 PKPdf **PKPdf** 02 51 24.3 -2.2
RUE Ruedersdorf 135.60 46 *e*P **PKiKP** 02 51 26.8 -0.8

KHC Kasperske Hory 135.64 51 *e*PKPpre PKPpre 02 51 19.6
KHC *e*PKPDF **PKiKP** 02 51 27.5 -0.4
KHC Kasperske Hory 135.64 51 *i* PKIKP **PKPdf** 02 51 27.0 +0.7
MYKA Terra Mystica 135.68 54 *e*P **PKPdf** 02 51 26.6 +0.1
comp=Z,29nm,1.2s
GERES GERESS Array B 135.73 51 PKhKP PKPpre 02 51 20.8
comp=Z,1.4nm,0.8s,baz=336,slow=2.9,SNR=6.2
GERES PKP **PKiKP** 02 51 28.0 -0.2
comp=Z,20nm,1.0s,baz=233,slow=1.3,SNR=18
GERES GERESS Array B 135.73 51 PKPdf **PKPdf** 02 51 25.4 -1.2
BRG Berggiesshubel 135.81 48 PKP **PKPdf** 02 51 22.0 -4.5
BRG PP PP 02 54 25.0 +20
BRG SS SS 03 12 59.0 +55
PBCC Pribram 135.90 50 *e*PKPDF **PKiKP** 02 51 29.1 +0.7
PBCC *ex* x 02 51 39.7
PAOL Paolisi 135.97 62 **PKPdf** 02 51 26.4 -0.8
SSE Sheshan 135.98 283 IAMs_20 IAMs_20 04 00 52.1
comp=Z,14μm,21.0s
MOA Molln 136.12 53 *i* P **PKPdf** 02 51 27.6 +0.4
comp=Z,29nm,1.1s,SNR=12
MOA *e*P **PP** 02 54 07.8 +0.3
comp=Z,20nm,1.5s
PVCC Panska Ves 136.23 49 *e*PKPDF **PKiKP** 02 51 29.7 +0.7
PVCC *ex* x 02 51 33.5
PVCC Panska Ves 136.23 49 *e*PKIKP **PKiKP** 02 51 29.7 +0.7
PVCC *e* 02 51 33.5
PRU Pruhonice 136.24 49 *e*PKPDF **PKiKP** 02 51 28.4 -0.6
PRU Pruhonice 136.24 49 *e*PKIKP **PKiKP** 02 51 28.4 -0.6
OBKA Obir 136.30 55 *e*P **PKiKP** 02 51 28.8 -0.6
comp=Z,20nm,1.2s
OBKA *e*P **PP** 02 54 08.7 -0.2
comp=Z,6.4nm,1.3s
GOPC GO Pecny, Ondr 136.40 50 *e*PKP **PKiKP** 02 51 29.1 -0.3
GOPC GO Pecny, Ondr 136.40 50 *e*PKIKP **PKiKP** 02 51 29.1 -0.3
SOKA Soboth 136.64 54 *i* P **PKPdf** 02 51 28.6 +0.3
comp=Z,34nm,1.3s,SNR=9.8
SOKA *e*P **PP** 02 54 10.9 0.0
comp=Z,23nm,1.6s
TREC Trest 136.89 50 *e*PKPDF **PKPdf** 02 51 27.5 -1.1
TREC Trest 136.89 50 *e*PKIKP **PKPdf** 02 51 27.5 -1.1
ARSA Arzberg 136.97 53 *i* P **PKPdf** 02 51 29.1 +0.3
comp=Z,49nm,1.2s,SNR=10
ARSA *e*P **PP** 02 54 14.2 +1.3
comp=Z,17nm,1.6s
UPC Upice 137.15 49 *e*PKPDF **PKPdf** 02 51 28.7 -0.3
UPC Upice 137.15 49 *e*PKIKP **PKiKP** 02 51 28.7 -0.3
CHVC Chvalec 137.17 49 *e*PKPDF **PKiKP** 02 51 31.7 +0.8
CONA Conrad Observa 137.19 52 *e*P **PKPdf** 02 51 29.8 +0.5
comp=Z,56nm,1.4s
OSTC Ostas 137.27 49 *e*PKPDF PKPdf 02 51 20.0 -9.3
OSTC *ex* x 02 51 32.6
DPC Dobruska-Polom 137.36 49 *e*PKPDF **PKPdf** 02 51 30.0 +0.5
DPC Dobruska-Polom 137.36 49 *e*PKHKP PKPpre 02 51 18.9
DPC *e* 02 51 30.0
TIP Timpagrande 137.41 65 ⇓P **PKiKP** 02 51 32.3 +0.5
KRUC Moravsky 137.49 51 *e*PKP **PKPdf** 02 51 24.3 -5.4
MATE Matera 137.54 63 ⇑P **PKiKP** 02 51 32.5 +0.6
VRAC Vranov 137.61 50 PKP **PKPdf** 02 51 29.9 0.0
comp=Z,8.8nm,1.0s,baz=311,slow=2.0,SNR=6.5
VRAC Vranov 137.61 50 ⇓P **PKPdf** 02 51 30.6 +0.6
VRAC Vranov 137.61 50 *e*PKP **PKPdf** 02 51 23.4 -6.5
KRLC Kraliky 137.67 49 *e*PKPpre PKPpre 02 51 21.7
KRLC *e*PKPDF **PKiKP** 02 51 31.2 -0.8
KRLC Kraliky 137.67 49 *e*PKHKP PKPpre 02 51 21.7
KRLC *e* 02 51 31.2
ZST Bratislava 138.01 52 *e*PKIKP **PKPdf** 02 51 30.6 -0.1
ZST Bratislava 138.01 52 *e*PKP **PKPdf** 02 51 30.6 -0.1
MODS Modra-Piesok 138.12 52 *e*PKIKP **PKPdf** 02 51 30.3 -0.6
MODS Modra-Piesok 138.12 52 *e*PKP **PKPdf** 02 51 30.3 -0.6
NJ2 Nanjing 138.15 284 *e*PKP **PKPdf** 02 51 29.6 -1.8
MORC Moravsky Berou 138.19 50 *e*PKP **PKPdf** 02 51 23.7 -7.3
JAVC Velka Javorina 138.35 51 *e*PKP **PKPdf** 02 51 24.7 -6.7
APA Apatity 138.90 20 ⇓*i*PKIKP **PKPdf** 02 51 31.6 -0.1
APA pmax pmax
comp=Z,19nm,1.0s
LVZ Lovozero 139.03 19 *i* PKIKP **PKiKP** 02 51 33.2 -1.0
LVZ pmax pmax
comp=Z,44nm,1.2s
PSI Prapat 139.51 230 PKhKP PKPpre 02 51 19.7
comp=Z,1.9nm,0.3s,baz=135,slow=1.4,SNR=1.5
PDG Podgorica 139.57 61 ⇑P **PKPdf** 02 51 26.9 -6.8
PBUR Paburge 139.66 39 *e*P **PKiKP** 02 51 35.2 -0.6
FINES FINESS Array B 139.70 30 PKhKP PKPpre 02 51 26.7
comp=Z,11nm,0.9s,baz=37,slow=1.0,SNR=12
FINES FINESS Array B 139.70 30 *e*PKIKP **PKiKP** 02 51 42.1 +6.4
FINES pmax pmax
comp=Z,40nm,1.3s
PSZ Piszkesteto 139.90 52 ⇓P PKPdf 02 51 26.3 -7.9
TIR Tirane 139.98 62 ⇑P **PKiKP** 02 51 38.4 +1.5
TIR Tirane 139.98 62 ⇑PKIKP **PKiKP** 02 51 38.4 +1.5
BOD Bodaibo 140.25 324 *e*PKIKP **PKPdf** 02 51 33.3 -1.2
BOD pmax pmax
comp=Z,64nm,1.9s
PHP Peshkopia 140.42 62 P **PKPdf** 02 51 34.4 -1.0
OHR Ohrid 140.67 63 *i* P **PKPdf** 02 51 32.2 -3.7
CRVS Cervenica-Dubn 140.83 51 *e*PKIKP **PKPdf** 02 51 36.4 +0.6
CRVS Cervenica-Dubn 140.83 51 *e*PKP **PKPdf** 02 51 36.4 +0.6
PABE Paberze 140.91 40 *e*P **PKPdf** 02 51 30.4 -5.3
SKO Skopje 141.18 62 *i* P **PKPdf** 02 51 31.0 -5.7
QIZ Qiongzhong 141.21 260 PKP **PKPdf** 02 51 35.4 -2.0
QIZ SS SS 03 13 08.6 -0.3
BZS Buzias 141.24 56 ⇑P **PKPdf** 02 51 33.9 -2.8
BZS Buzias 141.24 56 ⇑PKIKP **PKPdf** 02 51 33.9 -2.8
VSU Vasula 141.28 34 *e*P PKPdf 02 51 25.6 -11
VSU Vasula 141.28 34 *i* PKIKP **PKPdf** 02 51 37.5 +1.2
NRIK Noril'sk 141.33 350 PKhKP PKPpre 02 51 30.2
comp=Z,20nm,1.0s,baz=50,slow=4.0,SNR=8.6
NRIK Noril'sk 141.33 350 *i* PKIKP **PKiKP** 02 51 38.6 -0.2
NRIK pmax pmax
comp=Z,46nm,1.4s
MDVR Moldovita 141.35 57 ⇑P **PKPdf** 02 51 30.2 -6.7
KOLS Kolonicke sedl 141.36 50 *e*PKIKP **PKPdf** 02 51 37.5 +0.7
KOLS Kolonicke sedl 141.36 50 *e*PKP **PKPdf** 02 51 37.4 +0.7
UZH Uzhgorod 141.41 51 *e*PKHKP PKPpre 02 51 31.7
UZH *i* 02 51 34.6
KWP Kalwaria Pacla 141.53 49 PKIKP **PKPdf** 02 51 34.2 -2.9
KWP Kalwaria Pacla 141.53 49 PKPdf **PKPdf** 02 51 34.2 -2.9
STIP Stip 141.73 62 *i* P **PKPdf** 02 51 34.6 -3.1
HERR Herculane 141.85 57 ⇑P **PKPdf** 02 51 34.7 -3.1
TRSU Trosnyk 141.92 52 PKIKP **PKPdf** 02 51 38.2 +0.4
VAY Valandovo 142.01 63 *i* P **PKPdf** 02 51 34.7 -3.4
ISAL Salakas 142.05 39 *e*P **PKPdf** 02 51 35.1 -2.7
IZAR Zarasai 142.06 39 *e*P **PKPdf** 02 51 35.5 -2.3
GZR Gura Zlata 142.07 56 ⇑P **PKPdf** 02 51 34.1 -4.2
GZR Gura Zlata 142.07 56 ⇑PKIKP **PKPdf** 02 51 34.1 -4.2
DEV Deva 142.12 55 ⇓P **PKPdf** 02 51 35.2 -3.0
DEV Deva 142.12 55 ⇓PKIKP **PKPdf** 02 51 35.2 -3.0
IIGN Ignalina 142.18 39 *e*P **PKPdf** 02 51 35.0 -3.0
PUNG Punghina 142.25 58 ⇑P **PKPdf** 02 51 37.7 -0.7
LVV L'vov 142.35 49 *i* PKHKP PKPpre 02 51 34.7
IDID Didziasalis 142.47 39 *e*P **PKPdf** 02 51 36.0 -2.5
CJR Cluj-Napoca 142.52 54 ⇓P **PKPdf** 02 51 38.8 -0.2
CJR Cluj-Napoca 142.52 54 ⇓PKIKP **PKPdf** 02 51 38.8 -0.2
LOT Lotru 142.76 56 ⇑P **PKiKP** 02 51 42.7 0.0
SRS Serrai 142.78 63 P **PKPdf** 02 51 34.4 -5.2
MMB Musomiste 142.88 62 *i* P **PKPdf** 02 51 35.9 -3.9
ARCR ARCALIA 142.99 53 ⇑P **PKPdf** 02 51 38.3 -1.4
KSV Kosov 143.28 51 PKIKP PKPbc 02 51 38.6 +1.3
IDI Anoyia 143.34 73 PKhKP PKPpre 02 51 36.7
comp=Z,162nm,1.0s,baz=287,slow=3.0,SNR=25
IDI Anoyia 143.34 73 P PKPbc 02 51 39.0 +1.1
IDI Anoyia 143.34 73 ⇓P PKPbc 02 51 38.5 +0.6
IDI Anoyia 143.34 73 PKPdf PKPbc 02 51 38.4 +0.5
MICGM Minsk 143.37 40 ⇓*e*P PKPbc 02 51 37.0 -0.3
MICGM PM 02 31 39.0
comp=E,0.3nm,1.0s
MICGM PM 02 51 38.0
comp=Z,0.8nm,1.0s
MNK Minsk 143.37 40 *e*PKHKP PKPpre 02 51 37.0
MNK pmax pmax
comp=Z,750nm,1.0s
ARR Arges 143.38 56 ⇑P **PKPdf** 02 51 40.7 +0.2
BUR08 Bucovina Ar. S 143.48 52 PKPdf **PKPdf** 02 51 40.0 -0.7
BURAR Bucovina Array 143.50 52 ⇓P **PKPdf** 02 51 40.7 -0.1
BURAR Bucovina Array 143.50 52 ⇓PKIKP **PKPdf** 02 51 40.7 -0.1
BURAR Bucovina Array 143.50 52 PKPdf **PKPdf** 02 51 39.9 -0.8
VOIR 143.66 56 ⇑P PKPbc 02 51 39.7 +1.1
VOIR 143.66 56 ⇑PKIKP PKPbc 02 51 39.7 +1.1
HUMR Humele 143.69 57 ⇑P PKPbc 02 51 39.6 +1.1
DOPR Dopca 143.84 55 ⇑P **PKPdf** 02 51 40.4 -0.9
COPA Copaceanca 143.89 58 ⇑P PKPab 02 51 38.7 +0.1
SANT Santorini 143.93 71 ⇓P PKPab 02 51 36.7 -2.3

SANT Santorini 143.93 71 PKPdf PKPbc 02 51 39.9 +0.2
HORU Horodok 144.00 49 PKIKP PKPbc 02 51 39.3 0.0
ZIMR 144.03 59 ⇓P **PKPdf** 02 51 42.0 +0.4
ZIMR 144.03 59 ⇓PKIKP **PKPdf** 02 51 42.0 +0.4
APE Apeiranthos 144.06 70 ⇑P **PKPdf** 02 51 42.0 0.0
APE Apeiranthos 144.06 70 ⇑PKIKP **PKPdf** 02 51 42.0 0.0
OZUR 144.10 54 ⇓P **PKPdf** 02 51 41.3 -0.5
KDZ Kurdzhali 144.15 62 *i* P **PKiKP** 02 51 47.8 +2.3
BIZ Bicaz 144.20 53 *i* P **PKPdf** 02 51 42.5 +0.6
PRAR RASCA 144.21 52 ⇓P **PKPdf** 02 51 41.7 -0.2
DIM Dimitrovgrad 144.23 61 *i* P PKPbc 02 51 41.1 +0.8
RDO Rodhopi 144.25 63 P PKPbc 02 51 41.0 +0.7
MLR Muntele Rosu 144.28 55 PKP PKPbc 02 51 41.1 +0.6
comp=Z,237nm,1.0s,baz=316,slow=1.7,SNR=114
MLR Muntele Rosu 144.28 55 ⇓P **PKPdf** 02 51 42.1 -0.1
MLR Muntele Rosu 144.28 55 PKPdf **PKPdf** 02 51 41.4 -0.8
SGRR Singureni 144.43 58 ⇑P **PKPdf** 02 51 42.8 +0.4
SZH Strazhica 144.47 59 *i* P PKPbc 02 51 41.5 +0.5
NEHR Nehoiu 144.53 56 ⇑P PKPbc 02 51 41.6 +0.4
CHOS Chios island 144.57 68 P PKPbc 02 51 41.9 +0.3
SULR 144.59 57 ⇓P **PKPdf** 02 51 42.9 +0.3
ALN Alexandroupoli 144.63 63 P **PKPdf** 02 51 42.3 -0.5
TESR Tescani 144.63 54 ⇑P **PKPdf** 02 51 43.1 +0.5
ENEZ Enez 144.71 64 P **PKPab** 02 51 40.6 -1.1
ENEZ Enez 144.71 64 *e*P PKPbc 02 51 41.9 +0.1
ISR Istrita 144.74 56 ⇑P PKPbc 02 51 42.2 +0.3
ISR Istrita 144.74 56 ⇑PKIKP PKPbc 02 51 42.3 +0.4
VRI Vrincioaia 144.78 55 ⇓P **PKPdf** 02 51 43.6 +0.7
VRI Vrincioaia 144.78 55 ⇓PKIKP **PKPdf** 02 51 43.6 +0.7
BISRR Bisoca 144.81 55 ⇓P **PKPdf** 02 51 43.8 +0.7
EZN Ezine 144.84 65 P **PKPab** 02 51 41.0 -1.2
EZN Ezine 144.84 65 *e*P **PKPab** 02 51 42.2 0.0
RAZG Razgrad 144.87 59 ⇓P **PKPdf** 02 51 43.3 +0.2
ERIK Erikli-Kesan 144.99 64 *e*P PKPbc 02 51 42.5 -0.2
JMB Yambol 144.99 61 *i* P **PKPdf** 02 51 43.4 0.0
LEHL Lehliu 145.01 57 ⇑P **PKPdf** 02 51 43.7 +0.4
GRER 145.01 56 ⇓P **PKPdf** 02 51 45.0 +1.7
ODBI Odobesti 145.02 55 ⇑P **PKPdf** 02 51 44.4 +1.1
HHC Hu-ho-hao-te 145.05 297 *e*PKPbc **PKPab** 02 51 43.2 +0.1
HHC PP **PP** 02 55 04.9 +2.3
HHC LR LR
comp=Z,16μm,19.6s
HHC LR LR
comp=Z,11μm,17.9s
HHC LR LR
comp=Z,23μm,17.9s
PGOR Pogoanele 145.08 56 ⇑P **PKPdf** 02 51 44.1 +0.7
EDRB Edirne 145.14 62 P **PKPbc** 02 51 41.9 -1.3
EDRB Edirne 145.14 62 *e*P **PKPbc** 02 51 42.7 -0.5
IAS Iasi 145.14 52 ⇑P **PKPdf** 02 51 43.8 +0.4
IAS Iasi 145.14 52 ⇑PKIKP **PKPdf** 02 51 43.8 +0.4
SMG Samos 145.15 69 P **PKPbc** 02 51 43.1 -0.3
LPK Lapseki 145.18 64 *e*P **PKPab** 02 51 43.6 +0.1
GHRR 145.22 54 ⇓P **PKPdf** 02 51 44.0 +0.4
DKL Dikili 145.27 67 *e*P **PKPbc** 02 51 43.7 0.0
RASA Rasa 145.27 58 ⇓P **PKPdf** 02 51 44.9 +1.1
BIR Birlad 145.34 54 ⇓P **PKiKP** 02 51 46.0 -1.8
BIR Birlad 145.34 54 ⇓PKIKP **PKiKP** 02 51 46.0 -1.8
BLCB Balcova 145.35 68 P **PKPbc** 02 51 43.5 -0.5
BLCB Balcova 145.35 68 *e*P **PKPbc** 02 51 43.4 -0.5
AMRR Amara 145.36 57 ⇑P **PKPab** 02 51 45.1 +1.1
AMRR Amara 145.36 57 ⇑PKIKP **PKPab** 02 51 45.1 +1.1
AKASG Malin Array Be 145.37 46 PKPbc **PKPbc** 02 51 42.9 -0.8
comp=Z,115nm,1.0s,baz=282,slow=3.3,SNR=134
AKASG Malin Array Be 145.37 46 *e*PKP2 **PKPbc** 02 51 43.4 -0.2
AKASG pmax pmax
comp=Z,115nm,1.0s
AKASG Malin Array Be 145.37 46 **PKPbc** 02 51 42.7 -0.9
AKBB Malin Array Si 145.37 46 PKP2 **PKPbc** 02 51 43.6 0.0
AKBB Malin Array Si 145.37 46 **PKPbc** 02 51 43.6 0.0
VASR Vaslui 145.39 53 ⇑P **PKPab** 02 51 45.0 +1.0
KLMR Klimovskoe 145.39 25 *e*PKP2 **PKPbc** 02 51 43.3 -0.1
KLMR *e* 02 55 03.8
KLMR pmax pmax
comp=Z,560nm,1.4s
KLMR Klimovskoe 145.39 25 *e*PKPdf **PKPbc** 02 51 43.3 -0.1
KLMR AMP 02 51 56.8
comp=Z,560nm,1.4s
KLMR *e*PP **PP** 02 55 03.9 +0.5
TUDR 145.47 55 ⇑P **PKPab** 02 51 45.4 +1.1
SORM Soroca 145.47 50 ⇓P **PKPdf** 02 51 43.6 -0.4
SORM Soroca 145.47 50 ⇓PKIKP **PKPdf** 02 51 43.6 -0.4
BODT Bodrum 145.48 70 P **PKPdf** 02 51 43.1 -1.3
BODT Bodrum 145.48 70 *e*P **PKPdf** 02 51 43.9 -0.5
RKY Sarkoy-Tekirda 145.49 64 *e*P **PKPdf** 02 51 44.4 0.0
ENH Enshi 145.53 278 **PKPab** 02 51 45.2 +0.1
VARL Varlezi 145.55 54 ⇑P **PKPab** 02 51 46.3 +1.6
KRBG Karabiga-Canak 145.59 64 *e*P **PKPbc** 02 51 44.6 -0.1
SCHL Schela 145.60 55 ⇑P **PKPab** 02 51 45.9 +1.1
ICOR Ion Corvin 145.75 58 ⇑P **PKPab** 02 51 46.7 +1.3
HARR Harsova 145.78 57 ⇑P **PKPab** 02 51 46.0 +0.5
HARR Harsova 145.78 57 ⇑PKP2 **PKPab** 02 51 46.0 +0.5
MRMT Marmara Adasi 145.81 64 *e*P **PKPdf** 02 51 42.8 -2.1
CFR Carcaliu 145.85 56 ⇑P **PKPbc** 02 51 45.4 +0.1
CFR Carcaliu 145.85 56 ⇑PKIKP **PKPbc** 02 51 45.4 +0.1
GIUM Giurgiulesti 145.86 55 ⇑P **PKiKP** 02 51 47.6 -1.2
MLSB Milas 145.87 70 *e*P **PKPbc** 02 51 45.9 +0.2
TLBR Topalu 145.88 57 ⇑P **PKPab** 02 51 46.7 +0.8
CRLT Corlu 145.91 63 *e*P **PKPab** 02 51 46.4 +0.3
AYDB Zeytinkoy-Aydi 146.00 69 *e*P **PKPdf** 02 51 44.4 -1.0
KIS Kishinev 146.02 52 *e*PKP **PKPbc** 02 51 45.8 0.0
comp=Z,3μm,6.0s
KIS Kishinev 146.02 52 ⇓P **PKPab** 02 51 46.9 +0.6
KIS Kishinev 146.02 52 *i* PKIKP **PKPbc** 02 51 45.8 0.0
KIS pmax pmax
comp=Z,3μm,6.0s
EDC Edincik 146.02 64 *e*P **PKPbc** 02 51 46.2 +0.2
MILM Milestii Mici 146.03 52 ⇓P **PKPbc** 02 51 45.4 -0.4
BALB Balikesir 146.03 66 *e*P **PKPdf** 02 51 45.4 +0.2
ARG Arkhangelos 146.06 72 P **PKPab** 02 51 46.8 -0.1
PSN Preselentsi 146.07 58 *i* P **PKPbc** 02 51 46.2 +0.1
TIRR Tirgusor 146.15 57 ⇑P **PKPab** 02 51 47.9 +1.0
TIRR Tirgusor 146.15 57 ⇑PKP2 **PKPab** 02 51 47.9 +1.0
MFTR Murfatlar 146.19 57 ⇓P **PKPab** 02 51 48.1 +1.0
TURN Turunc 146.20 71 *e*P **PKPdf** 02 51 45.8 +0.2
YER Yerkesik 146.26 70 P **PKPbc** 02 51 46.8 -0.1
SLVT Silivri 146.26 63 *e*P **PKPdf** 02 51 46.1 +0.5
CTYL Yalikoy Yolu 146.31 62 *e*P **PKPbc** 02 51 46.8 0.0
TLCR 146.33 56 ⇓P **PKPab** 02 51 48.6 +1.0
TLCR 146.33 56 ⇓PKP2 **PKPab** 02 51 48.6 +1.0
MANR Mangalia 146.35 58 ⇑P **PKPab** 02 51 48.7 +1.0
EFOR EFORIE 146.35 58 ⇓P **PKiKP** 02 51 49.4 -0.5
TSCT Constanta Port 146.36 57 ⇓P **PKiKP** 02 51 49.6 -0.3
JURR Jurilovca 146.43 56 ⇓P **PKiKP** 02 51 54.0 +4.0
CTKS Kestanelik-??a 146.49 63 *e*P **PKPbc** 02 51 46.9 -0.5
DALY Dalyan (Mula) 146.53 71 *e*P **PKPbc** 02 51 47.9 +0.3
KULA Kula-Manisa 146.62 68 *e*P **PKPbc** 02 51 48.2 +0.2
BGKT Bogazkoy 146.69 63 *e*P **PKPbc** 02 51 47.6 -0.4
XAN Xi'an 146.71 284 PKPbc **PKPbc** 02 51 48.0 -0.4
XAN AMB AMB
comp=Z,4μm,9.8s
XAN LR LR
comp=Z,16μm,20.1s
XAN LR LR
comp=Z,10μm,19.1s
XAN LR LR
comp=Z,17μm,19.6s
ARMT Armutlu 146.78 64 *e*P **PKPbc** 02 51 47.8 -0.5
PURM Purcari 146.82 53 ⇑P **PKiKP** 02 51 51.4 +0.6
PRGR Permogore 146.82 20 ⇓*i*PKP2 **PKPbc** 02 51 48.2 +0.5
PRGR pmax pmax
comp=Z,180nm,1.1s
GYA Guiyang 146.85 270 ⇓PKPbc **PKPab** 02 51 49.8 -0.6
GYA PP **PP** 02

TVSB Tavsanli 147.26 66 *e*P **PKPbc** 02 51 50.1 +0.3
ULN Ulaanbaatar 147.34 310 PKP2 **PKPbc** 02 51 50.1 +0.3
ULN Ulaanbaatar 147.34 310 PKPbc **PKPbc** 02 51 50.1 +0.3
ADVT Abdulvahap 147.45 64 *e*P **PKPbc** 02 51 50.1 0.0
ELL Elmali 147.53 71 *e*P **PKPab** 02 51 52.3 -0.5
CAVI Cavuskoy 147.54 64 *e*P **PKPbc** 02 51 50.5 +0.1
IRK Irkutsk 147.56 319 *e*PKP2 **PKiKP** 02 51 51.2 -1.0
IRK pmax pmax
comp=Z,696nm,2.4s
OBN Obninsk 147.62 35 PKPbc **PKPbc** 02 51 50.4 +0.3
comp=Z,74nm,1.0s,baz=83,slow=0.6,SNR=30
OBN Obninsk 147.62 35⇑P **PKPbc** 02 51 50.4 +0.3
OBN Obninsk 147.62 35⇑ *e*PKIKP **PKPbc** 02 51 49.7 -0.4
OBN *i* 02 51 55.2
OBN *e* 02 55 17.3
OBN pmax pmax
comp=Z,350nm,1.0s
OBN Obninsk 147.62 35 PKPdf 02 51 48.6 +1.3
ORH Orhaniye 147.68 63 P **PKPdf** 02 51 43.8 -4.2
SONM Songino Array 147.77 310 PKPbc **PKPbc** 02 51 50.8 -0.2
comp=Z,32nm,0.9s,baz=110,slow=2.5,SNR=27
MOS Moscow 147.79 34 *e*PKIKP **PKPdf** 02 51 48.6 +1.0
MOS *e* 02 55 28.0
MOS pmax pmax
comp=Z,529nm,1.7s
SAUV Serdivan-Sakar 147.88 63 *e*P **PKPbc** 02 51 49.9 -1.4
KORT Korkueli 147.90 70 *e*P **PKiKP** 02 51 52.7 -0.9
GULT Gulveren 148.04 64 *e*P **PKPbc** 02 51 51.9 0.0
ISP Isparta 148.07 69 PKP2 **PKPbc** 02 51 52.6 +0.5
ISP Isparta 148.07 69 PKPbc 02 51 52.6 +0.5
SHUT Suhut-Afyon 148.11 68 *e*P **PKPbc** 02 51 52.1 -0.1
BCK Bucak 148.11 70 *e*P **PKPbc** 02 51 51.7 -0.4
ANTB Antalya 148.14 71 *e*P **PKPbc** 02 51 52.9 +0.8
SRCK Saricakaya, Es 148.14 65 *e*P **PKPbc** 02 51 51.9 -0.1
TLY Talaya 148.15 318 PKPbc **PKPbc** 02 51 51.9 +0.2
comp=Z,44nm,0.8s,baz=272,slow=2.5,SNR=13
TLY Talaya 148.15 318 *i* PKIKP **PKPbc** 02 51 50.2 -1.5
TLY pmax pmax
comp=Z,58nm,0.9s
TLY Talaya 148.15 318 PKiKP 02 51 52.7 -0.8
ATD Arta Tunnel 148.31 124 PKPbc **PKPbc** 02 51 53.2 0.0
comp=Z,66nm,1.0s,baz=294,slow=0.6,SNR=13
CIFT Cifteler, Eski 148.50 66 *e*P **PKPbc** 02 51 53.3 +0.2
KDZE Karadeniz Ereo 148.69 62 ⇓P **PKiKP** 02 51 54.8 -0.1
SVRH Sivrihisar-ESK 148.85 66 *e*P **PKPbc** 02 51 54.3 +0.3
ZAK Zakamensk 148.88 316 *e*PKIKP **PKPbc** 02 51 52.1 -1.6
ZAK pmax pmax
comp=Z,110nm,1.7s
KIZT Kizilcal 149.15 67 *e*P **PKPdf** 02 51 50.4 -0.2
GAZI Gazipasa 149.44 72 *e*P **PKPdf** 02 51 52.1 +1.1
KONT Konya--Tatoy 149.53 69 *e*P **PKiKP** 02 51 56.6 -0.1
LADK Ladik-KONYA 149.53 68 *e*P **PKiKP** 02 51 56.6 -0.3
MOY Mondy 149.64 319 *e*PKP2 **PKPbc** 02 51 56.0 +0.4
MOY pmax pmax
comp=Z,276nm,1.9s
KMI Kunming 149.72 265 *e*PKPbc **PKPbc** 02 51 56.7 -0.1
KMI LR LR
comp=Z,8μm,19.6s
KMI LR LR
comp=Z,7μm,19.6s
KMI LR LR
comp=Z,20μm,32.9s
KMI Kunming 149.72 265 PKP2 **PKiKP** 02 51 57.6 -0.2
KMI Kunming 149.72 265 PKPbc **PKiKP** 02 51 57.6 -0.2
LOD Lodumlu 149.79 65 *e*P **PKPdf** 02 51 51.3 -0.3
LEF Lefka 149.83 74 ⇓P **PKPbc** 02 51 54.2 -2.3
CM31 Chiang Mai Arr 149.87 250 PKPbc 02 51 57.5 +0.4
CMAR Chiang Mai Arr 149.87 250 PKPbc **PKiKP** 02 51 58.1 +0.2
comp=Z,76nm,0.9s,baz=174,slow=1.6,SNR=19
CMAR Chiang Mai Arr 149.87 250 PKIKP **PKPdf** 02 51 52.0 -0.2
CMAR Chiang Mai Arr 149.87 250 PKPdf **PKPdf** 02 51 52.0 -0.2
CHBY Cihanbeyli 149.94 67 *e*P **PKPdf** 02 51 53.8 +1.9
KULU Kulu 150.01 67 *e*P **PKPdf** 02 51 54.2 +2.2
AFSR Afar-Bala (An 150.05 66 *e*P **PKiKP** 02 51 57.5 -0.4
CHTO Chiang Mai 150.06 251 PKP2 **PKiKP** 02 51 58.6 +0.2
CHTO Chiang Mai 150.06 251 PKPbc **PKiKP** 02 51 58.6 +0.2
SIM Simferopol' 150.06 55*c* *i* PKIKP **PKPbc** 02 51 56.1 -0.6
SIM pmax pmax
comp=Z,405nm,1.4s
LPSR Galich'ya Gora 150.13 38 *e*PKIKP **PKPdf** 02 51 51.9 +0.4
LPSR pmax pmax
comp=Z,350nm,1.2s
CSS Mathiatis 150.18 75 IAMs_20 IAMs_20 03 55 31.2
comp=Z,14μm,21.0s
BERE Bereket-Mersin 150.18 72 *e*P **PKPbc** 02 51 57.7 +0.2
TEVE Tevekalti-Mers 150.36 72 *e*P **PKPbc** 02 51 57.9 +0.1
KIRV Kirov 150.41 21 PKPbc **PKiKP** 02 51 57.8 0.0
comp=Z,131nm,0.7s,baz=316,slow=2.6,SNR=43
AKKU Akkuyu-Mersin 150.43 72 *e*P **PKPdf** 02 51 53.8 +1.2
SULT Sultanhani-AKS 150.44 68 *e*P **PKPbc** 02 51 57.0 -0.9
SERE Sereflikochisa 150.46 67 *e*P **PKPdf** 02 51 53.8 +1.1
BRTR Keskin Array B 150.47 65 PKP **PKPdf** 02 51 53.1 +0.4
comp=Z,12nm,1.0s,baz=197,slow=2.6,SNR=30
BRTR PKPbc **PKiKP** 02 51 59.0 +0.2
comp=Z,101nm,1.0s,baz=222,slow=1.9,SNR=55
BRTR Keskin Array B 150.47 65 PKPdf **PKPdf** 02 51 53.6 +0.8
CD2 Chengdu 150.49 277 PKPbc **PKPdf** 02 51 51.5 -1.4
BZK Bozkurt 150.53 61 ⇓P **PKiKP** 02 51 59.5 +0.9
IKL Isikli 150.55 72 *e*P **PKPbc** 02 51 56.9 -1.2
YESY Yesilyurt 150.62 69 *e*P **PKPbc** 02 51 55.9 -2.5
YAYX Yaylak 150.65 67 *e*P **PKPbc** 02 51 58.7 +0.2
EIL Elat 150.68 86 PKP **PKPdf** 02 51 54.3 +1.1
comp=Z,23nm,0.9s,baz=346,slow=3.0,SNR=16
EIL PKPbc **PKiKP** 02 51 59.6 +0.2
comp=Z,146nm,1.0s,baz=328,slow=4.5,SNR=43
EREN Erenkoy 150.90 74 *e*P **PKPbc** 02 51 58.8 -0.2
VSR Storozhevoye 150.95 40 *e*PKIKP **PKPdf** 02 51 52.7 -0.2
VSR pmax pmax
comp=Z,190nm,0.8s
LZH Lanzhou 151.05 287 *e*PKPbc **PKPbc** 02 51 57.8 -1.8
LZH sPKP 02 52 02.5
LZH SKKS 03 02 32.6
LZH LR LR
comp=Z,14μm,18.5s
LZH LR LR
comp=Z,10μm,18.4s
LZH LR LR
comp=Z,18μm,20.0s
VORD Divnogorie 151.15 41 *e*PKIKP **PKPdf** 02 51 53.5 +0.4
VORD pmax pmax
comp=Z,110nm,0.8s
CORM Corum 151.20 64 *e*P **PKPdf** 02 51 54.9 +1.1
MERS Mersin 151.24 71 *e*P **PKPdf** 02 51 55.1 +1.2
DIKM Dikmen 151.50 61 ⇓P **PKiKP** 02 51 01.0 +0.4
DIKM Dikmen 151.50 61 *e*P **PKiKP** 02 52 00.6 0.0
KARA Karaisali 151.67 70 *e*P **PKPdf** 02 51 55.3 +0.8
MMAI Mount Meron Ar 151.68 79 PKP **PKPdf** 02 51 55.5 +0.8
comp=Z,36nm,1.0s,baz=325,slow=1.0,SNR=42
MMAI PKPbc **PKiKP** 02 52 01.5 +0.1
comp=Z,44nm,0.8s,baz=292,slow=0.8,SNR=22
DQRL Deir Qamar 151.90 78 *e*P **PKPdf** 02 51 55.9 +0.9
QRWL Qaraoun 151.97 78 *e*P **PKPdf** 02 51 54.8 -0.3
BHL Bhannes 151.99 77 *e*P **PKPdf** 02 51 57.6 +2.5
KVT Kavak 152.17 62 *e*P **PKPdf** 02 51 55.4 +0.3
CEYT Ceyhan 152.22 71 *e*P **PKPbc** 02 51 58.9 -3.1
BNN Bunyan 152.24 67 *e*P **PKPdf** 02 51 57.4 +2.0
KOZT Kozan 152.28 70 *e*P **PKPdf** 02 51 56.1 +0.7
VRH Novokhopyorsk 152.34 39 *e*PKIKP **PKPdf** 02 51 54.9 0.0
VRH pmax pmax
comp=Z,110nm,0.8s
ANN Anapa 152.38 54 *e*PKIKP **PKPdf** 02 51 55.1 -0.1
ANN pmax pmax
comp=Z,363nm,1.4s
YAYL Yayladag 152.50 73 *e*P **PKPdf** 02 51 56.5 +0.6
TAHT Tahtakopru-Hat 152.57 72 *e*P **PKPdf** 02 51 55.3 -0.5
TOKA Tokat 152.59 63 PKPdf 02 51 56.3 +0.5
TOKT Tokat 152.64 63 *e*P **PKPdf** 02 51 56.2 +0.3
SARI SarD1z-Kayseri 152.71 68 *e*P **PKPbc** 02 52 02.4 -0.9
ASF Jabal al Asfar 152.81 81 PKP **PKPdf** 02 51 57.0 +0.6
comp=Z,20nm,1.1s,baz=155,slow=0.8,SNR=17
ASF PKPbc **PKiKP** 02 52 04.8 +1.0
comp=Z,46nm,1.0s,baz=185,slow=2.2,SNR=22
ASF Jabal al Asfar 152.81 81 PKIKP **PKPdf** 02 51 57.0 +0.6
SVSK Karacayir 153.03 64 *e*P PKPdf 02 51 45.6 -11
KMRS Kahramanmaras 153.13 70 *e*P **PKPdf** 02 51 57.7 +1.0
DARE Darende-Malaty 153.54 67 *e*P **PKPdf** 02 51 58.4 +1.1
GTA Gaotai 154.12 295 *e*PKPbc **PKPdf** 02 51 57.5 -0.6
GTA LR LR
comp=Z,15μm,19.3s
GTA LR LR
comp=Z,8μm,19.3s
GTA LR LR
comp=Z,17μm,21.4s

ILIC ilic-Erzincan 154.29 65 *e*P **PKPdf** 02 51 59.5 +1.1
MALT Malatya 154.29 68 *e*P **PKPdf** 02 52 00.3 +1.9
SOC Sochi 154.30 55 *e*PKIKP **PKPdf** 02 51 58.4 +0.4
SOC *e* 02 55 57.4
SOC *e*SS SS 03 15 43.1 +7.6
SOC pmax pmax
comp=Z,43nm,0.9s
SVE Sverdlovsk 154.65 11 *e*PKIKP **PKPdf** 02 51 58.7 +0.6
SVE pmax pmax
comp=Z,66nm,1.8s
ARU Arti 154.65 14 PKP **PKPdf** 02 51 58.7 +0.5
comp=Z,2.3nm,0.2s,baz=350,slow=2.2,SNR=8.5
ARU PKPbc **PKiKP** 02 52 07.7 +1.1
comp=Z,2.0nm,0.3s,baz=282,slow=2.1,SNR=14
ARU Arti 154.65 14 *i* PKIKP **PKPdf** 02 51 59.3 +1.2
ARU Arti 154.65 14 PKPbc 02 52 06.1 -0.5
URFA Urfa 154.66 70 *e*P **PKPdf** 02 52 00.2 +1.3
KTUT Trabzon 154.96 61 ⇓P **PKPdf** 02 52 01.4 +2.3
SVRC Sivrice-ELAZID 154.98 67 *e*P **PKPdf** 02 52 00.9 +1.5
PTK Pertek 154.99 66 *e*P **PKPdf** 02 52 00.6 +1.1
ZAA0 Zalesovo Array 155.48 337 PKPdf **PKPdf** 02 51 58.1 -1.2
ZALV Zalesovo Beam 155.48 337 PKP **PKPdf** 02 51 59.5 +0.2
comp=Z,15nm,1.1s,baz=0.0,slow=0.4,SNR=19
ZALV PKPab **pPKPab** 02 52 27.1 -0.4
comp=Z,49nm,0.9s,baz=26,slow=3.6,SNR=21
ZALV Zalesovo Beam 155.48 337 PKIKP **PKPdf** 02 51 58.4 -0.9
ZALV Zalesovo Beam 155.48 337 PKPdf **PKPdf** 02 51 58.4 -0.9
BNGB Bingl 155.98 66 *e*P **PKPdf** 02 52 02.1 +1.4
GOF Gofitskoye 156.04 50⇑ *e*PKIKP **PKPdf** 02 52 01.9 +1.5
GOF pmax pmax
comp=Z,65nm,1.0s
KIV Kislovodsk 156.22 53 *e*PKIKP **PKPdf** 02 52 01.7 +0.9
KIV pmax pmax
comp=Z,77nm,1.0s
KVAR Kislovodsk Arr 156.23 53 PKP **PKPdf** 02 52 01.6 +0.8
comp=Z,1.7nm,0.4s,baz=90,slow=20,SNR=1.2
KVAR PKPab **PKPab** 02 52 29.9 +1.2
comp=Z,43nm,1.2s,baz=336,slow=12,SNR=5.1
MARD Mardin 156.23 70 PKPdf **PKPdf** 02 51 59.7 -1.3
KBZ Khabaz 156.44 53 PKP **PKPdf** 02 52 01.5 +0.6
comp=Z,21nm,1.1s,baz=181,slow=0.9,SNR=12
SVAN Silvan-Diyarba 156.48 68 *e*P **PKPdf** 02 52 02.5 +1.2
ARTV Artvin 156.51 60 PKPdf **PKPdf** 02 52 00.1 -1.4
VRTB Varto-Mus 156.55 65 *e*P **PKPdf** 02 51 56.5 -5.0
KOPR Koprukoy-ERZUR 156.71 63 *e*P **PKPdf** 02 52 02.9 +1.2
SENK Senkaya-Erzuru 156.97 61 *e*P **PKPdf** 02 52 04.4 +2.4
ZEI Tsey 157.46 55 *i* PKIKP **PKPdf** 02 52 03.0 +0.4
ZEI pmax pmax
comp=Z,19nm,1.0s
KARS Kars 157.49 61 *e*P **PKPdf** 02 52 05.3 +2.7
SIRT Sirnak 157.53 69 *e*P **PKPdf** 02 52 03.5 +0.8
AKH Akhalkalaki 157.59 58 ⇓P **PKPdf** 02 52 04.7 +2.0
GROC Groznyy 158.60 52 *e*PKIKP **PKPdf** 02 52 04.1 +0.4
GROC *e* 02 56 23.7
GROC pmax pmax
comp=Z,54nm,1.2s
BRVK Borovoye 159.10 358 PKP2 **PKPab** 02 52 42.5 +1.9
BRVK 03 52 03.2
BRVK Borovoye 159.10 358 PKPdf 02 52 03.2 -0.8
BRVK PKPab **PKPab** 02 52 42.5 +1.9
BVAR Borovoye Array 159.13 358 PKP **PKPdf** 02 52 04.1 +0.1
comp=Z,2.0nm,0.7s,baz=173,slow=14,SNR=12
BVAR PKPab **PKPab** 02 52 41.5 +0.7
comp=Z,17nm,0.9s,baz=158,slow=13,SNR=17
AKTO Aktyubinsk 159.98 21 PKP **PKPdf** 02 52 05.2 +0.2
baz=9.2,slow=0.6
KURK Kurchatov 160.16 342 PKIKP **PKPdf** 02 52 04.6 -0.6
KURK Kurchatov 160.16 342 PKPdf **PKPdf** 02 52 04.6 -0.6
KURBB Kurchatov Arra 160.27 342 PKP **PKPdf** 02 52 04.9 -0.4
comp=Z,12nm,1.1s,baz=18,slow=1.0,SNR=15
KURBB PKPab **PKPab** 02 52 47.1 +1.3
comp=Z,24nm,0.9s,baz=24,slow=4.0,SNR=23
WMQ Urumqi 161.32 314 *e*PKP **PKPdf** 02 52 05.5 -1.3
WMQ LR LR
comp=Z,5μm,19.1s
WMQ LR LR
comp=Z,4μm,18.1s
WMQ LR LR
comp=Z,7μm,19.5s
ABKAR Akbulak array 161.60 19 PKPdf **PKPdf** 02 52 07.2 +0.4
MK31 Makanchi Array 162.22 329 PKIKP **PKPdf** 02 52 06.8 -0.8
MK31 Makanchi Array 162.22 329 PKPdf **PKPdf** 02 52 06.8 -0.8
MKAR Makanchi Array 162.22 329 PKP **PKPdf** 02 52 07.0 -0.6
comp=Z,7.5nm,1.1s,baz=48,slow=1.8,SNR=11
MKAR PKPab **PKPab** 02 52 55.5 +1.0
comp=Z,8.6nm,1.0s,baz=22,slow=2.9,SNR=6.2
MKAR PP **PP** 02 56 39.5 +1.1
comp=Z,6.2nm,1.1s,baz=46,slow=5.2,SNR=5.3
MKAR Makanchi Array 162.22 329 PKIKP **PKPdf** 02 52 06.7 -0.9
MKAR Makanchi Array 162.22 329 PKPdf **PKPdf** 02 52 06.7 -0.9
MAKZ Makanchi 162.34 330 PKPdf **PKPdf** 02 52 07.5 -0.3
MAKZ **pPKPab** 02 52 56.7 -0.9
HYB Hyderabad 163.00 213 *i* PKP **PKPdf** 02 52 11.0 +1.8
HYB *e* 02 53 01.0
HYB *e* 03 02 04.5
UOSS Minazif 166.60 119 PKPdf 02 52 11.0 -1.1
WSAR Wadi Sarin 167.18 131 PKP **PKPdf** 02 52 12.5 -0.1
comp=Z,8.3nm,1.0s,baz=13,slow=4.1,SNR=4.5
KK31 Karatay Array 169.02 354 PKP2 **PKPab** 02 53 24.4 -0.1
KK31 03 52 13.2
KK31 Karatay Array 169.02 354 PKPdf 02 52 13.2 -0.1
KK31 PKPab **PKPab** 02 53 24.4 -0.1
KKAR Karatay Array 169.02 354 PKIKP **PKPdf** 02 52 13.0 -0.3
KKAR 02 53 25.7
KKAR Karatay Array 169.02 354 PKPdf 02 52 13.0 -0.3
KKAR **PKPab** 02 53 25.7 +1.2
GEYT Alibeck 169.33 54 PKP **PKPdf** 02 52 14.5 +0.8
comp=Z,21nm,1.1s,baz=298,slow=3.2,SNR=14
GEYT Alibeck 169.33 54 PKPdf 02 52 14.3 +0.6
GYA0B ALIBECK ARRAY 169.33 54 PKPdf 02 52 14.3 +0.6
KSH Kashi 170.77 325 PKP PKPdf 02 52 05.0 -10
KSH pPKP sPKPdf 02 52 29.7 +12
KSH PP **PP** 02 57 15.6 -7.2
KSH AMB AMB
comp=Z,5μm,8.8s
KSH LR LR
comp=N,7μm,17.0s
KSH LR LR
comp=E,3μm,15.3s
KSH LR LR
comp=Z,3μm,13.8s
NIL Nilore 176.19 294 PKIKP **PKPdf** 02 52 16.6 -0.1
NIL Nilore 176.19 294 PKPdf 02 52 16.6 -0.1

*IDC **09** 02:39:01.1±1.4, 32.°69S×111.°06W, h0km, mb4.0/2, mb1 4.5/2, mb1mx3.9/25, mbtmp4.0/2, Error ellipse: s-maj=81.8km s-min=50.8km az=81.0*

ISC 09 02:39:02.4±1.4, **32.°8S**·0.°4×**111.°0W**±0.°7, **h10km, n13, σ0.85/7, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez** baz=265	**26.76**	**101**	T	T	03 12 56.9	
H03S3	**Juan Fernandez** baz=265	**26.78**	**101**	T	T	03 12 55.5	
H03S1	**Juan Fernandez** baz=265	**26.78**	**101**	T	T	03 12 58.0	
H03N2	**Juan Fernandez** baz=267	**26.81**	**100**	T	T	03 12 53.3	
H03N3	**Juan Fernandez** baz=267	**26.81**	**100**	T	T	03 12 57.3	
H03N1	**Juan Fernandez** baz=267	**26.82**	**100**	T	T	03 12 55.7	
NVAR	**Mina Array Bea** 1.7nm,0.9s,baz=186,slow=7.2,SNR=4.8	**71.14**	**354**	P	**P**	**02 50 22.1**	**+0.9**
PDAR	**Pinedale Array** 1.6nm,1.0s,baz=170,slow=5.5,SNR=4.0	**75.16**	**1**	P	**P**	**02 50 44.0**	**-1.0**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=257,slow=2.7,SNR=1.9	**115.99**	**91**	PKP	**PKiKP**	**02 57 46.3**	**+0.1**
AKASG	**Malin Array Be** 1.3nm,0.6s,baz=274,slow=3.6,SNR=2.7	**145.82**	**46**	PKPbc	**PKPdf**	**02 58 40.7**	**-0.2**
CMAR	**Chiang Mai Arr** 1.6nm,0.6s,baz=182,slow=1.1,SNR=5.2	**149.62**	**249**	PKPbc	**PKPbc**	**02 58 52.4**	**-0.4**
BRTR	**Keskin Array B** 1.6nm,0.9s,baz=289,slow=4.4,SNR=3.0	**150.76**	**66**	PKPbc	**PKPbc**	**02 58 54.7**	**-0.4**
MMAI	**Mount Meron Ar** 1.8nm,0.9s,baz=299,slow=5.9,SNR=2.2	**151.84**	**80**	PKPbc	**PKiKP**	**02 58 59.0**	**+0.9**

*SFS **09** 02:44:00.0, 34.°88N×4.°38W, ML2.5, ZERKET (MARRUECOS)*
*MDD **09** 02:44:00.4±1.1, 34.°86N×4.°36W, h8km±4km, mbLg2.7/32,*

Error ellipse: s-maj=7.9km s-min=5.0km az=180.0, PRXIMO
*INMG **09** 02:44:02.4±2.0, 34.°95N×4.°51W, h10km±10km, ML2.5, Error ellipse: s-maj=6.2km s-min=4.2km az=88.0*
*CNRM **09** 02:44:02.4±2.1, 34.°94N×4.°77W, h20km±14km, Error ellipse: s-maj=8.6km s-min=4.1km az=79.0*

ISC 09 02:44:01.3±1.4, **34.°96N**±0.°02×**4.°40W**±0.°03, **h20km**±4km, **n82, σ1.45/149, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.23**	**20**	P	**Pb**	**02 44 06.3**	**-0.3**
PVLZ				S	**Sg**	**02 44 10.8**	**+0.2**
PVLZ	**Peæn de**	**0.23**	**20**	*e*P	**Pb**	**02 44 06.3**	**-0.3**
PVLZ				*e*S	**Sg**	**02 44 10.8**	**+0.2**
ECEU	**Ceuta** 12nm,0.2s,SNR=21	**1.23**	**320**	P	**Pn**	**02 44 22.5**	**-1.0**
MELI	**Melilla** 39nm,0.2s,SNR=7.9	**1.24**	**74**	P	**Pn**	**02 44 23.2**	**-0.4**
MELI				S	**Sb**	**02 44 39.6**	**-0.1**
	304nm,0.4s,SNR=7.9						
MELI	**Melilla**	**1.24**	**74**	*e*P	**Pn**	**02 44 23.1**	**-0.5**
MELI				*e*S	**Sb**	**02 44 38.8**	**-1.0**
EALB	**Alboran** 2.5nm,0.1s,SNR=18	**1.48**	**48**	P	**Pn**	**02 44 25.5**	**-1.4**
EALB				S	**Sn**	**02 44 45.0**	**-0.6**
	87nm,0.3s,SNR=5.6						
IFR	**Ifrane**	**1.56**	**203**	PS	**Pb**	**02 44 29.7**	**+0.1**
IFR	**Ifrane**	**1.56**	**203**	*e*P	**Pn**	**02 44 27.4**	**-0.8**
IFR				*e*S	**Sn**	**02 44 43.2**	**-4.6**
EMAL	**Malaga-Limoner**	**1.80**	**359**	P	**Pn**	**02 44 30.8**	**-0.5**
EMAL				S	**Sn**	**02 44 51.1**	**-2.4**
EMAL	**Malaga-Limoner**	**1.80**	**359**	*e*P	**Pn**	**02 44 30.8**	**-0.5**
EMAL				*e*S	**Sn**	**02 44 51.1**	**-2.4**
ELGU	**Los Guajares,** 1.2nm,0.2s,SNR=7.9	**2.00**	**18**	P	**Pn**	**02 44 33.2**	**-0.9**
ELGU				S	**Sn**	**02 44 57.9**	**-0.8**
	136nm,0.4s,SNR=7.9						
MD31	**MD31**	**2.11**	**188**	P	**Pn**	**02 44 35.5**	**-0.1**
MD31				S	**Sn**	**02 45 01.2**	**-0.1**
MDT	**Midelt**	**2.15**	**185**	P	**Pn**	**02 44 36.3**	**+0.2**
MDT				S	**Sn**	**02 45 02.2**	**-0.1**
EGOR	**Sierra Gorda,** 0.1nm,0.2s,SNR=7.9	**2.16**	**6**	P	**Pn**	**02 44 36.2**	**-0.2**
EGOR				S	**Sb**	**02 45 04.8**	**-1.5**
	48nm,0.5s,SNR=7.9						
ESPR	**Espera** 3.2nm,0.3s,SNR=10	**2.24**	**329**	P	**Pn**	**02 44 38.3**	**+0.9**
ESPR				S	**Sn**	**02 45 05.6**	**+1.1**
	14nm,0.3s,SNR=6.2						
EBER	**Berja** 4.2nm,0.4s,SNR=33	**2.29**	**32**	P	**Pn**	**02 44 37.1**	**-1.0**
EBER				S	**Sn**	**02 45 06.1**	**+0.2**
	103nm,0.7s,SNR=4.6						
EQUE	**Quentar** 5.9nm,0.4s,SNR=19	**2.37**	**19**	P	**Pn**	**02 44 39.5**	**+0.3**
EQUE				S	**Sn**	**02 45 08.4**	**+0.6**
	20nm,0.4s,SNR=94						
ENIJ	**Nijar** 1.4nm,0.5s,SNR=7.9	**2.68**	**41**	P	**Pn**	**02 44 43.8**	**+0.4**
ENIJ				S	**Sn**	**02 45 13.3**	**-2.0**
	52nm,0.3s,SNR=7.9						
GORA	**Gorafe** 0.0nm,0.3s,SNR=7.9	**2.74**	**23**	P	**Pn**	**02 44 45.4**	**+1.1**
GORA				S	**Sn**	**02 45 18.9**	**+2.0**
	24nm,0.2s,SNR=7.9						
TDRA	**Tendrara**	**2.74**	**134**	S	**Sb**	**02 45 24.7**	**+1.6**
HORN	**Hornachuelos**	**2.96**	**347**	P	**Pn**	**02 44 47.6**	**+0.3**
HORN				S	**Sn**	**02 45 21.1**	**-1.1**
AVE	**Averroes**	**3.00**	**237**	*e*P	Pn	02 44 42.6	-5.2
AVE				*e*S	**Sn**	**02 45 21.9**	**-1.3**
EQES	**Quesada** 11nm,0.4s,SNR=25	**3.03**	**20**	P	**Pn**	**02 44 50.4**	**+2.1**
EQES				S	**Sn**	**02 45 26.8**	**+2.6**
	65nm,0.5s						
EADA	**Adamuz** 4.2nm,0.5s,SNR=16	**3.21**	**357**	P	**Pn**	**02 44 52.1**	**+1.5**
EADA				S	**Sn**	**02 45 30.6**	**+2.3**
	10nm,0.4s						
ECAB	**El Cabril** 1.4nm,0.5s,SNR=9.1	**3.22**	**345**	P	**Pn**	**02 44 51.4**	**+0.6**
ECAB				S	**Sn**	**02 45 28.6**	**0.0**
	33nm,0.9s,SNR=6.4						
GOLM	**Goulmima**	**3.28**	**188**	P	**Pn**	**02 44 52.8**	**+1.0**
GOLM				S	**Sn**	**02 45 34.0**	**+3.7**
EMIN	**Mina Concepcio** 1.7nm,0.3s,SNR=14	**3.35**	**327**	P	**Pn**	**02 44 52.8**	**+0.3**
EMIN				S	**Sn**	**02 45 31.2**	**-0.6**
	6.9nm,0.8s						
SESP	**Santiago Espad** 0.7nm,0.4s,SNR=7.9	**3.49**	**25**	P	**Pn**	**02 44 55.8**	**+1.1**
SESP				S	**Sn**	**02 45 36.8**	**+1.4**
	17nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.49**	**25**	P	**Pn**	**02 44 57.1**	**+2.4**
ARF	**Arif**	**3.52**	**178**	P	**Pn**	**02 44 55.7**	**+0.6**
ARF				S	**Sn**	**02 45 39.4**	**+3.3**
EGRO	**El Granado** 7.0nm,0.3s,SNR=11	**3.58**	**317**	P	**Pn**	**02 44 56.0**	**+0.2**
EGRO				S	**Sn**	**02 45 37.7**	**+0.3**
	11nm,0.3s						
PVAQ	**Vaqueiros**	**3.63**	**313**	P	**Pn**	**02 44 56.7**	**+0.3**
PVAQ				S	**Sn**	**02 45 38.2**	**-0.5**
	14nm,0.6s						
PVAQ	**Vaqueiros**	**3.63**	**313**	P	**Pn**	**02 44 56.9**	**+0.5**
PVAQ				S	**Sn**	**02 45 37.8**	**-0.8**
PVAQ	**Vaqueiros**	**3.63**	**313**	*e*Pn	**Pn**	**02 44 56.7**	**+0.3**
PVAQ				*e*Sn	**Sn**	**02 45 38.2**	**-0.5**
PVAQ				A	A	02 45 44.0	
	14nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.66**	**310**	P	**Pn**	**02 44 58.0**	**+1.1**
PBDV				S	**Sn**	**02 45 40.4**	**+0.9**
	8.9nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.66**	**310**	*e*Pn	**Pn**	**02 44 58.0**	**+1.1**
PBDV				*e*Sn	**Sn**	**02 45 40.4**	**+0.9**
PBDV				A	A	02 45 46.4	
	8.9nm,0.4s						
CART	**Cartagena**	**3.79**	**45**	PS	**Pn**	**02 44 57.8**	**-0.9**
EMUR	**La Murta** 0.2nm,0.3s,SNR=7.9	**3.84**	**41**	P	**Pn**	**02 45 00.1**	**+0.7**
EMUR				S	**Sn**	**02 45 42.1**	**-1.9**
	16nm,0.5s,SNR=7.9						
PCVE	**Castro Verde**	**3.97**	**313**	P	**Pn**	**02 45 02.5**	**+1.4**
PCVE				S	**Sn**	**02 45 45.7**	**-1.4**
	6.7nm,0.3s						
PCVE	**Castro Verde**	**3.97**	**313**	*e*Pn	**Pn**	**02 45 02.5**	**+1.4**
PCVE				*e*Sn	**Sn**	**02 45 45.7**	**-1.4**
PCVE				A	A	02 45 53.2	
	6.7nm,0.3s						
PBEJ	**Beja**	**4.14**	**319**	P	**Pn**	**02 45 06.3**	**+2.8**
PBEJ				S	**Sn**	**02 45 52.5**	**+1.1**
	2.3nm,0.5s						
PBEJ	**Beja**	**4.14**	**319**	*e*Pn	**Pn**	**02 45 06.3**	**+2.8**
PBEJ				*e*Sn	**Sn**	**02 45 52.5**	**+1.1**
PBEJ				A	A	02 46 03.2	
	4.6nm,0.5s						
MORF	**Marmelete**	**4.17**	**305**	P	**Pn**	**02 45 05.6**	**+1.8**
MORF				S	**Sn**	**02 45 51.1**	**-0.9**
	6.8nm,0.5s						
MORF	**Marmelete**	**4.17**	**305**	*e*Pn	**Pn**	**02 45 05.6**	**+1.8**
MORF				*e*Sn	**Sn**	**02 45 51.1**	**-0.9**
MORF				A	A	02 45 57.6	
	6.8nm,0.5s						
PFVI	**Vila Bisbo** 11nm,0.6s,SNR=7.9	**4.19**	**302**	P	**Pn**	**02 45 04.5**	**+0.4**
PFVI				S	**Sn**	**02 45 50.5**	**-2.1**
	23nm,0.7s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.19**	**302**	*e*Pn	**Pn**	**02 45 04.4**	**+0.2**
PFVI				*e*Sn	**Sn**	**02 45 50.5**	**-2.1**
PFVI				A	A	02 45 57.8	
	12

PNCL				S		**Sn**	**02 46 01.2**	**-0.9**
	3.4nm,0.4s							
PNCL	**Nicolau / Gran**	**4.58**	**315**	*e*Pn		**Pn**	**02 45 09.9**	**+0.4**
PNCL				*e*Sn		**Sn**	**02 46 01.2**	**-0.9**
PNCL				A		A	02 46 04.1	
	3.4nm,0.4s							
EVO	**Evora**	**4.60**	**322**	P		**Pn**	**02 45 10.1**	**+0.4**
EVO				S		**Sn**	**02 46 01.3**	**-1.3**
EVO	**Evora**	**4.60**	**322**	*e*P		**Pn**	**02 45 10.1**	**+0.4**
EVO				*e*S		**Sn**	**02 46 01.3**	**-1.3**
EVO	**Evora**	**4.60**	**322**	*e*Pn		**Pn**	**02 45 10.3**	**+0.6**
EVO				*e*Sn		**Sn**	**02 46 02.0**	**-0.6**
EVO				A		A	02 46 06.9	
	5.0nm,0.6s							
ESDC	**Sonseca Array**	**4.72**	**4**	P		**Pn**	**02 45 11.9**	**+0.5**
	0.6nm,0.3s,baz=182,slow=12,SNR=13							
ESDC				S		**Sn**	**02 46 05.3**	**-0.3**
	4.4nm,0.9s,baz=191,slow=30,SNR=5.6							
OUK	**Oukaimeden**	**4.74**	**219**	P		**Pn**	**02 45 11.2**	**-0.9**
OUK				S		**Sn**	**02 46 04.8**	**-1.9**
ZGR	**Zagora**	**4.94**	**192**	P		**Pn**	**02 45 14.9**	**+0.4**
PMRV	**Marv??o**	**5.06**	**333**	P		**Pn**	**02 45 16.8**	**+0.7**
PMRV				S		**Sn**	**02 46 11.4**	**-2.6**
	3.3nm,0.7s							
PMRV	**Marv??o**	**5.06**	**333**	*e*Pn		**Pn**	**02 45 16.8**	**+0.7**
PMRV				*e*Sn		**Sn**	**02 46 11.4**	**-2.6**
PMRV				A		A	02 46 32.9	
	3.3nm,0.7s							
PMTG	**Montargil**	**5.12**	**324**	P		**Pn**	**02 45 17.9**	**+1.0**
PMTG				S		**Sn**	**02 46 14.3**	**-1.1**
	3.3nm,0.6s							
PMTG	**Montargil**	**5.12**	**324**	*e*Pn		**Pn**	**02 45 17.9**	**+1.0**
PMTG				*e*Sn		**Sn**	**02 46 14.3**	**-1.1**
PMTG				A		A	02 46 26.4	
	3.3nm,0.6s							
EPLA	**Plasencia**	**5.27**	**346**	P		**Pn**	**02 45 18.7**	**-0.3**
	2.4nm,0.6s,SNR=6.9							
EPLA				S		**Sn**	**02 46 16.4**	**-2.8**
	1.5nm,0.3s,SNR=6.0							
ECHE	**Chera**	**5.37**	**30**	P		**Pn**	**02 45 21.5**	**+1.1**
	1.7nm,0.4s,SNR=7.9							
UCM	**Universidad Co**	**5.42**	**9**	P		**Pn**	**02 45 22.5**	**+1.5**
UCM				S		**Sn**	**02 46 20.5**	**-2.3**
UCM	**Universidad Co**	**5.42**	**9**	*e*P		**Pn**	**02 45 22.5**	**+1.5**
UCM				*e*S		**Sn**	**02 46 20.5**	**-2.3**
PCBR	**Castelo Branco**	**5.46**	**334**	P		**Pn**	**02 45 22.9**	**+1.4**
PCBR				S		**Sn**	**02 46 22.3**	**-1.4**
	1.2nm,0.3s							
PCBR	**Castelo Branco**	**5.46**	**334**	*e*Pn		**Pn**	**02 45 22.9**	**+1.4**
PCBR				*e*Sn		**Sn**	**02 46 22.3**	**-1.4**
PCBR				A		A	02 46 30.3	
	2.3nm,0.3s							
PSBE	**So Bento**	**5.74**	**324**	*e*Pn		**Pn**	**02 45 28.5**	**+3.0**
PSBE				*e*Sn		**Sn**	**02 46 31.3**	**+0.5**
PCAS	**Casmilo, Conde**	**6.04**	**329**	P		**Pn**	**02 45 32.7**	**+3.2**
PCAS				S		**Sn**	**02 46 37.5**	**-0.6**
PCAS	**Casmilo, Conde**	**6.04**	**329**	*e*Pn		**Pn**	**02 45 32.7**	**+3.2**
PCAS				*e*Sn		**Sn**	**02 46 37.5**	**-0.6**
EIBI	**Ibiza**	**6.13**	**47**	P		**Pn**	**02 45 31.8**	**+1.0**
	10nm,0.8s,SNR=7.5							
EIBI				S		**Sn**	**02 46 38.2**	**-2.1**
	2.5nm,0.3s,SNR=7.9							
ETOR	**Torete**	**6.14**	**17**	P		**Pn**	**02 45 31.1**	**+0.2**
	5.6nm,0.4s,SNR=8.6							
ETOR				S		**Sn**	**02 46 38.9**	**-1.7**
	3.7nm,0.3s,SNR=7.9							
PVIS	**Viseu**	**6.38**	**335**	P		Pn	02 45 40.4	+6.2
PVIS				S		**Sn**	**02 46 45.3**	**-1.2**
PVIS	**Viseu**	**6.38**	**335**	*e*Pn		Pn	02 45 40.4	+6.2
PVIS				*e*Sn		**Sn**	**02 46 45.3**	**-1.2**
MVO	**Moncorvo**	**6.53**	**342**	P		**Pn**	**02 45 37.2**	**+0.8**
	1.9nm,0.3s,SNR=5.7							
MVO				S		**Sn**	**02 46 48.4**	**-1.9**
	6.1nm,0.6s,SNR=7.9							
MVO	**Moncorvo**	**6.53**	**342**	*e*Pn		**Pn**	**02 45 36.6**	**+0.2**
MVO				*e*Sn		**Sn**	**02 46 48.2**	**-2.2**
MVO				A		A	02 47 16.4	
	4.0nm,0.5s							
PVRL	**Vila Real**	**6.83**	**338**	S		**Sn**	**02 46 55.1**	**-2.4**
PVRL	**Vila Real**	**6.83**	**338**	*e*Sn		**Sn**	**02 46 55.1**	**-2.4**
PBRG	**Braganca**	**7.08**	**346**	P		**Pn**	**02 45 44.2**	**+0.4**
PBRG	**Braganca**	**7.08**	**346**	*e*Pn		**Pn**	**02 45 44.2**	**+0.4**

*IDC **09** 02:53:50.4±3.2,6°.11S×154°.27E, h62km±27km, mb2.9/2, mb1 3.7/5, mb1mx3.4/36, mbtmp3.9/5, ML3.7/3, Error ellipse: s-maj=29.9km s-min=19.0km az=70.0*

ISC 09 02:53:50.1±1.3,6°.1S±0°.1×154°.3E±0°.1,h61km,n9, σ1°.9/07°.10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.91**	**308**	P	**Pn**	**02 54 35.0**	**+1.0**
	42nm,0.3s,baz=135,slow=2.9,SNR=11						
KRVT				S	**Sn**	**02 55 07.5**	**-0.4**
	46nm,0.3s,baz=349,slow=19,SNR=7.6						
PMG	**Port Moresby**	**7.82**	**245**	P	**Pn**	**02 55 42.2**	**+0.9**
	9.5nm,0.3s,baz=79,slow=6.0,SNR=16						
PMG				S	**Sn**	**02 57 08.5**	**0.0**
	1.2nm,0.3s,baz=167,slow=21,SNR=1.1						
DZM	**Mont Dzumac**	**19.72**	**145**	P	**P**	**02 58 15.4**	**+0.5**
	1.1nm,0.3s,baz=322,slow=19,SNR=11						
WRA	**Warramunga Arr**	**23.80**	**233**	P	**P**	**02 58 55.4**	**-2.1**
	0.3nm,0.9s,baz=57,slow=9.9,SNR=1.8						
WRA				PcP	**PcP**	**03 02 40.0**	**+0.2**
	0.3nm,0.5s,baz=65,slow=2.2,SNR=4.7						
ASAR	**Alice Springs**	**26.28**	**226**	P	**P**	**02 59 20.3**	**+0.2**
	0.2nm,0.3s,baz=58,slow=9.1,SNR=1.9						
ASAR				PcP	**PcP**	**03 02 45.5**	**+0.2**
	0.7nm,0.5s,baz=60,slow=2.7,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	03 28 02.3	
	baz=210,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	03 27 57.7	
	baz=210,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.34**	**26**	T	T	03 28 03.8	
	baz=210						
TORD	**Torodi Ar. Bea**	**152.15**	**287**	PKPbc	**PKPbc**	**03 13 38.7**	**-1.1**
	0.5nm,0.9s,baz=68,slow=1.1,SNR=1.9						

IDC 09 02:58:13.4±3.2,28°.21S×176°.56W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.9/27,mbtmp4.1/4,Error ellipse: s-maj=89.1km s-min=29.6km az=130.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.58**	**228**	Pn	Pb	02 58 43.3	-0.2
	185nm,0.3s,baz=102,slow=12,SNR=15						
RAO				Sn	Sn	02 59 03.8	-0.1
	285nm,0.3s,baz=274,slow=23,SNR=8.8						
STKA	**Stephens Creek**	**36.25**	**254**	P	P	03 05 17.4	-1.0
	2.8nm,0.8s,baz=87,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**44.53**	**264**	P	P	03 06 26.7	-0.5
	1.9nm,0.7s,baz=108,slow=7.6,SNR=16						
WRA	**Warramunga Arr**	**45.33**	**269**	P	P	03 06 34.0	+0.5
	3.4nm,0.8s,baz=108,slow=7.7,SNR=15						
FITZ	**Fitzroy Crossi**	**53.66**	**268**	P	P	03 07 37.5	+0.4
	1.9nm,1.0s,baz=130,slow=7.9,SNR=2.3						
FINES	**FINESS Array B**	**143.49**	**342**	PKP	PKPbc	03 17 47.7	+1.1
	1.2nm,0.7s,baz=15,slow=6.0,SNR=3.5						
AKASG	**Malin Array Be**	**150.25**	**326**	PKPbc	PKPbc	03 18 05.9	-0.2
	0.4nm,0.4s,baz=50,slow=3.2,SNR=1.7						

*ASRS **09** 03:10:08.2±0.4,54°.1±1°.8°×6E±°,h3km±1km, MLv3.3/18, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **09** 03:10:09.2±1.6,54°.17N×86°.13E,h0km, mb4.0, mpv3.3, Error ellipse: s-maj=16.5km s-min=7.2km az=0.0, Suspected Mining explosion.*

ISC 09 03:10:09.3±0.8,54°.25N±0°.03×86°.10E±0°.03,h0km,n21, σ0°.80/39,13C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALR	**Pechorkino, Sa**	**0.29**	**307**	Pg	**Pg**	**03 10 14.4**	**-0.4**
SALR				S	**Sg**	**03 10 18.8**	**+0.3**
POMOR	**Pomortsevo, Ku**	**0.30**	**57**	Pg	**Pg**	**03 10 14.7**	**-0.3**
POMOR				S	**Sg**	**03 10 18.4**	**-0.5**
ZAA0	**Zalesovo Array**	**0.81**	**249**	⇑P	**Pg**	**03 10 24.4**	**-0.4**
	0.7nm,0.3s						
ZAA0				⇓S	**Sg**	**03 10 36.1**	**+0.8**
	8.7nm,0.3s						
ELT	**Eltsovka**	**0.99**	**175**	P	**Pg**	**03 10 27.8**	**-0.5**
ELT				S	**Sb**	**03 10 42.2**	**-0.7**
KHAR	**Kharino, NSO,**	**1.51**	**285**	P	**Pb**	**03 10 38.4**	**+0.2**
KHAR				S	**Sg**	**03 10 57.8**	**0.0**
NVSII	**Novosibirsk**	**1.77**	**291**	P	**Pn**	**03 10 41.4**	**+0.3**
NVSII				S	**Sg**	**03 11 06.1**	**0.0**
NVS	**Novosibirsk**	**1.77**	**291**	P	**Pn**	**03 10 41.3**	**+0.1**
NVS				S	**Sb**	**03 11 05.5**	**+0.1**
TASR	**Tashtagol**	**1.83**	**144**	P	**Pn**	**03 10 41.6**	**-0.5**
TASR				S	**Sn**	**03 11 05.8**	**-0.1**
NHES	**Novosibirsk, N**	**1.91**	**290**	P	**Pn**	**03 10 43.2**	**+0.1**
NHES				S	**Sb**	**03 11 09.1**	**-0.3**
BSTK	**Bystrovka, Nov**	**2.04**	**280**	P	**Pn**	**03 10 45.4**	**+0.6**
BSTK				S	**Sn**	**03 11 11.8**	**+0.9**
ALXA	**Alekseevka, NS**	**2.16**	**290**	P	**Pn**	**03 10 45.5**	**-1.0**
ALXA				Sg	**Sg**	**03 11 18.7**	**+0.1**
GALT	**Gorno-Altaysk,**	**2.29**	**182**	Pg	**Pb**	**03 10 51.0**	**-0.5**
ARTR	**Artybash**	**2.56**	**163**	P	**Pn**	**03 10 51.9**	**-0.1**
ARTR				S	**Sn**	**03 11 24.3**	**+0.6**
DJO	**Djoy, Khakassi**	**3.39**	**114**	S	**Sn**	**03 11 44.9**	**+0.5**
UKR	**Ust'-Kan**	**3.41**	**194**	P	**Pn**	**03 11 04.3**	**+0.5**
UKR				S	**Sn**	**03 11 45.7**	**+0.7**
CERR	**Cheremushki**	**3.46**	**112**	S	**Sn**	**03 11 47.3**	**+1.1**
ULGR	**Ulagan, Altay**	**3.80**	**162**	P	**Pn**	**03 11 10.2**	**+1.0**
ULGR				S	**Sn**	**03 11 55.8**	**+1.1**
KURK	**Kurchatov**	**5.78**	**235**	⇑Pn	**Pn**	**03 11 37.5**	**+1.3**
	2.4nm,0.5s						
KURK				⇑Sn	**Sn**	**03 12 42.1**	**-1.0**
	1.7nm,0.6s						
KURK				⇑Lg	Lg	03 13 10.5	
	8.0nm,0.9s						
KURBB	**Kurchatov Arra**	**5.88**	**235**	⇑Pn	**Pn**	**03 11 38.9**	**+1.3**
	3.8nm,0.3s						
KURBB				⇑Sn	**Sn**	**03 12 44.2**	**-1.4**
	4.7nm,0.6s						
KURBB				⇑Lg	Lg	03 13 13.3	
	15nm,0.7s						
MK31	**Makanchi Array**	**7.84**	**200**	⇑Pn	**Pn**	**03 12 06.0**	**+1.3**
	0.8nm,0.3s,baz=25,slow=11,SNR=68						
MK31				⇑Sn	**Sn**	**03 13 33.2**	**-0.8**
	1.3nm,0.6s,baz=23,slow=25,SNR=2.9						
MK31				⇑Lg	Lg	03 14 16.4	
	2.1nm,0.7s,baz=198,slow=46,SNR=4.8						
MAKZ	**Makanchi**	**7.89**	**201**	⇑Pn	**Pn**	**03 12 06.3**	**+0.9**
	8.2nm,1.2s						
MAKZ				⇑Sn	**Sn**	**03 13 33.6**	**-1.8**
	7.5nm,1.4s						
MAKZ				⇑Lg	Lg	03 14 17.2	
	7.0nm,1.2s						

*BJI **09** 03:19:36.3±0.0,32°.38S×110°.92W,h10km,Ms5.7/2, Ms7 5.5/3*
*IDC **09** 03:19:36.1±0.4,32°.17S×110°.85W,h0km,mb4.9/20, mb1 5.0/21,mb1mx4.9/30,mbtmp4.9/21,ML4.2/1,Error ellipse: s-maj=15.2km s-min=13.7km az=114.0*
*MOS **09** 03:19:36.4±1.1,32°.01S×110°.64W,h10km,mb5.3/34, Error ellipse: s-maj=13.4km s-min=8.8km az=72.6*
*NEIC **09** 03:19:38.1±0.9,32°.12S±0°.08×110°.7W±0°.1, h15km±2km, mb5.2/164, Error ellipse: s-maj=17.8km s-min=10.5km az=113.0*

ISC 09 03:19:37.2±0.3,32°.14S±0°.06×110°.74W±0°.07,h10km, n697,σ0°.95/659,mb5.2/94,21C-18D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.15**	**14**	Pn	**Pn**	**03 20 55.1**	**+0.8**
	8.4nm,0.3s,baz=220,slow=8.6,SNR=2.6						
RPN				Sn	**Sn**	**03 21 51.1**	**-2.7**
	5.7nm,0.3s,baz=19,slow=23,SNR=1.1						
H03S2	**Juan Fernandez**	**26.69**	**102**	T	T	03 53 04.2	
	baz=264,slow=75,SNR=21						
H03S3	**Juan Fernandez**	**26.70**	**102**	T	T	03 53 12.8	
	baz=264,slow=75,SNR=9.8						
H03S1	**Juan Fernandez**	**26.70**	**102**	T	T	03 53 15.6	
	baz=264,slow=75,SNR=9.5						
H03N2	**Juan Fernandez**	**26.72**	**101**	T	T	03 52 53.2	
	baz=268,slow=73,SNR=73						
H03N3	**Juan Fernandez**	**26.73**	**101**	T	T	03 52 54.5	
	baz=268,slow=73,SNR=81						
H03N1	**Juan Fernandez**	**26.74**	**101**	T	T	03 52 54.1	
	baz=268,slow=73,SNR=106						
BI03	**Tigo**	**31.30**	**109**	P	**P**	**03 25 57.3**	**-0.2**
LL01	**San Ignacio de**	**31.94**	**120**	P	**P**	**03 26 03.0**	**-0.1**
LL01				IAmb	IAmb	03 26 05.4	
	comp=Z,46nm,1.5s						
GO05	**Huala**	**32.33**	**106**	P	**P**	**03 26 06.4**	**-0.2**
GO05				IAmb	IAmb	03 26 08.3	
	comp=Z,51nm,1.1s						
BI02	**San Fabin de**	**32.72**	**109**	P	**P**	**03 26 10.0**	**-0.1**
VA01	**Torpederas**	**32.83**	**102**	P	**P**	**03 26 10.3**	**-0.6**
PLCA	**Paso Flores**	**33.22**	**116**	P	**P**	**03 26 15.0**	**+0.6**
	comp=Z,21nm,0.8s,baz=274,slow=8.7,SNR=26						
PLCA	**Paso Flores**	**33.22**	**116**	P	**P**	**03 26 14.5**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,48nm,1.2s						
PLCA	**Paso Flores**	**33.22**	**116**	P	**P**	**03 26 14.5**	**+0.1**
PLCA				IAmb	IAmb	03 26 17.0	
	comp=Z,48nm,1.1s						
BO02	**Sierra Bellavi**	**33.29**	**106**	P	**P**	**03 26 15.2**	**+0.1**
BO02				IAmb	IAmb	03 26 17.1	
	comp=Z,61nm,1.3s						
ROC1	**El Roble**	**33.36**	**102**	P	**P**	**03 26 15.5**	**-0.4**
ROC1	**El Roble**	**33.36**	**102**	*i* P	**P**	**03 26 17.1**	**+1.2**
MT05	**Renca**	**33.52**	**103**	P	**P**	**03 26 17.0**	**-0.1**
PEL	**Peldehue**	**33.60**	**103**	P	**P**	**03 26 18.9**	**+1.1**
PEL				pmax	pmax		
	comp=Z,69nm,2.0s						
CO02	**Combarbal**	**33.71**	**99**	P	**P**	**03 26 18.7**	**-0.2**
VA03	**San Esteban**	**33.78**	**102**	P	**P**	**03 26 19.3**	**-0.1**
GO09	**Cerro Castillo**	**33.95**	**136**	P	**P**	**03 26 20.7**	**+0.2**
CO03	**El Pedregal**	**34.05**	**99**	P	**P**	**03 26 21.7**	**0.0**
CO03				IAmb	IAmb	03 26 23.6	
	comp=Z,50nm,1.1s						
GO04	**Tololo Observa**	**34.11**	**97**	P	**P**	**03 26 22.2**	**-0.3**
AC04	**Llanos de Chal**	**34.39**	**94**	P	**P**	**03 26 24.5**	**-0.1**
CO01	**Juntas del Tor**	**34.75**	**97**	P	**P**	**03 26 27.7**	**-0.3**
CO01				IAmb	IAmb	03 26 29.9	
	comp=Z,30nm,1.2s						
AUSP	**Uspallata**	**34.85**	**101**	*i* P	**P**	**03 26 30.7**	**+1.8**
AC05	**El Transito**	**34.89**	**95**	P	**P**	**03 26 30.0**	**+0.9**
RTLS	**Leoncito**	**35.01**	**101**	*i* P	**P**	**03 26 31.8**	**+1.5**
ARCO	**CERRO ARCO**	**35.11**	**103**	*i* P	**P**	**03 26 33.1**	**+2.1**
AAGR	**Agrelo**	**35.15**	**103**	*i* P	**P**	**03 26 33.2**	**+1.9**
AROD	**Rodeo**	**35.22**	**98**	*i* P	**P**	**03 26 34.1**	**+1.9**
ASAL	**Salagasta**	**35.24**	**102**	*i* P	**P**	**03 26 34.0**	**+2.0**
ACCO	**Cerro Coronel**	**35.47**	**99**	*i* P	**P**	**03 26 35.6**	**+1.3**
ACDV	**Cuesta del Vie**	**35.52**	**98**	*i* P	**P**	**03 26 36.4**	**+1.8**
RTCV	**Cerro Valdivia**	**35.62**	**101**	*i* P	**P**	**03 26 36.6**	**+1.3**
AC02	**Maricunga**	**36.44**	**93**	P	**P**	**03 26 42.5**	**-0.4**
AC02				IAmb	IAmb	03 26 45.6	
	comp=Z,62nm,1.2s						
GO02	**Mina Guanaco**	**36.61**	**90**	P	**P**	**03 26 43.6**	**-0.5**
NNA	**Nana**	**37.04**	**65**	*ce*P	**P**	**03 26 45.9**	**-1.6**
NNA				pmax	pmax		
	comp=Z,39nm,1.0s						
USHA	**Ushuaia**	**37.36**	**140**	P	**P**	**03 26 50.6**	**+0.8**
	comp=Z,41nm,1.0s,baz=266,slow=4.6,SNR=4.8						
PB15	**IPOC Station P**	**37.43**	**87**	P	**P**	**03 26 50.1**	**-0.9**
PB15				IAmb	IAmb	03 26 53.4	
	comp=Z,62nm,1.1s						
ACLC	**CERRO LA CRUZ**	**37.53**	**98**	*i* P	**P**	**03 26 52.5**	**+0.7**
APLL	**PUNTA DE LOS L**	**37.64**	**99**	*i* P	**P**	**03 26 53.3**	**+0.8**
PB07	**IPOC Station P**	**37.68**	**84**	P	**P**	**03 26 52.3**	**-0.7**
PB07				IAmb	IAmb	03 26 55.5	
	comp=Z,104nm,1.5s						
TA01	**Diego Aracena**	**37.93**	**82**	P	**P**	**03 26 54.9**	**-0.1**
TA01				IAmb	IAmb	03 26 57.0	
	comp=Z,58nm,1.1s						
LVC	**Limon Verde**	**38.14**	**86**	P	**P**	**03 26 58.7**	**+1.5**
	comp=Z,29nm,1.0s,baz=248,slow=9.1,SNR=16						
LVC	**Limon Verde**	**38.14**	**86**	P	**P**	**03 26 56.6**	**-0.6**
LVC				pmax	pmax		
	comp=Z,100nm,1.4s						
LVC	**Limon Verde**	**38.14**	**86**	P	**P**	**03 26 56.6**	**-0.6**
PB09	**IPOC Station P**	**38.19**	**85**	P	**P**	**03 26 56.4**	**-1.0**
PB01	**IPOC Station P**	**38.30**	**84**	P	**P**	**03 26 57.5**	**-0.8**
PSGCX	**Pisagua**	**38.41**	**81**	IAmb	IAmb	03 27 01.3	
	comp=Z,84nm,1.6s						
PB11	**IPOC Station P**	**38.73**	**82**	P	**P**	**03 27 00.8**	**-1.1**
PB11				IAmb	IAmb	03 27 03.7	
	comp=Z,44nm,1.1s						
PB08	**IPOC Station P**	**38.98**	**83**	IAmb	IAmb	03 27 06.6	
	comp=Z,45nm,1.1s						
ATAH	**Atahualpa**	**39.06**	**57**	P	**P**	**03 27 07.4**	**+2.4**
	comp=Z,18nm,0.9s,baz=233,slow=5.2,SNR=10.0						
MNMC	**Minye Minye**	**39.06**	**81**	P	**P**	**03 27 03.7**	**-1.1**
MNMC				IAmb	IAmb	03 27 06.4	
	comp=Z,38nm,0.8s						
PB16	**IPOC Station P**	**39.51**	**80**	P	**P**	**03 27 08.1**	**-0.8**
LPAZ	**La Paz**	**41.66**	**78**	P	**P**	**03 27 28.3**	**+1.5**
	comp=Z,20nm,1.0s,baz=248,slow=5.4,SNR=43						
LPAZ	**La Paz**	**41.66**	**78**	P	**P**	**03 27 25.7**	**-1.1**
LPAZ				IAmb	IAmb	03 27 29.7	
	comp=Z,51nm,1.2s						
EFI	**East Falkland**	**42.73**	**133**	*i* P	**P**	**03 27 34.8**	**+0.4**
EFI				pmax	pmax		
	comp=Z,39nm,0.9s						
CZSB	**Cruzeiro do Su**	**42.87**	**64**	*e*P	**P**	**03 27 36.9**	**+0.9**
OTAV	**Otavalo**	**44.36**	**50**	P	**P**	**03 27 47.2**	**-1.3**
OTAV				pmax	pmax		
	comp=Z,46nm,1.6s						
OTAV	**Otavalo**	**44.36**	**50**	P	**P**	**03 27 47.2**	**-1.3**
OTAV				IAmb	IAmb	03 27 50.8	
	comp=Z,46nm,1.6s						
OTAV	**Otavalo**	**44.36**	**50**	*e*P	**P**	**03 27 49.6**	**+1.1**
PUAC	**Puerto Asis, P**	**45.83**	**52**	*e*P	**P**	**03 28 00.7**	**+1.1**
CPUP	**Villa Florida**	**46.58**	**97**	P	**P**	**03 28 05.3**	**-0.1**
	comp=Z,14nm,1.1s,baz=254,slow=7.7,SNR=12						
CPUP	**Villa Florida**	**46.58**	**97**	P	**P**	**03 28 05.5**	**+0.1**
CPUP				pmax	pmax		
	comp=Z,30nm,1.2s						
CPUP	**Villa Florida**	**46.58**	**97**	P	**P**	**03 28 05.5**	**+0.1**
CPUP				IAmb	IAmb	03 28 06.0	
	comp=Z,30nm,1.2s						
CPUP	**Villa Florida**	**46.58**	**97**	*e*P	**P**	**03 28 05.5**	**+0.1**
ETMB	**Extrema**	**46.71**	**72**	*e*P	**P**	**03 28 06.5**	**-0.1**
PLTB	**Pedras Altas**	**47.98**	**106**	*e*P	**P**	**03 28 16.4**	**+0.1**
CPSB	**Cacapava Do Su**	**48.51**	**104**	*e*P	**P**	**03 28 20.5**	**+0.1**
YOTC	**Yotoco, Valle**	**48.56**	**49**	*e*P	**P**	**03 28 22.0**	**+0.9**
MACC	**Macarena, Meta**	**48.83**	**53**	*e*P	**P**	**03 28 23.8**	**+0.7**
JTS	**Las Juntas de**	**48.87**	**35**	*i* P	**P**	**03 28 23.6**	**+0.3**
JTS				pmax	pmax		
	comp=Z,26nm,1.1s						
ORTC	**Ortega, Tolima**	**49.21**	**50**	*e*P	**P**	**03 28 26.9**	**+0.9**
PRAC	**Prado**	**49.30**	**50**	*e*P	**P**	**03 28 28.0**	**+1.4**
PTLB	**Pontes e Lacer**	**49.59**	**83**	*e*P	**P**	**03 28 29.1**	**+0.2**
SAML	**Samuel**	**49.65**	**73**	P	**P**	**03 28 29.1**	**-0.2**
SAML				pmax	pmax		
	comp=Z,35nm,1.2s						
SAML	**Samuel**	**49.65**	**73**	P	**P**	**03 28 29.1**	**-0.2**
SAML				IAmb	IAmb	03 28 30.1	
	comp=Z,35nm,1.1s						
SAML	**Samuel**	**49.65**	**73**	*e*P	**P**	**03 28 30.1**	**+0.8**
TOLC	**Tolima**	**49.68**	**49**	*e*P	**P**	**03 28 31.2**	**+1.3**
RREF	**El Recreo**	**49.90**	**49**	*e*P	**P**	**03 28 29.6**	**-2.2**
VILB	**Vilhena**	**49.95**	**80**	*e*P	**P**	**03 28 31.8**	**+0.2**
GUY2C	**Guyana, Caldas**	**50.14**	**49**	*e*P	**P**	**03 28 33.6**	**+0.1**
CBOC	**Ciudad Bolivar**	**50.22**	**48**	*e*P	**P**	**03 28 34.6**	**+0.8**
AQDB	**Aquidauana**	**50.22**	**91**	*e*P	**P**	**03 28 33.9**	**+0.3**
VILC	**Villavicencio,**	**50.38**	**51**	*e*P	**P**	**03 28 35.6**	**+0.7**
ROSC	**El Rosal**	**50.52**	**50**	P	**P**	**03 28 39.1**	**+2.8**
	comp=Z,57nm,0.9s,baz=200,slow=3.7,SNR=36						
ROSC	**El Rosal**	**50.52**	**50**	*e*P	**P**	**03 28 38.5**	**+2.2**
ROSC	**El Rosal**	**50.52**	**50**	P	**P**	**03 28 35.1**	**-1.1**
ITAB	**Concordia**	**50.62**	**100**	*e*P	**P**	**03 28 37.5**	**+0.9**
CHIC	**Chingaza**	**50.74**	**51**	*e*P	**P**	**03 28 39.2**	**+1.2**
TLIG	**Tlapa**	**50.78**	**15**	P	**P**	**03 28 37.9**	**+0.1**
CNLB	**Canela**	**50.98**	**103**	*e*P	**P**	**03 28 40.2**	**+0.9**
TGUH	**Tegucigalpa,Un**	**51.14**	**30**	P	**P**	**03 28 40.5**	**-0.2**
TGUH				IAmb	IAmb	03 28 42.9	
	comp=Z,59nm,1.1s						
SPBC	**San Pablo de B**	**51.29**	**50**	*e*P	**P**	**03 28 42.7**	**+1.0**
PTGB	**Pitanga**	**51.59**	**98**	*e*P	**P**	**03 28 44.9**	**+0.9**
PTBC	**PUERTO BERRIO,**	**51.72**	**49**	*e*P	**P**	**03 28 45.2**	**+0.4**
TRCB	**Terra Rica**	**51.86**	**95**	*e*P	**P**	**03 28 46.6**	**+0.6**
RUSC	**La Rusia**	**52.11**	**50**	*e*P	**P**	**03 28 48.9**	**+0.6**
ZARC	**Zaragoza, Cauc**	**52.20**	**47**	*e*P	**P**	**03 28 48.4**	**0.0**
**BAR

baz=183,SNR=6.4
NAN01 Guarapari, ES 64.57 96 *e*P **P 03 30 15.9 +1.0**
IKP In-Ko-Pah, Jac 64.64 355 P **P 03 30 16.2 +1.1**
baz=175,SNR=6.7
MONP2 Monument Peak 64.91 355 P **P 03 30 18.3 +1.4**
baz=175,SNR=9.8
SWSC Sam W. Stewart 64.91 355 P **P 03 30 17.8 +1.1**
baz=175
GLA Glamis 64.96 356 P **P 03 30 18.3 +1.3**
baz=176
WHTX Lake Whitney, 65.01 12 P **P 03 30 17.6 +0.2**
baz=192
SNAA Sanae 65.18 161 P **P 03 30 17.6 -0.6**
SNAA Sanae 65.18 161 *i* P **P 03 30 17.0 -1.2**
SNAA pmax pmax
comp=Z,20nm,1.8s
SNAA Sanae 65.18 161 P **P 03 30 17.8 -0.4**
ABTX Abilene, Hawle 65.27 10 P **P 03 30 19.5 +0.4**
baz=190
BC3 Big Chuckawall 65.60 356 P **P 03 30 22.9 +1.6**
baz=176,SNR=21
TPFO Pinon Flats 65.62 355 P **P 03 30 22.7 +1.3**
baz=175,SNR=10
PFO Pinyon Flats O 65.62 355 P **P 03 30 23.0 +1.5**
baz=175,SNR=11
PFO Pinyon Flats O 65.62 355 *i* P **P 03 30 21.8 +0.3**
PFO pmax pmax
comp=Z,33nm,1.2s
MURC Murrieta 65.67 354 P **P 03 30 22.3 +0.6**
baz=174
TMAB Tom-Au,PA,Br 65.72 77 *e*P **P 03 30 23.3 +0.8**
BELC Belle Mtn. Jos 65.98 355 P **P 03 30 25.6 +1.8**
baz=175,SNR=18
IRM Iron Mountain 66.08 356 P **P 03 30 25.0 +0.7**
baz=176,SNR=8.1
MSTX Muleshoe 66.19 7 P **P 03 30 25.3 +0.2**
baz=187,SNR=20
BFSC Mount Baldy Ra 66.35 354 P **P 03 30 27.2 +1.0**
baz=174,SNR=6.3
GMRC Granite Mounta 66.73 356 P **P 03 30 30.3 +1.7**
baz=175,SNR=13
VBMS Vicksburg 66.81 19 P **P 03 30 30.3 +1.4**
baz=198
HEC Hector,Ludlow 66.83 355 P **P 03 30 30.3 +1.2**
baz=175
ANMO Albuquerque 66.86 4 P **P 03 30 30.0 +0.5**
baz=184
ANMO Albuquerque 66.86 4 P **P 03 30 29.6 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 66.86 4 P **P 03 30 29.6 +0.2**
W18A Petrified Fore 66.91 1 P **P 03 30 30.3 +0.5**
baz=181
GDU01 Guandu, BA 66.99 92 *e*P **P 03 30 30.9 +0.3**
EDW2 Edwards Air Fo 67.02 354 P **P 03 30 31.1 +0.8**
baz=173,SNR=5.8
Z41A Richland Creek 67.22 16 P **P 03 30 32.4 +0.9**
baz=196
PKM Mcpherson Peak 67.22 352 P **P 03 30 33.2 +1.4**
baz=172,SNR=5.7
WUAZ Wupatki 67.31 359 P **P 03 30 33.3 +1.0**
baz=179,SNR=8.4
WUAZ Wupatki 67.31 359 P **P 03 30 32.7 +0.4**
WUAZ IAmb IAmb 03 30 34.9
comp=Z,44nm,1.7s
GSC Goldstone, Bar 67.33 355 P **P 03 30 33.9 +1.6**
baz=174,SNR=24
ARVC Arvin 67.34 353 P **P 03 30 33.4 +1.1**
baz=173
TUQ Turquoise Moun 67.40 355 P **P 03 30 34.3 +1.5**
baz=175,SNR=8.8
WMOK Wichita Mounta 67.47 11 P **P 03 30 33.8 +0.7**
baz=191
LRMC Laurel Mtn Rad 67.58 354 P **P 03 30 35.2 +1.3**
baz=174,SNR=8.9
SMMC Simmler 67.66 352 P **P 03 30 35.2 +0.8**
baz=172
ISA Isabella, Lake 67.84 353 P **P 03 30 37.0 +1.5**
baz=173,SNR=10
SHOC Shoshone, Teco 67.88 355 P **P 03 30 37.4 +1.7**
baz=175,SNR=8.6
VES Vestal, Richgr 68.08 353 P **P 03 30 38.1 +1.2**
baz=172,SNR=6.9
PAGB Antelope Grade 68.10 352 P **P 03 30 37.1 0.0**
PAGB IAmb IAmb 03 30 39.7
comp=Z,15nm,1.0s
MPMC Manual Prospec 68.14 354 P **P 03 30 39.1 +1.5**
baz=174,SNR=42
ANWB Willy Bob 68.20 51 P **P 03 30 37.0 -1.1**
TIGA Tifton 68.26 25 P **P 03 30 38.8 +0.6**
baz=204,SNR=7.5
MIAR Mount Ida 68.27 15 P **P 03 30 38.2 +0.1**
baz=196
MIAR Mount Ida 68.27 15 P **P 03 30 38.0 -0.2**
MIAR pmax pmax
comp=Z,22nm,1.6s
MIAR Mount Ida 68.27 15 P **P 03 30 38.0 -0.2**
MIAR IAmb IAmb 03 30 39.7
comp=Z,22nm,1.6s
X40A Basin Creek Fa 68.39 16 P **P 03 30 39.8 +1.0**
baz=196
FURC Furnace Creek, 68.49 355 P **P 03 30 41.0 +1.5**
baz=174,SNR=10
BCOK Bluff Creek, N 68.56 11 P **P 03 30 39.8 -0.2**
CWC Cottonwood Cre 68.57 354 P **P 03 30 41.8 +1.6**
baz=173
LRAL Lakeview Retre 68.59 21 P **P 03 30 41.1 +1.0**
baz=201,SNR=21
LRAL Lakeview Retre 68.59 21 P **P 03 30 39.9 -0.3**
ROSB Rosrio 68.73 80 *e*P **P 03 30 41.8 +0.2**
KNB Kanab 68.83 358 P **P 03 30 41.6 -0.2**
KNB pmax pmax
comp=Z,39nm,1.5s
KNB Kanab 68.83 358 P **P 03 30 41.6 -0.2**
LCMT Little Creek M 68.83 358 P **P 03 30 41.7 -0.1**
W39A Magazine 68.85 15 P **P 03 30 42.3 +0.5**
baz=195
X43A Marvell 68.89 18 P **P 03 30 43.0 +1.0**
baz=198
TPNV Topopah Spring 68.92 355 P **P 03 30 44.0 +1.6**
baz=175,SNR=16
TPNV Topopah Spring 68.92 355 P **P 03 30 42.3 -0.1**
TPNV pmax pmax
comp=Z,21nm,1.1s
TPNV Topopah Spring 68.92 355 P **P 03 30 42.3 -0.1**
TPNV IAmb IAmb 03 30 45.5
comp=Z,21nm,1.1s
MVCO Mesa Verde 69.03 2 P **P 03 30 44.1 +0.9**
baz=182,SNR=20
MVCO Mesa Verde 69.03 2 P **P 03 30 42.6 -0.5**
TUL1 Leonard 69.13 13 P **P 03 30 43.8 +0.3**
baz=193,SNR=7.6
T25A Trinidad 69.18 5 P **P 03 30 44.9 +0.8**
baz=186,SNR=5.5
W41B Gary Mavity, V 69.18 16 P **P 03 30 44.5 +0.8**
baz=197,SNR=13
TIN Tinemaha, Big 69.19 354 P **P 03 30 44.9 +0.9**
baz=173
CCUT Cedar City 69.38 358 P **P 03 30 45.1 -0.2**
SZCU Shurtz Canyon 69.41 358 P **P 03 30 45.1 -0.3**
S22A 4UR Ranch, Cre 69.62 3 P **P 03 30 47.6 +0.8**
baz=184,SNR=13
SDCO Great Sand Dun 69.70 4 P **P 03 30 47.9 +0.5**
baz=185,SNR=14
SDCO Great Sand Dun 69.70 4 P **P 03 30 46.9 -0.4**
MLAC Mammoth, Mammo 69.82 353 P **P 03 30 49.1 +1.0**
baz=173
MDPB Devils Postpil 69.85 353 P **P 03 30 48.0 -0.3**
PV05 Paradox Valley 69.88 1 P **P 03 30 48.5 +0.2**
PV01 Paradox Valley 69.94 2 P **P 03 30 48.5 -0.3**
PV13 Radium Mtn., P 69.96 2 P **P 03 30 48.7 -0.2**
PV18 Skein Mesa, Pa 70.05 2 P **P 03 30 49.1 -0.3**
PV03 Paradox Valley 70.06 2 P **P 03 30 49.3 -0.2**
PV17 East Wray Mesa 70.08 1 P **P 03 30 49.6 0.0**
PV17 IAmb IAmb 03 30 50.6
comp=Z,12nm,0.9s
PLAL Pickwick Lake 70.09 20 P **P 03 30 49.3 -0.1**
PLAL IAmb IAmb 03 30 49.8
comp=Z,16nm,0.8s
GOGA Godfrey 70.09 24 P **P 03 30 49.7 +0.2**
baz=204,SNR=16
GOGA Godfrey 70.09 24 P **P 03 30 49.3 -0.2**
GOGA pmax pmax
comp=Z,55nm,1.4s
GOGA Godfrey 70.09 24 P **P 03 30 49.3 -0.2**
PV11 David Mesa, Pa 70.10 2 P **P 03 30 49.7 0.0**
PV11 IAmb IAmb 03 30 51.5
comp=Z,51nm,1.6s
PV19 Morning Glory 70.11 1 IAmb IAmb 03 30 51.5
comp=Z,41nm,1.6s
PV16 Nyswonger Mesa 70.11 2 P **P 03 30 49.6 -0.2**
PV16 IAmb IAmb 03 30 51.6
comp=Z,35nm,1.5s
PV12 Saucer Basin, 70.12 2 IAmb IAmb 03 30 51.5
comp=Z,17nm,0.8s
PV20 West Nyswonger 70.14 1 P **P 03 30 49.6 -0.3**
PV20 IAmb IAmb 03 30 51.6
comp=Z,22nm,1.3s
PV15 Paradox Valley 70.16 2 IAmb IAmb 03 30 51.8
comp=Z,24nm,1.0s
U40A Yellville 70.17 15 P **P 03 30 50.2 +0.3**
baz=196,SNR=7.5
PV14 Lion Creek, Pa 70.17 1 P **P 03 30 50.0 -0.2**
PV14 IAmb IAmb 03 30 51.9
comp=Z,27nm,1.1s
PV04 Paradox Valley 70.20 2 P **P 03 30 49.8 -0.5**
PV04 IAmb IAmb 03 30 52.0
comp=Z,24nm,0.9s
PV07 Paradox Valley 70.25 2 P **P 03 30 50.3 -0.3**
PV23 Carpenter Ridg 70.25 1 P **P 03 30 50.0 -0.7**
PV23 IAmb IAmb 03 30 52.5
comp=Z,25nm,0.9s
R11A Troy Canyon, C 70.28 356 P **P 03 30 52.4 +1.7**
baz=176,SNR=16
MSU Marysvale 70.31 359 P **P 03 30 50.4 -0.6**
MSU Marysvale 70.31 359 P **P 03 30 50.4 -0.6**
157A Early Branch 70.33 26 P **P 03 30 51.8 +0.9**
baz=206
PV22 Blue Mesa, Par 70.34 2 P **P 03 30 51.0 -0.1**
PV22 IAmb IAmb 03 30 53.8
comp=Z,15nm,0.9s
PV21 Cone Mtn., Par 70.36 1 P **P 03 30 50.8 -0.5**
PV21 IAmb IAmb 03 30 53.1
comp=Z,24nm,1.1s
PSUT Pine Spring 70.37 357 P **P 03 30 50.8 -0.6**
CMB Columbia Colle 70.39 352 P **P 03 30 50.6 -0.7**
CMB pmax pmax
comp=Z,32nm,1.6s
CMB Columbia Colle 70.39 352 P **P 03 30 50.6 -0.7**
CMB IAmb IAmb 03 30 53.9
comp=Z,32nm,1.6s
NV11 Mina Array Sit 70.55 354 P **P 03 30 51.9 -0.5**
NVAR Mina Array Bea 70.56 354 P **P 03 30 54.2 +1.7**
comp=Z,24nm,0.8s,baz=183,slow=7.8,SNR=143
NVAR Mina Array Bea 70.56 354 P **P 03 30 52.1 -0.5**
Z56A Williston 70.77 26 P **P 03 30 54.5 +1.0**
baz=206,SNR=5.6
Z57A Bowman 70.99 26 P **P 03 30 56.0 +1.1**
baz=207,SNR=6.3
NHSC New Hope 71.02 27 P **P 03 30 56.2 +1.1**
baz=207
KSCO Kaye Shedlock' 71.19 7 P **P 03 30 57.1 +0.8**
baz=187
Y56A Pelion 71.21 26 P **P 03 30 57.0 +0.7**
baz=206
WVT Waverly 71.23 19 P **P 03 30 56.3 0.0**
baz=200
WVT Waverly 71.23 19 P **P 03 30 56.3 0.0**
WVT pmax pmax
comp=Z,15nm,0.9s
WVT Waverly 71.23 19 P **P 03 30 56.3 0.0**
WVT IAmb IAmb 03 30 56.8
comp=Z,15nm,0.9s
CBKS Cedar Bluff 71.33 9 P **P 03 30 57.5 +0.5**
baz=190
Z58A St. Stephen 71.36 27 P **P 03 30 57.9 +0.7**
baz=207
AFDM Forest Hills D 71.36 352 P **P 03 30 57.6 +0.5**
AFDM IAmb IAmb 03 30 59.6
comp=Z,30nm,1.4s
X54A Belton 71.50 24 P **P 03 30 58.6 +0.5**
baz=205,SNR=8.3
X55A Gracelyn & Ava 71.69 25 P **P 03 31 00.1 +0.9**
baz=206,SNR=12
ISCO Idaho Springs 71.74 4 P **P 03 31 00.8 +1.1**
baz=184,SNR=8.0
Y57A Sumter 71.75 26 P **P 03 31 00.6 +1.1**
baz=207
X56A White Oak 71.93 26 P **P 03 31 01.7 +1.1**
baz=206,SNR=8.9
O20A White River Ci 71.95 2 P **P 03 31 02.0 +1.1**
baz=182
DUG Dugway, Tooele 72.00 358 P **P 03 31 02.1 +1.0**
baz=178,SNR=9.1
DUG Dugway, Tooele 72.00 358 P **P 03 31 01.3 +0.2**
DUG pmax pmax
comp=Z,28nm,1.5s
DUG Dugway, Tooele 72.00 358 P **P 03 31 01.3 +0.2**
DUG IAmb IAmb 03 31 03.5
comp=Z,28nm,1.5s
TKL Tuckaleechee C 72.03 23 IAmb IAmb 03 31 01.9
comp=Z,17nm,0.8s
W54A Cherokee Point 72.05 24 P **P 03 31 02.5 +1.1**
baz=205,SNR=16
CCM Cathedral Cave 72.17 16 P **P 03 31 02.5 +0.5**
baz=197
CCM Cathedral Cave 72.17 16 P **P 03 31 02.3 +0.3**
CCM pmax pmax
comp=Z,19nm,1.3s
CCM Cathedral Cave 72.17 16 P **P 03 31 02.2 +0.3**
X57A Johnson Farm, 72.26 26 P **P 03 31 03.7 +1.2**
baz=207
Y59A Loris 72.30 27 P **P 03 31 03.6 +0.8**
baz=208
KMSC Kings Mountain 72.41 25 P **P 03 31 04.4 +1.0**
baz=206,SNR=15
X58A Rowland 72.62 27 P **P 03 31 05.3 +0.6**
baz=207
W56A Indian Trail 72.67 26 P **P 03 31 05.8 +0.7**
baz=206,SNR=7.0
V54A Nebo 72.76 24 P **P 03 31 06.3 +0.7**
baz=205,SNR=22
O03E Paynes Creek 72.80 351 P **P 03 31 06.5 +0.8**
baz=170,SNR=6.1
N23A Red Feather La 72.81 4 P **P 03 31 07.3 +1.2**
baz=184,SNR=9.9
O02D Mt. Diablo Mer 72.82 350 P **P 03 31 07.4 +1.6**
baz=169,SNR=5.2
W57A Gilead 72.91 26 P **P 03 31 06.5 +0.1**
baz=207,SNR=8.3
TZTN Tazewell 72.92 23 P **P 03 31 07.2 +0.7**
baz=204
X59A McDuffie Farm, 72.92 27 P **P 03 31 06.9 +0.4**
baz=208
KMRM Mail Ridge 73.00 350 pP 03 31 10.4 +1.1
W58A Raeford 73.07 27 P **P 03 31 08.0 +0.6**
baz=208,SNR=13
V55A Taylorsville 73.09 25 P **P 03 31 08.0 +0.5**
baz=206,SNR=8.3
X60A Albert Glenn T 73.17 28 P **P 03 31 08.3 +0.3**
baz=208
WDC Whiskeytown Da 73.18 351 IAmb IAmb 03 31 09.9
comp=Z,29nm,1.1s
V56A Mocksville 73.31 25 P **P 03 31 09.0 +0.2**
baz=206,SNR=8.5
U54A Nelsons Funny 73.48 24 P **P 03 31 10.0 +0.1**
baz=205,SNR=5.9
W59A Clinton 73.51 27 P **P 03 31 10.1 +0.1**
baz=208
N02D Trinity Center 73.59 351 P **P 03 31 11.2 +0.8**
baz=169,SNR=14
WCI Wyandotte Cave 73.62 20 P **P 03 31 10.4 -0.2**
baz=201
WCI Wyandotte Cave 73.62 20 P **P 03 31 10.8 +0.2**
WCI pmax pmax
comp=Z,22nm,1.0s
WCI Wyandotte Cave 73.62 20 P **P 03 31 10.8 +0.2**
WCI IAmb IAmb 03 31 11.4
comp=Z,22nm,1.0s
V57A Coltrane Farms 73.64 26 P **P 03 31 11.0 +0.3**
baz=207,SNR=13
T53A Wise 73.65 23 P **P 03 31 11.5 +0.6**
baz=205
U55A TA2, Sparta 73.73 25 P **P 03 31 11.4 +0.1**
baz=206,SNR=10
CNNC Cliffs of the 73.78 28 P **P 03 31 12.2 +0.6**
baz=208
V58A Windy Hill, Pi 73.80 26 P **P 03 31 11.8 +0.2**
baz=208,SNR=6.4
U56A King 73.83 25 P **P 03 31 12.0 +0.2**
baz=206,SNR=5.7
M02C Callahan 74.02 351 P **P 03 31 13.8 +0.9**
baz=169,SNR=7.5
T54A Tazewell 74.05 24 P **P 03 31 13.2 0.0**
baz=205,SNR=7.8
V59A Middlesex 74.11 27 P **P 03 31 14.1 +0.6**
baz=208,SNR=11
M04C Macdoel 74.27 351 P **P 03 31 15.6 +1.2**
baz=170,SNR=10
U57A Blanch 74.28 26 P **P 03 31 14.9 +0.4**
baz=207,SNR=7.3
T55A Pulaski 74.37 24 P **P 03 31 15.4 +0.4**
baz=206,SNR=6.4
S53A Williamson 74.42 23 P **P 03 31 15.6 +0.3**
baz=205
V60A Jim Taylor Roa 74.49 28 P **P 03 31 16.4 +0.7**
baz=209,SNR=6.8
K22A Casper 74.53 3 P **P 03 31 16.7 +0.7**
baz=184
AHID Auburn Hatcher 74.54 360 IAmb IAmb 03 31 17.2
comp=Z,42nm,1.8s
U58A Oxford 74.55 26 P **P 03 31 16.2 +0.1**
baz=208,SNR=8.8
BW06 Boulder Array 74.55 1 P **P 03 31 16.2 -0.1**
baz=181
BW06 Boulder Array 74.55 1 IAmb IAmb 03 31 17.5
comp=Z,29nm,1.4s
PD31 Pinedale Array 74.55 1 IAmb IAmb 03 31 17.5
comp=Z,26nm,1.4s
PDAR Pinedale Array 74.55 1 P **P 03 31 15.9 -0.3**
comp=Z,9.0nm,1.0s,baz=163,slow=5.6,SNR=42
PDAR Pinedale Array 74.55 1 P **P 03 31 16.1 -0.2**
T56A Rocky Mt 74.56 25 P **P 03 31 16.4 +0.3**
baz=207
BLA Blacksburg 74.59 25 P **P 03 31 17.2 +0.9**
baz=206
L04D Klamath Falls 74.76 351 P **P 03 31 18.0 +0.7**
baz=170,SNR=11
V61A Roper 74.79 28 P **P 03 31 17.6 +0.2**
baz=209
U59A Littleton 74.80 27 P **P 03 31 18.2 +0.7**
baz=208,SNR=10.0
S54A Dingess, Beckl 74.80 24 P **P 03 31 18.1 +0.5**
baz=206
T57A Hurt 74.82 26 P **P 03 31 17.8 +0.2**
baz=207,SNR=6.1
L02E Cave Junction 74.88 350 P **P 03 31 18.2 +0.4**
baz=169,SNR=5.6
T58A Grand View Acr 75.04 26 P **P 03 31 19.2 +0.4**
baz=208,SNR=8.6
S55A Lewisburg 75.06 24 P **P 03 31 19.4 +0.4**
baz=206,SNR=8.4
R53A Hurricane 75.07 23 P **P 03 31 19.5 +0.5**
baz=205
K04D Chiloquin, OR 75.09 352 P **P 03 31 19.7 +0.5**
baz=170
REDW Red Top Meadow 75.14 360 IAmb IAmb 03 31 21.3
comp=Z,45nm,1.8s
U60A Pendleton 75.15 27 P **P 03 31 20.1 +0.6**
baz=209,SNR=9.0
SNOW Snow King Moun 75.24 360 IAmb IAmb 03 31 22.0
comp=Z,58nm,1.7s
R54A Victor 75.26 24 P **P 03 31 20.6 +0.5**
baz=206,SNR=6.5
TPAW Teton Pass 75.27 360 IAmb IAmb 03 31 21.9
comp=Z,15nm,0.7s
P49A Miami Univ. Ec 75.29 21 P **P 03 31 19.8 -0.5**
baz=202,SNR=8.2
S56A Natural Bridge 75.31 25 P **P 03 31 20.9 +0.5**
baz=207,SNR=8.4
U61A Possum Corner 75.31 28 P **P 03 31 21.0 +0.6**
baz=210,SNR=7.4
MFID Camas Ranch 75.34 356 IAmb IAmb 03 31 22.9
comp=Z,49nm,1.9s
SFIN Lafayette 75.41 18 P **P 03 31 21.0 +0.2**
baz=200
K02D Willamette Mer 75.41 350 P **P 03 31 22.0 +1.0**
baz=169,SNR=14
HLID Hailey 75.41 357 P **P 03 31 22.1 +1.0**
baz=177
HLID Hailey 75.41 357 IAmb IAmb 03 31 23.6
comp=Z,33nm,1.1s
FXWY Fox Creek 75.42 360 IAmb IAmb 03 31 23.0
comp=Z,28nm,1.4s
T59A Double "B" Far 75.43 27 P **P 03 31 21.4 +0.3**
baz=208,SNR=6.7
Q52A Bidwell 75.53 23 P **P 03 31 22.1 +0.4**
baz=205
S57A Dark Hollow, R 75.60 26 P **P 03 31 22.6 +0.5**
baz=207
R55A Marlinton 75.65 24 P **P 03 31 23.1 +0.7**
baz=206
J05D Fort Rock, OR 75.67 352 P **P 03 31 24.1 +1.5**
baz=171
KEBM Edson Butte 75.68 350 IAmb IAmb 03 31 25.2
comp=Z,33nm,1.3s
Q53A Leroy 75.69 23 P **P 03 31 23.2 +0.7**
baz=205,SNR=9.3
J04D Umpqua Nationa 75.74 351 P **P 03 31 23.7 +0.7**
baz=170
P51A Williamsport 75.75 22 P **P 03 31 23.2 +0.3**
baz=204,SNR=6.0
S58A Poland Farm, P 75.81 26 P **P 03 31 23.8 +0.5**
baz=208,SNR=11
FLWY Flagg Ranch 75.86 0 IAmb IAmb 03 31 25.5
comp=Z,22nm,0.9s
T60A Surry 75.90 27 P **P 03 31 24.6 +0.8**
baz=209,SNR=5.5
J01E Myrtle Point 75.91 350 P **P 03 31 25.0 +1.4**
baz=168
R56A Bull Pasture M 76.01 25 P **P 03 31 25.8 +1.2**
baz=207,SNR=12
Q54A Coxs Mills 76.03 24 P **P 03 31 25.1 +0.6**
baz=206
RSSD Black Hills 76.14 5 P **P 03 31 25.8 +0.5**
baz=186
RSSD Black Hills 76.14 5 P **P 03 31 25.6 +0.3**
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 76.14 5 P **P 03 31 25.6 +0.3**
H17A Grant Village 76.17 0 P **P 03 31 27.9 +2.4**
baz=180
R58B Mineral 76.18 26 P **P 03 31 25.9 +0.5**
baz=208,SNR=13
P52A Corning 76.19 22 P **P 03 31 26.1 +0.7**
baz=205,SNR=12
S59A Mechanicsville 76.22 27 P **P 03 31 26.3 +0.7**
baz=209,SNR=6.8
R57A Stanardsville 76.23 26 P **P 03 31 26.3 +0.6**
baz=208,SNR=8.3
P53A Whipple 76.30 23 P **P 03 31 26.7 +0.7**
baz=205,SNR=6.2
Q55A Buckhannon 76.30 24 P **P 03 31 26.7 +0.6**
baz=206
I04A Tendick Farm, 76.32 351 P **P 03 31 26.6 +0.5**
baz=170,SNR=8.8
I03D Drain, OR 76.35 351 P **P 03 31 27.0 +0.8**
baz=169,SNR=6.9
S60A Water View 76.42 27 P **P 03 31 27.5 +0.7**
baz=209
R58A Rapidan 76.43 26 P **P 03 31 27.4 +0.6**
baz=208,SNR=8.4
ACSO Alum Creek Sta 76.46 22 P **P 03 31 27.5 +0.5**
baz=204
ACSO Alum Creek Sta 76.46 22 IAmb IAmb 03 31 28.0
comp=Z,15nm,0.8s
O51A Pataskala 76.50 22 P **P 03 31 27.4 +0.3**
baz=204,SNR=11
CBN Corbin Frederi 76.58 26 P **P 03 31 28.3 +0.6**
baz=208
ECSD EROS Data Cent 76.61 10 P **P 03 31 27.9 +0.1**
baz=192
Q56A Snyder Ridge, 76.66 25 P **P 03 31 28.8 +0.7**
baz=207,SNR=7.6
R59A King George, V 76.67 27 P **P 03 31 28.8 +0.6**
baz=209
P54A Burton 76.71 24 P **P 03 31 29.2 +0.9**
baz=206,SNR=12
O52A Adamsville 76.72 22 P **P 03 31 29.3 +0.9**
baz=205,SNR=18
I05D Terrebonne, OR 76.73 352 P **P 03 31 29.8 +1.4**
baz=171
SYO Syowa Base 76.81 169 ‖ *i* P **P 03 31 27.0 -1.6**
SYO Syowa Base 76.81 169 ‖ *e* sP sP 03 31 35.0 +2.9
I02D Swisshome 76.82 350 P **P 03 31 30.3 +1.5**
baz=169
P55A Reedsville 76.85 24 P **P 03 31 29.8 +0.6**
baz=206,SNR=7.3
RLMT Red Lodge 76.91 1 P **P 03 31 30.3 +0.6**
baz=181
CASY Casey 76.92 196 P **P 03 31 30.0 +0.6**

CASY IAmb IAmb 03 31 33.2
comp=Z,73nm,1.9s
Q57A Strasburg 76.93 25 P **P** **03 31 30.5 +0.8**
baz=208,SNR=8.7
R60A Leonardtown, M 76.94 27 P **P** **03 31 31.1 +1.4**
baz=209
MCWV Mont Chateau 76.97 24 P **P** **03 31 30.9 +1.0**
baz=206
O53A New Philadelph 77.04 23 P **P** **03 31 30.8 +0.6**
baz=205,SNR=7.4
H04D Lebanon 77.08 351 P **P** **03 31 31.2 +0.9**
baz=170
Q58A Fox Den Farm, 77.11 26 P **P** **03 31 31.4 +0.7**
baz=208,SNR=11
DLMT Dillon 77.16 359 IAmb IAmb 03 31 33.2
comp=Z,28nm,1.7s
P56A Dayton Farm, R 77.19 25 P **P** **03 31 31.8 +0.8**
baz=207,SNR=8.3
O54A Avella 77.26 23 P **P** **03 31 32.8 +1.3**
baz=206
N51A Ashland 77.28 22 P **P** **03 31 32.1 +0.6**
baz=204,SNR=8.4
BOZ Bozeman (W) 77.38 359 P **P** **03 31 33.2 +1.1**
baz=179
N52A McGinn's Farm, 77.40 22 P **P** **03 31 32.9 +0.7**
baz=205
P57A Homestead Farm 77.47 25 P **P** **03 31 33.4 +0.7**
baz=208,SNR=7.7
BBSR BB Station 77.52 39 P **P** **03 31 33.3 +0.2**
G05D Wamic, OR 77.62 352 P **P** **03 31 34.7 +1.3**
baz=171
O55A Ligonier 77.65 24 P **P** **03 31 33.9 +0.3**
baz=207,SNR=5.8
N53A Lisbon 77.67 23 P **P** **03 31 34.5 +0.8**
baz=206,SNR=9.1
M51A Elyria 77.71 22 P **P** **03 31 35.4 +1.4**
baz=204
P58A Pank, Wackersv 77.73 26 P **P** **03 31 34.7 +0.6**
baz=208,SNR=7.8
Q60A Greensboro 77.86 27 P **P** **03 31 35.7 +0.9**
baz=210
O56A Blue Knob Stat 77.96 25 P **P** **03 31 36.2 +0.8**
baz=207,SNR=8.8
N54A Moraine State 78.09 23 P **P** **03 31 37.1 +1.0**
baz=206,SNR=6.0
AAM Ann Arbor 78.15 20 P **P** **03 31 37.5 +1.1**
baz=203
O57A Amberson 78.25 25 P **P** **03 31 37.9 +0.9**
baz=208,SNR=8.5
F05D White Salmon 78.27 352 P **P** **03 31 38.0 +1.1**
baz=171
N55A Marion Center 78.27 24 P **P** **03 31 38.1 +0.9**
baz=207,SNR=10
M53A WI Miller and 78.29 23 P **P** **03 31 38.1 +0.9**
baz=206
O58A Lewisberry 78.43 26 P **P** **03 31 38.4 +0.5**
baz=209,SNR=8.9
SSPA Standing Stone 78.53 25 P **P** **03 31 39.1 +0.6**
baz=208
SSPA Standing Stone 78.53 25 P **P** **03 31 38.9 +0.4**
LAO LASA Array 78.57 3 P **P** **03 31 39.7 +1.0**
baz=184
LAO LASA Array 78.57 3 IAmb IAmb 03 31 41.0
comp=Z,28nm,1.1s
N56A West Decatur 78.63 25 P **P** **03 31 39.7 +0.6**
baz=208
MSO Missoula 78.66 358 P **P** **03 31 40.0 +0.7**
baz=177
M54A Oil Creek Stat 78.69 23 P **P** **03 31 39.8 +0.4**
baz=206
SPMN Marine on St. 78.71 13 P **P** **03 31 39.6 +0.2**
baz=195
N57A Milroy 78.76 25 P **P** **03 31 39.9 +0.2**
baz=208,SNR=6.1
P61A Hammonton 78.85 28 P **P** **03 31 41.4 +1.1**
baz=210
L53A Girard 78.89 23 P **P** **03 31 41.5 +1.0**
baz=206
M55A Ridgway 78.96 24 P **P** **03 31 41.6 +0.7**
baz=207,SNR=8.5
E04D Cinebar 79.06 352 P **P** **03 31 42.4 +1.1**
baz=170,SNR=7.7
N58A Sunbury 79.13 26 P **P** **03 31 42.4 +0.6**
baz=209
O60A Telford 79.17 27 P **P** **03 31 42.8 +0.8**
baz=210
M56A Emporium 79.17 24 P **P** **03 31 42.8 +0.7**
baz=208,SNR=6.4
M57A Sunshine Farm, 79.42 25 P **P** **03 31 44.3 +0.9**
baz=208
N59A State Game Lan 79.55 26 P **P** **03 31 44.9 +0.8**
baz=210
M58A Price's Panora 79.69 26 P **P** **03 31 45.4 +0.5**
baz=209
D04E Lakebay 79.70 352 P **P** **03 31 46.4 +1.7**
baz=170
L55A Hinsdale 79.71 24 P **P** **03 31 45.9 +0.9**
baz=207,SNR=10
EGMT Eagleton 79.81 1 P **P** **03 31 46.8 +1.3**
baz=181
EGMT Eagleton 79.81 1 IAmb IAmb 03 31 48.4
comp=Z,38nm,1.4s
L56A Greenwood 79.97 24 P **P** **03 31 47.1 +0.7**
baz=208,SNR=6.2
K54A Basiliko Farm, 80.00 23 P **P** **03 31 47.6 +1.1**
baz=207
NLWA Neilton Lookou 80.05 351 IAmb IAmb 03 31 49.3
comp=Z,36nm,1.2s
D03D Eldon 80.09 352 P **P** **03 31 47.9 +1.1**
baz=169,SNR=14
L57A Andrews Acres 80.10 25 P **P** **03 31 48.0 +0.9**
baz=209
M59A Waymart 80.22 26 P **P** **03 31 48.6 +0.9**
baz=210
NEW Newport 80.25 356 P **P** **03 31 48.9 +1.1**
baz=174
NEW Newport 80.25 356 IAmb IAmb 03 31 50.1
comp=Z,44nm,1.2s
MDND Maddock 80.25 8 P **P** **03 31 48.2 +0.5**
baz=190
K55A Perry 80.31 24 P **P** **03 31 49.0 +0.8**
baz=208,SNR=5.7
I51A Listowel 80.31 21 P **P** **03 31 49.0 +0.8**
baz=205
PAL Palisades 80.34 27 P **P** **03 31 48.8 +0.4**
baz=211
MAW Mawson 80.45 178 P **P** **03 31 48.5 -0.2**
comp=Z,11nm,0.8s,baz=197,slow=6.2,SNR=25
MAW Mawson 80.45 178 P **P** **03 31 49.4 +0.7**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 80.45 178 P **P** **03 31 49.4 +0.7**
DGMT Dagmar 80.46 4 P **P** **03 31 50.0 +1.1**
baz=186
DGMT Dagmar 80.46 4 IAmb IAmb 03 31 51.3
comp=Z,46nm,1.4s
L58A Harry Jones Me 80.50 26 P **P** **03 31 49.8 +0.5**
baz=209
K56A Middlesex 80.55 24 P **P** **03 31 50.2 +0.7**
baz=208
B05A Bryant 80.69 352 P **P** **03 31 50.6 +0.6**
baz=170,SNR=5.5
K57A Scipio Center 80.86 25 P **P** **03 31 51.8 +0.7**
baz=209
WALA Waterton Lakes 80.89 358 IAmb IAmb 03 31 54.0
comp=Z,27nm,1.4s
L60A Shokan 81.06 27 P **P** **03 31 52.5 +0.3**
baz=211
M62A Hamden 81.11 28 P **P** **03 31 53.0 +0.5**
baz=212
AGMN Agassiz Nation 81.18 10 P **P** **03 31 53.5 +0.8**
baz=193
K58A Earlville 81.20 25 P **P** **03 31 53.6 +0.6**
baz=209
A04D Lummi Island 81.21 352 P **P** **03 31 54.0 +1.2**
baz=170,SNR=11
PGC Sidney 81.23 352 IAmb IAmb 03 31 55.2
comp=Z,25nm,1.1s
K59A Cooperstown 81.50 26 P **P** **03 31 55.3 +0.7**
baz=210
EYMN Ely 81.58 13 P **P** **03 31 55.4 +0.6**
baz=196
M64A Tiverton 81.88 29 P **P** **03 31 58.0 +1.5**
baz=213
K61A Williamstown 82.01 27 P **P** **03 31 58.5 +1.3**
baz=211
L61B Northampton 82.05 27 P **P** **03 31 58.5 +1.1**
baz=212

I57A Carthage 82.22 25 P **P** **03 31 58.8 +0.6**
baz=209,SNR=5.5
J59A Piesco 82.23 26 P **P** **03 31 59.8 +1.4**
baz=210
I58A Old Forge 82.25 25 P **P** **03 31 59.0 +0.5**
baz=210
J60A Lant Hill Farm 82.44 27 P **P** **03 32 00.2 +0.7**
baz=211
G54A Lake Saint Pet 82.67 23 P **P** **03 32 01.0 +0.4**
baz=207
PLVO Plevna 82.69 23 IAmb IAmb 03 32 02.2
comp=Z,30nm,1.0s
K63A Dunstable 82.71 28 P **P** **03 32 01.3 +0.5**
baz=213
I59A Olmsteadville 82.74 26 P **P** **03 32 02.5 +1.4**
baz=211
H57A Richville 82.77 25 P **P** **03 32 02.0 +0.9**
baz=210
J61A Chester 82.86 27 P **P** **03 32 02.6 +1.0**
baz=212
I60A Shoreham 83.00 26 P **P** **03 32 03.1 +0.8**
baz=211
J62A Henniker 83.05 28 P **P** **03 32 03.8 +1.2**
baz=212
ULM Lac du Bonnet 83.08 10 P **P** **03 32 02.9 +0.3**
comp=Z,10nm,1.0s,baz=184,slow=5.9,SNR=5.7
ULM Lac du Bonnet 83.08 10 *eP* **P** **03 32 02.4 -0.2**
ULM pmax pmax
comp=Z,10.0nm,1.0s
H58A Gabriels 83.17 25 P **P** **03 32 04.2 +0.9**
baz=210,SNR=6.4
LONY Lake Ozonia 83.19 25 P **P** **03 32 04.6 +1.2**
baz=210
G57A Newington 83.47 25 P **P** **03 32 05.5 +0.8**
baz=210,SNR=8.8
I61A Oroboro, Fairl 83.49 27 P **P** **03 32 05.6 +0.7**
baz=212
H59A Cadyville 83.54 26 P **P** **03 32 05.9 +0.7**
baz=211
I62A Tamworth 83.78 28 P **P** **03 32 06.9 +0.6**
baz=213
H60A Morristown 83.84 26 P **P** **03 32 07.2 +0.6**
baz=212
G58A Ormstown 83.84 25 P **P** **03 32 07.1 +0.5**
baz=210,SNR=7.5
LBNH Lisbon 83.86 27 P **P** **03 32 07.5 +0.7**
baz=212
H61A Lyndonville 84.11 27 P **P** **03 32 08.8 +0.8**
baz=212
F57A Harrington 84.19 24 P **P** **03 32 09.8 +1.5**
baz=210
I63A Otisfield 84.22 28 P **P** **03 32 09.4 +0.8**
baz=213
E55A Montcerf-Lytto 84.28 23 P **P** **03 32 09.6 +0.8**
baz=209
H62A Milan 84.44 27 P **P** **03 32 10.7 +1.0**
baz=213
E56A St. Veronique 84.70 24 P **P** **03 32 11.5 +0.5**
baz=210,SNR=7.2
G61A St-Isidore-de- 84.89 27 P **P** **03 32 13.2 +1.2**
baz=212
E57A Chemin Saint G 84.89 24 P **P** **03 32 11.7 -0.3**
baz=210,SNR=5.8
F59A Saint-Guillaume 84.90 26 P **P** **03 32 12.5 +0.5**
baz=212
H63A New Sharon 84.95 28 P **P** **03 32 12.7 +0.4**
baz=214
D55A Sainte-Anne-du 84.97 23 P **P** **03 32 12.4 +0.1**
baz=209,SNR=7.8
E58A La Victoria 85.17 25 P **P** **03 32 13.4 +0.1**
baz=211,SNR=6.8
D56A ZEC Mazanza, M 85.23 24 P **P** **03 32 13.5 -0.2**
baz=210,SNR=7.4
F60A Warwick 85.31 26 P **P** **03 32 14.8 +0.7**
baz=212
D57A Chemin Vers le 85.51 24 P **P** **03 32 14.7 -0.3**
baz=211,SNR=6.7
D58A Chemin du LacG 85.93 25 P **P** **03 32 17.8 +0.7**
baz=211
F63A Nahmakanta, Br 86.18 28 P **P** **03 32 19.2 +0.8**
baz=214
LATQ La Tuque 86.21 25 P **P** **03 32 19.2 +0.7**
baz=211
E61A Lac Etchemin 86.25 27 P **P** **03 32 19.5 +0.7**
baz=213
LSQQ Lebel-sur-Quev 86.27 21 P **P** **03 32 19.5 +0.8**
baz=208
STKA Stephens Creek 86.60 234 P **P** **03 32 21.1 -0.1**
comp=Z,7.6nm,0.9s,baz=93,slow=6.0,SNR=11
STKA Stephens Creek 86.60 234 P **P** **03 32 21.0 -0.1**
MATQ Matagami 86.68 21 P **P** **03 32 21.4 +0.7**
baz=208
CHGQ Chibougamau 87.84 23 P **P** **03 32 26.8 +0.5**
baz=210
CTA Charters Tower 89.92 246 P **P** **03 32 38.2 +1.1**
comp=Z,5.2nm,0.9s,baz=138,slow=6.1
CTAO Charters Tower 89.92 246 P **P** **03 32 36.7 -0.4**
CTAO pmax pmax
comp=Z,19nm,1.2s
CTAO Charters Tower 89.92 246 P **P** **03 32 36.7 -0.4**
CTAO IAmb IAmb 03 32 44.2
comp=Z,19nm,1.2s
DLBC Dease Lake 91.67 350 IAmb IAmb 03 32 46.3
comp=Z,18nm,1.4s
YKA Yellowknife Ar 94.36 358 P **P** **03 32 56.6 +0.3**
comp=Z,5.3nm,1.0s,baz=169,slow=4.5,SNR=9.1
SCHQ Schefferville 94.49 24 P **P** **03 32 57.0 -0.2**
comp=Z,16nm,1.0s,baz=218,slow=4.0,SNR=5.4
ASAR Alice Springs 96.99 237 P **P** **03 33 08.7 -0.9**
comp=Z,1.4nm,0.9s,baz=128,slow=3.6,SNR=11
ASAR Alice Springs 96.99 237 P **P** **03 33 08.2 -1.4**
ASAR Alice Springs 96.99 237 P **P** **03 33 08.2 -1.4**
K27K Chicken 98.99 347 P Pdif 03 33 17.7 +0.4
baz=153
WRA Warramunga Arr 99.02 240 P **Pdif** **03 33 18.4 -0.4**
comp=Z,0.7nm,0.8s,baz=135,slow=4.1,SNR=6.5
WRA Warramunga Arr 99.02 240 P **Pdif** **03 33 18.5 -0.2**
WRA Warramunga Arr 99.02 240 P **Pdif** **03 33 18.5 -0.2**
MCK McKinley 100.22 344 P **Pdif** **03 33 23.3 +0.4**
baz=148
NEA2 Nenana 100.98 344 P **Pdif** **03 33 26.4 +0.2**
baz=148
H01W1 Cape Leeuwin H 101.10 216 T T 05 26 31.6
baz=141,slow=76,SNR=36
H01W2 Cape Leeuwin H 101.10 216 T T 05 26 37.1
baz=141,slow=76,SNR=35
H01W3 Cape Leeuwin H 101.11 216 T T 05 26 32.9
baz=141,slow=76,SNR=41
MLY Manley 101.74 344 P **Pdif** **03 33 31.1 +1.5**
baz=146
TORD Torodi Ar. Bea 115.79 90 PKP **PKPdf** **03 38 19.6 -1.0**
comp=Z,2.2nm,1.0s,baz=298,slow=2.9,SNR=8.0
TORD PP **PP** **03 39 21.7 -2.3**
comp=Z,2.7nm,1.1s,baz=248,slow=5.7,SNR=5.9
TORD Torodi Ar. Bea 115.79 90 **PKPdf** **03 38 19.3 -1.2**
BILL Bilibino 116.85 335 *i* PKIKP **PKPdf** **03 38 19.6 -1.4**
BILL pmax pmax
comp=Z,4.0nm,1.1s
SEY Seymchan 121.15 328 *i* PKIKP **PKPdf** **03 38 28.2 -1.2**
MA2 Magadan 121.30 324 *i* PKIKP **PKiKP** **03 38 30.2 +0.2**
MA2 pmax pmax
comp=Z,9.0nm,1.1s
ESDC Sonseca Array 121.72 60 PKP **PKPdf** **03 38 31.3 -0.1**
comp=Z,3.0nm,1.0s,baz=277,slow=2.6,SNR=13
ESDC PP **PP** **03 40 04.5 -0.2**
comp=Z,3.6nm,1.1s,baz=258,slow=8.3,SNR=8.6
ESDC Sonseca Array 121.72 60 PKPdf **PKPdf** **03 38 31.4 +0.1**
YSS Yuzh-Sakhalins 123.42 308 *i* PKIKP **PKiKP** **03 38 34.6 +0.1**
YSS pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 131.63 327 *i* PKIKP **PKiKP** **03 38 50.5 +0.1**
YAK pmax pmax
comp=Z,12nm,0.8s
KSRS Korea Array 132.20 293 PKP **PKiKP** **03 38 52.5 +0.1**
comp=Z,0.7nm,0.4s,baz=109,slow=3.0,SNR=2.4
NOA NORSAR Array B 132.93 34 PKP **PKiKP** **03 38 53.4 +0.2**
comp=Z,0.4nm,0.7s,baz=297,slow=1.8,SNR=1.7
DAVA Damuels 133.00 53 *eP* **PKPdf** **03 38 51.9 -0.9**
comp=Z,6.7nm,0.9s
FETA Feichten 133.56 54 *eP* **PKPdf** **03 38 54.3 +0.5**
comp=Z,9.8nm,1.0s
RETA Reutte 133.61 53 *eP* **PKPdf** **03 38 53.9 +0.1**
comp=Z,6.7nm,1.0s
MOTA Moosalm 133.84 53 *i* P **PKPdf** **03 38 54.6 +0.2**
comp=Z,16nm,0.9s,SNR=11
SQTA Sankt Quirin 133.90 53 *i* P **PKPdf** **03 38 54.5 +0.1**
comp=Z,13nm,0.9s,SNR=5.2
CTI Castel Tesino 134.14 55 PKIKP **PKPdf** **03 38 55.2 +0.3**

CTI Castel Tesino 134.14 55 **PKPdf** **03 38 55.2 +0.3**
WATA Walderalm 134.16 53 *eP* **PKPdf** **03 38 55.3 +0.3**
comp=Z,4.1nm,0.6s
WTTA Wattenberg 134.19 53 *eP* **PKPdf** **03 38 55.1 0.0**
comp=Z,9.9nm,1.0s
NKC Novy Kostel 134.76 49 *e*PKPDF **PKPdf** **03 38 56.1 +0.3**
NKC Novy Kostel 134.76 49 *e*PKIKP **PKPdf** **03 38 56.1 +0.3**
ABTA Abfaltersbach 134.77 54 *eP* **PKPdf** **03 38 55.5 -0.6**
comp=Z,7.4nm,1.1s
CLL Collm 135.07 48 *e*PKPdf **PKPdf** **03 38 56.0 -0.3**
CLL Collm 135.07 48 PKIKP **PKPdf** **03 38 56.2 -0.1**
CLL Collm 135.07 48 PKPdf **PKPdf** **03 38 56.2 -0.1**
KHC Kasperske Hory 135.51 51 *e*PKPDF **PKPdf** **03 38 57.0 -0.3**
KHC *ep*PKP **sPKPdf** **03 39 02.2 +1.7**
KHC Kasperske Hory 135.51 51 *c i* PKIKP **PKPdf** **03 38 57.0 -0.3**
KHC pmax pmax
comp=Z,12nm,1.0s
MYKA Terra Mystica 135.55 54 *eP* **PKPdf** **03 38 57.2 -0.3**
comp=Z,4.2nm,0.9s
GERES GERESS Array B 135.60 51 PKP **PKPdf** **03 38 57.5 0.0**
comp=Z,3.9nm,1.0s,baz=236,slow=0.7,SNR=17
BRG Berggiesshubel 135.68 48 *e*PKP **PKPdf** **03 38 57.8 +0.4**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 135.68 48 *e*PKIKP **PKPdf** **03 38 57.8 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.9s
MOA Molln 135.99 53 *eP* **PKPdf** **03 38 57.9 -0.2**
comp=Z,5.4nm,1.1s
OBKA Obir 136.17 54 *eP* **PKPdf** **03 38 57.9 -0.7**
comp=Z,8.4nm,1.5s
SOKA Soboth 136.51 54 *eP* **PKPdf** **03 38 59.5 +0.2**
comp=Z,4.7nm,0.9s
ARSA Arzberg 136.84 53 *eP* **PKPdf** **03 38 59.4 -0.4**
comp=Z,6.7nm,0.9s
CONA Conrad Observa 137.06 52 *eP* **PKPdf** **03 38 59.9 -0.4**
comp=Z,9.8nm,1.2s
OSTC Ostas 137.15 49 *e*PKPDF **PKiKP** **03 39 02.5 +0.4**
DPC Dobruska-Polom 137.23 49 *e*PKPDF **PKiKP** **03 39 02.6 +0.3**
DPC Dobruska-Polom 137.23 49 *e*PKIKP **PKiKP** **03 39 02.6 +0.3**
KRUC Moravsky 137.37 51 *e*PKP **PKPdf** **03 38 59.9 -0.7**
VRAC Vranov 137.48 50 *e*PKP **PKPdf** **03 38 59.6 -1.3**
NJ2 Nanjing 138.29 284 *e*PKP **PKPdf** **03 39 03.5 +0.6**
LVZ Lovozero 138.97 19 *i* PKIKP **PKPdf** **03 39 01.1 -2.0**
LVZ *i* 03 39 06.3
LVZ pmax pmax
comp=Z,87nm,1.6s
LANS Liptovska Anna 139.37 50 pmax pmax
comp=N,15nm,0.3s
FINES FINESS Array B 139.60 30 PKP **PKPdf** **03 39 04.6 +0.3**
comp=N,4.8nm,0.9s,baz=253,slow=1.5,SNR=8.7
FINES FINESS Array B 139.60 30 *e*PKIKP **PKPdf** **03 39 05.0 +0.7**
FINES pmax pmax
comp=Z,5.0nm,0.9s
BZS Buzias 141.11 56 ⇓P **PKPdf** **03 39 01.9 -5.7**
BZS Buzias 141.11 56 ⇓PKHKP PKPpre 03 39 01.9
NRIK Noril'sk 141.34 350 PKP **PKPdf** **03 39 07.7 +0.4**
comp=Z,2.2nm,0.5s,baz=89,slow=1.9,SNR=4.4
NRIK Noril'sk 141.34 350 *i* PKIKP **PKPdf** **03 39 07.7 +0.4**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
HERR Herculane 141.71 57 ⇑P **PKPdf** **03 39 01.2 -7.5**
GZR Gura Zlata 141.94 56 ⇑P **PKPdf** **03 39 03.4 -5.7**
GZR Gura Zlata 141.94 56 ⇑PKIKP **PKPdf** **03 39 03.4 -5.7**
BURAR Bucovina Array 143.37 52 ⇑P PKPbc 03 39 09.6 +0.7
BURAR Bucovina Array 143.37 52 ⇑PKIKP PKPbc 03 39 09.6 +0.8
VOIR 143.53 56 ⇑P PKPbc 03 39 09.9 +0.5
VOIR 143.53 56 ⇑PKIKP PKPbc 03 39 09.9 +0.6
KMPD K-Podol'skiy 144.02 50 PKIKP **PKPab** **03 39 10.0 -0.1**
BIZ Bicaz 144.07 53 ⇓P PKPbc 03 39 10.9 +0.1
MLR Muntele Rosu 144.15 55 ⇑P **PKPab** **03 39 10.5 -0.4**
MLR Muntele Rosu 144.15 55 ⇑PKIKP **PKPab** **03 39 10.5 -0.4**
PLOR Plostina 144.59 55 ⇓P **PKPdf** **03 39 13.8 0.0**
PLOR Plostina 144.59 55 ⇓PKIKP **PKPdf** **03 39 13.8 0.0**
VRI Vrincioaia 144.65 55 ⇓P **PKPab** **03 39 12.3 -0.3**
VRI Vrincioaia 144.65 55 ⇓PKIKP **PKPab** **03 39 12.3 -0.3**
BISRR Bisoca 144.68 55 ⇓P **PKPab** **03 39 12.3 -0.4**
RAZG Razgrad 144.73 59 ⇓P PKPbc 03 39 13.2 +0.2
GHRR 145.09 54 ⇓P **PKPdf** **03 39 14.5 -0.1**
HHC Hu-ho-hao-te 145.18 297 *e*PKPbc **PKPdf** **03 39 15.2 +0.1**
KIEV Kiev 145.25 46 PKP2 **PKPbc** **03 39 12.0 -2.4**
AKASG Malin Array Be 145.25 46 PKPbc **PKPbc** **03 39 13.6 -0.8**
comp=Z,24nm,0.8s,baz=281,slow=3.6,SNR=75
AKASG Malin Array Be 145.25 46 **PKPbc** **03 39 13.2 -1.2**
AKBB Malin Array Si 145.25 46 *c i* PKIKP **PKPbc** **03 39 13.8 -0.6**
KLMR Klimovskoe 145.31 25 *e*PKP2 **PKPbc** **03 39 12.2 -2.0**
KLMR pmax pmax
comp=Z,262nm,1.4s
KLMR Klimovskoe 145.31 25 *e*PKPdf **PKPbc** **03 39 12.3 -2.0**
KLMR AMP 03 39 16.6
comp=Z,262nm,1.4s
SORM Soroca 145.35 50 ⇑P **PKPbc** **03 39 14.3 -0.5**
SORM Soroca 145.35 50 ⇑PKIKP **PKPbc** **03 39 14.3 -0.5**
HARR Harsova 145.64 57 ⇑P **PKPab** **03 39 16.4 +0.2**
HARR Harsova 145.64 57 ⇑PKIKP **PKPab** **03 39 16.4 +0.2**
CFR Carcaliu 145.72 56 ⇓P **PKPbc** **03 39 16.0 -0.1**
CFR Carcaliu 145.72 56 ⇓PKIKP **PKPbc** **03 39 16.0 -0.1**
MILM Milestii Mici 145.90 52 ⇑P **PKPdf** **03 39 16.2 +0.3**
TIRR Tirgusor 146.01 57 ⇓P **PKPbc** **03 39 17.2 +0.2**
TIRR Tirgusor 146.01 57 ⇓PKP2 **PKPbc** **03 39 17.2 +0.2**
TLCR 146.19 56 ⇑P **PKPbc** **03 39 17.8 +0.2**
TLCR 146.19 56 ⇑PKP2 **PKPbc** **03 39 17.8 +0.2**
PURM Purcari 146.69 53 ⇓P **PKPab** **03 39 20.9 +0.8**
PRGR Permogore 146.75 20 *e*PKIKP **PKPdf** **03 39 16.4 -0.5**
PRGR pmax pmax
comp=Z,25nm,0.7s
XAN Xi'an 146.85 284 PKPbc **PKPbc** **03 39 19.7 -0.2**
XAN Xi'an 146.85 284 PKP2 **PKPbc** **03 39 19.9 0.0**
XAN Xi'an 146.85 284 **PKPbc** **03 39 19.9 0.0**
GYA Guiyang 147.00 270 PKPbc **PKPbc** **03 39 20.9 +0.2**
GYA PP **PP** **03 42 44.9 -0.8**
GYA SKKS 03 49 34.0
GYA LR LR
comp=Z,1μm,16.0s
ULN Ulaanbaatar 147.44 310 PKIKP **PKPdf** **03 39 19.0 +0.2**
ULN Ulaanbaatar 147.44 310 PKPdf **PKPdf** **03 39 19.0 +0.2**
OBN Obninsk 147.52 35 ⇓P **PKPbc** **03 39 21.4 +0.5**
OBN Obninsk 147.52 35 *ce* PKP2 **PKPbc** **03 39 20.8 -0.2**
OBN *i* 03 46 29.5
OBN pmax pmax
comp=Z,198nm,1.4s
MOS Moscow 147.69 34 *e*PKIKP **PKPdf** **03 39 18.6 0.0**
MOS pmax pmax
comp=Z,81nm,1.4s
SONM Songino Array 147.88 310 PKPbc **PKPbc** **03 39 21.7 -0.8**
comp=Z,5.3nm,0.7s,baz=101,slow=2.1,SNR=10
SONM Songino Array 147.88 310 PKIKP **PKPdf** **03 39 19.7 +0.2**
SONM Songino Array 147.88 310 PKPdf **PKPdf** **03 39 19.7 +0.2**
TLY Talaya 148.23 318 *e*PKP2 **PKiKP** **03 39 24.4 -0.4**
TLY pmax pmax
comp=Z,53nm,1.1s
ZAK Zakamensk 148.97 316 *e*PKP2 **PKPbc** **03 39 25.0 -0.1**
ZAK pmax pmax
comp=Z,14nm,1.2s
MOY Mondy 149.72 319 *e*PKP2 **PKPbc** **03 39 27.3 +0.3**
MOY pmax pmax
comp=Z,57nm,2.2s
CMAR Chiang Mai Arr 150.02 250 PKPbc **PKiKP** **03 39 29.4 0.0**
comp=Z,14nm,1.0s,baz=170,slow=1.2,SNR=43
CMAR Chiang Mai Arr 150.02 250 PKIKP **PKPdf** **03 39 23.4 -0.2**
CMAR Chiang Mai Arr 150.02 250 PKPdf **PKPdf** **03 39 23.4 -0.2**
LPSR Galich'ya Gora 150.02 38 *e*PKP2 **PKPbc** **03 39 27.0 -0.5**
LPSR pmax pmax
comp=Z,110nm,1.2s
CSS Mathiatis 150.03 75 PKPdf **PKPdf** **03 39 23.3 +0.1**
CHTO Chiang Mai 150.21 251 PKIKP **PKPdf** **03 39 23.6 -0.3**
CHTO Chiang Mai 150.21 251 PKPdf **PKPdf** **03 39 23.6 -0.3**
BRTR Keskin Array B 150.33 65 PKP **PKPdf** **03 39 23.7 0.0**
comp=Z,1.7nm,0.9s,baz=228,slow=3.7,SNR=4.9
BRTR PKPbc **PKPbc** **03 39 28.9 0.0**
comp=Z,14nm,1.0s,baz=222,slow=1.7,SNR=30
BRTR Keskin Array B 150.33 65 PKIKP **PKPbc** **03 39 28.7 -0.2**
BRTR Keskin Array B 150.33 65 PKPdf **PKPdf** **03 39 23.3 -0.4**
BRTR **PKPbc** **03 39 28.7 -0.2**
CD2 Chengdu 150.64 277 PKPbc **PKPdf** **03 39 24.0 -0.3**
VSR Storozhevoye 150.84 40 *e*PKIKP **PKPbc** **03 39 28.5 -1.0**
VSR pmax pmax
comp=Z,90nm,1.2s
VORD Divnogorie 151.03 41 *e*PKIKP **PKPbc** **03 39 28.9 -1.0**
VORD pmax pmax
comp=Z,50nm,1.3s
LZH Lanzhou 151.19 287 *e*PKPbc **PKPbc** **03 39 28.8 -2.2**
LZH LR LR
comp=Z,620nm,18.0s

LZH					LR	LR		
	comp=Z,420nm,18.2s							
LZH					LR	LR		
	comp=Z,760nm,20.3s							
DAMY	**Dhamar**	**151.36**	**122**		PKPdf	**PKPdf**	**03 39 25.4**	**-0.7**
VRH	**Novokhopyorsk**	**152.23**	**39**	*e*	PKIKP	**PKPbc**	**03 39 31.9**	**-0.8**
VRH					pmax	pmax		
	comp=Z,30nm,0.8s							
GTA	**Gaotai**	**154.25**	**295**	*e*	PKPbc	**PKPdf**	**03 39 29.0**	**-0.5**
ARU	**Arti**	**154.60**	**14**	*i*	PKIKP	**PKPdf**	**03 39 29.2**	**0.0**
ZALV	**Zalesovo Beam**	**155.52**	**337**		PKP	**PKPdf**	**03 39 30.1**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=219,slow=0.9,SNR=9.0							
ZALV					PKPab	**PKPab**	**03 39 57.1**	**+0.8**
	comp=Z,5.9nm,0.7s,baz=24,slow=3.9,SNR=9.7							
ZALV	**Zalesovo Beam**	**155.52**	**337**		PKIKP	**PKPdf**	**03 39 28.9**	**-1.6**
ZALV	**Zalesovo Beam**	**155.52**	**337**		PKPdf	**PKPdf**	**03 39 28.9**	**-1.6**
ZALV						**PKPab**	**03 39 57.2**	**+0.8**
GOF	**Gofitskoye**	**155.91**	**50⇑**	*e*	PKP2	**PKPab**	**03 39 59.7**	**+1.3**
KIV	**Kislovodsk**	**156.09**	**53**	*e*	PKIKP	**PKPdf**	**03 39 30.6**	**-1.2**
KIV					pmax	pmax		
	comp=Z,24nm,1.0s							
KBZ	**Khabaz**	**156.31**	**53**		PKP	**PKPdf**	**03 39 31.7**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=209,slow=4.1,SNR=5.0							
KBZ					PKPab	**PKPab**	**03 40 00.4**	**+0.3**
	comp=Z,11nm,1.0s,baz=231,slow=4.7,SNR=6.6							
WMQ	**Urumqi**	**161.41**	**314**	*e*	PKP	**PKPdf**	**03 39 38.7**	**+0.6**
WMQ					LR	LR		
	comp=Z,370nm,20.1s							
WMQ					LR	LR		
	comp=Z,610nm,18.1s							
WMQ					LR	LR		
	comp=Z,420nm,18.1s							
ABKAR	**Akbulak array**	**161.53**	**20**		PKPdf	**PKPdf**	**03 39 38.4**	**+0.4**
MKAR	**Makanchi Array**	**162.28**	**329**		PKP	**PKPdf**	**03 39 37.4**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=0.0,slow=5.8,SNR=5.2							
MKAR						**PKPab**	**03 40 26.4**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=53,slow=4.9,SNR=6.2							
GEYT	**Alibeck**	**169.20**	**55**		PKP	**PKPdf**	**03 39 43.6**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=238,slow=2.7,SNR=4.5							
GEYT	**Alibeck**	**169.20**	**55**			**PKPdf**	**03 39 43.4**	**-1.4**

GII ***09*** *03:27:39.3±0.2, 34.75N×29.09E, h30km*
NIC ***09*** *03:27:43.9±0.0, 34.77N×29.21E, h30km±4km, MI2.8/2*
DDA ***09*** *03:27:45.7, 35.02N×29.15E, h35km±6km, ML2.7*

ISC 09 03:27:36.0±1.7, 34.78N±0.04×29.14E±0.06, h2km±13km, n26, σ1°80/39, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**1.41**	**15**	P	**Pb**	**03 28 06.9**	**+3.8**
KSL				S	**Sn**	**03 28 25.7**	**+3.9**
AKAS	**Kas**	**1.50**	**15**	*i* P	**Pb**	**03 28 08.4**	**+3.9**
AKAS				*i* S	**Sb**	**03 28 23.0**	**-1.1**
AKUM	**Antalya-Kumluc**	**1.82**	**32**	*i* P	**Pg**	**03 28 11.5**	**+0.6**
AKUM				*i* S	**Sn**	**03 28 31.5**	**-0.5**
AKUM				IAML		03 28 32.0	
	comp=E,70nm,1.3s						
FETY	**Fethiye**	**1.85**	**359**	*i* P	**Pg**	**03 28 11.7**	**+0.3**
FETY				*i* S	**Sn**	**03 28 29.8**	**-2.9**
ELL	**Elmali**	**2.06**	**18**	P	**Pg**	**03 28 16.7**	**+1.3**
DALY	**Dalyan (Mula)**	**2.07**	**349**	*i* P	**Pg**	**03 28 15.0**	**-0.6**
DALY				IAML		03 28 39.0	
	comp=N,52nm,0.6s						
OSC1	**CSNet OBS 1**	**2.19**	**125**	P	**Pg**	**03 28 17.4**	**-0.5**
OSC1				S	**Sb**	**03 28 43.2**	**-0.6**
DAT	**Datca**	**2.32**	**327**	*i* P	**Pb**	**03 28 18.5**	**0.0**
GOLH	**Golhisar**	**2.47**	**8**	*i* P	**Pg**	**03 28 21.9**	**-1.5**
GOLH				*i* S	**Sn**	**03 28 47.0**	**-1.2**
GOLH				IAML		03 28 52.0	
	comp=N,47nm,0.6s						
GOLH				IAML		03 28 54.0	
	comp=E,114nm,0.4s						
AKMS	**Akamas**	**2.64**	**84**	P	**Pb**	**03 28 23.6**	**-0.4**
AKMS				S	**Sb**	**03 28 54.6**	**-2.2**
AKMS				AML	AML	03 28 55.5	
	comp=E,0.1nm,0.3s						
AKMS				AML	AML	03 28 55.5	
	comp=E,0.1nm,0.3s						
AKMS				AML	AML	03 28 56.6	
	comp=E,0.1nm,0.5s						
AKMS				AML	AML	03 28 56.6	
	comp=E,0.1nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.69**	**356**	*i* P	**Pb**	**03 28 22.1**	**-2.7**
TAVA				*i* S	**Sn**	**03 28 52.8**	**-0.5**
TAVA				IAML		03 29 04.0	
	comp=N,18nm,0.4s						
TAVA				IAML		03 29 06.0	
	comp=E,56nm,0.4s						
ALFC	**Alefka**	**2.87**	**82**	P	**Pb**	**03 28 27.2**	**-0.6**
ALFC				S	**Sb**	**03 29 01.0**	**-2.4**
ALFC				AML	AML	03 29 02.1	
	comp=E,0.1nm,0.2s						
ALFC				AML	AML	03 29 02.1	
	comp=E,0.1nm,0.2s						
ALFC				AML	AML	03 29 04.0	
	comp=E,0.1nm,0.3s						
ALFC				AML	AML	03 29 04.0	
	comp=E,0.1nm,0.3s						
KEPZ	**Antalya-Kepez**	**2.91**	**43**	*i* P	**Pn**	**03 28 23.9**	**+0.6**
KEPZ				IAML		03 29 08.0	
	comp=N,35nm,0.6s						
KEPZ				IAML		03 29 10.0	
	comp=E,90nm,0.3s						
GAZI	**Gazipasa**	**2.97**	**60**	*i* P	**Pb**	**03 28 28.8**	**-0.8**
GAZI				*i* S	**Sn**	**03 28 58.5**	**-1.8**
GAZI				IAML		03 29 02.0	
	comp=E,32nm,0.6s						
GAZI				IAML		03 29 15.0	
	comp=N,43nm,0.7s						
SZAC	**Soumi**	**3.08**	**89**	P	**Pb**	**03 28 30.9**	**-0.7**
OSC2	**CSNet OBS 4**	**3.11**	**122**	S	**Sn**	**03 29 07.3**	**+3.7**
ASGA	**Asgata**	**3.38**	**89**	S	**Sn**	**03 29 13.1**	**+2.6**
MMA0B	**Mount Meron ar**	**5.50**	**107**	Pn	**Pn**	**03 28 59.7**	**+0.8**
MMA0B				Sn	**Sn**	**03 30 02.2**	**-0.6**
SLTI	**Sal'it**	**5.54**	**116**	Sn	**Sn**	**03 30 03.6**	**-0.2**
GEM	**Giv'at Ha'Em**	**5.64**	**104**	Sn	**Sn**	**03 30 06.3**	**+0.1**
NATI	**Neve Ativ**	**5.69**	**104**	Sn	**Sn**	**03 30 07.3**	**+0.1**
MMLI	**Mount Malkishu**	**5.74**	**112**	Sn	**Sn**	**03 30 08.7**	**0.0**
HMDT	**Nahal Hemdat**	**5.90**	**114**	Sn	**Sn**	**03 30 12.2**	**-0.4**
YTIR	**Yattir**	**6.07**	**123**	Pn	**Pn**	**03 29 08.1**	**+1.4**
YTIR				Sn	**Sn**	**03 30 16.5**	**-0.3**
DSI	**Dead Sea**	**6.14**	**120**	Sn	**Sn**	**03 30 18.8**	**+0.5**
PRNI	**Paran**	**6.63**	**130**	Pn	**Pn**	**03 29 16.2**	**+1.7**
PRNI				Sn	**Sn**	**03 30 29.2**	**-1.5**

IDC 09 03:33:22.3±4.5, 21.29S×176.29W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/37, mbtmp3.9/5, Error ellipse: s-maj=162.3km s-min=75.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.01**	**265**	P	P	03 40 18.6	+1.8
	1.7nm,0.5s,baz=79,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**38.90**	**245**	P	P	03 40 49.9	+0.1
	0.8nm,0.4s,baz=112,slow=5.4,SNR=1.6						
ASAR	**Alice Springs**	**45.90**	**257**	P	P	03 41 46.6	-0.4
	1.1nm,0.8s,baz=92,slow=8.0,SNR=9.4						
WRA	**Warramunga Arr**	**46.08**	**262**	P	P	03 41 47.6	-0.8
	0.6nm,0.5s,baz=100,slow=8.0,SNR=8.6						
FITZ	**Fitzroy Crossi**	**54.51**	**262**	P	P	03 42 51.4	-0.9
	0.5nm,0.4s,baz=100,slow=6.1,SNR=1.7						
H03N2	**Juan Fernandez**	**84.37**	**124**	T	T	05 18 58.9	
	baz=239,slow=76,SNR=7.3						
H03N3	**Juan Fernandez**	**84.37**	**124**	T	T	05 18 58.9	
	baz=239,slow=76,SNR=14						
H03N1	**Juan Fernandez**	**84.39**	**124**	T	T	05 19 02.5	
	baz=239,slow=76,SNR=14						
AKASG	**Malin Array Be**	**144.46**	**332**	PKP	PKPdf	03 53 00.2	-0.3
	0.3nm,0.4s,baz=62,slow=2.6,SNR=1.8						

NEIC ***09*** *03:34:25.1±2.5, 32.75S±0.2×110.8W±0.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=36.4km s-min=29.7km az=213.0*
IDC ***09*** *03:34:25.3±1.5, 32.49S×111.01W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/29, mbtmp3.7/5, Error ellipse: s-maj=51.0km s-min=30.7km az=42.0*

ISC 09 03:34:25.0±1.5, 32.8S±0.3×110.9W±0.2, h10km, n30, σ1°20/20, mb4.2/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**26.67**	**101**	T	T	04 08 02.7	
	baz=264,slow=74,SNR=9.8						
H03S3	**Juan Fernandez**	**26.68**	**101**	T	T	04 08 09.2	
	baz=264,slow=74,SNR=4.8						
H03S1	**Juan Fernandez**	**26.68**	**101**	T	T	04 08 03.2	
	baz=264,slow=74,SNR=4.7						
H03N2	**Juan Fernandez**	**26.71**	**100**	T	T	04 07 49.5	
	baz=268,slow=73,SNR=58						
H03N3	**Juan Fernandez**	**26.71**	**100**	T	T	04 07 50.8	
	baz=268,slow=73,SNR=15						
H03N1	**Juan Fernandez**	**26.73**	**100**	T	T	04 07 48.2	
	baz=268,slow=73,SNR=72						
PLCA	**Paso Flores**	**33.04**	**116**	P	P	03 41 05.5	+4.8
	1.4nm,0.6s,baz=256,slow=9.4,SNR=3.6						
PLCA	**Paso Flores**	**33.04**	**116**	P	**P**	**03 41 00.7**	**0.0**
AC05	**El Transito**	**34.94**	**95**	P	**P**	**03 41 18.9**	**+1.5**
MNMC	**Minye Minye**	**39.27**	**80**	P	**P**	**03 41 52.1**	**-2.3**
MNMC				IAmb	IAmb	03 42 04.3	
	comp=Z,25nm,1.8s						
GO01	**Chusmiza**	**39.35**	**81**	P	**P**	**03 41 53.9**	**-1.5**
GO01				IAmb	IAmb	03 42 10.3	
	comp=Z,16nm,1.8s						
LPAZ	**La Paz**	**41.89**	**77**	P	**P**	**03 42 17.9**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=208,slow=5.6,SNR=5.8						
LPAZ	**La Paz**	**41.89**	**77**	P	**P**	**03 42 15.1**	**-1.4**
SAML	**Samuel**	**49.94**	**73**	P	**P**	**03 43 18.1**	**-1.2**
SAML				IAmb	IAmb	03 43 20.5	
	comp=Z,4.9nm,1.3s						
TXAR	**Lajitas Array**	**62.13**	**7**	P	**P**	**03 44 47.3**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=174,slow=9.9,SNR=2.2						
TXAR	**Lajitas Array**	**62.13**	**7**	P	**P**	**03 44 46.8**	**+0.5**
NVAR	**Mina Array Bea**	**71.17**	**354**	P	**P**	**03 45 45.2**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=186,slow=7.3,SNR=7.7						
NVAR	**Mina Array Bea**	**71.17**	**354**	P	**P**	**03 45 44.5**	**+0.5**
WDC	**Whiskeytown Da**	**73.77**	**351**	P	**P**	**03 45 59.9**	**+0.6**
WDC				IAmb	IAmb	03 46 05.3	
	comp=Z,3.2nm,0.9s						
AHID	**Auburn Hatcher**	**75.16**	**360**	P	**P**	**03 46 05.7**	**-1.8**
AHID				IAmb	IAmb	03 46 06.5	
	comp=Z,5.6nm,1.3s						
PD31	**Pinedale Array**	**75.17**	**1**	P	**P**	**03 46 07.3**	**-0.4**
PDAR	**Pinedale Array**	**75.17**	**1**	P	**P**	**03 46 06.5**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=218,slow=5.7,SNR=2.3						
PDAR	**Pinedale Array**	**75.17**	**1**	P	**P**	**03 46 06.7**	**-1.0**
H01W1	**Cape Leeuwin H**	**100.53**	**216**	T	T	05 41 23.2	
	baz=141,slow=76,SNR=4.8						
H01W2	**Cape Leeuwin H**	**100.54**	**216**	T	T	05 41 24.1	
	baz=141,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**100.55**	**216**	T	T	05 41 21.7	
	baz=141,slow=76,SNR=5.2						
AKASG	**Malin Array Be**	**145.76**	**46**	PKPbc	**PKPab**	**03 54 04.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=283,slow=3.8,SNR=5.0						
AKASG	**Malin Array Be**	**145.76**	**46**		**PKPbc**	**03 54 03.9**	**0.0**
CMAR	**Chiang Mai Arr**	**149.70**	**249**	PKPbc	**PKiKP**	**03 54 16.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=253,slow=1.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**149.70**	**249**		**PKiKP**	**03 54 15.9**	**-0.7**

IPEC ***09*** *03:38:41.9±0.2, 49.80N×18.57E, h0km, ML1.8/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*

PRU 09 03:38:42.5±0.0, 49.80N×18.48E, h0km, 1C-1D, Mining Induced Event Csm, E=8.4e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.61**	**268**	⇑P	Pn	03 39 03.2	+4.7
MORC	**Moravsky Berou**	**0.61**	**268**	*e* PG	Pg	03 38 54.9	+0.8
MORC				*e* SG	Sg	03 39 02.7	+0.7
MORC	**Moravsky Berou**	**0.61**	**268**	*e* Pg	Pg	03 38 54.8	+0.7
	baz=87						
MORC				*e* Sg	Sg	03 39 02.7	+0.7
	22nm,0.3s,baz=87						
LANS	**Liptovska Anna**	**0.92**	**135**	*e* PG	Pg	03 38 59.3	-0.7
LANS				*e* SG	Sg	03 39 12.9	+1.0
LANS				*e* LG	Lg	03 39 17.8	
JAVC	**Velka Javorina**	**1.08**	**210**	*e* PG	Pg	03 39 03.6	+0.4
JAVC	**Velka Javorina**	**1.08**	**210**	*e* Pg	Pg	03 39 03.5	+0.3
	baz=32						
KRLC	**Kraliky**	**1.13**	**285**	*e* PG	Pg	03 39 02.9	-1.3
KRLC				*e* SG	Sg	03 39 19.3	+0.5
	comp=Z,12nm,0.3s						
VRAC	**Vranov**	**1.32**	**249**	⇓P	Pg	03 39 06.7	-1.1
VRAC	**Vranov**	**1.32**	**249**	*e* PG	Pg	03 39 07.6	-0.2
VRAC				*e* SG	Sg	03 39 25.0	0.0
VRAC	**Vranov**	**1.32**	**249**	*e* Pg	Pg	03 39 07.5	-0.3
	baz=68						
VRAC				*e* Sg	Sg	03 39 25.0	0.0
	11nm,0.3s,baz=68						
VYHS	**Vyhne**	**1.33**	**170**	*e* PG	Pg	03 39 07.0	-0.9
VYHS				*e* SG	Sb	03 39 25.7	-0.1
DPC	**Dobruska-Polom**	**1.50**	**292**	*e* PG	Pn	03 39 10.0	-0.7
DPC				*e* SG	Sg	03 39 30.6	+0.1
	comp=Z,5.6nm,0.4s						
KRUC	**Moravsky**	**1.55**	**242**	*e* PG	Pn	03 39 11.1	-0.2
KRUC				*e* SG	Sg	03 39 32.4	+0.2
KRUC	**Moravsky**	**1.55**	**242**	*e* Pg	Pn	03 39 11.0	-0.3
	baz=62						
KRUC				*e* Sg	Sg	03 39 32.3	+0.1
	11nm,0.2s,baz=62						
MODS	**Modra-Piesok**	**1.63**	**209**	*e* PG	Pn	03 39 11.1	-1.4
MODS				*e* SG	Sn	03 39 32.5	-1.7
OSTC	**Ostas**	**1.64**	**298**	*e* PG	Pn	03 39 12.7	+0.1
OSTC				*e* SG	Sn	03 39 34.4	0.0
UPC	**Upice**	**1.74**	**295**	*e* PG	Pn	03 39 13.9	0.0
UPC				*e* SG	Sg	03 39 38.0	-0.3
	comp=Z,6.9nm,0.6s						
CHVC	**Chvalec**	**1.75**	**298**	*e* PG	Pn	03 39 14.1	0.0
CHVC				*e* SG	Sb	03 39 38.1	+0.2
GOPC	**GO Pecny, Ondr**	**2.39**	**274**	*e* SG	Sg	03 39 58.7	-0.6
PRU	**Pruhonice**	**2.55**	**276**	*e* SG	Sg	03 40 03.6	-0.9
KHC	**Kasperske Hory**	**3.27**	**260**	*e* PG	Pb	03 39 42.4	+1.1
KHC				*e* SG	Sg	03 40 26.9	-0.5
	comp=Z,2.4nm,0.4s						

IDC ***09*** *03:48:55.9±0.6, 32.41S×111.13W, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.4/26, mbtmp4.3/19, ML4.4/1, MS4.6/1, Ms1 4.6/1, ms1mx4.3/22, Error ellipse: s-maj=18.3km s-min=14.7km az=98.0*
NEIC ***09*** *03:48:57.7±0.8, 32.51S±0.09×110.92W±0.2, h10km±1km, mb4.8/76, Error ellipse: s-maj=24.1km s-min=15.1km az=282.0*

ISC 09 03:48:57.2±0.4, 32.50S±0.07×111.0W±0.1, h10km, n153, σ1°32/134, mb4.7/43, 8C-8D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**5.54**	**15**	Pn	**Pn**	**03 50 18.3**	**-1.5**
	12nm,0.3s,baz=214,slow=19,SNR=7.1						
RPN				Sn	**Sn**	**03 51 24.4**	**+0.9**
	1.3nm,0.3s,baz=232,slow=23,SNR=1.5						
RPN				LR	LR	03 52 02.7	
	comp=Z,6μm,18.9s,baz=166,slow=34						
H03S2	**Juan Fernandez**	**26.81**	**102**	T	T	04 22 56.5	
	baz=262,slow=75,SNR=107						
H03S3	**Juan Fernandez**	**26.82**	**102**	T	T	04 22 55.9	
	baz=262,slow=75,SNR=87						
H03S1	**Juan Fernandez**	**26.82**	**102**	T	T	04 22 52.1	
	baz=262,slow=75,SNR=113						
H03N2	**Juan Fernandez**	**26.85**	**101**	T	T	04 22 48.3	
	baz=267,slow=73,SNR=333						
H03N3	**Juan Fernandez**	**26.85**	**101**	T	T	04 22 49.5	
	baz=267,slow=73,SNR=343						
H03N1	**Juan Fernandez**	**26.86**	**101**	T	T	04 22 53.2	
	baz=267,slow=73,SNR=396						
BI03	**Tigo**	**31.37**	**109**	P	**P**	**03 55 18.1**	**-0.1**
BI02	**San Fabin de**	**32.79**	**108**	P	**P**	**03 55 30.4**	**-0.4**
BI02				IAmb	IAmb	03 55 38.2	
	comp=Z,16nm,1.0s						
PLCA	**Paso Flores**	**33.24**	**116**	P	**P**	**03 55 35.6**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=253,slow=7.2,SNR=9.5						
PLCA	**Paso Flores**	**33.24**	**116**	P	**P**	**03 55 34.5**	**-0.2**
PLCA				IAmb	IAmb	03 55 36.2	
	comp=Z,8.9nm,0.9s						
BO02	**Sierra Bellavi**	**33.39**	**105**	P	**P**	**03 55 35.5**	**-0.5**
BO02				IAmb	IAmb	03 55 43.7	
	comp=Z,17nm,0.9s						
VA03	**San Esteban**	**33.90**	**102**	P	**P**	**03 55 40.3**	**-0.3**
AC05	**El Transito**	**35.05**	**95**	P	**P**	**03 55 50.2**	**-0.4**
AC05				IAmb	IAmb	03 56 08.2	
	comp=Z,20nm,1.1s						
AC01	**Pan de Azucar**	**35.61**	**90**	P	**P**	**03 55 55.0**	**-0.3**
AC02	**Maricunga**	**36.63**	**92**	P	**P**	**03 56 03.7**	**-0.8**
AC02				IAmb	IAmb	03 56 17.1	
	comp=Z,25nm,1.2s						
USHA	**Ushuaia**	**37.22**	**140**	P	**P**	**03 56 09.9**	**+1.3**
	comp=Z,14nm,0.5s,baz=293,slow=2.4,SNR=2.4						
LVC	**Limon Verde**	**38.37**	**86**	P	**P**	**03 56 20.4**	**+1.3**
	comp=Z,5.2nm,0.9s,baz=303,slow=8.5,SNR=3.9						
LVC	**Limon Verde**	**38.37**	**86**	P	**P**	**03 56 18.5**	**-0.6**
LVC				IAmb	IAmb	03 56 36.7	
	comp=Z,15nm,1.1s						
PB09	**IPOC Station P**	**38.42**	**85**	P	**P**	**03 56 19.0**	**-0.4**
PB09				IAmb	IAmb	03 56 25.4	
	comp=Z,26nm,1.1s						
PSGCX	**Pisagua**	**38.66**	**81**	P	**P**	**03 56 21.1**	**-0.2**
PSGCX				IAmb	IAmb	03 56 28.2	
	comp=Z,22nm,1.3s						
PB08	**IPOC Station P**	**39.22**	**82**	P	**P**	**03 56 25.8**	**-0.6**
MNMC	**Minye Minye**	**39.32**	**81**	P	**P**	**03 56 26.6**	**-0.4**
ATAH	**Atahualpa**	**39.41**	**57**	P	**P**	**03 56 29.8**	**+1.8**
	comp=Z,2.5nm,0.6s,baz=233,slow=10,SNR=1.5						
LPAZ	**La Paz**	**41.92**	**78**	P	**P**	**03 56 50.1**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=248,slow=5.9,SNR=9.9						
LPAZ	**La Paz**	**41.92**	**78**	P	**P**	**03 56 48.1**	**-0.8**
PMSA	**Palmer Station**	**43.08**	**153**	P	**P**	**03 56 59.6**	**+2.5**
	comp=Z,3.0nm,0.6s,baz=290,slow=23,SNR=7.3						
PMSA	**Palmer Station**	**43.08**	**153**	P	**P**	**03 56 57.3**	**+0.3**
PMSA				IAmb	IAmb	03 57 05.0	
	comp=Z,46nm,1.8s						
OTAV	**Otavalo**	**44.74**	**50**	P	**P**	**03 57 11.2**	**-0.4**
PUAC	**Puerto Asis, P**	**46.21**	**52**	*e* P	**P**	**03 57 25.3**	**+2.7**
CPUP	**Villa Florida**	**46.73**	**97**	P	**P**	**03 57 29.6**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=238,slow=13,SNR=2.3						
CPUP	**Villa Florida**	**46.73**	**97**	P	**P**	**03 57 26.6**	**-0.1**
BBAC	**Balboa, Cauca**	**46.87**	**49**	*e* P	P	03 57 37.7	+10
PTLC	**Puerto Leguiza**	**47.12**	**54**	*e* P	P	03 57 24.3	-5.5
SOTA	**Rioblanco**	**47.37**	**50**	*e* P	**P**	**03 57 36.5**	**+4.2**
FLOC	**Florencia**	**47.58**	**52**	*e* P	**P**	**03 57 36.2**	**+2.8**
POPC	**Popayan, Colom**	**47.63**	**50**	*e* P	**P**	**03 57 33.4**	**-0.7**
PCON	**Cinco Dias**	**47.65**	**50**	*e* P	**P**	**03 57 33.4**	**-1.2**
YOTC	**Yotoco, Valle**	**48.95**	**49**	*e* P	**P**	**03 57 40.4**	**-3.7**
ORTC	**Ortega, Tolima**	**49.59**	**50**	*e* P	**P**	**03 57 49.8**	**+0.9**
SAML	**Samuel**	**49.95**	**73**	P	**P**	**03 57 51.3**	**-0.3**
TOLC	**Tolima**	**50.06**	**49**	*e* P	**P**	**03 57 54.1**	**+1.3**
CMAN1	**Manizales, Cal**	**50.30**	**49**	*e* P	P	03 57 59.6	+5.0
GUY2C	**Guyana, Caldas**	**50.52**	**49**	*e* P	**P**	**03 57 54.7**	**-1.7**
CBOC	**Ciudad Bolivar**	**50.60**	**48**	*e* P	**P**	**03 57 57.1**	**+0.3**
ROSC	**El Rosal**	**50.90**	**50**	P	**P**	**03 58 01.3**	**+2.0**
	comp=Z,2.8nm,0.4s,baz=208,slow=4.4,SNR=5.9						
ROSC	**El Rosal**	**50.90**	**50**	*e* P	**P**	**03 58 01.9**	**+2.6**
ROSC	**El Rosal**	**50.90**	**50**	P	**P**	**03 57 58.9**	**-0.3**
CHIC	**Chingaza**	**51.12**	**51**	*e* P	**P**	**03 58 00.5**	**-0.5**
SPBC	**San Pablo de B**	**51.67**	**50**	*e* P	**P**	**03 58 05.0**	**+0.3**
PTBC	**PUERTO BERRIO,**	**52.10**	**49**	*e* P	**P**	**03 58 05.8**	**-2.0**
RUSC	**La Rusia**	**52.49**	**50**	*e* P	**P**	**03 58 08.8**	**-2.5**
ZARC	**Zaragoza, Cauc**	**52.58**	**47**	*e* P	P	03 58 05.8	-5.5
QSPA	**South Pole Qui**	**57.69**	**180**	P	**P**	**03 58 48.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=124,slow=1.9,SNR=5.3						
QSPA	**South Pole QUI**	**57.69**	**180**	P	**P**	**03 58 48.4**	**+0.6**
QSPA				IAmb	IAmb	03 58 59.5	
	comp=Z,17nm,1.3s						
VNDA	**Vanda**	**57.93**	**195**	P	**P**	**03 58 49.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=136,slow=6.6,SNR=1.9						
BDFB	**Brasilia**	**59.11**	**89**	P	**P**	**03 58 58.5**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=232,slow=8.7,SNR=4.4						
BDFB	**Brasilia**	**59.11**	**89**	P	**P**	**03 58 58.1**	**-0.3**
TXAR	**Lajitas Array**	**61.88**	**7**	P	**P**	**03 59 16.6**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=178,slow=7.1,SNR=5.0						
TXAR	**Lajitas Array**	**61.88**	**7**		**P**	**03 59 17.7**	**+0.8**
VNA3	**Neumayer Olymp**	**63.10**	**159**	P	**P**	**03 59 23.8**	**-0.8**
JCT	**Junction City**	**63.52**	**11**	P	**P**	**03 59 28.6**	**+0.8**
VNA2	**Neumayer--Watz**	**63.91**	**159**	P	**P**	**03 59 29.3**	**-0.6**
	baz=264,slow=5.0						
MNTX	**Cornudas Mount**	**64.07**	**5**	P	**P**	**03 59 32.2**	**+0.9**
MNTX				IAmb	IAmb	03 59 40.7	
	comp=Z,5.2nm,1.1s						
TUC	**Tucson**	**64.46**	**0**	P	**P**	**03 59 34.7**	**+0.7**
TUC				IAmb	IAmb	03 59 41.2	
	comp=Z,7.3nm,1.1s						
SNAA	**Sanae**

STKA	**Stephens Creek**	**86.23**	**234**	P		**P**		**04 01 40.4**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=142,slow=5.6,SNR=5.2								
STKA	**Stephens Creek**	**86.23**	**234**	P		**P**		**04 01 39.9**	**+0.5**
ASAR	**Alice Springs**	**96.63**	**237**	P		**P**		**04 02 29.7**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=120,slow=4.0,SNR=2.5								
ASAR	**Alice Springs**	**96.63**	**237**	P		**P**		**04 02 28.4**	**+0.4**
WRA	**Warramunga Arr**	**98.67**	**240**	P		Pdif		04 02 38.3	+1.0
	comp=Z,0.3nm,0.7s,baz=135,slow=4.2,SNR=6.3								
WRA	**Warramunga Arr**	**98.67**	**240**	P		**P**		**04 02 37.5**	**+0.3**
H01W1	**Cape Leeuwin H**	**100.69**	**216**	T		T		05 55 33.4	
	baz=141,slow=76,SNR=8.2								
H01W2	**Cape Leeuwin H**	**100.70**	**216**	T		T		05 55 36.6	
	baz=141,slow=76,SNR=9.1								
H01W3	**Cape Leeuwin H**	**100.71**	**216**	T		T		05 55 37.4	
	baz=141,slow=76,SNR=6.7								
TORD	**Torodi Ar. Bea**	**115.99**	**91**	PKP		**PKPdf**		**04 07 38.9**	**-2.1**
	comp=Z,0.9nm,1.1s,baz=270,slow=4.2,SNR=3.5								
ESDC	**Sonseca Array**	**122.06**	**61**	PKP		**PKPdf**		**04 07 50.9**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=298,slow=2.8,SNR=4.0								
CLL	**Collm**	**135.46**	**48**	*e*PKPdf		**PKiKP**		**04 08 21.0**	**+2.4**
KHC	**Kasperske Hory**	**135.89**	**51**	*e*PKPDF		**PKPdf**		**04 08 17.1**	**-0.9**
GERES	**GERESS Array B**	**135.98**	**51**	PKP		**PKPdf**		**04 08 17.7**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=232,slow=1.1,SNR=4.2								
GERES	**GERESS Array B**	**135.98**	**51**			**PKPdf**		**04 08 17.9**	**-0.3**
IDI	**Anoyia**	**143.48**	**73**	⇑P		**PKPdf**		**04 08 33.9**	**+1.7**
ARR	**Arges**	**143.60**	**56**	⇑P		**PKPdf**		**04 08 31.4**	**-0.8**
BURAR	**Bucovina Array**	**143.74**	**52**	⇑P		PKPab		04 08 28.5	-0.7
VOIR		**143.89**	**56**	⇓P		**PKPdf**		**04 08 32.8**	**+0.1**
DOPR	**Dopca**	**144.07**	**55**	⇓P		PKPab		04 08 30.3	-0.2
OZUR		**144.33**	**55**	⇑P		**PKPab**		**04 08 30.5**	**-1.0**
BIZ	**Bicaz**	**144.44**	**53**	⇑P		**PKPab**		**04 08 31.0**	**-0.7**
NEHR	**Nehoiu**	**144.76**	**56**	⇓P		**PKPab**		**04 08 30.8**	**-2.2**
VRI	**Vrancioaia**	**145.01**	**54**	⇓P		**PKPab**		**04 08 33.2**	**-0.8**
AKASG	**Malin Array Be**	**145.64**	**46**	PKPbc		**PKPdf**		**04 08 33.5**	**-1.9**
	comp=Z,4.6nm,0.7s,baz=282,slow=3.6,SNR=8.4								
AKASG	**Malin Array Be**	**145.64**	**46**	PKPdf		**PKPdf**		**04 08 33.2**	**-2.2**
SORM	**Soroca**	**145.72**	**51**	⇑P		**PKPdf**		**04 08 34.9**	**-0.7**
HARR	**Harsova**	**146.00**	**57**	⇓P		**PKPdf**		**04 08 32.1**	**-4.1**
CFR	**Carcaliu**	**146.08**	**56**	⇓P		**PKPdf**		**04 08 34.3**	**-2.0**
TIRR	**Tirgusor**	**146.37**	**57**	⇑P		**PKPab**		**04 08 39.3**	**+0.3**
SONM	**Songino Array**	**147.95**	**310**	PKPbc		**PKPdf**		**04 08 40.0**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=116,slow=37,SNR=2.5								
SONM	**Songino Array**	**147.95**	**310**	PKPdf		**PKPdf**		**04 08 39.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**149.71**	**250**	PKPbc		**PKPbc**		**04 08 46.6**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=138,slow=18,SNR=3.1								
CMAR	**Chiang Mai Arr**	**149.71**	**250**	PKPdf		**PKPdf**		**04 08 42.6**	**-0.6**
BRTR	**Keskin Array B**	**150.66**	**66**	PKPbc		**PKPbc**		**04 08 48.5**	**-1.2**
	comp=Z,4.4nm,1.1s,baz=169,slow=1.3,SNR=9.2								
BRTR	**Keskin Array B**	**150.66**	**66**	PKPdf		**PKPdf**		**04 08 44.0**	**-0.2**
LZH	**Lanzhou**	**151.10**	**287**	*e*PKPbc		**PKPdf**		**04 08 44.8**	**-0.3**
LZH				pPKP		pPKPdf		04 08 48.1	+0.7
LZH				sPKP				04 08 49.3	
LZH				PKPbc		**pPKPab**		**04 09 01.2**	**+0.2**
ZALV	**Zalesovo Beam**	**155.77**	**337**	PKPab		**PKPab**		**04 09 18.1**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=64,slow=5.0,SNR=4.5								
MKAR	**Makanchi Array**	**162.48**	**328**	PKPab		**PKPab**		**04 09 49.7**	**+2.8**
	comp=Z,1.1nm,0.9s,baz=38,slow=6.1,SNR=3.9								

WEL 09 03:59:37.7,44°S±1°×17°2E±°, h5km±2km, M2.8/14, ML2.9/14, mb1mx4.0/25, mbtmp4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=134.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.32**	**333**	P	Pb	03 59 45.5	-0.3
MQZ	**McQueen's Vall**	**0.32**	**108**	P	Pb	03 59 45.7	-0.1
WACZ	**Wakanui South**	**0.44**	**220**	P	Pb	03 59 48.8	+0.9
MHCZ	**Mount Hutt**	**0.49**	**279**	P	Pb	03 59 49.3	+0.5
AMCZ	**Amberley**	**0.53**	**35**	P	Pb	03 59 50.2	+0.8
AKCZ	**Akaroa Harbour**	**0.56**	**118**	P	Pb	03 59 50.4	+0.5
OKCZ	**Okains Bay**	**0.61**	**101**	P	Pb	03 59 51.4	+0.6
LTZ	**Lake Taylor**	**0.83**	**2**	P	Pn	03 59 55.4	-0.6
ARCZ	**Arundel**	**0.84**	**246**	P	Pn	03 59 55.5	-0.6
RPZ	**Rata Peaks**	**0.86**	**263**	P	Pn	03 59 56.1	-0.4
GVZ	**Greta Valley S**	**0.87**	**43**	P	Pn	03 59 56.4	-0.1
INZ	**Inchbonnie**	**1.06**	**327**	P	Pn	03 59 59.6	+0.6
WVZ	**Waitaha Valley**	**1.22**	**296**	P	Pn	04 00 02.0	+0.8
GCSZ	**Gaunt Creek Bo**	**1.42**	**281**	P	Pg	04 00 05.1	+0.3
KHZ	**Kahutara**	**1.53**	**39**	P	Pn	04 00 05.5	-0.1
LBZ	**Lake Benmore**	**1.67**	**242**	P	Pn	04 00 08.1	+0.5
FOZ	**Fox Glacier**	**1.76**	**272**	P	Pb	04 00 10.6	+0.2
ODZ	**Otahua Downs**	**1.83**	**218**	P	Pn	04 00 09.8	0.0
DSZ	**Denniston Nort**	**1.89**	**350**	P	Pg	04 00 14.1	+0.3
THZ	**Tophouse**	**1.91**	**15**	P	Pn	04 00 10.8	-0.1
JCZ	**Jackson Bay**	**2.54**	**258**	P	Pn	04 00 20.9	+1.3
WHZ	**Wether Hill Ro**	**3.81**	**232**	P	Pn	04 00 36.5	-0.5

*IDC **09** 04:01:28.1±0.8, 32°.34S×110°.95W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/25, mbtmp4.0/8, Error ellipse: s-maj=34.9km s-min=21.0km az=97.0*
*NEIC **09** 04:01:29.1±0.8, 32°.4S±0°.1×111°.0W±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=29.0km s-min=22.4km az=115.0*
ISC 09 04:01:29.2±0.7, 32°.4S±0°.1×111°.0W±0°.2, h10km, n29, σ0s78/20, mb4.3/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**26.82**	**102**	T	T	04 35 12.3	
	baz=262,slow=75,SNR=24						
H03S3	**Juan Fernandez**	**26.84**	**102**	T	T	04 35 05.5	
	baz=262,slow=75,SNR=26						
H03S1	**Juan Fernandez**	**26.84**	**102**	T	T	04 35 06.6	
	baz=262,slow=75,SNR=21						
H03N2	**Juan Fernandez**	**26.86**	**101**	T	T	04 35 00.5	
	baz=268,slow=73,SNR=38						
H03N3	**Juan Fernandez**	**26.86**	**101**	T	T	04 35 04.3	
	baz=268,slow=73,SNR=36						
H03N1	**Juan Fernandez**	**26.88**	**101**	T	T	04 35 07.7	
	baz=268,slow=73,SNR=37						
VA01	**Torpederas**	**32.96**	**102**	P	**P**	**04 08 03.5**	**-0.7**
PLCA	**Paso Flores**	**33.28**	**116**	P	**P**	**04 08 07.1**	**+0.1**
	1.8nm,0.7s,baz=230,slow=8.5,SNR=4.2						
PLCA	**Paso Flores**	**33.28**	**116**	P	**P**	**04 08 07.1**	**+0.1**
PLCA				IAmb	IAmb	04 08 07.7	
	comp=Z,5.6nm,1.2s						
ROSC	**El Rosal**	**50.80**	**50**	P	**P**	**04 10 31.6**	**+1.2**
	comp=Z,4.0nm,0.4s,baz=273,slow=17,SNR=3.7						
ROSC	**El Rosal**	**50.80**	**50**	P	**P**	**04 10 30.2**	**-0.3**
ROSC				IAmb	IAmb	04 10 33.8	
	comp=Z,8.6nm,1.0s						
TLIG	**Tlapa**	**51.05**	**15**	P	**P**	**04 10 32.3**	**+0.5**
TLIG				IAmb	IAmb	04 10 41.8	
	comp=Z,7.8nm,1.2s						
QSPA	**South Pole Qui**	**57.83**	**180**	P	**P**	**04 11 21.3**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=120,slow=2.3,SNR=6.4						
QSPA	**South Pole Qui**	**57.83**	**180**	P	**P**	**04 11 20.4**	**-0.4**
QSPA				IAmb	IAmb	04 11 33.3	
	comp=Z,8.2nm,1.4s						
VNDA	**Vanda**	**58.06**	**195**	P	**P**	**04 11 22.9**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=61,slow=8.5,SNR=2.8						
CMWZ	**Cape Campbell**	**58.72**	**238**	P	**P**	**04 11 26.8**	**-0.4**
TXAR	**Lajitas Array**	**61.75**	**7**	P	**P**	**04 11 48.2**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=188,slow=8.3,SNR=3.8						
NV11	**Mina Array Sit**	**70.75**	**354**	P	**P**	**04 12 46.0**	**+0.3**
NV11				IAmb	IAmb	04 12 56.0	
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**70.77**	**354**	P	**P**	**04 12 47.2**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=184,slow=7.9,SNR=11						
NVAR	**Mina Array Bea**	**70.77**	**354**	P	**P**	**04 12 46.1**	**+0.3**
PDAR	**Pinedale Array**	**74.78**	**1**	P	**P**	**04 13 08.4**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=170,slow=5.5,SNR=5.3						
PDAR	**Pinedale Array**	**74.78**	**1**	P	**P**	**04 13 08.6**	**-1.0**
STKA	**Stephens Creek**	**86.32**	**234**	P	**P**	**04 14 11.6**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=78,slow=5.1,SNR=3.5						
STKA	**Stephens Creek**	**86.32**	**234**	P	**P**	**04 14 11.3**	**-0.4**
H01W1	**Cape Leeuwin H**	**100.81**	**216**	T	T	06 08 10.4	
	baz=142,slow=76,SNR=29						
H01W2	**Cape Leeuwin H**	**100.81**	**216**	T	T	06 08 10.3	
	baz=142,slow=76,SNR=26						
H01W3	**Cape Leeuwin H**	**100.83**	**216**	T	T	06 08 11.5	
	baz=142,slow=76,SNR=26						
AKASG	**Malin Array Be**	**145.54**	**46**	PKPbc		**PKPdf**	**04 21 05.9**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=274,slow=3.6,SNR=5.3								
CMAR	**Chiang Mai Arr**	**149.77**	**250**	PKPbc		**PKiKP**	**04 21 20.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=167,slow=2.5,SNR=11								

WEL 09 04:31:26.5,41°S±1°×17°5E±°, h90km±3km, M3.0/45, ML3.1/31, MLv3.0/45, Error ellipse: s-maj=0.0km s-min=0.0km az=80.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.40**	**135**	P	Pn	04 31 41.0	+0.4
KIW				S	Sn	04 31 50.4	-0.6
DUWZ	**D'Urville Isla**	**0.52**	**244**	P	Pn	04 31 41.6	+0.2
DUWZ				S	Sn	04 31 52.3	-0.3
OGWZ	**Otaki Gorge**	**0.54**	**117**	P	Pn	04 31 42.1	+0.6
OGWZ				S	Sn	04 31 52.4	-0.4
CAW	**Cannon Point**	**0.66**	**143**	P	Pn	04 31 43.5	+0.8
TCW	**Tory Channel**	**0.66**	**197**	P	Pn	04 31 43.6	+1.0
TCW				S	Sn	04 31 54.8	0.0
OHWZ	**Ohakea**	**0.70**	**58**	P	Pn	04 31 43.9	+0.9
OHWZ				S	Sn	04 31 56.1	+0.7
WEL	**Wellington**	**0.73**	**166**	P	Pn	04 31 44.1	+0.8
MRZ	**Mangatainoka R**	**0.80**	**96**	P	Pn	04 31 44.4	+0.5
MRZ				S	Sn	04 31 56.4	-0.7
HOWZ	**Holdsworth Sta**	**0.81**	**114**	P	Pn	04 31 44.6	+0.5
HOWZ				S	Sn	04 31 56.5	-0.8
BHW	**Baring Head**	**0.87**	**163**	P	Pn	04 31 45.5	+0.8
POWZ	**Post Office Ro**	**0.95**	**79**	P	Pn	04 31 46.0	+0.3
TUWZ	**Tuamarina**	**0.96**	**208**	P	Pn	04 31 46.7	+0.9
TUWZ				S	Sn	04 31 60.0	-0.3
MSWZ	**Moikau Station**	**0.99**	**148**	P	Pn	04 31 47.0	+0.8
MSWZ				S	Sn	04 32 01.3	+0.4
TIWZ	**Tintock**	**1.04**	**101**	P	Pn	04 31 47.3	+0.5
PAWZ	**Paruwai Farm**	**1.05**	**140**	P	Pn	04 31 47.5	+0.8
PAWZ				S	Sn	04 32 01.9	-0.1
NNZ	**Nelson**	**1.09**	**234**	P	Pn	04 31 47.4	+0.3
PRWZ	**Pori Road**	**1.09**	**89**	P	Pn	04 31 47.9	+0.7
PLWZ	**Palliser**	**1.13**	**152**	P	Pn	04 31 48.4	+0.7
TMWZ	**Te Maipa**	**1.15**	**118**	P	Pn	04 31 48.7	+0.7
BSWZ	**Blackbirch Sta**	**1.24**	**204**	P	Pn	04 31 50.0	+1.0
DVHZ	**Dannevirke**	**1.27**	**78**	P	Pn	04 31 49.3	-0.2
DVHZ				S	Sn	04 32 05.1	-1.6
BFZ	**Birch Farm**	**1.30**	**95**	P	Pn	04 31 50.1	+0.3
KHEZ	**Kahui Hut**	**1.34**	**342**	P	Pn	04 31 51.6	+1.2
NEZ	**North Egmont**	**1.35**	**345**	P	Pn	04 31 51.8	+1.3
MTVZ	**Mangateitei**	**1.39**	**31**	P	Pn	04 31 51.3	+0.3
PKVZ	**Pokaka**	**1.43**	**26**	P	Pn	04 31 51.6	+0.2
PNHZ	**Pukenui**	**1.43**	**63**	P	Pn	04 31 51.2	-0.2
VRZ	**Vera Road**	**1.46**	**7**	P	Pn	04 31 52.4	+0.6
ANWZ	**Angora Road**	**1.48**	**86**	P	Pn	04 31 51.5	-0.5
WNVZ	**Wahianoa**	**1.49**	**33**	P	Pn	04 31 52.6	+0.3
MOVZ	**Moawhango**	**1.50**	**39**	P	Pn	04 31 52.1	-0.2
FWVZ	**Far West T-bar**	**1.53**	**31**	P	Pn	04 31 53.5	+0.6
WPHZ	**Waipukurau**	**1.54**	**71**	P	Pn	04 31 52.7	0.0
QRZ	**Quartz Range**	**1.55**	**260**	P	Pn	04 31 52.6	-0.3
TUVZ	**Tukino**	**1.56**	**34**	P	Pn	04 31 53.7	+0.4
BHHZ	**Black Hill Sta**	**1.60**	**48**	P	Pn	04 31 53.3	-0.2
NGZ	**Ngauruhoe**	**1.62**	**31**	P	Pn	04 31 54.1	+0.1
TWVZ	**Tauwera**	**1.66**	**25**	P	Pn	04 31 54.3	0.0
OTVZ	**Oturere**	**1.66**	**32**	P	Pn	04 31 54.7	+0.2
WTVZ	**West Tongariro**	**1.67**	**29**	P	Pn	04 31 54.6	0.0
KRHZ	**Kereru**	**1.69**	**57**	P	Pn	04 31 54.2	-0.5
KRVZ	**Karewarewa**	**1.71**	**30**	P	Pn	04 31 55.0	-0.1
THZ	**Tophouse**	**1.71**	**226**	P	Pn	04 31 55.8	+0.8
TMVZ	**Te Maari**	**1.71**	**32**	P	Pn	04 31 55.3	+0.2
KWHZ	**Kaweka Forest**	**1.85**	**52**	P	Pn	04 31 56.3	-0.5
PXZ	**Pawanui**	**1.86**	**74**	P	Pn	04 31 56.5	-0.3
KHZ	**Kahutara**	**1.98**	**202**	P	Pn	04 31 59.2	+0.8
BKZ	**Black Stump Fm**	**2.06**	**47**	P	Pn	04 31 59.2	-0.4
HIZ	**Hauiti**	**2.08**	**7**	P	Pn	04 32 00.8	+1.0
NMHZ	**Naumai**	**2.29**	**50**	P	Pn	04 32 02.0	-0.6
DSZ	**Denniston Nort**	**2.37**	**240**	P	Pn	04 32 03.9	+0.2
GVZ	**Greta Valley S**	**2.64**	**205**	P	Pn	04 32 07.3	+0.1
LTZ	**Lake Taylor**	**2.78**	**217**	P	Pn	04 32 08.9	-0.2
URZ	**Urewera**	**3.05**	**42**	P	Pn	04 32 10.6	-2.1
INZ	**Inchbonnie**	**3.16**	**226**	P	Pn	04 32 14.0	-0.1
OXZ	**Oxford**	**3.32**	**213**	P	Pn	04 32 14.9	-1.4
OKCZ	**Okains Bay**	**3.33**	**199**	P	Pn	04 32 15.9	-0.6
MQZ	**McQueen's Vall**	**3.42**	**204**	P	Pn	04 32 16.2	-1.5
RUGZ	**Raukumara Rang**	**3.57**	**44**	P	Pn	04 32 17.2	-2.6
TWGZ	**Tauwhareparae**	**3.59**	**49**	P	Pn	04 32 18.3	-1.6
MHCZ	**Mount Hutt**	**3.69**	**216**	P	Pn	04 32 20.5	-0.8
PKGZ	**Pakihiroa**	**3.84**	**47**	P	Pn	04 32 21.2	-2.3
ARCZ	**Arundel**	**4.19**	**215**	P	Pn	04 32 27.0	-1.1
ODZ	**Otahua Downs**	**5.30**	**211**	P	Pn	04 32 41.9	-1.3

*REY **09** 04:37:16.1, 64°.68N×17°.47W, h0km*
*IDC **09** 04:37:17.4±0.4, 64°.57N×17°.73W, h0km, mb4.3/35, mb1 4.4/39, mb1mx4.3/56, mbtmp4.3/39, ML2.9/3, Error ellipse: s-maj=13.7km s-min=7.8km az=12.0*
*MOS **09** 04:37:18.6±1.4, 64°.66N×17°.86W, h10km, mb5.0/64, Error ellipse: s-maj=7.9km s-min=4.7km az=114.8*
*NEIC **09** 04:37:19.3±0.7, 64°.56N±0°.07×17°.6W±0°.1, h8km±3km, mb4.8/115, Error ellipse: s-maj=10.1km s-min=8.5km az=170.0*
ISC 09 04:37:19.9±0.3, 64°.63N±0°.02×17°.70W±0°.03, h10km, n471, σ1s91/460, mb4.8/151, MS4.7/4, 31C-24D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.05**	**334**	P	**Pg**	**04 37 19.1**	**-3.0**
	baz=269						
IVON				S	**Sg**	**04 37 21.9**	**-1.7**
	baz=269						
IGRF	**Grimsfjall**	**0.29**	**139**	P	**Pg**	**04 37 22.3**	**-3.6**
	baz=162						
ISKR	**Skrokkalda**	**0.30**	**257**	P	**Pg**	**04 37 24.1**	**-1.9**
	baz=254						
IURH	**Urdarhals**	**0.31**	**51**	P	Pg	04 37 20.8	-5.4
	baz=43						
IHUS	**Husbondi**	**0.33**	**176**	P	**Pg**	**04 37 24.2**	**-2.4**
	baz=192						
IHUS				S	**Sg**	**04 37 31.3**	**+0.3**
	baz=192						
IJOK	**Jokulheimar**	**0.39**	**216**	P	**Pg**	**04 37 25.5**	**-2.0**
	baz=222						
IIEY	**Innrieyrar**	**0.56**	**199**	P	**Pg**	**04 37 28.0**	**-2.9**
	baz=206						
IIEY				S	**Sg**	**04 37 38.1**	**-0.1**
	baz=206						
IKRE	**Kreppuhraun**	**0.59**	**74**	P	Pg	04 37 25.2	-6.2
	baz=76						
IKAL	**Kalfafell**	**0.68**	**179**	P	**Pg**	**04 37 29.6**	**-3.5**
	baz=188						
IKAL				S	**Sg**	**04 37 41.1**	**-0.9**
	baz=188						
IMKO	**Mokollar**	**0.68**	**58**	P	Pg	04 37 26.9	-6.2
	baz=57						
IMKO				S	**Sg**	**04 37 37.0**	**-5.1**
	baz=57						
IVAT	**Vatnsfell**	**0.69**	**231**	P	**Pg**	**04 37 31.0**	**-2.2**
	baz=233						
IKSK	**Karasker**	**0.71**	**131**	P	Pg	04 37 28.2	-5.5
	baz=140						
ISVA	**Svartarkot**	**0.74**	**15**	P	Pg	04 37 28.6	-5.5
	baz=7.7						
ISVA				S	**Sg**	**04 37 38.1**	**-5.7**
	baz=7.7						
IHVE	**Hveravellir**	**0.83**	**288**	P	**Pg**	**04 37 32.5**	**-3.5**
	baz=283						
IVSH	**V-Saudahnukur**	**0.87**	**77**	P	Pg	04 37 29.8	-6.8
	baz=79						
ISNB	**Snabyli**	**0.98**	**205**	P	**Pg**	**04 37 35.6**	**-3.2**
	baz=209						
ISLY	**Slysaalda**	**1.02**	**218**	P	**Pg**	**04 37 36.1**	**-3.3**
	baz=221						
IMEL	**Melhnausar**	**1.04**	**25**	P	Pg	04 37 33.3	-6.7
	baz=20						
IFED	**Fedgar**	**1.06**	**236**	P	**Pg**	**04 37 37.6**	**-2.5**
	baz=237						
IREN	**Reynihlio**	**1.08**	**18**	P	Pb	04 37 34.2	-6.5
	baz=13						
IRJU	**Rjupnafell**	**1.10**	**203**	P	**Pg**	**04 37 37.1**	**-3.9**
	baz=207						
IMJO	**Mjoaskard**	**1.11**	**232**	P	**Pg**	**04 37 38.0**	**-3.1**
	baz=233						
IKVO	**Krokottuvotn**	**1.15**	**17**	P	Pb	04 37 35.2	-6.6
	baz=13						
IHAU	**Haukadalur**	**1.19**	**237**	P	**Pb**	**04 37 39.5**	**-3.0**
	baz=238						
IGRS	**Grimsstaoir**	**1.22**	**33**	P	Pn	04 37 36.1	-6.8
	baz=30						
IHVO	**Lagu-Hvolar**	**1.22**	**205**	P	**Pb**	**04 37 39.6**	**-3.4**
	baz=208						
ISKI	**Skildingahlsh**	**1.28**	**13**	P	Pn	04 37 37.5	-6.3
	baz=8.6						
IGRA	**Granastaoir**	**1.30**	**2**	P	Pn	04 37 37.9	-6.1
	baz=358						
IGHA	**Grjothals**	**1.30**	**19**	P	Pn	04 37 37.6	-6.5
	baz=16						

IALF	**Alftagrof**	**1.31**	**210**	P		**Pn**		**04 37 41.2**	**-3.1**
	baz=213								
IALF				S		**Sb**		**04 37 59.8**	**-1.7**
	baz=213								
ISAU	**Saurbar**	**1.34**	**243**	P		**Pn**		**04 37 41.2**	**-3.4**
	baz=243								
IHLA	**Hella**	**1.35**	**348**	P		Pn		04 37 39.5	-5.3
	baz=344								
IMID	**Miomork**	**1.36**	**225**	P		**Pn**		**04 37 42.7**	**-2.3**
	baz=227								
IDIM	**Dimmadalss**	**1.38**	**13**	P		Pn		04 37 39.0	-6.2
	baz=9.6								
IBRE	**Brettingsstaoi**	**1.50**	**357**	P		Pn		04 37 41.4	-5.5
	baz=353								
BORG	**Borgarnes**	**1.56**	**276**	Pg		**Pn**		**04 37 44.2**	**-3.5**
	129nm,0.3s,baz=102,slow=7.9,SNR=153								
BORG				Lg		Lg		04 38 08.0	
	73nm,0.3s,baz=93,slow=4.6,SNR=3.2								
IGIL	**Gilhagi**	**1.56**	**21**	P		Pn		04 37 41.6	-6.1
	baz=18								
IKRO	**Krokur**	**1.58**	**252**	P		**Pn**		**04 37 45.3**	**-2.6**
	baz=252								
IBJA	**Bjarnastaoir**	**1.71**	**248**	P		**Pn**		**04 37 47.7**	**-2.1**
	baz=248								
IHRN	**Hraun**	**1.80**	**327**	P		**Pn**		**04 37 47.0**	**-3.9**
	baz=324								
IGRI	**Grimsey**	**1.93**	**356**	P		Pn		04 37 47.5	-5.2
	baz=353								
IVOG	**Vogar**	**2.15**	**254**	P		**Pn**		**04 37 53.5**	**-2.2**
	baz=254								
ICESG	**Greenland Ices**	**9.69**	**307**	*i* P		Pn		04 39 47.4	+7.9
SUMG	**Summit**	**10.92**	**326**	P		**Pn**		**04 39 57.0**	**+0.6**
SUMG	**Summit**	**10.92**	**326**	Pn		**Pn**		**04 39 57.0**	**+0.6**
SUMG	**Summit**	**10.92**	**326**	*i* P		**Pn**		**04 39 56.0**	**-0.4**
SUMG	**Summit**	**10.92**	**326**	*i* P		**Pn**		**04 39 56.0**	**-0.4**
EDI	**Edinburgh**	**11.29**	**134**	P		Pn		04 40 06.6	+5.6
EKA	**Eskdalemuir Ar**	**11.79**	**135**	Pn		**Pn**		**04 40 06.2**	**-1.8**
	baz=330,slow=13,SNR=18								
ESK	**Eskdalemuir**	**11.79**	**136**	P		**Pn**		**04 40 09.3**	**+1.3**
ESK				pmax		pmax			
	comp=Z,63nm,1.2s								
DAG	**Danmarks Havn**	**12.21**	**359**	*i* P		**Pn**		**04 40 15.0**	**+1.4**
DAG	**Danmarks Havn**	**12.21**	**359**	*i* P		**Pn**		**04 40 15.0**	**+1.4**
DAG	**Danmarks Havn**	**12.21**	**359**	*i* P		**Pn**		**04 40 15.0**	**+1.4**
DSB	**Dublin**	**12.80**	**148**	Pn		**Pn**		**04 40 19.2**	**-2.4**
NRS	**Narsarsuaq**	**13.05**	**267**	P		**P**		**04 40 35.0**	**-0.5**
NRS				pmax		pmax			
	comp=Z,52nm,1.1s								
NC204	**NORSAR Array S**	**13.32**	**91**	Pn		**Pn**		**04 40 27.8**	**-1.0**
NOA	**NORSAR Array B**	**13.62**	**92**	Pn		**Pn**		**04 40 30.8**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=3.8								
HFS	**Hagfors**	**15.13**	**93**	Pn		**Pn**		**04 40 53.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=252,slow=7.4,SNR=1.3								
HSPB	**Hornsund (broa**	**16.14**	**27**	*e*P		**P**		**04 41 10.4**	**+0.8**
HSPB	**Hornsund (broa**	**16.14**	**27**	*e*P		**P**		**04 41 10.5**	**+0.8**
KBS	**Kingsb

STU Stuttgart 21.42 125 P P 04 42 06.7 -1.0
STU pmax pmax
comp=Z,42nm,1.1s
STU Stuttgart 21.42 125 P P 04 42 06.7 -1.0
STU IAmb IAmb 04 42 19.3
comp=Z,42nm,1.1s
HINF Hinteralfeld 21.44 130 *e*P **P 04 42 09.4 +1.4**
HINF pmax pmax
comp=Z,245nm,2.6s
BRG Berggiesshubel 21.48 115 *i* P **P 04 42 07.4 -0.9**
comp=Z,150nm,1.7s
BRG Berggiesshubel 21.48 115 *i* P **P 04 42 07.4 -0.9**
BRG pmax pmax
comp=Z,150nm,1.7s
VSU Vasula 21.66 86 *e*P **P 04 42 08.6 -1.5**
VSU Vasula 21.66 86 *e*P **P 04 42 08.8 -1.3**
PVCC Panska Ves 21.99 114 P **P 04 42 15.8 +2.0**
PVCC pmax pmax
comp=Z,25nm,2.3s
SLE Schleitheim 22.04 127 P **P 04 42 16.9 +2.5**
SLE pmax pmax
comp=Z,51nm,1.4s
RJF Les Rejaudoux 22.11 142 *e*P **P 04 42 14.6 -0.5**
RJF pmax pmax
comp=Z,64nm,1.4s
PABE Paberze 22.30 94 *e*P **P 04 42 17.4 +0.4**
PRU Pruhonice 22.41 115 *e*P **P 04 42 17.2 -1.1**
PRU Pruhonice 22.41 115 *e*P **P 04 42 17.2 -1.1**
KSP Ksiaz 22.43 112 *e*P **P 04 42 19.7 +1.2**
KSP Ksiaz 22.43 112 *e*P **P 04 42 19.7 +1.2**
WET Wettzell 22.46 119 P **P 04 42 21.0 +2.1**
WET pmax pmax
comp=Z,28nm,2.8s
CHVC Chvalec 22.53 112 *e*P **P 04 42 20.0 +0.3**
GOPC GO Pecny, Ondr 22.57 115 *e*P **P 04 42 21.4 +1.4**
GOPC GO Pecny, Ondr 22.57 115 *e*P **P 04 42 21.4 +1.4**
UPC Upice 22.58 113 *e*P **P 04 42 21.1 +1.0**
UPC Upice 22.58 113 *e*P **P 04 42 21.1 +1.0**
CAF Calviac 22.61 141 *e*P **P 04 42 21.2 +0.7**
CAF pmax pmax
comp=Z,144nm,2.1s
OSTC Ostas 22.62 112 *e*P **P 04 42 21.9 +1.3**
OSTC *ex* x 04 42 37.3
FUR Furstenfeldbru 22.68 123 P **P 04 42 23.5 +2.3**
FUR pmax pmax
comp=Z,84nm,2.4s
KHC Kasperske Hory 22.73 118 *e*P **P 04 42 20.9 -0.9**
KHC *ex* x 04 42 24.5
KHC Kasperske Hory 22.73 118⇑ *i* P **P 04 42 21.2 -0.6**
KHC pmax pmax
comp=Z,66nm,1.3s
KHC Kasperske Hory 22.73 118 P **P 04 42 20.8 -1.0**
DPC Dobruska-Polom 22.83 112 *e*P **P 04 42 22.1 -0.7**
DPC *e*pP **pP 04 42 24.3 -1.8**
DPC Dobruska-Polom 22.83 112 *e*P **P 04 42 22.1 -0.7**
DPC *e* 04 42 24.3
DAVA Damuels 22.93 126 *i* P **P 04 42 25.6 +1.6**
comp=Z,28nm,1.3s,SNR=5.9
SUW Suwalki 22.97 98 *e*P **P 04 42 24.3 +0.2**
SUW Suwalki 22.97 98 P **P 04 42 23.6 -0.5**
SUW pmax pmax
comp=Z,115nm,1.2s
SUW Suwalki 22.97 98 P **P 04 42 23.6 -0.5**
GEC2 GERESS Array S 23.01 118 P **P 04 42 23.4 -1.4**
GERES GERESS Array B 23.01 118 P **P 04 42 23.4 -1.4**
comp=Z,8.4nm,1.0s,baz=334,slow=8.9,SNR=20
GERES GERESS Array B 23.01 118 P **P 04 42 24.0 -0.8**
GERES GERESS Array B 23.01 118 P **P 04 42 24.0 -0.8**
RETA Reutte 23.07 124 *i* P **P 04 42 27.8 +2.4**
comp=Z,10nm,1.0s,SNR=6.3
IZAR Zarasai 23.11 92 *e*P **P 04 42 25.4 -0.2**
ISAL Salakas 23.18 92 *e*P **P 04 42 26.7 +0.4**
MOTA Moosalm 23.31 124 *e*P **P 04 42 30.1 +2.2**
comp=Z,40nm,1.6s
TREC Trest 23.34 115 *e*P **P 04 42 30.2 +2.2**
TREC Trest 23.34 115 *e*P **P 04 42 30.2 +2.2**
DAVOX Davos/Dischmat 23.37 127 P **P 04 42 27.2 -1.2**
comp=Z,4.3nm,0.8s,baz=275,slow=12,SNR=5.5
IIGN Ignalina 23.37 93 *e*P **P 04 42 28.9 +0.7**
LPL La Plagne 23.44 133 *e*P **P 04 42 30.2 +1.0**
LPL pmax pmax
comp=Z,45nm,1.6s
TUE Stuetta 23.45 128 P **P 04 42 28.4 -0.9**
FETA Feichten 23.45 125 *e*P **P 04 42 31.5 +2.2**
comp=Z,26nm,1.5s
SQTA Sankt Quirin 23.45 124 *e*P **P 04 42 30.7 +1.4**
comp=Z,21nm,1.2s
LPG La Plagne 23.46 133 *e*P **P 04 42 34.0 +4.5**
LPG pmax pmax
comp=Z,16nm,0.9s
WATA Walderalm 23.49 123 *i* P **P 04 42 31.2 +1.5**
comp=Z,27nm,1.3s,SNR=5.7
BEL Belsk 23.52 105 *e*P **P 04 42 31.1 +1.4**
BEL Belsk 23.52 105 *e*P **P 04 42 31.1 +1.4**
WTTA Wattenberg 23.57 123 *i* P **P 04 42 31.6 +1.0**
comp=Z,35nm,1.4s,SNR=8.0
WTTA Wattenberg 23.57 123 P **P 04 42 33.8 +3.3**
IDID Didziasalis 23.61 92 *e*P **P 04 42 30.4 -0.2**
PCAB Cabril 23.62 162 *e*P P 04 42 38.2 +7.3
comp=Z,76nm,1.7s
EUNU Eureka 23.67 336 P **P 04 42 32.0 +0.9**
EUNU IAmb IAmb 04 42 47.6
comp=Z,26nm,1.2s
VRAC Vranov 23.76 114 P **P 04 42 31.8 -0.4**
comp=Z,4.4nm,0.7s,baz=329,slow=12,SNR=14
VRAC Vranov 23.76 114⇓P **P 04 42 34.6 +2.5**
VRAC Vranov 23.76 114 *e*P **P 04 42 31.5 -0.6**
MORC Moravsky Berou 23.77 112⇓P **P 04 42 33.3 +1.0**
MORC Moravsky Berou 23.77 112 *e*P **P 04 42 31.6 -0.6**
MORC Moravsky Berou 23.77 112 P **P 04 42 31.7 -0.6**
MORC pmax pmax
comp=Z,49nm,1.5s
MORC Moravsky Berou 23.77 112 P **P 04 42 31.6 -0.6**
MORC IAmb IAmb 04 42 47.7
comp=Z,49nm,1.5s
BNI Bardonecchia 23.84 134 P **P 04 42 32.2 -0.8**
BNI pmax pmax
comp=Z,44nm,1.5s
BNI Bardonecchia 23.84 134 P **P 04 42 32.2 -0.8**
BNI IAmb IAmb 04 42 46.1
comp=Z,44nm,1.5s
KRUC Moravsky 23.88 114 *e*P **P 04 42 32.2 -1.1**
KRUC Moravsky 23.88 114 P **P 04 42 35.2 +1.9**
KRUC pmax pmax
comp=Z,27nm,2.8s
NACGM Naroch 23.90 93 *e* **P 04 42 31.0 -2.4**
MOA Molln 24.05 119 *e*P **P 04 42 36.6 +1.7**
comp=Z,14nm,1.6s
MBDF Montbardon 24.16 134 *e*P **P 04 42 40.8 +4.7**
MBDF pmax pmax
comp=Z,66nm,1.6s
MVO Moncorvo 24.30 160 *e*P **P 04 42 39.5 +2.2**
comp=Z,58nm,1.6s
ABTA Abfaltersbach 24.33 123 *e*P **P 04 42 40.3 +2.7**
comp=Z,24nm,1.2s
OJC Ojcow 24.33 108 *e*P **P 04 42 38.4 +0.9**
OJC Ojcow 24.33 108 *e*P **P 04 42 38.4 +0.9**
OJC Ojcow 24.33 108 P **P 04 42 35.9 -1.5**
KBA Koelnbreinsper 24.35 121 *e*P **P 04 42 40.5 +2.7**
comp=Z,16nm,1.4s
KBA Koelnbreinsper 24.35 121 P **P 04 42 44.6 +6.7**
KBA pmax pmax
comp=Z,26nm,2.6s
JAVC Velka Javorina 24.54 113 *e*P **P 04 42 40.8 +1.3**
CONA Conrad Observa 24.59 117 *e*P **P 04 42 42.0 +2.0**
comp=Z,11nm,0.9s
CTI Castel Tesino 24.62 125 P **P 04 42 39.1 -1.1**
CTI pmax pmax
comp=Z,20nm,1.0s
CTI Castel Tesino 24.62 125 P **P 04 42 39.1 -1.1**
CTI IAmb IAmb 04 42 49.1
comp=Z,20nm,1.0s
PVIS Viseu 24.62 162 *e*P **P 04 42 46.0 +5.8**
comp=Z,71nm,1.9s
MICGM Minsk 24.65 93 *e* **P 04 42 39.0 -1.3**
MNK Minsk 24.65 93 *e*P **P 04 42 39.0 -1.3**
SMOL Smolenice 24.73 114 *e*P **P 04 42 43.4 +2.3**
SMOL Smolenice 24.73 114 *e*P **P 04 42 43.4 +2.3**
MODS Modra-Piesok 24.78 114 *e*P **P 04 42 42.6 +1.0**
MODS pmax pmax
comp=Z,958nm,3.8s
MODS Modra-Piesok 24.78 114 *e*P **P 04 42 42.6 +1.0**
STAL STALIGIAL 24.81 123 P **P 04 42 41.2 -0.7**
STAL IAmb IAmb 04 42 54.1
comp=Z,35nm,1.4s
MYKA Terra Mystica 24.84 121 *e*P **P 04 42 44.8 +2.6**
comp=Z,5.7nm,0.7s
ZST Bratislava 24.86 115 *e*P **P 04 42 44.9 +2.7**
ZST Bratislava 24.86 115 *e*P **P 04 42 44.9 +2.7**
ARSA Arzberg 25.02 118 *e*P **P 04 42 45.6 +1.8**
comp=Z,15nm,1.2s
LANS Liptovska Anna 25.03 110 *e*P **P 04 42 44.4 +0.5**
LANS pmax pmax
comp=Z,9.0nm,1.1s
LANS Liptovska Anna 25.03 110 *e*P **P 04 42 44.4 +0.5**
NIE Niedzica 25.16 109 *e*P **P 04 42 46.7 +1.7**
NIE Niedzica 25.16 109 *e*P **P 04 42 46.7 +1.7**
OBKA Obir 25.27 120 *e*P **P 04 42 48.2 +2.1**
comp=Z,29nm,1.6s
VYHS Vyhne 25.30 112 *e*P **P 04 42 47.9 +1.6**
VYHS pmax pmax
comp=Z,70nm,1.5s
VYHS Vyhne 25.30 112 *e*P **P 04 42 47.9 +1.6**
SOKA Soboth 25.31 119 *e*P **P 04 42 48.1 +1.6**
comp=Z,21nm,1.4s
PCBR Castelo Branco 25.54 162 *e*P **P 04 42 52.2 +3.8**
comp=Z,48nm,1.5s
KLMR Klimovskoe 25.70 72 *e*P **P 04 42 50.4 +0.7**
KLMR pmax pmax
comp=Z,56nm,1.3s
KLMR Klimovskoe 25.70 72 *e*P **P 04 42 50.4 +0.7**
KLMR AMP 04 42 54.1
comp=Z,56nm,1.3s
SCHQ Schefferville 25.95 271 P **P 04 42 50.9 -1.2**
comp=Z,15nm,0.9s,baz=45,slow=11,SNR=6.3
SCHQ Schefferville 25.95 271 P **P 04 42 51.3 -0.8**
SCHQ IAmb IAmb 04 42 58.4
comp=Z,19nm,1.1s
PMRV Marv??o 25.95 162 *e*P **P 04 42 58.9 +6.7**
comp=Z,46nm,1.5s
KWP Kalwaria Pacla 25.98 106 *e*P **P 04 42 55.7 +3.3**
KWP Kalwaria Pacla 25.98 106 *e*P **P 04 42 55.7 +3.3**
CRVS Cervenica-Dubn 26.04 108 *e*P **P 04 42 55.2 +2.2**
CRVS pmax pmax
comp=Z,68nm,1.3s
CRVS Cervenica-Dubn 26.04 108 *e*P **P 04 42 55.2 +2.2**
PSZ Piszkesteto 26.18 112⇓P **P 04 42 55.8 +1.5**
PSZ Piszkesteto 26.18 112⇓P **P 04 42 55.8 +1.5**
PSZ Piszkesteto 26.18 112 P **P 04 42 53.5 -0.8**
ESDC Sonseca Array 26.25 156 P **P 04 42 54.5 -0.5**
comp=Z,2.2nm,0.8s,baz=348,slow=8.7,SNR=12
ESDC Sonseca Array 26.25 156 P **P 04 42 54.2 -0.9**
KOLS Kolonicke sedl 26.35 107 *e*P **P 04 42 57.0 +1.3**
KOLS pmax pmax
comp=Z,43nm,1.4s
KOLS Kolonicke sedl 26.35 107 *e*P **P 04 42 57.0 +1.3**
LVV L'vov 26.39 104 *e*P **P 04 42 56.0 -0.1**
LVV *e*S **S 04 47 21.6 -7.5**
LVV pmax pmax
comp=Z,200nm,1.4s
LVV MLR MLR
comp=E,1μm,15.0s
LVV MLR MLR
comp=Z,1μm,15.0s
LVV MLR MLR
comp=N,800nm,16.0s
UZH Uzhgorod 26.59 108 *e*P **P 04 42 56.8 -1.1**
MURB Monte Urbino 27.35 127 P **P 04 43 03.6 -1.3**
PRGR Permogore 27.72 67 *e*P **P 04 43 03.5 -4.4**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
AKASG Malin Array Be 27.93 97 P **P 04 43 08.2 -1.6**
comp=Z,1.9nm,0.7s,baz=324,slow=9.1,SNR=13
AKASG Malin Array Be 27.93 97 P **P 04 43 09.3 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,1.1s
AKASG Malin Array Be 27.93 97 P **P 04 43 09.3 -0.6**
AKBB Malin Array Si 27.93 97*ce*P **P 04 43 10.9 +1.1**
AKBB pmax pmax
comp=Z,48nm,2.9s
AKBB Malin Array Si 27.93 97 P **P 04 43 09.2 -0.6**
AKBB IAmb IAmb 04 43 19.1
comp=Z,16nm,1.1s
OBN Obninsk 27.97 84 P **P 04 43 08.5 -1.7**
comp=Z,10.0nm,0.3s,baz=308,slow=17,SNR=7.2
OBN Obninsk 27.97 84⇑ *i* P **P 04 43 12.1 +1.9**
OBN *e*S **S 04 47 55.9 +2.0**
OBN pmax pmax
comp=Z,85nm,1.3s
MOS Moscow 28.01 82 *e*P **P 04 43 06.4 -4.2**
BUR08 Bucovina Ar. S 28.57 106 P **P 04 43 13.5 -2.2**
BURAR Bucovina Array 28.60 106⇑P **P 04 43 17.9 +1.9**
BURAR Bucovina Array 28.60 106⇑P **P 04 43 17.9 +1.9**
BURAR Bucovina Array 28.60 106 P **P 04 43 14.9 -1.2**
BZS Buzias 28.75 112 P **P 04 43 20.7 +3.5**
GZR Gura Zlata 29.39 111⇓P **P 04 43 25.9 +2.8**
GZR Gura Zlata 29.39 111⇓P **P 04 43 25.9 +2.8**
BIZ Bicaz 29.50 106⇑P **P 04 43 23.7 -0.3**
LOT Lotru 29.75 110⇑P **P 04 43 28.6 +2.4**
OZUR 30.05 107⇓P **P 04 43 30.5 +1.7**
VOIR 30.28 109⇓P **P 04 43 32.8 +1.9**
VOIR 30.28 109⇓P **P 04 43 32.8 +1.9**
PDG Podgorica 30.51 119⇑P **P 04 43 30.3 -2.6**
PLOR Plostina 30.60 106⇓P **P 04 43 36.9 +3.2**
PLOR Plostina 30.60 106⇓P **P 04 43 36.9 +3.2**
MLR Muntele Rosu 30.60 107 P **P 04 43 32.2 -1.6**
comp=Z,2.6nm,1.0s,baz=270,slow=14,SNR=2.8
MLR Muntele Rosu 30.60 107⇑P **P 04 43 38.5 +4.7**
MLR Muntele Rosu 30.60 107 P **P 04 43 32.4 -1.4**
MLR pmax pmax
comp=Z,17nm,1.3s
MLR Muntele Rosu 30.60 107 P **P 04 43 32.4 -1.4**
MLR IAmb IAmb 04 43 42.2
comp=Z,17nm,1.3s
VRI Vrincioaia 30.62 106⇑P **P 04 43 36.3 +2.5**
VRI Vrincioaia 30.62 106⇑P **P 04 43 36.3 +2.5**
KIRV Kirov 31.08 69 P **P 04 43 36.4 -1.3**
comp=Z,12nm,0.5s,baz=334,slow=6.3,SNR=6.3
KIRV Kirov 31.08 69*c* *i* P **P 04 43 39.5 +1.8**
MATE Matera 31.12 124⇓P **P 04 43 39.4 +1.1**
ISR Istrita 31.15 107⇑P **P 04 43 41.6 +3.0**
ISR Istrita 31.15 107⇑P **P 04 43 41.6 +3.0**
CFR Carcaliu 31.76 105⇓P **P 04 43 39.9 -3.9**
CFR Carcaliu 31.76 105⇓P **P 04 43 39.9 -3.9**
KNT Kendrikon 33.00 116 P **P 04 43 57.9 +3.1**
KNT pmax pmax
comp=Z,21nm,1.4s
KESR Kesra 33.19 137 P **P 04 43 54.3 -2.2**
comp=Z,3.6nm,1.1s,baz=24,slow=18,SNR=1.9
KESR Kesra 33.19 137 P **P 04 43 55.7 -0.9**
KESR IAmb IAmb 04 44 00.3
comp=Z,27nm,1.4s
SRS Serrai 33.31 115 P **P 04 44 00.5 +3.0**
SRS pmax pmax
comp=Z,25nm,1.3s
IGT Igoumenitsa 33.43 120 P **P 04 44 02.4 +3.9**
IGT pmax pmax
comp=Z,40nm,1.5s
ALN Alexandroupoli 34.46 112 P P 04 44 14.0 +6.5
ALN pmax pmax
comp=Z,26nm,1.6s
AGG Agios Georgios 34.63 118 P **P 04 44 12.4 +3.4**
AGG pmax pmax
comp=Z,36nm,1.5s
ARU Arti 36.18 66 P **P 04 44 21.4 -0.7**
comp=Z,2.3nm,0.2s,baz=314,slow=5.9,SNR=4.4
ARU Arti 36.18 66*d* *i* P **P 04 44 23.7 +1.6**
ARU 04 45 41.6
ARU S **S 04 50 02.6 +1.1**
ARU SS **SnSn 04 52 21.0 -5.8**
ARU pmax pmax
comp=Z,28nm,1.9s
NRIK Noril'sk 36.54 35 P **P 04 44 24.6 -0.5**
comp=Z,13nm,1.1s,baz=335,slow=6.5,SNR=12
NRIK Noril'sk 36.54 35⇓ *i* P **P 04 44 27.9 +2.9**
NRIK pmax pmax
comp=Z,27nm,1.3s
APE Apeiranthos 37.56 116⇑ *i* P **P 04 44 34.5 +0.4**
GOF Gofitskoye 38.20 91⇑ *e*P **P 04 44 42.1 +2.7**
GOF pmax pmax
comp=Z,131nm,1.5s
BR131 Keskin Array S 38.55 105⇓ *e*P **P 04 44 45.3 +2.7**
BRTR Keskin Array B 38.55 105 P **P 04 44 42.2 -0.3**
comp=Z,3.3nm,0.9s,baz=342,slow=7.8,SNR=13
BRTR Keskin Array B 38.55 105*ce*P **P 04 44 45.7 +3.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 38.55 105 P **P 04 44 41.8 -0.7**
KIV Kislovodsk 38.93 92 *e*P **P 04 44 47.7 +2.1**
KIV pmax pmax
comp=Z,43nm,1.0s
SHA1 Shidzhatmaz 39.09 92*d* *i* P **P 04 44 49.7 +2.6**
YKA Yellowknife Ar 39.17 313 P **P 04 44 47.1 -0.2**
comp=Z,0.7nm,0.6s,baz=42,slow=40,SNR=1.5
YKA Yellowknife Ar 39.17 313*ce*P **P 04 44 53.5 +6.2**
YKA pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 39.20 92 P **P 04 44 48.7 +1.0**
comp=Z,11nm,0.9s,baz=328,slow=8.6,SNR=11
KBZ Khabaz 39.20 92*d* *i* P **P 04 44 50.2 +2.5**
KBZ pmax pmax
comp=Z,22nm,1.1s
ELL Elmali 39.57 111 P P 04 44 57.2 +6.2
AKAS Kas 39.89 112 P **P 04 44 52.5 -1.3**
AKAS IAmb IAmb 04 44 56.5
comp=Z,29nm,1.3s
AKTO Aktyubinsk 40.38 73 P **P 04 44 56.5 -1.1**
comp=Z,11nm,1.1s,baz=326,slow=8.5,SNR=18
ZEI Tsey 40.39 92 *e*P **P 04 44 59.9 +2.0**
ZEI pmax pmax
comp=Z,9.0nm,1.3s
GROC Groznyy 40.87 90 *e*P **P 04 45 04.3 +2.7**
GROC pmax pmax
comp=Z,24nm,0.6s
GROC MLR MLR
comp=Z,674nm,13.0s
AKH Akhalkalaki 41.34 94 P **P 04 45 10.1 +4.4**
ULM Lac du Bonnet 41.53 289 P **P 04 45 05.8 -1.1**
comp=Z,2.4nm,0.7s,baz=77,slow=6.7,SNR=1.5
ULM Lac du Bonnet 41.53 289 P **P 04 45 07.7 +0.8**
ULM pmax pmax
comp=Z,20nm,1.4s
ULM Lac du Bonnet 41.53 289 P **P 04 45 07.7 +0.8**
MALT Malatya 41.75 101 P **P 04 45 12.6 +3.6**
ABKAR Akbulak array 42.09 73 P **P 04 45 10.1 -1.4**
BRVK Borovoye 43.23 62⇑ *i* P **P 04 45 22.0 +1.3**
BRVK pmax pmax
comp=Z,23nm,1.4s
BVAR Borovoye Array 43.29 62 P **P 04 45 20.7 -0.6**
comp=Z,10nm,1.1s,baz=254,slow=10,SNR=16
MARD Mardin 43.59 100 P **P 04 45 23.4 -0.6**
MARD IAmb IAmb 04 45 31.4
comp=Z,19nm,1.0s
COLD Coldfoot 44.12 336 P **P 04 45 28.7 +0.9**
EGAK Eagle 44.47 329 P **P 04 45 31.8 +1.3**
EGAK IAmb IAmb 04 45 40.2
comp=Z,22nm,1.4s
MMAI Mount Meron Ar 45.03 108 P **P 04 45 34.9 -0.6**
comp=Z,2.4nm,0.8s,baz=268,slow=2.3,SNR=5.6
IL31 45.68 332 P **P 04 45 40.8 +0.7**
IL31 IAmb IAmb 04 45 47.3
comp=Z,8.0nm,0.9s
ILAR Eielson Array 45.68 332 P **P 04 45 40.5 +0.3**
comp=Z,2.4nm,1.1s,baz=18,slow=6.0,SNR=14
ILAR PcP **PcP 04 47 17.7 -0.2**
comp=Z,2.5nm,1.1s,baz=357,slow=2.8,SNR=5.7
ILAR Eielson Array 45.68 332 P **P 04 45 40.8 +0.6**
ILAR Eielson Array 45.68 332 P **P 04 45 40.8 +0.6**
ILAR **PcP 04 47 18.9 +1.0**
IMAR Indian Mountai 45.86 337 P **P 04 45 42.5 +0.9**
BCAR Beaver Creek A 46.09 328 P **P 04 45 44.5 +0.9**
ASF Jabal al Asfar 46.38 107 P **P 04 45 45.2 -1.0**
comp=Z,5.2nm,1.2s,baz=282,slow=5.9,SNR=7.1
BRZS Berezniki 46.58 63 *e*P **P 04 45 46.0 -1.5**
BRZS Berezniki 46.58 63 *e*P **P 04 45 46.0 -1.5**
ECSD EROS Data Cent 47.02 284 P **P 04 45 51.7 +0.7**
ECSD IAmb IAmb 04 45 58.7
comp=Z,14nm,1.4s
ZAA0 Zalesovo Array 47.73 51 P **P 04 45 56.7 +0.4**
ZALV Zalesovo Beam 47.73 51 P **P 04 45 55.0 -1.4**
comp=Z,4.6nm,0.9s,baz=330,slow=8.7,SNR=11
ZALV PcP **PcP 04 47 25.6 +0.3**
comp=Z,0.6nm,0.4s,baz=306,slow=3.4,SNR=1.8
ZALV Zalesovo Beam 47.73 51 *i* P **P 04 45 55.7 -0.6**
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 47.73 51 P **P 04 45 55.5 -0.8**
EIL Elat 47.79 111 P **P 04 45 55.0 -2.1**
comp=Z,5.3nm,1.0s,baz=205,slow=22,SNR=2.5
KURK Kurchatov 48.21 58 P **P 04 45 59.1 -1.0**
KURK Kurchatov 48.21 58 P **P 04 45 59.1 -1.0**
KURK Kurchatov 48.21 58⇑P **P 04 45 58.0 -2.1**
comp=Z,16nm,0.4s
KUR17 Kurchatov Arra 48.22 58⇑P **P 04 45 59.2 -1.0**
KUR04 Kurchatov Arra 48.22 58⇑P **P 04 45 58.8 -1.4**
KUR16 Kurchatov Arra 48.24 58⇑P **P 04 45 59.2 -1.1**
KUR05 Kurchatov Arra 48.24 58⇑P **P 04 45 58.8 -1.5**
KURBB Kurchatov Arra 48.25 58 P **P 04 45 59.1 -1.3**
comp=Z,6.9nm,0.3s,baz=320,slow=7.5,SNR=107
KURBB Kurchatov Arra 48.25 58⇑P **P 04 45 58.9 -1.5**
comp=Z,9.9nm,0.3s
KUR06 Kurchatov Arra 48.27 58⇓P **P 04 45 59.0 -1.5**
KUR15 Kurchatov Arra 48.27 58⇓P **P 04 45 58.5 -2.0**
KUR07 Kurchatov Arra 48.28 58⇑P **P 04 45 59.1 -1.5**
KUR14 Kurchatov Arra 48.28 58⇑P **P 04 45 58.0 -2.6**
EGMT Eagleton 48.81 297 P **P 04 46 05.5 +0.6**
GOGA Godfrey 50.02 264 P **P 04 46 14.6 +0.4**
GOGA pmax pmax
comp=Z,20nm,1.3s
GOGA Godfrey 50.02 264 P **P 04 46 14.6 +0.4**
GOGA IAmb IAmb 04 46 20.9
comp=Z,20nm,1.3s
PLAL Pickwick Lake 50.66 270 P **P 04 46 19.2 +0.2**
PLAL IAmb IAmb 04 46 21.8
comp=Z,17nm,1.4s
KOWA Kowa 50.95 163 P **P 04 46 19.9 -1.5**
KOWA IAmb IAmb 04 46 26.5
comp=Z,13nm,1.2s
RLMT Red Lodge 51.02 294 P **P 04 46 22.2 +0.3**
BTLS Baital 51.16 65 *e*P **P 04 46 22.1 -0.7**
comp=Z,28nm,2.2s
BTLS Baital 51.16 65 *e*P **P 04 46 22.0 -0.7**
BTLS pmax pmax
comp=Z,28nm,2.2s
KK31 Karatay Array 51.37 70 P **P 04 46 24.0 -0.3**
KK31 pmax pmax
comp=Z,38nm,1.5s
KK31 Karatay Array 51.37 70 P **P 04 46 24.0 -0.3**
KKAR Karatay Array 51.37 70 P **P 04 46 23.9 -0.4**
KKAR Karatay Array 51.37 70 P **P 04 46 23.9 -0.4**
MSO Missoula 51.40 299 P **P 04 46 24.6 +0.1**
MSO IAmb IAmb 04 46 30.5
comp=Z,16nm,1.5s
YNE Yellowstone No 51.41 295 P **P 04 46 25.1 +0.3**
BOZ Bozeman (W) 51.55 297 P **P 04 46 26.2 +0.4**
BOZ pmax pmax
comp=Z,30nm,1.4s
BOZ Bozeman (W) 51.55 297 P **P 04 46 26.1 +0.4**
YMP Mirror Lake Pl 51.69 295 P **P 04 46 27.4 +0.4**
DZA Taraz 51.88 69 *e*P **P 04 46 30.0 +1.8**
DZA Taraz 51.88 69 *e*P **P 04 46 29.9 +1.8**
YHH Holmes Hill 51.92 295 P **P 04 46 29.1 +0.4**
IUG Iuzhnay 51.98 71 *e*P **P 04 46 29.6 +0.6**
IUG Iuzhnay 51.98 71 *e*P **P 04 46 29.5 +0.6**
DGZ Jazzator, Alta 52.17 53*d* *i* P **P 04 46 30.4 0.0**
DGZ pmax pmax
comp=Z,23nm,1.4s
YPP Pitchstone Pla 52.34 295 P **P 04 46 32.0 +0.2**
CBKS Cedar Bluff 52.41 282 P **P 04 46 32.8 +0.6**
CBKS pmax pmax
comp=Z,23nm,1.3s
CBKS Cedar Bluff 52.41 282 P **P 04 46 32.8 +0.6**
CBKS IAmb IAmb 04 46 38.0
comp=Z,23nm,1.2s
FLWY Flagg Ranch 52.45 295 P **P 04 46 33.0 +0.4**
MAKZ Makanchi 52.69 58 P **P 04 46 35.5 +1.4**
MAKZ pmax pmax
comp=Z,23nm,1.5s
MAKZ Makanchi 52.69 58 P **P 04 46 35.5 +1.4**
MAKZ IAmb IAmb 04 46 37.5
comp=Z,23nm,1.4s
PHWY Pilot Hill 52.69 289 P **P 04 46 34.5 0.0**
PHWY IAmb IAmb 04 46 40.9
comp=Z,14nm,1.4s
IMW Indian Meadow 52.70 295 P **P 04 46 34.8 +0.2**
IMW IAmb IAmb 04 46 41.9
comp=Z,17nm,1.4s
SGDS Sogindy 52.72 66 *e*P **P 04 46 36.3 +1.8**
SGDS Sogindy 52.72 66 *e*P **P 04 46 36.2 +1.8**
MKAR Makanchi Array 52.82 58 P **P 04 46 33.4 -1.7**
comp=Z,6.3nm,1.1s,baz=324,slow=6.0,SNR=12
MKAR Makanchi Array 52.82 58*ce*P **P 04 46 37.2 +2.2**

MKAR					pmax	pmax			
	comp=Z,6.0nm,1.1s								
MKAR	**Makanchi Array**	**52.82**	**58**		P	**P**	**04 46 34.2**	**-0.8**	
FXWY	**Fox Creek**	**52.95**	**295**		P	**P**	**04 46 36.5**	**+0.2**	
FXWY					IAmb	IAmb	04 46 43.6		
	comp=Z,17nm,1.4s								
SNOW	**Snow King Moun**	**53.00**	**294**		P	**P**	**04 46 37.1**	**+0.5**	
SNOW					IAmb	IAmb	04 46 43.9		
	comp=Z,25nm,1.4s								
KUU	**Kurty**	**53.02**	**65**	*eP*		**P**	**04 46 36.7**	**+0.2**	
KUU	**Kurty**	**53.02**	**65**	*eP*		**P**	**04 46 36.7**	**+0.2**	
TPAW	**Teton Pass**	**53.05**	**295**		P	**P**	**04 46 37.3**	**+0.2**	
TPAW					IAmb	IAmb	04 46 44.3		
	comp=Z,20nm,1.5s								
BW06	**Boulder Array**	**53.11**	**293**		P	**P**	**04 46 37.9**	**+0.4**	
BW06					IAmb	IAmb	04 46 44.2		
	comp=Z,21nm,1.1s								
PD31	**Pinedale Array**	**53.11**	**293**		IAmb	IAmb	04 46 44.1		
	comp=Z,19nm,1.1s								
PDAR	**Pinedale Array**	**53.11**	**293**		P	**P**	**04 46 35.8**	**-1.7**	
	comp=Z,5.4nm,1.1s,baz=58,slow=5.8,SNR=17								
PDAR	**Pinedale Array**	**53.11**	**293**		P	**P**	**04 46 36.4**	**-1.1**	
REDW	**Red Top Meadow**	**53.12**	**294**		P	**P**	**04 46 37.9**	**+0.4**	
REDW					IAmb	IAmb	04 46 44.6		
	comp=Z,24nm,1.4s								
TOA0	**Torodi Ar. Sit**	**53.14**	**156**		P	**P**	**04 46 37.0**	**-0.7**	
TOA0					IAmb	IAmb	04 46 43.0		
	comp=Z,19nm,1.4s								
TORD	**Torodi Ar. Bea**	**53.14**	**156**		P	**P**	**04 46 35.2**	**-2.4**	
	comp=Z,8.8nm,1.0s,baz=341,slow=8.4,SNR=12								
TORD	**Torodi Ar. Bea**	**53.14**	**156**		P	**P**	**04 46 36.1**	**-1.5**	
ZSN	**Zaisan**	**53.19**	**56**	*eP*		**P**	**04 46 39.1**	**+1.3**	
ZSN	**Zaisan**	**53.19**	**56**	*eP*		**P**	**04 46 39.0**	**+1.3**	
AAK	**Ala-Archa**	**53.36**	**67**	*d iP*		**P**	**04 46 42.1**	**+2.9**	
AAK					pmax	pmax			
	comp=Z,70nm,1.4s								
PLID	**Pearl Lake**	**53.64**	**299**		P	**P**	**04 46 41.6**	**+0.3**	
PLID					IAmb	IAmb	04 46 45.4		
	comp=Z,16nm,1.4s								
ISCO	**Idaho Springs**	**54.02**	**288**		P	**P**	**04 46 44.5**	**+0.2**	
ISCO					pmax	pmax			
	comp=Z,7.0nm,1.2s								
ISCO	**Idaho Springs**	**54.02**	**288**		P	**P**	**04 46 44.5**	**+0.2**	
KPKS	**Kokpek**	**54.29**	**63**	*eP*		**P**	**04 46 47.6**	**+1.7**	
KPKS	**Kokpek**	**54.29**	**63**	*eP*		**P**	**04 46 47.6**	**+1.7**	
HLID	**Hailey**	**54.33**	**297**		P	**P**	**04 46 46.8**	**+0.5**	
MOY	**Mondy**	**54.75**	**42**	*eP*		**P**	**04 46 49.6**	**+0.4**	
MOY					pmax	pmax			
	comp=Z,69nm,1.9s								
HWUT	**Hardware Ranch**	**54.88**	**294**		P	**P**	**04 46 50.7**	**+0.3**	
HWUT					IAmb	IAmb	04 46 57.0		
	comp=Z,19nm,1.1s								
RDMU	**Red Mountain**	**54.97**	**292**		P	**P**	**04 46 51.3**	**+0.2**	
TCUT	**Toone Canyon**	**55.24**	**293**		P	**P**	**04 46 53.5**	**+0.4**	
WMOK	**Wichita Mounta**	**55.46**	**279**		P	**P**	**04 46 54.8**	**+0.3**	
WMOK					pmax	pmax			
	comp=Z,17nm,1.4s								
WMOK	**Wichita Mounta**	**55.46**	**279**		P	**P**	**04 46 54.8**	**+0.3**	
WMOK					IAmb	IAmb	04 47 00.9		
	comp=Z,17nm,1.4s								
SPUT	**South Promonto**	**55.49**	**294**		P	**P**	**04 46 55.1**	**+0.4**	
JLU	**Jordanelle**	**55.70**	**293**		P	**P**	**04 46 57.0**	**+0.6**	
BGU	**Big Grassy Mou**	**56.04**	**295**		P	**P**	**04 46 59.4**	**+0.7**	
P17A	**Butcher Ranch,**	**56.38**	**292**		P	**P**	**04 47 01.3**	**+0.1**	
PV22	**Blue Mesa, Par**	**56.39**	**290**		P	**P**	**04 47 01.8**	**+0.5**	
PV21	**Cone Mtn., Par**	**56.45**	**290**		IAmb	IAmb	04 47 10.6		
	comp=Z,17nm,1.2s								
ZAK	**Zakamensk**	**56.55**	**41**	*eP*		**P**	**04 47 01.9**	**-0.2**	
ZAK					pmax	pmax			
	comp=Z,9.0nm,1.3s								
PV23	**Carpenter Ridg**	**56.55**	**290**		IAmb	IAmb	04 47 08.3		
	comp=Z,13nm,1.0s								
PV04	**Paradox Valley**	**56.56**	**290**		IAmb	IAmb	04 47 08.3		
	comp=Z,12nm,1.1s								
DUG	**Dugway, Tooele**	**56.58**	**294**		P	**P**	**04 47 02.9**	**+0.3**	
DUG					pmax	pmax			
	comp=Z,27nm,1.5s								
DUG	**Dugway, Tooele**	**56.58**	**294**		P	**P**	**04 47 02.9**	**+0.3**	
KSH	**Kashi**	**56.60**	**68**		P	**P**	**04 47 07.0**	**+4.4**	
KSH					S	**S**	**04 54 56.0**	**+1.7**	
KSH					pmax	pmax			
	comp=Z,28nm,1.1s								
KSH					pmax	pmax			
	comp=Z,360nm,6.7s								
KSH					LR	LR			
	comp=N,690nm,7.0s								
KSH					LR	LR			
	comp=E,600nm,7.5s								
KSH					LR	LR			
	comp=Z,2µm,13.2s								
SRU	**San Rafael Swe**	**56.60**	**291**		P	**P**	**04 47 02.8**	**+0.1**	
SRU					pmax	pmax			
	comp=Z,20nm,1.3s								
SRU	**San Rafael Swe**	**56.60**	**291**		P	**P**	**04 47 02.8**	**+0.1**	
PV14	**Lion Creek, Pa**	**56.63**	**290**		P	**P**	**04 47 03.1**	**+0.1**	
PV14					IAmb	IAmb	04 47 08.7		
	comp=Z,7.9nm,0.8s								
PV11	**David Mesa, Pa**	**56.63**	**290**		P	**P**	**04 47 03.4**	**+0.4**	
PV03	**Paradox Valley**	**56.66**	**290**		P	**P**	**04 47 03.4**	**+0.2**	
PV17	**East Wray Mesa**	**56.68**	**290**		P	**P**	**04 47 03.4**	**0.0**	
PV17					IAmb	IAmb	04 47 10.6		
	comp=Z,12nm,1.0s								
PV18	**Skein Mesa, Pa**	**56.69**	**290**		P	**P**	**04 47 03.6**	**+0.2**	
TMUT	**Trail Mountain**	**56.72**	**292**		P	**P**	**04 47 03.7**	**0.0**	
PV05	**Paradox Valley**	**56.91**	**290**		P	**P**	**04 47 04.2**	**-0.8**	
Q16A	**Castle Valley**	**57.02**	**292**		P	**P**	**04 47 06.0**	**+0.3**	
ELK	**Elko**	**57.06**	**296**		P	**P**	**04 47 06.1**	**+0.1**	
ELK					pmax	pmax			
	comp=Z,7.0nm,1.4s								
ELK	**Elko**	**57.06**	**296**		P	**P**	**04 47 06.1**	**+0.1**	
WMQ	**Urumqi**	**57.33**	**56**	*eP*		**P**	**04 47 10.8**	**+3.1**	
WMQ					sP	sP	04 47 17.6	+4.8	
WMQ					pmax	pmax			
	comp=Z,11nm,1.5s								
MVCO	**Mesa Verde**	**57.41**	**289**		P	**P**	**04 47 08.5**	**-0.1**	
MVCO					IAmb	IAmb	04 47 15.7		
	comp=Z,14nm,1.4s								
MSU	**Marysvale**	**57.77**	**292**		P	**P**	**04 47 11.2**	**+0.1**	
MSU	**Marysvale**	**57.77**	**292**		P	**P**	**04 47 11.2**	**+0.1**	
FDF	**Fort de France**	**57.95**	**232**		P	**P**	04 47 19.9	+7.6	
MOD	**Modoc Plateau**	**57.98**	**301**		P	**P**	**04 47 12.4**	**+0.1**	
ANMO	**Albuquerque**	**58.52**	**286**		P	**P**	**04 47 16.5**	**+0.2**	
ANMO					pmax	pmax			
	comp=Z,8.0nm,1.3s								
ANMO	**Albuquerque**	**58.52**	**286**		P	**P**	**04 47 16.5**	**+0.2**	
DBIC	**Dimbokro**	**58.58**	**165**		P	**P**	**04 47 15.9**	**-0.7**	
	comp=Z,6.9nm,0.9s,baz=347,slow=5.8,SNR=5.3								
DBIC	**Dimbokro**	**58.58**	**165**		P	**P**	**04 47 16.2**	**-0.4**	
DBIC					pmax	pmax			
	comp=Z,15nm,1.2s								
DBIC	**Dimbokro**	**58.58**	**165**		P	**P**	**04 47 16.2**	**-0.4**	
DBIC					IAmb	IAmb	04 47 21.7		
	comp=Z,15nm,1.2s								
TIC	**Toumodi**	**58.58**	**165**	*e*	PKIKP	**P**	**04 47 18.1**	**+1.4**	
KIC	**Kosan Boka**	**58.89**	**165**	*e*	PKIKP	**P**	**04 47 17.8**	**-1.0**	
	comp=Z,49nm,1.3s								
LIC	**Lamto**	**59.00**	**165**	*e*	PKIKP	**P**	**04 47 18.3**	**-1.2**	
	comp=Z,28nm,0.8s								
JCT	**Junction City**	**59.56**	**277**		P	**P**	**04 47 24.1**	**+0.7**	
JCT					pmax	pmax			
	comp=Z,35nm,1.3s								
JCT	**Junction City**	**59.56**	**277**		P	**P**	**04 47 24.1**	**+0.7**	
SONM	**Songino Array**	**59.73**	**40**		P	**P**	**04 47 24.4**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=318,slow=3.9,SNR=3.2								
SONM	**Songino Array**	**59.73**	**40**		P	**P**	**04 47 24.5**	**+0.1**	
SONM					pmax	pmax			
	comp=Z,6.0nm,1.3s								
SONM	**Songino Array**	**59.73**	**40**		P	**P**	**04 47 24.5**	**+0.1**	
NVAR	**Mina Array Bea**	**60.24**	**297**		P	**P**	**04 47 28.3**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=56,slow=4.9,SNR=1.5								
NVAR	**Mina Array Bea**	**60.24**	**297**		P	**P**	**04 47 32.1**	**+3.9**	
TPNV	**Topopah Spring**	**60.74**	**295**		IAmb	IAmb	04 47 36.2		
	comp=Z,10nm,1.5s								
MDPB	**Devils Postpil**	**61.23**	**297**		IAmb	IAmb	04 47 42.4		
	comp=Z,12nm,1.3s								
TXAR	**Lajitas Array**	**62.20**	**280**		P	**P**	**04 47 41.1**	**-0.3**	
	comp=Z,2.5nm,1.0s,baz=34,slow=4.9,SNR=8.9								
TXAR	**Lajitas Array**	**62.20**	**280**		P	**P**	**04 47 41.7**	**+0.3**	
TXAR	**Lajitas Array**	**62.20**	**280**		P	**P**	**04 47 41.7**	**+0.3**	
TUC	**Tucson**	**62.59**	**288**		P	**P**	**04 47 44.5**	**+0.5**	
TUC					pmax	pmax			
	comp=Z,15nm,1.3s								
TUC	**Tucson**	**62.59**	**288**		P	**P**	**04 47 44.5**	**+0.5**	
TUC					IAmb	IAmb	04 47 51.5		
	comp=Z,14nm,1.3s								
GTA	**Gaotai**	**65.39**	**49**	*e*	P	**P**	**04 48 05.0**	**+2.6**	
GTA					pP	sP	04 48 09.1	+1.6	
GTA					sP	pP	04 48 12.0	+5.9	
GTA					pmax	pmax			
	comp=Z,11nm,1.7s								
ZAIG	**Zacatecas**	**67.49**	**276**		P	**P**	**04 48 16.2**	**0.0**	
HHC	**Hu-ho-hao-te**	**67.60**	**39**	*e*	P	**P**	**04 48 18.1**	**+1.7**	
HHC					pmax	pmax			
	comp=Z,21nm,0.7s								
HHC					pmax	pmax			
	comp=Z,610nm,8.1s								
LZH	**Lanzhou**	**69.72**	**47**	*e*	P	**P**	**04 48 31.9**	**+2.1**	
LZH					pP	sP	04 48 35.0	0.0	
LZH					sP	PcP	04 48 45.7	-6.9	
LZH				*e*	PP	**PP**	**04 51 07.2**	**+3.8**	
LZH					pmax	pmax			
	comp=Z,21nm,1.3s								
LZH					pmax	pmax			
	comp=Z,83nm,8.2s								
LZH					LR	LR			
	comp=N,230nm,16.5s								
LZH					LR	LR			
	comp=E,240nm,16.8s								
LZH					LR	LR			
	comp=Z,310nm,18.6s								
ROSC	**El Rosal**	**71.83**	**241**		P	**P**	**04 48 40.8**	**-2.3**	
	comp=Z,3.6nm,0.5s,baz=27,slow=11,SNR=1.8								
ROSC	**El Rosal**	**71.83**	**241**		P	**P**	**04 48 42.5**	**-0.6**	
ROSC					IAmb	IAmb	04 48 49.2		
	comp=Z,12nm,0.8s								
KSRS	**Korea Array**	**74.72**	**28**		P	**P**	**04 48 58.8**	**-0.6**	
	comp=Z,0.8nm,0.4s,baz=234,slow=3.3,SNR=1.2								
TJN	**Taejon**	**75.65**	**28**	*i*	P	**P**	**04 49 07.1**	**+2.3**	
KMBO	**Kilima Mbogo**	**76.72**	**123**	*e*	P	**P**	**04 49 13.1**	**+1.7**	
MJAR	**Matsushiro Arr**	**77.40**	**20**		P	**P**	**04 49 12.7**	**-2.0**	
	comp=Z,0.6nm,0.3s,baz=331,slow=9.7,SNR=1.4								
NJ2	**Nanjing**	**77.82**	**37**	*e*	P	**P**	**04 49 19.4**	**+2.3**	
NJ2					pmax	pmax			
	comp=Z,15nm,0.6s								
SAML	**Samuel**	**80.85**	**226**		P	**P**	**04 49 32.8**	**-0.9**	
SAML					pmax	pmax			
	comp=Z,9.0nm,1.5s								
SAML	**Samuel**	**80.85**	**226**		P	**P**	**04 49 32.8**	**-0.9**	
CMAR	**Chiang Mai Arr**	**84.23**	**59**		P	**P**	**04 49 50.5**	**-1.0**	
	comp=Z,0.6nm,0.3s,baz=325,slow=6.3,SNR=8.2								
CMAR	**Chiang Mai Arr**	**84.23**	**59**	*ce*	P	**P**	**04 49 53.7**	**+2.2**	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**135.05**	**38**		PKP	**PKPdf**	**04 56 38.0**	**-0.9**	
	comp=Z,0.9nm,0.9s,baz=356,slow=2.2,SNR=2.5								
ASAR	**Alice Springs**	**135.05**	**38**		PKIKP	**PKPdf**	**04 56 39.0**	**+0.1**	
ASAR	**Alice Springs**	**135.05**	**38**			**PKPdf**	**04 56 39.0**	**+0.1**	
SNAA	**Sanae**	**136.41**	**173**	*i*	PKIKP	**PKiKP**	**04 56 48.0**	**+6.3**	
SNAA					pmax	pmax			
	comp=Z,9.0nm,2.5s								
STKA	**Stephens Creek**	**144.80**	**31**		PKP	**PKPab**	**04 56 54.0**	**-1.2**	
	comp=Z,3.1nm,0.8s,baz=350,slow=2.6,SNR=3.9								
STKA	**Stephens Creek**	**144.80**	**31**		PKIKP	**PKPab**	**04 56 55.2**	**0.0**	
STKA	**Stephens Creek**	**144.80**	**31**			**PKPab**	**04 56 55.2**	**0.0**	

*NCEDC **09** 04:49:57.9±2.0, 37°.48N±0°.03×118°.79W±0°.02, h7km±5km, ML3.1/13, Error ellipse: s-maj=4.2km s-min=2.6km az=156.0*

REN 09 04:49:57.9±1.9, 37°.48N±0°.02×118°.79W±0°.02, h3km±5km, Error ellipse: s-maj=2.7km s-min=2.1km az=70.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCVM	**Convict Lake**	**0.11**	**345**		Pg	04 50 00.6	+0.3
WMD		**0.13**	**109**		Pg	04 49 59.6	-0.9
MDRNC	**Doe Ridge**	**0.16**	**348**		Pg	04 50 01.8	+0.6
MLCM	**Laurel Creek C**	**0.16**	**323**		Pg	04 50 01.6	+0.4
MGPM	**Gravel Pit**	**0.17**	**329**		Pg	04 50 01.8	+0.5
MCBM	**Casa Benchmark**	**0.18**	**333**		Pg	04 50 02.1	+0.6
ORC	**Owens River**	**0.19**	**35**		Pg	04 50 02.0	+0.3
MCSM	**Casa Diablo Ho**	**0.20**	**333**		Pg	04 50 02.4	+0.6
MLHM	**Little Hot Cre**	**0.20**	**355**		Pg	04 50 02.5	+0.7
OMMB	**Old Mammoth Mi**	**0.21**	**309**		Pg	04 50 02.4	+0.3
MEMM	**East Mammoth H**	**0.22**	**328**		Pg	04 50 02.8	+0.6
MTUM	**Tungsten Hills**	**0.22**	**125**		Pg	04 50 02.4	+0.1
MMPM	**Mammoth Pass**	**0.23**	**305**		Pg	04 50 02.8	+0.3
MMLB	**Mammoth Lakes**	**0.23**	**320**		Pg	04 50 03.1	+0.6
MLIM	**Lincoln Peak**	**0.24**	**311**		Pg	04 50 03.2	+0.6
MMSM	**Mammoth Summit**	**0.24**	**308**		Pg	04 50 03.2	+0.5
MRDM	**Red Cones**	**0.24**	**299**		Pg	04 50 03.1	+0.4
MDYM	**Dry Creek**	**0.25**	**315**		Pg	04 50 03.4	+0.6
MDPB	**Devils Postpil**	**0.27**	**304**		Pg	04 50 03.6	+0.3
MDPB					Sg	04 50 07.2	+0.3
MINS	**Minaret Summit**	**0.27**	**309**		Pg	04 50 03.6	+0.3
MCDM	**Chidago Canyon**	**0.29**	**76**		Pg	04 50 03.9	+0.3
BENR	**Benton**	**0.29**	**37**		Pg	04 50 03.8	+0.1
MFBM	**Five Bridges**	**0.29**	**100**		Pg	04 50 04.2	+0.5
MRCM	**Red Rock Canyo**	**0.30**	**50**		Pg	04 50 03.9	+0.1
MDCM	**Deadman Creek**	**0.30**	**319**		Pg	04 50 04.1	+0.3
MLNR	**Milner Canyon**	**0.38**	**72**		Pg	04 50 05.4	+0.2
POCCA	**Poleta Canyon**	**0.43**	**106**		Pg	04 50 06.2	0.0
KCC	**Keene Creek**	**0.45**	**250**		Pg	04 50 06.7	+0.1
BONR	**Boundary Peak**	**0.61**	**39**		Pg	04 50 09.8	+0.1
LUL	**Lundy Lake**	**0.65**	**332**		Pb	04 50 12.6	+0.5
LHV	**Little Huntoon**	**0.80**	**17**		Pg	04 50 13.4	+0.1
HELL	**Mitchell Peak,**	**0.82**	**193**		Pg	04 50 13.3	-0.4
NVAR	**Mina Array Bea**	**1.02**	**22**	Pg	Pg	04 50 16.6	-1.0
NVAR				Sg	Sg	04 50 30.5	-0.3
NV11	**Mina Array Sit**	**1.07**	**28**		Pg	04 50 18.1	-0.5
NV11				Sg	Sg	04 50 32.3	-0.2
WAKR	**Walker**	**1.14**	**334**		Pg	04 50 19.9	+0.1
RYN	**Ryan**	**1.17**	**10**		Pg	04 50 20.1	-0.2
MRHM	**Rocky Hill**	**1.22**	**191**		Pg	04 50 20.1	-1.2
MYLM	**Yosemite Lake**	**1.30**	**266**		Pg	04 50 22.2	-0.6
CMB	**Columbia Colle**	**1.38**	**294**		Pn	04 50 23.1	-0.9
MCUB	**Copperopolis B**	**1.53**	**289**		Pn	04 50 26.0	-0.2
YERR	**Yerington**	**1.54**	**347**		Pn	04 50 26.9	+0.4
PWMM	**Westland Maint**	**1.54**	**228**		Pb	04 50 27.2	+0.1
BFC	**Buffalo Canyon**	**1.55**	**336**		Pb	04 50 27.3	-0.1
KVN	**Kaiserville**	**1.66**	**19**		Pn	04 50 28.1	0.0
GNO	**Genoa**	**1.67**	**330**		Pb	04 50 29.2	-0.2
PNTR	**Pine Nut**	**1.73**	**339**		Pn	04 50 29.6	+0.6
BRMM	**Rolling Bench**	**1.75**	**249**		Pb	04 50 30.3	-0.3
PARM	**Anticline Ridg**	**1.75**	**226**		Pb	04 50 30.2	-0.4
PKEM	**Kettleman Hill**	**1.77**	**217**		Pb	04 50 30.7	-0.3
BMSM	**Mercy Hot Spri**	**1.80**	**243**		Pb	04 50 31.1	-0.4
EMB	**Emerald Bay**	**1.81**	**326**		Pb	04 50 31.3	-0.6
RUBR	**Rubicon Trail**	**1.90**	**326**		Pb	04 50 32.5	-0.9
WOFM	**Oak Flat**	**1.94**	**178**		Pb	04 50 33.4	-0.6
BAVM	**Antelope Valle**	**1.97**	**246**		Pb	04 50 33.5	-1.0
TAHR	**Tahoe**	**1.98**	**328**		Pb	04 50 33.9	-1.0
BBGB	**Big Mountain B**	**2.01**	**244**		Pb	04 50 34.6	-0.5
CMPM	**Mikes Peak**	**2.01**	**267**		Pb	04 50 34.3	-0.9
BEMM	**Emmet**	**2.02**	**247**		Pb	04 50 34.2	-1.0
PSMM	**Smith Mountain**	**2.02**	**226**		Pb	04 50 34.8	-0.5
PMPB	**Monarch Peak**	**2.05**	**222**	Pn	Pn	04 50 32.5	-0.8
AASM	**Arroyo Seco**	**2.06**	**298**		Pb	04 50 35.1	-0.8
PBWM	**Bitterwater Cr**	**2.07**	**236**		Pb	04 50 36.0	-0.1
BEHM	**Elkhorn Ranch**	**2.07**	**248**		Pb	04 50 35.6	-0.5
LRV	**Little Rabbit**	**2.07**	**240**		Pb	04 50 35.8	-0.3
PKD	**Bear Valley Ra**	**2.08**	**223**		Pn	04 50 34.4	+0.7
TPNV	**Topopah Spring**	**2.10**	**104**	Pn	Pn	04 50 33.3	-0.8
THIS	**South End of C**	**2.10**	**214**		Pn	04 50 34.9	+0.9
PAGB	**Antelope Grade**	**2.10**	**214**	Pn	Pn	04 50 33.2	-0.8
BVL	**Bear Valley**	**2.12**	**245**		Pb	04 50 36.4	-0.6
HFEM	**San Felipe**	**2.14**	**257**		Pn	04 50 34.5	0.0
BLRM	**Lewis Ranch**	**2.14**	**248**		Pb	04 50 36.5	-0.9
GHS	**Gilroy Hot Spr**	**2.15**	**260**		Pb	04 50 36.2	-1.3
TRAM	**Private Proper**	**2.16**	**214**		Pn	04 50 35.3	+0.5
TCHL	**Shandon**	**2.21**	**216**		Pn	04 50 36.9	+1.4
SAO	**San Andreas Ge**	**2.24**	**252**		Pn	04 50 37.3	+1.4
AFDM	**Forest Hills D**	**2.26**	**311**		Pn	04 50 35.5	-0.6
SCZ	**Santa Cruz**	**2.27**	**248**		Pn	04 50 37.5	+1.2
MHC	**Mount Hamilton**	**2.27**	**267**		Pb	04 50 38.3	-1.4
BJCM	**Johnson Can.**	**2.28**	**247**		Pn	04 50 37.6	+1.2
TSCN	**Private Proper**	**2.30**	**213**		Pn	04 50 38.1	+1.3
PCCM	**Crazy Canyon**	**2.36**	**235**		Pn	04 50 38.7	+1.2
BSMM	**Soledad Missio**	**2.38**	**243**		Pn	04 50 39.0	+1.2
HAST	**Hastings Reser**	**2.46**	**245**		Pn	04 50 40.0	+1.0
WVA	**Winnemucca Val**	**2.59**	**342**		Pn	04 50 42.1	+1.3
ORV	**Oroville**	**2.96**	**315**	Pn	Pn	04 50 45.5	-0.3
ORV				Sn	Sn	04 51 20.8	-1.2
PRN	**Pahroc Range**	**2.98**	**90**		Pn	04 50 46.4	+0.2
PSUT	**Pine Spring**	**4.04**	**73**	Pn	Pn	04 50 60.0	-0.8
ELK	**Elko**	**4.27**	**39**	Pn	Pn	04 51 02.8	-1.2
CCUT	**Cedar City**	**4.32**	**87**	Pn	Pn	04 51 03.8	-0.8
LCMT	**Little Creek M**	**4.45**	**94**	Pn	Pn	04 51 05.2	-1.2

*IDC **09** 04:51:55.7±1.6, 8°.14S×117°.71E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/40, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=55.0km s-min=21.7km az=59.0*
*DJA **09** 04:51:59.6±0.8, 8°.S±.5°×11°.8E±°, h18km±9km, M3.8/6, MLv3.8/6*

ISC 09 04:52:01.1±0.9, 8°.15S±0°.06×117°.88E±0°.07, h35km, n11, σ1s11/14, mb3.9/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.68**	**189**	P	**Pn**	**04 52 13.1**	**-1.2**
PLAI				S	**Sn**	**04 52 23.1**	**-0.6**
TWSI	**Taliwang, Sumb**	**1.15**	**239**	P	**Pn**	**04 52 20.5**	**-0.2**
TWSI				S	**Sn**	**04 52 36.3**	**+1.0**
BKSI	**Bulukumba**	**3.58**	**39**	P	**Pn**	**04 52 53.9**	**-0.3**
KAPI	**Kappang**	**3.62**	**31**	Pn	**Pn**	**04 52 54.6**	**-0.2**
	9.2nm,0.3s,baz=217,slow=10,SNR=18						
KAPI				Sn	**Sn**	**04 53 34.5**	**-1.8**
	3.8nm,0.3s,baz=210,slow=20,SNR=3.6						
EDFI	**Ende, Flores**	**3.81**	**99**	P	**Pn**	**04 52 57.9**	**+0.4**
BNSI	**Bone**	**4.33**	**31**	P	**Pn**	**04 53 05.5**	**+1.1**
WRA	**Warramunga Arr**	**19.78**	**128**	P	**P**	**04 56 28.4**	**-0.1**
	0.1nm,0.3s,baz=301,slow=13,SNR=6.6						
ASAR	**Alice Springs**	**21.77**	**137**	P	**P**	**04 56 50.8**	**+0.8**
	1.8nm,0.5s,baz=313,slow=9.8,SNR=24						
STKA	**Stephens Creek**	**32.31**	**140**	P	**P**	**04 58 27.9**	**+1.0**
	1.4nm,0.7s,baz=304,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**63.20**	**333**	P	**P**	**05 02 26.5**	**+0.7**
	0.5nm,0.7s,baz=137,slow=7.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**67.86**	**340**	P	**P**	**05 02 53.8**	**-1.9**
	0.6nm,0.4s,baz=174,slow=7.2,SNR=2.0						

*IDC **09** 04:55:28.6±1.4, 39°.69N×20°.36E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/40, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=33.0km s-min=21.5km az=102.0*
*TIR **09** 04:55:30.6, 39°.68N×20°.38E, h16km±1km, Ml3.4*
*ATH **09** 04:55:31.5, 39°.69N×20°.41E, h10km±1km, ML3.2/6, Error ellipse: s-maj=1.9km s-min=0.9km az=240.0*
*THE **09** 04:55:31.8, 39°.69N×20°.40E, h0km±2km, ML3.1/10, Error ellipse: s-maj=2.3km s-min=0.6km az=304.0*
*BEO **09** 04:55:31.9±0.4, 39°.60N×20°.27E, h14km±2km, ML3.0/10*

ISC 09 04:55:31.3±0.7, 39°.68N±0°.02×20°.37E±0°.02, h16km±5km, n125, σ1s61/156, mb3.6/4, 5C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.15**	**191**	P	**Pg**	**04 55 34.8**	**-0.5**
IGT				S	**Sg**	**04 55 38.2**	**+0.2**
	28µm,0.2s						
IGT	**Igoumenitsa**	**0.15**	**191**	*e*Pg	**Pg**	**04 55 34.8**	**-0.5**
IGT				*e*Sg	**Sg**	**04 55 38.0**	**0.0**
IGT	**Igoumenitsa**	**0.15**	**191**	P	**Pg**	**04 55 34.8**

MAKR	Makrakomi, Fth	1.52	115	P	Pb	04 55 59.5	+0.4	
ANX	Ano Chora	1.62	131	P	Pb	04 56 01.4	+0.5	
ANX	Ano Chora	1.62	131	P	Pb	04 56 01.8	+0.9	
AGG	Agios Georgios	1.66	113	P	Pb	04 56 01.6	+0.2	
AGG	Agios Georgios	1.66	113	P	Pb	04 56 01.6	+0.2	
LIT	Litokhoron	1.69	75	P	Pb	04 56 02.0	+0.1	
LIT	Litokhoron	1.69	75	P	Pb	04 56 02.1	+0.1	
TIR	Tirane	1.71	347	*e*Pg	Pb	04 56 03.1	+0.7	
TIR				*e*Sg	Sg	04 56 29.0	+2.5	
TIR	Tirane	1.71	347	⇓P	Pb	04 56 02.8	+0.4	
TIR	Tirane baz=347	1.71	347	P	Pb	04 56 02.3	-0.1	
TIR				S	Sg	04 56 25.9	-0.6	
TIR	baz=347			AMP				
SERG	comp=E,1.2nm,0.9s,baz=347 Sergoula	1.82	133	P	Pb	04 56 05.3	+1.1	
TRIZ	Trizonia	1.86	134	P	Pb	04 56 06.0	+1.0	
KALE	Kalithea	1.88	132	P	Pb	04 56 06.1	+0.8	
PHP	Peshkopia baz=1.0	2.01	2	P	Pb	04 56 07.4	0.0	
PHP				AMP				
DSF	comp=N,0.9nm,0.9s,baz=1.0 Desfina	2.10	126	P	Pb	04 56 08.9	-0.2	
XOR	Xorichti	2.21	97	P	Pb	04 56 10.6	-0.2	
NEO	Neokhori	2.24	99	P	Pb	04 56 10.8	-0.6	
ATAL	Atalanti	2.28	115	P	Pb	04 56 11.0	-1.1	
HORT	Hortiatis	2.29	65	P	Pn	04 56 10.8	+2.4	
VAY	Valandovo	2.35	45	*e*Pn	Pb	04 56 12.1	-1.1	
VAY	Valandovo	2.35	45	*i* Pn	Pn	04 56 11.6	+2.5	
PUK	Puka baz=352	2.39	351	P	Pn	04 56 12.0	+2.1	
PUK	baz=352			S	Sb	04 56 45.2	+2.0	
PUK				AMP				
SKO	comp=E,1.2nm,0.9s,baz=352 Skopje	2.43	19	*e*Pg	Pg	04 56 16.8	-1.2	
SKO				*e*Sg	Sg	04 56 51.3	+1.8	
KNT	Kendrikon	2.44	52	P	Pn	04 56 12.6	+2.3	
STIP	Stip	2.44	34	*i* Pn	Pb	04 56 15.3	+0.4	
PAIG	Paliouri	2.56	83	P	Pn	04 56 14.1	+1.9	
TRIP	Tripoli	2.61	145	P	Pb	04 56 16.4	-1.4	
DRME	Dracevica, Mon	2.66	341	*e*Pn	Pn	04 56 15.1	+1.6	
VIL2	Platees	2.69	122	P	Pb	04 56 17.3	-1.8	
BCI	Bajram Curri baz=356	2.70	355	P	Pn	04 56 17.1	+3.1	
TIP	Timpagrande	2.84	261	⇓P	Pn	04 56 17.1	+1.1	
OUR	Ouranopolis	2.85	76	P	Pn	04 56 18.0	+2.0	
SRS	Serrai	2.85	59	*e*Pn	Pn	04 56 18.9	+2.8	
SRS	Serrai	2.85	59	P	Pn	04 56 19.0	+2.8	
PDG	Podgorica	2.88	343	*e*Pn	Pn	04 56 18.4	+1.9	
PDG	Podgorica	2.88	343	⇑P	Pn	04 56 18.3	+1.9	
PDG	Podgorica	2.88	343	*e*Pn	Pn	04 56 17.8	+1.4	
MATE	Matera	2.97	290	⇑P	Pn	04 56 19.6	+1.9	
KKB	Krupnik	3.01	42	*i* Pg	Pn	04 56 21.6	+3.4	
HCY	Herceg Novi	3.11	333	*e*Pn	Pn	04 56 19.9	+0.3	
BOSS	Bosilegrad	3.24	29	*e*Pn	Pn	04 56 24.0	+2.6	
DBRK	Dubrovnik	3.43	331	*e*Pn	Pn	04 56 23.8	-0.2	
DBRK				Sn	Sn	04 56 58.8	-5.4	
BRY	Bratogost	3.50	337	*e*Pn	Pn	04 56 26.3	+1.1	
CUC	Castrocucco	3.52	277	P	Pn	04 56 28.3	+3.0	
SELS	Selova	3.58	9	*e*Pn	Pn	04 56 27.6	+1.4	
SJES	Sjenica	3.59	355	*e*Pn	Pn	04 56 28.9	+2.5	
SJES				*e*Sg	Sg	04 57 27.5	+0.8	
UPM	Unac-Piva	3.69	343	*e*Pn	Pn	04 56 29.4	+1.6	
STON	Ston	3.77	329	*e*Pn	Pn	04 56 28.4	-0.3	
STON				Sn	Sn	04 57 07.2	-5.5	
IVAS	Ivanjica	3.90	358	*e*Pn	Pn	04 56 31.6	+1.0	
LSTV	Lastovo	4.05	321	*e*Pn	Pn	04 56 32.6	0.0	
LSTV				Sn	Sn	04 57 14.7	-4.9	
BOVS	Bovan	4.08	14	*e*Pn	Pn	04 56 34.2	+1.2	
GRUS	Gruza	4.22	3	*e*Pn	Pn	04 56 36.5	+1.7	
BBLS	Lazići	4.25	351	*e*Pn	Pn	04 56 36.9	+1.6	
BBLS	Lazići	4.25	351	*e*Pn	Pn	04 56 36.2	+0.9	
ZAGS	Zajecar	4.36	18	*e*Pn	Pn	04 56 38.8	+2.0	
MAKA	Makarska	4.40	326	*e*Pn	Pn	04 56 36.3	-1.0	
MAKA				Sn	Sn	04 57 23.9	-4.3	
DIVS	Divibare	4.43	356	*e*Pn	Pn	04 56 39.3	+1.5	
DIVS	Divibare	4.43	356	*e*Pn	Pn	04 56 38.6	+0.8	
RICI	Ricice	4.52	329	*e*Pn	Pn	04 56 40.1	+1.1	
RICI				Sn	Sn	04 57 27.2	-4.1	
HAPS	Han Pijesak,BI	4.53	347	*e*Pn	Pn	04 56 40.4	+1.1	
HAPS	Han Pijesak,BI	4.53	347	*e*Pn	Pn	04 56 39.4	+0.1	
TRUS	Trudelj	4.54	0	*e*Pn	Pn	04 56 41.4	+2.1	
APE	Apeiranthos	4.82	121	⇓P	Pn	04 56 42.9	-0.2	
KIJV	Kijevo	5.24	327	*e*Pn	Pn	04 56 49.3	+0.3	
KIJV				Sn	Sn	04 57 45.9	-3.0	
FRGS	Fruska Gora	5.49	356	*e*Pn	Pn	04 56 53.3	+0.9	
BLY	Banja Luka	5.59	336	*e*Pn	Pn	04 56 51.3	-2.4	
IDI	Anoyia comp=E,0.9nm,0.3s,baz=304,slow=11,SNR=7.2	5.67	139	Pn	Pn	04 56 54.4	-0.5	
IDI				Sn	Sn	04 57 56.7	-2.9	
IDI	comp=E,2.2nm,0.3s,baz=301,slow=18,SNR=8.0 Anoyia	5.67	139	⇑P	Pn	04 56 55.0	+0.2	
DUGI	Dugi Otok	5.86	319	*e*Pn	Pn	04 56 58.0	+0.6	
DUGI				Sn	Sn	04 58 01.4	-2.8	
BZS	Buzias	6.01	8	⇓P	Pn	04 57 00.6	+1.1	
SIRR	Siria	6.66	8	⇓P	Pn	04 57 10.6	+2.2	
VOIR		6.71	29	⇑P	Pn	04 57 10.9	+1.7	
MLR	Muntele Rosu comp=E,0.1nm,0.3s,baz=224,slow=21,SNR=1.8	7.12	33	Pn	Pn	04 57 16.2	+1.4	
MLR	Muntele Rosu	7.12	33	⇑P	Pn	04 57 16.4	+1.6	
CRES	Cresnjev	7.13	331	*e*Pn	Pn	04 57 13.8	-1.0	
CEY	Cerknica	7.47	326	*e*Pn	Pn	04 57 18.5	-1.1	
OBKA	Obir comp=E,0.6nm,0.2s	8.04	330	*e*Pn	Pn	04 57 28.3	+0.8	
ARSA	Arzberg comp=E,1.3nm,0.3s	8.35	337	*e*Pn	Pn	04 57 34.9	+3.3	
KBA	Koelnbreinsper comp=E,0.4nm,0.3s	8.99	328	*e*Pn	Pn	04 57 42.7	+2.2	
WTTA	Wattenberg comp=E,0.3nm,0.2s	9.88	323	*e*Pn	Pn	04 57 53.7	+0.9	
FETA	Feichten comp=E,0.2nm,0.2s	10.15	319	*e*Pn	Pn	04 58 02.7	+6.3	
MOTA	Moosalm comp=E,0.7nm,0.3s	10.19	322	*e*Pn	Pn	04 57 58.9	+1.9	
HFS	Hagfors comp=E,2.2nm,0.8s,baz=186,slow=13,SNR=1.6	20.90	351	P	P	05 00 11.6	-1.1	
FINES	FINESS Array B comp=E,4.8nm,1.2s,baz=179,slow=12,SNR=4.2	22.08	7	P	P	05 00 24.4	-0.8	
NOA	NORSAR Array B comp=E,0.5nm,0.6s,baz=165,slow=10,SNR=2.3	22.13	348	P	P	05 00 25.9	0.0	
TORD	Torodi Ar. Bea comp=E,0.4nm,0.6s,baz=34,slow=9.8,SNR=2.4	31.14	217	P	P	05 01 49.3	+0.1	
MKAR	Makanchi Array comp=E,0.7nm,0.5s,baz=278,slow=7.7,SNR=6.4	44.63	60	P	P	05 03 42.0	-0.8	

*IDC **09** 04:57:12.3±0.6, 62.°08N×124.°08W, h0km, mb3.6/8, mb1 3.9/12, mb1mx3.7/36, mbtmp3.7/12, ML4.1/4, Error ellipse: s-maj=12.3km s-min=7.5km az=174.0*
*PGC **09** 04:57:12.6±0.0, 62.°11N×124.°02W, h1km, ML3.9/10, 149km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada*

ISC 09 04:57:12.0±0.5, 62.°11N±0.°04×124.°30W±0.°03, h10km, n57, σ2s39/91, mb3.9/9, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBC1	NorthernBC 1	2.47	174	Pn	Pn	04 57 53.9	+1.6
NBC1				Sn	Sb	04 58 25.2	-1.8
NBC2	NorthernBC 2	2.50	159	Pn	Pn	04 57 54.0	+1.3
NBC2				Sn	Sn	04 58 24.2	+0.9
NBC3	NorthernBC 3	3.05	143	Pn	Pn	04 58 00.5	+0.2
NBC3				Sn	Sn	04 58 34.2	-2.5
NBC3				Sg	Sb	04 58 45.3	+1.7
FNBB	Fort Nelson	3.29	168	Pn	Pn	04 58 04.2	+0.6
FNBB				Sn	Sn	04 58 43.9	+1.1
NBC6	NorthernBC 6	3.83	156	Pn	Pn	04 58 11.1	+0.1
NBC6				Sn	Sn	04 58 53.2	-2.9
YKA	Yellowknife Ar 2.6nm,0.3s,baz=210,slow=25,SNR=44	4.54	81	Pn	Pn	04 58 19.6	-1.1
YKA				Pg	Pb	04 58 33.1	+1.4
YKA	19nm,0.3s,baz=301,slow=2.4,SNR=16			Sn	Sn	04 59 12.7	-0.8
YKA	10nm,0.3s,baz=274,slow=22,SNR=4.2			Lg	Lg	04 59 27.5	
DLBC	27nm,0.3s,baz=78,slow=7.3,SNR=9.6 Dease Lake	4.66	220	Pn	Pn	04 58 24.2	+1.8
DLBC	11nm,0.3s,baz=41,slow=10.0,SNR=201			Pg	Pg	04 58 40.4	-0.7
	7.4nm,0.3s,baz=38,slow=14,SNR=9.3						
DLBC				Sn	Sn	04 59 14.8	-1.7
	6.4nm,0.3s,baz=85,slow=5.5,SNR=3.7						
DLBC				Lg	Lg	04 59 36.8	
	13nm,0.3s,baz=114,slow=26,SNR=6.3						
DLBC	Dease Lake	4.66	220	Pn	Pn	04 58 23.9	+1.5
DLBC				Sn	Sn	04 59 19.0	+2.5
NBC5	NorthernBC 5	4.67	169	Pn	Pn	04 58 22.3	-0.4
NBC5				Sn	Sn	04 59 15.1	-1.8
HILA	High Level	5.08	131	Pn	Pn	04 58 27.8	-0.3
HILA				Sn	Sn	04 59 21.3	-5.3
WHY	Whitehorse	5.29	259	Pn	Pn	04 58 32.7	+1.6
WHY				Sn	Sn	04 59 33.9	+1.7
WHY				Sg	Sg	05 00 00.2	-1.5
DHRN	Dharma Camp	5.36	21	Pn	Pn	04 58 32.4	+0.6
DHRN				Sn	Sn	04 59 30.3	-3.2
BMBC	Bull Mountain	6.18	169	Pn	Pn	04 58 42.9	-0.4
BMBC				Sn	Sn	04 59 50.7	-3.4
HYT	Haines Junctio	6.46	264	Pn	Pn	04 58 49.1	+1.9
HYT				Sg	Sg	05 00 36.5	-2.6
PLBC	Pleasant Camp	6.48	251	Pn	Pn	04 58 49.3	+2.0
PLBC				Sn	Sn	05 00 01.1	-0.1
PLBC				Sg	Sg	05 00 36.6	-3.1
YUK5	Granite Creek	6.54	267	Pn	Pn	04 58 51.2	+2.9
YUK5				Sg	Sg	05 00 38.7	-3.1
NBC4	NorthernBC 4	6.71	162	Pn	Pn	04 58 50.0	-0.6
NBC4				Sn	Sn	05 00 02.5	-4.5
YUK6	Outpost Mounta	6.83	266	Pn	Pn	04 58 54.4	+2.1
YUK6				Sg	Sg	05 00 49.6	-1.3
YUK7	Dusty Glacier	6.85	263	Pn	Pn	04 58 55.1	+2.5
YUK7				Sn	Sn	05 00 11.7	+1.1
YUK7				Sg	Sg	05 00 48.0	-3.6
YUK4	Talbot Arm	6.86	270	Pn	Pn	04 58 54.0	+1.3
YUK4				Sg	Sg	05 00 46.4	-5.6
KUKN	Kugluktuk,NWT	6.93	30	Pn	Pn	04 58 53.5	0.0
KUKN				Sn	Sn	05 00 07.5	-4.8
INK	Inuvik 8.7nm,0.3s,baz=133,slow=11,SNR=71	7.32	332	Pn	Pn	04 58 59.5	+0.7
INK	3.5nm,0.3s,baz=353,slow=20,SNR=1.8			Sn	Sn	05 00 19.3	-2.5
INK	2.1nm,0.3s,baz=278,slow=28,SNR=1.5			Lg	Lg	05 01 02.1	
INK	Inuvik	7.32	332	Pn	Pn	04 58 59.6	+0.7
INK				Sn	Sn	05 00 18.9	-3.0
YUK1	Sand Pete Hill	7.61	278	Sg	Sg	05 01 11.7	-4.2
YUK3	Moose Creek	7.63	275	Pn	Pn	04 59 05.0	+1.7
YUK3				Sg	Sg	05 01 13.8	-2.8
FSB	Fort Saint Jam	7.66	180	Pn	Pn	04 59 02.8	-0.7
BVCY	Beaver Creek	7.74	280	Pn	Pn	04 59 05.8	+1.3
PNL	Peninsula	7.76	258	Pn	Pn	04 59 07.2	+2.3
PNL				Sg	Sg	05 01 13.8	-6.9
YUK2	White River	7.81	275	Pn	Pn	04 59 07.5	+1.9
YUK2				Sn	Sn	05 00 33.0	-1.0
YUK2				Sg	Sg	05 01 19.4	-2.8
PCA	Pinnacle	7.99	262	Pn	Pn	04 59 11.1	+3.0
LOGN	Logan Glacier	8.10	268	Pn	Pn	04 59 13.3	+3.6
CTGM	Chitina Glacie	8.22	270	Pn	Pn	04 59 14.7	+3.4
CTGM				Sg	Sg	05 01 32.2	-3.2
TABL	Table Mountain	8.28	266	Sg	Sg	05 01 33.4	-4.2
GRNC	Granite Creek	8.48	268	Pn	Pn	04 59 18.8	+3.9
BALM	Baldy	8.67	271	Pn	Pn	04 59 21.8	+4.3
KIAG	Kiagna River	8.71	270	Pn	Pn	04 59 21.4	+3.3
KIAG				Sn	Sn	05 00 54.1	-2.2
MESA	MESA	8.75	265	Pn	Pn	04 59 22.9	+4.3
DOT	Dot Lake	9.15	288	Pn	Pn	04 59 25.2	+1.2
UBRB	Upper Baezaeko	9.24	179	Pn	Pn	04 59 25.0	-0.4
PAX	Paxson	9.81	284	Pn	Pn	04 59 35.3	+2.3
MNB	Mounoet Dainar	10.44	160	Pn	Pn	04 59 41.9	+0.1
ILAR	Eielson Array 0.3nm,0.3s,baz=99,slow=10,SNR=22	10.44	295	Pn	Pn	04 59 43.5	+1.9
ILAR	0.2nm,0.3s,baz=107,slow=31,SNR=4.5			Lg	Lg	05 02 43.5	
EDM	Edmonton	10.65	142	Pn	Pn	04 59 43.6	-0.9
EDM				Sn	Sn	05 01 33.7	-10
EDM				Sg		05 02 38.8	
PRDA	Priddis	12.53	150	Pn	Pn	05 00 08.0	-2.2
PRDA				Sn	Sn	05 02 18.5	-11
RES	Resolute Bay 0.8nm,0.3s,baz=222,slow=15,SNR=24	16.33	28	Pn	Pn	05 00 57.8	-3.1
RES	0.6nm,0.3s,baz=296,slow=23,SNR=1.9			Sn	Sn	05 03 44.5	-17
RES	0.3nm,0.3s,baz=301,slow=15,SNR=4.0			Lg	Lg	05 05 43.5	
ULM	Lac du Bonnet 0.4nm,0.3s,baz=317,slow=14,SNR=5.3	19.58	114	P	P	05 01 38.0	-1.9
ULM	0.1nm,0.3s,baz=16,slow=20,SNR=1.3			S	Sn	05 04 56.4	-24
ULM	0.2nm,0.3s,baz=48,slow=16,SNR=4.0			Lg	Lg	05 07 14.4	
PDAR	Pinedale Array 0.3nm,0.4s,baz=5.9,slow=5.5,SNR=10	21.25	149	P	P	05 01 59.8	+1.4
NVAR	Mina Array Bea 0.2nm,0.4s,baz=297,slow=12,SNR=1.7	23.99	168	P	P	05 02 27.4	+0.6
FRB	Frobisher Bay 9.6nm,1.0s,baz=291,slow=3.9,SNR=3.2	24.75	61	P	P	05 02 33.0	-0.2
ANMO	Albuquerque 0.0nm,0.3s,baz=104,slow=14,SNR=1.5	29.43	149	P	P	05 03 15.3	-0.4
TXAR	Lajitas Array 0.2nm,0.6s,baz=353,slow=6.6,SNR=2.6	35.47	148	P	P	05 04 09.2	+0.7
PETK	Petropavlovsk- 1.2nm,0.5s,baz=75,slow=11,SNR=1.6	40.27	294	P	P	05 04 49.8	+1.1
FINES	FINESS Array B 2.3nm,0.9s,baz=347,slow=11,SNR=1.8	54.72	17	P	P	05 06 42.8	+2.0
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=12,slow=8.2,SNR=3.7	62.03	341	P	P	05 07 33.8	+1.9
AKASG	Malin Array Be 0.6nm,0.4s,baz=343,slow=6.6,SNR=2.3	65.58	18	P	P	05 07 57.1	+1.7
TORD	Torodi Ar. Bea 0.2nm,0.5s,baz=308,slow=7.0,SNR=2.2	94.00	52	P	P	05 10 32.7	+2.6
VNDA	Vanda 1.3nm,1.1s,baz=38,slow=1.6,SNR=5.4	146.40	202	PKPbc	PKPab	05 16 53.9	+1.8

*ISK **09** 05:06:09.6, 34.°93N×28.°93E, h86km, ML2.8/12*
*DDA **09** 05:06:12.1, 35.°00N×29.°19E, h42km±7km, ML2.3*
*HLW **09** 05:06:12.6, 34.°25N×28.°96E, h11km±3km, Md3.3, Ml3.6*
*GII **09** 05:06:14.9±0.2, 34.°43N×29.°42E, h60km, MD2.8/1*

ISC 09 05:06:07.3±1.4, 34.°77N±0.°06×29.°03E±0.°05, h87km±38km, n49, σ2s26/68, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	Kas	1.53	18	PN	Pn	05 06 35.1	+1.7
AKAS				SN	Sn	05 06 53.6	+0.4
AKAS	Kas	1.53	18	*i* P	Pn	05 06 34.9	+1.4
AKAS				*i* S	Sn	05 06 52.9	-0.3
KARP	Karpathos	1.72	297	PN	Pn	05 06 37.1	+1.4
FETY	Fethiye	1.86	1	PN	Pn	05 06 38.8	+1.2
FETY	Fethiye	1.86	1	*i* P	Pn	05 06 38.4	+0.8
FETY				*i* S	Sn	05 06 57.7	-2.9
AKUM	Antalya-Kumluc	1.88	34	*i* P	Pn	05 06 38.7	+0.9
AKUM				*i* S	Sn	05 06 58.1	-3.0
DALY	Dalyan (Mula)	2.06	352	PN	Pn	05 06 41.6	+1.4
DALY	Dalyan (Mula)	2.06	352	*i* P	Pn	05 06 36.1	-4.1
ELL	Elmali	2.10	20	PN	Pn	05 06 43.1	+2.3
TURN	Turunc	2.10	343	PN	Pn	05 06 41.9	+1.2
TURN	Turunc	2.10	343	*i* P	Pn	05 06 39.4	-1.3
TURN				*i* S	Sn	05 06 57.7	-8.5
KEMT	Kemer-ANTALYA	2.21	34	PN	Pn	05 06 44.7	+2.6
DAT	Datca	2.28	329	PN	Pn	05 06 44.4	+1.2
DAT	Datca	2.28	329	*i* P	Pn	05 06 45.1	+1.9
DAT				*i* S	Sn	05 07 10.9	+0.2
YER	Yerkesik	2.44	346	PN	Pn	05 06 46.5	+1.3
KORT	Korkueli	2.47	25	PN	Pn	05 06 48.2	+2.4
GOLH	Golhisar	2.50	10	*i* P	Pn	05 06 48.4	+2.3
GOLH				*i* S	Sn	05 07 11.5	-4.3
GOLH				IAML		05 07 20.0	
	comp=N,22nm,1.0s						
BODT	Bodrum	2.68	329	PN	Pn	05 06 49.8	+1.4
TAVA	DENIZLI_Tavas	2.69	358	*i* P	Pn	05 06 49.3	+0.6
TAVA				*i* S	Sn	05 07 20.7	+0.2
TAVA				IAML		05 07 24.0	
	comp=E,12nm,0.9s						
TAVA				IAML		05 07 29.0	
	comp=N,14nm,0.6s						
KEPZ	Antalya-Kepez	2.98	44	*i* P	Pn	05 06 49.8	-2.8
KEPZ				*i* S	Sn	05 07 25.3	-2.1
AYDN	Tasoluk	3.03	342	*i* P	Pn	05 06 55.4	+2.2
AYDN				*i* S	Sn	05 07 28.7	+0.1
AYDN				IAML		05 07 36.0	
	comp=N,24nm,0.6s						
BRDR	BURDUR-Merkez	3.04	16	*i* P	Pn	05 06 52.8	-0.5
BRDR				IAML		05 07 33.0	
	comp=N,9.7nm,0.4s						
GAZI	Gazipasa	3.05	60	PN	Pn	05 06 57.1	+3.6
GAZI	Gazipasa	3.05	60	*i* P	Pn	05 06 54.0	+0.5
GAZI				*i* S	Sn	05 07 25.8	-3.2
GAZI				IAML		05 07 33.0	
	comp=N,17nm,1.1s						
GAZI				IAML		05 07 38.0	
	comp=E,12nm,0.4s						
AYDB	Zeytinkoy-Aydi	3.30	344	PN	Pn	05 06 58.3	+1.4
SEYD	Seydisehir-KON	3.48	40	PN	Pn	05 07 02.3	+3.0
CSS	Mathiatis	3.54	86	Pn	Pn	05 07 02.7	+2.6
CSS				Sn	Sn	05 07 42.1	+1.2
MANT	Manisa	3.73	354	*i* P	Pn	05 07 01.8	-1.1
MANT				IAML		05 07 45.0	
	comp=N,6.9nm,1.1s						
SLUM	Salum baz=230	4.58	225	P	Pn	05 07 16.9	+2.7
SLUM				AMP		05 08 00.0	
	baz=230						
SLUM				S	Sn	05 08 03.6	-2.5
	baz=230						
KOT	Kottamia baz=149	5.38	153	P	Pn	05 07 27.8	+2.7
KOT				S	Sn	05 08 22.1	-3.6
	baz=149						
OFRI	`Ofer	5.41	112	Sn	Sn	05 08 24.3	-2.1
HSAF	As Saff baz=153	5.56	157	P	Pn	05 07 29.7	+2.0
MMA0B	Mount Meron ar	5.58	106	Pn	Pn	05 07 29.9	+2.0
MMA0B				Sn	Sn	05 08 29.0	-1.7
SLTI	Sal'it	5.62	115	Sn	Sn	05 08 29.2	-2.3
GLL	Jalalah baz=152	5.65	156	P	Pn	05 07 31.1	+2.2
GEM	Giv'at Ha'Em	5.72	104	Pn	Pn	05 07 31.7	+1.9
GEM				Sn	Sn	05 08 33.1	-1.0
MMLI	Mount Malkishu	5.82	112	Sn	Sn	05 08 34.2	-2.2
SUZ	Suez baz=142	5.88	146	P	Pn	05 07 34.7	+2.9
HMDT	Nahal Hemdat	5.98	113	Pn	Pn	05 07 36.1	+2.9
HMDT				Sn	Sn	05 08 37.9	-2.4
YTIR	Yattir	6.13	122	Pn	Pn	05 07 37.2	+1.7
YTIR				Sn	Sn	05 08 42.1	-2.2
DSI	Dead Sea	6.21	119	Pn	Pn	05 07 38.3	+2.0
SWA2	baz=212	6.29	210	P	Pn	05 07 39.5	+2.0
GHAJ	Ghor Haditha	6.49	120	Pn	Pn	05 07 42.3	+2.2
ZFRI	Zfri	6.67	127	Sn	Sn	05 08 54.0	-3.2
KRMI	Paran Flat	6.69	132	Pn	Pn	05 07 44.8	+1.9
KRMI				Sn	Sn	05 08 53.7	-3.9
PRNI	Paran	6.70	130	Pn	Pn	05 07 44.6	+1.6
PRNI				Sn	Sn	05 08 54.9	-3.0
MBRI	Mt Berech	7.03	133	Pn	Pn	05 07 48.9	+1.2
MBRI				Sn	Sn	05 09 02.8	-3.3
EIL	Elat	7.14	134	Pn	Pn	05 07 51.2	+2.1
EIL				Sn	Sn	05 09 04.8	-3.9
HFRF	Wahat Farafira baz=185	7.62	185	P	Pn	05 07 57.4	+1.7

BJI 09 05:20:32.7±0.0, 27.°43N×106.°16E, h4km, ML3.7/16, 2C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	Guiyang	1.07	155	⇑Pg	Pg	05 20 50.8	-2.4
GYA				Sg	Sg	05 21 04.8	-2.2
GYA				smax	smax		
	comp=N,1μm,0.5s						
GYA				smax	smax		
	comp=E,2μm,0.9s						
KMI	Kunming	3.83	234	⇑*e*Pn	Pn	05 21 34.6	+1.9
KMI				Sn	Sn	05 22 19.9	+1.5
KMI				smax	smax		
	comp=N,41nm,0.6s						
KMI				smax	smax		
	comp=E,43nm,0.8s						
CD2	Chengdu	4.05	329	Pn	Pn	05 21 38.2	+2.6
CD2				Sn	Sn	05 22 26.7	+3.1
CD2				Sg	Sg	05 22 47.5	+4.5
CD2				smax	smax		
	comp=N,430nm,0.9s						
CD2				smax	smax		
	comp=E,460nm,0.7s						
XAN	Xi'an	7.00	19	Pn	Pn	05 22 15.0	-1.1
XAN				Sn	Sn	05 23 30.5	-5.7
XAN				Sg	Sg	05 24 11.0	-6.6
XAN				smax	smax		
	comp=N,80nm,1.0s						
XAN				smax	smax		
	comp=E,88nm,1.0s						
WHN	Wuhan	7.81	65	Pn	Pn	05 22 27.2	0.0
WMQ	Urumqi	22.12	322	*e*P	P	05 25 31.0	+1.8

*JMA **09** 05:55:56.4±0.1, 40.°15N×142.°46E, h33km±1km, M3.8*
*IDC **09** 05:56:04.1±11.0, 39.°98N×142.°05E, h97km±68km, mb3.2/3, mb1 3.3/5, mb1mx3.0/37, mbtmp3.5/5, ML2.3/2, MS4.2/1, Ms1 4.3/1, ms1mx3.3/15, Error ellipse: s-maj=160.4km s-min=26.8km az=68.0*

**ISC 09 05:55:55.2±2.1, 40.°22N±0.°04×142.°49E±0.°10, h26km±

Ms1 3.6/1, ms1mx3.1/19, Error ellipse: s-maj=59.3km s-min=17.8km az=84.0
*NEIC **09** 06:34:13.7±1.2, 50.5°S×0.1°×139.9°E±0.4, h10km±1km, mb4.3/7, Error ellipse: s-maj=41.3km s-min=17.3km az=261.0*

ISC 09 06:34:13.7±0.5, **50.54S**±0.09°×**139.96E**±0.2, **h10**km, **n43, σ0.65/35, mb4.0/5, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**12.27**	**116**	**Pn**	**Pn**	**06 37 08.3**	**0.0**
BBOO	**Buckleboo**	**17.94**	**350**	**P**	**Pn**	**06 38 23.3**	**+0.2**
BBOO				IAmb	IAmb	06 38 29.2	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**18.69**	**5**	**P**	**Pn**	**06 38 34.3**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**18.69**	**5**	**P**	**P**	**06 38 32.0**	**0.0**
H01W1	**Cape Leeuwin H**	**24.35**	**300**	**T**	**T**	07 04 26.9	
	baz=136,slow=74,SNR=66						
H01W2	**Cape Leeuwin H**	**24.36**	**300**	**T**	**T**	07 04 25.6	
	baz=136,slow=74,SNR=51						
H01W3	**Cape Leeuwin H**	**24.37**	**300**	**T**	**T**	07 04 26.2	
	baz=136,slow=74,SNR=50						
ASAR	**Alice Springs**	**27.23**	**348**	**P**	**P**	**06 39 57.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=166,slow=10,SNR=15						
ASAR				PcP	**PcP**	**06 43 17.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=162,slow=2.3,SNR=6.5						
ASAR	**Alice Springs**	**27.23**	**348**	**P**	**P**	**06 39 57.0**	**-0.7**
VNDA	**Vanda**	**28.33**	**170**	**P**	**P**	**06 40 07.6**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=316,slow=9.2,SNR=8.0						
VNDA	**Vanda**	**28.33**	**170**	**P**	**P**	**06 40 07.5**	**+0.5**
VNDA				IAmb	IAmb	06 40 12.2	
	comp=Z,2.2nm,0.9s						
WRA	**Warramunga Arr**	**30.84**	**350**	**P**	**P**	**06 40 29.7**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=175,slow=8.2,SNR=14						
WRA				PcP	**PcP**	**06 43 26.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=180,slow=2.3,SNR=7.2						
WRA	**Warramunga Arr**	**30.84**	**350**	**P**	**P**	**06 40 29.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**34.31**	**335**	**P**	**P**	**06 41 00.7**	**+0.5**
QSPA	**South Pole Qui**	**39.58**	**180**	**P**	**P**	**06 41 45.3**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=358,slow=5.0,SNR=23						
QSPA	**South Pole Qui**	**39.58**	**180**	**P**	**P**	**06 41 45.6**	**+0.8**
QSPA				IAmb	IAmb	06 41 45.6	
	comp=Z,13nm,1.4s						
AFI	**Afiamalu**	**53.44**	**65**	LR	LR	07 01 24.8	
	comp=Z,60nm,21.4s,baz=123,slow=30						
SNAA	**Sanae**	**55.26**	**193**	**P**	**P**	**06 43 46.5**	**0.0**
SNAA	**Sanae**	**55.26**	**193**	**P**	**P**	**06 43 46.9**	**+0.4**
SNAA				IAmb	IAmb	06 44 06.4	
	comp=Z,6.9nm,1.5s						
VNA2	**Neumayer--Watz**	**56.59**	**192**	**P**	**P**	**06 43 56.0**	**+0.1**
	baz=156,slow=6.8						
VNA3	**Neumayer Olymp**	**56.59**	**191**	**P**	**P**	**06 43 55.5**	**-0.4**
VNA1	**Neumayer--Stat**	**56.95**	**192**	**P**	**P**	**06 43 58.6**	**+0.1**
H08S2	**Diego Garcia H**	**69.82**	**283**	**T**	**T**	08 01 07.0	
	baz=141,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**69.83**	**283**	**T**	**T**	08 01 09.0	
	baz=141,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**69.84**	**283**	**T**	**T**	08 01 08.5	
	baz=141,slow=76,SNR=16						
KSAR	**Wonju Array Be**	**88.24**	**350**	**P**	**P**	**06 47 04.5**	**0.0**
H03S1	**Juan Fernandez**	**89.27**	**149**	**T**	**T**	08 26 59.5	
	baz=201,slow=74,SNR=11						
H03S2	**Juan Fernandez**	**89.27**	**149**	**T**	**T**	08 26 58.1	
	baz=201,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**89.28**	**149**	**T**	**T**	08 26 58.9	
	baz=201,slow=74,SNR=23						
NVAR	**Mina Array Bea**	**125.40**	**71**	PKP	**PKPdf**	**06 53 14.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=207,slow=6.9,SNR=4.4						
NVAR	**Mina Array Bea**	**125.40**	**71**	PKPdf	**PKPdf**	**06 53 13.5**	**-1.0**
ILAR	**Eielson Array**	**128.08**	**31**	PKP	**PKiKP**	**06 53 19.7**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=216,slow=4.5,SNR=2.9						
TXAR	**Lajitas Array**	**128.57**	**89**	PKP	**PKiKP**	**06 53 21.0**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=182,slow=3.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**129.59**	**237**	PKP	**PKiKP**	**06 53 23.1**	**-0.6**
	comp=Z,1.1nm,1.2s,baz=151,slow=3.7,SNR=2.1						
FINES	**FINESS Array B**	**143.03**	**313**	PKP	**PKPdf**	**06 53 45.9**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=22,slow=7.9,SNR=2.2						
ARCES	**ARCESS Array B**	**144.43**	**327**	PKP	PKPbc	06 53 47.6	+0.5
	comp=Z,5.5nm,1.0s,baz=103,slow=5.5,SNR=6.8						
ULM	**Lac du Bonnet**	**145.18**	**68**	PKPbc	**PKPab**	**06 53 50.3**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=225,slow=5.7,SNR=3.0						
ULM	**Lac du Bonnet**	**145.18**	**68**	PKPbc	**PKiKP**	**06 53 52.8**	**-1.6**
SPITS	**Spitsbergen Ar**	**145.69**	**342**	PKPbc	**PKPab**	**06 53 51.1**	**-0.3**
	comp=Z,7.9nm,0.9s,baz=120,slow=8.5,SNR=3.8						
GERES	**GERESS Array B**	**145.77**	**289**	PKPbc	**PKPbc**	**06 53 51.8**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=134,slow=3.9,SNR=12						
GERES	**GERESS Array B**	**145.77**	**289**		**PKPdf**	**06 53 51.4**	**-0.3**
ESDC	**Sonseca Array**	**152.52**	**261**	PKPbc	**PKiKP**	**06 54 09.5**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=107,slow=1.1,SNR=6.2						
ESDC	**Sonseca Array**	**152.52**	**261**		**PKPdf**	**06 54 03.6**	**+0.9**
ESDC				PKPbc	**PKPbc**	**06 54 09.4**	**-0.3**

WEL 09 06:37:53.9±0.7, **38°S**±6°×**17°6E**±°, **h289**km±5km, **M3.3**/37, **MLv3.3**/37, **Error ellipse: s-maj=0.0km s-min=0.0km az=117.2, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRHZ	**Matea Rd**	**1.00**	**170**	P	Pn	06 38 33.8	+0.7
KUZ	**Kuaotunu**	**1.16**	**341**	P	Pn	06 38 33.1	-0.8
MWZ	**Matawai**	**1.16**	**115**	P	Pn	06 38 34.2	+0.3
MWZ				S	S	06 39 04.8	-0.9
RUGZ	**Raukumara Rang**	**1.18**	**96**	P	Pn	06 38 33.1	-1.0
HAZ	**Te Kaha**	**1.27**	**86**	P	Pn	06 38 33.7	-0.7
HAZ				S	S	06 39 04.2	-2.4
TMVZ	**Te Maari**	**1.32**	**197**	P	Pn	06 38 36.1	+1.2
ETVZ	**East Tongariro**	**1.34**	**196**	P	Pn	06 38 36.1	+1.1
WIAZ	**Waiheke Island**	**1.35**	**321**	P	Pn	06 38 34.8	-0.2
TWVZ	**Taurewa**	**1.36**	**206**	P	Pn	06 38 36.0	+0.9
OTVZ	**Oturere**	**1.38**	**197**	P	Pn	06 38 36.3	+1.1
OTVZ				S	S	06 39 09.2	+1.0
TUVZ	**Tukino**	**1.48**	**196**	P	Pn	06 38 37.0	+1.1
TUVZ				S	S	06 39 10.2	+0.9
RIGZ	**Rimuhau**	**1.50**	**125**	P	Pn	06 38 36.9	+0.9
RIGZ				S	S	06 39 09.5	0.0
ARHZ	**Aropaoanui**	**1.55**	**156**	P	Pn	06 38 37.5	+1.3
ARHZ				S	S	06 39 10.9	+1.0
WNVZ	**Wahianoa**	**1.55**	**197**	P	Pn	06 38 37.3	+0.9
WNVZ				S	S	06 39 09.8	-0.4
KWHZ	**Kaweka Forest**	**1.59**	**173**	P	Pn	06 38 37.7	+1.1
KWHZ				S	S	06 39 11.1	+0.6
BHHZ	**Black Hill Sta**	**1.64**	**183**	P	Pn	06 38 37.8	+0.9
BHHZ				S	S	06 39 10.7	-0.5
KRHZ	**Kereru**	**1.80**	**176**	P	Pn	06 38 39.0	+0.9
KRHZ				S	S	06 39 13.4	+0.3
KAHZ	**Kahuranaki**	**2.02**	**165**	P	Pn	06 38 41.1	+1.4
KAHZ				S	S	06 39 13.3	-3.0
PNHZ	**Pukenui**	**2.06**	**180**	P	Pn	06 38 41.1	+0.9
TSZ	**Takapari Road**	**2.22**	**185**	P	Pn	06 38 42.1	+0.7
PXZ	**Pawanui**	**2.24**	**167**	P	Pn	06 38 42.8	+1.2
PXZ				S	S	06 39 20.2	+0.6
DVHZ	**Dannevirke**	**2.45**	**180**	P	Pn	06 38 44.1	+0.7
BFZ	**Birch Farm**	**2.83**	**179**	P	Pn	06 38 47.7	+0.6
MRZ	**Mangatainoka R**	**2.85**	**189**	P	Pn	06 38 47.5	+0.3
TIWZ	**Tintock**	**2.94**	**185**	P	Pn	06 38 48.7	+0.5
OGWZ	**Otaki Gorge**	**3.07**	**195**	P	Pn	06 38 49.8	+0.4
HOWZ	**Holdsworth Sta**	**3.09**	**190**	P	Pn	06 38 49.9	+0.2
KIW	**Kapiti Island**	**3.17**	**198**	P	Pn	06 38 50.5	+0.1
TMWZ	**Te Maipa**	**3.26**	**184**	P	Pn	06 38 51.8	+0.4
CAW	**Cannon Point**	**3.37**	**195**	P	Pn	06 38 52.6	+0.1
DUWZ	**D'Urville Isla**	**3.44**	**210**	P	Pn	06 38 53.0	-0.3
TRWZ	**Traveller**	**3.57**	**186**	P	Pn	06 38 55.0	+0.3
PAWZ	**Paruwai Farm**	**3.58**	**189**	P	Pn	06 38 54.9	0.0
WEL	**Wellington**	**3.60**	**197**	P	Pn	06 38 55.1	+0.1
MSWZ	**Moikau Station**	**3.64**	**191**	P	Pn	06 38 55.3	-0.2
TCW	**Tory Channel**	**3.67**	**203**	P	Pn	06 38 56.0	+0.2
PLWZ	**Palliser**	**3.79**	**191**	P	Pn	06 38 56.8	-0.3
TUWZ	**Tuamarina**	**3.98**	**205**	P	Pn	06 38 58.8	-0.3
NNZ	**Nelson**	**4.01**	**212**	P	Pn	06 38 58.6	-0.8
QRZ	**Quartz Range**	**4.11**	**223**	P	Pn	06 38 59.0	-1.6
BSWZ	**Blackbirch Sta**	**4.25**	**204**	P	Pn	06 39 02.5	+0.3
THZ	**Tophouse**	**4.66**	**212**	P	Pn	06 39 06.2	-0.8
KHZ	**Kahutara**	**5.00**	**203**	P	Pn	06 39 10.6	-0.2
DSZ	**Denniston Nort**	**5.15**	**220**	P	Pn	06 39 10.9	-1.8
GVZ	**Greta Valley S**	**5.65**	**204**	P	Pn	06 39 18.1	-0.5
LTZ	**Lake Taylor**	**5.77**	**210**	P	Pn	06 39 18.8	-1.2
INZ	**Inchbonnie**	**6.07**	**215**	P	Pn	06 39 22.3	-1.3
OKCZ	**Okains Bay**	**6.33**	**201**	P	Pn	06 39 26.3	-0.5
MQZ	**McQueen's Vall**	**6.44**	**204**	P	Pn	06 39 26.4	-1.7
ARCZ	**Arundel**	**7.18**	**210**	P	Pn	06 39 35.9	-1.2

IDC 09 06:53:45.4±2.1, **30.73S**×**178.20W**, **h55**km±20km, **mb3.9**/3, **mb1 4.1**/4, **mb1mx3.5**/30, **mbtmp4.1**/4, **Error ellipse: s-maj=40.6km s-min=13.0km az=109.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.49**	**10**	P	Pn	06 54 10.5	+0.6
	60nm,0.3s,baz=221,slow=20,SNR=2.2						
RAO				S	Sn	06 54 28.2	0.0
	360nm,0.3s,baz=297,slow=23,SNR=12						
URZ	**Urewera**	**8.45**	**206**	P	Pn	06 55 43.8	-1.3
	baz=230,slow=15,SNR=1.1						
URZ				S	Sn	06 57 19.5	+0.5
	0.9nm,0.3s,baz=62,slow=22,SNR=8.8						
STKA	**Stephens Creek**	**34.23**	**257**	P	P	07 00 26.6	+0.6
	2.8nm,0.4s,baz=100,slow=9.8,SNR=9.6						
ASAR	**Alice Springs**	**42.92**	**267**	P	P	07 01 38.8	-0.1
	0.6nm,0.4s,baz=106,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**43.94**	**273**	P	P	07 01 46.8	-0.4
	1.6nm,0.4s,baz=111,slow=8.0,SNR=46						
H03S2	**Juan Fernandez**	**80.43**	**124**	T	T	08 34 58.0	
	baz=238,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**80.44**	**124**	T	T	08 35 03.6	
	baz=238,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**80.45**	**124**	T	T	08 34 58.7	
	baz=238,slow=74,SNR=15						
FINES	**FINESS Array B**	**145.39**	**340**	PKPbc	PKPdf	07 13 14.5	-1.9
	0.8nm,0.5s,baz=50,slow=2.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**162.50**	**180**	PKPab	PKPab	07 14 30.0	+0.5
	0.5nm,1.0s,baz=204,slow=3.2,SNR=1.7						

WEL 09 06:54:35.2, 40°S±1°×**17°7E**±°, **h80**km±4km, **M2.4**/39, **ML2.6**/38, **MLv2.4**/39, **Error ellipse: s-maj=0.0km s-min=0.0km az=87.2, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAHZ	**Kahuranaki**	**0.10**	**152**	P	Pn	06 54 47.0	+0.3
CKHZ	**Cape Kidnapper**	**0.21**	**76**	P	Pn	06 54 47.5	+0.5
MCHZ	**McNeill Hill**	**0.28**	**340**	P	Pn	06 54 46.6	-0.7
PXZ	**Pawanui**	**0.32**	**174**	P	Pn	06 54 48.5	+0.9
KRHZ	**Kereru**	**0.35**	**281**	P	Pn	06 54 46.6	-1.2
KWHZ	**Kaweka Forest**	**0.42**	**313**	P	Pn	06 54 47.0	-1.3
WPHZ	**Waipukurau**	**0.46**	**219**	P	Pn	06 54 49.0	+0.4
ARHZ	**Aropaoanui**	**0.47**	**17**	P	Pn	06 54 48.7	+0.1
PNHZ	**Pukenui**	**0.52**	**247**	P	Pn	06 54 48.8	-0.3
PRHZ	**Porangahau**	**0.57**	**194**	P	Pn	06 54 50.7	+1.1
BKZ	**Black Stump Fm**	**0.60**	**335**	P	Pn	06 54 49.0	-0.9
NMHZ	**Naumai**	**0.61**	**359**	P	Pn	06 54 49.9	-0.1
BHHZ	**Black Hill Sta**	**0.62**	**290**	P	Pn	06 54 49.3	-0.8
WHHZ	**Waihua**	**0.71**	**27**	P	Pn	06 54 51.7	+0.7
WHHZ				P	Pn	06 54 51.7	+0.8
TSZ	**Takapari Road**	**0.75**	**242**	P	Pn	06 54 51.3	0.0
DVHZ	**Dannevirke**	**0.77**	**220**	P	Pn	06 54 52.1	+0.5
RAHZ	**Arahi**	**0.82**	**15**	P	Pn	06 54 52.6	+0.4
MTHZ	**Maungataniwha**	**0.85**	**1**	P	Pn	06 54 52.5	-0.1
MOVZ	**Moawhango**	**0.88**	**290**	P	Pn	06 54 53.0	+0.2
MRHZ	**Matea Rd**	**0.93**	**340**	P	Pn	06 54 53.5	+0.1
KNZ	**Kokohu**	**0.95**	**44**	P	Pn	06 54 54.7	+1.0
TUVZ	**Tukino**	**1.00**	**296**	P	Pn	06 54 54.7	+0.3
MHGZ	**Mahia Peninsul**	**1.01**	**57**	P	Pn	06 54 56.0	+1.6
SNGZ	**Shannon Statio**	**1.01**	**24**	P	Pn	06 54 55.0	+0.7
WNVZ	**Wahianoa**	**1.02**	**292**	P	Pn	06 54 54.9	+0.3
ETVZ	**East Tongariro**	**1.03**	**303**	P	Pn	06 54 54.8	+0.3
OTVZ	**Oturere**	**1.05**	**301**	P	Pn	06 54 55.0	+0.1
TMVZ	**Te Maari**	**1.05**	**304**	P	Pn	06 54 55.0	+0.1
POWZ	**Post Office Ro**	**1.06**	**229**	P	Pn	06 54 55.6	+0.7
BFZ	**Birch Farm**	**1.07**	**204**	P	Pn	06 54 56.1	+1.1
PRWZ	**Pori Road**	**1.07**	**217**	P	Pn	06 54 56.1	+1.1
FWVZ	**Far West T-bar**	**1.08**	**294**	P	Pn	06 54 55.4	+0.1
NGZ	**Ngauruhoe**	**1.08**	**299**	P	Pn	06 54 55.5	+0.1
MTVZ	**Mangateitei**	**1.09**	**287**	P	Pn	06 54 56.1	+0.7
KRVZ	**Karewarewa**	**1.10**	**304**	P	Pn	06 54 55.7	+0.2
WTVZ	**West Tongariro**	**1.12**	**302**	P	Pn	06 54 56.1	+0.3
RIGZ	**Rimuhau**	**1.24**	**37**	P	Pn	06 54 58.0	+0.8
TWVZ	**Taurewa**	**1.25**	**300**	P	Pn	06 54 57.1	-0.2
TIWZ	**Tintock**	**1.28**	**213**	P	Pn	06 54 58.7	+1.0
RAGZ	**Rawiri**	**1.30**	**21**	P	Pn	06 54 58.5	+0.5
MRZ	**Mangatainoka R**	**1.34**	**225**	P	Pn	06 54 59.0	+0.5
URZ	**Urewera**	**1.47**	**9**	P	Pn	06 55 00.0	0.0
MWZ	**Matawai**	**1.48**	**22**	P	Pn	06 55 00.6	+0.4
TARZ	**Mount Tarawera**	**1.49**	**351**	P	Pn	06 55 00.9	+0.5
HOWZ	**Holdsworth Sta**	**1.55**	**220**	P	Pn	06 55 01.5	+0.3
TMWZ	**Te Maipa**	**1.57**	**207**	P	Pn	06 55 02.1	+0.8
OGWZ	**Otaki Gorge**	**1.68**	**228**	P	Pn	06 55 03.1	+0.4
KIW	**Kapiti Island**	**1.86**	**231**	P	Pn	06 55 05.6	+0.5
RUGZ	**Raukumara Rang**	**1.87**	**21**	P	Pn	06 55 05.9	+0.5
CAW	**Cannon Point**	**1.93**	**223**	P	Pn	06 55 06.2	+0.1
PAWZ	**Paruwai Farm**	**1.98**	**212**	P	Pn	06 55 07.2	+0.4
PREZ	**Palmer Road**	**2.09**	**279**	P	Pn	06 55 10.0	+1.7
HAZ	**Te Kaha**	**2.09**	**21**	P	Pn	06 55 09.1	+0.8
NEZ	**North Egmont**	**2.15**	**281**	P	Pn	06 55 11.4	+2.3
PLWZ	**Palliser**	**2.21**	**212**	P	Pn	06 55 09.6	-0.3
BHW	**Baring Head**	**2.25**	**221**	P	Pn	06 55 09.5	-0.9
WMGZ	**Waiomatatini S**	**2.26**	**34**	P	Pn	06 55 11.4	+0.8
TUWZ	**Tuamarina**	**2.78**	**231**	P	Pn	06 55 22.4	+4.8

WEL 09 07:05:58.1, 44°S±3°×**16°9E**±°, **h5**km±1km, **M3.2**/11, **ML3.2**/11, **MLv3.2**/11, **Error ellipse: s-maj=0.0km s-min=0.0km az=43.1, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.05**	**56**	P	Pg	07 06 00.8	+1.3
JCZ				S	Sg	07 06 02.7	+2.2
WKZ	**Wanaka**	**0.76**	**164**	P	Pg	07 06 12.0	-0.6
WKZ				S	Sg	07 06 21.2	-1.2
MSZ	**Milford Sound**	**0.81**	**225**	P	Pg	07 06 11.6	-2.0
FOZ	**Fox Glacier**	**0.97**	**55**	P	Pb	07 06 17.6	+0.3
LBZ	**Lake Benmore**	**1.09**	**106**	P	Pn	07 06 19.8	-0.1
MLZ	**Mavora Lakes**	**1.34**	**199**	P	Pn	07 06 21.3	-2.1
GCSZ	**Gaunt Creek Bo**	**1.40**	**56**	P	Pn	07 06 23.9	-0.3
ODZ	**Otahua Downs**	**1.66**	**125**	P	Pn	07 06 27.9	0.0
RPZ	**Rata Peaks**	**1.73**	**78**	P	Pg	07 06 33.7	+2.5
DCZ	**Deep Cove**	**1.76**	**219**	P	Pn	07 06 29.1	-0.1
ARCZ	**Arundel**	**1.77**	**86**	P	Pg	07 06 32.2	+0.1
WVZ	**Waitaha Valley**	**1.79**	**56**	P	Pn	07 06 29.0	-0.5
WHZ	**Wether Hill Ro**	**1.87**	**197**	P	Pn	07 06 30.3	-0.5
TUZ	**Tuapeka**	**1.96**	**161**	P	Pb	07 06 34.1	-0.2
SYZ	**Scrubby Hill**	**2.45**	**173**	P	Pn	07 06 40.0	+1.3
DSZ	**Dennistion Nort**	**3.27**	**45**	P	Pn	07 06 50.2	+0.3
GVZ	**Greta Valley S**	**3.33**	**72**	P	Pn	07 06 48.7	-2.1
THZ	**Tophouse**	**3.86**	**54**	P	Pn	07 06 59.0	+0.9
QRZ	**Quartz Range**	**4.32**	**42**	P	Pn	07 07 04.7	+0.4
TIWZ	**Tintock**	**6.25**	**60**	P	Pn	07 07 34.2	+3.2
CPWZ	**Castlepoint**	**6.38**	**63**	P	Pn	07 07 37.6	+4.9
BFZ	**Birch Farm**	**6.53**	**61**	P	Pn	07 07 38.1	+3.3

*NNC **09** 07:33:52.5±0.4, 50.03N×78.92E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=11.0km s-min=2.2km az=66.0, Suspected Mining explosion.*
*IDC **09** 07:33:53.2±1.1, 50.06N×78.73E, h0km, mb1 3.0/2, mb1mx2.9/44, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=17.9km s-min=6.7km az=67.0*

ISC 09 07:33:52.1±1.8, **50.02N**±0.08°×**78.6E**±0.2, **h0**km, **n16, σ0.98/27, 14C-11D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.56**	**357**	⇓P	**Pb**	**07 34 04.5**	**-0.4**
KUR07				⇓S	**Sb**	**07 34 13.2**	**-0.3**
KUR06	**Kurchatov Arra**	**0.58**	**357**	⇑P	**Pb**	**07 34 04.6**	**-0.7**
KUR06				⇑S	**Sb**	**07 34 13.2**	**-0.9**
KUR14	**Kurchatov Arra**	**0.60**	**2**	⇓P	**Pb**	**07 34 04.5**	**-0.9**
KUR14				⇓S	**Sb**	**07 34 13.3**	**-1.1**
KUR15	**Kurchatov Arra**	**0.60**	**360**	⇑P	**Pb**	**07 34 04.7**	**-0.8**
KUR15				⇑S	**Sb**	**07 34 14.3**	**-0.2**
KURBB	**Kurchatov Arra**	**0.60**	**358**	Pg	**Pg**	**07 34 03.3**	**-0.4**
	2.1nm,0.3s,baz=166,slow=18,SNR=5.5						
KURBB				Lg	Lg	07 34 14.4	
	2.6nm,0.3s,baz=167,slow=30,SNR=8.9						
KURBB	**Kurchatov Arra**	**0.60**	**358**	⇓P	**Pb**	**07 34 05.0**	**-0.6**
	20nm,0.3s						
KURBB				⇑S	**Sb**	**07 34 14.1**	**-0.5**
	74nm,0.8s						
KUR16	**Kurchatov Arra**	**0.61**	**356**	⇑P	**Pb**	**07 34 05.2**	**-0.5**
KUR16				⇑S	**Sb**	**07 34 14.9**	**+0.1**
KUR17	**Kurchatov Arra**	**0.62**	**354**	⇑P	**Pb**	**07 34 05.3**	**-0.5**
KUR17				⇓S	**Sb**	**07 34 15.0**	**0.0**
KUR05	**Kurchatov Arra**	**0.62**	**358**	⇓P	**Pb**	**07 34 05.2**	**-0.7**
KUR05				⇓S	**Sb**	**07 34 14.5**	**-0.7**
KUR04	**Kurchatov Arra**	**0.64**	**359**	⇑P	**Pb**	**07 34 05.7**	**-0.6**
KUR04				⇓S	**Sb**	**07 34 15.0**	**-0.8**
KURK	**Kurchatov**	**0.70**	**3**	⇑P	**Pb**	**07 34 06.3**	**-0.9**
	11nm,0.4s						
KURK				⇑S	**Sb**	**07 34 16.4**	**-0.9**
	9.2nm,0.5s						
MAKZ	**Makanchi**	**3.94**	**143**	⇑Pg	**Pb**	**07 35 01.1**	**-1.3**
	3.4nm,0.9s						
MAKZ				⇓Lg	Lg	07 35 53.3	
	7.1nm,0.5s						
MK31	**Makanchi Array**	**4.07**	**141**	⇑Pn	**Pn**	**07 34 57.2**	**+1.5**
	0.3nm,0.3s,baz=323,slow=10,SNR=43						
MK31				⇓Pg	**Pb**	**07 35 03.8**	**-0.9**
	0.3nm,0.2s,baz=330,slow=15,SNR=13						
MK31				⇑Lg	Lg	07 35 58.4	
	6.5nm,0.6s,baz=332,slow=27,SNR=12						
MKAR	**Makanchi Array**	**4.07**	**141**	Pn	**Pn**	**07 34 57.5**	**+1.9**
	0.4nm,0.3s,baz=328,slow=12,SNR=40						
MKAR				Pg	**Pb**	**07 35 03.3**	**-1.4**
	0.7nm,0.3s,baz=320,slow=15,SNR=5.7						
MKAR				Lg	Lg	07 35 58.1	
	1.6nm,0.3s,baz=330,slow=27,SNR=14						
ZALV	**Zalesovo Beam**	**5.51**	**42**	Pn	**Pn**	**07 35 17.3**	**+1.9**
	0.9nm,0.3s,baz=229,slow=14,SNR=8.9						
I46RU	**ZALESSOVO INFRA**	**5.51**	**42**	*i*		08 05 20.0	
	baz=223,slow=318,SNR=1.2						

*SJA **09** 07:41:34.3±0.6, 31.15S×72.15W, h59km±10km, ML4.1, MW4.2*
*GUC **09** 07:41:35.8±0.8, 31.26S×71.79W, h36km±4km, ML3.9*

ISC 09 07:41:29.6±1.3, **31.11S**±0.03°×**72.16W**±0.06, **h12**km, **n33, σ2.43/54, 4C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**1.00**	**95**	⇓*i*P	**Pn**	**07 41 49.4**	**-0.1**
CO02				*i* S	**Sg**	**07 41 58.4**	**-3.5**
CO02				IAML		07 41 59.5	
	comp=N,9μm,0.2s						
CO03	**El Pedregal**	**1.29**	**78**	⇓*i*P	**Pg**	**07 41 54.5**	**0.0**
CO03				*i* S	**Sb**	**07 42 08.1**	**-2.5**
CO03				IAML		07 42 09.8	
	comp=E,3μm,0.2s						
GO04	**Tololo Observa**	**1.50**	**52**	⇑*i*P	**Pg**	**07 41 59.7**	**+1.2**
GO04				*i* S	**Sb**	**07 42 17.3**	**+0.6**
ROCH	**El Roble**	**2.09**	**153**	*e*P	**Pb**	**07 42 07.3**	**-0.3**
ROCH				*i* S	**Sn**	**07 42 30.6**	**-0.3**
ROCH				IAML	

SMPP	**San Manuel, Pa**	**1.94**	**196**	*e*P	**Pn**	**07 45 06.9**	**+0.7**
SMPP				*e*S	**Sn**	**07 45 28.7**	**-0.8**
BOLP	**Bolinao**	**2.06**	**218**	*e*P	Pn	07 45 02.7	-5.2
BOLP				*e*S	Sn	07 45 20.8	-12
BALP	**Baler**	**2.29**	**172**	*e*P	**Pb**	**07 45 19.0**	**+3.3**
POLP	**Polilio Island**	**3.34**	**168**	*e*P	**Pb**	**07 45 37.5**	**+3.8**
LQP	**Lukban**	**3.90**	**176**‖	*e*P	**Pb**	**07 45 44.0**	**+0.7**
TGY	**Tagaytay City**	**3.91**	**184**	P	**Pb**	**07 45 40.5**	**-2.9**
	124nm,0.3s,baz=247,slow=3.8,SNR=3.6						
TGY				S	**Sb**	**07 46 25.1**	**-5.1**
	50nm,0.3s,baz=18,slow=6.4,SNR=3.5						
LUBP	**Lubang**	**4.37**	**193**	*e*P	**Pn**	**07 45 42.6**	**+3.0**
TATO	**Taipei**	**6.92**	**2**	Pn	**Pn**	**07 46 13.3**	**-1.4**
SSE	**Sheshan**	**13.02**	**360**	Pn	**Pn**	**07 47 38.0**	**-0.2**
ENH	**Enshi**	**16.22**	**321**	Pn	**Pn**	**07 48 20.3**	**-0.8**
ENH				IAmb	IAmb	07 48 38.2	
	comp=Z,27nm,1.5s						
KSRS	**Korea Array**	**20.23**	**16**	P	**P**	**07 49 08.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=260,slow=29,SNR=1.2						
SONM	**Songino Array**	**32.12**	**341**	P	**P**	**07 51 02.1**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=146,slow=8.0,SNR=2.5						
SONM	**Songino Array**	**32.12**	**341**	P	**P**	**07 50 60.0**	**-0.1**
WRA	**Warramunga Arr**	**39.86**	**161**	P	**P**	**07 52 05.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=341,slow=9.0,SNR=8.7						
WRA	**Warramunga Arr**	**39.86**	**161**	P	**P**	**07 52 06.7**	**+0.3**
WB2	**Warramunga Arr**	**39.86**	**161**	P	**P**	**07 52 05.9**	**-0.6**
WB2				IAmb	IAmb	07 52 27.7	
	comp=Z,5.6nm,1.3s						
MK31	**Makanchi Array**	**42.96**	**321**	P	**P**	**07 52 30.9**	**-0.8**
MKAR	**Makanchi Array**	**42.96**	**321**	P	**P**	**07 52 31.6**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=117,slow=9.6,SNR=23						
MKAR	**Makanchi Array**	**42.96**	**321**	P	**P**	**07 52 31.0**	**-0.6**
MAKZ	**Makanchi**	**43.15**	**321**	P	**P**	**07 52 33.3**	**0.0**
MAKZ				IAmb	IAmb	07 53 02.6	
	comp=Z,7.1nm,1.1s						
AS31	**Alice Springs**	**43.24**	**163**	P	**P**	**07 52 34.0**	**-0.1**
AS31				IAmb	IAmb	07 52 55.1	
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**43.24**	**163**	P	**P**	**07 52 35.0**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=339,slow=7.0,SNR=15						
ASAR	**Alice Springs**	**43.24**	**163**	P	**P**	**07 52 32.9**	**-1.3**
ZALV	**Zalesovo Beam**	**45.52**	**331**	P	**P**	**07 52 51.6**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=116,slow=6.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.52**	**331**	P	**P**	**07 52 51.8**	**-0.2**
STKA	**Stephens Creek**	**53.32**	**158**	P	**P**	**07 53 50.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=333,slow=9.3,SNR=4.1						
STKA	**Stephens Creek**	**53.32**	**158**	P	**P**	**07 53 51.0**	**-0.8**
NRIK	**Noril'sk**	**55.35**	**346**	P	**P**	**07 54 07.1**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=137,slow=7.7,SNR=7.0						
ABKAR	**Akbulak array**	**57.88**	**317**	P	**P**	**07 54 23.2**	**-1.1**
ARCES	**ARCESS Array B**	**75.26**	**339**	P	**P**	**07 56 14.9**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=76,slow=7.5,SNR=2.3						
FINES	**FINESS Array B**	**76.79**	**331**	P	**P**	**07 56 23.3**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=57,slow=7.0,SNR=5.1						
FINES	**FINESS Array B**	**76.79**	**331**	P	**P**	**07 56 23.7**	**-0.2**
NB2	**NORSAR Subarra**	**83.68**	**333**	P	**P**	**07 56 59.8**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=64,slow=5.6						
NOA	**NORSAR Array B**	**83.68**	**333**	P	**P**	**07 57 00.8**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=63,slow=5.2,SNR=4.6						

*IDC **09** 07:45:32.9±6.3, 17.°05S×179.°31W, h536km±77km, mb3.0/8, mb1 3.3/9, mb1mx3.0/42, mbtmp3.9/9, Error ellipse: s-maj=85.8km s-min=26.3km az=153.0*

ISC 09 07:45:34.1±1.4, 17.°1S±0.°6×179.°4W±0.°4, h550km, n9, σ0 63/9, mb3.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.28**	**247**	P	**P**	**07 48 36.1**	**-0.3**
	0.4nm,0.3s,baz=131,slow=16,SNR=10						
STKA	**Stephens Creek**	**38.26**	**240**	P	**P**	**07 52 07.3**	**-0.5**
	1.6nm,0.5s,baz=96,slow=11,SNR=7.6						
WRA	**Warramunga Arr**	**43.91**	**259**	P	**P**	**07 52 52.1**	**-0.6**
	0.3nm,0.2s,baz=94,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	**44.16**	**253**	P	**P**	**07 52 54.6**	**0.0**
	4.5nm,0.5s,baz=87,slow=8.2,SNR=40						
FITZ	**Fitzroy Crossi**	**52.28**	**260**	P	**P**	**07 53 56.2**	**+1.1**
	0.9nm,0.7s,baz=232,slow=7.1,SNR=2.1						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**07 56 44.0**	**-0.1**
	0.3nm,0.6s,baz=224,slow=9.6,SNR=4.8						
ILAR	**Eielson Array**	**85.28**	**13**	P	**P**	**07 57 12.3**	**-0.3**
	0.4nm,0.4s,baz=224,slow=5.5,SNR=7.9						
TXAR	**Lajitas Array**	**86.31**	**58**	P	**P**	**07 57 18.9**	**+0.5**
	0.3nm,0.7s,baz=220,slow=5.7,SNR=4.1						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	**07 57 22.7**	**-0.6**
	0.4nm,0.7s,baz=229,slow=5.7,SNR=3.9						

*IDC **09** 08:14:21.9±0.3, 32.°58S×111.°74W, h0km, mb5.0/21, mb1 5.1/22, mb1mx5.0/29, mbtmp4.9/22, ML4.7/1, MS5.3/20, Ms1 5.3/20, ms1mx5.2/21, Error ellipse: s-maj=14.3km s-min=12.9km az=136.0*

*MOS **09** 08:14:22.8±1.2, 32.°51S×111.°62W, h10km, mb5.7/49, MS5.4/6, Error ellipse: s-maj=11.3km s-min=6.4km az=76.2*

*NEIC **09** 08:14:23.7±1.5, 32.°61S±0.°09×111.°7W±0.°1, h10km±1km, mb5.6/218, Ms_20 5.4/351, Mwc5.7(GCMT), Error ellipse: s-maj=18.1km s-min=14.8km az=117.0*

*NEIC **09** 08:14:29, 32.°72S×111.°51W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.59; Mθθ-4.41; Mϕϕ2.82; Mrθ-1.07; Mθϕ 1.07; Mrϕ0.69; Fault plane solution: Mo4.21000×10^17^ NP1:φs54.00000°, δ68.00000°, λ,8.00000°. NP2:φs321.00000°, δ83.00000°, λ158.00000°. Principal axes: T 3.1757, Plg21.0000°, Azm275.0000°; N 1.6013, Plg67.0000°, Azm124.0000°; P -4.7770, Plg10.0000°, Azm9.0000°;*

*GCMT **09** 08:14:29.7±0.1, 32.°68S±0.°01×111.°58W±0.°01, h19km, MW5.7/155, Moment Tensor Solution. s109,c177; s155,c308; Duration: 1s7 Moment tensor: Scale 10^17^ Nm; Mrr1.36±.06; Mθθ-4.23±.06; Mϕϕ2.87±.05; Mrθ-1.64±.14; Mθϕ 1.21±.04; Mrϕ0.25±.12; Best double couple: Mo3.97200×10^17^ NP1:φs145.00000°, δ79.00000°, λ-170.00000°. NP2:φs54.00000°, δ80.00000°, λ-11.00000°. Principal axes: T 3.0710, Plg1.0000°, Azm100.0000°; N 1.8010, Plg75.0000°, Azm193.0000°; P -4.8720, Plg15.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 08:14:23.4±0.2, 32.°76S±0.°05×111.°72W±0.°05, h10km, n1179, σ1 46/1085, mb5.6/140, MS5.4/212, 56C-25D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.99**	**21**	Pn	**Pn**	**08 15 49.8**	**-2.3**
	19nm,0.3s,baz=189,slow=6.3,SNR=12						
RPN				Sn	**Sn**	**08 16 53.4**	**-7.3**
	4.8nm,0.3s,baz=136,slow=6.3,SNR=1.5						
RKT	**Rikitea**	**22.64**	**289**	eLR	LR	08 24 47.5	
	comp=Z,13μm,27.2s						
H03S2	**Juan Fernandez**	**27.37**	**101**	T	T	08 48 44.7	
	baz=263,slow=75						
H03S3	**Juan Fernandez**	**27.39**	**101**	T	T	08 48 45.5	
	baz=263,slow=75						
H03S1	**Juan Fernandez**	**27.39**	**101**	T	T	08 48 43.8	
	baz=263,slow=75						
H03N2	**Juan Fernandez**	**27.42**	**100**	T	T	08 48 45.2	
	baz=268,slow=73						
H03N3	**Juan Fernandez**	**27.42**	**100**	T	T	08 48 44.8	
	baz=268,slow=73						
H03N1	**Juan Fernandez**	**27.43**	**100**	T	T	08 48 44.4	
	baz=268,slow=73						
VA04	**Juan Fernndez**	**27.48**	**101**	IAMs_20	IAMs_20	08 27 28.5	
	comp=Z,11μm,22.0s						
BI03	**Tigo**	**31.89**	**108**	P	**P**	**08 20 49.7**	**+0.8**
BI03				IAmb	IAmb	08 20 51.1	
	comp=Z,105nm,1.3s						
BI03				IAMs_20	IAMs_20	08 29 39.7	
	comp=Z,10μm,22.0s						
LL01	**San Ignacio de**	**32.35**	**119**	P	**P**	**08 20 53.7**	**+0.7**
LL01				IAmb	IAmb	08 20 56.1	
	comp=Z,89nm,1.5s						
GO05	**Huala**	**32.96**	**105**	P	**P**	**08 20 57.7**	**-0.7**
GO05				IAmb	IAmb	08 21 00.7	
	comp=Z,68nm,1.1s						
GO05				IAMs_20	IAMs_20	08 30 35.0	
	comp=Z,9μm,18.0s						
BI02	**San Fabin de**	**33.30**	**108**	P	**P**	**08 21 01.9**	**+0.5**
BI02				IAMs_20	IAMs_20	08 30 34.3	
	comp=Z,7μm,20.0s						
VA01	**Torpederas**	**33.51**	**102**	IAMs_20	IAMs_20	08 30 31.5	
	comp=Z,9μm,20.0s						
PLCA	**Paso Flores**	**33.69**	**116**	P	**P**	**08 21 05.4**	**+0.7**
	comp=Z,16nm,0.8s,baz=272,slow=8.6,SNR=21						
PLCA				PcP	**PcP**	**08 23 44.4**	**-0.1**
	comp=Z,5.2nm,1.0s,baz=238,slow=4.9,SNR=3.3						
PLCA				LR	LR	08 31 16.1	
	comp=Z,6μm,20.2s,baz=275,slow=30						
PLCA	**Paso Flores**	**33.69**	**116**	P	**P**	**08 21 04.4**	**-0.3**
PLCA				IAmb	IAmb	08 21 07.4	
	comp=Z,214nm,1.9s						
MT02	**Curacav**	**33.89**	**102**	P	**P**	**08 21 06.9**	**+0.5**
MT02				IAmb	IAmb	08 21 08.2	
	comp=Z,166nm,1.8s						
MT02				IAMs_20	IAMs_20	08 30 43.3	
	comp=Z,9μm,20.0s						
BO02	**Sierra Bellavi**	**33.92**	**105**	P	**P**	**08 21 06.4**	**-0.5**
ROC1	**El Roble**	**34.04**	**102**	P	**P**	**08 21 06.2**	**-1.9**
MT05	**Renca**	**34.19**	**102**	IAMs_20	IAMs_20	08 31 37.4	
	comp=Z,6μm,18.0s						
PEL	**Peldehue**	**34.28**	**102**	P	**P**	**08 21 10.8**	**+0.9**
CO02	**Combarbal**	**34.43**	**99**	P	**P**	**08 21 10.8**	**-0.6**
CO02				IAMs_20	IAMs_20	08 30 56.5	
	comp=Z,6μm,20.0s						
TBI	**Tubuai**	**34.45**	**276**	*e*S	**S**	**08 26 38.3**	**-1.4**
	comp=Z,637nm,29.2s						
TBI				*e*LR	LR	08 30 15.7	
	comp=Z,8μm,28.8s,baz=110						
TBI	**Tubuai**	**34.45**	**276**	*e*T	T	08 57 26.0	
	comp=Z,26nm,0.2s						
VA03	**San Esteban**	**34.46**	**101**	P	**P**	**08 21 11.6**	**0.0**
VA03				IAMs_20	IAMs_20	08 31 17.6	
	comp=Z,6μm,20.0s						
CO03	**El Pedregal**	**34.77**	**98**	P	**P**	**08 21 14.4**	**+0.2**
CO03				IAmb	IAmb	08 21 23.1	
	comp=Z,116nm,1.4s						
CO03				IAMs_20	IAMs_20	08 31 06.7	
	comp=Z,5μm,20.0s						
GO04	**Tololo Observa**	**34.85**	**97**	P	**P**	**08 21 15.0**	**-0.1**
GO04				IAMs_20	IAMs_20	08 31 07.6	
	comp=Z,7μm,21.0s						
AC04	**Llanos de Chal**	**35.17**	**94**	P	**P**	**08 21 17.5**	**-0.1**
AC04				IAMs_20	IAMs_20	08 31 12.9	
	comp=Z,7μm,21.0s						
TAOE	**Nuku Hiva Isla**	**35.45**	**306**	*e*LQ	LQ	08 29 16.3	
	comp=Z,6μm,26.0s						
TAOE				*e*LR	LR	08 30 41.6	
	comp=Z,7μm,25.8s,baz=146						
CO01	**Juntas del Tor**	**35.49**	**97**	P	**P**	**08 21 20.1**	**-0.6**
CO01				IAmb	IAmb	08 21 29.8	
	comp=Z,188nm,1.7s						
CO01				IAMs_20	IAMs_20	08 31 27.6	
	comp=Z,7μm,21.0s						
AUSP	**Uspallata**	**35.54**	**101**	*i* P	**P**	**08 21 22.7**	**+1.6**
AC05	**El Transito**	**35.66**	**95**	P	**P**	**08 21 22.2**	**+0.2**
AC05				IAMs_20	IAMs_20	08 31 29.8	
	comp=Z,9μm,21.0s						
RTLS	**Leoncito**	**35.71**	**100**	*i* P	**P**	**08 21 23.4**	**+0.9**
ARCO	**CERRO ARCO**	**35.78**	**102**	*i* P	**P**	**08 21 24.1**	**+1.0**
RFA	**San Rafael**	**35.81**	**105**	*i* P	**P**	**08 21 24.0**	**+0.9**
AAGR	**Agrelo**	**35.82**	**102**	*i* P	**P**	**08 21 24.8**	**+1.5**
MEH	**Mehetia**	**35.84**	**285**	*e*P	**P**	**08 21 21.8**	**-1.7**
	comp=Z,40nm,1.1s						
MEH	**Mehetia**	**35.84**	**285**	*e*T	T	08 59 09.1	
	comp=Z,80nm,0.3s						
ASAL	**Salagasta**	**35.92**	**102**	*i* P	**P**	**08 21 25.4**	**+1.3**
AROD	**Rodeo**	**35.96**	**97**	*i* P	**P**	**08 21 25.5**	**+0.7**
GO03	**Copiap**	**36.06**	**93**	P	**P**	**08 21 24.5**	**-0.9**
GO03				IAmb	IAmb	08 21 27.3	
	comp=Z,255nm,1.9s						
GO03				IAMs_20	IAMs_20	08 31 41.6	
	comp=Z,8μm,21.0s						
ACCO	**Cerro Coronel**	**36.19**	**98**	*i* P	**P**	**08 21 27.8**	**+1.0**
AC01	**Pan de Azucar**	**36.24**	**90**	P	**P**	**08 21 26.6**	**-0.2**
AC01				IAmb	IAmb	08 21 29.6	
	comp=Z,139nm,1.4s						
AC01				IAMs_20	IAMs_20	08 31 45.8	
	comp=Z,7μm,21.0s						
ACDV	**Cuesta del Vie**	**36.25**	**98**	*i* P	**P**	**08 21 28.4**	**+1.3**
RTCV	**Cerro Valdivia**	**36.32**	**101**	*i* P	**P**	**08 21 28.0**	**+0.5**
RTLL	**Cerro Villicun**	**36.50**	**100**	*i* P	**P**	**08 21 29.4**	**+0.3**
TVO	**Taravao**	**36.86**	**285**	*e*T	T	09 00 23.5	
	comp=Z,7.6nm,0.3s						
VAH	**Vaihoa**	**36.92**	**290**	*e*P	**P**	**08 21 31.4**	**-1.3**
	comp=Z,200nm,1.3s						
PB14	**IPOC Station P**	**36.95**	**88**	P	**P**	**08 21 32.4**	**-0.9**
PB14				IAmb	IAmb	08 21 34.8	
	comp=Z,145nm,1.7s						
PB14				IAMs_20	IAMs_20	08 32 09.7	
	comp=Z,7μm,22.0s						
AGUA	**GUANDACOL**	**36.96**	**97**	*i* P	**P**	**08 21 34.2**	**+1.1**
TIAR	**Tiarei**	**37.05**	**285**	*e*T	T	09 00 39.6	
	comp=Z,13nm,0.2s						
PAE	**Paea**	**37.19**	**285**	*e*T	T	09 00 38.0	
	comp=Z,2.4nm,0.3s						
PPT2	**Papeete2**	**37.22**	**285**	*e*P	**P**	**08 21 33.9**	**-1.4**
	comp=Z,134nm,1.4s						
PPT2				*e*S	**S**	**08 27 21.0**	**-1.5**
	comp=Z,848nm,25.2s						
PPT2				*e*LR	LR	08 31 27.6	
	comp=Z,12μm,24.5s,baz=116						
PPT2	**Papeete2**	**37.22**	**285**	*e*T	T	09 00 28.2	
	comp=Z,5.0nm,0.3s						
PPT	**Papeete**	**37.23**	**285**	LR	LR	08 32 47.6	
	comp=Z,8μm,18.2s,baz=73,slow=30						
AC02	**Maricunga**	**37.24**	**92**	P	**P**	**08 21 36.4**	**+0.4**
AC02				IAmb	IAmb	08 21 38.3	
	comp=Z,233nm,1.8s						
AC02				IAMs_20	IAMs_20	08 32 17.7	
	comp=Z,9μm,22.0s						
PB10	**IPOC Station P**	**37.26**	**86**	IAMs_20	IAMs_20	08 32 18.8	
	comp=Z,7μm,21.0s						
PMOR	**Pomariorio Ree**	**37.27**	**290**	*e*P	**P**	**08 21 34.2**	**-1.4**
	comp=Z,178nm,1.4s						
VCA	**Vinchina**	**37.42**	**96**	*i* P	**P**	**08 21 38.0**	**+1.0**
USHA	**Ushuaia**	**37.42**	**139**	P	**P**	**08 21 37.9**	**+1.4**
	comp=Z,25nm,0.9s,baz=277,slow=8.1,SNR=2.3						
GO02	**Mina Guanaco**	**37.44**	**89**	P	**P**	**08 21 37.0**	**-0.4**
GO02				IAmb	IAmb	08 21 39.4	
	comp=Z,272nm,1.9s						
GO02				IAMs_20	IAMs_20	08 32 34.6	
	comp=Z,5μm,20.0s						
PAYG	**Puerto Ayora**	**37.77**	**37**	IAMs_20	IAMs_20	08 32 51.5	
	comp=Z,7μm,18.0s						
PB05	**IPOC Station P**	**37.82**	**86**	*i* P	**P**	**08 21 40.4**	**-0.1**
NNA	**Nana**	**38.05**	**65**‖	*e*P	**P**	**08 21 41.8**	**-0.5**
NNA				pmax	pmax		
	comp=Z,114nm,1.3s						
PB04	**IPOC Station P**	**38.08**	**85**	IAMs_20	IAMs_20	08 32 41.6	
	comp=Z,6μm,21.0s						
PB04	**IPOC Station P**	**38.08**	**85**	*i* P	**P**	**08 21 42.5**	**-0.2**
ACLC	**CERRO LA CRUZ**	**38.27**	**97**	*i* P	**P**	**08 21 44.2**	**0.0**
PB15	**IPOC Station P**	**38.29**	**87**	P	**P**	**08 21 43.2**	**-1.3**
PB15				IAMs_20	IAMs_20	08 33 01.2	
	comp=Z,5μm,19.0s						
APLL	**PUNTA DE LOS L**	**38.35**	**99**	*i* P	**P**	**08 21 44.6**	**-0.2**
PB06	**IPOC Station P**	**38.41**	**86**	P	**P**	**08 21 45.1**	**-0.4**
PB06	**IPOC Station P**	**38.41**	**86**	*i* P	**P**	**08 21 45.2**	**-0.2**
AANI	**Anillaco**	**38.46**	**96**	*i* P	**P**	**08 21 46.6**	**+0.8**
PB03	**IPOC Station P**	**38.54**	**85**	*i* P	**P**	**08 21 46.1**	**-0.4**
PB07	**IPOC Station P**	**38.56**	**84**	P	**P**	**08 21 46.7**	**-0.1**
PB07				IAMs_20	IAMs_20	08 32 54.2	
	comp=Z,7μm,20.0s						
PATCX	**Punta Patache**	**38.74**	**83**	P	**P**	**08 21 48.2**	**0.0**
PATCX				IAmb	IAmb	08 21 49.6	
	comp=Z,193nm,1.6s						
PATCX				IAMs_20	IAMs_20	08 32 56.8	
	comp=Z,7μm,20.0s						
TA01	**Diego Aracena**	**38.83**	**82**	P	**P**	**08 21 47.9**	**-0.9**
TA01				IAMs_20	IAMs_20	08 32 59.2	
	comp=Z,6μm,20.0s						
LVC	**Limon Verde**	**39.01**	**86**	P	**P**	**08 21 50.9**	**+0.2**
LVC				pmax	pmax		
	comp=Z,240nm,1.8s						
LVC	**Limon Verde**	**39.01**	**86**	P	**P**	**08 21 50.9**	**+0.2**
LVC				IAmb	IAmb	08 21 53.2	
	comp=Z,240nm,1.8s						
LVC	**Limon Verde**	**39.01**	**86**	IAMs_20	IAMs_20	08 33 23.1	
	comp=Z,5μm,20.0s						
PB09	**IPOC Station P**	**39.07**	**85**	P	**P**	**08 21 51.9**	**+0.9**
PB09				IAMs_20	IAMs_20	08 33 10.8	
	comp=Z,7μm,21.0s						
PB09	**IPOC Station P**	**39.07**	**85**	*i* P	**P**	**08 21 51.9**	**+0.9**
PB01	**IPOC Station P**	**39.19**	**83**	P	**P**	**08 21 51.6**	**-0.4**
PB01				IAMs_20	IAMs_20	08 33 13.0	
	comp=Z,8μm,22.0s						
PSGCX	**Pisagua**	**39.32**	**81**	IAMs_20	IAMs_20	08 33 33.3	
	comp=Z,5μm,19.0s						
PB11	**IPOC Station P**	**39.63**	**82**	P	**P**	**08 21 54.8**	**-0.9**
PB11				IAMs_20	IAMs_20	08 33 23.6	
	comp=Z,5μm,21.0s						
AP01	**Chacalluta**	**39.73**	**79**	IAMs_20	IAMs_20	08 33 25.9	
	comp=Z,5μm,22.0s						
PB08	**IPOC Station P**	**39.88**	**82**	P	**P**	**08 21 57.8**	**-0.2**
PB08				IAMs_20	IAMs_20	08 33 51.1	
	comp=Z,6μm,20.0s						
MNMC	**Minye Minye**	**39.98**	**81**	P	**P**	**08 21 58.8**	**0.0**
MNMC				IAMs_20	IAMs_20	08 34 04.7	
	comp=Z,4μm,19.0s						
GO01	**Chusmiza**	**40.06**	**82**	P	**P**	**08 21 59.2**	**-0.4**
GO01				IAMs_20	IAMs_20	08 33 56.9	
	comp=Z,5μm,20.0s						
PB16	**IPOC Station P**	**40.43**	**80**	P	**P**	**08 22 02.2**	**-0.7**
PB16				IAMs_20	IAMs_20	08 34 09.7	
	comp=Z,4μm,19.0s						
AHML	**Horco Molle**	**40.45**	**94**	*i* P	**P**	**08 22 02.5**	**+0.2**
LPAZ	**La Paz**	**42.59**	**78**	P	**P**	**08 22 20.8**	**+0.2**
	comp=Z,24nm,1.0s,baz=242,slow=5.8,SNR=32						
LPAZ				PcP	**PcP**	**08 24 13.2**	**+0.2**
	comp=Z,19nm,1.0s,baz=200,slow=2.5,SNR=5.4						
LPAZ				LR	LR	08 37 10.5	
	comp=Z,2μm,18.0s,baz=240,slow=32						
LPAZ	**La Paz**	**42.59**	**78**	P	**P**	**08 22 20.6**	**-0.1**
EFI	**East Falkland**	**42.92**	**133**‖	*e*P	**P**	**08 22 21.8**	**-0.3**
EFI				pmax	pmax		
	comp=Z,179nm,2.0s						
PMSA	**Palmer Station**	**43.13**	**152**	P	**P**	**08 22 26.5**	**+2.8**
	comp=Z,52nm,1.3s,baz=301,slow=7.1,SNR=9.3						
PMSA	**Palmer Station**	**43.13**	**152**	P	**P**	**08 22 25.7**	**+2.1**
PMSA				IAmb	IAmb	08 22 31.7	
	comp=Z,168nm,1.6s						
CZSB	**Cruzeiro do Su**	**43.88**	**64**	*e*P	**P**	**08 22 30.0**	**-0.4**
RAR	**Rarotonga**	**44.01**	**273**	LR	LR	08 35 42.2	
	comp=Z,6μm,20.3s,baz=118,slow=29						
LPA	**La Plata**	**44.28**	**108**	*de*P	P	08 22 25.3	-8.0
LPA				PP	**PcP**	**08 24 21.2**	**+3.5**
LPA				PPP	PPP	08 24 57.5	
LPA				S	**S**	**08 29 09.3**	**+2.1**
LPA				SS	**SS**	**08 32 27.3**	**+1.9**
LPA				SSS	SSS	08 33 05.8	
OTAV	**Otavalo**	**45.39**	**50**	P	**P**	**08 22 43.4**	**+0.5**
OTAV				pmax	pmax		
	comp=Z,174nm,1.6s						
OTAV	**Otavalo**	**45.39**	**50**	P	**P**	**08 22 43.4**	**+0.5**
OTAV				IAmb	IAmb	08 22 52.2	
	comp=Z,174nm,1.6s						
OTAV	**Otavalo**	**45.39**	**50**	*e*P	**P**	**08 22 43.4**	**+0.5**
CUSE	**Cuicocha Este**	**45.48**	**50**	*e*P	**P**	**08 22 42.5**	**-1.0**
GCUF	**Volcan Galeras**	**46.86**	**51**	*e*P	**P**	**08 22 54.7**	**+0.1**
PUAC	**Puerto Asis, P**	**46.86**	**52**	*e*P	**P**	**08 22 53.5**	**-0.5**
CPUP	**Villa Florida**	**47.32**	**97**	P	**P**	**08 22 56.7**	**-0.8**
	comp=Z,21nm,1.2s,baz=253,slow=8.8,SNR=14						
CPUP				PcP	**PcP**	**08 24 30.3**	**+1.9**
	comp=Z,7.8nm,1.0s,baz=207,slow=4.5,SNR=3.7						
CPUP				LR	LR	08 39 39.0	
	comp=Z,4μm,18.8s,baz=249,slow=32						
CPUP	**Villa Florida**	**47.32**	**97**	P	**P**	**08 22 55.2**	**-2.3**
CPUP				IAmb	IAmb	08 22 58.4	
	comp=Z,139nm,1.8s						
CPUP	**Villa Florida**	**47.32**	**97**	*e*P	**P**	**08 22 57.6**	**+0.1**
BBAC	**Balboa, Cauca**	**47.52**	**50**	*e*P	**P**	**08 22 58.4**	**-1.0**
ETMB	**Extrema**	**47.59**	**72**	*e*P	**P**	**08 22 59.1**	**-1.3**
PTLC	**Puerto Leguiza**	**47.78**	**54**	*e*P	**P**	**08 22 58.4**	**-2.8**
SOTA	**Rioblanco**	**48.02**	**51**	*e*P	**P**	**08 23 05.0**	**+1.4**
FLOC	**Florencia**	**48.24**	**52**	*e*P	**P**	**08 23 04.2**	**-0.5**
POPC	**Popayan, Colom**	**48.28**	**50**	*e*P	**P**	**08 23 04.3**	**-1.0**
PCON	**Cinco Dias**	**48.31**	**51**	*e*P	**P**	**08 23 05.5**	**-0.4**
PLTB	**Pedras Altas**	**48.61**	**105**	*e*P	**P**	**08 23 07.2**	**-0.2**
GARC	**Garzon, Huila**	**48.79**	**52**	*e*P	**P**	**08 23 08.6**	**-0.6**
MARP	**Paez Belalcaza**	**48.98**	**51**	*e*P	**P**	**08 23 09.8**	**-0.9**
YOTC	**Yotoco, Valle**	**49.59**	**49**	*e*P	**P**	**08 23 13.6**	**-1.6**
YOTC				*e*P	**pP**	**08 23 14.5**	**-3.0**
JTS	**Las Juntas de**	**49.85**	**35**	*de*P	**P**	**08 23 18.1**	**+1.1**
JTS				pmax	pmax		
	comp=Z,25nm,1.7s						
MACC	**Macarena, Meta**	**49.86**	**53**	*e*P	**P**	**08 23 15.6**	**-1.6**

comp=Z,3µm,22.0s
VAO Valinhos 57.29 98 *e*P P **08 24 11.6 -0.1**
QSPA South Pole Qui 57.43 180 P P **08 24 14.2 +2.1**
QSPA South Pole Qui 57.43 180 IAMs_20 IAMs_20 08 46 24.4
comp=Z,4µm,18.0s
VNDA Vanda 57.51 195 P P **08 24 14.7 +2.3**
comp=Z,15nm,1.2s,baz=98,slow=8.1,SNR=15
VNDA LR LR 08 44 32.2
comp=Z,6µm,18.1s,baz=84,slow=31
VNDA Vanda 57.51 195 P P **08 24 14.4 +2.0**
AFI Afiamalu 57.52 274 IAMs_20 IAMs_20 08 42 08.1
comp=Z,4µm,22.0s
NPGB Novo Progresso 58.07 77 *e*P P **08 24 15.1 -2.1**
KHZ Kahutara 58.25 237 IAMs_20 IAMs_20 08 45 30.5
comp=Z,2µm,18.0s
URIC Uribia, Colomb 58.25 47 *e*P P 08 24 10.6 -7.7
PARB Paraibuna 58.27 99 *e*P P **08 24 20.2 +1.6**
IPMB Ipameri, GO 58.47 92 *e*P P **08 24 19.6 -0.4**
MQZ McQueen's Vall 58.50 235 P P **08 24 20.0 +0.2**
MQZ IAmb IAmb 08 25 03.6
comp=Z,105nm,1.6s
NNZ Nelson 58.73 238 IAMs_20 IAMs_20 08 43 15.1
comp=Z,3µm,20.0s
SNDB Serra Nova Dou 58.81 84 *e*P P **08 24 22.2 -0.1**
THZ Tophouse 58.90 238 P P **08 24 23.7 +1.0**
THZ IAMs_20 IAMs_20 08 43 42.6
comp=Z,3µm,19.0s
LTZ Lake Taylor 59.04 236 P P **08 24 26.4 +2.8**
LTZ IAmb IAmb 08 26 18.7
comp=Z,96nm,1.8s
ITTB Itaituba 59.29 74 *e*P P **08 24 23.8 -1.9**
ESAR Angra dos Reis 59.39 99 *e*P P **08 24 27.2 +0.9**
QRZ Quartz Range 59.46 239 IAMs_20 IAMs_20 08 43 12.7
comp=Z,3µm,20.0s
RPZ Rata Peaks 59.60 235 P P **08 24 29.6 +2.1**
comp=Z,15nm,1.0s,baz=120,slow=8.1,SNR=3.9
RPZ LR LR 08 45 28.5
comp=Z,1µm,18.5s,baz=93,slow=31
RPZ Rata Peaks 59.60 235 P P **08 24 27.2 -0.3**
BDFB Brasilia 59.74 90 P P **08 24 29.2 +0.2**
comp=Z,53nm,1.1s,baz=229,slow=9.1,SNR=16
BDFB LR LR 08 47 42.6
comp=Z,3µm,19.2s,baz=249,slow=34
BDFB Brasilia 59.74 90 P P **08 24 28.4 -0.5**
BDFB IAmb IAmb 08 24 37.9
comp=Z,91nm,1.2s
BDFB IAMs_20 IAMs_20 08 47 21.5
comp=Z,3µm,20.0s
SRIG Santa Rosalia 59.75 359 IAMs_20 IAMs_20 08 44 24.8
comp=Z,4µm,19.0s
BSCB Bom Sucesso 59.99 97 *e*P P **08 24 30.4 -0.2**
LBZ Lake Benmore 59.99 234 IAMs_20 IAMs_20 08 44 41.6
comp=Z,2µm,18.0s
MTDJ Mount Denham 60.33 38 IAMs_20 IAMs_20 08 45 53.5
comp=Z,2µm,18.0s
FOZ Fox Glacier 60.51 235 IAMs_20 IAMs_20 08 46 32.4
comp=Z,3µm,20.0s
VAS01 Vassouras-RJ 60.54 99 *e*P P **08 24 36.7 +2.4**
OUZ Omahuta 60.56 245 P P **08 24 35.5 +1.3**
OUZ IAmb IAmb 08 24 37.8
comp=Z,104nm,1.5s
WHZ Wether Hill Ro 61.03 232 IAMs_20 IAMs_20 08 51 01.9
comp=Z,3µm,19.0s
PEXB Peixe 61.25 86 *e*P P **08 24 39.0 -0.2**
KVTX Kingsville 61.40 14 IAMs_20 IAMs_20 08 48 08.3
comp=Z,3µm,18.0s
HSIG 61.45 1 P P **08 24 39.4 -0.6**
HSIG IAmb IAmb 08 24 42.6
comp=Z,77nm,1.5s
HSIG IAMs_20 IAMs_20 08 44 58.7
comp=Z,4µm,20.0s
DCZ Deep Cove 61.70 232 P P **08 24 43.4 +1.7**
DCZ IAmb IAmb 08 26 33.7
comp=Z,77nm,1.5s
833A Chaparral WMA, 61.87 12 P P **08 24 42.4 -0.5**
baz=192,SNR=9.8
833A S S **08 33 10.7 +4.1**
baz=192
MALB Monte Alegre 61.95 73 *e*P P **08 24 42.8 -1.0**
TX31 Lajitas Ar. Si 62.23 8 P P **08 24 45.1 -0.4**
TX32 Lajitas Array 62.23 8 P P **08 24 45.5 +0.1**
TX32 IAmb IAmb 08 24 54.4
comp=Z,94nm,1.6s
TXAR Lajitas Array 62.23 8 P P **08 24 45.0 -0.4**
comp=Z,2.2nm,0.7s,baz=187,slow=9.4,SNR=26
TXAR LR LR 08 47 35.1
comp=Z,2µm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 62.23 8 P P **08 24 45.0 -0.4**
VNA3 Neumayer Olymp 63.08 159 P P **08 24 51.2 +0.6**
PRPB Parauapebas 63.12 80 *e*P P **08 24 50.4 -1.3**
JANB Januaria 63.14 91 *e*P P **08 24 52.0 +0.1**
LGNH Logne 63.23 42 P P **08 24 51.8 -0.3**
SMTB Santa Maria do 63.53 83 *e*P P **08 24 54.4 0.0**
VNA1 Neumayer--Stat 63.74 159 P P **08 24 55.9 +1.0**
VNA2 Neumayer--Watz 63.89 159 P P **08 24 56.7 +0.8**
baz=243,slow=5.3
JCT Junction City 63.91 11 P P **08 24 56.0 -0.5**
baz=191
JCT Junction City 63.91 11 P P **08 24 55.1 -1.4**
JCT pmax pmax
comp=Z,116nm,1.1s
JCT Junction City 63.91 11 P P **08 24 55.0 -1.4**
SDBA SAO DESIDÉRIO 63.96 88 *e*P P **08 24 57.5 +0.2**
SJMB Sao Joao De Ma 64.04 96 *e*P P **08 24 58.1 +0.4**
HKT Hockley 64.16 15 P P **08 24 57.0 -1.0**
HKT pmax pmax
comp=Z,162nm,1.5s
HKT Hockley 64.16 15 P P **08 24 57.0 -1.0**
HKT Hockley 64.16 15 IAMs_20 IAMs_20 08 50 27.7
comp=Z,2µm,19.0s
MSVF Nonsavu 64.23 265*d* iP P **08 25 01.1 +2.0**
MSVF pmax pmax
comp=Z,121nm,1.7s
BSFB Barra de Sao F 64.26 97 *e*P P **08 24 59.5 +0.4**
SDDR Presa de Saban 64.36 43 P P **08 24 59.1 -0.6**
SDDR IAmb IAmb 08 25 07.9
comp=Z,59nm,1.2s
214A Organ Pipe Nat 64.38 359 P P **08 24 59.7 +0.2**
baz=179,SNR=12
214A S S **08 33 43.9 +6.0**
baz=179
MNTX Cornudas Mount 64.39 6 P P **08 24 59.7 +0.1**
baz=186
MNTX Cornudas Mount 64.39 6 P P **08 24 59.0 -0.7**
MNTX IAmb IAmb 08 25 07.7
comp=Z,81nm,1.5s
RIB01 Linhares ES 64.42 97 *e*P P **08 25 00.5 +0.3**
TRN Trinidad (W) 64.53 57 *e*P P **08 24 56.3 -4.6**
MCPB Macapa, AP 64.60 73 *e*P P **08 25 00.7 -0.7**
435B Jarrell 64.60 13 P P **08 25 00.5 -0.5**
baz=193
435B S S **08 33 44.4 +3.7**
baz=193
TUC Tucson 64.73 1 P P **08 25 02.5 +0.7**
baz=181
TUC Tucson 64.73 1 P P **08 25 02.1 +0.2**
TUC pmax pmax
comp=Z,93nm,1.7s
TUC Tucson 64.73 1 P P **08 25 02.1 +0.2**
TUC IAmb IAmb 08 25 11.0
comp=Z,93nm,1.6s
SDD Santo Domingo 64.75 44 P P **08 25 02.0 -0.2**
SNAA Sanae 64.87 161 P P **08 25 03.1 +0.7**
SNAA Sanae 64.87 161*ce*P P **08 25 02.5 +0.1**
SNAA pmax pmax
comp=Z,62nm,2.0s
SNAA MLR MLR
comp=Z,385nm,16.0s
SNAA Sanae 64.87 161 P P **08 25 02.5 +0.1**
SC01 Santiago de lo 65.03 43 P P **08 25 03.8 -0.2**
121A Cookes Peak, D 65.05 4 P P **08 25 04.2 +0.1**
baz=184,SNR=13
121A S S **08 33 51.9 +5.4**
baz=184
IKP In-Ko-Pah, Jac 65.20 356 P P **08 25 04.9 0.0**
baz=176,SNR=8.9
IKP S S **08 33 54.8 +6.8**
baz=176
NAN01 Guarapari, ES 65.33 96 *e*P P **08 25 06.3 +0.2**
MONP2 Monument Peak 65.46 356 P P **08 25 07.0 +0.2**
baz=176,SNR=9.3
SWSC Sam W. Stewart 65.47 356 P P **08 25 06.5 -0.1**
baz=176
109C Camp Elliot, M 65.50 355 P P **08 25 06.9 +0.2**
baz=175
GLA Glamis 65.53 357 P P **08 25 07.3 +0.3**
baz=177
TOSP Speyside 65.60 57 *e*P P 08 25 01.8 -6.0
SCI2 San Clemente I 65.71 354 P P **08 25 08.0 -0.1**
baz=174
WHTX Lake Whitney, 65.80 13 P P **08 25 07.9 -0.9**
baz=193
WHTX S S **08 33 58.8 +3.5**
baz=193
ABTX Abilene, Hawle 66.03 11 P P **08 25 09.4 -0.9**
baz=191,SNR=11
ABTX S S **08 34 00.0 +1.9**
baz=191
CIS Catalina Islan 66.11 354 P P **08 25 10.4 -0.3**
baz=174
BC3 Big Chuckawall 66.16 357 P P **08 25 11.2 0.0**
baz=176,SNR=21
BC3 S S **08 34 07.7 +7.8**
baz=176
TPFO Pinon Flats 66.17 356 P P **08 25 10.6 -0.6**
baz=176,SNR=10
NATX Nacogdoches 66.17 16 P P **08 25 11.2 +0.1**
baz=196
NATX Nacogdoches 66.17 16 P P **08 25 11.5 +0.4**
PFO Pinyon Flats O 66.17 356 P P **08 25 11.3 0.0**
baz=176,SNR=11
PFO Pinyon Flats O 66.17 356*d* iP P **08 25 11.6 +0.3**
PFO pmax pmax
comp=Z,99nm,1.9s
MURC Murrieta 66.21 355 P P **08 25 11.3 -0.1**
baz=175
MURC S S **08 34 08.9 +8.5**
baz=175
FMP Fort Macarthur 66.41 354 P P **08 25 12.8 +0.2**
baz=174
PUH Pauahi 66.46 315 P P **08 25 14.1 +0.8**
BELC Belle Mtn. Jos 66.53 356 P P **08 25 13.8 +0.2**
baz=176,SNR=18
Y22D IRIS PASSCAL I 66.64 4 P P **08 25 14.4 +0.1**
baz=184
IRM Iron Mountain 66.64 357 P P **08 25 13.9 -0.2**
baz=177,SNR=14
TMAB Tom-Au,PA,Br 66.67 77 *e*P P **08 25 14.8 0.0**
BBRC Big Bear Solar 66.85 355 P P **08 25 16.0 +0.3**
baz=175,SNR=7.4
BFSC Mount Baldy Ra 66.88 355 P P **08 25 15.9 +0.1**
baz=174
MSTX Muleshoe 66.91 8 P P **08 25 14.6 -1.4**
baz=188,SNR=37
POHA Pohakuloa 66.94 315 IAMs_20 IAMs_20 08 47 21.6
comp=Z,2µm,18.0s
DECC Green Verdugo 66.95 354 P P **08 25 16.1 0.0**
baz=174
MCLT Moule a Chique 66.99 55 *e*P P **08 25 19.1 +2.4**
HUH Hualalai 67.07 315 P P **08 25 16.5 -1.0**
SLBI Saint Lucia, B 67.19 55 *e*P P **08 25 13.9 -4.0**
NEE2 Needles Airpor 67.23 357 P P **08 25 17.5 -0.3**
baz=177
NEE2 S S **08 34 19.8 +7.3**
baz=177
SBC Santa Barbara 67.27 353 P P **08 25 18.0 0.0**
baz=173
GMRC Granite Mounta 67.30 356 P P **08 25 18.4 0.0**
baz=176,SNR=17
GMRC S S **08 34 21.3 +7.7**
baz=176
OSI Osito Audit: C 67.34 354 P P **08 25 19.0 +0.3**
baz=174
HEC Hector,Ludlow 67.38 356 P P **08 25 19.3 +0.4**
baz=176
BIM Bigot 67.47 54 *e*P P 08 25 13.9 -5.8
RRX Edison Barstow 67.47 355 P P **08 25 19.4 0.0**
baz=175
ANMO Albuquerque 67.53 5 P P **08 25 20.1 +0.1**
baz=185
ANMO Albuquerque 67.53 5 P P **08 25 19.6 -0.4**
ANMO pmax pmax
comp=Z,31nm,1.2s
ANMO Albuquerque 67.53 5 P P **08 25 19.6 -0.4**
ANMO Albuquerque 67.53 5 IAMs_20 IAMs_20 08 49 20.8
comp=Z,2µm,19.0s
EDW2 Edwards Air Fo 67.55 354 P P **08 25 19.8 -0.1**
baz=174
W18A Petrified Fore 67.55 2 P P **08 25 19.9 -0.2**
baz=182
MPOM Morne Pois Mar 67.56 54 *e*P P 08 25 13.9 -6.3
FDF Fort de France 67.56 54 *e*P P 08 25 29.9 +10
FDF Fort de France 67.56 54 P P **08 25 18.0 -2.4**
FDF pmax pmax
comp=Z,86nm,1.4s
VBMS Vicksburg 67.66 19 P P **08 25 21.1 +0.5**
baz=199
VBMS Vicksburg 67.66 19 P P **08 25 21.2 +0.6**
PKM Mcpherson Peak 67.72 353 P P **08 25 21.2 +0.1**
baz=173
BRAL Brewton 67.73 23 P P **08 25 20.3 -0.7**
baz=202
BRAL Brewton 67.73 23 IAMs_20 IAMs_20 08 51 51.0
comp=Z,2µm,18.0s
ILAM Ilet Lapin Mar 67.78 54 *e*P P **08 25 25.9 +4.2**
GDU01 Guandu, BA 67.79 92 *e*P P **08 25 21.6 -0.4**
MDN Morne-Daniel 67.81 53 *e*P P **08 25 25.0 +3.1**
ARVC Arvin 67.86 354 P P **08 25 21.9 +0.1**
baz=174
GSC Goldstone, Bar 67.88 356 P P **08 25 22.2 +0.2**
baz=175,SNR=22
DSLB Salisbury 67.88 53 *e*P P **08 25 18.7 -3.6**
WUAZ Wupatki 67.92 0 P P **08 25 22.6 +0.2**
baz=180
WUAZ Wupatki 67.92 0 P P **08 25 21.9 -0.5**
WUAZ IAMs_20 IAMs_20 08 48 48.2
comp=Z,3µm,21.0s
AMTX Amarillo 67.95 9 P P **08 25 21.8 -0.6**
baz=189
AMTX Amarillo 67.95 9 P P **08 25 22.5 +0.1**
AMTX IAMs_20 IAMs_20 08 50 52.7
comp=Z,2µm,18.0s
TUQ Turquoise Moun 67.96 356 P P **08 25 22.8 +0.2**
baz=176
TUQ S S **08 34 29.7 +8.1**
baz=176
TDBA Terre de Bas, 68.03 53 *e*P P **08 25 27.6 +4.3**
Z41A Richland Creek 68.05 17 P P **08 25 22.8 -0.2**
baz=197
LRMC Laurel Mtn Rad 68.12 355 P P **08 25 23.3 -0.3**
baz=174,SNR=15
SMMC Simmler 68.17 353 P P **08 25 24.1 +0.4**
baz=172
CBE El Capester 68.20 53 *e*P P 08 25 17.9 -6.4
WMOK Wichita Mounta 68.24 11 P P **08 25 22.8 -1.4**
baz=192
WMOK Wichita Mounta 68.24 11 P P **08 25 23.3 -0.9**
WMOK pmax pmax
comp=Z,36nm,1.5s
WMOK Wichita Mounta 68.24 11 P P **08 25 23.3 -0.9**
SABA Saba 68.25 50 *e*P P 08 25 17.9 -6.7
SEUS St. Eustatius 68.32 51 *e*P P 08 25 17.9 -7.1
ISA Isabella, Lake 68.36 354 P P **08 25 24.8 -0.2**
baz=174,SNR=14
SKI Saint Kitts 68.36 51 *e*P P **08 25 25.9 +0.5**
SHOC Shoshone, Teco 68.44 356 P P **08 25 25.0 -0.4**
baz=176,SNR=14
ABD La Joyeuse, An 68.57 52 *e*P P 08 25 13.9 -13
VES Vestal, Richgr 68.59 354 P P **08 25 26.1 -0.2**
baz=173,SNR=7.5
PAGB Antelope Grade 68.60 353 P P **08 25 26.6 +0.1**
MPMC Manual Prospec 68.68 355 P P **08 25 26.8 -0.4**
baz=175,SNR=38
MPMC S S **08 34 38.4 +8.1**
baz=175
ANBD Bethesda, Anti 68.80 52 *e*P P **08 25 24.5 -3.5**
W35A Tecumseh 68.98 13 P P **08 25 28.1 -0.8**
FNO Franklin 68.98 13 P P **08 25 26.9 -2.0**
FURC Furnace Creek, 69.04 356 P P **08 25 29.0 -0.1**
baz=175,SNR=20
MIAR Mount Ida 69.09 16 P P **08 25 28.6 -0.8**
baz=196
MIAR Mount Ida 69.09 16 P P **08 25 28.7 -0.8**
MIAR pmax pmax
comp=Z,42nm,1.2s
MIAR Mount Ida 69.09 16 P P **08 25 28.7 -0.8**
MIAR IAmb IAmb 08 25 37.5
comp=Z,42nm,1.1s
VOG Valley Oaks Go 69.10 353 P P **08 25 29.4 -0.1**
baz=173
CWC Cottonwood Cre 69.10 355 P P **08 25 29.9 +0.1**
baz=174
OKCFA Oklahoma City 69.13 12 P P **08 25 27.4 -2.3**
PMPB Monarch Peak 69.15 352 P P **08 25 29.0 -0.9**
TIGA Tifton 69.17 26 P P **08 25 29.7 -0.3**
baz=205
X40A Basin Creek Fa 69.21 17 P P **08 25 29.6 -0.7**
baz=197
X40A S S **08 34 39.2 +3.0**
baz=197
ANWB Willy Bob 69.23 51 P P **08 25 28.4 -2.4**
NVL N'lazarevskaya 69.28 163 *e*P P **08 25 32.8 +2.5**
NVL *e*PPP PPP 08 29 43.6
NVL *e*S S **08 34 37.8 +1.5**
NVL *e*SS SS **08 39 03.8 +1.8**
NVL *e*SSS SSS 08 42 17.5
NVL pmax pmax
comp=Z,127nm,1.4s
OK025 Westminster Rd 69.31 12 P P **08 25 29.9 -0.9**
BCOK Bluff Creek, N 69.34 12 P P **08 25 31.1 0.0**
KNB Kanab 69.43 359 P P **08 25 31.2 -0.6**
KNB pmax pmax
comp=Z,72nm,1.5s
KNB Kanab 69.43 359 P P **08 25 31.2 -0.6**
LCMT Little Creek M 69.43 359 P P **08 25 30.7 -1.1**
LRAL Lakeview Retre 69.47 22 P P **08 25 31.6 -0.3**
baz=202
LRAL Lakeview Retre 69.47 22 P P **08 25 31.4 -0.5**
LRAL IAmb IAmb 08 25 40.2
comp=Z,50nm,1.1s
TPNV Topopah Spring 69.48 356 P P **08 25 32.7 +0.6**
baz=176
TPNV Topopah Spring 69.48 356 P P **08 25 32.4 +0.3**
TPNV pmax pmax
comp=Z,122nm,1.6s
TPNV Topopah Spring 69.48 356 P P **08 25 32.4 +0.3**
ROSB Rosrio 69.65 80 *e*P P **08 25 33.2 -0.3**
W39A Magazine 69.67 16 P P **08 25 32.2 -0.8**
baz=196,SNR=10.0
W39A S S **08 34 44.0 +2.4**
baz=196
MVCO Mesa Verde 69.68 3 P P **08 25 33.0 -0.4**
baz=183
MVCO Mesa Verde 69.68 3 P P **08 25 32.9 -0.5**
MVCO IAMs_20 IAMs_20 08 49 53.6
comp=Z,2µm,22.0s
TIN Tinemaha, Big 69.72 354 P P **08 25 33.8 +0.3**
baz=174
X43A Marvell 69.73 18 P P **08 25 33.1 -0.3**
baz=198
T25A Trinidad 69.88 6 P P **08 25 34.4 -0.2**
baz=186,SNR=16
T25A S S **08 34 49.9 +5.4**
baz=186
TUL1 Leonard 69.93 14 P P **08 25 33.2 -1.5**
baz=194,SNR=18
CCUT Cedar City 69.97 359 P P **08 25 35.2 0.0**
QUOK Quay 70.00 13 P P **08 25 34.6 -0.5**
QUOK IAmb IAmb 08 25 43.0
comp=Z,84nm,1.1s
W41B Gary Mavity, V 70.01 17 P P **08 25 34.4 -0.7**
baz=197,SNR=17
W41B S S **08 34 50.5 +5.0**
baz=197
SZCU Shurtz Canyon 70.01 359 P P **08 25 33.5 -1.9**
CROK Carrier 70.10 12 P P **08 25 35.4 -0.4**
OXF Oxford 70.13 19 P P **08 25 34.4 -1.5**
baz=200
OXF Oxford 70.13 19 P P **08 25 35.2 -0.7**
OXF pmax pmax
comp=Z,66nm,1.1s
OXF Oxford 70.13 19 P P **08 25 35.2 -0.7**
OXF IAmb IAmb 08 25 43.3
comp=Z,66nm,1.1s
S22A 4UR Ranch, Cre 70.30 4 P P **08 25 36.7 -0.6**
baz=184,SNR=24
S22A S S **08 34 55.0 +5.5**
baz=184
OMMB Old Mammoth Mi 70.34 354 P P **08 25 35.2 -2.4**
MLAC Mammoth, Mammo 70.35 354 P P **08 25 37.2 -0.3**
baz=174
MDPB Devils Postpil 70.37 354 P P **08 25 37.4 -0.3**
SDCO Great Sand Dun 70.39 5 P P **08 25 37.1 -0.7**
baz=186
SDCO Great Sand Dun 70.39 5 P P **08 25 37.2 -0.6**
SDCO IAmb IAmb 08 25 46.5
comp=Z,54nm,1.3s
SDCO IAMs_20 IAMs_20 08 51 27.3
comp=Z,3µm,19.0s
PV05 Paradox Valley 70.52 2 P P **08 25 38.7 +0.2**
PV01 Paradox Valley 70.60 3 P P **08 25 38.4 -0.7**
PV01 IAmb IAmb 08 25 47.4
comp=Z,58nm,1.4s
PV13 Radium Mtn., P 70.61 2 P P **08 25 38.3 -0.8**
PV13 IAmb IAmb 08 25 48.6
comp=Z,64nm,1.7s
PV13 IAMs_20 IAMs_20 08 50 18.3
comp=Z,2µm,20.0s
PV02 Paradox Valley 70.66 2 P P **08 25 38.6 -0.8**
PV02 IAmb IAmb 08 25 47.9
comp=Z,84nm,1.7s
KAN13 South Haven SW 70.68 12 P P **08 25 38.3 -1.0**
KAN10 Anthony SW Sta 70.68 12 P P **08 25 38.9 -0.4**
PV18 Skein Mesa, Pa 70.70 2 P P **08 25 38.8 -0.8**
PV18 IAmb IAmb 08 25 47.9
comp=Z,53nm,1.3s
PV18 IAMs_20 IAMs_20 08 50 33.5
comp=Z,3µm,22.0s
KAN05 Bluff City Nor 70.70 12 P P **08 25 39.6 +0.2**
PV03 Paradox Valley 70.71 2 P P **08 25 39.1 -0.6**
PV03 IAMs_20 IAMs_20 08 50 43.8
comp=Z,3µm,22.0s
PV17 East Wray Mesa 70.73 2 P P **08 25 39.3 -0.5**
PV17 IAmb IAmb 08 25 48.1
comp=Z,54nm,1.3s
PV17 IAMs_20 IAMs_20 08 50 52.4
comp=Z,3µm,21.0s
PV11 David Mesa, Pa 70.75 2 P P **08 25 39.8 -0.1**
PV11 IAmb IAmb 08 25 48.3
comp=Z,80nm,1.5s
PV11 IAMs_20 IAMs_20 08 50 11.9
comp=Z,3µm,22.0s
PV19 Morning Glory 70.76 2 IAMs_20 IAMs_20 08 50 36.1
comp=Z,3µm,22.0s
PV16 Nyswonger Mesa 70.76 2 P P **08 25 38.8 -1.2**
PV16 IAmb IAmb 08 25 48.3
comp=Z,89nm,1.6s
PV16 IAMs_20 IAMs_20 08 50 15.2
comp=Z,3µm,22.0s
PV15 Paradox Valley 70.81 3 IAMs_20 IAMs_20 08 50 26.5
comp=Z,2µm,21.0s
PV10 Paradox Valley 70.82 2 P P **08 25 39.9 -0.5**
PV10 IAmb IAmb 08 25 48.3
comp=Z,65nm,1.2s
R11A Troy Canyon, C 70.84 357 P P **08 25 40.6 +0.2**
baz=176,SNR=35
R11A S S **08 35 02.2 +6.7**
baz=176
PV04 Paradox Valley 70.84 2 IAMs_20 IAMs_20 08 50 14.4
comp=Z,3µm,22.0s
PV07 Paradox Valley 70.90 3 IAMs_20 IAMs_20 08 50 42.9
comp=Z,2µm,21.0s
CMB Columbia Colle 70.90 353 P P **08 25 40.0 -0.6**
CMB pmax pmax
comp=Z,63nm,1.6s
CMB Columbia Colle 70.90 353 P P **08 25 40.0 -0.6**
CMB IAmb IAmb 08 25 49.8
comp=Z,63nm,1.6s
MSU Marysvale 70.92 360 P P **08 25 40.9 0.0**
MSU Marysvale 70.92 360 P P **08 25 40.9 0.0**
PLAL Pickwick Lake 70.95 20 P P **08 25 39.6 -1.4**
PSUT Pine Spring 70.96 358 P P **08 25 40.8 -0.4**
PV22 Blue Mesa, Par 70.99 2 IAMs_20 IAMs_20 08 50 41.3
comp=Z,3µm,21.0s
U40A Yellville 70.99 16 P P **08 25 40.0 -1.2**
baz=197,SNR=15
GOGA Godfrey 71.00 25 P P **08 25 40.3 -1.0**
baz=205
GOGA Godfrey 71.00 25 P P **08 25 40.5 -0.7**
GOGA pmax pmax
comp=Z,51nm,1.1s
GOGA Godfrey 71.00 25 P P **08 25 40.5 -0.7**
GOGA IAmb IAmb 08 25 49.3
comp=Z,51nm,1.1s
GOGA Godfrey 71.00 25 IAMs_20 IAMs_20 08 51 28.5
comp=Z,2µm,22.0s
NV11 Mina Array Sit 71.09 355 P P **08 25 41.9 0.0**

NVAR Mina Array Bea 71.09 355 P P 08 25 42.4 +0.3
comp=Z,9.9nm,0.9s,baz=186,slow=6.7,SNR=45
NVAR LR LR 08 50 35.4
comp=Z,5µm,18.5s,baz=170,slow=31
NVAR Mina Array Bea 71.09 355 P P 08 25 41.9 -0.1
157A Early Branch 71.25 27 P P 08 25 42.3 -0.5
baz=207
RYN Ryan 71.31 354 P P 08 25 43.0 -0.2
RYN IAmb IAmb 08 25 52.7
comp=Z,95nm,1.5s
Q16A Castle Valley 71.32 0 P P 08 25 43.4 +0.1
SRU San Rafael Swe 71.52 1 P P 08 25 43.2 -1.3
SRU pmax pmax
comp=Z,51nm,1.2s
SRU San Rafael Swe 71.52 1 P P 08 25 43.2 -1.3
158A Hollywood 71.61 28 P P 08 25 44.4 -0.6
baz=208
Q24A Divide 71.62 5 P P 08 25 44.9 -0.5
baz=186
Z56A Williston 71.69 26 P P 08 25 44.8 -0.6
baz=206
TMUT Trail Mountain 71.70 0 P P 08 25 45.0 -0.7
YERR Yerington 71.73 354 P P 08 25 45.4 -0.4
YERR IAmb IAmb 08 25 55.4
comp=Z,102nm,1.5s
DZM Mont Dzumac 71.81 255 eP P 08 25 45.0 -1.7
comp=Z,128nm,1.4s
DZM eS S 08 35 05.0 -2.5
comp=Z,966nm,27.9s
DZM eSS SS 08 39 39.5 -3.8
comp=Z,663nm,28.2s
DZM eLQ LQ 08 44 34.5
comp=Z,2µm,25.0s
DZM eLR LR 08 47 36.7
comp=Z,2µm,24.1s
DZM Mont Dzumac 71.81 255 P P 08 25 47.1 +0.4
comp=Z,15nm,1.0s,baz=135,slow=7.7,SNR=6.1
AFDM Forest Hills D 71.86 352 P P 08 25 46.0 -0.4
AFDM IAmb IAmb 08 25 49.0
comp=Z,126nm,2.0s
P17A Butcher Ranch, 71.88 1 P P 08 25 46.4 -0.3
KSCO Kaye Shedlock' 71.91 7 P P 08 25 46.4 -0.4
baz=188,SNR=18
KSCO S S 08 35 10.8 +3.0
baz=188
Z57A Bowman 71.91 27 P P 08 25 46.3 -0.5
baz=207
NHSC New Hope 71.95 28 P P 08 25 46.8 -0.1
baz=208
GDXM Geysers 71.95 351 P P 08 25 45.7 -1.3
CBKS Cedar Bluff 72.08 10 P P 08 25 47.2 -0.5
baz=190
CBKS Cedar Bluff 72.08 10 P P 08 25 46.3 -1.4
CBKS pmax pmax
comp=Z,94nm,1.3s
CBKS Cedar Bluff 72.08 10 P P 08 25 46.3 -1.4
CBKS IAmb IAmb 08 25 56.3
comp=Z,94nm,1.2s
CBKS IAMs_20 IAMs_20 08 53 04.1
comp=Z,2µm,20.0s
WVT Waverly 72.09 20 P P 08 25 46.5 -1.3
baz=201
WVT Waverly 72.09 20 P P 08 25 46.3 -1.5
WVT pmax pmax
comp=Z,57nm,1.4s
WVT Waverly 72.09 20 P P 08 25 46.3 -1.5
Y56A Pelion 72.13 26 P P 08 25 47.7 -0.3
baz=206
HOPS Hopland Field 72.17 351 P P 08 25 46.1 -2.1
HOPS IAmb IAmb 08 25 57.8
comp=Z,137nm,1.6s
Z58A St. Stephen 72.29 28 P P 08 25 49.0 0.0
baz=208
X54A Belton 72.41 25 P P 08 25 49.6 -0.2
baz=206
Z59A Georgetown, SC 72.42 28 P P 08 25 49.9 +0.1
baz=208
ISCO Idaho Springs 72.42 5 P P 08 25 50.0 -0.1
baz=185
ISCO Idaho Springs 72.42 5 P P 08 25 50.3 +0.2
ISCO pmax pmax
comp=Z,66nm,1.5s
ISCO Idaho Springs 72.42 5 P P 08 25 50.3 +0.2
ISCO IAmb IAmb 08 25 59.0
comp=Z,66nm,1.4s
ORV Oroville 72.52 352 P P 08 25 50.0 -0.3
ORV pmax pmax
comp=Z,63nm,1.8s
ORV Oroville 72.52 352 P P 08 25 50.0 -0.3
DUG Dugway, Tooele 72.60 359 P P 08 25 50.9 -0.1
baz=179
DUG Dugway, Tooele 72.60 359 P P 08 25 50.4 -0.6
DUG pmax pmax
comp=Z,99nm,1.8s
DUG Dugway, Tooele 72.60 359 P P 08 25 50.4 -0.6
DUG IAmb IAmb 08 26 00.1
comp=Z,100nm,1.8s
O20A White River Ci 72.61 3 P P 08 25 50.3 -0.7
baz=183,SNR=8.2
O20A S SKiKP 08 35 21.4 -4.4
baz=183
X55A Gracelyn & Ava 72.61 26 P P 08 25 50.2 -0.7
baz=206,SNR=18
Y57A Sumter 72.67 27 P P 08 25 50.7 -0.5
baz=207
NBMO Morrinhos-CE 72.82 83 eP P 08 25 52.8 0.0
X56A White Oak 72.85 26 P P 08 25 52.0 -0.3
baz=207
TKL Tuckaleechee C 72.93 24 P P 08 25 51.6 -1.2
TKL pmax pmax
comp=Z,36nm,1.1s
TKL Tuckaleechee C 72.93 24 P P 08 25 51.5 -1.2
TKL IAMs_20 IAMs_20 08 52 31.6
comp=Z,3µm,22.0s
W54A Cherokee Point 72.96 25 P P 08 25 52.0 -1.0
baz=206,SNR=11
CCM Cathedral Cave 72.99 17 P P 08 25 52.2 -0.9
baz=198
CCM Cathedral Cave 72.99 17 P P 08 25 52.6 -0.5
CCM pmax pmax
comp=Z,74nm,1.6s
CCM Cathedral Cave 72.99 17 P P 08 25 52.6 -0.5
CCM IAmb IAmb 08 26 01.1
comp=Z,74nm,1.6s
RDMU Red Mountain 73.00 2 P P 08 25 52.0 -1.4
JLU Jordanelle 73.00 0 P P 08 25 52.8 -0.7
CTU Camp Tracy 73.09 360 P P 08 25 53.3 -0.6
X57A Johnson Farm, 73.18 27 P P 08 25 53.9 -0.4
baz=207
ELK Elko 73.22 357 P P 08 25 54.6 -0.1
ELK pmax pmax
comp=Z,76nm,1.9s
ELK Elko 73.22 357 P P 08 25 54.6 -0.1
Y59A Loris 73.24 28 P P 08 25 54.4 -0.2
baz=208
O03E Paynes Creek 73.29 352 P P 08 25 53.9 -1.0
baz=171,SNR=8.1
O02D Mt. Diablo Mer 73.30 351 P P 08 25 54.8 -0.2
baz=170,SNR=12
KMSC Kings Mountain 73.32 26 P P 08 25 54.7 -0.4
baz=206
BGU Big Grassy Mou 73.33 359 P P 08 25 54.4 -0.9
KMRM Mail Ridge 73.46 350 P P 08 25 55.8 -0.1
KMRM IAmb IAmb 08 26 02.7
comp=Z,80nm,1.4s
N23A Red Feather La 73.49 5 P P 08 25 55.6 -0.7
baz=185,SNR=28
TCUT Toone Canyon 73.52 0 P P 08 25 56.1 -0.4
X58A Rowland 73.55 27 P P 08 25 56.1 -0.3
baz=208
W56A Indian Trail 73.59 26 P P 08 25 55.9 -0.8
baz=207
WDC Whiskeytown Da 73.66 351 P P 08 25 55.8 -1.2
WDC pmax pmax
comp=Z,70nm,1.4s
WDC Whiskeytown Da 73.66 351 P P 08 25 55.8 -1.2
WDC IAmb IAmb 08 26 05.6
comp=Z,70nm,1.4s
WDC IAMs_20 IAMs_20 08 50 52.3
comp=Z,3µm,20.0s
V54A Nebo 73.67 25 P P 08 25 56.2 -1.0
baz=206,SNR=9.3
V54A S S 08 35 30.9 +3.2
baz=206
SPUT South Promonto 73.71 359 P P 08 25 56.9 -0.5
TZTN Tazewell 73.81 23 P P 08 25 57.3 -0.7
baz=204
TZTN Tazewell 73.81 23 P P 08 25 57.4 -0.6
TZTN IAmb IAmb 08 26 06.3
comp=Z,96nm,1.2s
TZTN IAMs_20 IAMs_20 08 53 10.9
comp=Z,3µm,22.0s
W57A Gilead 73.83 27 P P 08 25 57.3 -0.8
baz=207,SNR=18
X59A McDuffie Farm, 73.85 28 P P 08 25 57.8 -0.4
baz=208
PHWY Pilot Hill 73.92 5 P P 08 25 58.5 -0.4
PHWY IAMs_20 IAMs_20 08 53 41.9
comp=Z,2µm,18.0s
V55A Taylorsville 74.00 25 P P 08 25 58.7 -0.4
baz=206
V55A S S 08 35 37.8 +6.4
baz=206
W58A Raeford 74.00 27 P P 08 25 58.4 -0.7
baz=208,SNR=18
HWUT Hardware Ranch 74.00 0 P P 08 25 58.0 -1.3
N02D Trinity Center 74.07 351 P P 08 25 59.8 +0.3
baz=170,SNR=23
KHMM Horse Mountain 74.11 351 P P 08 26 00.6 +0.8
KHMM IAmb IAmb 08 26 09.4
comp=Z,107nm,1.3s
X60A Albert Glenn T 74.11 28 P P 08 25 59.2 -0.6
baz=209
HVU Hansel Valley 74.18 359 P P 08 25 58.5 -1.8
HVU pmax pmax
comp=Z,87nm,1.8s
HVU Hansel Valley 74.18 359 P P 08 25 58.5 -1.8
RWWY Rawlins 74.20 4 P P 08 26 00.2 -0.3
V56A Mocksville 74.22 26 P P 08 25 59.7 -0.7
baz=207,SNR=5.3
U54A Nelsons Funny 74.38 25 P P 08 26 00.5 -0.9
baz=206
W59A Clinton 74.44 28 P P 08 26 01.2 -0.4
baz=209
WCI Wyandotte Cave 74.49 21 P P 08 26 00.4 -1.5
baz=202
WCI Wyandotte Cave 74.49 21 P P 08 26 01.2 -0.7
WCI pmax pmax
comp=Z,97nm,2.0s
WCI Wyandotte Cave 74.49 21 P P 08 26 01.2 -0.7
WCI IAmb IAmb 08 26 09.2
comp=Z,97nm,1.9s
M02C Callahan 74.50 351 P P 08 26 01.9 -0.1
baz=170,SNR=20
T53A Wise 74.55 24 P P 08 26 01.6 -0.8
baz=205
V57A Coltrane Farms 74.56 26 P P 08 26 01.3 -1.1
baz=207,SNR=7.7
W60A Pink Hill 74.63 28 P P 08 26 02.2 -0.6
baz=209
U55A TA2, Sparta 74.64 25 P P 08 26 02.4 -0.5
baz=206
MOD Modoc Plateau 74.72 353 P P 08 26 03.5 +0.1
MOD IAmb IAmb 08 26 12.7
comp=Z,140nm,1.6s
CNNC Cliffs of the 74.72 28 P P 08 26 02.9 -0.3
baz=209
CNNC Cliffs of the 74.72 28 P P 08 26 03.1 -0.1
V58A Windy Hill, Pi 74.73 27 P P 08 26 02.7 -0.6
baz=208
U56A King 74.74 26 P P 08 26 03.0 -0.4
baz=207
M04C Macdoel 74.76 352 P P 08 26 03.2 -0.3
baz=171,SNR=22
KRMB Red Mountain 74.77 351 P P 08 26 04.2 +0.6
KRMB IAmb IAmb 08 26 13.1
comp=Z,111nm,1.9s
KRMB IAMs_20 IAMs_20 08 51 44.7
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 74.82 351 P P 08 26 03.0 -0.9
YBH pmax pmax
comp=Z,20nm,1.3s
YBH Yreka Blue Hor 74.82 351 P P 08 26 03.0 -0.9
BGNE Belgrade 74.86 11 P P 08 26 03.6 -0.4
RCBR Riachuelo 74.95 87 IAMs_20 IAMs_20 08 57 22.5
comp=Z,2µm,18.0s
RCBR Riachuelo 74.95 87 eP P 08 26 04.6 -0.6
T54A Tazewell 74.95 25 P P 08 26 03.7 -1.0
baz=206,SNR=9.8
V59A Middlesex 75.04 28 P P 08 26 04.1 -1.0
baz=209,SNR=11
V59A S S 08 35 48.0 +4.9
baz=209
AHID Auburn Hatcher 75.16 0 P P 08 26 04.8 -1.1
BW06 Boulder Array 75.19 2 P P 08 26 05.0 -1.2
baz=182
BW06 Boulder Array 75.19 2 P P 08 26 04.6 -1.6
BW06 IAmb IAmb 08 26 14.0
comp=Z,100nm,1.6s
BW06 IAMs_20 IAMs_20 08 53 27.5
comp=Z,2µm,21.0s
PD31 Pinedale Array 75.19 2 P P 08 26 04.6 -1.5
PD31 IAmb IAmb 08 26 14.0
comp=Z,90nm,1.6s
PDAR Pinedale Array 75.19 2 P P 08 26 05.1 -1.1
comp=Z,10nm,0.9s,baz=165,slow=5.4,SNR=26
PDAR LR LR 08 53 37.7
comp=Z,2µm,20.3s,baz=186,slow=31
PDAR Pinedale Array 75.19 2 P P 08 26 04.6 -1.5
K22A Casper 75.20 4 P P 08 26 05.4 -0.7
baz=184,SNR=20
U57A Blanch 75.21 27 P P 08 26 05.6 -0.5
baz=208,SNR=5.2
L04D Klamath Falls 75.25 352 P P 08 26 05.9 -0.5
baz=171,SNR=25
T55A Pulaski 75.28 25 P P 08 26 05.9 -0.7
baz=206
S53A Williamson 75.32 24 P P 08 26 05.9 -0.8
baz=205
L02E Cave Junction 75.35 351 P P 08 26 07.1 +0.3
baz=170,SNR=10
V60A Jim Taylor Roa 75.43 28 P P 08 26 06.9 -0.4
baz=192
U58A Oxford 75.47 27 P P 08 26 07.0 -0.6
baz=208,SNR=6.1
T56A Rocky Mt 75.48 26 P P 08 26 06.8 -0.9
baz=207
KBO Bosley Butte 75.49 350 P P 08 26 07.7 0.0
KBO IAMs_20 IAMs_20 08 52 16.8
comp=Z,3µm,19.0s
BLA Blacksburg 75.50 25 P P 08 26 07.3 -0.5
baz=207
BLA Blacksburg 75.50 25 P P 08 26 07.1 -0.7
BLA pmax pmax
comp=Z,74nm,1.0s
BLA Blacksburg 75.50 25 P P 08 26 07.1 -0.7
BLA IAmb IAmb 08 26 16.2
comp=Z,74nm,1.0s
K04D Chiloquin, OR 75.58 352 P P 08 26 08.2 -0.1
baz=171
VWCC Virginia Weste 75.69 26 P P 08 26 07.7 -1.2
S54A Dingess, Beckl 75.71 24 P P 08 26 08.3 -0.7
baz=206
HUMO Hull Mountain 75.71 351 P P 08 26 08.8 0.0
HUMO IAmb IAmb 08 26 18.0
comp=Z,78nm,1.5s
V61A Roper 75.73 29 P P 08 26 08.5 -0.6
baz=210
U59A Littleton 75.73 28 P P 08 26 08.5 -0.5
baz=209,SNR=18
T57A Hurt 75.74 26 P P 08 26 08.5 -0.6
baz=208
REDW Red Top Meadow 75.76 1 P P 08 26 08.0 -1.4
REDW IAmb IAmb 08 26 17.6
comp=Z,96nm,1.7s
V62A Hyde County Ai 75.78 29 P P 08 26 08.4 -1.0
baz=210
HDIL Hopedale 75.84 17 P P 08 26 08.8 -0.8
baz=199
HDIL Hopedale 75.84 17 P P 08 26 09.5 -0.1
HDIL IAmb IAmb 08 26 17.7
comp=Z,53nm,0.9s
SNOW Snow King Moun 75.86 1 P P 08 26 08.7 -1.3
SNOW IAmb IAmb 08 26 18.5
comp=Z,82nm,1.5s
K02D Willamette Mer 75.89 351 P P 08 26 09.8 -0.2
baz=170,SNR=26
TPAW Teton Pass 75.89 1 P P 08 26 08.8 -1.4
TPAW IAmb IAmb 08 26 18.6
comp=Z,91nm,1.4s
MFID Camas Ranch 75.91 357 P P 08 26 09.7 -0.4
MFID IAMs_20 IAMs_20 08 53 26.5
comp=Z,2µm,20.0s
T58A Grand View Acr 75.96 27 P P 08 26 09.8 -0.6
baz=208
R53A Hurricane 75.96 24 P P 08 26 09.8 -0.5
baz=205
S55A Lewisburg 75.97 25 P P 08 26 09.7 -0.8
baz=207,SNR=10.0
HLID Hailey 76.00 358 P P 08 26 10.9 +0.2
baz=178
HLID Hailey 76.00 358 P P 08 26 09.9 -0.8
FXWY Fox Creek 76.04 1 P P 08 26 10.1 -0.9
FXWY IAmb IAmb 08 26 19.4
comp=Z,63nm,1.4s
U60A Pendleton 76.08 28 P P 08 26 10.2 -0.9
baz=209
KEBM Edson Butte 76.15 350 P P 08 26 10.0 -1.4
KEBM IAmb IAmb 08 26 28.6
comp=Z,71nm,1.3s
R54A Victor 76.16 25 P P 08 26 11.0 -0.6
baz=206
P49A Miami Univ. Ec 76.17 21 P P 08 26 10.4 -1.1
baz=203
J05D Fort Rock, OR 76.18 353 P P 08 26 11.9 +0.2
baz=172,SNR=32
S56A Natural Bridge 76.22 26 P P 08 26 11.3 -0.6
baz=207
SCIA State Center 76.23 14 P P 08 26 11.4 -0.4
baz=196
SCIA State Center 76.23 14 P P 08 26 11.0 -0.8
SCIA IAmb IAmb 08 26 20.2
comp=Z,55nm,1.1s
SCIA IAMs_20 IAMs_20 08 56 00.9
comp=Z,2µm,19.0s
J04D Umpqua Nationa 76.23 352 P P 08 26 11.8 -0.3
baz=171,SNR=12
U61A Possum Corner 76.25 29 P P 08 26 11.8 -0.2
baz=210
SFIN Lafayette 76.26 19 P P 08 26 10.7 -1.3
baz=201
IMW Indian Meadow 76.30 1 P P 08 26 11.3 -1.2
IMW IAmb IAmb 08 26 20.8
comp=Z,58nm,1.3s
SYO Syowa Base 76.34 170 eP P 08 26 10.6 -1.7
SYO Syowa Base 76.34 170 epP P 08 26 12.7 +0.4
SYO Syowa Base 76.34 170 isP sP 08 26 15.4 -0.2
T59A Double "B" Far 76.36 28 P P 08 26 11.7 -1.0
baz=209
T59A S S 08 36 01.4 +3.8
baz=209
J01E Myrtle Point 76.38 351 P P 08 26 12.8 +0.2
baz=169,SNR=5.1
Q52A Bidwell 76.43 23 P P 08 26 12.4 -0.6
baz=205
FLWY Flagg Ranch 76.48 1 P P 08 26 12.2 -1.3
FLWY IAmb IAmb 08 26 19.0
comp=Z,64nm,1.3s
S57A Dark Hollow, R 76.52 26 P P 08 26 12.8 -0.7
baz=208
R55A Marlinton 76.56 25 P P 08 26 13.4 -0.4
baz=207
Q53A Leroy 76.58 24 P P 08 26 13.8 -0.1
baz=206,SNR=6.2
P51A Williamsport 76.64 22 P P 08 26 13.5 -0.7
baz=204
YPP Pitchstone Pla 76.67 1 P P 08 26 13.5 -1.2
S58A Poland Farm, P 76.73 27 P P 08 26 13.9 -0.8
baz=209,SNR=9.6
H17A Grant Village 76.80 1 P P 08 26 15.2 -0.1
baz=181
I04A Tendick Farm, 76.81 352 P P 08 26 14.6 -0.6
baz=171,SNR=13
T60A Surry 76.83 28 P P 08 26 15.0 -0.3
baz=210
I03D Drain, OR 76.83 351 P P 08 26 14.7 -0.5
baz=170,SNR=15
I03D S S 08 36 10.3 +7.9
baz=170
RSSD Black Hills 76.84 6 P P 08 26 15.1 -0.5
baz=187
RSSD Black Hills 76.84 6 P P 08 26 15.0 -0.5
RSSD pmax pmax
comp=Z,67nm,1.3s
RSSD Black Hills 76.84 6 P P 08 26 15.0 -0.5
RSSD IAmb IAmb 08 26 24.0
comp=Z,67nm,1.3s
RSSD Black Hills 76.84 6 IAMs_20 IAMs_20 08 54 41.0
comp=Z,2µm,20.0s
R56A Bull Pasture M 76.93 26 P P 08 26 15.7 -0.2
baz=207,SNR=25
Q54A Coxs Mills 76.93 24 P P 08 26 15.8 -0.1
baz=206
LKWY Lake 76.97 1 P P 08 26 15.7 -0.6
LKWY pmax pmax
comp=Z,55nm,1.6s
LKWY Lake 76.97 1 P P 08 26 15.7 -0.6
YMR Madison River 77.07 1 P P 08 26 16.2 -0.6
P52A Corning 77.08 23 P P 08 26 16.2 -0.5
baz=205,SNR=11
R58B Mineral 77.10 27 P P 08 26 16.5 -0.4
baz=209
YNR Norris Junctio 77.12 1 P P 08 26 16.6 -0.5
YMP Mirror Lake Pl 77.15 1 P P 08 26 16.6 -0.7
S59A Mechanicsville 77.15 27 P P 08 26 16.8 -0.3
baz=209
R57A Stanardsville 77.15 26 P P 08 26 16.9 -0.3
baz=208
YHH Holmes Hill 77.19 1 P P 08 26 17.1 -0.5
P53A Whipple 77.19 24 P P 08 26 17.4 0.0
baz=206
Q55A Buckhannon 77.21 25 P P 08 26 17.0 -0.5
baz=207
I05D Terrebonne, OR 77.23 353 P P 08 26 17.2 -0.3
baz=172,SNR=18
YHL Hebgen Lake 77.25 0 P P 08 26 17.0 -0.9
I02D Swisshome 77.30 351 P P 08 26 18.3 +0.6
baz=170
ACSO Alum Creek Sta 77.34 22 P P 08 26 17.6 -0.6
baz=204
ACSO Alum Creek Sta 77.34 22 IAMs_20 IAMs_20 08 55 36.4
comp=Z,2µm,22.0s
R58A Rapidan 77.35 27 P P 08 26 18.0 -0.3
baz=208
S60A Water View 77.35 28 P P 08 26 17.9 -0.3
baz=210
ECSD EROS Data Cent 77.37 11 P P 08 26 17.6 -0.7
baz=193
ECSD EROS Data Cent 77.37 11 P P 08 26 16.9 -1.3
O51A Pataskala 77.39 22 P P 08 26 17.8 -0.6
baz=205
BMO Blue Mountains 77.42 356 P P 08 26 17.2 -1.4
BMO pmax pmax
comp=Z,56nm,1.5s
BMO Blue Mountains 77.42 356 P P 08 26 17.2 -1.4
YNE Yellowstone No 77.42 1 P P 08 26 17.2 -1.6
CBN Corbin Frederi 77.51 27 P P 08 26 18.5 -0.6
baz=209
RLMT Red Lodge 77.55 2 P P 08 26 19.1 -0.4
baz=182
RLMT Red Lodge 77.55 2 P P 08 26 18.4 -1.1
RLMT IAMs_20 IAMs_20 08 54 43.9
comp=Z,2µm,21.0s
Q56A Snyder Ridge, 77.57 25 P P 08 26 19.5 +0.1
baz=208
H04D Lebanon 77.57 352 P P 08 26 18.8 -0.5
baz=170,SNR=8.2
PLID Pearl Lake 77.58 357 P P 08 26 18.4 -1.3
PLID IAmb IAmb 08 26 28.4
comp=Z,99nm,1.6s
R59A King George, V 77.60 27 P P 08 26 19.3 -0.3
baz=209
P54A Burton 77.61 24 P P 08 26 19.4 -0.2
baz=206
P54A S S 08 36 16.8 +5.6
baz=206
O52A Adamsville 77.61 23 P P 08 26 19.0 -0.6
baz=205,SNR=14
COR Corvallis 77.70 352 P P 08 26 20.3 +0.3
COR pmax pmax
comp=Z,187nm,1.4s
COR Corvallis 77.70 352 P P 08 26 20.3 +0.3
SUSD Miller 77.72 9 P P 08 26 20.1 -0.1
baz=191
SUSD S S 08 36 17.9 +5.8
baz=191
L44A Lake County Fo 77.72 18 P P 08 26 20.0 -0.2
baz=200
S61A Accomac 77.72 29 P P 08 26 20.3 0.0

baz=210
P55A Reedsville 77.75 25 P P 08 26 20.5 0.0
baz=207
DLMT Dillon 77.76 359 P P 08 26 19.6 -1.0
JFWS Jewell Farm 77.84 16 P P 08 26 20.4 -0.4
baz=198
JFWS Jewell Farm 77.84 16 P P 08 26 20.0 -0.9
JFWS pmax pmax
comp=Z,38nm,1.3s
JFWS Jewell Farm 77.84 16 P P 08 26 20.0 -0.9
JFWS Jewell Farm 77.84 16 IAMs_20 IAMs_20 08 57 33.5
comp=Z,1µm,19.0s
Q57A Strasburg 77.84 26 P P 08 26 21.3 +0.3
baz=208
Q57A S S 08 36 19.2 +5.4
baz=208
MCWV Mont Chateau 77.88 25 P P 08 26 20.8 -0.3
baz=207
O53A New Philadelph 77.94 23 P P 08 26 21.3 -0.2
baz=206,SNR=7.4
O53A S S 08 36 18.3 +3.7
baz=206
BOZ Bozeman (W) 77.99 0 P P 08 26 21.5 -0.4
baz=180
BOZ Bozeman (W) 77.99 0 P P 08 26 21.1 -0.7
BOZ pmax pmax
comp=Z,60nm,1.5s
BOZ Bozeman (W) 77.99 0 P P 08 26 21.1 -0.7
BOZ IAMs_20 IAMs_20 08 56 13.7
comp=Z,1µm,19.0s
Q58A Fox Den Farm, 78.03 27 P P 08 26 21.6 -0.4
baz=209,SNR=10
P56A Dayton Farm, R 78.10 25 P P 08 26 22.0 -0.3
baz=208,SNR=8.8
G05D Wamic, OR 78.13 353 P P 08 26 22.5 0.0
baz=172,SNR=17
O54A Avella 78.16 24 P P 08 26 22.3 -0.4
baz=206
N51A Ashland 78.16 22 P P 08 26 22.4 -0.3
baz=205
N52A McGinn's Farm, 78.29 23 P P 08 26 23.4 -0.1
baz=205
G03D McMinnville, O 78.31 352 P P 08 26 23.6 +0.2
baz=170
Q59A Harwood 78.36 27 P P 08 26 23.4 -0.4
baz=210
P57A Homestead Farm 78.39 26 P P 08 26 24.2 +0.2
baz=208
R61A Willards 78.41 28 P P 08 26 24.5 +0.4
baz=211
TARA Tarawa 78.45 279 IAMs_20 IAMs_20 09 02 20.6
comp=Z,2µm,18.0s
BBSR BB Station 78.52 39 P P 08 26 25.8 +1.0
BBSR IAmb IAmb 08 26 33.8
comp=Z,97nm,1.4s
CAN Canberra 78.53 235 P P 08 26 26.5 +1.3
CAN pmax pmax
comp=Z,66nm,1.5s
O55A Ligonier 78.56 25 P P 08 26 24.8 -0.1
baz=207
N53A Lisbon 78.56 23 P P 08 26 25.0 0.0
baz=206,SNR=9.8
M51A Elyria 78.60 22 P P 08 26 24.8 -0.2
baz=205
P58A Pank, Wackersv 78.66 26 P P 08 26 25.4 0.0
baz=209
P58A S S 08 36 26.4 +4.0
baz=209
F05D White Salmon 78.78 353 P P 08 26 25.9 -0.1
baz=172,SNR=7.5
F05D S S 08 36 31.1 +7.6
baz=172
Q60A Greensboro 78.79 28 P P 08 26 26.0 -0.2
baz=210
O56A Blue Knob Stat 78.87 25 P P 08 26 26.1 -0.6
baz=208,SNR=17
Q61A Milford 78.89 28 P P 08 26 26.2 -0.5
baz=210
N54A Moraine State 78.99 24 P P 08 26 27.2 -0.1
baz=207,SNR=5.4
AAM Ann Arbor 79.02 21 P P 08 26 27.0 -0.4
baz=204
AAM Ann Arbor 79.02 21 P P 08 26 26.6 -0.8
AAM pmax pmax
comp=Z,121nm,1.3s
AAM Ann Arbor 79.02 21 P P 08 26 26.6 -0.8
AAM IAmb IAmb 08 26 36.0
comp=Z,121nm,1.3s
M52A Chesterland 79.05 23 P P 08 26 27.1 -0.5
baz=206
P59A Jarrettsville 79.09 27 P P 08 26 27.8 0.0
baz=210
HAWA Hanford 79.11 355 P P 08 26 27.5 -0.2
HAWA IAmb IAmb 08 26 37.2
comp=Z,83nm,1.6s
F04D Rainier, OR 79.14 352 P P 08 26 28.8 +0.9
baz=170
O57A Amberson 79.16 26 P P 08 26 28.0 -0.3
baz=209
N55A Marion Center 79.18 25 P P 08 26 28.4 +0.1
baz=208,SNR=12
M53A WI Miller and 79.19 23 P P 08 26 28.2 -0.2
baz=206
ARMA Armidale 79.22 241 P P 08 26 30.6 +1.4
ARMA IAMs_20 IAMs_20 08 57 16.9
comp=Z,1µm,20.0s
LAO LASA Array 79.24 4 P P 08 26 28.4 -0.2
baz=185
LAO LASA Array 79.24 4 P P 08 26 28.0 -0.6
LAO IAmb IAmb 08 26 37.4
comp=Z,91nm,1.4s
LAO IAMs_20 IAMs_20 08 58 13.6
comp=Z,2µm,18.0s
MSO Missoula 79.25 358 P P 08 26 28.7 0.0
baz=178
MSO Missoula 79.25 358 P P 08 26 28.9 +0.2
O58A Lewisberry 79.35 26 P P 08 26 28.6 -0.6
baz=209
SSPA Standing Stone 79.44 26 P P 08 26 29.1 -0.7
baz=208
SSPA Standing Stone 79.44 26 P P 08 26 30.3 +0.5
SSPA IAmb IAmb 08 26 38.3
comp=Z,115nm,1.4s
SSPA Standing Stone 79.44 26 IAMs_20 IAMs_20 08 58 55.0
comp=Z,1µm,19.0s
SPMN Marine on St. 79.50 13 P P 08 26 29.1 -0.8
baz=196,SNR=11
SPMN S S 08 36 36.0 +4.8
baz=196
N56A West Decatur 79.54 25 P P 08 26 30.3 0.0
baz=208
N56A S S 08 36 34.3 +2.4
baz=208
E04D Cinebar 79.56 352 P P 08 26 30.1 -0.1
baz=171,SNR=14
P60A Greenville 79.57 27 P P 08 26 30.1 -0.4
baz=210
M54A Oil Creek Stat 79.59 24 P P 08 26 30.6 0.0
baz=207
N57A Milroy 79.67 26 P P 08 26 30.5 -0.5
baz=209
TOO Toolangi 79.70 232 P P 08 26 33.2 +1.6
TOO pmax pmax
comp=Z,232nm,1.5s
TOO Toolangi 79.70 232 P P 08 26 33.2 +1.6
TOO IAMs_20 IAMs_20 08 56 38.9
comp=Z,2µm,19.0s
L53A Girard 79.78 23 P P 08 26 31.4 -0.2
baz=206
O59A Robesonia 79.79 27 P P 08 26 31.5 -0.2
baz=210
MAW Mawson 79.86 178 P P 08 26 32.6 +0.8
comp=Z,12nm,1.1s,baz=208,slow=6.3,SNR=15
MAW LR LR 08 59 48.8
comp=Z,4µm,18.1s,baz=184,slow=34
MAW Mawson 79.86 178 P P 08 26 33.1 +1.3
MAW pmax pmax
comp=Z,16nm,1.5s
MAW Mawson 79.86 178 P P 08 26 33.1 +1.3
M55A Ridgway 79.86 25 P P 08 26 32.0 0.0
baz=208
ERPA Erie 80.02 23 IAMs_20 IAMs_20 08 56 51.6
comp=Z,2µm,22.0s
N58A Sunbury 80.05 26 P P 08 26 32.7 -0.4
baz=209
M56A Emporium 80.08 25 P P 08 26 33.2 0.0
baz=208
O60A Telford 80.10 27 P P 08 26 33.0 -0.3
baz=210
D04E Lakebay 80.19 352 P P 08 26 34.5 +0.9
baz=170
O61A Allentown 80.24 28 P P 08 26 33.4 -0.6
baz=211
M57A Sunshine Farm, 80.33 26 P P 08 26 34.4 -0.1
baz=209
L54A Sinclairville 80.35 24 P P 08 26 34.2 -0.4
baz=207
EGMT Eagleton 80.44 1 P P 08 26 35.4 +0.4
baz=182
EGMT Eagleton 80.44 1 P P 08 26 34.7 -0.4
EGMT IAmb IAmb 08 26 44.7
comp=Z,89nm,1.4s
N59A State Game Lan 80.47 27 P P 08 26 34.9 -0.4
baz=210
NLWA Neilton Lookou 80.53 352 P P 08 26 35.2 -0.3
NLWA IAmb IAmb 08 26 44.9
comp=Z,90nm,1.4s
NLWA IAMs_20 IAMs_20 08 54 35.2
comp=Z,2µm,21.0s
D03D Eldon 80.58 352 P P 08 26 35.8 +0.1
baz=170,SNR=47
L55A Hinsdale 80.61 24 P P 08 26 35.8 -0.3
baz=208,SNR=12
M58A Price's Panora 80.61 26 P P 08 26 35.3 -0.8
baz=209
C06D Leavenworth 80.74 354 P P 08 26 36.4 -0.2
baz=172
NEW Newport 80.81 356 P P 08 26 37.1 +0.1
baz=175
NEW Newport 80.81 356 P P 08 26 35.7 -1.3
NEW pmax pmax
comp=Z,124nm,1.8s
NEW Newport 80.81 356 P P 08 26 35.7 -1.3
NEW IAmb IAmb 08 26 46.0
comp=Z,124nm,1.8s
L56A Greenwood 80.88 25 P P 08 26 36.9 -0.6
baz=208,SNR=11
K54A Basiliko Farm, 80.90 24 P P 08 26 37.5 -0.1
baz=208
N61A South Mountain 80.90 28 P P 08 26 36.9 -0.7
baz=211
MDND Maddock 80.98 8 P P 08 26 37.2 -0.7
baz=190
L57A Andrews Acres 81.01 26 P P 08 26 37.7 -0.5
baz=209
GLMI Grayling 81.06 19 P P 08 26 38.1 -0.3
baz=203
GLMI Grayling 81.06 19 IAMs_20 IAMs_20 08 59 27.8
comp=Z,2µm,19.0s
COWI Conover 81.11 16 P P 08 26 38.0 -0.6
M59A Waymart 81.14 27 P P 08 26 38.7 -0.2
baz=210
DGMT Dagmar 81.15 5 P P 08 26 38.9 +0.2
baz=186
DGMT Dagmar 81.15 5 P P 08 26 38.0 -0.8
B05A Bryant 81.19 353 P P 08 26 38.1 -0.8
baz=171,SNR=18
I51A Listowel 81.20 22 P P 08 26 38.9 -0.3
baz=206
K55A Perry 81.22 24 P P 08 26 39.4 +0.1
baz=208
M60A Port Jervis 81.27 27 P P 08 26 38.8 -0.8
baz=211
PAL Palisades 81.27 28 P P 08 26 38.8 -0.7
baz=211
L58A Harry Jones Me 81.42 26 P P 08 26 40.3 -0.1
baz=210
K56A Middlesex 81.45 25 P P 08 26 39.9 -0.6
baz=209
WALA Waterton Lakes 81.48 359 P P 08 26 40.0 -0.6
WALA IAMs_20 IAMs_20 08 57 08.0
comp=Z,2µm,21.0s
J54A Appleton 81.50 24 P P 08 26 40.2 -0.5
baz=206
BINY Binghamton 81.50 26 P P 08 26 40.5 -0.3
baz=210
BINY Binghamton 81.50 26 P P 08 26 39.4 -1.4
BINY IAmb IAmb 08 26 49.6
comp=Z,130nm,1.8s
M61A Granite Spring 81.59 28 P P 08 26 40.1 -1.1
baz=212
A04D Lummi Island 81.71 353 P P 08 26 41.5 -0.1
baz=171,SNR=18
PGC Sidney 81.72 352 P P 08 26 41.1 -0.6
PGC IAmb IAmb 08 26 50.8
comp=Z,100nm,1.5s
K57A Scipio Center 81.77 25 P P 08 26 41.3 -0.9
baz=209
J55A Hilton 81.78 24 P P 08 26 41.0 -1.2
baz=208
L59A Walton 81.85 27 P P 08 26 42.3 -0.3
baz=210
AGMN Agassiz Nation 81.94 11 P P 08 26 42.7 -0.2
baz=193
AGMN Agassiz Nation 81.94 11 P P 08 26 42.4 -0.5
AGMN IAmb IAmb 08 26 51.5
comp=Z,58nm,1.3s
AGMN IAMs_20 IAMs_20 08 59 11.9
comp=Z,2µm,19.0s
M62A Hamden 82.05 28 P P 08 26 43.1 -0.5
baz=212
K58A Earlville 82.12 26 P P 08 26 43.6 -0.4
baz=210
J56A Wolcott 82.12 25 P P 08 26 43.3 -0.7
baz=209
EIDS Eidsvold 82.30 245 P P 08 26 45.9 +0.3
EIDS IAmb IAmb 08 26 51.7
comp=Z,74nm,1.4s
EYMN Ely 82.37 14 P P 08 26 44.3 -0.9
baz=197
L61A Hillsdale 1, H 82.42 28 P P 08 26 45.4 -0.2
baz=212
J57A Williamstown 82.55 25 P P 08 26 45.8 -0.5
baz=210
L62A Suffield 82.64 28 P P 08 26 46.1 -0.6
baz=212
K60A Five Rivers En 82.65 27 P P 08 26 46.3 -0.5
baz=211
SADO Sadowa 82.66 23 P P 08 26 46.0 -0.8
SADO IAmb IAmb 08 26 55.3
comp=Z,79nm,1.1s
SADO IAMs_20 IAMs_20 08 58 35.2
comp=Z,2µm,22.0s
H53A Bobcaygeon 82.67 23 P P 08 26 46.3 -0.5
baz=208
J58A Remsen 82.77 26 P P 08 26 47.5 +0.1
baz=210
M64A Tiverton 82.83 29 P P 08 26 47.8 +0.1
baz=213
L63A Nch Scituate 82.92 29 P P 08 26 48.4 +0.2
baz=213
K61A Williamstown 82.94 28 P P 08 26 48.0 -0.3
baz=212,SNR=6.0
QUA2 Belchertown 82.97 28 P P 08 26 46.4 -2.1
M65A Busby, Falmout 83.07 30 P P 08 26 48.6 -0.3
baz=214
I57A Carthage 83.13 25 P P 08 26 49.6 +0.3
baz=210,SNR=6.8
J59A Piesco 83.15 26 P P 08 26 49.9 +0.5
baz=211
I58A Old Forge 83.17 26 P P 08 26 49.9 +0.4
baz=210
L64A Middleborough 83.30 29 P P 08 26 50.4 +0.2
baz=214
K62A Royalston 83.34 28 P P 08 26 49.9 -0.5
baz=212
J60A Lant Hill Farm 83.37 27 P P 08 26 50.2 -0.3
baz=212
HRV Adam Dziewonsk 83.48 29 IAMs_20 IAMs_20 08 57 24.1
comp=Z,1µm,22.0s
G54A Lake Saint Pet 83.57 23 P P 08 26 51.0 -0.4
baz=208
PLVO Plevna 83.59 24 P P 08 26 50.4 -1.2
PLVO IAMs_20 IAMs_20 09 01 22.8
comp=Z,1µm,19.0s
K63A Dunstable 83.64 29 P P 08 26 52.0 +0.1
baz=213
I59A Olmsteadville 83.67 27 P P 08 26 52.3 +0.3
baz=211
H57A Richville 83.68 25 P P 08 26 51.7 -0.3
baz=210,SNR=12
J61A Chester 83.79 28 P P 08 26 52.8 +0.1
baz=212
ULM Lac du Bonnet 83.83 10 P P 08 26 51.6 -1.1
comp=Z,9.6nm,0.8s,baz=199,slow=5.8,SNR=5.8
ULM LR LR 09 00 31.4
comp=Z,2µm,19.0s,baz=190,slow=33
ULM Lac du Bonnet 83.83 10 *de*P P 08 26 51.7 -1.0
ULM Lac du Bonnet 83.83 10 IAMs_20 IAMs_20 09 00 11.1
comp=Z,2µm,20.0s
I60A Shoreham 83.93 27 P P 08 26 53.3 0.0
baz=212
J62A Henniker 83.98 28 P P 08 26 53.8 +0.1
baz=213
ALGO Algonquin Park 84.07 23 P P 08 26 53.2 -0.9
baz=208
H58A Gabriels 84.08 26 P P 08 26 53.5 -0.7
baz=211,SNR=19
LONY Lake Ozonia 84.11 26 P P 08 26 54.1 -0.2
baz=211
J63A Strafford 84.32 29 P P 08 26 55.1 -0.2
baz=213
G57A Newington 84.38 25 P P 08 26 54.9 -0.7
baz=210,SNR=9.7
I61A Oroboro, Fairl 84.42 28 P P 08 26 55.6 -0.2
baz=212
H59A Cadyville 84.46 26 P P 08 26 56.1 0.0
baz=211
I62A Tamworth 84.71 28 P P 08 26 57.1 -0.2
baz=213
G58A Ormstown 84.76 26 P P 08 26 56.7 -0.8
baz=211,SNR=8.2
H60A Morristown 84.76 27 P P 08 26 57.4 -0.2
baz=212
LBNH Lisbon 84.79 28 P P 08 26 56.9 -0.8
baz=213
H61A Lyndonville 85.03 27 P P 08 26 58.8 -0.1
baz=213
F57A Harrington 85.09 25 P P 08 26 58.3 -0.9
baz=210
I63A Otisfield 85.16 28 P P 08 26 58.5 -1.0
baz=214
E55A Montcerf-Lytto 85.17 24 P P 08 26 59.3 -0.3
baz=209
G60A Masonville 85.35 27 P P 08 27 00.2 -0.3
baz=212
H62A Milan 85.37 28 P P 08 27 00.2 -0.5
baz=213
MOQ Mont Orford 85.56 27 P P 08 27 00.6 -1.0
STKA Stephens Creek 85.57 235 P P 08 27 02.2 0.0
comp=Z,14nm,1.1s,baz=129,slow=6.8,SNR=17
STKA LR LR 08 59 35.4
comp=Z,392nm,19.2s,baz=117,slow=32
STKA Stephens Creek 85.57 235 P P 08 27 02.1 -0.1
E56A St. Veronique 85.61 24 P P 08 27 01.6 -0.1
baz=210
BBB Bella Bella 85.80 350 IAMs_20 IAMs_20 08 56 58.6
comp=Z,1µm,21.0s
E57A Chemin Saint G 85.80 25 P P 08 27 02.4 -0.4
baz=211
G61A St-Isidore-de- 85.82 27 P P 08 27 02.2 -0.7
baz=213
F59A Saint Guilaume 85.82 26 P P 08 27 02.5 -0.3
baz=212
D55A Sainte-Anne-du 85.86 24 P P 08 27 02.0 -1.0
baz=210,SNR=12
E58A La Victoria 86.08 26 P P 08 27 03.7 -0.4
baz=212
D56A ZEC Mazanza, M 86.14 24 P P 08 27 04.0 -0.4
baz=210
G62A West of Eustis 86.15 28 P P 08 27 04.8 +0.3
baz=214
VLDQ Val d'Or 86.17 22 P P 08 27 05.3 +0.9
VLDQ IAmb IAmb 08 27 12.6
comp=Z,68nm,1.4s
VLDQ IAMs_20 IAMs_20 09 00 35.1
comp=Z,2µm,22.0s
H64A Troy 86.20 29 P P 08 27 05.0 +0.3
baz=215
F60A Warwick 86.23 27 P P 08 27 04.9 0.0
baz=213
D57A Chemin Vers le 86.42 25 P P 08 27 05.8 +0.1
baz=211
G63A Kingsbury 86.43 28 P P 08 27 05.8 0.0
baz=214
E59A St. Maurice 86.45 26 P P 08 27 06.2 +0.3
baz=212
F61A St Evariste 86.60 27 P P 08 27 06.5 -0.2
baz=213
PKME Peaks-Kenny Pk 86.68 29 P P 08 27 07.1 0.0
baz=215
E60A Ste Agathe de 86.76 27 P P 08 27 07.7 +0.3
baz=213
D58A Chemin du LacG 86.84 25 P P 08 27 07.3 -0.5
baz=212
F62A Pittston Farm, 86.94 28 P P 08 27 06.7 -1.7
baz=214
F63A Nahmakanta, Br 87.12 28 P P 08 27 09.3 +0.1
baz=215
LATQ La Tuque 87.12 25 P P 08 27 09.5 +0.3
baz=212
LSQQ Lebel-sur-Quev 87.15 22 P P 08 27 08.5 -0.8
baz=209
D60A Saint Jean D'O 87.41 27 P P 08 27 11.1 +0.5
baz=213
FFC Flin Flon 87.54 6 P P 08 27 11.6 +0.6
MATQ Matagami 87.56 21 P P 08 27 10.5 -0.8
baz=208
E62A Clayton Lake 87.71 28 P P 08 27 11.8 -0.3
baz=214
D62A Allapoint, All 88.27 28 P P 08 27 15.3 +0.6
baz=215
CHGQ Chibougamau 88.73 23 P P 08 27 16.4 -0.4
baz=211
BBOO Buckleboo 88.73 231 P P 08 27 16.8 -0.7
BBOO IAMs_20 IAMs_20 09 01 29.0
comp=Z,2µm,19.0s
CTA Charters Tower 88.92 247 P P 08 27 18.8 +0.2
comp=Z,17nm,1.0s,baz=118,slow=4.1,SNR=18
CTAO Charters Tower 88.92 247 P P 08 27 19.1 +0.5
CTAO pmax pmax
comp=Z,121nm,1.5s
CTAO Charters Tower 88.92 247 P P 08 27 19.1 +0.5
LMN Caledonia Moun 89.02 31 IAMs_20 IAMs_20 09 00 48.4
comp=Z,2µm,22.0s
SIT Sitka 91.68 347 IAMs_20 IAMs_20 09 00 23.1
comp=Z,1µm,19.0s
DLBC Dease Lake 92.14 350 P P 08 27 31.4 -1.2
DLBC IAmb IAmb 08 27 38.9
comp=Z,80nm,1.9s
DLBC IAMs_20 IAMs_20 09 01 03.2
comp=Z,2µm,20.0s
KRVT Keravat (AS076 92.94 263 P P 08 27 38.3 +0.9
comp=Z,35nm,0.5s,baz=139,slow=11,SNR=1.5
PMG Port Moresby 94.18 256 P P 08 27 44.1 +1.1
comp=Z,13nm,0.9s,baz=174,slow=9.2,SNR=6.5
PMG Port Moresby 94.18 256 P P 08 27 43.3 +0.2
PMG IAmb IAmb 08 27 46.9
comp=Z,46nm,1.2s
PMG Port Moresby 94.18 256 IAMs_20 IAMs_20 09 05 06.4
comp=Z,1µm,19.0s
YKA Yellowknife Ar 94.95 359 P P 08 27 44.2 -1.1
comp=Z,3.2nm,0.8s,baz=168,slow=4.3,SNR=6.2
YKA LR LR 09 06 03.5
comp=Z,4µm,18.1s,baz=0.0,slow=33
SCHQ Schefferville 95.39 24 LR LR 09 06 21.7
comp=Z,864nm,21.9s,baz=215,slow=33
SCHQ Schefferville 95.39 24 IAMs_20 IAMs_20 09 05 13.9
comp=Z,1µm,22.0s
HYT Haines Junctio 95.61 348 IAMs_20 IAMs_20 09 02 36.1
comp=Z,1µm,19.0s
AS31 Alice Springs 95.96 237 P P 08 27 51.0 -0.2
ASAR Alice Springs 95.96 237 P P 08 27 50.3 -0.9
comp=Z,3.8nm,1.1s,baz=123,slow=4.1,SNR=9.2
ASAR PP PP 08 31 40.3 -2.7
comp=Z,1.1nm,1.1s,baz=127,slow=7.5,SNR=2.6
ASAR PKKP PKKPdf 08 44 38.4 +0.1
comp=Z,0.6nm,0.8s,baz=320,slow=1.4,SNR=5.3
ASAR LR LR 09 08 22.4
comp=Z,744nm,18.0s,baz=142,slow=34
ASAR Alice Springs 95.96 237 P P 08 27 51.0 -0.2
ASAR Alice Springs 95.96 237 P P 08 27 51.0 -0.2
EYAK Cordova Ski Ar 97.07 344 IAMs_20 IAMs_20 09 02 59.0
comp=Z,2µm,19.0s
N25K Chitina, Valde 97.75 345 P Pdif 08 27 58.2 0.0
baz=152
WR0 Warramunga Arr 97.83 240 IAMs_20 IAMs_20 09 09 28.9
comp=Z,1µm,21.0s
WR9 Warramunga Arr 97.85 240 IAMs_20 IAMs_20 09 09 19.5
comp=Z,1µm,20.0s
WR8 Warramunga Arr 97.87 240 IAMs_20 IAMs_20 09 09 19.8
comp=Z,1µm,20.0s
WR7 Warramunga Arr 97.88 240 IAMs_20 IAMs_20 09 09 20.3

comp=Z,1µm,20.0s
WR6 Warramunga Arr 97.90 240 IAMs_20 IAMs_20 09 10 22.7
comp=Z,1µm,20.0s
WR5 Warramunga Arr 97.92 240 IAMs_20 IAMs_20 09 14 22.2
comp=Z,1µm,18.0s
WB2 Warramunga Arr 97.98 240 IAMs_20 IAMs_20 09 13 09.9
comp=Z,897nm,18.0s
WRAB Tennant Creek 97.99 240⇓ *e*P **P 08 27 59.0 -1.4**
WRAB pmax pmax
comp=Z,5.0nm,2.4s
WRAB MLR MLR
comp=Z,1µm,16.0s
WRA Warramunga Arr 97.99 240 P **P 08 28 00.2 -0.1**
comp=Z,0.6nm,0.8s,baz=136,slow=3.1,SNR=6.5
WRA PP **PP 08 31 57.1 -1.6**
comp=Z,1.6nm,1.1s,baz=130,slow=7.1,SNR=5.4
WRA PKKP **PKKPbc 08 44 33.2 +0.4**
comp=Z,1.5nm,0.9s,baz=315,slow=2.6,SNR=6.0
WRA LR LR 09 09 52.2
comp=Z,642nm,18.1s,baz=150,slow=34
WRA Warramunga Arr 97.99 240 P **P 08 27 58.7 -1.6**
WB4 Warramunga Arr 98.00 240 IAMs_20 IAMs_20 09 15 27.4
comp=Z,1µm,18.0s
WC1 Warramunga Arr 98.00 240 IAMs_20 IAMs_20 09 13 43.4
comp=Z,1µm,18.0s
WB6 Warramunga Arr 98.03 240 IAMs_20 IAMs_20 09 09 24.4
comp=Z,1µm,20.0s
WB8 Warramunga Arr 98.04 240 IAMs_20 IAMs_20 09 09 23.5
comp=Z,1µm,20.0s
WB9 Warramunga Arr 98.05 240 IAMs_20 IAMs_20 09 09 24.8
comp=Z,2µm,21.0s
WB0 Warramunga Arr 98.06 240 IAMs_20 IAMs_20 09 09 36.0
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 98.52 342 P Pdif 08 28 02.3 +0.7
baz=148
M24K Tolsona, Glenn 98.55 344 P Pdif 08 28 02.5 +0.8
baz=151
MENT Mentasta 98.75 346 IAMs_20 IAMs_20 09 04 32.2
comp=Z,1µm,19.0s
PMR Palmer 98.80 343 P **P 08 28 01.7 -1.0**
PMR pmax pmax
comp=Z,23nm,0.6s
PMR Palmer 98.80 343 P **P 08 28 01.7 -1.0**
PMR IAMs_20 IAMs_20 09 06 27.7
comp=Z,997nm,18.0s
K27K Chicken 99.41 347 P **Pdif 08 28 05.4 0.0**
baz=154
DOT Dot Lake 99.46 346 IAMs_20 IAMs_20 09 04 54.9
comp=Z,1µm,19.0s
CUT Chulitna 99.78 343 P **Pdif 08 28 07.5 +0.4**
baz=148
EGAK Eagle 99.92 348 IAMs_20 IAMs_20 09 05 20.0
comp=Z,1µm,20.0s
NWAO Narrogin (SRO) 100.02 220 IAMs_20 IAMs_20 09 05 49.4
comp=Z,1µm,18.0s
H01W1 Cape Leeuwin H 100.11 217 T T 10 20 17.2
baz=141,slow=76,SNR=37
H01W2 Cape Leeuwin H 100.11 217 T T 10 20 19.8
baz=141,slow=76,SNR=32
H01W3 Cape Leeuwin H 100.12 217 T T 10 20 27.2
baz=141,slow=76,SNR=39
MCK McKinley 100.59 344 P **Pdif 08 28 11.3 +0.6**
baz=149
EPYK Eagle Plains 100.67 350 IAMs_20 IAMs_20 09 11 14.6
comp=Z,1µm,18.0s
PPLA Purkeypile 100.67 342 IAMs_20 IAMs_20 09 05 48.2
comp=Z,1µm,21.0s
HDA Harding Lake 100.73 345 P **Pdif 08 28 11.9 +0.5**
baz=150
ILAR Eielson Array 101.04 345 P **Pdif 08 28 12.2 -0.5**
comp=Z,0.4nm,0.9s,baz=174,slow=5.5,SNR=4.1
ILAR Eielson Array 101.04 345 P **Pdif 08 28 12.6 -0.1**
ILAR Eielson Array 101.04 345 Pdif **Pdif 08 28 12.6 -0.1**
COLA College 101.33 345 IAMs_20 IAMs_20 09 06 59.6
comp=Z,1µm,18.0s
INK Inuvik 102.07 352 IAMs_20 IAMs_20 09 06 34.7
comp=Z,1µm,21.0s
MORW Morawa 103.62 222 IAMs_20 IAMs_20 09 09 43.7
comp=Z,1µm,18.0s
COLD Coldfoot 103.85 346 IAMs_20 IAMs_20 09 07 31.0
comp=Z,1µm,18.0s
KNRA Kununurra 104.79 240 IAMs_20 IAMs_20 09 13 19.2
comp=Z,1µm,19.0s
MTN Manton Dam 104.83 244 IAMs_20 IAMs_20 09 10 44.7
comp=Z,904nm,20.0s
FITZ Fitzroy Crossi 105.42 236 IAMs_20 IAMs_20 09 12 30.6
comp=Z,909nm,19.0s
FAKI Fak Fak 110.00 253 IAMs_20 IAMs_20 09 13 15.3
comp=Z,843nm,20.0s
SOEI Soe 111.96 242 IAMs_20 IAMs_20 09 18 19.3
comp=Z,1µm,20.0s
KOWA Kowa 112.47 87 PKiKP **PKiKP 08 32 58.5 -1.9**
comp=Z,2.1nm,0.9s,baz=295,slow=3.8,SNR=4.9
TOC5 Torodi Ar. Sit 116.58 91 IAMs_20 IAMs_20 09 16 11.0
comp=Z,1µm,22.0s
TOB4 Torodi Ar. Sit 116.59 91 IAMs_20 IAMs_20 09 16 11.4
comp=Z,1µm,22.0s
TOB5 Torodi Ar. Sit 116.60 91 IAMs_20 IAMs_20 09 16 11.5
comp=Z,1µm,22.0s
TOC4 Torodi Ar. Sit 116.60 91 IAMs_20 IAMs_20 09 16 11.5
comp=Z,1µm,22.0s
TOC7 Torodi Ar. Sit 116.60 91 IAMs_20 IAMs_20 09 16 11.6
comp=Z,1µm,22.0s
TOA3 Torodi Ar. Sit 116.61 91 IAMs_20 IAMs_20 09 16 11.6
comp=Z,1µm,22.0s
TOA0 Torodi Ar. Sit 116.61 91 PKPdf **PKPdf 08 33 07.6 -0.8**
TOA0 IAMs_20 IAMs_20 09 16 11.7
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 116.61 91 PKP **PKPdf 08 33 06.6 -1.8**
comp=Z,3.0nm,1.0s,baz=292,slow=1.7,SNR=9.8
TORD PP **PP 08 34 14.5 -1.4**
comp=Z,6.4nm,1.1s,baz=243,slow=6.0,SNR=6.9
TOB3 Torodi Ar. Sit 116.61 91 IAMs_20 IAMs_20 09 16 11.8
comp=Z,1µm,22.0s
TOA2 Torodi Ar. Sit 116.61 91 IAMs_20 IAMs_20 09 16 11.9
comp=Z,1µm,22.0s
TOB1 Torodi Ar. Sit 116.61 91 IAMs_20 IAMs_20 09 16 11.9
comp=Z,1µm,22.0s
TOC3 Torodi Ar. Sit 116.62 91 IAMs_20 IAMs_20 09 16 12.2
comp=Z,1µm,22.0s
TOC2 Torodi Ar. Sit 116.64 91 IAMs_20 IAMs_20 09 16 12.4
comp=Z,1µm,22.0s
LSZ Lusaka 118.75 135 IAMs_20 IAMs_20 09 20 54.4
comp=Z,701nm,19.0s
MDT Midelt 119.95 68 PKP **PKPdf 08 33 13.2 -1.2**
comp=Z,1.2nm,0.7s,baz=11,slow=3.7,SNR=3.6
SEY Seymchan 121.23 328 PKP **PKPdf 08 33 14.9 -0.9**
comp=Z,1.7nm,0.3s,baz=150,slow=5.4,SNR=3.9
SEY Seymchan 121.23 328⇓ *i*PKIKP **PKPdf 08 33 14.3 -1.5**
ESDC Sonseca Array 122.74 61 PKP **PKPdf 08 33 18.9 -0.6**
comp=Z,1.7nm,0.9s,baz=288,slow=2.0,SNR=7.1
ESDC Sonseca Array 122.74 61 PKPdf **PKPdf 08 33 18.1 -1.4**
ES02 SONSECA Array 122.76 61 IAMs_20 IAMs_20 09 12 05.2
comp=Z,713nm,21.0s
BKB Balikpapan 123.03 243 IAMs_20 IAMs_20 09 23 21.5
comp=Z,908nm,20.0s
YSS Yuzh-Sakhalins 123.15 308 IAMs_20 IAMs_20 09 19 13.3
comp=Z,1µm,20.0s
MJAR Matsushiro Arr 123.52 295 PKP **PKPdf 08 33 20.4 -0.7**
comp=Z,3.0nm,0.9s,baz=132,slow=2.4,SNR=5.2
MJAR Matsushiro Ar 123.52 295 PKIKP **PKPdf 08 33 20.7 -0.4**
MJAR Matsushiro Arr 123.52 295 **PKPdf 08 33 20.7 -0.4**
MAT Matsushiro 123.52 295 PKP **PKiKP 08 33 21.1 -0.2**
CISI Cisompet, Garu 125.02 230 IAMs_20 IAMs_20 09 18 59.4
comp=Z,992nm,20.0s
TIXI Tiksi 129.94 339⇓ *i*PKIKP **PKiKP 08 33 32.7 -0.3**
TIXI MLR MLR
comp=Z,2µm,20.0s
USA0B Ussuriysk Arra 129.99 303⇓ *i*PKIKP **PKiKP 08 33 34.5 +0.6**
USA0B Ussuriysk Arra 129.99 303 IAMs_20 IAMs_20 09 19 04.9
comp=Z,684nm,21.0s
USRK Ussuriysk Ar. 129.99 303 PKP **PKPdf 08 33 32.3 -0.8**
comp=Z,2.4nm,0.8s,baz=49,slow=2.7,SNR=6.2
USRK Ussuriysk Ar. 129.99 303 PKIKP **PKPdf 08 33 33.1 -0.1**
USRK Ussuriysk Ar. 129.99 303 PKPdf **PKPdf 08 33 33.1 -0.1**
MBAR Mbarara 131.49 126⇑ *i*PKIKP **PKPdf 08 33 35.8 -1.4**
KSRS Korea Array 131.68 293 PKP **PKPdf 08 33 36.6 0.0**
comp=Z,2.3nm,0.8s,baz=122,slow=3.2,SNR=8.3
YAK Yakutsk 131.69 326 *i* PKIKP **PKiKP 08 33 37.7 +0.9**
KSAR Wonju Array Be 131.71 293 PKIKP **PKPdf 08 33 36.7 0.0**
KSAR Wonju Array Be 131.71 293 **PKPdf 08 33 36.7 0.0**
MDJ Mudanjiang 131.75 303 IAMs_20 IAMs_20 09 19 05.5
comp=Z,978nm,22.0s
INCN Inchon 132.69 293 IAMs_20 IAMs_20 09 19 55.7
comp=Z,885nm,22.0s
TUE Stuetta 133.61 55 **PKPdf 08 33 39.8 -0.4**
ZEA Zeya 133.73 315 *e*PKIKP **PKPdf 08 33 40.3 +0.4**
ZEA *e* 08 36 10.1
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA pmax pmax
comp=E,100nm,4.8s
ZEA pmax pmax
comp=Z,300nm,5.0s
DAVOX Davos/Dischmat 134.00 54 PKP **PKPdf 08 33 39.9 -1.0**
comp=Z,4.8nm,0.8s,baz=203,slow=3.4,SNR=8.5
DAVA Damuels 134.03 54 *e*P **PKiKP 08 33 42.8 +0.5**
comp=Z,26nm,1.5s
FETA Feichten 134.60 54 *e*P **PKPdf 08 33 42.3 +0.3**
comp=Z,27nm,1.4s
RETA Reutte 134.64 54 *e*P **PKPdf 08 33 40.3 -1.6**
comp=Z,7.6nm,1.0s
MOTA Moosalm 134.87 54 *e*P **PKPdf 08 33 42.1 -0.4**
comp=Z,21nm,1.1s
SQTA Sankt Quirin 134.93 54 *e*P **PKPdf 08 33 42.4 -0.1**
comp=Z,25nm,1.4s
GRF Grafenberg Arr 135.00 50 *e*PKP **PKiKP 08 33 43.4 -0.6**
baz=270,slow=2.1
GRF *e*L L 09 37 54.2
comp=Z,474nm,19.7s
WATA Walderalm 135.19 54 *e*P **PKPdf 08 33 39.6 -3.4**
comp=Z,23nm,1.4s
WTTA Wattenberg 135.23 54 *e*P **PKPdf 08 33 40.3 -2.9**
comp=Z,33nm,1.4s
NKC Novy Kostel 135.79 50 *e*PKPDF **PKiKP 08 33 44.7 -0.8**
NKC Novy Kostel 135.79 50 *e*PKIKP **PKiKP 08 33 44.7 -0.8**
ABTA Abfaltersbach 135.81 55 *e*P **PKiKP 08 33 47.6 +1.8**
comp=Z,14nm,1.3s
CLL Collm 136.10 48 *e*PKPpre PKPpre 08 33 33.0
CLL *e*PKPdf **PKPdf 08 33 45.0 +0.6**
comp=Z,11nm,0.9s
CLL *ep*PKiKP pPKiKP 08 33 51.0 +2.3
comp=Z,21nm,1.4s
CLL *e* 08 34 49.0
CLL *e*PPPrev 08 49 36.0
CLL *e*SS SS 08 54 22.0 -2.8
CLL *e*SSS SSS 08 59 06.0
CLL *e*(SSSS) 09 02 36.0
CLL LmV 09 36 00.0
comp=Z,300nm,19.5s
CLL Collm 136.10 48 *e*PKHKP PKPpre 08 33 33.0
CLL *e* 08 33 45.0
CLL *e* 08 33 51.0
CLL pmax pmax
comp=Z,11nm,0.9s
CLL MLR MLR
comp=Z,300nm,19.5s
AQU L'Aquila 136.12 61 IAMs_20 IAMs_20 09 35 14.9
comp=Z,647nm,21.0s
KBA Koelnbreinsper 136.39 54 *e*P **PKPdf 08 33 44.6 -0.8**
comp=Z,9.2nm,1.1s
KEV Kevo 136.50 19 IAMs_20 IAMs_20 09 33 55.1
comp=Z,754nm,20.0s
KHC Kasperske Hory 136.54 51 *e*PKPDF **PKPdf 08 33 45.8 +0.4**
KHC *ep*PKP **sPKPdf 08 33 49.0 +0.1**
KHC Kasperske Hory 136.54 51 **PKPdf 08 33 43.7 -1.7**
MYKA Terra Mystica 136.58 55 *e*P **PKPdf 08 33 43.2 -2.4**
comp=Z,2nm,1.4s
GEC2 GERESS Array S 136.63 52 **PKPdf 08 33 45.8 +0.1**
GEC2 IAMs_20 IAMs_20 09 38 40.7
comp=Z,566nm,18.0s
GERES GERESS Array B 136.63 52 PKP **PKPdf 08 33 45.4 -0.3**
comp=Z,3.5nm,0.9s,baz=90,slow=0.1,SNR=11
GERES GERESS Array B 136.63 52 PKIKP **PKPdf 08 33 45.6 -0.1**
GERES GERESS Array B 136.63 52 **PKPdf 08 33 45.6 -0.1**
BRG Berggiesshubel 136.71 49 *e*PKP **PKiKP 08 33 48.1 +0.7**
comp=Z,10nm,1.0s
BRG *e* 08 33 53.0
comp=Z,10nm,1.0s
BRG Berggiesshubel 136.71 49 *e*PKIKP **PKiKP 08 33 48.1 +0.7**
BRG *e* 08 33 53.0
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,10.0nm,1.0s
MOA Molln 137.02 53 *e*P **PKPdf 08 33 45.9 -0.4**
comp=Z,12nm,1.5s
OBKA Obir 137.20 55 *e*P **PKPdf 08 33 46.5 -0.3**
comp=Z,2.8nm,0.6s
CEL Celeste 137.47 67 IAMs_20 IAMs_20 09 35 30.9
comp=Z,958nm,20.0s
SOKA Soboth 137.54 55 *e*P **PKPdf 08 33 48.0 +0.6**
comp=Z,18nm,1.4s
NJ2 Nanjing 137.63 283 *e*PKP **PKPdf 08 33 48.2 +0.3**
ARSA Arzberg 137.87 54 *e*P **PKPdf 08 33 46.0 -1.9**
comp=Z,14nm,1.7s
CONA Conrad Observa 138.09 53 *e*P **PKPdf 08 33 46.5 -1.9**
comp=Z,31nm,1.8s
OSTC Ostas 138.18 49 *e*PKPpre PKPpre 08 33 43.1
DPC Dobruska-Polom 138.26 49 *e*PKPDF **PKiKP 08 33 50.0 -0.6**
DPC *ep*PKP **sPKPdf 08 33 54.1 +2.1**
DPC Dobruska-Polom 138.26 49 *e*PKIKP **PKiKP 08 33 50.0 -0.6**
DPC *e* 08 33 54.1
TIP Timpagrande 138.28 66⇑ P **PKiKP 08 33 50.1 -1.0**
TIP Timpagrande 138.28 66 PKPdf **PKiKP 08 33 50.6 -0.5**
KRUC Moravsky 138.40 51 *e*PKP PKPdf 08 33 39.6 -9.2
VRAC Vranov 138.51 51 *e*PKP PKPdf 08 33 40.1 -8.9
VRAC *e* 08 33 51.1
HIA Hailar 138.66 309 IAMs_20 IAMs_20 09 29 38.5
comp=Z,835nm,20.0s
APA Apatity 139.70 20⇓ *i*PKIKP **PKiKP 08 33 53.2 +0.3**
APA pmax pmax
comp=Z,9.0nm,1.0s
LVZ Lovozero 139.82 19⇑ *i*PKIKP **PKiKP 08 33 54.5 +1.2**
LVZ MLR MLR
comp=Z,625nm,17.0s
VYHS Vyhne 140.05 52 *e*PKIKP **PKPdf 08 33 50.5 -1.3**
VYHS Vyhne 140.05 52 *e*PKP **PKPdf 08 33 50.5 -1.3**
BOD Bodaibo 140.33 323 *e*PKIKP **PKPdf 08 33 47.9 -4.1**
BOD pmax pmax
comp=Z,27nm,1.4s
QIZ Qiongzhong 140.44 260 PKP **PKPdf 08 33 52.2 -1.2**
QIZ PP **PP 08 36 51.2 -1.0**
QIZ SS SS 08 55 18.7 +1.4
QIZ LR LR
comp=Z,380nm,4.5s
QIZ LR LR
comp=Z,500nm,5.3s
QIZ LR LR
comp=Z,390nm,19.8s
PDG Podgorica 140.45 61⇑ P **PKPdf 08 33 49.5 -3.2**
FINES FINESS Array B 140.56 31 PKIKP **PKPdf 08 33 52.3 0.0**
FINES FINESS Array B 140.56 31 **PKPdf 08 33 52.3 0.0**
TIR Tirane 140.85 63 IAMs_20 IAMs_20 09 38 55.9
comp=Z,727nm,19.0s
WHN Wuhan 140.96 279 PKP **PKiKP 08 33 57.8 +1.1**
BJI Beijing 141.15 295 PKP **PKiKP 08 33 58.5 +1.7**
BJT Baijiatuau 141.16 295 IAMs_20 IAMs_20 09 25 11.6
comp=Z,596nm,21.0s
NRIK Noril'sk 141.79 349 PKP **PKPdf 08 33 54.2 -0.1**
comp=Z,6.2nm,0.9s,baz=60,slow=3.9,SNR=7.7
NRIK Noril'sk 141.79 349⇑ *e*PKIKP **PKPdf 08 33 54.7 +0.4**
SIRR Siria 142.13 55⇑ P **PKPdf 08 33 51.4 -4.2**
BZS Buzias 142.14 56⇑ P **PKPdf 08 33 50.3 -5.4**
BZS Buzias 142.14 56⇑ PKHKP PKPpre 08 33 50.3
VSU Vasula 142.15 35⇓ *e*PKIKP **PKPdf 08 33 54.5 -0.7**
VSU MLR MLR
comp=Z,2µm,21.0s
HERR Herculane 142.74 57⇑ P **PKPdf 08 33 52.2 -4.6**
TRSU Trosnyk 142.82 52 PKIKP **PKPdf 08 33 57.5 +0.7**
GZR Gura Zlata 142.97 57⇑ P **PKPdf 08 33 52.6 -4.7**
GZR Gura Zlata 142.97 57⇑ PKIKP **PKPdf 08 33 52.6 -4.7**
MORS Morshin 143.29 50 PKIKP PKPbc 08 33 55.0 +0.3
VTS Vitosha 143.40 61 *i* P PKPab 08 33 54.3 0.0
VTS Vitosha 143.40 61 *i* P PKPab 08 33 54.3 0.0
CJR Cluj-Napoca 143.42 54⇑ P **PKiKP 08 34 00.2 -1.1**
CJR Cluj-Napoca 143.42 54⇑ PKIKP **PKiKP 08 34 00.2 -1.1**
SRS Serrai 143.65 64 P PKPab 08 33 53.5 -1.7
LOT Lotru 143.66 56⇓ P PKPab 08 33 52.9 -2.3
MMB Musomiste 143.76 63 *i* P PKPab 08 33 55.8 +0.2
MMB Musomiste 143.76 63 *i* P PKPab 08 33 55.8 +0.2
FURI Furi 143.77 124 IAMs_20 IAMs_20 09 33 43.7
comp=Z,806nm,20.0s
PGB Panagyurishte 144.09 61 *i* P **PKPab 08 33 56.7 -0.1**
PGB Panagyurishte 144.09 61 *i* P **PKPab 08 33 56.7 -0.1**
IDI Anoyia 144.16 74 P **PKPab 08 33 56.6 -0.8**
IDI Anoyia 144.16 74⇑ P **PKPab 08 33 55.3 -2.0**
KSV Kosov 144.19 51 PKIKP PKPbc 08 33 57.7 +0.3
MICGM Minsk 144.27 40⇓ *e*P **PKPab 08 33 55.0 -2.0**
MICGM PM 08 33 56.0
comp=Z,0.4nm,2.0s
MNK Minsk 144.27 40 *e*PKHKP PKPpre 08 33 55.0
MNK pmax pmax
comp=Z,370nm,2.0s
ARR Arges 144.27 56⇑ P **PKPab 08 33 57.2 -0.3**
BURAR Bucovina Array 144.40 53⇑ P **PKPab 08 33 57.9 0.0**
BURAR Bucovina Array 144.40 53⇑ PKIKP **PKPab 08 33 57.9 0.0**
PLD Plovdiv 144.49 62 *i* P **PKPab 08 33 58.1 -0.2**
PLD Plovdiv 144.49 62 *i* P **PKPab 08 33 58.1 -0.2**
RZN Rozhen 144.50 63 *i* P **PKPab 08 33 58.2 -0.4**
RZN Rozhen 144.50 63 *i* P **PKPab 08 33 58.2 -0.4**
VOIR 144.56 56⇓ P **PKPab 08 33 58.2 -0.3**
VOIR 144.56 56⇓ PKIKP **PKPab 08 33 58.2 -0.3**
HUMR Humele 144.59 58⇑ P PKPbc 08 33 58.7 -0.1
MTUR Matau 144.59 57⇑ P **PKPab 08 33 58.3 -0.4**
MTUR Matau 144.59 57⇑ PKIKP **PKPab 08 33 58.3 -0.4**
HHC Hu-ho-hao-te 144.71 296 *e*PKP PKPbc 08 33 59.5 +0.1
HHC LR LR
comp=Z,360nm,16.2s
HHC LR LR
comp=Z,590nm,15.3s
HHC LR LR
comp=Z,690nm,17.0s
DOPR Dopca 144.74 55⇑ P **PKPab 08 33 58.3 -0.8**
SANT Santorini 144.76 72⇑ P **PKPab 08 33 56.4 -3.1**
COPA Copaceanca 144.79 68⇑ P **PKPab 08 33 58.7 -0.6**
APE Apeiranthos 144.90 71⇑ P **PKPab 08 33 59.6 -0.4**
APE Apeiranthos 144.90 71⇓ *e*PKIKP **PKPdf 08 34 01.0 +0.1**
APE MLR MLR
comp=Z,224nm,19.0s
HORU Horodok 144.90 50 PKIKP **PKPab 08 33 58.8 -0.8**
PVL Pavlikeni 144.92 60 *i* P **PKPab 08 33 59.1 -0.7**
PVL Pavlikeni 144.92 60 *i* P **PKPab 08 33 59.1 -0.7**
ZIMR 144.92 59⇑ P **PKPdf 08 34 00.4 -0.2**
ZIMR 144.92 59⇑ PKIKP **PKPdf 08 34 00.4 -0.2**
OZUR 145.00 55⇑ P **PKPbc 08 33 58.9 -1.2**
KDZ Kurdzhali 145.03 63 *i* P **PKPbc 08 33 59.1 -1.2**
KDZ Kurdzhali 145.03 63 *i* P **PKPbc 08 33 59.1 -1.2**
KMPD K-Podol'skiy 145.06 51 PKIKP **PKPbc 08 33 59.0 -1.1**
BIZ Bicaz 145.10 54⇑ P **PKPbc 08 33 60.0 -0.3**
SMTH Samothraki Isl 145.11 65 P **PKPbc 08 33 59.7 -0.9**
DIM Dimitrovgrad 145.11 62 *i* P **PKPbc 08 34 00.3 -0.2**
DIM Dimitrovgrad 145.11 62 *i* P **PKPbc 08 34 00.3 -0.2**
PRAR RASCA 145.12 53⇑ P **PKPbc 08 33 59.9 -0.5**
RDO Rodhopi 145.12 64 P **PKPbc 08 33 59.3 -1.2**
MLR Muntele Rosu 145.18 56 PKPbc **PKPbc 08 33 59.7 -1.0**
comp=Z,67nm,0.8s,baz=84,slow=0.6,SNR=68
MLR Muntele Rosu 145.18 56⇑ P **PKPbc 08 33 59.8 -1.0**
MLR Muntele Rosu 145.18 56⇓ P **PKPbc 08 33 59.9 -0.9**
MLR Muntele Rosu 145.18 56⇓ PKIKP **PKPbc 08 33 59.9 -0.9**
SGRR Singureni 145.32 58⇑ P **PKPbc 08 34 00.3 -0.8**
SZH Strazhica 145.36 60 *i* P **PKPbc 08 34 01.1 -0.2**
SZH Strazhica 145.36 60 *i* P **PKPbc 08 34 01.1 -0.2**
CHOS Chios island 145.43 69 P **PKPbc 08 34 00.4 -1.3**
NEHR Nehoiu 145.43 56⇑ P **PKPdf 08 34 01.1 -0.4**
ALN Alexandroupoli 145.50 64 P **PKPdf 08 34 00.6 -1.1**
PLOR Plostina 145.63 55⇑ P **PKPdf 08 34 01.3 -0.5**
PLOR Plostina 145.63 55⇑ PKIKP **PKPdf 08 34 01.3 -0.5**
VRI Vrincioaia 145.68 55⇑ P **PKPdf 08 34 01.4 -0.5**
VRI Vrincioaia 145.68 55⇑ PKIKP **PKPdf 08 34 01.4 -0.5**
BISRR Bisoca 145.71 56⇑ P **PKPab 08 34 02.7 0.0**
RAZG Razgrad 145.76 59⇑ P **PKPdf 08 34 02.2 +0.1**
JMB Yambol 145.88 61 *i* P **PKPbc 08 34 02.7 -0.2**
JMB Yambol 145.88 61 *i* P **PKPbc 08 34 02.7 -0.2**
BTO Baotou 145.88 295 *e*PKPbc **PKPdf 08 34 01.2 -1.3**
GRER 145.91 56⇑ P **PKPab 08 34 03.2 -0.2**
KARP Karpathos 146.03 74 P **PKPdf 08 34 02.6 -0.2**
KARP Karpathos 146.03 74 PKPdf **PKPdf 08 34 02.7 -0.1**
GYA Guiyang 146.18 269⇓ PKPbc **PKPbc 08 34 04.5 0.0**
GYA PP **PP 08 37 29.5 +2.5**
GYA AMB AMB
comp=Z,250nm,6.2s
GYA LR LR
comp=Z,320nm,5.9s
GYA LR LR
comp=Z,270nm,5.8s
GYA LR LR
comp=Z,330nm,7.1s
XAN Xi'an 146.20 284 PKPbc **PKPbc 08 34 03.8 -0.5**
XAN pPKP sPKPab 08 34 12.1 +3.7
XAN SKKS 08 44 23.7
XAN AMB AMB
comp=Z,390nm,5.9s
XAN LR LR
comp=Z,620nm,14.2s
XAN LR LR
comp=Z,430nm,21.6s
XAN LR LR
comp=Z,670nm,21.6s
XAN Xi'an 146.20 284 PKP2 **PKPdf 08 34 03.5 +0.3**
XAN Xi'an 146.20 284 **PKPdf 08 34 03.5 +0.3**
KLMR Klimovskoe 146.23 25 *e*PKIKP **PKPdf 08 34 01.3 -1.0**
KLMR *e* 08 37 21.4
KLMR *e*SS SS 08 56 14.2 -7.4
KLMR pmax pmax
comp=Z,210nm,1.3s
KLMR Klimovskoe 146.23 25 *e*PKPdf **PKPdf 08 34 01.4 -0.9**
KLMR AMP 08 34 08.1
comp=Z,210nm,1.3s
KLMR *e*PP **PP 08 37 21.4 -4.3**
KLMR *e*SS **SS 08 56 14.3 -7.3**
KLMR *e*SS **SS 08 56 14.3 -7.3**
KLMR LQ LQ 09 27 51.9
KLMR LQ LQ 09 27 51.9
KLMR LR LR 09 30 33.1
KIEV Kiev 146.27 46 PKIKP **PKPdf 08 34 00.0 -2.7**
AKASG Malin Array Be 146.28 46 PKPbc **PKPdf 08 34 01.8 -0.9**
comp=Z,16nm,0.9s,baz=284,slow=3.4,SNR=31
AKASG Malin Array Be 146.28 46 PKPdf **PKPdf 08 34 01.5 -1.2**
AKBB Malin Array Si 146.28 46c *i*PKIKP **PKPdf 08 34 01.7 -1.0**
AKBB Malin Array Si 146.28 46 PKPdf **PKPdf 08 34 02.3 -0.3**
AKBB IAMs_20 IAMs_20 09 44 03.5
comp=Z,679nm,20.0s
SORM Soroca 146.38 51⇓ P **PKPdf 08 34 03.3 +0.4**
SORM Soroca 146.38 51⇓ PKP2 **PKPdf 08 34 03.3 +0.4**
HARR Harsova 146.67 57⇑ P **PKPbc 08 34 05.0 -0.2**
HARR Harsova 146.67 57⇑ PKP2 **PKPbc 08 34 05.0 -0.2**
CFR Carcaliu 146.75 56⇓ P **PKPdf 08 34 03.9 +0.3**
CFR Carcaliu 146.75 56⇓ PKP2 **PKPdf 08 34 03.9 +0.3**
ARG Arkhangelos 146.89 73 P **PKPdf 08 34 04.9 +0.7**
KIS Kishinev 146.92 53⇓ *i*PKP **PKPdf 08 34 04.6 +0.7**
comp=Z,170nm,1.1s
KIS Kishinev 146.92 53 *e*PP PP 08 37 32.0 +1.4
KIS *e*SKKS 08 44 45.0
KIS LRM MLR 09 48 05.0
comp=Z,200nm,18.0s
KIS Kishinev 146.92 53 *i* PKIKP **PKPdf 08 34 04.0 +0.1**
KIS *e* 08 37 32.0
KIS pmax pmax
comp=Z,600nm,3.3s
MILM Milestii Mici 146.93 53⇓ P **PKPbc 08 34 05.1 -0.7**
PSN Preselentsi 146.96 59 *i* P **PKPbc 08 34 05.8 -0.3**
PSN Preselentsi 146.96 59 *i* P **PKPbc 08 34 05.8 -0.3**
TIRR Tirgusor 147.04 58⇑ P **PKPbc 08 34 05.4 -0.8**
TIRR Tirgusor 147.04 58⇑ PKP2 **PKPbc 08 34 05.4 -0.8**
ULN Ulaanbaatar 147.19 309 PKIKP **PKPdf 08 34 04.7 +0.1**
ULN Ulaanbaatar 147.19 309 PKPdf **PKPdf 08 34 04.7 +0.1**
TLCR 147.23 56⇑ P **PKPbc 08 34 06.2 -0.5**
TLCR 147.23 56⇑ PKP2 **PKPbc 08 34 06.2 -0.5**
IRK Irkutsk 147.56 318 *e*PKP2 **PKPbc 08 34 06.4 -1.1**
IRK pmax pmax
comp=Z,225nm,1.8s
PRGR Permogore 147.62 20 *e*PKP2 **PKPdf 08 34 05.4 +0.8**
PRGR pmax pmax
comp=Z,72nm,1.0s
SONM Songino Array 147.63 309 PKPbc **PKPdf 08 34 05.3 +0.1**
comp=Z,13nm,1.0s,baz=85,slow=1.8,SNR=24
SONM Songino Array 147.63 309 PKIKP **PKPdf 08 34 05.6 +0.3**
SONM Songino Array 147.63 309 PKPdf **PKPdf 08 34 05.6 +0.3**
TLY Talaya 148.13 317 PKPbc **PKPbc 08 34 08.9 -0.1**
comp=Z,25nm,0.8s,baz=347,slow=4.2,SNR=13
TLY Talaya 148.13 317*ce*PKP2 **PKPbc 08 34 08.1 -1.0**
TLY pmax pmax
comp=Z,102nm,1.7s
OBN Obninsk 148.50 35*ce*PKIKP **PKPdf 08 34 07.7 +1.5**
OBN *i* 08 34 12.9
OBN *e* 08 37 46.3
OBN pmax pmax
comp=Z,66nm,1.0s
OBN MLR MLR
comp=Z,816nm,18.0s
MOS Moscow 148.66 34 *e*PKIKP **PKPdf 08 34 08.2 +1.7**
MOS *e* 08 37 42.3

MOS					pmax	pmax		
	comp=Z,207nm,1.7s							
ZAK	**Zakamensk**	**148.83**	**315**	*e*PKP2	**PKPbc**	**08 34 10.3**	**-0.7**	
ZAK				pmax	pmax			
	comp=Z,43nm,1.9s							
ISP	**Isparta**	**148.92**	**70**	PKP2	**PKPbc**	**08 34 12.2**	**+0.6**	
ISP	**Isparta**	**148.92**	**70**		**PKPbc**	**08 34 12.2**	**+0.6**	
KMI	**Kunming**	**149.00**	**265**‖	*e*PKPbc	**PKPdf**	**08 34 06.0**	**-2.3**	
KMI				pPKP	pPKPdf	08 34 11.2	+0.3	
CM31	**Chiang Mai Arr**	**149.03**	**250**		**PKiKP**	**08 34 13.5**	**-0.1**	
CMAR	**Chiang Mai Arr**	**149.03**	**250**	PKPbc	**PKPbc**	**08 34 12.8**	**+0.5**	
	comp=Z,30nm,1.0s,baz=174,slow=1.7,SNR=52							
CMAR	**Chiang Mai Arr**	**149.03**	**250**	PKP2	**PKPbc**	**08 34 11.9**	**-0.5**	
CMAR	**Chiang Mai Arr**	**149.03**	**250**		**PKPbc**	**08 34 11.9**	**-0.5**	
MOY	**Mondy**	**149.64**	**318**	*e*PKP2	**PKPbc**	**08 34 12.9**	**-0.1**	
MOY				pmax	pmax			
	comp=Z,158nm,2.2s							
CD2	**Chengdu**	**149.88**	**276**	PKPbc	**PKPdf**	**08 34 09.0**	**-0.3**	
CD2				PP	**PP**	**08 37 48.8**	**+0.2**	
CD2				AMB	AMB			
	comp=Z,580nm,5.9s							
CD2				LR	LR			
	comp=Z,430nm,13.7s							
CD2				LR	LR			
	comp=Z,1μm,16.7s							
CD2				LR	LR			
	comp=Z,930nm,22.1s							
LZH	**Lanzhou**	**150.58**	**286**	*e*PKPbc	**PKPdf**	**08 34 11.3**	**+0.9**	
LZH				sPKP		08 34 16.2		
LZH				LR	LR			
	comp=Z,630nm,18.4s							
LZH				LR	LR			
	comp=Z,500nm,18.0s							
LZH				LR	LR			
	comp=Z,630nm,20.5s							
BR231	**Keskin MP Arra**	**150.67**	**66**		**PKPbc**	**08 34 15.6**	**-0.3**	
CSS	**Mathiatis**	**150.98**	**76**		**PKPbc**	**08 34 16.8**	**+0.1**	
LPSR	**Galich'ya Gora**	**151.02**	**38**	*e*PKIKP	**PKPdf**	**08 34 10.5**	**+0.2**	
LPSR				pmax	pmax			
	comp=Z,30nm,0.6s							
KIRV	**Kirov**	**151.21**	**21**	PKPbc	**PKPbc**	**08 34 14.8**	**-1.5**	
	comp=Z,54nm,1.0s,baz=269,slow=1.7,SNR=7.9							
ILGA	**Ilgaz**	**151.30**	**63**		**PKPbc**	**08 34 17.0**	**-0.5**	
ILGA				IAMs_20	IAMs_20	09 52 05.6		
	comp=Z,669nm,19.0s							
BR131	**Keskin Array S**	**151.34**	**66**	PKIKP	**PKPbc**	**08 34 17.1**	**-0.4**	
BR131	**Keskin Array S**	**151.34**	**66**		**PKPbc**	**08 34 17.1**	**-0.4**	
BRTR	**Keskin Array B**	**151.34**	**66**	PKPbc	**PKPbc**	**08 34 16.9**	**-0.6**	
	comp=Z,11nm,0.9s,baz=220,slow=3.2,SNR=19							
BRTR	**Keskin Array B**	**151.34**	**66**	PKIKP	**PKPbc**	**08 34 17.0**	**-0.5**	
BRTR	**Keskin Array B**	**151.34**	**66**	PKPdf	**PKPdf**	**08 34 11.3**	**-0.1**	
BRTR					**PKPbc**	**08 34 17.0**	**-0.5**	
DAMY	**Dhamar**	**151.71**	**124**	IAMs_20	IAMs_20	09 45 49.2		
	comp=Z,673nm,19.0s							
VSR	**Storozhevoye**	**151.85**	**40**	*e*PKIKP	**PKPdf**	**08 34 11.9**	**+0.3**	
VSR				pmax	pmax			
	comp=Z,50nm,0.8s							
VORD	**Divnogorie**	**152.04**	**41**	*e*PKIKP	**PKPdf**	**08 34 12.9**	**+1.0**	
VORD				pmax	pmax			
	comp=Z,60nm,1.6s							
VRH	**Novokhopyorsk**	**153.23**	**39**	*e*PKIKP	**PKPdf**	**08 34 12.6**	**-1.0**	
VRH				pmax	pmax			
	comp=Z,30nm,0.8s							
ANN	**Anapa**	**153.28**	**54**	*e*PKIKP	**PKPdf**	**08 34 12.8**	**-1.1**	
ANN				*e*		08 34 16.3		
ANN				pmax	pmax			
	comp=Z,135nm,1.4s							
TOKA	**Tokat**	**153.46**	**64**		**PKPdf**	**08 34 14.6**	**+0.2**	
ASF	**Jabal al Asfar**	**153.56**	**83**	PKP	**PKPdf**	**08 34 14.8**	**-0.1**	
	comp=Z,3.0nm,1.0s,baz=259,slow=0.5,SNR=18							
GTA	**Gaotai**	**153.75**	**294**	PKPbc	**PKPdf**	**08 34 15.8**	**+0.8**	
GTA				pPKP	PKPbc	08 34 21.1	-1.8	
GTA				sPKP		08 34 24.0		
GTA				LR	LR			
	comp=Z,400nm,19.6s							
GTA				LR	LR			
	comp=Z,390nm,18.2s							
GTA				LR	LR			
	comp=Z,390nm,20.4s							
SOC	**Sochi**	**155.20**	**56**	*e*PKIKP	**PKPdf**	**08 34 16.7**	**0.0**	
SOC				*e*		08 38 15.1		
SOC				*e*PPP	PPP	08 41 51.4		
SOC				*e*SS	SS	08 57 59.7	-3.1	
SOC				*e*SSS	SSS	09 03 54.9		
SOC				pmax	pmax			
	comp=Z,28nm,1.0s							
ARU	**Arti**	**155.40**	**13**	PKP	**PKPdf**	**08 34 16.4**	**-0.1**	
	comp=Z,1.8nm,0.2s,baz=222,slow=2.4,SNR=9.2							
ARU	**Arti**	**155.40**	**13**	*i* PKIKP	**PKPdf**	**08 34 16.0**	**-0.5**	
ARU	**Arti**	**155.40**	**13**	IAMs_20	IAMs_20	09 51 57.4		
	comp=Z,576nm,19.0s							
ZAA0	**Zalesovo Array**	**155.76**	**336**	IAMs_20	IAMs_20	09 53 05.0		
	comp=Z,658nm,19.0s							
ZALV	**Zalesovo Beam**	**155.76**	**336**	PKP	**PKPdf**	**08 34 15.9**	**-1.2**	
	comp=Z,7.7nm,1.0s,baz=115,slow=2.1,SNR=9.6							
ZALV				PKPab	**PKPab**	**08 34 43.0**	**-0.7**	
	comp=Z,6.2nm,0.9s,baz=27,slow=3.6,SNR=5.8							
ZALV	**Zalesovo Beam**	**155.76**	**336**	PKPab	**PKPab**	**08 34 43.3**	**-0.3**	
KOPT	**Kop Dagi**	**156.55**	**64**	IAMs_20	IAMs_20	09 53 49.8		
	comp=Z,549nm,22.0s							
GOF	**Gofitskoye**	**156.95**	**51**‖	*e*PKIKP	**PKPdf**	**08 34 19.9**	**+0.9**	
MARD	**Mardin**	**157.07**	**71**	PKPab	**PKPab**	**08 34 50.5**	**+0.5**	
KIV	**Kislovodsk**	**157.12**	**53**	*e*PKIKP	**PKPdf**	**08 34 19.1**	**-0.3**	
KIV				pmax	pmax			
	comp=Z,31nm,1.1s							
KIV	**Kislovodsk**	**157.12**	**53**	IAMs_20	IAMs_20	09 54 29.0		
	comp=Z,498nm,20.0s							
KBZ	**Khabaz**	**157.34**	**54**	PKP	**PKPdf**	**08 34 20.2**	**+0.8**	
	comp=Z,4.1nm,0.7s,baz=240,slow=1.9,SNR=8.1							
KBZ				PKPab	**PKPab**	**08 34 51.8**	**+1.0**	
	comp=Z,19nm,1.0s,baz=320,slow=3.1,SNR=8.4							
ZEI	**Tsey**	**158.35**	**55**	*i* PKIKP	**PKPdf**	**08 34 22.6**	**+1.5**	
ZEI				pmax	pmax			
	comp=Z,15nm,1.8s							
GEVA	**Gevas**	**158.77**	**68**	PKPdf	**PKPdf**	**08 34 22.9**	**+1.2**	
GEVA				IAMs_20	IAMs_20	10 00 10.8		
	comp=Z,725nm,19.0s							
GROC	**Groznyy**	**159.50**	**53**	*e*PKIKP	**PKPdf**	**08 34 22.4**	**+0.3**	
GROC				*e*		08 38 40.6		
GROC				*e*		08 41 28.2		
GROC				pmax	pmax			
	comp=Z,24nm,0.4s							
MAK	**Makhachkala**	**160.74**	**52**	*e*PKIKP	**PKPdf**	**08 34 19.0**	**-4.5**	
MAK				*e*		08 38 42.3		
MAK				*e*		08 41 22.1		
MAK				pmax	pmax			
	comp=Z,240nm,0.9s							
AKTO	**Aktyubinsk**	**160.78**	**20**	PKP	**PKPdf**	**08 34 22.4**	**-0.9**	
	comp=Z,8.0nm,1.1s,baz=320,slow=1.4,SNR=14							
AKTO				PKPab	**PKPab**	**08 35 04.9**	**-0.6**	
	comp=Z,2.9nm,0.7s,baz=354,slow=5.4,SNR=2.0							
WMQ	**Urumqi**	**161.23**	**312**	*e*PKP	**PKPdf**	**08 34 23.4**	**-0.7**	
WMQ				LR	LR			
	comp=Z,370nm,21.1s							
WMQ				LR	LR			
	comp=Z,340nm,20.7s							
WMQ				LR	LR			
	comp=Z,330nm,24.9s							
HYB	**Hyderabad**	**162.13**	**214**	*i* PKP	**PKPdf**	**08 34 27.5**	**+1.7**	
HYB				*e*		08 35 14.0		
MKAR	**Makanchi Array**	**162.37**	**327**	PKP	**PKPdf**	**08 34 23.7**	**-1.5**	
	comp=Z,2.2nm,0.9s,baz=20,slow=4.0,SNR=6.0							
MKAR				PKPab	**PKPab**	**08 35 12.2**	**-0.3**	
	comp=Z,3.1nm,0.9s,baz=54,slow=6.2,SNR=6.1							
MKAR	**Makanchi Array**	**162.37**	**327**	PKP2	**PKPab**	**08 35 12.4**	**-0.2**	
MKAR						09 34 24.0		
MKAR	**Makanchi Array**	**162.37**	**327**	PKPdf	**PKPdf**	**08 34 24.0**	**-1.1**	
MKAR				PKPab	**PKPab**	**08 35 12.4**	**-0.2**	
ABKAR	**Akbulak array**	**162.38**	**18**	PKPdf	**PKPdf**	**08 34 24.1**	**-0.9**	
KKAR	**Karatay Array**	**169.53**	**351**	PKIKP	**PKPdf**	**08 34 30.3**	**-0.7**	
KKAR	**Karatay Array**	**169.53**	**351**		**PKPdf**	**08 34 30.2**	**-0.7**	
GEYT	**Alibeck**	**170.23**	**55**	PKP	**PKPdf**	**08 34 31.2**	**-0.4**	
	comp=Z,4.6nm,0.8s,baz=318,slow=4.0,SNR=5.7							
GEYT				PKPab	**PKPab**	**08 35 47.4**	**-0.2**	
	comp=Z,3.6nm,0.9s,baz=231,slow=9.1,SNR=1.6							
GYA0B	**ALIBECK ARRAY**	**170.23**	**55**		**PKPdf**	**08 34 31.8**	**+0.2**	
HRA	**Herat**	**174.71**	**71**		**PKPdf**	**08 34 34.3**	**+0.4**	

*KRNET **09** 08:16:00.2±0.1, 40.86N×74.22E, h13km, mb3.1*
*NNC **09** 08:16:00.9±1.3, 40.86N×74.24E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=10.8km s-min=4.5km az=167.0*
*SOME **09** 08:16:00.0, 40.90N×74.18E, h5km*
ISC 09 08:16:03.6±1.3**, 40.97N**±0.06×**74.22E**±0.03**, h10**km**, n48,**
σ1§37/75, 23C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.90**	**5**	⇑*i*P	**Pg**	**08 16 19.5**	**-1.4**
	baz=5.0						
ARLS				⇑*i*S	**Sb**	**08 16 33.5**	**+0.1**
	baz=5.0						
AML	**Almayashu**	**1.23**	**341**	⇑*i*P	**Pg**	**08 16 25.6**	**-1.7**
	baz=43						
AML				⇑*i*S	**Sn**	**08 16 44.0**	**-0.1**
	baz=43						
AML	**Almayashu**	**1.23**	**341**	P	**Pg**	**08 16 25.6**	**-1.7**
	SNR=33						
UCH	**Uchtor**	**1.28**	**10**	⇓*i*P	**Pg**	**08 16 26.6**	**-1.6**
	baz=9.0						
UCH				⇓*i*S	**Sn**	**08 16 45.5**	**+0.1**
	baz=9.0						
UCH	**Uchtor**	**1.28**	**10**	P	**Pn**	**08 16 29.2**	**+1.2**
	SNR=23						
AAK	**Ala-Archa**	**1.68**	**7**	⇑*i*P	**Pn**	**08 16 33.7**	**+0.5**
	baz=7.0						
AAK				⇑*i*S	**Sg**	**08 16 57.7**	**0.0**
	baz=7.0						
AAK	**Ala-Archa**	**1.68**	**7**	P	**Pg**	**08 16 35.5**	**-0.4**
	SNR=14						
EKS2	**Erkin-Say**	**1.72**	**349**	⇑*i*P	**Pn**	**08 16 34.3**	**+0.5**
	baz=50						
EKS2				⇑*i*S	**Sg**	**08 16 59.6**	**+0.5**
	baz=50						
EKS2	**Erkin-Say**	**1.72**	**349**	P	**Pb**	**08 16 34.9**	**-0.6**
	SNR=20						
KBK	**Karagaybulak**	**1.77**	**18**	⇑*i*P	**Pn**	**08 16 35.2**	**+0.7**
	baz=17						
KBK				⇑*i*S	**Sg**	**08 17 01.0**	**+0.4**
	baz=17						
KBK	**Karagaybulak**	**1.77**	**18**	P	**Pb**	**08 16 36.7**	**+0.4**
	SNR=5.4						
MRKS	**Merke**	**1.93**	**338**	*e*P	**Pb**	**08 16 38.4**	**-0.5**
	34nm,0.4s						
MRKS				*e*S	**Sg**	**08 17 05.4**	**-0.1**
	38nm,0.5s						
MRKS	**Merke**	**1.93**	**338**	Pg	**Pb**	**08 16 38.4**	**-0.5**
	34nm,0.4s						
MRKS				Lg	Lg	08 17 06.6	
	38nm,0.5s						
ULHL	**Ulahol**	**1.98**	**49**	⇓*i*P	**Pn**	**08 16 38.0**	**+0.6**
	baz=47						
ULHL				⇓*i*S	**Sb**	**08 17 05.3**	**+0.6**
	baz=47						
ULHL	**Ulahol**	**1.98**	**49**	P	**Pn**	**08 16 39.0**	**+1.6**
	SNR=18						
MNAS	**Manas**	**1.99**	**320**	⇑*i*P	**Pn**	**08 16 38.5**	**+1.0**
	baz=22						
MNAS				⇑*i*S	**Sg**	**08 17 06.1**	**-1.5**
	baz=22						
BOOM	**Boomskoye usch**	**1.99**	**40**	⇑*i*P	**Pn**	**08 16 38.6**	**+1.1**
	baz=38						
BOOM				⇑*i*S	**Sg**	**08 17 06.4**	**-1.2**
	baz=38						
CHMS	**Chumysh**	**2.07**	**11**	⇑*i*P	**Pn**	**08 16 39.3**	**+0.9**
	baz=10.0						
CHMS				⇑*i*S	**Sg**	**08 17 08.3**	**-1.7**
	baz=10.0						
CHMS	**Chumysh**	**2.07**	**11**	P	**Pg**	**08 16 42.9**	**-0.3**
	SNR=5.6						
TKM2	**Tokmak 2**	**2.20**	**27**	⇑*i*P	**Pn**	**08 16 41.1**	**+0.6**
	baz=26						
TKM2				⇑*i*S	**Sb**	**08 17 11.6**	**+0.5**
	baz=26						
USP	**Ospenovka**	**2.31**	**5**	⇓*i*P	**Pn**	**08 16 42.7**	**+1.0**
	baz=5.0						
USP				⇓*i*S	**Sb**	**08 17 14.1**	**+0.2**
	baz=5.0						
USP	**Ospenovka**	**2.31**	**5**	P	**Pb**	**08 16 44.3**	**-1.0**
	SNR=9.9						
KST	**Kastek**	**2.44**	**31**	*e*P	**Pb**	**08 16 48.3**	**+0.6**
	9.7nm,0.8s						
KST				*e*S	**Sg**	**08 17 23.0**	**+0.8**
	18nm,0.4s						
KST	**Kastek**	**2.44**	**31**	Pg	**Pb**	**08 16 48.3**	**+0.6**
	8.7nm,0.7s						
KST				Lg	Lg	08 17 23.0	
	18nm,0.4s						
KDJ	**Kajisay**	**2.50**	**61**	⇑*i*P	**Pn**	**08 16 45.1**	**+0.5**
	baz=60						
KDJ				⇑*i*S	**Sb**	**08 17 18.4**	**-1.4**
	baz=60						
MTBS	**Maitube**	**2.71**	**37**	*e*P	**Pb**	**08 16 52.2**	**-0.1**
	2.1nm,0.4s						
MTBS				*e*S	**Sg**	**08 17 29.5**	**-1.3**
	13nm,0.4s						
MTBS	**Maitube**	**2.71**	**37**	Pg	**Pb**	**08 16 51.8**	**-0.5**
	6.7nm,0.3s						
MTBS				Lg	Lg	08 17 28.9	
	13nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.80**	**73**	⇑*i*P	**Pn**	**08 16 49.0**	**+0.1**
	baz=71						
TARG				⇑*i*S	**Sn**	**08 17 24.8**	**+1.9**
	baz=71						
TNSS	**Tian-Shan**	**2.90**	**44**	*e*P	**Pb**	**08 16 55.6**	**0.0**
	3.3nm,0.7s						
TNSS				*e*S	**Sg**	**08 17 35.6**	**-1.2**
	7.8nm,0.7s						
TNSS	**Tian-Shan**	**2.90**	**44**	Pg	**Pb**	**08 16 55.4**	**-0.3**
	2.0nm,0.4s						
TNSS				Lg	Lg	08 17 35.5	
	7.8nm,0.7s						
KRBS	**Karabastau**	**2.93**	**21**	*e*P	**Pb**	**08 16 56.1**	**+0.1**
	3.1nm,0.3s						
KRBS				*e*S	**Sg**	**08 17 36.7**	**-1.0**
	5.2nm,0.3s						
KRBS	**Karabastau**	**2.93**	**21**	Pg	**Pb**	**08 16 56.7**	**+0.7**
	3.1nm,0.3s						
KRBS				Lg	Lg	08 17 37.1	
	5.2nm,0.3s						
KOTS	**Kotyrbulak**	**3.12**	**43**	*e*P	**Pb**	**08 16 59.6**	**+0.3**
	11nm,0.4s						
KOTS				*e*S	**Sg**	**08 17 42.5**	**-1.4**
	17nm,0.4s						
KOTS	**Kotyrbulak**	**3.12**	**43**	Pg	**Pb**	**08 16 59.6**	**+0.3**
	11nm,0.4s						
KOTS				Lg	Lg	08 17 42.5	
	17nm,0.4s						
KTBS	**Karatobe**	**3.29**	**33**	*e*P	**Pb**	**08 17 03.3**	**+1.1**
	3.1nm,0.7s						
KTBS				*e*S	**Sg**	**08 17 48.6**	**-0.8**
	6.6nm,0.5s						
KTBS	**Karatobe**	**3.29**	**33**	Pg	**Pb**	**08 17 03.2**	**+1.1**
	3.1nm,0.7s						
KTBS				Lg	Lg	08 17 48.6	
	6.6nm,0.5s						
KUU	**Kurty**	**3.31**	**27**	*e*P	**Pb**	**08 17 02.8**	**+0.3**
	1.6nm,0.4s						
KUU				*e*S	**Sg**	**08 17 48.2**	**-1.9**
	6.2nm,0.3s						
KUU	**Kurty**	**3.31**	**27**	Pg	**Pb**	**08 17 03.0**	**+0.5**
	1.6nm,0.4s						
KUU				Lg	Lg	08 17 48.2	
	6.2nm,0.3s						
IUG	**Iuzhnay**	**3.36**	**292**	*e*P	**Pb**	**08 17 01.9**	**-1.4**
	27nm,0.2s						
IUG				*e*S	**Sb**	**08 17 47.1**	**+2.8**
	35nm,0.6s						
IUG	**Iuzhnay**	**3.36**	**292**	Pg	**Pb**	**08 17 02.0**	**-1.4**
	27nm,0.2s						
IUG				Lg	Lg	08 17 47.1	
	66nm,0.8s						
KK31	**Karatay Array**	**3.49**	**309**	⇑Pn	**Pn**	**08 16 58.9**	**+0.9**
	0.7nm,0.4s,baz=128,slow=16,SNR=11						
KK31				⇓Lg	Lg	08 17 54.8	
	4.0nm,0.3s,baz=135,slow=28,SNR=13						
BRLS	**Boroldaу**	**3.86**	**304**	*e*P	**Pb**	**08 17 11.2**	**-0.7**
	22nm,0.2s						
BRLS				*e*S	**Sb**	**08 18 02.7**	**+4.0**
	18nm,0.4s						
BRLS	**Boroldaу**	**3.86**	**304**	Pg	**Pb**	**08 17 11.2**	**-0.7**
	22nm,0.2s						
BRLS				Lg	Lg	08 18 02.7	
	18nm,0.4s						
BTLS	**Baital**	**4.07**	**358**	*e*P	**Pb**	**08 17 16.1**	**+0.7**
	0.8nm,0.3s						
BTLS				*e*S	**Sg**	**08 18 10.4**	**-4.0**
	2.9nm,0.5s						
UZB	**Uzynbulak**	**4.18**	**57**	*e*P	**Pb**	**08 17 18.1**	**+0.7**
	1.3nm,0.4s						
UZB				*e*S	**Sg**	**08 18 13.9**	**-4.1**
	5.7nm,0.5s						
UZB	**Uzynbulak**	**4.18**	**57**	Pg	**Pb**	**08 17 18.1**	**+0.7**
	1.3nm,0.4s						
UZB				Lg	Lg	08 18 13.9	
	5.7nm,0.5s						
ARXS	**Arharly**	**4.19**	**38**	*e*P	**Pb**	**08 17 17.2**	**-0.4**
	3.0nm,0.5s						
ARXS				*e*S	**Sb**	**08 18 12.7**	**+4.4**
	6.8nm,0.6s						
ARXS	**Arharly**	**4.19**	**38**	Pg	**Pb**	**08 17 16.3**	**-1.3**
	3.0nm,0.5s						
ARXS				Lg	Lg	08 18 11.3	
	6.8nm,0.6s						

*IDC **09** 08:58:21.7±2.0, 7.29N×93.88E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/54, mbtmp3.7/7, ML3.3/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/42, Error ellipse: s-maj=104.9km s-min=20.6km az=55.0*
ISC 09 08:58:25.4±1.8**, 7.4N**±0.4×**93.9E**±0.5**, h20**km**, n11,** σ1§**75/7, mb3.8/6, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.75**	**132**	P	**Pn**	**09 00 04.8**	**+1.2**
	0.6nm,0.3s,baz=180,slow=20,SNR=1.5						
PSI				LR	LR	09 02 43.9	
	comp=Z,235nm,21.0s,baz=91,slow=39						
H08S3	**Diego Garcia H**	**26.09**	**236**	T	T	09 30 38.2	
	baz=55,slow=75,SNR=27						
H08S2	**Diego Garcia H**	**26.09**	**235**	T	T	09 30 38.2	
	baz=55,slow=75,SNR=32						
H08S1	**Diego Garcia H**	**26.11**	**236**	T	T	09 30 41.1	
	baz=55,slow=75,SNR=23						
MKAR	**Makanchi Array**	**40.50**	**348**	P	**P**	**09 06 04.7**	**+1.8**
	1.7nm,0.7s,baz=157,slow=7.8,SNR=7.5						
KURBB	**Kurchatov Arra**	**44.95**	**346**	P	**P**	**09 06 38.5**	**-0.5**
	1.4nm,0.8s,baz=162,slow=6.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**46.99**	**353**	P	**P**	**09 06 53.6**	**-1.3**
	0.5nm,0.3s,baz=180,slow=8.6,SNR=1.4						
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**09 07 04.4**	**-0.2**
	0.6nm,1.0s,baz=302,slow=8.6,SNR=3.7						
ASAR	**Alice Springs**	**49.77**	**130**	P	**P**	**09 07 14.7**	**-2.3**
	0.3nm,0.9s,baz=299,slow=7.6,SNR=2.3						
OBN	**Obninsk**	**65.67**	**328**	LR	LR	09 40 26.4	
	comp=Z,220nm,19.0s,baz=341,slow=38						
GERES	**GERESS Array B**	**78.04**	**318**	P	**P**	**09 10 23.2**	**+0.4**
	0.2nm,0.3s,baz=105,slow=6.4,SNR=2.4						

*HEL **09** 08:59:42.6±0.2, 64.73N×30.72E, h0km, ML2.1, Explosion*
*IDC **09** 08:59:42.8±3.1, 64.74N×31.55E, h0km, mb1 3.2/4, mb1mx3.0/47, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=45.2km s-min=9.9km az=100.0*
*KOLA **09** 08:59:44.0, 64.85N×30.05E, h0km*
ISC 09 08:59:44.4±1.1**, 64.87N**±0.03×**30.36E**±0.06**, h0**km**, n25,** σ1§**48/41, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.18**	**351**	PG	**Pg**	**09 00 06.9**	**0.0**
	baz=164						
KU6				MSG		09 00 23.0	
	comp=Z,15nm,0.2s						
KU6				SG	**Sn**	**09 00 23.8**	**-1.0**
MSF	**Maaselka**	**1.18**	**333**	PG	**Pb**	**09 00 07.5**	**-0.2**
	baz=150						
MSF				SB	**Sn**	**09 00 25.5**	**+0.6**
OUL	**Oulu**	**1.91**	**278**	PG	**Pg**	**09 00 20.2**	**-0.7**
OUL				SG	**Sg**	**09 00 46.8**	**+1.2**
OUF	**Merijarvi**	**2.48**	**261**	PG	**Pb**	**09 00 28.1**	**-1.6**
	baz=81						
OUF				MSG		09 00 59.6	
	comp=Z,13nm,0.2s						
OUF				SG	**Sg**	**09 01 03.1**	**-0.7**
RNF	**Rovaniemi**	**2.50**	**316**	PB	**Pb**	**09 00 28.6**	**-1.5**
	baz=134						
RNF				SB	**Sg**	**09 01 04.0**	**-0.7**
OBF0	**Syolatti, Pyha**	**2.66**	**265**	PG	**Pb**	**09 00 32.4**	**-0.4**
OBF0				SG	**Sg**	**09 01 08.4**	**-1.3**
TOF	**Tornio**	**2.79**	**298**	PB	**Pb**	**09 00 34.6**	**-0.5**
TOF				MSG		09 01 10.4	
	comp=Z,8.7nm,0.2s						
TOF				SB	**Sg**	**09 01 11.7**	**-2.3**
SUF	**Sumiainen**	**2.85**	**223**	PB	**Pn**	**09 00 32.3**	**+1.2**
SUF				MSG		09 01 07.1	
	comp=Z,5.6nm,0.2s						
SUF				SG	**Sb**	**09 01 11.5**	**-0.1**
VRF	**Varrio**	**2.91**	**354**	PN	**Pn**	**09 00 32.6**	**+0.8**
VRF				MSG		09 01 12.5	
	comp=Z,2.8nm,0.2s						
APA0	**Apatity Array**	**2.95**	**20**	P	**Pn**	**09 00 32.3**	**-0.1**
APA0				S	**Sn**	**09 01 08.6**	**+0.1**
APA	**Apatity**	**2.98**	**23**	P	**Pn**	**09 00 32.9**	**+0.1**
APA				S	**Sn**	**09 01 09.4**	**+0.2**
SGF	**Sodankyl**	**3.01**	**331**	PB	**Pb**	**09 00 38.6**	**-0.3**
SGF				SB	**Sg**	**09 01 17.8**	**-3.4**
KALU	**Kalix**	**3.10**	**292**	PB	**Pb**	**09 00 37.7**	**-2.5**
KAF	**Kangasniemi**	**3.31**	**215**	PB	**Pn**	**09 00 38.5**	**+1.1**
KEF	**Keuruu**	**3.66**	**225**	PB	**Pn**	**09 00 43.8**	**+1.6**
ERTU	**Ertsjaerv**	**3.77**	**300**	PN	**Pn**	**09 00 47.0**	**+3.2**
ERTU				SG	**Sg**	**09 01 47.4**	**+1.9**
VAF	**Ylistaro**	**3.85**	**245**	PB	**Pn**	**09 00 47.7**	**+2.9**
VAF				SG	**Sg**	**09 01 47.5**	**-0.6**
FIA0	**FINESS Array S**	**3.95**	**211**	PB	**Pn**	**09 00 45.9**	**-0.3**
FINES	**FINESS Array B**	**3.95**	**211**	Pn	**Pn**	**09 00 46.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=7.3						
FINES				Pg	**Pb**	**09 00 55.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=26,slow=15,SNR=5.0						
FINES		

IKRD *e* 09 34 24.9
IAKL Akhelmad 1.71 119 *e*Pn **Pn 09 33 40.1 -0.3**
IAKL *e* 09 34 17.0
IPAY Payeh 1.95 120 *e*Pn **Pn 09 33 43.8 +0.1**
IPAY *e* 09 34 24.1
IMOG Moghan 2.37 123 *e*Pn **Pn 09 33 50.2 +0.7**
IGLO Ghaloghah 2.63 250 *e*Pn **Pn 09 33 53.0 0.0**
IGLO *e* 09 34 54.8
IMYA Miami 2.79 112 *e*Pn **Pn 09 33 56.5 +1.3**
IMYA *e* 09 34 53.4
IANJ Anjilo 3.11 232 *e*Pn **Pn 09 33 59.7 +0.1**
IANJ *e* 09 34 51.8
JRKH Jarkhoshk 3.17 118 *e*Pn **Pn 09 34 00.8 +0.5**
ISHM Shahmirzad 3.33 242 *e*Pn **Pn 09 34 04.4 +1.7**
ISHM *e* 09 35 03.3
TNSJ Nastanj 3.48 184 *e*Pn **Pn 09 34 04.8 +0.2**
IALA Alasht 3.55 249 *e*Pn **Pn 09 34 06.3 +0.5**
IALA *e* 09 35 14.7
ILAS Lasjerd 3.79 238 *e*Pn **Pn 09 34 09.5 +0.6**
ILAS *e* 09 35 22.1
TABS Tabas 3.79 177 *e*Pn **Pn 09 34 09.5 +0.7**
TABS *e*Sg **Sb 09 35 06.2 +2.9**
TABS IAML 09 35 15.3
comp=N,275nm,0.7s
TABS Tabas 3.79 177 *e*Pn **Pn 09 34 09.5 +0.7**
IFIR Firoozkooh 3.79 243 *e*Pn **Pn 09 34 10.5 +1.5**
IFIR *e* 09 34 25.7
TKDS Koohdasht(Taba 3.82 177 *e*Pn **Pn 09 34 09.6 +0.3**
IPRN Peran 3.85 253 *e*Pn **Pn 09 34 10.8 +1.1**
IDMV Damavand 4.34 246 *e*Pn **Pn 09 34 17.6 +1.0**
IDMV *e* 09 35 53.8
DAMV Damavand 4.36 247 *e*Pn **Pn 09 34 19.3 +2.4**
DAMV Damavand 4.36 247 *e*Pn **Pn 09 34 19.3 +2.4**
AFRZ Afriz 4.36 156 *e*Pn **Pn 09 34 17.0 +0.2**
TPRV Parvadeh(Tabas 4.41 182 *e*Pn **Pn 09 34 17.3 0.0**
SHRT Shahrakht 4.69 143 *e*Pn **Pn 09 34 20.9 -0.3**
SHRT Shahrakht 4.69 143 *e*Pn **Pn 09 34 20.9 -0.3**
ITEG Tejag 4.78 161 *e*Pn **Pn 09 34 22.7 +0.1**
IMON Monand 4.80 151 *e*Pn **Pn 09 34 23.3 +0.4**
IVRN Varamin 4.84 241 *e*Pn **Pn 09 34 24.5 +1.2**
CHTH Charan 4.89 254 *e*Pn **Pn 09 34 26.4 +2.3**
CHTH Charan 4.89 254 *e*Pn **Pn 09 34 26.4 +2.3**
ANAR Anarak 4.97 212 *e*Pn **Pn 09 34 24.7 -0.4**
THKV Tehran--Karaj 5.07 254 *e*Pn **Pn 09 34 28.3 +1.7**
THKV IAML 09 36 17.8
comp=N,100nm,0.6s
THKV Tehran--Karaj 5.07 254 *e*Pn **Pn 09 34 28.3 +1.7**
QALM Alamut, Qazvin 5.11 261 *e*Pn **Pn 09 34 27.4 +0.3**
KRSH Karshahi 5.20 230 *e*Pn **Pn 09 34 28.4 +0.1**
IDAH Dahanechah 5.28 152 *e*Pn **Pn 09 34 29.5 0.0**
IKOO Kooshah 5.29 160 *e*Pn **Pn 09 34 29.8 +0.1**
HRA Herat 5.30 124 Pn **Pn 09 34 29.7 0.0**
IQOM Qom 5.38 243 *e*Pn **Pn 09 34 30.0 -0.9**
ICHK Chekchek 5.57 202 *e*Pn **Pn 09 34 33.9 +0.4**
BSRN Basiran 5.76 161 *e*Pn **Pn 09 34 35.8 -0.2**
BSRN Basiran 5.76 161 *e*Pn **Pn 09 34 35.8 -0.2**
QAM Ghamsar 5.77 232 *e*Pn **Pn 09 34 35.6 -0.5**
IZEF Zefreh 5.88 221 *e*Pn **Pn 09 34 38.0 +0.3**
IBAF Bafgh 5.94 191 *e*Pn **Pn 09 34 39.3 +0.8**
IKLH Kolahrood 5.98 228 *e*Pn **Pn 09 34 39.7 +0.5**
GALA Gala 6.04 301 *e*Pn **Pn 09 34 40.1 +0.5**
ISAD Sadrabad 6.12 207 *e*Pn **Pn 09 34 40.9 -0.1**
QABG Abgarm-Qazvin 6.14 256 *e*Pn **Pn 09 34 42.1 +0.9**
QSDN Sirdan 6.26 264 *e*Pn **Pn 09 34 43.0 +0.1**
IMEH Mehriz 6.32 198 *e*Pn **Pn 09 34 44.3 +0.5**
IGAR Gharneh 6.42 220 *e*Pn **Pn 09 34 45.5 +0.4**
ASTR Astara 6.50 282 *e*Pn **Pn 09 34 44.6 -1.4**
LKRN Lenkeran, Azer 6.53 284 P **Pn 09 34 45.1 -1.3**
LKRN Lenkeran, Azer 6.53 284 *e*Pn **Pn 09 34 45.1 -1.3**
NHDN Nehbandan 6.57 156 *e*Pn **Pn 09 34 47.0 -0.1**
ALIB Äli-Bayra 6.67 295 *e*Pn **Pn 09 34 47.6 -0.7**
IRAM Ramesheh 6.74 215 *e*Pn **Pn 09 34 50.0 +0.5**
IPIR Pirpir 6.84 228 *e*Pn **Pn 09 34 53.2 +2.2**
LRK Lerik 6.86 283 *e*Pn **Pn 09 34 49.4 -1.7**
GBS Qobustan 6.93 299 *e*Pn **Pn 09 34 51.1 -0.8**
YRD Yardimli 6.98 285 *e*Pn **Pn 09 34 51.1 -1.7**
KHGB Koh Gabri 7.05 183 *e*Pn **Pn 09 34 55.6 +1.7**
HSRG Sareghieh 7.30 255 *e*Pn **Pn 09 34 57.7 +0.5**
JHBN Jahan bin 7.30 226 *e*Pn **Pn 09 34 58.3 +1.0**
ISRB Sarab 7.34 276 *e*Pn **Pn 09 34 57.5 -0.2**
KRBR Kerman 7.44 181 IAML 09 37 28.3
comp=N,23nm,0.6s
CHMN Cheshme madani 7.58 176 *e*Pn **Pn 09 35 01.4 +0.3**
IHSH Hashtrud 7.67 279 *e*Pn **Pn 09 35 01.8 -0.6**
KLNJ Kolanjah 7.78 216 *e*Pn **Pn 09 35 03.7 -0.2**
IHRS Heris 7.85 279 *e*Pn **Pn 09 35 04.7 0.0**
IDOB Doab 7.98 245 *e*Pn **Pn 09 35 07.2 +0.6**
AKT Akhty 8.16 302 *de*P **Pn 09 35 09.0 +0.1**
KBAM BAM 8.38 171 *e*Pn **Pn 09 35 11.8 -0.2**
SEKA Sheki 8.41 300 P **Pn 09 35 12.0 -0.2**
IAZR Azarshahr 8.68 275 *e*Pn **Pn 09 35 16.8 +0.7**
GANJ Ganja 8.83 295 P **Pn 09 35 16.9 -1.1**
IMRD Marand 8.92 282 *e*Pn **Pn 09 35 20.1 +0.7**
DVE Vedeno 9.91 307 *d i*P **Pn 09 35 34.3 +1.5**
GROC Groznyy 10.24 308 *e*P **Pn 09 35 38.2 +0.9**
GROC *e*S **Sn 09 37 36.4 +4.2**
GROC pmax pmax
comp=Z,14nm,0.4s
GEVA Gevas 10.98 279 Pn **Pn 09 35 48.6 +1.0**
ZEI Tsey 11.29 302 *e*P **Pn 09 35 51.0 -0.9**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 11.83 57 ⇓P **Pn 09 35 58.6 -0.5**
comp=Z,4.1nm,0.6s,baz=235,slow=17,SNR=46
KK31 ⇓S **Sn 09 38 13.5 +2.4**
comp=Z,4.9nm,0.5s,baz=239,slow=26,SNR=5.3
KK31 Karatay Array 11.83 57 P **Pn 09 35 58.8 -0.3**
KK31 Karatay Array 11.83 57 Pn **Pn 09 35 58.8 -0.3**
KKAR Karatay Array 11.83 57 P **Pn 09 35 58.9 -0.1**
KKAR Karatay Array 11.83 57 Pn **Pn 09 35 58.9 -0.1**
AB31 Akbulak array 12.02 10 P **Pn 09 35 59.4 -2.1**
comp=Z,2.7nm,0.5s,baz=190,slow=12,SNR=69
AB31 ⇓S **Sn 09 38 13.5 -2.0**
comp=Z,13nm,0.6s,baz=194,slow=24,SNR=15
AB31 Akbulak array 12.02 10 P **Pn 09 35 59.4 -2.1**
KBZ Khabaz 12.35 305 Pn **Pn 09 36 04.2 -2.0**
comp=Z,0.9nm,0.3s,baz=47,slow=1.7,SNR=5.9
KBZ Sn **Sn 09 38 16.1 -7.6**
comp=Z,0.2nm,0.3s,baz=129,slow=23,SNR=1.9
KBZ Khabaz 12.35 305 ⇑ *e*P **Pn 09 36 03.7 -2.4**
SHA1 Shidzhatmaz 12.51 305 *d i*P **Pn 09 36 06.7 -1.9**
KVAR Kislovodsk Arr 12.58 306 Pn **Pn 09 36 07.1 -2.4**
baz=108,slow=6.4,SNR=1.8
KVAR Sn Sn 09 38 16.3 -13
baz=5.2,slow=11,SNR=1.7
KIV Kislovodsk 12.59 306 *e*P **Pn 09 36 09.5 0.0**
KIV *e*S **Sn 09 38 30.1 +0.3**
KIV pmax pmax
comp=Z,36nm,0.9s
CEP Cherat 12.73 102 P **Pn 09 36 11.6 +0.1**
AKTO Aktyubinsk 13.02 3 Pn **Pn 09 36 13.7 -1.5**
comp=Z,1.5nm,0.3s,baz=180,slow=13,SNR=22
AKTO Sn **Sn 09 38 34.5 -5.5**
comp=Z,2.0nm,0.3s,baz=32,slow=20,SNR=7.8
AKTO Aktyubinsk 13.02 3 ⇓P **Pn 09 36 13.6 -1.5**
comp=Z,9.6nm,0.8s
AKTO ⇑S **Sn 09 38 37.2 -2.8**
comp=Z,21nm,0.7s
DOMR Dombai 13.03 301 ⇓ *e*P **Pn 09 36 14.7 -0.8**
NIL Nilore 13.84 101 P **Pn 09 36 25.2 -1.4**
NIL Nilore 13.84 101 Pn **Pn 09 36 25.2 -1.4**
AAK Ala-Archa 14.44 63 *i*P **Pn 09 36 33.0 -1.8**
MALT Malatya 14.62 279 P **P 09 36 45.5 +1.8**
ASF Jabal al Asfar 17.24 258 P **Pn 09 37 11.5 +0.3**
comp=Z,0.1nm,0.3s,baz=58,slow=19,SNR=6.0
VRH Novokhopyorsk 17.48 327 *e*P **Pn 09 37 14.5 +0.5**
VRH pmax pmax
comp=Z,7.0nm,0.5s
BRVK Borovoye 18.19 27 ⇑P **Pn 09 37 22.5 -0.3**
comp=Z,8.5nm,0.6s
BRVK ⇑S **Sn 09 40 44.9 -0.8**
comp=Z,10nm,0.9s
BRVK Borovoye 18.19 27 *i*P **Pn 09 37 22.1 -0.7**
BRVK Borovoye 18.19 27 **Pn 09 37 22.0 -0.7**
BRVK IAmb IAmb 09 37 32.6
comp=Z,18nm,0.9s
BVAR Borovoye Array 18.20 27 P **P 09 37 23.4 +0.2**
comp=Z,2.1nm,0.3s,baz=208,slow=25,SNR=13
BR131 Keskin Array S 18.32 284 ⇑ *e*P **P 09 37 27.0 +2.2**
BRTR Keskin Array B 18.32 284 P **P 09 37 25.0 +0.2**
baz=114,slow=12,SNR=5.6
BRTR Keskin Array B 18.32 284 *i*P **P 09 37 27.2 +2.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
VSR Storozhevoye 18.66 323 *e*P **P 09 37 28.4 +0.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 19.03 3 P **Pn 09 37 34.1 +1.1**
comp=Z,0.0nm,0.3s,baz=184,slow=12,SNR=7.2
ARU S Sn 09 40 52.4 -14
comp=Z,0.0nm,0.3s,baz=266,slow=5.4,SNR=1.3
ARU Arti 19.03 3 *c i*P **Pn 09 37 34.7 +1.7**
ARU pmax pmax
comp=Z,13nm,1.3s
ARU Arti 19.03 3 **P 09 37 32.3 +0.1**
ARU IAmb IAmb 09 37 41.8
comp=Z,33nm,1.4s
LPSR Galich'ya Gora 19.69 326 *e*P **Pn 09 37 40.9 0.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
KURBB Kurchatov Arra 20.29 43 P Pn 09 37 47.3 -0.6
comp=Z,3.1nm,0.7s,baz=244,slow=11,SNR=15
KURK Kurchatov 20.39 42 ⇑ *e*P Pn 09 37 51.3 +2.2
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 20.39 42 P Pn 09 37 49.0 -0.1
MAKZ Makanchi 20.75 55 P **P 09 37 52.4 +1.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 20.75 55 P **P 09 37 52.4 +1.3**
MK31 Makanchi Array 20.95 55 *d i*P Pn 09 37 54.9 -0.9
MK31 Makanchi Array 20.95 55 P **P 09 37 54.5 +1.3**
MK31 IAmb IAmb 09 38 00.2
comp=Z,6.4nm,0.8s
MKAR Makanchi Array 20.95 55 P **P 09 37 54.6 +1.4**
comp=Z,5.1nm,0.5s,baz=244,slow=10,SNR=36
ELL Elmali 21.52 276 P **P 09 38 02.9 +3.3**
KIRV Kirov 21.72 349 ⇑ *e*P **P 09 38 02.2 +0.9**
OBN Obninsk 22.44 328 P **P 09 38 10.4 +1.4**
comp=Z,6.0nm,0.3s,baz=152,slow=10.0,SNR=5.0
OBN Obninsk 22.44 328 *de*P **P**
OBN *e* 09 38 32.6
OBN *e*S S 09 41 59.6 -16
OBN pmax pmax
comp=Z,48nm,1.7s
OBN MLR MLR
comp=Z,393nm,17.0s
OBN Obninsk 22.44 328 P **P 09 38 10.1 +1.0**
MOS Moscow 22.46 331 *e*P **P 09 38 10.6 +1.3**
KIS Kishinev 22.78 304 *e*P **P 09 38 08.0 -4.8**
comp=Z,55nm,0.3s
CFR Carcaliu 22.86 299 ⇑P **P 09 38 16.7 +3.0**
CFR Carcaliu 22.86 299 ⇑P **P 09 38 16.7 +3.0**
HARR Harsova 22.93 298 ⇑P **P 09 38 20.3 +5.9**
HARR Harsova 22.93 298 ⇑P **P 09 38 20.3 +5.9**
SORM Soroca 23.39 306 ⇑P **P 09 38 16.5 -2.6**
SORM Soroca 23.39 306 ⇑P **P 09 38 16.5 -2.6**
AKASG Malin Array Be 23.73 313 P **P 09 38 22.3 -0.2**
comp=Z,4.5nm,0.6s,baz=107,slow=8.1,SNR=10
AKASG Malin Array Be 23.73 313 P **P 09 38 21.5 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 23.73 313 P **P 09 38 21.5 -0.9**
AKBB Malin Array Si 23.73 313 ⇑ *i*P **P 09 38 22.1 -0.3**
AKBB Malin Array Si 23.73 313 P **P 09 38 21.8 -0.6**
AKBB IAmb IAmb 09 38 29.8
comp=Z,9.5nm,0.7s
VRI Vrincioaia 23.95 300 ⇑P **P 09 38 28.6 +4.0**
VRI Vrincioaia 23.95 300 ⇑P **P 09 38 28.6 +4.0**
ISR Istrita 23.97 298 ⇑P **P 09 38 28.8 +4.0**
ISR Istrita 23.97 298 ⇑P **P 09 38 28.8 +4.0**
PLOR Plostina 24.00 300 ⇑P **P 09 38 26.6 +1.5**
PLOR Plostina 24.00 300 ⇑P **P 09 38 26.6 +1.5**
MLR Muntele Rosu 24.44 299 P **P 09 38 29.5 +0.2**
comp=Z,9.8nm,0.9s,baz=143,slow=0.9,SNR=11
MLR Muntele Rosu 24.44 299 ⇑P **P 09 38 31.6 +2.4**
MLR Muntele Rosu 24.44 299 P **P 09 38 29.6 +0.3**
KMPD K-Podol'skiy 24.72 306 P **P 09 38 31.0 -0.6**
DOPR Dopca 24.89 300 ⇑P **P 09 38 34.7 +1.5**
VOIR 25.05 299 ⇑P **P 09 38 35.9 +1.1**
VOIR 25.05 299 ⇑P **P 09 38 35.9 +1.1**
DGZ Jazzator, Alta 25.10 51 ⇑ *e*P **P 09 38 38.5 +3.3**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
BURAR Bucovina Array 25.31 304 ⇑P **P 09 38 34.7 -2.3**
BURAR Bucovina Array 25.31 304 ⇑P **P 09 38 34.7 -2.3**
BURAR Bucovina Array 25.31 304 P **P 09 38 37.1 +0.1**
ZALV Zalesovo Beam 25.31 40 P **P 09 38 37.6 +0.7**
comp=Z,1.6nm,0.5s,baz=246,slow=11,SNR=6.1
ZALV Zalesovo Beam 25.31 40 *i*P **P 09 38 37.9 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 25.31 40 P **P 09 38 36.5 -0.3**
BUR08 Bucovina Ar. S 25.32 304 P **P 09 38 37.7 +0.5**
BUR08 IAmb IAmb 09 38 45.9
comp=Z,4.1nm,0.9s
ARR Arges 25.34 298 ⇑P **P 09 38 38.6 +1.3**
IDI Anoyia 25.80 275 P **P 09 38 40.3 -1.3**
comp=Z,3.4nm,0.5s,baz=264,slow=13,SNR=1.0
IDI Anoyia 25.80 275 ⇑P P 09 38 50.8 +9.2
KLMR Klimovskoe 25.88 340 *e*P **P 09 38 44.6 +2.7**
KLMR pmax pmax
comp=Z,18nm,1.3s
KLMR Klimovskoe 25.88 340 *e*P **P 09 38 44.6 +2.7**
KLMR AMP 09 38 47.3
comp=Z,18nm,1.3s
GZR Gura Zlata 26.64 298 ⇑P **P 09 38 49.9 +0.8**
FINES FINESS Array B 30.76 331 *i*P **P 09 39 26.1 +0.6**
comp=Z,4.5nm,0.9s,baz=130,slow=9.1,SNR=8.0
FINES FINESS Array B 30.76 331 *i*P **P 09 39 26.6 +1.1**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 30.76 331 P **P 09 39 25.9 +0.4**
GERES GERESS Array B 33.09 304 P **P 09 39 46.1 -0.2**
comp=Z,0.2nm,0.3s,baz=95,slow=7.0,SNR=1.4
HFS Hagfors 35.47 324 P **P 09 40 06.3 -0.3**
comp=Z,2.1nm,0.6s,baz=102,slow=11,SNR=5.7
DAVOX Davos/Dischmat 35.64 300 P **P 09 40 08.3 -0.2**
comp=Z,1.6nm,0.5s,baz=124,slow=7.3,SNR=3.5
NRIK Noril'sk 36.01 18 ⇑ *e*P **P 09 40 13.7 +2.6**
NRIK pmax pmax
comp=Z,13nm,2.5s
ARCES ARCESS Array B 36.33 342 P **P 09 40 14.1 +0.2**
comp=Z,3.6nm,1.0s,baz=19,slow=15,SNR=1.3
NB2 NORSAR Subarra 36.92 325 P **P 09 40 18.9 -0.2**
comp=Z,1.3nm,0.6s,baz=108,slow=8.6
NOA NORSAR Array B 36.92 325 P **P 09 40 19.2 +0.2**
comp=Z,1.6nm,0.6s,baz=109,slow=8.3,SNR=8.4
CMAR Chiang Mai Arr 41.27 105 P **P 09 40 55.1 -0.8**
comp=Z,1.6nm,0.6s,baz=296,slow=8.1,SNR=6.1
ESDC Sonseca Array 46.84 292 P **P 09 41 39.1 -1.3**
comp=Z,1.4nm,0.6s,baz=64,slow=7.8,SNR=9.1
TORD Torodi Ar. Bea 54.60 259 P **P 09 42 37.7 -1.5**
comp=Z,1.6nm,1.0s,baz=46,slow=6.6,SNR=6.9
TORD Torodi Ar. Bea 54.60 259 IAmb IAmb 09 42 38.7
comp=Z,2.2nm,1.1s
KSRS Korea Array 55.07 67 P **P 09 42 42.6 +0.3**
comp=Z,0.6nm,0.4s,baz=272,slow=7.8,SNR=4.9
BILL Bilibino 62.51 24 *i*P **P 09 43 37.3 +3.7**
BILL *i* 09 44 16.9
BILL *i* 09 45 54.7
BILL pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 76.42 10 P **P 09 44 59.8 +0.2**
comp=Z,0.6nm,0.8s,baz=206,slow=8.8,SNR=4.4
WRA Warramunga Arr 92.43 113 P **P 09 46 23.2 +1.7**
comp=Z,0.6nm,1.1s,baz=317,slow=4.4,SNR=2.2
ASAR Alice Springs 94.44 116 P **P 09 46 32.2 +1.4**
comp=Z,0.2nm,0.7s,baz=310,slow=5.8,SNR=1.7

RUGZ Raukumara Rang 0.61 338 P Pg 10 00 08.1 +0.2
MHGZ Mahia Peninsul 0.62 184 P Pg 10 00 08.5 +0.3
PKGZ Pakihiroa 0.65 8 P Pg 10 00 09.4 +0.7
URZ Urewera 0.73 292 P Pg 10 00 10.3 +0.2
RTZ Ruatahuna 0.78 263 P Pg 10 00 11.5 +0.3
HAZ Te Kaha 0.79 349 P Pb 10 00 11.0 0.0
RAHZ Arahi 0.79 241 P Pg 10 00 11.7 +0.4
WMGZ Waiomatatini S 0.79 26 P Pg 10 00 11.4 +0.1
MTHZ Maungataniwha 0.94 250 P Pb 10 00 13.8 +0.2
MRHZ Matea Rd 1.25 255 P Pb 10 00 19.3 +0.4
BKZ Black Stump Fm 1.32 241 P Pg 10 00 21.7 +0.4

*SOME **09** 10:02:30.8, 43.2°N×78.7°E, h0km*
*NNC **09** 10:02:31.4±0.2, 43.21°N×78.60°E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=3.8km s-min=1.2km az=170.0
ISC 09 10:02:31.1±1.1, 43.24°N±0.04°×78.56°E±0.03, h3km±14km, n9, σ0s23/18, 2C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.12**	**230**	*e*P	**Pg**		**10 02 33.4**	**0.0**
	9.5nm,0.1s							
ZHN				*e*S	**Sg**		**10 02 35.2**	**+0.1**
	26nm,0.1s							
ZHN	**Zhinishke**	**0.12**	**230**	P	**Pg**		**10 02 33.4**	**0.0**
	9.5nm,0.1s							
ZHN				S	**Sg**		**10 02 35.2**	**+0.1**
	26nm,0.1s							
SATY	**Saty**	**0.22**	**211**	*e*P	**Pg**		**10 02 35.1**	**-0.2**
	2.5nm,0.1s							
SATY				*e*S	**Sg**		**10 02 38.4**	**+0.3**
	74nm,0.1s							
SATY	**Saty**	**0.22**	**211**	P	**Pg**		**10 02 35.1**	**-0.2**
	2.5nm,0.1s							
SATY				S	**Sg**		**10 02 38.4**	**+0.3**
	74nm,0.1s							
KPKS	**Kokpek**	**0.24**	**22**	*e*P	**Pg**		**10 02 35.7**	**-0.1**
	3.0nm,0.2s							
KPKS				*e*S	**Sg**		**10 02 39.0**	**+0.1**
	10.0nm,0.1s							
UZB	**Uzynbulak**	**0.35**	**106**	*e*P	**Pg**		**10 02 37.7**	**-0.2**
	4.2nm,0.1s							
UZB				*e*S	**Sg**		**10 02 42.6**	**+0.1**
	11nm,0.1s							
UZB	**Uzynbulak**	**0.35**	**106**	P	**Pg**		**10 02 37.7**	**-0.2**
	4.2nm,0.1s							
UZB				S	**Sg**		**10 02 42.6**	**+0.1**
	11nm,0.1s							
PDGK	**Podgornoye**	**0.69**	**83**	⇓P	**Pg**		**10 02 44.2**	**-0.1**
	0.8nm,0.5s							
PDGK				⇑S	**Sg**		**10 02 53.6**	**+0.5**
	7.4nm,1.4s							
KNDC	**Almaty**	**1.16**	**269**	⇓P	**Pb**		**10 02 53.7**	**-0.2**
	14nm,0.4s							
KNDC				⇑S	**Sn**		**10 03 11.0**	**+0.2**
	21nm,0.5s							

*IDC **09** 10:03:20.9±0.5, 18.15°N×95.16°E, h0km, mb4.2/22,*
mb1 4.3/23, mb1mx4.2/51, mbtmp4.2/23, ML3.7/1, MS3.7/2,
Ms1 3.8/2, ms1mx3.0/48, Error ellipse: s-maj=20.3km
s-min=12.0km az=47.0
*NEIC **09** 10:03:28.5±2.0, 18.3°N±0.1°×95.29°E±0.1°, h59km±4km,*
mb4.5/17, Error ellipse: s-maj=18.3km s-min=13.3km
az=191.0
ISC 09 10:03:26.2±0.7, 18.09°N±0.09°×95.2°E±0.1°, h39km±5km, n65,
σ0s95/65, mb4.3/26, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**2.64**	**88**	P	**Pn**		**10 04 06.9**	**+0.6**
CM13	**Chiang Mai Arr**	**3.58**	**84**	P	**Pn**		**10 04 19.7**	**+0.5**
CM05	**Chiang Mai Arr**	**3.62**	**85**	P	**Pn**		**10 04 20.1**	**+0.4**
CM31	**Chiang Mai Arr**	**3.62**	**84**	P	**Pn**		**10 04 21.4**	**+1.6**
CM31	**Chiang Mai Arr**	**3.62**	**84**		**Pn**		**10 04 20.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**3.62**	**84**	Pn	**Pn**		**10 04 20.3**	**+0.6**
	1.6nm,0.3s,baz=263,slow=14,SNR=42							
CMAR				Sn	**Sn**		**10 05 01.9**	**+0.7**
	3.0nm,0.3s,baz=262,slow=18,SNR=2.4							
CMAR				Lg	Lg		10 05 24.9	
	3.3nm,0.3s,baz=256,slow=31,SNR=7.0							
CMAR				LR	LR		10 06 09.3	
	comp=Z,446nm,18.1s,baz=15,slow=47							
CMAR	**Chiang Mai Arr**	**3.62**	**84**	Pn	**Pn**		**10 04 20.1**	**+0.3**
CM09	**Chiang Mai Arr**	**3.66**	**84**	P	**Pn**		**10 04 20.9**	**+0.6**
CHTO	**Chiang Mai**	**3.67**	**78**	Pn	**Pn**		**10 04 19.8**	**-0.6**
PAYA	**Payao**	**4.64**	**74**	P	**Pn**		**10 04 34.7**	**+0.9**
PHIT	**Phitsanulok**	**5.10**	**99**	P	**Pn**		**10 04 39.8**	**-0.3**
SRDT	**SRDT**	**5.33**	**134**	P	**Pn**		**10 04 42.4**	**-0.8**
CHAI	**Chaiyaphum**	**6.89**	**107**	P	**Pn**		**10 05 02.7**	**-2.0**
MK31	**Makanchi Array**	**30.52**	**342**	P	**P**		**10 09 33.6**	**-2.1**
MKAR	**Makanchi Array**	**30.52**	**342**	P	**P**		**10 09 36.0**	**+0.2**
	1.4nm,0.7s,baz=147,slow=9.4,SNR=8.3							
MKAR	**Makanchi Array**	**30.52**	**342**	P	**P**		**10 09 34.1**	**-1.7**
SONM	**Songino Array**	**31.06**	**15**	P	**P**		**10 09 41.0**	**+0.5**
	0.7nm,0.3s,baz=204,slow=9.4,SNR=4.7							
SONM	**Songino Array**	**31.06**	**15**	P	**P**		**10 09 40.8**	**+0.2**
KSAR	**Wonju Array Be**	**34.54**	**49**	P	**P**		**10 10 08.7**	**-2.3**
KURBB	**Kurchatov Arra**	**35.06**	**342**	P	**P**		**10 10 15.4**	**+0.1**
	2.7nm,0.7s,baz=152,slow=8.6,SNR=15							
KURBB				PcP	**PcP**		**10 12 46.9**	**+0.3**
	0.2nm,0.3s,baz=151,slow=3.1,SNR=4.6							
KURK	**Kurchatov**	**35.12**	**342**		**PcP**		**10 12 46.9**	**+0.2**
ZALV	**Zalesovo Beam**	**36.67**	**350**	P	**P**		**10 10 28.8**	**-0.2**
	1.2nm,0.4s,baz=166,slow=6.8,SNR=4.6							
GEYT	**Alibeck**	**37.87**	**309**	P	**P**		**10 10 39.4**	**-0.2**
	1.8nm,0.6s,baz=153,slow=9.7,SNR=4.0							
GEYT	**Alibeck**	**37.87**	**309**	P	**P**		**10 10 39.7**	**+0.1**
BVAR	**Borovoye Array**	**39.85**	**337**	PcP	**PcP**		**10 13 01.0**	**-0.2**
	0.6nm,0.4s,baz=195,slow=15,SNR=3.6							
MJAR	**Matsushiro Arr**	**42.04**	**55**	P	**P**		**10 11 12.8**	**-1.4**
	0.7nm,0.5s,baz=289,slow=3.7,SNR=2.1							
MJAR				PcP	**PcP**		**10 13 09.7**	**+1.0**
	2.4nm,1.0s,baz=243,slow=5.5,SNR=4.4							
ABKAR	**Akbulak array**	**42.06**	**326**	P	**P**		**10 11 14.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**46.82**	**139**	P	**P**		**10 11 53.0**	**+0.6**
	1.6nm,0.8s,baz=280,slow=6.1,SNR=2.2							
FITZ				PcP	**PcP**		**10 13 26.3**	**+1.1**
	1.8nm,0.7s,baz=315,slow=2.9,SNR=2.4							
FITZ	**Fitzroy Crossi**	**46.82**	**139**	P	**P**		**10 11 52.5**	**0.0**
KBZ	**Khabaz**	**50.60**	**312**	P	**P**		**10 12 22.4**	**+1.2**
	1.9nm,0.6s,baz=148,slow=9.5,SNR=2.3							
WB0	**Warramunga Arr**	**53.84**	**132**	P	**P**		**10 12 45.7**	**+0.1**
WB0				IAmb	IAmb		10 12 47.4	
	comp=Z,7.0nm,1.2s							
WRA	**Warramunga Arr**	**53.92**	**133**	P	**P**		**10 12 46.4**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=318,slow=7.3,SNR=30							
WRA				PcP	**PcP**		**10 13 51.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=317,slow=3.6,SNR=11							
WRA	**Warramunga Arr**	**53.92**	**133**	P	**P**		**10 12 46.5**	**+0.2**
WRAB	**Tennant Creek**	**53.92**	**133**	P	**P**		**10 12 46.6**	**+0.4**
WRAB				IAmb	IAmb		10 12 47.6	
	comp=Z,2.9nm,0.8s							
WB2	**Warramunga Arr**	**53.93**	**133**	P	**P**		**10 12 46.3**	**+0.1**
WB2				IAmb	IAmb		10 12 53.7	
	comp=Z,8.7nm,1.4s							
WR0	**Warramunga Arr**	**54.07**	**133**	P	**P**		**10 12 47.6**	**+0.4**
WR0				IAmb	IAmb		10 12 49.1	
	comp=Z,3.7nm,1.1s							
ASAR	**Alice Springs**	**56.16**	**136**	P	**P**		**10 13 03.5**	**+1.2**
	comp=Z,3.8nm,1.0s,baz=311,slow=7.0,SNR=26							
ASAR				PcP	**PcP**		**10 14 00.8**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=318,slow=3.9,SNR=6.3							
ASAR	**Alice Springs**	**56.16**	**136**	P	**P**		**10 13 03.0**	**+0.7**
BRTR	**Keskin Array B**	**56.88**	**306**	P	**P**		**10 13 07.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=305,slow=37,SNR=1.8							
AKASG	**Malin Array Be**	**60.99**	**318**	P	**P**		**10 13 35.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=80,slow=6.6,SNR=2.3							
BURAR

KEST	**Kesra**	**76.35**	**303**	IAmb	IAmb	10 15 18.7		
	comp=Z,5.0nm,0.9s							
BOSA	**Boshof**	**81.93**	**237**	P	**P**	**10 15 42.9**	**+0.6**	
	comp=Z,5.3nm,0.6s,baz=52,slow=3.3,SNR=12							
BOSA	**Boshof**	**81.93**	**237**	IAmb	IAmb	10 15 44.0		
	comp=Z,7.3nm,0.8s							
BMAR	**Burnt Mountain**	**84.28**	**20**	P	**P**	**10 15 53.0**	**-0.8**	
IL31		**84.96**	**22**	P	**P**	**10 15 55.8**	**-1.3**	
ILAR	**Eielson Array**	**84.96**	**22**	P	**P**	**10 15 56.3**	**-0.9**	
	comp=Z,2.2nm,0.7s,baz=300,slow=4.9,SNR=29							
ILAR	**Eielson Array**	**84.96**	**22**	P	**P**	**10 15 55.1**	**-2.1**	
ESDC	**Sonseca Array**	**85.41**	**310**	P	**P**	**10 16 00.6**	**+0.6**	
	comp=Z,0.4nm,0.3s,baz=39,slow=4.9,SNR=2.9							
ESDC	**Sonseca Array**	**85.41**	**310**	IAmb	IAmb	10 16 01.7		
	comp=Z,7.0nm,1.2s							
INK	**Inuvik**	**86.96**	**16**	P	**P**	**10 16 06.9**	**0.0**	
	comp=Z,2.1nm,0.7s,baz=316,slow=10,SNR=1.2							
INK	**Inuvik**	**86.96**	**16**	IAmb	IAmb	10 16 15.3		
	comp=Z,3.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**89.20**	**283**	P	**P**	**10 16 19.2**	**+0.6**	
	comp=Z,2.0nm,0.8s,baz=75,slow=4.1,SNR=11							
TORD	**Torodi Ar. Bea**	**89.20**	**283**	P	**P**	**10 16 18.4**	**-0.3**	
DLBC	**Dease Lake**	**95.17**	**22**	LR	LR	11 06 03.2		
	comp=Z,95nm,21.7s,baz=34,slow=40							
CPUP	**Villa Florida**	**153.28**	**247**	PKPbc	**PKPbc**	**10 23 20.8**	**+0.1**	
	comp=Z,1.1nm,0.6s,baz=342,slow=6.3,SNR=2.9							

IDC 09 10:26:33.3±3.0, 6.58S×129.79E, h130km±41km, mb3.1/1, mb1 3.1/5, mb1mx3.0/29, mbtmp3.5/5, Error ellipse: s-maj=69.1km s-min=22.0km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.86**	**15**	P		Pn	10 27 58.3	+0.3
	1.5nm,0.3s,baz=189,slow=22,SNR=6.1							
SIJI				S		Sn	10 29 00.5	-3.6
	1.3nm,0.3s,baz=266,slow=23,SNR=1.1							
FITZ	**Fitzroy Crossi**	**12.15**	**199**	P		Pn	10 29 21.8	-0.4
	0.1nm,0.3s,baz=18,slow=15,SNR=1.3							
FITZ				S		Sn	10 31 27.3	-8.8
	0.1nm,0.3s,baz=30,slow=14,SNR=1.3							
WRA	**Warramunga Arr**	**14.00**	**162**	P		Pn	10 29 44.6	-1.6
	0.2nm,0.3s,baz=345,slow=13,SNR=15							
WRA				S		Sn	10 32 11.9	-9.1
	0.5nm,0.3s,baz=331,slow=23,SNR=1.1							
ASAR	**Alice Springs**	**17.45**	**167**	P		Pn	10 30 29.8	+1.0
	0.1nm,0.3s,baz=349,slow=10,SNR=8.7							
ASAR				S		S	10 33 33.6	-9.5
	0.1nm,0.3s,baz=347,slow=28,SNR=2.8							
MKAR	**Makanchi Array**	**67.76**	**327**	P		P	10 37 16.8	-0.2
	0.3nm,0.6s,baz=116,slow=5.6,SNR=2.4							

*IDC **09** 10:33:29.3±0.4, 7.43N×78.22W, h0km, mb4.6/23, mb1 4.7/32, mb1mx4.6/38, mbtmp4.6/32, ML3.7/8, MS3.9/26, Ms1 3.9/26, ms1mx3.8/41, Error ellipse: s-maj=15.7km s-min=10.3km az=55.0*

*UPA **09** 10:33:30.1±2.1, 7.29N×78.23W, h10km±10km, MW4.8*

*RSNC **09** 10:33:32.7±1.4, 7.31N×78.27W, h32km±10km, ML4.1, Mw4.9, Fault plane solution: NP1:φs143.00000°, δ45.00000°, λ2.00000°.*

*GCMT **09** 10:33:34.3±0.4, 7.44N±0.03×78.19W±0.02, h17km±2km, MW4.9/70, Moment Tensor Solution. s13,c15; s70,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.21±.22; Mθθ 1.78±.14; Mφφ-2.99±.18; Mrθ-0.20±.41; Mrφ-0.72±.10; Mθφ-0.40±.33; Best double couple: M=2.52700×10^16 NP1:φs323.00000°, δ78.00000°, λ5.00000°. NP2: φs232.00000°, δ86.00000°, λ168.00000°. Principal axes: T 1.9160, Plg12.0000°, Azm187.0000°; N 1.2220, Plg77.0000°, Azm33.0000°; P -3.1380, Plg6.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 10:33:35.3±2.1, 7.47N±0.06×78.21W±0.06, h42km±5km, mb4.7/138 Error ellipse: s-maj=9.7km s-min=8.0km az=53.0*

ISC 09 10:33:30.2±0.7, 7.29N±0.02×78.26W±0.03, h10km±4km, n546, σ1$33/560, mb4.7/74, MS4.0/22, 5C-27D, Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.47**	**107**	⇓*iP*		**Pg**	**10 33 39.3**	**0.0**
PTAC				*eS*		**Sg**	**10 33 45.5**	**0.0**
PTAC	**Punta Ardita,**	**0.47**	**107**	*i* P		**Pg**	**10 33 39.3**	**0.0**
SOLC	**Bahia Solano**	**1.35**	**141**	⇓*iP*		**Pn**	**10 33 53.0**	**-2.1**
SOLC				*eS*		**Sn**	**10 34 12.0**	**-1.1**
SOLC				*i*			10 34 18.9	
	comp=Z,6μm,0.4s							
SOLC	**Bahia Solano**	**1.35**	**141**	*eP*		**Pn**	**10 33 53.0**	**-2.1**
SOLC				*eS*		**Sb**	**10 34 11.4**	**-1.5**
CAPC	**Capurgana**	**1.61**	**34**	⇑*iP*		**Pn**	**10 33 57.2**	**-1.6**
CAPC				*eS*		**Sn**	**10 34 16.9**	**-2.8**
CAPC				*i*			10 34 22.1	
	comp=Z,5μm,0.4s							
CAP2	**Capurgana**	**1.62**	**33**	*eP*		**Pn**	**10 33 57.2**	**-1.7**
CAP2				*eS*		**Sn**	**10 34 17.9**	**-2.1**
TABO3	**Taboga, Panama**	**1.97**	**320**	*eP*		**Pn**	**10 34 03.2**	**-0.5**
TABO3				*eS*		**Sn**	**10 34 28.8**	**+0.3**
CNTA3	**Canitas, Panam**	**2.02**	**342**	*eP*		**Pn**	**10 34 04.0**	**-0.4**
CNTA3				*eS*		**Sn**	**10 34 29.1**	**-0.6**
DBBC	**Dabeiba**	**2.05**	**97**	⇓*iP*		**Pn**	**10 34 04.6**	**-0.3**
DBBC	**Dabeiba**	**2.05**	**97**	⇓*eP*		**Pn**	**10 34 04.6**	**-0.3**
CHPO	**Chepo, Panama**	**2.06**	**336**	*eP*		**Pn**	**10 34 04.0**	**-0.8**
CHPO				*eS*		**Sn**	**10 34 30.9**	**+0.3**
AZU	**Azuero**	**2.06**	**284**	⇓*iP*		**Pn**	**10 34 04.1**	**-0.8**
AZU				*eS*		**Sn**	**10 34 28.2**	**-2.5**
AZU	**Azuero**	**2.06**	**284**	⇓*iP*		**Pn**	**10 34 04.4**	**-0.5**
UPA	**Univ. de Panam**	**2.11**	**323**	⇑*iP*		**Pn**	**10 34 03.6**	**-1.9**
UPA				*eS*		**Sn**	**10 34 29.5**	**-2.3**
UPA				*i*			10 34 38.7	
	comp=Z,1μm,0.7s							
UPA	**Univ. de Panam**	**2.11**	**323**	*eP*		**Pn**	**10 34 03.6**	**-1.9**
UPA				*eS*		**Sn**	**10 34 30.1**	**-1.7**
TOSI3	**Tonosi**	**2.17**	**273**	*eP*		**Pn**	**10 34 05.6**	**-0.8**
TOSI3				*eS*		**Sb**	**10 34 32.0**	**-4.5**
ARRA3	**Arraijan, Pana**	**2.17**	**320**	*eP*		**Pn**	**10 34 05.6**	**-0.8**
ARRA3				*eS*		**Sn**	**10 34 31.4**	**-1.9**
CHOR3	**La Chorrera**	**2.19**	**317**	*eP*		**Pn**	**10 34 06.3**	**-0.4**
CHOR3				*eS*		**Sn**	**10 34 35.5**	**+1.6**
CHIT3	**Chitre**	**2.24**	**287**	⇓*iP*		**Pn**	**10 34 06.9**	**-0.5**
VTON	**El Valle, Cocl**	**2.26**	**306**	*eP*		**Pn**	**10 34 07.7**	**0.0**
VTON				*eS*		**Sn**	**10 34 35.8**	**+0.1**
PNME	**Penonome**	**2.37**	**300**	*eS*		**Sb**	**10 34 41.1**	**-1.3**
BCIP	**Isla Barro Col**	**2.44**	**320**	*eP*		**Pn**	**10 34 08.9**	**-1.2**
BCIP				*eS*		**Sn**	**10 34 37.5**	**-2.5**
BCIP				*i*			10 34 54.5	
	comp=Z,3μm,0.5s							
BCIP	**Isla Barro Col**	**2.44**	**320**	Pn		**Pn**	**10 34 09.2**	**-0.9**
LCBC	**Los crdobas,**	**2.44**	**50**	⇑*iP*		**Pn**	**10 34 11.6**	**+1.5**
LCBC				*eS*		**Sn**	**10 34 38.5**	**-1.5**
LCBC				*i*			10 34 53.2	
	comp=Z,2μm,0.6s							
PIZC	**Pizarro, Choco**	**2.47**	**159**	*eP*		**Pn**	**10 34 09.8**	**-0.8**
PIZC				*eS*		**Sn**	**10 34 39.2**	**-1.6**
PIZC				*i*			10 34 48.1	
	comp=Z,813nm,0.5s							
CRIS3	**El Cristo, Coc**	**2.53**	**293**	*eP*		**Pn**	**10 34 11.0**	**-0.4**
CRIS3				*eS*		**Sb**	**10 34 45.2**	**-1.7**
CACAO	**El Cacao, Vera**	**2.58**	**271**	*eP*		**Pn**	**10 34 11.5**	**-0.6**
CBOC	**Ciudad Bolivar**	**2.64**	**122**	⇓*eP*		**Pn**	**10 34 11.9**	**-1.2**
CBOC				*eS*		**Sn**	**10 34 43.6**	**-1.7**
CBOC				*i*			10 35 10.9	
	comp=Z,530nm,0.6s							
UREC	**San Jos de Ur**	**2.74**	**80**	⇓*iP*		**Pn**	**10 34 14.7**	**+0.3**
UREC				*eS*		**Sn**	**10 34 45.8**	**-1.8**
UREC				*i*			10 34 51.5	
	comp=Z,752nm,0.3s							
CALO3	**Calobre, Verag**	**2.76**	**292**	*eP*		**Pn**	**10 34 15.3**	**+0.8**
STIA3	**Santiago, Vera**	**2.81**	**287**	*eP*		**Pn**	**10 34 16.2**	**+1.0**
STIA3				*eS*		**Sb**	**10 34 50.7**	**-4.3**
MOTC	**Monteria, Cord**	**2.97**	**60**	⇓*eP*		**Pn**	**10 34 17.7**	**+0.3**
MOTC				*eS*		**Sn**	**10 34 51.4**	**-1.7**
MOTC				*i*			10 35 07.2	
	comp=Z,399nm,0.6s							
PLMC	**San Jos del P**	**3.07**	**140**	*eP*		**Pn**	**10 34 17.1**	**-1.9**
PLMC				*eS*		**Sn**	**10 34 55.4**	**-0.4**
PLMC				*i*			10 35 22.9	
	comp=Z,285nm,0.4s							
MALC	**Bahia Malaga**	**3.38**	**164**	*eP*		**Pn**	**10 34 22.3**	**-0.7**
MALC				*eS*		**Sn**	**10 35 01.8**	**-1.4**
MALC				*i*			10 35 08.2	
	comp=Z,197nm,0.4s							
ZARC	**Zaragoza, Cauc**	**3.38**	**86**	⇓*iP*		**Pn**	**10 34 23.8**	**+0.7**
ZARC				*eS*		**Sn**	**10 35 02.5**	**-0.8**
ZARC				*i*			10 35 12.1	
	comp=Z,868nm,0.7s							
GUY2C	**Guyana, Caldas**	**3.53**	**125**	⇓*iP*		**Pn**	**10 34 26.1**	**+0.6**
GUY2C				*i*			10 34 33.9	
	comp=Z,774nm,0.5s							
GUY2C				*eS*		**Sn**	**10 35 06.5**	**-1.2**
YOTC	**Yotoco, Valle**	**3.79**	**150**	*eP*		**Pn**	**10 34 28.8**	**0.0**
PTBC	**PUERTO BERRIO,**	**3.85**	**101**	⇓*eP*		**Pn**	**10 34 29.7**	**+0.2**
PTBC				*i*			10 34 42.7	
	comp=Z,376nm,0.5s							
PTBC				*eS*		**Sn**	**10 35 12.3**	**-2.6**
SJCC	**San Jacinto, C**	**4.00**	**49**	⇑*iP*		**Pn**	**10 34 31.0**	**-0.7**
SJCC				*eS*		**Sn**	**10 35 15.9**	**-2.8**
SJCC				*i*			10 35 36.4	
	comp=Z,227nm,0.7s							
SJCC	**San Jacinto, C**	**4.00**	**49**	*eP*		**Pn**	**10 34 31.8**	**+0.1**
SJCC				*eS*		**Sn**	**10 35 19.1**	**+0.4**
SMLC	**San Martn de**	**4.41**	**70**	⇓*eP*		**Pn**	**10 34 37.9**	**+0.6**
SMLC				*eS*		**Sn**	**10 35 24.6**	**-4.1**
SMLC				*i*			10 35 38.3	
	comp=Z,256nm,0.6s							
SPBC	**San Pablo de B**	**4.46**	**111**	⇓*eP*		**Pn**	**10 34 39.9**	**+1.7**
SPBC				*eS*		**Sn**	**10 35 29.1**	**-1.1**
SPBC				*i*			10 36 07.3	
	comp=Z,108nm,0.6s							
ORTC	**Ortega, Tolima**	**4.50**	**138**	⇓*iP*		**Pn**	**10 34 39.8**	**+1.3**
ORTC				*i*			10 34 50.3	
	comp=Z,109nm,0.7s							
ORTC				*eS*		**Sn**	**10 35 29.7**	**-1.2**
BRRC	**Barranca, Sant**	**4.51**	**92**	⇓*iP*		**Pn**	**10 34 39.7**	**+1.0**
BRRC				*i*			10 34 52.3	
	comp=Z,248nm,0.5s							
BRRC				*eS*		**Sn**	**10 35 29.5**	**-1.8**
ROSC	**El Rosal**	**4.61**	**122**	Pn		**Pn**	**10 34 42.6**	**+2.3**
	comp=Z,10nm,0.3s,baz=9.3,slow=12,SNR=28							
ROSC						Sn	**Sn**	
	baz=209,slow=19,SNR=1.6							
ROSC	**El Rosal**	**4.61**	**122**	⇓*eP*		**Pn**	**10 34 42.7**	**+2.3**
ROSC				*eS*		**Sn**	**10 35 32.4**	**-1.8**
ROSC	**El Rosal**	**4.61**	**122**	Pn		**Pn**	**10 34 42.7**	**+2.3**
ARGC	**Ariguani, Magd**	**4.72**	**57**	*eP*		**Pn**	**10 34 42.0**	**+0.5**
ARGC				*eS*		**Sn**	**10 35 33.9**	**-2.5**
ARGC				*i*			10 35 44.2	
	comp=Z,127nm,0.5s							
PRAC	**Prado**	**4.88**	**136**	*eP*		**Pn**	**10 34 45.1**	**+1.3**
PRAC				*eS*		**Sn**	**10 35 38.4**	**-2.1**
PRAC				*i*			10 35 57.5	
	comp=Z,76nm,0.7s							
EDSV	**San Vito**	**4.91**	**288**	*eP*		**Pn**	**10 34 47.0**	**+2.7**
POPC	**Popayan, Colom**	**4.97**	**161**	*eP*		**Pn**	**10 34 45.9**	**+0.7**
POPC				*i*			10 35 45.2	
	comp=Z,47nm,0.8s							
MARP	**Paez Belalcaza**	**4.97**	**152**	*eP*		**Pn**	**10 34 47.4**	**+2.1**
MARP				*eS*		**Sn**	**10 35 41.6**	**-1.4**
OCAC	**Ocana**	**4.99**	**79**	*eP*		**Pn**	**10 34 46.0**	**+0.7**
OCAC				*i*			10 36 00.8	
	comp=Z,313nm,0.4s							
BARC	**Barichara**	**5.09**	**97**	*eP*		**Pn**	**10 34 48.1**	**+1.3**
CHIC	**Chingaza**	**5.22**	**120**	⇓*eP*		**Pn**	**10 34 51.0**	**+2.2**
CHIC				*i*			10 35 12.7	
	comp=Z,129nm,0.8s							
PCON	**Cinco Dias**	**5.26**	**159**	*eP*		Pn	10 34 52.7	+3.2
PCON				*i*			10 35 57.0	
	comp=Z,74nm,0.4s							
BBAC	**Balboa, Cauca**	**5.33**	**169**	*eP*		**Pn**	**10 34 50.6**	**+0.6**
BBAC				*i*			10 35 05.7	
	comp=Z,54nm,0.4s							
RUSC	**La Rusia**	**5.33**	**105**	⇓*iP*		**Pn**	**10 34 51.4**	**+1.2**
RUSC				*eS*		**Sn**	**10 35 47.0**	**-5.0**
RUSC				*i*			10 36 23.1	
	comp=Z,123nm,0.6s							
BETC	**Betania**	**5.37**	**148**	*eP*		**Pn**	**10 34 52.4**	**+1.9**
RIOS	**Rincon, Osa**	**5.39**	**285**	*eP*		**Pn**	**10 34 52.5**	**+1.8**
PAMC	**Pamplona, Colo**	**5.51**	**89**	⇓*eP*		**Pn**	**10 34 53.9**	**+1.1**
PAMC				*eS*		**Sn**	**10 35 55.0**	**-1.7**
PAMC				*i*			10 36 03.4	
	comp=Z,172nm,0.5s							
VILC	**Villavicencio,**	**5.53**	**125**	*eP*		**Pn**	**10 34 56.0**	**+3.2**
VILC				*i*			10 35 16.8	
	comp=Z,142nm,0.4s							
SMRC	**Santa Marta, M**	**5.54**	**46**	*eP*		**Pn**	**10 34 51.8**	**-1.0**
SMRC				*i*			10 34 58.0	
	comp=Z,93nm,0.5s							
SMRC				*eS*		Sn	10 35 51.5	-5.2
EDLM	**Las Mercedes**	**5.63**	**291**	*eP*		**Pn**	**10 34 55.6**	**+1.5**
GARC	**Garzon, Huila**	**5.76**	**151**	*eP*		**Pn**	**10 34 58.3**	**+2.2**
FLOC	**Florencia**	**6.23**	**155**	⇓*iP*		**Pn**	**10 35 04.5**	**+2.2**
FLOC				*i*			10 35 10.5	
	comp=Z,22nm,0.4s							
FLOC				*eS*		**Sn**	**10 36 10.8**	**-3.0**
TAMC	**Tame, Arauca**	**6.48**	**97**	*eP*		**Pn**	**10 35 06.9**	**+1.1**
TAMC				*i*			10 35 16.2	
	comp=Z,77nm,0.5s							
TAMC				*eS*		**Sn**	**10 36 17.6**	**-2.2**
MACC	**Macarena, Meta**	**6.74**	**139**	*eP*		**Pn**	**10 35 09.1**	**-0.2**
OTAV	**Otavalo**	**7.00**	**182**	*eP*		Pn	10 35 15.8	+2.5
OTAV	**Otavalo**	**7.00**	**182**	Pn		Pn	10 35 16.5	+3.2
JTS	**Las Juntas de**	**7.26**	**295**	Pn		**Pn**	**10 35 17.1**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=116,slow=8.4,SNR=7.0							
JTS					Lg	Lg	10 37 16.0	
	comp=Z,0.2nm,0.3s,baz=317,slow=20,SNR=3.8							
JTS	**Las Juntas de**	**7.26**	**295**	*eP*		**Pn**	**10 35 17.4**	**+0.9**
JTS	**Las Juntas de**	**7.26**	**295**			**Pn**	**10 35 19.7**	**+3.2**
SOCV	**Socops**	**7.40**	**82**	⇓*eP*		**Pn**	**10 35 19.6**	**+1.2**
SOCV				*eS*		**Sn**	**10 36 37.8**	**-4.7**
URIC	**Uribia, Colomb**	**7.58**	**54**	⇓*eP*		**Pn**	**10 35 20.8**	**-0.1**
URIC				*i*			10 35 29.7	
	comp=Z,81nm,0.6s							
URIC				*eS*		Sn	10 36 34.7	-12
SDV	**Santo Domingo**	**7.72**	**78**	Pn		**Pn**	**10 35 23.6**	**+0.7**
	comp=Z,7.3nm,0.3s,baz=243,slow=10,SNR=82							
SDV						Sn	**Sn**	
	comp=Z,16nm,0.3s,baz=329,slow=22,SNR=9.8							
SDV					LR	LR	10 38 30.5	
	comp=Z,1μm,20.4s,baz=245,slow=39							
SDV	**Santo Domingo**	**7.72**	**78**	*eP*		**Pn**	**10 35 24.5**	**+1.6**
SDV				*i*			10 35 36.4	
	comp=Z,92nm,0.6s							
SDV				*eS*		Sn	10 36 41.7	-8.8
SDV	**Santo Domingo**	**7.72**	**78**	Pn		**Pn**	**10 35 24.2**	**+1.3**
ELOV	**Elorza**	**8.71**	**91**	⇓*eP*		**Pn**	**10 35 35.6**	**-0.8**
PCJ	**Portland Cotta**	**10.45**	**6**	*iP*		**Pn**	**10 36 01.2**	**+1.0**
HOJ	**Hope**	**10.76**	**8**	*iP*		**Pn**	**10 36 05.7**	**+1.2**
STH	**Stony Hill**	**10.82**	**7**	*iP*		**Pn**	**10 36 05.9**	**+0.6**
STH				*iS*		Sn	10 37 50.8	-16
MTDJ	**Mount Denham**	**10.90**	**4**	Pn		**Pn**	**10 36 07.2**	**+0.7**
BNJ	**Bonny Gate**	**11.04**	**6**	⇓*iP*		**Pn**	**10 36 09.7**	**+1.3**
BBJ	**Bamboo Saint A**	**11.07**	**5**	⇑*iP*		**Pn**	**10 36 10.0**	**+1.2**
TGUH	**Tegucigalpa,Un**	**11.12**	**308**	Pn		**Pn**	**10 36 10.8**	**+1.3**
LGNH	**Logne**	**12.44**	**26**			**Pn**	**10 36 27.2**	**-0.3**
PAPH	**Port-au-Prince**	**12.59**	**27**			**Pn**	**10 36 30.0**	**+0.5**
PAPH						Sn	10 38 44.2	-5.6
GTBY	**Guantanamo Bay**	**12.93**	**13**	Pn		**Pn**	**10 36 35.9**	**+1.7**
SDDR	**Presa de Saban**	**13.46**	**30**	Pn		**Pn**	**10 36 42.0**	**+0.6**
PCRV	**Puerto La Cruz**	**13.77**	**77**	Pn		**Pn**	**10 36 45.4**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=244,slow=6.7,SNR=6.0							
PCRV						Sn	Sn	
	comp=Z,0.6nm,0.3s,baz=246,slow=20,SNR=1.6							
PCRV					LR	LR	10 44 00.6	
	comp=Z,1μm,20.1s,slow=46							
PLCV	**Puerto La Cruz**	**13.81**	**77**			Sn	10 39 12.4	-7.4
SC01	**Santiago de Io**	**14.11**	**30**	P		**Pn**	**10 36 55.1**	**+4.8**
APG	**El Apazote**	**14.21**	**304**	Pn		**Pn**	**10 36 50.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=94,slow=14,SNR=1.7							
APG					LR	LR	10 42 37.8	
	comp=Z,760nm,19.8s,baz=112,slow=39							
ATAH	**Atahualpa**	**14.32**	**181**	Pn		**P**	**10 36 56.3**	**-4.6**
	comp=Z,0.6nm,0.3s,baz=25,slow=11,SNR=3.9							
ATAH					LR	LR	10 42 51.4	
	comp=Z,569nm,18.4s,baz=14,slow=39							
DR12	**Loma Pena Alta**	**14.33**	**36**			**Pn**	**10 36 51.7**	**-1.6**
PCDR	**Punta Cana, DR**	**14.73**	**40**	P		**Pn**	**10 37 02.6**	**+3.9**
CRPR	**Cabo Rojo, PR**	**15.22**	**45**	Pn		**Pn**	**10 37 02.5**	**-2.8**
CRPR					IAmb	IAmb	10 37 13.4	
	comp=Z,79nm,1.2s							
MLPR	**Magueyes Islan**	**15.24**	**45**			**Pn**	**10 37 02.6**	**-2.9**
MLPR					IAmb	IAmb	10 37 13.6	
	comp=Z,36nm,0.9s							
AOPR	**Arecibo Observ**	**15.70**	**44**	Pn		**Pn**	**10 37 09.5**	**-2.1**
CZSB	**Cruzeiro do Su**	**15.91**	**160**	*eP*		**P**	**10 37 15.2**	**-2.8**
SJG	**San Juan**	**15.97**	**46**	Pn		**Pn**	**10 37 13.1**	**-1.9**
	comp=Z,4.3nm,0.3s,baz=248,slow=14,SNR=5.7							
SJG					Sn	Sn	10 39 56.2	-16
	comp=Z,0.7nm,0.3s,baz=221,slow=19,SNR=1.1							
SJG	**San Juan**	**15.97**	**46**	IAmb	IAmb		10 37 27.7	
	comp=Z,84nm,1.4s							
PDPR	**Patillas Dam,**	**16.00**	**47**	Pn		**Pn**	**10 37 13.8**	**-1.8**
TEIG	**Tepich**	**16.12**	**324**	Pn		**Pn**	**10 37 15.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=135,slow=13,SNR=2.7							
TEIG					LR	LR	10 43 54.6	
	comp=Z,640nm,19.8s,baz=268,slow=39							
GCPR	**Guaynabo City**	**16.14**	**46**			**Pn**	**10 37 16.6**	**-0.8**
GCPR					IAmb	IAmb	10 37 24.4	
	comp=Z,82nm,1.0s							
CBYP	**Canovanas**	**16.28**	**47**			**Pn**	**10 37 17.9**	**-1.4**
CBYP					IAmb	IAmb	10 37 30.0	
	comp=Z,43nm,0.9s							
MTP	**Monte Pirata**	**16.39**	**48**	Pn		**Pn**	**10 37 18.4**	**-2.2**
MTP					IAmb	IAmb	10 37 26.5	
	comp=Z,52nm,0.9s							
CUPR	**Culebra, Puert**	**16.72**	**48**	Pn		**Pn**	**10 37 23.5**	**-1.3**
CUPR					IAmb	IAmb	10 37 31.5	
	comp=Z,65nm,1.1s							
NNA	**Nana**	**19.20**	**176**	P		**Pn**	**10 37 57.1**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=285,slow=20,SNR=1.3							
NNA	**Nana**	**19.20**	**176**	IAmb	IAmb		10 38 06.5	
	comp=Z,29nm,1.2s							
MACA	**Manacapuru-AM**	**20.38**	**120**	*eP*		**P**	**10 38 07.0**	**-0.3**
ETMB	**Extrema**	**20.80**	**145**	*eP*		Pn	10 38 12.1	-2.1
ETMB						**S**	**10 42 04.5**	**+0.4**
SAML	**Samuel**	**22.04**	**137**	P		**P**	**10 38 24.2**	**-1.0**
SAML					IAmb	IAmb	10 38 25.4	
	comp=Z,26nm,0.9s							
TIGA	**Tifton**	**24.54**	**349**	P		**P**	**10 38 51.3**	**+1.2**
	baz=167							
BRAL	**Brewton**	**25.14**	**342**	P		**P**	**10 38 57.2**	**+1.6**
	baz=159							
ITTB	**Itaituba**	**25.28**	**117**	*eP*		**P**	**10 38 56.3**	**-0.8**
LPAZ	**La Paz**	**25.48**	**157**	P		**P**	**10 39 00.3**	**+0.9**
	comp=Z,8.0nm,1.1s,baz=352,slow=5.3,SNR=11							
LPAZ					LR	LR	10 50 36.8	
	comp=Z,518nm,18.9s,baz=328,slow=40							
LPAZ	**La Paz**	**25.48**	**157**	P		**P**	**10 39 00.7**	**+1.2**
MDP	**Montagnes des**	**25.56**	**93**	P		**P**	**10 39 00.8**	**+1.3**
	comp=Z,21nm,1.1s,baz=273,slow=7.4,SNR=6.6							
MDP					LR	LR	10 49 29.7	
	comp=Z,542nm,19.4s,baz=271,slow=38							
MALB	**Monte Alegre**	**25.60**	**110**	*eP*		**P**	**10 39 00.5**	**+0.5**
MALB				*eS*		**S**	**10 43 29.4**	**+1.1**
NHSC	**New Hope**	**25.76**	**356**	P		**P**	**10 39 02.8**	**+1.7**
	baz=176							
Z58A	**St. Stephen**	**25.96**	**357**	P		**P**	**10 39 04.3**	**+1.3**
	baz=176							
Z57A	**Bowman**	**25.98**	**355**	P		**P**	**10 39 04.1**	**+0.9**
	baz=174,SNR=6.1							
GOGA	**Godfrey**	**26.44**	**350**	P		**P**	**10 39 08.8**	**+1.5**
	baz=168							
GOGA	**Godfrey**	**26.44**	**350**	P		**P**	**10 39 08.1**	**+0.7**
GOGA					IAmb	IAmb	10 39 09.5	
	comp=Z,20nm,0.8s							
LRAL	**Lakeview Retre**	**26.88**	**344**	P		**P**	**10 39 12.7**	**+1.4**
	baz=160							
PB16	**IPOC Station P**	**26.88**	**161**	P		**P**	**10 39 13.0**	**+0.9

S57A **Dark Hollow, R** 30.34 359 P P 10 39 43.3 +1.1
baz=178
S61A **Accomac** 30.35 4 P P 10 39 42.6 +0.4
baz=185
S59A **Mechanicsville** 30.35 2 P P 10 39 43.5 +1.3
baz=182
S55A **Lewisburg** 30.42 356 P P 10 39 44.2 +1.3
baz=176,SNR=5.7
S53A **Williamson** 30.46 354 P P 10 39 44.4 +1.1
baz=172
S54A **Dingess, Beckl** 30.50 355 P P 10 39 44.7 +1.1
baz=174
R58B **Mineral** 30.54 1 P P 10 39 44.9 +1.0
baz=181
MIAR **Mount Ida** 30.58 335 P P 10 39 44.3 0.0
baz=149
W41B **Gary Mavity, V** 30.59 337 P P 10 39 44.7 +0.3
baz=152
R54A **Victor** 30.86 356 P P 10 39 48.3 +1.6
baz=175
R57A **Stanardsville** 30.87 360 P P 10 39 48.2 +1.4
baz=179
R58A **Rapidan** 30.88 0 P P 10 39 48.1 +1.2
baz=180,SNR=5.7
R55A **Marlinton** 30.91 357 P P 10 39 48.8 +1.6
baz=176
R56A **Bull Pasture M** 31.00 358 P P 10 39 49.6 +1.5
baz=178
R53A **Hurricane** 31.09 354 P P 10 39 49.8 +1.1
baz=173
LVC **Limon Verde** 31.09 163 P P 10 39 52.7 +3.4
comp=Z,6.7nm,1.0s,baz=334,slow=9.2,SNR=2.6
LVC **Limon Verde** 31.09 163 IAmb IAmb 10 40 06.8
comp=Z,26nm,1.4s
W39A **Magazine** 31.23 335 P P 10 39 50.3 +0.3
baz=149,SNR=5.2
PRPB **Parauapebas** 31.37 115 eP P 10 39 51.6 +0.1
Q58A **Fox Den Farm,** 31.52 1 P P 10 39 53.9 +1.4
baz=181
Q53A **Leroy** 31.57 355 P P 10 39 53.3 +0.3
baz=174,SNR=6.6
Q57A **Strasburg** 31.61 360 P P 10 39 54.7 +1.4
baz=180
Q55A **Buckhannon** 31.61 357 P P 10 39 54.7 +1.3
baz=176,SNR=9.0
Q56A **Snyder Ridge,** 31.63 359 P P 10 39 54.4 +0.9
baz=178
Q54A **Coxs Mills** 31.64 356 P P 10 39 54.7 +1.1
baz=175
WCI **Wyandotte Cave** 31.65 348 P P 10 39 54.5 +0.8
baz=165
WCI **Wyandotte Cave** 31.65 348 P P 10 39 54.2 +0.5
Q52A **Bidwell** 31.74 354 P P 10 39 55.7 +1.2
baz=172,SNR=8.6
U40A **Yellville** 31.86 337 P P 10 39 55.5 0.0
baz=152,SNR=16
P57A **Homestead Farm** 32.06 0 P P 10 39 58.8 +1.6
baz=180,SNR=11
P58A **Pank, Wackersv** 32.08 1 P P 10 39 58.6 +1.3
baz=182
P56A **Dayton Farm, R** 32.08 359 P P 10 39 59.3 +1.8
baz=179,SNR=5.8
ABTX **Abilene, Hawle** 32.10 325 P P 10 39 58.3 +0.6
baz=137
P55A **Reedsville** 32.11 358 P P 10 39 59.0 +1.2
baz=177
P53A **Whipple** 32.19 355 P P 10 39 59.8 +1.4
baz=174,SNR=7.7
P54A **Burton** 32.24 357 P P 10 40 00.2 +1.4
baz=176
P51A **Williamsport** 32.35 353 P P 10 40 00.6 +0.9
baz=171
P52A **Corning** 32.40 354 P P 10 40 01.3 +1.1
baz=173,SNR=6.1
TXAR **Lajitas Array** 32.45 316 P P 10 40 01.9 +0.9
comp=Z,2.8nm,1.0s,baz=134,slow=8.8,SNR=16
TXAR PcP PcP 10 42 49.7 +1.5
comp=Z,2.0nm,1.0s,baz=142,slow=4.6,SNR=4.5
TXAR **Lajitas Array** 32.45 316 P P 10 40 01.0 0.0
TXAR PcP 10 42 49.8 +1.5
P49A **Miami Univ. Ec** 32.63 351 P P 10 40 02.7 +0.4
baz=168
O58A **Lewisberry** 32.72 2 P P 10 40 04.6 +1.6
baz=182
O57A **Amberson** 32.79 1 P P 10 40 05.7 +2.0
baz=181
O55A **Ligonier** 32.80 359 P P 10 40 05.5 +1.8
baz=178
O54A **Avella** 32.81 357 P P 10 40 05.2 +1.3
baz=176,SNR=6.6
CCM **Cathedral Cave** 32.81 341 P P 10 40 03.8 -0.1
O56A **Blue Knob Stat** 32.84 360 P P 10 40 06.0 +1.8
baz=179
O52A **Adamsville** 32.85 355 P P 10 40 05.1 +1.0
baz=173,SNR=6.1
O53A **New Philadelph** 32.93 356 P P 10 40 06.3 +1.4
baz=174
O59A **Robesonia** 32.94 3 P P 10 40 06.2 +1.2
baz=184
O51A **Pataskala** 32.95 354 P P 10 40 05.9 +0.8
baz=172,SNR=8.3
ACSO **Alum Creek Sta** 33.08 353 P P 10 40 07.4 +1.2
baz=171
SSPA **Standing Stone** 33.21 1 P P 10 40 08.4 +1.0
baz=181
N57A **Milroy** 33.34 1 P P 10 40 10.1 +1.7
baz=181
N55A **Marion Center** 33.36 359 P P 10 40 09.9 +1.2
baz=179,SNR=8.6
N58A **Sunbury** 33.44 2 P P 10 40 10.7 +1.4
baz=183
N53A **Lisbon** 33.46 356 P P 10 40 10.8 +1.3
baz=175
N56A **West Decatur** 33.49 360 P P 10 40 11.1 +1.3
baz=180
N52A **McGinn's Farm,** 33.53 355 P P 10 40 10.5 +0.4
baz=174,SNR=5.1
N60A **Cedar Hill Far** 33.56 4 P P 10 40 12.3 +1.9
baz=186
N59A **State Game Lan** 33.56 3 P P 10 40 12.0 +1.5
baz=184
N54A **Moraine State** 33.57 358 P P 10 40 11.9 +1.4
baz=177
N51A **Ashland** 33.69 354 P P 10 40 12.6 +1.1
baz=172
SFIN **Lafayette** 33.89 348 P P 10 40 13.2 0.0
baz=164
M57A **Sunshine Farm,** 33.92 2 P P 10 40 15.5 +1.9
baz=182
M58A **Price's Panora** 33.98 2 P P 10 40 15.7 +1.6
baz=183
M55A **Ridgway** 34.04 359 P P 10 40 16.4 +1.8
baz=179
M56A **Emporium** 34.06 0 P P 10 40 16.0 +1.3
baz=180,SNR=6.0
M53A **WI Miller and** 34.08 357 P P 10 40 16.3 +1.4
baz=176
M51A **Elyria** 34.08 355 P P 10 40 16.1 +1.2
baz=173
M54A **Oil Creek Stat** 34.10 358 P P 10 40 16.7 +1.6
baz=177
M59A **Waymart** 34.21 4 P P 10 40 17.5 +1.5
baz=185
SMTB **Santa Maria do** 34.52 117 eP P 10 40 18.8 -0.3
HDIL **Hopedale** 34.57 345 P P 10 40 18.8 -0.4
baz=160
L53A **Girard** 34.57 357 P P 10 40 19.7 +0.6
baz=176
L57A **Andrews Acres** 34.59 2 P P 10 40 21.0 +1.7
baz=182
M66A **Nantucket** 34.60 11 P P 10 40 20.7 +1.4
baz=194
L58A **Harry Jones Me** 34.68 3 P P 10 40 22.2 +2.1
baz=184
M64A **Tiverton** 34.69 9 P P 10 40 22.1 +2.0
baz=192
L56A **Greenwood** 34.71 1 P P 10 40 22.0 +1.5
baz=181
L55A **Hinsdale** 34.76 360 P P 10 40 22.1 +1.3
baz=180
ARAG **Araguaiana, MT** 34.76 131 eP P 10 40 20.6 -0.4
ARAG epP pP 10 40 23.3 -0.3
L54A **Sinclairville** 34.82 359 P P 10 40 22.7 +1.4
baz=178
BINY **Binghamton** 34.83 3 P P 10 40 22.8 +1.4
baz=184
MSTX **Muleshoe** 34.90 323 P P 10 40 21.4 -0.8
baz=134,SNR=6.8

L61A **Hillsdale 1, H** 35.01 6 P P 10 40 23.5 +0.5
baz=188
AC02 **Maricunga** 35.05 166 P P 10 40 27.8 +3.7
MNTX **Cornudas Mount** 35.07 317 P P 10 40 24.1 +0.5
baz=128
MNTX **Cornudas Mount** 35.07 317 P P 10 40 23.0 -0.6
MNTX IAmb IAmb 10 40 25.0
comp=Z,9.9nm,1.1s
K54A **Basiliko Farm,** 35.18 359 P P 10 40 25.7 +1.2
baz=179
K55A **Perry** 35.30 0 P P 10 40 26.7 +1.2
baz=180
K57A **Scipio Center** 35.34 2 P P 10 40 27.1 +1.3
baz=183
K59A **Cooperstown** 35.47 4 P P 10 40 28.2 +1.3
baz=186
PEXB **Peixe** 35.47 123 eP P 10 40 27.5 +0.2
ROSB **Rosrio** 35.53 105 eP P 10 40 27.9 +0.1
K62A **Royalston** 35.64 8 P P 10 40 30.0 +1.7
baz=190
KSU1 **Kansas State U** 35.73 335 P P 10 40 29.2 +0.1
baz=148
K63A **Dunstable** 35.76 9 P P 10 40 31.4 +2.1
baz=191
J55A **Hilton** 35.84 1 P P 10 40 31.4 +1.4
baz=181
J58A **Remsen** 36.03 4 P P 10 40 33.6 +1.9
baz=185
J60A **Lant Hill Farm** 36.07 6 P P 10 40 34.4 +2.4
baz=188
J59A **Piesco** 36.19 5 P P 10 40 34.8 +1.7
baz=186
I58A **Old Forge** 36.38 4 P P 10 40 36.1 +1.4
baz=185
I51A **Listowel** 36.45 357 P P 10 40 36.5 +1.2
baz=175
I59A **Olmsteadville** 36.57 5 P P 10 40 37.8 +1.5
baz=187
I57A **Carthage** 36.58 3 P P 10 40 38.1 +1.7
baz=184
I61A **Oroboro, Fairl** 36.89 7 P P 10 40 40.1 +1.1
baz=190
CBKS **Cedar Bluff** 36.89 332 P P 10 40 39.8 +0.7
baz=143
SCIA **State Center** 36.94 341 P P 10 40 39.5 0.0
baz=155
I62A **Tamworth** 36.95 8 P P 10 40 39.2 -0.3
baz=191
JFWS **Jewell Farm** 37.03 345 P P 10 40 39.9 -0.3
baz=160
H53A **Bobcaygeon** 37.15 360 P P 10 40 42.1 +0.9
baz=179
H58A **Gabriels** 37.16 5 P P 10 40 43.2 +1.9
baz=187
121A **Cookes Peak, D** 37.20 316 P P 10 40 43.7 +1.6
baz=126
LBNH **Lisbon** 37.23 8 P P 10 40 42.8 +0.9
baz=190
SADO **Sadowa** 37.35 359 LR LR 10 57 17.5
comp=Z,314nm,18.0s,baz=180,slow=38
H59A **Cadyville** 37.43 5 P P 10 40 45.6 +2.0
baz=187
BDFB **Brasilia** 37.63 127 LR LR 10 58 24.5
comp=Z,378nm,19.4s,baz=302,slow=40
ANMO **Albuquerque** 37.81 321 P P 10 40 48.2 +1.0
baz=130
ANMO **Albuquerque** 37.81 321 P P 10 40 47.9 +0.7
G58A **Ormstown** 37.90 5 P P 10 40 50.2 +2.7
baz=187
G59A **Clarenceville** 37.91 6 P P 10 40 49.5 +1.9
baz=188
G54A **Lake Saint Pet** 37.97 0 P P 10 40 48.0 -0.1
baz=180
T25A **Trinidad** 38.06 325 P P 10 40 49.3 -0.1
baz=135,SNR=5.7
G61A **St-Isidore-de-** 38.30 8 P P 10 40 51.8 +0.8
baz=191
BGNE **Belgrade** 38.31 336 P P 10 40 51.0 -0.1
baz=147
G62A **West of Eustis** 38.38 9 P P 10 40 53.2 +1.6
baz=192
ITRB **Iturama** 38.39 135 eP P 10 40 51.5 -0.6
G63A **Kingsbury** 38.43 10 P P 10 40 53.8 +1.8
baz=194
KSCO **Kaye Shedlock'** 38.46 329 P P 10 40 52.8 +0.2
baz=139,SNR=6.6
SDBA **SAO DESIDERIO** 38.50 120 eP P 10 40 53.0 -0.1
ALGO **Algonquin Park** 38.53 0 P P 10 40 53.8 +0.9
baz=180
IPMB **Ipameri, GO** 38.86 131 eP P 10 40 55.6 -0.5
F60A **Warwick** 38.92 7 P P 10 40 58.1 +1.9
baz=190
TRCB **Terra Rica** 39.02 141 eP P 10 40 57.8 +0.4
F61A **St Evariste** 39.05 8 P P 10 40 58.9 +1.6
baz=191
PCMB **Pacaembu** 39.06 138 eP P 10 40 57.4 -0.3
PCMB epP pP 10 40 59.8 -0.4
CPUP **Villa Florida** 39.11 149 P P 10 40 58.9 +0.9
comp=Z,5.2nm,0.8s,baz=343,slow=14,SNR=4.0
CPUP LR LR 10 58 29.2
comp=Z,212nm,18.2s,baz=336,slow=38
SDCO **Great Sand Dun** 39.11 325 P P 10 40 59.4 +1.2
baz=134
SDCO **Great Sand Dun** 39.11 325 P P 10 40 59.2 +1.0
E57A **Chemin Saint G** 39.14 5 P P 10 40 59.1 +1.1
baz=186
TUC **Tucson** 39.17 314 P P 10 40 59.7 +1.1
baz=122
TUC **Tucson** 39.17 314 P P 10 40 59.1 +0.5
E58A **La Victoria** 39.18 5 P P 10 40 59.7 +1.4
baz=188
E56A **St. Veronique** 39.21 4 P P 10 40 59.7 +1.1
baz=185
D55A **Sainte-Anne-du** 39.66 3 P P 10 41 02.7 +0.4
baz=184
ECSD **EROS Data Cent** 39.71 339 P P 10 41 01.8 -1.0
baz=151
ECSD **EROS Data Cent** 39.71 339 P P 10 41 01.3 -1.5
ECSD IAmb IAmb 10 41 02.3
comp=Z,16nm,1.1s
D56A **ZEC Mazanza, M** 39.73 4 P P 10 41 03.6 +0.6
baz=185
D57A **Chemin Vers le** 39.77 5 P P 10 41 05.1 +1.9
baz=187
SPMN **Marine on St.** 39.85 344 P P 10 41 02.8 -1.1
baz=157
S22A **4UR Ranch, Cre** 39.88 324 P P 10 41 05.5 +0.9
baz=132,SNR=8.4
D58A **Chemin du LacG** 39.93 6 P P 10 41 05.2 +0.6
baz=188
E64A **Bridgewater** 40.01 11 P P 10 41 05.2 0.0
baz=196
W18A **Petrified Fore** 40.03 318 P P 10 41 06.9 +1.1
baz=126
LMN **Caledonia Moun** 40.15 15 P P 10 41 07.2 +0.9
LATQ **La Tuque** 40.23 6 P P 10 41 07.1 +0.1
baz=188
JANB **Januaria** 40.31 123 eP P 10 41 08.3 +0.1
D62A **Allapoint, All** 40.43 10 P P 10 41 09.3 +0.6
baz=194
214A **Organ Pipe Nat** 40.46 312 P P 10 41 10.5 +1.2
baz=120
BB19B **Bebedouro** 40.58 135 eP P 10 41 09.8 -0.5
ISCO **Idaho Springs** 40.61 327 P P 10 41 11.9 +1.2
baz=135
ISCO **Idaho Springs** 40.61 327 P P 10 41 11.0 +0.2
PTGB **Pitanga** 40.78 142 eP P 10 41 13.0 +0.9
SUSD **Miller** 41.18 337 P P 10 41 13.3 -1.6
baz=148
PV15 **Paradox Valley** 41.25 323 P P 10 41 17.0 +1.0
PV15 IAmb IAmb 10 41 31.1
comp=Z,20nm,1.1s
PV02 **Paradox Valley** 41.31 323 P P 10 41 16.6 +0.1
PV02 IAmb IAmb 10 41 31.4
comp=Z,13nm,1.0s
PV13 **Radium Mtn., P** 41.33 323 P P 10 41 16.0 -0.6
PV13 IAmb IAmb 10 41 31.4
comp=Z,14nm,1.0s
FRTB **Fartura** 41.39 138 eP P 10 41 16.5 -0.6
PV07 **Paradox Valley** 41.41 323 P P 10 41 17.0 -0.2
PV07 IAmb IAmb 10 41 32.2
comp=Z,20nm,1.1s
PV03 **Paradox Valley** 41.41 323 P P 10 41 17.7 +0.4
PV03 IAmb IAmb 10 41 31.9
comp=Z,13nm,1.0s
PV12 **Saucer Basin,** 41.42 323 P P 10 41 17.8 +0.5
PV12 IAmb IAmb 10 41 33.7
comp=Z,20nm,1.2s
PV18 **Skein Mesa, Pa** 41.44 323 IAmb IAmb 10 41 31.6
comp=Z,14nm,1.0s
PV11 **David Mesa, Pa** 41.45 323 P P 10 41 17.5 -0.1
PV11 IAmb IAmb 10 41 28.6
comp=Z,12nm,1.0s
PV17 **East Wray Mesa** 41.49 323 IAmb IAmb 10 41 31.9
comp=Z,15nm,1.1s
N23A **Red Feather La** 41.57 328 P P 10 41 18.4 -0.2
baz=136
LSQQ **Lebel-sur-Quev** 41.65 1 P P 10 41 18.1 -0.6
baz=182
EYMN **Ely** 42.06 347 P P 10 41 21.7 -0.4
baz=160
EYMN **Ely** 42.06 347 P P 10 41 21.2 -0.9
RCLB **Rio Claro- Sao** 42.16 135 eP P 10 41 23.8 +0.5
MATQ **Matagami** 42.34 1 P P 10 41 24.5 +0.2
baz=181
CHGQ **Chibougamau** 42.61 4 P P 10 41 26.1 -0.4
baz=186
RWWY **Rawlins** 42.81 328 P P 10 41 27.4 -1.3
RWWY IAmb IAmb 10 41 29.6
comp=Z,13nm,1.1s
VAO **Valinhos** 42.93 135 eP P 10 41 29.4 -0.2
SRU **San Rafael Swe** 42.97 322 P P 10 41 30.0 +0.1
RSSD **Black Hills** 43.05 333 P P 10 41 30.9 +0.4
baz=141
RSSD **Black Hills** 43.05 333 P P 10 41 30.1 -0.4
RSSD IAmb IAmb 10 41 32.6
comp=Z,28nm,1.3s
K22A **Casper** 43.14 329 P P 10 41 31.4 +0.2
baz=136
BC3 **Big Chuckawall** 43.23 313 P P 10 41 32.6 +0.6
baz=119
IKP **In-Ko-Pah, Jac** 43.24 311 P P 10 41 31.7 -0.4
baz=117
IRM **Iron Mountain** 43.25 313 P P 10 41 33.1 +1.1
baz=120,SNR=5.7
BSCB **Bom Sucesso** 43.26 131 eP P 10 41 32.1 -0.2
P17A **Butcher Ranch,** 43.32 323 P P 10 41 33.1 +0.4
RDMU **Red Mountain** 43.34 325 P P 10 41 33.4 +0.5
LCMT **Little Creek M** 43.44 318 P P 10 41 33.8 +0.1
TMUT **Trail Mountain** 43.50 322 P P 10 41 34.3 0.0
AGMN **Agassiz Nation** 43.52 343 P P 10 41 33.1 -0.8
baz=154
AGMN **Agassiz Nation** 43.52 343 IAmb IAmb 10 41 34.5
comp=Z,27nm,1.3s
MSU **Marysvale** 43.62 321 P P 10 41 36.4 +1.2
MVU **Marysvale** 43.64 321 P P 10 41 34.9 -0.5
SZCU **Shurtz Canyon** 43.67 319 P P 10 41 36.8 +1.2
GDU01 **Guandu, BA** 43.71 118 eP P 10 41 35.8 -0.1
GDU01 epP pP 10 41 38.7 +0.3
BELC **Belle Mtn. Jos** 43.79 313 P P 10 41 37.7 +1.1
baz=118,SNR=12
CCUT **Cedar City** 43.82 319 P P 10 41 37.8 +0.9
TCRU **Three Creeks R** 43.85 321 P P 10 41 37.9 +0.9
GMRC **Granite Mounta** 43.93 314 P P 10 41 38.7 +1.1
baz=120
TPFO **Pinon Flats** 43.94 312 P P 10 41 38.6 +0.8
baz=118
PFO **Pinyon Flats O** 43.95 312 P P 10 41 37.9 +0.1
baz=118
PFO **Pinyon Flats O** 43.95 312 P P 10 41 39.5 +1.7
PARB **Paraibuna** 44.09 135 eP P 10 41 38.7 -0.3
CPSB **Cacapava Do Su** 44.40 149 eP P 10 41 39.3 -2.0
TUQ **Turquoise Moun** 44.44 315 P P 10 41 42.6 +0.8
baz=120
SHPR **Sheep Range** 44.46 316 P P 10 41 43.0 +1.1
JLU **Jordanelle** 44.46 323 P P 10 41 41.4 -0.5
MURC **Murrieta** 44.49 312 P P 10 41 42.4 +0.4
baz=117
BBRC **Big Bear Solar** 44.59 313 P P 10 41 44.0 +1.0
baz=118
CTU **Camp Tracy** 44.69 323 P P 10 41 43.1 -0.6
PSUT **Pine Spring** 44.70 320 P P 10 41 44.0 +0.1
ESAR **Angra dos Reis** 44.74 133 eP P 10 41 44.1 +0.1
SJMB **Sao Joao De Ma** 44.76 126 eP P 10 41 44.3 0.0
BW06 **Boulder Array** 44.81 327 P P 10 41 45.3 +0.6
baz=133
BW06 **Boulder Array** 44.81 327 P P 10 41 43.9 -0.8
PD31 **Pinedale Array** 44.81 327 P P 10 41 44.3 -0.4
PDAR **Pinedale Array** 44.81 327 P P 10 41 45.0 +0.2
comp=Z,4.7nm,1.0s,baz=128,slow=9.6,SNR=27
PDAR PcP PcP 10 43 27.1 +0.5
comp=Z,1.5nm,1.0s,baz=116,slow=4.1,SNR=2.4
PDAR **Pinedale Array** 44.81 327 P P 10 41 44.4 -0.4
SHOC **Shoshone, Teco** 44.92 315 P P 10 41 45.6 +0.2
baz=120
GSC **Goldstone, Bar** 45.00 314 P P 10 41 46.8 +0.6
baz=119
VAS01 **Vassouras-RJ** 45.02 132 eP P 10 41 46.6 +0.3
DUG **Dugway, Tooele** 45.02 322 P P 10 41 47.3 +1.0
baz=127
BSFB **Barra de Sao F** 45.10 126 eP P 10 41 47.0 0.0
BSFB epP pP 10 41 49.8 +0.2
BFSC **Mount Baldy Ra** 45.12 312 P P 10 41 47.2 0.0
baz=117
HWUT **Hardware Ranch** 45.16 324 PcP 10 43 29.0 +1.1
SPR3 **Spring Creek 3** 45.27 320 P P 10 41 48.6 +0.1
ULM **Lac du Bonnet** 45.28 344 P P 10 41 46.1 -2.0
comp=Z,14nm,0.6s,baz=156,slow=8.2,SNR=14
ULM **Lac du Bonnet** 45.28 344 P P 10 41 46.5 -1.5
TPNV **Topopah Spring** 45.43 316 P P 10 41 51.0 +1.3
baz=121
FURC **Furnace Creek,** 45.62 315 P P 10 41 52.2 +1.3
baz=120
AHID **Auburn Hatcher** 45.65 326 P P 10 41 50.9 -0.5
AHID IAmb IAmb 10 41 52.7
comp=Z,11nm,1.2s
EDW2 **Edwards Air Fo** 45.66 313 P P 10 41 51.2 -0.1
baz=117
LRMC **Laurel Mtn Rad** 45.72 314 P P 10 41 52.7 +0.8
baz=118
RIB01 **Linhares ES** 45.72 126 eP P 10 41 52.0 +0.1
R11A **Troy Canyon, C** 45.73 318 P P 10 41 52.8 +0.8
baz=123,SNR=7.6
MPMC **Manual Prospec** 45.85 314 P P 10 41 53.8 +0.7
baz=119
SNOW **Snow King Moun** 45.93 327 P P 10 41 53.7 +0.1
SNOW IAmb IAmb 10 41 55.3
comp=Z,13nm,1.1s
LAO **LASA Array** 46.01 333 P P 10 41 53.7 -0.2
baz=140
LAO **LASA Array** 46.01 333 P P 10 41 52.6 -1.3
LAO IAmb IAmb 10 41 54.8
comp=Z,11nm,1.1s
TPAW **Teton Pass** 46.05 327 IAmb IAmb 10 42 13.1
comp=Z,9.9nm,1.1s
FXWY **Fox Creek** 46.19 327 IAmb IAmb 10 42 14.5
comp=Z,8.5nm,1.1s
RLMT **Red Lodge** 46.30 330 P P 10 41 56.7 +0.3
baz=135
RLMT **Red Lodge** 46.30 330 IAmb IAmb 10 41 57.7
comp=Z,11nm,1.0s
FLWY **Flagg Ranch** 46.31 328 IAmb IAmb 10 42 14.3
comp=Z,19nm,1.4s
IMW **Indian Meadow** 46.32 327 P P 10 41 56.6 0.0
IMW IAmb IAmb 10 41 58.1
comp=Z,7.7nm,1.0s
LC01 **Cunco** 46.33 173 P P 10 41 58.3 +1.9
LC01 IAmb IAmb 10 42 05.2
comp=Z,14nm,1.1s
ISA **Isabella, Lake** 46.37 313 P P 10 41 57.6 +0.6
baz=118
ARVC **Arvin** 46.38 313 P P 10 41 58.2 +1.2
baz=117
CWC **Cottonwood Cre** 46.46 315 P P 10 41 58.5 +0.8
baz=119
DGMT **Dagmar** 46.55 336 P P 10 41 58.3 +0.2
baz=143
YNE **Yellowstone No** 46.59 329 P P 10 41 58.2 -0.6
YNR **Norris Junctio** 46.73 328 P P 10 41 58.2 -1.6
NV11 **Mina Array Sit** 47.49 317 P P 10 42 06.3 +0.5
NV11 IAmb IAmb 10 42 11.9
comp=Z,15nm,1.4s
NVAR **Mina Array Bea** 47.59 317 P P 10 42 07.9 +1.3
comp=Z,4.4nm,1.0s,baz=128,slow=6.7,SNR=23
NVAR PcP PcP 10 43 37.5 +1.1
comp=Z,1.1nm,0.9s,baz=124,slow=4.7,SNR=1.7
NVAR LR LR 11 07 34.7
comp=Z,128nm,18.5s,baz=122,slow=43
NVAR **Mina Array Bea** 47.59 317 P P 10 42 06.6 0.0
LHV **Little Huntoon** 47.64 316 IAmb IAmb 10 42 13.9
comp=Z,12nm,1.1s
BOZ **Bozeman (W)** 47.83 329 P P 10 42 08.7 +0.4
baz=132

BOZ	**Bozeman (W)**	**47.83**	**329**	IAmb	IAmb	10 42 10.0			
	comp=Z,11nm,1.0s								
RYN	**Ryan**	**47.84**	**317**	IAmb	IAmb	10 42 28.9			
	comp=Z,8.2nm,1.2s								
HLID	**Hailey**	**48.03**	**325**	P	**P**	**10 42 10.5**	**+0.6**		
	baz=128								
DLMT	**Dillon**	**48.18**	**328**	IAmb	IAmb	10 42 12.9			
	comp=Z,6.6nm,1.1s								
SCHQ	**Schefferville**	**48.29**	**9**	P	**P**	**10 42 10.4**	**-1.2**		
	comp=Z,24nm,1.0s,baz=173,slow=4.9,SNR=7.2								
SCHQ				LR	LR	11 03 09.5			
	comp=Z,137nm,21.1s,baz=266,slow=37								
SCHQ	**Schefferville**	**48.29**	**9**	P	**P**	**10 42 11.9**	**+0.4**		
PLCA	**Paso Flores**	**48.30**	**172**	P	**P**	**10 42 13.6**	**+1.8**		
	comp=Z,5.6nm,1.0s,baz=334,slow=8.3,SNR=6.3								
PLCA	**Paso Flores**	**48.30**	**172**	P	P	10 42 15.8	+4.0		
PLCA				IAmb	IAmb	10 42 16.8			
	comp=Z,8.4nm,1.1s								
WAKR	**Walker**	**48.40**	**316**	IAmb	IAmb	10 42 17.9			
	comp=Z,9.7nm,1.2s								
YERR	**Yerington**	**48.50**	**317**	IAmb	IAmb	10 42 34.0			
	comp=Z,14nm,1.3s								
EGMT	**Eagleton**	**48.61**	**332**	P	**P**	**10 42 14.5**	**+0.3**		
	baz=136								
MFID	**Camas Ranch**	**48.76**	**324**	IAmb	IAmb	10 42 19.6			
	comp=Z,8.9nm,1.1s								
PNTR	**Pine Nut**	**48.80**	**317**	IAmb	IAmb	10 42 20.7			
	comp=Z,12nm,1.3s								
VCNR	**Virginia City**	**48.93**	**317**	IAmb	IAmb	10 42 21.6			
	comp=Z,7.1nm,1.2s								
MSO	**Missoula**	**49.84**	**328**	P	**P**	**10 42 24.3**	**+0.6**		
	baz=131								
PLID	**Pearl Lake**	**49.86**	**325**	IAmb	IAmb	10 42 24.8			
	comp=Z,10.0nm,1.2s								
ORV	**Oroville**	**50.31**	**317**	P	**P**	**10 42 26.7**	**-0.5**		
ORV				IAmb	IAmb	10 42 33.4			
	comp=Z,14nm,1.5s								
M04C	**Macdoel**	**51.60**	**319**	P	**P**	**10 42 37.6**	**+0.5**		
	baz=119,SNR=5.3								
J05D	**Fort Rock, OR**	**51.97**	**321**	P	**P**	**10 42 40.7**	**+0.8**		
	baz=121								
L04D	**Klamath Falls**	**52.12**	**319**	P	**P**	**10 42 41.0**	**0.0**		
	baz=119								
YBH	**Yreka Blue Hor**	**52.15**	**318**	P	**P**	**10 42 40.2**	**-1.0**		
NEW	**Newport**	**52.42**	**328**	P	**P**	**10 42 42.8**	**-0.1**		
	baz=128								
J04D	**Umpqua Nationa**	**52.50**	**320**	P	**P**	**10 42 43.6**	**-0.2**		
	baz=120,SNR=6.4								
I04A	**Tendick Farm,**	**52.97**	**321**	P	**P**	**10 42 46.7**	**-0.3**		
	baz=120								
G05D	**Wamic, OR**	**53.04**	**323**	P	**P**	**10 42 49.1**	**+1.5**		
	baz=122,SNR=6.1								
K02D	**Willamette Mer**	**53.23**	**319**	P	**P**	**10 42 49.3**	**+0.2**		
	baz=118								
I03D	**Drain, OR**	**53.51**	**320**	P	**P**	**10 42 51.2**	**+0.3**		
	baz=119								
H04D	**Lebanon**	**53.53**	**321**	P	**P**	**10 42 50.7**	**-0.5**		
	baz=120								
J01E	**Myrtle Point**	**53.62**	**319**	P	**P**	**10 42 52.4**	**+0.5**		
	baz=118								
I02D	**Swisshome**	**54.02**	**321**	P	**P**	**10 42 55.8**	**+1.0**		
	baz=119								
G03D	**McMinnville, O**	**54.20**	**322**	P	**P**	**10 42 57.6**	**+1.5**		
	baz=120								
E04D	**Cinebar**	**54.48**	**324**	P	**P**	**10 42 58.6**	**+0.5**		
	baz=122								
D04E	**Lakebay**	**54.92**	**324**	P	**P**	**10 43 01.8**	**+0.6**		
	baz=122								
B05A	**Bryant**	**55.12**	**326**	P	**P**	**10 43 03.2**	**+0.6**		
	baz=123								
D03D	**Eldon**	**55.29**	**324**	P	**P**	**10 43 03.9**	**-0.1**		
	baz=122,SNR=5.1								
A04D	**Lummi Island**	**55.71**	**326**	P	**P**	**10 43 06.7**	**-0.1**		
	baz=123,SNR=13								
YKA	**Yellowknife Ar**	**61.15**	**342**	P	**P**	**10 43 44.1**	**-0.5**		
	comp=Z,11nm,0.9s,baz=127,slow=6.9,SNR=14								
ICESG	**Greenland Ices**	**66.68**	**14**	*i* P	**P**	**10 44 21.0**	**-0.4**		
ICESG				IAmb	IAmb	10 44 21.4			
	comp=Z,27nm,1.0s								
SUMG	**Summit**	**69.53**	**12**	P	**P**	**10 44 38.8**	**-0.5**		
SUMG	**Summit**	**69.53**	**12**	*i* P	**P**	**10 44 38.4**	**-0.8**		
	comp=Z,52nm,0.9s								
SUMG	**Summit**	**69.53**	**12**	*i* P	**P**	**10 44 38.5**	**-0.8**		
SUMG				IAmb	IAmb	10 44 40.1			
	comp=Z,52nm,0.9s								
BORG	**Borgarnes**	**69.76**	**23**	LR	LR	11 12 02.1			
	comp=Z,70nm,20.6s,baz=252,slow=33								
BCAR	**Beaver Creek A**	**71.73**	**335**	P	**P**	**10 44 52.7**	**+0.3**		
K27K	**Chicken**	**72.19**	**335**	P	**P**	**10 44 56.1**	**+1.0**		
	baz=111								
N25K	**Chitina, Valde**	**72.48**	**333**	P	**P**	**10 44 58.1**	**+1.1**		
	baz=108								
TIC	**Toumodi**	**72.62**	**85**	*e*PKP2	**P**	**10 44 58.6**	**-0.1**		
LIC	**Lamto**	**72.66**	**86**	*e*PKP2	**P**	**10 44 59.6**	**+0.7**		
	comp=Z,13nm,0.6s								
DBIC	**Dimbokro**	**72.78**	**85**	P	**P**	**10 45 00.6**	**+1.0**		
	comp=Z,4.1nm,0.6s,baz=267,slow=10,SNR=5.0								
DBIC				LR	LR	11 14 47.0			
	comp=Z,45nm,18.8s,baz=236,slow=34								
DBIC	**Dimbokro**	**72.78**	**85**	IAmb	IAmb	10 45 05.2			
	comp=Z,8.7nm,0.9s								
KIC	**Kosan Boka**	**72.93**	**86**	*e*PKP2	**P**	**10 45 00.1**	**-0.4**		
	comp=Z,12nm,1.1s								
SCRK	**Sand Creek**	**72.97**	**335**	P	**P**	**10 45 00.7**	**+0.8**		
	baz=109								
KOWA	**Kowa**	**73.01**	**77**	LR	LR	11 18 04.6			
	comp=Z,72nm,18.2s,baz=189,slow=37								
KOWA	**Kowa**	**73.01**	**77**	P	**P**	**10 45 02.0**	**+1.1**		
KOWA				IAmb	IAmb	10 45 05.8			
	comp=Z,12nm,0.9s								
PAX	**Paxson**	**73.28**	**334**	IAmb	IAmb	10 45 03.1			
	comp=Z,13nm,1.2s								
ESDC	**Sonseca Array**	**73.30**	**51**	P	**P**	**10 45 02.9**	**+0.6**		
	comp=Z,4.9nm,1.1s,baz=284,slow=5.8,SNR=12								
ESDC				LR	LR	11 14 38.4			
	comp=Z,16nm,20.2s,baz=255,slow=34								
ESDC	**Sonseca Array**	**73.30**	**51**	P	**P**	**10 45 02.5**	**+0.2**		
M24K	**Tolsona, Glenn**	**73.35**	**333**	P	**P**	**10 45 03.2**	**+1.1**		
	baz=106								
HDA	**Harding Lake**	**74.33**	**335**	P	**P**	**10 45 07.5**	**-0.3**		
	baz=106,SNR=7.9								
BMAR	**Burnt Mountain**	**74.34**	**338**	P	**P**	**10 45 04.4**	**-3.4**		
IL31		**74.41**	**336**	IAmb	IAmb	10 45 09.1			
	comp=Z,9.8nm,1.2s								
ILAR	**Eielson Array**	**74.41**	**336**	P	**P**	**10 45 08.2**	**0.0**		
	comp=Z,3.2nm,0.9s,baz=108,slow=4.4,SNR=19								
ILAR				PP	**PP**	**10 47 49.2**	**-5.1**		
	comp=Z,1.2nm,1.1s,baz=112,slow=6.9,SNR=4.4								
ILAR	**Eielson Array**	**74.41**	**336**	P	**P**	**10 45 07.2**	**-1.0**		
PPT	**Papeete**	**74.61**	**250**	P	**P**	**10 45 11.7**	**+1.5**		
	comp=Z,44nm,0.9s,baz=82,slow=19,SNR=2.5								
PPT				LR	LR	11 10 04.2			
	comp=Z,61nm,20.8s,baz=16,slow=29								
MCK	**McKinley**	**75.00**	**334**	P	**P**	**10 45 12.5**	**+0.9**		
	baz=104								
NEA2	**Nenana**	**75.27**	**335**	P	**P**	**10 45 12.8**	**-0.4**		
	baz=104								
MLY	**Manley**	**76.06**	**335**	P	**P**	**10 45 17.7**	**-0.1**		
	baz=103,SNR=7.4								
DAG	**Danmarks Havn**	**76.22**	**12**	*i* P	**P**	**10 45 15.9**	**-2.5**		
	comp=Z,9.9nm,1.2s								
DAG	**Danmarks Havn**	**76.22**	**12**	*i* P	**P**	**10 45 15.9**	**-2.5**		
DAG				IAmb	IAmb	10 45 18.4			
	comp=Z,9.9nm,1.2s								
COLD	**Coldfoot**	**76.36**	**338**	P	**P**	**10 45 19.3**	**-0.1**		
	baz=104								
JMIC	**Jan Mayen**	**76.61**	**18**	LR	LR	11 17 00.9			
	comp=Z,38nm,19.6s,baz=253,slow=34								
IMAR	**Indian Mountai**	**77.49**	**336**	P	**P**	**10 45 26.0**	**+0.3**		
SVW2	**Sparrevohn**	**77.53**	**331**	P	**P**	**10 45 24.3**	**-1.9**		
TORD	**Torodi Ar. Bea**	**78.64**	**78**	P	**P**	**10 45 32.5**	**-0.6**		
	comp=Z,1.4nm,0.7s,baz=286,slow=6.0,SNR=5.4								
TORD				LR	LR	11 21 28.0			
	comp=Z,69nm,19.0s,baz=250,slow=37								
NB2	**NORSAR Subarra**	**83.43**	**29**	P	**P**	**10 45 58.6**	**+0.8**		
	comp=Z,29nm,1.4s,baz=274,slow=5.3								
NB2	**NORSAR Subarra**	**83.43**	**29**	P	**P**	**10 45 58.6**	**+0.8**		
	baz=274,slow=5.3								
NOA	**NORSAR Array B**	**83.43**	**29**	P	**P**	**10 45 58.9**	**+1.1**		
	comp=Z,7.2nm,1.1s,baz=274,slow=5.3,SNR=4.9								
KEST	**Kesra**	**83.86**	**55**	P	**P**	**10 46 00.1**	**-0.6**		
	comp=Z,3.2nm,0.8s,baz=256,slow=12,SNR=2.5								
HFS	**Hagfors**	**84.71**	**30**	LR	LR	11 18 27.5			
	comp=Z,61nm,20.6s,baz=268,slow=32								
CLL	**Collm**	**85.16**	**39**	*e*P	**P**	**10 46 08.0**	**+1.2**		
KHC	**Kasperske Hory**	**85.75**	**41**	*e*P	**P**	**10 46 10.5**	**+0.7**		
GERES	**GERESS Array B**	**85.86**	**41**	P	**P**	**10 46 11.2**	**+0.8**		
	comp=Z,1.6nm,0.9s,baz=266,slow=3.6,SNR=9.8								
GERES				LR	LR	11 19 53.8			
	comp=Z,50nm,20.1s,baz=268,slow=32								
ARCES	**ARCESS Array B**	**88.00**	**20**	P	**P**	**10 46 19.8**	**-0.5**		
	comp=Z,5.4nm,0.9s,baz=316,slow=6.8,SNR=5.0								
ARCES				LR	LR	11 20 44.9			
	comp=Z,40nm,21.6s,baz=295,slow=32								
FINES	**FINESS Array B**	**90.43**	**28**	P	**P**	**10 46 32.0**	**+0.2**		
	comp=Z,0.8nm,0.6s,baz=338,slow=3.3,SNR=4.5								
FINES				LR	LR	11 23 32.4			
	comp=Z,33nm,21.1s,baz=298,slow=33								
AKASG	**Malin Array Be**	**95.30**	**38**	LR	LR	11 28 50.9			
	comp=Z,54nm,19.1s,baz=270,slow=35								
ZALV	**Zalesovo Beam**	**117.35**	**11**	PKP	**PKiKP**	**10 52 16.1**	**0.0**		
	comp=Z,0.4nm,0.3s,baz=298,slow=3.1,SNR=1.3								
MKAR	**Makanchi Array**	**123.45**	**16**	PKP	**PKPdf**	**10 52 27.6**	**-0.4**		
	comp=Z,1.6nm,0.9s,baz=3.8,slow=3.6,SNR=5.3								
SONM	**Songino Array**	**124.97**	**356**	PKP	**PKiKP**	**10 52 31.9**	**+0.5**		
	comp=Z,2.1nm,1.0s,baz=5.7,slow=1.5,SNR=5.5								
WMQ	**Urumqi**	**127.57**	**13**	*e*PKP	**PKiKP**	**10 52 37.1**	**+0.5**		
KSRS	**Korea Array**	**129.21**	**333**	PKP	**PKPdf**	**10 52 39.0**	**-0.2**		
	comp=Z,2.2nm,0.9s,baz=52,slow=1.2,SNR=8.3								
HHC	**Hu-ho-hao-te**	**131.26**	**350**	*e*PKP	**PKiKP**	**10 52 47.2**	**+3.0**		
LZH	**Lanzhou**	**136.81**	**358**	*e*PKP	**PKPdf**	**10 52 53.8**	**-0.1**		
LZH				sPKP		10 53 02.1			
LZH				LR	LR				
	comp=Z,86nm,18.3s								
LZH				LR	LR				
	comp=Z,98nm,18.2s								
LZH				LR	LR				
	comp=Z,130nm,20.1s								
NJ2	**Nanjing**	**137.61**	**338**	*e*PKP	**PKPdf**	**10 52 55.6**	**+0.4**		
ASAR	**Alice Springs**	**145.11**	**239**	PKPbc	**PKPdf**	**10 53 08.3**	**-0.7**		
	comp=Z,9.2nm,1.0s,baz=119,slow=3.7,SNR=34								
ASAR	**Alice Springs**	**145.11**	**239**		**PKPab**	**10 53 07.0**	**-1.5**		
WRA	**Warramunga Arr**	**145.99**	**245**	PKPbc	**PKPab**	**10 53 10.8**	**-1.0**		
	comp=Z,7.9nm,1.2s,baz=106,slow=3.1,SNR=17								
WRA	**Warramunga Arr**	**145.99**	**245**		**PKPbc**	**10 53 10.4**	**-0.9**		
GYA	**Guiyang**	**146.12**	**352**	⇓PKPbc	**PKPbc**	**10 53 11.5**	**-0.1**		
GYA				SS	SS	11 15 23.7	-3.0		
H01W1	**Cape Leeuwin H**	**150.24**	**201**	T	T	13 42 42.4			
	baz=155,slow=76,SNR=39								
H01W2	**Cape Leeuwin H**	**150.25**	**201**	T	T	13 42 42.0			
	baz=155,slow=76,SNR=37								
H01W3	**Cape Leeuwin H**	**150.26**	**201**	T	T	13 42 41.4			
	baz=155,slow=76,SNR=38								
CMAR	**Chiang Mai Arr**	**154.27**	**6**	PKP	**PKPdf**	**10 53 24.9**	**+1.4**		
	comp=Z,0.6nm,0.3s,baz=299,slow=3.7,SNR=6.1								
CMAR				PKPbc	**PKiKP**	**10 53 31.9**	**+0.1**		
	comp=Z,4.2nm,1.0s,baz=332,slow=3.3,SNR=12								
CMAR				PKPab	**PKPab**	**10 53 44.8**	**-0.6**		
	comp=Z,4.2nm,1.0s,baz=333,slow=5.5,SNR=8.2								
CMAR	**Chiang Mai Arr**	**154.27**	**6**		**PKPdf**	**10 53 24.4**	**+0.9**		
CMAR					**PKPbc**	**10 53 30.9**	**-0.8**		
CMAR					**PKPab**	**10 53 44.2**	**-1.2**		

*NNC **09** 10:34:11.9±0.2, 42.°88N×71.°01E, h0km, mpv1.5, Error ellipse: s-maj=2.8km s-min=0.9km az=31.0, Suspected Mining explosion.*

*KRNET **09** 10:34:12.9±0.1, 42.°81N×71.°12E, mb2.6*

ISC 09 10:34:10.7±1.2, 42.°8N±0.°1×71.°05E±0.°07, h0km, n15, σ0°33/30, 19C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.48**	**307**	⇑P		**Pg**		**10 34 20.4**	**+0.5**
KK06				⇑S		**Sg**		**10 34 26.1**	**0.0**
KK07	**Karatay Array**	**0.49**	**305**	⇓P		**Pg**		**10 34 20.6**	**+0.5**
KK07				⇓S		**Sg**		**10 34 26.5**	**0.0**
KK02	**Karatay Array**	**0.49**	**307**	⇓P		**Pg**		**10 34 20.5**	**+0.4**
KK02				⇑S		**Sg**		**10 34 26.6**	**+0.1**
KK31	**Karatay Array**	**0.49**	**307**	⇑P		**Pg**		**10 34 20.4**	**+0.3**
	0.5nm,0.2s,baz=166,slow=51,SNR=138								
KK31				⇑S		**Sg**		**10 34 26.5**	**+0.1**
	6.7nm,0.3s,baz=122,slow=30,SNR=67								
KK05	**Karatay Array**	**0.49**	**309**	⇑P		**Pg**		**10 34 20.5**	**+0.4**
KK05				⇑S		**Sg**		**10 34 26.4**	**-0.1**
KK01	**Karatay Array**	**0.50**	**307**	⇓P		**Pg**		**10 34 20.5**	**+0.3**
KK01				⇓S		**Sg**		**10 34 26.6**	**-0.1**
KK03	**Karatay Array**	**0.50**	**307**	⇓P		**Pg**		**10 34 20.5**	**+0.3**
KK03				⇑S		**Sg**		**10 34 26.5**	**-0.2**
KK04	**Karatay Array**	**0.50**	**308**	⇑P		**Pg**		**10 34 20.6**	**+0.3**
KK04				⇑S		**Sg**		**10 34 26.5**	**-0.3**
KK08	**Karatay Array**	**0.51**	**306**	⇑P		**Pg**		**10 34 20.9**	**+0.5**
KK08				⇓S		**Sg**		**10 34 27.0**	**0.0**
KK09	**Karatay Array**	**0.51**	**308**	⇑P		**Pg**		**10 34 20.8**	**+0.3**
KK09				⇑S		**Sg**		**10 34 27.0**	**-0.1**
MNAS	**Manas**	**1.12**	**106**	⇑*i*P		**Pn**		**10 34 33.5**	**-0.3**
	baz=7.0								
MNAS				⇑*i*S		**Sb**		**10 34 48.6**	**+0.4**
	baz=7.0								
AML	**Almayashu**	**2.07**	**108**	⇓*i*P		**Pg**		**10 34 50.6**	**+0.2**
	baz=9.0								
AML				⇓*i*S		**Sg**		**10 35 17.9**	**+0.7**
	baz=9.0								
USP	**Ospenovka**	**2.57**	**79**	⇑*i*P		**Pb**		**10 34 57.7**	**0.0**
	baz=78								
USP				⇑*i*S		**Sb**		**10 35 29.8**	**-0.1**
	baz=78								
ARLS	**Aral**	**2.61**	**110**	⇓*i*P		**Pb**		**10 34 58.1**	**-0.3**
	baz=10.0								
ARLS				⇓*i*S		**Sb**		**10 35 30.9**	**-0.1**
	baz=10.0								
UCH	**Uchtor**	**2.63**	**102**	⇑*i*P		**Pb**		**10 34 58.6**	**-0.3**
	baz=2.0								
UCH				⇑*i*S		**Sb**		**10 35 31.4**	**-0.5**
	baz=2.0								

*KRNET **09** 11:19:59.9±0.1, 42.°98N×69.°15E, mb3.3*

*SOME **09** 11:20:01.4, 43.°60N×69.°68E*

*NNC **09** 11:20:03.7±1.8, 43.°59N×69.°76E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=9.9km s-min=6.7km az=146.0, Suspected Mining explosion.*

ISC 09 11:20:04.6±1.8, 43.°63N±0.°07×69.°97E±0.°07, h0km, n10, σ1°33/18, 9C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRLS	**Boroldaу**	**0.61**	**189**	P		**Pb**		**11 20 18.4**	**+0.2**
	16nm,0.3s								
BRLS				S		**Sn**		**11 20 30.9**	**-0.3**
	21nm,0.5s								
KK31	**Karatay Array**	**0.66**	**143**	⇓P		**Pg**		**11 20 17.7**	**+0.4**
	2.4nm,0.6s,baz=317,slow=17,SNR=15								
KK31				⇑S		**Sb**		**11 20 28.3**	**-0.5**
	21nm,0.5s,baz=310,slow=28,SNR=47								
IUG	**Iuzhnay**	**1.49**	**178**	P		**Pn**		**11 20 31.6**	**-1.1**
	20nm,0.6s								
IUG				S		**Sn**		**11 20 53.3**	**+0.4**
	33nm,0.5s								
MNAS	**Manas**	**2.18**	**121**	⇑*e*P		**Pb**		**11 20 44.4**	**-0.7**
	baz=0.0								
MNAS				⇑*i*S		**Sg**		**11 21 16.9**	**+2.2**
	baz=0.0								
MRKS	**Merke**	**2.54**	**109**	Pg		**Pg**		**11 20 52.2**	**-1.1**
	6.4nm,0.5s								
MRKS				Lg		Lg		11 21 29.4	
	4.9nm,0.4s								
EKS2	**Erkin-Say**	**2.95**	**108**	⇑*i*P		**Pb**		**11 20 56.9**	**-1.3**
	baz=94								
EKS2				⇑*i*S		**Sg**		**11 21 38.5**	**-0.9**
	baz=94								
AML	**Almayashu**	**3.12**	**117**	⇑*i*P		**Pn**		**11 20 57.5**	**+2.0**
	baz=3.0								
AML				⇑*i*S		**Sb**		**11 21 39.5**	**-0.5**
	baz=3.0								
BTLS	**Baital**	**3.25**	**63**	Pg		**Pg**		**11 21 06.6**	**-0.2**
	10nm,0.5s								
BTLS				Lg		Lg		11 21 53.3	
	2.3nm,0.4s								
USP	**Ospenovka**	**3.32**	**95**	⇓*i*P		**Pb**		**11 21 03.9**	**-0.5**
	baz=84								
USP				⇓*i*S		**Sg**		**11 21 50.7**	**-0.6**
	baz=84								
UCH	**Uchtor**	**3.62**	**111**	⇑*i*P		**Pn**		**11 21 05.4**	**+3.0**
	baz=99								
UCH				⇑*i*S		**Sb**		**11 21 53.2**	**-1.2**
	baz=99								

*BGR **09** 11:33:46.6±0.0, 23.°53S×179.°41W, h33km*

*BJI **09** 11:34:50.0±0.0, 22.°20S×179.°50E, h567km, mB5.2/15, mb4.8/22*

*NEIC **09** 11:34:51.4±2.3, 22.°09S±0.°09×179.°6E±0.°1, h569km±6km, mb4.7/137, Error ellipse: s-maj=14.9km s-min=11.8km az=113.0*

*IDC **09** 11:34:53.2±0.9, 22.°11S×179.°46E, h586km±10km, mb4.1/28, mb1 4.2/30, mb1mx4.2/35, mbtmp5.0/30, Error ellipse: s-maj=10.0km s-min=9.0km az=156.0*

ISC 09 11:34:53.5±0.3, 22.°23S±0.°05×179.°57E±0.°05, h599km, n456, σ1°33/477, mb4.7/85, 18C-16D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**342**	P		P	P	11 36 19.0	-5.2
RIZ	**Raoul Island**	**7.34**	**163**	P		P	**P**	**11 36 47.0**	**+0.5**
RAO	**Raoul Island**	**7.35**	**163**	P		P	**P**	**11 36 47.0**	**+0.4**
	116nm,0.3s,baz=104,slow=8.7,SNR=11								
RAO				S		S	**S**	**11 38 18.1**	**-1.2**
	41nm,0.3s,baz=83,slow=21,SNR=1.5								
RAO	**Raoul Island**	**7.35**	**163**	P		P	**P**	**11 36 45.1**	**-1.5**
GLKZ	**Green Lake**	**7.36**	**163**	P		P	**P**	**11 36 46.7**	**+0.1**
NIUE	**Niue**	**10.32**	**74**	P		P	**P**	**11 37 13.2**	**-2.3**
	baz=10,SNR=14								
NIUE				S		S	**S**	**11 39 13.5**	**+1.6**
	baz=10								
NIUE	**Niue**	**10.32**	**74**	P		P	**P**	**11 37 13.8**	**-1.6**
AFI	**Afiamalu**	**11.66**	**46**	P		P	P	11 37 24.5	-4.5
	21nm,0.3s,baz=34,slow=1.5,SNR=30								
AFI				S		S	S	11 39 24.7	-12
	0.8nm,0.3s,baz=30,slow=20,SNR=1.7								
AFI	**Afiamalu**	**11.66**	**46**	P		P	P	11 37 24.8	-4.2
DZM	**Mont Dzumac**	**12.17**	**268**	*e*P		P	**P**	**11 37 32.9**	**-1.2**
	141nm,0.8s								
DZM	**Mont Dzumac**	**12.17**	**268**	P		P	**P**	**11 37 32.8**	**-1.3**
	7.7nm,0.3s,baz=75,slow=21,SNR=88								
NFK	**Norfolk Island**	**12.49**	**235**	P		P	**P**	**11 37 38.8**	**+1.7**
	baz=13,SNR=6.8								
FUNA	**Funafuti**	**13.63**	**358**	P		P	**P**	**11 37 44.9**	**-4.0**
OUZ	**Omahuta**	**13.96**	**201**	P		P	**P**	**11 37 53.3**	**+1.5**
OUZ	**Omahuta**	**13.96**	**201**	P		P	**P**	**11 37 52.1**	**+0.3**
WCZ	**Waipu Caves**	**14.40**	**197**	P		P	**P**	**11 37 57.7**	**+1.7**
GRZ	**Great Barrier**	**14.43**	**193**	P		P	**P**	**11 37 56.8**	**+0.5**
MYRZ	**Mayor Island**	**15.28**	**190**	P		P	**P**	**11 38 07.2**	**+3.1**
MXZ	**Matakaoa Point**	**15.32**	**184**	P		P	**P**	**11 38 02.5**	**-2.0**
HAZ	**Te Kaha**	**15.55**	**185**	P		P	**P**	**11 38 05.7**	**-0.9**
HAZ				S		S	**S**	**11 40 39.5**	**-4.5**
PKGZ	**Pakihiroa**	**15.66**	**184**	P		P	**P**	**11 38 08.0**	**+0.3**
TGRZ	**Tauranga**	**15.71**	**190**	P		P	**P**	**11 38 09.8**	**+1.8**
RUGZ	**Raukumara Rang**	**15.77**	**186**	P		P	**P**	**11 38 07.1**	**-1.6**
RUGZ				S		S	**S**	**11 40 42.7**	**-5.2**
PUZ	**Puketiti**	**15.83**	**184**	P		P	**P**	**11 38 09.3**	**+0.2**
PUZ				S		S	**S**	**11 40 44.4**	**-4.3**
TOZ	**Tahuroa Road**	**15.85**	**192**	P		P	**P**	**11 38 11.2**	**+2.0**
KMRZ	**Kaimai**	**15.88**	**191**	P		P	**P**	**11 38 11.8**	**+2.1**
TWGZ	**Tauwhareparae**	**15.96**	**185**	P		P	**P**	**11 38 09.9**	**-0.5**
TWGZ				S		S	**S**	**11 40 49.7**	**-1.1**
KARZ	**Kaharoa**	**16.00**	**190**	P		P	**P**	**11 38 13.5**	**+2.8**
URZ	**Urewera**	**16.12**	**187**	P		P	**P**	**11 38 09.6**	**-2.1**
	3.9nm,0.3s,baz=265,slow=4.1,SNR=34								
URZ				S		S	**S**	**11 40 49.8**	**-3.5**
	2.7nm,0.3s,baz=227,slow=21,SNR=10								
URZ	**Urewera**	**16.12**	**187**	P		P	**P**	**11 38 09.6**	**-2.1**
URZ				S		S	**S**	**11 40 49.7**	**-3.6**
URZ	**Urewera**	**16.12**	**187**	P		P	**P**	**11 38 09.7**	**-2.1**
URZ				S		S	**S**	**11 40 52.6**	**-0.7**
MWZ	**Matawai**	**16.15**	**186**	P		P	**P**	**11 38 10.5**	**-1.6**
MWZ				S		S	**S**	**11 40 51.4**	**-2.5**
TKGZ	**Te Karaka**	**16.23**	**185**	P		P	**P**	**11 38 11.7**	**-1.1**
CNGZ	**Carnagh Statio**	**16.25**	**184**	P		P	**P**	**11 38 12.9**	**0.0**
RAGZ	**R

CNB **Canberra Magne** 29.39 237 P P 11 40 11.4 +1.3
baz=30,SNR=95
YNG **Young** 29.86 239 P P 11 40 15.2 +1.1
baz=30,SNR=12
CTA **Charters Tower** 31.11 268 P P 11 40 25.1 +0.1
comp=Z,48nm,0.4s,baz=94,slow=11,SNR=94
CTAO **Charters Tower** 31.11 268 P P 11 40 25.1 +0.1
CMSA **Cobar Meteorol** 31.51 246 P P 11 40 28.7 +0.6
baz=32,SNR=151
PMOR **Pomariorio Ree** 31.61 83 eP P 11 40 30.0 +0.8
comp=Z,103nm,1.2s
VAH **Vaihoa** 31.78 83 eP P 11 40 31.3 +0.7
comp=Z,64nm,1.0s
KRVT **Keravat (AS076** 32.08 300 P P 11 40 32.9 -0.4
comp=Z,9.4nm,0.3s,baz=90,slow=4.0,SNR=2.2
QLP **Quilpie** 32.41 255 P P 11 40 36.0 +0.1
baz=33,SNR=27
TOO **Toolangi** 33.06 235 P P 11 40 42.1 +0.9
baz=33,SNR=104
TOO **Toolangi** 33.06 235 P P 11 40 42.1 +0.9
MTSU **Mount Surprise** 33.30 271 P P 11 40 43.4 0.0
baz=33,SNR=47
PMG **Port Moresby** 33.60 287 P P 11 40 45.6 -0.4
comp=Z,90nm,0.8s,baz=109,slow=5.3,SNR=24
PMG **Port Moresby** 33.60 287 P P 11 40 45.9 -0.1
TAU **Tasmania Unive** 33.81 225 P P 11 40 48.4 +1.0
TAU IAmb IAmb 11 40 49.1
comp=Z,16nm,0.8s
STKA **Stephens Creek** 35.01 246 P P 11 40 58.3 +0.7
comp=Z,37nm,0.4s,baz=90,slow=9.4,SNR=100
STKA **Stephens Creek** 35.01 246 P P 11 40 58.3 +0.7
baz=35,SNR=36
STKA **Stephens Creek** 35.01 246 P P 11 40 58.1 +0.5
STKA IAmb IAmb 11 40 59.3
comp=Z,14nm,0.8s
COEN **Coen** 35.49 277 P P 11 41 01.8 0.0
baz=36,SNR=22
COEN **Coen** 35.49 277 P P 11 41 01.7 0.0
ARPS **Mount Arapiles** 35.65 237 P P 11 41 03.3 +0.5
baz=36,SNR=21
QIS **Mount Isa** 37.18 265 P P 11 41 14.7 -0.8
baz=37,SNR=11
HTT **Hallett** 37.43 244 P P 11 41 17.7 +0.3
baz=38,SNR=41
BBOO **Buckleboo** 39.76 245 P P 11 41 36.1 -0.1
baz=40,SNR=164
AS31 **Alice Springs** 41.94 259 IAmb IAmb 11 41 54.5
comp=Z,22nm,0.7s
ASAR **Alice Springs** 41.95 259 P P 11 41 53.2 -0.4
comp=Z,86nm,0.8s,baz=98,slow=8.2,SNR=661
ASAR ScP ScP 11 46 31.0 +2.3
comp=Z,2.3nm,1.0s,baz=101,slow=3.9,SNR=5.0
ASAR S S 11 47 27.6 -2.7
comp=Z,4.3nm,0.9s,baz=94,slow=15,SNR=13
ASAR **Alice Springs** 41.95 259 P P 11 41 52.9 -0.7
WR0 **Warramunga Arr** 41.96 264 P P 11 41 52.6 -1.2
WR0 IAmb IAmb 11 41 53.7
comp=Z,28nm,0.9s
WRAB **Tennant Creek** 42.14 264 P P 11 41 54.0 -1.1
WRA **Warramunga Arr** 42.15 264 P P 11 41 54.0 -1.2
comp=Z,33nm,0.8s,baz=94,slow=8.0,SNR=398
WRA PP PP 11 43 48.1 +0.9
comp=Z,3.3nm,0.9s,baz=100,slow=9.2,SNR=7.0
WRA ScP ScP 11 46 32.3 +2.7
comp=Z,3.2nm,0.9s,baz=94,slow=3.8,SNR=6.2
WRA S S 11 47 29.1 -4.1
comp=Z,2.6nm,0.8s,baz=98,slow=13,SNR=6.2
WRA **Warramunga Arr** 42.15 264 P P 11 41 53.5 -1.7
WRA ScP 11 46 33.5 +3.9
JAY **Jayapura** 42.51 292 P P 11 41 57.4 -0.8
comp=Z,25nm,0.7s,baz=185,slow=4.1,SNR=5.0
WAKE **Wake Island** 43.15 342 P P 11 42 02.5 -0.3
KDU **Kakadu** 45.77 274 P P 11 42 22.0 -1.0
baz=46,SNR=52
FORT **Forrest** 46.55 248 P P 11 42 28.3 -0.4
baz=47,SNR=33
FORT **Forrest** 46.55 248 P P 11 42 28.6 -0.1
WRKA **Warakurna** 46.84 256 P P 11 42 30.7 -0.4
baz=47,SNR=76
MTN **Manton Dam** 46.96 273 P P 11 42 30.9 -1.1
baz=47,SNR=7.4
KNRA **Kununurra** 48.32 268 P P 11 42 41.6 -0.5
baz=48,SNR=38
GUMO **Guam** 49.24 313 P P 11 42 47.9 -0.9
comp=Z,47nm,0.4s,baz=160,slow=16,SNR=5.3
GUMO **Guam** 49.24 313 IAmb IAmb 11 42 51.4
comp=Z,124nm,1.0s
FITZ **Fitzroy Crossi** 50.58 264 P P 11 42 58.5 -0.1
comp=Z,24nm,0.7s,baz=102,slow=3.8,SNR=64
FITZ S S 11 49 28.4 -1.6
comp=Z,2.4nm,1.0s,baz=273,slow=21,SNR=2.5
FITZ **Fitzroy Crossi** 50.58 264 P P 11 42 58.6 -0.1
baz=51,SNR=32
FITZ **Fitzroy Crossi** 50.58 264 P P 11 42 58.6 -0.1
FITZ IAmb IAmb 11 42 59.8
comp=Z,58nm,1.1s
SOEI **Soe** 54.33 274 P P 11 43 24.6 -1.0
comp=Z,125nm,0.9s
BATI **Baumata** 54.73 273 P P 11 43 28.6 +0.3
comp=Z,29nm,0.5s,baz=286,slow=1.2,SNR=7.6
PSA00 **Pilbara Seismi** 55.09 259 IAmb IAmb 11 43 31.0
comp=Z,51nm,1.1s
MEEK **Meekatharra** 55.23 252 P P 11 43 30.9 -0.7
baz=55,SNR=13
KLBR **Kellerberrin** 55.29 246 P P 11 43 32.0 +0.1
baz=55,SNR=9.7
NWAO **Narrogin (SRO)** 55.58 245 P P 11 43 34.0 +0.1
comp=Z,9.9nm,0.8s,baz=112,slow=7.6,SNR=8.3
NWAO **Narrogin (SRO)** 55.58 245 P P 11 43 34.4 +0.4
baz=56,SNR=6.2
VNDA **Vanda** 56.01 185 P P 11 43 38.4 +2.3
comp=Z,2.1nm,0.5s,baz=8.0,slow=8.1,SNR=28
VNDA **Vanda** 56.01 185 P P 11 43 38.4 +2.3
BLDU **Ballidu** 56.30 247 P P 11 43 38.6 -0.3
baz=56,SNR=12
MUN **Mundaring** 56.55 246 P P 11 43 41.1 +0.5
baz=57,SNR=7.6
MMRI **Maumere** 56.59 274 IAmb IAmb 11 43 41.3
comp=Z,52nm,1.1s
EDFI **Ende, Flores** 57.06 274 P P 11 43 44.1 -0.3
comp=Z,25nm,0.8s
MORW **Morawa** 57.09 249 P P 11 43 44.2 -0.2
baz=57,SNR=7.6
MORW **Morawa** 57.09 249 P P 11 43 43.9 -0.5
MORW IAmb IAmb 11 43 44.9
comp=Z,30nm,1.1s
GIRL **Giralia** 59.93 256 P P 11 44 04.5 +1.2
baz=60,SNR=5.2
QSPA **South Pole Qui** 67.85 180 P P 11 44 54.4 +1.5
comp=Z,9.9nm,0.7s,baz=56,slow=2.4,SNR=11
QSPA **South Pole Qui** 67.85 180 IAmb IAmb 11 44 55.9
comp=Z,12nm,0.8s
MJAR **Matsushiro Arr** 70.30 326 P P 11 45 07.3 -0.6
comp=Z,11nm,0.9s,baz=159,slow=5.9,SNR=24
MJAR **Matsushiro Arr** 70.30 326 P P 11 45 07.5 -0.5
MAT **Matsushiro** 70.30 326 P P 11 45 07.2 -0.7
YSS **Yuzh-Sakhalins** 76.46 335 P P 11 45 44.0 +1.5
YSS IAmb IAmb 11 45 44.8
comp=Z,32nm,1.0s
KSRS **Korea Array** 76.72 320 P P 11 45 44.9 +0.7
comp=Z,4.0nm,0.8s,baz=131,slow=5.7,SNR=16
KSAR **Wonju Array Be** 76.73 320 P P 11 45 44.6 +0.3
PEA0B **Petropavlovsk-** 77.39 347 IAmb IAmb 11 45 48.4
comp=Z,35nm,0.9s
PETK **Petropavlovsk-** 77.39 347 P P 11 45 47.4 -0.1
comp=Z,20nm,0.7s,baz=126,slow=8.5,SNR=37
PETK **Petropavlovsk-** 77.39 347 P P 11 45 47.0 -0.5
USRK **Ussuriysk Ar.** 79.15 327 P P 11 45 58.0 +1.0
comp=Z,11nm,0.9s,baz=116,slow=3.5,SNR=12
USRK **Ussuriysk Ar.** 79.15 327 P P 11 45 57.1 0.0
MAW **Mawson** 79.17 200 P P 11 45 58.4 +1.5
comp=Z,3.2nm,0.6s,baz=132,slow=6.6,SNR=14
MAW **Mawson** 79.17 200 P P 11 45 58.6 +1.7
baz=79,SNR=14
MAW **Mawson** 79.17 200 P P 11 45 58.7 +1.7
NJ2 **Nanjing** 79.27 311 eP P 11 45 59.0 +1.0
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MDJ **Mudanjiang** 80.66 326 IAmb IAmb 11 46 07.9
comp=Z,22nm,1.1s
HOPS **Hopland Field** 81.15 42 IAmb IAmb 11 46 10.3
comp=Z,30nm,1.1s
ARVC **Arvin** 81.61 47 P P 11 46 11.1 +1.0
baz=235
JCC **Jacoby Creek,** 81.70 40 P P 11 46 12.3 +2.0
VES **Vestal, Richgr** 81.85 46 P P 11 46 12.1 +0.9
baz=235,SNR=6.8

MURC **Murrieta** 81.89 49 P P 11 46 12.3 +0.8
baz=237
BFSC **Mount Baldy Ra** 81.92 48 P P 11 46 12.8 +1.0
baz=236
KHMM **Horse Mountain** 81.92 40 P P 11 46 13.9 +2.2
KHMM IAmb IAmb 11 46 14.6
comp=Z,27nm,0.9s
EDW2 **Edwards Air Fo** 82.04 47 P P 11 46 13.5 +1.1
baz=236,SNR=5.2
MONP2 **Monument Peak** 82.04 50 P P 11 46 14.0 +1.4
baz=237,SNR=8.8
O02D **Mt. Diablo Mer** 82.05 41 P P 11 46 14.2 +2.0
baz=232,SNR=20
IKP **In-Ko-Pah, Jac** 82.13 50 P P 11 46 14.0 +1.1
baz=237
ISA **Isabella, Lake** 82.16 47 P P 11 46 14.1 +1.1
baz=236,SNR=14
ISA **Isabella, Lake** 82.16 47 IAmb IAmb 11 46 15.2
comp=Z,17nm,0.9s
KRMB **Red Mountain** 82.22 39 IAmb IAmb 11 46 16.2
comp=Z,23nm,1.0s
CMB **Columbia Colle** 82.26 44 IAmb IAmb 11 46 15.5
comp=Z,15nm,0.9s
CN2 **Changchun** 82.31 324 eP P 11 46 13.8 +0.4
CN2 epP pP 11 48 11.3 -7.9
CN2 SKS S 11 55 40.4 -0.1
CN2 eSS SS 12 01 25.0 +5.1
CN2 pmax pmax
comp=Z,120nm,1.1s
CN2 pmax pmax
comp=Z,120nm,6.5s
PFO **Pinyon Flats O** 82.41 49 P P 11 46 15.4 +1.2
baz=215,slow=9.2
PFO **Pinyon Flats O** 82.41 49 P P 11 46 15.5 +1.2
baz=237
TPFO **Pinon Flats** 82.41 49 P P 11 46 15.6 +1.3
baz=237
WDC **Whiskeytown Da** 82.44 41 P P 11 46 15.3 +1.1
WDC IAmb IAmb 11 46 16.8
comp=Z,21nm,1.1s
ORV **Oroville** 82.46 42 P P 11 46 14.6 +0.3
SWSC **Sam W. Stewart** 82.51 50 P P 11 46 15.8 +1.1
baz=238,SNR=6.1
LRMC **Laurel Mtn Rad** 82.59 47 P P 11 46 16.3 +1.2
baz=236,SNR=5.1
N02D **Trinity Center** 82.59 40 P P 11 46 16.8 +1.8
baz=232,SNR=13
O03E **Paynes Creek** 82.72 41 P P 11 46 16.6 +0.9
baz=233,SNR=16
M02C **Callahan** 82.75 40 P P 11 46 17.7 +1.9
baz=232,SNR=29
L02E **Cave Junction** 82.79 39 P P 11 46 17.1 +1.3
baz=231,SNR=9.8
KEBM **Edson Butte** 82.82 38 IAmb IAmb 11 46 18.8
comp=Z,38nm,1.3s
CWC **Cottonwood Cre** 82.86 46 P P 11 46 17.3 +0.8
baz=236
MDPB **Devils Postpil** 82.87 45 P P 11 46 17.6 +0.9
OMMB **Old Mammoth Mi** 82.91 45 P P 11 46 18.0 +1.0
BELC **Belle Mtn. Jos** 82.94 49 P P 11 46 18.1 +1.1
baz=237,SNR=8.9
KDAK **Kodiak Island** 83.03 15 P P 11 46 16.7 +0.1
comp=Z,3.1nm,0.4s,baz=137,slow=18,SNR=1.6
KDAK **Kodiak Island** 83.03 15 IAmb IAmb 11 46 32.2
comp=Z,55nm,1.4s
MPMC **Manual Prospec** 83.04 47 P P 11 46 18.6 +1.1
baz=236,SNR=9.1
YBH **Yreka Blue Hor** 83.05 40 P P 11 46 18.9 +1.6
comp=Z,10nm,0.9s,baz=176,slow=2.5,SNR=46
YBH **Yreka Blue Hor** 83.05 40 P P 11 46 18.8 +1.6
YBH IAmb IAmb 11 46 20.1
comp=Z,14nm,0.9s
GSC **Goldstone, Bar** 83.09 48 P P 11 46 18.7 +1.1
baz=237,SNR=8.6
K02D **Willamette Mer** 83.09 38 P P 11 46 18.9 +1.4
baz=231,SNR=8.9
TIN **Tinemaha, Big** 83.10 45 P P 11 46 19.1 +1.5
baz=236
BC3 **Big Chuckawall** 83.14 50 P P 11 46 19.2 +1.3
baz=238,SNR=5.9
WAKR **Walker** 83.14 44 IAmb IAmb 11 46 20.5
comp=Z,22nm,1.1s
HEC **Hector,Ludlow** 83.15 48 P P 11 46 19.1 +1.1
baz=237,SNR=10
J01E **Myrtle Point** 83.23 38 P P 11 46 19.5 +1.5
baz=231,SNR=8.8
GLA **Glamis** 83.26 50 P P 11 46 20.3 +1.8
baz=238
PNTR **Pine Nut** 83.38 43 IAmb IAmb 11 46 21.5
comp=Z,25nm,0.9s
HUMO **Hull Mountain** 83.44 39 P P 11 46 20.7 +1.6
HUMO IAmb IAmb 11 46 22.1
comp=Z,22nm,1.1s
VCNR **Virginia City** 83.47 43 P P 11 46 20.4 +0.9
YERR **Yerington** 83.55 43 P P 11 46 20.0 0.0
L04D **Klamath Falls** 83.58 39 P P 11 46 21.0 +1.0
baz=232,SNR=22
GMRC **Granite Mounta** 83.59 49 P P 11 46 21.2 +1.0
baz=237,SNR=8.3
M04C **Macdoel** 83.60 40 P P 11 46 21.4 +1.3
baz=233,SNR=12
LHV **Little Huntoon** 83.60 44 P P 11 46 20.1 +0.2
LHV IAmb IAmb 11 46 22.5
comp=Z,14nm,1.1s
IRM **Iron Mountain** 83.62 49 P P 11 46 21.5 +1.3
baz=238,SNR=7.0
FURC **Furnace Creek,** 83.69 47 P P 11 46 21.5 +1.1
baz=236,SNR=5.0
TUQ **Turquoise Moun** 83.76 48 P P 11 46 21.9 +0.9
baz=237,SNR=6.7
SHOC **Shoshone, Teco** 83.77 47 P P 11 46 21.9 +1.0
baz=237
NVAR **Mina Array Bea** 83.83 44 P P 11 46 22.3 +0.9
comp=Z,15nm,1.2s,baz=222,slow=7.9,SNR=31
NVAR **Mina Array Bea** 83.83 44 P P 11 46 22.1 +0.7
I02D **Swisshome** 83.87 37 P P 11 46 22.9 +1.7
baz=231
PAHR **Pah Rah Range** 83.87 43 P P 11 46 21.6 +0.1
I03D **Drain, OR** 83.89 38 P P 11 46 22.5 +1.3
baz=231,SNR=12
214A **Organ Pipe Nat** 84.15 52 P P 11 46 24.5 +1.6
baz=239
K04D **Chiloquin, OR** 84.16 39 P P 11 46 24.2 +1.5
baz=233
NEE2 **Needles Airpor** 84.31 49 P P 11 46 24.8 +1.2
baz=236
KVN **Kaiserville** 84.31 44 P P 11 46 23.5 -0.2
J04D **Umpqua Nationa** 84.32 39 P P 11 46 24.9 +1.3
baz=232,SNR=24
TPNV **Topopah Spring** 84.36 46 P P 11 46 25.0 +1.0
baz=237
TPNV **Topopah Spring** 84.36 46 P P 11 46 25.0 +1.0
I04A **Tendick Farm,** 84.49 38 P P 11 46 24.9 +0.6
baz=232,SNR=11
SYO **Syowa Base** 84.54 193 eP P 11 46 23.0 -1.1
SYO **Syowa Base** 84.54 193 ePcP P 11 46 26.2 +2.1
MOD **Modane Plateau** 84.59 41 IAmb IAmb 11 46 27.2
comp=Z,14nm,1.1s
H04D **Lebanon** 84.75 37 P P 11 46 26.9 +1.5
baz=232,SNR=8.2
J05D **Fort Rock, OR** 84.86 39 P P 11 46 27.4 +1.2
baz=233,SNR=41
G03D **McMinnville, O** 84.89 37 P P 11 46 27.6 +1.5
baz=231
I05D **Terrebonne, OR** 85.43 38 P P 11 46 29.8 +1.0
baz=233,SNR=7.8
BJI **Beijing** 85.55 316 P P 11 46 30.4 +1.0
BJI pmax pmax
comp=Z,7.0nm,0.6s
R11A **Troy Canyon, C** 85.56 46 P P 11 46 30.3 +0.5
baz=237
TUC **Tucson** 85.82 53 P P 11 46 32.5 +1.5
baz=240
TUC **Tucson** 85.82 53 P P 11 46 32.0 +1.0
NLWA **Neilton Lookou** 85.93 35 P P 11 46 31.9 +0.8
NLWA IAmb IAmb 11 46 33.5
comp=Z,9.8nm,0.9s
G05D **Wamic, OR** 85.99 37 P P 11 46 32.5 +1.1
baz=233
E04D **Cinebar** 86.10 36 P P 11 46 33.4 +1.5
baz=232
O22K **Cooper Landing** 86.11 15 P P 11 46 33.9 +2.4
baz=208
F05D **White Salmon** 86.30 37 P P 11 46 34.5 +1.7
baz=233
SNAA **Sanae** 86.34 179 P P 11 46 32.6 -0.1
D04E **Lakebay** 86.38 35 P P 11 46 34.8 +1.7

baz=232
D03D **Eldon** 86.43 35 P P 11 46 35.1 +1.8
baz=231
VNA3 **Neumayer Olymp** 86.56 177 P P 11 46 34.2 +0.4
CCUT **Cedar City** 86.63 47 P P 11 46 35.5 +0.6
RC01 **Rabbit Creek A** 86.65 14 P P 11 46 34.3 +0.3
baz=208
KNB **Kanab** 86.73 48 P P 11 46 35.4 +0.1
PSUT **Pine Spring** 86.81 46 P P 11 46 36.0 +0.3
SZCU **Shurtz Canyon** 86.84 47 P P 11 46 36.5 +0.6
PGC **Sidney** 86.94 34 IAmb IAmb 11 46 37.8
comp=Z,21nm,0.9s
WUAZ **Wupatki** 86.98 50 P P 11 46 37.4 +0.9
PMR **Palmer** 87.23 14 IAmb IAmb 11 46 37.4
comp=Z,27nm,1.1s
A04D **Lummi Island** 87.37 34 P P 11 46 39.1 +1.4
baz=232
XAN **Xi'an** 87.40 308 P P 11 46 39.1 +0.8
XAN pmax pmax
comp=Z,8.0nm,0.9s
B05A **Bryant** 87.41 35 P P 11 46 39.5 +1.6
baz=232
HAWA **Hanford** 87.68 37 P P 11 46 40.6 +1.3
HAWA IAmb IAmb 11 46 41.6
comp=Z,22nm,0.8s
W18A **Petrified Fore** 87.95 51 P P 11 46 42.4 +1.3
baz=241
BMO **Blue Mountains** 88.07 39 IAmb IAmb 11 46 43.1
comp=Z,7.7nm,1.1s
121A **Cooks Peak, D** 88.15 54 P P 11 46 43.8 +1.7
baz=242
MFID **Camas Ranch** 88.16 41 IAmb IAmb 11 46 44.0
comp=Z,15nm,1.0s
N25K **Chitina, Valde** 88.35 16 P P 11 46 42.9 +0.8
baz=213
CMAR **Chiang Mai Arr** 88.58 290 P P 11 46 45.8 +1.6
comp=Z,2.7nm,0.9s,baz=118,slow=3.1,SNR=14
CMAR PP PP 11 50 25.2 +1.0
comp=Z,0.5nm,0.4s,baz=127,slow=6.9,SNR=4.3
CMAR **Chiang Mai Arr** 88.58 290 P P 11 46 45.3 +1.2
HHC **Hu-ho-hao-te** 88.96 315 eP P 11 46 44.7 -0.8
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,250nm,6.8s
PLID **Pearl Lake** 88.97 40 IAmb IAmb 11 46 47.4
comp=Z,19nm,1.4s
HLID **Hailey** 89.11 42 P P 11 46 47.1 +0.8
baz=238
HLID **Hailey** 89.11 42 IAmb IAmb 11 46 48.6
comp=Z,7.1nm,1.1s
MCK **McKinley** 89.15 13 P P 11 46 45.7 0.0
baz=209
MNTX **Cornudas Mount** 89.59 55 P P 11 46 49.6 +1.0
baz=244
MNTX **Cornudas Mount** 89.59 55 IAmb IAmb 11 46 50.9
comp=Z,7.4nm,0.9s
MENT **Mentasta** 89.69 16 IAmb IAmb 11 46 49.4
comp=Z,9.5nm,1.0s
PV05 **Paradox Valley** 89.82 48 IAmb IAmb 11 46 52.1
comp=Z,6.0nm,0.9s
NEA2 **Nenana** 89.88 13 P P 11 46 48.7 -0.4
baz=209
TX32 **Lajitas Array** 89.88 58 P P 11 46 51.0 +1.0
TX32 IAmb IAmb 11 46 52.8
comp=Z,7.2nm,0.9s
TXAR **Lajitas Array** 89.88 58 P P 11 46 51.9 +1.8
comp=Z,5.3nm,0.9s,baz=216,slow=5.7,SNR=45
TXAR **Lajitas Array** 89.88 58 P P 11 46 50.9 +0.8
HWUT **Hardware Ranch** 89.90 44 IAmb IAmb 11 46 51.5
comp=Z,6.3nm,0.7s
PV13 **Radium Mtn., P** 90.05 48 IAmb IAmb 11 46 53.2
comp=Z,9.1nm,1.3s
PV04 **Paradox Valley** 90.11 48 pP 11 48 53.2 -7.0
PV12 **Saucer Basin,** 90.14 48 IAmb IAmb 11 46 53.8
comp=Z,6.3nm,1.0s
HDA **Harding Lake** 90.18 14 P P 11 46 49.7 -0.8
baz=211
DOT **Dot Lake** 90.20 15 IAmb IAmb 11 46 51.4
comp=Z,9.9nm,1.0s
ANMO **Albuquerque** 90.24 52 P P 11 46 52.3 +0.6
baz=243
ANMO **Albuquerque** 90.24 52 P P 11 46 52.9 +1.2
ANMO IAmb IAmb 11 46 53.6
comp=Z,5.7nm,0.9s
IMAR **Indian Mountai** 90.25 11 P P 11 46 50.4 -0.3
BCAR **Beaver Creek A** 90.30 17 P P 11 46 50.9 -0.2
TCOL **CIGO, UAF Yank** 90.38 13 P P 11 46 50.8 -0.5
baz=210
COLA **College** 90.39 13 P P 11 46 49.9 -1.4
SCRK **Sand Creek** 90.50 15 P P 11 46 51.8 -0.3
baz=213
ILAR **Eielson Array** 90.50 14 P P 11 46 51.2 -0.7
comp=Z,1.7nm,0.4s,baz=211,slow=5.1,SNR=34
ILAR **Eielson Array** 90.50 14 P P 11 46 50.9 -1.1
AHID **Auburn Hatcher** 90.78 44 IAmb IAmb 11 46 56.7
comp=Z,6.3nm,0.9s
K27K **Chicken** 91.02 16 P P 11 46 54.6 +0.3
baz=215
REDW **Red Top Meadow** 91.23 43 IAmb IAmb 11 46 58.7
comp=Z,5.6nm,1.0s
S22A **4UR Ranch, Cre** 91.25 50 P P 11 46 56.9 +0.5
baz=243
SNOW **Snow King Moun** 91.34 43 IAmb IAmb 11 47 01.4
comp=Z,6.8nm,1.2s
O20A **White River Ci** 91.38 47 P P 11 46 57.8 +0.9
baz=242
BW06 **Boulder Array** 91.77 44 P P 11 46 59.0 +0.4
baz=241
PDAR **Pinedale Array** 91.77 44 P P 11 46 58.6 0.0
comp=Z,1.7nm,0.7s,baz=214,slow=3.4,SNR=17
EGAK **Eagle** 91.86 16 IAmb IAmb 11 46 58.6
comp=Z,6.2nm,0.9s
BOZ **Bozeman (W)** 91.86 41 P P 11 46 59.6 +0.7
baz=240
COLD **Coldfoot** 91.99 11 P P 11 46 59.6 +0.9
baz=208
LZH **Lanzhou** 92.04 308 ||P P 11 46 59.7 -0.2
LZH pP pP 11 49 08.3 -0.2
LZH PP PP 11 50 53.8 +2.8
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,97nm,9.2s
SDCO **Great Sand Dun** 92.19 50 P P 11 47 01.2 +0.5
baz=244
MSTX **Muleshoe** 92.55 54 P P 11 47 03.3 +1.0
baz=245
T25A **Trinidad** 92.70 51 P P 11 47 04.2 +1.2
baz=244
Q24A **Divide** 92.98 49 P P 11 47 05.0 +0.7
baz=244
EPYK **Eagle Plains** 94.25 16 P P 11 47 10.3 +1.1
baz=220
SONM **Songino Array** 95.58 320 P P 11 47 14.7 -1.0
comp=Z,0.3nm,0.4s,baz=106,slow=4.8,SNR=4.1
SONM PP PP 11 51 21.4 +3.6
comp=Z,0.8nm,0.8s,baz=109,slow=8.0,SNR=4.6
SONM **Songino Array** 95.58 320 P P 11 47 15.3 -0.4
ZALV **Zalesovo Beam** 110.41 321 PKiKP PKiKP 11 52 17.1 -1.2
comp=Z,0.8nm,0.4s,baz=19,slow=2.8,SNR=4.3
MKAR **Makanchi Array** 110.73 313 PKiKP PKiKP 11 52 18.3 -0.8
comp=Z,0.5nm,0.4s,baz=164,slow=0.9,SNR=9.7
KK31 **Karatay Array** 118.54 308 PKPdf 11 52 33.9 -0.3
KKAR **Karatay Array** 118.54 308 PKPdf PKPdf 11 52 33.4 -0.8
DAG **Danmarks Havn** 124.66 5 iP PKPdf 11 52 43.5 -1.4
comp=Z,3.3nm,0.7s
DAG **Danmarks Havn** 124.66 5 iP PKPdf 11 52 43.6 -1.4
DAG IAmb IAmb 11 52 44.8
comp=Z,3.3nm,0.7s
ARU **Arti** 125.31 324 PKPdf PKPdf 11 52 46.7 -0.1
ABKAR **Akbulak array** 125.75 315 PKPdf PKPdf 11 52 47.6 -0.2
ARCES **ARCESS Array B** 130.18 348 PKhKP PKPpre 11 52 45.1
comp=Z,4.2nm,1.0s,baz=29,slow=2.8,SNR=3.9
ARCES PKP PKPdf 11 52 55.5 -0.2
comp=Z,3.0nm,0.5s,baz=48,slow=1.3,SNR=19
ARCES SKPbc SKPab 11 55 24.9 +0.8
comp=Z,11nm,0.9s,baz=26,slow=5.0,SNR=11
KLMR **Klimovskoe** 132.51 335 ePKPdf PKPdf 11 53 00.2 -0.1
KLMR AMP 11 53 12.6
comp=Z,15nm,1.4s
KLMR ePP PP 11 55 31.8 -1.3
FINES **FINESS Array B** 136.74 342 PKP PKPdf 11 53 06.7 -1.4
comp=Z,1.7nm,0.4s,baz=89,slow=3.0,SNR=9.6
FINES SKPbc SKPbc 11 55 46.8 +1.5
comp=Z,5.4nm,0.9s,baz=5.7,slow=1.9,SNR=7.4
NB2 **NORSAR Subarra** 140.38 351 PKP PKPdf 11 53 08.5 -6.4

comp=Z,7.9nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 140.38 351 PKhKP PKPpre 11 53 08.8
comp=Z,1.4nm,0.7s,baz=20,slow=3.9,SNR=5.3
NOA PKP **PKPdf 11 53 16.3 +1.4**
comp=Z,0.5nm,0.4s,baz=14,slow=3.7,SNR=3.8
NOA SKPbc **SKiKP 11 55 56.9 -0.7**
comp=Z,3.2nm,1.0s,baz=16,slow=4.3,SNR=3.5
AKASG Malin Array Be 143.35 328 PKP PKPab 11 53 18.1 -0.8
comp=Z,5.7nm,0.3s,baz=43,slow=4.6,SNR=54
AKASG SKPbc **SKPbc 11 56 03.5 +0.5**
comp=Z,3.7nm,0.8s,baz=46,slow=2.4,SNR=9.2
AKASG Malin Array Be 143.35 328 PKPdf PKPab 11 53 18.0 -0.9
AKBB Malin Array Si 143.35 328 PKPdf PKPab 11 53 18.0 -0.9
HOMB Homborsund 143.42 352 *i* P PKPbc 11 53 19.3 +0.3
SNART Snartemo 143.51 353 *i* P PKPab 11 53 19.3 +0.1
SUW Suwalki 143.58 337 *e*PKP PKPab 11 53 19.8 +0.1
MUD Monsted U'grnd 145.09 351 *i* P **PKPbc 11 53 24.4 +0.2**
comp=Z,42nm,1.0s
MUD Monsted U'grnd 145.09 351 *i* P **PKPbc 11 53 24.4 +0.2**
MUD IAmb IAmb 11 53 25.9
comp=Z,42nm,1.0s
BSD Bornholm Skovb 145.21 345 *i* P **PKPbc 11 53 24.3 -0.2**
BSD Bornholm Skovb 145.21 345 *e*P **PKPdf 11 53 20.7 -2.7**
BSD IAmb IAmb 11 53 21.0
comp=Z,56nm,1.3s
BSD *i* P **PKPbc 11 53 24.4 -0.2**
COP Copenhagen 145.24 347 *i* P **PKPdf 11 53 16.1 -7.3**
SORM Soroca 145.41 325 ⇓P **PKPbc 11 53 25.2 -0.2**
BRTR Keskin Array B 146.24 309 PKPbc **PKPbc 11 53 27.9 -0.4**
comp=Z,4.1nm,0.8s,baz=118,slow=3.4,SNR=10
KWP Kalwaria Pacla 147.12 332 *e*PKP **PKPbc 11 53 30.7 +0.6**
BSEG Bad Segeberg 147.31 348 *e*PKPbc **PKPbc 11 53 30.5 +0.2**
baz=20,slow=2.4
BSEG *e*PKPab **PKPab 11 53 34.7 +0.4**
baz=20,slow=2.4
BIZ Bicaz 147.35 325 ⇓P **PKPbc 11 53 31.6 +0.8**
BURAR Bucovina Array 147.36 327 ⇑P **PKPbc 11 53 31.8 +0.9**
BURAR Bucovina Array 147.36 327 PKPdf **PKPdf 11 53 28.2 +0.8**
VRI Vrincioaia 147.69 323 ⇑P **PKPbc 11 53 31.8 +0.2**
PLOR Plostina 147.74 323 ⇓P **PKPbc 11 53 31.8 0.0**
KOLS Kolonicke sedl 147.83 331 *e*PKP **PKPbc 11 53 31.9 0.0**
OJC Ojcow 147.86 335 *e*PKP **PKPbc 11 53 32.0 0.0**
RUE Ruedersdorf 147.88 344 *e*PKPbc **PKPbc 11 53 32.2 +0.3**
baz=20,slow=2.4
CRVS Cervenica-Dubn 148.20 332 *e*PKP **PKPbc 11 53 33.6 +0.7**
NIE Niedzica 148.29 334 *e*PKP **PKiKP 11 53 34.2 -0.1**
MLR Muntele Rosu 148.35 323 ⇑P **PKPbc 11 53 32.9 -0.6**
MLR Muntele Rosu 148.35 323 **PKPbc 11 53 32.7 -0.8**
DOPR Dopca 148.35 325 ⇓P **PKiKP 11 53 34.1 -0.3**
KSP Ksiaz 148.59 340 *e*PKP **PKPbc 11 53 34.4 +0.6**
NRDL Niedersach Rie 148.71 348 *e*PKPbc **PKPbc 11 53 33.7 -0.1**
baz=20,slow=2.4
CJR Cluj-Napoca 148.79 327 ⇓P **PKiKP 11 53 35.5 +0.1**
OSTC Ostas 148.86 339 ⇑ *e*PKP **PKPbc 11 53 35.1 +0.7**
VOIR 148.87 324 ⇑P **PKiKP 11 53 35.6 -0.1**
CHVC Chvalec 148.89 340 ⇑ *e*PKP **PKiKP 11 53 35.2 -0.2**
CHVC *ex* x 11 53 41.2
ASSE Asse, Remlinge 148.94 347 *e*PKPbc **PKPbc 11 53 34.6 +0.2**
baz=20,slow=2.4
ASSE *e*PKPab **PKPab 11 53 40.5 -0.5**
baz=20,slow=2.4
UPC Upice 148.97 339 ⇑ *e*PKP **PKPbc 11 53 35.0 +0.3**
DPC Dobruska-Polom 149.00 339 ⇑ *e*PKP **PKPbc 11 53 35.3 +0.5**
DPC *e*PKPAB **PKPab 11 53 41.8 +0.3**
MORC Moravsky Berou 149.06 337 ⇓P **PKPbc 11 53 35.6 +0.5**
MORC Moravsky Berou 149.06 337 *e*PKP **PKPbc 11 53 35.5 +0.5**
KRLC Kraliky 149.08 338 ⇑ *e*PKP **PKPbc 11 53 35.5 +0.5**
ARR Arges 149.14 324 ⇓P **PKiKP 11 53 36.9 +0.7**
CLL Collm 149.15 343 ⇓ */*PKPbc **PKPbc 11 53 35.4 +0.3**
comp=Z,48nm,0.8s
CLL *i* PKPab **PKPab 11 53 42.0 0.0**
comp=Z,14nm,0.7s
CLL Collm 149.15 343 *e*PKPbc **PKPbc 11 53 35.1 0.0**
baz=20,slow=2.4
CLL *e*PKPab **PKPab 11 53 41.7 -0.3**
baz=20,slow=2.4
CLL Collm 149.15 343 **PKPbc 11 53 34.9 -0.2**
CLZ Clausthal 149.28 347 *e*PKPbc **PKPbc 11 53 35.8 +0.4**
baz=20,slow=2.4
BRG Berggiesshubel 149.28 342 *e*PKP **PKPdf 11 53 30.8 +0.5**
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 149.28 342 */* PKP **PKPbc 11 53 35.8 +0.3**
comp=Z,34nm,0.9s
BRG Berggiesshubel 149.28 342 */* PKP **PKPab 11 53 42.3 -0.2**
comp=Z,21nm,1.0s
BRG *e*pPKP **pPKPdf 11 55 42.6 -5.3**
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 149.28 342 *e*PKPbc **PKPbc 11 53 35.7 +0.3**
baz=20,slow=2.4
BRG *e*PKPab **PKPab 11 53 42.7 +0.2**
baz=20,slow=2.4
IBBN Ibbenburen 149.31 350 *e*PKPbc **PKPbc 11 53 35.6 +0.2**
baz=20,slow=2.4
IBBN *e*PKPab **PKPab 11 53 42.3 -0.3**
baz=20,slow=2.4
FBE Freiberg 149.40 343 *e*PKPbc **PKiKP 11 53 36.3 -0.1**
baz=20,slow=2.4
FBE *e*PKPab **PKPab 11 53 43.0 -0.1**
baz=20,slow=2.4
PVCC Panska Ves 149.40 341 ⇑ *e*PKP **PKiKP 11 53 36.6 +0.1**
NEUB Neuenburg 149.55 345 *e*PKPbc **PKPbc 11 53 36.2 +0.2**
baz=20,slow=2.4
NEUB *e*PKPab **PKPab 11 53 43.7 0.0**
baz=20,slow=2.4
LOT Lotru 149.55 325 ⇑P **PKPbc 11 53 36.2 -0.2**
VYHS Vyhne 149.62 334 *e*PKP **PKiKP 11 53 36.9 -0.1**
VYHS *e* 11 53 44.6
PSZ Piszkesteto 149.63 332 ⇑P **PKPbc 11 53 36.9 +0.4**
PSZ Piszkesteto 149.63 332 **PKPbc 11 53 36.8 +0.4**
GTTG Gottingen 149.64 347 *e*PKPbc **PKPbc 11 53 36.6 +0.4**
baz=20,slow=2.4
JAVC Velka Javorina 149.78 336 *e*PKP **PKiKP 11 53 38.1 +0.7**
JAVC *e* 11 53 46.0
VRAC Vranov 149.80 338 ⇓P **PKPbc 11 53 37.2 +0.5**
VRAC Vranov 149.80 338 *e*PKP **PKPbc 11 53 36.7 0.0**
VRAC *e* 11 53 45.2
GOPC GO Pecny, Ondr 149.88 340 ⇑ *e*PKP **PKPbc 11 53 37.0 +0.1**
PRU Pruhonice 149.89 341 ⇑ *e*PKP **PKPbc 11 53 37.2 +0.3**
SIRR Siria 150.05 328 ⇓P **PKPbc 11 53 37.8 +0.3**
KRUC Moravsky 150.07 338 *e*PKP **PKPbc 11 53 37.5 +0.2**
TANN Tannenbergstha 150.10 343 *e*PKPbc **PKPbc 11 53 37.5 +0.1**
baz=20,slow=2.4
TANN *e*PKPab **PKPab 11 53 46.1 0.0**
baz=20,slow=2.4
GZR Gura Zlata 150.11 326 ⇓P **PKPbc 11 53 37.5 -0.1**
MOX Moxa 150.11 345 *e*PKPbc **PKPbc 11 53 37.4 0.0**
baz=20,slow=2.4
MOX *e*PKPab **PKPab 11 53 45.8 -0.3**
baz=20,slow=2.4
WERD Werda 150.11 344 *e*PKPbc **PKPbc 11 53 37.6 +0.2**
baz=20,slow=2.4
WERD *e*PKPab **PKPab 11 53 46.5 +0.4**
baz=20,slow=2.4
PLN Plauen 150.12 344 *e*PKPbc **PKPbc 11 53 37.4 0.0**
baz=20,slow=2.4
PLN *e*PKPab **PKPab 11 53 46.3 +0.2**
baz=20,slow=2.4
GUNZ Gunzen 150.18 343 *e*PKPbc **PKPbc 11 53 37.8 +0.2**
baz=20,slow=2.4
GUNZ *e*PKPab **PKPab 11 53 47.0 +0.6**
baz=20,slow=2.4
BUG Bochum--Univer 150.23 350 *e*PKPbc **PKPbc 11 53 37.6 0.0**
baz=20,slow=2.4
WERN Wernitzgruen 150.24 343 *e*PKPbc **PKiKP 11 53 38.5 +0.2**
baz=20,slow=2.4
WERN *e*PKPab **PKPab 11 53 47.1 +0.5**
baz=20,slow=2.4
NKC Novy Kostel 150.27 343 ⇑ *e*PKP **PKPbc 11 53 38.0 +0.2**
NKC *e*PKPAB **PKPab 11 53 47.6 +0.8**
PBCC Pribram 150.32 341 ⇑ *e*PKP **PKPbc 11 53 38.3 +0.4**
MODS Modra-Piesok 150.32 336 *e*PKP **PKPbc 11 53 37.9 -0.1**
MODS *e* 11 53 47.1
AKAS Kas 150.45 305 **PKPbc 11 53 38.5 -0.3**
BZS Buzias 150.54 328 ⇓P **PKPbc 11 53 38.5 0.0**
MANZ Manzenberg 150.59 343 *e*PKPbc **PKPbc 11 53 38.8 +0.2**
baz=20,slow=2.4
MANZ *e*PKPab **PKPab 11 53 47.9 -0.2**
baz=20,slow=2.4
HERR Herculane 150.64 326 ⇓P **PKPbc 11 53 38.7 -0.1**
ROTZ Rotzenmuhle 150.76 343 *e*PKPbc **PKPbc 11 53 39.1 +0.2**
baz=20,slow=2.4
KHC Kasperske Hory 150.94 341 ⇑ *e*PKP **PKiKP 11 53 39.9 +0.2**
KHC *ex* x 11 53 49.7
KHC *ex* x 11 56 01.9
MDVR Moldovita 151.07 326 ⇑P **PKPbc 11 53 39.9 0.0**

GRF Grafenberg Arr 151.09 344 *e*PKPbc **PKPbc 11 53 39.7 +0.1**
baz=20,slow=2.4
WET Wettzell 151.14 342 *e*PKPab **PKPab 11 53 50.6 +0.2**
baz=20,slow=2.4
GEC2 GERESS Array S 151.16 340 *e*PKPbc **PKPbc 11 53 40.0 0.0**
baz=20,slow=2.4
GERES GERESS Array B 151.16 340 PKPbc **PKPbc 11 53 40.0 0.0**
comp=Z,3.8nm,0.6s,baz=42,slow=2.2,SNR=28
GERES PKPab **PKPab 11 53 50.8 +0.1**
comp=Z,0.7nm,0.3s,baz=76,slow=5.6,SNR=5.5
GERES GERESS Array B 151.16 340 **PKPbc 11 53 39.8 -0.1**
TNS Taunus Mts 151.20 348 *e*PKPbc **PKPbc 11 53 39.9 -0.1**
baz=20,slow=2.4
CONA Conrad Observa 151.22 337 *e*P **PKPbc 11 53 40.4 +0.3**
comp=Z,13nm,0.8s
CONA *e*P **PKPab 11 53 51.8 +0.9**
comp=Z,10nm,0.9s
MEM Membach 151.23 351 PKiKP **PKPbc 11 53 40.3 +0.4**
BCLA Clavier 151.50 352 PKPab **PKPab 11 53 51.4 -0.5**
SNF Seneffe 151.53 354 PKPab **PKPab 11 53 51.9 -0.1**
BMRD Maredsous 151.68 353 PKiKP **PKPbc 11 53 40.9 0.0**
MOA Molln 151.85 339 *e*P **PKPbc 11 53 40.7 -0.7**
comp=Z,4.0nm,1.2s
ARSA Arzberg 151.92 337 *e*P **PKPbc 11 53 41.6 0.0**
comp=Z,1.0nm,0.5s
WLF Walferdange 152.13 351 PKiKP **PKiKP 11 53 43.2 +1.1**
SOKA Soboth 152.58 337 *e*P **PKPbc 11 53 42.2 -0.9**
comp=Z,5.8nm,1.1s
SOKA *e*P **PKPab 11 53 56.7 0.0**
comp=Z,12nm,1.5s
KBA Koelnbreinsper 152.82 339 *e*P **PKPbc 11 53 42.5 -1.3**
comp=Z,1.9nm,0.5s
OBKA Obir 152.90 337 *e*P **PKPbc 11 53 42.9 -1.0**
comp=Z,13nm,1.9s
BFO Black Forest 153.03 347 **PKPab 11 53 58.3 -0.2**
MYKA Terra Mystica 153.12 338 *e*P **PKPbc 11 53 43.5 -0.8**
comp=Z,4.9nm,1.1s
MYKA *e*P **PKPab 11 53 57.9 -1.1**
comp=Z,3.1nm,0.5s
WATA Walderalm 153.14 342 *e*P **PKPbc 11 53 44.3 -0.1**
comp=Z,4.3nm,0.4s
WATA *e*P **PKPab 11 53 59.6 +0.4**
comp=Z,8.8nm,0.8s
WTTA Wattenberg 153.19 342 *e*P **PKPbc 11 53 44.2 -0.4**
comp=Z,5.6nm,0.5s
WTTA *e*P **PKPab 11 53 59.5 +0.1**
comp=Z,12nm,0.7s
RETA Reutte 153.24 343 *e*P **PKPbc 11 53 59.4 0.0**
comp=Z,12nm,0.9s
MOTA Moosalm 153.27 342 *e*P **PKPbc 11 53 44.4 -0.4**
comp=Z,8.2nm,1.0s
MOTA *e*P **PKPab 11 53 59.0 -0.7**
comp=Z,6.4nm,0.8s
SQTA Sankt Quirin 153.35 342 *e*P **PKPab 11 54 00.3 +0.3**
comp=Z,6.1nm,0.7s
ABTA Abfaltersbach 153.39 340 *e*P **PKPbc 11 53 44.4 -0.5**
comp=Z,3.4nm,0.6s
ABTA *e*P **PKPab 11 53 59.9 -0.3**
comp=Z,8.1nm,1.0s
DAVA Damuels 153.65 344 *e*P **PKPab 11 54 01.2 -0.1**
comp=Z,14nm,0.8s
FETA Feichten 153.67 343 *e*P **PKPbc 11 53 45.6 0.0**
comp=Z,7.2nm,0.9s
FETA *e*P **PKPab 11 54 01.7 +0.2**
comp=Z,7.6nm,1.0s
ESDC Sonseca Array 162.35 9 PKPab **PKPab 11 54 39.2 0.0**
comp=Z,4.2nm,0.9s,baz=350,slow=3.9,SNR=14
ESDC Sonseca Array 162.35 9 **PKPab 11 54 39.0 -0.2**
TORD Torodi Ar. Bea 170.75 193 PKP **PKPdf 11 53 54.0 -0.5**
comp=Z,3.4nm,1.3s,baz=137,slow=0.2,SNR=5.8
TORD PKPab **PKPab 11 55 16.6 -0.1**
comp=Z,1.2nm,0.7s,baz=171,slow=3.4,SNR=5.7
TORD Torodi Ar. Bea 170.75 193 **PKPdf 11 53 54.2 -0.4**

IDC 09 11:36:10.5±20.0, 7.53N×92.10E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.5/44, mbtmp3.7/3, ML4.0/1, MS3.8/3, Ms1 3.8/3, ms1mx2.8/49, Error ellipse: s-maj=377.6km s-min=87.4km az=158.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.74**	**31**	Pn	Pn	11 39 13.2	+0.1
	0.2nm,0.3s,baz=221,slow=15,SNR=5.3						
H08S3	**Diego Garcia H**	**24.68**	**233**	T	T	12 08 25.8	
	baz=55,slow=75,SNR=57						
H08S2	**Diego Garcia H**	**24.69**	**233**	T	T	12 08 22.9	
	baz=55,slow=75,SNR=75						
H08S1	**Diego Carcia H**	**24.70**	**233**	T	T	12 08 23.1	
	baz=55,slow=75,SNR=38						
MKAR	**Makanchi Array**	**40.02**	**350**	P	P	11 43 47.9	+0.7
	1.1nm,0.8s,baz=166,slow=7.3,SNR=5.6						
KSRS	**Korea Array**	**44.06**	**42**	LR	LR	12 03 18.3	
	comp=Z,92nm,18.3s,baz=167,slow=37						
ZALV	**Zalesovo Beam**	**46.66**	**354**	P	P	11 44 39.7	-1.0
	0.9nm,0.6s,baz=152,slow=9.5,SNR=4.3						
USRK	**Usuriysk Ar.**	**50.38**	**37**	LR	LR	12 09 16.6	
	comp=Z,56nm,18.1s,baz=186,slow=39						
SEY	**Seymchan**	**70.09**	**25**	LR	LR	12 19 37.7	
	comp=Z,79nm,18.8s,baz=35,slow=37						

DJA 09 11:38:54.9±1.2, 8°S±4°×117°E±°, h26km±15km, M4.1/13, mB4.9/2, mb4.3/4, MLv4.0/13, Mw(mB)4.2/2, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.86**	**176**	P	Pb	11 39 10.8	-0.5
PLAI				S	Sn	11 39 23.1	-0.1
TWSI	**Taliwang, Sumb**	**1.13**	**227**	P	Pn	11 39 14.4	-0.6
TWSI				S	Sb	11 39 29.9	-0.1
ABJI	**Asem Bagus**	**3.45**	**272**	P	Pn	11 39 46.7	-0.2
BKSI	**Bulukumba**	**3.55**	**43**	P	Pn	11 39 47.8	-0.6
JAGI	**Jajag, Banyuwa**	**3.56**	**262**	P	Pn	11 39 48.1	-0.4
EDFI	**Ende, Flores**	**4.02**	**102**	P	Pn	11 39 55.5	+0.6
BLJI	**Banyuglugur**	**4.08**	**273**	P	Pn	11 39 56.2	+0.5
GMJI	**Gumukmas**	**4.24**	**265**	P	Pn	11 39 57.8	0.0
GRJI	**Gresik**	**5.29**	**281**	P	Pn	11 40 12.1	-0.2
	0.2nm880nm61nm,1.1s						
TTSI	**Tana Toraja**	**5.32**	**23**	P	Pn	11 40 12.9	+0.3
	0.1nm1μm9.2nm,1.1s						
PWJI	**Pagerwojo**	**5.85**	**269**	P	Pn	11 40 19.6	-0.4
	0.2nm28nm,1.4s						
UGM	**Wanagama**	**7.12**	**270**	P	Pn	11 40 41.7	+4.2

*MEX **09** 11:39:32.0±1.1, 14°.37N×92°.17W, h80km±14km, MD3.9*
*GCG **09** 11:39:35.5±0.7, 14°.44N×92°.21W, h60km±128km, MD4.2*

ISC 09 11:39:34.4±1.9, 14°.5N±0°.1×92°.32W±0°.09, h65km±14km, n9, σ0°83/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.41**	**7**	*e*P	**Pn**	**11 39 45.2**	**-0.8**
THIG				*i* S	**Sn**	**11 39 55.3**	**+1.0**
FUG	**Fuego 3**	**1.43**	**92**	*e*P	**Pn**	**11 39 58.1**	**-0.5**
FUG				*e*S	**Sn**	**11 40 16.4**	**-0.2**
PCIG		**1.48**	**324**	*e*P	**Pn**	**11 39 58.4**	**-0.5**
PCIG				*i* S	**Sn**	**11 40 18.3**	**+0.9**
PCG	**Pacaya**	**1.66**	**94**	*e*P	**Pn**	**11 40 02.1**	**+0.5**
PCG				*e*S	**Sn**	**11 40 22.2**	**-0.1**
CCIG	**Comitan**	**1.78**	**6**	*e*P	**Pn**	**11 40 02.7**	**-0.5**
CCIG				*i* S	**Sn**	**11 40 25.0**	**+0.1**
IXG	**Ixpaco**	**1.85**	**100**	*e*P	**Pn**	**11 40 04.0**	**-0.1**
NBG	**Las Nubes**	**1.91**	**87**	*e*P	Pn	11 40 06.9	+1.8
TGIG		**2.39**	**341**	*i* P	**Pn**	**11 40 10.6**	**-0.8**
TGIG				*i* S	**Sn**	**11 40 41.1**	**+1.5**
CMIG	**Matias Romero**	**3.57**	**317**	*e*P	**Pn**	**11 40 26.6**	**-0.8**
CMIG				*i* S	**Sn**	**11 41 09.2**	**+0.8**

*IDC **09** 11:57:25.0±1.7, 4°.99N×126°.05E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/51, mbtmp3.9/5, Error ellipse: s-maj=103.9km s-min=22.6km az=68.0*
*MAN **09** 11:57:44.3, 4°.67N×126°.04E, h155km, mb4.8, ML3.6, MS3.6*

ISC 09 11:57:43.4±0.9, 4°.65N±0°.09×126°.1E±0°.2, h150km, n10, σ1862/14, mb3.8/5, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.51**	**344**	*e*P	**Pn**	**11 58 14.9**	**+1.8**
DDMP				*e*S	**Sn**	**11 58 37.7**	**+1.8**
MATI	**Mati**	**2.29**	**3**	*e*P	**Pn**	**11 58 21.0**	**-1.0**
SKMP	**Bagumbayan, Su**	**2.44**	**320**	*e*P	**Pn**	**11 58 24.5**	**+0.6**
SKMP				*e*S	**Sn**	**11 58 53.7**	**-1.3**
KCP	**Kidapawan**	**2.57**	**336**	⇓ *i*P	**Pn**	**11 58 27.1**	**+1.6**
KCP				*i* S	**Sn**	**11 58 59.9**	**+2.0**
BUKP	**Musuan**	**3.38**	**342**	*e*P	**Pn**	**11 58 36.5**	**+0.8**
BUKP				*e*S	**Sn**	**11 59 17.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**22.60**	**181**	P	**P**	**12 02 31.8**	**+0.1**
	2.3nm,0.3s,baz=8.2,slow=8.0,SNR=34						
WRA	**Warramunga Arr**	**25.73**	**162**	P	**P**	**12 03 00.2**	**+0.1**
	0.8nm,0.4s,baz=339,slow=10,SNR=36						
ASAR	**Alice Springs**	**29.14**	**165**	P	**P**	**12 03 30.9**	**+0.3**
	0.9nm,0.5s,baz=344,slow=7.4,SNR=28						
STKA	**Stephens Creek**	**39.19**	**159**	P	**P**	**12 04 57.8**	**+0.8**
	0.8nm,0.4s,baz=338,slow=9.4,SNR=4.6						
MKAR	**Makanchi Array**	**56.47**	**325**	P	**P**	**12 07 06.4**	**-3.3**
	0.4nm,0.5s,baz=115,slow=7.6,SNR=8.6						

*SKHL **09** 12:03:48.4±0.1, 47°.01N×145°.13E, h376km±4km, mb4.5/3, msh4.6/2*
*IDC **09** 12:03:48.6±1.6, 47°.03N×144°.68E, h402km±18km, mb3.0/10, mb1 3.2/13, mb1mx3.0/53, mbtmp3.8/13, Error ellipse: s-maj=17.6km s-min=14.0km az=128.0*

ISC 09 12:03:47.9±0.7, 46°.79N±0°.06×144°.67E±0°.08, h400km, n33, σ1897/43, mb3.3/10, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**1.32**	**278**	*i* P	**Pn**	**12 04 41.2**	**+1.0**
YSS				AMB	AMB	12 04 41.7	
	200nm,0.9s						
YSS				*i* S	**S**	**12 05 22.4**	**-0.1**
YSS				A	A	12 05 24.6	
	40nm,0.7s						
YSS				A	A	12 05 24.6	
	30nm,0.7s						
JSE	**Soyaes**	**2.34**	**219**	P	**Pn**	**12 04 47.7**	**+1.6**
JWK2	**Keihoku**	**2.43**	**234**	P	**Pn**	**12 04 48.9**	**+2.2**
KUR	**Kuril'sk**	**2.72**	**124**	*e*P	**Pn**	**12 04 49.4**	**+0.5**
JTKR	**Abashiri--Toko**	**2.87**	**191**	P	**Pn**	**12 04 51.7**	**+1.6**
UGL	**Uglegorsk**	**2.88**	**324**	*e*P	**Pn**	**12 04 49.8**	**-0.1**
UGL				AMB	AMB	12 04 50.5	
	200nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.88**	**163**	*e*P	**Pn**	**12 04 50.9**	**+0.7**
YUK				*e*S	**S**	**12 05 39.5**	**-1.1**
YUK				A	A	12 05 39.9	
	110nm,0.5s						
YUK				A	A	12 05 39.9	
	30nm,0.5s						
GRPR	**Tuman**	**2.91**	**164**	*e*P	**Pn**	**12 04 54.6**	**+4.2**
GRPR				*e*S	**S**	**12 05 41.4**	**+0.5**
ASAJ	**Asahikawa**	**3.05**	**209**	P	**Pn**	**12 04 54.0**	**+2.4**
	0.5nm,0.3s,baz=266,slow=13,SNR=6.4						
GLVR	**Golovnino**	**3.11**	**169**	*e*P	**Pn**	**12 04 54.2**	**+2.1**
GLVR				*e*S	**S**	**12 05 45.2**	**+1.2**
NMR	**Nemuro--Hokkai**	**3.50**	**167**	*e*P	**Pn**	**12 04 54.2**	**-1.3**
NEM2	**Nemuro 2**	**3.51**	**167**	P	**Pn**	**12 04 54.1**	**-1.4**
NEM2				*e*S	**S**	**12 05 46.7**	**-3.5**
JAR	**Ashorobuto**	**3.55**	**191**	P	**Pn**	**12 04 57.4**	**+1.5**
AKK	**Akkeshi**	**3.78**	**178**	*e*P	**Pn**	**12 04 59.5**	**+1.6**
JAK	**Akkeshi**	**3.80**	**180**	P	**Pn**	**12 04 57.7**	**-0.4**
JAK				*e*S	**S**	**12 05 53.1**	**-1.9**
JCH	**Churui**	**4.28**	**193**	P	**Pn**	**12 05 02.5**	**-0.2**
JCH				*e*S	**S**	**12 06 00.5**	**-2.9**
TYV	**Tymovskoe**	**4.29**	**343**	*e*P	**Pn**	**12 05 01.3**	**-1.2**
TYV				AMB	AMB	12 05 01.7	
	40nm,0.7s						
JNBK	**Urakawa-nobuka**	**4.72**	**198**	P	**Pn**	**12 05 07.5**	**+0.5**
JNBK				*e*S	**S**	**12 06 09.2**	**-2.1**
JKB	**Kayabe**	**5.55**	**209**	P	**Pn**	**12 05 16.0**	**+0.3**
JKB				*e*S	**S**	**12 06 23.4**	**-3.8**
JOT	**Ohata**	**6.00**	**207**	P	**Pn**	**12 05 20.7**	**+0.1**
JOT				*e*S	**S**	**12 06 32.7**	**-3.4**
JANG	**Nango**	**6.81**	**201**	*e*S	**S**	**12 06 48.4**	**-4.1**
USRK	**Ussuriysk Ar.**	**9.28**	**258**	P	**Pn**	**12 05 58.9**	**+1.4**
	baz=69,slow=10,SNR=10						
KSRS	**Korea Array**	**15.51**	**239**	P	**P**	**12 07 09.2**	**+3.4**
	0.7nm,0.3s,baz=37,slow=10,SNR=19						
SONM	**Songino Array**	**25.80**	**286**	P	**P**	**12 08 45.1**	**+0.5**
	0.8nm,0.3s,baz=87,slow=9.1,SNR=5.1						
ILAR	**Eielson Array**	**40.12**	**38**	P	**P**	**12 10 44.5**	**-1.9**
	0.6nm,0.7s,baz=247,slow=5.5,SNR=6.5						
MKAR	**Makanchi Array**	**41.69**	**294**	P	**P**	**12 10 59.1**	**-0.1**
	0.9nm,0.5s,baz=68,slow=7.9,SNR=13						
INK	**Inuvik**	**44.69**	**32**	P	**P**	**12 11 20.6**	**-1.9**
	2.9nm,0.9s,baz=277,slow=4.5,SNR=1.9						
FINES	**FINESS Array B**	**61.37**	**331**	P	**P**	**12 13 20.8**	**-1.8**
	1.3nm,0.5s,baz=36,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**67.07**	**191**	P	**P**	**12 14 01.4**	**+1.7**
	0.4nm,0.4s,baz=7.8,slow=6.7,SNR=14						
NVAR	**Mina Array Bea**	**67.44**	**58**	P	**P**	**12 14 03.1**	**+0.9**
	0.2nm,0.5s,baz=291,slow=8.6,SNR=3.2						
PDAR	**Pinedale Array**	**69.27**	**49**	P	**P**	**12 14 13.2**	**-0.1**
	0.6nm,0.8s,baz=151,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**70.80**	**190**	P	**P**	**12 14 24.0**	**+1.7**
	0.3nm,0.4s,baz=1.2,slow=5.1,SNR=8.7						
TXAR	**Lajitas Array**	**82.38**	**55**	P	**P**	**12 15 27.1**	**+0.5**
	0.3nm,0.6s,baz=289,slow=4.1,SNR=7.1						

*MOS **09** 12:17:39.8±0.8, 43°.58N×139°.52E, h221km, mb4.3/19, Error ellipse: s-maj=8.3km s-min=6.0km az=97.6*
*NEIC **09** 12:17:40.8±0.7, 43°.61N±0°.08×139°.50E±0°.08, h212km±5km, mb4.6/55, Error ellipse: s-maj=12.1km s-min=7.7km az=156.0*
*NIED **09** 12:17:40.5, 43°.58N×139°.50E, h213km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.26; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$0.74; $M_{r\theta}$-1.51; $M_{\theta\phi}$0.09; $M_{\phi r}$-0.89; Fault plane solution: $M_0$1.97000×10^{15} NP1: ϕ_s238.00000°, δ85.00000°, λ65.00000°. NP2: ϕ_s137.00000°, δ25.00000°, λ168.00000°.*
*JMA **09** 12:17:40.4±0.1, 43°.58N×139°.50E, h213km±2km, M4.0*
*IDC **09** 12:17:40.1±1.1, 43°.62N×139°.51E, h205km±10km, mb3.7/23, mb1 3.8/29, mb1mx3.8/40, mbtmp4.3/29, Error ellipse: s-maj=10.8km s-min=9.0km az=90.0*
*SKHL **09** 12:17:40.2±0.3, 43°.59N×139°.53E, h201km±5km, mb5.0/4, msh4.6/4*

ISC 09 12:17:40.4±0.6, 43°.57N±0°.04×139°.52E±0°.04, h210km±5km, n181, σ0°95/211, mb4.5/55, 12C-20D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSK	**Shakotan**	**0.73**	**107**	⇓P	**Pn**	**12 18 10.1**	**+0.5**
JSK				*e*S	**S**	**12 18 32.8**	**+0.6**
JSH	**Shimam**	**1.00**	**157**	⇓P	**Pn**	**12 18 11.5**	**+0.3**
JSH				*e*S	**S**	**12 18 35.5**	**+0.5**
JHST	**Hiyamasetana**	**1.17**	**167**	⇓P	**Pn**	**12 18 12.9**	**+0.5**
JHST				S	**S**	**12 18 38.3**	**+

520nm,2.0s
TEY Ternei 2.56 306 ⇑ *i* PN **Pn 12 18 25.8 +0.3**
TEY *e*S **S 12 19 00.0 -0.3**
TEY pmax pmax
comp=Z,500nm,0.6s
TEY pmax pmax
comp=N,220nm,0.6s
TEY pmax pmax
comp=E,360nm,0.6s
TEY smax smax
comp=E,100nm,1.0s
TEY smax smax
comp=N,160nm,1.1s
JSE Soyaes 2.60 57 P **Pn 12 18 26.8 +0.8**
JSE *e*S **S 12 19 02.9 +1.7**
JNBK Urakawa-nobuka 2.70 117 P **Pn 12 18 26.8 -0.3**
JNBK *e*S **S 12 19 03.3 +0.1**
JCH Churui 2.97 107 P **Pn 12 18 28.8 -1.4**
ERM Erimo 3.09 119 *de*PN **Pn 12 18 31.9 +0.3**
ERM Erimo 3.09 119 Pn **Pn 12 18 32.5 +0.8**
JAR Ashorobuto 3.11 94 P **Pn 12 18 32.2 +0.4**
JAR *e*S **S 12 19 12.3 +0.8**
JTKR Abashiri--Toko 3.20 81 P **Pn 12 18 33.4 +0.5**
JTKR *e*S **S 12 19 14.9 +1.3**
JANG Nango 3.52 154 P **Pn 12 18 35.0 -1.8**
YSS Yuzh-Sakhalins 4.08 33 *i* P **Pn 12 18 44.3 +0.8**
YSS AMB AMB 12 18 44.7
comp=N,80nm,0.6s
YSS *i* S **S 12 19 34.3 +1.5**
YSS A A 12 19 34.5
comp=N,60nm,0.9s
YSS A A 12 19 34.5
comp=N,20nm,0.9s
YSS Yuzh-Sakhalins 4.08 33 κ *i* PN **Pn 12 18 44.5 +1.1**
YSS *i* S **S 12 19 33.6 +0.8**
YSS pmax pmax
comp=Z,80nm,0.6s
YSS smax smax
comp=N,60nm,0.9s
YSS smax smax
comp=E,20nm,0.7s
YSS Yuzh-Sakhalins 4.08 33 Pn **Pn 12 18 44.1 +0.6**
GLVR Golovnino 4.36 86 *e*P **Pn 12 18 47.0 +0.1**
GLVR AMB AMB 12 18 50.0
comp=E,132nm,0.3s
GLVR *e*S **S 12 19 39.7 +0.8**
GLVR A A 12 19 54.0
comp=E,504nm,0.4s
GLVR A A 12 19 54.0
comp=E,146nm,0.4s
GLVR Golovnino 4.36 86 *e*PN **Pn 12 18 47.3 +0.4**
GLVR *e*S **S 12 19 38.7 -0.2**
GLVR pmax pmax
comp=N,47nm,0.3s
GLVR pmax pmax
comp=Z,132nm,0.3s
GLVR pmax pmax
comp=E,83nm,0.4s
GLVR smax smax
comp=N,504nm,0.4s
GLVR smax smax
comp=E,146nm,0.4s
NMR Nemuro--Hokkai 4.52 90 *i* P **Pn 12 18 47.0 -2.0**
NMR Nemuro--Hokkai 4.52 90 ⇑ *i* PN **Pn 12 18 47.8 -1.2**
NMR *e*S **S 12 19 38.7 -3.9**
GRPR Tuman 4.55 82 *e*P **Pn 12 18 49.8 +0.5**
GRPR *e*S **S 12 19 44.2 +1.0**
GRPR A A 12 19 53.0
comp=E,313nm,0.2s
GRPR A A 12 19 53.0
comp=E,89nm,0.2s
GRPR Tuman 4.55 82 *e*PN **Pn 12 18 49.6 +0.3**
GRPR *e*S **S 12 19 43.8 +0.6**
GRPR smax smax
comp=N,313nm,0.2s
GRPR smax smax
comp=E,89nm,0.2s
YUK Yuzh-Kuril'sk 4.61 82 *i* P **Pn 12 18 50.8 +0.7**
YUK AMB AMB 12 18 51.0
comp=E,125nm,0.4s
YUK *i* S **S 12 19 45.5 +0.7**
YUK A A 12 19 50.0
comp=E,440nm,2.0s
YUK A A 12 19 50.0
comp=E,790nm,2.0s
YUK A A 12 20 01.0
comp=E,241nm,0.5s
YUK A A 12 20 01.0
comp=E,147nm,0.5s
YUK Yuzh-Kuril'sk 4.61 82 ⇓ *i* PN **Pn 12 18 50.8 +0.7**
YUK *i* S **S 12 19 45.4 +0.7**
YUK pmax pmax
comp=Z,125nm,0.4s
YUK pmax pmax
comp=E,26nm,0.5s
YUK pmax pmax
comp=N,23nm,0.3s
YUK smax smax
comp=N,241nm,0.5s
YUK smax smax
comp=E,147nm,0.4s
USA0B Ussuriysk Arra 5.48 279 ⇓ *e*PN **Pn 12 19 01.1 0.0**
USA0B Ussuriysk Arra 5.48 279 Pn **Pn 12 19 01.1 0.0**
USRK Ussuriysk Ar. 5.48 279 P **Pn 12 19 01.6 +0.5**
baz=80,slow=14,SNR=49
USRK Ussuriysk Ar. 5.48 279 **Pn 12 19 01.3 +0.2**
UGL Uglegorsk 5.79 17 *e*P **Pn 12 19 05.9 +1.0**
UGL AMB AMB 12 19 06.6
comp=E,89nm,0.9s
UGL AMB AMB 12 19 09.5
comp=E,791nm,5.8s
UGL *e*S **S 12 20 12.3 +0.6**
UGL A A 12 20 12.5
comp=E,295nm,4.4s
UGL A A 12 20 12.5
comp=E,320nm,4.4s
UGL A A 12 20 15.5
comp=E,33nm,0.5s
UGL A A 12 20 15.5
comp=E,56nm,0.5s
KUR Kuril'sk 6.21 72 *e*P **Pn 12 19 10.9 +0.6**
KUR AMB AMB 12 19 11.7
comp=E,60nm,0.3s
KUR AMB AMB 12 19 16.4
comp=E,600nm,4.7s
KUR *e*S **S 12 20 22.4 +0.9**
KUR A A 12 20 26.4
comp=E,22nm,0.3s
KUR A A 12 20 26.4
comp=E,32nm,0.3s
KUR Kuril'sk 6.21 72 PN **Pn 12 19 12.4 +2.1**
MJA0 Matsu Arr-Jizo 7.08 188 *e*PN **Pn 12 19 22.0 +0.1**
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MJB9 Matsu-Tunnel 7.09 189 Pn **Pn 12 19 22.6 +0.7**
MAJO Matsushiro 7.09 189 PN **Pn 12 19 21.9 0.0**
MAJO Matsushiro 7.09 189 **Pn 12 19 21.9 0.0**
MAT Matsushiro 7.09 189 P **Pn 12 19 21.4 -0.5**
MAT *e*S **S 12 20 40.9 -1.6**
MJAR Matsushiro Arr 7.09 189 P **Pn 12 19 22.0 +0.1**
comp=Z,0.7nm,0.3s,baz=1.4,slow=14,SNR=40
MJAR Matsushiro Arr 7.09 189 **Pn 12 19 21.5 -0.4**
TYV Tymovskoe 7.60 15 *e*P **Pn 12 19 29.5 +1.2**
TYV AMB AMB 12 19 30.0
comp=Z,17nm,0.8s
TYV AMB AMB 12 20 00.8
comp=Z,700nm,5.0s
TYV *e*S **S 12 20 55.0 +0.6**
TYV A A 12 21 08.6
comp=Z,21nm,2.0s
TYV A A 12 21 08.6
comp=Z,18nm,2.0s
TYV A A 12 21 25.1
comp=Z,2μm,19.0s
TYV A A 12 21 25.1
comp=Z,902nm,19.0s
TYV Tymovskoe 7.60 15 *e*PN **Pn 12 19 29.6 +1.2**
TYV pmax pmax
comp=Z,16nm,1.4s
EKMR Ekimchan 10.46 338 *e*P **Pn 12 20 05.0 -0.2**
EKMR AMB AMB 12 20 17.6
comp=Z,7.0nm,0.8s
ZEA Zeya 12.99 326 *e*P **Pn 12 20 36.5 -0.7**
ZEA AMB AMB 12 20 37.8
comp=Z,10.0nm,0.7s
ZEA AMB AMB 12 20 37.8
comp=Z,20nm,0.7s
ZEA Zeya 12.99 326 *e*PN **Pn 12 20 36.5 -0.7**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=Z,200nm,7.0s
BMKR Bomnak 13.14 332 *e*P **Pn 12 20 38.8 -0.3**
BMKR AMB AMB 12 20 44.0
comp=Z,11nm,0.4s
PEA0B Petropavlovsk- 15.36 45 P **P 12 21 06.7 +0.3**
PEA0B pmax pmax
comp=Z,51nm,1.5s
PEA0B Petropavlovsk- 15.36 45 P **P 12 21 06.7 +0.3**
PETK Petropavlovsk- 15.36 45 P **P 12 21 06.6 +0.2**
comp=Z,0.2nm,0.3s,baz=226,slow=9.8,SNR=5.8
MA2 Magadan 17.44 19 P **P 12 21 28.1 -1.0**
comp=Z,1.3nm,0.3s,baz=207,slow=12,SNR=7.8
MA2 Magadan 17.44 19 P **P 12 21 28.1 -1.0**
MA2 pmax pmax
comp=Z,23nm,0.8s
MA2 Magadan 17.44 19 IAmb IAmb 12 21 32.3
comp=Z,23nm,0.8s
YAK Yakutsk 19.39 346 P **P 12 21 48.2 -1.8**
comp=Z,0.2nm,0.3s,baz=136,slow=3.6,SNR=11
YAK Yakutsk 19.39 346 *e*P **P 12 21 47.5 -2.6**
YAK pmax pmax
comp=Z,16nm,0.6s
YAK pmax pmax
comp=N,12nm,1.1s
YAK Yakutsk 19.39 346 P **P 12 21 48.0 -2.1**
SEY Seymchan 20.79 17 P **P 12 22 03.2 -1.9**
comp=N,4.4nm,0.6s,baz=198,slow=8.6,SNR=19
SEY Seymchan 20.79 17 *e*P **P 12 22 03.1 -2.0**
SEY Seymchan 20.79 17 ⇓ *e*P **P 12 22 03.1 -2.0**
SONM Songino Array 23.42 292 P **P 12 22 30.6 0.0**
comp=N,1.7nm,0.4s,baz=84,slow=8.3,SNR=11
SONM Songino Array 23.42 292 P **P 12 22 30.3 -0.2**
BILL Bilibino 28.30 21 *e*P **P 12 23 13.4 -0.6**
BILL Bilibino 28.30 21 *i* P **P 12 23 11.1 -2.9**
BILL *i* *PP **pP 12 23 53.5 -2.6**
BILL *i* 12 24 18.3
BILL pmax pmax
comp=Z,5.0nm,1.3s
DGZ Jazzator, Alta 35.68 299 ⇈ *e*P **P 12 24 20.0 +1.4**
DGZ pmax pmax
comp=Z,12nm,0.9s
ZAA0 Zalesovo Array 36.66 306 P **P 12 24 26.9 +0.4**
ZALV Zalesovo Beam 36.66 306 P **P 12 24 26.8 +0.2**
comp=Z,15nm,0.4s,baz=91,slow=9.2,SNR=54
ZALV ScP **ScP 12 30 11.7 +0.7**
comp=Z,2.3nm,0.5s,baz=87,slow=3.2,SNR=10
NRIK Noril'sk 36.77 332 P **P 12 24 25.6 -1.8**
comp=Z,3.3nm,0.4s,baz=116,slow=7.1,SNR=3.8
MK31 Makanchi Array 39.71 295 *c* *i* P **P 12 24 52.4 +0.2**
MK31 Makanchi Array 39.71 295 P **P 12 24 52.6 +0.4**
MKAR Makanchi Array 39.71 295 P **P 12 24 52.5 +0.3**
comp=Z,1.8nm,0.7s,baz=83,slow=12,SNR=13
MKAR ScP **ScP 12 30 23.2 +0.4**
comp=Z,0.8nm,0.6s,baz=63,slow=2.7,SNR=4.5
KURK Kurchatov 40.99 302 *e*P **P 12 25 02.6 +0.1**
KURK Kurchatov 40.99 302 *d* *i* P **P 12 25 02.6 +0.1**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 40.99 302 P **P 12 25 02.4 -0.1**
KURK IAmb IAmb 12 25 03.8
comp=Z,14nm,0.8s
IMAR Indian Mountai 41.91 34 P **P 12 25 10.1 +0.3**
OHAK Old Harbor 43.15 47 P **P 12 25 19.8 0.0**
OHAK IAmb IAmb 12 25 25.2
comp=Z,28nm,1.1s
COLA College 44.46 36 P **P 12 25 28.9 -1.3**
COLA pmax pmax
comp=Z,13nm,0.5s
COLA College 44.46 36 P **P 12 25 28.9 -1.3**
COLA IAmb IAmb 12 25 31.5
comp=Z,13nm,0.5s
IL31 44.89 36 P **P 12 25 33.4 -0.1**
ILAR Eielson Array 44.89 36 P **P 12 25 33.6 0.0**
comp=Z,3.3nm,0.6s,baz=283,slow=9.7,SNR=40
ILAR Eielson Array 44.89 36 P **P 12 25 32.3 -1.2**
BRVK Borovoye 45.32 307 *e*P **P 12 25 37.9 +0.7**
BRVK Borovoye 45.32 307 *c* *i*P **P 12 25 37.9 +0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 45.32 307 P **P 12 25 37.6 +0.5**
BRVK IAmb IAmb 12 25 39.0
comp=Z,9.7nm,0.5s
BMAR Burnt Mountain 45.42 32 P **P 12 25 36.8 -1.0**
EGAK Eagle 47.29 35 P **P 12 25 52.8 +0.6**
BCAR Beaver Creek A 47.44 37 P **P 12 25 54.8 +1.3**
KKAR Karatay Array 48.83 295 P **P 12 26 04.4 0.0**
KKAR Karatay Array 48.83 295 P **P 12 26 04.4 0.0**
ARU Arti 50.62 315 P **P 12 26 17.2 -0.4**
comp=Z,1.0nm,0.3s,baz=60,slow=6.0,SNR=4.4
ARU Arti 50.62 315 *e*P **P 12 26 18.1 +0.5**
ARU Arti 50.62 315 *c* *i*P **P 12 26 18.2 +0.6**
ARU 12 27 27.5
ARU S **S 12 33 18.8 +3.3**
ARU SS **SS 12 36 52.6 +0.7**
ARU pmax pmax
comp=Z,12nm,1.3s
ARU Arti 50.62 315 P **P 12 26 17.8 +0.2**
ABKAR Akbulak array 52.77 306 P **P 12 26 34.2 +0.6**
AKTO Aktyubinsk 53.37 308 P **P 12 26 38.5 +0.5**
comp=Z,2.1nm,0.5s,baz=68,slow=9.6,SNR=6.3
SPA0 Spitsbergen Ar 53.84 348 P **P 12 26 40.6 -0.4**
SPA0 IAmb IAmb 12 26 41.8
comp=Z,15nm,0.9s
SPITS Spitsbergen Ar 53.84 348 P **P 12 26 40.5 -0.5**
comp=Z,2.2nm,0.5s,baz=68,slow=7.3,SNR=14
EUNU Eureka 53.95 9 P **P 12 26 41.8 -0.1**
KIRV Kirov 54.24 320 ⇈ *e*P **P 12 26 44.7 +0.6**
PRGR Permogore 54.56 324 *e*P **P 12 26 45.7 -0.6**
PRGR pmax pmax
comp=Z,21nm,0.8s
LVZ Lovozero 55.59 334 P **P 12 26 53.2 -0.5**
LVZ pmax pmax
comp=Z,54nm,1.3s
LVZ Lovozero 55.59 334 P **P 12 26 53.2 -0.5**
RES Resolute Bay 56.65 15 P **P 12 27 00.6 -0.5**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 56.65 15 P **P 12 27 00.6 -0.5**
RES IAmb IAmb 12 27 02.1
comp=Z,6.8nm,0.8s
KEV Kevo 56.84 337 P **P 12 27 02.1 -0.3**
KEV pmax pmax
comp=Z,19nm,0.9s
KEV Kevo 56.84 337 P **P 12 27 02.1 -0.3**
ARD2 ARCESS Array S 57.38 338 P **P 12 27 06.2 -0.1**
ARD2 IAmb IAmb 12 27 06.4
comp=Z,21nm,1.5s
ARD3 ARCESS Array S 57.38 338 P **P 12 27 06.2 -0.1**
ARD3 IAmb IAmb 12 27 21.5
comp=Z,17nm,1.4s
ARD1 ARCESS Array S 57.38 338 P **P 12 27 05.8 -0.5**
ARC1 ARCESS Array S 57.39 338 P **P 12 27 06.2 -0.1**
ARC1 IAmb IAmb 12 27 07.3
comp=Z,18nm,1.3s
ARD4 ARCESS Array S 57.39 338 P **P 12 27 06.1 -0.2**
ARB1 ARCESS Array S 57.39 338 P **P 12 27 06.2 -0.1**
ARB1 IAmb IAmb 12 27 07.4
comp=Z,19nm,1.3s
ARB2 ARCESS Array S 57.39 338 P **P 12 27 06.4 +0.1**
ARA1 ARCESS Array S 57.39 338 P **P 12 27 06.1 -0.2**
ARA1 IAmb IAmb 12 27 07.4
comp=Z,20nm,1.4s
ARD9 ARCESS Array S 57.39 338 P **P 12 27 05.6 -0.8**
ARA0 ARCESS Array S 57.39 338 P **P 12 27 06.5 +0.2**
ARA0 IAmb IAmb 12 27 07.4
comp=Z,20nm,1.4s
ARA2 ARCESS Array S 57.39 338 P **P 12 27 06.4 +0.1**
ARA2 IAmb IAmb 12 27 07.5
comp=Z,20nm,1.4s
ARB3 ARCESS Array S 57.39 338 P **P 12 27 06.4 +0.1**
ARB3 IAmb IAmb 12 27 07.5
comp=Z,8.0nm,0.8s
ARC7 ARCESS Array S 57.39 338 P **P 12 27 06.3 -0.1**
ARC7 IAmb IAmb 12 27 07.2
comp=Z,17nm,1.3s
ARCES ARCESS Array B 57.39 338 P **P 12 27 06.3 0.0**
comp=Z,2.6nm,0.5s,baz=58,slow=8.0,SNR=27
ARA3 ARCESS Array S 57.40 338 P **P 12 27 06.1 -0.2**
ARA3 IAmb IAmb 12 27 07.4
comp=Z,20nm,1.4s
ARB5 ARCESS Array S 57.40 338 P **P 12 27 06.3 -0.1**
ARB5 IAmb IAmb 12 27 07.3
comp=Z,18nm,1.3s
ARC4 ARCESS Array S 57.40 338 P **P 12 27 06.1 -0.2**
ARB4 ARCESS Array S 57.40 338 P **P 12 27 06.6 +0.2**
ARB4 IAmb IAmb 12 27 21.5
comp=Z,13nm,1.1s
ARC5 ARCESS Array S 57.40 338 P **P 12 27 06.0 -0.3**
ARC5 IAmb IAmb 12 27 21.5
comp=Z,17nm,1.2s
ARC6 ARCESS Array S 57.40 338 P **P 12 27 06.2 -0.2**
ARC6 IAmb IAmb 12 27 18.0
comp=Z,18nm,1.4s
ARD5 ARCESS Array S 57.40 338 P **P 12 27 05.6 -0.8**
ARD5 IAmb IAmb 12 27 22.2
comp=Z,17nm,1.2s
ARD6 ARCESS Array S 57.41 338 P **P 12 27 06.2 -0.2**
ARD6 IAmb IAmb 12 27 21.6
comp=Z,14nm,1.1s
ARD7 ARCESS Array S 57.41 338 P **P 12 27 06.2 -0.2**
ARD7 IAmb IAmb 12 27 12.3
comp=Z,10nm,1.1s
KLMR Klimovskoe 57.52 325 *e*P **P 12 27 05.4 -1.9**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 57.52 325 *e*P **P 12 27 05.4 -1.9**
KLMR AMP 12 27 08.2
comp=Z,10.0nm,1.0s
BELG Belogornoye 58.13 314 *c* *e*P **P 12 27 12.2 +0.5**
YKA Yellowknife Ar 58.94 31 P **P 12 27 17.7 +0.6**
comp=Z,1.3nm,0.4s,baz=308,slow=6.2,SNR=6.5
KNRA Kununurra 59.77 192 P **P 12 27 23.7 +0.4**
KNRA IAmb IAmb 12 27 32.4
comp=Z,16nm,1.2s
FIA1 FINESS Array S 62.40 330 P **P 12 27 40.1 -0.3**
FINES FINESS Array B 62.40 330 P **P 12 27 40.2 -0.2**
comp=Z,12nm,0.4s,baz=55,slow=7.4,SNR=100
WB0 Warramunga Arr 63.20 185 P **P 12 27 45.8 -0.4**
WRA Warramunga Arr 63.38 185 P **P 12 27 47.0 -0.3**
comp=Z,1.0nm,0.4s,baz=0.9,slow=7.0,SNR=32
WRA PcP **PcP 12 28 22.6 +0.2**
comp=Z,0.5nm,0.5s,baz=357,slow=4.7,SNR=6.9
WRA Warramunga Arr 63.38 185 P **P 12 27 47.1 -0.3**
WR0 Warramunga Arr 63.38 185 P **P 12 27 47.6 +0.3**
SUMG Summit 64.15 359 P **P 12 27 53.1 +0.9**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 64.15 359 P **P 12 27 53.1 +0.9**
SUMG IAmb IAmb 12 27 54.1
comp=Z,9.6nm,0.8s
KIV Kislovodsk 65.63 308 *e*P **P 12 28 00.4 -1.5**
KIV pmax pmax
comp=Z,27nm,1.1s
KBZ Khabaz 65.65 308 P **P 12 28 02.8 +0.9**
comp=Z,1.8nm,0.5s,baz=10,slow=8.5,SNR=3.8
KBZ Khabaz 65.65 308 ⇈ *e*P **P 12 28 02.7 +0.9**
KBZ pmax pmax
comp=Z,12nm,2.1s
AS31 Alice Springs 67.10 186 P **P 12 28 11.8 +0.6**
ASAR Alice Springs 67.10 186 P **P 12 28 11.7 +0.4**
comp=Z,1.3nm,0.6s,baz=1.4,slow=5.5,SNR=29
NC405 NORSAR Array S 67.42 335 P **P 12 28 12.8 +0.1**
NC204 NORSAR Array S 67.57 336 P **P 12 28 14.1 +0.3**
NB201 NORSAR Array S 67.59 336 P **P 12 28 14.3 +0.4**
NB2 NORSAR Subarra 67.62 336 P **P 12 28 13.8 -0.3**
comp=Z,3.4nm,0.6s,baz=39,slow=6.5
NOA NORSAR Array B 67.62 336 P **P 12 28 13.9 -0.2**
comp=Z,2.8nm,0.6s,baz=39,slow=6.3,SNR=14
NBO00 NORSAR Array S 67.76 336 P **P 12 28 14.5 -0.4**
AKASG Malin Array Be 68.30 320 P **P 12 28 18.5 0.0**
comp=Z,3.0nm,0.4s,baz=45,slow=6.2,SNR=13
AKBB Malin Array Si 68.30 320 ⇈ *e*P **P 12 28 18.5 +0.1**
NVAR Mina Array Bea 72.26 54 P **P 12 28 43.6 +0.7**
comp=Z,0.3nm,0.5s,baz=292,slow=4.8,SNR=0.9
BURAR Bucovina Array 72.34 320 ⇓ P **P 12 28 43.2 +0.1**
BURAR Bucovina Array 72.34 320 P **P 12 28 43.7 +0.5**
PDAR Pinedale Array 74.13 46 P **P 12 28 54.9 +1.1**
comp=Z,0.5nm,0.5s,baz=267,slow=1.1,SNR=5.9
PDAR Pinedale Array 74.13 46 P **P 12 28 54.6 +0.8**
CLL Collm 74.74 328 *e*P **P 12 28 57.0 +0.1**
CLL Collm 74.74 328 *e*P **P 12 28 57.0 +0.1**
ULM Lac du Bonnet 74.84 33 P **P 12 28 57.6 +0.2**
comp=Z,3.3nm,0.6s,baz=53,slow=3.0,SNR=6.1
ULM Lac du Bonnet 74.84 33 ⇈ *e*P **P 12 28 56.9 -0.5**
ULM pmax pmax
comp=Z,3.0nm,0.6s
ULM Lac du Bonnet 74.84 33 IAmb IAmb 12 28 57.9
comp=Z,3.5nm,0.6s
STKA Stephens Creek 75.11 178 P **P 12 28 59.4 +0.4**
comp=Z,1.6nm,0.7s,baz=330,slow=10.0,SNR=4.0
KHC Kasperske Hory 76.25 327 *e*P **P 12 29 06.0 +0.4**
KHC Kasperske Hory 76.25 327 ⇈ *e*P **P 12 29 06.7 +1.1**
KHC pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 76.43 327 P **P 12 29 06.5 -0.1**
comp=Z,0.4nm,0.4s,baz=50,slow=6.5,SNR=4.1
PFO Pinyon Flats O 76.62 56 ⇓ *e*P **P 12 29 06.9 -1.1**
PFO pmax pmax
comp=Z,3.0nm,1.3s
PV21 Cone Mtn., Par 77.44 48 **PcP 12 29 25.3 +3.0**
TXAR Lajitas Array 87.22 51 P **P 12 30 03.6 +0.4**
comp=Z,0.2nm,0.6s,baz=297,slow=4.0,SNR=2.5

KRNET ***09*** *12:18:36.6±0.1, 42°.28N×70°.65E, h17km, mb2.8*
NNC ***09*** *12:18:36.7±1.1, 42°.37N×70°.57E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=6.9km s-min=4.4km az=131.0*
SOME ***09*** *12:18:36.7, 42°.38N×70°.65E, h10km*
ISC 09 12:18:36.4±1.0, 42°.31N±0°.04×70°.59E±0°.03, h16km±11km, n19, σ2s 00/37, 15C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IUG	**luzhnay** baz=54	**0.45**	**248**	*e*P		**Pg**		**12 18 45.7**	**+0.2**
IUG				*e*S		**Sg**		**12 18 52.6**	**+1.0**
IUG	**luzhnay** 52nm,0.2s	**0.45**	**248**	*e*P		**Pg**		**12 18 45.7**	**+0.2**
IUG	307nm,0.2s			*e*S		**Sg**		**12 18 52.6**	**+1.0**
IUG	**luzhnay** 52nm,0.2s	**0.45**	**248**	P		**Pg**		**12 18 45.7**	**+0.2**
IUG	307nm,0.2s			S		**Sg**		**12 18 52.6**	**+1.0**
KK31	**Karatay Array** 2.0nm,0.2s,baz=185,slow=17,SNR=198	**0.79**	**356**	⇓ P		**Pb**		**12 18 50.9**	**-0.8**
KK31	11nm,0.2s,baz=176,slow=31,SNR=84			⇑ S		**Sb**		**12 19 01.4**	**-0.9**
BRLS	**Borolday** baz=9.0	**0.91**	**322**	*e*P		**Pb**		**12 18 52.1**	**-1.7**
BRLS	baz=9.0			*e*S		**Sb**		**12 19 03.4**	**-2.3**
BRLS	**Borolday** 5.8nm,0.1s	**0.91**	**322**	*e*P		**Pb**		**12 18 52.1**	**-1.7**
BRLS	39nm,0.2s			*e*S		**Sb**		**12 19 03.3**	**-2.3**
BRLS	**Borolday** 5.8nm,0.1s	**0.91**	**322**	P		**Pb**		**12 18 52.1**	**-1.7**
BRLS	39nm,0.2s			S		**Sb**		**12 19 03.3**	**-2.3**
MNAS	**Manas** baz=81	**1.43**	**82**	⇑ *i* P		**Pb**		**12 19 02.5**	**-0.2**
MNAS	baz=81			⇑ *i* S		**Sb**		**12 19 20.3**	**-0.3**
MRKS	**Merke** baz=75	**1.99**	**77**	*e*P		**Pb**		**12 19 12.5**	**+0.2**
MRKS	baz=75			*e*S		**Sg**		**12 19 38.9**	**-1.6**
MRKS	**Merke** 3.9nm,0.3s	**1.99**	**77**	*e*P		**Pb**		**12 19 12.5**	**+0.2**
MRKS	22nm,0.5s			*e*S		**Sg**		**12 19 39.0**	**-1.6**
MRKS	**Merke** 3.9nm,0.3s	**1.99**	**77**	Pg		**Pb**		**12 19 12.5**	**+0.2**
MRKS	22nm,0.5s			Lg		Lg		12 19 39.0	
BTK	**Batken** baz=77	**2.26**	**176**	⇑ *i* P		**Pb**		**12 19 15.9**	**-0.9**

BTK				⇑*i*S		**Sb**	**12 19 43.7**	**-0.9**
	baz=77								
AML	**Almayashu**	**2.31**	**93**	⇑*i*P		**Pb**	**12 19 16.5**	**-1.4**
	baz=93								
AML				⇑*i*S		**Sb**	**12 19 45.0**	**-1.3**
	baz=93								
EKS2	**Erkin-Say**	**2.38**	**81**	⇑*i*P		**Pb**	**12 19 18.0**	**-0.9**
	baz=80								
EKS2				⇑*i*S		**Sb**	**12 19 46.7**	**-1.4**
	baz=80								
ARLS	**Aral**	**2.81**	**98**	⇑*i*P		**Pb**	**12 19 23.6**	**-2.7**
	baz=97								
ARLS				⇑*i*S		**Sb**	**12 19 57.4**	**-3.2**
	baz=97								
AAK	**Ala-Archa**	**2.90**	**82**	⇑*i*P		**Pb**	**12 19 25.2**	**-2.7**
	baz=81								
AAK				⇑*i*S		**Sb**	**12 19 59.6**	**-3.6**
	baz=81								
UCH	**Uchtor**	**2.91**	**90**	⇓*i*P		**Pb**	**12 19 25.6**	**-2.5**
	baz=90								
UCH				⇓*i*S		**Sb**	**12 20 00.2**	**-3.5**
	baz=90								
USP	**Ospenovka**	**3.03**	**70**	⇑*i*P		**Pn**	**12 19 25.8**	**+2.1**
	baz=69								
USP				⇑*i*S		**Sn**	**12 20 02.5**	**+2.9**
	baz=69								
KRBS	**Karabastau**	**3.98**	**68**	*e*P		**Pb**	**12 19 47.8**	**+1.7**
	0.6nm,0.5s								
KRBS				*e*S		**Sb**	**12 20 38.2**	**+4.3**
	3.9nm,0.7s								

IDC ***09*** *13:01:22.5±0.9,36°.65N×141°.57E,h0km,mb3.7/8, mb1 3.9/13,mb1mx3.8/40,mbtmp3.8/13,ML3.5/4,MS3.1/4, Ms1 3.1/4,ms1mx2.7/35,Error ellipse: s-maj=19.6km s-min=17.3km az=112.0*

JMA ***09*** *13:01:26.8±0.1,36°.69N×141°.41E,h50km±2km,M3.9*

JMA Felt I J1.

NIED ***09*** *13:01:26.8,36°.69N×141°.41E,h50km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.02; Mθθ0.09; Mϕϕ-0.11; Mrθ0.11; Mθϕ-0.22; Mϕr0.99; Fault plane solution: M₀1.02000×10¹⁵ NP1:ϕs5.00000°, δ88.00000°,λ79.00000°. NP2:ϕs264.00000°,δ11.00000°, λ169.00000°.*

NEIC ***09*** *13:01:27.9±2.1,36°.73N±0°.07×141°.5E±0°.1,h47km±9km, mb4.4/8 Error ellipse: s-maj=13.5km s-min=9.4km az=99.0*

ISC 09 13:01:24.8±1.7,36°.68N±0°.04×141°.55E±0°.06,h17km±10km, n51,σ1§16/55,mb4.0/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.74**	**305**	P	**Pb**	**13 01 39.5**	**+0.3**
ONAJ				*e*S	**Sb**	**13 01 48.9**	**-0.1**
JHO	**Hitachi**	**0.79**	**266**	P	**Pb**	**13 01 40.0**	**-0.1**
JHO				*e*S	**Sb**	**13 01 50.1**	**-0.4**
JHYU	**Hitachinakayam**	**0.84**	**247**	P	**Pg**	**13 01 41.2**	**0.0**
JHYU				S	**Sg**	**13 01 51.8**	**-0.5**
JFK	**Kawauchi**	**0.88**	**322**	P	**Pb**	**13 01 41.7**	**+0.1**
JFK				*e*S	**Sb**	**13 01 52.9**	**-0.1**
JFFD	**Fukushimafurud**	**0.89**	**298**	P	**Pb**	**13 01 41.6**	**-0.3**
JFFD				*e*S	**Sb**	**13 01 52.6**	**-0.9**
JFT	**Otama**	**1.28**	**311**	P	**Pn**	**13 01 48.4**	**+0.4**
JMM	**Marumori**	**1.33**	**333**	P	**Pn**	**13 01 48.3**	**-0.3**
JMM				*e*S	**Sn**	**13 02 04.5**	**-1.5**
JFY	**Yanaizu**	**1.65**	**297**	P	**Pn**	**13 01 53.7**	**+0.7**
JFY				S	**Sn**	**13 02 14.3**	**+0.5**
JAG	**Ashikaga**	**1.71**	**262**	P	**Pn**	**13 01 53.5**	**-0.3**
JAG				S	**Sn**	**13 02 13.6**	**-1.6**
JKT	**Katashina**	**1.85**	**274**	P	**Pn**	**13 01 56.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.69**	**268**	Pn	**Pn**	**13 02 08.4**	**+1.1**
	6.1nm,0.3s,baz=95,slow=12,SNR=167						
MJAR				Sn	**Sn**	**13 02 39.4**	**-0.1**
	3.7nm,0.3s,baz=331,slow=27,SNR=3.8						
MJAR				LR	LR	13 03 29.3	
	comp=Z,251nm,19.2s,baz=120,slow=47						
MJAR	**Matsushiro Arr**	**2.69**	**268**		**Pn**	**13 02 07.5**	**+0.2**
MAJO	**Matsushiro**	**2.69**	**268**		**Pn**	**13 02 08.8**	**+1.5**
MAT	**Matsushiro**	**2.69**	**268**	P	**Pn**	**13 02 08.6**	**+1.3**
MAT				*e*S	**Sn**	**13 02 40.7**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.69**	**268**	Pn	**Pn**	**13 02 09.2**	**+1.8**
JHJ	**Hachijo jima 2**	**3.83**	**203**	Pn	**Pn**	**13 02 24.1**	**+1.1**
	28nm,0.3s,baz=132,slow=23,SNR=12						
JHJ				Sn	**Sn**	**13 03 06.3**	**-1.4**
	72nm,0.3s,baz=94,slow=21,SNR=7.7						
ERM	**Erimo**	**5.48**	**13**	Pn	**Pn**	**13 02 46.4**	**+0.8**
JKA	**Kamikawa-asahi**	**7.47**	**6**	Pn	**Pn**	**13 03 13.9**	**+0.9**
ASAJ	**Asahikawa**	**7.48**	**6**	Pn	**Pn**	**13 03 13.9**	**+0.9**
	0.6nm,0.3s,baz=207,slow=14,SNR=5.8						
ASAJ				Sn	**Sn**	**13 04 35.4**	**-1.9**
	0.5nm,0.3s,baz=85,slow=34,SNR=1.3						
JNU	**Nakatsue**	**9.45**	**251**	Pn	**Pn**	**13 03 40.7**	**+0.5**
	0.5nm,0.3s,baz=256,slow=7.6,SNR=4.2						
JNU				LR	LR	13 07 24.2	
	comp=Z,112nm,19.3s,baz=342,slow=38						
USRK	**Ussuriysk Ar.**	**10.46**	**319**	Pn	**Pn**	**13 03 53.7**	**-0.3**
	baz=129,slow=23,SNR=2.3						
USRK	**Ussuriysk Ar.**	**10.46**	**319**		**Pn**	**13 03 52.7**	**-1.2**
KSRS	**Korea Array**	**10.92**	**278**	Pn	Pn	13 04 05.1	+4.9
	0.1nm,0.3s,baz=92,slow=14,SNR=10.0						
KSRS				LR	LR	13 08 09.8	
	comp=Z,95nm,19.1s,baz=104,slow=37						
PETK	**Petropavlovsk-**	**19.94**	**29**	LR	LR	13 13 26.5	
	comp=Z,55nm,18.8s,baz=176,slow=36						
PETK	**Petropavlovsk-**	**19.94**	**29**	P	**P**	**13 05 54.8**	**-0.9**
SEY	**Seymchan**	**27.12**	**11**	P	**P**	**13 07 09.9**	**+3.3**
	3.0nm,0.9s,baz=220,slow=16,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**27.87**	**120**	T	T	13 36 30.6	
	baz=313,slow=75,SNR=137						
H11N1	**WAKE ISLAND Hy**	**27.88**	**120**	T	T	13 36 27.7	
	baz=313,slow=75,SNR=147						
H11N3	**WAKE ISLAND Hy**	**27.89**	**120**	T	T	13 36 32.1	
	baz=313,slow=75,SNR=78						
SONM	**Songino Array**	**28.08**	**304**	P	**P**	**13 07 16.3**	**+0.8**
	1.4nm,0.5s,baz=112,slow=9.0,SNR=6.1						
SONM	**Songino Array**	**28.08**	**304**	P	**P**	**13 07 13.6**	**-1.9**
H11S1	**WAKE ISLAND Hy**	**28.57**	**123**	T	T	13 37 24.1	
	baz=314,slow=76,SNR=113						
H11S3	**WAKE ISLAND Hy**	**28.57**	**123**	T	T	13 37 25.6	
	baz=314,slow=76,SNR=108						
H11S2	**WAKE ISLAND Hy**	**28.59**	**123**	T	T	13 37 26.0	
	baz=314,slow=76,SNR=83						
TGY	**Tagaytay City**	**29.06**	**225**	P	**P**	**13 07 25.5**	**+1.1**
	153nm,0.3s,baz=322,slow=12,SNR=3.1						
CMAR	**Chiang Mai Arr**	**41.51**	**256**	P	**P**	**13 09 12.1**	**+0.8**
	0.3nm,0.3s,baz=51,slow=8.6,SNR=1.8						
ZAA0	**Zalesovo Array**	**42.24**	**313**	P	**P**	**13 09 14.7**	**-2.1**
ZAA0				IAmb	IAmb	13 09 28.0	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**42.24**	**313**	P	**P**	**13 09 16.5**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.7,SNR=6.9						
MKAR	**Makanchi Array**	**44.40**	**302**	P	**P**	**13 09 33.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=89,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**44.40**	**302**	P	**P**	**13 09 33.1**	**-1.3**
KURK	**Kurchatov**	**46.24**	**308**	P	**P**	**13 09 46.8**	**-2.1**
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**13 10 16.7**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=285,slow=7.0,SNR=2.9						
FITZ	**Fitzroy Crossi**	**56.51**	**198**	P	**P**	**13 11 03.3**	**-2.8**
FITZ				IAmb	IAmb	13 11 15.5	
	comp=Z,6.1nm,1.4s						
WB0	**Warramunga Arr**	**56.54**	**188**	P	**P**	**13 11 05.7**	**-0.6**
WB0				IAmb	IAmb	13 11 18.7	
	comp=Z,4.4nm,1.1s						
WR0	**Warramunga Arr**	**56.72**	**188**	P	**P**	**13 11 07.3**	**-0.3**
WR0				IAmb	IAmb	13 11 22.8	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**56.72**	**188**	P	**P**	**13 11 06.9**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=6.0,slow=7.5,SNR=11						
AS31	**Alice Springs**	**60.45**	**188**	P	**P**	**13 11 34.5**	**+0.9**
ASAR	**Alice Springs**	**60.45**	**188**	P	**P**	**13 11 33.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=359,slow=4.8,SNR=4.5						
ASAR	**Alice Springs**	**60.45**	**188**	P	**P**	**13 11 33.0**	**-0.5**
NVAR	**Mina Array Bea**	**75.12**	**53**	P	**P**	**13 13 07.2**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=286,slow=7.6,SNR=3.7						
LPAZ	**La Paz**	**146.78**	**60**	PKPbc	**PKPbc**	**13 21 06.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=305,slow=2.4,SNR=4.9						

IDC ***09*** *13:04:03.5±0.7,5°.66S×68°.26E,h0km,mb4.2/15, mb1 4.4/15,mb1mx4.1/44,mbtmp4.2/15,MS3.7/13, Ms1 3.7/13,ms1mx3.5/32,Error ellipse: s-maj=26.8km s-min=16.2km az=45.0*

NEIC ***09*** *13:04:06.4±2.1,5°.2S±0°.2×68°.92E±0°.06,h10km±1km, mb4.1/8,Error ellipse: s-maj=28.6km s-min=13.1km az=193.0*

ISC 09 13:04:05.5±0.8,5°.5S±0°.2×68°.4E±0°.2,h13km,n41, σ1§45/33,mb4.3/18,MS3.7/13,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**38.38**	**51**	P	**P**	**13 11 28.2**	**+1.4**
	0.6nm,0.4s,baz=242,slow=9.2,SNR=7.7						
CMAR				PcP	**PcP**	**13 13 41.0**	**+0.5**
	1.0nm,0.6s,baz=243,slow=3.6,SNR=6.1						
CMAR	**Chiang Mai Arr**	**38.38**	**51**	P	**P**	**13 11 22.9**	**-3.9**
GEYT	**Alibeck**	**44.29**	**348**	LR	LR	13 29 28.0	
	comp=Z,207nm,21.0s,baz=195,slow=34						
BOSA	**Boshof**	**46.85**	**236**	LR	LR	13 30 11.5	
	comp=Z,85nm,18.4s,baz=27,slow=34						
H01W3	**Cape Leeuwin H**	**51.24**	**131**	T	T	14 08 16.8	
	baz=294,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**51.25**	**131**	T	T	14 08 11.5	
	baz=294,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**51.26**	**131**	T	T	14 08 15.1	
	baz=294,slow=75,SNR=11						
MK31	**Makanchi Array**	**53.53**	**12**	P	**P**	**13 13 24.7**	**-1.2**
MK31				IAmb	IAmb	13 13 34.0	
	comp=Z,6.6nm,1.3s						
MKAR	**Makanchi Array**	**53.53**	**12**	P	**P**	**13 13 26.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=199,slow=7.1,SNR=6.5						
MKAR	**Makanchi Array**	**53.53**	**12**	P	**P**	**13 13 24.1**	**-1.8**
KBZ	**Khabaz**	**54.19**	**337**	P	**P**	**13 13 31.1**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=122,slow=5.9,SNR=7.5						
ABKAR	**Akbulak array**	**55.06**	**353**	P	**P**	**13 13 35.8**	**-1.1**
BRTR	**Keskin Array B**	**55.28**	**328**	P	**P**	**13 13 40.0**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=134,slow=10,SNR=11						
BRTR				LR	LR	13 37 24.7	
	comp=Z,30nm,18.3s,baz=140,slow=36						
ZALV	**Zalesovo Beam**	**60.84**	**11**	P	**P**	**13 14 18.4**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=204,slow=6.2,SNR=7.2						
ZALV				LR	LR	13 40 45.9	
	comp=Z,50nm,18.1s,baz=1.0,slow=36						
SONM	**Songino Array**	**62.74**	**28**	P	**P**	**13 14 33.0**	**+2.4**
	comp=Z,4.5nm,0.9s,baz=221,slow=6.1,SNR=15						
SONM				LR	LR	13 41 25.4	
	comp=Z,76nm,18.9s,baz=241,slow=36						
SONM	**Songino Array**	**62.74**	**28**	P	**P**	**13 14 32.4**	**+1.8**
ASAR	**Alice Springs**	**65.35**	**113**	P	**P**	**13 14 48.5**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=277,slow=6.2,SNR=12						
ASAR				LR	LR	13 41 37.6	
	comp=Z,54nm,20.3s,baz=270,slow=34						
ASAR	**Alice Springs**	**65.35**	**113**	P	**P**	**13 14 45.2**	**-2.9**
AKASG	**Malin Array Be**	**65.38**	**334**	P	**P**	**13 14 46.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=138,slow=5.6,SNR=4.6						
AKASG				LR	LR	13 46 00.5	
	comp=Z,44nm,18.6s,baz=40,slow=38						
AKASG	**Malin Array Be**	**65.38**	**334**	IAmb	IAmb	13 14 49.5	
	comp=Z,2.1nm,1.4s						
WRA	**Warramunga Arr**	**65.50**	**109**	P	**P**	**13 14 49.6**	**+0.6**
	comp=Z,5.4nm,1.0s,baz=284,slow=6.2,SNR=26						
WRA				LR	LR	13 37 59.1	
	comp=Z,68nm,21.9s,baz=260,slow=31						
WRA	**Warramunga Arr**	**65.50**	**109**	P	**P**	**13 14 47.5**	**-1.6**
WRAB	**Tennant Creek**	**65.51**	**109**	P	**P**	**13 14 49.3**	**+0.1**
WB2	**Warramunga Arr**	**65.51**	**109**	P	**P**	**13 14 48.7**	**-0.4**
WB0	**Warramunga Arr**	**65.54**	**109**	P	**P**	**13 14 49.5**	**+0.2**
WR0	**Warramunga Arr**	**65.69**	**109**	P	**P**	**13 14 49.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**68.82**	**286**	P	**P**	**13 15 08.2**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=90,slow=1.4,SNR=4.5						
TORD				LR	LR	13 45 04.4	
	comp=Z,44nm,18.5s,baz=115,slow=36						
KEST	**Kesra**	**68.87**	**312**	LR	LR	13 45 48.6	
	comp=Z,41nm,18.1s,baz=298,slow=36						
KLMR	**Klimovskoe**	**69.94**	**345**	*e*P	**P**	**13 15 15.4**	**-0.8**
KLMR				AMP		13 15 17.2	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**72.81**	**122**	P	**P**	**13 15 35.0**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=302,slow=9.6,SNR=3.5						
STKA	**Stephens Creek**	**72.81**	**122**	IAmb	IAmb	13 15 48.6	
	comp=Z,1.4nm,1.4s						
BRG	**Bergqieshubel**	**73.01**	**327**	*e*P	**P**	**13 15 35.6**	**+0.6**
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**73.74**	**327**	*i* P	**P**	**13 15 40.5**	**+1.2**
	comp=Z,12nm,1.2s						
FINES	**FINESS Array B**	**74.37**	**340**	P	**P**	**13 15 43.3**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=90,slow=1.9,SNR=4.4						
FINES				LR	LR	13 50 42.6	
	comp=Z,52nm,18.6s,baz=106,slow=38						
NOA	**NORSAR Array B**	**79.71**	**335**	LR	LR	13 52 24.1	
	comp=Z,49nm,21.3s,baz=135,slow=36						
ESDC	**Sonseca Array**	**80.13**	**312**	P	**P**	**13 16 16.6**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=88,slow=4.5,SNR=10						
ARCES	**ARCESS Array B**	**80.40**	**346**	P	**P**	**13 16 17.5**	**+1.1**
	comp=Z,4.0nm,1.0s,baz=172,slow=3.4,SNR=3.6						
ARCES				LR	LR	13 52 49.5	
	comp=Z,40nm,20.5s,baz=90,slow=36						
VNDA	**Vanda**	**85.38**	**167**	P	**P**	**13 16 42.9**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=273,slow=5.9,SNR=9.8						
PDAR	**Pinedale Array**	**142.88**	**358**	PKP	**PKPdf**	**13 23 39.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=28,slow=4.1,SNR=1.8						
NVAR	**Mina Array Bea**	**146.69**	**10**	PKPbc	**PKPab**	**13 23 49.5**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=5.0,slow=5.5,SNR=7.6						
TXAR	**Lajitas Array**	**155.17**	**343**	PKPab	**PKPab**	**13 24 22.1**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=53,slow=3.1,SNR=11						

IDC ***09*** *13:35:29.3±2.1,6°.57S×129°.97E,h150km±25km,mb3.5/1, mb1 3.2/6,mb1mx3.0/37,mbtmp3.7/6,MS3.8/1,Ms1 3.8/1, ms1mx2.7/16,Error ellipse: s-maj=38.2km s-min=19.5km az=94.0*

ISC 09 13:35:27.3±0.9,6°.65S±0°.06×130°.2E±0°.1,h146km,n7, σ3§68/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.84**	**11**	P	**Pn**	**13 36 53.8**	**+1.8**
	1.0nm,0.3s,baz=207,slow=24,SNR=17						
SIJI				S	**Sn**	**13 37 53.0**	**-5.1**
	4.6nm,0.3s,baz=226,slow=23,SNR=11						
BATI	**Baumata**	**7.37**	**241**	P	**Pn**	**13 37 12.8**	**+0.5**
	2.8nm,0.3s,baz=90,slow=15,SNR=1.7						
BATI				S	**Sn**	**13 38 34.6**	**-0.1**
	8.5nm,0.3s,baz=320,slow=3.2,SNR=8.1						
FITZ	**Fitzroy Crossi**	**12.22**	**201**	P	**Pn**	**13 38 17.5**	**+0.9**
	0.2nm,0.3s,baz=23,slow=12,SNR=17						
FITZ				S	**Sn**	**13 40 25.2**	**-6.4**
	0.5nm,0.3s,baz=34,slow=8.5,SNR=2.4						
WRA	**Warramunga Arr**	**13.81**	**163**	P	**Pn**	**13 38 39.0**	**+2.0**
	0.5nm,0.3s,baz=347,slow=12,SNR=21						
WRA				S	**Sn**	**13 41 06.1**	**-3.9**
	0.8nm,0.3s,baz=330,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**17.29**	**169**	P	**Pn**	**13 39 24.1**	**+4.1**
	0.2nm,0.3s,baz=345,slow=11,SNR=14						
ASAR				S	**S**	**13 42 33.1**	**+1.1**
	0.2nm,0.3s,baz=360,slow=29,SNR=5.3						
SONM	**Songino Array**	**58.18**	**341**	LR	LR	14 12 10.5	
	comp=Z,78nm,18.2s,baz=102,slow=38						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**13 46 11.3**	**+0.3**
	0.7nm,0.6s,baz=122,slow=7.1,SNR=8.6						

IDC ***09*** *13:44:33.4±0.5,37°.72S×49°.80E,h0km,mb4.4/17, mb1 4.5/18,mb1mx4.4/30,mbtmp4.4/18,ML4.6/1,MS3.9/26, Ms1 3.9/26,ms1mx3.9/37,Error ellipse: s-maj=20.4km s-min=13.8km az=53.0*

NEIC ***09*** *13:44:34.6±1.6,37°.79S±0°.05×49°.8E±0°.2,h10km±1km, mb4.7/7, Error ellipse: s-maj=22.8km s-min=8.2km az=99.0*

GCMT ***09*** *13:44:38.6±0.3,37°.63S±0°.02×49°.81E±0°.05,h12km±1km, MW5.0/75,Moment Tensor Solution. s16,c20; s75,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.97±.27; Mθθ3.08±.20; Mϕϕ-0.11±.14; Mrθ1.34±.45; Mθϕ0.51±.11; Mϕr0.28±.59; Best double couple: M₀3.35700×10¹⁶ NP1:ϕs82.00000°,δ33.00000°,λ-88.00000°. NP2: ϕs260.00000°,δ57.00000°,λ-91.00000°. Principal axes: T 3.4510, Plg12.0000°, Azm351.0000°; N -0.1890, Plg1.0000°, Azm261.0000°; P -3.2630, Plg78.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 13:44:34.8±0.4,37.74S±0°.08×49.8E±0°.1,h10km,n66, σ0§82/46,mb4.4/21,MS3.9/28,1C-1D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**8.82**	**171**	Pn	**Pn**	**13 46 41.2**	**-1.1**
FOMA	**Nahampoana Res**	**12.95**	**349**	Pn	**Pn**	**13 47 37.7**	**-1.1**
OPO	**Ambohidratompo**	**19.23**	**353**	P	**Pn**	**13 49 00.3**	**0.0**
	1.7nm,0.3s,baz=170,slow=9.3,SNR=11						
OPO				LR	LR	13 54 48.9	
	comp=Z,375nm,18.1s,baz=34,slow=32						
BOSA	**Boshof**	**22.39**	**287**	LR	LR	13 57 06.8	
	comp=Z,275nm,18.3s,baz=124,slow=34						
LBTB	**Lobatse**	**24.14**	**295**	LR	LR	13 57 59.7	
	comp=Z,223nm,18.4s,baz=124,slow=33						
SUR	**Sutherland**	**24.24**	**274**	LR	LR	13 57 21.4	
	comp=Z,149nm,18.6s,baz=118,slow=32						
MATP	**Matopo**	**25.26**	**307**	P	**P**	**13 50 00.4**	**-1.0**
	7.7nm,1.0s,baz=118,slow=8.4,SNR=8.8						
MATP				LR	LR	13 58 30.2	
	comp=Z,423nm,20.9s,baz=138,slow=33						
LSZ	**Lusaka**	**29.41**	**314**	P	**P**	**13 50 37.4**	**-1.2**
	1.3nm,0.3s,baz=156,slow=8.2,SNR=6.0						
LSZ				LR	LR	14 01 24.9	
	comp=Z,760nm,18.8s,baz=140,slow=34						
MAW	**Mawson**	**30.81**	**170**	LR	LR	14 00 08.1	
	comp=Z,672nm,21.3s,baz=36,slow=30						
MAW	**Mawson**	**30.81**	**170**	P	**P**	**13 50 50.1**	**-0.2**
SYO	**Syowa Base**	**31.82**	**187**	*e*P	**P**	**13 50 58.6**	**-0.6**
SYO	**Syowa Base**	**31.82**	**187**	*e*pP	**P**	**13 51 00.4**	**+1.2**
H08S1	**Diego Carcia H**	**36.34**	**40**	T	T	14 30 00.4	
	baz=211,slow=76,SNR=245						
H08S2	**Diego Garcia H**	**36.35**	**40**	T	T	14 29 38.7	
	baz=211,slow=76,SNR=124						
H08S3	**Diego Garcia H**	**36.37**	**40**	T	T	14 30 01.7	
	baz=211,slow=76,SNR=285						
KMBO	**Kilima Mbogo**	**38.21**	**340**	LR	LR	14 07 04.3	
	comp=Z,118nm,18.2s,baz=96,slow=35						
SNAA	**Sanae**	**43.07**	**202**	P	**P**	**13 52 34.8**	**+0.3**
SNAA	**Sanae**	**43.07**	**202**	P	**P**	**13 52 35.1**	**+0.6**
	6.0nm,1.0s,baz=88,slow=6.8,SNR=21						
SNAA	**Sanae**	**43.07**	**202**	P	**P**	**13 52 33.9**	**-0.6**
SNAA				IAmb	IAmb	13 52 38.4	
	comp=Z,8.7nm,1.0s						
VNA2	**Neumayer--Watz**	**44.19**	**203**	P	**P**	**13 52 45.0**	**+1.5**
	baz=65,slow=8.3						
VNA1	**Neumayer--Stat**	**44.39**	**204**	P	**P**	**13 52 45.8**	**+0.7**
VNA3	**Neumayer Olymp**	**45.00**	**203**	P	**P**	**13 52 50.6**	**+0.7**
H01W2	**Cape Leeuwin H**	**51.02**	**108**	T	T	14 48 14.0	
	baz=246,slow=75,SNR=209						
H01W3	**Cape Leeuwin H**	**51.03**	**108**	T	T	14 48 14.6	
	baz=246,slow=75,SNR=182						
H01W1	**Cape Leeuwin H**	**51.04**	**108**	T	T	14 48 17.3	
	baz=246,slow=75,SNR=127						
QSPA	**South Pole Qui**	**52.45**	**180**	P	**P**	**13 53 47.2**	**-0.2**
	comp=Z,9.7nm,1.1s,baz=259,slow=3.0,SNR=18						
QSPA	**South Pole Qui**	**52.45**	**180**	P	**P**	**13 53 47.4**	**0.0**
QSPA				IAmb	IAmb	13 53 48.6	
	comp=Z,20nm,1.3s						
VNDA	**Vanda**	**57.99**	**166**	P	**P**	**13 54 27.0**	**0.0**
	comp=Z,2.4nm,0.9s,baz=282,slow=6.9,SNR=11						
VNDA				LR	LR	14 16 58.0	
	comp=Z,336nm,19.6s,baz=240,slow=34						
VNDA	**Vanda**	**57.99**	**166**	P	**P**	**13 54 26.1**	**-1.0**
VNDA				IAmb	IAmb	13 54 30.1	
	comp=Z,5.1nm,1.1s						
PMSA	**Palmer Station**	**65.57**	**206**	LR	LR	14 18 06.0	
	comp=Z,63nm,19.2s,baz=149,slow=31						
KIC	**Kosan Boka**	**67.02**	**298**	*e*P	**P**	**13 55 29.4**	**+1.1**
	comp=Z,19nm,1.0s						
LIC	**Lamto**	**67.12**	**298**	*e*P	**P**	**13 55 30.0**	**+1.1**
	comp=Z,11nm,0.7s						
DBIC	**Dimbokro**	**67.32**	**299**	P	**P**	**13 55 30.8**	**+0.7**
	comp=Z,6.0nm,0.7s,baz=114,slow=9.6,SNR=7.5						
DBIC				LR	LR	14 23 15.7	
	comp=Z,86nm,18.7s,baz=114,slow=34						
TIC	**Toumodi**	**67.42**	**298**	*e*P	**P**	**13 55 31.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**67.77**	**308**	P	**P**	**13 55 33.2**	**+0.3**
	comp=Z,6.8nm,1.1s,baz=130,slow=4.7,SNR=21						
TORD				LR	LR	14 25 13.5	
	comp=Z,171nm,19.3s,baz=140,slow=36						
TORD	**Torodi Ar. Bea**	**67.77**	**308**	P	**P**	**13 55 34.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**68.15**	**96**	P	**P**	**13 55 35.7**	**+0.3**
EDFI	**Ende, Flores**	**70.41**	**86**	P	**P**	**13 55 51.9**	**+2.3**
MMRI	**Maumere**	**70.91**	**86**	P	P	13 55 59

ISC 09 13:48:39.6±0.6, 51°57'N±0'09×178°31'E±0'06, h50km, n36, σ2°24/36, mb3.8/15, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.41**	**18**		**Pn**	**13 48 54.2**	**+4.3**
LSPA	**Little Sitkin**	**0.42**	**22**		**Pn**	**13 48 54.3**	**+4.3**
LSNW	**Little Sitkin**	**0.43**	**17**		**Pn**	**13 48 54.1**	**+4.0**
AMKA	**Amchitka**	**0.65**	**106**		**Pn**	**13 48 55.9**	**+3.3**
AMKA					Sn	13 49 06.2	+4.1
CETU	**Semis' Tuman**	**0.84**	**61**		**Pn**	**13 48 58.2**	**+3.0**
CESW	**Semis' Southwe**	**0.85**	**66**		**Pn**	**13 48 58.0**	**+2.7**
CEAP	**Semis' Anvil P**	**0.90**	**60**		**Pn**	**13 48 58.7**	**+2.7**
CERAA	**Semis' Rag'd T**	**0.92**	**68**		**Pn**	**13 48 58.7**	**+2.4**
GALAA	**Gareloi Lava P**	**1.83**	**83**		**Pn**	**13 49 11.1**	**+2.5**
TASE	**Tanaga Southea**	**2.29**	**82**		**Pn**	**13 49 17.3**	**+2.3**
TAFP	**Tanaga Falls P**	**2.33**	**80**		**Pn**	**13 49 17.3**	**+1.8**
TAFP					Sn	13 49 43.4	+0.5
KIMD	**Kanaga Island**	**2.78**	**84**		**Pn**	**13 49 23.6**	**+1.9**
KIRH	**Kanaga Island**	**2.88**	**82**		**Pn**	**13 49 25.0**	**+2.1**
ADK	**Adak**	**3.13**	**82**		**Pn**	**13 49 27.9**	**+1.6**
GSTD	**Great Sitkin T**	**3.48**	**80**		**Pn**	**13 49 33.4**	**+2.1**
GSTD					Sn	13 50 11.7	+0.6
ATKA	**Atka Island**	**4.69**	**79**		**Pn**	**13 49 50.2**	**+2.5**
KDAK	**Kodiak Island**	**17.85**	**58**	P	**Pn**	**13 52 41.5**	**-2.5**
	0.8nm,0.3s,baz=294,slow=5.5,SNR=12						
ILAR	**Eielson Array**	**22.25**	**40**	P	**P**	**13 53 32.0**	**+0.2**
	0.2nm,0.5s,baz=241,slow=8.1,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**33.01**	**200**	T	T	14 30 21.5	
	baz=11,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**33.02**	**200**	T	T	14 30 18.1	
	baz=11,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**33.03**	**200**	T	T	14 30 29.1	
	baz=11,slow=76,SNR=18						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**13 55 38.1**	**-0.7**
	0.8nm,0.6s,baz=283,slow=7.8,SNR=1.3						
KSRS	**Korea Array**	**37.83**	**268**	P	**P**	**13 55 51.6**	**+0.5**
	1.1nm,0.7s,baz=56,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**44.94**	**295**	P	**P**	**13 56 49.7**	**+0.2**
	1.3nm,0.5s,baz=68,slow=8.3,SNR=8.0						
NVAR	**Mina Array Bea**	**45.31**	**81**	P	**P**	**13 56 52.9**	**+0.2**
	0.7nm,0.7s,baz=283,slow=7.6,SNR=6.9						
PDAR	**Pinedale Array**	**47.96**	**71**	P	**P**	**13 57 11.9**	**-1.5**
	0.4nm,0.6s,baz=302,slow=3.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**52.58**	**312**	P	**P**	**13 57 45.8**	**-2.0**
	0.5nm,0.6s,baz=31,slow=8.7,SNR=2.0						
ARCES	**ARCESS Array B**	**57.58**	**349**	P	**P**	**13 58 22.2**	**-1.4**
	1.3nm,0.7s,baz=33,slow=7.5,SNR=1.2						
MKAR	**Makanchi Array**	**58.49**	**307**	P	**P**	**13 58 29.9**	**-0.4**
	0.8nm,0.4s,baz=54,slow=6.1,SNR=16						
TXAR	**Lajitas Array**	**60.40**	**79**	P	**P**	**13 58 42.9**	**-1.0**
	0.4nm,0.7s,baz=300,slow=5.0,SNR=4.1						
FINES	**FINESS Array B**	**65.18**	**346**	P	**P**	**13 59 14.2**	**-0.8**
	1.3nm,0.8s,baz=46,slow=4.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P	**P**	**13 59 42.0**	**+0.9**
	0.7nm,0.8s,baz=24,slow=6.1,SNR=5.0						
AKASG	**Malin Array Be**	**74.79**	**340**	P	**P**	**14 00 13.0**	**-1.1**
	1.3nm,0.4s,baz=21,slow=6.4,SNR=3.6						
WRA	**Warramunga Arr**	**80.33**	**221**	P	**P**	**14 00 48.7**	**+0.3**
	0.3nm,0.5s,baz=31,slow=5.8,SNR=6.4						
ASAR	**Alice Springs**	**84.43**	**220**	P	**P**	**14 01 06.1**	**-0.6**
	0.5nm,0.9s,baz=32,slow=5.5,SNR=3.9						
MAW	**Mawson**	**145.53**	**218**	PKPbc	**PKPdf**	**14 08 11.0**	**+0.4**
	1.0nm,0.5s,baz=114,slow=4.3,SNR=14						

*JMA **09** 14:14:51.8±0.2, 32°.53N×138°.37E, h354km, M3.3*
*IDC **09** 14:14:52.6±0.7, 32°.46N×138°.16E, h363km±8km, mb3.0/9, mb1 3.1/14, mb1mx3.0/41, mbtmp3.8/14, Error ellipse: s-maj=19.1km s-min=14.3km az=73.0*

ISC 09 14:14:51.5±0.7, 32°.50N±0°.07×138°.40E±0°.08, h365km, n29, σ1°86/38, mb3.2/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.32**	**62**	P	**Pn**	**14 15 42.4**	**+2.2**
	5.2nm,0.3s,baz=53,slow=20,SNR=7.7						
JHJ				S	**S**	**14 16 22.4**	**+3.1**
	12nm,0.3s,baz=263,slow=17,SNR=2.1						
JMKN	**Mikurajimanish**	**1.71**	**35**	P	**Pn**	**14 15 42.2**	**-0.1**
JIE	**Ise**	**2.36**	**324**	P	**Pn**	**14 15 46.9**	**+0.2**
JTNC	**Tanabenakahech**	**2.69**	**300**	P	**Pn**	**14 15 48.2**	**-1.1**
JNY	**Yasuok**	**2.89**	**351**	P	**Pn**	**14 15 52.5**	**+1.4**
BSO3	**Boso 3**	**2.90**	**37**	P	**Pn**	**14 15 50.8**	**+0.1**
BSO3				eS	**S**	**14 16 36.5**	**-2.0**
BSO4	**Boso 4**	**2.97**	**32**	P	**Pn**	**14 15 51.6**	**+0.1**
BSO1	**Boso 1**	**3.04**	**44**	P	**Pn**	**14 15 52.2**	**+0.5**
BSO1				eS	**S**	**14 16 39.4**	**-0.9**
JHU	**Hanno**	**3.43**	**12**	P	**Pn**	**14 15 55.5**	**-0.3**
JHU				eS	**S**	**14 16 44.6**	**-3.1**
JRY	**Ryogami san**	**3.54**	**7**	P	**Pn**	**14 15 57.1**	**+0.3**
JRY				eS	**S**	**14 16 48.1**	**-1.5**
JYT	**Yasato**	**4.01**	**21**	P	**Pn**	**14 16 01.1**	**-0.3**
JYT				S	**S**	**14 16 54.4**	**-3.5**
JAG	**Ashikaga**	**4.01**	**12**	P	**Pn**	**14 16 01.0**	**-0.5**
JAG				S	**S**	**14 16 54.5**	**-3.5**
MJAR	**Matsushiro Arr**	**4.04**	**358**	P	**Pn**	**14 16 01.8**	**+0.1**
	0.1nm,0.3s,baz=173,slow=10.0,SNR=7.6						
JHO	**Hitachi**	**4.48**	**23**	P	**Pn**	**14 16 05.0**	**-1.2**
JHO				S	**S**	**14 17 03.3**	**-3.3**
JFK	**Kawauchi**	**5.27**	**22**	P	**Pn**	**14 16 14.8**	**+0.2**
JFK				S	**S**	**14 17 18.5**	**-3.6**
JCJ	**Chichijima**	**6.31**	**148**	S	**S**	**14 17 38.9**	**-4.6**
	16nm,0.3s,baz=276,slow=21,SNR=5.6						
JNU	**Nakatsue**	**6.36**	**278**	P	**Pn**	**14 16 25.9**	**-1.1**
	0.4nm,0.3s,baz=78,slow=12,SNR=2.0						
KSRS	**Korea Array**	**9.91**	**303**	P	**Pn**	**14 17 08.0**	**-0.4**
	0.5nm,0.3s,baz=114,slow=11,SNR=18						
ASAJ	**Asahikawa**	**12.06**	**15**	P	**Pn**	**14 17 35.1**	**+1.6**
	0.2nm,0.3s,baz=213,slow=14,SNR=5.4						
USRK	**Ussuriysk Ar.**	**12.72**	**339**	P	**P**	**14 17 41.2**	**+1.1**
	baz=144,slow=9.9,SNR=4.9						
SONM	**Songino Array**	**28.61**	**312**	P	**P**	**14 20 15.8**	**+0.2**
	0.7nm,0.6s,baz=112,slow=5.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**38.04**	**258**	P	**P**	**14 21 36.3**	**-0.1**
	0.9nm,0.7s,baz=55,slow=7.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**43.30**	**316**	P	**P**	**14 22 18.4**	**0.0**
	0.5nm,0.3s,baz=92,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**44.58**	**306**	P	**P**	**14 22 28.6**	**-0.1**
	1.8nm,0.6s,baz=88,slow=9.5,SNR=17						
WRA	**Warramunga Arr**	**52.29**	**185**	P	**P**	**14 23 27.3**	**+0.3**
	0.1nm,0.4s,baz=0.2,slow=7.7,SNR=6.1						
ILAR	**Eielson Array**	**54.65**	**30**	P	**P**	**14 23 46.0**	**+2.6**
	0.3nm,0.8s,baz=267,slow=5.4,SNR=2.1						
ASAR	**Alice Springs**	**56.01**	**185**	P	**P**	**14 23 54.8**	**+1.2**
	0.2nm,0.7s,baz=14,slow=9.0,SNR=4.8						
ARCES	**ARCESS Array B**	**67.36**	**339**	P	**P**	**14 25 09.2**	**+1.2**
	3.7nm,1.0s,baz=61,slow=9.4,SNR=4.6						
FINES	**FINESS Array B**	**71.66**	**332**	P	**P**	**14 25 34.7**	**+0.7**
	1.2nm,0.8s,baz=49,slow=5.8,SNR=6.2						

*SKHL **09** 14:18:04.4±0.4, 43°.09N×146°.24E, h35km±5km, mb4.0/3*
*JMA **09** 14:18:05.0±0.2, 43°.12N×146°.12E, h42km±1km, M2.8*

ISC 09 14:18:04.8±4.9, 43°.1N±0°.1×146°.2E±0°.2, h33km±6km, n13, σ0°98/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.41**	**307**	P	Pb	14 18 14.1	0.0
NEM2				eS	**Sb**	**14 18 20.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.43**	**307**	*i* P	Pb	14 18 14.0	-0.3
NMR				*i* S	**Sb**	**14 18 20.0**	**-0.8**
JKHN	**Kushirohamanak**	**0.76**	**268**	P	Pn	14 18 18.6	-0.6
GLVR	**Golovnino**	**0.80**	**322**	*e*P	Pn	14 18 19.0	-0.7
GLVR				AMB	AMB	14 18 19.0	
	75nm,0.2s						
GLVR				eS	**Sn**	**14 18 30.4**	**0.0**
GLVR				A	A	14 18 36.0	
	515nm,0.2s						
GLVR				A	A	14 18 36.0	
	444nm,0.2s						
GRPR	**Tuman**	**0.93**	**341**	*e*P	Pn	14 18 20.7	-0.9
GRPR				AMB	AMB	14 18 21.0	
	129nm,0.3s						
GRPR				eS	**Sn**	**14 18 32.6**	**-1.2**
GRPR				A	A	14 18 33.0	
	562nm,0.2s						
GRPR				A	A	14 18 33.0	
	451nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.95**	**345**	*i* P	Pn	14 18 21.3	-0.6
YUK				AMB	AMB	14 18 22.0	
	101nm,0.5s						
YUK				eS	**Sn**	**14 18 33.9**	**-0.4**
YUK				A	A	14 18 36.0	
	343nm,0.3s						
YUK				A	A	14 18 36.0	
	496nm,0.3s						
JNSB	**Nemuroshibetsu**	**1.09**	**308**	P	Pn	14 18 23.3	-0.5
JAK	**Akkeshi**	**1.10**	**264**	P	Pn	14 18 23.2	-0.7
JAK				*e*S	**Sn**	**14 18 37.1**	**-0.9**
JRA	**Rausu**	**1.13**	**317**	P	Pn	14 18 24.4	0.0
JRA				*e*S	**Sn**	**14 18 38.5**	**-0.3**
JNK	**Nakash**	**1.18**	**294**	P	Pn	14 18 24.4	-0.5
JNK				*e*S	**Sn**	**14 18 38.7**	**-1.1**
JOB	**Onbets**	**1.74**	**264**	P	Pn	14 18 32.2	-0.5
JAR	**Asahorubuto**	**1.78**	**277**	P	**Pn**	**14 18 33.4**	**+0.1**
JTKR	**Abashiri--Toko**	**1.87**	**298**	P	**Pn**	**14 18 35.3**	**+0.8**
JTKR				*e*S	**Sn**	**14 18 58.2**	**+1.3**

TAP 09 15:01:40.7, 24°.44N×121°.77E, h10km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.03**	**252**	*i* P	Pg	15 01 43.1	+0.5
	baz=242						
ENA				*i* S	Sg	15 01 43.9	+0.1
	baz=242						
ENAH	**Nanao**	**0.04**	**70**	*i* P	Pg	15 01 42.5	0.0
	baz=62						
ENAH				*i* S	Sg	15 01 43.7	-0.2
	baz=62						
TWC	**Suao**	**0.18**	**22**	P	Pg	15 01 45.1	+0.4
	baz=18						
TWC				eS	Sg	15 01 47.8	+0.5
	baz=18						
ENTT	**Nioudou**	**0.28**	**317**	P	Pg	15 01 47.0	+0.7
	baz=318						
ENTT				eS	Sg	15 01 50.8	+0.8
	baz=318						
NDT	**Datong Townshi**	**0.29**	**305**	*e*P	Pg	15 01 47.0	+0.5
	baz=305						
NDT				eS	Sg	15 01 51.2	+0.8
	baz=305						
NACB	**Ninganchiao**	**0.31**	**212**	*e*P	Pg	15 01 46.7	-0.1
	baz=212						
NACB				eS	Sg	15 01 50.4	-0.6
	baz=212						
ILA	**Ilan**	**0.33**	**356**	*e*P	Pb	15 01 49.9	+1.2
	baz=349						
ETLH	**Xiulin Townshi**	**0.35**	**229**	*e*P	Pg	15 01 47.9	+0.2
	baz=229						
ETLH				eS	Sg	15 01 51.7	-0.7
	baz=229						
NNSB	**Datong**	**0.35**	**269**	*e*P	Pg	15 01 47.7	-0.1
	baz=269						
NNSB				eS	Sg	15 01 52.1	-0.4
	baz=269						
NNSH	**Datong**	**0.35**	**269**	P	Pg	15 01 47.9	+0.1
	baz=269						
NNSH				eS	Sg	15 01 52.3	-0.3
	baz=269						
NNS	**Nan Shan**	**0.36**	**271**	*e*P	Pg	15 01 47.9	-0.1
	baz=270						
NNS				eS	Sg	15 01 53.0	+0.1
	baz=270						
NWLT	**Wulai**	**0.42**	**324**	*e*P	Pb	15 01 50.1	-0.2
	baz=324						
NWLT				eS	Sg	15 01 54.8	+0.3
	baz=324						
YHNB	**Yeheng**	**0.43**	**303**	P	Pg	15 01 49.8	+0.6
	baz=303						
YHNB				eS	Sg	15 01 55.4	+0.6
	baz=303						
NSK	**Sanguang**	**0.45**	**302**	*e*P	Pg	15 01 49.6	+0.2
	baz=303						
NSK				eS	Sg	15 01 55.5	+0.1
	baz=303						
FUSS	**Fushou**	**0.52**	**249**	*e*P	Pg	15 01 50.9	+0.1
	baz=248						

JMA 09 15:01:47.9±0.1, 24°.67N×123°.66E, h1km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.34**	**169**	P	Pg	15 01 54.7	+0.3
IRIF				S	Sg	15 01 59.6	+0.8
JIJ	**Ishigaki jima**	**0.54**	**125**	P	Pg	15 01 58.4	+0.2
JIJ				S	Sg	15 02 05.5	+0.4
JKRS	**Kuro-shima**	**0.54**	**143**	P	Pg	15 01 58.6	+0.4
JKRS				S	Sg	15 02 05.9	+0.8
JISG	**Ishigakijimahi**	**0.60**	**98**	P	Pg	15 01 59.8	+0.4
JISG				*e*S	Sg	15 02 08.2	+1.1

IDC 09 15:03:57.3±3.2, 30°.04S×177°.48W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/32, mbtmp3.4/2, Error ellipse: s-maj=65.1km s-min=23.9km az=87.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**334**	Pn	Pn	15 04 17.8	+0.9
	118nm,0.3s,baz=18,slow=20,SNR=19						
RAO				Sn	Sn	15 04 29.2	-1.1
	587nm,0.3s,baz=39,slow=22,SNR=24						
ASAR	**Alice Springs**	**43.58**	**266**	P	P	15 12 03.1	-0.2
	0.1nm,0.3s,baz=108,slow=7.4,SNR=6.9						
WRA	**Warramunga Arr**	**44.53**	**272**	P	P	15 12 10.9	-0.1
	0.5nm,0.3s,baz=110,slow=8.1,SNR=21						
FINES	**FINESS Array B**	**144.96**	**340**	PKP	PKPab	15 23 34.3	-0.7
	1.5nm,0.8s,baz=45,slow=2.8,SNR=4.4						

TRN 09 15:15:33.2, 11°.03N×62°.25W, h118km, MD3.7, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.91**	**115**	*i* P	Pn	15 15 55.2	+1.1
TRN				eS	Sn	15 16 09.5	-0.6
TBH	**Brigand Hill**	**1.28**	**115**	*e*P	Pn	15 15 58.9	+0.9
TBH				eS	Sn	15 16 17.1	+0.2
GRHS	**Sauteurs**	**1.33**	**27**	eS	Sn	15 16 17.4	-0.3
GRSG	**Sisters**	**1.41**	**26**	eS	Sn	15 16 18.9	-0.4
TPR	**Prospect**	**1.45**	**84**	*i* P	Pn	15 16 00.1	+0.1
TPR				eS	Sn	15 16 19.7	-0.5
BOT	**Bacolet**	**1.51**	**85**	*e*P	Pn	15 16 00.5	-0.1
BOT				eS	Sn	15 16 20.3	-1.1
GCMP	**Grenada, Carri**	**1.66**	**29**	*e*P	Pn	15 16 01.9	-0.5
GCMP				eS	Sn	15 16 22.9	-1.6
TOSP	**Speyside**	**1.70**	**81**	*i* P	Pn	15 16 02.5	-0.3
TOSP				eS	Sn	15 16 24.1	-1.4
SVB	**Belmont**	**2.43**	**24**	*e*P	Pn	15 16 12.2	+0.2
SVB				eS	Sn	15 16 40.5	-1.4
SVV	**Soufriere Volc**	**2.49**	**24**	*e*P	Pn	15 16 12.9	+0.1
SVV				eS	Sn	15 16 42.3	-0.9
BHS	**Barnard House**	**2.50**	**26**	*e*P	Pn	15 16 12.4	-0.5
BHS				eS	Sn	15 16 42.3	-1.2
SFAN	**Fancy Village**	**2.56**	**24**	*e*P	Pn	15 16 13.5	-0.3
MCLT	**Moule a Chique**	**2.95**	**25**	*e*P	Pn	15 16 18.1	-0.7
MCLT				eS	Sn	15 16 52.1	-1.9
SLB	**Belfond**	**3.02**	**23**	*e*P	Pn	15 16 20.6	+0.8
SLB				eS	Sn	15 16 54.7	-1.0
SLPA	**Patience**	**3.09**	**25**	*e*P	Pn	15 16 20.5	-0.2
SLAC	**Saint Lucia, A**	**3.14**	**25**	*e*P	Pn	15 16 21.4	+0.1
SLAC				eS	Sn	15 16 56.9	-1.6
SLBI	**Saint Lucia, B**	**3.22**	**23**	*e*P	Pn	15 16 22.3	-0.1
SLBI				eS	Sn	15 16 59.1	-1.2
SLW	**Petit Monier**	**3.23**	**23**	*e*P	Pn	15 16 22.4	-0.2
BBSP	**Saint Philip**	**3.42**	**53**	*e*P	Pn	15 16 25.7	+0.8
BBSP				eS	Sn	15 17 03.6	-1.4
BIM	**Bigot**	**3.65**	**18**	*e*P	Pn	15 16 28.0	-0.1
BIM				eS	Sn	15 17 09.0	-1.6
MPOM	**Morne Pois Mar**	**3.65**	**22**	*e*P	Pn	15 16 27.8	-0.3
MPOM				eS	Sn	15 17 08.8	-1.8
BAUV	**El Baul**	**6.07**	**251**	*e*P	Pn	15 16 59.6	-1.0
BAUV	**El Baul**	**6.07**	**251**	eS	Sn	15 18 05.2	-3.7

*IDC **09** 15:20:04.5±0.8, 7°.41N×78°.27W, h0km, mb4.0/11, mb1 4.3/16, mb1mx4.1/31, mbtmp4.2/16, ML3.3/4, MS3.4/9, Ms1 3.4/9, ms1mx3.1/25, Error ellipse: s-maj=25.1km s-min=13.1km az=25.0*
*RSNC **09** 15:20:05.9±1.8, 7°.36N×78°.20W, h4km±7km, ML3.7, Mw4.3, Fault plane solution: NP1:φs98.00000°, δ63.00000°, λ118.00000°.*
*UPA **09** 15:20:07.9±2.3, 7°.34N×78°.28W, h39km±32km, MW4.5*
*NEIC **09** 15:20:08.1±1.8, 7°.45N±0°.07×78°.21W±0°.07, h22km±5km, mb4.3/70, Error ellipse: s-maj=11.0km s-min=8.0km az=222.0*

ISC 09 15:20:05.5±1.3, 7°.37N±0°.03×78°.25W±0°.03, h11km±8km, n186, σ1°47/221, mb4.3/41, MS3.3/7, 19C-15D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**0.49**	**116**	*i*P	**Pg**	**15 20 14.5**	**-0.6**
PTAC				eS	**Sg**	**15 20 20.1**	**-1.6**
PTAC	**Punta Ardita,**	**0.49**	**116**	*e*P	**Pg**	**15 20 14.6**	**-0.6**
PTAC				eS	**Sg**	**15 20 20.4**	**-1.2**
UPD2	**Meteti**	**1.20**	**11**	*i*P	**Pn**	**15 20 28.4**	**+0.2**
UPD2				*i* S	**Sb**	**15 20 42.6**	**-1.2**
SOLC	**Bahia Solano**	**1.41**	**144**	*e*P	**Pn**	**15 20 28.3**	**-2.9**
SOLC				eS	**Sn**	**15 20 48.2**	**-1.5**
SOLC				*i*		15 20 55.2	
	comp=Z,2μm,0.5s						
SOLC	**Bahia Solano**	**1.41**	**144**	*e*P	**Pn**	**15 20 30.2**	**-1.0**
SOLC				eS	**Sn**	**15 20 49.8**	**0.0**
CAPC	**Capurgana**	**1.54**	**35**	*i*P	**Pn**	**15 20 32.2**	**-0.8**
CAPC				eS	**Sn**	**15 20 52.0**	**-1.1**
PEDA3	**Pedasi**	**1.77**	**275**	*i*P	**Pn**	**15 20 35.8**	**-0.3**
PEDA3				*i* S	**Sn**	**15 20 54.7**	**-4.6**
PCRI3	**Pocri, Los San**	**1.88**	**279**	*i*P	**Pn**	**15 20 37.7**	**0.0**
ACHO3	**Achotines, Los**	**1.91**	**272**	*e*P	**Pn**	**15 20 38.1**	**+0.1**
ACHO3				eS	**Sn**	**15 20 59.3**	**-2.8**
TABO3	**Taboga, Panama**	**1.92**	**318**	*i*P	**Pn**	**15 20 37.7**	**-0.5**
CNTA3	**Canitas, Panam**	**1.95**	**341**	*i* P	**Pn**	**15 20 39.7**	**+1.1**
CHPO	**Chepo, Panama**	**1.99**	**335**	*i*P	**Pn**	**15 20 38.9**	**-0.2**
FLAM	**Flamenco Islan**	**2.00**	**320**	*i*P	**Pn**	**15 20 38.9**	**-0.3**
UPA	**Univ. de Panam**	**2.05**	**322**	*i*P	**Pn**	**15 20 38.8**	**-1.2**
UPA				*i* S	**Sn**	**15 21 04.8**	**-0.7**
AZU	**Azuero**	**2.05**	**282**	*i*P	**Pn**	**15 20 39.5**	**-0.5**
	baz=96,slow=10						
AZU				*i* S	**Sn**	**15 21 01.7**	**-4.0**
DBBC	**Dabeiba**	**2.05**	**100**	*i*P	**Pn**	**15 20 39.8**	**-0.4**
DBBC				eS	**Sn**	**15 21 05.5**	**-0.4**
DBBC	**Dabeiba**	**2.05**	**100**	*e*P	**Pn**	**15 20 39.6**	**-0.5**
ARRA3	**Arraijan, Pana**	**2.11**	**319**	*i*P	**Pn**	**15 20 40.6**	**-0.2**
ARRA3				*i* S	**Sn**	**15 21 07.1**	**-0.1**
PML3	**Paraiso**	**2.12**	**321**	*e*P	**Pn**	**15 20 40.7**	**-0.3**
CHOR3	**La Chorrera**	**2.14**	**316**	*e*P	**Pn**	**15 20 41.4**	**+0.2**
TOSI3	**Tonosi**	**2.17**	**271**	*e*P	**Pn**	**15 20 39.8**	**-1.9**
TOSI3				eS	**Sn**	**15 21 05.5**	**-3.2**
VTON	**El Valle, Cocl**	**2.22**	**304**	*i*P	**Pn**	**15 20 41.5**	**-1.0**
CHIT3	**Chitre**	**2.23**	**285**	*i*P	**Pn**	**15 20 42.6**	**+0.1**
CHIT3				*i* S	**Sn**	**15 21 08.4**	**-1.6**
GAMB1	**Gamboa**	**2.26**	**320**	*i*P	**Pn**	**15 20 41.1**	**-1.9**
MAD3	**Madden Dam**	**2.28**	**324**	*e*P	**Pn**	**15 20 42.6**	**-0.5**
PNME	**Penonome**	**2.34**	**299**	*i*P	**Pn**	**15 20 43.8**	**-0.2**
LCBC	**Los crdobas,**	**2.38**	**51**	*i*P	**Pn**	**15 20 46.8**	**+2.2**
LCBC				*i*		15 20 51.8	
	comp=Z,666nm,0.4s						
LCBC				eS	**Sb**	**15 21 17.0**	**-0.9**
BCIP	**Isla Barro Col**	**2.38**	**319**	*i*P	**Pn**	**15 20 44.1**	**-0.5**
BCIP				*i*		15 20 50.9	
	comp=Z,597nm,0.4s						
BCIP				eS	**Sn**	**15 21 15.0**	**+1.2**
BCIP	**Isla Barro Col**	**2.38**	**319**	Pn	**Pn**	**15 20 44.0**	**-0.5**
MLIR	**Monte Lirio**	**2.45**	**320**	*i*P	**Pn**	**15 20 45.4**	**-0.1**
SABA3	**Sabanitas, Col**	**2.50**	**322**	*e*P	**Pn**	**15 20 45.8**	**-0.4**
CRIS3	**El Cristo, Coc**	**2.51**	**291**	*e*P	**Pn**	**15 20 45.1**	**-1.2**
SPIL	**Cristobal, Col**	**2.51**	**319**	*i*P	**Pn**	**15 20 46.5**	**+0.1**
PIZC	**Pizarro, Choco**	**2.54**	**160**	*e*P	**Pn**	**15 20 45.8**	**-1.0**
PIZC				eS	**Sn**	**15 21 17.4**	**-0.4**
PIZC				*i*		15 21 28.9	
	comp=Z,141nm,0.5s						
CACAO	**El Cacao, Vera**	**2.59**	**270**	*e*P	**Pn**	**15 20 46.2**	**-1.3**
CACAO				eS	**Sn**	**15 21 15.0**	**-4.0**
CBOC	**Ciudad Bolivar**	**2.68**	**124**	*e*P	**Pn**	**15 20 47.9**	**-0.9**
CBOC				eS	**Sn**	**15 21 20.8**	**-0.6**
CBOC				*i*		15 21 32.9	
	comp=Z,185nm,0.6s						
UREC	**San Jos de Ur**	**2.72**	**82**	*i*P	**Pn**	**15 20 49.7**	**+0.5**
UREC				eS	**Sn**	**15 21 22.4**	**+0.1**
UREC				*i*		15 21 37.3	
	comp=Z,239nm,0.7s						
MARI3	**Mariato, Verag**	**2.73**	**276**	*e*P	**Pn**	**15 20 48.6**	**-0.8**
MARI3				eS	**Sn**	**15 21 19.4**	**-3.0**
CALO3	**Calobre, Verag**	**2.74**	**290**	*e*P	**Pn**	**15 20 50.0**	**+0.5**
PONU3	**Ponuga, Veragu**	**2.75**	**281**	*e*P	**Pn**	**15 20 49.7**	**0.0**
STIA3	**Santiago, Vera**	**2.79**	**285**	*e

RUSC			*i*			15 23 00.9	
	comp=Z,77nm,0.7s						
RIOS	**Rincon, Osa**	**5.38**	**285**	*e*P	Pn	15 21 33.1	+7.3
SMRC	**Santa Marta, M**	**5.48**	**46**	*e*P	**Pn**	**15 21 28.3**	**+1.1**
SMRC				*i*		15 21 32.8	
	comp=Z,54nm,0.4s						
SMRC				*e*S	**Sn**	**15 22 27.2**	**-3.1**
PAMC	**Pamplona, Colo**	**5.50**	**90⍰**	*e*P	**Pn**	**15 21 29.3**	**+1.3**
PAMC				*e*S	**Sn**	**15 22 30.6**	**-1.0**
PAMC				*i*		15 23 05.5	
	comp=Z,71nm,0.6s						
HDC	**Heredia**	**6.36**	**295**	Pn	Pn	15 21 44.9	+5.4
OTAV	**Otavalo**	**7.08**	**182**	Pn	**Pn**	**15 21 52.4**	**+2.7**
JTS	**Las Juntas de**	**7.23**	**294**	Pn	**Pn**	**15 21 51.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=58,slow=18,SNR=1.4						
JTS				Lg	Lg	15 23 53.6	
	comp=Z,0.7nm,0.3s,baz=234,slow=17,SNR=1.5						
JTS				LR	LR	15 25 02.3	
	comp=Z,466nm,18.3s,baz=176,slow=41						
SOCV	**Socops**	**7.38**	**82⍰**	*e*P	**Pn**	**15 21 54.5**	**+1.1**
SOCV				*e*S	**Sn**	**15 23 11.9**	**-5.3**
ESPN	**Las Esperanzas**	**7.65**	**309**		**Pn**	**15 21 57.2**	**+0.1**
SDV	**Santo Domingo**	**7.69**	**78**	Pn	**Pn**	**15 21 59.2**	**+1.4**
	comp=Z,7.5nm,0.3s,baz=242,slow=11,SNR=52						
SDV				Sn	**Sn**	**15 23 26.5**	**+1.4**
	comp=Z,7.3nm,0.3s,baz=47,slow=19,SNR=2.1						
SDV				LR	LR	15 25 37.2	
	comp=Z,194nm,21.2s,baz=259,slow=43						
SDV	**Santo Domingo**	**7.69**	**78**	*e*P	**Pn**	**15 21 59.2**	**+1.4**
SDV				*i*		15 22 12.4	
	comp=Z,49nm,0.5s						
SDV				*e*S	**Sn**	**15 23 23.1**	**-1.9**
ACON	**Acoyapa**	**8.21**	**304**	Pn	**Pn**	**15 22 08.4**	**+3.6**
MATN	**Matagalpa**	**9.36**	**307**	Pn	**Pn**	**15 22 21.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**11.08**	**308**	Pn	**Pn**	**15 22 44.7**	**+0.4**
LGNH	**Logne**	**12.36**	**26**	Pn	**Pn**	**15 23 02.5**	**+0.8**
PAPH	**Port-au-Prince**	**12.51**	**27**		**Pn**	**15 23 01.5**	**-2.2**
GTBY	**Guantanamo Bay**	**12.85**	**13**	Pn	**Pn**	**15 23 08.9**	**+0.6**
MTO3	**Montecristo**	**12.95**	**304**	Pn	**Pn**	**15 23 11.3**	**+1.4**
BANI	**BANI**	**13.38**	**34**	Pn	**Pn**	**15 23 14.7**	**-1.1**
SDDR	**Presa de Saban**	**13.38**	**30**	Pn	**Pn**	**15 23 14.3**	**-1.4**
SDDR					**Sn**	**15 25 40.5**	**-4.0**
SDD	**Santo Domingo**	**13.69**	**36**	Pn	**Pn**	**15 23 19.2**	**-0.6**
PCRV	**Puerto La Cruz**	**13.74**	**77**	Pn	**Pn**	**15 23 22.1**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=6.5,slow=8.5,SNR=3.3						
DR12	**Loma Pena Alta**	**14.26**	**36**		**Pn**	**15 23 26.5**	**-1.2**
DR12					**Sn**	**15 25 58.0**	**-7.9**
SJG	**San Juan**	**15.90**	**47**	Pn	**Pn**	**15 23 48.3**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=331,slow=21,SNR=2.0						
SJG	**San Juan**	**15.90**	**47**	P	**Pn**	**15 23 47.2**	**-2.4**
SJG				IAmb	IAmb	15 23 57.0	
	comp=Z,14nm,0.6s						
SMRT	**St. Maarten**	**18.20**	**53**	P	**Pn**	**15 24 18.7**	**+0.3**
SMRT				IAmb	IAmb	15 24 30.7	
	comp=Z,23nm,0.8s						
FDF	**Fort de France**	**18.30**	**65**	P	**Pn**	**15 24 19.4**	**-0.3**
FDF				IAmb	IAmb	15 24 28.4	
	comp=Z,68nm,1.6s						
ANWB	**Willy Bob**	**19.04**	**56**	P	**P**	**15 24 27.9**	**0.0**
SAML	**Samuel**	**22.09**	**137**	P	**P**	**15 24 59.2**	**-1.8**
TLIG	**Tlapa**	**22.25**	**299**	P	**P**	**15 25 03.2**	**+0.4**
TLIG				IAmb	IAmb	15 25 06.4	
	comp=Z,16nm,1.4s						
LPAZ	**La Paz**	**25.55**	**157**	P	**P**	**15 25 36.4**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=354,slow=10,SNR=3.3						
LPAZ				LR	LR	15 38 24.8	
	comp=Z,77nm,18.1s,baz=311,slow=43						
MDP	**Montagnes des**	**25.55**	**94**	P	**P**	**15 25 35.2**	**+0.5**
	comp=Z,6.0nm,0.8s,baz=284,slow=11,SNR=4.3						
LRAL	**Lakeview Retre**	**26.80**	**344**	P	**P**	**15 25 47.2**	**+1.3**
LRAL				IAmb	IAmb	15 25 48.3	
	comp=Z,5.4nm,0.7s						
V48A	**Smith Brothers**	**29.31**	**346**	P	**P**	**15 26 09.3**	**+1.1**
WVT	**Waverly**	**29.94**	**344**	P	**P**	**15 26 14.5**	**+0.7**
WVT				IAmb	IAmb	15 26 15.2	
	comp=Z,2.6nm,0.7s						
T47A	**Sharon Grove**	**30.57**	**346**	P	**P**	**15 26 20.4**	**+1.0**
USIN	**University of**	**31.63**	**346**	P	**P**	**15 26 29.8**	**+1.0**
T42A	**Van Buren**	**31.76**	**340**	P	**P**	**15 26 29.9**	**+0.1**
T42A				IAmb	IAmb	15 26 31.3	
	comp=Z,5.0nm,0.8s						
U40A	**Yellville**	**31.79**	**337**	P	**P**	**15 26 29.8**	**-0.4**
TX32	**Lajitas Array**	**32.40**	**316**	P	**P**	**15 26 36.2**	**+0.5**
TX32				IAmb	IAmb	15 26 37.9	
	comp=Z,3.4nm,1.3s						
TXAR	**Lajitas Array**	**32.40**	**316**	P	**P**	**15 26 36.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=132,slow=8.0,SNR=12						
TXAR				LR	LR	15 41 56.5	
	comp=Z,24nm,18.4s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**32.40**	**316**	P	**P**	**15 26 35.4**	**-0.3**
TX31	**Lajitas Ar. Si**	**32.40**	**316**	P	**P**	**15 26 36.5**	**+0.8**
FVM	**French Village**	**32.42**	**342**	P	**P**	**15 26 35.6**	**0.0**
CCM	**Cathedral Cave**	**32.74**	**341**	P	**P**	**15 26 38.1**	**-0.4**
Q44A	**Meyer Farm, Va**	**32.87**	**344**	P	**P**	**15 26 39.6**	**+0.1**
WMOK	**Wichita Mounta**	**33.15**	**328**	P	**P**	**15 26 42.1**	**0.0**
ADOK	**Arcadia Dam**	**33.16**	**331**	P	**P**	**15 26 42.4**	**+0.2**
N49A	**Columbus Grove**	**33.83**	**352**	P	**P**	**15 26 47.7**	**-0.3**
MNTX	**Cornudas Mount**	**35.01**	**317**	P	**P**	**15 26 58.5**	**+0.1**
MNTX				IAmb	IAmb	15 27 00.9	
	comp=Z,4.1nm,0.9s						
BDFB	**Brasilia**	**37.68**	**127**	LR	LR	15 43 22.1	
	comp=Z,78nm,21.1s,baz=209,slow=37						
ANMO	**Albuquerque**	**37.75**	**321**	P	**P**	**15 27 22.9**	**+0.9**
ANMO				IAmb	IAmb	15 27 25.6	
	comp=Z,3.3nm,0.8s						
T25A	**Trinidad**	**38.00**	**325**	P	**P**	**15 27 25.5**	**+1.4**
T25A				IAmb	IAmb	15 27 26.6	
	comp=Z,4.7nm,0.9s						
SDCO	**Great Sand Dun**	**39.05**	**325**	P	**P**	**15 27 34.1**	**+1.2**
TUC	**Tucson**	**39.12**	**314**	P	**P**	**15 27 33.4**	**+0.1**
CPUP	**Villa Florida**	**39.17**	**150**	LR	LR	15 45 53.8	
	comp=Z,40nm,19.1s,baz=49,slow=40						
S22A	**4UR Ranch, Cre**	**39.82**	**324**	P	**P**	**15 27 40.6**	**+1.3**
W18A	**Petrified Fore**	**39.97**	**318**	P	**P**	**15 27 41.6**	**+1.0**
W18A				IAmb	IAmb	15 27 47.6	
	comp=Z,11nm,1.4s						
ISCO	**Idaho Springs**	**40.55**	**327**	P	**P**	**15 27 45.3**	**-0.1**
PV15	**Paradox Valley**	**41.19**	**323**	P	**P**	**15 27 49.0**	**-1.7**
PV15				IAmb	IAmb	15 28 11.2	
	comp=Z,7.2nm,0.7s						
PV02	**Paradox Valley**	**41.25**	**323**	P	**P**	**15 27 51.8**	**+0.7**
PV02				IAmb	IAmb	15 28 06.0	
	comp=Z,4.7nm,0.9s						
PV13	**Radium Mtn., P**	**41.27**	**323**	P	**P**	**15 27 51.9**	**+0.5**
PV13				IAmb	IAmb	15 28 11.9	
	comp=Z,4.0nm,0.8s						
WUAZ	**Wupatki**	**41.30**	**318**	P	**P**	**15 27 52.2**	**+0.8**
PV07	**Paradox Valley**	**41.35**	**323**	P	**P**	**15 27 52.6**	**+0.7**
PV07				IAmb	IAmb	15 27 54.2	
	comp=Z,5.4nm,1.1s						
PV03	**Paradox Valley**	**41.35**	**323**	P	**P**	**15 27 53.2**	**+1.2**
PV12	**Saucer Basin,**	**41.36**	**323**	P	**P**	**15 27 53.3**	**+1.2**
PV12				IAmb	IAmb	15 27 53.9	
	comp=Z,5.5nm,0.9s						
PV18	**Skein Mesa, Pa**	**41.38**	**323**	P	**P**	**15 27 52.6**	**+0.4**
PV18				IAmb	IAmb	15 27 53.8	
	comp=Z,4.0nm,0.8s						
PV11	**David Mesa, Pa**	**41.39**	**323**	P	**P**	**15 27 53.5**	**+1.3**
PV11				IAmb	IAmb	15 27 59.5	
	comp=Z,13nm,1.4s						
PV16	**Nyswonger Mesa**	**41.43**	**323**	P	**P**	**15 27 53.0**	**+0.4**
113A	**Mohawk Valley,**	**41.51**	**312**	P	**P**	**15 27 54.5**	**+1.4**
O20A	**White River Ci**	**42.24**	**325**	P	**P**	**15 28 00.6**	**+1.4**
U15A	**North Rim**	**42.42**	**318**	P	**P**	**15 28 02.3**	**+1.4**
RSSD	**Black Hills**	**42.98**	**333**	P	**P**	**15 28 06.2**	**+1.1**
RSSD				IAmb	IAmb	15 28 08.1	
	comp=Z,4.7nm,1.0s						
KNB	**Kanab**	**43.11**	**318**	P	**P**	**15 28 07.9**	**+1.6**
SHPR	**Sheep Range**	**44.40**	**316**	P	**P**	**15 28 18.1**	**+1.5**
PSUT	**Pine Spring**	**44.64**	**319**	P	**P**	**15 28 19.0**	**+0.4**
TCUT	**Toone Canyon**	**44.70**	**324**	P	**P**	**15 28 18.9**	**-0.2**
PD31	**Pinedale Array**	**44.75**	**327**	P	**P**	**15 28 19.8**	**+0.4**
PDAR	**Pinedale Array**	**44.75**	**327**	P	**P**	**15 28 20.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=127,slow=9.4,SNR=10.0						
PDAR	**Pinedale Array**	**44.75**	**327**	P	**P**	**15 28 19.2**	**-0.2**
BW06	**Boulder Array**	**44.75**	**327**	P	**P**	**15 28 19.9**	**+0.5**
ULM	**Lac du Bonnet**	**45.21**	**344**	P	**P**	**15 28 21.9**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=153,slow=9.0,SNR=8.5						
ULM				LR	LR	15 47 39.0	
	comp=Z,38nm,18.2s,baz=128,slow=37						
R11A	**Troy Canyon, C**	**45.67**	**318**	P	**P**	**15 28 27.9**	**+1.1**
REDW	**Red Top Meadow**	**45.85**	**327**	P	**P**	**15 28 28.8**	**+0.7**
REDW				IAmb	IAmb	15 28 57.7	
	comp=Z,8.6nm,1.4s						
TPAW	**Teton Pass**	**45.99**	**327**	P	**P**	**15 28 30.1**	**+0.8**
TPAW				IAmb	IAmb	15 28 35.5	
	comp=Z,2.7nm,0.9s						
FXWY	**Fox Creek**	**46.13**	**327**	P	**P**	**15 28 30.5**	**+0.1**
FXWY				IAmb	IAmb	15 28 43.0	
	comp=Z,3.8nm,1.1s						
RLMT	**Red Lodge**	**46.23**	**330**	P	**P**	**15 28 31.0**	**-0.1**
RLMT				IAmb	IAmb	15 28 44.6	
	comp=Z,7.0nm,1.4s						
IMW	**Indian Meadow**	**46.25**	**327**	P	**P**	**15 28 31.2**	**-0.2**
IMW				IAmb	IAmb	15 28 44.0	
	comp=Z,2.0nm,0.7s						
GCMT	**Greycliff**	**46.90**	**330**	P	**P**	**15 28 37.0**	**+0.7**
YHL	**Hebgen Lake**	**47.02**	**328**	P	**P**	**15 28 38.6**	**+1.2**
NV11	**Mina Array Sit**	**47.44**	**317**	P	**P**	**15 28 42.0**	**+1.5**
NV11				IAmb	IAmb	15 28 43.0	
	comp=Z,1.9nm,0.9s						
NVAR	**Mina Array Bea**	**47.54**	**317**	P	**P**	**15 28 42.5**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=129,slow=6.4,SNR=9.5						
NVAR				LR	LR	15 51 15.7	
	comp=Z,31nm,18.8s,baz=102,slow=40						
LHV	**Little Huntoon**	**47.58**	**316**	P	**P**	**15 28 42.9**	**+1.4**
LHV				IAmb	IAmb	15 29 04.1	
	comp=Z,7.3nm,1.4s						
MDPB	**Devils Postpil**	**47.68**	**315**	P	**P**	**15 28 43.4**	**+0.8**
MDPB				IAmb	IAmb	15 28 51.4	
	comp=Z,5.7nm,1.4s						
KVN	**Kaiserville**	**47.71**	**318**	P	**P**	**15 28 43.6**	**+0.8**
KVN				IAmb	IAmb	15 28 44.7	
	comp=Z,3.2nm,1.2s						
BOZ	**Bozeman (W)**	**47.76**	**329**	P	**P**	**15 28 43.7**	**+0.7**
BOZ				IAmb	IAmb	15 28 44.8	
	comp=Z,3.7nm,0.9s						
MCMT	**McKenzie Canyo**	**47.90**	**327**	P	**P**	**15 28 45.5**	**+1.3**
HLID	**Hailey**	**47.97**	**325**	P	**P**	**15 28 46.0**	**+1.3**
HLID				IAmb	IAmb	15 28 57.6	
	comp=Z,2.6nm,0.8s						
WAKR	**Walker**	**48.35**	**316**	P	**P**	**15 28 48.3**	**+0.6**
WAKR				IAmb	IAmb	15 29 06.0	
	comp=Z,4.2nm,1.3s						
EGMT	**Eagleton**	**48.54**	**332**	P	**P**	**15 28 48.5**	**-0.4**
PNTR	**Pine Nut**	**48.74**	**317**	P	**P**	**15 28 50.9**	**+0.1**
PNTR				IAmb	IAmb	15 29 04.2	
	comp=Z,3.4nm,0.7s						
DBIC	**Dimbokro**	**72.77**	**85**	P	**P**	**15 31 34.9**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=242,slow=5.9,SNR=3.3						
KOWA	**Kowa**	**72.98**	**77**	P	**P**	**15 31 35.9**	**-0.1**
ESDC	**Sonseca Array**	**73.24**	**51**	P	**P**	**15 31 38.1**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=268,slow=6.4,SNR=3.7						
ESDC	**Sonseca Array**	**73.24**	**51**	IAmb	IAmb	15 31 38.5	
	comp=Z,13nm,1.6s						
ILAR	**Eielson Array**	**74.34**	**336**	P	**P**	**15 31 43.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=120,slow=3.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**78.61**	**78**	P	**P**	**15 32 09.2**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=280,slow=4.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**78.61**	**78**	IAmb	IAmb	15 32 12.4	
	comp=Z,1.2nm,0.9s						
GERES	**GERESS Array B**	**85.80**	**41**	LR	LR	16 07 23.2	
	comp=Z,24nm,21.3s,baz=279,slow=33						
FINES	**FINESS Array B**	**90.36**	**28**	P	**P**	**15 33 07.8**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=222,slow=5.6,SNR=3.5						
ASAR	**Alice Springs**	**145.16**	**239**	PKPbc	**PKPbc**	**15 39 43.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=120,slow=3.6,SNR=33						
ASAR	**Alice Springs**	**145.16**	**239**		**PKPbc**	**15 39 42.8**	**-0.9**
WRA	**Warramunga Arr**	**146.03**	**245**	PKPbc	**PKPdf**	**15 39 46.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=100,slow=3.2,SNR=18						
H01W1	**Cape Leeuwin H**	**150.32**	**201**	T	T	18 29 13.0	
	baz=154,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**150.32**	**201**	T	T	18 29 15.6	
	baz=154,slow=76,SNR=13						
H01W3	**Cape Leeuwin H**	**150.34**	**201**	T	T	18 29 10.5	
	baz=154,slow=76,SNR=12						

*IDC **09** 15:55:11.9±0.6, 32°.43S×110°.84W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/25, mbtmp4.1/10, MS3.5/3, Ms1 3.5/3, ms1mx3.1/22, Error ellipse: s-maj=27.7km s-min=19.8km az=94.0*
*NEIC **09** 15:55:13.9±1.6, 32°.4S±0°.1×110°.9W±0°.2, h14km±3km, mb4.6/13, Error ellipse: s-maj=22.4km s-min=17.7km az=87.0*

ISC 09 15:55:13.4±0.6, 32°.5S±0°.1×110°.9W±0°.2, h10km, n42, σ0s96/30, mb4.4/16, MS3.6/3, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**26.72**	**102**	T	T	16 28 49.0	
	baz=262,slow=75,SNR=137						
H03S3	**Juan Fernandez**	**26.73**	**102**	T	T	16 28 44.4	
	baz=262,slow=75,SNR=78						
H03S1	**Juan Fernandez**	**26.74**	**102**	T	T	16 28 45.8	
	baz=262,slow=75,SNR=92						
H03N2	**Juan Fernandez**	**26.76**	**101**	T	T	16 28 47.0	
	baz=268,slow=73,SNR=381						
H03N3	**Juan Fernandez**	**26.77**	**101**	T	T	16 28 52.3	
	baz=268,slow=73,SNR=467						
H03N1	**Juan Fernandez**	**26.78**	**101**	T	T	16 28 49.6	
	baz=268,slow=73,SNR=416						
PLCA	**Paso Flores**	**33.16**	**116**	P	**P**	**16 01 49.4**	**-0.7**
	2.1nm,0.8s,baz=289,slow=8.3,SNR=4.2						
LPAZ	**La Paz**	**41.83**	**78**	P	**P**	**16 03 04.5**	**+0.2**
	0.9nm,0.7s,baz=241,slow=9.4,SNR=3.7						
ROSC	**El Rosal**	**50.82**	**50**	P	**P**	**16 04 16.3**	**+1.5**
ROSC				IAmb	IAmb	16 04 17.1	
	comp=Z,7.3nm,0.8s						
URZ	**Urewera**	**57.66**	**242**	LR	LR	16 26 36.6	
	comp=Z,51nm,18.1s,baz=26,slow=33						
QSPA	**South Pole Qui**	**57.71**	**180**	P	**P**	**16 05 04.9**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=89,slow=3.2,SNR=13						
QSPA	**South Pole Qui**	**57.71**	**180**	P	**P**	**16 05 05.5**	**+1.5**
QSPA				IAmb	IAmb	16 05 47.5	
	comp=Z,20nm,1.9s						
VNDA	**Vanda**	**57.97**	**195**	LR	LR	16 24 52.5	
	comp=Z,22nm,18.2s,baz=338,slow=31						
RPZ	**Rata Peaks**	**60.35**	**235**	LR	LR	16 24 19.0	
	comp=Z,47nm,20.3s,baz=266,slow=29						
TXAR	**Lajitas Array**	**61.86**	**7**	P	**P**	**16 05 32.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=188,slow=10,SNR=4.9						
SNAA	**Sanae**	**64.90**	**161**		**P**	**16 05 51.9**	**-0.7**
SNAA				IAmb	IAmb	16 05 53.5	
	comp=Z,5.9nm,1.1s						
CCUT	**Cedar City**	**69.71**	**358**	P	**P**	**16 06 22.6**	**-0.9**
NV11	**Mina Array Sit**	**70.88**	**354**	P	**P**	**16 06 30.1**	**-0.4**
NV11				IAmb	IAmb	16 06 33.7	
	comp=Z,3.9nm,1.1s						
NVAR	**Mina Array Bea**	**70.89**	**354**	P	**P**	**16 06 31.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=189,slow=7.3,SNR=8.9						
NVAR	**Mina Array Bea**	**70.89**	**354**	P	**P**	**16 06 30.8**	**+0.1**
KVN	**Kaiserville**	**71.49**	**354**	P	**P**	**16 06 33.8**	**-0.5**
KVN				IAmb	IAmb	16 06 36.9	
	comp=Z,3.7nm,1.0s						
PDAR	**Pinedale Array**	**74.89**	**1**	P	**P**	**16 06 54.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=183,slow=5.9,SNR=5.4						
PDAR	**Pinedale Array**	**74.89**	**1**	P	**P**	**16 06 52.7**	**-1.7**
HLID	**Hailey**	**75.75**	**357**	P	**P**	**16 06 58.6**	**-0.6**
HLID				IAmb	IAmb	16 07 02.1	
	comp=Z,10nm,1.8s						
FXWY	**Fox Creek**	**75.75**	**360**	P	**P**	**16 06 58.6**	**-0.7**
FXWY				IAmb	IAmb	16 08 23.9	
	comp=Z,12nm,1.9s						
SYO	**Syowa Base**	**76.49**	**169⍰**	*i*P	**P**	**16 07 02.0**	**-1.0**
PAGS	**Pennsylvania G**	**78.95**	**26**	P	**P**	**16 07 17.6**	**+0.7**
MAW	**Mawson**	**80.11**	**178**	P	**P**	**16 07 23.8**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=206,slow=9.5,SNR=12						
MAW	**Mawson**	**80.11**	**178**	P	**P**	**16 07 23.1**	**0.0**
STKA	**Stephens Creek**	**86.32**	**234**	P	**P**	**16 07 56.3**	**+0.5**
	comp=Z,4.7nm,1.0s,baz=41,slow=4.3,SNR=6.0						
ASAR	**Alice Springs**	**96.72**	**237**	P	**P**	**16 08 43.8**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=128,slow=6.0,SNR=7.1						
WRA	**Warramunga Arr**	**98.76**	**240**	P	**P**	**16 08 53.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=141,slow=4.4,SNR=4.7						
H01W1	**Cape Leeuwin H**	**100.76**	**216**	T	T	18 01 55.2	
	baz=141,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**100.78**	**216**	T	T	18 01 58.1	
	baz=141,slow=76,SNR=28						
H01W3	**Cape Leeuwin H**	**100.78**	**216**	T	T	18 01 56.5	
	baz=141,slow=76,SNR=24						
AKASG	**Malin Array Be**	**145.56**	**46**	PKPbc	**PKPdf**	**16 14 49.8**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=278,slow=3.3,SNR=5.3						
AKASG	**Malin Array Be**	**145.56**	**46**		**PKPdf**	**16 14 49.7**	**-1.7**
SONM	**Songino Array**	**148.01**	**310**	PKPbc	**PKPbc**	**16 14 57.6**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=116,slow=1.7,SNR=8.1						
SONM	**Songino Array**	**148.01**	**310**		**PKPdf**	**16 14 57.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**149.80**	**250**	PKPbc	**PKiKP**	**16 15 04.7**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=182,slow=1.7,SNR=22						
CMAR	**Chiang Mai Arr**	**149.80**	**250**	PKPab	**PKPab**	**16 15 10.6**	**+1.0**
ZALV	**Zalesovo Beam**	**155.80**	**337**	PKPab	**PKPab**	**16 15 33.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=38,slow=2.6,SNR=2.4						

WEL 09 16:04:35.8±0.4, 43°S±2°×17°2E±°, h6km±3km, M2.5/13, ML2.5/13, MLv2.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.17**	**183**	P	Pg	16 04 40.0	+0.8
OXZ				S	Sg	16 04 42.9	+1.5
LTZ	**Lake Taylor**	**0.41**	**23**	P	Pg	16 04 44.1	+0.3
LTZ				S	Sg	16 04 49.9	+0.7
AMCZ	**Amberley**	**0.44**	**92**	P	Pb	16 04 45.1	-0.8
MHCZ	**Mount Hutt**	**0.51**	**223**	P	Pb	16 04 46.6	-0.6
MHCZ				S	Sb	16 04 54.1	-0.8
INZ	**Inchbonnie**	**0.62**	**314**	P	Pg	16 04 48.3	+0.5
INZ				S	Sg	16 04 56.6	+0.7
MQZ	**McQueen's Vall**	**0.70**	**141**	P	Pg	16 04 49.4	+0.1
MQZ				S	Sg	16 04 58.8	+0.4
GVZ	**Greta Valley S**	**0.75**	**75**	P	Pb	16 04 50.9	-0.3
GVZ				S	Sb	16 05 01.6	0.0
WACZ	**Wakanui South**	**0.80**	**191**	P	Pb	16 04 51.9	-0.1
WACZ				S	Sb	16 05 03.2	+0.2
RPZ	**Rata Peaks**	**0.91**	**232**	P	Pg	16 04 53.5	+0.2
RPZ				S	Sg	16 05 05.6	+0.4
OKCZ	**Okains Bay**	**0.93**	**128**	P	Pg	16 04 53.2	-0.4
AKCZ	**Akaroa Harbour**	**0.95**	**139**	P	Pg	16 04 53.5	-0.4
WVZ	**Waitaha Valley**	**0.97**	**275**	P	Pb	16 04 54.7	-0.2
ARCZ	**Arundel**	**1.01**	**219**	P	Pg	16 04 54.7	-0.5
KHZ	**Kahutara**	**1.32**	**56**	P	Pn	16 05 00.1	-0.6
DSZ	**Denniston Nort**	**1.43**	**353**	P	Pn	16 05 02.5	+0.2
DSZ				S	Sb	16 05 20.9	-0.3
THZ	**Tophouse**	**1.53**	**25**	P	Pn	16 05 03.1	-0.6
LBZ	**Lake Benmore**	**1.82**	**227**	P	Pg	16 05 10.9	+0.2
ODZ	**Otahua Downs**	**2.14**	**208**	P	Pn	16 05 11.0	-1.8
QRZ	**Quartz Range**	**2.36**	**9**	P	Pb	16 05 18.9	+0.2
PRWZ	**Pori Road**	**3.92**	**50**	P	Pn	16 05 37.7	+1.2
PKGZ	**Pakihiroa**	**6.99**	**43**	P	Pn	16 06 17.1	-1.5

DJA 09 16:10:21.2±0.7, 8°S±3°×11°8E±°, h27km±7km, M4.0/12, MLv4.0/12, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.90**	**186**	P	Pn	16 10 38.0	-0.1
PLAI				S	Sn	16 10 50.7	+0.5
TWSI	**Taliwang, Sumb**	**1.27**	**231**	P	Pn	16 10 43.1	0.0
TWSI				S	Sn	16 10 59.4	+0.1
BKSI	**Bulukumba**	**3.42**	**41**	P	Pn	16 11 11.9	-0.9
ABJI	**Asem Bagus**	**3.60**	**272**	P	Pn	16 11 15.9	+0.6
JAGI	**Jajag, Banyuwa**	**3.72**	**261**	P	Pn	16 11 16.6	-0.3
EDFI	**Ende, Flores**	**3.87**	**102**	P	Pn	16 11 19.4	+0.4
BNSI	**Bone**	**4.15**	**33**	P	Pn	16 11 23.9	+1.0
BLJI	**Banyuglugur**	**4.24**	**272**	P	Pn	16 11 23.7	-0.4
SPSI	**Sidrap Palu**	**4.37**	**26**	P	Pb	16 11 50.3	+13
GMJI	**Gumukmas**	**4.40**	**265**	P	Pn	16 11 26.3	+0.1
KBKI	**Kotabaru**	**4.90**	**340**	P	Pb	16 11 58.0	+12
TTSI	**Tana Tora

ISC 09 16:17:55.2±0.7, 23°32N±0°05×100°3E±0°1, h10km, n22, σ1§62/32, mb3.7/6, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.87**	**51**	*i*Pg	**Pb**	**16 18 44.7**	**-1.9**
KMI				Sn	**Sb**	**16 19 22.3**	**+0.5**
KMI				smax	smax		
	comp=N,410nm,1.0s						
KMI				smax	smax		
	comp=E,260nm,1.0s						
CRAI	**Chiangrai**	**3.08**	**179**	P	**Pn**	**16 18 44.5**	**+0.6**
CRAI				S	**Sb**	**16 19 31.5**	**+3.8**
PAYA	**Payao**	**3.96**	**186**	P	**Pn**	**16 18 56.8**	**+0.7**
CMMT	**Chiang Mai**	**4.66**	**196**	P	**Pn**	**16 19 06.8**	**+1.2**
CMMT				S	**Sg**	**16 20 23.4**	**-1.5**
PHRA	**Phrae**	**4.80**	**181**	P	**Pn**	**16 19 08.3**	**+0.8**
PHRA				S	**Sg**	**16 20 27.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**5.00**	**195**	Pn	**Pn**	**16 19 11.9**	**+1.6**
	0.7nm,0.3s,baz=11,slow=13,SNR=8.0						
CMAR				Pg	**Pg**	**16 19 30.1**	**-0.9**
	4.0nm,0.3s,baz=8.7,slow=16,SNR=48						
CMAR				Lg	Lg	16 20 39.2	
	6.4nm,0.3s,baz=14,slow=29,SNR=14						
CM09	**Chiang Mai Arr**	**5.00**	**194**	P	**Pn**	**16 19 11.9**	**+1.5**
CM15	**Chiang Mai Arr**	**5.01**	**195**	P	**Pn**	**16 19 11.9**	**+1.4**
CM02	**Chiang Mai Arr**	**5.02**	**195**	P	**Pn**	**16 19 12.1**	**+1.4**
CM01	**Chiang Mai Arr**	**5.03**	**195**	P	**Pn**	**16 19 12.1**	**+1.3**
CM13	**Chiang Mai Arr**	**5.04**	**195**	P	**Pn**	**16 19 12.1**	**+1.1**
CM13				S	**Sg**	**16 20 34.4**	**-2.8**
CM04	**Chiang Mai Arr**	**5.05**	**194**	P	**Pn**	**16 19 12.5**	**+1.5**
CM05	**Chiang Mai Arr**	**5.05**	**195**	P	**Pn**	**16 19 12.2**	**+1.1**
CM05				S	**Sg**	**16 20 36.9**	**-0.7**
CD2	**Chengdu**	**8.16**	**21**	Pn	**Pn**	**16 19 53.7**	**-0.1**
CD2				Pg	**Pg**	**16 20 35.6**	**+4.1**
CD2				Sg	**Sg**	**16 22 17.1**	**-0.2**
CD2				smax	smax		
	comp=N,60nm,1.4s						
CD2				smax	smax		
	comp=E,40nm,1.3s						
CD2	**Chengdu**	**8.16**	**21**	P	**Pn**	**16 19 53.5**	**-0.3**
CD2				S	**Sn**	**16 21 24.7**	**-1.5**
CD2				smax	smax		
	comp=E,60nm,1.4s						
CD2				smax	smax		
	comp=E,40nm,1.4s						
WMQ	**Urumqi**	**22.93**	**336**	*e*P	**P**	**16 22 57.8**	**-1.7**
SONM	**Songino Array**	**24.94**	**10**	P	**P**	**16 23 17.7**	**-1.0**
	comp=E,0.9nm,0.7s,baz=179,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**27.54**	**333**	P	**P**	**16 23 42.3**	**+0.2**
	comp=E,1.5nm,0.6s,baz=139,slow=9.8,SNR=15						
KURBB	**Kurchatov Arra**	**32.08**	**334**	P	**P**	**16 24 22.3**	**0.0**
	comp=E,0.5nm,0.5s,baz=136,slow=10,SNR=8.0						
ZALV	**Zalesovo Beam**	**32.73**	**343**	P	**P**	**16 24 27.7**	**-0.2**
	comp=E,0.9nm,0.6s,baz=167,slow=7.3,SNR=4.7						
WRA	**Warramunga Arr**	**54.33**	**140**	P	**P**	**16 27 22.4**	**+0.2**
	comp=E,0.3nm,0.6s,baz=328,slow=8.0,SNR=2.6						
ASAR	**Alice Springs**	**56.99**	**143**	P	**P**	**16 27 41.8**	**+0.5**
	comp=E,0.4nm,0.6s,baz=325,slow=7.3,SNR=6.1						

*NEIC **09** 16:19:00.1±1.9, 11°.31S±0°.10×166°.4E±0°.1, h82km±7km, mb4.8/15, Error ellipse: s-maj=20.2km s-min=9.6km az=55.0*
*IDC **09** 16:19:02.9±3.8, 11°.28S×166°.34E, h102km±33km, mb3.7/8, mb1 3.9/10, mb1mx3.5/49, mbtmp4.0/10, MS3.6/14, Ms1 3.6/14, ms1mx3.5/26, Error ellipse: s-maj=28.2km s-min=24.7km az=133.0*

ISC 09 16:19:02.3±0.8, 11°30S±0°.10×166°.4E±0°.1, h100km, n43, σ1§57/29, mb4.4/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.19**	**170**		**Pn**	**16 20 01.7**	**-2.3**
HNR	**Honiara**	**6.64**	**286**	P	**Pn**	**16 20 36.9**	**-0.4**
	5.8nm,0.3s,baz=153,slow=18,SNR=2.2						
HNR				LR	LR	16 23 07.0	
	comp=Z,364nm,20.1s,baz=94,slow=37						
HNR	**Honiara**	**6.64**	**286**		**Pn**	**16 20 35.2**	**-2.1**
DZM	**Mont Dzumac**	**10.71**	**180**	*e*LR	LR	16 23 49.5	
	comp=Z,1μm,26.2s						
DZM	**Mont Dzumac**	**10.71**	**180**	P	**Pn**	**16 21 34.0**	**+1.3**
	0.2nm,0.3s,baz=338,slow=19,SNR=2.7						
DZM				LR	LR	16 24 17.4	
	comp=Z,78nm,19.3s,baz=7.0,slow=29						
DZM	**Mont Dzumac**	**10.71**	**180**		**Pn**	**16 21 32.7**	**-0.1**
EIDS	**Eidsvold**	**20.16**	**224**	P	**Pn**	**16 23 32.2**	**+0.6**
CTA	**Charters Tower**	**21.27**	**243**	P	**P**	**16 23 40.8**	**-0.1**
	3.8nm,0.9s,baz=45,slow=13,SNR=3.5						
CTAO	**Charters Tower**	**21.27**	**243**	P	**P**	**16 23 43.5**	**+2.6**
ARMA	**Armidale**	**23.46**	**214**	P	**P**	**16 24 06.3**	**+3.1**
ARMA				IAmb	IAmb	16 24 49.0	
	comp=Z,64nm,1.8s						
CAN	**Canberra**	**28.67**	**211**	P	**P**	**16 24 49.7**	**-0.1**
CAN				IAmb	IAmb	16 25 43.3	
	comp=Z,49nm,1.8s						
BKZ	**Black Stump Fm**	**29.16**	**164**	P	**P**	**16 24 56.2**	**+2.1**
BKZ				IAmb	IAmb	16 25 39.7	
	comp=Z,51nm,1.8s						
H11S2	**WAKE ISLAND Hy**	**29.61**	**1**	T	T	16 54 39.8	
	baz=181,slow=76,SNR=61						
H11S3	**WAKE ISLAND Hy**	**29.61**	**1**	T	T	16 54 39.2	
	baz=181,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**29.62**	**1**	T	T	16 54 40.0	
	baz=181,slow=76,SNR=42						
NNZ	**Nelson**	**30.42**	**170**	P	**P**	**16 25 02.6**	**-2.6**
BFZ	**Birch Farm**	**30.52**	**165**	P	**P**	**16 25 04.2**	**-1.8**
H11N1	**WAKE ISLAND Hy**	**30.82**	**1**	T	T	16 56 10.3	
	baz=182,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**30.83**	**1**	T	T	16 56 20.8	
	baz=182,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.84**	**1**	T	T	16 56 18.5	
	baz=182,slow=76,SNR=10						
WR0	**Warramunga Arr**	**31.84**	**250**	P	**P**	**16 25 17.4**	**-0.6**
WR0				IAmb	IAmb	16 26 18.2	
	comp=Z,13nm,1.6s						
WB0	**Warramunga Arr**	**31.94**	**251**	P	**P**	**16 25 18.0**	**-0.8**
WB0				IAmb	IAmb	16 25 18.9	
	comp=Z,13nm,1.2s						
WB2	**Warramunga Arr**	**32.01**	**250**	P	**P**	**16 25 17.7**	**-1.8**
WB2				IAmb	IAmb	16 25 47.7	
	comp=Z,28nm,1.8s						
WRA	**Warramunga Arr**	**32.02**	**250**	P	**P**	**16 25 18.7**	**-0.9**
	comp=Z,4.8nm,1.1s,baz=80,slow=9.1,SNR=14						
WRA				LR	LR	16 38 26.3	
	comp=Z,195nm,18.8s,baz=75,slow=36						
WRA	**Warramunga Arr**	**32.02**	**250**	P	**P**	**16 25 17.8**	**-1.8**
AS31	**Alice Springs**	**33.27**	**244**		**P**	**16 25 29.0**	**-1.5**
ASAR	**Alice Springs**	**33.28**	**244**	P	**P**	**16 25 29.5**	**-1.0**
	comp=Z,4.7nm,0.8s,baz=66,slow=10.0,SNR=36						
ASAR				LR	LR	16 38 00.0	
	comp=Z,232nm,20.5s,baz=71,slow=34						
ASAR	**Alice Springs**	**33.28**	**244**	P	**P**	**16 25 29.3**	**-1.2**
KNRA	**Kununurra**	**36.85**	**259**	P	**P**	**16 26 00.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.96**	**255**	P	**P**	**16 26 25.4**	**-1.8**
FITZ				IAmb	IAmb	16 27 28.0	
	comp=Z,26nm,1.8s						
PPT	**Papeete**	**42.99**	**104**	LR	LR	16 43 11.8	
	comp=Z,27nm,19.6s,baz=314,slow=34						
PPT2	**Papeete2**	**42.99**	**104**	*e*LQ	LQ	16 36 55.8	
	comp=Z,322nm,28.2s						
PPT2				*e*LR	LR	16 39 01.7	
	comp=Z,47nm,23.5s						
KSRS	**Korea Array**	**60.47**	**325**	LR	LR	16 51 53.0	
	comp=Z,34nm,20.2s,baz=164,slow=33						
PETK	**Petropavlovsk-**	**64.59**	**354**	LR	LR	16 52 47.5	
	comp=Z,40nm,21.6s,baz=93,slow=31						
VNDA	**Vanda**	**66.25**	**181**	P	**P**	**16 29 40.2**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=338,slow=6.7,SNR=1.9						
VNDA				LR	LR	16 56 19.4	
	comp=Z,41nm,18.8s,baz=11,slow=34						
CMAR	**Chiang Mai Arr**	**72.83**	**293**	P	**P**	**16 30 22.3**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=115,slow=6.1,SNR=1.4						
CMAR				LR	LR	17 04 32.8	
	comp=Z,13nm,18.3s,baz=183,slow=38						
HDA	**Harding Lake**	**83.27**	**19**	P	**P**	**16 31 16.9**	**-0.5**
HDA				IAmb	IAmb	16 31 18.4	
	comp=Z,29nm,1.7s						
ILAR	**Eielson Array**	**83.55**	**18**	P	**P**	**16 31 18.4**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=218,slow=6.4,SNR=7.4						
MAW	**Mawson**	**84.73**	**202**	LR	LR	17 02 05.7	
	comp=Z,64nm,21.9s,baz=60,slow=30						
NVAR	**Mina Array Bea**	**85.68**	**50**	P	**P**	**16 31 31.2**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=246,slow=8.8,SNR=3.2						
NVAR				LR	LR	17 01 21.8	
	comp=Z,99nm,21.0s,baz=269,slow=30						
MKAR	**Makanchi Array**	**94.17**	**317**	P	**P**	**16 32 09.9**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=99,slow=7.5,SNR=2.7						
MKAR				LR	LR	17 12 59.6	
	comp=Z,28nm,21.5s,baz=86,slow=34						
YKA	**Yellowknife Ar**	**94.89**	**27**	LR	LR	17 10 42.0	
	comp=Z,25nm,18.4s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**95.37**	**61**	LR	LR	17 07 13.7	
	comp=Z,60nm,20.4s,baz=0.0,slow=30						

PGC 09 16:24:16.2±0.1, 51°99N×135°87W, h10km, MLSn3.3/10, Mw3.9/10, 307km Wsw of Sandspit, Bc West Of Vancouver Island, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIB	**Van Inlet**	**2.39**	**57**	Pn	Pn	16 24 53.9	-1.7
VIB				Sn	Sn	16 25 20.9	-4.0
DIB	**Dawson Inlet,**	**2.40**	**58**	Pn	Pn	16 24 53.9	-1.6
DIB				Sn	Sn	16 25 20.7	-4.2
HG1B	**Mitchell Dam**	**2.48**	**66**	Pn	Pn	16 24 54.9	-1.7
HG1B				Sn	Sn	16 25 22.9	-3.8
BNB	**Barry Inlet**	**2.59**	**75**	Pn	Pn	16 24 56.6	-1.7
BNB				Sn	Sn	16 25 26.2	-3.7
MOBC	**Moresby Island**	**2.65**	**62**	Pn	Pn	16 24 57.5	-1.5
MOBC				Sn	Sn	16 25 27.4	-3.7
NDB	**Naden**	**2.65**	**41**	Pn	Pn	16 24 57.4	-1.7
NDB				Sn	Sn	16 25 27.8	-3.4
HG4B	**Hotspring**	**2.89**	**82**	Pn	Pn	16 25 00.6	-1.8
HG4B				Sn	Sn	16 25 33.5	-3.6
MASB	**Masset**	**3.09**	**47**	Pn	Pn	16 25 05.8	+0.8
MASB				Sn	Sn	16 25 41.0	-0.8
BNAB	**Bonilla**	**3.52**	**63**	Pn	Pn	16 25 09.8	-1.1
BNAB				Sn	Sn	16 25 49.5	-3.1
BNKB	**Banks Island**	**3.87**	**67**	Pn	Pn	16 25 15.1	-0.8
BNKB				Sn	Sn	16 25 59.1	-2.2
GRNB	**Grenville Isla**	**4.03**	**60**	Pn	Pn	16 25 17.2	-0.8
GRNB				Sn	Sn	16 26 02.2	-3.1
RUBB	**Prince Rupert**	**4.11**	**53**	Pn	Pn	16 25 18.6	-0.5
RUBB				Sn	Sn	16 26 03.6	-3.5
HWKB	**Hawksbury Isla**	**4.38**	**66**	Sn	Sn	16 26 11.6	-2.4
BUTB	**Butedale**	**4.65**	**74**	Pn	Pn	16 25 26.8	+0.2
BUTB				Sn	Sn	16 26 17.4	-3.2
BBB	**Bella Bella**	**4.79**	**85**	Pn	Pn	16 25 27.3	-1.0
BBB				Sn	Sn	16 26 21.7	-2.0
KITB	**Kitimat**	**4.84**	**62**	Pn	Pn	16 25 28.3	-0.7
KITB				Sn	Sn	16 26 22.8	-2.2
PHC	**Port Hardy**	**5.44**	**100**	Sn	Sn	16 26 37.1	-2.7
MAYB	**Maynard**	**5.69**	**103**	Sn	Sn	16 26 45.1	-1.2
WOSB	**Woss**	**6.14**	**104**	Sn	Sn	16 26 56.4	-0.9

*GCG **09** 16:29:23.5±0.6, 13°.39N×89°.95W, h0km±14km, MD3.8*
*SNET **09** 16:29:27.2±1.0, 13°.30N×90°.21W, h25km±7km, ML2.9*

ISC 09 16:29:26.6±2.5, 13°4N±0°.1×90°20W±0°.07, h15km±12km, n16, σ1§16/21, 5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.73**	**50**	*i*P	**Pn**	**16 29 42.3**	**-0.3**
SBLS				*e*S	**Sn**	**16 29 53.8**	**+0.3**
RTR	**El Retiro**	**0.75**	**45**	*e*P	**Pn**	**16 29 42.7**	**-0.1**
RTR				*e*S	**Sn**	**16 29 54.6**	**+0.6**
SNJE	**San Jose**	**0.76**	**49**	*i*P	**Pn**	**16 29 42.7**	**-0.2**
IXG	**Ixpaco**	**0.83**	**343**	*e*P	**Pb**	**16 29 43.3**	**+0.3**
BOQS	**Boqueron**	**0.96**	**68**	*e*P	**Pn**	**16 29 46.1**	**+0.3**
TACO	**Tacachico**	**1.01**	**54**	*e*P	**Pn**	**16 29 46.2**	**-0.1**
TACO				IAML		16 29 47.0	
	comp=Z,200nm,0.3s						
TACO				*e*S	**Sn**	**16 30 01.8**	**+1.5**
PCG	**Pacaya**	**1.09**	**339**	*e*P	**Pb**	**16 29 46.6**	**-0.8**
LFU	**La Fuente**	**1.12**	**70**	*e*P	**Pn**	**16 29 48.6**	**+0.8**
LFRS	**El Faro**	**1.13**	**77**	*e*P	**Pn**	**16 29 47.6**	**-0.4**
LBRS	**Las Brisas**	**1.18**	**72**	*e*P	**Pn**	**16 29 48.8**	**+0.2**
NBG	**Las Nubes**	**1.22**	**353**	*e*P	**Pg**	**16 29 50.5**	**+0.2**
NBG				*e*S	**Sg**	**16 30 06.9**	**+0.6**
FUG	**Fuego 3**	**1.24**	**330**	*e*P	**Pn**	**16 29 48.5**	**-1.2**
FUG				*e*S	**Sg**	**16 30 09.8**	**+2.9**
PAVA	**Las Pavas**	**1.27**	**74**	*e*P	**Pg**	**16 29 50.4**	**-0.8**
PAVA				IAML		16 30 13.1	
	comp=Z,518nm,0.2s						
MTO3	**Montecristo**	**1.31**	**38**	*i*P	**Pg**	**16 29 50.8**	**-1.1**
ESQI	**Esquipulas**	**1.45**	**35**	*e*P	**Pg**	**16 29 52.7**	**-1.8**
MRL	**Marmol**	**1.77**	**16**	*e*P	**Pn**	**16 29 55.2**	**-1.8**

*IDC **09** 16:38:18.9±2.5, 39°.57N×143°.92E, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.6/36, mbtmp3.8/7, ML3.1/4, Error ellipse: s-maj=53.6km s-min=22.8km az=85.0*
*JMA **09** 16:38:21.4±0.2, 39°.63N×143°.65E, h28km, M3.8*
*NIED **09** 16:38:21.4, 39°.63N×143°.65E, h28km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_m3.21; M_{rr}0.11; $M_{\theta\theta}$-3.10; $M_{r\theta}$0.93; $M_{\theta\phi}$-0.80; $M_{r\phi}$0.93; Fault plane solution: $M_0$3.51000×10^{14} NP1 ϕ_s25.00000°, δ56.00000°, λ103.00000°. NP2 ϕ_s183.00000°, δ36.00000°, λ72.00000°.*

ISC 09 16:38:19.4±1.3, 39°53N±0°.06×143°8E±0°.1, h11km, n30, σ1§97/31, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.56**	**272**	P	**Pn**	**16 38 45.9**	**-1.1**
JTH	**Tanohata**	**1.57**	**286**	P	**Pn**	**16 38 45.5**	**-1.7**
OFUJ	**Ofunato**	**1.74**	**256**	P	**Pn**	**16 38 48.9**	**-0.8**
JKEN	**Kujiedanarisaw**	**1.77**	**293**	P	**Pn**	**16 38 48.1**	**-1.8**
JOM	**Ohasama**	**1.96**	**269**	P	**Pn**	**16 38 52.3**	**-0.3**
JANG	**Nango**	**1.97**	**296**	P	**Pn**	**16 38 51.1**	**-1.6**
JMK	**Ichinoseki**	**2.11**	**255**	P	**Pn**	**16 38 54.4**	**-0.1**
JMK				*e*S	**Sn**	**16 39 18.3**	**-2.4**
JIO	**Ouri**	**2.21**	**242**	P	**Pn**	**16 38 55.8**	**-0.2**
JTM	**Tenmabayashi**	**2.46**	**302**	P	**Pn**	**16 38 58.9**	**-0.5**
JYK	**Kaneyama**	**2.76**	**258**	P	**Pn**	**16 39 03.9**	**+0.3**
JOT	**Ohata**	**2.82**	**312**	P	**Pn**	**16 39 03.8**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.87**	**344**	P	**Pn**	**16 39 06.3**	**+1.3**
JNBK				*e*S	**Sn**	**16 39 39.4**	**-0.1**
JCH	**Churui**	**3.10**	**354**	P	**Pn**	**16 39 08.8**	**+0.6**
JCH				*e*S	**Sn**	**16 39 42.6**	**-2.7**
JKB	**Kayabe**	**3.17**	**319**	P	**Pn**	**16 39 09.3**	**+0.1**
JFT	**Otama**	**3.40**	**235**	P	**Pn**	**16 39 13.0**	**+0.7**
JAK	**Akkeshi**	**3.53**	**10**	P	**Pn**	**16 39 15.1**	**+1.1**
JAK				*e*S	**Sn**	**16 39 54.0**	**-1.7**
ASAJ	**Asahikawa**	**4.68**	**349**	Pn	**Pn**	**16 39 31.6**	**+1.8**
	1.2nm,0.3s,baz=184,slow=9.4,SNR=13						
ASAJ				Sn	**Sn**	**16 40 25.8**	**+1.7**
	1.0nm,0.3s,baz=38,slow=19,SNR=1.7						
MAT	**Matsushiro**	**5.35**	**238**	P	**Pn**	**16 39 41.0**	**+1.9**
MAT				*e*S	**Sn**	**16 40 40.3**	**-0.4**
MJAR	**Matsushiro Arr**	**5.35**	**238**	Pn	**Pn**	**16 39 41.3**	**+2.2**
	0.2nm,0.3s,baz=42,slow=12,SNR=22						
JHJ	**Hachijo jima 2**	**7.18**	**208**	Pn	**Pn**	**16 40 06.5**	**+2.2**
	8.7nm,0.3s,baz=45,slow=18,SNR=1.5						
JHJ				Sn	**Sn**	**16 41 18.9**	**-6.9**
	4.4nm,0.3s,baz=251,slow=18,SNR=1.9						
USRK	**Ussuriysk Ar.**	**9.99**	**302**	Pn	**Pn**	**16 40 45.1**	**+2.4**
	baz=110,slow=12,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**27.99**	**128**	T	T	17 13 48.7	
	baz=318,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.00**	**128**	T	T	17 13 50.5	
	baz=318,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.01**	**128**	T	T	17 13 48.7	
	baz=318,slow=75,SNR=17						
SONM	**Songino Array**	**28.09**	**300**	P	**P**	**16 44 12.3**	**+1.2**
	0.6nm,0.5s,baz=95,slow=8.8,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**28.81**	**130**	T	T	17 14 51.2	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**28.81**	**130**	T	T	17 14 51.8	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**28.83**	**130**	T	T	17 14 55.3	
	baz=321						
MKAR	**Makanchi Array**	**44.45**	**300**	P	**P**	**16 46 30.9**	**+0.6**
	1.2nm,0.9s,baz=75,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**59.82**	**190**	P	**P**	**16 48 26.6**	**+1.8**
	0.5nm,1.0s,baz=9.8,slow=7.5,SNR=2.8						

*IDC **09** 16:48:36.7±5.4, 5°.08S×153°.90E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=161.8km s-min=40.8km az=108.0*
*NEIC **09** 16:48:37.6±1.2, 5°.4S±0°.1×155°.01E±0°.09, h48km±7km, mb4.3/7, Error ellipse: s-maj=17.3km s-min=12.2km az=204.0*

ISC 09 16:48:37.5±1.0, 5°6S±0°.1×154°8E±0°.1, h35km, n15, σ1§19/13, mb4.1/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.01**	**297**		**Pn**	**16 49 22.4**	**-0.3**
HNR	**Honiara**	**6.34**	**127**	Pn	**Pn**	**16 50 07.8**	**-0.6**
PMG	**Port Moresby**	**8.51**	**243**		Pn	16 50 44.5	+6.3
WR0	**Warramunga Arr**	**24.36**	**232**	P	**P**	**16 53 53.5**	**+1.1**
WB0	**Warramunga Arr**	**24.38**	**233**	P	**P**	**16 53 53.5**	**+0.9**
WB0				IAmb	IAmb	16 54 20.8	
	comp=Z,9.6nm,1.5s						
WC3	**Warramunga Arr**	**24.50**	**233**	P	**P**	**16 53 54.8**	**+1.1**
WB2	**Warramunga Arr**	**24.50**	**233**	P	**P**	**16 53 55.0**	**+1.2**
WB2				IAmb	IAmb	16 54 12.1	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**24.51**	**233**	P	**P**	**16 53 54.6**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=56,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**27.00**	**226**	P	**P**	**16 54 17.6**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=59,slow=8.7,SNR=9.2						
WAKE	**Wake Island**	**27.32**	**25**		**P**	**16 54 20.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**31.10**	**244**	P	**P**	**16 54 51.6**	**-1.2**
FITZ				IAmb	IAmb	16 55 20.6	
	comp=Z,4.7nm,1.2s						
KAPI	**Kappang**	**34.94**	**269**	LR	LR	17 11 36.4	
	comp=Z,33nm,19.8s,baz=57,slow=41						
PSAD1	**Pilbara Seismi**	**37.38**	**242**	P	**P**	**16 55 45.7**	**-1.5**
NWAO	**Narrogin (SRO)**	**44.31**	**227**	P	**P**	**16 56 45.3**	**+1.1**
NWAO				IAmb	IAmb	16 56 52.5	
	comp=Z,44nm,1.5s						
MKAR	**Makanchi Array**	**82.26**	**319**	P	**P**	**17 00 54.7**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=101,slow=4.8,SNR=2.0						

*SFS **09** 16:55:57.0, 34°.79N×4°.41W, ML3.1, ZERKAT (MARRUECOS)*
*LDG **09** 16:55:57.9±0.4, 34°.98N×4°.42W, h10km, Ml3.0/5, Error ellipse: s-maj=8.2km s-min=4.5km az=6.0*
*IDC **09** 16:55:58.6±2.9, 34°.85N×4°.66W, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.3/46, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=100.0km s-min=16.0km az=95.0*
*MDD **09** 16:55:58.6±1.0, 34°.83N×4°.38W, h5km±4km, mbLg3.1/38, Error ellipse: s-maj=7.3km s-min=4.5km az=4.0, PRXIMO*
*INMG **09** 16:56:00.2±1.9, 34°.91N×4°.36W, h8km±8km, ML2.8, Error ellipse: s-maj=4.1km s-min=3.3km az=29.0*
*CNRM **09** 16:56:00.6±1.5, 34°.88N×4°.54W, h20km±11km, Error ellipse: s-maj=6.3km s-min=3.5km az=99.0*

ISC 09 16:55:59.8±0.9, 34°93N±0°.03×4°40W±0°.02, h16km±7km, n109, σ1§81/188, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.26**	**18**	P	**Pg**	**16 56 05.4**	**0.0**
PVLZ				S	**Sg**	**16 56 09.8**	**+0.5**
PVLZ	**Peæn de**	**0.26**	**18**	*e*P	**Pg**	**16 56 05.4**	**0.0**
PVLZ				*e*S	**Sg**	**16 56 09.8**	**+0.5**
EMEL	**Melilla**	**1.24**	**72**	P	**Pn**	**16 56 21.6**	**-0.8**
	683nm,0.4s,SNR=14						
EMEL				S	**Sb**	**16 56 38.7**	**+0.2**
	1μm,0.4s,SNR=6.0						
CEU	**Ceuta**	**1.25**	**321**	P	**Pn**	**16 56 19.2**	**-3.4**
CEU				S	**Sb**	**16 56 38.2**	**-0.8**
CEU	**Ceuta**	**1.25**	**321**	*e*P	**Pn**	**16 56 19.2**	**-3.4**
CEU				*e*S	**Sb**	**16 56 38.2**	**-0.8**
ECEU	**Ceuta**	**1.25**	**321**	P	**Pn**	**16 56 20.9**	**-1.8**
	15nm,0.2s,SNR=20						
ECEU				S	**Sn**	**16 56 40.6**	**+1.3**
	238nm,0.6s,SNR=10						
MELI	**Melilla**	**1.25**	**73**	P	**Pn**	**16 56 21.4**	**-1.3**
	688nm,0.4s,SNR=7.9						
MELI				S	**Sb**	**16 56 39.1**	**+0.1**
	1μm,0.6s,SNR=7.9						
MELI	**Melilla**	**1.25**	**73**	*e*P	**Pn**	**16 56 21.9**	**-0.7**
MELI				*e*S	**Sn**	**16 56 41.8**	**+2.5**
EALB	**Alboran**	**1.50**	**47**	P	**Pn**	**16 56 24.8**	**-1.3**
	96nm,0.2s,SNR=20						
EALB				S	**Sn**	**16 56 45.0**	**-0.4**
	169nm,0.4s						
IFR	**Ifrane**	**1.53**	**203**	*e*P	**Pb**	**16 56 26.3**	**-1.6**
IFR				*e*S	**Sg**	**16 56 48.1**	**-1.0**
EJIF	**Jimena Fronter**	**1.75**	**331**	P	**Pn**	**16 56 30.0**	**+0.5**
	9μm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**16 56 51.6**	**+0.1**
	49μm,0.6s,SN

PVAQ				A	A	16 57 42.1
	25nm,0.8s					
PBDV	**Barranco-do-Ve**	**3.68**	**310**	P	**Pn**	**16 56 56.8 +0.8**
PBDV				S	**Sn**	**16 57 39.4 +0.3**
	21nm,0.6s					
PBDV	**Barranco-do-Ve**	**3.68**	**310**	*e*Pn	**Pn**	**16 56 56.8 +0.8**
PBDV				*e*Sn	**Sn**	**16 57 39.4 +0.3**
PBDV				A	A	16 57 47.1
	21nm,0.6s					
EMUR	**La Murta**	**3.87**	**40**	P	**Pn**	**16 56 57.9 -0.7**
	1.4nm,0.4s,SNR=7.9					
EMUR				S	**Sn**	**16 57 42.2 -1.6**
	26nm,0.6s,SNR=7.9					
PCVE	**Castro Verde**	**3.99**	**314**	P	**Pn**	**16 57 01.2 +0.9**
PCVE				S	**Sn**	**16 57 46.9 +0.1**
	14nm,0.6s					
PCVE	**Castro Verde**	**3.99**	**314**	*e*Pn	**Pn**	**16 57 01.2 +0.9**
PCVE				*e*Sn	**Sn**	**16 57 46.9 +0.1**
PCVE				A	A	16 57 53.8
	14nm,0.6s					
PBEJ	**Beja**	**4.17**	**319**	P	**Pn**	**16 57 05.0 +2.3**
PBEJ				S	**Sn**	**16 57 44.0 -7.1**
PBEJ	**Beja**	**4.17**	**319**	*e*Pn	**Pn**	**16 57 05.0 +2.3**
PBEJ				*e*Sn	**Sn**	**16 57 44.0 -7.1**
MORF	**Marmelete**	**4.18**	**306**	P	**Pn**	**16 57 05.6 +2.6**
MORF				S	**Sn**	**16 57 52.7 +1.2**
	8.7nm,0.4s					
MORF	**Marmelete**	**4.18**	**306**	*e*Pn	**Pn**	**16 57 05.6 +2.6**
MORF				*e*Sn	**Sn**	**16 57 52.7 +1.2**
MORF				A	A	16 57 54.6
	8.7nm,0.4s					
PFVI	**Vila Bisbo**	**4.21**	**303**	P	**Pn**	**16 57 03.3 0.0**
	9.5nm,0.4s,SNR=7.1					
PFVI				S	**Sn**	**16 57 50.5 -1.6**
	20nm,0.3s,SNR=6.0					
PFVI	**Vila Bisbo**	**4.21**	**303**	*e*Pn	**Pn**	**16 57 04.9 +1.6**
PFVI				*e*Sn	**Sn**	**16 57 53.5 +1.4**
PFVI				A	A	16 58 05.1
	19nm,0.5s					
TZRR	**Tazzarine**	**4.25**	**194**	P	**Pn**	**16 57 04.4 +0.5**
ETOB	**Tobarra**	**4.36**	**31**	P	**Pn**	**16 57 06.2 +0.8**
	6.3nm,0.3s,SNR=16					
ETOB				S	**Sn**	**16 57 55.6 -0.3**
	17nm,0.7s,SNR=12					
PTEO	**Sao Teotonio**	**4.36**	**308**	P	**Pn**	**16 57 07.9 +2.5**
PTEO				S	**Sn**	**16 57 55.8 -0.1**
	8.7nm,0.5s					
PTEO	**Sao Teotonio**	**4.36**	**308**	*e*Pn	**Pn**	**16 57 07.9 +2.5**
PTEO				*e*Sn	**Sn**	**16 57 55.8 -0.1**
PTEO				A	A	16 58 01.5
	17nm,0.5s					
OUZM	**OUZ**	**4.47**	**207**	P	**Pn**	**16 57 07.2 +0.1**
OUZM				S	**Sn**	**16 57 59.8 +0.9**
PNCL	**Nicolau / Gran**	**4.60**	**315**	P	**Pn**	**16 57 09.3 +0.6**
PNCL				S	**Sn**	**16 57 59.9 -1.9**
	7.8nm,0.7s					
PNCL	**Nicolau / Gran**	**4.60**	**315**	*e*Pn	**Pn**	**16 57 09.3 +0.6**
PNCL				*e*Sn	**Sn**	**16 57 59.9 -1.9**
PNCL				A	A	16 58 13.8
	7.8nm,0.7s					
EVO	**Evora**	**4.62**	**322**	P	**Pn**	**16 57 10.9 +1.9**
EVO				S	**Sn**	**16 58 02.1 -0.2**
EVO	**Evora**	**4.62**	**322**	*e*P	**Pn**	**16 57 10.9 +1.9**
EVO				*e*s	**Sn**	**16 58 02.1 -0.2**
EVO	**Evora**	**4.62**	**322**	*e*Pn	**Pn**	**16 57 11.2 +2.2**
EVO				*e*Sn	**Sn**	**16 58 02.6 +0.3**
EVO				A	A	16 58 10.1
	11nm,0.4s					
OUK	**Oukaimeden**	**4.71**	**219**	P	**Pn**	**16 57 09.8 -0.8**
OUK				S	**Sn**	**16 58 03.1 -2.1**
ESDC	**Sonseca Array**	**4.75**	**4**	Pn	**Pn**	**16 57 11.8 +1.0**
	0.5nm,0.3s,baz=186,slow=13,SNR=20					
ESDC				S	**Sn**	**16 58 04.2 -1.4**
	0.7nm,0.3s,baz=186,slow=22,SNR=9.5					
ESDC	**Sonseca Array**	**4.75**	**4**	P	**Pn**	**16 57 11.7 +1.0**
	9.9nm,0.4s,baz=184,slow=12,SNR=7.9					
ESDC				S	**Sn**	**16 58 05.5 -0.1**
	5.9nm,0.6s,baz=186,slow=23,SNR=8.0					
ZGR	**Zagora**	**4.91**	**192**	P	**Pn**	**16 57 13.2 +0.2**
PMTG	**Montargil**	**5.14**	**325**	P	**Pn**	**16 57 16.4 +0.3**
PMTG				S	**Sn**	**16 58 16.0 +0.8**
	5.7nm,0.7s					
PMTG	**Montargil**	**5.14**	**325**	*e*Pn	**Pn**	**16 57 16.4 +0.3**
PMTG				*e*Sn	**Sn**	**16 58 16.0 +0.8**
PMTG				A	A	16 58 26.1
	5.7nm,0.7s					
EPLA	**Plasencia**	**5.30**	**346**	P	**Pn**	**16 57 18.9 +0.6**
	1.9nm,0.3s,SNR=5.6					
EPLA				S	**Sn**	**16 58 15.4 -3.6**
	10nm,0.4s,SNR=7.9					
ECHE	**Chera**	**5.40**	**29**	P	**Pn**	**16 57 19.9 +0.1**
	1.3nm,0.3s,SNR=7.9					
ECHE				S	**Sn**	**16 58 20.6 -1.0**
	1.5nm,0.3s,SNR=4.0					
EAH	**EAH**	**5.44**	**234**	S	**Sn**	**16 58 20.2 -2.3**
PCBR	**Castelo Branco**	**5.48**	**334**	P	**Pn**	**16 57 22.2 +1.4**
PCBR				S	**Sn**	**16 58 21.1 -2.4**
	3.2nm,0.4s					
PCBR	**Castelo Branco**	**5.48**	**334**	*e*Pn	**Pn**	**16 57 22.2 +1.4**
PCBR				*e*Sn	**Sn**	**16 58 21.1 -2.4**
PCBR				A	A	16 58 31.0
	6.3nm,0.4s					
TTIG	**Tnine Tigouga,**	**5.54**	**219**	P	**Pn**	**16 57 19.6 -2.1**
TTIG				S	**Sn**	**16 58 23.3 -1.8**
PMAFR	**Mafra**	**5.61**	**317**	P	**Pn**	**16 57 22.7 +0.2**
	2.7nm,0.3s,SNR=7.9					
PMAFR	**Mafra**	**5.61**	**317**	*e*Pn	**Pn**	**16 57 23.7 +1.2**
PMAFR				*e*Sn	**Sn**	**16 58 27.5 +0.9**
PSBE	**So Bento**	**5.77**	**324**	*e*Pn	**Pn**	**16 57 28.5 +3.8**
MTE	**Manteigas**	**6.00**	**336**	P	**Pn**	**16 57 31.5 +3.5**
MTE				S	**Sn**	**16 58 38.4 +1.9**
MTE	**Manteigas**	**6.00**	**336**	*e*Pn	**Pn**	**16 57 31.5 +3.5**
MTE				*e*Sn	**Sn**	**16 58 38.4 +1.9**
PCAS	**Casmilo, Conde**	**6.07**	**329**	P	**Pn**	**16 57 32.6 +3.8**
PCAS				S	**Sn**	**16 58 38.6 +0.7**
PCAS	**Casmilo, Conde**	**6.07**	**329**	*e*Pn	**Pn**	**16 57 32.6 +3.8**
PCAS				*e*Sn	**Sn**	**16 58 38.6 +0.7**
EIBI	**Ibiza**	**6.15**	**47**	P	**Pn**	**16 57 29.7 -0.3**
	1.1nm,0.1s,SNR=7.9					
EIBI				S	**Sn**	**16 58 36.6 -3.5**
	6.5nm,0.4s,SNR=7.9					
ETOR	**Torete**	**6.17**	**17**	P	**Pn**	**16 57 30.6 +0.4**
	15nm,0.3s,SNR=13					
ETOR				S	**Sn**	**16 58 38.5 -2.0**
	7.8nm,0.4s,SNR=7.3					
PVIS	**Viseu**	**6.41**	**335**	P	**Pn**	**16 57 35.5 +2.0**
PVIS				S	**Sn**	**16 58 43.9 -2.5**
PVIS	**Viseu**	**6.41**	**335**	*e*Pn	**Pn**	**16 57 35.5 +2.0**
PVIS				*e*Sn	**Sn**	**16 58 43.9 -2.5**
MVO	**Moncorvo**	**6.56**	**342**	P	**Pn**	**16 57 35.9 +0.2**
	4.3nm,0.4s,SNR=5.6					
MVO				S	**Sn**	**16 58 48.2 -2.0**
	29nm,0.9s					
MVO	**Moncorvo**	**6.56**	**342**	*e*Pn	**Pn**	**16 57 36.8 +1.1**
MVO				*e*Sn	**Sn**	**16 58 49.4 -0.8**
MVO				A	A	16 59 17.1
	6.5nm,0.5s					
PVRL	**Vila Real**	**6.86**	**339**	P	**Pn**	**16 57 42.4 +2.7**
PVRL				S	**Sn**	**16 58 56.5 -0.9**
	6.2nm,0.2s					
PVRL	**Vila Real**	**6.86**	**339**	*e*Pn	**Pn**	**16 57 42.4 +2.7**
PVRL				*e*Sn	**Sn**	**16 58 56.5 -0.9**
PVRL				A	A	16 58 58.7
	12nm,0.2s					
ERTA	**Horta de San J**	**7.08**	**30**	P	**Pn**	**16 57 43.0 +0.2**
	3.0nm,0.3s,SNR=4.0					
PBRG	**Braganca**	**7.11**	**346**	P	**Pn**	**16 57 44.3 +1.1**
PBRG				S	**Sn**	**16 58 59.8 -3.8**
PBRG	**Braganca**	**7.11**	**346**	*e*Pn	**Pn**	**16 57 44.3 +1.1**
PBRG				*e*Sn	**Sn**	**16 58 59.8 -3.8**
ECAL	**Calabor**	**7.24**	**346**	P	**Pn**	**16 57 45.4 +0.4**
	3.4nm,0.3s,SNR=7.9					
ECAL				S	**Sn**	**16 59 03.9 -3.0**
	17nm,0.7s,SNR=7.5					
ELOB	**Lobios**	**7.50**	**339**	P	**Pn**	**16 57 50.0 +1.5**
	2.4nm,0.3s,SNR=4.6					
ELOB				S	**Sn**	**16 59 10.9 -2.4**
	4.8nm,0.5s,SNR=7.9					
ETOS	**Mallorca**	**7.50**	**48**	P	**Pn**	**16 57 48.7 +0.1**
	1.0nm,0.3s,SNR=4.0					
ETOS				S	**Sn**	**16 59 10.0 -3.4**
	0.8nm,0.4s,SNR=4.0					
PGAV	**Gavieira, Arco**	**7.65**	**338**	P	**Pn**	**16 57 54.7 +4.0**
PGAV	**Gavieira, Arco**	**7.65**	**338**	*e*Pn	**Pn**	**16 57 54.7 +4.0**
EORO	**Oroz-Betelu**	**8.31**	**16**	P	**Pn**	**16 58 01.5 +1.8**
	2.4nm,0.3s,SNR=4.0					
ELAN	**Lanestosa**	**8.33**	**5**	P	**Pn**	**16 58 00.8 +1.0**
	1.5nm,0.5s,SNR=4.0					
EARI	**Arriondas**	**8.38**	**356**	P	**Pn**	**16 58 01.6 +0.9**
	0.4nm,0.3s,SNR=7.9					
ETSF	**Etsaut**	**8.50**	**19**	*e*P	**Pn**	**16 58 04.0 +1.7**
ETSF				*e*Sn	Sn	16 59 28.0 -10
	1.5nm,0.4s					
ETSF	**Etsaut**	**8.50**	**19**	P	**Pn**	**16 58 04.0 +1.7**
ETSF				S	Sn	16 59 28.0 -10
	0.8nm,0.4s					
SJPF	**Ste Jean**	**8.54**	**16**	*e*P	**Pn**	**16 58 04.3 +1.5**
SJPF				*e*Sn	Sn	16 59 29.1 -10
	0.6nm,0.4s					
SJPF	**Ste Jean**	**8.54**	**16**	P	**Pn**	**16 58 04.3 +1.5**
SJPF				S	Sn	16 59 29.1 -10
	0.3nm,0.4s					
EALK	**Alkurruntz**	**8.58**	**14**	P	**Pn**	**16 58 02.6 -0.7**
	1.2nm,0.2s,SNR=7.9					
EPF	**Esparros**	**8.89**	**23**	*e*P	**Pn**	**16 58 09.3 +1.7**
EPF				*e*Sn	Sn	16 59 37.7 -10
	0.9nm,0.3s					
EPF	**Esparros**	**8.89**	**23**	P	**Pn**	**16 58 09.3 +1.7**
EPF				S	Sn	16 59 37.7 -10
	0.4nm,0.3s					
MTLF	**Montolieu**	**9.85**	**29**	*e*Sn	Sn	17 00 00.6 -10
	1.3nm,0.4s					
MTLF	**Montolieu**	**9.85**	**29**	S	Sn	17 00 00.6 -10
	0.6nm,0.4s					
LFF	**La Frestale**	**10.75**	**20**	*e*P	**Pn**	**16 58 34.6 +1.6**
MFF	**Saint Martin d**	**12.10**	**14**	*e*P	**Pn**	**16 58 52.3 +0.9**
GERES	**GERESS Array B**	**19.30**	**38**	P	**Pn**	**17 00 27.0 +1.9**
	0.1nm,0.3s,baz=225,slow=9.6,SNR=1.4					
TORD	**Torodi Ar. Bea**	**22.38**	**164**	P	**P**	**17 00 59.0 +1.5**
	4.0nm,0.9s,baz=343,slow=11,SNR=14					

WEL 09 17:01:22.4,38°S±3′×17°6E±′,h203km±5km, M3.0/66, MLv3.0/66, Error ellipse: s-maj=0.0km s-min=0.0km az=106.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.35**	**254**	P	Pn	17 01 49.4	0.0
OPRZ	**Ohinepanea**	**0.60**	**50**	P	Pn	17 01 49.5	-0.8
RATZ	**Rangitukua**	**0.65**	**194**	P	Pn	17 01 50.0	-0.4
MRHZ	**Matea Rd**	**0.69**	**150**	P	Pn	17 01 49.8	-0.9
RITZ	**Rihia Road**	**0.75**	**187**	P	Pn	17 01 51.1	+0.1
KATZ	**Kakaramea**	**0.77**	**196**	P	Pn	17 01 51.2	0.0
RTZ	**Ruatahuna**	**0.88**	**116**	P	Pn	17 01 51.0	-0.7
URZ	**Urewera**	**0.90**	**92**	P	Pn	17 01 50.6	-1.2
KRVZ	**Karewarewa**	**0.90**	**197**	P	Pn	17 01 51.8	-0.1
TMVZ	**Te Maari**	**0.91**	**193**	P	Pn	17 01 51.9	0.0
MTHZ	**Maungataniwha**	**0.92**	**132**	P	Pn	17 01 51.4	-0.5
HIZ	**Hauiti**	**0.92**	**252**	P	Pn	17 01 52.9	+1.0
ETVZ	**East Tongariro**	**0.92**	**193**	P	Pn	17 01 52.1	0.0
WTVZ	**West Tongariro**	**0.93**	**199**	P	Pn	17 01 52.2	+0.1
TWVZ	**Taurewa**	**0.93**	**206**	P	Pn	17 01 52.4	+0.3
OTVZ	**Oturere**	**0.96**	**194**	P	Pn	17 01 52.7	+0.3
NGZ	**Ngauruhoe**	**0.98**	**197**	P	Pn	17 01 52.7	+0.2
BKZ	**Black Stump Fm**	**1.01**	**157**	P	Pn	17 01 52.1	-0.5
TUVZ	**Tukino**	**1.06**	**193**	P	Pn	17 01 53.3	+0.3
FWVZ	**Far West T-bar**	**1.07**	**198**	P	Pn	17 01 53.7	+0.5
NMHZ	**Naumai**	**1.08**	**143**	P	Pn	17 01 53.7	+0.6
RAHZ	**Arahi**	**1.11**	**128**	P	Pn	17 01 53.4	+0.2
WNVZ	**Wahianoa**	**1.13**	**195**	P	Pn	17 01 53.8	+0.3
PKVZ	**Pokaka**	**1.16**	**205**	P	Pn	17 01 54.2	+0.6
RAGZ	**Rawiri**	**1.16**	**103**	P	Pn	17 01 53.4	-0.3
MOVZ	**Moawhango**	**1.18**	**188**	P	Pn	17 01 53.7	-0.1
SNGZ	**Shannon Statio**	**1.20**	**117**	P	Pn	17 01 54.0	+0.1
MTVZ	**Mangateitei**	**1.21**	**199**	P	Pn	17 01 54.6	+0.5
MWZ	**Matawai**	**1.23**	**95**	P	Pn	17 01 53.6	-0.5
KWHZ	**Kaweka Forest**	**1.24**	**164**	P	Pn	17 01 54.2	0.0
BHHZ	**Black Hill Sta**	**1.25**	**177**	P	Pn	17 01 54.2	-0.1
VRZ	**Vera Road**	**1.30**	**227**	P	Pn	17 01 56.2	+1.6
ARHZ	**Aropaoanui**	**1.30**	**142**	P	Pn	17 01 55.0	+0.4
MCHZ	**McNeill Hill**	**1.33**	**155**	P	Pn	17 01 55.6	+0.7
RUGZ	**Raukumara Rang**	**1.37**	**79**	P	Pn	17 01 54.3	-1.1
KRHZ	**Kereru**	**1.44**	**168**	P	Pn	17 01 56.1	+0.3
RIGZ	**Rimuhau**	**1.48**	**109**	P	Pn	17 01 56.4	+0.2
TKGZ	**Te Karaka**	**1.49**	**98**	P	Pn	17 01 56.4	+0.2
HAZ	**Te Kaha**	**1.51**	**72**	P	Pn	17 01 55.8	-0.6
TWGZ	**Tauwhareparae**	**1.58**	**89**	P	Pn	17 01 57.6	+0.5
PRGZ	**Paritu Road**	**1.65**	**115**	P	Pn	17 01 57.9	+0.3
CKHZ	**Cape Kidnapper**	**1.66**	**149**	P	Pn	17 01 58.5	+0.7
PNHZ	**Pukenui**	**1.69**	**174**	P	Pn	17 01 58.3	+0.3
PKGZ	**Pakoka**	**1.70**	**79**	P	Pn	17 01 58.3	+0.2
KAHZ	**Kahuranaki**	**1.71**	**156**	P	Pn	17 01 59.0	+0.7
LREZ	**Lake Rotokare**	**1.73**	**225**	P	Pn	17 01 57.3	-1.1
MHGZ	**Mahia Peninsul**	**1.77**	**122**	P	Pn	17 01 59.5	+0.7
CNGZ	**Carnagh Statio**	**1.77**	**99**	P	Pn	17 01 59.7	+0.9
NEZ	**North Egmont**	**1.80**	**234**	P	Pn	17 02 02.0	+2.9
PUZ	**Puketiti**	**1.81**	**86**	P	Pn	17 01 59.4	+0.2
TSZ	**Takapari Road**	**1.82**	**180**	P	Pn	17 01 59.9	+0.5
PKEZ	**Pukeiti**	**1.82**	**238**	P	Pn	17 02 02.2	+2.8
KHEZ	**Kahui Hut**	**1.86**	**235**	P	Pn	17 02 02.7	+2.9
WPHZ	**Waipukurau**	**1.86**	**169**	P	Pn	17 02 00.2	+0.5
PXZ	**Pawanui**	**1.92**	**159**	P	Pn	17 02 00.8	+0.5
MXZ	**Matakaoa Point**	**1.96**	**71**	P	Pn	17 02 01.7	+1.0
WMGZ	**Waiomatatini S**	**1.97**	**79**	P	Pn	17 02 01.3	+0.5
DVHZ	**Dannevirke**	**2.07**	**176**	P	Pn	17 02 02.1	+0.4
PRHZ	**Porangahau**	**2.09**	**166**	P	Pn	17 02 02.7	+0.7
POWZ	**Post Office Ro**	**2.16**	**184**	P	Pn	17 02 03.3	+0.6
ANWZ	**Angora Road**	**2.26**	**170**	P	Pn	17 02 04.6	+0.9
PRWZ	**Pori Road**	**2.32**	**180**	P	Pn	17 02 05.2	+0.8
MRZ	**Mangatainoka R**	**2.44**	**187**	P	Pn	17 02 06.3	+0.5
BFZ	**Birch Farm**	**2.45**	**175**	P	Pn	17 02 06.4	+0.5
TIWZ	**Tintock**	**2.54**	**181**	P	Pn	17 02 07.5	+0.6
OGWZ	**Otaki Gorge**	**2.65**	**193**	P	Pn	17 02 08.9	+0.8
HOWZ	**Holdsworth Sta**	**2.68**	**187**	P	Pn	17 02 08.8	+0.3
KIW	**Kapiti Island**	**2.75**	**197**	P	Pn	17 02 09.7	+0.5
TMWZ	**Te Maipa**	**2.87**	**181**	P	Pn	17 02 11.0	+0.4
CAW	**Cannon Point**	**2.95**	**193**	P	Pn	17 02 12.2	+0.6
DUWZ	**D'Urville Isla**	**3.02**	**211**	P	Pn	17 02 13.3	+1.0
TRWZ	**Traveller**	**3.17**	**184**	P	Pn	17 02 14.5	+0.4
PAWZ	**Paruwai Farm**	**3.17**	**187**	P	Pn	17 02 14.3	+0.1
WEL	**Wellington**	**3.18**	**197**	P	Pn	17 02 15.0	+0.8
MSWZ	**Moikau Station**	**3.23**	**190**	P	Pn	17 02 15.0	+0.2
TCW	**Tory Channel**	**3.25**	**203**	P	Pn	17 02 15.9	+0.9
BHW	**Baring Head**	**3.28**	**195**	P	Pn	17 02 15.8	+0.4
PLWZ	**Palliser**	**3.38**	**189**	P	Pn	17 02 16.6	0.0
TUWZ	**Tuamarina**	**3.55**	**205**	P	Pn	17 02 19.5	+0.8
NNZ	**Nelson**	**3.59**	**213**	P	Pn	17 02 20.4	+1.3
QRZ	**Quartz Range**	**3.71**	**225**	P	Pn	17 02 21.8	+1.1
BSWZ	**Blackbirch Sta**	**3.83**	**204**	P	Pn	17 02 22.8	+0.7
THZ	**Tophouse**	**4.24**	**213**	P	Pn	17 02 28.4	+1.1
KHZ	**Kahutara**	**4.57**	**203**	P	Pn	17 02 32.1	+0.8
GVZ	**Greta Valley S**	**5.23**	**204**	P	Pn	17 02 40.4	+0.7
LTZ	**Lake Taylor**	**5.35**	**211**	P	Pn	17 02 41.8	+0.6
OKCZ	**Okains Bay**	**5.91**	**201**	P	Pn	17 02 48.9	+0.5
MQZ	**McQueen's Vall**	**6.01**	**204**	P	Pn	17 02 49.4	-0.4

IDC 09 17:05:02.8±9.2, 2°27N×127°16E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.3/41, mbtmp3.6/4, Error ellipse: s-maj=145.5km s-min=107.9km az=143.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.29**	**184**	P	P	17 09 40.7	+0.3
	0.9nm,0.9s,baz=346,slow=8.3,SNR=0.7						
WRA	**Warramunga Arr**	**23.17**	**163**	P	P	17 10 11.3	+0.1
	1.7nm,0.6s,baz=341,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.60**	**166**	P	P	17 10 43.0	-0.2
	0.1nm,0.3s,baz=347,slow=7.7,SNR=4.6						
STKA	**Stephens Creek**	**36.62**	**159**	P	P	17 12 10.8	-0.2
	1.9nm,0.7s,baz=311,slow=9.3,SNR=5.0						

*IDC **09** 17:09:41.7±1.0, 67°08N×21°33E, h0km, mb1 3.1/4, mb1mx2.9/44, mbtmp3.0/4, ML1.6/4, Error ellipse: s-maj=21.0km s-min=8.7km az=113.0*
*NAO **09** 17:09:41.2±1.4, 67°04N×21°27E, ML2.4*
*HEL **09** 17:09:41.5±0.2, 67°06N×20°97E, h0km, ML1.9, Explosion*
*BER **09** 17:09:43.5±4.0, 67°03N×21°12E, h0km, ML1.8, ML2.4(NAO), Suspected explosion*
ISC 09 17:09:40.5±0.8, 67°06N±0°03×20°92E±0°03, h0km, n38, σ1s35/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.71**	**135**	*e*P	**Pg**	**17 09 53.4**	**-0.7**
ERTU				*e*S	**Sg**	**17 10 02.5**	**-0.7**
LANU	**Lannavaara**	**1.08**	**22**	*e*P	**Pg**	**17 10 00.3**	**-0.8**
LANU				*e*S	**Sg**	**17 10 14.7**	**-0.3**
KALU	**Kalix**	**1.55**	**140**	*e*P	**Pn**	**17 10 08.5**	**-0.8**
KALU				*e*		17 10 17.7	
TOF	**Tornio**	**1.68**	**124**	*e*P	**Pn**	**17 10 10.8**	**-0.2**
TOF				*e*		17 10 20.1	
TOF				MSG		17 10 25.2	
	comp=Z,12nm,0.2s						
KIF	**Kilpisjarvi**	**1.96**	**359**	Pn	**Pn**	**17 10 16.0**	**+1.2**
KIF				Sn	**Sg**	**17 10 43.6**	**+0.4**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*P	**Pn**	**17 10 16.1**	**+1.2**
KIF				*e*S	**Sb**	**17 10 42.1**	**+0.4**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*P	**Pn**	**17 10 16.3**	**+1.4**
KIF				*e*S	**Sg**	**17 10 43.6**	**+0.4**
RNF	**Rovaniemi**	**2.06**	**100**	*e*P	**Pn**	**17 10 16.9**	**+0.6**
RNF				*e*SG	**Sb**	**17 10 44.8**	**-0.1**
N2IH	**Innhavet**	**2.12**	**298**	*e*P	**Pn**	**17 10 18.7**	**+1.6**
N2IH				IAML		17 11 02.5	
	comp=Z,16nm,0.6s						
SGF	**Sodankyl**	**2.21**	**77**	*e*P	**Pn**	**17 10 19.1**	**+0.7**
SGF				*e*SG	**Sb**	**17 10 49.9**	**+0.8**
FAUS	**Fauske**	**2.22**	**281**	*e*P	**Pn**	**17 10 20.1**	**+1.7**
FAUS				*e*S	**Sb**	**17 10 50.7**	**+1.4**
FAUS				IAML		17 11 01.2	
	comp=Z,16nm,0.3s						
STEI	**Steigen**	**2.35**	**294**	*e*P	**Pn**	**17 10 20.6**	**+0.3**
STEI				*e*S	**Sb**	**17 10 53.7**	**+0.4**
STEI				IAML		17 11 05.0	
	comp=Z,5.4nm,0.5s						
BURU	**Burvik**	**2.49**	**176**	*e*PB	**Pn**	**17 10 24.5**	**+2.3**
NBB30	**Finnes**	**2.82**	**272**	*e*P	**Pn**	**17 10 27.3**	**+0.6**
OUL	**Oulu**	**2.83**	**132**	*e*PB	**Pn**	**17 10 29.4**	**+2.5**
N2VI	**Vinje**	**2.86**	**299**	*e*P	**Pn**	**17 10 26.6**	**-0.7**
OBF0	**Syolatti, Pyha**	**2.91**	**150**	*e*PB	**Pb**	**17 10 31.8**	**-1.3**
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**17 10 29.3**	**-0.1**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**17 11 07.0**	**+0.8**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**17 10 29.3**	**-0.1**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**17 11 07.0**	**+0.8**
	baz=212,slow=28						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**17 10 29.4**	**0.0**
	baz=213,slow=14,SNR=29						
ARCES				Sn	**Sn**	**17 11 05.3**	**-0.9**
	baz=212,slow=23,SNR=7.1						
OUF	**Merijarvi**	**3.13**	**148**	*e*P	**Pn**	**17 10 32.5**	**+1.6**
OUF				MSG		17 11 04.1	
	comp=Z,2.0nm,0.2s						
OUF				*e*S	**Sn**	**17 11 09.3**	**+0.4**
UMAU	**Umeaa**	**3.19**	**182**	*e*P	**Pn**	**17 10 32.9**	**+1.1**
MSF	**Maaselka**	**3.45**	**106**	*e*P	**Pn**	**17 10 36.3**	**+0.9**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**17 10 36.6**	**+0.3**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**17 10 41.0**	**+1.8**
HUSU	**Husum**	**3.80**	**192**	*e*P	**Pn**	**17 10 41.9**	**+1.7**
VAF	**Ylistaro**	**4.10**	**169**	*e*P	**Pn**	**17 10 45.8**	**+1.6**
APA0	**Apatity Array**	**4.70**	**78**	Pn	**Pn**	**17 10 52.1**	**-0.5**
APA0				Sn	**Sn**	**17 11 47.4**	**-0.3**
	baz=276,slow=22						
APA0				Lg	Lg	17 12 05.0	
	baz=265,slow=28						
APA0	**Apatity Array**	**4.70**	**78**	Pn	**Pn**	**17 10 52.1**	**-0.5**
APA0				Sn	**Sn**	**17 11 47.4**	**-0.3**
	baz=276,slow=22						
APA0				Sg	**Sb**	**17 12 05.0**	**+4.2**
	baz=265,slow=28						
SUF	**Sumiainen**	**4.89**	**151**	*e*P	**Pn**	**17 10 58.0**	**+2.8**
KEF	**Keuruu**	**5.20**	**159**	*e*P	**Pn**	**17 11 01.1**	**+1.8**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**17 11 12.3**	**+1.1**
	baz=345,slow=14						
FIA0				Sn	**Sn**	**17 12 19.1**	**-2.2**

comp=Z,53nm,1.1s
PB14 IPOC Station P 20.76 21 P **P** **17 39 26.8 -1.4**
PB10 IPOC Station P 21.79 20 P **P** **17 39 39.4 +0.5**
PMSA Palmer Station 21.92 164 LR LR 17 46 35.5
comp=Z,161nm,18.6s,baz=329,slow=33
PMSA Palmer Station 21.92 164 P **P** **17 39 37.1 -2.7**
PMSA IAmb IAmb 17 39 51.6
comp=Z,49nm,1.2s
PB15 IPOC Station P 22.36 22 P **P** **17 39 46.4 +1.2**
PB06 IPOC Station P 22.81 21 P **P** **17 39 50.0 0.0**
PB06 IAmb IAmb 17 40 03.1
comp=Z,30nm,0.9s
PB04 IPOC Station P 23.02 20 P **P** **17 39 50.1 -2.1**
PB04 IAmb IAmb 17 40 06.2
comp=Z,47nm,1.0s
LVC Limon Verde 23.08 23 P **P** **17 39 54.2 +1.3**
comp=Z,14nm,0.9s,baz=197,slow=11,SNR=7.9
LVC LR LR 17 46 51.7
comp=Z,445nm,21.7s,baz=216,slow=31
LVC Limon Verde 23.08 23 P **P** **17 39 51.6 -1.4**
LVC IAmb IAmb 17 40 02.3
comp=Z,42nm,1.0s
PLTB Pedras Altas 23.10 65 *eP* **P** **17 39 52.8 +0.2**
PB07 IPOC Station P 23.67 20 P **P** **17 39 59.6 +1.0**
PB07 IAmb IAmb 17 40 07.5
comp=Z,52nm,1.0s
PB09 IPOC Station P 23.77 21 P **P** **17 39 57.3 -2.1**
CPSB Cacapava Do Su 24.09 63 *eP* **P** **17 40 04.4 +2.2**
PB01 IPOC Station P 24.43 20 P **P** **17 40 06.2 +0.7**
PB01 IAmb IAmb 17 40 14.4
comp=Z,45nm,1.1s
PATCX Punta Patache 24.48 19 P **P** **17 40 04.7 -1.2**
PATCX IAmb IAmb 17 40 25.6
comp=Z,42nm,1.1s
TA01 Diego Aracena 24.72 19 P **P** **17 40 06.5 -1.5**
CPUP Villa Florida 24.75 50 P **P** **17 40 08.8 +0.6**
comp=Z,13nm,0.8s,baz=232,slow=9.0,SNR=17
CPUP LR LR 17 50 09.7
comp=Z,335nm,21.8s,baz=216,slow=37
CPUP Villa Florida 24.75 50 P **P** **17 40 08.4 +0.2**
CPUP IAmb IAmb 17 40 16.9
comp=Z,35nm,0.9s
CPUP Villa Florida 24.75 50 *eP* **P** **17 40 09.6 +1.3**
PB08 IPOC Station P 25.37 20 P **P** **17 40 14.5 +0.1**
PB11 IPOC Station P 25.62 19 P **P** **17 40 18.1 +1.8**
PB11 IAmb IAmb 17 40 26.0
comp=Z,29nm,0.9s
PSGCX Pisagua 25.67 18 P **P** **17 40 18.0 +1.3**
PSGCX IAmb IAmb 17 40 27.0
comp=Z,26nm,1.1s
GO01 Chusmiza 25.82 20 P **P** **17 40 18.0 -0.5**
MNMC Minye Minye 26.24 19 P **P** **17 40 21.3 -0.8**
MNMC IAmb IAmb 17 40 33.9
comp=Z,27nm,0.9s
CNLB Canela 26.49 65 *eP* **P** **17 40 25.4 +1.4**
PB16 IPOC Station P 27.03 19 P **P** **17 40 31.8 +2.3**
PB16 IAmb IAmb 17 40 38.3
comp=Z,28nm,1.4s
ITAB Concordia 27.12 60 *eP* **P** **17 40 31.0 +1.3**
LPAZ La Paz 29.33 20 P **P** **17 40 52.5 +2.4**
comp=Z,2.7nm,1.1s,baz=173,slow=8.4,SNR=6.6
LPAZ La Paz 29.33 20 P **P** **17 40 47.1 -3.0**
LPAZ La Paz 29.33 20 *eP* **P** **17 40 51.3 +1.2**
TRCB Terra Rica 30.16 53 *eP* **P** **17 40 58.2 +1.4**
AQDB Aquidauana 30.37 46 *eP* **P** **17 40 59.3 +0.7**
TIJ01 Guaruva-PR 30.44 61 *eP* **P** **17 41 00.2 +0.9**
PCMB Pacaembu 31.87 53 *eP* **P** **17 41 12.9 +1.0**
PTLB Pontes e Lacer 33.14 35 *eP* **P** **17 41 25.2 +2.3**
ITRB Iturama 33.89 52 *eP* **P** **17 41 30.8 +1.3**
BB19B Bebedouro 33.89 56 *eP* **P** **17 41 30.2 +0.6**
VILB Vilhena 34.98 32 *eP* **P** **17 41 40.7 +1.7**
ETMB Extrema 36.02 21 *eP* **P** **17 41 49.3 +1.4**
CZSB Cruzeiro do Su 36.86 9 *eP* **P** **17 41 57.2 +2.1**
ATAH Atahualpa 37.12 360 P **P** **17 41 59.9 +2.2**
comp=Z,8.2nm,0.9s,baz=114,slow=6.8,SNR=3.7
SAML Samuel 37.69 25 P **P** **17 42 02.2 +0.2**
SAML IAmb IAmb 17 42 10.3
comp=Z,29nm,1.3s
SAML Samuel 37.69 25 *eP* **P** **17 42 03.5 +1.4**
BDFB Brasilia 38.47 51 P **P** **17 42 09.2 +0.4**
comp=Z,3.8nm,0.5s,baz=231,slow=5.6,SNR=6.0
BDFB LR LR 17 58 43.1
comp=Z,454nm,18.8s,baz=194,slow=37
BDFB Brasilia 38.47 51 P **P** **17 42 09.1 +0.4**
BDFB IAmb IAmb 17 42 23.0
comp=Z,17nm,1.1s
CLDB Colider 38.65 37 *eP* **P** **17 42 10.2 0.0**
SNDB Serra Nova Dou 39.78 44 *eP* **P** **17 42 21.0 +1.4**
SJMB Sao Joao De Ma 40.20 62 *eP* **P** **17 42 24.2 +1.1**
JANB Januaria 41.06 55 *eP* **P** **17 42 31.6 +1.2**
PEXB Peixe 41.22 48 *eP* **P** **17 42 33.9 +2.4**
VNA3 Neumayer Olymp 41.91 153 P **P** **17 42 37.1 +0.5**
NPGB Novo Progresso 42.27 35 *eP* **P** **17 42 41.6 +1.4**
VNA2 Neumayer--Watz 42.65 153 P **P** **17 42 43.4 +0.8**
baz=221,slow=9.8
SDBA SAO DESIDERIO 42.84 52 *eP* **P** **17 42 45.9 +1.1**
MACA Manacapuru-AM 43.93 26 *eP* **P** **17 42 55.0 +1.5**
SNAA Sanae 44.09 154 P **P** **17 42 54.4 +0.1**
SNAA Sanae 44.09 154 P **P** **17 42 54.2 0.0**
comp=Z,2.8nm,0.8s,baz=283,slow=7.2,SNR=13
SNAA Sanae 44.09 154 P **P** **17 42 52.8 -1.4**
SMTB Santa Maria do 44.32 46 *eP* **P** **17 42 57.7 +1.1**
ITTB Itaituba 44.55 33 *eP* **P** **17 43 00.2 +1.7**
GDU01 Guandu, BA 44.97 59 *eP* **P** **17 43 02.7 +0.9**
PRPB Parauapebas 45.52 42 *eP* **P** **17 43 06.8 +0.6**
QSPA South Pole Qui 45.84 180 P **P** **17 43 08.5 +0.1**
comp=Z,6.6nm,0.9s,baz=129,slow=8.5,SNR=18
QSPA South Pole Qui 45.84 180 P P 17 43 05.1 -3.2
QSPA IAmb IAmb 17 43 09.6
comp=Z,14nm,1.1s
MALB Monte Alegre 47.43 34 *eP* **P** **17 43 22.0 +0.9**
ROSC El Rosal 49.15 5 LR LR 18 02 46.0
comp=Z,427nm,18.4s,baz=228,slow=34
TMAB Tom-Au,PA,Br 49.66 41 *eP* **P** **17 43 38.7 +0.4**
MCPB Macapa, AP 49.68 35 *eP* **P** **17 43 40.4 +1.9**
VNDA Vanda 52.91 194 P **P** **17 44 02.8 +0.8**
comp=Z,3.8nm,1.0s,baz=138,slow=5.5,SNR=12
VNDA LR LR 18 03 06.8
comp=Z,113nm,19.4s,baz=134,slow=32
RCBR Riachuelo 53.37 57 *eP* **P** **17 44 06.0 -0.1**
SDV Santo Domingo 53.50 9 P **P** **17 44 05.4 -1.8**
SDV Santo Domingo 53.50 9 *eP* **P** **17 44 08.6 +1.5**
SYO Syowa Base 58.03 158‖ *eP* P 17 44 35.6 -3.2
SYO Syowa Base 58.03 158‖ *epP* **P** **17 44 41.4 +2.6**
MAW Mawson 64.53 165 P **P** **17 45 23.7 +1.0**
comp=Z,4.2nm,1.0s,baz=210,slow=8.1,SNR=5.7
MAW LR LR 18 12 39.8
comp=Z,176nm,19.4s,baz=222,slow=35
MAW Mawson 64.53 165 P **P** **17 45 22.8 +0.1**
PPT Papeete 64.59 270 LR LR 18 07 05.4
comp=Z,58nm,20.3s,baz=126,slow=30
TXAR Lajitas Array 76.95 337 P **P** **17 46 39.8 +1.0**
comp=Z,0.6nm,0.9s,baz=161,slow=8.0,SNR=4.3
TXAR Lajitas Array 76.95 337 P **P** **17 46 38.1 -0.7**
LRAL Lakeview Retre 77.47 353 P **P** **17 46 43.3 +1.8**
LRAL IAmb IAmb 17 46 49.5
comp=Z,10nm,0.9s
GOGA Godfrey 77.59 356 P **P** **17 46 41.5 -0.6**
GOGA IAmb IAmb 17 46 50.0
comp=Z,12nm,0.9s
Y52A Lilburn 78.07 355 P **P** **17 46 42.1 -2.7**
X51A Calhoun 78.82 355 P **P** **17 46 46.5 -2.4**
FPAL Fort Paine 78.85 354 P **P** **17 46 46.0 -3.2**
FPAL IAmb IAmb 17 46 56.8
comp=Z,8.9nm,0.8s
PAULI Pauline 78.92 357 P **P** **17 46 47.3 -2.1**
PAULI IAmb IAmb 17 46 57.2
comp=Z,15nm,1.0s
BG3 Lake Jocassee 79.14 356 P **P** **17 46 51.1 +0.5**
BG3 IAmb IAmb 17 46 53.5
comp=Z,13nm,1.4s
W57A Gilead 79.20 359 P **P** **17 46 52.3 +1.3**
W57A IAmb IAmb 17 46 59.4
comp=Z,14nm,1.1s
KMSC Kings Mountain 79.22 357 P **P** **17 46 51.9 +0.8**
KMSC IAmb IAmb 17 46 58.6
comp=Z,8.9nm,0.8s
BOSA Boshof 79.39 120 P **P** **17 46 52.8 +0.1**
comp=Z,6.7nm,0.9s,baz=206,slow=4.7,SNR=6.1
BOSA LR LR 18 19 12.8
comp=Z,55nm,18.7s,baz=226,slow=34
BOSA Boshof 79.39 120 P **P** **17 46 52.4 -0.2**
W50A Signal Mountai 79.48 354 P **P** **17 46 51.0 -1.7**
CPCT Cooper Cave 79.68 355 P **P** **17 46 53.2 -0.4**

CPCT IAmb IAmb 17 47 01.0
comp=Z,8.5nm,0.7s
V55A Taylorsville 79.92 358 P **P** **17 46 54.2 -0.8**
V55A IAmb IAmb 17 47 02.5
comp=Z,14nm,0.9s
WHAR Wooly Hollow 80.33 348 P **P** **17 46 55.2 -1.9**
WHAR IAmb IAmb 17 47 05.8
comp=Z,16nm,1.1s
TZTN Tazewell 80.71 356 P **P** **17 46 54.8 -4.4**
WMOK Wichita Mounta 80.94 343 P **P** **17 46 57.5 -3.0**
U40A Yellville 81.46 348 P **P** **17 47 02.3 -0.8**
S58A Poland Farm, P 81.64 0 P **P** **17 47 01.2 -2.8**
S57A Dark Hollow, R 81.79 360 P **P** **17 47 02.7 -2.1**
S57A IAmb IAmb 17 47 12.3
comp=Z,14nm,0.9s
R58B Mineral 81.99 0 P **P** **17 47 02.5 -3.3**
R58B IAmb IAmb 17 47 13.9
comp=Z,16nm,0.9s
LBTB Lobatse 82.14 117 P **P** **17 47 07.5 +0.1**
comp=Z,3.1nm,0.7s,baz=211,slow=5.9,SNR=4.5
LBTB Lobatse 82.14 117 P **P** **17 47 05.6 -1.8**
LBTB IAmb IAmb 17 47 22.8
comp=Z,17nm,1.3s
R55A Marlinton 82.32 359 P **P** **17 47 06.2 -1.5**
LIC Lamto 82.55 74 *eP* **P** **17 47 10.3 +0.8**
comp=Z,31nm,0.8s
S39A Bolivar 82.84 348 P **P** **17 47 08.2 -2.2**
S39A IAmb IAmb 17 47 18.5
comp=Z,8.4nm,0.8s
KIC Kosan Boka 82.85 74 *eP* **P** **17 47 11.8 +0.8**
comp=Z,6.6nm,0.8s
TIC Toumodi 82.86 74 *eP* **P** **17 47 11.8 +0.7**
CCM Cathedral Cave 82.91 350 P **P** **17 47 10.2 -0.5**
DBIC Dimbokro 82.99 74 P **P** **17 47 12.6 +0.8**
comp=Z,4.0nm,0.7s,baz=185,slow=4.5,SNR=7.5
DBIC LR LR 18 17 38.9
comp=Z,51nm,21.9s,baz=192,slow=31
DBIC Dimbokro 82.99 74 P **P** **17 47 09.8 -1.9**
DBIC IAmb IAmb 17 47 13.3
comp=Z,7.2nm,0.8s
ANMO Albuquerque 83.01 337 P **P** **17 47 09.3 -2.2**
P53A Whipple 83.56 358 P **P** **17 47 14.1 +0.2**
P52A Corning 83.73 357 P **P** **17 47 15.0 +0.1**
MVL Millersville 84.04 2 P **P** **17 47 15.7 -0.7**
T25A Trinidad 84.53 339 P **P** **17 47 20.3 +0.9**
T25A IAmb IAmb 17 47 28.6
comp=Z,8.1nm,0.8s
P38A Dawn 84.76 348 P **P** **17 47 18.8 -1.3**
SDCO Great Sand Dun 85.39 339 P **P** **17 47 21.3 -2.4**
S22A 4UR Ranch, Cre 85.74 338 P **P** **17 47 24.5 -0.9**
U15A North Rim 86.15 333 P **P** **17 47 25.9 -1.5**
Q24A Divide 86.45 339 P **P** **17 47 26.3 -2.6**
Q24A IAmb IAmb 17 47 37.9
comp=Z,5.2nm,0.8s
PV22 Blue Mesa, Par 87.02 337 P **P** **17 47 29.4 -2.2**
MATP Matopo 87.29 116 P **P** **17 47 33.9 +0.4**
comp=Z,1.9nm,0.8s,baz=254,slow=4.0,SNR=2.5
JFWS Jewell Farm 87.59 351 P **P** **17 47 30.6 -3.4**
ISA Isabella, Lake 87.62 328 P **P** **17 47 32.1 -2.3**
PRN Pahroc Range 87.95 332 P **P** **17 47 33.0 -3.0**
PRN IAmb IAmb 17 47 51.4
comp=Z,9.0nm,1.1s
TPNV Topopah Spring 87.96 330 **P** **17 47 36.8 +0.7**
N23A Red Feather La 88.47 339 P **P** **17 47 36.2 -2.3**
N23A IAmb IAmb 17 47 47.1
comp=Z,7.3nm,0.9s
PSUT Pine Spring 88.57 333 **P** **17 47 39.3 +0.2**
R11A Troy Canyon, C 88.98 332 P **P** **17 47 42.0 +1.1**
ECSD EROS Data Cent 89.26 347 P **P** **17 47 41.8 -0.1**
ECSD IAmb IAmb 17 47 49.5
comp=Z,7.8nm,0.9s
NVAR Mina Array Bea 90.01 330 P **P** **17 47 48.4 +2.6**
comp=Z,0.3nm,0.5s,baz=170,slow=6.4,SNR=3.1
ELK Elko 91.03 333 P **P** **17 47 52.2 +1.8**
comp=Z,0.6nm,0.8s,baz=166,slow=8.3,SNR=1.8
ELK Elko 91.03 333 P **P** **17 47 48.7 -1.8**
PDAR Pinedale Array 91.17 338 P **P** **17 47 52.8 +1.7**
comp=Z,0.8nm,0.8s,baz=129,slow=5.9,SNR=6.0
PDAR Pinedale Array 91.17 338 P **P** **17 47 51.3 +0.2**
TORD Torodi Ar, Bea 92.10 74 P **P** **17 47 56.2 +0.4**
comp=Z,0.5nm,0.7s,baz=260,slow=4.4,SNR=4.1
TORD LR LR 18 23 17.7
comp=Z,44nm,21.6s,baz=240,slow=32
STKA Stephens Creek 95.81 213 LR LR 18 22 55.1
comp=Z,136nm,20.4s,baz=201,slow=30
H11S2 WAKE ISLAND Hyl 20.46 266 T T 20 05 32.3
baz=134,slow=75,SNR=17
H11S1 WAKE ISLAND Hyl 20.47 266 T T 20 05 35.1
baz=134,slow=75,SNR=9.3
H11S3 WAKE ISLAND Hyl 20.47 266 T T 20 05 33.9
baz=134,slow=75,SNR=8.3
GERES GERESS Array B 122.70 52 PKP **PKPdf** **17 53 41.5 +0.1**
comp=Z,1.2nm,0.9s,baz=197,slow=1.4,SNR=6.6
GERES GERESS Array B 122.70 52 **PKPdf** **17 53 41.7 +0.3**
VYHS Vyhne 125.46 54 *e*PKP **PKiKP** **17 53 49.2 +2.2**
BRTR Keskin Array B 130.59 70 PKP **PKPdf** **17 53 57.4 +0.6**
comp=Z,0.4nm,0.4s,baz=167,slow=2.8,SNR=1.8
BRTR Keskin Array B 130.59 70 **PKPdf** **17 53 54.9 -2.0**
AKASG Malin Array Be 132.50 55 PKP **PKPdf** **17 53 59.4 -0.5**
comp=Z,0.4nm,0.4s,baz=265,slow=2.6,SNR=2.4
AKASG Malin Array Be 132.50 55 **PKPdf** **17 53 59.0 -0.8**
HYB Hyderabad 146.81 137 *i* PKP **PKPdf** **17 54 22.5 -4.3**
HYB *e* 17 54 34.5
MJAR Matsushiro Arr 151.30 267 PKPbc **PKiKP** **17 54 41.0 +1.0**
comp=Z,2.0nm,0.8s,baz=168,slow=3.6,SNR=3.1
MJAR Matsushiro Arr 151.30 267 **PKPdf** **17 54 33.4 -0.1**
CMAR Chiang Mai Arr 154.03 174 PKPbc **PKPbc** **17 54 45.7 -0.4**
comp=Z,0.6nm,0.3s,baz=224,slow=2.5,SNR=2.2
NJ2 Nanjing 161.76 233 *e*PKP **PKPdf** **17 54 49.2 +2.1**
ZALV Zalesovo Beam 165.45 43 PKP **PKPdf** **17 54 50.1 +0.3**
comp=Z,0.4nm,0.3s,baz=207,slow=0.7,SNR=5.0
ZALV PKPab **PKPab** **17 55 48.9 +0.6**
comp=Z,0.5nm,0.5s,baz=308,slow=5.3,SNR=2.1
ZALV Zalesovo Beam 165.45 43 **PKPdf** **17 54 49.3 -0.5**
MKAR Makanchi Array 166.22 73 PKP **PKPdf** **17 54 51.5 +0.7**
comp=Z,0.5nm,0.8s,baz=243,slow=1.3,SNR=2.2
MKAR PKPab **PKPab** **17 55 52.6 +0.5**
comp=Z,1.0nm,0.6s,baz=251,slow=3.3,SNR=3.7
MKAR Makanchi Array 166.22 73 **PKPdf** **17 54 48.7 -2.1**
MKAR PKPab **PKPab** **17 55 49.7 -2.4**
CD2 Chengdu 166.43 188 PKP **PKPdf** **17 54 52.0 +0.5**
WMQ Urumqi 169.93 88 *e*PKP **PKPdf** **17 54 55.2 +1.8**
LZH Lanzhou 171.53 192 *e*PKP **PKPdf** **17 54 52.7 -2.0**
LZH pPKP pPKPdf 17 55 00.8 -4.1
LZH sPKP 17 55 03.2
LZH LR LR
comp=Z,130nm,18.0s
LZH LR LR
comp=Z,140nm,18.2s
LZH LR LR
comp=Z,180nm,20.3s
HHC Hu-ho-hao-te 171.88 247 *e*PKP **PKPdf** **17 54 54.3 -0.3**

WEL 09 17:48:49.5,42°S±4°×17°8E±°,h54km±17km,M3.8/32,
ML4.1/32,MLv3.8/32,Error ellipse: s-maj=0.0km
s-min=0.0km az=88.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**1.73**	**307**	P		Pn		17 49 18.2	+1.1
CPWZ				S		Sn		17 49 37.2	-0.8
TMWZ	**Te Maipa**	**1.81**	**298**	P		Pn		17 49 19.0	+0.7
TRWZ	**Traveller**	**1.83**	**287**	P		Pn		17 49 18.8	+0.1
TRWZ				S		Sn		17 49 38.7	-2.1
BFZ	**Birch Farm**	**1.85**	**313**	P		Pn		17 49 19.1	+0.3
ANWZ	**Angora Road**	**1.90**	**322**	P		Pn		17 49 19.5	0.0
ANWZ				S		Sn		17 49 40.3	-2.0
PRHZ	**Porangahau**	**1.99**	**328**	P		Pn		17 49 20.6	-0.2
TIWZ	**Tintock**	**2.00**	**306**	P		Pn		17 49 21.5	+0.7
PAWZ	**Paruwai Farm**	**2.03**	**286**	P		Pn		17 49 20.9	-0.4
PRWZ	**Pori Road**	**2.09**	**312**	P		Pn		17 49 23.0	+0.9
PRWZ				S		Sn		17 49 45.2	-1.7
PLWZ	**Palliser**	**2.10**	**280**	P		Pn		17 49 22.0	-0.3
PXZ	**Pawanui**	**2.12**	**335**	P		Pn		17 49 22.1	-0.4
MSWZ	**Moikau Station**	**2.15**	**284**	P		Pn		17 49 22.7	-0.1
HOWZ	**Holdsworth Sta**	**2.16**	**299**	P		Pn		17 49 23.2	+0.1
DVHZ	**Dannevirke**	**2.17**	**319**	P		Pn		17 49 23.5	+0.2
DVHZ				S		Sn		17 49 47.0	-2.0
WPHZ	**Waipukurau**	**2.24**	**327**	P		Pn		17 49 24.5	+0.3
MRZ	**Mangatainoka R**	**2.25**	**305**	P		Pn		17 49 24.7	+0.3
POWZ	**Post Office Ro**	**2.31**	**312**	P		Pn		17 49 26.0	+0.8
POWZ				S		Sn		17 49 51.1	-1.3
KAHZ	**Kahuranaki**	**2.33**	**338**	P		Pn		17 49 25.2	-0.3
CAW	**Cannon Point**	**2.38**	**290**	P		Pn		17 49 26.0	0.0
CKHZ	**Cape Kidnapper**	**2.41**	**342**	P		Pn		17 49 26.1	-0.4
BHW	**Baring Head**	**2.42**	**282**	P		Pn		17 49 26.5	-0.2
OGWZ	**Otaki Gorge**	**2.43**	**297**	P		Pn		17 49 27.5	+0.7
TSZ	**Takapari Road**	**2.46**	**320**	P		Pn		17 49 27.8	+0.6
PNHZ	**Pukenui**	**2.47**	**325**	P		Pn		17 49 27.8	+0.4
WEL	**Wellington**	**2.53**	**285**	P		Pn		17 49 28.4	+0.3
KIW	**Kapiti Island**	**2.58**	**294**	P		Pn		17 49 29.4	+0.5
KRHZ	**Kereru**	**2.63**	**331**	P		Pn		17 49 29.7	+0.1
OHWZ	**Ohakea**	**2.69**	**310**	P		Pn		17 49 32.5	+2.2
MCHZ	**McNeill Hill**	**2.71**	**338**	P		Pn		17 49 30.8	+0.2
ARHZ	**Aropaoanui**	**2.81**	**344**	P		Pn		17 49 31.6	-0.3
MHGZ	**Mahia Peninsul**	**2.81**	**358**	P		Pn		17 49 30.2	-1.8
KWHZ	**Kaweka Forest**	**2.81**	**334**	P		Pn		17 49 32.1	0.0
CMWZ	**Cape Campbell**	**2.85**	**273**	P		Pn		17 49 33.5	+1.0
BHHZ	**Black Hill Sta**	**2.88**	**328**	P		Pn		17 49 33.4	+0.3
TCW	**Tory Channel**	**2.91**	**284**	P		Pn		17 49 33.7	+0.5
WHHZ	**Waihua**	**2.95**	**348**	P		Pn		17 49 33.4	-0.4
KNZ	**Kokohu**	**2.95**	**355**	P		Pn		17 49 32.4	-1.4
NMHZ	**Naumai**	**3.01**	**342**	P		Pn		17 49 34.7	-0.1
BKZ	**Black Stump Fm**	**3.03**	**337**	P		Pn		17 49 34.8	-0.2
PRGZ	**Paritu Road**	**3.04**	**358**	P		Pn		17 49 33.7	-1.4
MOVZ	**Moawhango**	**3.08**	**325**	P		Pn		17 49 36.9	+1.2
TUWZ	**Tuamarina**	**3.10**	**279**	P		Pn		17 49 36.3	+0.5
BSWZ	**Blackbirch Sta**	**3.10**	**273**	P		Pn		17 49 36.4	+0.4
RAHZ	**Arahi**	**3.13**	**347**	P		Pn		17 49 36.0	-0.4
WNVZ	**Wahianoa**	**3.21**	**324**	P		Pn		17 49 39.2	+1.6
SNGZ	**Shannon Statio**	**3.22**	**351**	P		Pn		17 49 37.1	-0.5
MTVZ	**Mangateitei**	**3.22**	**322**	P		Pn		17 49 39.6	+1.9
MTHZ	**Maungataniwha**	**3.24**	**343**	P		Pn		17 49 37.3	-0.6
TUVZ	**Tukino**	**3.24**	**325**	P		Pn		17 49 39.6	+1.6
RIGZ	**Rimuhau**	**3.26**	**356**	P		Pn		17 49 39.6	-1.6
FWVZ	**Far West T-bar**	**3.29**	**324**	P		Pn		17 49 40.3	+1.5
DUWZ	**D'Urville Isla**	**3.29**	**289**	P		Pn		17 49 40.0	+1.4
OTVZ	**Oturere**	**3.32**	**327**	P		Pn		17 49 40.4	+1.3
ETVZ	**East Tongariro**	**3.33**	**327**	P		Pn		17 49 40.2	+1.1
NGZ	**Ngauruhoe**	**3.34**	**326**	P		Pn		17 49 40.6	+1.3
TMVZ	**Te Maari**	**3.35**	**327**	P		Pn		17 49 40.6	+1.2
MRHZ	**Matea Rd**	**3.36**	**338**	P		Pn		17 49 39.9	+0.4
PKVZ	**Pokaka**	**3.36**	**322**	P		Pn		17 49 41.2	+1.7
KHZ	**Kahutara**	**3.36**	**261**	P		Pn		17 49 38.9	-0.5
KRVZ	**Karewarewa**	**3.39**	**327**	P		Pn		17 49 41.4	+1.4
WTVZ	**West Tongariro**	**3.40**	**326**	P		Pn		17 49 41.4	+1.3
RITZ	**Rihia Road**	**3.41**	**330**	P		Pn		17 49 41.4	+1.2
RTZ	**Ruatahuna**	**3.44**	**346**	P		Pn		17 49 39.8	-0.8
KATZ	**Kakaramea**	**3.47**	**329**	P		Pn		17 49 42.4	+1.2
CNGZ	**Carnagh Statio**	**3.48**	**2**	P		Pn		17 49 39.5	-1.6
RAGZ	**Rawiri**	**3.50**	**352**	P		Pn		17 49 40.2	-1.2
TWVZ	**Taurewa**	**3.50**	**325**	P		Pn		17 49 42.7	+1.3
RATZ	**Rangitukua**	**3.54**	**330**	P		Pn		17 49 43.2	+1.2
NNZ	**Nelson**	**3.56**	**281**	P		Pn		17 49 43.1	+0.9
ALRZ	**Allen Road**	**3.63**	**339**	P		Pn		17 49 42.6	-0.7
MWZ	**Matawai**	**3.65**	**354**	P		Pn		17 49 41.7	-1.8
PRRZ	**Plateau Road**	**3.68**	**340**	P		Pn		17 49 43.7	-0.2
WATZ	**Wairara**	**3.69**	**331**	P		Pn		17 49 44.4	+0.3
LREZ	**Lake Rotokare**	**3.72**	**311**	P		Pn		17 49 47.2	+2.9
URZ	**Urewera**	**3.77**	**349**	P		Pn		17 49 44.0	-1.0
VRZ	**Vera Road**	**3.77**	**318**	P		Pn		17 49 47.1	+2.0
TWGZ	**Tauwhareparae**	**3.78**	**360**	P		Pn		17 49 43.9	-1.4
RRRZ	**Republican Roa**	**3.80**	**342**	P		Pn		17 49 45.8	+0.2
GVZ	**Greta Valley S**	**3.82**	**253**	P		Pn		17 49 45.6	-0.2
THZ	**Tophouse**	**3.82**	**271**	P		Pn		17 49 45.9	0.0
PUZ	**Puketiti**	**3.89**	**3**	P		Pn		17 49 44.3	-2.5
TARZ	**Mount Tarawera**	**3.90**	**342**	P		Pn		17 49 47.1	+0.1
PREZ	**Palmer Road**	**3.93**	**310**	P		Pn		17 49 50.3	+2.9
RUGZ	**Raukumara Rang**	**4.00**	**356**	P		Pn		17 49 46.2	-2.2
DRZ	**Durham Road**	**4.02**	**312**	P		Pn		17 49 51.3	+3.0
NEZ	**North Egmont**	**4.02**	**311**	P		Pn		17 49 51.3	+2.7
MHEZ	**Mangahewa**	**4.03**	**314**	P		Pn		17 49 51.8	+3.1
OKCZ	**Okains Bay**	**4.05**	**243**	P		Pn		17 49 48.9	0.0
KHEZ	**Kahui Hut**	**4.05**	**310**	P		Pn		17 49 51.8	+2.8
NMEZ	**Namu Road**	**4.05**	**308**	P		Pn		17 49 51.9	+3.0
PKE	**Pukeiti**	**4.13**	**311**	P		Pn		17 49 52.9	+2.8
AMCZ	**Amberley**	**4.14**	**251**	P		Pn		17 49 50.3	+0.1
NBEZ	**Newall Road No**	**4.15**	**309**	P		Pn		17 49 53.6	+3.3
WMGZ	**Waiomatatini S**	**4.15**	**4**	P		Pn		17 49 48.0	-2.3
HAZ	**Te Kaha**	**4.21**	**357**	P		Pn		17 49 49.1	-2.0
AKCZ	**Akaroa Harbour**	**4.21**	**241**	P		Pn		17 49 51.0	-0.1
HIZ	**Hauiti**	**4.21**	**324**	P		Pn		17 49 52.0	+0.8
QRZ	**Quartz Range**	**4.28**	**284**	P		Pn		17 49 53.3	+1.2
MQZ	**McQueen's Vall**	**4.31**	**244**	P		Pn		17 49 51.8	-0.7
LTZ	**Lake Taylor**	**4.34**	**257**	P		Pn		17 49 52.5	-0.4
MXZ	**Matakaoa Point**	**4.40**	**3**	P		Pn		17 49 51.2	-2.5
OXZ	**Oxford**	**4.62**	**251**	P		Pn		17 49 56.4	-0.3
DSZ	**Denniston Nort**	**4.65**	**271**	P		Pn		17 49 57.4	+0.5
TOZ	**Tahuroa Road**	**4.65**	**335**	P		Pn		17 49 57.4	+0.2
INZ	**Inchbonnie**	**4.93**	**259**	P		Pn		17 50 00.9	-0.1
WACZ	**Wakanui South**	**4.95**	**244**	P		Pn		17 50 01.8	+0.6
MHCZ	**Mount Hutt**	**5.00**	**250**	P		Pn		17 50 01.7	-0.3
ARCZ	**Arundel**	**5.40**	**246**	P		Pn		17 50 07.6	+0.1
RPZ	**Rata Peaks**	**5.41**	**249**	P		Pn		17 50 07.4	-0.2
WVZ	**Waitaha Valley**	**5.50**	**256**	P		Pn		17 50 09.6	+0.9
AWAZ	**Awhitu Peninsu**	**5.55**	**331**	P		Pn		17 50 10.2	+0.8
ETAZ	**East Tamaki Re**	**5.55**	**333**	P		Pn		17 50 10.2	+0.8
WIAZ	**Waiheke Island**	**5.63**	**336**	P		Pn		17 50 10.9	+0.4
WTAZ	**Waiatarua**	**5.69**	**331**	P		Pn		17 50 07.4	-4.0
MBAZ	**Motutapu North**	**5.72**	**334**	P		Pn		17 50 12.4	+0.5
GCSZ	**Gaunt Creek Bo**	**5.83**	**254**	P		Pn		17 50 14.3	+1.0
ODZ	**Otahua Downs**	**6.18**	**238**	P		Pn		17 50 18.7	+0.6
LBZ	**Lake Benmore**	**6.22**	**244**	P		Pn		17 50 19.3	+0.7
FOZ	**Fox Glacier**	**6.24**	**253**	P		Pn		17 50 20.0	+1.1
JCZ	**Jackson Bay**	**7.09**	**250**	P		Pn		17 50 31.3	+0.7
WKZ	**Wanaka**	**7.15**	**243**	P		Pn		17 50 32.4	+0.9
SYZ	**Scrubby Hill**	**7.84**	**231**	P	

HSRG				*e*			18 06 58.4		
ASAO	**Ashtian**	**2.71**	**46**	*e*Pn	**Pb**	**18 06 17.3**	**-0.9**		
ASAO				*e*Sg	**Sg**	**18 06 55.3**	**-1.1**		
IPIR	**Pirpir**	**2.73**	**89**	*e*Pn	**Pn**	**18 06 14.7**	**+1.0**		
IPIR				*e*		18 07 00.6			
BHD	**Baghdad**	**2.82**	**283**	*e*Pn	**Pn**	**18 06 15.0**	**+0.3**		
BHD				*e*Sn	**Sn**	**18 06 50.0**	**+1.1**		
ROKH	**ROKH**	**2.87**	**96**	*e*Pn	**Pn**	**18 06 16.4**	**+0.7**		
IKLH	**Kolahrood**	**3.35**	**78**	*e*Pn	**Pn**	**18 06 24.1**	**+1.8**		
QABG	**Abgarm-Qazvin**	**3.41**	**27**	*e*Pn	**Pn**	**18 06 24.3**	**+1.2**		
KLNJ	**Kolanjah**	**3.74**	**116**	*e*Pn	**Pn**	**18 06 28.4**	**+0.7**		
IZEF	**Zefreh**	**3.94**	**86**	*e*Pn	**Pn**	**18 06 31.3**	**+0.9**		
KRSH	**Karshahi**	**3.96**	**70**	*e*Pn	**Pn**	**18 06 31.4**	**+0.8**		
QSDN	**Sirdan**	**4.01**	**18**	*e*Pn	**Pn**	**18 06 33.4**	**+2.1**		
IRAM	**Ramesheh**	**4.09**	**101**	*e*Pn	**Pn**	**18 06 32.3**	**-0.2**		
IDMV	**Damavand**	**4.63**	**50**	*e*Pn	**Pn**	**18 06 41.3**	**+1.4**		

*NEIC **09** 18:31:35.5±2.0, 5°.46S±0°.07×152°.07E±0°.09, h35km±2km, mb4.3/12, Error ellipse: s-maj=16.3km s-min=10.2km az=116.0*
*IDC **09** 18:31:40.1±1.4, 5°.25S×151°.76E, h73km±12km, mb3.6/4, mb1 3.8/5, mb1mx3.4/28, mbtmp3.9/5, Error ellipse: s-maj=42.9km s-min=11.8km az=127.0*

ISC 09 18:31:36.4±0.7, 5°.48S±0°.07×152°.2E±0°.1, h45km, n27, σ0s73/30, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.17**	**354**	P		**Pn**		**18 31 56.7**	**+0.3**
	752nm,0.3s,baz=170,slow=2.7,SNR=547								
KRVT				S		**Sn**		**18 32 12.8**	**+1.6**
	515nm,0.3s,baz=199,slow=19,SNR=16								
RABL	**Rabaul**	**1.28**	**0**	Pn		**Pn**		**18 31 57.4**	**-0.5**
PMG	**Port Moresby**	**6.31**	**231**	P		**Pn**		**18 33 07.0**	**+0.1**
	1.9nm,0.3s,baz=40,slow=16,SNR=7.4								
PMG				S		**Sn**		**18 34 19.4**	**+1.8**
	4.3nm,0.3s,baz=346,slow=4.2,SNR=4.7								
PMG	**Port Moresby**	**6.31**	**231**			**Pn**		**18 33 06.1**	**-0.8**
HNR	**Honiara**	**8.66**	**117**	Pn		**Pn**		**18 33 40.3**	**+1.1**
WB0	**Warramunga Arr**	**22.37**	**229**	P		**P**		**18 36 30.8**	**-0.1**
WR0	**Warramunga Arr**	**22.38**	**228**	P		**P**		**18 36 30.7**	**-0.3**
WR0				IAmb		IAmb		18 36 38.8	
	comp=Z,7.1nm,0.9s								
WC3	**Warramunga Arr**	**22.50**	**229**	P		**P**		**18 36 32.2**	**-0.1**
WB2	**Warramunga Arr**	**22.51**	**229**	P		**P**		**18 36 32.1**	**-0.3**
WB2				IAmb		IAmb		18 37 01.0	
	comp=Z,8.7nm,1.3s								
WRA	**Warramunga Arr**	**22.52**	**229**	P		**P**		**18 36 32.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=50,slow=9.9,SNR=17								
WRA				PcP		**PcP**		**18 40 25.9**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=45,slow=2.7,SNR=2.0								
WRA	**Warramunga Arr**	**22.52**	**229**	P		**P**		**18 36 32.5**	**0.0**
KNRA	**Kununurra**	**25.10**	**244**	P		**P**		**18 36 56.5**	**-0.6**
KNRA				IAmb		IAmb		18 37 02.9	
	comp=Z,36nm,1.5s								
AS31	**Alice Springs**	**25.22**	**222**	P		**P**		**18 36 58.4**	**+0.2**
ASAR	**Alice Springs**	**25.22**	**222**	P		**P**		**18 36 58.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=56,slow=8.8,SNR=19								
ASAR	**Alice Springs**	**25.22**	**222**	P		**P**		**18 36 58.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**28.77**	**242**	P		**P**		**18 37 29.4**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=42,slow=10,SNR=9.1								
FITZ	**Fitzroy Crossi**	**28.77**	**242**	P		**P**		**18 37 29.6**	**-0.6**
FITZ				IAmb		IAmb		18 37 49.9	
	comp=Z,6.9nm,1.4s								
IMAR	**Indian Mountai**	**81.23**	**20**	P		**P**		**18 43 47.6**	**+0.3**
RND	**Reindeer**	**81.60**	**23**	P		**P**		**18 43 49.0**	**-0.4**
RND				IAmb		IAmb		18 44 11.8	
	comp=Z,8.2nm,1.2s								
ILAR	**Eielson Array**	**83.03**	**22**	P		**P**		**18 43 56.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=244,slow=5.3,SNR=8.2								
BALM	**Baldy**	**83.22**	**26**	P		**P**		**18 43 57.9**	**0.0**
BCAR	**Beaver Creek A**	**84.29**	**25**	P		**P**		**18 44 02.5**	**-0.8**
WDC	**Whiskeytown Da**	**89.96**	**49**	P		**P**		**18 44 30.6**	**-0.6**
WDC				IAmb		IAmb		18 44 34.9	
	comp=Z,1.6nm,0.7s								
SAO	**San Andreas Ge**	**90.36**	**53**	P		**P**		**18 44 32.8**	**-0.3**
W13A	**Hualapai Mount**	**96.35**	**55**	P		**P**		**18 44 59.9**	**-1.2**
W13A				IAmb		IAmb		18 45 10.1	
	comp=Z,1.4nm,1.2s								
MSU	**Marysvale**	**97.81**	**52**	P		**P**		**18 45 06.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**149.90**	**287**	PKPbc		**PKPbc**		**18 51 22.6**	**-0.2**
	comp=Z,2.4nm,1.1s,baz=62,slow=1.4,SNR=4.0								

IDC 09 18:47:23.4±8.0, 31°.51S×179°.80E, h492km±105km, mb2.2/2, mb1 2.5/2, mb1mx2.3/34, mbtmp3.1/2, Error ellipse: s-maj=118.4km s-min=46.0km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.09**	**197**	P		P		18 49 10.7	+0.7
	11nm,0.3s,baz=301,slow=2.6,SNR=33								
URZ				S		S		18 50 36.7	-0.8
	0.7nm,0.3s,baz=234,slow=20,SNR=1.3								
ASAR	**Alice Springs**	**41.18**	**269**	P		P		18 54 24.5	+0.1
	0.2nm,0.6s,baz=101,slow=7.6,SNR=1.3								
WRA	**Warramunga Arr**	**42.27**	**275**	P		P		18 54 32.9	-0.2
	0.2nm,0.3s,baz=110,slow=8.0,SNR=8.2								
FINES	**FINESS Array B**	**145.50**	**338**	PKPbc		PKPdf		19 06 04.4	+0.3
	2.0nm,0.9s,baz=64,slow=6.8,SNR=4.7								

IDC 09 18:53:50.2±30.0, 48°.13N×153°.46E, h143km±62km, mb3.5/2, mb1 3.3/3, mb1mx2.8/48, mbtmp3.7/3, Error ellipse: s-maj=595.8km s-min=69.1km az=149.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.67**	**27**	P		Pn		18 55 12.3	0.0
	0.1nm,0.3s,baz=211,slow=11,SNR=4.2								
PETK				S		Sn		18 56 26.9	+10
	0.1nm,0.3s,baz=164,slow=21,SNR=1.9								
H11N2	**WAKE ISLAND Hy**	**30.35**	**154**	T		T		19 31 53.2	
	baz=342								
H11N1	**WAKE ISLAND Hy**	**30.36**	**154**	T		T		19 31 52.7	
	baz=342								
H11N3	**WAKE ISLAND Hy**	**30.36**	**154**	T		T		19 31 54.4	
	baz=342								
H11S1	**WAKE ISLAND Hy**	**31.45**	**155**	T		T		19 33 16.3	
	baz=343,slow=76,SNR=19								
H11S3	**WAKE ISLAND Hy**	**31.46**	**155**	T		T		19 33 20.3	
	baz=343,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**31.47**	**155**	T		T		19 33 17.4	
	baz=343,slow=76,SNR=14								
MKAR	**Makanchi Array**	**46.53**	**296**	P		P		19 02 03.0	-0.1
	1.0nm,0.7s,baz=75,slow=8.8,SNR=5.1								
FINES	**FINESS Array B**	**62.90**	**335**	P		P		19 04 00.6	0.0
	0.8nm,0.5s,baz=46,slow=8.2,SNR=7.9								

IDC 09 19:12:07.0±13.0, 10°.53S×166°.43E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/44, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/35, Error ellipse: s-maj=408.3km s-min=58.8km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.48**	**279**	LR		LR		19 16 24.1	
	comp=Z,436nm,18.2s,baz=93,slow=40								
H11S2	**WAKE ISLAND Hy**	**28.84**	**1**	T		T		19 48 02.9	
	baz=181,slow=76,SNR=88								
H11S3	**WAKE ISLAND Hy**	**28.84**	**0**	T		T		19 48 03.3	
	baz=181,slow=76,SNR=56								
H11S1	**WAKE ISLAND Hy**	**28.85**	**1**	T		T		19 48 04.3	
	baz=181,slow=76,SNR=65								
H11N1	**WAKE ISLAND Hy**	**30.05**	**1**	T		T		19 49 34.5	
	baz=182,slow=76,SNR=31								
H11N3	**WAKE ISLAND Hy**	**30.06**	**1**	T		T		19 49 34.9	
	baz=182,slow=76,SNR=16								
H11N2	**WAKE ISLAND Hy**	**30.07**	**1**	T		T		19 49 35.8	
	baz=182,slow=76,SNR=13								
WRA	**Warramunga Arr**	**32.30**	**249**	P		P		19 18 38.1	+0.1
	1.8nm,1.2s,baz=80,slow=9.8,SNR=6.4								
ASAR	**Alice Springs**	**33.63**	**243**	P		P		19 18 49.3	-0.3
	0.5nm,0.8s,baz=68,slow=9.0,SNR=6.1								
MKAR	**Makanchi Array**	**93.61**	**317**	P		P		19 25 25.2	-0.1
	0.5nm,0.8s,baz=87,slow=6.1,SNR=1.9								

*BGR **09** 19:13:12.5±0.0, 64°.68N×19°.76W, h33km, mb4.3*
*REY **09** 19:13:15.9, 64°.61N×17°.39W, h9km*

*NEIC **09** 19:13:16.9±1.2, 64°.5N±0°.1×18°.0W±0°.2, h10km±1km, mb4.6/35, Error ellipse: s-maj=23.5km s-min=14.8km az=192.0*
*IDC **09** 19:13:16.4±0.6, 64°.48N×17°.64W, h0km, mb4.0/18, mb1 4.1/23, mb1mx4.0/54, mbtmp3.9/23, ML2.7/4, MS3.4/20, Ms1 3.4/20, ms1mx3.2/54, Error ellipse: s-maj=18.5km s-min=8.9km az=15.0*
*MOS **09** 19:13:19.6±1.0, 64°.47N×17°.86W, h33km, mb4.4/23, Error ellipse: s-maj=13.1km s-min=8.5km az=122.6*

ISC 09 19:13:17.3±0.7, 64°.58N±0°.02×17°.58W±0°.03, h8km±4km, n227, σ2s26/217, mb4.3/72, MS3.5/25, 8C-7D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**321**	P		**Pg**		**19 13 19.5**	**-0.6**
	baz=292								
IDJK	**Dyngjujokull**	**0.17**	**117**	P		**Pg**		**19 13 18.8**	**-2.0**
	baz=148								
IGRF	**Grimsfjall**	**0.22**	**142**	P		**Pg**		**19 13 20.2**	**-1.5**
	baz=166								
IDYN	**Dyngjuhals**	**0.23**	**23**	P		**Pg**		**19 13 19.4**	**-2.6**
	baz=2.9								
IURH	**Urdarhals**	**0.30**	**37**	P		**Pg**		**19 13 20.4**	**-3.0**
	baz=26								
ISKR	**Skrokkalda**	**0.35**	**267**	P		**Pg**		**19 13 24.5**	**+0.3**
	baz=264								
IVOT	**Vottur**	**0.35**	**151**	P		**Pg**		**19 13 22.6**	**-1.6**
	baz=165								
IJOK	**Jokulheimar**	**0.39**	**227**	P		**Pb**		**19 13 24.0**	**-2.4**
	baz=231								
IJOK				S		**Sb**		**19 13 31.9**	**-0.5**
	baz=231								
IIEY	**Innrieyrar**	**0.54**	**206**	P		**Pb**		**19 13 26.1**	**-2.8**
	baz=212								
IKRE	**Kreppuhraun**	**0.55**	**68**	P		Pg		19 13 24.4	-3.6
	baz=68								
IKAL	**Kalfafell**	**0.63**	**184**	P		**Pg**		**19 13 27.4**	**-2.1**
	baz=191								
IKAL				S		**Sb**		**19 13 37.4**	**-2.1**
	baz=191								
IKSK	**Karasker**	**0.64**	**131**	P		**Pg**		**19 13 26.3**	**-3.2**
	baz=138								
IMKO	**Mokollar**	**0.67**	**52**	P		Pg		19 13 26.4	-3.7
	baz=50								
IVAT	**Vatnsfell**	**0.70**	**237**	P		**Pn**		**19 13 29.5**	**-4.0**
	baz=238								
ISVA	**Svartarkot**	**0.77**	**10**	P		**Pg**		**19 13 28.4**	**-3.8**
	baz=4.4								
IVSH	**V-Sauoahnukur**	**0.83**	**73**	P		Pg		19 13 29.0	-4.2
	baz=74								
IHVE	**Hveravellir**	**0.90**	**290**	P		**Pg**		**19 13 31.8**	**-2.8**
	baz=286								
IADA	**Aoalbol**	**0.96**	**62**	P		Pb		19 13 31.1	-5.1
	baz=61								
IADA				S		Sg		19 13 42.8	-5.5
	baz=61								
ISNB	**Snabyli**	**0.96**	**209**	P		**Pb**		**19 13 33.7**	**-2.5**
	baz=212								
ISLY	**Slysaalda**	**1.01**	**222**	P		**Pn**		**19 13 34.6**	**-3.2**
	baz=224								
IMEL	**Melhnausar**	**1.07**	**21**	P		Pb		19 13 33.6	-4.3
	baz=18								
IFED	**Fedgar**	**1.08**	**240**	P		**Pn**		**19 13 35.6**	**-3.0**
	baz=241								
IRJU	**Rjupnafell**	**1.08**	**207**	P		**Pb**		**19 13 35.5**	**-2.6**
	baz=210								
IREN	**Reynihlio**	**1.11**	**14**	P		Pn		19 13 34.5	-4.6
	baz=11								
IMJO	**Mjoaskard**	**1.12**	**236**	P		**Pn**		**19 13 36.4**	**-2.9**
	baz=237								
IKVO	**Krokottuvotn**	**1.18**	**14**	P		Pn		19 13 35.1	-4.9
	baz=11								
IHVO	**Lagu-Hvolar**	**1.20**	**208**	P		**Pn**		**19 13 37.7**	**-2.5**
	baz=211								
IHAU	**Haukadalur**	**1.21**	**241**	P		**Pn**		**19 13 37.8**	**-2.6**
	baz=241								
IGRS	**Grimsstaoir**	**1.23**	**29**	P		Pn		19 13 36.1	-4.6
	baz=27								
IALF	**Alftagrof**	**1.30**	**214**	P		**Pg**		**19 13 39.3**	**-2.9**
	baz=216								
ISKI	**Skalingahlsh**	**1.32**	**10**	P		**Pn**		**19 13 38.0**	**-3.9**
	baz=6.7								
IGHA	**Grjothals**	**1.33**	**16**	P		**Pn**		**19 13 37.8**	**-4.2**
	baz=14								
IESK	**Eystri-Skogar**	**1.34**	**219**	P		**Pg**		**19 13 40.0**	**-3.0**
	baz=221								
IGRA	**Granastaoir**	**1.35**	**360**	P		**Pn**		**19 13 38.4**	**-3.9**
	baz=357								
IMID	**Miomork**	**1.37**	**229**	P		**Pg**		**19 13 40.7**	**-2.9**
	baz=230								
ISAU	**Saurbar**	**1.37**	**246**	P		**Pg**		**19 13 40.3**	**-3.2**
	baz=246								
IDIM	**Dimmadalss**	**1.42**	**11**	P		**Pn**		**19 13 39.3**	**-3.9**
	baz=7.8								
IHED	**Heoinshofoi**	**1.51**	**4**	P		**Pn**		**19 13 40.5**	**-4.1**
	baz=1.2								
IBRE	**Brettingsstaoi**	**1.56**	**355**	P		**Pn**		**19 13 41.9**	**-3.3**
	baz=352								
IGIL	**Gilhagi**	**1.59**	**18**	P		**Pn**		**19 13 41.6**	**-4.1**
	baz=16								
ISOL	**Solvholt**	**1.61**	**248**	P		**Pb**		**19 13 44.1**	**-3.1**
	baz=248								
IKRO	**Krokur**	**1.62**	**254**	P		**Pb**		**19 13 44.0**	**-3.3**
	baz=254								
BORG	**Borgarnes**	**1.62**	**278**	Pg		**Pb**		**19 13 44.1**	**-3.3**
	25nm,0.3s,baz=101,slow=8.7,SNR=80								
BORG				Lg		Lg		19 14 07.1	
	30nm,0.3s,baz=227,slow=21,SNR=4.2								
BORG				LR		LR		19 14 09.8	
	comp=Z,310nm,19.5s,baz=109,slow=33								
BORG	**Borgarnes**	**1.62**	**278**			**Pn**		**19 13 43.4**	**-2.7**
IHEI	**Heioarbar**	**1.64**	**258**	P		**Pb**		**19 13 44.1**	**-3.5**
	baz=258								
ISIG	**Siglufjorour**	**1.66**	**341**	P		**Pn**		**19 13 43.4**	**-3.2**
	baz=338								
IBJA	**Bjarnastaoir**	**1.75**	**250**	P		**Pb**		**19 13 46.1**	**-3.4**
	baz=250								
IHRN	**Hraun**	**1.87**	**326**	P		**Pn**		**19 13 46.9**	**-2.6**
	baz=324								
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn		**Pn**		**19 16 03.1**	**-1.4**
	baz=321,slow=13,SNR=20								
NOA	**NORSAR Array B**	**13.56**	**92**	Pn		**Pn**		**19 16 28.7**	**-1.0**
	0.0nm,0.3s,baz=301,slow=12,SNR=2.0								
NOA				LR		LR		19 21 54.6	
	comp=Z,111nm,18.7s,baz=300,slow=38								
SFJD	**Kangerlussuaq**	**13.67**	**295**	LR		LR		19 20 52.2	
	comp=Z,83nm,21.0s,baz=85,slow=33								
HFS	**Hagfors**	**15.07**	**93**	Pn		**Pn**		**19 16 49.3**	**-1.0**
	0.1nm,0.3s,baz=292,slow=12,SNR=3.5								
HFS				LR		LR		19 22 52.3	
	comp=Z,104nm,19.4s,baz=286,slow=38								
SPITS	**Spitsbergen Ar**	**16.96**	**23**	LR		LR		19 22 13.6	
	comp=Z,114nm,19.9s,baz=0.0,slow=32								
ARCES	**ARCESS Array B**	**17.20**	**54**	P		**P**		**19 17 19.5**	**+0.4**
	baz=283,slow=5.7,SNR=4.5								
ARCES				LR		LR		19 22 41.0	
	comp=Z,114nm,21.0s,baz=250,slow=33								
CLZ	**Clausthal**	**19.26**	**118**	P		**Pn**		**19 17 43.5**	**+0.6**
CLZ				pmax		pmax			
	comp=Z,19nm,1.1s								
FINES	**FINESS Array B**	**19.75**	**79**	P		**P**		**19 17 47.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=285,slow=11,SNR=1.6								
FINES				LR		LR		19 25 10.9	
	comp=Z,84nm,20.0s,baz=230,slow=36								
FINES	**FINESS Array B**	**19.75**	**79**	P		**P**		**19 17 47.3**	**+0.2**
FINES	**FINESS Array B**	**19.75**	**79**	P		**P**		**19 17 47.3**	**+0.2**
MOX	**Moxa**	**20.69**	**118**	P		Pn		19 17 59.3	-0.4
MOX				pmax		pmax			
	comp=Z,10.0nm,1.3s								
CLL	**Collm**	**20.70**	**115**	*e*P		**P**		**19 17 58.0**	**+0.6**
CLL				*e*pP		**pP**		**19 18 01.0**	**+0.7**
	comp=Z,12nm,1.4s								
CLL				*i* sP		**sP**		**19 18 03.2**	**+1.6**
	comp=Z,19nm,1.2s								
CLL				*e*PP		**PnPn**		**19 18 16.0**	**+0.9**
CLL				*e*S		Sn		19 21 55.0	+1.9
CLL				Lm		MLR		19 27 00.0	
	comp=N,100nm,19.4s								
CLL				Lm		MLR		19 27 00.0	
	comp=E,100nm,18.9s								
CLL	**Collm**	**20.70**	**115**	*e*P		Pn		19 18 01.0	+1.2
CLL				pmax		pmax			
	comp=Z,12nm,1.4s								
CLL	**Collm**	**20.70**	**115**	P		**P**		**19 17 57.5**	**+0.1**
LOR	**Lormes**	**20.91**	**136**	P		Pn		19 18 00.7	-1.6
LOR				pmax		pmax			
	comp=Z,18nm,1.1s								
ECH	**Echery**	**21.12**	**129**	P		**P**		**19 18 02.3**	**+0.2**
ECH				pmax		pmax			
	comp=Z,13nm,1.0s								
ECH	**Echery**	**21.12**	**129**	P		**P**		**19 18 02.3**	**+0.2**
GRF	**Grafenberg Arr**	**21.32**	**121**	P		**P**		**19 18 09.4**	**+5.2**
GRF				pmax		pmax			
	comp=Z,18nm,0.9s								
GRF	**Grafenberg Arr**	**21.32**	**121**	*e*P		**P**		**19 18 05.5**	**+1.3**
	comp=Z,12nm,1.1s,baz=323,slow=11								
NKC	**Novy Kostel**	**21.34**	**118**	*e*P		**P**		**19 18 11.2**	**+6.8**
NKC				AMS		AMS		19 28 00.0	
	comp=Z,300nm,14.3s								
NKC	**Novy Kostel**	**21.34**	**118**	*e*P		**P**		**19 18 11.2**	**+6.8**
NKC				MLR		MLR			
	comp=Z,300nm,14.3s								
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**		**19 18 05.8**	**+0.7**
	comp=Z,15nm,1.4s								
BRG				*e*				19 18 11.0	
	comp=Z,17nm,1.3s								
BRG				S		Sn		19 22 13.0	+2.9
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**		**19 18 05.8**	**+0.7**
BRG				S		Sn		19 22 13.0	+2.9
BRG				pmax		pmax			
	comp=Z,15nm,1.4s								
BFO	**Black Forest**	**21.42**	**127**	P		**P**		**19 18 05.8**	**+0.4**
BFO				pmax		pmax			
	comp=Z,25nm,1.3s								
BFO	**Black Forest**	**21.42**	**127**	P		**P**		**19 18 05.8**	**+0.4**
BFO				IAmb		IAmb		19 18 13.5	
	comp=Z,25nm,1.3s								
VSU	**Vasula**	**21.61**	**86**	*e*P		**P**		**19 18 08.8**	**+1.7**
VSU	**Vasula**	**21.61**	**86**	*e*P		**P**		**19 18 09.3**	**+2.1**
VSU				pmax		pmax			
	comp=Z,60nm,1.0s								
GRB1	**Grafenberg Arr**	**21.72**	**120**	P		**P**		**19 18 10.0**	**+1.5**
GRB1				pmax		pmax			
	comp=Z,29nm,1.0s								
FRB	**Frobisher Bay**	**21.75**	**291**	LR		LR		19 25 49.7	
	comp=Z,138nm,18.4s,baz=322,slow=35								
PVCC	**Panska Ves**	**21.92**	**115**	AMS		AMS		19 28 20.0	
	comp=Z,400nm,7.9s								
SLE	**Schleitheim**	**21.96**	**128**	P		**P**		**19 18 12.5**	**+1.3**
SLE				pmax		pmax			
	comp=Z,13nm,2.0s								
PRA	**Prague**	**22.23**	**115**	AMS		AMS		19 29 20.0	
	comp=Z,200nm,13.4s								
PABE	**Paberze**	**22.24**	**94**	*e*P		**P**		**19 18 15.9**	**+1.9**
PRU	**Pruhonice**	**22.34**	**115**	*e*P		**P**		**19 18 17.2**	**+2.1**
PRU				AMS		AMS		19 29 20.0	
	comp=Z,400nm,9.6s								
PRU	**Pruhonice**	**22.34**	**115**	*e*P		**P**		**19 18 17.2**	**+2.1**
PRU				MLR		MLR			
	comp=Z,400nm,9.6s								
KSP	**Ksiaz**	**22.36**	**112**	P		**P**		**19 18 16.7**	**+1.3**
KSP				pmax		pmax			
	comp=Z,15nm,1.2s								
WET	**Wettzell**	**22.39**	**119**	P		**P**		**19 18 17.4**	**+1.7**
WET				pmax		pmax			
	comp=Z,11nm,1.4s								
CHVC	**Chvalec**	**22.46**	**112**	*e*P		**P**		**19 18 17.7**	**+1.2**
CHVC				AMS		AMS		19 29 30.0	
	comp=Z,400nm,7.1s								
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P		**P**		**19 18 21.3**	**+4.5**
GOPC				AMS		AMS		19 29 50.0	
	comp=Z,300nm,12.1s								
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P		**P**		**19 18 21.3**	**+4.5**
GOPC				MLR		MLR			
	comp=Z,300nm,12.1s								
UPC	**Upice**	**22.51**	**113**	*e*P		**P**		**19 18 21.8**	**+4.8**
UPC				AMS		AMS		19 29 20.0	
	comp=Z,400nm,6.9s								
UPC	**Upice**	**22.51**	**113**	*e*P		**P**		**19 18 21.8**	**+4.8**
UPC				MLR		MLR			
	comp=Z,400nm,6.9s								
OSTC	**Ostas**	**22.55**	**112**	*e*P		**P**		**19 18 20.1**	**+2.7**
OSTC				AMS		AMS		19 29 20.0	
	comp=Z,300nm,19.0s								
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P		**P**		**19 18 18.6**	**0.0**
KHC				AMS		AMS		19 29 10.0	
	comp=Z,300nm,8.1s								
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P		**P**		**19 18 19.4**	**+0.8**
KHC				pmax		pmax			
	comp=Z,30nm,1.7s								
KHC	**Kasperske Hory**	**22.66**	**118**	P		**P**		**19 18 18.0**	**-0.6**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**		**19 18 21.3**	**+1.7**
DPC				AMS		AMS		19 29 20.0	
	comp=Z,200nm,15.0s								
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**		**19 18 21.3**	**+1.7**
DPC				MLR		MLR			
	comp=Z,200nm,15.0s								
DAVA	**Damuels**	**22.86**	**126**	*e*P		**P**		**19 18 24.1**	**+3.3**
	comp=Z,13nm,1.5s								
GEC2	**GERESS Array S**	**22.94**	**118**	P		**P**		**19 18 21.4**	**-0.3**
GEC2				IAmb		IAmb		19 18 43.7	
	comp=Z,18nm,1.3s								
GERES	**GERES

NIE					pmax	pmax		
	comp=Z,2.0nm,2.2s							
VYHS	**Vyhne**	**25.23**	**112**	*eP*	**P**	**P**	**19 18 46.5**	**+3.3**
VYHS					pmax	pmax		
	comp=Z,11nm,1.4s							
VYHS	**Vyhne**	**25.23**	**112**	*eP*	**P**	**P**	**19 18 46.5**	**+3.3**
SOKA	**Soboth**	**25.24**	**120**	*eP*	**P**	**P**	**19 18 49.2**	**+5.8**
	comp=Z,7.8nm,1.3s							
KLMR	**Klimovskoe**	**25.66**	**72**	*eP*	**P**	**P**	**19 18 47.6**	**+0.6**
KLMR					pmax	pmax		
	comp=Z,24nm,1.5s							
KLMR	**Klimovskoe**	**25.66**	**72**	*eP*	**P**	**P**	**19 18 47.6**	**+0.6**
KLMR					AMP		19 18 51.4	
	comp=Z,24nm,1.5s							
SCHQ	**Schefferville**	**26.01**	**271**	P	**P**	**P**	**19 18 50.7**	**+0.5**
	comp=Z,9.3nm,0.8s,baz=27,slow=6.8,SNR=2.8							
SCHQ					LR	LR	19 27 35.0	
	comp=Z,94nm,18.2s,baz=107,slow=33							
SCHQ	**Schefferville**	**26.01**	**271**	P	**P**	**P**	**19 18 50.5**	**+0.3**
SCHQ					IAmb	IAmb	19 18 55.9	
	comp=Z,13nm,0.8s							
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**P**	**19 18 52.1**	**+0.7**
PSZ					pmax	pmax		
	comp=Z,30nm,1.5s							
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**P**	**19 18 52.0**	**+0.7**
PSZ					IAmb	IAmb	19 18 58.5	
	comp=Z,30nm,1.5s							
ESDC	**Sonseca Array**	**26.19**	**156**	P	**P**	**P**	**19 18 52.6**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=346,slow=9.1,SNR=8.6							
ESDC					LR	LR	19 28 32.1	
	comp=Z,74nm,20.0s,baz=315,slow=35							
ESDC	**Sonseca Array**	**26.19**	**156**	P	**P**	**P**	**19 18 52.1**	**+0.1**
KOLS	**Kolonicke sedl**	**26.28**	**107**	*eP*	**P**	**P**	**19 18 54.7**	**+2.0**
KOLS					pmax	pmax		
	comp=Z,78nm,2.6s							
KOLS	**Kolonicke sedl**	**26.28**	**107**	*eP*	**P**	**P**	**19 18 54.7**	**+2.0**
LVV	**L'vov**	**26.32**	**104**	*eP*	**P**	**P**	**19 18 57.0**	**+3.9**
RES	**Resolute Bay**	**26.52**	**325**	LR	LR	LR	19 29 36.5	
	comp=Z,138nm,18.2s,baz=49,slow=37							
AKASG	**Malin Array Be**	**27.86**	**97**	P	**P**	**P**	**19 19 06.1**	**-0.8**
	comp=Z,0.3nm,0.2s,baz=327,slow=9.4,SNR=2.4							
OBN	**Obninsk**	**27.92**	**84**	P	**P**	**P**	**19 19 08.2**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=48,slow=5.1,SNR=4.0							
OBN	**Obninsk**	**27.92**	**84**	*eP*	**P**	**P**	**19 19 10.3**	**+2.9**
OBN					pmax	pmax		
	comp=Z,35nm,1.7s							
OBN					MLR	MLR		
	comp=Z,68nm,15.0s							
OBN	**Obninsk**	**27.92**	**84**	P	**P**	**P**	**19 19 07.9**	**+0.6**
LPSR	**Galich'ya Gora**	**30.67**	**86**	*eP*	**P**	**P**	**19 19 34.4**	**+2.6**
LPSR					pmax	pmax		
	comp=Z,8.0nm,0.7s							
KIRV	**Kirov**	**31.04**	**69**	*eP*	**P**	**P**	**19 19 38.0**	**+3.0**
VSR	**Storozhevoye**	**31.77**	**87**	*eP*	**P**	**P**	**19 19 42.2**	**+0.7**
VSR					pmax	pmax		
	comp=Z,4.0nm,1.1s							
ARU	**Arti**	**36.15**	**66**	*d iP*	**P**	**P**	**19 20 19.8**	**+0.4**
ARU							19 21 38.3	
ARU					S	**S**	**19 25 59.4**	**+0.6**
ARU					SS	**SnSn**	**19 28 22.1**	**-1.6**
ARU					pmax	pmax		
	comp=Z,13nm,2.0s							
NRIK	**Noril'sk**	**36.55**	**35**	P	**P**	**P**	**19 20 23.7**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=333,slow=5.3,SNR=4.3							
NRIK					LR	LR	19 38 49.2	
	comp=Z,30nm,18.1s,baz=208,slow=42							
NRIK	**Noril'sk**	**36.55**	**35**	*eP*	**P**	**P**	**19 20 24.0**	**+1.3**
NRIK					pmax	pmax		
	comp=Z,11nm,1.5s							
GOF	**Gofitskoye**	**38.15**	**91**	*eP*	**P**	**P**	**19 20 39.8**	**+3.3**
BR131	**Keskin Array S**	**38.49**	**105**	*eP*	**P**	**P**	**19 20 41.4**	**+1.8**
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**P**	**19 20 39.7**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=334,slow=8.2,SNR=11							
BRTR	**Keskin Array B**	**38.49**	**105**	*i P*	**P**	**P**	**19 20 41.4**	**+1.8**
BRTR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**P**	**19 20 39.9**	**+0.3**
KIV	**Kislovodsk**	**38.87**	**92**	*eP*	**P**	**P**	**19 20 44.2**	**+1.5**
KIV					pmax	pmax		
	comp=Z,23nm,1.1s							
KIV					MLR	MLR		
	comp=Z,99nm,16.0s							
KBZ	**Khabaz**	**39.15**	**92**	P	**P**	**P**	**19 20 45.8**	**+0.9**
	comp=Z,3.8nm,1.0s,baz=335,slow=15,SNR=4.4							
KBZ					LR	LR	19 37 19.5	
	comp=Z,68nm,20.6s,baz=303,slow=37							
AKH	**Akhalkalaki**	**41.28**	**94**	P	**P**	**P**	**19 21 03.5**	**+0.6**
AKH					pmax	pmax		
	comp=Z,14nm,1.5s							
AKH	**Akhalkalaki**	**41.28**	**94**	P	**P**	**P**	**19 21 03.5**	**+0.6**
AKH					IAmb	IAmb	19 21 09.8	
	comp=Z,14nm,1.5s							
M55A	**Ridgway**	**41.29**	**266**	P	**P**	**P**	**19 21 02.4**	**-0.3**
MAK	**Makhachkala**	**41.75**	**89**	*eP*	**P**	**P**	**19 21 02.3**	**-4.1**
MAK				*e*			19 22 42.1	
MAK				*eS*	**S**	**S**	**19 27 17.9**	**-5.5**
MAK				*eSS*	**SS**	**SS**	**19 30 25.7**	**-2.9**
MAK					pmax	pmax		
	comp=Z,317nm,1.2s							
MAK					MLR	MLR		
	comp=Z,65nm,11.0s							
ABKAR	**Akbulak array**	**42.05**	**73**	P	**P**	**P**	**19 21 09.2**	**+0.4**
ABKAR	**Akbulak array**	**42.05**	**73**	P	**P**	**P**	**19 21 09.3**	**+0.4**
TIXI	**Tiksi**	**42.13**	**15**	*eP*	**P**	**P**	**19 21 12.3**	**+3.1**
BRVK	**Borovoye**	**43.20**	**62**	*eP*	**P**	**P**	**19 21 20.0**	**+1.9**
BRVK					pmax	pmax		
	comp=Z,9.0nm,1.7s							
MARD	**Mardin**	**43.53**	**100**	P	**P**	**P**	**19 21 22.3**	**+1.2**
MARD					IAmb	IAmb	19 21 28.4	
	comp=Z,19nm,1.2s							
ILAR	**Eielson Array**	**45.75**	**332**	P	**P**	**P**	**19 21 40.1**	**+1.8**
	comp=Z,4.3nm,1.2s,baz=21,slow=7.1,SNR=13							
ILAR					PcP	**PcP**	**19 23 15.5**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=7.9,slow=4.0,SNR=6.0							
ILAR	**Eielson Array**	**45.75**	**332**	P	**P**	**P**	**19 21 39.5**	**+1.1**
ILAR	**Eielson Array**	**45.75**	**332**	P	**P**	**P**	**19 21 39.5**	**+1.1**
MDM	**Murphy Dome**	**45.85**	**333**	P	**P**	**P**	**19 21 41.5**	**+2.4**
BCAR	**Beaver Creek A**	**46.17**	**329**	P	**P**	**P**	**19 21 43.8**	**+2.1**
ZALV	**Zalesovo Beam**	**47.72**	**51**	P	**P**	**P**	**19 21 54.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=319,slow=8.4,SNR=4.0							
ZALV					PcP	**PcP**	**19 23 23.6**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=304,slow=3.3,SNR=1.4							
ZALV	**Zalesovo Beam**	**47.72**	**51**	*i* P	**P**	**P**	**19 21 56.0**	**+2.2**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**47.72**	**51**	P	**P**	**P**	**19 21 54.8**	**+1.0**
KURK	**Kurchatov**	**48.19**	**58**	*eP*	**P**	**P**	**19 21 59.3**	**+1.8**
KURK					pmax	pmax		
	comp=Z,8.0nm,1.7s							
TKL	**Tuckaleechee C**	**48.29**	**266**	LR	LR	LR	19 40 53.5	
	comp=Z,53nm,18.2s,baz=28,slow=34							
T47A	**Sharon Grove**	**48.60**	**270**	P	**P**	**P**	**19 22 01.0**	**+0.1**
W50A	**Signal Mountai**	**49.34**	**268**	P	**P**	**P**	**19 22 06.8**	**+0.1**
W50A					IAmb	IAmb	19 22 11.8	
	comp=Z,6.7nm,0.8s							
GEYT	**Alibeck**	**50.47**	**83**	P	**P**	**P**	**19 22 15.5**	**+0.3**
KKAR	**Karatay Array**	**51.34**	**70**	P	**P**	**P**	**19 22 22.9**	**+1.2**
KKAR	**Karatay Array**	**51.34**	**70**	P	**P**	**P**	**19 22 22.9**	**+1.2**
BOZ	**Bozeman (W)**	**51.62**	**297**	P	**P**	**P**	**19 22 23.8**	**-0.1**
BOZ					pmax	pmax		
	comp=Z,7.0nm,1.1s							
BOZ	**Bozeman (W)**	**51.62**	**297**	P	**P**	**P**	**19 22 23.8**	**-0.1**
BOZ					IAmb	IAmb	19 22 29.5	
	comp=Z,7.4nm,1.1s							
DGZ	**Jazzator, Alta**	**52.16**	**53**	*eP*	**P**	**P**	**19 22 29.6**	**+1.7**
DGZ					pmax	pmax		
	comp=Z,2.0nm,1.3s							
MK31	**Makanchi Array**	**52.80**	**58**	*eP*	**P**	**P**	**19 22 34.7**	**+2.2**
MKAR	**Makanchi Array**	**52.80**	**58**	P	**P**	**P**	**19 22 33.7**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=325,slow=7.0,SNR=2.4							
MKAR	**Makanchi Array**	**52.80**	**58**	P	**P**	**P**	**19 22 33.2**	**+0.7**
MKAR	**Makanchi Array**	**52.80**	**58**	P	**P**	**P**	**19 22 33.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**53.07**	**156**	P	**P**	**P**	**19 22 34.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=341,slow=8.9,SNR=8.7							
TORD					LR	LR	19 46 52.5	
	comp=Z,29nm,18.5s,baz=290,slow=38							
TORD	**Torodi Ar. Bea**	**53.07**	**156**	P	**P**	**P**	**19 22 34.0**	**-0.8**
BW06	**Boulder Array**	**53.18**	**293**	P	**P**	**P**	**19 22 35.3**	**-0.3**
BW06					IAmb	IAmb	19 22 39.6	
	comp=Z,4.1nm,0.9s							
PD31	**Pinedale Array**	**53.18**	**293**	P	**P**	**P**	**19 22 36.1**	**+0.4**
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**P**	**19 22 36.4**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=49,slow=6.0,SNR=13							
PDAR					LR	LR	19 45 14.2	
	comp=Z,82nm,19.1s,baz=346,slow=36							
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**P**	**19 22 35.8**	**+0.2**
AAK	**Ala-Archa**	**53.33**	**67**	*eP*	**P**	**P**	**19 22 39.0**	**+2.4**
AAK					pmax	pmax		
	comp=Z,22nm,1.7s							
BTK	**Batken**	**54.02**	**71**	P	**P**	**P**	**19 22 42.7**	**+1.1**
BTK					pmax	pmax		
	comp=Z,11nm,1.2s							
BTK	**Batken**	**54.02**	**71**	P	**P**	**P**	**19 22 42.7**	**+1.1**
BTK					IAmb	IAmb	19 22 51.0	
	comp=Z,11nm,1.1s							
CHGR	**Chuyangaron**	**54.52**	**74**	P	**P**	**P**	**19 22 44.7**	**-0.6**
GAR	**Garm**	**54.71**	**73**	P	**P**	**P**	**19 22 46.8**	**+0.1**
MA2	**Magadan**	**55.85**	**7**	*eP*	**P**	**P**	**19 22 52.9**	**-1.6**
MA2					pmax	pmax		
	comp=Z,25nm,1.7s							
SJG	**San Juan**	**56.61**	**239**	LR	LR	LR	19 45 54.1	
	comp=Z,13nm,18.2s,baz=62,slow=35							
PV01	**Paradox Valley**	**56.72**	**289**	P	**P**	**P**	**19 23 01.7**	**+0.5**
PV01					IAmb	IAmb	19 23 06.5	
	comp=Z,6.7nm,1.1s							
PV03	**Paradox Valley**	**56.73**	**290**	P	**P**	**P**	**19 23 00.6**	**-0.7**
PV03					IAmb	IAmb	19 23 05.8	
	comp=Z,4.4nm,1.0s							
PV18	**Skein Mesa, Pa**	**56.76**	**290**	P	**P**	**P**	**19 23 01.3**	**-0.2**
PV18					IAmb	IAmb	19 23 06.6	
	comp=Z,9.2nm,1.1s							
PV13	**Radium Mtn., P**	**56.80**	**290**	P	**P**	**P**	**19 23 00.4**	**-1.4**
PV13					IAmb	IAmb	19 23 07.0	
	comp=Z,8.4nm,0.9s							
MVU	**Marysvale**	**57.87**	**293**	P	**P**	**P**	**19 23 09.0**	**-0.4**
DBIC	**Dimbokro**	**58.51**	**165**	P	**P**	**P**	**19 23 13.2**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=338,slow=6.5,SNR=2.2							
DBIC	**Dimbokro**	**58.51**	**165**	P	**P**	**P**	**19 23 13.2**	**-0.6**
DBIC					pmax	pmax		
	comp=Z,18nm,1.5s							
DBIC	**Dimbokro**	**58.51**	**165**	P	**P**	**P**	**19 23 13.2**	**-0.6**
TIC	**Toumodi**	**58.52**	**165**	*eP*	**P**	**P**	**19 23 13.3**	**-0.5**
KIC	**Kosan Boka**	**58.83**	**165**	*eP*	**P**	**P**	**19 23 16.1**	**+0.1**
	comp=Z,14nm,1.1s							
LIC	**Lamto**	**58.93**	**165**	*eP*	**P**	**P**	**19 23 16.8**	**+0.1**
	comp=Z,41nm,1.1s							
KVN	**Kaiserville**	**59.70**	**298**	P	**P**	**P**	**19 23 22.4**	**+0.3**
KVN					pmax	pmax		
	comp=Z,6.0nm,1.3s							
KVN	**Kaiserville**	**59.70**	**298**	P	**P**	**P**	**19 23 22.4**	**+0.3**
KVN					IAmb	IAmb	19 23 26.7	
	comp=Z,5.6nm,1.3s							
NVAR	**Mina Array Bea**	**60.31**	**297**	P	**P**	**P**	**19 23 26.5**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=46,slow=5.7,SNR=4.4							
NVAR	**Mina Array Bea**	**60.31**	**297**	P	**P**		**19 23 25.8**	**-0.5**
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**		**19 23 40.4**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=35,slow=3.3,SNR=5.9							
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**P**	**19 23 39.4**	**-0.1**
ATAH	**Atahualpa**	**84.40**	**241**	LR	LR	LR	19 58 32.6	
	comp=Z,20nm,21.0s,baz=308,slow=32							

*IDC **09** 19:16:59.5±1.2, 10.˚58S×166.˚63E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.8/47, mbtmp4.0/7, ML3.3/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/30, Error ellipse: s-maj=39.8km s-min=25.1km az=139.0*

*NEIC **09** 19:17:01.8±0.7, 10.˚5S±0.˚2×166.˚6E±0.˚2, h21km±9km, mb4.3/5, Error ellipse: s-maj=24.0km s-min=21.8km az=203.0*

ISC 09 19:17:04.7±1.0, 10.˚6S±0.˚1×166.˚6E±0.˚2, h36km, n33, σ0$56/16, mb4.2/7, MS3.8/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SANVU	**Saraoutou**	**4.88**	**173**		**Pn**	**19**	**18**	**15.5**	**-0.1**
DZM	**Mont Dzumac**	**11.43**	**181**	*e*LQ	LQ	19	22	15.0	
	2µm,26.5s								
DZM				*e*LR	LR	19	22	42.9	
	comp=Z,1µm,26.4s								
DZM	**Mont Dzumac**	**11.43**	**181**	Pn	**Pn**	**19**	**19**	**46.0**	**+0.4**
	0.2nm,0.3s,baz=16,slow=20,SNR=1.4								
DZM	**Mont Dzumac**	**11.43**	**181**		**Pn**	**19**	**19**	**45.7**	**+0.1**
PMG	**Port Moresby**	**19.17**	**272**	LR	LR	19	28	57.1	
	comp=Z,480nm,18.4s,baz=126,slow=37								
AFI	**Afiamalu**	**21.40**	**101**	LR	LR	19	28	21.7	
	comp=Z,228nm,18.7s,baz=211,slow=32								
CTA	**Charters Tower**	**21.75**	**242**	P	**P**	**19**	**21**	**53.2**	**-0.1**
	5.2nm,0.9s,baz=72,slow=7.8,SNR=3.3								
RAO	**Raoul Island**	**23.56**	**144**	LR	LR	19	29	20.5	
	comp=Z,143nm,18.8s,baz=2.0,slow=32								
H11S2	**WAKE ISLAND Hy**	**28.88**	**0**	T	T	19	52	51.8	
	baz=181,slow=76,SNR=93								
H11S3	**WAKE ISLAND Hy**	**28.89**	**0**	T	T	19	52	56.1	
	baz=181,slow=76,SNR=16								
H11S1	**WAKE ISLAND Hy**	**28.90**	**0**	T	T	19	53	00.5	
	baz=181,slow=76,SNR=90								
URZ	**Urewera**	**29.14**	**163**	LR	LR	19	31	43.3	
	comp=Z,104nm,20.3s,baz=22,slow=30								
H11N1	**WAKE ISLAND Hy**	**30.10**	**1**	T	T	19	54	28.2	
	baz=182,slow=76,SNR=34								
H11N3	**WAKE ISLAND Hy**	**30.10**	**1**	T	T	19	54	28.9	
	baz=182,slow=76,SNR=12								
H11N2	**WAKE ISLAND Hy**	**30.12**	**1**	T	T	19	54	29.6	
	baz=182,slow=76,SNR=12								
STKA	**Stephens Creek**	**31.35**	**224**	LR	LR	19	35	11.9	
	comp=Z,297nm,19.9s,baz=31,slow=35								
WB0	**Warramunga Arr**	**32.33**	**250**	P	**P**	**19**	**23**	**30.9**	**+0.1**
WRA	**Warramunga Arr**	**32.42**	**249**	P	**P**	**19**	**23**	**31.9**	**+0.3**
	5.8nm,1.1s,baz=80,slow=9.5,SNR=16								
WRA					LR	LR	19	36	49.2
	comp=Z,313nm,18.5s,baz=80,slow=37								
WRA	**Warramunga Arr**	**32.42**	**249**	P	**P**	**19**	**23**	**31.2**	**-0.4**
AS31	**Alice Springs**	**33.74**	**243**	P	**P**	**19**	**23**	**42.3**	**-0.8**
ASAR	**Alice Springs**	**33.74**	**243**	P	**P**	**19**	**23**	**43.0**	**-0.1**
	5.2nm,0.8s,baz=75,slow=9.5,SNR=47								
ASAR					LR	LR	19	36	33.7
	comp=Z,253nm,19.1s,baz=74,slow=35								
ASAR	**Alice Springs**	**33.74**	**243**	P	**P**	**19**	**23**	**42.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.30**	**255**	P	**P**	**19**	**24**	**39.0**	**+0.2**
FITZ					IAmb	IAmb	19	24	40.1
	comp=Z,5.0nm,0.9s								
PPT	**Papeete**	**43.01**	**104**	LR	LR	19	39	57.0	
	comp=Z,62nm,20.4s,baz=332,slow=32								
PPT2	**Papeete2**	**43.01**	**104**	*e*LQ	LQ	19	34	57.3	
	comp=Z,338nm,28.5s								
PPT2				*e*LR	LR	19	37	41.7	
	comp=Z,63nm,22.2s								
TTSI	**Tana Toraja**	**46.99**	**276**	P	P	19	25	24.8	-8.0
VNDA	**Vanda**	**66.97**	**181**	P	**P**	**19**	**27**	**53.3**	**0.0**
	comp=Z,1.4nm,1.0s,baz=356,slow=6.3,SNR=5.4								
VNDA	**Vanda**	**66.97**	**181**	P	**P**	**19**	**27**	**53.7**	**+0.3**
VNDA					IAmb	IAmb	19	28	05.6
	comp=Z,3.1nm,1.1s								
CMAR	**Chiang Mai Arr**	**72.69**	**293**	LR	LR	19	59	22.5	
	comp=Z,47nm,20.1s,baz=160,slow=35								
ILAR	**Eielson Array**	**82.81**	**18**	P	**P**	**19**	**29**	**25.6**	**+0.7**
	comp=Z,1.2nm,1.1s,baz=230,slow=6.0,SNR=2.6								
ILAR					LR	LR	19	59	58.5
	comp=Z,120nm,21.3s,baz=267,slow=31								
NVAR	**Mina Array Bea**	**85.09**	**50**	P	**P**	**19**	**29**	**37.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=231,slow=8.0,SNR=2.2								
NVAR	**Mina Array Bea**	**85.09**	**50**	P	**P**	**19**	**29**	**36.1**	**-1.3**
TXAR	**Lajitas Array**	**94.88**	**61**	LR	LR	20	05	06.7	
	comp=Z,58nm,20.6s,baz=0.0,slow=30								

*IDC **09** 19:20:04.0±0.3, 20.˚22N×120.˚39E, h0km, mb4.7/38, mb1 4.8/40, mb1mx4.7/52, mbtmp4.7/40, ML4.5/2, MS3.9/30, Ms1 3.9/30, ms1mx3.8/51, Error ellipse: s-maj=13.5km s-min=8.5km az=70.0*

*MOS **09** 19:20:05.8±1.0, 20.˚20N×120.˚30E, h22km, mb5.2/42, Error ellipse: s-maj=7.2km s-min=4.0km az=117.0*

*NEIC **09** 19:20:05.7±1.9, 20.˚26N±0.˚04×120.˚20E±0.˚07, h10km±1km, mb5.1/128, Error ellipse: s-maj=12.0km s-min=7.3km az=103.0*

*GCMT **09** 19:20:06.7±0.2, 20.˚35N±0.˚02×120.˚12E±0.˚02, h13km, MW4.9/101, Moment Tensor Solution. s33,c34; s101,c153; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=2.48±.12; $M_{\theta\theta}$=1.02±.07; $M_{\phi\phi}$=1.45±.08; $M_{r\theta}$=1.07±.19; $M_{\theta\phi}$=-1.07±.04; $M_{r\phi}$=1.28±.20; Best double couple: M_o=2.81700×10^16^ NP1:ϕ_s=299.00000°, δ=46.00000°, λ=-126.00000°. NP2:ϕ_s=166.00000°, δ=55.00000°, λ=-59.00000°. Principal axes: T 2.3530, Plg5.0000°, Azm234.0000°; N 0.9180, Plg25.0000°, Azm327.0000°; P -3.2820, Plg64.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MAN **09** 19:20:07.2, 20.˚22N×120.˚36E, h40km, mb5.3, ML4.2, MS4.4*

*BGR **09** 19:20:09.8±0.0, 19.˚91N×120.˚12E, h33km, mb4.6*

*BJI **09** 19:20:09.0±0.0, 20.˚65N×120.˚25E, h10km, mB5.0/53, mb4.6/61, Ms4.6/59, Ms7 4.4/57*

ISC 09 19:20:08.6±1.0, 20.˚23N±0.˚03×120.˚28E±0.˚04, h30km±7km, n543, σ1$41/555, mb5.0/161, MS4.0/37, 23C-25D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BBP	**Basco**	**1.59**	**82**	*eP*	**Pn**	**19**	**20**	**32.8**	**-2.1**
BBP				*eS*	**Sn**	**19**	**20**	**51.5**	**-3.0**
SIPP	**Brgy, Tapao**	**2.30**	**176**	*i P*	**Pn**	**19**	**20**	**43.1**	**-1.5**
SIPP				*eS*	Sb	19	21	29.2	+12
APYP	**Conner**	**2.52**	**159**	*eP*	**Pn**	**19**	**20**	**46.8**	**-0.8**
APYP				*eS*	**Sn**	**19**	**21**	**16.2**	**-1.2**
SGCP	**Mt. Cagua**	**2.59**	**140**	*eP*	**Pn**	**19**	**20**	**47.3**	**-1.2**
SGCP				*eS*	**Sn**	**19**	**21**	**16.9**	**-2.1**
ABRA	**Dolores**	**2.60**	**171**	*eP*	**Pn**	**19**	**20**	**46.9**	**-1.7**
ABRA				*eS*	**Sn**	**19**	**21**	**16.0**	**-3.2**
TWG	**Pinlang**	**2.68**	**16**		**Pn**	**19**	**20**	**48.6**	**-1.3**
TPUB	**Ta-pu**	**3.08**	**6**	Pn	**Pn**	**19**	**20**	**52.6**	**-2.7**
YULB	**Yu-li**	**3.29**	**17**		**Pn**	**19**	**20**	**56.1**	**-2.1**
CAUP	**Cauayan**	**3.58**	**156**	*eP*	**Pn**	**19**	**21**	**03.7**	**+1.6**
CAUP				*eS*	**Sn**	**19**	**21**	**47.6**	**+4.1**
SSLB	**Suanglung**	**3.60**	**10**	Pn	**Pn**	**19**	**21**	**00.2**	**-2.2**
BCP	**Baguio City**	**3.80**	**175**	*i P*	**Pn**	**19**	**21**	**04.5**	**-0.9**
BCP				*i S*	**Sn**	**19**	**21**	**47.7**	**-1.5**
BOLP	**Bolinao**	**3.84**	**185**	*eP*	**Pn**	**19**	**21**	**05.9**	**+0.1**
BOLP				*eS*	Sn	19	21	40.7	-9.3
SMPP	**San Manuel, Pa**	**4.07**	**175**	*eP*	**Pn**	**19**	**21**	**08.3**	**-0.7**
SMPP				*eS*	**Sn**	**19**	**21**	**53.4**	**-2.4**
NACB	**Ninganchiao**	**4.11**	**17**		**Pn**	**19**	**21**	**09.1**	**-0.4**
YHNB	**Yeheng**	**4.54**	**13**	Pn	**Pn**	**19**	**21**	**14.7**	**-0.7**
KNMB	**Chin-men Tao**	**4.56**	**338**		**Pn**	**19**	**21**	**13.2**	**-2.5**
BALP	**Baler**	**4.63**	**164**	*eP*	**Pn**	**19**	**21**	**17.1**	**+0.4**
QZH	**Quanzhou**	**4.95**	**342**	Pn	**Pn**	**19**	**21**	**17.8**	**-3.1**
QZH				Sn	**Sn**	**19**	**22**	**12.5**	**-4.7**
QZH				LR	LR				
	comp=N,2µm,8.6s								
QZH				LR	LR				
	comp=E,4µm,9.3s								
QZH				LR	LR				
	comp=Z,4µm,11.5s								
POLP	**Polilio Island**	**5.69**	**164**	*eP*	**Pn**	**19**	**21**	**31.4**	**+0.1**
HKPS	**Hong Kong Po S**	**6.08**	**291**	Pn	**Pn**	**19**	**21**	**34.1**	**-2.4**
TGY	**Tagaytay City**	**6.12**	**174**	Pn	**Pn**	**19**	**21**	**37.0**	**-0.3**
	22nm,0.3s,baz=59,slow=5.9,SNR=2.1								
TGY				Sn	**Sn**	**19**	**22**	**41.0**	**-5.4**
	14nm,0.3s,baz=310,slow=18,SNR=1.0								
TGY				LR	LR	19	24	14.7	
	comp=Z,1µm,19.2s,baz=300,slow=41								
TGY	**Tagaytay City**	**6.12**	**174**	P	**Pn**	**19**	**21**	**37.0**	**-0.3**
LQP	**Lukban**	**6.20**	**169**	*eP*	**Pn**	**19**	**21**	**37.9**	**-0.5**
BUSP	**Coron**	**8.18**	**181**	*eP*	**Pn**	**19**	**22**	**05.6**	**+0.2**
QIZ	**Qiongzhong**	**9.91**	**265**	P	**Pn**	**19**	**22**	**26.2**	**-2.9**
QIZ				S	**Sn**	**19**	**24**	**17.6**	**-1.8**
QIZ				pmax	pmax				
	comp=Z,17nm,1.5s								
QIZ				LR	LR				
	comp=N,820nm,10.0s								
QIZ				LR	LR				
	comp=E,3µm,10.0

BJI LR LR
comp=Z,550nm,9.2s
BJI LR LR
comp=Z,250nm,12.3s
JWT Wachi 20.06 38 P **P** **19 24 40.3 +0.7**
JWT IAmb IAmb 19 24 47.2
comp=Z,80nm,1.1s
CHTO Chiang Mai 20.16 270 P **P** **19 24 41.4 +0.6**
CHTO pmax pmax
comp=Z,25nm,1.2s
CHTO Chiang Mai 20.16 270 **P** **19 24 41.4 +0.6**
CM31 Chiang Mai Arr 20.21 269 P **P** **19 24 39.2 -2.1**
CMAR Chiang Mai Arr 20.21 269 P Pn 19 24 42.4 -0.9
comp=Z,7.0nm,1.0s,baz=73,slow=9.3,SNR=19
CMAR PcP **PcP** **19 28 56.0 +0.9**
comp=Z,2.8nm,1.1s,baz=50,slow=1.3,SNR=5.5
CMAR LR LR 19 32 24.6
comp=Z,686nm,19.1s,baz=124,slow=36
CMAR Chiang Mai Arr 20.21 269 *i* P Pn 19 24 42.9 -0.5
CMAR pmax pmax
comp=Z,6.0nm,0.8s
TNTI Ternate 20.54 159 P Pn 19 24 53.5 +6.3
TNTI Ternate 20.54 159 P **P** **19 24 45.7 +0.8**
TNTI IAmb IAmb 19 24 54.1
comp=Z,103nm,1.1s
KSM Kuching 21.03 209 **P** **19 24 49.9 -0.3**
KSM Kuching 21.03 209 P **P** **19 24 53.0 +2.8**
INU Inuyama 21.07 41 P **P** **19 24 50.4 -0.1**
INU IAmb IAmb 19 25 00.6
comp=Z,65nm,0.9s
JCJ Chichijima 21.18 67 LR LR 19 30 57.8
comp=Z,886nm,19.2s,baz=222,slow=31
LUWI Luwuk 21.28 173 P **P** **19 24 58.0 +5.2**
comp=Z,242nm,1.2s
LUWI Luwuk 21.28 173 P **P** **19 24 52.5 -0.3**
JGF Kuroka 21.45 41 P **P** **19 24 54.3 -0.3**
JGF IAmb IAmb 19 25 05.6
comp=Z,62nm,1.0s
JHJ Hachijo jima 2 21.60 50 LR LR 19 31 47.6
comp=Z,433nm,20.0s,baz=268,slow=33
MTKI Muara Teweh, K 21.69 195 P **P** **19 24 58.2 +0.9**
HHC Hu-ho-hao-te 21.86 342 *eP* **P** **19 24 58.0 -1.0**
HHC S **S** **19 28 53.0 -6.1**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,310nm,3.9s
HHC LR LR
comp=Z,680nm,9.4s
HHC LR LR
comp=Z,1μm,9.8s
BTO Baotou 22.12 339 *eP* **P** **19 25 03.8 +2.0**
MAJO Matsushiro 22.59 40 P **P** **19 25 05.9 -0.9**
MAJO pmax pmax
comp=Z,42nm,1.0s
MAJO Matsushiro 22.59 40 P **P** **19 25 05.9 -0.9**
MAT Matsushiro 22.59 40 P **P** **19 25 05.1 -1.7**
MAT S **S** **19 29 16.2 +3.6**
MJAR Matsushiro Arr 22.59 40 P **P** **19 25 05.2 -1.5**
comp=Z,12nm,1.0s,baz=224,slow=8.2,SNR=12
MJAR LR LR 19 34 55.4
comp=Z,141nm,18.7s,baz=150,slow=40
MJAR Matsushiro Arr 22.59 40 P **P** **19 25 04.7 -2.1**
SANI Sanana 22.84 165 P **P** **19 25 03.5 -6.0**
SIJI Sorong 23.57 152 P **P** **19 25 15.9 -1.0**
comp=Z,100nm,0.8s,baz=360,slow=7.7,SNR=37
KBKI Kotabaru 23.73 190 P **P** **19 25 22.2 +3.9**
comp=Z,385nmcomp=Z,26nm,0.8s
CN2 Changchun 23.90 9 *eP* **P** **19 25 19.6 -0.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
SPSI Sidrap Palu 24.05 181 P **P** **19 25 24.6 +3.3**
comp=Z,828nmcomp=Z,38nm,1.1s
BBKI Banjar Baru 24.14 193 P **P** **19 25 22.9 +0.7**
comp=Z,68nm,1.2s
KULM Kulim 24.18 235 P **P** **19 25 22.1 -0.5**
KULM IAmb IAmb 19 25 32.5
comp=Z,37nm,0.9s
KULM Kulim 24.18 235 P **P** **19 25 24.0 +1.4**
NLAI Namlea 24.26 163 P **P** **19 25 25.8 +2.5**
comp=Z,88nm,1.3s
MYKOM Kota Tinggi 24.36 223 P **P** **19 25 24.1 -0.1**
MYKOM Kota Tinggi 24.36 223 P **P** **19 25 25.0 +0.7**
GUMO Guam 24.42 102 P **P** **19 25 23.4 -1.4**
comp=Z,133nm,1.2s,baz=336,slow=20,SNR=2.8
GUMO LR LR 19 33 04.3
comp=Z,324nm,21.9s,baz=276,slow=32
IPM Ipoh 24.42 233 P **P** **19 25 24.1 -0.7**
IPM IAmb IAmb 19 25 33.7
comp=Z,44nm,0.8s
IPM Ipoh 24.42 233 P **P** **19 25 25.0 +0.1**
BNSI Bone 24.47 180 P **P** **19 25 27.5 +2.2**
comp=Z,1μmcomp=Z,53nm,0.9s
VLA Vladivostok 24.82 21 *ceP* **P** **19 25 29.9 +1.7**
VLA pmax pmax
comp=Z,34nm,0.9s
MSAI Masohi 24.92 159 P **P** **19 25 32.0 +2.7**
comp=Z,863nmcomp=Z,74nm,1.2s
KAPI Kappang 25.09 181 P **P** **19 25 29.6 -1.2**
comp=Z,14nm,0.8s,baz=7.5,slow=8.4,SNR=9.7
KAPI LR LR 19 36 19.9
comp=Z,194nm,18.7s,baz=16,slow=39
KAPI Kappang 25.09 181 P **P** **19 25 29.7 -1.2**
KAPI pmax pmax
comp=Z,43nm,1.0s
KAPI Kappang 25.09 181 P **P** **19 25 29.7 -1.2**
KAPI IAmb IAmb 19 25 36.2
comp=Z,43nm,1.0s
BKSI Bulukumba 25.39 180 P **P** **19 25 37.2 +3.6**
comp=Z,28nm,0.8s
USRK Ussuriysk Ar. 25.82 20 P **P** **19 25 37.1 -0.1**
comp=Z,5.8nm,0.9s,baz=198,slow=9.0,SNR=5.5
USRK LR LR 19 36 12.3
comp=Z,292nm,19.9s,baz=193,slow=38
USRK Ussuriysk Ar. 25.82 20 P **P** **19 25 37.9 +0.6**
GTA Gaotai 25.98 322 ǁ P **P** **19 25 39.3 +0.3**
GTA pP pP 19 25 44.5 -1.9
GTA sP sP 19 25 47.3 -2.2
GTA S **S** **19 30 14.3 +6.4**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,170nm,5.0s
GTA LR LR
comp=Z,470nm,9.8s
GTA LR LR
comp=Z,640nm,12.0s
PPBI Pangkal Pinang 26.22 214 P **P** **19 25 47.5 +6.4**
SHL Shillong 26.66 287 P **P** **19 25 45.1 -0.2**
SHL pmax pmax
comp=Z,15nm,1.0s
SHL Shillong 26.66 287 P **P** **19 25 45.1 -0.2**
SRPI Serui, Papua 26.97 143 P **P** **19 25 48.5 +0.6**
comp=Z,97nm,1.3s
PSI Prapat 27.09 233 P **P** **19 25 49.2 0.0**
comp=Z,35nm,1.0s,baz=359,slow=5.0,SNR=12
PSI LR LR 19 36 27.8
comp=Z,281nm,18.0s,baz=89,slow=36
RPSI Rantau Prapat 27.16 233 P **P** **19 25 49.6 0.0**
RPSI IAmb IAmb 19 25 58.6
comp=Z,46nm,1.0s
RPSI Rantau Prapat 27.16 233 P **P** **19 25 49.2 -0.5**
LSA Lhasa 27.98 295 P **P** **19 25 58.9 +1.5**
LSA pmax pmax
comp=Z,43nm,0.8s
MNSI Mandailing Nat 27.98 229 P **P** **19 25 57.0 0.0**
comp=Z,93nm,1.0s
SDSI Sungai Dareh 27.99 224 P **P** **19 26 02.8 +5.8**
MLSI Meulaboh, Aceh 28.14 239 P **P** **19 26 01.7 +3.3**
comp=Z,60nm,0.7s
EDFI Ende, Flores 28.83 177 P **P** **19 26 04.7 +0.1**
comp=Z,354nmcomp=Z,19nm,1.5s
TWSI Taliwang, Sumb 28.98 187 P P 19 26 14.2 +8.4
GSI Gunungsitoli 29.09 233 P **P** **19 26 07.0 +0.1**
comp=Z,38nm,0.7s
GSI Gunungsitoli 29.09 233 P **P** **19 26 05.0 -1.9**
GSI IAmb IAmb 19 26 10.2
comp=Z,25nm,0.8s
ULN Ulaanbaatar 29.58 342 P **P** **19 26 10.8 -0.3**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 29.58 342 P **P** **19 26 10.8 -0.3**
ULN IAmb IAmb 19 26 20.4
comp=Z,26nm,0.9s
LEM Lembang 29.63 206 LR LR 19 37 30.0
comp=Z,126nm,20.6s,baz=34,slow=35

SONM Songino Array 29.75 341 P **P** **19 26 13.0 +0.4**
comp=Z,17nm,1.0s,baz=162,slow=9.0,SNR=23
SONM LR LR 19 40 31.4
comp=Z,330nm,18.1s,baz=153,slow=41
SONM Songino Array 29.75 341 P **P** **19 26 13.0 +0.4**
SONM Songino Array 29.75 341 P **P** **19 26 12.6 +0.1**
SOEI Soe 30.05 172 P P 19 26 21.5 +6.0
SOEI Soe 30.05 172 P **P** **19 26 16.1 +0.7**
SOEI IAmb IAmb 19 26 25.1
comp=Z,24nm,1.0s
ASAJ Asahikawa 30.21 33 P **P** **19 26 16.1 -0.5**
comp=Z,14nm,1.1s,baz=92,slow=31,SNR=1.8
ASAJ LR LR 19 38 26.2
comp=Z,238nm,19.8s,baz=90,slow=36
JKA Kamikawa-asahi 30.22 33 P **P** **19 26 16.1 -0.5**
JKA Kamikawa-asahi 30.22 33 IAmb IAmb 19 26 36.2
comp=Z,41nm,1.3s
BATI Baumata 30.43 173 P **P** **19 26 18.2 -0.4**
comp=Z,29nm,0.7s,baz=72,slow=0.3,SNR=11
BATI LR LR 19 39 17.0
comp=Z,147nm,20.6s,baz=320,slow=38
BATI Baumata 30.43 173 P **P** **19 26 20.9 +2.2**
comp=Z,29nm,1.2s
YSS Yuzh-Sakhalins 32.35 29 ǁ *eP* **P** **19 26 36.7 +1.4**
YSS pmax pmax
comp=Z,39nm,1.6s
ZAK Zakamensk 32.97 340 *eP* **P** **19 26 40.3 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
KUR Kuril'sk 33.77 36 ǁ *eP* **P** **19 26 47.7 0.0**
ZEA Zeya 33.88 7 *eP* **P** **19 26 48.9 +0.3**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,400nm,13.0s
TLY Talaya 33.99 341 P **P** **19 26 50.0 +0.4**
comp=Z,8.2nm,0.8s,baz=206,slow=5.2,SNR=3.6
TLY Talaya 33.99 341 *deP* **P** **19 26 49.9 +0.3**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 33.99 341 P **P** **19 26 49.4 -0.2**
TLY IAmb IAmb 19 26 59.1
comp=Z,21nm,1.0s
MTN Manton Dam 34.55 161 P **P** **19 26 53.5 -1.3**
MTN IAmb IAmb 19 26 56.9
comp=Z,23nm,1.1s
MOY Mondy 34.82 339 *eP* **P** **19 26 57.4 +0.5**
MOY pmax pmax
comp=Z,35nm,1.8s
WMQ Urumqi 35.91 318 *eP* **P** **19 27 08.8 +2.4**
WMQ sP sP 19 27 15.6 -1.4
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,67nm,3.9s
WMQ LR LR
comp=Z,310nm,12.9s
WMQ LR LR
comp=Z,99nm,15.9s
FITZ Fitzroy Crossi 38.45 172 P **P** **19 27 26.7 -1.3**
DGZ Jazzator, Alta 39.32 326 ǁ *eP* **P** **19 27 35.9 +0.7**
DGZ pmax pmax
comp=Z,16nm,1.0s
HYB Hyderabad 39.52 273 *i* P **P** **19 27 38.0 +0.8**
KRVT Keravat (AS076 39.58 125 P **P** **19 27 36.3 -1.3**
comp=Z,20nm,0.7s,baz=196,slow=20,SNR=5.0
PMG Port Moresby 39.58 136 P **P** **19 27 37.0 -0.6**
comp=Z,13nm,1.0s,baz=345,slow=7.7,SNR=3.2
PMG Port Moresby 39.58 136 P **P** **19 27 37.0 -0.6**
PMG Port Moresby 39.58 136 P **P** **19 27 33.6 -4.0**
MK31 Makanchi Array 40.69 320 *i* P **P** **19 27 47.3 +0.8**
MK31 Makanchi Array 40.69 320 P **P** **19 27 47.1 +0.6**
MKAR Makanchi Array 40.69 320 P **P** **19 27 47.4 +0.9**
comp=Z,6.5nm,0.7s,baz=115,slow=10,SNR=26
MKAR PcP **PcP** **19 29 47.8 +0.1**
comp=Z,2.8nm,0.8s,baz=104,slow=5.1,SNR=3.6
MKAR LR LR 19 46 37.1
comp=Z,82nm,18.7s,baz=123,slow=39
MKAR Makanchi Array 40.69 320 P **P** **19 27 46.5 0.0**
MKAR **PcP** **19 29 47.5 -0.3**
COEN Coen 40.76 145 P **P** **19 27 46.4 -0.9**
BHK Bhakra 40.79 295 *ex* **P** **19 27 49.0 +1.5**
MAKZ Makanchi 40.89 319 P **P** **19 27 47.8 -0.3**
MAKZ Makanchi 40.89 319 P **P** **19 27 49.0 +0.9**
PDGK Podgornoye 41.08 313 *i* P **P** **19 27 50.0 +0.2**
PDGK pmax pmax
comp=Z,23nm,1.4s
UZB Uzynbulak 41.33 313 *eP* **P** **19 27 51.7 -0.3**
UZB Uzynbulak 41.33 313 *eP* **P** **19 27 51.6 -0.3**
KPKS Kokpek 41.67 313 *eP* **P** **19 27 54.2 -0.5**
KPKS Kokpek 41.67 313 *eP* **P** **19 27 54.2 -0.5**
SATY Saty 41.73 313 *eP* **P** **19 27 53.3 -1.9**
SATY Saty 41.73 313 *eP* **P** **19 27 53.3 -1.9**
WB0 Warramunga Arr 42.08 160 P **P** **19 27 56.8 -1.3**
WRAB Tennant Creek 42.23 160 *d* P **P** **19 27 58.4 -0.9**
WRAB pmax pmax
comp=Z,53nm,1.7s
WRA Warramunga Arr 42.23 160 P **P** **19 27 58.2 -1.1**
comp=Z,12nm,0.7s,baz=342,slow=9.1,SNR=50
WRA PcP **PcP** **19 29 53.2 +0.2**
comp=Z,6.2nm,0.8s,baz=343,slow=3.6,SNR=7.3
WRA Warramunga Arr 42.23 160 P **P** **19 27 57.8 -1.5**
WRA **PcP** **19 29 52.9 -0.2**
WB2 Warramunga Arr 42.23 160 P **P** **19 27 58.4 -0.9**
WB2 IAmb IAmb 19 27 59.6
comp=Z,56nm,1.4s
YAK Yakutsk 42.28 7 P **P** **19 27 59.0 -0.2**
comp=Z,5.3nm,0.5s,baz=253,slow=1.1,SNR=7.6
YAK LR LR 19 46 31.4
comp=Z,177nm,21.6s,baz=196,slow=38
YAK Yakutsk 42.28 7 *eP* **P** **19 27 59.8 +0.6**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK Yakutsk 42.28 7 P **P** **19 27 59.7 +0.5**
YAK IAmb IAmb 19 28 15.3
comp=Z,24nm,0.8s
WR0 Warramunga Arr 42.31 160 P **P** **19 27 58.7 -1.3**
KSH Kashi 42.47 307 P **P** **19 28 04.7 +3.4**
KSH pP pP 19 28 08.0 -0.9
KSH S **S** **19 34 25.7 +4.2**
KSH pmax pmax
comp=Z,220nm,5.3s
KSH LR LR
comp=Z,190nm,4.6s
KSH LR LR
comp=Z,110nm,4.3s
MDOK Medeo 42.70 312 *eP* **P** **19 28 03.2 +0.1**
MDOK Medeo 42.70 312 *eP* **P** **19 28 03.2 +0.1**
TNSS Tian-Shan 42.73 312 *eP* **P** **19 28 04.9 +1.2**
TNSS Tian-Shan 42.73 312 *eP* **P** **19 28 04.8 +1.1**
ZAA0 Zalesovo Array 43.17 330 P **P** **19 28 06.1 -0.4**
ZALV Zalesovo Beam 43.17 330 P **P** **19 28 06.8 +0.2**
comp=Z,16nm,0.8s,baz=115,slow=7.0,SNR=40
ZALV LR LR 19 46 21.0
comp=Z,118nm,19.7s,baz=114,slow=36
ZALV Zalesovo Beam 43.17 330 P **P** **19 28 06.1 -0.4**
KUU Kurty 43.42 313 *eP* **P** **19 28 09.0 +0.2**
KUU Kurty 43.42 313 *eP* **P** **19 28 09.0 +0.2**
PETK Petropavlovsk- 43.63 32 P **P** **19 28 09.6 -0.7**
comp=Z,3.4nm,0.7s,baz=186,slow=4.0,SNR=3.9
PETK LR LR 19 45 21.4
comp=Z,164nm,19.7s,baz=226,slow=35
NIL Nilore 43.65 298 P **P** **19 28 10.6 -0.2**
NIL pmax pmax
comp=Z,36nm,1.0s
NIL Nilore 43.65 298 P **P** **19 28 10.6 -0.2**
NIL IAmb IAmb 19 28 15.1
comp=Z,36nm,0.9s
H11N1 WAKE ISLAND Hy 43.70 82 T T 20 14 57.2
baz=278,slow=79
H11N2 WAKE ISLAND Hy 43.70 82 T T 20 15 02.6
baz=278,slow=79
H11S3 WAKE ISLAND Hy 43.71 84 T T 20 15 04.8
baz=281,slow=74,SNR=13
H11N3 WAKE ISLAND Hy 43.72 82 T T 20 15 02.4
baz=278,slow=79
H11S1 WAKE ISLAND Hy 43.72 84 T T 20 15 05.0
baz=281,slow=74,SNR=11
H11S2 WAKE ISLAND Hy 43.73 84 T T 20 15 05.2
baz=281,slow=74,SNR=12
PET Petropavlovsk 44.06 33 ǁ *eP* **P** **19 28 16.1 +2.4**

PET pmax pmax
comp=Z,242nm,1.4s
AAK Ala-Archa 44.34 311 *deP* **P** **19 28 17.6 +1.2**
AAK pmax pmax
comp=Z,23nm,1.3s
SGDS Sogindy 44.47 312 *eP* **P** **19 28 16.8 -0.6**
SGDS Sogindy 44.47 312 *eP* **P** **19 28 16.7 -0.6**
KURK Kurchatov 44.66 323 *d* iP **P** **19 28 19.3 +0.8**
KURK pmax pmax
comp=Z,50nm,1.7s
KURK Kurchatov 44.66 323 P **P** **19 28 18.6 +0.1**
KURK IAmb IAmb 19 28 20.5
comp=Z,28nm,1.1s
KURBB Kurchatov Arra 44.66 323 P **P** **19 28 19.4 +0.8**
comp=Z,23nm,0.9s,baz=124,slow=7.5,SNR=62
KURBB PcP **PcP** **19 30 00.5 -0.4**
comp=Z,1.6nm,0.8s,baz=102,slow=3.9,SNR=1.8
KURBB Kurchatov Arra 44.66 323 P **P** **19 28 18.7 +0.1**
BTLS Baital 45.34 314 *eP* **P** **19 28 24.5 +0.4**
BTLS Baital 45.34 314 *eP* **P** **19 28 24.5 +0.4**
AS31 Alice Springs 45.60 162 P **P** **19 28 25.8 -0.6**
ASAR Alice Springs 45.60 162 P **P** **19 28 26.1 -0.3**
comp=Z,12nm,0.7s,baz=346,slow=7.1,SNR=130
ASAR PcP **PcP** **19 30 03.6 -0.9**
comp=Z,2.9nm,0.9s,baz=329,slow=3.4,SNR=2.5
ASAR Alice Springs 45.60 162 P **P** **19 28 25.1 -1.3**
BTK Batken 46.47 306 P **P** **19 28 33.7 +0.5**
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 46.47 306 P **P** **19 28 33.7 +0.5**
BTK IAmb IAmb 19 28 43.4
comp=Z,16nm,1.1s
GAR Garm 46.67 305 P **P** **19 28 35.3 +0.5**
KBL Kabul 47.21 299 P **P** **19 28 39.7 +0.5**
KBL pmax pmax
comp=Z,22nm,1.2s
KBL Kabul 47.21 299 P **P** **19 28 39.7 +0.5**
KBL IAmb IAmb 19 28 44.7
comp=Z,22nm,1.1s
KK31 Karatay Array 47.29 310 P **P** **19 28 39.9 +0.4**
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 47.29 310 P **P** **19 28 39.9 +0.4**
KK31 IAmb IAmb 19 28 43.4
comp=Z,12nm,0.9s
KKAR Karatay Array 47.29 310 P **P** **19 28 40.3 +0.8**
KKAR pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 47.29 310 P **P** **19 28 40.3 +0.8**
KKAR IAmb IAmb 19 28 43.4
comp=Z,12nm,0.9s
IUG luzhnay 47.44 309 *eP* **P** **19 28 42.3 +1.5**
IUG luzhnay 47.44 309 *eP* **P** **19 28 42.3 +1.5**
CTA Charters Tower 47.46 146 P **P** **19 28 40.5 -0.4**
comp=Z,27nm,1.0s,baz=326,slow=12,SNR=14
CTAO Charters Tower 47.46 146 P **P** **19 28 41.8 +0.8**
CTAO pmax pmax
comp=Z,37nm,1.1s
CTAO Charters Tower 47.46 146 P **P** **19 28 41.8 +0.8**
CHGR Chuyangaron 47.52 304 P **P** **19 28 41.9 +0.5**
BRZS Berezniki 47.84 320 *eP* **P** **19 28 44.2 +0.6**
BRZS Berezniki 47.84 320 *eP* **P** **19 28 44.2 +0.6**
SEY Seymchan 47.97 19 P **P** **19 28 44.1 -0.3**
comp=Z,2.3nm,0.7s,baz=308,slow=23,SNR=2.0
SEY PcP **PcP** **19 30 12.2 0.0**
comp=Z,1.3nm,0.3s,baz=91,slow=23,SNR=4.9
MORW Morawa 49.18 185 P **P** **19 28 52.9 -1.2**
MORW IAmb IAmb 19 29 02.3
comp=Z,15nm,0.8s
BRVK Borovoye 50.33 323 *d* iP **P** **19 29 03.4 +0.8**
BRVK pmax pmax
comp=Z,20nm,1.1s
BRVK Borovoye 50.33 323 P **P** **19 29 03.3 +0.7**
BRVK IAmb IAmb 19 29 04.7
comp=Z,17nm,0.9s
TIXI Tiksi 51.67 3 ǁ *eP* **P** **19 29 15.2 +2.8**
TIXI pmax pmax
comp=Z,34nm,1.0s
TIXI Tiksi 51.67 3 P **P** **19 29 13.7 +1.2**
HRA Herat 52.82 298 P **P** **19 29 22.2 +0.4**
NRIK Noril'sk 53.01 346 P **P** **19 29 22.4 +0.1**
comp=Z,16nm,1.0s,baz=140,slow=7.0,SNR=12
NRIK LR LR 19 55 52.7
comp=Z,119nm,20.3s,baz=195,slow=40
NRIK Noril'sk 53.01 346 *ceP* **P** **19 29 22.5 +0.1**
NRIK pmax pmax
comp=Z,13nm,0.8s
BBOO Buckleboo 54.85 164 P **P** **19 29 36.3 0.0**
AB31 Akbulak array 55.66 316 P **P** **19 29 42.2 +0.2**
ABKAR Akbulak array 55.66 316 P **P** **19 29 42.5 +0.6**
BILL Bilibino 55.68 19 *i* P **P** **19 29 39.7 -2.1**
BILL *i* 19 29 47.8
BILL *i* 19 31 48.6
BILL pmax pmax
comp=Z,27nm,1.0s
BILL MLR MLR
comp=Z,290nm,19.0s
STKA Stephens Creek 55.69 158 P **P** **19 29 42.4 +0.1**
comp=Z,9.9nm,0.8s,baz=329,slow=6.7,SNR=16
STKA Stephens Creek 55.69 158 P **P** **19 29 42.1 -0.2**
GEYT Alibeck 56.14 303 P **P** **19 29 47.2 +1.5**
comp=Z,8.3nm,1.0s,baz=132,slow=4.4,SNR=14
GEYT LR LR 19 57 17.8
comp=Z,134nm,18.9s,baz=140,slow=40
GEYT Alibeck 56.14 303 P **P** **19 29 45.4 -0.3**
GYA0B ALIBECK ARRAY 56.14 303 P **P** **19 29 46.5 +0.8**
GYA0B IAmb IAmb 19 29 57.1
comp=Z,37nm,1.4s
SVE Sverdlovsk 56.77 325 *eP* **P** **19 29 50.5 +0.7**
SVE pmax pmax
comp=Z,38nm,1.3s
ARU Arti 57.79 325 *c* iP **P** **19 29 57.1 +0.1**
ARU 19 30 51.2
ARU 19 32 02.4
ARU S **S** **19 37 54.8 +0.6**
ARU SS **SS** **19 41 44.4 -0.4**
ARU pmax pmax
comp=Z,13nm,0.7s
ARU Arti 57.79 325 P **P** **19 29 57.1 +0.1**
ARU IAmb IAmb 19 30 07.1
comp=Z,18nm,0.7s
ARMA Armidale 58.69 148 P **P** **19 30 03.9 +0.2**
ARMA IAmb IAmb 19 30 09.2
comp=Z,16nm,1.0s
CAN Canberra 61.60 153 P **P** **19 30 22.2 -1.3**
DZM Mont Dzumac 61.65 131 *e* LR LR 19 48 44.0
comp=Z,124nm,24.1s
TOO Toolangi 62.20 158 P **P** **19 30 27.9 +0.4**
TOO pmax pmax
comp=Z,23nm,0.8s
TOO Toolangi 62.20 158 P **P** **19 30 27.9 +0.4**
KIRV Kirov 63.00 326 *ceP* **P** **19 30 32.9 +0.4**
BELG Belogornoye 63.69 319 *ceP* **P** **19 30 37.5 +0.3**
SOCY Socotra 63.81 274 P **P** **19 30 37.7 -1.1**
MAK Makhachkala 64.05 309 *eP* **P** **19 30 35.3 -4.5**
MAK *e* 19 32 56.0
MAK *e* S **S** **19 39 08.4 -6.0**
MAK *e* SS **SS** **19 43 18.9 -4.4**
MAK MLR MLR
comp=Z,97nm,12.0s
PRGR Permogore 65.12 329 *eP* **P** **19 30 45.3 -1.1**
PRGR pmax pmax
comp=Z,16nm,1.0s
RDOG Red Dog Mine 66.48 24 P **P** **19 30 56.2 +1.1**
RDOG IAmb IAmb 19 31 00.8
comp=Z,25nm,1.2s
ZEI Tsey 66.71 309 *eP* **P** **19 30 55.3 -2.0**
ZEI pmax pmax
comp=Z,16nm,1.4s
ONI Oni 67.06 309 P **P** **19 31 02.2 +2.9**
AKH Akhalkalaki 67.17 307 P **P** **19 31 00.8 +0.6**
AKH pmax pmax
comp=Z,23nm,1.2s
AKH Akhalkalaki 67.17 307 P **P** **19 31 00.8 +0.6**
AKH IAmb IAmb 19 31 12.1
comp=Z,22nm,1.2s
KBZ Khabaz 67.33 310 P **P** **19 31 01.8 +0.9**
comp=Z,8.9nm,0.9s,baz=116,slow=3.1,SNR=13
KBZ LR LR 20 03 26.0
comp=Z,86nm,19.2s,baz=64,slow=39
KBZ Khabaz 67.33 310 *deP* **P** **19 31 01.8 +0.9**
KBZ pmax pmax
comp=Z,11nm,0.9s
VRH Novokhopyorsk 67.40 318 *eP* **P** **19 31 00.2 -1.0**

VRH pmax pmax
comp=Z,20nm,0.8s
KIV Kislovodsk 67.45 310 *e*P **P 19 31 02.8 +1.0**
KIV pmax pmax
comp=Z,100nm,1.1s
KIV Kislovodsk 67.45 310 P **P 19 31 02.9 +1.0**
GEVA Gevas 67.94 304 P **P 19 31 05.9 +0.8**
GEVA IAmb IAmb 19 31 07.5
comp=Z,14nm,0.9s
KLMR Klimovskoe 68.07 329 *e*P **P 19 31 02.9 -2.3**
KLMR pmax pmax
comp=Z,37nm,1.2s
KLMR Klimovskoe 68.07 329 *e*P **P 19 31 03.0 -2.3**
KLMR AMP 19 31 06.1
comp=Z,37nm,1.2s
MSVF Nonsavu 68.08 120⇑ *e*P **P 19 31 07.9 +1.9**
MSVF pmax pmax
comp=Z,42nm,1.1s
MSVF Nonsavu 68.08 120 P **P 19 31 08.0 +1.9**
ARTV Artvin 68.37 307 P **P 19 31 09.3 +1.5**
ARTV IAmb IAmb 19 31 19.1
comp=Z,13nm,1.3s
LPSR Galich'ya Gora 68.99 320 *e*P **P 19 31 10.6 -0.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 69.00 318 *e*P **P 19 31 09.6 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
TTA Tatalina 69.35 29 P **P 19 31 14.2 +0.9**
TTA pmax pmax
comp=Z,22nm,0.7s
TTA Tatalina 69.35 29 P **P 19 31 14.2 +0.9**
MOS Moscow 69.43 323 *e*P **P 19 31 12.7 -1.1**
MOS pmax pmax
comp=Z,41nm,1.1s
SOC Sochi 69.63 310 *e*P **P 19 31 15.1 -0.2**
SOC *e* 19 33 50.8
SOC *e*PPP PPP 19 35 27.6
SOC *e*S **S 19 40 25.2 +3.3**
SOC *e*SS **SS 19 44 53.7 +3.9**
SOC MLR MLR
comp=Z,124nm,15.0s
MARD Mardin 69.89 303 P **P 19 31 18.2 +1.0**
MARD IAmb IAmb 19 31 19.4
comp=Z,20nm,0.9s
OBN Obninsk 70.10 323 P **P 19 31 18.1 +0.2**
comp=Z,1.7nm,0.3s,baz=111,slow=4.9,SNR=5.6
OBN Obninsk 70.10 323 *ce*P **P 19 31 18.1 +0.2**
OBN *i* 19 31 26.5
OBN *e* 19 31 38.2
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,66nm,17.0s
OBN Obninsk 70.10 323 P **P 19 31 17.4 -0.5**
APA Apatity 70.30 336⇓ *i*P **P 19 31 17.2 -1.8**
APA pmax pmax
comp=Z,13nm,0.9s
COLD Coldfoot 71.36 24 P **P 19 31 25.7 +0.2**
baz=278
TOLK Toolik Lake Re 71.40 23 P **P 19 31 25.4 -0.3**
baz=278
TOLK Toolik Lake Re 71.40 23 P **P 19 31 26.5 +0.8**
MLY Manley 71.44 27 P **P 19 31 26.4 +0.3**
baz=278
BPAW Bear Paw Mtn. 71.46 28 P **P 19 31 25.8 -0.4**
SKT Skwentna 71.52 30 P **P 19 31 25.6 -1.0**
SKT IAmb IAmb 19 31 35.2
comp=Z,18nm,1.0s
KDAK Kodiak Island 71.62 34 P **P 19 31 27.6 +0.5**
comp=Z,14nm,0.8s,baz=148,slow=21,SNR=2.2
KDAK Kodiak Island 71.62 34 IAmb IAmb 19 31 36.0
comp=Z,139nm,1.4s
TRF Thorofare Moun 71.87 28 P **P 19 31 28.9 +0.1**
TRF IAmb IAmb 19 31 39.0
comp=Z,19nm,1.0s
CUT Chulitna 72.04 29 P **P 19 31 29.5 -0.1**
baz=279
NEA2 Nenana 72.21 27 P **P 19 31 31.4 +0.7**
baz=280
MCK McKinley 72.42 28 P **P 19 31 32.2 +0.3**
baz=280
MDM Murphy Dome 72.50 26 P **P 19 31 33.2 +0.9**
RND Reindeer 72.51 28 P **P 19 31 32.6 +0.1**
RND pmax pmax
comp=Z,55nm,0.8s
RND Reindeer 72.51 28 P **P 19 31 32.6 +0.1**
WRH Wood River Hil 72.65 27 P **P 19 31 34.0 +0.8**
GAZ Gaziantep 72.70 304 P **P 19 31 35.5 +1.3**
GAZ IAmb IAmb 19 31 44.5
comp=Z,21nm,1.2s
PMR Palmer 72.71 30 P **P 19 31 33.5 -0.1**
PMR pmax pmax
comp=Z,24nm,0.9s
PMR Palmer 72.71 30 P **P 19 31 33.5 -0.1**
PMR IAmb IAmb 19 31 51.9
comp=Z,24nm,0.9s
CCB Clear Creek Bu 72.74 27 P **P 19 31 33.5 -0.2**
KVT Kavak 72.76 308 P **P 19 31 38.3 +3.9**
GHO Glory Hole Cre 72.77 30 P **P 19 31 34.0 -0.1**
POKR Poker Plat Res 72.81 26 P **P 19 31 34.4 +0.2**
baz=281
ARCES ARCESS Array B 72.89 338 P **P 19 31 34.6 0.0**
comp=Z,6.2nm,1.0s,baz=46,slow=6.4,SNR=4.6
ARCES LR LR 20 07 55.2
comp=Z,60nm,20.5s,baz=40,slow=39
SML Sawmill 73.04 30 P **P 19 31 36.0 +0.4**
KNK Knik Glacier 73.06 30 P **P 19 31 35.7 0.0**
IL31 73.10 27 P **P 19 31 34.9 -1.0**
ILAR Eielson Array 73.10 27 P **P 19 31 35.4 -0.5**
comp=Z,4.1nm,0.8s,baz=162,slow=5.2,SNR=25
ILAR Eielson Array 73.10 27 P **P 19 31 34.3 -1.6**
HDA Harding Lake 73.15 27 P **P 19 31 35.7 -0.5**
baz=282
HDA Harding Lake 73.15 27 P **P 19 31 35.7 -0.5**
HDA IAmb IAmb 19 31 44.4
comp=Z,14nm,0.9s
DHY Denali Highway 73.23 28 P **P 19 31 36.4 -0.5**
DHY IAmb IAmb 19 31 46.5
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 73.50 30 P **P 19 31 38.8 +0.4**
SCM pmax pmax
comp=Z,30nm,0.9s
SCM Sheep Creek Mo 73.50 30 P **P 19 31 38.8 +0.4**
M24K Tolsona, Glenn 73.98 29 P **P 19 31 41.4 +0.3**
baz=283
M24K Tolsona, Glenn 73.98 29 P **P 19 31 42.3 +1.1**
KLU Klutina 74.23 30 P **P 19 31 43.2 +0.5**
KLU IAmb IAmb 19 31 51.5
comp=Z,24nm,1.0s
FINES FINESS Array B 74.43 330 P **P 19 31 43.7 0.0**
comp=Z,7.1nm,0.9s,baz=114,slow=8.5,SNR=10
FINES FINESS Array B 74.43 330 *i*P **P 19 31 44.0 +0.3**
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 74.43 330 P **P 19 31 43.2 -0.5**
SCRK Sand Creek 74.51 27 P **P 19 31 44.3 0.0**
baz=284
VSU Vasula 74.82 327 *e*P **P 19 31 46.6 +0.6**
VSU Vasula 74.82 327⇑ *i*P **P 19 31 45.8 -0.2**
VSU pmax pmax
comp=Z,129nm,1.3s
N25K Chitina, Valde 74.82 30 P **P 19 31 46.9 +0.8**
baz=284
BR131 Keskin Array S 74.86 307⇑ *i*P **P 19 31 47.2 +0.4**
BRTR Keskin Array B 74.86 307 P **P 19 31 47.6 +0.8**
comp=Z,3.0nm,0.9s,baz=115,slow=5.9,SNR=8.3
BRTR Keskin Array B 74.86 307 P **P 19 31 46.5 -0.3**
MENT Mentasta 74.89 28 P **P 19 31 47.0 +0.6**
MENT IAmb IAmb 19 31 56.1
comp=Z,15nm,0.8s
GLB Gilahina Butte 75.23 30 P **P 19 31 49.1 +0.7**
GLB IAmb IAmb 19 31 51.4
comp=Z,28nm,1.1s
AKASG Malin Array Be 75.27 319 P **P 19 31 48.7 -0.1**
comp=Z,2.7nm,0.7s,baz=62,slow=5.8,SNR=12
AKASG Malin Array Be 75.27 319 *i*P **P 19 31 48.7 -0.1**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 75.27 319 P **P 19 31 48.5 -0.3**
AKBB Malin Array Si 75.27 319⇑ *e*P **P 19 31 48.8 0.0**
KIEV Kiev 75.28 319 P **P 19 31 47.0 -1.8**
K27K Chicken 75.31 27 P **P 19 31 49.7 +0.9**
baz=286
VRDI Verde Repeater 75.45 30 P **P 19 31 49.3 -0.6**

VRDI IAmb IAmb 19 31 52.1
comp=Z,36nm,1.4s
EGAK Eagle 75.48 26 P **P 19 31 50.1 +0.3**
EGAK IAmb IAmb 19 31 58.9
comp=Z,18nm,0.8s
IDID Didziasalis 75.59 324 *e*P **P 19 31 51.2 +0.7**
MCARA McCarthy VSAT 75.61 30 P **P 19 31 50.6 +0.1**
MCARA IAmb IAmb 19 32 00.3
comp=Z,27nm,1.1s
NACGM Naroch 75.67 323 *e* **P 19 31 50.0 -1.0**
CRQM Cirque 75.73 30 P **P 19 31 52.0 +0.5**
IZAR Zarasai 75.75 324 *e*P **P 19 31 52.0 +0.6**
ISAL Salakas 75.86 324 *e*P **P 19 31 52.8 +0.7**
IIGN Ignalina 75.87 324 *e*P **P 19 31 52.5 +0.4**
BALM Baldy 76.02 30 P **P 19 31 53.4 +0.3**
BALM pmax pmax
comp=Z,21nm,1.2s
BALM Baldy 76.02 30 P **P 19 31 53.4 +0.3**
BALM IAmb IAmb 19 31 57.2
comp=Z,21nm,1.2s
NOR Nord 76.17 354 *i*P **P 19 31 53.9 +0.5**
NOR pmax pmax
comp=Z,7.0nm,1.2s
NOR Nord 76.17 354 *i*P **P 19 31 53.9 +0.5**
comp=Z,7.0nm,1.2s
NOR Nord 76.17 354 *i*P **P 19 31 53.9 +0.5**
NOR IAmb IAmb 19 31 57.0
comp=Z,7.0nm,1.2s
CSS Mathiatis 76.28 302 P **P 19 31 55.6 +0.6**
CSS IAmb IAmb 19 31 56.6
comp=Z,16nm,0.9s
SORM Soroca 76.47 316⇑ P **P 19 31 55.6 -0.1**
SORM Soroca 76.47 316 P **P 19 31 55.5 -0.1**
CTGM Chitina Glacie 76.51 30 P **P 19 31 56.2 +0.3**
PABE Paberze 77.06 325 *e*P **P 19 31 58.7 -0.1**
CFR Carcaliu 77.40 314⇑ P **P 19 32 01.5 +0.5**
CFR Carcaliu 77.40 314 P **P 19 32 01.5 +0.5**
HORU Horodok 77.40 318 P **P 19 32 00.7 -0.2**
KMPD K-Podol'skiy 77.56 317 P **P 19 32 01.0 -0.8**
HARR Harsova 77.68 313⇓ P **P 19 32 04.0 +1.4**
HARR Harsova 77.68 313 P **P 19 32 03.9 +1.4**
SUW Suwalki 77.94 323 *e*P **P 19 32 04.2 +0.4**
SUW Suwalki 77.94 323 *e*P **P 19 32 04.2 +0.4**
SUW Suwalki 77.94 323 P **P 19 32 03.8 0.0**
PBUR Paburge 78.00 325 *e*P **P 19 32 03.2 -0.9**
VRI Vrincioaia 78.16 315⇑ P **P 19 32 06.5 +1.3**
VRI Vrincioaia 78.16 315 P **P 19 32 06.5 +1.3**
PLOR Plostina 78.21 315⇓ P **P 19 32 06.4 +0.8**
PLOR Plostina 78.21 315 P **P 19 32 06.4 +0.8**
HYT Haines Junctio 78.33 29 P **P 19 32 07.3 +1.3**
HYT IAmb IAmb 19 32 16.3
comp=Z,20nm,1.0s
ELL Elmali 78.47 305 P **P 19 32 07.4 +0.1**
ELL pmax pmax
comp=Z,160nm,1.4s
ELL Elmali 78.47 305 P **P 19 32 07.4 +0.1**
KSV Kosov 78.52 317 P **P 19 32 06.0 -1.2**
NEHR Nehoiu 78.58 314⇑ P **P 19 32 08.7 +1.2**
BURAR Bucovina Array 78.64 317 P **P 19 32 07.0 -1.0**
BURAR Bucovina Array 78.64 317 P **P 19 32 08.0 0.0**
BUR08 Bucovina Ar. S 78.64 317 P **P 19 32 07.1 -0.8**
OZUR 78.72 315⇓ P **P 19 32 09.3 +1.0**
MLR Muntele Rosu 78.79 314⇑ P **P 19 32 10.0 +1.1**
MLR Muntele Rosu 78.79 314 P **P 19 32 08.8 -0.1**
MLR pmax pmax
comp=Z,29nm,1.4s
MLR Muntele Rosu 78.79 314 P **P 19 32 08.8 -0.1**
MLR IAmb IAmb 19 32 25.4
comp=Z,29nm,1.4s
RPZ Rata Peaks 78.82 145 P **P 19 32 09.4 +0.7**
RPZ IAmb IAmb 19 32 10.2
comp=Z,31nm,1.0s
MORS Morshin 79.01 318 P **P 19 32 10.7 +0.9**
VOIR 79.41 314⇑ P **P 19 32 14.2 +2.0**
WHY Whitehorse 79.59 29 P **P 19 32 13.7 +0.8**
WHY IAmb IAmb 19 32 23.0
comp=Z,15nm,1.0s
ARR Arges 79.71 315⇓ P **P 19 32 14.0 +0.2**
HUMR Humele 79.74 314⇑ P **P 19 32 14.4 +0.6**
SKAG Skagway 79.84 30 P **P 19 32 15.3 +1.2**
SKAG IAmb IAmb 19 32 24.4
comp=Z,46nm,1.4s
TRSU Trosnyk 79.93 318 P **P 19 32 16.4 +1.5**
KOLS Kolonicke sedl 80.09 318 *e*P **P 19 32 17.5 +1.8**
KOLS Kolonicke sedl 80.09 318 *e*P **P 19 32 17.5 +1.8**
DAG Danmarks Havn 80.13 351 *i*P **P 19 32 15.0 -0.4**
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 80.13 351 *i*P **P 19 32 15.0 -0.4**
comp=Z,6.4nm,0.8s
DAG Danmarks Havn 80.13 351 *i*P **P 19 32 15.0 -0.4**
DAG IAmb IAmb 19 32 15.9
comp=Z,6.4nm,0.8s
LOT Lotru 80.26 315⇓ P **P 19 32 16.9 0.0**
CRVS Cervenica-Dubn 80.60 319 *e*P **P 19 32 21.1 +2.6**
CRVS pmax pmax
comp=Z,45nm,1.7s
CRVS Cervenica-Dubn 80.60 319 *e*P **P 19 32 21.1 +2.6**
NC405 NORSAR Array S 81.07 332 P **P 19 32 20.5 -0.3**
NIE Niedzica 81.14 319 *e*P **P 19 32 22.9 +1.5**
NIE Niedzica 81.14 319 *e*P **P 19 32 22.9 +1.5**
OJC Ojcow 81.16 320 *e*P **P 19 32 23.2 +1.8**
OJC Ojcow 81.16 320 *e*P **P 19 32 23.2 +1.8**
OJC Ojcow 81.16 320 P **P 19 32 22.3 +0.9**
PUNG Punghina 81.21 314⇑ P **P 19 32 23.4 +1.6**
NB2 NORSAR Subarra 81.32 332 P **P 19 32 21.3 -0.8**
comp=Z,83nm,2.0s,baz=66,slow=5.6
NB2 NORSAR Subarra 81.32 332 P **P 19 32 21.3 -0.8**
baz=66,slow=5.6
NOA NORSAR Array B 81.32 332 P **P 19 32 21.7 -0.4**
comp=Z,3.8nm,0.9s,baz=64,slow=5.3,SNR=8.0
NOA LR LR 20 10 43.9
comp=Z,79nm,20.5s,baz=60,slow=37
HERR Herculane 81.35 315⇑ P **P 19 32 23.2 +0.6**
SRS Serrai 81.81 311 P **P 19 32 25.4 +0.3**
SRS pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 82.37 319 *e*P **P 19 32 28.8 +0.9**
VYHS pmax pmax
comp=Z,39nm,2.1s
VYHS Vyhne 82.37 319 *e*P **P 19 32 28.8 +0.9**
VAY Valandovo 82.46 311 *i*P **P 19 32 28.4 -0.1**
STIP Stip 82.60 312 *i*P **P 19 32 28.4 -0.8**
MORC Moravsky Berou 82.68 320 *e*P **P 19 32 30.4 +0.9**
MORC Moravsky Berou 82.68 320 P **P 19 32 30.3 +0.8**
RES Resolute Bay 82.68 9 P **P 19 32 29.6 +0.6**
RES pmax pmax
comp=Z,22nm,1.1s
RES Resolute Bay 82.68 9 P **P 19 32 29.6 +0.6**
RES IAmb IAmb 19 32 30.4
comp=Z,22nm,1.1s
LIT Litokhoron 82.94 310 P **P 19 32 29.7 -1.3**
LIT pmax pmax
comp=Z,30nm,1.5s
LIT Litokhoron 82.94 310 P **P 19 32 29.7 -1.3**
LIT IAmb IAmb 19 32 45.4
comp=Z,30nm,1.5s
JAVC Velka Javorina 82.95 320 *e*P **P 19 32 33.2 +2.3**
KSP Ksiaz 83.00 322 *e*P **P 19 32 32.8 +1.7**
KSP Ksiaz 83.00 322 *e*P **P 19 32 32.8 +1.7**
SKO Skopje 83.03 312 *i*P **P 19 32 32.3 +0.9**
OSTC Ostas 83.16 321 *e*P **P 19 32 32.2 +0.3**
OSTC *ex* x 19 32 39.6
DPC Dobruska-Polom 83.18 321 *e*P **P 19 32 33.5 +1.4**
DPC Dobruska-Polom 83.18 321 *e*P **P 19 32 33.5 +1.4**
DIVS Divibare 83.25 314 P **P 19 32 32.6 -0.1**
VRAC Vranov 83.43 320 LR LR 20 11 44.3
comp=Z,76nm,18.7s,baz=70,slow=37
VRAC Vranov 83.43 320⇑ P **P 19 32 34.5 +1.1**
VRAC Vranov 83.43 320 *e*P **P 19 32 34.4 +1.1**
VRAC Vranov 83.43 320 P **P 19 32 34.4 +1.1**
KRUC Moravsky 83.65 320 *e*P **P 19 32 35.2 +0.8**
KMBO Kilima Mbogo 83.84 267 P **P 19 32 37.0 +0.6**
comp=Z,1.9nm,0.5s,baz=45,slow=8.7,SNR=6.7
KMBO Kilima Mbogo 83.84 267 P **P 19 32 37.0 +0.6**
KMBO Kilima Mbogo 83.84 267 P **P 19 32 37.1 +0.8**
KMBO IAmb IAmb 19 32 47.0
comp=Z,17nm,1.5s
GOPC GO Pecny, Ondr 84.26 321 *e*P **P 19 32 38.4 +0.8**
GOPC GO Pecny, Ondr 84.26 321 *e*P **P 19 32 38.4 +0.8**
BRG Berggiesshubel 84.34 322 *e*P **P 19 32 38.9 +0.9**
comp=Z,26nm,1.6s
BRG Berggiesshubel 84.34 322 *e*P **P 19 32 38.9 +0.9**

BRG pmax pmax
comp=Z,26nm,1.6s
PDG Podgorica 84.37 313⇓ P **P 19 32 38.6 +0.3**
PDG Podgorica 84.37 313 P **P 19 32 37.2 -1.1**
PDG IAmb IAmb 19 32 41.8
comp=Z,9.7nm,0.9s
PRU Pruhonice 84.37 321 *e*P **P 19 32 39.0 +0.9**
PRU *ex* x 19 32 47.4
PRU Pruhonice 84.37 321 *e*P **P 19 32 39.0 +0.9**
PRU *e* 19 32 47.4
CONA Conrad Observa 84.43 319 *e*P **P 19 32 40.0 +1.4**
comp=Z,17nm,1.6s
CLL Collm 84.69 323⇓ *i*P **P 19 32 39.9 +0.2**
comp=Z,15nm,1.4s
CLL *i* 19 32 47.7
CLL *e*PP **PP 19 35 53.0 -2.3**
CLL *e*S **S 19 43 04.0 -1.3**
CLL Collm 84.69 323⇓ *i*P **P 19 32 39.9 +0.2**
CLL *i* 19 32 47.7
CLL *e*S **S 19 43 04.0 -1.3**
CLL pmax pmax
comp=Z,15nm,1.4s
CLL Collm 84.69 323 P **P 19 32 40.1 +0.4**
CLL IAmb IAmb 19 32 49.2
comp=Z,18nm,1.4s
IGT Igoumenitsa 84.69 310 P **P 19 32 39.7 -0.3**
ARSA Arzberg 84.91 319 *e*P **P 19 32 41.9 +0.9**
comp=Z,8.7nm,1.7s
KHC Kasperske Hory 85.30 321 *e*P **P 19 32 43.2 +0.3**
KHC Kasperske Hory 85.30 321⇓ *e*P **P 19 32 43.5 +0.6**
KHC pmax pmax
comp=Z,11nm,1.3s
KHC Kasperske Hory 85.30 321 P **P 19 32 43.1 +0.3**
GEC2 GERESS Array S 85.35 321 P **P 19 32 43.4 +0.2**
GEC2 IAmb IAmb 19 32 44.9
comp=Z,14nm,1.3s
GERES GERESS Array B 85.35 321 P **P 19 32 42.9 -0.3**
comp=Z,3.5nm,0.9s,baz=57,slow=4.9,SNR=19
GERES GERESS Array B 85.35 321 P **P 19 32 42.5 -0.7**
MOA Molln 85.44 319 *e*P **P 19 32 44.1 +0.6**
comp=Z,12nm,1.2s
SOKA Soboth 85.46 318 *e*P **P 19 32 44.5 +0.8**
comp=Z,7.6nm,1.1s
PDKS Podkum 85.74 318 *i*P **P 19 32 45.7 +0.6**
SCTE Santa Cesarea 85.82 311 P **P 19 32 45.0 -0.6**
SCTE IAmb IAmb 19 32 46.1
comp=Z,12nm,0.9s
OBKA Obir 85.83 318 *e*P **P 19 32 44.5 -1.1**
comp=Z,9.8nm,1.3s
LJU Ljubljana 86.04 318 *i*P **P 19 32 47.0 +0.5**
CEY Cerknica 86.23 318 *i*P **P 19 32 48.0 +0.4**
SUMG Summit 86.33 354 P **P 19 32 47.3 -0.6**
SUMG pmax pmax
comp=Z,38nm,1.4s
SUMG Summit 86.33 354 P **P 19 32 47.3 -0.6**
SUMG Summit 86.33 354 *i*P **P 19 32 48.0 +0.1**
comp=Z,58nm,1.3s
SUMG Summit 86.33 354 *i*P **P 19 32 48.0 +0.1**
SUMG IAmb IAmb 19 32 49.9
comp=Z,58nm,1.3s
KBA Koelnbreinsper 86.33 319 *e*P **P 19 32 49.5 +1.3**
comp=Z,3.4nm,1.1s
GRF Grafenberg Arr 86.43 322 *e*P **P 19 32 49.2 +0.8**
comp=Z,5.4nm,1.0s,baz=69,slow=4.7
YKA Yellowknife Ar 86.93 22 P **P 19 32 50.0 -0.5**
comp=Z,6.6nm,0.8s,baz=320,slow=4.4,SNR=7.1
YKA LR LR 20 14 52.7
comp=Z,84nm,18.4s,baz=0.0,slow=38
YKA Yellowknife Ar 86.93 22 P **P 19 32 50.0 -0.5**
ABTA Abfaltersbach 86.99 319 *e*P **P 19 32 51.1 -0.2**
comp=Z,8.6nm,1.2s
CIMO Cimolais 87.23 319 P **P 19 32 52.1 -0.3**
WTTA Wattenberg 87.29 320 *e*P **P 19 32 53.3 +0.4**
comp=Z,9.6nm,0.9s
WATA Walderalm 87.30 320 *e*P **P 19 32 51.9 -0.9**
comp=Z,7.7nm,1.1s
TIP Timpagrande 87.39 311 P **P 19 32 53.9 +0.6**
TIP IAmb IAmb 19 33 03.9
comp=Z,12nm,1.2s
SQTA Sankt Quirin 87.57 320 *e*P **P 19 32 54.8 +0.6**
comp=Z,6.4nm,1.1s
MOTA Moosalm 87.58 320 *e*P **P 19 32 54.3 +0.1**
comp=Z,12nm,1.3s
FETA Feichten 87.96 320 *e*P **P 19 32 56.6 +0.6**
comp=Z,8.7nm,1.2s
DAVA Damuels 88.34 320 *e*P **P 19 32 58.3 +0.4**
comp=Z,5.5nm,1.3s
FUORN Ofenpass-Fuorn 88.43 320 P **P 19 32 59.0 +0.6**
FUORN IAmb IAmb 19 33 08.2
comp=Z,15nm,1.1s
TUE Stuetta 89.05 320 P **P 19 33 00.9 -0.4**
ICESG Greenland Ices 89.76 353 *i*P **P 19 33 03.7 -0.6**
BORG Borgarnes 90.30 345 LR LR 20 18 23.7
comp=Z,67nm,20.1s,baz=13,slow=39
EKA Eskdalemuir Ar 90.78 332 LR LR 20 19 46.3
comp=Z,96nm,18.6s,baz=25,slow=39
BNI Bardonecchia 91.38 319 P **P 19 33 12.6 +0.5**
BNI pmax pmax
comp=Z,45nm,1.5s
BNI Bardonecchia 91.38 319 P **P 19 33 12.6 +0.5**
D03D Eldon 91.86 37 P **P 19 33 15.5 +1.4**
baz=303
J01E Myrtle Point 93.71 41 P **P 19 33 22.4 -0.3**
baz=302
I03D Drain, OR 93.78 41 P **P 19 33 22.7 -0.3**
baz=303
H04A Detroit Lake 93.95 39 P **P 19 33 23.8 0.0**
I04A Tendick Farm, 94.30 40 P **P 19 33 25.8 +0.3**
baz=303
L02E Cave Junction 94.45 42 P **P 19 33 26.9 +0.7**
baz=302
J04D Umpqua Nationa 94.79 41 P **P 19 33 27.3 -0.6**
baz=304
PINE Pine Mountain 95.19 40 P **P 19 33 31.0 +1.3**
PINE IAmb IAmb 19 33 32.9
comp=Z,12nm,1.4s
L04D Klamath Falls 95.23 41 P **P 19 33 30.1 +0.2**
baz=303
J05D Fort Rock, OR 95.29 40 P **P 19 33 30.2 0.0**
baz=304
M02C Callahan 95.33 42 P **P 19 33 30.4 +0.1**
baz=303
PPT Papeete 96.05 106 LR LR 20 06 57.2
comp=Z,58nm,21.6s,baz=313,slow=29
PPT2 Papeete2 96.06 106 *e*LR LR 20 04 21.6
comp=Z,134nm,25.0s
NVAR Mina Array Bea 99.89 43 P **Pdif 19 33 50.5 -0.6**
comp=Z,1.6nm,1.1s,baz=270,slow=4.4,SNR=5.4
NVAR Mina Array Bea 99.89 43 **Pdif 19 33 49.9 -1.2**
TAOE Nuku Hiva Isla 101.94 95 *e*LR LR 20 07 00.0
comp=Z,188nm,24.1s
SYO Syowa Base 105.42 202⇓ *e*PP **PP 19 38 39.4 +2.9**
TORD Torodi Ar. Bea 111.10 294 PP **PP 19 39 20.3 +1.3**
comp=Z,0.4nm,0.7s,baz=59,slow=6.9,SNR=1.7
TXAR Lajitas Array 115.02 42 PKP **PKiKP 19 38 47.0 -0.5**
comp=Z,1.5nm,0.9s,baz=333,slow=0.7,SNR=8.9
TXAR Lajitas Array 115.02 42 *i* PKiKP **PKiKP 19 38 46.4 -1.1**
TXAR Lajitas Array 115.02 42 PKiKP **PKiKP 19 38 46.4 -1.1**
U49A Red Boiling Sp 118.43 24 **PKPdf 19 38 53.7 -0.1**
BG3 Lake Jocassee 120.82 22 **PKPdf 19 38 57.9 -0.6**
VNA2 Neumayer--Watz 120.88 198 P **PKPdf 19 38 57.1 -0.3**
VNA1 Neumayer--Stat 121.27 198 P **PKiKP 19 38 58.2 +0.1**
VNA3 Neumayer Olymp 121.35 197 P **PKPdf 19 38 58.1 -0.2**
URIC Uribia, Colomb 146.05 22 *e*P **PKPdf 19 39 45.5 -0.3**
SJCC San Jacinto, C 146.42 28 *e*P **PKPdf 19 39 46.0 -0.5**
MOTC Monteria, Cord 147.18 30 *e*P **PKPab 19 39 51.6 +0.1**
SMLC San Martn de 147.88 27 *e*P **PKPdf 19 39 49.0 +0.1**
OCAC Ocana 148.71 27 *e*P **PKPbc 19 39 53.4 -0.8**
SDV Santo Domingo 149.14 21 PKPbc **PKPbc 19 39 54.7 -0.6**
comp=Z,29nm,0.8s,baz=331,slow=2.7,SNR=14
SDV Santo Domingo 149.14 21 *e*P **PKPdf 19 39 53.2 +2.0**
SDV Santo Domingo 149.14 21 **PKPdf 19 39 51.4 +0.2**
CBOC Ciudad Bolivar 149.52 33 *e*P **PKiKP 19 39 59.1 +1.7**
BRRC Barranca, Sant 149.55 28 *e*P **PKPbc 19 39 54.2 -1.9**
PTBC PUERTO BERRIO 149.71 30 *e*P **PKPdf 19 39 51.5 -0.4**
BARC Barichara 150.24 28 *e*P **PKPdf 19 39 50.6 -2.4**
GUY2C Guyana, Caldas 150.40 33 *e*P **PKPbc 19 39 57.0 -1.8**
SPBC San Pablo de B 150.67 30 *e*P **PKPbc 19 39 57.8 -1.2**
RUSC La Rusia 150.91 28 *e*P **PKPbc 19 39 59.3 -0.7**
YOTC Yotoco, Valle 150.92 36 *e*P **PKPdf 19 39 53.7 -0.2**
TOLC Tolima 150.97 34 *e*P **PKPbc 19 39 59.8 -0.2**
ROSC El Rosal 151.25 31 PKP **PKPdf 19 39 54.5 -0.3**
comp=Z,4.7nm,0.3s,baz=212,slow=23,SNR=1.6
ROSC PKPbc **PKPbc 19 40 00.7 0.0**
comp=Z,7.5nm,0.3s,baz=26,slow=7.8,SNR=8.4

ROSC	El Rosal	151.25	31		PKPdf	19 39 54.7	-0.1
ORTC	Ortega, Tolima	151.58	34	*e*P	PKiKP	19 40 02.3	+0.9
CHIC	Chingaza	151.72	31	*e*P	PKPbc	19 40 01.2	-0.6
POPC	Popayan, Colom	151.92	38	*e*P	PKPbc	19 40 00.8	-1.2
PRAC	Prado	151.93	34	*e*P	PKPbc	19 39 59.8	-2.0
BBAC	Balboa, Cauca	151.99	40	*e*P	PKPbc	19 40 00.2	-2.0
OTAV	Otavalo	152.61	44	PKIKP	PKPdf	19 39 58.4	+1.5
OTAV	Otavalo	152.61	44		PKPdf	19 39 58.4	+1.5
MDP	Montagnes des	153.89	344	PKPab	PKPab	19 40 18.5	-0.5
	comp=Z,9.3nm,0.8s,baz=226,slow=5.5,SNR=3.8						
PLCA	Paso Flores	157.57	158	PKPab	PKPab	19 40 34.5	+0.3
	comp=Z,4.7nm,1.1s,baz=186,slow=6.2,SNR=3.8						
PLCA	Paso Flores	157.57	158	PKP2	PKPab	19 40 34.0	-0.2
PLCA	Paso Flores	157.57	158		PKPab	19 40 34.0	-0.2
ATAH	Atahualpa	157.71	57	PKP	PKPdf	19 40 03.1	-0.6
	comp=Z,1.5nm,0.3s,baz=242,slow=2.8,SNR=4.1						
LC01	Cunco	158.64	153		PKPab	19 40 39.7	+0.9
PB16	IPOC Station P	170.57	80		PKPdf	19 40 15.8	+0.5
MNMC	Minye Minye	170.63	85		PKPdf	19 40 16.6	+1.6
PB11	IPOC Station P	170.65	89		PKPdf	19 40 15.6	+0.8
GO01	Chusmiza	171.07	88		PKPdf	19 40 15.4	-0.1
LPAZ	La Paz	171.10	65	PKP	PKPdf	19 40 15.9	+0.2
	comp=Z,6.1nm,1.1s,baz=8.0,slow=3.2,SNR=13						
LPAZ				PKPab	PKPab	19 41 34.6	-0.5
	comp=Z,0.6nm,0.6s,baz=319,slow=8.3,SNR=1.3						
LPAZ	La Paz	171.10	65	*e*P	PKPdf	19 40 18.4	+2.7
LPAZ	La Paz	171.10	65		PKPdf	19 40 16.1	+0.4
LPAZ	La Paz	171.10	65	PKPdf	PKPdf	19 40 15.2	-0.6

INET ***09*** *19:38:24.7, 9.˚79N×85.˚39W, h15km, ML3.8*
UCR ***09*** *19:38:30.2±1.2, 10.˚18N×85.˚34W, h44km±3km, MW4.2*
ISC 09 19:38:31.2±1.0**, 10.˚19N**±0.˚03×**85.˚30W**±0.˚03**, h33**km±2km**, n33,** σ**0**§**88**/52**, 4C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.17**	**343**	*e*P	**Pb**	**19 38 37.6**	**-0.1**
PLVR				*e*S	**Sb**	**19 38 43.4**	**+1.2**
DUNO	**Dulce Nombre,**	**0.22**	**241**	*e*P	**Pb**	**19 38 37.7**	**-0.3**
DUNO				*e*S	**Sb**	**19 38 43.9**	**+1.3**
GUAI	**GUAI**	**0.22**	**292**	⇓*i*P	**Pb**	**19 38 37.9**	**-0.1**
GUAI				*i* S	**Sb**	**19 38 44.1**	**+1.4**
ORTG	**Ortega, Santa**	**0.23**	**318**	*e*P	**Pn**	**19 38 38.2**	**+0.3**
ORTG				*e*S	**Sb**	**19 38 44.3**	**+1.2**
JTS	**Las Juntas de**	**0.36**	**73**	⇓*i*P	**Pb**	**19 38 39.4**	**-0.3**
JTS				*e*S	**Sb**	**19 38 46.0**	**+0.4**
JTS	**Las Juntas de**	**0.36**	**73**	*e*P	**Pb**	**19 38 39.3**	**-0.5**
CUI	**Cuipilapa**	**0.49**	**16**	*i* P	**Pn**	**19 38 41.2**	**-0.7**
CUI				*i* S	**Sb**	**19 38 49.2**	**+0.3**
LIM1	**Limonal**	**0.51**	**5**	*i* P	**Pn**	**19 38 41.4**	**-0.8**
ACAL	**Aguas Claras**	**0.52**	**30**	⇑*i*P	**Pn**	**19 38 41.6**	**-0.6**
ACAL				*i* S	**Sn**	**19 38 50.3**	**+0.3**
GUAB	**Guayabo de Bag**	**0.52**	**8**	*i* P	**Pn**	**19 38 41.3**	**-1.1**
GUAB				*i* S	**Sn**	**19 38 50.0**	**-0.1**
HORNC	**Hornillas**	**0.54**	**13**	*i* P	**Pn**	**19 38 41.6**	**-0.9**
HORNC				*i* S	**Sn**	**19 38 50.2**	**-0.3**
LAFE	**Finca La Fe, P**	**0.54**	**134**	*e*P	**Pn**	**19 38 41.1**	**-1.4**
LAFE				*e*S	**Sn**	**19 38 49.7**	**-0.6**
GPS2	**Hotel Rincn d**	**0.57**	**355**	*i* P	**Pn**	**19 38 42.0**	**-1.0**
GPS2				*i* S	**Sn**	**19 38 50.8**	**-0.4**
LAPC	**Finca la Perla**	**0.59**	**347**	⇑*i*P	**Pn**	**19 38 42.2**	**-1.1**
LAPC				*i* S	**Sn**	**19 38 51.5**	**-0.2**
PACM	**Arenal**	**0.60**	**60**	*i* P	**Pn**	**19 38 42.2**	**-1.2**
PTEN	**Parque Tenorio**	**0.61**	**30**	⇑*i*P	**Pn**	**19 38 43.0**	**-0.5**
GBS3	**Finca Las Img**	**0.61**	**346**	⇑*i*P	**Pn**	**19 38 42.5**	**-1.0**
BUEV	**Buena Vista**	**0.62**	**350**	*i* P	**Pn**	**19 38 42.6**	**-1.1**
BUEV				*e*S	**Sn**	**19 38 52.0**	**-0.5**
ARE1	**Arenal 1**	**0.64**	**64**	*e*P	**Pn**	**19 38 43.8**	**0.0**
ARE1				*e*S	**Sb**	**19 38 54.3**	**+1.5**
GB1A	**Borinquen Arri**	**0.64**	**351**	*i* P	**Pn**	**19 38 42.8**	**-1.1**
GB1A				*e*S	**Sn**	**19 38 52.6**	**-0.4**
CEDE	**Laguna Cedeo**	**0.66**	**63**	*e*P	**Pn**	**19 38 44.1**	**-0.1**
CEDE				*e*S	**Sb**	**19 38 54.9**	**+1.4**
JACO	**JACO, Garabito**	**0.82**	**129**	*e*P	**Pn**	**19 38 45.4**	**-1.0**
JACO				*e*S	**Sn**	**19 38 57.1**	**-0.2**
COVE	**Coope Vega, Sa**	**1.03**	**59**	*e*P	**Pn**	**19 38 49.2**	**-0.1**
HDC	**Heredia**	**1.18**	**99**	*e*P	**Pn**	**19 38 51.5**	**0.0**
HDC				*e*S	**Sn**	**19 39 07.5**	**+1.0**
LCR2	**La Lucha 2**	**1.35**	**109**	*e*P	**Pn**	**19 38 53.3**	**-0.6**
RIMA	**Rio Macho**	**1.48**	**106**	*e*P	**Pn**	**19 38 55.2**	**-0.4**
RIMA				*e*S	**Sn**	**19 39 14.6**	**+0.7**
CVTR	**Volcan Turrial**	**1.53**	**96**	*e*P	**Pn**	**19 38 56.2**	**-0.3**
CDM	**Cerro de Muert**	**1.64**	**112**	*e*P	**Pn**	**19 38 57.5**	**-0.6**
EDDO	**Dominical**	**1.69**	**123**	*e*P	**Pn**	**19 38 59.9**	**+1.5**
PEZE	**Perez Zeledon,**	**1.79**	**116**	*e*P	**Pn**	**19 38 57.6**	**-2.2**
EDBA	**Buenos Aires**	**2.24**	**117**	*e*P	**Pn**	**19 39 05.3**	**-0.7**
RIOS	**Rincon, Osa**	**2.30**	**130**	*e*P	**Pn**	**19 39 05.9**	**-0.8**
BRU2	**Volcan**	**2.92**	**118**	*e*P	**Pn**	**19 39 15.8**	**+0.4**

WEL 09 20:08:57.9, 43.˚S±2.˚×**17.˚1E**±.˚, **h5**km±1km**, M2.4**/8**, ML2.5**/8**, MLv2.4**/8**, Error ellipse: s-maj=0.0km s-min=0.0km az=142.8, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.17**	**307**	P	**Pg**	20 09 02.8	+1.4
GCSZ	**Gaunt Creek Bo**	**0.46**	**253**	P	**Pb**	20 09 08.4	-0.1
RPZ	**Rata Peaks**	**0.54**	**170**	P	**Pb**	20 09 10.4	+0.4
MHCZ	**Mount Hutt**	**0.58**	**127**	P	**Pb**	20 09 11.0	+0.3
INZ	**Inchbonnie**	**0.59**	**40**	P	**Pg**	20 09 09.5	+0.2
ARCZ	**Arundel**	**0.79**	**167**	P	**Pb**	20 09 14.9	+0.7
OXZ	**Oxford**	**0.82**	**101**	P	**Pb**	20 09 15.3	+0.6
FOZ	**Fox Glacier**	**0.89**	**246**	P	**Pb**	20 09 16.2	+0.4
LTZ	**Lake Taylor**	**1.06**	**68**	P	**Pn**	20 09 19.3	-0.2
LBZ	**Lake Benmore**	**1.32**	**204**	P	**Pg**	20 09 23.9	+0.7
DSZ	**Denniston Nort**	**1.57**	**25**	P	**Pg**	20 09 28.2	+0.1
JCZ	**Jackson Bay**	**1.79**	**239**	P	**Pg**	20 09 32.7	+0.4
ODZ	**Otahua Downs**	**1.88**	**186**	P	**Pb**	20 09 32.4	-0.3
THZ	**Tophouse**	**2.04**	**47**	P	**Pb**	20 09 35.2	-0.2
WKZ	**Wanaka**	**2.15**	**219**	P	**Pg**	20 09 41.0	+1.9
QRZ	**Quartz Range**	**2.64**	**27**	P	**Pn**	20 09 42.1	+1.0

IDC ***09*** *20:10:33.8±4.1, 36.˚55N×71.˚43E, h64km±36km, mb3.4/6, mb1 3.5/12, mb1mx3.2/57, mbtmp3.7/12, ML3.4/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/37, Error ellipse: s-maj=33.5km s-min=22.8km az=33.0*
NNC ***09*** *20:10:43.4±3.1, 37.˚36N×69.˚98E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=32.7km s-min=20.5km az=116.0*
ISC 09 20:10:37.4±1.2**, 36.7N**±0.˚1×**71.14E**±0.09**, h100**km**, n23,** σ**1**§**45**/24**, mb3.7**/6**, 4C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.75**	**19**	P	**Pn**	**20 12 00.9**	**+0.3**
	SNR=20						
UCH	**Uchtor**	**6.08**	**24**	P	**Pn**	**20 12 05.3**	**+0.1**
	SNR=8.0						
EKS2	**Erkin-Say**	**6.27**	**18**	P	**Pn**	**20 12 08.0**	**+0.5**
	SNR=8.5						
KK31	**Karatay Array**	**6.39**	**356**	⇑P	**Pn**	**20 12 09.8**	**+0.8**
	17nm,0.4s,baz=185,slow=15,SNR=126						
KK31				⇓S	**Sn**	**20 13 18.2**	**-2.3**
	2.8nm,0.3s,baz=179,slow=22,SNR=8.3						
AAK	**Ala-Archa**	**6.45**	**23**	P	**Pn**	**20 12 10.4**	**+0.6**
	SNR=17						
CHMS	**Chumysh**	**6.86**	**23**	P	**Pn**	**20 12 15.5**	**+0.2**
	SNR=12						
USP	**Ospenovka**	**7.03**	**20**	P	**Pn**	**20 12 17.8**	**+0.1**
	SNR=8.0						
TKM2	**Tokmak 2**	**7.08**	**28**	P	**Pn**	**20 12 18.6**	**+0.2**
	SNR=7.0						
GEYT	**Alibeck**	**10.45**	**281**	P	**Pn**	**20 13 04.3**	**+0.1**
	0.3nm,0.3s,baz=77,slow=14,SNR=2.0						
GEYT				S	**Sn**	**20 14 55.9**	**-3.3**
	0.6nm,0.3s,baz=96,slow=27,SNR=3.3						
MKAR	**Makanchi Array**	**13.04**	**36**	P	**Pn**	**20 13 36.5**	**-2.3**
	0.0nm,0.3s,baz=217,slow=17,SNR=4.8						
KURBB	**Kurchatov Arra**	**14.88**	**19**	P	**Pn**	**20 14 03.1**	**+0.7**
	0.1nm,0.3s,baz=206,slow=11,SNR=4.6						
AB31	**Akbulak array**	**14.95**	**330**	⇑P	**Pn**	**20 14 02.9**	**-0.4**
	2.6nm,0.6s,baz=151,slow=12,SNR=53						
AB31				⇑S	Sn	20 16 37.7	-10
	1.6nm,0.6s,baz=146,slow=24,SNR=4.2						
BVAR	**Borovoye Array**	**16.31**	**358**	P	**Pn**	**20 14 19.8**	**-0.5**
	0.4nm,0.3s,baz=181,slow=21,SNR=7.7						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**P**	**20 14 25.9**	**+0.7**
	0.8nm,0.3s,baz=158,slow=9.3,SNR=12						
AKTO	**Aktyubinsk**	**16.65**	**330**	⇑P	**Pn**	**20 14 25.4**	**+0.9**
	2.4nm,0.5s						
WSAR	**Wadi Sarin**	**17.24**	**222**	LR	LR	20 23 14.8	
	comp=Z,44nm,19.2s,baz=102,slow=44						
ZALV	**Zalesovo Beam**	**19.67**	**25**	P	**P**	**20 14 57.5**	**-0.7**
	0.4nm,0.3s,baz=211,slow=10.0,SNR=7.0						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**20 17 42.0**	**+2.0**
	1.4nm,0.8s,baz=118,slow=8.0,SNR=1.3						
ARCES	**ARCESS Array B**	**40.98**	**337**	P	**P**	**20 18 12.1**	**+2.1**
	2.1nm,0.9s,baz=114,slow=8.1,SNR=8.6						
HFS	**Hagfors**	**42.96**	**322**	P	**P**	**20 18 28.0**	**+1.8**
	2.6nm,0.8s,baz=119,slow=8.9,SNR=4.6						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**20 18 39.0**	**+2.2**
	0.4nm,0.5s,baz=96,slow=7.7,SNR=1.7						
WRA	**Warramunga Arr**	**82.01**	**122**	P	**P**	**20 22 45.5**	**-1.1**
	0.3nm,0.9s,baz=324,slow=4.7,SNR=4.7						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**20 22 57.4**	**-0.9**
	0.3nm,0.7s,baz=332,slow=4.4,SNR=5.0						

SFS ***09*** *20:21:11.0, 34.˚74N×4.˚40W, ML2.9, ZERKAT (MARRUECOS)*
MDD ***09*** *20:21:11.8±0.9, 34.˚83N×4.˚36W, h8km±4km, mbLg3.2/55, Error ellipse: s-maj=6.8km s-min=4.2km az=5.0, PRXIMO*
IDC ***09*** *20:21:11.2±1.6, 34.˚92N×4.˚28W, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.6/46, mbtmp3.8/7, ML3.5/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/46, Error ellipse: s-maj=67.9km s-min=18.2km az=95.0*
NEIC ***09*** *20:21:12.8±2.0, 34.˚93N±0.˚06×4.˚4W±0.˚1, h19km±4km, mb4.4/2, Error ellipse: s-maj=15.2km s-min=8.7km az=81.0*
IGIL ***09*** *20:21:12.9, 34.˚74N×4.˚41W, h15km*
LDG ***09*** *20:21:13.9±0.4, 35.˚18N×4.˚23W, h10km, Ml3.1/5, Error ellipse: s-maj=8.6km s-min=5.4km az=175.0*
INMG ***09*** *20:21:13.3±1.8, 34.˚94N×4.˚37W, h11km±6km, ML3.1, Error ellipse: s-maj=3.1km s-min=3.1km az=21.0*
CNRM ***09*** *20:21:15.6, 34.˚88N×4.˚67W, h35km*
ISC 09 20:21:13.6±0.7**, 35.˚01N**±0.˚03×**4.˚39W**±0.˚02**, h21**km±2km**, n137,** σ**1**§**69**/232**, mb4.2**/4**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.18**	**24**	P	**Pb**	**20 21 18.3**	**-0.9**
PVLZ				S	**Sb**	**20 21 23.0**	**-0.2**
PVLZ	**Peæn de**	**0.18**	**24**	*e*P	**Pb**	**20 21 18.3**	**-0.9**
PVLZ				*e*S	**Sb**	**20 21 23.0**	**-0.2**
CEU	**Ceuta**	**1.20**	**318**	P	**Pn**	**20 21 31.9**	**-3.2**
CEU				S	**Sn**	**20 21 52.9**	**+2.2**
CEU	**Ceuta**	**1.20**	**318**	*e*P	**Pn**	**20 21 31.9**	**-3.2**
CEU				*e*S	**Sn**	**20 21 52.9**	**+2.2**
ECEU	**Ceuta**	**1.20**	**318**	P	**Pn**	**20 21 33.1**	**-2.1**
	26nm,0.3s,SNR=34						
ECEU				S	**Sn**	**20 21 53.3**	**+2.5**
	287nm,0.4s,SNR=4.0						
EMEL	**Melilla**	**1.21**	**76**	P	**Pn**	**20 21 34.1**	**-1.2**
	2µm,0.7s,SNR=63						
EMEL				S	**Sn**	**20 21 51.1**	**0.0**
	1µm,0.3s						
MELI	**Melilla**	**1.22**	**76**	P	**Pn**	**20 21 34.2**	**-1.3**
	137nm,0.8s,SNR=7.9						
MELI				S	**Sn**	**20 21 50.9**	**-0.5**
	3µm,0.9s,SNR=7.9						
MELI	**Melilla**	**1.22**	**76**	*e*P	**Pn**	**20 21 34.6**	**-0.9**
MELI				*e*S	**Sb**	**20 21 58.1**	**+6.7**
LCRM	**LCR**	**1.38**	**196**	P	**Pn**	**20 21 36.5**	**-1.3**
EALB	**Alboran**	**1.44**	**50**	P	**Pn**	**20 21 37.4**	**-1.1**
	182nm,0.3s,SNR=70						
EALB				S	**Sn**	**20 21 57.3**	**+0.5**
	460nm,0.4s						
IFR	**Ifrane**	**1.61**	**203**	*e*P	**Pn**	**20 21 39.2**	**-1.8**
IFR				*e*S	**Sn**	**20 21 59.0**	**-2.3**
EMAL	**Malaga-Limoner**	**1.75**	**359**	P	**Pn**	**20 21 41.7**	**-1.0**
EMAL				S	**Sb**	**20 22 06.3**	**-0.2**
EMAL	**Malaga-Limoner**	**1.75**	**359**	*e*P	**Pn**	**20 21 41.7**	**-1.0**
EMAL				*e*S	**Sb**	**20 22 06.3**	**-0.2**
ELGU	**Los Guajares,**	**1.95**	**18**	P	**Pn**	**20 21 44.9**	**-0.7**
	25nm,0.4s,SNR=7.9						
ELGU				S	**Sn**	**20 22 11.2**	**+1.7**
	351nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.11**	**6**	P	**Pn**	**20 21 47.9**	**+0.1**
	8.3nm,0.6s,SNR=7.9						
EGOR				S	**Sb**	**20 22 17.1**	**+0.1**
	213nm,0.7s,SNR=7.9						
MD31	**MD31**	**2.16**	**188**	P	**Pn**	**20 21 47.4**	**-1.1**
MD31				S	**Sn**	**20 22 10.5**	**-4.2**
MDT	**Midelt**	**2.20**	**185**	Pn	**Pn**	**20 21 47.6**	**-1.4**
	17nm,0.3s,baz=14,slow=15,SNR=886						
MDT				Lg	Lg	20 22 10.6	
	25nm,0.3s,baz=39,slow=17,SNR=4.1						
MDT				LR	LR	20 22 21.4	
	comp=Z,64nm,18.6s,baz=82,slow=33						
MDT	**Midelt**	**2.20**	**185**	P	**Pn**	**20 21 47.6**	**-1.4**
MDT				S	**Sn**	**20 22 14.8**	**-0.9**
ESPR	**Espera**	**2.20**	**328**	P	**Pn**	**20 21 49.6**	**+0.6**
	15nm,0.4s,SNR=15						
ESPR				S	**Sn**	**20 22 17.6**	**+2.0**
	38nm,0.3s,SNR=5.3						
EBER	**Berja**	**2.24**	**32**	P	**Pn**	**20 21 48.8**	**-0.8**
	18nm,0.4s,SNR=39						
EBER				S	**Sn**	**20 22 17.2**	**+0.4**
	259nm,0.6s,SNR=6.2						
RTC	**Rabat Centre**	**2.28**	**244**	Pn	**Pn**	**20 21 48.3**	**-1.7**
EQUE	**Quentar**	**2.32**	**19**	P	**Pn**	**20 21 51.6**	**+0.9**
	18nm,0.3s,SNR=56						
EQUE				S	**Sb**	**20 22 21.9**	**-1.1**
	129nm,0.7s,SNR=6.3						
ENIJ	**Nijar**	**2.64**	**41**	P	**Pn**	**20 21 54.7**	**-0.2**
	10nm,0.5s,SNR=7.9						
ENIJ				S	**Sn**	**20 22 24.9**	**-1.5**
	144nm,0.4s,SNR=7.9						
GORA	**Gorafe**	**2.69**	**23**	P	**Pn**	**20 21 56.7**	**+0.9**
	35nm,0.9s,SNR=7.9						
GORA				S	**Sn**	**20 22 30.7**	**+2.9**
	644nm,1.4s,SNR=7.9						
TDRA	**Tendrara**	**2.78**	**134**	P	**Pn**	**20 21 56.9**	**-0.1**
TDRA				S	**Sb**	**20 22 34.5**	**-1.7**
HORN	**Hornachuelos**	**2.92**	**346**	P	**Pn**	**20 21 59.4**	**+0.6**
EQES	**Quesada**	**2.98**	**20**	P	**Pn**	**20 22 01.2**	**+1.4**
	29nm,0.3s,SNR=129						
EQES				S	**Sn**	**20 22 37.1**	**+2.1**
	97nm,0.4s,SNR=5.6						
AVE	**Averroes**	**3.04**	**237**	P	**Pn**	**20 21 59.2**	**-1.2**
AVE	**Averroes**	**3.04**	**237**	*e*P	**Pn**	**20 21 59.6**	**-0.8**
AVE				*e*S	**Sb**	**20 22 50.5**	**+7.0**
EADA	**Adamuz**	**3.15**	**357**	P	**Pn**	**20 22 03.6**	**+1.6**
	14nm,0.3s,SNR=30						
EADA				S	**Sn**	**20 22 41.3**	**+2.2**
	39nm,0.4s						
ECAB	**El Cabril**	**3.17**	**345**	P	**Pn**	**20 22 02.8**	**+0.5**
	7.1nm,0.6s,SNR=15						
ECAB				S	**Sn**	**20 22 40.2**	**+0.7**
	56nm,0.5s,SNR=6.1						
EMIN	**Mina Concepcio**	**3.31**	**327**	P	**Pn**	**20 22 04.2**	**+0.1**
	7.6nm,0.4s,SNR=31						
EMIN				S	**Sn**	**20 22 43.9**	**+1.0**
	9.3nm,0.3s						
GOLM	**Goulmima**	**3.33**	**188**	P	**Pn**	**20 22 05.2**	**+0.6**
GOLM				S	**Sn**	**20 22 42.8**	**-0.9**
TLOR	**Lorca, Murcia**	**3.42**	**39**	S	**Sn**	**20 22 46.6**	**+0.9**
	427nm,0.8s,SNR=7.9						
SESP	**Santiago Espad**	**3.44**	**25**	P	**Pn**	**20 22 08.8**	**+2.7**
	15nm,0.6s,SNR=7.9						
SESP				S	**Sn**	**20 22 48.4**	**+2.0**
	194nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**3.44**	**25**	P	**Pn**	**20 22 09.1**	**+3.0**
SESP				S	**Sn**	**20 22 51.6**	**+5.3**
EGRO	**El Granado**	**3.55**	**316**	P	**Pn**	**20 22 07.7**	**+0.3**
	19nm,0.3s,SNR=21						
EGRO				S	**Sn**	**20 22 48.7**	**-0.1**
	31nm,0.3s,SNR=5.3						
ARF	**Arif**	**3.57**	**178**	P	**Pn**	**20 22 07.7**	**-0.2**
PVAQ	**Vaqueiros**	**3.60**	**313**	P	**Pn**	**20 22 08.3**	**+0.1**
PVAQ				S	**Sn**	**20 22 50.9**	**+0.9**
	42nm,0.5s						
PVAQ	**Vaqueiros**	**3.60**	**313**	P	**Pn**	**20 22 08.4**	**+0.3**
PVAQ				S	**Sn**	**20 22 50.1**	**+0.1**
PVAQ	**Vaqueiros**	**3.60**	**313**	*e*Pn	**Pn**	**20 22 08.3**	**+0.1**
PVAQ	**Vaqueiros**	**3.60**	**313**	*e*Pg	**Pn**	**20 22 10.8**	**+2.7**
PVAQ				*e*Sn	**Sn**	**20 22 50.9**	**+0.9**
PVAQ				A	A	20 22 55.6	
	42nm,0.5s						
PVAQ	**Vaqueiros**	**3.60**	**313**		**Pn**	**20 22 08.2**	**+0.1**
PBDV	**Barranco-do-Ve**	**3.63**	**309**	P	**Pn**	**20 22 09.2**	**+0.6**
PBDV				S	**Sn**	**20 22 51.3**	**+0.4**
	38nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.63**	**309**	*e*Pn	**Pn**	**20 22 09.2**	**+0.6**
PBDV				*e*Sn	**Sn**	**20 22 51.3**	**+0.4**
PBDV				A	A	20 22 58.2	
	38nm,0.5s						
EMUR	**La Murta**	**3.80**	**41**	P	**Pn**	**20 22 10.7**	**-0.3**
	3.7nm,0.3s,SNR=7.4						
EMUR				S	**Sn**	**20 22 53.6**	**-1.4**
	43nm,0.4s,SNR=7.3						
PBAR	**Barrancos**	**3.81**	**327**	P	**Pb**	**20 22 16.9**	**-3.2**
PBAR				S	**Sn**	**20 22 55.9**	**+0.7**
PBAR	**Barrancos**	**3.81**	**327**	*e*Pn	**Pb**	**20 22 16.9**	**-3.2**
PBAR				*e*Sn	**Sn**	**20 22 55.9**	**+0.7**
PCVE	**Castro Verde**	**3.94**	**313**	P	**Pn**	**20 22 14.1**	**+1.2**
PCVE				S	**Sn**	**20 23 00.0**	**+1.5**
	19nm,0.4s						
PCVE	**Castro Verde**	**3.94**	**313**	*e*Pn	**Pn**	**20 22 14.1**	**+1.2**
PCVE				*e*Sn	**Sn**	**20 23 00.0**	**+1.5**
PCVE				A	A	20 23 09.5	
	19nm,0.4s						
PBEJ	**Beja**	**4.11**	**318**	P	**Pn**	**20 22 17.2**	**+2.0**
PBEJ				S	**Sn**	**20 23 02.9**	**+0.2**
	11nm,0.5s						
PBEJ	**Beja**	**4.11**	**318**	*e*Pn	**Pn**	**20 22 17.2**	**+2.0**
PBEJ				*e*Sn	**Sn**	**20 23 02.9**	**+0.2**
PBEJ				A	A	20 23 06.3	
	21nm,0.5s						
MORF	**Marmelete**	**4.14**	**305**	*e*P	**Pn**	**20 22 15.9**	**+0.3**
MORF	**Marmelete**	**4.14**	**305**	P	**Pn**	**20 22 15.9**	**+0.3**
MORF				S	**Sn**	**20 23 02.8**	**-0.7**
	15nm,0.6s						
MORF	**Marmelete**	**4.14**	**305**	*e*Pn	**Pn**	**20 22 17.1**	**+1.5**
MORF				*e*Sn	**Sn**	**20 23 02.8**	**-0.7**
MORF				A	A	20 23 09.4	
	15nm,0.6s						
PFVI	**Vila Bisbo**	**4.17**	**302**	P	**Pn**	**20 22 15.7**	**-0.3**
	11nm,0.4s,SNR=10						
PFVI				S	**Sn**	**20 23 02.1**	**-2.1**
	56nm,0.7s,SNR=6.4						
PFVI	**Vila Bisbo**	**4.17**	**302**	P	**Pn**	**20 22 15.2**	**-0.8**
PFVI				S	**Sn**	**20 23 02.4**	**-1.8**
PFVI	**Vila Bisbo**	**4.17**	**302**	*e*Pn	**Pn**	**20 22 16.6**	**+0.6**
PFVI				*e*Sn	**Sn**	**20 23 03.3**	**-0.9**
PFVI				A	A	20 23 11.8	
	26nm,0.7s						
PFVI	**Vila Bisbo**	**4.17**	**302**	Pn	**Pn**	**20 22 16.2**	**+0.2**
ETOB	**Tobarra**	**4.28**	**31**	P	**Pn**	**20 22 19.0**	**+1.4**
	15nm,0.3s,SNR=62						
ETOB				S	**Sn**	**20 23 08.2**	**+1.2**
	42nm,0.7s						
PTEO	**Sao Teotonio**	**4.32**	**307**	P	**Pn**	**20 22 19.5**	**+1.4**
PTEO				S	**Sn**	**20 23 08.5**	**+0.7**
	13nm,0.6s						
PTEO	**Sao Teotonio**	**4.32**	**307**	*e*Pn	**Pn**	**20 22 19.5**	**+1.4**
PTEO				*e*Sn	**Sn**	**20 23 08.5**	**+0.7**
PTEO				A	A	20 23 16.9	
	27nm,0.6s						
TZRR	**Tazzarine**	**4.33**	**194**	P	**Pn**	**20 22 17.7**	**-0.6**
PNCL	**Nicolau / Gran**	**4.55**	**314**	P	**Pn**	**20 22 21.8**	**+0.6**
PNCL				S	**Sn**	**20 23 13.9**	**+0.5**
	13nm,0.4s						
PNCL	**Nicolau / Gran**	**4.55**	**314**	*e*Pn	**Pn**	**20 22 21.8**	**+0.6**
PNCL				*e*Sn	**Sn**	**20 23 13.9**	**+0.5**
PNCL				A	A	20 23 30.2	
	13nm,0.4s						
OUZM	**OUZ**	**4.55**	**207**	P	**Pn**	**20 22 20.9**	**-0.5**
OUZM				S	**Sn**	**20 23 12.1**	**-1.7**
EVO	**Evora**	**4.56**	**321**	P	**Pn**	**20 22 22.0**	**+0.6**
EVO				S	**Sn**	**20 23 13.1**	**-0.7**
EVO	**Evora**	**4.56**	**321**	*e*P	**Pn**	**20 22 22.0**	**+0.6**
EVO				*e*S	**Sn**	**20 23 13.1**	**-0.7**
EVO	**Evora**	**4.56**	**321**	*e*Pn	**Pn**	**20 22 23.8**	**+2.4**
EVO				*e*Sn	**Sn**	**20 23 13.3**	**-0.5**
EVO				A	A	20 23 20.1	
	15nm,0.5s						
ESDC	**Sonseca Array**	**4.67**	**4**	P

MVO					A		A	20 24 11.3	
	12nm,0.6s								
PVRL	**Vila Real**	**6.78**	**338**		P		**Pn**	**20 22 52.7**	**+0.8**
PVRL					S		**Sn**	**20 24 06.8**	**-1.7**
	4.0nm,0.3s								
PVRL	**Vila Real**	**6.78**	**338**		*e*Pn		**Pn**	**20 22 52.7**	**+0.8**
PVRL					*e*Sn		**Sn**	**20 24 06.8**	**-1.7**
PVRL					A		A	20 24 11.3	
	7.9nm,0.3s								
ERTA	**Horta de San J**	**7.01**	**31**		P		**Pn**	**20 22 56.2**	**+1.2**
	2.7nm,0.3s,SNR=9.9								
ERTA					S		**Sn**	**20 24 12.6**	**-1.5**
	3.3nm,0.5s,SNR=4.0								
PBRG	**Braganca**	**7.03**	**345**		P		**Pn**	**20 22 56.2**	**+0.9**
PBRG					S		**Sn**	**20 24 12.9**	**-1.7**
	4.4nm,0.5s								
PBRG	**Braganca**	**7.03**	**345**		*e*Pn		**Pn**	**20 22 56.2**	**+0.9**
PBRG					*e*Sn		**Sn**	**20 24 12.9**	**-1.7**
PBRG					A		A	20 24 14.2	
	8.8nm,0.5s								
ECAL	**Calabor**	**7.16**	**346**		P		**Pn**	**20 22 58.0**	**+0.9**
	7.9nm,0.4s,SNR=16								
ECAL					S		**Sn**	**20 24 15.9**	**-2.0**
	37nm,0.7s,SNR=6.8								
PCAB	**Cabril**	**7.27**	**338**		P		**Pn**	**20 23 00.3**	**+1.7**
PCAB					S		**Sn**	**20 24 20.1**	**-0.5**
	4.1nm,0.5s								
PCAB	**Cabril**	**7.27**	**338**		*e*Pn		**Pn**	**20 23 00.3**	**+1.7**
PCAB					*e*Sn		**Sn**	**20 24 20.1**	**-0.5**
PCAB					A		A	20 24 26.0	
	8.2nm,0.5s								
ELOB	**Lobios**	**7.43**	**338**		P		**Pn**	**20 23 01.3**	**+0.5**
	5.8nm,0.7s,SNR=5.2								
ELOB					S		**Sn**	**20 24 22.2**	**-2.3**
	14nm,0.7s,SNR=5.8								
ETOS	**Mallorca**	**7.44**	**48**		P		**Pn**	**20 23 00.8**	**-0.2**
	1.5nm,1.1s,SNR=7.9								
ETOS					S		**Sn**	**20 24 21.7**	**-3.1**
	0.3nm,0.2s,SNR=7.9								
PGAV	**Gavieira, Arco**	**7.58**	**338**		P		**Pn**	**20 23 03.5**	**+0.6**
PGAV					S		**Sn**	**20 24 25.4**	**-2.8**
	7.6nm,0.7s								
PGAV	**Gavieira, Arco**	**7.58**	**338**		*e*Pn		**Pn**	**20 23 03.5**	**+0.6**
PGAV					*e*Sn		**Sn**	**20 24 25.4**	**-2.8**
PGAV					A		A	20 24 42.2	
	7.6nm,0.7s								
EORO	**Oroz-Betelu**	**8.23**	**16**		P		**Pn**	**20 23 12.9**	**+1.1**
	2.7nm,0.3s,SNR=9.4								
EORO					S		**Sn**	**20 24 43.5**	**-0.6**
	9.1nm,0.6s,SNR=7.9								
ELAN	**Lanestosa**	**8.24**	**5**		P		**Pn**	**20 23 13.5**	**+1.5**
	7.3nm,0.7s,SNR=7.3								
EARI	**Arriondas**	**8.30**	**356**		P		**Pn**	**20 23 14.7**	**+1.9**
	14nm,1.0s,SNR=5.6								
EARI					S		**Sn**	**20 24 43.2**	**-2.7**
	0.8nm,0.3s,SNR=7.9								
ETSF	**Etsaut**	**8.42**	**20**		*e*P		**Pn**	**20 23 16.6**	**+2.2**
ETSF					*e*Sn		Sn	20 24 39.1	-10
	3.2nm,0.7s								
ETSF	**Etsaut**	**8.42**	**20**		P		**Pn**	**20 23 16.6**	**+2.2**
ETSF					S		Sn	20 24 39.1	-10
	1.6nm,0.7s								
SJPF	**Ste Jean**	**8.46**	**16**		*e*P		**Pn**	**20 23 16.6**	**+1.7**
SJPF					*e*Sn		Sn	20 24 39.0	-11
	3.7nm,0.6s								
SJPF	**Ste Jean**	**8.46**	**16**		P		**Pn**	**20 23 16.6**	**+1.7**
SJPF					S		Sn	20 24 39.0	-11
	1.9nm,0.6s								
EALK	**Alkurruntz**	**8.50**	**14**		P		**Pn**	**20 23 17.4**	**+1.9**
	12nm,0.4s,SNR=7.9								
EALK					S		**Sn**	**20 24 49.0**	**-1.8**
	5.4nm,0.4s,SNR=24								
CSOR	**Sort**	**8.53**	**29**		P		**Pn**	**20 23 17.5**	**+1.6**
	3.3nm,0.5s,SNR=6.3								
ATE	**Arette**	**8.56**	**18**		P		**Pn**	**20 23 18.3**	**+2.1**
	0.3nm,1.2s,SNR=7.9								
EPON	**Pontenova**	**8.58**	**346**		P		**Pn**	**20 23 18.7**	**+2.2**
	0.2nm,3.2s,SNR=7.9								
EMAZ	**Mazaricos**	**8.69**	**337**		P		**Pn**	**20 23 19.6**	**+1.5**
	0.2nm,4.2s,SNR=7.9								
EPF	**Esparros**	**8.81**	**23**		*e*P		**Pn**	**20 23 21.2**	**+1.4**
EPF					*e*Sn		Sn	20 24 48.1	-10
	2.0nm,0.5s								
EPF	**Esparros**	**8.81**	**23**		P		**Pn**	**20 23 21.2**	**+1.4**
EPF					S		Sn	20 24 48.1	-10
	1.0nm,0.5s								
CLLI	**Llivia**	**8.96**	**32**		P		**Pn**	**20 23 23.5**	**+1.6**
	0.2nm,3.0s,SNR=7.9								
MTLF	**Montolieu**	**9.77**	**30**		*e*P		**Pn**	**20 23 34.8**	**+2.0**
MTLF					*e*Sn		Sn	20 25 11.2	-11
	0.5nm,0.3s								
MTLF	**Montolieu**	**9.77**	**30**		P		**Pn**	**20 23 34.8**	**+2.0**
MTLF					S		Sn	20 25 11.2	-11
	0.2nm,0.3s								
LFF	**La Frestale**	**10.66**	**20**		*e*P		**Pn**	**20 23 46.8**	**+1.7**
LFF	**La Frestale**	**10.66**	**20**		P		**Pn**	**20 23 46.8**	**+1.7**
CAF	**Calviac**	**11.07**	**25**		*e*P		**Pn**	**20 23 54.1**	**+3.5**
CAF	**Calviac**	**11.07**	**25**		P		**Pn**	**20 23 54.1**	**+3.5**
GERES	**GERESS Array B**	**19.23**	**39**		P		**P**	**20 25 36.8**	**+0.5**
	0.1nm,0.3s,baz=221,slow=10,SNR=3.4								
GERES	**GERESS Array B**	**19.23**	**39**		P		**P**	**20 25 36.1**	**-0.2**
EKA	**Eskdalemuir Ar**	**20.34**		**2**	P		Pn	20 25 50.1	-0.3
	1.3nm,0.7s,baz=183,slow=12,SNR=2.4								
TOA0	**Torodi Ar. Sit**	**22.45**	**164**		P		**P**	**20 26 09.2**	**-2.1**
TOA0					IAmb		IAmb	20 26 16.6	
	comp=Z,14nm,1.1s								
TORD	**Torodi Ar. Bea**	**22.45**	**164**		P		**P**	**20 26 11.1**	**-0.2**
	comp=Z,7.9nm,0.9s,baz=347,slow=11,SNR=10								
TORD	**Torodi Ar. Bea**	**22.45**	**164**		P		**P**	**20 26 09.2**	**-2.1**
FINES	**FINESS Array B**	**32.77**	**27**		P		**P**	**20 27 46.1**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=243,slow=12,SNR=2.1								
ARCES	**ARCESS Array B**	**38.28**	**16**		P		**P**	**20 28 33.1**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=224,slow=8.8,SNR=1.8								

*LDG **09** 20:26:14.6±0.4, 34.°90N×4.°46W, h40km, Ml2.9/2, Error ellipse: s-maj=9.6km s-min=4.4km az=10.0*
*INMG **09** 20:26:15.9±1.7, 35.°04N×4.°30W, h10km, ML2.4, Error ellipse: s-maj=7.7km s-min=3.7km az=2.0*
*SFS **09** 20:26:16.0, 34.°92N×4.°41W, ML2.5, TARQUIST (MARRUECOS)*
*CNRM **09** 20:26:16.3±1.4, 34.°92N×4.°56W, h30km±12km, Error ellipse: s-maj=6.2km s-min=2.9km az=91.0*
*MDD **09** 20:26:16.0±1.0, 34.°95N×4.°34W, h15km±3km, mbLg2.6/30, Error ellipse: s-maj=8.5km s-min=4.9km az=8.0, PRXIMO*

ISC 09 20:26:16.3±0.9, 35.°07N±0.°04×4.°41W±0.°02, h23km±6km, n84, σ2s13/149, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVLZ	**Peæn de**	**0.14**	**40**	P		**Pb**	**20 26 20.4**	**-0.6**
PVLZ				S		**Sb**	**20 26 24.8**	**+0.6**
PVLZ	**Peæn de**	**0.14**	**40**	*e*P		**Pb**	**20 26 20.4**	**-0.6**
PVLZ				*e*S		**Sb**	**20 26 24.8**	**+0.6**
CEU	**Ceuta**	**1.14**	**317**	P		**Pn**	**20 26 35.2**	**-1.6**
CEU				S		**Sb**	**20 26 48.7**	**-3.2**
CEU	**Ceuta**	**1.14**	**317**	*e*P		**Pn**	**20 26 35.2**	**-1.6**
CEU				*e*S		**Sb**	**20 26 48.7**	**-3.2**
ECEU	**Ceuta**	**1.15**	**317**	P		**Pn**	**20 26 35.3**	**-1.7**
	1.6nm,0.3s,SNR=7.9							
EMEL	**Melilla**	**1.21**	**79**	P		**Pn**	**20 26 36.6**	**-1.2**
	53nm,0.1s,SNR=17							
EMEL				S		**Sb**	**20 26 54.3**	**+0.6**
	186nm,0.3s,SNR=7.9							
MELI	**Melilla**	**1.23**	**79**	P		**Pn**	**20 26 37.1**	**-0.9**
	13nm,0.3s,SNR=7.9							
MELI				S		**Sb**	**20 26 56.0**	**+1.8**
	236nm,0.5s,SNR=7.9							
MELI	**Melilla**	**1.23**	**79**	*e*P		**Pn**	**20 26 37.0**	**-1.0**
MELI				*e*S		**Sb**	**20 26 54.7**	**+0.5**
EALB	**Alboran**	**1.42**	**52**	P		**Pn**	**20 26 40.0**	**-0.6**
	13nm,0.2s,SNR=16							
EALB				S		**Sn**	**20 26 58.3**	**-0.3**
	157nm,0.7s,SNR=5.5							
LCRM	**LCR**	**1.43**	**195**	P		**Pn**	**20 26 38.2**	**-2.8**
IFR	**Ifrane**	**1.66**	**201**	*e*P		**Pn**	**20 26 41.3**	**-2.8**
IFR				*e*S		**Sn**	**20 27 00.3**	**-4.5**
EMAL	**Malaga-Limoner**	**1.69**	**359**	P		**Pn**	**20 26 44.2**	**-0.2**
EMAL				S		**Sn**	**20 27 05.8**	**+0.4**
EMAL	**Malaga-Limoner**	**1.69**	**359**	*e*P		**Pn**	**20 26 44.2**	**-0.2**
EMAL				*e*S		**Sn**	**20 27 05.8**	**+0.4**
ELGU	**Los Guajares,**	**1.91**	**19**	P		**Pn**	**20 26 46.7**	**-0.8**
	2.3nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**20 27 12.4**	**+1.6**
	110nm,0.5s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.05**	**7**	P		**Pn**	**20 26 48.9**	**-0.6**
	0.9nm,0.3s,SNR=7.9							
EGOR				S		**Sn**	**20 27 15.2**	**+0.7**
	20nm,0.3s,SNR=7.9							
ESPR	**Espera**	**2.15**	**327**	P		**Pn**	**20 26 52.4**	**+1.7**
	5.1nm,0.4s,SNR=7.9							
ESPR				S		**Sn**	**20 27 16.9**	**+0.3**
	12nm,0.3s,SNR=7.9							
EBER	**Berja**	**2.20**	**34**	P		**Pn**	**20 26 50.6**	**-1.0**
	1.9nm,0.2s,SNR=7.9							
EBER				S		**Sn**	**20 27 20.1**	**+1.9**
	31nm,0.4s,SNR=7.9							
MD31	**MD31**	**2.21**	**188**	P		**Pn**	**20 26 49.4**	**-2.3**
MD31				S		**Sn**	**20 27 15.0**	**-3.4**
MDT	**Midelt**	**2.25**	**184**	P		**Pn**	**20 26 49.8**	**-2.5**
MDT				S		**Sn**	**20 27 15.8**	**-3.6**
EQUE	**Quentar**	**2.27**	**20**	P		**Pn**	**20 26 53.9**	**+1.4**
	1.3nm,0.3s,SNR=17							
EQUE				S		**Sn**	**20 27 20.9**	**+1.0**
	12nm,0.4s,SNR=6.6							
ENIJ	**Nijar**	**2.61**	**43**	P		**Pn**	**20 26 57.3**	**+0.3**
	0.1nm,0.2s,SNR=7.9							
ENIJ				S		**Sn**	**20 27 27.2**	**-0.8**
	40nm,0.5s,SNR=7.9							
TDRA	**Tendrara**	**2.83**	**135**	P		**Pn**	**20 26 59.3**	**-1.0**
HORN	**Hornachuelos**	**2.86**	**346**	P		**Pn**	**20 27 01.1**	**+0.6**
HORN				S		**Sn**	**20 27 36.3**	**+2.2**
EQES	**Quesada**	**2.94**	**21**	P		**Pn**	**20 27 04.1**	**+2.4**
	1.2nm,0.3s,SNR=27							
EQES				S		**Sn**	**20 27 39.7**	**+3.5**
	22nm,0.3s,SNR=5.0							
AVE	**Averroes**	**3.05**	**236**	*e*P		**Pn**	**20 27 01.6**	**-1.6**
AVE				*e*S		**Sb**	**20 27 51.3**	**+4.5**
EADA	**Adamuz**	**3.10**	**358**	P		**Pn**	**20 27 05.5**	**+1.7**
	1.2nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**20 27 44.5**	**+4.4**
	8.2nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**3.11**	**345**	P		**Pn**	**20 27 05.4**	**+1.4**
	0.4nm,0.3s,SNR=7.9							
ECAB				S		**Sn**	**20 27 41.4**	**+1.0**
	8.4nm,0.4s,SNR=5.8							
EMIN	**Mina Concepcio**	**3.25**	**327**	P		**Pn**	**20 27 07.4**	**+1.5**
	0.9nm,0.1s,SNR=15							
EMIN				S		**Sn**	**20 27 44.4**	**+0.5**
	2.1nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.40**	**26**	P		**Pn**	**20 27 09.4**	**+1.4**
	0.7nm,0.3s,SNR=7.9							
SESP				S		**Sn**	**20 27 51.1**	**+3.4**
	11nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.40**	**26**	P		**Pn**	**20 27 10.6**	**+2.5**
SESP				S		**Sn**	**20 27 52.0**	**+4.3**
EGRO	**El Granado**	**3.50**	**316**	P		**Pn**	**20 27 10.8**	**+1.5**
	0.3nm,0.3s,SNR=16							
EGRO				S		**Sn**	**20 27 51.4**	**+1.5**
	7.6nm,0.3s,SNR=7.9							
PVAQ	**Vaqueiros**	**3.55**	**312**	P		**Pn**	**20 27 10.0**	**0.0**
PVAQ				S		**Sn**	**20 27 52.8**	**+1.6**
	10nm,0.3s							
PVAQ	**Vaqueiros**	**3.55**	**312**	P		**Pn**	**20 27 10.5**	**+0.5**
PVAQ				S		**Sn**	**20 27 52.2**	**+1.0**
PVAQ	**Vaqueiros**	**3.55**	**312**	*e*Pn		**Pn**	**20 27 10.0**	**0.0**
PVAQ				*e*Sn		**Sn**	**20 27 52.8**	**+1.6**
PVAQ				A		A	20 27 54.8	
	10nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.58**	**308**	P		**Pn**	**20 27 11.6**	**+1.1**
PBDV				S		**Sn**	**20 27 53.2**	**+1.1**
	8.7nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.58**	**308**	*e*Pn		**Pn**	**20 27 11.6**	**+1.1**
PBDV				*e*Sn		**Sn**	**20 27 53.2**	**+1.1**
PBDV				A		A	20 28 00.1	
	8.7nm,0.4s							
EMUR	**La Murta**	**3.77**	**42**	S		**Sn**	**20 27 55.1**	**-1.5**
	9.1nm,0.5s,SNR=7.9							
PCVE	**Castro Verde**	**3.89**	**312**	P		**Pn**	**20 27 15.8**	**+1.1**
PCVE				S		**Sn**	**20 28 01.4**	**+1.7**
	4.0nm,0.4s							
PCVE	**Castro Verde**	**3.89**	**312**	*e*Pn		**Pn**	**20 27 15.8**	**+1.1**
PCVE				*e*Sn		**Sn**	**20 28 01.4**	**+1.7**
PCVE				A		A	20 28 06.9	
	4.0nm,0.4s							
PBEJ	**Beja**	**4.06**	**318**	P		**Pn**	**20 27 18.2**	**+1.2**
PBEJ				S		**Sn**	**20 28 04.6**	**+0.8**
	1.8nm,0.5s							
PBEJ	**Beja**	**4.06**	**318**	*e*Pn		**Pn**	**20 27 18.2**	**+1.2**
PBEJ				*e*Sn		**Sn**	**20 28 04.6**	**+0.8**
PBEJ				A		A	20 28 08.1	
	3.5nm,0.5s							
MORF	**Marmelete**	**4.09**	**304**	P		**Pn**	**20 27 19.6**	**+2.1**
MORF				S		**Sn**	**20 28 04.9**	**+0.1**
	4.2nm,0.5s							
MORF	**Marmelete**	**4.09**	**304**	*e*Pn		**Pn**	**20 27 19.6**	**+2.1**
MORF				*e*Sn		**Sn**	**20 28 04.9**	**+0.1**
MORF				A		A	20 28 16.0	
	4.2nm,0.5s							
PFVI	**Vila Bisbo**	**4.13**	**301**	P		**Pn**	**20 27 17.8**	**-0.1**
	2.9nm,0.2s,SNR=6.2							
PFVI				S		**Sn**	**20 28 05.1**	**-0.4**
	26nm,0.7s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.13**	**301**	P		**Pn**	**20 27 17.7**	**-0.3**
PFVI	**Vila Bisbo**	**4.13**	**301**	*e*Pn		**Pn**	**20 27 18.3**	**+0.3**
PFVI				*e*Sn		**Sn**	**20 28 06.2**	**+0.7**
PFVI				A		A	20 28 21.3	
	9.0nm,0.6s							
ETOB	**Tobarra**	**4.24**	**32**	P		**Pn**	**20 27 21.8**	**+2.3**
	1.7nm,0.2s,SNR=18							
ETOB				S		**Sn**	**20 28 10.7**	**+2.3**
	1.0nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**4.27**	**307**	P		**Pn**	**20 27 21.4**	**+1.5**
PTEO				S		**Sn**	**20 28 10.4**	**+1.3**
	4.7nm,0.6s							
PTEO	**Sao Teotonio**	**4.27**	**307**	*e*Pn		**Pn**	**20 27 21.4**	**+1.5**
PTEO				*e*Sn		**Sn**	**20 28 10.4**	**+1.3**
PTEO				A		A	20 28 16.4	
	9.4nm,0.6s							
TZRR	**Tazzarine**	**4.38**	**193**	P		**Pn**	**20 27 19.9**	**-1.6**
PNCL	**Nicolau / Gran**	**4.50**	**314**	P		**Pn**	**20 27 24.7**	**+1.7**
PNCL				S		**Sn**	**20 28 15.7**	**+1.1**
	4.3nm,0.5s							
PNCL	**Nicolau / Gran**	**4.50**	**314**	*e*Pn		**Pn**	**20 27 24.7**	**+1.7**
PNCL				*e*Sn		**Sn**	**20 28 15.7**	**+1.1**
PNCL				A		A	20 28 17.6	
	4.3nm,0.5s							
EVO	**Evora**	**4.51**	**321**	P		**Pn**	**20 27 24.6**	**+1.4**
EVO				S		**Sn**	**20 28 15.8**	**+0.9**
EVO	**Evora**	**4.51**	**321**	*e*P		**Pn**	**20 27 24.6**	**+1.4**
EVO				*e*S		**Sn**	**20 28 15.8**	**+0.9**
EVO	**Evora**	**4.51**	**321**	*e*Pn		**Pn**	**20 27 25.8**	**+2.6**
EVO				*e*Sn		**Sn**	**20 28 16.3**	**+1.4**
EVO				A		A	20 28 19.8	
	3.4nm,0.4s							
OUZM	**OUZ**	**4.59**	**206**	P		**Pn**	**20 27 22.4**	**-2.1**
ESDC	**Sonseca Array**	**4.61**	**4**	P		**Pn**	**20 27 26.9**	**+2.2**
	2.6nm,0.6s,baz=185,slow=12,SNR=13							
ESDC				S		**Sn**	**20 28 19.2**	**+1.7**
	2.2nm,0.5s,baz=189,slow=22,SNR=8.4							
OUK	**Oukaimeden**	**4.82**	**218**	P		**Pn**	**20 27 25.1**	**-2.7**
OUK				S		**Sn**	**20 28 18.1**	**-5.0**
PMTG	**Montargil**	**5.03**	**324**	P		**Pn**	**20 27 31.7**	**+1.4**
PMTG				S		**Sn**	**20 28 28.4**	**+0.8**
	2.9nm,0.5s							
PMTG	**Montargil**	**5.03**	**324**	*e*Pn		**Pn**	**20 27 31.7**	**+1.4**
PMTG				*e*Sn		**Sn**	**20 28 28.4**	**+0.8**
PMTG				A		A	20 28 31.9	
	2.9nm,0.5s							
ZGR	**Zagora**	**5.04**	**192**	P		**Pn**	**20 27 28.5**	**-2.1**
EPLA	**Plasencia**	**5.16**	**346**	P		**Pn**	**20 27 32.9**	**+0.7**
	0.4nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**20 28 31.0**	**0.0**
	1.9nm,0.3s,SNR=7.9							
PCBR	**Castelo Branco**	**5.35**	**334**	P		**Pn**	**20 27 36.6**	**+1.8**
PCBR				S		**Sn**	**20 28 35.8**	**+0.1**
PCBR	**Castelo Branco**	**5.35**	**334**	*e*Pn		**Pn**	**20 27 36.6**	**+1.8**
PCBR				*e*Sn		**Sn**	**20 28 35.8**	**+0.1**
TTIG	**Tnine Tigouga,**	**5.64**	**218**	P		Pn	20 27 34.0	-4.9
PCAS	**Casmilo, Conde**	**5.94**	**328**	P		**Pn**	**20 27 44.2**	**+1.3**
PCAS	**Casmilo, Conde**	**5.94**	**328**	*e*Pn		**Pn**	**20 27 44.2**	**+1.3**
ETOR	**Torete**	**6.04**	**17**	P		**Pn**	**20 27 45.4**	**+1.2**
	0.5nm,0.3s,SNR=7.9							
ETOR				S		**Sn**	**20 28 53.3**	**+0.7**
	1.7nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**6.28**	**335**	S		**Sn**	**20 28 59.0**	**+0.5**
PVIS	**Viseu**	**6.28**	**335**	*e*Sn		**Sn**	**20 28 59.0**	**+0.5**
MVO	**Moncorvo**	**6.43**	**342**	P		**Pn**	**20 27 50.6**	**+1.1**
	0.1nm,0.3s,SNR=7.9							
MVO				S		**Sn**	**20 29 01.0**	**-1.3**
	3.1nm,0.3s,SNR=4.0							
MVO	**Moncorvo**	**6.43**	**342**	*e*Pn		**Pn**	**20 27 50.9**	**+1.3**
MVO				*e*Sn		**Sn**	**20 29 02.0**	**-0.3**
PBRG	**Braganca**	**6.97**	**345**	P		**Pn**	**20 27 58.1**	**+1.1**
PBRG				S		**Sn**	**20 29 14.5**	**-1.1**
PBRG	**Braganca**	**6.97**	**345**	*e*Pn		**Pn**	**20 27 58.1**	**+1.1**
PBRG				*e*Sn		**Sn**	**20 29 14.5**	**-1.1**
ECAL	**Calabor**	**7.10**	**346**	P		**Pn**	**20 28 00.8**	**+2.0**
	0.2nm,0.3s,SNR=7.9							
ECAL				S		**Sn**	**20 29 14.7**	**-4.1**
	3.1nm,0.4s,SNR=7.9							
PCAB	**Cabril**	**7.21**	**338**	P		Pn	20 28 06.8	+6.4
PCAB				S		**Sn**	**20 29 15.3**	**-6.3**
PCAB	**Cabril**	**7.21**	**338**	*e*Pn		Pn	20 28 06.8	+6.4
PCAB				*e*Sn		**Sn**	**20 29 15.3**	**-6.3**
ETSF	**Etsaut**	**8.37**	**20**	*e*P		**Pn**	**20 28 18.1**	**+1.8**
ETSF				*e*Sn		**Sn**	**20 29 44.0**	**-6.1**
	1.2nm,0.5s							
ETSF	**Etsaut**	**8.37**	**20**	P		**Pn**	**20 28 18.1**	**+1.8**
ETSF				S		**Sn**	**20 29 44.0**	**-6.1**
	0.6nm,0.5s							
SJPF	**Ste Jean**	**8.41**	**16**	*e*P		**Pn**	**20 28 18.9**	**+2.2**
SJPF				*e*Sn		**Sn**	**20 29 45.7**	**-5.1**
	1.3nm,0.5s							
SJPF	**Ste Jean**	**8.41**	**16**	P		**Pn**	**20 28 18.9**	**+2.2**
SJPF				S		**Sn**	**20 29 45.7**	**-5.1**
	0.6nm,0.5s							
EALK	**Alkurruntz**	**8.45**	**15**	P		**Pn**	**20 28 19.8**	**+2.5**
	7.8nm,0.9s,SNR=5.2							
QUIF	**Quistinic**	**12.87**	**4**	*e*P		**Pn**	**20 29 20.0**	**+2.3**
QUIF	**Quistinic**	**12.87**	**4**	P		**Pn**	**20 29 20.0**	**+2.3**

IDC 09 20:27:50.9±565.0, 34.°46N×121.°36W, h0km, Error ellipse: s-maj=240.1km s-min=96.9km az=94.0, Off coast of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I57US	**PINON FLAT INF**	**4.16**	**100**	*i*		20 54 30.0	
	baz=283,slow=319,SNR=0.9						
I56US	**NEWPORT INFRASI**	**4.15**	**12**	*i*		21 53 30.0	
	baz=192,slow=318,SNR=1.6						
I10CA	**LAC DU BONNET**	**24.29**	**42**	*i*		22 56 50.0	
	baz=241,slow=327,SNR=1.1						

*IDC **09** 20:34:37.3±0.5, 7.°64N×94.°60E, h0km, mb4.1/25, mb1 4.2/26, mb1mx4.1/46, mbtmp4.1/26, ML3.4/1, MS4.0/21, Ms1 4.0/21, ms1mx3.8/48, Error ellipse: s-maj=19.2km s-min=12.3km az=53.0*
*NEIC **09** 20:34:41.6±1.5, 7.°61N±0.°08×94.°51E±0.°06, h30km±4km, mb4.6/35, Error ellipse: s-maj=11.5km s-min=8.8km az=164.0*
*KLM **09** 20:34:42.0, 7.°31N×94.°36E, h15km, mb4.6*
*GCMT **09** 20:34:43.6±0.3, 7.°52N±0.°02×94.°50E±0.°02, h21km±1km, MW4.9/87, Moment Tensor Solution. s15,c15; s87,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.93±.17; Mθθ-1.73±.10; Mφφ2.66±.12; Mrθ-0.96±.22; Mrφ0.49±.08; Mθφ-1.35±.22; Best double couple: Mo2.81600×10^16 NP1:φs143.00000°, δ49.00000°, λ-166.00000°. NP2: φs43.00000°, δ79.00000°, λ-42.00000°. Principal axes: T 3.2330, Plg20.0000°, Azm100.0000°; N -0.8340, Plg47.0000°, Azm212.0000°; P -2.3990, Plg37.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **09** 20:34:46.4±1.3, 7.°1N±4.°9 9.°5E±.°, h17km±9km, M4.6/17, mb4.7/17, mB5.0/5, MLv4.8/10, Mw(mB)4.3/5, Mwp5.2/1*

ISC 09 20:34:41.4±0.3, 7.°54N±0.°05×94.°41E±0.°05, h24km, n132, σ1s71/124, mb4.4/51, MS4.0/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.41**	**132**	P		**Pn**	**20 35 33.6**	**+0.4**
LHMI				S		**Sn**	**20 36 13.0**	**+0.1**
LHMI	**Lhok Sumawe**	**3.41**	**132**	Pn		**Pn**	**20 35 31.8**	**-1.4**
MLSI	**Meulaboh, Aceh**	**3.81**	**149**	P		**Pn**	**20 35 40.4**	**+1.7**
MLSI				S		**Sn**	**20 36 24.5**	**+1.7**
TPTI		**5.07**	**147**	P		**Pn

TGY	**Tagaytay City**	**26.84**	**74**	LR	LR	20 49 37.1			
	comp=Z,369nm,20.4s,baz=236,slow=34								
KAPI	**Kappang**	**28.20**	**116**	LR	LR	20 53 55.9			
	comp=Z,232nm,18.8s,baz=288,slow=41								
LUWI	**Luwuk**	**29.55**	**106**	P	P	20 41 03.2	+19		
XAN	**Xi'an**	**29.58**	**25**	P	**P**	**20 40 46.7**	**+2.1**		
XAN				sP	sP	20 40 53.6	0.0		
XAN				PP	**PnPn**	**20 41 44.5**	**+4.8**		
XAN				S	S	20 45 27.1	-11		
XAN				pmax	pmax				
	comp=Z,10.0nm,1.1s								
XAN				AMB	AMB				
	comp=Z,280nm,4.7s								
XAN				LR	LR				
	comp=N,860nm,14.1s								
XAN				LR	LR				
	comp=E,1μm,15.1s								
XAN				LR	LR				
	comp=Z,1μm,13.7s								
LZH	**Lanzhou**	**29.69**	**16**	*e*P	**P**	**20 40 49.6**	**+3.9**		
LZH				pP	pP	20 40 52.8	+0.7		
LZH				sP	pwP	20 40 54.3	-1.3		
LZH				*e*PP	**PnPn**	**20 41 47.5**	**+6.1**		
LZH				pmax	pmax				
	comp=Z,21nm,1.2s								
LZH				pmax	pmax				
	comp=Z,74nm,4.8s								
LZH				LR	LR				
	comp=N,260nm,13.0s								
LZH				LR	LR				
	comp=E,270nm,13.1s								
LZH				LR	LR				
	comp=Z,430nm,16.3s								
GTA	**Gaotai**	**32.10**	**8**	P	**P**	**20 41 07.4**	**+0.5**		
GTA				pP	pP	20 41 10.6	-2.6		
GTA				sP	pwP	20 41 13.4	-3.5		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,120nm,5.6s								
GTA				LR	LR				
	comp=N,230nm,14.2s								
GTA				LR	LR				
	comp=E,400nm,16.4s								
GTA				LR	LR				
	comp=Z,200nm,16.4s								
NIL	**Nilore**	**32.52**	**326**	P	**P**	**20 41 09.4**	**-1.2**		
NJ2	**Nanjing**	**33.35**	**40**	*e*P	**P**	**20 41 17.9**	**+0.1**		
NJ2				pmax	pmax				
	comp=Z,5.0nm,0.5s								
BATI	**Baumata**	**34.05**	**121**	LR	LR	20 56 54.1			
	comp=Z,432nm,18.3s,baz=300,slow=39								
HHC	**Hu-ho-hao-te**	**36.52**	**22**	*e*P	**P**	**20 41 45.4**	**+0.2**		
HHC				S	**S**	**20 47 27.8**	**+1.6**		
HHC				pmax	pmax				
	comp=Z,11nm,0.6s								
HHC				pmax	pmax				
	comp=Z,330nm,4.2s								
HHC				LR	LR				
	comp=N,550nm,11.1s								
HHC				LR	LR				
	comp=E,790nm,12.8s								
HHC				LR	LR				
	comp=Z,430nm,12.8s								
WMQ	**Urumqi**	**36.61**	**352**	*e*P	**P**	**20 41 47.1**	**+1.2**		
WMQ				pP	pP	20 41 50.3	-2.2		
WMQ				pmax	pmax				
	comp=Z,9.0nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,50nm,4.5s								
WMQ				LR	LR				
	comp=N,150nm,16.3s								
WMQ				LR	LR				
	comp=Z,120nm,19.3s								
SIJI	**Sorong**	**37.70**	**101**	LR	LR	20 58 15.2			
	comp=Z,87nm,18.2s,baz=36,slow=38								
WSAR	**Wadi Sarin**	**37.72**	**298**	P	**P**	**20 41 54.9**	**-0.6**		
	comp=Z,4.6nm,1.0s,baz=120,slow=7.0,SNR=2.1								
GAR	**Garm**	**38.09**	**329**	P	**P**	**20 41 57.8**	**-0.8**		
CHGR	**Chuyangaron**	**38.44**	**328**	P	**P**	**20 42 00.0**	**-1.5**		
BTK	**Batken**	**38.65**	**331**	P	**P**	**20 42 03.8**	**+0.6**		
BTK				IAmb	IAmb	20 42 19.7			
	comp=Z,12nm,0.8s								
FITZ	**Fitzroy Crossi**	**40.00**	**130**	P	**P**	**20 42 11.6**	**-3.0**		
	comp=Z,2.0nm,1.0s,baz=327,slow=5.1,SNR=2.2								
FITZ	**Fitzroy Crossi**	**40.00**	**130**	P	**P**	**20 42 12.7**	**-1.9**		
FITZ				IAmb	IAmb	20 42 31.4			
	comp=Z,7.5nm,1.1s								
MK31	**Makanchi Array**	**40.47**	**347**	P	**P**	**20 42 17.8**	**-0.4**		
MK31				IAmb	IAmb	20 42 24.5			
	comp=Z,6.0nm,0.8s								
MKAR	**Makanchi Array**	**40.47**	**347**	P	**P**	**20 42 17.7**	**-0.5**		
	comp=Z,6.7nm,0.8s,baz=165,slow=8.0,SNR=35								
MKAR				LR	LR	21 02 15.5			
	comp=Z,97nm,18.5s,baz=165,slow=41								
MAKZ	**Makanchi**	**40.55**	**347**	P	**P**	**20 42 18.4**	**-0.5**		
MAKZ				IAmb	IAmb	20 42 26.8			
	comp=Z,6.8nm,0.9s								
KK31	**Karatay Array**	**41.17**	**333**	P	**P**	**20 42 22.1**	**-2.0**		
KKAR	**Karatay Array**	**41.17**	**333**	P	**P**	**20 42 23.3**	**-0.8**		
SONM	**Songino Array**	**41.43**	**12**	P	**P**	**20 42 23.9**	**-2.3**		
	comp=Z,2.1nm,0.9s,baz=189,slow=7.5,SNR=4.9								
SONM				LR	LR	21 00 38.9			
	comp=Z,179nm,21.9s,baz=178,slow=38								
SONM	**Songino Array**	**41.43**	**12**	P	**P**	**20 42 23.5**	**-2.7**		
KSRS	**Korea Array**	**42.54**	**41**	P	**P**	**20 42 33.2**	**-2.1**		
	comp=Z,0.3nm,0.5s,baz=216,slow=10,SNR=3.2								
KSRS				LR	LR	21 00 16.9			
	comp=Z,137nm,19.3s,baz=228,slow=36								
GEYT	**Alibeck**	**44.62**	**318**	P	**P**	**20 42 52.2**	**+0.1**		
	comp=Z,3.9nm,0.7s,baz=139,slow=7.0,SNR=5.6								
GEYT				LR	LR	21 04 38.1			
	comp=Z,226nm,18.7s,baz=135,slow=40								
GEYT	**Alibeck**	**44.62**	**318**	P	**P**	**20 42 51.8**	**-0.3**		
GYA0B	**ALIBECK ARRAY**	**44.62**	**318**	P	**P**	**20 42 52.7**	**+0.6**		
GYA0B				IAmb	IAmb	20 43 00.1			
	comp=Z,9.8nm,0.6s								
KURK	**Kurchatov**	**44.99**	**346**	P	**P**	**20 42 54.9**	**+0.1**		
KURK				IAmb	IAmb	20 42 59.4			
	comp=Z,10nm,0.7s								
ZAA0	**Zalesovo Array**	**46.92**	**352**	P	**P**	**20 43 09.9**	**0.0**		
ZALV	**Zalesovo Beam**	**46.92**	**352**	P	**P**	**20 43 09.7**	**-0.2**		
	comp=Z,3.6nm,0.4s,baz=178,slow=8.2,SNR=28								
ZALV				LR	LR	21 07 45.2			
	comp=Z,136nm,18.2s,baz=194,slow=42								
WB0	**Warramunga Arr**	**47.81**	**125**	P	**P**	**20 43 16.3**	**-1.1**		
WB0				IAmb	IAmb	20 43 36.1			
	comp=Z,6.3nm,1.0s								
WRA	**Warramunga Arr**	**47.85**	**125**	P	**P**	**20 43 16.8**	**-1.0**		
	comp=Z,1.9nm,0.9s,baz=306,slow=8.8,SNR=13								
WRA				PcP	**PcP**	**20 44 45.6**	**-0.8**		
	comp=Z,0.9nm,0.8s,baz=308,slow=2.8,SNR=2.0								
WRA				LR	LR	21 05 02.5			
	comp=Z,236nm,20.5s,baz=305,slow=38								
WRA	**Warramunga Arr**	**47.85**	**125**	P	**P**	**20 43 17.2**	**-0.6**		
WRAB	**Tennant Creek**	**47.86**	**125**	P	**P**	**20 43 17.9**	**+0.1**		
WRAB				IAmb	IAmb	20 43 26.0			
	comp=Z,4.3nm,0.8s								
WR0	**Warramunga Arr**	**48.03**	**125**	P	**P**	**20 43 17.5**	**-1.5**		
WR0				IAmb	IAmb	20 43 38.6			
	comp=Z,5.6nm,0.9s								
MJAR	**Matsushiro Arr**	**49.19**	**47**	LR	LR	21 06 56.0			
	comp=Z,117nm,18.1s,baz=165,slow=40								
BRVK	**Borovoye**	**49.45**	**341**	P	**P**	**20 43 29.0**	**-0.5**		
BRVK				IAmb	IAmb	20 43 38.4			
	comp=Z,4.2nm,0.8s								
ASAR	**Alice Springs**	**49.50**	**130**	P	**P**	**20 43 29.4**	**-1.1**		
	comp=Z,2.2nm,0.9s,baz=308,slow=7.2,SNR=15								
ASAR				PcP	**PcP**	**20 44 51.4**	**-0.8**		
	comp=Z,0.7nm,0.7s,baz=296,slow=3.7,SNR=1.4								
ASAR				LR	LR	21 06 23.3			
	comp=Z,141nm,20.1s,baz=296,slow=39								
ASAR	**Alice Springs**	**49.50**	**130**	P	**P**	**20 43 28.9**	**-1.5**		
ABKAR	**Akbulak array**	**50.65**	**331**	P	**P**	**20 43 38.0**	**-0.7**		
ABKAR	**Akbulak array**	**50.65**	**331**	P	**P**	**20 43 37.0**	**-1.6**		
ABKAR				IAmb	IAmb	20 43 46.7			
	comp=Z,6.2nm,0.8s								
ATD	**Arta Tunnel**	**50.95**	**279**	P	**P**	**20 43 42.9**	**+1.3**		
	comp=Z,2.9nm,0.4s,baz=270,slow=14,SNR=2.2								
ATD	**Arta Tunnel**	**50.95**	**279**	P	**P**	**20 43 41.0**	**-0.6**		
OPO	**Ambohidratompo**	**53.31**	**240**	P	**P**	**20 44 00.9**	**+1.7**		
	comp=Z,3.0nm,0.8s,baz=79,slow=5.2,SNR=2.9								
ARU	**Arti**	**56.30**	**337**	P	**P**	**20 44 19.6**	**-0.4**		
KBZ	**Khabaz**	**57.51**	**318**	LR	LR	21 12 46.4			
	comp=Z,50nm,20.0s,baz=125,slow=40								
KMBO	**Kilima Mbogo**	**57.65**	**264**	P	**P**	**20 44 32.0**	**+1.3**		
	comp=Z,1.2nm,0.5s,baz=70,slow=9.0,SNR=4.1								
KMBO	**Kilima Mbogo**	**57.65**	**264**	P	**P**	**20 44 29.6**	**-1.0**		
STKA	**Stephens Creek**	**59.69**	**134**	P	**P**	**20 44 43.5**	**-0.7**		
	comp=Z,1.7nm,0.8s,baz=276,slow=9.2,SNR=2.0								
STKA				LR	LR	21 15 31.7			
	comp=Z,126nm,18.0s,baz=251,slow=41								
STKA	**Stephens Creek**	**59.69**	**134**	P	**P**	**20 44 42.5**	**-1.7**		
NRIK	**Noril'sk**	**61.88**	**357**	P	**P**	**20 44 57.6**	**-0.8**		
	comp=Z,2.8nm,0.6s,baz=128,slow=5.6,SNR=1.7								
NRIK				LR	LR	21 16 06.4			
	comp=Z,129nm,21.0s,baz=200,slow=40								
BRTR	**Keskin Array B**	**62.84**	**311**	P	**P**	**20 45 06.4**	**+0.7**		
	comp=Z,2.1nm,0.7s,baz=118,slow=7.2,SNR=6.1								
BRTR				LR	LR	21 14 56.4			
	comp=Z,32nm,21.8s,baz=118,slow=38								
BRTR	**Keskin Array B**	**62.84**	**311**	P	**P**	**20 45 05.5**	**-0.2**		
KLMR	**Klimovskoe**	**66.87**	**334**	*e*P	**P**	**20 45 32.8**	**+1.5**		
KLMR				AMP		20 45 45.2			
	comp=Z,22nm,1.4s								
AKASG	**Malin Array Be**	**68.58**	**322**	P	**P**	**20 45 41.8**	**-0.4**		
	comp=Z,0.1nm,0.2s,baz=99,slow=4.7,SNR=4.2								
AKASG				LR	LR	21 20 26.6			
	comp=Z,68nm,18.1s,baz=65,slow=40								
MLR	**Muntele Rosu**	**69.59**	**316**	P	**P**	**20 45 48.1**	**-0.8**		
NACGM	**Naroch**	**71.07**	**326**	*e*	**P**	**20 46 02.0**	**+4.5**		
FINES	**FINESS Array B**	**73.12**	**332**	P	**P**	**20 46 08.8**	**-0.9**		
	comp=Z,3.0nm,0.8s,baz=102,slow=6.2,SNR=10								
FINES	**FINESS Array B**	**73.12**	**332**	P	**P**	**20 46 08.9**	**-0.8**		
BOSA	**Boshof**	**75.64**	**238**	P	**P**	**20 46 25.3**	**+0.2**		
	comp=Z,1.9nm,0.7s,baz=50,slow=6.2,SNR=1.8								
BOSA	**Boshof**	**75.64**	**238**	P	**P**	**20 46 23.9**	**-1.2**		
BOSA				IAmb	IAmb	20 46 33.2			
	comp=Z,11nm,1.1s								
ARCES	**ARCESS Array B**	**75.66**	**340**	P	**P**	**20 46 23.7**	**-0.7**		
	comp=Z,1.1nm,0.7s,baz=96,slow=6.1,SNR=7.1								
ARCES				LR	LR	21 23 02.8			
	comp=Z,204nm,18.5s,baz=100,slow=38								
ARSA	**Arzberg**	**76.96**	**317**	*e*P	**P**	**20 46 33.4**	**+1.2**		
	comp=Z,4.3nm,1.5s								
SOKA	**Soboth**	**77.27**	**316**	*i* P	**P**	**20 46 37.3**	**+3.3**		
	comp=Z,4.4nm,1.1s								
GERES	**GERESS Array B**	**78.25**	**318**	P	**P**	**20 46 39.2**	**-0.2**		
	comp=Z,0.8nm,0.7s,baz=90,slow=4.1,SNR=4.8								
GERES	**GERESS Array B**	**78.25**	**318**	P	**P**	**20 46 38.5**	**-0.9**		
MAW	**Mawson**	**78.27**	**192**	P	**P**	**20 46 39.8**	**+0.9**		
	comp=Z,1.4nm,0.8s,baz=16,slow=6.4,SNR=3.7								
MAW	**Mawson**	**78.27**	**192**	P	**P**	**20 46 39.5**	**+0.6**		
ABTA	**Abfaltersbach**	**79.00**	**316**	*i* P	**P**	**20 46 44.9**	**+1.3**		
	comp=Z,6.6nm,1.2s								
CIMO	**Cimolais**	**79.05**	**316**	P	**P**	**20 46 43.4**	**-0.4**		
CIMO				IAmb	IAmb	20 46 54.1			
	comp=Z,5.0nm,0.7s								
WTTA	**Wattenberg**	**79.60**	**317**	*e*P	P	20 46 52.8	+5.7		
	comp=Z,5.8nm,0.8s								
MOTA	**Moosalm**	**79.97**	**317**	*e*P	P	20 46 55.0	+6.1		
	comp=Z,7.1nm,1.0s								
NB2	**NORSAR Subarra**	**80.15**	**331**	P	**P**	**20 46 47.9**	**-1.6**		
	comp=Z,2.2nm,0.8s,baz=95,slow=5.1								
NOA	**NORSAR Array**	**80.15**	**331**	P	**P**	**20 46 48.9**	**-0.6**		
	comp=Z,1.2nm,0.8s,baz=93,slow=5.7,SNR=3.9								
FETA	**Feichten**	**80.22**	**316**	*e*P	P	20 46 55.5	+5.2		
	comp=Z,5.3nm,1.2s								
TORD	**Torodi Ar. Bea**	**90.93**	**283**	P	**P**	**20 47 44.9**	**+0.8**		
	comp=Z,0.8nm,0.9s,baz=85,slow=5.3,SNR=2.3								
TORD	**Torodi Ar. Bea**	**90.93**	**283**	P	**P**	**20 47 43.8**	**-0.3**		
ESDC	**Sonseca Array**	**91.63**	**310**	P	**P**	**20 47 46.4**	**-0.6**		
	comp=Z,0.4nm,0.7s,baz=65,slow=4.1,SNR=3.0								
ESDC	**Sonseca Array**	**91.63**	**310**	P	**P**	**20 47 46.3**	**-0.7**		
VNDA	**Vanda**	**92.56**	**168**	P	**P**	**20 47 50.4**	**+0.1**		
	comp=Z,0.3nm,0.8s,baz=299,slow=8.5,SNR=2.2								
NVAR	**Mina Array Bea**	**125.06**	**31**	PKP	**PKPdf**	**20 53 40.2**	**-0.4**		
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.0								
NVAR	**Mina Array Bea**	**125.06**	**31**		**PKPdf**	**20 53 39.9**	**-0.6**		
PDAR	**Pinedale Array**	**125.37**	**22**	PKP	**PKPdf**	**20 53 40.4**	**-0.7**		
	comp=Z,0.2nm,0.7s,baz=337,slow=2.1,SNR=1.9								
TXAR	**Lajitas Array**	**139.41**	**25**	PKP	**PKPdf**	**20 54 06.7**	**-1.0**		
	comp=Z,0.2nm,0.7s,baz=236,slow=1.0,SNR=2.6								
TXAR	**Lajitas Array**	**139.41**	**25**		**PKPdf**	**20 54 06.1**	**-1.5**		
CPUP	**Villa Florida**	**147.27**	**232**	PKPbc	**PKPbc**	**20 54 23.6**	**-0.1**		
	comp=Z,0.9nm,0.6s,baz=140,slow=4.4,SNR=2.3								
CPUP	**Villa Florida**	**147.27**	**232**		**PKPbc**	**20 54 23.4**	**-0.3**		

*KEA **09** 20:41:03.4±0.0, 41.°87N×121.°41E, h0km, ML3.1/3*
ISC 09 20:41:04.9±4.7, 41.°9N±0.°2×121.°7E±0.°1, h10km, n5, σ0s54/8, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUJ	**Sinuiju**	**2.79**	**130**	Pg	**Pg**	**20 41 58.2**	**-0.1**
SUJ				Sg	**Sg**	**20 42 35.5**	**+1.0**
DL2	**Dalian**	**3.03**	**181**	Pg	**Pg**	**20 42 03.1**	**+0.2**
DL2				Sg	**Sg**	**20 42 41.8**	**-0.3**
DL2				smax	smax		
	comp=N,19nm,0.7s						
DL2				smax	smax		
	comp=E,24nm,0.8s						
KGE	**Kanggye**	**3.82**	**103**	Sg	**Sg**	**20 43 07.7**	**+0.3**
PYS	**Pyongsong**	**4.14**	**129**	Pg	**Pg**	**20 42 23.8**	**-0.4**
PYS				Sg	**Sg**	**20 43 17.6**	**-0.2**
HJU	**Haeju**	**4.96**	**140**	Sg	**Sg**	**20 43 44.0**	**-0.2**

*IDC **09** 20:44:47.6±1.2, 4.°22S×150.°86E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/29, mbtmp3.8/5, ML1.9/1, Error ellipse: s-maj=35.7km s-min=16.4km az=162.0*
ISC 09 20:44:52.8±1.1, 4.°3S±0.°2×150.°9E±0.°1, h35km, n7, σ0s99/9, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.17**	**91**	Pn	**Pn**	**20 45 11.4**	**-1.2**
	339nm,0.3s,baz=175,slow=2.4,SNR=236						
KRVT				Sn	**Sn**	**20 45 28.9**	**+1.6**
	222nm,0.3s,baz=200,slow=20,SNR=16						
PMG	**Port Moresby**	**6.27**	**216**	Pn	**Pn**	**20 46 22.5**	**-0.2**
	1.6nm,0.3s,baz=38,slow=19,SNR=2.2						
PMG				Sn	**Sn**	**20 47 33.1**	**-0.1**
	3.0nm,0.3s,baz=23,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**22.38**	**225**	P	**P**	**20 49 47.6**	**-0.6**
	0.6nm,0.6s,baz=51,slow=10.0,SNR=4.3						
ASAR	**Alice Springs**	**25.27**	**219**	P	**P**	**20 50 16.0**	**0.0**
	1.3nm,0.8s,baz=56,slow=9.3,SNR=12						
FITZ	**Fitzroy Crossi**	**28.23**	**239**	P	**P**	**20 50 43.8**	**+1.2**
	2.9nm,1.1s,baz=56,slow=11,SNR=2.4						
ILAR	**Eielson Array**	**82.43**	**22**	P	**P**	**20 57 10.9**	**-0.2**
	0.7nm,0.7s,baz=243,slow=5.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.31**	**288**	PKPbc	**PKPbc**	**21 04 36.2**	**-0.2**
	0.2nm,0.3s,baz=94,slow=3.4,SNR=5.4						

WEL 09 20:45:51.5, 44.°S±1.°×17.°3E±.°, h9km±2km, M2.5/10, ML2.7/10, MLv2.5/10, Error ellipse: s-maj=0.6km s-min=0.0km az=125.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.16**	**211**	P	Pg	20 45 56.5	+1.6
OKCZ	**Okains Bay**	**0.26**	**126**	P	Pb	20 45 58.1	-0.3
AKCZ	**Akaroa Harbour**	**0.32**	**161**	P	Pb	20 45 59.6	+0.2
AMCZ	**Amberley**	**0.40**	**348**	P	Pb	20 46 01.2	+0.3
OXZ	**Oxford**	**0.58**	**295**	P	Pb	20 46 04.7	+0.7
GVZ	**Greta Valley S**	**0.64**	**18**	P	Pb	20 46 05.2	+0.4
WACZ	**Wakanui South**	**0.77**	**241**	P	Pn	20 46 08.7	+0.1
LTZ	**Lake Taylor**	**0.87**	**335**	P	Pn	20 46 09.7	-0.2
MHCZ	**Mount Hutt**	**0.87**	**272**	P	Pn	20 46 10.2	+0.2
ARCZ	**Arundel**	**1.21**	**251**	P	Pg	20 46 15.4	+0.6
RPZ	**Rata Peaks**	**1.25**	**263**	P	Pg	20 46 15.9	+0.3
INZ	**Inchbonnie**	**1.29**	**311**	P	Pg	20 46 17.3	+1.1
KHZ	**Kahutara**	**1.29**	**26**	P	Pn	20 46 15.4	-0.2
ODZ	**Otahua Downs**	**2.12**	**225**	P	Pn	20 46 28.6	+1.5

*KRNET **09** 20:58:37.6±0.1, 39.°24N×75.°43E, mb3.6*
*SOME **09** 20:58:38.1, 39.°47N×75.°17E, h15km*
*NNC **09** 20:58:41.8±1.1, 39.°59N×75.°19E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=8.1km s-min=3.8km az=164.0*
ISC 09 20:58:41.2±1.5, 39.°29N±0.°07×75.°31E±0.°04, h10km, n46, σ1s84/78, 27C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**2.68**	**344**	⇑*i*P	**Pn**	**20 59 24.6**	**+0.1**
	baz=43						
ARLS				⇑*i*S	**Sn**	**20 59 59.4**	**+2.3**
	baz=43						
UCH	**Uchtor**	**3.00**	**349**	⇑*i*P	**Pn**	**20 59 28.9**	**-0.3**
	baz=47						
UCH				⇑*i*S	**Sn**	**21 00 07.0**	**+1.6**
	baz=47						
UCH	**Uchtor**	**3.00**	**349**	P	**Pn**	**20 59 29.1**	**-0.1**
	SNR=16						
ULHL	**Ulahol**	**3.04**	**13**	⇓*i*P	**Pn**	**20 59 28.8**	**-0.7**
	baz=11						
ULHL				⇓*i*S	**Sn**	**21 00 06.6**	**+0.6**
	baz=11						
ULHL	**Ulahol**	**3.04**	**13**	P	**Pb**	**20 59 32.4**	**-3.1**
	SNR=13						
TARG	**Taragay, Kyrgy**	**3.09**	**37**	⇑*i*P	**Pn**	**20 59 29.4**	**-1.0**
	baz=35						
TARG				⇑*i*S	**Sn**	**21 00 06.8**	**-0.8**
	baz=35						
AML	**Almayashu**	**3.09**	**337**	⇓*i*P	**Pn**	**20 59 30.5**	**+0.1**
	baz=36						
AML				⇓*i*S	**Sn**	**21 00 09.4**	**+1.7**
	baz=36						
AML	**Almayashu**	**3.09**	**337**	P	**Pn**	**20 59 31.9**	**+1.4**
	SNR=20						
KDJ	**Kajisay**	**3.17**	**26**	⇓*i*P	**Pn**	**20 59 30.3**	**-1.0**
	baz=24						
KDJ				⇓*i*S	**Sn**	**21 00 08.8**	**-0.5**
	baz=24						
BOOM	**Boomskoye usch**	**3.23**	**8**	⇑*i*P	**Pn**	**20 59 32.0**	**-0.2**
	baz=7.0						
BOOM				⇑*i*S	**Sn**	**21 00 11.1**	**+0.3**
	baz=7.0						
KBK	**Karagaybulak**	**3.37**	**355**	⇓*e*P	**Pn**	**20 59 34.0**	**-0.1**
	baz=54						
KBK				⇓*i*S	**Sn**	**21 00 15.0**	**+0.7**
	baz=54						
KBK	**Karagaybulak**	**3.37**	**355**	P	**Pn**	**20 59 35.0**	**+0.9**
	SNR=8.4						
AAK	**Ala-Archa**	**3.40**	**350**	⇑*i*P	**Pn**	**20 59 34.6**	**+0.1**
	baz=48						
AAK				⇑*i*S	**Sn**	**21 00 15.9**	**+1.0**
	baz=48						
AAK	**Ala-Archa**	**3.40**	**350**	P	**Pn**	**20 59 35.1**	**+0.7**
	SNR=9.3						
BTK	**Batken**	**3.55**	**284**	⇑*e*P	**Pn**	**20 59 37.3**	**+0.8**
	baz=84						
BTK				⇑*i*S	**Sn**	**21 00 20.3**	**+1.7**
	baz=84						
FRU1	**Bishkek**	**3.55**	**352**	⇑*i*P	**Pn**	**20 59 36.7**	**+0.2**
	baz=51						
FRU1				⇑*i*S	**Sn**	**21 00 19.6**	**+1.0**
	baz=51						
EKS2	**Erkin-Say**	**3.56**	**341**	⇓*i*P	**Pn**	**20 59 36.9**	**+0.2**
	baz=40						
EKS2				⇓*i*S	**Sn**	**21 00 19.9**	**+1.0**
	baz=40						
TKM2	**Tokmak 2**	**3.63**	**3**	⇑*e*P	**Pn**	**20 59 37.7**	**0.0**
	baz=2.0						
TKM2				⇑*i*S	**Sn**	**21 00 21.3**	**+0.6**
	baz=2.0						
TKM2	**Tokmak 2**	**3.63**	**3**	P	**Pn**	**20 59 38.5**	**+0.8**
	SNR=9.7						
CHMS	**Chumysh**	**3.73**	**354**	⇑*i*P	**Pn**	**20 59 38.6**	**-0.3**
	baz=52						
CHMS				⇑*i*S	**Sn**	**21 00 23.8**	**+1.0**
	baz=52						
KST	**Kastek**	**3.78**	**7**	*e*P	**Pn**	**20 59 42.6**	**+3.0**
	7.9nm,0.4s						
KST				*e*S	**Sn**	**21 00 28.4**	**+4.1**
	23nm,0.7s						
MRKS	**Merke**	**3.79**	**336**	*e*P	**Pn**	**20 59 42.3**	**+2.4**
	11nm,0.6s						
MRKS				*e*S	**Sn**	**21 00 28.3**	**+3.8**
	13nm,0.6s						
MRKS	**Merke**	**3.79**	**336**	Pg	**Pb**	**20 59 44.9**	**-3.4**
	14nm,0.5s						
MRKS				Lg	Lg	21 00 33.1	
	13nm,0.6s						
MNAS	**Manas**	**3.84**	**327**	⇑*e*P	**Pn**	**20 59 41.2**	**+0.7**
	baz=27						
MNAS				⇑*i*S	**Sn**	**21 00 27.5**	**+1.8**
	baz=27						
GAR	**Garm**	**3.90**	**267**	⇑*i*P	**Pn**	**20 59 41.9**	**+0.7**
	baz=68						
GAR				⇑*i*S	**Sn**	**21 00 28.8**	**+1.7**
	baz=68						
ANVS	**Anan'yevo**	**3.92**	**26**	⇓*i*P	**Pn**	**20 59 41.1**	**-0.5**
	baz=25						
ANVS				⇓*i*S	**Sn**	**21 00 27.2**	**-0.5**
	baz=25						
TNSS	**Tian-Shan**	**3.94**	**18**	*e*P	**Pb**	**20 59 48.6**	**-2.4**
	8.0nm,0.5s						
TNSS				*e*S	**Sb**	**21 00 39.4**

MNBS **Baschi** 5.31 25 *e*P Pb 21 00 16.5 +2.3
4.4nm,0.7s
MNBS *e*S Sg 21 01 27.4 -4.3
8.8nm,0.8s

IDC ***09*** *20:59:56.5±0.4,31˚.95S×111˚.28W,h0km,mb4.7/17, mb1 4.8/18,mb1mx4.7/28,mbtmp4.7/18,ML5.0/1,MS5.2/20, Ms1 5.2/20,ms1mx5.1/25,Error ellipse: s-maj=18.1km s-min=15.3km az=126.0*

MOS ***09*** *20:59:58.0±1.1,31˚.91S×111˚.17W,h10km,mb5.2/10, MS5.3/50,Error ellipse: s-maj=11.2km s-min=6.0km az=78.6*

NEIC ***09*** *20:59:59.5,32˚.02S×111˚.21W,h19km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.29; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$ 1.11; $M_{r\theta}$-0.65; $M_{\theta\phi}$2.33; $M_{\phi r}$-0.12; Fault plane solution: M_o2.74000×10^{17} NP1:ϕ_s256.15000°, δ88.68000°,λ14.19000°. NP2:ϕ_s165.82000°,δ75.81000°, λ178.64000°. Principal axes: T 2.5857, Plg11.0000°, Azm122.0000°; N 0.2903, Plg76.0000°, Azm261.0000°; P -2.8760, Plg9.0000°, Azm30.0000°;*

NEIC ***09*** *20:59:59.6±1.8,31˚.99S±0˚.08×111˚.20W±0˚.04,h10km±1km, mb5.4/446,Ms_20 5.4/721,Mwb5.6/21,Mww5.7, Mwc5.6(GCMT) Error ellipse: s-maj=14.5km s-min=4.7km az=195.0*

NEIC ***09*** *21:00:03,32˚.11S×111˚.19W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.12; $M_{\theta\theta}$-2.33; $M_{\phi\phi}$2.21; $M_{r\theta}$-0.59; $M_{\theta\phi}$2.82; $M_{\phi r}$-0.06; Fault plane solution: M_o3.67000×10^{17} NP1:ϕ_s161.00000°, δ81.00000°,λ-178.00000°. NP2:ϕ_s70.00000°,δ88.00000°, λ-9.00000°. Principal axes: T 3.5890, Plg5.0000°, Azm116.0000°; N 0.1556, Plg81.0000°, Azm240.0000°; P -3.7446, Plg7.0000°, Azm25.0000°;*

GCMT ***09*** *21:00:03.6±0.1,32˚.08S±0˚.01×111˚.19W±0˚.01,h13km, MW5.6/152,Moment Tensor Solution. s145,c269; s152,c314; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}0.04±.03; $M_{\theta\theta}$-2.18±.03; $M_{\phi\phi}$2.14±.03; $M_{r\theta}$-1.05±.09; $M_{\theta\phi}$2.68±.03; $M_{\phi r}$0.01±.07; Best double couple: M_o3.59400×10^{17} NP1:ϕ_s161.00000°,δ74.00000°, λ-175.00000°. NP2:ϕ_s70.00000°,δ85.00000°, λ-16.00000°. Principal axes: T 3.4820, Plg8.0000°, Azm117.0000°; N 0.2270, Plg74.0000°, Azm234.0000°; P -3.7050, Plg14.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***09*** *21:00:04,31˚.90S×111˚.29W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.57; $M_{\theta\theta}$-1.44; $M_{\phi\phi}$2.01; $M_{r\theta}$2.25; $M_{\theta\phi}$3.58; $M_{\phi r}$0.16; Fault plane solution: M_o4.60000×10^{17} NP1:ϕ_s349.00000°, δ60.00000°,λ-172.00000°. NP2:ϕ_s255.00000°, δ83.00000°,λ-29.00000°. Principal axes: T 4.6354, Plg16.0000°, Azm306.0000°; N -0.0695, Plg59.0000°, Azm64.0000°; P -4.5660, Plg26.0000°, Azm208.0000°;*

ISC 09 20:59:59.1±0.2,32˚.03S±0˚.05×111˚.27W±0˚.05,h10km, n1218,σ1°37/1023,mb5.4/249,MS5.3/419,35C-27D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
RPN	**Rapa Nui**	**5.17**	**20**	Pn	**Pn**	**21 01 13.5**	**-3.0**
	61nm,0.3s,baz=197,slow=7.5,SNR=19						
RPN				Sn	**Sn**	**21 02 10.3**	**-5.9**
	17nm,0.3s,baz=258,slow=23,SNR=6.2						
RPN	**Rapa Nui**	**5.17**	**20**	P	**Pn**	**21 01 13.7**	**-2.8**
RPN						21 02 09.5	
RPN	**Rapa Nui**	**5.17**	**20**	Pn	**Pn**	**21 01 13.7**	**-2.8**
RPN					**Sn**	**21 02 09.5**	**-6.7**
RKT	**Rikitea**	**22.77**	**287**	*e*LQ	LQ	21 09 29.4	
	4μm,30.8s						
RKT				*e*LR	LR	21 10 26.6	
	comp=Z,20μm,26.2s						
H03S2	**Juan Fernandez**	**27.15**	**103**	T	T	21 34 09.1	
	baz=264,slow=75,SNR=1357						
H03S3	**Juan Fernandez**	**27.16**	**103**	T	T	21 34 19.9	
	baz=264,slow=75,SNR=512						
H03S1	**Juan Fernandez**	**27.16**	**103**	T	T	21 34 10.8	
	baz=264,slow=75,SNR=953						
H03N2	**Juan Fernandez**	**27.18**	**102**	T	T	21 34 06.1	
	baz=268,slow=73						
H03N3	**Juan Fernandez**	**27.19**	**102**	T	T	21 34 07.4	
	baz=268,slow=73						
H03N1	**Juan Fernandez**	**27.20**	**102**	T	T	21 34 06.6	
	baz=268,slow=73						
LC01	**Cunco**	**32.62**	**113**	P	P	21 06 37.2	+6.2
GO05	**Huala**	**32.79**	**106**	P	**P**	**21 06 32.1**	**-0.4**
BI02	**San Fabin de**	**33.17**	**109**	P	**P**	**21 06 36.7**	**+0.7**
BI02				IAmb	IAmb	21 06 42.7	
	comp=Z,51nm,1.1s						
PLCA	**Paso Flores**	**33.67**	**117**	P	**P**	**21 06 38.4**	**-1.8**
	comp=Z,7.5nm,0.8s,baz=269,slow=7.7,SNR=13						
PLCA				LR	LR	21 16 49.4	
	comp=Z,10μm,19.4s,baz=266,slow=30						
PLCA	**Paso Flores**	**33.67**	**117**	*e*P	**P**	**21 06 41.5**	**+1.3**
PLCA	**Paso Flores**	**33.67**	**117**	*e*P	**P**	**21 06 42.0**	**+1.8**
MT02	**Curacav**	**33.67**	**103**	P	**P**	**21 06 40.6**	**+0.4**
MT02				IAmb	IAmb	21 06 57.1	
	comp=Z,63nm,1.4s						
BO02	**Sierra Bellavi**	**33.75**	**106**	P	**P**	**21 06 40.7**	**-0.3**
BO02				IAMs_20	IAMs_20	21 16 18.3	
	comp=Z,8μm,21.0s						
ROC1	**El Roble**	**33.82**	**103**	P	**P**	**21 06 42.2**	**+0.4**
MT05	**Renca**	**33.98**	**103**	P	**P**	**21 06 43.2**	**+0.1**
MT05				IAMs_20	IAMs_20	21 16 23.3	
	comp=Z,8μm,22.0s						
PEL	**Peldehue**	**34.06**	**103**	P	**P**	**21 06 44.3**	**+0.6**
PEL				pmax	pmax		
	comp=Z,53nm,1.0s						
PEL				MLR	MLR		
	comp=Z,8μm,19.0s						
PEL	**Peldehue**	**34.06**	**103**	P	**P**	**21 06 44.3**	**+0.6**
PEL				IAmb	IAmb	21 06 57.1	
	comp=Z,53nm,1.0s						
PEL				IAMs_20	IAMs_20	21 16 45.7	
	comp=Z,8μm,19.0s						
CO02	**Combarbal**	**34.16**	**100**	P	**P**	**21 06 45.1**	**+0.4**
CO02				IAmb	IAmb	21 06 51.1	
	comp=Z,58nm,0.9s						
CO02				IAMs_20	IAMs_20	21 16 26.1	
	comp=Z,7μm,20.0s						
VA03	**San Esteban**	**34.24**	**102**	P	**P**	**21 06 45.0**	**-0.3**
VA03				IAmb	IAmb	21 06 56.2	
	comp=Z,77nm,1.2s						
VA03				IAMs_20	IAMs_20	21 16 41.1	
	comp=Z,6μm,20.0s						
GO09	**Cerro Castillo**	**34.34**	**136**	P	**P**	**21 06 46.2**	**+0.4**
GO09				IAmb	IAmb	21 06 56.1	
	comp=Z,46nm,0.9s						
CO03	**El Pedregal**	**34.50**	**99**		**P**	**21 06 47.5**	**-0.1**
CO03				IAmb	IAmb	21 06 53.2	
	comp=Z,39nm,0.9s						
CO03				IAMs_20	IAMs_20	21 16 34.1	
	comp=Z,6μm,20.0s						
GO04	**Tololo Observa**	**34.56**	**98**	P	**P**	**21 06 48.6**	**+0.3**
GO04				IAmb	IAmb	21 06 54.7	
	comp=Z,70nm,1.1s						
TBI	**Tubuai**	**34.76**	**275**	*e*S	**S**	**21 12 18.3**	**-1.9**
	comp=Z,787nm,27.5s						
TBI				*e*LQ	LQ	21 14 33.0	
	comp=Z,5μm,26.2s						
TBI				*e*LR	LR	21 15 58.9	
	comp=Z,8μm,28.8s,baz=106						
TBI	**Tubuai**	**34.76**	**275**	*e*T	T	21 43 20.9	
	comp=Z,6.8nm,0.2s						
AC04	**Llanos de Chal**	**34.84**	**94**	P	**P**	**21 06 49.4**	**-1.0**
AC04				IAmb	IAmb	21 07 16.5	
	comp=Z,70nm,1.4s						
AC04				IAMs_20	IAMs_20	21 16 39.8	
	comp=Z,8μm,20.0s						
CO01	**Juntas del Tor**	**35.20**	**98**	P	**P**	**21 06 53.9**	**0.0**
AUSP	**Uspallata**	**35.31**	**102**	*i* P	**P**	**21 06 55.1**	**+0.3**
AC05	**El Transito**	**35.34**	**96**	P	**P**	**21 06 55.0**	**+0.1**
AC05				IAmb	IAmb	21 07 01.4	
	comp=Z,91nm,1.4s						
TAOE	**Nuku Hiva Isla**	**35.34**	**304**	*e*S	**S**	**21 12 25.7**	**-3.8**
	comp=Z,644nm,27.7s						
TAOE				*e*LR	LR	21 16 14.6	
	comp=Z,17μm,25.9s,baz=146						
RTLS	**Leoncito**	**35.47**	**101**	*i* P	**P**	**21 06 57.8**	**+1.6**
ARCO	**CERRO ARCO**	**35.57**	**103**	*i* P	**P**	**21 06 58.2**	**+1.4**
AAGR	**Agrelo**	**35.61**	**103**	*i* P	**P**	**21 06 59.3**	**+2.1**
RFA	**San Rafael**	**35.64**	**106**	*i* P	**P**	**21 06 57.2**	**-0.2**
AROD	**Rodeo**	**35.68**	**98**	*i* P	**P**	**21 06 58.0**	**0.0**
ASAL	**Salagasta**	**35.70**	**103**	*i* P	**P**	**21 06 57.5**	**-0.3**
GO03	**Copiap**	**35.73**	**94**	P	**P**	**21 06 57.2**	**-1.0**
GO03				IAmb	IAmb	21 07 27.1	
	comp=Z,98nm,1.6s						
AC01	**Pan de Azucar**	**35.87**	**91**	P	**P**	**21 06 59.3**	**0.0**
AC01				IAmb	IAmb	21 07 09.1	
	comp=Z,124nm,1.4s						
AC01				IAMs_20	IAMs_20	21 17 13.0	
	comp=Z,6μm,21.0s						
ACCO	**Cerro Coronel**	**35.92**	**99**	*i* P	**P**	**21 07 01.4**	**+1.3**
MEH	**Mehetia**	**36.03**	**284**	*e*T	T	21 44 55.0	
	comp=Z,39nm,0.2s						
ZON	**Zonda**	**36.03**	**101**	P	**P**	**21 07 01.5**	**+0.8**
ZON				pmax	pmax		
	comp=Z,81nm,1.3s						
ZON				MLR	MLR		
	comp=Z,8μm,21.0s						
ZON	**Zonda**	**36.03**	**101**	P	**P**	**21 07 01.5**	**+0.8**
ZON				IAmb	IAmb	21 07 09.9	
	comp=Z,81nm,1.3s						
ZON				IAMs_20	IAMs_20	21 17 39.4	
	comp=Z,8μm,21.0s						
RTCV	**Cerro Valdivia**	**36.08**	**101**	*i* P	**P**	**21 07 02.2**	**+1.1**
PB14	**IPOC Station P**	**36.55**	**89**	P	**P**	**21 07 06.4**	**+0.9**
PB14				IAmb	IAmb	21 08 09.0	
	comp=Z,129nm,1.9s						
PB14				IAMs_20	IAMs_20	21 17 34.2	
	comp=Z,8μm,21.0s						
PB10	**IPOC Station P**	**36.84**	**87**	P	**P**	**21 07 08.3**	**+0.7**
PB10				IAmb	IAmb	21 07 33.0	
	comp=Z,99nm,1.4s						
PB10				IAMs_20	IAMs_20	21 17 42.5	
	comp=Z,7μm,20.0s						
AC02	**Maricunga**	**36.89**	**93**	P	**P**	**21 07 08.2**	**-0.4**
AC02				IAmb	IAmb	21 07 19.8	
	comp=Z,90nm,1.5s						
PAYG	**Puerto Ayora**	**36.95**	**37**	P	**P**	**21 07 08.8**	**+0.2**
PAYG				IAmb	IAmb	21 07 27.6	
	comp=Z,84nm,1.2s						
VAH	**Vaihoa**	**37.05**	**288**	*e*P	**P**	**21 07 09.3**	**-0.1**
	comp=Z,113nm,1.2s						
TVO	**Taravao**	**37.05**	**283**	*e*T	T	21 46 03.1	
	comp=Z,2.6nm,0.2s						
GO02	**Mina Guanaco**	**37.05**	**90**	P	**P**	**21 07 09.8**	**0.0**
GO02				IAMs_20	IAMs_20	21 18 00.5	
	comp=Z,6μm,20.0s						
TIAR	**Tiarei**	**37.24**	**284**	*e*T	T	21 46 25.5	
	comp=Z,5.9nm,0.3s						
PMOR	**Pomariorio Ree**	**37.39**	**288**	*e*P	**P**	**21 07 12.0**	**-0.3**
	comp=Z,96nm,1.1s						
NNA	**Nana**	**37.40**	**66**	*e*P	**P**	**21 07 12.0**	**-0.5**
NNA				pmax	pmax		
	comp=Z,17nm,1.0s						
NNA	**Nana**	**37.40**	**66**	P	**P**	**21 07 12.7**	**+0.2**
PPT2	**Papeete2**	**37.42**	**283**	*e*S	**S**	**21 12 58.6**	**-2.5**
	comp=Z,1μm,25.5s						
PPT2				*e*LQ	LQ	21 15 39.9	
	comp=Z,3μm,23.2s						
PPT2				*e*LR	LR	21 17 09.0	
	comp=Z,16μm,25.0s,baz=117						
PPT	**Papeete**	**37.43**	**283**	LR	LR	21 18 19.9	
	comp=Z,8μm,18.1s,baz=100,slow=30						
PB04	**IPOC Station P**	**37.64**	**86**	P	**P**	**21 07 14.8**	**+0.2**
PB04				IAMs_20	IAMs_20	21 18 03.9	
	comp=Z,7μm,20.0s						
PB15	**IPOC Station P**	**37.87**	**87**	P	**P**	**21 07 15.6**	**-1.0**
PB06	**IPOC Station P**	**37.98**	**86**	P	**P**	**21 07 16.6**	**-0.9**
PB06				IAmb	IAmb	21 07 27.7	
	comp=Z,71nm,1.3s						
PB06				IAMs_20	IAMs_20	21 18 34.9	
	comp=Z,5μm,19.0s						
ACLC	**CERRO LA CRUZ**	**37.99**	**98**	*i* P	**P**	**21 07 16.6**	**-0.9**
APLL	**PUNTA DE LOS L**	**38.09**	**100**	*i* P	**P**	**21 07 17.4**	**-0.9**
PB07	**IPOC Station P**	**38.11**	**85**	P	**P**	**21 07 18.9**	**+0.3**
PB07				IAmb	IAmb	21 07 33.0	
	comp=Z,115nm,1.8s						
PATCX	**Punta Patache**	**38.27**	**83**	P	**P**	**21 07 20.2**	**+0.4**
PATCX				IAmb	IAmb	21 07 30.2	
	comp=Z,139nm,1.5s						
PATCX				IAMs_20	IAMs_20	21 18 20.6	
	comp=Z,7μm,21.0s						
TA01	**Diego Aracena**	**38.35**	**83**	P	**P**	**21 07 20.6**	**+0.2**
TA01				IAMs_20	IAMs_20	21 18 22.9	
	comp=Z,6μm,21.0s						
LVC	**Limon Verde**	**38.58**	**87**	P	**P**	**21 07 23.3**	**+0.5**
LVC				pmax	pmax		
	comp=Z,136nm,1.9s						
LVC				MLR	MLR		
	comp=Z,6μm,20.0s						
LVC	**Limon Verde**	**38.58**	**87**	P	**P**	**21 07 23.3**	**+0.5**
LVC				IAmb	IAmb	21 07 34.9	
	comp=Z,136nm,1.9s						
LVC	**Limon Verde**	**38.58**	**87**	IAMs_20	IAMs_20	21 18 45.7	
	comp=Z,6μm,20.0s						
PB09	**IPOC Station P**	**38.63**	**85**	P	**P**	**21 07 23.2**	**+0.2**
PB09				IAmb	IAmb	21 07 30.1	
	comp=Z,67nm,1.1s						
PB01	**IPOC Station P**	**38.73**	**84**	P	**P**	**21 07 23.7**	**-0.1**
PSGCX	**Pisagua**	**38.83**	**82**	P	**P**	**21 07 25.5**	**+0.9**
PSGCX				IAmb	IAmb	21 07 34.9	
	comp=Z,98nm,1.6s						
PSGCX				IAMs_20	IAMs_20	21 18 47.6	
	comp=Z,4μm,18.0s						
PB11	**IPOC Station P**	**39.15**	**82**	P	**P**	**21 07 26.6**	**-0.8**
PB11				IAMs_20	IAMs_20	21 18 47.0	
	comp=Z,5μm,22.0s						
AP01	**Chacalluta**	**39.22**	**80**	IAMs_20	IAMs_20	21 19 01.8	
	comp=Z,4μm,21.0s						
CYA	**Choya**	**39.23**	**97**	*i* P	**P**	**21 07 28.4**	**+0.7**
PB08	**IPOC Station P**	**39.41**	**83**	P	**P**	**21 07 29.5**	**-0.2**
PB08				IAMs_20	IAMs_20	21 18 56.7	
	comp=Z,7μm,22.0s						
MNMC	**Minye Minye**	**39.49**	**81**	P	**P**	**21 07 29.8**	**-0.5**
MNMC				IAMs_20	IAMs_20	21 19 09.9	
	comp=Z,4μm,20.0s						
GO01	**Chusmiza**	**39.58**	**82**	P	**P**	**21 07 31.2**	**-0.1**
GO01				IAMs_20	IAMs_20	21 19 12.4	
	comp=Z,5μm,20.0s						
PB16	**IPOC Station P**	**39.93**	**80**	P	**P**	**21 07 34.9**	**+0.6**
PB16				IAMs_20	IAMs_20	21 19 22.7	
	comp=Z,4μm,22.0s						
LPAZ	**La Paz**	**42.07**	**79**	P	**P**	**21 07 51.4**	**-0.6**
	comp=Z,8.1nm,0.9s,baz=204,slow=2.8,SNR=22						
LPAZ				LR	LR	21 21 40.9	
	comp=Z,2μm,18.2s,baz=242,slow=31						
LPAZ	**La Paz**	**42.07**	**79**	P	**P**	**21 07 52.2**	**+0.2**
LPAZ	**La Paz**	**42.07**	**79**	*e*P	**P**	**21 07 50.5**	**-1.5**
CZSB	**Cruzeiro do Su**	**43.22**	**64**	*e*P	**P**	**21 08 01.7**	**+1.0**
PMSA	**Palmer Station**	**43.61**	**153**	P	**P**	**21 08 04.9**	**+1.7**
PMSA	**Palmer Station**	**43.61**	**153**	IAMs_20	IAMs_20	21 20 59.9	
	comp=Z,3μm,19.0s						
OTAV	**Otavalo**	**44.63**	**50**	P	**P**	**21 08 12.3**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,46nm,1.5s						
OTAV				MLR	MLR		
	comp=Z,2μm,20.0s						
OTAV	**Otavalo**	**44.63**	**50**	P	**P**	**21 08 12.3**	**-0.2**
CPUP	**Villa Florida**	**47.04**	**98**	P	**P**	**21 08 29.7**	**-1.3**
	comp=Z,4.0nm,0.8s,baz=238,slow=2.2,SNR=5.2						
CPUP				LR	LR	21 25 05.8	
	comp=Z,5μm,18.5s,baz=256,slow=32						
CPUP	**Villa Florida**	**47.04**	**98**	P	**P**	**21 08 30.8**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,47nm,1.6s						
CPUP	**Villa Florida**	**47.04**	**98**	P	**P**	**21 08 30.8**	**-0.1**
CPUP				IAmb	IAmb	21 08 40.7	
	comp=Z,47nm,1.6s						
ETMB	**Extrema**	**47.10**	**72**	*e*P	**P**	**21 08 29.9**	**-1.7**
PLTB	**Pedras Altas**	**48.44**	**106**	*e*P	**P**	**21 08 41.4**	**-0.4**
CPSB	**Cacapava Do Su**	**48.97**	**104**	*e*P	**P**	**21 08 45.7**	**-0.1**
JTS	**Las Juntas de**	**49.04**	**35**	*e*P	**P**	**21 08 44.3**	**-2.1**
JTS				pmax	pmax		
	comp=Z,36nm,1.6s						
PTLB	**Pontes e Lacer**	**50.02**	**83**	*e*P	**P**	**21 08 54.1**	**+0.1**
SAML	**Samuel**	**50.05**	**74**	P	**P**	**21 08 52.3**	**-2.0**
SAML				pmax	pmax		
	comp=Z,48nm,1.3s						
SAML				MLR	MLR		
	comp=Z,2μm,21.0s						
SAML	**Samuel**	**50.05**	**74**	P	**P**	**21 08 52.3**	**-2.0**
SAML				IAmb	IAmb	21 09 03.7	
	comp=Z,48nm,1.3s						
SNET	**Serv Nac Est T**	**50.12**	**28**	IAMs_20	IAMs_20	21 24 55.2	
	comp=Z,3μm,19.0s						
VILB	**Vilhena**	**50.37**	**80**	*e*P	**P**	**21 08 55.9**	**-0.8**
ACON	**Acoyapa**	**50.38**	**34**	P	**P**	**21 08 56.4**	**-0.3**
ACON				IAmb	IAmb	21 09 02.6	
	comp=Z,146nm,2.0s						
ACON				IAMs_20	IAMs_20	21 25 07.0	
	comp=Z,2μm,18.0s						
H06E1	**SOCORRO T-PHAS**	**50.52**	**0**	T	T	22 03 04.2	
	SNR=3.3						
AQDB	**Aquidauana**	**50.67**	**91**	*e*P	**P**	**21 08 58.6**	**-0.3**
MTO3	**Montecristo**	**50.72**	**28**	P	**P**	**21 08 59.0**	**-0.4**
ROSC	**El Rosal**	**50.79**	**51**	P	**P**	**21 08 59.5**	**-0.8**
	comp=Z,15nm,0.6s,baz=207,slow=3.9,SNR=14						
ROSC				LR	LR	21 27 02.8	
	comp=Z,3μm,18.1s,baz=223,slow=32						
ROSC	**El Rosal**	**50.79**	**51**	P	**P**	**21 09 01.4**	**+1.1**
ROSC				IAmb	IAmb	21 09 15.7	
	comp=Z,95nm,1.3s						
ROSC				IAMs_20	IAMs_20	21 26 43.1	
	comp=Z,3μm,19.0s						
TLIG	**Tlapa**	**50.79**	**16**	P	**P**	**21 09 00.3**	**+0.5**
TLIG				IAMs_20	IAMs_20	21 25 19.1	
	comp=Z,3μm,19.0s						
BCIP	**Isla Barro Col**	**50.80**	**42**	P	**P**	**21 08 59.6**	**-0.2**
BCIP				pmax	pmax		
	comp=Z,174nm,2.0s						
BCIP				MLR	MLR		
	comp=Z,3μm,20.0s						
BCIP	**Isla Barro Col**	**50.80**	**42**	P	**P**	**21 08 59.6**	**-0.2**
BCIP				IAMs_20	IAMs_20	21 25 14.7	
	comp=Z,3μm,20.0s						
ESQI	**Esquipulas**	**50.87**	**28**	P	**P**	**21 08 59.7**	**-0.7**
MATN	**Matagalpa**	**50.87**	**33**	P	**P**	**21 08 59.6**	**-0.8**
MATN				IAmb	IAmb	21 09 13.8	
	comp=Z,62nm,1.7s						
MATN				IAMs_20	IAMs_20	21 25 24.0	
	comp=Z,4μm,21.0s						
ESPN	**Las Esperanzas**	**51.00**	**35**	P	**P**	**21 09 01.7**	**+0.4**
ESPN				IAmb	IAmb	21 09 15.2	
	comp=Z,137nm,1.8s						
ESPN				IAMs_20	IAMs_20	21 25 08.3	
	comp=Z,3μm,19.0s						
TGUH	**Tegucigalpa,Un**	**51.27**	**30**	P	**P**	**21 09 03.6**	**+0.1**
TGUH				IAmb	IAmb	21 09 09.4	
	comp=Z,116nm,1.8s						
TGUH				IAMs_20	IAMs_20	21 25 13.6	
	comp=Z,3μm,19.0s						
CCIG	**Comitan**	**51.42**	**24**	IAMs_20	IAMs_20	21 25 39.6	
	comp=Z,3μm,19.0s						
PTGB	**Pitanga**	**52.05**	**98**	*e*P	**P**	**21 09 08.7**	**-0.7**
MOIG	**Morelia**	**52.31**	**12**	P	**P**	**21 09 11.6**	**+0.2**
TRCB	**Terra Rica**	**52.32**	**95**	*e*P	**P**	**21 09 11.8**	**+0.5**
PCMB	**Pacaembu**	**53.96**	**95**	*e*P	**P**	**21 09 23.7**	**+0.3**
ZAIG	**Zacatecas**	**55.12**	**10**	P	**P**	**21 09 33.0**	**+1.1**
CLDB	**Colider**	**55.12**	**81**	*e*P	**P**	**21 09 32.2**	**+0.3**
XMAS	**Kiritimati**	**55.31**	**299**	P	**P**	**21 09 34.8**	**+1.6**
MACA	**Manacapuru-AM**	**55.43**	**70**	*e*P	**P**	**21 09 35.1**	**+1.0**
ITRB	**Iturama**	**55.53**	**93**	*e*P	**P**	**21 09 36.6**	**+1.8**
ARAG	**Araguaiana, MT**	**56.10**	**88**	*e*P	**P**	**21 09 39.6**	**+0.7**
BELA	**Belgrano 2**	**56.13**	**166**	P	**P**	**21 09 39.6**	**+1.4**
SDV	**Santo Domingo**	**56.23**	**51**	P	**P**	**21 09 39.5**	**-0.5**
SDV				IAmb	IAmb	21 09 53.0	
	comp=Z,60nm,1.5s						
SDV	**Santo Domingo**	**56.23**	**51**	IAMs_20	IAMs_20	21 29 25.1	
	comp=Z,3μm,21.0s						
TEIG	**Tepich**	**56.44**	**26**	IAMs_20	IAMs_20	21 28 39.5	
	comp=Z,3μm,20.0s						
BB19B	**Bebedouro**	**56.50**	**95**	*e*P	**P**	**21 09 41.5**	**-0.2**
MXZ	**Matakaoa Point**	**56.87**	**243**	IAMs_20	IAMs_20	21 27 41.3	
	comp=Z,3μm,21.0s						
VAO	**Valinhos**	**57.01**	**98**	*e*P	**P**	**21 09 45.5**	**+0.1**
BFZ	**Birch Farm**	**57.51**	**239**	P	**P**	**21 09 50.1**	**+1.5**
BFZ				IAmb	IAmb	21 10 12.7	
	comp=Z,66nm,1.5s						
BFZ				IAMs_20	IAMs_20	21 28 01.1	
	comp=Z,3μm,21.0s						
NPGB	**Novo Progresso**	**57.53**	**77**	*e*P	**P**	**21 09 48.2**	**-0.9**
URZ	**Urewera**	**57.57**	**242**	LR	LR	21 28 23.4	
	comp=Z,3μm,21.6s,baz=174,slow=30						
URZ	**Urewera**	**57.57**	**242**	IAMs_20	IAMs_20	21 28 23.7	
	comp=Z,3μm,20.0s						
BKZ	**Black Stump Fm**	**57.76**	**241**	IAMs_20	IAMs_20	21 28 09.5	
	comp=Z,3μm,21.0s						
AFI	**Afiamalu**	**57.85**	**273**	LR	LR	21 28 01.9	
	comp=Z,2μm,21.5s,baz=117,slow=29						
AFI	**Afiamalu**	**57.85**	**273**	IAMs_20	IAMs_20	21 27 51.0	
	comp=Z,3μm,22.0s						
IPMB	**Ipameri, GO**	**58.11**	**92**	*e*P	**P**	**21 09 52.0**	**-1.2**
QSPA	**South Pole Qui**	**58.16**	**180**	P	**P**	**21 09 53.9**	**+0.9**
QSPA	**South Pole Qui**	**58.16**	**180**	IAMs_20	IAMs_20	21 31 26.7	
	comp=Z,2μm,19.0s						
VNDA	**Vanda**	**58.32**	**195**	P	**P**	**21 09 53.5**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=121,slow=7.8,SNR=6.9						
VNDA				LR	LR	21 28 58.2	
	comp=Z,2μm,21.4s,baz=88,slow=30						
VNDA	**Vanda**	**58.32**	**195**	P	**P**	**21 09 54.3**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,23nm,1.4s						
VNDA	**Vanda**	**58.32**	**195**	P	**P**	**21 09 54.3**	**+0.6**
SNZO	**South Karori**	**58.45**	**238**	IAMs_20	IAMs_20	21 28 17.9	
	comp=Z,2μm,22.0s						
ITTB	**Itaituba**	**58.72**	**74**	*e*P	**P**	**21 09 57.5**	**+0.1**
KHZ	**Kahutara**	**58.97**	**237**	IAMs_20	IAMs_20	21 29 04.5	
	comp=Z,3μm,20.0s						
SRIG	**Santa Rosalia**	**59.03**	**359**	IAMs_20	IAMs_20	21 29 19.7	
	comp=Z,3μm,22.0s						
HIZ	**Hauiti**	**59.18**	**241**	I

comp=Z,2µm,20.0s
735A Kenedy 61.89 13 IAMs_20 IAMs_20 21 33 14.2
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 62.20 39 IAMs_20 IAMs_20 21 31 56.1
comp=Z,2µm,18.0s
JANB Januaria 62.78 91 *e*P **P** **21 10 26.4 +1.3**
SPX San Pedro Mart 62.85 356 P **P** **21 10 24.3 -1.2**
SPX IAmb IAmb 21 10 37.6
comp=Z,34nm,1.4s
SMTB Santa Maria do 63.07 83 *e*P **P** **21 10 27.3 +0.3**
JCT Junction City 63.11 11 P **P** **21 10 28.1 +1.2**
baz=191
JCT Junction City 63.11 11 P **P** **21 10 27.3 +0.4**
JCT pmax pmax
comp=Z,73nm,1.1s
JCT MLR MLR
comp=Z,6µm,19.0s
JCT Junction City 63.11 11 P **P** **21 10 27.3 +0.4**
PIX Pinacate 63.28 358 P **P** **21 10 28.9 +1.0**
PIX IAmb IAmb 21 10 39.9
comp=Z,67nm,1.7s
HKT Hockley 63.36 15 P **P** **21 10 30.0 +1.6**
HKT pmax pmax
comp=Z,86nm,1.6s
HKT MLR MLR
comp=Z,2µm,18.0s
HKT Hockley 63.36 15 P **P** **21 10 30.0 +1.6**
HKT Hockley 63.36 15 IAMs_20 IAMs_20 21 35 41.3
comp=Z,2µm,18.0s
SDBA SAO DESIDERIO 63.55 88 *e*P **P** **21 10 30.5 +0.2**
SDDR Presa de Saban 63.56 43 P **P** **21 10 31.1 +1.0**
MNTX Cornudas Mount 63.63 6 P **P** **21 10 30.2 -0.1**
MNTX IAmb IAmb 21 10 35.7
comp=Z,28nm,1.1s
VNA3 Neumayer Olymp 63.63 159 P **P** **21 10 29.6 -0.3**
214A Organ Pipe Nat 63.66 359 P **P** **21 10 32.1 +1.6**
baz=178
214A S **S** **21 19 09.7 +5.1**
baz=178
214A Organ Pipe Nat 63.66 359 P **P** **21 10 30.7 +0.2**
SJMB Sao Joao De Ma 63.74 96 *e*P **P** **21 10 31.3 -0.1**
CCX Cicese 63.76 355 IAMs_20 IAMs_20 21 31 11.1
comp=Z,2µm,21.0s
435B Jarrell 63.80 13 P **P** **21 10 33.0 +1.6**
baz=193
435B S S 21 19 20.2 +14
baz=193
435B Jarrell 63.80 13 P **P** **21 10 32.3 +0.9**
ESJX Sierra Juarez 63.84 356 P **P** **21 10 32.4 +0.5**
BSFB Barra de Sao F 63.97 97 *e*P **P** **21 10 33.0 +0.2**
TUC Tucson 63.99 0 P **P** **21 10 34.4 +1.7**
baz=180
TUC Tucson 63.99 0 P **P** **21 10 32.9 +0.2**
TUC pmax pmax
comp=Z,21nm,1.2s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 63.99 0 P **P** **21 10 32.9 +0.2**
TUC Tucson 63.99 0 IAMs_20 IAMs_20 21 32 04.3
comp=Z,3µm,20.0s
MCPB Macapa, AP 64.02 73 *e*P **P** **21 10 33.0 -0.3**
RIB01 Linhares ES 64.13 97 *e*P **P** **21 10 33.4 -0.5**
GDL2 Guadalupe Moun 64.22 6 P **P** **21 10 33.8 -0.5**
VNA1 Neumayer--Stat 64.28 159 P **P** **21 10 34.5 +0.4**
121A Cookes Peak, D 64.30 3 P **P** **21 10 36.3 +1.5**
baz=183
121A Cookes Peak, D 64.30 3 P **P** **21 10 36.4 +1.5**
121A IAmb IAmb 21 11 08.3
comp=Z,68nm,1.6s
121A IAMs_20 IAMs_20 21 32 43.2
comp=Z,3µm,21.0s
VNA2 Neumayer--Watz 64.44 159 P **P** **21 10 36.0 +0.8**
baz=197,slow=11
IKP In-Ko-Pah, Jac 64.50 355 P **P** **21 10 37.8 +1.8**
baz=175,SNR=8.1
BAR Barrett 64.56 355 P **P** **21 10 36.1 -0.3**
BAR IAmb IAmb 21 10 50.2
comp=Z,41nm,1.3s
MSVF Nonsavu 64.69 264 ||| *e*P **P** **21 10 37.2 -0.5**
MSVF pmax pmax
comp=Z,8.0nm,1.2s
MSVF Nonsavu 64.69 264 IAMs_20 IAMs_20 21 31 35.4
comp=Z,2µm,20.0s
MONP2 Monument Peak 64.76 355 P **P** **21 10 39.5 +1.6**
baz=175,SNR=12
SWSC Sam W. Stewart 64.77 356 P **P** **21 10 39.2 +1.6**
baz=176
GLA Glamis 64.82 357 P **P** **21 10 39.8 +1.7**
baz=177
GLA Glamis 64.82 357 P **P** **21 10 38.0 -0.1**
GLA pmax pmax
comp=Z,22nm,1.1s
GLA MLR MLR
comp=Z,2µm,21.0s
GLA Glamis 64.82 357 P **P** **21 10 38.0 -0.1**
GLA IAmb IAmb 21 10 52.1
comp=Z,22nm,1.1s
GLA IAMs_20 IAMs_20 21 32 03.2
comp=Z,2µm,21.0s
WHTX Lake Whitney, 65.00 13 P **P** **21 10 40.3 +1.1**
baz=193
WHTX S S 21 19 32.9 +12
baz=193
WHTX Lake Whitney, 65.00 13 P **P** **21 10 39.8 +0.5**
ABTX Abilene, Hawle 65.24 11 P **P** **21 10 41.7 +0.9**
baz=191
ABTX Abilene, Hawle 65.24 11 P **P** **21 10 41.1 +0.3**
CRPR Cabo Rojo, PR 65.31 47 P **P** **21 10 41.5 +0.1**
CRPR IAmb IAmb 21 10 42.8
comp=Z,58nm,1.4s
MLPR Magueyes Islan 65.32 47 P **P** **21 10 40.8 -0.8**
237A Washetta, Mont 65.34 14 P **P** **21 10 42.0 +0.6**
NATX Nacogdoches 65.36 16 P **P** **21 10 43.2 +1.6**
baz=195
NATX Nacogdoches 65.36 16 P **P** **21 10 43.1 +1.6**
CIS Catalina Islan 65.43 353 P **P** **21 10 43.2 +1.1**
baz=173
SNAA Sanae 65.44 161 P **P** **21 10 41.3 -0.4**
SNAA Sanae 65.44 161 *c i*P **P** **21 10 42.1 +0.4**
SNAA pmax pmax
comp=Z,18nm,1.0s
SNAA Sanae 65.44 161 P **P** **21 10 41.5 -0.2**
SNAA IAmb IAmb 21 10 47.2
comp=Z,35nm,1.0s
BC3 Big Chuckawall 65.45 356 P **P** **21 10 44.1 +1.9**
baz=176,SNR=18
TPFO Pinon Flats 65.47 355 P **P** **21 10 44.2 +1.8**
baz=175,SNR=6.7
TPFO S S 21 19 39.4 +12
baz=175
XPFO Pion Flat 65.47 355 IAMs_20 IAMs_20 21 32 15.6
comp=Z,2µm,22.0s
PFO Pinyon Flats O 65.47 355 P **P** **21 10 44.0 +1.6**
baz=175,SNR=6.0
PFO S S 21 19 38.9 +12
baz=175
PFO Pinyon Flats O 65.47 355 *d i*P **P** **21 10 43.3 +0.9**
PFO pmax pmax
comp=Z,24nm,1.1s
PFO Pinyon Flats O 65.47 355 P **P** **21 10 44.0 +1.6**
PFO IAmb IAmb 21 10 56.6
comp=Z,30nm,1.3s
PFO Pinyon Flats O 65.47 355 IAMs_20 IAMs_20 21 32 15.6
comp=Z,2µm,22.0s
MURC Murrieta 65.52 355 P **P** **21 10 43.8 +1.2**
baz=174
Y14A Wickenburg 65.64 358 P **P** **21 10 44.0 +0.6**
Y14A IAmb IAmb 21 10 54.5
comp=Z,70nm,1.8s
BELC Belle Mtn. Jos 65.83 356 P **P** **21 10 46.6 +1.8**
baz=176,SNR=18
Y22D IRIS PASSCAL I 65.88 4 P **P** **21 10 47.1 +2.0**
baz=184
Y22D IRIS PASSCAL I 65.88 4 IAMs_20 IAMs_20 21 34 06.1
comp=Z,2µm,19.0s
IRM Iron Mountain 65.94 356 P **P** **21 10 47.0 +1.7**
baz=176,SNR=6.1
IRM S S 21 19 45.1 +12
baz=176
LENM Lemitar 65.97 4 P **P** **21 10 45.9 +0.2**
BNM Barren Site 65.97 4 P **P** **21 10 46.6 +0.8**
SJG San Juan 65.99 48 P **P** **21 10 45.5 -0.4**
SJG pmax pmax
comp=Z,20nm,1.1s
PDPR Patillas Dam, 66.00 48 P **P** **21 10 45.1 -0.8**
PDPR IAmb IAmb 21 10 53.7
comp=Z,25nm,1.1s
344A Westbrook Farm 66.06 19 P **P** **21 10 46.4 +0.3**
X16A Lo Mia Camp, P 66.09 360 P **P** **21 10 47.5 +1.0**
X16A IAMs_20 IAMs_20 21 33 25.9
comp=Z,2µm,20.0s
MSTX Muleshoe 66.13 8 P **P** **21 10 47.2 +0.5**
baz=188
MSTX Muleshoe 66.13 8 P **P** **21 10 46.6 -0.1**
MSTX IAMs_20 IAMs_20 21 34 48.7
comp=Z,2µm,19.0s
BBRC Big Bear Solar 66.16 355 P **P** **21 10 48.5 +1.6**
baz=175
PASC Pasadena Art C 66.17 354 P **P** **21 10 48.1 +1.4**
PASC IAmb IAmb 21 11 03.8
comp=Z,39nm,1.4s
PASC Pasadena Art C 66.17 354 IAMs_20 IAMs_20 21 32 31.1
comp=Z,2µm,20.0s
BFSC Mount Baldy Ra 66.19 354 P **P** **21 10 48.2 +1.2**
baz=174
HUMP Col San Antoni 66.20 48 P **P** **21 10 47.0 -0.2**
MWC Mount Wilson 66.21 354 P **P** **21 10 48.2 +1.0**
MWC pmax pmax
comp=Z,70nm,1.8s
MWC MLR MLR
comp=Z,2µm,19.0s
MWC Mount Wilson 66.21 354 P **P** **21 10 48.2 +1.0**
MWC IAmb IAmb 21 11 27.1
comp=Z,70nm,1.8s
MWC IAMs_20 IAMs_20 21 32 52.1
comp=Z,2µm,19.0s
DECC Green Verdugo 66.27 354 P **P** **21 10 49.3 +1.9**
baz=173
CBYP Canovanas 66.29 48 P **P** **21 10 48.4 +0.5**
CBYP IAmb IAmb 21 10 55.9
comp=Z,24nm,1.1s
Z35A Perchaven, San 66.34 13 P **P** **21 10 48.1 +0.2**
MTP Monte Pirata 66.35 48 P **P** **21 10 47.3 -1.0**
MTP IAmb IAmb 21 10 48.9
comp=Z,33nm,1.4s
346A Big Creek Wild 66.37 20 P **P** **21 10 47.7 -0.4**
346A IAmb IAmb 21 10 59.8
comp=Z,38nm,0.9s
GMRC Granite Mounta 66.59 356 P **P** **21 10 51.4 +1.8**
baz=176,SNR=10
GMRC S S 21 19 52.0 +11
baz=176
OSI Osito Audit: C 66.66 353 P **P** **21 10 51.5 +1.5**
baz=173
OSI Osito Audit: C 66.66 353 IAMs_20 IAMs_20 21 32 44.6
comp=Z,2µm,21.0s
HEC Hector,Ludlow 66.68 355 P **P** **21 10 51.9 +1.9**
baz=175,SNR=7.7
HEC S S 21 19 52.5 +11
baz=175
RRX Edison Barstow 66.77 355 P **P** **21 10 52.2 +1.6**
baz=175
ANMO Albuquerque 66.78 4 P **P** **21 10 52.0 +1.1**
baz=184
ANMO Albuquerque 66.78 4 P **P** **21 10 51.6 +0.7**
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO MLR MLR
comp=Z,2µm,18.0s
ANMO Albuquerque 66.78 4 P **P** **21 10 51.5 +0.7**
ANMO Albuquerque 66.78 4 IAMs_20 IAMs_20 21 34 35.8
comp=Z,2µm,18.0s
W18A Petrified Fore 66.81 1 P **P** **21 10 52.4 +1.4**
baz=181
W18A Petrified Fore 66.81 1 P **P** **21 10 52.5 +1.4**
W18A IAmb IAmb 21 11 01.9
comp=Z,66nm,1.6s
W18A IAMs_20 IAMs_20 21 33 44.8
comp=Z,2µm,21.0s
W13A Hualapai Mount 66.82 358 P **P** **21 10 53.0 +1.8**
W13A IAmb IAmb 21 11 04.7
comp=Z,63nm,2.0s
FDF Fort de France 66.82 54 P **P** **21 10 51.6 +0.2**
FDF pmax pmax
comp=Z,112nm,1.4s
FDF MLR MLR
comp=Z,800nm,21.0s
FDF Fort de France 66.82 54 P **P** **21 10 51.6 +0.2**
VBMS Vicksburg 66.85 19 P **P** **21 10 52.8 +1.7**
baz=199
EDW2 Edwards Air Fo 66.86 354 P **P** **21 10 52.6 +1.4**
baz=174
656A Willston 66.89 27 IAMs_20 IAMs_20 21 35 47.3
comp=Z,2µm,19.0s
BRAL Brewton 66.91 22 IAMs_20 IAMs_20 21 37 04.0
comp=Z,2µm,18.0s
553A Crawfordville 66.91 25 P **P** **21 10 53.6 +2.0**
553A IAmb IAmb 21 10 57.5
comp=Z,39nm,1.1s
553A IAMs_20 IAMs_20 21 34 27.1
comp=Z,2µm,22.0s
PKM Mcpherson Peak 67.05 352 P **P** **21 10 54.1 +1.5**
baz=172
AMTX Amarillo 67.17 9 P **P** **21 10 54.3 +1.1**
baz=189
AMTX Amarillo 67.17 9 P **P** **21 10 53.9 +0.7**
AMTX IAMs_20 IAMs_20 21 36 15.1
comp=Z,2µm,18.0s
GSC Goldstone, Bar 67.18 355 P **P** **21 10 54.9 +1.6**
baz=175,SNR=18
GSC Goldstone, Bar 67.18 355 P **P** **21 10 53.4 +0.1**
GSC pmax pmax
comp=Z,61nm,1.3s
GSC MLR MLR
comp=Z,2µm,22.0s
GSC Goldstone, Bar 67.18 355 P **P** **21 10 53.4 +0.1**
ARVC Arvin 67.18 353 P **P** **21 10 54.8 +1.6**
baz=173
WUAZ Wupatki 67.19 360 P **P** **21 10 55.2 +1.7**
WUAZ IAmb IAmb 21 11 05.4
comp=Z,33nm,1.2s
WUAZ IAMs_20 IAMs_20 21 33 41.9
comp=Z,2µm,22.0s
Z41A Richland Creek 67.23 17 P **P** **21 10 54.8 +1.3**
baz=197
Z41A Richland Creek 67.23 17 P **P** **21 10 54.2 +0.7**
TUQ Turquoise Moun 67.25 356 P **P** **21 10 55.8 +1.9**
baz=176,SNR=8.9
LRMC Laurel Mtn Rad 67.42 354 P **P** **21 10 56.5 +1.6**
baz=174,SNR=9.2
WMOK Wichita Mounta 67.44 11 P **P** **21 10 55.2 +0.3**
WMOK pmax pmax
comp=Z,17nm,1.6s
WMOK MLR MLR
comp=Z,4µm,20.0s
WMOK Wichita Mounta 67.44 11 P **P** **21 10 55.2 +0.3**
SABA Saba 67.48 50 P **P** **21 10 56.2 +0.7**
SMMC Simmler 67.49 352 P **P** **21 10 56.1 +0.9**
baz=172
WLAR White Oak Lake 67.57 16 P **P** **21 10 56.3 +0.7**
SKI Saint Kitts 67.61 51 P **P** **21 10 57.1 +0.9**
SKI pmax pmax
comp=Z,73nm,1.1s
SKI Saint Kitts 67.61 51 P **P** **21 10 57.1 +0.9**
ISA Isabella, Lake 67.68 354 P **P** **21 10 58.0 +1.6**
baz=173
ISA Isabella, Lake 67.68 354 P **P** **21 10 56.9 +0.5**
ISA pmax pmax
comp=Z,78nm,1.9s
ISA MLR MLR
comp=Z,2µm,21.0s
ISA Isabella, Lake 67.68 354 P **P** **21 10 56.9 +0.5**
ISA IAmb IAmb 21 11 09.7
comp=Z,78nm,1.9s
ISA IAMs_20 IAMs_20 21 33 17.9
comp=Z,2µm,21.0s
SHOC Shoshone, Teco 67.74 356 P **P** **21 10 58.7 +2.0**
baz=175
352A Blakely 67.91 24 P **P** **21 10 58.0 +0.1**
250A Grady 67.91 23 P **P** **21 10 57.6 -0.3**
250A IAMs_20 IAMs_20 21 36 43.5
comp=Z,3µm,20.0s
VES Vestal, Richgr 67.91 353 P **P** **21 10 59.0 +1.3**
baz=173
PAGB Antelope Grade 67.93 352 P **P** **21 10 59.0 +1.0**
PAGB IAMs_20 IAMs_20 21 34 07.7
comp=Z,2µm,19.0s
X37A Clayton 67.93 14 P **P** **21 10 57.3 -0.7**
X37A IAmb IAmb 21 11 07.1
comp=Z,69nm,1.6s
MPMC Manual Prospec 67.98 355 P **P** **21 11 00.3 +1.9**
baz=174,SNR=33
U15A North Rim 68.11 359 P **P** **21 10 59.0 -0.3**
U15A IAmb IAmb 21 11 08.0
comp=Z,33nm,1.1s
U15A IAMs_20 IAMs_20 21 34 40.2
comp=Z,2µm,21.0s
W35A Tecumseh 68.18 13 P **P** **21 10 59.5 0.0**
FNO Franklin 68.19 12 P **P** **21 10 59.0 -0.5**
SHPR Sheep Range 68.28 357 P **P** **21 10 59.4 -0.8**
SHPR IAmb IAmb 21 11 06.4
comp=Z,34nm,1.3s
SHPR IAMs_20 IAMs_20 21 34 19.7
comp=Z,2µm,20.0s
MIAR Mount Ida 68.28 16 P **P** **21 11 01.2 +1.0**
baz=196
MIAR Mount Ida 68.28 16 P **P** **21 10 59.7 -0.4**
MIAR pmax pmax
comp=Z,71nm,1.7s
MIAR MLR MLR
comp=Z,1µm,19.0s
MIAR Mount Ida 68.28 16 P **P** **21 10 59.7 -0.4**
456A Hilliard 68.29 27 IAMs_20 IAMs_20 21 36 50.6
comp=Z,2µm,19.0s
OKCFA Oklahoma City 68.33 12 P **P** **21 11 01.1 +0.6**
TIGA Tifton 68.35 25 P **P** **21 11 01.4 +0.8**
X40A Basin Creek Fa 68.40 16 P **P** **21 11 01.4 +0.6**
X40A IAmb IAmb 21 11 10.7
comp=Z,73nm,2.0s
CWC Cottonwood Cre 68.41 354 P **P** **21 11 02.6 +1.5**
baz=174
Z47A Carrollton 68.47 21 **P** **21 11 02.1 +0.7**
PMPB Monarch Peak 68.47 352 P **P** **21 11 01.7 +0.3**
PMPB IAmb IAmb 21 11 38.1
comp=Z,42nm,1.2s
PMPB IAMs_20 IAMs_20 21 33 54.4
comp=Z,2µm,21.0s
ANWB Willy Bob 68.48 51 P **P** **21 11 02.5 +0.8**
OK025 Westminster Rd 68.52 12 P **P** **21 11 01.8 +0.3**
BCOK Bluff Creek, N 68.54 12 P **P** **21 11 01.9 +0.1**
LRAL Lakeview Retre 68.65 22 P **P** **21 11 03.3 +0.8**
baz=202
LRAL Lakeview Retre 68.65 22 P **P** **21 11 01.1 -1.3**
LRAL IAmb IAmb 21 11 12.5
comp=Z,65nm,1.8s
LRAL IAMs_20 IAMs_20 21 38 13.1
comp=Z,2µm,18.0s
KNB Kanab 68.70 359 P **P** **21 11 03.1 +0.2**
KNB pmax pmax
comp=Z,67nm,1.7s
KNB Kanab 68.70 359 P **P** **21 11 03.1 +0.2**
OK029 Liberty Lake 68.70 12 P **P** **21 11 02.2 -0.6**
TPNV Topopah Spring 68.78 356 P **P** **21 11 05.6 +2.2**
baz=175
TPNV Topopah Spring 68.78 356 P **P** **21 11 03.0 -0.4**
TPNV pmax pmax
comp=Z,38nm,1.2s
TPNV MLR MLR
comp=Z,2µm,21.0s
TPNV Topopah Spring 68.78 356 P **P** **21 11 03.0 -0.4**
TPNV IAmb IAmb 21 11 15.1
comp=Z,38nm,1.1s
TPNV IAMs_20 IAMs_20 21 34 12.1
comp=Z,2µm,21.0s
UALR University of 68.79 17 P **P** **21 11 03.3 0.0**
UALR IAMs_20 IAMs_20 21 39 17.0
comp=Z,1µm,18.0s
W39A Magazine 68.86 15 P **P** **21 11 04.7 +1.0**
baz=196
W39A Magazine 68.86 15 P **P** **21 11 02.9 -0.8**
MVCO Mesa Verde 68.93 2 P **P** **21 11 05.8 +1.4**
baz=182
MVCO Mesa Verde 68.93 2 P **P** **21 11 03.6 -0.9**
U32A Winter Ranch, 69.02 11 P **P** **21 11 05.5 +0.8**
152A Waverly Hall 69.06 24 P **P** **21 11 04.5 -0.6**
152A IAmb IAmb 21 11 10.5
comp=Z,30nm,1.1s
SAO San Andreas Ge 69.10 351 P **P** **21 11 05.3 +0.1**
SAO pmax pmax
comp=Z,19nm,1.1s
SAO MLR MLR
comp=Z,2µm,22.0s
SAO San Andreas Ge 69.10 351 P **P** **21 11 05.3 +0.1**
SAO IAMs_20 IAMs_20 21 33 40.6
comp=Z,2µm,22.0s
T25A Trinidad 69.11 6 P **P** **21 11 06.8 +1.3**
baz=186
T25A Trinidad 69.11 6 P **P** **21 11 05.3 -0.2**
TUL1 Leonard 69.13 13 P **P** **21 11 05.7 +0.4**
baz=194
TUL1 Leonard 69.13 13 P **P** **21 11 05.0 -0.4**
PRN Pahroc Range 69.17 357 P **P** **21 11 07.6 +1.8**
PRN IAmb IAmb 21 11 19.5
comp=Z,62nm,1.6s
PRN IAMs_20 IAMs_20 21 34 48.3
comp=Z,2µm,21.0s
255A Hazlehurst 69.20 26 P **P** **21 11 06.9 +1.0**
W41B Gary Mavity, V 69.20 17 P **P** **21 11 07.1 +1.3**
baz=197
W41B Gary Mavity, V 69.20 17 P **P** **21 11 05.5 -0.3**
QUOK Quay 69.20 13 P **P** **21 11 06.1 +0.3**
CCUT Cedar City 69.25 358 P **P** **21 11 07.0 +0.6**
SZCU Shurtz Canyon 69.29 358 P **P** **21 11 07.0 +0.4**
WHAR Wooly Hollow 69.30 17 P **P** **21 11 07.2 +0.8**
CROK Carrier 69.30 11 P **P** **21 11 07.3 +0.8**
Z51A Franklin 69.50 23 P **P** **21 11 07.3 -0.4**
Z51A IAMs_20 IAMs_20 21 36 37.6
comp=Z,3µm,21.0s
S22A 4UR Ranch, Cre 69.54 4 P **P** **21 11 09.6 +1.3**
baz=184
S22A 4UR Ranch, Cre 69.54 4 P **P** **21 11 08.8 +0.5**
S22A IAMs_20 IAMs_20 21 36 06.0
comp=Z,2µm,20.0s
154A Montrose 69.58 25 P **P** **21 11 07.2 -1.0**
Y49A Blount Mountai 69.60 22 P **P** **21 11 07.4 -1.0**
Y49A IAMs_20 IAMs_20 21 37 30.1
comp=Z,2µm,20.0s
SDCO Great Sand Dun 69.62 5 P **P** **21 11 10.0 +1.2**
baz=185
SDCO Great Sand Dun 69.62 5 P **P** **21 11 09.3 +0.5**
SDCO IAMs_20 IAMs_20 21 36 41.2
comp=Z,1µm,19.0s
OMMB Old Mammoth Mi 69.66 353 P **P** **21 11 09.1 +0.1**
OMMB IAMs_20 IAMs_20 21 34 50.9
comp=Z,2µm,21.0s
MDPB Devils Postpil 69.69 353 IAMs_20 IAMs_20 21 34 52.1
comp=Z,2µm,20.0s
PV05 Paradox Valley 69.78 2 P **P** **21 11 08.5 -1.2**
PV01 Paradox Valley 69.85 2 P **P** **21 11 09.8 -0.4**
NVL N'lazarevskaya 69.86 163 *e*P **P** **21 11 11.7 +2.1**
NVL *e*S **S** **21 20 17.8 -1.1**
NVL pmax pmax
comp=Z,47nm,1.3s
PV13 Radium Mtn., P 69.87 2 P **P** **21 11 11.0 +0.8**
PV13 IAmb IAmb 21 11 20.5
comp=Z,76nm,1.9s
HHAR Hobbs 69.87 15 P **P** **21 11 09.3 -0.7**
KAN13 South Haven SW 69.89 12 P **P** **21 11 08.8 -1.3**
KAN10 Anthony SW Sta 69.89 11 P **P** **21 11 11.0 +0.9**
FCAR Ozark Folk Cen 69.91 16 P **P** **21 11 10.0 -0.2**
KAN05 Bluff City Nor 69.91 11 P **P** **21 11 11.3 +1.0**
PV02 Paradox Valley 69.92 2 P **P** **21 11 09.8 -0.7**
PV02 IAmb IAmb 21 11 15.5
comp=Z,28nm,1.2s
U38A Gravette 69.92 14 P **P** **21 11 09.8 -0.5**
U38A IAmb IAmb 21 11 20.2
comp=Z,80nm,1.7s
X48A Hartselle 69.95 21 P **P** **21 11 10.2 -0.3**
X48A IAmb IAmb 21 11 20.1
comp=Z,48nm,1.6s
PV18 Skein Mesa, Pa 69.95 2 P **P** **21 11 11.0 +0.3**
PV18 IAmb IAmb 21 11 15.6
comp=Z,31nm,1.3s
PV18 IAMs_20 IAMs_20 21 35 45.9
comp=Z,2µm,21.0s
PV03 Paradox Valley 69.96 2 P **P** **21 11 11.0 +0.2**
PV03 IAmb IAmb 21 11 23.2
comp=Z,71nm,1.8s
PV03 IAMs_20 IAMs_20 21 36 07.2
comp=Z,2µm,20.0s
T35A Sooner Cattle 69.96 13 P **P** **21 11 10.1 -0.5**
TPH Tonopah 69.97 355 P **P** **21 11 10.8 0.0**
TPH pmax pmax
comp=Z,163nm,1.3s
TPH Tonopah 69.97 355 P **P** **21 11 10.8 0.0**
KAN09 Caldwell North 69.98 12 P **P** **21 11 10.0 -0.6**
PV17 East Wray Mesa 69.98 2 P **P** **21 11 10.1 -0.8**

PV17 IAmb IAmb 21 11 23.2
comp=Z,62nm,1.5s
PV11 **David Mesa, Pa** **70.00 2** P **P** **21 11 11.5 +0.5**
PV11 IAMs_20 IAMs_20 21 36 27.3
comp=Z,2µm,20.0s
KAN08 **Anthony NE Sta** **70.01 11** P **P** **21 11 12.1 +1.3**
PV19 **Morning Glory** **70.01 2** P **P** **21 11 10.2 -0.9**
PV19 IAmb IAmb 21 11 16.0
comp=Z,28nm,1.2s
PV16 **Nyswonger Mesa** **70.02 2** P **P** **21 11 11.9 +0.8**
PV16 IAmb IAmb 21 11 15.9
comp=Z,34nm,1.3s
PV16 IAMs_20 IAMs_20 21 35 48.6
comp=Z,2µm,21.0s
PV12 **Saucer Basin,** **70.03 2** P **P** **21 11 10.0 -1.2**
PV12 IAmb IAmb 21 11 16.1
comp=Z,58nm,1.2s
PV20 **West Nyswonger** **70.04 2** P **P** **21 11 10.6 -0.6**
PV20 IAmb IAmb 21 11 28.4
comp=Z,34nm,1.3s
PV20 IAMs_20 IAMs_20 21 35 49.4
comp=Z,2µm,22.0s
PV15 **Paradox Valley** **70.06 2** P **P** **21 11 10.6 -0.8**
PV15 IAmb IAmb 21 11 17.1
comp=Z,36nm,1.0s
PV15 IAMs_20 IAMs_20 21 35 44.8
comp=Z,2µm,20.0s
PV14 **Lion Creek, Pa** **70.07 2** P **P** **21 11 10.7 -0.7**
PV14 IAmb IAmb 21 11 17.1
comp=Z,52nm,1.1s
PV14 IAMs_20 IAMs_20 21 36 11.2
comp=Z,2µm,20.0s
PV10 **Paradox Valley** **70.08 2** P **P** **21 11 11.2 -0.3**
PV10 IAmb IAmb 21 11 15.9
comp=Z,36nm,1.2s
PV04 **Paradox Valley** **70.10 2** P **P** **21 11 10.6 -1.0**
PV04 IAmb IAmb 21 11 13.9
comp=Z,40nm,1.1s
PLAL **Pickwick Lake** **70.13 20** P **P** **21 11 12.1 +0.5**
R11A **Troy Canyon, C** **70.13 356** P **P** **21 11 13.8 +2.0**
baz=176
R11A S **S** **21 20 29.8 +6.8**
baz=176
R11A **Troy Canyon, C** **70.13 356** P **P** **21 11 11.5 -0.3**
R11A IAMs_20 IAMs_20 21 35 17.9
comp=Z,2µm,21.0s
PV07 **Paradox Valley** **70.15 2** P **P** **21 11 11.6 -0.3**
PV23 **Carpenter Ridg** **70.15 2** P **P** **21 11 11.4 -0.6**
PV23 IAmb IAmb 21 11 14.3
comp=Z,39nm,1.0s
GOGA **Godfrey** **70.17 25** P **P** **21 11 13.9 +2.0**
baz=205
GOGA **Godfrey** **70.17 25** P **P** **21 11 11.8 -0.1**
GOGA **Godfrey** **70.17 25** P **P** **21 11 11.8 -0.1**
GOGA IAmb IAmb 21 11 20.8
comp=Z,32nm,1.4s
GOGA **Godfrey** **70.17 25** IAMs_20 IAMs_20 21 36 30.4
comp=Z,3µm,22.0s
MVU **Marysvale** **70.18 359** P **P** **21 11 13.2 +1.1**
U40A **Yellville** **70.18 16** P **P** **21 11 12.8 +0.9**
baz=196
U40A **Yellville** **70.18 16** P **P** **21 11 12.2 +0.3**
U40A IAmb IAmb 21 11 21.7
comp=Z,71nm,1.7s
MSU **Marysvale** **70.19 359** P **P** **21 11 11.9 -0.2**
MSU **Marysvale** **70.19 359** P **P** **21 11 11.9 -0.2**
CMB **Columbia Colle** **70.22 352** P **P** **21 11 13.4 +1.3**
CMB pmax pmax
comp=Z,32nm,1.6s
CMB MLR MLR
comp=Z,2µm,19.0s
CMB **Columbia Colle** **70.22 352** P **P** **21 11 13.4 +1.3**
CMB IAMs_20 IAMs_20 21 35 39.4
comp=Z,2µm,19.0s
PV22 **Blue Mesa, Par** **70.24 2** P **P** **21 11 11.8 -0.6**
PV22 IAmb IAmb 21 11 15.8
comp=Z,22nm,0.9s
PV22 IAMs_20 IAMs_20 21 36 04.6
comp=Z,2µm,22.0s
PSUT **Pine Spring** **70.24 358** P **P** **21 11 12.4 -0.1**
LHV **Little Huntoon** **70.25 354** P **P** **21 11 12.9 +0.7**
LHV IAmb IAmb 21 11 21.7
comp=Z,44nm,1.1s
LHV IAMs_20 IAMs_20 21 35 13.9
comp=Z,2µm,19.0s
PV21 **Cone Mtn., Par** **70.26 2** P **P** **21 11 11.9 -0.7**
TCRU **Three Creeks R** **70.29 359** P **P** **21 11 13.4 +0.6**
LCAR **Lake Charles** **70.32 17** P **P** **21 11 13.8 +1.1**
LCAR IAmb IAmb 21 11 21.6
comp=Z,53nm,2.0s
Y52A **Lilburn** **70.38 24** P **P** **21 11 13.2 0.0**
Y52A IAmb IAmb 21 11 18.4
comp=Z,29nm,1.1s
NV11 **Mina Array Sit** **70.39 354** P **P** **21 11 13.0 -0.4**
NV11 IAmb IAmb 21 11 22.4
comp=Z,38nm,1.1s
NV11 IAMs_20 IAMs_20 21 34 59.9
comp=Z,2µm,22.0s
NVAR **Mina Array Bea** **70.41 354** P **P** **21 11 12.3 -1.1**
comp=Z,17nm,0.9s,baz=179,slow=8.1,SNR=53
NVAR LR LR 21 35 41.1
comp=Z,2µm,19.4s,baz=176,slow=30
NVAR **Mina Array Bea** **70.41 354** P **P** **21 11 13.0 -0.5**
FPAL **Fort Paine** **70.48 22** P **P** **21 11 13.3 -0.5**
FPAL IAMs_20 IAMs_20 21 37 54.5
comp=Z,2µm,20.0s
WAKR **Walker** **70.58 353** P **P** **21 11 15.6 +1.0**
WAKR IAmb IAmb 21 11 53.8
comp=Z,80nm,2.0s
Q16A **Castle Valley** **70.59 0** P **P** **21 11 14.6 +0.1**
RYN **Ryan** **70.62 354** P **P** **21 11 15.8 +1.0**
RYN IAmb IAmb 21 11 23.0
comp=Z,91nm,2.0s
RYN IAMs_20 IAMs_20 21 35 35.9
comp=Z,2µm,20.0s
MCCM **Marconi Confer** **70.65 350** IAMs_20 IAMs_20 21 34 21.7
comp=Z,2µm,21.0s
X51A **Calhoun** **70.75 23** P **P** **21 11 15.2 -0.2**
X51A IAmb IAmb 21 11 19.8
comp=Z,37nm,1.2s
X51A IAMs_20 IAMs_20 21 37 38.4
comp=Z,2µm,21.0s
SRU **San Rafael Swe** **70.78 1** P **P** **21 11 14.7 -1.0**
SRU pmax pmax
comp=Z,26nm,1.0s
SRU **San Rafael Swe** **70.78 1** P **P** **21 11 14.7 -1.0**
Z56A **Williston** **70.86 26** IAMs_20 IAMs_20 21 38 37.6
comp=Z,2µm,18.0s
Q24A **Divide** **70.86 5** P **P** **21 11 17.5 +1.1**
baz=185
Q24A **Divide** **70.86 5** P **P** **21 11 17.2 +0.8**
Q24A IAMs_20 IAMs_20 21 36 46.3
comp=Z,2µm,20.0s
TMUT **Trail Mountain** **70.97 0** P **P** **21 11 16.5 -0.5**
SWET **Sewanee** **71.00 22** P **P** **21 11 16.9 -0.1**
SWET IAMs_20 IAMs_20 21 38 33.3
comp=Z,2µm,20.0s
KVN **Kaiserville** **71.00 354** P **P** **21 11 16.7 -0.4**
KVN pmax pmax
comp=Z,44nm,1.1s
KVN MLR MLR
comp=Z,2µm,20.0s
KVN **Kaiserville** **71.00 354** P **P** **21 11 16.7 -0.4**
KVN IAmb IAmb 21 11 20.4
comp=Z,44nm,1.1s
KVN IAMs_20 IAMs_20 21 35 19.9
comp=Z,2µm,20.0s
YERR **Yerington** **71.04 353** P **P** **21 11 18.0 +0.7**
YERR IAmb IAmb 21 11 31.9
comp=Z,63nm,1.5s
YERR IAMs_20 IAMs_20 21 35 47.0
comp=Z,2µm,19.0s
CSU **Charleston Sou** **71.06 27** P **P** **21 11 18.3 +1.0**
R32A **Long Quarter,** **71.06 10** P **P** **21 11 16.5 -0.8**
MGMO **Mountain Grove** **71.08 16** P **P** **21 11 17.4 0.0**
MGMO IAmb IAmb 21 11 27.5
comp=Z,52nm,1.4s
Z57A **Bowman** **71.09 27** P **P** **21 11 18.3 +0.9**
baz=207
KSCO **Kaye Shedlock'** **71.14 7** P **P** **21 11 19.2 +1.4**
baz=188
KSCO **Kaye Shedlock'** **71.14 7** P **P** **21 11 19.0 +1.2**
P17A **Butcher Ranch,** **71.14 0** P **P** **21 11 17.2 -0.7**
PBMO **Poplar Bluff** **71.17 18** P **P** **21 11 17.4 -0.5**
PBMO IAmb IAmb 21 11 34.0
comp=Z,35nm,1.4s

PNTR **Pine Nut** **71.18 353** P **P** **21 11 18.6 +0.4**
W50A **Signal Mountai** **71.18 22** P **P** **21 11 18.5 +0.5**
W50A IAMs_20 IAMs_20 21 38 14.1
comp=Z,2µm,20.0s
AFDM **Forest Hills D** **71.19 352** P **P** **21 11 19.1 +1.1**
AFDM IAmb IAmb 21 11 56.7
comp=Z,41nm,1.6s
AFDM IAMs_20 IAMs_20 21 35 31.0
comp=Z,2µm,20.0s
RUBR **Rubicon Trail** **71.20 353** P **P** **21 11 19.5 +1.1**
RUBR IAmb IAmb 21 11 57.0
comp=Z,37nm,0.8s
RUBR IAMs_20 IAMs_20 21 36 02.3
comp=Z,2µm,19.0s
V48A **Smith Brothers** **71.21 21** P **P** **21 11 18.1 0.0**
V48A IAMs_20 IAMs_20 21 39 36.9
comp=Z,2µm,19.0s
T42A **Van Buren** **71.25 17** P **P** **21 11 18.0 -0.4**
T42A IAmb IAmb 21 11 27.9
comp=Z,67nm,1.7s
WVT **Waverly** **71.27 20** P **P** **21 11 19.6 +1.0**
baz=201
WVT **Waverly** **71.27 20** P **P** **21 11 18.8 +0.3**
WVT pmax pmax
comp=Z,31nm,1.7s
WVT MLR MLR
comp=Z,2µm,19.0s
WVT **Waverly** **71.27 20** P **P** **21 11 18.8 +0.3**
WVT **Waverly** **71.27 20** IAMs_20 IAMs_20 21 40 26.6
comp=Z,2µm,19.0s
GDXM **Geysers** **71.29 351** P **P** **21 11 20.2 +1.5**
GDXM IAmb IAmb 21 11 24.6
comp=Z,42nm,1.8s
GDXM IAMs_20 IAMs_20 21 35 41.7
comp=Z,2µm,19.0s
CBKS **Cedar Bluff** **71.30 9** P **P** **21 11 19.8 +1.1**
baz=190
CBKS **Cedar Bluff** **71.30 9** P **P** **21 11 19.5 +0.8**
CBKS pmax pmax
comp=Z,76nm,1.3s
CBKS MLR MLR
comp=Z,2µm,19.0s
CBKS **Cedar Bluff** **71.30 9** P **P** **21 11 19.5 +0.8**
CBKS IAMs_20 IAMs_20 21 38 18.3
comp=Z,1µm,19.0s
HODGE **Hodges** **71.34 25** P **P** **21 11 18.8 -0.2**
HODGE IAmb IAmb 21 11 28.2
comp=Z,38nm,1.5s
HODGE IAMs_20 IAMs_20 21 37 03.4
comp=Z,2µm,22.0s
S39A **Bolivar** **71.36 15** P **P** **21 11 19.2 +0.2**
S39A IAmb IAmb 21 11 28.9
comp=Z,66nm,1.8s
VCNR **Virginia City** **71.39 353** P **P** **21 11 21.2 +1.7**
VCNR IAMs_20 IAMs_20 21 36 48.3
comp=Z,2µm,18.0s
Z58A **St. Stephen** **71.47 27** P **P** **21 11 21.1 +1.4**
baz=208
HOPS **Hopland Field** **71.51 350** P **P** **21 11 21.1 +1.2**
HOPS IAmb IAmb 21 11 26.7
comp=Z,81nm,1.6s
HOPS IAMs_20 IAMs_20 21 35 35.5
comp=Z,2µm,18.0s
W52A **Murphy** **71.54 23** P **P** **21 11 20.8 +0.6**
W52A IAmb IAmb 21 11 25.6
comp=Z,30nm,1.2s
Z59A **Georgetown, SC** **71.59 28** P **P** **21 11 22.0 +1.5**
baz=208
NLU **North Lily Min** **71.63 359** P **P** **21 11 21.5 +0.6**
ISCO **Idaho Springs** **71.66 5** P **P** **21 11 22.5 +1.3**
baz=185
ISCO **Idaho Springs** **71.66 5** P **P** **21 11 21.5 +0.3**
ISCO pmax pmax
comp=Z,65nm,1.7s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO **Idaho Springs** **71.66 5** P **P** **21 11 21.5 +0.3**
ISCO IAmb IAmb 21 11 31.7
comp=Z,65nm,1.6s
CPCT **Cooper Cave** **71.67 23** P **P** **21 11 19.6 -1.3**
CPCT IAMs_20 IAMs_20 21 38 07.0
comp=Z,2µm,21.0s
CLTN **Cedars of Leba** **71.68 21** P **P** **21 11 20.3 -0.7**
CLTN IAMs_20 IAMs_20 21 39 29.4
comp=Z,2µm,20.0s
MPU **Maple Canyon** **71.68 360** P **P** **21 11 21.1 0.0**
JSC **Jenkinsville** **71.75 26** P **P** **21 11 20.4 -1.1**
JSC pmax pmax
comp=Z,8.0nm,0.6s
JSC MLR MLR
comp=Z,700nm,20.0s
JSC **Jenkinsville** **71.75 26** P **P** **21 11 20.4 -1.1**
PAHR **Pah Rah Range** **71.77 353** P **P** **21 11 23.5 +1.9**
PAHR IAmb IAmb 21 11 27.6
comp=Z,68nm,1.9s
PAHR IAMs_20 IAMs_20 21 35 59.4
comp=Z,2µm,20.0s
X55A **Gracelyn & Ava** **71.78 25** P **P** **21 11 22.8 +1.2**
baz=206
BG3 **Lake Jocassee** **71.79 24** P **P** **21 11 21.3 -0.4**
BG3 IAmb IAmb 21 11 31.1
comp=Z,33nm,1.3s
BG3 IAMs_20 IAMs_20 21 37 31.2
comp=Z,2µm,22.0s
Y57A **Sumter** **71.84 27** IAMs_20 IAMs_20 21 39 40.6
comp=Z,2µm,18.0s
ORV **Oroville** **71.85 352** P **P** **21 11 23.5 +1.5**
ORV pmax pmax
comp=Z,14nm,1.3s
ORV MLR MLR
comp=Z,2µm,20.0s
ORV **Oroville** **71.85 352** P **P** **21 11 23.5 +1.5**
ORV IAMs_20 IAMs_20 21 35 48.6
comp=Z,2µm,20.0s
O20A **White River Ci** **71.86 2** P **P** **21 11 23.5 +1.2**
baz=183
O20A **White River Ci** **71.86 2** P **P** **21 11 22.9 +0.6**
O20A IAmb IAmb 21 11 37.0
comp=Z,92nm,1.8s
O20A IAMs_20 IAMs_20 21 39 15.3
comp=Z,2µm,18.0s
DUG **Dugway, Tooele** **71.88 359** P **P** **21 11 23.6 +1.4**
baz=179
DUG **Dugway, Tooele** **71.88 359** P **P** **21 11 23.4 +1.1**
DUG pmax pmax
comp=Z,23nm,1.3s
DUG MLR MLR
comp=Z,700nm,19.0s
DUG **Dugway, Tooele** **71.88 359** P **P** **21 11 23.4 +1.1**
X56A **White Oak** **72.03 26** P **P** **21 11 24.3 +1.2**
baz=207
PAULI **Pauline** **72.03 25** P **P** **21 11 22.9 -0.2**
PAULI IAmb IAmb 21 11 33.2
comp=Z,34nm,1.1s
PAULI IAMs_20 IAMs_20 21 40 40.6
comp=Z,2µm,18.0s
V51A **Loudon** **72.05 23** P **P** **21 11 23.8 +0.6**
V51A IAMs_20 IAMs_20 21 38 08.0
comp=Z,3µm,21.0s
KSU1 **Kansas State U** **72.07 12** P **P** **21 11 24.8 +1.6**
baz=193
KSU1 **Kansas State U** **72.07 12** P **P** **21 11 23.8 +0.5**
TKL **Tuckaleechee C** **72.11 23** P **P** **21 11 22.7 -0.9**
TKL pmax pmax
comp=Z,10.0nm,0.7s
TKL MLR MLR
comp=Z,3µm,22.0s
TKL **Tuckaleechee C** **72.11 23** P **P** **21 11 22.7 -0.9**
W54A **Cherokee Point** **72.14 25** P **P** **21 11 24.7 +0.9**
baz=206
W54A S **S** **21 20 50.2 +4.2**
baz=206
R40A **Maddies Statio** **72.17 16** P **P** **21 11 24.8 +1.0**
CCM **Cathedral Cave** **72.18 16** P **P** **21 11 25.1 +1.1**
baz=198
CCM **Cathedral Cave** **72.18 16** P **P** **21 11 23.6 -0.4**
CCM pmax pmax
comp=Z,30nm,1.5s
CCM MLR MLR
comp=Z,900nm,19.0s
CCM **Cathedral Cave** **72.18 16** P **P** **21 11 23.6 -0.4**
U49A **Red Boiling Sp** **72.24 21** P **P** **21 11 24.5 +0.1**
U49A IAMs_20 IAMs_20 21 39 24.2
comp=Z,2µm,19.0s
RDMU **Red Mountain** **72.25 1** P **P** **21 11 24.0 -0.6**
KCPM **Cahto Peak** **72.26 350** P **P** **21 11 25.9 +1.3**

KCPM IAmb IAmb 21 11 50.4
comp=Z,64nm,1.6s
JLU **Jordanelle** **72.27 360** P **P** **21 11 24.8 +0.1**
T47A **Sharon Grove** **72.28 20** P **P** **21 11 23.6 -1.0**
T47A IAmb IAmb 21 11 34.0
comp=Z,49nm,1.2s
T47A IAMs_20 IAMs_20 21 40 06.3
comp=Z,2µm,20.0s
FVM **French Village** **72.32 17** P **P** **21 11 24.7 -0.1**
FVM pmax pmax
comp=Z,15nm,1.1s
FVM MLR MLR
comp=Z,800nm,20.0s
FVM **French Village** **72.32 17** P **P** **21 11 24.6 -0.1**
V52A **Sevierville** **72.33 23** P **P** **21 11 24.4 -0.5**
V52A IAmb IAmb 21 12 05.0
comp=Z,17nm,0.7s
S44A **Carbondale** **72.34 18** P **P** **21 11 25.4 +0.5**
S44A IAmb IAmb 21 11 33.9
comp=Z,70nm,1.5s
CTU **Camp Tracy** **72.36 360** P **P** **21 11 26.3 +1.1**
DZM **Mont Dzumac** **72.37 255** *e*S **S** **21 20 47.2 -2.4**
comp=Z,543nm,24.4s
DZM *e*LQ LQ 21 30 22.7
comp=Z,2µm,26.3s
DZM *e*LR LR 21 33 30.5
comp=Z,2µm,23.8s
DZM **Mont Dzumac** **72.37 255** LR LR 21 35 52.3
comp=Z,688nm,21.4s,baz=122,slow=30
DZM **Mont Dzumac** **72.37 255** P **P** **21 11 25.2 -0.5**
DZM IAmb IAmb 21 11 57.6
comp=Z,78nm,1.9s
BIRD **Birdtown, Kers** **72.38 26** P **P** **21 11 26.3 +1.1**
BIRD IAMs_20 IAMs_20 21 39 49.7
comp=Z,2µm,18.0s
V53A **Saluda** **72.44 24** P **P** **21 11 25.9 +0.3**
V53A IAmb IAmb 21 12 00.9
comp=Z,33nm,0.7s
V53A IAMs_20 IAMs_20 21 38 03.5
comp=Z,2µm,21.0s
KMSC **Kings Mountain** **72.50 25** P **P** **21 11 27.1 +1.2**
baz=206
KMSC **Kings Mountain** **72.50 25** P **P** **21 11 25.4 -0.5**
ELK **Elko** **72.50 357** P **P** **21 11 26.5 +0.4**
ELK pmax pmax
comp=Z,42nm,1.7s
ELK MLR MLR
comp=Z,2µm,21.0s
ELK **Elko** **72.50 357** P **P** **21 11 26.5 +0.4**
ELK IAmb IAmb 21 11 37.1
comp=Z,42nm,1.7s
ELK IAMs_20 IAMs_20 21 37 03.6
comp=Z,2µm,21.0s
BGU **Big Grassy Mou** **72.61 359** P **P** **21 11 27.4 +0.7**
O03E **Paynes Creek** **72.62 352** P **P** **21 11 27.5 +0.8**
baz=171
O02D **Mt. Diablo Mer** **72.63 351** P **P** **21 11 28.8 +2.1**
baz=170,SNR=6.5
Y60A **Bolivia** **72.69 28** IAMs_20 IAMs_20 21 40 01.9
comp=Z,1µm,18.0s
X58A **Rowland** **72.72 27** S **SKiKP** **21 20 58.5 -3.1**
baz=208
X58A **Rowland** **72.72 27** P **P** **21 11 28.5 +1.2**
X58A IAmb IAmb 21 12 54.3
comp=Z,15nm,0.6s
N23A **Red Feather La** **72.73 4** P **P** **21 11 29.1 +1.6**
baz=185
N23A **Red Feather La** **72.73 4** P **P** **21 11 29.1 +1.6**
W56A **Indian Trail** **72.77 26** P **P** **21 11 28.5 +1.0**
baz=207
TCUT **Toone Canyon** **72.78 360** P **P** **21 11 28.8 +1.0**
KMRM **Mail Ridge** **72.81 350** P **P** **21 11 27.5 -0.3**
KMRM IAmb IAmb 21 12 07.1
comp=Z,65nm,1.7s
KMRM IAMs_20 IAMs_20 21 36 22.4
comp=Z,2µm,19.0s
V54A **Nebo** **72.84 25** P **P** **21 11 29.0 +1.0**
baz=206
SPUT **South Promonto** **72.98 359** P **P** **21 11 29.5 +0.6**
TZTN **Tazewell** **72.99 23** P **P** **21 11 29.6 +0.8**
baz=204
TZTN **Tazewell** **72.99 23** P **P** **21 11 28.8 -0.1**
TZTN IAmb IAmb 21 12 13.1
comp=Z,28nm,1.0s
WDC **Whiskeytown Da** **73.00 351** P **P** **21 11 28.4 -0.4**
WDC pmax pmax
comp=Z,24nm,1.2s
WDC MLR MLR
comp=Z,1µm,20.0s
WDC **Whiskeytown Da** **73.00 351** P **P** **21 11 28.4 -0.4**
W57A **Gilead** **73.00 26** P **P** **21 11 29.8 +0.9**
baz=207
W57A **Gilead** **73.00 26** P **P** **21 11 29.7 +0.8**
W57A IAmb IAmb 21 11 38.8
comp=Z,47nm,1.4s
T50A **Nancy** **73.00 22** P **P** **21 11 30.0 +1.2**
T50A IAMs_20 IAMs_20 21 39 22.3
comp=Z,2µm,20.0s
USIN **University of** **73.03 19** P **P** **21 11 29.8 +0.8**
OGNE **Ogallala** **73.11 7** P **P** **21 11 31.0 +1.4**
baz=188
OGNE **Ogallala** **73.11 7** P **P** **21 11 29.8 +0.2**
PHWY **Pilot Hill** **73.16 5** P **P** **21 11 30.6 +0.5**
PHWY IAmb IAmb 21 11 35.2
comp=Z,35nm,1.4s
PHWY IAMs_20 IAMs_20 21 38 02.9
comp=Z,2µm,22.0s
P38A **Dawn** **73.17 14** P **P** **21 11 30.3 +0.5**
P38A IAmb IAmb 21 11 39.5
comp=Z,49nm,1.4s
V55A **Taylorsville** **73.17 25** P **P** **21 11 31.0 +1.0**
baz=206
V55A **Taylorsville** **73.17 25** P **P** **21 11 30.9 +1.0**
V55A IAmb IAmb 21 11 56.7
comp=Z,16nm,0.6s
W58A **Raeford** **73.18 27** P **P** **21 11 31.0 +1.0**
baz=208
HWUT **Hardware Ranch** **73.27 360** P **P** **21 11 31.0 +0.4**
HWUT IAMs_20 IAMs_20 21 38 08.9
comp=Z,2µm,20.0s
V56A **Mocksville** **73.40 26** P **P** **21 11 32.5 +1.3**
baz=207
P40A **Paris** **73.40 15** P **P** **21 11 31.5 +0.4**
N02D **Trinity Center** **73.41 351** P **P** **21 11 32.7 +1.4**
baz=170,SNR=5.6
KHMM **Horse Mountain** **73.45 350** P **P** **21 11 31.6 0.0**
KHMM IAmb IAmb 21 11 56.6
comp=Z,33nm,1.1s
RWWY **Rawlins** **73.45 3** P **P** **21 11 30.5 -1.2**
RWWY IAmb IAmb 21 11 41.3
comp=Z,35nm,1.1s
HVU **Hansel Valley** **73.46 359** P **P** **21 11 30.9 -0.8**
HVU pmax pmax
comp=Z,16nm,1.1s
HVU **Hansel Valley** **73.46 359** P **P** **21 11 30.9 -0.8**
Q44A **Meyer Farm, Va** **73.55 18** P **P** **21 11 31.5 -0.5**
U54A **Nelsons Funny** **73.56 24** IAMs_20 IAMs_20 21 38 47.0
comp=Z,2µm,21.0s
WCI **Wyandotte Cave** **73.67 20** IAMs_20 IAMs_20 21 40 36.1
comp=Z,2µm,20.0s
V57A **Coltrane Farms** **73.73 26** P **P** **21 11 34.1 +0.9**
baz=207
M02C **Callahan** **73.84 351** P **P** **21 11 35.4 +1.6**
baz=170,SNR=10
CNNC **Cliffs of the** **73.89 28** IAMs_20 IAMs_20 21 41 20.9
comp=Z,2µm,18.0s
V58A **Windy Hill, Pi** **73.90 27** P **P** **21 11 35.2 +1.1**
baz=208
U56A **King** **73.92 26** IAMs_20 IAMs_20 21 41 04.5
comp=Z,1µm,18.0s
N35A **Tabor** **73.95 12** P **P** **21 11 35.3 +1.0**
MOD **Modoc Plateau** **74.04 353** P **P** **21 11 34.3 -0.7**
MOD IAmb IAmb 21 11 59.2
comp=Z,41nm,1.3s
MOD IAMs_20 IAMs_20 21 37 54.3
comp=Z,2µm,18.0s
R49A **Shelbyville** **74.07 21** P **P** **21 11 34.2 -0.9**
R49A IAmb IAmb 21 11 44.3
comp=Z,93nm,1.9s
R49A IAMs_20 IAMs_20 21 40 11.3
comp=Z,2µm,21.0s
BGNE **Belgrade** **74.07 10** P **P** **21 11 36.5 +1.4**
M04C **Macdoel** **74.09 352** P **P** **21 11 36.8 +1.4**
baz=171,SNR=8.7
P43A **Skaggs, Pawnee** **74.11 17** P **P** **21 11 36.8 +1.4**
P43A IAmb IAmb 21 11 44.5

comp=Z,81nm,1.7s
P43A IAMs_20 IAMs_20 21 41 16.7
comp=Z,1µm,20.0s
KRMB Red Mountain 74.11 350 P P 21 11 36.5 +1.1
YBH Yreka Blue Hor 74.15 351 P P 21 11 34.7 -0.9
YBH pmax pmax
comp=Z,25nm,1.7s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 74.15 351 P P 21 11 34.7 -0.9
YBH IAMs_20 IAMs_20 21 36 59.8
comp=Z,2µm,20.0s
V59A Middlesex 74.22 27 P P 21 11 36.7 +0.7
baz=209
V59A S S **21 21 16.4 +6.9**
baz=209
R50A Paris 74.32 22 P P 21 11 35.4 -1.2
R50A IAmb IAmb 21 14 21.7
comp=Z,23nm,0.8s
R50A IAMs_20 IAMs_20 21 40 34.2
comp=Z,2µm,20.0s
U57A Blanch 74.38 26 P P 21 11 38.0 +1.1
baz=208
AHID Auburn Hatcher 74.43 0 P P 21 11 37.5 +0.2
AHID IAmb IAmb 21 11 39.0
comp=Z,55nm,1.4s
K22A Casper 74.44 4 P P 21 11 38.3 +0.9
baz=184
K22A Casper 74.44 4 P P 21 11 37.6 +0.2
K22A IAmb IAmb 21 11 48.6
comp=Z,69nm,1.1s
BW06 Boulder Array 74.45 1 P P 21 11 38.1 +0.6
baz=181
BW06 Boulder Array 74.45 1 P P 21 11 36.0 -1.5
BW06 IAmb IAmb 21 11 42.6
comp=Z,34nm,1.2s
BW06 IAMs_20 IAMs_20 21 38 59.0
comp=Z,2µm,19.0s
PD31 Pinedale Array 74.45 1 P P 21 11 35.9 -1.7
PDAR Pinedale Array 74.45 1 P P 21 11 36.0 -1.6
comp=Z,14nm,1.0s,baz=160,slow=4.7,SNR=42
PDAR LR LR 21 38 50.8
comp=Z,1µm,19.7s,baz=188,slow=31
PDAR Pinedale Array 74.45 1 P P 21 11 35.0 -2.5
BLO Bloomington 74.48 20 IAMs_20 IAMs_20 21 42 28.5
comp=Z,1µm,19.0s
RCBR Riachuelo 74.53 87 IAMs_20 IAMs_20 21 42 39.4
comp=Z,2µm,19.0s
L04D Klamath Falls 74.58 352 P P 21 11 39.3 +1.1
baz=170,SNR=11
V60A Jim Taylor Roa 74.60 28 IAMs_20 IAMs_20 21 41 47.6
comp=Z,2µm,18.0s
U58A Oxford 74.65 27 P P 21 11 39.0 +0.5
baz=208
BLA Blacksburg 74.67 25 P P 21 11 39.6 +0.9
baz=207
BLA Blacksburg 74.67 25 P P 21 11 38.8 +0.1
BLA pmax pmax
comp=Z,42nm,0.4s
BLA MLR MLR
comp=Z,1µm,20.0s
BLA Blacksburg 74.67 25 P P 21 11 38.8 +0.1
L02E Cave Junction 74.69 351 P P 21 11 40.6 +1.9
baz=169,SNR=5.4
P46A Rosedale 74.70 19 P P 21 11 38.1 -0.6
ECR Eagle Creek 74.72 360 P P 21 11 38.9 -0.1
N41A Harden Midland 74.80 16 P P 21 11 39.9 +0.6
N41A IAmb IAmb 21 11 48.9
comp=Z,84nm,1.9s
KBO Bosley Butte 74.83 350 P P 21 11 38.6 -1.0
KBO IAmb IAmb 21 11 54.0
comp=Z,105nm,1.7s
KBO IAMs_20 IAMs_20 21 37 16.5
comp=Z,1µm,19.0s
O44A Mansfield 74.86 18 P P 21 11 39.0 -0.7
O44A IAmb IAmb 21 11 49.4
comp=Z,52nm,1.5s
O44A IAMs_20 IAMs_20 21 41 55.6
comp=Z,1µm,18.0s
S54A Dingess, Beckl 74.88 24 IAMs_20 IAMs_20 21 39 39.1
comp=Z,2µm,22.0s
V61A Roper 74.90 29 IAMs_20 IAMs_20 21 41 03.6
comp=Z,1µm,18.0s
U59A Littleton 74.90 27 P P 21 11 41.0 +1.1
baz=209
U59A Littleton 74.90 27 P P 21 11 39.5 -0.5
U59A IAmb IAmb 21 11 50.0
comp=Z,58nm,1.5s
U59A IAMs_20 IAMs_20 21 41 19.6
comp=Z,2µm,19.0s
T57A Hurt 74.91 26 P P 21 11 39.3 -0.7
K05A Summer Lake 74.91 353 P P 21 11 40.0 -0.2
K05A IAmb IAmb 21 11 43.5
comp=Z,40nm,1.1s
K05A IAMs_20 IAMs_20 21 37 42.5
comp=Z,2µm,20.0s
REDW Red Top Meadow 75.03 0 P P 21 11 40.7 -0.2
REDW IAMs_20 IAMs_20 21 38 57.3
comp=Z,2µm,21.0s
HDIL Hopedale 75.03 17 P P 21 11 42.4 +1.7
HUMO Hull Mountain 75.05 351 P P 21 11 39.9 -0.8
HUMO IAMs_20 IAMs_20 21 37 18.1
comp=Z,2µm,20.0s
P48A Milroy 75.07 20 P P 21 11 41.4 +0.5
P48A IAMs_20 IAMs_20 21 41 06.0
comp=Z,1µm,20.0s
SNOW Snow King Moun 75.13 0 P P 21 11 40.8 -0.7
SNOW IAmb IAmb 21 11 46.3
comp=Z,33nm,1.1s
SNOW IAMs_20 IAMs_20 21 39 02.0
comp=Z,2µm,20.0s
T58A Grand View Acr 75.14 27 P P 21 11 42.0 +0.7
baz=208
R53A Hurricane 75.14 23 IAMs_20 IAMs_20 21 40 10.9
comp=Z,2µm,21.0s
S55A Lewisburg 75.14 25 P P 21 11 42.7 +1.3
baz=207
S55A S S **21 21 25.1 +5.1**
baz=207
TPAW Teton Pass 75.16 0 P P 21 11 40.4 -1.3
TPAW IAmb IAmb 21 11 47.1
comp=Z,42nm,1.1s
TPAW IAMs_20 IAMs_20 21 39 30.7
comp=Z,2µm,20.0s
K31A O'Neill 75.17 10 IAMs_20 IAMs_20 21 40 35.7
comp=Z,2µm,20.0s
MFID Camas Ranch 75.20 357 P P 21 11 43.0 +1.3
MFID IAmb IAmb 21 11 55.3
comp=Z,44nm,1.6s
K02D Willamette Mer 75.23 351 P P 21 11 43.4 +1.6
baz=169,SNR=17
K02D S S **21 21 27.0 +6.3**
baz=169
HLID Hailey 75.28 358 P P 21 11 43.4 +1.1
baz=177
HLID Hailey 75.28 358 P P 21 11 41.8 -0.5
HLID IAmb IAmb 21 11 45.2
comp=Z,38nm,1.0s
HLID IAMs_20 IAMs_20 21 39 41.1
comp=Z,2µm,18.0s
FXWY Fox Creek 75.30 0 P P 21 11 41.8 -0.7
Q51A Peebles 75.31 22 P P 21 11 42.4 +0.1
Q51A IAMs_20 IAMs_20 21 40 00.4
comp=Z,2µm,22.0s
J08A Circle Bar Ran 75.31 355 P P 21 11 43.1 +0.7
J08A IAmb IAmb 21 11 56.1
comp=Z,61nm,1.5s
R54A Victor 75.34 24 P P 21 11 43.2 +0.7
baz=206
P49A Miami Univ. Ec 75.35 21 P P 21 11 43.3 +0.8
baz=203
P49A Miami Univ. Ec 75.35 21 P P 21 11 42.9 +0.4
P49A IAmb IAmb 21 11 51.5
comp=Z,94nm,1.7s
P49A IAMs_20 IAMs_20 21 41 01.4
comp=Z,2µm,21.0s
SCIA State Center 75.43 14 IAMs_20 IAMs_20 21 41 14.6
comp=Z,2µm,19.0s
SFIN Lafayette 75.44 19 P P 21 11 44.1 +1.1
baz=201
SFIN Lafayette 75.44 19 P P 21 11 44.2 +1.1
SFIN IAmb IAmb 21 11 52.4
comp=Z,56nm,1.4s
SFIN IAMs_20 IAMs_20 21 43 06.9
comp=Z,2µm,18.0s
KEBM Edson Butte 75.50 350 P P 21 11 43.2 -0.1
KEBM IAMs_20 IAMs_20 21 37 42.2
comp=Z,2µm,19.0s
J05D Fort Rock, OR 75.50 352 P P 21 11 45.2 +1.7
baz=171,SNR=21
T59A Double "B" Far 75.54 27 P P 21 11 44.3 +0.7
baz=209
T59A Double "B" Far 75.54 27 P P 21 11 43.9 +0.3
T59A IAmb IAmb 21 11 53.5
comp=Z,46nm,1.4s
IMW Indian Meadow 75.56 0 P P 21 11 42.8 -1.2
IMW IAMs_20 IAMs_20 21 39 14.5
comp=Z,2µm,20.0s
J04D Umpqua Nationa 75.56 352 P P 21 11 45.0 +1.1
baz=170
S57A Dark Hollow, R 75.70 26 P P 21 11 42.5 -2.1
S57A IAmb IAmb 21 11 57.7
comp=Z,52nm,1.7s
J01E Myrtle Point 75.72 350 P P 21 11 46.1 +1.6
baz=169
R55A Marinton 75.73 25 IAMs_20 IAMs_20 21 41 16.6
comp=Z,1µm,20.0s
FLWY Flagg Ranch 75.75 0 P P 21 11 44.6 -0.4
FLWY IAmb IAmb 21 11 47.3
comp=Z,35nm,0.9s
FLWY IAMs_20 IAMs_20 21 39 10.4
comp=Z,2µm,21.0s
Q53A Leroy 75.76 24 P P 21 11 45.7 +0.8
baz=206
P51A Williamsport 75.82 22 P P 21 11 46.9 +1.7
P51A IAMs_20 IAMs_20 21 40 27.8
comp=Z,2µm,22.0s
S58A Poland Farm, P 75.91 27 P P 21 11 46.8 +1.1
baz=208
S58A Poland Farm, P 75.91 27 P P 21 11 46.5 +0.8
S58A IAmb IAmb 21 11 55.6
comp=Z,40nm,1.2s
S58A IAMs_20 IAMs_20 21 42 09.1
comp=Z,2µm,19.0s
YPP Pitchstone Pla 75.94 0 P P 21 11 47.0 +0.9
PINE Pine Mountain 75.97 353 P P 21 11 45.9 -0.3
PINE IAmb IAmb 21 11 49.5
comp=Z,28nm,0.9s
PINE IAMs_20 IAMs_20 21 38 35.6
comp=Z,1µm,18.0s
BCYI Bear Canyon 76.00 358 P P 21 11 46.2 -0.2
L40A Anamosa 76.00 15 P P 21 11 45.8 -0.4
L40A IAMs_20 IAMs_20 21 42 10.8
comp=Z,1µm,18.0s
T60A Surry 76.00 28 P P 21 11 46.6 +0.3
T60A IAMs_20 IAMs_20 21 42 47.8
comp=Z,1µm,18.0s
H17A Grant Village 76.06 1 P P 21 11 48.4 +1.6
baz=180
H17A Grant Village 76.06 1 P P 21 11 47.5 +0.7
O49A Covington 76.06 21 IAMs_20 IAMs_20 21 41 32.4
comp=Z,2µm,20.0s
RSSD Black Hills 76.07 5 P P 21 11 47.8 +1.0
baz=186
RSSD Black Hills 76.07 5 P P 21 11 46.8 0.0
RSSD pmax pmax
comp=Z,28nm,1.1s
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills 76.07 5 P P 21 11 46.8 0.0
RSSD IAmb IAmb 21 11 52.5
comp=Z,28nm,1.1s
RSSD Black Hills 76.07 5 IAMs_20 IAMs_20 21 39 53.9
comp=Z,2µm,20.0s
R56A Bull Pasture M 76.10 25 P P 21 11 47.4 +0.4
baz=207
Q54A Coxs Mills 76.11 24 P P 21 11 47.8 +0.9
baz=206
Q54A Coxs Mills 76.11 24 P P 21 11 48.1 +1.2
Q54A IAMs_20 IAMs_20 21 40 16.5
comp=Z,2µm,21.0s
I07A Izee 76.12 354 P P 21 11 47.1 +0.2
I07A IAmb IAmb 21 11 50.3
comp=Z,31nm,1.1s
I07A IAMs_20 IAMs_20 21 38 30.4
comp=Z,2µm,20.0s
I04A Tendick Farm, 76.14 352 P P 21 11 48.3 +1.3
baz=170,SNR=9.3
I03D Drain, OR 76.17 351 P P 21 11 48.5 +1.4
baz=169,SNR=7.7
K38A Parkersburg 76.23 14 IAMs_20 IAMs_20 21 41 48.9
comp=Z,2µm,19.0s
LKWY Lake 76.23 1 P P 21 11 49.2 +1.4
LKWY pmax pmax
comp=Z,19nm,1.0s
LKWY MLR MLR
comp=Z,2µm,22.0s
LKWY Lake 76.23 1 P P 21 11 49.2 +1.4
LKWY IAMs_20 IAMs_20 21 39 30.2
comp=Z,2µm,22.0s
P52A Corning 76.25 23 P P 21 11 48.5 +0.8
baz=205
P52A Corning 76.25 23 P P 21 11 47.9 +0.2
P52A IAmb IAmb 21 11 53.2
comp=Z,47nm,1.1s
R58B Mineral 76.28 27 P P 21 11 48.8 +1.0
baz=209
R58B Mineral 76.28 27 P P 21 11 48.4 +0.5
R58B IAmb IAmb 21 11 53.5
comp=Z,28nm,1.1s
N47A Urbana 76.30 20 IAMs_20 IAMs_20 21 41 59.6
comp=Z,1µm,20.0s
R57A Stanardsville 76.33 26 P P 21 11 49.1 +1.0
baz=208
YMR Madison River 76.33 0 P P 21 11 49.9 +1.6
P53A Whipple 76.37 23 P P 21 11 49.1 +0.8
baz=206
P53A Whipple 76.37 23 P P 21 11 48.4 0.0
P53A IAmb IAmb 21 11 59.0
comp=Z,68nm,1.5s
YNR Norris Junctio 76.38 0 P P 21 11 50.0 +1.4
YMP Mirror Lake Pl 76.41 1 P P 21 11 49.8 +0.9
YHH Holmes Hill 76.45 0 P P 21 11 48.2 -0.9
QLMT Earthquake Lak 76.50 360 P P 21 11 49.4 +0.2
MCMT McKenzie Canyo 76.51 359 P P 21 11 48.6 -0.7
YHL Hebgen Lake 76.52 0 P P 21 11 49.4 -0.1
ACSO Alum Creek Sta 76.52 22 P P 21 11 49.5 +0.3
R58A Rapidan 76.52 26 P P 21 11 50.3 +1.1
baz=208
I05D Terrebonne, OR 76.56 353 P P 21 11 51.1 +1.7
baz=171
O51A Pataskala 76.57 22 P P 21 11 50.4 +0.9
baz=205
HQIL Hanson Quary C 76.57 18 P P 21 11 49.9 +0.5
ECSD EROS Data Cent 76.58 11 P P 21 11 50.7 +1.2
baz=193
ECSD EROS Data Cent 76.58 11 P P 21 11 49.0 -0.5
ECSD IAmb IAmb 21 11 59.2
comp=Z,87nm,1.9s
I02D Swisshome 76.64 351 P P 21 11 51.1 +1.4
baz=169
YNE Yellowstone No 76.68 1 P P 21 11 50.2 -0.1
CBN Corbin Frederi 76.68 27 IAMs_20 IAMs_20 21 42 14.7
comp=Z,1µm,20.0s
BMO Blue Mountains 76.71 356 P P 21 11 50.5 +0.2
BMO pmax pmax
comp=Z,19nm,1.2s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 76.71 356 P P 21 11 50.5 +0.2
BMO IAMs_20 IAMs_20 21 39 06.1
comp=Z,1µm,20.0s
Q56A Snyder Ridge, 76.74 25 P P 21 11 51.9 +1.4
baz=208
Q56A Snyder Ridge, 76.74 25 P P 21 11 51.1 +0.6
Q56A IAmb IAmb 21 14 41.4
comp=Z,26nm,1.0s
Q56A IAMs_20 IAMs_20 21 42 52.3
comp=Z,1µm,19.0s
R59A King George, V 76.78 27 P P 21 11 52.8 +2.1
baz=209
N49A Columbus Grove 76.78 21 P P 21 11 50.5 -0.1
N49A IAmb IAmb 21 11 59.5
comp=Z,79nm,2.0s
N49A IAMs_20 IAMs_20 21 42 05.4
comp=Z,2µm,21.0s
P54A Burton 76.78 24 P P 21 11 52.5 +1.8
baz=206
O52A Adamsville 76.79 23 P P 21 11 51.7 +1.0
baz=205
O52A Adamsville 76.79 23 P P 21 11 50.5 -0.2
O52A IAmb IAmb 21 12 00.9
comp=Z,52nm,1.0s
RLMT Red Lodge 76.81 1 P P 21 11 52.5 +1.6
baz=182
RLMT Red Lodge 76.81 1 P P 21 11 52.0 +1.0
RLMT IAmb IAmb 21 12 04.3
comp=Z,83nm,1.9s
PLID Pearl Lake 76.87 357 P P 21 11 50.4 -0.9
H04D Lebanon 76.90 352 P P 21 11 53.1 +1.9
baz=170
CASY Casey 76.91 196 IAMs_20 IAMs_20 21 41 32.5
comp=Z,2µm,18.0s
P55A Reedsville 76.93 24 P P 21 11 53.2 +1.7
baz=207
SUSD Miller 76.93 9 IAMs_20 IAMs_20 21 41 31.5
comp=Z,2µm,20.0s
H04A Detroit Lake 76.99 352 P P 21 11 51.1 -0.7
H04A IAMs_20 IAMs_20 21 38 36.6
comp=Z,1µm,21.0s
SYO Syowa Base 77.00 170 eP P 21 11 50.0 -1.6
SYO Syowa Base 77.00 170 i/sP sP 21 11 55.0 +0.1
SYO Syowa Base 77.00 170 i/PcP PcP 21 12 01.6 -1.0
Q57A Strasburg 77.02 26 P P 21 11 53.9 +1.9
baz=208
Q57A S S **21 21 47.1 +6.6**
baz=208
COR Corvallis 77.03 351 P P 21 11 53.0 +1.1
COR pmax pmax
comp=Z,39nm,1.0s
COR Corvallis 77.03 351 P P 21 11 53.0 +1.1
COR IAmb IAmb 21 11 55.1
comp=Z,39nm,0.9s
DLMT Dillon 77.04 359 P P 21 11 53.1 +1.0
MCWV Mont Chateau 77.05 24 P P 21 11 53.8 +1.6
baz=207
MCWV Mont Chateau 77.05 24 P P 21 11 53.5 +1.2
O53A New Philadelph 77.11 23 P P 21 11 54.1 +1.5
baz=206
O53A New Philadelph 77.11 23 P P 21 11 52.7 +0.2
O53A IAmb IAmb 21 11 58.5
comp=Z,50nm,1.2s
L46A Eue Claire 77.18 19 IAMs_20 IAMs_20 21 43 31.0
comp=Z,2µm,19.0s
Q58A Fox Den Farm, 77.21 26 P P 21 11 55.0 +1.9
baz=209
BOZ Bozeman (W) 77.26 360 P P 21 11 54.5 +1.1
baz=180
BOZ Bozeman (W) 77.26 360 P P 21 11 54.0 +0.5
BOZ pmax pmax
comp=Z,44nm,1.7s
BOZ MLR MLR
comp=Z,1µm,18.0s
BOZ Bozeman (W) 77.26 360 P P 21 11 54.0 +0.5
BOZ IAmb IAmb 21 12 07.2
comp=Z,44nm,1.6s
BOZ IAMs_20 IAMs_20 21 41 16.5
comp=Z,1µm,18.0s
G08A Pilot Rock 77.27 354 P P 21 11 53.7 +0.2
P56A Dayton Farm, R 77.28 25 P P 21 11 54.9 +1.5
baz=208
K43A Burlington 77.30 17 IAMs_20 IAMs_20 21 42 38.0
comp=Z,1µm,20.0s
O54A Avella 77.34 24 IAMs_20 IAMs_20 21 42 49.1
comp=Z,2µm,19.0s
N51A Ashland 77.34 22 P P 21 11 55.2 +1.4
baz=205
N51A Ashland 77.34 22 P P 21 11 54.3 +0.5
N51A IAmb IAmb 21 11 59.4
comp=Z,54nm,1.2s
N51A IAMs_20 IAMs_20 21 41 02.1
comp=Z,2µm,22.0s
I37A Lemond, Waseca 77.42 13 P P 21 11 54.8 +0.6
I37A IAMs_20 IAMs_20 21 42 08.4
comp=Z,1µm,18.0s
G05D Wamic, OR 77.45 353 P P 21 11 56.0 +1.7
baz=171
GCMT Greycliff 77.47 1 P P 21 11 54.3 -0.3
LRM Limekiln Ridge 77.49 359 P P 21 11 54.9 0.0
P57A Homestead Farm 77.56 26 P P 21 11 56.2 +1.1
baz=208
P57A Homestead Farm 77.56 26 P P 21 11 55.7 +0.7
P57A IAmb IAmb 21 12 09.0
comp=Z,62nm,1.6s
M50A Fremont 77.57 21 P P 21 11 55.8 +0.8
M50A IAMs_20 IAMs_20 21 41 55.3
comp=Z,2µm,20.0s
R61A Willards 77.59 28 IAMs_20 IAMs_20 21 41 46.7
comp=Z,1µm,20.0s
L48A N Adams 77.65 20 IAMs_20 IAMs_20 21 42 17.3
comp=Z,1µm,20.0s
BBSR BB Station 77.71 39 P P 21 11 56.7 +0.7
BBSR IAmb IAmb 21 12 06.3
comp=Z,54nm,1.5s
N53A Lisbon 77.74 23 P P 21 11 57.2 +1.1
baz=206
N53A Lisbon 77.74 23 P P 21 11 56.2 +0.1
N53A IAmb IAmb 21 12 06.6
comp=Z,62nm,1.4s
F10A Beach Ranch, E 77.83 356 P P 21 11 56.5 0.0
F10A IAmb IAmb 21 12 03.5
comp=Z,30nm,1.2s
F10A IAMs_20 IAMs_20 21 39 51.5
comp=Z,1µm,21.0s
P58A Pank, Wackersv 77.83 26 P P 21 11 57.7 +1.1
baz=209
P58A S S **21 21 53.7 +4.5**
baz=209
SDMD Soldier's Deli 77.94 27 P P 21 11 57.8 +0.7
F07A Phinny Hill Vi 77.96 354 P P 21 11 56.6 -0.5
F07A IAmb IAmb 21 12 03.0
comp=Z,63nm,1.9s
F07A IAMs_20 IAMs_20 21 39 35.0
comp=Z,1µm,20.0s
O56A Blue Knob Stat 78.05 25 P P 21 11 59.2 +1.4
baz=208
O56A Blue Knob Stat 78.05 25 P P 21 11 57.2 -0.6
O56A IAmb IAmb 21 12 08.3
comp=Z,53nm,1.4s
F05D White Salmon 78.10 353 P P 21 11 59.6 +1.7
baz=171
N54A Moraine State 78.17 24 P P 21 12 00.1 +1.7
baz=207
N54A Moraine State 78.17 24 P P 21 11 59.0 +0.6
N54A IAMs_20 IAMs_20 21 43 23.0
comp=Z,2µm,19.0s
AAM Ann Arbor 78.20 21 IAMs_20 IAMs_20 21 43 09.0
comp=Z,2µm,20.0s
F04A Amboy 78.25 352 P P 21 11 58.6 -0.1
F04A IAmb IAmb 21 12 01.2
comp=Z,39nm,0.9s
P59A Jarrettsville 78.26 27 P P 21 12 00.4 +1.4
baz=210
O57A Amberson 78.34 26 P P 21 12 00.3 +1.0
baz=209
O57A S S **21 22 02.0 +7.3**
baz=209
N55A Marion Center 78.35 24 P P 21 12 00.4 +1.0
baz=208
M53A WI Miller and 78.36 23 IAMs_20 IAMs_20 21 41 41.2
comp=Z,2µm,22.0s
HRY Holter Researc 78.38 360 P P 21 11 59.1 -0.5
HAWA Hanford 78.41 354 P P 21 12 00.6 +0.9
HAWA IAMs_20 IAMs_20 21 40 12.1
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 78.42 355 P P 21 12 00.6 +0.9
E09A IAMs_20 IAMs_20 21 39 59.4
comp=Z,1µm,20.0s
E08A Dider Farm, El 78.47 355 P P 21 12 01.1 +1.2
LAO LASA Array 78.49 4 P P 21 12 01.2 +1.1
baz=184
LAO LASA Array 78.49 4 P P 21 12 00.2 +0.1
LAO IAmb IAmb 21 12 06.1
comp=Z,30nm,1.0s
O58A Lewisberry 78.53 26 P P 21 12 01.6 +1.2
baz=209
O58A S S **21 22 02.4 +5.7**
baz=209
MSO Missoula 78.53 358 P P 21 12 01.8 +1.3
baz=178
MSO Missoula 78.53 358 P P 21 12 00.6 +0.2
MSO IAMs_20 IAMs_20 21 41 56.1
comp=Z,1µm,18.0s
E07A Sunnyside 78.61 354 P P 21 12 02.2 +1.4
E07A IAMs_20 IAMs_20 21 40 15.2
comp=Z,1µm,20.0s
SSPA Standing Stone 78.62 25 P P 21 12 02.1 +1.2
baz=208
SSPA Standing Stone 78.62 25 P P 21 12 02.0 +1.2

SSPA IAmb IAmb 21 12 10.9
comp=Z,42nm,1.4s
MVL Millersville 78.63 27 P **P** **21 12 01.0 0.0**
MVL IAMs_20 IAMs_20 21 43 40.4
comp=Z,1µm,20.0s
F33A 5 Mile Ranch, 78.69 11 P **P** **21 12 01.7 +0.5**
F33A IAmb IAmb 21 12 10.9
comp=Z,78nm,1.8s
PAGS Pennsylvania G 78.69 26 P **P** **21 12 01.5 +0.2**
PAGS IAmb IAmb 21 12 06.5
comp=Z,38nm,1.2s
PAGS IAMs_20 IAMs_20 21 42 47.9
comp=Z,1µm,20.0s
SPMN Marine on St. 78.70 13 P **P** **21 12 02.9 +1.6**
SPMN IAmb IAmb 21 12 11.2
comp=Z,51nm,1.5s
SPMN IAMs_20 IAMs_20 21 42 58.2
comp=Z,1µm,18.0s
N56A West Decatur 78.72 25 P **P** **21 12 02.9 +1.4**
baz=208
J47A Sunmer 78.73 19 IAMs_20 IAMs_20 21 43 32.9
comp=Z,1µm,19.0s
ALLY Alegheny Colle 78.73 23 P **P** **21 12 02.8 +1.3**
ALLY IAmb IAmb 21 12 11.0
comp=Z,49nm,1.3s
M54A Oil Creek Stat 78.76 24 IAMs_20 IAMs_20 21 41 28.8
comp=Z,2µm,22.0s
E28A Huff 78.82 7 P **P** **21 12 02.9 +0.9**
N57A Milroy 78.84 25 P **P** **21 12 03.0 +0.9**
baz=209
WUPA West Chester U 78.86 27 P **P** **21 12 03.9 +1.7**
E04D Cinebar 78.89 352 P **P** **21 12 03.6 +1.4**
baz=170
PSUB Penn St. - Bra 78.92 27 P **P** **21 12 03.2 +0.7**
K50A Casco 78.95 21 P **P** **21 12 03.8 +1.2**
K50A IAMs_20 IAMs_20 21 43 10.7
comp=Z,2µm,21.0s
O59A Robesonia 78.97 27 P **P** **21 12 04.0 +1.2**
baz=210
LON Longmire 78.99 353 P **P** **21 12 02.2 -0.7**
LON pmax pmax
comp=Z,67nm,2.0s
LON MLR MLR
comp=Z,1µm,20.0s
LON Longmire 78.99 353 P **P** **21 12 02.2 -0.7**
LON IAmb IAmb 21 12 15.4
comp=Z,67nm,1.9s
LON IAMs_20 IAMs_20 21 40 41.4
comp=Z,1µm,20.0s
E03A Lebam 79.00 351 P **P** **21 12 04.1 +1.3**
E03A IAmb IAmb 21 12 15.8
comp=Z,52nm,1.3s
D08A Wollman Farm, 79.02 355 P **P** **21 12 03.6 +0.6**
M55A Ridgway 79.04 24 P **P** **21 12 04.2 +1.0**
baz=208
M55A Ridgway 79.04 24 P **P** **21 12 03.5 +0.3**
M55A IAmb IAmb 21 12 09.0
comp=Z,41nm,1.1s
M55A IAMs_20 IAMs_20 21 43 39.1
comp=Z,2µm,20.0s
I45A Fountain 79.08 18 IAMs_20 IAMs_20 21 43 57.2
comp=Z,1µm,19.0s
H43A Windswept, Lux 79.09 17 P **P** **21 12 03.7 +0.3**
H43A IAmb IAmb 21 12 08.2
comp=Z,32nm,0.9s
F36A Milaca 79.18 13 P **P** **21 12 04.9 +1.1**
ERPA Erie 79.20 23 IAMs_20 IAMs_20 21 42 37.3
comp=Z,2µm,20.0s
N58A Sunbury 79.23 26 P **P** **21 12 04.5 +0.3**
N58A IAmb IAmb 21 12 14.2
comp=Z,56nm,1.6s
N58A IAMs_20 IAMs_20 21 44 53.0
comp=Z,1µm,18.0s
M56A Emporium 79.26 25 P **P** **21 12 05.3 +0.8**
baz=208
M56A Emporium 79.26 25 P **P** **21 12 04.3 -0.1**
M56A IAmb IAmb 21 12 14.7
comp=Z,79nm,1.4s
M56A IAMs_20 IAMs_20 21 44 15.9
comp=Z,1µm,19.0s
CAN Canberra 79.26 235 P **P** **21 12 06.5 +1.6**
CAN pmax pmax
comp=Z,64nm,1.6s
CAN MLR MLR
comp=Z,1µm,20.0s
CAN Canberra 79.26 235 P **P** **21 12 06.5 +1.6**
CAN IAmb IAmb 21 12 16.0
comp=Z,64nm,1.6s
G40A Rib Lake 79.28 15 P **P** **21 12 05.3 +0.9**
G40A IAmb IAmb 21 12 14.8
comp=Z,87nm,1.6s
G40A IAMs_20 IAMs_20 21 44 40.6
comp=Z,1µm,18.0s
LTY Liberty 79.38 353 P **P** **21 12 05.0 0.0**
D05A Enumclaw 79.44 353 P **P** **21 12 06.6 +1.4**
JTMT Jette 79.46 358 P **P** **21 12 05.2 -0.3**
JTMT IAmb IAmb 21 12 08.2
comp=Z,34nm,1.0s
JTMT IAMs_20 IAMs_20 21 42 24.6
comp=Z,1µm,18.0s
M57A Sunshine Farm, 79.51 25 P **P** **21 12 07.0 +1.2**
baz=209
M57A Sunshine Farm, 79.51 25 IAMs_20 IAMs_20 21 44 23.5
comp=Z,2µm,19.0s
LUPA Lehigh Univers 79.53 27 P **P** **21 12 04.2 -1.7**
N59A State Game Lan 79.65 27 P **P** **21 12 07.7 +1.2**
baz=210
N59A State Game Lan 79.65 27 P **P** **21 12 06.2 -0.3**
N59A IAmb IAmb 21 12 20.1
comp=Z,66nm,1.9s
EGMT Eagleton 79.70 1 P **P** **21 12 08.6 +1.8**
baz=181
EGMT Eagleton 79.70 1 P **P** **21 12 07.5 +0.7**
EGMT IAMs_20 IAMs_20 21 41 40.0
comp=Z,2µm,21.0s
C09A Chrisman Ranch 79.72 355 P **P** **21 12 07.9 +1.2**
C09A IAmb IAmb 21 12 21.0
comp=Z,132nm,2.0s
M58A Price's Panora 79.78 26 P **P** **21 12 09.2 +1.9**
baz=209
L55A Hinsdale 79.78 24 P **P** **21 12 09.0 +1.6**
baz=208
D32A Dogwood Acres, 79.84 10 IAMs_20 IAMs_20 21 43 36.5
comp=Z,2µm,19.0s
N60A Cedar Hill Far 79.86 27 P **P** **21 12 09.4 +1.7**
baz=210
NLWA Neilton Lookou 79.87 351 P **P** **21 12 08.0 +0.4**
NLWA IAMs_20 IAMs_20 21 40 16.6
comp=Z,1µm,20.0s
ARMA Armidale 79.91 241 P **P** **21 12 08.8 +0.2**
D03D Eldon 79.91 352 P **P** **21 12 09.5 +1.7**
baz=170
BRNJ Basking Ridge 79.91 27 IAMs_20 IAMs_20 21 43 59.2
comp=Z,1µm,19.0s
WVNY West Valley, N 79.92 24 P **P** **21 12 08.0 0.0**
WVNY IAmb IAmb 21 12 18.5
comp=Z,63nm,1.6s
WVNY IAMs_20 IAMs_20 21 44 16.5
comp=Z,2µm,19.0s
I49A Point Hope 79.95 20 IAMs_20 IAMs_20 21 43 24.2
comp=Z,2µm,20.0s
L56A Greenwood 80.05 25 P **P** **21 12 09.8 +1.1**
baz=208
L56A Greenwood 80.05 25 P **P** **21 12 09.1 +0.3**
L56A IAmb IAmb 21 12 19.8
comp=Z,90nm,1.6s
NEW Newport 80.10 356 P **P** **21 12 10.3 +1.4**
baz=175
NEW Newport 80.10 356 P **P** **21 12 08.8 -0.1**
NEW pmax pmax
comp=Z,44nm,1.3s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 80.10 356 P **P** **21 12 08.8 -0.1**
NEW IAmb IAmb 21 12 11.7
comp=Z,44nm,1.2s
NEW Newport 80.10 356 IAMs_20 IAMs_20 21 41 33.7
comp=Z,1µm,20.0s
G45A Suttons Bay 80.17 18 IAMs_20 IAMs_20 21 44 28.9
comp=Z,1µm,20.0s
L57A Andrews Acres 80.19 25 P **P** **21 12 11.5 +2.0**
baz=209
MDND Maddock 80.20 8 P **P** **21 12 10.0 +0.6**
MDND IAmb IAmb 21 12 22.7
comp=Z,56nm,1.2s
MDND IAMs_20 IAMs_20 21 43 13.3
comp=Z,2µm,22.0s
KSPA Keystone Colle 80.20 26 P **P** **21 12 10.4 +0.9**
KSPA IAmb IAmb 21 12 19.4
comp=Z,133nm,2.0s
KSPA IAMs_20 IAMs_20 21 44 36.9
comp=Z,1µm,18.0s
ODNJ Ogdensburg 80.24 27 IAMs_20 IAMs_20 21 45 04.9
comp=Z,1µm,18.0s
GLMI Grayling 80.25 19 IAMs_20 IAMs_20 21 44 51.1
comp=Z,2µm,19.0s
E38A The Farm, Brul 80.27 14 P **P** **21 12 10.9 +1.1**
E38A IAmb IAmb 21 12 18.6
comp=Z,53nm,1.4s
COWI Conover 80.31 15 P **P** **21 12 11.0 +1.0**
COWI IAmb IAmb 21 12 19.3
comp=Z,80nm,1.8s
COWI IAMs_20 IAMs_20 21 44 35.7
comp=Z,1µm,19.0s
B08A Colville Reser 80.35 355 P **P** **21 12 10.7 +0.5**
B08A IAMs_20 IAMs_20 21 41 59.3
comp=Z,1µm,20.0s
DGMT Dagmar 80.39 5 P **P** **21 12 12.1 +1.7**
baz=186
DGMT Dagmar 80.39 5 P **P** **21 12 11.6 +1.2**
M60A Port Jervis 80.44 27 P **P** **21 12 12.1 +1.3**
baz=211
TRNY Table Rock, Ra 80.44 27 IAMs_20 IAMs_20 21 44 15.2
comp=Z,1µm,20.0s
PAL Palisades 80.45 28 P **P** **21 12 10.4 -0.4**
PAL pmax pmax
comp=Z,71nm,1.7s
PAL MLR MLR
comp=Z,1µm,20.0s
PAL Palisades 80.45 28 P **P** **21 12 10.4 -0.4**
PAL IAmb IAmb 21 13 10.2
comp=Z,71nm,1.6s
PAL IAMs_20 IAMs_20 21 43 10.4
comp=Z,1µm,20.0s
TOO Toolangi 80.45 232 P **P** **21 12 11.9 +0.6**
TOO pmax pmax
comp=Z,81nm,1.6s
TOO MLR MLR
comp=Z,2µm,20.0s
TOO Toolangi 80.45 232 P **P** **21 12 11.9 +0.6**
TOO IAmb IAmb 21 12 18.3
comp=Z,81nm,1.6s
TOO IAMs_20 IAMs_20 21 40 49.5
comp=Z,2µm,20.0s
MMNY Mt. Morris Dam 80.45 24 P **P** **21 12 11.6 +0.8**
MMNY IAmb IAmb 21 12 21.0
comp=Z,72nm,1.3s
MMNY IAMs_20 IAMs_20 21 44 38.5
comp=Z,1µm,18.0s
B05A Bryant 80.52 353 P **P** **21 12 12.3 +1.3**
baz=171
MAW Mawson 80.58 178 P **P** **21 12 11.8 +0.5**
comp=Z,3.2nm,0.9s,baz=192,slow=7.3,SNR=6.5
MAW LR LR 21 44 39.5
comp=Z,2µm,20.5s,baz=190,slow=33
MAW Mawson 80.58 178 P **P** **21 12 12.2 +0.9**
MAW pmax pmax
comp=Z,17nm,1.9s
MAW Mawson 80.58 178 P **P** **21 12 12.2 +0.9**
K56A Middlesex 80.63 25 P **P** **21 12 13.5 +1.6**
baz=209
MEDO Medina 80.65 24 P **P** **21 12 13.1 +1.2**
MEDO IAmb IAmb 21 12 41.5
comp=Z,36nm,1.0s
BINY Binghamton 80.68 26 IAMs_20 IAMs_20 21 45 54.5
comp=Z,1µm,18.0s
B06A Marblemount 80.70 353 P **P** **21 12 12.7 +0.7**
WALA Waterton Lakes 80.76 358 P **P** **21 12 13.6 +1.1**
WSPT Westport, CT 80.82 28 IAMs_20 IAMs_20 21 42 56.2
comp=Z,1µm,21.0s
J55A Hilton 80.95 24 IAMs_20 IAMs_20 21 45 02.8
comp=Z,1µm,18.0s
A04D Lummi Island 81.03 352 P **P** **21 12 15.6 +1.9**
baz=170
PGC Sidney 81.05 352 P **P** **21 12 14.5 +0.7**
YLE Yale 81.10 28 IAMs_20 IAMs_20 21 42 41.1
comp=Z,1µm,20.0s
AGMN Agassiz Nation 81.15 10 P **P** **21 12 14.4 0.0**
AGMN IAmb IAmb 21 12 24.8
comp=Z,99nm,1.8s
AGMN IAMs_20 IAMs_20 21 44 16.0
comp=Z,2µm,21.0s
K58A Earlville 81.29 26 P **P** **21 12 17.2 +1.9**
baz=210
K58A Earlville 81.29 26 P **P** **21 12 15.3 -0.1**
K58A IAMs_20 IAMs_20 21 45 03.7
comp=Z,1µm,19.0s
J56A Wolcott 81.30 25 P **P** **21 12 17.3 +2.0**
baz=209
D41A Chassel 81.34 15 IAMs_20 IAMs_20 21 45 50.1
comp=Z,1µm,18.0s
K59A Cooperstown 81.60 26 P **P** **21 12 18.3 +1.3**
baz=210
J57A Williamstown 81.72 25 P **P** **21 12 19.4 +1.8**
J57A IAmb IAmb 21 12 31.1
comp=Z,71nm,1.6s
PECO Prince Edward 81.83 24 P **P** **21 12 19.1 +1.0**
PECO IAmb IAmb 21 14 07.1
comp=Z,25nm,0.8s
J58A Remsen 81.94 26 P **P** **21 12 20.4 +1.7**
baz=210
TRY Troy 82.01 27 IAMs_20 IAMs_20 21 44 03.8
comp=Z,1µm,20.0s
DELO Deloro Mine 82.12 24 IAMs_20 IAMs_20 21 43 42.7
comp=Z,2µm,22.0s
QUA2 Belchertown 82.14 28 IAMs_20 IAMs_20 21 42 47.3
comp=Z,1µm,21.0s
BRYW Bryant College 82.17 29 IAMs_20 IAMs_20 21 44 13.0
comp=Z,1µm,21.0s
M66A Nantucket 82.21 30 P **P** **21 12 21.9 +1.7**
baz=214
I58A Old Forge 82.34 26 P **P** **21 12 22.6 +1.7**
baz=210
K62A Royalston 82.52 28 P **P** **21 12 23.5 +1.8**
baz=212
K62A Royalston 82.52 28 IAMs_20 IAMs_20 21 43 32.1
comp=Z,1µm,22.0s
J60A Lant Hill Farm 82.54 27 P **P** **21 12 24.2 +2.3**
baz=212
WES Weston 82.65 29 IAMs_20 IAMs_20 21 42 45.6
comp=Z,1µm,21.0s
HRV Adam Dziewonsk 82.65 28 IAMs_20 IAMs_20 21 42 46.8
comp=Z,2µm,21.0s
H57A Richville 82.86 25 P **P** **21 12 25.2 +1.7**
baz=210
NCB Newcomb 82.86 26 P **P** **21 12 23.7 +0.1**
EIDS Eidsvold 82.96 245 P **P** **21 12 26.0 +1.3**
EIDS IAmb IAmb 21 12 38.8
comp=Z,28nm,1.3s
ULM Lac du Bonnet 83.05 10 P **P** **21 12 23.2 -1.2**
comp=Z,9.8nm,0.9s,baz=167,slow=20,SNR=4.1
ULM Lac du Bonnet 83.05 10 P **P** **21 12 25.0 +0.7**
ULM Lac du Bonnet 83.05 10 P **P** **21 12 24.4 0.0**
ULM IAmb IAmb 21 12 37.2
comp=Z,50nm,1.6s
I60A Shoreham 83.10 27 P **P** **21 12 27.0 +2.2**
baz=212
J62A Henniker 83.16 28 P **P** **21 12 26.7 +1.6**
baz=213
ALGO Algonquin Park 83.25 23 P **P** **21 12 27.2 +1.7**
baz=208
H58A Gabriels 83.26 26 P **P** **21 12 27.3 +1.7**
baz=211
LONY Lake Ozonia 83.28 25 P **P** **21 12 27.4 +1.6**
baz=211
LONY Lake Ozonia 83.28 25 P **P** **21 12 25.8 +0.1**
HNH Hanover 83.37 27 P **P** **21 12 26.8 +0.7**
FFD Franklin Falls 83.42 28 IAMs_20 IAMs_20 21 43 46.1
comp=Z,1µm,20.0s
G57A Newington 83.55 25 P **P** **21 12 29.3 +2.3**
baz=210
I61A Oroboro, Fairl 83.59 27 P **P** **21 12 28.8 +1.5**
baz=212
H59A Cadyville 83.63 26 P **P** **21 12 29.4 +1.9**
baz=211
VT1 Waterbury 83.72 27 IAMs_20 IAMs_20 21 45 02.8
comp=Z,1µm,20.0s
FRNY Flat Rock 83.83 26 P **P** **21 12 29.2 +0.7**
FRNY IAMs_20 IAMs_20 21 46 32.0
comp=Z,2µm,19.0s
I62A Tamworth 83.89 28 P **P** **21 12 30.6 +1.8**
baz=213
I62A Tamworth 83.89 28 IAMs_20 IAMs_20 21 44 21.4
comp=Z,1µm,21.0s
G58A Ormstown 83.93 25 P **P** **21 12 30.6 +1.6**
baz=211
H60A Morristown 83.94 27 P **P** **21 12 30.7 +1.6**
baz=212
LBNH Lisbon 83.96 27 P **P** **21 12 30.9 +1.7**
baz=213
HNR Honiara 84.05 263 LR LR 21 42 24.6
comp=Z,365nm,21.1s,baz=132,slow=30
H61A Lyndonville 84.21 27 P **P** **21 12 32.2 +1.7**
baz=213
I63A Otisfield 84.33 28 IAMs_20 IAMs_20 21 43 58.3
comp=Z,1µm,21.0s
H62A Milan 84.54 28 P **P** **21 12 32.9 +0.7**
H62A IAMs_20 IAMs_20 21 44 11.8
comp=Z,1µm,21.0s
MOQ Mont Orford 84.74 26 P **P** **21 12 30.8 -2.4**
E56A St. Veronique 84.78 24 P **P** **21 12 35.1 +1.8**
baz=210
E57A Chemin Saint G 84.98 25 P **P** **21 12 35.5 +1.1**
baz=211
G61A St-Isidore-de- 84.99 27 P **P** **21 12 35.6 +1.2**
baz=213
F59A Saint Guilaume 85.00 26 P **P** **21 12 35.8 +1.4**
baz=212
D55A Sainte-Anne-du 85.04 24 P **P** **21 12 35.9 +1.3**
baz=210
H63A New Sharon 85.06 28 P **P** **21 12 36.2 +1.5**
baz=214
E58A La Victoria 85.26 25 P **P** **21 12 37.0 +1.3**
baz=212
D56A ZEC Mazanza, M 85.31 24 P **P** **21 12 37.4 +1.4**
baz=210
G62A West of Eustis 85.33 28 IAMs_20 IAMs_20 21 44 22.5
comp=Z,1µm,22.0s
F60A Warwick 85.41 26 P **P** **21 12 37.7 +1.3**
baz=213
D57A Chemin Vers le 85.59 25 P **P** **21 12 39.0 +1.6**
baz=211
E60A Ste Agathe de 85.93 26 P **P** **21 12 40.3 +1.3**
baz=213
D58A Chemin du LacG 86.02 25 P **P** **21 12 41.0 +1.5**
baz=212
F62A Pittston Farm, 86.11 28 IAMs_20 IAMs_20 21 44 56.2
comp=Z,1µm,21.0s
EMMW East Machias 86.16 30 IAMs_20 IAMs_20 21 48 22.5
comp=Z,1µm,19.0s
STKA Stephens Creek 86.30 235 P **P** **21 12 40.5 -1.1**
comp=Z,7.2nm,1.1s,baz=138,slow=9.1,SNR=5.9
STKA LR LR 21 45 12.0
comp=Z,536nm,19.9s,baz=121,slow=31
STKA Stephens Creek 86.30 235 P **P** **21 12 41.1 -0.4**
STKA pmax pmax
comp=Z,8.0nm,1.5s
STKA MLR MLR
comp=Z,200nm,20.0s
STKA Stephens Creek 86.30 235 P **P** **21 12 41.1 -0.4**
G65A Princeton 86.51 29 IAMs_20 IAMs_20 21 47 56.8
comp=Z,1µm,20.0s
F64A Sherman 86.73 28 P **P** **21 12 44.6 +1.7**
baz=215
F64A Sherman 86.73 28 P **P** **21 12 43.9 +0.9**
FFC Flin Flon 86.77 5 P **P** **21 12 43.7 +0.7**
FFC pmax pmax
comp=Z,25nm,1.1s
FFC MLR MLR
comp=Z,3µm,21.0s
FFC Flin Flon 86.77 5 P **P** **21 12 43.7 +0.7**
FFC IAmb IAmb 21 12 58.2
comp=Z,25nm,1.1s
E62A Clayton Lake 86.88 27 IAMs_20 IAMs_20 21 45 41.6
comp=Z,1µm,20.0s
D62A Allapoint, All 87.44 27 IAMs_20 IAMs_20 21 47 57.1
comp=Z,1µm,19.0s
CHGQ Chibougamau 87.91 23 P **P** **21 12 50.2 +1.6**
baz=211
LMN Caledonia Moun 88.20 30 IAMs_20 IAMs_20 21 46 14.0
comp=Z,2µm,22.0s
BBOO Buckleboo 89.49 231 IAMs_20 IAMs_20 21 46 38.2
comp=Z,2µm,19.0s
CTA Charters Tower 89.56 247 P **P** **21 12 55.6 -1.7**
comp=Z,8.0nm,1.0s,baz=125,slow=3.9,SNR=5.2
WRAK Wrangell Islan 89.91 348 IAMs_20 IAMs_20 21 45 36.3
comp=Z,1µm,18.0s
DLBC Dease Lake 91.48 350 P **P** **21 13 06.9 +1.6**
DLBC IAmb IAmb 21 13 07.8
comp=Z,23nm,1.4s
JIS Juneau Island 92.03 348 P **P** **21 13 09.3 +1.7**
WAKE Wake Island 93.59 290 P **P** **21 13 16.2 +0.4**
DRLN Deer Lake 94.00 32 IAMs_20 IAMs_20 21 48 01.0
comp=Z,2µm,21.0s
YKA Yellowknife Ar 94.23 358 P **P** **21 13 16.0 -1.7**
comp=Z,2.2nm,0.8s,baz=180,slow=3.7,SNR=3.9
YKA LR LR 21 51 27.7
comp=Z,2µm,18.3s,baz=0.0,slow=33
WHY Whitehorse 94.36 349 P **P** **21 13 19.3 +0.8**
WHY IAmb IAmb 21 13 31.6
comp=Z,40nm,1.6s
SCHQ Schefferville 94.56 24 LR LR 21 51 34.8
comp=Z,1µm,21.7s,baz=223,slow=33
SCHQ Schefferville 94.56 24 P **P** **21 13 19.9 +0.4**
SCHQ IAMs_20 IAMs_20 21 50 39.9
comp=Z,2µm,22.0s
ASAR Alice Springs 96.68 237 P **P** **21 13 28.6 -1.5**
comp=Z,1.9nm,1.0s,baz=141,slow=4.5,SNR=5.0
ASAR LR LR 21 53 53.1
comp=Z,711nm,18.1s,baz=140,slow=34
ASAR Alice Springs 96.68 237 P **P** **21 13 29.8 -0.3**
ASAR Alice Springs 96.68 237 P **P** **21 13 29.8 -0.3**
M24K Tolsona, Glenn 97.94 344 P **P** **21 13 34.7 0.0**
GHO Glory Hole Cre 98.31 343 IAMs_20 IAMs_20 21 47 48.6
comp=Z,1µm,21.0s
WR9 Warramunga Arr 98.55 240 IAMs_20 IAMs_20 21 55 44.8
comp=Z,1µm,19.0s
WR8 Warramunga Arr 98.56 240 IAMs_20 IAMs_20 21 55 45.1
comp=Z,1µm,19.0s
WR7 Warramunga Arr 98.58 240 IAMs_20 IAMs_20 21 53 23.6
comp=Z,850nm,19.0s
WR6 Warramunga Arr 98.60 240 IAMs_20 IAMs_20 22 02 17.0
comp=Z,1µm,18.0s
WR5 Warramunga Arr 98.61 240 IAMs_20 IAMs_20 22 00 44.5
comp=Z,1µm,19.0s
WR4 Warramunga Arr 98.63 240 IAMs_20 IAMs_20 21 53 48.0
comp=Z,919nm,20.0s
WR3 Warramunga Arr 98.65 240 IAMs_20 IAMs_20 21 59 23.4
comp=Z,972nm,18.0s
WC3 Warramunga Arr 98.65 240 IAMs_20 IAMs_20 21 53 47.5
comp=Z,983nm,20.0s
WB2 Warramunga Arr 98.68 240 IAMs_20 IAMs_20 21 53 49.2
comp=Z,994nm,20.0s
WC2 Warramunga Arr 98.68 240 IAMs_20 IAMs_20 21 53 49.2
comp=Z,971nm,20.0s
WRAB Tennant Creek 98.69 240 IAMs_20 IAMs_20 21 53 51.2
comp=Z,959nm,20.0s
WRA Warramunga Arr 98.69 240 P **P** **21 13 37.4 -1.7**
comp=Z,0.5nm,1.0s,baz=128,slow=3.9,SNR=2.1
WRA LR LR 21 53 32.2
comp=Z,548nm,20.5s,baz=180,slow=33
WB6 Warramunga Arr 98.72 240 IAMs_20 IAMs_20 22 00 06.3
comp=Z,1µm,18.0s
WB9 Warramunga Arr 98.75 240 IAMs_20 IAMs_20 21 56 15.0
comp=Z,1µm,22.0s
WB0 Warramunga Arr 98.76 240 IAMs_20 IAMs_20 21 56 24.3
comp=Z,1µm,18.0s
CUT Chulitna 99.19 343 P **Pdif** **21 13 41.5 +1.3**
baz=147
MCK McKinley 99.99 344 P **Pdif** **21 13 45.2 +1.4**
baz=148
ILAR Eielson Array 100.42 345 P **Pdif** **21 13 44.5 -1.2**
comp=Z,0.7nm,0.9s,baz=187,slow=4.6,SNR=3.5
ILAR Eielson Array 100.42 345 P **Pdif** **21 13 44.6 -1.0**
ILAR Eielson Array 100.42 345 **Pdif** **21 13 44.6 -1.0**
COLA College 100.72 345 IAMs_20 IAMs_20 21 49 52.2
comp=Z,793nm,18.0s
NEA2 Nenana 100.76 344 P **Pdif** **21 13 48.2 +1.1**
baz=148
H01W1 Cape Leeuwin H 100.92 217 T T 23 06 50.6
baz=141,slow=76,SNR=24
H01W2 Cape Leeuwin H 100.93 217 T T 23 07 00.6
baz=141,slow=76,SNR=26
H01W3 Cape Leeuwin H 100.94 217 T T 23 06 50.7
baz=141,slow=76,SNR=25
MLY Manley 101.51 344 P **Pdif** **21 13 52.2 +1.7**
baz=146
TOLK Toolik Lake Re 104.30 346 IAMs_20 IAMs_20 22 02 11.8
comp=Z,820nm,19.0s
MORW Morawa 104.42 222 IAMs_20 IAMs_20 21 54 43.4
comp=Z,1µm,20.0s

KNRA Kununurra 105.48 240 IAMs_20 IAMs_20 22 00 44.5
comp=Z,1µm,18.0s
FITZ Fitzroy Crossi 106.15 236 IAMs_20 IAMs_20 21 57 51.8
comp=Z,1µm,19.0s
MMRI Maumere 114.88 241 IAMs_20 IAMs_20 22 14 05.7
comp=Z,694nm,18.0s
TOB4 Torodi Ar. Sit 116.22 91 IAMs_20 IAMs_20 22 00 44.5
comp=Z,1µm,22.0s
TOB5 Torodi Ar. Sit 116.23 91 IAMs_20 IAMs_20 22 02 12.6
comp=Z,1µm,21.0s
TOC4 Torodi Ar. Sit 116.23 91 IAMs_20 IAMs_20 22 00 44.6
comp=Z,1µm,22.0s
TOC7 Torodi Ar. Sit 116.23 91 IAMs_20 IAMs_20 22 01 38.7
comp=Z,1µm,22.0s
TOA3 Torodi Ar. Sit 116.23 91 IAMs_20 IAMs_20 22 00 45.8
comp=Z,1µm,22.0s
TOA0 Torodi Ar. Sit 116.24 91 IAMs_20 IAMs_20 22 01 38.9
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 116.24 91 PKP **PKPdf 21 18 41.1 -2.2**
comp=Z,1.1nm,0.9s,baz=239,slow=1.7,SNR=4.8
TORD PP **PP 21 19 48.1 -0.8**
comp=Z,2.5nm,1.0s,baz=240,slow=5.8,SNR=5.2
TOB3 Torodi Ar. Sit 116.24 91 IAMs_20 IAMs_20 22 00 45.9
comp=Z,1µm,22.0s
TOA2 Torodi Ar. Sit 116.24 91 IAMs_20 IAMs_20 22 03 11.0
comp=Z,945nm,20.0s
TOB1 Torodi Ar. Sit 116.24 91 IAMs_20 IAMs_20 22 01 39.0
comp=Z,1µm,22.0s
TOC3 Torodi Ar. Sit 116.25 91 IAMs_20 IAMs_20 22 03 10.3
comp=Z,908nm,20.0s
TOC2 Torodi Ar. Sit 116.26 91 IAMs_20 IAMs_20 22 00 56.6
comp=Z,965nm,21.0s
LSZ Lusaka 119.00 134 IAMs_20 IAMs_20 22 08 01.7
comp=Z,842nm,18.0s
FOMA Nahampoana Res 119.63 157 IAMs_20 IAMs_20 22 02 03.0
comp=Z,1µm,20.0s
MA2 Magadan 120.94 324 IAMs_20 IAMs_20 22 02 27.5
comp=Z,911nm,20.0s
ESDC Sonseca Array 122.05 60 PKP **PKPdf 21 18 53.3 -0.6**
comp=Z,1.1nm,1.0s,baz=248,slow=2.2,SNR=5.7
ESDC Sonseca Array 122.05 60 **PKPdf 21 18 53.5 -0.4**
DSB Dublin 123.58 44 IAMs_20 IAMs_20 22 21 06.5
comp=Z,810nm,19.0s
JSD Sado 123.95 297 IAMs_20 IAMs_20 22 02 58.2
comp=Z,678nm,20.0s
KKM Kota Kinabalu 128.76 250 IAMs_20 IAMs_20 22 12 18.6
comp=Z,757nm,20.0s
TIXI Tiksi 129.39 339⇑ *i*PKIKP **PKiKP 21 19 07.7 +0.1**
JTU Tsushima 129.89 290 IAMs_20 IAMs_20 22 03 06.2
comp=Z,975nm,21.0s
BNI Bardonecchia 130.88 56 IAMs_20 IAMs_20 22 08 53.4
comp=Z,679nm,20.0s
PMBI Palembang 131.24 231 IAMs_20 IAMs_20 22 08 22.0
comp=Z,765nm,21.0s
YAK Yakutsk 131.29 327⇓ *i*PKIKP **PKiKP 21 19 11.7 0.0**
KSRS Korea Array 131.74 294 PKP **PKPdf 21 19 11.4 -1.0**
comp=Z,1.5nm,0.9s,baz=57,slow=9.1,SNR=4.6
KSAR Wonju Array Be 131.77 294 PKIKP **PKPdf 21 19 12.3 -0.1**
KSAR Wonju Array Be 131.77 294 **PKPdf 21 19 12.3 -0.1**
VSL Villasalto 132.02 64 IAMs_20 IAMs_20 22 15 02.9
comp=Z,955nm,22.0s
TUE Stuetta 132.88 54 IAMs_20 IAMs_20 22 19 32.2
comp=Z,846nm,19.0s
NOA NORSAR Array B 133.09 34 PKP **PKPdf 21 19 13.1 -1.2**
comp=Z,1.6nm,1.0s,baz=285,slow=2.1,SNR=2.8
FUORN Ofenpass-Fuorn 133.52 54 **PKPdf 21 19 16.5 +0.7**
FUORN IAMs_20 IAMs_20 22 17 57.2
comp=Z,744nm,20.0s
SALO Salr 133.63 56 IAMs_20 IAMs_20 22 15 09.3
comp=Z,699nm,22.0s
ZCCA Zocca 133.85 57 IAMs_20 IAMs_20 22 11 18.2
comp=Z,729nm,20.0s
FETA Feichten 133.86 54 *e*P **PKPdf 21 19 16.7 +0.4**
comp=Z,21nm,1.9s
RETA Reutte 133.90 53 *e*P **PKiKP 21 19 22.1 +4.5**
comp=Z,9.6nm,1.1s
MOTA Moosalm 134.12 53 *e*P **PKiKP 21 19 18.5 +0.4**
comp=Z,13nm,0.9s
SQTA Sankt Quirin 134.19 53 *e*P **PKiKP 21 19 18.5 +0.3**
comp=Z,21nm,1.2s
GRA1 Grafenberg Arr 134.24 50 IAMs_20 IAMs_20 22 20 58.6
comp=Z,606nm,18.0s
WATA Walderalm 134.45 53 *e*P **PKiKP 21 19 18.6 -0.1**
comp=Z,11nm,1.8s
WTTA Wattenberg 134.49 53 P **PKiKP 21 19 22.8 +3.9**
comp=Z,18nm,1.3s
CIMO Cimolais 135.00 55 IAMs_20 IAMs_20 22 25 04.6
comp=Z,624nm,18.0s
NKC Novy Kostel 135.02 49 *e*PKPDF **PKPdf 21 19 17.0 -1.2**
NKC AMS AMS 22 21 20.0
comp=Z,500nm,16.5s
NKC Novy Kostel 135.02 49 *e*PKIKP **PKPdf 21 19 17.0 -1.2**
NKC MLR MLR
comp=Z,500nm,16.5s
ABTA Abfaltersbach 135.07 54 *e*P **PKiKP 21 19 19.6 -0.4**
comp=Z,5.3nm,1.0s
MYKOM Kota Tinggi 135.30 235 IAMs_20 IAMs_20 22 15 27.5
comp=Z,835nm,20.0s
CLL Collm 135.32 48 *e*PKPdf **PKPdf 21 19 18.0 -0.7**
comp=Z,6.0nm,1.1s
CLL *e*SS SS 21 39 48.0 -3.2
CLL *e*SSS SSS 21 44 54.0
CLL *e*(SSSS) 21 48 06.0
CLL LmV 22 23 00.0
comp=Z,400nm,18.3s
CLL Collm 135.32 48 *e*PKIKP **PKPdf 21 19 18.0 -0.7**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.3s
ZOU Zoufplan 135.38 54 IAMs_20 IAMs_20 22 16 11.5
comp=Z,626nm,20.0s
AQU L'Aquila 135.43 60 IAMs_20 IAMs_20 22 19 33.2
comp=Z,806nm,20.0s
KMBO Kilima Mbogo 135.56 132 IAMs_20 IAMs_20 22 13 15.9
comp=Z,540nm,21.0s
KEV Kevo 135.68 19 IAMs_20 IAMs_20 22 14 34.4
comp=Z,824nm,21.0s
INTR Introdacqua 135.77 61 IAMs_20 IAMs_20 22 20 37.2
comp=Z,749nm,20.0s
KHC Kasperske Hory 135.79 51 *e*PKPDF **PKPdf 21 19 18.1 -1.6**
KHC AMS AMS 22 21 30.0
comp=Z,500nm,16.3s
KHC Kasperske Hory 135.79 51⇑ *i*PKIKP **PKPdf 21 19 20.4 +0.7**
KHC Kasperske Hory 135.79 51 PKPdf **PKPdf 21 19 20.1 +0.4**
PRED Cave del Predi 135.79 54 IAMs_20 IAMs_20 22 14 13.2
comp=Z,524nm,20.0s
GEC2 GERESS Array S 135.88 51 **PKPdf 21 19 20.3 +0.3**
GERES GERESS Array B 135.88 51 PKP **PKPdf 21 19 18.2 -1.7**
comp=Z,2.1nm,1.0s,baz=349,slow=0.7,SNR=12
GERES GERESS Array B 135.88 51 **PKPdf 21 19 17.9 -2.0**
BRG Berggiesshubel 135.94 48 *e*P **PKPdf 21 19 20.3 +0.5**
comp=Z,8.8nm,1.3s
BRG Berggiesshubel 135.94 48 *e*PKIKP **PKPdf 21 19 20.3 +0.5**
BRG pmax pmax
comp=Z,9.0nm,1.3s
PRA Prague 136.30 49 AMS AMS 22 22 20.0
comp=Z,300nm,19.3s
PVCC Panska Ves 136.36 49 AMS AMS 22 24 30.0
comp=Z,700nm,17.5s
PRU Pruhonice 136.38 49 AMS AMS 22 22 20.0
comp=Z,600nm,19.5s
GOPC GO Pecny, Ondr 136.54 49 AMS AMS 22 22 40.0
comp=Z,600nm,25.4s
TREC Trest 137.03 50 AMS AMS 22 24 00.0
comp=Z,500nm,18.1s
ARSA Arzberg 137.13 53 *e*P **PKiKP 21 19 23.5 -0.6**
comp=Z,5.5nm,1.1s
UPC Upice 137.28 48 AMS AMS 22 23 00.0
comp=Z,500nm,17.6s
CHVC Chvalec 137.30 48 AMS AMS 22 23 00.0
comp=Z,500nm,20.8s
CONA Conrad Observa 137.34 52 *e*P **PKiKP 21 19 24.2 -0.3**
comp=Z,3.8nm,1.1s
OSTC Ostas 137.41 48 *e*PKP **PKiKP 21 19 27.3 +2.8**
OSTC AMS AMS 22 23 00.0
comp=Z,500nm,17.4s
DPC Dobruska-Polom 137.49 49 *e*PKPDF **PKiKP 21 19 29.5 +4.8**
DPC AMS AMS 22 23 20.0
comp=Z,500nm,16.8s
DPC Dobruska-Polom 137.49 49 *e*PKIKP **PKiKP 21 19 29.5 +4.8**
DPC MLR MLR
comp=Z,500nm,16.8s
KRLC Kraliky 137.81 49 *e*PKPDF **PKiKP 21 19 24.8 -0.6**
KRLC AMS AMS 22 24 00.0
comp=Z,400nm,19.4s
KRLC Kraliky 137.81 49 *e*PKIKP **PKiKP 21 19 24.8 -0.6**
KRLC MLR MLR
comp=Z,400nm,19.4s
NJ2 Nanjing 137.83 284 *e*PKP **PKPdf 21 19 23.8 -0.1**
SCTE Santa Cesarea 139.03 64 IAMs_20 IAMs_20 22 20 41.6
comp=Z,559nm,21.0s
IPM Ipoh 139.18 235 IAMs_20 IAMs_20 22 18 03.2
comp=Z,755nm,19.0s
RPSI Rantau Prapat 139.29 230 IAMs_20 IAMs_20 22 20 08.6
comp=Z,726nm,20.0s
VYHS Vyhne 139.29 51 *e*PKIKP **PKiKP 21 19 28.6 +0.2**
VYHS Vyhne 139.29 51 *e*PKP **PKiKP 21 19 28.6 +0.2**
FINES FINESS Array B 139.73 30 PKP **PKPdf 21 19 25.7 -0.7**
comp=Z,2.7nm,0.9s,baz=237,slow=8.8,SNR=4.0
FINES FINESS Array B 139.73 30 **PKPdf 21 19 25.1 -1.4**
BOD Bodaibo 139.97 324 *e*PKIKP **PKPdf 21 19 24.3 -2.7**
BOD pmax pmax
comp=Z,14nm,1.4s
KULM Kulim 140.02 235 IAMs_20 IAMs_20 22 18 36.5
comp=Z,605nm,20.0s
PSZ Piszkesteto 140.05 52 IAMs_20 IAMs_20 22 25 08.5
comp=Z,685nm,20.0s
TIR Tirane 140.18 62 IAMs_20 IAMs_20 22 23 16.8
comp=Z,731nm,20.0s
QIZ Qiongzhong 140.94 261 PKP **PKPdf 21 19 28.8 -1.2**
QIZ PP **PP 21 22 30.5 -0.5**
QIZ SS SS 21 40 59.7 +0.8
QIZ LR LR
comp=Z,250nm,10.0s
QIZ LR LR
comp=Z,600nm,10.2s
QIZ LR LR
comp=Z,630nm,23.1s
CRVS Cervenica-Dubn 140.98 50 *e*PKIKP **PKiKP 21 19 33.0 +1.2**
CRVS Cervenica-Dubn 140.98 50 *e*PKP **PKiKP 21 19 33.0 +1.2**
NRIK Noril'sk 141.15 349 PKP **PKPdf 21 19 27.8 -1.1**
comp=Z,4.7nm,0.8s,baz=346,slow=4.3,SNR=5.5
BJT Baijiatuau 141.19 296 IAMs_20 IAMs_20 22 20 14.7
comp=Z,659nm,18.0s
BZS Buzias 141.41 56⇑ P **PKPdf 21 19 25.7 -4.3**
BZS Buzias 141.41 56⇑ PKIKP **PKPdf 21 19 25.7 -4.3**
KOLS Kolonicke sedl 141.50 50 *e*PKIKP **PKiKP 21 19 31.9 -1.0**
KOLS Kolonicke sedl 141.50 50 *e*PKP **PKiKP 21 19 31.9 -1.0**
UZH Uzhgorod 141.56 51 *e*PKHKP PKPpre 21 19 21.6
UZH *e* 21 19 27.9
UZH *e* 21 19 36.3
GZR Gura Zlata 142.24 56⇑ P **PKPdf 21 19 32.9 +1.3**
GZR Gura Zlata 142.24 56⇑ PKIKP **PKPdf 21 19 32.9 +1.3**
NACGM Naroch 142.72 40 *e* **PKPdf 21 19 30.0 -2.1**
ARCR ARCALIA 143.15 53⇓ P **PKiKP 21 19 38.0 +1.7**
MICGM Minsk 143.46 40 *e* PKPab 21 19 30.0 +0.4
MNK Minsk 143.46 40 *e*PKIKP PKPab 21 19 30.0 +0.4
ARR Arges 143.55 56⇓ P PKPab 21 19 30.6 +0.3
IDI Anoyia 143.58 73 IAMs_20 IAMs_20 22 20 25.4
comp=Z,502nm,22.0s
BUR08 Bucovina Ar. S 143.63 52 PKPdf PKPbc 21 19 32.6 +1.0
BURAR Bucovina Array 143.65 52⇑ P PKPbc 21 19 32.4 +0.9
BURAR Bucovina Array 143.65 52⇑ PKIKP PKPbc 21 19 32.4 +0.9
BURAR Bucovina Array 143.65 52 PKPpre 21 19 29.2
VOIR 143.83 55⇓ P **PKPdf 21 19 33.8 -0.7**
VOIR 143.83 55⇓ PKIKP **PKPdf 21 19 33.8 -0.7**
HUMR Humele 143.87 57⇓ P PKPbc 21 19 33.4 +1.2
DOPR Dopca 144.00 55⇑ P **PKPdf 21 19 34.7 +0.1**
OZUR 144.26 54⇑ P **PKPdf 21 19 34.6 -0.5**
BIZ Bicaz 144.35 53⇑ P **PKPab 21 19 32.5 -0.8**
PRAR RASCA 144.37 52⇑ P **PKPdf 21 19 35.2 0.0**
MLR Muntele Rosu 144.45 55⇓ P **PKPab 21 19 32.6 -1.3**
MLR Muntele Rosu 144.45 55⇓ PKIKP **PKPab 21 19 32.6 -1.3**
NEHR Nehoiu 144.70 55⇓ P **PKPab 21 19 33.6 -1.1**
HHC Hu-ho-hao-te 144.73 297 *e*PKP **PKPab 21 19 34.2 -0.8**
HHC LR LR
comp=Z,580nm,18.7s
HHC LR LR
comp=Z,730nm,17.9s
HHC LR LR
comp=Z,1µm,18.7s
SULR 144.76 57⇓ P **PKPdf 21 19 37.5 +1.5**
TESR Tescani 144.79 53⇑ P **PKPdf 21 19 36.4 +0.4**
ALN Alexandroupoli 144.84 63 PKIKP **PKPab 21 19 34.9 -0.3**
ALN Alexandroupoli 144.84 63 **PKPab 21 19 34.9 -0.3**
PLOR Plostina 144.89 55⇓ P **PKPab 21 19 34.4 -1.0**
PLOR Plostina 144.89 55⇓ PKIKP **PKPab 21 19 34.4 -1.0**
ISR Istrita 144.92 56⇑ P **PKPab 21 19 32.5 -3.0**
ISR Istrita 144.92 56⇑ PKIKP **PKPab 21 19 32.5 -3.0**
VRI Vrincioaia 144.94 54⇑ P **PKPab 21 19 33.3 -2.2**
VRI Vrincioaia 144.94 54⇑ PKIKP **PKPab 21 19 33.3 -2.2**
BISRR Bisoca 144.98 55⇑ P PKPbc 21 19 36.2 +0.4
RAZG Razgrad 145.05 59⇓ P **PKPdf 21 19 36.8 +0.2**
GHRR 145.38 54⇑ P **PKPab 21 19 38.2 +1.1**
KLMR Klimovskoe 145.40 25 *e*PKIKP **PKPbc 21 19 35.5 -1.0**
KLMR pmax pmax
comp=Z,96nm,1.5s
KLMR Klimovskoe 145.40 25 *e*PKPdf **PKPbc 21 19 35.5 -1.0**
KLMR AMP 21 19 46.1
comp=Z,96nm,1.5s
KARP Karpathos 145.46 73 IAMs_20 IAMs_20 22 25 48.0
comp=Z,487nm,20.0s
AKASG Malin Array Be 145.49 46 PKPbc **PKPdf 21 19 34.7 -2.3**
comp=Z,3.1nm,0.6s,baz=284,slow=3.3,SNR=28
AKASG Malin Array Be 145.49 46 PKP2 **PKPdf 21 19 33.7 -3.3**
AKASG Malin Array Be 145.49 46 **PKPdf 21 19 33.7 -3.3**
AKBB Malin Array Si 145.49 46⇑ *e*PKP2 **PKPdf 21 19 35.2 -1.8**
SORM Soroca 145.62 50⇓ P **PKPdf 21 19 36.1 -1.2**
SORM Soroca 145.62 50⇓ PKIKP **PKPdf 21 19 36.1 -1.2**
SCHL Schela 145.76 55⇓ P **PKPab 21 19 39.5 +1.0**
BTO Baotou 145.90 296 *e*PKPbc **PKPab 21 19 40.1 +0.7**
HARR Harsova 145.95 56⇑ P **PKPbc 21 19 39.2 +0.4**
HARR Harsova 145.95 56⇑ PKP2 **PKPbc 21 19 39.2 +0.4**
CFR Carcaliu 146.02 55⇑ P **PKPdf 21 19 37.5 -0.6**
CFR Carcaliu 146.02 55⇑ PKP2 **PKPdf 21 19 37.5 -0.6**
MILM Milestii Mici 146.18 52⇑ P **PKPdf 21 19 38.9 +0.5**
TIRR Tirgusor 146.32 57⇓ P **PKPdf 21 19 39.1 +0.5**
TIRR Tirgusor 146.32 57⇓ PKP2 **PKPdf 21 19 39.1 +0.5**
TIRR Tirgusor 146.32 57 **PKPdf 21 19 38.2 -0.5**
XAN Xi'an 146.40 284 PKPbc **PKPbc 21 19 41.2 +0.7**
XAN AMB AMB
comp=Z,410nm,6.9s
XAN LR LR
comp=Z,390nm,18.1s
XAN LR LR
comp=Z,920nm,21.1s
XAN LR LR
comp=Z,1µm,24.5s
XAN Xi'an 146.40 284 PKIKP **PKPdf 21 19 38.5 -0.7**
XAN Xi'an 146.40 284 **PKPdf 21 19 38.5 -0.7**
TLCR 146.50 55⇓ P **PKPbc 21 19 40.8 +0.4**
TLCR 146.50 55⇓ PKP2 **PKPbc 21 19 40.8 +0.4**
GYA Guiyang 146.56 270⇓ PKPbc **PKPbc 21 19 41.9 +0.6**
GYA PP **PP 21 23 06.7 +1.7**
GYA SS SS 21 42 05.8 +1.8
GYA AMB AMB
comp=Z,280nm,7.8s
GYA LR LR
comp=Z,420nm,6.4s
GYA LR LR
comp=Z,450nm,8.1s
GYA LR LR
comp=Z,410nm,8.5s
JURR Jurilovca 146.60 56⇑ P **PKiKP 21 19 44.7 +1.2**
PRGR Permogore 146.80 20 *e*PKIKP **PKPdf 21 19 37.5 -1.4**
PRGR pmax pmax
comp=Z,24nm,0.9s
SLVN Son La 146.95 260 **PKPdf 21 19 41.6 +1.1**
PURM Purcari 146.98 53⇑ P **PKPab 21 19 43.3 +0.2**
ULN Ulaanbaatar 147.03 310 PKIKP **PKPdf 21 19 40.0 0.0**
ULN MLR MLR
comp=Z,1µm,21.0s
ULN Ulaanbaatar 147.03 310 PKPdf **PKPdf 21 19 40.0 0.0**
IRK Irkutsk 147.27 319 *e*PKP2 **PKPdf 21 19 41.4 +1.4**
IRK pmax pmax
comp=Z,110nm,2.2s
SONM Songino Array 147.46 310 PKPbc **PKPdf 21 19 40.9 +0.2**
comp=Z,16nm,0.9s,baz=97,slow=2.5,SNR=17
SONM Songino Array 147.46 310 PKIKP **PKPdf 21 19 39.7 -1.0**
SONM Songino Array 147.46 310 PKPdf **PKPdf 21 19 39.7 -1.0**
OBN Obninsk 147.68 35⇑ *e*PKIKP **PKPdf 21 19 40.0 -0.5**
OBN *i* 21 19 44.2
OBN *e* 21 23 18.1
OBN *i* SS SS 21 42 14.4 +0.3
OBN pmax pmax
comp=Z,14nm,0.9s
ELL Elmali 147.77 71 PKIKP **PKPdf 21 19 41.7 +0.2**
ELL MLR MLR
comp=Z,2µm,20.0s
ELL Elmali 147.77 71 PKPdf **PKPdf 21 19 41.7 +0.2**
MOS Moscow 147.84 33 *e*PKP2 **PKPbc 21 19 43.5 -0.3**
MOS *e* 21 23 17.0
MOS pmax pmax
comp=Z,90nm,1.8s
MOS MLR MLR
comp=Z,500nm,21.0s
TLY Talaya 147.85 318 *e*PKP2 **PKPbc 21 19 43.4 -0.6**
TLY pmax pmax
comp=Z,74nm,1.2s
TLY Talaya 147.85 318 PKPdf **PKPdf 21 19 42.1 +1.0**
ZAK Zakamensk 148.58 316 *e*PKIKP **PKPdf 21 19 42.4 0.0**
ZAK pmax pmax
comp=Z,31nm,1.3s
ATD Arta Tunnel 148.62 125 IAMs_20 IAMs_20 22 24 10.2
comp=Z,522nm,20.0s
MOY Mondy 149.35 319 *e*PKP2 **PKPbc 21 19 48.8 +0.8**
MOY pmax pmax
comp=Z,74nm,2.5s
KMI Kunming 149.44 266⇑ *e*PKPbc **PKPdf 21 19 40.8 -3.9**
KMI pPKP sPKPdf 21 19 48.3 +0.2
KMI LR LR
comp=Z,260nm,12.8s
KMI LR LR
comp=Z,510nm,14.4s
KMI LR LR
comp=Z,630nm,16.3s
CM31 Chiang Mai Arr 149.63 251 **PKPdf 21 19 45.4 +0.5**
CMAR Chiang Mai Arr 149.63 251 PKPbc **PKPbc 21 19 48.1 -1.4**
comp=Z,13nm,1.0s,baz=167,slow=1.3,SNR=32
CMAR Chiang Mai Arr 149.63 251 PKPdf **PKPdf 21 19 43.4 -1.5**
CHTO Chiang Mai 149.82 251 PKHKP PKPpre 21 19 46.7
CHTO Chiang Mai 149.82 251 PKPdf **PKPdf 21 19 46.7 +1.5**
LEF Lefka 150.08 74⇓ P **PKPbc 21 19 48.4 -1.8**
CD2 Chengdu 150.18 277 PKPbc **PKPdf 21 19 44.5 -1.0**
LPSR Galich'ya Gora 150.20 38 *e*PKIKP **PKPbc 21 19 49.3 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.1s
KIRV Kirov 150.40 21⇓ *e*PKIKP **PKPdf 21 19 45.9 +1.1**
CSS Mathiatis 150.43 75 PKPdf **PKPdf 21 19 45.1 -0.6**
ILGA Ilgaz 150.62 62 **PKPbc 21 19 50.3 -1.2**
ILGA IAMs_20 IAMs_20 22 31 00.3
comp=Z,430nm,20.0s
BR131 Keskin Array S 150.69 65 PKIKP **PKPdf 21 19 46.5 +0.4**
BR131 Keskin Array S 150.69 65 PKPdf **PKPdf 21 19 46.5 +0.4**
BRTR Keskin Array B 150.69 65 PKPbc **PKPbc 21 19 50.7 -0.9**
comp=Z,6.7nm,0.9s,baz=224,slow=3.4,SNR=13
BRTR Keskin Array B 150.69 65 PKIKP **PKPdf 21 19 45.6 -0.6**
BRTR Keskin Array B 150.69 65 **PKPdf 21 19 45.6 -0.6**
LZH Lanzhou 150.73 288 *e*PKPbc **PKPdf 21 19 46.7 +0.4**
LZH pPKP PKPbc 21 19 51.4 -0.5
LZH sPKP 21 19 52.7
LZH LR LR
comp=Z,310nm,17.9s
LZH LR LR
comp=Z,410nm,18.2s
LZH LR LR
comp=Z,500nm,19.9s
VSR Storozhevoye 151.04 40 *e*PKIKP **PKPbc 21 19 51.0 -0.9**
VSR pmax pmax
comp=Z,30nm,1.0s
VORD Divnogorie 151.24 40 *e*PKIKP **PKPbc 21 19 51.3 -1.0**
VORD pmax pmax
comp=Z,20nm,1.0s
VRH Novokhopyorsk 152.42 38 *e*PKIKP **PKPbc 21 19 54.2 -0.8**
VRH pmax pmax
comp=Z,30nm,1.2s
ANN Anapa 152.54 53 *i* PKIKP **PKPbc 21 19 53.3 -2.2**
ANN pmax pmax
comp=Z,61nm,1.3s
TOKA Tokat 152.80 63 IAMs_20 IAMs_20 22 44 14.9
comp=Z,448nm,21.0s
GAZ Gaziantep 153.62 70 IAMs_20 IAMs_20 22 44 38.1
comp=Z,447nm,21.0s
GTA Gaotai 153.80 295 PKPbc **PKPdf 21 19 51.1 +0.3**
GTA pPKP sPKPdf 21 19 56.0 +1.8
GTA LR LR
comp=Z,400nm,19.3s
GTA LR LR
comp=Z,780nm,21.4s
GTA LR LR
comp=Z,960nm,21.8s
SOC Sochi 154.47 55 *i* PKIKP **PKPbc 21 19 58.2 -1.5**
SOC *e* 21 23 47.5
ARU Arti 154.60 13 *i* PKIKP **PKPdf 21 19 51.2 +0.1**
ARU Arti 154.60 13 **PKPdf 21 19 51.5 +0.4**
ZAA0 Zalesovo Array 155.25 337 PKPdf **PKPdf 21 19 51.8 -0.3**
ZAA0 **PKPab 21 20 17.9 +0.8**
ZALV Zalesovo Beam 155.25 337 PKP **PKPdf 21 19 50.3 -1.8**
comp=Z,3.6nm,1.0s,baz=180,slow=0.7,SNR=9.8
ZALV PKPab **PKPab 21 20 15.7 -1.4**
comp=Z,13nm,0.9s,baz=29,slow=3.3,SNR=15
ZALV Zalesovo Beam 155.25 337 PKPdf **PKPdf 21 19 50.2 -1.9**
ZALV **PKPab 21 20 18.2 +1.1**
KOPT Kop Dagi 155.88 63 PKPdf **PKPdf 21 19 51.7 -2.1**
KOPT PKPab **PKPab 21 20 20.5 -0.3**
KOPT IAMs_20 IAMs_20 22 41 32.6
comp=Z,632nm,22.0s
GOF Gofitskoye 156.18 50⇑ *e*PKIKP **PKPdf 21 19 59.3 +5.6**
GOF pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 156.38 52 *e*PKIKP **PKPdf 21 19 55.7 +1.6**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 156.38 52 IAMs_20 IAMs_20 22 43 27.5
comp=Z,430nm,19.0s
MARD Mardin 156.46 69 IAMs_20 IAMs_20 22 46 05.1
comp=Z,591nm,20.0s
KBZ Khabaz 156.60 53 PKP **PKPdf 21 19 53.0 -1.2**
comp=Z,1.8nm,0.9s,baz=315,slow=8.2,SNR=3.5
KBZ Khabaz 156.60 53 PKIKP **PKPdf 21 19 53.0 -1.2**
ZEI Tsey 157.62 54 *i* PKIKP **PKPdf 21 19 57.7 +1.8**
ZEI pmax pmax
comp=Z,9.0nm,2.0s
AKH Akhalkalaki 157.77 58 IAMs_20 IAMs_20 22 43 25.3
comp=Z,698nm,21.0s
GEVA Gevas 158.13 66 IAMs_20 IAMs_20 22 48 22.3
comp=Z,564nm,19.0s
BRVK Borovoye 158.95 357 PKIKP **PKPdf 21 19 56.6 -0.2**
BRVK MLR MLR
comp=Z,1µm,21.0s
BRVK Borovoye 158.95 357 **PKPdf 21 19 56.6 -0.2**
KURK Kurchatov 159.94 341 PKP2 **PKPab 21 20 37.3 -0.1**
KURK 22 19 57.7
KURK MLR MLR
comp=Z,1µm,20.0s
KURK Kurchatov 159.94 341 **PKPdf 21 19 57.7 -0.4**
KURK PKPab **PKPab 21 20 37.3 -0.1**
MAK Makhachkala 159.99 51 *e*PKIKP **PKPdf 21 19 52.6 -5.7**
MAK *e* 21 24 14.8
MAK *e* 21 26 56.6
MAK pmax pmax
comp=Z,453nm,1.4s
WMQ Urumqi 161.01 314 *e*PKP **PKPdf 21 20 00.1 +0.5**
WMQ LR LR
comp=Z,440nm,18.7s
WMQ LR LR
comp=Z,350nm,19.3s
WMQ LR LR
comp=Z,370nm,19.1s
ABKAR Akbulak array 161.57 18 **PKPdf 21 19 59.5 -0.4**
ABKAR Akbulak array 161.57 18 PKPdf **PKPdf 21 19 59.2 -0.6**
MK31 Makanchi Array 161.95 329 PKP2 **PKPab 21 20 45.8 -0.7**
MK31 22 20 00.3
MK31 Makanchi Array 161.95 329 PKPdf **PKPdf 21 20 00.2 -0.2**
MK31 **PKPab 21 20 45.8 -0.7**
MKAR Makanchi Array 161.95 329 PKP **PKPdf 21 19 58.7 -1.7**
comp=Z,1.8nm,1.0s,baz=62,slow=2.9,SNR=6.3
MKAR PKPab **PKPab 21 20 44.9 -1.6**
comp=Z,3.3nm,1.1s,baz=53,slow=6.2,SNR=5.6
MKAR Makanchi Array 161.95 329 PKPdf **PKPdf 21 19 57.8 -2.6**
MKAR **PKPab 21 20 45.5 -0.9**
MAKZ Makanchi 162.08 329 PKP2 **PKPab 21 20 47.8 +0.8**
MAKZ 22 19 59.8
MAKZ Makanchi 162.08 329 PKPdf **PKPdf 21 19 59.8 -0.7**
MAKZ **PKPab 21 20 47.8 +0.8**
KKAR Karatay Array 168.86 353 PKIKP **PKPdf 21 20 05.0 -1.3**
KKAR Karatay Array 168.86 353 **PKPdf 21 20 05.0 -1.3**
GEYT Alibeck 169.49 53 PKP **PKPdf 21 20 06.0 -0.8**
comp=Z,2.0nm,0.6s,baz=19,slow=14,SNR=3.8
GEYT PKPab **PKPab 21 21 17.2 -2.9**
comp=Z,1.0nm,0.4s,baz=335,slow=6.5,SNR=1.9
GEYT Alibeck 169.49 53 **PKPdf 21 20 05.1 -1.8**
GEYT **PKPab 21 21 17.0 -3.1**

KSH	**Kashi**	**170.49**	**324**	PKP	**PKPdf**	**21 20 13.9 +6.4**
KSH				PP	**PP**	**21 25 22.0 +7.5**
KSH				AMB	AMB	
	comp=Z,210nm,5.5s					
KSH				LR	LR	
	comp=N,220nm,12.2s					
KSH				LR	LR	
	comp=E,220nm,8.6s					
KSH				LR	LR	
	comp=Z,170nm,11.5s					
BTK	**Batken**	**171.81**	**349**	PKIKP	**PKPdf**	**21 20 07.3 -0.8**
BTK	**Batken**	**171.81**	**349**		**PKPdf**	**21 20 07.3 -0.8**
HRA	**Herat**	**174.08**	**65**		**PKPdf**	**21 20 08.6 -0.7**

*IDC **09** 21:01:50.4±2.1, 35.°05N×4.°49W, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.5/33, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=51.3km s-min=19.4km az=89.0*
*SFS **09** 21:01:52.0, 39.°89N×4.°40W, ML3.1, ZARKET (MARRUECOS)*
*MDD **09** 21:01:52.7±0.9, 34.°86N×4.°39W, h7km±4km, mbLg3.2/57, Error ellipse: s-maj=6.9km s-min=4.2km az=6.0, PRXIMO*
*IGIL **09** 21:01:52.6, 34.°90N×4.°41W, h1km*
*LDG **09** 21:01:53.2±0.4, 35.°16N×4.°38W, h10km, Ml3.2/6, Error ellipse: s-maj=8.4km s-min=5.0km az=9.0*
*INMG **09** 21:01:53.9±1.8, 34.°96N×4.°37W, h11km±8km, ML3.0, Error ellipse: s-maj=3.6km s-min=3.1km az=99.0*
*CNRM **09** 21:01:55.3, 34.°92N×4.°54W, h30km*

ISC 09 21:01:54.4±0.8, 35.°07N±0.°03×4.°35W±0.°02, h29km±5km, n127, σ2.°32/231, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.11**	**19**	P	**Pb**	**21 01 58.7**	**-0.9**
PVLZ				S	**Sb**	**21 02 03.2**	**0.0**
PVLZ	**Peæn de**	**0.11**	**19**	*i*P	**Pb**	**21 01 58.7**	**-0.9**
PVLZ				*e*S	**Sb**	**21 02 03.2**	**0.0**
EMEL	**Melilla**	**1.16**	**78**	P	**Pb**	**21 02 15.3**	**-0.5**
	929nm,0.4s,SNR=52						
EMEL				S	**Sb**	**21 02 32.6**	**+2.1**
	1µm,0.4s,SNR=5.4						
MELI	**Melilla**	**1.18**	**78**	P	**Pn**	**21 02 15.1**	**+0.2**
	24nm,0.2s,SNR=7.9						
MELI				S	**Sb**	**21 02 32.9**	**+1.9**
	1µm,0.6s,SNR=7.9						
MELI	**Melilla**	**1.18**	**78**	*e*P	**Pn**	**21 02 15.1**	**+0.2**
MELI				*e*S	**Sb**	**21 02 34.3**	**+3.3**
CEU	**Ceuta**	**1.18**	**315**	P	**Pn**	**21 02 12.4**	**-2.6**
CEU				S	**Sn**	**21 02 26.1**	**-3.9**
CEU	**Ceuta**	**1.18**	**315**	*e*P	**Pn**	**21 02 12.4**	**-2.6**
CEU				*e*S	**Sn**	**21 02 26.1**	**-3.9**
ECEU	**Ceuta**	**1.18**	**315**	P	**Pn**	**21 02 13.7**	**-1.3**
	19nm,0.3s,SNR=23						
ECEU				S	**Sn**	**21 02 29.2**	**-0.9**
	126nm,0.2s,SNR=16						
SICH	**Sidi Chahed**	**1.25**	**220**	P	**Pn**	**21 02 15.2**	**-0.7**
SICH				S	**Sn**	**21 02 30.1**	**-1.7**
EALB	**Alboran**	**1.38**	**50**	P	**Pn**	**21 02 17.7**	**0.0**
	22nm,0.3s,SNR=179						
EALB				S	**Sb**	**21 02 37.1**	**+0.3**
	446nm,0.4s,SNR=6.5						
LCRM	**LCR**	**1.44**	**197**	P	**Pn**	**21 02 16.8**	**-1.8**
LCRM				S	**Sn**	**21 02 34.5**	**-2.2**
REAL	**Reales**	**1.58**	**334**	P	**Pb**	**21 02 24.0**	**+1.0**
REAL				S	**Sb**	**21 02 46.0**	**+3.4**
REAL	**Reales**	**1.58**	**334**	*e*P	**Pb**	**21 02 24.0**	**+1.0**
REAL				*e*S	**Sb**	**21 02 46.0**	**+3.4**
IFR	**Ifrane**	**1.67**	**203**	*e*P	**Pn**	**21 02 20.1**	**-1.9**
IFR				*e*S	**Sn**	**21 02 39.5**	**-3.0**
EMAL	**Malaga-Limoner**	**1.69**	**358**	P	**Pn**	**21 02 22.1**	**+0.1**
EMAL				S	**Sb**	**21 02 44.8**	**-1.0**
EMAL	**Malaga-Limoner**	**1.69**	**358**	*e*P	**Pn**	**21 02 22.1**	**+0.1**
EMAL				*e*S	**Sb**	**21 02 44.8**	**-1.0**
ELGU	**Los Guajares,**	**1.89**	**18**	P	**Pn**	**21 02 25.5**	**+0.7**
	1.3nm,0.2s,SNR=7.9						
ELGU				S	**Sb**	**21 02 49.7**	**-1.9**
	172nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.05**	**5**	P	**Pn**	**21 02 28.1**	**+1.0**
	0.9nm,0.2s,SNR=7.9						
EGOR				S	**Sb**	**21 02 55.8**	**-0.3**
	149nm,0.5s,SNR=7.9						
ESPR	**Espera**	**2.18**	**326**	P	**Pn**	**21 02 30.6**	**+2.0**
	0.3nm,0.3s,SNR=27						
ESPR				S	**Sb**	**21 02 58.5**	**-1.1**
	42nm,0.3s,SNR=5.8						
EBER	**Berja**	**2.18**	**32**	P	**Pn**	**21 02 29.1**	**+0.3**
	9.4nm,0.3s,SNR=42						
EBER				S	**Sn**	**21 02 55.4**	**+0.4**
	315nm,0.6s,SNR=7.6						
MD31	**MD31**	**2.22**	**189**	P	**Pn**	**21 02 27.3**	**-2.1**
MD31				S	**Sn**	**21 02 53.4**	**-2.5**
MDT	**Midelt**	**2.26**	**186**	P	**Pn**	**21 02 28.2**	**-1.6**
MDT				S	**Sn**	**21 02 55.0**	**-1.7**
EQUE	**Quentar**	**2.26**	**19**	P	**Pn**	**21 02 31.9**	**+2.0**
	4.2nm,0.2s,SNR=62						
EQUE				S	**Sn**	**21 02 59.1**	**+2.3**
	64nm,0.4s,SNR=5.9						
ENIJ	**Nijar**	**2.58**	**42**	P	**Pn**	**21 02 35.9**	**+1.7**
	1.9nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**21 03 04.7**	**+0.2**
	157nm,0.4s,SNR=7.9						
GORA	**Gorafe**	**2.63**	**23**	P	**Pb**	**21 02 38.2**	**-2.7**
	5.1nm,0.2s,SNR=7.9						
GORA				S	**Sb**	**21 03 09.8**	**-3.0**
	136nm,0.4s,SNR=7.9						
TDRA	**Tendrara**	**2.79**	**136**	P	**Pn**	**21 02 38.5**	**+1.3**
TDRA				S	**Sn**	**21 03 11.6**	**+1.5**
HORN	**Hornachuelos**	**2.87**	**345**	P	**Pn**	**21 02 39.8**	**+1.5**
HORN				S	**Sn**	**21 03 15.2**	**+3.4**
EQES	**Quesada**	**2.92**	**20**	P	**Pn**	**21 02 42.0**	**+3.0**
	24nm,0.4s,SNR=173						
EQES				S	**Sb**	**21 03 18.3**	**-2.8**
	118nm,0.4s,SNR=5.1						
AVE	**Averroes**	**3.09**	**236**	P	**Pn**	**21 02 39.7**	**-1.5**
AVE	**Averroes**	**3.09**	**236**	*e*P	**Pn**	**21 02 40.5**	**-0.8**
AVE				*e*S	**Sb**	**21 03 23.5**	**-2.5**
EADA	**Adamuz**	**3.10**	**357**	P	**Pn**	**21 02 44.2**	**+2.8**
	1.3nm,0.1s,SNR=29						
EADA				S	**Sn**	**21 03 20.8**	**+3.2**
	58nm,0.4s,SNR=6.0						
ECAB	**El Cabril**	**3.13**	**344**	P	**Pn**	**21 02 42.9**	**+1.2**
	0.1nm,0.2s,SNR=17						
ECAB				S	**Sn**	**21 03 20.4**	**+2.3**
	43nm,0.3s,SNR=8.8						
EMIN	**Mina Concepcio**	**3.29**	**326**	P	**Pn**	**21 02 45.1**	**+1.2**
	0.7nm,0.3s,SNR=23						
EMIN				S	**Sn**	**21 03 21.7**	**-0.3**
	20nm,0.4s,SNR=5.5						
TLOR	**Lorca, Murcia**	**3.36**	**39**	S	**Sn**	**21 03 26.1**	**+2.3**
	305nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**3.38**	**25**	P	**Pn**	**21 02 48.5**	**+3.2**
	6.9nm,0.2s,SNR=7.9						
SESP				S	**Sb**	**21 03 29.5**	**-4.7**
	122nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**3.38**	**25**	P	**Pb**	**21 02 49.6**	**-4.0**
SESP				S	**Sb**	**21 03 31.3**	**-3.0**
GOLM	**Goulmima**	**3.39**	**189**	P	**Pn**	**21 02 44.9**	**-0.6**
GOLM				S	**Sn**	**21 03 23.8**	**-1.0**
EGRO	**El Granado**	**3.53**	**315**	P	**Pn**	**21 02 48.0**	**+0.7**
	0.5nm,0.4s,SNR=19						
EGRO				S	**Sn**	**21 03 29.1**	**+1.0**
	24nm,0.3s,SNR=6.0						
PVAQ	**Vaqueiros**	**3.59**	**312**	P	**Pn**	**21 02 48.4**	**+0.4**
PVAQ				S	**Sn**	**21 03 30.1**	**+0.7**
	32nm,0.4s						
PVAQ	**Vaqueiros**	**3.59**	**312**	P	**Pn**	**21 02 49.1**	**+1.0**
PVAQ				S	**Sn**	**21 03 30.3**	**+0.9**
PVAQ	**Vaqueiros**	**3.59**	**312**	*e*Pn	**Pn**	**21 02 48.4**	**+0.4**
PVAQ				*e*Sn	**Sn**	**21 03 30.1**	**+0.7**
PVAQ				A	A	21 03 35.8	
	32nm,0.4s						
ARF	**Arif**	**3.62**	**178**	P	**Pn**	**21 02 46.1**	**-2.5**
ARF				S	**Sn**	**21 03 31.1**	**+0.6**
PBDV	**Barranco-do-Ve**	**3.62**	**308**	P	**Pn**	**21 02 49.6**	**+1.0**
PBDV				S	**Sn**	**21 03 32.5**	**+2.1**
	32nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.62**	**308**	*e*Pn	**Pn**	**21 02 49.6**	**+1.0**
PBDV				*e*Sn	**Sn**	**21 03 32.5**	**+2.1**
PBDV				A	A	21 03 38.4	
	32nm,0.4s						
EMUR	**La Murta**	**3.73**	**41**	P	**Pn**	**21 02 51.6**	**+1.5**
	4.1nm,0.3s,SNR=9.2						
EMUR				S	**Sn**	**21 03 34.5**	**+1.3**
	43nm,0.4s,SNR=12						
PBAR	**Barrancos**	**3.78**	**326**	S	**Sn**	**21 03 36.6**	**+2.3**
PBAR	**Barrancos**	**3.78**	**326**	*e*Sn	**Sn**	**21 03 36.6**	**+2.3**
PCVE	**Castro Verde**	**3.93**	**312**	P	**Pn**	**21 02 54.4**	**+1.7**
PCVE				S	**Sn**	**21 03 38.9**	**+1.0**
	26nm,0.5s						
PCVE	**Castro Verde**	**3.93**	**312**	*e*Pn	**Pn**	**21 02 54.4**	**+1.7**
PCVE				*e*Sn	**Sn**	**21 03 38.9**	**+1.0**
PCVE				A	A	21 03 48.1	
	26nm,0.5s						
PBEJ	**Beja**	**4.09**	**317**	P	**Pn**	**21 02 57.0**	**+2.0**
PBEJ				S	**Sn**	**21 03 43.7**	**+1.7**
	6.6nm,0.4s						
PBEJ	**Beja**	**4.09**	**317**	*e*Pn	**Pn**	**21 02 57.0**	**+2.0**
PBEJ				*e*Sn	**Sn**	**21 03 43.7**	**+1.7**
PBEJ				A	A	21 03 46.4	
	13nm,0.4s						
MORF	**Marmelete**	**4.14**	**304**	*e*P	**Pn**	**21 02 55.8**	**+0.2**
MORF	**Marmelete**	**4.14**	**304**	P	**Pn**	**21 02 55.8**	**+0.2**
MORF				S	**Sn**	**21 03 44.0**	**+0.9**
	13nm,0.2s						
MORF	**Marmelete**	**4.14**	**304**	*e*Pn	**Pn**	**21 02 57.3**	**+1.6**
MORF				*e*Sn	**Sn**	**21 03 44.0**	**+0.9**
MORF				A	A	21 03 48.4	
	13nm,0.2s						
PFVI	**Vila Bisbo**	**4.17**	**301**	P	**Pn**	**21 02 56.9**	**+0.8**
	3.9nm,0.4s,SNR=11						
PFVI				S	**Sn**	**21 03 43.6**	**-0.3**
	49nm,0.4s,SNR=6.1						
PFVI	**Vila Bisbo**	**4.17**	**301**	P	**Pn**	**21 02 57.3**	**+1.2**
PFVI				S	**Sn**	**21 03 43.3**	**-0.6**
PFVI	**Vila Bisbo**	**4.17**	**301**	*e*Pn	**Pn**	**21 02 57.9**	**+1.8**
PFVI				*e*Sn	**Sn**	**21 03 44.1**	**+0.2**
PFVI				A	A	21 03 49.9	
	20nm,0.6s						
OKGL	**Djebel Kef Gue**	**4.18**	**75**	S	**Sn**	**21 03 44.5**	**+0.3**
	34nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**4.22**	**31**	P	**Pn**	**21 02 59.8**	**+3.0**
	7.3nm,0.3s,SNR=62						
ETOB				S	**Sn**	**21 03 49.6**	**+4.4**
	30nm,0.4s						
PTEO	**Sao Teotonio**	**4.32**	**306**	P	**Pn**	**21 02 59.4**	**+1.4**
PTEO				S	**Sn**	**21 03 48.5**	**+1.1**
	11nm,0.5s						
PTEO	**Sao Teotonio**	**4.32**	**306**	*e*Pn	**Pn**	**21 02 59.4**	**+1.4**
PTEO				*e*Sn	**Sn**	**21 03 48.5**	**+1.1**
PTEO				A	A	21 04 07.2	
	23nm,0.5s						
PNCL	**Nicolau / Gran**	**4.54**	**313**	P	**Pn**	**21 03 02.0**	**+0.9**
PNCL				S	**Sn**	**21 03 53.6**	**+0.8**
	12nm,0.5s						
PNCL	**Nicolau / Gran**	**4.54**	**313**	*e*Pn	**Pn**	**21 03 02.0**	**+0.9**
PNCL				*e*Sn	**Sn**	**21 03 53.6**	**+0.8**
PNCL				A	A	21 03 56.1	
	12nm,0.5s						
EVO	**Evora**	**4.54**	**321**	P	**Pn**	**21 03 02.9**	**+1.7**
EVO				S	**Sn**	**21 03 54.0**	**+1.1**
EVO	**Evora**	**4.54**	**321**	*e*P	**Pn**	**21 03 02.9**	**+1.7**
EVO				*e*S	**Sn**	**21 03 54.0**	**+1.1**
EVO	**Evora**	**4.54**	**321**	*e*Pn	**Pn**	**21 03 04.0**	**+2.8**
EVO				*e*Sn	**Sn**	**21 03 54.2**	**+1.2**
EVO				A	A	21 04 01.4	
	16nm,0.5s						
ESDC	**Sonseca Array**	**4.61**	**4**	Pn	**Pn**	**21 03 03.9**	**+1.7**
	1.1nm,0.3s,baz=186,slow=12,SNR=50						
ESDC				Sn	**Sn**	**21 03 57.0**	**+2.3**
	2.0nm,0.3s,baz=187,slow=23,SNR=20						
ESDC				Lg	Lg	21 04 16.6	
	2.1nm,0.3s,baz=185,slow=27,SNR=5.9						
ESDC	**Sonseca Array**	**4.61**	**4**	P	**Pn**	**21 03 04.7**	**+2.5**
	14nm,0.7s,baz=184,slow=12,SNR=21						
ESDC				S	**Sn**	**21 03 57.1**	**+2.3**
	41nm,0.8s,baz=186,slow=22,SNR=20						
AFON	**Font Roja**	**4.71**	**39**	P	**Pn**	**21 03 06.2**	**+2.5**
	1.8nm,0.3s,SNR=7.9						
AFON				S	**Sn**	**21 03 59.7**	**+2.3**
	23nm,0.5s,SNR=7.9						
EBEN2	**Beniarda presa**	**4.91**	**42**	P	**Pn**	**21 03 09.5**	**+3.3**
	3.0nm,0.3s,SNR=7.9						
EBEN2				S	**Sn**	**21 04 03.7**	**+1.7**
	18nm,0.5s,SNR=7.9						
PMTG	**Montargil**	**5.06**	**323**	P	**Pn**	**21 03 09.5**	**+1.3**
PMTG				S	**Sn**	**21 04 07.6**	**+1.9**
	11nm,0.5s						
PMTG	**Montargil**	**5.06**	**323**	*e*Pn	**Pn**	**21 03 09.5**	**+1.3**
PMTG				*e*Sn	**Sn**	**21 04 07.6**	**+1.9**
PMTG				A	A	21 04 13.4	
	11nm,0.5s						
EPLA	**Plasencia**	**5.18**	**345**	P	**Pn**	**21 03 11.7**	**+1.8**
	0.1nm,0.2s,SNR=9.9						
EPLA				S	**Sn**	**21 04 09.4**	**+0.7**
	10nm,0.3s						
ECHE	**Chera**	**5.26**	**30**	P	**Pn**	**21 03 13.2**	**+2.2**
	3.5nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**5.38**	**333**	P	**Pn**	**21 03 14.5**	**+1.9**
PCBR				S	**Sn**	**21 04 13.8**	**+0.2**
	4.0nm,0.4s						
PCBR	**Castelo Branco**	**5.38**	**333**	*e*Pn	**Pn**	**21 03 14.5**	**+1.9**
PCBR				*e*Sn	**Sn**	**21 04 13.8**	**+0.2**
PCBR				A	A	21 04 24.1	
	7.9nm,0.4s						
PMAFR	**Mafra**	**5.54**	**316**	P	**Pn**	**21 03 16.5**	**+1.6**
	1.0nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**21 04 18.0**	**+0.5**
	55nm,0.6s,SNR=7.9						
PMAFR	**Mafra**	**5.54**	**316**	*e*Pn	**Pn**	**21 03 16.8**	**+1.9**
PMAFR				*e*Sn	**Sn**	**21 04 18.4**	**+0.9**
PMAFR				A	A	21 04 40.1	
	19nm,0.5s						
PSBE	**So Bento**	**5.68**	**323**	*e*Pn	**Pn**	**21 03 21.0**	**+4.1**
PSBE				*e*Sn	**Sn**	**21 04 24.4**	**+3.3**
PSBE				A	A	21 04 29.7	
	11nm,0.5s						
MTE	**Manteigas**	**5.90**	**336**	P	**Pn**	**21 03 22.4**	**+2.6**
MTE				S	**Sn**	**21 04 27.6**	**+1.1**
	5.2nm,0.6s						
MTE	**Manteigas**	**5.90**	**336**	*e*Pn	**Pn**	**21 03 22.4**	**+2.6**
MTE				*e*Sn	**Sn**	**21 04 27.6**	**+1.1**
MTE				A	A	21 04 39.5	
	10nm,0.6s						
PCAS	**Casmilo, Conde**	**5.97**	**328**	P	**Pn**	**21 03 22.7**	**+1.9**
PCAS				S	**Sn**	**21 04 29.4**	**+1.2**
	9.9nm,0.5s						
PCAS	**Casmilo, Conde**	**5.97**	**328**	*e*Pn	**Pn**	**21 03 22.7**	**+1.9**
PCAS				*e*Sn	**Sn**	**21 04 29.4**	**+1.2**
PCAS				A	A	21 04 35.7	
	9.9nm,0.5s						
ETOR	**Torete**	**6.02**	**17**	P	**Pn**	**21 03 23.6**	**+2.0**
	14nm,0.3s,SNR=6.7						
ETOR				S	**Sn**	**21 04 30.0**	**+0.4**
	17nm,0.3s,SNR=6.1						
EIBI	**Ibiza**	**6.03**	**47**	P	**Pn**	**21 03 23.3**	**+1.7**
	12nm,0.7s,SNR=12						
EIBI				S	**Sn**	**21 04 29.6**	**0.0**
	18nm,0.6s						
EMOS	**Mosqueruela**	**6.12**	**29**	P	**Pn**	**21 03 25.3**	**+2.4**
	0.5nm,0.3s,SNR=7.9						
EMOS				S	**Sn**	**21 04 33.9**	**+1.9**
	1.9nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**6.30**	**335**	P	**Pn**	**21 03 27.2**	**+1.8**
PVIS				S	**Sn**	**21 04 36.6**	**+0.2**
	3.5nm,0.5s						
PVIS	**Viseu**	**6.30**	**335**	*e*Pn	**Pn**	**21 03 27.2**	**+1.8**
PVIS				*e*Sn	**Sn**	**21 04 36.6**	**+0.2**
PVIS				A	A	21 04 48.2	
	7.0nm,0.5s						
MVO	**Moncorvo**	**6.45**	**342**	P	**Pn**	**21 03 30.1**	**+2.7**
	7.9nm,0.5s,SNR=8.9						
MVO				S	**Sn**	**21 04 40.0**	**0.0**
	15nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**6.45**	**342**	*e*Pn	**Pn**	**21 03 29.8**	**+2.4**
MVO				*e*Sn	**Sn**	**21 04 39.2**	**-0.8**
MVO				A	A	21 04 43.3	
	15nm,0.5s						
PVRL	**Vila Real**	**6.74**	**338**	P	**Pn**	**21 03 35.3**	**+3.9**
PVRL				S	**Sn**	**21 04 47.1**	**-0.2**
	7.4nm,0.3s						
PVRL	**Vila Real**	**6.74**	**338**	*e*Pn	**Pn**	**21 03 35.3**	**+3.9**
PVRL				*e*Sn	**Sn**	**21 04 47.1**	**-0.2**
PVRL				A	A	21 04 50.7	
	15nm,0.3s						
PBRG	**Braganca**	**6.99**	**345**	P	**Pn**	**21 03 36.5**	**+1.7**
PBRG				S	**Sn**	**21 04 53.0**	**-0.3**
	3.8nm,0.5s						
PBRG	**Braganca**	**6.99**	**345**	*e*Pn	**Pn**	**21 03 36.5**	**+1.7**
PBRG				*e*Sn	**Sn**	**21 04 53.0**	**-0.3**
PBRG				A	A	21 04 54.3	
	7.7nm,0.5s						
ECAL	**Calabor**	**7.12**	**345**	P	**Pn**	**21 03 39.0**	**+2.4**
	6.5nm,0.4s,SNR=12						
ECAL				S	**Sn**	**21 04 56.2**	**-0.4**
	15nm,0.5s,SNR=4.8						
PCAB	**Cabril**	**7.24**	**338**	P	**Pn**	**21 03 40.9**	**+2.7**
PCAB				S	**Sn**	**21 04 58.0**	**-1.4**
	3.5nm,0.6s						
PCAB	**Cabril**	**7.24**	**338**	*e*Pn	**Pn**	**21 03 40.9**	**+2.7**
PCAB				*e*Sn	**Sn**	**21 04 58.0**	**-1.4**
PCAB				A	A	21 05 08.4	
	6.9nm,0.6s						
ETOS	**Mallorca**	**7.38**	**48**	P	**Pn**	**21 03 42.2**	**+2.0**
	3.1nm,0.4s,SNR=5.2						
ETOS				S	**Sn**	**21 05 01.0**	**-1.9**
	1.7nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**7.39**	**338**	P	**Pn**	**21 03 42.3**	**+2.0**
	2.6nm,0.4s,SNR=5.5						
ELOB				S	**Sn**	**21 05 02.1**	**-1.1**
	11nm,0.7s,SNR=5.5						
PGAV	**Gavieira, Arco**	**7.54**	**337**	P	Pn	21 03 49.1	+6.6
PGAV				S	**Sn**	**21 05 05.9**	**-1.1**
PGAV	**Gavieira, Arco**	**7.54**	**337**	*e*Pn	Pn	21 03 49.1	+6.6
PGAV				*e*Sn	**Sn**	**21 05 05.9**	**-1.1**
EORO	**Oroz-Betelu**	**8.17**	**16**	P	**Pn**	**21 03 53.7**	**+2.7**
	4.2nm,0.5s,SNR=5.6						
EORO				S	**Sn**	**21 05 23.4**	**+1.1**
	3.3nm,0.3s,SNR=6.3						
ELAN	**Lanestosa**	**8.19**	**5**	P	**Pn**	**21 03 53.8**	**+2.5**
	7.2nm,0.7s,SNR=10.0						
ELAN				S	**Sn**	**21 05 23.4**	**+0.6**
	1.2nm,0.3s,SNR=6.0						
EARI	**Arriondas**	**8.25**	**356**	P	**Pn**	**21 03 55.2**	**+3.1**
	19nm,0.8s,SNR=7.9						
EARI				S	**Sn**	**21 05 22.9**	**-1.4**
	3.7nm,0.5s,SNR=7.9						
ETSF	**Etsaut**	**8.36**	**20**	*e*P	**Pn**	**21 03 55.7**	**+2.1**
ETSF				*e*Sn	**Sn**	**21 05 19.5**	**-7.5**
	1.7nm,0.3s						
ETSF	**Etsaut**	**8.36**	**20**	P	**Pn**	**21 03 55.7**	**+2.1**
ETSF				S	**Sn**	**21 05 19.5**	**-7.5**
	0.9nm,0.3s						
SJPF	**Ste Jean**	**8.39**	**16**	*e*P	**Pn**	**21 03 57.4**	**+3.3**
SJPF				*e*Sn	**Sn**	**21 05 20.3**	**-7.5**
	5.2nm,0.6s						
SJPF	**Ste Jean**	**8.39**	**16**	P	**Pn**	**21 03 57.4**	**+3.3**
SJPF				S	**Sn**	**21 05 20.3**	**-7.5**
	2.6nm,0.6s						
EALK	**Alkurruntz**	**8.44**	**14**	P	**Pn**	**21 03 58.0**	**+3.3**
	8.2nm,0.4s,SNR=19						
EALK				S	**Sn**	**21 05 29.2**	**+0.3**
	16nm,0.5s,SNR=11						
CSOR	**Sort**	**8.46**	**29**	P	**Pn**	**21 03 57.7**	**+2.7**
	3.5nm,0.5s,SNR=7.9						
CSOR				S	**Sn**	**21 05 31.5**	**+1.9**
	3.3nm,0.5s,SNR=7.9						
ATE	**Arette**	**8.49**	**18**	P	**Pn**	**21 03 58.3**	**+2.8**
	1.9nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**8.53**	**346**	P	**Pn**	**21 03 58.5**	**+2.5**
	0.6nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**21 05 30.1**	**-1.1**
	1.5nm,0.4s,SNR=7.9						
EPF	**Esparros**	**8.75**	**23**	*e*P	**Pn**	**21 04 02.1**	**+3.1**
EPF				*e*Sn	**Sn**	**21 05 28.7**	**-7.9**
	3.1nm,0.6s						
EPF	**Esparros**	**8.75**	**23**	P	**Pn**	**21 04 02.1**	**+3.1**
EPF				S	**Sn**	**21 05 28.7**	**-7.9**
	1.6nm,0.6s						
LFF	**La Frestale**	**10.60**	**20**	*e*P	**Pn**	**21 04 26.7**	**+2.4**
LFF				*e*Sn	Sn	21 06 12.6	-9.4
	0.4nm,0.3s						
LFF	**La Frestale**	**10.60**	**20**	P	**Pn**	**21 04 26.7**	**+2.4**
LFF				S	Sn	21 06 12.6	-9.4
	0.2nm,0.3s						
LASF	**Ste Croix**	**11.00**	**33**	*e*P	**Pn**	**21 04 32.9**	**+3.2**
LASF	**Ste Croix**	**11.00**	**33**	P	**Pn**	**21 04 32.9**	**+3.2**
CAF	**Calviac**	**11.00**	**25**	*e*P	**Pn**	**21 04 33.6**	**+3.8**
CAF	**Calviac**	**11.00**	**25**	P	**Pn**	**21 04 33.6**	**+3.8**
QUIF	**Quistinic**	**12.87**	**4**	*e*P	**Pn**	**21 04 57.7**	**+2.4**
QUIF				*e*Sn	Sn	21 07 06.6	-11
	0.6nm,0.3s						
SGMF	**Saint Gilles**	**13.25**	**5**	*e*P	**Pn**	**21 05 02.9**	**+2.5**
ROSF	**Rostrenen**	**13.29**	**3**	*e*P	**Pn**	**21 05 03.2**	**+2.3**
ROSF				*e*Sn	Sn	21 07 16.7	-11
	0.7nm,0.3s						
LDF	**La Druitiere**	**13.88**	**12**	*e*P	**Pn**	**21 05 11.0**	**+2.0**
GERES	**GERESS Array B**	**19.16**	**39**	P	**Pn**	**21 06 17.4**	**+0.9**
	0.1nm,0.3s,baz=229,slow=12,SNR=4.5						
TORD	**Torodi Ar. Bea**	**22.50**	**164**	P	**P**	**21 06 51.9**	**+0.2**
	6.4nm,0.9s,baz=342,slow=9.9,SNR=8.8						
ZALV	**Zalesovo Beam**	**62.07**	**42**	P	**P**	**21 12 12.0**	**-0.1**
	0.6nm,0.6s,baz=308,slow=7.1,SNR=1.9						

*IDC **09** 21:21:51.6±2.5, 5.°73S×151.°62E, h60km±21km, mb3.7/3, mb1 4.0/4, mb1mx3.4/35, mbtmp4.1/4, ML2.5/1, Error ellipse: s-maj=58.1km s-min=11.0km az=123.0*
*NEIC **09** 21:21:52.1±1.7, 5.°5S±0.°1×151.°6E±0.°1, h74km±10km, mb4.0/12, Error ellipse: s-maj=19.7km s-min=10.2km az=132.0*

s-min=8.4km az=12.0
*REY **09** 21:22:11.2, 64°.68N×17°.42W, h7km*
*NEIC **09** 21:22:13.4±1.2, 64°.62N±0°.04×17°.5W±0°.1, h9km±3km, mb4.7/235, Error ellipse: s-maj=9.4km s-min=4.5km az=67.0*
*DNK **09** 21:22:17.3±3.4, 64°.58N×18°.29W, h60km±111km, mb4.5*
ISC 09 21:22:13.1±0.3,**64°.68N**±0°.02×**17°.47W**±0°.02,**h10**km,**n550**, σ1§46/514,**mb4.7**/202,**29C-18D,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
IDYN	**Dyngjuhals** baz=12	**0.12**	**22**	P	**Pg**	**21 22 13.8**	**-2.2**
IGRF	**Grimsfjall** baz=166	**0.29**	**162**	P	**Pg**	**21 22 16.6**	**-2.4**
IHUS	**Husbondi** baz=195	**0.40**	**192**	P	**Pg**	**21 22 18.6**	**-2.3**
IHUS	baz=195			S	**Sg**	**21 22 24.1**	**-2.0**
ISKR	**Skrokkalda** baz=255	**0.41**	**253**	P	**Pg**	**21 22 18.8**	**-2.4**
IVOT	**Vottur** baz=166	**0.43**	**163**	P	**Pg**	**21 22 19.0**	**-2.6**
IKRE	**Kreppuhraun** baz=76	**0.48**	**77**	P	**Pg**	**21 22 19.5**	**-2.9**
IJOK	**Jokulheimar** baz=224	**0.49**	**222**	P	**Pg**	**21 22 20.2**	**-2.5**
IJOK	baz=224			S	**Sg**	**21 22 27.1**	**-2.0**
IIEY	**Innrieyrar** baz=208	**0.65**	**206**	P	**Pg**	**21 22 22.6**	**-3.1**
ISVA	**Svartarkot** baz=6.1	**0.67**	**8**	P	**Pg**	**21 22 23.0**	**-2.9**
IKSK	**Karasker** baz=141	**0.68**	**140**	P	**Pg**	**21 22 22.3**	**-3.9**
IKSK	baz=141			S	**Sg**	**21 22 31.5**	**-3.5**
IKAL	**Kalfafell** baz=189	**0.74**	**187**	P	**Pg**	**21 22 24.2**	**-3.2**
IVSH	**V-Saupahnukur** baz=79	**0.76**	**80**	P	**Pg**	**21 22 24.1**	**-3.6**
IVAT	**Vatnsfell** baz=234	**0.80**	**232**	P	**Pg**	**21 22 25.5**	**-3.0**
IHVE	**Hveravellir** baz=283	**0.92**	**283**	P	**Pg**	**21 22 27.0**	**-3.8**
IMEL	**Melhnausar** baz=20	**0.96**	**21**	P	**Pg**	**21 22 27.8**	**-3.7**
IREN	**Reynihlio** baz=12	**1.00**	**14**	P	**Pg**	**21 22 28.5**	**-3.8**
IGRS	**Grimsstaoir** baz=29	**1.12**	**30**	P	**Pb**	**21 22 30.5**	**-4.0**
IFED	**Fedgar** baz=238	**1.17**	**237**	P	**Pb**	**21 22 31.8**	**-3.6**
IRJU	**Rjupnafell** baz=208	**1.19**	**207**	P	**Pb**	**21 22 31.9**	**-3.9**
ISKI	**Skildingahlsh** baz=7.7	**1.21**	**9**	P	**Pb**	**21 22 31.9**	**-4.1**
IMJO	**Mjoaskard** baz=234	**1.22**	**233**	P	**Pn**	**21 22 32.6**	**-3.6**
IGRA	**Granastaoir** baz=357	**1.24**	**358**	P	**Pn**	**21 22 32.4**	**-4.1**
IHVO	**Lagu-Hvolar** baz=209	**1.31**	**208**	P	**Pn**	**21 22 34.0**	**-3.4**
IHED	**Heoinshofoi** baz=1.9	**1.41**	**3**	P	**Pn**	**21 22 35.0**	**-3.8**
IALF	**Alftagrof** baz=214	**1.41**	**213**	P	**Pn**	**21 22 35.3**	**-3.5**
IESK	**Eystri-Skogar** baz=218	**1.45**	**218**	P	**Pn**	**21 22 36.0**	**-3.3**
ISAU	**Saurbar** baz=244	**1.46**	**243**	P	**Pn**	**21 22 35.7**	**-3.8**
IBRE	**Brettingsstaoi** baz=352	**1.46**	**353**	P	**Pn**	**21 22 36.0**	**-3.4**
IMID	**Miomork** baz=228	**1.48**	**227**	P	**Pn**	**21 22 36.8**	**-2.9**
IGIL	**Gilhagi** baz=17	**1.48**	**18**	P	**Pn**	**21 22 36.0**	**-3.7**
ISIG	**Siglufjorour** baz=338	**1.58**	**338**	P	**Pn**	**21 22 37.9**	**-3.2**
BORG	**Borgarnes** 51nm,0.3s,baz=100,slow=12,SNR=135	**1.66**	**274**	Pg	**Pn**	**21 22 39.1**	**-3.1**
BORG	comp=Z,244nm,21.6s,baz=160,slow=23			LR	LR	21 22 49.3	
BORG	44nm,0.3s,baz=65,slow=21,SNR=12			Lg	Lg	21 23 03.0	
BORG	**Borgarnes**	**1.66**	**274**	Pn	**Pn**	**21 22 39.0**	**-3.2**
IKRO	**Krokur** baz=252	**1.69**	**251**	P	**Pn**	**21 22 39.7**	**-3.0**
ISOL	**Solvholt** baz=246	**1.69**	**245**	P	**Pn**	**21 22 39.7**	**-2.9**
IBJA	**Bjarnastaoir** baz=248	**1.83**	**248**	P	**Pn**	**21 22 41.8**	**-2.7**
IVOG	**Vogar** baz=254	**2.26**	**254**	P	**Pn**	**21 22 49.4**	**-1.0**
JMIC	**Jan Mayen** comp=Z,578nm,18.0s,baz=196,slow=34	**7.17**	**24**	LR	LR	21 26 15.5	
LEWI	**Lewis, Hebride**	**8.29**	**137**	*e*P	**Pn**	**21 24 12.4**	**-0.7**
KAC	**Achnashellach**	**9.29**	**135**	*e*P	**Pn**	**21 24 25.1**	**-1.9**
KPL	**Plockton**	**9.32**	**137**	*e*P	**Pn**	**21 24 25.1**	**-2.1**
INVG	**Invergeldie, C**	**10.57**	**135**	*e*P	**Pn**	**21 24 42.2**	**-2.1**
EAB	**Aberfoyle**	**10.68**	**137**	*e*P	**Pn**	**21 24 44.9**	**-1.1**
SUMG	**Summit**	**10.94**	**325**	P	**Pn**	**21 24 50.4**	**+0.6**
SUMG	**Summit**	**10.94**	**325**	Pn	**Pn**	**21 24 50.4**	**+0.6**
SUMG	**Summit** 17nm,0.8s	**10.94**	**325**	*i* P	**Pn**	**21 24 49.8**	**+0.1**
SUMG	**Summit** comp=Z,17nm,0.8s	**10.94**	**325**	*i* P	**Pn**	**21 24 49.8**	**+0.1**
SUMG				IAmb	IAmb	21 24 58.3	
PGBU	**Glenifferbraes**	**10.96**	**138**	*e*P	**Pn**	**21 24 48.4**	**-1.4**
NEWG	**New Galloway**	**11.64**	**139**	*e*P	**Pn**	**21 24 57.5**	**-1.5**
EKA	**Eskdalemuir Ar** baz=323,slow=13,SNR=17	**11.76**	**136**	Pn	**Pn**	**21 24 59.7**	**-1.0**
ESK	**Eskdalemuir**	**11.76**	**136**	*e*P	**Pn**	**21 25 00.1**	**-0.6**
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**21 25 00.7**	**0.0**
ESK	**Eskdalemuir**	**11.76**	**136**		**Pn**	**21 25 00.7**	**0.0**
DAG	**Danmarks Havn** comp=Z,18nm,1.3s	**12.16**	**359**	*i* P	**Pn**	**21 25 09.0**	**+3.0**
DAG				pmax	pmax		
DAG	**Danmarks Havn** comp=Z,18nm,1.3s	**12.16**	**359**	*i* P	**Pn**	**21 25 09.0**	**+3.0**
DAG	**Danmarks Havn** comp=Z,18nm,1.3s	**12.16**	**359**	*i* P	**Pn**	**21 25 09.0**	**+3.0**
DAG				IAmb	IAmb	21 25 11.0	
DSB	**Dublin**	**12.79**	**149**	Pn	**Pn**	**21 25 15.0**	**+0.3**
NRS	**Narsarsuaq**	**13.15**	**267**	P	Pn	21 25 13.7	-5.9
NRS	**Narsarsuaq**	**13.15**	**267**	Pn	Pn	21 25 13.7	-5.9
NC204	**NORSAR Array S**	**13.22**	**92**	Pn	**Pn**	**21 25 17.9**	**-2.7**
NBO00	**NORSAR Array S**	**13.34**	**93**	Pn	**Pn**	**21 25 22.2**	**0.0**
NC303	**NORSAR Array S**	**13.50**	**92**	Pn	**Pn**	**21 25 25.6**	**+1.2**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.5	**13.52**	**92**	Pn	**Pn**	**21 25 23.4**	**-1.4**
SFJD	**Kangerlussuaq** comp=Z,334nm,21.5s,baz=352,slow=34	**13.67**	**295**	LR	LR	21 30 00.6	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=311,slow=18,SNR=1.7	**15.03**	**93**	Pn	**Pn**	**21 25 43.9**	**-1.4**
HFS	comp=Z,156nm,18.8s,baz=283,slow=37			LR	LR	21 31 28.8	
MUD	**Monsted U'grnd** comp=Z,73nm,1.5s	**15.36**	**110**	*i* P	**P**	**21 25 54.0**	**-0.3**
MUD				pmax	pmax		
MUD	**Monsted U'grnd** comp=Z,73nm,1.5s	**15.36**	**110**	*i* P	**P**	**21 25 54.0**	**-0.3**
MUD	**Monsted U'grnd** comp=Z,73nm,1.5s	**15.36**	**110**	*i* P	**P**	**21 25 54.0**	**-0.3**
MUD				IAmb	IAmb	21 25 58.2	
KBS	**Kingsbay** comp=Z,55nm,1.5s	**16.62**	**19**	P	**P**	**21 26 06.9**	**-1.3**
KBS				pmax	pmax		
KBS	**Kingsbay**	**16.62**	**19**	Pn	**P**	**21 26 06.9**	**-1.3**
SPA0	**Spitsbergen Ar**	**16.85**	**23**		**P**	**21 26 11.8**	**+1.0**
NOR	**Nord** comp=Z,36nm,1.3s	**17.01**	**0**	*i* P	**P**	**21 26 12.4**	**-0.1**
NOR				pmax	pmax		
NOR	**Nord** comp=Z,36nm,1.3s	**17.01**	**0**	*i* P	**P**	**21 26 12.4**	**-0.1**
NOR	**Nord** comp=Z,36nm,1.3s	**17.01**	**0**	*i* P	**P**	**21 26 12.4**	**-0.1**
NOR				IAmb	IAmb	21 26 17.2	
ARCES	**ARCESS Array B** baz=293,slow=14,SNR=2.8	**17.10**	**55**	P	**P**	**21 26 12.6**	**-0.9**
ARCES	comp=Z,156nm,21.9s,baz=290,slow=32			LR	LR	21 31 23.8	
KEV	**Kevo** comp=Z,43nm,1.2s	**17.60**	**54**	P	**P**	**21 26 19.7**	**+0.6**
KEV				pmax	pmax		
KEV	**Kevo**	**17.60**	**54**		**P**	**21 26 19.7**	**+0.6**
BSEG	**Bad Segeberg**	**17.63**	**114**	P	**Pn**	**21 26 17.4**	**-1.1**
BSEG	comp=Z,35nm,1.5s			pmax	pmax		
UCC	**Uccle** comp=Z,42nm,1.4s	**18.00**	**130**	P	**P**	**21 26 23.5**	**-0.1**
UCC				pmax	pmax		
UCC	**Uccle**	**18.00**	**130**		**P**	**21 26 23.5**	**-0.1**
SGMF	**Saint Gilles** comp=Z,68nm,1.4s	**18.32**	**147**	*e*P	**P**	**21 26 27.0**	**-0.2**
SGMF				pmax	pmax		
BUG	**Bochum--Univer** comp=Z,29nm,1.4s	**18.46**	**124**	P	**Pn**	**21 26 29.9**	**+1.3**
BUG				pmax	pmax		
QUIF	**Quistinic** comp=Z,59nm,1.3s	**18.50**	**148**	*e*P	**Pn**	**21 26 29.9**	**+0.7**
QUIF				pmax	pmax		
BAIF	**Baives** comp=Z,30nm,1.1s	**18.59**	**132**	*e*P	**Pn**	**21 26 30.6**	**+0.3**
BAIF				pmax	pmax		
GRR	**Gorron** comp=Z,60nm,1.2s	**18.62**	**143**	*e*P	**Pn**	**21 26 31.0**	**+0.4**
GRR				pmax	pmax		
MEM	**Membach**	**18.71**	**128**	P	**Pn**	**21 26 32.6**	**+0.8**
MEM	**Membach**	**18.71**	**128**	P	**Pn**	**21 26 33.7**	**+1.9**
MEM	comp=Z,23nm,1.1s			pmax	pmax		
BTNL	**Ternell**	**18.77**	**128**	P	**Pn**	**21 26 31.4**	**-1.2**
BTNL				pP	**pP**	**21 26 33.4**	**-2.1**
MSF	**Maaselka** comp=Z,21nm,1.2s	**19.14**	**65**	P	**Pn**	**21 26 37.0**	**+0.2**
MSF				pmax	pmax		
WLF	**Walferdange** comp=Z,29nm,1.3s	**19.57**	**129**	P	**Pn**	**21 26 41.4**	**-0.7**
WLF				pmax	pmax		
WLF	**Walferdange**	**19.57**	**129**	P	**Pn**	**21 26 41.4**	**-0.7**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=282,slow=9.0,SNR=9.7	**19.69**	**79**	P	**Pn**	**21 26 43.0**	**-0.4**
FINES	**FINESS Array B**	**19.69**	**79**	P	**Pn**	**21 26 43.2**	**-0.3**
FINES	**FINESS Array B**	**19.69**	**79**	P	**Pn**	**21 26 43.2**	**-0.3**
FIA1	**FINESS Array S**	**19.69**	**79**	P	**Pn**	**21 26 42.2**	**-1.2**
TNS	**Taunus Mts** comp=Z,12nm,1.1s	**19.89**	**124**	P	**Pn**	**21 26 47.4**	**+1.5**
TNS				pmax	pmax		
RUE	**Ruedersdorf** comp=Z,17nm,1.1s	**20.10**	**113**	*e*P	Pn	21 26 46.6	-1.7
APA	**Apatity**	**20.31**	**59**	*i* P	Pn	21 26 50.7	0.0
APA	comp=Z,17nm,1.1s			pmax	pmax		
APA	comp=Z,200nm,14.0s			MLR	MLR		
MFF	**Saint Martin d** comp=Z,23nm,1.2s	**20.45**	**144**	*e*P	Pn	21 26 51.2	-1.4
MFF				pmax	pmax		
MOX	**Moxa** comp=Z,19nm,1.3s	**20.70**	**119**	P	Pn	21 26 53.8	-1.6
MOX				pmax	pmax		
CLL	**Collm** comp=Z,33nm,1.3s	**20.70**	**116**	*i* P	Pn	21 26 53.0	-2.4
CLL				*e*PP	**PnPn**	**21 27 12.0**	**+1.3**
CLL				*e*S	Sn	21 30 50.0	+1.3
CLL	**Collm**	**20.70**	**116**	*i* P	Pn	21 26 53.0	-2.4
CLL	comp=Z,33nm,1.3s			pmax	pmax		
CLL	**Collm**	**20.70**	**116**	P	**P**	**21 26 52.8**	**-0.3**
GKP	**Gorka Klasztor** comp=Z,65nm,0.9s	**20.91**	**107**	P	Pn	21 27 00.2	+2.4
GKP				pmax	pmax		
LOR	**Lormes** comp=Z,27nm,1.1s	**20.95**	**136**	P	Pn	21 26 56.2	-2.2
LOR				pmax	pmax		
CDF	**Champ du Feu** comp=Z,28nm,1.3s	**21.02**	**129**	*e*P	**P**	**21 26 57.1**	**+0.4**
CDF				pmax	pmax		
SSF	**Saint Saulge** comp=Z,27nm,1.1s	**21.03**	**137**	*e*P	**P**	**21 26 56.0**	**-0.7**
SSF				pmax	pmax		
HAU	**Haudompre** comp=Z,23nm,1.0s	**21.07**	**131**	*e*P	**P**	**21 26 57.4**	**+0.3**
HAU				pmax	pmax		
ECH	**Echery** comp=Z,17nm,1.1s	**21.15**	**129**	P	**P**	**21 26 58.7**	**+0.7**
ECH				pmax	pmax		
ECH	**Echery**	**21.15**	**129**	P	**P**	**21 26 58.7**	**+0.7**
AVF	**Avril sur Loir** comp=Z,33nm,1.2s	**21.23**	**138**	*e*P	**P**	**21 26 58.0**	**-0.8**
AVF				pmax	pmax		
GRA1	**Grafenberg Arr** comp=Z,49nm,1.2s	**21.33**	**121**	P	**P**	**21 27 00.3**	**+0.4**
GRA1				IAmb	IAmb	21 27 13.2	
GRF	**Grafenberg Arr** comp=Z,49nm,1.2s	**21.33**	**121**	P	**P**	**21 27 00.3**	**+0.4**
GRF				pmax	pmax		
GRF	**Grafenberg Arr** comp=Z,17nm,1.1s,baz=325,slow=10	**21.33**	**121**	*e*P	**P**	**21 27 00.4**	**+0.5**
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**	**21 27 00.7**	**+0.6**
NKC				*e*S	Sn	21 31 02.4	-1.9
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**	**21 27 00.7**	**+0.6**
NKC				*e*S	Sn	21 31 02.4	-1.9
TCF	**Toulx Ste Croi** comp=Z,46nm,1.1s	**21.37**	**140**	*e*P	**P**	**21 26 59.8**	**-0.6**
TCF				pmax	pmax		
STU	**Stuttgart** comp=Z,32nm,1.0s	**21.37**	**125**	P	**P**	**21 27 00.9**	**+0.6**
STU				pmax	pmax		
STU	**Stuttgart** comp=Z,32nm,1.0s	**21.37**	**125**		**P**	**21 27 00.9**	**+0.6**
STU				IAmb	IAmb	21 27 10.5	
BRG	**Berggiesshubel** comp=Z,29nm,1.2s	**21.41**	**115**	*i* P	**P**	**21 27 00.5**	**-0.2**
BRG				S	Sn	21 31 14.0	+8.3
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P	**P**	**21 27 00.5**	**-0.2**
BRG	comp=Z,29nm,1.2s			pmax	pmax		
BFO	**Black Forest** comp=Z,31nm,1.2s	**21.45**	**127**	P	**P**	**21 27 01.6**	**+0.4**
BFO				pmax	pmax		
BFO	**Black Forest** comp=Z,31nm,1.2s	**21.45**	**127**	P	**P**	**21 27 01.6**	**+0.4**
BFO				IAmb	IAmb	21 27 07.5	
SMF	**Signal de Mont** comp=Z,38nm,1.1s	**21.51**	**137**	*e*P	**P**	**21 27 01.1**	**-0.7**
SMF				pmax	pmax		
VSU	**Vasula**	**21.55**	**86**	*e*P	**P**	**21 27 01.7**	**-0.5**
VSU	**Vasula** comp=Z,45nm,0.9s	**21.55**	**86**	*ce*P	**P**	**21 27 01.7**	**-0.5**
VSU				pmax	pmax		
PVCC	**Panska Ves** comp=Z,11nm,1.3s	**21.92**	**115**	P	**P**	**21 27 07.5**	**+1.2**
PVCC				pmax	pmax		
SLE	**Schleitheim** comp=Z,17nm,1.4s	**21.99**	**128**	P	**P**	**21 27 07.6**	**+0.6**
SLE				pmax	pmax		
RJF	**Les Rejaudoux** comp=Z,38nm,1.1s	**22.09**	**142**	*e*P	**P**	**21 27 07.5**	**-0.6**
RJF				pmax	pmax		
PABE	**Paberze**	**22.20**	**95**	*e*P	**P**	**21 27 09.2**	**0.0**
PRA	**Prague**	**22.24**	**116**	*e*S	Sn	21 31 19.5	-6.0
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**21 27 10.4**	**-0.4**
PRU				*e*S	Sn	21 31 21.7	-6.4
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**21 27 10.4**	**-0.4**
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**21 27 11.1**	**+0.2**
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**21 27 11.1**	**+0.2**
WET	**Wettzell**	**22.40**	**119**	P	**P**	**21 27 13.6**	**+2.2**
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**	**21 27 12.5**	**+0.4**
CHVC				*ex*	x	21 27 24.8	
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**	**21 27 13.0**	**+0.6**
GOPC				*e*S	**S**	**21 31 22.2**	**+3.2**
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**	**21 27 13.0**	**+0.6**
GOPC				*e*S	**S**	**21 31 22.2**	**+3.2**
UPC	**Upice**	**22.51**	**113**	*e*P	**P**	**21 27 13.5**	**+1.0**
UPC				*e*S	**S**	**21 31 23.2**	**+4.1**
UPC	**Upice**	**22.51**	**113**	*e*P	**P**	**21 27 13.5**	**+1.0**
UPC				*e*S	**S**	**21 31 23.2**	**+4.1**
OSTC	**Ostas**	**22.55**	**113**	*e*P	**P**	**21 27 13.1**	**+0.1**
OSTC				*e*S	**S**	**21 31 24.5**	**+4.6**
CAF	**Calviac**	**22.59**	**142**	*e*P	**P**	**21 27 12.5**	**-0.9**
CAF	comp=Z,11nm,1.0s			pmax	pmax		
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**21 27 14.4**	**+0.1**
KHC				*ex*	x	21 27 25.6	
KHC				*ex*	x	21 27 50.0	
KHC				*e*S	**S**	**21 31 27.5**	**+5.3**
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**21 27 14.4**	**+0.1**
KHC	comp=Z,5.0nm,1.0s			pmax	pmax		
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**21 27 14.4**	**+0.1**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**21 27 15.6**	**+0.4**
DPC				*e*S	**S**	**21 31 29.2**	**+5.5**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**21 27 15.6**	**+0.4**
SENIN	**Lac Senin/Sane**	**22.82**	**132**	P	**P**	**21 27 15.8**	**-0.4**
SUW	**Suwalki**	**22.87**	**98**	*e*P	**P**	**21 27 16.8**	**+0.5**
SUW	**Suwalki**	**22.87**	**98**	*e*P	**P**	**21 27 16.8**	**+0.5**
SUW	**Suwalki**	**22.87**	**98**	P	**P**	**21 27 16.2**	**-0.1**
DAVA	**Damuels** comp=Z,20nm,1.1s	**22.88**	**126**	*e*P	**P**	**21 27 18.0**	**+1.3**
GEC2	**GERESS Array S**	**22.95**	**119**	P	**P**	**21 27 17.1**	**-0.2**
GERES	**GERESS Array B** comp=Z,5.8nm,1.1s,baz=330,slow=7.7,SNR=20	**22.95**	**119**	P	**P**	**21 27 17.5**	**+0.2**
GERES				LR	LR	21 36 23.0	
SSB	**Saint Sauveur** comp=Z,178nm,20.8s,baz=306,slow=37	**22.95**	**137**	P	**P**	**21 27 18.1**	**+0.8**
SSB	comp=Z,14nm,1.1s			pmax	pmax		
SSB	**Saint Sauveur**	**22.95**	**137**	P	**P**	**21 27 18.1**	**+0.8**
IZAR	**Zarasai**	**23.02**	**92**	*e*P	**P**	**21 27 18.3**	**+0.6**
RETA	**Reutte** comp=Z,6.9nm,1.0s	**23.02**	**125**	*e*P	**P**	**21 27 18.1**	**+0.2**
ISAL	**Salakas**	**23.08**	**93**	*e*P	**P**	**21 27 19.0**	**+0.5**
KRLC	**Kraliky**	**23.15**	**113**	*e*P	**P**	**21 27 19.5**	**+0.2**
KRLC				*e*S	**S**	**21 31 37.0**	**+6.4**
KRLC	**Kraliky** comp=Z,12nm,1.4s	**23.15**	**113**	*e*P	**P**	**21 27 19.5**	**+0.2**
MOTA	**Moosalm**	**23.26**	**125**	*e*P	**P**	**21 27 22.3**	**+1.7**
IIGN	**Ignalina**	**23.27**	**93**	*e*P	**P**	**21 27 21.1**	**+0.8**
TREC	**Trest**	**23.27**	**116**	*e*P	**P**	**21 27 21.2**	**+0.7**
TREC	**Trest**	**23.27**	**116**	*e*P	**P**	**21 27 21.2**	**+0.7**
DAVOX	**Davos/Dischmat** comp=Z,4.9nm,1.0s,baz=336,slow=11,SNR=6.0	**23.32**	**127**	P	**P**	**21 27 21.1**	**-0.1**
DAVOX				LR	LR	21 35 48.1	
PGAV	**Gavieira, Arco** comp=Z,615nm,18.0s	**23.36**	**163**	*e*LR	LR	21 57 24.6	
SQTA	**Sankt Quirin** comp=Z,22nm,1.2s	**23.40**	**125**	*e*P	**P**	**21 27 23.5**	**+1.6**
TUE	**Stuetta**	**23.40**	**128**	P	**P**	**21 27 22.1**	**0.0**
LPG	**La Plagne**	**23.42**	**133**	*e*P	**P**	**21 27 22.9**	**+0.6**
LPG	comp=Z,18nm,1.2s			pmax	pmax		
WATA	**Walderalm** comp=Z,13nm,1.1s	**23.43**	**124**	*e*P	**P**	**21 27 23.8**	**+1.6**
IDID	**Didziasalis**	**23.51**	**92**	*e*P	**P**	**21 27 23.5**	**+0.7**
WTTA	**Wattenberg** comp=Z,15nm,1.1s	**23.52**	**124**	*e*P	**P**	**21 27 22.2**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**23.59**	**127**	P	**P**	**21 27 25.0**	**+1.1**
PCAB	**Cabril** comp=Z,63nm,1.8s	**23.64**	**162**	A	A	21 27 57.5	
EUNU	**Eureka** comp=Z,35nm,1.2s	**23.66**	**336**	P	**P**	**21 27 25.3**	**+1.2**
EUNU				IAmb	IAmb	21 27 28.4	
VRAC	**Vranov** comp=Z,4.8nm,1.0s,baz=298,slow=13,SNR=4.3	**23.69**	**114**	P	**P**	**21 27 24.9**	**+0.3**
VRAC				LR	LR	21 36 29.4	
VRAC	**Vranov**	**23.69**	**114**	⇓P	**P**	**21 27 25.7**	**+1.1**
VRAC	**Vranov**	**23.69**	**114**	*e*P	**P**	**21 27 24.8**	**+0.2**
VRAC	**Vranov**	**23.69**	**114**	⇓P	**P**	**21 27 25.7**	**+1.1**
MORC	**Moravsky Berou**	**23.69**	**112**	⇓P	**P**	**21 27 25.6**	**+0.9**
MORC	**Moravsky Berou**	**23.69**	**112**	*e*P	**P**	**21 27 24.7**	**0.0**
MORC	**Moravsky Berou**	**23.69**	**112**	⇓P	**P**	**21 27 25.6**	**+0.9**
MORC	**Moravsky Berou**	**23.69**	**112**	P	**P**	**21 27 25.3**	**+0.6**
PBRG	**Braganca** comp=Z,26nm,1.6s	**23.73**	**160**	*e*P	**P**	**21 27 25.9**	**+0.8**
BNI	**Bardonecchia** comp=Z,21nm,1.3s	**23.80**	**134**	P	**P**	**21 27 26.2**	**+0.3**
BNI				pmax	pmax		
BNI	**Bardonecchia**	**23.80**	**134**	P	**P**	**21 27 26.1**	**+0.3**
NACGM	**Naroch**	**23.81**	**93**	*e*	**P**	**21 27 25.0**	**-0.7**
KRUC	**Moravsky**	**23.81**	**115**	*e*P	**P**	**21 27 25.1**	**-0.7**
KRUC	**Moravsky** comp=Z,10.0nm,1.7s	**23.81**	**115**	P	**P**	**21 27 25.9**	**+0.1**
KRUC				pmax	pmax		
EPF	**Esparros** comp=Z,14nm,1.2s	**23.93**	**146**	*e*P	**P**	**21 27 28.3**	**+1.3**
EPF				pmax	pmax		
OJC	**Ojcow** comp=Z,20nm,1.4s	**24.25**	**109**	P	**P**	**21 27 29.3**	**-0.6**
OJC				pmax	pmax		
OJC	**Ojcow**	**24.25**	**109**	P	**P**	**21 27 29.3**	**-0.6**
ABTA	**Abfaltersbach** comp=Z,7.8nm,1.3s	**24.27**	**123**	*e*P	**P**	**21 27 31.8**	**+1.6**
KBA	**Koelnbreinsper** comp=Z,15nm,1.5s	**24.29**	**122**	*e*P	**P**	**21 27 31.2**	**+0.6**
MVO	**Moncorvo** comp=Z,31nm,1.5s	**24.32**	**161**	*e*P	**P**	**21 27 32.7**	**+2.0**
MVO	**Moncorvo** comp=Z,675nm,20.0s	**24.32**	**161**	*e*LR	LR	21 57 40.5	
JAVC	**Velka Javorina**	**24.47**	**113**	*e*P	**P**	**21 27 32.3**	**+0.3**
CONA	**Conrad Observa** comp=Z,9.5nm,1.0s	**24.53**	**117**	*e*P	**P**	**21 27 31.6**	**-0.9**
CTI	**Castel Tesino** comp=Z,15nm,1.0s	**24.57**	**125**	P	**P**	**21 27 34.4**	**+1.5**
CTI				pmax	pmax		
CTI	**Castel Tesino** comp=Z,15nm,1.0s	**24.57**	**125**	P	**P**	**21 27 34.4**	**+1.5**
CTI				IAmb	IAmb	21 27 42.9	
ZOU	**Zoufplan** comp=Z,20nm,1.3s	**24.60**	**123**	P	**P**	**21 27 34.0**	**+0.6**
ZOU				IAmb	IAmb	21 27 40.6	
CIMO	**Cimolais**	**24.62**	**124**	P	**P**	**21 27 33.4**	**+0.1**
PVIS	**Viseu** comp=Z,34nm,1.7s	**24.64**	**162**	*e*P	**P**	**21 27 35.8**	**+2.2**
SMOL	**Smolenice** comp=Z,9.0nm,1.2s	**24.66**	**114**	*e*P	**P**	**21 27 34.2**	**+0.6**
SMOL				pmax	pmax		
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**	**21 27 34.2**	**+0.6**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**	**21 27 36.1**	**+1.9**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**	**21 27 36.0**	**+1.9**
STAL	**STALIGIAL**	**24.76**	**124**	P	**P**	**21 27 34.7**	**+0.1**
MYKA	**Terra Mystica** comp=Z,14nm,1.6s	**24.78**	**122**	*e*P	**P**	**21 27 36.6**	**+1.7**
PRED	**Cave del Predi** comp=Z,23nm,1.4s	**24.91**	**122**	P	**P**	**21 27 36.0**	**0.0**
PRED				IAmb	IAmb	21 27 42.5	
LANS	**Liptovska Anna** comp=Z,8.0nm,0.9s	**24.96**	**111**	*e*P	**P**	**21 27 37.8**	**+1.5**
LANS				pmax	pmax		
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P	**P**	**21 27 37.8**	**+1.5**
ARSA	**Arzberg** comp=Z,10nm,1.1s	**24.96**	**118**	*e*P	**P**	**21 27 36.5**	**+0.1**
MTE	**Manteigas** comp=Z,54nm,1.4s	**25.00**	**162**	*e*P	**P**	**21 27 38.8**	**+2.0**
MTE	**Manteigas** comp=Z,467nm,20.0s	**25.00**	**162**	*e*LR	LR	21 57 29.6	
NIE	**Niedzica**	**25.08**	**109**	*e*P	**P**	**21 27 39.0**	**+1.5**
NIE	**Niedzica**	**25.08**	**109**	*e*P	**P**	**21 27 39.0**	**+1.5**
TEOL	**Teolo** comp=Z,35nm,1.4s	**25.17**	**126**	P	**P**	**21 27 38.2**	**

ESDC Sonseca Array 26.26 156 P **P** **21 27 48.0 -0.2**
comp=Z,4.1nm,0.9s,baz=348,slow=9.1,SNR=20
ESDC Sonseca Array 26.26 156 P **P** **21 27 48.7 +0.4**
KOLS Kolonicke sedl 26.27 108 *eP* **P** **21 27 48.5 +0.3**
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 26.27 108 *eP* **P** **21 27 48.5 +0.3**
LVV L'vov 26.31 104 *eP* **P** **21 27 48.3 -0.2**
LVV *eS* **S** **21 32 16.7 -4.2**
LVV pmax pmax
comp=Z,130nm,1.2s
UZH Uzhgorod 26.51 108 *eP* **P** **21 27 50.3 -0.1**
OSSC Osservatorio P 26.64 129 P **P** **21 27 52.7 +1.1**
MORS Morshin 26.78 106 P **P** **21 27 52.4 -0.4**
PNCL Nicolau / Gran 27.13 164 *eP* **P** **21 27 54.8 -1.2**
comp=Z,31nm,1.6s
TRSU Trosnyk 27.21 108 P **P** **21 27 57.0 +0.4**
MURB Monte Urbino 27.30 127 P **P** **21 27 57.3 -0.3**
MURB IAmb IAmb 21 28 15.1
comp=Z,16nm,1.0s
PRGR Permogore 27.61 67 *eP* **P** **21 27 58.0 -2.1**
PRGR pmax pmax
comp=Z,12nm,1.1s
HORU Horodok 27.77 103 P **P** **21 28 01.0 -0.7**
KIEV Kiev 27.83 98 P **P** **21 28 00.0 -2.2**
AKASG Malin Array Be 27.83 98 P **P** **21 28 01.8 -0.4**
comp=Z,4.0nm,0.9s,baz=324,slow=9.7,SNR=9.6
AKASG LR LR 21 38 45.1
comp=Z,87nm,20.0s,baz=250,slow=36
AKASG Malin Array Be 27.83 98 *i* P **P** **21 28 02.0 -0.2**
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 27.83 98 P **P** **21 28 02.2 0.0**
AKBB Malin Array Si 27.83 98 *eP* **P** **21 28 02.1 -0.1**
AKBB Malin Array Si 27.83 98 IAmb IAmb 21 28 08.2
comp=Z,13nm,1.1s
OBN Obninsk 27.87 84 LR LR 21 37 56.4
comp=Z,17nm,21.6s,baz=303,slow=34
OBN Obninsk 27.87 84 *eP* **P** **21 28 02.3 -0.1**
OBN *e* 21 28 48.9
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,84nm,14.0s
OBN Obninsk 27.87 84 P **P** **21 28 02.6 +0.2**
KSV Kosov 27.90 105 P **P** **21 28 02.3 -0.6**
KMPD K-Podol'skiy 28.29 103 P **P** **21 28 05.0 -1.3**
BUR08 Bucovina Ar. S 28.49 106 P **P** **21 28 08.2 0.0**
BURAR Bucovina Array 28.52 106 P **P** **21 28 09.5 +1.0**
BURAR Bucovina Array 28.52 106 P **P** **21 28 09.5 +1.0**
BURAR Bucovina Array 28.52 106 P **P** **21 28 09.5 +1.0**
CART Cartagena 28.84 152 P **P** **21 28 11.3 0.0**
INTR Introdacqua 28.88 127 P **P** **21 28 11.8 +0.1**
INTR IAmb IAmb 21 28 13.9
comp=Z,17nm,1.3s
DIVS Divibare 29.31 116 P **P** **21 28 15.4 -0.1**
GZR Gura Zlata 29.32 112 P **P** **21 28 16.6 +1.0**
GZR Gura Zlata 29.32 112 P **P** **21 28 16.6 +1.0**
SORM Soroca 29.42 102 P **P** **21 28 15.8 -0.5**
SORM Soroca 29.42 102 P **P** **21 28 15.8 -0.5**
BIZ Bicaz 29.42 106 P **P** **21 28 17.1 +0.7**
HERR Herculane 29.60 113 P **P** **21 28 18.7 +0.7**
SGRT San Giovanni R 29.75 124 P **P** **21 28 18.3 -1.2**
DOPR Dopca 29.91 108 P **P** **21 28 21.9 +1.1**
PAOL Paolisi 29.98 127 P **P** **21 28 22.1 +0.7**
PAOL IAmb IAmb 21 28 29.5
comp=Z,15nm,1.3s
ARR Arges 30.09 109 P **P** **21 28 24.3 +1.9**
VOIR 30.20 109 P **P** **21 28 23.6 +0.2**
VOIR 30.20 109 P **P** **21 28 23.6 +0.2**
PDG Podgorica 30.45 119 P **P** **21 28 25.2 -0.3**
PDG Podgorica 30.45 119 IAmb IAmb 21 28 26.6
comp=Z,11nm,1.2s
PLOR Plostina 30.52 107 P **P** **21 28 26.8 +0.6**
PLOR Plostina 30.52 107 P **P** **21 28 26.8 +0.6**
MLR Muntele Rosu 30.52 108 P **P** **21 28 26.3 0.0**
MLR Muntele Rosu 30.52 108 P **P** **21 28 26.5 +0.2**
MLR pmax pmax
comp=Z,8.0nm,1.1s
MLR Muntele Rosu 30.52 108 P **P** **21 28 26.5 +0.2**
VRI Vrincioaia 30.54 107 P **P** **21 28 27.4 +1.1**
VRI Vrincioaia 30.54 107 P **P** **21 28 27.4 +1.1**
MILM Milestii Mici 30.57 103 P **P** **21 28 26.3 -0.2**
LPSR Galich'ya Gora 30.62 86 *eP* **P** **21 28 25.7 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
NEHR Nehoiu 30.72 108 P **P** **21 28 31.2 +3.3**
BISRR Bisoca 30.79 107 P **P** **21 28 28.9 +0.4**
HUMR Humele 30.92 110 P **P** **21 28 30.5 +0.9**
KIRV Kirov 30.96 69 *eP* **P** **21 28 29.6 -0.2**
MATE Matera 31.07 124 P **P** **21 28 31.2 +0.3**
TIR Tirane 31.61 119 P **P** **21 28 35.3 -0.5**
TIR pmax pmax
comp=Z,13nm,0.7s
TIR Tirane 31.61 119 P **P** **21 28 35.3 -0.5**
CFR Carcaliu 31.68 106 P **P** **21 28 35.6 -0.7**
CFR Carcaliu 31.68 106 P **P** **21 28 35.6 -0.7**
VSR Storozhevoye 31.72 88 *eP* **P** **21 28 34.8 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.5s
SCTE Santa Cesarea 32.21 122 P **P** **21 28 40.2 -0.8**
CLTB Caltabellotta 32.64 131 P **P** **21 28 43.1 -1.8**
VRH Novokhopyorsk 32.83 85 *eP* **P** **21 28 45.8 -0.5**
VRH pmax pmax
comp=Z,20nm,1.0s
KEST Kesra 33.16 138 LR LR 21 41 18.6
comp=Z,81nm,20.9s,baz=194,slow=35
BELG Belogornoye 34.47 79 *iP* **P** **21 29 00.2 -0.4**
ANN Anapa 35.90 97 *eP* P 21 29 07.5 -5.5
ANN pmax pmax
comp=Z,42nm,1.0s
ANN MLR MLR
comp=Z,244nm,15.0s
ARU Arti 36.06 66 P **P** **21 29 13.8 -0.5**
ARU 21 30 34.0
ARU 21 31 43.4
ARU S **S** **21 34 51.9 -1.1**
ARU SS **SnSn** **21 37 13.0 -4.2**
ARU Arti 36.06 66 P **P** **21 29 15.1 +0.8**
NRIK Noril'sk 36.44 35 P **P** **21 29 17.8 +0.5**
comp=Z,9.0nm,1.1s,baz=320,slow=7.9,SNR=7.1
NRIK LR LR 21 45 51.8
comp=Z,121nm,18.5s,baz=283,slow=39
NRIK Noril'sk 36.44 35 *ceP* **P** **21 29 18.4 +1.1**
NRIK pmax pmax
comp=Z,15nm,1.3s
SVE Sverdlovsk 36.59 64 *eP* **P** **21 29 18.5 -0.3**
SVE pmax pmax
comp=Z,10.0nm,1.1s
GOF Gofitskoye 38.10 91 *eP* **P** **21 29 32.6 +0.9**
GOF pmax pmax
comp=Z,64nm,1.0s
J58A Remsen 38.31 265 P **P** **21 29 34.6 +1.1**
J58A IAmb IAmb 21 29 41.5
comp=Z,32nm,1.4s
BR131 Keskin Array S 38.47 105 *eP* **P** **21 29 36.4 +1.4**
BR131 Keskin Array S 38.47 105 P **P** **21 29 36.6 +1.5**
BRTR Keskin Array B 38.47 105 P **P** **21 29 35.4 +0.4**
comp=Z,3.4nm,0.9s,baz=353,slow=6.9,SNR=12
BRTR Keskin Array B 38.47 105 *i* P **P** **21 29 38.5 +3.5**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 38.47 105 P **P** **21 29 36.3 +1.3**
J57A Williamstown 38.57 265 P **P** **21 29 36.7 +1.1**
J57A IAmb IAmb 21 29 42.9
comp=Z,24nm,1.0s
KIV Kislovodsk 38.83 92 *eP* **P** **21 29 38.4 +0.5**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,323nm,16.0s
KIV Kislovodsk 38.83 92 P **P** **21 29 39.0 +1.0**
SADO Sadowa 38.83 270 P **P** **21 29 36.8 -1.0**
SADO IAmb IAmb 21 29 38.7
comp=Z,22nm,1.1s
KBZ Khabaz 39.10 92 P **P** **21 29 40.9 +0.9**
comp=Z,8.2nm,1.0s,baz=323,slow=8.4,SNR=8.6
KBZ LR LR 21 45 54.2
comp=Z,141nm,21.3s,baz=324,slow=36
KBZ Khabaz 39.10 92 *eP* **P** **21 29 41.8 +1.7**
KBZ pmax pmax
comp=Z,14nm,1.0s
ELL Elmali 39.49 112 P **P** **21 29 43.9 +0.3**
ELL pmax pmax
comp=Z,93nm,1.5s
ELL Elmali 39.49 112 P **P** **21 29 43.9 +0.3**
E46A Sault Ste Mari 39.78 276 P **P** **21 29 46.2 +0.5**
E46A IAmb IAmb 21 29 48.3
comp=Z,29nm,1.1s
ZEI Tsey 40.29 92 *eP* **P** **21 29 50.5 +0.2**
ZEI pmax pmax
comp=Z,9.0nm,1.2s
WVNY West Valley, N 40.50 267 P **P** **21 29 53.0 +1.2**
WVNY IAmb IAmb 21 29 54.5
comp=Z,29nm,1.2s
FFC Flin Flon 40.60 297 P **P** **21 29 52.0 -0.4**
FFC pmax pmax
comp=Z,23nm,1.5s
FFC Flin Flon 40.60 297 P **P** **21 29 52.0 -0.4**
FFC IAmb IAmb 21 29 54.3
comp=Z,23nm,1.4s
ARTV Artvin 40.76 96 P **P** **21 29 54.2 0.0**
GROC Groznyy 40.77 90 *eP* **P** **21 29 54.4 +0.4**
GROC *e* 21 31 26.7
GROC *eS* **S** **21 36 06.8 +2.5**
GROC pmax pmax
comp=Z,36nm,1.1s
N58A Sunbury 40.98 264 P **P** **21 29 57.0 +1.3**
N58A IAmb IAmb 21 29 58.4
comp=Z,15nm,1.1s
AKH Akhalkalaki 41.24 94 P **P** **21 29 58.8 +0.7**
AKH pmax pmax
comp=Z,20nm,1.3s
AKH Akhalkalaki 41.24 94 P **P** **21 29 58.8 +0.7**
AKH IAmb IAmb 21 30 05.2
comp=Z,20nm,1.3s
ABKAR Akbulak array 41.97 73 P **P** **21 30 03.8 +0.1**
ABKAR Akbulak array 41.97 73 P **P** **21 30 04.4 +0.7**
ABKAR IAmb IAmb 21 30 06.8
comp=Z,8.0nm,1.1s
TIXI Tiksi 42.01 15 *eP* **P** **21 30 05.1 +1.3**
TIXI pmax pmax
comp=Z,114nm,1.3s
TIXI Tiksi 42.01 15 P **P** **21 30 05.3 +1.5**
GAZ Gaziantep 42.12 104 P **P** **21 30 05.9 +0.8**
N54A Moraine State 42.28 267 P **P** **21 30 07.5 +1.2**
N54A IAmb IAmb 21 30 10.3
comp=Z,22nm,1.2s
CSS Mathiatis 42.42 109 P **P** **21 30 08.2 +0.6**
CSS IAmb IAmb 21 30 18.6
comp=Z,13nm,1.1s
TOLK Toolik Lake Re 42.74 336 P **P** **21 30 10.8 +0.9**
N53A Lisbon 42.77 268 P **P** **21 30 11.0 +0.6**
N53A IAmb IAmb 21 30 12.2
comp=Z,26nm,1.3s
BMAR Burnt Mountain 42.89 333 P **P** **21 30 12.5 +1.4**
BRVK Borovoye 43.11 62 *diP* **P** **21 30 13.1 +0.1**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 43.11 62 P **P** **21 30 13.3 +0.4**
AGMN Agassiz Nation 43.13 287 P **P** **21 30 14.7 +1.6**
G40A Rib Lake 43.17 280 P **P** **21 30 14.2 +0.7**
G40A IAmb IAmb 21 30 20.6
comp=Z,19nm,1.2s
M50A Fremont 43.23 270 P **P** **21 30 15.3 +1.2**
N51A Ashland 43.34 269 P **P** **21 30 14.0 -1.0**
N51A IAmb IAmb 21 30 22.9
comp=Z,20nm,1.1s
MARD Mardin 43.50 100 P **P** **21 30 16.8 +0.4**
MARD IAmb IAmb 21 30 22.4
comp=Z,15nm,1.0s
GEVA Gevas 43.63 97 P **P** **21 30 17.1 -0.4**
FYU Fort Yukon 43.77 333 P **P** **21 30 19.5 +1.4**
F36A Milaca 44.09 283 P **P** **21 30 22.6 +1.6**
F36A IAmb IAmb 21 30 26.7
comp=Z,14nm,1.2s
P53A Whipple 44.10 267 P **P** **21 30 21.8 +0.7**
P53A IAmb IAmb 21 30 23.7
comp=Z,21nm,1.1s
N49A Columbus Grove 44.12 271 IAmb IAmb 21 30 23.9
comp=Z,15nm,0.8s
K43A Burlington 44.44 276 P **P** **21 30 24.7 +1.0**
EGAK Eagle 44.48 329 P **P** **21 30 24.2 +0.4**
DAWY Dawson 44.69 328 IAmb IAmb 21 30 29.2
comp=Z,14nm,1.5s
P51A Williamsport 44.82 269 P **P** **21 30 26.9 +0.1**
P51A IAmb IAmb 21 30 29.1
comp=Z,16nm,1.0s
R53A Hurricane 45.31 267 P **P** **21 30 31.5 +0.7**
R53A IAmb IAmb 21 30 45.8
comp=Z,17nm,1.2s
Q51A Peebles 45.33 269 P **P** **21 30 30.9 0.0**
P49A Miami Univ. Ec 45.49 270 P **P** **21 30 32.4 +0.2**
P49A IAmb IAmb 21 30 34.2
comp=Z,18nm,1.2s
I37A Lemond, Waseca 45.53 281 P **P** **21 30 31.9 -0.6**
L42A Oliver, Polo 45.58 277 P **P** **21 30 32.4 -0.5**
L42A IAmb IAmb 21 30 34.4
comp=Z,12nm,0.9s
IL31 45.68 332 P **P** **21 30 33.3 0.0**
IL31 IAmb IAmb 21 30 36.3
comp=Z,15nm,1.3s
ILAR Eielson Array 45.68 332 P **P** **21 30 34.4 +1.0**
comp=Z,6.0nm,1.1s,baz=24,slow=6.3,SNR=22
ILAR LR 21 50 15.2
comp=Z,304nm,20.8s,baz=148,slow=37
ILAR Eielson Array 45.68 332 P **P** **21 30 34.2 +0.9**
MDM Murphy Dome 45.77 333 P **P** **21 30 35.2 +1.0**
COLA College 45.78 333 P **P** **21 30 36.9 +2.8**
IMAR Indian Mountai 45.85 337 P **P** **21 30 36.1 +1.5**
P48A Milroy 45.86 271 P **P** **21 30 35.1 +0.1**
HDA Harding Lake 46.01 332 P **P** **21 30 37.2 +1.2**
HDA IAmb IAmb 21 30 38.7
comp=Z,12nm,1.2s
BCAR Beaver Creek A 46.10 329 P **P** **21 30 38.4 +1.6**
U56A King 46.30 264 P **P** **21 30 39.9 +1.2**
U56A IAmb IAmb 21 30 46.2
comp=Z,8.7nm,0.9s
R50A Paris 46.37 269 P **P** **21 30 39.0 -0.1**
S51A Beattyville 46.59 268 P **P** **21 30 41.2 +0.3**
HDIL Hopedale 46.61 275 P **P** **21 30 41.8 +0.8**
V55A Taylorsville 47.08 264 P **P** **21 30 45.2 +0.5**
V55A IAmb IAmb 21 30 53.4
comp=Z,6.3nm,0.8s
ECSD EROS Data Cent 47.11 284 P **P** **21 30 44.4 -0.5**
ECSD IAmb IAmb 21 30 52.2
comp=Z,5.8nm,1.1s
WCI Wyandotte Cave 47.26 271 P **P** **21 30 46.1 0.0**
WCI pmax pmax
comp=Z,11nm,0.9s
WCI Wyandotte Cave 47.26 271 P **P** **21 30 46.1 0.0**
ZAA0 Zalesovo Array 47.61 51 P **P** **21 30 49.8 +1.1**
ZAA0 IAmb IAmb 21 30 51.8
comp=Z,10nm,1.3s
ZALV Zalesovo Beam 47.61 51 P **P** **21 30 49.5 +0.9**
comp=Z,2.3nm,0.7s,baz=330,slow=8.6,SNR=12
ZALV Zalesovo Beam 47.61 51 *i* P **P** **21 30 49.7 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 47.61 51 P **P** **21 30 49.1 +0.4**
T50A Nancy 47.65 268 P **P** **21 30 49.7 +0.6**
T50A IAmb IAmb 21 30 51.5
comp=Z,5.0nm,0.9s
KMSC Kings Mountain 47.73 264 P **P** **21 30 50.8 +1.0**
KMSC IAmb IAmb 21 30 52.4
comp=Z,12nm,1.2s
KURK Kurchatov 48.09 58 *ceP* **P** **21 30 52.7 +0.3**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 48.09 58 P **P** **21 30 52.6 +0.3**
KURK IAmb IAmb 21 30 53.9
comp=Z,12nm,1.1s
PAULI Pauline 48.21 264 P **P** **21 30 54.0 +0.5**
PAULI IAmb IAmb 21 30 56.8
comp=Z,9.3nm,0.8s
EGMT Eagleton 48.88 297 P **P** **21 30 59.9 +1.3**
HODGE Hodges 48.91 264 P **P** **21 31 00.3 +1.4**
HODGE IAmb IAmb 21 31 01.4
comp=Z,9.3nm,1.0s
V48A Smith Brothers 49.58 269 P **P** **21 31 04.0 0.0**
X51A Calhoun 49.73 267 P **P** **21 31 05.1 -0.1**
X51A IAmb IAmb 21 31 07.3
comp=Z,14nm,1.0s
Y52A Lilburn 49.99 266 P **P** **21 31 08.0 +0.9**
GEYT Alibeck 50.41 84 P **P** **21 31 10.7 +0.4**
comp=Z,2.2nm,0.7s,baz=311,slow=9.2,SNR=5.8
GEYT Alibeck 50.41 84 P **P** **21 31 10.8 +0.5**
GYA0B ALIBECK ARRAY 50.41 84 P **P** **21 31 10.7 +0.4**
GCMT Greycliff 50.69 295 P **P** **21 31 13.3 +0.9**
S39A Bolivar 50.73 276 P **P** **21 31 11.9 -0.7**
HRY Holter Researc 50.76 298 P **P** **21 31 13.6 +0.6**
X48A Hartselle 50.77 269 P **P** **21 31 13.5 +0.5**
KOWA Kowa 50.98 163 P **P** **21 31 14.8 +0.1**
KOWA IAmb IAmb 21 31 15.2
comp=Z,8.5nm,1.1s
RLMT Red Lodge 51.09 295 P **P** **21 31 16.6 +1.0**
RLMT IAmb IAmb 21 31 24.0
comp=Z,22nm,1.4s
KK31 Karatay Array 51.26 70 IAmb IAmb 21 31 19.3
comp=Z,17nm,1.4s
KKAR Karatay Array 51.26 70 IAmb IAmb 21 31 19.3
comp=Z,17nm,1.4s
BOZ Bozeman (W) 51.61 297 IAmb IAmb 21 31 27.6
comp=Z,13nm,1.1s
LRM Limekiln Ridge 51.74 297 P **P** **21 31 20.5 0.0**
YMP Mirror Lake Pl 51.76 295 P **P** **21 31 21.2 +0.5**
DGZ Jazzator, Alta 52.06 53 *eP* **P** **21 31 24.1 +1.4**
DGZ pmax pmax
comp=Z,12nm,1.2s
YHL Hebgen Lake 52.06 296 P **P** **21 31 24.3 +1.3**
K22A Casper 52.07 291 IAmb IAmb 21 31 24.5
comp=Z,12nm,1.1s
DLMT Dillon 52.18 297 P **P** **21 31 24.2 +0.6**
H17A Grant Village 52.21 295 P **P** **21 31 24.0 0.0**
H17A IAmb IAmb 21 31 33.3
comp=Z,15nm,1.2s
YPP Pitchstone Pla 52.41 295 P **P** **21 31 25.6 0.0**
MAKZ Makanchi 52.58 59 P **P** **21 31 27.9 +1.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 52.58 59 P **P** **21 31 27.9 +1.5**
MK31 Makanchi Array 52.71 58 *ceP* **P** **21 31 27.5 +0.1**
MKAR Makanchi Array 52.71 58 P **P** **21 31 27.5 +0.2**
comp=Z,14nm,1.3s,baz=331,slow=6.3,SNR=13
MKAR Makanchi Array 52.71 58 P **P** **21 31 27.3 0.0**
MCMT McKenzie Canyo 52.73 297 P **P** **21 31 28.3 +0.4**
T35A Sooner Cattle 52.74 279 P **P** **21 31 27.0 -0.7**
T35A IAmb IAmb 21 31 29.9
comp=Z,13nm,1.1s
PHWY Pilot Hill 52.77 289 P **P** **21 31 28.4 +0.2**
PHWY IAmb IAmb 21 31 30.4
comp=Z,9.9nm,1.2s
SNOW Snow King Moun 53.07 295 P **P** **21 31 31.4 +1.1**
SNOW IAmb IAmb 21 31 38.2
comp=Z,11nm,1.1s
TPAW Teton Pass 53.12 295 P **P** **21 31 31.5 +0.8**
FRU1 Bishkek 53.15 67 P **P** **21 31 31.4 +0.6**
FRU1 pmax pmax
comp=Z,16nm,1.2s
FRU1 Bishkek 53.15 67 P **P** **21 31 31.4 +0.6**
FRU1 IAmb IAmb 21 31 33.6
comp=Z,16nm,1.2s
TOA0 Torodi Ar. Sit 53.15 156 P **P** **21 31 30.4 -0.4**
TORD Torodi Ar. Bea 53.15 156 P **P** **21 31 30.1 -0.9**
comp=Z,5.2nm,1.1s,baz=339,slow=6.2,SNR=17
TORD Torodi Ar. Bea 53.15 156 P **P** **21 31 30.0 -0.9**
KAN05 Bluff City Nor 53.15 280 P **P** **21 31 29.2 -1.5**
BW06 Boulder Array 53.18 293 IAmb IAmb 21 31 38.2
comp=Z,11nm,1.1s
PD31 Pinedale Array 53.18 293 IAmb IAmb 21 31 38.2
comp=Z,10nm,1.1s
PDAR Pinedale Array 53.18 293 P **P** **21 31 31.1 -0.1**
comp=Z,5.6nm,0.9s,baz=54,slow=6.3,SNR=23
PDAR Pinedale Array 53.18 293 P **P** **21 31 30.2 -1.0**
REDW Red Top Meadow 53.19 295 P **P** **21 31 31.3 +0.1**
AAK Ala-Archa 53.24 67 *eP* **P** **21 31 32.8 +1.3**
AAK pmax pmax
comp=Z,38nm,1.3s
N23A Red Feather La 53.31 289 P **P** **21 31 32.4 +0.2**
BCYI Bear Canyon 53.38 297 P **P** **21 31 33.2 +0.6**
ECR Eagle Creek 53.65 295 P **P** **21 31 35.5 +0.8**
PLID Pearl Lake 53.70 300 P **P** **21 31 35.4 +0.5**
PLID IAmb IAmb 21 31 40.2
comp=Z,8.6nm,1.2s
OK029 Liberty Lake 54.09 279 P **P** **21 31 37.6 0.0**
OK029 IAmb IAmb 21 31 46.5
comp=Z,13nm,1.0s
Q24A Divide 54.62 287 P **P** **21 31 41.0 -0.8**
GAR Garm 54.63 73 P **P** **21 31 42.1 +0.4**
MOY Mondy 54.64 42 *eP* **P** **21 31 42.9 +1.3**
MOY pmax pmax
comp=Z,48nm,2.0s
O20A White River Ci 54.88 290 IAmb IAmb 21 31 50.1
comp=Z,13nm,1.1s
HWUT Hardware Ranch 54.96 294 IAmb IAmb 21 31 51.8
comp=Z,10.0nm,1.1s
HRA Herat 55.17 82 IAmb IAmb 21 31 51.5
comp=Z,8.1nm,1.2s
TLY Talaya 55.38 40 *eP* **P** **21 31 48.5 +1.7**
TLY pmax pmax
comp=Z,24nm,1.0s
WMOK Wichita Mounta 55.55 279 IAmb IAmb 21 31 56.4
comp=Z,9.6nm,1.2s
CUPR Culebra, Puert 56.21 238 P **P** **21 31 53.0 0.0**
MPU Maple Canyon 56.34 293 P **P** **21 31 53.8 -0.3**
S22A 4UR Ranch, Cre 56.35 288 P **P** **21 31 54.9 +0.6**
ZAK Zakamensk 56.44 41 *eP* **P** **21 31 54.3 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
CBYP Canovanas 56.45 238 IAmb IAmb 21 31 56.3
comp=Z,13nm,1.0s
P17A Butcher Ranch, 56.45 292 P **P** **21 31 54.8 0.0**
PV22 Blue Mesa, Par 56.47 290 P **P** **21 31 55.2 +0.2**
KSH Kashi 56.48 68 P **P** **21 31 57.7 +2.7**
KSH S **S** **21 39 49.0 +3.1**
KSH pmax pmax
comp=Z,18nm,1.1s
KSH pmax pmax
comp=Z,270nm,4.4s
KSH LR LR
comp=N,120nm,6.3s
KSH LR LR
comp=E,130nm,7.3s
KSH LR LR
comp=Z,170nm,4.3s
PV07 Paradox Valley 56.50 290 P **P** **21 31 56.0 +0.7**
MTP Monte Pirata 56.50 238 P **P** **21 31 56.0 +0.9**
PV21 Cone Mtn., Par 56.52 290 IAmb IAmb 21 32 02.8
comp=Z,12nm,1.2s
CDVI St. Croix 56.53 237 P **P** **21 31 55.0 -0.3**
HUMP Col San Antoni 56.56 238 P **P** **21 31 56.0 +0.4**
NLU North Lily Min 56.57 293 P **P** **21 31 56.8 +1.1**
PV23 Carpenter Ridg 56.63 290 IAmb IAmb 21 31 58.3
comp=Z,11nm,1.0s
PV04 Paradox Valley 56.64 290 IAmb IAmb 21 32 03.3
comp=Z,7.3nm,1.0s
DUG Dugway, Tooele 56.65 294 P **P** **21 31 56.6 +0.4**
DUG pmax pmax
comp=Z,11nm,1.3s
DUG Dugway, Tooele 56.65 294 P **P** **21 31 56.6 +0.4**
DUG IAmb IAmb 21 32 04.1
comp=Z,11nm,1.2s
PV12 Saucer Basin, 56.66 290 P **P** **21 31 56.7 +0.3**
PV12 IAmb IAmb 21 32 08.8
comp=Z,8.3nm,1.1s
PV14 Lion Creek, Pa 56.70 290 IAmb IAmb 21 31 58.3
comp=Z,9.0nm,1.0s
PV11 David Mesa, Pa 56.71 290 IAmb IAmb 21 32 00.7
comp=Z,14nm,1.1s
PV10 Paradox Valley 56.71 290 P **P** **21 31 56.8 0.0**
PV20 West Nyswonger 56.71 290 P **P** **21 31 56.9 +0.2**
PV20 IAmb IAmb 21 32 03.0
comp=Z,9.5nm,1.2s
PV16 Nyswonger Mesa 56.71 290 IAmb IAmb 21 32 03.1
comp=Z,6.4nm,1.0s
PV03 Paradox Valley 56.73 290 IAmb IAmb 21 31 59.2
comp=Z,8.9nm,1.0s
PV19 Morning Glory 56.74 290 P **P** **21 31 56.5 -0.5**
PV19 IAmb IAmb 21 31 58.2
comp=Z,6.8nm,1.1s
PDPR Patillas Dam, 56.74 239 P **P** **21 31 57.4 +0.5**
PV17 East Wray Mesa 56.76 290 IAmb IAmb 21 32 02.4
comp=Z,11nm,1.2s
PV18 Skein Mesa, Pa 56.77 290 IAmb IAmb 21 31 59.4
comp=Z,8.5nm,0.9s
TMUT Trail Mountain 56.79 292 P **P** **21 31 58.4 +1.0**
ELK Elko 57.12 296 P **P** **21 32 00.1 +0.4**
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 57.12 296 P **P** **21 32 00.1 +0.4**
MLPR Magueyes Islan 57.16 240 P **P** **21 32 00.7 +0.8**
WMQ Urumqi 57.21 56 *eP* **P** **21 32 01.2 +1.2**

WMQ					pP	sP	21 32 08.4	+3.3		
WMQ					sP	pP	21 32 13.3	+10		
WMQ					pmax	pmax				
	comp=Z,8.0nm,1.1s									
WMQ					pmax	pmax				
	comp=Z,55nm,3.7s									
MVCO	**Mesa Verde**	**57.49**	**289**		P	**P**	**21 32 02.9**	**+0.6**		
MVCO					IAmb	IAmb	21 32 09.4			
	comp=Z,6.6nm,1.1s									
K05A	**Summer Lake**	**57.54**	**302**		IAmb	IAmb	21 32 12.9			
	comp=Z,14nm,1.3s									
SDDR	**Presa de Saban**	**57.85**	**244**		P	**P**	**21 32 05.2**	**+0.4**		
SDDR					IAmb	IAmb	21 32 10.7			
	comp=Z,11nm,1.1s									
MVU	**Marysvale**	**57.87**	**293**		P	**P**	**21 32 06.0**	**+1.1**		
KBL	**Kabul**	**57.92**	**77**		P	**P**	**21 32 06.0**	**+0.7**		
KBL					pmax	pmax				
	comp=Z,12nm,1.3s									
KBL	**Kabul**	**57.92**	**77**		P	**P**	**21 32 06.0**	**+0.7**		
KBL					IAmb	IAmb	21 32 07.8			
	comp=Z,12nm,1.3s									
PSUT	**Pine Spring**	**58.49**	**294**		P	**P**	**21 32 10.0**	**+0.7**		
DBIC	**Dimbokro**	**58.60**	**165**		P	**P**	**21 32 09.4**	**-0.5**		
	comp=Z,6.4nm,0.9s,baz=352,slow=9.0,SNR=5.1									
DBIC					LR	LR	21 59 34.7			
	comp=Z,544nm,18.3s,baz=214,slow=38									
DBIC	**Dimbokro**	**58.60**	**165**		IAmb	IAmb	21 32 15.7			
	comp=Z,13nm,1.2s									
TIC	**Toumodi**	**58.61**	**165**	*eP*	P	**P**	**21 32 09.0**	**-1.0**		
KIC	**Kosan Boka**	**58.92**	**165**	*eP*	P	**P**	**21 32 11.0**	**-1.2**		
	comp=Z,49nm,1.4s									
LIC	**Lamto**	**59.02**	**166**	*eP*	P	**P**	**21 32 11.8**	**-1.1**		
	comp=Z,53nm,1.2s									
CCUT	**Cedar City**	**59.15**	**293**		P	**P**	**21 32 14.8**	**+0.9**		
R11A	**Troy Canyon, C**	**59.33**	**295**		IAmb	IAmb	21 32 22.1			
	comp=Z,8.6nm,1.4s									
KNB	**Kanab**	**59.40**	**292**		P	**P**	**21 32 16.0**	**+0.5**		
KNB					pmax	pmax				
	comp=Z,9.0nm,1.2s									
KNB	**Kanab**	**59.40**	**292**		P	**P**	**21 32 16.0**	**+0.5**		
PAHR	**Pah Rah Range**	**59.60**	**299**		P	**P**	**21 32 17.6**	**+0.7**		
PAHR					IAmb	IAmb	21 32 19.8			
	comp=Z,5.1nm,1.1s									
SONM	**Songino Array**	**59.62**	**40**		P	**P**	**21 32 18.1**	**+1.2**		
	comp=Z,1.7nm,0.9s,baz=326,slow=7.2,SNR=5.0									
SONM	**Songino Array**	**59.62**	**40**		P	**P**	**21 32 18.3**	**+1.4**		
SONM					pmax	pmax				
	comp=Z,2.0nm,1.0s									
SONM	**Songino Array**	**59.62**	**40**		P	**P**	**21 32 18.2**	**+1.4**		
KVN	**Kaiserville**	**59.69**	**298**		IAmb	IAmb	21 32 19.9			
	comp=Z,5.7nm,1.1s									
U15A	**North Rim**	**59.69**	**291**		IAmb	IAmb	21 32 19.5			
	comp=Z,5.6nm,0.9s									
ULN	**Ulaanbaatar**	**59.78**	**40**		P	**P**	**21 32 19.5**	**+1.5**		
ULN	**Ulaanbaatar**	**59.78**	**40**		P	**P**	**21 32 19.5**	**+1.5**		
ULN					IAmb	IAmb	21 32 23.2			
	comp=Z,7.9nm,1.2s									
PRN	**Pahroc Range**	**59.94**	**294**		P	**P**	**21 32 19.9**	**+0.7**		
PRN					IAmb	IAmb	21 32 27.6			
	comp=Z,9.2nm,1.4s									
YERR	**Yerington**	**60.18**	**298**		P	**P**	**21 32 20.7**	**-0.2**		
YERR					IAmb	IAmb	21 32 23.8			
	comp=Z,6.8nm,1.0s									
NVAR	**Mina Array Bea**	**60.31**	**297**		P	**P**	**21 32 22.5**	**+0.7**		
	comp=Z,1.2nm,0.9s,baz=43,slow=5.2,SNR=6.4									
NIL	**Nilore**	**60.43**	**74**		P	**P**	**21 32 22.8**	**+0.3**		
NIL					pmax	pmax				
	comp=Z,31nm,1.2s									
NIL	**Nilore**	**60.43**	**74**		P	**P**	**21 32 22.8**	**+0.3**		
WAKR	**Walker**	**60.67**	**298**		P	**P**	**21 32 24.4**	**+0.1**		
SHPR	**Sheep Range**	**60.77**	**294**		P	**P**	**21 32 25.8**	**+0.9**		
SHPR					IAmb	IAmb	21 32 31.4			
	comp=Z,10nm,1.3s									
TPNV	**Topopah Spring**	**60.81**	**295**		P	**P**	**21 32 24.9**	**-0.3**		
TPNV					pmax	pmax				
	comp=Z,9.0nm,1.4s									
TPNV	**Topopah Spring**	**60.81**	**295**		P	**P**	**21 32 24.9**	**-0.3**		
TPNV					IAmb	IAmb	21 32 32.5			
	comp=Z,8.7nm,1.4s									
MNTX	**Cornudas Mount**	**60.96**	**283**		P	**P**	**21 32 26.4**	**+0.3**		
X16A	**Lo Mia Camp, P**	**61.10**	**290**		IAmb	IAmb	21 32 29.7			
	comp=Z,5.6nm,1.0s									
121A	**Cookes Peak, D**	**61.24**	**286**		P	**P**	**21 32 28.1**	**-0.1**		
121A					IAmb	IAmb	21 32 30.2			
	comp=Z,4.4nm,1.0s									
OMMB	**Old Mammoth Mi**	**61.29**	**297**		P	**P**	**21 32 29.4**	**+0.8**		
OMMB					IAmb	IAmb	21 32 32.0			
	comp=Z,7.8nm,1.5s									
TX32	**Lajitas Array**	**62.29**	**280**		IAmb	IAmb	21 32 37.3			
	comp=Z,4.7nm,1.1s									
TXAR	**Lajitas Array**	**62.29**	**280**		P	**P**	**21 32 35.6**	**+0.4**		
	comp=Z,2.8nm,1.0s,baz=65,slow=3.6,SNR=15									
TXAR	**Lajitas Array**	**62.29**	**280**		P	**P**	**21 32 34.9**	**-0.3**		
PETK	**Petropavlovsk-**	**62.48**	**3**		LR	LR	21 57 31.2			
	comp=Z,2µm,21.8s,baz=133,slow=34									
TUC	**Tucson**	**62.67**	**288**		P	**P**	**21 32 38.1**	**+0.5**		
TUC					pmax	pmax				
	comp=Z,6.0nm,1.3s									
TUC	**Tucson**	**62.67**	**288**		P	**P**	**21 32 38.1**	**+0.5**		
TUC					IAmb	IAmb	21 32 45.6			
	comp=Z,6.0nm,1.2s									
PIX	**Pinacate**	**64.41**	**290**		P	**P**	**21 32 48.7**	**-0.4**		
PIX					IAmb	IAmb	21 32 49.6			
	comp=Z,4.8nm,1.0s									
GTA	**Gaotai**	**65.28**	**49**		P	**P**	**21 32 55.4**	**+0.6**		
GTA					pP	sP	21 32 59.0	-0.9		
GTA					sP	pP	21 33 01.4	+2.9		
GTA					pmax	pmax				
	comp=Z,4.0nm,1.2s									
GTA					pmax	pmax				
	comp=Z,65nm,4.7s									
GTA					LR	LR				
	comp=N,180nm,17.8s									
GTA					LR	LR				
	comp=E,400nm,21.1s									
GTA					LR	LR				
	comp=Z,190nm,17.1s									
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*eP*	P	**P**	**21 33 11.2**	**+2.3**		
HHC					S	S	21 41 52.8	-12		
HHC	**Hu-ho-hao-te**	**67.49**	**40**		SS	SS	21 46 30.5	+6.4		
HHC					pmax	pmax				
	comp=Z,7.0nm,0.7s									
HHC					pmax	pmax				
	comp=Z,310nm,4.8s									
HHC					LR	LR				
	comp=N,590nm,18.7s									
HHC					LR	LR				
	comp=E,790nm,19.6s									
HHC					LR	LR				
	comp=Z,1µm,19.6s									
ZAIG	**Zacatecas**	**67.58**	**276**		P	**P**	**21 33 11.2**	**+1.2**		
ZAIG					IAmb	IAmb	21 33 13.3			
	comp=Z,7.3nm,0.9s									
LZH	**Lanzhou**	**69.61**	**48**	*eP*	P	**P**	**21 33 22.5**	**+0.2**		
LZH					pP	pP	21 33 25.0	-1.0		
LZH					sP	sP	21 33 26.3	-1.1		
LZH				*ePP*	PP	**PP**	**21 35 58.6**	**+3.0**		
LZH					pmax	pmax				
	comp=Z,22nm,1.3s									
LZH					pmax	pmax				
	comp=Z,93nm,8.1s									
LZH					LR	LR				
	comp=N,240nm,17.0s									
LZH					LR	LR				
	comp=E,250nm,16.8s									
LZH					LR	LR				
	comp=Z,320nm,19.1s									
ROSC	**El Rosal**	**71.94**	**241**		P	**P**	**21 33 37.1**	**+0.2**		
XAN	**Xi'an**	**73.07**	**44**		P	**P**	**21 33 43.8**	**+0.7**		
XAN					pP	sP	21 33 50.3	+2.1		
XAN					pmax	pmax				
	comp=Z,8.0nm,1.4s									
XAN	**Xi'an**	**73.07**	**44**		P	**P**	**21 33 40.8**	**-2.3**		
XAN					pmax	pmax				
	comp=Z,6.0nm,1.0s									
XAN	**Xi'an**	**73.07**	**44**		P	**P**	**21 33 40.8**	**-2.3**		
XAN					IAmb	IAmb	21 33 45.1			
	comp=Z,6.3nm,1.0s									
KSRS	**Korea Array**	**74.63**	**28**		LR	LR	22 07 08.2			
	comp=Z,1µm,20.4s,baz=106,slow=36									
SHL	**Shillong**	**75.00**	**62**		P	**P**	**21 33 54.6**	**0.0**		
SHL					pmax	pmax				
	comp=Z,21nm,1.4s									
SHL	**Shillong**	**75.00**	**62**		P	**P**	**21 33 54.6**	**0.0**		
ENH	**Enshi**	**76.75**	**45**		IAmb	IAmb	21 34 08.3			
	comp=Z,14nm,1.3s									

CHTO	**Chiang Mai**	**83.79**	**59**		P	**P**	**21 34 43.0**	**+0.6**		
CHTO					pmax	pmax				
	comp=Z,5.0nm,1.1s									
CHTO	**Chiang Mai**	**83.79**	**59**		P	**P**	**21 34 43.0**	**+0.6**		
CHTO					IAmb	IAmb	21 34 43.7			
	comp=Z,5.0nm,1.1s									
CMAR	**Chiang Mai Arr**	**84.11**	**59**	*i P*	P	**P**	**21 34 44.4**	**+0.3**		
	comp=Z,1.0nm,0.5s,baz=330,slow=5.8,SNR=8.0									
CMAR	**Chiang Mai Arr**	**84.11**	**59**	*i P*	P	**P**	**21 34 44.2**	**+0.1**		
CMAR					pmax	pmax				
	comp=Z,1.0nm,0.4s									
WRA	**Warramunga Arr**	**131.50**	**36**		PKP	**PKiKP**	**21 41 25.1**	**-1.3**		
	comp=Z,1.7nm,1.1s,baz=335,slow=1.9,SNR=5.9									
ASAR	**Alice Springs**	**134.95**	**38**		PKP	**PKiKP**	**21 41 31.9**	**-1.4**		
	comp=Z,1.2nm,1.0s,baz=332,slow=1.4,SNR=4.8									
ASAR	**Alice Springs**	**134.95**	**38**			**PKiKP**	**21 41 31.5**	**-1.8**		

IDC 09 21:26:50.7±3.2, 15°.96S×174°.10W, h88km±31km, mb3.2/5, mb1 3.6/6, mb1mx3.4/36, mbtmp3.6/6, MS3.9/1, Ms1 3.9/1, ms1mx3.5/10, Error ellipse: s-maj=43.8km s-min=22.4km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.03**	**48**	P		P	Pn	21 27 36.8	0.0
	21nm,0.3s,baz=209,slow=13,SNR=15								
AFI				S		S	Sn	21 28 08.5	-3.7
	76nm,0.3s,baz=44,slow=24,SNR=16								
PPT	**Papeete**	**23.54**	**97**	LR		LR		21 39 47.5	
	comp=Z,268nm,18.5s,baz=263,slow=33								
WRA	**Warramunga Arr**	**49.06**	**257**	P		P		21 35 29.2	-0.2
	0.1nm,0.3s,baz=96,slow=7.5,SNR=12								
WRA				PcP		PcP		21 36 51.8	-0.1
	0.3nm,0.5s,baz=96,slow=3.8,SNR=4.6								
ASAR	**Alice Springs**	**49.30**	**252**	P		P		21 35 30.9	-0.2
	0.8nm,0.5s,baz=87,slow=8.5,SNR=14								
ASAR				PcP		PcP		21 36 52.6	-0.2
	0.2nm,0.5s,baz=99,slow=4.2,SNR=1.8								
VNDA	**Vanda**	**62.76**	**186**	P		P		21 37 06.4	+0.2
	0.8nm,0.7s,baz=1.6,slow=7.0,SNR=6.4								
TXAR	**Lajitas Array**	**81.48**	**56**	P		P		21 38 58.6	-0.2
	0.3nm,0.6s,baz=228,slow=7.5,SNR=3.6								
PDAR	**Pinedale Array**	**83.13**	**42**	P		P		21 39 07.2	0.0
	0.2nm,0.4s,baz=193,slow=3.6,SNR=2.4								

IDC 09 21:29:12.6±603.0, 33°.93N×121°.01W, h0km, Error ellipse: s-maj=251.7km s-min=89.8km az=88.0, Off coast of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**3.81**	**94**	*i*				21 51 50.0	
	baz=277,slow=311,SNR=0.8								
I56US	**NEWPORT INFRASt**	**4.62**	**10**	*i*				22 56 30.0	
	baz=194,slow=318,SNR=1.8								
I10CA	**LAC DU BONNET**	**24.49**	**41**	*i*				00 01 30.0	
	baz=235,slow=329,SNR=0.5								

*IDC **09** 21:44:56.6±1.5, 15°.05S×170°.05E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/31, mbtmp4.0/7, ML3.9/1, Error ellipse: s-maj=54.9km s-min=24.3km az=137.0*
*NEIC **09** 21:44:57.4±1.0, 14°.94S±0°.08×170°.10E±0°.08, h15km±8km, mb4.3/10, Error ellipse: s-maj=15.7km s-min=3.9km az=135.0*

ISC 09 21:45:00.7±0.7, 15°.1S±0°.1×170°.13E±0°.09, h35km, n22, σ1§33/21, mb4.2/11, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.85**	**262**				**Pn**	**21 45 42.1**	**-1.6**
DZM	**Mont Dzumac**	**7.81**	**206**	Pn			**Pn**	**21 46 50.5**	**-1.5**
	1.7nm,0.3s,baz=42,slow=17,SNR=14								
DZM	**Mont Dzumac**	**7.81**	**206**				**Pn**	**21 46 51.4**	**-0.5**
MSVF	**Nonsavu**	**8.06**	**110**	Pn			**Pn**	**21 46 55.0**	**-0.4**
FUNA	**Funafuti**	**10.99**	**55**	Pn			**Pn**	**21 47 33.5**	**-2.0**
STKA	**Stephens Creek**	**30.94**	**232**	P			**P**	**21 51 15.7**	**+1.2**
	2.1nm,0.8s,baz=85,slow=8.4,SNR=4.1								
STKA	**Stephens Creek**	**30.94**	**232**	P			**P**	**21 51 14.3**	**-0.2**
WR0	**Warramunga Arr**	**34.24**	**257**	P			**P**	**21 51 43.3**	**-0.3**
WR0					IAmb	IAmb		21 51 43.7	
	comp=Z,3.3nm,1.1s								
WB0	**Warramunga Arr**	**34.38**	**257**	P			**P**	**21 51 44.1**	**-0.6**
WB0					IAmb	IAmb		21 51 45.9	
	comp=Z,3.3nm,0.8s								
WC3	**Warramunga Arr**	**34.40**	**257**	P			**P**	**21 51 43.9**	**-1.1**
WB2	**Warramunga Arr**	**34.42**	**257**	P			**P**	**21 51 44.5**	**-0.6**
WB2					IAmb	IAmb		21 51 52.9	
	comp=Z,3.3nm,1.1s								
WRA	**Warramunga Arr**	**34.43**	**257**	P			**P**	**21 51 44.3**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=85,slow=8.5,SNR=14								
WRA	**Warramunga Arr**	**34.43**	**257**	IAmb	IAmb			21 51 44.6	
	comp=Z,0.2nm,1.1s								
AS31	**Alice Springs**	**35.15**	**250**	P			**P**	**21 51 51.6**	**+0.2**
ASAR	**Alice Springs**	**35.15**	**250**	P			**P**	**21 51 51.7**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=77,slow=9.2,SNR=25								
BBOO	**Buckleboo**	**35.60**	**234**	P			**P**	**21 51 56.2**	**+1.1**
KNRA	**Kununurra**	**39.85**	**263**	P			**P**	**21 52 30.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**42.67**	**260**	P			**P**	**21 52 55.0**	**+0.7**
FITZ					IAmb	IAmb		21 52 55.9	
	comp=Z,9.5nm,1.1s								
KULM	**Kulim**	**71.72**	**281**	P			**P**	**21 56 18.1**	**-1.7**
KULM					IAmb	IAmb		21 56 23.7	
	comp=Z,6.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**77.61**	**293**	P			**P**	**21 56 56.4**	**+2.5**
	comp=Z,1.4nm,0.8s,baz=118,slow=4.6,SNR=5.6								
ILAR	**Eielson Array**	**86.00**	**17**	P			**P**	**21 57 37.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=234,slow=5.7,SNR=9.0								
TXAR	**Lajitas Array**	**94.01**	**61**	P			**P**	**21 58 18.3**	**+2.6**
	comp=Z,0.3nm,0.8s,baz=213,slow=6.5,SNR=2.9								

WEL 09 22:03:45.5, 40°S±2°×17°3E±°, h189km±7km, M2.8/41, ML2.7/7, MLv2.8/41, Error ellipse: s-maj=0.0km s-min=0.0km az=81.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.62**	**146**	P		P	Pn	22 04 12.1	+0.2
QRZ	**Quartz Range**	**0.89**	**233**	P		P	Pn	22 04 09.2	-4.2
NNZ	**Nelson**	**0.93**	**184**	P		P	Pn	22 04 13.8	+0.1
KHEZ	**Kahui Hut**	**1.08**	**23**	P		P	Pn	22 04 15.3	+0.4
PREZ	**Palmer Road**	**1.09**	**30**	P		P	Pn	22 04 15.2	+0.3
TCW	**Tory Channel**	**1.11**	**146**	P		P	Pn	22 04 15.6	+0.7
NEZ	**North Egmont**	**1.13**	**26**	P		P	Pn	22 04 15.5	+0.2
PKE	**Pukeiti**	**1.17**	**20**	P		P	Pn	22 04 15.4	-0.1
KIW	**Kapiti Island**	**1.24**	**118**	P		P	Pn	22 04 16.2	+0.2
OGWZ	**Otaki Gorge**	**1.40**	**13**	P		P	Pn	22 04 17.8	+0.5
CAW	**Cannon Point**	**1.47**	**124**	P		P	Pn	22 04 18.3	+0.4
THZ	**Tophouse**	**1.53**	**196**	P		P	Pn	22 04 18.8	+0.2
VRZ	**Vera Road**	**1.53**	**41**	P		P	Pn	22 04 18.6	+0.1
BHW	**Baring Head**	**1.54**	**137**	P		P	Pn	22 04 18.8	+0.2
MRZ	**Mangatainoka R**	**1.65**	**104**	P		P	Pn	22 04 20.1	+0.4
HOWZ	**Holdsworth Sta**	**1.68**	**112**	P		P	Pn	22 04 20.2	+0.3
MSWZ	**Moikau Station**	**1.76**	**130**	P		P	Pn	22 04 21.0	+0.2
PKVZ	**Pokaka**	**1.76**	**56**	P		P	Pn	22 04 21.0	+0.2
MTVZ	**Mangateitei**	**1.79**	**60**	P		P	Pn	22 04 21.3	+0.1
PAWZ	**Paruwai Farm**	**1.84**	**127**	P		P	Pn	22 04 21.9	+0.3
PLWZ	**Palliser**	**1.86**	**134**	P		P	Pn	22 04 21.9	+0.1
WNVZ	**Wahianoa**	**1.90**	**60**	P		P	Pn	22 04 22.4	0.0
TIWZ	**Tintock**	**1.91**	**106**	P		P	Pn	22 04 22.7	+0.4
DSZ	**Denniston Nort**	**1.92**	**220**	P		P	Pn	22 04 22.6	+0.2
TSZ	**Takapari Road**	**1.93**	**84**	P		P	Pn	22 04 22.8	+0.3
PRWZ	**Pori Road**	**1.93**	**99**	P		P	Pn	22 04 23.0	+0.6
TWVZ	**Taurewa**	**1.95**	**52**	P		P	Pn	22 04 22.6	-0.3
MOVZ	**Moawhango**	**1.97**	**64**	P		P	Pn	22 04 22.7	-0.3
TUVZ	**Tukino**	**1.97**	**60**	P		P	Pn	22 04 23.3	+0.2
NGZ	**Ngauruhoe**	**1.99**	**57**	P		P	Pn	22 04 23.2	0.0
WTVZ	**West Tongariro**	**2.02**	**55**	P		P	Pn	22 04 23.5	0.0
TMWZ	**Te Maipa**	**2.02**	**115**	P		P	Pn	22 04 23.8	+0.4
OTVZ	**Oturere**	**2.04**	**57**	P		P	Pn	22 04 23.9	+0.1
KRVZ	**Karewarewa**	**2.06**	**55**	P		P	Pn	22 04 23.9	-0.1
DVHZ	**Dannevirke**	**2.07**	**91**	P		P	Pn	22 04 24.2	+0.2
ETVZ	**East Tongariro**	**2.08**	**57**	P		P	Pn	22 04 24.5	+0.3
TMVZ	**Te Maari**	**2.09**	**57**	P		P	Pn	22 04 24.6	+0.3
KHZ	**Kahutara**	**2.12**	**179**	P		P	Pn	22 04 24.7	+0.3
PNHZ	**Pukenui**	**2.13**	**81**	P		P	Pn	22 04 24.9	+0.2
BHHZ	**Black Hill Sta**	**2.15**	**69**	P		P	Pn	22 04 24.5	-0.4
BFZ	**Birch Farm**	**2.16**	**101**	P		P	Pn	22 04 25.3	+0.4
KATZ	**Kakaramea**	**2.17**	**53**	P		P	Pn	22 04 25.3	+0.2
WPHZ	**Waipukurau**	**2.29**	**85**	P		P	Pn	22 04 26.8	+0.4
ANWZ	**Angora Road**	**2.31**	**95**	P		P	Pn	22 04 27.1	+0.6
KRHZ	**Kereru**	**2.32**	**75**	P		P	Pn	22 04 26.7	0.0
PRHZ	**Porangahau**	**2.42**	**90**	P		P	Pn	22 04 28.4	+0.6
BKZ	**Black Stump Fm**	**2.59**	**65**	P		P	Pn	22 04 28.1	-1.7
LTZ	**Lake Taylor**	**2.65**	**199**	P		P	Pn	22 04 30.3	-0.1
KAHZ	**Kahuranaki**	**2.67**	**80**	P		P	Pn	22 04 31.0	+0.3
GVZ	**Greta Valley S**	**2.69**	**187**	P		P	Pn	22 04 30.8	-0.1
INZ	**Inchbonnie**	**2.87**	**211**	P		P	Pn	22 04 32.7	-0.2
RTZ	**Ruatahuna**	**3.19**	**60**	P		P	Pn	22 04 40.9	+3.9
MQZ	**McQueen's Vall**	**3.47**	**190**	P		P	Pn	22 04 39.0	-1.2
MHCZ	**Mount Hutt**	**3.54**	**203**	P		P	Pn	22 04 40.5	-0.6
RAGZ	**Rawiri**	**3.55**	**61**	P		P	Pn	22 04 47.0	+5.7
AKCZ	**Akaroa Harbour**	**3.60**	**186**	P		P	Pn	22 04 41.8	0.0
ARCZ	**Arundel**	**4.03**	**204**	P		P	Pn	22 04 46.5	-0.7
PKGZ	**Pakihiroa**	**4.32**	**58**	P		P	Pn	22 04 50.1	-0.8
JCZ	**Jackson Bay**	**5.13**	**221**	P		P	Pn	22 05 00.3	-1.1

*IDC **09** 22:05:01.5±1.1, 5°.98S×128°.44E, h332km±17km, mb2.6/1, mb1 3.3/6, mb1mx3.0/35, mbtmp4.0/6, Error ellipse: s-maj=21.4km s-min=12.4km az=106.0*
*NEIC **09** 22:05:01.5±1.4, 5°.88S±0°.08×128°.32E±0°.10, h345km±12km, mb4.2/11, Error ellipse: s-maj=15.1km s-min=10.8km az=123.0*

ISC 09 22:05:00.0±0.7, 5°.93S±0°.06×128°.34E±0°.08, h322km, n24, σ1§68/28, mb4.2/3, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.57**	**125**	P		Pn	**Pn**	**22 06 04.2**	**+1.2**
SAUI				S		S	**S**	**22 06 54.7**	**+1.1**
FAKI	**Fak Fak**	**4.92**	**53**	Pn		Pn	**Pn**	**22 06 20.7**	**+3.2**
SOEI	**Soe**	**5.54**	**226**	Pn		Pn	**Pn**	**22 06 27.4**	**+2.6**
SIJI	**Sorong**	**5.82**	**30**	P		P	**Pn**	**22 06 30.5**	**+2.6**
	1.5nm,0.3s,baz=205,slow=23,SNR=13								
SIJI				S		S	**S**	**22 07 38.9**	**0.0**
	2.1nm,0.3s,baz=192,slow=22,SNR=11								
BATI	**Baumata**	**6.28**	**227**	P		P	**Pn**	**22 06 35.9**	**+2.5**
	6.5nm,0.3s,baz=63,slow=1.8,SNR=6.0								
BATI				S		S	**S**	**22 07 49.6**	**+0.8**
	2.7nm,0.3s,baz=351,slow=8.0,SNR=4.6								
MTN	**Manton Dam**	**7.40**	**158**	Pn		Pn	**Pn**	**22 06 48.4**	**+1.8**
KNRA	**Kununurra**	**9.69**	**178**	Pn		P	**P**	**22 07 16.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**12.37**	**192**	P		P	**P**	**22 07 47.5**	**+0.4**
	0.3nm,0.3s,baz=29,slow=12,SNR=7.2								
WB0	**Warramunga Arr**	**14.96**	**157**	P			**Pn**	**22 08 16.9**	**-0.5**
WB0					IAmb	IAmb		22 08 20.2	
	comp=Z,12nm,0.9s								
WRAB	**Tennant Creek**	**15.09**	**158**	P		P	**Pn**	**22 08 18.3**	**-0.6**
WRAB					IAmb	IAmb		22 08 21.4	
	comp=Z,9.2nm,0.6s								
WRA	**Warramunga Arr**	**15.10**	**158**	P			**Pn**	**22 08 18.4**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=338,slow=12,SNR=167								
WRA				S			**S**	**22 10 57.6**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=333,slow=21,SNR=14								
WRA	**Warramunga Arr**	**15.10**	**158**	P			**Pn**	**22 08 18.3**	**-0.7**
WB2	**Warramunga Arr**	**15.10**	**158**	P			**Pn**	**22 08 18.6**	**-0.4**
WR0	**Warramunga Arr**	**15.19**	**157**	P			**Pn**	**22 08 19.4**	**-0.6**
PSA00	**Pilbara Seismi**	**17.59**	**207**	P			**P**	**22 08 44.4**	**+0.3**
PSA00					IAmb	IAmb		22 08 46.3	
	comp=Z,14nm,1.1s								
UGM	**Wanagama**	**17.80**	**263**	P			**P**	**22 08 45.7**	**-0.8**
AS31	**Alice Springs**	**18.43**	**164**	P			**P**	**22 08 54.2**	**+1.1**
ASAR	**Alice Springs**	**18.43**	**164**	P			**P**	**22 08 54.0**	**+0.9**
	comp=Z,0.5nm,0.3s,ba

GLVR	**Golovnino**	**2.86**	**266**	*e*PN	**Pn**	22 24 07.9	**-0.1**
GLVR				*e*S	**Sn**	22 24 38.7	**-2.8**
GLVR				smax	smax		
	comp=N,459nm,0.3s						
GLVR				smax	smax		
	comp=E,853nm,0.4s						
JRA	**Rausu**	**3.13**	**271**	P	**Pn**	22 24 12.8	**+1.1**
JAK	**Akkeshi**	**3.60**	**256**	P	**Pn**	22 24 18.1	**-0.2**
JAK				*e*S	**Sn**	22 24 57.1	**-2.8**
JTKR	**Abashiri--Toko**	**4.00**	**272**	P	**Pn**	22 24 24.8	**+1.0**
JAR	**Ashorobuto**	**4.18**	**262**	P	**Pn**	22 24 27.0	**+0.7**
JOB	**Onbets**	**4.23**	**257**	P	**Pn**	22 24 27.5	**+0.6**
JMP	**Maruseppu**	**4.40**	**272**	P	**Pn**	22 24 30.4	**+1.2**
JKA	**Kamikawa-asahi**	**4.94**	**274**	*e*P	**Pn**	22 24 40.5	**+3.8**
JKA	**Kamikawa-asahi**	**4.94**	**274**		**Pn**	22 24 40.5	**+3.8**
ASAJ	**Asahikawa**	**4.94**	**274**	Pn	**Pn**	22 24 40.5	**+3.8**
	comp=E,1.5nm,0.3s,baz=87,slow=12,SNR=6.0						
JEM	**Erimo**	**5.02**	**249**	Pn	**Pn**	22 24 40.1	**+2.4**
ERM	**Erimo**	**5.02**	**249**	PN	**Pn**	22 24 40.4	**+2.6**
ERM	**Erimo**	**5.02**	**249**	Pn	**Pn**	22 24 40.4	**+2.6**
JFR	**Furan**	**5.05**	**263**	P	**Pn**	22 24 41.0	**+2.8**
JNBK	**Urakawa-nobuka**	**5.19**	**253**	P	**Pn**	22 24 40.4	**+0.3**
JBT2	**Biratori 2**	**5.31**	**259**	P	**Pn**	22 24 42.3	**+0.6**
YSS	**Yuzh-Sakhalins**	**5.56**	**305**	PN	**Pn**	22 24 44.1	**-1.1**
YSS	**Yuzh-Sakhalins**	**5.56**	**305**	Pn	**Pn**	22 24 44.1	**-1.1**
JEW	**Eniwo**	**5.94**	**262**	Pn	**Pn**	22 24 54.3	**+3.8**
JNB	**Noboribetsu**	**6.33**	**259**	P	**Pn**	22 24 56.8	**+1.0**
JKB	**Kayabe**	**6.53**	**254**	P	**Pn**	22 24 58.9	**+0.4**
JYM2	**Yakumo 2**	**6.91**	**257**	P	**Pn**	22 25 04.5	**+0.8**
JANG	**Nango**	**6.92**	**241**	P	**Pn**	22 25 02.7	**-1.1**
JANG				*e*S	Sn	22 26 14.8	-6.8
JTH	**Tanohata**	**6.96**	**237**	P	**Pn**	22 25 03.2	**-1.1**
JTM	**Tenmabayashi**	**6.98**	**246**	P	**Pn**	22 25 04.7	**0.0**
OFUJ	**Ofunato**	**7.62**	**233**	P	**Pn**	22 25 12.7	**-0.8**
OFUJ				*e*S	Sn	22 26 31.9	-7.2
JRG	**Rokugo**	**8.04**	**238**	*e*S	**Sn**	22 26 44.4	**-4.8**
JIO	**Ouri**	**8.24**	**231**	P	**Pn**	22 25 20.8	**-1.1**
JIO				*e*S	Sn	22 26 46.0	-8.1
JSD	**Sado**	**10.34**	**239**	Pn	Pn	22 25 56.1	+5.5
PEA0B	**Petropavlovsk-**	**10.63**	**28**	PN	Pn	22 25 50.5	-4.1
PEA0B	**Petropavlovsk-**	**10.63**	**28**	Pn	Pn	22 25 50.5	-4.1
PETK	**Petropavlovsk-**	**10.63**	**28**	PN	**Pn**	22 25 52.8	**-1.9**
PETK	**Petropavlovsk-**	**10.63**	**28**	Pn	**Pn**	22 25 52.8	**-1.9**
USA0B	**Ussuriysk Arra**	**12.56**	**277**	PN	**Pn**	22 26 23.2	**+2.1**
USA0B	**Ussuriysk Arra**	**12.56**	**277**	Pn	**Pn**	22 26 23.1	**+2.1**
USRK	**Ussuriysk Ar.**	**12.56**	**277**	Pn	**Pn**	22 26 24.0	**+2.9**
	baz=85,slow=8.8,SNR=1.0						
USRK	**Ussuriysk Ar.**	**12.56**	**277**	PN	**Pn**	22 26 24.0	**+2.9**
H11N2	**WAKE ISLAND Hy**	**28.25**	**143**	T	T	23 00 22.5	
	baz=333,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.26**	**143**	T	T	23 00 23.1	
	baz=333,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.26**	**143**	T	T	23 00 22.5	
	baz=333,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**29.25**	**145**	T	T	23 01 33.5	
	baz=334,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**29.26**	**145**	T	T	23 01 34.3	
	baz=334,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.27**	**145**	T	T	23 01 38.3	
	baz=334,slow=76,SNR=19						
SONM	**Songino Array**	**29.91**	**293**	P	**P**	22 29 29.7	**-0.1**
	comp=E,0.9nm,0.6s,baz=98,slow=11,SNR=2.6						
SONM	**Songino Array**	**29.91**	**293**	P	**P**	22 29 29.8	**-0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.2s						
UNV	**Unalaska Valle**	**30.12**	**55**	P	**P**	22 29 31.6	**+0.1**
UNV				IAmb	IAmb	22 29 42.2	
	comp=Z,53nm,1.2s						
TNA	**Tin City**	**31.75**	**32**	P	P	22 29 41.0	-4.7
CNPM	**China Poot**	**38.44**	**45**	P	**P**	22 30 43.6	**+0.1**
CNPM				IAmb	IAmb	22 30 56.5	
	comp=Z,28nm,1.2s						
DAWY	**Dawson**	**43.60**	**37**	P	**P**	22 31 23.4	**-2.4**
MKAR	**Makanchi Array**	**45.94**	**298**	P	**P**	22 31 45.0	**+0.3**
	comp=Z,1.6nm,0.8s,baz=71,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	**45.94**	**298**	*e*P	**P**	22 31 45.3	**+0.6**
MKAR	**Makanchi Array**	**45.94**	**298**	P	**P**	22 31 45.3	**+0.6**
MKAR	**Makanchi Array**	**45.94**	**298**	P	**P**	22 31 45.3	**+0.6**
MAKZ	**Makanchi**	**46.14**	**298**	P	**P**	22 31 46.5	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**46.14**	**298**	P	**P**	22 31 46.5	**+0.3**
MAKZ				IAmb	IAmb	22 31 48.9	
	comp=Z,3.2nm,1.1s						
WHY	**Whitehorse**	**46.34**	**41**	P	**P**	22 31 46.3	**-1.4**
WHY				IAmb	IAmb	22 31 48.9	
	comp=Z,6.9nm,1.1s						
KURK	**Kurchatov**	**46.77**	**304**	*e*P	**P**	22 31 51.0	**-0.1**
KURK	**Kurchatov**	**46.77**	**304**	P	**P**	22 31 51.0	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.77**	**304**	P	**P**	22 31 51.0	**-0.1**
KKAR	**Karatay Array**	**55.06**	**299**	P	**P**	22 32 54.1	**+0.4**
KKAR	**Karatay Array**	**55.06**	**299**	P	**P**	22 32 54.1	**+0.4**
TULEG	**Thule**	**57.31**	**10**	P	**P**	22 33 06.2	**-2.9**
TULEG				IAmb	IAmb	22 33 21.7	
	comp=Z,28nm,1.1s						
AB01	**Akbulak array**	**58.20**	**310**	P	**P**	22 33 16.1	**+0.3**
AB31	**Akbulak array**	**58.20**	**310**	P	**P**	22 33 15.9	**+0.1**
ABKAR	**Akbulak array**	**58.20**	**310**	P	**P**	22 33 16.2	**+0.4**
ABKAR	**Akbulak array**	**58.20**	**310**	IAmb	IAmb	22 33 16.7	
	comp=Z,1.7nm,0.6s						
AB04	**Akbulak array**	**58.20**	**310**	P	**P**	22 33 16.4	**+0.5**
AB03	**Akbulak array**	**58.20**	**310**	P	**P**	22 33 16.2	**+0.4**
AB09	**Akbulak array**	**58.21**	**310**	P	**P**	22 33 16.3	**+0.4**
AB08	**Akbulak array**	**58.22**	**310**	P	**P**	22 33 16.2	**+0.2**
CHGR	**Chuyangaron**	**58.27**	**295**	P	**P**	22 33 17.1	**+0.5**
CHGR				IAmb	IAmb	22 33 17.6	
	comp=Z,4.3nm,0.8s						
ARCES	**ARCESS Array B**	**59.59**	**340**	P	**P**	22 33 23.5	**-1.7**
	comp=Z,2.1nm,0.8s,baz=53,slow=9.1,SNR=1.6						
WRA	**Warramunga Arr**	**65.11**	**196**	P	P	22 34 18.1	+15
	comp=Z,0.2nm,0.6s,baz=15,slow=7.4,SNR=1.7						
FIA1	**FINESS Array S**	**65.40**	**334**	P	**P**	22 34 03.1	**-1.0**
FIA1				IAmb	IAmb	22 34 08.7	
	comp=Z,9.4nm,1.1s						
FINES	**FINESS Array B**	**65.41**	**334**	P	**P**	22 34 03.6	**-0.4**
	comp=Z,1.3nm,0.5s,baz=36,slow=6.4,SNR=12						
NC303	**NORSAR Array S**	**69.77**	**340**	P	**P**	22 34 29.6	**-2.0**
NC303				IAmb	IAmb	22 34 31.5	
	comp=Z,12nm,1.1s						
NC405	**NORSAR Array S**	**69.78**	**340**	P	**P**	22 34 31.7	**0.0**
NC405				IAmb	IAmb	22 34 36.8	
	comp=Z,1.5nm,0.5s						
NC204	**NORSAR Array S**	**69.87**	**340**	P	**P**	22 34 31.5	**-0.8**
NB201	**NORSAR Array S**	**69.94**	**340**	P	**P**	22 34 32.6	**-0.1**
NB2	**NORSAR Subarra**	**69.97**	**340**	P	**P**	22 34 33.8	**+0.9**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.97**	**340**	P	**P**	22 34 33.8	**+0.9**
	comp=Z,2.0nm,0.9s,baz=31,slow=6.7,SNR=7.1						
LCMT	**Little Creek M**	**70.04**	**58**	P	**P**	22 34 36.5	**+2.6**
NC602	**NORSAR Array S**	**70.14**	**340**	P	**P**	22 34 33.8	**-0.1**
PV15	**Paradox Valley**	**72.00**	**54**	P	**P**	22 34 48.4	**+2.5**
PV15				IAmb	IAmb	22 34 58.4	
	comp=Z,3.8nm,0.5s						
AKASG	**Malin Array Be**	**72.36**	**325**	P	**P**	22 34 47.8	**+0.3**
	comp=Z,0.3nm,0.2s,baz=40,slow=7.2,SNR=5.1						
AKASG	**Malin Array Be**	**72.36**	**325**	P	**P**	22 34 48.1	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AKASG	**Malin Array Be**	**72.36**	**325**	P	**P**	22 34 48.1	**+0.6**
ARTV	**Artvin**	**73.14**	**311**	P	**P**	22 34 52.3	**-0.3**
ARTV				IAmb	IAmb	22 35 10.6	
	comp=Z,2.3nm,1.1s						
GEVA	**Gevas**	**74.51**	**308**	P	**P**	22 35 03.6	**+3.0**
GEVA				IAmb	IAmb	22 35 14.8	
	comp=Z,3.8nm,0.7s						
121A	**Cookes Peak, D**	**76.36**	**58**	P	**P**	22 35 12.9	**+1.5**
121A				IAmb	IAmb	22 35 30.1	
	comp=Z,2.4nm,1.0s						
BUR08	**Bucovina Ar. S**	**76.40**	**325**	P	**P**	22 35 12.3	**+1.1**
BURAR	**Bucovina Array**	**76.41**	**325**	P	**P**	22 35 12.0	**+0.7**
ANTO	**Ankara**	**78.89**	**315**	P	**P**	22 35 24.8	**-0.4**
ANTO	**Ankara**	**78.89**	**315**	P	**P**	22 35 24.8	**-0.4**
I45A	**Fountain**	**79.28**	**37**	P	**P**	22 35 25.6	**-1.5**
KHC	**Kasperske Hory**	**79.54**	**332**	*e*P	**P**	22 35 29.5	**+1.0**
KHC	**Kasperske Hory**	**79.54**	**332**	*e*P	**P**	22 35 29.5	**+1.0**
GERES	**GERESS Array B**	**79.74**	**332**	P	**P**	22 35 31.0	**+1.3**
	comp=Z,0.5nm,0.5s,baz=43,slow=6.0,SNR=5.1						
GERES	**GERESS Array B**	**79.74**	**332**	P	**P**	22 35 30.7	**+1.0**
OK029	**Liberty Lake**	**80.04**	**49**	P	**P**	22 35 32.5	**+1.0**
QUOK	**Quay**	**80.17**	**49**	P	**P**	22 35 29.7	**-2.4**
OK025	**Westminster Rd**	**80.27**	**49**	P	**P**	22 35 33.4	**+0.7**
TXAR	**Lajitas Array**	**81.12**	**58**	P	**P**	22 35 40.9	**+3.4**
	comp=Z,0.2nm,0.5s,baz=299,slow=4.0,SNR=5.9						
PRED	**Cave del Predi**	**81.86**	**331**	P	**P**	22 35 41.3	**+0.3**
ERPA	**Erie**	**83.50**	**35**	P	**P**	22 35 50.4	**+0.8**
ERPA				IAmb	IAmb	22 35 54.7	
	comp=Z,17nm,0.8s						

*IDC **09** 22:58:25.6±0.7,38.°55N×15.°01E,h0km,mb3.8/11, mb1 3.9/20,mb1mx3.8/62,mbtmp3.8/20,ML3.5/9,MS3.5/2, Ms1 3.5/2,ms1mx2.7/60, Error ellipse: s-maj=17.6km s-min=9.0km az=116.0*

*ROM **09** 22:58:26.0±0.1,38.°532N±0.°007×14.°736E±0.°008, h21km±1km,ML3.9/2, Error ellipse: s-maj=0.7km s-min=0.5km az=299.0*

*LDG **09** 22:58:26.5±0.2,38.°55N×14.°86E,h10km,Ml3.0/6, Error ellipse: s-maj=5.8km s-min=3.2km az=4.0*

*MED_RC **09** 22:58:28.0±0.5,38.°51N×14.°85E,h13km±1km, MW4.1/11, Moment Tensor Solution.Mantle waves: s11,c21; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.60±.26; $M_{\theta\theta}$-1.76±.18; $M_{\phi\phi}$0.16±.14; $M_{r\theta}$-0.34±.20; $M_{\theta\phi}$-0.24±.08; $M_{r\phi}$0.13±.18; Best double couple: $M_0$1.73000×10^{15} NP1:ϕ_s76.00000°,δ40.00000°, λ80.00000°. NP2:ϕ_s270.00000°,δ51.00000°,λ99.00000°. Principal axes: T 1.6500, Plg81.0000°, Azm225.0000°; N 0.1700, Plg7.0000°, Azm84.0000°; P -1.8200, Plg5.0000°, Azm354.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*PDG **09** 22:58:29.8±0.9,38.°68N×15.°04E,h20km±6km,ML3.7/12 Error ellipse: s-maj=5.9km s-min=6.3km az=0.0*

*BEO **09** 22:58:52.0±0.5,39.°93N×16.°56E,h0km,ML3.4/5*

ISC 09 22:58:27.2±0.8,38.°54N±0.°02×14.°85E±0.°03,h13km±6km, n241,σ1§70/250,mb4.1/10,39C-30D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LLI	**Lipari**	**0.12**	**140**	⇑P	**Pg**	**22 58 31.3**	**+0.9**
LLI				S	**Sb**	**22 58 34.8**	**+0.6**
LLI				AML	AML		
LLI				AML	AML		
VPL	**Vulcano Piano**	**0.19**	**146**	⇓P	**Pg**	**22 58 31.7**	**+0.2**
VPL				S	**Sb**	**22 58 35.7**	**-0.5**
VPL				AML	AML		
VPL				AML	AML		
IFIL	**Filicudi I Eol**	**0.22**	**276**	⇓P	**Pg**	**22 58 30.5**	**-1.5**
IFIL				S	**Sg**	**22 58 33.3**	**-2.0**
ISTR	**Stromboli Gino**	**0.36**	**48**	⇓P	**Pn**	**22 58 36.6**	**-1.6**
ISTR				AML	AML		
	comp=N,95600μm,0.6s						
ISTR				AML	AML		
ISTR				AML	AML		
	comp=N,95600μm,0.6s						
ISTR				AML	AML		
IACL	**Alicudi**	**0.39**	**269**	⇓P	Pg	22 58 33.1	-1.8
IACL				S	**Sg**	**22 58 38.2**	**-1.9**
IACL				AML	AML		
	comp=N,90650μm,0.6s						
IACL				AML	AML		
IACL				AML	AML		
	comp=N,90650μm,0.6s						
IST3	**Stromboli F**	**0.40**	**49**	⇓P	**Pn**	**22 58 36.8**	**-1.8**
IST3				AML	AML		
	comp=N,32450μm,0.3s						
IST3				AML	AML		
	comp=E,20850μm,0.3s						
IST3				AML	AML		
	comp=E,20850μm,0.3s						
MILZ	**Milazzo**	**0.40**	**132**	⇑P	**Pb**	**22 58 35.3**	**-0.9**
MILZ				S	**Sb**	**22 58 41.7**	**-0.5**
MILZ				AML	AML		
	comp=E,57300μm,0.4s						
MILZ				AML	AML		
	comp=N,33450μm,1.4s						
MILZ				AML	AML		
	comp=N,33450μm,1.4s						
MILZ				AML	AML		
	comp=E,57300μm,0.4s						
MSFR	**San Fratello**	**0.55**	**202**	P	**Pg**	**22 58 35.5**	**-2.3**
MSFR				S	**Sg**	**22 58 43.3**	**-1.8**
MSFR				AML	AML		
	comp=N,17500μm,0.4s						
MSFR				AML	AML		
	comp=E,12550μm,0.7s						
MPNC	**Port Mandanici**	**0.56**	**135**	P	**Pb**	**22 58 38.2**	**-0.7**
MPNC				S	**Sb**	**22 58 47.1**	**+0.4**
MPNC				AML	AML		
	comp=E,62750μm,0.3s						
MPNC				AML	AML		
	comp=N,86400μm,0.3s						
MPNC				AML	AML		
	comp=E,62800μm,0.3s						
MPNC				AML	AML		
	comp=N,86450μm,0.3s						
MPNC				AML	AML		
	comp=N,86450μm,0.3s						
MPNC				AML	AML		
	comp=E,62800μm,0.3s						
NOV	**Novara**	**0.56**	**156**	P	**Pg**	**22 58 37.5**	**-0.7**
MCSR	**Castroreale**	**0.57**	**146**	P	**Pg**	**22 58 37.8**	**-0.6**
MCSR				S	**Sb**	**22 58 46.8**	**-0.4**
MCSR				AML	AML		
MCSR				AML	AML		
MSRU	**Castanea**	**0.59**	**118**	⇑P	**Pb**	**22 58 39.2**	**-0.2**
MSRU				S	**Sn**	**22 58 49.2**	**-1.5**
MSRU				AML	AML		
	comp=N,39800μm,0.4s						
MSRU				AML	AML		
	comp=E,26150μm,0.8s						
MSRU				AML	AML		
	comp=E,26150μm,0.8s						
MSRU				AML	AML		
	comp=N,39800μm,0.4s						
ATN	**Antennamare**	**0.62**	**128**	⇑P	**Pb**	**22 58 39.2**	**-0.7**
ATN				S	**Sn**	**22 58 48.9**	**-2.6**
ATN				AML	AML		
	comp=N,51050μm,0.4s						
ATN				AML	AML		
	comp=E,13μm,0.4s						
ATN				AML	AML		
	comp=N,51050μm,0.4s						
MNO	**Monte Soro**	**0.62**	**191**	⇓P	**Pg**	**22 58 38.0**	**-1.3**
MNO				S	**Sg**	**22 58 47.6**	**+0.1**
MNO				AML	AML		
	comp=E,55650μm,1.1s						
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
	comp=E,55650μm,1.1s						
AIO	**Antillo**	**0.65**	**152**	P	**Pg**	**22 58 39.1**	**-0.6**
AIO				AML	AML		
	comp=N,56100μm,0.7s						
AIO				AML	AML		
	comp=E,56400μm,0.8s						
AIO				AML	AML		
	comp=N,56100μm,0.7s						
AIO				AML	AML		
	comp=E,56400μm,0.8s						
EPZF	**Pizzo Felice**	**0.72**	**179**	P	**Pg**	**22 58 40.3**	**-0.8**
EPZF				AML	AML		
	comp=E,46500μm,0.4s						
EPZF				AML	AML		
	comp=N,66250μm,1.3s						
EMSG	**Monte Spagnolo**	**0.72**	**174**	P	**Pg**	**22 58 40.9**	**-0.4**
EMSG				AML	AML		
	comp=E,50650μm,0.8s						
EMSG				AML	AML		
	comp=N,46750μm,1.0s						
EMSG				AML	AML		
	comp=E,50650μm,0.8s						
MSCL	**Scilla**	**0.80**	**112**	⇑P	**Pb**	**22 58 42.3**	**-0.7**
MSCL				AML	AML		
	comp=N,34100μm,0.5s						
MSCL				AML	AML		
	comp=N,34100μm,0.5s						
MSCL				AML	AML		
	comp=E,44250μm,0.4s						
JOPP	**Joppolo**	**0.82**	**85**	⇑P	**Pn**	**22 58 43.1**	**-1.3**
JOPP				AML	AML		
	comp=E,4715μm,0.6s						
JOPP				AML	AML		
	comp=N,4290μm,0.3s						
GIB	**Gibilmanna**	**0.85**	**230**	P	Pb	22 58 40.6	-3.2
GIB				AML	AML		
	comp=E,29650μm,0.7s						
GIB				AML	AML		
	comp=N,23600μm,0.5s						
GIB				AML	AML		
	comp=E,29650μm,0.7s						
GIB				AML	AML		
	comp=N,23600μm,0.5s						
ESLN	**Serra La Nave**	**0.85**	**173**	P	**Pg**	**22 58 43.6**	**-0.1**
ESLN				AML	AML		
	comp=E,22400μm,0.8s						
ESLN				AML	AML		
	comp=E,22400μm,0.8s						
ESLN				AML	AML		
	comp=N,18850μm,0.6s						
GMB	**Gambarie**	**0.86**	**115**	⇑P	**Pb**	**22 58 43.2**	**-0.8**
GMB				AML	AML		
	comp=E,29150μm,0.3s						
GMB				AML	AML		
	comp=N,48200μm,0.3s						
GMB				AML	AML		
	comp=N,48200μm,0.3s						
GMB				AML	AML		
	comp=E,29150μm,0.3s						
GALF	**Gagliano Caste**	**0.86**	**195**	P	**Pg**	**22 58 42.6**	**-1.2**
GALF				AML	AML		
	comp=N,20300μm,1.0s						
GALF				AML	AML		
	comp=E,19150μm,0.5s						
CEL	**Celeste**	**0.87**	**109**	⇑P	**Pb**	**22 58 43.4**	**-0.7**
CEL				AML	AML		
	comp=E,5970μm,1.5s						
CEL				AML	AML		
	comp=E,7120μm,1.5s						
CEL				AML	AML		
	comp=N,6850μm,0.5s						
CEL				AML	AML		
	comp=N,8360μm,0.5s						
CEL				AML	AML		
	comp=E,5975μm,1.5s						
PETRA	**Petralia Sopra**	**0.91**	**219**	P	Pb	22 58 41.9	-3.0
PETRA				AML	AML		
	comp=E,28300μm,0.6s						
PETRA				AML	AML		
	comp=N,27450μm,0.6s						
PETRA				AML	AML		
	comp=E,28300μm,0.6s						
ESML	**S. M. di Licod**	**0.92**	**179**	⇑P	**Pb**	**22 58 44.6**	**-0.3**
ESML				AML	AML		
	comp=N,12650μm,0.9s						
ESML				AML	AML		
	comp=N,13100μm,0.9s						
ESML				AML	AML		
	comp=E,13400μm,0.8s						
CAGR	**Agira**	**0.96**	**197**	P	**Pb**	**22 58 45.6**	**0.0**
CAGR				AML	AML		
	comp=E,21100μm,0.5s						
CAGR				AML	AML		
	comp=N,27600μm,1.5s						
CAGR				AML	AML		
	comp=E,21100μm,0.5s						
CAGR				AML	AML		
	comp=N,27600μm,1.5s						
SOI	**Samo**	**1.06**	**116**	⇑P	**Pb**	**22 58 46.1**	**-1.2**
SOI				AML	AML		
	comp=N,5175μm,0.8s						
SOI				AML	AML		
	comp=E,3810μm,0.4s						
MPAZ	**Palizzi**	**1.08**	**122**	⇑P	**Pb**	**22 58 46.5**	**-1.3**
MPAZ				AML	AML		
	comp=N,6620μm,0.4s						
MPAZ				AML	AML		
	comp=E,7380μm,1.0s						
RESU	**Resuttano**	**1.09**	**215**	⇑P	**Pn**	**22 58 45.8**	**-2.3**
RESU				AML	AML		
	comp=E,6520μm,0.5s						
RESU				AML	AML		
	comp=E,6585μm,1.1s						
RESU				AML	AML		
	comp=N,9140μm,0.8s						
VAE	**Valguarnera**	**1.11**	**198**	Pg	**Pb**	**22 58 48.4**	**0.0**
	comp=N,24nm,0.3s,baz=4.1,slow=22,SNR=110						
VAE				LR	LR	22 58 50.7	
	comp=N,175nm,20.7s,baz=204,slow=21						
VAE				Lg	Lg	22 59 06.5	
	comp=N,97nm,0.3s,baz=8.5,slow=8.0,SNR=9.2						
SOLUN	**Solunto**	**1.13**	**247**	P	Pn	22 58 44.2	-4.4
SOLUN				AML	AML		
	comp=E,4140μm,0.6s						
SOLUN				AML	AML		
	comp=N,2375μm,0.7s						
ALJA	**Alia**	**1.17**	**228**	P	Pn	22 58 46.0	-3.2
ALJA				AML	AML		
	comp=E,6805μm,0.5s						
ALJA				AML	AML		
	comp=E,6800μm,0.5s						
ALJA				AML	AML		
	comp=N,7550μm,0.8s						
HLNI	**Lentini**	**1.19**	**179**	⇑P	**Pn**	**22 58 47.2**	**-2.3**
HLNI				AML	AML		
	comp=N,3380μm,0.3s						
HLNI				AML	AML		
	comp=E,6315μm,0.8s						
MPG	**Monte Pellegri**	**1.23**	**253**	P	Pn	22 58 45.7	-4.3
MPG				AML	AML		
	comp=N,1575μm,0.8s						
MPG				AML	AML		
	comp=E,1930μm,1.6s						
PLAC	**Placanica**	**1.25**	**94**	⇑P	**Pg**	**22 58 49.8**	**-1.5**
PLAC				AML	AML		
	comp=E,5225μm,0.9s						
PLAC				AML	AML		
	comp=N,4365μm,0.5s						
GRI	**Girifalco**	**1.26**	**77**	⇑P	**Pg**	**22 58 50.0**	**-1.5**
GRI				AML	AML		
	comp=N,3085μm,1.1s						
GRI				AML	AML		
	comp=E,3570μm,0.5s						
HCRL	**Carlentini**	**1.26**	**173**	⇑P	**Pn**	**22 58 48.2**	**-2.3**
HCRL				AML	AML		
	comp=E,4930μm,1.0s						
HCRL				AML	AML		
	comp=N,4285μm,1.3s						
HAGA	**Augusta**	**1.28**	**169**	P	**Pn**	**22 58 48.5**	**-2.1**
HAGA				AML	AML		
	comp=E,5115μm,0.4s						
HAGA				AML	AML		
	comp=N,4565μm,0.5s						
CAR1	**CAROLEI**	**1.28**	**56**	⇓P	**Pn**	**22 58 50.1**	**-0.7**
CAR1				AML	AML		
	comp=E,4320μm,0.5s						
CAR1				AML	AML		
	comp=N,4675μm,0.5s						
CAR1				AML	AML		
	comp=E,4540μm,0.6s						
CAR1				AML	AML		
	comp=N,4535μm,0.5s						
CET2	**Cetraro**	**1.31**	**41**	⇓P	**Pn**	**22 58 50.3**	**-0.9**
CET2				AML	AML		
	comp=E,3790μm,0.8s						
CET2				AML	AML		
	comp=N,5990μm,0.7s						
AGST	**Augusta-Monte**	**1.32**	**167**	P	**Pn**	**22 58 49.3**	**-2.0**
AGST				AML	AML		
	comp=E,7990μm,0.5s						
AGST				AML	AML		
	comp=N,12000μm,0.9s						
USI	**Ustica**	**1.32**	**278**	P	Pn	22 58 47.1	-4.1
USI				AML	AML		
	comp=N,7220μm,0.5s						
USI				AML	AML		
	comp=E,6325μm,0.5s						
RAFF	**Raffo Rosso**	**1.37**	**196**	⇑P	**Pn**	**22 58 50.8**	**-1.2**
RAFF				AML	AML		
	comp=E,7620μm,0.6s						
RAFF				AML	AML		
	comp=N,7115μm,0.

T0702	**Acquaformosa (**	**1.52**	**39**	⇓P		**Pn**	**22 58 53.5**	**-0.6**
T0702				S		**Sb**	**22 59 12.9**	**-1.6**
SERS	**Sersale**	**1.52**	**70**	⇑P		**Pb**	**22 58 54.2**	**-1.1**
SERS				AML	AML			
	comp=E,1286µm,0.5s							
SERS				AML	AML			
	comp=E,1590µm,0.7s							
SERS				AML	AML			
	comp=N,1470µm,0.7s							
SERS				AML	AML			
	comp=N,1298µm,0.5s							
CLTA	**Licata**	**1.55**	**207**	⇑P		**Pn**	**22 58 53.9**	**-0.5**
CLTA				AML	AML			
	comp=N,9855µm,0.7s							
CLTA				AML	AML			
	comp=E,4725µm,0.5s							
CELI	**Celico**	**1.56**	**56**	P		**Pn**	**22 58 54.1**	**-0.5**
CELI				AML	AML			
	comp=E,2660µm,1.0s							
CELI				AML	AML			
	comp=N,2510µm,0.5s							
CELI				AML	AML			
	comp=E,1085µm,1.0s							
CELI				AML	AML			
	comp=N,1006µm,0.5s							
FAVR	**Favara**	**1.58**	**217**	⇑P		**Pn**	**22 58 55.1**	**+0.3**
HMDC	**Modica**	**1.58**	**182**	⇑P		**Pn**	**22 58 53.2**	**-1.7**
HMDC				AML	AML			
	comp=E,5420µm,0.6s							
HMDC				AML	AML			
	comp=N,6955µm,0.7s							
BULG	**Bulgheria - Ca**	**1.59**	**15**	⇓P		**Pn**	**22 58 53.6**	**-1.4**
BULG				AML	AML			
	comp=E,1810µm,0.6s							
BULG				AML	AML			
	comp=E,1860µm,0.6s							
BULG				AML	AML			
	comp=N,3410µm,1.6s							
BULG				AML	AML			
	comp=N,3295µm,1.6s							
HAVL	**Avola**	**1.59**	**172**	P		**Pn**	**22 58 52.7**	**-2.4**
HAVL				AML	AML			
	comp=E,4750µm,0.6s							
HAVL				AML	AML			
	comp=N,4880µm,0.4s							
CLTB	**Caltabellotta**	**1.61**	**234**	⇑P		**Pn**	**22 58 54.0**	**-1.3**
CLTB				AML	AML			
	comp=E,4215µm,0.5s							
CLTB				AML	AML			
	comp=N,6065µm,0.6s							
TDS	**Terranova Siba**	**1.61**	**46**	P		**Pn**	**22 58 54.6**	**-0.7**
TDS				AML	AML			
	comp=E,594µm,1.5s							
TDS				AML	AML			
	comp=N,876µm,0.7s							
MMN	**Mormanno**	**1.61**	**33**	⇓P		**Pn**	**22 58 54.9**	**-0.4**
MMN				AML	AML			
	comp=E,656µm,1.0s							
MMN				AML	AML			
	comp=N,1070µm,1.4s							
TIP	**Timpagrande**	**1.62**	**66**	⇑P		**Pb**	**22 58 55.9**	**-1.1**
TIP				AML	AML			
	comp=E,1425µm,0.7s							
TIP				AML	AML			
	comp=N,1430µm,0.8s							
TIP				AML	AML			
	comp=N,1140µm,0.7s							
TIP				AML	AML			
	comp=E,1210µm,0.7s							
CUC	**Castrocucco**	**1.63**	**27**	⇓P		**Pn**	**22 58 54.9**	**-0.8**
CUC				S		**Sn**	**22 59 15.7**	**-0.9**
CUC				AML	AML			
	comp=E,2405µm,0.3s							
CUC				AML	AML			
	comp=E,2935µm,0.3s							
CUC				AML	AML			
	comp=N,2535µm,0.9s							
CUC				AML	AML			
	comp=N,2065µm,0.9s							
T0721	**Laino Castello**	**1.65**	**32**	P		**Pn**	**22 58 55.1**	**-0.7**
T0721				AML	AML			
	comp=E,2500µm,1.1s							
T0721				AML	AML			
	comp=N,2055µm,0.6s							
T0721				AML	AML			
	comp=N,2150µm,0.6s							
T0721				AML	AML			
	comp=E,2315µm,0.6s							
MGR	**Morigerati**	**1.69**	**19**	⇓P		**Pn**	**22 58 55.0**	**-1.3**
MGR				AML	AML			
	comp=E,1520µm,0.5s							
MGR				AML	AML			
	comp=N,1465µm,0.3s							
MMGO	**Monte Magaggia**	**1.72**	**240**	⇓P		Pn	22 58 54.2	-2.5
MTGR	**Montagna Grand**	**1.77**	**249**	P		Pn	22 58 54.0	-3.5
SALB	**San Lorenzo Be**	**1.77**	**41**	P		**Pn**	**22 58 57.8**	**+0.2**
SALB				AML	AML			
	comp=N,1018µm,0.6s							
SALB				AML	AML			
	comp=E,1240µm,0.9s							
SALB				AML	AML			
	comp=N,1006µm,0.6s							
SALB				AML	AML			
	comp=E,1120µm,0.9s							
PIPA	**Pietrapaola**	**1.80**	**58**	P		**Pb**	**22 58 58.4**	**-1.6**
PIPA				AML	AML			
	comp=E,1135µm,0.7s							
PIPA				AML	AML			
	comp=E,1180µm,0.7s							
PIPA				AML	AML			
	comp=N,1310µm,1.3s							
PIPA				AML	AML			
	comp=N,1235µm,1.3s							
CMPR	**Campora**	**1.81**	**11**	⇓P		**Pn**	**22 58 56.5**	**-1.6**
CMPR				AML	AML			
	comp=E,950µm,1.6s							
CMPR				AML	AML			
	comp=N,570µm,0.8s							
SIRI	**Monte Sirino -**	**1.82**	**25**	⇓P		**Pn**	**22 58 57.8**	**-0.5**
SIRI				AML	AML			
	comp=N,1940µm,1.4s							
SIRI				AML	AML			
	comp=E,2395µm,0.3s							
SIRI				AML	AML			
	comp=N,1995µm,1.4s							
SIRI				AML	AML			
	comp=E,2320µm,0.3s							
HPAC	**Pachino**	**1.85**	**173**	P		**Pn**	**22 58 56.8**	**-1.8**
HPAC				AML	AML			
	comp=E,3995µm,1.1s							
HPAC				AML	AML			
	comp=N,4920µm,0.6s							
MTSN	**Montesano sull**	**1.86**	**22**	⇓P		**Pn**	**22 58 58.3**	**-0.5**
MTSN				AML	AML			
	comp=N,1077µm,0.3s							
MTSN				AML	AML			
	comp=E,1366µm,0.4s							
SCHR	**S. Chirico Rap**	**1.91**	**30**	AML	AML			
	comp=E,780µm,0.6s							
SCHR				AML	AML			
	comp=N,702µm,0.7s							
MCEL	**Monticello**	**1.93**	**22**	⇓P		**Pn**	**22 58 59.1**	**-0.6**
MCEL				AML	AML			
	comp=N,1210µm,0.6s							
MCEL				AML	AML			
	comp=E,846µm,1.5s							
MCEL				AML	AML			
	comp=E,862µm,1.5s							
MCEL				AML	AML			
	comp=N,1175µm,0.6s							
SLCN	**Sala Consilina**	**1.94**	**18**	P		**Pn**	**22 58 59.4**	**-0.6**
SLCN				AML	AML			
	comp=E,2140µm,1.2s							
SLCN				AML	AML			
	comp=N,1230µm,1.3s							
CDRU	**Civita di Ruta**	**1.98**	**10**	⇓P		**Pn**	**22 58 59.0**	**-1.4**
CDRU				AML	AML			
	comp=E,478µm,1.4s							
CDRU				AML	AML			
	comp=N,304µm,0.8s							
ACER	**Acerenza**	**2.40**	**20**	P		**Pn**	**22 59 06.9**	**+0.7**
ACER				AML	AML			
	comp=N,845µm,0.8s							
ACER				AML	AML			
	comp=N,818µm,0.8s							
ACER				AML	AML			
	comp=E,1520µm,0.6s							
ACER				AML	AML			
	comp=E,1460µm,0.6s							
SNAL	**S. Angelo Dei**	**2.40**	**7**	P		**Pn**	**22 59 06.3**	**+0.1**
SNAL				AML	AML			
	comp=N,550µm,1.0s							
SNAL				AML	AML			
	comp=E,726µm,0.8s							
SNAL				AML	AML			
	comp=E,594µm,0.7s							
SNAL				AML	AML			
	comp=N,655µm,0.9s							
MIGL	**Miglionico**	**2.40**	**30**	P		**Pn**	**22 59 07.6**	**+1.4**
MIGL				AML	AML			
	comp=E,2475µm,0.6s							
MIGL				AML	AML			
	comp=N,2460µm,0.9s							
MATE	**Matera**	**2.55**	**34**	⇑P		**Pn**	**22 59 09.1**	**+1.0**
MATE				⇑S		**Sn**	**22 59 39.7**	**+0.7**
MATE	**Matera**	**2.55**	**34**	AML	AML			
	comp=E,735µm,0.4s							
MATE				AML	AML			
	comp=N,620µm,0.8s							
PALZ	**Palazzo San Ge**	**2.55**	**19**	P		**Pn**	**22 59 08.6**	**+0.4**
PALZ				AML	AML			
	comp=N,660µm,1.0s							
PALZ				AML	AML			
	comp=E,790µm,1.2s							
VITU	**Vitulano (BN)**	**2.65**	**356**	AML	AML			
	comp=N,229µm,0.6s							
VITU				AML	AML			
	comp=E,240µm,0.8s							
SG1	**Sgolgore (BA)**	**2.70**	**31**	⇓*i*Pn		**Pn**	**22 59 11.7**	**+1.5**
PIGN	**Pignataro Magg**	**2.71**	**349**	AML	AML			
	comp=N,88µm,1.6s							
PIGN				AML	AML			
	comp=E,65µm,1.0s							
MRVN	**Minervino Murg**	**2.72**	**22**	P		**Pn**	**22 59 10.7**	**+0.1**
MRVN				AML	AML			
	comp=N,392µm,0.4s							
MRVN				AML	AML			
	comp=E,392µm,0.4s							
AMUR	**Altamura**	**2.72**	**29**	P		**Pn**	**22 59 10.9**	**+0.3**
AMUR				AML	AML			
	comp=E,638µm,0.4s							
AMUR				AML	AML			
	comp=N,448µm,0.3s							
TAR1	**Taranto**	**2.73**	**43**	⇑*i*Pn		**Pn**	**22 59 10.9**	**+0.2**
NOCI	**Noci**	**2.82**	**37**	AML	AML			
	comp=N,419µm,0.6s							
NOCI				AML	AML			
	comp=E,329µm,0.4s							
PTRJ	**Pietraroja**	**2.83**	**355**	AML	AML			
	comp=E,125µm,0.6s							
PTRJ				AML	AML			
	comp=N,94µm,0.6s							
SGG	**Gregorio Mates**	**2.87**	**353**	AML	AML			
	comp=E,120µm,0.7s							
SGG				AML	AML			
	comp=N,93µm,0.8s							
CGL1	**Ceglie Messapi**	**2.93**	**43**	⇓*i*Pn		**Pn**	**22 59 13.4**	**0.0**
BAI	**Bari**	**3.00**	**31**	⇓*i*Pn		**Pn**	**22 59 15.1**	**+0.7**
BAI				Sn		**Sn**	**22 59 52.0**	**+1.8**
MELA	**Melanico ??? S**	**3.17**	**4**	AML	AML			
	comp=E,225µm,1.6s							
MELA				AML	AML			
	comp=E,278µm,1.4s							
MELA				AML	AML			
	comp=N,282µm,0.5s							
MELA				AML	AML			
	comp=N,253µm,0.6s							
TRIV	**Trivento**	**3.23**	**356**	AML	AML			
	comp=N,234µm,0.6s							
TRIV				AML	AML			
	comp=E,196µm,0.8s							
MSAG	**Monte S. Angel**	**3.27**	**14**	P		**Pn**	**22 59 18.0**	**-0.2**
MSAG				AML	AML			
	comp=E,234µm,0.5s							
MSAG				AML	AML			
	comp=N,430µm,0.4s							
SGRT	**San Giovanni R**	**3.28**	**12**	P		**Pn**	**22 59 18.2**	**-0.1**
SGRT				AML	AML			
	comp=E,263µm,0.7s							
SGRT				AML	AML			
	comp=N,268µm,0.8s							
AQU	**L'Aquila**	**3.96**	**344**	*e*Pn		**Pn**	**22 59 29.2**	**+1.5**
KEK	**Kerkira**	**4.03**	**72**	P		**Pn**	**22 59 28.0**	**-0.5**
SRN	**Sarande**	**4.22**	**70**	P		**Pn**	**22 59 31.6**	**+0.5**
DMLN	**Damoulianata-K**	**4.35**	**92**	P		**Pn**	**22 59 32.8**	**-0.2**
VSL	**Villasalto**	**4.37**	**284**	P		Pn	22 59 29.1	-4.0
VSL				AML	AML			
	comp=N,95µm,1.3s							
VSL				AML	AML			
	comp=E,81µm,1.4s							
IGT	**Igoumenitsa**	**4.38**	**75**	P		**Pn**	**22 59 33.4**	**0.0**
IGT	**Igoumenitsa**	**4.38**	**75**	*e*Pn		**Pn**	**22 59 36.1**	**+2.7**
IGT				*e*Sg		**Sn**	**23 00 25.5**	**+1.1**
CGL	**Cagliari Serpe**	**4.40**	**282**	P		Pn	22 59 29.1	-4.6
CGL				AML	AML			
	comp=E,114µm,1.6s							
CGL				AML	AML			
	comp=N,90µm,1.3s							
FSK	**Fiskardo**	**4.49**	**89**	P		**Pn**	**22 59 35.1**	**+0.3**
VLS	**Valsamata**	**4.53**	**93**	P		**Pn**	**22 59 34.9**	**-0.5**
EVGI	**Lefkada island**	**4.55**	**87**	P		**Pn**	**22 59 36.2**	**+0.5**
TSLK	**Tsoukalades, L**	**4.55**	**85**	P		**Pn**	**22 59 36.4**	**+0.7**
LKD2	**Lefkada island**	**4.55**	**85**	P		**Pn**	**22 59 36.1**	**+0.3**
NYDR	**Nydri-Lefkada**	**4.59**	**86**	P		**Pn**	**22 59 36.9**	**+0.7**
TIR	**Tirane**	**4.77**	**52**	*e*Pn		**Pn**	**22 59 39.1**	**+0.4**
TIR				*e*Sg		Sn	23 00 23.9	-10
TIR	**Tirane**	**4.77**	**52**	⇓P		**Pn**	**22 59 41.4**	**+2.7**
HCY	**Herceg Novi**	**4.79**	**34**	⇓*i*Pn		**Pn**	**22 59 39.2**	**+0.2**
HCY				*i* Sn		**Sn**	**23 00 31.8**	**-2.6**
HCY	**Herceg Novi**	**4.79**	**34**	*e*Pn		**Pn**	**22 59 38.8**	**-0.2**
ULC	**Ulcinj**	**4.80**	**43**	⇑*i*Pn		**Pn**	**22 59 38.7**	**-0.4**
ULC				*i* Sn		**Sn**	**23 00 31.9**	**-2.6**
JAN	**Janina**	**4.80**	**75**	P		**Pn**	**22 59 40.1**	**+0.9**
BUM	**Brajici-Budva**	**4.86**	**38**	⇑*i*Pn		**Pn**	**22 59 39.4**	**-0.6**
BUM				*i* Sn		**Sn**	**23 00 33.9**	**-2.3**
CEME	**Cevo**	**5.06**	**36**	⇑*i*Pn		**Pn**	**22 59 41.8**	**-1.0**
CEME				*i* Sn		**Sn**	**23 00 38.2**	**-2.9**
PDG	**Podgorica**	**5.14**	**39**	*e*Pn		**Pn**	**22 59 43.3**	**-0.5**
PDG	**Podgorica**	**5.14**	**39**	⇑P		**Pn**	**22 59 43.7**	**0.0**
PDG	**Podgorica**	**5.14**	**39**	⇑S		**Sn**	**23 00 44.5**	**+1.6**
PDG	**Podgorica**	**5.14**	**39**	*e*Pn		**Pn**	**22 59 43.2**	**-0.5**
TTG	**Podgorica**	**5.14**	**39**	⇑*i*Pn		**Pn**	**22 59 43.5**	**-0.2**
TTG				*i* Sn		**Sn**	**23 00 40.0**	**-2.8**
NEST	**Nestorio**	**5.15**	**67**	P		**Pn**	**22 59 46.6**	**+2.6**
BRY	**Bratogost**	**5.18**	**32**	⇓*i*Pn		**Pn**	**22 59 45.4**	**+0.9**
BRY				*i* Sn		**Sn**	**23 00 41.0**	**-3.2**
BRY	**Bratogost**	**5.18**	**32**	*e*Pn		**Pn**	**22 59 44.2**	**-0.3**
KEST	**Kesra**	**5.21**	**239**	Pn		**Pn**	**22 59 44.7**	**-0.2**
	comp=N,1.3nm,0.3s,baz=348,slow=7.5,SNR=16							
KEST				Sn		**Sn**	**23 00 45.8**	**+0.9**
	comp=N,0.6nm,0.3s,baz=4.7,slow=23,SNR=1.1							
RLS	**Riolos of Patr**	**5.23**	**93**	P		**Pn**	**22 59 47.5**	**+2.5**
NKME	**Niksic**	**5.25**	**35**	⇑*i*Pn		**Pn**	**22 59 45.7**	**+0.3**
NKME				*i* Sn		**Sn**	**23 00 42.6**	**-3.2**
NKY	**Niksic**	**5.30**	**35**	⇑*i*Pn		**Pn**	**22 59 47.0**	**+0.8**
NKY				*i* Sn		**Sn**	**23 00 44.0**	**-3.2**
PHP	**Peshkopia**	**5.32**	**52**	P		**Pn**	**22 59 47.4**	**+1.2**
DRO	**Drossia**	**5.43**	**94**	P		**Pn**	**22 59 49.8**	**+1.9**
EVR	**Evrytania**	**5.46**	**84**	P		**Pn**	**22 59 50.1**	**+1.9**
ANX	**Ano Chora**	**5.54**	**87**	P		**Pn**	**22 59 51.9**	**+2.5**
KOME	**Kolasin**	**5.58**	**38**	*e*Pn		**Pn**	**22 59 50.8**	**+0.9**
KOME				*i* Sn		**Sn**	**23 00 50.5**	**-3.4**
UPM	**Unac-Piva**	**5.58**	**32**	⇓*i*Pn		**Pn**	**22 59 50.9**	**+0.9**
UPM				*i* Sn		**Sn**	**23 00 50.5**	**-3.6**
UPM	**Unac-Piva**	**5.58**	**32**	*e*Pn		**Pn**	**22 59 50.3**	**+0.3**
PVY	**Plav**	**5.62**	**42**	⇓*i*Pn		**Pn**	**22 59 50.7**	**+0.2**
PVY				*i* Sn		**Sn**	**23 00 53.4**	**-1.5**
SERG	**Sergoula**	**5.66**	**89**	P		**Pn**	**22 59 53.2**	**+2.2**
TRIZ	**Trizonia**	**5.67**	**90**	P		**Pn**	**22 59 53.1**	**+2.0**
PYL	**PYLOS**	**5.71**	**105**	P		**Pn**	**22 59 50.9**	**-0.7**
MAKR	**Makrakomi, Fth**	**5.71**	**83**	P		**Pn**	**22 59 54.0**	**+2.3**
ALIK	**Aliki, Aigiali**	**5.71**	**91**	P		**Pn**	**22 59 53.6**	**+2.0**
KALE	**Kalithea**	**5.72**	**89**	P		**Pn**	**22 59 53.9**	**+2.0**
ITM	**Ithomi**	**5.76**	**101**	P		**Pn**	**22 59 52.3**	**-0.1**
IVA	**Berane**	**5.78**	**40**	⇓*i*Pn		**Pn**	**22 59 53.9**	**+1.2**
IVA				*i* Sn		**Sn**	**23 00 54.6**	**-4.3**
AGG	**Agios Georgios**	**5.87**	**83**	P		**Pn**	**22 59 55.5**	**+1.7**
PLE	**Pljevlja**	**5.89**	**34**	⇑*i*Pn		**Pn**	**22 59 54.8**	**+0.6**
PLE				*i* Sn		**Sn**	**23 00 59.0**	**-2.6**
PGF	**Pioggiola**	**5.99**	**314**	*e*Pn		**Pn**	**22 59 53.9**	**-1.6**
PGF				*e*Sn		**Sn**	**23 00 58.3**	**-5.7**
	comp=N,7.6nm,0.4s							
DSF	**Desfina**	**6.03**	**89**	P		**Pn**	**22 59 57.8**	**+1.8**
SJES	**Sjenica**	**6.11**	**38**	*e*Pn		**Pn**	**22 59 58.4**	**+1.2**
SJES				*e*Sg		**Sn**	**23 01 06.0**	**-1.0**
RUDO	**Rudo**	**6.12**	**33**	*e*Pn		**Pn**	**22 59 56.7**	**-0.5**
AXAR	**Agios Charalam**	**6.12**	**85**	P		**Pn**	**22 59 58.8**	**+1.5**
LIT	**Litokhoron**	**6.13**	**73**	P		**Pn**	**22 59 58.5**	**+1.1**
BBLS	**Lazi?i**	**6.33**	**31**	*e*Pn		**Pn**	**22 59 59.4**	**-0.8**
BBLS	**Lazi?i**	**6.33**	**31**	*e*Pn		**Pn**	**23 00 02.1**	**+1.9**
HAPS	**Han Pijesak,Bl**	**6.34**	**28**	*e*Pn		**Pn**	**23 00 01.2**	**+0.8**
HAPS	**Han Pijesak,Bl**	**6.34**	**28**	*e*Pn		**Pn**	**23 00 00.0**	**-0.4**
IVAS	**Ivanjica**	**6.43**	**37**	*e*Pn		**Pn**	**23 00 01.8**	**+0.2**
IVAS				*e*Sg		**Sn**	**23 01 14.4**	**-0.5**
BLY	**Banja Luka**	**6.45**	**15**	*e*Pn		**Pn**	**23 00 05.3**	**+3.6**
BLY				*e*Sg		Sn	23 01 25.2	+10
BLY	**Banja Luka**	**6.45**	**15**	*e*Pn		**Pn**	**23 00 03.2**	**+1.5**
STIP	**Stip**	**6.45**	**58**	*i* Pn		**Pn**	**23 00 04.6**	**+2.8**
VAY	**Valandovo**	**6.55**	**63**	*e*Pn		**Pn**	**23 00 04.7**	**+1.5**
VAY	**Valandovo**	**6.55**	**63**	*i* Pn		**Pn**	**23 00 04.5**	**+1.3**
XOR	**Xorichti**	**6.56**	**80**	P		**Pn**	**23 00 03.2**	**-0.1**
NEO	**Neokhori**	**6.58**	**81**	P		**Pn**	**23 00 03.8**	**+0.2**
SELS	**Selova**	**6.67**	**43**	*e*Pn		**Pn**	**23 00 05.4**	**+0.6**
DIVS	**Divibare**	**6.77**	**33**	*e*Pn		**Pn**	**23 00 06.4**	**+0.2**
DIVS	**Divibare**	**6.77**	**33**	*e*Pn		**Pn**	**23 00 06.6**	**+0.4**
RIY	**Rijeka**	**6.79**	**358**	*e*Pn		**Pn**	**23 00 08.8**	**+2.4**
PLG	**Polygyros**	**6.90**	**72**	P		**Pn**	**23 00 07.6**	**-0.4**
GRUS	**Gruza**	**6.94**	**38**	*e*Pn		**Pn**	**23 00 09.2**	**+0.8**
BOSS	**Bosilegrad**	**7.03**	**53**	*e*Pn		**Pn**	**23 00 09.7**	**-0.1**
TRUS	**Trudelj**	**7.05**	**35**	*e*Pn		**Pn**	**23 00 11.1**	**+1.1**
CEY	**Cerknica**	**7.20**	**358**	*e*Pn		**Pn**	**23 00 14.3**	**+2.2**
SRS	**Serrai**	**7.21**	**66**	*e*Pn		**Pn**	**23 00 13.5**	**+1.3**
BOVS	**Bovan**	**7.26**	**43**	*e*Pn		**Pn**	**23 00 12.7**	**-0.2**
CRES	**Cresnjev**	**7.29**	**3**	*e*Pn		**Pn**	**23 00 13.6**	**+0.2**
ZAPS	**Zavoj**	**7.56**	**49**	*e*Pn		**Pn**	**23 00 17.9**	**+0.9**
FRGS	**Fruska Gora**	**7.58**	**28**	*e*Pn		**Pn**	**23 00 15.5**	**-1.8**
ZAGS	**Zajecar**	**7.66**	**44**	*e*Pn		**Pn**	**23 00 19.2**	**+0.8**
SBF	**Sospel**	**7.71**	**316**	*e*Pn		**Pn**	**23 00 16.7**	**-2.5**
SBF	**Sospel**	**7.71**	**316**	*e*P		**Pn**	**23 00 21.1**	**+1.9**
SBF				*e*Sn		Sn	23 01 39.0	-7.4
	comp=N,1.2nm,0.2s							
LMR	**La Mourre**	**7.92**	**310**	*e*Pn		Pn	23 00 18.3	-3.6
LMR				*e*Sn		Sn	23 01 43.8	-7.6
	comp=N,0.7nm,0.4s							
OBKA	**Obir**	**7.97**	**359**	Pn		**Pn**	**23 00 23.4**	**+0.7**
	comp=N,6.5nm,0.6s,SNR=9.8							
OBKA				*e*Sn		**Sn**	**23 01 57.7**	**+5.0**
	comp=N,3.6nm,0.6s							
FRF	**La Foret Royal**	**7.97**	**312**	*e*Pn		**Pn**	**23 00 20.0**	**-2.6**
FRF				*e*Sn		Sn	23 01 45.2	-7.4
	comp=N,0.1nm,0.2s							
MYKA	**Terra Mystica**	**8.13**	**354**	*e*Pn		**Pn**	**23 00 26.9**	**+2.0**
	comp=N,2.8nm,0.4s							
SOKA	**Soboth**	**8.13**	**1**	*e*Pn		**Pn**	**23 00 25.2**	**+0.2**
	comp=N,2.5nm,0.5s							
MORH	**Mrgy, Hungar**	**8.17**	**19**	*e*Pn		**Pn**	**23 00 27.8**	**+2.5**
ABTA	**Abfaltersbach**	**8.38**	**349**	Pn		**Pn**	**23 00 29.6**	**+1.2**
	comp=N,4.8nm,0.6s,SNR=7.9							
HERR	**Herculane**	**8.49**	**39**	⇓P		**Pn**	**23 00 30.9**	**+1.1**
KBA	**Koelnbreinsper**	**8.60**	**353**	*e*Pn		**Pn**	**23 00 33.9**	**+2.5**
	comp=N,2.9nm,0.6s							
MBDF	**Montbardon**	**8.64**	**318**	*e*Pn		Pn	23 00 29.0	-3.0
MBDF	**Montbardon**	**8.64**	**318**	*e*P		**Pn**	**23 00 35.3**	**+3.3**
MBDF				*e*Sn		Sn	23 02 01.7	-7.7
	comp=N,0.6nm,0.4s							
IDI	**Anoyia**	**8.67**	**109**	Pn		**Pn**	**23 00 29.8**	**-2.6**
	comp=N,0.2nm,0.3s,baz=190,slow=15,SNR=1.6							
IDI				Sn		**Sn**	**23 02 05.3**	**-4.8**
	comp=N,1.4nm,0.3s,baz=258,slow=23,SNR=2.2							
ARSA	**Arzberg**	**8.72**	**3**	*e*Pn		**Pn**	**23 00 34.2**	**+1.2**
	comp=N,1.3nm,0.3s							
SMRF	**Simiane la Rot**	**8.84**	**311**	*e*Pn		Pn	23 00 31.7	-2.9
SMRF	**Simiane la Rot**	**8.84**	**311**	*e*P		**Pn**	**23 00 36.9**	**+2.3**
FETA	**Feichten**	**9.00**	**342**	*e*Pn		**Pn**	**23 00 38.9**	**+2.0**
	comp=N,2.6nm,0.7s							
DAVOX	**Davos/Dischmat**	**9.01**	**338**	Pn		**Pn**	**23 00 38.7**	**+1.6**
	comp=N,0.2nm,0.3s,baz=192,slow=20,SNR=3.4							
WTTA	**Wattenberg**	**9.03**	**346**	*e*Pn		**Pn**	**23 00 40.2**	**+2.8**
	comp=N,0.9nm,0.3s							
GZR	**Gura Zlata**	**9.04**	**38**	⇑P		**Pn**	**23 00 38.8**	**+1.4**
SQTA	**Sankt Quirin**	**9.07**	**344**	*e*Pn		Pn	23 00 45.8	+7.9
	comp=N,3.5nm,0.5s							
LPG	**La Plagne**	**9.19**	**322**	*e*Pn		**Pn**	**23 00 37.2**	**-2.5**
LPG	**La Plagne**	**9.19**	**322**	*e*P		**Pn**	**23 00 41.9**	**+2.2**
MOTA	**Moosalm**	**9.22**	**344**	*e*Pn		**Pn**	**23 00 43.4**	**+3.6**
	comp=N,1.7nm,0.5s							
LPL	**La Plagne**	**9.22**	**322**	*e*Pn		**Pn**	**23 00 38.3**	**-1.6**
LPL	**La Plagne**	**9.22**	**322**	*e*P		**Pn**	**23 00 43.1**	**+3.2**
ORIF	**Oris-en-Rattie**	**9.24**	**316**	*e*Pn		**Pn**	**23 00 37.4**	**-2.8**
ORIF	**Oris-en-Rattie**	**9.24**	**316**	*e*P		**Pn**	**23 00 43.5**	**+3.3**
MOA	**Molln**	**9.31**	**358**	Pn		**Pn**	**23 00 42.7**	**+1.6**
	comp=N,6.2nm,0.7s,SNR=11							
CONA	**Conrad Observa**	**9.41**	**4**	Pn		**Pn**	**23 00 43.2**	**+0.7**
	comp=N,2.2nm,0.7s,SNR=5.3							
RETA	**Reutte**	**9.43**	**343**	*e*Pn		**Pn**	**23 00 45.7**	**+3.1**
	comp=N,1.4nm,0.6s							
DAVA	**Damuels**	**9.47**	**339**	*e*Pn		**Pn**	**23 00 46.3**	**+3.0**
	comp=N,3.4nm,0.7s							
LOT	**Lotru**	**9.57**	**41**	⇑P		**Pn**	**23 00 45.0**	**+0.2**
VOIR		**10.25**	**45**	⇑P		**Pn**	**23 00 55.5**	**+1.5**
CABF	**La Chapelle**	**10.33**	**324**	*e*P		**Pn**	**23 00 58.2**	**+3.2**
GERES	**GERESS Array B**	**10.33**	**356**	Pn		**Pn**	**23 00 55.2**	**+0.1**
	comp=N,0.2nm,0.3s,baz=171,slow=12,SNR=20							
VYHS

RAO	**Raoul Island**	**10.58**	170	P	**Pn**	**23 02 22.9 +0.1**
SANVU	**Saraoutou**	**12.62**	283	P	**P**	**23 02 44.5 -0.3**
DZM	**Mont Dzumac**	**13.05**	253	P	**P**	**23 02 48.7 -0.9**
OUZ	**Omahuta**	**17.28**	198	P	**P**	**23 03 35.3 +0.3**
OUZ				IAmb	IAmb	23 03 51.8
	comp=Z,17nm,1.2s					
KNTN	**Kanton**	**17.91**	**28**	P	**P**	**23 03 40.1 -1.7**
KNTN				IAmb	IAmb	23 03 57.6
	comp=Z,29nm,0.9s					
HIZ	**Hauiti**	**20.12**	192	P	**P**	**23 04 02.9 -0.7**
HIZ				IAmb	IAmb	23 04 10.0
	comp=Z,29nm,1.2s					
BFZ	**Birch Farm**	**22.03**	187	P	**P**	**23 04 21.6 +0.7**
BFZ				IAmb	IAmb	23 04 26.5
	comp=Z,18nm,1.1s					
SNZO	**South Karori**	**22.87**	190	P	**P**	**23 04 28.8 +0.3**
MSWZ	**Moikau Station**	**22.88**	189	P	**P**	**23 04 28.7 +0.1**
MQZ	**McQueen's Vall**	**25.57**	192	P	**P**	**23 04 53.1 +0.5**
MQZ				IAmb	IAmb	23 05 11.2
	comp=Z,14nm,1.1s					
RPZ	**Rata Peaks**	**25.93**	195	P	**P**	**23 04 57.2 +1.3**
RPZ				IAmb	IAmb	23 05 01.2
	comp=Z,9.5nm,1.1s					
WKZ	**Wanaka**	**27.50**	197	P	**P**	**23 05 10.2 +0.4**
WKZ				IAmb	IAmb	23 05 26.5
	comp=Z,26nm,1.2s					
ARMA	**Armidale**	**28.13**	240	P	**P**	**23 05 17.2 +1.5**
MLZ	**Mavora Lakes**	**28.24**	198	P	**P**	**23 05 15.0 -1.3**
MLZ				IAmb	IAmb	23 05 28.3
	comp=Z,12nm,1.1s					
PYZ	**Puysegur Point**	**29.40**	199	P	**P**	**23 05 26.6 +0.2**
STKA	**Stephens Creek**	**36.82**	242	P	**P**	**23 06 34.0 +3.9**
	comp=Z,1.4nm,0.5s,baz=84,slow=9.9,SNR=4.4					
STKA	**Stephens Creek**	**36.82**	242	P	**P**	**23 06 33.2 +3.1**
WAKE	**Wake Island**	**40.04**	340	P	**P**	**23 06 58.2 +1.7**
BBOO	**Buckleboo**	**41.59**	242	P	**P**	**23 07 10.8 +1.7**
BBOO				IAmb	IAmb	23 07 20.8
	comp=Z,5.1nm,1.0s					
WR0	**Warramunga Arr**	**42.74**	261	P	**P**	**23 07 15.6 -2.8**
WC3	**Warramunga Arr**	**42.89**	261	P	**P**	**23 07 20.5 +0.8**
WB0	**Warramunga Arr**	**42.90**	261	P	**P**	**23 07 20.6 +0.9**
WB2	**Warramunga Arr**	**42.92**	261	P	**P**	**23 07 20.8 +1.0**
WRA	**Warramunga Arr**	**42.93**	261	P	**P**	**23 07 21.1 +1.2**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.8,SNR=12					
WRA	**Warramunga Arr**	**42.93**	261	P	**P**	**23 07 20.8 +0.9**
AS31	**Alice Springs**	**43.03**	255	P	**P**	**23 07 22.2 +1.5**
ASAR	**Alice Springs**	**43.04**	255	P	**P**	**23 07 22.4 +1.6**
	comp=Z,3.6nm,0.5s,baz=90,slow=8.3,SNR=58					
ASAR	**Alice Springs**	**43.04**	255	P	**P**	**23 07 22.1 +1.4**
FORT	**Forrest**	**48.20**	245	P	**P**	**23 08 01.2 +0.7**
FORT				IAmb	IAmb	23 08 02.2
	comp=Z,20nm,0.9s					
PSAB2	**Pilbara Seismi**	**56.15**	256	P	**P**	**23 08 57.6 -0.7**
PSAB3	**Pilbara Seismi**	**56.15**	256	P	**P**	**23 08 57.5 -0.9**
PSAA3	**Pilbara Seismi**	**56.15**	256	P	**P**	**23 08 57.8 -0.6**
PSAC3	**Pilbara Seismi**	**56.17**	256	P	**P**	**23 08 57.3 -1.2**
PSAD1	**Pilbara Seismi**	**56.20**	256	P	**P**	**23 08 57.6 -1.0**
PSAC1	**Pilbara Seismi**	**56.20**	256	P	**P**	**23 08 57.5 -1.2**
MORW	**Morawa**	**58.68**	247	P	**P**	**23 09 14.3 -1.4**
MORW				IAmb	IAmb	23 09 22.6
	comp=Z,5.8nm,1.0s					
JMN	**Monobe**	**68.24**	320	P	**P**	**23 10 16.2 -1.2**
JEM	**Erimo**	**69.41**	332	P	P	23 10 34.5 +10
JTU	**Tsushima**	**71.56**	318	P	**P**	**23 10 38.0 +0.7**
SFX	**San Felipe**	**79.84**	**52**	P	**P**	**23 11 25.0 +1.3**
SFX				IAmb	IAmb	23 11 38.6
	comp=Z,9.5nm,0.9s					
KEBM	**Edson Butte**	**79.93**	**38**	P	**P**	**23 11 24.6 +0.6**
KEBM				IAmb	IAmb	23 11 31.6
	comp=Z,5.3nm,1.1s					
KULM	**Kulim**	**81.60**	278	P	**P**	**23 11 32.8 -0.5**
KULM				IAmb	IAmb	23 11 46.8
	comp=Z,5.2nm,1.1s					
KVN	**Kaiserville**	**81.63**	**44**	P	**P**	**23 11 32.0 -1.1**
PINE	**Pine Mountain**	**82.47**	**39**	P	**P**	**23 11 36.2 -1.1**
SEW	**Seward**	**82.47**	**15**	P	**P**	**23 11 38.0 +1.3**
MAW	**Mawson**	**82.48**	200	P	**P**	**23 11 35.8 -0.9**
DIB	**Dawson Inlet,**	**82.63**	**27**	P	**P**	**23 11 38.3 +0.7**
DIB				IAmb	IAmb	23 11 40.0
	comp=Z,6.6nm,0.8s					
PGC	**Sidney**	**83.93**	**34**	P	**P**	**23 11 45.1 +0.9**
PGC				IAmb	IAmb	23 12 00.5
	comp=Z,3.3nm,1.0s					
SIT	**Sitka**	**84.31**	**23**	P	**P**	**23 11 46.0 0.0**
M24K	**Tolsona, Glenn**	**85.01**	**15**	P	**P**	**23 11 49.8 +0.3**
GLB	**Gilahina Butte**	**85.07**	**17**	P	**P**	**23 11 51.9 +2.1**
GLB				IAmb	IAmb	23 12 10.2
	comp=Z,8.6nm,1.2s					
HYT	**Haines Junctio**	**86.42**	**19**	P	**P**	**23 11 54.9 -1.5**
HYT				IAmb	IAmb	23 12 10.6
	comp=Z,4.7nm,1.1s					
PV01	**Paradox Valley**	**87.71**	**48**	P	**P**	**23 12 02.9 -0.3**
PV01				IAmb	IAmb	23 12 16.6
	comp=Z,2.3nm,0.7s					
AHID	**Auburn Hatcher**	**88.08**	**43**	P	**P**	**23 12 03.8 -1.0**
AHID				IAmb	IAmb	23 12 04.8
	comp=Z,3.5nm,0.5s					
CLL	**Collm**	**145.96**	345	*e*PKPbc	**PKPab**	**23 18 53.0 +0.1**

*JMA **09** 23:05:41.4, 36.77N×141.13E, h25km±1km, M3.4*
JMA Felt I J1.
*IDC **09** 23:05:44.6±2.5, 36.58N×140.76E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/53, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=59.0km s-min=30.4km az=61.0*
ISC 09 23:05:42.3±1.7, 36.77N±0.04×141.03E±0.07, h8km±10km, n20, σ1s81/25, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.38**	331	P	**Pg**	**23 05 50.1**	**+0.3**
ONAJ				*e*S	**Sg**	**23 05 56.8**	**+2.0**
JHO	**Hitachi**	**0.41**	247	P	**Pb**	**23 05 50.9**	**-0.9**
JHO				S	**Sb**	**23 05 57.9**	**-0.2**
JFFD	**Fukushimafurud**	**0.49**	310	P	**Pg**	**23 05 52.3**	**+0.4**
JFFD				*e*S	**Sg**	**23 06 00.1**	**+1.7**
JHYU	**Hitachinakayam**	**0.56**	220	P	**Pb**	**23 05 53.4**	**-1.0**
JHYU				*e*S	**Sb**	**23 06 02.0**	**-0.5**
JFK	**Kawauchi**	**0.61**	348	P	**Pg**	**23 05 53.4**	**-0.7**
JFK				S	**Sg**	**23 06 02.2**	**+0.2**
JYT	**Yasato**	**0.87**	231	P	**Pb**	**23 05 58.2**	**-1.4**
JYT				S	**Sn**	**23 06 10.0**	**-3.6**
JSB	**Shiboa**	**0.91**	283	P	**Pb**	**23 06 00.4**	**0.0**
JSB				*e*S	**Sn**	**23 06 14.0**	**-0.9**
JFT	**Otama**	**0.93**	324	P	**Pb**	**23 05 59.6**	**-1.1**
JFT				*e*S	**Sg**	**23 06 12.6**	**+0.3**
JMM	**Marumori**	**1.11**	350	P	**Pn**	**23 06 01.3**	**-2.9**
JMM				S	**Sb**	**23 06 15.8**	**-2.6**
MJAR	**Matsushiro Arr**	**2.28**	265	Pn	**Pn**	**23 06 20.1**	**-0.2**
	1.3nm,0.3s,baz=88,slow=15,SNR=27						
MJAR				Sn	**Sb**	**23 06 51.2**	**-0.9**
	1.9nm,0.3s,baz=67,slow=19,SNR=5.8						
MAT	**Matsushiro**	**2.28**	265	P	**Pn**	**23 06 19.8**	**-0.6**
MAT				S	**Sg**	**23 06 53.6**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**28.28**	120	T	T	23 40 58.1	
	baz=313,slow=75,SNR=175						
H11N1	**WAKE ISLAND Hy**	**28.29**	120	T	T	23 41 02.1	
	baz=313,slow=75,SNR=195						
H11N3	**WAKE ISLAND Hy**	**28.30**	120	T	T	23 41 04.1	
	baz=313,slow=75,SNR=124						
H11S1	**WAKE ISLAND Hy**	**28.98**	122	T	T	23 41 56.3	
	baz=315,slow=76,SNR=73						
H11S3	**WAKE ISLAND Hy**	**28.98**	122	T	T	23 41 52.2	
	baz=315,slow=76,SNR=57						
H11S2	**WAKE ISLAND Hy**	**28.99**	122	T	T	23 41 53.4	
	baz=315,slow=76,SNR=45						
ZALV	**Zalesovo Beam**	**41.87**	313	P	**P**	**23 13 35.6**	**+2.9**
	0.6nm,0.6s,baz=92,slow=9.4,SNR=2.1						
MKAR	**Makanchi Array**	**44.00**	302	P	**P**	**23 13 53.2**	**+3.0**
	0.7nm,0.9s,baz=82,slow=9.4,SNR=2.4						
WRA	**Warramunga Arr**	**56.76**	188	P	**P**	**23 15 28.8**	**+1.9**
	0.3nm,0.6s,baz=5.4,slow=7.7,SNR=5.6						

*IDC **09** 23:25:08.7±3.0, 3.55S×134.90E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.5/34, mbtmp3.7/5, ML3.3/3, Error ellipse: s-maj=86.8km s-min=27.0km az=75.0*
*NEIC **09** 23:25:11.4±2.6, 3.67S±0.04×134.94E±0.07, h35km±2km, mb4.2/11, Error ellipse: s-maj=13.7km s-min=4.2km az=113.0*
ISC 09 23:25:10.2±0.8, 3.64S±0.09×134.92E±0.10, h25km, n25, σ1s32/26, mb4.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.76**	285	Pn	**Pn**	**23 25 53.9**	**+1.0**
SIJI	**Sorong**	**4.57**	307	Pn	**Pn**	**23 26 19.7**	**+1.9**
	2.1nm,0.3s,baz=254,slow=22,SNR=5.1						
SIJI				Sn	**Sn**	**23 27 08.7**	**-1.5**
	2.2nm,0.3s,baz=127,slow=23,SNR=1.8						
SAUI	**Saumlaki**	**5.62**	220	Pn	**Pn**	**23 26 32.4**	**+0.2**
TNTI	**Ternate**	**8.73**	300	Pn	**Pn**	**23 27 15.6**	**+0.7**
MTN	**Manton Dam**	**9.88**	202	Pn	**Pn**	**23 27 31.6**	**+0.8**
KNRA	**Kununurra**	**13.41**	206	Pn	**Pn**	**23 28 18.0**	**-1.0**
PMG	**Port Moresby**	**13.44**	116	Pn	**Pn**	**23 28 18.9**	**-0.6**
WB0	**Warramunga Arr**	**16.04**	182	Pn	**Pn**	**23 28 53.9**	**-0.4**
WB0				IAmb	IAmb	23 29 02.3	
	comp=Z,4.6nm,1.0s						
WB2	**Warramunga Arr**	**16.22**	182		**Pn**	**23 28 58.4**	**+1.8**
WB2				IAmb	IAmb	23 29 04.0	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**16.22**	182	Pn	**Pn**	**23 28 57.3**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=357,slow=13,SNR=1.5						
WRA	**Warramunga Arr**	**16.22**	182	P	**Pn**	**23 28 58.1**	**+1.6**
WR0	**Warramunga Arr**	**16.23**	181	Pn	**Pn**	**23 28 55.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**17.00**	212	P	**Pn**	**23 29 07.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=32,slow=10,SNR=7.2						
FITZ	**Fitzroy Crossi**	**17.00**	212		**Pn**	**23 29 05.2**	**-1.3**
AS31	**Alice Springs**	**19.93**	183	P	**Pn**	**23 29 42.3**	**+0.1**
AS31				IAmb	IAmb	23 29 48.2	
	comp=Z,2.3nm,0.7s						
ASAR	**Alice Springs**	**19.94**	183	P	**Pn**	**23 29 44.8**	**+2.5**
	comp=Z,6.8nm,0.8s,baz=7.8,slow=10,SNR=46						
ASAR	**Alice Springs**	**19.94**	183	P	**Pn**	**23 29 43.8**	**+1.6**
GIRL	**Giralia**	**27.54**	225	P	**P**	**23 30 53.7**	**-1.5**
GIRL				IAmb	IAmb	23 31 05.5	
	comp=Z,81nm,1.1s						
MORW	**Morawa**	**31.00**	213	P	**P**	**23 31 25.6**	**-0.3**
MORW				IAmb	IAmb	23 31 36.1	
	comp=Z,7.4nm,1.0s						
MKAR	**Makanchi Array**	**68.26**	324	P	**P**	**23 36 10.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=119,slow=8.9,SNR=1.6						
MKAR	**Makanchi Array**	**68.26**	324	P	**P**	**23 36 08.4**	**-0.6**
IMAR	**Indian Mountai**	**85.80**	**23**	P	**P**	**23 37 48.9**	**+1.7**
FOMA	**Nahampoana Res**	**86.61**	245	P	**P**	**23 37 50.6**	**-1.5**
EYAK	**Cordova Ski Ar**	**87.91**	**29**	P	**P**	**23 37 56.7**	**-0.9**
EYAK				IAmb	IAmb	23 38 10.1	
	comp=Z,14nm,1.0s						
M24K	**Tolsona, Glenn**	**88.01**	**28**	P	**P**	**23 37 57.7**	**-0.4**

*IDC **09** 23:40:57.3±1.2, 45.84N×107.12W, h0km, mb3.4/1, mb1 3.2/3, mb1mx3. 1/44, mbtmp3. 1/3, ML2.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2. 1/33, Error ellipse: s-maj=45.6km s-min=9.1km az=127.0*
*NEIC **09** 23:40:57.3±2.8, 46.07N±0.05×106.86W±0.05, h0km±2km, ML2.8/46, Error ellipse: s-maj=9.3km s-min=4.0km az=150.0*
ISC 09 23:40:56.8±0.9, 46.01N±0.05×106.86W±0.05, h0km, n34, σ1s29/35, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**0.81**	**33**		**Pg**	**23 41 12.4**	**+0.1**
LAO				Sg	**Sg**	**23 41 19.9**	**-3.0**
RLMT	**Red Lodge**	**1.91**	243		**Pn**	**23 41 29.2**	**-1.6**
RLMT				IAML		23 41 57.5	
	90nm,0.6s						
GCMT	**Greycliff**	**1.97**	265		**Pn**	**23 41 31.5**	**-0.1**
GCMT				Sn	**Sn**	**23 41 56.4**	**-0.7**
YNE	**Yellowstone No**	**2.43**	247		**Pn**	**23 41 37.6**	**-0.4**
YMP	**Mirror Lake Pl**	**2.65**	243		**Pn**	**23 41 40.9**	**-0.1**
RSSD	**Black Hills**	**2.75**	132		**Pn**	**23 41 43.1**	**+0.7**
RSSD				IAML		23 42 24.7	
	35nm,0.6s						
RSSD				IAML		23 42 25.2	
	23nm,0.5s						
EGMT	**Eagleton**	**2.83**	317	Pg	**Pg**	**23 41 49.5**	**-1.4**
EGMT				IAML		23 42 29.5	
	44nm,0.3s						
EGMT				IAML		23 42 30.3	
	41nm,0.3s						
LKWY	**Lake**	**2.88**	241	Pn	**Pn**	**23 41 45.4**	**+1.1**
LKWY				IAML		23 42 26.3	
	26nm,0.6s						
DGMT	**Dagmar**	**3.06**	**35**	Pg	**Pg**	**23 41 55.6**	**+0.2**
YHH	**Holmes Hill**	**3.06**	248		**Pn**	**23 41 47.5**	**+0.8**
YMR	**Madison River**	**3.19**	247		**Pn**	**23 41 49.6**	**+1.2**
YHL	**Hebgen Lake**	**3.26**	251		**Pn**	**23 41 51.0**	**+1.6**
YPP	**Pitchstone Pla**	**3.29**	240		**Pn**	**23 41 50.9**	**+1.1**
FLWY	**Flagg Ranch**	**3.33**	236		**Pn**	**23 41 51.5**	**+1.1**
FLWY				IAML		23 42 36.4	
	16nm,0.6s						
FLWY				IAML		23 42 38.7	
	16nm,0.5s						
BOZ	**Bozeman (W)**	**3.36**	265		**Pn**	**23 41 51.6**	**+0.9**
BOZ				IAML		23 42 48.5	
	15nm,0.5s						
K22A	**Casper**	**3.37**	176	Pn	**Pn**	**23 41 50.5**	**-0.3**
K22A				IAML		23 42 40.3	
	comp=E,24nm,0.5s						
K22A				IAML		23 42 42.0	
	comp=N,20nm,0.3s						
QLMT	**Earthquake Lak**	**3.43**	252		**Pn**	**23 41 53.4**	**+1.7**
HRY	**Holter Researc**	**3.51**	283		**Pn**	**23 41 54.7**	**+2.0**
IMW	**Indian Meadow**	**3.58**	235		**Pn**	**23 41 56.8**	**+2.9**
IMW				IAML		23 42 46.4	
	comp=N,20nm,0.5s						
BW06	**Boulder Array**	**3.77**	212		**Pn**	**23 41 56.4**	**-0.1**
BW06				IAML		23 43 41.8	
	comp=N,9.2nm,4.7s						
PD31	**Pinedale Array**	**3.77**	212		**Pn**	**23 41 56.5**	**0.0**
PDAR	**Pinedale Array**	**3.77**	212	Pn	**Pn**	**23 41 56.5**	**0.0**
	comp=N,0.2nm,0.3s,baz=49,slow=12,SNR=12						
PDAR				Pg	**Pb**	**23 42 04.4**	**0.0**
	comp=N,0.8nm,0.3s,baz=36,slow=17,SNR=11						
PDAR				Lg	Lg	23 42 45.8	
	comp=N,1.7nm,0.3s,baz=33,slow=31,SNR=14						
FXWY	**Fox Creek**	**3.79**	233		**Pn**	**23 41 57.4**	**+0.7**
TPAW	**Teton Pass**	**3.85**	231	Pn	**Pn**	**23 41 59.6**	**+2.0**
TPAW				IAML		23 42 57.6	
	comp=N,13nm,3.3s						
REDW	**Red Top Meadow**	**3.89**	229	Pn	**Pn**	**23 41 59.8**	**+1.8**
REDW				IAML		23 43 06.0	
	comp=N,9.7nm,2.7s						
REDW				IAML		23 44 02.9	
	comp=N,11nm,3.8s						
LRM	**Limekiln Ridge**	**3.91**	269		**Pn**	**23 41 59.6**	**+1.3**
DLMT	**Dillon**	**4.07**	263		**Pn**	**23 42 00.1**	**-0.4**
DLMT				IAML		23 43 18.2	
	comp=N,12nm,3.3s						
E28A	**Huff**	**4.31**	**80**	Pn	**Pn**	**23 42 04.4**	**+0.7**
RWWY	**Rawlins**	**4.33**	183	Pn	**Pn**	**23 42 03.4**	**-0.6**
RWWY				IAML		23 43 36.5	
	comp=N,13nm,4.5s						
MCMT	**McKenzie Canyo**	**4.38**	257	Pn	**Pn**	**23 42 05.2**	**+0.4**
I10CA	**LAC DU BONNET**	**8.38**	**56**	*i*		00 31 30.0	
	baz=238,slow=324,SNR=2.7						
ULM	**Lac du Bonnet**	**8.48**	**56**	Pn	**Pn**	**23 43 02.6**	**+1.8**
	comp=N,0.2nm,0.3s,baz=247,slow=13,SNR=6.7						
YBH	**Yreka Blue Hor**	**12.21**	255	LR	LR	23 48 28.2	
	comp=N,58nm,18.9s,baz=342,slow=38						
MKAR	**Makanchi Array**	**87.23**	354	P	**P**	**23 53 45.4**	**+0.4**
	comp=N,0.2nm,0.6s,baz=36,slow=5.7,SNR=1.3						

*NEIC **09** 23:42:27.9±1.7, 59.89S±0.06×27.75W±0.2, h97km±5km, mb4.5/29, Error ellipse: s-maj=16.2km s-min=9.3km az=83.0*
*IDC **09** 23:42:30.1±5.8, 59.99S×27.58W, h118km±53km, mb3.8/7, mb1 3.9/8, mb1mx3.7/27, mbtmp4.2/8, Error ellipse: s-maj=31.8km s-min=15.8km az=50.0*
ISC 09 23:42:27.3±0.5, 59.90S±0.09×27.52W±0.10, h93km, n46, σ0s85/46, mb4.4/20, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.45**	315	Pn	**Pn**	**23 44 11.4**	**-1.7**
VNA1	**Neumayer--Stat**	**13.37**	152	P	**Pn**	**23 45 32.0**	**-0.9**
VNA3	**Neumayer Olymp**	**13.48**	155	P	**Pn**	**23 45 32.8**	**-1.5**
SNAA	**Sanae**	**15.37**	150	P	**Pn**	**23 45 58.8**	**+0.1**
SNAA	**Sanae**	**15.37**	150	P	**Pn**	**23 45 57.8**	**-0.8**
	1.6nm,0.3s,baz=307,slow=13,SNR=72						
SNAA				S	Sn	23 48 31.1	-17
	0.1nm,0.3s,baz=327,slow=17,SNR=2.5						

SNAA	**Sanae**	**15.37**	150		**Pn**	**23 45 58.5**	**-0.2**
BELA	**Belgrano 2**	**18.21**	185	P	**P**	**23 46 32.0**	**-0.5**
EFI	**East Falkland**	**18.89**	282	P	**Pn**	**23 46 41.8**	**+0.1**
QSPA	**South Pole Qui**	**30.34**	180	P	**P**	**23 48 30.8**	**+1.1**
QSPA				IAmb	IAmb	23 48 31.3	
	comp=Z,2.9nm,0.6s						
PLCA	**Paso Flores**	**32.71**	286	P	**P**	**23 48 50.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=106,slow=7.4,SNR=3.0						
LC01	**Cunco**	**34.78**	287	P	**P**	**23 49 07.5**	**-1.1**
LC01				IAmb	IAmb	23 49 09.1	
	comp=Z,2.4nm,0.7s						
MAW	**Mawson**	**37.21**	141	P	**P**	**23 49 29.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=276,slow=9.7,SNR=4.2						
MAW	**Mawson**	**37.21**	141	IAmb	IAmb	23 49 30.1	
	comp=Z,0.6nm,0.9s						
BO02	**Sierra Bellavi**	**37.56**	292	P	**P**	**23 49 33.1**	**+0.8**
BO02				IAmb	IAmb	23 49 34.6	
	comp=Z,11nm,1.1s						
GO05	**Huala**	**37.92**	291	P	**P**	**23 49 35.1**	**-0.2**
GO05				IAmb	IAmb	23 49 41.3	
	comp=Z,14nm,1.1s						
MT02	**Curacav**	**39.00**	293	P	**P**	**23 49 44.7**	**+0.4**
VA03	**San Esteban**	**39.14**	294	P	**P**	**23 49 46.8**	**+1.2**
VA03				IAmb	IAmb	23 50 00.0	
	comp=Z,16nm,1.0s						
ROC1	**El Roble**	**39.18**	294	P	**P**	**23 49 46.1**	**0.0**
ZON	**Zonda**	**39.32**	298	P	**P**	**23 49 46.9**	**-0.1**
ZON				IAmb	IAmb	23 49 52.3	
	comp=Z,7.0nm,0.9s						
CPUP	**Villa Florida**	**39.33**	315	P	**P**	**23 49 48.0**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=152,slow=7.8,SNR=5.4						
CPUP	**Villa Florida**	**39.33**	315	IAmb	IAmb	23 49 50.0	
	comp=Z,3.7nm,0.9s						
CO02	**Combarbal**	**40.66**	295	P	**P**	**23 49 58.8**	**+0.6**
CO03	**El Pedregal**	**40.82**	296	P	**P**	**23 50 00.3**	**+0.8**
CO03				IAmb	IAmb	23 50 19.9	
	comp=Z,7.7nm,1.1s						
CO01	**Juntas del Tor**	**41.29**	297	P	**P**	**23 50 05.8**	**+2.3**
CO01				IAmb	IAmb	23 50 06.7	
	comp=Z,7.4nm,0.9s						
GO04	**Tololo Observa**	**41.44**	296	P	**P**	**23 50 04.6**	**-0.1**
AC05	**El Transito**	**42.34**	298	P	**P**	**23 50 13.2**	**+1.2**
VNDA	**Vanda**	**42.71**	183	P	**P**	**23 50 14.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=189,slow=6.8,SNR=8.5						
VNDA	**Vanda**	**42.71**	183	P	**P**	**23 50 15.6**	**+1.3**
AC04	**Llanos de Chal**	**43.24**	297	P	**P**	**23 50 20.3**	**+1.2**
AC04				IAmb	IAmb	23 50 28.3	
	comp=Z,12nm,0.9s						
BOSA	**Boshof**	**47.19**	**73**	P	**P**	**23 50 50.2**	**-0.3**
BOSA				IAmb	IAmb	23 51 00.9	
	comp=Z,6.1nm,1.1s						
SIV	**San Ignacio**	**50.17**	316	P	**P**	**23 51 13.3**	**0.0**
	comp=Z,1.3nm,0.4s,baz=180,slow=8.2,SNR=11						
LBTB	**Lobatse**	**50.38**	**70**	P	**P**	**23 51 15.1**	**+0.2**
LBTB				IAmb	IAmb	23 51 21.2	
	comp=Z,6.1nm,1.1s						
LPAZ	**La Paz**	**52.54**	308	P	**P**	**23 51 32.6**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=107,slow=6.5,SNR=14						
LPAZ	**La Paz**	**52.54**	308	P	**P**	**23 51 32.7**	**+1.0**
LPAZ				IAmb	IAmb	23 51 34.1	
	comp=Z,2.2nm,0.5s						
RCBR	**Riachuelo**	**54.33**	350	P	**P**	**23 51 43.9**	**-0.1**
SAML	**Samuel**	**57.45**	317	P	**P**	**23 52 06.2**	**-0.1**
SAML				IAmb	IAmb	23 52 10.3	
	comp=Z,2.8nm,0.9s						
LSZ	**Lusaka**	**59.99**	**67**	P	**P**	**23 52 24.5**	**+0.5**
TOA0	**Torodi Ar. Sit**	**76.51**	**29**	P	**P**	**23 54 07.5**	**+0.7**
TOA0				IAmb	IAmb	23 54 08.0	
	comp=Z,6.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.51**	**29**	P	**P**	**23 54 07.6**	**+0.7**
	comp=Z,5.3nm,0.4s,baz=199,slow=6.2,SNR=48						
TORD				pP	**pP**	**23 54 30.6**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=198,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.51**	**29**	P	**P**	**23 54 07.3**	**+0.5**
KOWA	**Kowa**	**76.54**	**23**	P	**P**	**23 54 07.4**	**+0.4**
FINES	**FINESS Array B**	**127.86**	**29**	PKP	**PKPdf**	**00 01 20.0**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=132,slow=2.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**144.09**	**69**	PKP	**PKPab**	**00 01 47.9**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=218,slow=3.9,SNR=5.7						
INK	**Inuvik**	**148.59**	317	PKPbc	**PKPbc**	**00 02 00.5**	**-1.0**
	comp=Z,5.9nm,1.0s,baz=22,slow=3.1,SNR=5.2						
SONM	**Songino Array**	**150.90**	**94**	PKPbc	**PKPbc**	**00 02 07.8**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=223

DUWZ			S	Sn	00 29 25.6	+1.6
DSZ	**Denniston Nort**	**1.07 262**	P	Pn	00 29 12.4	+0.7
DSZ			S	Sn	00 29 25.9	-0.4
LTZ	**Lake Taylor**	**1.37 211**	P	Pn	00 29 16.6	+1.0
KIW	**Kapiti Island**	**1.48 60**	P	Pn	00 29 17.9	+0.9
CAW	**Cannon Point**	**1.48 71**	P	Pn	00 29 17.3	+0.4
PLWZ	**Palliser**	**1.53 89**	P	Pn	00 29 17.2	-0.4
MSWZ	**Moikau Station**	**1.54 84**	P	Pn	00 29 17.5	-0.3
MSWZ			S	Sn	00 29 36.2	-0.8
OGWZ	**Otaki Gorge**	**1.67 63**	P	Pn	00 29 19.9	+0.4
PAWZ	**Paruwai Farm**	**1.68 83**	P	Pn	00 29 19.0	-0.6
PAWZ			S	Sn	00 29 39.3	-1.0
INZ	**Inchbonnie**	**1.73 229**	P	Pn	00 29 21.3	+1.1
INZ			S	Sn	00 29 42.7	+1.2
OXZ	**Oxford**	**1.93 206**	P	Pn	00 29 23.3	+1.4
MRZ	**Mangatainoka R**	**2.02 63**	P	Pn	00 29 23.9	-0.2
MQZ	**McQueen's Vall**	**2.14 191**	P	Pn	00 29 26.0	+0.3
MQZ			S	Sn	00 29 49.0	-2.4
TIWZ	**Tintock**	**2.18 69**	P	Pn	00 29 25.8	-0.5
TIWZ			S	Sn	00 29 51.6	-0.7
NMEZ	**Namu Road**	**2.25 13**	P	Pn	00 29 30.0	+2.9
NMEZ			S	Sn	00 29 55.7	+1.8
AKCZ	**Akaroa Harbour**	**2.28 186**	S	Sn	00 29 52.3	-2.4
PREZ	**Palmer Road**	**2.37 18**	P	Pn	00 29 31.2	+2.3
NEZ	**North Egmont**	**2.43 16**	P	Pn	00 29 31.9	+2.2
BFZ	**Birch Farm**	**2.47 69**	P	Pn	00 29 29.0	-1.1
BFZ			S	Sn	00 29 57.9	-1.3
PKE	**Pukeiti**	**2.48 14**	P	Pn	00 29 32.7	+2.3
PKE			S	Sn	00 30 00.1	+0.5
RPZ	**Rata Peaks**	**2.64 216**	P	Pn	00 29 34.4	+1.8
GCSZ	**Gaunt Creek Bo**	**2.74 230**	P	Pn	00 29 35.2	+1.4
VRZ	**Vera Road**	**2.74 26**	S	Sn	00 30 08.9	+3.0
ARCZ	**Arundel**	**2.78 212**	P	Pn	00 29 36.3	+0.9
TUVZ	**Tukino**	**2.98 39**	P	Pn	00 29 39.6	+2.3
TWVZ	**Taurewa**	**3.05 35**	P	Pn	00 29 40.0	+1.9
OTVZ	**Oturere**	**3.07 38**	P	Pn	00 29 41.0	+2.5
FOZ	**Fox Glacier**	**3.17 231**	P	Pn	00 29 40.6	+1.0
HIZ	**Hauiti**	**3.33 23**	P	Pn	00 29 43.6	+1.7
ODZ	**Otahua Downs**	**3.92 208**	P	Pn	00 29 50.3	+0.4
JCZ	**Jackson Bay**	**4.09 231**	P	Pn	00 29 52.1	-0.1
WIAZ	**Waiheke Island**	**5.03 18**	P	Pn	00 30 07.0	+1.9

*NEIC **10** 00:33:57.8±1.0, 37.461N×0.008×118.79W±0.02, h1km±8km, Error ellipse: s-maj=2.2km s-min=0.8km az=116.0*

NCEDC 10 00:33:57.5±0.8, 37.48N±0.01×118.79W±0.03, h7km±3km, Md3.0/66, Error ellipse: s-maj=4.0km s-min=1.6km az=101.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	**Convict Lake**	**0.12**	**343**		Pg	00 34 00.2	0.0
WMD		**0.12**	**108**		Pg	00 34 00.2	+0.1
MLAC	**Mammoth, Mammo**	**0.16**	**345**		Pg	00 34 01.2	+0.3
MDRNC	**Doe Ridge**	**0.16**	**346**		Pg	00 34 01.4	+0.4
MLCM	**Laurel Creek C**	**0.17**	**322**		Pg	00 34 01.2	+0.1
MGPM	**Gravel Pit**	**0.17**	**328**		Pg	00 34 01.4	+0.2
MCBM	**Casa Benchmark**	**0.19**	**332**		Pg	00 34 01.7	+0.3
MCBM					Sg	00 34 04.9	+0.9
ORC	**Owens River**	**0.19**	**33**		Pg	00 34 01.6	+0.2
MCSM	**Casa Diablo Ho**	**0.20**	**332**		Pg	00 34 02.0	+0.4
MLHM	**Little Hot Cre**	**0.20**	**353**		Pg	00 34 02.1	+0.5
MTUM	**Tungsten Hills**	**0.22**	**125**		Pg	00 34 02.0	+0.1
OMMB	**Old Mammoth Mi**	**0.22**	**308**		Pg	00 34 02.0	0.0
OMMB					Sg	00 34 05.0	+0.1
MEMM	**East Mammoth H**	**0.22**	**327**		Pg	00 34 02.4	+0.3
MMPM	**Mammoth Pass**	**0.23**	**304**		Pg	00 34 02.4	+0.1
MMLB	**Mammoth Lakes**	**0.24**	**320**		Pg	00 34 02.7	+0.4
MLIM	**Lincoln Peak**	**0.24**	**311**		Pg	00 34 02.8	+0.4
MLIM					Sg	00 34 07.3	+1.5
MMSM	**Mammoth Summit**	**0.25**	**308**		Pg	00 34 02.8	+0.2
MRDM	**Red Cones**	**0.25**	**299**		Pg	00 34 02.7	+0.2
MDYM	**Dry Creek**	**0.25**	**315**		Pg	00 34 03.0	+0.4
MDPB	**Devils Postpil**	**0.28**	**303**	Pg	Pg	00 34 03.1	-0.1
MINS	**Minaret Summit**	**0.28**	**309**		Pg	00 34 03.2	+0.1
MCDM	**Chidago Canyon**	**0.28**	**76**		Pg	00 34 03.5	+0.4
MFBM	**Five Bridges**	**0.29**	**100**		Pg	00 34 03.8	+0.5
BENR	**Benton**	**0.29**	**36**		Pg	00 34 03.4	0.0
MRCM	**Red Rock Canyo**	**0.29**	**49**		Pg	00 34 03.5	+0.1
BHPR	**Bishop**	**0.30**	**127**		Pg	00 34 03.5	0.0
MDCM	**Deadman Creek**	**0.31**	**319**		Pg	00 34 03.8	+0.1
MGNR	**McGee Canyon**	**0.34**	**12**		Pg	00 34 04.7	+0.3
MLNR	**Milner Canyon**	**0.37**	**72**		Pg	00 34 05.0	+0.2
BCKR	**Birch Creek**	**0.40**	**56**		Pg	00 34 05.6	+0.3
POCCA	**Poleta Canyon**	**0.42**	**106**		Pg	00 34 05.9	+0.2
KCC	**Kaiser Creek**	**0.45**	**250**		Pg	00 34 06.3	0.0
KCC					Sg	00 34 12.4	+0.2
ANTCA	**Antelope Range**	**0.47**	**22**		Pg	00 34 06.7	0.0
BONR	**Boundary Peak**	**0.61**	**39**		Pg	00 34 09.4	+0.1
TIN	**Tinemaha, Big**	**0.61**	**134**		Pg	00 34 09.6	+0.2
LUL	**Lundy Lake**	**0.65**	**331**		Pg	00 34 10.2	0.0
MMIM	**Miami Mountain**	**0.76**	**266**		Pg	00 34 12.1	-0.2
LHV	**Little Huntoon**	**0.80**	**16**	Pg	Pg	00 34 13.1	+0.1
HELL	**Mitchell Peak,**	**0.82**	**193**		Pg	00 34 12.9	-0.3
FRI	**Friant**	**0.88**	**237**		Pg	00 34 14.0	-0.4
MHDM	**Hidden Dam**	**0.95**	**248**		Pg	00 34 15.5	-0.4
NVAR	**Mina Array Bea**	**1.02**	**22**		Pg	00 34 17.1	-0.1
NV11	**Mina Array Sit**	**1.07**	**27**		Pg	00 34 18.0	-0.2
WAKR	**Walker**	**1.15**	**334**		Pg	00 34 19.4	-0.1
CWC	**Cottonwood Cre**	**1.18**	**151**		Pg	00 34 19.4	-0.8
MRHM	**Rocky Hill**	**1.21**	**192**		Pg	00 34 19.7	-1.1
SPG2	**Springville 2**	**1.28**	**179**		Pn	00 34 21.0	-0.9
TMO	**Tin Mountain**	**1.29**	**121**		Pn	00 34 22.0	-0.3
MYLM	**Yosemite Lake**	**1.30**	**266**		Pn	00 34 21.9	-0.3
TPH	**Tonopah**	**1.38**	**64**		Pb	00 34 23.6	-0.1
CMB	**Columbia Colle**	**1.38**	**294**		Pn	00 34 22.9	-0.4
CMB	**Columbia Colle**	**1.38**	**294**		Pn	00 34 23.1	-0.3
MCUB	**Copperopolis B**	**1.54**	**289**		Pn	00 34 25.7	+0.3
YERR	**Yerington**	**1.55**	**347**		Pb	00 34 26.2	-0.4
BFC	**Buffalo Canyon**	**1.55**	**336**		Pb	00 34 27.0	+0.2
VES	**Vestal, Richgr**	**1.65**	**188**		Pb	00 34 28.1	-0.2
KVN	**Kaiserville**	**1.66**	**19**		Pn	00 34 27.8	+0.5
WCHM	**Chimney Peak**	**1.69**	**160**		Pb	00 34 28.7	-0.5
PNTR	**Pine Nut**	**1.73**	**339**		Pb	00 34 29.1	-0.7
MNHB	**New Hogan Dam**	**1.74**	**293**		Pb	00 34 29.2	-0.6
BRMM	**Rolling Bench**	**1.75**	**249**		Pb	00 34 30.1	+0.1
PARM	**Anticline Ridg**	**1.77**	**226**		Pb	00 34 29.0	-0.2
SMSM	**Mercy Hot Spri**	**1.80**	**244**		Pb	00 34 30.8	+0.2
RUBR	**Rubicon Trail**	**1.90**	**326**	Pg	Pb	00 34 33.4	+0.6
VCNR	**Virginia City**	**1.94**	**340**	Pg	Pb	00 34 34.0	+0.6
SFJWR	**San Luis Fatjo**	**1.95**	**258**		Pb	00 34 32.7	-0.7
PHRM	**Hernandez Vall**	**1.97**	**236**		Pb	00 34 32.9	-0.8
BAVM	**Antelope Valle**	**1.98**	**246**		Pb	00 34 33.1	-0.8
SLD	**San Luis Dam**	**1.98**	**259**		Pb	00 34 33.1	-0.8
BBGB	**Big Mountain B**	**2.02**	**244**		Pb	00 34 33.7	-0.9
PSRM	**Scobie Ranch**	**2.02**	**217**		Pb	00 34 33.5	-1.0
BEMM	**Emmet**	**2.02**	**247**		Pb	00 34 33.9	-0.7
CMPM	**Mikes Peak**	**2.02**	**267**		Pb	00 34 34.0	-0.7
HPCM	**Pacheco Lake**	**2.03**	**259**		Pb	00 34 33.5	-1.3
PMPB	**Monarch Peak**	**2.05**	**233**	Pg	Pb	00 34 35.3	+0.2
PMRM	**Maxey Ranch**	**2.05**	**215**		Pn	00 34 33.4	+0.9
PBWM	**Bitterwater Cr**	**2.07**	**237**		Pb	00 34 34.5	-1.0
BEHM	**Elkhorn Ranch**	**2.08**	**248**		Pb	00 34 35.3	-0.3
TPNV	**Topopah Spring**	**2.09**	**104**		Pn	00 34 33.4	+0.1
PAGB	**Antelope Grade**	**2.10**	**214**		Pb	00 34 33.7	+0.4
HJSM	**John Smith Roa**	**2.11**	**253**		Pb	00 34 35.2	-1.0
HFEM	**San Felipe**	**2.15**	**257**		Pb	00 34 35.9	-0.9
CMMM	**Mount Mocho**	**2.15**	**270**		Pb	00 34 35.8	-1.1
GHS	**Gilroy Hot Spr**	**2.16**	**261**		Pb	00 34 36.0	-1.0
PBPM	**Bitterwater Pu**	**2.16**	**209**		Pn	00 34 35.5	+1.4
SAO	**San Andreas Ge**	**2.24**	**252**		Pn	00 34 36.4	+1.3
AFDM	**Forest Hills D**	**2.26**	**311**	Pg	Pb	00 34 38.5	-0.3
SCZ	**Santa Cruz**	**2.27**	**248**		Pn	00 34 36.9	+1.4
PAHR	**Pah Rah Range**	**2.27**	**348**	Pg	Pb	00 34 39.8	+0.8
FRP	**Fremont Peak**	**2.28**	**252**		Pn	00 34 37.2	+1.5
PCCM	**Crazy Canyon**	**2.36**	**235**		Pb	00 34 38.6	-1.8
R11A	**Troy Canyon, C**	**2.68**	**70**		Pb	00 34 46.1	+0.2
PRN	**Pahroc Range**	**2.97**	**90**		Pg	00 34 53.0	-1.5
SHPR	**Sheep Range**	**3.06**	**107**		Pg	00 34 56.6	+0.4
PSUT	**Pine Spring**	**4.04**	**73**		Pg	00 35 13.1	-1.7

*LDG **10** 00:43:05.3±0.1, 43.05N×0.62W, h2km, Md1.1/2, Ml1.2/1, Error ellipse: s-maj=3.6km s-min=1.9km az=15.0*

MDD 10 00:43:05.2±0.5, 43.06N×0.61W, h6km±6km, mbLg1.0/5, Error ellipse: s-maj=5.7km s-min=2.9km az=29.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.07**	**291**	Pg	Pg	00 43 06.8	-0.3
	SNR=7.9						
ATE				Lg	Lg	00 43 08.4	
	13nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.17**	**168**	*e*Pg	Pg	00 43 08.5	-0.1
ETSF				*e*Sg	Sg	00 43 11.1	+0.2
	12nm,0.2s						
ETSF	**Etsaut**	**0.17**	**168**	Pg	Pg	00 43 08.5	-0.1
ETSF				Lg	Lg	00 43 11.1	
	6.0nm,0.2s						
SJPF	**Ste Jean**	**0.46**	**277**	*e*Pg	Pg	00 43 14.2	+0.1
SJPF	**Ste Jean**	**0.46**	**277**	Pg	Pg	00 43 14.2	+0.1
EORO	**Oroz-Betelu**	**0.54**	**252**	Pg	Pg	00 43 14.9	-0.8
	1.4nm,0.6s,SNR=5.6						
EORO				Lg	Lg	00 43 23.0	
	1.9nm,0.1s,SNR=7.4						
EALK	**Alkurruntz**	**0.68**	**284**	Pg	Pg	00 43 15.1	-3.2
	SNR=7.9						
EALK				Lg	Lg	00 43 26.5	
	0.7nm,0.1s,SNR=6.7						
EPF	**Esparros**	**0.69**	**92**	*e*Pg	Pg	00 43 19.0	+0.4
EPF				*e*Sg	Sg	00 43 27.3	-0.3
	1.0nm,0.2s						
EPF	**Esparros**	**0.69**	**92**	Pg	Pg	00 43 19.0	+0.4
EPF				Lg	Lg	00 43 27.3	
	0.5nm,0.2s						
ECHI	**Chisagues Biel**	**0.71**	**124**	Pg	Pg	00 43 17.6	-1.3
	SNR=7.9						
ECHI				Lg	Lg	00 43 26.7	
	2.8nm,0.1s,SNR=7.9						
CSOR	**Sort**	**1.45**	**117**	Lg	Lg	00 43 51.6	
	0.4nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.08**	**81**	*e*Pn	Pn	00 43 39.4	-1.3
MTLF				*e*Sn	Sn	00 44 04.7	-2.2
	0.2nm,0.2s						
MTLF	**Montolieu**	**2.08**	**81**	Pn	Pn	00 43 39.4	-1.3
MTLF				Sn	Sn	00 44 04.7	-2.2
	0.1nm,0.2s						

*LDG **10** 00:43:11.4±0.1, 43.03N×0.64W, h5km, Md0.8/2, Ml1.4/2, Error ellipse: s-maj=3.7km s-min=2.0km az=8.0*

MDD 10 00:43:11.5±0.7, 43.05N×0.62W, h8km±7km, mbLg0.9/3, Error ellipse: s-maj=7.1km s-min=4.0km az=46.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.07**	**301**	Lg	Lg	00 43 14.7	
	11nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.15**	**164**	*e*Pg	Pg	00 43 14.5	-0.3
ETSF				*e*Sg	Sg	00 43 17.3	+0.2
ETSF	**Etsaut**	**0.15**	**164**	Pg	Pg	00 43 14.5	-0.3
ETSF				Lg	Lg	00 43 17.3	
SJPF	**Ste Jean**	**0.45**	**279**	*e*Pg	Pg	00 43 19.7	-0.6
SJPF				*e*Sg	Sg	00 43 26.0	-0.2
	1.9nm,0.3s						
SJPF	**Ste Jean**	**0.45**	**279**	Lg	Lg	00 43 26.0	
	0.9nm,0.3s						
SJPF	**Ste Jean**	**0.45**	**279**	*e*Sg	Pg	00 43 19.7	-0.6
	4.4nm,0.3s						
EPF	**Esparros**	**0.70**	**91**	*e*Pg	Pg	00 43 25.4	+0.4
EPF				*e*Sg	Sg	00 43 33.5	-0.7
	0.9nm,0.2s						
EPF	**Esparros**	**0.70**	**91**	Pg	Pg	00 43 25.4	+0.4
EPF				Lg	Lg	00 43 33.5	
	0.4nm,0.2s						
ECHI	**Chisagues Biel**	**0.71**	**122**	Lg	Lg	00 43 32.6	
	2.4nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.09**	**81**	*e*Pn	Pn	00 43 45.5	-1.4
MTLF				*e*Sn	Sn	00 44 11.0	-2.2
	0.1nm,0.1s						
MTLF	**Montolieu**	**2.09**	**81**	Pn	Pn	00 43 45.5	-1.4
MTLF				Sn	Sn	00 44 11.0	-2.2
	0.1nm,0.1s						

*IDC **10** 00:44:36.1±2.3, 60.81S×42.83W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.4/21, mbtmp3.9/1, Error ellipse: s-maj=133.7km s-min=76.0km az=175.0*

*NEIC **10** 00:44:37.8±1.9, 60.8S±0.1×43.1W±0.2, h12km±5km, mb4.7/13, Error ellipse: s-maj=16.5km s-min=13.1km az=170.0*

ISC 10 00:44:36.8±0.6, 60.77S±0.09×43.06W±0.10, h10km, n25, σ1s49/21, mb4.7/7, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.40**	**31**	Pn	**Pn**	**00 46 24.8**	**+0.1**
PMSA	**Palmer Station**	**10.39**	**238**	Pn	**Pn**	**00 47 05.7**	**+0.1**
EFI	**East Falkland**	**12.33**	**311**	Pn	**Pn**	**00 47 30.0**	**-2.2**
VNA3	**Neumayer Olymp**	**16.87**	**142**	P	**Pn**	**00 48 30.5**	**-2.1**
BELA	**Belgrano 2**	**17.41**	**174**	P	**P**	**00 48 42.2**	**+1.6**
GO09	**Cerro Castillo**	**18.77**	**287**	P	**Pn**	**00 48 56.7**	**+0.6**
GO09				IAmb	IAmb	00 49 10.3	
	comp=Z,17nm,0.9s						
SNAA	**Sanae**	**19.08**	**141**	P	**Pn**	**00 49 00.9**	**+1.0**
SNAA	**Sanae**	**19.08**	**141**	P	**Pn**	**00 48 59.8**	**0.0**
LC01	**Cunco**	**28.30**	**308**	P	**P**	**00 50 27.1**	**-3.1**
MT05	**Renca**	**32.76**	**314**	P	**P**	**00 51 08.7**	**-1.1**
VA03	**San Esteban**	**33.27**	**315**	P	**P**	**00 51 16.3**	**+2.1**
VA03				IAmb	IAmb	00 51 33.3	
	comp=Z,8.1nm,0.8s						
SYO	**Syowa Base**	**33.35**	**139**	*e*P	**P**	**00 51 12.4**	**-2.0**
CO02	**Combarbal**	**34.84**	**315**	P	**P**	**00 51 27.8**	**-0.1**
CO02				IAmb	IAmb	00 51 28.3	
	comp=Z,16nm,1.1s						
AC04	**Llanos de Chal**	**37.62**	**317**	P	**P**	**00 51 52.4**	**+0.9**
TA01	**Diego Aracena**	**44.47**	**322**	P	**P**	**00 52 49.5**	**+1.6**
TA01				IAmb	IAmb	00 52 59.8	
	comp=Z,20nm,1.1s						
PB08	**IPOC Station P**	**44.57**	**324**	P	**P**	**00 52 49.7**	**+0.6**
PB08				IAmb	IAmb	00 53 04.4	
	comp=Z,5.7nm,0.9s						
ESPN	**Las Esperanzas**	**79.75**	**319**	P	**P**	**00 56 46.1**	**+1.4**
ESPN				IAmb	IAmb	00 56 57.0	
	comp=Z,9.8nm,1.1s						
MTP	**Monte Pirata**	**80.66**	**338**	P	**P**	**00 56 50.5**	**+1.0**
MTP				IAmb	IAmb	00 56 52.6	
	comp=Z,7.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**81.80**	**44**	P	**P**	**00 56 56.4**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=203,slow=6.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**81.80**	**44**	IAmb	IAmb	00 56 57.3	
	comp=Z,0.7nm,0.8s						
H08S1	**Diego Garcia H**	**95.43**	**116**	T	T	02 44 39.7	
	baz=206						
H08S2	**Diego Garcia H**	**95.44**	**116**	T	T	02 44 31.6	
	baz=206						
H08S3	**Diego Garcia H**	**95.45**	**116**	T	T	02 44 40.9	
	baz=206						
MKAR	**Makanchi Array**	**145.91**	**89**	PKPbc	**PKPbc**	**01 04 15.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=226,slow=1.9,SNR=7.9						
ILAR	**Eielson Array**	**146.87**	**310**	PKPbc	**PKPbc**	**01 04 18.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=137,slow=2.4,SNR=7.5						

*IDC **10** 00:59:36.0±1.3, 34.36N×24.21E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.3/46, mbtmp3.4/7, ML3.9/3, Error ellipse: s-maj=30.2km s-min=17.4km az=138.0*

*ISK **10** 00:59:38.3, 34.43N×24.26E, h12km, ML3.4/12*

*ATH **10** 00:59:40.0, 34.52N×24.11E, h27km±2km, ML3.1/6, Error ellipse: s-maj=3.9km s-min=1.6km az=14.0*

*THE **10** 00:59:42.1, 34.58N×24.13E, h11km±1km, ML3.0/5, Error ellipse: s-maj=2.3km s-min=1.0km az=2.0*

*GII **10** 00:59:44.2±0.0, 34.76N×25.20E, h1km*

*DDA **10** 00:59:45.1, 34.83N×24.96E, h5km±3km, ML2.9*

ISC 10 00:59:37.9±1.2, 34.35N±0.07×24.20E±0.04, h22km±8km, n77, σ2s20/101, mb3.3/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.50**	**350**	P	**Pb**	**00 59 47.9**	**-0.2**
GVD				S	**Sb**	**00 59 52.8**	**-2.2**
GVD	**Gavdhos**	**0.50**	**350**	P	**Pb**	**00 59 47.9**	**-0.2**
GVD				S	**Sb**	**00 59 51.8**	**-3.1**
GVD				AML	AML	00 59 59.5	
	comp=E,11048μm,0.2s						
GVD				AML	AML	00 59 59.6	
	comp=N,8881μm,0.3s						
GVD	**Gavdhos**	**0.50**	**350**	PG	**Pb**	**00 59 47.8**	**-0.3**
GVDS	**Gavdos**	**0.51**	**350**	P	**Pb**	**00 59 48.0**	**-0.2**
GVDS				S	**Sb**	**00 59 52.2**	**-2.9**
	comp=N,3μm,0.3s						
GVDS	**Gavdos**	**0.51**	**350**	PG	**Pb**	**00 59 47.8**	**-0.4**
SIVA	**Sivas**	**0.84**	**37**	P	**Pb**	**00 59 55.5**	**+1.7**
SIVA				S	**Sn**	**01 00 06.4**	**+0.3**
	comp=N,4μm,0.5s						
SIVA	**Sivas**	**0.84**	**37**	P	**Pb**	**00 59 55.5**	**+1.7**
SIVA				S	**Sn**	**01 00 06.4**	**+0.3**
SIVA				AML	AML	01 00 14.5	
	comp=E,9442μm,0.5s						
SIVA				AML	AML	01 00 16.5	
	comp=N,6385μm,0.5s						
TMBK	**Timbaki Herakl**	**0.86**	**33**	P	**Pb**	**00 59 56.0**	**+1.8**
KNDR	**Palaiochora Ch**	**0.98**	**335**	P	**Pb**	**00 59 57.0**	**+0.8**
KNDR	**Palaiochora Ch**	**0.98**	**335**	PG	**Pb**	**00 59 57.0**	**+0.8**
KNDR				SG	**Sb**	**01 00 10.9**	**+2.1**
PRNS	**Prines Rethymn**	**1.05**	**14**	P	**Pn**	**00 59 57.1**	**-0.2**
VAM	**Vamos**	**1.06**	**0**	P	**Pn**	**00 59 57.0**	**-0.5**
VAM				S	**Sn**	**01 00 10.4**	**-1.1**
	comp=N,832nm,0.6s						
VAM	**Vamos**	**1.06**	**0**	P	**Pn**	**00 59 57.0**	**-0.5**
VAM				S	**Sn**	**01 00 10.4**	**-1.1**
VAM				AML	AML	01 00 13.4	
	comp=N,1389μm,0.4s						
VAM				AML	AML	01 00 19.6	
	comp=E,2034μm,0.8s						
IDI	**Anoyia**	**1.10**	**31**	Pn	**Pb**	**00 59 59.1**	**+0.8**
	comp=E,13nm,0.3s,baz=244,slow=16,SNR=76						
IDI				Sn	**Sb**	**01 00 15.7**	**+3.4**
	comp=E,20nm,0.3s,baz=289,slow=23,SNR=6.6						
IDI	**Anoyia**	**1.10**	**31**	P	**Pb**	**00 59 59.4**	**+1.1**
IDI	**Anoyia**	**1.10**	**31**	P	**Pb**	**00 59 59.3**	**+1.1**
IDI				S	**Sb**	**01 00 13.1**	**+0.8**
IDI				AML	AML	01 00 18.4	
	comp=E,665μm,0.4s						
IDI				AML	AML	01 00 18.7	
	comp=N,836μm,0.6s						
IDI	**Anoyia**	**1.10**	**31**	PG	**Pn**	**00 59 58.1**	**0.0**
IMMV	**Iera Moni Meta**	**1.13**	**351**	P	**Pn**	**00 59 58.0**	**-0.4**
IMMV				S	**Sn**	**01 00 11.0**	**-2.2**
	comp=N,2μm,0.5s						
IMMV	**Iera Moni Meta**	**1.13**	**351**	P	**Pn**	**00 59 58.0**	**-0.4**
IMMV				S	**Sn**	**01 00 11.0**	**-2.2**
IMMV				AML	AML	01 00 18.4	
	comp=N,3334μm,0.5s						
IMMV				AML	AML	01 00 19.9	
	comp=E,3038μm,0.5s						
IMMV	**Iera Moni Meta**	**1.13**	**351**	PG	**Pn**	**00 59 58.2**	**-0.2**
IMMV				SG	**Sb**	**01 00 13.9**	**+0.9**
CHAN	**Chania**	**1.18**	**354**	P	**Pn**	**00 59 59.2**	**+0.1**
KSTL	**Kastelli Herak**	**1.20**	**37**	P	**Pb**	**01 00 03.6**	**+3.7**
HRKL	**Herakleio**	**1.22**	**37**	PN	**Pn**	**01 00 00.1**	**+0.5**
RODP	**Rodopos**	**1.27**	**344**	P	**Pb**	**01 00 02.0**	**+0.9**
RODP	**Rodopos**	**1.27**	**344**	PN	**Pb**	**01 00 01.4**	**+0.3**
LAST	**Lasithi**	**1.33**	**52**	P	**Pb**	**01 00 04.1**	**+1.8**
LAST	**Lasithi**	**1.33**	**52**	P	**Pb**	**01 00 04.1**	**+1.8**
NPS	**Neapolis**	**1.48**	**51**	P	**Pb**	**01 00 06.6**	**+1.8**
NPS				S	**Sb**	**01 00 25.3**	**+2.1**
	comp=E,272nm,1.2s						
NPS	**Neapolis**	**1.48**	**51**	P	**Pb**	**01 00 06.3**	**+1.5**
NPS				S	**Sb**	**01 00 25.3**	**+2.1**
NPS				AML	AML	01 00 39.1	
	comp=N,552μm,1.3s						
NPS				AML	AML	01 00 39.6	
	comp=E,534μm,1.1s						
ZKR	**Zakros**	**1.83**	**65**	PN	**Pn**	**01 00 09.3**	**+1.2**
KTHA	**Kythira Island**	**2.12**	**334**	P	**Pn**	**01 00 12.8**	**+0.7**
KTHA	**Kythira Island**	**2.12**	**334**	P	**Pn**	**01 00 12.8**	**+0.7**
KTHA	**Kythira Island**	**2.12**	**334**	PN	**Pn**	**01 00 13.8**	**+1.7**
KTHR	**Kythira**	**2.15**	**333**	P	**Pn**	**01 00 14.3**	**+1.9**
VLI	**Veliai**	**2.58**	**337**	P	**Pn**	**01 00 20.1**	**+1.7**
VLI	**Veliai**	**2.58**	**337**	P	**Pn**	**01 00 20.8**	**+2.4**
KARP	**Karpathos**	**2.71**	**63**	P	**Pb**	**01 00 23.9**	**-1.9**
KARP	**Karpathos**	**2.71**	**63**	P	**Pb**	**01 00 23.6**	**-2.2**
KARP	**Karpathos**	**2.71**	**63**	PN	**Pn**	**01 00 21.9**	**+1.7**
APE	**Apeiranthos**	**2.93**	**21**	PN	**Pn**	**01 00 24.6**	**+1.4**
DAT	**Datca**	**3.64**	**48**	PN	**Pn**	**01 00

H03S1	**Juan Fernandez**	**27.16**	**103**	T		T	01 36 49.9	
	baz=264,slow=75,SNR=59							
H03N2	**Juan Fernandez**	**27.17**	**102**	T		T	01 36 56.3	
	baz=268,slow=73,SNR=186							
H03N3	**Juan Fernandez**	**27.18**	**102**	T		T	01 36 58.1	
	baz=268,slow=73,SNR=179							
H03N1	**Juan Fernandez**	**27.19**	**102**	T		T	01 36 53.7	
	baz=268,slow=73,SNR=235							
BI02	**San Fabin de**	**33.19**	**109**	P		**P**	**01 09 21.8**	**-1.2**
PLCA	**Paso Flores**	**33.70**	**117**	LR		LR	01 19 33.2	
	comp=Z,171nm,19.1s,baz=318,slow=30							
TBI	**Tubuai**	**34.80**	**274**	*e*LR		LR	01 18 44.7	
	comp=Z,227nm,27.2s							
PPT2	**Papeete2**	**37.42**	**283**	*e*LR		LR	01 19 54.0	
	comp=Z,300nm,24.8s,baz=121							
PPT	**Papeete**	**37.43**	**283**	LR		LR	01 20 46.5	
	comp=Z,184nm,20.4s,baz=152,slow=29							
MNMC	**Minye Minye**	**39.42**	**81**	P		**P**	**01 10 16.7**	**+0.1**
GO01	**Chusmiza**	**39.51**	**82**	P		**P**	**01 10 17.9**	**+0.3**
LPAZ	**La Paz**	**41.99**	**79**	LR		LR	01 23 59.9	
	comp=Z,74nm,18.2s,baz=230,slow=30							
OTAV	**Otavalo**	**44.49**	**51**	P		**P**	**01 10 58.6**	**+0.3**
OTAV				IAmb		IAmb	01 11 36.8	
	comp=Z,8.5nm,1.5s							
CPUP	**Villa Florida**	**47.01**	**98**	LR		LR	01 27 51.2	
	comp=Z,100nm,18.2s,baz=230,slow=32							
CPUP	**Villa Florida**	**47.01**	**98**	P		**P**	**01 11 18.4**	**+0.7**
SAML	**Samuel**	**49.96**	**74**	P		**P**	**01 11 39.7**	**-0.7**
SAML				IAmb		IAmb	01 11 44.8	
	comp=Z,3.4nm,0.9s							
CRIN	**San Cristobal**	**50.00**	**31**	P		**P**	**01 11 40.7**	**-0.1**
ROSC	**El Rosal**	**50.65**	**51**	LR		LR	01 29 54.5	
	comp=Z,100nm,18.3s,baz=248,slow=32							
ROSC	**El Rosal**	**50.65**	**51**	P		**P**	**01 11 45.5**	**-0.6**
SDV	**Santo Domingo**	**56.09**	**51**	LR		LR	01 32 50.3	
	comp=Z,50nm,20.1s,baz=15,slow=32							
VNDA	**Vanda**	**58.49**	**195**	LR		LR	01 33 28.4	
	comp=Z,80nm,18.1s,baz=79,slow=32							
BDFB	**Brasilia**	**59.31**	**90**	LR		LR	01 36 03.0	
	comp=Z,3nm,18.9s,baz=250,slow=34							
TX32	**Lajitas Array**	**61.29**	**8**	P		**P**	**01 13 02.6**	**+1.0**
TXAR	**Lajitas Array**	**61.29**	**8**	P		**P**	**01 13 03.0**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=186,slow=7.2,SNR=4.6							
TXAR				LR		LR	01 35 07.2	
	comp=Z,52nm,18.0s,baz=0.0,slow=32							
JCT	**Junction City**	**62.94**	**11**	P		**P**	**01 13 13.8**	**+1.1**
MNTX	**Cornudas Mount**	**63.46**	**6**	P		**P**	**01 13 17.2**	**+1.2**
MNTX				IAmb		IAmb	01 13 22.3	
	comp=Z,5.5nm,1.5s							
TUC	**Tucson**	**63.83**	**0**	P		**P**	**01 13 19.9**	**+1.3**
Y14A	**Wickenburg**	**65.48**	**358**	P		**P**	**01 13 30.4**	**+1.1**
SNAA	**Sanae**	**65.57**	**161**	P		**P**	**01 13 30.9**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=239,slow=5.3,SNR=5.7							
SNAA	**Sanae**	**65.57**	**161**	IAmb		IAmb	01 13 33.1	
	comp=Z,6.5nm,1.3s							
NVAR	**Mina Array Bea**	**70.25**	**354**	P		**P**	**01 13 58.2**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=182,slow=9.0,SNR=3.8							
NVAR				LR		LR	01 38 20.7	
	comp=Z,89nm,19.9s,baz=235,slow=30							
KVN	**Kaiserville**	**70.85**	**354**	P		**P**	**01 14 03.8**	**+0.8**
JLU	**Jordanelle**	**72.11**	**360**	P		**P**	**01 14 11.5**	**+0.8**
DZM	**Mont Dzumac**	**72.45**	**255**	*e*LR		LR	01 36 11.3	
	comp=Z,98nm,27.4s							
BW06	**Boulder Array**	**74.28**	**1**	P		**P**	**01 14 24.4**	**+0.9**
BW06				IAmb		IAmb	01 14 29.5	
	comp=Z,5.3nm,1.1s							
PD31	**Pinedale Array**	**74.28**	**1**	P		**P**	**01 14 23.9**	**+0.4**
PDAR	**Pinedale Array**	**74.28**	**1**	P		**P**	**01 14 23.2**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=172,slow=6.7,SNR=4.8							
PDAR	**Pinedale Array**	**74.28**	**1**	P		**P**	**01 14 23.5**	**0.0**
HLID	**Hailey**	**75.12**	**358**	P		**P**	**01 14 28.9**	**+0.7**
FXWY	**Fox Creek**	**75.14**	**0**	P		**P**	**01 14 28.9**	**+0.4**
FXWY				IAmb		IAmb	01 14 34.9	
	comp=Z,7.2nm,1.4s							
MCMT	**McKenzie Canyo**	**76.34**	**359**	P		**P**	**01 14 35.2**	**-0.1**
G08A	**Pilot Rock**	**77.11**	**354**	P		**P**	**01 14 39.8**	**+0.3**
G08A				IAmb		IAmb	01 14 46.4	
	comp=Z,5.0nm,1.2s							
H01W1	**Cape Leeuwin H**	**101.08**	**217**	T		T	03 09 45.1	
	baz=141							
H01W2	**Cape Leeuwin H**	**101.09**	**217**	T		T	03 09 51.5	
	baz=141							
H01W3	**Cape Leeuwin H**	**101.10**	**217**	T		T	03 09 52.4	
	baz=141							
MLR	**Muntele Rosu**	**144.32**	**55**	PKPdf		**PKPab**	**01 22 20.2**	**-0.1**
AKASG	**Malin Array Be**	**145.35**	**45**	PKPbc		**PKPbc**	**01 22 21.1**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=275,slow=3.8,SNR=8.4							
AKBB	**Malin Array Si**	**145.35**	**45**	PKPbc		**PKPab**	**01 22 24.6**	**+0.9**
SONM	**Songino Array**	**147.39**	**310**	PKPbc		**PKPdf**	**01 22 28.0**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=134,slow=4.2,SNR=2.5							
CMAR	**Chiang Mai Arr**	**149.73**	**251**	PKPbc		**PKPbc**	**01 22 35.8**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=132,slow=1.3,SNR=1.9							
BRTR	**Keskin Array B**	**150.65**		PKPbc		**PKPbc**	**01 22 37.9**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=235,slow=5.1,SNR=2.1							
ZALV	**Zalesovo Beam**	**155.12**	**337**	PKPab		**PKPab**	**01 23 03.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=51,slow=5.2,SNR=1.9							

WEL 10 01:26:51.0,38°S±3°×17°6E±°, h213km±7km, M2.6/36, ML2.3/6, MLv2.6/36, Error ellipse: s-maj=0.0km s-min=0.0km az=94.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUTZ	**Kaahu Road**	**0.06**	**150**	P	Pn	01 27 15.2	-3.5
MRHZ	**Matea Rd**	**0.64**	**129**	P	Pn	01 27 19.5	-0.7
TMVZ	**Te Maari**	**0.68**	**185**	P	Pn	01 27 20.5	+0.1
TWVZ	**Taurewa**	**0.69**	**203**	P	Pn	01 27 20.5	0.0
WTVZ	**West Tongariro**	**0.70**	**193**	P	Pn	01 27 20.5	-0.1
ETVZ	**East Tongariro**	**0.70**	**185**	P	Pn	01 27 20.6	0.0
HIZ	**Hauiti**	**0.73**	**264**	P	Pn	01 27 21.3	+0.8
OTVZ	**Oturere**	**0.73**	**187**	P	Pn	01 27 20.7	-0.1
NGZ	**Ngauruhoe**	**0.75**	**191**	P	Pn	01 27 20.9	0.0
TUVZ	**Tukino**	**0.84**	**187**	P	Pn	01 27 21.3	0.0
WNVZ	**Wahianoa**	**0.90**	**189**	P	Pn	01 27 21.7	+0.1
BKZ	**Black Stump Fm**	**0.92**	**143**	P	Pn	01 27 21.3	-0.3
PKVZ	**Pokaka**	**0.92**	**202**	P	Pn	01 27 21.8	+0.2
MTHZ	**Maungataniwha**	**0.93**	**117**	P	Pn	01 27 21.5	-0.2
MOVZ	**Moawhango**	**0.97**	**181**	P	Pn	01 27 21.7	-0.3
MTVZ	**Mangateitei**	**0.98**	**194**	P	Pn	01 27 22.3	+0.3
NMHZ	**Naumai**	**1.04**	**130**	P	Pn	01 27 23.2	+0.8
VRZ	**Vera Road**	**1.06**	**229**	P	Pn	01 27 23.4	+1.0
URZ	**Urewera**	**1.06**	**81**	P	Pn	01 27 22.0	-0.5
BHHZ	**Black Hill Sta**	**1.07**	**168**	P	Pn	01 27 22.4	-0.2
KWHZ	**Kaweka Forest**	**1.11**	**153**	P	Pn	01 27 23.1	+0.2
MCHZ	**McNeill Hill**	**1.23**	**145**	P	Pn	01 27 24.5	+0.9
ARHZ	**Aropaoanui**	**1.26**	**132**	P	Pn	01 27 24.5	+0.6
KRHZ	**Kereru**	**1.29**	**159**	P	Pn	01 27 24.4	+0.2
MWZ	**Matawai**	**1.37**	**86**	P	Pn	01 27 25.0	+0.1
RUGZ	**Raukumara Rang**	**1.56**	**73**	P	Pn	01 27 26.2	-0.4
KAHZ	**Kahuranaki**	**1.60**	**148**	P	Pn	01 27 27.8	+1.1
TSZ	**Takapari Road**	**1.63**	**175**	P	Pn	01 27 27.5	+0.5
HAZ	**Te Kaha**	**1.72**	**67**	P	Pn	01 27 27.8	+0.1
PXZ	**Pawanui**	**1.80**	**155**	P	Pn	01 27 29.2	+0.8
DVHZ	**Dannevirke**	**1.88**	**171**	P	S	01 27 52.3	-6.8
PKGZ	**Pakihiroa**	**1.89**	**74**	P	Pn	01 27 29.6	+0.2
PRHZ	**Porangahau**	**1.94**	**160**	P	S	01 27 50.8	-9.3
POWZ	**Post Office Ro**	**1.95**	**180**	P	S	01 27 56.8	-3.5
ABAZ	**Army Bay**	**1.98**	**337**	P	Pn	01 27 30.5	+0.1
ANWZ	**Angora Road**	**2.09**	**165**	P	S	01 27 54.4	-8.3
WMGZ	**Waiomatatini S**	**2.16**	**74**	P	Pn	01 27 33.2	+1.1
MXZ	**Matakaoa Point**	**2.17**	**67**	P	Pn	01 27 33.6	+1.4
MRZ	**Mangatainoka R**	**2.23**	**184**	P	Pn	01 27 33.3	+0.5
BFZ	**Birch Farm**	**2.27**	**171**	P	Pn	01 27 33.8	+0.6
TIWZ	**Tintock**	**2.34**	**178**	P	S	01 27 59.4	-7.9
OGWZ	**Otaki Gorge**	**2.42**	**191**	P	Pn	01 27 35.7	+0.9
HOWZ	**Holdsworth Sta**	**2.47**	**185**	P	Pn	01 27 35.8	+0.4
KIW	**Kapiti Island**	**2.52**	**195**	P	Pn	01 27 36.3	+0.5
TMWZ	**Te Maipa**	**2.67**	**178**	P	S	01 28 05.8	-8.0
CAW	**Cannon Point**	**2.73**	**191**	P	Pn	01 27 38.8	+0.7
TRWZ	**Traveller**	**2.96**	**181**	P	Pn	01 27 41.1	+0.3
TRWZ	**Traveller**	**2.96**	**181**	P	S	01 28 11.6	-8.0
MSWZ	**Moikau Station**	**3.00**	**188**	P	Pn	01 27 41.5	+0.2
MSWZ	**Moikau Station**	**3.00**	**188**	P	S	01 28 15.7	-4.8
TCW	**Tory Channel**	**3.00**	**202**	P	Pn	01 27 42.2	+0.9
PLWZ	**Palliser**	**3.16**	**187**	P	Pn	01 27 43.3	+0.2
PLWZ	**Palliser**	**3.16**	**187**	P	S	01 28 15.1	-8.7
TUWZ	**Tuamarina**	**3.31**	**205**	P	Pn	01 27 45.4	+0.6
LTZ	**Lake Taylor**	**5.10**	**211**	P	Pn	01 28 08.1	+1.2

*IDC **10** 01:28:14.2±10.0, 51.84N×178.49E, h74km±95km, mb3.4/9, mb1 3.7/10, mb1mx3.4/49, mbtmp3.8/10, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/35, Error ellipse: s-maj=37.5km s-min=20.1km az=9.0*

*NEIC **10** 01:28:17.5±0.6, 51.82N±0.07°×178.5E±0.1, h106km±3km, Error ellipse: s-maj=12.3km s-min=8.3km az=47.0*

*AEIC **10** 01:28:17±1.1, 51.79N±0.07°×178.5E±0.1, h108km±3km, ML3.5, Error ellipse: s-maj=12.0km s-min=7.2km az=215.0*

ISC 10 01:28:17.5±0.8, 51.8N±0.1°×178.53E±0.07, h107km±6km, n29, σ0.945/30, mb4.3/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.11**	**13**		**Pn**	**01 28 32.2**	**-0.1**
LSSA	**Little Sitkin**	**0.12**	**356**		**Pn**	**01 28 32.2**	**-0.2**
LSPA	**Little Sitkin**	**0.14**	**12**		**Pn**	**01 28 32.5**	**0.0**
LSPA					**Sn**	**01 28 43.6**	**0.0**
LSNW	**Little Sitkin**	**0.15**	**357**		**Pn**	**01 28 32.2**	**-0.2**
CETU	**Semis' Tuman**	**0.62**	**76**		**Pn**	**01 28 35.8**	**+0.9**
CESW	**Semis' Southwe**	**0.65**	**83**		**Pn**	**01 28 34.7**	**-0.4**
AMKA	**Amchitka**	**0.66**	**132**		**Pn**	**01 28 35.1**	**-0.1**
AMKA					**Sn**	**01 28 48.1**	**-0.4**
CEAP	**Semis' Anvil P**	**0.68**	**74**		**Pn**	**01 28 35.4**	**+0.1**
CEAP					**Sn**	**01 28 49.6**	**+0.8**
CERB	**Semis' Cerberu**	**0.69**	**81**		**Pn**	**01 28 35.6**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.72**	**83**		**Pn**	**01 28 35.5**	**-0.2**
TASE	**Tanaga Southea**	**2.13**	**88**		**Pn**	**01 28 52.3**	**+0.3**
TAFP	**Tanaga Falls P**	**2.17**	**87**		**Pn**	**01 28 52.3**	**-0.1**
TAFP					**Sn**	**01 29 19.1**	**-0.1**
KIMD	**Kanaga Island**	**2.63**	**90**		**Pn**	**01 28 58.4**	**-0.1**
KIKV	**Kanaga Island**	**2.67**	**87**		**Pn**	**01 28 59.0**	**0.0**
ADK	**Adak**	**2.97**	**87**		**Pn**	**01 29 02.6**	**-0.3**
KDAK	**Kodiak Island**	**17.60**	**59**	P	**P**	**01 32 14.1**	**-1.0**
	0.8nm,0.3s,baz=259,slow=5.2,SNR=4.2						
KDAK				LR	LR	01 38 44.7	
	comp=Z,118nm,18.5s,baz=254,slow=36						
ILAR	**Eielson Array**	**21.96**	**41**	P	**P**	**01 33 01.9**	**-0.2**
	0.3nm,0.6s,baz=255,slow=10.0,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**33.30**	**200**	T	T	02 10 12.5	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.31**	**200**	T	T	02 10 13.5	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	02 10 19.8	
	baz=11						
SONM	**Songino Array**	**44.95**	**295**	P	**P**	**01 36 21.6**	**0.0**
	0.9nm,0.5s,baz=56,slow=8.0,SNR=3.9						
NVAR	**Mina Array Bea**	**45.14**	**81**	P	**P**	**01 36 23.9**	**+0.6**
	0.7nm,0.6s,baz=300,slow=7.2,SNR=4.9						
PDAR	**Pinedale Array**	**47.75**	**71**	P	**P**	**01 36 43.1**	**-0.6**
	0.3nm,0.5s,baz=287,slow=7.4,SNR=2.9						
ARCES	**ARCESS Array B**	**57.35**	**349**	P	**P**	**01 37 54.2**	**+0.5**
	3.9nm,1.0s,baz=21,slow=7.7,SNR=2.0						
MKAR	**Makanchi Array**	**58.44**	**307**	P	**P**	**01 38 01.1**	**-0.6**
	0.7nm,0.5s,baz=48,slow=6.4,SNR=11						
TXAR	**Lajitas Array**	**60.22**	**80**	P	**P**	**01 38 14.5**	**+0.2**
	0.3nm,0.5s,baz=314,slow=5.0,SNR=8.2						
WRA	**Warramunga Arr**	**81.21**	**222**	P	**P**	**01 40 21.7**	**+0.4**
	0.5nm,0.7s,baz=31,slow=6.3,SNR=6.0						
ASAR	**Alice Springs**	**84.72**	**220**	P	**P**	**01 40 40.0**	**+0.7**
	0.6nm,0.9s,baz=12,slow=4.7,SNR=4.5						
BOSA	**Boshof**	**149.42**	**309**	PKPbc	**PKiKP**	**01 47 54.5**	**-0.4**
	1.5nm,0.6s,baz=324,slow=9.6,SNR=3.6						

*IDC **10** 01:32:23.6±2.7, 60.35S×50.80W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.7/21, mbtmp4.0/3, MS3.0/5, Ms1 3.1/5, ms1mx2.9/19, Error ellipse: s-maj=107.7km s-min=36.0km az=76.0*

ISC 10 01:32:25.0±2.0, 60.4S±0.3°×50.9W±0.6, h10km, n15, σ0.880/7, mb4.0/3, MS2.8/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**19.61**	**141**	P	**P**	**01 36 53.0**	**-0.1**
SNAA	**Sanae**	**21.84**	**141**	P	**P**	**01 37 16.7**	**-0.5**
SNAA	**Sanae**	**21.84**	**141**	P	**P**	**01 37 16.6**	**-0.6**
	6.9nm,1.0s,baz=284,slow=10,SNR=22						
SNAA				LR	LR	01 43 59.0	
	comp=Z,36nm,19.4s,baz=50,slow=32						
PLCA	**Paso Flores**	**23.11**	**319**	LR	LR	01 45 06.7	
	comp=Z,26nm,20.8s,baz=159,slow=33						
CPUP	**Villa Florida**	**34.30**	**350**	LR	LR	01 53 52.8	
	comp=Z,18nm,19.2s,baz=198,slow=38						
MAW	**Mawson**	**43.55**	**149**	P	**P**	**01 40 29.0**	**+0.7**
	0.8nm,0.7s,baz=225,slow=10.0,SNR=2.5						
LPAZ	**La Paz**	**45.75**	**337**	LR	LR	02 00 34.0	
	comp=Z,22nm,21.8s,baz=188,slow=37						
H10N3	**ASCENSION HYDR**	**59.07**	**43**	T	T	02 46 29.7	
	baz=199,slow=75,SNR=5.3						
H10N1	**ASCENSION HYDR**	**59.07**	**43**	T	T	02 46 21.1	
	baz=199,slow=75,SNR=5.0						
H10N2	**ASCENSION HYDR**	**59.08**	**43**	T	T	02 46 33.0	
	baz=199,slow=75,SNR=6.5						
LBTB	**Lobatse**	**61.95**	**92**	LR	LR	02 03 29.1	
	comp=Z,32nm,18.3s,baz=192,slow=30						
TORD	**Torodi Ar. Bea**	**84.37**	**51**	P	**P**	**01 44 57.6**	**+0.4**
	0.7nm,0.5s,baz=206,slow=5.6,SNR=15						
ARCES	**ARCESS Array B**	**140.46**	**32**	PKhKP	PKPpre	01 51 44.6	
	0.7nm,0.7s,baz=240,slow=2.7,SNR=3.7						
ILAR	**Eielson Array**	**143.73**	**314**	PKP	**PKPdf**	**01 51 58.5**	**0.0**
	0.7nm,0.5s,baz=101,slow=0.9,SNR=12						
MKAR	**Makanchi Array**	**149.79**	**95**	PKPbc	**PKPbc**	**01 52 13.0**	**-1.1**
	0.6nm,0.6s,baz=230,slow=3.6,SNR=5.4						

*IDC **10** 01:45:17.1±0.8, 10.58S×166.74E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/37, mbtmp4.2/13, ML4.1/1, MS4.1/27, Ms1 4.1/27, ms1mx4.1/33, Error ellipse: s-maj=27.9km s-min=18.4km az=141.0*

*NEIC **10** 01:45:19.2±1.9, 10.55S±0.08°×166.69E±0.09, h10km±1km, mb4.7/36, Error ellipse: s-maj=14.9km s-min=13.8km az=93.0*

*GCMT **10** 01:45:23.2±0.2, 10.50S±0.01°×166.69E±0.01, h26km±1km, MW5.1/103, Moment Tensor Solution. s36,c44; s103,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.63±.23; Mθθ1.45±.18; Mϕϕ0.17±.18; Mrθ1.14±.30; Mθϕ-5.11±.12; Mrϕ0.21±.33; Best double couple: M_o5.32400×10^16 NP1:ϕs176.00000°, δ74.00000°, λ-9.00000°. NP2:ϕs268.00000°, δ82.00000°, λ-164.00000°. Principal axes: T 6.0300, Plg5.0000°, Azm41.0000°; N -1.4170, Plg72.0000°, Azm294.0000°; P -4.6190, Plg17.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 01:45:23.0±0.5, 10.58S±0.08°×166.69E±0.06, h36km, n77, σ1.824/53, mb4.5/24, MS4.1/27, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.87**	**174**		**Pn**	**01 46 32.2**	**-1.4**
HNR	**Honiara**	**6.74**	**279**	Pn	**Pn**	**01 46 58.8**	**-0.7**
	4.0nm,0.3s,baz=122,slow=2.5,SNR=2.0						
HNR					**Sn**	**01 48 16.6**	**+1.6**
	16nm,0.3s,baz=179,slow=23,SNR=1.3						
HNR				LR	LR	01 49 37.0	
	comp=Z,2μm,18.5s,baz=79,slow=38						
DZM	**Mont Dzumac**	**11.43**	**181**	*e*Pn	Pn	01 48 08.9	+5.0
	11nm,0.6s						
DZM				*e*LR	LR	01 50 43.3	
	comp=Z,4μm,26.4s						
DZM	**Mont Dzumac**	**11.43**	**181**	Pn	**Pn**	**01 48 05.3**	**+1.4**
	0.3nm,0.3s,baz=4.9,slow=12,SNR=2.7						
DZM				LR	LR	01 50 51.5	
	comp=Z,240nm,21.1s,baz=19,slow=29						
MSVF	**Nonsavu**	**13.11**	**124**	Pn	**Pn**	**01 48 24.4**	**-2.4**
TARA	**Tarawa**	**13.38**	**28**	Pn	**Pn**	**01 48 27.2**	**-3.2**
KRVT	**Keravat (AS076**	**15.81**	**292**	LR	LR	01 54 26.2	
	comp=Z,590nm,21.6s,baz=128,slow=35						
PMG	**Port Moresby**	**19.27**	**272**	LR	LR	01 57 24.6	
	comp=Z,1μm,18.7s,baz=120,slow=38						
PMG	**Port Moresby**	**19.27**	**272**	P	**P**	**01 49 42.1**	**-2.6**
EIDS	**Eidsvold**	**20.87**	**223**	P	**P**	**01 50 01.2**	**-0.8**
EIDS				IAmb	IAmb	01 50 30.2	
	comp=Z,32nm,1.1s						
MANU	**Manus Island**	**20.98**	**293**	P	**P**	**01 50 01.8**	**-1.5**
CTA	**Charters Tower**	**21.84**	**242**	P	**P**	**01 50 13.6**	**+1.1**
	comp=Z,7.2nm,0.9s,baz=50,slow=16,SNR=3.6						
CTA				LR	LR	01 58 04.3	
	comp=Z,1μm,20.1s,baz=57,slow=35						
RAO	**Raoul Island**	**23.50**	**144**	LR	LR	01 57 38.2	
	comp=Z,596nm,19.4s,baz=330,slow=32						
ARMA	**Armidale**	**24.21**	**213**	P	**P**	**01 50 36.3**	**-0.2**
ARMA				IAmb	IAmb	01 50 54.1	
	comp=Z,19nm,1.1s						
JAY	**Jayapura**	**27.01**	**285**	LR	LR	02 01 44.5	
	comp=Z,376nm,18.1s,baz=22,slow=36						
H11S2	**WAKE ISLAND Hy**	**28.88**	**0**	T	T	02 21 16.5	
	baz=181,slow=76,SNR=628						
H11S3	**WAKE ISLAND Hy**	**28.89**	**360**	T	T	02 21 16.6	
	baz=181,slow=76,SNR=258						
H11S1	**WAKE ISLAND Hy**	**28.90**	**0**	T	T	02 21 17.9	
	baz=181,slow=76,SNR=321						
URZ	**Urewera**	**29.11**	**163**	LR	LR	02 00 38.9	
	comp=Z,288nm,19.6s,baz=351,slow=32						
STKA	**Stephens Creek**	**31.42**	**224**	P	**P**	**01 51 42.0**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=66,slow=11,SNR=3.2						
STKA				LR	LR	02 03 29.6	
	comp=Z,1μm,19.9s,baz=45,slow=35						
STKA	**Stephens Creek**	**31.42**	**224**	P	**P**	**01 51 40.3**	**-0.6**
WB0	**Warramunga Arr**	**32.43**	**250**	P	**P**	**01 51 48.5**	**-1.5**
WRAB	**Tennant Creek**	**32.51**	**249**	P	**P**	**01 51 49.8**	**-0.8**
WRAB				IAmb	IAmb	01 51 52.2	
	comp=Z,13nm,1.2s						
WB2	**Warramunga Arr**	**32.51**	**249**	P	**P**	**01 51 50.3**	**-0.3**
WB2				IAmb	IAmb	01 52 15.4	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**32.52**	**249**	P	**P**	**01 51 49.4**	**-1.3**
	comp=Z,5.9nm,1.0s,baz=79,slow=8.7,SNR=14						
WRA				LR	LR	02 04 57.9	
	comp=Z,757nm,18.4s,baz=65,slow=36						
AS31	**Alice Springs**	**33.83**	**243**	P	**P**	**01 52 01.8**	**-0.4**
ASAR	**Alice Springs**	**33.83**	**243**	P	**P**	**01 52 00.6**	**-1.6**
	comp=Z,6.0nm,0.9s,baz=74,slow=9.5,SNR=32						
ASAR				LR	LR	02 04 42.1	
	comp=Z,988nm,20.3s,baz=70,slow=34						
ASAR	**Alice Springs**	**33.83**	**243**	P	**P**	**01 52 00.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**40.40**	**255**	P	**P**	**01 52 56.8**	**-1.1**
PPT	**Papeete**	**42.91**	**104**	LR	LR	02 09 28.9	
	comp=Z,133nm,19.2s,baz=278,slow=34						
PPT2	**Papeete2**	**42.91**	**104**	*e*S	**S**	**01 59 43.2**	**+1.8**
	comp=Z,67nm,25.2s						
PPT2				*e*LQ	LQ	02 03 11.7	
	comp=Z,1μm,29.8s						
PPT2				*e*LR	LR	02 05 31.0	
	comp=Z,125nm,23.0s						
TBI	**Tubuai**	**43.65**	**113**	*e*S	**S**	**01 59 53.5**	**+1.5**
	comp=Z,150nm,28.5s						
TBI				*e*LQ	LQ	02 03 59.1	
TBI				*e*LR	LR	02 05 48.4	
	comp=Z,354nm,30.8s						
TAOE	**Nuku Hiva Isla**	**52.38**	**93**	*e*S	**S**	**02 01 57.2**	**+1.2**
	comp=Z,68nm,22.9s						
TAOE				*e*LR	LR	02 09 20.7	
	comp=Z,166nm,28.4s						
RKT	**Rikitea**	**56.88**	**111**	*e*LQ	LQ	02 09 12.7	
	comp=Z,210nm,31.5s						
RKT				*e*LR	LR	02 11 58.2	
	comp=Z,352nm,25.8s						
KSRS	**Korea Array**	**60.02**	**325**	LR	LR	02 18 44.9	
	comp=Z,89nm,20.5s,baz=138,slow=33						
USRK	**Ussuriysk Ar.**	**62.95**	**333**	LR	LR	02 19 46.2	
	comp=Z,49nm,21.5s,baz=103,slow=33						
USRK	**Ussuriysk Ar.**	**62.95**	**333**	P	**P**	**01 55 47.7**	**+1.8**
PETK	**Petropavlovsk-**	**63.90**	**354**	LR	LR	02 19 28.7	
	comp=Z,103nm,19.5s,baz=144,slow=32						
VNDA	**Vanda**	**66.98**	**181**	P	**P**	**01 56 10.8**	**-0.8**
	comp=Z,3.8nm,1.1s,baz=338,slow=5.9,SNR=8.1						
VNDA				LR	LR	02 22 40.4	
	comp=Z,109nm,19.3s,baz=13,slow=34						
VNDA	**Vanda**	**66.

comp=Z,103nm,19.0s,baz=291,slow=34
DAVOX **Davos/Dischmat 29.28 85** LR LR 02 04 18.2
comp=Z,142nm,19.3s,baz=264,slow=34
GERES **GERESS Array B 30.55 79** LR LR 02 05 27.2
comp=Z,85nm,20.3s,baz=254,slow=35
ARCES **ARCESS Array B 31.43 36** LR LR 02 03 34.7
comp=Z,51nm,21.0s,baz=355,slow=31
FINES **FINESS Array B 32.76 51** LR LR 02 05 42.3
comp=Z,97nm,20.4s,baz=245,slow=33
KEST **Kesra 35.67 102** LR LR 02 07 18.6
comp=Z,65nm,21.6s,baz=240,slow=33
ULM **Lac du Bonnet 36.59 290** LR LR 02 08 17.0
comp=Z,118nm,18.6s,baz=2.5,slow=34
AKASG **Malin Array Be 38.50 67** LR LR 02 10 36.3
comp=Z,51nm,18.7s,baz=310,slow=36
YKA **Yellowknife Ar 40.42 315** LR LR 02 09 15.8
comp=Z,87nm,18.7s,baz=0.0,slow=32
BRTR **Keskin Array B 47.44 78** LR LR 02 17 36.9
comp=Z,43nm,18.4s,baz=296,slow=38
PDAR **Pinedale Array 48.59 289** P P 01 56 16.1 -0.2
0.4nm,0.5s,baz=58,slow=8.9,SNR=5.2
TORD **Torodi Ar. Bea 49.72 130** P P 01 56 24.7 -0.2
1.2nm,0.9s,baz=332,slow=8.4,SNR=5.4
DBIC **Dimbokro 52.80 141** LR LR 02 16 20.2
comp=Z,69nm,21.0s,baz=344,slow=33
AKTO **Aktyubinsk 53.51 51** LR LR 02 18 01.8
comp=Z,55nm,21.1s,baz=304,slow=34
ASAR **Alice Springs 149.11 20** PKPbc PKPbc 02 07 20.7 -0.4
0.3nm,0.6s,baz=349,slow=2.8,SNR=4.4

IDC 10 01:48:03.0±7.4, 52.26N×152.74E, h416km±22km, mb2.7/4, mb1 3.1/5, mb1mx2.7/55, mbtmp3.4/5, Error ellipse: s-maj=359.1km s-min=21.2km az=180.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.13**	**72**	P	P		01 49 08.3	0.0
	0.9nm,0.3s,baz=223,slow=5.1,SNR=6.8							
MKAR	**Makanchi Array**	**44.40**	**292**	P	P		01 55 34.4	-0.1
	0.3nm,0.3s,baz=61,slow=7.4,SNR=9.2							
NVAR	**Mina Array Bea**	**60.19**	**65**	P	P		01 57 29.5	+0.3
	0.2nm,0.6s,baz=280,slow=5.4,SNR=2.9							
PDAR	**Pinedale Array**	**61.77**	**56**	P	P		01 57 39.5	0.0
	0.2nm,0.4s,baz=329,slow=4.4,SNR=2.7							
TXAR	**Lajitas Array**	**75.03**	**61**	P	P		01 59 00.4	-0.2
	0.2nm,0.4s,baz=308,slow=5.7,SNR=6.0							

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*IDC **10** 02:03:10.0±2.7, 60.62S×50.60W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/16, mbtmp3.8/1, MS3.1/1, Ms1 3.0/1, ms1mx2.7/15, Error ellipse: s-maj=172.6km s-min=109.8km az=135.0*

ISC 10 02:03:08.8±2.0, 60.6S±0.3×52.1W±0.6, h10km, n10, σ0.34/6, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**19.79**	**140**	P	P	**Pn**	**02 07 40.0**	**-0.4**
SNAA	**Sanae**	**22.01**	**140**	P	P	**P**	**02 08 03.3**	**+0.4**
PLCA	**Paso Flores**	**22.93**	**322**	LR	LR		02 16 44.7	
	comp=Z,39nm,18.9s,baz=159,slow=35							
H10N3	**ASCENSION HYDR**	**59.66**	**44**	T	T		03 17 09.4	
	baz=200							
H10N1	**ASCENSION HYDR**	**59.67**	**44**	T	T		03 17 17.4	
	baz=200							
H10N2	**ASCENSION HYDR**	**59.68**	**44**	T	T		03 17 22.0	
	baz=200							
TORD	**Torodi Ar. Bea**	**85.00**	**52**	P	P	**P**	**02 15 44.2**	**0.0**
	0.3nm,0.4s,baz=202,slow=5.6,SNR=6.3							
ILAR	**Eielson Array**	**143.48**	**314**	PKPbc		**PKiKP**	**02 22 45.2**	**0.0**
	0.5nm,0.6s,baz=135,slow=2.0,SNR=9.1							
MKAR	**Makanchi Array**	**150.35**	**97**	PKPbc		**PKiKP**	**02 22 60.0**	**0.0**
	0.3nm,0.6s,baz=234,slow=1.0,SNR=2.1							
KURBB	**Kurchatov Arra**	**151.06**	**88**	PKPbc		**PKiKP**	**02 23 01.3**	**0.0**
	0.4nm,0.7s,baz=229,slow=3.2,SNR=3.7							

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*IDC **10** 02:24:35.9±0.7, 64.64N×17.64W, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.9/46, mbtmp3.9/18, ML4.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/42, Error ellipse: s-maj=19.7km s-min=12.1km az=17.0*
*REY **10** 02:24:35.5, 64.68N×17.46W, h8km*
*NEIC **10** 02:24:37.5±1.3, 64.6N±0.1×17.6W±0.1, h6km±4km, mb4.5/48, Error ellipse: s-maj=16.2km s-min=8.4km az=194.0*
*MOS **10** 02:24:37.5±1.8, 64.60N×17.50W, h10km, mb4.4/30, Error ellipse: s-maj=12.4km s-min=7.9km az=119.3*

ISC 10 02:24:36.8±0.7, 64.69N±0.02×17.48W±0.02, h4km±4km, n191, σ1.76/209, mb4.3/60, MS3.0/3, 13C-1D, Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**26**	P	P	**Pg**	**02 24 38.4**	**-0.7**
	baz=20							
IVON	**Vonarskard**	**0.12**	**263**	P	P	**Pg**	**02 24 38.3**	**-0.9**
	baz=267							
IDJK	**Dyngjujokull**	**0.21**	**150**	P	P	**Pg**	**02 24 39.7**	**-1.3**
	baz=151							
IGRF	**Grimsfjall**	**0.30**	**162**	P	P	**Pg**	**02 24 41.1**	**-1.5**
	baz=163							
IHUS	**Husbondi**	**0.40**	**191**	P	P	**Pg**	**02 24 43.1**	**-1.4**
	baz=192							
IHUS				S	S	**Sg**	**02 24 48.6**	**-1.1**
	baz=192							
ISKR	**Skrokkalda**	**0.41**	**252**	P	P	**Pg**	**02 24 43.2**	**-1.4**
	baz=254							
ISKR				S	S	**Sg**	**02 24 49.4**	**-0.6**
	baz=254							
IVOT	**Vottur**	**0.44**	**163**	P	P	**Pg**	**02 24 43.6**	**-1.7**
	baz=163							
IKRE	**Kreppuhraun**	**0.48**	**78**	P	P	**Pg**	**02 24 44.0**	**-2.0**
	baz=77							
IKRE				S	S	**Sg**	**02 24 51.1**	**-1.2**
	baz=77							
IJOK	**Jokulheimar**	**0.49**	**221**	P	P	**Pg**	**02 24 44.6**	**-1.7**
	baz=222							
IJOK				S	S	**Sg**	**02 24 51.7**	**-0.9**
	baz=222							
IMKO	**Mokollar**	**0.57**	**59**	P	P	**Pg**	**02 24 45.9**	**-1.9**
	baz=58							
IMKO				S	S	**Sg**	**02 24 54.0**	**-1.1**
	baz=58							
IIEY	**Innrieyrar**	**0.66**	**205**	P	P	**Pg**	**02 24 47.2**	**-2.2**
	baz=206							
ISVA	**Svartarkot**	**0.66**	**8**	P	P	**Pg**	**02 24 47.6**	**-1.9**
	baz=7.6							
ISVA				S	S	**Sg**	**02 24 57.4**	**-0.6**
	baz=7.6							
IKSK	**Karasker**	**0.69**	**140**	P	P	**Pg**	**02 24 47.0**	**-3.0**
	baz=140							
IKSK				S	S	**Sg**	**02 24 56.2**	**-2.7**
	baz=140							
IKAL	**Kalfafell**	**0.75**	**187**	P	P	**Pg**	**02 24 48.9**	**-2.3**
	baz=188							
IKAL				S	S	**Sg**	**02 24 59.4**	**-1.4**
	baz=188							
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	P	**Pg**	**02 24 48.7**	**-2.7**
	baz=79							
IVSH				S	S	**Sg**	**02 24 59.2**	**-2.0**
	baz=79							
IVAT	**Vatnsfell**	**0.80**	**232**	P	P	**Pg**	**02 24 49.8**	**-2.3**
	baz=232							
IVAT				S	S	**Sg**	**02 25 01.1**	**-1.4**
	baz=232							
IADA	**Aoalbol**	**0.88**	**67**	P	P	**Pg**	**02 24 50.8**	**-2.9**
	baz=66							
IADA				S	S	**Sg**	**02 25 03.1**	**-2.0**
	baz=66							
IHVE	**Hveravellir**	**0.91**	**283**	P	P	**Pg**	**02 24 51.7**	**-2.5**
	baz=283							
IMEL	**Melhnausar**	**0.95**	**21**	P	P	**Pg**	**02 24 52.4**	**-2.7**
	baz=20							
IREN	**Reynihlio**	**0.99**	**14**	P	P	**Pg**	**02 24 53.1**	**-2.7**
	baz=13							
IKVO	**Krokottuvotn**	**1.06**	**14**	P	P	**Pg**	**02 24 54.1**	**-3.0**
	baz=13							
ISNB	**Snabyli**	**1.08**	**208**	P	P	**Pg**	**02 24 54.3**	**-3.2**
	baz=209							
IGRS	**Grimsstaoir**	**1.11**	**30**	P	P	**Pg**	**02 24 55.2**	**-3.0**
	baz=30							
IGRS				S	S	**Sg**	**02 25 11.1**	**-1.5**
	baz=30							
ISLY	**Slysaalda**	**1.12**	**220**	P	P	**Pg**	**02 24 55.2**	**-3.0**
	baz=221							
ISLY				S	S	**Sg**	**02 25 09.9**	**-2.9**
	baz=221							
IFED	**Fedgar**	**1.17**	**236**	P	P	**Pg**	**02 24 56.4**	**-2.7**
	baz=237							
IRJU	**Rjupnafell**	**1.19**	**206**	P	P	**Pg**	**02 24 56.4**	**-3.2**
	baz=207							
IRJU				S	S	**Sg**	**02 25 12.5**	**-2.6**
	baz=207							
ISKI	**Skildingahlsh**	**1.20**	**9**	P	P	**Pn**	**02 24 56.5**	**-3.9**
	baz=8.5							
ISKI				S	S	**Sb**	**02 25 13.3**	**-2.8**
	baz=8.5							
IGHA	**Grjothals**	**1.21**	**16**	P	P	Pn	02 24 56.5	-4.0
	baz=16							
IMJO	**Mjoaskard**	**1.22**	**233**	P	P	**Pg**	**02 24 57.5**	**-2.7**
	baz=233							
IGRA	**Granastaoir**	**1.24**	**358**	P	P	**Pn**	**02 24 56.9**	**-3.9**
	baz=358							
IGRA				S	S	**Sb**	**02 25 14.0**	**-2.9**
	baz=358							
IHAU	**Haukadalur**	**1.30**	**237**	P	P	**Pn**	**02 24 58.0**	**-3.7**
	baz=238							
IDIM	**Dimmadalss**	**1.30**	**10**	P	P	**Pn**	**02 24 58.1**	**-3.6**
	baz=9.6							
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	P	**Pn**	**02 24 58.3**	**-3.6**
	baz=208							
IHLA	**Hella**	**1.32**	**344**	P	P	**Pn**	**02 24 58.6**	**-3.4**
	baz=343							
IHLA				S	S	**Sb**	**02 25 16.3**	**-3.0**
	baz=343							
IHED	**Heoinshofoi**	**1.40**	**3**	P	P	**Pn**	**02 24 59.6**	**-3.5**
	baz=2.6							
IHED				S	S	**Sn**	**02 25 18.6**	**-3.4**
	baz=2.6							
IBRE	**Brettingsstaoi**	**1.45**	**353**	P	P	**Pn**	**02 25 00.5**	**-3.3**
	baz=353							
ISAU	**Saurbar**	**1.46**	**243**	P	P	**Pn**	**02 25 00.3**	**-3.6**
	baz=243							
IGIL	**Gilhagi**	**1.47**	**18**	P	P	**Pn**	**02 25 00.6**	**-3.5**
	baz=18							
ISIG	**Siglufjorour**	**1.47**	**338**	P	P	**Pn**	**02 25 02.4**	**-3.0**
	baz=338							
ISIG				S	S	**Sn**	**02 25 23.6**	**-2.5**
	baz=338							
BORG	**Borgarnes**	**1.65**	**274**	Pn	P	**Pn**	**02 25 03.1**	**-3.4**
	13nm,0.3s,baz=106,slow=7.7,SNR=52							
BORG				Sn	S	**Sn**	**02 25 27.2**	**-1.0**
	11nm,0.3s,baz=66,slow=20,SNR=7.6							
BORG	**Borgarnes**	**1.65**	**274**	P	P	**Pn**	**02 25 04.2**	**-2.3**
BORG							02 25 27.2	
BORG	**Borgarnes**	**1.65**	**274**	Pn	P	**Pn**	**02 25 04.2**	**-2.3**
IKRO	**Krokur**	**1.69**	**251**	P	P	**Pn**	**02 25 04.4**	**-2.7**
	baz=252							
IKRO				S	S	**Sn**	**02 25 26.7**	**-2.3**
	baz=252							
ISOL	**Solvholt**	**1.69**	**245**	P	P	**Pn**	**02 25 03.9**	**-3.2**
	baz=245							
IHEI	**Heioarbar**	**1.70**	**255**	P	P	**Pn**	**02 25 04.4**	**-2.8**
	baz=255							
IHRN	**Hraun**	**1.81**	**323**	P	P	**Pn**	**02 25 05.9**	**-2.8**
	baz=323							
IGRI	**Grimsey**	**1.88**	**354**	P	P	**Pn**	**02 25 06.7**	**-2.9**
	baz=353							
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	P	**Pn**	**02 27 24.2**	**-1.1**
	baz=322,slow=13,SNR=8.4							
KONO	**Kongsberg**	**13.55**	**99**	*eP*	P	**Pn**	**02 27 49.0**	**-0.5**
NB201	**NORSAR Array S**	**13.56**	**92**	Pn	P	**Pn**	**02 27 50.6**	**+0.9**
KBS	**Kingsbay**	**16.62**	**19**	*iP*	P	**Pn**	**02 28 28.4**	**-1.8**
WLF	**Walferdange**	**19.57**	**129**	P	P	**P**	**02 29 03.2**	**-2.2**
WLF					pmax	pmax		
	comp=Z,15nm,1.1s							
WLF	**Walferdange**	**19.57**	**129**	P	P	**P**	**02 29 03.2**	**-2.2**
LVZ	**Lovozero**	**20.68**	**58**	*i* P		**P**	**02 29 15.8**	**-1.5**
LVZ					pmax	pmax		
	comp=Z,11nm,1.2s							
CLL	**Collm**	**20.71**	**116**	*eP*	P	**P**	**02 29 16.0**	**-1.7**
	comp=Z,14nm,1.4s							
CLL				*i*			02 29 26.0	
CLL	**Collm**	**20.71**	**116**	P	P	**P**	**02 29 17.5**	**-0.2**
CLL					pmax	pmax		
	comp=Z,15nm,1.4s							
CLL	**Collm**	**20.71**	**116**			**P**	**02 29 17.5**	**-0.2**
MOX	**Moxa**	**20.71**	**119**	P		Pn	02 29 19.0	-1.1
MOX					pmax	pmax		
	comp=Z,6.0nm,1.9s							
LOR	**Lormes**	**20.96**	**136**	P	P	**P**	**02 29 20.7**	**+0.2**
LOR					pmax	pmax		
	comp=Z,13nm,1.2s							
GRF	**Grafenberg Arr**	**21.34**	**121**	P	P	**P**	**02 29 24.5**	**-0.1**
GRF					pmax	pmax		
	comp=Z,19nm,1.4s							
NKC	**Novy Kostel**	**21.35**	**118**	*eP*	P	**P**	**02 29 24.5**	**-0.3**
NKC	**Novy Kostel**	**21.35**	**118**	*eP*	P	**P**	**02 29 24.5**	**-0.3**
STU	**Stuttgart**	**21.38**	**125**	P	P	**P**	**02 29 24.9**	**-0.1**
STU					pmax	pmax		
	comp=Z,15nm,0.9s							
STU	**Stuttgart**	**21.38**	**125**	P	P	**P**	**02 29 24.9**	**-0.1**
STU					IAmb	IAmb	02 29 27.2	
	comp=Z,14nm,0.9s							
BRG	**Berggiesshubel**	**21.42**	**115**	*eP*	P	**P**	**02 29 25.2**	**-0.2**
	comp=Z,17nm,1.2s							
BRG	**Berggiesshubel**	**21.42**	**115**	*eP*	P	**P**	**02 29 25.2**	**-0.2**
BRG					pmax	pmax		
	comp=Z,17nm,1.2s							
BFO	**Black Forest**	**21.46**	**127**	P	P	**P**	**02 29 25.7**	**-0.2**
BFO					pmax	pmax		
	comp=Z,16nm,1.3s							
BFO	**Black Forest**	**21.46**	**127**	P	P	**P**	**02 29 25.7**	**-0.2**
BFO					IAmb	IAmb	02 29 37.3	
	comp=Z,16nm,1.3s							
VSU	**Vasula**	**21.56**	**86**	*c iP*	P	**P**	**02 29 26.4**	**-0.4**
VSU					pmax	pmax		
	comp=Z,39nm,1.0s							
PRU	**Pruhonice**	**22.35**	**116**	*eP*	P	**P**	**02 29 37.9**	**+2.5**
PRU	**Pruhonice**	**22.35**	**116**	*eP*	P	**P**	**02 29 37.9**	**+2.5**
KSP	**Ksiaz**	**22.36**	**112**	P	P	**P**	**02 29 36.3**	**+0.7**
KSP					pmax	pmax		
	comp=Z,12nm,1.4s							
WET	**Wettzell**	**22.41**	**119**	P	P	**P**	**02 29 35.4**	**-0.6**
WET					pmax	pmax		
	comp=Z,5.0nm,1.1s							
OSTC	**Ostas**	**22.56**	**113**	*eP*	P	**P**	**02 29 36.2**	**-1.5**
KHC	**Kasperske Hory**	**22.68**	**118**	*eP*	P	**P**	**02 29 38.5**	**-0.5**
KHC	**Kasperske Hory**	**22.68**	**118**	*ceP*	P	**P**	**02 29 40.5**	**+1.5**
KHC					pmax	pmax		
	comp=Z,14nm,1.1s							
KHC	**Kasperske Hory**	**22.68**	**118**	P	P	**P**	**02 29 39.4**	**+0.4**
DPC	**Dobruska-Polom**	**22.76**	**113**	*eP*	P	**P**	**02 29 39.7**	**-0.1**
DPC	**Dobruska-Polom**	**22.76**	**113**	*eP*	P	**P**	**02 29 39.7**	**-0.1**
GEC2	**GERESS Array S**	**22.96**	**119**	P	P	**P**	**02 29 41.4**	**-0.6**
GERES	**GERESS Array B**	**22.96**	**119**	P	P	**P**	**02 29 42.5**	**+0.5**
	comp=Z,2.7nm,1.1s,baz=325,slow=8.5,SNR=12							
GERES					LR	LR	02 38 07.9	
	comp=Z,32nm,20.1s,baz=282,slow=35							
GERES	**GERESS Array B**	**22.96**	**119**	*eP*		**P**	**02 29 42.8**	**+0.8**
IZAR	**Zarasai**	**23.02**	**92**	*eP*		**P**	**02 29 42.6**	**+0.2**
ISAL	**Salakas**	**23.09**	**93**	*eP*		**P**	**02 29 43.2**	**+0.1**
KRLC	**Kraliky**	**23.16**	**113**	*eP*		**P**	**02 29 43.9**	**-0.1**
KRLC	**Kraliky**	**23.16**	**113**	*eP*		**P**	**02 29 43.9**	**-0.1**
IIGN	**Ignalina**	**23.27**	**93**	*eP*		**P**	**02 29 45.3**	**+0.3**
TREC	**Trest**	**23.28**	**116**	P	P	**P**	**02 29 45.8**	**+0.7**
TREC					pmax	pmax		
	comp=Z,3.0nm,1.1s							
DAVOX	**Davos/Dischmat**	**23.33**	**127**	P	P	**P**	**02 29 45.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=304,slow=9.2,SNR=2.7							
DAVOX					LR	LR	02 37 50.2	
	comp=Z,46nm,18.8s,baz=267,slow=34							
IDID	**Didziasalis**	**23.52**	**92**	*eP*	P	**P**	**02 29 47.9**	**+0.4**
WTTA	**Wattenberg**	**23.53**	**124**	*eP*	P	**P**	**02 29 49.9**	**+2.0**
	comp=Z,3.6nm,0.5s							
EUNU	**Eureka**	**23.65**	**336**	P	P	**P**	**02 29 49.8**	**+1.1**
EUNU					IAmb	IAmb	02 30 47.1	
	comp=Z,37nm,2.0s							
VRAC	**Vranov**	**23.70**	**114**	P	P	**P**	**02 29 48.3**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=320,slow=8.4,SNR=2.0							
MORC	**Moravsky Berou**	**23.70**	**112**	P	P	**P**	**02 29 49.3**	**-0.1**
MORC					pmax	pmax		
	comp=Z,36nm,1.9s							
MORC	**Moravsky Berou**	**23.70**	**112**	P	P	**P**	**02 29 49.3**	**-0.1**
OJC	**Ojcow**	**24.26**	**109**	P	P	**P**	**02 29 55.0**	**+0.4**
OJC					pmax	pmax		
	comp=Z,4.0nm,0.8s							
OJC	**Ojcow**	**24.26**	**109**	P	P	**P**	**02 29 55.0**	**+0.4**
CONA	**Conrad Observa**	**24.54**	**117**	*eP*	P	**P**	**02 29 58.1**	**+0.9**
	comp=Z,1.7nm,0.7s							
CIMO	**Cimolais**	**24.63**	**124**	P	P	**P**	**02 29 58.4**	**+0.4**
CIMO					IAmb	IAmb	02 30 00.9	
	comp=Z,23nm,1.8s							
PRED	**Cave del Predi**	**24.92**	**122**	P	P	**P**	**02 30 01.6**	**+0.9**
PRED					IAmb	IAmb	02 30 04.6	
	comp=Z,10nm,1.3s							
NIE	**Niedzica**	**25.09**	**109**	P	P	**P**	**02 30 03.3**	**+1.1**
NIE					pmax	pmax		
	comp=Z,3.0nm,1.3s							
VYHS	**Vyhne**	**25.24**	**112**	*eP*	P	**P**	**02 30 03.6**	**+0.1**
VYHS					pmax	pmax		
	comp=Z,11nm,1.4s							
VYHS	**Vyhne**	**25.24**	**112**	*eP*	P	**P**	**02 30 03.6**	**+0.1**
KLMR	**Klimovskoe**	**25.59**	**72**	*eP*	P	**P**	**02 30 05.3**	**-1.2**
KLMR					pmax	pmax		
	comp=Z,16nm,1.4s							
KLMR	**Klimovskoe**	**25.59**	**72**	*eP*	P	**P**	**02 30 05.4**	**-1.1**
KLMR					AMP		02 30 09.5	
	comp=Z,16nm,1.4s							
KWP	**Kalwaria Pacla**	**25.91**	**106**	P	P	**P**	**02 30 11.1**	**+1.5**
KWP					pmax	pmax		
	comp=Z,19nm,1.9s							
PSZ	**Piszkesteto**	**26.12**	**112**	P	P	**P**	**02 30 11.9**	**+0.3**
PSZ					pmax	pmax		
	comp=Z,20nm,1.6s							
PSZ	**Piszkesteto**	**26.12**	**112**	P	P	**P**	**02 30 11.9**	**+0.3**
PSZ					IAmb	IAmb	02 30 25.8	
	comp=Z,20nm,1.6s							
ESDC	**Sonseca Array**	**26.27**	**156**	P	P	**P**	**02 30 12.4**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=344,slow=7.7,SNR=6.7							
KOLS	**Kolonicke sedl**	**26.27**	**108**	*eP*	P	**P**	**02 30 12.7**	**-0.2**
KOLS					pmax	pmax		
	comp=Z,5.0nm,1.1s							
KOLS	**Kolonicke sedl**	**26.27**	**108**	*eP*	P	**P**	**02 30 12.7**	**-0.2**
UZH	**Uzhgorod**	**26.52**	**108**	*eP*	P	**P**	**02 30 13.8**	**-1.3**
UZH					*e*		02 30 15.8	
AKASG	**Malin Array Be**	**27.84**	**98**	P	P	**P**	**02 30 26.6**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=322,slow=9.8,SNR=4.4							
AKASG	**Malin Array Be**	**27.84**	**98**	*ceP*	P	**P**	**02 30 29.7**	**+2.8**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.7s							
AKBB	**Malin Array Si**	**27.84**	**98**	⇓ *iP*	P	**P**	**02 30 26.7**	**-0.2**
AKBB					pmax	pmax		
	comp=Z,8.0nm,1.5s							
OBN	**Obninsk**	**27.87**	**84**	⇑ *eP*	P	**P**	**02 30 27.0**	**-0.1**
OBN					*PP	**sP**	**02 30 31.0**	**+1.6**
OBN					*SP	**pP**	**02 30 32.0**	**+3.3**
OBN					PPP	PPP	02 31 22.0	
OBN					pmax	pmax		
	comp=Z,22nm,1.3s							
KIRV	**Kirov**	**30.97**	**69**	⇑ *iP*	P	**P**	**02 30 54.3**	**-0.2**
ARU	**Arti**	**36.07**	**66**	⇑ *iP*	P	**P**	**02 31 39.3**	**+0.4**
ARU					pmax	pmax		
	comp=Z,1.0nm,0.3s							
NRIK	**Noril'sk**	**36.44**	**35**	*eP*	P	**P**	**02 31 42.0**	**0.0**
BRTR	**Keskin Array B**	**38.48**	**105**	P	P	**P**	**02 32 01.4**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=307,slow=37,SNR=6.1							
KIV	**Kislovodsk**	**38.84**	**92**	*eP*	P	**P**	**02 32 02.8**	**+0.1**
KIV					pmax	pmax		
	comp=Z,13nm,0.9s							
KIV					MLR	MLR		
	comp=Z,99nm,16.0s							
KBZ	**Khabaz**	**39.11**	**92**	P	P	**P**	**02 32 06.4**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=314,slow=14,SNR=4.0							
KBZ	**Khabaz**	**39.11**	**92**	*i P*	P	**P**	**02 32 04.8**	**0.0**
KBZ					pmax	pmax		
	comp=Z,6.0nm,1.2s							
AKTO	**Aktyubinsk**	**40.27**	**73**	P	P	**P**	**02 32 14.6**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=303,slow=7.5,SNR=5.3							
ABKAR	**Akbulak array**	**41.98**	**73**	P	P	**P**	**02 32 29.0**	**+0.6**
TIXI	**Tiksi**	**42.01**	**15**	*ceP*	P	**P**	**02 32 31.0**	**+2.6**
BMAR	**Burnt Mountain**	**42.88**	**333**	P	P	**P**	**02 32 37.5**	**+1.8**
BRVK	**Borovoye**	**43.12**	**62**	*ceP*	P	**P**	**02 32 38.8**	**+1.1**
BRVK					pmax	pmax		
	comp=Z,6.0nm,2.5s							
BRVK	**Borovoye**	**43.12**	**62**	P	P	**P**	**02 32 38.4**	**+0.8**
BVAR	**Borovoye Array**	**43.18**	**62**	P	P	**P**	**02 32 38.7**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=315,slow=18,SNR=7.4							
MARD	**Mardin**	**43.51**	**100**	P	P	**P**	**02 32 42.1**	**+0.9**
ILAR	**Eielson Array**	**45.67**	**332**	P	P	**P**	**02 32 58.8**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=22,slow=6.7,SNR=9.5							
ILAR	**Eielson Array**	**45.67**	**332**	*eP*		**P**	**02 32 59.4**	**+1.5**
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**02 32 59.5**	**+1.5**
MDM	**Murphy Dome**	**45.77**	**333**	P		**P**	**02 32 59.8**	**+1.1**
P48A	**Milroy**	**45.85**	**271**	P		**P**	**02 33 00.2**	**+0.5**
BCAR	**Beaver Creek A**	**46.09**	**329**	P		**P**	**02 33 02.8**	**+1.5**
HDIL	**Hopedale**	**46.61**	**275**	P		**P**	**02 33 06.1**	**+0.5**
ZAA0	**Zalesovo Array**	**47.62**	**51**	P	P	**P**	**02 33 14.5**	**+1.2**
ZAA0					IAmb	IAmb	02 34 00.2	
	comp=Z,7.2nm,1.6s							
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	P	**P**	**02 33 12.4**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=318,slow=8.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**47.62**	**51**	*i P*	P	**P**	**02 33 14.1**	**+0.8**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	P	**P**	**02 33 14.0**	**+0.8**
KURK	**Kurchatov**	**48.10**	**58**	*ceP*	P	**P**	**02 33 17.6**	**+0.5**
KURK					pmax	pmax		
	comp=Z,8.0nm,1.7s							
KURK	**Kurchatov**	**48.10**	**58**	P	P	**P**	**02 33 17.2**	**+0.2**
KURK					IAmb	IAmb	02 33 18.4	
	comp=Z,4.5nm,0.9s							
KURBB	**Kurchatov Arra**	**48.14**	**58**	P	P	**P**	**02 33 16.8**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=325,slow=7.4,SNR=22							
T47A	**Sharon Grove**	**48.64**	**270**	P	P	**P**	**02 33 21.8**	**+0.4**
EGMT	**Eagleton**	**48.87**	**297**	P	P	**P**	**02 33 23.5**	**+0.3**
W50A	**Signal Mountai**	**49.38**	**268**	P	P	**P**	**02 33 27.7**	**+0.5**
MBO	**M'Bour**	**50.24**	**179**	P	P	**P**	**02 33 34.0**	**+0.2**
KK31	**Karatay Array**	**51.26**	**70**	P	P	**P**	**02 33 42.4**	**+1.1**
KK31					pmax	pmax		
	comp=Z,4.0nm,1.1s							
KK31	**Karatay Array**	**51.26**	**70**	P	P	**P**	**02 33 42.4**	**+1.1**
KKAR	**Karatay Array**	**51.26**	**70**	P	P	**P**	**02 33 42.3**	**+1.0**
KKAR	**Karat

SONM	**Songino Array**	**59.62**	**40**	P		**P**		**02 34 41.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=325,slow=7.0,SNR=3.5								
SONM	**Songino Array**	**59.62**	**40**	*eP*		**P**		**02 34 43.1**	**+1.6**
SONM	**Songino Array**	**59.62**	**40**	IAmb		IAmb		02 34 42.3	
	comp=Z,1.3nm,1.1s								
JCT	**Junction City**	**59.65**	**278**	P		**P**		**02 34 42.8**	**+0.9**
JCT				pmax		pmax			
	comp=Z,8.0nm,1.2s								
JCT	**Junction City**	**59.65**	**278**	P		**P**		**02 34 42.8**	**+0.9**
WUAZ	**Wupatki**	**60.11**	**290**	P		**P**		**02 34 45.3**	**+0.2**
X16A	**Lo Mia Camp, P**	**61.09**	**290**	P		**P**		**02 34 53.5**	**+1.7**
X16A				IAmb		IAmb		02 34 54.4	
	comp=Z,3.1nm,1.1s								
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**		**02 34 59.8**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=52,slow=6.5,SNR=4.6								
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*eP*		**P**		**02 35 35.2**	**+1.6**
HHC				pmax		pmax			
	comp=Z,25nm,1.1s								
HHC				pmax		pmax			
	comp=Z,440nm,5.9s								
LZH	**Lanzhou**	**69.61**	**48**	*eP*		**P**		**02 35 47.1**	**+0.1**
LZH				pP		pP		02 35 49.6	+0.9
LZH				sP		sP		02 35 50.7	+1.3
LZH				*e*PP		**PP**		**02 38 23.5**	**+3.3**
LZH				pmax		pmax			
	comp=Z,17nm,1.3s								
LZH				pmax		pmax			
	comp=Z,65nm,8.2s								
CD2	**Chengdu**	**74.34**	**50**	P		**P**		**02 36 14.5**	**-0.8**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								

IDC 10 02:34:57.1±3.5, 53°39N×35°29W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.3/53, mbtmp3.8/2, MS3.3/9, Ms1 3.3/9, ms1mx3.0/42, Error ellipse: s-maj=156.1km s-min=52.5km az=45.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.42**	**26**	LR	LR	02 41 33.5	
	comp=Z,42nm,21.2s,baz=300,slow=30						
JMIC	**Jan Mayen**	**21.28**	**24**	LR	LR	02 45 46.2	
	comp=Z,84nm,18.5s,baz=261,slow=30						
ESDC	**Sonseca Array**	**25.30**	**110**	P	P	02 40 25.2	0.0
	2.8nm,1.2s,baz=313,slow=8.8,SNR=6.5						
ESDC				LR	LR	02 48 33.3	
	comp=Z,62nm,18.4s,baz=310,slow=32						
NOA	**NORSAR Array B**	**25.82**	**54**	LR	LR	02 49 18.5	
	comp=Z,40nm,19.9s,baz=45,slow=33						
HFS	**Hagfors**	**27.13**	**56**	LR	LR	02 49 59.3	
	comp=Z,44nm,21.9s,baz=36,slow=33						
DAVOX	**Davos/Dischmat**	**29.32**	**84**	LR	LR	02 51 44.6	
	comp=Z,61nm,20.4s,baz=276,slow=34						
ULM	**Lac du Bonnet**	**36.60**	**290**	LR	LR	02 55 09.2	
	comp=Z,92nm,18.9s,baz=334,slow=33						
PDAR	**Pinedale Array**	**48.60**	**289**	LR	LR	03 03 09.1	
	comp=Z,43nm,18.4s,baz=334,slow=35						
TORD	**Torodi Ar. Bea**	**49.68**	**130**	P	P	02 43 50.5	-0.2
	1.0nm,0.8s,baz=334,slow=8.7,SNR=3.8						
TXAR	**Lajitas Array**	**54.34**	**272**	LR	LR	03 06 33.3	
	comp=Z,45nm,19.2s,baz=0.0,slow=35						
ASAR	**Alice Springs**	**149.21**	**20**	PKPbc	PKPbc	02 54 46.9	-0.5
	0.5nm,0.8s,baz=348,slow=2.2,SNR=2.8						

IDC 10 02:47:38.6±1.4, 12°02N×95°87E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/33, mbtmp3.6/5, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/43, Error ellipse: s-maj=56.4km s-min=26.1km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.05**	**24**	Pn	Pn	02 49 23.3	0.0
	0.8nm,0.3s,baz=216,slow=15,SNR=7.5						
KAPI	**Kappang**	**29.16**	**124**	LR	LR	03 05 42.2	
	comp=Z,39nm,19.8s,baz=230,slow=37						
H08S3	**Diego Garcia H**	**30.36**	**231**	T	T	03 24 46.2	
	baz=50						
H08S2	**Diego Garcia H**	**30.37**	**231**	T	T	03 24 37.5	
	baz=50						
H08S1	**Diego Carcia H**	**30.38**	**231**	T	T	03 24 45.7	
	baz=50						
WRA	**Warramunga Arr**	**49.42**	**130**	P	P	02 56 30.8	+0.1
	0.8nm,0.8s,baz=310,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**51.39**	**134**	P	P	02 56 45.4	-0.2
	0.5nm,0.9s,baz=316,slow=6.4,SNR=2.4						
FINES	**FINESS Array B**	**69.89**	**331**	P	P	02 58 51.8	+0.6
	2.1nm,0.9s,baz=101,slow=8.0,SNR=1.5						
GERES	**GERESS Array B**	**75.92**	**318**	P	P	02 59 26.8	-0.6
	0.3nm,0.6s,baz=87,slow=5.0,SNR=3.6						

IDC 10 03:19:55.8±2.8, 6°25S×153°95E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/34, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=68.7km s-min=32.9km az=98.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.72**	**315**	Pn	Pn	03 20 39.9	-0.9
	8.8nm,0.3s,baz=135,slow=2.2,SNR=5.4						
KRVT				Sn	Sn	03 21 11.1	-3.2
	5.8nm,0.3s,baz=105,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**23.41**	**233**	P	P	03 25 06.7	0.0
	0.2nm,0.5s,baz=60,slow=9.3,SNR=6.2						
ASAR	**Alice Springs**	**25.91**	**226**	P	P	03 25 29.5	-0.4
	0.7nm,0.8s,baz=55,slow=9.6,SNR=6.1						
MKAR	**Makanchi Array**	**82.16**	**319**	P	P	03 32 19.5	+0.8
	0.4nm,0.9s,baz=114,slow=6.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**151.82**	**286**	PKPbc	PKPbc	03 39 53.5	-0.2
	0.3nm,0.6s,baz=67,slow=2.7,SNR=1.9						

*IDC **10** 03:37:26.1±1.3, 6°32S×150°46E, h46km±14km, mb3.6/7, mb1 3.9/9, mb1mx3.6/38, mbtmp3.9/9, ML1.9/1, Error ellipse: s-maj=51.3km s-min=9.1km az=131.0*

ISC 10 03:37:24.8±0.9, 6°3S±0°2×150°5E±0°3, h33km, n11, σ1s13/13, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.51**	**38**	P	**Pn**	**03 38 03.9**	**+0.5**
	77nm,0.3s,baz=283,slow=1.2,SNR=14						
KRVT				S	**Sn**	**03 38 35.5**	**+2.6**
	68nm,0.3s,baz=194,slow=14,SNR=2.2						
PMG	**Port Moresby**	**4.51**	**227**	P	**Pn**	**03 38 32.7**	**+1.8**
	4.7nm,0.3s,baz=28,slow=11,SNR=3.0						
PMG				S	**Sn**	**03 39 22.7**	**+0.6**
	8.1nm,0.3s,baz=103,slow=21,SNR=7.1						
WRA	**Warramunga Arr**	**20.73**	**228**	P	**P**	**03 42 02.2**	**-0.5**
	3.5nm,0.5s,baz=53,slow=11,SNR=47						
ASAR	**Alice Springs**	**23.50**	**221**	P	**P**	**03 42 31.7**	**-0.3**
	0.9nm,0.5s,baz=57,slow=8.5,SNR=15						
STKA	**Stephens Creek**	**26.77**	**197**	P	**P**	**03 43 01.7**	**-0.1**
	1.5nm,0.7s,baz=342,slow=14,SNR=3.1						
FITZ	**Fitzroy Crossi**	**26.91**	**242**	P	**P**	**03 43 03.0**	**-0.3**
	1.5nm,0.5s,baz=79,slow=7.2,SNR=7.5						
MKAR	**Makanchi Array**	**79.94**	**320**	P	**P**	**03 49 30.5**	**-0.2**
	0.2nm,0.5s,baz=116,slow=5.0,SNR=1.7						
ILAR	**Eielson Array**	**84.42**	**22**	P	**P**	**03 49 53.1**	**-0.6**
	0.6nm,0.9s,baz=236,slow=6.1,SNR=3.2						
NVAR	**Mina Array Bea**	**94.83**	**52**	P	**P**	**03 50 43.4**	**-0.6**
	0.4nm,0.8s,baz=251,slow=4.7,SNR=3.0						
GERES	**GERESS Array B**	**124.08**	**327**	PKP	**PKPdf**	**03 56 19.6**	**-0.5**
	0.2nm,0.5s,baz=46,slow=2.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.51**	**285**	PKPbc	**PKPbc**	**03 57 08.4**	**-0.9**
	1.7nm,0.6s,baz=85,slow=2.4,SNR=17						

*DJA **10** 03:44:06.5±0.4, 5°S±4°×10°3E±°, h11km±6km, M4.4/13, mb4.6/4, MLv4.3/13*

*NEIC **10** 03:44:08.4±1.1, 5°41S±0°09×102°7E±0°1, h46km±6km, mb4.3/18, Error ellipse: s-maj=19.7km s-min=9.0km az=56.0*

*IDC **10** 03:44:08.3±1.2, 5°46S×102°71E, h44km±7km, mb4.1/18, mb1 4.1/18, mb1mx3.9/51, mbtmp4.3/18, MS3.2/3, Ms1 3.2/3, ms1mx2.8/44, Error ellipse: s-maj=36.9km s-min=11.5km az=51.0*

ISC 10 03:44:06.5±0.6, 5°53S±0°08×102°61E±0°08, h34km, n73, σ1s27/69, mb4.3/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.21**	**16**	P	**Pn**	**03 44 27.3**	**+0.3**
MNAI	**Manna**	**1.21**	**16**	Pn	**Pn**	**03 44 27.4**	**+0.3**
LWLI	**Liwa**	**1.53**	**71**	P	**Pn**	**03 44 30.9**	**-0.6**
KSI	**Kapahiang**	**1.86**	**359**	P	**Pn**	**03 44 37.7**	**+1.6**
MDSI	**Maura Dua**	**1.87**	**57**	P	**Pn**	**03 44 35.9**	**-0.2**
LHSI	**Lahat**	**1.92**	**28**	P	**Pn**	**03 44 38.0**	**+1.2**
KLSI		**2.27**	**69**	P	**Pn**	**03 44 42.2**	**+0.6**
MASI	**Maura Aman, Be**	**2.40**	**351**	P	**Pn**	**03 44 45.5**	**+2.0**
CGJI	**Cibinong**	**3.25**	**110**	P	**Pn**	**03 44 54.7**	**-0.4**
PMBI	**Palembang**	**3.36**	**40**	Pn	**Pn**	**03 44 55.2**	**-1.5**
KRJI	**Kerinci**	**3.60**	**341**	P	**Pn**	**03 45 03.1**	**+3.0**
SKJI	**Sukabumi**	**4.19**	**111**	P	**Sb**	**03 46 11.1**	**+1.5**
CBJI	**Citeko**	**4.31**	**102**	P	**Sb**	**03 46 18.2**	**+5.1**
SDSI	**Sungai Dareh**	**4.71**	**345**	P	**Pn**	**03 45 17.9**	**+2.6**
CNJI	**Cibinong**	**4.83**	**112**	P	**Pn**	**03 45 16.2**	**-0.6**
LEM	**Lembang**	**5.14**	**105**	P	**Pn**	**03 45 24.4**	**+3.1**
	6.8nm,0.3s,baz=330,slow=20,SNR=2.1						
LEM	**Lembang**	**5.14**	**105**	P	**Pn**	**03 45 22.7**	**+1.4**
DSRI	**Dabo**	**5.38**	**21**	P	**Pn**	**03 45 24.7**	**+0.2**
	0.2nm39nm,1.1s						
CISI	**Cisompet, Garu**	**5.55**	**112**	P	**Sb**	**03 46 46.9**	**-1.9**
CISI	**Cisompet, Garu**	**5.55**	**112**	Pn	**Pn**	**03 45 26.1**	**-0.7**
BKNI	**Bangkinang**	**6.02**	**345**	Pn	**Pn**	**03 45 33.5**	**+0.2**
CMJI	**Cimerak**	**6.21**	**111**	P	**Pn**	**03 45 35.0**	**-0.9**
	0.2nm30nm,0.5s						
UGM	**Wanagama**	**8.21**	**107**	P	**Pn**	**03 46 04.4**	**+1.1**
	180nm,2.1s						
PSI	**Prapat**	**9.06**	**336**	LR	LR	03 50 15.1	
	comp=Z,209nm,18.4s,baz=92,slow=41						
PWJI	**Pagerwojo**	**9.46**	**106**	P	**Pn**	**03 46 20.9**	**+0.5**
BATI	**Baumata**	**21.36**	**104**	P	**P**	**03 48 52.8**	**+1.6**
	33nm,0.4s,baz=270,slow=4.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**24.11**	**351**	P	**P**	**03 49 19.3**	**+0.1**
	4.9nm,0.7s,baz=183,slow=8.8,SNR=8.5						
CMAR				pP	**sP**	**03 49 31.3**	**-1.5**
	2.5nm,0.5s,baz=179,slow=9.3,SNR=2.5						
CMAR				LR	LR	03 59 17.2	
	comp=Z,36nm,21.7s,baz=190,slow=38						
CHTO	**Chiang Mai**	**24.46**	**352**	P	**P**	**03 49 21.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**25.73**	**121**	P	**P**	**03 49 33.6**	**-0.4**
	2.0nm,0.8s,baz=330,slow=8.1,SNR=2.6						
FITZ				pP	**sP**	**03 49 45.9**	**-2.0**
	6.1nm,0.8s,baz=270,slow=5.1,SNR=7.0						
FITZ				LR	LR	04 01 08.8	
	comp=Z,51nm,18.4s,baz=306,slow=40						
FITZ	**Fitzroy Crossi**	**25.73**	**121**	IAmb	IAmb	03 49 46.6	
	comp=Z,7.7nm,0.9s						
H08S2	**Diego Garcia H**	**29.99**	**264**	T	T	04 21 23.7	
	baz=88,slow=75,SNR=112						
H08S3	**Diego Garcia H**	**30.00**	**264**	T	T	04 21 22.2	
	baz=88,slow=75,SNR=110						
H08S1	**Diego Carcia H**	**30.01**	**264**	T	T	04 21 23.1	
	baz=88,slow=75,SNR=75						
NWAO	**Narrogin (SRO)**	**30.48**	**155**	P	**P**	**03 50 14.9**	**-1.4**
H01W3	**Cape Leeuwin H**	**31.09**	**161**	T	T	04 22 52.1	
	baz=338,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**31.11**	**161**	T	T	04 22 53.1	
	baz=338,slow=76,SNR=32						
H01W1	**Cape Leeuwin H**	**31.11**	**161**	T	T	04 22 54.6	
	baz=338,slow=76,SNR=35						
WRA	**Warramunga Arr**	**34.01**	**118**	P	**P**	**03 50 46.7**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=286,slow=12,SNR=15						
WRA				PcP	**PcP**	**03 53 25.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=309,slow=2.1,SNR=2.4						
WRAB	**Tennant Creek**	**34.02**	**118**	P	**P**	**03 50 48.0**	**+0.4**
WB2	**Warramunga AR**	**34.02**	**118**	P	**P**	**03 50 47.2**	**-0.4**
ASAR	**Alice Springs**	**35.10**	**124**	P	**P**	**03 50 57.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=298,slow=8.2,SNR=10						
ASAR				PcP	**PcP**	**03 53 28.7**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=316,slow=2.6,SNR=3.2						
AS31	**Alice Springs**	**35.10**	**124**	P	**P**	**03 50 57.2**	**+0.2**
XAN	**Xi'an**	**39.80**	**8**	P	**P**	**03 51 36.3**	**-0.2**
STKA	**Stephens Creek**	**44.88**	**131**	P	**P**	**03 52 18.7**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=316,slow=11,SNR=6.4						
SONM	**Songino Array**	**53.24**	**3**	P	**P**	**03 53 22.7**	**+0.9**
	comp=Z,4.7nm,0.6s,baz=182,slow=9.3,SNR=20						
SONM				pP	**sP**	**03 53 34.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=187,slow=9.3,SNR=3.8						
SONM	**Songino Array**	**53.24**	**3**		**P**	**03 53 22.5**	**+0.7**
ULN	**Ulaanbaatar**	**53.31**	**4**	P	**P**	**03 53 22.3**	**0.0**
ULN				IAmb	IAmb	03 53 23.6	
	comp=Z,4.0nm,1.0s						
MK31	**Makanchi Array**	**55.12**	**343**	P	**P**	**03 53 35.8**	**+0.3**
MK31				IAmb	IAmb	03 53 37.0	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**55.12**	**343**	P	**P**	**03 53 35.8**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=150,slow=9.0,SNR=30						
MKAR	**Makanchi Array**	**55.12**	**343**	P	**P**	**03 53 35.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**56.12**	**25**	P	**P**	**03 53 41.8**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=222,slow=4.5,SNR=11						
KURBB	**Kurchatov Arra**	**59.66**	**342**	P	**P**	**03 54 07.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=134,slow=5.3,SNR=1.4						
KURK	**Kurchatov**	**59.72**	**343**	P	**P**	**03 54 07.5**	**-0.2**
KURK	**Kurchatov**	**59.72**	**343**	IAmb	IAmb	03 54 22.1	
	comp=Z,3.0nm,0.8s						
GEYT	**Alibeck**	**59.81**	**320**	P	**P**	**03 54 10.1**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=94,slow=15,SNR=1.7						
ZAA0	**Zalesovo Array**	**61.11**	**348**	P	**P**	**03 54 16.9**	**-0.3**
ZALV	**Zalesovo Beam**	**61.11**	**348**	P	**P**	**03 54 17.2**	**0.0**
	comp=Z,5.7nm,0.4s,baz=153,slow=4.4,SNR=22						
ZALV				pP	**sP**	**03 54 30.0**	**-1.4**
	comp=Z,3.3nm,0.6s,baz=161,slow=5.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**61.11**	**348**	P	**P**	**03 54 16.8**	**-0.3**
ABKAR	**Akbulak array**	**65.97**	**331**	P	**P**	**03 54 49.5**	**+0.2**
ARU	**Arti**	**71.47**	**336**	P	**P**	**03 55 23.9**	**+0.4**
	comp=Z,2.4nm,0.2s,baz=180,slow=20						
ARU	**Arti**	**71.47**	**336**	IAmb	IAmb	03 55 24.7	
	comp=Z,5.8nm,0.6s						
PETK	**Petropavlovsk-**	**74.51**	**31**	P	**P**	**03 55 40.4**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=300,slow=6.1,SNR=2.0						
NRIK	**Noril'sk**	**75.42**	**355**	P	**P**	**03 55 46.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=160,slow=10,SNR=3.9						
BRTR	**Keskin Array B**	**77.61**	**313**	P	**P**	**03 56 00.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=151,slow=5.6,SNR=4.2						
AKASG	**Malin Array Be**	**83.85**	**322**	P	**P**	**03 56 31.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=90,slow=5.6,SNR=1.6						
BURAR	**Bucovina Array**	**85.61**	**319**	P	**P**	**03 56 43.3**	**+1.5**
BUR08	**Bucovina Ar. S**	**85.63**	**319**	P	**P**	**03 56 42.6**	**+0.8**
FIA1	**FINESS Array S**	**88.43**	**332**	P	**P**	**03 56 53.5**	**-1.5**
FINES	**FINESS Array B**	**88.43**	**332**	P	**P**	**03 56 55.5**	**+0.5**
	comp=Z,3.0nm,1.1s,baz=120,slow=5.9,SNR=1.7						
TX31	**Lajitas Ar. Si**	**145.69**	**43**		**PKPbc**	**04 03 42.9**	**+0.2**
TX32	**Lajitas Array**	**145.69**	**43**		**PKPab**	**04 03 43.4**	**+0.4**
TXAR	**Lajitas Array**	**145.69**	**43**	PKPbc	**PKPab**	**04 03 43.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=301,slow=1.9,SNR=24						
TXAR	**Lajitas Array**	**145.69**	**43**		**PKPab**	**04 03 43.2**	**+0.2**

*IDC **10** 03:49:27.0±1.5, 2°95N×128°85E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/48, mbtmp3.8/5, Error ellipse: s-maj=95.3km s-min=18.8km az=70.0*

ISC 10 03:49:32.8±1.7, 3°0N±0°2×129°1E±0°6, h44km, n6, σ0s59/6, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.23**	**189**	P	**P**	**03 54 15.0**	**-0.1**
	0.8nm,0.5s,baz=15,slow=9.7,SNR=1.4						
WRA	**Warramunga Arr**	**23.36**	**167**	P	**P**	**03 54 37.3**	**-0.2**
	1.1nm,0.4s,baz=345,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.90**	**170**	P	**P**	**03 55 09.6**	**-0.3**
	1.2nm,0.5s,baz=354,slow=7.7,SNR=20						
STKA	**Stephens Creek**	**36.65**	**162**	P	**P**	**03 56 35.5**	**+0.3**
	1.0nm,0.4s,baz=349,slow=8.9,SNR=6.3						
MKAR	**Makanchi Array**	**59.52**	**324**	P	**P**	**03 59 32.3**	**+0.6**
	0.4nm,0.4s,baz=114,slow=7.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**63.65**	**327**	P	**P**	**03 59 58.7**	**-0.7**
	5.2nm,0.2s,baz=134,slow=6.3,SNR=5.5						

*ECX **10** 03:51:48.4±0.6, 31°38N×115°43W, h6km±13km, MD2.8, ML3.0*

*MEX **10** 03:51:49.3±0.4, 31°15N×115°43W, h40km±6km, MD3.6*

ISC 10 03:51:47.4±1.3, 31°31N±0°04×115°41W±0°04, h21km±2km, n15, σ1s01/26, 2C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.27**	**191**	↓*eP*	**Pb**	**03 51 54.8**	**+0.7**
SPIG				*eS*	**Sb**	**03 51 59.6**	**+0.8**
SPIG	**San Pedro Mart**	**0.27**	**191**	*eP*	**Pb**	**03 51 54.8**	**+0.7**
SPIG				*i* S	**Sb**	**03 51 59.5**	**+0.8**
SPX	**San Pedro Mart**	**0.28**	**191**	↓*iP*	**Pb**	**03 51 53.8**	**-0.4**
SPX				*eS*	**Sb**	**03 51 58.5**	**-0.3**
VTX	**Valle De La Tr**	**0.33**	**283**	↑*iP*	**Pb**	**03 51 53.4**	**-1.2**
VTX				*eS*	**Sb**	**03 51 57.7**	**-1.9**
VTX				IAML		03 51 58.2	
	comp=E,3μm,0.1s						
VTX				IAML		03 51 58.3	
	comp=N,2μm,0.1s						
VTX				↓*e*		03 51 58.3	
ECBX	**El Chinero**	**0.34**	**62**	↑*iP*	**Pb**	**03 51 54.5**	**-0.2**
ECBX				*i* S	**Sb**	**03 51 59.0**	**-0.7**
SFX	**San Felipe**	**0.55**	**120**	*eP*	**Pn**	**03 51 59.4**	**-0.6**
SFX				*eS*	**Sn**	**03 52 07.3**	**-1.3**
SJX	**San Joaquin**	**0.65**	**314**	*eP*	**Pn**	**03 52 02.2**	**+0.8**
SJX				*eS*	**Sn**	**03 52 12.2**	**+1.2**
SJX				↓*e*		03 52 16.2	
SJX				IAML		03 52 16.2	
	comp=E,509nm,0.1s						
SQX	**San Quintin**	**0.84**	**209**	*eP*	**Pn**	**03 52 04.2**	**+0.2**
SQX				*i* S	**Sn**	**03 52 15.8**	**+0.1**
MBIG	**Mexicali**	**1.10**	**9**	*i* P	**Pb**	**03 52 08.9**	**+1.1**
MBIG				*i* S	**Sn**	**03 52 23.8**	**+1.5**
CPBX	**Cerro Prieto**	**1.10**	**4**	IAML		03 52 29.1	
	comp=E,1μm,0.3s						
CPBX				↓*e*		03 52 29.1	
CCX	**Cicese**	**1.21**	**298**	*eP*	**Pn**	**03 52 08.9**	**-0.1**
CCX				*eS*	**Sb**	**03 52 24.3**	**-0.4**
RMX	**La Rumorosa**	**1.41**	**336**	*eP*	**Pn**	**03 52 10.7**	**-1.2**
RMX				*eS*	**Sn**	**03 52 27.9**	**-2.0**
IKP	**In-Ko-Pah, Jac**	**1.46**	**336**	*eP*	**Pn**	**03 52 12.3**	**-0.4**
TJIG	**Tijuana**	**1.55**	**316**	*i* P	**Pn**	**03 52 14.3**	**+0.5**
TJIG				*i* S	**Sn**	**03 52 33.9**	**+0.5**
BAR	**Barrett**	**1.74**	**322**	*eP*	**Pn**	**03 52 17.0**	**+0.7**

WEL 10 04:03:56.8, 43°S±1°×17°3E±°, h10km±2km, M2.1/9, ML2.3/9, MLv2.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=44.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.24**	**205**	P	Pg	04 04 03.4	+1.7
OKCZ	**Okains Bay**	**0.31**	**141**	P	Pb	04 04 04.5	+0.1
AMCZ	**Amberley**	**0.33**	**341**	P	Pb	04 04 04.9	+0.2
AKCZ	**Akaroa Harbour**	**0.40**	**168**	P	Pb	04 04 06.3	+0.4
GVZ	**Greta Valley S**	**0.55**	**19**	P	Pb	04 04 08.9	+0.4
OXZ	**Oxford**	**0.57**	**286**	P	Pb	04 04 09.7	+0.8
LTZ	**Lake Taylor**	**0.80**	**331**	P	Pn	04 04 13.8	-0.4
WACZ	**Wakanui South**	**0.83**	**236**	P	Pn	04 04 15.1	+0.6
MHCZ	**Mount Hutt**	**0.89**	**267**	P	Pn	04 04 16.0	+0.6
KHZ	**Kahutara**	**1.20**	**27**	P	Pb	04 04 19.5	-0.1
INZ	**Inchbonnie**	**1.25**	**307**	P	Pg	04 04 21.6	+0.9
ARCZ	**Arundel**	**1.26**	**248**	P	Pg	04 04 22.0	+1.0
RPZ	**Rata Peaks**	**1.28**	**259**	P	Pg	04 04 22.7	+1.3
THZ	**Tophouse**	**1.73**	**3**	P	Pn	04 04 27.2	+0.3
BSWZ	**Blackbirch Sta**	**1.94**	**25**	P	Pb	04 04 33.0	+0.7
ODZ	**Otahua Downs**	**2.19**	**224**	P	Pg	04 04 40.1	+1.3
MSZ	**Milford Sound**	**3.70**	**250**	P	Pb	04 04 59.5	-2.8

*IDC **10** 04:07:48.9±0.4, 32°22S×110°81W, h0km, mb4.9/24, mb1 5.0/25, mb1mx4.9/30, mbtmp4.9/25, ML4.6/1, MS4.9/26, Ms1 4.9/26, ms1mx4.8/36, Error ellipse: s-maj=15.2km s-min=12.0km az=98.0*

*MOS **10** 04:07:49.5±1.2, 32°16S×110°78W, h10km, mb5.5/34, MS5.6/8, Error ellipse: s-maj=11.2km s-min=7.9km az=73.6*

*NEIC **10** 04:07:50.6±1.5, 32°17S±0°08×110°84W±0°03, h10km±1km, mb5.4/428, Ms_20 5.2/423, Mww5.6, Mwc5.6(GCMT), Error ellipse: s-maj=13.5km s-min=4.3km az=168.0*

*NEIC **10** 04:07:57, 32°32S×110°77W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.90; $M_{\theta\theta}$-3.64; $M_{\phi\phi}$ 1.74; $M_{r\theta}$-0.85; $M_{\theta\phi}$0.24; $M_{\phi r}$-0.41; Fault plane solution: M_o3.30000×10^{17} NP1:ϕ_s126.00000°, δ48.00000°, λ142.00000°. NP2:ϕ_s244.00000°, δ63.00000°, λ49.00000°. Principal axes: T 2.3464, Plg53.0000°, Azm103.0000°; N 1.4283, Plg36.0000°, Azm266.0000°; P -3.7747, Plg8.0000°, Azm2.0000°;*

*GCMT **10** 04:07:57.6±0.1, 32°30S±0°01×110°72W±0°01, h17km, MW5.6/149, Moment Tensor Solution. s120,c212; s149,c295; Duration: 1s5 Moment tensor: Sc

BO02 IAmb IAmb 04 14 49.6
comp=Z,45nm,1.1s
ROC1 El Roble 33.41 102 P **P** **04 14 30.7 +1.1**
MT05 Renca 33.57 103 P **P** **04 14 31.1 +0.3**
CO02 Combarbal 33.77 99 P **P** **04 14 33.7 +1.1**
VA03 San Esteban 33.83 102 P **P** **04 14 33.7 +0.6**
VA03 IAmb IAmb 04 14 38.5
comp=Z,81nm,1.1s
VA03 IAMs_20 IAMs_20 04 23 44.7
comp=Z,4µm,22.0s
GO09 Cerro Castillo 33.90 135 P **P** **04 14 33.1 -0.3**
CO03 El Pedregal 34.11 98 P **P** **04 14 36.0 +0.5**
CO03 IAmb IAmb 04 14 40.0
comp=Z,50nm,1.0s
GO04 Tololo Observa 34.17 97 P **P** **04 14 36.6 +0.4**
AC04 Llanos de Chal 34.46 94 IAMs_20 IAMs_20 04 24 24.9
comp=Z,4µm,21.0s
CO01 Juntas del Tor 34.81 97 P **P** **04 14 42.6 +0.8**
CO01 IAmb IAmb 04 14 50.2
comp=Z,164nm,1.9s
AC05 El Transito 34.96 95 IAmb IAmb 04 14 53.5
comp=Z,102nm,1.2s
AC05 IAMs_20 IAMs_20 04 24 41.2
comp=Z,5µm,22.0s
TBI Tubuai 35.14 275 *e*S **S** **04 20 15.0 -2.1**
comp=Z,304nm,31.0s
TBI *e*LQ LQ 04 22 36.6
comp=Z,983nm,28.8s
TBI *e*LR LR 04 23 59.3
comp=Z,3µm,26.8s
TBI Tubuai 35.14 275 *e*T T 04 51 24.0
comp=Z,16nm,0.2s
GO03 Copiap 35.35 93 P **P** **04 14 46.7 +0.5**
GO03 IAmb IAmb 04 14 52.2
comp=Z,144nm,1.9s
GO03 IAMs_20 IAMs_20 04 24 52.5
comp=Z,4µm,21.0s
ZON Zonda 35.63 100 P **P** **04 14 49.0 +0.4**
ZON pmax pmax
comp=Z,172nm,1.4s
ZON Zonda 35.63 100 P **P** **04 14 49.0 +0.4**
ZON IAMs_20 IAMs_20 04 25 22.1
comp=Z,3µm,18.0s
TAOE Nuku Hiva Isla 35.79 304 *e*S **S** **04 20 27.0 -0.3**
comp=Z,187nm,26.8s
TAOE *e*LQ LQ 04 22 55.8
comp=Z,2µm,24.0s
TAOE *e*LR LR 04 24 25.7
comp=Z,2µm,30.9s
PB14 IPOC Station P 36.20 88 P **P** **04 14 54.0 +0.2**
PB14 IAmb IAmb 04 14 59.3
comp=Z,179nm,1.9s
PB14 IAMs_20 IAMs_20 04 25 19.7
comp=Z,3µm,20.0s
MEH Mehetia 36.44 284 *e*T T 04 53 01.9
comp=Z,47nm,0.2s
PB10 IPOC Station P 36.49 87 IAMs_20 IAMs_20 04 25 28.4
comp=Z,3µm,20.0s
AC02 Maricunga 36.52 92 P **P** **04 14 56.9 +0.1**
AC02 IAmb IAmb 04 15 08.0
comp=Z,138nm,1.6s
AC02 IAMs_20 IAMs_20 04 25 59.4
comp=Z,3µm,19.0s
GO02 Mina Guanaco 36.69 90 P **P** **04 14 58.8 +0.7**
GO02 IAmb IAmb 04 15 09.1
comp=Z,98nm,1.4s
PAYG Puerto Ayora 36.95 36 IAMs_20 IAMs_20 04 25 43.5
comp=Z,5µm,22.0s
NNA Nana 37.18 65‖ *e*P **P** **04 15 02.0 0.0**
NNA pmax pmax
comp=Z,34nm,1.1s
NNA Nana 37.18 65 P **P** **04 15 02.5 +0.5**
PB04 IPOC Station P 37.30 85 IAMs_20 IAMs_20 04 25 50.8
comp=Z,3µm,20.0s
TVO Taravao 37.46 283 *e*T T 04 54 18.7
comp=Z,2.5nm,0.3s
VAH Vaihoa 37.47 288 *e*P **P** **04 15 03.5 -0.9**
comp=Z,208nm,1.4s
PB15 IPOC Station P 37.52 87 P **P** **04 15 05.3 +0.2**
PB15 IAMs_20 IAMs_20 04 25 59.8
comp=Z,4µm,22.0s
PB06 IPOC Station P 37.64 86 IAmb IAmb 04 15 10.5
comp=Z,50nm,0.9s
TIAR Tiarei 37.65 284 *e*P **P** **04 15 04.2 -1.7**
comp=Z,39nm,1.3s
TIAR Tiarei 37.65 284 *e*T T 04 54 32.8
comp=Z,4.8nm,0.2s
MG01 Puerto William 37.77 140 P **P** **04 15 08.7 +2.2**
PB07 IPOC Station P 37.78 84 P **P** **04 15 07.4 +0.2**
PB07 IAMs_20 IAMs_20 04 26 03.3
comp=Z,3µm,20.0s
PAE Paea 37.80 283 *e*P **P** **04 15 05.6 -1.5**
comp=Z,9.2nm,1.0s
PAE Paea 37.80 283 *e*T T 04 54 43.8
comp=Z,3.2nm,0.3s
PMOR Pomariorio Ree 37.82 288 *e*P **P** **04 15 06.3 -1.0**
comp=Z,164nm,1.3s
PPTF Pamatai, Papee 37.82 283 P **P** **04 15 06.8 -0.6**
PPT2 Papeete2 37.83 283 *e*P **P** **04 15 05.9 -1.6**
comp=Z,98nm,1.4s
PPT2 *e*S **S** **04 20 56.4 -2.0**
comp=Z,149nm,25.0s
PPT2 *e*LQ LQ 04 23 44.1
comp=Z,679nm,21.2s
PPT2 *e*LR LR 04 25 08.3
comp=Z,5µm,24.5s
PPT2 Papeete2 37.83 283 *e*T T 04 54 45.0
comp=Z,2.8nm,0.3s
PPT Papeete 37.84 283 P **P** **04 15 09.0 +1.5**
comp=Z,48nm,0.8s,baz=167,slow=7.7,SNR=4.1
PPT LR LR 04 26 11.1
comp=Z,3µm,18.7s,baz=101,slow=29
PPT Papeete 37.84 283 P **P** **04 15 07.5 0.0**
PPT Papeete 37.84 283 P **P** **04 15 07.5 0.0**
PATCX Punta Patache 37.94 83 P **P** **04 15 09.0 +0.6**
PATCX IAMs_20 IAMs_20 04 26 05.6
comp=Z,4µm,21.0s
TA01 Diego Aracena 38.03 82 IAMs_20 IAMs_20 04 26 28.0
comp=Z,4µm,20.0s
LVC Limon Verde 38.24 86 P **P** **04 15 11.8 +0.6**
LVC pmax pmax
comp=Z,180nm,1.7s
LVC Limon Verde 38.24 86 P **P** **04 15 11.8 +0.6**
LVC IAmb IAmb 04 15 25.8
comp=Z,180nm,1.6s
LVC Limon Verde 38.24 86 *e*P **P** **04 15 12.4 +1.1**
PB09 IPOC Station P 38.29 85 P **P** **04 15 12.5 +1.0**
PB09 IAmb IAmb 04 15 17.0
comp=Z,103nm,1.1s
PB09 IAMs_20 IAMs_20 04 26 20.0
comp=Z,4µm,20.0s
PB01 IPOC Station P 38.40 83 P **P** **04 15 12.8 +0.5**
PB01 IAmb IAmb 04 15 23.3
comp=Z,92nm,1.5s
PB01 IAMs_20 IAMs_20 04 26 40.9
comp=Z,4µm,20.0s
PSGCX Pisagua 38.51 81 P **P** **04 15 13.0 -0.3**
PSGCX IAMs_20 IAMs_20 04 26 41.7
comp=Z,3µm,19.0s
PB11 IPOC Station P 38.83 82 P **P** **04 15 15.8 -0.2**
AP01 Chacalluta 38.91 79 IAMs_20 IAMs_20 04 26 34.1
comp=Z,3µm,22.0s
PB08 IPOC Station P 39.08 82 IAMs_20 IAMs_20 04 26 51.8
comp=Z,3µm,20.0s
MNMC Minye Minye 39.17 81 IAMs_20 IAMs_20 04 27 15.1
comp=Z,3µm,20.0s
GO01 Chusmiza 39.26 82 IAMs_20 IAMs_20 04 27 06.5
comp=Z,3µm,20.0s
PB16 IPOC Station P 39.62 80 P **P** **04 15 23.0 -0.1**
LPAZ La Paz 41.77 78 P **P** **04 15 41.6 +0.7**
comp=Z,11nm,0.9s,baz=243,slow=7.0,SNR=31
LPAZ LR LR 04 29 00.8
comp=Z,1µm,18.4s,baz=238,slow=30
LPAZ La Paz 41.77 78 *e*P **P** **04 15 38.2 -2.7**
LPAZ La Paz 41.77 78 P **P** **04 15 41.0 +0.1**
LPAZ La Paz 41.77 78 *e*P **P** **04 15 41.9 +1.0**
EFI East Falkland 42.69 133‖ *i*P **P** **04 15 46.6 -0.7**
EFI pmax pmax
comp=Z,33nm,0.9s
EFI East Falkland 42.69 133 P **P** **04 15 48.3 +1.0**
CZSB Cruzeiro do Su 43.01 64 *e*P **P** **04 15 50.5 +0.2**
PMSA Palmer Station 43.21 153 P **P** **04 15 54.5 +3.3**
PAC1 Pacto, Paraso 44.32 49 *e*P **P** **04 16 00.1 -1.0**
OTAV Otavalo 44.52 50 *e*P **P** **04 16 02.8 -0.1**
OTAV Otavalo 44.52 50 P **P** **04 16 04.0 +1.0**
OTAV pmax pmax
comp=Z,85nm,1.4s
OTAV Otavalo 44.52 50 *e*P **P** **04 16 02.9 -0.1**
OTAV **P** **04 16 04.0 +1.0**
OTAV IAmb IAmb 04 16 14.4
comp=Z,85nm,1.4s
OTAV Otavalo 44.52 50 *e*P **P** **04 16 04.2 +1.3**
CUSE Cuicocha Este 44.61 50 *e*P **P** **04 16 02.5 -1.2**
RAR Rarotonga 44.73 272 LR LR 04 29 45.8
comp=Z,2µm,19.4s,baz=129,slow=29
GCUF Volcan Galeras 45.99 50 *e*P **P** **04 16 13.1 -1.6**
PUAC Puerto Asis, P 45.99 52 *e*P **P** **04 16 12.5 -1.6**
CPUP Villa Florida 46.64 97 P **P** **04 16 18.2 -1.0**
comp=Z,9.1nm,1.0s,baz=253,slow=9.9,SNR=7.8
CPUP LR LR 04 32 58.4
comp=Z,2µm,18.3s,baz=250,slow=32
CPUP Villa Florida 46.64 97 P **P** **04 16 19.0 -0.2**
CPUP pmax pmax
comp=Z,76nm,1.7s
CPUP Villa Florida 46.64 97 P **P** **04 16 19.0 -0.2**
CPUP IAmb IAmb 04 16 28.0
comp=Z,76nm,1.6s
CPUP Villa Florida 46.64 97 *e*P **P** **04 16 19.4 +0.2**
BBAC Balboa, Cauca 46.65 50 *e*P **P** **04 16 18.8 -0.8**
ETMB Extrema 46.83 72 *e*P **P** **04 16 20.4 -0.4**
PTLC Puerto Leguiza 46.90 54 *e*P **P** **04 16 19.0 -2.3**
FLOC Florencia 47.36 52 *e*P **P** **04 16 24.7 -0.2**
POPC Popayan, Colom 47.41 50 *e*P **P** **04 16 23.4 -2.2**
PCON Cinco Dias 47.43 50 *e*P **P** **04 16 24.7 -1.4**
GARC Garzon, Huila 47.92 51 *e*P **P** **04 16 29.5 0.0**
PLTB Pedras Altas 48.02 105 *e*P **P** **04 16 29.6 -0.3**
MARP Paez Belalcaza 48.11 50 *e*P **P** **04 16 30.2 -0.8**
BETC Betania 48.32 51 *e*P **P** **04 16 32.9 +0.5**
PIZC Pizarro, Choco 48.85 47 *e*P **P** **04 16 37.0 +0.7**
MACC Macarena, Meta 48.99 53 *e*P **P** **04 16 35.6 -1.8**
JTS Las Juntas de 49.04 35 *e*P P 04 16 26.8 -11
JTS Las Juntas de 49.04 35‖ *i*P **P** **04 16 38.5 +0.7**
JTS pmax pmax
comp=Z,26nm,1.0s
JTS Las Juntas de 49.04 35 P **P** **04 16 36.9 -0.9**
JTS **pP** **04 16 39.3 -2.0**
JTS IAmb IAmb 04 16 49.4
comp=Z,77nm,1.2s
JTS Las Juntas de 49.04 35 IAMs_20 IAMs_20 04 31 48.1
comp=Z,3µm,21.0s
HDC Heredia 49.20 36 IAMs_20 IAMs_20 04 31 56.4
comp=Z,3µm,21.0s
ORTC Ortega, Tolima 49.37 50 *e*P **P** **04 16 37.7 -2.8**
PRAC Prado 49.46 50 *e*P **P** **04 16 39.5 -1.6**
PLMC San Jos del P 49.47 48 *e*P **P** **04 16 38.4 -2.8**
PTLB Pontes e Lacer 49.69 83 *e*P **P** **04 16 43.0 +0.2**
ANIL Santa Ana 49.71 49 *e*P **P** **04 16 42.9 -0.4**
SAML Samuel 49.78 73 *e*P P 04 16 37.8 -5.8
SAML Samuel 49.78 73 P **P** **04 16 42.6 -0.9**
SAML pmax pmax
comp=Z,50nm,1.4s
SAML Samuel 49.78 73 P **P** **04 16 42.6 -0.9**
SAML IAmb IAmb 04 16 52.5
comp=Z,50nm,1.4s
SAML Samuel 49.78 73 *e*P **P** **04 16 43.3 -0.2**
VILB Vilhena 50.06 79 *e*P **P** **04 16 45.1 -0.6**
RREF El Recreo 50.06 49 *e*P **P** **04 16 41.7 -4.7**
GUY2C Guayana, Caldas 50.30 49 *e*P **P** **04 16 46.6 -1.4**
AQDB Aquidauana 50.30 91 *e*P **P** **04 16 47.2 -0.3**
CBOC Ciudad Bolivar 50.38 48 *e*P **P** **04 16 48.0 -0.2**
ACON Acoyapa 50.40 33 IAmb IAmb 04 16 58.7
comp=Z,97nm,1.3s
ACON IAMs_20 IAMs_20 04 32 33.0
comp=Z,2µm,22.0s
ROSC El Rosal 50.68 50 P **P** **04 16 50.8 0.0**
comp=Z,58nm,1.0s,baz=200,slow=3.6,SNR=30
ROSC El Rosal 50.68 50 *e*P **P** **04 16 51.7 +0.9**
MTO3 Montecristo 50.78 27 IAMs_20 IAMs_20 04 33 07.0
comp=Z,2µm,19.0s
HUEH Huehuetenango 50.84 24 IAMs_20 IAMs_20 04 32 41.4
comp=Z,3µm,22.0s
MATN Matagalpa 50.90 32 P **P** **04 16 51.5 -0.5**
MATN IAmb IAmb 04 17 02.2
comp=Z,56nm,1.2s
MATN IAMs_20 IAMs_20 04 32 47.2
comp=Z,2µm,22.0s
CHIC Chingaza 50.90 51 *e*P **P** **04 16 52.4 0.0**
ESQI Esquipulas 50.93 27 IAmb IAmb 04 17 09.0
comp=Z,78nm,1.2s
ESQI IAMs_20 IAMs_20 04 32 43.1
comp=Z,3µm,22.0s
TLIG Tlapa 50.95 15 P **P** **04 16 52.5 +0.2**
TLIG IAmb IAmb 04 17 03.5
comp=Z,74nm,1.4s
DBBC Dabeiba 51.16 46 *e*P **P** **04 16 54.1 +0.1**
TGUH Tegucigalpa,Un 51.31 30 P **P** **04 16 55.4 +0.2**
CCIG Comitan 51.51 23 IAmb IAmb 04 17 00.8
comp=Z,124nm,1.8s
PTGC Puerto Gaitan, 51.65 53 *e*P **P** **04 16 57.8 +0.2**
PTGB Pitanga 51.66 97 *e*P **P** **04 16 58.1 +0.4**
CAPC Capurgana 51.75 44 *e*P **P** **04 16 57.1 -1.2**
PTBC PUERTO BERRIO, 51.88 49 *e*P **P** **04 16 58.2 -1.1**
TRCB Terra Rica 51.93 95 *e*P **P** **04 17 00.6 +0.8**
RUSC La Rusia 52.27 50 *e*P **P** **04 17 00.4 -2.4**
MOIG Morelia 52.49 11 P **P** **04 17 03.6 -0.4**
MOIG IAmb IAmb 04 17 19.0
comp=Z,32nm,0.8s
LCBC Los crdobas, 52.51 45 *e*P **P** **04 17 03.7 -0.3**
UNM Universidad Na 52.53 14 IAMs_20 IAMs_20 04 34 09.8
comp=Z,3µm,21.0s
BARC Barichara 52.74 50 *e*P **P** **04 17 05.5 -0.5**
BRRC Barranca, Sant 52.79 49 *e*P **P** **04 17 05.2 -0.8**
MOTC Monteria, Cord 52.87 46 *e*P **P** **04 17 05.0 -1.6**
PETF Flores 52.89 25 P **P** **04 17 06.9 +0.2**
PETF IAmb IAmb 04 17 17.1
comp=Z,87nm,1.3s
PETF IAMs_20 IAMs_20 04 33 58.5
comp=Z,2µm,22.0s
PCMB Pacaembu 53.58 94 *e*P **P** **04 17 12.5 +0.6**
PAMC Pamplona, Colo 53.61 50 *e*P **P** **04 17 10.5 -2.2**
SMLC San Martn de 53.86 47 *e*P **P** **04 17 12.6 -1.3**
TIJ01 Guaruva-PR 53.99 99 *e*P **P** **04 17 14.0 -1.0**
SJCC San Jacinto, C 54.04 45 *e*P **P** **04 17 15.2 -0.1**
FRTB Fartura 54.30 97 *e*P **P** **04 17 17.6 +0.4**
ARGC Ariguani, Magd 54.57 46 *e*P **P** **04 17 17.5 -1.6**
CLDB Colider 54.81 80 *e*P **P** **04 17 19.1 -1.9**
ITRB Iturama 55.16 93 *e*P **P** **04 17 23.9 +0.4**
MACA Manacapuru-AM 55.19 69 *e*P **P** **04 17 22.1 -1.6**
ZAIG Zacatecas 55.32 9 P **P** **04 17 24.0 -0.6**
ZAIG IAMs_20 IAMs_20 04 36 11.7
comp=Z,2µm,21.0s
SMRC Santa Marta, M 55.61 45 *e*P **P** **04 17 25.6 -0.9**
HOPE Hope Point 55.62 137 P **P** **04 17 27.3 +1.1**
HOPE pmax pmax
comp=Z,351nm,1.9s
HOPE Hope Point 55.62 137 P **P** **04 17 27.3 +1.1**
ARAG Araguaiana, MT 55.75 88 *e*P **P** **04 17 27.4 -0.3**
BELA Belgrano 2 55.78 166 P **P** **04 17 28.1 +1.0**
SPB Sao Paulo 55.99 98 IAMs_20 IAMs_20 04 38 16.3
comp=Z,2µm,20.0s
SPB Sao Paulo 55.99 98 *e*P **P** **04 17 29.2 -0.1**
SDV Santo Domingo 56.11 50 LR LR 04 37 32.5
comp=Z,770nm,21.0s,baz=218,slow=32
SDV Santo Domingo 56.11 50 *e*P **P** **04 17 28.3 -2.2**
SDV Santo Domingo 56.11 50 P **P** **04 17 29.7 -0.8**
SDV IAmb IAmb 04 17 39.5
comp=Z,69nm,1.4s
SDV Santo Domingo 56.11 50 *e*P **P** **04 17 29.2 -1.2**
BB19B Bebedouro 56.12 95 *e*P **P** **04 17 30.7 +0.4**
TEIG Tepich 56.51 26 LR LR 04 36 31.9
comp=Z,2µm,20.7s,baz=196,slow=30
TEIG Tepich 56.51 26 IAMs_20 IAMs_20 04 36 21.4
comp=Z,2µm,21.0s
VAO Valinhos 56.62 98 *e*P **P** **04 17 33.1 -0.9**
RAO Raoul Island 56.85 254 LR LR 04 35 22.3
comp=Z,748nm,21.7s,baz=130,slow=29
NPGB Novo Progresso 57.24 77 *e*P **P** **04 17 36.7 -1.7**
IPMB Ipameri, GO 57.74 92 *e*P **P** **04 17 42.3 +0.3**
QSPA South Pole Qui 57.90 180 P **P** **04 17 43.1 +0.6**
comp=Z,6.3nm,0.9s,baz=78,slow=0.9,SNR=11
QSPA LR LR 04 38 45.5
comp=Z,859nm,20.1s,baz=108,slow=32
QSPA South Pole Qui 57.90 180 P **P** **04 17 43.5 +1.1**
SNDB Serra Nova Dou 58.02 84 *e*P **P** **04 17 43.8 -0.1**
VNDA Vanda 58.16 195 P **P** **04 17 45.4 +1.5**
comp=Z,2.3nm,0.8s,baz=88,slow=5.5,SNR=14
VNDA LR LR 04 38 29.7
comp=Z,1µm,18.4s,baz=92,slow=32
VNDA Vanda 58.16 195 P **P** **04 17 44.6 +0.7**
VNDA pmax pmax
comp=Z,29nm,1.4s
VNDA Vanda 58.16 195 P **P** **04 17 44.6 +0.7**
AFI Afiamalu 58.23 273 LR LR 04 36 13.1
comp=Z,1000nm,19.6s,baz=120,slow=29
ITTB Itaituba 58.45 74 *e*P **P** **04 17 45.6 -1.2**
BDFB Brasilia 59.00 90 P **P** **04 17 50.8 0.0**
BDFB LR LR 04 40 53.5
comp=Z,9.0nm,0.9s,baz=258,slow=8.4,SNR=9.1
BDFB
comp=Z,1µm,19.0s,baz=258,slow=34
BDFB Brasilia 59.00 90 P **P** **04 17 51.1 +0.3**
BDFB pmax pmax
comp=Z,71nm,1.3s
BDFB Brasilia 59.00 90 P **P** **04 17 51.1 +0.3**
BDFB IAMs_20 IAMs_20 04 40 32.7
comp=Z,1µm,19.0s
TUWZ Tuamarina 59.14 238 P **P** **04 17 53.4 +2.2**
SRIG Santa Rosalia 59.30 359 P **P** **04 17 52.2 -0.1**
SRIG IAmb IAmb 04 18 02.8
comp=Z,63nm,1.4s
SRIG IAMs_20 IAMs_20 04 37 34.2
comp=Z,1µm,21.0s
THZ Tophouse 59.78 237 P **P** **04 17 57.9 +2.1**
LTZ Lake Taylor 59.92 236 IAMs_20 IAMs_20 04 39 59.7
comp=Z,2µm,20.0s
PEXB Peixe 60.48 86 *e*P **P** **04 18 01.1 +0.2**
RPZ Rata Peaks 60.48 235 P **P** **04 18 01.5 +0.9**
comp=Z,5.4nm,0.7s,baz=53,slow=8.3,SNR=3.5
RPZ LR LR 04 40 25.9
comp=Z,389nm,18.4s,baz=86,slow=32
RPZ Rata Peaks 60.48 235 IAmb IAmb 04 18 04.6
comp=Z,78nm,1.7s
HSIG 60.97 360 P **P** **04 18 03.2 -0.6**
HSIG IAMs_20 IAMs_20 04 38 27.6
comp=Z,2µm,21.0s
MALB Monte Alegre 61.10 72 *e*P **P** **04 18 04.3 -0.7**
833A Chaparral WMA, 61.26 12 P **P** **04 18 05.6 -0.2**
baz=191
833A S **S** **04 26 30.6 +5.2**
baz=191
833A Chaparral WMA, 61.26 12 IAMs_20 IAMs_20 04 39 34.0
comp=Z,2µm,22.0s
TX32 Lajitas Array 61.66 7 IAmb IAmb 04 18 56.3
comp=Z,50nm,1.9s
TXAR Lajitas Array 61.66 7 P **P** **04 18 08.4 -0.2**
comp=Z,3.2nm,0.8s,baz=192,slow=9.2,SNR=31
TXAR LR LR 04 40 44.4
comp=Z,787nm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 61.66 7 P **P** **04 18 08.1 -0.5**
735A Kenedy 62.06 13 IAMs_20 IAMs_20 04 40 49.3
comp=Z,1µm,19.0s
GTBY Guantanamo Bay 62.18 38 *e*P P 04 18 01.1 -11
PRPB Parauapebas 62.31 79 *e*P **P** **04 18 12.4 -0.9**
JANB Januaria 62.41 91 *e*P **P** **04 18 14.5 +0.5**
SMTB Santa Maria do 62.74 83 *e*P **P** **04 18 16.9 +0.7**
SPX San Pedro Mart 63.14 356 P **P** **04 18 18.5 -0.3**
SPX IAmb IAmb 04 18 28.5
comp=Z,35nm,1.3s
SDBA SAO DESIDERIO 63.20 88 *e*P **P** **04 18 19.6 +0.3**
VNA3 Neumayer Olymp 63.26 159 P **P** **04 18 18.5 -0.3**
JCT Junction City 63.30 11 P **P** **04 18 18.9 -0.6**
baz=190,SNR=5.6
JCT Junction City 63.30 11 P **P** **04 18 19.2 -0.3**
JCT pmax pmax
comp=Z,26nm,0.9s
JCT Junction City 63.30 11 P **P** **04 18 19.1 -0.3**
JCT IAmb IAmb 04 18 20.4
comp=Z,26nm,0.9s
SJMB Sao Joao De Ma 63.35 96 *e*P **P** **04 18 21.0 +0.9**
SDDR Presa de Saban 63.51 42 P **P** **04 18 20.4 -0.7**
SDDR IAmb IAmb 04 18 31.2
comp=Z,42nm,1.1s
HKT Hockley 63.52 15‖ *e*P **P** **04 18 20.4 -0.4**
HKT pmax pmax
comp=Z,44nm,1.7s
HKT Hockley 63.52 15 P **P** **04 18 21.2 +0.4**
HKT IAmb IAmb 04 18 23.8
comp=Z,75nm,1.8s
PIX Pinacate 63.55 358 IAmb IAmb 04 18 31.7
comp=Z,45nm,1.6s
BSFB Barra de Sao F 63.58 96 *e*P **P** **04 18 22.5 +0.9**
BANI BANI 63.58 44 P **P** **04 18 21.1 -0.5**
RIB01 Linhares ES 63.74 97 *e*P **P** **04 18 23.1 +0.4**
MCPB Macapa, AP 63.75 72 *e*P **P** **04 18 22.8 0.0**
MNTX Cornudas Mount 63.85 5 P **P** **04 18 22.2 -0.8**
baz=185,SNR=23
MNTX Cornudas Mount 63.85 5 P **P** **04 18 22.8 -0.3**
SDD Santo Domingo 63.89 44 P **P** **04 18 22.7 -0.9**
VNA1 Neumayer--Stat 63.91 159 P **P** **04 18 23.3 +0.3**
214A Organ Pipe Nat 63.93 358 P **P** **04 18 23.8 +0.2**
baz=178,SNR=12
214A Organ Pipe Nat 63.93 358 IAmb IAmb 04 18 34.4
comp=Z,42nm,1.4s
435B Jarrell 63.98 13 P **P** **04 18 23.9 0.0**
baz=192
435B S **S** **04 27 05.9 +6.3**
baz=192
435B Jarrell 63.98 13 IAmb IAmb 04 18 25.3
comp=Z,32nm,0.9s
VNA2 Neumayer--Watz 64.07 159 P **P** **04 18 23.8 -0.3**
baz=229,slow=4.5
TUC Tucson 64.25 0 P **P** **04 18 25.9 +0.1**
baz=180
TUC Tucson 64.25 0 P **P** **04 18 25.8 0.0**
TUC pmax pmax
comp=Z,35nm,1.4s
TUC Tucson 64.25 0 P **P** **04 18 25.8 0.0**
TUC IAmb IAmb 04 18 36.4
comp=Z,35nm,1.4s
TUC Tucson 64.25 0 IAMs_20 IAMs_20 04 40 20.5
comp=Z,2µm,21.0s
121A Cookes Peak, D 64.54 3 P **P** **04 18 27.9 +0.1**
baz=183
121A S **S** **04 27 13.0 +6.2**
baz=183
121A Cookes Peak, D 64.54 3 IAMs_20 IAMs_20 04 40 41.0
comp=Z,2µm,21.0s
NAN01 Guarapari, ES 64.64 96 *e*P **P** **04 18 29.1 +0.5**
IKP In-Ko-Pah, Jac 64.78 355 P **P** **04 18 29.5 +0.3**
baz=175,SNR=9.7
BAR Barrett 64.86 355 IAmb IAmb 04 18 40.4
comp=Z,56nm,1.4s
545A Edgard 64.93 19 IAMs_20 IAMs_20 04 47 53.4
comp=Z,1µm,18.0s
MSVF Nonsavu 65.02 264*d* *e*P **P** **04 18 32.0 +0.8**
MSVF pmax pmax
comp=Z,20nm,1.2s
MSVF Nonsavu 65.02 264 P **P** **04 18 32.4 +1.2**
MSVF Nonsavu 65.02 264 IAMs_20 IAMs_20 04 39 35.6
comp=Z,2µm,21.0s
MONP2 Monument Peak 65.05 355 P **P** **04 18 31.5 +0.4**
baz=175,SNR=10
MONP2 S **S** **04 27 19.6 +6.5**
baz=175
SWSC Sam W. Stewart 65.06 355 P **P** **04 18 31.0 +0.2**
baz=175
SNAA Sanae 65.07 161 P **P** **04 18 30.3 -0.4**
SNAA Sanae 65.07 161*c* *i*P **P** **04 18 30.1 -0.6**
SNAA pmax pmax
comp=Z,15nm,1.3s
SNAA Sanae 65.07 161 P **P** **04 18 30.6 -0.1**
109C Camp Elliot, M 65.10 354 P **P** **04 18 31.2 +0.1**
baz=174
GLA Glamis 65.10 356 P **P** **04 18 31.5 +0.2**
baz=176
GLA S **S** **04 27 21.1 +7.6**
baz=176
GLA Glamis 65.10 356 IAmb IAmb 04 18 42.0
comp=Z,36nm,1.2s
WHTX Lake Whitney, 65.18 13 P **P** **04 18 30.9 -0.8**
baz=192
WHTX Lake Whitney, 65.18 13 IAmb IAmb 04 18 42.3
comp=Z,36nm,1.1s
SCI2 San Clemente I 65.33 353 P **P** **04 18 32.7 0.0**
baz=173
ABTX Abilene, Hawle 65.43 10 P **P** **04 18 32.7 -0.7**
baz=190
ABTX Abilene, Hawle 65.43 10 IAmb IAmb 04 19 15.6
comp=Z,34nm,1.6s
NATX Nacogdoches 65.52 15 P **P** **04 18 34.0 +0.1**
baz=195
OBIP Obispado Ponce 65.56 47 IAmb IAmb 04 18 42.5
comp=Z,21nm,0.9s
SVB Belmont 65.59 55 IAmb IAmb 04 18 40.9
comp=Z,54nm,1.2s
CIS Catalina Islan 65.73 353 P **P** **04 18 35.2 -0.1**
baz=173

BC3 **Big Chuckawall** 65.74 356 P P 04 18 35.8 +0.4
baz=176,SNR=20
TPFO **Pinon Flats** 65.76 355 P P 04 18 36.0 +0.5
baz=175,SNR=12
PFO **Pinyon Flats O** 65.77 355 P P 04 18 36.0 +0.4
comp=Z,11nm,1.1s,baz=170,slow=5.8,SNR=16
PFO **Pinyon Flats O** 65.77 355 P P 04 18 36.1 +0.5
baz=175,SNR=11
PFO **Pinyon Flats O** 65.77 355 *c i* P P 04 18 35.6 0.0
PFO pmax pmax
comp=Z,23nm,1.2s
PFO **Pinyon Flats O** 65.77 355 P P 04 18 36.0 +0.4
PFO IAmb IAmb 04 18 46.5
comp=Z,42nm,1.3s
MURC **Murrieta** 65.81 354 P P 04 18 35.9 +0.1
baz=174
TMAB **Tom-Au,PA,Br** 65.83 77 *e* P P 04 18 36.5 +0.1
SJG **San Juan** 65.90 47 P P 04 18 35.1 -1.5
SJG pmax pmax
comp=Z,47nm,1.5s
SJG **San Juan** 65.90 47 P P 04 18 35.1 -1.5
SJG IAmb IAmb 04 18 45.1
comp=Z,47nm,1.5s
PDPR **Patillas Dam,** 65.91 47 P P 04 18 35.2 -1.5
Y14A **Wickenburg** 65.91 358 IAmb IAmb 04 18 47.3
comp=Z,54nm,1.6s
FMP **Fort Macarthur** 66.03 353 P P 04 18 36.9 -0.3
baz=173
Y22D **IRIS PASSCAL I** 66.12 4 P P 04 18 38.4 +0.5
baz=184
Y22D **IRIS PASSCAL I** 66.12 4 IAMs_20 IAMs_20 04 42 02.7
comp=Z,1μm,20.0s
BELC **Belle Mtn. Jos** 66.12 355 P P 04 18 38.6 +0.7
baz=175,SNR=21
BELC S S 04 27 35.4 +9.3
baz=175
IRM **Iron Mountain** 66.22 356 P P 04 18 38.9 +0.5
baz=176,SNR=14
IRM S S 04 27 34.9 +7.9
baz=176
MSTX **Muleshoe** 66.35 7 P P 04 18 38.4 -0.9
baz=187,SNR=20
MSTX **Muleshoe** 66.35 7 IAmb IAmb 04 18 40.0
comp=Z,28nm,0.8s
X16A **Lo Mia Camp, P** 66.36 359 IAMs_20 IAMs_20 04 41 51.0
comp=Z,2μm,19.0s
BBRC **Big Bear Solar** 66.45 355 P P 04 18 40.7 +0.6
baz=174
BFSC **Mount Baldy Ra** 66.49 354 P P 04 18 40.2 0.0
baz=174,SNR=9.4
CDVI **St. Croix** 66.50 48 IAmb IAmb 04 18 38.8
comp=Z,56nm,1.4s
MWC **Mount Wilson** 66.51 353 IAmb IAmb 04 18 50.4
comp=Z,32nm,1.4s
Z35A **Perchaven, San** 66.52 12 IAmb IAmb 04 18 50.0
comp=Z,47nm,1.4s
DECC **Green Verdugo** 66.57 353 P P 04 18 40.9 +0.3
baz=173
PUH **Pauahi** 66.66 314 P P 04 18 41.9 +0.3
FDF **Fort de France** 66.69 53 P P 04 18 40.2 -1.6
UWB **Uwekahuna B** 66.73 314 P P 04 18 42.4 +0.3
NEE2 **Needles Airpor** 66.80 357 P P 04 18 42.2 +0.1
baz=176
GMRC **Granite Mounta** 66.88 356 P P 04 18 43.3 +0.6
baz=176,SNR=15
451A **Vernon** 66.93 23 IAMs_20 IAMs_20 04 42 44.4
comp=Z,2μm,20.0s
OSI **Osito Audit: C** 66.96 353 P P 04 18 42.7 -0.5
baz=173
OSI **Osito Audit: C** 66.96 353 IAMs_20 IAMs_20 04 40 47.3
comp=Z,2μm,20.0s
HEC **Hector,Ludlow** 66.97 355 P P 04 18 43.7 +0.4
baz=175,SNR=12
VBMS **Vicksburg** 66.98 19 P P 04 18 43.5 +0.3
baz=199
VBMS **Vicksburg** 66.98 19 P P 04 18 43.8 +0.6
VBMS IAmb IAmb 04 18 58.2
comp=Z,36nm,1.0s
ANMO **Albuquerque** 67.01 4 P P 04 18 43.3 -0.4
comp=Z,0.3nm,0.9s,baz=178,slow=6.9,SNR=17
ANMO **Albuquerque** 67.01 4 P P 04 18 43.6 -0.1
baz=184
ANMO **Albuquerque** 67.01 4 ⇓ *i* P P 04 18 43.6 -0.1
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO **Albuquerque** 67.01 4 P P 04 18 42.9 -0.8
BRAL **Brewton** 67.02 22 P P 04 18 43.2 -0.3
baz=202
RRX **Edison Barstow** 67.06 355 P P 04 18 43.7 -0.1
baz=174
W18A **Petrified Fore** 67.06 1 P P 04 18 43.9 0.0
baz=181
W18A **Petrified Fore** 67.06 1 IAmb IAmb 04 18 54.5
comp=Z,39nm,1.6s
W18A IAMs_20 IAMs_20 04 41 51.8
comp=Z,2μm,21.0s
GDU01 **Guandu, BA** 67.07 92 *e* P P 04 18 44.9 +0.6
W13A **Hualapai Mount** 67.10 357 IAMs_20 IAMs_20 04 41 21.6
comp=Z,995nm,19.0s
EDW2 **Edwards Air Fo** 67.16 354 P P 04 18 44.4 0.0
baz=173,SNR=6.9
PKM **Mcpherson Peak** 67.36 352 P P 04 18 45.9 +0.1
baz=172,SNR=6.6
AMTX **Amarillo** 67.37 8 P P 04 18 45.7 -0.1
baz=188
Z41A **Richland Creek** 67.38 16 P P 04 18 45.8 0.0
baz=196
WUAZ **Wupatki** 67.45 360 P P 04 18 46.6 +0.2
baz=180,SNR=12
WUAZ **Wupatki** 67.45 360 IAmb IAmb 04 18 50.7
comp=Z,91nm,2.0s
WUAZ IAMs_20 IAMs_20 04 41 59.2
comp=Z,1μm,22.0s
GSC **Goldstone, Bar** 67.47 355 P P 04 18 47.1 +0.7
baz=174,SNR=24
GSC **Goldstone, Bar** 67.47 355 IAmb IAmb 04 18 56.7
comp=Z,49nm,1.2s
ARVC **Arvin** 67.48 353 P P 04 18 46.5 +0.1
baz=173
TUQ **Turquoise Moun** 67.54 356 P P 04 18 47.5 +0.6
baz=175,SNR=7.7
WMOK **Wichita Mounta** 67.63 11 IAMs_20 IAMs_20 04 43 45.9
comp=Z,2μm,19.0s
LRMC **Laurel Mtn Rad** 67.72 354 P P 04 18 48.4 +0.4
baz=174
WLAR **White Oak Lake** 67.72 16 IAmb IAmb 04 18 58.4
comp=Z,47nm,1.2s
SMMC **Simmler** 67.80 352 P P 04 18 48.9 +0.5
baz=172
ISA **Isabella, Lake** 67.98 353 P P 04 18 50.1 +0.5
baz=173,SNR=12
ISA **Isabella, Lake** 67.98 353 P P 04 18 48.9 -0.7
ISA pmax pmax
comp=Z,56nm,1.7s
ISA **Isabella, Lake** 67.98 353 P P 04 18 48.9 -0.7
ISA IAmb IAmb 04 19 00.6
comp=Z,56nm,1.6s
ISA IAMs_20 IAMs_20 04 41 20.1
comp=Z,2μm,20.0s
352A **Blakely** 68.00 24 IAMs_20 IAMs_20 04 43 27.7
comp=Z,2μm,21.0s
250A **Grady** 68.01 22 IAMs_20 IAMs_20 04 44 16.0
comp=Z,1μm,20.0s
SHOC **Shoshone, Teco** 68.03 355 P P 04 18 50.0 +0.2
baz=175
VES **Vestal, Richgr** 68.22 353 P P 04 18 51.1 +0.1
baz=172,SNR=6.7
PAGB **Antelope Grade** 68.24 352 P P 04 18 52.4 +1.2
PAGB IAmb IAmb 04 18 55.6
comp=Z,64nm,1.7s
PAGB IAMs_20 IAMs_20 04 41 42.1
comp=Z,2μm,20.0s
MPMC **Manual Prospec** 68.28 354 P P 04 18 52.1 +0.5
baz=174,SNR=51
U15A **North Rim** 68.38 359 IAmb IAmb 04 19 03.1
comp=Z,49nm,1.4s
TIGA **Tifton** 68.43 25 P P 04 18 51.9 -0.5
baz=205
MIAR **Mount Ida** 68.44 15 P P 04 18 51.6 -0.8
baz=196,SNR=6.0
OKCFA **Oklahoma City** 68.51 12 IAMs_20 IAMs_20 04 44 26.2
comp=Z,1μm,19.0s
X40A **Basin Creek Fa** 68.55 16 P P 04 18 52.6 -0.5
baz=196
X40A **Basin Creek Fa** 68.55 16 IAmb IAmb 04 18 54.0
comp=Z,43nm,2.0s
SHPR **Sheep Range** 68.56 356 IAMs_20 IAMs_20 04 42 06.5
comp=Z,1μm,21.0s

Z47A **Carrollton** 68.59 20 IAmb IAmb 04 18 54.5
comp=Z,42nm,0.9s
FURC **Furnace Creek,** 68.63 355 P P 04 18 54.1 +0.6
baz=174,SNR=10.0
OK025 **Westminster Rd** 68.69 12 IAMs_20 IAMs_20 04 44 41.0
comp=Z,1μm,19.0s
CWC **Cottonwood Cre** 68.71 354 P P 04 18 55.1 +0.8
baz=173
VOG **Valley Oaks Go** 68.72 353 P P 04 18 53.6 -0.5
baz=172
LRAL **Lakeview Retre** 68.76 21 P P 04 18 54.3 -0.2
baz=202,SNR=17
LRAL **Lakeview Retre** 68.76 21 IAmb IAmb 04 19 04.7
comp=Z,48nm,1.2s
PMPB **Monarch Peak** 68.79 351 P P 04 18 54.8 +0.1
PMPB IAmb IAmb 04 19 30.9
comp=Z,34nm,1.2s
OK029 **Liberty Lake** 68.89 12 IAmb IAmb 04 19 05.0
comp=Z,79nm,1.7s
OK029 IAMs_20 IAMs_20 04 44 46.0
comp=Z,1μm,19.0s
UALR **University of** 68.94 16 IAmb IAmb 04 19 05.7
comp=Z,43nm,1.5s
W39A **Magazine** 69.02 15 P P 04 18 56.0 0.0
baz=195,SNR=5.7
X43A **Marvell** 69.06 18 P P 04 18 56.3 0.0
baz=198
TPNV **Topopah Spring** 69.07 355 P P 04 18 57.4 +0.9
baz=175,SNR=15
TPNV **Topopah Spring** 69.07 355 IAmb IAmb 04 19 18.3
comp=Z,30nm,1.1s
152A **Waverly Hall** 69.16 23 IAMs_20 IAMs_20 04 44 14.4
comp=Z,2μm,20.0s
MVCO **Mesa Verde** 69.18 2 P P 04 18 56.9 -0.4
baz=182,SNR=21
MVCO **Mesa Verde** 69.18 2 IAMs_20 IAMs_20 04 42 53.8
comp=Z,1μm,21.0s
TUL1 **Leonard** 69.30 13 P P 04 18 57.1 -0.7
baz=194
T25A **Trinidad** 69.33 5 P P 04 18 58.0 -0.2
baz=186,SNR=8.1
T25A **Trinidad** 69.33 5 IAmb IAmb 04 19 20.5
comp=Z,41nm,1.6s
TIN **Tinemaha, Big** 69.33 354 P P 04 18 58.8 +0.8
baz=173,SNR=5.6
W41B **Gary Mavity, V** 69.34 16 P P 04 18 57.9 -0.2
baz=197,SNR=11
W41B **Gary Mavity, V** 69.34 16 IAmb IAmb 04 19 08.4
comp=Z,38nm,1.3s
QUOK **Quay** 69.38 12 IAmb IAmb 04 19 07.9
comp=Z,43nm,1.3s
WHAR **Wooly Hollow** 69.45 16 IAmb IAmb 04 19 09.1
comp=Z,48nm,1.5s
PRN **Pahroc Range** 69.45 356 IAmb IAmb 04 19 03.9
comp=Z,73nm,1.9s
PRN IAMs_20 IAMs_20 04 42 47.1
comp=Z,1μm,21.0s
NVL **N'lazarevskaya** 69.51 163 *e* P P 04 18 58.7 0.0
NVL *e* S S 04 28 01.2 -4.4
NVL pmax pmax
comp=Z,65nm,1.4s
CCUT **Cedar City** 69.52 358 P P 04 18 59.5 +0.1
Z51A **Franklin** 69.60 23 IAmb IAmb 04 19 00.5
comp=Z,38nm,0.8s
Z51A IAMs_20 IAMs_20 04 44 51.2
comp=Z,1μm,20.0s
Y49A **Blount Mountai** 69.70 22 IAmb IAmb 04 19 01.0
comp=Z,26nm,0.9s
S22A **4UR Ranch, Cre** 69.78 3 P P 04 19 00.9 -0.1
baz=184,SNR=12
S22A **4UR Ranch, Cre** 69.78 3 IAmb IAmb 04 19 23.2
comp=Z,41nm,1.6s
S22A IAMs_20 IAMs_20 04 44 02.6
comp=Z,1μm,20.0s
SDCO **Great Sand Dun** 69.86 5 P P 04 19 01.5 0.0
baz=185
OMMB **Old Mammoth Mi** 69.96 353 IAMs_20 IAMs_20 04 42 22.4
comp=Z,2μm,22.0s
MLAC **Mammoth, Mammo** 69.96 353 P P 04 19 02.7 +0.6
baz=173
MDPB **Devils Postpil** 69.99 353 IAMs_20 IAMs_20 04 42 41.4
comp=Z,2μm,20.0s
HHAR **Hobbs** 70.03 14 IAmb IAmb 04 19 12.1
comp=Z,46nm,1.3s
KAN13 **South Haven SW** 70.07 11 P P 04 19 01.2 -1.3
GOGA **Godfrey** 70.26 24 P P 04 19 03.1 -0.7
baz=204,SNR=11
GOGA **Godfrey** 70.26 24 IAmb IAmb 04 19 04.5
comp=Z,27nm,1.0s
PV12 **Saucer Basin,** 70.27 2 IAmb IAmb 04 19 13.9
comp=Z,43nm,1.3s
PV20 **West Nyswonger** 70.29 2 IAMs_20 IAMs_20 04 44 08.2
comp=Z,1μm,21.0s
PV15 **Paradox Valley** 70.31 2 IAMs_20 IAMs_20 04 43 30.6
comp=Z,1μm,21.0s
PV14 **Lion Creek, Pa** 70.32 2 IAMs_20 IAMs_20 04 44 00.0
comp=Z,1μm,19.0s
U40A **Yellville** 70.34 15 P P 04 19 03.3 -0.8
baz=196,SNR=7.5
PV23 **Carpenter Ridg** 70.40 2 P P 04 19 03.6 -1.2
PV23 IAmb IAmb 04 19 05.7
comp=Z,25nm,0.9s
PV23 IAMs_20 IAMs_20 04 43 28.1
comp=Z,1μm,20.0s
R11A **Troy Canyon, C** 70.42 356 P P 04 19 05.4 +0.5
baz=176,SNR=19
R11A **Troy Canyon, C** 70.42 356 IAmb IAmb 04 19 16.1
comp=Z,45nm,1.4s
R11A IAMs_20 IAMs_20 04 43 04.5
comp=Z,1μm,20.0s
LCAR **Lake Charles** 70.46 17 IAmb IAmb 04 19 08.3
comp=Z,54nm,2.0s
Y52A **Lilburn** 70.47 23 IAmb IAmb 04 19 05.9
comp=Z,45nm,0.9s
Y52A IAMs_20 IAMs_20 04 44 43.3
comp=Z,2μm,22.0s
PV22 **Blue Mesa, Par** 70.49 2 IAMs_20 IAMs_20 04 43 58.5
comp=Z,1μm,21.0s
157A **Early Branch** 70.50 26 P P 04 19 05.5 +0.3
baz=206
CMB **Columbia Colle** 70.53 352 IAMs_20 IAMs_20 04 42 33.5
comp=Z,2μm,22.0s
LHV **Little Huntoon** 70.54 354 IAMs_20 IAMs_20 04 43 02.9
comp=Z,1μm,21.0s
FPAL **Fort Paine** 70.59 22 IAmb IAmb 04 19 06.0
comp=Z,34nm,0.9s
FPAL IAMs_20 IAMs_20 04 45 36.3
comp=Z,994nm,21.0s
NV11 **Mina Array Sit** 70.69 354 IAMs_20 IAMs_20 04 43 00.8
comp=Z,1μm,22.0s
NVAR **Mina Array Bea** 70.70 354 P P 04 19 07.7 +1.1
comp=Z,26nm,1.0s,baz=182,slow=7.8,SNR=124
NVAR LR LR 04 43 22.7
comp=Z,1μm,20.3s,baz=168,slow=30
NVAR **Mina Array Bea** 70.70 354 P P 04 19 06.4 -0.2
X51A **Calhoun** 70.85 23 IAmb IAmb 04 19 08.0
comp=Z,40nm,0.9s
X51A IAMs_20 IAMs_20 04 45 09.3
comp=Z,1μm,21.0s
158A **Hollywood** 70.85 27 P P 04 19 07.7 +0.4
baz=207
WAKR **Walker** 70.89 353 IAmb IAmb 04 19 19.1
comp=Z,59nm,1.6s
RYN **Ryan** 70.92 354 IAmb IAmb 04 19 18.9
comp=Z,28nm,1.1s
RYN IAMs_20 IAMs_20 04 43 07.8
comp=Z,1μm,20.0s
Z56A **Williston** 70.94 26 P P 04 19 07.7 -0.2
baz=206
Z57A **Bowman** 71.16 26 P P 04 19 09.1 -0.1
baz=207
NHSC **New Hope** 71.19 27 P P 04 19 09.7 +0.3
baz=207
MGMO **Mountain Grove** 71.23 16 P P 04 19 08.7 -0.9
MGMO IAmb IAmb 04 19 19.7
comp=Z,66nm,1.6s
W50A **Signal Mountai** 71.29 22 IAmb IAmb 04 19 10.4
comp=Z,27nm,0.9s
W50A IAMs_20 IAMs_20 04 45 57.9
comp=Z,1μm,20.0s
KVN **Kaiserville** 71.30 354 IAMs_20 IAMs_20 04 43 42.8
comp=Z,2μm,22.0s
PBMO **Poplar Bluff** 71.31 17 IAmb IAmb 04 19 19.9
comp=Z,44nm,1.4s
V48A **Smith Brothers** 71.33 20 IAmb IAmb 04 19 10.4
comp=Z,31nm,0.9s
YERR **Yerington** 71.34 353 IAmb IAmb 04 19 21.6
comp=Z,56nm,1.3s

YERR IAMs_20 IAMs_20 04 43 49.0
comp=Z,1μm,19.0s
KSCO **Kaye Shedlock'** 71.35 7 P P 04 19 10.4 -0.1
baz=187,SNR=5.1
KSCO **Kaye Shedlock'** 71.35 7 IAmb IAmb 04 19 11.8
comp=Z,37nm,1.1s
Y56A **Pelion** 71.38 26 P P 04 19 10.4 -0.2
baz=206
WVT **Waverly** 71.40 20 P P 04 19 09.6 -1.0
baz=200
WVT **Waverly** 71.40 20 P P 04 19 09.2 -1.4
WVT pmax pmax
comp=Z,18nm,1.0s
WVT **Waverly** 71.40 20 P P 04 19 09.2 -1.4
HODGE **Hodges** 71.43 25 IAmb IAmb 04 19 11.9
comp=Z,30nm,1.0s
PNTR **Pine Nut** 71.48 353 IAmb IAmb 04 19 22.3
comp=Z,45nm,1.3s
PNTR IAMs_20 IAMs_20 04 43 40.7
comp=Z,2μm,20.0s
CBKS **Cedar Bluff** 71.49 9 P P 04 19 11.0 -0.2
baz=190
RUBR **Rubicon Trail** 71.51 352 IAmb IAmb 04 19 23.2
comp=Z,67nm,1.3s
Z58A **St. Stephen** 71.53 27 P P 04 19 11.3 -0.2
baz=207,SNR=5.0
W52A **Murphy** 71.64 23 IAMs_20 IAMs_20 04 45 42.2
comp=Z,2μm,21.0s
X54A **Belton** 71.67 24 P P 04 19 12.0 -0.3
baz=205,SNR=7.1
VCNR **Virginia City** 71.69 353 IAMs_20 IAMs_20 04 43 34.8
comp=Z,1μm,21.0s
CPCT **Cooper Cave** 71.77 22 IAmb IAmb 04 19 13.6
comp=Z,34nm,0.9s
CPCT IAMs_20 IAMs_20 04 45 48.7
comp=Z,1μm,20.0s
CLTN **Cedars of Leba** 71.80 21 IAmb IAmb 04 19 16.1
comp=Z,67nm,1.9s
HOPS **Hopland Field** 71.83 350 IAmb IAmb 04 19 23.4
comp=Z,67nm,1.4s
JSC **Jenkinsville** 71.83 25 IAmb IAmb 04 19 23.8
comp=Z,38nm,1.4s
X55A **Gracelyn & Ava** 71.87 25 P P 04 19 13.4 -0.1
baz=206,SNR=8.4
BG3 **Lake Jocassee** 71.88 24 IAmb IAmb 04 19 23.9
comp=Z,57nm,1.3s
ISCO **Idaho Springs** 71.89 4 P P 04 19 13.7 -0.2
baz=185,SNR=11
ISCO **Idaho Springs** 71.89 4 IAMs_20 IAMs_20 04 45 26.5
comp=Z,1μm,20.0s
Y57A **Sumter** 71.92 26 P P 04 19 13.8 +0.1
baz=207
PAHR **Pah Rah Range** 72.07 353 IAmb IAmb 04 19 25.8
comp=Z,38nm,1.3s
PAHR IAMs_20 IAMs_20 04 44 01.4
comp=Z,2μm,22.0s
O20A **White River Ci** 72.10 2 P P 04 19 14.7 -0.3
baz=182,SNR=5.9
O20A **White River Ci** 72.10 2 P P 04 19 13.9 -1.1
O20A pP 04 19 15.1 -3.8
O20A IAmb IAmb 04 19 36.2
comp=Z,70nm,1.9s
X56A **White Oak** 72.10 26 P P 04 19 14.9 0.0
baz=206,SNR=13
PAULI **Pauline** 72.12 25 IAmb IAmb 04 19 16.2
comp=Z,45nm,1.0s
DUG **Dugway, Tooele** 72.15 358 P P 04 19 15.2 0.0
baz=178,SNR=9.5
V51A **Loudon** 72.15 22 IAmb IAmb 04 19 15.8
comp=Z,27nm,0.9s
V51A IAMs_20 IAMs_20 04 46 00.4
comp=Z,1μm,21.0s
TKL **Tuckaleechee C** 72.20 23 IAMs_20 IAMs_20 04 45 49.2
comp=Z,2μm,21.0s
W54A **Cherokee Point** 72.22 24 P P 04 19 15.5 -0.1
baz=205,SNR=16
KSU1 **Kansas State U** 72.25 12 P P 04 19 15.8 +0.2
baz=193
KSU1 **Kansas State U** 72.25 12 IAMs_20 IAMs_20 04 46 51.1
comp=Z,1μm,19.0s
CCM **Cathedral Cave** 72.33 16 P P 04 19 15.5 -0.7
baz=197
CCM **Cathedral Cave** 72.33 16 P P 04 19 15.9 -0.3
CCM pmax pmax
comp=Z,36nm,1.4s
CCM **Cathedral Cave** 72.33 16 P P 04 19 15.9 -0.3
U49A **Red Boiling Sp** 72.36 21 IAmb IAmb 04 19 16.8
comp=Z,24nm,0.8s
X57A **Johnson Farm,** 72.43 26 P P 04 19 16.9 +0.1
baz=207
V52A **Sevierville** 72.43 23 IAmb IAmb 04 19 26.5
comp=Z,39nm,1.4s
V52A IAMs_20 IAMs_20 04 46 17.2
comp=Z,1μm,21.0s
BIRD **Birdtown, Kers** 72.45 26 IAmb IAmb 04 19 27.4
comp=Z,73nm,1.4s
Y59A **Loris** 72.47 27 P P 04 19 17.0 -0.1
baz=208,SNR=6.3
V53A **Saluda** 72.54 24 IAmb IAmb 04 19 18.6
comp=Z,56nm,1.0s
V53A IAMs_20 IAMs_20 04 45 57.0
comp=Z,1μm,21.0s
KMSC **Kings Mountain** 72.58 25 P P 04 19 17.5 -0.2
baz=206,SNR=16
KMSC **Kings Mountain** 72.58 25 IAmb IAmb 04 19 18.8
comp=Z,33nm,0.9s
DZM **Mont Dzumac** 72.65 255 *e* S S 04 28 38.8 -5.0
comp=Z,209nm,25.1s
DZM **Mont Dzumac** 72.65 255 *e* LR LR 04 41 22.0
comp=Z,1μm,23.6s
Y60A **Bolivia** 72.75 28 P P 04 19 18.3 -0.4
baz=208
ELK **Elko** 72.79 357 P P 04 19 19.2 0.0
comp=Z,4.2nm,0.9s,baz=191,slow=3.1,SNR=12
ELK **Elko** 72.79 357 P P 04 19 17.8 -1.4
ELK P 04 19 19.5 +0.4
ELK IAMs_20 IAMs_20 04 45 04.2
comp=Z,1μm,21.0s
X58A **Rowland** 72.79 27 P P 04 19 19.2 +0.2
baz=208
W56A **Indian Trail** 72.84 26 P P 04 19 18.9 -0.4
baz=206,SNR=7.6
V54A **Nebo** 72.93 24 P P 04 19 19.5 -0.3
baz=205,SNR=20
O03E **Paynes Creek** 72.93 351 P P 04 19 19.5 -0.3
baz=170
O02D **Mt. Diablo Mer** 72.95 350 P P 04 19 20.5 +0.6
baz=169,SNR=5.8
N23A **Red Feather La** 72.96 4 P P 04 19 20.4 +0.1
baz=184,SNR=10
N23A **Red Feather La** 72.96 4 IAmb IAmb 04 19 31.4
comp=Z,35nm,1.2s
N23A IAMs_20 IAMs_20 04 45 53.9
comp=Z,1μm,20.0s
W57A **Gilead** 73.08 26 P P 04 19 20.2 -0.4
baz=207,SNR=8.2
W57A **Gilead** 73.08 26 IAmb IAmb 04 19 30.9
comp=Z,57nm,1.4s
TZTN **Tazewell** 73.09 23 P P 04 19 20.4 -0.3
baz=204,SNR=14
TZTN **Tazewell** 73.09 23 IAmb IAmb 04 19 21.8
comp=Z,52nm,0.9s
TZTN IAMs_20 IAMs_20 04 46 16.5
comp=Z,1μm,20.0s
X59A **McDuffie Farm,** 73.09 27 P P 04 19 20.8 +0.1
baz=208
T50A **Nancy** 73.11 22 IAmb IAmb 04 19 30.5
comp=Z,62nm,1.7s
T50A IAMs_20 IAMs_20 04 47 16.2
comp=Z,914nm,20.0s
KMRM **Mail Ridge** 73.13 350 IAmb IAmb 04 19 32.1
comp=Z,68nm,1.4s
W58A **Raeford** 73.25 27 P P 04 19 21.6 -0.1
baz=208,SNR=17
V55A **Taylorsville** 73.26 25 P P 04 19 21.4 -0.3
baz=206,SNR=11
V55A S SKiKP 04 28 54.4 +1.2
baz=206
WDC **Whiskeytown Da** 73.31 351 P P 04 19 20.9 -1.0
WDC pmax pmax
comp=Z,41nm,1.2s
WDC **Whiskeytown Da** 73.31 351 P P 04 19 20.9 -1.0
WDC IAmb IAmb 04 19 32.0
comp=Z,41nm,1.2s
X60A **Albert Glenn T** 73.34 28 P P 04 19 21.7 -0.5
baz=209,SNR=7.1
V56A **Mocksville** 73.48 25 P P 04 19 22.6 -0.5
baz=206,SNR=8.3

HWUT	**Hardware Ranch**	73.54	359	IAMs_20	IAMs_20	04 45 14.0			
	comp=Z,1µm,22.0s								
U54A	**Nelsons Funny**	73.65	24	P	**P**	**04 19 23.5**	**-0.6**		
	baz=205,SNR=6.3								
U54A	**Nelsons Funny**	73.65	24	IAmb	IAmb	04 19 34.2			
	comp=Z,76nm,1.6s								
W59A	**Clinton**	73.68	27	P	**P**	**04 19 24.1**	**0.0**		
	baz=208								
N02D	**Trinity Center**	73.72	351	P	**P**	**04 19 24.5**	**+0.1**		
	baz=170,SNR=16								
KHMM	**Horse Mountain**	73.77	350	IAmb	IAmb	04 19 35.8			
	comp=Z,74nm,1.3s								
WCI	**Wyandotte Cave**	73.79	20	P	**P**	**04 19 23.4**	**-1.4**		
	baz=201								
WCI	**Wyandotte Cave**	73.79	20	P	**P**	**04 19 23.9**	**-0.9**		
WCI				pmax	pmax				
	comp=Z,23nm,1.1s								
WCI	**Wyandotte Cave**	73.79	20	P	**P**	**04 19 23.9**	**-0.9**		
V57A	**Coltrane Farms**	73.81	26	P	**P**	**04 19 24.6**	**-0.4**		
	baz=207,SNR=17								
T53A	**Wise**	73.82	23	P	**P**	**04 19 24.4**	**-0.7**		
	baz=205,SNR=5.8								
W60A	**Pink Hill**	73.86	28	P	**P**	**04 19 25.2**	**-0.1**		
	baz=209								
U55A	**TA2, Sparta**	73.90	25	P	**P**	**04 19 25.1**	**-0.5**		
	baz=206,SNR=11								
U55A				S	**S**	**04 29 01.5**	**+4.4**		
	baz=206								
CNNC	**Cliffs of the**	73.96	28	P	**P**	**04 19 25.5**	**-0.3**		
	baz=209								
V58A	**Windy Hill, Pi**	73.97	26	P	**P**	**04 19 25.4**	**-0.5**		
	baz=208								
V58A	**Windy Hill, Pi**	73.97	26	IAmb	IAmb	04 19 35.8			
	comp=Z,47nm,1.4s								
U56A	**King**	74.00	25	P	**P**	**04 19 25.8**	**-0.3**		
	baz=206								
U56A	**King**	74.00	25	IAmb	IAmb	04 19 36.4			
	comp=Z,49nm,1.4s								
S51A	**Beattyville**	74.07	22	IAmb	IAmb	04 19 27.2			
	comp=Z,37nm,0.9s								
S51A				IAMs_20	IAMs_20	04 47 31.6			
	comp=Z,1µm,21.0s								
N35A	**Tabor**	74.13	12	IAmb	IAmb	04 19 36.5			
	comp=Z,56nm,1.1s								
M02C	**Callahan**	74.15	351	P	**P**	**04 19 27.4**	**+0.5**		
	baz=169,SNR=12								
RCBR	**Riachuelo**	74.18	87	LR	LR	04 49 43.5			
	comp=Z,966nm,19.1s,baz=229,slow=34								
RCBR	**Riachuelo**	74.18	87	IAMs_20	IAMs_20	04 50 42.4			
	comp=Z,1µm,19.0s								
RCBR	**Riachuelo**	74.18	87	*e*P	**P**	**04 19 28.4**	**+0.6**		
T54A	**Tazewell**	74.22	24	P	**P**	**04 19 26.7**	**-0.7**		
	baz=205,SNR=8.4								
BGNE	**Belgrade**	74.26	10	P	**P**	**04 19 27.5**	**-0.1**		
	baz=191								
BGNE	**Belgrade**	74.26	10	IAMs_20	IAMs_20	04 47 22.4			
	comp=Z,1µm,21.0s								
V59A	**Middlesex**	74.28	27	P	**P**	**04 19 27.5**	**-0.3**		
	baz=208,SNR=11								
V59A				S	**S**	**04 29 05.3**	**+4.2**		
	baz=208								
MOD	**Modoc Plateau**	74.34	353	IAmb	IAmb	04 19 38.9			
	comp=Z,50nm,1.2s								
M04C	**Macdoel**	74.40	351	P	**P**	**04 19 28.5**	**0.0**		
	baz=170,SNR=8.9								
M04C				S	**S**	**04 29 03.6**	**+1.0**		
	baz=170								
R50A	**Paris**	74.43	21	IAMs_20	IAMs_20	04 47 37.0			
	comp=Z,1µm,20.0s								
U57A	**Blanch**	74.45	26	P	**P**	**04 19 28.4**	**-0.3**		
	baz=207,SNR=7.9								
YBH	**Yreka Blue Hor**	74.47	351	P	**P**	**04 19 28.4**	**-0.4**		
	comp=Z,5.4nm,1.0s,baz=148,slow=5.6,SNR=12								
YBH				LR	LR	04 45 00.9			
	comp=Z,3µm,20.1s,baz=170,slow=30								
T55A	**Pulaski**	74.54	25	P	**P**	**04 19 29.2**	**0.0**		
	baz=206								
S53A	**Williamson**	74.59	23	P	**P**	**04 19 29.1**	**-0.4**		
	baz=205								
BLO	**Bloomington**	74.61	19	IAmb	IAmb	04 19 39.0			
	comp=Z,55nm,1.4s								
V60A	**Jim Taylor Roa**	74.66	28	P	**P**	**04 19 29.7**	**-0.2**		
	baz=209,SNR=9.7								
V60A	**Jim Taylor Roa**	74.66	28	IAMs_20	IAMs_20	04 48 31.4			
	comp=Z,868nm,19.0s								
K22A	**Casper**	74.68	3	P	**P**	**04 19 29.7**	**-0.4**		
	baz=184,SNR=11								
K22A				S	**S**	**04 29 08.5**	**+2.7**		
	baz=184								
K22A	**Casper**	74.68	3	IAmb	IAmb	04 19 40.4			
	comp=Z,81nm,1.4s								
AHID	**Auburn Hatcher**	74.69	360	IAMs_20	IAMs_20	04 46 24.6			
	comp=Z,1µm,21.0s								
BW06	**Boulder Array**	74.70	1	P	**P**	**04 19 29.1**	**-1.2**		
	baz=181,SNR=15								
BW06	**Boulder Array**	74.70	1	IAmb	IAmb	04 19 39.7			
	comp=Z,44nm,1.4s								
BW06				IAMs_20	IAMs_20	04 47 05.9			
	comp=Z,1µm,19.0s								
PDAR	**Pinedale Array**	74.70	1	P	**P**	**04 19 29.4**	**-1.0**		
	comp=Z,8.6nm,1.0s,baz=160,slow=4.7,SNR=51								
PDAR				LR	LR	04 47 16.8			
	comp=Z,918nm,18.4s,baz=171,slow=32								
PDAR	**Pinedale Array**	74.70	1	P	**P**	**04 19 29.2**	**-1.1**		
U58A	**Oxford**	74.72	27	P	**P**	**04 19 29.7**	**-0.6**		
	baz=208,SNR=9.0								
T56A	**Rocky Mt**	74.73	25	P	**P**	**04 19 30.4**	**+0.1**		
	baz=207								
BLA	**Blacksburg**	74.76	25	P	**P**	**04 19 30.3**	**-0.2**		
	baz=206,SNR=11								
BLA	**Blacksburg**	74.76	25	IAmb	IAmb	04 19 31.6			
	comp=Z,45nm,0.9s								
P46A	**Rosedale**	74.83	19	IAmb	IAmb	04 19 31.2			
	comp=Z,34nm,1.1s								
L04D	**Klamath Falls**	74.89	351	P	**P**	**04 19 31.3**	**0.0**		
	baz=170								
V61A	**Roper**	74.96	28	P	**P**	**04 19 31.6**	**0.0**		
	baz=210								
U59A	**Littleton**	74.97	27	P	**P**	**04 19 31.3**	**-0.4**		
	baz=208,SNR=9.9								
S54A	**Dingess, Beckl**	74.97	24	P	**P**	**04 19 31.3**	**-0.5**		
	baz=206								
S54A	**Dingess, Beckl**	74.97	24	IAmb	IAmb	04 19 41.1			
	comp=Z,52nm,1.5s								
T57A	**Hurt**	74.99	26	P	**P**	**04 19 31.3**	**-0.5**		
	baz=207,SNR=6.2								
L02E	**Cave Junction**	75.01	350	P	**P**	**04 19 32.0**	**+0.2**		
	baz=169,SNR=6.4								
V62A	**Hyde County Ai**	75.01	29	P	**P**	**04 19 32.0**	**0.0**		
	baz=210								
V62A	**Hyde County Ai**	75.01	29	IAMs_20	IAMs_20	04 48 22.7			
	comp=Z,868nm,19.0s								
KBO	**Bosley Butte**	75.15	350	IAmb	IAmb	04 19 43.8			
	comp=Z,74nm,1.4s								
HDIL	**Hopedale**	75.17	17	P	**P**	**04 19 32.2**	**-0.6**		
	baz=199,SNR=5.2								
HDIL	**Hopedale**	75.17	17	IAmb	IAmb	04 19 33.5			
	comp=Z,30nm,0.9s								
P48A	**Milroy**	75.19	20	IAMs_20	IAMs_20	04 49 11.0			
	comp=Z,931nm,20.0s								
T58A	**Grand View Acr**	75.21	26	P	**P**	**04 19 32.5**	**-0.6**		
	baz=208,SNR=9.0								
K05A	**Summer Lake**	75.22	352	IAmb	IAmb	04 19 35.4			
	comp=Z,49nm,1.3s								
K04D	**Chiloquin, OR**	75.22	352	P	**P**	**04 19 33.5**	**+0.4**		
	baz=170								
S55A	**Lewisburg**	75.23	24	P	**P**	**04 19 33.1**	**-0.1**		
	baz=206,SNR=11								
R53A	**Hurricane**	75.24	23	P	**P**	**04 19 33.3**	**+0.1**		
	baz=205								
REDW	**Red Top Meadow**	75.29	360	P	**P**	**04 19 32.7**	**-1.0**		
REDW				IAmb	IAmb	04 19 55.2			
	comp=Z,61nm,1.4s								
REDW				IAMs_20	IAMs_20	04 46 43.4			
	comp=Z,1µm,20.0s								
U60A	**Pendleton**	75.32	28	P	**P**	**04 19 33.3**	**-0.4**		
	baz=209,SNR=12								
K31A	**O'Neill**	75.37	9	IAMs_20	IAMs_20	04 48 31.7			
	comp=Z,1µm,19.0s								
SNOW	**Snow King Moun**	75.39	0	IAMs_20	IAMs_20	04 46 38.0			
	comp=Z,1µm,22.0s								
TPAW	**Teton Pass**	75.42	360	IAmb	IAmb	04 19 46.9			
	comp=Z,49nm,1.4s								
TPAW				IAMs_20	IAMs_20	04 46 38.8			
	comp=Z,1µm,22.0s								
Q51A	**Peebles**	75.42	22	IAmb	IAmb	04 19 44.1			
	comp=Z,74nm,1.2s								
Q51A				IAMs_20	IAMs_20	04 47 44.2			
	comp=Z,1µm,22.0s								
R54A	**Victor**	75.43	24	P	**P**	**04 19 34.1**	**-0.3**		
	baz=206,SNR=6.7								
P49A	**Miami Univ. Ec**	75.46	21	P	**P**	**04 19 33.1**	**-1.4**		
	baz=203,SNR=8.5								
P49A	**Miami Univ. Ec**	75.46	21	IAmb	IAmb	04 19 34.5			
	comp=Z,54nm,1.2s								
P49A				IAMs_20	IAMs_20	04 48 45.6			
	comp=Z,845nm,20.0s								
S56A	**Natural Bridge**	75.48	25	P	**P**	**04 19 34.2**	**-0.4**		
	baz=207,SNR=8.5								
U61A	**Possum Corner**	75.48	28	P	**P**	**04 19 34.6**	**0.0**		
	baz=210								
K02D	**Willamette Mer**	75.55	350	P	**P**	**04 19 35.2**	**+0.2**		
	baz=169,SNR=19								
HLID	**Hailey**	75.56	357	P	**P**	**04 19 35.3**	**+0.1**		
	baz=177,SNR=58								
HLID	**Hailey**	75.56	357	IAMs_20	IAMs_20	04 47 19.6			
	comp=Z,779nm,18.0s								
FXWY	**Fox Creek**	75.56	360	IAmb	IAmb	04 19 45.1			
	comp=Z,42nm,1.4s								
SFIN	**Lafayette**	75.57	19	P	**P**	**04 19 34.2**	**-0.9**		
	baz=200,SNR=5.3								
SFIN	**Lafayette**	75.57	19	IAmb	IAmb	04 19 44.7			
	comp=Z,35nm,1.2s								
SCIA	**State Center**	75.60	13	P	**P**	**04 19 34.7**	**-0.5**		
	baz=195								
T59A	**Double "B" Far**	75.60	27	P	**P**	**04 19 35.0**	**-0.3**		
	baz=209								
T59A	**Double "B" Far**	75.60	27	IAMs_20	IAMs_20	04 49 55.3			
	comp=Z,931nm,18.0s								
J08A	**Circle Bar Ran**	75.61	354	IAmb	IAmb	04 19 46.5			
	comp=Z,44nm,1.3s								
J08A				IAMs_20	IAMs_20	04 46 10.9			
	comp=Z,1µm,20.0s								
Q52A	**Bidwell**	75.70	23	P	**P**	**04 19 35.6**	**-0.2**		
	baz=205,SNR=6.3								
S57A	**Dark Hollow, R**	75.77	26	P	**P**	**04 19 36.0**	**-0.3**		
	baz=207								
S57A	**Dark Hollow, R**	75.77	26	IAmb	IAmb	04 19 46.5			
	comp=Z,88nm,1.9s								
J05D	**Fort Rock, OR**	75.81	352	P	**P**	**04 19 37.0**	**+0.4**		
	baz=171,SNR=26								
KEBM	**Edson Butte**	75.82	350	P	**P**	**04 19 36.2**	**-0.3**		
KEBM				IAmb	IAmb	04 19 47.2			
	comp=Z,61nm,1.5s								
R55A	**Marlinton**	75.82	24	P	**P**	**04 19 36.8**	**+0.2**		
	baz=206								
R55A	**Marlinton**	75.82	24	IAmb	IAmb	04 19 47.0			
	comp=Z,46nm,1.3s								
IMW	**Indian Meadow**	75.82	360	IAMs_20	IAMs_20	04 46 51.5			
	comp=Z,1µm,22.0s								
Q53A	**Leroy**	75.86	23	P	**P**	**04 19 36.8**	**+0.1**		
	baz=205,SNR=12								
J04D	**Umpqua Nationa**	75.87	352	P	**P**	**04 19 37.1**	**+0.1**		
	baz=170								
P51A	**Williamsport**	75.92	22	P	**P**	**04 19 36.4**	**-0.7**		
	baz=204								
P51A	**Williamsport**	75.92	22	IAmb	IAmb	04 19 37.9			
	comp=Z,27nm,0.9s								
P51A				IAMs_20	IAMs_20	04 47 57.6			
	comp=Z,1µm,22.0s								
S58A	**Poland Farm, P**	75.98	26	P	**P**	**04 19 37.0**	**-0.4**		
	baz=208,SNR=7.6								
FLWY	**Flagg Ranch**	76.01	0	IAmb	IAmb	04 19 47.9			
	comp=Z,61nm,1.4s								
FLWY				IAMs_20	IAMs_20	04 46 57.5			
	comp=Z,2µm,22.0s								
J01E	**Myrtle Point**	76.04	350	P	**P**	**04 19 38.2**	**+0.6**		
	baz=169								
T60A	**Surry**	76.07	27	P	**P**	**04 19 37.8**	**-0.2**		
	baz=209,SNR=5.2								
L40A	**Anamosa**	76.16	15	IAmb	IAmb	04 19 48.4			
	comp=Z,69nm,1.2s								
O49A	**Covington**	76.18	21	IAMs_20	IAMs_20	04 49 16.3			
	comp=Z,967nm,20.0s								
R56A	**Bull Pasture M**	76.18	25	P	**P**	**04 19 39.1**	**+0.4**		
	baz=207,SNR=13								
Q54A	**Coxs Mills**	76.20	24	P	**P**	**04 19 38.7**	**0.0**		
	baz=206,SNR=5.3								
PINE	**Pine Mountain**	76.28	352	IAmb	IAmb	04 19 50.2			
	comp=Z,59nm,1.4s								
PINE				IAMs_20	IAMs_20	04 46 35.6			
	comp=Z,1µm,21.0s								
RSSD	**Black Hills**	76.30	5	P	**P**	**04 19 39.2**	**-0.2**		
	baz=186								
RSSD	**Black Hills**	76.30	5	P	**P**	**04 19 39.4**	**0.0**		
RSSD				pmax	pmax				
	comp=Z,41nm,1.4s								
RSSD	**Black Hills**	76.30	5	P	**P**	**04 19 39.4**	**0.0**		
RSSD				IAmb	IAmb	04 19 49.5			
	comp=Z,41nm,1.4s								
H17A	**Grant Village**	76.32	0	P	**P**	**04 19 39.7**	**+0.1**		
	baz=180								
R58B	**Mineral**	76.35	26	P	**P**	**04 19 39.5**	**-0.1**		
	baz=208,SNR=16								
P52A	**Corning**	76.36	22	P	**P**	**04 19 39.2**	**-0.4**		
	baz=205,SNR=25								
P52A	**Corning**	76.36	22	IAMs_20	IAMs_20	04 48 40.1			
	comp=Z,1µm,21.0s								
S59A	**Manicmcsville**	76.39	27	P	**P**	**04 19 39.5**	**-0.3**		
	baz=209,SNR=5.5								
R57A	**Stanardsville**	76.41	26	P	**P**	**04 19 39.7**	**-0.2**		
	baz=208,SNR=13								
I07A	**Izee**	76.42	354	IAmb	IAmb	04 19 51.0			
	comp=Z,46nm,1.2s								
N47A	**Urbana**	76.42	19	IAmb	IAmb	04 19 49.1			
	comp=Z,47nm,1.1s								
I04A	**Tendick Farm,**	76.45	351	P	**P**	**04 19 39.7**	**-0.4**		
	baz=170,SNR=25								
P53A	**Whipple**	76.47	23	P	**P**	**04 19 40.4**	**+0.2**		
	baz=205,SNR=5.4								
Q55A	**Buckhannon**	76.47	24	P	**P**	**04 19 40.5**	**+0.2**		
	baz=206								
I03D	**Drain, OR**	76.48	351	P	**P**	**04 19 40.5**	**+0.3**		
	baz=169								
LKWY	**Lake**	76.49	0	IAMs_20	IAMs_20	04 47 17.2			
	comp=Z,1µm,21.0s								
S60A	**Water View**	76.59	27	P	**P**	**04 19 41.0**	**+0.1**		
	baz=209								
S60A				S	**S**	**04 29 29.1**	**+2.4**		
	baz=209								
R58A	**Rapidan**	76.60	26	P	**P**	**04 19 40.7**	**-0.3**		
	baz=208,SNR=8.5								
ACSO	**Alum Creek Sta**	76.63	22	P	**P**	**04 19 40.8**	**-0.3**		
	baz=204								
ACSO	**Alum Creek Sta**	76.63	22	IAMs_20	IAMs_20	04 48 54.3			
	comp=Z,1µm,21.0s								
O51A	**Pataskala**	76.67	22	P	**P**	**04 19 41.0**	**-0.4**		
	baz=204,SNR=9.5								
SYO	**Syowa Base**	76.67	169	ǁ *i*P	**P**	**04 19 39.6**	**-1.5**		
SYO	**Syowa Base**	76.67	169	ǁ *i*pP	**P**	**04 19 41.8**	**+0.7**		
SYO	**Syowa Base**	76.67	169	ǁ *i*X	P	04 19 47.6	+6.5		
CBN	**Corbin Frederi**	76.75	27	P	**P**	**04 19 41.5**	**-0.3**		
	baz=209,SNR=5.0								
CBN	**Corbin Frederi**	76.75	27	P	**P**	**04 19 41.5**	**-0.3**		
CBN				IAmb	IAmb	04 19 42.9			
	comp=Z,30nm,0.8s								
CBN				IAMs_20	IAMs_20	04 49 24.7			
	comp=Z,803nm,19.0s								
CASY	**Casey**	76.75	196	P	**P**	**04 19 42.7**	**+1.0**		
CASY				IAmb	IAmb	04 19 50.7			
	comp=Z,50nm,1.3s								
ECSD	**EROS Data Cent**	76.77	11	P	**P**	**04 19 41.5**	**-0.4**		
	baz=192								
ECSD	**EROS Data Cent**	76.77	11	IAMs_20	IAMs_20	04 49 11.7			
	comp=Z,2µm,19.0s								
Q56A	**Snyder Ridge,**	76.83	25	P	**P**	**04 19 42.6**	**+0.3**		
	baz=207								
Q56A	**Snyder Ridge,**	76.83	25	IAmb	IAmb	04 19 52.4			
	comp=Z,40nm,1.1s								
R59A	**King George, V**	76.85	27	P	**P**	**04 19 42.0**	**-0.4**		
	baz=209,SNR=5.9								
I05D	**Terrebonne, OR**	76.86	352	P	**P**	**04 19 43.0**	**+0.6**		
	baz=171,SNR=15								
P54A	**Burton**	76.88	24	P	**P**	**04 19 42.9**	**+0.4**		
	baz=206								
O52A	**Adamsville**	76.89	22	P	**P**	**04 19 42.6**	**0.0**		
	baz=205,SNR=25								
O52A	**Adamsville**	76.89	22	IAMs_20	IAMs_20	04 48 47.2			
	comp=Z,1µm,20.0s								
N49A	**Columbus Grove**	76.90	20	IAMs_20	IAMs_20	04 49 38.4			
	comp=Z,941nm,21.0s								
I02D	**Swisshome**	76.95	350	P	**P**	**04 19 43.1**	**+0.3**		
	baz=169								
BMO	**Blue Mountains**	77.00	355	IAMs_20	IAMs_20	04 47 15.8			
	comp=Z,1µm,22.0s								
P55A	**Reedsville**	77.02	24	P	**P**	**04 19 43.5**	**+0.2**		
	baz=206,SNR=9.6								
L44A	**Lake County Fo**	77.05	17	P	**P**	**04 19 42.9**	**-0.6**		
	baz=200								
RLMT	**Red Lodge**	77.06	1	P	**P**	**04 19 43.4**	**-0.3**		
	baz=181,SNR=6.4								
Q57A	**Strasburg**	77.10	25	P	**P**	**04 19 44.4**	**+0.6**		
	baz=208,SNR=9.6								
R60A	**Leonardtown, M**	77.11	27	P	**P**	**04 19 44.0**	**+0.1**		
	baz=209								
SUSD	**Miller**	77.13	9	P	**P**	**04 19 43.4**	**-0.5**		
	baz=190								
SUSD	**Miller**	77.13	9	IAMs_20	IAMs_20	04 49 27.3			
	comp=Z,1µm,20.0s								
MCWV	**Mont Chateau**	77.14	24	P	**P**	**04 19 44.0**	**-0.1**		
	baz=206,SNR=6.5								
PLID	**Pearl Lake**	77.16	356	IAmb	IAmb	04 19 54.5			
	comp=Z,49nm,1.4s								
JFWS	**Jewell Farm**	77.19	15	P	**P**	**04 19 43.7**	**-0.5**		
	baz=198								
H04D	**Lebanon**	77.21	351	P	**P**	**04 19 44.4**	**+0.1**		
	baz=170								
O53A	**New Philadelph**	77.21	23	P	**P**	**04 19 44.5**	**+0.1**		
	baz=205,SNR=9.9								
O53A	**New Philadelph**	77.21	23	IAMs_20	IAMs_20	04 49 04.8			
	comp=Z,1µm,21.0s								
Q58A	**Fox Den Farm,**	77.28	26	P	**P**	**04 19 44.7**	**-0.1**		
	baz=208,SNR=11								
H04A	**Detroit Lake**	77.30	352	IAmb	IAmb	04 19 54.8			
	comp=Z,41nm,1.3s								
L46A	**Eue Claire**	77.31	19	IAmb	IAmb	04 19 54.8			
	comp=Z,48nm,1.1s								
L46A				IAMs_20	IAMs_20	04 51 33.6			
	comp=Z,801nm,19.0s								
COR	**Corvallis**	77.35	351	P	**P**	**04 19 46.1**	**+1.1**		
COR				pmax	pmax				
	comp=Z,83nm,1.3s								
COR	**Corvallis**	77.35	351	P	**P**	**04 19 46.1**	**+1.1**		
COR	**Corvallis**	77.35	351	IAMs_20	IAMs_20	04 46 21.0			
	comp=Z,1µm,21.0s								
P56A	**Dayton Farm, R**	77.36	25	P	**P**	**04 19 45.4**	**+0.2**		
	baz=207,SNR=9.8								
O54A	**Avella**	77.43	23	P	**P**	**04 19 45.7**	**+0.1**		
	baz=206								
O54A	**Avella**	77.43	23	IAmb	IAmb	04 19 57.1			
	comp=Z,73nm,1.6s								
K43A	**Burlington**	77.44	17	P	**P**	**04 19 44.9**	**-0.7**		
K43A				IAmb	IAmb	04 19 55.6			
	comp=Z,37nm,1.2s								
N51A	**Ashland**	77.45	22	P	**P**	**04 19 45.4**	**-0.3**		
	baz=204,SNR=8.2								
N51A	**Ashland**	77.45	22	IAMs_20	IAMs_20	04 49 05.9			
	comp=Z,1µm,21.0s								
BOZ	**Bozeman (W)**	77.53	359	P	**P**	**04 19 46.0**	**-0.2**		
	baz=179,SNR=9.9								
G08A	**Pilot Rock**	77.57	354	IAmb	IAmb	04 19 57.4			
	comp=Z,50nm,1.3s								
N52A	**McGinn's Farm,**	77.57	22	P	**P**	**04 19 46.4**	**0.0**		
	baz=205								
I37A	**Lemond, Waseca**	77.59	13	IAmb	IAmb	04 19 56.8			
	comp=Z,73nm,1.4s								
Q59A	**Harwood**	77.60	27	P	**P**	**04 19 46.7**	**+0.1**		
	baz=209								
P57A	**Homestead Farm**	77.64	25	P	**P**	**04 19 47.1**	**+0.3**		
	baz=208								
P57A	**Homestead Farm**	77.64	25	IAmb	IAmb	04 19 57.5			
	comp=Z,76nm,1.4s								
M50A	**Fremont**	77.68	21	IAMs_20	IAMs_20	04 49 27.1			
	comp=Z,1µm,21.0s								
BBSR	**BB Station**	77.69	39	P	**P**	**04 19 47.6**	**+0.4**		
BBSR				IAmb	IAmb	04 19 57.7			
	comp=Z,77nm,1.4s								
G05D	**Wamic, OR**	77.75	352	P	**P**	**04 19 47.7**	**+0.4**		
	baz=171								
L48A	**N Adams**	77.77	20	IAmb	IAmb	04 19 48.5			
	comp=Z,40nm,1.1s								
L48A				IAMs_20	IAMs_20	04 50 36.3			
	comp=Z,779nm,19.0s								
O55A	**Ligonier**	77.82	24	P	**P**	**04 19 47.8**	**0.0**		
	baz=207,SNR=7.4								
N53A	**Lisbon**	77.84	23	P	**P**	**04 19 48.1**	**+0.2**		
	baz=206,SNR=11								
M51A	**Elyria**	77.88	22	P	**P**	**04 19 48.0**	**-0.1**		
	baz=204								
P58A	**Pank, Wackersv**	77.91	26	P	**P**	**04 19 48.0**	**-0.3**		
	baz=208,SNR=7.2								
G03D	**McMinnville, O**	77.96	351	P	**P**	**04 19 48.8**	**+0.3**		
	baz=169								
SDMD	**Soldier's Deli**	78.01	26	IAmb	IAmb	04 19 59.2			
	comp=Z,62nm,1.6s								
Q60A	**Greensboro**	78.03	27	P	**P**	**04 19 49.3**	**+0.4**		
	baz=210								
Q60A				S	**S**	**04 29 42.1**	**-0.2**		
	baz=210								
F10A	**Beach Ranch, E**	78.11	355	IAmb	IAmb	04 19 59.4			
	comp=Z,35nm,1.3s								
F10A				IAMs_20	IAMs_20	04 48 04.2			
	comp=Z,914nm,21.0s								
Q61A	**Milford**	78.13	28	P	**P**	**04 19 48.8**	**-0.7**		
	baz=210								
O56A	**Blue Knob Stat**	78.13	25	P	**P**	**04 19 49.7**	**+0.1**		
	baz=207,SNR=9.1								
F07A	**Phinny Hill Vi**	78.25	354	IAMs_20	IAMs_20	04 47 44.9		

PSUB Penn St. - Bra 78.98 27 P P 04 19 54.7 +0.5
P61A Hammonton 79.02 28 P P 04 19 54.3 -0.1
baz=210
E28A Huff 79.03 7 IAMs_20 IAMs_20 04 50 59.6
comp=Z,1µm,20.0s
O59A Robesonia 79.04 26 P P 04 19 54.2 -0.4
baz=209
L53A Girard 79.06 23 P P 04 19 54.7 +0.1
baz=206
K50A Casco 79.06 21 IAMs_20 IAMs_20 04 50 41.6
comp=Z,1µm,20.0s
M55A Ridgway 79.13 24 P P 04 19 54.9 -0.1
baz=207,SNR=7.4
M55A Ridgway 79.13 24 IAmb IAmb 04 20 05.5
comp=Z,66nm,1.2s
E04D Cinebar 79.19 352 P P 04 19 55.6 +0.4
baz=170
I45A Fountain 79.22 18 IAMs_20 IAMs_20 04 52 00.6
comp=Z,753nm,19.0s
ERPA Erie 79.30 23 P P 04 19 55.8 -0.1
baz=206
ERPA Erie 79.30 23 IAMs_20 IAMs_20 04 49 58.9
comp=Z,1µm,21.0s
N58A Sunbury 79.30 26 P P 04 19 55.4 -0.5
baz=209,SNR=5.3
N58A Sunbury 79.30 26 IAmb IAmb 04 19 59.8
comp=Z,57nm,1.5s
E03A Lebam 79.31 351 IAmb IAmb 04 20 06.3
comp=Z,61nm,1.2s
O60A Telford 79.34 27 P P 04 19 56.0 -0.1
baz=210
M56A Emporium 79.34 24 P P 04 19 56.0 -0.2
baz=208,SNR=8.2
M56A Emporium 79.34 24 IAmb IAmb 04 20 06.7
comp=Z,82nm,1.2s
F36A Milaca 79.36 12 IAMs_20 IAMs_20 04 51 06.2
comp=Z,1µm,19.0s
CAN Canberra 79.41 235 P P 04 19 59.2 +2.1
CAN pmax pmax
comp=Z,52nm,1.5s
CAN Canberra 79.41 235 P P 04 19 59.1 +2.1
CAN IAmb IAmb 04 20 00.8
comp=Z,52nm,1.5s
O61A Allentown 79.48 28 P P 04 19 56.7 -0.2
baz=211
M57A Sunshine Farm, 79.59 25 P P 04 19 57.8 +0.2
baz=208
M57A Sunshine Farm, 79.59 25 IAmb IAmb 04 20 08.1
comp=Z,69nm,1.5s
L54A Sinclairville 79.62 23 P P 04 19 57.9 +0.2
baz=207
LTY Liberty 79.68 353 IAMs_20 IAMs_20 04 48 43.4
comp=Z,1µm,21.0s
N59A State Game Lan 79.72 26 P P 04 19 58.7 +0.4
baz=210
JTMT Jette 79.73 358 IAmb IAmb 04 20 08.7
comp=Z,63nm,1.3s
JTMT IAMs_20 IAMs_20 04 50 31.0
comp=Z,981nm,18.0s
D05A Enumclaw 79.75 352 IAmb IAmb 04 20 08.7
comp=Z,64nm,1.4s
D05A IAMs_20 IAMs_20 04 48 06.5
comp=Z,2µm,21.0s
D04E Lakebay 79.83 352 P P 04 19 59.3 +0.7
baz=170
M58A Price's Panora 79.86 26 P P 04 19 58.9 -0.1
baz=209
L55A Hinsdale 79.88 24 P P 04 19 59.3 +0.2
baz=207,SNR=10
N60A Cedar Hill Far 79.93 27 P P 04 19 59.7 +0.3
baz=210
EGMT Eagleton 79.96 1 P P 04 20 00.0 +0.6
baz=181,SNR=6.3
EGMT Eagleton 79.96 1 IAmb IAmb 04 20 10.5
comp=Z,48nm,1.3s
EGMT IAMs_20 IAMs_20 04 49 14.9
comp=Z,1µm,22.0s
C09A Chrisman Ranch 80.01 355 IAmb IAmb 04 20 10.3
comp=Z,70nm,1.5s
D32A Dogwood Acres, 80.04 10 IAMs_20 IAMs_20 04 51 23.2
comp=Z,1µm,20.0s
ARMA Armidale 80.10 240 P P 04 20 01.6 +0.7
ARMA IAmb IAmb 04 20 04.6
comp=Z,93nm,1.9s
L56A Greenwood 80.14 24 P P 04 20 00.4 -0.1
baz=208,SNR=7.5
N61A South Mountain 80.14 27 P P 04 20 00.3 -0.2
baz=211
K54A Basiliko Farm, 80.17 23 P P 04 20 01.0 +0.4
baz=207
NLWA Neilton Lookou 80.18 351 IAmb IAmb 04 20 11.3
comp=Z,42nm,1.2s
D03D Eldon 80.22 352 P P 04 20 01.1 +0.3
baz=170,SNR=21
L57A Andrews Acres 80.27 25 P P 04 20 01.0 -0.2
baz=209
KSPA Keystone Colle 80.28 26 IAmb IAmb 04 20 10.7
comp=Z,54nm,1.5s
MAW Mawson 80.30 178 P P 04 20 01.7 +0.6
comp=Z,14nm,1.0s,baz=181,slow=6.3,SNR=17
MAW LR LR 04 52 24.3
comp=Z,1µm,21.8s,baz=196,slow=33
MAW Mawson 80.30 178 P P 04 20 01.7 +0.6
MAW pmax pmax
comp=Z,8.0nm,0.6s
MAW Mawson 80.30 178 P P 04 20 01.7 +0.6
GLMI Grayling 80.38 19 P P 04 20 01.9 +0.2
baz=202
NEW Newport 80.39 356 P P 04 20 01.7 0.0
baz=175,SNR=23
NEW Newport 80.39 356 IAmb IAmb 04 20 12.2
comp=Z,55nm,1.2s
NEW Newport 80.39 356 IAMs_20 IAMs_20 04 50 27.3
comp=Z,810nm,19.0s
M59A Waymart 80.39 26 P P 04 20 01.7 -0.1
baz=210
MDND Maddock 80.41 8 P P 04 20 01.5 -0.3
baz=190
MDND Maddock 80.41 8 IAMs_20 IAMs_20 04 51 20.0
comp=Z,1µm,21.0s
I51A Listowel 80.48 21 P P 04 20 02.3 0.0
baz=205,SNR=5.2
K55A Perry 80.48 24 P P 04 20 02.4 0.0
baz=208,SNR=5.8
M60A Port Jervis 80.51 27 P P 04 20 01.8 -0.7
baz=210
PAL Palisades 80.51 27 P P 04 20 02.0 -0.5
baz=211
TOO Toolangi 80.57 232 P P 04 20 04.2 +0.9
TOO pmax pmax
comp=Z,306nm,2.0s
TOO Toolangi 80.57 232 P P 04 20 04.2 +0.9
DGMT Dagmar 80.62 4 P P 04 20 03.2 +0.2
baz=186,SNR=5.7
DGMT Dagmar 80.62 4 IAmb IAmb 04 20 13.6
comp=Z,68nm,1.2s
DGMT Dagmar 80.62 4 IAMs_20 IAMs_20 04 50 00.4
comp=Z,2µm,22.0s
B08A Colville Reser 80.64 354 IAMs_20 IAMs_20 04 49 31.1
comp=Z,1µm,19.0s
L58A Harry Jones Me 80.67 26 P P 04 20 02.8 -0.6
baz=209
K56A Middlesex 80.72 24 P P 04 20 03.6 0.0
baz=208
BINY Binghamton 80.76 25 P P 04 20 03.8 0.0
baz=209
J54A Appleton 80.78 23 P P 04 20 03.8 0.0
baz=207
J54A Appleton 80.78 23 IAMs_20 IAMs_20 04 50 42.0
comp=Z,1µm,22.0s
B05A Bryant 80.82 352 P P 04 20 03.9 -0.1
baz=170,SNR=7.8
M61A Granite Spring 80.83 27 P P 04 20 03.7 -0.5
baz=211
K57A Scipio Center 81.03 25 P P 04 20 05.2 -0.1
baz=209
J55A Hilton 81.05 24 P P 04 20 05.1 -0.1
baz=208
L59A Walton 81.10 26 P P 04 20 05.3 -0.4
baz=210
L59A Walton 81.10 26 IAmb IAmb 04 20 17.8
comp=Z,65nm,1.5s
E43A Lone Tree Farm 81.22 16 IAmb IAmb 04 20 16.8
comp=Z,50nm,1.1s
L60A Shokan 81.23 27 P P 04 20 06.3 0.0
baz=211
M62A Hamden 81.28 28 P P 04 20 06.2 -0.4
baz=212
KSCT Kent School, K 81.29 27 IAmb IAmb 04 20 16.5
comp=Z,60nm,1.3s
AGMN Agassiz Nation 81.34 10 P P 04 20 06.8 +0.1
baz=193
AGMN Agassiz Nation 81.34 10 IAMs_20 IAMs_20 04 52 10.6
comp=Z,984nm,20.0s
A04D Lummi Island 81.34 352 P P 04 20 07.1 +0.4
baz=170,SNR=17
PGC Sidney 81.36 352 IAmb IAmb 04 20 17.2
comp=Z,60nm,1.2s
K58A Earlville 81.37 25 P P 04 20 06.7 -0.4
baz=210
J56A Wolcott 81.39 24 P P 04 20 06.9 -0.2
baz=208
M63A Gales Ferry 81.59 28 P P 04 20 08.0 -0.2
baz=212
L61A Hillsdale 1, H 81.66 27 P P 04 20 08.5 -0.1
baz=211
K59A Cooperstown 81.67 26 P P 04 20 08.8 +0.1
baz=210
B35A Bob, Littlefor 81.74 11 IAMs_20 IAMs_20 04 52 15.2
comp=Z,1µm,19.0s
EYMN Ely 81.74 13 P P 04 20 08.5 -0.4
baz=196
EYMN Ely 81.74 13 IAMs_20 IAMs_20 04 52 42.2
comp=Z,1µm,19.0s
J57A Williamstown 81.81 25 P P 04 20 08.3 -1.0
baz=209
L62A Suffield 81.88 28 P P 04 20 09.1 -0.6
baz=212
E46A Sault Ste Mari 81.89 18 IAmb IAmb 04 20 11.4
comp=Z,57nm,1.1s
K60A Five Rivers En 81.90 27 P P 04 20 09.4 -0.4
baz=211
SADO Sadowa 81.94 22 LR LR 04 52 04.0
comp=Z,1µm,21.9s,baz=173,slow=32
SADO Sadowa 81.94 22 IAmb IAmb 04 20 11.1
comp=Z,39nm,1.0s
SADO IAMs_20 IAMs_20 04 51 53.0
comp=Z,1µm,20.0s
H53A Bobcaygeon 81.95 23 P P 04 20 09.9 -0.1
baz=207
J58A Remsen 82.02 25 P P 04 20 10.6 +0.1
baz=210
M64A Tiverton 82.05 29 P P 04 20 10.4 -0.3
baz=213
L63A North Scituate 82.15 28 P P 04 20 10.9 -0.3
baz=213
K61A Williamstown 82.18 27 P P 04 20 11.4 +0.1
baz=211
DELO Deloro Mine 82.22 23 IAmb IAmb 04 20 21.7
comp=Z,65nm,1.3s
L61B Northampton 82.22 27 P P 04 20 11.7 +0.2
baz=212
I57A Carthage 82.39 25 P P 04 20 12.3 0.0
baz=209,SNR=5.0
J59A Piesco 82.40 26 P P 04 20 12.5 +0.1
baz=210
I58A Old Forge 82.42 25 P P 04 20 12.4 -0.2
baz=210
L64A Middleborough 82.53 29 P P 04 20 13.0 -0.1
baz=213
K62A Royalston 82.58 28 P P 04 20 13.6 +0.2
baz=212
J60A Lant Hill Farm 82.61 27 P P 04 20 13.4 -0.1
baz=211
HRV Adam Dziewonsk 82.71 28 P P 04 20 13.8 -0.3
baz=213
G54A Lake Saint Pet 82.84 23 P P 04 20 14.7 -0.1
baz=207,SNR=5.3
K63A Dunstable 82.88 28 P P 04 20 14.9 0.0
baz=213
I59A Olmsteadville 82.91 26 P P 04 20 14.7 -0.5
baz=211
H57A Richville 82.94 25 P P 04 20 15.2 0.0
baz=210,SNR=6.8
J61A Chester 83.03 27 P P 04 20 15.6 -0.2
baz=212
EIDS Eidsvold 83.17 244 P P 04 20 18.6 +1.5
I60A Shoreham 83.17 26 P P 04 20 16.3 -0.1
baz=211
J62A Henniker 83.22 28 P P 04 20 17.0 +0.3
baz=212
ULM Lac du Bonnet 83.24 10 P P 04 20 15.5 -1.1
comp=Z,14nm,1.1s,baz=183,slow=6.5,SNR=6.8
ULM LR LR 04 53 40.4
comp=Z,1µm,18.9s,baz=154,slow=33
ULM Lac du Bonnet 83.24 10 IAmb IAmb 04 20 16.4
comp=Z,32nm,1.2s
ULM IAMs_20 IAMs_20 04 53 29.0
comp=Z,1µm,19.0s
H58A Gabriels 83.34 26 P P 04 20 17.2 -0.1
baz=210,SNR=9.5
ALGO Algonquin Park 83.35 22 P P 04 20 17.4 +0.1
baz=207
LONY Lake Ozonia 83.36 25 P P 04 20 17.5 0.0
baz=210,SNR=12
J63A Strafford 83.55 28 P P 04 20 18.8 +0.4
baz=213
G57A Newington 83.64 25 P P 04 20 18.9 +0.1
baz=210,SNR=13
I61A Oroboro, Fairl 83.66 27 P P 04 20 19.0 +0.1
baz=212
H59A Cadyville 83.71 26 P P 04 20 19.3 +0.1
baz=211,SNR=6.2
I62A Tamworth 83.95 28 P P 04 20 20.4 -0.1
baz=213
H60A Morristown 84.01 26 P P 04 20 20.7 0.0
baz=212,SNR=5.3
G58A Ormstown 84.01 25 P P 04 20 20.6 -0.1
baz=211,SNR=9.5
LBNH Lisbon 84.03 27 P P 04 20 21.1 +0.3
baz=212
G59A Clarenceville 84.27 26 P P 04 20 21.8 -0.2
baz=211,SNR=7.3
H61A Lyndonville 84.28 27 P P 04 20 22.3 +0.1
baz=212
F57A Harrington 84.36 24 P P 04 20 22.5 0.0
baz=210
I63A Otisfield 84.39 28 P P 04 20 22.3 -0.4
baz=213
E55A Montcerf-Lytto 84.44 23 P P 04 20 22.5 -0.4
baz=209,SNR=6.1
I64A Boothbay 84.67 29 P P 04 20 23.9 -0.2
baz=214
F58A St-Lin Laurent 84.71 25 P P 04 20 23.7 -0.5
baz=211
E56A St. Veronique 84.87 24 P P 04 20 24.8 -0.3
baz=210,SNR=9.0
G61A St-Isidore-de- 85.06 27 P P 04 20 26.3 +0.3
baz=212
E57A Chemin Saint G 85.06 25 P P 04 20 25.5 -0.6
baz=210
F59A Saint Guilaume 85.07 26 P P 04 20 25.8 -0.2
baz=212
H63A New Sharon 85.12 28 P P 04 20 24.9 -1.4
baz=214
D55A Sainte-Anne-du 85.14 23 P P 04 20 26.1 -0.3
baz=209,SNR=12
E58A La Victoria 85.34 25 P P 04 20 26.9 -0.5
baz=211,SNR=7.8
D56A ZEC Mazanza, M 85.40 24 P P 04 20 27.0 -0.7
baz=210,SNR=14
H64A Troy 85.43 28 P P 04 20 27.0 -0.9
baz=214
BBB Bella Bella 85.47 349 P P 04 20 27.9 +0.1
comp=Z,19nm,0.9s,baz=169,slow=4.6,SNR=4.0
F60A Warwick 85.48 26 P P 04 20 26.6 -1.5
baz=212
G63A Kingsbury 85.66 28 P P 04 20 27.6 -1.5
baz=214
D57A Chemin Vers le 85.68 24 P P 04 20 28.7 -0.4
baz=211,SNR=8.6
PKME Peaks-Kenny Pk 85.92 28 P P 04 20 30.8 +0.5
baz=214
E60A Ste Agathe de 86.01 26 P P 04 20 30.3 -0.4
baz=212
D58A Chemin du LacG 86.10 25 P P 04 20 31.0 -0.2
baz=211
G64A Maxfield 86.12 28 P P 04 20 31.2 -0.1
baz=215
F62A Pittston Farm, 86.17 27 P P 04 20 31.5 -0.1
baz=214
F63A Nahmakanta, Br 86.35 28 P P 04 20 32.2 -0.2
baz=214
LATQ La Tuque 86.38 25 P P 04 20 32.1 -0.5
baz=212
D59A Saint-Raymond 86.40 26 P P 04 20 32.0 -0.6
baz=212
E61A Lac Etchemin 86.42 27 P P 04 20 32.8 0.0
baz=213
LSQQ Lebel-sur-Quev 86.43 22 P P 04 20 32.3 -0.5
baz=208
STKA Stephens Creek 86.45 234 P P 04 20 33.0 -0.6
comp=Z,32nm,1.3s,baz=91,slow=5.7,SNR=10.0
STKA LR LR 04 51 17.5
comp=Z,185nm,20.1s,baz=138,slow=30
STKA Stephens Creek 86.45 234 P P 04 20 33.0 -0.6
STKA Stephens Creek 86.45 234 P P 04 20 33.2 -0.4
G65A Princeton 86.56 29 P P 04 20 32.8 -0.7
baz=216
D60A Saint Jean D'O 86.66 26 P P 04 20 33.6 -0.2
baz=213
F64A Sherman 86.78 28 P P 04 20 34.0 -0.6
baz=215
MATQ Matagami 86.85 21 P P 04 20 34.1 -0.7
baz=208,SNR=5.3
E62A Clayton Lake 86.95 27 P P 04 20 35.2 -0.1
baz=214
FFC Flin Flon 87.00 5 P P 04 20 35.1 -0.3
FFC pmax pmax
comp=Z,45nm,1.3s
FFC Flin Flon 87.00 5 P P 04 20 35.1 -0.3
FFC IAmb IAmb 04 20 45.0
comp=Z,45nm,1.3s
E63A Oxbow 87.21 28 P P 04 20 36.1 -0.6
baz=215
D62A Allapoint, All 87.51 27 P P 04 20 37.4 -0.7
baz=214
D63A Stockholm 87.84 28 P P 04 20 39.2 -0.5
baz=215
CHGQ Chibougamau 88.01 23 P P 04 20 40.4 0.0
baz=210
LMN Caledonia Moun 88.24 30 IAMs_20 IAMs_20 04 53 40.0
comp=Z,833nm,20.0s
BBOO Buckleboo 89.61 231 P P 04 20 48.7 +0.1
CTAO Charters Tower 89.78 246 P P 04 20 50.2 +0.5
CTAO pmax pmax
comp=Z,124nm,2.0s
CTAO Charters Tower 89.78 246 P P 04 20 50.2 +0.5
FCC Fort Churchill 91.78 9 IAMs_20 IAMs_20 04 57 34.8
comp=Z,1µm,21.0s
DLBC Dease Lake 91.80 350 P P 04 20 57.6 -0.3
comp=Z,5.5nm,1.0s,baz=196,slow=8.1,SNR=3.8
DLBC Dease Lake 91.80 350 P P 04 20 58.1 +0.2
JIS Juneau Island 92.36 348 IAMs_20 IAMs_20 04 53 40.0
comp=Z,1µm,20.0s
RABL Rabaul 93.69 263 P P 04 21 08.4 +0.6
YKA Yellowknife Ar 94.50 358 P P 04 21 08.9 -1.3
comp=Z,6.2nm,0.9s,baz=161,slow=4.7,SNR=6.0
YKA LR LR 04 58 40.9
comp=Z,308nm,19.1s,baz=0.0,slow=32
SCHQ Schefferville 94.66 24 P P 04 21 09.6 -1.6
comp=Z,19nm,0.9s,baz=224,slow=4.1,SNR=6.4
SCHQ Schefferville 94.66 24 P P 04 21 11.1 -0.1
FORT Forrest 96.07 228 P P 04 21 18.5 0.0
AS31 Alice Springs 96.84 237 P P 04 21 23.2 +1.1
ASAR Alice Springs 96.84 237 P P 04 21 21.0 -1.1
comp=Z,1.5nm,0.6s,baz=122,slow=4.4,SNR=10
ASAR LR LR 05 02 41.8
comp=Z,207nm,18.5s,baz=146,slow=34
ASAR Alice Springs 96.84 237 P P 04 21 20.4 -1.7
ASAR Alice Springs 96.84 237 P P 04 21 20.4 -1.7
BCAR Beaver Creek A 98.19 346 P P 04 21 26.4 -0.7
WRA Warramunga Arr 98.87 240 P P 04 21 30.4 -0.9
comp=Z,0.8nm,0.7s,baz=134,slow=4.2,SNR=5.9
WRA LR LR 05 01 57.2
comp=Z,419nm,19.2s,baz=100,slow=33
CUT Chulitna 99.55 343 Pdiff Pdif 04 21 33.3 +0.3
baz=147
MCK McKinley 100.34 344 Pdiff Pdif 04 21 36.4 -0.2
baz=148
ILAR Eielson Array 100.77 345 P Pdif 04 21 37.5 -1.0
comp=Z,0.5nm,1.0s,baz=192,slow=7.4,SNR=4.4
ILAR PP PP 04 25 49.4 +2.7
comp=Z,0.6nm,1.1s,baz=171,slow=6.4,SNR=5.4
H01W1 Cape Leeuwin H 100.93 216 T T 06 14 38.9
baz=141,slow=75,SNR=203
H01W2 Cape Leeuwin H 100.93 216 T T 06 14 40.0
baz=141,slow=75,SNR=283
H01W3 Cape Leeuwin H 100.94 216 T T 06 14 39.6
baz=141,slow=75,SNR=218
RES Resolute Bay 107.22 4 IAMs_20 IAMs_20 05 07 30.0
comp=Z,824nm,19.0s
EUNU Eureka 112.92 4 IAMs_20 IAMs_20 05 11 35.4
comp=Z,855nm,20.0s
TOC5 Torodi Ar. Sit 115.85 90 IAMs_20 IAMs_20 05 09 10.7
comp=Z,823nm,22.0s
TOB4 Torodi Ar. Sit 115.86 90 IAMs_20 IAMs_20 05 11 05.1
comp=Z,535nm,20.0s
TOB5 Torodi Ar. Sit 115.86 90 IAMs_20 IAMs_20 05 11 07.2
comp=Z,583nm,20.0s
TOC4 Torodi Ar. Sit 115.86 90 IAMs_20 IAMs_20 05 11 04.2
comp=Z,567nm,21.0s
TOC7 Torodi Ar. Sit 115.87 90 IAMs_20 IAMs_20 05 11 06.3
comp=Z,542nm,21.0s
TOA3 Torodi Ar. Sit 115.87 90 IAMs_20 IAMs_20 05 11 05.3
comp=Z,566nm,21.0s
TOA0 Torodi Ar. Sit 115.87 90 IAMs_20 IAMs_20 05 11 05.4
comp=Z,581nm,21.0s
TORD Torodi Ar. Bea 115.87 90 PKP PKPdf 04 26 32.9 -1.1
comp=Z,2.5nm,0.9s,baz=293,slow=1.6,SNR=10
TORD PP PP 04 27 34.0 -3.7
comp=Z,3.1nm,1.1s,baz=253,slow=5.2,SNR=4.6
TOB3 Torodi Ar. Sit 115.88 90 IAMs_20 IAMs_20 05 11 04.5
comp=Z,572nm,21.0s
TOA2 Torodi Ar. Sit 115.88 90 IAMs_20 IAMs_20 05 09 10.6
comp=Z,760nm,22.0s
TOB1 Torodi Ar. Sit 115.88 90 IAMs_20 IAMs_20 05 11 17.6
comp=Z,564nm,20.0s
TOC3 Torodi Ar. Sit 115.89 90 IAMs_20 IAMs_20 05 11 05.9
comp=Z,582nm,21.0s
TOC1 Torodi Ar. Sit 115.89 90 IAMs_20 IAMs_20 05 11 17.9
comp=Z,681nm,20.0s
TOC2 Torodi Ar. Sit 115.90 90 IAMs_20 IAMs_20 05 11 07.1
comp=Z,609nm,20.0s
SFS San Fernando 119.15 63 IAMs_20 IAMs_20 05 24 34.9
comp=Z,655nm,21.0s
YUK Yuzh-Kuril'sk 120.58 305 PKIKP PKiKP 04 26 43.3 +1.1
YUK 04 28 12.0
YUK PPP PPP 04 30 40.7
YUK e 04 33 53.7
YUK SS SS 04 44 38.5 -1.0
YUK eSSS SSS 04 49 05.0
SEY Seymchan 121.23 328 PKP PKPdf 04 26 42.4 -0.4
comp=Z,2.5nm,0.6s,baz=91,slow=6.0,SNR=3.9
ESDC Sonseca Array 121.86 60 PKP PKPdf 04 26 44.3 -0.5
comp=Z,3.1nm,0.9s,baz=275,slow=1.7,SNR=19
ESDC PP PP 04 28 18.1 -0.9
comp=Z,1.8nm,1.1s,baz=251,slow=7.3,SNR=4.6
ESDC Sonseca Array 121.86 60 PKPdf PKPdf 04 26 44.0 -0.8
MAJO Matsushiro 123.99 295 PKIKP PKiKP 04 26 53.9 +4.7
MAJO Matsushiro 123.99 295 IAMs_20 IAMs_20 05 08 35.7
comp=Z,686nm,22.0s
JMZ Minamidaito 2 126.01 280 PKPdf 04 26 53.2 +0.1
KBS Kingsbay 127.61 12 IAMs_20 IAMs_20 05 17 37.5
comp=Z,468nm,19.0s
SPA0 Spitsbergen Ar 128.75 12 PKPdf 04 26 56.9 0.0
TIXI Tiksi 129.76 339 i PKIKP PKPdf 04 26 58.0 -0.9
TIXI Tiksi 129.76 339 PKPdf 04 26 57.6 -1.3
USRK Ussuriysk Ar. 130.36 303 PKP PKPdf 04 27 00.7 -0.1
comp=Z,1.7nm,0.8s,baz=158,slow=2.1,SNR=4.7
MBAR Mbarara 131.15 124 i PKIKP PKiKP 04 27 04.9 +0.4
MBAR Mbarara 131.15 124 PKPdf PKPdf 04 27 03.8 +0.3
MBAR Mbarara 131.15 124 IAMs_20 IAMs_20 05 23 57.7
comp=Z,451nm,19.0s
ECH Echery 131.39 52 PKIKP PKiKP 04 27 04.5 +0.8
ECH MLR MLR
comp=Z,3µm,18.0s
ECH Echery 131.39 52 PKiKP 04 27 04.5 +0.8
YAK Yakutsk 131.71 327 PKP PKPdf 04 27 02.0 -0.8
comp=Z,9.6nm,0.3s,baz=69,slow=2.1,SNR=1.2
YAK Yakutsk 131.71 327 e PKIKP PKPdf 04 27 01.7 -1.1
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 131.71 327 PKPdf PKPdf 04 27 03.3 +0.5
VSL Villasalto 131.81 64 IAMs_20 IAMs_20 05 27 16.9
comp=Z,540nm,21.0s
BFO Black Forest 132.18 52 PKIKP PKPdf 04 27 04.0 -0.2
BFO MLR MLR
comp=Z,3µm,19.0s

BFO Black Forest 132.18 52 PKPdf **PKPdf 04 27 04.0 -0.2**
KSRS Korea Array 132.18 293 PKP **PiKiP 04 27 05.1 -0.4**
comp=Z,1.6nm,0.8s,baz=155,slow=3.5,SNR=2.3
KSAR Wonju Array Be 132.21 293 PKIKP **PKPdf 04 27 04.9 +0.4**
KSAR Wonju Array Be 132.21 293 PKPdf **PKPdf 04 27 04.9 +0.4**
STU Stuttgart 132.78 51 PKIKP **PKiKP 04 27 06.6 +0.2**
STU MLR MLR
comp=Z,2μm,20.0s
STU Stuttgart 132.78 51 PKPdf **PKiKP 04 27 06.6 +0.2**
NB2 NORSAR Subarra133.10 34 PKPdf **PKPdf 04 27 06.1 +0.6**
comp=Z,35nm,2.0s,baz=289,slow=1.9
NB2 NORSAR Subarra133.10 34 PKPdf **PKPdf 04 27 06.1 +0.6**
baz=289,slow=1.9
NOA NORSAR Array B133.10 34 PKP **PKPdf 04 27 05.1 -0.4**
comp=Z,0.9nm,0.8s,baz=293,slow=1.8,SNR=3.4
DAVA Damuels 133.16 53 *eP* **PKiKP 04 27 07.0 -0.4**
comp=Z,13nm,1.2s
NC602 NORSAR Array S 133.31 35 PKPdf **PKPdf 04 27 05.8 -0.1**
FETA Feichten 133.72 54 *i P* **PKPdf 04 27 06.5 -0.8**
comp=Z,25nm,1.5s,SNR=7.5
RETA Reutte 133.77 53 *eP* **PKPdf 04 27 06.8 -0.4**
comp=Z,12nm,1.1s
MOTA Moosalm 133.99 53 *i P* **PKPdf 04 27 07.2 -0.6**
comp=Z,28nm,1.1s,SNR=9.8
SQTA Sankt Quirin 134.06 54 *i P* **PKPdf 04 27 08.0 +0.1**
comp=Z,28nm,1.1s,SNR=9.2
LATE Laterza 134.10 60 IAMs_20 IAMs_20 05 28 48.4
comp=Z,430nm,22.0s
WATA Walderalm 134.31 53 *eP* **PKPdf 04 27 08.1 -0.3**
comp=Z,11nm,1.0s
WTTA Wattenberg 134.35 53 *i P* **PKPdf 04 27 08.7 +0.2**
comp=Z,15nm,1.1s,SNR=6.3
WTTA Wattenberg 134.35 53 PKIKP **PKPdf 04 27 08.7 +0.2**
CLTB Caltabellotta 134.40 67 IAMs_20 IAMs_20 05 39 10.1
comp=Z,495nm,20.0s
MURB Monte Urbino 134.70 59 PKPdf **PKPdf 04 27 08.2 -1.0**
NKC Novy Kostel 134.92 49 *e*PKPDF **PKPdf 04 27 09.6 +0.3**
NKC *ep*PKP **sPKPdf 04 27 17.3 +2.8**
NKC AMS AMS 05 14 10.0
comp=Z,1μm,16.8s
NKC Novy Kostel 134.92 49 *e*PKIKP **PKPdf 04 27 09.6 +0.3**
NKC *e* 04 27 17.3
NKC MLR MLR
comp=Z,1μm,16.8s
ABTA Abfaltersbach 134.93 54 *eP* **PKPdf 04 27 09.1 -0.4**
comp=Z,2.6nm,0.5s
ABTA *eP* **sPKPdf 04 27 18.4 +3.6**
comp=Z,18nm,1.2s
KMBO Kilima Mbogo 135.11 132 PKP **PKiKP 04 27 12.2 -0.3**
comp=Z,1.0nm,0.7s,baz=233,slow=7.8,SNR=5.0
KMBO Kilima Mbogo 135.11 132 *i* PKIKP **PKiKP 04 27 13.8 +1.2**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 135.11 132 PKPdf **PKPdf 04 27 10.0 -1.1**
CLL Collm 135.23 48 *i* PKPdf **PKPdf 04 27 09.1 -0.7**
comp=Z,17nm,1.2s
CLL *i* 04 27 18.0
CLL *i* 04 27 28.9
CLL *eP*P **PP 04 29 44.0 -2.2**
CLL *e*PKSdf **PKSdf 04 30 44.0 -1.8**
CLL *eP*S **PS 04 40 00.0 -8.5**
CLL *e*PPS PPS 04 41 51.0
CLL *e*SS SS 04 47 42.0 +1.0
CLL *e*SSS SSS 04 52 30.0
CLL *e*(SSSS) 04 55 54.0
CLL LmV 05 13 00.0
comp=Z,500nm,20.1s
CLL Collm 135.23 48 *i* PKIKP **PKPdf 04 27 09.1 -0.7**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL MLR MLR
comp=Z,500nm,20.1s
MYKOM Kota Tinggi 135.44 234 IAMs_20 IAMs_20 05 17 21.8
comp=Z,385nm,21.0s
KBA Koelnbreinsper 135.51 54 *eP* **PKPdf 04 27 09.4 -1.3**
comp=Z,8.5nm,1.3s
KBA *eP* **sPKPdf 04 27 19.2 +3.2**
comp=Z,12nm,1.1s
KHC Kasperske Hory 135.67 51 *e*PKPDF **PKPdf 04 27 10.4 -0.3**
KHC *ex* x 04 27 18.8
KHC AMS AMS 05 14 50.0
comp=Z,900nm,16.4s
KHC Kasperske Hory 135.67 51⇑ *i*PKIKP **PKPdf 04 27 11.0 +0.3**
KHC pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 135.67 51 IAMs_20 IAMs_20 05 27 46.9
comp=Z,419nm,20.0s
MYKA Terra Mystica 135.70 54 *eP* **PiKiP 04 27 20.1 +7.5**
comp=Z,16nm,1.4s
GERES GERESS Array B 135.76 51 PKP **PKPdf 04 27 10.6 -0.4**
comp=Z,4.0nm,1.0s,baz=302,slow=0.9,SNR=20
GERES GERESS Array B 135.76 51 **PKPdf 04 27 09.9 -1.0**
BRG Berggiesshubel 135.85 48 *e*PKP **PKPdf 04 27 11.2 +0.3**
comp=Z,14nm,1.3s
BRG *e* 04 27 19.7
comp=Z,14nm,1.2s
BRG PP **PP 04 29 47.0 -3.1**
BRG SS SS 04 47 52.0 +3.6
comp=N,743nm,14.1s
comp=E,599nm,14.5s
comp=Z,1μm,15.1s
BRG Berggiesshubel 135.85 48 *e*PKIKP **PKPdf 04 27 11.2 +0.3**
BRG *e* 04 27 19.7
BRG 04 29 47.0
BRG SS SS 04 47 52.0 +3.6
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,14nm,1.2s
BRG MLR MLR
comp=N,743nm,14.1s
BRG MLR MLR
comp=E,599nm,14.5s
BRG MLR MLR
comp=Z,1μm,15.1s
PBCC Pribram 135.93 50 *e*PKPDF **PKPdf 04 27 11.4 +0.2**
PBCC *ex* x 04 27 19.4
MOA Molln 136.14 53 *eP* **PKPdf 04 27 10.5 -1.2**
comp=Z,9.5nm,1.3s
MOA *eP* **sPKPdf 04 27 19.8 +2.9**
comp=Z,18nm,1.2s
KNDS Knezji Dol 136.18 56 *i* PKPdf **PKPdf 04 27 10.7 -1.2**
PRA Prague 136.20 49 AMS AMS 05 14 50.0
comp=Z,500nm,16.5s
PVCC Panska Ves 136.26 49 AMS AMS 05 16 10.0
comp=Z,900nm,14.2s
PRU Pruhonice 136.27 50 AMS AMS 05 14 50.0
comp=Z,1μm,17.6s
OBKA Obir 136.32 55 P **PKPdf 04 27 12.4 +0.3**
comp=Z,11nm,1.0s
GOPC GO Pecny, Ondr 136.43 50 AMS AMS 05 15 00.0
comp=Z,1μm,16.6s
CEL Celeste 136.61 67 IAMs_20 IAMs_20 05 28 47.4
comp=Z,481nm,20.0s
SOKA Soboth 136.66 54 *eP* **PKPdf 04 27 11.8 -1.0**
comp=Z,7.6nm,1.3s
PERS Pernice 136.72 54 *i* PKPdf **PKPdf 04 27 11.8 -1.0**
PERS *i* 04 27 21.8
TREC Trest 136.92 51 AMS AMS 05 15 20.0
comp=Z,900nm,15.8s
DOBS Dobrina 136.96 55 *i* PKPdf **PKPdf 04 27 12.4 -0.8**
ARSA Arzberg 137.00 54 *eP* **PKPdf 04 27 13.1 -0.2**
comp=Z,5.2nm,0.9s
ARSA *eP* **sPKPdf 04 27 22.5 +4.0**
comp=Z,23nm,1.2s
UPC Upice 137.18 49 AMS AMS 05 16 20.0
comp=Z,700nm,16.3s
CHVC Chvalec 137.20 49 AMS AMS 05 16 20.0
comp=Z,700nm,13.9s
CONA Conrad Observa 137.22 53 *eP* **PKPdf 04 27 13.1 -0.6**
comp=Z,11nm,1.2s
CONA *eP* **sPKPdf 04 27 22.7 +3.8**
comp=Z,24nm,1.4s
OSTC Ostas 137.31 49 *e*PKPDF **PKPdf 04 27 14.1 +0.4**
OSTC *ex* x 04 27 23.5
OSTC AMS AMS 05 16 10.0
comp=Z,600nm,16.3s
DPC Dobruska-Polom 137.39 49 *e*PKPDF **PiKiP 04 27 16.1 +0.3**
DPC *ex* x 04 27 24.3
DPC AMS AMS 05 16 40.0
comp=Z,700nm,14.0s
DPC Dobruska-Polom 137.39 49 *e*PKIKP **PiKiP 04 27 16.1 +0.3**
DPC *e* 04 27 24.3
DPC MLR MLR
comp=Z,700nm,14.0s
TIP Timpagrande 137.41 65 IAMs_20 IAMs_20 05 28 14.3
comp=Z,557nm,20.0s
KRUC Moravsky 137.53 51 *e*PKP **PKPdf 04 27 13.6 -0.5**
VRAC Vranov 137.64 50 *e*PKP **PKPdf 04 27 13.3 -1.1**
KRLC Kraliky 137.71 49 *e*PKPDF **PKPdf 04 27 14.9 +0.4**
KRLC *ex* x 04 27 20.0
KRLC AMS AMS 05 17 00.0
comp=Z,800nm,13.2s
KRLC Kraliky 137.71 49 *e*PKIKP **PKPdf 04 27 14.9 +0.4**
KRLC *e* 04 27 20.0
KRLC MLR MLR
comp=Z,800nm,13.2s
MODS Modra-Piesok 138.15 52 *e*PKIKP **PKPdf 04 27 14.4 -0.9**
MODS Modra-Piesok 138.15 52 *e*PKP **PKPdf 04 27 14.4 -0.9**
MORC Moravsky Berou 138.22 50 ⇓P **PiKiP 04 27 17.2 -0.3**
MORC Moravsky Berou 138.22 50 *e*PKP **PKPdf 04 27 10.1 -5.4**
MORC Moravsky Berou 138.22 50 ⇓PKIKP **PiKiP 04 27 17.2 -0.3**
NJ2 Nanjing 138.25 283 *e*PKP **PKPdf 04 27 16.1 +0.1**
JAVC Velka Javorina 138.38 51 *e*PKP **PKPdf 04 27 11.5 -4.3**
OKC Ostrava-Krasne 138.61 50 AMS AMS 05 17 30.0
comp=Z,800nm,14.7s
APA Apatity 139.00 20⇓ *i*PKHKP PKPpre 04 27 07.7
APA pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 139.17 52 *e*PKIKP **PiKiP 04 27 18.6 -0.9**
VYHS Vyhne 139.17 52 *e*PKP **PiKiP 04 27 18.6 -0.9**
GSI Gunungsitoli 139.18 227 **PKPdf 04 27 18.4 +0.1**
RPSI Rantau Prapat 139.40 230 **PKPdf 04 27 17.4 -1.3**
PSI Prapat 139.48 230 PKP **PKPdf 04 27 17.4 -1.6**
comp=Z,1.5nm,0.3s,baz=237,slow=16,SNR=1.9
OJC Ojcow 139.62 49 *e*PKP **PKPdf 04 27 18.0 +0.1**
PBUR Paburge 139.72 40 *e*P **PiKiP 04 27 23.8 +3.6**
FINES FINESS Array B 139.77 31 PKP **PKPdf 04 27 17.2 -0.7**
comp=Z,5.5nm,0.9s,baz=241,slow=2.1,SNR=6.3
FINES FINESS Array B 139.77 31 PKPdf **PKPdf 04 27 16.5 -1.3**
TIR Tirane 139.98 63 PKIKP **PKPdf 04 27 19.5 +0.6**
TIR Tirane 139.98 63 PKPdf **PKPdf 04 27 19.5 +0.6**
NIE Niedzica 140.04 50 *e*PKP **PKiKP 04 27 20.4 -0.9**
CRVS Cervenica-Dubn 140.86 51 *e*PKIKP **PKPdf 04 27 19.4 -0.9**
CRVS Cervenica-Dubn 140.86 51 *e*PKP **PKPdf 04 27 19.4 -0.9**
PABE Paberze 140.97 40 *e*P **PKPdf 04 27 19.5 -0.6**
BZS Buzias 141.26 56⇑P **PKPdf 04 27 15.6 -5.5**
BZS Buzias 141.26 56⇑PKHKP PKPpre 04 27 15.6
VSU Vasula 141.34 35 *eP* **PKPdf 04 27 21.5 +0.7**
VSU Vasula 141.34 35⇑ *i*PKIKP **PKPdf 04 27 20.4 -0.3**
NRIK Noril'sk 141.47 350 PKP **PKPdf 04 27 20.4 -0.3**
comp=Z,6.0nm,0.9s,baz=115,slow=1.4,SNR=11
NRIK Noril'sk 141.47 350⇓ *e*PKIKP **PKPdf 04 27 20.7 0.0**
GZR Gura Zlata 142.09 56 ⇓P **PKPdf 04 27 18.0 -4.7**
GZR Gura Zlata 142.09 56 ⇓PKIKP **PKPdf 04 27 18.0 -4.7**
ISAL Salakas 142.11 39 *e*P **PKPdf 04 27 20.4 -1.8**
IZAR Zarasai 142.12 39 *e*P **PKPdf 04 27 22.5 +0.3**
IIGN Ignalina 142.24 39 *e*P **PKPdf 04 27 19.1 -3.4**
LVV L'vov 142.38 49 *e*PKIKP **PKPdf 04 27 22.4 -0.5**
IDID Didziasalis 142.53 39 *e*P **PKPdf 04 27 17.6 -5.3**
MPEP Malo Peshtene 142.88 59 P **PiKiP 04 27 26.5 -0.7**
MMB Musomiste 142.89 62 P **PKPdf 04 27 18.6 -5.5**
ARR Arges 143.39 56 ⇓P **PiKiP 04 27 29.3 +1.0**
FURI Furi 143.41 123 PKPdf PKPbc 04 27 24.6 +1.2
FURI Furi 143.41 123 IAMs_20 IAMs_20 05 27 06.8
comp=Z,362nm,20.0s
MICGM Minsk 143.43 40 *e* PKPab 04 27 19.0 -1.8
MNK Minsk 143.43 40 *e*PKHKP PKPpre 04 27 19.0
BURAR Bucovina Array 143.53 52 ⇓P PKPbc 04 27 22.8 +0.3
BURAR Bucovina Array 143.53 52 ⇓PKIKP PKPbc 04 27 22.8 +0.3
BURAR Bucovina Array 143.53 52 PKPdf PKPbc 04 27 23.2 +0.7
RZN Rozhen 143.63 62 P PKPab 04 27 21.3 -1.0
VOIR 143.68 56⇑P PKPbc 04 27 23.0 0.0
VOIR 143.68 56⇑PKIKP PKPbc 04 27 23.0 0.0
DOPR Dopca 143.86 55 ⇓P PKPbc 04 27 23.7 +0.3
OZUR 144.12 55⇑P PKPbc 04 27 24.7 +0.5
BIZ Bicaz 144.22 53 ⇓P PKPbc 04 27 24.4 -0.1
MLR Muntele Rosu 144.30 56⇑P **PKPab 04 27 23.9 -0.7**
MLR Muntele Rosu 144.30 56⇑PKIKP **PKPab 04 27 23.9 -0.7**
SZH Strazhica 144.48 59 P **PKPab 04 27 25.2 0.0**
NEHR Nehoiu 144.55 56⇑P **PKPab 04 27 25.0 -0.4**
PLOR Plostina 144.75 55⇑P **PKPab 04 27 24.5 -1.7**
PLOR Plostina 144.75 55⇑PKIKP **PKPab 04 27 24.5 -1.7**
VRI Vrincioaia 144.80 55 ⇓P **PKPab 04 27 25.5 -0.8**
VRI Vrincioaia 144.80 55 ⇓PKIKP **PKPab 04 27 25.5 -0.8**
RAZG Razgrad 144.88 59⇑P **PKPab 04 27 26.7 0.0**
JMB Yambol 145.00 61 P PKPbc 04 27 26.5 -0.6
HHC Hu-ho-hao-te 145.17 296 ⇓ *i*PKPbc **PKPbc 04 27 27.9 0.0**
KARP Karpathos 145.19 73 **PKPbc 04 27 27.0 -1.0**
AKASG Malin Array Be 145.42 46 PKPbc **PKPbc 04 27 26.7 -1.5**
comp=Z,18nm,0.8s,baz=283,slow=3.6,SNR=59
AKBB Malin Array Si 145.42 46 *c* PKP2 **PKPbc 04 27 26.3 -1.8**
AKBB Malin Array Si 145.42 46 PKPbc **PKPbc 04 27 26.6 -1.6**
KLMR Klimovskoe 145.48 25 *e*PKP2 **PKPdf 04 27 26.6 -1.4**
KLMR *e* 04 30 45.6
KLMR pmax pmax
comp=Z,286nm,1.4s
KLMR Klimovskoe 145.48 25 *e*PKPdf **PKPdf 04 27 26.7 -1.3**
KLMR AMP 04 27 38.6
comp=Z,286nm,1.4s
KLMR *e*PP **PP 04 30 45.6 -2.7**
SORM Soroca 145.51 51 ⇓P **PKPdf 04 27 27.3 -1.1**
SORM Soroca 145.51 51 ⇓PKIKP **PKPdf 04 27 27.3 -1.1**
ENH Enshi 145.61 278 **PKPdf 04 27 28.4 -0.9**
SCHL Schela 145.62 55⇑P **PKPab 04 27 29.3 0.0**
HARR Harsova 145.79 57 ⇓P **PKPbc 04 27 29.5 0.0**
HARR Harsova 145.79 57 ⇓PKP2 **PKPbc 04 27 29.5 0.0**
CFR Carcaliu 145.87 56⇑P **PKPdf 04 27 28.8 -0.3**
CFR Carcaliu 145.87 56⇑PKP2 **PKPdf 04 27 28.8 -0.3**
KIS Kishinev 146.04 52 *i* PKP **PKPdf 04 27 29.0 -0.4**
comp=Z,900nm,4.0s
KIS Kishinev 146.04 52 *e*PP PP 04 30 44.0 -8.4
KIS LRM MLR 05 36 07.0
comp=Z,350nm,18.0s
KIS Kishinev 146.04 52 *i* PKP2 **PKPdf 04 27 29.0 -0.4**
KIS pmax pmax
comp=Z,900nm,4.5s
MILM Milestii Mici 146.06 53 ⇓P **PKPbc 04 27 29.9 -0.4**
PSN Preselentsi 146.08 58 P **PKPdf 04 27 29.5 -0.1**
TIRR Tirgusor 146.16 57⇑P **PKPbc 04 27 30.3 -0.3**
TIRR Tirgusor 146.16 57⇑PKP2 **PKPbc 04 27 30.3 -0.3**
BTO Baotou 146.34 296 *e*PKPbc **PKPdf 04 27 30.9 +0.6**
MANT Manisa 146.53 68 PKPbc **PKPbc 04 27 32.3 0.0**
XAN Xi'an 146.81 284 PKPbc **PKPdf 04 27 32.1 +0.9**
XAN pPKP sPKPab 04 27 40.0 +0.5
XAN AMB AMB
comp=Z,590nm,6.9s
XAN LR LR
comp=Z,440nm,6.9s
XAN LR LR
comp=Z,800nm,7.8s
XAN Xi'an 146.81 284 PKP2 **PKPbc 04 27 32.4 -0.6**
XAN Xi'an 146.81 284 **PKPbc 04 27 32.4 -0.6**
GYA Guiyang 146.92 270⇑PKPbc **PKPbc 04 27 33.5 -0.1**
GYA PP **PP 04 31 01.5 +3.1**
GYA SKS **SKSdf 04 34 33.6 -6.8**
GYA SKKS **SKKSac 04 37 51.6 +1.6**
GYA AMB AMB
comp=Z,300nm,7.4s
GYA LR LR
comp=Z,320nm,4.6s
GYA LR LR
comp=Z,390nm,6.3s
PRGR Permogore 146.92 20 *e*PKIKP **PKPdf 04 27 30.2 -0.2**
PRGR pmax pmax
comp=Z,48nm,0.9s
AKAS Kas 147.23 72 IAMs_20 IAMs_20 05 28 07.1
comp=Z,295nm,19.0s
ULN Ulaanbaatar 147.47 310 pPKPab pPKPab 04 27 40.1 -0.4
ULN Ulaanbaatar 147.47 310 *c* PKP2 **PKPdf 04 27 33.1 +1.1**
ULN Ulaanbaatar 147.47 310 PKPbc **PKPbc 04 27 33.9 -0.6**
OBN Obninsk 147.69 35⇓ *e*PKIKP **PKPdf 04 27 31.3 -0.5**
OBN *i* 04 27 34.0
OBN PPP PPP 04 34 21.0
OBN *i* SS SS 04 50 03.8 -1.4
OBN *e*SSS SSS 04 55 44.0
OBN pmax pmax
comp=Z,14nm,1.3s
OBN pmax pmax
comp=Z,212nm,1.2s
OBN MLR MLR
comp=Z,678nm,17.0s
IRK Irkutsk 147.70 319 *e*PKP2 **PKPbc 04 27 34.2 -0.6**
IRK pmax pmax
comp=Z,142nm,2.1s
MOS Moscow 147.86 34 *e*PKIKP **PKPdf 04 27 31.9 -0.2**
MOS pmax pmax
comp=Z,1μm,3.2s
MOS pmax pmax
comp=Z,190nm,1.7s
SONM Songino Array 147.91 310 PKPbc **PKPbc 04 27 34.7 -1.0**
comp=Z,16nm,0.8s,baz=109,slow=2.2,SNR=55
SONM Songino Array 147.91 310 PKIKP **PKPdf 04 27 32.9 +0.2**
SONM Songino Array 147.91 310 **PKPdf 04 27 32.9 +0.2**
ISP Isparta 148.06 69 IAMs_20 IAMs_20 05 39 21.4
comp=Z,526nm,20.0s
ATD Arta Tunnel 148.18 125 PKPbc **PKPbc 04 27 35.9 -1.4**
SNR=6.6
ATD Arta Tunnel 148.18 125 **PKPbc 04 27 37.6 +0.3**
TLY Talaya 148.29 318 PKPbc **PKPbc 04 27 36.5 +0.1**
comp=Z,21nm,0.7s,baz=110,slow=3.5,SNR=26
TLY Talaya 148.29 318 PKiKP **PKiKP 04 27 38.6 +0.5**
TLY Talaya 148.29 318⇑ *e*PKP2 **PKPbc 04 27 35.3 -1.1**
TLY pmax pmax
comp=Z,130nm,1.3s
TLY Talaya 148.29 318 **PKPbc 04 27 36.1 -0.3**
ZAK Zakamensk 149.01 316 *e*PKIKP **PKPdf 04 27 33.7 -0.7**
ZAK *e* 04 31 05.9
ZAK pmax pmax
comp=Z,26nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.4s
KMI Kunming 149.78 265⇓ *i*PKPbc **PKPbc 04 27 41.7 +0.4**
CM31 Chiang Mai Arr 149.89 250 PKPbc **PKPbc 04 27 41.7 +0.2**
SNR=23
CMAR Chiang Mai Arr 149.89 250 PKP **PKPdf 04 27 36.2 -0.4**
comp=Z,1.5nm,0.3s,baz=170,slow=1.0,SNR=2.9
CMAR PKPbc **PKiKP 04 27 42.4 0.0**
comp=Z,23nm,0.9s,baz=175,slow=1.4,SNR=33
CMAR Chiang Mai Arr 149.89 250 **PKPbc 04 27 41.4 0.0**
CHTO Chiang Mai 150.08 251 PKIKP **PKPbc 04 27 41.9 0.0**
CHTO Chiang Mai 150.08 251 PKPbc **PKPbc 04 27 41.9 0.0**
CSS Mathiatis 150.15 75 IAMs_20 IAMs_20 05 43 38.6
comp=Z,288nm,20.0s
LPSR Galich'ya Gora 150.19 38 *i* PKIKP **PKPbc 04 27 40.1 -1.0**
LPSR pmax pmax
comp=Z,100nm,1.0s
ILGA Ilgaz 150.42 63 IAMs_20 IAMs_20 05 27 03.6
comp=Z,441nm,20.0s
BR131 Keskin Array S 150.47 65 PKPbc **PKPbc 04 27 41.6 -0.8**
SNR=24
BR131 Keskin Array S 150.47 65⇑ *e*PKIKP **PKPdf 04 27 36.9 -0.1**
BRTR Keskin Array B 150.47 65 PKP **PKPdf 04 27 37.0 -0.1**
comp=Z,7.2nm,1.2s,baz=225,slow=3.3,SNR=6.5
BRTR PKPbc **PKPbc 04 27 42.0 -0.4**
comp=Z,18nm,1.0s,baz=209,slow=2.3,SNR=41
BRTR Keskin Array B 150.47 65 PKPdf **PKPdf 04 27 36.5 -0.5**
BRTR PKPbc **sPKPdf 04 27 41.8 -0.5**
KIRV Kirov 150.51 21 *c* PKIKP **PKPbc 04 27 40.9 -0.7**
CD2 Chengdu 150.57 277 PKPbc **PKPbc 04 27 40.8 -2.0**
VSR Storozhevoye 151.01 40 *i* PKIKP **PKPbc 04 27 42.0 -1.1**
VSR *e* 04 27 50.2
VSR pmax pmax
comp=Z,80nm,0.9s
LZH Lanzhou 151.15 287 *e*PKPbc **PKPdf 04 27 40.5 +2.2**
LZH pPKP sPKPdf 04 27 42.8 -0.7
LZH sPKP 04 27 46.0
LZH LR LR
comp=Z,130nm,18.2s
LZH LR LR
comp=Z,140nm,18.0s
LZH LR LR
comp=Z,180nm,20.1s
VORD Divnogorie 151.20 41 *i* PKIKP **PKPbc 04 27 42.3 -1.2**
VORD *e* 04 27 50.9
VORD pmax pmax
comp=Z,40nm,1.0s
DAMY Dhamar 151.35 122 pPKPdf pPKPdf 04 27 41.0 -2.2
DAMY Dhamar 151.35 122 IAMs_20 IAMs_20 05 39 08.2
comp=Z,412nm,20.0s
BHL Bhannes 151.95 78 *eP* **PKPdf 04 27 39.2 -0.3**
SHBL Chebaa 151.96 79 *eP* **PKPdf 04 27 38.7 -0.9**
VRH Novokhopyorsk 152.40 39 *i* PKIKP **PKPbc 04 27 44.6 -1.6**
VRH *e* 04 27 53.4
VRH pmax pmax
comp=Z,40nm,0.8s
ANN Anapa 152.40 54 *e*PKIKP **PKPdf 04 27 39.5 -0.1**
GTA Gaotai 154.24 295 PKPbc **PKPdf 04 27 42.2 -0.5**
GTA pPKP sPKPdf 04 27 46.6 -1.3
GTA sPKP 04 27 49.8
GTA LR LR
comp=Z,280nm,19.6s
GTA LR LR
comp=Z,320nm,20.4s
GTA LR LR
comp=Z,290nm,20.0s
SOC Sochi 154.32 56 *c* PKIKP **PKPdf 04 27 41.6 -0.8**
SOC *i* 04 27 49.9
SOC *e* 04 31 37.4
SOC *e*SS SS 04 51 15.0 -4.8
SOC *e*SSS SSS 04 57 11.8
SOC pmax pmax
comp=Z,17nm,0.7s
SOC pmax pmax
comp=Z,31nm,0.7s
ARU Arti 154.76 14 *i* PKIKP **PKPdf 04 27 41.9 -0.7**
ARU Arti 154.76 14 **PKPdf 04 27 42.0 -0.6**
SOCY Socotra 155.61 142 IAMs_20 IAMs_20 05 31 15.4
comp=Z,393nm,21.0s
ZAA0 Zalesovo Array 155.63 337 IAMs_20 IAMs_20 05 33 52.7
comp=Z,484nm,21.0s
ZALV Zalesovo Beam 155.63 337 PKPbc **PKPdf 04 27 42.9 -1.0**
comp=Z,1.8nm,0.5s,baz=343,slow=1.5,SNR=6.1
ZALV PKPab **PKPab 04 28 09.8 -0.2**
comp=Z,19nm,1.0s,baz=20,slow=4.7,SNR=4.9
KOPT Kop Dagi 155.68 63 PKPdf **PKPdf 04 27 45.8 +1.0**
KOPT IAMs_20 IAMs_20 05 41 37.9
comp=Z,396nm,21.0s
GOF Gofitskoye 156.07 50⇑ *e*PKIKP **PKPdf 04 27 45.6 +0.8**
GOF pmax pmax
comp=Z,27nm,1.1s
MARD Mardin 156.21 70 IAMs_20 IAMs_20 05 44 01.6
comp=Z,322nm,18.0s
KIV Kislovodsk 156.25 53 *e*PKIKP **PKPdf 04 27 44.6 -0.6**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 156.25 53 IAMs_20 IAMs_20 05 40 36.6
comp=Z,432nm,19.0s
KBZ Khabaz 156.47 53 PKP **PKPdf 04 27 45.5 +0.2**
comp=Z,5.4nm,1.1s,baz=356,slow=3.7,SNR=10
ZEI Tsey 157.48 55 *i* PKIKP **PKPdf 04 27 48.7 +1.7**
ZEI pmax pmax
comp=Z,15nm,1.7s
GEVA Gevas 157.91 67 IAMs_20 IAMs_20 05 51 11.2
comp=Z,318nm,20.0s
BRVK Borovoye 159.23 358 PKIKP **PKPdf 04 27 47.7 -0.8**
BRVK 04 28 25.3
BRVK Borovoye 159.23 358 PKPdf **PKPdf 04 27 47.7 -0.8**
BRVK PKPab **PKPab 04 28 25.3 -0.3**
BRVK Borovoye 159.23 358 IAMs_20 IAMs_20 05 41 52.9
comp=Z,458nm,20.0s
BVAR Borovoye Array 159.26 358 PKP **PKPdf 04 27 48.0 -0.5**
comp=Z,1.2nm,0.8s,baz=234,slow=5.8,SNR=6.2
BVAR PKPab **PKPab 04 28 25.0 -0.7**
comp=Z,4.5nm,0.8s,baz=143,slow=11,SNR=9.1
ABTO Aybut 159.34 132 pPKPdf **PKPdf 04 27 51.1 +1.4**
MAK Makhachkala 159.87 52 *e*PKIKP **PKPdf 04 27 44.8 -4.7**
MAK pmax pmax
comp=Z,230nm,1.5s
RBK Rabkut 160.02 134 pPKPdf **PKPdf 04 27 51.9 +1.4**
KURK Kurchatov 160.31 342 PKIKP **PKPdf 04 27 48.4 -1.3**
KURK 04 28 30.0
KURK Kurchatov 160.31 342 PKPdf **PKPdf 04 27 48.4 -1.3**
KURK PKPab **PKPab 04 28 30.0 -0.3**
KURBB Kurchatov Arra 160.41 342 PKP **PKPdf 04 27 48.4 -1.5**
comp=Z,0.9nm,0.3s,baz=356,slow=1.1,SNR=19
KURBB PKPab **PKPab 04 28 30.2 -0.6**
comp=Z,5.2nm,0.8s,baz=22,slow=4.1,SNR=12
WMQ Urumqi 161.46 314 *e*PKP **PKPdf 04 27 51.6 +0.3**
WMQ LR LR
comp=Z,230nm,28.6s
WMQ LR LR
comp=Z,440nm,29.0s
WMQ LR LR
comp=Z,190nm,22.3s
ABKAR Akbulak array 161.70 20 PKPdf **PKPdf 04 27 50.3 -1.0**
ABKAR PKPab **PKPab 04 28 37.4 +1.0**
MKAR Makanchi Array 162.36 329 PKP **PKPdf 04 27 49.6 -2.5**
comp=Z,2.9nm,1.0s,baz=9.9,slow=2.8,SNR=15
MKAR PKPab **PKPab 04 28 39.2 -0.3**
comp=Z,3.9nm,0.9s,baz=40,slow=4.7,SNR=7.6
MKAR PP **PP 04 32 26.6 +3.1**
comp=Z,1.9nm,1.1s,baz=66,slow=4.1,SNR=4.7

MKAR	**Makanchi Array**	**162.36**	**329**	PKPdf	**PKPdf**	**04 27 49.4**	**-2.7**
MAKZ	**Makanchi**	**162.49**	**330**	PKIKP	**PKPdf**	**04 27 50.4**	**-1.8**
MAKZ						04 28 40.3	
MAKZ	**Makanchi**	**162.49**	**330**	PKPdf	**PKPdf**	**04 27 50.4**	**-1.8**
MAKZ				PKPab	**PKPab**	**04 28 40.3**	**+0.2**
DQM	**DQM**	**163.88**	**137**	pPKPdf	**PKPdf**	**04 27 55.8**	**+1.5**
	SNR=5.9						
MHTO	**MHTO**	**164.95**	**136**	pPKPdf	**PKPdf**	**04 27 56.5**	**+1.3**
	SNR=5.9						
ARQ	**Araqi**	**165.71**	**125**	PKPdf	**PKPdf**	**04 27 55.6**	**-0.2**
BSY	**Bisya**	**165.76**	**129**	pPKPdf	pPKPdf	04 27 58.5	-1.4
SMDO	**Samad**	**166.54**	**130**	pPKPdf	pPKPdf	04 27 59.3	-1.2
	SNR=7.9						
JLN	**Jalan Bani Buh**	**166.70**	**137**	pPKPdf	**PKPdf**	**04 27 58.3**	**+1.6**
	SNR=6.0						
KKAR	**Karatay Array**	**169.15**	**355**	PKIKP	**PKPdf**	**04 27 56.2**	**-1.6**
KKAR						04 29 08.6	
KKAR	**Karatay Array**	**169.15**	**355**		**PKPdf**	**04 27 56.2**	**-1.6**
KKAR					**PKPab**	**04 29 08.6**	**-0.9**
GEYT	**Alibeck**	**169.35**	**55**	PKP	**PKPdf**	**04 27 58.0**	**0.0**
	comp=Z,1.7nm,0.4s,baz=15,slow=6.2,SNR=6.8						
GEYT				PKPab	**PKPab**	**04 29 09.6**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=270,slow=7.2,SNR=1.5						
GEYT				PP	**PP**	**04 33 06.0**	**+5.5**
	comp=Z,1.0nm,0.2s,baz=234,slow=5.5,SNR=1.8						
CHGR	**Chuyangaron**	**173.65**	**360**	PKPdf	**PKPdf**	**04 27 59.4**	**-0.8**
CHGR				PKPab	**PKPab**	**04 29 29.6**	**0.0**
HRA	**Herat**	**173.85**	**68**		**PKPdf**	**04 28 00.3**	**-0.3**
HRA				PKPab	**PKPab**	**04 29 29.9**	**-1.2**
NIL	**Nilore**	**176.30**	**293**	PKPdf	**PKPdf**	**04 28 02.3**	**+1.2**

AUST 10 04:23:08.8±0.8, 27.2°S × 113.7°E, h10 km, Error ellipse: s-maj=8.3km s-min=4.8km az=86.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORW	**Morawa**	**2.71**	**132**	P	Pn	04 23 54.9	+2.4
	baz=2.7,SNR=29						
MORW				S	Sn	04 24 27.7	+2.4
	baz=2.7						
BLDU	**Balliduu**	**4.23**	**143**	P	Pn	04 24 14.8	+1.5
	baz=4.2,SNR=18						
BLDU				S	Sn	04 25 03.1	+0.3
	baz=4.2						
MEEK	**Meekatharra**	**4.40**	**83**	P	Pn	04 24 18.6	+3.0
	baz=4.4,SNR=226						
MEEK				S	Sn	04 25 07.6	+0.5
	baz=4.4						
GIRL	**Giralia**	**4.63**	**6**	P	Pn	04 24 19.5	+0.7
	baz=4.6,SNR=16						
GIRL				S	Sn	04 25 10.2	-2.4
	baz=4.6						
MUN	**Mundaring**	**5.16**	**156**	P	Pn	04 24 26.8	+0.7
	baz=5.2,SNR=10						
MUN				S	Sn	04 25 23.5	-2.2
	baz=5.2						
KLBR	**Kellerberrin**	**5.55**	**142**	P	Pn	04 24 31.4	-0.1
	baz=5.6						
KLBR				S	Sn	04 25 31.5	-3.9
	baz=5.6						
NWAO	**Narrogin (SRO)**	**6.40**	**153**	P	Pn	04 24 42.7	-0.4
	baz=6.4,SNR=5.1						
RKGY	**Rocky Gully**	**7.83**	**160**	P	Pn	04 25 02.0	-0.7
	baz=7.8,SNR=6.5						
RKGY				S	Sn	04 26 26.2	-5.1
	baz=7.8						
KMBL	**Kambalda**	**8.20**	**122**	P	Pn	04 25 08.6	+0.8
	baz=8.2,SNR=8.5						
KMBL				S	Sn	04 26 35.0	-5.6
	baz=8.2						
FORT	**Forrest**	**13.01**	**109**	P	Pn	04 26 12.4	-1.4
	baz=13,SNR=19						
FORT				S	Sn	04 28 31.1	-7.5
	baz=13						
WRKA	**Warakurna**	**13.27**	**84**	P	Pn	04 26 16.9	-0.4
	baz=13,SNR=12						
FITZ	**Fitzroy Crossi**	**14.28**	**53**	P	Pn	04 26 30.2	-0.8
	baz=14,SNR=5.1						
MULG	**Mulgathing**	**18.07**	**104**	P	Pn	04 27 18.6	-1.3
	baz=18,SNR=4.5						
WC3	**Warramunga Arr**	**20.25**	**73**	P	Pn	04 27 48.0	+1.7
	baz=20						

WEL 10 04:29:30.6, 45.5°S ± 4.4° × 166.8°E ± 0.1°, h65 km ± 5km, M3.2/12, ML3.4/11, MLv3.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=53.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.34**	**19**	P	Pn	04 29 42.0	+0.5
MSZ				S	Sn	04 29 50.0	+0.5
MLZ	**Mavora Lakes**	**0.44**	**147**	P	Pn	04 29 43.5	+1.0
MLZ				S	Sn	04 29 53.0	+1.9
WKZ	**Wanaka**	**0.90**	**79**	P	Pn	04 29 49.3	+1.7
WKZ				S	Sn	04 30 03.2	+3.1
WHZ	**Wether Hill Ro**	**0.90**	**172**	P	Pn	04 29 48.2	+0.6
WHZ				S	Sn	04 30 01.5	+1.3
JCZ	**Jackson Bay**	**1.17**	**38**	P	Pn	04 29 51.6	+0.4
JCZ				S	Sn	04 30 08.8	+2.3
PYZ	**Puysegur Point**	**1.40**	**213**	P	Pn	04 29 54.8	+0.8
TUZ	**Tuapeka**	**1.62**	**127**	P	Pn	04 29 58.4	+1.5
TUZ				S	Sn	04 30 17.8	+1.0
SYZ	**Scrubby Hill**	**1.81**	**149**	P	Pn	04 30 00.5	+1.0
SYZ				S	Sn	04 30 22.7	+1.2
LBZ	**Lake Benmore**	**1.82**	**71**	P	Pn	04 30 00.1	+0.3
LBZ				S	Sn	04 30 21.9	0.0
APZ	**The Paps**	**1.84**	**175**	P	Pn	04 30 00.6	+0.6
ODZ	**Otahua Downs**	**2.04**	**92**	P	Pn	04 30 03.3	+0.8
FOZ	**Fox Glacier**	**2.07**	**46**	P	Pn	04 30 03.1	+0.1
HHSZ	**Highcliff Hill**	**2.18**	**115**	P	Pn	04 30 06.1	+1.6
GCSZ	**Gaunt Creek Bo**	**2.49**	**48**	P	Pn	04 30 08.5	-0.3
ARCZ	**Arundel**	**2.65**	**68**	P	Pn	04 30 10.2	-0.8
RPZ	**Rata Peaks**	**2.68**	**63**	P	Pn	04 30 10.6	-0.7
WVZ	**Waitaha Valley**	**2.87**	**49**	P	Pn	04 30 14.1	+0.2
MHCZ	**Mount Hutt**	**3.10**	**63**	P	Pn	04 30 15.9	-1.1
WACZ	**Wakanui South**	**3.10**	**71**	P	Pn	04 30 16.4	-0.5
INZ	**Inchbonnie**	**3.49**	**51**	P	Pn	04 30 21.8	-0.6
OXZ	**Oxford**	**3.49**	**63**	P	Pn	04 30 20.7	-1.7
MQZ	**McQueen's Vall**	**3.73**	**71**	P	Pn	04 30 24.5	-1.2
AKCZ	**Akaroa Harbour**	**3.85**	**75**	P	Pn	04 30 26.4	-0.8
LTZ	**Lake Taylor**	**3.93**	**57**	P	Pn	04 30 26.9	-1.5
OKCZ	**Okains Bay**	**4.00**	**73**	P	Pn	04 30 28.9	-0.5
DSZ	**Denniston Nort**	**4.38**	**44**	P	Pn	04 30 34.5	-0.1
THZ	**Tophouse**	**4.94**	**51**	P	Pn	04 30 42.0	-0.3
QRZ	**Quartz Range**	**5.44**	**42**	P	Pn	04 30 48.7	-0.3
DUWZ	**D'Urville Isla**	**6.16**	**49**	P	Pn	04 31 00.7	+1.8
PKE	**Pukeiti**	**7.41**	**41**	P	Pn	04 31 17.5	+1.4
KRHZ	**Kereru**	**8.31**	**53**	P	Pn	04 31 29.1	+0.7

*IDC **10** 04:55:08.4±2.7, 53.4°N × 35.4°W, h0 km, mb3.6/6, mb1 3.7/6, mb1mx3.4/69, mbtmp3.6/6, MS4.4/1, Ms1 4.4/1, ms1mx3.2/51, Error ellipse: s-maj=66.0km s-min=36.6km az=67.0*

*NEIC **10** 04:55:09.1±1.5, 53.3°N ± 0.2° × 35.5°W ± 0.2°, h10 km ± 1 km, mb4.1/15, Error ellipse: s-maj=34.2km s-min=19.5km az=181.0*

ISC 10 04:55:10.0±0.8, 53.3°N ± 0.2° × 35.5°W ± 0.1°, h16 km, n26, σ 0 89/23, mb3.9/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.41**	**110**	P	**P**	**05 00 36.7**	**+0.1**
	3.0nm,1.1s,baz=311,slow=9.0,SNR=6.2						
ESDC	**Sonseca Array**	**25.41**	**110**	P	**P**	**05 00 36.2**	**-0.4**
KSPA	**Keystone Colle**	**29.26**	**263**	P	**P**	**05 01 10.2**	**-0.9**
CLL	**Collm**	**29.29**	**74**	P	**P**	**05 01 09.4**	**-1.9**
MMNY	**Mt. Morris Dam**	**29.84**	**267**	P	**P**	**05 01 17.3**	**+1.1**
L56A	**Greenwood**	**29.98**	**265**	P	**P**	**05 01 16.2**	**-1.2**
GERES	**GERESS Array B**	**30.75**	**78**	P	**P**	**05 01 23.6**	**-0.7**
ZOU	**Zoufplan**	**31.42**	**82**	P	**P**	**05 01 29.9**	**-0.5**
MORC	**Moravsky Berou**	**32.56**	**74**	P	**P**	**05 01 40.0**	**-0.1**
OJC	**Ojcow**	**33.66**	**72**	P	**P**	**05 01 48.6**	**-1.1**
AKASG	**Malin Array Be**	**38.73**	**67**	P	**P**	**05 02 32.3**	**-0.7**
	0.5nm,0.6s,baz=298,slow=8.0,SNR=1.8						
AKBB	**Malin Array Si**	**38.73**	**67**	P	**P**	**05 02 33.2**	**+0.2**
AKBB					IAmb	IAmb	05 02 42.4
	comp=Z,5.1nm,1.2s						
BRTR	**Keskin Array B**	**47.64**	**77**	P	**P**	**05 03 46.9**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=329,slow=7.4,SNR=3.8						
BRTR	**Keskin Array B**	**47.64**	**77**	P	**P**	**05 03 45.6**	**+0.3**
TOA0	**Torodi Ar. Sit**	**49.74**	**129**	P	**P**	**05 04 01.5**	**0.0**
TORD	**Torodi Ar. Bea**	**49.74**	**129**	P	**P**	**05 04 02.4**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=333,slow=7.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**49.74**	**129**	IAmb	IAmb	05 04 02.9	
	comp=Z,1.6nm,0.9s						
RDMU	**Red Mountain**	**49.91**	**287**	P	**P**	**05 04 02.8**	**0.0**
PLID	**Pearl Lake**	**50.58**	**295**	P	**P**	**05 04 08.8**	**+0.9**
PLID				IAmb	IAmb	05 04 19.6	
	comp=Z,2.9nm,1.1s						
EIL	**Elat**	**55.35**	**86**	LR	LR	05 31 19.1	
	comp=Z,333nm,21.1s,baz=266,slow=39						
ZALV	**Zalesovo Beam**	**62.22**	**35**	P	**P**	**05 05 30.6**	**+0.2**
KURK	**Kurchatov**	**62.52**	**41**	P	**P**	**05 05 33.0**	**+0.7**
KURK	**Kurchatov**	**62.52**	**41**	IAmb	IAmb	05 05 35.2	
	comp=Z,4.0nm,1.4s						
KURBB	**Kurchatov Arra**	**62.55**	**41**	P	**P**	**05 05 33.0**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=325,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**67.11**	**41**	P	**P**	**05 06 01.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=341,slow=6.2,SNR=1.9						
ASAR	**Alice Springs**	**149.33**	**19**	PKPbc	**PKiKP**	**05 14 58.4**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=336,slow=2.0,SNR=4.6						

*IDC **10** 04:57:19.2±0.8, 53.4°N × 35.2°W, h0 km, mb3.8/16, mb1 4.0/17, mb1mx3.8/71, mbtmp3.8/17, ML3.5/1, MS4.2/12, Ms1 4.2/12, ms1mx3.9/61, Error ellipse: s-maj=29.2km s-min=14.0km az=7.0*

*GCMT **10** 04:57:20.8±0.2, 53.7°N ± 0.03° × 35.2°W ± 0.02°, h12 km, MW5.1/103, Moment Tensor Solution. s26,c31; s103,c162; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.80±.13; Mθθ 0.23±.14; Mϕϕ 3.58±.09; Mrθ 3.75±.53; Mθϕ 0.08±.11; Mrϕ 0.11±.40; Best double couple: Mo 4.81900×10^16 NP1 ϕs 337.00000°, δ 49.00000°, λ -132.00000°. NP2 ϕs 211.00000°, δ 56.00000°, λ -52.00000°. Principal axes: T 3.5940, Plg4.0000°, Azm275.0000°; N 2.4540, Plg31.0000°, Azm7.0000°; P -6.0440, Plg59.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 04:57:24.8±2.2, 53.8°N ± 0.1° × 34.9°W ± 0.1°, h10 km ± 1 km, mb4.8/107 Error ellipse: s-maj=17.1km s-min=14.2km az=189.0*

ISC 10 04:57:24.6±0.4, 53.7°N ± 0.07° × 34.86°W ± 0.05°, h10 km, n162, σ 1 84/130, mb4.7/65, MS4.2/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**9.35**	**327**	Pn	**Pn**	**04 59 39.6**	**+0.4**
BORG	**Borgarnes**	**12.99**	**27**	LR	LR	05 03 58.2	
	comp=Z,764nm,21.7s,baz=234,slow=30						
H07N1	**FLORES T-PHASE**	**14.28**	**168**	T	T	05 15 05.2	
	SNR=2.5						
H07S1	**FLORES T-PHASE**	**14.58**	**169**	T	T	05 15 21.5	
SFJD	**Kangerlussuaq**	**15.33**	**336**	LR	LR	05 05 47.5	
	comp=Z,2μm,21.4s,baz=182,slow=33						
SFJD	**Kangerlussuaq**	**15.33**	**336**	Pn	**Pn**	**05 00 60.0**	**-0.8**
ICESG	**Greenland Ices**	**15.56**	**354**	*e*P	**P**	**05 01 14.0**	**+5.6**
ICESG				IAmb	IAmb	05 01 22.0	
	comp=Z,15nm,0.9s						
EKA	**Eskdalemuir Ar**	**18.38**	**72**	P	**P**	**05 01 39.3**	**0.0**
	baz=258,slow=13,SNR=2.5						
EKA				LR	LR	05 07 39.6	
	comp=Z,1μm,18.3s,baz=285,slow=33						
SCHQ	**Schefferville**	**18.62**	**286**	LR	LR	05 07 32.6	
	comp=Z,984nm,22.0s,baz=93,slow=33						
SUMG	**Summit**	**18.97**	**357**	P	**P**	**05 01 44.6**	**-1.5**
SUMG	**Summit**	**18.97**	**357**	*i* P	**Pn**	**05 01 47.6**	**+0.9**
	comp=Z,41nm,1.2s						
SUMG	**Summit**	**18.97**	**357**	*i* P	**Pn**	**05 01 47.6**	**+0.9**
SUMG				IAmb	IAmb	05 01 50.1	
	comp=Z,41nm,1.2s						
GBN	**Guysborough**	**19.10**	**255**	P	**Pn**	**05 01 48.0**	**-0.1**
GBN				IAmb	IAmb	05 02 00.2	
	comp=Z,112nm,1.5s						
FRB	**Frobisher Bay**	**19.89**	**314**	LR	LR	05 08 00.2	
	comp=Z,1μm,18.2s,baz=154,slow=32						
HAL	**Halifax**	**20.75**	**256**	P	**P**	**05 02 05.1**	**-0.1**
BATG	**Bathurst New B**	**20.75**	**265**	P	**P**	**05 02 04.9**	**-0.4**
BATG				IAmb	IAmb	05 02 11.0	
	comp=Z,44nm,1.3s						
PGAV	**Gavieira, Arco**	**21.24**	**113**	*e*LR	LR	05 07 13.3	
	comp=Z,1μm,20.0s						
PBRG	**Braganca**	**22.19**	**111**	*e*P	**P**	**05 02 26.7**	**+5.9**
	comp=Z,57nm,1.7s						
GGN	**Saint George**	**22.36**	**260**	P	**P**	**05 02 21.0**	**-1.5**
PCAS	**Casmilo, Conde**	**22.46**	**117**	*e*P	**P**	**05 02 22.5**	**-1.1**
	comp=Z,30nm,2.0s						
MVO	**Moncorvo**	**22.46**	**113**	*e*LR	LR	05 08 04.3	
	comp=Z,1μm,20.0s						
D62A	**Allapoint, All**	**22.62**	**267**	P	**P**	**05 02 24.7**	**-0.7**
D62A					**sP**	**05 02 29.3**	**+0.6**
MTE	**Manteigas**	**22.72**	**115**	*e*P	**P**	**05 02 31.6**	**+5.1**
	comp=Z,54nm,1.6s						
MTE				*e*LR	LR	05 07 50.8	
	comp=Z,1μm,20.0s						
MTE	**Manteigas**	**22.72**	**115**	P	**P**	**05 02 26.8**	**+0.3**
MTE				IAmb	IAmb	05 02 32.7	
	comp=Z,35nm,1.2s						
F64A	**Sherman**	**22.84**	**264**	P	**P**	**05 02 26.9**	**-0.6**
EMMW	**East Machias**	**22.95**	**260**	P	**P**	**05 02 29.7**	**+1.0**
E62A	**Clayton Lake**	**23.14**	**266**	P	**P**	**05 02 30.9**	**+0.2**
E62A				IAmb	IAmb	05 02 45.4	
	comp=Z,40nm,1.2s						
PCBR	**Castelo Branco**	**23.15**	**116**	*e*P	**P**	**05 02 31.8**	**+0.9**
	comp=Z,53nm,1.6s						
PMTG	**Montargil**	**23.32**	**118**	*e*P	**P**	**05 02 30.3**	**-2.3**
	comp=Z,42nm,1.9s						
PMRV	**Marv??o**	**23.50**	**116**	*e*LR	LR	05 08 19.7	
	comp=Z,1μm,20.0s						
PKME	**Peaks-Kenny Pk**	**23.72**	**263**	P	**P**	**05 02 36.5**	**0.0**
PBEJ	**Beja**	**24.28**	**119**	*e*P	**P**	**05 02 42.8**	**+0.9**
	comp=Z,33nm,1.8s						
PVAQ	**Vaqueiros**	**24.83**	**120**	*e*LR	LR	05 07 40.2	
	comp=Z,702nm,20.0s						
PBDV	**Barranco-do-Ve**	**24.85**	**121**	*e*P	**P**	**05 02 48.5**	**+1.5**
	comp=Z,62nm,2.1s						
ESBB	**Sonseca Array**	**25.18**	**111**	P	**P**	**05 02 50.9**	**+0.8**
ESBB				IAmb	IAmb	05 02 56.6	
	comp=Z,27nm,1.2s						
ESDC	**Sonseca Array**	**25.18**	**111**	P	**P**	**05 02 46.9**	**-3.2**
	comp=Z,4.5nm,1.0s,baz=306,slow=8.4,SNR=5.4						
NOA	**NORSAR Array B**	**25.40**	**55**	P	**P**	**05 02 50.0**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=273,slow=8.9,SNR=2.5						
LBNH	**Lisbon**	**25.85**	**264**	P	**P**	**05 02 58.1**	**+2.1**
ECH	**Echery**	**26.72**	**85**	P	**P**	**05 03 05.0**	**+1.1**
ECH				IAmb	IAmb	05 03 07.2	
	comp=Z,33nm,1.8s						
CLL	**Collm**	**28.79**	**75**	*e*P	**P**	**05 03 22.0**	**-0.3**
	comp=Z,19nm,1.7s						
CLL				*e*		05 03 28.0	
CLL				*e*S	**S**	**05 08 06.0**	**-5.6**
TUE	**Stuetta**	**28.87**	**86**	P	**P**	**05 03 25.0**	**+1.6**
TUE				IAmb	IAmb	05 03 31.8	
	comp=Z,21nm,1.3s						
FUORN	**Ofenpass-Fuorn**	**29.34**	**85**	P	**P**	**05 03 29.4**	**+1.9**
FUORN				IAmb	IAmb	05 03 35.2	
	comp=Z,35nm,1.8s						
KHC	**Kasperske Hory**	**30.07**	**79**	P	**P**	**05 03 34.6**	**+0.9**
GEC2	**GERESS Array S**	**30.27**	**79**	P	**P**	**05 03 37.2**	**+1.7**
GERES	**GERESS Array B**	**30.27**	**79**	P	**P**	**05 03 33.0**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=288,slow=7.1,SNR=2.1						
CTI	**Castel Tesino**	**30.46**	**85**	P	**P**	**05 03 38.8**	**+1.6**
CTI				IAmb	IAmb	05 03 45.6	
	comp=Z,12nm,1.2s						
CIMO	**Cimolais**	**30.79**	**84**	P	**P**	**05 03 42.3**	**+2.2**
ZOU	**Zoufplan**	**30.97**	**84**	P	**P**	**05 03 43.6**	**+1.6**
EUNU	**Eureka**	**31.08**	**345**	P	**P**	**05 03 43.4**	**+0.9**
RES	**Resolute Bay**	**31.31**	**334**	LR	LR	05 14 33.4	
	comp=Z,558nm,21.5s,baz=133,slow=33						
MORC	**Moravsky Berou**	**32.06**	**75**	P	**P**	**05 03 51.7**	**+0.4**
MORC				IAmb	IAmb	05 03 53.4	
	comp=Z,16nm,1.5s						
FINES	**FINESS Array B**	**32.42**	**52**	P	**P**	**05 03 53.1**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=258,slow=7.0,SNR=3.3						
OJC	**Ojcow**	**33.15**	**73**	P	**P**	**05 04 01.2**	**+0.5**
OJC				IAmb	IAmb	05 04 10.8	
	comp=Z,20nm,1.5s						
PSZ	**Piszkesteto**	**34.32**	**77**	P	**P**	**05 04 12.6**	**+1.5**
VWCC	**Virginia Weste**	**34.99**	**260**	P	**P**	**05 04 15.5**	**-1.3**
BLA	**Blacksburg**	**35.27**	**261**	P	**P**	**05 04 19.2**	**-0.1**
BLA				IAmb	IAmb	05 04 26.4	
	comp=Z,24nm,1.4s						
KEST	**Kesra**	**35.49**	**102**	P	**P**	**05 04 20.1**	**-1.2**
	comp=Z,3.1nm,0.9s,baz=235,slow=14,SNR=2.2						
KEST	**Kesra**	**35.49**	**102**	IAmb	IAmb	05 04 29.1	
	comp=Z,12nm,1.1s						
DIVS	**Divibare**	**36.46**	**82**	P	**P**	**05 04 31.4**	**+1.9**
PDG	**Podgorica**	**37.01**	**85**	P	**P**	**05 04 33.9**	**-0.1**
PDG				IAmb	IAmb	05 04 40.8	
	comp=Z,17nm,1.3s						
BUR08	**Bucovina Ar. S**	**37.52**	**74**	P	**P**	**05 04 39.4**	**+0.9**
BURAR	**Bucovina Array**	**37.54**	**74**	P	**P**	**05 04 39.5**	**+0.8**
TZTN	**Tazewell**	**37.56**	**263**		**P**	**05 04 38.7**	**-0.1**
TZTN				IAmb	IAmb	05 04 45.2	
	comp=Z,22nm,1.2s						
AKASG	**Malin Array Be**	**38.19**	**68**	P	**P**	**05 04 44.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=301,slow=8.3,SNR=5.0						
AKBB	**Malin Array Si**	**38.19**	**68**	P	**P**	**05 04 44.6**	**+0.7**
TKL	**Tuckaleechee C**	**38.30**	**262**	LR	LR	05 19 38.4	
	comp=Z,619nm,19.0s,baz=62,slow=35						
TKL	**Tuckaleechee C**	**38.30**	**262**	P	**P**	**05 04 46.5**	**+1.4**
KLMR	**Klimovskoe**	**38.76**	**49**	*e*P	**P**	**05 04 47.8**	**-0.8**
KLMR				AMP		05 04 59.3	
	comp=Z,28nm,1.5s						
KLMR				LQ	LQ	05 18 27.9	
KLMR				LQ	LQ	05 18 27.9	
W52A	**Murphy**	**38.78**	**262**	P	**P**	**05 04 48.8**	**-0.4**
W52A				IAmb	IAmb	05 04 55.1	
	comp=Z,14nm,0.8s						
FVM	**French Village**	**40.68**	**270**	P	**P**	**05 05 05.2**	**+0.4**
FVM				IAmb	IAmb	05 05 11.1	
	comp=Z,23nm,1.5s						
H05N1	**Guadeloupe/Mar**	**42.58**	**219**	T	T	05 50 11.3	
SJG	**San Juan**	**43.00**	**226**	LR	LR	05 20 55.1	
	comp=Z,115nm,21.1s,baz=26,slow=33						
PDPR	**Patillas Dam,**	**43.03**	**226**	P	**P**	**05 05 27.6**	**+3.4**
PDPR				IAmb	IAmb	05 05 31.6	
	comp=Z,18nm,1.4s						
U38A	**Gravette**	**44.06**	**272**	P	**P**	**05 05 35.8**	**+3.4**
U38A				IAmb	IAmb	05 05 41.1	
	comp=Z,37nm,2.0s						
X40A	**Basin Creek Fa**	**44.47**	**269**	P	**P**	**05 05 34.6**	**-1.2**
X40A				IAmb	IAmb	05 05 41.3	
	comp=Z,11nm,1.0s						
INK	**Inuvik**	**44.48**	**328**	LR	LR	05 22 45.9	
	comp=Z,359nm,20.3s,baz=43,slow=34						
W39A	**Magazine**	**44.55**	**270**	P	**P**	**05 05 35.7**	**-0.7**
MIAR	**Mount Ida**	**44.87**	**269**	P	**P**	**05 05 37.5**	**-1.5**
MDUB	**Mudurnu**	**45.25**	**79**	P	**P**	**05 05 40.9**	**-1.1**
OK025	**Westminster Rd**	**46.39**	**273**	P	**P**	**05 05 49.0**	**-2.0**
BR131	**Keskin Array S**	**47.15**	**78**	P	**P**	**05 05 58.2**	**+1.1**
BRTR	**Keskin Array B**	**47.15**	**78**	P	**P**	**05 05 55.8**	**-1.3**
	comp=Z,2.4nm,0.9s,baz=339,slow=7.4,SNR=3.7						
BRTR	**Keskin Array B**	**47.15**	**78**	P	**P**	**05 05 58.2**	**+1.1**
N23A	**Red Feather La**	**47.89**	**285**	P	**P**	**05 06 02.1**	**-0.8**
PDAR	**Pinedale Array**	**48.73**	**289**	P	P	05 06 04.0	-5.3
	comp=Z,1.3nm,0.8s,baz=46,slow=6.7,SNR=3.0						
AMTX	**Amarillo**	**49.45**	**276**	P	**P**	**05 06 13.6**	**-1.1**
ARU	**Arti**	**49.52**	**47**	P	**P**	**05 06 14.2**	**-0.7**
TOA0	**Torodi Ar. Sit**	**49.71**	**130**	P	**P**	**05 06 16.0**	**-0.8**
TOA0				IAmb	IAmb	05 06 20.2	
	comp=Z,9.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**49.71**	**130**	P	P	05 06 11.2	-5.6
	comp=Z,2.1nm,0.9s,baz=336,slow=7.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**49.71**	**130**	P	**P**	**05 06 15.0**	**-1.8**
BCYI	**Bear Canyon**	**49.86**	**293**	P	**P**	**05 06 17.9**	**-0.1**
B08A	**Colville Reser**	**50.39**	**300**	IAmb	IAmb	05 06 28.5	
	comp=Z,13nm,1.2s						
MSTX	**Muleshoe**	**50.73**	**276**	P	**P**	**05 06 23.3**	**-1.2**
PLID	**Pearl Lake**	**50.76**	**295**	IAmb	IAmb	05 06 31.7	
	comp=Z,12nm,1.3s						
F10A	**Beach Ranch, E**	**50.84**	**297**	P	**P**	**05 06 25.0**	**-0.1**
F10A				IAmb	IAmb	05 06 33.5	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**50.85**	**329**	P	**P**	**05 06 22.2**	**-2.7**
	comp=Z,0.9nm,1.1s,baz=47,slow=5.3,SNR=4.4						
ILAR	**Eielson Array**	**50.85**	**329**	P	**P**	**05 06 22.2**	**-2.7**
HLID	**Hailey**	**50.90**	**293**	IAmb	IAmb	05 06 37.0	
	comp=Z,17nm,1.9s						
GAZ	**Gaziantep**	**50.94**	**78**	P	**P**	**05 06 26.7**	**+0.6**
GAZ				IAmb	IAmb	05 06 44.1	
	comp=Z,11nm,1.0s						
PV12	**Saucer Basin,**	**51.25**	**284**	IAmb	IAmb	05 06 29.1	
	comp=Z,13nm,1.2s						

LZH	**Lanzhou**	**83.67**	**33**	*e*P	**P**	**05 09 53.5**	**0.0**
LZH				pP	pP	05 09 56.8	+0.5
LZH				sP	pwP	05 09 58.6	+0.3
LZH				*e*PP	**PP**	**05 13 07.6**	**+2.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,5.5s						
LZH				LR	LR		
	comp=N,140nm,16.9s						
LZH				LR	LR		
	comp=E,150nm,17.0s						
LZH				LR	LR		
	comp=Z,190nm,19.5s						
CD2	**Chengdu**	**88.39**	**35**	*e*P	**P**	**05 10 17.5**	**+0.8**
NJ2	**Nanjing**	**91.57**	**22**	*e*P	**P**	**05 10 31.6**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JNU	**Nakatsue**	**92.61**	**12**	P	**P**	**05 10 34.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**97.88**	**44**	LR	LR	05 58 12.7	
	comp=Z,79nm,21.7s,baz=350,slow=37						
PLCA	**Paso Flores**	**98.99**	**207**	LR	LR	05 53 31.5	
	comp=Z,58nm,19.3s,baz=358,slow=34						
SNAA	**Sanae**	**127.14**	**168**	PKP	**PKPdf**	**05 16 23.3**	**-4.2**
	comp=Z,0.7nm,0.7s,baz=304,slow=18,SNR=2.2						
QSPA	**South Pole Qui**	**143.63**	**180**	PKhKP	PKPpre	05 16 50.5	
	comp=Z,2.4nm,1.1s,baz=191,slow=4.5,SNR=3.6						
QSPA				PKP	PKPab	05 16 54.8	0.0
	comp=Z,1.3nm,0.7s,baz=207,slow=3.1,SNR=9.2						
WRAB	**Tennant Creek**	**145.25**	**18**	PKPbc	**PKPbc**	**05 17 01.5**	**-0.6**
WRA	**Warramunga Arr**	**145.25**	**18**	PKPbc	**PKPbc**	**05 16 58.3**	**-3.8**
	comp=Z,1.3nm,1.1s,baz=350,slow=3.0,SNR=4.2						
WB2	**Warramunga Arr**	**145.25**	**18**	PKPbc	**PKPbc**	**05 17 01.0**	**-1.1**
ASAR	**Alice Springs**	**148.79**	**20**	PKPbc	**PKPdf**	**05 17 08.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=350,slow=2.6,SNR=6.4						
ASAR	**Alice Springs**	**148.79**	**20**		**PKPdf**	**05 17 08.6**	**+0.4**

IDC ***10*** *04:58:50.8±0.9, 37.˚15N×98.˚00W, h0km, mb3.6/1, mb1 3.8/7, mb1mx3.6/62, mbtmp3.5/7, ML3.7/5, Error ellipse: s-maj=12.0km s-min=10.9km az=131.0*

NEIC ***10*** *04:58:51.1±1.3, 37.˚01N±0.˚04×97.˚98W±0.˚05, h6km±6km, mb_Lg3.2/135, Error ellipse: s-maj=6.3km s-min=5.8km az=77.0*

ISC 10 04:58:51.0±1.0, 37.˚02N±0.˚03×97.˚96W±0.˚03, h7km±8km, n124, σ0.˚71/95, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.11**	**38**	Pg	**Pg**	**04 58 53.2**	**-0.3**
KAN10	**Anthony SW Sta**	**0.15**	**313**		**Pg**	**04 58 54.7**	**+0.6**
KAN10				Sg	**Sg**	**04 58 56.6**	**+0.4**
KAN08	**Anthony NE Sta**	**0.21**	**357**	Pg	**Pg**	**04 58 55.0**	**-0.1**
KAN12	**Harper NE Stat**	**0.28**	**353**		**Pg**	**04 58 56.2**	**-0.3**
KAN09	**Caldwell North**	**0.29**	**67**		**Pg**	**04 58 57.1**	**+0.3**
KAN13	**South Haven SW**	**0.38**	**91**		**Pg**	**04 58 58.6**	**+0.1**
CROK	**Carrier**	**0.51**	**182**		**Pg**	**04 59 01.3**	**+0.4**
U32A	**Winter Ranch,**	**1.05**	**233**		**Pg**	**04 59 11.3**	**0.0**
T35A	**Sooner Cattle**	**1.16**	**95**		**Pb**	**04 59 12.9**	**-0.5**
OK029	**Liberty Lake**	**1.29**	**161**		**Pn**	**04 59 14.7**	**-0.7**
QUOK	**Quay**	**1.31**	**130**		**Pn**	**04 59 14.6**	**-1.2**
BCOK	**Bluff Creek, N**	**1.39**	**168**		**Pn**	**04 59 16.6**	**-0.3**
ADOK	**Arcadia Dam**	**1.45**	**161**	Pn	**Pg**	**04 59 19.2**	**+0.5**
OK025	**Westminster Rd**	**1.52**	**161**		**Pb**	**04 59 19.1**	**-0.4**
R32A	**Long Quarter,**	**1.52**	**337**		**Pb**	**04 59 19.1**	**-0.5**
OKCFA	**Oklahoma City**	**1.65**	**166**		**Pn**	**04 59 21.1**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.67**	**165**		**Pn**	**04 59 21.2**	**+0.5**
FNO	**Franklin**	**1.82**	**165**		**Pn**	**04 59 23.3**	**+0.6**
W35A	**Tecumseh**	**2.06**	**154**	Pn	**Pn**	**04 59 26.5**	**+0.4**
TUL1	**Leonard**	**2.07**	**122**		**Pn**	**04 59 26.7**	**+0.5**
CBKS	**Cedar Bluff**	**2.28**	**322**		**Pn**	**04 59 30.1**	**+1.0**
KSU1	**Kansas State U**	**2.33**	**27**		**Pn**	**04 59 30.8**	**+0.9**
WMOK	**Wichita Mounta**	**2.37**	**197**		**Pn**	**04 59 31.1**	**+0.7**
U38A	**Gravette**	**2.93**	**100**		**Pn**	**04 59 38.6**	**+0.6**
U38A				IAmb_Lg		05 00 31.4	
	comp=Z,54nm,0.9s						
X37A	**Clayton**	**3.21**	**138**	Pn	**Pn**	**04 59 42.7**	**+0.9**
HHAR	**Hobbs**	**3.31**	**102**		**Pn**	**04 59 44.1**	**+0.8**
HHAR				IAmb_Lg		05 00 42.2	
	comp=Z,65nm,0.7s						
AMTX	**Amarillo**	**3.70**	**236**		**Pn**	**04 59 49.9**	**+1.3**
AMTX				IAmb_Lg		05 00 58.7	
	comp=Z,87nm,0.8s						
Z35A	**Perchaven, San**	**3.73**	**171**	Pn	**Pn**	**04 59 49.6**	**+0.6**
N33A	**J Bar K, Exete**	**3.73**	**6**	Pn	**Pn**	**04 59 50.0**	**+0.9**
S39A	**Bolivar**	**3.75**	**78**	Pn	**Pn**	**04 59 50.0**	**+0.7**
S39A				IAmb_Lg		05 00 50.3	
	comp=Z,43nm,0.8s						
W39A	**Magazine**	**3.84**	**117**		**Pn**	**04 59 50.6**	**+0.1**
U40A	**Yellville**	**4.16**	**98**	Pn	**Pn**	**04 59 55.3**	**+0.4**
U40A				IAmb_Lg		05 01 06.7	
	comp=Z,88nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.19**	**300**		**Pn**	**04 59 56.3**	**+0.8**
KSCO				IAmb_Lg		05 01 08.8	
	comp=Z,84nm,0.7s						
N35A	**Tabor**	**4.24**	**24**		**Pn**	**04 59 57.9**	**+1.8**
MIAR	**Mount Ida**	**4.33**	**123**	Pn	**Pn**	**04 59 57.6**	**+0.3**
MIAR				IAmb_Lg		05 01 20.5	
	comp=Z,68nm,0.9s						
P38A	**Dawn**	**4.34**	**52**	Pn	**Pn**	**04 59 58.1**	**+0.6**
BGNE	**Belgrade**	**4.38**	**358**	Pn	**Pn**	**04 59 58.8**	**+0.7**
BGNE				IAmb_Lg		05 01 16.9	
	comp=Z,78nm,0.8s						
Z38A	**Mt. Pleasant**	**4.47**	**146**		**Pn**	**04 59 59.0**	**-0.3**
Z38A				IAmb_Lg		05 01 24.4	
	comp=Z,73nm,0.7s						
MGMO	**Mountain Grove**	**4.55**	**87**		**Pn**	**04 59 59.4**	**-1.0**
MGMO				IAmb_Lg		05 01 14.5	
	comp=Z,39nm,0.8s						
ABTX	**Abilene, Hawle**	**4.60**	**198**	Pn	**Pn**	**05 00 00.7**	**-0.3**
R40A	**Maddies Statio**	**4.69**	**73**		**Pn**	**05 00 02.5**	**+0.2**
R40A				IAmb_Lg		05 01 20.4	
	comp=Z,37nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.84**	**102**		**Pn**	**05 00 04.6**	**+0.4**
X40A	**Basin Creek Fa**	**4.87**	**120**		**Pn**	**05 00 04.8**	**+0.1**
X40A				IAmb_Lg		05 01 34.0	
	comp=Z,72nm,0.8s						
WHAR	**Woody Hollow**	**4.90**	**109**		**Pn**	**05 00 05.5**	**+0.4**
MSTX	**Muleshoe**	**4.97**	**234**		**Pb**	**05 00 17.8**	**-0.6**
W41B	**Gary Mavity, V**	**4.98**	**110**		**Pn**	**05 00 07.3**	**+1.1**
WHTX	**Lake Whitney,**	**5.03**	**175**	Pn	**Pn**	**05 00 06.1**	**-0.8**
UALR	**University of**	**5.08**	**115**	Pn	**Pn**	**05 00 07.9**	**+0.4**
UALR				IAmb_Lg		05 01 35.8	
	comp=Z,65nm,0.9s						
L34A	**Svendsen Farm,**	**5.09**	**13**	Pn	**Pn**	**05 00 07.8**	**+0.1**
T25A	**Trinidad**	**5.16**	**273**		**Pn**	**05 00 08.5**	**-0.4**
T25A				IAmb_Lg		05 01 45.9	
	comp=Z,51nm,0.7s						
WLAR	**White Oak Lake**	**5.17**	**129**	Pn	**Pn**	**05 00 09.4**	**+0.6**
WLAR				IAmb_Lg		05 01 46.7	
	comp=Z,48nm,0.8s						
N38A	**Joes South For**	**5.27**	**43**	Pn	**Pn**	**05 00 11.0**	**+0.8**
N38A				IAmb_Lg		05 01 48.1	
	comp=Z,42nm,0.8s						
P40A	**Paris**	**5.28**	**60**	Pn	**Pn**	**05 00 10.6**	**+0.3**
P40A				IAmb_Lg		05 01 37.3	
	comp=Z,33nm,0.7s						
237A	**Washetta, Mont**	**5.31**	**160**		**Pn**	**05 00 09.9**	**-0.8**
237A				IAmb_Lg		05 01 44.7	
	comp=Z,36nm,0.9s						
CCM	**Cathedral Cave**	**5.43**	**77**	Pn	**Pn**	**05 00 12.2**	**-0.3**
CCM				IAmb_Lg		05 01 50.3	
	comp=Z,53nm,1.1s						
T42A	**Van Buren**	**5.49**	**88**	Pn	**Pn**	**05 00 13.7**	**+0.5**
T42A				IAmb_Lg		05 01 56.7	
	comp=Z,27nm,1.0s						
LCAR	**Lake Charles**	**5.56**	**98**	Pn	**Pn**	**05 00 15.3**	**+1.2**
LCAR					**Sb**	**05 01 35.0**	**-0.3**
LCAR				IAmb_Lg		05 01 47.9	
	comp=Z,33nm,0.7s						
K31A	**O'Neill**	**5.63**	**354**	Pn	**Pn**	**05 00 14.9**	**-0.2**
Z41A	**Richland Creek**	**5.65**	**130**	Pn	**Pn**	**05 00 14.9**	**-0.5**
Z41A				IAmb_Lg		05 01 58.9	
	comp=Z,34nm,0.7s						
Q24A	**Divide**	**6.00**	**291**	IAmb_Lg		05 02 14.7	
	comp=Z,33nm,0.7s						
PBMO	**Poplar Bluff**	**6.04**	**90**	IAmb_Lg		05 02 13.1	
	comp=Z,39nm,0.8s						
SDCO	**Great Sand Dun**	**6.05**	**279**	Pn	**Pn**	**05 00 20.2**	**-1.0**
FVM	**French Village**	**6.07**	**79**	Pn	**Pn**	**05 00 20.6**	**-0.6**
FVM					**Sn**	**05 01 30.7**	**-0.1**
FVM				IAmb_Lg		05 02 00.3	
	comp=Z,36nm,0.8s						

SCIA	**State Center**	**6.11**	**35**	IAmb_Lg		05 02 07.2	
	comp=Z,50nm,0.8s						
435B	**Jarrell**	**6.23**	**177**	IAmb_Lg		05 02 18.9	
	comp=Z,42nm,0.7s						
X43A	**Marvell**	**6.27**	**111**	Pn	**Pn**	**05 00 23.0**	**-0.9**
X43A				IAmb_Lg		05 02 27.9	
	comp=Z,56nm,1.0s						
ISCO	**Idaho Springs**	**6.62**	**297**		**Pn**	**05 00 29.4**	**+0.4**
ISCO				IAmb_Lg		05 02 24.1	
	comp=Z,30nm,0.9s						
N41A	**Harden Midland**	**6.65**	**54**	IAmb_Lg		05 02 23.0	
	comp=Z,40nm,0.8s						
JCT	**Junction City**	**6.70**	**194**	Pn	**Pn**	**05 00 29.8**	**-0.1**
JCT				IAmb_Lg		05 02 26.1	
	comp=Z,33nm,0.9s						
ECSD	**EROS Data Cent**	**6.78**	**8**		**Pn**	**05 00 30.8**	**-0.2**
K38A	**Parkersburg**	**6.89**	**34**	IAmb_Lg		05 02 30.8	
	comp=Z,43nm,0.9s						
143A	**Socs Landing,**	**6.90**	**127**	IAmb_Lg		05 02 43.1	
	comp=Z,34nm,0.9s						
S44A	**Carbondale**	**6.96**	**82**	Pn	**Pn**	**05 00 33.7**	**+0.2**
S44A					**Sn**	**05 01 54.7**	**+1.8**
S44A				IAmb_Lg		05 02 32.7	
	comp=Z,41nm,0.8s						
ANMO	**Albuquerque**	**7.20**	**256**	Lg	Lg	05 02 34.7	
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=4.2						
ANMO	**Albuquerque**	**7.20**	**256**	IAmb_Lg		05 02 53.6	
	comp=Z,12nm,0.9s						
PHWY	**Pilot Hill**	**7.23**	**309**	Pn	**Pn**	**05 00 38.0**	**+0.6**
PHWY				IAmb_Lg		05 02 42.7	
	comp=Z,30nm,1.0s						
L40A	**Anamosa**	**7.24**	**44**	Pn	**Pn**	**05 00 37.3**	**+0.1**
L40A				IAmb_Lg		05 02 48.8	
	comp=Z,36nm,0.8s						
342A	**Flagon Creek P**	**7.31**	**139**	IAmb_Lg		05 02 41.6	
	comp=Z,24nm,1.1s						
N23A	**Red Feather La**	**7.33**	**304**	Pn	**Pn**	**05 00 39.6**	**+0.9**
T45A	**Paducah**	**7.45**	**87**	IAmb_Lg		05 02 55.2	
	comp=Z,42nm,0.8s						
SUSD	**Miller**	**7.45**	**354**	IAmb_Lg		05 02 51.6	
	comp=Z,27nm,0.9s						
Y45A	**Yeager Farm, C**	**7.55**	**112**	IAmb_Lg		05 02 59.6	
	comp=Z,28nm,0.8s						
BNM	**Barren Site**	**7.62**	**250**	Pn	**Pn**	**05 00 43.2**	**+0.5**
HDIL	**Hopedale**	**7.63**	**60**	Pn	**Pn**	**05 00 42.6**	**0.0**
HDIL					**Sn**	**05 02 09.3**	**0.0**
O44A	**Mansfield**	**8.06**	**64**	IAmb_Lg		05 03 08.1	
	comp=Z,33nm,0.7s						
L42A	**Oliver, Polo**	**8.11**	**50**	IAmb_Lg		05 03 22.3	
	comp=Z,30nm,1.0s						
MNTX	**Cornudas Mount**	**8.11**	**231**	Pn	**Pn**	**05 00 49.4**	**+0.2**
WVT	**Waverly**	**8.20**	**93**	IAmb_Lg		05 03 14.2	
	comp=Z,12nm,0.8s						
USIN	**University of**	**8.24**	**80**	IAmb_Lg		05 03 18.0	
	comp=Z,33nm,1.0s						
JFWS	**Jewell Farm**	**8.35**	**43**	Pn	**Pn**	**05 00 51.7**	**-0.7**
JFWS				IAmb_Lg		05 03 17.3	
	comp=Z,20nm,0.7s						
RSSD	**Black Hills**	**8.47**	**329**	Pn	**Pn**	**05 00 54.3**	**+0.1**
RSSD				IAmb_Lg		05 03 31.5	
	comp=Z,17nm,0.8s						
RWWY	**Rawlins**	**8.55**	**306**	IAmb_Lg		05 03 34.7	
	comp=Z,22nm,0.7s						
O20A	**White River Ci**	**8.63**	**294**	Pn	**Pn**	**05 00 56.2**	**-0.3**
K22A	**Casper**	**8.66**	**313**	Pn	**Pn**	**05 00 56.7**	**-0.2**
K22A				IAmb_Lg		05 03 39.5	
	comp=Z,23nm,0.8s						
T47A	**Sharon Grove**	**8.68**	**87**	IAmb_Lg		05 03 31.6	
	comp=Z,22nm,1.0s						
PV13	**Radium Mtn., P**	**8.70**	**281**	Pn	**Pn**	**05 00 57.6**	**+0.1**
PV22	**Blue Mesa, Par**	**8.71**	**283**	Pn	**Pn**	**05 00 58.3**	**+0.7**
PV11	**David Mesa, Pa**	**8.75**	**282**	IAmb_Lg		05 03 45.6	
	comp=Z,17nm,1.1s						
PV20	**West Nyswonger**	**8.83**	**282**	Pn	**Pn**	**05 00 59.4**	**+0.2**
I40A	**Norwalk**	**8.85**	**37**	IAmb_Lg		05 03 30.8	
	comp=Z,28nm,1.2s						
F33A	**5 Mile Ranch,**	**8.90**	**8**	IAmb_Lg		05 03 30.5	
	comp=Z,16nm,0.9s						
Z47A	**Carrollton**	**8.95**	**112**	IAmb_Lg		05 03 43.0	
	comp=Z,14nm,1.1s						
TX31	**Lajitas Ar. Si**	**9.03**	**214**	Pn	**Pn**	**05 01 01.8**	**-0.2**
TXAR	**Lajitas Array**	**9.03**	**214**	Pn	**Pn**	**05 01 01.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=30,slow=11,SNR=22						
TXAR				Sn	**Sn**	**05 02 42.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=52,slow=18,SNR=1.5						
TXAR				Lg	Lg	05 03 33.0	
	comp=Z,0.5nm,0.3s,baz=34,slow=23,SNR=2.6						
SPMN	**Marine on St.**	**9.07**	**24**	IAmb_Lg		05 03 40.0	
	comp=Z,14nm,0.8s						
V48A	**Smith Brothers**	**9.07**	**95**	IAmb_Lg		05 03 38.4	
	comp=Z,19nm,0.9s						
SFIN	**Lafyette**	**9.13**	**65**	IAmb_Lg		05 03 38.6	
	comp=Z,26nm,0.8s						
BLO	**Bloomington**	**9.27**	**73**	IAmb_Lg		05 03 55.3	
	comp=Z,27nm,0.7s						
K43A	**Burlington**	**9.32**	**50**	IAmb_Lg		05 03 49.1	
	comp=Z,32nm,1.0s						
WCI	**Wyandotte Cave**	**9.33**	**79**	Pn	**Pn**	**05 01 06.4**	**+0.5**
WCI				IAmb_Lg		05 03 44.1	
	comp=Z,18nm,0.8s						
CLTN	**Cedars of Leba**	**9.40**	**92**	IAmb_Lg		05 03 50.1	
	comp=Z,16nm,1.0s						
RDMU	**Red Mountain**	**9.73**	**295**	IAmb_Lg		05 04 11.2	
	comp=Z,14nm,1.2s						
E28A	**Huff**	**9.76**	**349**	IAmb_Lg		05 04 19.3	
	comp=Z,18nm,0.7s						
U49A	**Red Boiling Sp**	**9.79**	**89**	IAmb_Lg		05 03 58.0	
	comp=Z,13nm,0.9s						
SWET	**Sewanee**	**9.89**	**97**	IAmb_Lg		05 04 07.9	
	comp=Z,14nm,1.0s						
Y49A	**Blunt Mountai**	**9.93**	**105**	IAmb_Lg		05 04 06.8	
	comp=Z,13nm,0.7s						
BW06	**Boulder Array**	**10.60**	**306**	Pn	**Pn**	**05 01 24.2**	**+0.7**
PD31	**Pinedale Array**	**10.60**	**306**	Pn	**Pn**	**05 01 24.2**	**+0.7**
PDAR	**Pinedale Array**	**10.60**	**306**	Pn	**Pn**	**05 01 22.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=117,slow=14,SNR=8.3						
PDAR				Lg	Lg	05 04 18.6	
	comp=Z,0.4nm,0.3s,baz=110,slow=34,SNR=2.4						
TKL	**Tuckaleechee C**	**11.52**	**93**	Pn	**Pn**	**05 01 35.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=232,slow=9.1,SNR=7.6						
TKL				Lg	Lg	05 04 48.1	
	comp=Z,0.6nm,0.3s,baz=5.2,slow=14,SNR=6.1						
ULM	**Lac du Bonnet**	**13.31**	**6**	Pn	Pn	05 01 54.7	-5.6
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=2.7						
ULM				Sn	Sn	05 04 11.8	-17
	comp=Z,0.1nm,0.3s,baz=158,slow=18,SNR=1.6						
ULM				Lg	Lg	05 05 32.0	
	comp=Z,0.2nm,0.3s,baz=98,slow=21,SNR=1.7						
NVAR	**Mina Array Bea**	**16.16**	**281**	Pn	**P**	**05 02 40.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=100,slow=10,SNR=1.7						
YBH	**Yreka Blue Hor**	**19.68**	**291**	Pn	**Pn**	**05 03 23.8**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=90,slow=6.1,SNR=4.6						
ILAR	**Eielson Array**	**39.91**	**330**	P	**P**	**05 06 26.3**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=102,slow=7.8,SNR=6.5						

NEIC ***10*** *04:59:50.4±2.6, 42.˚49N±0.˚04×142.˚05E±0.˚09, h120km±6km, mb4.0/3, Error ellipse: s-maj=10.0km s-min=5.7km az=104.0*

SKHL ***10*** *04:59:50.8±0.1, 42.˚05N×142.˚63E, h44km±2km, mb4.8/1*

JMA ***10*** *04:59:51.2±0.2, 42.˚67N×142.˚39E, h127km±2km, M3.5*

IDC ***10*** *04:59:51.5±2.1, 42.˚65N×142.˚46E, h128km±13km, mb3.5/8, mb1 3.5/9, mb1mx3.2/64, mbtmp3.8/9, MS4.0/2, Ms1 4.0/2, ms1mx3.0/50, Error ellipse: s-maj=27.4km s-min=23.6km az=131.0*

ISC 10 04:59:50.9±0.8, 42.˚57N±0.˚04×142.˚34E±0.˚04, h127km±5km, n50, σ1.˚19/60, mb4.0/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.18**	**149**	P	**Pn**	**05 00 09.0**	**+0.7**
JBT2	**Biratori 2**	**0.21**	**5**	P	**Pn**	**05 00 08.6**	**+0.2**
JBT2				*e*S	**Sn**	**05 00 21.8**	**+0.1**
JIAM	**Iburiatsuma**	**0.32**	**280**	P	**Pn**	**05 00 10.0**	**+1.3**
JIAM				*e*S	**Sn**	**05 00 23.6**	**+1.5**
JNBK	**Urakawa-nobuka**	**0.42**	**133**	P	**Pn**	**05 00 10.1**	**+0.9**
JFR	**Furan**	**0.62**	**17**	P	**Pn**	**05 00 10.0**	**-0.4**
JFR				*e*S	**Sn**	**05 00 23.8**	**-1.5**
JEW	**Eniwo**	**0.71**	**293**	P	**Pn**	**05 00 10.8**	**-0.2**
JEW				*e*S	**Sn**	**05 00 25.0**	**-1.3**
JEW	**Eniwo**	**0.71**	**293**		**Pn**	**05 00 10.1**	**-0.9**
JCH	**Churui**	**0.76**	**86**	P	**Pn**	**05 00 11.3**	**-0.1**
JCH				*e*S	**Sn**	**05 00 26.1**	**-0.8**
ERM	**Erimo**	**0.82**	**132**		**Pn**	**05 00 12.4**	**+0.5**
JEM	**Erimo**	**0.82**	**132**	P	**Pn**	**05 00 12.7**	**+0.8**

JAB	**Ashibetsu**	**0.94**	**355**	P	**Pn**	**05 00 13.0**	**0.0**
JAB				*e*S	**Sn**	**05 00 28.7**	**-1.0**
JISS	**Ishikarishitsu**	**0.98**	**317**	P	**Pn**	**05 00 13.1**	**-0.2**
JISS				*e*S	**Sn**	**05 00 29.6**	**-0.7**
JKB	**Kayabe**	**1.19**	**235**	P	**Pn**	**05 00 15.1**	**-0.2**
JKB				*e*S	**Sn**	**05 00 32.4**	**-1.5**
JHR	**Hokuryu**	**1.26**	**339**	P	**Pn**	**05 00 16.1**	**0.0**
JHR				*e*S	**Sn**	**05 00 35.2**	**-0.1**
JAR	**Ashorobuto**	**1.28**	**55**	P	**Pn**	**05 00 16.0**	**-0.3**
JAR				*e*S	**Sn**	**05 00 34.2**	**-1.5**
JKK2	**Kamakawa 2**	**1.34**	**13**	P	**Pn**	**05 00 17.0**	**0.0**
JKK2				*e*S	**Sn**	**05 00 35.8**	**-1.1**
JOT	**Ohata**	**1.53**	**220**	P	**Pn**	**05 00 19.2**	**+0.1**
JOT				*e*S	**Sn**	**05 00 39.2**	**-1.3**
JKA	**Kamikawa-asahi**	**1.56**	**7**		**Pn**	**05 00 19.1**	**-0.3**
JKA	**Kamikawa-asahi**	**1.56**	**7**		**Sn**	**05 00 40.1**	**-1.2**
ASAJ	**Asahikawa**	**1.56**	**7**	P	**Pn**	**05 00 19.6**	**+0.1**
	11nm,0.3s,baz=211,slow=15,SNR=16						
ASAJ				S	**Sn**	**05 00 40.1**	**-1.2**
	13nm,0.3s,baz=270,slow=20,SNR=16						
JSK	**Shakotan**	**1.58**	**300**	P	**Pn**	**05 00 19.6**	**0.0**
JAK	**Akkeshi**	**1.79**	**75**	P	**Pn**	**05 00 21.9**	**-0.2**
JAK				*e*S	**Sn**	**05 00 44.2**	**-1.7**
JTKR	**Abashiri--Toko**	**1.81**	**39**	P	**Pn**	**05 00 22.6**	**+0.2**
JTKR				*e*S	**Sn**	**05 00 46.0**	**-0.5**
JYG	**Yagishiri**	**1.98**	**341**	*e*S	**Sn**	**05 00 49.6**	**-0.4**
JTM	**Tenmabayashi**	**2.02**	**209**	Pn	**Pn**	**05 00 23.5**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.61**	**71**	*i* P	**Pn**	**05 00 31.0**	**-1.4**
NMR				*i* S	**Sn**	**05 01 01.0**	**-3.3**
GRPR	**Tuman**	**2.88**	**59**	*e*P	**Pn**	**05 00 36.0**	**+0.1**
GRPR				*e*S	**Sn**	**05 01 10.0**	**-0.5**
GRPR				A	A	05 01 12.0	
	428nm,0.4s						
GRPR				A	A	05 01 12.0	
	174nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.96**	**59**	*i* P	**Pn**	**05 00 37.8**	**+1.0**
YUK				AMB	AMB	05 00 40.0	
	126nm,0.4s						
YUK				*i* S	**Sn**	**05 01 13.0**	**+0.7**
YUK				A	A	05 01 16.0	
	302nm,0.4s						
YUK				A	A	05 01 16.0	
	364nm,0.4s						
JMM	**Marumori**	**4.84**	**195**	Pn	Pn	05 00 57.9	-3.9
USRK	**Ussuriysk Ar.**	**7.72**	**286**	P	**Pn**	**05 01 43.0**	**+2.6**
	baz=95,slow=16,SNR=5.0						
USRK	**Ussuriysk Ar.**	**7.72**	**286**		**Pn**	**05 01 36.8**	**-3.6**
H11N2	**WAKE ISLAND Hy**	**30.78**	**130**	T	T	05 37 43.0	
	baz=327,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**30.79**	**130**	T	T	05 37 43.8	
	baz=327,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**30.80**	**130**	T	T	05 37 44.5	
	baz=327,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**31.65**	**132**	T	T	05 38 50.1	
	baz=323,slow=73						
H11S3	**WAKE ISLAND Hy**	**31.66**	**132**	T	T	05 38 52.4	
	baz=323,slow=73						
H11S2	**WAKE ISLAND Hy**	**31.67**	**132**	T	T	05 38 58.9	
	baz=323,slow=73						
ZAA0	**Zalesovo Array**	**38.91**	**307**	P	**P**	**05 07 02.6**	**-1.3**
ZAA0				IAmb	IAmb	05 07 06.0	
	comp=Z,2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**38.91**	**307**	P	**P**	**05 07 05.0**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=79,slow=7.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**38.91**	**307**	P	**P**	**05 07 03.5**	**-0.4**
MK31	**Makanchi Array**	**42.00**	**297**	P	**P**	**05 07 29.4**	**0.0**
MK31				IAmb	IAmb	05 09 03.3	
	comp=Z,5.6nm,1.6s						
MKAR	**Makanchi Array**	**42.00**	**297**	P	**P**	**05 07 29.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=82,slow=9.4,SNR=4.9						
MKAR	

3.3nm,0.6s,baz=167,slow=8.0,SNR=26
MAKZ Makanchi 42.70 347 P P 05 13 40.2 -0.2
MAKZ IAmb IAmb 05 13 40.5
comp=Z,3.4nm,0.6s
SONM Songino Array 43.57 12 P P 05 13 46.8 -0.8
comp=Z,1.1nm,0.7s,baz=188,slow=8.7,SNR=4.1
SONM Songino Array 43.57 12 IAmb IAmb 05 13 47.7
comp=Z,1.4nm,1.0s
H01W3 Cape Leeuwin H 44.10 157 T T 06 01 23.7
baz=330
H01W2 Cape Leeuwin H 44.11 157 T T 06 01 29.1
H01W1 Cape Leeuwin H 44.11 157 T T 06 01 21.8
baz=330
WB0 Warramunga Arr 46.54 124 P P 05 14 11.7 +0.2
WB0 IAmb IAmb 05 14 39.7
comp=Z,5.0nm,1.4s
WRA Warramunga Arr 46.58 124 P P 05 14 12.4 +0.6
comp=Z,0.7nm,0.5s,baz=306,slow=8.8,SNR=15
WB2 Warramunga Arr 46.59 124 P P 05 14 11.9 0.0
WB2 IAmb IAmb 05 14 34.4
comp=Z,5.8nm,1.2s
KURBB Kurchatov Array 47.07 346 P P 05 14 15.0 -0.1
baz=171,slow=6.8
KURK Kurchatov 47.13 346 P P 05 14 15.5 0.0
KURK IAmb IAmb 05 14 29.4
comp=Z,4.6nm,1.3s
ASAR Alice Springs 48.09 128 P P 05 14 24.2 +0.7
comp=Z,0.5nm,0.5s,baz=304,slow=8.0,SNR=5.7
ZAA0 Zalesovo Array 49.10 352 P P 05 14 30.3 -0.4
ZALV Zalesovo Beam 49.10 352 P P 05 14 30.3 -0.4
comp=Z,2.3nm,0.5s,baz=186,slow=7.4,SNR=11
ZALV Zalesovo Beam 49.10 352 P P 05 14 30.1 -0.7
AB31 Akbulak array 52.60 332 P P 05 14 56.8 -0.3
ABKAR Akbulak array 52.60 332 P P 05 14 56.3 -0.9
GERES GERESS Array B 79.91 319 P P 05 17 52.1 -0.1
comp=Z,0.2nm,0.2s,baz=99,slow=6.3,SNR=4.5

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*IDC **10** 05:10:14.8±0.5,53˚.45N×35˚.29W,h0km,mb4.1/33, mb1 4.2/36,mb1mx4.1/72,mbtmp4.1/36,ML3.8/3,MS4.5/24, Ms1 4.5/24,ms1mx4.3/42,Error ellipse: s-maj=14.7km s-min=10.4km az=173.0*

*NEIC **10** 05:10:16.2±1.1,53˚.20N±0˚.08×35˚.4W±0˚.1,h10km±1km, mb4.6/174,Error ellipse: s-maj=14.6km s-min=12.8km az=213.0*

*GCMT **10** 05:10:16.2±0.2,53˚.77N±0˚.02×35˚.22W±0˚.02,h12km, MW5.1/115,Moment Tensor Solution. s36,c45; s115,c187; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.02±.11; $M_{\theta\theta}$0.06±.11; $M_{\phi\phi}$3.96±.08; $M_{r\theta}$3.13±.43; $M_{\theta\phi}$0.21±.09; $M_{\phi r}$-0.65±.32; Best double couple: M_o4.88800×10^{16} NP1:ϕ_s206.00000°,δ47.00000°, λ-50.00000°. NP2:ϕ_s335.00000°,δ56.00000°, λ-125.00000°. Principal axes: T 4.0130, Plg5.0000°, Azm89.0000°; N 1.7470, Plg28.0000°, Azm356.0000°; P -5.7630, Plg61.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 05:10:17.1±0.4,**53˚.32N**±0˚.06×**35˚.38W**±0˚.05,**h16**km,**n270,** σ1**9**09/259,**mb4.5**/121,**MS4.5**/20,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**9.55**	**329**	Pn	**Pn**	**05 12 34.8**	**+1.1**
NRS				Sn	**Sn**	**05 14 23.4**	**+2.8**
ANGG	**Ammassalik, Gr**	**12.39**	**356**	**Pn**	**Pn**	**05 13 14.3**	**+1.8**
BORG	**Borgarnes**	**13.51**	**26**	LR	LR	05 16 53.1	
comp=Z,901nm,21.8s,baz=236,slow=30							
H07N1	**FLORES T-PHASE**	**13.94**	**166**	T	T	05 28 03.7	
SNR=8.2							
H07S1	**FLORES T-PHASE**	**14.23**	**167**	T	T	05 28 11.7	
SNR=20							
DRLN	**Deer Lake**	**14.41**	**263**	Pn	**Pn**	**05 13 38.7**	**-1.6**
SFJD	**Kangerlussuaq**	**15.60**	**337**	Pn	**Pn**	**05 13 53.6**	**-2.4**
0.4nm,0.3s,baz=166,slow=12,SNR=2.5							
SFJD				LR	LR	05 18 42.3	
comp=Z,2μm,20.6s,baz=148,slow=33							
SFJD	**Kangerlussuaq**	**15.60**	**337**	Pn	**P**	**05 13 57.9**	**-2.3**
SFJD				IAmb	IAmb	05 14 00.1	
comp=Z,23nm,0.8s							
CMLA	**Cha da Macela**	**16.99**	**152**	P	**Pn**	**05 14 14.0**	**0.0**
DSB	**Dublin**	**17.30**	**79**	P	**P**	**05 14 18.6**	**-0.4**
SCHQ	**Schefferville**	**18.44**	**287**	P	**P**	**05 14 30.6**	**-1.1**
SCHQ				LR	LR	05 20 38.7	
comp=Z,1.3nm,0.3s,baz=63,slow=13,SNR=3.2							
SCHQ	**Schefferville**	**18.44**	**287**	P	**P**	**05 14 30.9**	**-0.7**
SCHQ				IAmb	IAmb	05 14 52.1	
comp=Z,57nm,1.5s							
EKA	**Eskdalemuir Ar**	**18.81**	**71**	P	**Pn**	**05 14 35.0**	**-1.3**
baz=283,slow=13,SNR=4.7							
EKA				LR	LR	05 20 35.1	
comp=Z,1μm,18.0s,baz=270,slow=33							
SUMG	**Summit**	**19.38**	**357**	P	**Pn**	**05 14 43.8**	**+0.5**
SUMG				IAmb	IAmb	05 14 50.5	
comp=Z,36nm,1.4s							
SUMG	**Summit**	**19.38**	**357**	*i* P	**Pn**	**05 14 43.8**	**+0.5**
comp=Z,78nm,1.3s							
SUMG	**Summit**	**19.38**	**357**	*i* P	**Pn**	**05 14 43.8**	**+0.5**
SUMG				IAmb	IAmb	05 14 50.9	
comp=Z,78nm,1.3s							
FRB	**Frobisher Bay**	**19.96**	**315**	LR	LR	05 20 55.4	
comp=Z,2μm,18.4s,baz=107,slow=32							
LMN	**Caledonia Moun**	**20.38**	**260**	P	**P**	**05 14 52.4**	**-0.5**
LMN				IAmb	IAmb	05 14 56.8	
comp=Z,38nm,1.2s							
BATG	**Bathurst New B**	**20.40**	**265**	P	**P**	**05 14 51.9**	**-1.2**
BATG				IAmb	IAmb	05 14 57.5	
comp=Z,24nm,0.9s							
PGAV	**Gavieira, Arco**	**21.37**	**111**	*e*LR	LR	05 20 25.2	
comp=Z,2μm,20.0s							
JMIC	**Jan Mayen**	**21.37**	**24**	LR	LR	05 21 06.4	
comp=Z,1μm,19.8s,baz=244,slow=31							
GGN	**Saint George**	**21.98**	**261**	P	**P**	**05 15 09.8**	**-0.3**
GGN				IAmb	IAmb	05 15 13.5	
comp=Z,31nm,1.1s							
E63A	**Oxbow**	**22.24**	**265**	P	**P**	**05 15 13.5**	**+0.7**
D62A	**Allapoint, All**	**22.29**	**267**	P	**P**	**05 15 14.1**	**+0.7**
D62A				IAmb	IAmb	05 15 29.8	
comp=Z,28nm,1.1s							
PBRG	**Braganca**	**22.34**	**109**	*e*P	**P**	**05 15 16.3**	**+2.3**
comp=Z,40nm,1.6s							
G65A	**Princeton**	**22.36**	**262**	P	**P**	**05 15 14.2**	**0.0**
F64A	**Sherman**	**22.48**	**264**	P	**P**	**05 15 14.9**	**-0.5**
F64A				IAmb	IAmb	05 15 20.6	
comp=Z,24nm,1.0s							
PCAS	**Casmilo, Conde**	**22.55**	**115**	*e*P	**P**	**05 15 21.1**	**+4.8**
comp=Z,68nm,1.8s							
MVO	**Moncorvo**	**22.60**	**111**	*e*P	**P**	**05 15 19.3**	**+2.4**
comp=Z,38nm,1.5s							
MVO				*e*LR	LR	05 20 56.3	
comp=Z,2μm,20.0s							
E62A	**Clayton Lake**	**22.80**	**267**	P	**P**	**05 15 18.3**	**-0.5**
E62A				IAmb	IAmb	05 15 35.7	
comp=Z,37nm,1.3s							
MTE	**Manteigas**	**22.83**	**113**	*e*P	**P**	**05 15 22.7**	**+3.4**
comp=Z,34nm,1.6s							
MTE				*e*LR	LR	05 21 03.2	
comp=Z,1μm,18.0s							
F63A	**Nahmakanta, Br**	**23.01**	**264**	P	**P**	**05 15 21.1**	**0.0**
F63A				IAmb	IAmb	05 15 31.6	
comp=Z,32nm,1.1s							
PCBR	**Castelo Branco**	**23.26**	**114**	*e*P	**P**	**05 15 26.0**	**+2.4**
comp=Z,46nm,1.7s							
PKME	**Peaks-Kenny Pk**	**23.36**	**264**	P	**P**	**05 15 24.2**	**-0.3**
PKME				IAmb	IAmb	05 15 38.2	
comp=Z,22nm,1.1s							
F62A	**Pittston Farm,**	**23.43**	**266**	P	**P**	**05 15 25.0**	**-0.3**
PMRV	**Marv??o**	**23.60**	**115**	*e*P	**P**	**05 15 33.2**	**+6.2**
comp=Z,23nm,2.2s							
PMRV				*e*LR	LR	05 21 29.5	
comp=Z,2μm,20.0s							
PNCL	**Nicolau / Gran**	**23.94**	**119**	*e*P	**P**	**05 15 30.9**	**+0.6**
comp=Z,40nm,1.9s							
G62A	**West of Eustis**	**24.12**	**265**	P	**P**	**05 15 33.6**	**+1.6**
G62A				IAmb	IAmb	05 15 47.0	
comp=Z,13nm,0.9s							
PBEJ	**Beja**	**24.36**	**118**	*e*P	**P**	**05 15 37.4**	**+3.2**
comp=Z,29nm,1.9s							
PCVE	**Castro Verde**	**24.56**	**119**	*e*P	**P**	**05 15 40.1**	**+4.1**
comp=Z,30nm,1.5s							
PVAQ	**Vaqueiros**	**24.90**	**119**	*e*P	**P**	**05 15 42.0**	**+3.0**
comp=Z,29nm,1.6s							
PVAQ				*e*LR	LR	05 22 04.4	
comp=Z,756nm,18.0s							
ESBB	**Sonseca Array**	**25.33**	**110**	P	**P**	**05 15 44.1**	**+1.1**
ESBB				IAmb	IAmb	05 15 53.4	
comp=Z,14nm,1.1s							
ESDC	**Sonseca Array**	**25.33**	**110**	P	**P**	**05 15 43.0**	**0.0**
comp=Z,5.7nm,1.0s,baz=316,slow=9.0,SNR=20							
ESDC				LR	LR	05 23 42.4	
comp=Z,1μm,18.8s,baz=300,slow=32							
ESDC	**Sonseca Array**	**25.33**	**110**	P	**P**	**05 15 43.8**	**+0.8**
NOA	**NORSAR Array B**	**25.90**	**54**	P	**P**	**05 15 46.8**	**-1.2**
comp=Z,1.4nm,0.8s,baz=275,slow=9.9,SNR=4.0							
NOA				LR	LR	05 24 55.8	
comp=Z,627nm,20.0s,baz=265,slow=34							
HFS	**Hagfors**	**27.21**	**56**	P	**P**	**05 15 58.0**	**-1.8**
comp=Z,0.9nm,0.5s,baz=297,slow=9.5,SNR=1.3							
HFS				LR	LR	05 25 16.8	
comp=Z,948nm,19.4s,baz=286,slow=33							
CLL	**Collm**	**29.20**	**74**	*e*P	**P**	**05 16 17.0**	**-0.6**
comp=Z,5.0nm,0.9s							
CLL				*e*		05 16 19.0	
CLL	**Collm**	**29.20**	**74**	*e*P	**P**	**05 16 19.0**	**+1.4**
DAVOX	**Davos/Dischmat**	**29.38**	**84**	P	**P**	**05 16 20.6**	**+1.2**
comp=Z,1.1nm,0.4s,baz=325,slow=16,SNR=1.9							
DAVOX				LR	LR	05 27 43.1	
comp=Z,838nm,19.4s,baz=268,slow=36							
SADO	**Sadowa**	**29.52**	**271**	LR	LR	05 27 20.7	
comp=Z,2μm,18.8s,baz=72,slow=35							
FUORN	**Ofenpass-Fuorn**	**29.69**	**84**	P	**P**	**05 16 21.2**	**-1.1**
MDT	**Midelt**	**30.05**	**121**	P	**P**	**05 16 24.6**	**-0.7**
comp=Z,0.5nm,0.6s,baz=352,slow=7.1,SNR=1.6							
KHC	**Kasperske Hory**	**30.46**	**78**	*e*P	**P**	**05 16 28.8**	**0.0**
GERES	**GERESS Array B**	**30.66**	**78**	P	**P**	**05 16 30.1**	**-0.5**
comp=Z,0.3nm,0.2s,baz=282,slow=6.5,SNR=6.6							
GERES				LR	LR	05 28 12.6	
comp=Z,765nm,19.1s,baz=290,slow=35							
GERES	**GERESS Array B**	**30.66**	**78**	P	**P**	**05 16 29.9**	**-0.7**
CTI	**Castel Tesino**	**30.81**	**84**	P	**P**	**05 16 31.8**	**-0.2**
CIMO	**Cimolais**	**31.14**	**83**	P	**P**	**05 16 35.0**	**+0.2**
CIMO				IAmb	IAmb	05 16 42.7	
comp=Z,6.4nm,1.1s							
ARCES	**ARCESS Array B**	**31.62**	**36**	P	**P**	**05 16 37.9**	**-0.8**
comp=Z,2.4nm,0.9s,baz=276,slow=8.1,SNR=1.7							
KRLC	**Kraliky**	**31.90**	**74**	*e*P	**P**	**05 16 42.8**	**+1.3**
MORC	**Moravsky Berou**	**32.48**	**74**	P	**P**	**05 16 47.3**	**+0.8**
FINES	**FINESS Array B**	**32.93**	**51**	P	**P**	**05 16 48.7**	**-1.6**
comp=Z,1.9nm,0.8s,baz=302,slow=14,SNR=2.6							
FINES				LR	LR	05 28 25.9	
comp=Z,968nm,21.8s,baz=302,slow=33							
FINES	**FINESS Array B**	**32.93**	**51**	P	**P**	**05 16 50.6**	**+0.3**
O53A	**New Philadelph**	**33.40**	**266**	P	**P**	**05 16 54.1**	**-0.6**
VYHS	**Vyhne**	**33.83**	**76**	*e*P	**P**	**05 16 59.3**	**+1.0**
LANS	**Liptovska Anna**	**33.88**	**74**	*e*P	**P**	**05 16 59.9**	**+1.1**
P52A	**Corning**	**34.34**	**266**	P	**P**	**05 17 01.7**	**-1.0**
ACSO	**Alum Creek Sta**	**34.47**	**267**	P	**P**	**05 17 04.1**	**+0.1**
ACSO				IAmb	IAmb	05 17 06.3	
comp=Z,9.8nm,0.8s							
VWCC	**Virginia Weste**	**34.61**	**261**	P	**P**	**05 17 04.7**	**-0.5**
PSZ	**Piszkesteto**	**34.73**	**76**	P	**P**	**05 17 07.6**	**+1.4**
PSZ				IAmb	IAmb	05 17 17.2	
comp=Z,11nm,1.2s							
N49A	**Columbus Grove**	**34.77**	**269**	P	**P**	**05 17 06.7**	**+0.2**
P51A	**Williamsport**	**34.99**	**266**	P	**P**	**05 17 08.3**	**-0.1**
S54A	**Dingess, Beckl**	**35.03**	**263**	P	**P**	**05 17 08.1**	**-0.7**
S54A				IAmb	IAmb	05 17 31.7	
comp=Z,14nm,1.3s							
Q51A	**Peebles**	**35.45**	**266**	P	**P**	**05 17 12.3**	**-0.1**
KEST	**Kesra**	**35.71**	**101**	P	**P**	**05 17 13.7**	**-1.1**
comp=Z,6.3nm,0.8s,baz=348,slow=3.0,SNR=2.5							
KEST				LR	LR	05 29 10.7	
comp=Z,615nm,20.7s,baz=241,slow=32							
KEST	**Kesra**	**35.71**	**101**	P	**P**	**05 17 15.1**	**+0.4**
S51A	**Beattyville**	**36.50**	**264**	P	**P**	**05 17 21.4**	**+0.1**
S51A				IAmb	IAmb	05 17 29.6	
comp=Z,10.0nm,1.1s							
R50A	**Paris**	**36.52**	**266**	P	**P**	**05 17 21.6**	**+0.1**
R50A				IAmb	IAmb	05 17 24.3	
comp=Z,10nm,0.8s							
ULM	**Lac du Bonnet**	**36.57**	**290**	P	**P**	**05 17 21.3**	**-0.6**
comp=Z,2.1nm,0.7s,baz=75,slow=12,SNR=2.0							
ULM				LR	LR	05 30 51.3	
comp=Z,834nm,21.0s,baz=64,slow=34							
ULM	**Lac du Bonnet**	**36.57**	**290**	P	**P**	**05 17 22.2**	**+0.3**
DIVS	**Divibare**	**36.83**	**82**	P	**P**	**05 17 23.4**	**-0.8**
DIVS				IAmb	IAmb	05 17 35.4	
comp=Z,15nm,1.5s							
R49A	**Shelbyville**	**37.01**	**267**	P	**P**	**05 17 25.4**	**-0.3**
TZTN	**Tazewell**	**37.20**	**263**	P	**P**	**05 17 27.6**	**+0.3**
PDG	**Podgorica**	**37.36**	**84**	P	**P**	**05 17 29.3**	**+0.7**
PDG				IAmb	IAmb	05 17 37.5	
comp=Z,15nm,1.3s							
P46A	**Rosedale**	**37.39**	**270**	P	**P**	**05 17 28.2**	**-0.7**
P46A				IAmb	IAmb	05 17 31.2	
comp=Z,11nm,0.9s							
SPMN	**Marine on St.**	**37.41**	**281**	P	**P**	**05 17 29.1**	**0.0**
SPMN				IAmb	IAmb	05 17 35.5	
comp=Z,16nm,1.1s							
F36A	**Milaca**	**37.48**	**283**	P	**P**	**05 17 30.4**	**+0.8**
T50A	**Nancy**	**37.65**	**265**	P	**P**	**05 17 31.2**	**+0.1**
T50A				IAmb	IAmb	05 17 38.5	
comp=Z,7.1nm,0.8s							
V52A	**Sevierville**	**37.70**	**262**	P	**P**	**05 17 32.3**	**+0.7**
TKL	**Tuckaleechee C**	**37.93**	**262**	P	**P**	**05 17 34.1**	**+0.5**
comp=Z,1.8nm,0.8s,baz=25,slow=14,SNR=2.2							
TKL	**Tuckaleechee C**	**37.93**	**262**	IAmb	IAmb	05 17 49.4	
comp=Z,14nm,1.3s							
BUR08	**Bucovina Ar. S**	**37.94**	**73**	P	**P**	**05 17 34.5**	**+0.8**
BUR08				IAmb	IAmb	05 17 44.0	
comp=Z,16nm,1.4s							
BURAR	**Bucovina Array**	**37.96**	**73**	P	**P**	**05 17 33.7**	**-0.2**
U49A	**Red Boiling Sp**	**38.55**	**265**	P	**P**	**05 17 39.3**	**+0.6**
U49A				IAmb	IAmb	05 17 46.7	
comp=Z,14nm,1.3s							
AKASG	**Malin Array Be**	**38.64**	**67**	P	**P**	**05 17 38.1**	**-1.2**
comp=Z,2.0nm,0.7s,baz=305,slow=8.1,SNR=8.1							
AKASG				LR	LR	05 35 13.0	
comp=Z,648nm,18.1s,baz=315,slow=39							
AKBB	**Malin Array Si**	**38.64**	**67**	P	**P**	**05 17 40.2**	**+0.9**
Q44A	**Meyer Farm, Va**	**38.93**	**270**	P	**P**	**05 17 41.5**	**-0.3**
Q44A				IAmb	IAmb	05 17 44.2	
comp=Z,14nm,0.9s							
W50A	**Signal Mountai**	**39.16**	**263**	P	**P**	**05 17 43.6**	**-0.4**
KLMR	**Klimovskoe**	**39.27**	**48**	*e*P	**P**	**05 17 41.6**	**-2.9**
KLMR				AMP		05 17 56.4	
comp=Z,18nm,1.3s							
Y52A	**Lilburn**	**39.34**	**260**	P	**P**	**05 17 45.8**	**+0.3**
SWET	**Sewanee**	**39.52**	**264**	P	**P**	**05 17 47.0**	**+0.1**
MLR	**Muntele Rosu**	**39.54**	**76**	P	**P**	**05 17 49.2**	**+2.0**
MLR				IAmb	IAmb	05 17 55.3	
comp=Z,15nm,1.4s							
V48A	**Smith Brothers**	**39.69**	**265**	P	**P**	**05 17 48.6**	**+0.3**
FPAL	**Fort Paine**	**39.79**	**262**	P	**P**	**05 17 49.0**	**-0.2**
S44A	**Carbondale**	**39.85**	**269**	P	**P**	**05 17 49.2**	**-0.4**
S44A				IAmb	IAmb	05 17 59.0	
comp=Z,17nm,0.8s							
WVT	**Waverly**	**40.03**	**266**	P	**P**	**05 17 50.5**	**-0.7**
WVT				IAmb	IAmb	05 18 11.1	
comp=Z,6.0nm,0.6s							
FVM	**French Village**	**40.37**	**270**	P	**P**	**05 17 54.0**	**+0.1**
OBN	**Obninsk**	**40.39**	**57**	LR	LR	05 34 03.9	
comp=Z,174nm,18.0s,baz=324,slow=36							
YKA	**Yellowknife Ar**	**40.48**	**315**	LR	LR	05 33 15.3	
comp=Z,572nm,19.0s,baz=0.0,slow=34							
ECSD	**EROS Data Cent**	**40.50**	**282**	P	**P**	**05 17 55.6**	**+0.6**
LIT	**Litokhoron**	**40.71**	**85**	P	**P**	**05 17 55.7**	**-1.0**
Y49A	**Blount Mountai**	**40.74**	**262**	P	**P**	**05 17 58.5**	**+1.4**
Y49A				IAmb	IAmb	05 18 06.2	
comp=Z,7.0nm,0.7s							
TIGA	**Tifton**	**40.80**	**257**	P	**P**	**05 17 56.1**	**-1.4**
TIGA				IAmb	IAmb	05 18 07.7	
comp=Z,18nm,1.2s							
CCM	**Cathedral Cave**	**40.81**	**271**	P	**P**	**05 17 58.1**	**+0.6**
PLAL	**Pickwick Lake**	**40.96**	**265**	P	**P**	**05 17 59.2**	**+0.4**
PBMO	**Poplar Bluff**	**41.16**	**269**	P	**P**	**05 18 00.8**	**+0.3**
PBMO				IAmb	IAmb	05 18 07.1	
comp=Z,12nm,1.1s							
T42A	**Van Buren**	**41.39**	**270**	P	**P**	**05 18 03.1**	**+0.8**
W45A	**Hickory Valley**	**41.50**	**266**	P	**P**	**05 18 03.4**	**+0.1**
LRAL	**Lakeview Retre**	**41.67**	**262**	P	**P**	**05 18 05.2**	**+0.5**
250A	**Grady**	**41.99**	**260**	P	**P**	**05 18 07.5**	**+0.3**
MGMO	**Mountain Grove**	**42.01**	**271**	P	**P**	**05 18 07.6**	**+0.1**
H05N1	**Guadeloupe/Mar**	**42.05**	**218**	T	T	06 03 07.2	
SNR=7.5							
LCAR	**Lake Charles**	**42.07**	**269**	P	**P**	**05 18 07.0**	**-0.8**
LCAR				IAmb	IAmb	05 18 14.1	
comp=Z,6.8nm,0.8s							
Z47A	**Carrollton**	**42.19**	**263**	P	**P**	**05 18 09.5**	**+0.6**
Z47A				IAmb	IAmb	05 18 11.3	
comp=Z,13nm,0.8s							
S39A	**Bolivar**	**42.29**	**272**	P	**P**	**05 18 09.2**	**-0.5**
Y45A	**Yeager Farm, C**	**42.60**	**265**	P	**P**	**05 18 12.4**	**+0.1**
Y45A				IAmb	IAmb	05 18 14.5	
comp=Z,19nm,1.1s							
U40A	**Yellville**	**42.89**	**271**	P	**P**	**05 18 15.6**	**+1.0**
WHAR	**Wooly Hollow**	**43.27**	**269**	P	**P**	**05 18 18.2**	**+0.6**
WHAR				IAmb	IAmb	05 18 24.7	
comp=Z,13nm,1.1s							
W41B	**Gary Mavity, V**	**43.33**	**269**	P	**P**	**05 18 18.9**	**+0.8**
W41B				IAmb	IAmb	05 18 24.7	
comp=Z,9.9nm,1.1s							
KSU1	**Kansas State U**	**43.34**	**276**	P	**P**	**05 18 18.7**	**+0.5**
HHAR	**Hobbs**	**43.59**	**271**	P	**P**	**05 18 20.9**	**+0.5**
HHAR				IAmb	IAmb	05 18 27.1	
comp=Z,9.1nm,1.0s							
X40A	**Basin Creek Fa**	**44.15**	**269**	P	**P**	**05 18 25.2**	**+0.5**
X40A				IAmb	IAmb	05 18 31.0	
comp=Z,6.7nm,0.8s							
W39A	**Magazine**	**44.23**	**270**	P	**P**	**05 18 25.8**	**+0.3**
LAO	**LASA Array**	**44.29**	**291**	P	**P**	**05 18 26.8**	**+1.0**
VBMS	**Vicksburg**	**44.34**	**264**	P	**P**	**05 18 26.2**	**0.0**
143A	**Socs Landing,**	**44.53**	**266**	P	**P**	**05 18 27.8**	**0.0**
MIAR	**Mount Ida**	**44.55**	**269**	P	**P**	**05 18 28.5**	**+0.5**
TUL1	**Leonard**	**44.95**	**272**	P	**P**	**05 18 30.3**	**-0.9**
Z41A	**Richland Creek**	**44.98**	**267**	P	**P**	**05 18 31.4**	**0.0**
344A	**Westbrook Farm**	**45.01**	**264**	P	**P**	**05 18 31.6**	**-0.1**
OK029	**Liberty Lake**	**46.03**	**274**	P	**P**	**05 18 39.4**	**-0.3**
OK025	**Westminster Rd**	**46.10**	**273**	P	**P**	**05 18 40.2**	**-0.1**
W35A	**Tecumseh**	**46.12**	**272**	P	**P**	**05 18 39.6**	**-0.8**
OKCFA	**Oklahoma City**	**46.28**	**273**	P	**P**	**05 18 41.8**	**+0.1**
FNO	**Franklin**	**46.36**	**273**	P	**P**	**05 18 42.1**	**-0.2**
GCMT	**Greycliff**	**46.74**	**292**	P	**P**	**05 18 46.5**	**+1.2**
K22A	**Casper**	**46.91**	**287**	P	**P**	**05 18 46.6**	**-0.2**
K22A				IAmb	IAmb	05 18 48.7	
comp=Z,6.1nm,0.9s							
KSCO	**Kaye Shedlock'**	**46.97**	**281**	P	**P**	**05 18 47.2**	**-0.1**
PHWY	**Pilot Hill**	**47.15**	**285**	P	**P**	**05 18 49.3**	**+0.6**
PHWY				IAmb	IAmb	05 18 55.1	
comp=Z,4.7nm,1.1s							
HRY	**Holter Researc**	**47.37**	**295**	P	**P**	**05 18 50.3**	**+0.1**
YNE	**Yellowstone No**	**47.41**	**292**	P	**P**	**05 18 51.3**	**+0.6**
BR131	**Keskin Array S**	**47.55**	**77**	P	**P**	**05 18 52.8**	**+1.1**
BRTR	**Keskin Array B**	**47.55**	**77**	P	**P**	**05 18 52.0**	**+0.2**
comp=Z,2.9nm,0.8s,baz=309,slow=7.8,SNR=10							
BRTR	**Keskin Array B**	**47.55**	**77**	P	**P**	**05 18 52.1**	**+0.4**
YMP	**Mirror Lake Pl**	**47.66**	**292**	P	**P**	**05 18 53.0**	**+0.3**
N23A	**Red Feather La**	**47.69**	**285**	P	**P**	**05 18 53.3**	**+0.3**
RWWY	**Rawlins**	**47.91**	**286**	P	**P**	**05 18 54.1**	**-0.5**
RWWY				IAmb	IAmb	05 19 12.8	
comp=Z,8.1nm,1.1s							
BOZ	**Bozeman (W)**	**47.95**	**293**	P	**P**	**05 18 54.8**	**0.0**
BOZ				IAmb	IAmb	05 19 08.2	
comp=Z,6.2nm,1.2s							
ISCO	**Idaho Springs**	**48.21**	**283**	P	**P**	**05 18 57.1**	**0.0**
ISCO				IAmb	IAmb	05 19 14.9	
comp=Z,7.8nm,1.5s							
PD31	**Pinedale Array**	**48.57**	**289**	P	**P**	**05 18 59.7**	**0.0**
PDAR	**Pinedale Array**	**48.57**	**289**	P	**P**	**05 18 59.5**	**-0.2**
comp=Z,1.7nm,0.7s,baz=57,slow=7.8,SNR=13							
PDAR				LR	LR	05 38 17.3	
comp=Z,540nm,18.2s,baz=60,slow=35							
PDAR	**Pinedale Array**	**48.57**	**289**	P	**P**	**05 18 58.9**	**-0.7**
BW06	**Boulder Array**	**48.57**	**289**	P	**P**	**05 18 59.6**	**-0.1**
DLMT	**Dillon**	**48.62**	**294**	P	**P**	**05 19 00.9**	**+1.0**
DLMT				IAmb	IAmb	05 19 25.4	
comp=Z,10nm,1.5s							
TPAW	**Teton Pass**	**48.89**	**291**	P	**P**	**05 19 02.5**	**+0.3**
REDW	**Red Top Meadow**	**48.92**	**291**	P	**P**	**05 19 02.9**	**+0.5**
AMTX	**Amarillo**	**49.18**	**276**	P	**P**	**05 19 04.6**	**+0.3**
NEW	**Newport**	**49.25**	**299**	P	**P**	**05 19 04.2**	**-0.4**
O20A	**White River Ci**	**49.52**	**286**	P	**P**	**05 19 06.7**	**-0.2**
O20A				IAmb	IAmb	05 19 30.1	
comp=Z,12nm,1.4s							
TOA0	**Torodi Ar. Sit**	**49.68**	**130**	P	**P**	**05 19 07.5**	**-0.6**
TOA0				IAmb	IAmb	05 19 17.5	
comp=Z,7.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**49.68**	**130**	P	**P**	**05 19 08.1**	**0.0**
comp=Z,3.9nm,0.7s,baz=333,slow=7.9,SNR=26							
TORD				LR	LR	05 38 18.3	
comp=Z,462nm,18.8s,baz=315,slow=34							
TORD	**Torodi Ar. Bea**	**49.68**	**130**	P	**P**	**05 19 07.3**	**-0.8**
BCYI	**Bear Canyon**	**49.73**	**293**	P	**P**	**05 19 08.9**	**+0.

LIC	Lamto	53.07	141	*e*P		P	05 19 33.0	-0.5
	comp=Z,3.6nm,0.4s							
ELK	Elko	53.10	291	P		P	05 19 34.3	+0.5
J08A	Circle Bar Ran	53.13	295	P		P	05 19 34.7	+0.8
J08A				IAmb	IAmb		05 19 37.9	
	comp=Z,4.6nm,0.8s							
MMAI	Mount Meron Ar	53.15	83	P		P	05 19 34.3	+0.2
	comp=Z,0.5nm,0.3s,baz=289,slow=7.8,SNR=3.6							
NLWA	Neilton Lookou	53.29	302	P		P	05 19 35.5	+0.6
NLWA				IAmb	IAmb		05 19 39.5	
	comp=Z,8.5nm,1.0s							
MARD	Mardin	53.32	75	P		P	05 19 35.8	+0.4
MNTX	Cornudas Mount	53.61	276	P		P	05 19 37.4	-0.1
AKTO	Aktyubinsk	53.68	52	P		P	05 19 37.1	-0.5
	comp=Z,2.0nm,0.7s,baz=333,slow=6.7,SNR=4.6							
AKTO				LR		LR	05 42 51.1	
	comp=Z,383nm,20.4s,baz=331,slow=36							
E03A	Lebam	53.70	301	P		P	05 19 38.7	+0.9
PINE	Pine Mountain	54.17	297	P		P	05 19 42.1	+0.5
PINE				IAmb	IAmb		05 19 52.4	
	comp=Z,6.2nm,1.1s							
CCUT	Cedar City	54.21	287	P		P	05 19 43.1	+1.1
KNB	Kanab	54.27	286	P		P	05 19 42.8	+0.4
TXAR	Lajitas Array	54.28	272	P		P	05 19 42.2	-0.2
	comp=Z,0.9nm,0.8s,baz=45,slow=10,SNR=5.3							
TXAR				PcP		PcP	05 20 47.4	+1.0
	comp=Z,0.4nm,0.7s,baz=58,slow=3.4,SNR=2.5							
TXAR	Lajitas Array	54.28	272	P		P	05 19 43.2	+0.8
TX31	Lajitas Ar. Si	54.28	272	P		P	05 19 42.8	+0.3
TX32	Lajitas Array	54.28	272	P		P	05 19 42.2	-0.3
TX32				IAmb	IAmb		05 19 55.2	
	comp=Z,7.6nm,1.4s							
WUAZ	Wupatki	54.47	283	P		P	05 19 44.0	+0.2
WUAZ				IAmb	IAmb		05 19 57.8	
	comp=Z,6.1nm,1.3s							
ASF	Jabal al Asfar	54.63	82	P		P	05 19 44.0	-1.0
	comp=Z,0.7nm,0.3s,baz=265,slow=11,SNR=1.6							
K05A	Summer Lake	54.87	296	P		P	05 19 47.4	+0.7
K05A				IAmb	IAmb		05 19 51.4	
	comp=Z,7.4nm,1.0s							
MOD	Modoc Plateau	55.11	295	P		P	05 19 48.9	+0.5
X16A	Lo Mia Camp, P	55.28	283	P		P	05 19 49.6	-0.1
X16A				IAmb	IAmb		05 20 04.4	
	comp=Z,8.1nm,1.4s							
KVN	Kaiserville	55.86	291	P		P	05 19 54.2	+0.3
TPH	Tonopah	56.05	290	P		P	05 19 55.5	+0.3
PAHR	Pah Rah Range	56.12	292	P		P	05 19 56.0	+0.4
PAHR				IAmb	IAmb		05 20 10.2	
	comp=Z,9.1nm,1.3s							
TPNV	Topopah Spring	56.28	288	P		P	05 19 57.1	+0.3
NV11	Mina Array Sit	56.32	291	P		P	05 19 57.5	+0.3
NV11				IAmb	IAmb		05 20 07.9	
	comp=Z,6.9nm,1.4s							
TUC	Tucson	56.39	280	P		P	05 19 58.6	+1.1
RYN	Ryan	56.39	291	P		P	05 19 57.5	-0.1
NVAR	Mina Array Bea	56.41	291	P		P	05 19 58.9	+1.1
	comp=Z,0.6nm,0.7s,baz=83,slow=10,SNR=5.7							
NVAR				LR		LR	05 43 26.8	
	comp=Z,611nm,18.9s,baz=42,slow=35							
NVAR	Mina Array Bea	56.41	291	P		P	05 19 58.5	+0.7
YBH	Yreka Blue Hor	56.53	296	LR		LR	05 43 16.7	
	comp=Z,692nm,19.7s,baz=36,slow=35							
VCNR	Virginia City	56.55	292	P		P	05 20 00.3	+1.5
PNTR	Pine Nut	56.67	292	P		P	05 19 59.5	-0.2
BRVK	Borovoye	57.31	44	P		P	05 20 04.5	+0.8
BVAR	Borovoye Array	57.38	44	P		P	05 20 04.1	-0.1
	comp=Z,1.2nm,0.8s,baz=218,slow=9.4,SNR=4.7							
GLA	Glamis	58.23	284	P		P	05 20 11.5	+1.0
GLA				IAmb	IAmb		05 20 25.6	
	comp=Z,8.7nm,1.1s							
ZAIG	Zacatecas	58.49	266	pP		P	05 20 14.4	+1.7
PFO	Pinyon Flats O	58.77	285	P		P	05 20 14.6	+0.2
PFO				IAmb	IAmb		05 20 21.4	
	comp=Z,4.8nm,1.1s							
ZALV	Zalesovo Beam	62.17	35	P		P	05 20 36.8	-0.3
	comp=Z,0.8nm,0.5s,baz=306,slow=10,SNR=2.1							
ZALV	Zalesovo Beam	62.17	35	P		P	05 20 38.0	+0.9
KURK	Kurchatov	62.46	41	P		P	05 20 39.7	+0.6
KURBB	Kurchatov Arra	62.49	41	P		P	05 20 38.0	-1.3
	comp=Z,1.0nm,0.9s,baz=324,slow=7.3,SNR=6.6							
SAML	Samuel	66.38	210	P		P	05 21 04.9	-0.2
SAML				IAmb	IAmb		05 21 13.6	
	comp=Z,3.4nm,1.0s							
MKAR	Makanchi Array	67.05	41	P		P	05 21 07.9	-1.2
	comp=Z,0.9nm,0.7s,baz=332,slow=4.1,SNR=7.8							
MKAR	Makanchi Array	67.05	41	P		P	05 21 08.4	-0.8
BDFB	Brasilia	69.53	193	P		P	05 21 26.2	+1.3
	comp=Z,3.7nm,0.7s,baz=13,slow=6.9,SNR=6.2							
BDFB	Brasilia	69.53	193	P		P	05 21 24.2	-0.8
WMQ	Urumqi	71.64	40	*e*P		P	05 21 41.7	+4.1
SIV	San Ignacio	72.48	206	P		P	05 21 44.5	+1.7
	comp=Z,0.9nm,0.7s,baz=0.0,slow=3.0,SNR=3.6							
SONM	Songino Array	74.12	26	P		P	05 21 51.3	-1.1
	comp=Z,1.9nm,0.8s,baz=334,slow=7.5,SNR=5.7							
SONM	Songino Array	74.12	26	P		P	05 21 51.5	-0.9
LPAZ	La Paz	74.83	213	P		P	05 21 59.4	+2.1
	comp=Z,2.7nm,0.9s,baz=21,slow=8.6,SNR=5.6							
LPAZ	La Paz	74.83	213	P		P	05 21 56.2	-1.1
LPAZ				IAmb	IAmb		05 22 07.5	
	comp=Z,4.3nm,1.0s							
PB16	IPOC Station P	77.20	213	P		P	05 22 08.9	-1.8
GTA	Gaotai	79.86	34	*e*P		P	05 22 25.9	+1.1
GTA				pP		sP	05 22 30.0	-0.9
GTA				sP		pwP	05 22 32.8	+0.2
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
HHC	Hu-ho-hao-te	81.96	25	*e*P		P	05 22 37.5	+1.5
HHC				pmax		pmax		
	comp=Z,14nm,1.1s							
HHC				pmax		pmax		
	comp=Z,160nm,5.6s							
USRK	Ussuriysk Ar.	82.26	9	P		P	05 22 36.0	-1.3
	comp=Z,0.9nm,0.8s,baz=316,slow=8.2,SNR=1.9							
LZH	Lanzhou	84.19	32	*e*P		P	05 22 45.7	-2.0
LZH				pP		PcP	05 22 49.0	-2.5
LZH				sP		pP	05 22 50.6	-1.6
LZH				*e*PP		PP	05 26 01.8	+0.6
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
LZH				pmax		pmax		
	comp=Z,72nm,8.6s							
LZH				LR		LR		
	comp=N,120nm,17.2s							
LZH				LR		LR		
	comp=E,130nm,17.0s							
LZH				LR		LR		
	comp=Z,170nm,19.7s							
NJ2	Nanjing	92.08	22	*e*P		P	05 23 24.6	-0.7
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
SNAA	Sanae	126.79	168	PKP		PKiKP	05 29 18.6	-0.1
	comp=Z,1.4nm,0.7s,baz=55,slow=3.5,SNR=5.9							
QSPA	South Pole Qui	143.21	180	PKhKP		PKPpre	05 29 45.9	
	comp=Z,2.8nm,0.7s,baz=194,slow=1.6,SNR=18							
WRA	Warramunga Arr	145.75	17	PKPbc		PKPdf	05 29 53.4	-1.3
	comp=Z,0.9nm,0.8s,baz=343,slow=3.2,SNR=11							
ASAR	Alice Springs	149.30	20	PKPbc		PKPbc	05 30 04.0	-0.9
	comp=Z,1.8nm,0.6s,baz=352,slow=2.2,SNR=23							
VNDA	Vanda	154.89	189	PKPbc		PKPdf	05 30 16.9	+10
	comp=Z,0.4nm,0.8s,baz=109,slow=2.7,SNR=1.8							

IDC ***10*** *05:12:08.9±0.7, 53°.49N×35°.16W, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.0/68, mbtmp4.0/22, ML4.3/1, MS4.3/3, Ms1 4.3/3, ms1mx3.7/42, Error ellipse: s-maj=19.7km s-min=15.2km az=159.0*

NEIC ***10*** *05:12:11.1±1.4, 53°.5N±0°.1×35°.0W±0°.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=19.8km s-min=9.5km az=150.0*

ISC 10 05:12:11.1±0.5, 53°.5N±0°.1×34°.99W±0°.06, h12km, n49, σ0s91/46, mb4.2/26, MS4.4/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRLN	Deer Lake	14.66	262	Pn		Pn	05 15 39.0	+0.9
DSB	Dublin	17.04	79	Pn		Pn	05 16 08.1	-1.0
DSB				IAmb		IAmb	05 16 10.2	
	comp=Z,60nm,1.5s							
EKA	Eskdalemuir Ar	18.55	71	P		Pn	05 16 29.6	+2.0
	baz=289,slow=10,SNR=3.9							
ESBB	Sonseca Array	25.16	111	P		P	05 17 36.2	+0.2
ESBB				IAmb		IAmb	05 17 47.0	
	comp=Z,10nm,1.1s							
ESDC	Sonseca Array	25.16	111	P		P	05 17 36.3	+0.3
	comp=Z,4.6nm,1.1s,baz=313,slow=9.3,SNR=6.1							
ESDC	Sonseca Array	25.16	111	P		P	05 17 36.5	+0.4
NOA	NORSAR Array B	25.64	54	P		P	05 17 40.4	+0.2
	comp=Z,1.5nm,0.9s,baz=275,slow=9.9,SNR=3.6							
CLL	Collm	28.94	75	*e*(P)		P	05 18 12.0	+2.1
MDT	Midelt	29.92	121	LR		LR	05 27 45.8	
	comp=Z,546nm,18.6s,baz=354,slow=31							
GERES	GERESS Array B	30.41	79	P		P	05 18 23.9	+0.9
	comp=Z,0.4nm,0.4s,baz=298,slow=8.5,SNR=5.0							
GERES	GERESS Array B	30.41	79	P		P	05 18 22.5	-0.6
CIMO	Cimolais	30.90	84	P		P	05 18 27.5	+0.2
ZOU	Zoufplan	31.09	83	P		P	05 18 29.0	-0.2
ZOU				IAmb		IAmb	05 18 31.0	
	comp=Z,6.2nm,1.1s							
RES	Resolute Bay	31.54	334	P		P	05 18 32.9	+0.3
FINES	FINESS Array B	32.66	51	P		P	05 18 42.5	-0.1
	comp=Z,4.7nm,0.9s,baz=323,slow=4.8,SNR=4.4							
FINES	FINESS Array B	32.66	51	P		P	05 18 42.2	-0.4
OJC	Ojcow	33.31	73	P		P	05 18 49.0	+0.5
OJC				IAmb		IAmb	05 18 49.8	
	comp=Z,6.7nm,1.0s							
KEST	Kesra	35.51	102	P		P	05 19 07.3	-0.4
I40A	Norwalk	37.08	278	P		P	05 19 21.6	+0.7
I40A				IAmb		IAmb	05 19 28.3	
	comp=Z,8.1nm,1.1s							
AKASG	Malin Array Be	38.38	67	P		P	05 19 32.1	+0.4
	comp=Z,0.8nm,0.4s,baz=303,slow=8.4,SNR=4.5							
AKASG	Malin Array Be	38.38	67	P		P	05 19 30.8	-1.0
BRTR	Keskin Array B	47.30	78	P		P	05 20 45.6	+1.3
	comp=Z,2.5nm,0.8s,baz=282,slow=6.9,SNR=5.7							
WMOK	Wichita Mounta	47.77	274	P		P	05 20 47.6	-0.4
WMOK				IAmb		IAmb	05 20 53.2	
	comp=Z,4.8nm,0.8s							
PDAR	Pinedale Array	48.74	289	P		P	05 20 53.0	-2.7
	comp=Z,0.8nm,0.7s,baz=66,slow=7.8,SNR=4.2							
PDAR	Pinedale Array	48.74	289	P		P	05 20 55.2	-0.5
TORD	Torodi Ar. Bea	49.58	130	P		P	05 21 01.6	-0.4
	comp=Z,2.0nm,0.6s,baz=332,slow=8.1,SNR=8.5							
ARU	Arti	49.78	47	P		P	05 21 02.6	-0.5
	comp=Z,2.4nm,0.2s,baz=309,slow=8.3,SNR=4.3							
KBZ	Khabaz	49.99	68	P		P	05 21 06.3	+1.5
	comp=Z,1.4nm,0.5s,baz=311,slow=10.0,SNR=2.8							
BCAR	Beaver Creek A	50.60	326	P		P	05 21 10.1	+0.8
ILAR	Eielson Array	51.06	329	P		P	05 21 12.3	-0.4
	comp=Z,1.1nm,1.0s,baz=47,slow=5.3,SNR=4.3							
DBIC	Dimbokro	52.68	141	P		P	05 21 25.2	-0.1
	comp=Z,3.3nm,0.8s,baz=18,slow=3.2,SNR=2.8							
DBIC	Dimbokro	52.68	141	P		P	05 21 25.1	-0.1
DBIC				IAmb		IAmb	05 21 25.7	
	comp=Z,3.9nm,0.8s							
AKTO	Aktyubinsk	53.41	53	P		P	05 21 30.4	0.0
	comp=Z,2.0nm,0.8s,baz=354,slow=9.2,SNR=2.1							
TXAR	Lajitas Array	54.51	273	P		P	05 21 38.9	+0.2
	comp=Z,1.8nm,1.1s,baz=86,slow=2.8,SNR=3.8							
TXAR	Lajitas Array	54.51	273	P		P	05 21 39.2	+0.4
BVAR	Borovoye Array	57.12	44	P		P	05 21 57.5	+0.4
	comp=Z,0.4nm,0.4s,baz=254,slow=13,SNR=4.1							
APG	El Apazote	57.74	250	LR		LR	05 46 50.5	
	comp=Z,267nm,18.9s,baz=24,slow=36							
214A	Organ Pipe Nat	58.04	282	P		P	05 22 04.6	+0.8
ROSC	El Rosal	58.11	228	P		P	05 22 05.9	+1.0
	comp=Z,4.5nm,0.7s,baz=81,slow=14,SNR=1.7							
ZALV	Zalesovo Beam	61.92	36	P		P	05 22 29.9	-0.3
	comp=Z,0.6nm,0.3s,baz=324,slow=7.1,SNR=1.6							
KURBB	Kurchatov Arra	62.24	41	P		P	05 22 31.8	-0.6
	comp=Z,0.9nm,0.7s,baz=322,slow=7.4,SNR=6.2							
MKAR	Makanchi Array	66.80	42	P		P	05 23 01.9	-0.4
	comp=Z,0.8nm,0.7s,baz=328,slow=4.4,SNR=5.1							
MKAR	Makanchi Array	66.80	42	P		P	05 23 02.2	0.0
BDFB	Brasilia	69.71	193	P		P	05 23 20.6	-0.1
	comp=Z,3.4nm,0.9s,baz=64,slow=9.9,SNR=1.9							
SONM	Songino Array	73.90	26	P		P	05 23 45.2	-0.6
	comp=Z,1.8nm,0.9s,baz=332,slow=7.6,SNR=4.9							
SONM				LR		LR	05 58 35.2	
	comp=Z,191nm,18.9s,baz=302,slow=38							
SNAA	Sanae	126.87	168	PKP		PKPdf	05 31 12.1	-1.0
	comp=Z,0.9nm,0.7s,baz=325,slow=7.8,SNR=3.8							
QSPA	South Pole Qui	143.34	180	PKhKP		PKPpre	05 31 39.5	
	comp=Z,0.9nm,0.6s,baz=209,slow=1.7,SNR=2.7							
WRA	Warramunga Arr	145.56	18	PKPbc		PKPdf	05 31 47.6	-1.6
	comp=Z,0.5nm,0.7s,baz=348,slow=3.1,SNR=2.9							
ASAR	Alice Springs	149.10	20	PKPbc		PKPbc	05 31 57.5	-1.6
	comp=Z,1.2nm,0.7s,baz=353,slow=2.4,SNR=7.2							

IDC 10 05:12:42.2±5.2, 22°.34S×148°.22E, h0km, mb1 3.3/4, mb1mx3.2/41, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=57.2km s-min=24.5km az=76.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	Charters Tower	2.89	320	Pn		Pn	05 13 31.0	+1.4
	0.9nm,0.3s,baz=137,slow=16,SNR=2.2							
CTA				Lg		Lg	05 14 14.4	
	4.8nm,0.3s,baz=240,slow=22,SNR=9.7							
STKA	Stephens Creek	11.18	210	Pn		Pn	05 15 21.6	-1.7
	0.1nm,0.3s,baz=34,slow=15,SNR=1.5							
STKA				Sn		Sn	05 17 21.4	-7.7
	0.1nm,0.3s,baz=329,slow=19,SNR=1.7							
WRA	Warramunga Arr	13.17	278	Pn		Pn	05 15 50.1	-0.5
	0.0nm,0.3s,baz=96,slow=12,SNR=1.7							
WRA				Sn		Sn	05 18 13.2	-4.7
	0.0nm,0.3s,baz=105,slow=24,SNR=1.9							
ASAR	Alice Springs	13.25	262	Pn		Pn	05 15 52.4	+0.7
	0.1nm,0.3s,baz=90,slow=14,SNR=1.8							
ASAR				Lg		Lg	05 19 40.8	
	0.0nm,0.3s,baz=87,slow=29,SNR=2.8							

IDC ***10*** *05:14:18.9±0.5, 60°.37S×49°.83W, h0km, mb4.5/14, mb1 4.5/15, mb1mx4.4/29, mbtmp4.5/15, ML4.3/1, MS4.2/10, Ms1 4.2/10, ms1mx4.0/23, Error ellipse: s-maj=23.0km s-min=12.9km az=71.0*

NEIC ***10*** *05:14:20.9±1.4, 60°.36S±0°.07×50°.0W±0°.1, h10km±1km, mb4.9/38, Error ellipse: s-maj=11.5km s-min=8.4km az=171.0*

BJI ***10*** *05:14:21.0±0.0, 60°.40S×50°.00W, h10km, Ms5.1/2, Ms7 4.9/2*

GCMT ***10*** *05:14:22.0±0.3, 60°.69S±0°.03×50°.41W±0°.07, h22km, MW5.0/76, Moment Tensor Solution. s36,c40; s76,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=.3.85±.28; Mθθ 1.71±.17; Mϕϕ 2.14±.22; Mrθ -1.89±.26; Mrϕ 1.59±.11; Mθϕ 2.46±.36; Best double couple: Mo 4.54700×10^16 NP1: ϕ1 62.00000°, δ1 44.00000°, λ -50.00000°. NP2: ϕ2 192.00000°, δ2 58.00000°, λ -122.00000°. Principal axes: T 3.6090, Plg7.0000°, Azm304.0000°; N 1.8760, Plg27.0000°, Azm210.0000°; P -5.4850, Plg62.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 05:14:20.4±0.3, 60°.37S±0°.05×50°.00W±0°.06, h10km, n149, σ1s12/142, mb4.8/31, MS4.3/12, 3C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMSA	Palmer Station	7.84	230	Pn		Pn	05 16 13.7	-0.5
	4.4nm,0.3s,baz=53,slow=8.1,SNR=13							
PMSA				Sn		Sn	05 17 41.9	-0.9
	0.5nm,0.3s,baz=67,slow=12,SNR=1.6							
PMSA	Palmer Station	7.84	230			Pn	05 16 13.8	-0.5
PMSA					Sn	Sn	05 17 42.9	+0.1
PMSA	Palmer Station	7.84	230	*e*P		Pn	05 16 20.1	+5.8
HOPE	Hope Point	9.51	56	Pn		Pn	05 16 36.1	-1.1
HOPE				Sn		Sn	05 18 23.8	-0.2
EFI	East Falkland	9.81	329	Pn		Pn	05 16 41.5	+0.2
EFI				Sn		Sn	05 18 29.9	-1.4
BELA	Belgrano 2	18.29	170			Pn	05 18 33.8	0.0
VNA3	Neumayer Olymp	19.32	141	P		Pn	05 18 46.2	-0.1
VNA1	Neumayer--Stat	19.65	139	P		Pn	05 18 50.5	+0.3
VNA2	Neumayer--Watz	19.98	139	P		Pn	05 18 53.6	-0.6
	baz=282,slow=10							
SNAA	Sanae	21.55	141	P		P	05 19 10.2	+0.8
SNAA	Sanae	21.55	141	P		P	05 19 10.0	+0.6
	47nm,1.1s,baz=280,slow=8.9,SNR=66							
SNAA	Sanae	21.55	141	P		P	05 19 10.5	+1.1
LL01	San Ignacio de	22.61	313	P		P	05 19 20.8	-0.2
LL01				IAmb		IAmb	05 19 26.6	
	comp=Z,21nm,0.5s							
PLCA	Paso Flores	23.41	318	P		P	05 19 29.2	-0.2
	comp=Z,23nm,1.2s,baz=159,slow=9.7,SNR=16							
PLCA				LR		LR	05 28 22.5	
	comp=Z,579nm,18.7s,baz=165,slow=36							
PLCA	Paso Flores	23.41	318	P		P	05 19 29.6	+0.3
PLCA				IAmb		IAmb	05 19 30.6	
	comp=Z,45nm,1.3s							
PLCA	Paso Flores	23.41	318	*e*P		P	05 19 29.2	-0.2
LC01	Cunco	25.51	318	P		P	05 19 47.6	-1.1
BI02	San Fabin de	27.35	321	P		P	05 20 05.2	-0.2
BI02				IAmb		IAmb	05 20 16.3	
	comp=Z,28nm,1.4s							
PLTB	Pedras Altas	28.72	354	*e*P		P	05 20 18.6	+1.0
BO02	Sierra Bellavi	28.92	323	P		P	05 20 20.4	+0.9
QSPA	South Pole Qui	29.86	180	P		P	05 20 28.5	+0.8
	comp=Z,22nm,0.8s,baz=173,slow=3.2,SNR=81							
QSPA				LR		LR	05 34 47.9	
	comp=Z,699nm,18.0s,baz=162,slow=41							
QSPA	South Pole Qui	29.86	180	P		P	05 20 28.6	+1.0
ITAB	Concordia	33.16	357	*e*P		P	05 20 56.7	0.0
CO01	Juntas del Tor	33.25	327	P		P	05 20 58.5	+0.7
CO01				IAmb		IAmb	05 21 00.5	
	comp=Z,33nm,1.4s							
CPUP	Villa Florida	34.40	348	P		P	05 21 08.0	+0.5
	comp=Z,3.0nm,1.0s,baz=236,slow=5.6,SNR=2.9							
CPUP				LR		LR	05 34 05.6	
	comp=Z,403nm,21.3s,baz=182,slow=34							
CPUP	Villa Florida	34.40	348	P		P	05 21 08.4	+0.9
CPUP	Villa Florida	34.40	348	*e*P		P	05 21 08.1	+0.6
PTGB	Pitanga	35.67	357	*e*P		P	05 21 19.8	+1.2
SYO	Syowa Base	35.83	142	*i*P		P	05 21 06.4	-13
SYO	Syowa Base	35.83	142	*e*P		P	05 21 18.6	-0.8
SYO	Syowa Base	35.83	142	*i*pP		P	05 21 19.1	-0.3
AC02	Maricunga	35.99	330	P		P	05 21 22.2	+0.4
TRCB	Terra Rica	37.59	356	*e*P		P	05 21 34.8	-0.2
PCMB	Pacaembu	38.74	358	*e*P		P	05 21 45.6	+1.0
BB19B	Bebedouro	39.28	2	*e*P		P	05 21 50.8	+1.6
LVC	Limon Verde	40.00	332	P		P	05 21 56.5	+1.1
	comp=Z,3.2nm,0.6s,baz=170,slow=8.7,SNR=3.1							
LVC				PcP		PcP	05 24 00.7	+0.2
	comp=Z,4.6nm,0.9s,baz=207,slow=4.5,SNR=4.2							
LVC	Limon Verde	40.00	332	P		P	05 21 55.9	+0.4
AQDB	Aquidauana	40.06	352	*e*P		P	05 21 56.3	+0.7
ITRB	Iturama	40.63	359	*e*P		P	05 22 01.6	+1.3
PB09	IPOC Station P	40.86	332	P		P	05 22 03.6	+1.3
PB09				IAmb		IAmb	05 22 04.5	
	comp=Z,44nm,1.3s							
VNDA	Vanda	40.95	190	P		P	05 22 03.5	+1.1
	comp=Z,1.8nm,1.0s,baz=183,slow=7.4,SNR=6.1							
VNDA				LR		LR	05 40 06.1	
	comp=Z,356nm,18.0s,baz=137,slow=38							
VNDA	Vanda	40.95	190	P		P	05 22 03.7	+1.3
PB01	IPOC Station P	41.64	332	P		P	05 22 09.9	+1.2
PB01				IAmb		IAmb	05 22 11.0	
	comp=Z,38nm,1.2s							
BSFB	Barra de Sao F	42.01	13	*e*P		P	05 22 13.1	+1.4
PATCX	Punta Patache	42.01	331	P		P	05 22 12.2	+0.5
PATCX				IAmb		IAmb	05 22 13.8	
	comp=Z,42nm,1.2s							
SJMB	Sao Joao De Ma	42.10	13	*e*P		P	05 22 13.6	+1.2
IPMB	Ipameri, GO	42.36	3	*e*P		P	05 22 15.4	+0.9
PB08	IPOC Station P	42.43	333	P		P	05 22 16.2	+0.6
GO01	Chusmiza	42.90	333	P		P	05 22 19.4	0.0
GO01				IAmb		IAmb	05 22 22.0	
	comp=Z,29nm,1.3s							
PB11	IPOC Station P	42.91	332	P		P	05 22 20.0	+0.8
PB11				IAmb		IAmb	05 22 20.5	
	comp=Z,18nm,1.0s							
NAN01	Guarapari, ES	43.07	14	*e*P		P	05 22 21.1	+0.9
PSGCX	Pisagua	43.18	332	P		P	05 22 21.6	+0.3
MAW	Mawson	43.32	149	P		P	05 22 23.0	+1.2
	comp=Z,7.9nm,0.9s,baz=228,slow=8.6,SNR=16							
MAW				LR		LR	05 39 42.3	
	comp=Z,695nm,19.7s,baz=237,slow=35							
MAW	Mawson	43.32	149	P		P	05 22 22.6	+0.9
MNMC	Minye Minye	43.51	333	P		P	05 22 25.5	+1.3
MNMC				IAmb		IAmb	05 22 36.7	
	comp=Z,20nm,0.8s							
PB16	IPOC Station P	44.26	333	P		P	05 22 32.2	+1.7
PB16				IAmb		IAmb	05 22 33.5	
	comp=Z,24nm,1.3s							
ARAG	Araguaiana, MT	44.62	358	*e*P		P	05 22 33.9	+1.1
BDFB	Brasilia	44.69	3	P		P	05 22 34.1	+0.7
	comp=Z,5.6nm,0.7s,baz=180,slow=5.1,SNR=7.0							
BDFB				LR		LR

TIC	**Toumodi**	**75.56**	**46**	*e*P		P	05 25 59.7	-5.3
DBIC	**Dimbokro**	**75.64**	**47**	P		**P**	**05 26 05.8**	**+0.4**
	comp=Z,5.4nm,1.0s,baz=214,slow=4.9,SNR=3.3							
DBIC				LR		LR	05 52 38.1	
	comp=Z,132nm,18.5s,baz=20,slow=30							
DBIC	**Dimbokro**	**75.64**	**47**	P		**P**	**05 26 05.8**	**+0.4**
DBIC				IAmb		IAmb	05 26 07.0	
	comp=Z,16nm,1.2s							
MATN	**Matagalpa**	**78.50**	**324**	P		**P**	**05 26 21.3**	**-0.3**
MLPR	**Magueyes Islan**	**79.28**	**344**	P		**P**	**05 26 24.9**	**-0.7**
KOWA	**Kowa**	**83.19**	**45**	P		**P**	**05 26 47.4**	**+0.8**
KOWA				IAmb		IAmb	05 26 48.2	
	comp=Z,9.3nm,0.9s							
TOA0	**Torodi Ar. Sit**	**84.04**	**50**	P		**P**	**05 26 50.8**	**-0.1**
TOA0				IAmb		IAmb	05 26 52.5	
	comp=Z,8.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**84.04**	**50**	P		**P**	**05 26 51.2**	**+0.3**
TORD				LR		LR	05 59 41.5	
	comp=Z,107nm,18.3s,baz=260,slow=32							
TORD	**Torodi Ar. Bea**	**84.04**	**50**	P		**P**	**05 26 51.0**	**+0.1**
AFI	**Afiamalu**	**92.68**	**236**	LR		LR	06 00 31.5	
	comp=Z,88nm,19.5s,baz=136,slow=30							
ASAR	**Alice Springs**	**96.21**	**184**	P		**P**	**05 27 46.4**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=173,slow=4.2,SNR=4.7							
ASAR	**Alice Springs**	**96.21**	**184**	P		**P**	**05 27 48.2**	**-0.4**
H08S1	**Diego Garcia H**	**98.61**	**122**	T		T	07 18 41.2	
	baz=207,slow=75							
H08S2	**Diego Garcia H**	**98.62**	**122**	T		T	07 18 39.1	
	baz=207							
H08S3	**Diego Garcia H**	**98.63**	**122**	T		T	07 18 40.2	
	baz=207,slow=75							
W50A	**Signal Mountai**	**99.55**	**331**	P		**Pdif**	**05 28 03.0**	**-0.1**
WRA	**Warramunga Arr**	**99.89**	**184**	P		**Pdif**	**05 28 02.7**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=181,slow=4.1,SNR=7.4							
NVAR	**Mina Array Bea**	**113.14**	**307**	PP		**PP**	**05 33 47.7**	**0.0**
	comp=Z,0.1nm,0.5s,baz=189,slow=8.4,SNR=4.0							
GERES	**GERESS Array B**	**120.41**	**43**	PKP		**PKPdf**	**05 33 08.5**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=262,slow=5.0,SNR=3.7							
AKASG	**Malin Array Be**	**127.64**	**52**	PKP		**PKPdf**	**05 33 22.0**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=228,slow=2.2,SNR=1.8							
NOA	**NORSAR Array B**	**129.92**	**34**	PKP		**PKPdf**	**05 33 28.1**	**-0.4**
	comp=Z,2.3nm,1.1s,baz=217,slow=1.8,SNR=3.6							
ARCES	**ARCESS Array B**	**140.23**	**32**	PKhKP		PKPpre	05 33 37.9	
	comp=Z,0.9nm,0.6s,baz=197,slow=2.0,SNR=5.9							
ARU	**Arti**	**144.04**	**64**	PKhKP		PKPpre	05 33 51.4	
	comp=Z,3.2nm,0.2s,baz=209,slow=4.2,SNR=11							
ILAR	**Eielson Array**	**144.06**	**314**	PKP		**PKPab**	**05 33 52.0**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=157,slow=1.8,SNR=28							
BVAR	**Borovoye Array**	**147.51**	**76**	PKPbc		**PKPdf**	**05 34 02.1**	**+1.4**
	comp=Z,4.9nm,0.9s,baz=170,slow=18,SNR=9.2							
MKAR	**Makanchi Array**	**149.35**	**95**	PKPbc		**PKPbc**	**05 34 06.3**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=251,slow=3.7,SNR=18							
WMQ	**Urumqi**	**149.86**	**104**	*e*PKPbc		**PKPdf**	**05 34 06.6**	**+1.7**
KURBB	**Kurchatov Arra**	**150.02**	**86**	PKPbc		**PKPbc**	**05 34 08.6**	**-1.2**
	comp=Z,4.7nm,0.9s,baz=232,slow=3.0,SNR=18							
LZH	**Lanzhou**	**150.48**	**134**	*e*PKPbc		**PKPdf**	**05 34 07.5**	**+1.2**
LZH				pPKP		PKPbc	05 34 10.8	-0.8
LZH				sPKP			05 34 12.3	
LZH				LR		LR		
	comp=Z,150nm,18.0s							
LZH				LR		LR		
	comp=Z,150nm,18.3s							
LZH				LR		LR		
	comp=Z,190nm,20.2s							
NJ2	**Nanjing**	**150.72**	**160**	*e*PKPbc		**PKPdf**	**05 34 06.6**	**0.0**
GTA	**Gaotai**	**151.82**	**124**	*e*PKPbc		**PKPbc**	**05 34 13.4**	**-1.2**
GTA				LR		LR		
	comp=Z,140nm,18.5s							
GTA				LR		LR		
	comp=Z,140nm,18.5s							
HHC	**Hu-ho-hao-te**	**157.37**	**141**	*e*PKP		**PKPdf**	**05 34 13.3**	**-2.5**
USRK	**Ussuriysk Ar.**	**163.75**	**185**	PKPab		**PKPab**	**05 35 13.0**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=243,slow=6.3,SNR=4.4							

IDC 10 05:14:45.3±1.2, 4°27'S×150°79'E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/47, mbtmp3.5/3, Error ellipse: s-maj=36.1km s-min=13.7km az=172.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.23**	**92**	Pg	Pg	05 15 08.6	-0.3
	72nm,0.3s,baz=227,slow=0.5,SNR=83						
KRVT				Lg	Lg	05 15 26.0	
	87nm,0.3s,baz=15,slow=19,SNR=4.9						
PMG	**Port Moresby**	**6.25**	**215**	Sn	Sn	05 17 33.7	+2.7
	4.7nm,0.3s,baz=93,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**22.35**	**224**	P	P	05 19 44.4	-0.7
	0.4nm,0.5s,baz=53,slow=9.9,SNR=6.2						
ASAR	**Alice Springs**	**25.25**	**219**	P	P	05 20 13.5	+0.2
	0.7nm,0.8s,baz=58,slow=8.9,SNR=4.3						
ILAR	**Eielson Array**	**82.43**	**23**	P	P	05 27 08.3	-0.8
	1.0nm,0.7s,baz=247,slow=5.7,SNR=8.2						
TORD	**Torodi Ar. Bea**	**148.24**	**288**	PKPbc	PKiKP	05 34 35.4	-0.7
	0.6nm,0.9s,baz=89,slow=1.8,SNR=2.0						

*KRNET **10** 05:17:07.0±0.1, 39°52N×72°00E, h12km, mb3.7*
*SOME **10** 05:17:07.4, 39°55N×72°27E, h10km*
*IDC **10** 05:17:08.5±1.9, 39°29N×72°34E, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.3/68, mbtmp3.5/6, ML3.0/4, Error ellipse: s-maj=30.2km s-min=27.1km az=46.0*
ISC 10 05:17:08.4±0.9, 39°43N±0°05×71°99E±0°03, h10km, n32, σ2s03/53, 19C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.10**	**305**	⇑*i*P	**Pg**	**05 17 27.3**	**-2.2**
BTK	baz=1.0			⇑*i*S	**Sg**	**05 17 42.3**	**-1.6**
	baz=1.0						
OHH	**Osh**	**1.25**	**29**	⇓*i*P	**Pn**	**05 17 29.3**	**-2.7**
OHH	baz=31			⇓*i*S	**Sb**	**05 17 45.6**	**-2.6**
	baz=31						
GAR	**Garm**	**1.37**	**252**	⇑*i*P	**Pb**	**05 17 33.5**	**-0.7**
GAR	baz=49			⇑*i*S	**Sg**	**05 17 53.1**	**+0.5**
	baz=49						
CHGR	**Chuyangaron**	**2.34**	**252**	⇑*i*P	**Pb**	**05 17 49.2**	**-1.5**
CHGR	baz=50			⇑*i*S	**Sb**	**05 18 19.6**	**-0.1**
	baz=50						
TAS	**Tashkent**	**2.80**	**313**	⇑*i*P	**Pn**	**05 17 54.0**	**+0.8**
TAS	baz=12			⇑*i*S	**Sn**	**05 18 28.8**	**+1.8**
	baz=12						
AML	**Almayashu**	**2.99**	**25**	⇑*e*P	**Pn**	**05 17 56.7**	**+0.5**
AML	baz=26			⇑*i*S	**Sn**	**05 18 33.1**	**+0.8**
	baz=26						
AML	**Almayashu**	**2.99**	**25**	P	**Pn**	**05 17 57.8**	**+1.6**
	SNR=19						
ARLS	**Aral**	**3.00**	**35**	⇓*i*P	**Pn**	**05 17 57.1**	**+0.9**
ARLS	baz=36			⇓*i*S	**Sn**	**05 18 33.9**	**+1.6**
	baz=36						
MNAS	**Manas**	**3.08**	**7**	⇓*i*P	**Pn**	**05 17 58.0**	**+0.8**
MNAS	baz=7.0			⇓*i*S	**Sn**	**05 18 35.0**	**+0.9**
	baz=7.0						
IUG	**Iuzhnay**	**3.09**	**332**	*e*P	**Pb**	**05 18 03.8**	**+0.2**
IUG	14nm,0.3s			*e*S	**Sg**	**05 18 45.3**	**-2.4**
	145nm,0.8s						
UCH	**Uchtor**	**3.38**	**34**	⇑*i*P	**Pn**	**05 18 02.6**	**+0.9**
UCH	baz=34			⇑*i*S	**Sn**	**05 18 43.2**	**+1.1**
	baz=34						
UCH	**Uchtor**	**3.38**	**34**	P	**Pn**	**05 18 04.5**	**+2.8**
	SNR=18						
CHM	**Chimkent**	**3.41**	**329**	*e*P	**Pb**	**05 18 10.9**	**+2.1**
CHM	5.1nm,0.2s			*e*S	**Sg**	**05 18 57.1**	**-0.6**
	151nm,0.3s						
MRKS	**Merke**	**3.44**	**15**	*e*P	**Pn**	**05 18 04.5**	**+2.4**
MRKS	18nm,0.4s			*e*S	**Sn**	**05 18 46.4**	**+3.5**
	26nm,0.4s						
EKS2	**Erkin-Say**	**3.50**	**22**	⇑*i*P	**Pn**	**05 18 03.4**	**+0.5**
EKS2	baz=23			⇑*i*S	**Sn**	**05 18 44.8**	**+0.4**
	baz=23						
EKS2	**Erkin-Say**	**3.50**	**22**	P	**Pn**	**05 18 06.5**	**+3.6**
	SNR=6.6						
AAK	**Ala-Archa**	**3.72**	**30**	⇑*i*P	**Pn**	**05 18 06.9**	**+0.9**
AAK	baz=30			⇑*i*S	**Sn**	**05 18 50.4**	**+0.5**
	baz=30						
KK31	**Karatay Array**	**3.83**	**344**	Pn	**Pn**	**05 18 09.3**	**+1.9**
	1.8nm,0.3s,baz=152,slow=11,SNR=50						
KK31				⇓Pg	**Pg**	**05 18 19.8**	**-2.0**
	9.5nm,0.5s,baz=156,slow=16,SNR=18						
KK31				⇑Lg	Lg	05 19 04.9	
	15nm,0.5s,baz=155,slow=29,SNR=8.6						
KBK	**Karagaybulak**	**3.92**	**34**	P	**Pb**	**05 18 14.1**	**-3.6**
	SNR=7.6						
BRLS	**Borolday**	**3.94**	**336**	*e*P	**Pb**	**05 18 16.5**	**-1.5**
	22nm,0.2s						
BRLS				*e*S	**Sb**	**05 19 06.7**	**+0.9**
	41nm,0.7s						
CHMS	**Chumysh**	**4.12**	**29**	⇑*i*P	**Pn**	**05 18 12.5**	**+1.0**
	baz=30						
CHMS				⇑*i*S	**Sn**	**05 19 00.1**	**+0.3**
	baz=30						
CHMS	**Chumysh**	**4.12**	**29**	P	**Pn**	**05 18 15.4**	**+4.0**
	SNR=13						
KST	**Kastek**	**4.69**	**38**	*e*P	**Pb**	**05 18 27.7**	**-3.0**
	5.0nm,0.5s						
KST				*e*S	**Sb**	**05 19 26.4**	**-0.9**
	11nm,0.4s						
TNSS	**Tian-Shan**	**5.19**	**44**	*e*P	**Pb**	**05 18 37.9**	**-1.5**
	1.3nm,0.5s						
TNSS				*e*S	**Sb**	**05 19 44.0**	**+2.2**
	5.4nm,0.8s						
KOTS	**Kotyrbulak**	**5.41**	**44**	*e*P	**Pb**	**05 18 44.0**	**+1.0**
	5.0nm,0.4s						
KOTS				*e*S	**Sb**	**05 19 53.6**	**+5.6**
	9.7nm,0.5s						
KUU	**Kurty**	**5.52**	**35**	*e*P	**Pb**	**05 18 43.9**	**-0.9**
	2.4nm,0.8s						
KUU				*e*S	**Sb**	**05 19 53.9**	**+2.9**
	8.8nm,0.7s						
MKAR	**Makanchi Array**	**10.52**	**42**	Pn	**Pn**	**05 19 42.0**	**+2.9**
	0.0nm,0.3s,baz=230,slow=13,SNR=2.2						
KURBB	**Kurchatov Arra**	**12.10**	**20**	Pn	**Pn**	**05 20 00.2**	**-0.5**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.2						
AKTO	**Aktyubinsk**	**14.77**	**323**	Pn	**P**	**05 20 41.2**	**-2.0**
	0.5nm,0.3s,baz=126,slow=8.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**16.93**	**27**	Pn	**Pn**	**05 21 05.3**	**+0.1**
	0.5nm,0.3s,baz=212,slow=14,SNR=3.5						
ARCES	**ARCESS Array B**	**38.76**	**336**	P	**P**	**05 24 34.7**	**+2.1**
	1.1nm,0.8s,baz=119,slow=9.4,SNR=1.0						
WRA	**Warramunga Arr**	**82.90**	**123**	P	**P**	**05 29 33.6**	**+0.2**
	0.4nm,0.9s,baz=327,slow=4.9,SNR=4.5						

IDC 10 05:19:35.8±3.0, 60°11S×50°89W, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.9/2, Error ellipse: s-maj=168.1km s-min=38.5km az=106.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**30.13**	**180**	P	P	05 25 47.2	+0.2
	1.4nm,0.7s,baz=161,slow=2.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**84.22**	**51**	P	P	05 32 09.3	+0.5
	0.6nm,0.8s,baz=191,slow=4.7,SNR=4.8						
ILAR	**Eielson Array**	**143.55**	**314**	PKP	PKPdf	05 39 10.2	-0.4
	0.3nm,0.6s,baz=124,slow=1.9,SNR=4.5						
MKAR	**Makanchi Array**	**149.81**	**95**	PKPbc	PKPbc	05 39 25.3	-1.3
	0.4nm,0.6s,baz=209,slow=2.1,SNR=3.5						

*IDC **10** 05:27:39.5±1.1, 60°31S×49°93W, h0km, mb4.2/6, mb1 4.2/6, mb1mx4.0/25, mbtmp4.2/6, MS3.5/1, Ms1 3.5/1, ms1mx2.9/24, Error ellipse: s-maj=46.6km s-min=20.5km az=72.0*
*NEIC **10** 05:27:41.6±0.9, 60°27S±0°06×49°83W±0°2, h10km±1km, mb4.4/9, Error ellipse: s-maj=14.3km s-min=9.0km az=106.0*
ISC 10 05:27:41.6±0.6, 60°28S±0°06×49°83W±0°08, h10km, n22, σ0s81/22, mb4.3/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**7.96**	**229**	Pn	**Pn**	**05 29 36.9**	**-0.2**
HOPE	**Hope Point**	**9.38**	**56**	Pn	**Pn**	**05 29 56.7**	**0.0**
HOPE				Sn	**Sn**	**05 31 41.9**	**-0.2**
EFI	**East Falkland**	**9.77**	**328**	Pn	**Pn**	**05 30 02.5**	**+0.4**
EFI				Sn	**Sn**	**05 31 50.6**	**-1.1**
BELA	**Belgrano 2**	**18.36**	**170**		**P**	**05 31 55.7**	**-0.2**
VNA3	**Neumayer Olymp**	**19.34**	**141**	P	**Pn**	**05 32 07.0**	**-0.7**
SNAA	**Sanae**	**21.56**	**141**	P	**P**	**05 32 30.8**	**0.0**
SNAA	**Sanae**	**21.56**	**141**	P	**P**	**05 32 30.7**	**0.0**
	12nm,1.0s,baz=289,slow=8.0,SNR=27						
SNAA				LR	LR	05 39 34.2	
	comp=Z,124nm,18.9s,baz=309,slow=33						
SNAA	**Sanae**	**21.56**	**141**	P	**P**	**05 32 30.8**	**0.0**
SNAA				IAmb	IAmb	05 32 31.9	
	comp=Z,16nm,1.0s						
PLCA	**Paso Flores**	**23.41**	**317**	P	**P**	**05 32 50.1**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=248,slow=5.0,SNR=3.2						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**05 33 49.3**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=170,slow=2.6,SNR=30						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**05 33 49.5**	**-0.1**
QSPA				IAmb	IAmb	05 33 50.5	
	comp=Z,4.6nm,0.7s						
MAW	**Mawson**	**43.35**	**149**	P	**P**	**05 35 43.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=217,slow=8.8,SNR=4.9						
MAW	**Mawson**	**43.35**	**149**	P	**P**	**05 35 43.9**	**+0.7**
BDFB	**Brasilia**	**44.59**	**2**	P	**P**	**05 35 54.4**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=76,slow=4.0,SNR=4.2						
BDFB	**Brasilia**	**44.59**	**2**	IAmb	IAmb	05 35 55.9	
	comp=Z,5.3nm,0.9s						
SAML	**Samuel**	**52.20**	**343**	P	**P**	**05 36 53.5**	**+1.2**
SAML				IAmb	IAmb	05 36 54.0	
	comp=Z,4.0nm,1.1s						
CASY	**Casey**	**52.91**	**170**	P	**P**	**05 36 58.5**	**+1.4**
OTAV	**Otavalo**	**64.29**	**328**	P	**P**	**05 38 17.4**	**-0.1**
OTAV				IAmb	IAmb	05 38 20.4	
	comp=Z,6.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.91**	**50**	P	**P**	**05 40 11.7**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=213,slow=5.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.91**	**50**	IAmb	IAmb	05 40 12.6	
	comp=Z,2.3nm,1.3s						
ILAR	**Eielson Array**	**144.06**	**314**	PKP	**PKPab**	**05 47 12.7**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=138,slow=2.1,SNR=10						
MKAR	**Makanchi Array**	**149.27**	**94**	PKPbc	**PKPbc**	**05 47 27.0**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=219,slow=1.8,SNR=5.8						

IDC 10 05:28:38.1±1.4, 4°13S×150°77E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.2/42, mbtmp3.2/3, Error ellipse: s-maj=35.3km s-min=14.9km az=177.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.26**	**98**	Pg	Pg	05 29 02.0	-0.3
	52nm,0.3s,baz=230,slow=19,SNR=28						
KRVT				Lg	Lg	05 29 19.3	
	89nm,0.3s,baz=9.0,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**22.44**	**224**	P	P	05 33 39.9	+0.9
	0.3nm,0.4s,baz=51,slow=10,SNR=2.2						
ASAR	**Alice Springs**	**25.35**	**218**	P	P	05 34 06.3	-0.8
	0.1nm,0.3s,baz=53,slow=9.5,SNR=1.6						
ILAR	**Eielson Array**	**82.31**	**23**	P	P	05 41 01.5	+0.1
	0.3nm,0.7s,baz=248,slow=4.8,SNR=2.5						

IDC 10 05:41:04.7±4.8, 55°49N×85°97E, h0km, mb1 2.6/1, mb1mx2.6/38, mbtmp2.6/1, ML2.6/1, Error ellipse: s-maj=34.5km s-min=30.3km az=4.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**204**	*i*		05 51 30.0	
	baz=23,slow=349,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.68**	**204**	Pg	Pn	05 41 33.4	-1.9
	3.1nm,0.3s,baz=25,slow=18,SNR=31						
ZALV				Lg	Lg	05 41 58.7	
	2.3nm,0.3s,baz=31,slow=27,SNR=8.5						
MKAR	**Makanchi Array**	**9.01**	**196**	Pn	Pn	05 43 16.5	+0.6
	0.1nm,0.3s,baz=19,slow=14,SNR=2.2						
MKAR				Lg	Lg	05 45 47.4	
	0.0nm,0.3s,baz=38,slow=34,SNR=5.3						

*NEIC **10** 05:41:43.9±1.5, 20°0S±0°1×177°6W±0°1, h489km±7km, mb4.3/41, Error ellipse: s-maj=19.0km s-min=14.9km az=133.0*
*IDC **10** 05:41:45.3±2.0, 20°03S×177°63W, h502km±22km, mb3.5/15, mb1 3.7/17, mb1mx3.5/32, mbtmp4.3/17, Error ellipse: s-maj=20.5km s-min=12.4km az=142.0*
ISC 10 05:41:44.6±0.4, 19°94S±0°07×177°62W±0°08, h500km, n131, σ1s52/136, mb4.1/33, 13C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.65**	**297**	P	**P**	**05 43 05.8**	**-2.8**
NIUE	**Niue**	**7.30**	**85**	P	**P**	**05 43 33.6**	**-0.3**
AFI	**Afiamalu**	**8.20**	**44**	P	**P**	**05 43 43.8**	**+0.6**
	6.3nm,0.3s,baz=202,slow=11,SNR=6.1						
AFI				S	**S**	**05 45 16.3**	**-4.2**
	13nm,0.3s,baz=319,slow=24,SNR=9.9						
AFI	**Afiamalu**	**8.20**	**44**	P	**P**	**05 43 43.5**	**+0.4**
AFI					**S**	**05 45 19.7**	**-0.8**
DZM	**Mont Dzumac**	**15.04**	**259**	P	**P**	**05 44 56.0**	**+0.7**
	0.2nm,0.3s,baz=74,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**15.04**	**259**	P	**P**	**05 44 55.1**	**-0.2**
DZM				IAmb	IAmb	05 45 02.4	
	comp=Z,27nm,1.5s						
OUZ	**Omahuta**	**17.08**	**205**	P	**P**	**05 45 17.7**	**+1.5**
OUZ	**Omahuta**	**17.08**	**205**	P	**P**	**05 45 16.3**	**+0.1**
GRZ	**Great Barrier**	**17.35**	**199**	P	**P**	**05 45 21.0**	**+2.2**
KUZ	**Kuaotunu**	**17.73**	**198**	P	**P**	**05 45 22.3**	**0.0**
MXZ	**Matakaoa Point**	**17.91**	**191**	P	**P**	**05 45 23.8**	**-0.2**
MXZ	**Matakaoa Point**	**17.91**	**191**	P	**P**	**05 45 23.6**	**-0.4**
WIAZ	**Waiheke Island**	**17.95**	**199**	P	**P**	**05 45 25.4**	**+1.0**
WMGZ	**Waiomatatini S**	**18.15**	**190**	P	**P**	**05 45 26.6**	**+0.5**
HAZ	**Te Kaha**	**18.20**	**192**	P	**P**	**05 45 26.1**	**-0.5**
PUZ	**Puketiti**	**18.42**	**190**	P	**P**	**05 45 26.7**	**-2.0**
RUGZ	**Raukumara Rang**	**18.42**	**192**	P	**P**	**05 45 27.2**	**-1.6**
RUGZ				S	**S**	**05 48 35.9**	**+4.4**
TGRZ	**Tauranga**	**18.51**	**195**	P	**P**	**05 45 28.7**	**-0.7**
TWGZ	**Tauwhareparae**	**18.57**	**191**	P	**P**	**05 45 30.4**	**+0.4**
TOZ	**Tahuroa Road**	**18.71**	**197**	P	**P**	**05 45 32.3**	**+1.0**
MWZ	**Matawai**	**18.81**	**192**	P	**P**	**05 45 30.6**	**-1.6**
URZ	**Urewera**	**18.82**	**193**	P	**P**	**05 45 28.7**	**-3.5**
	comp=Z,4.8nm,0.3s,baz=277,slow=0.9,SNR=23						
URZ				S	**S**	**05 48 31.0**	**-6.7**
	comp=Z,0.5nm,0.3s,baz=349,slow=23,SNR=1.8						
URZ	**Urewera**	**18.82**	**193**	P	**P**	**05 45 29.8**	**-2.4**
URZ	**Urewera**	**18.82**	**193**	P	**P**	**05 45 30.4**	**-1.8**
HIZ	**Hauiti**	**19.62**	**198**	P	**P**	**05 45 40.9**	**+1.3**
HIZ	**Hauiti**	**19.62**	**198**	P	**P**	**05 45 40.5**	**+0.9**
NMHZ	**Naumai**	**19.69**	**193**	P	**P**	**05 45 40.5**	**+0.2**
NMHZ				S	**S**	**05 48 56.2**	**+4.1**
BKZ	**Black Stump Fm**	**19.82**	**194**	P	**P**	**05 45 36.6**	**-4.9**
BKZ	**Black Stump Fm**	**19.82**	**194**	P	**P**	**05 45 39.7**	**-1.8**
BKZ				IAmb	IAmb	05 45 51.4	
	comp=Z,29nm,1.5s						
OTVZ	**Oturere**	**20.02**	**195**	P	**P**	**05 45 41.4**	**-2.0**
TUVZ	**Tukino**	**20.12**	**195**	P	**P**	**05 45 42.7**	**-1.6**
WNVZ	**Wahianoa**	**20.19**	**195**	P	**P**	**05 45 43.4**	**-1.5**
BHHZ	**Black Hill Sta**	**20.23**	**194**	P	**P**	**05 45 42.0**	**-3.2**
KAHZ	**Kahuranaki**	**20.35**	**192**	P	**P**	**05 45 45.0**	**-1.2**
PNHZ	**Pukenui**	**20.60**	**194**	P	**P**	**05 45 45.1**	**-3.5**
ANWZ	**Angora Road**	**21.07**	**193**	P	**P**	**05 45 51.5**	**-1.2**
BFZ	**Birch Farm**	**21.33**	**193**	P	**P**	**05 45 52.8**	**-2.2**
BFZ	**Birch Farm**	**21.33**	**193**	P	**P**	**05 45 53.0**	**-2.1**
MRZ	**Mangatainoka R**	**21.46**	**194**	P	**P**	**05 45 53.4**	**-2.8**
HOWZ	**Holdsworth Sta**	**21.70**	**194**	P	**P**	**05 45 56.3**	**-2.2**
SNZO	**South Karori**	**22.28**	**195**	P	**P**	**05 46 02.4**	**-1.3**
QRZ	**Quartz Range**	**22.45**	**200**	P	**P**	**05 46 04.7**	**-0.5**
TUWZ	**Tuamarina**	**22.59**	**197**	P	**P**	**05 46 04.3**	**-2.1**
BSWZ	**Blackbirch Sta**	**22.88**	**197**	P	**P**	**05 46 07.8**	**-1.2**
THZ	**Tophouse**	**23.19**	**198**	P	**P**	**05 46 11.2**	**-0.7**
THZ				IAmb	IAmb	05 46 12.2	
	comp=Z,17nm,1.1s						
OXZ	**Oxford**	**24.88**	**198**	P	**P**	**05 46 26.2**	**-0.6**
OXZ				IAmb	IAmb	05 46 26.4	
	comp=Z,12nm,0.5s						
MQZ	**McQueen's Vall**	**25.06**	**197**	P	**P**	**05 46 26.8**	**-1.6**
RPZ	**Rata Peaks**	**25.53**	**199**	P	**P**	**05 46 31.8**	**-0.8**
	comp=Z,6.3nm,0.5s,baz=355,slow=5.3,SNR=6.3						
WHZ	**Wether Hill Ro**	**28.48**	**201**	P	**P**	**05 46 57.6**	**-0.9**
WHZ				IAmb	IAmb	05 47 17.4	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**38.36**	**244**	P	**P**	**05 48 22.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=11,slow=6.8,SNR=3.2						
BBOO	**Buckleboo**	**43.12**	**243**	P	**P**	**05 49 00.1**	**-0.2**
WR0	**Warramunga Arr**	**44.85**	**261**	P	**P**	**05 49 14.0**	**+0.2**
WR0				IAmb	IAmb	05 49 15.7	
	comp=Z,6.5nm,1.2s						
AS31	**Alice Springs**	**45.00**	**256**	P	**P**	**05 49 15.7**	**+0.7**
ASAR	**Alice Springs**	**45.00**	**256**	P	**P**	**05 49 15.7**	**+0.6**
	comp=Z,10nm,0.8s,baz=98,slow=7.6,SNR=92						
ASAR				PcP	**PcP**	**05 50 45.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=102,slow=

ILAR	**Eielson Array**	**87.69**	**13**	P	**P**	**05 53 38.8**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=224,slow=5.9,SNR=13						
PDAR	**Pinedale Array**	**88.31**	**43**	P	**P**	**05 53 43.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=208,slow=3.4,SNR=8.9						
PDAR	**Pinedale Array**	**88.31**	**43**	P	**P**	**05 53 42.6**	**-0.2**
YHL	**Hebgen Lake**	**88.32**	**41**	P	**P**	**05 53 43.0**	**+0.1**
DAWY	**Dawson**	**88.83**	**16**		**P**	**05 53 45.0**	**+0.6**
DAWY				IAmb	IAmb	05 53 46.1	
	comp=Z,2.8nm,0.8s						
EGAK	**Eagle**	**88.97**	**15**	P	**P**	**05 53 45.4**	**+0.5**
EGAK				IAmb	IAmb	05 53 46.5	
	comp=Z,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.27**	**289**	P	**P**	**05 53 54.0**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=101,slow=3.0,SNR=8.2						
MKAR	**Makanchi Array**	**111.08**	**314**	PKiKP	**PKiKP**	**05 59 19.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=129,slow=2.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**113.88**	**317**	PKiKP	**PKiKP**	**05 59 24.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=88,slow=1.9,SNR=5.9						
ARCES	**ARCESS Array B**	**128.44**	**350**	PKP	**PKPdf**	**05 59 53.3**	**-0.1**
	comp=Z,4.2nm,1.1s,baz=327,slow=2.0,SNR=4.2						
FINES	**FINESS Array B**	**135.34**	**344**	PKhKP	PKPpre	06 00 03.9	
	comp=Z,0.8nm,0.7s,baz=125,slow=3.9,SNR=1.0						
FINES				PKP	**PKiKP**	**06 00 08.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=76,slow=5.9,SNR=4.6						
HFS	**Hagfors**	**139.04**	**351**	PKhKP	PKPpre	06 00 04.3	
	comp=Z,1.2nm,0.5s,baz=102,slow=4.9,SNR=4.1						
AKASG	**Malin Array Be**	**142.70**	**332**	PKhKP	PKPpre	06 00 16.7	
	comp=Z,11nm,0.8s,baz=42,slow=4.6,SNR=16						
EKA	**Eskdalemuir Ar**	**144.42**	**5**	PKP	PKPbc	06 00 22.8	-0.1
	comp=Z,0.9nm,0.4s,baz=335,slow=3.1,SNR=5.3						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	**PKPbc**	**06 00 30.4**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=147,slow=3.2,SNR=5.1						
BRTR	**Keskin Array B**	**146.73**	**313**		**PKPbc**	**06 00 30.4**	**0.0**
BURAR	**Bucovina Array**	**146.75**	**331**	⇑P	**PKiKP**	**06 00 32.0**	**-0.2**
BURAR	**Bucovina Array**	**146.75**	**331**	PKPab	**PKPab**	**06 00 33.1**	**+0.3**
BIZ	**Bicaz**	**146.84**	**330**	⇑P	**PKiKP**	**06 00 31.5**	**-0.8**
VRI	**Vrincioaia**	**147.29**	**328**	⇓P	**PKPbc**	**06 00 31.9**	**+0.4**
CLL	**Collm**	**147.60**	**348**	⇓*i*PKPbc	**PKPbc**	**06 00 32.5**	**+0.4**
	comp=Z,12nm,0.5s						
DPC	**Dobruska-Polom**	**147.70**	**343**	⇑*e*PKP	**PKPbc**	**06 00 32.9**	**+0.4**
DPC				*ex*	x	06 00 37.7	
BRG	**Berggiesshubel**	**147.81**	**346**	*i* PKP	**PKPbc**	**06 00 33.0**	**+0.3**
	comp=Z,7.0nm,0.6s						
KRLC	**Kraliky**	**147.82**	**342**	⇑*e*PKP	**PKPbc**	**06 00 33.1**	**+0.3**
DOPR	**Dopca**	**147.88**	**329**	⇑P	**PKPbc**	**06 00 33.8**	**+0.7**
MLR	**Muntele Rosu**	**147.95**	**328**	PKPbc	**PKPbc**	**06 00 33.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=27,slow=11,SNR=2.5						
MLR	**Muntele Rosu**	**147.95**	**328**	⇑P	**PKPbc**	**06 00 33.0**	**-0.4**
MLR	**Muntele Rosu**	**147.95**	**328**		**PKPbc**	**06 00 33.5**	**+0.2**
VOIR		**148.43**	**329**	⇑P	**PKPbc**	**06 00 34.7**	**+0.2**
PRU	**Pruhonice**	**148.49**	**345**	⇑*e*PKP	**PKPbc**	**06 00 34.7**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.50**	**345**	⇑*e*PKP	**PKPbc**	**06 00 35.0**	**+0.5**
ARR	**Arges**	**148.68**	**329**	⇓P	**PKiKP**	**06 00 36.0**	**-0.2**
KHC	**Kasperske Hory**	**149.52**	**345**	⇑*e*PKP	**PKPbc**	**06 00 37.0**	**0.0**
KHC	**Kasperske Hory**	**149.52**	**345**		**PKiKP**	**06 00 37.6**	**-0.2**
GZR	**Gura Zlata**	**149.53**	**331**	⇑P	**PKPbc**	**06 00 36.6**	**-0.6**
GERES	**GERESS Array B**	**149.76**	**345**	PKPbc	**PKPbc**	**06 00 38.0**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=29,slow=3.0,SNR=14						
GERES	**GERESS Array B**	**149.76**	**345**		**PKiKP**	**06 00 38.2**	**-0.2**
HERR	**Herculane**	**150.09**	**331**	⇑P	**PKPbc**	**06 00 38.4**	**0.0**
MDVR	**Moldovita**	**150.48**	**331**	⇑P	**PKPbc**	**06 00 37.5**	**-1.9**
DAVOX	**Davos/Dischmat**	**152.53**	**349**	PKPbc	**PKPbc**	**06 00 44.1**	**0.0**
	comp=Z,1.4nm,0.4s,baz=155,slow=20,SNR=3.7						

KRNET 10 05:45:43.5±0.1, 40.12N×76.77E, mb2.7, 14C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.79**	**26**	⇑*e*P	Pb	05 46 16.7	-0.6
	baz=26						
TARG				⇑*i*S	Sg	05 46 41.2	+0.3
	baz=26						
KDJ	**Kajisay**	**2.03**	**9**	⇑*i*P	Pb	05 46 21.2	-0.1
	baz=9.0						
KDJ				⇑*i*S	Sg	05 46 48.2	-0.5
	baz=9.0						
ULHL	**Ulahol**	**2.16**	**350**	⇑*i*P	Pb	05 46 22.6	-1.0
	baz=50						
ULHL				⇑*i*S	Sb	05 46 51.4	+0.4
	baz=50						
ARLS	**Aral**	**2.54**	**314**	⇑*i*P	Pn	05 46 28.0	+1.9
	baz=14						
ARLS				⇑*i*S	Sb	05 47 01.1	-0.8
	baz=14						
UCH	**Uchtor**	**2.71**	**322**	⇓*e*P	Pn	05 46 30.6	+1.9
	baz=22						
UCH				⇓*i*S	Sb	05 47 04.9	-2.1
	baz=22						
ANVS	**Anan'yevo**	**2.74**	**14**	⇑*i*P	Pn	05 46 30.8	+1.9
	baz=14						
ANVS				⇑*i*S	Sb	05 47 05.9	-1.8
	baz=14						
KBK	**Karagaybulak**	**2.88**	**332**	⇑*i*P	Pn	05 46 33.1	+2.3
	baz=32						
KBK				⇑*i*S	Sb	05 47 09.5	-2.2
	baz=32						
AML	**Almayashu**	**3.07**	**312**	⇑*i*P	Pn	05 46 35.5	+1.9
	baz=12						
AML				⇑*i*S	Sb	05 47 14.3	-3.1
	baz=12						

*SOME **10** 05:46:41.5, 42.05N×77.20E, h0km*
NNC 10 05:46:40.5±3.5, 41.99N×77.24E, h0km, mb2.7, mpv2.5, 2C, Error ellipse: s-maj=24.0km s-min=13.0km az=26.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**1.07**	**349**	*e*P	Pg	05 47 01.2	+0.1
	0.6nm,0.2s						
TNSS				*e*S	Sg	05 47 15.3	+0.3
	2.2nm,0.5s						
TNSS	**Tian-Shan**	**1.07**	**349**	P	Pg	05 47 01.2	+0.1
	0.6nm,0.2s						
TNSS				S	Sg	05 47 15.3	+0.3
	2.2nm,0.5s						
MDOK	**Medeo**	**1.19**	**353**	*e*P	Pg	05 47 03.1	-0.1
	2.2nm,0.4s						
MDOK				*e*S	Sg	05 47 18.6	-0.1
	5.3nm,0.5s						
MDOK	**Medeo**	**1.19**	**353**	Pg	Pg	05 47 03.2	-0.1
	2.2nm,0.4s						
MDOK				Lg	Lg	05 47 18.6	
	5.3nm,0.5s						
KOTS	**Kotyrbulak**	**1.25**	**356**	*e*P	Pg	05 47 04.5	0.0
	6.2nm,0.3s						
KOTS				*e*S	Sb	05 47 21.3	-0.5
	24nm,0.6s						
KOTS	**Kotyrbulak**	**1.25**	**356**	P	Pb	05 47 05.0	-0.1
	6.2nm,0.3s						
KOTS				S	Sb	05 47 21.7	-0.1
	24nm,0.6s						
SATY	**Saty**	**1.38**	**38**	*e*P	Pn	05 47 07.2	0.0
	0.6nm,0.1s						
SATY				*e*S	Sb	05 47 25.7	+0.2
	4.9nm,0.2s						
SATY	**Saty**	**1.38**	**38**	P	Pn	05 47 07.2	0.0
	0.6nm,0.1s						
SATY				S	Sb	05 47 25.7	+0.2
	4.9nm,0.2s						
PDGK	**Podgornoye**	**2.14**	**50**	⇑Pn	Pn	05 47 16.4	-1.2
	2.6nm,1.0s						
PDGK				⇑Sn	Sn	05 47 44.5	-0.4
	1.4nm,0.6s						
MNBS	**Baschi**	**2.26**	**22**	*e*P	Pg	05 47 24.1	+0.2
	1.3nm,0.2s						
MNBS				*e*S	Sg	05 47 54.9	+1.7
	4.2nm,1.1s						
MNBS	**Baschi**	**2.26**	**22**	Pg	Pg	05 47 24.1	+0.2
	1.3nm,0.2s						
MNBS				Lg	Lg	05 47 54.9	
	4.2nm,1.1s						

*SFS **10** 05:53:28.0, 34.91N×4.43W, ML3.0, ZERKAT (MARRUECOS)*
*IGIL **10** 05:53:29.5, 34.92N×4.42W, h1km*
*MDD **10** 05:53:29.2±1.0, 34.89N×4.40W, h7km±4km, mb4.2/1, mbLg2.8/38, Error ellipse: s-maj=7.3km s-min=4.7km az=6.0, PRXIMO*
*INMG **10** 05:53:30.8±2.0, 34.93N×4.46W, h12km±10km, ML2.7, Error ellipse: s-maj=4.6km s-min=3.7km az=93.0*

*CNRM **10** 05:53:30.3±1.2, 34.94N×4.63W, h19km±7km, Error ellipse: s-maj=5.0km s-min=2.6km az=87.0*
ISC 10 05:53:29.4±1.1, 34.97N±0.03×4.44W±0.02, h18km±3km, n90, σ1§85/165, 2C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.23**	**29**	P	**Pg**	**05 53 35.2**	**+0.4**
PVLZ				S	**Sb**	**05 53 38.6**	**+0.4**
PVLZ	**Peæn de**	**0.23**	**29**	⇑*i*P	**Pg**	**05 53 35.2**	**+0.4**
PVLZ				*e*S	**Sb**	**05 53 38.6**	**+0.4**
CEU	**Ceuta**	**1.20**	**321**	P	**Pn**	**05 53 48.7**	**-2.6**
CEU				S	**Sb**	**05 54 01.1**	**-5.7**
CEU	**Ceuta**	**1.20**	**321**	*e*P	**Pn**	**05 53 48.7**	**-2.6**
CEU				*e*S	**Sb**	**05 54 01.1**	**-5.7**
ECEU	**Ceuta**	**1.20**	**321**	P	**Pn**	**05 53 50.4**	**-0.9**
	4.6nm,0.1s,SNR=8.8						
ECEU				S	**Sg**	**05 54 08.2**	**-0.2**
	40nm,0.2s,SNR=6.5						
EMEL	**Melilla**	**1.26**	**74**	P	**Pn**	**05 53 51.7**	**-0.3**
	79nm,0.1s,SNR=37						
EMEL				S	**Sg**	**05 54 09.8**	**-0.2**
	1µm,0.7s,SNR=5.0						
MELI	**Melilla**	**1.27**	**75**	P	**Pn**	**05 53 51.6**	**-0.6**
	630nm,0.4s,SNR=7.9						
MELI				S	**Sb**	**05 54 09.9**	**+1.1**
	396nm,0.4s,SNR=7.9						
MELI	**Melilla**	**1.27**	**75**	*e*P	**Pn**	**05 53 51.5**	**-0.7**
MELI				*e*S	**Sn**	**05 54 08.0**	**-0.8**
EALB	**Alboran**	**1.50**	**49**	P	**Pn**	**05 53 54.2**	**-1.1**
	81nm,0.3s,SNR=39						
EALB				S	**Sn**	**05 54 13.1**	**-1.3**
	168nm,0.3s,SNR=5.6						
IFR	**Ifrane**	**1.56**	**202**	*e*P	**Pn**	**05 53 56.0**	**-0.4**
IFR				*e*S	**Sn**	**05 54 13.3**	**-2.9**
EMAL	**Malaga-Limoner**	**1.79**	**0**	P	**Pn**	**05 53 58.8**	**-0.5**
EMAL				S	**Sn**	**05 54 19.7**	**-1.8**
EMAL	**Malaga-Limoner**	**1.79**	**0**	⇑*e*P	**Pn**	**05 53 58.8**	**-0.5**
EMAL				*e*S	**Sn**	**05 54 19.7**	**-1.8**
ELGU	**Los Guajares,**	**2.00**	**19**	P	**Pn**	**05 54 01.9**	**-0.5**
	3.9nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**05 54 27.5**	**+0.5**
	140nm,0.3s,SNR=7.9						
MD31	**MD31**	**2.12**	**187**	P	**Pn**	**05 54 04.1**	**+0.2**
MD31				S	**Sn**	**05 54 30.0**	**+0.2**
EGOR	**Sierra Gorda,**	**2.15**	**7**	P	**Pn**	**05 54 04.5**	**+0.1**
	1.6nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**05 54 32.5**	**+1.7**
	51nm,0.4s,SNR=7.9						
MDT	**Midelt**	**2.16**	**184**	P	**Pn**	**05 54 04.5**	**0.0**
MDT				S	**Sn**	**05 54 30.9**	**+0.1**
ESPR	**Espera**	**2.22**	**329**	P	**Pn**	**05 54 06.7**	**+1.5**
	0.8nm,0.1s,SNR=5.0						
ESPR				S	**Sn**	**05 54 33.1**	**+1.0**
	19nm,0.3s						
EBER	**Berja**	**2.29**	**33**	P	**Pn**	**05 54 05.5**	**-1.0**
	9.4nm,0.4s,SNR=14						
EBER				S	**Sn**	**05 54 34.8**	**+0.5**
	122nm,0.6s,SNR=6.1						
EQUE	**Quentar**	**2.37**	**20**	P	**Pn**	**05 54 08.2**	**+0.7**
	3.3nm,0.2s,SNR=18						
EQUE				S	**Sb**	**05 54 38.4**	**-2.2**
	33nm,0.4s						
ENIJ	**Nijar**	**2.69**	**42**	P	**Pn**	**05 54 12.9**	**+1.1**
	5.4nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**05 54 41.1**	**-2.8**
	70nm,0.4s,SNR=7.9						
TDRA	**Tendrara**	**2.78**	**133**	P	**Pn**	**05 54 13.7**	**+0.6**
TDRA				S	**Sb**	**05 54 51.3**	**-1.1**
HORN	**Hornachuelos**	**2.94**	**347**	P	**Pn**	**05 54 15.8**	**+0.5**
HORN				S	**Sn**	**05 54 51.1**	**+1.0**
AVE	**Averroes**	**2.98**	**237**	P	**Pn**	**05 54 15.2**	**-0.5**
AVE	**Averroes**	**2.98**	**237**	*e*P	**Pn**	**05 54 22.3**	**+0.4**
AVE				*e*S	**Sb**	**05 54 58.4**	**+0.4**
EQES	**Quesada**	**3.03**	**21**	⇓P	**Pn**	**05 54 19.0**	**+2.5**
	12nm,0.3s,SNR=18						
EQES				S	**Sn**	**05 54 54.5**	**+2.1**
	56nm,0.6s,SNR=4.5						
EADA	**Adamuz**	**3.19**	**358**	P	**Pn**	**05 54 19.5**	**+0.8**
	1.7nm,0.2s,SNR=14						
EADA				S	**Sn**	**05 54 58.7**	**+2.4**
	15nm,0.3s,SNR=4.7						
ECAB	**El Cabril**	**3.20**	**346**	P	**Pn**	**05 54 20.2**	**+1.4**
	0.5nm,0.2s,SNR=9.1						
ECAB				S	**Sn**	**05 54 57.7**	**+1.3**
	11nm,0.4s,SNR=5.7						
GOLM	**Goulmima**	**3.29**	**188**	P	**Pn**	**05 54 22.4**	**+2.3**
GOLM				S	**Sn**	**05 55 01.1**	**+2.3**
EMIN	**Mina Concepcio**	**3.32**	**328**	P	**Pn**	**05 54 20.7**	**+0.2**
	0.9nm,0.1s,SNR=16						
EMIN				S	**Sn**	**05 54 58.9**	**-0.5**
	2.9nm,0.3s						
SESP	**Santiago Espad**	**3.49**	**25**	P	**Pn**	**05 54 25.1**	**+2.2**
	11nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**05 55 04.9**	**+1.1**
	79nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**3.49**	**25**	P	**Pn**	**05 54 25.4**	**+2.5**
SESP				S	**Sn**	**05 55 07.5**	**+3.7**
ARF	**Arif**	**3.53**	**177**	P	**Pn**	**05 54 24.0**	**+0.6**
EGRO	**El Granado**	**3.55**	**317**	P	**Pn**	**05 54 24.3**	**+0.8**
	2.5nm,0.1s,SNR=23						
EGRO				S	**Sn**	**05 55 06.2**	**+1.2**
	17nm,0.6s						
PVAQ	**Vaqueiros**	**3.60**	**313**	P	**Pn**	**05 54 24.8**	**+0.6**
PVAQ				S	**Sn**	**05 55 07.3**	**+1.1**
	14nm,0.7s						
PVAQ	**Vaqueiros**	**3.60**	**313**	P	**Pn**	**05 54 24.5**	**+0.4**
PVAQ				S	**Sn**	**05 55 06.8**	**+0.6**
PVAQ	**Vaqueiros**	**3.60**	**313**	*e*Pn	**Pn**	**05 54 24.8**	**+0.6**
PVAQ				*e*Sn	**Sn**	**05 55 07.3**	**+1.1**
PVAQ				A	A	05 55 19.5	
	14nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.62**	**310**	P	**Pn**	**05 54 26.2**	**+1.6**
PBDV				S	**Sn**	**05 55 07.7**	**+0.8**
	16nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.62**	**310**	*e*Pn	**Pn**	**05 54 26.2**	**+1.6**
PBDV				*e*Sn	**Sn**	**05 55 07.7**	**+0.8**
PBDV				A	A	05 55 14.6	
	16nm,0.5s						
PBAR	**Barrancos**	**3.82**	**328**	P	**Pn**	**05 54 31.4**	**+4.1**
PBAR	**Barrancos**	**3.82**	**328**	*e*Pn	**Pn**	**05 54 31.4**	**+4.1**
EMUR	**La Murta**	**3.85**	**41**	P	**Pn**	**05 54 30.1**	**+2.3**
	0.9nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**05 55 09.7**	**-2.9**
	21nm,0.4s,SNR=6.7						
PCVE	**Castro Verde**	**3.94**	**313**	P	**Pn**	**05 54 30.7**	**+1.8**
PCVE				S	**Sn**	**05 55 16.3**	**+1.7**
	10nm,0.4s						
PCVE	**Castro Verde**	**3.94**	**313**	*e*Pn	**Pn**	**05 54 30.7**	**+1.8**
PCVE				*e*Sn	**Sn**	**05 55 16.3**	**+1.7**
PCVE				A	A	05 55 24.4	
	10nm,0.4s						
PBEJ	**Beja**	**4.11**	**319**	P	**Pn**	**05 54 33.5**	**+2.2**
PBEJ				S	**Sn**	**05 55 20.7**	**+1.7**
	3.5nm,0.4s						
PBEJ	**Beja**	**4.11**	**319**	*e*Pn	**Pn**	**05 54 33.5**	**+2.2**
PBEJ				*e*Sn	**Sn**	**05 55 20.7**	**+1.7**
PBEJ				A	A	05 55 24.2	
	6.9nm,0.4s						
MORF	**Marmelete**	**4.13**	**306**	*e*P	**Pn**	**05 54 32.4**	**+0.8**
MORF	**Marmelete**	**4.13**	**306**	P	**Pn**	**05 54 34.0**	**+2.4**
MORF				S	**Sn**	**05 55 21.1**	**+1.7**
	7.9nm,0.4s						
MORF	**Marmelete**	**4.13**	**306**	*e*Pn	**Pn**	**05 54 34.0**	**+2.4**
MORF				*e*Sn	**Sn**	**05 55 21.1**	**+1.7**
MORF				A	A	05 55 27.4	
	7.9nm,0.4s						
PFVI	**Vila Bisbo**	**4.16**	**302**	P	**Pn**	**05 54 33.5**	**+1.6**
	1.1nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**05 55 19.9**	**-0.1**
	15nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.16**	**302**	*e*Pn	**Pn**	**05 54 34.2**	**+2.3**
PFVI				*e*Sn	**Sn**	**05 55 21.7**	**+1.6**
PFVI				A	A	05 55 26.5	
	10nm,0.7s						
TZRR	**Tazzarine**	**4.28**	**193**	P	**Pn**	**05 54 34.3**	**+0.6**
PTEO	**Sao Teotonio**	**4.31**	**308**	P	**Pn**	**05 54 36.1**	**+2.1**
PTEO				S	**Sn**	**05 55 25.8**	**+2.0**
	5.2nm,0.5s						
PTEO	**Sao Teotonio**	**4.31**	**308**	*e*Pn	**Pn**	**05 54 36.1**	**+2.1**
PTEO				*e*Sn	**Sn**	**05 55 25.8**	**+2.0**
PTEO				A	A	05 55 27.9	
	10nm,0.5s						
ETOB	**Tobarra**	**4.34**	**31**	P	**Pn**	**05 54 36.5**	**+2.1**
	4.2nm,0.3s,SNR=9.4						
ETOB				S	**Sn**	**05 55 25.6**	**+1.1**
	20nm,0.5s						
OUZM	**OUZ**	**4.50**	**206**	P	**Pn**	**05 54 37.4**	**+0.7**
PNCL	**Nicolau / Gran**	**4.55**	**315**	P	**Pn**	**05 54 38.8**	**+1.6**
PNCL				S	**Sn**	**05 55 29.9**	**+0.3**
	5.9nm,0.5s						
PNCL	**Nicolau / Gran**	**4.55**	**315**	*e*Pn	**Pn**	**05 54 38.8**	**+1.6**
PNCL				*e*Sn	**Sn**	**05 55 29.9**	**+0.3**
PNCL				A	A	05 55 43.3	
	5.9nm,0.5s						
EVO	**Evora**	**4.57**	**322**	P	**Pn**	**05 54 39.1**	**+1.6**
EVO				S	**Sn**	**05 55 30.2**	**+0.1**
	8.4nm,0.4s						
EVO	**Evora**	**4.57**	**322**	*e*P	**Pn**	**05 54 39.2**	**+1.7**
EVO				*e*S	**Sn**	**05 55 30.3**	**+0.1**
EVO	**Evora**	**4.57**	**322**	*e*Pn	**Pn**	**05 54 39.1**	**+1.6**
EVO				*e*Sn	**Sn**	**05 55 30.2**	**+0.1**
EVO				A	A	05 55 33.4	
	8.4nm,0.4s						
ESDC	**Sonseca Array**	**4.71**	**4**	P	**Pn**	**05 54 41.3**	**+1.8**
	7.8nm,0.7s,baz=184,slow=12,SNR=15						
ESDC				S	**Sn**	**05 55 33.3**	**-0.4**
	14nm,0.8s,baz=184,slow=22,SNR=176						
OUK	**Oukaimeden**	**4.73**	**218**	P	**Pn**	**05 54 39.6**	**-0.5**
OUK				S	**Sn**	**05 55 33.5**	**-1.1**
ZGR	**Zagora**	**4.94**	**192**	P	**Pn**	**05 54 42.8**	**0.0**
PMRV	**Marv??o**	**5.04**	**333**	P	**Pn**	**05 54 45.1**	**+1.1**
PMRV				S	**Sn**	**05 55 41.5**	**-0.2**
	4.1nm,0.5s						
PMRV	**Marv??o**	**5.04**	**333**	*e*Pn	**Pn**	**05 54 45.1**	**+1.1**
PMRV				*e*Sn	**Sn**	**05 55 41.5**	**-0.2**
PMRV				A	A	05 55 58.1	
	4.1nm,0.5s						
PMTG	**Montargil**	**5.09**	**325**	P	**Pn**	**05 54 46.5**	**+1.8**
PMTG				S	**Sn**	**05 55 42.5**	**-0.5**
	4.7nm,0.5s						
PMTG	**Montargil**	**5.09**	**325**	*e*Pn	**Pn**	**05 54 46.5**	**+1.8**
PMTG				*e*Sn	**Sn**	**05 55 42.5**	**-0.5**
PMTG				A	A	05 56 12.5	
	4.7nm,0.5s						
EPLA	**Plasencia**	**5.25**	**346**	P	**Pn**	**05 54 47.5**	**+0.6**
	1.0nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**05 55 45.0**	**-2.0**
	4.6nm,0.5s,SNR=7.9						
PCBR	**Castelo Branco**	**5.43**	**334**	P	**Pn**	**05 54 51.2**	**+1.8**
PCBR				S	**Sn**	**05 55 50.2**	**-1.1**
	1.9nm,0.6s						
PCBR	**Castelo Branco**	**5.43**	**334**	*e*Pn	**Pn**	**05 54 51.2**	**+1.8**
PCBR				*e*Sn	**Sn**	**05 55 50.2**	**-1.1**
PCBR				A	A	05 56 14.9	
	3.9nm,0.6s						
PMAFR	**Mafra**	**5.55**	**317**	*e*Pn	**Pn**	**05 54 53.7**	**+2.6**
PMAFR				*e*Sn	Sn	05 55 45.4	-9.1
PMAFR				A	A	05 55 51.5	
	11nm,0.7s						
PSBE	**So Bento**	**5.71**	**324**	*e*Pn	**Pn**	**05 54 57.7**	**+4.4**
MTE	**Manteigas**	**5.95**	**336**	P	**Pn**	**05 54 59.5**	**+2.9**
MTE				S	**Sn**	**05 56 04.5**	**+0.2**
MTE	**Manteigas**	**5.95**	**336**	*e*Pn	**Pn**	**05 54 59.5**	**+2.9**
MTE				*e*Sn	**Sn**	**05 56 04.5**	**+0.2**
PCAS	**Casmilo, Conde**	**6.01**	**329**	P	**Pn**	**05 54 57.8**	**+0.4**
PCAS				S	**Sn**	**05 56 03.4**	**-2.3**
	5.3nm,0.5s						
PCAS	**Casmilo, Conde**	**6.01**	**329**	*e*Pn	**Pn**	**05 54 57.8**	**+0.4**
PCAS				*e*Sn	**Sn**	**05 56 03.4**	**-2.3**
PCAS				A	A	05 56 28.1	
	5.3nm,0.5s						
ETOR	**Torete**	**6.13**	**17**	P	**Pn**	**05 54 59.9**	**+0.7**
	0.9nm,0.1s,SNR=7.3						
ETOR				S	**Sn**	**05 56 06.6**	**-2.3**
	7.9nm,0.5s						
PVIS	**Viseu**	**6.35**	**336**	P	**Pn**	**05 55 03.4**	**+1.3**
PVIS	**Viseu**	**6.35**	**336**	*e*Pn	**Pn**	**05 55 03.4**	**+1.3**
MVO	**Moncorvo**	**6.51**	**342**	P	**Pn**	**05 55 05.1**	**+0.8**
	0.7nm,0.2s,SNR=5.9						
MVO				S	**Sn**	**05 56 16.5**	**-1.7**
	11nm,0.6s,SNR=7.9						
MVO	**Moncorvo**	**6.51**	**342**	*e*Pn	**Pn**	**05 55 05.1**	**+0.8**
MVO				*e*Sn	**Sn**	**05 56 15.2**	**-2.9**
MVO				A	A	05 56 19.6	
	6.0nm,0.5s						
PVRL	**Vila Real**	**6.80**	**339**	P	**Pn**	**05 55 11.8**	**+3.5**
PVRL				S	**Sn**	**05 56 22.9**	**-2.4**
PVRL	**Vila Real**	**6.80**	**339**	*e*Pn	**Pn**	**05 55 11.8**	**+3.5**
PVRL				*e*Sn	**Sn**	**05 56 22.9**	**-2.4**
PBRG	**Braganca**	**7.06**	**346**	P	**Pn**	**05 55 13.3**	**+1.5**
PBRG				S	**Sn**	**05 56 27.3**	**-4.2**
	1.7nm,0.8s						
PBRG	**Braganca**	**7.06**	**346**	*e*Pn	**Pn**	**05 55 13.3**	**+1.5**
PBRG				*e*Sn	**Sn**	**05 56 27.3**	**-4.2**
PBRG				A	A	05 56 40.0	
	3.3nm,

BCO2 *i* S **Sg** **06 23 20.1 +0.4**
PTAR3 Potrerillos Ar 0.69 65⇓ *e*P **Pb** **06 23 10.2 -0.9**
PTAR3 *i* S **Sg** **06 23 20.6 +0.5**
PEDE3 Pedregal, Chir 0.70 91 *i* P **Pb** **06 23 06.9 -4.3**
PEDE3 *i* S **Sb** **06 23 18.1 -2.4**
EDBA Buenos Aires 0.77 349 *i* P **Pb** **06 23 11.8 -0.8**
EDBA *i* S **Sb** **06 23 22.5 -0.3**
GUAL3 Gualaca, Chiri 0.83 81⇓ *i*P **Pb** **06 23 12.3 -1.1**
GUAL3 *i* S **Sn** **06 23 26.1 -0.3**
PSOM3 Paja de Sombre 0.84 70⇓ *i*P **Pb** **06 23 12.5 -1.3**
PSOM3 *i* S **Sb** **06 23 24.9 0.0**
EDLM Las Mercedes 0.99 332 *i* P **Pb** **06 23 15.7 -0.5**
EDLM *i* S **Sg** **06 23 29.2 -0.4**
CHGR2 Aguacate 1.11 61 *i* P **Pn** **06 23 16.7 -1.6**
CHGR2 *i* S **Sb** **06 23 32.0 -0.5**
EDDO Dominical 1.12 319 *e*P **Pn** **06 23 17.1 -1.4**
EDDO *i* S **Sn** **06 23 32.9 -0.6**
PEZE Perez Zeledon, 1.12 331⇓ *e*P **Pn** **06 23 17.2 -1.3**
REME3 Remedios, Chir 1.29 97⇑ *i*P **Pn** **06 23 20.0 -0.8**
REME3 *e*S **Sg** **06 23 39.8 +0.5**
CDM Cerro de Muert 1.31 331⇓ *e*P **Pn** **06 23 20.2 -1.2**
PVID3 Puerto Vidal, 1.54 103⇑ *e*P **Pn** **06 23 22.9 -1.3**
PVID3 *e*S **Sb** **06 23 46.3 +1.5**
RIMA Rio Macho 1.54 332⇓ *e*P **Pn** **06 23 23.7 -0.7**
LCR2 La Lucha 2 1.59 327⇓ *e*P **Pn** **06 23 24.5 -0.6**
BATAN Batan 1.71 352⇓ *i*P **Pn** **06 23 27.2 +0.6**
BATAN *e*S **Sb** **06 23 49.1 -0.6**
BATAN Batan 1.71 352⇓ *e*P **Pn** **06 23 27.1 +0.6**
CVTR Volcan Turrial 1.73 339⇓ *e*P **Pn** **06 23 27.1 -0.1**
SJS Escuela Geolog 1.78 329 *e*P **Pn** **06 23 28.0 +0.3**
HDC Heredia 1.87 329⇓ *e*P **Pn** **06 23 29.2 +0.3**
HDC *e*S **Sb** **06 23 55.2 +0.8**
HDC Heredia 1.87 329 *e*P **Pn** **06 23 29.1 +0.2**
HDC Heredia 1.87 329 Pn **Pn** **06 23 29.0 +0.2**
HDC Sn **Sn** **06 23 51.5 -0.6**
JACO JACO, Garabito 1.97 310 *e*P **Pn** **06 23 29.6 -0.5**
RSUS3 Rio de Jesus, 1.99 102 *e*P **Pn** **06 23 30.8 +0.4**
RSUS3 *i* S **Sb** **06 23 58.2 +0.4**
SFRA3 San Francisco, 2.14 94 *e*P **Pn** **06 23 32.7 +0.2**
SFRA3 *i* S **Sb** **06 24 02.3 +0.3**
SRA1 San Ramn 2.14 322 *e*P **Pn** **06 23 33.0 +0.4**
STIA3 Santiago, Vera 2.15 98 *i* P **Pn** **06 23 33.0 +0.4**
STIA3 *i* S **Sb** **06 24 01.2 -1.3**
PONU3 Ponuga, Veragu 2.19 103⇑ *e*P **Pn** **06 23 34.0 +0.9**
PONU3 *i* S **Sb** **06 24 02.2 -1.3**
MARI3 Mariato, Verag 2.24 109⇑ *i*P **Pn** **06 23 35.1 +1.2**
MARI3 *i* S **Sb** **06 24 04.3 -0.7**
LAFE Finca La Fe, P 2.25 309 *e*P **Pn** **06 23 33.7 -0.3**
CALO3 Calobre, Verag 2.26 92⇑ *i*P **Pn** **06 23 35.6 +1.4**
CALO3 *i* S **Sb** **06 24 05.7 0.0**
CACAO El Cacao, Vera 2.48 115⇑ *e*P **Pn** **06 23 39.4 +2.3**
CACAO *i* S **Sb** **06 24 10.8 -1.0**
ARE1 Arenal 1 2.58 323 *e*P **Pn** **06 23 40.0 +1.4**
CEDE Laguna Cedeo 2.59 323⇓ *e*P **Pn** **06 23 40.5 +1.7**
JTS Las Juntas de 2.60 316 P **Pb** **06 23 41.7 -2.1**
55nm,0.3s,baz=257,slow=1.1,SNR=14.6
JTS S **Sn** **06 24 11.6 +1.4**
117nm,0.3s,baz=135,slow=23,SNR=8.3
JTS Las Juntas de 2.60 316⇑ *e*P **Pn** **06 23 41.1 +2.2**
JTS *e*S **Sn** **06 24 12.5 +2.3**
JTS Las Juntas de 2.60 316 *e*P **Pn** **06 23 39.0 +0.1**
JTS Las Juntas de 2.60 316 Pn **Pn** **06 23 39.0 +0.1**
COVE Coope Vega, Sa 2.63 331 *e*P **Pn** **06 23 41.1 +1.9**
PNME Penonome 2.77 88⇑ *i*P **Pn** **06 23 42.5 +1.3**
PNME *i* S **Sn** **06 24 15.9 +1.6**
TOSI3 Tonosi 2.84 110 *i* P **Pn** **06 23 44.8 +2.7**
TOSI3 *i* S **Sb** **06 24 19.3 -2.9**
DUNO Dulce Nombre, 2.87 306 *e*P **Pn** **06 23 43.5 +0.9**
AZU Azuero 2.89 102⇑ *i*P **Pn** **06 23 44.3 +1.6**
AZU *i* S **Sn** **06 24 19.6 +2.5**
PLVR Palo Verde 2.93 312 *e*P **Pn** **06 23 45.1 +1.6**
VTON El Valle, Cocl 2.99 86⇑ *e*P **Pn** **06 23 46.7 +2.5**
VTON *e*S **Sn** **06 24 22.3 +2.5**
GUAI GUAI 3.00 308 *i* P **Pn** **06 23 45.6 +1.3**
GUAI *i* S **Sn** **06 24 21.0 +1.1**
ORTG Ortega, Santa 3.02 310⇑ *e*P **Pn** **06 23 46.0 +1.3**
PCRI3 Pocri, Los San 3.07 104 *i* P **Pn** **06 23 47.3 +2.0**
PCRI3 *i* S **Sb** **06 24 26.0 -2.9**
ACHO3 Achotines, Los 3.08 108⇑ *i*P **Pn** **06 23 46.9 +1.4**
ACHO3 *e*S **Sn** **06 24 25.1 +3.1**
PEDA3 Pedasi 3.19 106⇑ *e*P **Pn** **06 23 48.2 +1.2**
PEDA3 *i* S **Sn** **06 24 26.9 +2.3**
LAPC Finca la Perla 3.27 316 *i* P **Pn** **06 23 49.8 +1.7**
BCIP Isla Barro Col 3.34 77 *i* P **Pn** **06 23 50.3 +1.3**
BCIP *i* S **Sn** **06 24 30.4 +2.2**
BCIP Isla Barro Col 3.34 77 Pn **Pn** **06 23 49.5 +0.6**
BCIP Sn **Sn** **06 24 26.7 -1.6**
CHOR3 La Chorrera 3.36 81 *i* P **Pn** **06 23 51.8 +2.6**
CHOR3 *i* S **Sn** **06 24 31.1 +2.3**
FRIJ El Hiral 3.46 76 *e*P **Pn** **06 23 53.1 +2.5**
ARRA3 Arraijan, Pana 3.48 80⇓ *i*P **Pn** **06 23 53.5 +2.7**
ARRA3 *i* S **Sn** **06 24 33.0 +1.4**
UPA Univ. de Panam 3.60 80 *e*P **Pn** **06 23 53.2 +0.6**
UPA Univ. de Panam 3.60 80⇑ *i*P **Pn** **06 23 54.7 +2.1**
UPA *e*S **Sn** **06 24 35.2 +0.5**
ESPN Las Esperanzas 3.95 343 **Pn** **06 23 57.9 +0.6**
CHPO Chepo, Panama 4.04 79 *i* P **Pn** **06 24 00.4 +1.8**
CHPO *i* S **Sn** **06 24 46.2 +0.7**
ACON Acoyapa 4.08 331 **Pn** **06 23 59.7 +0.5**
UPD2 Meteti 5.06 88 *e*P **Pn** **06 24 14.2 +1.6**
UPD2 Meteti 5.06 88⇑ *e*P **Pn** **06 24 15.6 +3.0**
UPD2 *e*S **Sn** **06 25 13.5 +2.7**
MATN Matagalpa 5.28 329 Pn **Pn** **06 24 16.5 +0.8**
PTAC Punta Ardita, 5.41 103 *e*P **Pn** **06 24 15.8 -1.7**
CAPC Capurgana 5.72 87 *e*P **Pn** **06 24 23.2 +1.5**
CRIN San Cristobal 5.76 318 **Pn** **06 24 22.3 -0.1**
SOLC Bahia Solano 6.07 110 *e*P **Pn** **06 24 25.6 -0.9**
LCBC Los crdobas, 6.70 86 *e*P **Pn** **06 24 35.1 -0.1**
CNCH Conchagua 6.70 317 *e*P **Pn** **06 24 39.2 +3.9**
LCND La Caada 6.76 317 *e*P **Pn** **06 24 38.9 +2.9**
LCND IAML 06 24 49.0
comp=Z,95nm,0.4s
LCND *e*S **Sn** **06 25 50.2 -2.5**
TGUH Tegucigalpa,Un 6.94 324 *e*P **Pn** **06 24 41.5 +2.9**
TGUH Tegucigalpa,Un 6.94 324 *e*P Pn **06 24 43.7 +5.1**
TGUH *e*S **Sn** **06 25 57.2 -0.1**
TGUH Tegucigalpa,Un 6.94 324 Pn **Pn** **06 24 39.4 +0.8**
JUCU Jucuar¡n 6.97 314 *e*P **Pn** **06 24 41.9 +2.9**
JUCU IAML 06 24 47.0
comp=Z,196nm,0.4s
JUCU Jucuar¡n 6.97 314 *e*P **Pn** **06 24 41.9 +2.9**
JUCU IAML 06 24 47.0
comp=Z,196nm,0.4s
JUCU *e*S **Sn** **06 25 54.1 -3.9**
DBBC Dabeiba 6.99 101 *e*P **Pn** **06 24 40.7 +1.4**
ALJI Alcalda de J 7.25 313 *e*P **Pn** **06 24 44.1 +1.3**
ALJI IAML 06 24 49.6
comp=Z,266nm,0.5s
ALJI Alcalda de J 7.25 313 *e*P **Pn** **06 24 44.1 +1.3**
ALJI IAML 06 24 49.6
comp=Z,266nm,0.5s
COEB Comit de Eme 7.34 314 *e*P **Pn** **06 24 45.9 +1.9**
COEB IAML 06 24 51.0
comp=Z,186nm,0.4s
COEB Comit de Eme 7.34 314 *e*P **Pn** **06 24 45.9 +1.9**
COEB IAML 06 24 51.0
comp=Z,186nm,0.4s
COEB *e*S **Sn** **06 26 03.6 -3.5**
MOTC Monteria, Cord 7.39 87 *e*P **Pn** **06 24 45.5 +0.9**
CBOC Ciudad Bolivar 7.49 109 *e*P **Pn** **06 24 46.4 +0.1**
UREC San Jos de Ur 7.55 94 *e*P **Pn** **06 24 47.2 +0.4**
PLMC San Jos del P 7.63 117 *e*P **Pn** **06 24 46.1 -2.0**
COEG Centro de Oper 7.67 313 *e*P **Pn** **06 24 50.0 +1.4**
COEG IAML 06 24 58.2
comp=Z,171nm,0.5s
COEG Centro de Oper 7.67 313 *e*P **Pn** **06 24 50.0 +1.4**
COEG IAML 06 24 58.2
comp=Z,171nm,0.5s
COEG *e*S **Sn** **06 26 10.7 -4.6**
SNET Serv Nac Est T 7.97 312 **Pn** **06 24 52.6 -0.1**
YOTC Yotoco, Valle 8.04 123 *e*P **Pn** **06 24 54.6 +0.8**
ZARC Zaragoza, Cauc 8.24 96 *e*P **Pn** **06 24 57.5 +1.1**
GUY2C Guyana, Caldas 8.33 112 *e*P **Pn** **06 24 59.5 +1.5**
MTO3 Montecristo 8.54 315 **Pn** **06 25 01.0 +0.4**
ANIL Santa Ana 8.60 116 *e*P Pn **06 25 07.1 +5.5**
BBAC Balboa, Cauca 8.62 137 *e*P **Pn** **06 25 04.7 +2.8**
TOLC Tolima 8.63 116 *e*P **Pn** **06 25 04.8 +2.8**
ESQI Esquipulas 8.64 316 **Pn** **06 25 01.4 -0.5**
ARGC Ariguani, Magd 8.89 80 *e*P **Pn** **06 25 07.4 +2.2**
PCON Cinco Dias 9.01 132 *e*P **Pn** **06 25 11.6 +4.1**

ORTC Ortega, Tolima 9.01 119 *e*P **Pn** **06 25 07.6 +0.6**
GCUF Volcan Galeras 9.16 141 *e*P **Pn** **06 25 10.8 +1.3**
CUSE Cuicocha Este 9.32 149 *e*P **Pn** **06 25 14.8 +3.2**
OTAV Otavalo 9.35 150 *e*P **Pn** **06 25 10.5 -1.6**
OTAV Otavalo 9.35 150 Pn **Pn** **06 25 12.0 0.0**
PRAC Prado 9.42 119 *e*P **Pn** **06 25 14.4 +1.8**
ROSC El Rosal 9.43 111 P **Pn** **06 25 14.1 +1.0**
comp=Z,0.7nm,0.3s,baz=83,slow=21,SNR=5.1
ROSC LR LR 06 28 34.1
comp=Z,454nm,19.3s,baz=318,slow=36
ROSC El Rosal 9.43 111 *e*P **Pn** **06 25 13.2 0.0**
ROSC El Rosal 9.43 111 *e*P **Pn** **06 25 12.7 -0.4**
OCAC Ocana 9.71 90 *e*P **Pn** **06 25 17.3 +0.6**
APG El Apazote 9.73 313 P **Pn** **06 25 20.2 +3.2**
comp=Z,4.5nm,0.3s,baz=137,slow=11,SNR=106
APG LR LR 06 29 21.5
comp=Z,382nm,21.6s,baz=114,slow=39
CHIC Chingaza 10.05 111 *e*P **Pn** **06 25 25.9 +4.2**
FLOC Florencia 10.06 132 *e*P **Pn** **06 25 24.5 +3.1**
RUSC La Rusia 10.27 103 *e*P **Pn** **06 25 27.9 +3.2**
RTAL Retalhuleu 10.37 307 Pn **Pn** **06 25 25.9 +0.3**
HUEH Huehuetenango 10.70 311 **Pn** **06 25 30.8 +0.5**
MACC Macarena, Meta 11.13 123 *e*P **Pn** **06 25 39.9 +3.9**
MTDJ Mount Denham 11.18 29 Pn **Pn** **06 25 35.4 -1.4**
PTLC Puerto Leguiza 11.65 134 *e*P Pn **06 25 49.2 +6.1**
CCIG Coman 11.78 313 Pn **Pn** **06 25 44.6 -0.5**
SDV Santo Domingo 12.36 87 P **Pn** **06 25 55.6 +2.6**
comp=Z,1.0nm,0.3s,baz=263,slow=11,SNR=4.6
SDV LR LR 06 32 18.5
comp=Z,261nm,18.5s,baz=284,slow=45
SDV Santo Domingo 12.36 87 Pn **Pn** **06 25 52.1 -1.0**
SDV Santo Domingo 12.36 87 *e*P **Pn** **06 25 54.4 +1.4**
LGNH Logne 14.33 44 Pn **Pn** **06 26 17.7 -2.1**
SDDR Presa de Saban 15.58 46 Pn **Pn** **06 26 36.3 -0.2**
SDDR IAmb IAmb 06 26 42.3
comp=Z,32nm,1.0s
BANI BANI 15.89 50 **Pn** **06 26 40.0 -0.7**
ATAH Atahualpa 16.14 163 P **P** **06 26 47.0 -0.3**
comp=Z,0.3nm,0.3s,baz=303,slow=13,SNR=10
ATAH LR LR 06 32 17.8
comp=Z,804nm,19.3s,baz=337,slow=34
SC01 Santiago de lo 16.27 46 **Pn** **06 26 46.5 +1.2**
SC01 IAmb IAmb 06 27 10.8
comp=Z,65nm,1.1s
DR12 Loma Pena Alta 16.87 51 P **P** **06 26 54.8 -0.3**
TLIG Tlapa 17.57 303 P **Pn** **06 27 01.9 -0.1**
CRPR Cabo Rojo, PR 18.27 57 P **Pn** **06 27 10.4 0.0**
MLPR Magueyes Islan 18.31 57 P **P** **06 27 11.4 +0.5**
MLPR IAmb IAmb 06 27 15.2
comp=Z,65nm,1.2s
PCRV Puerto La Cruz 18.33 83 P **P** **06 27 12.4 +1.1**
comp=Z,0.4nm,0.3s,baz=244,slow=3.6,SNR=4.8
MPR Mayaguez 18.35 56 P **P** **06 27 11.5 +0.1**
PLCV Puerto La Cruz 18.38 83 P **Pn** **06 27 12.4 +0.7**
AGPR Aguadilla, PR 18.50 56 P **P** **06 27 12.8 -0.2**
ICMP Isla Caja de M 18.70 58 P **P** **06 27 14.5 -0.7**
ICMP IAmb IAmb 06 27 18.7
comp=Z,45nm,0.9s
OBIP Obispado Ponce 18.71 58 Pn **Pn** **06 27 16.5 +0.8**
OBIP IAmb IAmb 06 27 19.3
comp=Z,44nm,0.9s
CZSB Cruzeiro do Su 19.09 147 *e*P **Pn** **06 27 20.6 +0.1**
SJG San Juan 19.12 58 P **Pn** **06 27 21.9 +1.2**
comp=Z,1.1nm,0.3s,baz=249,slow=8.1,SNR=25
SJG LR LR 06 34 24.5
comp=Z,236nm,18.8s,baz=237,slow=36
PDPR Patillas Dam, 19.18 58 P **P** **06 27 20.7 +0.1**
PDPR IAmb IAmb 06 27 25.9
comp=Z,34nm,1.0s
GCPR Guaynabo City 19.27 58 P **Pn** **06 27 22.1 -0.4**
GCPR IAmb IAmb 06 27 27.8
comp=Z,58nm,0.9s
HUMP Col San Antoni 19.39 58 P **P** **06 27 22.9 +0.2**
HUMP IAmb IAmb 06 27 26.2
comp=Z,24nm,0.8s
CBYP Canovanas 19.44 58 P **P** **06 27 22.1 -1.4**
CBYP IAmb IAmb 06 27 28.5
comp=Z,46nm,0.9s
MTP Monte Pirata 19.62 59 P **P** **06 27 24.6 -0.7**
MTP IAmb IAmb 06 27 28.8
comp=Z,52nm,0.8s
CUPR Culebra, Puert 19.94 59 P **P** **06 27 28.0 -0.8**
CUPR IAmb IAmb 06 27 34.9
comp=Z,34nm,0.9s
CDVI St. Croix 20.14 61 P **P** **06 27 29.6 -1.4**
NNA Nana 21.19 163 P **P** **06 27 44.5 +2.0**
comp=Z,42nm,1.0s,baz=356,slow=8.1,SNR=11
NNA Nana 21.19 163 P **P** **06 27 41.5 -1.0**
NNA IAmb IAmb 06 27 45.7
comp=Z,78nm,1.1s
553A Crawfordville 21.71 357 P **P** **06 27 47.3 -0.6**
553A IAmb IAmb 06 27 55.5
comp=Z,72nm,1.1s
FDF Fort de France 22.42 72 P **P** **06 27 54.9 -0.8**
FDF IAmb IAmb 06 28 05.4
comp=Z,38nm,1.1s
TIGA Tifton 22.93 359 P **P** **06 28 02.5 +1.6**
baz=179
TIGA Tifton 22.93 359 P **P** **06 28 01.3 +0.5**
TIGA IAmb IAmb 06 28 05.4
comp=Z,60nm,1.3s
BRAL Brewton 22.95 351 P **P** **06 28 02.4 +1.4**
baz=170
BRAL Brewton 22.95 351 P **P** **06 27 59.9 -1.2**
BRAL IAmb IAmb 06 28 05.6
comp=Z,38nm,1.1s
352A Blakely 23.03 356 P **P** **06 28 02.2 +0.4**
352A IAmb IAmb 06 28 07.4
comp=Z,36nm,1.1s
255A Hazlehurst 23.42 1 P **P** **06 28 04.1 -1.7**
ZAIG Zacatecas 23.51 310 P **P** **06 28 08.0 +0.8**
250A Grady 23.64 353 P **P** **06 28 07.6 -0.4**
344A Westbrook Farm 24.01 344 P **P** **06 28 10.9 -0.6**
154A Montrose 24.09 0 P **P** **06 28 11.6 -0.7**
152A Waverly Hall 24.20 357 P **P** **06 28 12.8 -0.4**
152A IAmb IAmb 06 28 17.0
comp=Z,26nm,0.8s
157A Early Branch 24.24 4 P **P** **06 28 14.5 +0.9**
baz=185
158A Hollywood 24.37 6 P **P** **06 28 16.4 +1.5**
baz=187
342A Flagon Creek P 24.42 341 P **P** **06 28 14.2 -1.1**
HKT Hockley 24.53 333 P **P** **06 28 14.9 -1.3**
HKT IAmb IAmb 06 28 22.6
comp=Z,15nm,1.1s
VBMS Vicksburg 24.68 345 P **P** **06 28 19.1 +1.5**
baz=162
VBMS Vicksburg 24.68 345 P **P** **06 28 16.2 -1.4**
ETMB Extrema 24.72 137 *e*P **P** **06 28 18.3 +0.1**
146A Union 24.74 348 P **P** **06 28 17.8 -0.4**
NHSC New Hope 24.74 6 P **P** **06 28 20.1 +1.9**
baz=187
LRAL Lakeview Retre 24.78 352 P **P** **06 28 20.2 +1.7**
baz=171,SNR=8.3
Z56A Williston 24.86 4 P **P** **06 28 20.8 +1.6**
baz=184
Z57A Bowman 24.88 5 P **P** **06 28 20.7 +1.2**
baz=186
GOGA Godfrey 24.89 359 P **P** **06 28 20.9 +1.4**
baz=179,SNR=22
GOGA Godfrey 24.89 359 P **P** **06 28 19.1 -0.5**
GOGA IAmb IAmb 06 28 24.9
comp=Z,36nm,0.9s
Z59A Georgetown, SC 24.98 8 P **P** **06 28 22.1 +1.8**
baz=189
Z58A St. Stephen 25.00 7 P **P** **06 28 22.5 +1.9**
baz=186
833A Chaparral WMA, 25.06 324 P **P** **06 28 23.1 +1.9**
baz=139
833A Chaparral WMA, 25.06 324 P **P** **06 28 22.2 +1.0**
833A IAmb IAmb 06 28 24.8
comp=Z,16nm,0.8s
Z47A Carrollton 25.10 350 P **P** **06 28 21.0 -0.4**
Z47A IAmb IAmb 06 28 34.9
comp=Z,18nm,0.9s
Y56A Pelion 25.33 4 P **P** **06 28 25.6 +2.1**
baz=184
Y52A Lilburn 25.36 358 P **P** **06 28 24.0 +0.2**
Y49A Blount Mountai 25.52 354 P **P** **06 28 25.5 +0.2**
Y49A IAmb IAmb 06 28 29.6
comp=Z,16nm,1.1s
NATX Nacogdoches 25.60 337 P **P** **06 28 27.8 +1.8**
baz=153
NATX Nacogdoches 25.60 337 P **P** **06 28 25.7 -0.3**
NATX IAmb IAmb 06 28 30.7
comp=Z,30nm,0.9s
Y57A Sumter 25.62 5 P **P** **06 28 28.0 +1.8**
baz=186
HODGE Hodges 25.72 2 P **P** **06 28 25.4 -1.7**
Y59A Loris 25.77 8 P **P** **06 28 29.4 +2.0**
baz=190
JSC Jenkinsville 25.82 4 P **P** **06 28 28.2 +0.2**
JSC IAmb IAmb 06 28 34.3
comp=Z,18nm,1.0s
Y60A Bolivia 25.88 9 P **P** **06 28 30.7 +2.2**
baz=191
X55A Gracelyn & Ava 25.98 3 P **P** **06 28 31.2 +1.7**
baz=183,SNR=14
X54A Belton 26.03 1 P **P** **06 28 31.5 +1.6**
baz=182,SNR=6.6
X56A White Oak 26.04 4 P **P** **06 28 31.9 +2.0**
baz=185,SNR=12
435B Jarrell 26.05 331 P **P** **06 28 31.2 +1.1**
baz=146
X57A Johnson Farm, 26.09 6 P **P** **06 28 31.5 +1.0**
baz=187
X51A Calhoun 26.09 357 P **P** **06 28 29.6 -0.9**
X51A IAmb IAmb 06 28 34.0
comp=Z,14nm,0.9s
FPAL Fort Paine 26.12 355 P **P** **06 28 30.2 -0.5**
FPAL IAmb IAmb 06 28 34.2
comp=Z,14nm,1.1s
X48A Hartselle 26.18 353 P **P** **06 28 30.4 -0.8**
237A Washetta, Mont 26.28 335 P **P** **06 28 32.0 -0.2**
237A IAmb IAmb 06 28 37.5
comp=Z,40nm,1.1s
SAML Samuel 26.30 130 P **P** **06 28 32.2 -0.3**
Z41A Richland Creek 26.31 341 P **P** **06 28 33.8 +1.4**
baz=158,SNR=8.9
Z41A Richland Creek 26.31 341 P **P** **06 28 31.8 -0.6**
PAULI Pauline 26.32 2 P **P** **06 28 32.7 +0.2**
PAULI IAmb IAmb 06 28 38.9
comp=Z,36nm,1.1s
BG3 Lake Jocassee 26.47 0 P **P** **06 28 34.6 +0.8**
BG3 IAmb IAmb 06 28 37.8
comp=Z,29nm,1.3s
W54A Cherokee Point 26.58 2 P **P** **06 28 36.4 +1.6**
baz=182,SNR=10.0
W52A Murphy 26.58 359 P **P** **06 28 35.5 +0.6**
W52A IAmb IAmb 06 28 41.4
comp=Z,32nm,1.4s
KMSC Kings Mountain 26.67 3 P **P** **06 28 36.9 +1.3**
baz=184,SNR=8.4
W56A Indian Trail 26.71 5 P **P** **06 28 37.8 +1.7**
baz=186
W58A Raeford 26.74 7 P **P** **06 28 37.4 +1.2**
baz=188
W57A Gilead 26.78 6 P **P** **06 28 38.2 +1.5**
baz=187
W57A Gilead 26.78 6 P **P** **06 28 36.3 -0.3**
W57A IAmb IAmb 06 28 42.4
comp=Z,32nm,1.4s
WLAR White Oak Lake 26.80 341 P **P** **06 28 36.4 -0.5**
SWET Sewanee 26.82 355 P **P** **06 28 36.4 -0.6**
SWET IAmb IAmb 06 28 41.6
comp=Z,11nm,0.9s
JCT Junction City 26.94 327 P **P** **06 28 38.9 +0.6**
baz=141
JCT Junction City 26.94 327 P **P** **06 28 37.3 -1.0**
CPCT Cooper Cave 26.95 357 P **P** **06 28 37.5 -0.7**
CPCT IAmb IAmb 06 28 42.2
comp=Z,34nm,1.3s
X43A Marvell 26.96 346 P **P** **06 28 39.4 +1.2**
baz=163
X43A Marvell 26.96 346 P **P** **06 28 37.3 -1.0**
X43A IAmb IAmb 06 28 43.5
comp=Z,27nm,1.1s
WHTX Lake Whitney, 26.99 332 P **P** **06 28 37.4 -1.2**
TKL Tuckaleechee C 27.14 359 P **P** **06 28 41.2 +1.3**
comp=Z,12nm,1.1s,baz=167,slow=11,SNR=7.2
V54A Nebo 27.27 2 P **P** **06 28 42.7 +1.6**
baz=182,SNR=7.7
V52A Sevierville 27.32 359 P **P** **06 28 40.3 -1.2**
V52A IAmb IAmb 06 28 45.1
comp=Z,31nm,1.4s
V55A Taylorsville 27.38 3 P **P** **06 28 44.1 +2.1**
baz=184
V55A Taylorsville 27.38 3 P **P** **06 28 41.2 -0.9**
V55A IAmb IAmb 06 28 49.5
comp=Z,12nm,1.1s
V56A Mocksville 27.39 5 P **P** **06 28 44.0 +1.8**
baz=186
V48A Smith Brothers 27.42 353 P **P** **06 28 41.6 -0.9**
V48A IAmb IAmb 06 28 46.6
comp=Z,9.0nm,0.9s
X40A Basin Creek Fa 27.46 342 P **P** **06 28 44.3 +1.5**
baz=159
V58A Windy Hill, Pi 27.51 7 P **P** **06 28 44.5 +1.3**
baz=189
V57A Coltrane Farms 27.53 6 P **P** **06 28 44.9 +1.5**
baz=187
UALR University of 27.58 343 P **P** **06 28 43.9 +0.1**
UALR IAmb IAmb 06 28 46.4
comp=Z,30nm,1.0s
V59A Middlesex 27.60 9 P **P** **06 28 45.1 +1.1**
baz=190
MIAR Mount Ida 27.74 341 P **P** **06 28 46.1 +0.8**
baz=157,SNR=14
MIAR Mount Ida 27.74 341 P **P** **06 28 44.5 -0.8**
MIAR IAmb IAmb 06 28 48.4
comp=Z,25nm,1.1s
W41B Gary Mavity, V 27.93 344 P **P** **06 28 47.8 +0.9**
baz=160,SNR=14
U56A King 27.93 5 P **P** **06 28 47.1 +0.1**
baz=186
U56A King 27.93 5 P **P** **06 28 45.7 -1.3**
U56A IAmb IAmb 06 28 55.4
comp=Z,23nm,1.1s
TZTN Tazewell 28.02 359 P **P** **06 28 48.6 +0.8**
baz=179,SNR=5.5
TZTN Tazewell 28.02 359 P **P** **06 28 47.9 +0.1**
TZTN IAmb IAmb 06 28 51.4
comp=Z,29nm,1.2s
U54A Nelsons Funny 28.02 2 P **P** **06 28 48.5 +0.6**
baz=183
U54A Nelsons Funny 28.02 2 P **P** **06 28 46.7 -1.1**
U54A IAmb IAmb 06 28 58.8
comp=Z,12nm,0.9s
U55A TA2, Sparta 28.04 4 P **P** **06 28 49.1 +1.1**
baz=184
WHAR Wooly Hollow 28.05 344 P **P** **06 28 47.5 -0.5**
U49A Red Boiling Sp 28.09 355 P **P** **06 28 47.8 -0.6**
TXAR Lajitas Array 28.39 320 P **P** **06 28 52.8 +1.5**
comp=Z,0.6nm,0.7s,baz=133,slow=9.0,SNR=7.6
TXAR PcP **PcP** **06 32 04.3 +0.6**
comp=Z,0.3nm,0.8s,baz=186,slow=3.4,SNR=3.6
TXAR Lajitas Array 28.39 320 P **P** **06 28 51.6 +0.3**
X37A Clayton 28.39 338 P **P** **06 28 51.2 +0.1**
W39A Magazine 28.40 341 P **P** **06 28 51.6 +0.4**
baz=158,SNR=9.9
W39A Magazine 28.40 341 P **P** **06 28 50.7 -0.5**
W39A IAmb IAmb 06 28 54.3
comp=Z,32nm,1.2s
LCAR Lake Charles 28.50 346 P **P** **06 28 52.6 +0.6**
T50A Nancy 28.54 357 P **P** **06 28 52.5 +0.1**
T50A IAmb IAmb 06 28 55.6
comp=Z,18nm,1.2s
ABTX Abilene, Hawle 28.56 330 P **P** **06 28 52.8 +0.1**
baz=144
T54A Tazewell 28.57 3 P **P** **06 28 54.3 +1.5**
baz=183
FCAR Ozark Folk Cen 28.57 345 P **P** **06 28 51.9 -0.8**
FCAR IAmb IAmb 06 28 55.0
comp=Z,22nm,0.9s
T55A Pulaski 28.67 4 P **P** **06 28 55.5 +1.9**
baz=185
LPAZ La Paz 28.67 149 P **P** **06 28 55.3 +0.9**
comp=Z,2.2nm,0.9s,baz=326,slow=9.3,SNR=8.5
LPAZ LR LR 06 41 33.8
comp=Z,164nm,20.6s,baz=315,slow=39
LPAZ La Paz 28.67 149 *e*P **P** **06 28 55.8 +1.4**
T57A Hurt 28.69 6 P **P** **06 28 55.3 +1.6**
baz=188
T47A Sharon Grove 28.69 353 P **P** **06 28 53.0 -0.7**
T47A IAmb IAmb 06 29 02.6
comp=Z,11nm,1.2s
BLA Blacksburg 28.79 4 P **P** **06 28 56.0 +1.3**
baz=186
T59A Double "B" Far 28.89 9 P **P** **06 28 57.0 +1.5**
baz=191
PBMO Poplar Bluff 29.02 348 P **P** **06 28 56.2 -0.5**

S51A Beattyville 29.11 359 P P 06 28 57.4 -0.1
S51A IAmb IAmb 06 29 00.9
comp=Z,16nm,0.8s
U40A Yellville 29.21 344 P P 06 28 59.1 +0.7
baz=160,SNR=13
U40A Yellville 29.21 344 P P 06 28 58.4 0.0
U40A IAmb IAmb 06 29 01.0
comp=Z,18nm,0.9s
S56A Natural Bridge 29.33 6 P P 06 29 00.2 +0.8
baz=187
S55A Lewisburg 29.34 4 P P 06 29 01.0 +1.5
baz=185
T42A Van Buren 29.41 347 P P 06 29 00.1 0.0
T42A IAmb IAmb 06 29 02.4
comp=Z,12nm,0.8s
HHAR Hobbs 29.45 342 P P 06 28 59.2 -1.4
HHAR IAmb IAmb 06 29 02.7
comp=Z,8.0nm,1.0s
R54A Victor 29.71 3 P P 06 29 03.7 +0.9
baz=184
TUL1 Leonard 29.73 339 P P 06 29 03.5 +0.6
baz=154
U38A Gravette 29.74 341 P P 06 29 01.7 -1.4
U38A IAmb IAmb 06 29 05.2
comp=Z,15nm,1.2s
PB16 IPOC Station P 29.77 153 P P 06 29 04.4 +0.2
PB16 IAmb IAmb 06 29 09.0
comp=Z,12nm,1.0s
R50A Paris 29.77 358 P P 06 29 02.9 -0.5
R50A IAmb IAmb 06 29 06.7
comp=Z,24nm,1.1s
MGMO Mountain Grove 29.80 345 P P 06 29 02.4 -1.2
R49A Shelbyville 29.82 357 P P 06 29 02.9 -0.9
R49A IAmb IAmb 06 29 06.8
comp=Z,21nm,0.9s
R53A Hurricane 29.82 2 P P 06 29 03.9 +0.1
baz=182
WCI Wyandotte Cave 29.84 355 P P 06 29 04.4 +0.5
baz=174
WCI Wyandotte Cave 29.84 355 P P 06 29 04.1 +0.3
WCI IAmb IAmb 06 29 06.9
comp=Z,14nm,0.9s
ITTB Itaituba 30.12 114 eP P 06 29 06.0 -0.6
Q53A Leroy 30.36 2 P P 06 29 09.0 +0.5
baz=183
CCM Cathedral Cave 30.42 347 P P 06 29 09.2 +0.1
baz=164
CCM Cathedral Cave 30.42 347 P P 06 29 09.2 +0.1
CCM IAmb IAmb 06 29 11.4
comp=Z,15nm,0.8s
Q52A Bidwell 30.44 1 P P 06 29 10.8 +1.5
baz=182
Q51A Peebles 30.50 360 P P 06 29 10.0 +0.2
Q54A Coxs Mills 30.52 4 P P 06 29 10.6 +0.7
baz=184
Q54A Coxs Mills 30.52 4 P P 06 29 10.6 +0.7
Q54A IAmb IAmb 06 29 16.6
comp=Z,18nm,1.1s
MALB Monte Alegre 30.52 108 eP P 06 29 10.8 +0.5
OLIL Olney 30.53 352 P P 06 29 10.2 +0.1
OLIL IAmb IAmb 06 29 12.9
comp=Z,13nm,0.7s
Q55A Buckhannon 30.59 5 P P 06 29 11.8 +1.2
baz=186,SNR=6.7
S39A Bolivar 30.59 344 P P 06 29 11.4 +0.8
R61A Willards 30.62 12 P P 06 29 11.8 +1.1
baz=195
BLO Bloomington 30.79 355 P P 06 29 12.6 +0.3
BLO IAmb IAmb 06 29 15.1
comp=Z,20nm,1.1s
R40A Maddies Statio 30.88 346 P P 06 29 14.2 +1.1
R40A IAmb IAmb 06 29 15.5
comp=Z,12nm,1.1s
T35A Sooner Cattle 30.89 339 P P 06 29 13.9 +0.7
P51A Williamsport 30.95 0 P P 06 29 15.0 +1.3
baz=180
P51A Williamsport 30.95 0 P P 06 29 13.1 -0.6
P51A IAmb IAmb 06 29 16.7
comp=Z,14nm,0.8s
P53A Whipple 30.99 3 P P 06 29 15.8 +1.6
baz=183,SNR=7.0
P48A Milroy 31.00 357 P P 06 29 15.0 +0.8
P48A IAmb IAmb 06 29 16.5
comp=Z,24nm,1.0s
P49A Miami Univ. Ec 31.04 358 P P 06 29 15.7 +1.2
baz=177
P49A Miami Univ. Ec 31.04 358 P P 06 29 13.7 -0.8
P49A IAmb IAmb 06 29 16.9
comp=Z,19nm,1.1s
MNTX Cornudas Mount 31.08 321 P P 06 29 14.9 -0.1
baz=134
P52A Corning 31.11 1 P P 06 29 15.7 +0.5
baz=182
P52A Corning 31.11 1 P P 06 29 15.4 +0.2
VILB Vilhena 31.12 133 eP P 06 29 16.0 +0.4
P56A Dayton Farm, R 31.21 6 P P 06 29 17.2 +1.2
baz=188
MSTX Muleshoe 31.23 327 P P 06 29 16.8 +0.4
baz=140
MSTX Muleshoe 31.23 327 P P 06 29 15.8 -0.6
MSTX IAmb IAmb 06 29 22.0
comp=Z,13nm,1.4s
MCWV Mont Chateau 31.26 5 P P 06 29 17.6 +1.1
baz=186
P57A Homestead Farm 31.29 8 P P 06 29 17.6 +0.8
baz=190
P46A Rosedale 31.30 354 P P 06 29 16.9 +0.1
P46A IAmb IAmb 06 29 19.1
comp=Z,17nm,1.0s
O52A Adamsville 31.60 2 P P 06 29 19.6 +0.2
baz=182
O51A Pataskala 31.62 1 P P 06 29 20.1 +0.5
baz=181,SNR=7.9
NPGB Novo Progresso 31.65 118 eP P 06 29 19.9 -0.3
O49A Covington 31.67 358 P P 06 29 21.1 +1.0
O49A IAmb IAmb 06 29 22.7
comp=Z,12nm,0.8s
ACSO Alum Creek Sta 31.70 0 P P 06 29 20.9 +0.6
baz=180,SNR=7.6
ACSO Alum Creek Sta 31.70 0 P P 06 29 20.2 -0.2
O53A New Philadelph 31.76 3 P P 06 29 21.7 +0.8
baz=184
O55A Ligonier 31.86 6 P P 06 29 22.4 +0.7
baz=187
O44A Mansfield 31.98 352 P P 06 29 21.4 -1.4
O56A Blue Knob Stat 32.00 7 P P 06 29 23.9 +0.9
baz=188
SFIN Lafayette 32.04 354 P P 06 29 24.2 +0.9
baz=173
SFIN Lafayette 32.04 354 P P 06 29 22.8 -0.6
SFIN IAmb IAmb 06 29 25.4
comp=Z,26nm,1.4s
N52A McGinn's Farm, 32.30 2 P P 06 29 26.8 +1.1
baz=183
N53A Lisbon 32.34 3 P P 06 29 27.7 +1.8
baz=184
N51A Ashland 32.39 1 P P 06 29 27.5 +1.1
baz=181
N49A Columbus Grove 32.40 359 P P 06 29 25.9 -0.6
N49A IAmb IAmb 06 29 29.0
comp=Z,14nm,0.9s
SSPA Standing Stone 32.44 7 P P 06 29 27.9 +1.1
baz=190
P38A Dawn 32.46 345 P P 06 29 26.5 -0.5
HDIL Hopedale 32.49 351 P P 06 29 28.1 +0.8
baz=169
HDIL Hopedale 32.49 351 P P 06 29 25.6 -1.6
SIV San Ignacio 32.62 138 P P 06 29 28.9 +0.2
comp=Z,8.4nm,0.9s,baz=322,slow=8.6,SNR=33
SIV LR LR 06 43 48.1
comp=Z,170nm,18.3s,baz=315,slow=38
M51A Elyria 32.81 1 P P 06 29 30.8 +0.8
baz=182
KSU1 Kansas State U 32.88 340 P P 06 29 29.4 -1.3
R32A Long Quarter, 33.03 337 P P 06 29 30.9 -1.2
N60A Cedar Hill Far 33.12 11 P P 06 29 34.1 +1.4
baz=195
121A Cookes Peak, D 33.15 320 P P 06 29 32.4 -1.0
121A IAmb IAmb 06 29 39.9
comp=Z,6.6nm,0.8s
M57A Sunshine Farm, 33.23 8 P P 06 29 34.8 +1.1
baz=191
CLDB Colider 33.26 125 eP P 06 29 33.6 -0.6
N38A Joes South For 33.49 346 P P 06 29 35.1 -0.9
PTLB Pontes e Lacer 33.56 135 eP P 06 29 36.9 0.0
M59A Waymart 33.70 10 P P 06 29 38.6 +0.7
baz=194
AAM Ann Arbor 33.77 359 P P 06 29 39.5 +1.1
baz=179
LVC Limon Verde 33.82 156 LR LR 06 44 43.6
comp=Z,101nm,19.1s,baz=314,slow=38
L56A Greenwood 33.96 7 P P 06 29 40.8 +0.7
baz=190
ANMO Albuquerque 34.00 324 P P 06 29 39.3 -1.4
N35A Tabor 34.19 343 P P 06 29 40.8 -1.3
L40A Anamosa 34.28 349 P P 06 29 41.6 -1.2
L40A IAmb IAmb 06 29 44.8
comp=Z,18nm,0.9s
SCIA State Center 34.54 347 P P 06 29 46.2 +1.0
baz=162
N33A J Bar K, Exete 34.64 341 P P 06 29 45.5 -0.5
JFWS Jewell Farm 34.94 351 P P 06 29 48.3 -0.3
baz=168
JFWS Jewell Farm 34.94 351 P P 06 29 48.7 +0.1
JFWS IAmb IAmb 06 29 50.4
comp=Z,13nm,0.8s
TUC Tucson 34.99 317 P P 06 29 48.8 -0.4
K38A Parkersburg 35.15 348 P P 06 29 50.7 +0.3
K38A IAmb IAmb 06 29 52.1
comp=Z,13nm,0.7s
I51A Listowel 35.32 3 P P 06 29 52.9 +1.1
baz=184
L34A Svendsen Farm, 35.42 343 P P 06 29 52.5 -0.2
BGNE Belgrade 35.47 340 P P 06 29 53.4 +0.2
baz=154
I42A Draeger Farm, 35.72 353 P P 06 29 54.2 -1.0
W18A Petrified Fore 36.07 321 P P 06 30 00.1 +1.5
baz=131
W18A Petrified Fore 36.07 321 P P 06 29 57.7 -0.9
W18A IAmb IAmb 06 30 04.5
comp=Z,9.9nm,0.9s
I59A Olmsteadville 36.17 11 P P 06 29 59.5 +0.4
baz=196
214A Organ Pipe Nat 36.19 315 P P 06 30 00.8 +1.3
baz=124
214A Organ Pipe Nat 36.19 315 P P 06 29 58.4 -1.1
214A IAmb IAmb 06 30 05.6
comp=Z,10nm,0.9s
S22A 4UR Ranch, Cre 36.23 327 P P 06 30 00.1 0.0
baz=138
X16A Lo Mia Camp, P 36.70 319 P P 06 30 03.4 -0.6
K31A O'Neill 36.76 341 P P 06 30 03.9 -0.3
MVCO Mesa Verde 36.77 325 P P 06 30 03.0 -1.6
MVCO IAmb IAmb 06 30 10.0
comp=Z,9.5nm,1.2s
ECSD EROS Data Cent 37.12 344 P P 06 30 07.4 +0.2
baz=158,SNR=10
ECSD EROS Data Cent 37.12 344 P P 06 30 07.4 +0.2
ECSD IAmb IAmb 06 30 08.8
comp=Z,16nm,1.0s
G40A Rib Lake 37.24 352 P P 06 30 08.2 0.0
G40A IAmb IAmb 06 30 09.8
comp=Z,12nm,1.0s
WUAZ Wupatki 37.35 320 P P 06 30 12.1 +2.6
baz=130
WUAZ Wupatki 37.35 320 P P 06 30 08.8 -0.8
Y14A Wickenburg 37.45 317 P P 06 30 10.8 +0.5
SPX San Pedro Mart 37.63 311 P P 06 30 11.8 -0.3
SPMN Marine on St. 37.63 349 P P 06 30 11.9 +0.4
baz=164,SNR=5.7
SPMN Marine on St. 37.63 349 P P 06 30 11.6 0.0
SPMN IAmb IAmb 06 30 12.7
comp=Z,12nm,0.8s
GLA Glamis 38.21 314 P P 06 30 16.6 0.0
baz=123,SNR=9.4
GLA Glamis 38.21 314 P P 06 30 15.7 -0.9
GLA IAmb IAmb 06 30 22.8
comp=Z,18nm,0.8s
F36A Milaca 38.39 348 P P 06 30 17.2 -0.7
F36A IAmb IAmb 06 30 19.3
comp=Z,7.9nm,0.8s
SUSD Miller 38.46 342 P P 06 30 18.1 -0.4
baz=154
SUSD Miller 38.46 342 P P 06 30 18.1 -0.4
U15A North Rim 38.50 321 P P 06 30 18.9 -0.5
SWSC Sam W. Stewart 38.85 314 P P 06 30 23.9 +1.9
baz=122
IKP In-Ko-Pah, Jac 38.92 313 P P 06 30 24.8 +2.1
baz=121
BC3 Big Chuckawall 38.98 315 P P 06 30 24.4 +1.2
baz=123
F33A 5 Mile Ranch, 38.99 345 P P 06 30 22.5 -0.5
F33A IAmb IAmb 06 30 24.0
comp=Z,12nm,0.7s
IRM Iron Mountain 39.04 316 P P 06 30 25.3 +1.7
baz=124
ARAG Araguaiana, MT 39.19 128 eP P 06 30 24.5 -0.5
KNB Kanab 39.20 321 P P 06 30 24.8 -0.4
SRU San Rafael Swe 39.23 326 P P 06 30 24.4 -1.0
SMTB Santa Maria do 39.34 115 eP P 06 30 26.7 +0.4
AQDB Aquidauana 39.38 137 eP P 06 30 26.4 -0.1
RWWY Rawlins 39.40 331 P P 06 30 26.9 +0.1
BELC Belle Mtn. Jos 39.55 315 P P 06 30 29.4 +1.4
baz=123
TPFO Pinon Flats 39.66 314 P P 06 30 29.6 +0.7
baz=122
PFO Pinyon Flats O 39.66 314 P P 06 30 28.9 -0.1
baz=122,SNR=5.2
GMRC Granite Mounta 39.74 316 P P 06 30 32.0 +2.5
baz=124
109C Camp Elliot, M 39.76 313 P P 06 30 31.3 +1.7
baz=120
RSSD Black Hills 39.98 336 P P 06 30 34.0 +2.5
baz=147
RSSD Black Hills 39.98 336 P P 06 30 31.0 -0.5
MURC Murrieta 40.18 314 P P 06 30 35.6 +2.4
baz=121
HEC Hector,Ludlow 40.23 316 P P 06 30 36.1 +2.5
baz=123
BBRC Big Bear Solar 40.33 315 P P 06 30 36.6 +2.0
baz=122
SHPR Sheep Range 40.38 319 P P 06 30 33.9 -1.1
PSUT Pine Spring 40.80 322 P P 06 30 37.7 -0.7
PRN Pahroc Range 40.85 320 P P 06 30 39.4 +0.7
E28A Huff 40.91 341 P P 06 30 38.7 -0.3
E28A IAmb IAmb 06 30 41.1
comp=Z,27nm,1.0s
CIS Catalina Islan 40.97 313 P P 06 30 39.4 -0.2
baz=120,SNR=7.5
MWC Mount Wilson 41.12 314 P P 06 30 40.1 -0.9
PASC Pasadena Art C 41.18 314 P P 06 30 41.8 +0.4
AGMN Agassiz Nation 41.20 347 P P 06 30 41.5 +0.3
baz=161
AGMN Agassiz Nation 41.20 347 P P 06 30 41.7 +0.5
TPNV Topopah Spring 41.35 319 P P 06 30 43.3 +0.4
PD31 Pinedale Array 41.36 330 P P 06 30 43.0 0.0
PDAR Pinedale Array 41.36 330 P P 06 30 44.6 +1.6
comp=Z,2.4nm,1.1s,baz=141,slow=7.6,SNR=7.2
PDAR PcP PcP 06 32 42.0 +0.8
comp=Z,1.2nm,1.0s,baz=124,slow=4.6,SNR=4.6
PDAR LR LR 06 50 48.0
comp=Z,70nm,20.0s,baz=62,slow=40
PDAR Pinedale Array 41.36 330 P P 06 30 43.1 +0.2
BW06 Boulder Array 41.36 330 P P 06 30 43.3 +0.3
baz=138
BW06 Boulder Array 41.36 330 P P 06 30 42.4 -0.5
EDW2 Edwards Air Fo 41.41 315 P P 06 30 44.5 +1.2
baz=121
FURC Furnace Creek, 41.49 317 P P 06 30 45.5 +1.7
baz=124
LRMC Laurel Mtn Rad 41.51 316 P P 06 30 44.3 +0.1
baz=122
HWUT Hardware Ranch 41.55 327 P P 06 30 45.2 +0.8
MPMC Manual Prospec 41.68 317 P P 06 30 46.1 +0.4
baz=123
MDND Maddock 41.73 343 P P 06 30 46.4 +0.8
baz=155,SNR=7.8
MDND Maddock 41.73 343 P P 06 30 46.4 +0.8
R11A Troy Canyon, C 41.75 321 P P 06 30 46.5 +0.3
baz=127,SNR=7.4
R11A Troy Canyon, C 41.75 321 P P 06 30 46.0 -0.2
H03N2 Juan Fernandez 41.80 175 T T 07 15 12.6
baz=354,slow=76,SNR=29
H03N1 Juan Fernandez 41.80 175 T T 07 15 13.5
baz=354,slow=76,SNR=44
H03N3 Juan Fernandez 41.81 175 T T 07 15 11.6
baz=354,slow=76,SNR=48
BGU Big Grassy Mou 41.88 326 P P 06 30 47.4 +0.2
ARVC Arvin 42.12 315 P P 06 30 51.6 +2.5
baz=121
ISA Isabella, Lake 42.15 315 P P 06 30 51.2 +1.8
baz=122
ISA Isabella, Lake 42.15 315 P P 06 30 50.1 +0.7
BDFB Brasilia 42.19 124 P P 06 30 49.6 -0.4
comp=Z,2.5nm,0.8s,baz=234,slow=19,SNR=3.4
BDFB LR LR 06 48 48.0
comp=Z,115nm,18.5s,baz=317,slow=37
CWC Cottonwood Cre 42.29 317 P P 06 30 51.4 +0.7
baz=123
REDW Red Top Meadow 42.44 330 P P 06 30 52.6 +0.9
TPAW Teton Pass 42.58 330 P P 06 30 53.8 +0.8
VA01 Harpederas 42.62 166 P P 06 30 52.8 -0.2
TPH Tonopah 42.63 319 P P 06 30 53.9 +0.5
VA03 San Esteban 42.65 164 P P 06 30 51.7 -1.7
VA03 IAmb IAmb 06 31 07.8
comp=Z,35nm,1.4s
CPUP Villa Florida 42.66 145 P P 06 30 53.7 +0.3
comp=Z,3.6nm,1.0s,baz=22,slow=10,SNR=4.3
CPUP LR LR 06 51 32.3
comp=Z,96nm,19.0s,baz=356,slow=40
VES Vestal, Richgr 42.67 315 P P 06 30 56.0 +2.6
baz=121
PKM Mcpherson Peak 42.70 314 P P 06 30 56.0 +1.9
baz=120
FLWY Flagg Ranch 42.89 331 P P 06 30 53.9 -1.6
LAO LASA Array 42.97 337 P P 06 30 57.4 +1.6
baz=145
RLMT Red Lodge 43.00 333 P P 06 30 58.7 +2.4
baz=140
RLMT Red Lodge 43.00 333 P P 06 30 56.0 -0.3
ELK Elko 43.02 324 P P 06 30 55.8 -0.8
SMMC Simmler 43.04 314 P P 06 30 58.7 +2.1
baz=120
ULM Lac du Bonnet 43.05 348 P P 06 30 56.2 0.0
comp=Z,6.8nm,0.6s,baz=164,slow=8.1,SNR=13
ULM LR LR 06 49 05.5
comp=Z,98nm,19.9s,baz=158,slow=36
ULM Lac du Bonnet 43.05 348 P P 06 30 56.3 0.0
ULM IAmb IAmb 06 30 56.9
comp=Z,19nm,1.1s
NV11 Mina Array Sit 43.44 319 P P 06 30 59.1 -0.8
RPN Rapa Nui 43.50 215 P P 06 30 59.0 -1.3
NVAR Mina Array Bea 43.53 319 P P 06 31 03.3 +2.6
comp=Z,3.5nm,0.8s,baz=135,slow=5.7,SNR=20
NVAR Mina Array Bea 43.53 319 P P 06 31 00.6 -0.2
MDPB Devils Postpil 43.61 317 P P 06 31 01.3 0.0
YHL Hebgen Lake 43.69 331 P P 06 31 02.4 +0.4
DGMT Dagmar 43.72 340 P P 06 31 03.2 +1.4
baz=149,SNR=7.5
DGMT Dagmar 43.72 340 P P 06 31 00.5 -1.3
KVN Kaiserville 43.75 320 P P 06 31 00.9 -1.5
WAKR Walker 44.31 318 P P 06 31 06.7 -0.3
WAKR IAmb IAmb 06 31 23.8
comp=Z,7.8nm,1.1s
HLID Hailey 44.42 327 P P 06 31 09.9 +2.3
baz=133
HLID Hailey 44.42 327 P P 06 31 07.3 -0.4
BOZ Bozeman (W) 44.46 331 P P 06 31 09.3 +1.4
baz=138,SNR=7.0
PNTR Pine Nut 44.74 319 P P 06 31 09.7 -0.7
MFID Camas Ranch 45.08 326 P P 06 31 11.6 -1.3
ORV Oroville 46.23 318 P P 06 31 21.6 -0.4
BMO Blue Mountains 46.83 327 P P 06 31 25.6 -1.0
M04C Macdoel 47.65 321 P P 06 31 34.2 +1.1
baz=123,SNR=5.8
L04D Klamath Falls 48.17 321 P P 06 31 37.7 +0.4
baz=123
PINE Pine Mountain 48.23 323 P P 06 31 36.7 -1.0
E09A Wood Farm, Sta 48.35 328 P P 06 31 38.2 -0.2
E09A IAmb IAmb 06 31 42.3
comp=Z,5.8nm,0.9s
J04D Umpqua Nationa 48.62 322 P P 06 31 41.4 +0.7
baz=124
I05D Terrebonne, OR 48.78 324 P P 06 31 42.4 +0.6
baz=126
HAWA Hanford 49.01 327 P P 06 31 43.1 -0.3
I04A Tendick Farm, 49.11 323 P P 06 31 45.6 +1.3
baz=124,SNR=5.5
RCBR Riachuelo 49.16 105 LR LR 06 53 27.6
comp=Z,136nm,19.1s,baz=294,slow=37
KBO Bosley Butte 49.38 320 P P 06 31 46.4 0.0
H04A Detroit Lake 49.48 324 P P 06 31 46.4 -0.7
H04A IAmb IAmb 06 32 00.2
comp=Z,5.7nm,1.1s
J01E Myrtle Point 49.69 321 P P 06 31 49.6 +1.0
baz=122
H04D Lebanon 49.71 323 P P 06 31 50.8 +2.0
baz=124
F05D White Salmon 49.76 325 P P 06 31 51.3 +2.1
baz=127
I02D Swisshome 50.15 322 P P 06 31 54.0 +2.0
baz=123
PLCA Paso Flores 50.24 168 P P 06 31 53.5 +0.6
comp=Z,4.8nm,0.8s,baz=358,slow=9.3,SNR=12
PLCA Paso Flores 50.24 168 P P 06 31 53.2 +0.3
PLCA IAmb IAmb 06 31 54.0
comp=Z,5.0nm,0.8s
PLCA Paso Flores 50.24 168 eP P 06 31 53.0 0.0
G03D McMinnville, O 50.41 324 P P 06 31 55.7 +1.7
baz=124
YKA Yellowknife Ar 58.65 344 P P 06 32 54.4 +0.7
comp=Z,5.4nm,0.8s,baz=133,slow=6.4,SNR=6.5
RES Resolute Bay 66.59 357 P P 06 33 46.8 +0.4
ICESG Greenland Ices 66.85 16 iP P 06 33 45.2 -3.5
ISLE Juniper Island 67.91 333 P P 06 33 54.9 -0.4
DAWY Dawson 68.17 337 P P 06 33 57.0 +0.4
DAWY IAmb IAmb 06 33 59.6
comp=Z,6.2nm,1.1s
INK Inuvik 68.33 342 P P 06 33 56.9 -0.7
BCAR Beaver Creek A 68.68 335 P P 06 34 01.1 +1.1
EGAK Eagle 69.17 337 P P 06 34 02.9 0.0
SUMG Summit 69.49 13 P P 06 34 04.3 -0.9
SUMG Summit 69.49 13 iP P 06 34 03.9 -1.3
comp=Z,37nm,1.0s
SUMG Summit 69.49 13 iP P 06 34 04.0 -1.3
SUMG IAmb IAmb 06 34 06.7
comp=Z,37nm,1.0s
DOT Dot Lake 69.86 335 P P 06 34 07.4 +0.2
HDA Harding Lake 71.32 336 P P 06 34 16.7 +0.7
baz=110,SNR=10
IL31 71.42 336 P P 06 34 17.0 +0.4
IL31 IAmb IAmb 06 34 20.5
comp=Z,8.2nm,0.8s
ILAR Eielson Array 71.42 336 P P 06 34 17.4 +0.8
comp=Z,5.5nm,0.8s,baz=115,slow=4.2,SNR=31
ILAR LR LR 07 08 16.7
comp=Z,61nm,18.6s,baz=162,slow=38
ILAR Eielson Array 71.42 336 P P 06 34 17.1 +0.4
BMAR Burnt Mountain 71.56 339 P P 06 34 17.8 +0.3
EUNU Eureka 71.66 359 P P 06 34 16.1 -1.9
EUNU IAmb IAmb 06 34 20.0
comp=Z,5.7nm,0.9s
RND Reindeer 71.78 334 P P 06 34 19.6 +0.6
MCK McKinley 71.92 335 P P 06 34 19.8 +0.1
baz=108
NEA2 Nenana 72.25 336 P P 06 34 22.4 +0.8
baz=108
IMAR Indian Mountai 74.53 336 P P 06 34 34.1 -0.9
DAG Danmarks Havn 76.15 12 iP P 06 34 41.9 -2.3
DAG Danmarks Havn 76.15 12 iP P 06 34 41.9 -2.3
ESDC Sonseca Array 76.36 51 P P 06 34 46.8 +0.6
comp=Z,5.6nm,0.9s,baz=278,slow=5.3,SNR=27
ESDC LR LR 07 06 07.7
comp=Z,46nm,18.6s,baz=130,slow=34
ESDC Sonseca Array 76.36 51 P P 06 34 44.9 -1.3
ESBB Sonseca Array 76.36 51 P P 06 34 47.0 +0.8
ESBB IAmb IAmb 06 34 49.1
comp=Z,6.3nm,0.9s
TIC Toumodi 77.33 85 eP P 06 34 52.3 +0.2
LIC Lamto 77.38 85 eP P 06 34 52.8 +0.5
comp=Z,77nm,1.2s
KOWA Kowa 77.46 77 P P 06 34 53.2 +0.5
KOWA IAmb IAmb 06 34 54.8
comp=Z,7.4nm,0.7s
DBIC Dimbokro 77.49 85 P P 06 34 53.3 +0.4
comp=Z,9.7nm,1.0s,baz=244,slow=4.9,SNR=7.0
DBIC LR LR 07 10 16.1
comp=Z,19nm,18.2s,baz=162,slow=37
KIC Kosan Boka 77.64 85 eP P 06 34 54.4 +0.6
comp=Z,42nm,1.3s
TORD Torodi Ar. Bea 83.12 78 P P 06 35 22.8 -0.5
comp=Z,2.0nm,0.8s,baz=253,slow=3.9,SNR=9.8
TORD LR LR 07 13 44.0
comp=Z,34nm,19.2s,baz=245,slow=37
NB2 NORSAR Subarra 84.82 29 P P 06 35 31.8 +0.7
comp=Z,1.7nm,0.8s,baz=277,slow=5.3
NOA NORSAR Array B 84.82 29 P P 06 35 31.4 +0.4

comp=Z,1.8nm,0.8s,baz=277,slow=5.1,SNR=6.4
NOA LR LR 07 10 44.9
comp=Z,24nm,19.9s,baz=260,slow=34
CLL Collm 87.33 39 *e*P **P 06 35 44.0 +0.4**
comp=Z,8.0nm,1.2s
GERES GERESS Array B 88.21 41 P **P 06 35 48.7 +0.7**
comp=Z,1.0nm,0.8s,baz=291,slow=3.7,SNR=5.7
ARCES ARCESS Array B 88.59 19 P **P 06 35 49.3 0.0**
comp=Z,3.9nm,0.9s,baz=318,slow=4.9,SNR=5.7
FINES FINESS Array B 91.67 27 P **P 06 36 03.6 -0.2**
comp=Z,2.5nm,0.8s,baz=152,slow=8.6,SNR=4.0
FINES LR LR 07 12 17.8
comp=Z,41nm,21.0s,baz=304,slow=32
LZH Lanzhou 135.27 352 *e*PKP **PKPdf 06 42 16.5 -0.6**
LZH pPKP sPKPdf 06 42 29.8 +5.1
LZH sPKP 06 42 35.0
LZH LR LR
comp=N,69nm,17.9s
LZH LR LR
comp=E,73nm,18.0s
LZH LR LR
comp=Z,100nm,20.3s
CD2 Chengdu 140.36 351 *e*PKP **PKPdf 06 42 24.1 -2.4**
CD2 LR LR
comp=N,1μm,16.7s
CD2 LR LR
comp=E,2μm,22.8s
CD2 LR LR
comp=Z,2μm,16.1s
ASAR Alice Springs 141.46 242 PKhKP PKPpre 06 42 22.8
comp=Z,0.3nm,0.4s,baz=115,slow=3.7,SNR=5.0
ASAR PKP **PKPdf 06 42 26.6 -2.0**
comp=Z,0.3nm,0.4s,baz=114,slow=2.9,SNR=4.8
WRA Warramunga Arr 142.00 248 PKhKP PKPpre 06 42 24.4
comp=Z,1.1nm,0.9s,baz=105,slow=3.0,SNR=6.7
WRA PKP **PKPdf 06 42 29.4 -0.3**
comp=Z,0.6nm,0.7s,baz=105,slow=2.8,SNR=7.1
CMAR Chiang Mai Arr 153.24 356 PKPbc **PKiKP 06 42 56.5 +0.7**
comp=Z,0.7nm,0.3s,baz=335,slow=4.0,SNR=1.6

ISK ***10*** *06:42:29.3, 38.67°N×43.16°E, h12km, ML2.5/5*
DDA ***10*** *06:42:29.4, 38.66°N×43.11°E, h7km±2km, ML2.1*
ISC 10 06:42:29.9±1.0, 38.68°N±0.03°×43.15°E±0.04, h17km±8km, n14, σ1s25/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**114**			**PG**	**Pg**	**06 42 34.8**	**-0.1**
VANB						SG	**Sg**	**06 42 39.2**	**+1.0**
TVAN	**Van**	**0.25**	**127**	*i*	P	**Pg**	**Pg**	**06 42 34.8**	**-0.8**
TVAN				*i*	S	**Sb**	**Sb**	**06 42 39.6**	**-0.6**
TVAN					IAML			06 42 40.0	
	comp=E,924nm,0.4s								
TVAN					IAML			06 42 40.0	
	comp=N,616nm,0.2s								
GEVA	**Gevas**	**0.37**	**192**	*i*	P	**Pg**	**Pg**	**06 42 36.9**	**-0.7**
GEVA				*i*	S	**Sb**	**Sb**	**06 42 43.8**	**+0.1**
GEVA					IAML			06 42 44.0	
	comp=E,269nm,0.4s								
GEVA					IAML			06 42 48.0	
	comp=N,270nm,0.5s								
AKDM	**Akdamar-Van**	**0.37**	**201**		PG	**Pg**	**Pg**	**06 42 37.2**	**-0.5**
VMUR	**Van-Muradiye**	**0.45**	**46**	*i*	P	**Pg**	**Pg**	**06 42 39.1**	**0.0**
VMUR				*i*	S	**Sb**	**Sb**	**06 42 46.1**	**+0.1**
VMUR					IAML			06 42 47.0	
	comp=E,292nm,0.5s								
VMUR					IAML			06 42 49.0	
	comp=N,187nm,0.3s								
MLAZ	**Malazgirt-MUS**	**0.66**	**315**		PG	**Pb**	**Pb**	**06 42 42.8**	**-0.3**
CLDR	**Caldiran**	**0.76**	**52**		PG	**Pg**	**Pg**	**06 42 44.3**	**-0.4**
CLDR					SG	**Sb**	**Sb**	**06 42 55.5**	**+0.6**
CLDR	**Caldiran**	**0.76**	**52**	*i*	P	**Pg**	**Pg**	**06 42 42.3**	**-2.5**
CLDR				*i*	S	**Sb**	**Sb**	**06 42 56.3**	**+1.4**
GURO	**Guroymak-BITLI**	**0.89**	**262**		PG	**Pb**	**Pb**	**06 42 46.7**	**-0.2**
GURO					SG	**Sn**	**Sn**	**06 42 59.7**	**-0.6**
SRTM	**Siirt_Merkez**	**1.19**	**235**	*i*	P	**Pn**	**Pn**	**06 42 53.8**	**+2.0**
SRTM					IAML			06 43 12.0	
	comp=E,40nm,0.4s								
SRTM					IAML			06 43 13.0	
	comp=N,36nm,0.6s								
HAKT	**HAKKARI**	**1.20**	**158**	*i*	P	**Pb**	**Pb**	**06 42 51.6**	**-0.7**
HAKT					IAML			06 43 14.0	
	comp=E,12nm,0.9s								
HAKT					IAML			06 43 18.0	
	comp=N,15nm,0.8s								
MUSM	**Mu-Merkez**	**1.28**	**273**	*i*	P	**Pn**	**Pn**	**06 42 50.4**	**-2.8**
MUSM				*i*	S	**Sn**	**Sn**	**06 43 11.6**	**+1.5**
EATA	**Eleskirt**	**1.29**	**337**	*i*	P	**Pg**	**Pg**	**06 42 54.2**	**-0.6**
EATA				*i*	S	**Sn**	**Sn**	**06 43 12.1**	**+1.6**
EATA					IAML			06 43 15.0	
	comp=N,36nm,0.4s								
EATA					IAML			06 43 18.0	
	comp=E,33nm,0.6s								
SVAN	**Silvan-Diyarba**	**1.62**	**252**		PN	**Pn**	**Pn**	**06 42 58.4**	**+0.6**

IDC 10 06:44:55.4±2.5, 54.31°N×85.96°E, h0km, mb1 3.0/2, mb1mx2.9/36, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=18.3km s-min=10.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**242**	*i*				06 49 40.0	
	baz=63,slow=342,SNR=1.2								
ZALV	**Zalesovo Beam**	**0.76**	**242**		Pg	Pg		06 45 08.8	-1.2
	1.1nm,0.3s,baz=59,slow=17,SNR=10.0								
ZALV					Lg	Lg		06 45 21.0	
	4.9nm,0.3s,baz=59,slow=29,SNR=31								
ZALV					Rg	Rg		06 45 26.5	
	33nm,1.1s,baz=63,slow=36,SNR=12								
KURBB	**Kurchatov Arra**	**5.85**	**234**		Pn	Pn		06 46 24.7	+1.4
	0.1nm,0.3s,baz=50,slow=13,SNR=7.4								
KURBB					Lg	Lg		06 48 01.9	
	0.0nm,0.3s,baz=47,slow=34,SNR=2.0								
MKAR	**Makanchi Array**	**7.88**	**199**		Pn	Pn		06 46 51.7	+0.5
	0.2nm,0.3s,baz=22,slow=13,SNR=6.6								

NEIC ***10*** *07:06:49.5±1.5, 40.44°N±0.05°×125.43°W±0.07, h11km±9km, Error ellipse: s-maj=7.9km s-min=6.4km az=63.0*
NCEDC ***10*** *07:06:51.7±1.8, 40.41°N±0.05°×125.4°W±0.1, h24km±8km, Mwr3.6/3, Error ellipse: s-maj=11.5km s-min=6.3km az=81.0*
IDC ***10*** *07:06:51.1±5.0, 40.58°N×125.23°W, h0km, mb2.7/1, mb1 3.4/4, mb1mx3.3/39, mbtmp2.9/4, ML3.0/2, Error ellipse: s-maj=57.6km s-min=21.4km az=103.0*
NEIC ***10*** *07:06:51.7, 40.44°N×125.33°W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=3.21; $M_{\theta\theta}$=3.62; $M_{\phi\phi}$=-0.41; $M_{r\theta}$=-0.36; $M_{r\phi}$=0.73; $M_{\theta\phi}$=0.95; Fault plane solution: M_o3.65000×10^{14} NP1:ϕ_s242.00000°, δ46.00000°, λ-116.00000°. NP2:ϕ_s97.00000°, δ49.00000°, λ-66.00000°. Principal axes: T 3.7481, Plg2.0000°, Azm170.0000°; N -0.2040, Plg18.0000°, Azm261.0000°; P -3.5441, Plg72.0000°, Azm75.0000°;*
ANF ***10*** *07:06:54.7±1.0, 40.58°N×125.01°W, h19km±8km, ML3.1/15 Error ellipse: s-maj=6.3km s-min=3.2km az=51.0*

ISC 10 07:06:50.0±2.0, 40.46°N±0.04°×125.33°W±0.08, h15km±12km, n102, σ1s76/112, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.76**	**88**				**Pn**	**07 07 06.6**	**+0.4**
KSMM	**Slide Mountain**	**0.92**	**107**				**Pg**	**07 07 07.9**	**0.0**
KMPM	**Mount Pierce**	**0.93**	**92**				**Pb**	**07 07 08.9**	**+1.1**
JCC	**Jacoby Creek,**	**1.05**	**69**				**Pn**	**07 07 10.3**	**+0.1**
KCRM	**Chalk Rock**	**1.15**	**91**				**Pb**	**07 07 12.1**	**+0.4**
KMRM	**Mail Ridge**	**1.26**	**100**				**Pg**	**07 07 14.1**	**-0.2**
KMRM						Sn	**Sn**	**07 07 31.3**	**+1.3**
KHMM	**Horse Mountain**	**1.29**	**70**				**Pn**	**07 07 14.2**	**+0.5**
KHMM						Sn	**Sn**	**07 07 30.7**	**0.0**
KCSM	**Cold Springs**	**1.39**	**86**				**Pb**	**07 07 15.8**	**0.0**
KBSM	**Bell Springs**	**1.43**	**111**				**Pn**	**07 07 15.9**	**+0.3**
KRMB	**Red Mountain**	**1.52**	**45**				**Pn**	**07 07 16.7**	**0.0**
KCPM	**Cahto Peak**	**1.55**	**119**				**Pn**	**07 07 17.5**	**+0.3**
KCPM						Sn	**Sn**	**07 07 36.8**	**-0.2**
KIPM	**Iron Peak**	**1.56**	**114**				**Pn**	**07 07 17.8**	**+0.5**
KHBM	**Hayfork Bally**	**1.62**	**82**				**Pn**	**07 07 18.9**	**+0.6**
KOMM	**Orleans Mounta**	**1.65**	**59**				**Pn**	**07 07 18.8**	**+0.3**
KFPM	**Farley Peak**	**1.68**	**118**				**Pn**	**07 07 18.9**	**+0.1**
GTC	**Three Chop Rid**	**1.73**	**127**				**Pn**	**07 07 19.8**	**+0.3**
KBNM	**Bluenose Ridge**	**1.73**	**108**				**Pn**	**07 07 20.4**	**+0.7**
GNAM	**Navarro Ridge**	**1.81**	**133**				**Pn**	**07 07 19.3**	**-1.5**
LBPM	**Beegum Peak**	**1.88**	**93**				**Pn**	**07 07 22.9**	**+1.2**
KBO	**Bosley Butte**	**1.94**	**25**		Pn		**Pn**	**07 07 23.1**	**+0.5**
LGPM	**Granite Peak**	**1.96**	**76**				**Pn**	**07 07 23.4**	**+0.6**
O02D	**Mt. Diablo Mer**	**1.96**	**97**		P		**Pn**	**07 07 23.6**	**+0.8**
	baz=277,SNR=285								
O02D					S		**Sn**	**07 07 46.9**	**-0.3**
	baz=277								
O02D	**Mt. Diablo Mer**	**1.96**	**97**				**Pn**	**07 07 23.7**	**+0.8**
GWRM	**Wonder Ranch**	**2.00**	**128**				**Pn**	**07 07 23.6**	**+0.3**
N02D	**Trinity Center**	**2.06**	**75**		P		**Pn**	**07 07 24.6**	**+0.4**
	baz=256,SNR=102								
N02D						Sb	**Sb**	**07 07 50.2**	**-2.5**
	baz=256								
N02D	**Trinity Center**	**2.06**	**75**				**Pn**	**07 07 24.8**	**+0.6**
M02C	**Callahan**	**2.10**	**63**		P		**Pn**	**07 07 25.1**	**+0.3**
	baz=244,SNR=209								
M02C						Sb	**Sb**	**07 07 51.3**	**-2.4**
	baz=244								
LBKM	**Bonanza King**	**2.12**	**72**				**Pn**	**07 07 25.6**	**+0.6**
WDC	**Whiskeytown Da**	**2.13**	**86**				**Pn**	**07 07 26.0**	**+0.9**
GGUM	**Gualala**	**2.13**	**138**				**Pn**	**07 07 25.2**	**+0.1**
L02E	**Cave Junction**	**2.14**	**37**		P		**Pn**	**07 07 25.8**	**+0.5**
	baz=219,SNR=9.9								
L02E					S		**Sn**	**07 07 50.8**	**-0.8**
	baz=219								
GVV	**Valley View**	**2.15**	**108**				**Pn**	**07 07 26.6**	**+1.2**
GASB	**Alder Springs**	**2.16**	**111**				**Pn**	**07 07 26.1**	**+0.5**
GSNM	**Snow Mountain**	**2.24**	**132**				**Pn**	**07 07 27.1**	**+0.5**
HOPS	**Hopland Field**	**2.27**	**129**				**Pn**	**07 07 26.1**	**-1.0**
GHLM	**Highland Sprin**	**2.27**	**128**				**Pn**	**07 07 27.4**	**+0.3**
YBH	**Yreka Blue Hor**	**2.36**	**56**		Pn		**Pn**	**07 07 29.2**	**+0.9**
	3.6nm,0.3s,baz=245,slow=15,SNR=50								
YBH					Sn		**Sb**	**07 07 58.0**	**-3.2**
	6.2nm,0.3s,baz=219,slow=10,SNR=7.6								
GTSM	**Trough Springs**	**2.39**	**118**				**Pn**	**07 07 29.5**	**+0.8**
LTCM	**Tuscan Springs**	**2.46**	**95**				**Pn**	**07 07 30.8**	**+1.2**
GSSM	**Skaggs Springs**	**2.50**	**134**				**Pn**	**07 07 31.0**	**+0.8**
KEBM	**Edson Butte**	**2.53**	**17**		Pn		**Pn**	**07 07 31.4**	**+0.8**
LGBM	**Gray Butte**	**2.54**	**68**				**Pn**	**07 07 32.5**	**+1.5**
FTR	**Fort Ross**	**2.56**	**138**				**Pn**	**07 07 30.5**	**-0.4**
K02D	**Willamette Mer**	**2.56**	**29**		P		**Pn**	**07 07 32.1**	**+1.0**
	baz=211,SNR=128								
K02D					S		**Sn**	**07 08 00.6**	**-1.5**
	baz=211								
M03C	**McCloud**	**2.57**	**70**				**Pn**	**07 07 33.0**	**+1.8**
GSGM	**Seigler Mounta**	**2.57**	**127**				**Pn**	**07 07 33.6**	**+2.5**
LMPM	**Military Pass**	**2.61**	**66**				**Pn**	**07 07 34.0**	**+2.1**
O03E	**Paynes Creek**	**2.70**	**92**		P		**Pn**	**07 07 33.5**	**+0.5**
	baz=274,SNR=159								
O03E					S		**Sn**	**07 08 05.4**	**-0.1**
	baz=274								
O03E	**Paynes Creek**	**2.70**	**92**				**Pn**	**07 07 33.8**	**+0.8**
LDBM	**Digger Butte**	**2.71**	**89**				**Pn**	**07 07 33.9**	**+0.8**
LBFM	**Black Fox Moun**	**2.76**	**70**				**Pn**	**07 07 35.8**	**+1.9**
HUMO	**Hull Mountain**	**2.79**	**39**		Pn		**Pn**	**07 07 36.0**	**+1.7**
L04D	**Klamath Falls**	**2.88**	**51**		P		**Pn**	**07 07 37.5**	**+2.0**
	baz=234,SNR=172								
L04D						Sb	**Sb**	**07 08 13.7**	**-2.6**
	baz=234								
L04D	**Klamath Falls**	**2.88**	**51**				**Pb**	**07 07 38.9**	**-2.3**
J01E	**Myrtle Point**	**2.90**	**21**		P		**Pn**	**07 07 36.6**	**+0.9**
	baz=203,SNR=17								
J01E					S		**Sn**	**07 08 09.5**	**-0.7**
	baz=203								
LCMM	**Colby Mountain**	**2.93**	**95**				**Pn**	**07 07 37.6**	**+1.3**
M04C	**Macdoel**	**2.95**	**62**		P		**Pn**	**07 07 37.4**	**+0.9**
	baz=244								
MCCM	**Marconi Confer**	**2.99**	**140**		Pn		**Pn**	**07 07 37.2**	**+0.3**
SUTB	**Sutter Butte**	**2.99**	**113**				**Pn**	**07 07 37.4**	**+0.4**
ORV	**Oroville**	**3.08**	**106**		Pn		**Pn**	**07 07 39.4**	**+1.3**
NOLM	**Olema**	**3.11**	**140**				**Pn**	**07 07 39.4**	**+0.8**
K04D	**Chiloquin, OR**	**3.45**	**50**		P		**Pn**	**07 07 45.5**	**+2.2**
	baz=232								
I03D	**Drain, OR**	**3.56**	**24**		P		**Pn**	**07 07 46.7**	**+2.0**
	baz=206,SNR=110								
I03D					S		**Sn**	**07 08 25.9**	**-0.6**
	baz=206								
CMCM	**Mills College**	**3.63**	**136**				Pn	07 07 41.7	-4.0
J04D	**Umpqua Nationa**	**3.68**	**40**		P		**Pn**	**07 07 49.6**	**+3.0**
	baz=222								
AFDM	**Forest Hills D**	**3.68**	**113**		Pn		**Pn**	**07 07 47.7**	**+1.3**
I02D	**Swisshome**	**3.81**	**16**		P		**Pn**	**07 07 49.8**	**+1.6**
	baz=198,SNR=33								
I02D					S		**Sn**	**07 08 31.8**	**-0.9**
	baz=198								
I04A	**Tendick Farm,**	**3.98**	**32**		P		**Pn**	**07 07 51.5**	**+0.9**
	baz=215								
I04A					S		**Sn**	**07 08 37.7**	**+0.7**
	baz=215								
K05A	**Summer Lake**	**4.03**	**54**		Pn		**Pn**	**07 07 54.0**	**+2.6**
MOD	**Modoc Plateau**	**4.06**	**68**		Pn		**Pn**	**07 07 52.6**	**+0.8**
J05D	**Fort Rock, OR**	**4.17**	**46**		P		**Pn**	**07 07 56.0**	**+2.8**
	baz=229,SNR=32								
H04D	**Lebanon**	**4.50**	**24**		P		**Pn**	**07 08 00.3**	**+2.7**
	baz=207,SNR=16								
H04D					S		**Sn**	**07 08 50.1**	**+0.5**
	baz=207								
VCNR	**Virginia City**	**4.52**	**103**		Pn		**Pn**	**07 08 01.2**	**+3.0**
CMB	**Columbia Colle**	**4.54**	**121**		Pn		**Pn**	**07 08 00.8**	**+2.6**
PNTR	**Pine Nut**	**4.62**	**105**		Pn		**Pn**	**07 08 02.8**	**+3.2**
PAHR	**Pah Rah Range**	**4.62**	**97**		Pn		**Pn**	**07 08 00.6**	**+1.1**
H04A	**Detroit Lake**	**4.82**	**28**		Pn		**Pn**	**07 08 04.9**	**+2.8**
I05D	**Terrebonne, OR**	**4.88**	**36**		P		**Pn**	**07 08 06.0**	**+3.1**
	baz=219,SNR=13								
YERR	**Yerington**	**4.92**	**105**				**Pn**	**07 08 06.5**	**+2.9**
WAKR	**Walker**	**4.96**	**111**				**Pn**	**07 08 07.5**	**+3.4**
PMPB	**Monarch Peak**	**5.53**	**138**		Pn		**Pn**	**07 08 11.2**	**-0.7**
RYN	**Ryan**	**5.57**	**107**		Pn		**Pn**	**07 08 15.3**	**+2.8**
G05D	**Wamic, OR**	**5.62**	**30**		P		**Pn**	**07 08 16.6**	**+3.5**
	baz=214,SNR=8.4								
MDPB	**Devils Postpil**	**5.62**	**118**		Pn		**Pn**	**07 08 16.7**	**+3.3**
OMMB	**Old Mammoth Mi**	**5.69**	**118**				**Pn**	**07 08 17.0**	**+2.8**
KVN	**Kaiserville**	**5.75**	**102**		Pn		**Pn**	**07 08 16.4**	**+1.5**
NVAR	**Mina Array Bea**	**5.80**	**108**		Pn		**Pn**	**07 08 18.3**	**+2.5**
	0.6nm,0.3s,baz=287,slow=14,SNR=20								
NVAR	**Mina Array Bea**	**5.80**	**108**				**Pn**	**07 08 17.8**	**+2.0**
F04A	**Amboy**	**5.87**	**20**		Pn		**Pn**	**07 08 20.0**	**+3.5**
J08A	**Circle Bar Ran**	**5.88**	**58**				**Pn**	**07 08 19.0**	**+2.3**
NV11	**Mina Array Sit**	**5.91**	**108**		Pn		**Pn**	**07 08 19.7**	**+2.5**
BONR	**Boundary Peak**	**6.00**	**112**				Pn	07 08 26.1	+7.5
E03A	**Lebam**	**6.22**	**11**		Pn		**Pn**	**07 08 24.3**	**+3.0**
G08A	**Pilot Rock**	**6.73**	**42**		Pn		Pn	07 08 33.3	+4.9
LON	**Longmire**	**6.79**	**21**		Pn		**Pn**	**07 08 29.5**	**+0.3**
ISA	**Isabella, Lake**	**7.22**	**129**		Pn		**Pn**	**07 08 38.2**	**+3.1**
HAWA	**Hanford**	**7.28**	**33**				**Pn**	**07 08 38.9**	**+3.1**
LTY	**Liberty**	**7.59**	**25**		Pn		**Pn**	**07 08 42.8**	**+2.7**
F10A	**Beach Ranch, E**	**8.09**	**44**				Pn	07 08 52.4	+5.4
HLID	**Hailey**	**8.70**	**66**		Pn		**Pn**	**07 09 00.0**	**+4.5**
PDAR	**Pinedale Array**	**12.03**	**74**		Pn		Pn	07 09 46.7	+5.5
	baz=263,slow=14,SNR=2.0								
TXAR	**Lajitas Array**	**20.89**	**115**		P		Pn	07 11 36.2	+1.8
	0.3nm,0.8s,baz=299,slow=11,SNR=4.0								

WEL 10 07:25:30.1, 38°S±3°×17°E±°, h6km±1km, M2.2/14, ML2.4/14, MLv2.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=150.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.12**	**85**			P	Pg	07 25 33.3	+0.8
WIZ	**White Island**	**0.12**	**89**			P	Pg	07 25 33.4	+0.7
WHRZ	**Whale Island**	**0.33**	**188**			P	Pb	07 25 39.4	+1.0
OPRZ	**Ohinepanea**	**0.49**	**230**			P	Pb	07 25 41.1	-0.1
HAZ	**Te Kaha**	**0.64**	**111**			P	Pb	07 25 43.0	-0.5
RUGZ	**Raukumara Rang**	**0.67**	**131**			P	Pg	07 25 43.6	+0.5
MYRZ	**Mayor Island**	**0.68**	**291**			P	Pb	07 25 44.2	-0.1
URZ	**Urewera**	**0.73**	**175**			P	Pb	07 25 45.5	+0.3
MKRZ	**Makatiti**	**0.76**	**216**			P	Pn	07 25 47.1	-0.3
KARZ	**Kaharoa**	**0.80**	**232**			P	Pb	07 25 46.8	+0.5
TARZ	**Mount Tarawera**	**0.82**	**210**			P	Pn	07 25 48.4	+0.1
MWZ	**Matawai**	**0.89**	**154**			P	Pn	07 25 48.1	+0.1
PKGZ	**Pakihiroa**	**0.90**	**114**			P	Pb	07 25 48.1	0.0
TWGZ	**Tauwhareparae**	**0.99**	**131**			P	Pn	07 25 50.9	+0.4
RAGZ	**Rawiri**	**1.01**	**163**			P	Pn	07 25 51.3	+0.5
PUZ	**Puketiti**	**1.11**	**120**			P	Pn	07 25 52.5	+0.4
RIGZ	**Rimuhau**	**1.31**	**154**			P	Pg	07 25 56.8	+1.6
MTHZ	**Maungataniwha**	**1.33**	**186**			P	Pg	07 25 57.1	+1.5
WIAZ	**Waiheke Island**	**1.69**	**295**			P	Pn	07 26 00.7	+0.6
WPHZ	**Waipukurau**	**2.57**	**190**			P	Pb	07 26 15.0	-1.6
MHEZ	**Mangahewa**	**2.63**	**233**		P		Pg	07 26 20.4	-0.1
OKCZ	**Okains Bay**	**6.89**	**205**		P		Pn	07 27 16.0	+4.5

GCMT 10 07:30:12.0±0.4, 23.57°N±0.03°×123.67°E±0.04, h26km±1km, MW4.9/67, Moment Tensor Solution. s29,c35; s67,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.88±.17; $M_{\theta\theta}$-1.47±.11; $M_{\phi\phi}$-0.41±.11; $M_{r\theta}$1.16±.18; $M_{\theta\phi}$-0.78±.07; $M_{r\phi}$1.55±.22; Best double couple: M_o2.69400×10^{16} NP1:ϕ_s256.00000°, δ25.00000°, λ119.00000°. NP2:ϕ_s45.00000°, δ68.00000°, λ77.00000°. Principal axes: T 2.7830, Plg64.0000°, Azm294.0000°; N -0.1800, Plg12.0000°, Azm50.0000°; P -2.6040, Plg22.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southwestern Ryukyu Islands

IDC ***10*** *07:33:03.1±0.5, 44.22°N×149.08°E, h0km, mb4.7/29, mb1 4.8/37, mb1mx4.7/57, mbtmp4.7/37, ML3.6/7, MS4.3/33, Ms1 4.4/33, ms1mx4.2/49 Error ellipse: s-maj=14.4km s-min=10.1km az=158.0*
BJI ***10*** *07:33:05.1±0.0, 44.27°N×149.21°E, h29km, mB5.3/49, mb5.1/66, Ms4.9/54, Ms7 4.7/54*
SKHL ***10*** *07:33:05.3±0.4, 43.94°N×149.42°E, h45km±2km, mb5.2/4, Ms4.7/1, msh5.3/1, msh5.5/3*
JMA ***10*** *07:33:06.0±0.7, 44.33°N×149.25°E, h30km, M5.0*
NIED ***10*** *07:33:06.1, 44.33°N×149.25°E, h30km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.88; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-2.38; $M_{r\theta}$1.62; $M_{r\phi}$-1.51; $M_{\theta\phi}$0.63; Fault plane solution: M_o3.52000×10^{16} NP1:ϕ_s47.00000°, δ60.00000°, λ111.00000°. NP2:ϕ_s191.00000°, δ36.00000°, λ59.00000°.*
MOS ***10*** *07:33:07.5±0.9, 44.14°N×149.09°E, h45km, mb5.4/110, MS4.7/13 Error ellipse: s-maj=5.2km s-min=3.9km az=116.7*
NEIC ***10*** *07:33:07.4±1.2, 44.18°N±0.07°×149.1E±0.1°, h29km±4km, mb5.1/231, Error ellipse: s-maj=12.3km s-min=9.8km az=129.0*
BGR ***10*** *07:33:08.9±0.0, 44.50°N×148.50°E, h33km, mb5.0*
GCMT ***10*** *07:33:11.4±0.3, 44.16°N±0.02°×149.36°E±0.03, h28km±1km, MW4.9/79, Moment Tensor Solution. s41,c47; s79,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.48±.17; $M_{\theta\theta}$-0.85±.11; $M_{\phi\phi}$-1.63±.11; $M_{r\theta}$0.60±.19; $M_{\theta\phi}$-1.39±.06; $M_{r\phi}$1.92±.18; Best double couple: M_o3.27800×10^{16} NP1:ϕ_s230.00000°, δ28.00000°, λ112.00000°. NP2: ϕ_s25.00000°, δ64.00000°, λ79.00000°. Principal axes: T 3.2380, Plg69.0000°, Azm272.0000°; N 0.0790, Plg10.0000°, Azm30.0000°; P -3.3180, Plg18.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 07:33:06.3±0.6, 44.05°N±0.04°×149.17°E±0.03, h25km±3km, h25km:pP-P, n970, σ1s27/1006, mb5.1/273, MS4.7/64, 44C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.50**	**322**	*i*	P		**Pn**	**07 33 31.5**	**-0.1**
KUR						AMB	AMB	07 33 32.0	
	7μm,0.9s								
KUR				*i*	S		**Sb**	**07 33 51.4**	**-0.7**
KUR						A	A	07 33 54.0	
	11μm,0.8s								
KUR						A	A	07 33 54.0	
	8μm,0.8s								
KUR						A	A	07 33 55.0	
	26μm,1.8s								
KUR						A	A	07 33 55.0	
	17μm,1.8s								
KUR						AMS	AMS	07 34 30.0	
	29μm,9.0s								
KUR						AMS	AMS	07 34 30.0	
	36μm,9.0s								
KUR	**Kuril'sk**	**1.50**	**322**	*c i*	PN		**Pn**	**07 33 31.6**	**-0.1**
KUR				*i*	S		**Sb**	**07 33 51.2**	**-0.9**
KUR						pmax	pmax		
	comp=Z,7μm,0.9s								
KUR						pmax	pmax		
	comp=N,2μm,1.0s								
KUR						pmax	pmax		
	comp=E,1μm,1.0s								
KUR						smax	smax		
	comp=E,37μm,1.7s								
KUR						smax	smax		
	comp=N,28μm,1.5s								
KUR						smax	smax		
	comp=N,9μm,0.7s								
KUR						smax	smax		
	comp=E,4μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.38**	**271**	*i*	P		**Pn**	**07 33 44.0**	**+0.3**
YUK						AMB	AMB	07 33 48.0	

GLVR A A 07 34 28.0
comp=Z,6µm,1.5s
GLVR A A 07 34 30.0
comp=Z,5µm,0.5s
GLVR A A 07 34 30.0
comp=Z,3µm,0.5s
GLVR Golovnino 2.65 264 ⇓ *i* PN **Pn 07 33 48.8 +1.3**
GLVR *i* S **Sn 07 34 21.4 +2.6**
GLVR pmax pmax
comp=Z,843nm,0.5s
GLVR pmax pmax
comp=N,246nm,0.3s
GLVR pmax pmax
comp=E,440nm,0.2s
GLVR smax smax
comp=N,5µm,0.5s
GLVR smax smax
comp=E,3µm,0.5s
JRA Rausu 2.92 269 P **Pn 07 33 53.0 +1.9**
JNK Nakash 3.25 263 P **Pn 07 33 56.9 +1.2**
JAK Akkeshi 3.42 254 P **Pn 07 33 58.5 +0.5**
JTKR Abashiri--Toko 3.79 271 P **Pn 07 34 04.8 +1.7**
JAR Ashorobuto 3.99 261 P **Pn 07 34 07.5 +1.7**
JOB Onbets 4.05 255 P **Pn 07 34 07.5 +0.9**
JMP Maruseppu 4.19 271 P **Pn 07 34 10.4 +1.8**
JCH Churui 4.47 253 P **Pn 07 34 14.4 +2.0**
JKK2 Kamakawa 2 4.64 270 P **Pn 07 34 17.1 +2.4**
JKA Kamikawa-asahi 4.73 273 *e*P **Pn 07 34 16.7 +0.7**
JKA Kamikawa-asahi 4.73 273 Pn **Pn 07 34 16.7 +0.7**
ASAJ Asahikawa 4.73 273 Pn **Pn 07 34 16.6 +0.5**
comp=E,5.9nm,0.3s,baz=76,slow=13,SNR=15
ASAJ Lg Lg 07 35 29.4
comp=E,8.9nm,0.3s,baz=104,slow=16,SNR=3.9
ASAJ LR LR 07 36 23.6
comp=E,8µm,18.6s,baz=144,slow=43
ASAJ Asahikawa 4.73 273 P **Pn 07 34 18.9 +2.9**
ASAJ Asahikawa 4.73 273 PN **Pn 07 34 16.7 +0.7**
JEM Erimo 4.85 247 P **Pn 07 34 20.8 +3.1**
JEM Erimo 4.85 247 **Pn 07 34 18.8 +1.1**
ERM Erimo 4.85 247 *i* PN **Pn 07 34 20.2 +2.5**
ERM Erimo 4.85 247 Pn **Pn 07 34 19.0 +1.4**
JFR Furan 4.85 262 P **Pn 07 34 19.5 +1.8**
JNBK Urakawa-nobuka 5.01 252 P **Pn 07 34 20.7 +0.8**
JAB Ashibetsu 5.06 266 P **Pn 07 34 24.1 +3.6**
JBT2 Biratori 2 5.12 258 P **Pn 07 34 22.5 +1.2**
YSS Yuzh-Sakhalins 5.36 305 *e*P **Pn 07 34 26.6 +2.0**
YSS AMB AMB 07 34 29.0
comp=E,60nm,0.9s
YSS *e*S **Sn 07 35 28.4 +2.9**
YSS A A 07 35 30.0
comp=E,160nm,0.6s
YSS AMS AMS 07 36 37.0
comp=E,3µm,16.0s
YSS AMS AMS 07 36 37.0
comp=E,4µm,16.0s
YSS AMS AMS 07 36 37.0
comp=E,6µm,16.0s
YSS Yuzh-Sakhalins 5.36 305 ⇓ *e*PN **Pn 07 34 26.4 +1.8**
YSS *e*S **Sn 07 35 28.7 +3.2**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS smax smax
comp=N,160nm,0.6s
YSS MLR MLR
comp=Z,6µm,16.0s
YSS MLR MLR
comp=N,3µm,15.0s
YSS Yuzh-Sakhalins 5.36 305 Pn **Pn 07 34 24.1 -0.6**
JEW Eniwo 5.75 260 Pn **Pn 07 34 30.2 +0.3**
JNB Noboribetsu 6.14 258 P **Pn 07 34 36.9 +1.5**
JKB Kayabe 6.35 253 P **Pn 07 34 39.2 +1.0**
JYM2 Yakumo 2 6.72 256 P **Pn 07 34 44.8 +1.4**
JANG Nango 6.76 240 *e*S **Sn 07 35 55.1 -5.1**
JTH Tanohata 6.82 235 *e*S **Sn 07 35 54.4 -7.1**
JTM Tenmabayashi 6.82 244 P **Pn 07 34 45.0 +0.3**
UGL Uglegorsk 7.01 318 *e*P **Pn 07 34 50.2 +2.9**
UGL AMB AMB 07 34 55.7
comp=N,29nm,0.6s
UGL *e*S **Sn 07 36 10.1 +4.0**
UGL AMS AMS 07 37 47.6
comp=N,5µm,16.0s
UGL AMS AMS 07 37 47.6
comp=N,4µm,16.0s
UGL AMS AMS 07 37 47.6
comp=N,4µm,16.0s
OFUJ Ofunato 7.50 231 P **Pn 07 34 53.1 -1.0**
OFUJ *e*S **Sn 07 36 10.8 -7.5**
JRG Rokugo 7.89 237 P **Pn 07 34 59.9 +0.4**
JRG *e*S **Sn 07 36 23.3 -4.7**
TYV Tymovskoe 8.11 329 *e*P **Pn 07 35 05.0 +2.6**
TYV AMB AMB 07 35 07.0
comp=N,30nm,0.6s
TYV AMB AMB 07 35 07.0
comp=N,400nm,3.2s
TYV *e*S **Sn 07 36 34.0 +0.8**
TYV A A 07 36 36.0
comp=N,770nm,3.2s
TYV A A 07 36 36.0
comp=N,800nm,3.2s
TYV AMS AMS 07 38 09.0
comp=N,3µm,17.0s
TYV AMS AMS 07 38 09.0
comp=N,4µm,17.0s
TYV AMS AMS 07 38 09.0
comp=N,4µm,17.0s
TYV Tymovskoe 8.11 329 *e*PN **Pn 07 35 05.4 +3.0**
TYV *e*S **Sn 07 36 35.9 +2.7**
TYV pmax pmax
comp=Z,30nm,0.8s
TYV pmax pmax
comp=Z,400nm,3.2s
TYV smax smax
comp=E,800nm,3.2s
TYV smax smax
comp=E,39nm,1.1s
JIO Ouri 8.12 229 P **Pn 07 35 01.3 -1.2**
JIO *e*S **Sn 07 36 25.9 -7.6**
SKR Severo-Kuril's 8.14 33 *e*P **Pn 07 35 02.3 -0.4**
SKR AMB AMB 07 35 06.0
comp=E,300nm,3.3s
SKR *e*S **Sn 07 36 31.3 -2.5**
SKR A A 07 36 40.0
comp=E,660nm,5.5s
SKR A A 07 36 40.0
comp=E,1µm,5.5s
SKR AMS AMS 07 37 56.0
comp=E,3µm,16.0s
SKR AMS AMS 07 37 56.0
comp=E,2µm,16.0s
SKR AMS AMS 07 37 56.0
comp=E,1µm,16.0s
SKR Severo-Kuril's 8.14 33 *e*PN **Pn 07 35 02.3 -0.4**
SKR pmax pmax
comp=Z,300nm,3.3s
SKR MLR MLR
comp=Z,1µm,16.0s
SKR MLR MLR
comp=Z,1µm,12.0s
PAU Pauzhetka 9.03 32 *e*P **Pn 07 35 13.7 -1.2**
TEY Ternei 9.03 281 *e*P **Pn 07 35 18.2 +3.3**
TEY AMB AMB 07 35 21.7
comp=Z,1µm,3.6s
TEY *e*rx rx 07 35 34.1
TEY AMS AMS 07 39 14.0
comp=Z,2µm,15.0s
TEY AMS AMS 07 39 14.0
comp=Z,4µm,15.0s
TEY AMS AMS 07 39 14.0
comp=Z,3µm,15.0s
TEY Ternei 9.03 281 ⇑ *e*PN **Pn 07 35 19.0 +4.1**
TEY pmax pmax
comp=E,10.0nm,2.3s
TEY pmax pmax
comp=N,10.0nm,1.0s
JSD Sado 10.19 238 Pn **Pn 07 35 31.4 +0.4**
OKH Okha 10.35 339 *e*P **Pn 07 35 37.5 +4.5**
OKH AMB AMB 07 35 43.4
comp=N,100nm,7.0s
OKH AMS AMS 07 40 10.6
comp=N,1µm,16.0s
OKH AMS AMS 07 40 10.6
comp=N,3µm,16.0s
OKH AMS AMS 07 40 10.6
comp=N,2µm,16.0s
JAG Ashikaga 10.63 228 P **Pn 07 35 35.7 -1.3**

PEA0B Petropavlovsk- 10.67 29 *i* PN **Pn 07 35 36.2 -1.3**
PEA0B Petropavlovsk- 10.67 29 **Pn 07 35 37.9 +0.4**
PETK Petropavlovsk- 10.67 29 Pn **Pn 07 35 36.8 -0.7**
comp=N,0.8nm,0.3s,baz=201,slow=12,SNR=24
PETK LR LR 07 40 14.2
comp=N,2µm,18.8s,baz=227,slow=41
PETK Petropavlovsk- 10.67 29 PN **Pn 07 35 37.6 +0.1**
PETK Petropavlovsk- 10.67 29 **Pn 07 35 37.6 +0.1**
GRNR Gornyy 10.93 312 *e*P **Pn 07 35 44.8 +3.8**
GRNR AMB AMB 07 35 46.8
comp=N,7.0nm,1.0s
GRNR AMB AMB 07 35 46.8
comp=N,9.0nm,1.0s
GRNR AMB AMB 07 35 46.8
comp=N,5.0nm,1.0s
GRNR AMS AMS 07 40 03.4
comp=N,950nm,19.0s
GRNR AMS AMS 07 40 03.4
comp=N,2µm,19.0s
GRNR AMS AMS 07 40 03.4
comp=N,2µm,19.0s
GRNR Gornyy 10.93 312 ⇑ *i* PN **Pn 07 35 44.8 +3.8**
GRNR pmax pmax
comp=E,9.0nm,1.1s
GRNR pmax pmax
comp=N,7.0nm,1.0s
GRNR pmax pmax
comp=Z,5.0nm,0.8s
PET Petropavlovsk 10.95 32 *e*P **Pn 07 35 40.9 -0.3**
PET *e*S **Sn 07 37 37.5 -5.3**
PET AMS AMS 07 40 37.3
comp=Z,2µm,10.0s
PET Petropavlovsk 10.95 32 *e*PN **Pn 07 35 40.9 -0.3**
PET MLR MLR
comp=Z,2µm,10.0s
PET MLR MLR
comp=Z,2µm,15.0s
MAJO Matsushiro 11.23 232 PN **Pn 07 35 46.1 +0.9**
MAJO Matsushiro 11.23 232 **Pn 07 35 46.1 +0.9**
MAT Matsushiro 11.23 232 P **Pn 07 35 44.6 -0.6**
MAT *e*S **Sn 07 37 56.4 +6.5**
MJAR Matsushiro Arr 11.23 232 Pn **Pn 07 35 45.3 +0.1**
comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=15
JNG Nsakai 11.39 232 P **Pn 07 35 47.7 +0.3**
USRK Ussuriysk Ar. 12.35 277 Pn **Pn 07 36 01.0 +0.6**
baz=92,slow=12,SNR=16
USRK LR LR 07 41 06.6
comp=Z,2µm,18.1s,baz=98,slow=39
USRK Ussuriysk Ar. 12.35 277 PN **Pn 07 36 01.0 +0.6**
USRK Ussuriysk Ar. 12.35 277 **Pn 07 36 00.6 +0.2**
USA0B Ussuriysk Arra 12.35 277 *i* PN **Pn 07 36 00.2 -0.2**
USA0B Ussuriysk Arra 12.35 277 **Pn 07 35 59.3 -1.1**
JGF Kuroka 12.38 231 **Pn 07 36 01.4 +0.4**
VLA Vladivostok 12.57 272 *e*P **Pn 07 36 04.5 +1.1**
VLA Vladivostok 12.57 272 *i* PN **Pn 07 36 04.5 +1.1**
VLA pmax pmax
comp=Z,31nm,1.1s
EKMR Ekimchan 13.99 316 *e*P **Pn 07 36 23.0 +0.1**
EKMR AMB AMB 07 36 35.8
comp=Z,63nm,1.0s
MDJ Mudanjiang 14.02 279 P **Pn 07 36 22.2 -1.1**
MDJ pP P 07 36 29.5 -1.4
MDJ sP 07 36 34.5
MDJ S **Sn 07 38 57.6 -0.4**
MDJ sS S 07 39 09.3 -10
MDJ PcS **PcS 07 45 14.9 -2.6**
MDJ ScS **ScS 07 48 44.5 -7.2**
MDJ pmax pmax
comp=Z,14nm,1.3s
MDJ pmax pmax
comp=Z,490nm,4.6s
MDJ LR LR
comp=Z,1µm,14.7s
MDJ LR LR
comp=Z,2µm,19.7s
MDJ LR LR
comp=Z,3µm,20.6s
MDJ Mudanjiang 14.02 279 Pn **Pn 07 36 22.7 -0.6**
MA2 Magadan 15.58 3 Pn **Pn 07 36 42.9 -1.1**
comp=Z,1.3nm,0.3s,baz=198,slow=9.5,SNR=6.4
MA2 LR LR 07 42 52.6
comp=Z,1µm,18.9s,baz=188,slow=38
MA2 Magadan 15.58 3 *e*P **Pn 07 36 42.3 -1.7**
MA2 Magadan 15.58 3 *i* P **Pn 07 36 42.3 -1.7**
MA2 pmax pmax
comp=Z,17nm,0.9s
MA2 Magadan 15.58 3 **Pn 07 36 43.7 -0.3**
BMKR Bomnak 16.93 316 *e*P **Pn 07 37 00.0 -1.3**
BMKR AMB AMB 07 37 05.0
comp=Z,35nm,0.5s
CN2 Changchun 17.08 277 *e*P **Pn 07 37 01.8 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,180nm,4.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,2µm,15.0s
CN2 LR LR
comp=Z,3µm,16.0s
ZEA Zeya 17.30 312 *e*P **Pn 07 37 03.0 -2.9**
ZEA AMB AMB 07 37 08.8
comp=Z,31nm,0.9s
ZEA AMB AMB 07 37 08.8
comp=Z,35nm,0.9s
ZEA AMB AMB 07 37 08.8
comp=Z,52nm,0.9s
ZEA AMB AMB 07 37 13.2
comp=Z,300nm,5.0s
ZEA AMB AMB 07 37 13.2
comp=Z,300nm,5.0s
ZEA AMS AMS 07 44 12.0
comp=Z,600nm,16.0s
ZEA AMS AMS 07 44 12.0
comp=Z,900nm,16.0s
ZEA Zeya 17.30 312 *e*P **P 07 37 06.7 -0.5**
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=E,300nm,4.4s
ZEA pmax pmax
comp=Z,300nm,5.5s
ZEA smax smax
comp=N,300nm,3.9s
ZEA MLR MLR
comp=N,600nm,16.0s
KSRS Korea Array 17.37 255 P **Pn 07 37 06.5 -0.4**
comp=N,0.3nm,0.3s,baz=62,slow=11,SNR=12
KS19 Wonju Array Si 17.39 255 P **P 07 37 08.7 +0.4**
KROS Kirovskiy 17.75 314 *e*P **Pn 07 37 10.0 -1.5**
KROS AMB AMB 07 37 13.0
comp=N,7.0nm,0.5s
JNU Nakatsue 17.95 239 P **P 07 37 16.0 +1.5**
comp=N,0.3nm,0.3s,baz=38,slow=7.9,SNR=5.8
JNU Nakatsue 17.95 239 P **Pn 07 37 14.3 +0.2**
INCN Inchon 18.26 257 P **P 07 37 18.8 +0.9**
INCN pmax pmax
comp=Z,47nm,0.9s
INCN Inchon 18.26 257 P **P 07 37 18.8 +0.9**
TJN Taejon 18.30 253 *i* P **P 07 37 17.7 -0.6**
SEY Seymchan 19.01 5 P **P 07 37 23.9 -1.9**
comp=Z,0.7nm,0.3s,baz=187,slow=8.0,SNR=39
SEY LR LR 07 45 11.9
comp=Z,1µm,18.4s,baz=184,slow=39
SEY Seymchan 19.01 5 *i* P **P 07 37 23.8 -2.1**
DL2 Dalian 21.21 265 P **P 07 37 50.6 +0.6**
DL2 *e*S **S 07 41 45.6 +1.0**
DL2 pmax pmax
comp=Z,60nm,1.2s
DL2 pmax pmax
comp=Z,330nm,4.2s
DL2 LR LR
comp=Z,550nm,14.4s
DL2 LR LR
comp=Z,830nm,16.0s
DL2 LR LR
comp=Z,1µm,17.7s
YAK Yakutsk 21.32 334 P **P 07 37 48.6 -2.5**
comp=Z,48nm,0.6s,baz=339,slow=4.8,SNR=16
YAK LR LR 07 46 43.2
comp=Z,1µm,18.7s,baz=135,slow=39
YAK Yakutsk 21.32 334 *e*P **P 07 37 48.4 -2.6**
YAK *e* 07 38 07.1

YAK *e*S **S 07 41 43.1 -3.3**
YAK *e**SS **sS 07 41 54.5 -0.4**
YAK *e*SS **SnSn 07 42 08.3 -1.0**
YAK pmax pmax
comp=Z,97nm,1.0s
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=E,16nm,0.9s
YAK smax smax
comp=N,39nm,1.2s
YAK smax smax
comp=E,53nm,1.4s
YAK MLR MLR
comp=Z,1µm,17.0s
YAK MLR MLR
comp=N,697nm,16.0s
YAK MLR MLR
comp=E,678nm,16.0s
KIWB Kanaga Island 23.70 59 P **P 07 38 16.0 0.0**
BJI Beijing 24.73 272 P **P 07 38 25.7 +0.2**
BJI S **S 07 42 52.5 +6.5**
BJI pmax pmax
comp=E,36nm,1.0s
BJI pmax pmax
comp=E,400nm,4.0s
BJI LR LR
comp=E,770nm,13.9s
BJI LR LR
comp=E,990nm,16.5s
BJI LR LR
comp=E,930nm,19.1s
BJT Baijiatuau 24.74 272 P **P 07 38 25.7 0.0**
BJT pmax pmax
comp=Z,36nm,0.8s
BJT Baijiatuau 24.74 272 P **P 07 38 25.7 0.0**
BJT IAmb IAmb 07 38 41.0
comp=Z,36nm,0.8s
TIA Tai'an 25.60 263 P **P 07 38 34.4 +0.9**
TIA pmax pmax
comp=Z,52nm,0.9s
BILL Bilibino 25.68 15 ⇓ *e*P **P 07 38 32.2 -1.7**
BILL 07 39 08.0
BILL S **S 07 43 06.0 +5.4**
BILL pmax pmax
comp=Z,13nm,1.2s
BILL MLR MLR
comp=Z,1µm,17.0s
BOD Bodaibo 25.74 315 *e*P **P 07 38 30.7 -3.8**
BOD pmax pmax
comp=Z,17nm,1.1s
NJ2 Nanjing 26.55 253 *e*P **P 07 38 42.5 +0.4**
NJ2 S **S 07 43 16.4 +1.4**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NJ2 LR LR
comp=Z,2µm,18.4s
NJ2 LR LR
comp=Z,2µm,18.4s
NJ2 LR LR
comp=Z,2µm,16.9s
HHC Hu-ho-hao-te 27.77 277 ⇓ *i* P **P 07 38 54.7 +1.6**
HHC pP sP 07 39 01.8 +0.2
HHC sP pwP 07 39 05.2 -0.1
HHC S **S 07 43 33.8 -0.6**
HHC pmax pmax
comp=Z,66nm,1.1s
HHC pmax pmax
comp=Z,420nm,5.2s
HHC LR LR
comp=Z,490nm,11.8s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,2µm,16.5s
TIY Taiyuan 28.31 270 *e*P **P 07 39 02.3 +4.3**
TIY pmax pmax
comp=Z,44nm,0.4s
H11N2 WAKE ISLAND Hy 28.42 143 T T 08 09 57.1
baz=333,slow=76,SNR=521
H11N1 WAKE ISLAND Hy 28.43 143 T T 08 10 04.9
baz=333,slow=76,SNR=450
H11N3 WAKE ISLAND Hy 28.44 143 T T 08 09 58.4
baz=333,slow=76,SNR=354
BTO Baotou 28.96 277 *e*P **P 07 39 04.8 +1.1**
ULN Ulaanbaatar 29.25 292 *e*P **P 07 39 06.5 +0.2**
ULN Ulaanbaatar 29.25 292 *c i* P **P 07 39 06.5 +0.2**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 29.25 292 P **P 07 39 06.1 -0.2**
H11S1 WAKE ISLAND Hy 29.42 144 T T 08 11 10.8
baz=334,slow=76,SNR=558
H11S3 WAKE ISLAND Hy 29.43 144 T T 08 11 16.5
baz=334,slow=76,SNR=642
H11S2 WAKE ISLAND Hy 29.44 144 T T 08 11 17.4
baz=334,slow=76,SNR=542
SONM Songino Array 29.70 293 P **P 07 39 10.3 +0.1**
comp=Z,13nm,0.8s,baz=83,slow=9.0,SNR=34
SONM LR LR 07 52 14.1
comp=Z,2µm,18.5s,baz=116,slow=39
SONM Songino Array 29.70 293 P **P 07 39 09.9 -0.4**
WHN Wuhan 30.56 256 P P 07 39 24.5 +6.7
WHN S **S 07 44 22.0 +3.9**
WHN LR LR
comp=Z,5µm,18.5s
GUMO Guam 30.58 188 LR LR 07 52 28.8
comp=Z,202nm,18.3s,baz=358,slow=38
TLY Talaya 31.05 301 P **P 07 39 21.2 -0.8**
comp=Z,1.1nm,0.3s,baz=88,slow=11,SNR=4.1
TLY LR LR 07 52 57.1
comp=Z,1µm,18.2s,baz=86,slow=39
TLY Talaya 31.05 301 *e*P **P 07 39 22.9 +0.9**
TLY Talaya 31.05 301 *e*P **P 07 39 22.9 +0.9**
TLY pmax pmax
comp=Z,22nm,1.1s
TLY MLR MLR
comp=Z,5µm,19.0s
ZAK Zakamensk 31.39 298 *e*P **P 07 39 24.5 -0.6**
ZAK Zakamensk 31.39 298 *e*P **P 07 39 24.5 -0.6**
ZAK *e* 07 42 18.3
ZAK pmax pmax
comp=Z,11nm,1.2s
XAN Xi'an 32.53 266 P **P 07 39 35.3 +0.1**
XAN pP sP 07 39 43.8 0.0
XAN PP **PnPn 07 40 42.8 0.0**
XAN PcP **PcP 07 42 23.0 +1.5**
XAN pmax pmax
comp=Z,16nm,1.2s
XAN LR LR
comp=Z,1µm,13.7s
XAN LR LR
comp=Z,1µm,15.7s
XAN LR LR
comp=Z,1µm,18.6s
XAN Xi'an 32.53 266 P **P 07 39 34.9 -0.3**
XAN pmax pmax
comp=Z,26nm,1.3s
XAN Xi'an 32.53 266 P **P 07 39 34.9 -0.3**
XAN IAmb IAmb 07 39 44.9
comp=Z,26nm,1.3s
RDOG Red Dog Mine 34.54 29 P **P 07 39 52.3 0.0**
RDOG IAmb IAmb 07 39 53.5
comp=Z,38nm,1.2s
LZH Lanzhou 35.22 273 ⇑ P **P 07 40 00.0 +1.3**
LZH pP sP 07 40 08.9 +1.9
LZH sP pwP 07 40 12.5 +1.2
LZH PP **PP 07 41 18.3 -0.3**
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,110nm,6.5s
LZH LR LR
comp=Z,960nm,13.7s
LZH LR LR
comp=Z,1µm,13.5s
LZH LR LR
comp=Z,930nm,16.7s
TTA Tatalina 36.27 39 P **P 07 40 07.9 +0.5**
TTA pmax pmax
comp=Z,21nm,1.0s
TTA Tatalina 36.27 39 P **P 07 40 07.9 +0.5**
TTA IAmb IAmb 07 40 24.5
comp=Z,21nm,1.0s
GTA Gaotai 36.68 280 ⇑ P **P 07 40 12.2 +1.1**
GTA pP sP 07 40 20.6 +1.1
GTA sP pwP 07 40 24.4 +0.6

GTA S **S** 07 45 55.0 +2.1
GTA pmax pmax
comp=Z,27nm,1.2s
GTA pmax pmax
comp=Z,170nm,4.8s
GTA LR LR
comp=Z,690nm,14.2s
GTA LR LR
comp=Z,840nm,14.9s
GTA LR LR
comp=Z,1µm,13.1s
IMAR Indian Mountai 37.57 34 P **P** 07 40 18.4 +0.2
CD2 Chengdu 37.88 265⇑*i* P **P** 07 40 21.9 +0.6
CD2 pP sP 07 40 29.1 -0.6
CD2 sP pwP 07 40 34.8 +0.8
CD2 S **S** 07 46 10.1 -1.2
CD2 pmax pmax
comp=Z,120nm,0.9s
CD2 pmax pmax
comp=Z,560nm,5.7s
KDAK Kodiak Island 37.97 48 P **P** 07 40 21.5 -0.1
comp=Z,14nm,0.9s,baz=52,slow=4.9,SNR=4.0
KDAK LR LR 07 57 42.9
comp=Z,283nm,18.8s,baz=266,slow=39
GYA Guiyang 38.41 257⇓ P **P** 07 40 26.4 +0.5
GYA sP pwP 07 40 37.5 -1.0
GYA S **S** 07 46 16.1 -3.3
GYA SS **SnSn** 07 48 55.2 -11
GYA pmax pmax
comp=Z,16nm,1.3s
GYA pmax pmax
comp=Z,1µm,6.8s
GYA LR LR
comp=Z,680nm,15.4s
GYA LR LR
comp=Z,770nm,9.6s
GYA LR LR
comp=Z,760nm,18.1s
KTH Kantishna Hill 38.61 38 P **P** 07 40 27.8 +0.7
KTH IAmb IAmb 07 40 43.3
comp=Z,41nm,1.0s
MLY Manley 38.74 36 P **P** 07 40 29.0 +0.9
baz=267
COLD Coldfoot 39.11 33 P **P** 07 40 31.0 -0.1
baz=265,SNR=8.2
COLD Coldfoot 39.11 33 P **P** 07 40 30.7 -0.4
RC01 Rabbit Creek A 39.20 42 P **P** 07 40 32.6 +0.6
baz=273
BWN Browne 39.26 37 P **P** 07 40 33.9 +1.4
NEA2 Nenana 39.44 37 P **P** 07 40 34.7 +0.7
baz=269
TOLK Toolik Lake Re 39.49 30 P **P** 07 40 34.5 +0.1
baz=264,SNR=10
TOLK Toolik Lake Re 39.49 30 P **P** 07 40 34.5 +0.1
MCK McKinley 39.50 38 P **P** 07 40 34.1 -0.3
baz=271
RND Reindeer 39.54 39 P **P** 07 40 34.9 0.0
RND pmax pmax
comp=Z,26nm,1.2s
RND Reindeer 39.54 39 P **P** 07 40 34.9 0.0
NRIK Noril'sk 39.69 331 P **P** 07 40 33.4 -2.6
comp=Z,7.3nm,0.9s,baz=101,slow=9.7,SNR=9.0
NRIK PcP **PcP** 07 42 42.6 +0.5
comp=Z,9.3nm,0.8s,baz=125,slow=3.5,SNR=5.9
NRIK Noril'sk 39.69 331⇓*i* P **P** 07 40 33.2 -2.8
NRIK pmax pmax
comp=Z,11nm,1.0s
KNK Knik Glacier 39.80 42 P **P** 07 40 36.8 -0.2
KNK IAmb IAmb 07 40 52.5
comp=Z,43nm,1.1s
MDM Murphy Dome 39.80 36 P **P** 07 40 37.4 +0.3
SML Sawmill 39.84 41 P **P** 07 40 37.9 +0.6
SML pmax pmax
comp=Z,66nm,1.0s
SML Sawmill 39.84 41 P **P** 07 40 37.1 -0.3
COLA College 39.97 36⇓*i* P **P** 07 40 35.9 -2.4
COLA pmax pmax
comp=Z,12nm,0.9s
CCB Clear Creek Bu 39.99 37 P **P** 07 40 38.8 +0.4
POKR Poker Plat Res 40.14 36 P **P** 07 40 40.6 +0.8
baz=270,SNR=9.3
DHY Denali Highway 40.22 39 P **P** 07 40 41.3 +0.7
SCM Sheep Creek Mo 40.31 41 P **P** 07 40 41.9 +0.6
SCM pmax pmax
comp=Z,70nm,1.4s
SCM Sheep Creek Mo 40.31 41 P **P** 07 40 41.9 +0.6
SCM IAmb IAmb 07 40 56.5
comp=Z,70nm,1.4s
HDA Harding Lake 40.36 37 P **P** 07 40 41.9 +0.4
baz=272
HDA Harding Lake 40.36 37 P **P** 07 40 41.6 +0.1
IL31 40.38 36 P **P** 07 40 42.4 +0.7
ILAR Eielson Array 40.38 36 P **P** 07 40 41.5 -0.2
comp=Z,6.6nm,0.9s,baz=256,slow=7.4,SNR=31
ILAR LR LR 07 59 16.1
comp=Z,336nm,19.1s,baz=280,slow=39
ILAR Eielson Array 40.38 36 P **P** 07 40 42.7 +0.9
M24K Tolsona, Glenn 40.83 41 P **P** 07 40 46.2 +0.7
baz=275
KLU Klutina 41.01 41 P **P** 07 40 47.9 +0.9
KLU IAmb IAmb 07 41 03.0
comp=Z,34nm,1.0s
QIZ Qiongzhong 41.22 245 P **P** 07 40 50.3 +1.2
QIZ S **S** 07 47 03.3 +2.0
QIZ LR LR
comp=Z,650nm,18.1s
QIZ LR LR
comp=Z,720nm,17.7s
QIZ LR LR
comp=Z,440nm,19.7s
BMAR Burnt Mountain 41.30 32 P **P** 07 40 50.1 +0.8
DGZ Jazzator, Alta 41.52 300⇓*i* P **P** 07 40 51.2 -0.3
DGZ pmax pmax
comp=Z,9.0nm,0.9s
ZAA0 Zalesovo Array 41.98 307 P **P** 07 40 54.5 -0.4
ZALV Zalesovo Beam 41.98 307 P **P** 07 40 54.6 -0.3
comp=Z,4.1nm,0.8s,baz=66,slow=8.3,SNR=11
ZALV PcP **PcP** 07 42 50.2 +0.4
comp=Z,11nm,0.8s,baz=73,slow=2.9,SNR=17
ZALV LR LR 07 59 24.0
comp=Z,594nm,18.9s,baz=72,slow=38
ZALV Zalesovo Beam 41.98 307⇓*i* P **P** 07 40 54.5 -0.5
ZALV pmax pmax
comp=Z,4.0nm,0.8s
KMI Kunming 42.00 259⇓*i* P **P** 07 40 57.1 +1.3
KMI pP sP 07 41 04.1 -0.2
KMI sP pwP 07 41 09.7 +1.2
KMI pmax pmax
comp=Z,28nm,0.7s
KMI pmax pmax
comp=Z,300nm,4.9s
KMI LR LR
comp=Z,610nm,11.7s
KMI LR LR
comp=Z,670nm,15.4s
KMI LR LR
comp=Z,650nm,15.6s
CRQM Cirque 42.44 42 P **P** 07 40 59.8 +0.9
CRQM IAmb IAmb 07 41 15.7
comp=Z,58nm,0.9s
K27K Chicken 42.51 37 P **P** 07 41 00.3 +1.1
baz=276
EGAK Eagle 42.83 36 P **P** 07 41 01.4 -0.4
BARN Barnard Glacie 43.10 42 P **P** 07 41 04.6 +0.3
CTGM Chitina Glacie 43.28 42 P **P** 07 41 06.1 +0.4
CTGM IAmb IAmb 07 41 19.8
comp=Z,26nm,0.8s
WMQ Urumqi 43.33 292⇓*eP* **P** 07 41 07.3 +1.1
WMQ pP pP 07 41 12.9 +0.6
WMQ PP **PP** 07 42 49.4 +2.5
WMQ S **S** 07 47 31.2 -1.1
WMQ pmax pmax
comp=Z,54nm,1.1s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,790nm,15.5s
WMQ LR LR
comp=Z,600nm,17.3s
WMQ LR LR
comp=Z,470nm,17.3s
WMQ Urumqi 43.33 292 P **P** 07 41 06.9 +0.7
WMQ pmax pmax
comp=Z,76nm,0.9s
WMQ Urumqi 43.33 292 P **P** 07 41 06.9 +0.7
ZSN Zaisan 43.85 298⇓*eP* **P** 07 41 09.4 -0.9
ZSN Zaisan 43.85 298 *eP* **P** 07 41 09.4 -0.9
EPYK Eagle Plains 44.47 34 P **P** 07 41 16.1 +1.2
EPYK IAmb IAmb 07 41 32.5
comp=Z,49nm,1.1s
HYT Haines Junctio 45.14 41 P **P** 07 41 21.4 +0.9
HYT IAmb IAmb 07 41 23.4
comp=Z,30nm,0.9s
INK Inuvik 45.40 31 P **P** 07 41 22.6 +0.3
comp=Z,23nm,0.9s,baz=275,slow=7.6,SNR=27
INK Inuvik 45.40 31 P **P** 07 41 22.3 0.0
INK pmax pmax
comp=Z,28nm,1.0s
INK Inuvik 45.40 31 P **P** 07 41 22.3 0.0
INK IAmb IAmb 07 41 24.3
comp=Z,28nm,0.9s
MK31 Makanchi Array 45.73 298⇓*i* P **P** 07 41 25.0 -0.3
MK31 pmax pmax
comp=Z,46nm,0.8s
MK31 Makanchi Array 45.73 298 P **P** 07 41 24.9 -0.4
MK31 IAmb IAmb 07 41 26.4
comp=Z,37nm,0.9s
MKAR Makanchi Array 45.73 298 P **P** 07 41 25.0 -0.3
comp=Z,31nm,0.8s,baz=74,slow=7.3,SNR=162
MKAR LR LR 08 02 00.4
comp=Z,2µm,18.0s,baz=74,slow=38
MKAR Makanchi Array 45.73 298 *eP* **P** 07 41 25.0 -0.3
MKAR Makanchi Array 45.73 298 P **P** 07 41 25.0 -0.3
MKAR Makanchi Array 45.73 298 P **P** 07 41 24.6 -0.7
MAKZ Makanchi 45.92 298 P **P** 07 41 26.7 -0.1
MAKZ pmax pmax
comp=Z,37nm,0.9s
MAKZ Makanchi 45.92 298 P **P** 07 41 26.7 -0.1
MAKZ IAmb IAmb 07 41 27.9
comp=Z,37nm,0.9s
KURK Kurchatov 46.56 304⇓*i* P **P** 07 41 29.8 -1.9
KURK pmax pmax
comp=Z,19nm,1.0s
KURK Kurchatov 46.56 304 P **P** 07 41 30.8 -0.9
KURK IAmb IAmb 07 41 32.9
comp=Z,19nm,1.0s
KURBB Kurchatov Arra 46.65 304 P **P** 07 41 32.1 -0.3
JAY Jayapura 46.98 192 LR LR 07 59 54.7
comp=Z,57nm,18.6s,baz=318,slow=34
SIJI Sorong 47.50 205 LR LR 08 01 55.0
comp=Z,137nm,18.1s,baz=313,slow=36
LSA Lhasa 47.63 273 P **P** 07 41 42.4 +1.5
KRVT Keravat (AS076 48.21 176 LR LR 07 57 56.0
comp=Z,133nm,21.2s,baz=336,slow=31
C36M Paulatuk 48.53 28 P **P** 07 41 46.8 +0.1
baz=286
CHTO Chiang Mai 48.77 255 P **P** 07 41 50.2 +1.0
CHTO pmax pmax
comp=Z,42nm,0.9s
CHTO Chiang Mai 48.77 255 P **P** 07 41 50.2 +1.0
TDK Taldyqorghan 48.94 297 *eP* **P** 07 41 49.4 -0.8
TDK Taldyqorghan 48.94 297 *eP* **P** 07 41 49.4 -0.8
PDGK Podgornoye 48.96 295 P **P** 07 41 50.2 -0.4
CMAR Chiang Mai Arr 49.01 255 P **P** 07 41 52.5 +1.4
comp=Z,2.8nm,0.7s,baz=39,slow=7.6,SNR=14
CMAR LR LR 08 05 12.5
comp=Z,411nm,18.0s,baz=84,slow=39
UZB Uzynbulak 49.35 295⇓*eP* **P** 07 41 53.3 -0.4
comp=Z,29nm,1.1s
UZB Uzynbulak 49.35 295 *ceP* **P** 07 41 53.2 -0.4
UZB pmax pmax
comp=Z,29nm,1.1s
KPKS Kokpek 49.43 295⇓*eP* **P** 07 41 54.3 +0.1
comp=Z,52nm,1.0s
KPKS Kokpek 49.43 295 *ceP* **P** 07 41 54.2 +0.1
KPKS pmax pmax
comp=Z,52nm,1.0s
DLBC Dease Lake 49.47 43 P **P** 07 41 55.4 +1.2
comp=Z,6.1nm,0.9s,baz=281,slow=7.8,SNR=6.3
SHL Shillong 49.50 268 P **P** 07 41 54.4 -0.6
SHL pmax pmax
comp=Z,53nm,0.9s
SHL Shillong 49.50 268 P **P** 07 41 54.4 -0.6
SATY Saty 49.79 295⇑*eP* **P** 07 41 57.4 +0.5
comp=Z,27nm,1.1s
SATY Saty 49.79 295 *ceP* **P** 07 41 57.4 +0.5
SATY pmax pmax
comp=Z,27nm,1.1s
BRZS Berezniki 50.36 305 *eP* **P** 07 41 59.5 -1.6
comp=Z,14nm,0.7s
BRZS Berezniki 50.36 305 *eP* **P** 07 41 59.4 -1.6
BRZS pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 50.48 310 *eP* **P** 07 42 01.1 -0.7
BRVK Borovoye 50.48 310 P **P** 07 42 01.1 -0.7
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 50.48 310 P **P** 07 42 01.1 -0.7
MDOK Medeo 50.63 296 *eP* **P** 07 42 03.8 +0.4
MDOK Medeo 50.63 296 *eP* **P** 07 42 03.7 +0.4
AAA Alma-Ata 50.70 296 *eP* **P** 07 42 03.8 0.0
AAA Alma-Ata 50.70 296 *eP* **P** 07 42 03.7 0.0
AAA Alma-Ata 50.70 296 *eP* **P** 07 42 03.7 0.0
TNSS Tian-Shan 50.75 296 *eP* **P** 07 42 05.1 +0.6
TNSS Tian-Shan 50.75 296 *eP* **P** 07 42 05.1 +0.6
TARG Taragay, Kyrgy 50.80 294 P **P** 07 42 04.7 -0.2
TARG IAmb IAmb 07 42 06.1
comp=Z,27nm,1.0s
MTBS Maitube 51.05 296 *eP* **P** 07 42 06.4 0.0
MTBS Maitube 51.05 296 *eP* **P** 07 42 06.4 0.0
ULHL Ulahol 51.59 295 P **P** 07 42 11.1 +0.6
SNR=38
BOOM Boomskoye usch 51.67 295 P **P** 07 42 11.3 +0.2
BOOM pmax pmax
comp=Z,75nm,1.0s
BOOM Boomskoye usch 51.67 295 P **P** 07 42 11.3 +0.2
TKM2 Tokmak 2 51.69 296 P **P** 07 42 12.2 +0.9
SNR=57
BTLS Baital 51.69 299 *eP* **P** 07 42 10.4 -0.7
comp=Z,20nm,1.4s
BTLS Baital 51.69 299 *eP* **P** 07 42 10.3 -0.7
BTLS pmax pmax
comp=Z,20nm,1.4s
CHMS Chumysh 52.19 297 P **P** 07 42 15.7 +0.9
SNR=7.2
USP Ospenovka 52.23 297 P **P** 07 42 15.7 +0.5
SNR=43
KBK Karagaybulak 52.23 296 P **P** 07 42 16.1 +0.8
SNR=23
EUNU Eureka 52.30 10 P **P** 07 42 14.4 -0.8
AAK Ala-Archa 52.53 296 P **P** 07 42 18.2 +0.6
SNR=28
AAK Ala-Archa 52.53 296⇓*i* P **P** 07 42 17.9 +0.4
SNR=29
AAK Ala-Archa 52.53 296 *eP* **P** 07 42 17.1 -0.5
AAK Ala-Archa 52.53 296⇓*i* P **P** 07 42 17.1 -0.5
AAK pmax pmax
comp=Z,108nm,1.0s
UCH Uchtor 52.72 296 P **P** 07 42 19.9 +0.6
SNR=12
EKS2 Erkin-Say 52.98 297 P **P** 07 42 21.2 +0.3
SNR=34
KSH Kashi 53.10 292 P **P** 07 42 25.9 +4.2
KSH pP pwP 07 42 33.3 -1.0
KSH S **S** 07 49 55.6 +5.1
KSH pmax pmax
comp=Z,16nm,0.9s
KSH pmax pmax
comp=Z,130nm,4.7s
KSH LR LR
comp=Z,230nm,6.1s
KSH LR LR
comp=Z,200nm,5.9s
KSH LR LR
comp=Z,250nm,6.0s
PMG Port Moresby 53.24 182 LR LR 08 02 08.1
comp=Z,83nm,21.7s,baz=318,slow=33
AML Almayashu 53.30 296 P **P** 07 42 24.2 +0.7
SNR=30
SVE Sverdlovsk 53.91 317 *eP* **P** 07 42 26.3 -1.0
SVE pmax pmax
comp=Z,18nm,1.0s
SVE MLR MLR
comp=Z,1µm,17.0s
HNR Honiara 54.12 167 LR LR 08 04 04.7
comp=Z,195nm,19.9s,baz=333,slow=34
RES Resolute Bay 54.25 17 P **P** 07 42 29.4 -0.1
comp=Z,18nm,0.9s,baz=321,slow=8.3,SNR=15
RES Resolute Bay 54.25 17 P **P** 07 42 29.2 -0.3
RES IAmb IAmb 07 42 43.9
comp=Z,24nm,0.8s
YKA Yellowknife Ar 54.73 34 P **P** 07 42 33.1 0.0
comp=Z,7.1nm,0.9s,baz=304,slow=7.1,SNR=5.2
KK31 Karatay Array 54.85 299⇓*i* P **P** 07 42 34.2 -0.2
KK31 Karatay Array 54.85 299 P **P** 07 42 34.5 +0.2
ARU Arti 55.12 317 LR LR 08 07 02.5
comp=Z,331nm,21.4s,baz=51,slow=37
ARU Arti 55.12 317⇓*c i* P **P** 07 42 34.6 -1.4
ARU 07 43 33.7
ARU 07 44 35.0
ARU S **S** 07 50 17.9 +0.9
ARU SS **SS** 07 53 57.0 -3.4
ARU pmax pmax
comp=Z,17nm,1.0s
ARU MLR MLR
comp=Z,1µm,18.0s
KAPI Kappang 55.56 216 LR LR 08 06 50.2
comp=Z,59nm,20.5s,baz=69,slow=36
IUG luzhnay 55.64 298⇑*eP* **P** 07 42 40.7 +0.4
comp=Z,44nm,1.1s
IUG luzhnay 55.64 298 *ceP* **P** 07 42 40.6 +0.4
IUG pmax pmax
comp=Z,44nm,1.1s
GAR Garm 57.12 294 P **P** 07 42 50.6 -0.2
NLWA Neilton Lookou 57.70 53 P **P** 07 42 55.5 +0.9
NLWA IAmb IAmb 07 43 12.1
comp=Z,16nm,1.0s
IPM Ipoh 57.76 241 P **P** 07 42 56.5 +1.1
AB31 Akbulak array 58.00 309⇓*i* P **P** 07 42 56.3 -0.3
ABKAR Akbulak array 58.00 309 P **P** 07 42 56.0 -0.7
CHGR Chuyangaron 58.06 295 P **P** 07 42 56.8 -0.5
D03D Eldon 58.08 53 P **P** 07 42 58.5 +1.3
baz=302
NIL Nilore 58.09 288 P **P** 07 42 58.4 +0.8
NIL pmax pmax
comp=Z,92nm,1.0s
NIL Nilore 58.09 288 P **P** 07 42 58.4 +0.8
PRGR Permogore 58.12 327 *eP* **P** 07 42 55.2 -2.0
PRGR pmax pmax
comp=Z,7.0nm,0.4s
NDI New Delhi 58.19 281 *eP* **P** 07 42 58.0 -0.2
KIRV Kirov 58.24 323⇓*i* P **P** 07 42 56.5 -1.6
B05A Bryant 58.26 52 P **P** 07 42 59.2 +0.8
baz=302
E03A Lebam 58.33 54 P **P** 07 42 59.7 +0.8
E03A IAmb IAmb 07 43 16.5
comp=Z,18nm,1.1s
APA Apatity 58.69 336⇓*i* P **P** 07 42 57.3 -3.9
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,600nm,16.0s
E04D Cinebar 58.90 54 P **P** 07 43 04.0 +1.1
baz=303
DAG Danmarks Havn 59.20 357⇓*i* P **P** 07 43 03.7 -0.9
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 59.20 357⇓*i* P **P** 07 43 03.7 -0.9
comp=Z,6.2nm,0.8s
DAG Danmarks Havn 59.20 357⇓*i* P **P** 07 43 03.8 -0.9
DAG IAmb IAmb 07 43 04.1
comp=Z,6.2nm,0.8s
F04A Amboy 59.33 54 P **P** 07 43 06.7 +0.8
ARCES ARCESS Array B 59.46 340 P **P** 07 43 05.8 -0.7
comp=Z,2.1nm,0.8s,baz=34,slow=4.2,SNR=5.2
ARCES LR LR 08 13 59.0
comp=Z,170nm,18.6s,baz=75,slow=41
B08A Colville Reser 59.76 51 P **P** 07 43 08.9 0.0
B08A IAmb IAmb 07 43 25.6
comp=Z,12nm,1.1s
J01E Myrtle Point 59.95 58 P **P** 07 43 11.3 +1.1
baz=304
I03D Drain, OR 60.00 57 P **P** 07 43 11.5 +0.9
baz=304
H04A Detroit Lake 60.15 55 P **P** 07 43 12.5 +0.9
G05D Wamic, OR 60.35 54 P **P** 07 43 14.1 +1.1
baz=304
K02D Willamette Mer 60.37 58 P **P** 07 43 14.4 +1.1
baz=304
PSI Prapat 60.38 242 P **P** 07 43 14.8 +1.1
PSI pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 60.45 291 P **P** 07 43 13.3 -0.8
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 60.45 291 P **P** 07 43 13.3 -0.8
E07A Sunnyside 60.46 52 P **P** 07 43 14.6 +0.8
E07A IAmb IAmb 07 43 31.1
comp=Z,15nm,1.0s
RPSI Rantau Prapat 60.46 242 P **P** 07 43 14.8 +0.7
RPSI IAmb IAmb 07 43 17.1
comp=Z,16nm,0.9s
I04A Tendick Farm, 60.51 56 P **P** 07 43 15.4 +1.2
baz=304
L02E Cave Junction 60.71 58 P **P** 07 43 16.7 +1.2
baz=305
F07A Phinny Hill Vi 60.79 53 P **P** 07 43 16.4 +0.5
I05D Terrebonne, OR 60.85 55 P **P** 07 43 17.5 +1.1
baz=305
KLMR Klimovskoe 60.95 328 *eP* **P** 07 43 14.8 -2.0
KLMR pmax pmax
comp=Z,40nm,1.0s
KLMR Klimovskoe 60.95 328 *eP* **P** 07 43 14.8 -2.0
KLMR AMP 07 43 17.1
comp=Z,40nm,1.0s
KLMR LQ LQ 08 06 40.0
KLMR LQ LQ 08 06 40.0
KLMR LR LR 08 09 21.2
NEW Newport 61.03 50 P **P** 07 43 17.7 +0.1
baz=305,SNR=5.7
NEW Newport 61.03 50 P **P** 07 43 18.0 +0.4
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW Newport 61.03 50 P **P** 07 43 18.0 +0.4
PINE Pine Mountain 61.39 56 P **P** 07 43 21.3 +1.0
PINE IAmb IAmb 07 43 38.5
comp=Z,24nm,0.9s
E09A Wood Farm, Sta 61.46 52 P **P** 07 43 20.8 +0.3
E09A IAmb IAmb 07 43 37.6
comp=Z,24nm,1.1s
L04D Klamath Falls 61.47 58 P **P** 07 43 21.1 +0.2
baz=305
YBH Yreka Blue Hor 61.50 58 P **P** 07 43 22.1 +1.2
YBH pmax pmax
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 61.50 58 P **P** 07 43 22.1 +1.2
YBH IAmb IAmb 07 43 39.3
comp=Z,12nm,1.1s
J05D Fort Rock, OR 61.51 56 P **P** 07 43 21.6 +0.5
baz=305
M02C Callahan 61.61 59 P **P** 07 43 22.8 +1.2
baz=305
G08A Pilot Rock 61.70 53 P **P** 07 43 23.1 +0.8
SDSI Sungai Dareh 61.73 237 P **P** 07 43 24.4 +1.8
comp=Z,17nm,1.0s
PWJI Pagerwojo 61.87 223 P **P** 07 43 24.3 +0.8
N02D Trinity Center 61.94 59 P **P** 07 43 24.5 +0.6
baz=306
M04C Macdoel 62.00 58 P **P** 07 43 25.1 +0.7
baz=306
K05A Summer Lake 62.03 57 P **P** 07 43 25.7 +1.0
K05A IAmb IAmb 07 43 42.9
comp=Z,25nm,1.0s
I07A Izee 62.08 55 P **P** 07 43 26.1 +1.3
WDC Whiskeytown Da 62.27 59 P **P** 07 43 26.9 +0.9
WDC pmax pmax
comp=Z,13nm,1.0s
WDC Whiskeytown Da 62.27 59 P **P** 07 43 26.9 +0.9
WDC IAmb IAmb 07 43 44.0
comp=Z,13nm,1.0s
WALA Waterton Lakes 62.31 48 P **P** 07 43 26.5 +0.2
WALA IAmb IAmb 07 43 51.0
comp=Z,13nm,0.9s
O02D Mt. Diablo Mer 62.35 60 P **P** 07 43 27.6 +1.0
baz=306
BELG Belogornoye 62.67 317⇓*i* P **P** 07 43 27.6 -0.8
KLSI 62.81 232 P **P** 07 43 33.0 +3.1
comp=Z,5.9nm,1.0s
MOD Modoc Plateau 62.87 57 P **P** 07 43 30.0 -0.2
JTMT Jette 62.88 49 P **P** 07 43 30.4 +0.2
O03E Paynes Creek 62.89 59 P **P** 07 43 30.2 -0.1
baz=306,SNR=6.1
J08A Circle Bar Ran 63.10 55 P **P** 07 43 32.3 +0.6
J08A IAmb IAmb 07 43 49.5
comp=Z,11nm,1.1s
PLID Pearl Lake 63.51 52 P **P** 07 43 35.2 +0.6

PLID IAmb IAmb 07 43 51.9
comp=Z,21nm,1.0s
ORV Oroville 63.52 60 P **P** **07 43 34.9 +0.6**
ORV pmax pmax
comp=Z,12nm,1.2s
ORV Oroville 63.52 60 P **P** **07 43 34.9 +0.6**
SUMG Summit 63.55 3 ⇓*i*P **P** **07 43 35.2 +0.7**
SUMG pmax pmax
comp=Z,130nm,1.0s
SUMG Summit 63.55 3 P **P** **07 43 34.1 -0.4**
SUMG Summit 63.55 3 ⇓*i*P **P** **07 43 35.2 +0.7**
comp=Z,134nm,1.0s
SUMG Summit 63.55 3 ⇓*i*P **P** **07 43 35.2 +0.7**
SUMG IAmb IAmb 07 43 37.2
comp=Z,135nm,1.0s
MSO Missoula 63.62 50 P **P** **07 43 35.2 +0.2**
baz=307,SNR=8.0
MSO Missoula 63.62 50 P **P** **07 43 35.4 +0.4**
MSO IAmb IAmb 07 43 52.0
comp=Z,30nm,1.1s
HYB Hyderabad 64.24 270 *i*P **P** **07 43 39.0 -0.4**
HYB *es*P **pwP** **07 43 54.0 +1.7**
SUF Sumiainen 64.28 335 P **P** **07 43 38.4 -0.6**
SUF pmax pmax
comp=Z,42nm,0.9s
FFC Flin Flon 64.58 37 P **P** **07 43 41.0 -0.1**
FFC pmax pmax
comp=Z,18nm,0.9s
FFC Flin Flon 64.58 37 P **P** **07 43 41.0 -0.1**
FFC IAmb IAmb 07 43 57.1
comp=Z,18nm,0.8s
MFID Camas Ranch 64.62 53 P **P** **07 43 42.0 +0.4**
PAHR Pah Rah Range 64.73 59 P **P** **07 43 42.7 +0.2**
PAHR IAmb IAmb 07 44 00.1
comp=Z,14nm,1.0s
VCNR Virginia City 64.82 59 P **P** **07 43 44.1 +1.0**
VCNR IAmb IAmb 07 44 01.0
comp=Z,14nm,1.0s
HRY Holter Researc 64.84 49 P **P** **07 43 42.9 -0.1**
PNTR Pine Nut 64.97 59 P **P** **07 43 45.2 +1.0**
PNTR IAmb IAmb 07 44 02.6
comp=Z,14nm,0.8s
LRM Limekiln Ridge 65.05 50 P **P** **07 43 45.1 +0.5**
MOS Moscow 65.06 325 *e*P **P** **07 43 42.7 -1.4**
MOS *e* 07 44 14.4
MOS MLR MLR
comp=Z,800nm,18.0s
HRA Herat 65.06 294 P **P** **07 43 44.9 +0.1**
HRA IAmb IAmb 07 44 00.2
comp=Z,19nm,1.1s
WRA Warramunga Arr 65.12 195 P **P** **07 43 45.8 +1.0**
comp=Z,1.2nm,0.7s,baz=15,slow=6.8,SNR=11
WRA Warramunga Arr 65.12 195 P **P** **07 43 45.3 +0.4**
WRA Warramunga Arr 65.12 195 P **P** **07 43 45.3 +0.4**
CMB Columbia Colle 65.12 61 P **P** **07 43 45.6 +0.7**
CMB pmax pmax
comp=Z,11nm,1.0s
CMB Columbia Colle 65.12 61 P **P** **07 43 45.6 +0.7**
EGMT Eagleton 65.13 47 P **P** **07 43 45.2 +0.3**
baz=309
EGMT Eagleton 65.13 47 P **P** **07 43 45.5 +0.6**
DLMT Dillon 65.25 50 P **P** **07 43 46.3 +0.5**
FIA1 FINESS Array S 65.26 334 P **P** **07 43 44.0 -1.3**
FINES FINESS Array B 65.26 334 P **P** **07 43 44.2 -1.2**
comp=Z,39nm,0.8s,baz=46,slow=8.2,SNR=59
FINES LR LR 08 16 29.2
comp=Z,512nm,18.4s,baz=46,slow=40
YERR Yerington 65.26 59 P **P** **07 43 46.4 +0.4**
YERR IAmb IAmb 07 44 03.9
comp=Z,23nm,1.0s
HLID Hailey 65.34 53 P **P** **07 43 46.7 +0.3**
baz=308
HLID Hailey 65.34 53 P **P** **07 43 45.6 -0.8**
WAKR Walker 65.43 60 P **P** **07 43 47.6 +0.5**
WAKR IAmb IAmb 07 44 04.7
comp=Z,17nm,1.3s
MCMT McKenzie Canyo 65.45 51 P **P** **07 43 47.1 -0.1**
GEYT Alibeck 65.56 300 P **P** **07 43 47.8 0.0**
comp=Z,10nm,0.8s,baz=302,slow=1.4,SNR=14
GEYT Alibeck 65.56 300 P **P** **07 43 47.1 -0.7**
GYA0B ALIBECK ARRAY 65.56 300 P **P** **07 43 47.4 -0.4**
GYA0B IAmb IAmb 07 44 02.7
comp=Z,21nm,0.9s
BOZ Bozeman (W) 65.64 50 P **P** **07 43 48.9 +0.6**
baz=309,SNR=15
BOZ Bozeman (W) 65.64 50 P **P** **07 43 48.4 +0.1**
BOZ pmax pmax
comp=Z,14nm,0.8s
BOZ Bozeman (W) 65.64 50 P **P** **07 43 48.4 +0.1**
BOZ IAmb IAmb 07 44 04.9
comp=Z,14nm,0.8s
RYN Ryan 65.92 59 P **P** **07 43 51.1 +0.8**
RYN IAmb IAmb 07 44 08.0
comp=Z,11nm,0.9s
KVN Kaiserville 65.92 58 P **P** **07 43 50.7 +0.4**
KVN pmax pmax
comp=Z,19nm,0.9s
KVN Kaiserville 65.92 58 P **P** **07 43 50.6 +0.4**
KVN IAmb IAmb 07 44 08.1
comp=Z,19nm,0.9s
OBN Obninsk 65.92 324 *e*P **P** **07 43 49.5 -0.2**
OBN Obninsk 65.92 324 *d*/*i*P **P** **07 43 49.5 -0.2**
OBN *e**SP **pwP** **07 44 03.1 +0.5**
OBN pmax pmax
comp=Z,45nm,1.0s
OBN MLR MLR
comp=Z,533nm,16.0s
ILULI Ilulissat 66.06 8 *i*P **P** **07 43 49.2 -1.2**
ILULI pmax pmax
comp=Z,80nm,1.2s
ILULI Ilulissat 66.06 8 *i*P **P** **07 43 49.2 -1.2**
comp=Z,80nm,1.2s
ILULI Ilulissat 66.06 8 *i*P **P** **07 43 49.2 -1.2**
ILULI IAmb IAmb 07 43 50.5
comp=Z,80nm,1.2s
LHV Little Huntoon 66.16 59 P **P** **07 43 53.1 +1.5**
NVAR Mina Array Bea 66.18 59 P **P** **07 43 52.7 +0.7**
comp=Z,3.8nm,0.8s,baz=283,slow=6.4,SNR=29
VRH Novokhopyorsk 66.26 319 *e*P **P** **07 43 51.3 -0.6**
VRH pmax pmax
comp=Z,90nm,1.0s
NV11 Mina Array Sit 66.27 59 P **P** **07 43 52.9 +0.4**
YHL Hebgen Lake 66.36 50 P **P** **07 43 53.9 +0.8**
YHH Holmes Hill 66.58 50 P **P** **07 43 54.4 -0.1**
YMR Madison River 66.59 50 P **P** **07 43 55.0 +0.4**
ELK Elko 66.60 55 P **P** **07 43 55.1 +0.4**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 66.60 55 P **P** **07 43 55.1 +0.4**
LPSR Galich'ya Gora 66.61 321 *e*P **P** **07 43 53.4 -0.8**
LPSR pmax pmax
comp=Z,80nm,0.9s
YNE Yellowstone No 66.90 49 P **P** **07 43 56.9 +0.3**
POO Peona 66.90 274 *ex* **P** **07 43 54.0 -2.6**
H17A Grant Village 66.98 50 P **P** **07 43 57.4 +0.3**
baz=310,SNR=7.3
H17A Grant Village 66.98 50 P **P** **07 43 58.6 +1.5**
H17A IAmb IAmb 07 44 15.9
comp=Z,26nm,1.1s
ICESG Greenland Ices 66.99 3 *i*P **P** **07 43 56.9 +0.1**
ICESG IAmb IAmb 07 43 57.8
comp=Z,108nm,1.1s
TPH Tonopah 67.06 59 P **P** **07 43 57.7 +0.1**
TPH pmax pmax
comp=Z,85nm,0.9s
TPH Tonopah 67.06 59 P **P** **07 43 57.7 +0.1**
IMW Indian Meadow 67.10 51 P **P** **07 43 58.7 +0.8**
IMW IAmb IAmb 07 44 15.7
comp=Z,19nm,1.0s
FLWY Flagg Ranch 67.11 50 P **P** **07 43 58.5 +0.7**
FLWY IAmb IAmb 07 44 15.9
comp=Z,14nm,1.1s
FXWY Fox Creek 67.21 51 P **P** **07 43 59.4 +0.9**
FXWY IAmb IAmb 07 44 16.3
comp=Z,19nm,1.2s
RLMT Red Lodge 67.23 49 P **P** **07 43 58.0 -0.6**
baz=310,SNR=5.8
VSU Vasula 67.28 331 *e*P **P** **07 43 57.8 -0.6**
VSU Vasula 67.28 331 *i*P **P** **07 43 57.0 -1.3**
VSU pmax pmax
comp=Z,127nm,0.9s
VES Vestal, Richgr 67.29 62 P **P** **07 43 59.7 +0.9**
baz=309
TPAW Teton Pass 67.35 51 P **P** **07 44 00.1 +0.6**
PKM Mcpherson Peak 67.42 63 P **P** **07 44 00.5 +0.6**
baz=309
VSR Storozhevoye 67.44 320 *e*P **P** **07 43 58.7 -0.8**
VSR pmax pmax
comp=Z,90nm,1.0s
SNOW Snow King Moun 67.48 51 P **P** **07 44 00.8 +0.6**
SNOW IAmb IAmb 07 44 18.7
comp=Z,20nm,1.0s
REDW Red Top Meadow 67.49 51 P **P** **07 44 00.9 +0.7**
REDW IAmb IAmb 07 44 18.6
comp=Z,28nm,1.2s
CWC Cottonwood Cre 67.55 61 P **P** **07 44 01.6 +0.9**
baz=309
VORD Divnogorie 67.55 320 *e*P **P** **07 43 59.9 -0.3**
VORD pmax pmax
comp=Z,50nm,0.8s
DGMT Dagmar 67.68 44 P **P** **07 44 01.2 +0.1**
baz=312
DGMT Dagmar 67.68 44 P **P** **07 44 01.1 0.0**
DZM Mont Dzumac 67.68 163 eLR LR 08 03 50.5
comp=Z,173nm,22.0s
ISA Isabella, Lake 67.79 62 P **P** **07 44 01.5 -0.6**
baz=309
LAO LASA Array 67.83 46 P **P** **07 44 02.5 +0.4**
baz=311,SNR=5.5
LAO LASA Array 67.83 46 P **P** **07 44 02.3 +0.2**
LAO IAmb IAmb 07 44 19.2
comp=Z,25nm,1.0s
SPUT South Promonto 67.89 54 P **P** **07 44 02.8 +0.1**
R11A Troy Canyon, C 67.90 58 P **P** **07 44 03.0 +0.1**
baz=310,SNR=12
R11A Troy Canyon, C 67.90 58 P **P** **07 44 02.0 -0.8**
MPMC Manual Prospec 68.16 61 P **P** **07 44 04.9 +0.3**
baz=309,SNR=5.4
HWUT Hardware Ranch 68.21 53 P **P** **07 44 04.8 0.0**
HWUT IAmb IAmb 07 44 22.3
comp=Z,11nm,0.9s
SFJD Kangerlussuaq 68.25 8 *i*P **P** **07 44 04.1 -0.2**
SFJD Kangerlussuaq 68.25 8 *i*P **P** **07 44 04.1 -0.2**
SFJD Kangerlussuaq 68.25 8 *i*P **P** **07 44 04.2 -0.2**
FURC Furnace Creek, 68.30 60 P **P** **07 44 05.8 +0.7**
baz=310,SNR=11
TPNV Topopah Spring 68.37 59 P **P** **07 44 06.5 +0.7**
baz=310,SNR=8.2
TPNV Topopah Spring 68.37 59 P **P** **07 44 06.2 +0.3**
TPNV pmax pmax
comp=Z,18nm,1.0s
TPNV Topopah Spring 68.37 59 P **P** **07 44 06.2 +0.3**
TPNV IAmb IAmb 07 44 23.6
comp=Z,18nm,1.0s
DUG Dugway, Tooele 68.38 55 P **P** **07 44 06.4 +0.5**
baz=310,SNR=7.2
DUG Dugway, Tooele 68.38 55 P **P** **07 44 06.2 +0.4**
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 68.38 55 P **P** **07 44 06.2 +0.4**
DUG IAmb IAmb 07 44 23.5
comp=Z,11nm,0.9s
EDW2 Edwards Air Fo 68.59 62 P **P** **07 44 07.3 +0.3**
baz=310
BW06 Boulder Array 68.59 51 P **P** **07 44 07.2 -0.1**
baz=311,SNR=8.1
BW06 Boulder Array 68.59 51 P **P** **07 44 07.3 +0.1**
BW06 IAmb IAmb 07 44 24.0
comp=Z,17nm,1.1s
PD31 Pinedale Array 68.59 51 P **P** **07 44 07.0 -0.3**
PD31 IAmb IAmb 07 44 24.0
comp=Z,17nm,1.2s
PDAR Pinedale Array 68.59 51 P **P** **07 44 07.7 +0.5**
comp=Z,3.5nm,0.8s,baz=260,slow=2.1,SNR=27
PDAR Pinedale Array 68.59 51 P **P** **07 44 07.4 +0.2**
MAK Makhachkala 68.68 309 *e*P **P** **07 44 04.9 -2.5**
MAK *e* 07 46 35.6
MAK *e*PPP PPP 07 48 15.0
MAK *e*S **S** **07 53 04.2 -4.5**
MAK *e*SS **SS** **07 57 33.1 +0.4**
MAK pmax pmax
comp=Z,174nm,1.0s
PRN Pahroc Range 68.82 58 P **P** **07 44 09.4 +0.8**
ASAR Alice Springs 68.83 195 P **P** **07 44 10.1 +1.7**
comp=Z,1.0nm,0.9s,baz=357,slow=4.8,SNR=6.6
ASAR LR LR 08 13 20.5
comp=Z,60nm,20.0s,baz=298,slow=35
ASAR Alice Springs 68.83 195 P **P** **07 44 09.3 +0.9**
ASAR Alice Springs 68.83 195 P **P** **07 44 09.3 +0.9**
PSUT Pine Springs 68.83 57 P **P** **07 44 08.8 0.0**
JLU Jordanelle 68.92 54 P **P** **07 44 10.4 +1.1**
NLU North Lily Min 68.97 54 P **P** **07 44 10.8 +1.2**
SHOC Shoshone, Teco 69.02 60 P **P** **07 44 09.8 +0.1**
baz=310
GSC Goldstone, Bar 69.07 61 P **P** **07 44 10.0 -0.1**
baz=310
BFSC Mount Baldy Ra 69.21 62 P **P** **07 44 10.8 -0.2**
baz=310
SHPR Sheep Range 69.33 59 P **P** **07 44 12.7 +0.9**
SHPR IAmb IAmb 07 44 29.8
comp=Z,17nm,1.0s
SLIT Slitere, Latvi 69.43 333 *e*P **P** **07 44 11.6 -0.2**
IZAR Zarasai 69.51 330 *e*P **P** **07 44 12.5 +0.2**
AKT Akhty 69.52 308 *e*P **P** **07 44 12.2 -0.6**
AKT *e* 07 44 33.0
AKT pmax pmax
comp=Z,41nm,0.9s
TCRU Three Creeks R 69.62 56 P **P** **07 44 14.3 +0.7**
NC303 NORSAR Array S 69.64 340 P **P** **07 44 11.7 -1.3**
NC405 NORSAR Array S 69.65 339 P **P** **07 44 12.0 -1.1**
IDID Didziasalis 69.66 329 *e*P **P** **07 44 13.5 +0.2**
ISAL Salakas 69.69 329 *e*P **P** **07 44 13.5 0.0**
GOF Gofitskoye 69.70 313 ⇓*e*P **P** **07 44 14.1 +0.4**
GOF pmax pmax
comp=Z,135nm,0.9s
NC204 NORSAR Array S 69.74 340 P **P** **07 44 13.2 -0.6**
CCUT Cedar City 69.76 57 P **P** **07 44 14.5 0.0**
NB201 NORSAR Array S 69.81 340 P **P** **07 44 13.0 -1.1**
IIGN Ignalina 69.83 329 *e*P **P** **07 44 14.4 +0.1**
NB2 NORSAR Subarra 69.83 340 P **P** **07 44 13.3 -1.0**
comp=Z,66nm,0.9s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.83 340 P **P** **07 44 10.1 -4.2**
NB2 pmax pmax
comp=Z,96nm,1.0s
NB2 NORSAR Subarra 69.83 340 P **P** **07 44 13.3 -1.0**
baz=31,slow=6.5
NOA NORSAR Array B 69.83 340 P **P** **07 44 13.3 -1.0**
comp=Z,38nm,0.9s,baz=32,slow=6.1,SNR=86
NOA LR LR 08 18 16.2
comp=Z,208nm,21.5s,baz=65,slow=39
MSU Marysvale 69.85 56 P **P** **07 44 15.7 +0.7**
MSU Marysvale 69.85 56 P **P** **07 44 15.7 +0.7**
MICGM Minsk 69.85 328 *e* **P** **07 44 14.0 -0.5**
MNK Minsk 69.85 328 *e*P **P** **07 44 14.0 -0.5**
SZCU Shurtz Canyon 69.89 57 P **P** **07 44 15.8 +0.5**
TMUT Trail Mountain 69.91 55 P **P** **07 44 15.6 +0.1**
NBO00 NORSAR Array S 69.95 340 P **P** **07 44 14.2 -0.8**
NACGM Naroch 69.96 329 *e* **P** **07 44 15.0 -0.1**
NC602 NORSAR Array S 70.01 339 P **P** **07 44 14.1 -1.3**
NC602 IAmb IAmb 07 44 39.1
comp=Z,30nm,1.3s
NORES NORESS Array B 70.01 339 P **P** **07 44 14.7 -0.7**
NORES pmax pmax
comp=Z,2.0nm,0.3s
RDMU Red Mountain 70.03 53 P **P** **07 44 16.5 +0.4**
NAO01 NORSAR Array S 70.08 340 P **P** **07 44 14.9 -0.9**
GMRC Granite Mounta 70.12 61 P **P** **07 44 16.6 -0.1**
baz=310
LCMT Little Creek M 70.18 58 P **P** **07 44 18.5 +1.5**
ULM Lac du Bonnet 70.37 38 P **P** **07 44 17.5 -0.2**
comp=Z,41nm,0.8s,baz=309,slow=8.4,SNR=3.9
PFO Pinyon Flats O 70.37 62 P **P** **07 44 18.0 -0.2**
baz=310
PFO Pinyon Flats O 70.37 62 P **P** **07 44 19.2 +1.0**
PFO pmax pmax
comp=Z,11nm,1.2s
PFO Pinyon Flats O 70.37 62 P **P** **07 44 19.2 +1.0**
TPFO Pinon Flats 70.38 62 P **P** **07 44 18.1 -0.2**
baz=310
BELC Belle Mtn. Jos 70.42 61 P **P** **07 44 18.5 0.0**
baz=311
KNB Kanab 70.43 57 P **P** **07 44 19.4 +0.8**
KNB pmax pmax
comp=Z,18nm,1.0s
KNB Kanab 70.43 57 P **P** **07 44 19.4 +0.8**
SRU San Rafael Swe 70.43 54 P **P** **07 44 18.9 +0.3**
SRU pmax pmax
comp=Z,24nm,1.0s
SRU San Rafael Swe 70.43 54 P **P** **07 44 18.9 +0.3**
PABE Paberze 70.52 330 *e*P **P** **07 44 18.2 -0.4**
ANGG Ammassalik, Gr 70.54 3 *i*P **P** **07 44 17.9 -0.6**
ANGG IAmb IAmb 07 44 19.6
comp=Z,23nm,1.0s
KIV Kislovodsk 70.64 313 ⇑P **P** **07 44 20.6 +1.0**
KIV Kislovodsk 70.64 313 *i*P **P** **07 44 20.5 +1.0**
SNR=8.9
KIV Kislovodsk 70.64 313 *e*P **P** **07 44 19.8 +0.2**
KIV Kislovodsk 70.64 313 *e*P **P** **07 44 19.8 +0.2**
KIV pmax pmax
comp=Z,158nm,1.1s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 70.64 313 P **P** **07 44 20.4 +0.8**
KBZ Khabaz 70.68 312 P **P** **07 44 20.5 +0.8**
comp=Z,22nm,0.8s,baz=52,slow=3.7,SNR=43
KBZ LR LR 08 20 15.3
comp=Z,1μm,18.3s,baz=34,slow=40
KBZ Khabaz 70.68 312 *e*P **P** **07 44 19.5 -0.2**
KBZ Khabaz 70.68 312 *i*P **P** **07 44 19.5 -0.2**
KBZ pmax pmax
comp=Z,27nm,0.9s
RSSD Black Hills 70.69 47 P **P** **07 44 19.5 -0.6**
baz=313
RSSD Black Hills 70.69 47 P **P** **07 44 19.5 -0.6**
RSSD pmax pmax
comp=Z,22nm,1.1s
RSSD Black Hills 70.69 47 P **P** **07 44 19.4 -0.6**
RSSD IAmb IAmb 07 44 36.5
comp=Z,22nm,1.1s
ZEI Tsey 70.78 311 *e*P **P** **07 44 19.4 -1.2**
ZEI pmax pmax
comp=Z,14nm,0.8s
SHA1 Shidzhatmaz 70.80 313 *c*/*i*P **P** **07 44 19.3 -1.5**
PBUR Paburge 70.83 332 *e*P **P** **07 44 20.5 +0.1**
IRM Iron Mountain 70.85 61 P **P** **07 44 21.4 +0.3**
baz=311,SNR=5.5
NUUK Nuuk 70.86 10 *i*P **P** **07 44 20.4 0.0**
NUUK IAmb IAmb 07 44 21.8
comp=Z,52nm,0.9s
MONP2 Monument Peak 70.86 63 P **P** **07 44 21.6 +0.3**
baz=311
BC3 Big Chuckawall 70.98 61 P **P** **07 44 22.2 +0.3**
baz=311
W13A Hualapai Mount 71.03 59 P **P** **07 44 22.2 -0.1**
O20A White River Ci 71.07 52 P **P** **07 44 22.6 +0.2**
baz=312
O20A White River Ci 71.07 52 P **P** **07 44 22.8 +0.3**
O20A IAmb IAmb 07 44 39.3
comp=Z,16nm,1.1s
U15A North Rim 71.14 57 P **P** **07 44 23.5 +0.5**
U15A IAmb IAmb 07 44 41.1
comp=Z,20nm,1.1s
IKP In-Ko-Pah, Jac 71.22 63 P **P** **07 44 23.9 +0.6**
baz=311
BORG Borgarnes 71.28 356 P **P** **07 44 23.8 +0.8**
BORG pmax pmax
comp=Z,70nm,1.0s
BORG Borgarnes 71.28 356 P **P** **07 44 23.8 +0.8**
AGMN Agassiz Nation 71.79 40 P **P** **07 44 26.0 -0.4**
baz=317
N23A Red Feather La 71.86 50 P **P** **07 44 27.4 +0.1**
baz=313
SUW Suwalki 71.98 330 *e*P **P** **07 44 26.8 -0.6**
SUW Suwalki 71.98 330 P **P** **07 44 27.3 -0.1**
SUW pmax pmax
comp=Z,63nm,1.0s
SUW Suwalki 71.98 330 P **P** **07 44 27.3 -0.1**
D32A Dogwood Acres, 72.09 41 P **P** **07 44 28.0 -0.2**
D32A IAmb IAmb 07 44 52.9
comp=Z,17nm,0.6s
AKASG Malin Array Be 72.19 325 P **P** **07 44 28.2 -0.5**
comp=Z,41nm,0.9s,baz=38,slow=6.5,SNR=64
AKASG Malin Array Be 72.19 325 *i*P **P** **07 44 28.2 -0.5**
AKASG pmax pmax
comp=Z,35nm,0.9s
AKASG Malin Array Be 72.19 325 P **P** **07 44 28.3 -0.3**
AKBB Malin Array Si 72.19 325 P **P** **07 44 27.8 -0.9**
AKBB pmax pmax
comp=Z,60nm,1.0s
AKBB Malin Array Si 72.19 325 P **P** **07 44 27.8 -0.9**
WUAZ Wupatki 72.30 58 P **P** **07 44 30.3 +0.4**
baz=312
WUAZ Wupatki 72.30 58 P **P** **07 44 29.8 -0.1**
Y14A Wickenburg 72.34 60 P **P** **07 44 29.9 -0.1**
Y14A IAmb IAmb 07 44 48.3
comp=Z,14nm,0.9s
SOC Sochi 72.45 314 *e*P **P** **07 44 26.5 -3.9**
SOC *e* 07 47 10.3
SOC *e*PPP PPP 07 48 54.6
SOC *e*S **S** **07 53 49.3 -3.4**
SOC MLR MLR
comp=Z,530nm,17.0s
ANN Anapa 72.75 316 *e*P **P** **07 44 31.0 -1.1**
ANN pmax pmax
comp=Z,81nm,2.1s
BATM Batumi 72.78 312 ⇑P **P** **07 44 33.0 +0.6**
BATM Batumi 72.78 312 P **P** **07 44 33.0 +0.6**
ISCO Idaho Springs 72.79 51 P **P** **07 44 33.0 +0.1**
baz=314
ISCO Idaho Springs 72.79 51 P **P** **07 44 33.3 +0.4**
ISCO pmax pmax
comp=Z,15nm,1.1s
ISCO Idaho Springs 72.79 51 P **P** **07 44 33.3 +0.4**
MVCO Mesa Verde 72.89 55 P **P** **07 44 33.9 +0.4**
baz=313
MVCO Mesa Verde 72.89 55 P **P** **07 44 33.2 -0.2**
MVCO IAmb IAmb 07 44 50.2
comp=Z,18nm,1.2s
BCA Borcka 72.93 311 ⇑P **P** **07 44 33.7 +0.3**
X16A Lo Mia Camp, P 72.99 59 P **P** **07 44 35.1 +1.1**
X16A IAmb IAmb 07 44 52.7
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 73.50 53 P **P** **07 44 37.8 +0.7**
baz=313,SNR=6.5
S22A 4UR Ranch, Cre 73.50 53 P **P** **07 44 37.4 +0.3**
W18A Petrified Fore 73.56 57 P **P** **07 44 38.0 +0.6**
baz=313
Q24A Divide 73.62 51 P **P** **07 44 38.0 +0.1**
baz=314
214A Organ Pipe Nat 73.78 61 P **P** **07 44 39.0 +0.5**
baz=312
BSD Bornholm Skovb 73.85 335 *i*P **P** **07 44 38.2 -0.3**
BSD pmax pmax
comp=Z,46nm,0.9s
BSD Bornholm Skovb 73.85 335 *i*P **P** **07 44 38.2 -0.3**
comp=Z,46nm,0.9s
BSD Bornholm Skovb 73.85 335 *i*P **P** **07 44 38.2 -0.3**
BSD IAmb IAmb 07 44 38.8
comp=Z,46nm,0.9s
GEVA Gevas 74.31 308 P **P** **07 44 41.3 -0.4**
BANOM Banah 74.41 291 P **P** **07 44 42.9 +0.7**
SHME Shamm 74.43 291 P **P** **07 44 43.2 +0.8**
K31A O'Neill 74.49 45 P **P** **07 44 42.2 -0.3**
SORM Soroca 74.51 323 ⇑P **P** **07 44 42.8 +0.4**
SORM Soroca 74.51 323 P **P** **07 44 42.8 +0.4**
BEL Belsk 74.59 330 *e*P **P** **07 44 43.5 +0.7**
ECSD EROS Data Cent 74.76 43 P **P** **07 44 43.7 -0.3**
baz=317,SNR=6.6
ECSD EROS Data Cent 74.76 43 P **P** **07 44 44.6 +0.6**
ECSD IAmb IAmb 07 45 00.1
comp=Z,30nm,1.1s
TUC Tucson 74.81 60 P **P** **07 44 45.1 +0.5**
baz=313
TUC Tucson 74.81 60 P **P** **07 44 45.0 +0.5**
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 74.81 60 P **P** **07 44 45.0 +0.4**
MSFE Esma-Masafi 74.87 291 P **P** **07 44 46.1 +1.1**
LVV L'vov 74.98 327 *e*P **P** **07 44 44.9 -0.2**
UOSS Minazif 75.12 290 *i*P **P** **07 44 46.2 -0.1**
SNR=6.1
UOSS Minazif 75.12 290 P **P** **07 44 45.7 -0.7**
UOSS IAmb IAmb 07 45 01.3
comp=Z,31nm,1.1s
KIS Kishinev 75.18 322 *e*P **P** **07 44 47.0 +0.7**
KIS *e*LR LR 08 18 56.0
comp=Z,300nm,19.0s
KIS Kishinev 75.18 322 *e*P **P** **07 44 47.0 +0.7**
HATD Hatta, Dubai 75.25 290 *i*P **P** **07 44 47.4 +0.3**
SNR=8.7
T25A Trinidad 75.31 52 P **P** **07 44 47.8 +0.3**
baz=315
T25A Trinidad 75.31 52 P **P** **07 44 47.2 -0.3**
ASHO Ashiyiah 75.39 290 *i*P **P** **07 44 48.2 +0.2**
SNR=6.2

SOHO **SOHO** 75.43 289 P **P** 07 44 48.1 -0.1
SPMN **Marine on St.** 75.48 40 P **P** 07 44 48.0 -0.1
baz=319
ANMO **Albuquerque** 75.64 55 P **P** 07 44 49.9 +0.4
baz=314
ANMO **Albuquerque** 75.64 55 *i* P **P** 07 44 47.3 -2.2
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO **Albuquerque** 75.64 55 P **P** 07 44 49.4 0.0
KWP **Kalwaria Pacla** 75.65 327 *eP* **P** 07 44 49.6 +0.6
KWP **Kalwaria Pacla** 75.65 327 P **P** 07 44 49.4 +0.4
KWP pmax pmax
comp=Z,116nm,1.2s
KWP **Kalwaria Pacla** 75.65 327 P **P** 07 44 49.4 +0.4
FAQ **Al Faqa, Dubai** 75.67 291 P **P** 07 44 49.2 -0.3
BGNE **Belgrade** 75.68 46 P **P** 07 44 48.9 -0.4
baz=317
STKA **Stephens Creek** 75.88 187 LR LR 08 17 40.8
comp=Z,52nm,21.8s,baz=220,slow=35
ASUD **Al Ashush, Dub** 75.92 291 P **P** 07 44 48.9 -2.1
DIKM **Dikmen** 76.13 315 ⇑P **P** 07 44 52.2 +0.3
BUR08 **Bucovina Ar. S** 76.23 325 P **P** 07 44 52.2 -0.2
BUR08 IAmb IAmb 07 45 09.0
comp=Z,13nm,0.8s
BURAR **Bucovina Array** 76.24 325 ⇑P **P** 07 44 52.9 +0.3
BURAR **Bucovina Array** 76.24 325 P **P** 07 44 52.8 +0.3
BSEG **Bad Segeberg** 76.24 336 *eP* **P** 07 44 53.2 +1.0
comp=Z,14nm,0.8s,baz=30,slow=5.5
OJC **Ojcow** 76.28 329 *eP* **P** 07 44 52.8 +0.3
OJC **Ojcow** 76.28 329 P **P** 07 44 52.6 +0.1
OJC pmax pmax
comp=Z,30nm,0.9s
OJC **Ojcow** 76.28 329 P **P** 07 44 52.6 +0.1
OJC IAmb IAmb 07 45 07.5
comp=Z,30nm,0.9s
MARD **Mardin** 76.30 309 P **P** 07 44 53.8 +0.7
MARD IAmb IAmb 07 44 55.3
comp=Z,29nm,0.8s
KOLS **Kolonicke sedl** 76.38 327 *eP* **P** 07 44 52.5 -0.7
KOLS *e* 07 45 05.9
KOLS pmax pmax
comp=Z,22nm,1.3s
KOLS **Kolonicke sedl** 76.38 327 *eP* **P** 07 44 52.5 -0.7
KOLS *e* 07 45 05.9
BIZ **Bicaz** 76.40 324 ⇓P **P** 07 44 53.7 +0.3
121A **Cookes Peak, D** 76.51 58 P **P** 07 44 54.9 +0.4
baz=314,SNR=5.4
121A **Cookes Peak, D** 76.51 58 P **P** 07 44 55.1 +0.7
121A IAmb IAmb 07 45 13.2
comp=Z,23nm,1.1s
TLCR 76.57 321 ⇑P **P** 07 44 54.9 +0.6
TLCR 76.57 321 P **P** 07 44 54.9 +0.6
UZH **Uzhgorod** 76.62 327 *eP* **P** 07 44 54.2 -0.3
UZH *e* 07 45 08.0
UZH *e* 07 45 14.2
CRVS **Cervenica-Dubn** 76.72 328 *eP* **P** 07 44 55.6 +0.5
CRVS pmax pmax
comp=Z,64nm,1.7s
CRVS **Cervenica-Dubn** 76.72 328 *eP* **P** 07 44 55.6 +0.5
NIE **Niedzica** 76.74 329 *eP* **P** 07 44 55.1 -0.2
SCHQ **Schefferville** 76.84 20 P **P** 07 44 55.5 -0.2
comp=Z,4.6nm,0.6s,baz=17,slow=8.8,SNR=4.0
SCHQ LR LR 08 21 13.8
comp=Z,247nm,20.5s,baz=325,slow=38
CFR **Carcaliu** 76.88 322 ⇑P **P** 07 44 56.8 +0.8
CFR **Carcaliu** 76.88 322 P **P** 07 44 56.8 +0.8
ODBI **Odobesti** 76.91 322 ⇓P **P** 07 44 56.4 +0.2
VRI **Vrincioaia** 76.97 323 ⇑P **P** 07 44 57.6 +1.0
VRI **Vrincioaia** 76.97 323 P **P** 07 44 57.6 +1.0
KSP **Ksiaz** 77.01 332 *eP* **P** 07 44 56.8 +0.1
KSP **Ksiaz** 77.01 332 P **P** 07 44 57.2 +0.5
PLOR **Plostina** 77.02 323 ⇑P **P** 07 44 57.9 +1.0
PLOR **Plostina** 77.02 323 P **P** 07 44 57.9 +1.0
OZUR 77.20 323 ⇑P **P** 07 44 59.0 +1.1
BISRR **Bisoca** 77.23 323 ⇓P **P** 07 44 58.0 -0.1
OSTC **Ostas** 77.27 331 *eP* **P** 07 45 01.5 +3.3
OSTC AMS AMS 08 22 10.0
comp=Z,400nm,15.4s
LANS **Liptovska Anna** 77.28 329 *eP* **P** 07 45 00.0 +1.7
LANS *e* 07 45 13.6
LANS pmax pmax
comp=Z,14nm,1.0s
LANS **Liptovska Anna** 77.28 329 *eP* **P** 07 45 00.0 +1.7
LANS *e* 07 45 13.6
CHVC **Chvalec** 77.30 332 *eP* **P** 07 44 58.3 -0.1
CHVC AMS AMS 08 22 40.0
comp=Z,400nm,19.5s
TIRR **Tirgusor** 77.31 321 ⇓P **P** 07 44 59.1 +0.6
TIRR **Tirgusor** 77.31 321 P **P** 07 44 58.2 -0.3
TIRR pmax pmax
comp=Z,54nm,0.9s
TIRR **Tirgusor** 77.31 321 P **P** 07 44 58.2 -0.3
HARR **Harsova** 77.35 321 ⇑P **P** 07 44 59.2 +0.5
HARR **Harsova** 77.35 321 P **P** 07 44 59.1 +0.5
N35A **Tabor** 77.36 45 P **P** 07 44 58.1 -0.8
N35A IAmb IAmb 07 45 14.9
comp=Z,25nm,0.8s
UPC **Upice** 77.39 331 *eP* **P** 07 44 58.9 +0.1
UPC AMS AMS 08 22 40.0
comp=Z,400nm,17.1s
UPC **Upice** 77.39 331 *eP* **P** 07 44 58.9 +0.1
UPC MLR MLR
comp=Z,400nm,17.1s
DPC **Dobruska-Polom** 77.41 331 *eP* **P** 07 44 58.8 -0.2
DPC *ex* x 07 45 12.5
DPC AMS AMS 08 26 40.0
comp=Z,400nm,15.1s
DPC **Dobruska-Polom** 77.41 331 *eP* **P** 07 44 58.8 -0.2
DPC *e* 07 45 12.5
DPC MLR MLR
comp=Z,400nm,15.1s
MORC **Moravsky Berou** 77.46 330 ⇑P **P** 07 44 59.7 +0.4
MORC **Moravsky Berou** 77.46 330 *eP* **P** 07 44 59.3 0.0
MORC **Moravsky Berou** 77.46 330 P **P** 07 44 59.1 -0.2
MORC pmax pmax
comp=Z,24nm,0.9s
MORC **Moravsky Berou** 77.46 330 P **P** 07 44 59.1 -0.2
MORC IAmb IAmb 07 45 14.5
comp=Z,24nm,0.9s
DOPR **Dopca** 77.47 324 ⇑P **P** 07 45 00.3 +0.9
KRLC **Kraliky** 77.48 331 *eP* **P** 07 44 59.2 -0.2
KRLC *ex* x 07 45 12.5
KRLC AMS AMS 08 27 10.0
comp=Z,300nm,16.2s
KRLC **Kraliky** 77.48 331 *eP* **P** 07 44 59.2 -0.2
KRLC *e* 07 45 12.5
KRLC MLR MLR
comp=Z,300nm,16.2s
NRDL **Niedersach Rie** 77.57 336 *eP* **P** 07 44 59.7 0.0
comp=Z,5.0nm,0.8s,baz=30,slow=5.5
MLR **Muntele Rosu** 77.61 323 ⇑P **P** 07 45 01.2 +0.9
MLR **Muntele Rosu** 77.61 323 P **P** 07 44 59.9 -0.4
MLR pmax pmax
comp=Z,15nm,0.7s
MLR **Muntele Rosu** 77.61 323 P **P** 07 44 59.9 -0.4
MLR IAmb IAmb 07 45 03.1
comp=Z,15nm,0.7s
ISR **Istrita** 77.64 322 ⇓P **P** 07 45 01.5 +1.1
ISR **Istrita** 77.64 322 P **P** 07 45 01.4 +1.1
CLL **Collm** 77.70 334 ⇑ *iP* **P** 07 45 00.1 -0.5
comp=Z,28nm,0.8s
CLL *i* pP **sP** 07 45 09.3 -0.1
CLL *i* sP **pwP** 07 45 13.1 -0.4
CLL *eS* **S** 07 54 53.0 +2.2
CLL *ePS* **PnS** 07 55 32.0 -0.2
CLL *eSS* **SS** 07 59 54.0 +4.4
CLL *eSSS* SSS 08 03 42.0
CLL *eSSSS* 08 05 18.0
CLL *e* 08 06 24.0
CLL Lm MLR 08 24 00.0
comp=N,200nm,19.1s
CLL Lm MLR 08 24 00.0
comp=E,300nm,21.6s
CLL Lm MLR 08 24 00.0
comp=Z,300nm,19.6s
CLL **Collm** 77.70 334 ⇑ *iP* **P** 07 45 00.1 -0.5
CLL *i* 07 45 09.3
CLL *i* 07 45 13.1
CLL *eS* **S** 07 54 53.0 +2.2
CLL pmax pmax
comp=Z,28nm,0.8s
CLL MLR MLR
comp=Z,300nm,19.6s

CLL **Collm** 77.70 334 *eP* **P** 07 45 00.5 -0.1
comp=Z,18nm,0.8s,baz=30,slow=5.5
CLL **Collm** 77.70 334 P **P** 07 44 59.5 -1.0
CLL IAmb IAmb 07 45 15.0
comp=Z,24nm,0.8s
BRG **Berggiesshubel** 77.77 333 *eP* **P** 07 45 00.7 -0.3
comp=Z,11nm,1.1s
comp=N,302nm,21.9s
comp=E,346nm,16.1s
comp=Z,327nm,23.4s
BRG **Berggiesshubel** 77.77 333 *eP* **P** 07 45 00.7 -0.3
BRG pmax pmax
comp=Z,11nm,1.1s
BRG MLR MLR
comp=N,302nm,21.9s
BRG MLR MLR
comp=E,346nm,16.1s
BRG MLR MLR
comp=Z,327nm,23.4s
BRG **Berggiesshubel** 77.77 333 *eP* **P** 07 45 00.8 -0.1
comp=Z,4.8nm,0.9s,baz=30,slow=5.5
PVCC **Panska Ves** 77.86 332 AMS AMS 08 23 00.0
comp=Z,300nm,16.0s
FBE **Freiberg** 77.92 333 *eP* **P** 07 45 02.3 +0.5
comp=Z,11nm,0.9s,baz=30,slow=5.5
VOIR 78.03 323 ⇑P **P** 07 45 03.3 +0.7
VOIR 78.03 323 P **P** 07 45 03.3 +0.7
VYHS **Vyhne** 78.05 329 *eP* **P** 07 45 03.0 +0.4
VYHS *e* 07 45 15.4
VYHS pmax pmax
comp=Z,11nm,0.9s
VYHS **Vyhne** 78.05 329 *eP* **P** 07 45 03.0 +0.4
VYHS *e* 07 45 15.4
CLZ **Clausthal** 78.06 335 *eP* **P** 07 45 01.9 -0.7
comp=Z,12nm,0.8s,baz=30,slow=5.5
PSZ **Piszkesteto** 78.13 328 ⇓P **P** 07 45 03.6 +0.5
PSZ **Piszkesteto** 78.13 328 P **P** 07 45 02.9 -0.2
PSZ pmax pmax
comp=Z,18nm,0.9s
PSZ **Piszkesteto** 78.13 328 P **P** 07 45 02.9 -0.2
PSZ IAmb IAmb 07 45 07.1
comp=Z,18nm,0.9s
NEUB **Neuenburg** 78.18 334 *eP* **P** 07 45 03.4 +0.3
comp=Z,18nm,0.9s,baz=30,slow=5.5
JAVC **Velka Javorina** 78.18 330 *eP* **P** 07 45 04.3 +1.0
VRAC **Vranov** 78.19 330 ⇑P **P** 07 45 03.8 +0.4
VRAC **Vranov** 78.19 330 *eP* **P** 07 45 03.6 +0.3
VRAC **Vranov** 78.19 330 P **P** 07 45 03.7 +0.4
EKA **Eskdalemuir Ar** 78.24 344 P **P** 07 45 03.2 -0.3
ARR **Arges** 78.27 324 ⇓P **P** 07 45 04.5 +0.6
PRA **Prague** 78.29 332 AMS AMS 08 23 20.0
comp=Z,300nm,20.9s
GOPC **GO Pecny, Ondr** 78.31 332 *eP* **P** 07 45 04.1 +0.1
GOPC *epP* **PcP** 07 45 14.2 +0.9
GOPC AMS AMS 08 23 10.0
comp=Z,500nm,15.5s
GOPC **GO Pecny, Ondr** 78.31 332 *eP* **P** 07 45 04.1 +0.1
GOPC *e* 07 45 14.2
GOPC MLR MLR
comp=Z,500nm,15.5s
PRU **Pruhonice** 78.33 332 *eP* **P** 07 45 04.2 +0.2
PRU AMS AMS 08 23 20.0
comp=Z,600nm,16.3s
PRU **Pruhonice** 78.33 332 *eP* **P** 07 45 04.2 +0.2
PRU MLR MLR
comp=Z,600nm,16.3s
BR131 **Keskin Array S** 78.38 315 P **P** 07 45 04.1 -0.6
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR131 **Keskin Array S** 78.38 315 P **P** 07 45 04.1 -0.6
BRTR **Keskin Array B** 78.38 315 P **P** 07 45 05.1 +0.3
comp=Z,9.1nm,1.0s,baz=60,slow=5.9,SNR=20
BRTR LR LR 08 26 02.1
comp=Z,129nm,18.0s,baz=64,slow=41
BRTR **Keskin Array B** 78.38 315 *i* P **P** 07 45 05.0 +0.3
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR **Keskin Array B** 78.38 315 P **P** 07 45 04.5 -0.3
IBBN **Ibbenburen** 78.41 337 *eP* **P** 07 45 04.5 0.0
comp=Z,12nm,0.7s,baz=30,slow=5.5
GTTG **Gottingen** 78.44 335 *eP* **P** 07 45 05.2 +0.6
comp=Z,11nm,0.9s,baz=30,slow=5.5
AMTX **Amarillo** 78.46 52 P **P** 07 45 05.8 +0.6
baz=316
AMTX **Amarillo** 78.46 52 P **P** 07 45 04.8 -0.4
AMTX IAmb IAmb 07 45 22.5
comp=Z,20nm,1.1s
KRUC **Moravsky** 78.47 330 *eP* **P** 07 45 05.1 +0.2
MSTX **Muleshoe** 78.49 54 P **P** 07 45 05.5 +0.2
baz=316
MNTX **Cornudas Mount** 78.55 57 P **P** 07 45 06.0 +0.4
baz=315
MNTX **Cornudas Mount** 78.55 57 P **P** 07 45 05.2 -0.4
SMOL **Smolenice** 78.56 330 *eP* **P** 07 45 06.3 +0.9
SMOL pmax pmax
comp=Z,12nm,1.0s
SMOL **Smolenice** 78.56 330 *eP* **P** 07 45 06.3 +0.9
TANN **Tannenbergstha** 78.65 333 *eP* **P** 07 45 05.8 -0.1
comp=Z,8.9nm,0.8s,baz=30,slow=5.5
MOX **Moxa** 78.72 334 *eP* **P** 07 45 06.0 -0.2
comp=Z,4.3nm,0.8s,baz=30,slow=5.5
MODS **Modra-Piesok** 78.73 330 *eP* **P** 07 45 06.2 -0.1
MODS pmax pmax
comp=Z,26nm,0.9s
MODS **Modra-Piesok** 78.73 330 *eP* **P** 07 45 06.2 -0.1
GUNZ **Gunzen** 78.73 333 *eP* **P** 07 45 06.8 +0.5
comp=Z,6.5nm,0.8s,baz=30,slow=5.5
PBCC **Pribram** 78.77 332 *eP* **P** 07 45 07.0 +0.5
SIRR **Siria** 78.78 326 ⇑P **P** 07 45 07.3 +0.7
WERN **Wernitzgruen** 78.79 333 *eP* **P** 07 45 06.8 +0.1
comp=Z,8.3nm,0.8s,baz=30,slow=5.5
NKC **Novy Kostel** 78.81 333 *eP* **P** 07 45 06.8 +0.1
NKC AMS AMS 08 24 00.0
comp=Z,400nm,16.8s
NKC **Novy Kostel** 78.81 333 *eP* **P** 07 45 06.8 +0.1
NKC MLR MLR
comp=Z,400nm,16.8s
LSQQ **Lebel-sur-Quev** 78.86 29 P **P** 07 45 06.7 -0.2
baz=328
ZST **Bratislava** 78.94 330 *eP* **P** 07 45 07.3 -0.2
ZST pmax pmax
comp=Z,41nm,1.0s
ZST **Bratislava** 78.94 330 *eP* **P** 07 45 07.3 -0.2
CHGQ **Chibougamau** 79.00 27 P **P** 07 45 07.4 -0.4
baz=330
GZR **Gura Zlata** 79.03 325 ⇑P **P** 07 45 08.2 +0.1
MDUB **Mudurnu** 79.05 317 P **P** 07 45 07.9 -0.5
MANZ **Manzenberg** 79.13 333 *eP* **P** 07 45 08.9 +0.3
comp=Z,7.6nm,0.9s,baz=30,slow=5.5
ROTZ **Rotzenmuhle** 79.29 333 *eP* **P** 07 45 10.0 +0.7
comp=Z,7.2nm,0.8s,baz=30,slow=5.5
BUG **Bochum--Univer** 79.32 337 *eP* **P** 07 45 09.6 +0.1
comp=Z,9.9nm,0.7s,baz=30,slow=5.5
BZS **Buzias** 79.33 326 ⇑P **P** 07 45 10.3 +0.6
BZS **Buzias** 79.33 326 P **P** 07 45 10.0 +0.4
BZS pmax pmax
comp=Z,42nm,1.0s
P38A **Dawn** 79.36 44 P **P** 07 45 09.4 -0.5
P38A IAmb IAmb 07 45 25.6
comp=Z,21nm,0.9s
KHC **Kasperske Hory** 79.39 332 *eP* **P** 07 45 09.8 -0.1
KHC *epP* **pP** 07 45 17.2 +0.8
KHC AMS AMS 08 24 00.0
comp=Z,600nm,16.3s
KHC **Kasperske Hory** 79.39 332 *i* P **P** 07 45 09.6 -0.3
KHC pmax pmax
comp=Z,55nm,0.8s
GLMI **Grayling** 79.42 36 P **P** 07 45 10.2 0.0
baz=324
SOP **Sopron** 79.57 330 P **P** 07 45 12.4 +1.5
SOP pmax pmax
comp=Z,36nm,1.1s
GEC2 **GERESS Array S** 79.59 332 *eP* **P** 07 45 11.0 -0.1
comp=Z,8.8nm,0.8s,baz=30,slow=5.5
GEC2 **GERESS Array S** 79.59 332 P **P** 07 45 10.1 -1.1
GERES **GERESS Array B** 79.59 332 P **P** 07 45 10.9 -0.3
comp=Z,9.4nm,0.8s,baz=33,slow=5.6,SNR=54
GERES LR LR 08 24 38.7
comp=Z,472nm,18.3s,baz=34,slow=39
HERR **Herculane** 79.59 325 ⇑P **P** 07 45 11.5 +0.4
WET **Wettzell** 79.61 333 P **P** 07 45 11.6 +0.5
WET **Wettzell** 79.61 333 *eP* **P** 07 45 11.7 +0.5
comp=Z,20nm,0.9s,baz=30,slow=5.5
CONA **Conrad Observa** 79.62 330 *i* P **P** 07 45 12.1 +0.8
comp=Z,20nm,0.8s,SNR=9.6
GRA1 **Grafenberg Arr** 79.67 334 P **P** 07 45 11.3 -0.2

GRA1 IAmb IAmb 07 45 14.2
comp=Z,28nm,0.9s
GRF **Grafenberg Arr** 79.67 334 P **P** 07 45 11.3 -0.2
GRF pmax pmax
comp=Z,28nm,0.9s
GRF **Grafenberg Arr** 79.67 334 *eP* **P** 07 45 12.4 +0.9
comp=Z,23nm,0.8s,baz=30,slow=5.5
T35A **Sooner Cattle** 79.84 48 P **P** 07 45 12.4 -0.1
T35A IAmb IAmb 07 45 28.5
comp=Z,22nm,0.9s
TNS **Taunus Mts** 80.06 336 *eP* **P** 07 45 13.8 +0.2
comp=Z,9.8nm,0.8s,baz=30,slow=5.5
P40A **Paris** 80.17 43 P **P** 07 45 14.0 -0.3
P40A IAmb IAmb 07 45 30.6
comp=Z,34nm,1.2s
AHRW **Bad Neuenahr-A** 80.18 337 *eP* **P** 07 45 15.1 +0.9
comp=Z,11nm,0.8s,baz=30,slow=5.5
WMOK **Wichita Mounta** 80.21 51 P **P** 07 45 14.7 +0.1
baz=318
WMOK **Wichita Mounta** 80.21 51 P **P** 07 45 14.2 -0.4
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK **Wichita Mounta** 80.21 51 P **P** 07 45 14.2 -0.4
MOA **Molln** 80.25 331 *i* P **P** 07 45 15.1 +0.5
comp=Z,13nm,0.8s,SNR=5.9
MPEP **Malo Peshtene** 80.26 323 P **P** 07 45 15.2 +0.5
ARSA **Arzberg** 80.31 330 *i* P **P** 07 45 15.4 +0.4
comp=Z,10nm,1.0s,SNR=5.4
OK025 **Westminster Rd** 80.38 49 P **P** 07 45 15.3 -0.2
OK025 IAmb IAmb 07 45 31.7
comp=Z,18nm,0.9s
MEM **Membach** 80.42 337 P **P** 07 45 14.9 -0.6
DIM **Dimitrovgrad** 80.50 321 P P 07 45 09.3 -6.7
HDIL **Hopedale** 80.71 41 P **P** 07 45 16.6 -0.6
baz=322
BCLA **Clavier** 80.79 338 P **P** 07 45 17.3 -0.1
PLD **Plovdiv** 80.84 322 P **P** 07 45 20.3 +2.5
PLD pmax pmax
comp=Z,63nm,1.1s
TUL1 **Leonard** 80.98 48 P **P** 07 45 18.7 0.0
baz=319
SOKA **Soboth** 80.98 330 *i* P **P** 07 45 18.8 +0.2
comp=Z,31nm,1.0s,SNR=22
PERS **Pernice** 80.98 330 *i* P **P** 07 45 18.7 +0.1
FUR **Furstenfeldbru** 80.99 333 *eP* **P** 07 45 19.2 +0.6
comp=Z,32nm,0.9s,baz=30,slow=5.5
GROS **Grobnik** 80.99 330 *i* P **P** 07 45 18.5 -0.2
BMRD **Maredsous** 81.04 338 P **P** 07 45 18.8 0.0
RCHB **Rochefort** 81.05 337 P **P** 07 45 18.9 +0.1
VTS **Vitosha** 81.07 323 *i* P **P** 07 45 19.6 +0.3
STU **Stuttgart** 81.12 334 *eP* **P** 07 45 18.9 -0.3
comp=Z,18nm,0.7s,baz=30,slow=5.5
D55A **Sainte-Anne-du** 81.12 29 P **P** 07 45 18.7 -0.5
baz=329
GIVF **Givet** 81.21 338 *eP* **P** 07 45 18.9 -0.8
GIVF pmax pmax
comp=Z,22nm,1.2s
KBA **Koelnbreinsper** 81.23 331 *eP* **P** 07 45 20.6 +0.6
comp=Z,47nm,0.9s,SNR=21
KBA **Koelnbreinsper** 81.23 331 P **P** 07 45 20.9 +0.8
DIVS **Divibare** 81.23 326 P **P** 07 45 18.7 -1.3
DIVS IAmb IAmb 07 45 21.7
comp=Z,17nm,0.8s
TX31 **Lajitas Ar. Si** 81.26 58 P **P** 07 45 20.9 +0.5
TX32 **Lajitas Array** 81.26 58 P **P** 07 45 21.0 +0.5
TX32 IAmb IAmb 07 45 38.0
comp=Z,16nm,0.8s
TXAR **Lajitas Array** 81.26 58 P **P** 07 45 21.2 +0.7
comp=Z,5.4nm,0.7s,baz=297,slow=3.9,SNR=25
DOU **Dourbes** 81.27 338 P **P** 07 45 19.7 -0.3
OBKA **Obir** 81.30 330 *eP* **P** 07 45 20.3 -0.1
comp=Z,10nm,0.9s
D56A **ZEC Mazanza, M** 81.35 29 P **P** 07 45 19.8 -0.7
baz=330
BAIF **Baives** 81.41 338 *eP* **P** 07 45 20.1 -0.6
BAIF pmax pmax
comp=Z,66nm,1.8s
MYKA **Terra Mystica** 81.51 331 *i* P **P** 07 45 21.4 0.0
comp=Z,12nm,1.0s,SNR=5.8
CRES **Cresnjev** 81.55 329 *i* P **P** 07 45 21.1 -0.5
G54A **Lake Saint Pet** 81.55 32 P **P** 07 45 21.7 +0.1
baz=328
WATA **Walderalm** 81.61 332 *i* P **P** 07 45 22.4 +0.4
comp=Z,43nm,0.9s,SNR=14
WTTA **Wattenberg** 81.66 332 *i* P **P** 07 45 22.6 +0.3
comp=Z,32nm,0.7s,SNR=14
WTTA **Wattenberg** 81.66 332 P **P** 07 45 22.8 +0.5
D57A **Chemin Vers le** 81.67 28 P **P** 07 45 22.3 +0.1
baz=330
HHAR **Hobbs** 81.68 47 P **P** 07 45 22.3 -0.2
E56A **St. Veronique** 81.69 29 P **P** 07 45 21.6 -0.6
baz=330
LJU **Ljubljana** 81.70 330 *i* P **P** 07 45 22.8 +0.4
PRED **Cave del Predi** 81.70 331 P **P** 07 45 21.5 -1.0
PRED IAmb IAmb 07 45 23.1
comp=Z,19nm,1.1s
CCM **Cathedral Cave** 81.70 44 P **P** 07 45 22.6 +0.1
baz=321
CCM **Cathedral Cave** 81.70 44 P **P** 07 45 22.1 -0.4
CCM pmax pmax
comp=Z,21nm,1.1s
CCM **Cathedral Cave** 81.70 44 P **P** 07 45 22.1 -0.4
CCM IAmb IAmb 07 45 38.7
comp=Z,21nm,1.1s
KKB **Krupnik** 81.75 322 P **P** 07 45 22.9 +0.2
RETA **Reutte** 81.75 333 *i* P **P** 07 45 23.4 +0.7
comp=Z,24nm,1.0s,SNR=9.4
MOTA **Moosalm** 81.76 333 *i* P **P** 07 45 23.1 +0.3
comp=Z,55nm,0.9s,SNR=20
BFO **Black Forest** 81.78 335 P **P** 07 45 21.5 -1.3
BFO pmax pmax
comp=Z,21nm,1.0s
BFO **Black Forest** 81.78 335 *eP* **P** 07 45 22.9 +0.1
comp=Z,16nm,0.9s,baz=30,slow=5.5
BFO **Black Forest** 81.78 335 P **P** 07 45 21.5 -1.3
BFO IAmb IAmb 07 45 24.6
comp=Z,21nm,1.0s
UBR **Ueberruh** 81.79 333 *eP* **P** 07 45 22.5 -0.4
comp=Z,5.9nm,0.8s,baz=30,slow=5.5
ABTA **Abfaltersbach** 81.81 332 *eP* **P** 07 45 22.7 -0.3
comp=Z,7.3nm,1.0s
ZOU **Zoufplan** 81.81 331 P **P** 07 45 22.6 -0.6
SQTA **Sankt Quirin** 81.83 333 *i* P **P** 07 45 23.7 +0.5
comp=Z,41nm,1.1s,SNR=11
CDF **Champ du Feu** 82.02 335 *eP* **P** 07 45 23.4 -0.7
CDF pmax pmax
comp=Z,17nm,1.0s
E57A **Chemin Saint G** 82.11 29 P **P** 07 45 24.2 -0.4
baz=330
FETA **Feichten** 82.17 333 *i* P **P** 07 45 25.1 +0.1
comp=Z,30nm,1.0s,SNR=9.7
U40A **Yellville** 82.19 46 P **P** 07 45 25.1 0.0
baz=320
CIMO **Cimolais** 82.21 331 P **P** 07 45 24.0 -1.1
DAVA **Damuels** 82.21 333 *i* P **P** 07 45 25.7 +0.5
comp=Z,25nm,1.0s,SNR=7.3
ECH **Echery** 82.23 335 P **P** 07 45 24.5 -0.7
ECH pmax pmax
comp=Z,14nm,0.9s
ECH **Echery** 82.23 335 P **P** 07 45 24.5 -0.7
ECH IAmb IAmb 07 45 26.8
comp=Z,14nm,0.9s
E58A **La Victoria** 82.44 28 P **P** 07 45 26.0 -0.2
baz=331
ELL **Elmali** 82.54 315 P **P** 07 45 26.8 -0.3
ELL pmax pmax
comp=Z,45nm,0.8s
ELL **Elmali** 82.54 315 P **P** 07 45 26.8 -0.3
TAOE **Nuku Hiva Isla** 82.55 110 *e* LR LR 08 11 06.9
comp=Z,200nm,25.2s
T42A **Van Buren** 82.57 44 P **P** 07 45 26.6 -0.5
W39A **Magazine** 82.59 47 P **P** 07 45 27.0 -0.2
baz=320
W39A **Magazine** 82.59 47 P **P** 07 45 27.0 -0.2
HAU **Haudompre** 82.67 336 *eP* **P** 07 45 26.6 -0.8
HAU pmax pmax
comp=Z,20nm,1.2s
FUORN **Ofenpass-Fuorn** 82.67 333 P **P** 07 45 27.3 -0.5
HINF **Hinteralfeld** 82.68 335 *eP* **P** 07 45 27.3 -0.2
HINF pmax pmax
comp=Z,2.0nm,0.4s
CTI **Castel Tesino** 82.71 332 P **P** 07 45 26.6 -1.2
CTI pmax pmax
comp=Z,17nm,0.9s
CTI **Castel Tesino** 82.71 332 P **P** 07 45 26.6 -1.2
CTI IAmb IAmb 07 45 28.7

comp=Z,16nm,0.9s
JCT **Junction City** 82.74 54 P P 07 45 28.5 +0.3
baz=318
JCT **Junction City** 82.74 54 P P 07 45 28.2 +0.1
JCT pmax pmax
comp=Z,14nm,0.9s
JCT **Junction City** 82.74 54 P P 07 45 28.2 +0.1
JCT lAmb lAmb 07 45 45.3
comp=Z,14nm,0.8s
PDG **Podgorica** 82.92 325 ⇑P P 07 45 29.0 +0.2
PDG **Podgorica** 82.92 325 P P 07 45 27.4 -1.3
FCAR **Ozark Folk Cen** 82.92 46 P P 07 45 28.0 -0.9
PPT **Papeete** 82.94 123 LR LR 08 20 06.1
comp=Z,223nm,18.6s,baz=354,slow=34
G57A **Newington** 82.94 30 P P 07 45 28.6 -0.3
baz=330
PPT2 **Papeete2** 82.96 123 eLR LR 08 10 59.5
comp=Z,124nm,21.2s
S44A **Carbondale** 82.97 43 P P 07 45 29.1 0.0
WHTX **Lake Whitney,** 82.98 52 P P 07 45 29.8 +0.5
baz=318
TUE **Stuetta** 83.10 333 P P 07 45 29.7 -0.3
MIAR **Mount Ida** 83.19 48 P P 07 45 30.7 +0.4
baz=320
MIAR **Mount Ida** 83.19 48 P P 07 45 30.5 +0.2
MIAR pmax pmax
comp=Z,15nm,0.9s
MIAR **Mount Ida** 83.19 48 P P 07 45 30.5 +0.2
MIAR lAmb lAmb 07 45 31.9
comp=Z,15nm,0.9s
TEOL **Teolo** 83.30 331 P P 07 45 29.9 -0.9
E61A **Lac Etchemin** 83.31 26 P P 07 45 30.4 -0.4
baz=333
W41B **Gary Mavity, V** 83.41 46 P P 07 45 31.8 +0.4
baz=321
W41B **Gary Mavity, V** 83.41 46 P P 07 45 30.6 -0.9
W41B lAmb lAmb 07 45 47.9
comp=Z,10nm,0.9s
M52A **Chesterland** 83.47 36 P P 07 45 31.6 -0.1
baz=326
PARMO **Parma** 83.53 44 P P 07 45 32.2 +0.2
F61A **St Evariste** 83.55 27 P P 07 45 31.5 -0.5
baz=332
X40A **Basin Creek Fa** 83.63 47 P P 07 45 33.1 +0.5
baz=320
K54A **Basiliko Farm,** 83.67 33 P P 07 45 32.5 -0.2
baz=328
MOQ **Mont Orford** 83.72 28 P P 07 45 32.7 -0.2
FLN **La Foliniere** 83.81 340 eP P 07 45 32.7 -0.5
FLN pmax pmax
comp=Z,38nm,1.0s
K55A **Perry** 83.82 33 P P 07 45 33.3 -0.1
baz=328
SENIN **Lac Senin/Sane** 83.85 335 P P 07 45 33.8 0.0
SENIN lAmb lAmb 07 45 35.3
comp=Z,16nm,1.1s
ACSO **Alum Creek Sta** 83.85 37 P P 07 45 33.8 +0.1
baz=325
LDF **La Druitiere** 83.88 340 eP P 07 45 33.0 -0.6
LDF pmax pmax
comp=Z,23nm,1.2s
F62A **Pittston Farm,** 83.95 26 P P 07 45 33.8 -0.2
baz=333
G61A **St-Isidore-de-** 83.99 28 P P 07 45 34.6 +0.3
baz=332
CABF **La Chapelle** 84.00 335 eP P 07 45 34.8 +0.4
CABF pmax pmax
comp=Z,17nm,1.1s
LOR **Lormes** 84.05 337 eP P 07 45 33.8 -0.7
LOR pmax pmax
comp=Z,30nm,1.1s
O51A **Pataskala** 84.09 37 P P 07 45 35.1 +0.2
baz=326
WLAR **White Oak Lake** 84.09 48 P P 07 45 35.5 +0.5
WLAR lAmb lAmb 07 45 52.0
comp=Z,24nm,1.1s
E64A **Bridgewater** 84.15 25 P P 07 45 34.8 -0.2
baz=334
I58A **Old Forge** 84.17 31 P P 07 45 34.0 -1.2
baz=330
H60A **Morristown** 84.22 29 P P 07 45 35.1 -0.3
baz=331
GRR **Gorron** 84.25 340 eP P 07 45 35.2 -0.3
GRR pmax pmax
comp=Z,33nm,0.9s
N53A **Lisbon** 84.30 36 P P 07 45 36.1 +0.2
baz=326
J58A **Remsen** 84.34 31 P P 07 45 36.1 +0.1
baz=330
G62A **West of Eustis** 84.37 27 P P 07 45 37.0 +0.8
baz=333
O52A **Adamsville** 84.45 37 P P 07 45 37.2 +0.5
baz=326
H61A **Lyndonville** 84.51 28 P P 07 45 37.0 +0.1
baz=332
T47A **Sharon Grove** 84.58 42 P P 07 45 36.5 -0.9
T47A lAmb lAmb 07 45 54.1
comp=Z,22nm,1.1s
M55A **Ridgway** 84.60 34 P P 07 45 37.7 +0.2
baz=328
O53A **New Philadelph** 84.61 36 P P 07 45 37.9 +0.4
baz=326
AVF **Avril sur Loir** 84.63 337 eP P 07 45 36.2 -1.2
AVF pmax pmax
comp=Z,22nm,1.0s
I60A **Shoreham** 84.64 29 P P 07 45 37.9 +0.3
baz=331
PKME **Peaks-Kenny Pk** 84.73 26 P P 07 45 38.0 0.0
baz=333
H62A **Milan** 84.73 28 P P 07 45 38.2 +0.1
baz=332
G63A **Kingsbury** 84.76 26 P P 07 45 37.9 -0.2
baz=333
SGMF **Saint Gilles** 84.77 341 eP P 07 45 39.0 +0.9
SGMF pmax pmax
comp=Z,74nm,1.4s
LPL **La Plagne** 84.78 335 eP P 07 45 38.4 -0.2
LPL pmax pmax
comp=Z,18nm,0.9s
LPG **La Plagne** 84.80 334 eP P 07 45 37.7 -1.0
LPG pmax pmax
comp=Z,24nm,0.9s
MURB **Monte Urbino** 84.82 330 P P 07 45 37.1 -1.5
ROSF **Rostrenen** 84.86 342 eP P 07 45 40.4 +1.8
ROSF pmax pmax
comp=Z,37nm,1.0s
WVT **Waverly** 84.91 43 P P 07 45 39.5 +0.5
baz=323
WVT **Waverly** 84.91 43 P P 07 45 39.1 +0.1
WVT pmax pmax
comp=Z,10.0nm,0.9s
WVT **Waverly** 84.91 43 P P 07 45 39.1 +0.1
WVT lAmb lAmb 07 45 55.1
comp=Z,9.5nm,0.9s
G64A **Maxfield** 84.91 26 P P 07 45 38.8 -0.1
baz=334
NRCA **Norcia** 84.98 329 P P 07 45 39.3 -0.1
K59A **Cooperstown** 85.00 31 P P 07 45 39.7 +0.3
baz=330
O54A **Avella** 85.02 36 P P 07 45 39.6 +0.1
baz=327
N55A **Marion Center** 85.09 35 P P 07 45 40.5 +0.6
baz=328
SCTE **Santa Cesarea** 85.21 324 P P 07 45 39.3 -1.1
BNI **Bardonecchia** 85.22 334 P P 07 45 40.7 +0.1
BNI pmax pmax
comp=Z,18nm,1.1s
BNI **Bardonecchia** 85.22 334 P P 07 45 40.7 +0.1
BNI lAmb lAmb 07 45 46.4
comp=Z,18nm,1.1s
QUIF **Quistinic** 85.23 342 eP P 07 45 42.0 +1.6
QUIF pmax pmax
comp=Z,97nm,1.6s
L58A **Harry Jones Me** 85.26 32 P P 07 45 40.9 +0.2
baz=329
N56A **West Decatur** 85.26 34 P P 07 45 41.6 +0.8
baz=328
H64A **Troy** 85.31 26 P P 07 45 41.6 +0.7
baz=334
SOCY **Socotra** 85.31 282 P P 07 45 39.7 -1.8
M57A **Sunshine Farm,** 85.37 33 P P 07 45 42.0 +0.7
baz=329
I63A **Otisfield** 85.39 28 P P 07 45 41.8 +0.5
baz=333
INTR **Introdacqua** 85.39 328 P P 07 45 39.9 -1.6
TCF **Toulx Ste Croi** 85.40 338 eP P 07 45 42.3 +0.9
TCF pmax pmax
comp=Z,13nm,1.0s
L59A **Walton** 85.44 31 P P 07 45 41.6 -0.1
baz=330
O55A **Ligonier** 85.44 35 P P 07 45 41.7 0.0
baz=327
P54A **Burton** 85.46 36 P P 07 45 42.2 +0.4
baz=327
MBDF **Montbardon** 85.48 334 eP P 07 45 43.1 +1.1
MBDF pmax pmax
comp=Z,11nm,0.9s
ORIF **Oris-en-Rattie** 85.58 335 eP P 07 45 43.4 +1.0
ORIF pmax pmax
comp=Z,14nm,0.8s
M58A **Price's Panora** 85.60 33 P P 07 45 42.9 +0.4
baz=329
Q53A **Leroy** 85.62 37 P P 07 45 42.9 +0.3
baz=326
SSPA **Standing Stone** 85.66 34 P P 07 45 42.2 -0.5
baz=328
SSB **Saint Sauveur** 85.66 336 P P 07 45 42.2 -0.5
SSB pmax pmax
comp=Z,20nm,1.1s
SSB **Saint Sauveur** 85.66 336 P P 07 45 42.2 -0.5
SSB lAmb lAmb 07 45 44.3
comp=Z,20nm,1.1s
CLTN **Cedars of Leba** 85.67 42 P P 07 45 43.0 +0.2
CLTN lAmb lAmb 07 45 59.0
comp=Z,9.4nm,0.8s
K61A **Williamstown** 85.67 30 P P 07 45 43.0 +0.2
baz=331
PLAL **Pickwick Lake** 85.69 44 P P 07 45 42.0 -0.9
N57A **Milroy** 85.69 34 P P 07 45 42.7 -0.2
baz=328
O56A **Blue Knob Stat** 85.70 35 P P 07 45 42.8 -0.2
baz=328
J62A **Henniker** 85.70 29 P P 07 45 43.3 +0.4
baz=332
V48A **Smith Brothers** 85.71 43 P P 07 45 42.2 -0.8
P55A **Reedsville** 85.81 36 P P 07 45 43.9 +0.4
baz=327
Q54A **Coxs Mills** 85.82 37 P P 07 45 43.8 +0.2
baz=327
Q54A **Coxs Mills** 85.82 37 P P 07 45 43.1 -0.4
Q54A lAmb lAmb 07 45 59.6
comp=Z,11nm,0.9s
Y45A **Yeager Farm, C** 85.83 45 P P 07 45 42.6 -1.1
L60A **Shokan** 85.92 31 P P 07 45 43.6 -0.4
baz=330
N58A **Sunbury** 85.95 33 P P 07 45 44.1 -0.1
baz=329
O57A **Amberson** 86.12 34 P P 07 45 45.3 +0.3
baz=328
Q55A **Buckhannon** 86.13 36 P P 07 45 44.3 -0.9
baz=327
P56A **Dayton Farm, R** 86.23 35 P P 07 45 46.2 +0.6
baz=328
N59A **State Game Lan** 86.26 32 P P 07 45 46.0 +0.3
baz=330
R54A **Victor** 86.42 37 P P 07 45 46.6 0.0
baz=327
O58A **Lewisberry** 86.48 34 P P 07 45 46.7 -0.1
baz=329
SWET **Sewanee** 86.56 42 P P 07 45 46.4 -0.9
SWET lAmb lAmb 07 46 03.0
comp=Z,11nm,0.8s
P57A **Homestead Farm** 86.59 35 P P 07 45 47.9 +0.5
baz=328
TZTN **Tazewell** 86.61 40 P P 07 45 47.9 +0.4
baz=325
TIP **Timpagrande** 86.67 325 P P 07 45 47.0 -0.8
TIP lAmb lAmb 07 46 02.5
comp=Z,22nm,1.2s
CAF **Calviac** 86.70 337 eP P 07 45 48.4 +0.6
CAF pmax pmax
comp=Z,24nm,1.2s
R55A **Marlinton** 86.71 37 P P 07 45 48.1 0.0
baz=327
R55A **Marlinton** 86.71 37 P P 07 45 47.6 -0.5
R55A lAmb lAmb 07 46 04.0
comp=Z,17nm,1.0s
T53A **Wise** 86.72 39 P P 07 45 48.8 +0.6
baz=326
P58A **Pank, Wackersv** 86.87 34 P P 07 45 49.2 +0.5
baz=329
146A **Union** 87.05 46 P P 07 45 49.1 -0.6
T54A **Tazewell** 87.09 38 P P 07 45 49.6 -0.3
baz=326
TKL **Tuckaleechee C** 87.23 41 P P 07 45 49.3 -1.3
TKL pmax pmax
comp=Z,14nm,1.0s
TKL **Tuckaleechee C** 87.23 41 P P 07 45 49.2 -1.3
TKL lAmb lAmb 07 46 06.5
comp=Z,14nm,1.0s
TBI **Tubuai** 87.45 126 eLR LR 08 13 08.0
comp=Z,214nm,24.0s
R58A **Rapidan** 87.59 35 P P 07 45 51.4 -0.8
baz=328
LRAL **Lakeview Retre** 87.78 44 P P 07 45 52.7 -0.6
baz=323
V54A **Nebo** 87.98 39 P P 07 45 54.2 0.0
baz=326
S58A **Poland Farm, P** 88.16 36 P P 07 45 54.9 0.0
baz=328
T57A **Hurt** 88.16 37 P P 07 45 55.2 +0.3
baz=328
W54A **Cherokee Point** 88.44 40 P P 07 45 56.4 +0.1
baz=326
U57A **Blanch** 88.60 37 P P 07 45 57.3 +0.3
baz=328
V56A **Mocksville** 88.61 38 P P 07 45 57.4 +0.3
baz=327
KMSC **Kings Mountain** 88.79 39 P P 07 45 57.8 -0.2
baz=326
X54A **Belton** 88.80 40 P P 07 45 57.3 -0.7
baz=326
T59A **Double "B" Far** 88.91 36 P P 07 45 58.7 +0.3
baz=329
U58A **Oxford** 88.97 37 P P 07 45 59.6 +0.8
baz=328
250A **Grady** 89.00 44 P P 07 45 58.5 -0.5
W56A **Indian Trail** 89.13 39 P P 07 45 59.1 -0.5
baz=327
U59A **Littleton** 89.33 36 P P 07 45 59.7 -0.8
baz=328
W57A **Gilead** 89.38 38 P P 07 46 00.8 +0.1
baz=327
V59A **Middlesex** 89.64 37 P P 07 46 02.7 +0.8
baz=328
KEST **Kesra** 92.60 328 LR LR 08 32 32.6
comp=Z,390nm,18.1s,baz=334,slow=39
ESDC **Sonseca Array** 93.20 340 P P 07 46 17.9 -0.5
comp=Z,1.4nm,0.8s,baz=10,slow=3.9,SNR=8.6
ESDC LR LR 08 34 43.5
comp=Z,333nm,18.4s,baz=5.0,slow=40
TORD **Torodi Ar. Bea** 115.82 324 PKP PKiKP 07 51 45.7 -1.3
comp=Z,0.9nm,0.9s,baz=41,slow=3.6,SNR=3.0
VNDA **Vanda** 121.55 177 PKP PKiKP 07 51 57.4 +1.1
comp=Z,1.0nm,0.8s,baz=330,slow=4.0,SNR=6.7
MACA **Manacapuru-AM** 131.48 42 eP PKiKP 07 52 21.3 +3.3
AC05 **El Transito** 145.19 78 PKPdf 07 52 42.6 +0.8
GO04 **Tololo Observa** 145.60 80 PKPab 07 52 43.9 +0.8
BELA **Belgrano 2** 146.03 179 PKPab 07 52 43.0 0.0
SDBA **SAO DESIDERIO** 146.22 25 eP PKiKP 07 52 49.9 +1.9
BDFB **Brasilia** 148.14 33 PKPbc PKPbc 07 52 50.5 +0.3
comp=Z,8.0nm,0.8s,baz=242,slow=3.2,SNR=12
BDFB **Brasilia** 148.14 33 PKPbc 07 52 51.2 +0.9
PLCA **Paso Flores** 150.68 97 PKPbc PKiKP 07 52 56.5 0.0
comp=Z,2.7nm,0.9s,baz=252,slow=2.9,SNR=5.6
VNA2 **Neumayer--Watz** 150.68 195 PKPbc PKiKP 07 52 55.5 +0.1
VNA3 **Neumayer Olymp** 150.83 194 PKPbc PKiKP 07 52 55.8 0.0
VNA1 **Neumayer--Stat** 151.07 195 PKPbc PKiKP 07 52 57.0 +0.8
CPUP **Villa Florida** 152.23 59 PKPbc PKPbc 07 52 59.3 -0.4
comp=Z,2.8nm,1.0s,baz=93,slow=1.9,SNR=2.8
TIJ01 **Guaruva-PR** 156.17 44 eP PKPdf 07 53 05.1 +6.4
MAN01 **Angra dos Reis** 156.26 31 eP PKPdf 07 53 04.8 +5.9

*JMA **10** 07:37:17.9±0.7, 44.32N×149.35E, h30km, M4.6*
*SKHL **10** 07:37:17.5±0.4, 44.01N×149.40E, h35km±4km, mb4.8/6*
*MOS **10** 07:37:20.6±0.8, 44.18N×149.07E, h48km, mb4.7/7, Error ellipse: s-maj=13.0km s-min=9.2km az=28.3*
*IDC **10** 07:37:23.0±2.7, 44.27N×149.12E, h49km±24km, mb3.8/17, mb1 4.0/21,mb1mx3.8/57,mbtmp4.0/21,ML3.2/4, Error ellipse: s-maj=21.0km s-min=15.8km az=147.0*

*NEIC **10** 07:37:22.2±0.7, 44.20N±0.09×149.15E±0.08, h45km±8km, mb4.6/14, Error ellipse: s-maj=12.8km s-min=8.7km az=184.0*

ISC 10 07:37:18.6±1.1, **43.97N**±0.05×**149.25E**±0.06, **h26**km±7km, **n111**,σ1§**61**/122, **mb4.4**/25, **1C-1D**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.60**	**322**	*eP*	**Pn**	**07 37 44.4**	**-0.9**
KUR				AMB	AMB	07 37 45.0	
	828nm,0.7s						
KUR				AMB	AMB	07 37 50.0	
	2μm,1.5s						
KUR				*i* S	**Sn**	**07 38 04.5**	**-0.6**
KUR				A	A	07 38 06.0	
	2μm,0.7s						
KUR				A	A	07 38 06.0	
	2μm,0.7s						
KUR	**Kuril'sk**	**1.60**	**322**	*c iP*	**Pn**	**07 37 44.4**	**-0.9**
KUR				*i* S	**Sn**	**07 38 04.3**	**-0.8**
KUR				pmax	pmax		
	comp=Z,828nm,0.7s						
KUR				pmax	pmax		
	comp=E,278nm,0.3s						
KUR				pmax	pmax		
	comp=N,143nm,0.2s						
KUR				pmax	pmax		
	comp=Z,2μm,1.5s						
KUR				smax	smax		
	comp=E,2μm,0.7s						
KUR				smax	smax		
	comp=N,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**273**	*eP*	**Pn**	**07 37 56.9**	**0.0**
YUK				AMB	AMB	07 37 58.0	
	comp=N,290nm,0.6s						
YUK				*i* S	**Sn**	**07 38 26.0**	**+0.1**
YUK				A	A	07 38 33.0	
	comp=N,220nm,0.5s						
YUK				A	A	07 38 33.0	
	comp=N,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**273**	*e*PN	**Pn**	**07 37 56.7**	**-0.2**
YUK				*i* S	**Sn**	**07 38 26.4**	**+0.5**
YUK				pmax	pmax		
	comp=Z,290nm,0.6s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,220nm,0.3s						
GRPR	**Tuman**	**2.51**	**272**	*e*P	**Pn**	**07 37 57.9**	**+0.1**
GRPR				AMB	AMB	07 38 03.0	
	comp=N,290nm,0.3s						
GRPR				*e*S	**Sn**	**07 38 28.0**	**+0.4**
GRPR				A	A	07 38 38.0	
	comp=N,911nm,0.5s						
GRPR				A	A	07 38 38.0	
	comp=N,226nm,0.5s						
GRPR	**Tuman**	**2.51**	**272**	*e*PN	**Pn**	**07 37 57.6**	**-0.2**
GRPR				*e*S	**Sn**	**07 38 28.4**	**+0.8**
GRPR				pmax	pmax		
	comp=N,95nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,290nm,0.3s						
GRPR				pmax	pmax		
	comp=E,126nm,0.4s						
GRPR				smax	smax		
	comp=N,911nm,0.5s						
GRPR				smax	smax		
	comp=E,226nm,0.3s						
NEM2	**Nemuro 2**	**2.62**	**258**	P	**Pn**	**07 37 59.2**	**0.0**
NEM2				*e*S	**Sn**	**07 38 29.5**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.63**	**258**	*i* P	**Pn**	**07 37 59.0**	**-0.4**
NMR				*e*S	**Sn**	**07 38 30.5**	**+0.1**
NMR	**Nemuro--Hokkai**	**2.63**	**258**	‖ *i* PN	**Pn**	**07 37 59.3**	**-0.1**
NMR				*e*S	**Sn**	**07 38 31.2**	**+0.8**
GLVR	**Golovnino**	**2.71**	**266**	*e*P	**Pn**	**07 38 00.5**	**0.0**
GLVR				AMB	AMB	07 38 02.0	
	comp=E,390nm,0.4s						
GLVR				*e*S	**Sn**	**07 38 33.0**	**+0.6**
GLVR				A	A	07 38 43.0	
	comp=E,886nm,0.4s						
GLVR				A	A	07 38 43.0	
	comp=E,1μm,0.4s						
GLVR	**Golovnino**	**2.71**	**266**	*e*PN	**Pn**	**07 38 01.1**	**+0.6**
GLVR				*e*S	**Sn**	**07 38 33.6**	**+1.2**
GLVR				pmax	pmax		
	comp=Z,792nm,0.4s						
GLVR				smax	smax		
	comp=N,886nm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.4s						
JRA	**Rausu**	**2.98**	**271**	P	**Pn**	**07 38 06.1**	**+1.9**
JNK	**Nakash**	**3.31**	**265**	P	**Pn**	**07 38 09.3**	**+0.6**
JAK	**Akkeshi**	**3.46**	**255**	P	**Pn**	**07 38 11.1**	**+0.3**
JTKR	**Abashiri--Toko**	**3.86**	**272**	P	**Pn**	**07 38 17.7**	**+1.4**
JAR	**Ashorobuto**	**4.04**	**262**	P	**Pn**	**07 38 20.2**	**+1.4**
JAR				*e*S	**Sn**	**07 39 05.2**	**0.0**
JOB	**Onbets**	**4.09**	**257**	P	**Pn**	**07 38 20.3**	**+0.9**
JCH	**Churui**	**4.51**	**255**	P	**Pn**	**07 38 26.3**	**+1.1**
JKK2	**Kamakawa 2**	**4.70**	**271**	P	**Pn**	**07 38 30.3**	**+2.4**
JKA	**Kamikawa-asahi**	**4.80**	**274**	*e*P	**Pn**	**07 38 33.6**	**+4.4**
JKA	**Kamikawa-asahi**	**4.80**	**274**		**Pn**	**07 38 33.6**	**+4.4**
ASAJ	**Asahikawa**	**4.80**	**274**	P	**Pn**	**07 38 33.1**	**+3.9**
	comp=E,1.8nm,0.3s,baz=293,slow=15,SNR=1.4						
ASAJ	**Asahikawa**	**4.80**	**274**	PN	**Pn**	**07 38 33.6**	**+4.4**
JEM	**Erimo**	**4.88**	**248**	Pn	**Pn**	**07 38 32.9**	**+2.6**
ERM	**Erimo**	**4.88**	**248**	Pn	**Pn**	**07 38 32.8**	**+2.5**
ERM				Sn	**Sn**	**07 39 27.8**	**+1.8**
JFR	**Furan**	**4.91**	**263**	P	**Pn**	**07 38 32.7**	**+2.0**
JNBK	**Urakawa-nobuka**	**5.05**	**253**	P	**Pn**	**07 38 33.4**	**+0.8**
JNBK				*e*S	**Sn**	**07 39 29.7**	**-0.4**
JBT2	**Biratori 2**	**5.16**	**259**	P	**Pn**	**07 38 34.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**5.46**	**305**	*e*P	**Pn**	**07 38 38.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.46**	**305**	PN	**Pn**	**07 38 38.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.46**	**305**	Pn	**Pn**	**07 38 38.3**	**+0.1**
JNB	**Noboribetsu**	**6.19**	**259**	P	**Pn**	**07 38 49.7**	**+1.4**
JKB	**Kayabe**	**6.38**	**254**	P	**Pn**	**07 38 51.8**	**+0.8**
JKB				*e*S	**Sn**	**07 40 00.5**	**-2.5**
JYM2	**Yakumo 2**	**6.77**	**257**	P	**Pn**	**07 38 57.3**	**+1.1**
JANG	**Nango**	**6.78**	**241**	P	**Pn**	**07 38 55.8**	**-0.6**
JANG				*e*S	**Sn**	**07 40 06.9**	**-5.9**
JTH	**Tanohata**	**6.82**	**236**	*e*S	**Sn**	**07 40 07.6**	**-6.2**
JTM	**Tenmabayashi**	**6.84**	**245**	P	**Pn**	**07 38 57.7**	**+0.4**
JTM				*e*S	**Sn**	**07 40 09.8**	**-4.5**
JOSM	**Okushiri--Mats**	**7.41**	**259**	P	**Pn**	**07 39 06.8**	**+1.8**
OFUJ	**Ofunato**	**7.50**	**232**	*e*S	Sn	07 40 24.0	-6.5
JRG	**Rokugo**	**7.90**	**238**	*e*S	**Sn**	**07 40 37.2**	**-3.2**
JIO	**Ouri**	**8.11**	**230**	*e*S	Sn	07 40 37.9	-7.7
PEA0B	**Petropavlovsk-**	**10.71**	**28**	PN	**Pn**	**07 39 49.1**	**-1.2**
PEA0B	**Petropavlovsk-**	**10.71**	**28**	Pn	**Pn**	**07 39 49.1**	**-1.2**
PETK	**Petropavlovsk-**	**10.71**	**28**	P	**Pn**	**07 39 50.0**	**-0.3**
	comp=E,0.2nm,0.3s,baz=221,slow=11,SNR=5.8						
PETK	**Petropavlovsk-**	**10.71**	**28**	PN	**Pn**	**07 39 50.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**12.42**	**277**	P	**Pn**	**07 40 14.6**	**+0.9**
	baz=80,slow=13,SNR=4.4						
EKMR	**Ekimchan**	**14.10**	**316**	*e*P	**Pn**	**07 40 34.0**	**-2.5**
EKMR				AMB	AMB	07 40 52.2	
	comp=E,6.0nm,0.8s						
BMKR	**Bomnak**	**17.03**	**316**	*e*P	**Pn**	**07 41 12.0**	**-2.8**
BMKR				AMB	AMB	07 41 17.7	
	comp=E,6.0nm,0.5s						
SEY	**Seymchan**	**19.08**	**4**	P	**P**	**07 41 36.8**	**-2.2**
	comp=E,0.2nm,0.3s,baz=190,slow=15,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.32**	**143**	T	T	08 14 18.7	
	baz=332						
H11N1	**WAKE ISLAND Hy**	**28.33**	**143**	T	T	08 14 20.6	
	baz=332						
H11N3	**WAKE ISLAND Hy**	**28.34**	**143**	T	T	08 14 20.7	
	baz=332						
H11S1	**WAKE ISLAND Hy**	**29.32**	**144**	T	T	08 15 36.9	
	baz=338						
H11S3	**WAKE ISLAND Hy**	**29.33**	**145**	T	T	08 15 28.0	
	baz=338						
H11S2	**WAKE ISLAND Hy**	**29.34**	**144**	T	T	08 15 27.5	
	baz=338						
SONM	**Songino Array**	**29.79**	**293**	P	**P**	**07 43 22.9**	**-0.3**
	comp=E,2.4nm,0.7s,baz=69,slow=8.4,SNR=3.6						
ILAR	**Eielson Array**	**40.41**	**36**	P	**P**	**07 44 54.3**	**+0.1**
	comp=E,0.9nm,0.9s,baz=266,slow=7.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.08**	**307**	P	**P**	**07 45 07.0**	**-1.0**
	comp=E,0.4nm,0.5s,baz=83,slow=12,SNR=1.5						
ZALV				PcP	**PcP**	**07 47 03.0**	**+0.6**
	comp=E,2.0nm,0.7s,baz=64,slow=3.8,SNR=4.7						
MK31	**Makanchi Array**	**45.82**	**298**	P	**P**	**07 45 38.2**	**-0.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						

MK31	**Makanchi Array**	**45.82 298**	P	**P**	**07 45 38.2**	**-0.1**
MKAR	**Makanchi Array**	**45.82 298**	P	**P**	**07 45 38.0**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=75,slow=8.1,SNR=13					
MKAR	**Makanchi Array**	**45.82 298**	*e*P	**P**	**07 45 38.3**	**0.0**
MKAR	**Makanchi Array**	**45.82 298**	P	**P**	**07 45 38.3**	**0.0**
MKAR	**Makanchi Array**	**45.82 298**	P	**P**	**07 45 38.3**	**0.0**
MAKZ	**Makanchi**	**46.02 298**	P	**P**	**07 45 39.7**	**-0.1**
MAKZ			pmax	pmax		
	comp=Z,5.0nm,0.9s					
MAKZ	**Makanchi**	**46.02 298**	P	**P**	**07 45 39.7**	**-0.1**
MAKZ			IAmb	IAmb	07 45 40.5	
	comp=Z,5.2nm,0.9s					
CMAR	**Chiang Mai Arr**	**49.05 255**	P	**P**	**07 46 05.3**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=52,slow=8.1,SNR=2.0					
CMAR	**Chiang Mai Arr**	**49.05 255**	P	**P**	**07 46 04.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**49.05 255**	P	**P**	**07 46 04.3**	**+0.7**
BOOM	**Boomskoye usch**	**51.76 296**	P	**P**	**07 46 24.2**	**+0.2**
BOOM			pmax	pmax		
	comp=Z,12nm,1.1s					
BOOM	**Boomskoye usch**	**51.76 296**	P	**P**	**07 46 24.2**	**+0.2**
RES	**Resolute Bay**	**54.31 17**	P	**P**	**07 46 42.4**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=343,slow=9.1,SNR=6.7					
RES	**Resolute Bay**	**54.31 17**	P	**P**	**07 46 42.1**	**-0.1**
RES			IAmb	IAmb	07 46 45.9	
	comp=Z,9.8nm,1.2s					
KK04	**Karatay Array**	**54.95 299**	P	**P**	**07 46 46.5**	**-0.8**
KK31	**Karatay Array**	**54.95 299**	P	**P**	**07 46 46.8**	**-0.5**
KK31			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KK31	**Karatay Array**	**54.95 299**	P	**P**	**07 46 46.8**	**-0.5**
KK31			IAmb	IAmb	07 46 48.1	
	comp=Z,6.8nm,1.0s					
KKAR	**Karatay Array**	**54.95 299**	P	**P**	**07 46 46.9**	**-0.4**
KKAR			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KKAR	**Karatay Array**	**54.95 299**	P	**P**	**07 46 47.1**	**-0.2**
KKAR			IAmb	IAmb	07 46 48.1	
	comp=Z,6.8nm,1.0s					
KKAR	**Karatay Array**	**54.95 299**	P	**P**	**07 46 46.9**	**-0.4**
ABKAR	**Akbulak array**	**58.10 309**	P	**P**	**07 47 09.2**	**-0.4**
ABKAR			IAmb	IAmb	07 47 10.1	
	comp=Z,4.0nm,0.7s					
AB04	**Akbulak array**	**58.10 309**	P	**P**	**07 47 09.2**	**-0.4**
ARCES	**ARCESS Array B**	**59.56 340**	P	**P**	**07 47 19.1**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=49,slow=11,SNR=1.2					
WRA	**Warramunga Arr**	**65.05 195**	P	**P**	**07 47 58.5**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=13,slow=6.8,SNR=4.8					
WRA	**Warramunga Arr**	**65.05 195**	P	**P**	**07 47 59.2**	**+2.4**
FINES	**FINESS Array B**	**65.36 334**	P	**P**	**07 47 57.1**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=37,slow=7.4,SNR=13					
FINES	**FINESS Array B**	**65.36 334**	P	**P**	**07 47 57.3**	**-0.9**
FINES	**FINESS Array B**	**65.36 334**	P	**P**	**07 47 57.3**	**-0.9**
NVAR	**Mina Array Bea**	**66.17 59**	P	**P**	**07 48 05.6**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=300,slow=7.1,SNR=2.9					
PDAR	**Pinedale Array**	**68.60 51**	P	**P**	**07 48 20.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=290,slow=2.7,SNR=2.9					
ASAR	**Alice Springs**	**68.76 195**	P	**P**	**07 48 24.3**	**+4.0**
	comp=Z,0.4nm,0.8s,baz=6.1,slow=6.0,SNR=1.8					
NB2	**NORSAR Subarra**	**69.93 340**	P	**P**	**07 48 26.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=30,slow=6.5					
NOA	**NORSAR Array B**	**69.93 340**	P	**P**	**07 48 27.0**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=31,slow=6.6,SNR=12					
KBZ	**Khabaz**	**70.78 313**	P	**P**	**07 48 32.6**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=29,slow=5.4,SNR=4.1					
AKASG	**Malin Array Be**	**72.29 325**	P	**P**	**07 48 40.8**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=38,slow=6.4,SNR=6.9					
AKASG	**Malin Array Be**	**72.29 325**	P	**P**	**07 48 41.0**	**-0.5**
AKASG			pmax	pmax		
	comp=Z,2.0nm,1.2s					
AKASG	**Malin Array Be**	**72.29 325**	P	**P**	**07 48 41.0**	**-0.5**
AKBB	**Malin Array Si**	**72.29 325**	P	**P**	**07 48 41.2**	**-0.3**
AKBB			pmax	pmax		
	comp=Z,11nm,1.2s					
AKBB	**Malin Array Si**	**72.29 325**	P	**P**	**07 48 41.2**	**-0.3**
SDCO	**Great Sand Dun**	**74.26 53**	P	**P**	**07 48 53.6**	**-0.3**
SDCO			IAmb	IAmb	07 49 03.6	
	comp=Z,13nm,1.4s					
BURAR	**Bucovina Array**	**76.34 325**	P	**P**	**07 49 05.2**	**-0.2**
CLL	**Collm**	**77.81 334**	*e*P	**P**	**07 49 14.0**	**+0.6**
CLL			*i* PcP	**sP**	**07 49 22.8**	**+0.6**
KHC	**Kasperske Hory**	**79.49 332**	*e*P	**P**	**07 49 22.0**	**-0.7**
KHC	**Kasperske Hory**	**79.49 332**	*e*P	**P**	**07 49 22.0**	**-0.7**
KHC	**Kasperske Hory**	**79.49 332**	P	**P**	**07 49 22.9**	**+0.2**
GERES	**GERESS Array B**	**79.69 332**	P	**P**	**07 49 23.9**	**0.0**
	comp=Z,1.5nm,0.6s,baz=31,slow=6.2,SNR=5.8					
GERES	**GERESS Array B**	**79.69 332**	P	**P**	**07 49 23.6**	**-0.4**
TX31	**Lajitas Ar. Si**	**81.25 58**	P	**P**	**07 49 33.8**	**+1.1**
TX32	**Lajitas Array**	**81.25 58**	P	**P**	**07 49 33.7**	**+1.1**
TXAR	**Lajitas Array**	**81.25 58**	P	**P**	**07 49 33.9**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=296,slow=4.0,SNR=10					
TXAR	**Lajitas Array**	**81.25 58**	P	**P**	**07 49 33.3**	**+0.7**
TXAR	**Lajitas Array**	**81.25 58**	P	**P**	**07 49 33.3**	**+0.7**

HEL 10 07:59:31.3±0.1, 63°13N×21°71E, h0km, ML1.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.45**	**101**	PG	Pg	07 59 38.9	-0.9
	baz=279						
VAF				SG	Sg	07 59 44.6	-1.0
UMAU	**Umeaa**	**0.89**	**329**	PG	Pg	07 59 47.3	-1.0
UMAU				SB	Sg	07 59 58.7	-1.0
HUSU	**Husum**	**1.15**	**282**	SN	Sn	08 00 15.1	+4.1
BURU	**Burvik**	**1.47**	**354**	PN	Pn	07 59 58.3	-0.7
	baz=173						
BURU				SG	Sg	08 00 16.5	-1.8
HEMU	**Hemsoen**	**1.74**	**256**	PG	Pn	08 00 02.5	-0.3
HEMU				SN	Sg	08 00 27.0	-0.2
KEF	**Keuruu**	**1.75**	**122**	PG	Pn	08 00 02.7	-0.1
KEF				MSG		08 00 23.4	
	comp=Z,4.9nm,0.2s						
KEF				SG	Sn	08 00 25.9	+0.1
OBF0	**Syolatti, Pyha**	**1.77**	**38**	PG	Pn	08 00 03.3	+0.2
OBF0				SN	Sn	08 00 26.8	+0.5
OUF	**Merijarvi**	**1.83**	**46**	PG	Pn	08 00 03.6	-0.3
OUF				MSG		08 00 25.7	
	comp=Z,5.4nm,0.2s						
OUF				SN	Sn	08 00 28.0	+0.3
SUF	**Sumiainen**	**2.07**	**100**	PG	Pn	08 00 07.8	+0.5
	baz=282						
SUF				MSG		08 00 32.7	
	comp=Z,5.1nm,0.2s						
SUF				SG	Sb	08 00 35.0	-1.0
RAF	**Rauma**	**2.12**	**179**	PG	Pn	08 00 08.9	+1.1
RAF				MSG		08 00 34.0	
	comp=Z,5.4nm,0.2s						
RAF				SG	Sb	08 00 36.5	-0.7
KAF	**Kangasniemi**	**2.36**	**114**	SG	Sb	08 00 43.4	-0.7
FIA0	**FINESS Array S**	**2.65**	**128**	PG	Pb	08 00 19.5	-0.1
	baz=316						
FIA0				SG	Sb	08 00 51.0	-1.6
KALU	**Kalix**	**2.83**	**14**	SN	Sn	08 00 52.4	0.0
AAL	**Aland**	**3.08**	**196**	SG	Sb	08 01 04.7	-0.1
TOF	**Tornio**	**3.17**	**20**	SN	Sn	08 01 00.2	-0.5
TOF				MSG		08 01 04.3	
	comp=Z,1.3nm,0.2s						
ERTU	**Ertsjaerv**	**3.44**	**3**	SN	Sn	08 01 06.4	-1.1
RNF	**Rovaniemi**	**3.94**	**26**	SG	Sg	08 01 34.2	-3.6

HEL 10 08:01:06.3±0.4, 64°75N×30°57E, h0km, ML1.8, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.31**	**348**	SN	Pg	08 01 29.5	-1.9
KU6	**Riekki**	**1.31**	**348**	PG	Pg	08 01 29.5	-1.9
	baz=165						
KU6				MSG		08 01 46.0	
	comp=Z,3.4nm,0.2s						
KU6				SB	Sg	08 01 47.1	-1.2
MSF	**Maaselka**	**1.33**	**332**	PG	Pg	08 01 30.3	-1.5
	baz=151						
MSF				SN	Sg	08 01 49.2	+0.2
OUL	**Oulu**	**2.02**	**282**	PG	Pn	08 01 42.3	+0.8
	baz=93						
OUL				SG	Sb	08 02 09.0	-0.5
OUF	**Merijarvi**	**2.55**	**264**	PG	Pn	08 01 50.4	+1.6
	baz=77						
OUF				MSG		08 02 21.4	
	comp=Z,15nm,0.2s						
OUF				SG	Sb	08 02 24.3	-0.4
RNF	**Rovaniemi**	**2.65**	**317**	PB	Pb	08 01 52.5	-2.1
	baz=135						
RNF				SG	Sb	08 02 26.7	-1.0
OBF0	**Syolatti, Pyha**	**2.74**	**268**	SG	Sb	08 02 30.6	+0.5
SUF	**Sumiainen**	**2.83**	**226**	PB	Pn	08 01 55.1	+2.4
SUF				MSG		08 02 29.7	
	comp=Z,4.3nm,0.2s						
SUF				SB	Sb	08 02 30.4	-2.5
TOF	**Tornio**	**2.93**	**300**	MSG		08 02 32.3	
	comp=Z,2.2nm,0.2s						
TOF				SB	Sb	08 02 33.4	-2.3
VRF	**Varrio**	**3.04**	**353**	PB	Pn	08 01 56.2	+0.7
VRF				MSG		08 02 35.4	
	comp=Z,1.3nm,0.2s						
SGF	**Sodankyl**	**3.17**	**330**	PB	Pb	08 02 00.5	-2.8
KALU	**Kalix**	**3.23**	**293**	PG	Pb	08 02 04.2	-0.1
	baz=103						
KEF	**Keuruu**	**3.64**	**227**	SN	Sn	08 02 48.4	+0.9
VAF	**Ylistaro**	**3.89**	**247**	PG	Pb	08 02 16.2	+0.5
VAF				SG	Sg	08 03 07.8	-3.3
FIA0	**FINESS Array S**	**3.90**	**214**	SG	Sb	08 03 05.7	+2.3
ERTU	**Ertsjaerv**	**3.91**	**301**	PG	Pb	08 02 16.4	+0.3
	baz=115						
UMAU	**Umeaa**	**4.39**	**263**	SG	Sg	08 03 24.0	-3.2
VJF	**Virojoki**	**4.45**	**200**	SG	Sb	08 03 23.0	+3.7

WEL 10 08:10:11.2±1.9, 31°S±16°×177°8E±2°1, h200km±58km, M4.3/14, mB4.1/3, MLv4.4/14, Mw(mB)3.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=63.5, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**5.42**	**220**	P	Pn	08 11 29.4	-1.5
MXZ	**Matakaoa Point**	**6.44**	**177**	P	Pn	08 11 44.3	+0.3
HAZ	**Te Kaha**	**6.62**	**180**	P	Pn	08 11 47.4	+1.0
HAZ				S	S	08 13 04.3	+2.6
WMGZ	**Waiomatatini S**	**6.70**	**176**	P	Pn	08 11 47.6	+0.2
WMGZ				S	S	08 13 00.2	-3.3
RUGZ	**Raukumara Rang**	**6.83**	**181**	P	Pn	08 11 50.3	+1.1
RUGZ				S	S	08 13 08.0	+1.2
PUZ	**Puketiti**	**6.94**	**177**	P	Pn	08 11 52.0	+1.4
PUZ				S	S	08 13 09.7	+0.3
URZ	**Urewera**	**7.15**	**185**	P	Pn	08 11 52.3	-0.9
URZ				S	S	08 13 17.1	+2.9
MWZ	**Matawai**	**7.20**	**182**	P	Pn	08 11 53.5	-0.4
MWZ				S	S	08 13 16.4	+0.9
RAGZ	**Rawiri**	**7.37**	**183**	P	Pn	08 11 56.5	+0.3
RTZ	**Ruatahuna**	**7.51**	**185**	P	Pn	08 11 58.2	+0.2
RTZ				S	S	08 13 23.6	+0.7
RIGZ	**Rimuhau**	**7.57**	**180**	P	Pn	08 11 57.9	-0.9
RIGZ				S	S	08 13 24.4	-1.8
MRHZ	**Matea Rd**	**7.78**	**188**	P	Pn	08 12 02.4	+0.8
NMHZ	**Naumai**	**8.00**	**186**	P	Pn	08 12 04.6	+0.2
BKZ	**Black Stump Fm**	**8.10**	**187**	P	Pn	08 12 05.2	-0.5
OTVZ	**Oturere**	**8.22**	**192**	P	Pn	08 12 09.2	+1.9
KWHZ	**Kaweka Forest**	**8.37**	**188**	P	Pn	08 12 08.7	-0.4
KRHZ	**Kereru**	**8.59**	**188**	P	Pn	08 12 10.4	-1.6
KAHZ	**Kahuranaki**	**8.69**	**185**	P	Pn	08 12 11.3	-2.1

*IDC **10** 08:21:56.1±1.6, 39°.28N×142°.88E, h0km, mb4.1/6, mb1 4.0/9, mb1mx3.7/37, mbtmp3.9/9, ML2.8/3, Error ellipse: s-maj=45.3km s-min=20.5km az=68.0*
*NEIC **10** 08:22:07.1±0.7, 39°.03N±0°.05×142°.1E±0°.1, h65km±9km, mb4.6/11, Error ellipse: s-maj=15.5km s-min=7.6km az=100.0*
*JMA **10** 08:22:09.9, 38°.94N×141°.63E, h74km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs=59.00000°, δ26.00000°, λ121.00000°. NP2: ϕs=206.00000°, δ68.00000°, λ76.00000°. Principal axes: T Plg64.0000°, Azm93.0000°; N Plg13.0000°, Azm211.0000°; P Plg22.0000°, Azm306.0000°;*
JMA Felt II J1.

ISC 10 08:22:08.1±0.8, 38°.93N±0°.04×141°.87E±0°.07, h75km±6km, n52, σ1°31/59, mb4.3/11, 9C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.22**	**313**	⇑P	**Pn**	**08 22 20.8**	**+1.4**
OFUJ				S	**Sn**	**08 22 28.5**	**+0.8**
JKMT	**Kesennumamotoy**	**0.34**	**249**	⇑P	**Pn**	**08 22 20.9**	**+0.9**
JKMT				S	**Sn**	**08 22 28.7**	**-0.1**
JMK	**Ichinoseki**	**0.51**	**273**	⇑P	**Pn**	**08 22 21.5**	**+0.1**
JMK				S	**Sn**	**08 22 30.0**	**-1.3**
JIO	**Ouri**	**0.63**	**221**	⇑P	**Pn**	**08 22 23.2**	**+0.6**
JIO				*i* S	**Sn**	**08 22 32.8**	**-0.5**
JOM	**Ohasama**	**0.70**	**320**	⇑P	**Pn**	**08 22 24.0**	**+0.6**
JOM				S	**Sn**	**08 22 34.4**	**-0.4**
JRG	**Rokugo**	**1.07**	**296**	⇑P	**Pn**	**08 22 27.5**	**-0.2**
JRG				S	**Sn**	**08 22 40.7**	**-1.7**
JOU	**Okura**	**1.10**	**240**	⇑P	**Pn**	**08 22 28.1**	**0.0**
JOU				S	**Sn**	**08 22 41.8**	**-1.3**
JYK	**Kaneyama**	**1.18**	**270**	⇑P	**Pn**	**08 22 28.7**	**-0.4**
JYK				*e*S	**Sn**	**08 22 43.0**	**-1.8**
JMM	**Marumori**	**1.36**	**219**	P	**Pn**	**08 22 31.4**	**0.0**
JMM				S	**Sn**	**08 22 47.3**	**-1.6**
JMM	**Marumori**	**1.36**	**219**		**Pn**	**08 22 32.1**	**+0.7**
JANG	**Nango**	**1.47**	**349**	P	**Pn**	**08 22 33.8**	**+1.0**
JANG				S	**Sn**	**08 22 51.8**	**+0.4**
JAH	**Hinai**	**1.58**	**323**	⇓P	**Pn**	**08 22 35.1**	**+0.9**
JAH				*e*S	**Sn**	**08 22 54.8**	**+0.8**
JYS	**Shirataka**	**1.58**	**244**	⇑P	**Pn**	**08 22 34.5**	**+0.2**
JYS				S	**Sn**	**08 22 53.0**	**-1.2**
JYA	**Atsumi**	**1.72**	**259**	P	**Pn**	**08 22 35.8**	**-0.3**
JYA				*e*S	**Sn**	**08 22 55.6**	**-1.8**
JTM	**Tenmabayashi**	**1.96**	**342**		**Pn**	**08 22 40.8**	**+1.5**
JSD	**Sado**	**2.97**	**254**	Pn	**Pn**	**08 22 53.1**	**+0.2**
JYT	**Yasato**	**3.01**	**207**	Pn	**Pn**	**08 22 53.8**	**+0.3**
ERM	**Erimo**	**3.23**	**17**	Pn	**Pn**	**08 22 53.3**	**-3.1**
MAJO	**Matsushiro**	**3.76**	**232**		**Pn**	**08 23 05.1**	**+1.4**
MAT	**Matsushiro**	**3.76**	**232**	P	**Pn**	**08 23 04.9**	**+1.2**
MAT				*e*S	**Sn**	**08 23 46.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.76**	**232**	Pn	**Pn**	**08 23 06.0**	**+2.3**
	0.2nm,0.3s,baz=38,slow=10,SNR=9.3						
MJAR	**Matsushiro Arr**	**3.76**	**232**		**Pn**	**08 23 05.8**	**+2.1**
JGF	**Kuroka**	**4.90**	**229**	Pn	**Pn**	**08 23 22.3**	**+3.0**
JWT	**Wachi**	**5.33**	**237**	Pn	**Pn**	**08 23 42.3**	**+3.6**
USRK	**Ussuriysk Ar.**	**9.09**	**309**	Pn	**Pn**	**08 24 16.2**	**-0.1**
	baz=121,slow=14,SNR=4.9						
KSRS	**Korea Array**	**11.08**	**267**	Pn	Pn	08 24 48.9	+5.4
	0.2nm,0.3s,baz=84,slow=14,SNR=2.0						
PEA0B	**Petropavlovsk-**	**17.88**	**32**		**Pn**	**08 26 08.0**	**-3.5**
PEA0B				IAmb	IAmb	08 26 34.6	
	comp=Z,36nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	08 58 34.9	
	baz=317,slow=76,SNR=264						
H11N1	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	08 58 35.2	
	baz=317,slow=76,SNR=337						
H11N3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	08 58 35.7	
	baz=317,slow=76,SNR=230						
H11S1	**WAKE ISLAND Hy**	**29.64**	**126**	T	T	08 59 33.1	
	baz=318,slow=76,SNR=126						
H11S3	**WAKE ISLAND Hy**	**29.64**	**126**	T	T	08 59 25.1	
	baz=318,slow=76,SNR=120						
H11S2	**WAKE ISLAND Hy**	**29.65**	**126**	T	T	08 59 32.7	
	baz=318,slow=76,SNR=121						
TNTI	**Ternate**	**40.23**	**203**	P	**P**	**08 29 38.8**	**+1.3**
ZALV	**Zalesovo Beam**	**40.93**	**311**	P	**P**	**08 29 43.2**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=90,slow=7.4,SNR=3.7						
MK31	**Makanchi Array**	**43.45**	**301**	P	**P**	**08 30 04.0**	**+0.6**
MKAR	**Makanchi Array**	**43.45**	**301**	P	**P**	**08 30 03.6**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=85,slow=10,SNR=16						
MKAR	**Makanchi Array**	**43.45**	**301**	P	**P**	**08 30 04.1**	**+0.7**
KURK	**Kurchatov**	**45.07**	**307**	P	**P**	**08 30 16.7**	**+0.4**
KURBB	**Kurchatov Arra**	**45.14**	**307**	P	**P**	**08 30 16.7**	**-0.2**
	comp=Z,3.9nm,0.2s,baz=82,slow=8.0,SNR=9.2						
SML	**Sawmill**	**47.26**	**37**	P	**P**	**08 30 32.8**	**-0.6**
TGL	**Tana Glacier**	**50.03**	**38**	P	**P**	**08 30 53.5**	**-1.2**
TGL				IAmb	IAmb	08 31 01.6	
	comp=Z,27nm,1.3s						
KK31	**Karatay Array**	**52.51**	**299**	P	**P**	**08 31 13.7**	**+0.2**
KK31				IAmb	IAmb	08 31 39.0	
	comp=Z,2.3nm,0.8s						
KKAR	**Karatay Array**	**52.51**	**299**	P	**P**	**08 31 13.9**	**+0.5**
KKAR				IAmb	IAmb	08 31 39.0	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**57.01**	**309**	P	**P**	**08 31 46.0**	**+0.2**
WR0	**Warramunga Arr**	**58.98**	**188**	P	**P**	**08 32 00.8**	**+1.0**
WR0				IAmb	IAmb	08 32 16.2	
	comp=Z,6.1nm,1.4s						
WRA	**Warramunga Arr**	**58.99**	**188**	P	**P**	**08 32 00.7**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=6.0,slow=7.4,SNR=31						
WRA	**Warramunga Arr**	**58.99**	**188**	P	**P**	**08 32 00.8**	**+0.9**
LVZ	**Lovozero**	**60.53**	**335**	P	**P**	**08 32 10.1**	**+0.1**
LVZ				IAmb	IAmb	08 32 19.7	
	comp=Z,16nm,1.0s						
ASAR	**Alice Springs**	**62.71**	**188**	P	**P**	**08 32 26.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=360,slow=4.5,SNR=5.8						
ASAR	**Alice Springs**	**62.71**	**188**	P	**P**	**08 32 25.5**	**+0.4**
FINES	**FINESS Array B**	**67.31**	**332**	P	**P**	**08 32 53.4**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=35,slow=5.1,SNR=1.6						

IDC 10 08:54:56.1±2.1, 54°.50N×83°.59E, h0km, mb1 2.6/2, mb1mx2.6/43, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=18.2km s-min=11.2km az=161.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**127**	*i*		09 00 19.6	
	baz=308,slow=326,SNR=0.8						
ZALV	**Zalesovo Beam**	**0.91**	**127**	Pg	Pg	08 55 13.0	-0.5
	2.2nm,0.3s,baz=309,slow=16,SNR=17						
ZALV				Lg	Lg	08 55 26.9	
	2.7nm,0.3s,baz=307,slow=31,SNR=6.5						
KURBB	**Kurchatov Arra**	**4.96**	**220**	Pn	Pn	08 56 11.9	+0.1
	0.1nm,0.3s,baz=39,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**7.76**	**187**	Pn	Pn	08 56 50.7	+0.4
	0.2nm,0.3s,baz=16,slow=13,SNR=8.3						

KRNET 10 08:55:59.1±0.1, 41°.01N×78°.56E, h12km, mb2.2, 8C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.92**	**322**	⇓*e*P	Pg	08 56 16.6	-0.3
	baz=22						
TARG				⇓*i*S	Sb	08 56 29.6	0.0
	baz=22						
KDJ	**Kajisay**	**1.53**	**318**	⇓*i*P	Pg	08 56 28.1	-0.3
	baz=18						
KDJ				⇓*i*S	Sg	08 56 49.0	+0.7
	baz=18						
ANVS	**Anan'yevo**	**1.90**	**340**	⇑*i*P	Pg	08 56 34.7	-0.8
	baz=40						
ANVS				⇑*i*S	Sg	08 57 00.3	+0.2
	baz=40						
ULHL	**Ulahol**	**2.13**	**306**	⇑*e*P	Pb	08 56 37.7	-0.1
	baz=6.0						
ULHL				⇑*i*S	Sg	08 57 06.1	-1.6
	baz=6.0						
BOOM	**Boomskoye usch**	**2.46**	**308**	⇑*i*P	Pb	08 56 42.8	-0.5
	baz=8.0						
BOOM				⇑*i*S	Sb	08 57 13.9	+0.3
	baz=8.0						
ARLS	**Aral**	**3.29**	**286**	⇑*i*P	Pn	08 56 54.1	+3.4
	baz=87						
ARLS				⇑*i*S	Sb	08 57 34.5	-3.2
	baz=87						

*IDC **10** 08:59:44.3±3.4, 53°.63N×88°.05E, h0km, mb1 3.1/2, mb1mx3.0/47, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=34.4km s-min=19.5km az=83.0*
*NNC **10** 08:59:46.5±2.4, 53°.51N×87°.72E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=23.8km s-min=11.7km az=47.0, Suspected Mining explosion.*

ISC 10 08:59:45.1±3.5, 53°.6N±0°.1×87°.8E±0°.2, h0km, n8, σ1°90/11, 9C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**282**	*i*		09 12 20.0	
	baz=97,slow=330,SNR=2.8						
ZAA0	**Zalesovo Array**	**1.82**	**282**	⇑P	**Pn**	**09 00 17.8**	**+0.2**
	1.6nm,0.8s						
ZAA0				⇑S	**Sb**	**09 00 42.5**	**-0.1**
	1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**1.82**	**282**	Pn	**Pb**	**09 00 18.2**	**-1.1**
	2.7nm,0.3s,baz=99,slow=16,SNR=17						
ZALV				Sn	**Sg**	**09 00 44.8**	**+1.2**
	4.6nm,0.3s,baz=104,slow=24,SNR=14						
KURK	**Kurchatov**	**6.37**	**247**	⇑Pn	**Pn**	**09 01 21.9**	**+1.8**
	1.2nm,0.6s						
KURK				⇑Lg	Lg	09 03 05.5	
	3.4nm,0.9s						
KURBB	**Kurchatov Arra**	**6.46**	**246**	Pn	**Pn**	**09 01 22.5**	**+1.1**
	0.2nm,0.3s,baz=62,slow=14,SNR=5.6						
KURBB				Lg	Lg	09 03 12.6	
	0.2nm,0.3s,baz=65,slow=33,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.46**	**246**	⇑Pn	**Pn**	**09 01 22.4**	**+1.1**
	1.7nm,0.4s						
KURBB				⇑Lg	Lg	09 03 07.4	
	6.0nm,0.7s						
MK31	**Makanchi Array**	**7.69**	**210**	⇑Pn	**Pn**	**09 01 39.1**	**+0.8**
	0.1nm,0.3s,baz=32,slow=13,SNR=5.2						
MK31				⇑Sn	**Sn**	**09 03 02.1**	**-4.0**
	0.6nm,0.7s,baz=32,slow=30,SNR=3.6						
MK31			

SESP	**Santiago Espad**	**4.78**	**290**	P	**Pn**	**09 03 55.9**	**+1.3**
ERTA	**Horta de San J**	**4.88**	**334**	S	**Sn**	**09 04 51.0**	**-0.8**
	6.1nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.02**	**342**	S	**Sn**	**09 04 54.1**	**-1.2**
	1.1nm,0.2s,SNR=7.9						
EALB	**Alboran**	**5.03**	**264**	S	**Sn**	**09 04 52.6**	**-2.9**
	4.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.10**	**286**	P	**Pn**	**09 04 01.3**	**+2.4**
	2.6nm,0.2s,SNR=5.1						
JBK	**JBK**	**5.17**	**246**	P	**Pn**	**09 03 59.3**	**-0.7**
CFON	**Fontmartina**	**5.19**	**354**	P	**Pn**	**09 04 02.6**	**+2.4**
	3.2nm,0.2s						
CFON				S	**Sn**	**09 04 58.3**	**-1.3**
	4.2nm,0.2s,SNR=6.4						
EMIR	**Miracle**	**5.46**	**347**	P	**Pn**	**09 04 07.5**	**+3.7**
	5.9nm,0.1s,SNR=7.9						
EMIR				S	**Sn**	**09 05 06.0**	**-0.3**
	6.6nm,0.4s,SNR=7.9						
TDRA	**Tendrara**	**5.53**	**232**	P	**Pn**	**09 04 05.7**	**+0.7**
TDRA				Lg	Lg	09 05 39.1	
EJON	**La Jonquera**	**5.85**	**358**	P	**Pn**	**09 04 12.6**	**+3.4**
	3.3nm,0.3s,SNR=7.9						
ETOR	**Torete**	**5.86**	**318**	P	Pn	09 04 14.7	+5.4
	5.7nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**5.89**	**358**	P	**Pn**	**09 04 12.9**	**+3.2**
	2.2nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**5.95**	**352**	P	**Pn**	**09 04 14.6**	**+4.0**
	2.8nm,0.4s,SNR=7.9						
CLLI				S	**Sn**	**09 05 18.8**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
CSOR	**Sort**	**5.98**	**346**	P	**Pn**	**09 04 14.5**	**+3.4**
	2.2nm,0.3s,SNR=8.1						
CSOR				S	**Sn**	**09 05 19.6**	**+0.4**
	4.4nm,0.5s						
EPF	**Esparros**	**6.78**	**342**	*e*P	**Pn**	**09 04 25.8**	**+3.8**
EPF				*e*Sn	**Sn**	**09 05 30.4**	**-8.4**
	3.9nm,0.3s						
EPF	**Esparros**	**6.78**	**342**	P	**Pn**	**09 04 25.8**	**+3.8**
EPF				S	**Sn**	**09 05 30.4**	**-8.4**
	1.9nm,0.3s						
ETSF	**Etsaut**	**6.91**	**337**	*e*Pn	**Pn**	**09 04 22.2**	**-1.6**
ETSF				*e*Sn	Sn	09 05 32.9	-9.1
	3.2nm,0.5s						
ETSF	**Etsaut**	**6.91**	**337**	P	**Pn**	**09 04 22.2**	**-1.6**
ETSF				S	Sn	09 05 32.9	-9.1
	1.6nm,0.5s						
ECAB	**El Cabril**	**6.97**	**285**	P	**Pn**	**09 04 24.5**	**-0.1**
	0.5nm,0.3s,SNR=7.9						
ATE	**Arette**	**7.13**	**337**	S	**Sn**	**09 05 46.3**	**-0.9**
	2.9nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**7.22**	**20**	*e*Pn	**Pn**	**09 04 28.9**	**+1.0**
LMR				*e*Sn	**Sn**	**09 05 44.0**	**-5.3**
	3.4nm,0.3s						
LMR	**La Mourre**	**7.22**	**20**	P	**Pn**	**09 04 28.9**	**+1.0**
LMR				S	**Sn**	**09 05 44.0**	**-5.3**
	1.7nm,0.3s						
MDT	**Midelt**	**7.41**	**242**	P	**Pn**	**09 04 27.8**	**-2.8**
MDT				Lg	Lg	09 06 38.3	
FRF	**La Foret Royal**	**7.46**	**20**	*e*Pn	**Pn**	**09 04 32.5**	**+1.2**
FRF				*e*Sn	**Sn**	**09 05 50.0**	**-5.4**
	5.8nm,0.4s						
FRF	**La Foret Royal**	**7.46**	**20**	P	**Pn**	**09 04 32.5**	**+1.2**
FRF				S	**Sn**	**09 05 50.0**	**-5.4**
	2.9nm,0.4s						
PGF	**Pioggiola**	**7.48**	**35**	*e*Pn	**Pn**	**09 04 33.1**	**+1.6**
PGF				*e*Sn	**Sn**	**09 05 52.2**	**-3.7**
	3.0nm,0.3s						
PGF	**Pioggiola**	**7.48**	**35**	P	**Pn**	**09 04 33.1**	**+1.6**
PGF				S	**Sn**	**09 05 52.2**	**-3.7**
	1.5nm,0.3s						
MD31	**MD31**	**7.49**	**243**	P	**Pn**	**09 04 32.6**	**+0.9**
MD31				Lg	Lg	09 06 34.3	
SMRF	**Simiane la Rot**	**7.61**	**13**	*e*Pn	**Pn**	**09 04 33.6**	**+0.3**
SMRF	**Simiane la Rot**	**7.61**	**13**	P	**Pn**	**09 04 33.6**	**+0.3**
VIVF	**Saint-Julien-l**	**8.34**	**8**	*e*P	**Pn**	**09 04 47.2**	**+3.9**
VIVF				*e*Sg	**Sn**	**09 06 09.3**	**-7.7**
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**8.34**	**8**	P	**Pn**	**09 04 47.2**	**+3.9**
VIVF				S	**Sn**	**09 06 09.3**	**-7.7**
	1.2nm,0.3s						
LPL	**La Plagne**	**9.32**	**16**	*e*Pn	**Pn**	**09 04 56.6**	**-0.3**
LPL	**La Plagne**	**9.32**	**16**	*e*P	Pn	09 05 02.3	+5.4
LPL	**La Plagne**	**9.32**	**16**	P	**Pn**	**09 04 56.6**	**-0.3**

*GCG **10** 09:09:33.4±0.7, 13°.03N×90°.70W, h30km±999km, MD3.5*
*SNET **10** 09:09:35.0±1.0, 13°.23N×90°.63W, h13km±11km, ML2.6*
ISC 10 09:09:33.8±3.5, 13°.1N±0°.2×90°.7W±0°.1, h24km, n7, σ0°67/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.09**	**11**	*e*P	**Pn**	**09 09 53.5**	**-0.3**
FUG	**Fuego 3**	**1.36**	**353**	*e*P	**Pn**	**09 09 57.6**	**+0.2**
FUG				*e*S	**Sb**	**09 10 16.5**	**+0.8**
UNIC	**Universidad Ca**	**1.40**	**51**	*e*P	**Pn**	**09 09 57.9**	**0.0**
UNIC				IAML		09 09 59.4	
	comp=Z,80nm,0.1s						
UNIC				*e*S	**Sn**	**09 10 15.1**	**-0.5**
NBG	**Las Nubes**	**1.52**	**12**	*e*P	**Pb**	**09 10 00.8**	**-0.7**
NBG				*e*S	**Sb**	**09 10 21.4**	**+1.0**
TACO	**Tacachico**	**1.54**	**55**	*e*P	**Pn**	**09 10 00.4**	**+0.5**
COEG	**Centro de Oper**	**1.81**	**73**	*e*P	**Pn**	**09 10 04.3**	**+0.7**
COEG				IAML		09 10 08.1	
	comp=Z,75nm,0.3s						
COEG				*e*S	**Sb**	**09 10 28.5**	**-0.2**
MTO3	**Montecristo**	**1.81**	**44**	*e*P	**Pn**	**09 10 04.3**	**+0.6**

*IDC **10** 09:40:51.2±3.2, 53°.57N×87°.96E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=28.0km s-min=17.5km az=59.0*
*NNC **10** 09:40:53.1±3.1, 53°.55N×87°.83E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=33.6km s-min=16.3km az=41.0, Suspected Mining explosion.*
ISC 10 09:40:48.7±5.1, 54°.0N±0°.3×88°.1E±0°.2, h0km, n8, σ1s00/8, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.93**	**271**	*i*		09 54 00.0	
	baz=96,slow=328,SNR=2.6						
ZAA0	**Zalesovo Array**	**1.93**	**271**	⇓Pn	**Pb**	**09 41 25.5**	**+0.6**
	0.4nm,0.7s						
ZAA0				⇓Sn	**Sg**	**09 41 50.9**	**+0.1**
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**1.93**	**271**	Pg	**Pg**	**09 41 25.6**	**-0.2**
	1.5nm,0.3s,baz=100,slow=17,SNR=14						
ZALV				Lg	Lg	09 41 51.9	
	4.1nm,0.3s,baz=103,slow=28,SNR=17						
KURK	**Kurchatov**	**6.65**	**245**	⇑Pn	**Pn**	**09 42 26.5**	**-1.1**
	0.9nm,0.7s						
KURK				⇓Lg	Lg	09 44 12.7	
	2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**6.75**	**244**	Pn	**Pn**	**09 42 28.9**	**-0.1**
	0.1nm,0.3s,baz=60,slow=14,SNR=6.2						
KURBB				Lg	Lg	09 44 15.8	
	0.0nm,0.3s,baz=59,slow=32,SNR=3.0						
KURBB	**Kurchatov Arra**	**6.75**	**244**	⇑Pn	**Pn**	**09 42 28.6**	**-0.3**
	1.0nm,0.4s						
KURBB				⇓Lg	Lg	09 44 16.5	
	2.0nm,0.6s						
MK31	**Makanchi Array**	**8.07**	**210**	⇑Pn	**Pn**	**09 42 48.4**	**+1.2**
	0.1nm,0.3s,baz=27,slow=13,SNR=6.0						
MK31				⇑Lg	Lg	09 44 51.0	
	1.5nm,0.8s,baz=37,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**8.07**	**210**	Pn	**Pn**	**09 42 45.9**	**-1.3**
	0.0nm,0.3s,baz=26,slow=11,SNR=3.0						
MKAR				Lg	Lg	09 44 53.9	
	0.1nm,0.3s,baz=32,slow=28,SNR=7.7						

IDC 10 10:13:49.5±1.4, 13°.25S×76°.95W, h0km, mb4.1/2, mb1 4.1/3, mb1mx3.7/30, mbtmp4.0/3, ML3.6/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/30, Error ellipse: s-maj=55.8km s-min=13.3km az=86.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.26**	**5**	Pg	Pg	10 14 13.8	+0.1
	112nm,0.3s,baz=197,slow=14,SNR=146						
NNA				Lg	Lg	10 14 30.4	
	1um,0.3s,baz=86,slow=8.9,SNR=29						
ATAH	**Atahualpa**	**6.24**	**347**	Pn	Pn	10 15 25.2	+1.8
	1.4nm,0.3s,baz=115,slow=4.6,SNR=9.8						
ATAH				Sn	Sn	10 16 38.8	+3.1
	0.3nm,0.3s,baz=73,slow=21,SNR=1.6						
ATAH				Lg	Lg	10 17 05.8	
	2.1nm,0.3s,baz=80,slow=23,SNR=6.1						
LPAZ	**La Paz**	**9.05**	**111**	Pn	Pn	10 16 09.1	+7.0
	0.5nm,0.3s,baz=328,slow=9.6,SNR=12						
LPAZ				LR	LR	10 20 13.6	
	comp=Z,110nm,20.5s,baz=290,slow=42						
SIV	**San Ignacio**	**15.60**	**102**	LR	LR	10 24 23.5	
	comp=Z,67nm,18.4s,baz=304,slow=41						
ROSC	**El Rosal**	**18.16**	**8**	LR	LR	10 26 18.7	
	comp=Z,121nm,19.4s,baz=238,slow=41						
H03N1	**Juan Fernandez**	**20.18**	**185**	T	T	10 39 10.9	
	baz=5.6,slow=75,SNR=26						
H03N2	**Juan Fernandez**	**20.18**	**185**	T	T	10 39 12.5	
	baz=5.6,slow=75,SNR=24						
H03N3	**Juan Fernandez**	**20.19**	**185**	T	T	10 39 17.6	
	baz=5.6,slow=75,SNR=96						
CPUP	**Villa Florida**	**22.54**	**128**	LR	LR	10 29 47.5	
	comp=Z,70nm,18.6s,baz=246,slow=42						
PLCA	**Paso Flores**	**27.95**	**170**	P	P	10 19 42.2	+0.5
	1.0nm,0.7s,baz=338,slow=9.9,SNR=2.9						
MDP	**Montagnes des**	**30.25**	**54**	LR	LR	10 33 30.2	
	comp=Z,37nm,18.8s,baz=236,slow=39						
RPN	**Rapa Nui**	**33.27**	**240**	LR	LR	10 29 28.6	
	comp=Z,13nm,20.9s,baz=54,slow=28						
SNAA	**Sanae**	**72.52**	**161**	LR	LR	10 54 11.3	
	comp=Z,37nm,19.3s,baz=245,slow=33						
TORD	**Torodi Ar. Bea**	**82.22**	**75**	P	P	10 26 13.2	-0.1
	1.9nm,0.8s,baz=261,slow=5.1,SNR=11						
MAW	**Mawson**	**94.28**	**166**	LR	LR	11 08 27.7	
	comp=Z,44nm,18.2s,baz=54,slow=35						
H11N3	**WAKE ISLAND Hyl**	**18.72**	**285**	T	T	12 42 14.9	
	baz=105,slow=74,SNR=4.4						
H11N2	**WAKE ISLAND Hyl**	**18.73**	**285**	T	T	12 42 21.9	
	baz=105,slow=74,SNR=4.8						
H11N1	**WAKE ISLAND Hyl**	**18.74**	**285**	T	T	12 42 24.0	
	baz=105						
H11S2	**WAKE ISLAND Hyl**	**18.81**	**284**	T	T	12 42 18.8	
	baz=93,slow=74,SNR=8.2						
H11S1	**WAKE ISLAND Hyl**	**18.82**	**284**	T	T	12 42 20.7	
	baz=93,slow=74,SNR=6.9						
H11S3	**WAKE ISLAND Hyl**	**18.83**	**284**	T	T	12 42 20.8	
	baz=93,slow=74,SNR=7.8						
WRA	**Warramunga Arr**	**134.88**	**224**	PKP	PKPdf	10 33 09.7	-1.8
	0.3nm,0.8s,baz=128,slow=2.1,SNR=2.2						
SONM	**Songino Array**	**145.41**	**356**	PKPbc	PKPbc	10 33 28.8	-0.9
	1.3nm,0.9s,baz=336,slow=3.2,SNR=4.2						

TRN 10 10:24:55.7, 10°.44N×62°.25W, h3km, MD3.9, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.86**	**76**	*e*P	Pg	10 25 11.4	-0.8
TRN				*e*S	Sb	10 25 25.3	+0.1
TBH	**Brigand Hill**	**1.16**	**88**	*e*P	Pb	10 25 18.7	+0.2
TBH				*e*S	Sn	10 25 34.8	-0.6
TPR	**Prospect**	**1.62**	**63**	*e*P	Pn	10 25 25.1	-0.2
TPR				*e*S	Sg	10 25 47.8	-0.2
BOT	**Bacolet**	**1.67**	**64**	*e*P	Pn	10 25 26.4	+0.5
BOT				*e*S	Sg	10 25 49.4	0.0
GRHS	**Sauteurs**	**1.87**	**19**	*e*P	Pn	10 25 29.5	+0.9
GRHS				*e*S	Sb	10 25 54.0	-0.3
TOSP	**Speyside**	**1.89**	**63**	*e*P	Pn	10 25 28.8	-0.1
TOSP				*e*S	Sn	10 25 53.2	0.0
GRSS	**Sisters**	**1.95**	**19**	*e*S	Sn	10 25 54.8	+0.1
GCMP	**Grenada, Carri**	**2.18**	**22**	*e*P	Pn	10 25 33.3	+0.3
GCMP				*e*S	Sn	10 26 01.2	+0.6
SVB	**Belmont**	**2.98**	**19**	*e*P	Pn	10 25 44.8	+0.9
SVB				*e*S	Sn	10 26 20.6	+0.4
SVCV	**St. Vincent, C**	**3.01**	**21**	*e*P	Pn	10 25 45.7	+1.3
SVCV				*e*S	Sn	10 26 21.9	+0.8
SVV	**Soufriere Volc**	**3.03**	**19**	*e*P	Pn	10 25 46.0	+1.3
SVV				*e*S	Sn	10 26 21.8	+0.2
BHS	**Barnard House**	**3.04**	**21**	*e*S	Sn	10 26 21.6	-0.2
MCLT	**Moule a Chique**	**3.49**	**21**	*e*P	Pn	10 25 51.4	+0.4
MCLT				*e*S	Sn	10 26 31.9	-0.9
SLB	**Belfond**	**3.56**	**19**	*e*P	Pn	10 25 53.6	+1.5
SLB				*e*S	Sn	10 26 34.8	0.0
SLAC	**Saint Lucia, A**	**3.68**	**21**	*e*P	Pn	10 25 54.0	+0.4
SLBI	**Saint Lucia, B**	**3.77**	**19**	*e*P	Pn	10 25 54.7	-0.1
SLBI				*e*S	Sn	10 26 39.3	-0.4
SLW	**Petit Monier**	**3.78**	**20**	*e*S	Sn	10 26 40.5	+0.5
MPOM	**Morne Pois Mar**	**4.20**	**19**	*e*P	Pn	10 26 02.1	+1.4
MPOM	**Morne Pois Mar**	**4.20**	**19**	*e*S	Sn	10 26 49.8	-0.6
BIM	**Bigot**	**4.21**	**16**	*e*P	Pn	10 26 01.1	+0.2
BIM	**Bigot**	**4.21**	**16**	*e*S	Sn	10 26 49.9	-0.8
FDF	**Fort de France**	**4.40**	**14**	*e*P	Pn	10 26 04.2	+0.7
FDF	**Fort de France**	**4.40**	**14**	*e*S	Sn	10 26 54.2	-1.1
ILAM	**Ilet Lapin Mar**	**4.51**	**17**	*e*P	Pn	10 26 06.2	+1.2
ILAM	**Ilet Lapin Mar**	**4.51**	**17**	*e*S	Sn	10 26 56.3	-1.7
MDN	**Morne-Daniel**	**4.92**	**10**	*e*S	Sn	10 27 06.6	-1.4
DLPL	**La Plaine**	**4.96**	**11**	*e*S	Sn	10 27 08.6	-0.5
DSLB	**Salisbury**	**5.03**	**9**	*e*P	Pn	10 26 12.6	+0.4
DSLB	**Salisbury**	**5.03**	**9**	*e*S	Sn	10 27 09.2	-1.7
TDBA	**Terre de Bas,**	**5.41**	**6**	*e*P	Pn	10 26 18.5	+1.1
TDBA	**Terre de Bas,**	**5.41**	**6**	*e*S	Sn	10 27 19.2	-0.9
TBG	**Guadaloupe-3**	**5.41**	**6**	*e*P	Pn	10 26 18.8	+1.4
MAGL	**Barre de l'ile**	**5.55**	**10**	*e*P	Pn	10 26 20.9	+1.5
MAGL	**Barre de l'ile**	**5.55**	**10**	*e*S	Sn	10 27 21.5	-2.3
CBE	**Ff, Capester**	**5.63**	**6**	*e*P	Pn	10 26 21.3	+0.9
CBE	**Ff, Capester**	**5.63**	**6**	*e*S	Sn	10 27 23.9	-1.8
ABD	**La Joyeuse, An**	**6.04**	**7**	*e*P	Pn	10 26 27.3	+1.2
ABD	**La Joyeuse, An**	**6.04**	**7**	*e*S	Sn	10 27 34.3	-1.4

WEL 10 10:35:10.9, 36°.5S±13°×17°.9E±1°, h250km±10km, M3.6/42, mB4.3/2, MLv3.6/42, Mw(mB)3.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=153.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.45**	**191**	P	Pn	10 35 47.7	-1.0
MXZ				S	S	10 36 13.2	-5.4
WMGZ	**Waiomatatini S**	**1.69**	**186**	P	Pn	10 35 51.2	+0.7
HAZ	**Te Kaha**	**1.75**	**203**	P	Pn	10 35 50.2	-0.9
HAZ				S	S	10 36 19.0	-3.9
PKGZ	**Pakihiroa**	**1.80**	**194**	P	Pn	10 35 51.8	+0.1
PKGZ				S	S	10 36 21.8	-2.1
PUZ	**Puketiti**	**1.95**	**189**	P	Pn	10 35 52.8	-0.1
PUZ				S	S	10 36 24.2	-1.9
RUGZ	**Raukumara Rang**	**1.98**	**203**	P	Pn	10 35 52.7	-0.5
RUGZ				S	S	10 36 21.8	-4.9
TWGZ	**Tauwhareparae**	**2.10**	**194**	P	Pn	10 35 55.4	+1.1
TWGZ				S	S	10 36 28.2	-0.3
MWZ	**Matawai**	**2.36**	**202**	P	Pn	10 35 57.2	+0.5
MWZ				S	S	10 36 32.3	-0.8
CNGZ	**Carnagh Statio**	**2.37**	**188**	P	Pn	10 35 58.4	+1.7
TKGZ	**Te Karaka**	**2.38**	**195**	P	Pn	10 35 57.9	+1.1
TKGZ				S	S	10 36 33.2	0.0
OPRZ	**Ohinepanea**	**2.38**	**224**	P	Pn	10 35 57.1	+0.2
URZ	**Urewera**	**2.44**	**210**	P	Pn	10 35 57.5	0.0
URZ				S	S	10 36 33.1	-1.2
RAGZ	**Rawiri**	**2.55**	**202**	P	Pn	10 35 59.9	+1.2
RIGZ	**Rimuhau**	**2.66**	**195**	P	Pn	10 36 00.8	+1.2
RIGZ				S	S	10 36 38.9	+0.5
KARZ	**Kaharoa**	**2.68**	**225**	P	Pn	10 36 01.2	+1.2
TARZ	**Mount Tarawera**	**2.70**	**219**	P	Pn	10 36 01.9	+1.7
RRRZ	**Republican Roa**	**2.77**	**217**	P	Pn	10 36 02.4	+1.5
RTZ	**Ruatahuna**	**2.80**	**208**	P	Pn	10 36 01.6	+0.3
SNGZ	**Shannon Statio**	**2.83**	**201**	P	Pn	10 36 03.3	+1.7
PRGZ	**Paritu Road**	**2.84**	**192**	P	Pn	10 36 03.1	+1.5
HRRZ	**Handcock Road**	**2.93**	**219**	P	Pn	10 36 04.4	+1.9
PRRZ	**Plateau Road**	**2.96**	**217**	P	Pn	10 36 04.0	+1.1
TOZ	**Tahuroa Road**	**2.97**	**237**	P	Pn	10 36 03.3	+0.3
KNZ	**Kokohu**	**2.98**	**195**	P	Pn	10 36 04.3	+1.3
ALRZ	**Allen Road**	**3.03**	**216**	P	Pn	10 36 04.9	+1.3
RAHZ	**Arahi**	**3.03**	**204**	P	Pn	10 36 05.0	+1.3
MTHZ	**Maungataniwha**	**3.06**	**207**	P	Pn	10 36 04.7	+0.7
MHGZ	**Mahia Peninsul**	**3.06**	**191**	P	Pn	10 36 06.2	+2.2
WHHZ	**Waihua**	**3.14**	**200**	P	Pn	10 36 04.9	+0.1
MRHZ	**Matea Rd**	**3.22**	**213**	P	Pn	10 36 06.6	+0.9
NMHZ	**Naumai**	**3.29**	**206**	P	Pn	10 36 08.2	+1.6
ARHZ	**Aropaoanui**	**3.38**	**202**	P	Pn	10 36 09.0	+1.5
BKZ	**Black Stump Fm**	**3.47**	**209**	P	Pn	10 36 09.7	+1.2
MCHZ	**McNeill Hill**	**3.64**	**204**	P	Pn	10 36 12.0	+1.6
KWHZ	**Kaweka Forest**	**3.72**	**207**	P	Pn	10 36 12.6	+1.2
CKHZ	**Cape Kidnapper**	**3.72**	**199**	P	Pn	10 36 12.9	+1.5
TMVZ	**Te Maari**	**3.77**	**217**	P	Pn	10 36 13.5	+1.4
ETVZ	**East Tongariro**	**3.79**	**217**	P	Pn	10 36 13.8	+1.5
OTVZ	**Oturere**	**3.83**	**217**	P	Pn	10 36 14.2	+1.4
HIZ	**Hauiti**	**3.83**	**231**	P	Pn	10 36 15.6	+3.0
NGZ	**Ngauruhoe**	**3.87**	**218**	P	Pn	10 36 14.9	+1.7
KAHZ	**Kahuranaki**	**3.91**	**200**	P	Pn	10 36 15.3	+1.8
BHHZ	**Black Hill Sta**	**3.92**	**211**	P	Pn	10 36 14.5	+0.8
TUVZ	**Tukino**	**3.92**	**216**	P	Pn	10 36 15.2	+1.4
KRHZ	**Kereru**	**3.93**	**206**	P	Pn	10 36 14.6	+0.8
PXZ	**Pawanui**	**4.13**	**199**	P	Pn	10 36 17.2	+1.1
PNHZ	**Pukenui**	**4.23**	**206**	P	Pn	10 36 18.0	+0.7
WPHZ	**Waipukurau**	**4.29**	**203**	P	Pn	10 36 19.1	+1.1
PRHZ	**Porangahau**	**4.41**	**200**	P	Pn	10 36 20.7	+1.2
TSZ	**Takapari Road**	**4.45**	**208**	P	Pn	10 36 21.1	+1.2
PRWZ	**Pori Road**	**4.88**	**205**	P	Pn	10 36 27.1	+1.9
BFZ	**Birch Farm**	**4.91**	**202**	P	Pn	10 36 26.4	+0.9
TIWZ	**Tintock**	**5.11**	**204**	P	Pn	10 36 28.9	+1.0
MRZ	**Mangatainoka R**	**5.11**	**207**	P	Pn	10 36 28.5	+0.5
CAW	**Cannon Point**	**5.69**	**208**	P	Pn	10 36 35.2	+0.1

*IDC **10** 10:41:24.7±1.0, 33°.50N×141°.80E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/39, mbtmp3.7/10, ML3.1/2, MS3.0/5, Ms1 3.1/5, ms1mx2.8/40, Error ellipse: s-maj=20.5km s-min=19.3km az=89.0*
*NEIC **10** 10:41:26.2±2.4, 33°.45N±0°.09×141°.92E±0°.10, h22km±2km, mb4.4/10, Error ellipse: s-maj=14.5km s-min=9.5km az=141.0*
*NIED **10** 10:41:27.2, 33°.55N×141°.82E, h73km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.00; Mθθ0.17; Mφφ-1.17; Mrθ-0.39; Mθφ0.52; Mφr-0.64; Fault plane solution: M0 1.43000×10^15 NP1: φs187.00000°, δ62.00000°, λ121.00000°. NP2: φs315.00000°, δ41.00000°, λ46.00000°.*
*JMA **10** 10:41:27.2±0.4, 33°.55N×141°.82E, h73km, M3.5*
ISC 10 10:41:28.1±2.6, 33°.50N±0°.08×141°.8E±0°.1, h49km±27km, n50, σ0s99/37, mb3.8/13, MS3.0/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.35**	**328**	P	**Pn**	**10 41 49.8**	**-0.3**
BSO1				*e*S	**Sn**	**10 42 07.5**	**+0.9**
BSO3	**Boso 3**	**1.70**	**320**	P	**Pn**	**10 41 55.1**	**0.0**
JHJ2	**Mitsune**	**1.74**	**258**	P	**Pn**	**10 41 56.1**	**+0.3**
JHJ2	**Mitsune**	**1.74**	**258**		**Pn**	**10 41 56.1**	**+0.3**
JHJ2				Sn	**Sn**	**10 42 17.6**	**+0.8**
JHJ	**Hachijo jima 2**	**1.77**	**258**	Pn	**Pn**	**10 41 56.2**	**0.0**
	60nm,0.3s,baz=319,slow=20,SNR=29						
JHJ				Sn	**Sn**	**10 42 17.5**	**0.0**
	96nm,0.3s,baz=60,slow=19,SNR=5.7						
JMKN	**Mikurajimanish**	**1.92**	**282**	P	**Pn**	**10 41 58.2**	**-0.1**
JMKN				*e*S	**Sn**	**10 42 21.7**	**+0.5**
BSO4	**Boso 4**	**1.94**	**320**	P	**Pn**	**10 41 59.0**	**+0.5**
JIM2	**Oshima 3**	**2.34**	**302**	P	**Pn**	**10 42 03.3**	**-0.8**
JIM2				*e*S	**Sn**	**10 42 30.1**	**-1.5**
JOD2	**Odawara 2**	**2.88**	**308**	P	**Pn**	**10 42 10.8**	**-0.6**
JYT	**Yasato**	**3.04**	**334**		**Pn**	**10 42 14.7**	**+1.1**
JSG	**Sagara**	**3.25**	**292**	Pn	**Pn**	**10 42 15.3**	**-1.3**
JYN	**Shimob**	**3.37**	**307**	P	**Pn**	**10 42 18.5**	**+0.2**
JRY	**Ryogami san**	**3.49**	**317**	P	**Pn**	**10 42 19.6**	**-0.2**
JAG	**Ashikaga**	**3.51**	**327**	P	**Pn**	**10 42 20.3**	**+0.1**
MJAR	**Matsushiro Arr**	**4.25**	**316**	Pn	**Pn**	**10 42 30.8**	**+0.4**
	0.3nm,0.3s,baz=164,slow=13,SNR=16						
MJAR				Sn	**Sn**	**10 43 19.8**	**+1.1**
	0.5nm,0.3s,baz=134,slow=11,SNR=4.7						
MJAR				LR	LR	10 44 26.8	
	comp=Z,116nm,21.3s,baz=110,slow=43						
MJAR	**Matsushiro Arr**	**4.25**	**316**		**Pn**	**10 42 30.6**	**+0.3**
JGF	**Kuroka**	**4.25**	**301**		**Pn**	**10 42 32.6**	**+2.3**
MAT	**Matsushiro**	**4.25**	**316**	P	**Pn**	**10 42 31.6**	**+1.3**
MAT				S	**Sn**	**10 43 19.6**	**+0.9**
INU	**Inuyama**	**4.39**	**296**	Pn	**Pn**	**10

s-min=9.9km az=49.0
SNET 10 10:52:42.4=0.9,8°67'N×83°20W,h120km,277km,ML4.7
ISC 10 10:52:35.7=0.7,8°40N=0°03×83°08W=0°02,h14km=4km,
n470,σ1=45/485,mb4.6/73,MS3.5/3,1C-6D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.26**	**301**	⇑*iP*	**Pg**	**10 52 40.4**	**-0.8**
PTJ1				*eS*	**Sg**	**10 52 45.5**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.26**	**301**	*eP*	**Pg**	**10 52 40.4**	**-0.8**
PTJ1				*eS*	**Sg**	**10 52 45.1**	**+0.2**
CDITO	**Canoas**	**0.27**	**51**	⇓*iP*	**Pg**	**10 52 41.3**	**-0.1**
EDSV	**San Vito**	**0.43**	**15**	*i P*	**Pg**	**10 52 44.2**	**-0.1**
EDSV				*i S*	**Sg**	**10 52 50.4**	**+0.2**
RIOS	**Rincon, Osa**	**0.52**	**305**	*eP*	**Pg**	**10 52 44.5**	**-1.5**
BRU2	**Volcan**	**0.55**	**45**	⇓*iP*	**Pg**	**10 52 46.5**	**-0.1**
BRU2				*eS*	**Sb**	**10 52 54.4**	**-0.6**
BRU2	**Volcan**	**0.55**	**45**	*eP*	**Pg**	**10 52 46.5**	**-0.1**
BRU2				*eS*	**Sb**	**10 52 55.1**	**+0.2**
BAGA3	**Bagala, Chiriq**	**0.55**	**83**	⇓*iP*	**Pb**	**10 52 46.8**	**-0.3**
BC3P	**Paso Ancho**	**0.62**	**49**	⇓*iP*	**Pg**	**10 52 47.5**	**-0.4**
BCO2	**Palmira**	**0.63**	**60**	⇓*eP*	**Pg**	**10 52 47.9**	**-0.2**
BCO2				*eS*	**Sb**	**10 52 57.9**	**+0.5**
PTAR3	**Potrerillos Ar**	**0.65**	**63**	*eP*	**Pg**	**10 52 48.1**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.65**	**92**	*eP*	**Pg**	**10 52 44.8**	**-3.6**
EDPN	**Palmar Norte**	**0.67**	**326**	*eP*	**Pg**	**10 52 46.9**	**-1.8**
EDBA	**Buenos Aires**	**0.78**	**346**	*eP*	**Pg**	**10 52 49.6**	**-1.3**
EDBA				*eS*	**Sb**	**10 53 01.6**	**0.0**
GUAL3	**Gualaca, Chiri**	**0.79**	**81**	*eP*	**Pg**	**10 52 50.2**	**-0.8**
GUAL3				*eS*	**Sg**	**10 52 59.2**	**-2.1**
EDLM	**Las Mercedes**	**1.00**	**330**	*eP*	**Pb**	**10 52 52.8**	**-2.2**
CHGR2	**Aguacate**	**1.07**	**60**	*eP*	**Pb**	**10 52 54.5**	**-1.4**
CHGR2				*eS*	**Sb**	**10 53 09.1**	**-0.7**
PEZE	**Perez Zeledon,**	**1.14**	**329**	*eP*	**Pb**	**10 52 55.0**	**-2.3**
EDDO	**Dominical**	**1.15**	**318**	*eP*	**Pb**	**10 52 55.4**	**-1.9**
NANC3	**Nancito, Chiri**	**1.34**	**97**	*eP*	**Pn**	**10 52 59.1**	**-1.0**
LCR2	**La Lucha 2**	**1.61**	**326**	*eP*	**Pn**	**10 53 02.7**	**-1.2**
BATAN	**Batan**	**1.71**	**350**	*i P*	**Pn**	**10 53 05.0**	**-0.1**
BATAN				*eS*	**Sn**	**10 53 26.5**	**-0.3**
SJS	**Escuela Geolog**	**1.80**	**328**	*eP*	**Pn**	**10 53 05.7**	**-0.8**
HDC	**Heredia**	**1.89**	**327**	*eP*	**Pn**	**10 53 08.7**	**+1.0**
HDC				*eS*	**Sn**	**10 53 32.4**	**+1.1**
HDC	**Heredia**	**1.89**	**327**	*eP*	**Pn**	**10 53 08.2**	**+0.6**
HDC	**Heredia**	**1.89**	**327**	Pn	**Pn**	**10 53 07.0**	**-0.6**
HDC				Sn	**Sn**	**10 53 32.0**	**+0.7**
SRA1	**San Ramn**	**2.17**	**321**	*eP*	**Pn**	**10 53 12.2**	**+0.6**
LAFE	**Finca La Fe, P**	**2.28**	**308**	*eP*	**Pn**	**10 53 14.1**	**+1.1**
CACAO	**El Cacao, Vera**	**2.44**	**115**	*eP*	**Pn**	**10 53 14.8**	**-0.3**
CACAO				*eS*	**Sb**	**10 53 47.9**	**-1.3**
FORC	**Fortuna**	**2.58**	**323**	*i P*	**Pn**	**10 53 18.9**	**+1.7**
ARE1	**Arenal 1**	**2.61**	**322**	*eP*	**Pn**	**10 53 19.3**	**+1.9**
CEDE	**Laguna Cedeo**	**2.62**	**322**	*i P*	**Pn**	**10 53 18.7**	**+1.1**
JTS	**Las Juntas de**	**2.63**	**316**	P	**Pn**	**10 53 19.7**	**+1.8**
	96nm,0.3s,baz=158,slow=11,SNR=323						
JTS				S	**Sn**	**10 53 51.2**	**+1.6**
	119nm,0.3s,baz=39,slow=23,SNR=10						
JTS	**Las Juntas de**	**2.63**	**316**	*eP*	**Pn**	**10 53 17.0**	**-0.8**
JTS				*eS*	**Sn**	**10 53 49.5**	**-0.2**
JTS	**Las Juntas de**	**2.63**	**316**	*eP*	**Pn**	**10 53 18.3**	**+0.5**
JTS				*eS*	**Sn**	**10 53 51.6**	**+2.0**
JTS	**Las Juntas de**	**2.63**	**316**	*eP*	**Pn**	**10 53 19.6**	**+1.8**
JTS	**Las Juntas de**	**2.63**	**316**	Pn	**Pn**	**10 53 19.4**	**+1.5**
JTS				Sn	**Sn**	**10 53 50.5**	**+0.9**
COVE	**Coope Vega, Sa**	**2.65**	**331**	*eP*	**Pn**	**10 53 18.9**	**+0.9**
PNME	**Penonome**	**2.73**	**88**	*eP*	**Pn**	**10 53 20.6**	**+1.5**
PNME				*eS*	**Sb**	**10 53 55.4**	**-2.2**
PNME				*i*		10 54 05.9	
	comp=Z,952nm,0.4s						
PNME	**Penonome**	**2.73**	**88**	*eP*	**Pn**	**10 53 20.6**	**+1.5**
PNME				*eS*	**Sn**	**10 53 54.5**	**+2.7**
AZU	**Azuero**	**2.84**	**102**	⇓*eP*	**Pn**	**10 53 21.5**	**+0.8**
AZU				*i*		10 53 24.0	
	comp=Z,2µm,0.5s						
AZU				*eS*	**Sn**	**10 53 57.3**	**+2.5**
AZU	**Azuero**	**2.84**	**102**	*eP*	**Pn**	**10 53 22.1**	**+1.3**
AZU				*eS*	**Sb**	**10 54 00.2**	**-0.8**
ACAL	**Aguas Claras**	**2.94**	**319**	*i P*	**Pn**	**10 53 23.3**	**+1.2**
VTON	**El Valle, Cocl**	**2.94**	**86**	*eP*	**Pn**	**10 53 24.3**	**+2.2**
VTON				*eS*	**Sn**	**10 54 00.3**	**+3.0**
PLVR	**Palo Verde**	**2.96**	**311**	*eP*	**Pn**	**10 53 22.9**	**+0.5**
PTEN	**Parque Tenorio**	**2.97**	**321**	*i P*	**Pn**	**10 53 24.1**	**+1.6**
GUAI	**GUAI**	**3.03**	**308**	*i P*	**Pn**	**10 53 23.7**	**+0.4**
ORTG	**Ortega, Santa**	**3.05**	**310**	*eP*	**Pn**	**10 53 23.7**	**+0.1**
BCIP	**Isla Barro Col**	**3.29**	**76**	*eP*	**Pn**	**10 53 27.4**	**+0.5**
BCIP				*eS*	**Sn**	**10 54 07.0**	**+1.1**
BCIP				*i*		10 54 22.7	
	comp=Z,323nm,0.6s						
BCIP	**Isla Barro Col**	**3.29**	**76**	*eP*	**Pn**	**10 53 27.5**	**+0.5**
BCIP				*eS*	**Sn**	**10 54 07.8**	**+1.9**
BCIP	**Isla Barro Col**	**3.29**	**76**	Pn	**Pn**	**10 53 27.0**	**+0.1**
LAPC	**Finca la Perla**	**3.30**	**316**	*i P*	**Pn**	**10 53 28.4**	**+1.3**
BUEV	**Buena Vista**	**3.31**	**316**	*eP*	**Pn**	**10 53 28.6**	**+1.5**
GB1A	**Borinquen Arri**	**3.31**	**317**	*eP*	**Pn**	**10 53 28.9**	**+1.6**
GBS3	**Finca Las Img**	**3.33**	**315**	*i P*	**Pn**	**10 53 28.2**	**+0.8**
UPA	**Univ. de Panam**	**3.55**	**80**	*eP*	**Pn**	**10 53 32.2**	**+1.7**
UPA				*i*		10 54 32.2	
	comp=Z,176nm,0.5s						
UPA	**Univ. de Panam**	**3.55**	**80**	*eP*	**Pn**	**10 53 31.4**	**+1.0**
UPA				*eS*	**Sn**	**10 54 13.5**	**+1.2**
ESPN	**Las Esperanzas**	**3.96**	**342**		**Pn**	**10 53 35.8**	**-0.2**
ACON	**Acoyapa**	**4.10**	**330**		**Pn**	**10 53 38.4**	**+0.5**
UPD2	**Meteti**	**5.01**	**88**	*eP*	**Pn**	**10 53 52.6**	**+2.1**
UPD2				*i*		10 55 17.9	
	comp=Z,177nm,0.5s						
MATN	**Matagalpa**	**5.30**	**328**	Pn	**Pn**	**10 53 56.0**	**+1.4**
CAPC	**Capurgana**	**5.67**	**87**	*eP*	**Pn**	**10 54 01.3**	**+1.7**
CAPC				*i*		10 54 22.0	
	comp=Z,28nm,0.5s						
CAPC				*eS*	**Sn**	**10 55 07.0**	**+2.4**
CRIN	**San Cristobal**	**5.79**	**318**		**Pn**	**10 54 02.6**	**+1.4**
SOLC	**Bahia Solano**	**6.03**	**111**	*eP*	**Pn**	**10 54 02.9**	**-1.6**
SOLC				*i*		10 54 06.1	
	comp=Z,115nm,0.5s						
LCBC	**Los crdobas,**	**6.65**	**86**	*eP*	**Pn**	**10 54 16.5**	**+3.4**
LCBC				*i*		10 54 35.4	
	comp=Z,36nm,0.7s						
CNCH	**Conchagua**	**6.73**	**316**	*eP*	**Pn**	**10 54 17.5**	**+3.2**
CNCH				*eS*	**Sn**	**10 55 30.8**	**0.0**
LCND	**La Caada**	**6.79**	**316**	*eP*	**Pn**	**10 54 17.0**	**+2.1**
LCND				IAML		10 54 26.9	
	comp=Z,111nm,0.4s						
LCND	**La Caada**	**6.79**	**316**	*eP*	**Pn**	**10 54 17.0**	**+2.1**
LCND				IAML		10 54 26.9	
	comp=Z,111nm,0.4s						
LCND				*eS*	**Sn**	**10 55 31.6**	**-0.6**
DBBC	**Dabeiba**	**6.95**	**101**	*eP*	**Pn**	**10 54 18.0**	**+0.8**
DBBC				*i*		10 54 41.5	
	comp=Z,160nm,0.7s						
TGUH	**Tegucigalpa,Un**	**6.96**	**324**	*eP*	**Pn**	**10 54 20.5**	**+3.0**
TGUH	**Tegucigalpa,Un**	**6.96**	**324**	*eP*	**Pn**	**10 54 18.9**	**+1.4**
TGUH	**Tegucigalpa,Un**	**6.96**	**324**	*eP*	**Pn**	**10 54 18.9**	**+1.4**
TGUH				*eS*	**Sn**	**10 55 35.7**	**-0.9**
TGUH	**Tegucigalpa,Un**	**6.96**	**324**	Pn	**Pn**	**10 54 19.2**	**+1.8**
TGUH				Sn	**Sn**	**10 55 36.6**	**0.0**
JUCU	**Jucuar¡n**	**7.00**	**314**	*eP*	**Pn**	**10 54 19.8**	**+1.9**
JUCU				IAML		10 54 23.5	
	comp=Z,257nm,0.4s						
JUCU	**Jucuar¡n**	**7.00**	**314**	*eP*	**Pn**	**10 54 19.8**	**+1.9**
JUCU				IAML		10 54 23.5	
	comp=Z,257nm,0.4s						
ALJI	**Alcalda de J**	**7.28**	**313**	*eP*	**Pn**	**10 54 24.5**	**+2.8**
ALJI	**Alcalda de J**	**7.28**	**313**	*eP*	**Pn**	**10 54 24.5**	**+2.8**
MOTC	**Monteria, Cord**	**7.34**	**87**	*eP*	**Pn**	**10 54 24.5**	**+1.9**
MOTC				*i*		10 54 34.8	
	comp=Z,19nm,0.7s						
MOTC				*eS*	**Sn**	**10 55 44.9**	**-0.9**
TECA	**Tecapa**	**7.34**	**314**	*eP*	**Pn**	**10 54 26.2**	**+3.4**
COEB	**Comit de Eme**	**7.37**	**314**	*eP*	**Pn**	**10 54 25.1**	**+2.1**
COEB	**Comit de Eme**	**7.37**	**314**	*eP*	**Pn**	**10 54 25.1**	**+2.1**
COEB				*eS*	**Sn**	**10 55 46.3**	**-0.2**
CBOC	**Ciudad Bolivar**	**7.45**	**109**	*eP*	**Pn**	**10 54 24.1**	**-0.2**
CBOC				*i*		10 54 41.7	
	comp=Z,11nm,0.5s						
UREC	**San Jos de Ur**	**7.50**	**94**	*eP*	**Pn**	**10 54 26.1**	**+1.3**
UREC				*i*		10 54 45.4	
	comp=Z,18nm,0.6s						
PLMC	**San Jos del P**	**7.59**	**117**	*eP*	**Pn**	**10 54 25.7**	**-0.4**
PLMC				*i*		10 54 30.4	
	comp=Z,13nm,0.5s						
COEG	**Centro de Oper**	**7.70**	**313**	*eP*	**Pn**	**10 54 30.0**	**+2.5**
COEG	**Centro de Oper**	**7.70**	**313**	*eP*	**Pn**	**10 54 30.0**	**+2.5**
COEG				*eS*	**Sn**	**10 55 51.7**	**-2.9**
COEG				*eS*	**Sn**	**10 55 54.7**	**0.0**
PAVA	**Las Pavas**	**7.80**	**313**	*eP*	**Pn**	**10 54 32.3**	**+3.3**
PAVA	**Las Pavas**	**7.80**	**313**	*eP*	**Pn**	**10 54 32.3**	**+3.3**
LFRS	**El Faro**	**7.83**	**312**	*eP*	**Pn**	**10 54 32.8**	**+3.4**
LFRS				*eS*	**Sn**	**10 55 57.3**	**-0.8**
SJCC	**San Jacinto, C**	**7.94**	**79**	*eP*	**Pn**	**10 54 32.7**	**+1.8**
SJCC				*i*		10 54 39.1	
	comp=Z,29nm,0.5s						
OPAM	**Oficina de Pla**	**7.99**	**312**	*eP*	**Pn**	**10 54 35.1**	**+3.5**
SNET	**Serv Nac Est T**	**8.00**	**312**	Pn	**Pn**	**10 54 32.1**	**+0.4**
YOTC	**Yotoco, Valle**	**8.01**	**123**	*eP*	**Pn**	**10 54 31.6**	**-0.2**
YOTC				*i*		10 54 38.4	
	comp=Z,7.5nm,0.6s						
ZARC	**Zaragoza, Cauc**	**8.19**	**96**	*eP*	**Pn**	**10 54 34.4**	**+0.1**
ZARC				*i*		10 54 55.0	
	comp=Z,16nm,0.5s						
TACO	**Tacachico**	**8.28**	**313**	*eP*	**Pn**	**10 54 38.5**	**+3.1**
TACO	**Tacachico**	**8.28**	**313**	*eP*	**Pn**	**10 54 38.5**	**+3.1**
GUY2C	**Guyana, Caldas**	**8.29**	**112**	*eP*	**Pn**	**10 54 38.3**	**+2.4**
GUY2C				*i*		10 54 41.5	
	comp=Z,21nm,0.4s						
RREF	**El Recreo**	**8.43**	**114**	*eP*	**Pn**	**10 54 36.3**	**-1.8**
RREF				*i*		10 54 41.4	
	comp=Z,13nm,0.4s						
ANIL	**Santa Ana**	**8.56**	**117**	*eP*	**Pn**	**10 54 42.7**	**+3.1**
ANIL				*i*		10 54 45.9	
	comp=Z,3.5nm,0.5s						
MTO3	**Montecristo**	**8.57**	**315**		**Pn**	**10 54 41.2**	**+1.6**
TOLC	**Tolima**	**8.59**	**116**	*eP*	**Pn**	**10 54 41.9**	**+1.8**
BBAC	**Balboa, Cauca**	**8.60**	**137**	*eP*	**Pn**	**10 54 42.1**	**+2.1**
BBAC				*i*		10 54 49.3	
	comp=Z,13nm,0.4s						
POPC	**Popayan, Colom**	**8.63**	**132**	*eP*	**Pn**	**10 54 42.8**	**+2.2**
POPC				*i*		10 54 49.1	
	comp=Z,9.5nm,0.7s						
ESQI	**Esquipulas**	**8.66**	**315**	*eP*	**Pn**	**10 54 43.5**	**+2.7**
ESQI	**Esquipulas**	**8.66**	**315**		**Pn**	**10 54 42.0**	**+1.2**
PTBC	**PUERTO BERRIO,**	**8.75**	**102**	*eP*	**Pn**	**10 54 44.8**	**+2.9**
PTBC				*i*		10 55 14.4	
	comp=Z,7.7nm,0.5s						
ARGC	**Ariguani, Magd**	**8.84**	**80**	*eP*	**Pn**	**10 54 45.7**	**+2.5**
ARGC				*i*		10 54 48.6	
	comp=Z,25nm,0.5s						
SMLC	**San Martn de**	**8.92**	**87**	*eP*	**Pn**	**10 54 46.5**	**+2.3**
SMLC				*i*		10 55 09.2	
	comp=Z,4.7nm,0.8s						
SOTA	**Rioblanco**	**8.96**	**134**	*eP*	**Pn**	**10 54 49.4**	**+4.1**
ORTC	**Ortega, Tolima**	**8.98**	**119**	*eP*	**Pn**	**10 54 47.1**	**+2.1**
ORTC				*i*		10 55 00.7	
	comp=Z,12nm,0.8s						
PCON	**Cinco Dias**	**8.98**	**132**	*eP*	**Pn**	**10 54 49.1**	**+3.5**
PCON				*i*		10 55 14.0	
	comp=Z,13nm,0.5s						
GCUF	**Volcan Galeras**	**9.13**	**141**	*eP*	**Pn**	**10 54 50.5**	**+2.9**
GCUF				*i*		10 54 58.4	
	comp=Z,16nm,0.5s						
OTAV	**Otavalo**	**9.33**	**150**	*eP*	**Pn**	**10 54 51.7**	**+1.4**
OTAV				*i*		10 55 11.4	
	comp=Z,4.1nm,0.6s						
OTAV	**Otavalo**	**9.33**	**150**	Pn	**Pn**	**10 54 52.5**	**+2.2**
OTAV	**Otavalo**	**9.33**	**150**	*eP*	**Pn**	**10 54 52.1**	**+1.8**
PRAC	**Prado**	**9.38**	**119**	*eP*	**Pn**	**10 54 53.7**	**+3.0**
PRAC				*i*		10 54 56.5	
	comp=Z,14nm,0.4s						
ROSC	**El Rosal**	**9.39**	**112**	P	Pn	10 54 56.3	+5.2
	comp=Z,2.5nm,0.3s,baz=346,slow=15,SNR=5.0						
ROSC				LR	LR	10 58 12.1	
	comp=Z,243nm,19.8s,baz=287,slow=35						
ROSC	**El Rosal**	**9.39**	**112**		**Pn**	**10 54 52.0**	**+0.9**
APG	**El Apazote**	**9.76**	**313**	P	**Pn**	**10 54 59.6**	**+3.6**
	comp=Z,5.8nm,0.3s,baz=139,slow=8.5,SNR=50						
BARC	**Barichara**	**9.98**	**100**	*eP*	**Pn**	**10 55 01.4**	**+2.5**
BARC				*i*		10 55 25.6	
	comp=Z,20nm,0.6s						
CHIC	**Chingaza**	**10.02**	**111**	*eP*	Pn	10 55 04.8	+5.2
CHIC				*i*		10 55 20.2	
	comp=Z,11nm,0.6s						
FLOC	**Florencia**	**10.03**	**132**	*eP*	**Pn**	**10 55 02.3**	**+2.8**
FLOC				*i*		10 55 14.8	
	comp=Z,4.1nm,0.5s						
RUSC	**La Rusia**	**10.23**	**103**	*eP*	**Pn**	**10 55 05.5**	**+2.9**
RUSC				*i*		10 55 30.1	
	comp=Z,13nm,0.9s						
VILC	**Villavicencio,**	**10.26**	**114**	*eP*	**Pn**	**10 55 06.9**	**+4.2**
VILC				*i*		10 55 13.5	
	comp=Z,87nm,0.6s						
PAMC	**Pamplona, Colo**	**10.34**	**95**	*eP*	**Pn**	**10 55 06.0**	**+1.9**
PAMC				*i*		10 55 09.2	
	comp=Z,8.8nm,0.3s						
RTAL	**Retalhuleu**	**10.40**	**307**	Pn	Pn	10 55 10.7	+6.1
HUEH	**Huehuetenango**	**10.73**	**311**		**Pn**	**10 55 12.4**	**+3.1**
PETF	**Flores**	**10.74**	**323**		**Pn**	**10 55 10.8**	**+1.6**
MTDJ	**Mount Denham**	**11.15**	**28**	*eP*	**Pn**	**10 55 15.7**	**+0.7**
MTDJ	**Mount Denham**	**11.15**	**28**		**Pn**	**10 55 16.0**	**+1.0**
URIC	**Uribia, Colomb**	**11.40**	**72**	*eP*	**Pn**	**10 55 18.2**	**0.0**
URIC				*i*		10 55 47.0	
	comp=Z,6.6nm,0.4s						
PTLC	**Puerto Leguiza**	**11.62**	**134**	*eP*	Pn	10 55 26.7	+5.4
PTLC				*i*		10 55 35.4	
	comp=Z,9.7nm,0.1s						
CCIG	**Comitan**	**11.81**	**312**	Pn	**Pn**	**10 55 27.1**	**+3.0**
SDV	**Santo Domingo**	**12.32**	**87**	P	**Pn**	**10 55 33.7**	**+2.8**
	comp=Z,1.6nm,0.3s,baz=257,slow=6.6,SNR=6.4						
SDV	**Santo Domingo**	**12.32**	**87**	Pn	**Pn**	**10 55 33.9**	**+2.9**
SDV	**Santo Domingo**	**12.32**	**87**	*eP*	**Pn**	**10 55 34.1**	**+3.1**
TEIG	**Tepich**	**12.78**	**337**	P	**Pn**	**10 55 38.9**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=155,slow=19,SNR=1.7						
TEIG				LR	LR	11 00 34.0	
	comp=Z,282nm,19.9s,baz=74,slow=37						
GTBY	**Guantanamo Bay**	**13.81**	**33**	Pn	**Pn**	**10 55 52.0**	**+0.9**
SDDR	**Presa de Saban**	**15.54**	**46**		**P**	**10 56 16.7**	**-2.2**
SDDR				IAmb	IAmb	10 56 33.3	
	comp=Z,19nm,0.8s						
BANI	**BANI**	**15.86**	**50**		**Pn**	**10 56 17.6**	**-1.1**
ATAH	**Atahualpa**	**16.13**	**163**	P	**P**	**10 56 26.4**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=326,slow=12,SNR=5.3						
DR12	**Loma Pena Alta**	**16.84**	**51**	Pn	**Pn**	**10 56 29.7**	**-1.5**
PCDR	**Punta Cana, DR**	**17.46**	**53**		**P**	**10 56 40.2**	**+0.1**
TLIG	**Tlapa**	**17.61**	**303**	P	**P**	**10 56 41.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**18.23**	**57**	P	**Pn**	**10 56 47.7**	**-0.8**
CRPR				IAmb	IAmb	10 56 57.3	
	comp=Z,26nm,1.0s						
MLPR	**Magueyes Islan**	**18.27**	**57**	P	**P**	**10 56 49.6**	**+0.6**
MLPR				IAmb	IAmb	10 56 53.6	
	comp=Z,27nm,0.9s						
PCRV	**Puerto La Cruz**	**18.29**	**83**	P	**P**	**10 56 50.5**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=172,slow=7.2,SNR=3.9						
PLCV	**Puerto La Cruz**	**18.33**	**83**	P	**P**	**10 56 50.5**	**+0.7**
OBIP	**Obispado Ponce**	**18.67**	**57**		**Pn**	**10 56 53.9**	**0.0**
OBIP				IAmb	IAmb	10 56 58.3	
	comp=Z,40nm,1.0s						
AOPR	**Arecibo Observ**	**18.69**	**56**	P	**Pn**	**10 56 54.0**	**-0.1**
AOPR				IAmb	IAmb	10 56 59.6	
	comp=Z,32nm,0.8s						
CZSB	**Cruzeiro do Su**	**19.07**	**147**	*eP*	**Pn**	**10 56 59.4**	**+0.6**
SJG	**San Juan**	**19.08**	**58**	P	**Pn**	**10 56 59.9**	**+1.1**
	comp=Z,2.9nm,0.3s,baz=252,slow=8.7,SNR=10						
SJG	**San Juan**	**19.08**	**58**	P	**Pn**	**10 56 59.8**	**+1.0**
SJG				IAmb	IAmb	10 57 03.7	
	comp=Z,23nm,0.6s						
PDPR	**Patillas Dam,**	**19.14**	**58**	P	**Pn**	**10 57 00.7**	**+1.1**
GCPR	**Guaynabo City**	**19.23**	**57**	P	**P**	**10 56 58.0**	**-1.7**
GCPR				IAmb	IAmb	10 57 05.0	
	comp=Z,78nm,1.4s						
HUMP	**Col San Antoni**	**19.35**	**58**	P	**Pn**	**10 57 02.7**	**+0.7**
HUMP				IAmb	IAmb	10 57 06.0	
	comp=Z,16nm,0.8s						
CBYP	**Canovanas**	**19.40**	**58**	P	**P**	**10 57 00.8**	**-0.8**
CBYP				IAmb	IAmb	10 57 06.3	
	comp=Z,26nm,0.9s						
MTP	**Monte Pirata**	**19.58**	**59**		**P**	**10 57 03.8**	**+0.4**
MTP				IAmb	IAmb	10 57 06.6	
	comp=Z,20nm,0.7s						
CDVI	**St. Croix**	**20.10**	**61**		Pn	10 57 10.8	-0.1
NNA	**Nana**	**21.18**	**163**	P	**P**	**10 57 21.9**	**+0.9**
	comp=Z,36nm,1.1s,baz=344,slow=9.5,SNR=7.1						
NNA	**Nana**	**21.18**	**163**	P	**P**		
NNA				IAmb	IAmb	10 57 22.9	
	comp=Z,36nm,1.1s						
TIGA	**Tifton**	**22.93**	**359**	P	**P**	**10 57 41.3**	**+1.9**
	baz=179						
TIGA	**Tifton**	**22.93**	**359**	P	**P**	**10 57 39.2**	**-0.2**
255A	**Hazlehurst**	**23.41**	**1**	P	**P**	**10 57 43.6**	**-0.8**
255A				IAmb	IAmb	10 57 48.8	
	comp=Z,28nm,0.9s						
344A	**Westbrook Farm**	**24.02**	**344**	P	**P**	**10 57 49.4**	**-0.8**
152A	**Waverly Hall**	**24.19**	**357**	P	**P**	**10 57 51.0**	**-0.9**
152A				IAmb	IAmb	10 57 54.8	
	comp=Z,18nm,0.7s						
342A	**Flagon Creek P**	**24.43**	**341**	P	**P**	**10 57 53.0**	**-0.9**
VBMS	**Vicksburg**	**24.68**	**345**	P	**P**	**10 57 56.2**	**-0.1**
ETMB	**Extrema**	**24.69**	**137**	*eP*	**P**	**10 57 56.5**	**-0.1**
NHSC	**New Hope**	**24.73**	**6**	P	**P**	**10 57 58.6**	**+1.9**
	baz=187						
146A	**Union**	**24.74**	**348**	P	**P**	**10 57 57.0**	**+0.1**
LRAL	**Lakeview Retre**	**24.78**	**352**	P	**P**	**10 57 58.5**	**+1.3**
	baz=171						
LRAL	**Lakeview Retre**	**24.78**	**352**	P	**P**	**10 57 58.0**	**+0.8**
LRAL				IAmb	IAmb	10 58 04.0	
	comp=Z,21nm,1.4s						
Z57A	**Bowman**	**24.87**	**5**	P	**P**	**10 58 00.0**	**+2.0**
	baz=186						
GOGA	**Godfrey**	**24.89**	**359**	P	**P**	**10 57 59.2**	**+1.1**
	baz=179,SNR=20						
GOGA	**Godfrey**	**24.89**	**359**	P	**P**	**10 57 58.9**	**+0.8**
833A	**Chaparral WMA,**	**25.09**	**324**	P	**P**	**10 58 01.4**	**+1.4**
	baz=139						
833A	**Chaparral WMA,**	**25.09**	**324**	P	**P**	**10 58 00.2**	**+0.2**
833A				IAmb	IAmb	10 58 05.8	
	comp=Z,11nm,0.9s						
MACA	**Manacapuru-AM**	**25.12**	**116**	*eP*	**P**	**10 58 00.6**	**+0.2**
Y52A	**Lilburn**	**25.36**	**358**	P	**P**	**10 58 03.9**	**+1.6**
Y52A				IAmb	IAmb	10 58 05.9	
	comp=Z,20nm,0.8s						
Y49A	**Blount Mountai**	**25.52**	**354**	P	**P**	**10 58 07.1**	**+3.2**
Y49A				IAmb	IAmb	10 58 09.1	
	comp=Z,9.9nm,0.6s						
NATX	**Nacogdoches**	**25.62**	**337**	P	**P**	**10 58 07.4**	**+2.6**
HODGE	**Hodges**	**25.72**	**2**	P	**P**	**10 58 06.7**	**+1.1**
HODGE				IAmb	IAmb	10 58 08.6	
	comp=Z,16nm,0.8s						
JSC	**Jenkinsville**	**25.81**	**3**	P	**P**	**10 58 07.8**	**+1.3**
JSC				IAmb	IAmb	10 58 12.2	
	comp=Z,15nm,1.2s						
Y60A	**Bolivia**	**25.87**	**9**	P	**P**	**10 58 08.1**	**+1.1**
	baz=191						
X55A	**Gracelyn & Ava**	**25.98**	**3**	P	**P**	**10 58 09.4**	**+1.4**
	baz=183						
X54A	**Belton**	**26.03**	**1**	P	**P**	**10 58 09.6**	**+1.1**
	baz=182,SNR=5.3						
X56A	**White Oak**	**26.03**	**4**	P	**P**	**10 58 09.5**	**+0.9**
	baz=184						
X51A	**Calhoun**	**26.09**	**357**	P	**P**	**10 58 08.1**	**-0.9**
X51A				IAmb	IAmb	10 58 11.8	
	comp=Z,14nm,0.8s						
FPAL	**Fort Paine**	**26.12**	**355**	P	**P**	**10 58 10.1**	**+0.7**
X48A	**Hartselle**	**26.18**	**353**	P	**P**	**10 58 11.2**	**+1.3**
BIRD	**Birdtown, Kers**	**26.23**	**5**	P	**P**	**10 58 11.0**	**+0.8**
BIRD				IAmb	IAmb	10 58 15.6	
	comp=Z,

baz=185
T59A Double "B" Far 28.88 9 P P 10 58 34.8 +0.8
baz=191
H06E1 SOCORRO T-PHAS 28.92 294 T T 11 28 47.4
SNR=17
S51A Beattyville 29.11 359 IAmb IAmb 10 58 38.3
comp=Z,8.7nm,0.7s
U40A Yellville 29.22 344 P P 10 58 37.1 0.0
baz=160,SNR=5.3
U40A Yellville 29.22 344 IAmb IAmb 10 58 38.8
comp=Z,13nm,0.9s
S55A Lewisburg 29.33 4 P P 10 58 38.9 +0.8
baz=185
T42A Van Buren 29.41 347 IAmb IAmb 10 58 39.7
comp=Z,9.0nm,0.9s
S57A Dark Hollow, R 29.46 7 P P 10 58 40.3 +1.1
baz=188
PB16 IPOC Station P 29.75 153 P P 10 58 44.0 +1.4
PB16 IAmb IAmb 10 58 47.4
comp=Z,6.6nm,0.8s
R50A Paris 29.77 358 IAmb IAmb 10 58 44.5
comp=Z,20nm,1.4s
MGMO Mountain Grove 29.81 345 IAmb IAmb 10 58 43.7
comp=Z,16nm,0.8s
R49A Shelbyville 29.82 357 IAmb IAmb 10 58 44.5
comp=Z,18nm,1.1s
WCI Wyandotte Cave 29.84 355 P P 10 58 43.5 +1.0
baz=174
WCI Wyandotte Cave 29.84 355 P P 10 58 44.6 +2.1
WCI IAmb IAmb 10 58 44.7
comp=Z,11nm,0.8s
R55A Marlinton 29.87 5 P P 10 58 44.0 +1.1
baz=186
R57A Stanardsville 30.05 7 P P 10 58 45.8 +1.4
baz=189
R56A Bull Pasture M 30.06 6 P P 10 58 45.8 +1.2
baz=187
ITTB Itaituba 30.08 114 eP P 10 58 45.1 +0.1
R58A Rapidan 30.11 8 P P 10 58 46.2 +1.2
baz=190
Q53A Leroy 30.36 2 P P 10 58 47.8 +0.7
baz=183
CCM Cathedral Cave 30.43 347 P P 10 58 47.6 -0.1
baz=164
CCM Cathedral Cave 30.43 347 P P 10 58 47.2 -0.5
CCM IAmb IAmb 10 58 49.2
comp=Z,9.9nm,0.8s
Q52A Bidwell 30.44 1 P P 10 58 48.6 +0.8
baz=182
MALB Monte Alegre 30.48 108 eP P 10 58 48.6 +0.1
Q55A Buckhannon 30.58 5 P P 10 58 49.9 +0.7
baz=186
Q56A Snyder Ridge, 30.71 6 P P 10 58 51.2 +1.0
baz=187
R40A Maddies Statio 30.89 346 IAmb IAmb 10 58 53.8
comp=Z,5.3nm,0.8s
P53A Whipple 30.99 3 P P 10 58 53.5 +0.8
baz=183
P53A Whipple 30.99 3 IAmb IAmb 10 58 54.1
comp=Z,12nm,0.9s
P49A Miami Univ. Ec 31.03 358 P P 10 58 53.7 +0.6
baz=177
VILB Vilhena 31.09 133 eP P 10 58 54.1 +0.2
P57A Homestead Farm 31.28 8 P P 10 58 57.0 +1.8
baz=190
P58A Pank, Wackersv 31.38 9 P P 10 58 57.1 +1.0
baz=191
AMTX Amarillo 31.40 330 P P 10 58 57.4 +0.9
baz=143
NPGB Novo Progresso 31.61 118 eP P 10 58 57.9 -0.6
O51A Pataskala 31.61 1 P P 10 58 58.7 +0.5
baz=181
ACSO Alum Creek Sta 31.70 0 P P 10 58 59.8 +0.9
baz=180
ACSO Alum Creek Sta 31.70 0 IAmb IAmb 10 59 01.2
comp=Z,11nm,0.8s
O54A Avella 31.74 4 P P 10 58 59.6 +0.3
baz=185
O55A Ligonier 31.85 5 P P 10 59 00.9 +0.6
baz=187
O56A Blue Knob Stat 31.99 7 P P 10 59 02.6 +1.0
baz=188
P40A Paris 32.02 347 IAmb IAmb 10 59 02.4
comp=Z,8.9nm,0.9s
O57A Amberson 32.05 8 P P 10 59 04.1 +2.1
baz=190
O58A Lewisberry 32.06 9 P P 10 59 03.0 +0.8
baz=191
MCPB Macapa, AP 32.12 104 eP P 10 59 02.0 -1.0
O59A Robesonia 32.37 10 P P 10 59 05.6 +0.8
baz=193
N51A Ashland 32.39 1 P P 10 59 06.2 +1.3
baz=181
SSPA Standing Stone 32.43 7 P P 10 59 06.1 +0.8
baz=190
O60A Telford 32.51 11 P P 10 59 07.0 +1.0
baz=194
N58A Sunbury 32.80 9 P P 10 59 09.6 +1.1
baz=192
KSU1 Kansas State U 32.89 340 P P 10 59 10.1 +0.6
baz=155
121A Cookes Peak, D 33.18 320 P P 10 59 15.4 +3.1
121A IAmb IAmb 10 59 17.8
comp=Z,4.5nm,0.8s
M57A Sunshine Farm, 33.22 8 P P 10 59 13.3 +1.1
baz=191
M56A Emporium 33.23 7 P P 10 59 13.6 +1.2
baz=189
PTLB Pontes e Lacer 33.53 135 eP P 10 59 14.4 -0.8
M59A Waymart 33.69 10 P P 10 59 17.5 +1.1
baz=194
LVC Limon Verde 33.80 156 eP P 10 59 17.8 -0.2
L57A Andrews Acres 33.91 8 P P 10 59 19.6 +1.3
baz=191
L40A Anamosa 34.29 349 P P 10 59 21.2 -0.3
K54A Basiliko Farm, 34.29 6 P P 10 59 23.2 +1.6
baz=188
K57A Scipio Center 34.68 9 P P 10 59 26.4 +1.5
baz=191
K59A Cooperstown 34.99 11 P P 10 59 28.9 +1.2
baz=194
TUC Tucson 35.02 317 P P 10 59 32.3 +4.2
J56A Wolcott 35.16 8 P P 10 59 30.5 +1.4
baz=191
KSCO Kaye Shedlock' 35.17 333 P P 10 59 30.8 +1.4
baz=145
J58A Remsen 35.48 10 P P 10 59 33.0 +1.1
baz=193
SDCO Great Sand Dun 35.56 329 P P 10 59 32.6 -0.4
I59A Olmsteadville 36.16 11 P P 10 59 39.2 +1.6
baz=195
PRPB Parauapebas 36.19 113 eP P 10 59 37.6 -0.7
214A Organ Pipe Nat 36.22 314 P P 10 59 39.2 +0.8
214A IAmb IAmb 10 59 43.3
comp=Z,5.7nm,0.8s
H53A Bobcaygeon 36.24 5 P P 10 59 40.3 +1.9
baz=187
S22A 4UR Ranch, Cre 36.25 327 P P 10 59 40.3 +1.4
baz=138
H57A Richville 36.54 9 P P 10 59 42.7 +1.9
baz=193
X16A Lo Mia Camp, P 36.73 319 P P 10 59 41.1 -1.8
K31A O'Neill 36.77 341 P P 10 59 41.2 -1.7
MVCO Mesa Verde 36.79 325 IAmb IAmb 10 59 47.9
comp=Z,7.0nm,1.2s
ECSD EROS Data Cent 37.13 344 P P 10 59 45.0 -0.9
baz=157
ECSD EROS Data Cent 37.13 344 P P 10 59 44.5 -1.5
ECSD IAmb IAmb 10 59 46.1
comp=Z,7.4nm,1.0s
SNDB Serra Nova Dou 37.53 122 eP P 10 59 49.2 -0.5
AC02 Maricunga 37.55 159 P P 10 59 51.8 +1.6
AC02 IAmb IAmb 10 59 53.2
comp=Z,12nm,1.0s
SPMN Marine on St. 37.64 349 P P 10 59 49.5 -0.7
baz=164
SPMN Marine on St. 37.64 349 P P 10 59 49.7 -0.5
F36A Milaca 38.39 348 P P 10 59 54.7 -1.9
SUSD Miller 38.47 342 P P 10 59 56.3 -0.9
baz=154
SUSD Miller 38.47 342 P P 10 59 55.8 -1.5
ESJX Sierra Juarez 38.50 312 P P 10 59 58.9 +1.0
BC3 Big Chuckawall 39.01 315 P P 11 00 03.3 +1.2
baz=123
D55A Sainte-Anne-du 39.02 8 P P 11 00 02.0 +0.1
baz=192
ARAG Araguaiana, MT 39.15 128 eP P 11 00 02.3 -1.1

MONP2 Monument Peak 39.30 313 P P 11 00 06.5 +1.9
baz=121
SMTB Santa Maria do 39.30 115 eP P 11 00 04.2 -0.4
BELC Belle Mtn. Jos 39.57 315 P P 11 00 09.1 +2.2
baz=122
PFO Pinyon Flats O 39.69 314 P P 11 00 09.0 +1.2
baz=122
PFO Pinyon Flats O 39.69 314 P P 11 00 08.7 +0.9
GMRC Granite Mounta 39.77 316 P P 11 00 08.7 +0.3
baz=124
K22A Casper 39.85 333 P P 11 00 10.1 +1.1
baz=142
PEXB Peixe 40.13 120 eP P 11 00 10.9 -0.7
MURC Murrieta 40.21 314 P P 11 00 12.7 +0.6
baz=121
HEC Hector,Ludlow 40.25 316 P P 11 00 13.2 +0.8
baz=123,SNR=5.6
ROSB Rosrio 40.44 105 eP P 11 00 13.9 -0.1
PSUT Pine Spring 40.82 322 P P 11 00 18.8 +1.6
GSC Goldstone, Bar 40.83 316 P P 11 00 17.9 +0.7
baz=123
GSC Goldstone, Bar 40.83 316 P P 11 00 18.6 +1.3
E28A Huff 40.92 341 P P 11 00 17.2 -0.5
E28A IAmb IAmb 11 00 18.8
comp=Z,16nm,1.0s
CIS Catalina Islan 41.00 312 P P 11 00 20.7 +2.2
baz=119,SNR=5.4
BW06 Boulder Array 41.38 330 P P 11 00 22.5 +0.7
baz=138
PDAR Pinedale Array 41.38 330 P P 11 00 19.9 -1.8
comp=Z,1.1nm,0.8s,baz=134,slow=11,SNR=7.1
PDAR PcP PcP 11 02 19.6 -0.3
comp=Z,1.1nm,0.9s,baz=113,slow=5.8,SNR=5.9
PDAR LR LR 11 20 03.8
comp=Z,30nm,18.0s,baz=142,slow=40
PDAR Pinedale Array 41.38 330 P P 11 00 22.1 +0.4
TPNV Topopah Spring 41.38 318 P P 11 00 22.6 +0.9
baz=125
SPR3 Spring Creek 3 41.40 322 P P 11 00 22.9 +0.8
EDW2 Edwards Air Fo 41.44 315 P P 11 00 23.9 +1.7
baz=121
FURC Furnace Creek, 41.51 317 P P 11 00 25.0 +2.4
baz=124
LRMC Laurel Mtn Rad 41.53 316 P P 11 00 24.3 +1.3
baz=122
HWUT Hardware Ranch 41.56 327 P P 11 00 21.3 -1.9
HWUT IAmb IAmb 11 00 27.1
comp=Z,10nm,1.5s
HWUT PcP 11 02 21.1 +0.6
MPMC Manual Prospec 41.71 317 P P 11 00 25.5 +0.9
baz=123
MDND Maddock 41.74 343 P P 11 00 24.2 -0.1
baz=155
MDND Maddock 41.74 343 P P 11 00 22.6 -1.7
R11A Troy Canyon, C 41.77 321 P P 11 00 27.3 +2.2
baz=127
R11A Troy Canyon, C 41.77 321 P P 11 00 26.4 +1.4
H03N2 Juan Fernandez 41.80 175 T T 11 44 50.7
baz=354,slow=76,SNR=12
H03N1 Juan Fernandez 41.80 175 T T 11 44 51.2
baz=354,slow=76,SNR=11
H03N3 Juan Fernandez 41.81 175 T T 11 44 49.9
baz=354,slow=76,SNR=9.5
BGU Big Grassy Mou 41.90 325 P P 11 00 23.5 -2.5
BDFB Brasilia 42.16 124 P P 11 00 27.1 -1.2
comp=Z,3.3nm,0.6s,baz=325,slow=9.5,SNR=4.3
BDFB Brasilia 42.16 124 P P 11 00 27.3 -1.0
ISA Isabella, Lake 42.18 315 P P 11 00 29.8 +1.6
baz=121
ISA Isabella, Lake 42.18 315 P P 11 00 29.7 +1.5
CWC Cottonwood Cre 42.32 317 P P 11 00 31.0 +1.5
baz=122
SNOW Snow King Moun 42.48 330 P P 11 00 31.9 +1.1
CPUP Villa Florida 42.63 145 LR LR 11 18 46.4
comp=Z,60nm,18.4s,baz=326,slow=37
CPUP Villa Florida 42.63 145 eP P 11 00 31.9 +0.1
ITRB Iturama 42.64 131 eP P 11 00 31.8 -0.3
VES Vestal, Richgr 42.70 315 P P 11 00 34.4 +2.0
baz=121
PKM Mcpherson Peak 42.73 314 P P 11 00 34.9 +2.0
baz=119
LAO LASA Array 42.98 337 P P 11 00 34.5 0.0
baz=145
RLMT Red Lodge 43.02 333 P P 11 00 34.8 -0.3
baz=140
RLMT Red Lodge 43.02 333 P P 11 00 34.6 -0.4
ELK Elko 43.05 324 P P 11 00 35.9 +0.5
ULM Lac du Bonnet 43.05 348 P P 11 00 33.0 -2.0
comp=Z,7.9nm,0.6s,baz=160,slow=8.2,SNR=18
ULM Lac du Bonnet 43.05 348 P P 11 00 33.3 -1.7
ULM IAmb IAmb 11 00 34.9
comp=Z,16nm,1.1s
SDBA SAO DESIDERIO 43.21 118 eP P 11 00 36.1 -0.7
IPMB Ipameri, GO 43.28 127 eP P 11 00 36.5 -0.8
NV11 Mina Array Sit 43.46 319 P P 11 00 40.4 +1.7
NVAR Mina Array Bea 43.56 319 P P 11 00 41.2 +1.7
comp=Z,1.6nm,0.7s,baz=132,slow=6.8,SNR=12
NVAR Mina Array Bea 43.56 319 P P 11 00 40.7 +1.2
LHV Little Huntoon 43.59 319 P P 11 00 42.1 +2.6
MDPB Devils Postpil 43.63 317 P P 11 00 41.8 +1.5
YHL Hebgen Lake 43.71 331 P P 11 00 44.2 +3.4
DGMT Dagmar 43.73 340 P P 11 00 41.1 +0.6
baz=149
DGMT Dagmar 43.73 340 P P 11 00 40.6 0.0
DGMT IAmb IAmb 11 00 46.2
comp=Z,15nm,0.9s
RYN Ryan 43.81 319 P P 11 00 44.0 +2.5
WAKR Walker 44.34 318 P P 11 00 44.0 -1.8
HLID Hailey 44.44 327 P P 11 00 45.6 -0.9
baz=133
HLID Hailey 44.44 327 P P 11 00 46.2 -0.3
BOZ Bozeman (W) 44.47 331 P P 11 00 47.1 +0.3
baz=138
BOZ Bozeman (W) 44.47 331 P P 11 00 47.0 +0.3
PTGB Pitanga 44.70 138 eP P 11 00 47.6 -1.1
BB19B Bebedouro 44.83 131 eP P 11 00 49.5 -0.3
JANB Januaria 44.95 121 eP P 11 00 50.0 -0.8
MFID Camas Ranch 45.10 326 P P 11 00 55.1 +3.3
ORV Oroville 46.26 318 P P 11 01 00.1 -0.7
ORV IAmb IAmb 11 01 03.0
comp=Z,9.6nm,1.4s
ITAB Concordia 46.41 141 eP P 11 01 01.6 -0.5
J08A Circle Bar Ran 46.56 324 P P 11 01 01.6 -1.6
VAO Valinhos 47.15 132 eP P 11 01 07.1 -1.0
O02D Mt. Diablo Mer 47.43 318 P P 11 01 10.4 +0.3
baz=121
M04C Macdoel 47.67 321 P P 11 01 12.4 +0.4
baz=123
L04D Klamath Falls 48.20 321 P P 11 01 16.3 +0.3
baz=123
PINE Pine Mountain 48.26 323 P P 11 01 16.2 -0.3
E09A Wood Farm, Sta 48.37 328 P P 11 01 17.1 0.0
E09A IAmb IAmb 11 01 20.5
comp=Z,3.7nm,0.9s
I05D Terrebonne, OR 48.81 324 P P 11 01 21.3 +0.7
baz=126
I04A Tendick Farm, 49.13 323 P P 11 01 23.7 +0.7
baz=124
G05D Wamic, OR 49.32 325 P P 11 01 25.7 +1.2
baz=126
H04A Detroit Lake 49.50 324 P P 11 01 25.2 -0.7
H04A IAmb IAmb 11 01 36.4
comp=Z,3.2nm,0.8s
I03D Drain, OR 49.65 322 P P 11 01 27.8 +0.8
baz=123
J01E Myrtle Point 49.72 321 P P 11 01 28.8 +1.3
baz=122
F05D White Salmon 49.78 325 P P 11 01 29.6 +1.6
baz=126
I02D Swisshome 50.17 322 P P 11 01 32.3 +1.4
baz=123
PLCA Paso Flores 50.24 168 P P 11 01 30.9 -0.6
comp=Z,3.3nm,0.7s,baz=342,slow=8.8,SNR=13
PLCA Paso Flores 50.24 168 P P 11 01 31.3 -0.2
PLCA IAmb IAmb 11 01 32.4
comp=Z,3.9nm,0.8s
PLCA Paso Flores 50.24 168 eP P 11 01 31.5 0.0
RIB01 Linhares ES 50.27 124 eP P 11 01 31.3 -0.7
YKA Yellowknife Ar 58.66 343 P P 11 02 31.6 -0.7
comp=Z,5.1nm,0.9s,baz=139,slow=6.6,SNR=4.4
ICESG Greenland Ices 66.83 16 i P P 11 03 25.1 -2.1
ICESG IAmb IAmb 11 03 27.5
comp=Z,8.0nm,0.7s
INK Inuvik 68.34 342 P P 11 03 36.4 +0.1
BCAR Beaver Creek A 68.70 335 P P 11 03 38.1 -0.6

K27K Chicken 69.22 336 P P 11 03 43.0 +1.1
baz=115
N25K Chitina, Valde 69.33 333 P P 11 03 44.0 +1.3
baz=112
SUMG Summit 69.48 13 P P 11 03 42.7 -1.1
SUMG Summit 69.48 13 i P P 11 03 42.7 -1.1
comp=Z,30nm,0.9s
SUMG Summit 69.48 13 i P P 11 03 42.7 -1.1
SUMG IAmb IAmb 11 03 45.0
comp=Z,30nm,0.9s
HDA Harding Lake 71.33 336 P P 11 03 54.8 0.0
baz=110,SNR=6.0
IL31 71.44 336 P P 11 03 55.0 -0.3
IL31 IAmb IAmb 11 03 56.5
comp=Z,15nm,1.4s
ILAR Eielson Array 71.44 336 P P 11 03 55.1 -0.3
comp=Z,3.6nm,0.7s,baz=115,slow=4.5,SNR=35
ILAR Eielson Array 71.44 336 P P 11 03 55.0 -0.4
BMAR Burnt Mountain 71.57 339 P P 11 03 55.8 -0.4
POKR Poker Plat Res 71.78 336 P P 11 03 57.3 -0.2
baz=110
RND Reindeer 71.80 334 P P 11 03 57.0 -0.6
MCK McKinley 71.94 335 P P 11 03 58.9 +0.5
baz=108
CUT Chulitna 72.11 333 P P 11 03 59.5 0.0
baz=106
NEA2 Nenana 72.26 336 P P 11 04 00.6 +0.2
baz=108
COLD Coldfoot 73.53 338 P P 11 04 08.3 +0.5
baz=108
IMAR Indian Mountai 74.54 336 P P 11 04 13.6 -0.1
DAG Danmarks Havn 76.14 12 i P P 11 04 20.5 -2.2
comp=Z,4.6nm,1.1s
DAG Danmarks Havn 76.14 12 i P P 11 04 20.6 -2.2
DAG IAmb IAmb 11 04 22.9
comp=Z,4.6nm,1.1s
ESDC Sonseca Array 76.32 51 P P 11 04 24.2 -0.4
comp=Z,5.7nm,0.9s,baz=277,slow=5.9,SNR=31
ESDC Sonseca Array 76.32 51 P P 11 04 24.0 -0.6
TIC Toumodi 77.29 85 eP P 11 04 30.7 +0.2
LIC Lamto 77.33 85 eP P 11 04 30.7 0.0
comp=Z,23nm,0.6s
KOWA Kowa 77.41 77 P P 11 04 31.9 +0.8
DBIC Dimbokro 77.45 85 P P 11 04 30.9 -0.4
comp=Z,7.1nm,0.8s,baz=247,slow=7.6,SNR=7.1
DBIC Dimbokro 77.45 85 P P 11 04 30.4 -0.9
KIC Kosan Boka 77.60 85 eP P 11 04 32.3 +0.1
comp=Z,22nm,0.9s
TOA0 Torodi Ar. Sit 83.07 78 P P 11 05 01.1 -0.5
TOA0 IAmb IAmb 11 05 02.4
comp=Z,4.6nm,1.0s
TORD Torodi Ar. Bea 83.07 78 P P 11 05 01.6 -0.1
comp=Z,2.4nm,0.8s,baz=264,slow=4.2,SNR=14
TORD Torodi Ar. Bea 83.07 78 P P 11 05 01.2 -0.5
NOA NORSAR Array B 84.79 29 P P 11 05 08.7 -0.9
comp=Z,2.2nm,0.9s,baz=277,slow=4.9,SNR=5.0
GERES GERESS Array B 88.18 41 P P 11 05 25.6 -0.9
comp=Z,0.6nm,0.7s,baz=270,slow=1.3,SNR=5.8
GERES GERESS Array B 88.18 41 P P 11 05 24.5 -2.0
ARCES ARCESS Array B 88.57 19 P P 11 05 26.5 -1.3
comp=Z,3.5nm,0.9s,baz=289,slow=3.7,SNR=7.0
KSRS Korea Array 125.94 330 PKP PKPdf 11 11 37.0 -0.8
comp=Z,1.1nm,0.8s,baz=55,slow=4.6,SNR=3.3
LZH Lanzhou 135.27 352 ePKP PKPdf 11 11 55.6 -0.2
LZH pPKP pPKPdf 11 12 01.5 +0.7
LZH sPKP 11 12 03.7
LZH LR LR
comp=N,67nm,18.0s
LZH LR LR
comp=E,70nm,18.3s
LZH LR LR
comp=Z,98nm,20.2s
ASAR Alice Springs 141.50 242 PKhKP PKPpre 11 12 00.1
comp=Z,0.5nm,0.9s,baz=124,slow=3.5,SNR=6.0
WRA Warramunga Arr 142.04 248 PKhKP PKPpre 11 12 01.6
comp=Z,0.5nm,0.6s,baz=104,slow=3.0,SNR=8.8
CMAR Chiang Mai Arr 153.24 356 PKP PKPdf 11 12 26.4 -0.4
comp=Z,0.4nm,0.3s,baz=302,slow=1.8,SNR=5.4
CMAR PKPbc sPKPdf 11 12 33.3 -0.2
comp=Z,1.4nm,0.6s,baz=331,slow=3.7,SNR=5.8
CMAR Chiang Mai Arr 153.24 356 PKPdf 11 12 25.7 -1.1
CMAR sPKPdf 11 12 33.4 -0.1

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*NEIC **10** 10:52:51.5±1.0, 17.°89N±0.°03×67.°16W±0.°03, h17km±2km,*
Error ellipse: s-maj=5.4km s-min=0.9km az=222.0
*RSPR **10** 10:52:52.7, 17.°91N×67.°12W, h7km, MD2.5/17*
ISC 10 10:52:52.5±1.5**, 17.°93N**±0.°06×**67.°11W**±0.°06**, h13**km±5km**,**
n55, σ0.°50/67, 13C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	0.07	3 ⇑	iP	Pg	10 52 55.3	+0.1
CRPR	Cabo Rojo, PR	0.07	3	eS	Sg	10 52 57.1	0.0
CRPR	Cabo Rojo, PR	0.07	3	Pg	Pg	10 52 55.3	+0.1
MLPR	Magueyes Islan	0.08	60 ⇓	iP	Pg	10 52 55.1	0.0
MLPR	Magueyes Islan	0.08	60	eS	Sg	10 52 57.1	0.0
MLPR	Magueyes Islan	0.08	60	Pg	Pg	10 52 55.2	0.0
GBPR	Guanica, Bosqu	0.23	79 ⇑	iP	Pg	10 52 57.6	+0.3
GBPR	Guanica, Bosqu	0.23	79	eS	Sb	10 53 01.8	-0.7
GBPR	Guanica, Bosqu	0.23	79		Pg	10 52 57.6	+0.3
GBPR					Sb	10 53 01.8	-0.7
LSP	Las Mesas	0.24	6 ⇑	iP	Pg	10 52 58.2	+0.5
LSP	Las Mesas	0.24	6	eS	Sb	10 53 02.9	-0.2
LSP	Las Mesas	0.24	6		Pg	10 52 58.2	+0.5
LSP					Sb	10 53 02.9	-0.2
MPR	Mayaguez	0.28	355		Pg	10 52 58.6	+0.3
OBIP	Obispado Ponce	0.50	77 ⇑	eP	Pg	10 53 02.7	+0.4
OBIP	Obispado Ponce	0.50	77	eS	Sb	10 53 09.7	-0.6
OBIP	Obispado Ponce	0.50	77		Pg	10 53 01.9	-0.4
OBIP					Sb	10 53 09.8	-0.4
CELP	Cerrillos	0.53	74 ⇑	eP	Pg	10 53 02.8	-0.1
CELP	Cerrillos	0.53	74	eS	Sb	10 53 11.0	-0.2
CELP	Cerrillos	0.53	74		Pg	10 53 02.8	-0.1
CELP					Sb	10 53 11.0	-0.2
AGPR	Aguadilla, PR	0.53	0 ⇑	eP	Pg	10 53 03.1	+0.1
AGPR	Aguadilla, PR	0.53	0	eS	Sb	10 53 11.0	-0.4
AGPR	Aguadilla, PR	0.53	0		Pg	10 53 03.1	+0.1
AGPR	Aguadilla, PR	0.53	0		Sb	10 53 11.0	-0.4
AOPR	Arecibo Observ	0.54	40 ⇑	eP	Pg	10 53 03.1	0.0
AOPR	Arecibo Observ	0.54	40	eS	Sg	10 53 10.8	+0.6
AOPR	Arecibo Observ	0.54	40		Pg	10 53 02.7	-0.4
AOPR	Arecibo Observ	0.54	40		Sg	10 53 10.8	+0.6
ICMP	Isla Caja de M	0.56	94 ⇑	eP	Pg	10 53 03.7	+0.2
ICMP	Isla Caja de M	0.56	94	eS	Sb	10 53 12.3	+0.2
ICMP	Isla Caja de M	0.56	94		Pg	10 53 03.7	+0.2
ICMP					Sb	10 53 12.3	+0.2
EMPR	Esperanza - Ma	0.78	46 ⇑	eP	Pg	10 53 07.7	+0.1
EMPR	Esperanza - Ma	0.78	46	eS	Sb	10 53 18.5	+0.2
EMPR	Esperanza - Ma	0.78	46		Pg	10 53 07.7	+0.1
EMPR					Sb	10 53 18.5	+0.2
SJG	San Juan	0.94	79		Pg	10 53 09.6	-1.0
IGPR	InterUniversit	0.96	88 ⇑	eP	Pb	10 53 11.3	+0.3
IGPR	InterUniversit	0.96	88	eS	Sb	10 53 24.0	+0.4
IGPR	InterUniversit	0.96	88		Pb	10 53 11.5	+0.5
PDPR	Patillas Dam,	1.04	85 ⇑	eP	Pb	10 53 11.8	-0.6
PDPR	Patillas Dam,	1.04	85	eS	Sb	10 53 26.2	+0.2
PDPR	Patillas Dam,	1.04	85		Pb	10 53 11.8	-0.6
PDPR					Sb	10 53 26.2	+0.2
GCPR	Guaynabo City	1.05	69 ⇑	eP	Pg	10 53 12.8	+0.1
GCPR	Guaynabo City	1.05	69	eS	Sb	10 53 25.7	-0.6
GCPR	Guaynabo City	1.05	69		Pg	10 53 12.8	+0.1
GCPR					Sb	10 53 25.7	-0.6
HUMP	Col San Antoni	1.22	80 ⇑	eP	Pn	10 53 15.0	-0.3
HUMP	Col San Antoni	1.22	80	eS	Sg	10 53 32.8	+0.8
HUMP	Col San Antoni	1.22	80		Pn	10 53 15.0	-0.3
HUMP					Sg	10 53 32.8	+0.8
CBYP	Canovanas	1.24	74 ⇑	eP	Pn	10 53 14.8	-0.9
CBYP	Canovanas	1.24	74	eS	Sb	10 53 30.7	-1.2
CBYP	Canovanas	1.24	74		Pn	10 53 14.8	-0.9
CBYP					Sb	10 53 30.7	-1.2
MTP	Monte Pirata	1.50	83 ⇑	eP	Pn	10 53 19.2	+0.1
MTP	Monte Pirata	1.50	83	eS	Sb	10 53 39.4	+0.3
MTP	Monte Pirata	1.50	83		Pn	10 53 19.2	+0.1
MTP					Sb	10 53 39.4	+0.3
CUPR	Culebra, Puert	1.78	78 ⇑	eP	Pb	10 53 24.4	-0.7
CUPR	Culebra, Puert	1.78	78	eS	Sn	10 53 46.4	+0.9
CUPR	Culebra, Puert	1.78	78		Pb	10 53 24.4	-0.7
CUPR					Sn	10 53 46.4	+0.9

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*IDC **10** 11:01:37.0±3.6, 36.°03N×97.°93E, h0km, mb3.8/6,*

mb1 3.9/8,mb1mx3.6/42,mbtmp3.8/8,ML3.7/2,Error ellipse: s-maj=81.5km s-min=29.3km az=17.0

*BJI **10** 11:01:42.9±0.0, 36°.45N×97°.84E, h11km,ML3.5/9*

ISC 10 11:01:40.3±1.7,**36°.3N**±0°.1×**98°.1E**±0°.1,**h10**km,**n11,** σ1s**77**/13,**mb3.9/4,Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.38**	**23**	Op		Pn	**Pb**	**11 02 39.5**	**-0.9**
GTA				Pg		**Pg**	**11 02 44.7**	**-0.4**
GTA				Sn		**Sb**	**11 03 20.3**	**-1.4**
GTA				Sg		**Sg**	**11 03 29.6**	**+0.7**
WMQ	**Urumqi**	**10.93**	**317**	*e*P		**Pn**	**11 04 19.3**	**+2.6**
SONM	**Songino Array**	**13.05**	**26**	Pn		**Pn**	**11 04 48.3**	**+2.5**
	0.5nm,0.3s,baz=206,slow=15,SNR=5.4							
WHN	**Wuhan**	**14.75**	**108**	P		P	11 05 23.8	+8.8
MKAR	**Makanchi Array**	**15.76**	**317**	Pn		**Pn**	**11 05 18.6**	**-3.7**
	0.2nm,0.3s,baz=127,slow=14,SNR=8.5							
ZALV	**Zalesovo Beam**	**19.90**	**337**	P		**P**	**11 06 11.9**	**+0.1**
	2.9nm,0.5s,baz=145,slow=11,SNR=12							
KURBB	**Kurchatov Arra**	**20.06**	**322**	P		**P**	**11 06 12.7**	**-0.8**
	1.3nm,0.6s,baz=128,slow=12,SNR=5.1							
KSRS	**Korea Array**	**23.86**	**78**	P		**P**	**11 06 53.4**	**-0.3**
	1.8nm,0.6s,baz=272,slow=8.9,SNR=3.1							
BVAR	**Borovoye Array**	**25.59**	**319**	P		**P**	**11 07 09.0**	**-0.4**
	0.8nm,0.4s,baz=134,slow=6.2,SNR=4.6							
ARCES	**ARCESS Array B**	**50.43**	**334**	P		**P**	**11 10 37.3**	**-0.3**
	1.8nm,0.8s,baz=82,slow=8.7,SNR=3.7							
FINES	**FINESS Array B**	**50.43**	**324**	P		**P**	**11 10 37.1**	**-0.5**
	1.6nm,0.7s,baz=90,slow=9.5,SNR=5.5							

*IDC **10** 11:09:44.6±7.3, 33°.08N×140°.91E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/33, mbtmp3.1/3, ML1.9/1, Error ellipse: s-maj=275.2km s-min=31.7km az=69.0*

*JMA **10** 11:09:44.3±0.3, 33°.56N×141°.87E, h45km, M3.0*

ISC 10 11:09:45.5±1.6,**33°.6N**±0°.1×**142°.0E**±0°.2,**h34**km,**n9,** σ0s**60**/10,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.34**	**323**	P		**Pn**	**11 10 06.9**	**-0.4**
BSO3	**Boso 3**	**1.71**	**316**	P		**Pn**	**11 10 12.3**	**-0.2**
BSO4	**Boso 4**	**1.94**	**317**	P		**Pn**	**11 10 16.1**	**+0.2**
JHU	**Hanno**	**3.16**	**316**	S		**Sn**	**11 11 08.4**	**-0.8**
JYN	**Shimob**	**3.40**	**305**	S		**Sn**	**11 11 15.8**	**+0.4**
JFT	**Otama**	**4.14**	**342**	P		**Pn**	**11 10 46.6**	**+0.3**
JFT				S		**Sn**	**11 11 33.0**	**-0.5**
MJAR	**Matsushiro Arr**	**4.26**	**315**	Pn		**Pn**	**11 10 47.8**	**-0.1**
	0.1nm,0.3s,baz=160,slow=13,SNR=4.2							
MKAR	**Makanchi Array**	**46.39**	**305**	P		**P**	**11 18 09.4**	**+0.9**
	0.2nm,0.6s,baz=98,slow=8.9,SNR=2.5							
WRA	**Warramunga Arr**	**53.72**	**189**	P		**P**	**11 19 03.7**	**-0.5**
	0.3nm,0.7s,baz=6.0,slow=7.7,SNR=4.7							

*IDC **10** 11:18:44.2±2.8, 4°.94N×93°.70E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/37, mbtmp3.7/5, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/41, Error ellipse: s-maj=110.3km s-min=22.9km az=61.0*

*NEIC **10** 11:18:45.2±1.7, 4°.9N±0°.1×93°.90E±0°.10, h10km±2km, mb4.3/7, Error ellipse: s-maj=24.4km s-min=10.3km az=216.0*

ISC 10 11:18:49.1±1.2,**5°.0N**±0°.1×**94°.0E**±0°.2,**h34**km,**n24,** σ0s**94**/18,**mb3.9/8,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.99**	**85**	Pn		**Pn**	**11 19 34.0**	**-0.1**
KULM	**Kulim**	**6.68**	**87**	Pn		**Pn**	**11 20 24.4**	**-0.5**
PBA	**Port Blair**	**6.75**	**350**	Pn		Pn	11 20 25.8	-0.1
CMAR	**Chiang Mai Arr**	**14.27**	**20**	Pn		**Pn**	**11 22 09.8**	**+1.0**
	0.2nm,0.3s,baz=207,slow=16,SNR=2.4							
CHTO	**Chiang Mai**	**14.60**	**19**	Pn		**Pn**	**11 22 12.3**	**-1.1**
COCO	**West Island**	**17.28**	**170**	P		**Pn**	**11 22 47.0**	**-0.9**
CISI	**Cisompet, Garu**	**18.60**	**132**	P		P	**11 23 03.0**	**-0.8**
CISI				IAmb		IAmb	11 23 05.2	
	comp=Z,53nm,1.1s							
H08S3	**Diego Garcia H**	**24.81**	**240**	T		T	11 50 13.8	
	baz=60,slow=76,SNR=19							
H08S2	**Diego Garcia H**	**24.81**	**240**	T		T	11 50 10.4	
	baz=60,slow=76,SNR=20							
H08S1	**Diego Garcia H**	**24.82**	**240**	T		T	11 50 13.3	
	baz=60,slow=76,SNR=18							
MK31	**Makanchi Array**	**42.87**	**348**	P		**P**	**11 26 43.9**	**-0.3**
MKAR	**Makanchi Array**	**42.87**	**348**	P		**P**	**11 26 44.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=172,slow=8.3,SNR=9.7							
MKAR	**Makanchi Array**	**42.87**	**348**	P		**P**	**11 26 43.8**	**-0.4**
KSAR	**Wonju Array Be**	**44.77**	**39**	P		**P**	**11 26 59.4**	**-0.1**
WRA	**Warramunga Arr**	**46.78**	**123**	P		**P**	**11 27 17.3**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=312,slow=9.2,SNR=10							
WRAB	**Tennant Creek**	**46.79**	**123**	P		**P**	**11 27 16.9**	**+1.1**
WRAB				IAmb		IAmb	11 27 41.5	
	comp=Z,5.3nm,1.4s							
WR0	**Warramunga Arr**	**46.96**	**123**	P		**P**	**11 27 17.8**	**+0.8**
WR0				IAmb		IAmb	11 27 28.1	
	comp=Z,5.8nm,1.5s							
KURK	**Kurchatov**	**47.38**	**347**	P		**P**	**11 27 20.4**	**+0.6**
KURK				IAmb		IAmb	11 27 32.4	
	comp=Z,2.0nm,1.1s							
AS31	**Alice Springs**	**48.24**	**128**	P		**P**	**11 27 28.0**	**+1.0**
AS31				IAmb		IAmb	11 27 48.1	
	comp=Z,1.2nm,1.3s							
ASAR	**Alice Springs**	**48.24**	**128**	P		**P**	**11 27 28.8**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=303,slow=7.6,SNR=6.3							
ZALV	**Zalesovo Beam**	**49.40**	**353**	P		**P**	**11 27 35.1**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=175,slow=7.0,SNR=5.2							
ZALV	**Zalesovo Beam**	**49.40**	**353**	P		**P**	**11 27 34.7**	**-0.7**
AKTO	**Aktyubinsk**	**54.41**	**333**	LR		LR	11 50 38.9	
	comp=Z,151nm,20.7s,baz=320,slow=35							
MMAI	**Mount Meron Ar**	**61.09**	**305**	LR		LR	11 58 27.7	
	comp=Z,15nm,18.0s,baz=285,slow=39							

*MOS **10** 11:26:10.9±2.1, 64°.75N×17°.82W, h8km, mb4.8/61, Error ellipse: s-maj=9.0km s-min=4.9km az=115.6*

*NEIC **10** 11:26:10.4±2.2, 64°.77N±0°.09×17°.6W±0°.1, h8km±3km, mb4.8/139, Error ellipse: s-maj=13.0km s-min=7.7km az=186.0*

*REY **10** 11:26:10.8, 64°.67N×17°.49W, h5km*

*IDC **10** 11:26:11.8±0.5, 64°.59N×17°.69W, h0km, mb4.2/22, mb1 4.3/27, mb1mx4.2/42, mbtmp4.2/27, ML3.0/4, MS3.8/30, Ms1 3.8/30, ms1mx3.7/44, Error ellipse: s-maj=16.7km s-min=10.1km az=18.0*

*GCMT **10** 11:26:16.4±0.3, 64°.66N±0°.03×16°.99W±0°.06, h14km±1km, MW4.7/106, Moment Tensor Solution. s19,c22; s106,c133; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.87±.13; Mθθ1.06±.09; Mϕϕ0.81±.07; Mrθ0.13±.23; Mθϕ-0.08±.04; Mϕr-0.75±.18; Best double couple: M₀1.60700×10¹⁶ NP1:ϕs114.00000°, δ36.00000°, λ-108.00000°. NP2:ϕs315.00000°, δ56.00000°, λ-78.00000°. Principal axes: T 1.1460, Plg10.0000°, Azm36.0000°; N 0.9220, Plg10.0000°, Azm128.0000°; P -2.0670, Plg75.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **10** 11:26:45.9±0.0, 63°.50N×12°.50W, h33km, mb5.0*

ISC 10 11:26:11.1±0.6,**64°.72N**±0°.02×**17°.59W**±0°.02,**h5**km±3km, **n461,** σ2s**28**/433,**mb4.7**/154,**MS3.8**/42,**10C-4D,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**238**	P		**Pg**	**11 26 13.3**	**+0.3**
	baz=271							
IDYN	**Dyngjuhals**	**0.12**	**52**	P		**Pg**	**11 26 13.8**	**+0.1**
	baz=23							
IDJK	**Dyngjujokull**	**0.26**	**145**	P		**Pg**	**11 26 15.0**	**-1.2**
	baz=142							
IGRF	**Grimsfjall**	**0.34**	**156**	P		**Pg**	**11 26 16.4**	**-1.4**
	baz=160							
ISKR	**Skrokkalda**	**0.38**	**246**	P		**Pg**	**11 26 18.4**	**0.0**
	baz=254							
IHUS	**Husbondi**	**0.42**	**184**	P		**Pg**	**11 26 18.1**	**-1.2**
	baz=191							
IVOT	**Vottur**	**0.48**	**159**	P		**Pg**	**11 26 18.7**	**-1.7**
	baz=162							
IJOK	**Jokulheimar**	**0.49**	**215**	P		**Pg**	**11 26 19.5**	**-1.0**
	baz=222							
IKRE	**Kreppuhraun**	**0.52**	**82**	P		**Pg**	**11 26 19.6**	**-1.5**
	baz=76							
IKRE				S		**Sg**	**11 26 27.1**	**-0.8**
	baz=76							
IMKO	**Mokollar**	**0.59**	**63**	P		**Pg**	**11 26 21.2**	**-1.3**
	baz=57							
IMKO				S		**Sg**	**11 26 30.1**	**-0.2**
	baz=57							
ISVA	**Svartarkot**	**0.64**	**13**	P		**Pg**	**11 26 22.9**	**-0.4**
	baz=8.3							
IIEY	**Innrieyrar**	**0.67**	**201**	P		**Pg**	**11 26 22.4**	**-1.5**
	baz=206							
IKAL	**Kalfafell**	**0.77**	**183**	P		**Pg**	**11 26 23.7**	**-2.2**
	baz=187							
IVAT	**Vatnsfell**	**0.79**	**228**	P		**Pg**	**11 26 25.0**	**-1.2**
	baz=232							
IVAT				S		**Sg**	**11 26 34.7**	**-1.6**
	baz=232							
IVSH	**V-Sauoahnukur**	**0.80**	**83**	P		**Pg**	**11 26 24.1**	**-2.4**
	baz=79							
IHVE	**Hveravellir**	**0.86**	**281**	P		**Pg**	**11 26 26.7**	**-0.9**
	baz=284							
IADA	**Aoalbol**	**0.91**	**70**	P		**Pg**	**11 26 26.2**	**-2.4**
	baz=66							
IMEL	**Melhnausar**	**0.94**	**24**	P		**Pg**	**11 26 27.6**	**-1.5**
	baz=21							
IREN	**Reynihlio**	**0.98**	**17**	P		**Pg**	**11 26 28.3**	**-1.5**
	baz=14							
IKVO	**Krokottuvotn**	**1.04**	**16**	P		**Pg**	**11 26 29.4**	**-1.7**
	baz=13							
IKVO				S		**Sg**	**11 26 43.5**	**-1.1**
	baz=13							
ISNB	**Snabyli**	**1.09**	**205**	P		**Pg**	**11 26 29.6**	**-2.3**
	baz=209							
IGRS	**Grimsstaoir**	**1.11**	**33**	P		**Pg**	**11 26 30.1**	**-2.3**
	baz=30							
ISLY	**Slysaalda**	**1.12**	**217**	P		**Pg**	**11 26 30.2**	**-2.3**
	baz=221							
ISKI	**Skildingahlsh**	**1.18**	**11**	P		**Pg**	**11 26 31.8**	**-2.0**
	baz=8.9							
IGHA	**Grjothals**	**1.20**	**19**	P		**Pg**	**11 26 31.8**	**-2.2**
	baz=16							
IMJO	**Mjoaskard**	**1.20**	**230**	P		**Pg**	**11 26 32.5**	**-1.6**
	baz=233							
IGRA	**Granastaoir**	**1.21**	**0**	P		**Pg**	**11 26 32.3**	**-1.9**
	baz=358							
IDIM	**Dimmadalss**	**1.28**	**12**	P		**Pn**	**11 26 33.4**	**-2.2**
	baz=10.0							
BORG	**Borgarnes**	**1.61**	**273**	Pg		**Pn**	**11 26 38.6**	**-1.5**
	41nm,0.3s,baz=104,slow=6.9,SNR=91							
BORG				Lg		Lg	11 27 04.4	
	29nm,0.3s,baz=174,slow=6.2,SNR=8.9							
BORG	**Borgarnes**	**1.61**	**273**	P		**Pn**	**11 26 38.9**	**-1.2**
BORG							11 27 02.3	
BORG	**Borgarnes**	**1.61**	**273**			**Pn**	**11 26 38.9**	**-1.2**
BORG						**Sn**	**11 27 02.2**	**+1.1**
JMIC	**Jan Mayen**	**7.16**	**25**	LR		LR	11 30 20.3	
	comp=Z,658nm,21.2s,baz=257,slow=34							
SUMG	**Summit**	**10.88**	**325**	*e*P		Pn	11 28 54.1	+6.5
SUMG	**Summit**	**10.88**	**325**	Pn		**Pn**	**11 28 46.2**	**-1.4**
SUMG	**Summit**	**10.88**	**325**	*i* P		Pn	11 28 54.1	+6.5
SUMG	**Summit**	**10.88**	**325**	*e*P		Pn	11 28 54.1	+6.5
EKB10	**Eskdalemuir Ar**	**11.79**	**136**	Pn		**Pn**	**11 28 59.6**	**-0.2**
EKB8	**Eskdalemuir Ar**	**11.80**	**136**	Pn		**Pn**	**11 29 00.6**	**+0.7**
EKB	**Eskdalemuir**	**11.81**	**136**	Pn		**Pn**	**11 29 00.3**	**+0.3**
EKA	**Eskdalemuir Ar**	**11.82**	**136**	Pn		**Pn**	**11 29 00.3**	**+0.1**
	baz=329,slow=12,SNR=23							
ESK	**Eskdalemuir**	**11.82**	**136**	P		**Pn**	**11 28 59.2**	**-1.0**
ESK	**Eskdalemuir**	**11.82**	**136**			**Pn**	**11 28 59.2**	**-1.0**
DAG	**Danmarks Havn**	**12.12**	**359**	*i* P		Pn	11 29 10.0	+5.9
DAG	**Danmarks Havn**	**12.12**	**359**	*i* P		Pn	11 29 10.0	+5.9
DAG	**Danmarks Havn**	**12.12**	**359**	*i* P		Pn	11 29 10.0	+5.9
NC204	**NORSAR Array S**	**13.27**	**92**	Pn		**Pn**	**11 29 19.1**	**-0.8**
NB000	**NORSAR Array S**	**13.39**	**93**	Pn		**Pn**	**11 29 20.1**	**-1.4**
NB2	**NORSAR Subarra**	**13.57**	**92**	Pn		**Pn**	**11 29 22.5**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=299,slow=14							
NOA	**NORSAR Array B**	**13.57**	**92**	Pn		**Pn**	**11 29 22.7**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=304,slow=15,SNR=3.3							
NOA				LR		LR	11 34 38.3	
	comp=Z,310nm,21.9s,baz=295,slow=37							
SFJD	**Kangerlussuaq**	**13.61**	**294**	LR		LR	11 34 20.9	
	comp=Z,1μm,21.4s,baz=86,slow=36							
HFS	**Hagfors**	**15.09**	**93**	Pn		**Pn**	**11 29 43.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=306,slow=17,SNR=1.7							
SPITS	**Spitsbergen Ar**	**16.84**	**23**	LR		LR	11 35 06.5	
	comp=Z,219nm,20.7s,baz=225,slow=32							
NOR	**Nord**	**16.98**	**0**	*i* P		**P**	**11 30 14.6**	**+3.8**
NOR	**Nord**	**16.98**	**0**	*i* P		**P**	**11 30 14.6**	**+3.8**
NOR	**Nord**	**16.98**	**0**	*i* P		**P**	**11 30 14.7**	**+3.8**
ARCES	**ARCESS Array B**	**17.12**	**55**	P		**P**	**11 30 12.3**	**-0.2**
	baz=284,slow=9.9,SNR=6.4							
ARCES				LR		LR	11 35 46.9	
	comp=Z,458nm,20.6s,baz=275,slow=33							
ARC2	**ARCESS Array S**	**17.17**	**55**	P		**Pn**	**11 30 10.1**	**-0.7**
BSEG	**Bad Segeberg**	**17.69**	**114**	P		**P**	**11 30 20.1**	**+1.3**
BSEG				pmax		pmax		
	comp=Z,55nm,2.1s							
SGF	**Sodankyl**	**17.80**	**61**	P		**P**	**11 30 20.9**	**+0.9**
SGF				pmax		pmax		
	comp=Z,32nm,2.0s							
SGMF	**Saint Gilles**	**18.38**	**147**	*e*P		**P**	**11 30 30.5**	**+4.0**
SGMF				pmax		pmax		
	comp=Z,141nm,1.7s							
FLN	**La Foliniere**	**18.43**	**142**	*e*P		**P**	**11 30 29.4**	**+2.4**
FLN				pmax		pmax		
	comp=Z,39nm,1.2s							
RGN	**Rugen**	**18.44**	**109**			**P**	**11 30 26.2**	**-0.8**
BUG	**Bochum--Univer**	**18.52**	**124**	P		**Pn**	**11 30 30.2**	**+2.1**
BUG				pmax		pmax		
	comp=Z,39nm,2.6s							
QUIF	**Quistinic**	**18.56**	**148**	*e*P		**Pn**	**11 30 32.5**	**+3.9**
QUIF				pmax		pmax		
	comp=Z,108nm,1.5s							
BAIF	**Baives**	**18.65**	**132**	*e*P		**Pn**	**11 30 33.1**	**+3.4**
BAIF				pmax		pmax		
	comp=Z,51nm,1.2s							
GRR	**Gorron**	**18.68**	**143**	*e*P		**Pn**	**11 30 32.7**	**+2.7**
GRR				pmax		pmax		
	comp=Z,54nm,1.2s							
BCLA	**Clavier**	**18.70**	**129**	Pn		**Pn**	**11 30 29.8**	**-0.5**
BCLA				pPn		**sP**	**11 30 32.1**	**-0.4**
BCLA	**Clavier**	**18.70**	**129**	P		Pn	11 30 37.8	+7.5
DOU	**Dourbes**	**18.74**	**131**	Pn		**Pn**	**11 30 30.2**	**-0.7**
MEM	**Membach**	**18.77**	**128**	P		Pn	11 30 38.5	+7.2
MEM	**Membach**	**18.77**	**128**	P		**Pn**	**11 30 34.5**	**+3.3**
MEM				pmax		pmax		
	comp=Z,39nm,1.1s							
BTNL	**Ternell**	**18.84**	**127**	P		Pn	11 30 38.8	+6.8
BHOU	**Houvegnez**	**18.99**	**128**	Pn		**Pn**	**11 30 32.8**	**-1.1**
BHOU				pPn		**sP**	**11 30 35.5**	**-0.2**
SUF	**Sumiainen**	**19.18**	**76**	P		**Pn**	**11 30 36.7**	**+0.7**
SUF				pmax		pmax		
	comp=Z,21nm,1.5s							
ASSE	**Asse, Remlinge**	**19.22**	**118**	*e*P		**P**	**11 30 34.2**	**-1.4**
	comp=Z,263nm,2.5s,baz=326,slow=11							
CLZ	**Clausthal**	**19.33**	**119**	*e*P		**Pn**	**11 30 38.8**	**+0.8**
	comp=Z,77nm,1.3s,baz=326,slow=11							
GTTG	**Gottingen**	**19.42**	**120**	*e*P		**Pn**	**11 30 38.7**	**-0.3**
	comp=Z,96nm,1.5s,baz=326,slow=11							
FIA1	**FINESS Array S**	**19.73**	**79**	P		**P**	**11 30 39.8**	**-1.5**
FINES	**FINESS Array B**	**19.73**	**79**	P		**Pn**	**11 30 44.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=294,slow=9.6,SNR=9.7							
FINES	**FINESS Array B**	**19.73**	**79**	P		**P**	**11 30 39.7**	**-1.5**
TNS	**Taunus Mts**	**19.95**	**124**	P		**Pn**	**11 30 48.9**	**+3.5**
TNS				pmax		pmax		
	comp=Z,23nm,2.0s							
TNS	**Taunus Mts**	**19.95**	**124**	*e*P		**Pn**	**11 30 45.7**	**+0.4**
	comp=Z,486nm,3.1s,baz=326,slow=11							
UBBA	**Unterbreizbach**	**20.02**	**121**	*e*P		**Pn**	**11 30 47.3**	**+1.3**
	comp=Z,118nm,2.2s,baz=326,slow=11							
APA	**Apatity**	**20.33**	**59**	*i* P		Pn	11 30 51.0	+1.3
APA				*i*			11 30 55.0	
APA				*i* S		**S**	**11 34 35.0**	**-0.6**
APA				pmax		pmax		
	comp=Z,9.0nm,0.8s							
NEUB	**Neuenburg**	**20.37**	**118**	*e*P		Pn	11 30 50.5	+0.3
	comp=Z,62nm,1.1s,baz=326,slow=11							
MFF	**Saint Martin d**	**20.51**	**144**	*e*P		Pn	11 30 52.7	+0.7
MFF				pmax		pmax		
	comp=Z,50nm,1.6s							
CLL	**Collm**	**20.76**	**116**	*i* P		Pn	11 30 53.9	-0.9
CLL				*i*			11 30 56.3	
	comp=Z,37nm,1.3s							
CLL				*i*			11 31 00.5	
CLL				*i*			11 31 02.7	
CLL				*e*S		**S**	**11 34 42.0**	**-2.3**
CLL	**Collm**	**20.76**	**116**	P		**P**	**11 30 52.4**	**-0.1**
CLL				pmax		pmax		
	comp=Z,24nm,1.0s							
CLL	**Collm**	**20.76**	**116**	*e*P		Pn	11 30 54.4	-0.4
	comp=Z,114nm,1.8s,baz=326,slow=11							
CLL	**Collm**	**20.76**	**116**			**P**	**11 30 52.4**	**-0.1**
MOX	**Moxa**	**20.76**	**119**	P		Pn	11 30 54.9	0.0
MOX				pmax		pmax		
	comp=Z,37nm,1.4s							
MOX	**Moxa**	**20.76**	**119**	*e*P		Pn	11 30 54.7	-0.1
	comp=Z,54nm,1.3s,baz=326,slow=11							
GKP	**Gorka Klasztor**	**20.97**	**107**	*e*P		Pn	11 30 57.8	+0.6
LOR	**Lormes**	**21.01**	**136**	P		**P**	**11 30 57.2**	**+2.0**
LOR				pmax		pmax		
	comp=Z,29nm,1.0s							
CDF	**Champ du Feu**	**21.08**	**129**	*e*P		**P**	**11 30 57.3**	**+1.2**
CDF				pmax		pmax		
	comp=Z,32nm,1.4s							
PLN	**Plauen**	**21.09**	**118**	*e*P		**P**	**11 30 58.0**	**+1.9**
	comp=Z,589nm,2.8s,baz=326,slow=11							
HAU	**Haudompre**	**21.13**	**131**	*e*P		**P**	**11 30 57.6**	**+1.1**
HAU				pmax		pmax		
	comp=Z,25nm,1.0s							
FBE	**Freiberg**	**21.20**	**116**	*e*P		**P**	**11 30 59.2**	**+2.0**
	comp=Z,579nm,2.7s,baz=326,slow=11							
ECH	**Echery**	**21.21**	**129**	P		**P**	**11 30 57.2**	**-0.2**
ECH				pmax		pmax		
	comp=Z,21nm,1.1s							
ECH	**Echery**	**21.21**	**129**	P		**P**	**11 30 57.2**	**-0.2**
GUNZ	**Gunzen**	**21.26**	**118**	*e*P		**P**	**11 30 59.8**	**+1.9**
	comp=Z,789nm,3.1s,baz=326,slow=11							
TANN	**Tannenbergstha**	**21.27**	**118**	*e*P		**P**	**11 30 59.9**	**+1.9**
	comp=Z,2μm,3.1s,baz=326,slow=11							
WERN	**Wernitzgruen**	**21.34**	**118**	*e*P		**P**	**11 31 00.7**	**+2.0**
	comp=Z,949nm,3.2s,baz=326,slow=11							
GRA1	**Grafenberg Arr**	**21.39**	**121**	P		**P**	**11 30 58.3**	**-1.0**
GRA1				IAmb		IAmb	11 31 18.2	
	comp=Z,75nm,1.3s							
GRF	**Grafenberg Arr**	**21.39**	**121**	P		**P**	**11 30 58.3**	**-1.0**
GRF				pmax		pmax		
	comp=Z,75nm,1.3s							
GRF	**Grafenberg Arr**	**21.39**	**121**	*e*P		**P**	**11 31 01.7**	**+2.4**
	comp=Z,624nm,2.9s,baz=326,slow=11							
NKC	**Novy Kostel**	**21.41**	**118**	*e*P		**P**	**11 31 03.8**	**+4.3**
NKC				*e*S		Sn	11 35 04.1	-0.6
NKC				AMS		AMS	11 38 30.0	
	comp=Z,600nm,27.2s							
NKC	**Novy Kostel**	**21.41**	**118**	*e*P		**P**	**11 31 03.8**	**+4.3**
NKC				*e*S		Sn	11 35 04.1	-0.6
NKC				MLR		MLR		
	comp=Z,600nm,27.2s							
STU	**Stuttgart**	**21.43**	**125**	P		**P**	**11 30 58.4**	**-1.4**
STU				pmax		pmax		
	comp=Z,97nm,0.3s							
STU	**Stuttgart**	**21.43**	**125**	*e*P		**P**	**11 31 02.4**	**+2.7**
	comp=Z,500nm,1.0s,baz=326,slow=11							
STU	**Stuttgart**	**21.43**	**125**	P		**P**	**11 30 58.4**	**-1.4**
BRG	**Berggiesshubel**	**21.47**	**115**	*i* P		**P**	**11 31 01.9**	**+1.8**
	comp=Z,61nm,1.3s							
BRG				S		Sn	11 35 08.0	+1.9
	comp=N,402nm,14.2s							
	comp=E,320nm,13.3s							
	comp=Z,443nm,13.2s							
BRG	**Berggiesshubel**	**21.47**	**115**	*i* P		**P**	**11 31 01.9**	**+1.8**
BRG				S		Sn	11 35 08.0	+1.9
BRG				pmax		pmax		
	comp=Z,61nm,1.3s							
BRG				MLR		MLR		
	comp=N,402nm,14.2s							
BRG				MLR		MLR		
	comp=E,320nm,13.3s							
BRG				MLR		MLR		
	comp=Z,443nm,13.2s							
BRG	**Berggiesshubel**	**21.47**	**115**	*e*P		**P**	**11 31 01.9**	**+1.8**
	comp=Z,563nm,2.9s,baz=326,slow=11							
MANZ	**Manzenberg**	**21.48**	**119**	*e*P		**P**	**11 31 02.2**	**+1.9**
	comp=Z,343nm,2.9s,baz=326,slow=11							
BFO	**Black Forest**	**21.51**	**127**	P		**P**	**11 31 00.4**	**-0.2**
BFO				pmax		pmax		
	comp=Z,28nm,1.1s							
BFO	**Black Forest**	**21.51**	**127**	*e*P		**P**	**11 31 03.1**	**+2.5**
	comp=Z,328nm,2.8s,baz=326,slow=11							
BFO	**Black Forest**	**21.51**	**127**	P		**P**	**11 31 00.4**	**-0.2**
BFO				IAmb		IAmb	11 31 05.7	
	comp=Z,28nm,1.1s							
SMF	**Signal de Mont**	**21.57**	**137**	*e*P		**P**	**11 31 03.6**	**+2.4**
SMF				pmax		pmax		
	comp=Z,47nm,1.3s							
VSU	**Vasula**	**21.60**	**86**	*e*P		**P**	**11 31 02.8**	**+1.4**
VSU	**Vasula**	**21.60**	**86**	*i* P		**P**	**11 31 02.6**	**+1.2**
FRB	**Frobisher Bay**	**21.70**	**291**	LR		LR	11 39 12.9	
	comp=Z,555nm,18.9s,ba

comp=Z,18nm,1.0s
GEC2 GERESS Array S 23.01 119 *e*P **P** **11 31 18.2 +1.6**
comp=Z,624nm,3.3s,baz=326,slow=11
GEC2 GERESS Array S 23.01 119 P **P** **11 31 16.3 -0.4**
GEC2 IAmb IAmb 11 31 31.4
comp=Z,49nm,1.5s
GERES GERESS Array B 23.01 119 P **P** **11 31 18.1 +1.4**
comp=Z,4.2nm,0.9s,baz=330,slow=7.7,SNR=15
GERES GERESS Array B 23.01 119 P **P** **11 31 15.1 -1.6**
GERES GERESS Array B 23.01 119 P **P** **11 31 15.1 -1.6**
IZAR Zarasai 23.07 92 *e*P **P** **11 31 18.5 +1.5**
RETA Reutte 23.08 125 *e*P **P** **11 31 19.4 +2.0**
comp=Z,22nm,1.2s
ISAL Salakas 23.13 93 *e*P **P** **11 31 19.4 +1.7**
KRLC Kraliky 23.21 113 *e*P **P** **11 31 22.1 +3.4**
KRLC *ex* x 11 31 32.8
KRLC *e*S Sn 11 35 38.2 -10
KRLC AMS AMS 11 41 00.0
comp=Z,300nm,16.2s
KRLC Kraliky 23.21 113 *e*P **P** **11 31 22.1 +3.4**
KRLC *e*S Sn 11 35 38.2 -10
KRLC MLR MLR
comp=Z,300nm,16.2s
IIGN Ignalina 23.32 93 *e*P **P** **11 31 21.1 +1.5**
MOTA Moosalm 23.32 124 *e*P **P** **11 31 25.3 +5.4**
comp=Z,17nm,1.2s
TREC Trest 23.33 116 *e*P **P** **11 31 24.3 +4.5**
TREC AMS AMS 11 39 40.0
comp=Z,600nm,24.1s
TREC Trest 23.33 116 *e*P **P** **11 31 24.3 +4.5**
TREC MLR MLR
comp=Z,600nm,24.1s
DAVOX Davos/Dischmat 23.38 127 P **P** **11 31 23.2 +2.6**
comp=Z,5.8nm,0.8s,baz=314,slow=14,SNR=7.6
PGAV Gavieira, Arco 23.41 162 *e*LR LR 11 37 35.0
comp=Z,187nm,18.0s
LPL La Plagne 23.46 133 *e*P **P** **11 31 25.1 +3.7**
LPL pmax pmax
comp=Z,14nm,1.1s
SQTA Sankt Quirin 23.46 124 *e*P **P** **11 31 27.1 +5.8**
comp=Z,33nm,1.6s
FETA Feichten 23.47 125 *e*P **P** **11 31 27.1 +5.7**
comp=Z,25nm,1.6s
TUE Stuetta 23.47 128 P **P** **11 31 20.8 -0.6**
TUE IAmb IAmb 11 31 47.6
comp=Z,58nm,1.5s
LPG La Plagne 23.48 133 *e*P **P** **11 31 23.8 +2.1**
LPG pmax pmax
comp=Z,26nm,1.2s
BEL Belsk 23.49 105 *e*P **P** **11 31 25.0 +3.7**
WATA Walderalm 23.50 124 *e*P **P** **11 31 24.5 +2.8**
comp=Z,22nm,1.5s
IDID Didziasalis 23.57 92 *e*P **P** **11 31 23.6 +1.6**
WTTA Wattenberg 23.58 124 *e*P **P** **11 31 25.4 +2.9**
comp=Z,39nm,1.6s
WTTA Wattenberg 23.58 124 P **P** **11 31 28.0 +5.5**
EUNU Eureka 23.61 336 P **P** **11 31 22.3 -0.1**
EUNU IAmb IAmb 11 31 33.1
comp=Z,18nm,1.1s
FUORN Ofenpass-Fuorn 23.65 127 P **P** **11 31 21.1 -2.3**
FUORN IAmb IAmb 11 31 49.2
comp=Z,25nm,1.4s
ORIF Oris-en-Rattie 23.74 135 *e*P **P** **11 31 28.3 +4.3**
ORIF pmax pmax
comp=Z,30nm,1.3s
VRAC Vranov 23.75 114 P **P** **11 31 26.1 +2.1**
comp=Z,3.8nm,0.7s,baz=329,slow=10.0,SNR=11
VRAC Vranov 23.75 114 *e*P **P** **11 31 25.9 +1.9**
MORC Moravsky Berou 23.75 112 *e*P **P** **11 31 25.7 +1.7**
MORC Moravsky Berou 23.75 112 P **P** **11 31 22.7 -1.3**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 23.75 112 **P** **11 31 22.7 -1.3**
NACGM Naroch 23.86 93 *e* **P** **11 31 26.0 +1.1**
BNI Bardonecchia 23.86 134 P **P** **11 31 26.2 +0.9**
BNI pmax pmax
comp=Z,33nm,1.5s
BNI Bardonecchia 23.86 134 P **P** **11 31 26.1 +0.9**
BNI IAmb IAmb 11 31 40.1
comp=Z,33nm,1.5s
KRUC Moravsky 23.87 115 *e*P **P** **11 31 26.1 +1.0**
MBDF Montbardon 24.18 134 *e*P **P** **11 31 31.8 +3.5**
MBDF pmax pmax
comp=Z,111nm,2.4s
OJC Ojcow 24.31 109 *e*P **P** **11 31 30.0 +0.8**
OJC Ojcow 24.31 109 P **P** **11 31 28.4 -0.8**
OJC pmax pmax
comp=Z,26nm,1.3s
OJC Ojcow 24.31 109 P **P** **11 31 28.4 -0.8**
OJC IAmb IAmb 11 31 56.0
comp=Z,26nm,1.3s
ABTA Abfaltersbach 24.33 123 *e*P **P** **11 31 33.8 +4.2**
comp=Z,16nm,1.4s
KBA Koelnbreinsper 24.35 122 *e*P P 11 31 37.2 +7.4
comp=Z,28nm,2.1s
MVO Moncorvo 24.37 160 *i* LQ LQ 11 31 59.6
MVO *e*LQ LQ 11 36 10.3
MVO *e*LR LR 11 38 15.3
comp=Z,110nm,20.0s
JAVC Velka Javorina 24.53 113 *e*P **P** **11 31 33.8 +2.5**
CONA Conrad Observa 24.59 117 *e*P **P** **11 31 34.0 +2.1**
comp=Z,13nm,1.1s
CTI Castel Tesino 24.63 125 P **P** **11 31 32.1 -0.2**
CTI pmax pmax
comp=Z,41nm,1.4s
CTI Castel Tesino 24.63 125 P **P** **11 31 32.1 -0.2**
CTI IAmb IAmb 11 31 52.5
comp=Z,41nm,1.4s
ZOU Zoufplan 24.66 123 P **P** **11 31 33.4 +0.8**
ZOU IAmb IAmb 11 31 50.4
comp=Z,42nm,1.4s
CIMO Cimolais 24.68 124 **P** **11 31 32.0 -0.6**
MODS Modra-Piesok 24.77 115 *e*P **P** **11 31 37.7 +4.3**
MODS Modra-Piesok 24.77 115 *e*P **P** **11 31 37.7 +4.3**
MYKA Terra Mystica 24.84 122 *e*P **P** **11 31 39.3 +5.2**
comp=Z,17nm,1.4s
ZST Bratislava 24.85 115 *e*P **P** **11 31 36.6 +2.5**
ZST Bratislava 24.85 115 *e*P **P** **11 31 36.6 +2.5**
PRED Cave del Predi 24.97 122 P **P** **11 31 36.0 +0.7**
LANS Liptovska Anna 25.02 111 P **P** **11 31 41.2 +5.5**
ARSA Arzberg 25.02 118 *e*P **P** **11 31 40.4 +4.7**
comp=Z,9.7nm,1.1s
MTE Manteigas 25.05 162 *e*P **P** **11 31 39.1 +3.1**
comp=Z,29nm,1.7s
MTE *e*LQ LQ 11 37 13.0
MTE *e*LR LR 11 38 17.5
comp=Z,196nm,18.0s
NIE Niedzica 25.14 109 *e*P **P** **11 31 38.5 +1.8**
NIE Niedzica 25.14 109 P **P** **11 31 40.9 +4.1**
OBKA Obir 25.28 121 *e*P **P** **11 31 42.3 +4.2**
comp=Z,17nm,1.7s
VYHS Vyhne 25.29 112 *e*P **P** **11 31 40.9 +2.8**
VYHS pmax pmax
comp=Z,26nm,1.3s
VYHS Vyhne 25.29 112 *e*P **P** **11 31 40.9 +2.8**
SOKA Soboth 25.32 120 *e*P **P** **11 31 42.7 +4.3**
comp=Z,23nm,2.0s
LMR La Mourre 25.37 136 *e*P **P** **11 31 42.7 +3.9**
LMR pmax pmax
comp=Z,67nm,1.9s
PCBR Castelo Branco 25.61 162 *e*P P 11 31 55.8 +15
comp=Z,45nm,1.7s
KLMR Klimovskoe 25.62 72 *e*P **P** **11 31 41.2 +0.3**
KLMR *e*S **S** **11 36 06.8 -2.4**
KLMR pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 25.62 72 *e*P **P** **11 31 41.3 +0.3**
KLMR AMP 11 31 44.2
comp=Z,22nm,1.4s
KLMR *e*S **S** **11 36 06.9 -2.3**
KLMR *e*S **S** **11 36 06.9 -2.3**
KLMR LQ LQ 11 39 14.0
KLMR LQ LQ 11 39 14.0
KLMR LR LR 11 39 54.2
KWP Kalwaria Pacla 25.96 106 *e*P **P** **11 31 48.2 +4.0**
KWP Kalwaria Pacla 25.96 106 P **P** **11 31 44.1 -0.1**
KWP pmax pmax
comp=Z,67nm,1.1s
KWP Kalwaria Pacla 25.96 106 P **P** **11 31 44.1 -0.1**
SCHQ Schefferville 26.00 271 P **P** **11 31 47.0 +2.4**
comp=Z,6.6nm,0.9s,baz=64,slow=10,SNR=3.9
SCHQ LR LR 11 40 56.4
comp=Z,284nm,21.1s,baz=76,slow=34
CRVS Cervenica-Dubn 26.02 109 *e*P **P** **11 31 48.0 +3.3**
CRVS pmax pmax
comp=Z,78nm,1.8s
CRVS Cervenica-Dubn 26.02 109 *e*P **P** **11 31 48.0 +3.3**
PMRV Marv??o 26.02 162 *e*P P 11 31 56.6 +12
comp=Z,49nm,1.7s
PSZ Piszkesteto 26.17 112 P **P** **11 31 46.8 +0.6**
PSZ pmax pmax
comp=Z,37nm,1.3s
PSZ Piszkesteto 26.17 112 P **P** **11 31 46.8 +0.6**
PSZ IAmb IAmb 11 31 59.1
comp=Z,37nm,1.3s
ESDC Sonseca Array 26.32 156 P **P** **11 31 47.9 +0.4**
comp=Z,1.5nm,0.9s,baz=346,slow=9.1,SNR=8.8
ESDC LR LR 11 41 60.0
comp=Z,134nm,18.5s,baz=340,slow=36
KOLS Kolonicke sedl 26.33 108 *e*P **P** **11 31 50.9 +3.4**
KOLS pmax pmax
comp=Z,23nm,1.2s
KOLS Kolonicke sedl 26.33 108 *e*P **P** **11 31 50.9 +3.4**
LVV L'vov 26.36 104 *e*P **P** **11 31 51.5 +3.7**
UZH Uzhgorod 26.57 108 *e*P **P** **11 31 52.0 +2.3**
UZH *e* 11 32 36.2
UZH *e*S **S** **11 36 19.2 -5.2**
OSSC Osservatorio P 26.70 129 P **P** **11 31 50.4 -0.5**
EVO Evora 26.83 163 *i* LQ LQ 11 32 18.3
PGF Pioggiola 26.84 133 *e*P **P** **11 31 58.2 +5.9**
PGF pmax pmax
comp=Z,20nm,0.9s
PNCL Nicolau / Gran 27.18 164 *e*P **P** **11 32 00.4 +5.2**
comp=Z,35nm,2.1s
MURB Monte Urbino 27.36 127 P **P** **11 31 57.7 +0.7**
PRGR Permogore 27.64 67 *e*P **P** **11 32 00.6 +1.5**
PRGR pmax pmax
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 27.89 98 P **P** **11 32 01.8 +0.4**
comp=Z,2.8nm,0.7s,baz=324,slow=9.6,SNR=6.1
AKBB Malin Array Si 27.89 98*ce*P **P** **11 32 05.0 +3.5**
OBN Obninsk 27.91 84 P **P** **11 32 01.9 +0.3**
comp=Z,2.7nm,0.3s,baz=1.5,slow=18,SNR=3.1
OBN LR LR 11 43 35.3
comp=Z,62nm,19.6s,baz=276,slow=37
OBN Obninsk 27.91 84‖ *e*P **P** **11 32 03.1 +1.5**
OBN *e*'PP **sP** **11 32 05.4 +1.0**
OBN *i* S S 11 36 56.2 +11
OBN pmax pmax
comp=Z,57nm,2.5s
OBN MLR MLR
comp=Z,214nm,18.0s
MOS Moscow 27.95 82 *e*P **P** **11 31 59.2 -2.8**
MOS *e* 11 33 01.1
PVAQ Vaqueiros 27.98 163 *e*LR LR 11 39 42.0
comp=Z,144nm,16.0s
BUR08 Bucovina Ar. S 28.55 106 P **P** **11 32 07.8 +0.3**
BURAR Bucovina Array 28.58 106 P **P** **11 32 10.5 +2.7**
BURAR Bucovina Array 28.58 106 P **P** **11 32 07.2 -0.6**
DIVS Divibare 29.37 116 P **P** **11 32 14.7 -0.1**
PDG Podgorica 30.51 119 P **P** **11 32 22.6 -2.2**
PDG IAmb IAmb 11 32 30.0
comp=Z,12nm,1.2s
VRI Vrincioaia 30.60 106 P P 11 32 31.1 +5.5
KIRV Kirov 31.00 69*ce*P **P** **11 32 29.8 +0.9**
KEST Kesra 33.22 138 LR LR 11 46 16.8
comp=Z,197nm,18.4s,baz=295,slow=36
LIT Litokhoron 33.75 117 P **P** **11 32 51.8 -1.5**
LIT pmax pmax
comp=Z,15nm,1.2s
LIT Litokhoron 33.75 117 P **P** **11 32 51.8 -1.5**
LIT IAmb IAmb 11 33 00.1
comp=Z,15nm,1.2s
BELG Belogornoye 34.51 79 *i* P **P** **11 33 01.8 +2.1**
AGG Agios Georgios 34.63 118 P P 11 33 05.1 +4.2
AGG pmax pmax
comp=Z,30nm,1.2s
ARU Arti 36.09 66*d i*P **P** **11 33 15.7 +2.4**
ARU 11 35 39.2
ARU S **S** **11 38 54.3 +1.6**
ARU SS **SnSn** **11 41 12.6 -4.3**
ARU pmax pmax
comp=Z,19nm,2.1s
ARU MLR MLR
comp=Z,543nm,23.0s
ARU Arti 36.09 66 P **P** **11 33 10.8 -2.5**
NRIK Noril'sk 36.44 35 P **P** **11 33 18.7 +2.6**
comp=Z,7.5nm,1.0s,baz=335,slow=4.9,SNR=6.4
NRIK LR LR 11 52 01.4
comp=Z,66nm,18.2s,baz=18,slow=42
NRIK Noril'sk 36.44 35*ce*P **P** **11 33 18.9 +2.8**
NRIK pmax pmax
comp=Z,10.0nm,1.2s
SOC Sochi 37.91 96 *e*P **P** **11 33 31.7 +2.8**
SOC *e*S **S** **11 39 22.0 +1.4**
SOC *e*SS **SS** **11 42 02.6 -3.9**
SOC MLR MLR
comp=Z,56nm,13.0s
ANTO Ankara 38.06 106 P **P** **11 33 28.4 -1.9**
ANTO Ankara 38.06 106 P **P** **11 33 28.4 -1.9**
BR131 Keskin Array S 38.53 105 P **P** **11 33 32.1 -2.2**
BR131 pmax pmax
comp=Z,6.0nm,1.0s
BR131 Keskin Array S 38.53 105 P **P** **11 33 32.1 -2.2**
BRTR Keskin Array B 38.53 105 P **P** **11 33 36.5 +2.1**
comp=Z,4.1nm,0.8s,baz=271,slow=6.5,SNR=8.3
BRTR LR LR 11 52 11.8
comp=Z,30nm,19.3s,baz=302,slow=40
BRTR Keskin Array B 38.53 105 P **P** **11 33 32.8 -1.5**
BRTR Keskin Array B 38.53 105 P **P** **11 33 32.8 -1.5**
IDI Anoyia 38.88 118 LR LR 11 51 16.4
comp=Z,91nm,21.8s,baz=327,slow=39
KIV Kislovodsk 38.88 92 *e*P **P** **11 33 39.5 +2.3**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,440nm,16.0s
SHA1 Shidzhatmaz 39.04 93 *i* P **P** **11 33 40.5 +1.8**
KBZ Khabaz 39.16 92 P **P** **11 33 42.5 +3.2**
comp=Z,8.6nm,0.9s,baz=312,slow=9.1,SNR=12
KBZ LR LR 11 50 21.8
comp=Z,128nm,18.2s,baz=332,slow=37
KBZ Khabaz 39.16 92*ce*P **P** **11 33 43.3 +4.0**
ELL Elmali 39.55 112 P **P** **11 33 42.6 -0.3**
ELL pmax pmax
comp=Z,57nm,1.2s
ELL Elmali 39.55 112 P **P** **11 33 42.5 -0.3**
INK Inuvik 39.78 328 P **P** **11 33 46.4 +2.2**
comp=Z,4.4nm,1.1s,baz=38,slow=5.2,SNR=3.0
AKAS Kas 39.88 112 P **P** **11 33 44.4 -1.3**
AKAS IAmb IAmb 11 33 50.6
comp=Z,17nm,1.0s
MMNY Mt. Morris Dam 39.89 267 P **P** **11 33 42.7 -2.8**
MMNY IAmb IAmb 11 33 59.0
comp=Z,32nm,1.5s
ZEI Tsey 40.35 92 *e*P **P** **11 33 53.0 +3.5**
ZEI pmax pmax
comp=Z,12nm,1.8s
ARTV Artvin 40.81 96 P **P** **11 33 51.0 -2.4**
KOPT Kop Dagi 41.17 98 P **P** **11 33 54.0 -2.5**
KOPT IAmb IAmb 11 34 19.6
comp=Z,23nm,1.4s
ULM Lac du Bonnet 41.55 289 LR LR 11 51 04.3
comp=Z,98nm,19.9s,baz=23,slow=36
MALT Malatya 41.72 101 P P 11 34 07.8 +7.1
TIXI Tiksi 41.99 15 *i* P **P** **11 34 07.2 +4.8**
TIXI Tiksi 41.99 15 P P **11 34 01.0 -1.4**
TIXI IAmb IAmb 11 34 10.6
comp=Z,17nm,1.0s
ABKAR Akbulak array 42.01 73 P **P** **11 34 00.7 -2.2**
ABKAR Akbulak array 42.01 73 P **P** **11 33 59.7 -3.1**
BMAR Burnt Mountain 42.83 333 P **P** **11 34 07.1 -2.3**
AGMN Agassiz Nation 43.07 287 P **P** **11 34 08.5 -3.0**
BRVK Borovoye 43.14 62*ce*P **P** **11 34 14.4 +2.4**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 43.14 62 P **P** **11 34 10.0 -2.0**
M50A Fremont 43.18 270 P **P** **11 34 10.1 -2.3**
MARD Mardin 43.56 100 P **P** **11 34 12.9 -2.8**
MARD IAmb IAmb 11 34 22.5
comp=Z,26nm,1.2s
GEVA Gevas 43.68 97 P **P** **11 34 14.4 -2.4**
GEVA IAmb IAmb 11 34 36.3
comp=Z,13nm,1.3s
FYU Fort Yukon 43.71 333 P **P** **11 34 14.4 -2.1**
F36A Milaca 44.03 283 P **P** **11 34 18.4 -0.9**
F36A IAmb IAmb 11 34 32.9
comp=Z,12nm,1.2s
N49A Columbus Grove 44.07 271 P **P** **11 34 18.8 -0.8**
SPMN Marine on St. 44.24 282 P **P** **11 34 19.2 -1.7**
SPMN IAmb IAmb 11 34 32.6
comp=Z,24nm,1.4s
S57A Dark Hollow, R 44.46 263 P **P** **11 34 22.2 -0.5**
P51A Williamsport 44.77 269 P **P** **11 34 23.6 -1.7**
P51A IAmb IAmb 11 34 36.4
comp=Z,18nm,1.1s
U59A Littleton 45.15 261 P **P** **11 34 28.1 -0.2**
T57A Hurt 45.23 263 P **P** **11 34 26.8 -2.1**
T57A IAmb IAmb 11 34 39.4
comp=Z,7.9nm,1.1s
R53A Hurricane 45.26 267 P **P** **11 34 28.4 -0.8**
R53A IAmb IAmb 11 34 41.0
comp=Z,15nm,1.1s
Q51A Peebles 45.28 268 P **P** **11 34 28.1 -1.2**
Q51A IAmb IAmb 11 34 40.0
comp=Z,20nm,1.2s
IL31 45.62 332 P **P** **11 34 29.2 -2.5**
IL31 IAmb IAmb 11 34 42.8
comp=Z,24nm,1.5s
ILAR Eielson Array 45.62 332 P **P** **11 34 35.8 +4.1**
comp=Z,3.8nm,1.0s,baz=22,slow=6.4,SNR=14
ILAR LR LR 11 57 57.8
comp=Z,90nm,18.1s,baz=19,slow=42
ILAR Eielson Array 45.62 332 P **P** **11 34 29.6 -2.1**
IMAR Indian Mountai 45.80 337 P **P** **11 34 30.7 -2.4**
P48A Milroy 45.81 271 P **P** **11 34 31.1 -2.4**
BCAR Beaver Creek A 46.04 328 P **P** **11 34 33.0 -2.1**
DGMT Dagmar 46.29 293 P **P** **11 34 36.1 -1.2**
DGMT IAmb IAmb 11 34 50.5
comp=Z,15nm,1.2s
E28A Huff 46.42 289 P **P** **11 34 37.1 -1.2**
E28A IAmb IAmb 11 34 50.0
comp=Z,13nm,1.1s
P46A Rosedale 46.44 272 P **P** **11 34 36.8 -1.7**
P46A IAmb IAmb 11 34 47.6
comp=Z,11nm,1.0s
HDIL Hopedale 46.56 275 P **P** **11 34 38.1 -1.3**
WCI Wyandotte Cave 47.21 270 P **P** **11 34 42.5 -2.0**
WCI pmax pmax
comp=Z,14nm,1.0s
WCI Wyandotte Cave 47.21 270 P **P** **11 34 42.5 -2.0**
OLIL Olney 47.56 272 P **P** **11 34 45.5 -1.7**
OLIL IAmb IAmb 11 34 55.6
comp=Z,8.9nm,0.8s
ZAA0 Zalesovo Array 47.63 51 P **P** **11 34 45.1 -2.4**
ZALV Zalesovo Beam 47.63 51 P **P** **11 34 48.8 +1.3**
comp=Z,1.1nm,0.6s,baz=328,slow=7.5,SNR=4.1
ZALV LR LR 11 56 46.6
comp=Z,70nm,19.0s,baz=302,slow=38
ZALV Zalesovo Beam 47.63 51 P **P** **11 34 45.6 -1.9**
EIL Elat 47.77 111 LR LR 11 57 40.1
comp=Z,23nm,19.1s,baz=310,slow=40
USIN University of 48.02 272 P **P** **11 34 49.5 -1.3**
SCRAN Scranton 48.04 261 P **P** **11 34 50.2 -0.7**
KURK Kurchatov 48.12 58*ce*P **P** **11 34 52.6 +1.2**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 48.12 58 P **P** **11 34 48.7 -2.7**
JSC Jenkinsville 48.39 263 P **P** **11 34 51.5 -2.2**
JSC pmax pmax
comp=Z,13nm,1.5s
JSC Jenkinsville 48.39 263 P **P** **11 34 51.5 -2.2**
JSC IAmb IAmb 11 35 05.2
comp=Z,13nm,1.5s
LAO LASA Array 48.54 293 P **P** **11 34 54.2 -0.6**
T47A Sharon Grove 48.60 270 P **P** **11 34 53.4 -1.9**
EGMT Eagleton 48.82 297 P **P** **11 34 55.2 -1.8**
SWET Sewanee 49.59 268 P **P** **11 35 00.5 -2.5**
SWET IAmb IAmb 11 35 13.2
comp=Z,14nm,1.4s
FPAL Fort Paine 50.03 267 P **P** **11 35 04.1 -2.2**
GEYT Alibeck 50.46 84 P **P** **11 35 13.1 +3.6**
comp=Z,1.7nm,0.4s,baz=312,slow=7.0,SNR=3.6
GEYT LR LR 11 58 56.7
comp=Z,147nm,19.4s,baz=0.0,slow=39
GYA1 ALIBECK ARRAY 50.46 84 P **P** **11 35 08.0 -1.6**
GYB1 ALIBECK ARRAY 50.47 84 P **P** **11 35 07.5 -2.0**
GCMT Greycliff 50.63 295 P **P** **11 35 08.8 -2.1**
HRY Holter Researc 50.70 298 P **P** **11 35 09.7 -1.6**
X48A Hartselle 50.72 269 P **P** **11 35 10.4 -1.0**
X48A IAmb IAmb 11 35 21.1
comp=Z,11nm,1.2s
KOWA Kowa 51.03 163 LR LR 11 57 23.8
comp=Z,59nm,19.5s,baz=88,slow=37
RLMT Red Lodge 51.03 294 P **P** **11 35 11.5 -2.5**
KK31 Karatay Array 51.29 70 P **P** **11 35 15.1 -0.6**
KK31 pmax pmax
comp=Z,8.0nm,1.3s
KK31 Karatay Array 51.29 70 P **P** **11 35 15.1 -0.6**
KKAR Karatay Array 51.29 70 P **P** **11 35 15.5 -0.2**
KKAR pmax pmax
comp=Z,8.0nm,1.3s
KKAR Karatay Array 51.29 70 P **P** **11 35 15.5 -0.2**
KKAR Karatay Array 51.29 70 P **P** **11 35 12.5 -3.2**
YNE Yellowstone No 51.42 295 P **P** **11 35 15.1 -1.8**
BOZ Bozeman (W) 51.55 297 P **P** **11 35 16.1 -1.6**
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ Bozeman (W) 51.55 297 P **P** **11 35 16.1 -1.6**
BOZ IAmb IAmb 11 35 29.7
comp=Z,20nm,1.2s
LRM Limekiln Ridge 51.68 297 P **P** **11 35 15.9 -2.9**
YMP Mirror Lake Pl 51.70 295 P **P** **11 35 16.6 -2.5**
YNR Norris Junctio 51.92 295 P **P** **11 35 20.1 -0.6**
YHH Holmes Hill 51.93 295 P **P** **11 35 19.4 -1.3**
DGZ Jazzator, Alta 52.08 53‖ *e*P **P** **11 35 24.4 +2.8**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
H17A Grant Village 52.15 295 P **P** **11 35 20.0 -2.4**
H17A IAmb IAmb 11 35 35.4
comp=Z,15nm,1.2s
C09A Chrisman Ranch 52.17 303 P **P** **11 35 20.2 -2.0**
U38A Gravette 52.18 276 P **P** **11 35 22.2 -0.2**
U38A IAmb IAmb 11 35 47.1
comp=Z,5.4nm,0.7s
YPP Pitchstone Pla 52.34 295 P **P** **11 35 22.4 -1.5**
SEY Seymchan 52.44 6 *i* P P 11 35 29.4 +5.5
MAKZ Makanchi 52.60 58 P **P** **11 35 22.8 -2.6**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 52.60 58 P **P** **11 35 22.8 -2.6**
MCMT McKenzie Canyo 52.66 297 P **P** **11 35 23.9 -2.2**
IMW Indian Meadow 52.71 295 P **P** **11 35 24.3 -2.3**
IMW IAmb IAmb 11 35 38.1
comp=Z,11nm,1.4s
MK31 Makanchi Array 52.73 58 P **P** **11 35 25.0 -1.3**
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 52.73 58 P **P** **11 35 25.0 -1.3**
MKAR Makanchi Array 52.73 58 P **P** **11 35 27.8 +1.5**
comp=Z,2.3nm,0.9s,baz=324,slow=6.0,SNR=11
MKAR LR LR 11 57 31.5
comp=Z,68nm,18.2s,baz=333,slow=36
MKAR Makanchi Array 52.73 58 P **P** **11 35 23.6 -2.7**
SNOW Snow King Moun 53.01 294 P **P** **11 35 26.8 -1.9**
SNOW IAmb IAmb 11 35 38.0
comp=Z,15nm,1.4s
TPAW Teton Pass 53.06 295 P **P** **11 35 26.6 -2.5**
TPAW IAmb IAmb 11 35 40.4
comp=Z,15nm,1.4s
RWWY Rawlins 53.09 291 P **P** **11 35 27.9 -1.5**
RWWY IAmb IAmb 11 35 38.7
comp=Z,15nm,1.2s
BW06 Boulder Array 53.12 293 P **P** **11 35 29.0 -0.6**
BW06 IAmb IAmb 11 35 40.3
comp=Z,18nm,1.2s
PD31 Pinedale Array 53.12 293 P **P** **11 35 28.5 -1.0**
PD31 IAmb IAmb 11 35 40.3
comp=Z,17nm,1.2s
PDAR Pinedale Array 53.12 293 P **P** **11 35 30.9 +1.3**
comp=Z,1.4nm,0.8s,baz=55,slow=6.2,SNR=11
PDAR LR LR 11 57 40.5
comp=Z,285nm,21.9s,baz=32,slow=36
TOA0 Torodi Ar. Sit 53.20 156 P **P** **11 35 29.2 -0.9**
TORD Torodi Ar. Bea 53.20 156 P **P** **11 35 30.0 -0.1**
comp=Z,2.8nm,1.0s,baz=342,slow=8.1,SNR=8.6
TORD Torodi Ar. Bea 53.20 156 P **P** **11 35 29.8 -0.3**
N23A Red Feather La 53.25 289 P **P** **11 35 29.5 -1.1**
N23A IAmb IAmb 11 35 43.6
comp=Z,17nm,1.1s
AAK Ala-Archa 53.27 67*ce*P **P** **11 35 34.1 +3.5**
AAK pmax pmax
comp=Z,52nm,2.5s

BCYI	**Bear Canyon**	**53.31**	**297**	P	**P**	**11 35 29.2**	**-1.7**
AHID	**Auburn Hatcher**	**53.73**	**294**	P	**P**	**11 35 32.1**	**-1.8**
BOOM	**Boomskoye usch**	**53.97**	**66**	P	**P**	**11 35 34.6**	**-1.1**
BOOM				pmax	pmax		
	comp=Z,11nm,1.4s						
BOOM	**Boomskoye usch**	**53.97**	**66**	P	**P**	**11 35 34.6**	**-1.1**
BOOM				IAmb	IAmb	11 35 51.1	
	comp=Z,11nm,1.4s						
BTK	**Batken**	**53.98**	**72**	P	**P**	**11 35 35.7**	**0.0**
BTK				pmax	pmax		
	comp=Z,14nm,1.1s						
BTK	**Batken**	**53.98**	**72**	P	**P**	**11 35 35.7**	**0.0**
BTK				IAmb	IAmb	11 35 42.0	
	comp=Z,14nm,1.1s						
OK029	**Liberty Lake**	**54.03**	**279**	P	**P**	**11 35 34.9**	**-1.1**
OK029				IAmb	IAmb	11 35 47.1	
	comp=Z,8.1nm,0.8s						
ISCO	**Idaho Springs**	**54.04**	**288**	P	**P**	**11 35 36.7**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ISCO	**Idaho Springs**	**54.04**	**288**	P	**P**	**11 35 36.7**	**+0.2**
BCOK	**Bluff Creek, N**	**54.22**	**279**	P	**P**	**11 35 36.9**	**-0.5**
CHGR	**Chuyangaron**	**54.48**	**74**	P	**P**	**11 35 39.3**	**-0.1**
MOY	**Mondy**	**54.65**	**42**	*e*P	**P**	**11 35 44.0**	**+3.6**
MOY				pmax	pmax		
	comp=Z,43nm,2.2s						
GAR	**Garm**	**54.67**	**73**	P	**P**	**11 35 41.1**	**+0.3**
O20A	**White River Ci**	**54.83**	**290**	P	**P**	**11 35 41.5**	**-0.5**
RDMU	**Red Mountain**	**54.99**	**292**	P	**P**	**11 35 41.2**	**-2.0**
HRA	**Herat**	**55.22**	**82**	P	**P**	**11 35 42.9**	**-2.0**
TCUT	**Toone Canyon**	**55.25**	**293**	P	**P**	**11 35 43.6**	**-1.5**
TARG	**Taragay, Kyrgy**	**55.34**	**65**	P	**P**	**11 35 46.4**	**+0.4**
TARG				IAmb	IAmb	11 35 53.2	
	comp=Z,9.9nm,1.0s						
WMOK	**Wichita Mounta**	**55.50**	**279**	P	P	11 35 54.7	+8.0
WMOK				pmax	pmax		
	comp=Z,15nm,1.4s						
JLU	**Jordanelle**	**55.71**	**293**	P	**P**	**11 35 46.6**	**-1.8**
CTU	**Camp Tracy**	**55.75**	**293**	P	**P**	**11 35 47.6**	**-1.0**
P17A	**Butcher Ranch,**	**56.39**	**292**	P	**P**	**11 35 52.9**	**-0.3**
ZAK	**Zakamensk**	**56.45**	**41**	*e*P	**P**	**11 35 56.0**	**+2.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.9s						
MTP	**Monte Pirata**	**56.47**	**238**	P	**P**	**11 35 52.0**	**-1.7**
KSH	**Kashi**	**56.51**	**68**	P	**P**	**11 35 58.4**	**+4.4**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PINE	**Pine Mountain**	**56.57**	**302**	P	**P**	**11 35 53.4**	**-1.1**
DUG	**Dugway, Tooele**	**56.59**	**294**	P	**P**	**11 35 54.5**	**-0.1**
DUG				pmax	pmax		
	comp=Z,15nm,1.4s						
DUG	**Dugway, Tooele**	**56.59**	**294**	P	**P**	**11 35 54.5**	**-0.1**
DUG				IAmb	IAmb	11 36 06.0	
	comp=Z,15nm,1.4s						
ELK	**Elko**	**57.06**	**296**	P	P	11 36 05.6	+7.5
ELK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
WMQ	**Urumqi**	**57.23**	**56**	*e*P	**P**	**11 36 02.6**	**+3.6**
WMQ				pmax	pmax		
	comp=Z,23nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.7s						
WMQ				LR	LR		
	comp=N,150nm,28.9s						
WMQ				LR	LR		
	comp=E,450nm,28.8s						
WMQ				LR	LR		
	comp=Z,59nm,18.5s						
MSU	**Marysvale**	**57.79**	**292**	P	**P**	**11 36 02.3**	**-0.9**
MSU	**Marysvale**	**57.79**	**292**	P	**P**	**11 36 02.3**	**-0.9**
MVU	**Marysvale**	**57.81**	**292**	P	**P**	**11 36 03.0**	**-0.4**
TCRU	**Three Creeks R**	**57.81**	**293**	P	**P**	**11 36 03.9**	**+0.5**
SPR3	**Spring Creek 3**	**58.22**	**294**	P	**P**	**11 36 05.7**	**-0.6**
ANMO	**Albuquerque**	**58.54**	**286**	*ce*P	P	11 36 17.5	+9.1
ANMO				pmax	pmax		
	comp=Z,9.0nm,2.5s						
DBIC	**Dimbokro**	**58.65**	**165**	P	**P**	**11 36 09.3**	**+0.2**
	comp=Z,3.8nm,1.1s,baz=347,slow=14,SNR=3.6						
DBIC	**Dimbokro**	**58.65**	**165**	P	**P**	**11 36 07.0**	**-2.1**
DBIC				IAmb	IAmb	11 36 17.3	
	comp=Z,12nm,1.2s						
SZCU	**Shurtz Canyon**	**58.94**	**293**	P	**P**	**11 36 10.1**	**-1.1**
BNM	**Barren Site**	**59.30**	**285**	P	**P**	**11 36 11.3**	**-2.5**
KNB	**Kanab**	**59.34**	**292**	P	**P**	**11 36 13.6**	**-0.3**
KNB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KNB	**Kanab**	**59.34**	**292**	P	**P**	**11 36 13.6**	**-0.3**
LCMT	**Little Creek M**	**59.51**	**292**	P	**P**	**11 36 14.7**	**-0.4**
JCT	**Junction City**	**59.60**	**277**	P	**P**	**11 36 14.9**	**-0.8**
JCT				pmax	pmax		
	comp=Z,18nm,1.1s						
JCT	**Junction City**	**59.60**	**277**	P	**P**	**11 36 14.9**	**-0.8**
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**11 36 17.1**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=339,slow=7.5,SNR=5.0						
SONM				LR	LR	12 04 35.5	
	comp=Z,164nm,19.5s,baz=346,slow=39						
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**11 36 16.1**	**+0.3**
KVN	**Kaiserville**	**59.63**	**297**	P	**P**	**11 36 15.1**	**-0.8**
KVN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KVN	**Kaiserville**	**59.63**	**297**	P	**P**	**11 36 15.1**	**-0.8**
KVN				IAmb	IAmb	11 36 27.4	
	comp=Z,7.2nm,1.2s						
U15A	**North Rim**	**59.63**	**291**	P	**P**	**11 36 15.7**	**-0.5**
U15A				IAmb	IAmb	11 36 26.9	
	comp=Z,9.1nm,1.1s						
ULN	**Ulaanbaatar**	**59.78**	**40**	*ce*P	**P**	**11 36 19.1**	**+2.3**
ULN				pmax	pmax		
	comp=Z,17nm,2.5s						
ULN	**Ulaanbaatar**	**59.78**	**40**	P	**P**	**11 36 16.2**	**-0.6**
ULN				IAmb	IAmb	11 36 20.2	
	comp=Z,15nm,1.5s						
PRN	**Pahroc Range**	**59.88**	**294**	P	**P**	**11 36 17.9**	**+0.3**
PRN				IAmb	IAmb	11 36 32.4	
	comp=Z,7.7nm,1.4s						
WUAZ	**Wupatki**	**60.05**	**290**	P	**P**	**11 36 17.8**	**-1.1**
NVAR	**Mina Array Bea**	**60.24**	**297**	P	**P**	**11 36 22.2**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=69,slow=4.9,SNR=2.2						
NIL	**Nilore**	**60.47**	**73**	P	**P**	**11 36 20.9**	**-0.7**
NIL				pmax	pmax		
	comp=Z,12nm,1.1s						
NIL	**Nilore**	**60.47**	**73**	P	**P**	**11 36 20.9**	**-0.7**
NIL				IAmb	IAmb	11 36 28.1	
	comp=Z,12nm,1.1s						
SHPR	**Sheep Range**	**60.70**	**294**	P	**P**	**11 36 21.7**	**-1.6**
SHPR				IAmb	IAmb	11 36 34.9	
	comp=Z,12nm,1.5s						
X16A	**Lo Mia Camp, P**	**61.04**	**289**	P	**P**	**11 36 23.0**	**-2.6**
X16A				IAmb	IAmb	11 36 37.6	
	comp=Z,11nm,1.2s						
TXAR	**Lajitas Array**	**62.24**	**280**	P	**P**	**11 36 35.0**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=72,slow=4.1,SNR=6.3						
TXAR				LR	LR	12 03 06.8	
	comp=Z,235nm,19.7s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**62.24**	**280**	P	**P**	**11 36 35.0**	**+1.3**
TUC	**Tucson**	**62.61**	**288**	P	**P**	**11 36 35.4**	**-0.7**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TUC	**Tucson**	**62.61**	**288**	P	**P**	**11 36 35.4**	**-0.7**
TUC				IAmb	IAmb	11 36 45.5	
	comp=Z,8.1nm,1.3s						
ISA	**Isabella, Lake**	**62.73**	**296**	P	P	11 36 44.4	+7.5
ISA				pmax	pmax		
	comp=Z,17nm,2.0s						
BAR	**Barrett**	**64.65**	**293**	P	**P**	**11 36 49.5**	**0.0**
BAR				IAmb	IAmb	11 37 01.7	
	comp=Z,4.5nm,1.1s						
GTA	**Gaotai**	**65.29**	**49**	*e*P	**P**	**11 36 56.2**	**+2.5**
GTA				pP	sP	11 36 59.2	+2.6
GTA				sP	pP	11 37 02.3	+6.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SPX	**San Pedro Mart**	**65.62**	**291**	P	**P**	**11 36 53.3**	**-2.9**
SPX				IAmb	IAmb	11 37 05.1	
	comp=Z,5.8nm,1.1s						
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e*P	P	11 37 12.5	+4.7
HHC				pmax	pmax		
	comp=Z,26nm,1.2s						
HHC				pmax	pmax		
	comp=Z,290nm,5.7s						
USRK	**Ussuriysk Ar.**	**68.83**	**23**	LR	LR	12 07 11.1	
	comp=Z,36nm,18.0s,baz=327,slow=36						
LZH	**Lanzhou**	**69.62**	**48**	*e*P	**P**	**11 37 18.5**	**-2.7**
LZH				pP	pP	11 37 21.0	-2.3
LZH				sP	sP	11 37 22.3	-1.8
LZH				*e*PP	**PP**	**11 39 53.6**	**-0.9**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,87nm,8.0s						
LZH				LR	LR		
	comp=N,270nm,16.7s						
LZH				LR	LR		
	comp=E,280nm,16.8s						
LZH				LR	LR		
	comp=Z,350nm,19.0s						
ROSC	**El Rosal**	**71.92**	**241**	LR	LR	12 05 38.7	
	comp=Z,53nm,21.4s,baz=94,slow=33						
KSRS	**Korea Array**	**74.62**	**28**	LR	LR	12 12 54.7	
	comp=Z,48nm,18.1s,baz=265,slow=38						
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**11 38 13.1**	**+4.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
WHN	**Wuhan**	**77.93**	**41**	P	**P**	**11 38 12.3**	**+2.5**
BDFB	**Brasilia**	**83.41**	**209**	LR	LR	12 09 42.9	
	comp=Z,85nm,20.6s,baz=104,slow=31						
CHTO	**Chiang Mai**	**83.81**	**58**	P	**P**	**11 38 43.0**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**11 38 44.9**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=319,slow=7.2,SNR=7.2						
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**11 38 42.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**11 38 42.1**	**-0.9**
CPUP	**Villa Florida**	**95.86**	**215**	LR	LR	12 17 08.4	
	comp=Z,47nm,21.7s,baz=24,slow=32						
BOSA	**Boshof**	**98.83**	**143**	LR	LR	12 27 23.9	
	comp=Z,76nm,18.2s,baz=15,slow=37						
WRA	**Warramunga Arr**	**131.50**	**36**	PKP	**PKiKP**	**11 45 24.9**	**-0.4**
	comp=Z,0.7nm,1.1s,baz=322,slow=3.0,SNR=2.4						
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKiKP**	**11 45 32.1**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=348,slow=2.4,SNR=7.4						

HLW ***10*** *11:48:50.8, 37.42N×24.27E, h15km±9km, Md4.5*
IDC ***10*** *11:48:54.2±3.0, 37.52N×24.13E, h134km±66km, mb3.4/5, mb1 3.5/9, mb1mx3.2/50, mbtmp3.8/9, MS3.4/2, Ms1 3.3/2, ms1mx2.5/32, Error ellipse: s-maj=67.0km s-min=22.2km az=20.0*
ATH ***10*** *11:48:55.3, 37.43N×24.04E, h153km±2km, ML3.4/7, Error ellipse: s-maj=3.0km s-min=1.5km az=63.0*
PDG ***10*** *11:48:55.7±0.1, 37.74N×23.50E, h9km±10km, ML4.2/13, Error ellipse: s-maj=8.6km s-min=10.9km az=0.0*
ISK ***10*** *11:48:56.8, 37.48N×24.01E, h137km, ML3.0/6*
THE ***10*** *11:48:57.2, 37.40N×24.01E, h144km±1km, ML3.4/8, Error ellipse: s-maj=1.8km s-min=0.9km az=39.0*
GII ***10*** *11:49:01.4±0.0, 36.66N×24.84E, h3km, MD2.9/1*

ISC 10 11:48:53.7±0.7, **37.47N**±0.03×**24.10E**±0.04, **h164**km±6km, **n129**, σ2**s79**/174, **mb3.6**/5, **8C-5D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SERI	**Serifos**	**0.43**	**134**	P	**Pn**	**11 49 17.4**	**+1.0**
SERI				S	**Sn**	**11 49 32.6**	**-1.1**
SERI	**Serifos**	**0.43**	**134**	P	**Pn**	**11 49 17.3**	**+1.0**
SERI				S	**Sn**	**11 49 32.7**	**-1.1**
SERI				AML	AML	11 49 33.2	
	comp=N,570μm,0.4s						
SERI				AML	AML	11 49 33.3	
	comp=E,954μm,0.5s						
VLY	**Voula,Athens**	**0.45**	**328**	P	**Pn**	**11 49 17.6**	**+1.2**
VLY				S	**Sn**	**11 49 32.2**	**-1.7**
	comp=E,460nm,0.6s						
VLY	**Voula,Athens**	**0.45**	**328**	P	**Pn**	**11 49 17.6**	**+1.2**
ATHU	**Athens Univers**	**0.56**	**334**	P	**Pn**	**11 49 18.0**	**+1.1**
ATHU	**Athens Univers**	**0.56**	**334**	P	**Pn**	**11 49 18.0**	**+1.1**
PTL	**Penteli**	**0.61**	**343**	P	**Pn**	**11 49 18.5**	**+1.3**
DION	**Dionisos Attik**	**0.62**	**348**	P	**Pn**	**11 49 18.5**	**+1.3**
DION				S	**Sn**	**11 49 34.0**	**-1.4**
DION	**Dionisos Attik**	**0.62**	**348**	P	**Pn**	**11 49 18.5**	**+1.3**
DION				S	**Sn**	**11 49 34.1**	**-1.4**
DION				AML	AML	11 49 34.7	
	comp=E,2891μm,0.6s						
DION				AML	AML	11 49 35.3	
	comp=N,1413μm,0.6s						
KRND	**KRANIDI**	**0.76**	**264**	P	**Pn**	**11 49 19.2**	**+1.2**
KRND				S	**Sn**	**11 49 35.5**	**-1.1**
	comp=N,2μm,0.4s						
KRND	**KRANIDI**	**0.76**	**264**	P	**Pn**	**11 49 19.2**	**+1.2**
KRND				S	**Sn**	**11 49 35.5**	**-1.1**
KRND				AML	AML	11 49 36.2	
	comp=N,2140μm,0.3s						
KRND				AML	AML	11 49 36.6	
	comp=E,4105μm,0.4s						
MHLA	**Plaka, Milos I**	**0.77**	**160**	P	**Pn**	**11 49 19.5**	**+1.4**
VILL	**Villia**	**0.93**	**319**	P	**Pn**	**11 49 20.5**	**+1.2**
VILL				S	**Sn**	**11 49 36.4**	**-0.7**
VIL2	**Platees**	**0.99**	**319**	P	**Pn**	**11 49 20.5**	**+0.8**
VIL2				S	**Sn**	**11 49 38.4**	**-1.4**
LOUT	**Loutraki**	**1.03**	**301**	P	**Pn**	**11 49 21.1**	**+1.1**
LOUT	**Loutraki**	**1.03**	**301**	P	**Pn**	**11 49 21.0**	**+0.9**
LTK	**Loutraki**	**1.05**	**302**	P	**Pn**	**11 49 21.4**	**+1.2**
LTK	**Loutraki**	**1.05**	**302**	P	**Pn**	**11 49 21.4**	**+1.2**
MNVA	**Monemvasia**	**1.15**	**228**	P	**Pn**	**11 49 21.9**	**+0.9**
VLI	**Veliai**	**1.19**	**231**	P	**Pn**	**11 49 22.2**	**+0.8**
VLI				S	**Sn**	**11 49 40.3**	**-2.3**
VLI	**Veliai**	**1.19**	**231**	P	**Pn**	**11 49 22.2**	**+0.8**
VLI				S	**Sn**	**11 49 40.3**	**-2.3**
VLI				AML	AML	11 49 40.8	
	comp=N,3338μm,0.6s						
VLI				AML	AML	11 49 41.0	
	comp=E,1367μm,0.2s						
APE	**Apeiranthos**	**1.21**	**109**	PN	**Pn**	**11 49 23.6**	**+2.0**
APE				SN	**Sn**	**11 49 43.2**	**+0.1**
THAL	**Thalero**	**1.27**	**297**	P	**Pn**	**11 49 23.2**	**+1.1**
THAL				S	**Sn**	**11 49 43.2**	**-0.7**
VLX	**Vlachokerasia**	**1.37**	**267**	P	**Pn**	**11 49 24.4**	**+1.2**
VLX	**Vlachokerasia**	**1.37**	**267**	P	**Pn**	**11 49 24.4**	**+1.2**
THR5	**Thira Island,**	**1.45**	**136**	P	**Pn**	**11 49 26.1**	**+2.3**
TRIP	**Tripoli**	**1.45**	**273**	P	**Pn**	**11 49 25.2**	**+1.3**
TRIP				S	**Sn**	**11 49 45.9**	**-1.3**
	comp=E,572nm,0.4s						
TRIP	**Tripoli**	**1.45**	**273**	P	**Pn**	**11 49 25.5**	**+1.6**
TRIP				S	**Sn**	**11 49 45.9**	**-1.3**
TRIP				AML	AML	11 49 48.9	
	comp=N,832μm,0.4s						
TRIP				AML	AML	11 49 49.0	
	comp=E,1439μm,0.4s						
KTHA	**Kythira Island**	**1.47**	**215**	P	**Pn**	**11 49 25.3**	**+1.3**
KTHA				S	**Sn**	**11 49 45.7**	**-1.6**
	comp=E,1μm,0.3s						
KTHA	**Kythira Island**	**1.47**	**215**	P	**Pn**	**11 49 25.3**	**+1.3**
KTHA				S	**Sn**	**11 49 45.7**	**-1.6**
KTHA				AML	AML	11 49 46.1	
	comp=N,2013μm,0.4s						
KTHA				AML	AML	11 49 47.0	
	comp=E,2357μm,0.2s						
KTHA	**Kythira Island**	**1.47**	**215**	PN	**Pn**	**11 49 25.3**	**+1.3**
KTHA				SN	**Sn**	**11 49 46.1**	**-1.2**
LKR	**Lokris**	**1.47**	**324**	P	**Pn**	**11 49 25.2**	**+1.3**
LKR	**Lokris**	**1.47**	**324**	P	**Pn**	**11 49 25.2**	**+1.3**
GUR	**Goura**	**1.47**	**289**	P	**Pn**	**11 49 25.1**	**+1.0**
GUR	**Goura**	**1.47**	**289**	P	**Pn**	**11 49 25.1**	**+1.0**
KTHR	**Kythira**	**1.49**	**216**	P	**Pn**	**11 49 25.6**	**+1.4**
KTHR				S	**Sn**	**11 49 46.2**	**-1.5**
	comp=E,655nm,0.4s						
ATAL	**Atalanti**	**1.49**	**326**	P	**Pn**	**11 49 25.3**	**+1.1**
ATAL	**Atalanti**	**1.49**	**326**	P	**Pn**	**11 49 25.3**	**+1.1**
SANT	**Santorini**	**1.54**	**135**	PN	**Pn**	**11 49 27.2**	**+2.4**
DSF	**Desfina**	**1.56**	**308**	P	**Pn**	**11 49 26.0**	**+1.0**
DSF	**Desfina**	**1.56**	**308**	P	**Pn**	**11 49 26.0**	**+1.0**
AOS	**Alonnisos**	**1.71**	**354**	PN	**Pn**	**11 49 28.1**	**+1.7**
ITM	**Ithomi**	**1.75**	**261**	P	**Pn**	**11 49 28.8**	**+1.9**
ITM				S	**Sn**	**11 49 52.3**	**-0.3**
	comp=E,612nm,0.3s						
ITM	**Ithomi**	**1.75**	**261**	P	**Pn**	**11 49 28.8**	**+1.9**
ITM				S	**Sn**	**11 49 52.3**	**-0.3**
ITM				AML	AML	11 49 53.4	
	comp=N,1264μm,0.4s						
ITM				AML	AML	11 49 53.5	
	comp=E,1154μm,0.3s						
ITM	**Ithomi**	**1.75**	**261**	PN	**Pn**	**11 49 28.2**	**+1.2**
CHOS	**Chios Island**	**1.80**	**59**	PN	**Pn**	**11 49 29.9**	**+2.4**
KALE	**Kalithea**	**1.80**	**301**	P	**Pn**	**11 49 28.5**	**+1.0**
KALE	**Kalithea**	**1.80**	**301**	P	**Pn**	**11 49 28.5**	**+1.0**
TRIZ	**Trizonia**	**1.83**	**300**	P	**Pn**	**11 49 29.0**	**+1.2**
TRIZ	**Trizonia**	**1.83**	**300**	P	**Pn**	**11 49 29.2**	**+1.4**
RODP	**Rodopos**	**1.92**	**188**	P	**Pn**	**11 49 30.2**	**+1.4**
DRO	**Drossia**	**1.95**	**285**	P	**Pn**	**11 49 31.0**	**+1.9**
DRO	**Drossia**	**1.95**	**285**	P	**Pn**	**11 49 31.5**	**+2.4**
PYL	**PYLOS**	**1.96**	**254**	P	**Pn**	**11 49 30.3**	**+1.0**
PYL	**PYLOS**	**1.96**	**254**	P	**Pn**	**11 49 30.3**	**+1.0**
IMMV	**Iera Moni Meta**	**2.00**	**183**	P	**Pn**	**11 49 30.9**	**+1.2**
IMMV	**Iera Moni Meta**	**2.00**	**183**	P	**Pn**	**11 49 30.9**	**+1.2**
ANX	**Ano Chora**	**2.05**	**304**	P	**Pn**	**11 49 31.5**	**+1.2**
ANX	**Ano Chora**	**2.05**	**304**	P	**Pn**	**11 49 31.6**	**+1.2**
VAM	**Vamos**	**2.06**	**178**	P	**Pn**	**11 49 31.2**	**+0.9**
VAM				S	**Sn**	**11 49 57.5**	**-1.1**
	comp=E,378nm,0.2s						
VAM	**Vamos**	**2.06**	**178**	P	**Pn**	**11 49 31.4**	**+1.1**
AGG	**Agios Georgios**	**2.08**	**319**	P	**Pn**	**11 49 32.3**	**+1.7**
AGG	**Agios Georgios**	**2.08**	**319**	P	**Pn**	**11 49 32.3**	**+1.7**
AGG	**Agios Georgios**	**2.08**	**319**	PN	**Pn**	**11 49 32.1**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.19**	**316**	P	**Pn**	**11 49 33.8**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.19**	**316**	P	**Pn**	**11 49 33.7**	**+2.0**
IDI	**Anoyia**	**2.27**	**163**	P	**Pn**	**11 49 33.7**	**+0.9**
	comp=E,19nm,0.3s,baz=352,slow=9.3,SNR=58						
IDI				S	**Sn**	**11 50 01.7**	**-1.4**
	comp=E,118nm,0.3s,baz=278,slow=22,SNR=31						
IDI	**Anoyia**	**2.27**	**163**	P	**Pn**	**11 49 33.8**	**+0.9**
IDI				S	**Sn**	**11 50 01.7**	**-1.4**
	comp=E,612nm,0.3s						
IDI	**Anoyia**	**2.27**	**163**	P	**Pn**	**11 49 33.8**	**+0.9**
EVR	**Evrytania**	**2.31**	**309**	P	**Pn**	**11 49 35.6**	**+2.3**
EVR	**Evrytania**	**2.31**	**309**	P	**Pn**	**11 49 35.6**	**+2.3**
LAST	**Lasithi**	**2.56**	**154**	P	**Pn**	**11 49 37.4**	**+1.1**
LAST	**Lasithi**	**2.56**	**154**	P	**Pn**	**11 49 37.4**	**+1.1**
BODT	**Bodrum**	**2.60**	**98**	PN	**Pn**	**11 49 40.1**	**+3.5**
GVDS	**Gavdos**	**2.62**	**180**	P	**Pn**	**11 49 38.5**	**+1.6**
GVD	**Gavdhos**	**2.62**	**180**	P	**Pn**	**11 49 38.4**	**+1.4**
GVD	**Gavdhos**	**2.62**	**180**	P	**Pn**	**11 49 38.4**	**+1.4**
THL	**Klokotos Trika**	**2.66**	**323**	P	**Pn**	**11 49 39.0**	**+1.7**
VLMS	**Volimes, Zakyn**	**2.75**	**280**	P	**Pn**	**11 49 39.4**	**+0.8**
VLS	**Valsamata**	**2.87**	**285**	P	**Pn**	**11 49 40.9**	**+1.0**
VLS	**Valsamata**	**2.87**	**285**	P	**Pn**	**11 49 40.9**	**+1.0**
LKD2	**Lefkada island**	**3.02**	**297**	P	**Pn**	**11 49 43.4**	**+1.6**
LKD2	**Lefkada island**	**3.02**	**297**	P	**Pn**	**11 49 43.4**	**+1.6**
TSLK	**Tsoukalades, L**	**3.03**	**298**	P	**Pn**	**11 49 43.7**	**+1.7**
HORT	**Hortiatis**	**3.22**	**346**	PN	**Pn**	**11 49 47.1**	**+2.7**
KNT	**Kendrikon**	**3.81**	**346**	PN	**Pn**	**11 49 54.5**	**+2.8**
RDO	**Rodhopi**	**3.84**	**16**	PN	**Pn**	**11 49 54.7**	**+2.5**
ULC	**Ulcinj**	**5.84**	**322**	*i*P	**Pn**	**11 50 17.5**	**-0.9**
ULC				*i* Sn	**Sn**	**11 51 19.1**	**-5.8**
PVY	**Plav**	**6.03**	**329**	*i*P	**Pn**	**11 50 20.0**	**-0.9**
PVY				*i* Sn	**Sn**	**11 51 23.6**	**-5.7**
SLUM	**Salum**	**6.03**	**171**	P	**Pn**	**11 50 21.6**	**+0.6**
	baz=172						
SLUM				S	**Sn**	**11 51 24.0**	**-5.4**
	baz=172						
DRME	**Dracevica, Mon**	**6.04**	**323**	*i*Pn	**Pn**	**11 50 20.1**	**-0.9**
DRME				*i* Sn	**Sn**	**11 51 23.8**	**-5.7**
TTG	**Podgorica**	**6.20**	**325**	*i*Pn	**Pn**	**11 50 22.2**	**-0.8**
TTG				*i* Sn	**Sn**	**11 51 27.4**	**-5.8**
BUM	**Brajici-Budva**	**6.27**	**322**	*i*Pn	**Pn**	**11 50 23.2**	**-0.9**
BUM				*i* Sn	**Sn**	**11 51 28.9**	**-6.1**
IVA	**Berane**	**6.29**	**331**	*i*Pn	**Pn**	**11 50 23.6**	**-0.7**
IVA				*i* Sn	**Sn**	**11 51 29.8**	**-5.6**
KOME	**Kolasin**	**6.42**	**328**	*i*Pn	**Pn**	**11 50 25.4**	**-0.7**
KOME				*i* Sn	**Sn**	**11 51 32.9**	**-5.8**
CEME	**Cevo**	**6.45**	**324**	*i*Pn	**Pn**	**11 50 25.6**	**-0.8**
CEME				*i* Sn	**Sn**	**11 51 33.2**	**-6.0**
HCY	**Herceg Novi**	**6.58**	**321**	*i*Pn	**Pn**	**11 50 27.2**	**-0.9**
HCY				*i* Sn	**Sn**	**11 51 36.2**	**-6.1**
NKY	**Niksic**	**6.62**	**325**	*i*Pn	**Pn**	**11 50 28.0**	**-0.7**
NKY				*i* Sn	**Sn**	**11 51 37.4**	**-6.0**
PLE	**Pljevlja**	**6.87**	**330**	*i*Pn	**Pn**	**11 50 31.5**	**-0.6**
PLE				*i* Sn	**Sn**	**11 51 43.6**	**-5.8**
BRY	**Bratogost**	**6.90**	**324**	*i*Pn	**Pn**	**11 50 31.7**	**-0.7**
BRY				*i* Sn	**Sn**	**11 51 43.8**	**-6.3**
UPM	**Unac-Piva**	**6.97**	**327**	*i*Pn	**Pn**	**11 50 32.7**	**-0.7**
UPM				*i* Sn	**Sn**	**11 51 45.6**	**-6.2**
SWA2		**8.28**	**172**	P	**Pn**	**11 50 50.6**	**-0.2**
	baz=172						
HSAF	**As Saff**	**9.99**	**139**	P	**Pn**	**11 51 13.8**	**+0.4**
	baz=140						
GLL	**Jalalah**	**10.11**	**139**	P	**Pn**	**11 51 15.5**	**+0.5**
	baz=139						
MMA0B	**Mount Meron ar**	**10.26**	**112**	Pn	**Pn**	**11 51 18.2**	**+1.3**
MMA0B				Sn	**Sn**	**11 53 05.

LSSA Sn 12 08 50.0 +0.9
LSNW Little Sitkin 2.34 52 Pn 12 08 21.6 -0.2
LSNW Sn 12 08 50.6 +1.2
AMKA Amchitka 2.52 70 Pn 12 08 23.2 -1.0
AMKA Sn 12 08 52.8 -1.0
CESW Semis' Southwe 2.87 61 Pn 12 08 29.1 +0.1
CERB Semis' Cerberu 2.92 61 Sn 12 09 05.6 +2.1
CEAP Semis' Anvil P 2.92 59 Pn 12 08 29.9 +0.1
CERAA Semis' Rag'd T 2.94 62 Pn 12 08 30.0 +0.1
KIMD Kanaga Island 4.71 73 Pn 12 08 54.9 +0.5
KIKV Kanaga Island 4.78 71 Pn 12 08 55.5 +0.2
ADK Adak 5.07 72 Pn Pn 12 08 59.4 +0.2
ATKA Atka Island 6.64 72 Pn Pn 12 09 20.7 -0.1
NIKH Nikolski High 9.98 70 Pn Pn 12 10 07.1 +0.6
PETK Petropavlovsk- 11.31 290 Pn Pn 12 10 18.1 -6.6
0.5nm,0.3s,baz=108,slow=19,SNR=17
PETK Sn Sn 12 12 17.6 -12
0.2nm,0.3s,baz=86,slow=21,SNR=4.7
PETK Petropavlovsk- 11.31 290 Pn 12 10 26.1 +1.4
SVW2 Sparrevohn 19.17 46 P P 12 12 05.6 -0.5
KDAK Kodiak Island 19.86 56 P P 12 12 11.6 -2.0
0.5nm,0.3s,baz=270,slow=8.0,SNR=8.2
KDAK Kodiak Island 19.86 56 P P 12 12 12.4 -1.1
KDAK IAmb IAmb 12 12 33.2
comp=Z,27nm,1.3s
CNPM China Poot 20.84 52 P P 12 12 23.5 -0.6
BRLK Bradley Lake 21.06 51 P P 12 12 25.6 -0.9
BRLK IAmb IAmb 12 12 47.0
comp=Z,28nm,1.2s
SKT Skwentna 21.29 45 P P 12 12 29.3 +0.2
SKT IAmb IAmb 12 12 44.7
comp=Z,14nm,1.2s
PPLA Purkeypile 21.30 42 P P 12 12 28.6 -0.6
PPLA IAmb IAmb 12 12 41.0
comp=Z,33nm,1.4s
SUA Susitna One 21.51 47 P P 12 12 31.1 -0.4
SEW Seward 21.83 51 P P 12 12 33.6 -1.1
IMAR Indian Mountai 21.99 34 P P 12 12 36.5 0.0
KTH Kantishna Hill 22.07 41 P P 12 12 35.0 -2.4
KTH IAmb IAmb 12 12 43.5
comp=Z,11nm,1.3s
TRF Thorofare Moun 22.30 42 P P 12 12 38.0 -2.0
GHO Glory Hole Cre 22.43 46 P P 12 12 39.0 -2.2
GHO IAmb IAmb 12 12 58.1
comp=Z,25nm,1.4s
MDM Murphy Dome 23.66 39 P P 12 12 53.2 -0.4
M24K Tolsona, Glenn 23.77 46 P P 12 12 54.3 -0.5
KLU Klutina 23.77 48 P P 12 12 53.8 -1.0
KLU IAmb IAmb 12 12 59.2
comp=Z,16nm,1.5s
HDA Harding Lake 24.00 41 P P 12 12 57.3 +0.4
IL31 24.14 40 P P 12 12 57.2 -0.8
ILAR Eielson Array 24.14 40 P P 12 12 56.3 -1.8
comp=Z,0.6nm,0.4s,baz=258,slow=6.1,SNR=19
ILAR Eielson Array 24.14 40 P P 12 12 57.5 -0.7
PAX Paxson 24.27 44 P P 12 12 59.0 -0.5
PAX IAmb IAmb 12 13 23.0
comp=Z,11nm,1.4s
TOLK Toolik Lake Re 24.72 30 P P 12 13 00.6 -2.8
TOLK IAmb IAmb 12 13 03.9
comp=Z,4.8nm,1.0s
GLB Gilahina Butte 24.77 48 P P 12 13 03.0 -0.9
GLB IAmb IAmb 12 13 27.2
comp=Z,9.1nm,1.2s
VRDI Verde Repeater 24.92 49 P P 12 13 05.0 -0.4
BMAR Burnt Mountain 25.91 35 P P 12 13 13.4 -0.8
BCAR Beaver Creek A 25.94 45 P P 12 13 13.9 -0.6
DAWY Dawson 27.15 43 P P 12 13 25.5 +0.1
DAWY IAmb IAmb 12 13 26.7
comp=Z,5.8nm,1.0s
EPYK Eagle Plains 28.62 39 P P 12 13 38.4 -0.1
BCYI Bear Canyon 46.78 69 P P 12 16 12.6 +0.7
MCMT McKenzie Canyo 46.83 68 P P 12 16 12.5 +0.3
NVAR Mina Array Bea 47.23 78 P P 12 16 16.7 +1.3
comp=Z,0.1nm,0.3s,baz=306,slow=7.7,SNR=2.2
YHL Hebgen Lake 47.79 67 P P 12 16 18.9 -0.9
BW06 Boulder Array 49.96 68 P P 12 16 35.8 -0.6
PD31 Pinedale Array 49.96 68 P P 12 16 37.1 +0.7
PD31 IAmb IAmb 12 16 48.4
comp=Z,5.1nm,1.5s
PDAR Pinedale Array 49.96 68 P P 12 16 36.6 +0.2
comp=Z,0.8nm,0.6s,baz=296,slow=2.9,SNR=12
PDAR Pinedale Array 49.96 68 P P 12 16 35.2 -1.2
RDMU Red Mountain 51.28 71 P P 12 16 46.6 +0.2
MKAR Makanchi Array 57.65 306 P P 12 17 28.7 -3.6
comp=Z,0.3nm,0.7s,baz=70,slow=5.4,SNR=3.1
MKAR Makanchi Array 57.65 306 P P 12 17 35.5 +3.3
TXAR Lajitas Array 62.33 77 P P 12 18 06.0 +1.2
comp=Z,0.7nm,0.8s,baz=273,slow=3.9,SNR=7.2
TXAR Lajitas Array 62.33 77 P P 12 18 05.0 +0.2
NOA NORSAR Array B 68.02 352 P P 12 18 39.5 -1.5
comp=Z,0.6nm,0.7s,baz=10.0,slow=6.6,SNR=2.2
WRA Warramunga Arr 79.03 219 P P 12 19 45.8 -0.4
comp=Z,0.3nm,0.7s,baz=33,slow=6.1,SNR=2.6
H03N2 Juan Fernandez 124.44 102 T T 14 43 52.5
baz=315,slow=77,SNR=5.4
H03N1 Juan Fernandez 124.45 102 T T 14 43 57.3
baz=315,slow=77,SNR=4.8
H03N3 Juan Fernandez 124.45 102 T T 14 43 54.4
baz=315,slow=77,SNR=4.0

IDC ***10*** *12:27:23.3±0.8, 44˚.16N×149˚.06E, h0km, mb4.0/18, mb1 4.1/23, mb1mx4.0/44, mbtmp4.0/23, ML3.2/4, MS4.0/22, Ms1 4.0/22, ms1mx3.7/48, Error ellipse: s-maj=19.7km s-min=15.6km az=140.0*

NIED ***10*** *12:27:26.6, 44˚.32N×149˚.21E, h30km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr4.75; Mθθ1.92; Mφφ-6.67; Mrθ4.69; Mθφ-2.92; Mφr2.43; Fault plane solution: M08.46000×10^15 NP1:φs47.00000°, δ69.00000°, λ124.00000°. NP2:φs166.00000°, δ39.00000°, λ35.00000°.*

JMA ***10*** *12:27:26.6±0.6, 44˚.32N×149˚.21E, h30km, M4.5*

MOS ***10*** *12:27:26.6±1.4, 44˚.23N×149˚.19E, h36km, mb4.6/16, Error ellipse: s-maj=7.8km s-min=7.5km az=80.4*

NEIC ***10*** *12:27:26.9±1.6, 44˚.07N±0˚.08×149˚.2E±0˚.1, h29km±5km, mb4.6/32, Error ellipse: s-maj=14.3km s-min=10.3km az=122.0*

SKHL ***10*** *12:27:26.6±0.1, 44˚.02N×149˚.33E, h51km±4km, mb4.9/7, Ms4.2/2, msh5.5/1*

ISC 10 12:27:26.8±0.5, 43˚.93N±0˚.05×149˚.24E±0˚.06, h35km, n174, σ1s66/169, mb4.4/39, MS4.1/17, 2C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.63**	**324**	*i* P		**Pn**	**Pn**	**12 27 51.6**	**-1.3**
KUR						AMB	AMB	12 27 54.0	
	1μm,0.3s								
KUR				*e*S		**Sn**	**Sn**	**12 28 10.2**	**-2.5**
KUR						A	A	12 28 14.0	
	2μm,0.3s								
KUR						A	A	12 28 14.0	
	1μm,0.3s								
KUR						AMS	AMS	12 28 37.0	
	8μm,12.0s								
KUR						AMS	AMS	12 28 37.0	
	8μm,12.0s								
KUR						AMS	AMS	12 28 37.0	
	9μm,12.0s								
KUR	**Kuril'sk**	**1.63**	**324**	*c i* PN		**Pn**	**Pn**	**12 27 51.6**	**-1.3**
KUR				*e*S		**Sn**	**Sn**	**12 28 10.2**	**-2.5**
KUR				pmax		pmax			
	comp=Z,3μm,1.1s								
KUR				pmax		pmax			
	comp=Z,1μm,0.3s								
KUR				pmax		pmax			
	comp=N,233nm,0.2s								
KUR				pmax		pmax			
	comp=E,996nm,0.2s								
KUR				smax		smax			
	comp=N,4μm,1.5s								
KUR				smax		smax			
	comp=E,4μm,0.7s								
KUR				smax		smax			
	comp=E,1μm,0.2s								
KUR				smax		smax			
	comp=N,2μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.44**	**274**	*i* P		AMB	AMB	12 28 09.0	
YUK									
	comp=N,483nm,0.4s								
YUK				*i* S		**Sn**	**Sn**	**12 28 34.0**	**+1.4**
YUK						A	A	12 28 36.0	
	comp=N,6μm,2.0s								
YUK						A	A	12 28 36.0	
	comp=N,5μm,2.0s								
YUK						A	A	12 28 45.0	
	comp=N,2μm,0.5s								
YUK						A	A	12 28 45.0	
	comp=N,2μm,0.5s								
YUK						AMS	AMS	12 29 11.5	
	comp=N,8μm,12.0s								
YUK						AMS	AMS	12 29 11.5	
	comp=N,6μm,12.0s								
YUK						AMS	AMS	12 29 11.5	
	comp=N,4μm,12.0s								
YUK	**Yuzh-Kuril'sk**	**2.44**	**274**	*d i* PN		**Pn**	**Pn**	**12 28 03.7**	**-0.4**
YUK				*i* S		**Sn**	**Sn**	**12 28 31.8**	**-0.8**
YUK				pmax		pmax			
	comp=E,115nm,0.2s								
YUK				pmax		pmax			
	comp=Z,483nm,0.2s								
YUK				pmax		pmax			
	comp=N,142nm,0.1s								
YUK				smax		smax			
	comp=E,884nm,0.5s								
YUK				smax		smax			
	comp=N,358nm,0.6s								
YUK				MLR		MLR			
	comp=Z,2μm,13.0s								
YUK				MLR		MLR			
	comp=E,849nm,6.0s								
GRPR	**Tuman**	**2.50**	**273**	*e*P		**Pn**	**Pn**	**12 28 06.0**	**+1.0**
GRPR				AMB		AMB	AMB	12 28 10.0	
	comp=E,262nm,0.5s								
GRPR				*e*S		**Sn**	**Sn**	**12 28 35.6**	**+1.4**
GRPR				A		A	A	12 28 42.0	
	comp=E,1μm,0.4s								
GRPR				A		A	A	12 28 42.0	
	comp=E,576nm,0.4s								
GRPR				AMS		AMS	AMS	12 29 19.0	
	comp=E,7μm,14.0s								
GRPR	**Tuman**	**2.50**	**273**	*e*PN		**Pn**	**Pn**	**12 28 04.7**	**-0.3**
GRPR				*e*S		**Sn**	**Sn**	**12 28 33.3**	**-0.9**
GRPR				pmax		pmax			
	comp=Z,262nm,0.5s								
GRPR				pmax		pmax			
	comp=E,126nm,0.1s								
GRPR				pmax		pmax			
	comp=N,121nm,0.2s								
GRPR				smax		smax			
	comp=N,1μm,0.3s								
GRPR				smax		smax			
	comp=E,576nm,0.4s								
GRPR				MLR		MLR			
	comp=Z,7μm,14.0s								
NEM2	**Nemuro 2**	**2.60**	**259**	P		**Pn**	**Pn**	**12 28 06.6**	**+0.3**
NEM2				*e*S		**Sn**	**Sn**	**12 28 36.2**	**-0.4**
NMR	**Nemuro--Hokkai**	**2.61**	**259**	*i* P		**Pn**	**Pn**	**12 28 06.9**	**+0.5**
NMR	**Nemuro--Hokkai**	**2.61**	**259**	*i* PN		**Pn**	**Pn**	**12 28 06.5**	**+0.1**
NMR				*i* S		**Sn**	**Sn**	**12 28 36.9**	**+0.1**
GLVR	**Golovnino**	**2.70**	**267**	*e*P		**Pn**	**Pn**	**12 28 08.0**	**+0.4**
GLVR				AMB		AMB	AMB	12 28 09.0	
	comp=Z,366nm,0.3s								
GLVR				*e*S		**Sn**	**Sn**	**12 28 39.0**	**0.0**
GLVR				A		A	A	12 28 43.0	
	comp=Z,1μm,0.4s								
GLVR				A		A	A	12 28 43.0	
	comp=Z,529nm,0.4s								
GLVR	**Golovnino**	**2.70**	**267**	*e*PN		**Pn**	**Pn**	**12 28 08.6**	**+1.0**
GLVR				*e*S		**Sn**	**Sn**	**12 28 39.5**	**+0.5**
GLVR				pmax		pmax			
	comp=E,176nm,0.1s								
GLVR				pmax		pmax			
	comp=Z,366nm,0.1s								
GLVR				smax		smax			
	comp=N,1μm,0.3s								
GLVR				smax		smax			
	comp=E,529nm,0.4s								
JNK	**Nakash**	**3.29**	**266**	P		**Pn**	**Pn**	**12 28 17.3**	**+1.5**
JNK				*e*S		**Sn**	**Sn**	**12 28 55.0**	**+1.3**
JAK	**Akkeshi**	**3.44**	**256**	P		**Pn**	**Pn**	**12 28 18.8**	**+1.0**
JTKR	**Abashiri--Toko**	**3.85**	**272**	P		**Pn**	**Pn**	**12 28 25.1**	**+1.7**
JAR	**Asharobuto**	**4.02**	**263**	P		**Pn**	**Pn**	**12 28 27.2**	**+1.4**
JOB	**Onbets**	**4.07**	**257**	P		**Pn**	**Pn**	**12 28 27.7**	**+1.2**
JCH	**Churui**	**4.49**	**255**	P		**Pn**	**Pn**	**12 28 33.3**	**+1.1**
JKA	**Kamikawa-asahi**	**4.79**	**275**	*e*P		**Pn**	**Pn**	**12 28 36.8**	**+0.4**
JKA	**Kamikawa-asahi**	**4.79**	**275**				**Pn**	**12 28 36.8**	**+0.4**
ASAJ	**Asahikawa**	**4.79**	**275**	Pn			**Pn**	**12 28 40.0**	**+3.5**
	comp=E,1.8nm,0.3s,baz=91,slow=9.1,SNR=15								
ASAJ						LR	LR	12 30 34.5	
	comp=E,2μm,18.9s,baz=153,slow=41								
ASAJ	**Asahikawa**	**4.79**	**275**	PN		**Pn**	**Pn**	**12 28 36.8**	**+0.4**
ERM	**Erimo**	**4.85**	**249**	*e*PN		**Pn**	**Pn**	**12 28 40.0**	**+2.7**
ERM	**Erimo**	**4.85**	**249**				**Pn**	**12 28 40.5**	**+3.2**
JER	**Erimo**	**4.85**	**249**				**Pn**	**12 28 40.0**	**+2.8**
JFR	**Furan**	**4.89**	**263**	P			**Pn**	**12 28 40.0**	**+2.2**
JNBK	**Urakawa-nobuka**	**5.03**	**253**	P			**Pn**	**12 28 41.0**	**+1.4**
JAB	**Ashibetsu**	**5.10**	**268**	P			**Pn**	**12 28 44.2**	**+3.5**
JBT2	**Biratori 2**	**5.14**	**259**	P			**Pn**	**12 28 42.8**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.47**	**306**	*e*P			**Pn**	**12 28 48.5**	**+2.8**
YSS				*e*S			**Sn**	**12 29 47.0**	**-0.3**
YSS				AMS		AMS	AMS	12 31 04.0	
	comp=E,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**5.47**	**306**	*e*PN		Pn	Pn	12 28 49.0	+3.3
YSS				*e*S			**Sn**	**12 29 47.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**5.47**	**306**	Pn			**Pn**	**12 28 45.9**	**+0.1**
JEW	**Eniwo**	**5.78**	**262**				**Pn**	**12 28 52.8**	**+2.8**
JNB	**Noboribetsu**	**6.17**	**259**	P			**Pn**	**12 28 56.9**	**+1.6**
JNB				*e*S			**Sn**	**12 30 05.0**	**+0.4**
JKB	**Kayabe**	**6.36**	**254**	P			**Pn**	**12 28 59.2**	**+1.2**
JKB				*e*S			**Sn**	**12 30 07.3**	**-2.0**
JYM2	**Yakumo 2**	**6.75**	**257**	P			**Pn**	**12 29 04.8**	**+1.5**
JANG	**Nango**	**6.75**	**241**	P			**Pn**	**12 29 03.1**	**-0.2**
JANG				*e*S			**Sn**	**12 30 14.6**	**-4.3**
JTH	**Tanohata**	**6.79**	**237**	*e*S			**Sn**	**12 30 14.1**	**-5.8**
JTM	**Tenmabayashi**	**6.82**	**245**	Pn			**Pn**	**12 29 04.9**	**+0.7**
OFUJ	**Ofunato**	**7.46**	**232**	*e*S			**Sn**	**12 30 31.3**	**-5.2**
JRG	**Rokugo**	**7.87**	**238**	*e*S			**Sn**	**12 30 42.6**	**-3.9**
JIO	**Ouri**	**8.08**	**230**	*e*S			**Sn**	**12 30 46.1**	**-5.5**
JMM	**Marumori**	**8.80**	**229**	Pn			**Pn**	**12 29 31.5**	**0.0**
JSD	**Sado**	**10.17**	**238**	Pn			**Pn**	**12 29 49.8**	**-0.5**
JYT	**Yasato**	**10.35**	**225**	Pn			**Pn**	**12 29 53.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**10.76**	**28**	PN			**Pn**	**12 29 55.2**	**-2.9**
PEA0B	**Petropavlovsk-**	**10.76**	**28**	Pn			**Pn**	**12 29 55.2**	**-2.9**
PETK	**Petropavlovsk-**	**10.76**	**28**	Pn			**Pn**	**12 29 57.3**	**-0.9**
	comp=E,0.3nm,0.3s,baz=199,slow=6.9,SNR=15								
PETK						LR	LR	12 34 34.1	
	comp=E,585nm,18.9s,baz=225,slow=41								
PETK	**Petropavlovsk-**	**10.76**	**28**				**Pn**	**12 29 56.7**	**-1.4**
MJA0	**Matsu Arr-Jizo**	**11.17**	**232**	*e*PN			Pn	12 30 10.8	+6.8
MJAR	**Matsushiro Arr**	**11.20**	**233**	Pn			**Pn**	**12 30 05.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=29,slow=13,SNR=5.1								
MJAR	**Matsushiro Arr**	**11.20**	**233**	PN			Pn	12 30 09.3	+5.0
MJAR	**Matsushiro Arr**	**11.20**	**233**				Pn	12 30 09.2	+5.0
USRK	**Ussuriysk Ar.**	**12.41**	**277**	Pn			**Pn**	**12 30 21.3**	**+0.5**
	baz=89,slow=13,SNR=5.9								
USRK						LR	LR	12 35 18.3	
	comp=E,633nm,20.2s,baz=73,slow=39								
USRK	**Ussuriysk Ar.**	**12.41**	**277**	PN			**Pn**	**12 30 22.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**12.41**	**277**				**Pn**	**12 30 22.6**	**+1.7**
EKMR	**Ekimchan**	**14.12**	**316**	*e*P			**Pn**	**12 30 43.0**	**-1.1**
EKMR				AMB			AMB	12 30 52.4	
	comp=E,11nm,0.9s								
MA2	**Magadan**	**15.70**	**3**	LR			LR	12 37 12.9	
	comp=E,319nm,18.7s,baz=174,slow=38								
BMKR	**Bomnak**	**17.05**	**316**	*e*P			**Pn**	**12 31 20.0**	**-2.3**
BMKR				AMB			AMB	12 31 27.0	
	comp=E,8.0nm,1.0s								
KSRS	**Korea Array**	**17.39**	**255**	P			**Pn**	**12 31 27.4**	**+0.9**
	comp=E,0.2nm,0.3s,baz=53,slow=13,SNR=2.8								
KROS	**Kirovskiy**	**17.87**	**314**	*e*P			**Pn**	**12 31 30.0**	**-2.4**
JNU	**Nakatsue**	**17.93**	**239**	LR			LR	12 37 02.4	
	comp=E,60nm,21.2s,baz=31,slow=32								
SEY	**Seymchan**	**19.13**	**4**	P			**Pn**	**12 31 45.5**	**-2.0**
	comp=E,0.3nm,0.3s,baz=168,slow=10,SNR=7.4								
SEY						LR	LR	12 39 22.8	
	comp=E,355nm,19.1s,baz=187,slow=38								
SEY	**Seymchan**	**19.13**	**4**	*e*P			**P**	**12 31 44.1**	**-2.4**
SEY	**Seymchan**	**19.13**	**4**	*i* P			**P**	**12 31 44.1**	**-2.4**
YAK	**Yakutsk**	**21.46**	**334**	P			**P**	**12 32 10.0**	**-1.7**
	comp=E,3.5nm,0.2s,baz=132,slow=3.1,SNR=4.1								
YAK						LR	LR	12 41 03.8	
	comp=E,326nm,18.4s,baz=136,slow=39								
YAK	**Yakutsk**	**21.46**	**334**	*i* P			**P**	**12 32 10.0**	**-1.7**
YAK				pmax			pmax		
	comp=Z,13nm,1.0s								
YAK	**Yakutsk**	**21.46**	**334**	P			**P**	**12 32 10.8**	**-0.9**
YAK				IAmb			IAmb	12 32 20.8	
	comp=Z,13nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.29**	**143**	T			T	13 04 14.0	
	baz=333,slow=75,SNR=136								
H11N1	**WAKE ISLAND Hy**	**28.30**	**143**	T			T	13 04 27.8	
	baz=333,slow=75,SNR=51								
H11N3	**WAKE ISLAND Hy**	**28.31**	**143**	T			T	13 04 24.0	
	baz=333,slow=75,SNR=134								
H11S1	**WAKE ISLAND Hy**	**29.29**	**144**	T			T	13 05 25.3	
	baz=334,slow=76,SNR=203								
H11S3	**WAKE ISLAND Hy**	**29.30**	**144**	T			T	13 05 25.8	
	baz=334,slow=76,SNR=118								
H11S2	**WAKE ISLAND Hy**	**29.30**	**144**	T			T	13 05 32.0	
	baz=334,slow=76,SNR=140								
SONM	**Songino Array**	**29.79**	**293**	P			**P**	**12 33 31.1**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=91,slow=7.5,SNR=3.8								
SONM						LR	LR	12 46 44.3	
	comp=Z,484nm,18.6s,baz=68,slow=39								
SONM	**Songino Array**	**29.79**	**293**	*e*P			**P**	**12 33 31.0**	**+0.8**
SONM				pmax			pmax		
	comp=Z,2.0nm,0.7s								
SONM	**Songino Array**	**29.79**	**293**	P			**P**	**12 33 30.4**	**+0.2**
TLY	**Talaya**	**31.15**	**301**	LR			LR	12 47 17.8	
	comp=Z,360nm,19.1s,baz=108,slow=39								
IMAR	**Indian Mountai**	**37.65**	**34**	P			**P**	**12 34 38.3**	**+0.3**
TOLK	**Toolik Lake Re**	**39.57**	**30**	P			**P**	**12 34 55.2**	**+1.0**
TOLK				IAmb			IAmb	12 35 21.4	
	comp=Z,18nm,1.5s								
GHO	**Glory Hole Cre**	**39.62**	**41**	P			**P**	**12 34 56.2**	**+1.6**
NRIK	**Noril'sk**	**39.83**	**331**	LR			LR	12 52 07.3	
	comp=Z,157nm,19.9s,baz=56,slow=38								
DHY	**Denali Highway**	**40.28**	**39**	P			**P**	**12 35 01.9**	**+1.7**
DHY				IAmb			IAmb	12 35 15.4	
	comp=Z,13nm,1.3s								
SCM	**Sheep Creek Mo**	**40.37**	**41**	P			**P**	**12 34 59.8**	**-1.1**
SCM				pmax			pmax		
	comp=Z,17nm,1.2s								
SCM	**Sheep Creek Mo**	**40.37**	**41**	P			**P**	**12 34 59.8**	**-1.1**
SCM				IAmb			IAmb	12 35 06.5	
	comp=Z,17nm,1.2s								
HDA	**Harding Lake**	**40.43**	**37**	P			**P**	**12 35 00.3**	**-0.9**
ILAR	**Eielson Array**	**40.45**	**36**	P			**P**	**12 35 02.6**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=262,slow=7.0,SNR=6.7								
ILAR						LR	LR	12 53 25.0	
	comp=Z,81nm,18.9s,baz=274,slow=39								
ILAR	**Eielson Array**	**40.45**	**36**	P			**P**	**12 35 01.5**	**+0.1**
KLU	**Klutina**	**41.06**	**41**	P			**P**	**12 35 09.3**	**+2.7**
KLU				IAmb			IAmb	12 35 32.2	
	comp=Z,12nm,1.0s								
DGZ	**Jazzator, Alta**	**41.63**	**301**	*i* P			**P**	**12 35 13.1**	**+1.6**
DGZ				pmax			pmax		
	comp=Z,1.0nm,0.8s								
ZALV	**Zalesovo Beam**	**42.09**	**307**	P			**P**	**12 35 15.4**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=74,slow=7.8,SNR=4.1								
ZALV				PcP			**PcP**	**12 37 10.7**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=48,slow=2.2,SNR=5.6								
ZALV						LR	LR	12 53 44.4	
	comp=Z,175nm,18.4s,baz=60,slow=38								
ZALV	**Zalesovo Beam**	**42.09**	**307**	P			**P**	**12 35 14.0**	**-1.0**
EPYK	**Eagle Plains**	**44.54**	**34**	P			**P**	**12 35 36.9**	**+2.2**
EPYK				IAmb			IAmb	12 35 54.4	
	comp=Z,13nm,1.2s								
INK	**Inuvik**	**45.48**	**31**	P			**P**	**12 35 43.7**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=276,slow=7.5,SNR=5.1								
INK	**Inuvik**	**45.48**	**31**	P			**P**	**12 35 42.2**	**+0.2**
INK				pmax			pmax		
	comp=Z,7.0nm,1.1s								
INK	**Inuvik**	**45.48**	**31**	P			**P**	**12 35 42.2**	**+0.2**
INK				IAmb			IAmb	12 35 49.9	
	comp=Z,6.8nm,1.1s								
MK31	**Makanchi Array**	**45.84**	**298**	P			**P**	**12 35 45.7**	**+0.5**
MK31				pmax			pmax		
	comp=Z,3.0nm,0.7s								
MK31	**Makanchi Array**	**45.84**	**298**	P			**P**	**12 35 45.6**	**+0.5**
MKAR	**Makanchi Array**	**45.84**	**298**	P			**P**	**12 35 45.1**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=76,slow=8.4,SNR=23								
MKAR						LR	LR	12 56 21.1	
	comp=Z,536nm,18.3s,baz=70,slow=38								
MKAR	**Makanchi Array**	**45.84**	**298**	*e*P			**P**	**12 35 45.3**	**+0.1**
MKAR	**Makanchi Array**	**45.84**	**298**	P			**P**	**12 35 45.3**	**+0.1**
MKAR	**Makanchi Array**	**45.84**	**298**	P			**P**	**12 35 45.3**	**+0.1**
MAKZ	**Makanchi**	**46.03**	**298**	P			**P**	**12 35 47.3**	**+0.6**
MAKZ				pmax			pmax		
	comp=Z,4.0nm,0.7s								
MAKZ	**Makanchi**	**46.03**	**298**	P			**P**	**12 35 47.3**	**+0.6**
MAKZ				IAmb			IAmb	12 36 02.1	
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**46.68**	**304**	*e*P			**P**	**12 35 51.2**	**-0.5**
KURK	**Kurchatov**	**46.68**	**304**	*i* P			**P**	**12 35 51.2**	**-0.5**
KURK				pmax			pmax		
	comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**46.68**	**304**	P			**P**	**12 35 51.7**	**0.0**
KURBB	**Kurchatov Arra**	**46.76**	**304**	P			**P**	**12 35 51.7**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=71,slow=8.2,SNR=5.7								
CMAR	**Chiang Mai Arr**	**49.03**	**255**	LR			LR	12 59 33.2	
	comp=Z,141nm,18.0s,baz=65,slow=39								
BOOM	**Boomskoye usch**	**51.77**	**296**	P			**P**	**12 36 30.9**	**0.0**
BOOM				pmax			pmax		
	comp=Z,6.0nm,1.0s								
BOOM	**Boomskoye usch**	**51.77**	**296**				**P**	**12 36 30.9**	**0.0**
BOOM				IAmb			IAmb	12 36 34.2	
	comp=Z,6.4nm,0.9s								
AAK	**Ala-Archa**	**52.63**	**296**	*e*P			**P**	**12 36 37.8**	**+0.4**
AAK	**Ala-Archa**	**52.63**	**296**	*i* P			**P**	**12 36 37.8**	**+0.4**
AAK				pmax			pmax		
	comp=Z,11nm,1.1s								
RES	**Resolute Bay**	**54.36**	**17**	P			**P**	**12 36 49.9**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=340,slow=6.5,SNR=6.1								
RES	**Resolute Bay**	**54.36**	**17**	P			**P**	**12 36 49.3**	**0.0**
KK31	**Karatay Array**	**54.96**	**299**	P			**P**	**12 36 54.4**	**+0.2**
KK31				pmax			pmax		
	comp=Z,4.0nm

ASAR	**Alice Springs**	**68.72**	**195**	P	**P**	**12 38 29.0**	**+2.2**	
NC303	**NORSAR Array S**	**69.77**	**340**	P	**P**	**12 38 32.9**	**0.0**	
NC405	**NORSAR Array S**	**69.78**	**340**	P	**P**	**12 38 33.1**	**+0.2**	
NC204	**NORSAR Array S**	**69.88**	**340**	P	**P**	**12 38 34.0**	**+0.3**	
NB201	**NORSAR Array S**	**69.94**	**340**	P	**P**	**12 38 33.9**	**-0.1**	
NB2	**NORSAR Subarra**	**69.97**	**340**	P	**P**	**12 38 33.8**	**-0.4**	
	comp=Z,3.1nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.97**	**340**	P	**P**	**12 38 34.0**	**-0.2**	
	comp=Z,1.9nm,0.5s,baz=31,slow=6.7,SNR=23							
NOA				LR	LR	13 12 46.8		
	comp=Z,52nm,20.6s,baz=35,slow=39							
RDMU	**Red Mountain**	**70.06**	**53**	P	**P**	**12 38 35.5**	**+0.2**	
NC602	**NORSAR Array S**	**70.15**	**339**	P	**P**	**12 38 35.8**	**+0.5**	
KIV	**Kislovodsk**	**70.76**	**313**	*eP*	**P**	**12 38 37.9**	**-1.5**	
KIV	**Kislovodsk**	**70.76**	**313**	*eP*	**P**	**12 38 37.9**	**-1.5**	
KIV				pmax	pmax			
	comp=Z,24nm,1.0s							
KIV				MLR	MLR			
	comp=Z,656nm,18.0s							
KBZ	**Khabaz**	**70.80**	**313**	P	**P**	**12 38 40.6**	**+1.1**	
	comp=Z,2.4nm,0.6s,baz=64,slow=6.5,SNR=5.3							
KBZ				LR	LR	13 14 44.9		
	comp=Z,363nm,18.0s,baz=34,slow=40							
KBZ	**Khabaz**	**70.80**	**313**	*eP*	**P**	**12 38 42.1**	**+2.6**	
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**72.32**	**325**	P	**P**	**12 38 48.2**	**-0.3**	
	comp=Z,1.5nm,0.4s,baz=37,slow=6.9,SNR=12							
AKASG	**Malin Array Be**	**72.32**	**325**	*i* P	**P**	**12 38 48.9**	**+0.4**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKBB	**Malin Array Si**	**72.32**	**325**	P	**P**	**12 38 48.2**	**-0.3**	
AKBB				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AKBB	**Malin Array Si**	**72.32**	**325**	P	**P**	**12 38 48.2**	**-0.3**	
AKBB				IAmb	IAmb	12 38 50.3		
	comp=Z,5.9nm,0.8s							
BURAR	**Bucovina Array**	**76.37**	**325**	P	**P**	**12 39 12.5**	**+0.2**	
KHC	**Kasperske Hory**	**79.52**	**332**	*eP*	**P**	**12 39 30.0**	**+0.3**	
KHC				*ex*	x	12 39 42.0		
KHC	**Kasperske Hory**	**79.52**	**332**	*eP*	**P**	**12 39 30.0**	**+0.3**	
KHC				*e*		12 39 42.0		
KHC	**Kasperske Hory**	**79.52**	**332**	P	**P**	**12 39 31.2**	**+1.5**	
GERES	**GERESS Array B**	**79.72**	**332**	P	**P**	**12 39 31.1**	**+0.3**	
	comp=Z,1.2nm,0.5s,baz=24,slow=4.7,SNR=9.0							
GERES	**GERESS Array B**	**79.72**	**332**	*eP*	**P**	**12 39 32.7**	**+1.8**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**79.72**	**332**	P	**P**	**12 39 31.5**	**+0.6**	
TX31	**Lajitas Ar. Si**	**81.28**	**58**	P	**P**	**12 39 40.5**	**+0.9**	
TX31				IAmb	IAmb	12 40 01.2		
	comp=Z,4.6nm,0.8s							
TX32	**Lajitas Array**	**81.28**	**58**	P	**P**	**12 39 40.7**	**+1.1**	
TXAR	**Lajitas Array**	**81.29**	**58**	P	**P**	**12 39 41.4**	**+1.8**	
	comp=Z,0.7nm,0.5s,baz=300,slow=4.1,SNR=16							
TXAR	**Lajitas Array**	**81.29**	**58**	P	**P**	**12 39 41.0**	**+1.4**	
TXAR	**Lajitas Array**	**81.29**	**58**	P	**P**	**12 39 41.0**	**+1.4**	
PPT	**Papeete**	**82.83**	**123**	LR	LR	13 12 28.8		
	comp=Z,88nm,19.7s,baz=156,slow=33							
KEST	**Kesra**	**92.73**	**328**	LR	LR	13 27 02.3		
	comp=Z,134nm,18.3s,baz=321,slow=39							
ESDC	**Sonseca Array**	**93.33**	**340**	LR	LR	13 29 02.6		
	comp=Z,66nm,18.8s,baz=55,slow=40							
H03N2	**Juan Fernandez**	**141.45**	**91**	T	T	15 25 45.6		
	baz=303,SNR=5.3							
H03N3	**Juan Fernandez**	**141.47**	**91**	T	T	15 26 21.4		
	baz=303,slow=74							
H03N1	**Juan Fernandez**	**141.47**	**91**	T	T	15 25 44.1		
	baz=303,slow=74							

IDC 10 12:45:09.2±7.0, 56.78S×158.28E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/27, mbtmp3.4/3, Error ellipse: s-maj=342.7km s-min=30.1km az=73.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**20.87**	**178**	P	P	12 49 52.4	+0.1
	1.0nm,0.9s,baz=357,slow=8.7,SNR=4.7						
H01W1	**Cape Leeuwin H**	**36.85**	**287**	T	T	13 31 46.6	
	baz=142						
H01W2	**Cape Leeuwin H**	**36.85**	**287**	T	T	13 31 43.0	
	baz=142						
H01W3	**Cape Leeuwin H**	**36.87**	**287**	T	T	13 31 47.1	
	baz=142						
ASAR	**Alice Springs**	**37.54**	**322**	P	P	12 52 25.1	+0.2
	0.9nm,0.9s,baz=158,slow=7.6,SNR=9.3						
WRA	**Warramunga Arr**	**40.86**	**324**	P	P	12 52 52.0	-0.6
	0.4nm,0.7s,baz=161,slow=7.2,SNR=2.9						

*BJI **10** 12:58:13.7±0.0, 4.05N×126.33E, h66km, mB5.4/40, mb5.1/64, Ms4.9/8, Ms7 4.7/5*
*NEIC **10** 12:58:18.5±2.0, 4.35N±0.05×126.33E±0.03, h73km±6km, mb5.0/98, Error ellipse: s-maj=12.3km s-min=6.9km az=69.0*
*GCMT **10** 12:58:18.5±0.4, 4.58N±0.02×126.34E±0.03, h88km±4km, MW5.0/57, Moment Tensor Solution. s19,c22; s57,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.52±.17; Mθθ1.18±.14; Mφφ-1.70±.17; Mrθ0.81±.10; Mφr2.91±.16; Mθr0.02±.15; Best double couple: M0 3.36100×10^16 NP1:ϕs12.00000°, δ75.00000°, λ173.00000°. NP2: ϕs104.00000°, δ84.00000°, λ15.00000°. Principal axes: T 3.1740, Plg15.0000°, Azm329.0000°; N 0.3710, Plg74.0000°, Azm127.0000°; P -3.5490, Plg6.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **10** 12:58:19.2±0.3, 4.7N±3.1×126.7E±.7, h76km±3km, M5.1/49, mb5.1/49, mB5.5/23, MLv5.4/14, Mw(mB)5.0/23, Mwp5.8/1*
*KLM **10** 12:58:19.0, 4.43N×126.79E, h99km, mb5.0*
*MAN **10** 12:58:20.0, 4.45N×126.30E, h13km, mb5.6, ML4.7, MS5.0*
*IDC **10** 12:58:20.3±1.5, 4.37N×126.35E, h87km±13km, mb4.4/25, mb1 4.5/29, mb1mx4.4/39, mbtmp4.8/29, MS3.5/19, Ms1 3.5/19, ms1mx3.3/53, Error ellipse: s-maj=18.1km s-min=8.6km az=83.0*

ISC 10 12:58:19.5±0.7, 4.35N±0.03×126.37E±0.05, h82km±6km, n268, σ1s51/281, mb4.9/81, 4C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.06**	**232**	P	**Pn**	**12 58 40.1**	**+0.7**
DDMP	**Don Marcelino,**	**1.86**	**340**	*eP*	**Pn**	**12 58 48.7**	**-1.0**
DDMP				*eS*	**Sn**	**12 59 11.7**	**-0.9**
MATI	**Mati**	**2.58**	**358**	*eP*	**Pn**	**12 58 59.3**	**0.0**
MATI				*eS*	**Sn**	**12 59 32.1**	**+2.2**
DAV	**Davao City (W)**	**2.81**	**344**	P	**Pn**	**12 59 04.6**	**+2.1**
	207nm,0.3s,baz=212,slow=2.1,SNR=13						
DAV	**Davao City (W)**	**2.81**	**344**		**Pn**	**12 59 04.6**	**+2.1**
DAV				Sn	**Sn**	**12 59 31.6**	**-3.8**
SKMP	**Bagumbayan, Su**	**2.82**	**320**	*eP*	**Pn**	**12 59 03.0**	**+0.6**
SKMP				*eS*	**Sn**	**12 59 36.5**	**+1.0**
KCP	**Kidapawan**	**2.93**	**334**	*iP*	**Pn**	**12 59 06.3**	**+2.2**
KCP				*i* S	**Sn**	**12 59 45.8**	**+7.4**
TNTI	**Ternate**	**3.69**	**164**	P	**Pn**	**12 59 13.6**	**-0.7**
TNTI	**Ternate**	**3.69**	**164**	Pn	**Pn**	**12 59 14.2**	**-0.1**
TNTI				Sn	**Sn**	**12 59 55.9**	**-0.8**
BUKP	**Musuan**	**3.74**	**340**	*eP*	**Pn**	**12 59 16.1**	**+1.1**
BUKP				*eS*	**Sn**	**13 00 00.4**	**+2.4**
BIP	**Bislig**	**3.85**	**358**	*eP*	**Pn**	**12 59 14.3**	**-2.3**
BIP				*eS*	**Sn**	**12 59 58.0**	**-2.7**
CGP	**Cagayan de Oro**	**4.41**	**338**	*eP*	**Pn**	**12 59 26.1**	**+2.1**
KMSI	**Cibinong**	**4.44**	**212**	P	**Pn**	**12 59 26.4**	**+1.9**
PAGZ	**Pagadian**	**4.57**	**320**	*eP*	**Pn**	**12 59 25.9**	**-0.4**
PAGZ				*eS*	**Sn**	**13 00 17.3**	**-0.9**
GTOI	**Gorontalo**	**4.98**	**222**	P	**Pn**	**12 59 33.1**	**+1.2**
	2.6nm11μm670nm,1.0s						
TBP	**Tagbilaran**	**5.86**	**335**	*eP*	**Pn**	**12 59 47.9**	**+4.0**
SANI	**Sanana**	**6.37**	**183**	P	**Pn**	**12 59 48.4**	**-2.4**
	2.4nm9μm154nm,0.9s						
LUWI	**Luwuk**	**6.45**	**214**	P	**Pn**	**12 59 54.2**	**+2.3**
	5.2nm15μm1μm,1.1s						
LUWI	**Luwuk**	**6.45**	**214**	Pn	**Pn**	**12 59 55.0**	**+3.1**
CNOP	**Candoni, Negro**	**6.58**	**326**	*eP*	**Pn**	**12 59 54.3**	**+0.6**
SIJI	**Sorong**	**7.13**	**137**	P	**Pn**	**13 00 01.1**	**-0.1**
	48nm,0.3s,baz=336,slow=22,SNR=130						
SIJI				S	**Sn**	**13 01 17.4**	**-3.4**
	19nm,0.3s,baz=195,slow=24,SNR=11						
NLAI	**Namlea**	**7.57**	**174**	P	**Pn**	**13 00 06.0**	**-1.3**
	5.3nm20μm407nm,0.6s						
MPSI	**Mapaga**	**7.59**	**239**	P	**Pn**	**13 00 08.2**	**+0.7**
	0.8nm4μm104nm,0.6s						
MYLDM	**Lahad Datu**	**7.88**	**276**	Pn	**Pn**	**13 00 10.3**	**-1.2**
MSAI	**Masohi**	**8.06**	**161**	P	**Pn**	**13 00 15.0**	**+1.1**
	0.3nm786nm66nm,0.7s						
AAI	**Ambon**	**8.19**	**167**	P	**Pn**	**13 00 15.4**	**-0.3**
	1.0nm4μm203nm,0.8s						
FAKI	**Fak Fak**	**9.31**	**141**	P	**Pn**	**13 00 31.1**	**+0.1**
	102nm,0.9s						
FAKI	**Fak Fak**	**9.31**	**141**	Pn	**Pn**	**13 00 30.8**	**-0.2**
BNDI	**Bandanaira**	**9.49**	**158**	P	**Pn**	**13 00 34.6**	**+1.1**
	5μm216nm,1.2s						
TTSI	**Tana Toraja**	**9.83**	**222**	P	**Pn**	**13 00 40.3**	**+2.2**
	1μm197nm,0.9s						
KKM	**Kota Kinabalu**	**10.25**	**280**	Pn	**Pn**	**13 00 41.3**	**-2.6**
SPSI	**Sidrap Palu**	**10.56**	**219**	P	**Pn**	**13 00 49.8**	**+1.7**
	817nm62nm,0.6s						
BNSI	**Bone**	**10.71**	**216**	P	**Pn**	**13 00 52.1**	**+2.1**
	966nm87nm,0.8s						
LQP	**Lukban**	**10.81**	**334**	*iP*	**Pn**	**13 00 54.8**	**+3.2**
BKB	**Balikpapan**	**10.98**	**240**		**Pn**	**13 00 50.9**	**-2.9**
TGY	**Tagaytay City**	**11.07**	**331**	LR	LR	13 05 58.2	
	comp=Z,448nm,19.6s,baz=130,slow=41						
KAPI	**Kappang**	**11.41**	**215**	P	**Pn**	**13 01 01.6**	**+2.0**
	2.5nm,0.3s,baz=22,slow=9.6,SNR=13						
KAPI				LR	LR	13 05 38.8	
	comp=Z,237nm,21.8s,baz=44,slow=38						
KAPI	**Kappang**	**11.41**	**215**	Pn	**Pn**	**13 01 02.5**	**+2.9**
MTKI	**Muara Teweh, K**	**12.61**	**246**	P	**Pn**	**13 01 17.2**	**+1.3**
	112nm,0.6s						
KBKI	**Kotabaru**	**12.71**	**233**	P	**Pn**	**13 01 17.1**	**-0.1**
	73nm,0.9s						
SAUI	**Saumlaki**	**13.20**	**158**	Pn	**Pn**	**13 01 21.4**	**-2.4**
MMRI	**Maumere**	**13.54**	**198**	P	**Pn**	**13 01 29.0**	**+0.8**
	98nm,0.8s						
MMRI	**Maumere**	**13.54**	**198**	Pn	**Pn**	**13 01 29.4**	**+1.2**
BBKI	**Banjar Baru**	**13.88**	**236**	P	**P**	**13 01 36.8**	**-1.5**
	10μm334nm,0.9s						
SOEI	**Soe**	**14.16**	**188**	P	**Pn**	**13 01 38.5**	**+2.0**
	91nm,0.8s						
SOEI	**Soe**	**14.16**	**188**	Pn	**Pn**	**13 01 36.3**	**-0.2**
SBUM	**Sibu**	**14.24**	**263**	P	**P**	**13 01 43.0**	**+0.7**
BATI	**Baumata**	**14.71**	**191**	P	**Pn**	**13 01 45.7**	**+2.3**
	11nm,0.3s,baz=8.8,slow=2.6,SNR=8.2						
BATI				S	**S**	**13 04 35.8**	**-3.4**
	baz=329,slow=22,SNR=1.2						
BATI	**Baumata**	**14.71**	**191**	P	**Pn**	**13 01 45.8**	**+2.3**
	63nm,0.8s						
STKI	**Sintang**	**15.47**	**254**	P	**P**	**13 02 00.9**	**+5.0**
BASI	**Baing, Sumba**	**15.58**	**202**	P	**Pn**	**13 01 55.9**	**+1.4**
	1μm85nm,0.8s						
PLAI	**Plampang**	**15.64**	**213**	P	**Pn**	**13 01 55.6**	**+0.3**
	94nm,0.7s						
TWSI	**Taliwang, Sumb**	**16.07**	**216**	P	**P**	**13 02 02.6**	**0.0**
	1μm88nm,1.2s						
PBKI	**Pangkalan Bun**	**16.27**	**245**	P	**P**	**13 02 06.0**	**+1.2**
	172nm,1.2s						
KSM	**Kuching**	**16.29**	**260**	P	**Pn**	**13 02 04.2**	**+0.8**
BLJI	**Banyuglugur**	**17.51**	**227**	P	Pn	13 02 26.9	+8.4
JAGI	**Jajag, Banyuwa**	**17.62**	**224**	P	**Pn**	**13 02 20.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**17.62**	**224**		**P**	**13 02 19.6**	**-0.2**
JAGI				IAmb	IAmb	13 02 24.5	
	comp=Z,49nm,0.7s						
MTN	**Manton Dam**	**17.72**	**165**	P	**P**	**13 02 18.2**	**-2.7**
	baz=18,SNR=44						
MTN	**Manton Dam**	**17.72**	**165**	P	**P**	**13 02 18.1**	**-2.7**
MTN				IAmb	IAmb	13 02 19.5	
	comp=Z,56nm,0.7s						
KDU	**Kakadu**	**17.98**	**160**	P	**P**	**13 02 21.2**	**-2.4**
	baz=18,SNR=54						
GMJI	**Gumukmas**	**17.98**	**226**	P	**Pn**	**13 02 25.5**	**+1.3**
	comp=Z,94nm,1.1s						
PWJI	**Pagerwojo**	**19.03**	**230**	P	**P**	**13 02 34.2**	**-1.0**
	comp=Z,55nm,0.8s						
TWG	**Pinlang**	**19.07**	**345**	P	**P**	**13 02 32.6**	**-2.9**
DLV	**T Lat**	**19.23**	**294**	P	**Pn**	**13 02 39.2**	**-0.2**
DLV				IAmb	IAmb	13 02 40.9	
	comp=Z,74nm,1.0s						
YULB	**Yu-li**	**19.56**	**346**	P	**P**	**13 02 38.3**	**-2.6**
YULB				IAmb	IAmb	13 02 39.0	
	comp=Z,58nm,0.6s						
TPUB	**Ta-pu**	**19.64**	**344**	P	**P**	**13 02 39.6**	**-2.2**
TPI	**Tanjungpandan**	**19.98**	**250**	P	Pn	13 02 47.8	-0.2
	comp=Z,720nmcomp=Z,89nm,1.3s						
SSLB	**Suanglung**	**20.02**	**345**	P	**P**	**13 02 43.7**	**-2.2**
KNRA	**Kununurra**	**20.04**	**173**	P	**P**	**13 02 46.8**	**+0.7**
	baz=20,SNR=63						
KNRA	**Kununurra**	**20.04**	**173**	P	Pn	13 02 47.5	-1.1
KNRA				IAmb	IAmb	13 02 50.7	
	comp=Z,66nm,0.8s						
NACB	**Ninganchiao**	**20.24**	**347**	P	**P**	**13 02 47.4**	**-0.9**
NACB				IAmb	IAmb	13 02 48.1	
	comp=Z,77nm,1.2s						
YHNB	**Yeheng**	**20.77**	**347**	P	**P**	**13 02 53.0**	**-1.1**
YHNB				IAmb	IAmb	13 02 56.3	
	comp=Z,68nm,0.6s						
KPJI	**Karang Pucung**	**20.91**	**236**	P	**P**	**13 02 56.8**	**+1.2**
	comp=Z,74nm,0.7s						
PPBI	**Pangkal Pinang**	**21.22**	**253**	P	**P**	**13 03 00.5**	**+1.5**
	comp=Z,38nm,0.7s						
KNMB	**Chin-men Tao**	**21.42**	**340**	P	**P**	**13 03 02.0**	**+1.1**
LEM	**Lembang**	**21.76**	**239**	P	**P**	**13 03 05.4**	**+0.6**
	comp=Z,33nm,0.5s,baz=88,slow=7.7,SNR=4.3						
LEM				LR	LR	13 12 39.2	
	comp=Z,126nm,21.2s,baz=169,slow=40						
CISI	**Cisompet, Garu**	**21.96**	**237**		**P**	**13 03 07.6**	**+0.6**
CISI				IAmb	IAmb	13 03 27.3	
	comp=Z,43nm,0.9s						
CBJI	**Citeko**	**22.23**	**241**	P	**P**	**13 03 12.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**22.32**	**182**	P	**P**	**13 03 09.9**	**-0.7**
	comp=Z,34nm,0.9s,baz=353,slow=8.0,SNR=156						
FITZ				S	**S**	**13 07 08.9**	**-1.9**
	comp=Z,6.2nm,0.9s,baz=31,slow=11,SNR=3.7						
FITZ	**Fitzroy Crossi**	**22.32**	**182**	P	**P**	**13 03 10.1**	**-0.5**
	baz=22,SNR=42						
FITZ	**Fitzroy Crossi**	**22.32**	**182**	P	**P**	**13 03 09.8**	**-0.7**
MYKOM	**Kota Tinggi**	**22.62**	**264**	P	**P**	**13 03 15.2**	**+1.3**
UBPT	**Khong Chiam**	**23.25**	**299**	P	**P**	**13 03 19.4**	**-0.7**
UBPT				IAmb	IAmb	13 03 20.6	
	comp=Z,78nm,1.2s						
KLSI		**23.40**	**248**	P	**P**	**13 03 21.9**	**+0.3**
	comp=Z,12nm,0.9s						
MDSI	**Maura Dua**	**23.84**	**249**	P	**P**	**13 03 25.7**	**+0.2**
	comp=Z,26nm,1.1s						
LWLI	**Liwa**	**24.14**	**248**	P	**P**	**13 03 31.3**	**+3.0**
LHSI	**Lahat**	**24.22**	**251**	P	**P**	**13 03 31.5**	**+2.6**
	comp=Z,78nm,0.9s						
WB0	**Warramunga Arr**	**25.23**	**162**	P	**P**	**13 03 38.3**	**+0.2**
WB0				IAmb	IAmb	13 04 05.1	
	comp=Z,38nm,0.7s						
IPM	**Ipoh**	**25.26**	**271**	P	**P**	**13 03 39.5**	**+1.0**
WRAB	**Tennant Creek**	**25.37**	**162**	P	**P**	**13 03 39.4**	**+0.1**
WRAB				IAmb	IAmb	13 04 05.8	
	comp=Z,33nm,0.9s						
WRA	**Warramunga Arr**	**25.38**	**162**	P	**P**	**13 03 39.9**	**+0.5**
	comp=Z,24nm,0.7s,baz=344,slow=10,SNR=169						
WRA				S	**S**	**13 08 05.2**	**+5.0**
	comp=Z,8.9nm,1.2s,baz=342,slow=18,SNR=6.7						
WRA	**Warramunga Arr**	**25.38**	**162**	P	**P**	**13 03 38.9**	**-0.4**
WB2	**Warramunga Arr**	**25.38**	**162**	P	**P**	**13 03 39.6**	**+0.2**
WB2				IAmb	IAmb	13 04 04.9	
	comp=Z,46nm,0.9s						
WR0	**Warramunga Arr**	**25.46**	**162**	P	**P**	**13 03 39.5**	**-0.5**
WR0				IAmb	IAmb	13 04 05.7	
	comp=Z,27nm,0.8s						
SDSI	**Sungai Dareh**	**25.46**	**259**	P	**P**	**13 03 45.3**	**+5.1**
KULM	**Kulim**	**25.64**	**273**	P	**P**	**13 03 40.6**	**-1.3**
PSA00	**Pilbara Seismi**	**26.54**	**194**	P	**P**	**13 03 50.0**	**+0.2**
PSA00				IAmb	IAmb	13 03 50.7	
	comp=Z,42nm,0.7s						
PSA00	**Pilbara Seismi**	**26.54**	**194**	P	**P**	**13 03 50.0**	**+0.2**
KRVT	**Keravat (AS076**	**27.04**	**108**	LR	LR	13 14 08.8	
	comp=Z,90nm,18.8s,baz=262,slow=35						
JCJ	**Chichijima**	**27.20**	**32**	LR	LR	13 12 42.1	
	comp=Z,48nm,22.0s,baz=104,slow=32						
QIS	**Mount Isa**	**27.96**	**153**	P	**P**	**13 04 03.3**	**+0.7**
	baz=28,SNR=11						
WHN	**Wuhan**	**28.42**	**338**	P	**P**	**13 04 06.5**	**0.0**
WHN				pmax	pmax		
	comp=Z,58nm,0.6s						
NJ2	**Nanjing**	**28.45**	**347**	*eP*	**P**	**13 04 07.2**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,42nm,0.6s						
MTSU	**Mount Surprise**	**28.50**	**142**	P	**P**	**13 04 08.2**	**+0.8**
	baz=28,SNR=6.6						
AS31	**Alice Springs**	**28.80**	**166**	P	**P**	**13 04 09.7**	**-0.3**
ASAR	**Alice Springs**	**28.80**	**166**	P	**P**	**13 04 10.2**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=344,slow=6.8,SNR=52						
ASAR				S	**S**	**13 08 57.2**	**+3.1**
	comp=Z,0.8nm,0.9s,baz=350,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**28.80**	**166**	P	**P**	**13 04 10.4**	**+0.4**
GSI	**Gunungsitoli**	**28.91**	**265**	P	**P**	**13 04 11.5**	**+0.4**
	comp=Z,36nm,0.8s						
GSI	**Gunungsitoli**	**28.91**	**265**	P	**P**	**13 04 10.3**	**-0.8**
GSI				IAmb	IAmb	13 04 11.8	
	comp=Z,28nm,0.9s						
JNU	**Nakatsue**	**28.94**	**8**	P	**P**	**13 04 10.6**	**-0.5**
	comp=Z,20nm,1.0s,baz=222,slow=4.5,SNR=6.9						
JNU				LR	LR	13 17 47.3	
	comp=Z,54nm,18.1s,baz=208,slow=40						
JNU	**Nakatsue**	**28.94**	**8**	P	**P**	**13 04 10.4**	**-0.7**
JNU				IAmb	IAmb	13 04 33.1	
	comp=Z,34nm,1.1s						
WRKA	**Warakurna**	**29.27**	**176**	P	**P**	**13 04 14.3**	**+0.2**
	baz=29,SNR=46						
GIRL	**Giralia**	**29.33**	**203**	P	**P**	**13 04 16.1**	**+1.4**
CM31	**Chiang Mai Arr**	**30.25**	**300**	P	**P**	**13 04 24.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.25**	**300**	P	**P**	**13 04 24.1**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=110,slow=6.9,SNR=39						
CMAR				ScP	**ScP**	**13 10 58.4**	**+1.0**
	comp=Z,3.0nm,0.9s,baz=162,slow=1.7,SNR=8.1						
CMAR				LR	LR	13 18 41.8	
	comp=Z,68nm,19.4s,baz=185,slow=40						
CMAR	**Chiang Mai Arr**	**30.25**	**300**	P	**P**	**13 04 23.3**	**+0.4**
ENH	**Enshi**	**30.31**	**330**	P	**P**	**13 04 22.8**	**-0.6**
ENH				IAmb	IAmb	13 04 24.2	
	comp=Z,49nm,1.0s						
CHTO	**Chiang Mai**	**30.39**	**300**	P	**P**	**13 04 24.6**	**+0.4**
CHTO				IAmb	IAmb	13 04 26.0	
	comp=Z,13nm,0.6s						
KMI	**Kunming**	**30.69**	**315**	*iP*	**P**	**13 04 26.5**	**-0.5**
KMI				pP	pP	13 04 39.9	-5.6
KMI				sP	pwP	13 04 46.9	-0.7
KMI				pmax	pmax		
	comp=Z,27nm,0.5s						
KMI				pmax	pmax		
	comp=Z,410nm,5.5s						
MEEK	**Meekatharra**	**31.70**	**193**	P	**P**	**13 04 35.4**	**-0.2**
	baz=32,SNR=26						
JWT	**Wachi**	**31.90**	**14**	P	**P**	**13 04 36.6**	**-0.6**
JWT				IAmb	IAmb	13 04 43.6	
	comp=Z,16nm,0.8s						
JGF	**Kuroka**	**32.72**	**17**	P	**P**	**13 04 44.1**	**-0.4**
TIA	**Tai'an**	**32.83**	**346**	P	**P**	**13 04 45.0**	**-0.4**
TIA				pmax	pmax		
	comp=Z,33nm,0.9s						
KSAR	**Wonju Array Be**	**32.97**	**2**	P	**P**	**13 04 47.3**	**+0.8**
KSRS	**Korea Array**	**32.98**	**2**	P	**P**	**13 04 47.5**	**+0.8**
	comp=Z,12nm,0.6s,baz=184,slow=9.9,SNR=55						
KSRS				LR	LR	13 18 14.3	
	comp=Z,45nm,21.3s,baz=184,slow=36						
KS19	**Wonju Array Si**	**33.03**	**2**	P	**P**	**13 04 47.5**	**+0.4**
KS19				IAmb	IAmb	13 04 48.3	
	comp=Z,21nm,0.9s						
XAN	**Xi'an**	**33.70**	**333**	P	**P**	**13 04 51.8**	**-1.3**
XAN				pP	pP	13 05 06.4	-4.8
XAN				pmax	pmax		
	comp=Z,110nm,0.9s						
XAN				pmax	pmax		
	comp=Z,570nm,6.5s						
XAN	**Xi'an**	**33.70**	**333**	P	**P**	**13 04 51.2**	**-1.9**
MJAR	**Matsushiro Arr**	**33.84**	**17**	P	**P**	**13 04 52.8**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=181,slow=10,SNR=5.1						
MAT	**Matsushiro**	**33.84**	**17**	P	**P**	**13 04 53.8**	**-0.4**
CD2	**Chengdu**	**33.93**	**324**	P	**P**	**13 04 56.2**	**+1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
DL2	**Dalian**	**34.67**	**353**	P	**P**	**13 05 02.1**	**+0.9**
MORW	**Morawa**	**34.67**	**196**	P	**P**	**13 05 01.1**	**-0.3**
	baz=35,SNR=7.5						
MORW	**Morawa**	**34.67**	**196**	P	**P**	**13 05 01.2**	**-0.3**
MORW				IAmb	IAmb	13 05 09.0	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**34.97**	**177**	P	**P**	**13 05 04.1**	**+0.1**
	baz=35,SNR=15						
FORT	**Forrest**	**34.97**	**177**	P	**P**	**13 05 04.0**	**+0.1**
TIY	**Taiyuan**	**35.57**	**341**	*eP*	**P**	**13 05 08.9**	**-0.2**
TIY				pmax	pmax		
	comp=Z,66nm,0.5s						
KMBL	**Kamb

comp=Z,42nm,18.7s,baz=266,slow=38
JKA Kamikawa-asahi 42.11 17 P P 13 06 05.0 +1.4
ARMA Armidale 42.18 147 P P 13 06 05.5 +1.0
baz=42,SNR=5.9
ARMA Armidale 42.18 147 P P 13 06 04.7 +0.1
ARMA IAmb IAmb 13 06 34.0
comp=Z,12nm,0.6s
H11N1 WAKE ISLAND Hy 42.33 65 T T 13 52 15.4
baz=254,slow=75,SNR=6.6
H11N2 WAKE ISLAND Hy 42.34 65 T T 13 52 10.1
baz=254,slow=75,SNR=6.8
H11N3 WAKE ISLAND Hy 42.34 65 T T 13 52 06.4
baz=254,slow=75,SNR=5.2
GTA Gaotai 42.38 329 P P 13 06 05.5 -0.6
GTA pP pP 13 06 20.6 -4.1
GTA sP pwP 13 06 28.3 -0.7
GTA PcP **PcP 13 07 59.7 +1.6**
GTA ScS ScS 13 15 59.1 -1.0
GTA pmax pmax
comp=Z,10.0nm,1.0s
ARPS Mount Arapiles 43.38 162 P P 13 06 15.1 +1.2
baz=44,SNR=9.2
YSS Yuzh-Sakhalins 44.75 16 P P 13 06 25.5 +0.7
SANVU Saraoutou 44.96 117 P P 13 06 28.9 +2.0
SANVU IAmb IAmb 13 06 30.5
comp=Z,29nm,0.8s
HIA Hailar 45.11 354 P P 13 06 28.4 +0.8
ULN Ulaanbaatar 46.42 342 P P 13 06 37.4 -0.8
ULN IAmb IAmb 13 06 39.0
comp=Z,21nm,1.1s
SONM Songino Array 46.60 342 P P 13 06 39.3 -0.2
comp=Z,8.9nm,0.8s,baz=158,slow=9.4,SNR=28
SONM ScP **ScP 13 12 02.1 +3.3**
comp=Z,0.6nm,0.5s,baz=152,slow=6.4,SNR=2.7
SONM Songino Array 46.60 342 P P 13 06 38.8 -0.7
TLY Talaya 50.83 342 LR LR 13 31 20.5
comp=Z,35nm,18.9s,baz=150,slow=39
TLY Talaya 50.83 342 P P 13 07 11.9 +0.1
TLY IAmb IAmb 13 07 13.0
comp=Z,20nm,0.7s
WMQ Urumqi 52.01 325 *eP* **P 13 07 21.3 +0.5**
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ pmax pmax
comp=Z,83nm,6.7s
WMQ LR LR
comp=Z,260nm,29.1s
WMQ LR LR
comp=Z,310nm,28.9s
PEA0B Petropavlovsk- 55.00 23 P P 13 07 43.1 +0.8
PEA0B IAmb IAmb 13 07 59.6
comp=Z,21nm,1.0s
PETK Petropavlovsk- 55.00 23 P P 13 07 43.3 +0.9
comp=Z,6.5nm,0.6s,baz=186,slow=3.5,SNR=46
PETK Petropavlovsk- 55.00 23 P P 13 07 42.6 +0.2
PET Petropavlovsk 55.30 23 P P 13 07 43.4 -1.1
MSVF Nonsavu 55.50 115 P P 13 07 48.1 +1.4
MSVF IAmb IAmb 13 07 50.8
comp=Z,13nm,0.8s
MK31 Makanchi Array 56.84 325 P P 13 07 54.8 -0.9
MK31 IAmb IAmb 13 07 56.1
comp=Z,17nm,1.4s
MKAR Makanchi Array 56.84 325 P P 13 07 54.9 -0.8
comp=Z,6.8nm,0.4s,baz=117,slow=7.8,SNR=64
MKAR PcP **PcP 13 08 50.8 +0.2**
comp=Z,16nm,0.7s,baz=116,slow=4.5,SNR=12
MKAR ScP **ScP 13 12 42.2 -0.8**
comp=Z,3.1nm,0.8s,baz=116,slow=5.5,SNR=8.0
MKAR LR LR 13 33 32.2
comp=Z,78nm,18.1s,baz=116,slow=37
MKAR Makanchi Array 56.84 325 P P 13 07 54.7 -1.0
MKAR **PcP 13 08 50.5 0.0**
MAKZ Makanchi 57.03 325 P P 13 07 56.3 -0.7
MAKZ IAmb IAmb 13 07 57.4
comp=Z,23nm,1.3s
MAKZ PcP **PcP 13 08 50.4 -0.8**
TARG Taragay, Kyrgy 57.05 318 P P 13 07 56.5 -1.2
TARG PcP **PcP 13 08 51.1 -0.8**
NIL Nilore 57.26 308 P P 13 07 58.5 -0.4
YAK Yakutsk 57.61 2 P P 13 08 01.2 +0.5
KDJ Kajisay 57.65 318 P P 13 08 01.2 -0.5
BOOM Boomskoye usch 58.63 318 P P 13 08 08.2 -0.3
TKM2 Tokmak 2 59.05 318 P P 13 08 10.9 -0.5
SNR=8.5
UCH Uchtor 59.48 317 P P 13 08 14.7 0.0
SNR=12
ZAA0 Zalesovo Array 59.88 333 P P 13 08 15.5 -1.1
ZAA0 IAmb IAmb 13 08 17.9
comp=Z,7.6nm,0.9s
ZALV Zalesovo Beam 59.88 333 P P 13 08 15.2 -1.4
comp=Z,3.7nm,0.3s,baz=129,slow=7.0,SNR=22
ZALV LR LR 13 37 20.7
comp=Z,34nm,19.5s,baz=104,slow=39
ZALV Zalesovo Beam 59.88 333 P P 13 08 14.6 -2.0
USP Ospenovka 59.92 318 P P 13 08 16.6 -0.7
SNR=5.8
AML Almayashu 59.99 317 P P 13 08 18.0 -0.2
SNR=13
EKS2 Erkin-Say 60.15 318 P P 13 08 18.6 -0.3
SNR=7.1
KBL Kabul 60.86 307 P P 13 08 23.2 -0.9
KBL IAmb IAmb 13 08 23.8
comp=Z,6.7nm,0.7s
KURK Kurchatov 61.03 327 P P 13 08 23.6 -0.9
BTK Batken 61.23 314 P P 13 08 25.5 -0.7
BTK IAmb IAmb 13 08 26.8
comp=Z,18nm,1.5s
GAR Garm 61.24 312 P P 13 08 25.8 -0.7
CHGR Chuyangaron 61.98 312 P P 13 08 30.1 -1.3
CHGR IAmb IAmb 13 08 57.0
comp=Z,8.2nm,0.8s
KK31 Karatay Array 62.53 317 P P 13 08 34.1 -0.8
KKAR Karatay Array 62.53 317 P P 13 08 34.1 -0.8
KKAR Karatay Array 62.53 317 P P 13 08 33.1 -1.8
HRA Herat 66.28 306 P P 13 08 59.4 -0.4
BRVK Borovoye 66.68 327 P P 13 08 59.4 -2.3
BRVK IAmb IAmb 13 09 03.5
comp=Z,21nm,1.1s
TIXI Tiksi 67.23 1 P P 13 09 04.4 -0.4
NRIK Noril'sk 69.75 346 P P 13 09 20.9 +0.4
comp=Z,44nm,0.7s,baz=126,slow=6.2,SNR=53
NRIK LR LR 13 42 19.3
comp=Z,54nm,18.2s,baz=195,slow=38
GEYT Alibeck 70.22 309 P P 13 09 24.4 +0.3
comp=Z,3.3nm,0.7s,baz=176,slow=4.5,SNR=5.1
GEYT Alibeck 70.22 309 P P 13 09 24.0 -0.1
GYA0B ALIBECK ARRAY 70.22 309 P P 13 09 24.7 +0.6
ABKAR Akbulak array 71.44 321 P P 13 09 30.0 -1.2
ABKAR Akbulak array 71.44 321 P P 13 09 30.0 -1.2
SOCY Socotra 71.88 281 P P 13 09 32.8 -1.9
ARU Arti 74.22 328 P P 13 09 45.9 -1.6
ARU IAmb IAmb 13 09 48.6
comp=Z,14nm,0.7s
IMAR Indian Mountai 81.93 24 P P 13 10 31.4 +1.4
GEVA Gevas 82.07 308 P P 13 10 31.7 +0.2
PPLA Purkeypile 82.25 27 P P 13 10 33.0 +1.1
PPLA IAmb IAmb 13 10 45.4
comp=Z,39nm,1.5s
KBZ Khabaz 82.29 313 P P 13 10 30.7 -1.6
comp=Z,1.8nm,0.9s,baz=59,slow=5.9,SNR=2.4
SKT Skwentna 82.47 28 P P 13 10 33.4 +0.5
SKT IAmb IAmb 13 11 05.4
comp=Z,14nm,1.2s
BRLK Bradley Lake 82.61 30 P P 13 10 33.7 0.0
KTH Kantishna Hill 82.88 27 P P 13 10 33.1 -2.0
KTH IAmb IAmb 13 10 38.4
comp=Z,20nm,1.4s
BPAW Bear Paw Mtn. 82.89 26 P P 13 10 36.1 +1.0
TRF Thorofare Moun 83.15 27 P P 13 10 35.2 -1.4
TRF IAmb IAmb 13 10 43.0
comp=Z,14nm,1.1s
SEW Seward 83.35 30 P P 13 10 37.4 0.0
COLD Coldfoot 83.47 23 P P 13 10 38.6 +0.7
COLD IAmb IAmb 13 10 46.1
comp=Z,9.1nm,0.9s
PMR Palmer 83.58 29 P P 13 10 38.0 -0.5
PMR IAmb IAmb 13 10 40.3
comp=Z,31nm,1.5s
GHO Glory Hole Cre 83.69 28 P P 13 10 37.3 -1.9
GHO IAmb IAmb 13 11 07.7
comp=Z,21nm,1.2s
TOLK Toolik Lake Re 83.81 22 P P 13 10 41.8 +2.1
TOLK IAmb IAmb 13 10 42.4
comp=Z,16nm,1.3s
VNDA Vanda 84.08 173 P P 13 10 40.9 +0.1
comp=Z,1.6nm,0.8s,baz=323,slow=7.2,SNR=8.1
VNDA LR LR 13 48 57.6
comp=Z,36nm,18.0s,baz=319,slow=36
VNDA Vanda 84.08 173 P P 13 10 41.6 +0.8
MAW Mawson 84.20 200 P P 13 10 42.3 +0.8
comp=Z,1.0nm,0.5s,baz=34,slow=6.0,SNR=2.9
MAW Mawson 84.20 200 P P 13 10 45.6 +4.1
DHY Denali Highway 84.45 27 P P 13 10 42.6 -0.6
HDA Harding Lake 84.67 26 P P 13 10 44.6 +0.5
HDA IAmb IAmb 13 10 58.4
comp=Z,14nm,1.4s
KLMR Klimovskoe 84.69 331 *eP* **P 13 10 42.5 -1.7**
KLMR AMP 13 10 44.8
comp=Z,28nm,0.9s
ILAR Eielson Array 84.70 25 P P 13 10 44.6 +0.4
comp=Z,0.8nm,0.7s,baz=251,slow=5.3,SNR=6.5
ILAR Eielson Array 84.70 25 P P 13 10 44.5 +0.2
BMAR Burnt Mountain 85.65 23 P P 13 10 50.0 +1.1
KEV Kevo 89.19 340 P P 13 11 05.5 -0.4
ARCES ARCESS Array B 89.75 340 P P 13 11 07.9 -0.6
comp=Z,3.2nm,0.6s,baz=83,slow=6.0,SNR=37
ARCES LR LR 13 54 38.0
comp=Z,16nm,18.4s,baz=65,slow=38
FINES FINESS Array B 91.12 332 P P 13 11 14.2 -0.8
comp=Z,4.3nm,0.6s,baz=67,slow=4.0,SNR=27
FINES LR LR 13 54 28.2
comp=Z,38nm,18.2s,baz=74,slow=37
FINES FINESS Array B 91.12 332 P P 13 11 14.4 -0.6
AKASG Malin Array Be 91.19 321 P P 13 11 14.2 -1.4
comp=Z,0.8nm,0.4s,baz=67,slow=4.7,SNR=2.8
SYO Syowa Base 92.87 201↑ *eP* **P 13 11 24.3 +1.4**
VRI Vrincioaia 93.60 316↑↑ P **P 13 11 27.2 +0.3**
PLOR Plostina 93.66 316↓↓ P **P 13 11 27.7 +0.6**
MLR Muntele Rosu 94.20 316↑↑ P **P 13 11 27.6 -2.2**
BURAR Bucovina Array 94.30 318↓↓ P **P 13 11 29.1 -1.1**
BURAR Bucovina Array 94.30 318 P **P 13 11 29.4 -0.7**
BUR08 Bucovina Ar. S 94.31 318 P **P 13 11 28.9 -1.3**
BUR08 IAmb IAmb 13 11 34.3
comp=Z,3.4nm,0.9s
NB2 NORSAR Subarra 98.08 334 P **P 13 11 45.6 -1.3**
comp=Z,1.8nm,0.6s,baz=66,slow=4.6
NB2 NORSAR Subarra 98.08 334 P **P 13 11 45.6 -1.3**
baz=66,slow=4.6
NOA NORSAR Array B 98.08 334 P P 13 11 45.7 -1.3
comp=Z,4.6nm,0.8s,baz=67,slow=4.5,SNR=12
NOA LR LR 13 59 15.9
comp=Z,28nm,19.1s,baz=310,slow=37
CLL Collm 100.93 324 *e*PP **PP 13 16 04.0 -4.4**
GERES GERESS Array B 101.38 322 P **Pdif 13 12 03.0 +1.1**
comp=Z,0.3nm,0.4s,baz=103,slow=7.5,SNR=3.6
TXAR Lajitas Array 121.51 52 PKP **PKiKP 13 17 05.0 +0.4**
comp=Z,0.2nm,0.7s,baz=352,slow=2.5,SNR=4.0
TORD Torodi Ar. Bea 122.38 288 PKP **PKPdf 13 17 06.2 -0.2**
comp=Z,1.1nm,0.6s,baz=46,slow=1.9,SNR=6.7
TORD Torodi Ar. Bea 122.38 288 PKPdf 13 17 05.7 -0.7

*IDC **10** 13:07:58.4±6.3, 7°.24S×106°.83E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, Error ellipse: s-maj=106.1km s-min=14.2km az=133.0*
*DJA **10** 13:08:04.1±0.5, 8°S±9°×10°8E±°, h10km, M3.6/13, MLv3.6/13*
ISC 10 13:08:05.3±0.8, **7°.39S**±0°.07×**107°.56E**±0°.04, **h10**km, **n22, σ0s80/23, mb3.4/3, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.30**	**123**	P	**Pg**	**13 08 10.6**	**-0.8**
CISI				S	**Sg**	**13 08 15.3**	**-0.2**
CNJI	**Cibinong**	**0.43**	**280**	P	**Pg**	**13 08 12.9**	**-0.9**
CNJI				S	**Sg**	**13 08 19.3**	**-0.3**
LEM	**Lembang**	**0.56**	**6**	Pg	**Pg**	**13 08 15.1**	**-1.1**
	120nm,0.3s,baz=191,slow=10,SNR=26						
LEM				Lg	Lg	13 08 28.4	
	153nm,0.3s,baz=135,slow=21,SNR=7.0						
CMJI	**Cimerak**	**0.96**	**114**	P	**Pg**	**13 08 22.7**	**-1.2**
CMJI				S	**Sg**	**13 08 36.1**	**-0.3**
SKJI	**Sukabumi**	**1.07**	**291**	P	**Pg**	**13 08 24.2**	**-1.6**
SKJI				S	**Sb**	**13 08 40.3**	**+0.4**
DBJI	**Dramaga**	**1.16**	**316**	P	**Pn**	**13 08 27.7**	**+0.2**
KPJI	**Karang Pucung**	**1.36**	**88**	P	**Pn**	**13 08 30.1**	**-0.2**
TNG	**Tangerang**	**1.51**	**323**	P	**Pn**	**13 08 32.6**	**+0.2**
CGJI	**Cibinong**	**2.01**	**292**	P	**Pn**	**13 08 38.6**	**-0.6**
YOGI	**Yogyakarta**	**2.74**	**99**	P	**Pn**	**13 08 48.5**	**-0.9**
SMRI	**Semarang**	**2.88**	**83**	P	**Pn**	**13 08 51.1**	**-0.2**
UGM	**Wanagama**	**2.98**	**100**	P	**Pn**	**13 08 52.2**	**-0.5**
BLSI	**Bandar Lampung**	**3.05**	**311**	P	**Pn**	**13 08 53.4**	**-0.3**
WOJI	**Wonogiri, Jawa**	**3.36**	**98**	P	**Pn**	**13 08 57.4**	**-0.5**
KLSI		**3.89**	**313**	P	**Pn**	**13 09 05.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.57**	**123**	P	**P**	**13 12 45.5**	**+1.0**
	1.9nm,0.8s,baz=312,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**28.80**	**118**	P	**P**	**13 14 05.2**	**+1.4**
	0.2nm,0.4s,baz=289,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**30.01**	**126**	P	**P**	**13 14 14.6**	**0.0**
	0.5nm,0.9s,baz=309,slow=9.4,SNR=3.0						
H08S2	**Diego Garcia H**	**34.76**	**267**	T	T	13 51 51.7	
	baz=92,slow=75,SNR=5.4						
H08S3	**Diego Garcia H**	**34.77**	**267**	T	T	13 51 50.0	
	baz=92,slow=75,SNR=4.7						
H08S1	**Diego Garcia H**	**34.78**	**267**	T	T	13 51 52.9	
	baz=92,slow=75,SNR=5.2						
STKA	**Stephens Creek**	**39.97**	**132**	P	**P**	**13 15 40.8**	**+0.5**
	1.7nm,0.4s,baz=319,slow=7.4,SNR=7.9						

JMA 10 13:09:27.2±0.2, **37°.31N**×**143°.47E, h54**km, **M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.88**	**303**	P	Pn	13 09 57.8	+0.9
JIKH				S	Sn	13 10 20.3	+0.9
JIO	**Ouri**	**2.03**	**305**	P	Pn	13 10 00.0	+1.0
JIO				*eS*	Sn	13 10 23.6	+0.5
JFK	**Kawauchi**	**2.07**	**272**	P	Pn	13 10 00.5	+0.9
JFK				S	Sn	13 10 24.7	+0.5
JMST	**Minamisoumatoc**	**2.10**	**282**	P	Pn	13 10 00.7	+0.9
JMST				*eS*	Sn	13 10 25.5	+0.8
ONAJ	**Iwakimizuishiy**	**2.14**	**265**	*eS*	Sn	13 10 26.7	+0.7
JKMT	**Kesennumamotoy**	**2.17**	**314**	P	Pn	13 10 01.7	+0.8
JKMT				S	Sn	13 10 27.2	+0.5
JMK	**Ichinoseki**	**2.42**	**313**	P	Pn	13 10 05.3	+1.1
JMK				*eS*	Sn	13 10 33.6	+1.0
JFT	**Otama**	**2.50**	**276**	P	Pn	13 10 07.6	+2.1
JFT				S	Sn	13 10 37.3	+2.5
JOM	**Ohasama**	**2.75**	**322**	P	Pn	13 10 10.0	+1.1
JOM				S	Sn	13 10 42.0	+1.0
JYK	**Kaneyama**	**2.93**	**304**	P	Pn	13 10 13.2	+1.9
JYK				*eS*	Sn	13 10 47.7	+2.4
BSO1	**Boso 1**	**3.33**	**218**	P	Pn	13 10 16.8	+0.5
JAG	**Ashikaga**	**3.34**	**256**	P	Pn	13 10 18.5	+1.6
JAG				*eS*	Sn	13 10 55.8	+0.5
JANG	**Nango**	**3.42**	**334**	P	Pn	13 10 19.4	+1.4
JANG				*eS*	Sn	13 10 56.8	-0.5
JRY	**Ryogami san**	**3.89**	**252**	P	Pn	13 10 25.9	+1.4
JRY				*eS*	Sn	13 11 08.0	-1.0
JOD2	**Odawara 2**	**4.09**	**241**	P	Pn	13 10 27.8	+0.6
JOT	**Ohata**	**4.48**	**336**	P	Pn	13 10 35.1	+2.6
JKB	**Kayabe**	**4.94**	**338**	*eS*	Sn	13 11 34.1	-0.6
JCH	**Churui**	**5.30**	**359**	P	Pn	13 10 43.0	-0.7
JCH				*eS*	Sn	13 11 39.8	-3.6

KRSC 10 13:16:08.8±1.5, **49°.58N**×**156°.90E, h47**km±24km, **ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.22**	**336**	*eP*	Pn	13 16 29.8	+0.5
SKR				*eS*	Sn	13 16 45.0	+0.4
PAU	**Pauzhetka**	**1.89**	**358**	*eP*	Pn	13 16 41.1	+2.6
PAU				*eS*	Sn	13 17 04.6	+3.5
KDTR	**Khodutka, Kamc**	**2.35**	**18**	*eP*	Pn	13 16 47.6	+2.7
KDTR				*eS*	Sn	13 17 15.9	+3.4
ASAK	**Asacha**	**2.88**	**12**	*eP*	Pn	13 16 55.4	+3.3
MTVR	**Mutnovka**	**3.02**	**15**	*eP*	Pn	13 16 57.5	+3.4
MTVR				*eS*	Sn	13 17 33.4	+4.3
RUS	**Russkaya**	**3.03**	**19**	*eP*	Pn	13 16 57.1	+2.9
RUS				*eS*	Sn	13 17 32.8	+3.6
GRL	**Gorelyy**	**3.07**	**13**	*eP*	Pn	13 16 58.5	+3.7
GRL				*eS*	Sn	13 17 35.2	+4.9
KRMR	**Karymshinskiy**	**3.35**	**13**	*eP*	Pn	13 17 03.0	+4.5
KRMR				*eS*	Sn	13 17 43.1	+6.2
APC	**Apacha**	**3.35**	**3**	*eP*	Pn	13 17 02.3	+3.7
PET	**Petropavlovsk**	**3.62**	**17**	*eP*	Pn	13 17 05.6	+3.4
PET				*eS*	Sn	13 17 47.8	+4.2
DALK	**Dalny**	**3.65**	**18**	*eP*	Pn	13 17 06.0	+3.4
DALK				*eS*	Sn	13 17 48.3	+4.0
UGLR	**Uglovaya**	**3.83**	**18**	*eP*	Pn	13 17 09.2	+4.0
AVH	**Avacha**	**3.87**	**17**	*eP*	Pn	13 17 10.4	+4.7
KOK	**Koryaka**	**3.87**	**16**	*eP*	Pn	13 17 10.3	+4.5
SMAR	**Somma**	**3.88**	**17**	*eP*	Pn	13 17 09.9	+4.0
KRER	**Koryakskii**	**3.91**	**16**	*eP*	Pn	13 17 10.3	+4.0
NLC	**Nalytchevo**	**3.91**	**22**	*eS*	Sn	13 17 53.2	+2.5
KRX	**Arik**	**3.94**	**15**	*eP*	Pn	13 17 11.1	+4.3
SPN	**Mys Shipunski**	**4.03**	**28**	*eP*	Pn	13 17 11.5	+3.6
SPN				*eS*	Sn	13 17 58.1	+4.4
GNL	**Ganaly**	**4.17**	**9**	*eP*	Pn	13 17 13.2	+3.3
TUMD	**Tumrok D**	**6.03**	**19**	*eP*	Pn	13 17 38.9	+3.7
TUMR	**Tumrok**	**6.05**	**18**	*eP*	Pn	13 17 41.3	+5.7

WEL 10 13:34:14.2, 42°S±2°×**17°4E**±°, **h45**km±3km, **M2.8**/28, **ML2.9**/27, **MLv2.8**/28, **Error ellipse: s-maj=0.0km s-min=0.0km az=100.5, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.17**	**48**	P	Pn	13 34 22.3	+0.5
BSWZ	**Blackbirch Sta**	**0.19**	**318**	P	Pn	13 34 21.3	-0.7
TUWZ	**Tuamarina**	**0.44**	**350**	P	Pn	13 34 24.0	-0.4
TCW	**Tory Channel**	**0.67**	**15**	P	Pn	13 34 27.7	+0.3
KHZ	**Kahutara**	**0.67**	**214**	P	Pn	13 34 28.5	+1.1
BHW	**Baring Head**	**0.76**	**54**	P	Pn	13 34 29.6	+1.0
WEL	**Wellington**	**0.79**	**43**	P	Pn	13 34 30.1	+1.1
NNZ	**Nelson**	**0.81**	**322**	P	Pn	13 34 29.3	0.0
THZ	**Tophouse**	**0.86**	**276**	P	Pn	13 34 30.1	+0.1
PLWZ	**Palliser**	**0.95**	**73**	P	Pn	13 34 31.8	+0.6
MSWZ	**Moikau Station**	**1.00**	**64**	P	Pn	13 34 32.6	+0.7
DUWZ	**D'Urville Isla**	**1.06**	**355**	P	Pn	13 34 33.3	+0.6
CAW	**Cannon Point**	**1.07**	**46**	P	Pn	13 34 33.7	+0.9
PAWZ	**Paruwai Farm**	**1.14**	**66**	P	Pn	13 34 34.0	+0.3
KIW	**Kapiti Island**	**1.19**	**33**	P	Pn	13 34 35.5	+1.1
OGWZ	**Otaki Gorge**	**1.34**	**39**	P	Pn	13 34 37.4	+0.9
HOWZ	**Holdsworth Sta**	**1.46**	**49**	P	Pn	13 34 38.4	+0.2
ORZ	**Quartz Range**	**1.54**	**312**	P	Pn	13 34 40.6	+1.4
LTZ	**Lake Taylor**	**1.61**	**234**	P	Pn	13 34 41.1	+0.9
MRZ	**Mangatainoka R**	**1.66**	**44**	P	Pn	13 34 41.3	+0.4
DSZ	**Denniston Nort**	**1.68**	**273**	P	Pn	13 34 43.5	+2.3
TIWZ	**Tintock**	**1.76**	**53**	P	Pn	13 34 42.2	0.0
PRWZ	**Pori Road**	**1.95**	**49**	P	Pn	13 34 44.9	+0.1
POWZ	**Post Office Ro**	**1.96**	**42**	P	Pn	13 34 45.2	+0.2
OKCZ	**Okains Bay**	**2.00**	**201**	P	Pn	13 34 45.5	0.0
BFZ	**Birch Farm**	**2.03**	**55**	P	Pn	13 34 45.3	-0.6
MQZ	**McQueen's Vall**	**2.11**	**209**	P	Pn	13 34 46.2	-0.9
INZ	**Inchbonnie**	**2.12**	**245**	P	Pn	13 34 48.2	+1.1
AKCZ	**Akaroa Harbour**	**2.18**	**202**	P	Pn	13 34 48.2	+0.2
DVHZ	**Dannevirke**	**2.23**	**46**	P	Pn	13 34 48.2	-0.6
TSZ	**Takapari Road**	**2.31**	**39**	P	Pn	13 34 49.9	0.0
PREZ	**Palmer Road**	**2.52**	**2**	P	Pn	13 34 58.5	+5.8
KHEZ	**Kahui Hut**	**2.56**	**359**	P	Pn	13 34 58.5	+5.2
NEZ	**North Egmont**	**2.59**	**1**	P	Pn	13 34 59.6	+5.9
PKEZ	**Pukeiti**	**2.56**	**359**	P	Pn	13 34 59.6	+5.5
VRZ	**Vera Road**	**2.79**	**11**	P	Pn	13 35 01.5	+5.2
WNVZ	**Wahianoa**	**2.79**	**26**	P	Pn	13 35 00.8	+4.2
BHHZ	**Black Hill Sta**	**2.82**	**34**	P	Pn	13 34 57.6	+0.8
KRHZ	**Kereru**	**2.83**	**39**	P	Pn	13 34 56.5	-0.4
TUVZ	**Tukino**	**2.86**	**26**	P	Pn	13 34 59.3	+1.8
OTVZ	**Oturere**	**2.96**	**25**	P	Pn	13 35 00.3	+1.4
ETVZ	**East Tongariro**	**3.00**	**26**	P	Pn	13 35 02.9	+3.5
HIZ	**Hauiti**	**3.40**	**11**	P	Pn	13 35 09.3	+4.5
SNGZ	**Shannon Statio**	**3.97**	**40**	P	Pn	13 35 15.7	+3.1
ODZ	**Otahua Downs**	**4.03**	**217**	P	Pn	13 35 12.9	-0.6

IDC 10 13:36:16.9±11.0, **16°.87S**×**179°.03W, h502**km±132km, **mb3.2**/5, **mb1 3.4**/5, **mb1mx2.9**/38, **mbtmp4.1**/5, **Error ellipse: s-maj=109.3km s-min=46.0km az=160.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.62**	**240**	P	P	13 42 56.8	+0.2
	0.9nm,0.4s,baz=95,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**44.25**	**259**	P	P	13 43 40.9	-0.6
	1.0nm,0.6s,baz=95,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**44.51**	**253**	P	P	13 43 43.4	-0.2
	6.5nm,0.4s,baz=89,slow=7.9,SNR=245						
ASAR				PcP	pP	13 45 15.6	0.0
	0.2nm,0.8s,baz=91,slow=5.6,SNR=1.8						
FITZ	**Fitzroy Crossi**	**52.62**	**260**	P	P	13 44 44.5	+0.5
	1.1nm,0.6s,baz=77,slow=11,SNR=6.6						
TXAR	**Lajitas Array**	**85.94**	**58**	P	P	13 48 04.0	0.0
	0.3nm,0.8s,baz=237,slow=3.0,SNR=3.2						

*IDC **10** 13:45:20.5±1.3, 53°.38S×24°.79E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/33, mbtmp3.7/6, Error ellipse: s-maj=68.2km s-min=23.6km az=69.0*
ISC 10 13:45:22.3±1.1, **53°.4S**±0°.2×**24°.7E**±0°.4, **h10**km, **n7**, **σ1s48/7, mb3.6/6, 1D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYO	**Syowa Base**	**17.14**	**162**↓‖ *eP*		**Pn**	**13 49 22.0**	**+0.5**
SUR	**Sutherland**	**21.18**	**351**	P	**Pn**	**13 50 09.6**	**+1.7**
	1.9nm,0.4s,baz=156,slow=18,SNR=5.9						
MAW	**Mawson**	**23.05**	**143**	P	**P**	**13 50 27.4**	**+0.1**
	1.7nm,0.9s,baz=299,slow=7.0,SNR=3.7						
QSPA	**South Pole Qui**	**36.84**	**180**	P	**P**	**13 52 30.6**	**+0.3**
	1.4nm,1.2s,baz=272,slow=5.0,SNR=1.4						
TORD	**Torodi Ar. Bea**	**69.15**	**336**	P	**P**	**13 56 27.3**	**-1.3**
	0.5nm,0.7s,baz=184,slow=6.9,SNR=2.1						
ASAR	**Alice Springs**	**81.99**	**119**	P	**P**	**13 57 40.7**	**-1.8**
	0.4nm,1.0s,baz=210,slow=5.4,SNR=4.4						
WRA	**Warramunga Arr**	**85.27**	**117**	P	**P**	**13 58 00.2**	**+0.9**
	0.6nm,1.2s,baz=215,slow=3.7,SNR=2.6						

*IDC **10** 13:51:20.0±0.7, 36°.06N×96°.74W, h12km±5km, ML5.5/17, Error ellipse: s-maj=3.3km s-min=2.3km az=168.0*
*NEIC **10** 13:51:21.1, 35°.95N×96°.76W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.28; $M_{\theta\theta}$=0.96; $M_{\phi\phi}$=-0.68; $M_{r\theta}$=0.16; $M_{\theta\phi}$=2.31; $M_{\phi r}$=-0.01; Fault plane solution: $M_{\odot}$2.47000×10^{15} NP1:φ_0=9.79000°, δ=86.20000°, λ=-179.87000°. NP2:φ_0=279.78000°, δ=89.87000°, λ=-3.80000°. Principal axes: T 2.5953, Plg3.0000°, Azm325.0000°; N -0.2827, Plg86.0000°, Azm98.0000°; P -2.3126, Plg3.0000°, Azm235.0000°;*
*TUL **10** 13:51:21±0.9, 35°.95N±0°.03×96°.76W±0°.04, h5km±6km, ML4.5, mb4.5/8(NEIC), Mwr4.2/72(NEIC) Error ellipse: s-maj=5.3km s-min=3.4km az=132.0*
*NEIC **10** 13:51:21.8±0.9, 35°.94N±0°.03×96°.76W±0°.03, h1km±5km, Error ellipse: s-maj=4.6km s-min=3.0km az=151.0*
ISC 10 13:51:21.3±0.8, **35°.97N**±0°.03×**96°.73W**±0°.02, **h16**km±6km, **n244, σ1s54/240, mb4.1/6, MS3.7/23, Oklahoma**

| Code | Station Name | Δ° | AZ°

W35A	Tecumseh	0.82	188			Pg		13 51 36.1	-1.2
FNO	Franklin	0.89	218			Pg		13 51 37.5	-1.1
T35A	Sooner Cattle	0.96	11			Pg		13 51 39.8	-0.3
CROK	Carrier	1.14	298			Pb		13 51 42.4	-0.3
KAN13	South Haven SW	1.20	330		Pg	Pn		13 51 43.8	+0.3
KAN09	Caldwell North	1.37	329			Pn		13 51 46.4	+0.6
KAN05	Bluff City Nor	1.46	322			Pn		13 51 48.0	+0.9
KAN10	Anthony SW Sta	1.59	317			Pn		13 51 50.1	+1.3
KAN08	Anthony NE Sta	1.60	322		Pg	Pn		13 51 50.4	+1.3
KAN12	Harper NE Stat	1.67	323			Pn		13 51 51.5	+1.5
X37A	Clayton	1.77	141			Pb		13 51 53.1	-0.4
U32A	Winter Ranch,	1.88	283			Pn		13 51 53.9	+1.0
U38A	Gravette	1.96	75			Pn		13 51 55.9	+2.0
WMOK	Wichita Mounta	2.08	234		P	Pn		13 51 56.6	+1.1
	baz=53								
WMOK					S	Sb		13 52 24.1	-0.1
	baz=53								
WMOK	Wichita Mounta	2.08	234			Pn		13 51 56.4	+0.9
HHAR	Hobbs	2.28	81			Pn		13 52 00.3	+1.9
W39A	Magazine	2.52	107		P	Pn		13 52 03.4	+1.7
	baz=288,SNR=114								
W39A	Magazine	2.52	107			Pn		13 52 03.4	+1.7
Z35A	Perchaven, San	2.67	189			Pn		13 52 05.1	+1.4
R32A	Long Quarter,	2.92	328		Pn	Pn		13 52 08.1	+1.0
MIAR	Mount Ida	2.95	118		P	Pn		13 52 09.4	+1.8
	baz=299,SNR=86								
MIAR					S	Sn		13 52 45.4	+2.8
	baz=299								
MIAR	Mount Ida	2.95	118		Pn	Pn		13 52 09.4	+1.8
Z38A	Mt. Pleasant	3.06	151			Pn		13 52 10.3	+1.2
KSU1	Kansas State U	3.13	2		P	Pn		13 52 10.8	+0.8
	baz=182,SNR=14								
KSU1	Kansas State U	3.13	2		Pn	Pn		13 52 11.6	+1.6
U40A	Yellville	3.16	82		P	Pn		13 52 11.9	+1.4
	baz=264,SNR=125								
U40A	Yellville	3.16	82			Pn		13 52 11.8	+1.4
X40A	Basin Creek Fa	3.52	114		P	Pn		13 52 17.1	+1.8
	baz=296,SNR=28								
X40A	Basin Creek Fa	3.52	114			Pn		13 52 17.4	+2.0
WHAR	Wooly Hollow	3.68	99			Pn		13 52 19.4	+1.7
CBKS	Cedar Bluff	3.71	321		P	Pn		13 52 18.3	+0.2
	baz=140,SNR=14								
CBKS	Cedar Bluff	3.71	321		Pn	Pn		13 52 18.9	+0.8
FCAR	Ozark Folk Cen	3.74	90			Pn		13 52 19.7	+1.3
W41B	Gary Mavity, V	3.74	101		P	Pn		13 52 19.9	+1.5
	baz=283,SNR=39								
W41B					S	Sn		13 53 04.5	+2.3
	baz=283								
W41B	Gary Mavity, V	3.74	101			Pn		13 52 20.2	+1.7
WLAR	White Oak Lake	3.75	126		Pn	Pn		13 52 19.9	+1.4
UALR	University of	3.78	107		Pn	Pn		13 52 21.5	+2.5
MGMO	Mountain Grove	3.79	70			Pn		13 52 20.9	+1.8
WHTX	Lake Whitney,	4.01	189		P	Pn		13 52 22.9	+0.8
	baz=7.9,SNR=37								
WHTX	Lake Whitney,	4.01	189			Pn		13 52 23.2	+1.1
237A	Washetta, Mont	4.03	169			Pn		13 52 22.9	+0.5
ABTX	Abilene, Hawle	4.11	217		P	Pn		13 52 23.6	+0.1
	baz=35								
ABTX	Abilene, Hawle	4.11	217		Pn	Pn		13 52 23.8	+0.2
AMTX	Amarillo	4.18	256		P	Pn		13 52 25.7	+1.1
	baz=74								
AMTX	Amarillo	4.18	256		Pn	Pn		13 52 25.7	+1.1
Z41A	Richland Creek	4.22	129		P	Pn		13 52 26.1	+1.0
	baz=311,SNR=13								
Z41A					S	Sn		13 53 16.3	+2.4
	baz=311								
Z41A	Richland Creek	4.22	129			Pn		13 52 26.0	+1.0
R40A	Maddies Statio	4.26	56		Pn	Pn		13 52 27.2	+1.7
LCAR	Lake Charles	4.52	87			Pn		13 52 30.2	+1.1
NATX	Nacogdoches	4.54	157		S	Sn		13 53 22.1	+0.3
	baz=338								
NATX	Nacogdoches	4.54	157		Pn	Pn		13 52 30.0	+0.6
T42A	Van Buren	4.67	75			Pn		13 52 31.9	+0.8
CCM	Cathedral Cave	4.86	63		P	Pn		13 52 34.8	+1.0
	baz=246								
CCM	Cathedral Cave	4.86	63			Pn		13 52 35.4	+1.6
N35A	Tabor	4.96	10		Pn	Pn		13 52 36.6	+1.4
P40A	Paris	5.14	45		Pn	Pn		13 52 38.9	+1.2
PBMO	Poplar Bluff	5.15	79			Pn		13 52 40.0	+2.3
435B	Jarrell	5.22	188		P	Pn		13 52 39.4	+0.7
	baz=7.2								
435B	Jarrell	5.22	188		Pn	Pn		13 52 38.5	-0.3
MSTX	Muleshoe	5.34	250		P	Pn		13 52 40.7	+0.1
	baz=66								
MSTX	Muleshoe	5.34	250		Pn	Pn		13 52 41.0	+0.5
FVM	French Village	5.44	66			Pn		13 52 42.7	+1.0
BGNE	Belgrade	5.54	349		P	Pn		13 52 43.8	+0.6
	baz=168,SNR=14								
BGNE					S	Sn		13 53 46.1	-0.5
	baz=168								
BGNE	Belgrade	5.54	349		Pn	Pn		13 52 43.9	+0.6
N38A	Joes South For	5.55	29		Pn	Pn		13 52 44.1	+0.8
KSCO	Kaye Shedlock'	5.58	305		P	Pn		13 52 44.4	+0.6
	baz=122,SNR=33								
KSCO					S	Sn		13 53 47.4	-0.3
	baz=122								
KSCO	Kaye Shedlock'	5.58	305		Pn	Pn		13 52 44.6	+0.7
JCT	Junction City	6.05	206		P	Pn		13 52 50.0	-0.2
	baz=24								
JCT	Junction City	6.05	206			Pn		13 52 49.9	-0.2
S44A	Carbondale	6.24	72			Pn		13 52 53.2	+0.4
Y45A	Yeager Farm, C	6.27	107			Pn		13 52 54.5	+1.4
T25A	Trinidad	6.29	283		P	Pn		13 52 54.0	+0.4
	baz=98,SNR=16								
T25A	Trinidad	6.29	283			Pn		13 52 54.2	+0.6
VBMS	Vicksburg	6.37	124		P	Pn		13 52 55.8	+1.3
	baz=308								
VBMS					S	Sn		13 54 08.1	+1.2
	baz=308								
SCIA	State Center	6.53	24		P	Pn		13 52 57.7	+0.9
	baz=206,SNR=9.7								
SCIA					S	Sn		13 54 10.6	-0.4
	baz=206								
SCIA	State Center	6.53	24			Pn		13 52 57.7	+0.9
CPRX	Cap Rock	6.58	246			Pn		13 52 58.0	+0.4
N41A	Harden Midland	6.61	43			Pn		13 52 58.6	+0.7
P43A	Skaggs, Pawnee	6.79	55			Pn		13 53 01.2	+1.0
Q44A	Meyer Farm, Va	6.80	62		Pn	Pn		13 53 02.1	+1.7
K31A	O'Neill	6.83	347		Pn	Pn		13 53 01.8	+0.9
PLAL	Pickwick Lake	7.13	95			Pn		13 53 05.7	+0.7
WVT	Waverly	7.21	86		P	Pn		13 53 06.3	+0.2
	baz=271								
WVT					S	Sn		13 54 27.1	-0.7
	baz=271								
SDCO	Great Sand Dun	7.25	287		P	Pn		13 53 07.9	+1.0
	baz=102,SNR=94								
SDCO	Great Sand Dun	7.25	287		Pn	Pn		13 53 08.8	+1.9
Q24A	Divide	7.33	297		P	Pn		13 53 08.1	+0.1
	baz=112,SNR=20								
GDL2	Guadalupe Moun	7.36	241			Pn		13 53 08.9	+0.7
HDIL	Hopedale	7.43	50		P	Pn		13 53 09.5	+0.4
	baz=234,SNR=27								
HDIL	Hopedale	7.43	50		Pn	Pn		13 53 09.5	+0.4
O44A	Mansfield	7.74	55			Pn		13 53 13.6	+0.2
ECSD	EROS Data Cent	7.76	1		P	Pn		13 53 13.6	0.0
	baz=181,SNR=26								
ECSD					S	Sn		13 54 39.8	-1.3
	baz=181								
ECSD	EROS Data Cent	7.76	1		Pn	Pn		13 53 13.7	+0.1
T47A	Sharon Grove	7.82	80			Pn		13 53 15.1	+0.6
833A	Chaparral WMA,	7.95	197		P	Pn		13 53 17.5	+1.3
	baz=16								
833A	Chaparral WMA,	7.95	197			Pn		13 53 17.2	+0.9
ISCO	Idaho Springs	7.99	301		P	Pn		13 53 17.4	+0.3
	baz=116,SNR=114								
ISCO	Idaho Springs	7.99	301		Pn	Pn		13 53 17.1	0.0
ANMO	Albuquerque	8.00	266		Pn	Pn		13 53 17.8	+0.7
	0.0nm,0.3s,baz=83,slow=13,SNR=15								
ANMO					Pg	Pb		13 53 44.0	+4.3
	0.2nm,0.3s,baz=97,slow=14,SNR=8.4								
ANMO					Lg	Lg		13 55 33.2	
	1.7nm,0.3s,baz=97,slow=14,SNR=5.6								
ANMO					LR	LR		13 56 29.3	
	comp=Z,17nm,21.6s,baz=78,slow=39								
ANMO	Albuquerque	8.00	266		P	Pn		13 53 17.5	+0.4
	baz=80								
ANMO	Albuquerque	8.00	266		Pn	Pn		13 53 17.6	+0.5
BNM	Barren Site	8.31	260			Pn		13 53 20.9	-0.5
MNTX	Cornudas Mount	8.36	242		P	Pn		13 53 21.8	-0.1
	baz=57								
MNTX	Cornudas Mount	8.36	242		Pn	Pn		13 53 21.3	-0.6
LRAL	Lakeview Retre	8.55	107		P	Pn		13 53 25.3	+0.8
	baz=293								
LRAL	Lakeview Retre	8.55	107			Pn		13 53 25.4	+0.9
JFWS	Jewell Farm	8.56	34		P	Pn		13 53 24.5	-0.1
	baz=218,SNR=16								
SUSD	Miller	8.63	349		P	Pn		13 53 25.0	-0.6
	baz=168,SNR=6.8								
WCI	Wyandotte Cave	8.64	72		P	Pn		13 53 26.1	+0.4
	baz=258								
M44A	Midewin, Midew	8.69	49			Pn		13 53 26.2	0.0
BLO	Bloomington	8.72	65			Pn		13 53 28.6	+1.9
Y49A	Blount Mountai	8.74	101			Pn		13 53 27.7	+0.7
N23A	Red Feather La	8.74	307		P	Pn		13 53 27.7	+0.4
	baz=122,SNR=68								
N23A	Red Feather La	8.74	307		Pn	Pn		13 53 28.2	+0.9
SFIN	Lafayette	8.77	57		P	Pn		13 53 28.4	+0.9
	baz=243,SNR=7.9								
SFIN	Lafayette	8.77	57			Pn		13 53 28.6	+1.1
TXAR	Lajitas Array	8.82	223		Pn	Pn		13 53 27.3	-1.1
	1.9nm,0.3s,baz=43,slow=11,SNR=56								
TXAR					Lg	Lg		13 55 51.8	
	12nm,0.3s,baz=45,slow=30,SNR=4.8								
K43A	Burlington	9.36	41		Pn	Pn		13 53 35.5	0.0
P48A	Milroy	9.61	65			Pn		13 53 39.2	+0.1
121A	Cookes Peak, D	9.77	253		P	Pn		13 53 40.8	-0.5
	baz=66								
121A	Cookes Peak, D	9.77	253		Pn	Pn		13 53 41.1	-0.2
RSSD	Black Hills	9.88	328		P	Pn		13 53 43.2	+0.3
	baz=143								
V51A	Loudon	10.05	87			Pn		13 53 45.7	+0.7
PV21	Cone Mtn., Par	10.09	288			Pn		13 53 48.5	+2.6
K22A	Casper	10.10	314		P	Pn		13 53 45.3	-0.6
	baz=128,SNR=24								
P49A	Miami Univ. Ec	10.16	66		P	Pn		13 53 45.8	-0.8
	baz=253								
TKL	Tuckaleechee C	10.53	88		Pn	Pn		13 53 52.1	+0.4
	0.5nm,0.3s,baz=245,slow=14,SNR=4.5								
TKL					Lg	Lg		13 56 47.6	
	7.4nm,0.3s,baz=164,slow=19,SNR=4.7								
TKL					LR	LR		13 57 52.0	
	comp=Z,252nm,18.3s,baz=276,slow=37								
TZTN	Tazewell	10.66	83		P	Pn		13 53 54.4	+0.9
	baz=271								
S51A	Beattyville	10.67	77			Pn		13 53 54.2	+0.7
GOGA	Godfrey	11.22	99		P	Pn		13 54 02.1	+1.1
	baz=287								
P51A	Williamsport	11.38	68		P	Pn		13 54 03.0	-0.3
	baz=256,SNR=5.9								
T53A	Wise	11.48	81		P	Pn		13 54 03.9	-0.7
	baz=269								
ACSO	Alum Creek Sta	11.64	64		P	Pn		13 54 06.3	-0.5
	baz=253,SNR=11								
S53A	Williamson	11.83	77		P	Pn		13 54 09.2	-0.2
	baz=266								
Q52A	Bidwell	11.88	71		P	Pn		13 54 09.9	-0.2
	baz=260,SNR=16								
O51A	Pataskala	11.89	65		P	Pn		13 54 09.6	-0.6
	baz=254,SNR=6.7								
BW06	Boulder Array	12.02	308		P	Pn		13 54 10.9	-1.2
	baz=120,SNR=13								
PDAR	Pinedale Array	12.02	308		Pn	Pn		13 54 11.2	-0.9
	1.3nm,0.3s,baz=124,slow=15,SNR=26								
PDAR					Pg			13 54 57.0	
	2.2nm,0.3s,baz=111,slow=16,SNR=4.2								
PDAR					Lg	Lg		13 57 33.3	
	3.2nm,0.3s,baz=118,slow=19,SNR=1.9								
PDAR					LR	LR		13 59 38.3	
	comp=Z,106nm,19.7s,baz=130,slow=42								
PDAR	Pinedale Array	12.02	308		Pn	Pn		13 54 10.8	-1.4
R53A	Hurricane	12.03	74		P	Pn		13 54 10.2	-2.0
	baz=263								
P52A	Conning	12.12	68		P	Pn		13 54 12.1	-1.1
	baz=257								
T54A	Tazewell	12.25	80		P	Pn		13 54 14.5	-0.7
	baz=269								
N51A	Ashland	12.29	62		P	Pn		13 54 14.2	-1.5
	baz=251								
AGMN	Agassiz Nation	12.34	3		P	Pn		13 54 13.8	-2.5
	baz=183,SNR=12								
Q53A	Leroy	12.43	72		P	Pn		13 54 16.6	-1.0
	baz=261,SNR=14								
O52A	Adamsville	12.45	66		P	Pn		13 54 16.3	-1.5
	baz=255								
S54A	Dingess, Beckl	12.49	77		P	Pn		13 54 16.6	-1.8
	baz=266,SNR=5.9								
M51A	Elyria	12.57	60		P	Pn		13 54 18.3	-1.1
	baz=250								
EYMN	Ely	12.58	16		P	Pn		13 54 17.1	-2.5
	baz=200								
P53A	Whipple	12.65	69		P	Pn		13 54 18.7	-1.8
	baz=259								
R54A	Victor	12.77	75		P	Pn		13 54 21.0	-1.3
	baz=265								
GLMI	Grayling	12.78	42		P	Pn		13 54 19.8	-2.5
	baz=230								
LAO	LASA Array	12.86	329		P	Pn		13 54 21.1	-2.3
	baz=143,SNR=8.7								
HWUT	Hardware Ranch	12.86	300		Pn	Pn		13 54 24.0	+0.4
T55A	Pulaski	12.88	80		P	Pn		13 54 23.0	-0.8
	baz=270								
O53A	New Philadelph	12.95	66		P	Pn		13 54 22.9	-1.8
	baz=256								
Q54A	Coxs Mills	12.98	72		P	Pn		13 54 23.8	-1.4
	baz=262								
S55A	Lewisburg	13.12	77		P	Pn		13 54 25.4	-1.7
	baz=267								
RLMT	Red Lodge	13.19	318		P	Pn		13 54 25.8	-2.4
	baz=130								
M52A	Chesterland	13.22	60		P	Pn		13 54 25.9	-2.5
	baz=250								
DUG	Dugway, Tooele	13.35	293		P	Pn		13 54 29.4	-0.8
	baz=103								
P54A	Burton	13.36	69		P	Pn		13 54 29.3	-1.0
	baz=259								
N53A	Lisbon	13.37	64		P	Pn		13 54 28.4	-2.0
	baz=254								
R55A	Marlinton	13.46	75		P	Pn		13 54 30.1	-1.6
	baz=265,SNR=11								
DGMT	Dagmar	13.65	339		P	Pn		13 54 31.4	-2.9
	baz=154,SNR=9.5								
P55A	Reedsville	13.84	70		P	Pn		13 54 35.9	-1.0
	baz=260								
S56A	Natural Bridge	13.86	78		P	Pn		13 54 36.5	-0.7
	baz=268								
N54A	Moraine State	14.03	64		P	Pn		13 54 36.8	-2.6
	baz=255								
R56A	Bull Pasture M	14.03	75		P	Pn		13 54 37.2	-2.4
	baz=265,SNR=9.1								
L53A	Girard	14.14	60		P	Pn		13 54 39.7	-1.1
	baz=250								
Q56A	Snyder Ridge,	14.26	72		P	Pn		13 54 40.9	-1.7
	baz=263								
ULM	Lac du Bonnet	14.29	2		Pn	Pn		13 54 39.4	-3.5
	1.8nm,0.3s,baz=172,slow=11,SNR=14								
ULM					Sn	Sn		13 57 12.6	-8.4
	4.1nm,0.3s,baz=279,slow=22,SNR=4.5								
ULM					Lg	Lg		13 58 43.5	
	3.9nm,0.3s,baz=111,slow=20,SNR=7.9								
ULM					LR	LR		13 59 07.4	
	comp=Z,35nm,20.9s,baz=214,slow=33								
I51A	Listowel	14.36	52		P	Pn		13 54 40.6	-3.3
	baz=242,SNR=6.2								
M54A	Oil Creek Stat	14.42	62		P	Pn		13 54 41.8	-2.9
	baz=253								
N55A	Marion Center	14.72	66		P	Pn		13 54 45.9	-3.0
	baz=257								
BOZ	Bozeman (W)	14.80	315			Pn		13 54 51.0	+0.9
O56A	Blue Knob Stat	14.93	68		P	Pn		13 54 50.1	-1.6
	baz=259								
M55A	Ridgway	15.06	63		P	Pn		13 54 50.3	-3.1
	baz=254								
BCYI	Bear Canyon	15.21	308			Pn		13 54 54.4	-1.3
ELK	Elko	15.28	294		Pn	Pn		13 54 57.3	+0.8
	0.1nm,0.3s,baz=72,slow=6.8,SNR=8.3								
ELK					Lg	Lg		13 59 24.1	
	0.1nm,0.3s,baz=125,slow=5.5,SNR=1.9								
ELK					LR	LR		14 00 46.3	
	comp=Z,195nm,19.9s,baz=102,slow=37								
SSPA	Standing Stone	15.51	67		P	Pn		13 54 56.1	-3.2
	baz=259								
O57A	Amberson	15.62	69		P	Pn		13 54 57.5	-3.3
	baz=260,SNR=6.2								
N57A	Milroy	15.78	67		P	Pn		13 54 59.4	-3.5
	baz=258,SNR=6.8								
SADO	Sadowa	16.01	51		Pn	Pn		13 55 04.2	-1.5
	0.6nm,0.3s,baz=256,slow=9.6,SNR=3.9								
SADO					Sn	Sn		13 57 53.9	-8.9
	1.0nm,0.3s,baz=270,slow=14,SNR=1.8								
SADO					Lg	Lg		13 59 41.4	
	1.8nm,0.3s,baz=4.0,slow=20,SNR=7.7								
SADO					LR	LR		14 01 19.3	
	comp=Z,534nm,19.4s,baz=270,slow=37								
L56A	Greenwood	16.11	62		P	Pn		13 55 03.9	-3.2
	baz=254								
H53A	Bobcaygeon	16.28	53		P	Pn		13 55 04.7	-4.5
	baz=244								
PFO	Pinyon Flats O	16.38	267		LR	LR		14 01 39.6	
	comp=Z,112nm,20.1s,baz=82,slow=38								
N58A	Sunbury	16.42	67		P	Pn		13 55 08.8	-2.2
	baz=259								
LPIG	La Paz	16.65	228		LR	LR		14 01 55.1	
	comp=Z,203nm,20.7s,baz=41,slow=38								
TEIG	Tepich	17.35	152		P	Pn		13 55 22.9	0.0
	0.6nm,0.3s,baz=333,slow=21,SNR=2.3								
NVAR	Mina Array Bea	17.36	285		P	P		13 55 25.6	+1.2
	0.1nm,0.3s,baz=89,slow=11,SNR=13								
NVAR					Lg	Lg		14 00 18.7	
	0.1nm,0.3s,baz=115,slow=35,SNR=1.8								
NVAR					LR	LR		14 02 42.6	
	comp=Z,93nm,21.0s,baz=90,slow=40								
WALA	Waterton Lakes	18.15	321		P	Pn		13 55 33.5	+0.8
F10A	Beach Ranch, E	18.38	309		P	P		13 55 37.7	+2.3
FFC	Flin Flon	19.11	351		P	P		13 55 42.4	-0.9
FFC					IAmb	IAmb		13 56 00.7	
	comp=Z,58nm,1.9s								
L61B	Northampton	19.70	64		P	P		13 55 50.4	+0.6
	baz=259								
D56A	ZEC Mazanza, M	19.77	49		P	P		13 55 50.9	+0.2
	baz=244								
K05A	Summer Lake	19.83	297			P		13 55 52.0	+0.5
K05A					IAmb	IAmb		13 56 06.8	
	comp=Z,17nm,0.9s								
PINE	Pine Mountain	20.11	300			Pn		13 55 56.8	+0.4
PINE					IAmb	IAmb		13 55 59.6	
	comp=Z,21nm,0.8s								
O03E	Paynes Creek	20.16	290		P	P		13 55 56.4	+1.3
	baz=94								
J05D	Fort Rock, OR	20.19	299		P	P		13 55 56.7	+1.2
	baz=103								
M04C	Macdoel	20.36	294		P	P		13 55 58.5	+1.3
	baz=98								
YBH	Yreka Blue Hor	20.99	294		P	P		13 56 03.8	-0.3
	comp=Z,5.2nm,0.8s,baz=106,slow=6.7,SNR=16								
YBH					LR	LR		14 04 35.8	
	comp=Z,135nm,20.3s,baz=96,slow=38								
M02C	Callahan	21.06	293		P	P		13 56 06.2	+1.5
	baz=96								
LTY	Liberty	21.07	310		P	P		13 56 04.6	-0.2
I04A	Tendick Farm,	21.14	300		P	P		13 56 08.4	+2.8
	baz=103								
APG	El Apazote	21.62	163		LR	LR		14 07 27.9	
	comp=Z,50nm,18.2s,baz=347,slow=45								
I03D	Drain, OR	21.78	299		P	P		13 56 15.8	+3.4
	baz=102								
BBB	Bella Bella	27.48	316		LR	LR		14 09 05.6	
	comp=Z,173nm,21.8s,baz=96,slow=39								
JTS	Las Juntas de	27.71	154		LR	LR		14 09 40.1	
	comp=Z,90nm,20.8s,baz=46,slow=40								
SCHQ	Schefferville	27.89	38		LR	LR		14 08 43.6	
	comp=Z,158nm,18.4s,baz=240,slow=37								
YKA	Yellowknife Ar	28.79	343		LR	LR		14 09 07.8	
	comp=Z,242nm,18.1s,baz=0.0,slow=37								
EGAK	Eagle	39.05	332		P	P		13 58 46.7	-0.4
SFJD	Kangerlussuaq	40.65	26		LR	LR		14 14 13.4	
	comp=Z,557nm,19.9s,baz=300,slow=34								
IL31		41.31	330		P	P		13 59 04.6	-1.2
IL31					IAmb	IAmb		13 59 08.7	
	comp=Z,8.9nm,0.8s								
ILAR	Eielson Array	41.31	330		P	P		13 59 07.8	+1.9
	comp=Z,6.2nm,0.7s,baz=106,slow=7.1,SNR=76								
ILAR					LR	LR		14 17 43.5	
	comp=Z,172nm,18.9s,baz=130,slow=38								
BMAR	Burnt Mountain	41.45	334		P	P		13 59 06.1	-0.8
BORG	Borgarnes	51.98	32		LR	LR		14 20 35.3	
	comp=Z,94nm,19.4s,baz=300,slow=34								
LPAZ	La Paz	58.60	147		P	P		14 01 18.8	+0.4
	comp=Z,0.6nm,0.6s,baz=323,slow=5.1,SNR=2.1								
LPAZ					LR	LR		14 30 43.5	
	comp=Z,51nm,18.2s,baz=320,slow=40								
NOA	NORSAR Array B	67.10	30		LR	LR		14 30 31.9	
	comp=Z,47nm,20.2s,baz=305,slow=35								
HFS	Hagfors	68.62	30		LR	LR		14 32 07.4	
	comp=Z,70nm,18.0s,baz=328,slow=36								
MA2	Magadan	69.80	330		LR	LR		14 35 43.0	
	comp=Z,89nm,18.7s,baz=110,slow=38								
ESDC	Sonseca Array	70.03	55		P	P		14 02 33.9	+1.5
	comp=Z,0.3nm,0.4s,baz=318,slow=5.5,SNR=3.8								
ESDC					LR	LR		14 31 07.1	
	comp=Z,63nm,18.9s,baz=300,slow=34								
CPUP	Villa Florida	72.27	143		LR	LR		14 39 14.1	
	comp=Z,19nm,18.2s,baz=36,slow=40								
FINES	FINESS Array B	72.45	25		P	P		14 02 47.9	+1.3
	com

NOR	**Nord**	**3.90**	**312**	Pn	**Pn**	**14 22 19.4**	**-1.0**
NOR	**Nord**	**3.90**	**312**	*i* P	**Pn**	**14 22 20.0**	**-0.4**
NOR	**Nord**	**3.90**	**312**	*i* P	**Pn**	**14 22 20.0**	**-0.4**
NOR	**Nord**	**3.90**	**312**	*i* P	**Pn**	**14 22 20.0**	**-0.4**
NOR	**Nord**	**3.90**	**312**	*i* P	**Pn**	**14 22 20.0**	**-0.4**
NOR	**Nord**	**3.90**	**312**	*i* P	**Pn**	**14 22 20.0**	**-0.4**
DAG	**Danmarks Havn**	**5.31**	**250**	*i* P	**Pn**	**14 22 37.3**	**-2.4**
DAG				*i* S	Sn	14 23 31.3	-9.1
DAG				IAML		14 23 33.2	
	comp=Z,8.3nm,0.3s						
DAG	**Danmarks Havn**	**5.31**	**250**	*i* P	**Pn**	**14 22 37.0**	**-2.7**
DAG	**Danmarks Havn**	**5.31**	**250**	*i* P	**Pn**	**14 22 37.3**	**-2.4**
DAG				*i* S	Sn	14 23 31.3	-9.1
DAG	**Danmarks Havn**	**5.31**	**250**	*i* P	**Pn**	**14 22 37.0**	**-2.7**
DAG	**Danmarks Havn**	**5.31**	**250**	*i* P	**Pn**	**14 22 37.3**	**-2.4**
DAG				*i* S	Sn	14 23 31.3	-9.1
DAG				IAML		14 23 33.2	
	comp=Z,8.3nm,0.3s						
HOPEN	**Hopen**	**5.37**	**113**	Pn	**Pn**	**14 22 40.6**	**0.0**
HOPEN				Sn	**Sn**	**14 23 37.7**	**-4.3**
HOPEN	**Hopen**	**5.37**	**113**	*e*P	**Pn**	**14 22 40.4**	**-0.2**
HOPEN				*e*S	**Sn**	**14 23 37.0**	**-4.9**
HOPEN	**Hopen**	**5.37**	**113**	*e*P	**Pn**	**14 22 40.7**	**+0.1**
HOPEN				*e*S	**Sn**	**14 23 37.0**	**-4.9**
HOPEN				IAML		14 23 40.4	
	comp=Z,20nm,0.2s						
BJO1	**Bjornoya**	**6.11**	**138**	Pn	**Pn**	**14 22 51.4**	**+0.7**
DBG	**Daneborg**	**7.44**	**238**	*i* P	**Pn**	**14 23 06.7**	**-2.2**
DBG				*i* S	Sn	14 24 22.5	-10
DBG				IAML		14 24 24.9	
	comp=Z,4.9nm,0.4s						
DBG	**Daneborg**	**7.44**	**238**	*i* P	**Pn**	**14 23 06.7**	**-2.2**
DBG				*i* S	Sn	14 24 22.5	-10
DBG				IAML		14 24 24.9	
	comp=Z,4.9nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.50**	**59**	*e*P	**Pn**	**14 23 10.9**	**+1.2**
ZFI2				*e*S	**Sn**	**14 24 29.5**	**-4.8**
	comp=Z,13nm,0.4s						
ZFI	**Zemlya Franca-**	**7.50**	**59**	*e*P	**Pn**	**14 23 11.3**	**+1.5**
ZFI				*e*S	**Sn**	**14 24 30.0**	**-4.4**
ARA0	**ARCESS Array S**	**11.48**	**139**	Pn	**Pn**	**14 24 04.6**	**+0.3**
	baz=346,slow=11						
ARA0	**ARCESS Array S**	**11.48**	**139**	Pn	**Pn**	**14 24 04.6**	**+0.3**
	baz=346,slow=11						
ARCES	**ARCESS Array B**	**11.48**	**139**	Pn	**Pn**	**14 24 04.7**	**+0.4**
	baz=345,slow=12,SNR=9.8						
ARCES				Sn	Sn	14 26 03.2	-8.8
	baz=348,slow=21,SNR=1.9						
SUMG	**Summit**	**11.92**	**257**	*i* P	**Pn**	**14 24 09.0**	**-1.7**
SUMG	**Summit**	**11.92**	**257**	*i* P	**Pn**	**14 24 08.0**	**-2.7**
SUMG	**Summit**	**11.92**	**257**	*i* P	**Pn**	**14 24 09.0**	**-1.7**
SUMG	**Summit**	**11.92**	**257**	*i* P	**Pn**	**14 24 08.0**	**-2.7**
SUMG	**Summit**	**11.92**	**257**	*i* P	**Pn**	**14 24 09.0**	**-1.7**
TULEG	**Thule**	**14.36**	**296**	*i* P	**Pn**	**14 24 39.1**	**-4.4**
TULEG	**Thule**	**14.36**	**296**	*i* P	**Pn**	**14 24 39.1**	**-4.4**
FINES	**FINESS Array B**	**19.37**	**146**	P	**P**	**14 25 47.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=356,slow=11,SNR=3.6						
FRB	**Frobisher Bay**	**25.10**	**274**	LR	LR	14 36 33.5	
	comp=Z,55nm,20.6s,baz=250,slow=37						
MKAR	**Makanchi Array**	**42.37**	**90**	P	**P**	**14 29 17.4**	**+3.2**
	comp=Z,1.0nm,0.6s,baz=338,slow=7.6,SNR=9.8						
TORD	**Torodi Ar. Bea**	**66.40**	**182**	P	**P**	**14 32 10.9**	**+1.8**
	comp=Z,0.9nm,1.0s,baz=359,slow=7.2,SNR=2.0						
CMAR	**Chiang Mai Arr**	**72.96**	**81**	P	**P**	**14 32 51.1**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=353,slow=6.5,SNR=4.4						

WEL 10 14:59:22.9,41°S±2°×17°4E±°, h72km±4km, M2.4/15, ML2.5/15, MLv2.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=83.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.23**	**51**	P	Pn	14 59 34.4	+0.6
NNZ	**Nelson**	**0.35**	**221**	P	Pn	14 59 35.1	+0.5
TCW	**Tory Channel**	**0.52**	**121**	P	Pn	14 59 36.5	+0.6
TUWZ	**Tuamarina**	**0.52**	**158**	P	Pn	14 59 36.2	+0.3
BSWZ	**Blackbirch Sta**	**0.78**	**170**	P	Pn	14 59 39.8	+1.0
WEL	**Wellington**	**0.88**	**113**	P	Pn	14 59 40.6	+0.6
QRZ	**Quartz Range**	**0.89**	**278**	P	Pn	14 59 40.3	+0.3
KIW	**Kapiti Island**	**0.93**	**85**	P	Pn	14 59 40.9	+0.3
THZ	**Tophouse**	**1.00**	**216**	P	Pn	14 59 42.4	+0.9
BHW	**Baring Head**	**1.00**	**118**	P	Pn	14 59 41.9	+0.4
CAW	**Cannon Point**	**1.06**	**99**	P	Pn	14 59 42.2	+0.1
OGWZ	**Otaki Gorge**	**1.13**	**84**	P	Pn	14 59 41.7	-1.4
MRZ	**Mangatainoka R**	**1.46**	**79**	P	Pn	14 59 49.1	+1.7
DSZ	**Denniston Nort**	**1.63**	**240**	P	Pn	14 59 49.7	+0.2
KHEZ	**Kahui Hut**	**1.67**	**9**	P	Pn	14 59 50.9	+0.7
PKE	**Pukeiti**	**1.77**	**8**	P	Pn	14 59 52.2	+0.8
TSZ	**Takapari Road**	**1.95**	**64**	P	Pn	14 59 56.3	+2.5
VRZ	**Vera Road**	**2.00**	**25**	P	Pn	14 59 55.5	+1.0
GVZ	**Greta Valley S**	**2.08**	**193**	P	Pn	14 59 57.3	+1.8
LTZ	**Lake Taylor**	**2.12**	**210**	P	Pn	14 59 57.0	+0.9
OTVZ	**Oturere**	**2.34**	**41**	P	Pn	14 59 59.6	+0.3
INZ	**Inchbonnie**	**2.44**	**223**	P	Pn	15 00 01.0	+0.6

IDC 10 15:26:05.5±1.9, 0.67N×123.11E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.3/37, mbtmp3.2/4, ML3.8/1, Error ellipse: s-maj=135.8km s-min=26.9km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.82**	**173**	P	P	15 30 27.0	+0.1
	0.2nm,0.3s,baz=0.0,slow=9.1,SNR=7.3						
WRA	**Warramunga Arr**	**23.26**	**152**	P	P	15 31 15.3	+0.4
	0.2nm,0.5s,baz=330,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.37**	**157**	P	P	15 31 43.3	-0.4
	0.2nm,0.7s,baz=335,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**58.10**	**328**	P	P	15 36 00.7	-0.2
	0.2nm,0.5s,baz=134,slow=8.2,SNR=2.7						

*SOME **10** 15:38:04.9, 46°.28N×79°.95E, h10km*
*NNC **10** 15:38:06.0±1.5, 46°.54N×80°.19E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=16.3km s-min=9.8km az=170.0*
ISC 10 15:38:04.7±1.5, 46°.32N±0°.04×80°.24E±0°.04, h8km±17km, n20, σ1°.38/37, 5C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.20**	**211**	*e*P	**Pb**	**15 38 25.8**	**-1.9**
	96nm,0.1s						
KAPS				*e*S	**Sb**	**15 38 40.5**	**-2.9**
	150nm,0.1s						
MAKZ	**Makanchi**	**1.29**	**67**	⇓P	**Pg**	**15 38 29.3**	**-0.2**
	6.1nm,0.3s						
MAKZ				⇑S	**Sg**	**15 38 47.2**	**+0.9**
	35nm,0.3s						
MK31	**Makanchi Array**	**1.49**	**71**	P	**Pg**	**15 38 32.9**	**-0.4**
	3.1nm,0.2s,baz=246,slow=15,SNR=615						
MK31				S	**Sg**	**15 38 53.3**	**+0.6**
	9.9nm,0.2s,baz=242,slow=29,SNR=25						
TDK	**Taldyqorghan**	**1.84**	**225**	*e*P	**Pb**	**15 38 36.9**	**-1.6**
	82nm,0.4s						
TDK				*e*S	**Sn**	**15 38 59.5**	**-0.5**
	293nm,0.3s						
DJR	**Jarkent**	**2.01**	**189**	*e*P	**Pb**	**15 38 40.9**	**-0.6**
	69nm,0.2s						
DJR				*e*S	**Sb**	**15 39 06.5**	**-0.1**
	102nm,0.3s						
MNBS	**Baschi**	**2.59**	**211**	*e*P	**Pb**	**15 38 49.9**	**-1.5**
	22nm,0.2s						
MNBS				*e*S	**Sb**	**15 39 21.6**	**-1.8**
	176nm,0.4s						
ARXS	**Arharly**	**2.71**	**220**	*e*P	**Pb**	**15 38 52.7**	**-0.7**
	34nm,0.3s						
ARXS				*e*S	**Sb**	**15 39 25.8**	**-0.9**
	70nm,0.3s						
KTMS	**Ketmen**	**2.87**	**178**	*e*P	**Pb**	**15 38 55.7**	**-0.6**
	13nm,0.3s						
KTMS				*e*S	**Sb**	**15 39 31.7**	**+0.2**
	35nm,0.3s						
PDGK	**Podgornoye**	**3.04**	**190**	⇑Pn	**Pb**	**15 38 59.4**	**+0.4**
	32nm,0.8s						
KPKS	**Kokpek**	**3.06**	**202**	*e*P	**Pb**	**15 39 00.2**	**+0.8**
	64nm,0.4s						
KPKS				*e*S	**Sb**	**15 39 38.9**	**+2.0**
	47nm,0.2s						
KURS	**Kuram**	**3.19**	**208**	*e*P	**Pb**	**15 39 01.9**	**+0.3**
KURS				*e*S	**Sb**	**15 39 42.5**	**+1.9**
UZB	**Uzynbulak**	**3.29**	**196**	*e*P	**Pb**	**15 39 04.2**	**+0.9**
	29nm,0.3s						
UZB				*e*S	**Sb**	**15 39 45.9**	**+2.4**
	21nm,0.4s						
ZSN	**Zaisan**	**3.37**	**69**	*e*P	**Pb**	**15 39 03.9**	**-0.7**
	4.3nm,0.3s						
ZSN				*e*S	**Sb**	**15 39 46.5**	**+0.8**
	21nm,0.4s						
SATY	**Saty**	**3.51**	**203**	*e*P	**Pb**	**15 39 06.0**	**-1.1**
SATY				*e*S	**Sb**	**15 39 49.7**	**-0.2**
KUU	**Kurty**	**3.67**	**230**	*e*P	**Pb**	**15 39 08.9**	**-0.9**
KUU				*e*S	**Sb**	**15 39 54.6**	**+0.1**
TNSS	**Tian-Shan**	**4.03**	**217**	*e*P	**Pb**	**15 39 16.5**	**+0.3**
	5.3nm,0.3s						
TNSS				*e*S	**Sb**	**15 40 07.6**	**+2.4**
	12nm,0.5s						
KRBS	**Karabastau**	**4.17**	**233**	*e*P	**Pb**	**15 39 17.9**	**-0.3**
	3.8nm,0.3s						
KRBS				*e*S	**Sb**	**15 40 09.9**	**+1.3**
	23nm,0.4s						
KURBB	**Kurchatov Arra**	**4.46**	**346**	⇓Pg	**Pb**	**15 39 21.3**	**-1.8**
	2.7nm,0.5s						
KURBB				⇑Lg	Lg	15 40 19.7	
	40nm,0.7s						
BTLS	**Baital**	**4.53**	**256**	*e*P	**Pb**	**15 39 24.9**	**+0.6**
BTLS				*e*S	**Sb**	**15 40 22.0**	**+3.0**
KURK	**Kurchatov**	**4.53**	**347**	⇑Pg	**Pb**	**15 39 24.4**	**0.0**
	2.7nm,0.6s						
KURK				⇑Lg	Lg	15 40 24.8	
	12nm,0.6s						

*NEIC **10** 16:16:21.5±2.0, 6°.29S±0°.07×130°.18E±0°.09, h115km±7km, mb4.5/24, Error ellipse: s-maj=13.2km s-min=9.5km az=83.0*
*IDC **10** 16:16:22.6±1.9, 6°.29S×130°.26E, h124km±18km, mb3.9/13, mb1 4.0/17, mb1mx3.9/35, mbtmp4.4/17, MS2.9/1, Ms1 2.9/1, ms1mx2.4/46, Error ellipse: s-maj=17.0km s-min=11.3km az=79.0*
*DJA **10** 16:16:23.5±0.2, 6°.5S±2°×13°.0E±°, h129km±3km, M4.9/17, mB5.4/9, mb5.0/17, MLv5.0/14, Mw(mB)4.8/9, Mwp6.2/1*
ISC 10 16:16:24.7±0.4, 6°.44S±0°.04×130°.30E±0°.05, h150km, n92, σ2s23/96, mb4.3/27, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.83**	**147**	P	**Pn**	**16 16 56.5**	**-1.4**
SAUI				S	**Sn**	**16 17 22.0**	**-1.4**
SAUI	**Saumlaki**	**1.83**	**147**		**Pn**	**16 16 57.3**	**-0.6**
BNDI	**Bandanaira**	**1.94**	**348**	P	**Pn**	**16 16 56.5**	**-2.7**
BNDI				S	**Sn**	**16 17 22.3**	**-3.5**
MSAI	**Masohi**	**3.36**	**336**	P	**Pn**	**16 17 14.6**	**-2.1**
FAKI	**Fak Fak**	**4.00**	**29**	P	**Pn**	**16 17 21.8**	**-3.3**
FAKI	**Fak Fak**	**4.00**	**29**	Pn	**Pn**	**16 17 20.5**	**-4.6**
NLAI	**Namlea**	**4.50**	**315**	P	**Pn**	**16 17 30.1**	**-1.5**
SIJI	**Sorong**	**5.62**	**10**	P	Pn	16 17 41.5	-4.9
	53nm,0.3s,baz=270,slow=23,SNR=254						
SIJI				S	Sn	16 18 39.0	-11
	72nm,0.3s,baz=108,slow=22,SNR=19						
SANI	**Sanana**	**6.12**	**315**	P	**Pn**	**16 17 51.4**	**-1.7**
	0.3nm1μm44nm,0.6s						
MTN	**Manton Dam**	**6.42**	**173**	Pn	**Pn**	**16 17 55.2**	**-1.8**
SOEI	**Soe**	**6.82**	**241**	P	**Pn**	**16 18 02.1**	**-0.4**
	2.0nm106nm,1.0s						
SOEI	**Soe**	**6.82**	**241**	Pn	**Pn**	**16 18 01.1**	**-1.3**
BATI	**Baumata**	**7.55**	**240**	P	**Pn**	**16 18 11.3**	**-0.9**
	36nm,0.3s,baz=121,slow=2.8,SNR=68						
BATI				S	**Sn**	**16 19 29.9**	**-6.8**
	33nm,0.3s,baz=35,slow=5.4,SNR=9.3						
BATI	**Baumata**	**7.55**	**240**	P	**Pn**	**16 18 11.3**	**-0.9**
	0.5nm1μm117nm,0.6s						
TNTI	**Ternate**	**7.74**	**338**	P	**Pn**	**16 18 12.7**	**-2.0**
	0.4nm1μm126nm,0.7s						
TNTI	**Ternate**	**7.74**	**338**	Pn	**Pn**	**16 18 11.3**	**-3.4**
BAKI	**Biak**	**7.80**	**48**	P	**Pn**	**16 18 14.8**	**-0.7**
	0.9nm322nm,0.8s						
KNRA	**Kununurra**	**9.30**	**189**		**Pn**	**16 18 32.4**	**-3.1**
JAY	**Jayapura**	**11.08**	**70**	P	**Pn**	**16 18 58.8**	**-0.3**
	1.4nm,0.3s,baz=212,slow=13,SNR=6.5						
JAY				S	**Sn**	**16 20 59.8**	**-2.0**
	0.8nm,0.3s,baz=134,slow=21,SNR=1.5						
FITZ	**Fitzroy Crossi**	**12.45**	**201**	P	**Pn**	**16 19 12.9**	**-3.9**
	4.7nm,0.3s,baz=28,slow=8.3,SNR=158						
FITZ				S	Sn	16 21 22.4	-12
	7.5nm,0.3s,baz=87,slow=8.0,SNR=5.1						
FITZ				LR	LR	16 25 32.4	
	comp=Z,62nm,20.4s,baz=319,slow=44						
FITZ	**Fitzroy Crossi**	**12.45**	**201**	Pn	**Pn**	**16 19 12.4**	**-4.4**
WB0	**Warramunga Arr**	**13.83**	**164**		**Pn**	**16 19 30.6**	**-4.0**
WRAB	**Tennant Creek**	**13.98**	**164**	Pn	**Pn**	**16 19 33.3**	**-3.2**
WRA	**Warramunga Arr**	**13.98**	**164**	P	**Pn**	**16 19 32.8**	**-3.7**
	5.2nm,0.3s,baz=346,slow=13,SNR=124						
WRA				S	Sn	16 22 00.8	-11
	8.2nm,0.3s,baz=346,slow=22,SNR=12						
WRA	**Warramunga Arr**	**13.98**	**164**		**Pn**	**16 19 32.5**	**-4.0**
WB2	**Warramunga Arr**	**13.99**	**164**		**Pn**	**16 19 33.3**	**-3.2**
WR0	**Warramunga Arr**	**14.06**	**163**		**Pn**	**16 19 33.9**	**-3.5**
COEN	**Coen**	**14.71**	**122**	Pn	**Pn**	**16 19 45.4**	**-0.2**
BBKI	**Banjar Baru**	**15.68**	**280**	P	**P**	**16 20 00.3**	**+1.7**
MTKI	**Muara Teweh, K**	**16.30**	**289**	P	**P**	**16 20 07.2**	**+1.7**
BLJI	**Banyuglugur**	**16.62**	**265**	P	**Pn**	**16 20 11.0**	**+1.8**
	84nm,0.6s						
AS31	**Alice Springs**	**17.47**	**169**	P	**Pn**	**16 20 19.0**	**-0.4**
AS31				IAmb	IAmb	16 20 23.4	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**17.48**	**169**	P	**Pn**	**16 20 19.6**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=340,slow=9.2,SNR=188						
ASAR				S	**S**	**16 23 24.3**	**-8.3**
	comp=Z,1.0nm,0.3s,baz=351,slow=28,SNR=5.4						
ASAR	**Alice Springs**	**17.48**	**169**	P	**Pn**	**16 20 19.1**	**-0.3**
PSA00	**Pilbara Seismi**	**18.12**	**213**		**Pn**	**16 20 26.2**	**-0.8**
PSA00				IAmb	IAmb	16 20 26.9	
	comp=Z,28nm,0.6s						
CTA	**Charters Tower**	**20.59**	**133**	P	**P**	**16 20 53.4**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=310,slow=7.9,SNR=1.7						
KPJI	**Karang Pucung**	**21.23**	**266**	P	P	16 21 11.4	+12
CISI	**Cisompet, Garu**	**22.34**	**266**	P	**P**	**16 21 10.5**	**-0.1**
	comp=Z,136nm,1.0s						
CISI	**Cisompet, Garu**	**22.34**	**266**	P	**P**	**16 21 07.5**	**-3.1**
CBJI	**Citeko**	**23.30**	**269**	P	**P**	**16 21 18.9**	**-0.5**
	comp=Z,84nm,0.8s						
FORT	**Forrest**	**24.30**	**185**	P	**P**	**16 21 30.8**	**+2.4**
FORT				IAmb	IAmb	16 21 39.6	
	comp=Z,15nm,0.8s						
CGJI	**Cibinong**	**24.44**	**268**	P	**P**	**16 21 31.3**	**+1.5**
	comp=Z,40μmcomp=Z,61nm,1.1s						
STKA	**Stephens Creek**	**27.42**	**159**	P	**P**	**16 21 58.0**	**+1.5**
	comp=Z,1.4nm,0.4s,baz=346,slow=8.7,SNR=7.7						
STKA	**Stephens Creek**	**27.42**	**159**	P	**P**	**16 21 58.0**	**+1.5**
NWAO	**Narrogin (SRO)**	**29.02**	**203**	P	**P**	**16 22 11.4**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=27,slow=12,SNR=1.2						
NWAO	**Narrogin (SRO)**	**29.02**	**203**	P	**P**	**16 22 11.6**	**+0.9**
NWAO				IAmb	IAmb	16 22 29.4	
	comp=Z,7.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.60**	**309**	P	**P**	**16 23 40.8**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=138,slow=7.9,SNR=14						
CMAR				PcP	**PcP**	**16 25 46.6**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=169,slow=3.0,SNR=4.6						
NJ2	**Nanjing**	**39.80**	**345**	*e*P	**P**	**16 23 43.3**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MJAR	**Matsushiro Arr**	**43.40**	**9**	P	**P**	**16 24 11.1**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=196,slow=9.9,SNR=5.2						
MAJO	**Matsushiro**	**43.40**	**9**	P	**P**	**16 24 09.1**	**-3.4**
MAJO				IAmb	IAmb	16 24 23.5	
	comp=Z,6.3nm,1.1s						
LZH	**Lanzhou**	**49.05**	**331**	⇓P	**P**	**16 25 01.1**	**+4.2**
LZH				pP	pP	16 25 28.6	-1.2
LZH				PP	**PP**	**16 26 56.5**	**+4.5**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,5.6s						
HHC	**Hu-ho-hao-te**	**50.11**	**341**	*e*P	**P**	**16 25 06.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,310nm,5.6s						
BSWZ	**Blackbirch Sta**	**52.20**	**139**	P	**P**	**16 25 22.2**	**+2.0**
SNZO	**South Karori**	**52.55**	**138**	P	**P**	**16 25 25.1**	**+2.4**
GTA	**Gaotai**	**53.63**	**331**	*e*P	**P**	**16 25 31.3**	**+0.5**
GTA				pP	pP	16 25 57.8	-6.5
GTA				sP	pwP	16 26 10.9	+1.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**58.01**	**341**	P	**P**	**16 26 01.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=166,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**58.01**	**341**	IAmb	IAmb	16 26 06.2	
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**63.09**	**327**	*e*P	**P**	**16 26 37.4**	**+1.1**
PETK	**Petropavlovsk-**	**63.70**	**18**	P	**P**	**16 26 40.3**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=188,slow=5.0,SNR=2.1						
PETK	**Petropavlovsk-**	**63.70**	**18**	P	**P**	**16 26 39.0**	**-1.0**
NIL	**Nilore**	**67.08**	**311**	P	**P**	**16 27 02.1**	**-0.1**
NIL				IAmb	IAmb	16 27 02.6	
	comp=Z,5.9nm,0.8s						
MK31	**Makanchi Array**	**67.92**	**327**	P	**P**	**16 27 07.6**	**+0.3**
MK31				IAmb	IAmb	16 27 08.4	
	comp=Z,5.6nm,0.7s						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**16 27 07.7**	**+0.4**
	comp=Z,11nm,0.6s,baz=114,slow=8.6,SNR=98						
MAKZ	**Makanchi**	**68.10**	**326**	P	**P**	**16 27 08.7**	**+0.4**
MAKZ				IAmb	IAmb	16 27 09.3	
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	**69.74**	**320**	P	**P**	**16 27 19.7**	**+0.9**
	SNR=5.5						
UCH	**Uchtor**	**70.10**	**319**	P	**P**	**16 27 22.3**	**+1.0**
	SNR=6.9						
AML	**Almayashu**	**70.58**	**319**	P	**P**	**16 27 25.1**	**+0.9**
	SNR=9.3						
USP	**Ospenovka**	**70.61**	**320**	P	**P**	**16 27 24.5**	**+0.6**
	SNR=7.5						
EKS2	**Erkin-Say**	**70.78**	**319**	P	**P**	**16 27 26.2**	**+1.1**
	SNR=7.5						
ZAA0	**Zalesovo Array**	**71.22**	**334**	P	**P**	**16 27 26.4**	**-0.8**
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	**P**	**16 27 26.4**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=121,slow=4.5,SNR=9.0						
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	**P**	**16 27 26.1**	**-1.1**
GAR	**Garm**	**71.48**	**315**	P	**P**	**16 27 28.5**	**-0.8**
GAR				IAmb	IAmb	16 27 31.4	
	comp=Z,14nm,0.9s						
BTK	**Batken**	**71.58**	**316**	P	**P**	**16 27 30.6**	**+0.7**
BTK				IAmb	IAmb	16 27 32.0	
	comp=Z,5.0nm,1.1s						
CHGR	**Chuyangaron**	**72.17**	**314**	P	**P**	**16 27 33.6**	**+0.2**
KURK	**Kurchatov**	**72.20**	**328**	P	**P**	**16 27 32.4**	**-0.7**
VNDA	**Vanda**	**72.96**	**173**	P	**P**	**16 27 39.0**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=322,slow=7.7,SNR=13						
VNDA	**Vanda**	**72.96**	**173**	P	**P**	**16 27 39.0**	**+1.7**
KKAR	**Karatay Array**	**73.12**	**319**	P	**P**	**16 27 37.9**	**-0.9**
MAW	**Mawson**	**75.58**	**201**	P	**P**	**16 27 54.2**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=107,slow=12,SNR=8.7						
MAW	**Mawson**	**75.58**	**201**	P	**P**	**16 27 53.8**	**+1.3**
SOCY	**Socotra**	**78.08**	**284**	P	**P**	**16 28 07.1**	**-0.6**
SOCY				IAmb	IAmb	16 28 08.1	
	comp=Z,8.5nm,0.8s						
NRIK	**Noril'sk**	**81.09**	**346**	P	**P**	**16 28 23.4**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=131,slow=4.4,SNR=4.2						
SNAA	**Sanae**	**96.27**	**193**	P	**P**	**16 29 36.8**	**+1.1**
SNAA	**Sanae**	**96.27**	**193**	P	**P**	**16 29 36.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=228,slow=7.5,SNR=9.6						
SNAA	**Sanae**	**96.27**	**193**	P	**P**	**16 29 37.0**	**+1.3**
SNAA				IAmb	IAmb	16 29 38.1	
	comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**128.99**	**282**	PKP	**PKiKP**	**16 35 16.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=49,slow=2.3,SNR=3.9						
JTS	**Las Juntas de**	**144.93**	**81**	PKP	**PKPdf**	**16 35 46.3**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=32,slow=1.4,SNR=4.6						
PB06	**IPOC Station P**	**145.11**	**147**	PKPdf	**PKiKP**	**16 35 47.8**	**-1.6**
CPUP	**Villa Florida**	**146.59**	**168**	PKPbc	**PKPab**	**16 35 50.2**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=254,slow=4.6,SNR=3.3						
LPAZ	**La Paz**	**150.97**	**141**	PKPbc	**PKiKP**	**16 36 03.0**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=36,slow=1.9,SNR=7.5						
ROSC	**El Rosal**	**155.45**	**92**	PKPab	**PKPab**	**16 36 28.0**	**-0.3**
	comp=Z,16nm,0.4s,baz=316,slow=8.0,SNR=11						

IDC 10 16:17:00.0±19.0, 4°.52N×93°.95E, h0km, mb3.8/2, mb1 3.7/3, mb1mx3.4/52, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=407.5km s-min=113.7km az=141.0, Off west coast of northern Sumatera

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

UALR	University of	4.03	103		Pn	16 19 26.1 -1.2
MGMO	Mountain Grove	4.14	69		Pn	16 19 30.7 +1.8
R40A	Maddies Statio	4.62	56		Pn	16 19 35.7 +0.3
LCAR	Lake Charles	4.84	85		Pn	16 19 38.1 -0.4

BJI ***10*** *16:22:57.6±0.0,5˚.40S×154˚.73E, h165km, mB5.3/36, mb5.0/47*
IDC ***10*** *16:22:58.1±0.7,5˚.61S×154˚.41E, h152km±5km, mb4.5/27, mb1 4.5/31, mb1mx4.5/42, mbtmp4.9/31, MS3.4/2, Ms1 3.3/2, ms1mx2.7/35, Error ellipse: s-maj=10.0km s-min=7.7km az=77.0*
NEIC ***10*** *16:22:59.4±1.6,5˚.58S±0˚.07×154˚.35E±0˚.08, h164km±6km, mb4.8/63, Error ellipse: s-maj=12.5km s-min=10.0km az=115.0*
DJA ***10*** *16:22:59.7±1.0,6˚S±4˚×15˚5E±˚, h164km±6km, M5.0/30, mb5.0/30, mB5.4/9, MLv5.1/1, Mw(mB)4.8/9*

ISC 10 16:22:58.7±0.6,5.62S±0.05×154.42E±0.06, h159km±4km, h159km:pP-P, n157, σ1930/172, mb4.8/71, 1C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.66**	**302**			**Pn**	**16 23 42.6**	**+0.3**
RABL				Sn		**Sn**	**16 24 15.2**	**-0.7**
KRVT	**Keravat (AS076**	**2.72**	**299**	P		**Pn**	**16 23 43.4**	**+0.4**
	67nm,0.3s,baz=145,slow=1.4,SNR=140							
KRVT				S		**Sn**	**16 24 15.5**	**-1.7**
	300nm,0.3s,baz=176,slow=18,SNR=7.6							
KRVT				LR		LR	16 24 33.4	
	comp=Z,510nm,18.2s,baz=269,slow=35							
PMG	**Port Moresby**	**8.12**	**242**	P		**Pn**	**16 24 55.1**	**+1.3**
	7.9nm,0.3s,baz=9.4,slow=7.4,SNR=34							
PMG				S		**Sn**	**16 26 25.5**	**+1.1**
	0.5nm,0.3s,baz=147,slow=22,SNR=1.6							
PMG	**Port Moresby**	**8.12**	**242**	Pn		**Pn**	**16 24 55.5**	**+1.7**
JAY	**Jayapura**	**14.02**	**282**	P		**Pn**	**16 26 11.2**	**+0.5**
	0.3nm,0.3s,baz=56,slow=7.3,SNR=1.8							
SANVU	**Saraoutou**	**15.90**	**129**	P		**P**	**16 26 36.0**	**+1.6**
CTA	**Charters Tower**	**16.43**	**208**	P		**Pn**	**16 26 41.1**	**+0.8**
	1.7nm,0.3s,baz=25,slow=13,SNR=17							
CTAO	**Charters Tower**	**16.43**	**208**			**Pn**	**16 26 41.8**	**+1.5**
CTAO				IAmb		IAmb	16 26 43.7	
	comp=Z,60nm,0.9s							
EIDS	**Eidsvold**	**19.89**	**189**	P		**Pn**	**16 27 20.2**	**-1.1**
DZM	**Mont Dzumac**	**20.07**	**146**	P		**P**	**16 27 21.0**	**+1.1**
	comp=Z,94nm,0.5s,baz=268,slow=7.1,SNR=267							
DZM	**Mont Dzumac**	**20.07**	**146**	P		**P**	**16 27 21.1**	**+1.2**
GUMO	**Guam**	**21.31**	**334**	P		**P**	**16 27 33.5**	**+0.3**
	comp=Z,40nm,0.5s,baz=182,slow=14,SNR=3.6							
FAKI	**Fak Fak**	**22.27**	**276**	P		**P**	**16 27 43.0**	**-0.1**
FAKI				IAmb		IAmb	16 27 54.1	
	comp=Z,32nm,1.0s							
SIJI	**Sorong**	**23.59**	**281**	P		**P**	**16 27 55.1**	**-0.1**
	comp=Z,7.4nm,0.4s,baz=23,slow=20,SNR=8.6							
WR0	**Warramunga Arr**	**24.02**	**232**	P		**P**	**16 27 59.5**	**+0.4**
WR0				IAmb		IAmb	16 28 00.4	
	comp=Z,22nm,0.9s							
WB0	**Warramunga Arr**	**24.03**	**232**	P		**P**	**16 27 59.5**	**+0.3**
WB0				IAmb		IAmb	16 28 00.4	
	comp=Z,23nm,0.7s							
MTN	**Manton Dam**	**24.06**	**251**	P		**P**	**16 28 00.2**	**+0.7**
WRAB	**Tennant Creek**	**24.15**	**232**	P		**P**	**16 28 00.9**	**+0.5**
WRAB				IAmb		IAmb	16 28 01.5	
	comp=Z,23nm,0.7s							
WB2	**Warramunga Arr**	**24.16**	**232**	P		**P**	**16 28 00.7**	**+0.3**
WB2				IAmb		IAmb	16 28 01.6	
	comp=Z,23nm,0.6s							
WRA	**Warramunga Arr**	**24.16**	**232**	P		**P**	**16 28 00.8**	**+0.3**
	comp=Z,18nm,0.7s,baz=55,slow=9.3,SNR=32							
WRA				PcP		**PcP**	**16 31 36.7**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=52,slow=2.6,SNR=5.1							
WRA				S		**S**	**16 32 03.5**	**-3.6**
	comp=Z,1.9nm,0.9s,baz=49,slow=16,SNR=4.4							
WRA				ScP		**ScP**	**16 35 00.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=54,slow=2.6,SNR=2.4							
WRA	**Warramunga Arr**	**24.16**	**232**	P		**P**	**16 28 00.0**	**-0.4**
ARMA	**Armidale**	**24.81**	**186**	P		**P**	**16 28 06.4**	**+0.2**
AS31	**Alice Springs**	**26.68**	**226**	P		**P**	**16 28 22.7**	**-0.5**
ASAR	**Alice Springs**	**26.68**	**226**	P		**P**	**16 28 23.0**	**-0.2**
	comp=Z,5.1nm,0.4s,baz=57,slow=9.2,SNR=25							
ASAR				PcP		**PcP**	**16 31 41.4**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=50,slow=2.5,SNR=5.4							
ASAR				S		**S**	**16 32 43.1**	**-3.8**
	comp=Z,1.8nm,0.7s,baz=54,slow=13,SNR=4.9							
ASAR				ScP		**ScP**	**16 35 07.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=49,slow=2.6,SNR=3.5							
ASAR	**Alice Springs**	**26.68**	**226**	P		**P**	**16 28 22.2**	**-1.0**
ASAR						**PcP**	**16 31 42.0**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**26.84**	**27**	T		T	16 56 38.8	
	baz=207,slow=72,SNR=106							
H11S2	**WAKE ISLAND Hy**	**26.85**	**27**	T		T	16 56 37.7	
	baz=207,slow=72,SNR=50							
H11S1	**WAKE ISLAND Hy**	**26.86**	**27**	T		T	16 56 40.2	
	baz=207,slow=72,SNR=24							
KNRA	**Kununurra**	**27.09**	**246**	P		**P**	**16 28 26.2**	**-0.7**
KNRA				IAmb		IAmb	16 28 32.2	
	comp=Z,17nm,0.9s							
NLAI	**Namlea**	**27.34**	**274**	P		**P**	**16 28 30.0**	**+0.9**
	comp=Z,2μmcomp=Z,96nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**28.01**	**26**	T		T	16 58 36.1	
	baz=205							
H11N3	**WAKE ISLAND Hy**	**28.02**	**26**	T		T	16 58 29.6	
	baz=205,slow=74							
H11N2	**WAKE ISLAND Hy**	**28.03**	**26**	T		T	16 58 15.4	
	baz=205,slow=74							
STKA	**Stephens Creek**	**28.75**	**203**	P		**P**	**16 28 41.2**	**-0.2**
	comp=Z,11nm,0.7s,baz=36,slow=15,SNR=7.6							
STKA				LR		LR	16 39 45.2	
	comp=Z,80nm,19.5s,baz=209,slow=35							
STKA	**Stephens Creek**	**28.75**	**203**	P		**P**	**16 28 41.6**	**+0.2**
CAN	**Canberra**	**29.98**	**189**	P		**P**	**16 28 50.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**30.71**	**244**	P		**P**	**16 28 58.3**	**-0.7**
	comp=Z,13nm,0.6s,baz=65,slow=6.1,SNR=13							
FITZ				pP		**pP**	**16 29 32.8**	**+2.5**
	comp=Z,13nm,0.8s,baz=100,slow=6.3,SNR=4.3							
FITZ	**Fitzroy Crossi**	**30.71**	**244**	P		**P**	**16 28 58.5**	**-0.4**
FITZ				IAmb		IAmb	16 28 59.2	
	comp=Z,13nm,0.8s							
BATI	**Baumata**	**30.79**	**260**	P		**P**	**16 28 59.4**	**-0.3**
	comp=Z,13nm,0.7s,baz=60,slow=1.5,SNR=3.3							
KMSI	**Cibinong**	**31.01**	**280**	P		**P**	**16 29 04.7**	**+3.1**
	comp=Z,2μmcomp=Z,156nm,0.5s							
GTOI	**Gorontalo**	**31.97**	**280**	P		**P**	**16 29 11.9**	**+1.8**
	comp=Z,594nmcomp=Z,46nm,0.7s							
KAPI	**Kappang**	**34.52**	**269**	P		**P**	**16 29 32.0**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=76,slow=12,SNR=1.9							
MPSI	**Mapaga**	**34.97**	**279**	P		**P**	**16 29 35.8**	**-0.3**
	comp=Z,735nmcomp=Z,94nm,0.8s							
FORT	**Forrest**	**35.21**	**222**	P		**P**	**16 29 37.6**	**-0.3**
PSA00	**Pilbara Seismi**	**37.03**	**241**	P		**P**	**16 29 51.5**	**-2.0**
PSA00				IAmb		IAmb	16 29 58.6	
	comp=Z,18nm,0.8s							
SMKI	**Samarinda**	**37.50**	**277**	P		**P**	**16 30 00.4**	**+2.9**
URZ	**Urewera**	**38.48**	**151**	P		**P**	**16 30 05.9**	**+0.6**
	comp=Z,14nm,0.5s,baz=264,slow=2.3,SNR=17							
URZ	**Urewera**	**38.48**	**151**	P		**P**	**16 30 06.3**	**+1.0**
URZ				IAmb		IAmb	16 30 07.5	
	comp=Z,18nm,0.8s							
BKZ	**Black Stump Fm**	**38.90**	**152**	P		**P**	**16 30 09.5**	**+0.5**
BKZ				IAmb		IAmb	16 30 12.0	
	comp=Z,12nm,0.6s							
NNZ	**Nelson**	**39.29**	**157**	P		**P**	**16 30 12.6**	**+0.6**
NNZ				IAmb		IAmb	16 30 13.4	
	comp=Z,44nm,1.2s							
BBKI	**Banjar Baru**	**39.51**	**271**	P		**P**	**16 30 18.0**	**+3.7**
	comp=Z,16nm,1.0s							
THZ	**Tophouse**	**39.58**	**158**	P		**P**	**16 30 15.0**	**+0.4**
MTKI	**Muara Teweh, K**	**39.72**	**275**	P		**P**	**16 30 16.4**	**+0.3**
	comp=Z,3μmcomp=Z,38nm,0.8s							
FOZ	**Fox Glacier**	**40.12**	**163**	P		**P**	**16 30 19.7**	**+0.8**
FOZ				IAmb		IAmb	16 30 20.4	
	comp=Z,31nm,1.0s							
MSWZ	**Moikau Station**	**40.20**	**156**	P		**P**	**16 30 19.5**	**-0.2**
LTZ	**Lake Taylor**	**40.24**	**160**	P		**P**	**16 30 20.7**	**+0.7**
KHZ	**Kahutara**	**40.38**	**158**	P		**P**	**16 30 20.9**	**-0.1**
RPZ	**Rata Peaks**	**40.67**	**161**	P		**P**	**16 30 23.8**	**+0.3**
	comp=Z,61nm,0.7s,baz=305,slow=1.3,SNR=48							
RPZ	**Rata Peaks**	**40.67**	**161**	P		**P**	**16 30 23.8**	**+0.3**
LBZ	**Lake Benmore**	**41.01**	**163**	P		**P**	**16 30 26.5**	**+0.3**
LBZ				IAmb		IAmb	16 30 28.0	
	comp=Z,41nm,1.2s							
MQZ	**McQueen's Vall**	**41.19**	**160**	P		**P**	**16 30 28.3**	**+0.7**
MQZ				IAmb		IAmb	16 30 29.4	
	comp=Z,31nm,0.7s							
MLZ	**Mavora Lakes**	**41.35**	**165**	P		**P**	**16 30 29.6**	**+0.6**
PBKI	**Pangkalan Bun**	**42.73**	**272**	P		**P**	**16 30 43.2**	**+2.6**
	comp=Z,138nm,0.9s							
SBUM	**Sibu**	**42.90**	**280**	IAmb		IAmb	16 30 44.3	
	comp=Z,27nm,1.0s							
MORW	**Morawa**	**43.11**	**233**	P		**P**	**16 30 42.8**	**-0.7**
MORW				IAmb		IAmb	16 30 43.5	
	comp=Z,16nm,0.7s							
TPUB	**Ta-pu**	**43.76**	**312**	P		**P**	**16 30 48.9**	**+0.1**
SSLB	**Suanglung**	**43.82**	**313**	P		**P**	**16 30 50.0**	**+0.7**
SSLB				IAmb		IAmb	16 30 51.2	
	comp=Z,24nm,0.6s							
NWAO	**Narrogin (SRO)**	**43.99**	**227**	P		**P**	**16 30 49.4**	**-1.1**
	comp=Z,5.8nm,0.6s,baz=79,slow=9.6,SNR=2.4							
JWT	**Wachi**	**44.45**	**338**	P		**P**	**16 30 53.6**	**-0.4**
JNU	**Nakatsue**	**44.54**	**331**	P		**P**	**16 30 55.0**	**+0.2**
	comp=Z,46nm,0.8s,baz=151,slow=0.8,SNR=26							
JNU	**Nakatsue**	**44.54**	**331**	P		**P**	**16 30 55.1**	**+0.3**
MJAR	**Matsshiro Arr**	**44.61**	**341**	P		**P**	**16 30 54.3**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=174,slow=8.0,SNR=13							
MJAR				PcP		**PcP**	**16 32 35.2**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=155,slow=3.9,SNR=7.4							
MJAR	**Matsushiro Arr**	**44.61**	**341**	P		**P**	**16 30 54.0**	**-1.3**
MAT	**Matsushiro**	**44.61**	**341**	P		**P**	**16 30 54.1**	**-1.2**
KSM	**Kuching**	**44.61**	**278**	P		**P**	**16 30 56.2**	**+0.5**
JHS	**Saijyo**	**45.12**	**335**	P		**P**	**16 30 59.3**	**0.0**
CGJI	**Cibinong**	**48.44**	**266**	P		**P**	**16 31 24.9**	**-0.6**
	comp=Z,69nm,0.9s							
KSRS	**Korea Array**	**49.47**	**332**	P		**P**	**16 31 33.0**	**+0.2**
	comp=Z,17nm,0.9s,baz=148,slow=8.4,SNR=41							
KSAR	**Wonju Array Be**	**49.47**	**332**	P		**P**	**16 31 32.8**	**-0.1**
KS19	**Wonju Array Si**	**49.53**	**332**	P		**P**	**16 31 33.2**	**-0.2**
KS19				IAmb		IAmb	16 31 34.2	
	comp=Z,20nm,0.8s							
MDSI	**Maura Dua**	**50.05**	**269**	P		**P**	**16 31 37.4**	**-0.3**
	comp=Z,18nm,1.3s							
NJ2	**Nanjing**	**50.50**	**320**	*e*P		**P**	**16 31 42.1**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,13nm,0.6s							
WHN	**Wuhan**	**52.56**	**316**	P		**P**	**16 31 57.6**	**+1.5**
KRJI	**Kerinci**	**52.94**	**272**	P		**P**	**16 31 58.9**	**-0.4**
	comp=Z,120nm,0.8s							
USA0B	**Ussuriysk Arra**	**53.55**	**340**	P		**P**	**16 32 03.8**	**+0.7**
USA0B				IAmb		IAmb	16 32 04.7	
	comp=Z,16nm,1.0s							
USRK	**Ussuriysk Ar.**	**53.55**	**340**	P		**P**	**16 32 03.3**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=144,slow=4.3,SNR=22							
USRK	**Ussuriysk Ar.**	**53.55**	**340**	P		**P**	**16 32 03.9**	**+0.8**
IPM	**Ipoh**	**54.26**	**280**	P		**P**	**16 32 08.4**	**-0.5**
IPM				IAmb		IAmb	16 32 10.3	
	comp=Z,13nm,0.7s							
KULM	**Kulim**	**54.77**	**280**	P		**P**	**16 32 11.6**	**-0.9**
MNSI	**Mandailing Nat**	**55.13**	**275**	P		**P**	**16 32 15.6**	**+0.5**
	comp=Z,29nm,0.5s							
CN2	**Changchun**	**55.71**	**335**	*e*P		**P**	**16 32 18.8**	**+0.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
GYA	**Guiyang**	**56.17**	**307**	⇓P		**P**	**16 32 23.9**	**+1.4**
GYA				pP		pwP	16 33 05.6	+3.3
GYA				PP		**PP**	**16 34 35.3**	**+5.8**
GYA				S		**S**	**16 39 55.7**	**-4.0**
GYA				SS		**SS**	**16 43 47.7**	**-1.2**
GYA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
GYA				pmax		pmax		
	comp=Z,330nm,6.3s							
GYA				LR		LR		
	comp=Z,420nm,8.4s							
GYA				LR		LR		
	comp=Z,660nm,5.0s							
GYA				LR		LR		
	comp=Z,370nm,7.4s							
GSI	**Gunungsitoli**	**57.18**	**275**	P		**P**	**16 32 28.3**	**-1.3**
GSI				IAmb		IAmb	16 32 30.1	
	comp=Z,15nm,0.7s							
BJI	**Beijing**	**57.47**	**326**	P		**P**	**16 32 31.0**	**-0.1**
BJI				pmax		pmax		
	comp=Z,10.0nm,0.7s							
XAN	**Xi'an**	**58.33**	**316**	P		**P**	**16 32 37.7**	**+0.4**
XAN				pP		pP	16 33 14.0	+0.8
XAN				pmax		pmax		
	comp=Z,54nm,0.8s							
XAN				pmax		pmax		
	comp=Z,730nm,6.9s							
XAN	**Xi'an**	**58.33**	**316**	P		**P**	**16 32 37.9**	**+0.5**
PETK	**Petropavlovsk-**	**58.57**	**2**	P		**P**	**16 32 39.7**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=151,slow=6.7,SNR=88							
PETK				pP		**pP**	**16 33 13.2**	**-2.2**
	comp=Z,1.7nm,0.5s,baz=168,slow=7.3,SNR=2.0							
PETK	**Petropavlovsk-**	**58.57**	**2**	P		**P**	**16 32 39.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**59.68**	**295**	P		**P**	**16 32 48.0**	**+1.1**
	comp=Z,18nm,0.7s,baz=120,slow=5.3,SNR=139							
CMAR				pP		**pP**	**16 33 21.3**	**-2.0**
	comp=Z,4.6nm,0.9s,baz=116,slow=5.2,SNR=3.7							
CMAR	**Chiang Mai Arr**	**59.68**	**295**	P		**P**	**16 32 48.3**	**+1.4**
CHTO	**Chiang Mai**	**59.79**	**295**	P		**P**	**16 32 48.6**	**+0.9**
CHTO				IAmb		IAmb	16 32 49.2	
	comp=Z,10nm,0.8s							
HHC	**Hu-ho-hao-te**	**60.66**	**324**	*e*P		**P**	**16 32 55.0**	**+1.8**
HHC				pmax		pmax		
	comp=Z,12nm,1.0s							
HHC				pmax		pmax		
	comp=Z,110nm,5.8s							
LZH	**Lanzhou**	**62.94**	**315**	⇓P		**P**	**16 33 10.4**	**+1.7**
LZH				pP		pwP	16 33 50.1	0.0
LZH				sP		sP	16 34 08.2	+6.4
LZH				PP		**PP**	**16 35 32.7**	**+3.5**
LZH				pmax		pmax		
	comp=Z,25nm,1.3s							
LZH				pmax		pmax		
	comp=Z,96nm,7.6s							
GTA	**Gaotai**	**67.35**	**317**	⇑P		**P**	**16 33 38.2**	**+1.2**
GTA				pP		pwP	16 34 17.6	-0.3
GTA				sP		sP	16 34 36.5	+5.6
GTA				pmax		pmax		
	comp=Z,19nm,0.9s							
CASY	**Casey**	**67.72**	**198**	P		**P**	**16 33 37.0**	**-1.6**
CASY				IAmb		IAmb	16 33 39.4	
	comp=Z,15nm,1.0s							
SONM	**Songino Array**	**67.88**	**327**	P		**P**	**16 33 40.9**	**+0.8**
	comp=Z,7.4nm,0.6s,baz=140,slow=5.2,SNR=24							
SONM	**Songino Array**	**67.88**	**327**	P		**P**	**16 33 41.2**	**+1.1**
VNDA	**Vanda**	**71.96**	**178**	P		**P**	**16 34 04.8**	**+0.4**
	comp=Z,14nm,0.7s,baz=332,slow=6.6,SNR=91							
VNDA	**Vanda**	**71.96**	**178**	P		**P**	**16 34 05.1**	**+0.7**
VNDA				IAmb		IAmb	16 34 06.0	
	comp=Z,17nm,0.8s							
WMQ	**Urumqi**	**77.44**	**317**	*e*P		**P**	**16 34 37.5**	**+0.9**
HYB	**Hyderabad**	**78.28**	**289**	*i* P		**P**	**16 34 40.5**	**-1.3**
TRF	**Thorofare Moun**	**80.34**	**22**	P		**P**	**16 34 51.8**	**-0.3**
TRF				IAmb		IAmb	16 34 54.3	
	comp=Z,12nm,0.8s							
ZSN	**Zaisan**	**80.53**	**320**	*e*P		**P**	**16 34 52.0**	**-1.4**
IMAR	**Indian Mountai**	**80.62**	**19**	P		**P**	**16 34 54.2**	**+0.9**
RND	**Reindeer**	**80.86**	**22**	P		**P**	**16 34 55.0**	**+0.2**
RND				IAmb		IAmb	16 34 55.8	
	comp=Z,12nm,0.7s							
WRH	**Wood River Hil**	**81.72**	**22**	P		**P**	**16 34 59.0**	**-0.1**
CCB	**Clear Creek Bu**	**81.91**	**22**	P		**P**	**16 35 00.0**	**-0.2**
MK31	**Makanchi Array**	**82.00**	**319**	P		**P**	**16 35 01.3**	**+0.2**
MKAR	**Makanchi Array**	**82.00**	**319**	P		**P**	**16 35 01.2**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=94,slow=8.1,SNR=50							
MKAR				pP		**pP**	**16 35 38.0**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=99,slow=6.3,SNR=2.7							
MAKZ	**Makanchi**	**82.21**	**319**	P		**P**	**16 35 01.2**	**-1.0**
ILAR	**Eielson Array**	**82.31**	**22**	P		**P**	**16 35 01.6**	**-0.6**
	comp=Z,5.8nm,0.6s,baz=246,slow=5.7,SNR=31							
ILAR				pP		**pP**	**16 35 40.2**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=249,slow=5.2,SNR=2.1							
ZAA0	**Zalesovo Array**	**82.73**	**326**	P		**P**	**16 35 03.8**	**-0.8**
ZALV	**Zalesovo Beam**	**82.73**	**326**	P		**P**	**16 35 03.8**	**-0.9**
	comp=Z,4.1nm,0.4s,baz=114,slow=5.6,SNR=27							
ZALV	**Zalesovo Beam**	**82.73**	**326**	P		**P**	**16 35 04.2**	**-0.4**
UZB	**Uzynbulak**	**83.26**	**315**	*e*P		**P**	**16 35 06.1**	**-1.8**
BCAR	**Beaver Creek A**	**83.48**	**24**	P		**P**	**16 35 07.2**	**-1.2**
BCAR						**pP**	**16 35 47.8**	**-0.2**
KPKS	**Kokpek**	**83.58**	**315**	*e*P		**P**	**16 35 08.1**	**-1.3**
SATY	**Saty**	**83.68**	**314**	*e*P		**P**	**16 35 08.1**	**-1.9**
QSPA	**South Pole Qui**	**84.34**	**180**	P		**P**	**16 35 13.2**	**+0.3**
BMAR	**Burnt Mountain**	**84.46**	**20**	P		**P**	**16 35 14.3**	**+1.0**
EGAK	**Eagle**	**84.48**	**23**	P		**P**	**16 35 14.3**	**+1.0**
EGAK				IAmb		IAmb	16 35 15.1	
	comp=Z,12nm,0.9s							
MDOK	**Medeo**	**84.67**	**314**	*e*P		**P**	**16 35 14.3**	**-0.7**
TNSS	**Tian-Shan**	**84.72**	**314**	*e*P		**P**	**16 35 14.1**	**-1.5**
KUU	**Kurty**	**85.33**	**315**	*e*P		**P**	**16 35 16.9**	**-1.2**
KURK	**Kurchatov**	**85.41**	**322**	P		**P**	**16 35 17.9**	**-0.3**
MAW	**Mawson**	**85.44**	**203**	P		**P**	**16 35 18.2**	**+0.2**
	comp=Z,34nm,0.7s,baz=96,slow=6.3,SNR=86							
MAW	**Mawson**	**85.44**	**203**	P		**P**	**16 35 18.3**	**+0.2**
SGDS	**Sogindy**	**86.46**	**314**	*e*P		**P**	**16 35 22.3**	**-1.4**
NRIK	**Noril'sk**	**87.26**	**341**	P		**P**	**16 35 26.3**	**-0.6**
	comp=Z,12nm,0.6s,baz=117,slow=4.2,SNR=21							
YBH	**Yreka Blue Hor**	**88.40**	**48**	P		**P**	**16 35 34.4**	**+1.3**
	comp=Z,1.7nm,1.0s,baz=192,slow=5.5,SNR=2.5							
NVAR	**Mina Array Bea**	**91.32**	**52**	P		**P**	**16 35 47.7**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=256,slow=6.0,SNR=21							
SYO	**Syowa Base**	**93.43**	**199**	‖*e*P		**P**	**16 35 54.8**	**-0.9**
SYO	**Syowa Base**	**93.43**	**199**	‖ *i* PcP		**P**	**16 35 55.2**	**-0.5**
BW06	**Boulder Array**	**98.21**	**48**	P		**P**	**16 36 16.4**	**-1.9**
BW06				IAmb		IAmb	16 36 23.6	
	comp=Z,3.2nm,0.6s							
PD31	**Pinedale Array**	**98.21**	**48**	P		**P**	**16 36 16.5**	**-1.8**
PD31				IAmb		IAmb	16 36 23.6	
	comp=Z,2.8nm,0.7s							
SNAA	**Sanae**	**101.43**	**187**	Pdiff		**Pdif**	**16 36 31.2**	**-0.6**
BOSA	**Boshof**	**120.42**	**232**	PKP		**PKPdf**	**16 41 31.4**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=346,slow=3.0,SNR=3.5							
GERES	**GERESS Array B**	**125.59**	**329**	PKP		**PKPdf**	**16 41 40.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=196,slow=1.0,SNR=4.8							
LPAZ	**La Paz**	**132.61**	**118**	PKP		**PKPdf**	**16 41 56.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=299,slow=4.0,SNR=2.9							
MDT	**Midelt**	**146.62**	**327**	PKPbc		**PKPbc**	**16 42 22.1**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=38,slow=3.0,SNR=5.9							
BDFB	**Brasilia**	**149.34**	**134**	PKPbc		**PKPdf**	**16 42 27.8**	**+2.2**
	comp=Z,2.3nm,0.5s,baz=74,slow=2.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**152.09**	**287**	PKPbc		**PKPbc**	**16 42 35.0**	**-1.3**
	comp=Z,3.1nm,0.5s,baz=47,slow=2.3,SNR=11							
TORD				PKPab		**PKPab**	**16 42 46.0**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=70,slow=3.3,SNR=12							
KOWA	**Kowa**	**157.03**	**294**	PKPab		**PKPab**	**16 43 06.2**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=47,slow=4.5,SNR=5.1							
KIC	**Kosan Boka**	**159.26**	**273**	*e*PKP2		**PKPab**	**16 43 16.3**	**-1.0**
	comp=Z,33nm,1.1s							
DBIC	**Dimbokro**	**159.37**	**274**	PKPab		**PKPab**	**16 43 17.4**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=68,slow=4.3,SNR=5.8							
TIC	**Toumodi**	**159.53**	**274**	*e*PKP2		**PKPab**	**16 43 17.7**	**-0.8**
LIC	**Lamto**	**159.55**	**273**	*e*PKP2		**PKPab**	**16 43 17.5**	**-1.1**
	comp=Z,16nm,0.8s							

WEL 10 16:24:54.8, 40.4S±1.0×17.5E±˚, h7km±3km, M2.6/43, ML2.8/43, MLv2.6/43, Error ellipse: s-maj=0.0km s-min=0.0km az=68.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIW	**Kapiti Island**	**0.55**	**149**	P		Pb	16 25 06.7	-0.2
OHWZ	**Ohakea**	**0.62**	**73**	P		Pb	16 25 07.8	-0.3
DUWZ	**D'Urville Isla**	**0.62**	**228**	P		Pb	16 25 08.5	+0.4
OGWZ	**Otaki Gorge**	**0.65**	**132**	P		Pb	16 25 08.4	0.0
CAW	**Cannon Point**	**0.82**	**151**	P		Pb	16 25 11.7	+0.3
MRZ	**Mangatainoka R**	**0

MELI				*e*S		**Sb**	**16 32 27.9**	**-1.9**
LCRM	**LCR**	**1.31**	**196**	P		**Pg**	**16 32 15.9**	**-0.2**
LCRM				S		**Sg**	**16 32 33.7**	**+0.5**
EALB	**Alboran**	**1.50**	**48**	P		**Pn**	**16 32 15.6**	**-1.0**
	2.0nm,0.1s,SNR=11							
EALB				S		**Sn**	**16 32 33.6**	**-2.1**
	35nm,0.2s,SNR=7.9							
IFR	**Ifrane**	**1.54**	**203**	*e*P		**Pn**	**16 32 17.4**	**0.0**
IFR				*e*S		**Sn**	**16 32 35.7**	**-1.3**
JBK	**JBK**	**1.64**	**111**	S		**Sb**	**16 32 40.6**	**-0.3**
ELGU	**Los Guajares,**	**2.02**	**18**	P		**Pn**	**16 32 23.4**	**-0.4**
	3.8nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**16 32 48.0**	**-0.7**
	47nm,0.2s,SNR=7.9							
MD31	**MD31**	**2.09**	**188**	P		**Pn**	**16 32 25.3**	**+0.4**
MD31				S		**Sn**	**16 32 50.4**	**-0.1**
MDT	**Midelt**	**2.13**	**184**	P		**Pn**	**16 32 25.9**	**+0.4**
MDT				S		**Sn**	**16 32 50.5**	**-1.0**
EGOR	**Sierra Gorda,**	**2.17**	**6**	P		**Pn**	**16 32 26.7**	**+0.7**
	0.2nm,0.1s,SNR=7.9							
EGOR				S		**Sb**	**16 32 55.2**	**-1.0**
	13nm,0.3s,SNR=7.9							
ESPR	**Espera**	**2.25**	**329**	S		**Sb**	**16 32 58.6**	**+0.5**
	7.9nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.31**	**32**	P		**Pn**	**16 32 27.2**	**-0.7**
	2.0nm,0.2s,SNR=9.3							
EBER				S		**Sn**	**16 32 56.5**	**+0.5**
	23nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**2.39**	**19**	P		**Pn**	**16 32 30.4**	**+1.4**
	0.9nm,0.1s,SNR=9.7							
EQUE				S		**Sn**	**16 32 57.9**	**+0.2**
	6.3nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**2.70**	**41**	S		**Sn**	**16 33 03.8**	**-1.6**
	24nm,0.4s,SNR=7.9							
TDRA	**Tendrara**	**2.75**	**133**	P		**Pn**	**16 32 33.0**	**-1.0**
TDRA				Lg		Lg	16 33 13.9	
HORN	**Hornachuelos**	**2.97**	**347**	P		**Pn**	**16 32 38.8**	**+1.9**
HORN				S		**Sn**	**16 33 12.2**	**+0.1**
EQES	**Quesada**	**3.05**	**20**	P		**Pn**	**16 32 40.4**	**+2.3**
	0.9nm,0.1s,SNR=4.7							
EQES				S		**Sn**	**16 33 16.6**	**+2.5**
	7.9nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.22**	**358**	P		**Pn**	**16 32 42.4**	**+2.1**
	0.5nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**16 33 20.1**	**+2.0**
	2.6nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**3.23**	**346**	P		**Pn**	**16 32 42.1**	**+1.7**
	0.2nm,0.1s,SNR=4.0							
ECAB				S		**Sn**	**16 33 17.5**	**-0.9**
	1.4nm,0.1s,SNR=7.9							
GOLM	**Goulmima**	**3.27**	**188**	P		**Pn**	**16 32 43.7**	**+2.7**
GOLM				Lg		Lg	16 33 33.5	
EMIN	**Mina Concepcio**	**3.35**	**328**	P		**Pn**	**16 32 43.3**	**+1.2**
	0.4nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**16 33 21.2**	**-0.3**
	2.4nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**3.51**	**25**	P		**Pn**	**16 32 46.6**	**+2.2**
	0.4nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**16 33 26.0**	**+0.6**
	9.3nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**3.51**	**25**	P		**Pn**	**16 32 47.0**	**+2.6**
SESP				S		**Sn**	**16 33 28.7**	**+3.2**
EGRO	**El Granado**	**3.58**	**317**	P		**Pn**	**16 32 46.0**	**+0.8**
	0.4nm,0.1s,SNR=10.0							
EGRO				S		**Sn**	**16 33 27.8**	**+0.8**
	4.5nm,0.3s,SNR=7.9							
PVAQ	**Vaqueiros**	**3.63**	**314**	P		**Pn**	**16 32 47.2**	**+1.3**
PVAQ				S		**Sn**	**16 33 28.4**	**+0.2**
	7.0nm,0.4s							
PVAQ	**Vaqueiros**	**3.63**	**314**	P		**Pn**	**16 32 47.0**	**+1.1**
PVAQ				S		**Sn**	**16 33 28.3**	**+0.1**
PVAQ	**Vaqueiros**	**3.63**	**314**	*e*Pn		**Pn**	**16 32 47.2**	**+1.3**
PVAQ				*e*Sn		**Sn**	**16 33 28.4**	**+0.2**
PVAQ				A		A	16 33 33.5	
	7.0nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.66**	**310**	P		**Pn**	**16 32 47.8**	**+1.5**
PBDV				S		**Sn**	**16 33 29.6**	**+0.7**
	7.5nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.66**	**310**	*e*Pn		**Pn**	**16 32 47.8**	**+1.5**
PBDV				*e*Sn		**Sn**	**16 33 29.6**	**+0.7**
PBDV				A		A	16 33 36.2	
	7.5nm,0.5s							
EMUR	**La Murta**	**3.86**	**41**	S		**Sn**	**16 33 32.3**	**-1.7**
	10.0nm,0.5s,SNR=4.0							
PCVE	**Castro Verde**	**3.97**	**314**	P		**Pn**	**16 32 52.7**	**+2.1**
PCVE				S		**Sn**	**16 33 38.0**	**+1.4**
	4.1nm,0.6s							
PCVE	**Castro Verde**	**3.97**	**314**	*e*Pn		**Pn**	**16 32 52.7**	**+2.1**
PCVE				*e*Sn		**Sn**	**16 33 38.0**	**+1.4**
PCVE				A		A	16 33 44.3	
	4.1nm,0.6s							
MORF	**Marmelete**	**4.16**	**306**	P		**Pn**	**16 32 55.9**	**+2.7**
MORF				S		**Sn**	**16 33 40.5**	**-0.9**
	3.4nm,0.3s							
MORF	**Marmelete**	**4.16**	**306**	*e*Pn		**Pn**	**16 32 55.9**	**+2.7**
MORF				*e*Sn		**Sn**	**16 33 40.5**	**-0.9**
MORF				A		A	16 33 48.8	
	3.4nm,0.3s							
PFVI	**Vila Bisbo**	**4.19**	**303**	P		**Pn**	**16 32 54.1**	**+0.5**
PFVI	**Vila Bisbo**	**4.19**	**303**	*e*Pn		**Pn**	**16 32 55.7**	**+2.1**
PFVI				*e*Sn		**Sn**	**16 33 41.7**	**-0.3**
PTEO	**Sao Teotonio**	**4.34**	**308**	P		**Pn**	**16 32 58.1**	**+2.4**
PTEO				S		**Sn**	**16 33 46.6**	**+0.8**
	3.0nm,0.9s							
PTEO	**Sao Teotonio**	**4.34**	**308**	*e*Pn		**Pn**	**16 32 58.1**	**+2.4**
PTEO				*e*Sn		**Sn**	**16 33 46.6**	**+0.8**
PTEO				A		A	16 33 54.8	
	6.0nm,0.9s							
OUZM	**OUZ**	**4.48**	**207**	P		**Pn**	**16 32 59.0**	**+1.2**
PNCL	**Nicolau / Gran**	**4.58**	**315**	P		**Pn**	**16 33 00.4**	**+1.5**
PNCL				S		**Sn**	**16 33 51.5**	**-0.1**
	3.3nm,0.5s							
PNCL	**Nicolau / Gran**	**4.58**	**315**	*e*Pn		**Pn**	**16 33 00.4**	**+1.5**
PNCL				*e*Sn		**Sn**	**16 33 51.5**	**-0.1**
PNCL				A		A	16 33 53.5	
	3.3nm,0.5s							
EVO	**Evora**	**4.60**	**322**	P		**Pn**	**16 33 01.8**	**+2.5**
EVO				S		**Sn**	**16 33 51.7**	**-0.4**
EVO	**Evora**	**4.60**	**322**	*e*P		**Pn**	**16 33 01.7**	**+2.5**
EVO				*e*S		**Sn**	**16 33 50.5**	**-1.7**
EVO	**Evora**	**4.60**	**322**	*e*Pn		**Pn**	**16 33 01.8**	**+2.5**
EVO				*e*Sn		**Sn**	**16 33 51.7**	**-0.4**
PMRV	**Marv??o**	**5.07**	**333**	P		**Pn**	**16 33 06.7**	**+1.0**
PMRV				S		**Sn**	**16 34 01.3**	**-2.4**
	2.0nm,0.7s							
PMRV	**Marv??o**	**5.07**	**333**	*e*Pn		**Pn**	**16 33 06.7**	**+1.0**
PMRV				*e*Sn		**Sn**	**16 34 01.3**	**-2.4**
PMRV				A		A	16 34 26.5	
	2.0nm,0.7s							
PMTG	**Montargil**	**5.12**	**325**	P		**Pn**	**16 33 07.0**	**+0.6**
PMTG				S		**Sn**	**16 34 04.1**	**-0.9**
	1.9nm,0.7s							
PMTG	**Montargil**	**5.12**	**325**	*e*Pn		**Pn**	**16 33 07.0**	**+0.6**
PMTG				*e*Sn		**Sn**	**16 34 04.1**	**-0.9**
PMTG				A		A	16 34 13.5	
	1.9nm,0.7s							
PCBR	**Castelo Branco**	**5.46**	**334**	P		**Pn**	**16 33 12.9**	**+1.9**
PCBR	**Castelo Branco**	**5.46**	**334**	*e*Pn		**Pn**	**16 33 12.9**	**+1.9**
MVO	**Moncorvo**	**6.54**	**342**	*e*Pn		**Pn**	**16 33 28.8**	**+2.8**
PBRG	**Braganca**	**7.09**	**346**	P		**Pn**	**16 33 36.3**	**+2.8**
PBRG	**Braganca**	**7.09**	**346**	*e*Pn		**Pn**	**16 33 36.3**	**+2.8**

IDC ***10*** *16:31:54.3±3.0,22.°98N×11.°56W,h0km,mb3.7/3, mb1 3.8/6,mb1mx3.5/44,mbtmp3.7/6,ML3.5/3,Error ellipse: s-maj=94.9km s-min=27.5km az=80.0*

ISC 10 16:31:55.4±1.8,22.°9N±0.°2×11.°6W±0.°3,h10km,n8, σ1§04/10,mb3.8/3,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOWA	**Kowa**	**11.01**	**138**	Pn	**Pn**	**16 34 33.8**	**+0.7**
	0.5nm,0.3s,baz=320,slow=12,SNR=7.7						
KOWA				Sn	**Sn**	**16 36 35.1**	**-1.2**
	0.3nm,0.3s,baz=144,slow=5.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**15.90**	**125**	Pn	**Pn**	**16 35 40.7**	**+1.2**
	0.1nm,0.3s,baz=314,slow=14,SNR=3.3						
TORD				Sn	**Sn**	**16 38 35.8**	**-0.1**
	0.1nm,0.3s,baz=313,slow=27,SNR=2.0						
DBIC	**Dimbokro**	**17.40**	**157**	P	**Pn**	**16 35 57.9**	**-0.5**
	0.2nm,0.3s,baz=344,slow=16,SNR=2.0						
GERES	**GERESS Array B**	**32.69**	**31**	P	**P**	**16 38 26.8**	**-1.2**
	0.2nm,0.3s,baz=210,slow=9.6,SNR=2.8						
FINES	**FINESS Array B**	**46.33**	**24**	P	**P**	**16 40 20.9**	**-0.4**
	1.4nm,0.9s,baz=250,slow=7.3,SNR=4.8						
MKAR	**Makanchi Array**	**76.18**	**45**	P	**P**	**16 43 45.4**	**+1.4**
	0.4nm,0.5s,baz=275,slow=4.7,SNR=4.0						
WRA	**Warramunga Arr**	**148.15**	**91**	PKPbc	**PKPbc**	**16 51 42.5**	**+0.1**
	0.3nm,0.6s,baz=296,slow=2.2,SNR=4.6						
ASAR	**Alice Springs**	**148.31**	**98**	PKPbc	**PKPbc**	**16 51 42.6**	**-0.1**
	0.6nm,0.9s,baz=288,slow=1.8,SNR=8.0						

IDC ***10*** *16:37:06.2±4.9,21.°60N×143.°45E,h267km±49km, mb3.2/11,mb1 3.3/12,mb1mx3.1/45,mbtmp3.8/12,Error ellipse: s-maj=30.7km s-min=11.3km az=84.0*

ISC 10 16:37:04.6±0.7,21.°6N±0.°1×143.°5E±0.°2,h250km,n12, σ0§58/14,mb3.5/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.59**	**344**	P	**P**	**16 40 30.7**	**-0.1**
	0.1nm,0.3s,baz=171,slow=10,SNR=5.8						
KSRS	**Korea Array**	**20.75**	**323**	P	**P**	**16 41 27.1**	**+0.6**
	2.2nm,0.7s,baz=146,slow=8.8,SNR=8.2						
CTA	**Charters Tower**	**41.51**	**176**	P	**P**	**16 44 28.2**	**+0.4**
	1.4nm,0.6s,baz=6.3,slow=9.2						
WRA	**Warramunga Arr**	**42.23**	**193**	P	**P**	**16 44 33.8**	**+0.2**
	0.2nm,0.3s,baz=12,slow=8.7,SNR=21						
WRA				PcP	**PcP**	**16 46 22.7**	**+0.1**
	0.1nm,0.2s,baz=1.0,slow=3.0,SNR=1.6						
ASAR	**Alice Springs**	**45.93**	**192**	P	**P**	**16 45 02.3**	**-0.5**
	0.2nm,0.5s,baz=12,slow=6.6,SNR=4.8						
ASAR				PcP	**PcP**	**16 46 34.3**	**-1.0**
	0.2nm,0.6s,baz=28,slow=2.5,SNR=2.1						
STKA	**Stephens Creek**	**53.19**	**182**	P	**P**	**16 45 57.3**	**0.0**
	2.4nm,0.9s,baz=330,slow=23,SNR=3.6						
ZALV	**Zalesovo Beam**	**54.45**	**322**	P	**P**	**16 46 06.2**	**0.0**
	0.9nm,0.4s,baz=98,slow=6.8,SNR=5.0						
MKAR	**Makanchi Array**	**54.95**	**313**	P	**P**	**16 46 10.4**	**+0.4**
	0.3nm,0.5s,baz=88,slow=8.8,SNR=2.1						
ILAR	**Eielson Array**	**62.02**	**27**	P	**P**	**16 46 57.9**	**-0.4**
	1.0nm,0.7s,baz=262,slow=5.3,SNR=8.9						
ARCES	**ARCESS Array B**	**79.10**	**342**	P	**P**	**16 48 41.1**	**+0.1**
	2.9nm,1.0s,baz=64,slow=8.2,SNR=6.7						
NVAR	**Mina Array Bea**	**83.02**	**52**	P	**P**	**16 49 03.2**	**+0.7**
	0.5nm,0.6s,baz=289,slow=5.6,SNR=2.5						
FINES	**FINESS Array B**	**83.39**	**335**	P	**P**	**16 49 02.6**	**-1.0**
	0.9nm,0.4s,baz=75,slow=4.4,SNR=13						

IDC ***10*** *16:39:30.4±1.4,64.°56N×17.°73W,h0km,mb3.3/3, mb1 3.6/5,mb1mx3.3/39,mbtmp3.3/5,ML3.2/2,Error ellipse: s-maj=42.8km s-min=12.6km az=16.0*

ISC 10 16:39:31.0±1.1,64.°6N±0.°2×17.°8W±0.°1,h10km,n6,σ1§15/6, mb3.3/3,Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**1.52**	**276**	Pg	**Pn**	**16 39 57.1**	**-1.0**
	10nm,0.3s,baz=101,slow=10,SNR=27						
BORG				Lg	Lg	16 40 21.2	
	7.1nm,0.3s,baz=22,slow=23,SNR=12						
EKA	**Eskdalemuir Ar**	**11.83**	**135**	Pn	**Pn**	**16 42 19.1**	**-0.3**
	baz=322,slow=13,SNR=6.3						
FINES	**FINESS Array B**	**19.84**	**79**	P	**Pn**	**16 44 02.7**	**-0.4**
	0.1nm,0.3s,baz=301,slow=9.2,SNR=1.1						
GERES	**GERESS Array B**	**23.05**	**118**	P	**P**	**16 44 35.8**	**-0.5**
	0.2nm,0.4s,baz=324,slow=9.8,SNR=1.9						
ESDC	**Sonseca Array**	**26.28**	**155**	P	**P**	**16 45 07.3**	**+1.0**
	0.6nm,0.9s,baz=356,slow=9.0,SNR=2.6						
PDAR	**Pinedale Array**	**53.07**	**293**	P	**P**	**16 48 49.4**	**+1.2**
	0.7nm,0.8s,baz=63,slow=8.4,SNR=4.9						

WEL 10 16:49:40.8,44.°S±1.°×17.°2E±.°,h9km±2km,M2.3/10,ML2.4/9, MLv2.3/10,Error ellipse: s-maj=0.0km s-min=0.0km az=129.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.20**	**122**	P	Pg	16 49 46.3	+1.4
OXZ	**Oxford**	**0.39**	**314**	P	Pb	16 49 49.4	-0.5
AKCZ	**Akaroa Harbour**	**0.44**	**128**	P	Pb	16 49 51.0	+0.2
AMCZ	**Amberley**	**0.46**	**21**	P	Pb	16 49 51.2	+0.2
OKCZ	**Okains Bay**	**0.48**	**105**	P	Pb	16 49 51.6	+0.3
WACZ	**Wakanui South**	**0.54**	**231**	P	Pb	16 49 53.5	+1.1
MHCZ	**Mount Hutt**	**0.63**	**276**	P	Pb	16 49 54.5	+0.6
GVZ	**Greta Valley S**	**0.77**	**35**	P	Pb	16 49 57.0	+0.6
LTZ	**Lake Taylor**	**0.83**	**352**	P	Pb	16 49 57.8	+0.5
ARCZ	**Arundel**	**0.97**	**249**	P	Pn	16 50 00.5	0.0
RPZ	**Rata Peaks**	**1.00**	**263**	P	Pn	16 50 01.1	+0.1
INZ	**Inchbonnie**	**1.13**	**320**	P	Pn	16 50 03.3	+0.5
KHZ	**Kahutara**	**1.44**	**35**	P	Pn	16 50 06.3	-0.7
THZ	**Tophouse**	**1.87**	**11**	P	Pn	16 50 13.2	+0.2
ODZ	**Otahua Downs**	**1.93**	**221**	P	Pb	16 50 15.6	-0.4

IDC ***10*** *16:50:49.7±4.2,36.°85N×71.°91E,h100km±36km,mb3.3/5, mb1 3.4/10,mb1mx3.1/51,mbtmp3.7/10,MS3.1/1, Ms1 3.1/1,ms1mx2.3/32,Error ellipse: s-maj=33.9km s-min=21.5km az=167.0*

NNC ***10*** *16:50:57.9±8.4,37.°65N×71.°87E,h0km,mb4.0,mpv3.9, Error ellipse: s-maj=96.5km s-min=50.9km az=46.0*

ISC 10 16:50:55.1±1.2,37.°1N±0.°1×71.°74E±0.°9,h150km,n23, σ1§83/24,mb3.4/5,1C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.21**	**16**	P	**Pn**	**16 52 13.0**	**+1.4**
	SNR=354						
UCH	**Uchtor**	**5.51**	**22**	P	**Pn**	**16 52 17.2**	**+1.6**
	SNR=120						
EKS2	**Erkin-Say**	**5.73**	**15**	P	**Pn**	**16 52 20.0**	**+1.8**
	SNR=74						
AAK	**Ala-Archa**	**5.88**	**20**	P	**Pn**	**16 52 22.2**	**+1.8**
	SNR=45						
KK31	**Karatay Array**	**6.03**	**351**	⇓Pn	**Pn**	**16 52 23.7**	**+1.6**
	2.9nm,0.3s,baz=170,slow=12,SNR=63						
KK31				Sn	**Sn**	**16 53 26.9**	**-3.4**
	25nm,0.5s,baz=169,slow=15,SNR=32						
KBK	**Karagaybulak**	**6.04**	**23**	P	**Pn**	**16 52 24.1**	**+1.7**
	SNR=14						
ULHL	**Ulahol**	**6.17**	**33**	P	**Pn**	**16 52 24.9**	**+0.8**
	SNR=22						
CHMS	**Chumysh**	**6.29**	**21**	P	**Pn**	**16 52 27.3**	**+1.7**
	SNR=14						
USP	**Ospenovka**	**6.47**	**18**	P	**Pn**	**16 52 30.1**	**+2.1**
	SNR=14						
TKM2	**Tokmak 2**	**6.49**	**26**	P	**Pn**	**16 52 30.0**	**+1.6**
	SNR=5.9						
PDGK	**Podgornoye**	**8.56**	**41**	⇑Pn	**Pn**	**16 52 56.2**	**+0.2**
	4.8nm,0.6s						
GEYT	**Alibeck**	**10.85**	**278**	P	**Pn**	**16 53 25.9**	**-0.3**
	0.5nm,0.3s,baz=115,slow=9.5,SNR=3.1						
GEYT				S	**Sn**	**16 55 23.5**	**-2.8**
	0.6nm,0.3s,baz=116,slow=16,SNR=2.6						
MKAR	**Makanchi Array**	**12.43**	**36**	P	**Pn**	**16 53 45.4**	**-1.4**
	0.1nm,0.3s,baz=224,slow=15,SNR=6.4						
KURBB	**Kurchatov Arra**	**14.33**	**18**	P	**Pn**	**16 54 09.1**	**-1.8**
	0.1nm,0.3s,baz=203,slow=11,SNR=1.7						
AB31	**Akbulak array**	**14.83**	**328**	⇓Pn	**P**	**16 54 19.8**	**+0.6**
	0.3nm,0.3s,baz=130,slow=14,SNR=15						
BVAR	**Borovoye Array**	**15.91**	**357**	P	**Pn**	**16 54 29.5**	**-1.0**
	0.1nm,0.3s,baz=175,slow=20,SNR=2.3						
ZALV	**Zalesovo Beam**	**19.09**	**24**	P	**Pn**	**16 55 07.2**	**-1.1**
	0.7nm,0.3s,baz=223,slow=9.3,SNR=11						
FINES	**FINESS Array B**	**37.29**	**325**	P	**P**	**16 57 53.0**	**+0.8**
	1.1nm,0.8s,baz=119,slow=11,SNR=3.5						
HFS	**Hagfors**	**42.94**	**321**	P	**P**	**16 58 41.1**	**+2.5**
	2.0nm,0.7s,baz=79,slow=9.1,SNR=5.2						
KSRS	**Korea Array**	**44.11**	**72**	LR	LR	17 18 37.8	
	comp=Z,20nm,19.1s,baz=225,slow=38						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**16 58 51.6**	**+2.6**
	0.5nm,0.5s,baz=95,slow=7.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**66.33**	**269**	P	**P**	**17 01 28.6**	**+0.8**
	0.5nm,0.9s,baz=49,slow=5.3,SNR=2.2						
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**17 02 56.0**	**-1.6**
	0.2nm,0.8s,baz=325,slow=4.6,SNR=1.3						

IDC ***10*** *17:12:23.8±0.4,32.°65S×111.°89W,h0km,mb4.7/19, mb1 4.8/20,mb1mx4.7/29,mbtmp4.7/20,ML4.3/1,MS4.8/21, Ms1 4.8/21,ms1mx4.7/26,Error ellipse: s-maj=15.9km s-min=13.4km az=127.0*

MOS ***10*** *17:12:24.4±1.4,32.°63S×111.°65W,h10km,mb5.3/8,Error ellipse: s-maj=14.8km s-min=9.5km az=68.5*

NEIC ***10*** *17:12:25.4±2.0,32.°79S±0.°09×111.°6W±0.°1,h10km±1km, mb5.2/336,Error ellipse: s-maj=18.4km s-min=13.3km az=122.0*

BJI ***10*** *17:12:26.0±0.0,32.°80S×111.°50W,h10km,mB5.6/6, Ms5.4/5,Ms7 5.3/6*

GCMT ***10*** *17:12:28.4±0.1,32.°74S±0.°01×111.°61W±0.°01,h12km, MW5.2/131,Moment Tenso Solution. s93,c133; s131,c221; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.03±.01; Mθθ-0.78±.01; Mφφ0.75±.01; Mrθ-0.27±.03; Mrφ0.18±.01; Mθφ-0.10±.03; Best double couple: M0.84000×10^17 NP1:φs143.00000°,δ72.00000°, λ-176.00000°. NP2:φs51.00000°,δ86.00000°, λ-18.00000°. Principal axes: T 0.8010, Plg10.0000°, Azm98.0000°; N 0.0770, Plg71.0000°, Azm219.0000°; P -0.8780, Plg16.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:12:25.3±0.3,32.°70S±0.°06×111.°74W±0.°06,h10km, n800,σ1§02/692,mb5.2/180,MS4.9/29,31C-9D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**5.93**	**21**	Pn	**Pn**	**17 13 52.0**	**-1.2**
	8.7nm,0.3s,baz=196,slow=4.9,SNR=4.5						
RPN				Sn	**Sn**	**17 15 02.9**	**+1.6**
	2.2nm,0.3s,baz=356,slow=13,SNR=1.0						
RPN	**Rapa Nui**	**5.93**	**21**	Pn	**Pn**	**17 13 50.3**	**-3.0**
RKT	**Rikitea**	**22.60**	**289**	*e*LR	LR	17 22 44.7	
	comp=Z,4μm,27.0s						
H03S2	**Juan Fernandez**	**27.40**	**101**	T	T	17 46 46.8	
	baz=262,slow=75,SNR=1008						
H03S3	**Juan Fernandez**	**27.41**	**101**	T	T	17 46 43.4	
	baz=262,slow=75,SNR=1051						
H03S1	**Juan Fernandez**	**27.41**	**101**	T	T	17 46 45.0	
	baz=262,slow=75,SNR=635						
H03N2	**Juan Fernandez**	**27.44**	**101**	T	T	17 46 41.5	
	baz=267,slow=73,SNR=3207						
H03N3	**Juan Fernandez**	**27.45**	**101**	T	T	17 46 43.5	
	baz=267,slow=73,SNR=3309						
H03N1	**Juan Fernandez**	**27.46**	**101**	T	T	17 46 42.3	
	baz=267,slow=73,SNR=2836						
BI02	**San Fabin de**	**33.34**	**108**	P	**P**	**17 19 03.0**	**-0.6**
PLCA	**Paso Flores**	**33.73**	**116**	P	**P**	**17 19 07.1**	**+0.1**
	12nm,1.0s,baz=269,slow=9.4,SNR=12						
PLCA				LR	LR	17 29 17.7	
	comp=Z,2μm,20.8s,baz=276,slow=30						
PLCA	**Paso Flores**	**33.73**	**116**	P	**P**	**17 19 05.6**	**-1.4**
PLCA				pmax	pmax		
	comp=Z,42nm,1.5s						
PLCA	**Paso Flores**	**33.73**	**116**	P	**P**	**17 19 05.6**	**-1.4**
PLCA				IAmb	IAmb	17 19 12.7	
	comp=Z,42nm,1.5s						
PLCA	**Paso Flores**	**33.73**	**116**	*e*P	**P**	**17 19 08.8**	**+1.9**
BO02	**Sierra Bellavi**	**33.96**	**105**	P	**P**	**17 19 09.1**	**0.0**
MT05	**Renca**	**34.22**	**103**	P	**P**	**17 19 11.6**	**+0.3**
TBI	**Tubuai**	**34.43**	**276**	*e*LR	LR	17 28 16.3	
	comp=Z,2μm,28.2s,baz=112						
TBI	**Tubuai**	**34.43**	**276**	*e*T	T	17 55 28.3	
	comp=Z,26nm,0.3s						
VA03	**San Esteban**	**34.49**	**102**	P	**P**	**17 19 12.9**	**-0.8**
VA03				IAmb	IAmb	17 19 18.8	
	comp=Z,58nm,1.2s						
GO04	**Tololo Observa**	**34.87**	**97**	P	**P**	**17 19 17.7**	**+0.6**
TAOE	**Nuku Hiva Isla**	**35.40**	**306**	*e*LR	LR	17 28 46.7	
	comp=Z,2μm,25.6s						
CO01	**Juntas del Tor**	**35.51**	**97**	P	**P**	**17 19 23.0**	**+0.3**
CO01				IAmb	IAmb	17 19 26.8	
	comp=Z,41nm,1.4s						
AC05	**El Transito**	**35.67**	**95**	P	**P**	**17 19 24.6**	**+0.5**
MEH	**Mehetia**	**35.81**	**285**	*e*T	T	17 57 10.7	
	comp=Z,86nm,0.3s						
GO03	**Copiap**	**36.08**	**93**	P	**P**	**17 19 27.4**	**0.0**
GO03				IAmb	IAmb	17 19 31.6	
	comp=Z,75nm,1.9s						
TVO	**Taravao**	**36.83**	**285**	*e*T	T	17 58 26.8	
	comp=Z,3.7nm,0.3s						
TIAR	**Tiarei**	**37.02**	**285**	*e*T	T	17 58 41.1	
	comp=Z,6.2nm,0.2s						
PPT2	**Papeete2**	**37.19**	**285**	*e*S	**S**	**17 25 21.8**	**-2.1**
	comp=Z,268nm,26.2s						
PPT2				*e*LR	LR	17 29 28.2	
	comp=Z,3μm,24.2s,baz=120						
PPT	**Papeete**	**37.20**	**285**	LR	LR	17 30 39.2	
	comp=Z,2μm,18.9s,baz=90,slow=30						
GO02	**Mina Guanaco**	**37.45**	**90**	P	**P**	**17 19 38.4**	**-1.0**
**NNA

MACC Macarena, Meta 49.84 53 *e*P **P 17 21 19.3 +0.5**
ORTC Ortega, Tolima 50.22 51 *e*P **P 17 21 23.3 +1.5**
PRAC Prado 50.30 51 *e*P **P 17 21 24.2 +1.8**
PTLB Pontes e Lacer 50.49 83 *e*P **P 17 21 23.4 -0.4**
ANIL Santa Ana 50.55 50 *e*P **P 17 21 25.2 +0.7**
SAML Samuel 50.62 73 P **P 17 21 23.4 -1.4**
SAML **PcP 17 22 42.6 +0.3**
SAML Samuel 50.62 73 *e*P **P 17 21 24.5 -0.2**
TOLC Tolima 50.68 50 *e*P **P 17 21 25.4 -0.2**
VILB Vilhena 50.87 80 *e*P **P 17 21 26.9 +0.1**
RREF El Recreo 50.90 50 *e*P **P 17 21 25.1 -2.5**
GUY2C Guyana, Caldas 51.13 49 *e*P **P 17 21 30.4 +1.2**
ACON Acoyapa 51.16 34 P **P 17 21 30.9 +2.2**
ITAB Concordia 51.35 100 *e*P **P 17 21 32.2 +2.0**
MTO3 Montecristo 51.49 28 P **P 17 21 32.4 +1.0**
MTO3 IAmb IAmb 17 21 36.9
comp=Z,48nm,1.4s
ROSC El Rosal 51.52 51 P **P 17 21 34.0 +2.1**
comp=Z,11nm,0.4s,baz=140,slow=6.5,SNR=14
ROSC El Rosal 51.52 51 *e*P **P 17 21 34.7 +2.7**
ROSC El Rosal 51.52 51 P **P 17 21 33.8 +1.8**
TLIG Tlapa 51.54 16 P **P 17 21 33.0 +1.4**
TLIG IAmb IAmb 17 21 37.5
comp=Z,50nm,1.2s
BCIP Isla Barro Col 51.56 42 P **P 17 21 33.3 +1.5**
BCIP pmax pmax
comp=Z,98nm,2.0s
BCIP Isla Barro Col 51.56 42 P **P 17 21 33.2 +1.5**
ESQI Esquipulas 51.65 28 P **P 17 21 34.1 +1.7**
MATN Matagalpa 51.65 33 P **P 17 21 33.7 +1.2**
CNLB Canela 51.67 103 *e*P **P 17 21 35.1 +2.5**
CHIC Chingaza 51.75 51 *e*P **P 17 21 36.1 +2.4**
ESPN Las Esperanzas 51.77 35 P **P 17 21 34.1 +0.8**
DBBC Dabeiba 51.98 47 *e*P **P 17 21 35.6 +0.5**
TGUH Tegucigalpa,Un 52.05 31 P **P 17 21 37.4 +1.9**
CCIG Comitan 52.19 24 P **P 17 21 38.4 +1.8**
CCIG IAmb IAmb 17 21 57.4
comp=Z,33nm,1.4s
PTGB Pitanga 52.36 98 *e*P **P 17 21 38.3 +0.5**
PTGC Puerto Gaitan, 52.50 53 *e*P **P 17 21 39.2 +0.4**
TRCB Terra Rica 52.65 95 *e*P **P 17 21 41.2 +1.2**
PTBC PUERTO BERRIO, 52.72 49 *e*P **P 17 21 41.6 +1.1**
UREC San Jos de Ur 52.97 47 *e*P **P 17 21 43.0 +0.7**
MOIG Morelia 53.05 12 P **P 17 21 44.6 +1.6**
RUSC La Rusia 53.12 51 *e*P **P 17 21 44.6 +0.6**
ZARC Zaragoza, Cauc 53.19 48 *e*P **P 17 21 44.4 +0.5**
LCBC Los crdobas, 53.33 45 *e*P **P 17 21 47.2 +2.3**
BARC Barichara 53.58 50 *e*P **P 17 21 46.9 -0.2**
PETF Flores 53.59 26 P **P 17 21 47.2 +0.5**
BRRC Barranca, Sant 53.62 49 *e*P **P 17 21 44.1 -3.0**
MOTC Monteria, Cord 53.69 46 *e*P **P 17 21 48.0 +0.4**
PCMB Pacaembu 54.30 94 *e*P **P 17 21 52.1 0.0**
PAMC Pamplona, Colo 54.45 50 *e*P **P 17 21 52.3 -1.4**
TIJ01 Guaruva-PR 54.67 100 *e*P **P 17 21 56.2 +1.4**
SMLC San Martn de 54.69 48 *e*P **P 17 21 55.6 +0.7**
FRTB Fartura 55.00 97 *e*P **P 17 21 57.4 +0.2**
ARGC Ariguani, Magd 55.40 47 *e*P **P 17 22 01.1 +1.1**
CLDB Colider 55.62 80 *e*P **P 17 22 00.9 -0.9**
ZAIG Zacatecas 55.85 10 P **P 17 22 05.1 +1.7**
ZAIG IAmb IAmb 17 22 10.8
comp=Z,37nm,1.6s
ITRB Iturama 55.89 93 *e*P **P 17 22 04.1 +0.5**
MACA Manacapuru-AM 56.04 69 *e*P **P 17 22 04.7 0.0**
LPIG La Paz 56.50 2 LR LR 17 41 05.6
comp=Z,548nm,18.9s,baz=206,slow=30
ARAG Araguaiana, MT 56.52 88 *e*P **P 17 22 09.1 +0.9**
SPB Sao Paulo 56.68 98 P **P 17 22 09.1 0.0**
SPB IAmb IAmb 17 22 38.2
comp=Z,23nm,1.1s
BB19B Bebedouro 56.83 95 *e*P **P 17 22 11.4 +1.1**
SDV Santo Domingo 56.95 51 P **P 17 22 10.0 -1.4**
SDV IAmb IAmb 17 22 15.5
comp=Z,68nm,1.8s
SDV Santo Domingo 56.95 51 *e*P **P 17 22 11.4 +0.1**
VAO Valinhos 57.31 98 *e*P **P 17 22 15.8 +2.0**
QSPA South Pole Qui 57.49 180 P **P 17 22 16.1 +1.6**
comp=Z,24nm,1.2s,baz=112,slow=2.7,SNR=24
QSPA South Pole Qui 57.49 180 P **P 17 22 13.5 -0.9**
QSPA IAmb IAmb 17 22 20.3
comp=Z,43nm,1.2s
VNDA Vanda 57.57 195 P **P 17 22 16.0 +1.3**
comp=Z,4.2nm,1.1s,baz=86,slow=5.9,SNR=10
VNDA LR LR 17 42 23.6
comp=Z,1µm,18.3s,baz=86,slow=31
VNDA Vanda 57.57 195 P **P 17 22 15.3 +0.6**
VNDA pmax pmax
comp=Z,25nm,1.6s
VNDA Vanda 57.57 195 P **P 17 22 15.3 +0.6**
NPGB Novo Progresso 58.07 77 *e*P **P 17 22 19.1 -0.1**
IPMB Ipameri, GO 58.48 92 *e*P **P 17 22 21.1 -0.9**
NNZ Nelson 58.75 238 P **P 17 22 24.1 +0.6**
NNZ IAmb IAmb 17 22 25.8
comp=Z,35nm,1.3s
SNDB Serra Nova Dou 58.81 84 *e*P **P 17 22 23.7 -0.5**
THZ Tophouse 58.92 238 P **P 17 22 26.2 +1.5**
THZ IAmb IAmb 17 22 27.6
comp=Z,17nm,1.0s
OXZ Oxford 59.06 236 P **P 17 22 27.6 +2.0**
OXZ IAmb IAmb 17 23 19.5
comp=Z,43nm,1.7s
ITTB Itaituba 59.28 74 *e*P **P 17 22 27.0 -0.6**
SRIG Santa Rosalia 59.69 359 P **P 17 22 30.3 +0.4**
SRIG IAmb IAmb 17 22 33.3
comp=Z,21nm,0.9s
BDFB Brasilia 59.76 90 P **P 17 22 30.1 -0.8**
comp=Z,8.7nm,0.9s,baz=242,slow=6.7,SNR=7.0
BDFB LR LR 17 45 44.4
comp=Z,847nm,19.3s,baz=253,slow=33
BDFB Brasilia 59.76 90 P **P 17 22 30.4 -0.5**
BDFB pmax pmax
comp=Z,48nm,1.5s
BDFB Brasilia 59.76 90 P **P 17 22 30.4 -0.5**
VAS01 Vassouras-RJ 60.56 99 *e*P **P 17 22 39.6 +3.3**
PEXB Peixe 61.26 86 *e*P **P 17 22 42.8 +1.7**
KVTX Kingsville 61.34 14 P **P 17 22 41.2 0.0**
HSIG 61.39 1 P **P 17 22 41.7 +0.2**
HSIG IAmb IAmb 17 22 47.3
comp=Z,30nm,1.5s
833A Chaparral WMA, 61.81 12 P **P 17 22 43.5 -0.9**
baz=192
833A Chaparral WMA, 61.81 12 P **P 17 22 45.5 +1.1**
MALB Monte Alegre 61.94 73 *e*P **P 17 22 46.6 +0.9**
TX31 Lajitas Ar. Si 62.17 8 P **P 17 22 46.9 0.0**
TX32 Lajitas Array 62.17 8 P **P 17 22 47.5 +0.6**
TX32 IAmb IAmb 17 22 52.4
comp=Z,24nm,1.4s
TXAR Lajitas Array 62.17 8 P **P 17 22 47.4 +0.5**
comp=Z,7.0nm,1.1s,baz=188,slow=9.0,SNR=17
TXAR LR LR 17 45 36.5
comp=Z,351nm,18.3s,baz=0.0,slow=32
TXAR Lajitas Array 62.17 8 P **P 17 22 46.6 -0.3**
TXAR Lajitas Array 62.17 8 P **P 17 22 46.6 -0.3**
735A Kenedy 62.63 14 P **P 17 22 51.7 +1.8**
PRPB Paraupebas 63.13 80 *e*P **P 17 22 54.2 +0.6**
VNA3 Neumayer Olymp 63.15 159 P **P 17 22 53.4 +0.5**
JANB Januaria 63.16 91 *e*P **P 17 22 55.4 +1.5**
KNTN Kanton 63.44 285 P **P 17 22 56.3 +0.7**
SFX San Felipe 63.46 357 P **P 17 22 56.9 +1.6**
SPX San Pedro Mart 63.49 356 P **P 17 22 55.4 -0.6**
SPX IAmb IAmb 17 23 00.6
comp=Z,16nm,1.2s
SMTB Santa Maria do 63.54 83 *e*P **P 17 22 57.7 +1.4**
VNA1 Neumayer--Stat 63.80 159 P **P 17 22 58.1 +0.9**
JCT Junction City 63.84 11 P **P 17 22 57.6 -0.3**
baz=191,SNR=7.7
JCT Junction City 63.84 11 P **P 17 22 57.3 -0.7**
JCT pmax pmax
comp=Z,77nm,1.3s
JCT Junction City 63.84 11 P **P 17 22 57.3 -0.7**
PIX Pinacate 63.93 358 P **P 17 22 59.9 +1.4**
PIX IAmb IAmb 17 23 03.9
comp=Z,17nm,1.2s
VNA2 Neumayer--Watz 63.95 159 P **P 17 22 57.2 -1.1**
SDBA SAO DESIDERIO 63.97 88 *e*P **P 17 23 00.9 +1.7**
SJMB Sao Joao De Ma 64.06 96 *e*P **P 17 23 00.1 +0.3**
HKT Hockley 64.11 15 *i*P **P 17 23 00.9 +1.4**
HKT pmax pmax
comp=Z,38nm,1.4s
HKT Hockley 64.11 15 P **P 17 23 01.1 +1.5**
MSVF Nonsavu 64.23 265 *i*P **P 17 23 01.8 +0.9**
MSVF pmax pmax
comp=Z,15nm,1.1s
MSVF Nonsavu 64.23 265 P **P 17 23 02.6 +1.6**
MSVF IAmb IAmb 17 23 03.7
comp=Z,32nm,1.2s
214A Organ Pipe Nat 64.32 359 P **P 17 23 00.3 -0.7**
baz=179,SNR=6.3
214A Organ Pipe Nat 64.32 359 P **P 17 23 00.7 -0.3**
214A IAmb IAmb 17 23 06.7
comp=Z,18nm,1.2s
SDDR Presa de Saban 64.32 43 P **P 17 23 02.0 +0.7**
SDDR IAmb IAmb 17 23 06.6
comp=Z,18nm,1.2s
MNTX Cornudas Mount 64.33 6 P **P 17 23 00.3 -0.8**
baz=186,SNR=7.9
MNTX Cornudas Mount 64.33 6 P **P 17 23 00.5 -0.7**
MNTX IAmb IAmb 17 23 05.8
comp=Z,16nm,1.1s
ESJX Sierra Juarez 64.48 356 P **P 17 23 03.3 +1.1**
435B Jarrell 64.55 13 P **P 17 23 01.9 -0.6**
baz=193
MCPB Macapa, AP 64.60 73 *e*P **P 17 23 02.7 -0.6**
TUC Tucson 64.67 1 P **P 17 23 03.2 -0.1**
baz=181
TUC Tucson 64.67 1 P **P 17 23 04.1 +0.7**
TUC pmax pmax
comp=Z,24nm,1.4s
TUC Tucson 64.67 1 P **P 17 23 04.1 +0.7**
TUC IAmb IAmb 17 23 08.9
comp=Z,24nm,1.4s
SDD Santo Domingo 64.71 44 P **P 17 23 04.0 +0.2**
GDL2 Guadalupe Moun 64.93 7 P **P 17 23 05.1 0.0**
SNAA Sanae 64.94 161 P **P 17 23 04.7 0.0**
SNAA Sanae 64.94 161 *i*P **P 17 23 04.2 -0.5**
SNAA pmax pmax
comp=Z,22nm,1.3s
SNAA Sanae 64.94 161 P **P 17 23 03.6 -1.1**
SNAA IAmb IAmb 17 23 09.5
comp=Z,32nm,1.3s
121A Cookes Peak, D 64.99 4 P **P 17 23 05.6 0.0**
baz=184
121A Cookes Peak, D 64.99 4 P **P 17 23 06.1 +0.6**
121A IAmb IAmb 17 23 09.0
comp=Z,31nm,1.4s
SC01 Santiago de lo 65.00 43 P **P 17 23 05.8 +0.2**
CLNB Carlsbad 65.04 7 P **P 17 23 06.8 +1.0**
RMX La Rumorosa 65.08 356 P **P 17 23 07.6 +1.5**
RMX IAmb IAmb 17 23 11.4
comp=Z,27nm,1.2s
TKX Tecate 65.08 355 P **P 17 23 07.9 +1.9**
IKP In-Ko-Pah, Jac 65.13 356 P **P 17 23 06.3 0.0**
baz=176
BAR Barrett 65.20 355 P **P 17 23 08.1 +1.4**
BAR IAmb IAmb 17 23 13.0
comp=Z,30nm,1.4s
MONP2 Monument Peak 65.39 356 P **P 17 23 08.1 -0.1**
baz=176
SWSC Sam W. Stewart 65.41 356 P **P 17 23 08.8 +0.8**
baz=176
109C Camp Elliot, M 65.44 355 P **P 17 23 09.4 +1.2**
GLA Glamis 65.47 357 P **P 17 23 08.6 +0.1**
baz=177
GLA Glamis 65.47 357 P **P 17 23 09.6 +1.1**
GLA pmax pmax
comp=Z,15nm,1.0s
GLA Glamis 65.47 357 P **P 17 23 09.6 +1.1**
GLA IAmb IAmb 17 23 12.8
comp=Z,15nm,0.9s
TOSP Speyside 65.57 57 P **P 17 23 08.8 -0.7**
SCI2 San Clemente I 65.64 354 P **P 17 23 09.7 +0.1**
baz=174
PCDR Punta Cana, DR 65.67 46 P **P 17 23 10.3 +0.3**
WHTX Lake Whitney, 65.74 13 P **P 17 23 10.1 -0.2**
baz=193
WHTX Lake Whitney, 65.74 13 P **P 17 23 10.1 -0.2**
ABTX Abilene, Hawle 65.97 11 P **P 17 23 11.4 -0.4**
baz=191
ABTX Abilene, Hawle 65.97 11 P **P 17 23 12.1 +0.4**
ABTX IAmb IAmb 17 23 19.2
comp=Z,12nm,0.8s
CIS Catalina Islan 66.05 354 P **P 17 23 11.9 -0.3**
baz=174
CRPR Cabo Rojo, PR 66.06 47 P **P 17 23 12.7 +0.1**
237A Washetta, Mont 66.09 15 P **P 17 23 13.1 +0.6**
BC3 Big Chuckawall 66.09 357 P **P 17 23 13.0 +0.4**
baz=176,SNR=24
PFO Pinyon Flats O 66.11 356 LR LR 17 45 24.7
comp=Z,766nm,19.8s,baz=178,slow=30
PFO Pinyon Flats O 66.11 356 P **P 17 23 11.9 -0.8**
baz=176
PFO Pinyon Flats O 66.11 356 P **P 17 23 13.2 +0.5**
PFO pmax pmax
comp=Z,24nm,1.4s
PFO Pinyon Flats O 66.11 356 P **P 17 23 13.2 +0.5**
PFO IAmb IAmb 17 23 18.5
comp=Z,24nm,1.4s
NATX Nacogdoches 66.11 16 P **P 17 23 12.3 -0.3**
baz=196
NATX Nacogdoches 66.11 16 P **P 17 23 13.5 +0.9**
Y14A Wickenburg 66.30 359 P **P 17 23 14.6 +0.8**
Y14A IAmb IAmb 17 23 19.5
comp=Z,20nm,1.4s
342A Flagon Creek P 66.32 18 P **P 17 23 15.1 +1.1**
AGPR Aguadilla, PR 66.41 47 P **P 17 23 15.6 +0.8**
BELC Belle Mtn. Jos 66.47 356 P **P 17 23 14.7 -0.4**
baz=176,SNR=6.9
Y22D IRIS PASSCAL I 66.58 4 P **P 17 23 18.0 +2.2**
IRM Iron Mountain 66.58 357 P **P 17 23 15.4 -0.3**
baz=177,SNR=7.7
LENM Lemitar 66.66 4 P **P 17 23 17.9 +1.5**
TMAB Tom-Au,PA,Br 66.66 77 *e*P **P 17 23 17.9 +1.3**
BNM Barren Site 66.67 5 P **P 17 23 17.5 +1.0**
SJG San Juan 66.73 48 P **P 17 23 15.9 -1.0**
SJG pmax pmax
comp=Z,66nm,1.8s
SJG San Juan 66.73 48 P **P 17 23 15.9 -1.0**
PDPR Patillas Dam, 66.74 48 P **P 17 23 15.0 -1.9**
PDPR IAmb IAmb 17 23 19.8
comp=Z,26nm,1.1s
X16A Lo Mia Camp, P 66.76 0 P **P 17 23 17.3 +0.3**
PASC Pasadena Art C 66.79 354 P **P 17 23 19.0 +2.0**
PASC IAmb IAmb 17 23 40.0
comp=Z,12nm,0.6s
BFSC Mount Baldy Ra 66.82 355 P **P 17 23 16.8 -0.5**
baz=174
344A Westbrook Farm 66.83 19 P **P 17 23 18.1 +0.9**
MSTX Muleshoe 66.85 8 P **P 17 23 16.7 -0.7**
baz=188,SNR=6.9
MSTX Muleshoe 66.85 8 P **P 17 23 17.2 -0.2**
NEE2 Needles Airpor 67.17 357 P **P 17 23 19.5 +0.2**
baz=177
GMRC Granite Mounta 67.23 356 P **P 17 23 20.5 +0.6**
baz=176,SNR=7.4
HEC Hector,Ludlow 67.31 356 P **P 17 23 20.4 +0.1**
baz=176
ANMO Albuquerque 67.47 5 LR LR 17 47 43.0
comp=Z,28nm,18.0s,baz=188,slow=31
ANMO Albuquerque 67.47 5 P **P 17 23 21.3 -0.2**
baz=185
ANMO Albuquerque 67.47 5 *i*P **P 17 23 22.8 +1.3**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 67.47 5 P **P 17 23 22.9 +1.3**
W13A Hualapai Mount 67.47 358 P **P 17 23 22.4 +0.9**
EDW2 Edwards Air Fo 67.48 354 P **P 17 23 21.7 +0.3**
baz=174
W18A Petrified Fore 67.49 2 P **P 17 23 20.9 -0.7**
baz=182
PKM Mcpherson Peak 67.66 353 P **P 17 23 22.7 +0.1**
baz=173
GDU01 Guandu, BA 67.81 92 *e*P **P 17 23 25.9 +1.9**
GSC Goldstone, Bar 67.81 356 P **P 17 23 23.8 +0.3**
baz=175
WUAZ Wupatki 67.86 0 P **P 17 23 23.5 -0.4**
baz=180
WUAZ Wupatki 67.86 0 IAmb IAmb 17 23 29.5
comp=Z,25nm,1.3s
AMTX Amarillo 67.89 9 P **P 17 23 24.1 +0.1**
baz=189
AMTX Amarillo 67.89 9 P **P 17 23 24.6 +0.6**
AMTX IAmb IAmb 17 23 28.9
comp=Z,27nm,1.1s
TUQ Turquoise Moun 67.89 356 P **P 17 23 24.6 +0.5**
baz=176
Z41A Richland Creek 67.99 17 P **P 17 23 24.6 +0.1**
baz=197
LRMC Laurel Mtn Rad 68.05 355 P **P 17 23 25.2 +0.2**
baz=174,SNR=8.6
SMMC Simmler 68.10 353 P **P 17 23 25.7 +0.5**
baz=172
WMOK Wichita Mounta 68.18 11 P **P 17 23 26.2 +0.4**
baz=192
ISA Isabella, Lake 68.30 354 P **P 17 23 26.7 +0.2**
baz=174,SNR=7.2
ISA Isabella, Lake 68.30 354 P **P 17 23 27.0 +0.5**
ISA pmax pmax
comp=Z,15nm,1.2s
ISA Isabella, Lake 68.30 354 P **P 17 23 27.0 +0.5**
WLAR White Oak Lake 68.32 17 P **P 17 23 27.8 +1.2**
SHOC Shoshone, Teco 68.37 356 P **P 17 23 27.3 +0.4**
baz=176
VES Vestal, Richgr 68.53 354 P **P 17 23 28.5 +0.6**
baz=173
PAGB Antelope Grade 68.54 353 P **P 17 23 30.0 +2.0**
PAGB IAmb IAmb 17 23 33.1
comp=Z,26nm,1.3s
MPMC Manual Prospec 68.61 355 P **P 17 23 29.2 +0.6**
baz=175,SNR=24
U15A North Rim 68.77 360 P **P 17 23 30.0 +0.3**
U15A IAmb IAmb 17 23 35.4
comp=Z,29nm,1.2s
SHPR Sheep Range 68.92 357 IAmb IAmb 17 23 36.6
comp=Z,29nm,1.2s
FURC Furnace Creek, 68.97 356 P **P 17 23 31.1 +0.5**
baz=175
MIAR Mount Ida 69.03 16 P **P 17 23 31.8 +0.8**
baz=196
CWC Cottonwood Cre 69.04 355 P **P 17 23 31.7 +0.5**
baz=174
X40A Basin Creek Fa 69.15 17 P **P 17 23 32.4 +0.6**
baz=197
NVL N'lazarevskaya 69.34 163 *e*P **P 17 23 36.4 +3.8**
NVL pmax pmax
comp=Z,40nm,1.3s
LCMT Little Creek M 69.37 359 P **P 17 23 33.4 +0.2**
TPNV Topopah Spring 69.42 356 P **P 17 23 33.6 0.0**
baz=176,SNR=16
TPNV Topopah Spring 69.42 356 IAmb IAmb 17 23 39.8
comp=Z,20nm,1.1s
LRAL Lakeview Retre 69.42 22 P **P 17 23 33.5 0.0**
baz=202
LRAL Lakeview Retre 69.42 22 IAmb IAmb 17 23 38.3
comp=Z,25nm,1.2s
W39A Magazine 69.61 16 P **P 17 23 34.4 -0.2**
baz=196
MVCO Mesa Verde 69.62 3 P **P 17 23 34.6 -0.2**
baz=183,SNR=10.0
MVCO Mesa Verde 69.62 3 P **P 17 23 35.2 +0.3**
ROSB Rosrio 69.65 80 *e*P **P 17 23 37.3 +1.9**
PRN Pahroc Range 69.81 357 IAmb IAmb 17 23 42.2
comp=Z,18nm,1.2s
T25A Trinidad 69.81 6 P **P 17 23 36.1 0.0**
baz=186
T25A Trinidad 69.81 6 P **P 17 23 36.6 +0.5**
T25A IAmb IAmb 17 23 41.4
comp=Z,21nm,1.2s
152A Waverly Hall 69.84 24 IAmb IAmb 17 23 40.7
comp=Z,31nm,1.1s
TUL1 Leonard 69.87 14 P **P 17 23 36.1 -0.1**
baz=194
TUL1 Leonard 69.87 14 P **P 17 23 35.4 -0.8**
W41B Gary Mavity, V 69.95 17 P **P 17 23 35.4 -1.2**
baz=197
S22A 4UR Ranch, Cre 70.23 4 P **P 17 23 38.9 +0.2**
baz=184,SNR=6.7
S22A 4UR Ranch, Cre 70.23 4 P **P 17 23 39.0 +0.2**
S22A IAmb IAmb 17 23 44.1
comp=Z,23nm,1.3s
SDCO Great Sand Dun 70.33 5 P **P 17 23 39.3 0.0**
baz=185,SNR=11
SDCO Great Sand Dun 70.33 5 IAmb IAmb 17 23 44.5
comp=Z,23nm,1.3s
Y49A Blount Mountai 70.36 22 IAmb IAmb 17 23 43.6
comp=Z,18nm,1.1s
PV01 Paradox Valley 70.53 3 IAmb IAmb 17 23 45.4
comp=Z,21nm,1.3s
PV13 Radium Mtn., P 70.55 2 P **P 17 23 41.2 +0.6**
PV13 IAmb IAmb 17 23 45.4
comp=Z,32nm,1.8s
PV02 Paradox Valley 70.60 3 IAmb IAmb 17 23 45.8
comp=Z,27nm,1.4s
HHAR Hobbs 70.62 15 IAmb IAmb 17 23 45.3
comp=Z,35nm,1.2s
PV17 East Wray Mesa 70.67 2 IAmb IAmb 17 23 46.0
comp=Z,21nm,1.3s
PV11 David Mesa, Pa 70.69 2 P **P 17 23 41.1 -0.3**
PV11 IAmb IAmb 17 23 46.2
comp=Z,27nm,1.3s
PV19 Morning Glory 70.69 2 IAmb IAmb 17 23 46.2
comp=Z,23nm,1.3s
PV16 Nyswonger Mesa 70.70 2 IAmb IAmb 17 23 46.3
comp=Z,23nm,1.3s
T35A Sooner Cattle 70.70 13 IAmb IAmb 17 23 46.1
comp=Z,27nm,1.1s
PV12 Saucer Basin, 70.71 2 IAmb IAmb 17 23 47.0
comp=Z,29nm,1.2s
PV20 West Nyswonger 70.73 2 IAmb IAmb 17 23 46.4
comp=Z,28nm,1.4s
PV15 Paradox Valley 70.75 3 P **P 17 23 41.4 -0.4**
PV15 IAmb IAmb 17 23 46.7
comp=Z,24nm,1.2s
PV14 Lion Creek, Pa 70.76 2 IAmb IAmb 17 23 46.7
comp=Z,38nm,1.2s
R11A Troy Canyon, C 70.78 357 P **P 17 23 42.0 +0.1**
baz=176,SNR=17
R11A Troy Canyon, C 70.78 357 IAmb IAmb 17 23 48.1
comp=Z,27nm,1.4s
PV04 Paradox Valley 70.78 2 IAmb IAmb 17 23 46.9
comp=Z,33nm,1.2s
PV07 Paradox Valley 70.83 3 P **P 17 23 43.5 +1.2**
PV23 Carpenter Ridg 70.83 2 IAmb IAmb 17 23 47.3
comp=Z,29nm,1.1s
LHV Little Huntoon 70.87 354 IAmb IAmb 17 23 48.8
comp=Z,36nm,1.2s
PLAL Pickwick Lake 70.90 20 P **P 17 23 43.3 +0.8**
U40A Yellville 70.93 16 P **P 17 23 42.0 -0.7**
baz=197
GOGA Godfrey 70.95 25 P **P 17 23 42.2 -0.6**
baz=205
GOGA Godfrey 70.95 25 P **P 17 23 43.6 +0.8**
GOGA pmax pmax
comp=Z,20nm,1.2s
GOGA Godfrey 70.95 25 P **P 17 23 43.6 +0.8**
GOGA IAmb IAmb 17 23 47.3
comp=Z,20nm,1.1s
NV11 Mina Array Sit 71.02 355 IAmb IAmb 17 23 49.4
comp=Z,31nm,1.1s
NVAR Mina Array Bea 71.03 355 P **P 17 23 43.6 +0.1**
comp=Z,2.9nm,0.5s,baz=178,slow=7.6,SNR=23
NVAR LR LR 17 48 45.9
comp=Z,1µm,18.2s,baz=168,slow=31
Y52A Lilburn 71.15 24 IAmb IAmb 17 23 48.7
comp=Z,21nm,0.9s
157A Early Branch 71.20 27 P **P 17 23 43.8 -0.6**
baz=207
WAKR Walker 71.20 354 IAmb IAmb 17 23 50.8
comp=Z,29nm,1.4s
RYN Ryan 71.25 354 IAmb IAmb 17 23 50.8
comp=Z,18nm,1.1s
FPAL Fort Paine 71.25 23 IAmb IAmb 17 23 48.7
comp=Z,22nm,1.2s
X51A Calhoun 71.52 23 IAmb IAmb 17 23 50.6
comp=Z,18nm,0.9s
Q24A Divide 71.56 5 P **P 17 23 47.2 +0.4**
baz=186
158A Hollywood 71.56 28 P **P 17 23 46.0 -0.5**
baz=208
TMUT Trail Mountain 71.64 0 P **P 17 23 47.6 +0.4**
YERR Yerington 71.66 354 IAmb IAmb 17 23 53.3
comp=Z,24nm,1.2s
SWET Sewanee 71.77 22 IAmb IAmb 17 23 51.9
comp=Z,28nm,1.1s
R32A Long Quarter, 71.79 11 P **P 17 23 47.5 -0.4**
R32A IAmb IAmb 17 23 52.8
comp=Z,36nm,1.1s
PNTR Pine Nut 71.80 354 IAmb IAmb 17 23 54.0
comp=Z,20nm,1.1s
AFDM Forest Hills D 71.80 352 IAmb IAmb 17 23 53.4
comp=Z,29nm,1.3s
DZM Mont Dzumac 71.81 255 *e*LR LR 17 45 38.6
comp=Z,900nm,23.7s
MGMO Mountain Grove 71.83 16 IAmb IAmb 17 23 52.9
comp=Z,38nm,1.4s
KSCO Kaye Shedlock' 71.85 7 P **P 17 23 48.1 -0.2**
baz=188
Z57A Bowman 71.86 27 P **P 17 23 47.4 -0.9**

baz=207
PBMO **Poplar Bluff** 71.93 18 IAmb IAmb 17 23 53.1
comp=Z,27nm,1.1s
T42A **Van Buren** 72.00 17 IAmb IAmb 17 23 53.3
comp=Z,18nm,1.1s
CBKS **Cedar Bluff** 72.02 10 P **P** **17 23 49.2 -0.1**
baz=190
WVT **Waverly** 72.04 20 P **P** **17 23 49.5 +0.1**
baz=201
WVT **Waverly** 72.04 20 P **P** **17 23 49.0 -0.3**
WVT pmax pmax
comp=Z,50nm,2.0s
WVT **Waverly** 72.04 20 P **P** **17 23 49.0 -0.3**
WVT IAmb IAmb 17 23 51.8
comp=Z,50nm,1.9s
HODGE **Hodges** 72.12 25 IAmb IAmb 17 23 54.7
comp=Z,21nm,1.0s
Z58A **St. Stephen** 72.24 28 P **P** **17 23 49.9 -0.7**
baz=206
W52A **Murphy** 72.31 24 IAmb IAmb 17 23 55.7
comp=Z,14nm,0.8s
ISCO **Idaho Springs** 72.36 5 P **P** **17 23 52.1 +0.5**
baz=185
X54A **Belton** 72.36 25 P **P** **17 23 51.8 +0.5**
baz=206
Z59A **Georgetown, SC** 72.37 28 P **P** **17 23 50.9 -0.5**
baz=208
PAHR **Pah Rah Range** 72.39 354 P **P** **17 23 51.2 -0.4**
CPCT **Cooper Cave** 72.44 23 P **P** **17 23 51.3 -0.4**
CPCT IAmb IAmb 17 23 56.2
comp=Z,22nm,1.1s
DUG **Dugway, Tooele** 72.54 359 P **P** **17 23 53.0 +0.5**
baz=179
DUG **Dugway, Tooele** 72.54 359 IAmb IAmb 17 23 57.8
comp=Z,35nm,1.6s
O20A **White River Ci** 72.54 3 P **P** **17 23 53.0 +0.4**
baz=185
O20A **White River Ci** 72.54 3 P **P** **17 23 53.7 +1.2**
X55A **Gracelyn & Ava** 72.56 26 P **P** **17 23 52.4 -0.1**
baz=206
BG3 **Lake Jocassee** 72.56 24 IAmb IAmb 17 23 57.5
comp=Z,26nm,1.1s
X56A **White Oak** 72.80 26 P **P** **17 23 53.9 0.0**
baz=207
PAULI **Pauline** 72.81 25 IAmb IAmb 17 23 58.9
comp=Z,39nm,1.1s
TKL **Tuckaleechee C** 72.88 24 LR LR 17 50 55.5
comp=Z,552nm,21.6s,baz=182,slow=32
W54A **Cherokee Point** 72.91 25 P **P** **17 23 54.2 -0.4**
baz=206,SNR=5.8
CCM **Cathedral Cave** 72.94 17 P **P** **17 23 54.3 -0.4**
CCM pmax pmax
comp=Z,9.0nm,0.9s
CCM **Cathedral Cave** 72.94 17 P **P** **17 23 54.2 -0.4**
CTU **Camp Tracy** 73.03 360 P **P** **17 23 55.1 -0.2**
S44A **Carbondale** 73.10 18 IAmb IAmb 17 24 00.2
comp=Z,33nm,1.1s
BIRD **Birdtown, Kers** 73.15 27 IAmb IAmb 17 24 01.1
comp=Z,35nm,1.3s
ELK **Elko** 73.15 357 LR LR 17 50 30.9
comp=Z,928nm,18.2s,baz=192,slow=31
O03E **Paynes Creek** 73.22 352 P **P** **17 23 56.7 +0.3**
baz=171
O02D **Mt. Diablo Mer** 73.23 351 P **P** **17 23 56.7 +0.2**
baz=170
KMSC **Kings Mountain** 73.27 26 P **P** **17 23 57.3 +0.6**
baz=206
KMSC **Kings Mountain** 73.27 26 IAmb IAmb 17 24 01.5
comp=Z,28nm,1.1s
N23A **Red Feather La** 73.42 5 P **P** **17 23 57.0 -0.8**
baz=185,SNR=5.3
N23A **Red Feather La** 73.42 5 IAmb IAmb 17 24 03.9
comp=Z,26nm,1.2s
TCUT **Toone Canyon** 73.45 0 P **P** **17 23 58.3 +0.4**
W56A **Indian Trail** 73.54 26 P **P** **17 23 57.2 -1.1**
baz=207
WDC **Whiskeytown Da** 73.60 351 IAmb IAmb 17 24 04.2
comp=Z,28nm,1.1s
V54A **Nebo** 73.62 25 P **P** **17 23 57.8 -1.0**
baz=206,SNR=6.0
TZTN **Tazewell** 73.76 23 P **P** **17 23 59.1 -0.5**
baz=204,SNR=5.1
TZTN **Tazewell** 73.76 23 IAmb IAmb 17 24 04.4
comp=Z,33nm,1.2s
W57A **Gilead** 73.78 27 P **P** **17 23 59.7 0.0**
baz=207
W57A **Gilead** 73.78 27 IAmb IAmb 17 24 04.4
comp=Z,37nm,1.3s
X59A **McDuffie Farm,** 73.80 28 P **P** **17 23 59.0 -0.9**
baz=208
PHWY **Pilot Hill** 73.86 5 P **P** **17 24 01.5 +1.1**
PHWY IAmb IAmb 17 24 04.8
comp=Z,36nm,1.6s
V55A **Taylorsville** 73.95 25 P **P** **17 24 00.1 -0.6**
baz=206
V55A **Taylorsville** 73.95 25 IAmb IAmb 17 24 05.5
comp=Z,42nm,1.5s
W58A **Raeford** 73.95 27 P **P** **17 24 00.7 0.0**
baz=208,SNR=6.4
N02D **Trinity Center** 74.00 351 P **P** **17 24 01.0 0.0**
baz=170,SNR=12
KHMM **Horse Mountain** 74.04 351 IAmb IAmb 17 24 07.3
comp=Z,41nm,1.1s
RWWY **Rawlins** 74.14 4 IAmb IAmb 17 24 04.9
comp=Z,27nm,1.4s
V56A **Mocksville** 74.17 26 P **P** **17 24 01.1 -0.9**
baz=207
Q44A **Meyer Farm, Va** 74.30 18 P **P** **17 24 02.8 +0.1**
U54A **Nelsons Funny** 74.33 25 P **P** **17 24 02.2 -0.8**
baz=206
M02C **Callahan** 74.44 351 P **P** **17 24 04.2 +0.7**
baz=170,SNR=15
T53A **Wise** 74.50 24 P **P** **17 24 04.7 +0.8**
baz=205
V57A **Coltrane Farms** 74.51 26 P **P** **17 24 03.6 -0.4**
baz=207
U55A **TA2, Sparta** 74.59 25 P **P** **17 24 04.7 +0.2**
baz=206
MOD **Modoc Plateau** 74.65 353 IAmb IAmb 17 24 10.6
comp=Z,33nm,1.2s
V58A **Windy Hill, Pi** 74.68 27 P **P** **17 24 04.6 -0.4**
baz=208
U56A **King** 74.69 26 P **P** **17 24 05.1 +0.1**
baz=207
U56A **King** 74.69 26 IAmb IAmb 17 24 09.8
comp=Z,26nm,1.2s
M04C **Macdoel** 74.70 352 P **P** **17 24 05.1 0.0**
baz=171,SNR=17
S51A **Beattyville** 74.74 23 IAmb IAmb 17 24 09.7
comp=Z,20nm,1.0s
YBH **Yreka Blue Hor** 74.75 352 LR LR 17 49 43.6
comp=Z,728nm,20.3s,baz=176,slow=30
YBH **Yreka Blue Hor** 74.75 352 P **P** **17 24 04.8 -0.6**
YBH pmax pmax
comp=Z,13nm,1.3s
YBH **Yreka Blue Hor** 74.75 352 P **P** **17 24 04.8 -0.6**
BGNE **Belgrade** 74.80 11 P **P** **17 24 05.7 +0.2**
baz=192
R49A **Shelbyville** 74.83 21 IAmb IAmb 17 24 09.8
comp=Z,32nm,1.3s
T54A **Tazewell** 74.90 25 P **P** **17 24 06.3 0.0**
baz=206
W61A **Ground Anchor** 74.98 29 P **P** **17 24 05.3 -1.3**
baz=210
V59A **Middlesex** 74.99 28 P **P** **17 24 06.1 -0.6**
baz=209
BW06 **Boulder Array** 75.13 2 P **P** **17 24 07.0 -0.6**
baz=182,SNR=11
BW06 **Boulder Array** 75.13 2 IAmb IAmb 17 24 11.9
comp=Z,30nm,1.3s
PD31 **Pinedale Array** 75.13 2 IAmb IAmb 17 24 11.9
comp=Z,33nm,1.4s
PDAR **Pinedale Array** 75.13 2 P **P** **17 24 07.4 -0.3**
comp=Z,12nm,1.1s,baz=166,slow=3.1,SNR=18
PDAR LR LR 17 51 48.7
comp=Z,392nm,18.8s,baz=172,slow=32
PDAR **Pinedale Array** 75.13 2 P **P** **17 24 05.8 -1.8**
K22A **Casper** 75.14 4 P **P** **17 24 07.9 +0.2**
baz=184
K22A **Casper** 75.14 4 IAmb IAmb 17 24 12.8
comp=Z,46nm,1.3s
U57A **Blanch** 75.16 27 P **P** **17 24 07.8 +0.1**
baz=208
L04D **Klamath Falls** 75.18 352 P **P** **17 24 07.7 -0.2**
baz=171,SNR=6.4
T55A **Pulaski** 75.23 25 P **P** **17 24 07.8 -0.4**
baz=206
L02E **Cave Junction** 75.29 351 P **P** **17 24 08.4 +0.1**
baz=170
U58A **Oxford** 75.42 27 P **P** **17 24 08.2 -1.1**
baz=208
T56A **Rocky Mt** 75.42 26 P **P** **17 24 08.7 -0.6**
baz=207
BLA **Blacksburg** 75.45 25 P **P** **17 24 07.7 -1.7**
baz=207
BLA **Blacksburg** 75.45 25 IAmb IAmb 17 24 14.3
comp=Z,30nm,1.0s
P46A **Rosedale** 75.46 19 IAmb IAmb 17 24 13.5
comp=Z,18nm,0.8s
T57A **Hurt** 75.69 26 P **P** **17 24 10.7 0.0**
baz=208
T57A **Hurt** 75.69 26 P **P** **17 24 10.9 +0.2**
REDW **Red Top Meadow** 75.70 1 IAmb IAmb 17 24 18.2
comp=Z,44nm,1.6s
HDIL **Hopedale** 75.79 17 P **P** **17 24 11.2 0.0**
baz=195
K02D **Willamette Mer** 75.82 351 P **P** **17 24 11.8 +0.3**
baz=170,SNR=6.6
MFID **Camas Ranch** 75.84 357 IAmb IAmb 17 24 16.9
comp=Z,41nm,1.9s
R53A **Hurricane** 75.91 24 P **P** **17 24 10.7 -1.3**
baz=205
T58A **Grand View Acr** 75.91 27 P **P** **17 24 11.9 -0.1**
baz=208
S55A **Lewisburg** 75.92 25 P **P** **17 24 11.4 -0.7**
baz=207
HLID **Hailey** 75.94 358 P **P** **17 24 12.1 -0.1**
baz=178,SNR=28
HLID **Hailey** 75.94 358 P **P** **17 24 11.7 -0.6**
HLID IAmb IAmb 17 24 17.8
comp=Z,31nm,1.1s
J08A **Circle Bar Ran** 75.94 355 IAmb IAmb 17 24 18.3
comp=Z,29nm,1.4s
FXWY **Fox Creek** 75.97 1 IAmb IAmb 17 24 17.3
comp=Z,22nm,1.3s
Q51A **Peebles** 76.08 22 IAmb IAmb 17 24 17.4
comp=Z,21nm,0.9s
KEBM **Edson Butte** 76.09 350 P **P** **17 24 14.2 +1.3**
R54A **Victor** 76.11 25 P **P** **17 24 12.1 -1.1**
baz=206
P49A **Miami Univ. Ec** 76.11 21 P **P** **17 24 11.9 -1.2**
baz=203
J05D **Fort Rock, OR** 76.12 353 P **P** **17 24 13.4 +0.1**
baz=172,SNR=26
J04D **Umpqua Nationa** 76.17 352 P **P** **17 24 13.7 +0.1**
baz=171
S56A **Natural Bridge** 76.17 26 P **P** **17 24 12.9 -0.6**
baz=207
SCIA **State Center** 76.17 14 P **P** **17 24 13.1 -0.2**
baz=196
SFIN **Lafayette** 76.20 19 P **P** **17 24 13.2 -0.4**
baz=201
T59A **Double "B" Far** 76.31 28 P **P** **17 24 13.8 -0.5**
baz=209
T59A **Double "B" Far** 76.31 28 IAmb IAmb 17 24 19.1
comp=Z,36nm,1.3s
J01E **Myrtle Point** 76.32 351 P **P** **17 24 14.7 +0.6**
baz=169
Q52A **Bidwell** 76.38 23 P **P** **17 24 14.5 -0.1**
baz=205
SYO **Syowa Base** 76.41 170 eP **P** **17 24 13.0 -1.5**
SYO **Syowa Base** 76.41 170 pP pP 17 24 16.6 -0.4
SYO **Syowa Base** 76.41 170 sP sP 17 24 17.6 -0.2
FLWY **Flagg Ranch** 76.42 1 IAmb IAmb 17 24 20.1
comp=Z,33nm,1.2s
S57A **Dark Hollow, R** 76.47 26 P **P** **17 24 15.7 +0.6**
baz=208
Q53A **Leroy** 76.53 24 P **P** **17 24 15.4 -0.1**
baz=206
PINE **Pine Mountain** 76.59 353 IAmb IAmb 17 24 21.9
comp=Z,43nm,1.2s
YPP **Pitchstone Pla** 76.61 1 P **P** **17 24 17.1 +0.9**
BCYI **Bear Canyon** 76.66 359 P **P** **17 24 16.6 +0.2**
S58A **Poland Farm, P** 76.68 27 P **P** **17 24 16.4 +0.1**
baz=208
S58A **Poland Farm, P** 76.68 27 IAmb IAmb 17 24 21.2
comp=Z,30nm,1.1s
I07A **Izee** 76.74 354 IAmb IAmb 17 24 22.7
comp=Z,33nm,1.2s
I04A **Tendick Farm,** 76.75 352 P **P** **17 24 16.8 +0.1**
baz=171,SNR=6.2
I03D **Drain, OR** 76.77 351 P **P** **17 24 17.6 +0.9**
baz=170
RSSD **Black Hills** 76.78 6 P **P** **17 24 17.0 0.0**
baz=186
RSSD **Black Hills** 76.78 6 P **P** **17 24 16.5 -0.6**
RSSD pmax pmax
comp=Z,22nm,1.2s
RSSD **Black Hills** 76.78 6 P **P** **17 24 16.5 -0.6**
RSSD IAmb IAmb 17 24 21.9
comp=Z,22nm,1.2s
R56A **Bull Pasture M** 76.88 26 P **P** **17 24 18.1 +0.5**
baz=207
Q54A **Coxs Mills** 76.88 24 P **P** **17 24 18.1 +0.6**
baz=206
Q54A **Coxs Mills** 76.88 24 IAmb IAmb 17 24 59.8
comp=Z,48nm,1.7s
P52A **Corning** 77.03 23 P **P** **17 24 17.8 -0.4**
baz=205
R58B **Mineral** 77.05 27 P **P** **17 24 17.9 -0.6**
baz=209
R58B **Mineral** 77.05 27 P **P** **17 24 17.6 -0.8**
R58B IAmb IAmb 17 24 23.5
comp=Z,35nm,1.2s
S59A **Mechanicsville** 77.10 27 P **P** **17 24 18.0 -0.7**
baz=209
R57A **Stanardsville** 77.10 26 P **P** **17 24 19.2 +0.5**
baz=208,SNR=5.5
YHH **Holmes Hill** 77.12 1 P **P** **17 24 18.8 -0.3**
I05D **Terrebonne, OR** 77.17 353 P **P** **17 24 19.6 +0.6**
baz=172
I02D **Swisshome** 77.23 351 P **P** **17 24 20.0 +0.7**
baz=170
R58A **Rapidan** 77.30 27 P **P** **17 24 19.6 -0.2**
baz=208
ECSD **EROS Data Cent** 77.31 11 P **P** **17 24 19.8 0.0**
baz=193
ECSD **EROS Data Cent** 77.31 11 P **P** **17 24 19.0 -0.8**
ECSD IAmb IAmb 17 24 24.2
comp=Z,18nm,1.1s
O51A **Pataskala** 77.33 22 P **P** **17 24 19.6 -0.5**
baz=205
RLMT **Red Lodge** 77.49 2 P **P** **17 24 21.3 +0.3**
baz=182
Q56A **Snyder Ridge,** 77.52 25 P **P** **17 24 21.4 +0.3**
baz=208
Q56A **Snyder Ridge,** 77.52 25 IAmb IAmb 17 24 25.4
comp=Z,50nm,1.8s
P54A **Burton** 77.56 24 P **P** **17 24 21.7 +0.4**
baz=206
O52A **Adamsville** 77.56 23 P **P** **17 24 21.7 +0.5**
baz=205
H04A **Detroit Lake** 77.60 352 P **P** **17 24 21.0 -0.4**
H04A IAmb IAmb 17 24 26.4
comp=Z,29nm,1.2s
COR **Corvallis** 77.64 352 P **P** **17 24 22.7 +1.2**
COR pmax pmax
comp=Z,113nm,1.4s
COR **Corvallis** 77.64 352 P **P** **17 24 22.7 +1.2**
DLMT **Dillon** 77.70 359 IAmb IAmb 17 24 27.5
comp=Z,23nm,1.4s
P55A **Reedsville** 77.70 25 P **P** **17 24 22.9 +0.8**
baz=207
Q57A **Strasburg** 77.79 26 P **P** **17 24 23.7 +1.1**
baz=208
O53A **New Philadelph** 77.89 23 P **P** **17 24 23.5 +0.4**
baz=206
O53A **New Philadelph** 77.89 23 IAmb IAmb 17 24 27.8
comp=Z,27nm,1.1s
BOZ **Bozeman (W)** 77.93 0 P **P** **17 24 24.1 +0.7**
baz=192,SNR=9.5
Q58A **Fox Den Farm,** 77.98 27 P **P** **17 24 24.0 +0.3**
baz=209
P56A **Dayton Farm, R** 78.05 25 P **P** **17 24 24.7 +0.7**
baz=208
G05D **Wamic, OR** 78.06 353 P **P** **17 24 25.1 +1.1**
baz=172
N51A **Ashland** 78.11 22 P **P** **17 24 24.5 +0.2**
baz=205
O54A **Avella** 78.11 24 P **P** **17 24 24.2 -0.2**
baz=206
P57A **Homestead Farm** 78.33 26 P **P** **17 24 26.2 +0.6**
baz=208
P57A **Homestead Farm** 78.33 26 IAmb IAmb 17 24 30.9
comp=Z,18nm,1.0s
R61A **Willards** 78.36 28 P **P** **17 24 25.9 +0.1**
baz=210
F10A **Beach Ranch, E** 78.46 356 IAmb IAmb 17 24 29.1
comp=Z,37nm,1.6s
O55A **Ligonier** 78.51 25 P **P** **17 24 26.8 +0.2**
baz=207
N53A **Lisbon** 78.51 23 P **P** **17 24 26.7 +0.2**
baz=206
N53A **Lisbon** 78.51 23 P **P** **17 24 27.1 +0.6**
N53A IAmb IAmb 17 24 32.0
comp=Z,37nm,1.1s
P58A **Pank, Wackersv** 78.61 27 P **P** **17 24 26.8 -0.2**
baz=209
O56A **Blue Knob Stat** 78.82 25 P **P** **17 24 28.4 +0.1**
baz=208,SNR=5.3
N54A **Moraine State** 78.94 24 P **P** **17 24 28.7 -0.2**
baz=207
N54A **Moraine State** 78.94 24 P **P** **17 24 29.2 +0.3**
N54A IAmb IAmb 17 24 34.5
comp=Z,49nm,1.4s
O57A **Amberson** 79.11 26 P **P** **17 24 29.8 0.0**
baz=209,SNR=6.3
N55A **Marion Center** 79.13 25 P **P** **17 24 29.8 -0.1**
baz=208
LAO **LASA Array** 79.18 4 P **P** **17 24 30.7 +0.5**
baz=185
LAO **LASA Array** 79.18 4 P **P** **17 24 30.2 +0.1**
LAO IAmb IAmb 17 24 35.9
comp=Z,28nm,1.2s
MSO **Missoula** 79.19 358 P **P** **17 24 30.3 +0.1**
baz=178
MSO **Missoula** 79.19 358 IAmb IAmb 17 24 35.7
comp=Z,29nm,1.4s
O58A **Lewisberry** 79.30 26 P **P** **17 24 30.6 -0.3**
baz=209
SSPA **Standing Stone** 79.39 26 P **P** **17 24 31.5 +0.2**
baz=208
SSPA **Standing Stone** 79.39 26 P **P** **17 24 30.9 -0.5**
SPMN **Marine on St.** 79.44 13 P **P** **17 24 30.7 -0.8**
baz=196
SPMN **Marine on St.** 79.44 13 P **P** **17 24 32.4 +0.9**
SPMN IAmb IAmb 17 24 36.1
comp=Z,27nm,1.1s
PAGS **Pennsylvania G** 79.47 27 IAmb IAmb 17 24 37.0
comp=Z,63nm,1.5s
E04D **Cinebar** 79.49 352 P **P** **17 24 32.2 +0.5**
baz=171
M54A **Oil Creek Stat** 79.53 24 P **P** **17 24 32.2 0.0**
baz=207
E03A **Lebam** 79.60 352 IAmb IAmb 17 24 38.4
comp=Z,24nm,1.0s
N57A **Milroy** 79.62 26 P **P** **17 24 32.1 -0.5**
baz=209
TOO **Toolangi** 79.73 232 P **P** **17 24 33.5 -0.1**
TOO pmax pmax
comp=Z,42nm,1.3s
TOO **Toolangi** 79.73 232 P **P** **17 24 33.5 -0.1**
TOO IAmb IAmb 17 24 39.5
comp=Z,42nm,1.3s
O59A **Robesonia** 79.74 27 P **P** **17 24 33.8 +0.5**
baz=210
M55A **Ridgway** 79.81 25 P **P** **17 24 33.3 -0.3**
baz=208
M55A **Ridgway** 79.81 25 IAmb IAmb 17 24 38.8
comp=Z,57nm,1.4s
H43A **Windswept, Lux** 79.85 17 IAmb IAmb 17 24 38.5
comp=Z,37nm,1.1s
F36A **Milaca** 79.92 13 IAmb IAmb 17 24 39.1
comp=Z,45nm,1.0s
MAW **Mawson** 79.92 178 P **P** **17 24 34.5 +0.5**
comp=Z,3.2nm,0.8s,baz=203,slow=8.1,SNR=4.6
MAW LR LR 17 57 49.2
comp=Z,938nm,18.0s,baz=192,slow=34
MAW **Mawson** 79.92 178 P **P** **17 24 33.9 -0.1**
MAW pmax pmax
comp=Z,3.0nm,1.3s
MAW **Mawson** 79.92 178 P **P** **17 24 33.9 -0.1**
M56A **Emporium** 80.03 25 P **P** **17 24 35.4 +0.5**
baz=208
M56A **Emporium** 80.03 25 P **P** **17 24 36.2 +1.4**
O60A **Telford** 80.05 27 P **P** **17 24 34.7 -0.2**
baz=210
D05A **Enumclaw** 80.06 353 IAmb IAmb 17 24 40.3
comp=Z,34nm,1.1s
JTMT **Jette** 80.11 358 IAmb IAmb 17 24 40.7
comp=Z,40nm,1.3s
M57A **Sunshine Farm,** 80.28 26 P **P** **17 24 36.3 +0.1**
baz=209
M57A **Sunshine Farm,** 80.28 26 P **P** **17 24 37.3 +1.1**
L54A **Sinclairville** 80.30 24 P **P** **17 24 36.3 0.0**
baz=207
C09A **Chrisman Ranch** 80.35 356 IAmb IAmb 17 24 42.0
comp=Z,41nm,1.4s
EGMT **Eagleton** 80.38 1 P **P** **17 24 36.6 0.0**
baz=182
EGMT **Eagleton** 80.38 1 IAmb IAmb 17 24 42.6
comp=Z,58nm,1.6s
N59A **State Game Lan** 80.42 27 P **P** **17 24 36.1 -0.9**
baz=210
NLWA **Neilton Lookou** 80.47 352 IAmb IAmb 17 24 42.8
comp=Z,34nm,1.1s
D03D **Eldon** 80.52 352 P **P** **17 24 37.2 -0.1**
baz=170,SNR=8.2
L55A **Hinsdale** 80.56 24 P **P** **17 24 38.0 +0.3**
baz=208,SNR=5.9
N60A **Cedar Hill Far** 80.64 27 P **P** **17 24 38.1 0.0**
baz=210
NEW **Newport** 80.74 356 P **P** **17 24 37.9 -0.6**
baz=175,SNR=7.7
NEW **Newport** 80.74 356 IAmb IAmb 17 24 44.0
comp=Z,32nm,1.3s
L56A **Greenwood** 80.83 25 P **P** **17 24 38.6 -0.5**
baz=208
MDND **Maddock** 80.92 8 P **P** **17 24 39.2 -0.2**
baz=190
L57A **Andrews Acres** 80.96 26 P **P** **17 24 39.3 -0.5**
baz=209
DGMT **Dagmar** 81.09 5 P **P** **17 24 39.8 -0.5**
baz=186
DGMT **Dagmar** 81.09 5 P **P** **17 24 40.2 -0.1**
DGMT IAmb IAmb 17 24 45.7
comp=Z,52nm,1.4s
I51A **Listowel** 81.14 22 P **P** **17 24 40.3 -0.5**
baz=206
M60A **Port Jervis** 81.22 27 P **P** **17 24 40.4 -0.8**
baz=211
TRNY **Table Rock, Ra** 81.22 28 IAmb IAmb 17 24 46.3
comp=Z,65nm,1.7s
PAL **Palisades** 81.22 28 P **P** **17 24 40.3 -0.9**
baz=211
L58A **Harry Jones Me** 81.37 26 P **P** **17 24 41.8 -0.2**
baz=210
K56A **Middlesex** 81.40 25 P **P** **17 24 42.0 -0.2**
baz=209
WALA **Waterton Lakes** 81.42 359 IAmb IAmb 17 24 47.9
comp=Z,26nm,1.4s
M61A **Granite Spring** 81.54 28 P **P** **17 24 43.1 +0.3**
baz=211
K57A **Scipio Center** 81.72 25 P **P** **17 24 43.0 -0.8**
baz=209
J55A **Hilton** 81.73 24 P **P** **17 24 43.4 -0.4**
baz=208
E43A **Lone Tree Farm** 81.82 17 IAmb IAmb 17 24 49.6
comp=Z,37nm,1.1s
AGMN **Agassiz Nation** 81.88 11 P **P** **17 24 44.6 +0.1**
baz=193
AGMN **Agassiz Nation** 81.88 11 IAmb IAmb 17 24 49.4
comp=Z,21nm,1.2s
KSCT **Kent School, K** 82.00 28 IAmb IAmb 17 24 49.9
comp=Z,28nm,1.3s
J56A **Wolcott** 82.07 25 P **P** **17 24 45.3 -0.3**
baz=209
K59A **Cooperstown** 82.37 26 P **P** **17 24 46.9 -0.3**
baz=210
L61A **Hillsdale 1, H** 82.37 28 P **P** **17 24 47.2 0.0**
baz=212
J57A **Williamstown** 82.50 25 P **P** **17 24 46.5 -1.4**
baz=210
SADO **Sadowa** 82.61 23 IAmb IAmb 17 24 53.2
comp=Z,19nm,1.1s
H53A **Bobcaygeon** 82.62 23 P **P** **17 24 48.4 -0.1**
baz=208
J58A **Remsen** 82.72 26 P **P** **17 24 48.0 -1.0**
baz=210
J58A **Remsen** 82.72 26 IAmb IAmb 17 24 54.1
comp=Z,35nm,1.2s
M64A **Tiverton** 82.78 29 P **P** **17 24 49.0 -0.3**
baz=213
K61A **Williamstown** 82.89 28 P **P** **17 24 49.7 -0.2**

baz=212
I57A Carthage 83.08 25 P **P** 17 24 50.7 -0.1
baz=210,SNR=6.1
J59A Piesco 83.09 26 P **P** 17 24 51.2 +0.2
baz=211
I58A Old Forge 83.11 26 P **P** 17 24 51.2 +0.1
baz=210
L64A Middleborough 83.25 29 P **P** 17 24 51.0 -0.7
baz=214
K62A Royalston 83.29 28 P **P** 17 24 51.7 -0.3
baz=212
J60A Lant Hill Farm 83.32 27 P **P** 17 24 51.9 -0.2
baz=212
HRV Adam Dziewonsk 83.43 29 P **P** 17 24 52.2 -0.5
baz=213
G54A Lake Saint Pet 83.51 23 P **P** 17 24 52.9 -0.2
baz=208
I59A Olmsteadville 83.61 27 P **P** 17 24 53.9 +0.2
baz=211
H57A Richville 83.63 25 P **P** 17 24 53.8 +0.1
baz=210,SNR=6.6
ULM Lac du Bonnet 83.78 10 P **P** 17 24 53.7 -0.6
comp=Z,7.6nm,0.9s,baz=288,slow=4.8,SNR=4.9
ULM LR LR 17 58 32.7
comp=Z,473nm,18.8s,baz=171,slow=33
I60A Shoreham 83.88 27 P **P** 17 24 54.6 -0.3
baz=212
J62A Henniker 83.93 28 P **P** 17 24 55.3 +0.1
baz=213
ALGO Algonquin Park 84.02 23 P **P** 17 24 55.5 -0.1
baz=208
H58A Gabriels 84.03 26 P **P** 17 24 55.8 0.0
baz=211
LONY Lake Ozonia 84.06 26 P **P** 17 24 55.0 -0.9
baz=211,SNR=9.2
G57A Newington 84.33 25 P **P** 17 24 56.8 -0.4
baz=210,SNR=7.3
I61A Oroboro, Fairl 84.37 28 P **P** 17 24 57.6 +0.1
baz=212
H59A Cadyville 84.41 26 P **P** 17 24 57.6 -0.1
baz=211
FRNY Flat Rock 84.61 26 IAmb IAmb 17 25 03.7
comp=Z,21nm,1.2s
G58A Ormstown 84.70 26 P **P** 17 24 58.0 -1.1
baz=211
H60A Morristown 84.71 27 P **P** 17 24 58.8 -0.4
baz=212
H61A Lyndonville 84.98 27 P **P** 17 25 01.7 +1.0
baz=213
F57A Harrington 85.04 25 P **P** 17 25 01.0 +0.2
baz=210
I63A Otisfield 85.11 28 P **P** 17 25 01.6 +0.4
baz=214
G60A Masonville 85.30 27 P **P** 17 25 02.4 +0.2
baz=212
I64A Boothbay 85.39 29 P **P** 17 25 03.1 +0.6
baz=214
E56A St. Veronique 85.55 24 P **P** 17 25 03.3 0.0
baz=210
STKA Stephens Creek 85.59 235 P **P** 17 25 03.9 -0.2
comp=Z,8.2nm,1.1s,baz=168,slow=6.2,SNR=5.7
STKA Stephens Creek 85.59 235 P **P** 17 25 04.0 -0.2
STKA pmax pmax
comp=Z,5.0nm,1.4s
STKA Stephens Creek 85.59 235 P **P** 17 25 04.0 -0.2
D55A Sainte-Anne-du 85.81 24 P **P** 17 25 04.6 -0.1
baz=210
E58A La Victoria 86.03 26 P **P** 17 25 05.6 -0.2
baz=212
H66A Whiting 87.06 30 P **P** 17 25 11.4 +0.6
baz=216
F63A Nahmakanta, Br 87.07 28 P **P** 17 25 11.2 +0.3
baz=215
FFC Flin Flon 87.47 6 P **P** 17 25 12.0 -0.6
FFC pmax pmax
comp=Z,18nm,1.2s
FFC Flin Flon 87.47 6 P **P** 17 25 12.0 -0.6
FFC IAmb IAmb 17 25 17.0
comp=Z,18nm,1.2s
CTA Charters Tower 88.93 247 P **P** 17 25 20.5 -0.1
comp=Z,6.9nm,1.0s,baz=183,slow=7.9,SNR=4.8
PMG Port Moresby 94.18 256 P **P** 17 25 44.1 -0.8
comp=Z,4.1nm,0.7s,baz=237,slow=3.6,SNR=1.3
PMG LR LR 17 56 41.3
comp=Z,101nm,21.6s,baz=178,slow=28
PMG Port Moresby 94.18 256 *i* P **P** 17 25 45.4 +0.4
PMG pmax pmax
comp=Z,18nm,1.1s
PMG Port Moresby 94.18 256 IAmb IAmb 17 25 51.1
comp=Z,19nm,1.0s
YKA Yellowknife Ar 94.89 359 LR LR 18 04 04.9
comp=Z,1µm,18.2s,baz=0.0,slow=33
SCHQ Schefferville 95.34 24 LR LR 18 04 12.4
comp=Z,186nm,21.2s,baz=282,slow=33
ASAR Alice Springs 95.98 237 P **P** 17 25 52.0 -1.1
comp=Z,1.2nm,1.0s,baz=106,slow=3.7,SNR=5.8
ASAR LR LR 18 05 14.8
comp=Z,131nm,18.0s,baz=144,slow=33
WRA Warramunga Ar 98.01 240 P **P** 17 26 01.2 -1.1
comp=Z,1.0nm,1.1s,baz=124,slow=4.4,SNR=4.5
WRA LR LR 18 07 43.6
comp=Z,180nm,18.0s,baz=195,slow=34
H01W1 Cape Leeuwin H 100.15 217 T T 19 18 20.2
baz=141,slow=76,SNR=10
H01W2 Cape Leeuwin H 100.16 217 T T 19 18 24.6
baz=141,slow=76,SNR=9.6
H01W3 Cape Leeuwin H 100.17 217 T T 19 18 25.9
baz=141,slow=76,SNR=10
TORD Torodi Ar. Bea 116.62 91 PKP **PKPdf** 17 31 09.5 -0.8
comp=Z,1.8nm,1.1s,baz=308,slow=2.7,SNR=4.3
TORD PP **PP** 17 32 16.7 -1.2
comp=Z,1.3nm,1.0s,baz=268,slow=7.9,SNR=5.0
TORD Torodi Ar. Bea 116.62 91 PKPdf **PKPdf** 17 31 08.8 -1.5
TORD **PP** 17 32 15.0 -2.9
ESDC Sonseca Array 122.72 61 PKP **PKPdf** 17 31 21.1 -0.3
comp=Z,1.8nm,1.0s,baz=300,slow=3.3,SNR=4.1
ESDC Sonseca Array 122.72 61 PKPdf **PKPdf** 17 31 20.1 -1.3
YAK Yakutsk 131.63 326 *i* PKIKP **PKiKP** 17 31 39.6 +1.0
TUE Stuetta 133.59 55 **PKPdf** 17 31 42.6 +0.5
DAVA Damuels 134.01 54 *e*P **PKPdf** 17 31 43.2 +0.4
comp=Z,7.3nm,1.2s
FETA Feichten 134.57 54 *e*P **PKPdf** 17 31 44.2 +0.4
comp=Z,9.6nm,1.6s
RETA Reutte 134.62 53 *e*P **PKPdf** 17 31 43.0 -0.8
comp=Z,6.3nm,1.3s
MOTA Moosalm 134.84 54 *e*P **PKPdf** 17 31 42.4 -1.9
comp=Z,11nm,1.1s
SQTA Sankt Quirin 134.91 54 *e*P **PKPdf** 17 31 43.1 -1.3
comp=Z,11nm,1.3s
WATA Walderalm 135.16 54 *e*P **PKPdf** 17 31 45.0 +0.1
comp=Z,9.6nm,1.3s
WTTA Wattenberg 135.20 54 *e*P **PKPdf** 17 31 44.7 -0.3
comp=Z,14nm,1.5s
ABTA Abfaltersbach 135.78 55 *e*P **PKiKP** 17 31 48.9 +1.3
comp=Z,8.0nm,1.4s
WET Wettzell 136.06 51 PKIKP **PKiKP** 17 31 51.2 +3.2
CLL Collm 136.07 48 *e*PS PS 17 44 48.0 -2.5
CLL *e*PPS PPS 17 46 36.0
CLL *e*SS SS 17 52 20.0 -6.3
CLL *e*SSS SSS 17 57 30.0
CLL *e*(SSSS) 18 00 48.0
CLL LmV 18 34 00.0
comp=Z,100nm,18.8s
KHC Kasperske Hory 136.52 51 *e*PKPDF **PKiKP** 17 31 49.2 +0.2
KHC *ex* x 17 32 09.0
KHC Kasperske Hory 136.52 51 *c i*PKIKP **PKiKP** 17 31 50.5 +1.5
KHC pmax pmax
comp=Z,14nm,1.3s
KHC Kasperske Hory 136.52 51 PKPdf **PKiKP** 17 31 48.3 -0.7
GEC2 GERESS Array S 136.60 52 **PKPdf** 17 31 47.1 -0.4
GERES GERESS Array B 136.60 52 PKP **PKPdf** 17 31 47.1 -0.4
comp=Z,1.0nm,0.8s,baz=251,slow=3.0,SNR=5.4
GERES GERESS Array B 136.60 52 PKIKP **PKPdf** 17 31 46.0 -1.5
GERES GERESS Array B 136.60 52 PKPdf **PKPdf** 17 31 46.0 -1.5
MOA Molln 136.99 53 *e*P **PKPdf** 17 31 48.9 +0.7
comp=Z,6.2nm,1.2s
SOKA Soboth 137.51 55 *e*P **PKPdf** 17 31 48.6 -0.7
comp=Z,6.0nm,1.4s
NJ2 Nanjing 137.60 283 *e*PKP **PKiKP** 17 31 54.2 +2.5
ARSA Arzberg 137.85 54 *e*P **PKPdf** 17 31 50.2 +0.5
comp=Z,6.8nm,1.4s
KRLC Kraliky 138.55 50 *e*PKPDF **PKPdf** 17 31 49.5 -1.5
KRLC *ex* x 17 31 54.4
KRLC Kraliky 138.55 50 *e*PKIKP **PKPdf** 17 31 49.5 -1.5
KRLC *e* 17 31 54.4
VYHS Vyhne 140.02 52 *e*PKIKP **PKPdf** 17 31 54.8 +1.1
VYHS Vyhne 140.02 52 *e*PKP **PKPdf** 17 31 54.8 +1.1

DIVS Divibare 141.00 59 PKPpre 17 31 50.2
NRIK Noril'sk 141.73 349 PKP **PKPdf** 17 31 56.0 -0.1
comp=Z,3.0nm,0.9s,baz=115,slow=2.4,SNR=5.3
NRIK Noril'sk 141.73 349 *i* PKIKP **PKPdf** 17 31 55.2 -0.9
LIT Litokhoron 142.76 65 PKHKP PKPpre 17 31 52.0
LIT Litokhoron 142.76 65 PKPpre 17 31 52.0
GZR Gura Zlata 142.94 56 ⇑P **PKPdf** 17 31 54.2 -4.9
GZR Gura Zlata 142.94 56 ⇑PKIKP **PKPdf** 17 31 54.2 -4.9
IDI Anoyia 144.16 74 PKP **PKPdf** 17 32 01.0 -0.5
comp=Z,46nm,1.1s,baz=289,slow=5.3,SNR=5.6
IDI Anoyia 144.16 74 PKPdf PKPbc 17 32 00.3 +0.6
MICGM Minsk 144.23 40 *e* PKPbc 17 31 59.0 -0.1
MNK Minsk 144.23 40 *e*PKIKP PKPbc 17 31 59.0 -0.1
ARR Arges 144.25 56 ⇓P **PKPab** 17 31 58.9 -0.3
BURAR Bucovina Array 144.37 52 ⇑P **PKPab** 17 31 59.7 0.0
BURAR Bucovina Array 144.37 52 ⇑PKIKP **PKPab** 17 31 59.7 0.0
BURAR Bucovina Array 144.37 52 PKPdf **PKPab** 17 31 58.6 -1.1
VOIR 144.53 56 ⇑P **PKPab** 17 31 59.8 -0.5
VOIR 144.53 56 ⇑PKIKP **PKPab** 17 31 59.8 -0.5
HHC Hu-ho-hao-te 144.67 296 *e*PKP **PKPab** 17 32 00.1 -0.9
DOPR Dopca 144.71 55 ⇑P **PKPab** 17 31 59.6 -1.3
ZIMR 144.90 59 ⇑P **PKPab** 17 32 00.5 -1.1
ZIMR 144.90 59 ⇑PKIKP **PKPab** 17 32 00.5 -1.1
OZUR 144.97 55 ⇑P **PKPab** 17 31 59.3 -2.6
BIZ Bicaz 145.07 53 ⇑P **PKPbc** 17 32 01.6 -0.5
MLR Muntele Rosu 145.16 56 PKPbc **PKPbc** 17 32 02.0 -0.6
comp=Z,74nm,1.2s,baz=1.6,slow=2.7,SNR=23
MLR Muntele Rosu 145.16 56 ⇑P **PKPbc** 17 32 01.8 -0.8
NEHR Nehoiu 145.41 56 ⇑P **PKPbc** 17 32 02.7 -0.6
SULR 145.46 57 ⇓P **PKPdf** 17 32 01.9 -1.4
ISR Istrita 145.62 57 ⇑P **PKPdf** 17 32 02.7 -1.0
ISR Istrita 145.62 57 ⇑PKIKP **PKPdf** 17 32 02.7 -1.0
VRI Vrincioaia 145.65 55 ⇑P **PKPdf** 17 32 03.4 -0.3
VRI Vrincioaia 145.65 55 ⇑PKIKP **PKPdf** 17 32 03.4 -0.3
BISRR Bisoca 145.68 56 ⇑P **PKPab** 17 32 04.8 +0.3
RAZG Razgrad 145.74 59 ⇑P **PKPab** 17 32 05.4 +0.7
KARP Karpathos 146.03 74 **PKPdf** 17 32 03.6 -1.1
GYA Guiyang 146.16 270 ⇓PKPbc **PKPbc** 17 32 06.0 -0.3
GYA PP **PP** 17 35 31.4 +2.6
GYA SKS **SKSdf** 17 39 08.5 -6.1
GYA AMB AMB
comp=Z,210nm,6.2s
GYA LR LR
comp=Z,540nm,6.8s
GYA LR LR
comp=Z,580nm,6.7s
GYA LR LR
comp=Z,470nm,8.8s
XAN Xi'an 146.17 284 PKPbc **PKPbc** 17 32 06.0 -0.1
XAN Xi'an 146.17 284 PKIKP **PKPdf** 17 32 04.8 -0.2
XAN Xi'an 146.17 284 **PKPdf** 17 32 04.8 -0.2
KLMR Klimovskoe 146.17 25 *e*PKIKP **PKPdf** 17 32 03.2 -0.8
KLMR pmax pmax
comp=Z,91nm,1.3s
KLMR Klimovskoe 146.17 25 *e*PKPdf **PKPdf** 17 32 03.3 -0.8
KLMR AMP 17 32 09.2
comp=Z,91nm,1.3s
AKASG Malin Array Be 146.24 46 PKPbc **PKPdf** 17 32 04.0 -0.5
comp=Z,9.5nm,0.9s,baz=286,slow=3.5,SNR=17
AKASG Malin Array Be 146.24 46 PKIKP **PKPdf** 17 32 02.7 -1.8
AKASG Malin Array Be 146.24 46 **PKPdf** 17 32 02.7 -1.8
AKBB Malin Array Si 146.24 46 PKIKP **PKPdf** 17 32 03.2 -1.3
AKBB Malin Array Si 146.24 46 PKPdf **PKPdf** 17 32 03.1 -1.3
SORM Soroca 146.35 51 ⇓P **PKPdf** 17 32 04.9 +0.1
SORM Soroca 146.35 51 ⇓PKP2 **PKPdf** 17 32 04.9 +0.1
SLVM Son La 146.44 259 **PKPdf** 17 32 06.0 +0.2
HARR Harsova 146.65 57 ⇑P **PKPbc** 17 32 06.9 -0.1
HARR Harsova 146.65 57 ⇑PKP2 **PKPbc** 17 32 06.9 -0.1
CFR Carcaliu 146.73 56 ⇑P **PKPdf** 17 32 06.1 +0.6
CFR Carcaliu 146.73 56 ⇑PKP2 **PKPdf** 17 32 06.1 +0.6
TLBR Topalu 146.75 57 ⇑P **PKPdf** 17 32 06.3 +0.7
KIS Kishinev 146.89 53 *e*PKP **PKPbc** 17 32 07.0 -0.7
comp=Z,90nm,1.8s
KIS Kishinev 146.89 53 *e*PP PP 17 35 47.0 +15
KIS Kishinev 146.89 53 *e*PKP2 **PKPbc** 17 32 07.0 -0.7
KIS pmax pmax
comp=Z,90nm,1.8s
MILM Milestii Mici 146.91 53 ⇑P **PKPbc** 17 32 07.3 -0.4
TIRR Tirgusor 147.02 57 ⇑P **PKPbc** 17 32 07.2 -0.9
TIRR Tirgusor 147.02 57 ⇑PKP2 **PKPbc** 17 32 07.2 -0.9
ULN Ulaanbaatar 147.14 309 *i* PKIKP **PKPdf** 17 32 06.3 -0.1
ULN Ulaanbaatar 147.14 309 PKPdf **PKPdf** 17 32 06.7 +0.4
TLCR 147.20 56 ⇑P **PKPdf** 17 32 07.3 +1.0
TLCR 147.20 56 ⇑PKP2 **PKPdf** 17 32 07.3 +1.0
PRGR Permogore 147.57 20 *e*PKIKP **PKPdf** 17 32 06.3 -0.1
PRGR pmax pmax
comp=Z,40nm,1.3s
SONM Songino Array 147.58 309 PKPbc **PKPdf** 17 32 07.7 +0.6
comp=Z,7.2nm,1.1s,baz=78,slow=1.8,SNR=13
TLY Talaya 148.08 317 PKPbc **PKPbc** 17 32 09.3 -1.5
comp=Z,9.3nm,0.8s,baz=266,slow=1.5,SNR=8.0
TLY Talaya 148.08 317 *e*PKP2 **PKPbc** 17 32 10.4 -0.4
TLY pmax pmax
comp=Z,69nm,1.5s
TLY Talaya 148.08 317 **PKPdf** 17 32 09.1 +1.5
OBN Obninsk 148.46 35 PKPbc **PKPbc** 17 32 11.3 -0.3
comp=Z,3.6nm,0.6s,baz=135,slow=6.5,SNR=9.9
OBN Obninsk 148.46 35 ⇓*e*PKIKP **PKPdf** 17 32 08.6 +0.6
OBN *i* 17 32 11.5
OBN *e*SS SS 17 55 39.2 +50
OBN pmax pmax
comp=Z,26nm,2.2s
OBN pmax pmax
comp=Z,85nm,1.5s
OBN MLR MLR
comp=Z,191nm,19.0s
OBN Obninsk 148.46 35 PKPdf **PKPdf** 17 32 08.0 -0.1
OBN PKPbc **PKPbc** 17 32 12.3 +0.8
ZAK Zakamensk 148.77 315 *e*PKP2 **PKPbc** 17 32 11.8 -1.0
ZAK pmax pmax
comp=Z,14nm,1.5s
KMI Kunming 148.99 265 ⇓*e*PKPbc **PKPbc** 17 32 14.1 -0.2
KMI pPKP pPKPbc 17 32 17.2 +0.4
CMAR Chiang Mai Arr 149.04 250 PKPbc **PKPbc** 17 32 13.9 -0.3
comp=Z,10nm,0.9s,baz=171,slow=1.6,SNR=47
CMAR Chiang Mai Arr 149.04 250 PKPdf **PKPdf** 17 32 09.8 -0.4
CMAR PKPbc **sPKPdf** 17 32 13.7 +0.2
CHTO Chiang Mai 149.23 251 PKP2 **PKPbc** 17 32 15.0 +0.3
CHTO Chiang Mai 149.23 251 PKPdf **PKPdf** 17 32 10.6 +0.2
CHTO PKPbc **PKPbc** 17 32 15.0 +0.3
CD2 Chengdu 149.86 276 *e*PKPbc **PKPdf** 17 32 11.9 +0.7
CD2 pPKP PKiKP 17 32 16.6 -0.4
LZH Lanzhou 150.54 287 *e*PKPbc **PKPbc** 17 32 17.2 -0.5
LZH LR LR
comp=Z,200nm,18.1s
LZH LR LR
comp=Z,220nm,18.2s
LZH LR LR
comp=Z,310nm,20.0s
BR231 Keskin MP Arra 150.66 66 PKPdf **PKPdf** 17 32 11.6 -0.6
BR231 **PKPbc** 17 32 16.8 -0.9
LPSR Galich'ya Gora 150.97 38 *e*PKIKP **PKPbc** 17 32 16.2 -1.7
LPSR pmax pmax
comp=Z,40nm,1.4s
CSS Mathiatis 150.98 76 PKPdf **PKPdf** 17 32 12.0 -0.8
KIRV Kirov 151.16 21 PKPbc **PKPbc** 17 32 18.2 +0.1
comp=Z,40nm,1.2s,baz=288,slow=2.0,SNR=14
BR131 Keskin Array S 151.33 66 PKIKP **PKPdf** 17 32 14.6 +1.2
BR131 Keskin Array S 151.33 66 **PKPdf** 17 32 14.6 +1.2
BRTR Keskin Array B 151.33 66 PKPbc **PKPbc** 17 32 18.5 -0.9
comp=Z,10nm,1.3s,baz=219,slow=1.6,SNR=11
BRTR Keskin Array B 151.33 66 PKIKP **PKPdf** 17 32 14.5 +1.2
BRTR Keskin Array B 151.33 66 PKPdf **PKPdf** 17 32 14.4 +1.1
EIL Elat 151.41 87 PKPbc **PKPbc** 17 32 19.5 -0.1
comp=Z,34nm,1.1s,baz=347,slow=2.3,SNR=9.9
VSR Storozhevoye 151.81 40 *e*PKIKP **PKPbc** 17 32 18.6 -1.3
VSR pmax pmax
comp=Z,30nm,1.3s
VORD Divnogorie 152.00 41 *e*PKIKP **PKPbc** 17 32 18.5 -1.8
VORD pmax pmax
comp=Z,20nm,1.2s
MMAI Mount Meron Ar 152.45 80 PKPbc **PKPbc** 17 32 21.8 -0.2
comp=Z,7.4nm,1.0s,baz=50,slow=2.3,SNR=4.4
VRH Novokhopyorsk 153.19 39 *e*PKIKP **PKPbc** 17 32 22.5 -0.4
VRH pmax pmax
comp=Z,10.0nm,1.0s
ASF Jabal al Asfar 153.57 83 PKPbc **PKPbc** 17 32 23.1 -1.4
comp=Z,6.5nm,1.0s,baz=286,slow=1.1,SNR=7.4
GTA Gaotai 153.72 294 *e*PKPbc **PKPdf** 17 32 16.7 -0.2
ARU Arti 155.34 13 PKP **PKPdf** 17 32 19.7 +1.4
comp=Z,0.4nm,0.3s,baz=283,slow=2.7,SNR=5.0
ARU Arti 155.34 13 *i* PKIKP **PKPdf** 17 32 20.0 +1.7
ARU Arti 155.34 13 PKPdf **PKPdf** 17 32 19.9 +1.5

ZAA0 Zalesovo Array 155.70 336 PKPdf **PKPdf** 17 32 17.3 -1.6
ZAA0 PKPab **PKPab** 17 32 45.1 -0.1
ZALV Zalesovo Beam 155.70 336 PKP **PKPdf** 17 32 17.7 -1.2
comp=Z,2.8nm,1.0s,baz=131,slow=6.5,SNR=8.7
ZALV PKPab **PKPab** 17 32 44.9 -0.3
comp=Z,1.7nm,0.7s,baz=41,slow=2.7,SNR=4.4
ZALV Zalesovo Beam 155.70 336 PKIKP **PKPdf** 17 32 17.0 -1.9
ZALV 17 32 45.0
ZALV Zalesovo Beam 155.70 336 PKPdf **PKPdf** 17 32 17.0 -1.9
ZALV **PKPab** 17 32 45.0 -0.2
KIV Kislovodsk 157.10 53 *e*PKIKP PKPdf 17 32 30.1 +8.9
KIV pmax pmax
comp=Z,41nm,1.1s
KBZ Khabaz 157.32 54 PKPab **PKPab** 17 32 53.3 +0.7
comp=Z,10nm,1.1s,baz=272,slow=5.6,SNR=7.0
BVAR Borovoye Array 159.63 356 PKP **PKPdf** 17 32 23.5 -0.3
comp=Z,0.7nm,0.9s,baz=280,slow=8.9,SNR=3.6
BVAR PKPab **PKPab** 17 33 02.0 -0.2
comp=Z,0.6nm,0.7s,baz=289,slow=4.4,SNR=2.2
KURK Kurchatov 160.44 340 PKIKP **PKPdf** 17 32 25.1 +0.3
KURK Kurchatov 160.44 340 **PKPdf** 17 32 25.1 +0.3
KURK PKPab **PKPab** 17 33 06.9 +1.1
KURBB Kurchatov Arra 160.55 340 PKP **PKPdf** 17 32 24.1 -0.8
comp=Z,3.6nm,1.3s,baz=332,slow=1.2,SNR=8.5
KURBB PKPab **PKPab** 17 33 04.6 -1.7
comp=Z,3.7nm,1.0s,baz=22,slow=4.3,SNR=9.8
KURBB PP **PP** 17 36 48.1 -0.3
comp=Z,0.1nm,0.4s,baz=18,slow=4.7,SNR=4.7
MAK Makhachkala 160.71 52 *e*PKIKP **PKPdf** 17 32 20.8 -4.5
MAK *e* 17 36 44.2
MAK pmax pmax
comp=Z,147nm,1.4s
AKTO Aktyubinsk 160.73 20 PKP **PKPdf** 17 32 24.7 -0.5
comp=Z,2.1nm,0.8s,baz=333,slow=1.7,SNR=5.6
AKTO PKPab **PKPab** 17 33 07.2 +0.2
comp=Z,1.5nm,0.8s,baz=0.0,slow=2.0,SNR=2.9
WMQ Urumqi 161.18 312 *e*PKP **PKPdf** 17 32 25.5 -0.5
WMQ LR LR
comp=Z,240nm,29.1s
WMQ LR LR
comp=Z,500nm,29.1s
WMQ LR LR
comp=Z,120nm,22.7s
MKAR Makanchi Array 162.31 327 PKP **PKPdf** 17 32 26.8 -0.2
comp=Z,0.9nm,0.9s,baz=70,slow=1.7,SNR=3.8
MKAR PKPab **PKPab** 17 33 13.3 -0.9
comp=Z,1.5nm,1.0s,baz=5.7,slow=3.7,SNR=4.0
MKAR Makanchi Array 162.31 327 PKIKP **PKPdf** 17 32 25.2 -1.8
MKAR 17 33 13.6
MKAR Makanchi Array 162.31 327 PKPdf **PKPdf** 17 32 25.2 -1.8
MKAR PKPab **PKPab** 17 33 13.6 -0.6
ABKAR Akbulak array 162.33 18 **PKPdf** 17 32 26.5 -0.4
ABKAR PKPab **pPKPab** 17 33 16.1 -0.4
WSAR Wadi Sarin 167.31 136 PKP **PKPdf** 17 32 32.5 +0.5
comp=Z,4.2nm,1.0s,baz=192,slow=1.5,SNR=4.8
TARG Taragay, Kyrgy 168.22 323 **PKPdf** 17 32 30.5 -2.1
TARG PKPab **PKPab** 17 33 41.0 +0.1
GEYT Alibeck 170.21 55 PKP **PKPdf** 17 32 33.9 +0.4
comp=Z,0.7nm,0.3s,baz=27,slow=7.2,SNR=3.7
GEYT PKPab **PKPab** 17 33 50.1 +0.7
comp=Z,1.9nm,0.8s,baz=70,slow=1.7,SNR=4.2
GAR Garm 173.50 346 PKPdf **PKPdf** 17 32 33.5 -1.6
GAR PKPab **PKPab** 17 34 03.7 -0.1
CHGR Chuyangaron 174.01 353 PKPdf **PKPdf** 17 32 34.4 -0.9
CHGR PKPab **pPKPab** 17 34 07.7 -0.8

*IDC **10** 17:21:09.7±1.3, 10.79N×126.14E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/60, mbtmp3.9/8, MS3.6/5, Ms1 3.6/5, ms1mx3.0/42, Error ellipse: s-maj=67.9km s-min=16.2km az=66.0*
*MAN **10** 17:21:12.7, 10.27N×125.21E, h21km, mb4.7, ML3.6, MS3.5*
MAN Intensity IV - St Bernard and San Juan Southern Leyte; Intensity III - Hinunangan Southern Leyte; Intensity II - Sogod and Silago Southern Leyte.
*NEIC **10** 17:21:15.5±1.4, 10.61N±0.09×125.7E±0.1, h37km±11km, mb4.3/12, Error ellipse: s-maj=20.8km s-min=13.3km az=88.0*
ISC 10 17:21:11.5±1.3, 10.38N±0.03×125.26E±0.03, h1km±9km, n47, σ1.975/48, mb4.2/14, 3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MSLP	**Maasin**	**0.47**	**238**	*e*P		**Pg**	**17 21 21.1**	**+0.6**
MSLP				*e*S		**Sb**	**17 21 29.1**	**-1.0**
OCLP	**Ormoc**	**0.92**	**316**	*e*P		**Pb**	**17 21 30.2**	**-0.3**
OCLP				*e*S		**Sn**	**17 21 47.1**	**+1.4**
GLSP	**General Luna,**	**1.04**	**125**	*e*P		**Pg**	**17 21 31.0**	**-0.4**
GLSP				*e*S		**Sg**	**17 21 44.8**	**-0.2**
BESP	**Borongan**	**1.22**	**8**	*e*P		**Pg**	**17 21 34.5**	**-0.5**
BESP				*e*S		**Sn**	**17 21 53.8**	**+0.7**
LLP	**Lapu-Lapu**	**1.28**	**267**	⇓*e*P		**Pg**	**17 21 35.2**	**-0.8**
LLP				*e*S		**Sg**	**17 21 50.0**	**-2.6**
TBP	**Tagbilaran**	**1.54**	**244**	*e*P		**Pg**	**17 21 41.6**	**+0.4**
TBP				*e*S		**Sg**	**17 22 02.4**	**+1.2**
CGP	**Cagayan de Oro**	**2.00**	**196**	⇓*e*P		**Pn**	**17 21 47.4**	**+0.9**
CGP				*e*S		**Sn**	**17 22 09.4**	**-2.7**
CNP	**Catarman**	**2.19**	**345**	*e*P		**Pn**	**17 21 49.9**	**+0.6**
CNP				*e*S		**Sn**	**17 22 16.5**	**-0.6**
BUKP	**Musuan**	**2.50**	**185**	*e*P		**Pb**	**17 21 56.0**	**-1.2**
BUKP				*e*S		**Sn**	**17 22 24.9**	**+0.4**
GUIM	**Jordan**	**2.64**	**275**	*e*P		**Pn**	**17 21 55.6**	**+0.3**
GUIM				*e*S		**Sn**	**17 22 26.4**	**-1.7**
CNOP	**Candoni, Negro**	**2.64**	**258**	*e*P		**Pn**	**17 21 53.9**	**-1.5**
CNOP				*e*S		**Sn**	**17 22 26.8**	**-1.4**
DAV	**Davao City (W)**	**3.31**	**175**	LR		LR	17 23 47.2	
comp=Z,866nm,20.1s,baz=332,slow=42								
PVCP	**Virac**	**3.37**	**341**	*e*P		**Pn**	**17 22 06.4**	**+1.0**
PVCP				*e*S		**Sb**	**17 22 51.9**	**-1.9**
LQP	**Lukban**	**5.20**	**316**	⇓*e*P		**Pn**	**17 22 34.7**	**+4.0**
TGY	**Tagaytay City**	**5.62**	**312**	LR		LR	17 25 08.7	
comp=Z,322nm,18.6s,baz=68,slow=40								
MYLDM	**Lahad Datu**	**8.46**	**233**	Pn		Pn	17 23 22.8	+7.4
LUWI	**Luwuk**	**11.62**	**192**	Pn		**Pn**	**17 24 03.4**	**+4.7**
TPUB	**Ta-pu**	**13.59**	**342**	Pn		**Pn**	**17 24 25.5**	**-0.1**
GUMO	**Guam**	**19.44**	**79**	LR		LR	17 31 08.2	
comp=Z,121nm,21.8s,baz=222,slow=32								
BATI	**Baumata**	**20.52**	**184**	P		Pn	17 25 54.7	+1.1
13nm,0.6s,baz=37,slow=5.1,SNR=3.8								
MTN	**Manton Dam**	**23.80**	**166**			**P**	**17 26 24.8**	**-1.3**
CM31	**Chiang Mai Arr**	**26.70**	**290**	P		**P**	**17 26 54.0**	**+1.4**
CM31				IAmb		IAmb	17 27 47.7	
comp=Z,7.7nm,1.2s								
CMAR	**Chiang Mai Arr**	**26.70**	**290**	P		**P**	**17 26 57.3**	**+4.7**
comp=Z,0.3nm,0.3s,baz=79,slow=5.9,SNR=4.1								
CMAR	**Chiang Mai Arr**	**26.70**	**290**	P		**P**	**17 26 54.6**	**+1.9**
KSRS	**Korea Array**	**27.06**	**5**	LR		LR	17 36 44.3	
comp=Z,37nm,21.8s,baz=180,slow=35								
WB0	**Warramunga Arr**	**31.28**	**163**	P		**P**	**17 27 32.2**	**-1.1**
WB0				IAmb		IAmb	17 27 35.0	
comp=Z,10nm,1.6s								
WRAB	**Tennant Creek**	**31.43**	**163**	P		**P**	**17 27 33.2**	**-1.4**
WRAB				IAmb		IAmb	17 28 13.3	
comp=Z,9.6nm,1.5s								
WRA	**Warramunga Arr**	**31.43**	**163**	P		**P**	**17 27 33.9**	**-0.8**
comp=Z,0.6nm,0.6s,baz=341,slow=9.4,SNR=10.0								
WRA	**Warramunga Arr**	**31.43**	**163**	IAmb		IAmb	17 27 40.8	
comp=Z,0.1nm,1.1s								
WB2	**Warramunga Arr**	**31.43**	**163**	P		**P**	**17 27 35.6**	**+0.9**
WB2				IAmb		IAmb	17 27 43.0	
comp=Z,4.7nm,1.1s								
WR0	**Warramunga Arr**	**31.50**	**163**	P		**P**	**17 27 35.8**	**+0.5**
WR0				IAmb		IAmb	17 27 55.7	
comp=Z,8.1nm,1.4s								
USRK	**Ussuriysk Ar.**	**34.19**	**9**	P		**P**	**17 27 54.7**	**-3.9**
AS31	**Alice Springs**	**34.88**	**166**	P		**P**	**17 28 05.0**	**+0.2**
ASAR	**Alice Springs**	**34.88**	**166**	P		**P**	**17 28 04.8**	**0.0**
comp=Z,1.6nm,0.6s,baz=344,slow=7.0,SNR=32								
FORT	**Forest**	**41.01**	**176**	P		**P**	**17 28 56.7**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**41.16**	**72**	T		T	18 12 28.2	
baz=265,slow=74,SNR=13								
H11N2	**WAKE ISLAND Hy**	**41.17**	**72**	T		T	18 12 27.8	
baz=265,slow=74,SNR=8.4								
H11N3	**WAKE ISLAND Hy**	**41.18**	**72**	T		T	18 12 29.5	
baz=265,slow=74,SNR=12								
STKA	**Stephens Creek**	**44.83**	**160**	P		**P**	**17 29 27.1**	**-0.4**
comp=Z,2.2nm,0.8s,baz=315,slow=9.0,SNR=4.3								
MKAR	**Makanchi Array**	**51.34**	**323**	P		**P**	**17 30 17.2**	**-0.5**
comp=Z,1.0nm,0.7s,baz=118,slow=9.6,SNR=6.9								
MKAR	**Makanchi Array**	**51.34**	**323**	P		**P**	**17 30 16.8**	**-0.9**
DZM	**Mont Dz

ZAA0	**Zalesovo Array**	**54.05**	**332**	P	**P**	**17 30 35.5**	**-2.1**
ZAA0				IAmb	IAmb	17 30 40.6	
	comp=Z,4.4nm,1.4s						
ZALV	**Zalesovo Beam**	**54.05**	**332**	P	**P**	**17 30 36.4**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=107,slow=7.9,SNR=6.1						
KURK	**Kurchatov**	**55.42**	**326**	P	**P**	**17 30 46.8**	**-0.7**
KURK				IAmb	IAmb	17 30 56.5	
	comp=Z,4.2nm,1.0s						
KURBB	**Kurchatov Arra**	**55.42**	**326**	P	**P**	**17 30 46.8**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=125,slow=6.9,SNR=12						
ABKAR	**Akbulak array**	**66.14**	**319**	P	**P**	**17 32 02.2**	**+1.5**

KRSC 10 17:30:31.6±1.8, 49°.87N×157°.03E, h51km±24km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.00**	**325**	*e*P	Pn	17 30 49.5	+0.1
SKR				*e*S	Sn	17 31 02.3	-0.2
PAU	**Pauzhetka**	**1.61**	**355**	*e*P	Pn	17 30 59.7	+2.1
PAU				*e*S	Sn	17 31 19.8	+2.7
KDTR	**Khodutka, Kamc**	**2.06**	**19**	*e*P	Pn	17 31 06.8	+3.1
KDTR				*e*S	Sn	17 31 32.2	+4.1
ASAK	**Asacha**	**2.58**	**12**	*e*P	Pn	17 31 13.9	+3.0
MTVR	**Mutnovka**	**2.72**	**15**	*e*P	Pn	17 31 16.1	+3.2
MTVR				*e*S	Sn	17 31 48.7	+4.1
RUS	**Russkaya**	**2.73**	**19**	*e*P	Pn	17 31 15.9	+2.9
RUS				*e*S	Sn	17 31 48.2	+3.4
GRL	**Gorelyy**	**2.77**	**13**	*e*P	Pn	17 31 17.2	+3.6
GRL				*e*S	Sn	17 31 51.0	+5.2
KRMR	**Karymshinskiy**	**3.05**	**13**	*e*P	Pn	17 31 22.1	+4.9
APC	**Apacha**	**3.06**	**2**	*e*P	Pn	17 31 20.5	+3.0
PET	**Petropavlovsk**	**3.32**	**17**	*e*P	Pn	17 31 24.5	+3.5
PET				*e*S	Sn	17 32 04.6	+5.4
DALK	**Dalny**	**3.35**	**18**	*e*P	Pn	17 31 24.5	+3.1
DALK				*e*S	Sn	17 32 04.5	+4.7
UGLR	**Uglovaya**	**3.53**	**18**	*e*P	Pn	17 31 27.8	+3.8
AVH	**Avacha**	**3.57**	**17**	*e*P	Pn	17 31 28.6	+4.2
KOK	**Koryaka**	**3.57**	**16**	*e*P	Pn	17 31 29.2	+4.6
SMAR	**Somma**	**3.58**	**17**	*e*P	Pn	17 31 28.3	+3.6
KRER	**Koryakskii**	**3.61**	**17**	*e*P	Pn	17 31 29.3	+4.2
SDLR	**Sedlovina**	**3.61**	**18**	*e*P	Pn	17 31 28.5	+3.5
NLC	**Nalytchevo**	**3.61**	**23**	*e*P	Pn	17 31 27.4	+2.4
KRX	**Arik**	**3.64**	**16**	*e*P	Pn	17 31 29.7	+4.2
SPN	**Mys Shipunski**	**3.74**	**29**	*e*P	Pn	17 31 29.7	+3.0
SPN				*e*S	Sn	17 32 12.6	+3.2
GNL	**Ganaly**	**3.88**	**8**	*e*P	Pn	17 31 31.5	+2.8
BKI	**Bering**	**7.63**	**42**	*e*S	Sn	17 33 46.0	+0.9

*IDC **10** 17:30:40.3±1.6, 37°.36N×44°.10E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/54, mbtmp3.6/9, ML2.9/2, MS2.8/8, Ms1 2.8/8, ms1mx2.6/45, Error ellipse: s-maj=26.8km s-min=21.3km az=152.0*
*DDA **10** 17:30:44.0, 38°.85N×43°.61E, h7km±8km, MW3.9*
*ISK **10** 17:30:44.4, 38°.83N×43°.69E, h5km, ML3.7/22*
*NSSP **10** 17:30:44.4, 38°.93N×43°.62E, h7km, Ms3.6*

ISC 10 17:30:45.2±1.0, 38°.86N±0°.02×43°.60E±0°.02, h6km±8km, n68, σ1s69/76, mb3.4/7, MS2.7/3, 8C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**350**	*i* P	**Pg**	**17 30 48.6**	**+0.6**
VMUR				*i* S	**Sg**	**17 30 52.0**	**+2.1**
VMUR				IAML		17 30 53.0	
	comp=N,28μm,0.3s						
VMUR				IAML		17 30 54.0	
	comp=E,31μm,0.5s						
ERCV	**ERCIS-VAN**	**0.26**	**308**	PG	**Pb**	**17 30 51.2**	**-1.1**
VANB	**Van**	**0.31**	**212**	PG	**Pn**	**17 30 53.5**	**-2.9**
TVAN	**Van**	**0.37**	**205**	*i* P	**Pb**	**17 30 53.5**	**-0.7**
TVAN				*i* S	**Sb**	**17 30 59.6**	**-0.6**
TVAN				IAML		17 31 06.0	
	comp=N,8μm,0.7s						
TVAN				IAML		17 31 07.0	
	comp=E,8μm,0.9s						
CLDR	**Caldiran**	**0.37**	**41**	PG	**Pg**	**17 30 52.3**	**-0.2**
CLDR				SG	**Sb**	**17 30 58.7**	**-1.8**
CLDR	**Caldiran**	**0.37**	**41**	*i* P	**Pg**	**17 30 52.2**	**-0.3**
CLDR				*i* S	**Sb**	**17 30 58.8**	**-1.7**
CLDR				IAML		17 31 04.0	
	comp=N,6μm,0.9s						
CLDR				IAML		17 31 05.0	
	comp=E,6μm,0.7s						
DYDN	**Diyadin**	**0.68**	**6**	*i* P	**Pb**	**17 30 58.1**	**-1.5**
DYDN				*i* S	**Sb**	**17 31 08.7**	**-0.7**
DYDN				IAML		17 31 10.0	
	comp=N,4μm,0.3s						
DYDN				IAML		17 31 12.0	
	comp=E,4μm,0.5s						
GEVA	**Gevas**	**0.69**	**218**	*i* P	**Pb**	**17 30 58.8**	**-0.9**
GEVA				*i* S	**Sn**	**17 31 11.8**	**-1.0**
GEVA				IAML		17 31 20.0	
	comp=E,2μm,0.7s						
AKDM	**Akdamar-Van**	**0.72**	**223**	PG	**Pb**	**17 30 59.5**	**-0.7**
AKDM				SG	**Sn**	**17 31 11.5**	**-2.0**
MLAZ	**Malazgirt-MUS**	**0.87**	**289**	PG	**Pn**	**17 31 03.6**	**-0.4**
MLAZ				SG	**Sn**	**17 31 17.6**	**+0.6**
IGDI	**IGDIR**	**1.07**	**20**	*i* P	**Pn**	**17 31 06.1**	**-0.6**
IGDI				*i* S	**Sn**	**17 31 21.9**	**0.0**
IGDI				IAML		17 31 25.0	
	comp=N,1μm,0.8s						
IGDI				IAML		17 31 25.0	
	comp=E,699nm,0.7s						
TASB	**TASBURUN-IGDIR**	**1.22**	**24**	PN	**Pn**	**17 31 08.9**	**0.0**
TASB				SN	**Sn**	**17 31 27.0**	**+1.3**
BLIS	**Bitlis-Merkez**	**1.25**	**249**	*i* P	**Pn**	**17 31 08.6**	**-0.6**
BLIS				*i* S	**Sn**	**17 31 26.5**	**+0.1**
BLIS				IAML		17 31 31.0	
	comp=E,860nm,0.6s						
BLIS				IAML		17 31 32.0	
	comp=N,1μm,0.5s						
VNNZ	**Vanand**	**1.25**	**8**	⇑*i* P	**Pg**	**17 31 09.4**	**+0.3**
VNNZ				⇑*i* S	**Sn**	**17 31 25.8**	**-0.7**
HAKT	**HAKKARI**	**1.30**	**176**	*i* P	**Pn**	**17 31 08.8**	**-1.3**
HAKT				*i* S	**Sn**	**17 31 30.4**	**+2.5**
EATA	**Eleskirt**	**1.32**	**320**	*i* P	**Pg**	**17 31 10.2**	**-0.3**
EATA				*i* S	**Sn**	**17 31 31.0**	**+2.6**
NRKZ	**NAREK**	**1.40**	**35**	*i* P	**Pg**	**17 31 11.2**	**-0.8**
NRKZ				*i* S	**Sg**	**17 31 29.3**	**-0.9**
SRTM	**Siirt_Merkez**	**1.58**	**237**	*i* P	**Pg**	**17 31 15.6**	**+0.2**
SRTM				IAML		17 31 46.0	
	comp=E,717nm,0.6s						
SRTM				IAML		17 31 54.0	
	comp=N,815nm,0.7s						
MUSM	**Mu-Merkez**	**1.64**	**266**	*i* P	**Pg**	**17 31 17.1**	**+0.6**
MUSM				*i* S	**Sg**	**17 31 40.4**	**+2.6**
SIRT	**Sirnak**	**1.64**	**214**	PN	**Pg**	**17 31 15.7**	**-0.9**
SIRT				SN	**Sg**	**17 31 38.7**	**+0.9**
SIRN	**Sirnak**	**1.65**	**215**	*i* P	**Pg**	**17 31 16.5**	**-0.3**
SIRN				IAML		17 31 46.0	
	comp=E,936nm,0.9s						
SIRN				IAML		17 31 55.0	
	comp=N,744nm,0.9s						
KAPZ	**Kaputan**	**1.69**	**30**	⇑*i* P	**Pg**	**17 31 16.6**	**-0.9**
KAPZ				⇑*i* S	**Sg**	**17 31 39.2**	**-0.2**
VRTB	**Varto-Mus**	**1.70**	**281**	PN	**Pg**	**17 31 17.4**	**-0.3**
VRTB	**Varto-Mus**	**1.70**	**281**	*i* P	**Pg**	**17 31 17.8**	**0.0**
VRTB				IAML		17 31 53.0	
	comp=N,874nm,1.0s						
VRTB				IAML		17 31 56.0	
	comp=E,752nm,0.8s						
KOPR	**Koprukoy-ERZUR**	**1.76**	**310**	PN	**Pg**	**17 31 18.2**	**-0.8**
KARS	**Kars**	**1.81**	**347**	PN	**Pb**	**17 31 18.2**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.95**	**331**	PN	**Pb**	**17 31 20.9**	**-0.3**
GMRZ	**Gyumri**	**1.95**	**5**	*e*P	**Pg**	**17 31 21.0**	**-1.6**
GMRZ				S	**Sb**	**17 31 44.0**	**-1.9**
SVAN	**Silvan-Diyarba**	**2.01**	**250**	PN	**Pb**	**17 31 21.6**	**-0.6**
KARO	**Karliova-Bingo**	**2.04**	**283**	PN	**Pb**	**17 31 22.3**	**-0.3**
BTMN	**Batman**	**2.07**	**243**	*i* P	**Pg**	**17 31 23.7**	**-1.2**
BTMN				IAML		17 31 54.0	
	comp=N,672nm,0.8s						
BTMN				IAML		17 32 19.0	
	comp=E,611nm,1.7s						
STE	**Stepanavan**	**2.22**	**15**	*e*P	**Pg**	**17 31 26.7**	**-0.9**
STE				*e*S	Sg	17 32 05.2	+8.8
GRS	**Goris**	**2.22**	**72**	⇓*i* P	**Pg**	**17 31 27.0**	**-0.7**
GRS				⇓*i* S	**Sg**	**17 32 00.0**	**+3.6**
BNGB	**Bingl**	**2.28**	**274**	PN	**Pb**	**17 31 25.9**	**-0.9**
EMRE	**Erzurum,Aziziy**	**2.34**	**301**	*i* P	**Pg**	**17 31 29.6**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.44**	**285**	PN	**Pb**	**17 31 28.4**	**-1.2**
DDEM	**Demirkent**	**2.48**	**326**	*i* P	**Pg**	**17 31 32.5**	**-0.1**
KRIK	**Erzurum-spir**	**2.54**	**306**	*i* P	**Pg**	**17 31 34.4**	**+0.6**
DBAD	**Bademkaya**	**2.60**	**326**	*i* P	**Pg**	**17 31 33.6**	**-1.4**
MAZI	**Mazidag**	**2.85**	**242**	PN	**Pb**	**17 31 33.6**	**-2.9**
BCA	**Borcka**	**2.99**	**330**	⇑P	**Pg**	**17 31 41.3**	**-1.2**
BCA	**Borcka**	**2.99**	**330**	PN	**Pb**	**17 31 35.8**	**-3.0**
BAYT	**Aydıntepe-Bayb**	**3.08**	**301**	PN	**Pb**	**17 31 37.2**	**-3.2**
ERZN	**Erzincan**	**3.10**	**285**	PN	**Pb**	**17 31 37.6**	**-3.1**
BATM	**Batumi**	**3.10**	**333**	⇑P	**Pg**	**17 31 42.6**	**-2.0**
BATM	**Batumi**	**3.10**	**333**	PN	**Pb**	**17 31 37.3**	**-3.4**
CHOM	**Cayeli-Rize**	**3.12**	**317**	PN	**Pb**	**17 31 38.1**	**-2.9**
PTK	**Pertek**	**3.29**	**272**	PN	**Pb**	**17 31 39.9**	**-4.0**
SVRC	**Sivrice-ELAZID**	**3.40**	**263**	PN	**Pb**	**17 31 41.6**	**-4.3**
KTUT	**Trabzon**	**3.63**	**307**	⇑P	**Pg**	**17 31 55.4**	**+0.7**
KBZ	**Kbabaz**	**4.89**	**354**	Pn	**Pg**	**17 32 19.1**	**+0.3**
	comp=E,0.2nm,0.3s,baz=151,slow=13,SNR=8.2						
KIV	**Kislovodsk**	**5.13**	**353**	⇑P	Pg	17 32 27.5	+4.0
KVAR	**Kislovodsk Arr**	**5.13**	**353**	Pn	**Pg**	**17 32 22.5**	**-1.0**
	baz=0.0,slow=20,SNR=2.4						
BRTR	**Keskin Array B**	**7.77**	**279**	LR	LR	17 35 41.8	
	comp=E,28nm,18.2s,baz=107,slow=35						
MMAI	**Mount Meron Ar**	**8.84**	**231**	LR	LR	17 36 46.5	
	comp=E,128nm,18.5s,baz=40,slow=44						
EIL	**Elat**	**11.62**	**221**	LR	LR	17 38 24.1	
	comp=E,88nm,21.1s,baz=50,slow=43						
AKTO	**Aktyubinsk**	**15.43**	**37**	LR	LR	17 41 51.5	
	comp=E,45nm,18.1s,baz=237,slow=41						
OBN	**Obninsk**	**16.94**	**346**	LR	LR	17 42 11.8	
	comp=E,11nm,21.6s,baz=286,slow=37						
WSAR	**Wadi Sarin**	**20.16**	**136**	LR	LR	17 44 10.7	
	comp=E,51nm,18.2s,baz=344,slow=43						
ARU	**Arti**	**20.18**	**25**	LR	LR	17 45 05.3	
	comp=E,37nm,20.7s,baz=158,slow=40						
VRAC	**Vranov**	**21.92**	**307**	LR	LR	17 46 30.3	
	comp=E,15nm,21.0s,baz=124,slow=41						
GERES	**GERESS Array B**	**23.62**	**305**	P	P	17 36 03.8	+6.9
	comp=E,0.2nm,0.4s,baz=96,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**25.08**	**340**	P	P	17 36 19.8	+10
	comp=E,2.8nm,1.1s,baz=166,slow=14,SNR=3.7						
KURBB	**Kurchatov Arra**	**27.20**	**53**	P	**P**	**17 36 30.9**	**+1.5**
	comp=E,0.5nm,0.6s,baz=263,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**29.22**	**62**	P	**P**	**17 36 47.8**	**+0.3**
	comp=E,0.4nm,0.8s,baz=277,slow=6.0,SNR=2.2						
ZALV	**Zalesovo Beam**	**31.66**	**48**	P	**P**	**17 37 11.2**	**+2.2**
	comp=E,0.3nm,0.3s,baz=261,slow=9.6,SNR=1.6						
ESDC	**Sonseca Array**	**36.49**	**287**	P	**P**	**17 37 54.5**	**+3.4**
	comp=E,0.8nm,0.8s,baz=56,slow=8.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**44.99**	**247**	P	P	17 38 55.9	-5.5
	comp=E,0.3nm,0.8s,baz=40,slow=11,SNR=1.8						

*IDC **10** 17:38:22.3±1.5, 6°.19S×147°.23E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/40, mbtmp3.5/6, ML3.4/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/23, Error ellipse: s-maj=48.9km s-min=22.2km az=95.0*
*NEIC **10** 17:38:27.7±2.6, 6°.29S±0°.04×147°.1E±0°.2, h41km±9km, mb4.0/11, Error ellipse: s-maj=24.9km s-min=4.0km az=99.0*

ISC 10 17:38:28.4±0.9, 6°.28S±0°.07×147°.1E±0°.2, h50km, n24, σ2s14/24, mb3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.11**	**180**	Pn	**Pn**	**17 39 13.4**	**-1.6**
	6.0nm,0.3s,baz=354,slow=4.8,SNR=25						
PMG				Sn	**Sn**	**17 39 54.7**	**+3.7**
	9.0nm,0.3s,baz=242,slow=14,SNR=3.6						
MANU	**Manus Island**	**4.21**	**3**	Pn	**Pn**	**17 39 28.0**	**-2.2**
COEN	**Coen**	**8.57**	**207**	Pn	**Pn**	**17 40 26.9**	**-3.2**
CTAO	**Charters Tower**	**13.76**	**184**	Pn	**Pn**	**17 41 40.8**	**-0.2**
MTN	**Manton Dam**	**17.07**	**246**		**Pn**	**17 42 25.4**	**+1.6**
MTN				IAmb	IAmb	17 42 27.6	
	comp=Z,16nm,1.2s						
WB0	**Warramunga Arr**	**18.26**	**222**		**P**	**17 42 33.3**	**-4.7**
WR0	**Warramunga Arr**	**18.30**	**221**		**P**	**17 42 34.9**	**-3.5**
WR0				IAmb	IAmb	17 42 49.9	
	comp=Z,12nm,1.6s						
WRAB	**Tennant Creek**	**18.40**	**221**	P	**P**	**17 42 36.9**	**-2.7**
WRAB				IAmb	IAmb	17 42 39.4	
	comp=Z,9.5nm,1.4s						
WB2	**Warramunga Arr**	**18.41**	**221**	P	**P**	**17 42 38.8**	**-0.9**
WB2				IAmb	IAmb	17 43 14.2	
	comp=Z,13nm,1.6s						
WRA	**Warramunga Arr**	**18.42**	**221**	P	**Pn**	**17 42 40.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=48,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**18.42**	**221**	P	**P**	**17 42 37.7**	**-2.0**
AS31	**Alice Springs**	**21.47**	**215**	P	**P**	**17 43 13.3**	**+0.3**
ASAR	**Alice Springs**	**21.47**	**215**	P	**P**	**17 43 14.2**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=50,slow=8.6,SNR=8.0						
ASAR	**Alice Springs**	**21.47**	**215**	P	**P**	**17 43 13.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.04**	**239**	P	**P**	**17 43 36.4**	**-2.7**
FITZ				IAmb	IAmb	17 44 09.6	
	comp=Z,9.6nm,1.4s						
ARMA	**Armidale**	**24.38**	**171**	P	**P**	**17 43 41.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**38.42**	**222**	P	**P**	**17 45 46.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**53.50**	**298**	P	**P**	**17 47 45.4**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=117,slow=5.9,SNR=6.9						
PETK	**Petropavlovsk-**	**59.83**	**7**	LR	LR	18 10 41.8	
	comp=Z,234nm,21.6s,baz=128,slow=32						
MK31	**Makanchi Array**	**77.80**	**320**	P	**P**	**17 50 21.4**	**+0.9**
MK31				IAmb	IAmb	17 50 35.4	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**77.80**	**320**	P	**P**	**17 50 21.4**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=101,slow=6.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**79.32**	**328**	P	**P**	**17 50 28.1**	**-0.6**
ILAR	**Eielson Array**	**85.68**	**23**	P	**P**	**17 51 02.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=253,slow=5.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.29**	**284**	PKPbc	**PKPbc**	**17 58 01.9**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=62,slow=3.7,SNR=15						

*DDA **10** 18:00:36.6, 39°.24N×40°.38E, h7km±1km, ML1.3*
*ISK **10** 18:00:36.6, 39°.08N×40°.34E, h5km, ML2.1/5*
*ATA **10** 18:00:37.9±0.3, 39°.01N×40°.26E, h28km±4km, ML1.4, MW3.1*

ISC 10 18:00:38.0±1.3, 39°.09N±0°.04×40°.33E±0°.03, h2km±13km, n13, σ1s00/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bingl**	**0.29**	**111**	PG	**Pg**	**18 00 43.3**	**-0.3**
BNGB				SG	**Sg**	**18 00 48.1**	**+0.7**
YEDI	**Yedisu-Bingol**	**0.38**	**26**	PG	**Pg**	**18 00 45.4**	**0.0**
TNCL	**Tunceli-Merkez**	**0.61**	**272**	*e*P	**Pg**	**18 00 49.9**	**+0.1**
TNCL				*e*S	**Sb**	**18 00 59.3**	**-1.5**
TNCL				IAML		18 01 01.0	
	comp=Z,25nm,0.2s						
TNCL	**Tunceli-Merkez**	**0.61**	**272**	*i* P	**Pg**	**18 00 49.9**	**+0.1**
TNCL				*i* S	**Sb**	**18 00 59.6**	**-1.1**
HANI	**Diyarbakir_Han**	**0.68**	**175**	*i* P	**Pb**	**18 00 52.9**	**+0.2**
HANI				IAML		18 01 04.0	
	comp=E,11nm,0.4s						
HANI				IAML		18 01 05.0	
	comp=N,10nm,0.2s						
ERZN	**Erzincan**	**0.68**	**316**	PG	**Pg**	**18 00 51.4**	**+0.3**
ERZN				SG	**Sb**	**18 01 02.0**	**-0.8**
PTK	**Pertek**	**0.76**	**255**	PG	**Pg**	**18 00 52.3**	**-0.3**
ELZG	**Elazig**	**1.21**	**241**	*i* P	**Pg**	**18 01 00.7**	**-0.5**
ELZG				*i* S	**Sn**	**18 01 21.8**	**+2.6**
KELT	**Kelkit**	**1.34**	**322**	*e*P	**Pb**	**18 01 03.8**	**-0.3**
KELT				IAML		18 01 21.6	
	comp=Z,2.9nm,1.0s						
KELT	**Kelkit**	**1.34**	**322**	*i* P	**Pg**	**18 01 04.1**	**+0.3**
KEMA	**Kemaliye**	**1.44**	**278**	*e*P	**Pn**	**18 01 03.9**	**-1.4**
KEMA				IAML		18 01 27.2	
	comp=Z,1.3nm,0.7s						
KEMA	**Kemaliye**	**1.44**	**278**	*i* P	**Pn**	**18 01 05.0**	**-0.2**
KEMA				*i* S	**Sg**	**18 01 25.3**	**+1.1**
KEMA				IAML		18 01 34.0	
	comp=N,4.8nm,0.5s						
ARPR	**Arapgir-MALATY**	**1.55**	**271**	PN	**Pn**	**18 01 06.6**	**-0.3**

*IDC **10** 18:20:36.2±19.0, 15°.79S×174°.17W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/45, mbtmp4.2/5, Error ellipse: s-maj=360.9km s-min=149.9km az=78.0*
*NEIC **10** 18:21:40.7±1.1, 16°.3S±0°.2×175°.7W±0°.3, h575km±22km, mb4.3/14, Error ellipse: s-maj=47.3km s-min=29.6km az=122.0*

ISC 10 18:21:36.3±3.4, 16°.5S±0°.3×175°.2W±0°.5, h550km, n23, σ1s58/25, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.62**	**258**	P	**P**	**18 23 23.6**	**+2.8**
CTA	**Charters Tower**	**36.77**	**258**	P	**P**	**18 27 55.2**	**-2.8**
	1.8nm,0.7s,baz=85,slow=12,SNR=1.8						
CTA	**Charters Tower**	**36.77**	**258**	P	**P**	**18 27 55.2**	**-2.8**
CTAO	**Charters Tower**	**36.77**	**258**	P	**P**	**18 27 55.1**	**-2.8**
STKA	**Stephens Creek**	**42.05**	**240**	P	**P**	**18 28 39.3**	**-1.0**
	2.4nm,0.9s,baz=61,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**42.05**	**240**	P	**P**	**18 28 39.3**	**-1.0**
BBOO	**Buckleboo**	**46.82**	**240**	P	**P**	**18 29 16.8**	**-0.2**
WR0	**Warramunga Arr**	**47.77**	**258**	P	**P**	**18 29 23.3**	**-1.0**
WR0				IAmb	IAmb	18 29 25.8	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**47.92**	**258**	P	**P**	**18 29 24.2**	**-1.3**
WB2	**Warramunga Arr**	**47.95**	**258**	P	**P**	**18 29 24.6**	**-1.1**
WB2				IAmb	IAmb	18 29 35.3	
	comp=Z,8.1nm,1.4s						
WRAB	**Tennant Creek**	**47.95**	**258**	P	**P**	**18 29 24.6**	**-1.1**
WRAB				PcP	**PcP**	**18 30 43.5**	**+0.2**
WRA	**Warramunga Arr**	**47.96**	**258**	P	**P**	**18 29 24.6**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=93,slow=7.2,SNR=47						
WRA	**Warramunga Arr**	**47.96**	**258**	P	**P**	**18 29 24.7**	**-1.1**
WRA				PcP	**PcP**	**18 30 43.6**	**+0.3**
AS31	**Alice Springs**	**48.18**	**253**	P	**P**	**18 29 26.8**	**-0.6**
AS31				IAmb	IAmb	18 29 27.3	
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**48.18**	**253**	P	**P**	**18 29 26.8**	**-0.6**
	comp=Z,15nm,0.7s,baz=88,slow=8.2,SNR=287						
ASAR	**Alice Springs**	**48.18**	**253**	P	**P**	**18 29 26.3**	**-1.1**
MTN	**Manton Dam**	**51.97**	**266**	P	**P**	**18 29 56.1**	**+0.9**
MTN				IAmb	IAmb	18 30 19.9	
	comp=Z,28nm,1.6s						
FORT	**Forrest**	**53.43**	**244**	P	**P**	**18 30 05.5**	**+0.1**
FORT				IAmb	IAmb	18 30 31.1	
	comp=Z,14nm,0.9s						
KNRA	**Kununurra**	**53.74**	**262**	P	**P**	**18 30 08.3**	**+0.6**
KNRA				IAmb	IAmb	18 30 11.1	
	comp=Z,34nm,1.6s						
FITZ	**Fitzroy Crossi**	**56.34**	**259**	P	**P**	**18 30 27.6**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=84,slow=9.2,SNR=1.2						
FITZ	**Fitzroy Crossi**	**56.34**	**259**	P	**P**	**18 30 27.6**	**+1.8**
JCJ	**Chichijima**	**59.89**	**316**	P	**P**	**18 30 49.3**	**-0.4**
PSA00	**Pilbara Seismi**	**61.29**	**254**	P	**P**	**18 31 01.1**	**+2.0**
PSA00				IAmb	IAmb	18 31 20.1	
	comp=Z,37nm,1.6s						

*IDC **10** 18:25:31.3±1.1, 22°.20N×143°.70E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/48, mbtmp3.6/5, Error ellipse: s-maj=50.1km s-min=25.8km az=93.0*
*NEIC **10** 18:25:39.0±2.3, 22°.3N±0°.1×143°.5E±0°.2, h67km±9km, mb4.5/10, Error ellipse: s-maj=27.2km s-min=17.3km az=88.0*

ISC 10 18:25:42.6±1.0, 22°.4N±0°.1×143°.4E±0°.2, h100km, n19, σ2s14/19, mb3.9/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INU	**Inuyama**	**14.05**	**338**	Pn	**Pn**	**18 28 55.8**	**-1.4**
JMN	**Monobe**	**14.06**	**325**		**Pn**	**18 28 56.6**	**-0.7**
JGF	**Kuroka**	**14.16**	**339**	Pn	**Pn**	**18 28 55.9**	**-2.8**
JWT	**Wachi**	**14.61**	**333**	Pn	**Pn**	**18 29 04.5**	**+0.1**
ERM	**Erimo**	**19.55**	**359**	P	**P**	**18 29 58.0**	**-4.4**
ERM				IAmb	IAmb	18 30 19.5	
	comp=Z,98nm,1.4s						
MTN	**Manton Dam**	**37.05**	**200**	P	**P**	**18 32 42.0**	**-1.0**
WB0	**Warramunga Arr**	**42.84**	**193**	P	**P**	**18 33 30.0**	**-0.9**
WB0				IAmb	IAmb	18 33 43.4	
	comp=Z,7.1nm,1.3s						
WR0	**Warramunga Arr**	**42.99**	**192**	P	**P**	**18 33 30.9**	**-1.3**
WRAB	**Tennant Creek**	**43.01**	**193**	P	**P**	**18 33 31.5**	**-0.8**
WRAB				IAmb	IAmb	18 34 02.6	
	comp=Z,10nm,1.6s						
WB2	**Warramunga Arr**	**43.01**	**193**	P	**P**	**18 33 31.5**	**-0.9**
WB2				IAmb	IAmb	18 33 57.6	
	comp=Z,15nm,1.6s						
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**18 33 31.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=10,slow=8.4,SNR=16						
FITZ	**Fitzroy Crossi**	**43.85**	**205**	P	**P**

JSD	Sado	7.80	339		Pn		Pn	18 29 18.0	-0.2
JNU	Nakatsue	9.51	287		LR		LR	18 33 13.6	
	comp=Z,511nm,18.5s,baz=146,slow=37								
JTM	Tenmabayashi	10.02	357				Pn	18 29 48.1	-0.5
ERM	Erimo	11.30	5	*i*	P		Pn	18 30 05.4	-0.6
KSRS	Korea Array	13.23	304		Pn		Pn	18 30 34.5	+2.0
	0.1nm,0.3s,baz=216,slow=4.1,SNR=3.7								
KSRS					LR		LR	18 34 59.0	
	comp=Z,200nm,19.8s,baz=120,slow=34								
JKA	Kamikawa-asahi	13.36	3				Pn	18 30 31.8	-2.4
ASAJ	Asahikawa	13.36	3		Pn		Pn	18 30 33.0	-1.2
	0.9nm,0.3s,baz=234,slow=11,SNR=7.6								
ASAJ					LR		LR	18 36 02.7	
	comp=Z,153nm,20.3s,baz=155,slow=39								
ASAJ	Asahikawa	13.36	3		P		Pn	18 30 33.0	-1.2
USRK	Ussuriysk Ar.	15.46	333		Pn		Pn	18 31 02.2	-0.4
	baz=146,slow=14,SNR=6.2								
YHNB	Yeheng	18.99	256		P		P	18 31 45.2	-0.5
YHNB					IAmb		IAmb	18 32 23.2	
	comp=Z,128nm,1.5s								
YULB	Yu-li	19.59	253		P		Pn	18 31 53.4	-0.4
YULB					IAmb		IAmb	18 32 07.0	
	comp=Z,135nm,1.6s								
SSLB	Suanglung	19.70	254		P		Pn	18 31 55.1	0.0
SSLB					IAmb		IAmb	18 31 56.3	
	comp=Z,46nm,1.1s								
TPUB	Ta-pu	20.18	254		P		P	18 31 59.2	+0.6
TPUB					IAmb		IAmb	18 32 26.9	
	comp=Z,120nm,1.5s								
BJT	Baijiatuau	22.72	301		P		P	18 32 24.3	-1.6
BJT					pmax		pmax		
	comp=Z,6.0nm,1.0s								
BJT	Baijiatuau	22.72	301		P		P	18 32 24.3	-1.6
HIA	Hailar	24.85	324		P		P	18 32 45.7	-0.4
HIA					pmax		pmax		
	comp=Z,30nm,1.4s								
HIA	Hailar	24.85	324		P		P	18 32 45.7	-0.4
HIA					IAmb		IAmb	18 32 48.4	
	comp=Z,30nm,1.4s								
ZEA	Zeya	25.24	340	*eP*			P	18 32 52.0	+2.4
ZEA					pmax		pmax		
	comp=N,10.0nm,1.1s								
ZEA					pmax		pmax		
	comp=Z,20nm,0.8s								
ZEA					MLR		MLR		
	comp=Z,100nm,10.0s								
TGY	Tagaytay City	25.29	234		LR		LR	18 42 54.3	
	comp=Z,95nm,18.1s,baz=77,slow=37								
H11S3	WAKE ISLAND Hy	25.71	113		T		T	18 59 31.6	
	baz=304,slow=74,SNR=7.5								
H11S1	WAKE ISLAND Hy	25.71	113		T		T	18 59 30.2	
	baz=304,slow=74,SNR=15								
H11S2	WAKE ISLAND Hy	25.73	113		T		T	18 59 31.4	
	baz=304,slow=74,SNR=13								
ULN	Ulaanbaatar	31.46	313	*ce*	P		P	18 33 44.2	-1.2
ULN					pmax		pmax		
	comp=Z,5.0nm,1.3s								
ULN	Ulaanbaatar	31.46	313		P		P	18 33 45.8	+0.4
SONM	Songino Array	31.87	312		P		P	18 33 49.8	+0.9
	comp=Z,2.2nm,0.8s,baz=120,slow=8.7,SNR=9.5								
SONM	Songino Array	31.87	312		IAmb		IAmb	18 33 51.4	
	comp=Z,2.3nm,1.0s								
YAK	Yakutsk	32.26	349	*ce*	P		P	18 33 51.1	-0.8
YAK					pmax		pmax		
	comp=Z,5.0nm,0.8s								
YAK	Yakutsk	32.26	349		P		P	18 33 52.0	+0.1
YAK					IAmb		IAmb	18 34 29.1	
	comp=Z,6.2nm,0.7s								
CMAR	Chiang Mai Arr	40.54	263		P		P	18 35 03.2	+0.1
	comp=Z,1.0nm,0.8s,baz=53,slow=6.7,SNR=7.0								
CMAR					LR		LR	18 52 30.1	
	comp=Z,88nm,18.6s,baz=318,slow=37								
TIXI	Tiksi	41.54	354	*i*	P		P	18 35 09.0	-1.6
KSM	Kuching	41.63	232		P		P	18 35 11.7	-0.3
COEN	Coen	44.48	178		P		P	18 35 34.3	-0.7
COEN					IAmb		IAmb	18 35 57.6	
	comp=Z,12nm,1.2s								
MTN	Manton Dam	44.53	195		P		P	18 35 34.2	-1.1
MTN					IAmb		IAmb	18 35 38.6	
	comp=Z,7.8nm,0.8s								
ZALV	Zalesovo Beam	46.50	317		P		P	18 35 51.1	+0.4
	comp=Z,0.6nm,0.5s,baz=99,slow=9.2,SNR=4.0								
ZALV					PcP		PcP	18 37 25.0	+0.3
	comp=Z,1.3nm,0.6s,baz=108,slow=3.0,SNR=6.0								
ZALV	Zalesovo Beam	46.50	317		P		P	18 35 49.4	-1.3
KNRA	Kununurra	47.82	197		P		P	18 35 60.0	-1.3
MK31	Makanchi Array	47.89	307		P		P	18 36 02.0	+0.3
MK31					pmax		pmax		
	comp=Z,5.0nm,1.4s								
MK31	Makanchi Array	47.89	307		P		P	18 36 02.0	+0.3
MKAR	Makanchi Array	47.89	307		P		P	18 36 02.2	+0.5
	comp=Z,2.4nm,0.6s,baz=89,slow=9.0,SNR=25								
MKAR	Makanchi Array	47.89	307		P		P	18 36 02.0	+0.4
MAKZ	Makanchi	48.10	307		P		P	18 36 04.2	+0.9
MAKZ					pmax		pmax		
	comp=Z,8.0nm,1.3s								
MAKZ	Makanchi	48.10	307		P		P	18 36 04.2	+0.9
MAKZ					IAmb		IAmb	18 36 16.2	
	comp=Z,8.3nm,1.3s								
NRIK	Noril'sk	49.11	338	*ce*	P		P	18 36 08.9	-1.8
NRIK					pmax		pmax		
	comp=Z,3.0nm,1.0s								
LEM	Lembang	49.62	227		LR		LR	18 54 56.6	
	comp=Z,70nm,21.9s,baz=190,slow=33								
KURK	Kurchatov	50.18	312	*ce*	P		P	18 36 18.8	-0.2
KURK					pmax		pmax		
	comp=Z,13nm,1.3s								
KURK	Kurchatov	50.18	312		P		P	18 36 19.3	+0.2
KURK					IAmb		IAmb	18 36 20.0	
	comp=Z,9.7nm,0.9s								
WB0	Warramunga Arr	50.72	189		P		P	18 36 22.9	-0.6
WB0					IAmb		IAmb	18 36 23.7	
	comp=Z,7.8nm,0.6s								
WRAB	Tennant Creek	50.89	189		P		P	18 36 24.2	-0.5
WRAB					pmax		pmax		
	comp=Z,6.0nm,1.0s								
WRAB	Tennant Creek	50.89	189		P		P	18 36 24.2	-0.5
WRAB					IAmb		IAmb	18 36 26.7	
	comp=Z,5.9nm,0.9s								
WR0	Warramunga Arr	50.89	189		P		P	18 36 24.1	-0.6
WR0					IAmb		IAmb	18 36 25.0	
	comp=Z,5.0nm,0.5s								
WB2	Warramunga Arr	50.90	189		P		P	18 36 24.3	-0.5
WB2					IAmb		IAmb	18 36 25.1	
	comp=Z,5.8nm,0.8s								
WRA	Warramunga Arr	50.90	189		P		P	18 36 24.4	-0.4
	comp=Z,3.8nm,0.5s,baz=3.9,slow=7.5,SNR=96								
WRA					PcP		PcP	18 37 42.1	+1.2
	comp=Z,0.5nm,0.5s,baz=0.9,slow=4.2,SNR=1.6								
WRA	Warramunga Arr	50.90	189		P		P	18 36 23.7	-1.1
FITZ	Fitzroy Crossi	50.97	200		P		P	18 36 24.7	-0.6
FITZ					PcP		PcP	18 37 41.4	+0.2
GSI	Gunungsitoli	51.01	244		P		P	18 36 25.8	0.0
GSI					IAmb		IAmb	18 36 26.1	
	comp=Z,27nm,1.3s								
PPLA	Purkeypile	52.26	32		P		P	18 36 37.1	+2.4
PPLA					IAmb		IAmb	18 36 53.9	
	comp=Z,26nm,1.4s								
AAK	Ala-Archa	53.89	303	*i*	P		P	18 36 45.3	-1.7
AAK					pmax		pmax		
	comp=Z,3.0nm,1.1s								
SML	Sawmill	53.99	33		P		P	18 36 48.6	+1.3
AS31	Alice Springs	54.63	189		P		P	18 36 51.9	-0.4
ASAR	Alice Springs	54.63	189		P		P	18 36 51.9	-0.4
	comp=Z,1.6nm,0.5s,baz=3.5,slow=5.7,SNR=51								
ILAR	Eielson Array	54.73	30		P		P	18 36 53.2	+0.6
	comp=Z,0.4nm,0.6s,baz=259,slow=6.5,SNR=5.2								
KLU	Klutina	55.14	34		P		P	18 36 57.8	+2.1
BRVK	Borovoye	55.17	316	*ce*	P		P	18 36 54.8	-1.1
BRVK					pmax		pmax		
	comp=Z,5.0nm,1.3s								
BRVK	Borovoye	55.17	316		P		P	18 36 55.5	-0.4
PSA00	Pilbara Seismi	56.11	205		P		P	18 37 03.0	+0.1
KK31	Karatay Array	56.66	304		P		P	18 37 06.6	-0.2
KK31					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KK31	Karatay Array	56.66	304		P		P	18 37 06.6	-0.2
KKAR	Karatay Array	56.66	304		P		P	18 37 06.8	0.0
KKAR					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KKAR	Karatay Array	56.66	304		P		P	18 37 07.4	+0.6
KKAR	Karatay Array	56.66	304		P		P	18 37 06.8	0.0
NIL	Nilore	57.03	292		P		P	18 37 10.3	+0.7
NIL					pmax		pmax		
	comp=Z,19nm,0.8s								
NIL	Nilore	57.03	292		P		P	18 37 10.3	+0.7
GAR	Garm	57.80	299		P		P	18 37 15.9	+0.9
CHGR	Chuyangaron	58.76	299		P		P	18 37 22.4	+0.6
KBL	Kabul	60.08	295		P		P	18 37 31.1	+0.1
KBL					pmax		pmax		
	comp=Z,8.0nm,0.9s								
KBL	Kabul	60.08	295		P		P	18 37 31.1	+0.1
KBL					IAmb		IAmb	18 37 32.3	
	comp=Z,7.7nm,0.9s								
SVE	Sverdlovsk	60.10	321	*eP*			P	18 37 31.7	+1.1
SVE					pmax		pmax		
	comp=Z,11nm,0.8s								
ARU	Arti	61.31	321	*c i*	P		P	18 37 39.2	+0.4
ARU					*PP		pwP	18 37 56.1	+1.5
ARU					S		S	18 45 54.4	-1.9
ARU					SS		SS	18 49 58.2	+1.7
ARU					pmax		pmax		
	comp=Z,10.0nm,0.6s								
ARU	Arti	61.31	321		P		P	18 37 39.5	+0.7
ABKAR	Akbulak array	62.28	313		P		P	18 37 46.5	+1.0
ABKAR					IAmb		IAmb	18 37 46.7	
	comp=Z,3.3nm,0.7s								
ABKAR	Akbulak array	62.28	313		P		P	18 37 46.1	+0.6
FORT	Forrest	62.56	193		P		P	18 37 47.3	0.0
HRA	Herat	65.41	297		P		P	18 38 06.2	-0.4
KIRV	Kirov	65.46	325	*ce*	P		P	18 38 05.3	-0.8
PRGR	Permogore	66.20	329	*eP*			P	18 38 10.9	0.0
PRGR					pmax		pmax		
	comp=Z,8.0nm,0.9s								
GEYT	Alibeck	67.21	302		P		P	18 38 19.6	+1.7
	comp=Z,3.0nm,0.8s,baz=59,slow=7.1,SNR=5.2								
GEYT	Alibeck	67.21	302		IAmb		IAmb	18 38 20.7	
	comp=Z,2.4nm,0.8s								
BELG	Belogornoye	68.62	319	*i*	P		P	18 38 26.5	+0.1
KLMR	Klimovskoe	69.23	329	*eP*			P	18 38 28.3	-1.7
KLMR					pmax		pmax		
	comp=Z,8.0nm,1.0s								
KLMR	Klimovskoe	69.23	329	*eP*			P	18 38 28.3	-1.7
KLMR					AMP			18 38 30.6	
	comp=Z,8.0nm,1.0s								
ARCES	ARCESS Array B	69.96	340		P		P	18 38 35.2	+0.8
	comp=Z,2.4nm,0.8s,baz=40,slow=7.9,SNR=4.2								
ARCES					LR		LR	19 15 02.5	
	comp=Z,69nm,18.2s,baz=55,slow=41								
FINES	FINESS Array B	74.50	333		P		P	18 39 02.3	+0.7
	comp=Z,3.0nm,0.6s,baz=60,slow=5.9,SNR=24								
KBZ	Khabaz	75.24	312		P		P	18 39 07.5	+1.3
	comp=Z,2.7nm,0.8s,baz=71,slow=1.8,SNR=8.4								
KBZ	Khabaz	75.24	312	*ce*	P		P	18 39 06.5	+0.3
KBZ					pmax		pmax		
	comp=Z,4.0nm,0.9s								
NVAR	Mina Array Bea	78.59	52		P		P	18 39 26.6	+1.1
	comp=Z,0.4nm,0.5s,baz=291,slow=7.5,SNR=5.0								
AKASG	Malin Array Be	79.44	323		P		P	18 39 30.1	+0.5
	comp=Z,1.4nm,0.4s,baz=53,slow=5.2,SNR=6.5								
AKASG	Malin Array Be	79.44	323		P		P	18 39 30.1	+0.5
AKASG					pmax		pmax		
	comp=Z,2.0nm,1.3s								
AKBB	Malin Array Si	79.44	323	*ce*	P		P	18 39 29.4	-0.2
NB2	NORSAR Subarra	80.07	338		P		P	18 39 33.1	+0.2
	comp=Z,4.6nm,0.8s,baz=41,slow=5.3								
NOA	NORSAR Array B	80.07	338		P		P	18 39 33.4	+0.5
	comp=Z,2.2nm,0.8s,baz=41,slow=5.3,SNR=8.9								
PDAR	Pinedale Array	81.91	45		P		P	18 39 44.8	+1.5
	comp=Z,0.4nm,0.7s,baz=332,slow=3.1,SNR=2.1								
BRTR	Keskin Array B	83.23	312		P		P	18 39 51.0	+0.9
	comp=Z,2.2nm,0.8s,baz=101,slow=3.9,SNR=5.9								
BRTR	Keskin Array B	83.23	312		P		P	18 39 51.0	+0.9
BURAR	Bucovina Array	83.41	322		P		P	18 39 50.9	+0.1
VYHS	Vyhne	86.04	326	*eP*			P	18 40 04.7	+0.7
VYHS	Vyhne	86.04	326	*eP*			P	18 40 04.7	+0.7
TXAR	Lajitas Array	93.73	53		P		P	18 40 42.5	+1.9
	comp=Z,0.5nm,0.9s,baz=308,slow=3.8,SNR=5.0								
LPAZ	La Paz	149.20	69		PKPbc		PKiKP	18 47 13.1	-1.3
	comp=Z,0.8nm,0.5s,baz=90,slow=2.0,SNR=1.7								

ATA ***10*** *18:31:21.9±0.6,38.°86N×43.°70E,h24km±4km,ML1.4, MW3.6*

DDA ***10*** *18:31:24.6,38.°87N×43.°63E,h7km±4km,ML1.7*

ISC 10 18:31:23.5±1.1,38.°87N±0.°04×43.°65E±0.°08,h14km±8km, n10,σ0s86/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.13	334	*i*	P		Pg	18 31 27.2	-0.2
VMUR					*S		Sg	18 31 30.3	+0.4
VMUR					IAML			18 31 31.0	
	comp=E,321nm,0.2s								
CLDR	Caldiran	0.34	38	*i*	P		Pb	18 31 31.0	-0.6
CLDR					*S		Sb	18 31 37.7	+0.7
CLDR					IAML			18 31 38.0	
	comp=N,77nm,0.2s								
TVAN	Van	0.39	209	*eP*			Pg	18 31 31.5	0.0
TVAN				*eS*			Sb	18 31 38.4	+0.2
TVAN				IAML				18 31 48.1	
	comp=Z,62nm,0.5s								
TVAN	Van	0.39	209	*i*	P		Pb	18 31 32.1	-0.2
TVAN				*i*	S		Sb	18 31 39.3	+1.1
TVAN				IAML				18 31 40.0	
	comp=E,82nm,0.3s								
TVAN				IAML				18 31 40.0	
	comp=N,75nm,0.4s								
DYDN	Diyadin	0.67	3	*eP*			Pg	18 31 35.5	-1.2
DYDN				*eS*			Sb	18 31 47.0	+0.6
DYDN				IAML				18 31 48.6	
	comp=Z,37nm,0.2s								
DYDN	Diyadin	0.67	3	*i*	P		Pb	18 31 37.1	0.0
DYDN				*i*	S		Sb	18 31 47.3	+0.9
DYDN				IAML				18 31 48.0	
	comp=E,58nm,0.3s								
GEVA	Gevas	0.72	220	*eP*			Pg	18 31 36.8	-0.8
GEVA				*eS*			Sb	18 31 48.9	+1.1
GEVA				IAML				18 31 50.8	
	comp=Z,7.9nm,0.7s								
IGDI	IGDIR	1.05	18	*eP*			Pb	18 31 42.3	-1.2
IGDI				*eS*			Sn	18 31 57.9	-0.4
IGDI				IAML				18 32 04.7	
	comp=Z,1.5nm,0.6s								
IGDI	IGDIR	1.05	18	*i*	P		Pg	18 31 45.3	+1.4
EATA	Eleskirt	1.33	318	*eP*			Pb	18 31 48.3	-0.3

IDC ***10*** *18:58:59.0±0.4,32.°14S×110.°90W,h0km,mb4.8/23, mb1 4.9/24,mb1mx4.9/33,mbtmp4.8/24,ML4.3/1,MS4.8/18, Ms1 4.8/18,ms1mx4.7/23,Error ellipse: s-maj=15.8km s-min=12.9km az=97.0*

MOS ***10*** *18:58:59.1±1.0,32.°06S×110.°72W,h10km,mb5.3/12, Error ellipse: s-maj=12.5km s-min=7.4km az=75.5*

NEIC ***10*** *18:59:00.6±1.5,32.°08S±0.°08×110.°8W±0.°1,h10km±1km, mb5.2/394,Error ellipse: s-maj=14.9km s-min=13.0km az=121.0*

BJI ***10*** *18:59:02.0±0.0,32.°10S×110.°80W,h10km,mB5.7/5, Ms5.9/9,Ms7 5.7/8*

GCMT ***10*** *18:59:05.6±0.1,32.°22S±0.°01×110.°83W±0.°01,h19km, MW5.4/144,Moment Tensor Solution. s117,c194; s144,c253; Duration: 1ŝ2 Moment tensor: Scale 10^17 Nm; Mrr0.19±.02; Mθθ-1.48±.02; Mϕϕ1.28±.02; Mrθ-0.19±.04; Mθϕ0.38±.02; Mϕr-0.24±.04; Best double couple: Mo1.46900×10^17 NP1:ϕs142.00000°,δ77.00000°, λ175.00000°. NP2:ϕs233.00000°,δ85.00000°,λ13.00000°. Principal axes: T 1.3910, Plg13.0000°, Azm98.0000°; N 0.1470, Plg76.0000°, Azm255.0000°; P -1.5460, Plg5.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 18:59:00.5±0.2,32.°11S±0.°05×110.°80W±0.°05,h10km, n1049,σ0s99/962,mb5.2/218,MS4.9/24,92C-22D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	Rapa Nui	5.12	15	Pn			Pn	19 00 18.1	+0.7
	12nm,0.3s,baz=207,slow=14,SNR=15								
RPN				Sn			Sn	19 01 19.3	+2.8
	5.5nm,0.3s,baz=36,slow=20,SNR=7.0								
RPN	Rapa Nui	5.12	15	P			Pn	19 00 17.3	0.0
RPN								19 01 16.0	
RPN	Rapa Nui	5.12	15	Pn			Pn	19 00 17.3	0.0
RPN				Sn			Sn	19 01 16.0	-0.6
PTCN	Pitcairn Islan	18.33	288				Pn	19 03 14.9	-0.1

RKT	Rikitea	23.18	287	*e*S			S	19 08 14.1	-5.1
	2μm,30.5s								
RKT				*e*LR			LR	19 09 33.7	
	comp=Z,6μm,26.8s								
H03S2	Juan Fernandez	26.74	102		T		T	19 32 47.6	
	baz=263,slow=75,SNR=2064								
H03S3	Juan Fernandez	26.75	102		T		T	19 32 20.4	
	baz=263,slow=75,SNR=849								
H03S1	Juan Fernandez	26.76	102		T		T	19 32 48.4	
	baz=263,slow=75,SNR=2074								
H03N2	Juan Fernandez	26.77	102		T		T	19 32 43.8	
	baz=268,slow=74								
H03N3	Juan Fernandez	26.78	102		T		T	19 32 43.8	
	baz=268,slow=74								
H03N1	Juan Fernandez	26.79	102		T		T	19 32 43.2	
	baz=268								
BI03	Tigo	31.36	109		P		P	19 05 21.4	+0.1
LL01	San Ignacio de	31.99	120		P		P	19 05 27.3	+0.5
LC01	Cunco	32.22	113		P		P	19 05 28.7	-0.2
GO05	Huala	32.38	106		P		P	19 05 29.8	-0.6
GO05					IAmb		IAmb	19 05 32.9	
	comp=Z,36nm,0.9s								
BI02	San Fabin de	32.77	109		P		P	19 05 34.8	+0.9
VA01	Torpederas	32.88	102		P		P	19 05 35.7	+1.0
PLCA	Paso Flores	33.27	117		P		P	19 05 39.6	+1.4
	comp=Z,30nm,0.8s,baz=273,slow=8.8,SNR=72								
PLCA					LR		LR	19 15 42.1	
	comp=Z,3μm,19.8s,baz=278,slow=30								
PLCA	Paso Flores	33.27	117		P		P	19 05 38.4	+0.2
PLCA					pmax		pmax		
	comp=Z,38nm,1.0s								
PLCA	Paso Flores	33.27	117		P		P	19 05 38.4	+0.2
PLCA					IAmb		IAmb	19 05 41.5	
	comp=Z,38nm,0.9s								
PLCA	Paso Flores	33.27	117	*eP*			P	19 05 39.9	+1.7
BO02	Sierra Bellavi	33.34	106		P		P	19 05 39.5	+0.6
ROC1	El Roble	33.41	102		P		P	19 05 40.1	+0.5
MT05	Renca	33.57	103		P		P	19 05 41.6	+0.7
CO02	Combarbal	33.76	99		P		P	19 05 43.1	+0.5
VA03	San Esteban	33.83	102		P		P	19 05 43.9	+0.8
CO03	El Pedregal	34.09	99		P		P	19 05 46.5	+1.0
CO03					IAmb		IAmb	19 05 48.3	
	comp=Z,49nm,0.9s								
GO04	Tololo Observa	34.16	98		P		P	19 05 46.7	+0.5
AC04	Llanos de Chal	34.43	94		P		P	19 05 48.7	+0.4
AC04					IAmb		IAmb	19 05 49.7	
	comp=Z,28nm,0.9s								
CO01	Juntas del Tor	34.80	97		P		P	19 05 52.3	+0.5
CO01					IAmb		IAmb	19 05 54.9	
	comp=Z,36nm,1.1s								
AC05	El Transito	34.94	95		P		P	19 05 53.6	+0.8
AC05					IAmb		IAmb	19 06 03.6	
	comp=Z,64nm,1.2s								
TBI	Tubuai	35.17	274	*e*S			S	19 11 27.9	0.0
	comp=Z,264nm,24.8s								
TBI				*e*LR			LR	19 15 09.0	
	comp=Z,3μm,27.5s,baz=111								
TBI	Tubuai	35.17	274	*e*T			T	19 42 32.7	
	comp=Z,9.6nm,0.3s								
GO03	Copiap	35.32	93		P		P	19 05 56.8	+0.7
GO03					IAmb		IAmb	19 05 59.0	
	comp=Z,32nm,0.8s								
AC01	Pan de Azucar	35.46	91		P		P	19 05 58.4	+1.1
AC01					IAmb		IAmb	19 06 21.5	
	comp=Z,46nm,1.2s								
PB14	IPOC Station P	36.15	89		P		P	19 06 03.8	+0.2
MEH	Mehetia	36.44	284	*e*T			T	19 44 13.9	
	comp=Z,33nm,0.2s								
PB10	IPOC Station P	36.44	87		P		P	19 06 06.0	+0.4
PB10					IAmb		IAmb	19 06 08.2	
	comp=Z,41nm,0.8s								
AC02	Maricunga	36.49	93		P		P	19 06 05.3	-1.3
AC02					IAmb		IAmb	19 06 08.9	
	comp=Z,36nm,0.9s								
GO02	Mina Guanaco	36.65	90		P		P	19 06 08.6	+0.8
GO02					IAmb		IAmb	19 06 09.9	
	comp=Z,38nm,0.9s								
NNA	Nana	37.07	65	*ce*	P		P	19 06 11.5	+0.5
NNA					pmax		pmax		
	comp=Z,105nm,2.5s								
NNA	Nana	37.07	65		P		P	19 06 11.6	+0.5
PB04	IPOC Station P	37.25	85		P		P	19 06 12.9	+0.2
PB04					IAmb		IAmb	19 06 14.3	
	comp=Z,33nm,0.9s								
USHA	Ushuaia	37.42	140		P		P	19 06 12.8	-0.8
	comp=Z,35nm,0.9s,baz=265,slow=2.9,SNR=2.5								
PB15	IPOC Station P	37.48	87		P		P	19 06 15.0	+0.3
PB06	IPOC Station P	37.59	86		P		P	19 06 15.9	+0.4
PB06					IAmb		IAmb	19 06 18.5	
	comp=Z,59nm,0.8s								
TIAR	Tiarei	37.65	283	*e*T			T	19 45 47.9	
	comp=Z,4.8nm,0.2s								
PB07	IPOC Station P	37.72	84		P		P	19 06 17.2	+0.5
PPTF	Pamatai, Papee	37.81	283		P		P	19 06 18.1	+0.6
PPT2	Papeete2	37.82	283	*e*S			S	19 12 08.9	+0.2
	comp=Z,378nm,25.5s								
PPT2				*e*LR			LR	19 16 18.5	
	comp=Z,6μm,25.0s,baz=121								
PPT	Papeete	37.84	283		LR		LR	19 17 29.5	
	comp=Z,3μm,18.3s,baz=96,slow=29								
PATCX	Punta Patache	37.88	83		P		P	19 06 17.9	-0.1
PATCX					IAmb		IAmb	19 06 39.4	
	comp=Z,55nm,1.3s								
TA01	Diego Aracena	37.97	83		P		P	19 06 18.3	-0.3
TA01

CPUP LR LR 19 23 50.7
comp=Z,2µm,19.2s,baz=258,slow=32
CPUP Villa Florida 46.63 97 P **P 19 07 28.7 -0.4**
CPUP pmax pmax
comp=Z,23nm,1.1s
CPUP Villa Florida 46.63 97 P **P 19 07 28.7 -0.4**
CPUP lAmb lAmb 19 07 29.8
comp=Z,23nm,1.1s
CPUP Villa Florida 46.63 97 *eP* **P 19 07 29.0 -0.1**
GR1C Gorgona, Isla 46.67 48 *eP* **P 19 07 31.2 +1.7**
ETMB Extrema 46.74 72 *eP* **P 19 07 30.5 +0.4**
PTLC Puerto Leguiza 46.76 54⇑*eP* **P 19 07 29.4 -0.9**
SOTA Rioblanco 47.01 50⇑*eP* **P 19 07 34.3 +1.6**
FLOC Florencia 47.22 52⇑*eP* **P 19 07 35.1 +1.2**
FLOC *i* 19 07 43.0
comp=Z,7.6nm,0.7s
POPC Popayan, Colom 47.27 50⇑*eP* **P 19 07 34.9 +0.4**
PCON Cinco Dias 47.29 50⇑*eP* **P 19 07 36.8 +1.8**
GARC Garzon, Huila 47.78 51⇑*eP* **P 19 07 40.0 +1.6**
GARC *i* 19 07 44.3
comp=Z,31nm,0.9s
MARP Paez Belalcaza 47.96 50 *eP* **P 19 07 40.8 +0.9**
PLTB Pedras Altas 48.03 106 *eP* **P 19 07 40.2 +0.2**
BETC Betania 48.18 51⇑*eP* **P 19 07 42.7 +1.4**
YOTC Yotoco, Valle 48.58 49⇑*eP* **P 19 07 45.4 +0.9**
PIZC Pizarro, Choco 48.69 47 *eP* **P 19 07 47.7 +2.5**
MACC Macarena, Meta 48.85 53⇑*eP* **P 19 07 47.0 +0.6**
JTS Las Juntas de 48.87 35⇑*eP* **P 19 07 48.7 +2.1**
JTS Las Juntas de 48.87 35 *i P* **P 19 07 47.3 +0.7**
JTS pmax pmax
comp=Z,32nm,1.1s
JTS Las Juntas de 48.87 35 P **P 19 07 48.0 +1.4**
AZU Azuero 49.22 42⇑*eP* **P 19 07 50.6 +1.4**
ORTC Ortega, Tolima 49.23 50⇑*eP* **P 19 07 51.1 +1.8**
PRAC Prado 49.32 51⇑*eP* **P 19 07 51.6 +1.5**
PLMC San Jos del P 49.32 48⇑*eP* **P 19 07 49.8 -0.4**
PLMC *i* 19 07 56.8
comp=Z,6.5nm,0.8s
ANIL Santa Ana 49.57 49⇑*eP* **P 19 07 53.1 +0.8**
PTLB Pontes e Lacer 49.63 83 *eP* **P 19 07 52.8 +0.4**
SAML Samuel 49.69 73⇑*eP* **P 19 07 53.3 +0.4**
SAML Samuel 49.69 73 P **P 19 07 52.3 -0.6**
SAML pmax pmax
comp=Z,26nm,1.1s
SAML Samuel 49.69 73 P **P 19 07 52.3 -0.6**
SAML lAmb lAmb 19 07 53.9
comp=Z,26nm,1.1s
SAML Samuel 49.69 73 *eP* **P 19 07 53.0 +0.1**
TOLC Tolima 49.69 49⇑*eP* **P 19 07 54.6 +1.3**
RREF El Recreo 49.91 49⇑*eP* **P 19 07 53.1 -2.2**
VILB Vilhena 49.98 80 *eP* **P 19 07 55.6 +0.4**
CRIN San Cristobal 50.02 31 P **P 19 07 55.1 -0.3**
CRIN lAmb lAmb 19 08 29.1
comp=Z,33nm,0.8s
GUY2C Guyana, Caldas 50.15 49⇑*eP* **P 19 07 57.5 +0.6**
GUY2C *i* 19 08 01.5
comp=Z,11nm,0.7s
ACON Acoyapa 50.22 33 P **P 19 07 57.4 +0.5**
CBOC Ciudad Bolivar 50.23 48 *eP* **P 19 07 59.5 +2.3**
AQDB Aquidauana 50.27 91 *eP* **P 19 07 57.8 +0.6**
ROSC El Rosal 50.53 50 P **P 19 08 02.1 +2.4**
comp=Z,25nm,0.9s,baz=204,slow=3.2,SNR=18
ROSC El Rosal 50.53 50 *eP* **P 19 08 02.1 +2.4**
ROSC El Rosal 50.53 50 P **P 19 08 01.6 +1.9**
BCIP Isla Barro Col 50.59 41⇑*eP* **P 19 07 60.0 +0.3**
BCIP Isla Barro Col 50.59 41 P **P 19 07 59.7 0.0**
BCIP pmax pmax
comp=Z,31nm,1.1s
BCIP Isla Barro Col 50.59 41 P **P 19 07 59.7 0.0**
BCIP lAmb lAmb 19 08 11.1
comp=Z,31nm,1.1s
MTO3 Montecristo 50.60 27 P **P 19 08 00.9 +1.0**
MTO3 lAmb lAmb 19 08 12.2
comp=Z,27nm,1.1s
UPA Univ. de Panam 50.61 42⇑*eP* **P 19 07 59.3 -0.5**
ITAB Concordia 50.67 101 *eP* **P 19 08 00.8 +0.5**
MATN Matagalpa 50.72 32 P **P 19 08 00.8 0.0**
MATN lAmb lAmb 19 08 05.6
comp=Z,29nm,1.2s
ESQI Esquipulas 50.75 27 P **P 19 08 01.6 +0.6**
CHIC Chingaza 50.76 51⇑*eP* **P 19 08 03.7 +2.2**
TLIG Tlapa 50.76 15 P **P 19 08 01.6 +0.6**
TLIG lAmb lAmb 19 08 06.8
comp=Z,33nm,1.1s
DBBC Dabeiba 51.00 46⇑*eP* **P 19 08 04.7 +1.8**
DBBC *i* 19 08 11.9
comp=Z,31nm,0.7s
CNLB Canela 51.03 104 *eP* **P 19 08 04.2 +1.1**
UPD2 Meteti 51.13 43⇑*eP* **P 19 08 05.1 +1.4**
TGUH Tegucigalpa,Un 51.14 30⇑*eP* **P 19 08 04.7 +0.8**
TGUH Tegucigalpa,Un 51.14 30 P **P 19 08 03.7 -0.2**
SPBC San Pablo de B 51.30 50⇑*eP* **P 19 08 05.8 +0.6**
CCIG Comitan 51.33 23 P **P 19 08 05.0 -0.4**
PTGC Puerto Gaitan, 51.51 53⇑*eP* **P 19 08 07.8 +1.2**
CAPC Capurgana 51.59 44 *eP* **P 19 08 08.8 +1.6**
PTGB Pitanga 51.64 98 *eP* **P 19 08 04.7 +0.7**
PTBC PUERTO BERRIO, 51.73 49⇑*eP* **P 19 08 09.4 +1.1**
TRCB Terra Rica 51.91 95 *eP* **P 19 08 10.6 +1.0**
UREC San Jos de Ur 51.99 47⇑*eP* **P 19 08 11.6 +1.4**
RUSC La Rusia 52.13 50⇑*eP* **P 19 08 12.7 +0.9**
ZARC Zaragoza, Cauc 52.21 47⇑*eP* **P 19 08 12.8 +0.9**
MOIG Morelia 52.31 11 P **P 19 08 12.9 +0.2**
MOIG lAmb lAmb 19 08 18.3
comp=Z,29nm,0.6s
LCBC Los crdobas, 52.35 45⇑*eP* **P 19 08 14.0 +1.1**
BARC Barichara 52.59 50 *eP* **P 19 08 14.5 -0.4**
BRRC Barranca, Sant 52.64 49⇑*eP* **P 19 08 16.5 +1.4**
MOTC Monteria, Cord 52.71 46⇑*eP* **P 19 08 16.6 +1.1**
MOTC *i* 19 08 20.9
comp=Z,26nm,1.1s
PETF Flores 52.71 25 P **P 19 08 15.8 +0.4**
PETF lAmb lAmb 19 08 20.4
comp=Z,34nm,1.1s
PAMC Pamplona, Colo 53.46 50⇑*eP* **P 19 08 21.7 0.0**
PCMB Pacaembu 53.55 94 *eP* **P 19 08 22.7 +0.9**
SMLC San Martn de 53.71 47⇑*eP* **P 19 08 22.2 -0.7**
SJCC San Jacinto, C 53.89 45⇑*eP* **P 19 08 25.6 +1.4**
TIJ01 Guaruva-PR 53.98 100 *eP* **P 19 08 23.9 -1.1**
FRTB Fartura 54.28 97 *eP* **P 19 08 27.7 +0.6**
NIUE Niue 54.29 269 P **P 19 08 28.3 +1.1**
ARGC Ariguani, Magd 54.42 46⇑*iP* **P 19 08 29.5 +1.4**
CLDB Colider 54.74 80 *eP* **P 19 08 29.2 -1.4**
MACA Manacapuru-AM 55.08 69 *eP* **P 19 08 32.7 -0.3**
ITRB Iturama 55.13 93 *eP* **P 19 08 33.7 +0.4**
ZAIG Zacatecas 55.13 9 P **P 19 08 33.8 +0.3**
SOCV Socops 55.37 51⇑*eP* **P 19 08 34.7 -0.3**
SMRC Santa Marta, M 55.45 45⇑*eP* **P 19 08 35.1 -0.4**
ARAG Araguaiana, MT 55.70 88 *eP* **P 19 08 38.1 +0.7**
XMAS Kiritimati 55.70 298 P **P 19 08 38.4 +1.0**
PET01 Itanhaem-SP 55.83 99 *eP* **P 19 08 38.7 +0.5**
LPIG La Paz 55.90 1 LR LR 19 26 27.1
comp=Z,684nm,21.8s,baz=232,slow=30
SDV Santo Domingo 55.97 50⇑*eP* **P 19 08 37.4 -2.1**
SDV Santo Domingo 55.97 50 P **P 19 08 39.0 -0.5**
SDV lAmb lAmb 19 08 43.9
comp=Z,22nm,1.0s
SDV Santo Domingo 55.97 50 *eP* **P 19 08 39.3 -0.2**
SPB Sao Paulo 55.98 98 P **P 19 08 39.0 -0.3**
SPB lAmb lAmb 19 09 03.0
comp=Z,25nm,1.1s
SPB Sao Paulo 55.98 98 *eP* **P 19 08 40.1 +0.7**
BB19B Bebedouro 56.09 95 *eP* **P 19 08 41.1 +0.8**
VAO Valinhos 56.61 98 *eP* **P 19 08 44.6 +0.7**
RAO Raoul Island 56.94 254 P **P 19 08 47.7 +1.6**
RAO pmax pmax
comp=Z,2µm,1.9s
RAO Raoul Island 56.94 254 P **P 19 08 47.7 +1.6**
NPGB Novo Progresso 57.16 77 *eP* **P 19 08 47.0 -0.9**
URIC Uribia, Colomb 57.24 47⇑*eP* **P 19 08 47.2 -1.1**
PARB Paraibuna 57.60 99 *eP* **P 19 08 51.7 +0.7**
IPMB Ipameri, GO 57.71 92 *eP* **P 19 08 51.7 -0.1**
BFZ Birch Farm 57.82 239 P **P 19 08 54.4 +2.2**
BFZ lAmb lAmb 19 09 00.7
comp=Z,40nm,1.0s
URZ Urewera 57.89 242 P **P 19 08 54.0 +1.3**
comp=Z,16nm,1.0s,baz=104,slow=4.2,SNR=4.3
URZ Urewera 57.89 242 P **P 19 08 53.7 +1.1**
URZ lAmb lAmb 19 08 58.0
comp=Z,40nm,1.2s
SNDB Serra Nova Dou 57.96 84 *eP* **P 19 08 53.6 +0.1**
BKZ Black Stump Fm 58.08 241 P **P 19 08 54.8 +0.7**
QSPA South Pole Qui 58.08 180 P **P 19 08 54.3 +0.5**
QSPA lAmb lAmb 19 09 41.3
comp=Z,53nm,1.7s
MSWZ Moikau Station 58.33 238 P **P 19 08 56.0 +0.3**
VNDA Vanda 58.34 195 P **P 19 08 55.8 +0.5**
comp=Z,2.2nm,1.0s,baz=78,slow=6.0,SNR=7.0
VNDA LR LR 19 29 42.4
comp=Z,1µm,18.1s,baz=92,slow=32
VNDA Vanda 58.34 195 P **P 19 08 56.0 +0.7**
VNDA pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 58.34 195 P **P 19 08 56.0 +0.7**
ITTB Itaituba 58.36 74 *eP* **P 19 08 55.4 -0.9**
BHW Baring Head 58.60 238 P **P 19 08 57.4 -0.2**
SNZO South Karori 58.75 238 P **P 19 08 59.9 +1.3**
BDFB Brasilia 58.96 90 P **P 19 09 01.4 +0.8**
comp=Z,7.2nm,0.7s,baz=237,slow=9.4,SNR=12
BDFB LR LR 19 32 04.0
comp=Z,1µm,19.2s,baz=263,slow=34
BDFB Brasilia 58.96 90 P **P 19 09 00.4 -0.2**
BDFB pmax pmax
comp=Z,101nm,1.9s
BDFB Brasilia 58.96 90 P **P 19 09 00.4 -0.2**
MAN01 Angra dos Reis 59.18 99 *eP* **P 19 09 03.3 +1.3**
BSWZ Blackbirch Sta 59.23 237 P **P 19 09 00.7 -1.4**
KHZ Kahutara 59.26 237 P **P 19 09 00.9 -1.3**
KHZ lAmb lAmb 19 09 05.4
comp=Z,33nm,1.2s
TUWZ Tuamarina 59.27 238 P **P 19 09 01.7 -0.5**
BSCB Bom Sucesso 59.29 97 *eP* **P 19 09 03.5 +0.6**
LCCY Blossom Villag 59.30 34 P **P 19 09 00.9 -1.7**
HIZ Hauiti 59.49 241 P **P 19 09 06.2 +2.3**
CBCY The Bluff, Cay 59.51 34 P **P 19 09 03.6 -0.5**
MQZ McQueen's Vall 59.51 235 P **P 19 09 04.4 +0.5**
NNZ Nelson 59.73 238 P **P 19 09 06.2 +0.7**
VAS01 Vassouras-RJ 59.86 99 *eP* **P 19 09 08.4 +1.8**
THZ Tophouse 59.91 237 P **P 19 09 07.0 +0.2**
LTZ Lake Taylor 60.05 236 P **P 19 09 08.2 +0.5**
LTZ lAmb lAmb 19 09 13.2
comp=Z,19nm,1.0s
OXZ Oxford 60.05 235 P **P 19 09 08.6 +1.0**
OXZ lAmb lAmb 19 09 52.8
comp=Z,22nm,1.2s
PEXB Peixe 60.43 86 *eP* **P 19 09 11.0 +0.3**
ODZ Otahua Downs 60.50 233 P **P 19 09 10.2 -0.5**
ODZ lAmb lAmb 19 09 24.1
comp=Z,26nm,1.3s
RPZ Rata Peaks 60.62 235 P **P 19 09 12.6 +1.1**
RPZ lAmb lAmb 19 09 15.1
comp=Z,20nm,0.9s
HSIG 60.79 360 P **P 19 09 13.0 +0.3**
HSIG lAmb lAmb 19 09 17.6
comp=Z,28nm,1.1s
MALB Monte Alegre 61.00 72 *eP* **P 19 09 14.6 +0.1**
LBZ Lake Benmore 61.01 234 P **P 19 09 15.0 +0.8**
LBZ lAmb lAmb 19 09 24.0
comp=Z,34nm,1.2s
833A Chaparral WMA, 61.07 11 P **P 19 09 15.1 +0.6**
baz=191
833A Chaparral WMA, 61.07 11
833A lAmb lAmb 19 09 19.4 **19 09 14.2 -0.3**
comp=Z,23nm,1.1s
TX31 Lajitas Ar. Si 61.48 7 P **P 19 09 17.3 -0.1**
TX32 Lajitas Array 61.48 7 P **P 19 09 16.8 -0.7**
TXAR Lajitas Array 61.48 7 P **P 19 09 18.2 +0.7**
comp=Z,2.5nm,0.8s,baz=192,slow=9.0,SNR=30
TXAR LR LR 19 31 43.2
comp=Z,525nm,18.6s,baz=0.0,slow=32
TXAR Lajitas Array 61.48 7 P **P 19 09 17.3 -0.1**
TXAR Lajitas Array 61.48 7 P **P 19 09 17.3 -0.1**
FOZ Fox Glacier 61.53 234 P **P 19 09 18.4 -0.7**
OUZ Omahuta 61.55 244 P **P 19 09 17.9 -0.1**
WKZ Wanaka 61.67 233 P **P 19 09 20.3 +1.6**
735A Kenedy 61.87 13 P **P 19 09 21.2 +1.2**
GTBY Guantanamo Bay 62.01 38 *eP* **P 19 09 19.8 -1.3**
GTBY Guantanamo Bay 62.01 38 P **P 19 09 20.9 -0.2**
WHZ Wether Hill Ro 62.05 231 P **P 19 09 22.6 +1.4**
LGNH Logne 62.23 42 P **P 19 09 22.7 +0.2**
PRPB Parauapebas 62.24 79 *eP* **P 19 09 22.4 -0.4**
JANB Januaria 62.38 91 *eP* **P 19 09 24.5 +0.7**
SMTB Santa Maria do 62.68 83 *eP* **P 19 09 27.0 +1.2**
SFX San Felipe 62.92 356 P **P 19 09 27.1 +0.2**
SPX San Pedro Mart 62.96 356 P **P 19 09 26.9 -0.8**
SPX lAmb lAmb 19 09 35.2
comp=Z,18nm,1.1s
JCT Junction City 63.11 11 P **P 19 09 29.0 +0.7**
baz=190
JCT Junction City 63.11 11 P **P 19 09 28.0 -0.3**
JCT pmax pmax
comp=Z,46nm,1.3s
JCT Junction City 63.11 11 P **P 19 09 28.0 -0.3**
SDBA SAO DESIDÉRIO 63.16 88 *eP* **P 19 09 29.8 +0.7**
SJMB Sao Joao De Ma 63.33 96 *eP* **P 19 09 30.5 +0.4**
HKT Hockley 63.33 15 P **P 19 09 30.6 +1.0**
HKT pmax pmax
comp=Z,21nm,1.3s
HKT Hockley 63.33 15 P **P 19 09 30.6 +1.0**
HKT lAmb lAmb 19 09 32.2
comp=Z,21nm,1.2s
SDDR Presa de Saban 63.35 42 P **P 19 09 30.2 +0.1**
SDDR lAmb lAmb 19 09 31.3
comp=Z,35nm,1.4s
PIX Pinacate 63.38 357 P **P 19 09 30.7 +0.7**
VNA3 Neumayer Olymp 63.41 159 P **P 19 09 29.5 -0.3**
BANI BANI 63.42 44 P **P 19 09 30.0 -0.7**
MCPB Macapa, AP 63.66 73 *eP* **P 19 09 32.6 +0.3**
MNTX Cornudas Mount 63.67 5 P **P 19 09 31.9 -0.1**
baz=185,SNR=17
MNTX Cornudas Mount 63.67 5 P **P 19 09 31.7 -0.2**
RIB01 Linhares ES 63.72 97 *eP* **P 19 09 33.3 +0.6**
214A Organ Pipe Nat 63.75 358 P **P 19 09 33.4 +0.9**
baz=178
214A Organ Pipe Nat 63.75 358 P **P 19 09 32.8 +0.4**
214A lAmb lAmb 19 09 41.2
comp=Z,19nm,1.1s
435B Jarrell 63.79 13 P **P 19 09 33.4 +0.7**
baz=192
435B Jarrell 63.79 13 P **P 19 09 33.3 +0.5**
ESJX Sierra Juarez 63.95 355 P **P 19 09 33.0 -1.0**
SC01 Santiago de lo 64.02 43 P **P 19 09 34.4 -0.1**
KNTN Kanton 64.06 284 P **P 19 09 34.7 -0.2**
VNA1 Neumayer--Stat 64.07 159 P **P 19 09 33.8 -0.3**
TUC Tucson 64.07 0 P **P 19 09 35.5 +0.8**
baz=180
TUC Tucson 64.07 0 P **P 19 09 35.2 +0.6**
TUC pmax pmax
comp=Z,19nm,1.3s
TUC Tucson 64.07 0 P **P 19 09 35.2 +0.6**
TUC lAmb lAmb 19 09 39.7
comp=Z,18nm,1.2s
VNA2 Neumayer--Watz 64.22 159 P **P 19 09 34.8 -0.4**
GDL2 Guadalupe Moun 64.25 6 P **P 19 09 35.8 -0.1**
061Z Ochoppi 64.32 30 P **P 19 09 35.7 -0.6**
121A Cookes Peak, D 64.36 3 P **P 19 09 37.3 +0.7**
baz=190,SNR=8.2
121A Cookes Peak, D 64.36 3 P **P 19 09 37.3 +0.7**
121A lAmb lAmb 19 09 58.9
comp=Z,15nm,0.9s
RMX La Rumorosa 64.56 355 P **P 19 09 37.5 -0.4**
TKX Tecate 64.56 355 P **P 19 09 38.4 +0.5**
TKX lAmb lAmb 19 09 46.2
comp=Z,27nm,1.2s
TOSP Speyside 64.58 57 P **P 19 09 38.0 -0.2**
IKP In-Ko-Pah, Jac 64.61 355 P **P 19 09 39.2 +1.0**
baz=175,SNR=13
BAR Barrett 64.68 355 P **P 19 09 38.7 +0.1**
BAR lAmb lAmb 19 09 43.7
comp=Z,37nm,1.5s
MCQ Macquarie Isla 64.69 220 P **P 19 09 39.8 +1.3**
MCQ pmax pmax
comp=Z,184nm,1.3s
MCQ Macquarie Isla 64.69 220 P **P 19 09 39.8 +1.3**
MONP2 Monument Peak 64.87 355 P **P 19 09 41.0 +0.9**
baz=175,SNR=12
SWSC Sam W. Stewart 64.88 355 P **P 19 09 40.6 +0.8**
baz=175
109C Camp Elliot, M 64.92 354 P **P 19 09 41.2 +1.1**
baz=174
109C Camp Elliot, M 64.92 354 P **P 19 09 40.7 +0.6**
109C lAmb lAmb 19 09 45.1
comp=Z,28nm,1.4s
GLA Glamis 64.92 356 P **P 19 09 41.2 +1.0**
baz=176
GLA Glamis 64.92 356 P **P 19 09 40.8 +0.7**
GLA pmax pmax
comp=Z,14nm,0.9s
GLA Glamis 64.92 356 P **P 19 09 40.8 +0.7**
GLA lAmb lAmb 19 10 03.3
comp=Z,14nm,0.8s
WHTX Lake Whitney, 64.99 12 P **P 19 09 40.9 +0.3**
baz=192
WHTX Lake Whitney, 64.99 12 P **P 19 09 40.6 0.0**
WHTX lAmb lAmb 19 09 44.8
comp=Z,30nm,1.1s
CRPR Cabo Rojo, PR 65.07 46 P **P 19 09 41.2 -0.1**
MSVF Nonsavu 65.08 264 *i P* **P 19 09 41.2 -0.5**
MSVF pmax pmax
comp=Z,28nm,1.1s
MSVF Nonsavu 65.08 264 P **P 19 09 42.9 +1.2**
MLPR Magueyes Islan 65.08 47 P **P 19 09 40.2 -1.2**
SCI2 San Clemente I 65.15 353 P **P 19 09 42.4 +0.8**
baz=173
MPR Mayaguez 65.21 46 P **P 19 09 42.5 +0.3**
SNAA Sanae 65.23 161 P **P 19 09 41.1 -0.7**
SNAA Sanae 65.23 161 *ceP* **P 19 09 40.7 -1.1**
SNAA pmax pmax
comp=Z,37nm,2.5s
SNAA Sanae 65.23 161 P **P 19 09 40.9 -0.9**
SNAA lAmb lAmb 19 09 50.5
comp=Z,21nm,1.0s
ABTX Abilene, Hawle 65.24 10 P **P 19 09 42.3 +0.1**
baz=190
ABTX Abilene, Hawle 65.24 10 P **P 19 09 42.0 -0.3**
237A Washetta, Mont 65.32 14 P **P 19 09 42.9 +0.2**
237A lAmb lAmb 19 09 52.9
comp=Z,25nm,0.9s
NATX Nacogdoches 65.33 15 P **P 19 09 43.7 +0.9**
baz=195
NATX Nacogdoches 65.33 15 P **P 19 09 43.3 +0.6**
ICMP Isla Caja de M 65.34 47 P **P 19 09 42.4 -0.7**
OBIP Obispado Ponce 65.41 47 P **P 19 09 42.8 -0.8**
OBIP lAmb lAmb 19 09 46.8
comp=Z,14nm,0.9s
342A Flagon Creek P 65.52 17 P **P 19 09 45.5 +1.5**
CIS Catalina Islan 65.56 353 P **P 19 09 44.8 +0.5**
baz=173
BC3 Big Chuckawall 65.56 356 P **P 19 09 45.5 +1.1**
baz=176,SNR=17
TPFO Pinon Flats 65.58 355 P **P 19 09 45.8 +1.3**
baz=175
PFO Pinyon Flats O 65.59 355 P **P 19 09 45.4 +0.8**
comp=Z,7.9nm,1.0s,baz=175,slow=4.0,SNR=8.1
PFO Pinyon Flats O 65.59 355 P **P 19 09 45.5 +0.9**
baz=175
PFO Pinyon Flats O 65.59 355 *i P* **P 19 09 45.5 +0.9**
PFO pmax pmax
comp=Z,16nm,1.1s
PFO Pinyon Flats O 65.59 355 P **P 19 09 45.1 +0.6**
PFO lAmb lAmb 19 09 49.8
comp=Z,26nm,1.4s
MURC Murrieta 65.64 354 P **P 19 09 45.8 +1.1**
baz=174
SJG San Juan 65.75 47⇑*eP* **P 19 09 43.5 -2.2**
SJG San Juan 65.75 47 P **P 19 09 44.2 -1.5**
SJG pmax pmax
comp=Z,18nm,1.1s
SJG San Juan 65.75 47 P **P 19 09 44.2 -1.5**
SJG lAmb lAmb 19 09 45.2
comp=Z,18nm,1.1s
PDPR Patillas Dam, 65.75 47 P **P 19 09 44.3 -1.5**
PDPR lAmb lAmb 19 09 45.2
comp=Z,24nm,1.1s
TMAB Tom-Au,PA,Br 65.76 77 *eP* **P 19 09 47.0 +1.0**
FMP Fort Macarthur 65.85 353 P **P 19 09 46.9 +0.8**
baz=173
Y22D IRIS PASSCAL I 65.93 4 P **P 19 09 47.8 +1.0**
baz=184
GCPR Guaynabo City 65.94 47 P **P 19 09 45.9 -1.1**
BELC Belle Mtn. Jos 65.94 355 P **P 19 09 48.2 +1.3**
baz=175,SNR=13
HUMP Col San Antoni 65.96 47 P **P 19 09 45.3 -1.8**
HUMP lAmb lAmb 19 09 46.6
comp=Z,14nm,0.9s
344A Westbrook Farm 66.01 19 P **P 19 09 46.7 -0.4**
BNM Barren Site 66.02 4 P **P 19 09 47.6 +0.1**
IRM Iron Mountain 66.04 356 P **P 19 09 48.6 +1.2**
baz=176,SNR=7.1
CBYP Canovanas 66.05 47 P **P 19 09 46.0 -1.7**
CBYP lAmb lAmb 19 09 49.1
comp=Z,28nm,1.1s
MSTX Muleshoe 66.16 7 P **P 19 09 48.2 -0.1**
baz=187
MSTX Muleshoe 66.16 7 P **P 19 09 47.4 -0.9**
X16A Lo Mia Camp, P 66.18 359 P **P 19 09 48.4 -0.1**
BBRC Big Bear Solar 66.27 354 P **P 19 09 49.8 +0.7**
baz=174
PASC Pasadena Art C 66.30 353 P **P 19 09 49.4 +0.5**
PASC lAmb lAmb 19 09 54.1
comp=Z,25nm,1.2s
BFSC Mount Baldy Ra 66.31 354 P **P 19 09 50.2 +1.0**
baz=174
MWC Mount Wilson 66.33 353 P **P 19 09 49.6 +0.1**
MWC pmax pmax
comp=Z,18nm,1.2s
MWC Mount Wilson 66.33 353 P **P 19 09 49.5 +0.1**
MWC lAmb lAmb 19 10 20.4
comp=Z,18nm,1.1s
CDVI St. Croix 66.35 48 P **P 19 09 49.2 -0.4**
DECC Green Verdugo 66.39 353 P **P 19 09 50.7 +1.1**
baz=173
FDF Fort de France 66.55 53 P **P 19 09 49.1 -1.9**
FDF pmax pmax
comp=Z,44nm,1.0s
FDF Fort de France 66.55 53 P **P 19 09 49.1 -1.9**
NEE2 Needles Airpor 66.62 357 P **P 19 09 52.1 +1.1**
baz=176
GMRC Granite Mounta 66.70 356 P **P 19 09 53.1 +1.4**
baz=176,SNR=8.2
KHU Kahuku 66.71 314 P **P 19 09 52.3 +0.1**
KHU pmax pmax
comp=Z,411nm,1.6s
KHU Kahuku 66.71 314 P **P 19 09 52.3 +0.1**
656A Williston 66.77 27 P **P 19 09 51.5 -0.6**
HEC Hector,Ludlow 66.79 355 P **P 19 09 53.3 +1.1**
baz=175
OSI Osito Audit: C 66.79 353 P **P 19 09 53.3 +1.2**
baz=173
VBMS Vicksburg 66.79 19 P **P 19 09 53.2 +1.1**
baz=199
553A Crawfordville 66.81 25 P **P 19 09 51.6 -0.7**
ANMO Albuquerque 66.83 4 P **P 19 09 53.2 +0.6**
comp=Z,0.3nm,0.8s,baz=175,slow=8.7,SNR=8.3
ANMO Albuquerque 66.83 4 P **P 19 09 53.2 +0.6**
baz=184
ANMO Albuquerque 66.83 4*ceP* **P 19 09 52.0 -0.6**
ANMO pmax pmax
comp=Z,12nm,1.7s
ANMO Albuquerque 66.83 4 P **P 19 09 52.5 -0.1**
BRAL Brewton 66.83 22 P **P 19 09 52.9 +0.5**
baz=202
W18A Petrified Fore 66.88 1 P **P 19 09 53.6 +0.7**
baz=181
RRX Edison Barstow 66.89 354 P **P 19 09 53.5 +0.8**
baz=174
DLPL La Plaine 66.91 53 P **P 19 09 52.5 -0.8**
W13A Hualapai Mount 66.92 357 P **P 19 09 53.1 -0.1**
EDW2 Edwards Air Fo 66.98 354 P **P 19 09 54.1 +0.7**
baz=173
GDU01 Guandu, BA 67.03 92 *eP* **P 19 09 54.5 +0.3**
POHA Pohakuloa 67.04 314 P **P 19 09 53.6 -0.7**
PKM Mcpherson Peak 67.18 352 P **P 19 09 55.6 +0.8**
baz=172
AMTX Amarillo 67.19 8 P **P 19 09 54.9 +0.2**
baz=188
AMTX Amarillo 67.19 8 P **P 19 09 54.8 0.0**
AMTX lAmb lAmb 19 10 47.5
comp=Z,10nm,0.6s
Z41A Richland Creek 67.20 16 P **P 19 09 55.2 +0.5**
baz=196
Z41A Richland Creek 67.20 16 P **P 19 09 54.9 +0.2**
Z41A lAmb lAmb 19 10 29.1
comp=Z,18nm,0.9s
WUAZ Wupatki 67.27 359 P **P 19 09 56.3 +0.9**
baz=179
WUAZ Wupatki 67.27 359 P **P 19 09 55.6 +0.3**
WUAZ lAmb lAmb 19 10 23.4
comp=Z,16nm,1.1s
GSC Goldstone, Bar 67.29 355 P **P 19 09 56.5 +1.1**
baz=174,SNR=14
GSC Goldstone, Bar 67.29 355 P **P 19 09 56.1 +0.7**
GSC pmax pmax

comp=Z,33nm,1.2s
GSC Goldstone, Bar 67.29 355 P P 19 09 56.1 +0.7
ARVC Arvin 67.31 353 P P 19 09 56.1 +0.7
baz=173
SKI Saint Kitts 67.35 50 P P 19 09 55.4 -0.6
SKI pmax pmax
comp=Z,196nm,1.4s
SKI Saint Kitts 67.35 50 P P 19 09 55.4 -0.6
TUQ Turquoise Moun 67.36 355 P P 19 09 57.2 +1.3
baz=175,SNR=13
LRMC Laurel Mtn Rad 67.54 354 P P 19 09 58.0 +0.9
baz=174,SNR=9.1
146A Union 67.59 20 P P 19 09 58.2 +1.0
SMMC Simmler 67.62 352 P P 19 09 58.6 +1.2
baz=172
ISA Isabella, Lake 67.80 353 P P 19 09 59.6 +1.0
baz=173,SNR=6.7
ISA Isabella, Lake 67.80 353 P P 19 09 59.0 +0.4
ISA pmax pmax
comp=Z,66nm,2.0s
ISA Isabella, Lake 67.80 353 P P 19 09 59.0 +0.4
352A Blakely 67.82 24 P P 19 09 59.2 +0.5
250A Grady 67.83 22 P P 19 09 58.9 +0.1
SHOC Shoshone, Teco 67.85 355 P P 19 09 59.8 +1.0
baz=175
X37A Clayton 67.91 14 P P 19 09 58.8 -0.5
VES Vestal, Richgr 68.04 353 P P 19 10 00.9 +0.9
baz=172
PAGB Antelope Grade 68.06 352 P P 19 10 00.4 +0.2
MPMC Manual Prospec 68.10 354 P P 19 10 01.8 +1.2
baz=174,SNR=31
FNO Franklin 68.18 12 P P 19 10 00.7 -0.2
U15A North Rim 68.19 359 P P 19 10 01.4 +0.1
U15A IAmb IAmb 19 10 22.2
comp=Z,20nm,0.9s
ANWB Willy Bob 68.21 51 P P 19 10 01.0 -0.4
TIGA Tifton 68.25 25 P P 19 10 00.9 -0.5
MIAR Mount Ida 68.25 15 P P 19 10 01.9 +0.5
baz=196
MIAR Mount Ida 68.25 15 P P 19 10 00.9 -0.5
MIAR pmax pmax
comp=Z,33nm,1.7s
MIAR Mount Ida 68.25 15 P P 19 10 00.9 -0.5
MIAR IAmb IAmb 19 10 28.4
comp=Z,33nm,1.7s
X40A Basin Creek Fa 68.37 16 P P 19 10 03.1 +1.0
X40A IAmb IAmb 19 10 30.1
comp=Z,33nm,1.9s
SHPR Sheep Range 68.38 356 P P 19 10 02.9 +0.6
SHPR IAmb IAmb 19 10 11.3
comp=Z,22nm,1.1s
Z47A Carrollton 68.41 20 P P 19 10 02.5 +0.2
FURC Furnace Creek, 68.45 355 P P 19 10 03.9 +1.3
baz=174
OK025 Westminster Rd 68.51 12 P P 19 10 02.0 -0.9
CWC Cottonwood Cre 68.53 354 P P 19 10 04.6 +1.3
baz=173
LRAL Lakeview Retre 68.58 21 P P 19 10 04.1 +0.7
baz=202
LRAL Lakeview Retre 68.58 21 P P 19 10 03.1 -0.3
LRAL IAmb IAmb 19 10 08.0
comp=Z,26nm,1.2s
Y45A Yeager Farm, C 68.61 19 P P 19 10 02.4 -1.2
PMPB Monarch Peak 68.61 351 P P 19 10 03.0 -0.6
OK029 Liberty Lake 68.70 12 P P 19 10 04.0 -0.1
OK029 IAmb IAmb 19 10 06.0
comp=Z,35nm,1.4s
UALR University of 68.76 16 P P 19 10 04.5 0.0
ROSB Rosrio 68.77 80 eP P 19 10 05.4 +0.3
KNB Kanab 68.79 358 P P 19 10 04.8 -0.1
KNB pmax pmax
comp=Z,25nm,1.1s
KNB Kanab 68.79 358 P P 19 10 04.8 -0.1
LCMT Little Creek M 68.80 358 P P 19 10 05.0 +0.1
W39A Magazine 68.83 15 P P 19 10 05.5 +0.5
baz=195
W39A Magazine 68.83 15 P P 19 10 04.7 -0.2
W39A IAmb IAmb 19 10 09.4
comp=Z,19nm,1.2s
X43A Marvell 68.87 18 P P 19 10 06.1 +0.9
baz=198
TPNV Topopah Spring 68.89 355 P P 19 10 06.8 +1.3
baz=175,SNR=18
TPNV Topopah Spring 68.89 355 P P 19 10 05.7 +0.2
TPNV pmax pmax
comp=Z,26nm,1.0s
TPNV Topopah Spring 68.89 355 P P 19 10 05.7 +0.2
TPNV IAmb IAmb 19 10 14.6
comp=Z,26nm,1.0s
152A Waverly Hall 68.98 23 P P 19 10 05.7 -0.2
152A IAmb IAmb 19 10 11.2
comp=Z,30nm,1.1s
MVCO Mesa Verde 68.99 2 P P 19 10 06.6 +0.4
baz=182
MVCO Mesa Verde 68.99 2 P P 19 10 06.3 +0.1
MVCO IAmb IAmb 19 10 25.9
comp=Z,23nm,1.0s
U32A Winter Ranch, 69.02 10 P P 19 10 06.9 +0.7
U32A IAmb IAmb 19 10 46.3
comp=Z,24nm,1.2s
TUL1 Leonard 69.11 13 P P 19 10 06.6 -0.1
baz=194
TUL1 Leonard 69.11 13 P P 19 10 06.3 -0.4
TUL1 IAmb IAmb 19 10 36.9
comp=Z,20nm,0.9s
T25A Trinidad 69.15 5 P P 19 10 07.8 +0.7
baz=186
T25A Trinidad 69.15 5 P P 19 10 06.2 -1.0
T25A IAmb IAmb 19 10 12.1
comp=Z,18nm,1.2s
TIN Tinemaha, Big 69.16 354 P P 19 10 08.4 +1.4
baz=173
W41B Gary Mavity, V 69.16 16 P P 19 10 07.7 +0.7
baz=197
W41B Gary Mavity, V 69.16 16 IAmb IAmb 19 10 23.4
comp=Z,16nm,0.9s
WHAR Wooly Hollow 69.26 16 P P 19 10 07.1 -0.5
PRN Pahroc Range 69.27 356 P P 19 10 08.3 +0.5
PRN IAmb IAmb 19 10 16.9
comp=Z,15nm,1.1s
Z51A Franklin 69.42 23 IAmb IAmb 19 10 09.6
comp=Z,21nm,0.9s
Y49A Blount Mountai 69.52 22 P P 19 10 09.0 -0.3
Y49A IAmb IAmb 19 10 10.0
comp=Z,15nm,1.0s
S22A 4UR Ranch, Cre 69.59 3 P P 19 10 10.9 +0.8
baz=184
S22A 4UR Ranch, Cre 69.59 3 IAmb IAmb 19 10 28.2
comp=Z,38nm,1.9s
NVL N'lazarevskaya 69.67 163 eP P 19 10 09.6 -0.2
NVL eS S 19 19 21.3 +3.3
NVL pmax pmax
comp=Z,22nm,1.0s
SDCO Great Sand Dun 69.67 4 P P 19 10 10.9 +0.4
baz=185
MLAC Mammoth, Mammo 69.78 353 P P 19 10 11.6 +0.5
baz=173
OMMB Old Mammoth Mi 69.78 353 IAmb IAmb 19 10 36.8
comp=Z,30nm,1.8s
HHAR Hobbs 69.84 14 P P 19 10 11.1 -0.1
PV01 Paradox Valley 69.91 2 P P 19 10 11.7 -0.2
PV01 IAmb IAmb 19 10 16.4
comp=Z,31nm,1.5s
PV13 Radium Mtn., P 69.93 2 P P 19 10 12.1 +0.1
PLAL Pickwick Lake 70.07 20 IAmb IAmb 19 10 16.3
comp=Z,22nm,1.4s
PV11 David Mesa, Pa 70.07 2 IAmb IAmb 19 10 28.9
comp=Z,36nm,1.6s
GOGA Godfrey 70.08 24 P P 19 10 13.1 +0.4
baz=204
GOGA Godfrey 70.08 24 P P 19 10 12.4 -0.3
GOGA pmax pmax
comp=Z,13nm,0.9s
GOGA Godfrey 70.08 24 P P 19 10 12.4 -0.3
TPH Tonopah 70.08 355 P P 19 10 14.0 +1.1
TPH pmax pmax
comp=Z,106nm,1.2s
TPH Tonopah 70.08 355 P P 19 10 14.0 +1.1
PV12 Saucer Basin, 70.09 2 IAmb IAmb 19 10 16.4
comp=Z,15nm,0.9s
PV15 Paradox Valley 70.12 2 IAmb IAmb 19 10 20.5
comp=Z,22nm,0.9s
PV14 Lion Creek, Pa 70.14 1 IAmb IAmb 19 10 20.6
comp=Z,23nm,1.0s
U40A Yellville 70.15 15 P P 19 10 13.7 +0.6
baz=196
U40A Yellville 70.15 15 P P 19 10 13.1 0.0
PV04 Paradox Valley 70.16 2 IAmb IAmb 19 10 29.5
comp=Z,20nm,1.0s
PV23 Carpenter Ridg 70.22 1 P P 19 10 14.0 +0.2
PV23 IAmb IAmb 19 10 17.7
comp=Z,21nm,0.8s
R11A Troy Canyon, C 70.24 356 P P 19 10 15.3 +1.4
baz=176,SNR=14
LCAR Lake Charles 70.28 17 P P 19 10 13.6 -0.2
Y52A Lilburn 70.29 23 IAmb IAmb 19 10 15.0
comp=Z,18nm,0.8s
157A Early Branch 70.32 26 P P 19 10 15.1 +1.0
baz=206
PV21 Cone Mtn., Par 70.33 2 IAmb IAmb 19 10 21.6
comp=Z,16nm,0.9s
PSUT Pine Spring 70.34 357 P P 19 10 15.2 +0.7
FPAL Fort Paine 70.40 22 IAmb IAmb 19 10 25.0
comp=Z,16nm,0.9s
NV11 Mina Array Sit 70.52 354 IAmb IAmb 19 10 21.0
comp=Z,38nm,1.1s
NVAR Mina Array Bea 70.53 354 P P 19 10 16.9 +1.3
comp=Z,20nm,0.9s,baz=183,slow=8.4,SNR=26
NVAR LR LR 19 34 29.8
comp=Z,696nm,20.7s,baz=169,slow=30
X51A Calhoun 70.67 22 P P 19 10 16.0 -0.3
X51A IAmb IAmb 19 10 17.1
comp=Z,25nm,0.9s
158A Hollywood 70.67 27 P P 19 10 17.4 +1.1
baz=207
WAKR Walker 70.71 353 IAmb IAmb 19 10 43.2
comp=Z,30nm,1.5s
RYN Ryan 70.74 354 IAmb IAmb 19 10 22.4
comp=Z,30nm,1.3s
Z56A Williston 70.75 26 P P 19 10 17.5 +0.7
baz=206
Q24A Divide 70.91 5 P P 19 10 18.4 +0.4
baz=185
SWET Sewanee 70.93 21 P P 19 10 17.3 -0.6
Z57A Bowman 70.98 26 P P 19 10 18.7 +0.5
baz=207
NHSC New Hope 71.01 27 P P 19 10 18.9 +0.5
baz=207
MGMO Mountain Grove 71.05 16 IAmb IAmb 19 10 38.9
comp=Z,22nm,1.3s
R32A Long Quarter, 71.07 10 IAmb IAmb 19 10 22.1
comp=Z,14nm,0.8s
W50A Signal Mountai 71.11 22 IAmb IAmb 19 10 29.4
comp=Z,20nm,0.9s
PBMO Poplar Bluff 71.13 17 P P 19 10 19.1 +0.1
V48A Smith Brothers 71.14 20 IAmb IAmb 19 10 22.9
comp=Z,19nm,1.1s
KSCO Kaye Shedlock' 71.17 7 P P 19 10 20.1 +0.7
baz=187
KSCO Kaye Shedlock' 71.17 7 IAmb IAmb 19 10 24.3
comp=Z,24nm,1.0s
YERR Yerington 71.17 353 IAmb IAmb 19 10 45.8
comp=Z,50nm,1.7s
T42A Van Buren 71.21 17 IAmb IAmb 19 10 23.5
comp=Z,25nm,1.6s
WVT Waverly 71.21 19 P P 19 10 19.4 -0.1
baz=200
WVT Waverly 71.21 19 P P 19 10 19.1 -0.5
WVT pmax pmax
comp=Z,41nm,1.6s
WVT Waverly 71.21 19 P P 19 10 19.1 -0.5
WVT IAmb IAmb 19 10 23.2
comp=Z,41nm,1.6s
HODGE Hodges 71.25 25 IAmb IAmb 19 10 21.0
comp=Z,14nm,0.9s
CBKS Cedar Bluff 71.31 9 P P 19 10 20.7 +0.5
baz=190
Z58A St. Stephen 71.35 27 P P 19 10 21.0 +0.5
baz=207
W52A Murphy 71.46 23 IAmb IAmb 19 10 22.7
comp=Z,18nm,0.8s
Z59A Georgetown, SC 71.48 28 P P 19 10 21.6 +0.4
baz=206
X54A Belton 71.49 24 P P 19 10 21.9 +0.6
baz=205
CPCT Cooper Cave 71.59 22 P P 19 10 21.3 -0.6
CPCT IAmb IAmb 19 10 22.6
comp=Z,18nm,1.0s
X55A Gracelyn & Ava 71.69 25 P P 19 10 23.1 +0.7
baz=206
BG3 Lake Jocassee 71.70 24 IAmb IAmb 19 10 27.3
comp=Z,32nm,1.3s
ISCO Idaho Springs 71.71 4 P P 19 10 23.6 +0.7
baz=185
PAHR Pah Rah Range 71.90 353 P P 19 10 25.1 +1.3
PAHR IAmb IAmb 19 10 32.7
comp=Z,24nm,1.4s
X56A White Oak 71.92 26 P P 19 10 24.4 +0.6
baz=206
DUG Dugway, Tooele 71.97 358 P P 19 10 25.1 +0.9
baz=178
TKL Tuckaleechee C 72.02 23 P P 19 10 24.5 0.0
comp=Z,8.3nm,0.8s,baz=186,slow=7.9,SNR=14
W54A Cherokee Point 72.04 24 P P 19 10 25.5 +0.9
baz=205
KSU1 Kansas State U 72.07 12 P P 19 10 25.6 +1.0
baz=193
CCM Cathedral Cave 72.15 16 P P 19 10 25.3 +0.2
baz=197
CCM Cathedral Cave 72.15 16 P P 19 10 24.7 -0.4
CCM pmax pmax
comp=Z,16nm,1.2s
CCM Cathedral Cave 72.15 16 P P 19 10 24.7 -0.4
T47A Sharon Grove 72.22 20 IAmb IAmb 19 10 29.6
comp=Z,38nm,1.1s
V52A Sevierville 72.25 23 IAmb IAmb 19 10 29.8
comp=Z,27nm,1.4s
BIRD Birdtown, Kers 72.27 26 IAmb IAmb 19 10 27.3
comp=Z,21nm,1.0s
S44A Carbondale 72.30 18 P P 19 10 26.1 +0.1
S44A IAmb IAmb 19 10 38.6
comp=Z,17nm,0.8s
Y59A Loris 72.30 27 P P 19 10 27.3 +1.2
baz=208
V53A Saluda 72.35 24 IAmb IAmb 19 10 37.0
comp=Z,30nm,1.0s
KMSC Kings Mountain 72.40 25 P P 19 10 27.3 +0.6
baz=206
KMSC Kings Mountain 72.40 25 IAmb IAmb 19 10 27.9
comp=Z,16nm,0.8s
Y60A Bolivia 72.57 28 P P 19 10 28.1 +0.4
baz=208
ELK Elko 72.61 356 P P 19 10 28.6 +0.4
comp=Z,2.4nm,0.7s,baz=212,slow=7.3,SNR=10
ELK Elko 72.61 356 P P 19 10 28.1 -0.1
ELK pmax pmax
comp=Z,7.0nm,1.0s
ELK Elko 72.61 356 P P 19 10 28.1 -0.1
X58A Rowland 72.61 27 P P 19 10 28.9 +0.9
baz=208
W56A Indian Trail 72.66 26 P P 19 10 28.7 +0.5
baz=206
DZM Mont Dzumac 72.73 254 eS S 19 19 54.6 -0.6
comp=Z,268nm,25.9s
DZM Mont Dzumac 72.73 254 eLR LR 19 32 44.5
comp=Z,1µm,29.6s
DZM Mont Dzumac 72.73 254 P P 19 10 28.7 -0.6
DZM IAmb IAmb 19 10 55.6
comp=Z,47nm,1.4s
V54A Nebo 72.75 24 P P 19 10 29.4 +0.5
baz=205,SNR=12
O03E Paynes Creek 72.76 351 P P 19 10 30.4 +1.5
baz=170
O02D Mt. Diablo Mer 72.78 350 P P 19 10 30.3 +1.3
baz=169
N23A Red Feather La 72.78 4 P P 19 10 30.2 +1.0
baz=184
N23A Red Feather La 72.78 4 IAmb IAmb 19 10 45.8
comp=Z,22nm,1.2s
W57A Gilead 72.90 26 P P 19 10 30.1 +0.5
baz=207
W57A Gilead 72.90 26 IAmb IAmb 19 10 33.6
comp=Z,19nm,1.0s
TZTN Tazewell 72.90 23 P P 19 10 30.2 +0.5
baz=204,SNR=10
TZTN Tazewell 72.90 23 IAmb IAmb 19 10 40.7
comp=Z,26nm,0.9s
X59A McDuffie Farm, 72.91 27 P P 19 10 30.4 +0.6
baz=208
T50A Nancy 72.93 21 IAmb IAmb 19 10 33.8
comp=Z,29nm,1.6s
W58A Raeford 73.06 27 P P 19 10 31.4 +0.7
baz=208,SNR=12
V55A Taylorsville 73.08 25 P P 19 10 31.4 +0.7
baz=206
V55A Taylorsville 73.08 25 IAmb IAmb 19 10 35.5
comp=Z,23nm,1.1s
WDC Whiskeytown Da 73.14 351 IAmb IAmb 19 10 38.3
comp=Z,17nm,0.9s
X60A Albert Glenn T 73.16 28 P P 19 10 31.9 +0.6
baz=209
V56A Mocksville 73.30 25 P P 19 10 32.5 +0.5
baz=206
U54A Nelsons Funny 73.46 24 P P 19 10 33.3 +0.2
baz=205
U54A Nelsons Funny 73.46 24 P P 19 10 32.5 -0.6
Q44A Meyer Farm, Va 73.50 18 IAmb IAmb 19 10 38.4
comp=Z,33nm,1.0s
W59A Clinton 73.50 27 P P 19 10 33.9 +0.7
baz=208
N02D Trinity Center 73.55 351 P P 19 10 34.4 +0.9
baz=170
KHMM Horse Mountain 73.60 350 IAmb IAmb 19 10 39.5
comp=Z,27nm,1.1s
V57A Coltrane Farms 73.63 26 P P 19 10 34.2 +0.2
baz=207,SNR=7.4
T53A Wise 73.64 23 P P 19 10 34.2 +0.1
baz=205
W60A Pink Hill 73.68 28 P P 19 10 34.8 +0.5
baz=209
U55A TA2, Sparta 73.72 25 P P 19 10 34.8 +0.2
baz=206
CNNC Cliffs of the 73.78 28 P P 19 10 35.4 +0.5
baz=209
V58A Windy Hill, Pi 73.79 26 P P 19 10 35.3 +0.3
baz=208
V58A Windy Hill, Pi 73.79 26 IAmb IAmb 19 10 39.2
comp=Z,38nm,1.6s
U56A King 73.82 25 P P 19 10 35.7 +0.6
baz=206
S51A Beattyville 73.89 22 P P 19 10 35.5 0.0
S51A IAmb IAmb 19 10 39.3
comp=Z,18nm,0.8s
M02C Callahan 73.98 351 P P 19 10 37.0 +1.0
baz=169
R49A Shelbyville 74.00 21 IAmb IAmb 19 10 39.7
comp=Z,30nm,1.2s
T54A Tazewell 74.03 24 P P 19 10 36.6 +0.1
baz=205,SNR=7.2
BGNE Belgrade 74.08 10 P P 19 10 37.1 +0.5
baz=191
V59A Middlesex 74.10 27 P P 19 10 37.1 +0.3
baz=208,SNR=8.1
M04C Macdoel 74.23 351 P P 19 10 38.3 +0.8
baz=170,SNR=8.5
U57A Blanch 74.28 26 P P 19 10 38.2 +0.4
baz=207,SNR=6.1
YBH Yreka Blue Hor 74.29 351 P P 19 10 38.1 +0.3
comp=Z,4.2nm,1.1s,baz=134,slow=2.7,SNR=6.9
YBH Yreka Blue Hor 74.29 351 P P 19 10 37.7 -0.2
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 74.29 351 P P 19 10 37.7 -0.2
T55A Pulaski 74.36 25 P P 19 10 38.5 +0.2
baz=206,SNR=5.8
V60A Jim Taylor Roa 74.48 28 P P 19 10 39.3 +0.3
baz=209
K22A Casper 74.50 3 P P 19 10 39.7 +0.6
baz=184
K22A Casper 74.50 3 IAmb IAmb 19 10 43.8
comp=Z,32nm,1.2s
BW06 Boulder Array 74.52 1 P P 19 10 38.8 -0.6
baz=181,SNR=11
PDAR Pinedale Array 74.52 1 P P 19 10 38.8 -0.6
comp=Z,6.0nm,1.0s,baz=153,slow=6.1,SNR=25
PDAR LR LR 19 38 33.1
comp=Z,555nm,18.2s,baz=162,slow=32
PDAR Pinedale Array 74.52 1 P P 19 10 37.8 -1.6
U58A Oxford 74.54 27 P P 19 10 39.5 +0.2
baz=208
T56A Rocky Mt 74.55 25 P P 19 10 40.4 +1.0
baz=207
BLA Blacksburg 74.58 25 P P 19 10 39.9 +0.4
baz=206,SNR=7.6
BLA Blacksburg 74.58 25 IAmb IAmb 19 10 40.8
comp=Z,25nm,0.9s
P46A Issesdale 74.65 19 P P 19 10 39.4 -0.4
L04D Klamath Falls 74.72 351 P P 19 10 40.6 +0.3
baz=170,SNR=8.4
V61A Roper 74.78 28 P P 19 10 41.5 +0.9
baz=210
U59A Littleton 74.79 27 P P 19 10 41.2 +0.4
baz=208
S54A Dingess, Beckl 74.79 24 P P 19 10 41.4 +0.6
baz=206
T57A Hurt 74.81 26 P P 19 10 41.0 +0.1
baz=207
V62A Hyde County Ai 74.83 29 P P 19 10 41.8 +0.8
baz=210
L02E Cave Junction 74.84 350 P P 19 10 42.1 +1.2
baz=169
KBO Bosley Butte 74.98 350 P P 19 10 42.3 +0.4
KBO IAmb IAmb 19 11 08.2
comp=Z,76nm,1.9s
HDIL Hopedale 74.99 17 P P 19 10 42.3 +0.5
baz=199
T58A Grand View Acr 75.03 26 P P 19 10 42.1 -0.1
baz=208,SNR=6.9
K05A Summer Lake 75.05 352 IAmb IAmb 19 11 08.4
comp=Z,34nm,1.1s
K04D Chiloquin, OR 75.05 352 P P 19 10 42.7 +0.5
baz=170
S55A Lewisburg 75.05 24 P P 19 10 42.7 +0.4
baz=206,SNR=6.5
R53A Hurricane 75.05 23 P P 19 10 42.7 +0.4
baz=205
U60A Pendleton 75.14 28 P P 19 10 43.2 +0.4
baz=209
HUMO Hull Mountain 75.19 351 P P 19 10 43.3 +0.4
Q51A Peebles 75.23 22 IAmb IAmb 19 10 54.1
comp=Z,29nm,0.9s
R54A Victor 75.24 24 P P 19 10 44.0 +0.7
baz=206
P49A Miami Univ. Ec 75.28 21 P P 19 10 43.1 -0.4
baz=203
P49A Miami Univ. Ec 75.28 21 IAmb IAmb 19 10 47.0
comp=Z,38nm,1.4s
S56A Natural Bridge 75.30 25 P P 19 10 44.3 +0.6
baz=207
U61A Possum Corner 75.30 28 P P 19 10 44.1 +0.4
baz=210
LOHW Long Hollow 75.36 0 P P 19 10 43.6 -0.6
LOHW IAmb IAmb 19 10 48.3
comp=Z,41nm,1.9s
K02D Willamette Mer 75.37 350 P P 19 10 44.8 +0.7
baz=169,SNR=8.6
HLID Hailey 75.38 357 P P 19 10 45.2 +1.0
baz=177
HLID Hailey 75.38 357 IAmb IAmb 19 10 49.3
comp=Z,38nm,1.3s
SCIA State Center 75.41 13 P P 19 10 44.9 +0.7
baz=195
T59A Double "B" Far 75.42 27 P P 19 10 44.8 +0.4
baz=209
T59A Double "B" Far 75.42 27 IAmb IAmb 19 10 48.9
comp=Z,44nm,1.6s
Q52A Bidwell 75.52 23 P P 19 10 45.6 +0.7
baz=205
S57A Dark Hollow, R 75.59 26 P P 19 10 45.8 +0.5
baz=207
S57A Dark Hollow, R 75.59 26 P P 19 10 45.4 0.0
J05D Fort Rock, OR 75.64 352 P P 19 10 47.0 +1.3
baz=171
R55A Marlton 75.64 24 P P 19 10 46.1 +0.4
baz=206
Q53A Leroy 75.67 23 P P 19 10 46.8 +1.0
baz=205,SNR=6.2
J04D Umpqua Nationa 75.70 351 P P 19 10 47.1 +1.0
baz=170
P51A Williamsport 75.74 22 P P 19 10 46.4 +0.3
baz=204
P51A Williamsport 75.74 22 IAmb IAmb 19 10 47.0
comp=Z,20nm,1.1s
S58A Poland Farm, P 75.80 26 P P 19 10 47.1 +0.6
baz=208,SNR=8.2
S58A Poland Farm, P 75.80 26 P P 19 10 46.8 +0.3
S58A IAmb IAmb 19 10 48.2
comp=Z,21nm,0.8s
FLWY Flagg Ranch 75.83 0 IAmb IAmb 19 10 51.2
comp=Z,24nm,1.0s
J01E Myrtle Point 75.87 350 P P 19 10 47.7 +0.9

T60A **Surry** 75.89 27 P P 19 10 47.6 +0.6
baz=209
L40A **Anamosa** 75.97 15 IAmb IAmb 19 11 03.4
comp=Z,31nm,1.1s
R56A **Bull Pasture M** 76.00 25 P P 19 10 48.8 +1.0
baz=207,SNR=9.9
Q54A **Coxs Mills** 76.02 24 P P 19 10 48.4 +0.7
baz=206
Q54A **Coxs Mills** 76.02 24 IAmb IAmb 19 10 52.7
comp=Z,59nm,1.8s
BCYI **Bear Canyon** 76.09 358 P P 19 10 48.6 +0.3
PINE **Pine Mountain** 76.10 352 IAmb IAmb 19 11 13.7
comp=Z,29nm,1.2s
RSSD **Black Hills** 76.12 5 P P 19 10 49.0 +0.5
baz=186
RSSD **Black Hills** 76.12 5 P P 19 10 48.6 +0.1
RSSD pmax pmax
comp=Z,15nm,0.5s
RSSD **Black Hills** 76.12 5 P P 19 10 48.6 +0.1
RSSD IAmb IAmb 19 11 39.0
comp=Z,16nm,0.5s
R58B **Mineral** 76.17 26 P P 19 10 49.4 +0.8
baz=208,SNR=7.1
R58B **Mineral** 76.17 26 IAmb IAmb 19 11 00.3
comp=Z,26nm,1.1s
P52A **Corning** 76.17 22 P P 19 10 49.2 +0.5
baz=205,SNR=6.6
P52A **Corning** 76.17 22 P P 19 10 49.1 +0.5
S59A **Mechanicsville** 76.22 27 P P 19 10 49.2 +0.4
baz=209
R57A **Stanardsville** 76.22 26 P P 19 10 49.6 +0.6
baz=208,SNR=7.0
I07A **Izee** 76.24 354 IAmb IAmb 19 10 54.6
comp=Z,21nm,1.0s
I04A **Tendick Farm,** 76.28 351 P P 19 10 49.8 +0.6
baz=170
P53A **Whipple** 76.28 23 P P 19 10 50.5 +1.2
baz=205
P53A **Whipple** 76.28 23 IAmb IAmb 19 10 54.4
comp=Z,39nm,1.2s
Q55A **Buckhannon** 76.29 24 P P 19 10 50.3 +0.9
baz=206
I03D **Drain, OR** 76.31 351 P P 19 10 50.5 +1.2
baz=169
R58A **Rapidan** 76.42 26 P P 19 10 50.6 +0.6
baz=208
ACSO **Alum Creek Sta** 76.45 22 P P 19 10 50.8 +0.6
baz=204
O51A **Pataskala** 76.49 22 P P 19 10 50.9 +0.5
baz=204
CBN **Corbin Frederi** 76.57 26 P P 19 10 51.8 +0.9
baz=209
QLMT **Earthquake Lak** 76.58 360 P P 19 10 52.0 +1.0
ECSD **EROS Data Cent** 76.58 11 P P 19 10 51.4 +0.5
baz=192
Q56A **Snyder Ridge,** 76.64 25 P P 19 10 52.0 +0.7
baz=207
Q56A **Snyder Ridge,** 76.64 25 IAmb IAmb 19 10 56.6
comp=Z,40nm,1.4s
R59A **King George, V** 76.67 27 P P 19 10 52.1 +0.7
baz=209
I05D **Terrebonne, OR** 76.69 352 P P 19 10 52.9 +1.4
baz=171
P54A **Burton** 76.69 24 P P 19 10 52.5 +0.9
baz=206,SNR=7.6
O52A **Adamsville** 76.71 22 P P 19 10 52.4 +0.7
baz=205,SNR=14
O52A **Adamsville** 76.71 22 P P 19 10 51.8 +0.1
P55A **Reedsville** 76.83 24 P P 19 10 53.2 +0.8
baz=207,SNR=6.0
SYO **Syowa Base** 76.84 169 *eP* P 19 10 50.0 -2.2
SYO **Syowa Base** 76.84 169 *pP* P 19 10 53.6 +1.4
SYO **Syowa Base** 76.84 169 *esP* sP 19 10 55.0 -0.4
L44A **Lake County Fo** 76.86 17 P P 19 10 53.1 +0.6
baz=200
RLMT **Red Lodge** 76.88 1 P P 19 10 53.0 +0.2
baz=181
Q57A **Strasburg** 76.92 25 P P 19 10 53.8 +1.0
baz=208,SNR=9.9
R60A **Leonardtown, M** 76.93 27 P P 19 10 53.8 +0.9
baz=209
CASY **Casey** 76.94 196 P P 19 10 53.3 +0.5
CASY IAmb IAmb 19 10 58.4
comp=Z,23nm,1.1s
MCWV **Mont Chateau** 76.96 24 P P 19 10 54.4 +1.3
baz=206
PLID **Pearl Lake** 76.98 356 IAmb IAmb 19 10 57.9
comp=Z,26nm,1.5s
O53A **New Philadelph** 77.03 23 P P 19 10 54.4 +0.9
baz=205
H04D **Lebanon** 77.04 351 P P 19 10 53.9 +0.5
baz=170
Q58A **Fox Den Farm,** 77.10 26 P P 19 10 54.5 +0.6
baz=208,SNR=9.7
P56A **Dayton Farm, R** 77.18 25 P P 19 10 55.3 +1.0
baz=207,SNR=8.4
O54A **Avella** 77.25 23 P P 19 10 55.9 +1.2
baz=206
N51A **Ashland** 77.26 22 P P 19 10 55.5 +0.7
baz=204
BOZ **Bozeman (W)** 77.34 359 P P 19 10 55.9 +0.6
baz=179
BOZ **Bozeman (W)** 77.34 359 P P 19 10 55.6 +0.3
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ **Bozeman (W)** 77.34 359 P P 19 10 55.6 +0.3
N52A **McGinn's Farm,** 77.39 22 P P 19 10 56.0 +0.6
baz=205
G08A **Pilot Rock** 77.39 354 IAmb IAmb 19 11 00.9
comp=Z,21nm,1.1s
P57A **Homestead Farm** 77.46 25 P P 19 10 56.5 +0.6
baz=208,SNR=8.6
P57A **Homestead Farm** 77.46 25 IAmb IAmb 19 10 59.9
comp=Z,21nm,0.9s
M50A **Fremont** 77.50 21 IAmb IAmb 19 11 00.2
comp=Z,32nm,1.0s
G05D **Wamic, OR** 77.58 352 P P 19 10 57.4 +0.9
baz=171
O55A **Ligonier** 77.64 24 P P 19 10 57.4 +0.5
baz=207
N53A **Lisbon** 77.66 23 P P 19 10 58.1 +1.1
baz=206
N53A **Lisbon** 77.66 23 P P 19 10 57.9 +0.9
N53A IAmb IAmb 19 10 58.7
comp=Z,33nm,1.0s
M51A **Elyria** 77.70 22 P P 19 10 57.8 +0.6
baz=204
P58A **Pank, Wackersv** 77.72 26 P P 19 10 58.2 +0.8
baz=208
G03D **McMinnville, O** 77.79 351 P P 19 10 58.5 +1.0
baz=169
Q60A **Greensboro** 77.85 27 P P 19 10 58.2 +0.1
baz=210
O56A **Blue Knob Stat** 77.95 25 P P 19 10 59.4 +0.7
baz=208,SNR=9.1
O56A **Blue Knob Stat** 77.95 25 IAmb IAmb 19 11 04.5
comp=Z,46nm,1.3s
N54A **Moraine State** 78.08 23 P P 19 11 00.5 +1.2
baz=206,SNR=6.2
AAM **Ann Arbor** 78.14 20 P P 19 11 00.7 +1.1
baz=203
M52A **Chesterland** 78.15 22 P P 19 11 00.2 +0.5
baz=205
P59A **Jarrettsville** 78.16 26 P P 19 11 00.7 +0.9
baz=209
F05D **White Salmon** 78.23 352 P P 19 11 01.3 +1.3
baz=171
O57A **Amberson** 78.23 25 P P 19 11 00.8 +0.6
baz=208,SNR=9.0
N55A **Marion Center** 78.26 24 P P 19 11 01.3 +1.0
baz=207,SNR=7.1
M53A **WI Miller and** 78.28 23 P P 19 11 01.2 +0.8
baz=206
M53A **WI Miller and** 78.28 23 IAmb IAmb 19 11 02.4
comp=Z,22nm,0.7s
F04A **Amboy** 78.39 352 IAmb IAmb 19 11 26.1
comp=Z,21nm,0.9s
O58A **Lewisberry** 78.42 26 P P 19 11 01.8 +0.6
baz=209
SSPA **Standing Stone** 78.52 25 P P 19 11 02.5 +0.7
baz=208
SSPA **Standing Stone** 78.52 25 P P 19 11 01.6 -0.2
SSPA IAmb IAmb 19 11 02.9
comp=Z,20nm,1.1s
LAO **LASA Array** 78.54 3 P P 19 11 02.3 +0.5
baz=184
PAGS **Pennsylvania G** 78.59 26 IAmb IAmb 19 11 07.3
comp=Z,28nm,1.2s
MSO **Missoula** 78.62 358 P P 19 11 02.8 +0.5
baz=177
MSO **Missoula** 78.62 358 P P 19 11 02.8 +0.5
P60A **Greenville** 78.63 27 P P 19 11 02.7 +0.3
baz=210
M54A **Oil Creek Stat** 78.68 23 P P 19 11 03.6 +1.0
baz=206
M54A **Oil Creek Stat** 78.68 23 IAmb IAmb 19 11 06.9
comp=Z,19nm,0.9s
N57A **Milroy** 78.75 25 P P 19 11 03.4 +0.4
baz=208
O59A **Robesonia** 78.86 26 P P 19 11 03.9 +0.2
baz=209
L53A **Girard** 78.88 23 P P 19 11 04.7 +1.0
baz=206
M55A **Ridgway** 78.95 24 P P 19 11 04.8 +0.6
baz=207,SNR=6.2
E04D **Cinebar** 79.02 352 P P 19 11 05.4 +1.1
baz=170
ERPA **Erie** 79.11 23 P P 19 11 05.8 +0.8
baz=206
N58A **Sunbury** 79.12 26 P P 19 11 05.4 +0.4
baz=209
N58A **Sunbury** 79.12 26 IAmb IAmb 19 11 09.5
comp=Z,69nm,1.9s
E03A **Lebam** 79.14 351 IAmb IAmb 19 11 30.5
comp=Z,21nm,0.9s
O60A **Telford** 79.16 27 P P 19 11 06.0 +0.7
baz=210
M56A **Emporium** 79.16 24 P P 19 11 06.4 +1.1
baz=208
M56A **Emporium** 79.16 24 IAmb IAmb 19 11 10.9
comp=Z,45nm,1.2s
F36A **Milaca** 79.17 12 P P 19 11 05.5 +0.3
M57A **Sunshine Farm,** 79.41 25 P P 19 11 07.3 +0.7
baz=208
N59A **State Game Lan** 79.54 26 P P 19 11 08.1 +0.8
baz=210
N59A **State Game Lan** 79.54 26 P P 19 11 07.6 +0.2
N59A IAmb IAmb 19 11 12.2
comp=Z,33nm,1.4s
D04E **Lakebay** 79.66 352 P P 19 11 09.2 +1.5
baz=170
M58A **Price's Panora** 79.68 26 P P 19 11 08.9 +0.8
baz=209
L55A **Hinsdale** 79.69 24 P P 19 11 09.1 +0.9
baz=207,SNR=12
EGMT **Eagleton** 79.77 1 P P 19 11 09.5 +0.9
baz=181
C09A **Chrisman Ranch** 79.83 355 IAmb IAmb 19 11 14.0
comp=Z,70nm,1.9s
WVNY **West Valley, N** 79.83 24 IAmb IAmb 19 11 14.0
comp=Z,56nm,1.4s
L56A **Greenwood** 79.96 24 P P 19 11 10.3 +0.7
baz=208,SNR=6.7
L56A **Greenwood** 79.96 24 IAmb IAmb 19 11 11.0
comp=Z,28nm,0.9s
N61A **South Mountain** 79.96 27 P P 19 11 10.2 +0.5
baz=211
K54A **Basiliko Farm,** 79.99 23 P P 19 11 10.6 +0.9
baz=207
D03D **Eldon** 80.05 352 P P 19 11 11.0 +1.1
baz=169
L57A **Andrews Acres** 80.09 25 P P 19 11 11.2 +0.9
baz=209
M59A **Waymart** 80.21 26 P P 19 11 11.2 +0.2
baz=210
NEW **Newport** 80.21 356 P P 19 11 11.9 +1.0
baz=175
NEW **Newport** 80.21 356 P P 19 11 11.5 +0.6
NEW pmax pmax
comp=Z,14nm,1.0s
NEW **Newport** 80.21 356 P P 19 11 11.5 +0.6
MDND **Maddock** 80.22 8 P P 19 11 11.5 +0.6
baz=190
I51A **Listowel** 80.30 21 P P 19 11 12.2 +0.8
baz=205
M60A **Port Jervis** 80.33 27 P P 19 11 11.5 -0.1
baz=210
PAL **Palisades** 80.33 27 P P 19 11 11.7 +0.1
baz=211
DGMT **Dagmar** 80.43 4 P P 19 11 12.7 +0.7
baz=186
MAW **Mawson** 80.48 178 P P 19 11 12.4 +0.2
comp=Z,22nm,1.1s,baz=191,slow=5.2,SNR=20
MAW LR LR 19 43 47.5
comp=Z,637nm,21.1s,baz=208,slow=33
L58A **Harry Jones Me** 80.49 26 P P 19 11 13.5 +1.0
baz=209
K56A **Middlesex** 80.53 24 P P 19 11 13.3 +0.6
baz=208
J54A **Appleton** 80.59 23 P P 19 11 13.6 +0.7
baz=207
M61A **Granite Spring** 80.65 27 P P 19 11 13.6 +0.3
baz=211
B05A **Bryant** 80.65 352 P P 19 11 13.4 +0.3
baz=170
TOO **Toolangi** 80.72 231 P P 19 11 14.5 +0.3
TOO pmax pmax
comp=Z,44nm,1.5s
TOO **Toolangi** 80.72 231 P P 19 11 14.5 +0.3
TOO IAmb IAmb 19 11 22.7
comp=Z,44nm,1.5s
K57A **Scipio Center** 80.85 25 P P 19 11 14.9 +0.5
baz=209
J55A **Hilton** 80.86 24 P P 19 11 15.1 +0.7
baz=208
L59A **Walton** 80.92 26 P P 19 11 15.3 +0.5
baz=210
L60A **Shokan** 81.05 27 P P 19 11 15.7 +0.2
baz=211
M62A **Hamden** 81.10 28 P P 19 11 15.8 +0.1
baz=212
AGMN **Agassiz Nation** 81.15 10 P P 19 11 16.5 +0.7
baz=193
A04D **Lummi Island** 81.17 352 P P 19 11 17.3 +1.4
baz=170
J56A **Wolcott** 81.20 24 P P 19 11 17.0 +0.8
baz=209
M63A **Gales Ferry** 81.41 28 P P 19 11 17.5 +0.2
baz=212
K59A **Cooperstown** 81.49 26 P P 19 11 18.3 +0.5
baz=210
EYMN **Ely** 81.55 13 P P 19 11 18.7 +0.7
baz=196
J57A **Williamstown** 81.63 25 P P 19 11 19.0 +0.5
baz=209
PECO **Prince Edward** 81.74 24 IAmb IAmb 19 11 23.8
comp=Z,37nm,1.1s
SADO **Sadowa** 81.76 22 P P 19 11 18.6 -0.6
comp=Z,12nm,0.8s,baz=209,slow=6.8,SNR=5.7
SADO **Sadowa** 81.76 22 IAmb IAmb 19 11 30.7
comp=Z,19nm,1.0s
H53A **Bobcaygeon** 81.77 23 P P 19 11 19.9 +0.7
baz=207
J58A **Remsen** 81.84 25 P P 19 11 20.0 +0.3
baz=210
J58A **Remsen** 81.84 25 IAmb IAmb 19 11 33.5
comp=Z,24nm,1.3s
M64A **Tiverton** 81.87 29 P P 19 11 20.4 +0.6
baz=213
K61A **Williamstown** 82.00 27 P P 19 11 21.6 +1.1
baz=211
DELO **Deloro Mine** 82.04 23 IAmb IAmb 19 11 21.7
comp=Z,26nm,1.0s
I57A **Carthage** 82.21 25 P P 19 11 22.1 +0.6
baz=209,SNR=5.2
J59A **Pisco** 82.22 26 P P 19 11 22.7 +1.1
baz=210
I58A **Old Forge** 82.24 25 P P 19 11 22.3 +0.5
baz=210
J60A **Lant Hill Farm** 82.43 27 P P 19 11 22.8 +0.1
baz=211
HRV **Adam Dziewonsk** 82.53 28 P P 19 11 23.9 +0.6
baz=213
G54A **Lake Saint Pet** 82.66 23 P P 19 11 24.3 +0.4
baz=207
PLVO **Plevna** 82.68 23 IAmb IAmb 19 11 25.3
comp=Z,17nm,1.0s
I59A **Olmsteadville** 82.73 26 P P 19 11 25.7 +1.4
baz=211
NCB **Newcomb** 82.75 26 P P 19 11 24.1 -0.4
NCB IAmb IAmb 19 11 30.1
comp=Z,41nm,1.5s
H57A **Richville** 82.76 25 P P 19 11 24.8 +0.5
baz=210,SNR=5.6
J62A **Henniker** 83.04 28 P P 19 11 26.5 +0.6
baz=212
ULM **Lac du Bonnet** 83.06 10 P P 19 11 25.9 +0.1
comp=Z,2.8nm,0.7s,baz=150,slow=9.2,SNR=4.3
ULM LR LR 19 44 48.2
comp=Z,638nm,18.5s,baz=181,slow=33
ULM **Lac du Bonnet** 83.06 10 IAmb IAmb 19 11 35.0
comp=Z,40nm,1.7s
H58A **Gabriels** 83.16 25 P P 19 11 27.0 +0.5
baz=211,SNR=5.9
LONY **Lake Ozonia** 83.18 25 P P 19 11 27.1 +0.4
baz=210,SNR=7.5
EIDS **Eidsvold** 83.28 244 P P 19 11 28.5 +0.7
EIDS IAmb IAmb 19 11 30.6
comp=Z,17nm,1.2s
J63A **Strafford** 83.37 28 P P 19 11 28.0 +0.4
baz=213
G57A **Newington** 83.46 25 P P 19 11 28.8 +0.8
baz=210,SNR=7.6
I61A **Oroboro, Fairl** 83.48 27 P P 19 11 28.6 +0.5
baz=212
H59A **Cadyville** 83.53 26 P P 19 11 29.3 +0.9
baz=211
FRNY **Flat Rock** 83.73 26 IAmb IAmb 19 11 52.1
comp=Z,19nm,1.2s
I62A **Tamworth** 83.77 28 P P 19 11 30.0 +0.4
baz=213
H60A **Morristown** 83.83 26 P P 19 11 31.1 +1.2
baz=212
G58A **Ormstown** 83.83 25 P P 19 11 30.5 +0.6
baz=211,SNR=8.0
LBNH **Lisbon** 83.85 27 P P 19 11 30.2 +0.1
baz=212
G59A **Clarenceville** 84.09 26 P P 19 11 32.0 +0.8
baz=211
H61A **Lyndonville** 84.10 27 P P 19 11 32.3 +1.0
baz=212
F57A **Harrington** 84.17 24 P P 19 11 32.6 +0.9
baz=210
I63A **Otisfield** 84.22 28 P P 19 11 32.2 +0.4
baz=213
E55A **Montcerf-Lytto** 84.26 23 P P 19 11 32.6 +0.5
baz=209
G60A **Masonville** 84.42 26 P P 19 11 33.4 +0.5
baz=212
HNR **Honiara** 84.44 262 LR LR 19 41 14.6
comp=Z,299nm,20.8s,baz=112,slow=30
I64A **Boothbay** 84.49 29 P P 19 11 34.0 +0.8
baz=214
E56A **St. Veronique** 84.69 24 P P 19 11 34.5 +0.3
baz=210,SNR=6.8
E57A **Chemin Saint G** 84.88 24 P P 19 11 35.5 +0.3
baz=210
F59A **Saint Guilaume** 84.89 26 P P 19 11 35.8 +0.6
baz=212
H63A **New Sharon** 84.94 28 P P 19 11 35.8 +0.2
baz=214
D55A **Sainte-Anne-du** 84.95 23 P P 19 11 36.0 +0.5
baz=209
E58A **La Victoria** 85.16 25 P P 19 11 36.6 +0.1
baz=211,SNR=6.2
G62A **West of Eustis** 85.21 27 P P 19 11 37.2 +0.3
baz=213
D56A **ZEC Mazanza, M** 85.22 24 P P 19 11 37.1 +0.2
baz=210,SNR=6.8
H64A **Troy** 85.25 28 P P 19 11 37.1 0.0
baz=214
VLDQ **Val d'Or** 85.27 22 IAmb IAmb 19 11 37.8
comp=Z,14nm,0.9s
F60A **Warwick** 85.30 26 P P 19 11 37.3 -0.1
baz=212
G63A **Kingsbury** 85.48 28 P P 19 11 38.9 +0.7
baz=214
D57A **Chemin Vers le** 85.50 24 P P 19 11 38.7 +0.4
baz=211,SNR=6.2
E60A **Ste Agathe de** 85.83 26 P P 19 11 40.1 +0.2
baz=213
D58A **Chemin du LacG** 85.92 25 P P 19 11 40.9 +0.5
baz=211
F62A **Pittston Farm,** 86.00 27 P P 19 11 41.9 +1.1
baz=214
STKA **Stephens Creek** 86.58 234 P P 19 11 43.9 -0.4
comp=Z,8.8nm,0.9s,baz=109,slow=5.6,SNR=8.5
STKA LR LR 19 45 18.7
comp=Z,178nm,18.6s,baz=164,slow=32
STKA **Stephens Creek** 86.58 234 P P 19 11 44.1 -0.2
STKA pmax pmax
comp=Z,5.0nm,1.3s
STKA **Stephens Creek** 86.58 234 P P 19 11 44.1 -0.2
E62A **Clayton Lake** 86.77 27 P P 19 11 44.8 +0.2
baz=214
FFC **Flin Flon** 86.81 5 P P 19 11 44.0 -0.6
FFC pmax pmax
comp=Z,17nm,1.1s
FFC **Flin Flon** 86.81 5 P P 19 11 44.0 -0.6
FFC IAmb IAmb 19 11 59.1
comp=Z,17nm,1.1s
CHGQ **Chibougamau** 87.83 23 P P 19 11 50.0 +0.4
baz=210
BBOO **Buckleboo** 89.75 231 P P 19 11 58.9 -0.5
CTAO **Charters Tower** 89.89 246 P P 19 12 00.4 +0.1
CTAO **Charters Tower** 89.89 246 P P 19 12 00.4 +0.1
CTAO IAmb IAmb 19 12 04.4
comp=Z,16nm,1.0s
YKA **Yellowknife Ar** 94.32 358 P P 19 12 19.6 +0.1
comp=Z,2.4nm,0.8s,baz=158,slow=5.1,SNR=3.4
YKA LR LR 19 49 48.2
comp=Z,320nm,18.9s,baz=0.0,slow=32
SCHQ **Schefferville** 94.48 24 P P 19 12 20.2 -0.2
comp=Z,8.1nm,0.8s,baz=198,slow=6.4,SNR=3.7
SCHQ LR LR 19 50 37.2
comp=Z,294nm,21.2s,baz=190,slow=33
FORT **Forrest** 96.22 228 P P 19 12 27.7 -1.6
AS31 **Alice Springs** 96.97 237 P P 19 12 31.6 -1.2
ASAR **Alice Springs** 96.97 237 P P 19 12 31.3 -1.5
comp=Z,3.8nm,1.1s,baz=136,slow=3.8,SNR=12
ASAR PKKPbc **PKKPbc** 19 29 12.0 -0.7
comp=Z,0.5nm,0.8s,baz=332,slow=3.6,SNR=4.8
ASAR LR LR 19 53 42.9
comp=Z,197nm,18.8s,baz=148,slow=34
ASAR **Alice Springs** 96.97 237 P P 19 12 30.5 -2.3
ASAR **Alice Springs** 96.97 237 P P 19 12 30.5 -2.3
WRA **Warramunga Arr** 99.00 240 P Pdif 19 12 42.0 0.0
comp=Z,1.0nm,0.8s,baz=139,slow=4.2,SNR=7.5
WRA LR LR 19 52 59.0
comp=Z,363nm,19.2s,baz=100,slow=33
WRA **Warramunga Arr** 99.00 240 P Pdif 19 12 42.0 0.0
H01W1 **Cape Leeuwin H** 101.10 216 T T 21 05 54.7
baz=141,slow=76,SNR=97
H01W2 **Cape Leeuwin H** 101.10 216 T T 21 06 05.5
baz=141,slow=76,SNR=104
H01W3 **Cape Leeuwin H** 101.11 216 T T 21 05 55.9
baz=141,slow=76,SNR=90
TORD **Torodi Ar. Bea** 115.84 90 PKP PKPdf 19 17 42.6 -1.3
comp=Z,1.6nm,0.8s,baz=284,slow=0.6,SNR=8.0
TORD PP PP 19 18 44.9 -2.7
comp=Z,2.9nm,0.9s,baz=251,slow=7.5,SNR=5.7
TORD **Torodi Ar. Bea** 115.84 90 PKPdf 19 17 41.2 -2.8
SEY **Seymchan** 121.10 328 PKP PKPdf 19 17 52.0 -0.7
comp=Z,1.8nm,0.7s,baz=203,slow=11,SNR=5.4
SEY **Seymchan** 121.10 328 PKIKP PKPdf 19 17 52.0 -0.7
ESDC **Sonseca Array** 121.74 60 PKP PKPdf 19 17 54.4 -0.4
comp=Z,2.4nm,0.8s,baz=268,slow=2.2,SNR=24
ESDC PP PP 19 19 27.5 -0.7
comp=Z,1.3nm,1.1s,baz=249,slow=7.8,SNR=5.7
ESDC **Sonseca Array** 121.74 60 PKPdf PKPdf 19 17 53.9 -0.8
ESDC PP PP 19 19 26.2 -2.0
MJAR **Matsushiro Arr** 123.95 295 PKP PKiKP 19 17 59.7 +0.4
comp=Z,1.9nm,0.9s,baz=126,slow=3.0,SNR=2.8
TIXI **Tiksi** 129.61 339 *i* PKIKP PKPdf 19 18 06.8 -1.9
USRK **Ussuriysk Ar.** 130.29 303 PKP PKPdf 19 18 10.5 -0.3
comp=Z,1.0nm,0.7s,baz=137,slow=3.2,SNR=3.5
KEST **Kesra** 130.86 68 PKP PKPdf 19 18 12.4 +0.1
comp=Z,3.8nm,0.8s,baz=328,slow=5.3,SNR=3.8
YAK **Yakutsk** 131.58 327 *e*PKIKP PKiKP 19 18 16.7 +3.1
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.4s
KSRS **Korea Array** 132.14 293 PKP PKPdf 19 18 15.0 +0.5
comp=E,1.5nm,0.8s,baz=93,slow=2.6,SNR=3.3
KSRS **Korea Array** 132.14 293 PKIKP PKPdf 19 18 15.0 +0.5
KSAR **Wonju Array Be** 132.17 293 PKIHKP PKPpre 19 18 04.6
KSAR **Wonju Array Be** 132.17 293 PKPpre 19 18 04.5
TUE **Stuetta** 132.60 54 PKPdf PKPdf 19 18 14.1 -1.3
DAVA **Damuels** 133.02 53 *eP* PKPdf 19 18 16.2 +0.1

	comp=E,4.7nm,0.8s								
ZCCA	**Zocca**	**133.56**	**57**			**PKPdf**	**19 18 16.4**	**-0.6**	
FETA	**Feichten**	**133.58**	**54**	*e*P		**PKPdf**	**19 18 17.4**	**+0.2**	
	comp=E,11nm,0.8s,SNR=7.9								
RETA	**Reutte**	**133.63**	**53**	*e*P		**PKPdf**	**19 18 17.0**	**-0.1**	
	comp=E,5.0nm,0.8s								
MOTA	**Moosalm**	**133.85**	**53**	*e*P		**PKPdf**	**19 18 17.4**	**-0.2**	
	comp=E,17nm,0.8s,SNR=10								
SQTA	**Sankt Quirin**	**133.92**	**53**	*e*P		**PKPdf**	**19 18 17.7**	**-0.1**	
	comp=E,17nm,0.9s,SNR=10								
WATA	**Walderalm**	**134.17**	**53**	*e*P		**PKPdf**	**19 18 18.0**	**-0.3**	
	comp=E,6.6nm,0.7s								
WTTA	**Wattenberg**	**134.21**	**53**	*e*P		**PKPdf**	**19 18 18.1**	**-0.2**	
	comp=E,8.6nm,0.9s,SNR=6.1								
NKC	**Novy Kostel**	**134.77**	**49**	*e*PKPDF		**PKPdf**	**19 18 18.4**	**-0.7**	
NKC	**Novy Kostel**	**134.77**	**49**	*e*PKIKP		**PKPdf**	**19 18 18.4**	**-0.7**	
ABTA	**Abfaltersbach**	**134.79**	**54**	*e*P		**PKPdf**	**19 18 19.5**	**+0.1**	
	comp=E,3.3nm,0.8s								
CLL	**Collm**	**135.08**	**48**	*e*PKPdf		**PKPdf**	**19 18 19.0**	**-0.6**	
	comp=Z,4.0nm,1.0s								
CLL				*e*SS	SS		19 38 53.0	+3.3	
CLL				*e*			19 43 11.0		
CLL				*e*SSS	SSS		19 44 18.0		
CLL				*e*(SSSS)			19 47 00.0		
CLL				LmV			20 22 00.0		
	comp=Z,200nm,19.2s								
CLL	**Collm**	**135.08**	**48**	*e*PKIKP		**PKPdf**	**19 18 19.0**	**-0.6**	
CLL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CLL	**Collm**	**135.08**	**48**			**PKPdf**	**19 18 18.5**	**-1.1**	
KBA	**Koelnbreinsper**	**135.37**	**54**	*e*P		**PKPdf**	**19 18 20.1**	**-0.4**	
	comp=Z,5.2nm,1.1s								
KHC	**Kasperske Hory**	**135.53**	**51**	*e*PKPDF		**PKPdf**	**19 18 20.0**	**-0.6**	
KHC	**Kasperske Hory**	**135.53**	**51**	*e*PKIKP		**PKPdf**	**19 18 20.0**	**-0.6**	
MYKA	**Terra Mystica**	**135.56**	**54**	*e*P		**PKPdf**	**19 18 20.6**	**-0.1**	
	comp=Z,2.8nm,0.7s								
GERES	**GERESS Array B**	**135.61**	**51**	PKP		**PKPdf**	**19 18 20.2**	**-0.6**	
	comp=Z,1.5nm,0.8s,baz=39,slow=0.9,SNR=12								
GERES	**GERESS Array B**	**135.61**	**51**	PKIKP		**PKPdf**	**19 18 19.5**	**-1.4**	
GERES	**GERESS Array B**	**135.61**	**51**	PKPdf		**PKPdf**	**19 18 19.5**	**-1.4**	
BRG	**Berggiesshubel**	**135.70**	**48**	*e*PKP		**PKPdf**	**19 18 20.3**	**-0.5**	
	comp=Z,12nm,1.3s								
BRG	**Berggiesshubel**	**135.70**	**48**	*e*PKIKP		**PKPdf**	**19 18 20.3**	**-0.5**	
BRG				pmax	pmax				
	comp=Z,12nm,1.3s								
OBKA	**Obir**	**136.19**	**54**	P		**PKPdf**	**19 18 21.9**	**-0.1**	
	comp=Z,4.5nm,1.1s								
SOKA	**Soboth**	**136.52**	**54**	*e*P		**PKPdf**	**19 18 22.6**	**0.0**	
	comp=Z,3.9nm,1.1s								
ARSA	**Arzberg**	**136.86**	**53**	P		**PKPdf**	**19 18 23.0**	**-0.1**	
	comp=Z,5.3nm,1.2s								
CONA	**Conrad Observa**	**137.07**	**52**	*e*P		**PKPdf**	**19 18 23.5**	**0.0**	
	comp=Z,6.2nm,1.1s								
DPC	**Dobruska-Polom**	**137.24**	**49**	*e*PKPDF		**PKiKP**	**19 18 26.0**	**+0.4**	
DPC	**Dobruska-Polom**	**137.24**	**49**	*e*PKIKP		**PKiKP**	**19 18 26.0**	**+0.4**	
TIP	**Timpagrande**	**137.30**	**65**	⇑P		**PKPdf**	**19 18 25.3**	**+1.0**	
KRLC	**Kraliky**	**137.56**	**49**	*e*PKPDF		**PKPdf**	**19 18 24.7**	**+0.3**	
KRLC	**Kraliky**	**137.56**	**49**	*e*PKIKP		**PKPdf**	**19 18 24.7**	**+0.3**	
ZST	**Bratislava**	**137.89**	**52**	*e*PKIKP		**PKPdf**	**19 18 25.3**	**+0.4**	
ZST	**Bratislava**	**137.89**	**52**	*e*PKP		**PKPdf**	**19 18 25.3**	**+0.4**	
MODS	**Modra-Piesok**	**138.00**	**52**	*e*PKIKP		**PKPdf**	**19 18 24.7**	**-0.5**	
MODS	**Modra-Piesok**	**138.00**	**52**	*e*PKP		**PKPdf**	**19 18 24.7**	**-0.5**	
MORC	**Moravsky Berou**	**138.08**	**50**	⇑P		**PKiKP**	**19 18 27.7**	**+0.4**	
MORC	**Moravsky Berou**	**138.08**	**50**	⇑PKIKP		**PKiKP**	**19 18 27.7**	**+0.4**	
NJ2	**Nanjing**	**138.24**	**284**	*e*PKP		**PKPdf**	**19 18 27.0**	**+0.9**	
VYHS	**Vyhne**	**139.03**	**51**	*e*PKIKP		**PKPdf**	**19 18 27.6**	**+0.5**	
VYHS	**Vyhne**	**139.03**	**51**	*e*PKP		**PKPdf**	**19 18 27.6**	**+0.5**	
PDG	**Podgorica**	**139.45**	**61**	⇑P		**PKiKP**	**19 18 30.3**	**0.0**	
PDG	**Podgorica**	**139.45**	**61**			PKPpre	19 18 18.8		
PDG					PKPdf	**PKPdf**	**19 18 29.4**	**+1.4**	
FINES	**FINESS Array B**	**139.60**	**30**	PKhKP		PKPpre	19 18 18.2		
	comp=Z,2.0nm,0.8s,baz=20,slow=6.1,SNR=4.1								
DIVS	**Divibare**	**140.02**	**58**			PKPpre	19 18 20.9		
DIVS					PKPdf	**PKPdf**	**19 18 30.4**	**+1.3**	
BOD	**Bodaibo**	**140.27**	**324**	*e*PKIKP		**PKPdf**	**19 18 26.7**	**-2.3**	
BOD				pmax	pmax				
	comp=Z,12nm,1.2s								
BZS	**Buzias**	**141.13**	**56**	⇓P		**PKPdf**	**19 18 30.9**	**0.0**	
BZS	**Buzias**	**141.13**	**56**	⇓PKIKP		**PKPdf**	**19 18 30.9**	**0.0**	
NRIK	**Noril'sk**	**141.30**	**350**	PKP		**PKPdf**	**19 18 30.2**	**-0.3**	
	comp=Z,3.9nm,0.8s,baz=151,slow=0.7,SNR=5.4								
NRIK	**Noril'sk**	**141.30**	**350**	*i* PKIKP		**PKPdf**	**19 18 29.0**	**-1.5**	
HERR	**Herculane**	**141.73**	**57**	⇑P		**PKPdf**	**19 18 32.2**	**+0.2**	
GZR	**Gura Zlata**	**141.95**	**56**	⇑P		**PKPdf**	**19 18 26.9**	**-5.6**	
GZR	**Gura Zlata**	**141.95**	**56**	⇑PKIKP		**PKPdf**	**19 18 26.9**	**-5.6**	
NACGM	**Naroch**	**142.53**	**40**	*e*		**PKPdf**	**19 18 27.0**	**-6.1**	
IDI	**Anoyia**	**143.22**	**73**	⇑P		PKPbc	19 18 33.3	+1.2	
ARR	**Arges**	**143.26**	**56**	⇑P		PKPbc	19 18 31.8	-0.1	
MICGM	**Minsk**	**143.27**	**40**	*e*		PKPab	19 18 31.0	+0.8	
MNK	**Minsk**	**143.27**	**40**	*e*PKIKP		PKPab	19 18 31.0	+0.8	
BURAR	**Bucovina Array**	**143.38**	**52**	⇓P		PKPbc	19 18 32.6	+0.4	
BURAR	**Bucovina Array**	**143.38**	**52**	⇓PKIKP		PKPbc	19 18 32.6	+0.4	
BURAR	**Bucovina Array**	**143.38**	**52**	PKPdf		PKPbc	19 18 32.1	-0.1	
VOIR		**143.54**	**56**	⇑P		PKPbc	19 18 34.0	+1.3	
VOIR		**143.54**	**56**	⇑PKIKP		PKPbc	19 18 34.0	+1.3	
DOPR	**Dopca**	**143.72**	**55**	⇑P		PKPbc	19 18 33.7	+0.5	
OZUR		**143.98**	**54**	⇓P		PKPbc	19 18 34.2	+0.3	
BIZ	**Bicaz**	**144.08**	**53**	⇑P		**PKPab**	**19 18 34.3**	**+0.7**	
MLR	**Muntele Rosu**	**144.17**	**55**	⇑P		**PKPab**	**19 18 34.2**	**0.0**	
MLR	**Muntele Rosu**	**144.17**	**55**	⇑PKIKP		**PKPab**	**19 18 34.2**	**0.0**	
SGRR	**Singureni**	**144.31**	**58**	⇓P		**PKPab**	**19 18 35.1**	**+0.5**	
NEHR	**Nehoiu**	**144.42**	**55**	⇓P		**PKPab**	**19 18 34.7**	**-0.3**	
PLOR	**Plostina**	**144.61**	**55**	⇑P		**PKPab**	**19 18 34.7**	**-1.0**	
PLOR	**Plostina**	**144.61**	**55**	⇑PKIKP		**PKPab**	**19 18 34.7**	**-1.0**	
ISR	**Istrita**	**144.63**	**56**	⇑P		**PKPab**	**19 18 36.3**	**+0.5**	
ISR	**Istrita**	**144.63**	**56**	⇑PKIKP		**PKPab**	**19 18 36.3**	**+0.5**	
VRI	**Vrincioaia**	**144.66**	**55**	⇑P		**PKPab**	**19 18 34.7**	**-1.2**	
VRI	**Vrincioaia**	**144.66**	**55**	⇑PKIKP		**PKPab**	**19 18 34.7**	**-1.2**	
BISRR	**Bisoca**	**144.69**	**55**	⇑P		**PKPab**	**19 18 35.4**	**-0.7**	
RAZG	**Razgrad**	**144.75**	**59**	⇓P		**PKPab**	**19 18 36.2**	**-0.1**	
KARP	**Karpathos**	**145.10**	**73**			**PKPbc**	**19 18 37.6**	**-0.2**	
GHRR		**145.10**	**54**	⇓P		**PKPbc**	**19 18 37.4**	**0.0**	
HHC	**Hu-ho-hao-te**	**145.12**	**297**	*e*PKPbc		**PKPbc**	**19 18 37.3**	**+0.5**	
RASA	**Rasa**	**145.16**	**57**	⇑P		**PKPbc**	**19 18 37.7**	**+0.1**	
AMRR	**Amara**	**145.25**	**57**	⇑P		**PKPbc**	**19 18 38.2**	**+0.3**	
AMRR	**Amara**	**145.25**	**57**	⇑PKIKP		**PKPbc**	**19 18 38.2**	**+0.3**	
AKASG	**Malin Array Be**	**145.26**	**46**	PKPbc		**PKPbc**	**19 18 37.0**	**-0.8**	
	comp=Z,20nm,0.8s,baz=283,slow=3.5,SNR=51								
AKASG	**Malin Array Be**	**145.26**	**46**	PKIKP		**PKPbc**	**19 18 36.3**	**-1.5**	
AKASG	**Malin Array Be**	**145.26**	**46**			**PKPbc**	**19 18 36.3**	**-1.5**	
KLMR	**Klimovskoe**	**145.30**	**25**	*e*PKIKP		**PKPbc**	**19 18 36.6**	**-1.0**	
KLMR				pmax	pmax				
	comp=Z,65nm,0.9s								
KLMR	**Klimovskoe**	**145.30**	**25**	*e*PKPdf		**PKPbc**	**19 18 36.7**	**-0.9**	
KLMR				AMP			19 18 39.0		
	comp=Z,65nm,0.9s								
SORM	**Soroca**	**145.36**	**50**	⇓P		**PKPbc**	**19 18 37.7**	**-0.4**	
SORM	**Soroca**	**145.36**	**50**	⇓PKIKP		**PKPbc**	**19 18 37.7**	**-0.4**	
VARL	**Varlezi**	**145.43**	**54**	⇑P		**PKPbc**	**19 18 38.5**	**+0.1**	
SCHL	**Schela**	**145.48**	**55**	⇑P		**PKPbc**	**19 18 39.1**	**+0.5**	
ICOR	**Ion Corvin**	**145.63**	**58**	⇓P		**PKPdf**	**19 18 39.0**	**+0.1**	
HARR	**Harsova**	**145.66**	**57**	⇓P		**PKPdf**	**19 18 39.0**	**+0.1**	
HARR	**Harsova**	**145.66**	**57**	⇓PKIKP		**PKPdf**	**19 18 39.0**	**+0.1**	
CFR	**Carcaliu**	**145.74**	**56**	⇑P		**PKPdf**	**19 18 38.8**	**-0.2**	
CFR	**Carcaliu**	**145.74**	**56**	⇑PKP2		**PKPdf**	**19 18 38.8**	**-0.2**	
KIS	**Kishinev**	**145.90**	**52**	*e*PKP		**PKPdf**	**19 18 39.0**	**-0.3**	
	comp=Z,370nm,3.4s								
KIS	**Kishinev**	**145.90**	**52**	*e*PP		PP	19 22 01.0	-0.7	
KIS	**Kishinev**	**145.90**	**52**	*e*PKP2		**PKPdf**	**19 18 39.0**	**-0.3**	
KIS				*e*			19 22 01.0		
KIS				pmax	pmax				
	comp=Z,460nm,4.1s								
MILM	**Milestii Mici**	**145.91**	**52**	⇓P		**PKPdf**	**19 18 39.6**	**+0.3**	
TIRR	**Tirgusor**	**146.03**	**57**	⇑P		**PKPdf**	**19 18 40.1**	**+0.6**	
TIRR	**Tirgusor**	**146.03**	**57**	⇑PKP2		**PKPdf**	**19 18 40.1**	**+0.6**	
TLCR		**146.21**	**55**	⇑P		**PKPdf**	**19 18 40.7**	**+0.9**	
TLCR		**146.21**	**55**	⇑PKP2		**PKPdf**	**19 18 40.7**	**+0.9**	
BTO	**Baotou**	**146.30**	**296**	*e*PKPbc		**PKPdf**	**19 18 40.6**	**+0.3**	
JURR	**Jurilovca**	**146.32**	**56**	⇓P		**PKiKP**	**19 18 46.2**	**+1.9**	
PURM	**Purcari**	**146.71**	**53**	⇓P		**PKPab**	**19 18 44.0**	**+0.5**	
PRGR	**Permogore**	**146.74**	**20**	*e*PKP2		**PKPdf**	**19 18 40.2**	**0.0**	
PRGR				pmax	pmax				
	comp=Z,25nm,0.9s								
XAN	**Xi'an**	**146.80**	**284**	PKP2		**PKPdf**	**19 18 42.1**	**+0.8**	
XAN	**Xi'an**	**146.80**	**284**			**PKPdf**	**19 18 42.1**	**+0.8**	
GYA	**Guiyang**	**146.96**	**270**	⇑PKPbc		**PKPdf**	**19 18 43.3**	**+1.4**	
GYA				PP		**PP**	**19 22 12.8**	**+4.1**	
GYA				AMB	AMB				
	comp=Z,400nm,7.6s								
GYA				LR	LR				
	comp=Z,500nm,6.9s								
GYA				LR	LR				
	comp=Z,710nm,7.6s								

SLVN	**Son La**	**147.33**	**259**			**PKPbc**	**19 18 44.9**	**0.0**	
ULN	**Ulaanbaatar**	**147.38**	**310**	*i* PKIKP		**PKPdf**	**19 18 40.2**	**-1.8**	
ULN	**Ulaanbaatar**	**147.38**	**310**	PKPdf		**PKPdf**	**19 18 42.5**	**+0.5**	
ELL	**Elmali**	**147.42**	**71**	PKP2		**PKPbc**	**19 18 45.2**	**+0.3**	
ELL	**Elmali**	**147.42**	**71**			**PKPbc**	**19 18 45.2**	**+0.3**	
OBN	**Obninsk**	**147.52**	**35**	⇑P		**PKPbc**	**19 18 43.9**	**-0.3**	
OBN	**Obninsk**	**147.52**	**35***c*	*i* PKP2		**PKPbc**	**19 18 43.8**	**-0.5**	
OBN				*e*			19 22 15.0		
OBN				*e*			19 25 48.4		
OBN				*e*			19 34 49.1		
OBN				SS	SS		19 41 13.0	-0.7	
OBN				SSS	SSS		19 46 40.0		
OBN				pmax	pmax				
	comp=Z,85nm,1.0s								
OBN				MLR	MLR				
	comp=Z,168nm,18.0s								
OBN	**Obninsk**	**147.52**	**35**	PKPdf		**PKPdf**	**19 18 43.0**	**+1.3**	
IRK	**Irkutsk**	**147.59**	**319**	*e*PKP2		**PKPab**	**19 18 49.2**	**+2.4**	
IRK				pmax	pmax				
	comp=Z,79nm,2.4s								
MOS	**Moscow**	**147.69**	**34**	*e*PKHKP		PKPpre	19 18 39.5		
MOS				pmax	pmax				
	comp=Z,60nm,1.4s								
SONM	**Songino Array**	**147.82**	**310**	PKPbc		**PKPdf**	**19 18 43.9**	**+1.2**	
	comp=Z,10nm,0.8s,baz=147,slow=1.2,SNR=51								
SONM	**Songino Array**	**147.82**	**310**	PKIKP		**PKPdf**	**19 18 42.4**	**-0.3**	
SONM	**Songino Array**	**147.82**	**310**	PKPdf		**PKPdf**	**19 18 42.4**	**-0.3**	
SONM				PKPbc		**pPKPdf**	**19 18 44.2**	**-1.0**	
TLY	**Talaya**	**148.18**	**318**	*e*PKP2		**PKPbc**	**19 18 45.8**	**-0.5**	
TLY				pmax	pmax				
	comp=Z,120nm,1.0s								
TLY	**Talaya**	**148.18**	**318**			**PKPbc**	**19 18 45.3**	**-1.0**	
MDUB	**Mudurnu**	**148.44**	**64**			**PKPbc**	**19 18 46.4**	**-1.0**	
ZAK	**Zakamensk**	**148.91**	**316**	*e*PKP2		**PKPbc**	**19 18 46.8**	**-1.5**	
ZAK				pmax	pmax				
	comp=Z,16nm,1.0s								
MOY	**Mondy**	**149.67**	**319**	*e*PKP2		**PKPbc**	**19 18 49.1**	**-1.1**	
MOY				pmax	pmax				
	comp=Z,46nm,3.1s								
BR231	**Keskin MP Arra**	**149.69**	**65**			**PKPbc**	**19 18 50.8**	**+0.2**	
LEF	**Lefka**	**149.71**	**74**	⇓P		**PKPab**	**19 18 59.0**	**+3.1**	
KMI	**Kunming**	**149.83**	**265**	⇓*e*PKPbc		**PKPbc**	**19 18 51.6**	**+0.1**	
CMAR	**Chiang Mai Arr**	**149.99**	**250**	PKPbc		**PKPbc**	**19 18 51.5**	**-0.3**	
	comp=Z,30nm,1.0s,baz=178,slow=1.4,SNR=82								
CMAR	**Chiang Mai Arr**	**149.99**	**250**	PKPdf		**PKPdf**	**19 18 46.6**	**-0.2**	
CMAR				PKPbc		**PKPbc**	**19 18 51.5**	**-0.3**	
LPSR	**Galich'ya Gora**	**150.02**	**38**	*e*PKP2		**PKPbc**	**19 18 50.0**	**-0.8**	
LPSR				pmax	pmax				
	comp=Z,30nm,0.7s								
CSS	**Mathiatis**	**150.06**	**75**	PKPdf		**PKPdf**	**19 18 45.9**	**-0.6**	
CSS				PKPbc		**PKPbc**	**19 18 51.9**	**+0.4**	
CHTO	**Chiang Mai**	**150.17**	**251**	PKIKP		**PKPbc**	**19 18 51.6**	**-0.7**	
CHTO	**Chiang Mai**	**150.17**	**251**	PKPdf		**PKPdf**	**19 18 46.2**	**-0.9**	
CHTO						**PKPbc**	**19 18 51.6**	**-0.7**	
BR131	**Keskin Array S**	**150.36**	**65**	PKIKP		**PKPdf**	**19 18 45.0**	**-2.0**	
BR131	**Keskin Array S**	**150.36**	**65**	PKPdf		**PKPdf**	**19 18 45.0**	**-2.0**	
BRTR	**Keskin Array B**	**150.36**	**65**	PKP		**PKPdf**	**19 18 46.8**	**-0.3**	
	comp=Z,3.5nm,1.0s,baz=194,slow=3.2,SNR=5.1								
BRTR				PKPbc		**sPKPdf**	**19 18 51.7**	**+1.3**	
	comp=Z,10nm,0.8s,baz=204,slow=3.0,SNR=21								
BRTR	**Keskin Array B**	**150.36**	**65**	PKIKP		**PKPdf**	**19 18 46.1**	**-0.9**	
BRTR							19 18 51.6		
BRTR	**Keskin Array B**	**150.36**	**65**	PKPdf		**PKPdf**	**19 18 46.1**	**-0.9**	
BRTR				PKPbc		**sPKPdf**	**19 18 51.5**	**+1.1**	
VSR	**Storozhevoye**	**150.85**	**40**	*e*PKIKP		**PKPbc**	**19 18 51.7**	**-1.1**	
VSR				pmax	pmax				
	comp=Z,40nm,0.7s								
VORD	**Divnogorie**	**151.04**	**41**	*e*PKIKP		**PKPbc**	**19 18 51.9**	**-1.4**	
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
LZH	**Lanzhou**	**151.13**	**287**	*e*PKPbc		**PKPbc**	**19 18 52.8**	**-1.4**	
LZH				pPKP	PKiKP		19 18 56.1	+1.3	
LZH				sPKP			19 18 57.5		
LZH				LR	LR				
	comp=Z,200nm,17.8s								
LZH				LR	LR				
	comp=Z,210nm,18.3s								
LZH				LR	LR				
	comp=Z,300nm,20.1s								
DAMY	**Dhamar**	**151.41**	**122**	PKPdf		**PKPdf**	**19 18 45.7**	**-3.8**	
DAMY						**PKPbc**	**19 18 55.8**	**+0.2**	
VRH	**Novokhopyorsk**	**152.23**	**39**	*e*PKIKP		**PKPbc**	**19 18 54.9**	**-1.1**	
VRH				pmax	pmax				
	comp=Z,30nm,0.8s								
ANN	**Anapa**	**152.27**	**54**	*i* PKIKP		**PKPdf**	**19 18 47.9**	**-1.6**	
ANN				pmax	pmax				
	comp=Z,58nm,1.6s								
GAZ	**Gaziantep**	**153.27**	**70**	PKPdf		**PKPdf**	**19 18 49.7**	**-1.7**	
GAZ				PKPab		**PKPab**	**19 19 11.0**	**+0.1**	
SOC	**Sochi**	**154.18**	**55**	*e*PKIKP		**PKPdf**	**19 18 50.6**	**-1.8**	
SOC				*e*SS	SS		19 42 28.2	-0.6	
SOC				*e*SSS	SSS		19 48 19.6		
GTA	**Gaotai**	**154.20**	**295**	*e*P		**PKPbc**	**19 18 59.8**	**-1.1**	
GTA				pP	PKPab		19 19 11.0	-3.8	
GTA				sP	pPKPab		19 19 16.6	-0.7	
GTA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
GTA	**Gaotai**	**154.20**	**295**	*e*PKPbc		**PKPdf**	**19 18 51.3**	**-1.4**	
GTA				pPKP	sPKPdf		19 18 56.9	+0.8	
GTA				sPKP			19 18 59.9		
ARU	**Arti**	**154.58**	**14**	*i* PKIKP		**PKPdf**	**19 18 53.5**	**+1.0**	
ARU	**Arti**	**154.58**	**14**	PKPdf		**PKPdf**	**19 18 52.4**	**-0.1**	
KTUT	**Trabzon**	**154.84**	**61**	⇓P		**PKPdf**	**19 18 56.8**	**+3.4**	
ZAA0	**Zalesovo Array**	**155.47**	**337**	PKPdf		**PKPdf**	**19 18 52.0**	**-1.8**	
ZAA0				PKPab		**PKPab**	**19 19 18.9**	**-0.6**	
ZALV	**Zalesovo Beam**	**155.47**	**337**	PKP		**PKPdf**	**19 18 52.9**	**-0.9**	
	comp=Z,3.3nm,0.8s,baz=158,slow=1.6,SNR=11								
ZALV				PKPab		**PKPab**	**19 19 19.7**	**+0.3**	
	comp=Z,7.3nm,0.8s,baz=13,slow=4.9,SNR=9.1								
ZALV	**Zalesovo Beam**	**155.47**	**337**	PKIKP		**PKPdf**	**19 18 51.6**	**-2.2**	
ZALV							19 19 18.9		
ZALV	**Zalesovo Beam**	**155.47**	**337**	PKPdf		**PKPdf**	**19 18 51.6**	**-2.2**	
ZALV				PKPab		**PKPab**	**19 19 18.9**	**-0.6**	
KOPT	**Kop Dagi**	**155.56**	**63**	PKPdf		**PKPdf**	**19 18 54.5**	**-0.3**	
KIV	**Kislovodsk**	**156.10**	**53**	*e*PKP2		**PKPab**	**19 19 22.7**	**0.0**	
KIV				pmax	pmax				
	comp=Z,43nm,1.1s								
MARD	**Mardin**	**156.11**	**70**	PKPab		**PKPab**	**19 19 22.8**	**-0.2**	
KBZ	**Khabaz**	**156.33**	**53**	PKP		**PKPdf**	**19 18 55.2**	**0.0**	
	comp=Z,2.9nm,1.0s,baz=29,slow=3.1,SNR=7.4								
KBZ				PKPab		**PKPab**	**19 19 24.6**	**+1.1**	
	comp=Z,5.9nm,0.8s,baz=254,slow=3.6,SNR=7.9								
ZEI	**Tsey**	**157.34**	**55**	*i* PKIKP		**PKPdf**	**19 18 59.4**	**+2.5**	
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.9s								
BRVK	**Borovoye**	**159.05**	**358**	PKIKP		**PKPdf**	**19 18 57.8**	**-0.5**	
BRVK	**Borovoye**	**159.05**	**358**			**PKPdf**	**19 18 57.8**	**-0.5**	
SHL	**Shillong**	**159.11**	**258**	PKP2		**PKPab**	**19 19 35.7**	**-0.7**	
SHL							20 18 57.5		
SHL	**Shillong**	**159.11**	**258**	PKPdf		**PKPdf**	**19 18 57.5**	**-2.1**	
SHL				PKPab		**PKPab**	**19 19 35.7**	**-0.7**	
MAK	**Makhachkala**	**159.72**	**52**	*e*PKIKP		**PKPdf**	**19 18 53.1**	**-6.3**	
MAK				*e*			19 25 55.2		
MAK				*e*SSS	SSS		19 49 29.4		
MAK				pmax	pmax				
	comp=Z,90nm,1.2s								
KURK	**Kurchatov**	**160.14**	**342**	PKIKP		**PKPdf**	**19 18 58.2**	**-1.5**	
KURK							19 23 21.1		
KURK	**Kurchatov**	**160.14**	**342**	PKPdf		**PKPdf**	**19 18 58.2**	**-1.5**	
KURBB	**Kurchatov Arra**	**160.25**	**342**	PP		PP	19 23 21.1	-0.8	
	comp=Z,0.2nm,0.6s,baz=20,slow=5.0,SNR=1.9								
AKT	**Akhty**	**160.47**	**55**	*e*PKIKP		**PKPdf**	**19 19 00.1**	**-0.4**	
AKT				*e*			19 23 25.3		
AKT				pmax	pmax				
	comp=Z,7.0nm,0.9s								
WMQ	**Urumqi**	**161.36**	**314**	*e*PKP		**PKPdf**	**19 19 01.6**	**+0.3**	
WMQ				LR	LR				
	comp=Z,210nm,29.0s								
WMQ				LR	LR				
	comp=Z,440nm,28.8s								
ABKAR	**Akbulak array**	**161.51**	**19**			**PKPdf**	**19 19 00.6**	**-0.6**	
ABKAR						**PKPab**	**19 19 44.9**	**-0.8**	
MKAR	**Makanchi Array**	**162.23**	**329**	PKP		**PKPdf**	**19 19 00.9**	**-1.2**	
	comp=Z,1.3nm,0.9s,baz=352,slow=2.5,SNR=5.3								
MKAR	**Makanchi Array**	**162.23**	**329**	PKP2		**PKPab**	**19 19 49.2**	**+0.2**	
MKAR							20 18 59.8		
MKAR	**Makanchi Array**	**162.23**	**329**	PKPdf		**PKPdf**	**19 18 59.8**	**-2.2**	
MKAR				PKPab		**PKPab**	**19 19 49.2**	**+0.2**	
GEYT	**Alibeck**	**169.22**	**54**	PKP		**PKPdf**	**19 19 08.2**	**+0.1**	
	comp=Z,4.6nm,1.0s,baz=236,slow=6.9,SNR=5.9								
GEYT	**Alibeck**	**169.22**	**54**			**PKPdf**	**19 19 07.5**	**-0.6**	
BTK	**Batken**	**171.96**	**351**	PKIKP		**PKPdf**	**19 19 09.3**	**-0.3**	
BTK	**Batken**	**171.96**	**351**			**PKPdf**	**19 19 09.3**	**-0.3**	

GAR	**Garm**	**173.06**	**353**			**PKPdf**	**19 19 09.8**	**-0.3**	
GAR						**PKPab**	**19 20 36.3**	**-0.8**	
CHGR	**Chuyangaron**	**173.47**	**0**	PKPdf		**PKPdf**	**19 19 09.8**	**-0.4**	
CHGR				PKPab		**PKPab**	**19 20 38.1**	**-0.7**	
HRA	**Herat**	**173.74**	**67**			**PKPdf**	**19 19 10.1**	**-0.6**	
HRA				PKPab		**PKPab**	**19 20 40.3**	**-0.4**	

*IDC **10** 19:38:10.7±3.7, 19°.17N×145°.20E, h214km±32km, mb3.4/4, mb1 3.7/5, mb1mx3.0/50, mbtmp4.0/5, MS4.0/2, Ms1 4.0/2, ms1mx3.0/32, Error ellipse: s-maj=66.4km s-min=25.3km az=106.0*
*NEIC **10** 19:38:11.4±0.6, 19°.1N±0°.1×145°.3E±0°.2, h216km±10km, mb4.1/9, Error ellipse: s-maj=31.3km s-min=14.9km az=93.0*
**ISC 10 19:38:11.0±1.0, 19°.14N±0°.09×145°.3E±0°

MWZ	Matawai	1.36	75	P	Pn	19 45 47.6 -0.1
TSZ	Takapari Road	1.37	176	P	Pn	19 45 48.3 +0.6
WPHZ	Waipukurau	1.45	162	P	Pn	19 45 48.9 +0.5
NEZ	North Egmont	1.48	246	P	Pn	19 45 52.3 +3.4
RIGZ	Rimuhau	1.50	91	P	Pn	19 45 49.5 +0.5
PKE	Pukeiti	1.54	250	P	Pn	19 45 52.7 +3.3
KHEZ	Kahui Hut	1.55	247	P	Pn	19 45 53.0 +3.4
PXZ	Pawanui	1.55	150	P	Pn	19 45 49.9 +0.4
TKGZ	Te Karaka	1.59	82	P	Pn	19 45 50.5 +0.6
RUGZ	Raukumara Rang	1.61	64	P	Pn	19 45 49.9 -0.4
DVHZ	Dannevirke	1.62	171	P	Pn	19 45 50.8 +0.5
MHGZ	Mahia Peninsul	1.67	107	P	Pn	19 45 51.3 +0.5
POWZ	Post Office Ro	1.70	182	P	Pn	19 45 51.8 +0.7
TWGZ	Tauwhareparae	1.75	74	P	Pn	19 45 52.6 +0.9
HAZ	Te Kaha	1.79	59	P	Pn	19 45 52.0 0.0
CNGZ	Carnagh Statio	1.86	84	P	Pn	19 45 53.7 +0.9
PRWZ	Pori Road	1.86	177	P	Pn	19 45 53.8 +0.9
PKGZ	Pakihiroa	1.93	66	P	Pn	19 45 54.4 +0.7
MRZ	Mangatainoka R	1.98	186	P	Pn	19 45 54.8 +0.6
BFZ	Birch Farm	2.01	171	P	Pn	19 45 54.9 +0.4
TIWZ	Tintock	2.08	179	P	Pn	19 45 56.0 +0.6
OGWZ	Otaki Gorge	2.19	194	P	Pn	19 45 57.5 +0.9
WMGZ	Waiomatatini S	2.20	67	P	Pn	19 45 57.4 +0.6
HOWZ	Holdsworth Sta	2.22	187	P	Pn	19 45 57.4 +0.4
MXZ	Matakaoa Point	2.24	61	P	Pn	19 45 58.5 +1.2
KIW	Kapiti Island	2.29	198	P	Pn	19 45 58.5 +0.7
TMWZ	Te Maipa	2.41	179	P	Pn	19 45 59.6 +0.3
CAW	Cannon Point	2.49	194	P	Pn	19 46 00.7 +0.5
DUWZ	D'Urville Isla	2.58	215	P	Pn	19 46 02.5 +1.2
PAWZ	Paruwai Farm	2.71	187	P	Pn	19 46 03.0 +0.1
TRWZ	Traveller	2.71	183	P	Pn	19 46 03.2 +0.3
MSWZ	Moikau Station	2.76	189	P	Pn	19 46 03.7 +0.1
TCW	Tory Channel	2.79	205	P	Pn	19 46 04.6 +0.7
BHW	Baring Head	2.82	195	P	Pn	19 46 03.1 -1.1
PLWZ	Palliser	2.91	189	P	Pn	19 46 05.3 -0.1
TUWZ	Tuamarina	3.10	208	P	Pn	19 46 08.5 +0.7
NNZ	Nelson	3.16	216	P	Pn	19 46 09.6 +1.2
QRZ	Quartz Range	3.33	229	P	Pn	19 46 12.5 +1.8
BSWZ	Blackbirch Sta	3.38	206	P	Pn	19 46 11.8 +0.5
THZ	Tophouse	3.81	215	P	Pn	19 46 18.0 +1.1
KHZ	Kahutara	4.12	205	P	Pn	19 46 21.2 +0.4
LTZ	Lake Taylor	4.91	212	P	Pn	19 46 31.6 +0.3
MQZ	McQueen's Vall	5.56	205	P	Pn	19 46 38.7 -1.1
ODZ	Otahua Downs	7.44	210	P	Pn	19 47 04.2 -0.6

UCR ***10*** *20:14:26.8±1.2, 7.42N×82.61W, h7km±9km, MW3.9*
UPA ***10*** *20:14:27.0±1.4, 7.53N×82.36W, h14km±7km, MW4.3*
ISC 10 20:14:25.8±2.5, **7.50N**±0.07×**82.39W**±0.04, **h16**km±15km, **n30**, σ1**s02**/45, **South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAGA3	Bagala, Chiriq	0.97	352	*e*P	**Pb**	**20 14 44.9**	**+0.6**
NANC3	Nancito, Chiri	0.98	41	*e*P	**Pb**	**20 14 44.3**	**-0.2**
NANC3				*e*S	**Sb**	**20 14 57.1**	**-0.1**
GUAL3	Gualaca, Chiri	1.03	5	*e*P	**Pb**	**20 14 45.6**	**+0.3**
GUAL3				*e*S	**Sg**	**20 14 59.6**	**+0.4**
CDITO	Canoas	1.17	336	*e*P	**Pb**	**20 14 47.1**	**-0.5**
GMAL	Guarumal, Vera	1.18	77	*e*P	**Pb**	**20 14 46.5**	**-1.2**
GMAL				*e*S	**Sb**	**20 15 01.9**	**-0.8**
PSOM3	Paja de Sombre	1.18	3	*e*P	**Pb**	**20 14 47.2**	**-0.6**
PSOM3				*e*S	**Sb**	**20 15 02.5**	**-0.4**
BCO2	Palmira	1.22	353	*e*P	**Pn**	**20 14 48.3**	**-0.1**
BRU2	Volcan	1.32	347	*e*P	**Pn**	**20 14 49.6**	**-0.2**
BRU2				*e*S	**Sb**	**20 15 06.6**	**-0.5**
BRU2	Volcan	1.32	347	*e*P	**Pn**	**20 14 49.5**	**-0.2**
BC3P	Paso Ancho	1.33	350	*e*P	**Pn**	**20 14 49.7**	**-0.2**
BC3P				*e*S	**Sb**	**20 15 03.3**	**-4.0**
PTJ1	Puerto Jimnez	1.37	319	*e*P	**Pn**	**20 14 50.9**	**+0.6**
PTJ1				*e*S	**Sn**	**20 15 08.9**	**+0.7**
PTJ1	Puerto Jimnez	1.37	319	*e*P	**Pn**	**20 14 50.5**	**+0.3**
PTJ1				*e*S	**Sn**	**20 15 08.8**	**+0.7**
PONU3	Ponuga, Veragu	1.45	75	*e*P	**Pn**	**20 14 51.5**	**+0.2**
PONU3				*e*S	**Sn**	**20 15 09.8**	**-0.3**
CHGR2	Aguacate	1.45	10	*e*P	**Pn**	**20 14 51.4**	**0.0**
CHGR2				*e*S	**Sn**	**20 15 09.8**	**-0.3**
CACAO	El Cacao, Vera	1.52	96	*e*P	**Pn**	**20 14 52.8**	**+0.4**
CACAO				*e*S	**Sn**	**20 15 10.9**	**-0.9**
RIOS	Rincon, Osa	1.63	317	*e*P	**Pn**	**20 14 53.5**	**-0.3**
EDPN	Palmar Norte	1.80	324	*e*P	**Pn**	**20 14 56.4**	**+0.2**
AZU	Azuero	2.12	82	*e*P	**Pn**	**20 15 01.5**	**+1.0**
AZU				*e*S	**Sn**	**20 15 26.9**	**+0.4**
PEZE	Perez Zeledon,	2.27	326	*e*P	**Pn**	**20 15 04.0**	**+1.3**
PNME	Penonome	2.27	64	*e*P	**Pn**	**20 15 03.4**	**+0.8**
PNME				*e*S	**Sn**	**20 15 31.2**	**+1.0**
EDDO	Dominical	2.27	320	*e*P	**Pn**	**20 15 03.6**	**+0.9**
CDM	Cerro de Muert	2.45	326	*e*P	**Pn**	**20 15 06.3**	**+0.7**
RIMA	Rio Macho	2.68	327	*e*P	**Pn**	**20 15 09.9**	**+1.4**
LCR2	La Lucha 2	2.74	325	*e*P	**Pn**	**20 15 10.3**	**+1.0**
CVTR	Volcan Turrial	2.85	332	*e*P	**Pn**	**20 15 12.6**	**+1.6**
BCIP	Isla Barro Col	3.02	57	*e*P	**Pn**	**20 15 15.4**	**+2.4**
BCIP				*e*S	**Sn**	**20 15 49.4**	**+0.6**
JACO	JACO, Garabito	3.11	314	*e*P	**Pn**	**20 15 14.2**	**0.0**
LAFE	Finca La Fe, P	3.39	313	*e*P	**Pn**	**20 15 18.4**	**+0.4**
JTS	Las Juntas de	3.76	318	*e*P	**Pn**	**20 15 23.8**	**+0.7**
JTS				*e*S	**Sn**	**20 16 07.2**	**+0.1**
PLVR	Palo Verde	4.07	314	*e*P	**Pn**	**20 15 28.9**	**+1.3**

JMA ***10*** *20:16:54.1±0.2, 36.38N×142.61E, h59km, M3.8*
NIED ***10*** *20:16:54.1, 36.38N×142.61E, h59km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.07; Mθθ-0.70; Mφφ-3.37; Mrθ-0.08; Mθφ-1.09; Mφr-0.44; Fault plane solution: M0 3.94000×10¹⁵ NP1: φs199.00000°, δ48.00000°, λ89.00000°. NP2:φs20.00000°, δ42.00000°, λ91.00000°.*
MOS ***10*** *20:16:54.6±0.8, 36.29N×142.60E, h40km, mb4.6/11 Error ellipse: s-maj=12.4km s-min=7.1km az=126.2*
IDC ***10*** *20:16:57.9±2.3, 36.28N×142.51E, h50km±22km, mb3.7/19, mb1 3.8/24, mb1mx3.7/66, mbtmp3.9/24, ML2.8/5, MS3.6/5, Ms1 3.6/5, ms1mx3.2/56, Error ellipse: s-maj=18.6km s-min=15.0km az=100.0*
NEIC ***10*** *20:16:57.1±2.1, 36.49N±0.06×142.49E±0.09, h35km±6km, mb4.7/22, Error ellipse: s-maj=10.2km s-min=8.5km az=97.0*
ISC 10 20:16:53.3±0.5, **36.37N**±0.04×**142.39E**±0.05, **h15**km, **n135**, σ2**s06**/119, **mb4.3**/41, **MS4.1**/4, **10C-1D**, **Off east of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	1.41	242	P	**Pg**	**20 17 20.3**	**-0.2**
JHYU	Hitachinakayam	1.46	269	P	**Pg**	**20 17 21.3**	**0.0**
ONAJ	Iwakimizuishiy	1.47	300	P	**Pg**	**20 17 21.3**	**-0.3**
JHO	Hitachi	1.49	280	P	**Pg**	**20 17 21.4**	**-0.5**
JFK	Kawauchi	1.57	310	P	**Pg**	**20 17 21.9**	**-1.6**
JYT	Yasato	1.78	266	P	**Pb**	**20 17 25.4**	**-0.2**
JYT	Yasato	1.78	266	Pn	**Pb**	**20 17 25.4**	**-0.2**
JMM	Marumori	1.96	320	Pn	**Pb**	**20 17 26.6**	**-2.1**
JMM				Sn	**Sn**	**20 17 45.6**	**-4.7**
JFT	Otama	2.00	305	P	**Pb**	**20 17 28.9**	**-0.6**
BSO1	Boso 1	2.07	214	P	**Pb**	**20 17 28.5**	**-1.7**
JAG	Ashikaga	2.37	272	P	**Pb**	**20 17 33.8**	**-1.9**
JHU	Hanno	2.57	259	P	**Pb**	**20 17 36.4**	**-2.7**
JMK	Ichinoseki	2.74	340	P	Pb	20 17 36.8	-5.1
JMK				S	**Sn**	**20 18 09.9**	**+0.4**
JRY	Ryogami san	2.84	264	P	**Pb**	**20 17 40.4**	**-3.4**
JOD2	Odawara 2	2.90	249	P	**Pb**	**20 17 41.5**	**-3.3**
JYK	Kaneyama	3.01	328	P	Pb	20 17 41.4	-5.2
JOM	Ohasama	3.21	345	S	**Sn**	**20 18 21.4**	**+0.1**
MJAR	Matsushiro Arr	3.38	274	P	**Pb**	**20 17 48.6**	**-4.3**
	0.9nm,0.3s,baz=108,slow=9.5,SNR=41						
MJAR				LR	LR	20 19 30.4	
	comp=Z,662nm,20.1s,baz=105,slow=44						
MJAR	Matsushiro Arr	3.38	274		**Pb**	**20 17 48.4**	**-4.5**
MAJO	Matsushiro	3.38	274*c*	*i*P	**Pb**	**20 17 48.5**	**-4.4**
MAJO	Matsushiro	3.38	274		**Pb**	**20 17 49.3**	**-3.5**
MAT	Matsushiro	3.38	274	P	**Pb**	**20 17 49.1**	**-3.8**
MAT				*e*S	**Sb**	**20 18 30.9**	**-2.9**
MJB9	Matsu-Tunnel	3.38	274	Pn	**Pb**	**20 17 49.0**	**-3.9**
JSD	Sado	3.69	298		**Pb**	**20 17 53.5**	**-4.7**
JSG	Sagara	3.83	245	Pn	**Pn**	**20 17 54.8**	**+3.1**
JHJ2	Mitsune	3.88	214	Pn	**Pb**	**20 17 57.6**	**-3.9**
JHJ	Hachijo jima 2	3.89	214	P	**Pn**	**20 17 54.0**	**+1.4**
	19nm,0.3s,baz=43,slow=21,SNR=1.7						
JHJ				S	**Sn**	**20 18 34.1**	**-3.9**
	39nm,0.3s,baz=267,slow=23,SNR=2.3						
JGF	Kuroka	4.15	261	Pn	Pb	20 18 00.5	-5.7
INU	Inuyama	4.48	258				
JTM	Tenmabayashi	4.53	347	Pn	**Pn**	**20 18 01.5**	**+0.2**
ERM	Erimo	5.67	6	*i* P	**Pn**	**20 18 14.7**	**-2.2**
ERM	Erimo	5.67	6	Pn	**Pn**	**20 18 15.4**	**-1.5**
JWT	Wachi	5.78	261	Pn	Pn	20 18 22.5	+3.9
JMN	Monobe	7.46	252	Pn	**Pn**	**20 18 44.6**	**+2.9**
JHS	Saijyo	7.67	262		Pn	20 18 48.9	+4.4
JKA	Kamikawa-asahi	7.74	1	Pn	**Pn**	**20 18 45.0**	**-0.3**
JKA	Kamikawa-asahi	7.74	1		**Sn**	**20 20 08.0**	**-4.6**
ASAJ	Asahikawa	7.74	1	P	**Pn**	**20 18 44.8**	**-0.6**
	1.7nm,0.3s,baz=214,slow=13,SNR=12						
ASAJ				S	**Sn**	**20 20 08.0**	**-4.6**
	0.7nm,0.3s,baz=289,slow=31,SNR=2.7						
JNU	Nakatsue	10.01	254	LR	LR	20 23 44.5	
	comp=Z,564nm,20.6s,baz=46,slow=40						
USA0B	Ussuriysk Arra	11.14	318	P	**Pn**	**20 19 32.3**	**+0.4**
USA0B	Ussuriysk Arra	11.14	318	Pn	**Pn**	**20 19 32.3**	**+0.4**
USRK	Ussuriysk Ar.	11.14	318	P	Pn	20 19 37.1	+5.2
	baz=111,slow=13,SNR=4.4						
USRK				LR	LR	20 23 33.8	
	comp=Z,366nm,19.0s,baz=149,slow=35						
USRK	Ussuriysk Ar.	11.14	318		**Pn**	**20 19 32.1**	**+0.1**
KSRS	Korea Array	11.63	280	P	Pn	20 19 44.5	+5.7
	0.2nm,0.3s,baz=94,slow=14,SNR=6.7						
KSRS				LR	LR	20 24 07.7	
	comp=Z,131nm,19.7s,baz=66,slow=36						
MDJ	Mudanjiang	12.74	314	P	**Pn**	**20 19 54.0**	**+0.1**
MDJ				sP	P	20 20 03.8	-1.2
MDJ				S	**Sn**	**20 22 14.3**	**-1.1**
MDJ				sS		20 22 24.7	
MDJ				ScP	**ScP**	**20 28 56.8**	**-5.7**
MDJ				PcS	**PcS**	**20 29 02.9**	**-1.3**
MDJ	Mudanjiang	12.74	314	ScS	ScS	20 32 36.2	-2.5
MDJ				pmax	pmax		
	comp=Z,6.0nm,2.9s						
MDJ				pmax	pmax		
	comp=Z,350nm,4.7s						
MDJ				LR	LR		
	comp=N,1μm,12.5s						
MDJ				LR	LR		
	comp=E,570nm,9.0s						
MDJ				LR	LR		
	comp=Z,590nm,10.0s						
GRNR	Gornyy	15.02	345	*i*P	**P**	**20 20 28.9**	**-1.4**
GRNR				pmax	pmax		
	comp=E,7.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
GRNR				pmax	pmax		
	comp=N,20nm,0.7s						
GRNR				MLR	MLR		
	comp=N,560nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,820nm,13.0s						
PETK	Petropavlovsk-	19.88	28	P	**Pn**	**20 21 25.0**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=218,slow=11,SNR=2.5						
PETK	Petropavlovsk-	19.88	28	P	**Pn**	**20 21 25.0**	**-0.5**
PETK	Petropavlovsk-	19.88	28	P	**Pn**	**20 21 23.4**	**-2.1**
NJ2	Nanjing	19.92	264	*e*P	Pn	20 21 28.3	+2.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA	Zeya	20.32	333	*e*P	Pn	20 21 30.0	-0.6
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA				MLR	MLR		
	comp=N,400nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,13.0s						
WHN	Wuhan	24.06	264	P	P	20 22 24.5	+17
HHC	Hu-ho-hao-te	24.43	290	*e*P	**P**	**20 22 13.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,99nm,5.5s						
YAK	Yakutsk	26.89	347	P	**P**	**20 22 33.3**	**+0.1**
	comp=Z,3.2nm,0.4s,baz=314,slow=2.5,SNR=6.8						
YAK				LR	LR	20 32 56.7	
	comp=Z,131nm,18.3s,baz=148,slow=36						
YAK	Yakutsk	26.89	347	*e*P	**P**	**20 22 32.9**	**-0.4**
YAK				*e**PP	**pwP**	**20 22 44.2**	**+2.9**
YAK				*e*PPP	PPP	20 23 26.6	
YAK				*e*		20 25 57.9	
YAK				*e*S	**S**	**20 27 04.8**	**-4.4**
YAK				*e**SS	**sS**	**20 27 18.3**	**+3.2**
YAK				*e*SSS	SSS	20 28 25.5	
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.5s						
YAK				smax	smax		
	comp=N,99nm,3.3s						
YAK				smax	smax		
	comp=E,42nm,3.1s						
YAK				MLR	MLR		
	comp=Z,432nm,18.0s						
YAK				MLR	MLR		
	comp=N,264nm,17.0s						
YAK				MLR	MLR		
	comp=E,110nm,17.0s						
YAK	Yakutsk	26.89	347	IAmb	IAmb	20 22 52.1	
	comp=Z,19nm,0.9s						
H11N2	WAKE ISLAND Hy	27.14	121	T	T	20 50 45.3	
	baz=313,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	27.14	121	T	T	20 50 51.1	
	baz=313,slow=75,SNR=7.9						
H11N3	WAKE ISLAND Hy	27.15	121	T	T	20 50 50.4	
	baz=313,slow=75,SNR=7.3						
SEY	Seymchan	27.30	10	P	**P**	**20 22 37.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=252,slow=17,SNR=2.3						
SEY	Seymchan	27.30	10	*i* P	**P**	**20 22 36.7**	**-0.2**
XAN	Xi'an	27.37	275	P	**P**	**20 22 40.1**	**+2.1**
XAN				pP	pwP	20 22 51.7	+5.2
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,470nm,4.7s						
H11S1	WAKE ISLAND Hy	27.84	123	T	T	20 51 40.9	
	baz=316,slow=76,SNR=4.2						
H11S3	WAKE ISLAND Hy	27.84	123	T	T	20 51 37.8	
	baz=316,slow=76,SNR=4.8						
H11S2	WAKE ISLAND Hy	27.86	123	T	T	20 51 38.8	
	baz=316,slow=76,SNR=3.0						
ENH	Enshi	28.07	267	P	**P**	**20 22 45.3**	**+1.0**
ULN	Ulaanbaatar	28.38	305	*ce*P	**P**	**20 22 48.1**	**+1.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ULN	Ulaanbaatar	28.38	305	P	**P**	**20 22 48.0**	**+1.0**
BOD	Bodaibo	28.51	328	*e*P	P	20 22 53.1	+5.3
BOD				pmax	pmax		
	comp=Z,19nm,1.5s						
SONM	Songino Array	28.80	305	P	P	20 22 53.3	+2.6
	comp=Z,4.7nm,1.2s,baz=111,slow=7.0,SNR=15						
SONM	Songino Array	28.80	305	P	**P**	**20 22 52.4**	**+1.6**
LZH	Lanzhou	30.96	281	*e*P	**P**	**20 23 12.0**	**+2.0**
LZH				pP	pwP	20 23 25.3	+6.8
LZH				sP	sP	20 23 31.0	+16
LZH				*e*PP	**PP**	**20 24 23.5**	**+3.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,67nm,4.9s						
LZH				LR	LR		
	comp=N,220nm,12.8s						
LZH				LR	LR		
	comp=E,240nm,13.1s						
LZH				LR	LR		
	comp=Z,320nm,16.3s						
GTA	Gaotai	33.51	288	*e*P	**P**	**20 23 34.6**	**+2.3**
GTA				pP	pwP	20 23 41.0	+0.1
GTA				sP	sP	20 23 46.9	+10
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,270nm,5.6s						
GTA				LR	LR		
	comp=N,340nm,14.9s						
GTA				LR	LR		
	comp=E,400nm,15.6s						
GTA				LR	LR		
	comp=Z,260nm,14.9s						
WMQ	Urumqi	41.84	298	*e*P	P	20 24 45.6	+3.0
CMAR	Chiang Mai Arr	42.10	257	P	**P**	**20 24 45.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=51,slow=7.1,SNR=2.5						
CMAR	Chiang Mai Arr	42.10	257	P	**P**	**20 24 45.8**	**+0.9**
CMAR	Chiang Mai Arr	42.10	257	P	**P**	**20 24 45.8**	**+0.9**
ZAA0	Zalesovo Array	42.94	313	P	**P**	**20 24 52.4**	**+1.1**
ZALV	Zalesovo Beam	42.94	313	P	**P**	**20 24 53.1**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=89,slow=7.9,SNR=7.9						
ZALV	Zalesovo Beam	42.94	313	P	**P**	**20 24 53.0**	**+1.7**
NRIK	Noril'sk	44.19	335	*ce*P	**P**	**20 25 02.4**	**+1.2**
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
MK31	Makanchi Array	45.13	303	*ce*P	**P**	**20 25 10.8**	**+1.7**
MK31	Makanchi Array	45.13	303	P	**P**	**20 25 10.9**	**+1.8**
MKAR	Makanchi Array	45.13	303	P	**P**	**20 25 10.7**	**+1.6**
	comp=Z,2.7nm,0.8s,baz=87,slow=9.2,SNR=9.5						
MKAR	Makanchi Array	45.13	303	P	**P**	**20 25 10.4**	**+1.3**
MAKZ	Makanchi	45.34	303	P	P	20 25 13.3	+2.5
MAKZ				pmax	pmax		
	comp=Z,14nm,1.5s						
MAKZ	Makanchi	45.34	303	P	P	20 25 13.2	+2.5
MAKZ				IAmb	IAmb	20 25 43.5	
	comp=Z,14nm,1.5s						
KURK	Kurchatov	46.96	309	*ce*P	**P**	**20 25 24.0**	**+0.7**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
KURK	Kurchatov	46.96	309	P	P	20 25 24.3	+0.9
KURK				IAmb	IAmb	20 25 39.3	
	comp=Z,14nm,1.2s						
TARG	Taragay, Kyrgy	49.40	297	P	**P**	**20 25 42.8**	**-0.1**
TARG				IAmb	IAmb	20 26 09.2	
	comp=Z,8.3nm,1.1s						
ILAR	Eielson Array	49.63	32	P	**P**	**20 25 43.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=254,slow=6.7,SNR=6.5						
FRU1	Bishkek	51.35	299	P	**P**	**20 25 58.5**	**+1.3**
FRU1				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FRU1	Bishkek	51.35	299	P	**P**	**20 25 58.5**	**+1.3**
FRU1				IAmb	IAmb	20 26 24.2	
	comp=Z,7.6nm,1.0s						
AAK	Ala-Archa	51.49	299	*i* P	**P**	**20 25 58.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRVK	Borovoye	51.65	313	*ce*P	**P**	**20 26 00.0**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
BCAR	Beaver Creek A	52.00	34	P	P	20 26 02.5	+0.7
KK31	Karatay Array	54.14	301	P	**P**	**20 26 18.8**	**+1.0**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KK31	Karatay Array	54.14	301		**P**	**20 26 18.8**	**+1.0**
KK31				IAmb	IAmb	20 26 31.9	
	comp=Z,6.9nm,1.1s						
KKAR	Karatay Array	54.14	301	P	**P**	**20 26 19.0**	**+1.3**
KKAR	Karatay Array	54.14	301		**P**	**20 26 18.8**	**+1.0**
KKAR				IAmb	IAmb	20 26 31.9	
	comp=Z,6.9nm,1.1s						
KKAR	Karatay Array	54.14	301	P	**P**	**20 26 19.0**	**+1.3**
BTK	Batken	54.95	297	P	**P**	**20 26 24.8**	**+1.0**
BTK				pmax	pmax		
	comp=Z,17nm,1.7s						
BTK	Batken	54.95	297	P	**P**	**20 26 24.8**	**+1.0**
BTK				IAmb	IAmb	20 27 03.5	
	comp=Z,17nm,1.7s						
GAR	Garm	55.69	296	P	**P**	**20 26 30.4**	**+1.2**
GAR				IAmb	IAmb	20 26 57.9	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	56.52	189	P	**P**	**20 26 34.3**	**-0.7**
	comp=Z,3.8nm,1.2s,baz=7.7,slow=7.5,SNR=13						
CHGR	Chuyangaron	56.66	296		**P**	**20 26 37.3**	**+1.3**
ARU	Arti	57.37	319	*d* P	**P**	**20 26 41.9**	**+1.2**
ARU						20 27 34.4	
ARU						20 28 47.8	
ARU				S	**S**	**20 34 37.9**	**+1.3**
ARU				SS	**SS**	**20 38 24.3**	**-1.3**
ARU				pmax	pmax		
	comp=Z,17nm,1.4s						
ARU	Arti	57.37	319	P	**P**	**20 26 42.1**	**+1.4**
ABKAR	Akbulak array	58.97	311	P	**P**	**20 26 52.6**	**+0.7**
ABKAR				IAmb	IAmb	20 26 54.1	
	comp=Z,5.8nm,1.2s						
ABKAR	Akbulak array	58.97	311	P	**P**	**20 26 52.1**	**+0.1**
AKTO	Aktyubinsk	59.70	313	P	**P**	**20 26 58.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=109,slow=11,SNR=4.4						
ASAR	Alice Springs	60.25	189	P	**P**	**20 27 00.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=4.4,slow=6.4,SNR=6.5						
KIRV	Kirov	61.25	323	*ce*P	**P**	**20 27 08.0**	**+0.6**
PRGR	Permogore	61.74	327	*e*P	**P**	**20 27 06.4**	**-4.3**
PRGR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RES	Resolute Bay	63.04	15	P	P	20 27 20.1	+0.9
	comp=Z,1.6nm,0.8s,baz=297,slow=4.5,SNR=1.3						
RES	Resolute Bay	63.04	15	P	P	20 27 20.1	+0.9
RES				pmax	pmax		
	comp=Z,33nm,1.6s						
KLMR	Klimovskoe	64.73	328	*e*P	**P**	**20 27 30.7**	**+0.1**
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLMR	Klimovskoe	64.73	328	*e*P	**P**	**20 27 30.7**	**+0.1**
KLMR				AMP		20 27 32.0	
	comp=Z,9.0nm,1.0s						
FINES	FINESS Array B	69.76	333	P	**P**	**20 28 03.9**	**+1.4**
	comp=Z,3.8nm,1.0s,baz=52,slow=9.0,SNR=3.9						
KBZ	Khabaz	71.93	311	P	**P**	**20 28 16.8**	**+0.9**
	comp=Z,2.5nm,1.0s,baz=63,slow=6.8,SNR=4.6						
KBZ	Khab

MMB	**Musomiste**	**1.29**	**244**	P		**Pb**	**20 22 04.8**	**0.0**
KAVA	**Kavala**	**1.31**	**206**	P		**Pg**	**20 22 04.9**	**+0.2**
NVR	**Nevrokopi**	**1.34**	**232**	P		**Pb**	**20 22 05.1**	**-0.5**
NVR				S		**Sn**	**20 22 26.4**	**+2.4**
	485nm,0.3s							
ALN	**Alexandroupoli**	**1.40**	**155**	P		**Pg**	**20 22 06.2**	**-0.3**
ALN				S		**Sn**	**20 22 25.4**	**-0.2**
	360nm,0.4s							
ALN	**Alexandroupoli**	**1.40**	**155**	PN		**Pg**	**20 22 06.3**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.46**	**135**	PN		**Pb**	**20 22 06.9**	**-0.8**
ZIMR		**1.48**	**3**	⇓P		**Pg**	**20 22 09.0**	**+0.9**
ZIMR		**1.48**	**3**	⇓S		**Sg**	**20 22 28.5**	**+1.2**
ENEZ	**Enez**	**1.58**	**155**	P		**Pb**	**20 22 09.1**	**-0.7**
ENEZ				S		**Sg**	**20 22 31.0**	**+0.5**
ENEZ	**Enez**	**1.58**	**155**	PN		**Pb**	**20 22 08.9**	**-0.9**
THAS	**Thassos island**	**1.62**	**195**	P		**Pn**	**20 22 09.0**	**-0.4**
THAS				S		**Sg**	**20 22 32.4**	**+0.7**
	282nm,0.2s							
SRS	**Serrai**	**1.64**	**230**	P		**Pb**	**20 22 09.9**	**-0.9**
SRS				S		**Sg**	**20 22 34.1**	**+1.7**
	458nm,0.3s							
SRS	**Serrai**	**1.64**	**230**	*e*Pg		**Pg**	**20 22 11.7**	**+0.6**
SRS				*e*Sg		**Sg**	**20 22 35.2**	**+2.8**
RAZG	**Razgrad**	**1.66**	**33**	⇑P		**Pg**	**20 22 12.4**	**+0.8**
RAZG	**Razgrad**	**1.66**	**33**	⇓S		**Sg**	**20 22 33.9**	**+0.8**
SMTH	**Samothraki Isl**	**1.71**	**173**	P		**Pn**	**20 22 10.2**	**-0.5**
KESN	**Edirne-Kesan**	**1.71**	**141**	*i* P		**Pg**	**20 22 12.5**	**0.0**
KESN				*i* S		**Sg**	**20 22 35.2**	**+0.4**
KESN				IAML			20 22 37.0	
	comp=N,277nm,0.2s							
KESN				IAML			20 22 37.0	
	comp=E,320nm,0.3s							
ERIK	**Erikli-Kesan**	**1.77**	**148**	PN		**Pb**	**20 22 11.5**	**-1.4**
COPA	**Copaceanca**	**1.96**	**359**	⇑P		**Pb**	**20 22 15.1**	**-1.1**
COPA	**Copaceanca**	**1.96**	**359**	⇑S		**Sb**	**20 22 40.0**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.99**	**152**	PN		**Pn**	**20 22 14.4**	**-0.2**
GADA	**Gvkgeada**	**2.04**	**166**	P		**Pn**	**20 22 14.9**	**-0.3**
GADA				S		**Sn**	**20 22 41.0**	**-0.3**
GADA	**Gvkgeada**	**2.04**	**166**	PN		**Pn**	**20 22 15.0**	**-0.1**
GOKA	**anakkale-Gk**	**2.04**	**166**	*i* P		**Pg**	**20 22 19.6**	**+0.9**
GOKA				*i* S		**Sb**	**20 22 42.3**	**-1.1**
KNT	**Kendrikon**	**2.04**	**241**	P		**Pb**	**20 22 16.1**	**-1.5**
KNT	**Kendrikon**	**2.04**	**241**	PN		**Pb**	**20 22 16.9**	**-0.7**
MAR4	**Marsite Statio**	**2.06**	**132**	PN		**Pn**	**20 22 15.8**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.07**	**135**	PN		**Pn**	**20 22 16.0**	**+0.4**
OUR	**Ouranopolis**	**2.08**	**208**	P		**Pn**	**20 22 15.6**	**-0.1**
OUR	**Ouranopolis**	**2.08**	**208**	PN		**Pn**	**20 22 15.6**	**-0.1**
MAR3	**Marsite Statio**	**2.09**	**133**	PN		**Pn**	**20 22 15.9**	**0.0**
BOSS	**Bosilegrad**	**2.09**	**280**	*e*Pg		**Pb**	**20 22 18.9**	**+0.5**
BOSS				*e*Sg		**Sg**	**20 22 48.6**	**+1.8**
MAR6	**Marsite Statio**	**2.10**	**134**	PN		**Pb**	**20 22 16.6**	**-2.0**
SGRR	**Singureni**	**2.11**	**14**	⇓P		**Pb**	**20 22 18.4**	**-0.4**
SGRR	**Singureni**	**2.11**	**14**	⇓S		**Sb**	**20 22 45.0**	**-0.5**
LPK	**Lapseki**	**2.12**	**147**	PN		**Pn**	**20 22 16.7**	**+0.4**
CRLT	**Corlu**	**2.12**	**119**	PN		**Pb**	**20 22 17.0**	**-2.0**
VAY	**Valandovo**	**2.19**	**248**	*e*Pg		**Pg**	**20 22 20.3**	**+0.2**
VAY				*e*Sg		**Sg**	**20 22 51.9**	**+1.9**
VAY	**Valandovo**	**2.19**	**248**	*i* Pn		**Pb**	**20 22 20.1**	**-0.1**
ZAPS	**Zavoj**	**2.23**	**300**	*e*Pg		**Pn**	**20 22 18.6**	**+0.7**
ZAPS				*e*Sg		**Sg**	**20 22 50.6**	**-0.7**
BUC1	**Bucharest**	**2.24**	**14**	⇓S		**Sb**	**20 22 48.6**	**-0.7**
HORT	**Hortiatis**	**2.27**	**227**	P		**Pn**	**20 22 18.6**	**+0.2**
HORT	**Hortiatis**	**2.27**	**227**	PN		**Pn**	**20 22 18.1**	**-0.3**
KRBG	**Karabiga-Canak**	**2.35**	**139**	PN		**Pn**	**20 22 19.9**	**+0.5**
STIP	**Stip**	**2.35**	**259**	*i* Pn		**Pn**	**20 22 16.9**	**-2.6**
MRMT	**Marmara Adasi**	**2.35**	**131**	PN		**Pn**	**20 22 19.9**	**+0.3**
HUMR	**Humele**	**2.36**	**355**	⇑P		**Pn**	**20 22 20.8**	**+1.1**
HUMR	**Humele**	**2.36**	**355**	⇑S		**Sn**	**20 22 50.0**	**+0.8**
CTYL	**Yalikoy Yolu**	**2.36**	**106**	PN		**Pn**	**20 22 20.4**	**+0.8**
BLKB	**Belogradchik**	**2.39**	**308**	⇑S		**Sn**	**20 22 50.5**	**+0.4**
SLVT	**Silivri**	**2.40**	**112**	PN		**Pn**	**20 22 20.8**	**+0.7**
BOZC	**Bozcaada**	**2.41**	**165**	PN		**Pn**	**20 22 19.8**	**-0.4**
RASA	**Rasa**	**2.46**	**33**	⇑P		**Pb**	**20 22 23.7**	**-1.0**
RASA	**Rasa**	**2.46**	**33**	⇓S		**Sb**	**20 22 54.6**	**-0.9**
EZN	**Ezine**	**2.48**	**161**	PN		**Pn**	**20 22 21.6**	**+0.4**
LEHL	**Lehliu**	**2.56**	**26**	⇓P		**Pb**	**20 22 24.3**	**-2.2**
LEHL	**Lehliu**	**2.56**	**26**	⇓S		**Sb**	**20 22 57.8**	**-0.7**
CTKS	**Kestanelik-??a**	**2.60**	**110**	PN		**Pn**	**20 22 23.4**	**+0.5**
SULR		**2.60**	**16**	⇑P		**Pb**	**20 22 24.8**	**-2.3**
SULR		**2.60**	**16**	⇓S		**Sb**	**20 22 57.5**	**-2.2**
EDC	**Edincik**	**2.68**	**132**	PN		**Pn**	**20 22 24.9**	**+0.9**
ICOR	**Ion Corvin**	**2.68**	**43**	⇓P		**Pb**	**20 22 27.2**	**-1.3**
ICOR	**Ion Corvin**	**2.68**	**43**	⇑S		**Sb**	**20 23 01.3**	**-0.7**
STFAR	**Stefanesti-Arg**	**2.70**	**355**	⇓P		**Pb**	**20 22 26.3**	**-2.4**
STFAR	**Stefanesti-Arg**	**2.70**	**355**	⇑S		**Sn**	**20 22 58.1**	**+0.5**
PUNG	**Punghina**	**2.71**	**322**	⇑P		**Pn**	**20 22 25.6**	**+1.2**
PUNG	**Punghina**	**2.71**	**322**	⇑S		**Sn**	**20 22 57.9**	**+0.1**
ZAGS	**Zajecar**	**2.76**	**307**	*e*Pn		**Pn**	**20 22 24.8**	**-0.3**
AMRR	**Amara**	**2.86**	**31**	⇑P		**Pn**	**20 22 28.3**	**+1.8**
AMRR	**Amara**	**2.86**	**31**	⇓S		**Sb**	**20 23 05.6**	**-1.5**
SRE	**Strehaia**	**2.91**	**330**	⇑P		**Pn**	**20 22 28.4**	**+1.3**
SRE	**Strehaia**	**2.91**	**330**	⇑S		**Sn**	**20 23 00.6**	**-0.1**
MANR	**Mangalia**	**2.94**	**55**	⇑P		**Pb**	**20 22 31.9**	**-0.9**
MANR	**Mangalia**	**2.94**	**55**	⇓S		**Sb**	**20 23 08.1**	**-1.1**
SIGR	**SIGRI**	**2.99**	**171**	PN		**Pn**	**20 22 28.9**	**+0.6**
BOVS	**Bovan**	**3.00**	**300**	*e*Pn		**Pn**	**20 22 29.2**	**+0.9**
PGOR	**Pogoanele**	**3.00**	**24**	⇑S		**Sb**	**20 23 08.7**	**-2.5**
MTUR	**Matau**	**3.05**	**357**	⇑P		**Pn**	**20 22 31.4**	**+2.1**
MFTR	**Murfatlar**	**3.06**	**48**	⇑P		**Pb**	**20 22 32.5**	**-2.4**
MFTR	**Murfatlar**	**3.06**	**48**	⇑S		**Sb**	**20 23 11.5**	**-1.1**
ISR	**Istrita**	**3.08**	**17**	⇑P		**Pb**	**20 22 32.5**	**-2.9**
ISR	**Istrita**	**3.08**	**17**	⇑S		**Sn**	**20 23 09.6**	**+2.3**
TLBR	**Topalu**	**3.12**	**40**	⇑P		**Pb**	**20 22 33.3**	**-2.6**
TLBR	**Topalu**	**3.12**	**40**	⇑S		**Sb**	**20 23 12.2**	**-2.3**
AOS	**Alonnisos**	**3.18**	**200**	PN		**Pn**	**20 22 30.3**	**-0.6**
ARR	**Arges**	**3.23**	**352**	⇑P		**Pn**	**20 22 33.0**	**+1.4**
ARR	**Arges**	**3.23**	**352**	⇓S		**Sn**	**20 23 11.1**	**+0.4**
SELS	**Selova**	**3.23**	**290**	*e*Pn		**Pn**	**20 22 31.2**	**-0.4**
TIRR	**Tirgusor**	**3.24**	**44**	⇑S		**Sb**	**20 22 33.7**	**-3.1**
VOIR		**3.27**	**357**	⇑P		**Pn**	**20 22 33.0**	**+0.9**
VOIR		**3.27**	**357**	⇑S		**Sn**	**20 23 11.8**	**+0.1**
NEHR	**Nehoiu**	**3.34**	**13**	⇑P		**Pn**	**20 22 35.7**	**+2.7**
NEHR	**Nehoiu**	**3.34**	**13**	⇓S		**Sn**	**20 23 15.4**	**+2.0**
MLR	**Muntele Rosu**	**3.35**	**8**	⇑P		**Pn**	**20 22 36.0**	**+2.6**
MLR	**Muntele Rosu**	**3.35**	**8**	⇓S		**Sn**	**20 23 15.5**	**+1.6**
HERR	**Herculane**	**3.41**	**323**	⇑P		**Pn**	**20 22 33.8**	**-0.3**
HERR	**Herculane**	**3.41**	**323**	⇓S		**Sn**	**20 23 14.7**	**-0.4**
GRER		**3.44**	**21**	⇓P		**Pn**	**20 22 37.3**	**+3.0**
GRER		**3.44**	**21**	⇑S		**Sn**	**20 23 18.2**	**+2.4**
LOT	**Lotru**	**3.45**	**342**	⇑P		**Pn**	**20 22 35.7**	**+1.0**
LOT	**Lotru**	**3.45**	**342**	⇑S		**Sn**	**20 23 16.1**	**-0.1**
BISRR	**Bisoca**	**3.53**	**17**	⇓P		**Pn**	**20 22 38.2**	**+2.4**
BISRR	**Bisoca**	**3.53**	**17**	⇑S		**Sn**	**20 23 20.3**	**+2.0**
CFR	**Carcaliu**	**3.65**	**34**	⇓S		**Sb**	**20 23 25.4**	**-4.5**
MDVR	**Moldovita**	**3.67**	**316**	⇓P		**Pn**	**20 22 37.7**	**0.0**
MDVR	**Moldovita**	**3.67**	**316**	⇑S		**Sn**	**20 23 21.5**	**-0.1**
GZR	**Gura Zlata**	**3.69**	**332**	⇑S		**Sn**	**20 23 19.8**	**+0.4**
JURR	**Jurilovca**	**3.69**	**44**	⇓P		**Pb**	**20 22 41.5**	**-4.1**
GRUS	**Gruza**	**3.75**	**299**	*e*Pn		**Pn**	**20 22 38.7**	**0.0**
DOPR	**Dopca**	**3.79**	**1**	⇑P		**Pn**	**20 22 40.7**	**+1.4**
DOPR	**Dopca**	**3.79**	**1**	⇓S		**Sn**	**20 23 25.4**	**+0.7**
PLOR	**Plostina**	**3.81**	**15**	⇑P		**Pn**	**20 22 41.4**	**+1.8**
PLOR	**Plostina**	**3.81**	**15**	⇓S		**Sn**	**20 23 27.3**	**+2.2**
ODBI	**Odobesti**	**3.81**	**19**	⇓P		**Pn**	**20 22 42.3**	**+2.8**
ODBI	**Odobesti**	**3.81**	**19**	⇑S		**Sn**	**20 23 27.4**	**+2.3**
TUDR		**3.83**	**26**	⇑P		**Pn**	**20 22 41.7**	**+1.9**
TUDR		**3.83**	**26**	⇑S		**Sn**	**20 23 28.8**	**+3.2**
VRI	**Vrincioaia**	**3.84**	**15**	⇑P		**Pn**	**20 22 42.0**	**+2.0**
VRI	**Vrincioaia**	**3.84**	**15**	⇑S		**Sn**	**20 23 28.0**	**+2.3**
OZUR		**3.94**	**5**	⇑P		**Pn**	**20 22 43.1**	**+1.7**
OZUR		**3.94**	**5**	⇓S		**Sn**	**20 23 29.3**	**+1.1**
TLCR		**3.96**	**39**	⇓P		**Pn**	**20 22 43.7**	**+2.1**
TLCR		**3.96**	**39**	⇓S		**Sn**	**20 23 32.4**	**+3.8**
IVAS	**Ivanjica**	**4.01**	**292**	⇓*e*Pn		**Pn**	**20 22 43.3**	**-0.1**
TRUS	**Trudelj**	**4.10**	**302**	⇓*e*Pn		**Pn**	**20 22 43.5**	**-0.1**
GHRR		**4.18**	**21**	⇓S		**Sn**	**20 23 37.0**	**+2.9**
BZS	**Buzias**	**4.34**	**324**	*e*Pn		**Pn**	**20 22 45.9**	**-0.9**
BZS	**Buzias**	**4.34**	**324**	⇑S		**Sn**	**20 23 37.3**	**-0.6**
BANR	**Banloc**	**4.38**	**318**	⇓S		**Sn**	**20 23 39.1**	**-0.1**
MILM	**Milestii Mici**	**5.38**	**27**	⇑S		**Sn**	**20 24 06.6**	**+3.0**

PRU 10 20:28:49.9±0.0, 50.09N×18.59E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.75**	**246**	*e*PG	Pg	20 29 04.5	+0.3
MORC				*e*SG	Sg	20 29 13.9	+0.1
KRLC	**Kraliky**	**1.17**	**270**	*e*PG	Pg	20 29 12.2	0.0
KRLC				*e*SG	Sg	20 29 26.5	-0.8
	comp=Z,3.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.48**	**281**	*e*PG	Pn	20 29 17.0	-0.8
DPC				*e*SG	Sg	20 29 36.7	-0.7
	comp=Z,4.7nm,0.7s						
OSTC	**Ostas**	**1.59**	**288**	*e*PG	Pb	20 29 19.9	-0.3
OSTC				*e*SG	Sg	20 29 41.2	+0.2
CHVC	**Chvalec**	**1.70**	**288**	*e*PG	Pn	20 29 20.7	-0.1
CHVC				*e*SG	Sb	20 29 43.9	-0.1

KRNET ***10*** *20:42:40.7±0.1, 43.01N×80.05E, h10km, mb3.3*
NNC ***10*** *20:42:40.1±0.7, 43.02N×80.10E, h0km, mb3.5, mpv3.5,*
Error ellipse: s-maj=4.5km s-min=2.9km az=162.0
SOME ***10*** *20:42:41.3, 43.07N×80.02E, h10km*

ISC 10 20:42:40.3±1.2, 42.98N±0.04×80.04E±0.03, h10km±9km, n60, σ1.913/105, 10C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**0.52**	**26**	*e*P	**Pg**	**20 42 50.2**	**-0.3**
	baz=27						
KTMS				*e*S	**Sg**	**20 42 57.0**	**-0.3**
	baz=27						
KTMS	**Ketmen**	**0.52**	**26**	*e*P	**Pg**	**20 42 50.2**	**-0.3**
	247nm,0.2s						
KTMS				*e*S	**Sg**	**20 42 57.0**	**-0.3**
	195nm,0.2s						
KTMS	**Ketmen**	**0.52**	**26**	P	**Pg**	**20 42 50.2**	**-0.3**
	247nm,0.2s						
KTMS				S	**Sg**	**20 42 57.0**	**-0.3**
	195nm,0.2s						
PDGK	**Podgornoye**	**0.53**	**311**	P	**Pg**	**20 42 51.2**	**+0.5**
	16nm,0.1s						
PDGK				S	**Sb**	**20 42 58.5**	**-1.0**
	115nm,0.3s						
PDGK	**Podgornoye**	**0.53**	**311**	⇓P	**Pg**	**20 42 50.9**	**+0.2**
	6.1nm,0.4s						
PDGK				⇑S	**Sb**	**20 42 58.9**	**-0.7**
	197nm,0.8s						
UZB	**Uzynbulak**	**0.76**	**283**	*e*P	**Pg**	**20 42 55.5**	**+0.4**
	baz=81						
UZB				*e*S	**Sb**	**20 43 06.1**	**-0.1**
	baz=81						
UZB	**Uzynbulak**	**0.76**	**283**	*e*P	**Pg**	**20 42 55.5**	**+0.4**
	6.5nm,0.1s						
UZB				*e*S	**Sb**	**20 43 06.1**	**-0.1**
	146nm,0.2s						
UZB	**Uzynbulak**	**0.76**	**283**	P	**Pg**	**20 42 55.5**	**+0.4**
	6.5nm,0.1s						
UZB				S	**Sb**	**20 43 06.1**	**-0.1**
	146nm,0.2s						
KPKS	**Kokpek**	**1.10**	**296**	*e*P	**Pg**	**20 43 01.7**	**+0.2**
	baz=95						
KPKS				*e*S	**Sb**	**20 43 16.4**	**+0.5**
	baz=95						
KPKS	**Kokpek**	**1.10**	**296**	*e*P	**Pg**	**20 43 01.7**	**+0.2**
	79nm,0.1s						
KPKS				*e*S	**Sb**	**20 43 16.4**	**+0.5**
	349nm,0.3s						
ZHN	**Zhinishke**	**1.19**	**279**	*e*P	**Pn**	**20 43 03.5**	**+0.4**
	baz=78						
ZHN				*e*S	**Sn**	**20 43 19.5**	**+0.1**
	baz=78						
ZHN	**Zhinishke**	**1.19**	**279**	*e*P	**Pn**	**20 43 03.5**	**+0.4**
	29nm,0.1s						
ZHN				*e*S	**Sn**	**20 43 19.5**	**+0.1**
	69nm,0.2s						
ZHN	**Zhinishke**	**1.19**	**279**	P	**Pn**	**20 43 03.5**	**+0.4**
	29nm,0.1s						
ZHN				S	**Sn**	**20 43 19.5**	**+0.1**
	69nm,0.2s						
SATY	**Saty**	**1.20**	**274**	*e*P	**Pg**	**20 43 03.9**	**+0.6**
	baz=73						
SATY				*e*S	**Sn**	**20 43 20.5**	**+0.9**
	baz=73						
SATY	**Saty**	**1.20**	**274**	*e*P	**Pg**	**20 43 03.9**	**+0.6**
	19nm,0.1s						
SATY				*e*S	**Sn**	**20 43 20.5**	**+0.9**
	167nm,0.1s						
SATY	**Saty**	**1.20**	**274**	P	**Pg**	**20 43 03.9**	**+0.6**
	19nm,0.1s						
SATY				S	**Sn**	**20 43 20.5**	**+0.9**
	167nm,0.1s						
DJR	**Jarkent**	**1.36**	**353**	*e*P	**Pn**	**20 43 05.0**	**-0.4**
	12nm,0.1s						
DJR				*e*S	**Sb**	**20 43 22.3**	**-1.1**
	73nm,0.2s						
DJR	**Jarkent**	**1.36**	**353**	P	**Pn**	**20 43 05.0**	**-0.4**
	12nm,0.1s						
DJR				S	**Sb**	**20 43 22.3**	**-1.1**
	73nm,0.2s						
KURS	**Kuram**	**1.45**	**291**	*e*P	**Pg**	**20 43 08.4**	**+0.2**
	baz=90						
KURS				*e*S	**Sg**	**20 43 28.3**	**+1.2**
	baz=90						
KURS	**Kuram**	**1.45**	**291**	*e*P	**Pg**	**20 43 08.4**	**+0.2**
	7.1nm,0.3s						
KURS				*e*S	**Sg**	**20 43 28.3**	**+1.2**
	23nm,0.2s						
KURS	**Kuram**	**1.45**	**291**	P	**Pg**	**20 43 08.4**	**+0.2**
	7.1nm,0.3s						
KURS				S	**Sg**	**20 43 28.3**	**+1.2**
	23nm,0.2s						
MNBS	**Baschi**	**1.62**	**313**	*e*P	**Pn**	**20 43 09.8**	**+0.8**
	18nm,0.2s						
MNBS				*e*S	**Sb**	**20 43 30.9**	**0.0**
	66nm,0.2s						
MNBS	**Baschi**	**1.62**	**313**	P	**Pn**	**20 43 09.8**	**+0.8**
	18nm,0.2s						
MNBS				S	**Sb**	**20 43 30.9**	**0.0**
	66nm,0.2s						
ANVS	**Anan'yevo**	**1.75**	**264**	⇑*i*P	**Pb**	**20 43 13.7**	**+1.0**
	baz=63						
ANVS				⇑*i*S	**Sg**	**20 43 37.7**	**+1.0**
	baz=63						
ARXS	**Arharly**	**2.02**	**308**	*e*P	**Pb**	**20 43 17.4**	**+0.2**
	6.5nm,0.1s						
ARXS				*e*S	**Sb**	**20 43 43.6**	**+1.1**
	29nm,0.2s						
ARXS	**Arharly**	**2.02**	**308**	Pg	**Pb**	**20 43 17.4**	**+0.2**
	6.5nm,0.1s						
ARXS				Lg	Lg	20 43 43.6	
	29nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.08**	**234**	⇓*i*P	**Pb**	**20 43 19.0**	**+0.7**
	baz=33						
TARG				⇓*i*S	**Sb**	**20 43 46.6**	**+2.3**
	baz=33						
KOTS	**Kotyrbulak**	**2.16**	**278**	*e*P	**Pb**	**20 43 20.6**	**+1.1**
	baz=77						
KOTS				*e*S	**Sg**	**20 43 49.1**	**-0.6**
	baz=77						
KOTS	**Kotyrbulak**	**2.16**	**278**	*e*P	**Pb**	**20 43 20.6**	**+1.1**
	16nm,0.2s						
KOTS				*e*S	**Sg**	**20 43 49.0**	**-0.6**
	36nm,0.5s						
KOTS	**Kotyrbulak**	**2.16**	**278**	Pg	**Pb**	**20 43 20.6**	**+1.1**
	16nm,0.2s						
KOTS				Lg	Lg	20 43 49.1	
	36nm,0.5s						
MDOK	**Medeo**	**2.20**	**276**	*e*P	**Pb**	**20 43 21.2**	**+1.0**
	baz=75						
MDOK				*e*S	**Sg**	**20 43 50.1**	**-0.8**
	baz=75						
MDOK	**Medeo**	**2.20**	**276**	*e*P	**Pb**	**20 43 21.2**	**+1.0**
	3.6nm,0.3s						
MDOK				*e*S	**Sg**	**20 43 50.2**	**-0.8**
	16nm,0.5s						
MDOK	**Medeo**	**2.20**	**276**	Pg	**Pb**	**20 43 21.2**	**+1.0**
	3.6nm,0.3s						
MDOK				Lg	Lg	20 43 50.2	
	16nm,0.5s						
TNSS	**Tian-Shan**	**2.27**	**272**	*e*P	**Pb**	**20 43 22.5**	**+0.9**
	baz=72						
TNSS				*e*S	**Sg**	**20 43 52.2**	**-1.0**
	baz=72						
TNSS	**Tian-Shan**	**2.27**	**272**	*e*P	**Pb**	**20 43 22.5**	**+0.9**
	4.7nm,0.2s						
TNSS				*e*S	**Sg**	**20 43 52.1**	**-1.0**
	15nm,0.1s						
TNSS	**Tian-Shan**	**2.27**	**272**	Pg	**Pb**	**20 43 22.5**	**+0.9**
	4.7nm,0.2s						
TNSS				Lg	Lg	20 43 52.1	
	15nm,0.1s						
KDJ	**Kajisay**	**2.28**	**249**	⇑*e*P	**Pb**	**20 43 21.5**	**-0.1**
	baz=48						
KDJ				⇑*i*S	**Sb**	**20 43 51.6**	**+1.7**
	baz=48						
AAA	**Alma-Ata**	**2.30**	**277**	*e*P	**Pg**	**20 43 23.7**	**-0.7**
	28nm,0.1s						
AAA				*e*S	**Sg**	**20 43 54.5**	**+0.3**
	25nm,0.2s						
AAA	**Alma-Ata**	**2.30**	**277**	Pg	**Pg**	**20 43 23.7**	**-0.7**
	28nm,0.1s						
AAA				Lg	Lg	20 43 54.4	
	25nm,0.2s						
TDK	**Taldyqorghan**	**2.34**	**330**	*e*P	**Pb**	**20 43 22.2**	**-0.4**
	38nm,0.6s						
TDK				*e*S	**Sb**	**20 43 51.6**	**+0.2**
	53nm,0.3s						
TDK	**Taldyqorghan**	**2.34**	**330**	Pg	**Pb**	**20 43 22.2**	**-0.4**
	38nm,0.6s						
TDK				Lg	Lg	20 43 51.6	
	53nm,0.3s						
IZV	**Izvestkoviy**	**2.51**	**272**	*e*P	**Pb**	**20 43 26.8**	**+1.2**
	4.0nm,0.2s						
IZV				*e*S	**Sg**	**20 43 59.9**	**-1.1**
	26nm,0.3s						
IZV	**Izvestkoviy**	**2.51**	**272**	Pg	**Pb**	**20 43 26.8**	**+1.2**
	4.0nm,0.2s						
IZV				Lg	Lg	20 43 59.9	
	26nm,0.3s						
KTBS	**Karatobe**	**2.55**	**288**	*e*P	**Pb**	**20 43 27.5**	**+1.2**
	3.4nm,0.3s						
KTBS				*e*S	**Sg**	**20 44 00.9**	**-1.4**
	29nm,0.3s						
KTBS	**Karatobe**	**2.55**	**288**	Pg	**Pb**	**20 43 27.5**	**+1.2**
	3.4nm,0.3s						
KTBS				Lg	Lg	20 44 00.9	
	29nm,0.3s						
MTBS	**Maitube**	**2.65**	**274**	*e*P	**Pb**	**20 43 29.2**	**+1.4**
	4.3nm,0.1s						
MTBS				*e*S	**Sg**	**20 44 04.3**	**-1.0**
	18nm,0.2s						
MTBS	**Maitube**	**2.65**	**274**	Pg	**Pb**	**20 43 29.2**	**+1.4**
	4.3nm,0.1s						
MTBS				Lg	Lg	20 44 04.3	
	18nm,0.2s						
KUU	**Kurty**	**2.84**	**290**	*e*P	**Pb**	**20 43 32.8**	**+1.6**
	2.8nm,0.3s						
KUU				*e*S	**Sg**	**20 44 10.0**	**-1.6**
	10.0nm,0.2s						
KUU	**Kurty**	**2.84**	**290**	Pg	**Pb**	**20 43 32.8**	**+1.6**
	2.8nm,0.3s						
KUU				Lg	Lg	20 44 10.0	
	10.0nm,0.2s						
ULHL	**Ulahol**	**2.90**	**257**	⇓*e*P	**Pb**	**20 43 30.5**	**-1.7**
	baz=56						
ULHL				⇓*i*S	**Sb**	**20 44 06.2**	**-1.5**
	baz=56						
KST	**Kastek**	**2.99**	**273**	*e*P	**Pb**	**20 43 35.5**	**+1.8**
	6.8nm,0.3s						
KST				*e*S	**Sg**	**20 44 14.8**	**-1.5**
	11nm,0.4s						
KST	**Kastek**	**2.99**	**273**	Pg	**Pb**	**20 43 35.5**	**+1.8**
	6.8nm,0.3s						
KST				Lg	Lg	20 44 14.8	
	11nm,0.4s						
BOOM	**Boomskoye usch**	**3.06**	**262**	⇑*i*P	**Pb**	**20 43 32.6**	**-2.3**
	baz=62						
BOOM				⇑*e*S	**Sb**	**20 44 10.5**	**-1.8**
	baz=62						
KRBS	**Karabastau**	**3.26**	**284**	*e*P	**Pb**	**20 43 40.2**	**+1.9**
	1.6nm,0.3s						
KRBS				*e*S	**Sg**	**20 44 23.0**	**-2.0**
	8.4nm,0.3s						
KRBS	**Karabastau**	**3.26**	**284**	Pg	**Pb**	**20 43 40.3**	**+1.9**
	1.6nm,0.3s						
KRBS				Lg	Lg	20 44 23.0	
	8.4nm,0.3s						
TKM2	**Tokmak 2**	**3.26**	**270**	⇑*i*P	**Pb**	**20 43 36.1**	**-2.3**
	baz=70						
TKM2				⇑*i*S	**Sb**	**20 44 15.9**	**-2.3**
	baz=70						
MAKZ	**Makanchi**	**4.07**	**19**

IDC ***10*** *20:58:04.7±4.3,22.6°63S±172.6°65E,h40km±36km,mb3.8/12, mb1 4.1/14,mb1mx3.9/24,mbtmp4.1/14,ML3.6/2,MS4.2/25, Ms1 4.2/25,ms1mx4.2/29,Error ellipse: s-maj=24.7km s-min=20.0km az=44.0*

GCMT ***10*** *20:58:05.0±0.2,22.9°4S±0.0°1×172.7°86E±0.0°02,h17km, MW5.1/119,Moment Tension Solution. s73,c114; s119,c183; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr5.42±.18; Mθθ-5.88±.13; Mφφ0.45±.11; Mrθ2.32±.28; Mθφ-1.01±.08; Mrφ1.79±.31; Best double couple: M=6.45100×10*^{16} *NP1:φs275.00000°,δ35.00000°, λ113.00000°. NP2:φs68.00000°,δ59.00000°,λ75.00000°. Principal axes: T 6.3040, Plg72.0000°, Azm301.0000°; N 0.2870, Plg13.0000°, Azm76.0000°; P -6.5990, Plg12.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 20:58:03.7±0.4, 22.7°55S±0.0°7×172.7°73E±0.0°06, h35km, n82, σ1§20/68, mb4.5/23, MS4.1/24, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.85**	**275**	*e*Pn	**Pn**	**20 59 28.1**	**0.0**
	50nm,0.6s						
DZM				*e*Sn	Sn	21 00 25.3	-8.8
	147nm,0.7s						
DZM				*e*LR	LR	21 00 38.3	
	comp=Z,1μm,28.3s						
DZM	**Mont Dzumac**	**5.85**	**275**	P	**Pn**	**20 59 27.8**	**-0.3**
	0.7nm,0.3s,baz=119,slow=11,SNR=43						
DZM				S	**Sn**	**21 00 33.4**	**-0.7**
	2.3nm,0.3s,baz=135,slow=22,SNR=1.4						
MSVF	**Nonsavu**	**7.07**	**46**		**Pn**	**20 59 45.9**	**+1.1**
SANVU	**Saraoutou**	**8.95**	**323**		**Pn**	**21 00 11.1**	**+0.6**
RAO	**Raoul Island**	**10.61**	**130**	LR	LR	21 03 31.8	
	comp=Z,3μm,21.7s,baz=124,slow=30						
URZ	**Urewera**	**15.91**	**167**	P	**P**	**21 01 47.4**	**-0.8**
	0.6nm,0.3s,baz=350,slow=11,SNR=6.0						
URZ				LR	LR	21 06 20.3	
	comp=Z,3μm,20.9s,baz=40,slow=31						
URZ	**Urewera**	**15.91**	**167**	P	**P**	**21 01 47.8**	**-0.5**
NIUE	**Niue**	**16.61**	**80**	Pn	**Pn**	**21 01 53.4**	**-0.7**
BKZ	**Black Stump Fm**	**16.67**	**170**	P	**Pn**	**21 01 54.7**	**0.0**
AFI	**Afiamalu**	**17.13**	**62**	LR	LR	21 07 12.4	
	comp=Z,292nm,19.0s,baz=199,slow=32						
HNR	**Honiara**	**18.04**	**315**	LR	LR	21 08 09.6	
	comp=Z,1μm,20.7s,baz=152,slow=34						
BFZ	**Birch Farm**	**18.12**	**171**	P	**Pn**	**21 02 09.9**	**-2.7**
TUWZ	**Tuamarina**	**18.65**	**177**	P	**P**	**21 02 17.1**	**-1.4**
THZ	**Tophouse**	**18.96**	**180**	P	**P**	**21 02 22.7**	**+0.7**
EIDS	**Eidsvold**	**19.93**	**258**	P	**Pn**	**21 02 34.5**	**0.0**
EIDS				IAmb	IAmb	21 02 47.5	
	comp=Z,23nm,0.9s						
LTZ	**Lake Taylor**	**19.98**	**181**	P	**P**	**21 02 31.9**	**-1.1**
LTZ				IAmb	IAmb	21 02 49.7	
	comp=Z,51nm,1.3s						
FOZ	**Fox Glacier**	**20.86**	**186**	P	**P**	**21 02 43.9**	**+1.3**
FOZ				IAmb	IAmb	21 02 49.1	
	comp=Z,53nm,1.2s						
RPZ	**Rata Peaks**	**20.95**	**183**	P	**P**	**21 02 44.8**	**+1.2**
	comp=Z,12nm,1.0s,baz=15,slow=5.8,SNR=5.2						
RPZ	**Rata Peaks**	**20.95**	**183**	P	**P**	**21 02 44.6**	**+1.0**
RPZ				IAmb	IAmb	21 03 07.3	
	comp=Z,49nm,1.3s						
LBZ	**Lake Benmore**	**21.68**	**185**	P	**P**	**21 02 51.1**	**-0.3**
LBZ				IAmb	IAmb	21 03 22.3	
	comp=Z,52nm,1.4s						
CAN	**Canberra**	**24.16**	**234**	P	**P**	**21 03 17.8**	**+1.0**
CAN				IAmb	IAmb	21 03 22.2	
	comp=Z,23nm,1.2s						
CTA	**Charters Tower**	**24.77**	**271**	P	**P**	**21 03 22.8**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=102,slow=10,SNR=8.8						
CTA				LR	LR	21 12 54.4	
	comp=Z,505nm,19.1s,baz=72,slow=36						
CTAO	**Charters Tower**	**24.77**	**271**	P	**P**	**21 03 23.2**	**+0.8**
KNTN	**Kanton**	**24.94**	**39**	P	**P**	**21 03 24.0**	**+0.1**
KNTN				IAmb	IAmb	21 03 25.8	
	comp=Z,32nm,1.1s						
RAR	**Rarotonga**	**25.54**	**92**	LR	LR	21 11 07.0	
	comp=Z,265nm,20.6s,baz=264,slow=30						
RAR	**Rarotonga**	**25.54**	**92**	P	**P**	**21 03 27.5**	**-1.8**
TOO	**Toolangi**	**27.67**	**232**	P	**P**	**21 03 51.7**	**+3.3**
TOO				IAmb	IAmb	21 04 05.4	
	comp=Z,16nm,1.2s						
PMG	**Port Moresby**	**27.86**	**294**	LR	LR	21 12 51.4	
	comp=Z,510nm,19.8s,baz=94,slow=32						
STKA	**Stephens Creek**	**29.03**	**245**	P	**P**	**21 04 01.1**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=72,slow=7.8,SNR=7.1						
STKA				LR	LR	21 14 10.5	
	comp=Z,452nm,20.8s,baz=75,slow=33						
STKA	**Stephens Creek**	**29.03**	**245**	P	**P**	**21 04 00.3**	**-0.3**
BBOO	**Buckleboo**	**33.80**	**245**	P	**P**	**21 04 43.3**	**+0.7**
TBI	**Tubuai**	**34.74**	**99**	*e*LQ	LQ	21 12 21.4	
	comp=Z,684nm,29.0s						
TBI				*e*LR	LR	21 14 00.7	
	comp=Z,466nm,29.5s						
WR0	**Warramunga Arr**	**35.61**	**267**	P	**P**	**21 04 57.6**	**-0.8**
WR0				IAmb	IAmb	21 05 05.0	
	comp=Z,7.9nm,1.1s						
AS31	**Alice Springs**	**35.62**	**261**	P	**P**	**21 04 58.0**	**-0.5**
ASAR	**Alice Springs**	**35.62**	**261**	P	**P**	**21 04 58.5**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=86,slow=9.8,SNR=44						
ASAR				PcP	**PcP**	**21 07 25.2**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=101,slow=3.9,SNR=2.6						
ASAR				LR	LR	21 18 38.9	
	comp=Z,271nm,18.7s,baz=92,slow=35						
ASAR	**Alice Springs**	**35.62**	**261**	P	**P**	**21 04 58.4**	**-0.1**
PPT2	**Papeete2**	**35.69**	**89**	*e*LQ	LQ	21 12 43.2	
	comp=Z,615nm,26.8s						
PPT2				*e*LR	LR	21 14 43.9	
	comp=Z,404nm,24.5s						
PPT	**Papeete**	**35.70**	**89**	LR	LR	21 15 23.7	
	comp=Z,262nm,21.1s,baz=228,slow=29						
WB0	**Warramunga Arr**	**35.78**	**267**	P	**P**	**21 04 59.1**	**-0.7**
WB0				IAmb	IAmb	21 05 05.6	
	comp=Z,5.6nm,0.9s						
WB2	**Warramunga Arr**	**35.79**	**267**	P	**P**	**21 04 58.4**	**-1.5**
WB2				IAmb	IAmb	21 05 00.9	
	comp=Z,5.1nm,0.8s						
WRAB	**Tennant Creek**	**35.79**	**267**	P	**P**	**21 04 57.6**	**-2.3**
WRAB				IAmb	IAmb	21 05 34.9	
	comp=Z,7.3nm,1.1s						
WRA	**Warramunga Arr**	**35.80**	**267**	P	**P**	**21 04 58.7**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=100,slow=8.2,SNR=29						
WRA				LR	LR	21 17 49.8	
	comp=Z,326nm,21.8s,baz=85,slow=33						
WRA	**Warramunga Arr**	**35.80**	**267**	P	**P**	**21 04 58.5**	**-1.5**
FORT	**Forrest**	**40.46**	**249**	P	**P**	**21 05 38.7**	**-0.4**
KNRA	**Kununurra**	**41.99**	**272**	P	**P**	**21 05 51.1**	**-0.7**
KNRA				IAmb	IAmb	21 05 57.0	
	comp=Z,25nm,1.0s						
FITZ	**Fitzroy Crossi**	**44.23**	**267**	P	**P**	**21 06 10.2**	**+0.3**
FITZ				IAmb	IAmb	21 06 15.8	
	comp=Z,12nm,0.8s						
FITZ					**PP**	**21 07 50.0**	**-3.4**
TAOE	**Nuku Hiva Isla**	**47.20**	**81**	*e*LR	LR	21 20 11.7	
	comp=Z,143nm,22.7s						
NWAO	**Narrogin (SRO)**	**49.62**	**245**	P	**P**	**21 06 51.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**49.62**	**245**	P	**P**	**21 06 51.6**	**-0.3**
NWAO				IAmb	IAmb	21 06 52.3	
	comp=Z,24nm,1.4s						
MORW	**Morawa**	**50.97**	**250**	P	**P**	**21 07 03.2**	**+1.0**
VNDA	**Vanda**	**55.07**	**183**	P	**P**	**21 07 33.2**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=20,slow=8.1,SNR=3.1						
VNDA				LR	LR	21 27 02.0	
	comp=Z,991nm,21.7s,baz=16,slow=32						
CASY	**Casey**	**58.27**	**205**	P	**P**	**21 07 54.7**	**+0.2**
CASY				IAmb	IAmb	21 08 01.8	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**67.32**	**180**	P	**P**	**21 08 54.5**	**-0.5**
QSPA				IAmb	IAmb	21 09 08.4	
	comp=Z,7.2nm,1.1s						
MJAR	**Matsushiro Arr**	**67.38**	**330**	LR	LR	21 33 50.0	
	comp=Z,102nm,21.8s,baz=160,slow=32						
JSD	**Sado**	**68.59**	**331**	P	**P**	**21 09 01.7**	**-1.4**
KSRS	**Korea Array**	**73.24**	**324**	LR	LR	21 38 09.9	
	comp=Z,64nm,21.2s,baz=145,slow=33						
PSI	**Prapat**	**76.20**	**279**	LR	LR	21 42 40.9	
	comp=Z,239nm,21.9s,baz=91,slow=35						
USRK	**Ussuriysk Ar.**	**76.36**	**331**	LR	LR	21 38 28.2	
	comp=Z,152nm,21.9s,baz=115,slow=32						
MAW	**Mawson**	**76.41**	**202**	P	**P**	**21 09 51.1**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=105,slow=12,SNR=1.6						
MAW				LR	LR	21 40 60.0	
	comp=Z,220nm,18.1s,baz=79,slow=34						
MAW	**Mawson**	**76.41**	**202**	P	**P**	**21 09 49.5**	**+0.3**
PETK	**Petropavlovsk-**	**76.66**	**351**	P	**P**	**21 09 52.2**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=168,slow=10,SNR=3.1						
PETK				LR	LR	21 36 52.8	
	comp=Z,301nm,21.9s,baz=156,slow=30						
PETK	**Petropavlovsk-**	**76.66**	**351**	P	**P**	**21 09 51.6**	**+0.8**
SYO	**Syowa Base**	**82.45**	**195**	*e*PcP	**P**	**21 10 24.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**82.89**	**293**	P	**P**	**21 10 25.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=130,slow=3.8,SNR=1.5						
CMAR				LR	LR	21 50 03.0	
	comp=Z,61nm,18.5s,baz=216,slow=38						
NVAR	**Mina Array Bea**	**88.73**	**47**	P	**P**	**21 10 54.9**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=254,slow=5.5,SNR=4.4						
NVAR				LR	LR	21 45 03.5	
	comp=Z,108nm,18.8s,baz=278,slow=32						
NVAR	**Mina Array Bea**	**88.73**	**47**	P	**P**	**21 10 52.4**	**-1.6**
SONM	**Songino Array**	**91.98**	**322**	LR	LR	21 51 50.6	
	comp=Z,68nm,20.5s,baz=143,slow=35						
ILAR	**Eielson Array**	**92.64**	**16**	P	**P**	**21 11 09.8**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=226,slow=3.6,SNR=2.2						
ILAR				LR	LR	21 46 27.1	
	comp=Z,316nm,20.4s,baz=198,slow=31						
PLCA	**Paso Flores**	**93.75**	**137**	LR	LR	21 43 29.3	
	comp=Z,140nm,21.7s,baz=206,slow=29						
TLY	**Talaya**	**95.49**	**324**	LR	LR	21 50 54.1	
	comp=Z,64nm,21.9s,baz=122,slow=33						
TXAR	**Lajitas Array**	**95.61**	**61**	P	**P**	**21 11 25.0**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=207,slow=3.8,SNR=2.7						
PDAR	**Pinedale Array**	**96.64**	**46**	LR	LR	21 51 06.0	
	comp=Z,71nm,18.5s,baz=319,slow=33						
BOSA	**Boshof**	**120.07**	**213**	PKP	**PKPdf**	**21 16 51.7**	**+0.2**
	comp=Z,4.7nm,1.1s,baz=176,slow=4.6,SNR=2.4						
BOSA	**Boshof**	**120.07**	**213**		**PKPdf**	**21 16 51.5**	**0.0**
OSTC	**Ostas**	**146.74**	**332**	*e*PKP	**PKPab**	**21 17 43.6**	**+0.5**
DPC	**Dobruska-Polom**	**146.85**	**332**	*e*PKP	**PKPbc**	**21 17 42.1**	**-0.1**
BRG	**Berggiesshubel**	**147.43**	**335**	*e*PKP	**PKPbc**	**21 17 45.1**	**+1.4**
	comp=Z,5.2nm,1.1s						
CLL	**Collm**	**147.44**	**336**	*i* PKPbc	**PKPbc**	**21 17 44.5**	**+0.8**
CLL				*i*		21 17 49.4	
PRU	**Pruhonice**	**147.87**	**333**	*e*PKP	**PKPbc**	**21 17 44.2**	**-0.8**
KHC	**Kasperske Hory**	**148.94**	**333**	*e*PKP	**PKPab**	**21 17 52.5**	**+0.6**
GERES	**GERESS Array B**	**149.10**	**333**	PKPbc	**PKPdf**	**21 17 46.2**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=66,slow=3.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**167.20**	**223**	PKPab	**PKPab**	**21 19 12.0**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=114,slow=4.4,SNR=4.3						

BGR ***10*** *21:04:51.2±3.5,65.9°91N×18.2°14W,h10km,mb4.7,Error ellipse: s-maj=68.9km s-min=60.0km az=159.0*

MOS ***10*** *21:04:56.7±1.1,64.2°60N×17.2°66W,h8km,mb4.7/48,Error ellipse: s-maj=9.1km s-min=4.7km az=115.5*

REY ***10*** *21:04:56.8,64.2°67N×17.2°44W,h1km*

IDC ***10*** *21:04:57.0±0.5,64.2°54N×17.2°65W,h0km,mb4.1/21, mb1 4.2/26,mb1mx4.1/41,mbtmp4.1/26,ML2.8/4,MS3.6/18, Ms1 3.6/18,ms1mx3.4/46,Error ellipse: s-maj=16.6km s-min=8.5km az=13.0*

NEIC ***10*** *21:04:58.3±1.5,64.2°64N±0.2°09×17.2°6W±0.2°1,h9km±4km, mb4.7/172,Error ellipse: s-maj=12.8km s-min=8.5km az=194.0*

ISC 10 21:04:57.7±0.7, 64.2°70N±0.2°02×17.2°50W±0.2°02, h3km±4km, n550, σ1§57/559, mb4.6/186, MS3.6/15, 19C-15D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.11**	**31**	P	**Pg**	**21 05 00.0**	**0.0**
	baz=14						
IDYN				S	**Sg**	**21 05 02.6**	**+1.1**
	baz=14						
IVON	**Vonarskard**	**0.11**	**258**	P	**Pg**	**21 04 59.9**	**-0.1**
	baz=273						
IVON				S	**Sg**	**21 05 02.8**	**+1.3**
	baz=273						
IDJK	**Dyngjujokull**	**0.22**	**150**	P	**Pg**	**21 05 01.1**	**-1.0**
	baz=152						
IGRF	**Grimsfjall**	**0.31**	**161**	P	**Pg**	**21 05 02.5**	**-1.1**
	baz=164						
ISKR	**Skrokkalda**	**0.41**	**251**	P	**Pg**	**21 05 04.8**	**-0.7**
	baz=256						
IVOT	**Vottur**	**0.45**	**162**	P	**Pg**	**21 05 05.0**	**-1.3**
	baz=164						
IKRE	**Kreppuhraun**	**0.49**	**79**	P	**Pg**	**21 05 05.7**	**-1.4**
	baz=75						
IJOK	**Jokulheimar**	**0.50**	**220**	P	**Pg**	**21 05 06.1**	**-1.1**
	baz=224						
IMKO	**Mokollar**	**0.57**	**60**	P	**Pg**	**21 05 07.5**	**-1.2**
	baz=56						
IMKO				S	**Sg**	**21 05 16.2**	**+0.2**
	baz=56						
ISVA	**Svartarkot**	**0.65**	**9**	P	**Pg**	**21 05 09.2**	**-1.1**
	baz=6.6						
ISVA				S	**Sg**	**21 05 18.9**	**+0.2**
	baz=6.6						
IIEY	**Innrieyrar**	**0.66**	**205**	P	**Pg**	**21 05 08.7**	**-1.6**
	baz=208						
IKSK	**Karasker**	**0.70**	**140**	P	**Pg**	**21 05 08.5**	**-2.6**
	baz=140						
IKAL	**Kalfafell**	**0.76**	**186**	P	**Pg**	**21 05 10.3**	**-1.8**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.77**	**81**	P	**Pg**	**21 05 10.3**	**-2.1**
	baz=78						
IVSH				S	**Sg**	**21 05 20.7**	**-1.7**
	baz=78						
IVAT	**Vatnsfell**	**0.80**	**231**	P	**Pg**	**21 05 11.5**	**-1.6**
	baz=234						
IADA	**Aoalbol**	**0.88**	**68**	P	**Pg**	**21 05 12.3**	**-2.3**
	baz=65						
IADA				S	**Sg**	**21 05 24.9**	**-1.2**
	baz=65						
IHVE	**Hveravellir**	**0.90**	**282**	P	**Pg**	**21 05 13.0**	**-2.0**
	baz=284						
IHVE				S	**Sb**	**21 05 27.6**	**-0.8**
	baz=284						
IMEL	**Melhnausar**	**0.95**	**22**	P	**Pg**	**21 05 14.0**	**-1.9**
	baz=20						
IMEL				S	**Sb**	**21 05 28.4**	**-1.2**
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**21 05 14.7**	**-1.9**
	baz=13						
IKVO	**Krottuvotn**	**1.05**	**14**	P	**Pg**	**21 05 15.7**	**-2.2**
	baz=12						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**21 05 15.9**	**-2.6**
	baz=210						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pg**	**21 05 16.6**	**-2.4**
	baz=29						
IGRS				S	**Sb**	**21 05 32.9**	**-1.5**
	baz=29						
ISLY	**Slysaalda**	**1.13**	**220**	P	**Pg**	**21 05 16.9**	**-2.4**
	baz=222						
IFED	**Fedgar**	**1.17**	**236**	P	**Pg**	**21 05 17.9**	**-2.1**
	baz=238						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pg**	**21 05 18.1**	**-2.5**
	baz=8.0						
IRJU	**Rjupnafell**	**1.20**	**206**	P	**Pg**	**21 05 17.9**	**-2.7**
	baz=208						
IGHA	**Grjothals**	**1.20**	**17**	P	**Pg**	**21 05 18.0**	**-2.7**
	baz=15						
IMJO	**Mjoaskard**	**1.22**	**232**	P	**Pg**	**21 05 18.9**	**-2.2**
	baz=234						
IGRA	**Granastaoir**	**1.23**	**358**	P	**Pg**	**21 05 18.5**	**-2.7**
	baz=357						
IGRA				S	**Sg**	**21 05 36.2**	**-0.9**
	baz=357						
IHAU	**Haukadalur**	**1.30**	**237**	P	**Pn**	**21 05 19.8**	**-2.9**
	baz=239						
IHLA	**Hella**	**1.31**	**344**	P	**Pg**	**21 05 20.3**	**-2.5**
	baz=343						
IHVO	**Lagu-Hvolar**	**1.32**	**207**	P	**Pn**	**21 05 20.1**	**-2.8**
	baz=209						
IHED	**Heoinshofoi**	**1.39**	**3**	P	**Pn**	**21 05 21.1**	**-2.9**
	baz=2.2						
IHED				S	**Sg**	**21 05 40.4**	**-2.1**
	baz=2.2						
IALF	**Alftagrof**	**1.42**	**212**	P	**Pn**	**21 05 21.6**	**-2.7**
	baz=214						
IBRE	**Brettingsstaoi**	**1.44**	**353**	P	**Pn**	**21 05 22.1**	**-2.5**
	baz=353						
ISAU	**Saurbar**	**1.45**	**242**	P	**Pn**	**21 05 21.8**	**-3.0**
	baz=244						
ISAU				S	**Sg**	**21 05 45.6**	**+1.3**
	baz=244						
IESK	**Eystri-Skogar**	**1.46**	**217**	P	**Pn**	**21 05 22.1**	**-2.7**
	baz=218						
IGIL	**Gilhagi**	**1.47**	**19**	P	**Pn**	**21 05 22.1**	**-2.9**
	baz=17						
ISIG	**Siglufjorour**	**1.56**	**338**	P	**Pn**	**21 05 23.4**	**-2.9**
	baz=338						
BORG	**Borgarnes**	**1.64**	**274**	Pg	**Pn**	**21 05 25.3**	**-2.1**
	20nm,0.3s,baz=99,slow=11,SNR=83						
BORG				Lg	Lg	21 05 48.2	
	30nm,0.3s,baz=354,slow=9.1,SNR=10						
IKRO	**Krokur**	**1.68**	**251**	P	**Pn**	**21 05 25.9**	**-2.0**
	baz=252						
ISOL	**Solvholt**	**1.69**	**244**	P	**Pn**	**21 05 26.1**	**-1.9**
	baz=246						
IHEI	**Heioarbar**	**1.70**	**255**	P	**Pn**	**21 05 26.0**	**-2.1**
	baz=256						
IHRN	**Hraun**	**1.79**	**323**	P	**Pn**	**21 05 27.4**	**-2.1**
	baz=323						
IGRI	**Grimsey**	**1.87**	**354**	P	**Pn**	**21 05 28.1**	**-2.4**
	baz=353						
ISAN	**Sandskeio**	**1.88**	**252**	P	**Pn**	**21 05 29.2**	**-1.5**
	baz=253						
IVOG	**Vogar**	**2.25**	**253**	P	**Pn**	**21 05 34.1**	**-1.7**
	baz=254						
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR	21 09 04.7	
	comp=Z,275nm,20.9s,baz=243,slow=34						
ANGG	**Ammassalik, Gr**	**8.52**	**285**	Pn	**Pn**	**21 06 59.2**	**-2.5**
SUMG	**Summit**	**10.92**	**325**	*i* P	**Pn**	**21 07 37.8**	**+2.9**
SUMG	**Summit**	**10.92**	**325**	Pn	**Pn**	**21 07 32.7**	**-2.2**
SUMG	**Summit**	**10.92**	**325**	*i* P	**Pn**	**21 07 37.8**	**+2.9**
SUMG	**Summit**	**10.92**	**325**	*i* P	**Pn**	**21 07 37.9**	**+2.9**
EKB10	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**21 07 45.2**	**-0.8**
EKB9	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**21 07 46.1**	**+0.1**
EKB8	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**21 07 45.6**	**-0.5**
EKB7	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**21 07 46.3**	**+0.1**
EKB	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**21 07 45.8**	**-0.5**
EKB6	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**21 07 46.5**	**+0.2**
EKR1	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**21 07 46.6**	**+0.4**
EKB5	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**21 07 46.8**	**+0.5**
EKR2	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**21 07 46.6**	**+0.2**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**21 07 45.2**	**-1.2**
	baz=323,slow=13,SNR=23						
EKB4	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**21 07 46.5**	**+0.1**
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**	**21 07 46.8**	**+0.4**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**21 07 46.8**	**+0.4**
EKR3	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**21 07 47.2**	**+0.8**
EKB3	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**21 07 46.7**	**+0.2**
EKR4	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**21 07 46.9**	**+0.4**
EKB2	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**21 07 47.2**	**+0.6**
EKB1	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**21 07 46.2**	**-0.3**
EKR5	**Eskdalemuir Ar**	**11.80**	**136**	Pn	**Pn**	**21 07 46.4**	**-0.2**
EKR6	**Eskdalemuir Ar**	**11.80**	**136**	Pn	**Pn**	**21 07 46.5**	**-0.2**
EKR7	**Eskdalemuir Ar**	**11.81**	**136**	Pn	**Pn**	**21 07 47.0**	**+0.2**
EKR8	**Eskdalemuir Ar**	**11.82**	**136**	Pn	**Pn**	**21 07 46.1**	**-0.8**
EKR9	**Eskdalemuir Ar**	**11.82**	**136**	Pn	**Pn**	**21 07 47.0**	**+0.1**
EKR10	**Eskdalemuir Ar**	**11.83**	**136**	Pn	**Pn**	**21 07 47.3**	**+0.2**
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**21 07 55.4**	**+4.2**
DAG				pmax	pmax		
	comp=Z,19nm,1.5s						
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**21 07 55.4**	**+4.2**
	comp=Z,19nm,1.5s						
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**21 07 55.4**	**+4.2**
DAG				IAmb	IAmb	21 07 57.2	
	comp=Z,19nm,1.5s						
DSB	**Dublin**	**12.81**	**148**	Pn	**Pn**	**21 08 01.2**	**+0.8**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**21 08 04.4**	**-1.8**
NBO00	**NORSAR Array S**	**13.35**	**93**	Pn	**Pn**	**21 08 05.5**	**-2.3**
NAO01	**NORSAR Array S**	**13.49**	**94**	Pn	**Pn**	**21 08 08.8**	**-0.8**
NC303	**NORSAR Array S**	**13.51**	**92**	Pn	**Pn**	**21 08 09.4**	**-0.6**
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**	**21 08 07.5**	**-2.8**
	comp=Z,1.1nm,0.7s,baz=298,slow=14						
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**21 08 07.9**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=2.9						
NOA				LR	LR	21 13 54.4	
	comp=Z,59nm,21.1s,baz=300,slow=40						
KONO	**Kongsberg**	**13.56**	**99**	P	**Pn**	**21 08 11.1**	**+0.5**
KONO	**Kongsberg**	**13.56**	**99**	Pn	**Pn**	**21 08 11.1**	**+0.5**
NB201	**NORSAR Array S**	**13.56**	**92**	Pn	**Pn**	**21 08 09.2**	**-1.5**
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR	21 13 03.3	
	comp=Z,530nm,18.7s,baz=90,slow=36						
NC405	**NORSAR Array S**	**13.71**	**92**	Pn	**Pn**	**21 08 12.9**	**+0.2**
HFS	**Hagfors**	**15.05**	**93**	Pn	**Pn**	**21 08 29.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=305,slow=5.1,SNR=1.5						
HFS				LR	LR	21 13 55.6	
	comp=Z,234nm,20.8s,baz=316,slow=36						
SPITS	**Spitsbergen Ar**	**16.84**	**23

CDF pmax pmax
comp=Z,21nm,1.4s
PLN Plauen 21.05 118 *e*P **P 21 09 43.0 +0.6**
comp=Z,97nm,2.0s
SSF Saint Saulge 21.05 137 *e*P **P 21 09 42.1 -0.4**
SSF pmax pmax
comp=Z,39nm,1.2s
HAU Haudompre 21.09 131 *e*P **P 21 09 43.4 +0.5**
HAU pmax pmax
comp=Z,18nm,1.0s
FBE Freiberg 21.16 116 *e*P **P 21 09 44.2 +0.7**
comp=Z,45nm,1.3s
ECH Echery 21.17 129 P **P 21 09 43.6 -0.2**
ECH pmax pmax
comp=Z,31nm,1.5s
ECH Echery 21.17 129 P **P 21 09 43.6 -0.2**
GUNZ Gunzen 21.21 118 *e*P **P 21 09 44.8 +0.6**
comp=Z,217nm,2.5s
TANN Tannenbergstha 21.22 118 *e*P **P 21 09 44.9 +0.6**
comp=Z,178nm,2.0s
WERN Wernitzgruen 21.29 118 *e*P **P 21 09 45.7 +0.6**
comp=Z,70nm,1.6s
BGF Bois d'Agland 21.32 139 *e*P **P 21 09 44.8 -0.6**
BGF pmax pmax
comp=Z,12nm,0.8s
GRA1 Grafenberg Arr 21.35 121 **P 21 09 45.1 -0.5**
GRA1 IAmb IAmb 21 10 04.1
comp=Z,29nm,1.0s
GRF Grafenberg Arr 21.35 121 P **P 21 09 45.1 -0.5**
GRF pmax pmax
comp=Z,29nm,1.0s
GRF Grafenberg Arr 21.35 121 *e*P **P 21 09 46.7 +1.1**
comp=Z,45nm,1.2s
NKC Novy Kostel 21.36 118 *e*P **P 21 09 48.0 +2.2**
NKC Novy Kostel 21.36 118 *e*P **P 21 09 48.0 +2.2**
TCF Toulx Ste Croi 21.39 140 *e*P **P 21 09 44.9 -1.2**
TCF pmax pmax
comp=Z,29nm,1.2s
STU Stuttgart 21.39 125 P **P 21 09 46.7 +0.6**
STU pmax pmax
comp=Z,40nm,1.2s
STU Stuttgart 21.39 125 P **P 21 09 46.7 +0.6**
STU IAmb IAmb 21 09 51.0
comp=Z,40nm,1.2s
HINF Hinteralfeld 21.42 130 *e*P **P 21 09 46.9 +0.4**
HINF pmax pmax
comp=Z,44nm,1.7s
BRG Berggiesshubel 21.43 115 *i* P **P 21 09 46.8 +0.3**
comp=Z,43nm,1.6s
BRG S Sn 21 13 56.0 +4.0
comp=N,238nm,12.9s
comp=E,181nm,14.2s
comp=Z,232nm,16.3s
BRG Berggiesshubel 21.43 115 *i* P **P 21 09 46.8 +0.3**
BRG S Sn 21 13 56.0 +4.0
BRG pmax pmax
comp=Z,43nm,1.6s
BRG MLR MLR
comp=N,238nm,12.9s
BRG MLR MLR
comp=E,181nm,14.2s
BRG MLR MLR
comp=Z,232nm,16.3s
BRG Berggiesshubel 21.43 115 *e*P **P 21 09 46.5 0.0**
comp=Z,50nm,1.6s
MANZ Manzenberg 21.44 119 *e*P **P 21 09 47.0 +0.3**
comp=Z,19nm,1.4s
BFO Black Forest 21.47 127 P **P 21 09 45.6 -1.4**
BFO pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 21.47 127 *e*P **P 21 09 47.4 +0.4**
comp=Z,23nm,1.1s
BFO Black Forest 21.47 127 P **P 21 09 45.6 -1.4**
SMF Signal de Mont 21.53 137 *e*P **P 21 09 47.2 -0.4**
SMF pmax pmax
comp=Z,23nm,1.1s
VSU Vasula 21.56 86 *e*P **P 21 09 48.1 +0.2**
VSU Vasula 21.56 86 *i* P **P 21 09 48.0 +0.2**
VSU pmax pmax
comp=Z,82nm,1.0s
ROTZ Rotzenmuhle 21.65 119 *e*P **P 21 09 48.5 -0.4**
comp=Z,29nm,1.6s
FRB Frobisher Bay 21.74 291 LR LR 21 17 35.1
comp=Z,302nm,19.7s,baz=9.5,slow=35
SLE Schleitheim 22.01 128 P **P 21 09 56.4 +3.6**
SLE pmax pmax
comp=Z,20nm,1.1s
RJF Les Rejaudoux 22.11 142 *e*P **P 21 09 53.6 -0.2**
RJF pmax pmax
comp=Z,31nm,1.1s
PABE Paberze 22.21 95 *e*P **P 21 09 56.2 +1.4**
CABF La Chapelle 22.24 133 *e*P **P 21 10 00.0 +4.7**
CABF pmax pmax
comp=Z,30nm,1.4s
PRU Pruhonice 22.36 116 *e*P **P 21 09 57.3 +0.8**
PRU *e*S Sn 21 14 10.8 -3.7
PRU Pruhonice 22.36 116 *e*P **P 21 09 57.3 +0.8**
KSP Ksiaz 22.37 112 *e*P **P 21 09 57.6 +1.0**
KSP Ksiaz 22.37 112 P **P 21 09 58.5 +1.9**
KSP pmax pmax
comp=Z,31nm,1.3s
PBCC Pribram 22.40 117 *e*P **P 21 10 01.3 +4.4**
WET Wettzell 22.41 119 P **P 21 09 59.9 +2.8**
WET pmax pmax
comp=Z,13nm,1.5s
WET Wettzell 22.41 119 *e*P **P 21 09 57.1 0.0**
comp=Z,38nm,1.7s
CHVC Chvalec 22.48 113 *e*P **P 21 09 58.9 +1.1**
CHVC *ex* x 21 10 02.6
CHVC *e*S **S 21 14 07.6 +2.8**
UPC Upice 22.52 113 *e*P **P 21 09 59.5 +1.2**
UPC *e*S **S 21 14 09.9 +4.2**
UPC Upice 22.52 113 *e*P **P 21 09 59.5 +1.2**
UPC *e*S **S 21 14 09.9 +4.2**
OSTC Ostas 22.57 113 *e*P **P 21 09 59.4 +0.7**
OSTC *ex* x 21 10 03.4
OSTC *e*S **S 21 14 11.9 +5.4**
CAF Calviac 22.61 142 *e*P **P 21 09 58.7 -0.5**
CAF pmax pmax
comp=Z,32nm,1.5s
UBR Ueberruh 22.64 126 *e*P **P 21 10 00.7 +1.1**
comp=Z,96nm,2.0s
KHC Kasperske Hory 22.69 118 *e*P **P 21 10 00.4 +0.4**
KHC *ex* x 21 10 11.7
KHC *e*S **S 21 14 05.5 -3.2**
KHC Kasperske Hory 22.69 118 *ce*P **P 21 10 00.0 0.0**
KHC pmax pmax
comp=Z,40nm,1.7s
KHC Kasperske Hory 22.69 118 P **P 21 09 59.8 -0.2**
DPC Dobruska-Polom 22.77 113 *e*P **P 21 10 01.3 +0.4**
DPC *ex* x 21 10 12.8
DPC *e*S **S 21 14 10.7 +0.5**
DPC Dobruska-Polom 22.77 113 *e*P **P 21 10 01.3 +0.4**
DPC *e*S **S 21 14 10.7 +0.5**
SENIN Lac Senin/Sane 22.84 132 P **P 21 10 01.3 -0.6**
SUW Suwalki 22.89 98 *e*P **P 21 10 01.7 -0.4**
SUW Suwalki 22.89 98 P **P 21 10 00.9 -1.1**
SUW pmax pmax
comp=Z,24nm,1.0s
SUW Suwalki 22.89 98 P **P 21 10 00.9 -1.1**
SUW IAmb IAmb 21 10 08.7
comp=Z,24nm,1.0s
DAVA Damuels 22.90 126 *e*P **P 21 10 03.9 +1.5**
comp=Z,20nm,1.2s
GEC2 GERESS Array S 22.97 119 *e*P **P 21 10 03.5 +0.4**
comp=Z,42nm,1.4s
GEC2 GERESS Array S 22.97 119 P **P 21 10 03.2 +0.1**
GEC2 IAmb IAmb 21 10 11.9
comp=Z,34nm,1.4s
GEC2B GERESS ARRAY S 22.97 119 P **P 21 10 04.0 +1.0**
GERES GERESS Array B 22.97 119 P **P 21 10 03.8 +0.7**
comp=Z,2.6nm,0.9s,baz=327,slow=7.0,SNR=16
GERES GERESS Array B 22.97 119 P **P 21 10 03.3 +0.3**
GERES GERESS Array B 22.97 119 P **P 21 10 03.3 +0.3**
SSB Saint Sauveur 22.97 137 P **P 21 10 02.2 -0.8**
SSB pmax pmax
comp=Z,20nm,1.4s
SSB Saint Sauveur 22.97 137 P **P 21 10 02.2 -0.8**
IZAR Zarasai 23.03 92 *e*P **P 21 10 04.8 +1.3**
RETA Reutte 23.04 125 *e*P **P 21 10 04.3 +0.6**
comp=Z,16nm,1.6s
ISAL Salakas 23.09 93 *e*P **P 21 10 05.5 +1.3**
KRLC Kraliky 23.17 113 *e*P **P 21 10 06.2 +1.1**
KRLC *ex* x 21 10 15.3
KRLC *e*S **S 21 14 20.1 +2.9**

KRLC Kraliky 23.17 113 *e*P **P 21 10 06.2 +1.1**
KRLC *e*S **S 21 14 20.1 +2.9**
MOTA Moosalm 23.28 125 *e*P **P 21 10 06.7 +0.4**
comp=Z,24nm,1.6s
IIGN Ignalina 23.28 93 *e*P **P 21 10 07.3 +1.2**
TREC Trest 23.29 116 P **P 21 10 07.2 +1.0**
TREC pmax pmax
comp=Z,8.0nm,1.4s
DAVOX Davos/Dischmat 23.34 127 P **P 21 10 07.1 +0.2**
comp=Z,4.2nm,0.8s,baz=331,slow=12,SNR=3.9
DAVOX LR LR 21 18 42.8
comp=Z,126nm,18.6s,baz=76,slow=35
VIVF Saint-Julien-l 23.40 137 *e*P **P 21 10 13.0 +5.6**
VIVF pmax pmax
comp=Z,82nm,2.0s
SQTA Sankt Quirin 23.42 125 *e*P **P 21 10 08.5 +0.8**
comp=Z,37nm,1.5s
FETA Feichten 23.42 126 P **P 21 10 07.9 +0.1**
comp=Z,17nm,1.6s
TUE Stuetta 23.42 128 P **P 21 10 07.9 0.0**
BEL Belsk 23.45 105 *e*P **P 21 10 09.9 +2.1**
WATA Walderalm 23.45 124 *e*P **P 21 10 08.5 +0.4**
comp=Z,17nm,1.4s
IDID Didziasalis 23.53 92 *e*P **P 21 10 09.7 +1.2**
WTTA Wattenberg 23.54 124 *e*P **P 21 10 09.6 +0.7**
comp=Z,14nm,1.3s
WTTA Wattenberg 23.54 124 P **P 21 10 11.7 +2.8**
WTTA pmax pmax
comp=Z,19nm,1.1s
FUORN Ofenpass-Fuorn 23.61 127 P **P 21 10 09.1 -0.6**
ORIF Orio-en-Rattie 23.70 135 *e*P **P 21 10 15.1 +4.7**
ORIF pmax pmax
comp=Z,32nm,1.4s
VRAC Vranov 23.71 114 P **P 21 10 09.7 -0.7**
comp=Z,2.4nm,0.7s,baz=325,slow=11,SNR=8.6
VRAC LR LR 21 19 17.0
comp=Z,130nm,20.7s,baz=330,slow=36
VRAC Vranov 23.71 114 ⇑P **P 21 10 12.0 +1.6**
VRAC Vranov 23.71 114 *e*P **P 21 10 10.7 +0.3**
MORC Moravsky Berou 23.71 112 ⇓P **P 21 10 10.7 +0.3**
MORC Moravsky Berou 23.71 112 *e*P **P 21 10 10.6 +0.2**
MORC Moravsky Berou 23.71 112 P **P 21 10 10.0 -0.4**
MORC pmax pmax
comp=Z,21nm,1.4s
MORC Moravsky Berou 23.71 112 P **P 21 10 10.0 -0.4**
MORC IAmb IAmb 21 10 28.2
comp=Z,21nm,1.4s
PBRG Braganca 23.75 160 *i* LQ LQ 21 10 29.1
BNI Bardonecchia 23.82 134 P **P 21 10 12.2 +0.5**
BNI pmax pmax
comp=Z,23nm,1.5s
BNI Bardonecchia 23.82 134 P **P 21 10 12.2 +0.5**
BNI IAmb IAmb 21 10 18.4
comp=Z,23nm,1.5s
NACGM Naroch 23.82 93 *e* **P 21 10 12.0 +0.6**
KRUC Moravsky 23.83 115 *e*P **P 21 10 11.7 +0.2**
KRUC Moravsky 23.83 115 P **P 21 10 12.0 +0.5**
KRUC pmax pmax
comp=Z,10.0nm,2.2s
ETSF Etsaut 23.86 148 *e*P **P 21 10 15.1 +3.1**
ETSF pmax pmax
comp=Z,14nm,1.3s
EPF Esparros 23.95 146 *e*P **P 21 10 16.8 +4.0**
EPF pmax pmax
comp=Z,5.0nm,1.0s
MOA Molln 24.00 119 P **P 21 10 13.2 -0.1**
comp=Z,12nm,1.7s
PVRL Vila Real 24.13 162 *e*P **P 21 10 19.4 +4.9**
comp=Z,20nm,1.6s
MBDF Montbardon 24.14 134 *e*P **P 21 10 20.3 +5.6**
MBDF pmax pmax
comp=Z,82nm,2.0s
OJC Ojcow 24.27 109 *e*P **P 21 10 15.8 +0.1**
OJC Ojcow 24.27 109 P **P 21 10 14.9 -0.8**
OJC pmax pmax
comp=Z,19nm,1.3s
OJC Ojcow 24.27 109 P **P 21 10 14.9 -0.8**
OJC IAmb IAmb 21 10 19.2
comp=Z,19nm,1.3s
ABTA Abfaltersbach 24.29 123 *e*P **P 21 10 16.5 +0.5**
comp=Z,10nm,1.4s
KBA Koelnbreinsper 24.31 122 P **P 21 10 18.1 +1.8**
comp=Z,11nm,1.2s
MVO Moncorvo 24.34 161 *e*P **P 21 10 18.7 +2.3**
comp=Z,24nm,1.5s
JAVC Velka Javorina 24.49 113 *e*P **P 21 10 19.0 +1.2**
CONA Conrad Observa 24.54 117 *e*P **P 21 10 18.9 +0.6**
comp=Z,9.7nm,1.0s
MICGM Minsk 24.56 93 *e* **P 21 10 20.0 +1.7**
MNK Minsk 24.56 93 *e*P **P 21 10 20.0 +1.7**
CTI Castel Tesino 24.58 125 P **P 21 10 18.7 0.0**
CTI pmax pmax
comp=Z,16nm,1.1s
CTI Castel Tesino 24.58 125 P **P 21 10 18.7 0.0**
CTI IAmb IAmb 21 10 28.4
comp=Z,16nm,1.1s
ZOU Zoufplan 24.62 123 P **P 21 10 19.4 +0.3**
ZOU IAmb IAmb 21 10 27.4
comp=Z,17nm,1.3s
CIMO Cimolais 24.64 124 P **P 21 10 19.8 +0.7**
PVIS Viseu 24.66 162 *i* LQ LQ 21 10 07.1
SMOL Smolenice 24.67 114 *e*P **P 21 10 20.4 +1.0**
SMOL pmax pmax
comp=Z,9.0nm,1.0s
SMOL Smolenice 24.67 114 *e*P **P 21 10 20.4 +1.0**
MODS Modra-Piesok 24.73 115 *e*P **P 21 10 21.8 +1.9**
MODS pmax pmax
comp=Z,32nm,1.6s
MODS Modra-Piesok 24.73 115 *e*P **P 21 10 21.8 +1.9**
STAL STALIGIAL 24.78 124 P **P 21 10 20.5 +0.1**
STAL IAmb IAmb 21 10 27.7
comp=Z,14nm,1.2s
MYKA Terra Mystica 24.80 122 P **P 21 10 22.7 +2.1**
comp=Z,8.4nm,1.4s
PRED Cave del Predi 24.93 122 P **P 21 10 21.8 +0.1**
PRED IAmb IAmb 21 10 28.0
comp=Z,31nm,1.5s
LANS Liptovska Anna 24.97 111 *e*P **P 21 10 24.1 +2.0**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 24.97 111 *e*P **P 21 10 24.1 +2.0**
MTE Manteigas 25.02 162 *e*P **P 21 10 24.7 +2.1**
comp=Z,26nm,1.6s
MTE Manteigas 25.02 162 P **P 21 10 23.1 +0.6**
MTE IAmb IAmb 21 10 25.3
comp=Z,17nm,1.2s
COI Coimbra 25.09 163 P **P 21 10 22.6 -0.6**
COI pmax pmax
comp=Z,16nm,1.0s
COI Coimbra 25.09 163 P **P 21 10 22.6 -0.6**
COI IAmb IAmb 21 10 36.5
comp=Z,16nm,0.9s
NIE Niedzica 25.10 109 *e*P **P 21 10 23.5 +0.2**
NIE Niedzica 25.10 109 P **P 21 10 24.9 +1.7**
TEOL Teolo 25.19 126 P **P 21 10 23.8 -0.2**
TEOL IAmb IAmb 21 10 29.1
comp=Z,17nm,1.0s
OBKA Obir 25.23 121 P **P 21 10 26.0 +1.5**
comp=Z,12nm,1.4s
PCAS Casmilo, Conde 25.23 164 *e*P **P 21 10 27.2 +2.7**
comp=Z,36nm,1.8s
VYHS Vyhne 25.25 112 *e*P **P 21 10 25.3 +0.8**
VYHS pmax pmax
comp=Z,23nm,1.4s
VYHS Vyhne 25.25 112 *e*P **P 21 10 25.3 +0.8**
PRMA PARMA 25.25 129 P **P 21 10 24.9 +0.4**
SOKA Soboth 25.27 120 *e*P **P 21 10 25.5 +0.6**
comp=Z,11nm,1.5s
PCBR Castelo Branco 25.57 162 *e*P **P 21 10 30.0 +2.5**
comp=Z,17nm,1.9s
KLMR Klimovskoe 25.59 72 *e*P **P 21 10 25.5 -2.0**
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 25.59 72 *e*P **P 21 10 25.6 -2.0**
KLMR AMP 21 10 29.1
comp=Z,28nm,1.3s
KWP Kalwaria Pacla 25.92 106 *e*P **P 21 10 32.1 +1.5**
KWP Kalwaria Pacla 25.92 106 P **P 21 10 31.7 +1.0**
KWP pmax pmax
comp=Z,47nm,1.1s
KWP Kalwaria Pacla 25.92 106 P **P 21 10 31.6 +1.0**
CRVS Cervenica-Dubn 25.98 109 *e*P **P 21 10 32.1 +0.9**
CRVS Cervenica-Dubn 25.98 109 *e*P **P 21 10 32.1 +0.9**
PMRV Marv??o 25.99 162 *e*P **P 21 10 33.4 +2.0**
comp=Z,27nm,1.6s

SCHQ Schefferville 26.04 271 P **P 21 10 30.0 -1.7**
comp=Z,5.7nm,0.8s,baz=322,slow=3.8,SNR=1.9
SCHQ Schefferville 26.04 271 P **P 21 10 28.8 -2.9**
SCHQ IAmb IAmb 21 10 37.3
comp=Z,16nm,0.9s
PSZ Piszkesteto 26.13 112 ⇑P **P 21 10 34.3 +1.7**
PSZ Piszkesteto 26.13 112 P **P 21 10 32.8 +0.1**
PSZ pmax pmax
comp=Z,25nm,1.2s
PSZ Piszkesteto 26.13 112 P **P 21 10 32.8 +0.1**
PSZ IAmb IAmb 21 10 40.2
comp=Z,25nm,1.2s
ESBB Sonseca Array 26.28 156 P **P 21 10 34.9 +0.9**
ESDC Sonseca Array 26.28 156 P **P 21 10 32.7 -1.3**
comp=Z,2.5nm,0.9s,baz=347,slow=9.0,SNR=16
ESDC Sonseca Array 26.28 156 P **P 21 10 33.8 -0.2**
KOLS Kolonicke sedl 26.28 108 *e*P **P 21 10 33.9 0.0**
KOLS pmax pmax
comp=Z,24nm,1.5s
KOLS Kolonicke sedl 26.28 108 *e*P **P 21 10 33.9 0.0**
LVV L'vov 26.32 104 *e*P **P 21 10 34.7 +0.4**
PAB San Pablo 26.34 157 P **P 21 10 35.8 +1.2**
PAB pmax pmax
comp=Z,12nm,1.3s
PAB San Pablo 26.34 157 P **P 21 10 35.8 +1.2**
RES Resolute Bay 26.44 324 LR LR 21 22 19.4
comp=Z,100nm,18.5s,baz=345,slow=39
UZH Uzhgorod 26.53 108 *e*P **P 21 10 35.6 -0.5**
UZH *e* 21 11 17.8
OSSC Osservatorio P 26.66 129 P **P 21 10 36.8 -0.5**
OSSC IAmb IAmb 21 10 44.3
comp=Z,14nm,1.0s
CASP Castiglione de 27.18 130 P **P 21 10 38.8 -3.3**
MURB Monte Urbino 27.32 127 P **P 21 10 42.5 -0.9**
MURB IAmb IAmb 21 10 58.2
comp=Z,22nm,1.3s
AKASG Malin Array Be 27.85 98 P **P 21 10 47.6 -0.3**
comp=Z,0.9nm,0.6s,baz=325,slow=9.3,SNR=7.1
AKASG Malin Array Be 27.85 98 *i* P **P 21 10 47.5 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 27.85 98 IAmb IAmb 21 10 51.3
comp=Z,2.5nm,1.3s
AKBB Malin Array Si 27.85 98 *ce*P **P 21 10 47.1 -0.8**
AKBB Malin Array Si 27.85 98 P **P 21 10 46.2 -1.8**
OBN Obninsk 27.88 84 P **P 21 10 48.2 0.0**
comp=Z,1.1nm,0.3s,baz=307,slow=20,SNR=4.0
OBN LR LR 21 20 42.9
comp=Z,31nm,21.8s,baz=348,slow=34
OBN Obninsk 27.88 84 ⇓*i*P **P 21 10 48.8 +0.6**
OBN *i* *PP **sP 21 10 52.1 +1.8**
OBN pmax pmax
comp=Z,24nm,1.7s
OBN MLR MLR
comp=Z,72nm,15.0s
OBN Obninsk 27.88 84 IAmb IAmb 21 10 49.7
comp=Z,23nm,1.3s
NRCA Norcia 27.90 127 P **P 21 10 48.9 +0.3**
NRCA IAmb IAmb 21 11 07.4
comp=Z,14nm,1.3s
PFVI Vila Bisbo 28.08 165 P **P 21 10 49.4 -0.7**
AQU L'Aquila 28.43 127 P **P 21 10 51.7 -1.6**
AQU pmax pmax
comp=Z,14nm,1.3s
AQU L'Aquila 28.43 127 P **P 21 10 51.7 -1.6**
AQU IAmb IAmb 21 11 07.9
comp=Z,14nm,1.3s
BUR08 Bucovina Ar. S 28.50 106 P **P 21 10 54.3 +0.3**
BURAR Bucovina Array 28.53 106 ⇓P **P 21 10 57.5 +3.3**
BURAR Bucovina Array 28.53 106 P **P 21 10 57.5 +3.3**
BURAR Bucovina Array 28.53 106 P **P 21 10 53.8 -0.5**
CJR Cluj-Napoca 28.59 109 ⇓P **P 21 10 56.7 +2.0**
CJR Cluj-Napoca 28.59 109 P **P 21 10 56.7 +2.0**
INTR Introdacqua 28.90 127 P **P 21 10 56.2 -1.4**
INTR IAmb IAmb 21 11 09.8
comp=Z,15nm,1.5s
DIVS Divibare 29.32 116 P **P 21 11 00.9 -0.3**
GZR Gura Zlata 29.34 112 ⇓P **P 21 11 02.5 +1.1**
SORM Soroca 29.43 102 ⇑P **P 21 11 04.8 +2.7**
SORM Soroca 29.43 102 P **P 21 11 04.7 +2.7**
BIZ Bicaz 29.44 106 ⇑P **P 21 11 04.5 +2.3**
HERR Herculane 29.62 113 ⇑P **P 21 11 05.0 +1.3**
DOPR Dopca 29.93 108 ⇑P **P 21 11 09.7 +3.2**
PAOL Paolisi 30.00 127 P **P 21 11 06.7 -0.6**
PAOL IAmb IAmb 21 11 14.4
comp=Z,12nm,1.3s
VOIR 30.22 109 ⇓P **P 21 11 10.8 +1.6**
VOIR 30.22 109 P **P 21 11 10.7 +1.6**
PDG Podgorica 30.47 119 ⇓P **P 21 11 11.4 +0.1**
PDG Podgorica 30.47 119 P **P 21 11 09.9 -1.3**
PLOR Plostina 30.54 107 ⇓P **P 21 11 15.2 +3.3**
PLOR Plostina 30.54 107 P **P 21 11 15.2 +3.3**
MLR Muntele Rosu 30.54 108 ⇓P **P 21 11 15.2 +3.1**
MLR Muntele Rosu 30.54 108 P **P 21 11 11.2 -0.9**
MLR pmax pmax
comp=Z,16nm,1.4s
MLR Muntele Rosu 30.54 108 P **P 21 11 11.2 -0.9**
MLR IAmb IAmb 21 11 29.1
comp=Z,16nm,1.4s
VRI Vrincioaia 30.56 107 ⇓P **P 21 11 13.9 +1.8**
VRI Vrincioaia 30.56 107 P **P 21 11 13.9 +1.8**
NEHR Nehoiu 30.73 108 ⇓P **P 21 11 16.7 +3.1**
BISRR Bisoca 30.81 107 ⇓P **P 21 11 17.4 +3.0**
KIRV Kirov 30.97 69 *ce*P **P 21 11 14.8 -0.7**
MATE Matera 31.09 124 ⇓P **P 21 11 17.7 +1.0**
CFR Carcaliu 31.70 106 ⇑P **P 21 11 23.8 +1.7**
CFR Carcaliu 31.70 106 P **P 21 11 23.7 +1.7**
LMN Caledonia Moun 31.85 257 P **P 21 11 20.5 -2.9**
CLTB Caltabellotta 32.66 131 P **P 21 11 23.7 0.0**
KNT Kendrikon 32.95 116 P **P 21 11 35.1 +2.0**
KNT pmax pmax
comp=Z,11nm,1.2s
E62A Clayton Lake 33.23 262 P **P 21 11 35.0 -0.5**
SRS Serrai 33.26 115 P **P 21 11 37.4 +1.6**
SRS pmax pmax
comp=Z,16nm,1.0s
IGT Igoumenitsa 33.39 120 P **P 21 11 41.4 +4.4**
IGT pmax pmax
comp=Z,7.0nm,0.9s
AGG Agios Georgios 34.58 118 P **P 21 11 46.0 -1.4**
AGG pmax pmax
comp=Z,21nm,1.1s
AGG Agios Georgios 34.58 118 P **P 21 11 46.0 -1.4**
ARU Arti 36.07 66 *c*P **P 21 11 59.8 -0.1**
ARU 21 13 17.8
ARU S **S 21 17 40.2 +0.9**
ARU SS **SnSn 21 19 59.8 -3.4**
ARU pmax pmax
comp=Z,12nm,1.9s
ARU Arti 36.07 66 P **P 21 11 59.3 -0.6**
NRIK Noril'sk 36.43 35 P **P 21 12 04.2 +1.3**
comp=Z,2.2nm,0.5s,baz=316,slow=5.1,SNR=4.5
NRIK Noril'sk 36.43 35 *ce*P **P 21 12 03.9 +1.0**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
GOF Gofitskoye 38.12 91 ⇑*e*P **P 21 12 19.3 +1.9**
GOF pmax pmax
comp=Z,71nm,1.3s
BR131 Keskin Array S 38.49 105 P **P 21 12 21.3 +0.5**
BR131 pmax pmax
comp=Z,6.0nm,1.1s
BR131 Keskin Array S 38.49 105 P **P 21 12 21.3 +0.5**
BRTR Keskin Array B 38.49 105 P **P 21 12 21.1 +0.3**
comp=Z,3.7nm,0.9s,baz=335,slow=13,SNR=9.3
BRTR Keskin Array B 38.49 105 P **P 21 12 21.3 +0.5**
BRTR Keskin Array B 38.49 105 P **P 21 12 21.3 +0.5**
KIV Kislovodsk 38.84 92 *e*P **P 21 12 23.9 +0.2**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,179nm,16.0s
KIV Kislovodsk 38.84 92 P **P 21 12 23.1 -0.6**
KSCT Kent School, K 38.86 261 P **P 21 12 22.4 -1.4**
KSCT IAmb IAmb 21 12 27.2
comp=Z,21nm,1.5s
SHA1 Shidzhatmaz 39.01 93 *i* P **P 21 12 24.6 -0.6**
KBZ Khabaz 39.12 92 P **P 21 12 27.9 +2.1**
comp=Z,6.3nm,0.9s,baz=320,slow=8.1,SNR=8.4
KBZ LR LR 21 29 50.5
comp=Z,56nm,20.4s,baz=354,slow=38
KBZ Khabaz 39.12 92 *ce*P **P 21 12 26.3 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KARP Karpathos 39.48 116 P **P 21 12 28.3 -0.7**

ELL Elmali 39.51 112 P **P** 21 12 28.2 -1.2
ELL pmax pmax
comp=Z,67nm,1.2s
ELL Elmali 39.51 112 P **P** 21 12 28.2 -1.2
ODNJ Ogdensburg 39.87 262 P **P** 21 12 30.9 -1.3
ODNJ IAmb IAmb 21 12 37.0
comp=Z,23nm,1.5s
ZEI Tsey 40.31 92 *e*P **P** 21 12 36.7 +0.7
ZEI pmax pmax
comp=Z,10.0nm,1.7s
LUPA Lehigh Univers 40.59 262 P **P** 21 12 37.5 -0.7
ARTV Artvin 40.77 96 P **P** 21 12 40.5 +0.5
GROC Groznyy 40.79 90 *e*P **P** 21 12 40.4 +0.7
GROC *e* 21 14 37.1
GROC *e*S **S** 21 18 52.5 +1.7
GROC pmax pmax
comp=Z,17nm,1.2s
N58A Sunbury 40.97 264 P **P** 21 12 39.4 -1.8
N58A IAmb IAmb 21 12 47.7
comp=Z,28nm,1.5s
KOPT Kop Dagi 41.13 98 P **P** 21 12 44.1 +1.2
KOPT IAmb IAmb 21 12 57.2
comp=Z,9.7nm,1.0s
MVL Millersville 41.51 263 P **P** 21 12 42.7 -3.0
SSPA Standing Stone 41.64 265 P **P** 21 12 46.3 -0.5
MALT Malatya 41.68 102 P P 21 12 52.6 +5.3
M54A Oil Creek Stat 41.68 267 P **P** 21 12 46.0 -1.1
M54A IAmb IAmb 21 12 51.0
comp=Z,24nm,1.2s
ABKAR Akbulak array 41.98 73 P **P** 21 12 49.3 -0.2
ABKAR Akbulak array 41.98 73 P **P** 21 12 49.7 +0.3
TIXI Tiksi 42.00 15 *i*P **P** 21 12 50.9 +1.5
TIXI Tiksi 42.00 15 P **P** 21 12 49.6 +0.3
GAZ Gaziantep 42.13 104 P **P** 21 12 49.9 -1.0
N54A Moraine State 42.27 267 P **P** 21 12 51.4 -0.6
N54A IAmb IAmb 21 12 57.4
comp=Z,20nm,1.1s
R61A Willards 42.47 260 P **P** 21 12 52.7 -0.9
TOLK Toolik Lake Re 42.72 336 P **P** 21 12 55.9 +0.6
BMAR Burnt Mountain 42.87 333 P **P** 21 12 56.6 +0.1
BRVK Borovoye 43.12 62 *e*P **P** 21 12 59.2 +0.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 43.12 62 P **P** 21 12 58.8 +0.1
MARD Mardin 43.52 100 P **P** 21 13 03.5 +1.2
MARD IAmb IAmb 21 13 08.5
comp=Z,14nm,0.9s
I42A Draeger Farm, 43.71 277 P **P** 21 13 00.6 -3.0
I42A IAmb IAmb 21 13 01.6
comp=Z,20nm,1.4s
N47A Urbana 44.79 272 P **P** 21 13 09.8 -2.4
HQIL Hanson Quary C 44.96 275 P **P** 21 13 13.0 -0.6
Q51A Peebles 45.31 269 P **P** 21 13 15.5 -0.9
Q51A IAmb IAmb 21 13 19.1
comp=Z,9.0nm,0.8s
IL31 45.66 332 P **P** 21 13 19.9 +1.1
IL31 IAmb IAmb 21 13 25.6
comp=Z,8.1nm,1.2s
ILAR Eielson Array 45.66 332 P **P** 21 13 20.3 +1.4
comp=Z,5.5nm,1.1s,baz=24,slow=6.8,SNR=16
ILAR PcP **PcP** 21 14 56.6 -0.1
comp=Z,3.1nm,1.1s,baz=354,slow=3.6,SNR=4.2
ILAR Eielson Array 45.66 332 P **P** 21 13 19.9 +1.0
MDM Murphy Dome 45.76 333 **P** 21 13 21.1 +1.4
COLA College 45.76 333 *e*P **P** 21 13 21.3 +1.7
COLA pmax pmax
comp=Z,7.0nm,1.2s
COLA College 45.76 333 P **P** 21 13 21.4 +1.8
IMAR Indian Mountai 45.83 337 P **P** 21 13 20.7 +0.5
P48A Milroy 45.85 271 P P 21 13 17.2 -3.5
P48A IAmb IAmb 21 13 26.7
comp=Z,11nm,0.9s
HDA Harding Lake 45.99 332 P P 21 13 21.1 -0.4
HDA IAmb IAmb 21 13 24.5
comp=Z,10nm,1.2s
BCAR Beaver Creek A 46.08 329 P **P** 21 13 22.9 +0.6
BILL Bilibino 47.52 358 *e*P **P** 21 13 34.5 +1.1
BILL *e*SS SS 21 23 46.6 -8.6
BILL pmax pmax
comp=Z,14nm,1.7s
ZAA0 Zalesovo Array 47.61 51 P **P** 21 13 34.6 +0.4
ZAA0 IAmb IAmb 21 13 36.6
comp=Z,9.3nm,1.4s
ZALV Zalesovo Beam 47.61 51 P **P** 21 13 35.2 +0.9
comp=Z,0.7nm,0.4s,baz=326,slow=7.2,SNR=6.9
ZALV PcP **PcP** 21 15 03.1 -0.7
comp=Z,0.5nm,0.6s,baz=323,slow=2.2,SNR=2.0
ZALV Zalesovo Beam 47.61 51 P **P** 21 13 34.8 +0.5
KURK Kurchatov 48.10 58 *ce*P **P** 21 13 37.0 -1.0
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 48.10 58 P **P** 21 13 38.2 +0.2
KURK IAmb IAmb 21 13 39.4
comp=Z,7.8nm,1.0s
T47A Sharon Grove 48.64 270 P **P** 21 13 42.3 -0.1
EGMT Eagleton 48.86 297 P **P** 21 13 43.9 -0.2
HODGE Hodges 48.90 264 P **P** 21 13 44.5 +0.1
HODGE IAmb IAmb 21 13 48.2
comp=Z,9.5nm,1.2s
RSSD Black Hills 49.83 290 P **P** 21 13 51.9 +0.2
RSSD pmax pmax
comp=Z,6.0nm,1.2s
RSSD Black Hills 49.83 290 P **P** 21 13 51.9 +0.2
Y52A Lilburn 49.98 265 P **P** 21 13 52.0 -0.7
Y52A IAmb IAmb 21 13 56.3
comp=Z,13nm,1.2s
FPAL Fort Paine 50.07 267 P **P** 21 13 50.1 -3.3
FPAL IAmb IAmb 21 13 58.1
comp=Z,14nm,1.4s
GOGA Godfrey 50.11 265 P **P** 21 13 53.3 -0.4
GOGA pmax pmax
comp=Z,6.0nm,1.1s
GOGA Godfrey 50.11 265 P **P** 21 13 53.3 -0.4
T42A Van Buren 50.31 274 P **P** 21 13 54.2 -0.9
T42A IAmb IAmb 21 13 58.9
comp=Z,9.7nm,1.4s
GEYT Alibeck 50.42 84 P **P** 21 13 56.2 +0.2
comp=Z,2.1nm,0.6s,baz=305,slow=5.1,SNR=2.4
GEYT LR LR 21 37 42.3
comp=Z,65nm,20.0s,baz=45,slow=39
GEYT Alibeck 50.42 84 IAmb IAmb 21 14 01.6
comp=Z,2.9nm,0.9s
GYA0B ALIBECK ARRAY 50.42 84 P **P** 21 13 56.6 +0.5
GYA0B IAmb IAmb 21 14 00.9
comp=Z,12nm,1.3s
GCMT Greycliff 50.67 295 P **P** 21 13 58.8 +0.8
KOWA Kowa 50.99 163 P **P** 21 14 00.3 -0.2
KOWA IAmb IAmb 21 14 04.8
comp=Z,12nm,1.4s
Y49A Blount Mountai 50.99 268 P **P** 21 13 59.4 -1.0
Y49A IAmb IAmb 21 14 02.4
comp=Z,6.6nm,0.8s
RLMT Red Lodge 51.08 295 P **P** 21 14 00.6 -0.6
RLMT IAmb IAmb 21 14 08.4
comp=Z,11nm,1.2s
KK31 Karatay Array 51.27 70 P **P** 21 14 03.4 +1.1
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KK31 Karatay Array 51.27 70 P **P** 21 14 03.4 +1.1
KKAR Karatay Array 51.27 70 P **P** 21 14 02.7 +0.4
KKAR pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 51.27 70 P **P** 21 14 02.4 +0.1
KKAR Karatay Array 51.27 70 P **P** 21 14 02.7 +0.4
BOZ Bozeman (W) 51.59 297 P **P** 21 14 04.9 0.0
BOZ pmax pmax
comp=Z,13nm,1.2s
BOZ Bozeman (W) 51.59 297 P **P** 21 14 04.9 0.0
BOZ IAmb IAmb 21 14 11.7
comp=Z,13nm,1.2s
U40A Yellville 51.64 275 P **P** 21 14 04.7 -0.5
FCAR Ozark Folk Cen 51.72 274 P **P** 21 14 07.0 +1.2
FCAR IAmb IAmb 21 14 13.9
comp=Z,12nm,1.4s
LRM Limekiln Ridge 51.72 297 P **P** 21 14 06.5 +0.6
YMP Mirror Lake Pl 51.74 295 P **P** 21 14 06.0 -0.2
YHL Hebgen Lake 52.05 296 P **P** 21 14 09.4 +0.9
DGZ Jazzator, Alta 52.06 53 *i*P **P** 21 14 08.8 +0.4
DGZ pmax pmax
comp=Z,5.0nm,1.1s
SEY Seymchan 52.45 6 *i*P **P** 21 14 12.8 +1.9
MAKZ Makanchi 52.58 59 P **P** 21 14 13.1 +1.0
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
MAKZ Makanchi 52.58 59 P **P** 21 14 13.1 +1.0
MK31 Makanchi Array 52.71 58 *ce*P **P** 21 14 13.1 +0.1
MKAR Makanchi Array 52.71 58 P **P** 21 14 13.5 +0.4
comp=Z,1.9nm,0.9s,baz=325,slow=5.9,SNR=7.8
T35A Sooner Cattle 52.72 279 P **P** 21 14 12.6 -0.7
T35A IAmb IAmb 21 14 16.8
comp=Z,20nm,1.5s
PHWY Pilot Hill 52.76 289 P **P** 21 14 13.3 -0.4
PHWY IAmb IAmb 21 14 19.8
comp=Z,6.9nm,1.1s
LOHW Long Hollow 52.86 295 P **P** 21 14 14.8 +0.3
FXWY Fox Creek 53.01 295 P **P** 21 14 16.1 +0.5
BW06 Boulder Array 53.16 293 IAmb IAmb 21 14 21.9
comp=Z,17nm,1.4s
PD31 Pinedale Array 53.16 293 P **P** 21 14 16.5 -0.2
PD31 IAmb IAmb 21 14 21.9
comp=Z,15nm,1.4s
PDAR Pinedale Array 53.16 293 P **P** 21 14 16.7 0.0
comp=Z,12nm,1.2s,baz=57,slow=5.5,SNR=20
TOA0 Torodi Ar. Sit 53.17 156 P **P** 21 14 16.5 -0.2
TOA0 IAmb IAmb 21 14 16.9
comp=Z,7.0nm,1.1s
TORD Torodi Ar. Bea 53.17 156 P **P** 21 14 15.5 -1.2
comp=Z,3.3nm,1.0s,baz=338,slow=8.8,SNR=11
TORD LR LR 21 36 28.4
comp=Z,37nm,18.2s,baz=65,slow=36
TORD Torodi Ar. Bea 53.17 156 P **P** 21 14 15.9 -0.8
REDW Red Top Meadow 53.17 295 P **P** 21 14 15.9 -0.9
REDW IAmb IAmb 21 14 23.6
comp=Z,7.6nm,1.1s
AAK Ala-Archa 53.25 67 *ce*P **P** 21 14 17.3 +0.1
AAK pmax pmax
comp=Z,31nm,1.7s
N23A Red Feather La 53.30 289 P **P** 21 14 16.3 -1.4
BTK Batken 53.95 72 P **P** 21 14 22.7 +0.4
BTK pmax pmax
comp=Z,19nm,1.3s
BTK Batken 53.95 72 P **P** 21 14 22.7 +0.4
CHGR Chuyangaron 54.45 74 P **P** 21 14 26.8 +0.7
GAR Garm 54.64 73 P **P** 21 14 27.7 +0.3
HWUT Hardware Ranch 54.94 294 P **P** 21 14 29.4 -0.2
RDMU Red Mountain 55.03 292 P **P** 21 14 29.7 -0.6
HRA Herat 55.19 82 P **P** 21 14 31.3 -0.2
HRA IAmb IAmb 21 14 37.1
comp=Z,6.2nm,1.3s
TCUT Toone Canyon 55.29 294 P **P** 21 14 32.9 +0.6
TARG Taragay, Kyrgy 55.32 65 P **P** 21 14 32.8 +0.1
TARG IAmb IAmb 21 14 38.4
comp=Z,5.5nm,1.0s
SPUT South Promonto 55.54 294 P **P** 21 14 32.8 -1.1
WMOK Wichita Mounta 55.54 279 P **P** 21 14 32.8 -1.1
WMOK pmax pmax
comp=Z,8.0nm,1.3s
WMOK Wichita Mounta 55.54 279 P **P** 21 14 32.8 -1.1
WMOK IAmb IAmb 21 14 39.2
comp=Z,8.1nm,1.2s
MA2 Magadan 55.73 7 *i*P **P** 21 14 37.4 +2.6
MA2 pmax pmax
comp=Z,13nm,1.2s
SKI Saint Kitts 56.19 235 P **P** 21 14 37.3 -1.3
SKI pmax pmax
comp=Z,53nm,1.1s
SKI Saint Kitts 56.19 235 P **P** 21 14 37.3 -1.3
S22A 4UR Ranch, Cre 56.33 288 P **P** 21 14 38.9 -0.9
P17A Butcher Ranch, 56.43 292 P **P** 21 14 38.8 -1.6
PV22 Blue Mesa, Par 56.45 290 P **P** 21 14 37.6 -3.0
PV21 Cone Mtn., Par 56.51 290 P **P** 21 14 39.9 -1.1
PV21 IAmb IAmb 21 14 45.7
comp=Z,9.3nm,1.1s
HUMP Col San Antoni 56.56 238 P **P** 21 14 40.4 -0.8
PV23 Carpenter Ridg 56.61 290 P **P** 21 14 39.0 -2.8
PV23 IAmb IAmb 21 14 48.3
comp=Z,6.3nm,0.9s
DUG Dugway, Tooele 56.63 294 P **P** 21 14 41.4 -0.4
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG Dugway, Tooele 56.63 294 P **P** 21 14 41.4 -0.4
DUG IAmb IAmb 21 14 48.9
comp=Z,9.7nm,1.2s
PV12 Saucer Basin, 56.65 290 P **P** 21 14 40.8 -1.2
PV12 IAmb IAmb 21 14 54.7
comp=Z,13nm,1.4s
SRU San Rafael Swe 56.66 292 P **P** 21 14 41.1 -0.9
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 56.66 292 P **P** 21 14 41.1 -0.9
PV14 Lion Creek, Pa 56.69 290 P **P** 21 14 41.5 -0.8
PV14 IAmb IAmb 21 14 52.5
comp=Z,6.6nm,0.9s
PV11 David Mesa, Pa 56.69 290 P **P** 21 14 41.4 -0.8
PV20 West Nyswonger 56.69 290 P **P** 21 14 41.4 -0.8
PV20 IAmb IAmb 21 14 48.5
comp=Z,7.4nm,1.3s
PV16 Nyswonger Mesa 56.70 290 P **P** 21 14 41.0 -1.3
PV16 IAmb IAmb 21 14 52.1
comp=Z,5.8nm,0.9s
PV01 Paradox Valley 56.71 289 P **P** 21 14 42.7 +0.3
PV02 Paradox Valley 56.71 290 P **P** 21 14 41.7 -0.7
PV02 IAmb IAmb 21 14 48.9
comp=Z,12nm,1.2s
PV03 Paradox Valley 56.72 290 P **P** 21 14 41.5 -1.0
PV03 IAmb IAmb 21 14 49.2
comp=Z,9.3nm,1.1s
PV19 Morning Glory 56.72 290 P **P** 21 14 41.0 -1.6
PV19 IAmb IAmb 21 14 48.1
comp=Z,14nm,1.4s
PV17 East Wray Mesa 56.74 290 P **P** 21 14 42.0 -0.6
PV18 Skein Mesa, Pa 56.75 290 P **P** 21 14 41.0 -1.7
PV18 IAmb IAmb 21 14 47.6
comp=Z,6.3nm,1.0s
TMUT Trail Mountain 56.77 292 P **P** 21 14 41.5 -1.5
PV13 Radium Mtn., P 56.79 290 P **P** 21 14 41.8 -1.2
PV05 Paradox Valley 56.97 290 P **P** 21 14 42.2 -2.1
MLPR Magueyes Islan 57.16 240 P **P** 21 14 45.4 -0.1
WMQ Urumqi 57.22 56 *e*P **P** 21 14 47.0 +1.3
MSU Marysvale 57.83 293 P **P** 21 14 51.0 +0.6
MSU Marysvale 57.83 293 P **P** 21 14 51.0 +0.6
MVU Marysvale 57.85 293 P **P** 21 14 50.8 +0.3
KBL Kabul 57.92 77 P **P** 21 14 50.9 -0.1
KBL pmax pmax
comp=Z,10.0nm,1.5s
KBL Kabul 57.92 77 P **P** 21 14 50.9 -0.1
KBL IAmb IAmb 21 14 53.2
comp=Z,9.5nm,1.5s
MOD Modoc Plateau 58.02 301 P **P** 21 14 51.6 +0.1
MOD IAmb IAmb 21 14 57.8
comp=Z,6.0nm,1.1s
ANMO Albuquerque 58.58 286 *ce*P **P** 21 14 56.9 +1.3
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 58.58 286 P **P** 21 14 55.1 -0.5
DBIC Dimbokro 58.62 165 P **P** 21 14 53.7 -2.0
comp=Z,10nm,1.1s,baz=285,slow=3.7,SNR=4.2
DBIC Dimbokro 58.62 165 P **P** 21 14 53.7 -2.0
DBIC pmax pmax
comp=Z,21nm,1.3s
DBIC Dimbokro 58.62 165 IAmb IAmb 21 14 55.6
comp=Z,21nm,1.3s
R11A Troy Canyon, C 59.31 295 P **P** 21 14 59.8 -0.8
R11A IAmb IAmb 21 15 06.1
comp=Z,8.1nm,1.5s
BNM Barren Site 59.34 285 P **P** 21 15 00.6 -0.3
KNB Kanab 59.38 292 P **P** 21 15 00.1 -1.0
KNB pmax pmax
comp=Z,9.0nm,1.3s
KNB Kanab 59.38 292 P **P** 21 15 00.1 -1.0
LCMT Little Creek M 59.55 293 P **P** 21 15 02.3 +0.1
SONM Songino Array 59.62 40 P **P** 21 15 02.5 0.0
comp=Z,1.0nm,0.9s,baz=325,slow=7.4,SNR=4.1
SONM Songino Array 59.62 40 P **P** 21 15 00.6 -1.9
JCT Junction City 59.64 277 P **P** 21 15 02.3 -0.5
JCT pmax pmax
comp=Z,19nm,1.4s
JCT Junction City 59.64 277 P **P** 21 15 02.3 -0.5
KRMB Red Mountain 59.66 303 P **P** 21 15 01.5 -1.4
KRMB IAmb IAmb 21 15 02.9
comp=Z,4.7nm,0.6s
KVN Kaiserville 59.67 298 P **P** 21 15 01.9 -1.2
KVN pmax pmax
comp=Z,10.0nm,1.4s
KVN Kaiserville 59.67 298 P **P** 21 15 01.9 -1.2
KVN IAmb IAmb 21 15 08.8
comp=Z,9.7nm,1.4s
U15A North Rim 59.68 291 P **P** 21 15 02.3 -1.0
U15A IAmb IAmb 21 15 09.1
comp=Z,6.2nm,1.1s
ULN Ulaanbaatar 59.77 40 *ce*P **P** 21 15 04.2 +0.6
ULN pmax pmax
comp=Z,16nm,2.5s
WUAZ Wupatki 60.10 290 P **P** 21 15 06.6 +0.6
YERR Yerington 60.16 298 P **P** 21 15 06.9 +0.4
YERR IAmb IAmb 21 15 12.7
comp=Z,9.0nm,1.3s
NVAR Mina Array Bea 60.29 297 P **P** 21 15 07.6 +0.2
comp=Z,0.1nm,0.4s,baz=10,slow=24,SNR=1.3
NIL Nilore 60.44 74 P **P** 21 15 08.0 -0.3
NIL pmax pmax
comp=Z,14nm,1.1s
NIL Nilore 60.44 74 P **P** 21 15 08.0 -0.3
MNTX Cornudas Mount 60.94 283 P **P** 21 15 12.0 +0.3
X16A Lo Mia Camp, P 61.08 290 P **P** 21 15 12.9 +0.2
TX31 Lajitas Ar. Si 62.28 280 P **P** 21 15 20.7 -0.1
TX32 Lajitas Array 62.28 280 P **P** 21 15 20.7 -0.1
TXAR Lajitas Array 62.28 280 P **P** 21 15 20.2 -0.6
comp=Z,1.9nm,1.0s,baz=71,slow=5.4,SNR=8.4
TXAR PcP **PcP** 21 16 00.7 +0.1
comp=Z,3.3nm,1.3s,baz=54,slow=2.2,SNR=5.0
TXAR Lajitas Array 62.28 280 P **P** 21 15 21.2 +0.4
TXAR Lajitas Array 62.28 280 P **P** 21 15 21.2 +0.4
TUC Tucson 62.65 288 P **P** 21 15 23.6 +0.4
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 62.65 288 P **P** 21 15 23.6 +0.4
TUC IAmb IAmb 21 15 29.7
comp=Z,4.5nm,1.1s
GTA Gaotai 65.28 49 P **P** 21 15 41.4 +0.9
GTA pP sP 21 15 46.1 +3.4
GTA sP pP 21 15 48.5 +6.4
GTA pmax pmax
comp=Z,3.0nm,1.6s
HHC Hu-ho-hao-te 67.49 40 *e*P **P** 21 15 55.0 +0.4
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,220nm,5.9s
LZH Lanzhou 69.61 48 *e*P **P** 21 16 05.2 -2.8
LZH pP pP 21 16 07.8 -1.8
LZH sP sP 21 16 09.3 -0.9
LZH *e*PP **PP** 21 18 40.5 -0.7
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,79nm,8.5s
LZH LR LR
comp=N,140nm,17.0s
LZH LR LR
comp=E,140nm,16.7s
LZH LR LR
comp=Z,200nm,19.0s
NJ2 Nanjing 77.71 37 *e*P **P** 21 16 54.3 -1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 84.12 59 P **P** 21 17 30.3 +0.5
comp=Z,0.6nm,0.4s,baz=317,slow=5.9,SNR=6.3
LPAZ La Paz 89.42 228 LR LR 21 51 29.3
comp=Z,58nm,21.8s,baz=208,slow=31
CPUP Villa Florida 95.86 215 LR LR 21 56 16.4
comp=Z,67nm,18.2s,baz=223,slow=32
BOSA Boshof 98.78 143 LR LR 22 08 02.0
comp=Z,149nm,18.2s,baz=186,slow=38
ASAR Alice Springs 134.94 38 PKP **PKPdf** 21 24 16.9 -0.6
comp=Z,1.0nm,1.0s,baz=328,slow=2.4,SNR=5.6
ASAR Alice Springs 134.94 38 PKIKP **PKPdf** 21 24 17.0 -0.6

IDC 10 21:37:46.8±1.8, 0.10N×130.08E, h0km, mb 3.4/3, mb1 3.7/3, mb1mx3.3/52, mbtmp3.4/3, Error ellipse: s-maj=49.2km s-min=16.0km az=41.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.52**	**129**	Pg	Pn	21 38 15.3	0.0
	51nm,0.3s,baz=328,slow=16,SNR=134						
SIJI				Lg	Lg	21 38 34.5	
	44nm,0.3s,baz=33,slow=22,SNR=28						
WRA	**Warramunga Arr**	**20.35**	**168**	P	P	21 42 24.6	-0.3
	0.8nm,0.6s,baz=350,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.91**	**171**	P	P	21 43 02.8	+0.3
	1.1nm,0.6s,baz=354,slow=9.2,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.99**	**59**	T	T	22 29 02.6	
	baz=246,slow=75,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**41.00**	**59**	T	T	22 29 03.1	
	baz=246,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**41.01**	**59**	T	T	22 29 04.1	
	baz=246,slow=75,SNR=8.6						
MKAR	**Makanchi Array**	**62.43**	**325**	P	P	21 48 11.5	-0.3
	0.3nm,0.9s,baz=109,slow=7.8,SNR=1.6						

INET 10 21:40:55.6, 11.85N×87.51W, h0km, ML3.2

SNET 10 21:40:58.7±1.1, 11.84N×87.54W, h35km±999km, ML3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.46**	**349**	*e*P	Pn	21 41 22.4	-0.3
CNCH				*e*S	Sb	21 41 42.2	-1.5
CNCH				IAML		21 41 44.0	
	comp=Z,1μm,0.4s						
LCND	**La Caada**	**1.50**	**347**	*e*P	Pn	21 41 23.1	-0.1
LCND				*e*S	Sn	21 41 42.1	+0.6
LCND				IAML		21 41 47.6	
	comp=Z,594nm,0.4s						
JUCU	**Jucuarán**	**1.57**	**334**	*e*P	Pn	21 41 23.8	-0.4
JUCU				*e*S	Sn	21 41 44.2	+0.9
JUCU				IAML		21 41 50.6	
	comp=Z,305nm,0.3s						
BLLM	**Bellamira**	**1.73**	**337**	*e*P	Pn	21 41 27.4	+1.0
PACA	**Pacayal**	**1.79**	**335**	*e*P	Pn	21 41 28.3	+1.0
PACA				*e*S	Sn	21 41 50.4	+1.5
TECA	**Tecapa**	**1.90**	**330**	*e*P	Pn	21 41 28.7	0.0
TECA				*e*S	Sn	21 41 53.0	+1.5
TGUH	**Tegucigalpa,Un**	**2.22**	**7**	*e*P	Pn	21 41 33.0	-0.2
LFRS	**El Faro**	**2.31**	**320**	*e*P	Pn	21 41 35.0	+0.6
LFRS				*e*S	Sn	21 42 02.9	+1.1
MTO3	**Montecristo**	**3.10**	**325**	*e*P	Pn	21 41 46.4	+1.0

ZUR 10 21:48:01.2, 46.65N×7.58E, h9km±1km, MLh0.3/6, 7C, Error ellipse: s-maj=2.5km s-min=0.8km az=129.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIMIS	**Wimmis**	**0.04**	**70**	↑Pg	Pg	21 48 03.2	+0.2
	0.1nm,SNR=60						
WIMIS				↑Pg	Pg	21 48 03.2	+0.2
WIMIS				Sg	Sg	21 48 04.5	+0.3
WIMIS	**Wimmis**	**0.04**	**70**	↑Pg	Pg	21 48 03.2	+0.2
WIMIS				↑Pg	Pg	21 48 03.2	+0.2
	0.1nm,SNR=60						
WIMIS				Sg	Sg	21 48 04.5	+0.3
LKBD	**Leukerbad**	**0.27**	**172**	Sg	Sg	21 48 10.8	+0.6
LKBD				Sg	Sg	21 48 10.8	+0.6
	SNR=5.3						
LKBD	**Leukerbad**	**0.27**	**172**	Sg	Sg	21 48 10.8	+0.6
LKBD				Sg	Sg	21 48 10.8	+0.6
	SNR=5.3						
LAUCH	**Lauchernalp**	**0.27**	**150**	Pg	Pg	21 48 07.2	+0.4
LAUCH				Pg	Pg	21 48 07.2	+0.4
	SNR=5.8						
LAUCH				Sg	Sg	21 48 11.1	+0.7
LAUCH	**Lauchernalp**	**0.27**	**150**	Pg	Pg	21 48 07.2	+0.4
	SNR=5.8						
LAUCH				Pg	Pg	21 48 07.2	+0.4
LAUCH				Sg	Sg	21 48 11.1	+0.7
SENIN	**Lac Senin/Sane**	**0.35**	**214**	Sg	Sg	21 48 13.7	+1.0
SENIN				Sg	Sg	21 48 13.7	+1.0
	SNR=4.0						
SENIN	**Lac Senin/Sane**	**0.35**	**214**	Sg	Sg	21 48 13.7	+1.0
SENIN				Sg	Sg	21 48 13.7	+1.0
	SNR=4.0						
HASLI	**Hasliberg/Brie**	**0.41**	**75**	Sg	Sg	21 48 15.5	+0.8
HASLI				Sg	Sg	21 48 15.5	+0.8
	SNR=3.8						
HASLI	**Hasliberg/Brie**	**0.41**	**75**	Sg	Sg	21 48 15.5	+0.8
HASLI				Sg	Sg	21 48 15.5	+0.8
	SNR=3.8						
GRYON	**Gryon**	**0.52**	**219**	Sg	Sg	21 48 18.5	+0.5

GRYON					Sg	Sg	21 48 18.5	+0.5	
	SNR=5.9								
GRYON	**Gryon**	**0.52**	**219**		Sg	Sg	21 48 18.5	+0.5	
	SNR=5.9								
GRYON					Sg	Sg	21 48 18.5	+0.5	
GRIMS	**Grimsel Gerste**	**0.52**	**98**	⇑	Pg	Pg	21 48 11.6	+0.3	
	SNR=3.4								
GRIMS				⇑	Pg	Pg	21 48 11.6	+0.3	
GRIMS					Sg	Sg	21 48 18.4	+0.3	
GRIMS	**Grimsel Gerste**	**0.52**	**98**	⇑	Pg	Pg	21 48 11.6	+0.3	
	SNR=3.4								
GRIMS					Sg	Sg	21 48 18.4	+0.3	

CRAAG ***10*** *21:48:18.8, 35˚.94N×2˚.23E, MI2.8*
MDD ***10*** *21:48:20.9±1.7, 35˚.96N×2˚.37E, h14km±10km, mb3.8/7, Error ellipse: s-maj=18.3km s-min=9.8km az=136.0, PRXIMO*

ISC 10 21:48:19.0±2.3**, 35°.97N**±0°.09×**2°.32E**±0°.09**, h12**km**, n21, σ1§49/32, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.71**	**297**	P	**Pg**	**21 48 33.0**	**+0.2**
ECHA	**Ech Chlef**	**0.79**	**283**	P	**Pn**	**21 48 36.0**	**+0.1**
ECHF	**Ech Chlef**	**0.81**	**284**	P	**Pn**	**21 48 36.0**	**-0.3**
EANR	**'Ain N'Sour**	**0.99**	**269**	P	**Pn**	**21 48 39.6**	**+0.9**
EANR	**'Ain N'Sour**	**0.99**	**269**	P	**Pn**	**21 48 39.6**	**+0.9**
OJGS	**Djebel Guires**	**1.36**	**250**	P	**Pn**	**21 48 44.0**	**+0.2**
OJGS	**Djebel Guires**	**1.36**	**250**	P	**Pn**	**21 48 44.0**	**+0.2**
OKGL	**Djebel Kef Gue**	**1.36**	**273**	P	Pg	21 48 52.0	+6.9
OKGL	**Djebel Kef Gue**	**1.36**	**273**	P	**Pg**	**21 48 45.2**	**+0.1**
	SNR=7.9						
OKGL				S	**Sg**	**21 49 03.2**	**+0.4**
	18nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.15**	**346**	P	**Pn**	**21 49 09.3**	**+0.9**
	6.8nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**21 49 42.9**	**-3.0**
	3.8nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.36**	**324**	P	**Pn**	**21 49 12.5**	**+1.1**
	1.1nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**21 49 50.6**	**-0.6**
	1.7nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.41**	**304**	P	**Pn**	**21 49 13.7**	**+1.7**
	0.4nm,0.2s,SNR=4.0						
EMUR				S	**Sn**	**21 49 51.3**	**-1.1**
	0.6nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**3.78**	**287**	S	**Sn**	**21 49 59.9**	**-1.6**
	3.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.81**	**6**	P	**Pn**	**21 49 18.8**	**+1.3**
	2.4nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**21 50 00.6**	**-1.7**
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.08**	**312**	P	**Pn**	**21 49 22.9**	**+1.7**
	1.0nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**21 50 07.9**	**-1.0**
	0.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.30**	**284**	P	**Pn**	**21 49 25.8**	**+1.5**
	2.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**21 50 12.2**	**-2.3**
	0.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.44**	**300**	P	**Pn**	**21 49 28.2**	**+1.9**
	2.1nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 50 17.3**	**-0.8**
	1.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.69**	**295**	P	**Pn**	**21 49 31.0**	**+1.3**
	0.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**21 50 22.7**	**-1.3**
	0.7nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.79**	**287**	P	**Pn**	**21 49 32.0**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**21 50 27.9**	**+1.3**
	1.6nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**4.88**	**282**	P	**Pn**	**21 49 33.3**	**+1.1**
	0.6nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**21 50 26.3**	**-2.3**
	1.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.91**	**334**	P	**Pn**	**21 49 34.4**	**+1.7**
	1.0nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**21 50 26.5**	**-3.0**
	0.5nm,0.2s,SNR=7.9						

IDC ***10*** *21:49:32.2±1.2, 34˚.22N×78˚.94E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.4/45, mbtmp3.6/8, ML3.5/2, MS3.9/2, Ms1 3.9/2, ms1mx2.9/53, Error ellipse: s-maj=38.4km s-min=21.1km az=54.0*
NEIC ***10*** *21:49:37.7±2.3, 34˚.33N±0˚.08×79˚.15E±0˚.09, h45km±8km, mb4.0/10, Error ellipse: s-maj=11.6km s-min=10.8km az=221.0*

ISC 10 21:49:36.9±0.6**, 34°.37N**±0°.08×**79°.18E**±0°.08**, h35**km**, n34, σ1§46/33, mb3.8/8, Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**4.98**	**263**	Pn	**Pn**	**21 50 50.0**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.42**	**352**	Pn	**Pn**	**21 51 23.7**	**+0.6**
KBL	**Kabul**	**8.38**	**274**	Pn	**Pn**	**21 51 35.5**	**-0.5**
BOOM	**Boomskoye usch**	**8.49**	**344**	Pn	**Pn**	**21 51 40.1**	**+2.6**
BTK	**Batken**	**8.75**	**313**	Pn	**Pn**	**21 51 42.4**	**+1.3**
CHGR	**Chuyangaron**	**9.13**	**301**	Pn	**Pn**	**21 51 46.3**	**+0.1**
FRU1	**Bishkek**	**9.14**	**338**	Pn	**Pn**	**21 51 47.2**	**+0.9**
KK31	**Karatay Array**	**11.03**	**325**	Pn	**Pn**	**21 52 13.3**	**+1.2**
KKAR	**Karatay Array**	**11.03**	**325**	Pn	**Pn**	**21 52 12.9**	**+0.8**
LSA	**Lhasa**	**11.17**	**111**	Pn	**Pn**	**21 52 15.6**	**+1.1**
MKAR	**Makanchi Array**	**12.63**	**10**	Pn	**Pn**	**21 52 36.3**	**+2.3**
	0.2nm,0.3s,baz=184,slow=14,SNR=7.4						
MKAR				Sn	**Sn**	**21 54 49.6**	**-3.6**
	0.0nm,0.3s,baz=197,slow=23,SNR=2.1						
MKAR	**Makanchi Array**	**12.63**	**10**		**Pn**	**21 52 34.3**	**+0.3**
HRA	**Herat**	**13.99**	**275**	Pn	**Pn**	**21 52 53.9**	**+1.1**
KURK	**Kurchatov**	**16.34**	**359**		**Pn**	**21 53 25.3**	**+1.9**
BVAR	**Borovoye Array**	**19.67**	**344**	P	**P**	**21 54 03.9**	**+1.2**
	0.1nm,0.3s,baz=161,slow=14,SNR=3.8						
BRVK	**Borovoye**	**19.72**	**344**	P	**P**	**21 54 04.0**	**+0.7**
ZAA0	**Zalesovo Array**	**19.97**	**10**	P	**P**	**21 54 07.8**	**+1.9**
ZAA0				IAmb	IAmb	21 54 12.6	
	comp=Z,1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**19.97**	**10**	P	**P**	**21 54 07.7**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=202,slow=11,SNR=2.4						
ABKAR	**Akbulak array**	**20.57**	**322**	P	**P**	**21 54 12.9**	**+0.5**
ABKAR	**Akbulak array**	**20.57**	**322**	P	**P**	**21 54 12.8**	**+0.3**
ABKAR				IAmb	IAmb	21 54 16.7	
	comp=Z,1.2nm,0.7s						
UOSS	**Minazif**	**22.03**	**251**	P	**P**	**21 54 27.6**	**-0.7**
UOSS				IAmb	IAmb	21 54 30.2	
	comp=Z,8.3nm,1.1s						
AKTO	**Aktyubinsk**	**22.28**	**322**	P	**P**	**21 54 30.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=119,slow=15,SNR=6.3						
CMAR	**Chiang Mai Arr**	**23.69**	**127**	P	**P**	**21 54 47.4**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=318,slow=9.8,SNR=4.8						
NACB	**Ninganchiao**	**38.13**	**94**	P	**P**	**21 56 51.4**	**-1.4**
JNU	**Nakatsue**	**42.62**	**77**	LR	LR	22 18 00.4	
	comp=Z,184nm,18.3s,baz=184,slow=40						
FINES	**FINESS Array B**	**42.99**	**326**	P	**P**	**21 57 33.3**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=116,slow=12,SNR=3.8						
SPA0	**Spitsbergen Ar**	**51.11**	**346**	P	**P**	**21 58 34.5**	**-1.1**
SPA0				IAmb	IAmb	21 58 38.2	
	comp=Z,7.5nm,0.9s						
UCC	**Uccle**	**55.12**	**312**	P	**P**	**21 59 03.9**	**-1.6**
UCC				IAmb	IAmb	21 59 04.5	
	comp=Z,6.5nm,0.6s						
TNTI	**Ternate**	**56.02**	**116**	P	**P**	**21 59 10.3**	**-2.0**
KEST	**Kesra**	**56.03**	**293**	LR	LR	22 28 28.5	
	comp=Z,85nm,21.4s,baz=272,slow=42						
ESBB	**Sonseca Array**	**64.30**	**302**	P	**P**	**22 00 09.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**72.45**	**274**	P	**P**	**22 00 59.7**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=34,slow=4.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**72.45**	**274**	P	**P**	**22 00 58.9**	**-1.2**
WRA	**Warramunga Arr**	**75.29**	**127**	P	**P**	**22 01 16.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=310,slow=7.3,SNR=2.3						

ATA ***10*** *21:50:52.9±0.7, 38˚.86N×42˚.72E, h18km±999km, ML1.2, MW4.3*
DDA ***10*** *21:51:00.1, 38˚.85N×43˚.62E, h7km±4km, ML1.3*

ISC 10 21:50:59.0±1.1**, 38°.88N**±0°.05×**43°.5E**±0°.1**, h18**km±5km**, n8, σ0§72/12, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.11**	**22**	*i* P	**Pg**	**21 51 03.2**	**+0.2**
VMUR				*i* S	**Sg**	**21 51 06.1**	**+0.4**
VMUR				IAML		21 51 07.0	
	comp=N,154nm,0.2s						
VMUR				IAML		21 51 08.0	
	comp=E,117nm,0.2s						
TVAN	**Van**	**0.37**	**194**	*e* P	**Pg**	**21 51 06.0**	**-0.7**
TVAN				*e* S	**Sn**	**21 51 15.6**	**-0.8**
TVAN				IAML		21 51 24.3	
	comp=Z,15nm,0.4s						
TVAN	**Van**	**0.37**	**194**	*i* P	**Pb**	**21 51 08.3**	**+1.2**
TVAN				*i* S	**Sn**	**21 51 15.9**	**-0.5**
TVAN				IAML		21 51 16.0	
	comp=N,20nm,0.3s						
TVAN				IAML		21 51 17.0	
	comp=E,28nm,0.3s						
CLDR	**Caldiran**	**0.41**	**50**	*i* P	**Pg**	**21 51 06.8**	**-0.7**
CLDR				*i* S	**Sg**	**21 51 13.9**	**+0.7**
CLDR				IAML		21 51 14.0	
	comp=N,20nm,0.3s						
DYDN	**Diyadin**	**0.67**	**11**	*e* P	**Pb**	**21 51 12.4**	**+0.1**
DYDN				IAML		21 51 26.0	
	comp=Z,5.4nm,0.4s						
DYDN	**Diyadin**	**0.67**	**11**	*i* P	**Pb**	**21 51 12.7**	**+0.4**
DYDN				*i* S	**Sn**	**21 51 23.6**	**-0.3**
DYDN				IAML		21 51 24.0	
	comp=E,16nm,0.6s						
DYDN				IAML		21 51 24.0	
	comp=N,14nm,0.2s						
GEVA	**Gevas**	**0.68**	**212**	*e* P	Pb	21 51 04.9	-7.4
GEVA				IAML		21 51 27.1	
	comp=Z,4.1nm,0.8s						
GEVA	**Gevas**	**0.68**	**212**	*i* P	**Pn**	**21 51 13.7**	**-0.1**

WEL 10 21:52:05.5, 47°S±6°×**16°6E**±°**, h60**km±10km**, M3.1**/6**, ML3.3**/6**, MLv3.1**/6**, Error ellipse: s-maj=0.0km s-min=0.0km az=179.8, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.72**	**16**	P	Pn	21 52 20.3	+0.4
PYZ				S	Sn	21 52 31.3	+0.7
APZ	**The Paps**	**1.10**	**89**	P	Pn	21 52 25.8	+0.9
APZ				S	Sn	21 52 40.1	+0.9
WHZ	**Wether Hill Ro**	**1.45**	**49**	P	Pn	21 52 29.3	-0.2
WHZ				S	Sn	21 52 46.7	-0.8
MLZ	**Mavora Lakes**	**1.92**	**40**	P	Pn	21 52 35.7	-0.2
MLZ				S	Sn	21 52 58.1	-0.7
SYZ	**Scrubby Hill**	**1.92**	**81**	P	Pn	21 52 36.3	+0.5
SYZ				S	Sn	21 52 58.5	-0.3
TUZ	**Tuapeka**	**2.42**	**69**	P	Pn	21 52 42.3	-0.3
TUZ				S	Sn	21 53 09.8	-1.2
MSZ	**Milford Sound**	**2.44**	**27**	P	Pn	21 52 42.1	-0.8
WKZ	**Wanaka**	**2.74**	**43**	P	Pn	21 52 47.0	-0.1
JCZ	**Jackson Bay**	**3.25**	**32**	P	Pn	21 52 53.6	-0.6
ODZ	**Otahua Downs**	**3.48**	**60**	P	Pn	21 52 54.9	-2.3
LBZ	**Lake Benmore**	**3.63**	**49**	P	Pn	21 52 56.7	-2.6
FOZ	**Fox Glacier**	**4.11**	**37**	P	Pn	21 53 04.0	-1.8
ARCZ	**Arundel**	**4.45**	**51**	P	Pn	21 53 06.9	-3.6
RPZ	**Rata Peaks**	**4.55**	**48**	P	Pn	21 53 08.3	-3.5

IDC ***10*** *22:08:19.2±1.8, 31˚.40S×177˚.94W, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.7/32, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=54.1km s-min=29.6km az=121.0*
NEIC ***10*** *22:08:20.0±1.5, 31˚.46S±0˚.10×177˚.6W±0˚.3, h22km±13km, mb4.7/7, Error ellipse: s-maj=33.7km s-min=10.8km az=105.0*

ISC 10 22:08:18.4±1.3**, 31°.48S**±0°.08×**177°.7W**±0°.2**, h10**km**, n27, σ2§13/29, mb4.5/6, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.23**	**354**	Pn	**Pn**	**22 08 56.6**	**+1.2**
	136nm,0.3s,baz=92,slow=24,SNR=2.3						
RAO				Sn	**Sn**	**22 09 16.8**	**-6.2**
	160nm,0.3s,baz=293,slow=23,SNR=2.3						
RAO	**Raoul Island**	**2.23**	**354**		**Pn**	**22 08 55.6**	**+0.2**
URZ	**Urewera**	**8.01**	**211**	Pn	**Pn**	**22 10 15.9**	**+1.1**
	0.1nm,0.3s,baz=46,slow=14,SNR=1.6						
URZ				Sn	**Sn**	**22 11 39.4**	**-6.0**
	0.8nm,0.3s,baz=161,slow=8.4,SNR=2.8						
OUZ	**Omahuta**	**8.20**	**241**	Pn	**Pn**	**22 10 19.7**	**+2.2**
BKZ	**Black Stump Fm**	**9.03**	**210**	Pn	**Pn**	**22 10 30.0**	**+1.1**
HIZ	**Hauiti**	**9.31**	**219**	Pn	**Pn**	**22 10 34.8**	**+2.1**
BFZ	**Birch Farm**	**10.42**	**206**	Pn	**Pn**	**22 10 48.6**	**+0.8**
PLWZ	**Palliser**	**11.56**	**207**	Pn	**Pn**	**22 11 01.9**	**-1.6**
NNZ	**Nelson**	**12.10**	**214**	Pn	**Pn**	**22 11 12.4**	**+1.6**
QRZ	**Quartz Range**	**12.23**	**218**	Pn	**Pn**	**22 11 13.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**12.26**	**211**	Pn	**Pn**	**22 11 15.8**	**+2.7**
THZ	**Tophouse**	**12.74**	**214**	Pn	**Pn**	**22 11 20.4**	**+0.3**
KHZ	**Kahutara**	**12.97**	**210**	Pn	**Pn**	**22 11 23.4**	**+0.6**
LTZ	**Lake Taylor**	**13.83**	**213**	Pn	**Pn**	**22 11 32.9**	**-1.7**
BBOO	**Buckleboo**	**38.96**	**255**	P	**P**	**22 15 45.0**	**+0.2**
BBOO				IAmb	IAmb	22 15 57.9	
	comp=Z,11nm,1.1s						
COEN	**Coen**	**39.84**	**287**	P	**P**	**22 15 52.6**	**+0.3**
ASAR	**Alice Springs**	**43.34**	**268**	P	**P**	**22 16 20.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=105,slow=7.3,SNR=8.8						
WR0	**Warramunga Arr**	**44.25**	**273**	P	**P**	**22 16 29.9**	**+1.6**
WR0				IAmb	IAmb	22 16 41.4	
	comp=Z,4.5nm,0.6s						
WB2	**Warramunga Arr**	**44.42**	**273**	P	**P**	**22 16 30.6**	**+1.0**
WB2				IAmb	IAmb	22 16 42.8	
	comp=Z,9.7nm,0.6s						
WRAB	**Tennant Creek**	**44.42**	**273**	P	**P**	**22 16 29.6**	**-0.1**
WRA	**Warramunga Arr**	**44.43**	**273**	P	**P**	**22 16 30.5**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=111,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**44.43**	**273**	P	**P**	**22 16 30.4**	**+0.7**
WB0	**Warramunga Arr**	**44.45**	**273**	P	**P**	**22 16 30.9**	**+1.0**
WB0				IAmb	IAmb	22 16 43.4	
	comp=Z,8.6nm,0.6s						
FINES	**FINESS Array B**	**146.25**	**340**	PKPbc	**PKPab**	**22 27 59.7**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=58,slow=3.4,SNR=14						
EIL	**Elat**	**151.91**	**275**	PKPbc	**PKiKP**	**22 28 16.2**	**+2.0**
	comp=Z,2.5nm,0.6s,baz=180,slow=6.1,SNR=2.9						
MMAI	**Mount Meron Ar**	**152.04**	**282**	PKPbc	**PKiKP**	**22 28 16.4**	**+1.9**
	comp=Z,2.5nm,0.6s,baz=91,slow=6.7,SNR=7.7						
AKASG	**Malin Array Be**	**152.32**	**322**	PKPbc	**PKiKP**	**22 28 14.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=56,slow=1.7,SNR=4.1						

IDC ***10*** *22:21:10.1±1.1, 22˚.15S×179˚.58E, h560km±11km, mb3.8/17, mb1 4.0/19, mb1mx3.8/39, mbtmp4.8/19, Error ellipse: s-maj=13.0km s-min=10.5km az=141.0*
BGR ***10*** *22:21:10.9±0.0, 22˚.56S×179˚.97W, h580km*
NEIC ***10*** *22:21:11.4±2.9, 22˚.09S±0˚.09×179˚.7E±0˚.1, h587km±4km, mb4.5/115, Error ellipse: s-maj=14.9km s-min=12.4km az=97.0*

ISC 10 22:21:12.7±0.3**, 22°.27S**±0°.05×**179°.60E**±0°.05**, h600**km**, n300, σ1§47/320, mb4.5/75, 28C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.74**	**342**	P	**P**	**22 22 40.2**	**-3.5**
RAO	**Raoul Island**	**7.31**	**163**	P	**P**	**22 23 03.6**	**-1.7**
GLKZ	**Green Lake**	**7.32**	**163**	S	**S**	**22 24 37.0**	**-0.9**
NIUE	**Niue**	**10.31**	**74**	P	**P**	**22 23 32.0**	**-2.5**
	baz=10,SNR=13						
NIUE				S	**S**	**22 25 31.5**	**+0.5**
	baz=10						
NIUE	**Niue**	**10.31**	**74**		**P**	**22 23 31.7**	**-2.8**
AFI	**Afiamalu**	**11.68**	**46**	P	P	22 23 42.9	-5.4
	12nm,0.3s,baz=125,slow=3.3,SNR=14						
AFI				S	S	22 25 42.4	-14
	0.7nm,0.3s,baz=263,slow=24,SNR=1.2						
AFI	**Afiamalu**	**11.68**	**46**		P	22 23 43.6	-4.8
DZM	**Mont Dzumac**	**12.19**	**268**	P	**P**	**22 23 51.7**	**-1.8**
	3.2nm,0.3s,baz=121,slow=12,SNR=24						
SANVU	**Saraoutou**	**13.54**	**298**	P	**P**	**22 24 04.7**	**-2.5**
OUZ	**Omahuta**	**13.93**	**201**	P	**P**	**22 24 10.6**	**-0.1**
OUZ	**Omahuta**	**13.93**	**201**	P	**P**	**22 24 11.3**	**+0.7**
WCZ	**Waipu Caves**	**14.37**	**197**	P	**P**	**22 24 15.2**	**+0.4**
GRZ	**Great Barrier**	**14.39**	**194**	P	**P**	**22 24 15.2**	**+0.2**
KUZ	**Kuaotunu**	**14.81**	**192**	P	**P**	**22 24 18.7**	**-0.2**
WIAZ	**Waiheke Island**	**14.98**	**194**	P	**P**	**22 24 21.0**	**+0.5**
ETAZ	**East Tamaki Re**	**15.18**	**194**	P	**P**	**22 24 24.8**	**+2.5**
WTAZ	**Waiatarua**	**15.25**	**195**	P	**P**	**22 24 25.4**	**+2.4**
MXZ	**Matakaoa Point**	**15.28**	**184**	P	**P**	**22 24 19.5**	**-3.7**
MXZ	**Matakaoa Point**	**15.28**	**184**	P	**P**	**22 24 22.4**	**-0.8**
MXZ				IAmb	IAmb	22 24 25.9	
	comp=Z,42nm,0.8s						
AWAZ	**Awhitu Peninsu**	**15.36**	**195**	P	**P**	**22 24 24.3**	**+0.5**
HAZ	**Te Kaha**	**15.51**	**185**	P	**P**	**22 24 22.7**	**-2.6**
HAZ				S	**S**	**22 26 57.1**	**-5.3**

WMGZ	**Waiomatatini S**	**15.53**	**183**		P	**P**	**22 24 23.0**	**-2.5**	
WMGZ					S	**S**	**22 26 59.1**	**-3.7**	
PKGZ	**Pakihiroa**	**15.62**	**184**		P	**P**	**22 24 25.7**	**-0.7**	
RUGZ	**Raukumara Rang**	**15.73**	**186**		P	**P**	**22 24 23.7**	**-3.8**	
RUGZ					S	**S**	**22 27 03.1**	**-3.1**	
TWGZ	**Tauwhareparae**	**15.92**	**185**		P	**P**	**22 24 28.6**	**-0.5**	
TWGZ					S	**S**	**22 27 04.7**	**-4.5**	
URZ	**Urewera**	**16.08**	**187**		P	**P**	**22 24 27.5**	**-3.0**	
	comp=Z,7.2nm,0.3s,baz=298,slow=2.5,SNR=34								
URZ					S	**S**	**22 27 06.0**	**-5.7**	
	comp=Z,1.1nm,0.3s,baz=108,slow=21,SNR=9.5								
URZ	**Urewera**	**16.08**	**187**		P	**P**	**22 24 27.7**	**-2.9**	
URZ					S	**S**	**22 27 06.3**	**-5.5**	
URZ	**Urewera**	**16.08**	**187**			**P**	**22 24 27.2**	**-3.3**	
MWZ	**Matawai**	**16.11**	**186**		P	**P**	**22 24 28.4**	**-2.5**	
MWZ					S	**S**	**22 27 07.8**	**-4.5**	
HIZ	**Hauiti**	**16.69**	**193**		P	**P**	**22 24 37.0**	**+0.8**	
BKZ	**Black Stump Fm**	**17.05**	**188**		P	**P**	**22 24 37.1**	**-2.4**	
BFZ	**Birch Farm**	**18.57**	**188**		P	**P**	**22 24 52.3**	**-1.0**	
SNZO	**South Karori**	**19.43**	**191**		P	**P**	**22 25 00.3**	**-0.7**	
MSWZ	**Moikau Station**	**19.44**	**190**		P	**P**	**22 25 00.6**	**-0.6**	
QRZ	**Quartz Range**	**19.44**	**196**			**P**	**22 25 01.8**	**+0.7**	
BHW	**Baring Head**	**19.49**	**191**		P	**P**	**22 25 00.5**	**-1.1**	
PLWZ	**Palliser**	**19.59**	**190**		P	**P**	**22 25 01.0**	**-1.6**	
NNZ	**Nelson**	**19.61**	**194**		P	**P**	**22 25 02.1**	**-0.5**	
TUWZ	**Tuamarina**	**19.69**	**193**		P	**P**	**22 25 01.7**	**-1.7**	
CMWZ	**Cape Campbell**	**19.94**	**192**		P	**P**	**22 25 04.7**	**-1.0**	
BSWZ	**Blackbirch Sta**	**19.98**	**193**		P	**P**	**22 25 05.6**	**-0.4**	
THZ	**Tophouse**	**20.23**	**195**		P	**P**	**22 25 07.8**	**-0.6**	
KHZ	**Kahutara**	**20.72**	**193**		P	**P**	**22 25 11.0**	**-1.6**	
KHZ					IAmb	IAmb	22 25 18.5		
	comp=Z,25nm,0.8s								
KNTN	**Kanton**	**21.14**	**25**		P	**P**	**22 25 11.9**	**-4.9**	
KNTN					IAmb	IAmb	22 25 15.7		
	comp=Z,30nm,1.1s								
LTZ	**Lake Taylor**	**21.35**	**195**		P	**P**	**22 25 16.8**	**-1.6**	
OXZ	**Oxford**	**21.92**	**195**		P	**P**	**22 25 21.7**	**-1.7**	
MQZ	**McQueen's Vall**	**22.14**	**193**		P	**P**	**22 25 24.3**	**-1.0**	
MQZ					IAmb	IAmb	22 25 25.1		
	comp=Z,18nm,0.8s								
RPZ	**Rata Peaks**	**22.53**	**196**		P	**P**	**22 25 27.8**	**-1.0**	
	comp=Z,17nm,0.5s,baz=297,slow=0.9,SNR=20								
RPZ					S	**S**	**22 28 52.8**	**-2.0**	
	comp=Z,9.7nm,1.0s,baz=57,slow=22,SNR=2.8								
RPZ	**Rata Peaks**	**22.53**	**196**		P	**P**	**22 25 28.5**	**-0.3**	
RPZ					IAmb	IAmb	22 25 31.2		
	comp=Z,19nm,0.6s								
FOZ	**Fox Glacier**	**22.71**	**199**		P	**P**	**22 25 29.9**	**-0.4**	
LBZ	**Lake Benmore**	**23.39**	**197**		P	**P**	**22 25 35.5**	**-0.9**	
LBZ					IAmb	IAmb	22 25 39.7		
	comp=Z,18nm,1.1s								
ODZ	**Otahua Downs**	**23.88**	**196**		P	**P**	**22 25 41.0**	**+0.3**	
ODZ					IAmb	IAmb	22 25 47.7		
	comp=Z,5.5nm,0.8s								
WKZ	**Wanaka**	**24.12**	**199**		P	**P**	**22 25 42.4**	**-0.6**	
WKZ					IAmb	IAmb	22 25 46.1		
	comp=Z,30nm,1.1s								
MLZ	**Mavora Lakes**	**24.88**	**199**		P	**P**	**22 25 50.2**	**+0.5**	
WHZ	**Wether Hill Ro**	**25.41**	**199**		P	**P**	**22 25 55.1**	**+0.8**	
PYZ	**Puysegur Point**	**26.05**	**201**		P	**P**	**22 26 00.3**	**+0.5**	
EIDS	**Eidsvold**	**26.25**	**258**		P	**P**	**22 26 02.0**	**+0.1**	
	baz=26,SNR=16								
EIDS	**Eidsvold**	**26.25**	**258**		P	**P**	**22 26 01.6**	**-0.3**	
ARMA	**Armidale**	**26.29**	**246**		P	**P**	**22 26 03.6**	**+1.2**	
	baz=26,SNR=15								
ARMA	**Armidale**	**26.29**	**246**		P	**P**	**22 26 02.6**	**+0.2**	
ARMA					IAmb	IAmb	22 26 04.5		
	comp=Z,25nm,0.8s								
MGCD	**Mangrove Creek**	**27.38**	**240**		P	**P**	**22 26 13.4**	**+1.6**	
	baz=27,SNR=5.4								

baz=48,SNR=26
FAKI Fak Fak 49.77 286 P P 22 29 11.4 -0.6
FAKI IAmb IAmb 22 29 17.4
comp=Z,19nm,1.0s
FITZ Fitzroy Crossi 50.60 264 P P 22 29 18.3 +0.3
baz=50,SNR=14
FITZ Fitzroy Crossi 50.60 264 P P 22 29 17.9 -0.1
FITZ IAmb IAmb 22 29 19.1
comp=Z,19nm,0.8s
NLAI Namlea 54.25 283 P P 22 29 45.6 +1.6
comp=Z,36nm,0.6s
SOEI Soe 54.35 274 P P 22 29 46.4 +1.6
comp=Z,96nm,1.0s
SOEI Soe 54.35 274 P P 22 29 45.3 +0.5
BATI Baumata 54.75 273 P P 22 29 49.8 +2.3
comp=Z,29nm,0.6s
PSA00 Pilbara Seismi 55.10 259 P P 22 29 48.7 -1.2
PSA00 Pilbara Seismi 55.10 259 P P 22 29 49.7 -0.2
PSA00 IAmb IAmb 22 29 50.8
comp=Z,13nm,0.7s
MEEK Meekatharra 55.23 252 P P 22 29 50.2 -0.5
baz=55,SNR=13
KLBR Kellerberrin 55.29 246 P P 22 29 51.0 +0.1
baz=55,SNR=9.3
NWAO Narrogin (SRO) 55.58 245 P P 22 29 52.8 -0.2
NWAO IAmb IAmb 22 29 53.5
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 55.58 245 P P 22 29 53.0 0.0
NWAO IAmb IAmb 22 29 53.5
comp=Z,18nm,1.1s
SANI Sanana 55.76 283 P P 22 29 55.0 +0.5
comp=Z,33nm,0.8s
TNTI Ternate 55.79 287 P P 22 29 54.0 -0.6
TNTI IAmb IAmb 22 29 55.2
comp=Z,31nm,1.1s
VNDA Vanda 55.97 185 P P 22 29 57.0 +2.1
comp=Z,5.0nm,0.6s,baz=4.0,slow=8.0,SNR=50
VNDA Vanda 55.97 185 P P 22 29 57.0 +2.1
BLDU Balidu 56.30 247 P P 22 29 57.6 -0.3
baz=56,SNR=6.2
MMRI Maumere 56.62 274 P P 22 29 59.2 -1.2
MMRI IAmb IAmb 22 30 00.8
comp=Z,34nm,1.0s
MORW Morawa 57.09 249 P P 22 30 03.4 -0.1
baz=57,SNR=6.3
MORW Morawa 57.09 249 P P 22 30 03.3 -0.2
MORW IAmb IAmb 22 30 04.0
comp=Z,26nm,1.1s
LUWI Luwuk 59.09 283 P P 22 30 16.1 -0.9
LUWI IAmb IAmb 22 30 18.1
comp=Z,29nm,0.9s
GIRL Giralia 59.93 256 P P 22 30 23.8 +1.2
baz=60,SNR=4.1
CASY Casey 61.41 205 P P 22 30 31.5 +0.1
UGM Wanagama 67.71 270 P P 22 31 11.5 -0.6
UGM IAmb IAmb 22 31 17.4
comp=Z,47nm,1.1s
QSPA South Pole Qui 67.81 180 P P 22 31 13.6 +1.8
JYT Yasato 69.08 327 P P 22 31 19.3 -0.4
MJAR Matsushiro Arr 70.35 326 P P 22 31 28.1 +0.8
comp=Z,1.3nm,0.8s,baz=139,slow=7.4,SNR=2.6
MJAR Matsushiro Arr 70.35 326 P P 22 31 22.8 -4.4
KSM Kuching 71.46 280 P P 22 31 33.8 -0.5
KSM IAmb IAmb 22 31 35.0
comp=Z,9.8nm,0.9s
DBJI Dramaga 71.69 270 P P 22 31 32.8 -2.8
KS19 Wonju Array Si 76.83 320 P P 22 32 03.8 -0.1
KS19 IAmb IAmb 22 32 20.8
comp=Z,13nm,1.1s
PET Petropavlovsk 77.16 347 P P 22 32 06.1 +0.8
PET IAmb IAmb 22 32 22.2
comp=Z,33nm,1.1s
PEA0B Petropavlovsk- 77.43 347 P P 22 32 07.0 +0.2
PEA0B IAmb IAmb 22 32 11.0
comp=Z,14nm,1.1s
PETK Petropavlovsk- 77.43 347 P P 22 32 06.6 -0.2
comp=Z,2.2nm,0.7s,baz=116,slow=6.8,SNR=4.8
MAW Mawson 79.14 200 P P 22 32 17.3 +1.5
comp=Z,5.3nm,0.6s,baz=103,slow=7.6,SNR=11
MAW Mawson 79.14 200 P P 22 32 17.5 +1.7
baz=79,SNR=7.7
MAW Mawson 79.14 200 P P 22 32 17.5 +1.7
NJ2 Nanjing 79.31 311 *e*P P 22 32 19.1 +1.8
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
PMSA Palmer Station 80.55 157 P P 22 32 24.2 +1.0
PMSA IAmb IAmb 22 32 25.3
comp=Z,14nm,0.7s
IPM Ipoh 81.15 279 P P 22 32 25.3 -2.0
IPM IAmb IAmb 22 32 28.3
comp=Z,6.1nm,0.8s
GDXM Geysers 81.23 42 P P 22 32 25.3 -1.9
GDXM IAmb IAmb 22 32 25.6
comp=Z,7.5nm,1.1s
KMRM Mail Ridge 81.54 40 P P 22 32 29.0 +0.2
KMRM IAmb IAmb 22 32 32.2
comp=Z,24nm,1.0s
KHMM Horse Mountain 81.94 40 P P 22 32 30.9 0.0
KHMM IAmb IAmb 22 32 34.0
comp=Z,5.8nm,0.9s
ISA Isabella, Lake 82.17 46 P P 22 32 32.1 +0.1
KRMB Red Mountain 82.24 39 P P 22 32 32.4 +0.1
CMB Columbia Colle 82.28 44 P P 22 32 33.1 +0.5
AFDM Forest Hills D 82.45 43 P P 22 32 33.9 +0.6
WDC Whiskeytown Da 82.47 41 P P 22 32 33.7 +0.4
ORV Oroville 82.48 42 P P 22 32 33.1 -0.3
OMMB Old Mammoth Mi 82.93 45 P P 22 32 35.5 -0.6
YBH Yreka Blue Hor 83.07 40 P P 22 32 38.4 +1.9
comp=Z,2.3nm,0.7s,baz=172,slow=2.2,SNR=7.9
YBH Yreka Blue Hor 83.07 40 P P 22 32 36.6 +0.2
GSC Goldstone, Bar 83.10 48 P P 22 32 36.4 -0.4
GSI Gunungsitoli 83.11 274 P P 22 32 37.5 +0.3
GSI IAmb IAmb 22 32 44.4
comp=Z,16nm,1.1s
WAKR Walker 83.16 44 P P 22 32 37.8 +0.6
PNTR Pine Nut 83.39 43 P P 22 32 38.5 +0.2
PNTR IAmb IAmb 22 32 40.9
comp=Z,7.7nm,0.9s
HUMO Hull Mountain 83.46 39 P P 22 32 39.4 +1.1
PIX Pinacate 83.49 52 P P 22 32 38.9 +0.3
GO09 Cerro Castillo 83.53 143 P P 22 32 36.1 -2.5
YERR Yerington 83.56 43 P P 22 32 39.0 -0.2
LHV Little Huntoon 83.62 44 P P 22 32 39.1 0.0
NVAR Mina Array Bea 83.85 44 P P 22 32 41.6 +1.0
comp=Z,1.3nm,0.8s,baz=223,slow=7.8,SNR=9.7
NVAR Mina Array Bea 83.85 44 P P 22 32 41.2 +0.6
PAHR Pah Rah Range 83.89 43 P P 22 32 40.4 -0.2
NV11 Mina Array Sit 83.94 44 P P 22 32 41.1 +0.2
214A Organ Pipe Nat 84.16 52 P P 22 32 41.0 -1.1
KVN Kaiserville 84.33 44 P P 22 32 42.9 0.0
TPH Tonopah 84.35 45 P P 22 32 43.0 0.0
TPNV Topopah Spring 84.38 46 P P 22 32 43.4 +0.2
MOD Modoc Plateau 84.61 41 P P 22 32 43.5 -0.6
K05A Summer Lake 84.75 40 P P 22 32 45.6 +0.8
K05A IAmb IAmb 22 32 47.6
comp=Z,9.8nm,1.1s
TUC Tucson 85.83 53 P P 22 32 50.5 +0.3
TUC IAmb IAmb 22 32 53.4
comp=Z,5.0nm,1.1s
SNAA Sanae 86.30 179 P P 22 32 51.6 0.0
SNAA Sanae 86.30 179 P P 22 32 51.7 0.0
SNAA IAmb IAmb 22 32 52.4
comp=Z,4.7nm,0.6s
I07A Izee 86.36 39 P P 22 32 53.2 +0.8
I07A IAmb IAmb 22 32 55.1
comp=Z,6.4nm,1.1s
LCMT Little Creek M 86.45 48 P P 22 32 51.8 -1.2
VNA3 Neumayer Olymp 86.52 177 P P 22 32 52.4 -0.2
J08A Circle Bar Ran 86.55 40 P P 22 32 53.5 +0.2
J08A IAmb IAmb 22 32 56.4
comp=Z,5.9nm,1.1s
U15A North Rim 86.81 49 P P 22 32 55.9 +1.0
U15A IAmb IAmb 22 32 57.7
comp=Z,5.3nm,0.8s
VNA2 Neumayer--Watz 86.93 178 P P 22 32 54.8 +0.2
WUAZ Wupatki 86.99 50 P P 22 32 54.8 -0.8
ELK Elko 87.10 44 P P 22 32 56.6 +0.5
comp=Z,1.8nm,0.8s,baz=259,slow=4.5,SNR=5.8
G08A Pilot Rock 87.38 38 P P 22 32 58.0 +0.8
G08A IAmb IAmb 22 32 59.6
comp=Z,4.7nm,0.9s
E07A Sunnyside 87.62 37 P P 22 32 57.6 -0.5
E07A IAmb IAmb 22 33 00.7
comp=Z,9.3nm,1.1s
LL01 San Ignacio de 87.65 135 P P 22 32 58.9 +0.5
LL01 IAmb IAmb 22 32 59.9
comp=Z,8.2nm,1.1s
HAWA Hanford 87.70 37 P P 22 32 58.0 -0.5
HAWA IAmb IAmb 22 33 01.1
comp=Z,6.9nm,0.9s
MFID Camas Ranch 88.18 41 P P 22 33 00.6 -0.4
MFID IAmb IAmb 22 33 03.4
comp=Z,4.0nm,0.8s
TMUT Trail Mountain 88.99 47 P P 22 33 05.6 +0.6
HHC Hu-ho-hao-te 89.00 315 *e*P P 22 33 08.1 +3.3
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,290nm,5.6s
SRU San Rafael Swe 89.36 47 P P 22 33 06.1 -0.6
MNTX Cornudas Mount 89.60 55 P P 22 33 08.1 +0.4
MNTX IAmb IAmb 22 33 10.8
comp=Z,5.2nm,1.0s
LC01 Cunco 89.66 132 P P 22 33 09.8 +1.9
PLCA Paso Flores 89.67 134 P P 22 33 10.2 +2.2
comp=Z,4.0nm,0.7s,baz=221,slow=4.1,SNR=9.9
PLCA Paso Flores 89.67 134 P P 22 33 08.7 +0.7
PLCA IAmb IAmb 22 33 11.1
comp=Z,6.9nm,0.9s
TX31 Lajitas Ar. Si 89.89 58 P P 22 33 10.4 +1.2
TX31 IAmb IAmb 22 33 12.1
comp=Z,14nm,0.9s
TX32 Lajitas Array 89.89 58 P P 22 33 09.9 +0.7
TX32 IAmb IAmb 22 33 12.1
comp=Z,4.8nm,0.9s
TXAR Lajitas Array 89.89 58 P P 22 33 10.7 +1.5
comp=Z,2.7nm,0.8s,baz=214,slow=6.1,SNR=30
TXAR Lajitas Array 89.89 58 P P 22 33 10.3 +1.1
ANMO Albuquerque 90.25 52 P P 22 33 11.8 +0.9
comp=Z,0.1nm,0.8s,baz=205,slow=8.4,SNR=4.2
ANMO Albuquerque 90.25 52 P P 22 33 10.7 -0.2
ILAR Eielson Array 90.54 14 P P 22 33 11.4 +0.1
comp=Z,0.3nm,0.4s,baz=215,slow=5.2,SNR=3.4
ILAR Eielson Array 90.54 14 P P 22 33 10.5 -0.7
PDAR Pinedale Array 91.78 44 P P 22 33 18.8 +1.0
comp=Z,0.7nm,0.6s,baz=198,slow=2.7,SNR=6.5
PDAR Pinedale Array 91.78 44 P P 22 33 17.4 -0.4
LZH Lanzhou 92.08 308 ⇑P P 22 33 19.6 +0.4
LZH pP pP 22 35 24.7 -3.4
LZH sP sP 22 36 20.5 -6.7
LZH PP PP **22 37 12.8 +2.4**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH pmax pmax
comp=Z,92nm,9.3s
WMOK Wichita Mounta 95.89 55 IAmb IAmb 22 33 51.3
comp=Z,4.8nm,1.1s
KAN08 Anthony NE Sta 97.45 53 P Pdif 22 33 41.6 -1.7
MKAR Makanchi Array 110.77 313 PKiKP PKiKP 22 38 38.3 0.0
comp=Z,0.3nm,0.5s,baz=188,slow=2.0,SNR=4.8
MKAR PKKPbc **PKKPbc 22 39 39.4 +0.2**
comp=Z,1.2nm,0.9s,baz=260,slow=3.6,SNR=5.3
MKAR PKKPab **PKKPab 22 39 51.4 +1.5**
comp=Z,0.1nm,0.4s,baz=274,slow=4.7,SNR=3.5
KURBB Kurchatov Arra 113.81 317 PKiKP PKiKP 22 38 43.4 -0.5
comp=Z,0.6nm,0.6s,baz=131,slow=1.8,SNR=4.2
BVAR Borovoye Array 118.97 319 PKP PKPdf 22 38 53.0 -0.8
comp=Z,0.6nm,0.6s,baz=217,slow=12,SNR=4.4
SPITS Spitsbergen Ar 123.47 356 PKP PKiKP 22 39 02.4 +0.3
comp=Z,2.9nm,0.7s,baz=265,slow=3.8,SNR=2.0
ARU Arti 125.35 324 PKP PKiKP 22 39 06.3 0.0
comp=Z,0.9nm,0.5s,baz=90,slow=5.1,SNR=4.9
ARCES ARCESS Array B 130.22 348 PKP PKPdf 22 39 14.0 -0.8
comp=Z,2.5nm,0.7s,baz=42,slow=3.8,SNR=7.0
ARCES SKPbc **SKPab 22 41 46.7 +3.5**
comp=Z,5.9nm,0.9s,baz=15,slow=5.1,SNR=6.8
FINES FINESS Array B 136.79 342 PKP PKPdf 22 39 27.8 +0.5
comp=Z,0.9nm,0.5s,baz=70,slow=2.2,SNR=5.1
FINES SKPbc **SKiKP 22 42 07.3 -1.8**
comp=Z,3.0nm,0.9s,baz=104,slow=4.7,SNR=5.6
NOA NORSAR Array B 140.42 351 SKPbc SKiKP 22 42 17.6 +0.9
comp=Z,1.4nm,0.8s,baz=15,slow=4.4,SNR=4.1
AKASG Malin Array Be 143.40 328 PKP PKPab 22 39 38.0 -0.2
comp=Z,2.1nm,0.5s,baz=42,slow=4.4,SNR=13
AKASG SKPbc **SKiKP 22 42 25.4 +2.3**
comp=Z,2.9nm,0.8s,baz=49,slow=2.6,SNR=9.7
SUW Suwalki 143.63 337 *e*PKP PKPab 22 39 39.1 +0.2
SORM Soroca 145.46 325 ⇑P PKPbc 22 39 44.6 0.0
MMAI Mount Meron Ar 146.67 297 PKPbc PKiKP 22 39 49.9 -0.7
comp=Z,2.4nm,0.5s,baz=67,slow=6.5,SNR=9.9
KWP Kalwaria Pacla 147.16 332 *e*PKP PKPbc 22 39 50.1 +0.8
KWP Kalwaria Pacla 147.16 332 PKPbc PKPbc 22 39 50.0 +0.8
CFR Carcaliu 147.34 321 ⇑P PKPbc 22 39 50.4 +0.6
BSEG Bad Segeberg 147.35 348 *e*PKPbc PKiKP 22 39 50.7 -0.5
baz=20,slow=2.4
BIZ Bicaz 147.40 325 ⇑P PKPbc 22 39 50.7 +0.8
BUR08 Bucovina Ar. S 147.40 327 PKiKP 22 39 51.1 -0.5
BURAR Bucovina Array 147.41 327 ⇑P PKPbc 22 39 50.8 +0.7
VRI Vrincioaia 147.73 323 ⇑P PKPbc 22 39 51.6 +0.7
HARR Harsova 147.74 321 ⇑P PKiKP 22 39 52.1 -0.1
KOLS Kolonicke sedl 147.87 331 *e*PKP PKPbc 22 39 51.5 +0.4
OJC Ojcow 147.91 335 *e*PKP PKPbc 22 39 51.7 +0.6
OZUR 148.10 324 ⇑P PKiKP 22 39 52.6 -0.4
CRVS Cervenica-Dubn 148.25 332 *e*PKP PKiKP 22 39 53.3 +0.1
NIE Niedzica 148.34 334 *e*PKP PKiKP 22 39 53.8 +0.4
MLR Muntele Rosu 148.40 323 ⇑P PKiKP 22 39 53.5 -0.3
MLR Muntele Rosu 148.40 323 PKiKP 22 39 53.8 0.0
DOPR Dopca 148.40 325 ⇓P PKiKP 22 39 53.7 +0.1
KSP Ksiaz 148.64 340 *e*PKP PKiKP 22 39 54.1 +0.2
NRDL Niedersach Rie 148.76 348 *e*PKPbc PKiKP 22 39 53.8 -0.2
baz=20,slow=2.4
LANS Liptovska Anna 148.89 334 *e*PKP PKiKP 22 39 55.8 +1.2
LANS *e* 22 40 01.6
OSTC Ostas 148.91 339⇑*e*PKP PKiKP 22 39 54.9 +0.3
VOIR 148.92 324 ⇑P PKiKP 22 39 54.7 -0.1
CHVC Chvalec 148.93 340⇑*e*PKP PKPbc 22 39 54.0 +0.3
UPC Upice 149.02 339⇑*e*PKP PKPbc 22 39 54.2 +0.3
DPC Dobruska-Polom 149.05 339⇑*e*PKP PKiKP 22 39 54.9 0.0
MORC Moravsky Berou 149.11 337 ⇑P PKiKP 22 39 55.5 +0.5
MORC Moravsky Berou 149.11 337 *e*PKP PKiKP 22 39 55.3 +0.3
KRLC Kraliky 149.13 338⇑*e*PKP PKPbc 22 39 54.2 0.0
ARR Arges 149.19 324 ⇑P PKiKP 22 39 56.2 +0.8
CLL Collm 149.19 343 ⇓*i*PKPbc PKiKP 22 39 55.0 -0.1
comp=Z,14nm,0.9s
CLL *e*PKPab **PKPab 22 40 02.0 +0.7**
CLL *e*pPKPab **pPKPbc 22 42 10.0 -0.5**
CLL Collm 149.19 343 *e*PKPbc PKiKP 22 39 55.3 +0.3
baz=20,slow=2.4
CLL Collm 149.19 343 PKiKP 22 39 54.8 -0.3
CLZ Clausthal 149.32 347 *e*PKPbc PKiKP 22 39 56.0 +0.6
baz=20,slow=2.4
BRG Berggiesshubel 149.33 342 *i* PKP PKiKP 22 39 55.4 0.0
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 149.33 342 *e*PKPbc PKiKP 22 39 55.7 +0.3
baz=20,slow=2.4
FBE Freiberg 149.45 343 *e*PKPbc PKiKP 22 39 56.5 +0.9
baz=20,slow=2.4
PVCC Panska Ves 149.45 341⇑*e*PKP PKiKP 22 39 56.2 +0.6
NEUB Neuenburg 149.59 345 *e*PKPbc PKiKP 22 39 56.5 +0.6
baz=20,slow=2.4
LOT Lotru 149.60 325 ⇑P PKPbc 22 39 54.9 -0.6
VYHS Vyhne 149.66 334 *e*PKP PKiKP 22 39 56.0 -0.2
GTTG Gottingen 149.69 347 *e*PKPbc PKiKP 22 39 56.8 +0.8
baz=20,slow=2.4
JAVC Velka Javorina 149.82 336 *e*PKP PKiKP 22 39 58.2 +1.7
VRAC Vranov 149.84 338 ⇑P PKiKP 22 39 56.5 0.0
VRAC Vranov 149.84 338 *e*PKP PKiKP 22 39 56.9 +0.4
PRU Pruhonice 149.94 341⇑*e*PKP PKiKP 22 39 56.8 +0.2
SIRR Siria 150.10 328 ⇑P PKiKP 22 39 57.1 -0.1
KRUC Moravsky 150.12 338 *e*PKP PKiKP 22 39 57.4 +0.3
TANN Tannenbergstha 150.15 343 *e*PKPbc PKiKP 22 39 57.8 +0.6
baz=20,slow=2.4
GZR Guza Zlata 150.15 326 ⇑P PKPbc 22 39 56.9 +0.1
MOX Moxa 150.15 345 *e*PKPbc PKiKP 22 39 57.7 +0.6
baz=20,slow=2.4
GUNZ Gunzen 150.23 343 *e*PKPbc PKiKP 22 39 58.0 +0.7
baz=20,slow=2.4
WERN Wernitzgruen 150.29 343 *e*PKPbc PKiKP 22 39 58.2 +0.8
baz=20,slow=2.4
NKC Novy Kostel 150.32 343⇑*e*PKP PKiKP 22 39 57.4 -0.1
UBBA Unterbreizbach 150.36 347 *e*PKPbc PKiKP 22 39 57.9 +0.5
baz=20,slow=2.4
PBCC Pribram 150.37 341⇑*e*PKP PKiKP 22 39 57.7 +0.1
MODS Modra-Piesok 150.37 336 *e*PKP PKPbc 22 39 57.1 -0.1
BZS Buzias 150.59 328 ⇑P PKiKP 22 39 58.2 +0.1
MANZ Manzenberg 150.63 343 *e*PKPbc PKiKP 22 39 58.9 +0.8
baz=20,slow=2.4
HERR Herculane 150.69 326 ⇑P PKPbc 22 39 58.0 0.0
ROTZ Rotzenmuhle 150.81 343 *e*PKPbc PKiKP 22 39 59.2 +0.7
baz=20,slow=2.4
KHC Kasperske Hory 150.99 341⇑*e*PKP PKiKP 22 39 59.1 +0.2
GEC2 GERESS Array S 151.20 340 *e*PKPbc PKiKP 22 40 00.0 +0.6
baz=20,slow=2.4
GERES GERESS Array B 151.20 340 PKPbc PKiKP 22 39 59.5 +0.1
comp=Z,1.7nm,0.6s,baz=38,slow=2.4,SNR=20
TNS Taunus Mts 151.25 348 *e*PKPbc PKiKP 22 40 00.2 +0.7
baz=20,slow=2.4
CONA Conrad Observa 151.27 337 *i* P PKiKP 22 40 00.2 +0.6
comp=Z,3.6nm,0.7s
MOA Mollm 151.89 339 *i* P PKiKP 22 40 01.0 +0.2
comp=Z,2.9nm,0.8s
ARSA Arzberg 151.96 337 *e*P PKiKP 22 40 01.5 +0.6
comp=Z,2.9nm,0.8s
WLF Walferdange 152.17 351 *e*PKPbc PKiKP 22 40 02.6 +1.3
baz=20,slow=2.4
STU Stuttgart 152.47 346 *e*PKPbc PKiKP 22 40 03.1 +1.2
baz=20,slow=2.4
DIVS Divibare 152.48 327 PKiKP 22 40 03.4 +1.2
SOKA Soboth 152.63 337 *e*P PKPbc 22 40 02.5 +0.1
comp=Z,1.8nm,0.9s
KBA Koelnbreinsper 152.87 339 *e*P PKiKP 22 40 03.4 +0.4
comp=Z,2.3nm,0.8s
WTTA Wattenberg 153.24 342 *e*P PKiKP 22 40 04.1 +0.3
comp=Z,3.3nm,0.7s
MOTA Moosalm 153.32 342 *e*P PKPbc 22 40 04.0 +0.1
comp=Z,3.4nm,1.1s
ABTA Abfaltersbach 153.43 340 *i* P PKPbc 22 40 04.0 0.0
comp=Z,4.7nm,1.1s
ESDC Sonseca Array 162.39 9 PKPab PKPab 22 40 58.5 +0.1
comp=Z,0.4nm,0.9s,baz=331,slow=5.0,SNR=4.1
DBIC Dimbokro 163.91 164 PKPab PKPab 22 41 06.9 +1.3
comp=Z,4.1nm,0.7s,baz=164,slow=9.9,SNR=3.9
MDT Midelt 168.86 19 PKP PKPdf 22 40 13.9 +1.7
comp=Z,1.0nm,0.8s,baz=328,slow=2.1,SNR=4.4
TORD Torodi Ar. Bea 170.71 193 PKP PKPdf 22 40 13.2 -0.4
comp=Z,1.6nm,0.9s,baz=301,slow=1.3,SNR=6.7
TORD PKPab **PKPab 22 41 36.5 +0.8**
comp=Z,4.2nm,0.8s,baz=166,slow=3.9,SNR=17
TORD PP **PP 22 45 29.3 +3.5**
comp=Z,0.7nm,0.9s,baz=201,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 170.71 193 PKPdf 22 40 11.9 -1.7
TORD **PKPab 22 41 36.4 +0.8**

IDC ***10*** *22:29:59.1±4.6, 37.37N×71.73E, h85km±32km, mb3.4/7, mb1 3.6/12, mb1mx3.2/57, mbtmp3.8/12, MS4.1/1, Ms1 4.1/1, ms1mx2.6/34, Error ellipse: s-maj=59.8km s-min=20.9km az=166.0*

NNC ***10*** *22:30:04.1±4.5, 37.62N×71.25E, h102km±91km, mb3.7, mpv4.0, Error ellipse: s-maj=40.2km s-min=25.3km az=162.0*

ISC 10 22:30:01.2±0.7, 37.43N±0.07×71.49E±0.07, h109km, n31, σ2867/36, mb3.7/7, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.99**	**19**	P	**Pn**		**22 31 15.4**	**+1.1**
	SNR=190							
UCH	**Uchtor**	**5.33**	**25**	P	**Pn**		**22 31 19.6**	**+0.9**
	SNR=23							
EKS2	**Erkin-Say**	**5.51**	**18**	P	**Pn**		**22 31 22.6**	**+1.6**
	SNR=19							
AAK	**Ala-Archa**	**5.69**	**23**	P	**Pn**		**22 31 24.8**	**+1.4**
	SNR=26							
KK31	**Karatay Array**	**5.72**	**353**	P	**Pn**		**22 31 25.9**	**+2.3**
	6.7nm,0.3s,baz=167,slow=11,SNR=118							
KK31				S	**Sn**		**22 32 26.8**	**-1.1**
	7.3nm,0.2s,baz=168,slow=23,SNR=17							
KBK	**Karagaybulak**	**5.86**	**26**	P	**Pn**		**22 31 26.8**	**+1.2**
	SNR=13							
ULHL	**Ulahol**	**6.04**	**36**	P	**Pn**		**22 31 28.0**	**-0.3**
	SNR=14							
THN	**Thein Dam**	**6.07**	**144**	*e*P	**Pn**		**22 31 28.5**	**0.0**
THN				*e*S	**Sn**		**22 32 32.5**	**-4.1**
CHMS	**Chumysh**	**6.10**	**23**	P	**Pn**		**22 31 29.9**	**+1.1**
	SNR=21							
USP	**Ospenovka**	**6.27**	**21**	P	**Pn**		**22 31 32.0**	**+0.9**
	SNR=20							
TKM2	**Tokmak 2**	**6.32**	**29**	P	**Pn**		**22 31 32.8**	**+0.8**
	SNR=11							
PDGK	**Podgornoye**	**8.48**	**44**	⇑P	**Pn**		**22 31 59.3**	**-1.9**
	5.5nm,1.1s							
GEYT	**Alibeck**	**10.61**	**277**	P	**Pn**		**22 32 30.6**	**+0.5**
	1.4nm,0.3s,baz=119,slow=10,SNR=15							
GEYT				S	**Sn**		**22 34 25.4**	**-1.6**
	0.2nm,0.3s,baz=250,slow=39,SNR=0.9							
GYA0B	**ALIBECK ARRAY**	**10.61**	**277**	⇑P	**Pn**		**22 32 30.5**	**+0.4**
GYA0B				⇑S	**Sn**		**22 34 24.5**	**-2.4**
MK31	**Makanchi Array**	**12.31**	**37**	⇓P	**Pn**		**22 32 57.2**	**+4.5**
	2.1nm,0.7s,baz=210,slow=9.2,SNR=10							
MKAR	**Makanchi Array**	**12.31**	**37**	P	**Pn**		**22 32 50.7**	**-1.9**
	0.1nm,0.3s,baz=225,slow=14,SNR=10.0							
KURBB	**Kurchatov Arra**	**14.12**	**19**	P	**Pn**		**22 33 13.8**	**-2.2**
	3.0nm,0.3s,baz=207,slow=12,SNR=4.6							
KURBB	**Kurchatov Arra**	**14.12**	**19**	⇑P	**Pn**		**22 33 19.4**	**+3.4**
	3.4nm,0.5s							
KURK	**Kurchatov**	**14.22**	**19**	⇑P	**Pn**		**22 33 20.1**	**+2.7**
	4.6nm,1.2s							
AB31	**Akbulak array**	**14.48**	**328**	P	**Pn**		**22 33 21.2**	**+0.5**
	0.8nm,0.3s,baz=141,slow=11,SNR=70							
AB31				S	Sn		22 35 51.5	-8.8
	1.7nm,0.5s,baz=151,slow=22,SNR=8.1							
AKTO	**Aktyubinsk**	**16.19**	**328**	P	**Pn**		**22 33 44.4**	**+2.2**
	1.3nm,0.3s,baz=129,slow=9.5,SNR=17							
AKTO				S	**Sn**		**22 36 34.2**	**-7.3**
	0.2nm,0.3s,baz=137,slow=23,SNR=1.7							
AKTO	**Aktyubinsk**	**16.19**	**328**	⇑P	**Pn**		**22 33 43.8**	**+1.6**
	9.1nm,0.9s							
AKTO				⇓S	**Sn**		**22 36 33.5**	**-8.0**
	1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**18.91**	**25**	P	**P**		**22 34 11.8**	**-1.2**
	0.9nm,0.3s,baz=225,slow=12,SNR=18							
SONM	**Songino Array**	**27.49**	**57**	P	**P**		**22 35 36.5**	**-0.7**
	0.6nm,0.9s,baz=248,slow=7.6,SNR=1.4							
AKASG	**Malin Array Be**	**32.68**	**308**	P	**P**		**22 36 24.7**	**+1.9**
	0.5nm,0.3s,baz=102,slow=8.6,SNR=2.0							
NRIK	**Noril'sk**	**33.14**	**10**	P	**P**		**22 36 27.5**	**+0.9**
	1.5nm,0.6s,baz=186,slow=9.2,SNR=2.4							
FINES	**FINESS Array B**	**36.94**	**325**	P	**P**		**22 37 01.3**	**+2.1**
	2.6nm,0.9s,baz=124,slow=7.7,SNR=9.0							
ARCES	**ARCESS Array B**	**40.44**	**337**	P	**P**		**22 37 29.3**	**+0.9**
	1.3nm,1.0s,baz=108,slow=8.6,SNR=3.7							
NOA	**NORSAR Array B**	**43.88**	**322**	P	**P**		**22 37 57.0**	**+0.5**
	0.6nm,0.7s,baz=93,slow=7.7,SNR=2.0							
SEY	**Seymchan**	**53.43**	**34**	LR	LR		23 03 58.5	
	comp=Z,177nm,18.1s,baz=164,slow=38							
ESDC	**Sonseca Array**	**57.37**	**297**	P	**P**		**22 39 39.9**	**+1.8**
	0.3nm,0.7s,baz=62,slow=7.0,SNR=2.1							

IDC ***10*** *22:41:34.0±0.7, 22.89S×172.90E, h0km, mb4.2/13, mb1 4.4/16, mb1mx4.2/35, mbtmp4.3/16, ML3.8/2, MS4.1/21, Ms1 4.1/21, ms1mx4.0/28, Error ellipse: s-maj=20.9km s-min=18.7km az=107.0*

NEIC ***10*** *22:41:39.5±2.2, 22.88S±0.07×172.81E±0.08, h35km±1km, mb4.6/71, Error ellipse: s-maj=12.6km s-min=12.2km az=132.0*

GCMT ***10*** *22:41:40.5±0.2, 22.92S±0.01×172.85E±0.02, h17km, MW5.0/98, Moment Tensor Solution. s59,c75; s98,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.17±.19; $M_{\theta\theta}$-4.54±.13; $M_{\phi\phi}$0.37±.12; $M_{r\theta}$1.66±.29; $M_{r\phi}$-0.39±.08; $M_{\theta\phi}$1.02±.40; Best double couple: M_{ϕ}4.79300×10^{16} NP1:ϕ_s277.00000°, δ35.00000°, λ109.00000°. NP2: ϕ_s74.00000°, δ57.00000°, λ77.00000°. Principal axes: T 4.6790, Plg74.0000°, Azm308.0000°; N 0.2300, Plg11.0000°, Azm82.0000°; P -4.9070, Plg11.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 22:41:41.2±0.4, 22.88S±0.06×172.80E±0.06, h49km, n161, σ1936/150, mb4.6/41, MS4.0/21, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.93**	**277**	*e*Pn	**Pn**		**22 43 05.0**	**-1.6**
	21nm,0.2s							
DZM				*e*Sn	**Sn**		**22 44 09.7**	**-3.6**
	22nm,0.3s							
DZM				eLR	LR		22 44 19.4	
	comp=Z,754nm,29.3s							
DZM	**Mont Dzumac**	**5.93**	**277**	Pn	**Pn**		**22 43 04.7**	**-1.9**

3.1nm,0.3s,baz=107,slow=14,SNR=34
DZM Sn **Sn** **22 44 11.0 -2.3**
2.6nm,0.3s,baz=91,slow=19,SNR=1.9
DZM Mont Dzumac 5.93 277 Pn 22 43 05.2 -1.4
MSVF Nonsavu 7.11 45 Pn **Pn** **22 43 22.1 -0.7**
NFK Norfolk Island 7.54 214 P **Pn** **22 43 26.7 -1.8**
baz=7.6,SNR=6.7
SANVU Saraoutou 9.09 323 Pn **Pn** **22 43 49.7 -0.2**
RAO Raoul Island 10.48 129 LR LR 22 47 08.7
comp=Z,2µm,21.8s,baz=100,slow=32
LHI Lord Howe Isla 14.94 232 Pn **Pn** **22 45 06.4 -2.9**
FUNA Funafuti 15.54 24 Pn **Pn** **22 45 15.1 -2.1**
FUNA IAmb IAmb 22 45 34.0
comp=Z,49nm,1.1s
HIZ Hauiti 15.68 174 Pn 22 45 18.4 -0.5
HIZ IAmb IAmb 22 45 34.6
comp=Z,72nm,1.1s
URZ Urewera 15.77 167 Pn **Pn** **22 45 16.2 -3.8**
comp=Z,0.3nm,0.3s,baz=151,slow=19,SNR=2.8
URZ LR LR 22 49 56.2
comp=Z,2µm,20.9s,baz=28,slow=32
URZ Urewera 15.77 167 Pn 22 45 20.6 +0.6
URZ IAmb IAmb 22 45 35.0
comp=Z,60nm,1.1s
BKZ Black Stump Fm 16.54 170 P **Pn** **22 45 30.1 +0.3**
AFI Afiamalu 17.13 61 LR LR 22 50 48.0
comp=Z,228nm,19.7s,baz=216,slow=32
QRZ Quartz Range 17.89 181 P 22 45 46.7 0.0
QRZ IAmb IAmb 22 45 58.2
comp=Z,41nm,1.1s
BFZ Birch Farm 17.99 171 Pn 22 45 46.6 -1.1
BFZ IAmb IAmb 22 46 01.1
comp=Z,59nm,1.1s
HNR Honiara 18.18 315 P **P** **22 45 49.6 -0.4**
comp=Z,16nm,0.3s,baz=196,slow=9.9,SNR=1.8
HNR LR LR 22 51 45.3
comp=Z,861nm,21.2s,baz=155,slow=34
NNZ Nelson 18.29 179 P **Pn** **22 45 51.3 0.0**
SNZO South Karori 18.45 175 P **Pn** **22 45 53.0 -0.2**
BHW Baring Head 18.56 175 P **P** **22 45 53.4 -0.5**
MSWZ Moikau Station 18.60 174 P **P** **22 45 53.2 -1.2**
PLWZ Palliser 18.75 174 P **Pn** **22 45 56.6 -0.3**
BSWZ Blackbirch Sta 18.80 177 P **P** **22 45 57.0 +0.3**
CMWZ Cape Campbell 18.85 177 P **Pn** **22 45 58.3 +0.2**
THZ Tophouse 18.83 180 P **Pn** **22 45 57.7 -0.2**
KHZ Kahutara 19.49 178 P 22 46 04.2 +0.1
KHZ IAmb IAmb 22 46 06.5
comp=Z,38nm,1.2s
LTZ Lake Taylor 19.85 181 Pn 22 46 09.3 -0.8
EIDS Eidsvold 19.97 259 P Pn 22 46 11.7 +0.1
baz=20,SNR=6.2
EIDS Eidsvold 19.97 259 P **P** **22 46 10.4 +0.9**
EIDS IAmb IAmb 22 46 23.4
comp=Z,33nm,1.0s
ARMA Armidale 20.34 244 P **P** **22 46 13.8 +0.2**
baz=20,SNR=4.6
ARMA Armidale 20.34 244 P **P** **22 46 14.3 +0.7**
OXZ Oxford 20.40 182 IAmb IAmb 22 46 19.6
comp=Z,47nm,1.2s
FOZ Fox Glacier 20.75 186 Pn 22 46 19.5 -1.0
RPZ Rata Peaks 20.83 184 P **P** **22 46 17.2 -1.5**
comp=Z,13nm,0.9s,baz=12,slow=11,SNR=4.7
RPZ LR LR 22 53 38.8
comp=Z,2µm,20.0s,baz=338,slow=35
RPZ Rata Peaks 20.83 184 P **P** **22 46 19.4 +0.7**
RPZ IAmb IAmb 22 46 29.5
comp=Z,23nm,1.0s
LBZ Lake Benmore 21.56 185 P **P** **22 46 27.6 +1.1**
LBZ IAmb IAmb 22 46 35.4
comp=Z,20nm,1.1s
WKZ Wanaka 22.11 187 P **P** **22 46 33.8 +1.3**
WKZ IAmb IAmb 22 46 35.1
comp=Z,21nm,1.2s
RMQ Roma 22.13 256 P **P** **22 46 35.1 +2.3**
baz=22,SNR=38
ODZ Otahua Downs 22.18 184 P **P** **22 46 34.9 +1.8**
MLZ Mavora Lakes 22.75 189 P **P** **22 46 40.9 +1.6**
MLZ IAmb IAmb 22 46 48.9
comp=Z,21nm,1.1s
WHZ Wether Hill Ro 23.30 189 P **P** **22 46 45.6 +0.9**
CNB Canberra Magne 23.87 234 P **P** **22 46 51.9 +1.6**
baz=24,SNR=7.3
CAN Canberra 24.14 234 P **P** **22 46 55.2 +2.5**
baz=24
CAN Canberra 24.14 234 P **P** **22 46 53.7 +1.0**
CAN IAmb IAmb 22 46 57.2
comp=Z,29nm,1.1s
YNG Young 24.20 237 P **P** **22 46 56.0 +2.8**
baz=24
CTA Charters Tower 24.84 271 P **P** **22 46 59.6 +0.3**
comp=Z,4.8nm,0.6s,baz=100,slow=9.2,SNR=12
CTAO Charters Tower 24.84 271 P **P** **22 46 58.9 -0.3**
RAR Rarotonga 25.47 92 LR LR 22 54 54.6
comp=Z,92nm,21.6s,baz=262,slow=32
CMSA Cobar Meteorol 25.55 244 P **P** **22 47 06.8 +1.2**
baz=26,SNR=8.6
MTSU Mount Surprise 27.07 275 P **P** **22 47 20.0 +0.6**
baz=27,SNR=8.8
PMG Port Moresby 27.97 294 LR LR 22 56 27.2
comp=Z,286nm,20.6s,baz=68,slow=32
STKA Stephens Creek 29.04 245 P **P** **22 47 36.4 -0.4**
comp=Z,3.6nm,0.7s,baz=96,slow=12,SNR=8.4
STKA LR LR 22 57 46.8
comp=Z,374nm,21.2s,baz=68,slow=33
STKA Stephens Creek 29.04 245 P **P** **22 47 37.9 +1.0**
baz=29,SNR=6.2
STKA Stephens Creek 29.04 245 P **P** **22 47 37.3 +0.4**
COEN Coen 29.43 282 P **P** **22 47 41.1 +0.7**
baz=29
HTT Hallett 31.54 243 P **P** **22 47 59.8 +0.9**
baz=32
MCQ Macquarie Isla 33.24 195 P **P** **22 48 13.0 -0.5**
BBOO Buckleboo 33.81 245 P **P** **22 48 19.2 +0.4**
baz=34,SNR=5.2
BBOO Buckleboo 33.81 245 P **P** **22 48 18.9 +0.1**
TBI Tubuai 34.65 98 *e*LQ LQ 22 55 56.8
comp=Z,405nm,28.8s
TBI *e*LR LR 22 57 37.3
comp=Z,217nm,30.2s
PPT2 Papeete2 35.63 89 *e*LQ LQ 22 56 31.5
comp=Z,508nm,26.5s
PPT2 *e*LR LR 22 58 18.7
comp=Z,155nm,23.8s
PPT Papeete 35.63 88 LR LR 23 00 27.8
comp=Z,86nm,19.6s,baz=266,slow=32
AS31 Alice Springs 35.66 261 P **P** **22 48 34.5 -0.4**
AS31 IAmb IAmb 22 48 43.9
comp=Z,4.4nm,0.7s
ASAR Alice Springs 35.66 261 P **P** **22 48 34.5 -0.4**
comp=Z,8.1nm,0.7s,baz=84,slow=9.3,SNR=68
ASAR LR LR 23 02 05.7
comp=Z,164nm,18.7s,baz=92,slow=34
ASAR Alice Springs 35.66 261 P **P** **22 48 34.3 -0.6**
WR0 Warramunga Arr 35.67 267 IAmb IAmb 22 48 36.8
comp=Z,7.4nm,0.9s
WB0 Warramunga Arr 35.84 268 IAmb IAmb 22 48 46.5
comp=Z,7.1nm,0.8s
WB2 Warramunga Arr 35.85 267 P **P** **22 48 35.3 -1.2**
baz=36
WB2 Warramunga Arr 35.85 267 IAmb IAmb 22 48 38.7
comp=Z,7.8nm,0.7s
WRA Warramunga Arr 35.86 267 P **P** **22 48 35.1 -1.5**
comp=Z,3.9nm,0.7s,baz=103,slow=8.1,SNR=27
WRA LR LR 23 01 25.2
comp=Z,218nm,21.5s,baz=100,slow=33
WRA Warramunga Arr 35.86 267 P **P** **22 48 35.3 -1.4**
FORT Forrest 40.48 249 P **P** **22 49 15.5 +0.1**
baz=40,SNR=24
FORT Forrest 40.48 249 P **P** **22 49 15.8 +0.4**
WRKA Warakurna 40.59 258 P **P** **22 49 16.3 -0.1**
baz=41,SNR=22
MTN Manton Dam 40.77 277 P **P** **22 49 17.1 -0.8**
MTN IAmb IAmb 22 49 27.2
comp=Z,13nm,0.9s
KNRA Kununurra 42.06 272 P **P** **22 49 28.4 0.0**
KNRA IAmb IAmb 22 49 31.7
comp=Z,15nm,0.9s
FITZ Fitzroy Crossi 44.29 267 P **P** **22 49 46.7 +0.3**
baz=44,SNR=23
FITZ Fitzroy Crossi 44.29 267 P **P** **22 49 46.0 -0.5**
MEEK Meekatharra 49.05 254 P **P** **22 50 23.8 +0.1**
baz=49,SNR=5.6
KLBR Kellerberrin 49.27 247 P **P** **22 50 25.4 +0.1**
baz=49,SNR=5.5
NWAO Narrogin (SRO) 49.63 246 P **P** **22 50 28.7 +0.7**
NWAO Narrogin (SRO) 49.63 246 P **P** **22 50 28.5 +0.5**
NWAO IAmb IAmb 22 50 40.7
comp=Z,24nm,1.1s
BLDU Ballidu 50.25 249 P **P** **22 50 32.5 -0.3**
baz=50,SNR=6.0
MORW Morawa 50.99 250 P **P** **22 50 38.7 +0.3**
baz=51,SNR=4.3
MORW Morawa 50.99 250 P **P** **22 50 38.7 +0.3**
VNDA Vanda 54.95 183 P **P** **22 51 07.2 +0.4**
comp=Z,0.7nm,0.9s,baz=8.5,slow=9.4,SNR=3.0
VNDA LR LR 23 10 37.8
comp=Z,748nm,21.9s,baz=18,slow=32
CASY Casey 58.18 205 P **P** **22 51 29.9 +0.1**
CASY IAmb IAmb 22 51 44.4
comp=Z,8.3nm,1.1s
SBUM Sibu 64.14 285 P **P** **22 52 10.0 -1.0**
SBUM IAmb IAmb 22 52 26.2
comp=Z,6.8nm,1.1s
KSM Kuching 65.42 283 P **P** **22 52 18.7 -0.7**
QSPA South Pole Qui 67.19 180 P **P** **22 52 30.3 +0.2**
MJAR Matsushiro Arr 67.53 330 P **P** **22 52 33.5 +1.1**
comp=Z,1.7nm,0.8s,baz=165,slow=5.3,SNR=4.6
MJAR Matsushiro Arr 67.53 330 P **P** **22 52 32.5 +0.1**
KSRS Korea Array 73.38 324 LR LR 23 24 10.0
comp=Z,59nm,18.7s,baz=145,slow=35
KS19 Wonju Array Si 73.45 324 P **P** **22 53 09.0 +0.6**
INCN Inchon 74.11 323 P **P** **22 53 10.8 -1.6**
MNSI Mandailing Nat 74.88 277 P **P** **22 53 21.6 +4.3**
comp=Z,20nm,0.9s
IPM Ipoh 75.07 281 P **P** **22 53 18.1 -0.4**
NJ2 Nanjing 75.12 315 *e*P **P** **22 53 21.2 +2.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KULM Kulim 75.75 282 P **P** **22 53 21.3 -1.1**
KULM IAmb IAmb 22 53 32.6
comp=Z,5.0nm,0.9s
RPSI Rantau Prapat 76.24 279 P **P** **22 53 23.8 -1.4**
MAW Mawson 76.31 202 P **P** **22 53 26.5 +1.9**
comp=Z,4.8nm,1.1s,baz=55,slow=11,SNR=3.8
MAW LR LR 23 23 48.4
comp=Z,164nm,19.2s,baz=67,slow=33
MAW Mawson 76.31 202 P **P** **22 53 25.4 +0.9**
USRK Ussurisk Ar. 76.50 331 LR LR 23 22 15.5
comp=Z,108nm,20.8s,baz=134,slow=32
PETK Petropavlovsk- 76.80 351 P **P** **22 53 28.9 +1.6**
comp=Z,4.9nm,0.9s,baz=133,slow=6.3,SNR=6.0
PETK LR LR 23 20 40.3
comp=Z,203nm,21.8s,baz=154,slow=30
SLVN Son La 80.22 298 P **P** **22 53 47.5 +0.4**
PMSA Palmer Station 82.35 159 P **P** **22 53 57.6 +0.1**
CMAR Chiang Mai Arr 83.01 293 P **P** **22 54 03.8 +2.0**
comp=Z,0.7nm,0.7s,baz=129,slow=3.1,SNR=4.6
CMAR LR LR 23 33 59.3
comp=Z,35nm,18.1s,baz=80,slow=38
CMAR Chiang Mai Arr 83.01 293 P **P** **22 54 02.3 +0.6**
HHC Hu-ho-hao-te 85.14 318 *e*P **P** **22 54 14.0 +1.8**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,360nm,5.8s
GDXM Geysers 85.99 45 P **P** **22 54 14.1 -2.3**
GDXM IAmb IAmb 22 54 27.5
comp=Z,5.5nm,1.0s
VNA3 Neumayer Olymp 86.12 179 P **P** **22 54 17.1 +0.5**
SEY Seymchan 87.04 351 P **P** **22 54 19.6 -1.3**
comp=Z,1.1nm,0.4s,baz=150,slow=9.1,SNR=2.7
LZH Lanzhou 87.62 311 *e*P **P** **22 54 26.6 +2.0**
LZH pP pP 22 54 38.5 +0.6
LZH sP sP 22 54 43.0 +0.1
LZH *e*PP **PP** **22 57 55.4 +4.8**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,75nm,9.0s
LZH LR LR
comp=N,98nm,17.0s
LZH LR LR
comp=E,100nm,17.3s
LZH LR LR
comp=Z,150nm,19.6s
HUMO Hull Mountain 87.99 42 P **P** **22 54 25.7 -0.4**
WAKR Walker 88.04 47 P **P** **22 54 25.7 -1.0**
GSC Goldstone, Bar 88.24 50 P **P** **22 54 26.2 -1.3**
GSC IAmb IAmb 22 54 38.8
comp=Z,3.2nm,1.1s
YERR Yerington 88.42 46 P **P** **22 54 28.6 +0.2**
YERR IAmb IAmb 22 54 36.7
comp=Z,2.3nm,1.0s
PAHR Pah Rah Range 88.70 46 P **P** **22 54 28.6 -1.0**
PAHR IAmb IAmb 22 54 46.8
comp=Z,3.9nm,1.1s
RYN Ryan 88.72 47 P **P** **22 54 29.6 -0.2**
NVAR Mina Array Bea 88.77 47 P **P** **22 54 29.7 -0.3**
comp=Z,0.2nm,0.5s,baz=225,slow=4.1,SNR=5.0
NVAR Mina Array Bea 88.77 47 P **P** **22 54 29.4 -0.7**
NV11 Mina Array Sit 88.87 47 P **P** **22 54 30.1 -0.3**
PIX Pinacate 88.91 55 P **P** **22 54 30.2 -0.4**
PIX IAmb IAmb 22 54 34.6
comp=Z,1.9nm,0.8s
KVN Kaiserville 89.22 47 P **P** **22 54 32.2 0.0**
KVN IAmb IAmb 22 54 49.8
comp=Z,2.9nm,1.2s
TPH Tonopah 89.33 48 P **P** **22 54 32.5 -0.1**
PINE Pine Mountain 89.87 42 P **P** **22 54 34.5 -0.6**
PINE IAmb IAmb 22 54 38.0
comp=Z,3.7nm,1.1s
Y14A Wickenburg 90.34 53 P **P** **22 54 36.3 -1.0**
PRN Pahroc Range 90.50 49 P **P** **22 54 37.3 -0.8**
PRN IAmb IAmb 22 54 44.8
comp=Z,3.1nm,1.1s
I07A Izee 90.90 42 P **P** **22 54 38.9 -0.9**
I07A IAmb IAmb 22 54 52.5
comp=Z,3.0nm,1.1s
TUC Tucson 91.27 55 P **P** **22 54 41.4 -0.4**
TUC IAmb IAmb 22 54 50.4
comp=Z,2.3nm,1.0s
X16A Lo Mia Camp, P 91.72 53 P **P** **22 54 43.4 -0.5**
PSUT Pine Spring 91.87 49 P **P** **22 54 43.4 -1.1**
KNB Kanab 91.89 50 P **P** **22 54 44.6 0.0**
U15A North Rim 92.00 51 P **P** **22 54 44.4 -0.8**
U15A IAmb IAmb 22 54 46.3
comp=Z,2.6nm,0.9s
SONM Songino Array 92.12 322 LR LR 23 32 43.9
comp=Z,70nm,21.8s,baz=140,slow=33
MENT Mentasta 92.16 18 P **P** **22 54 44.8 -0.3**
MENT IAmb IAmb 22 54 46.2
comp=Z,3.3nm,0.9s
IMAR Indian Mountai 92.17 13 P **P** **22 54 44.6 -0.3**
ILAR Eielson Array 92.75 16 P **P** **22 54 46.0 -1.6**
comp=Z,1.0nm,1.0s,baz=234,slow=5.4,SNR=1.9
ILAR LR LR 23 29 53.6
comp=Z,221nm,20.6s,baz=190,slow=31
PLCA Paso Flores 93.62 137 LR LR 23 29 46.4
comp=Z,7nm,18.1s,baz=169,slow=31
TXAR Lajitas Array 95.61 61 LR LR 23 29 34.5
comp=Z,51nm,21.7s,baz=0.0,slow=30
BOSA Boshof 120.00 213 PKP **PKiKP** **23 00 27.6 +0.3**
comp=Z,1.9nm,0.5s,baz=140,slow=1.6,SNR=6.4
BDFB Brasilia 124.67 130 PKP **PKPdf** **23 00 35.3 -1.1**
comp=Z,1.9nm,0.6s,baz=190,slow=6.1,SNR=2.1
OSTC Ostas 146.88 332 *e*PKP **PKPbc** **23 01 17.6 -0.4**
CHVC Chvalec 146.93 333 *e*PKP **PKiKP** **23 01 22.0 +1.3**
DPC Dobruska-Polom 146.99 332 *e*PKP **PKPbc** **23 01 17.4 -1.0**
KRLC Kraliky 146.99 331 *e*PKP **PKiKP** **23 01 20.4 -0.5**
BRG Berggiesshubel 147.57 335 *e*PKP **PKPdf** **23 01 18.3 +1.1**
comp=Z,6.8nm,1.1s
CLL Collm 147.59 336 *e*PKPdf **PKPbc** **23 01 19.0 -0.9**
CLL *e*PKPbc **PKiKP** **23 01 20.0 -2.0**
CLL *e*PKPab **PKPab** **23 01 23.0 +0.9**
CLL *ep*PKPdf **pPKPdf** **23 01 26.0 -4.6**
CLL *e*SSS SSS 23 29 30.0
CLL Lm MLR 00 11 00.0
comp=N,100nm,19.5s
CLL Lm MLR 00 11 00.0
comp=E,100nm,19.3s
PRU Pruhonice 148.02 333 *e*PKP **PKPab** **23 01 24.7 +0.8**
PBCC Pribram 148.48 333 *e*PKP **PKPbc** **23 01 20.5 -1.9**
CONA Conrad Observa 148.96 329 *e*P **PKPbc** **23 01 23.4 -0.3**
comp=E,3.1nm,0.9s
KHC Kasperske Hory 149.08 333 *e*PKP **PKPbc** **23 01 24.0 +0.1**
GERES GERESS Array B 149.25 333 PKPbc **PKPbc** **23 01 22.9 -1.6**
comp=E,1.1nm,0.7s,baz=289,slow=4.1,SNR=4.1
MOA Molln 149.75 331 *e*P **PKPbc** **23 01 25.0 -0.6**
comp=E,4.5nm,1.4s
SOKA Soboth 150.24 328 *e*P **PKPbc** **23 01 25.9 -1.0**
comp=E,3.0nm,1.0s
KBA Koelnbreinsper 150.74 331 *e*P **PKPbc** **23 01 26.8 -1.5**
comp=E,2.7nm,0.8s
WTTA Wattenberg 151.35 333 *e*P **PKPbc** **23 01 26.6 -3.1**
comp=E,3.5nm,1.0s
FETA Feichten 151.92 333 *e*P **PKPdf** **23 01 26.9 +2.5**
comp=E,6.4nm,1.5s
ESDC Sonseca Array 163.03 351 PKPab **PKPab** **23 02 27.0 -1.1**
comp=E,0.5nm,1.0s,baz=355,slow=3.6,SNR=3.1
TORD Torodi Ar. Bea 167.15 223 PKP **PKPdf** **23 01 41.9 -0.6**
comp=E,0.7nm,0.9s,baz=72,slow=0.9,SNR=3.8
TORD PKPab **PKPab** **23 02 45.1 -1.7**
comp=E,2.6nm,1.1s,baz=109,slow=3.6,SNR=6.1
TORD Torodi Ar. Bea 167.15 223 PKPab 23 02 47.2 +0.3

JMA ***10*** *22:52:42.3±0.6, 45˚.48N×150˚.28E, h30km, M4.9*
MOS ***10*** *22:52:43.7±0.9, 45˚.27N×150˚.21E, h65km, mb5.0/31, Error ellipse: s-maj=6.2km s-min=5.2km az=81.2*
SKHL ***10*** *22:52:43.0±0.3, 45˚.19N×150˚.41E, h61km±4km, mb4.9/12*
NEIC ***10*** *22:52:45.1±1.2, 45˚.30N±0˚.09×150˚.2E±0˚.1, h62km±5km, mb4.6/182, Error ellipse: s-maj=15.2km s-min=10.5km az=143.0*
IDC ***10*** *22:52:46.4±2.4, 45˚.43N×150˚.15E, h71km±20km, mb4.0/27, mb1 4.2/32, mb1mx4.0/56, mbtmp4.3/32, MS3.5/12, Ms1 3.5/12, ms1mx3.3/36, Error ellipse: s-maj=14.7km s-min=10.2km az=152.0*

ISC 10 22:52:43.1±0.4, 45.19N±0˚.05×150.36E±0˚.05, h50km, n495, σ1§40/493, mb4.6/173, MS3.8/9, 35C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KUR	**Kuril'sk**	**1.76**	**272**	*i* P	**Pn**	**22**	**53**	**10.8**	**-0.3**
KUR				AMB	AMB	22	53	12.0	
	2µm,0.4s								
KUR				*i* S	**Sn**	**22**	**53**	**31.8**	**-0.5**
KUR				A	A	22	53	33.0	
	5µm,0.4s								
KUR				A	A	22	53	33.0	
	2µm,0.4s								
KUR	**Kuril'sk**	**1.76**	**272**	*d i* PN	**Pn**	**22**	**53**	**10.9**	**-0.2**
KUR				*e*S	**Sn**	**22**	**53**	**30.8**	**-1.5**
KUR				pmax	pmax				
	comp=Z,2µm,0.4s								
KUR				pmax	pmax				
	comp=N,623nm,0.3s								
KUR				pmax	pmax				
	comp=E,277nm,0.3s								
KUR				smax	smax				
	comp=N,4µm,0.4s								
KUR				smax	smax				
	comp=E,2µm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.41**	**252**	*e*P	**Pn**	**22**	**53**	**34.6**	**+0.8**
YUK				AMB	AMB	22	53	36.0	
	comp=E,680nm,0.4s								
YUK				*e*S	**Sn**	**22**	**54**	**12.8**	**-0.2**
YUK				A	A	22	54	17.0	
	comp=E,610nm,0.5s								
YUK				A	A	22	54	17.0	
	comp=E,2µm,0.5s								
YUK	**Yuzh-Kuril'sk**	**3.41**	**252**	*e*PN	**Pn**	**22**	**53**	**34.6**	**+0.8**
YUK				*e*S	**Sn**	**22**	**54**	**12.7**	**-0.2**
YUK				pmax	pmax				
	comp=N,180nm,0.2s								
YUK				pmax	pmax				
	comp=E,261nm,0.2s								
YUK				pmax	pmax				
	comp=Z,683nm,0.2s								
YUK				smax	smax				
	comp=E,2µm,0.5s								
YUK				smax	smax				
	comp=N,605nm,0.3s								
GRPR	**Tuman**	**3.49**	**251**	*e*P	**Pn**	**22**	**53**	**35.9**	**+1.1**
GRPR				AMB	AMB	22	53	39.0	
	comp=N,530nm,0.4s								
GRPR				*e*S	**Sn**	**22**	**54**	**15.3**	**+0.5**
GRPR				A	A	22	54	26.0	
	comp=N,1µm,0.5s								
GRPR				A	A	22	54	26.0	
	comp=N,1µm,0.5s								
GRPR	**Tuman**	**3.49**	**251**	*e*PN	**Pn**	**22**	**53**	**35.9**	**+1.1**
GRPR				*e*S	**Sn**	**22**	**54**	**15.3**	**+0.5**
GRPR				pmax	pmax				
	comp=E,103nm,0.3s								
GRPR				pmax	pmax				
	comp=Z,531nm,0.3s								
GRPR				pmax	pmax				
	comp=N,50nm,0.1s								
GRPR				smax	smax				
	comp=E,1µm,0.5s								
GRPR				smax	smax				
	comp=N,1µm,0.4s								
GLVR	**Golovnino**	**3.75**	**249**	*e*P	**Pn**	**22**	**53**	**38.0**	**-0.5**
GLVR				AMB	AMB	22	53	44.0	
	comp=N,220nm,0.3s								
GLVR				*e*S	**Sn**	**22**	**54**	**21.0**	**-0.3**
GLVR				A	A	22	54	27.0	
	comp=N,2µm,0.3s								
GLVR				A	A	22	54	27.0	
	comp=N,348nm,0.3s								
GLVR	**Golovnino**	**3.75**	**249**	*e*PN	**Pn**	**22**	**53**	**38.7**	**+0.2**
GLVR				S	**Sn**	**22**	**54**	**21.1**	**-0.3**
GLVR				pmax	pmax				
	comp=Z,223nm,0.1s								
GLVR				smax	smax				
	comp=N,2µm,0.3s								
GLVR				smax	smax				
	comp=E,348nm,0.3s								
NEM2	**Nemuro 2**	**3.78**	**243**	P	**Pn**	**22**	**53**	**38.7**	**-0.1**
NEM2				*e*S	**Sn**	**22**	**54**	**20.6**	**-1.5**
NMR	**Nemuro--Hokkai**	**3.79**	**243**	*i* P	**Pn**	**22**	**53**	**38.0**	**-0.9**
NMR				*e*S	**Sn**	**22**	**54**	**21.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**3.79**	**243**	‖ *i* PN	**Pn**	**22**	**53**	**38.9**	**0.0**
NMR				*e*S	**Sn**	**22**	**54**	**21.0**	**-1.2**
JRA	**Rausu**	**3.95**	**253**	P	**Pn**	**22**	**53**	**42.6**	**+1.5**
JRA				*e*S	**Sn**	**22**	**54**	**28.4**	**+2.4**
JAK	**Akkeshi**	**4.63**	**244**	P	**Pn**	**22**	**53**	**50.6**	**+0.1**
JAK				*e*S	**Sn**	**22**	**54**	**41.4**	**-1.5**
JTKR	**Abashiri--Toko**	**4.77**	**257**	P	**Pn**	**22**	**53**	**54.7**	**+2.4**
JAR	**Ashorobuto**	**5.10**	**250**	P	**Pn**	**22**	**53**	**59.0**	**+2.1**
JMP	**Maruseppu**	**5.13**	**259**	P	**Pn**	**22**	**54**	**00.0**	**+2.6**
JOB	**Onbets**	**5.23**	**246**	P	**Pn**	**22**	**53**	**59.4**	**+0.7**
JOB				*e*S	**Sn**	**22**	**54**	**56.4**	**-1.2**
YSS	**Yuzh-Sakhalins**	**5.58**	**291**	*e*P	**Pn**	**22**	**54**	**04.4**	**+1.0**
YSS				AMB	AMB	22	54	08.0	
	comp=E,50nm,0.7s								
YSS	**Yuzh-Sakhalins**	**5.58**	**291**	‖ *e*PN	**Pn**	**22**	**54**	**03.4**	**0.0**
YSS				*e*S	**Sn**	**22**	**55**	**06.2**	**+0.1**
YSS				pmax	pmax				
	comp=Z,50nm,0.7s								
YSS				MLR	MLR				
	comp=Z,500nm,16.0s								
YSS	**Yuzh-Sakhalins**	**5.58**	**291**	Pn	**Pn**	**22**	**54**	**04.7**	**+1.3**
JKK2	**Kamakawa 2**	**5.60**	**259**	P	**Pn**	**22**	**54**	**06.5**	**+2.8**
JKA	**Kamikawa-asahi**	**5.64**	**262**	*e*P	**Pn**	**22**	**54**	**07.0**	**+2.7**
JKA	**Kamikawa-asahi**	**5.64**	**262**	Pn	**Pn**	**22**	**54**	**07.0**	**+2.7**
ASAJ	**Asahikawa**	**5.64**	**262**	P	**Pn**	**22**	**54**	**06.9**	**+2.6**
	comp=Z,6.3nm,0.3s,baz=60,slow=18,SNR=23								
ASAJ				S	**Sn**	**22**	**55**	**15.1**	**+7.3**
	baz=25,slow=20,SNR=1.2								
ASAJ				LR	LR	22	56	22.5	
	comp=Z,411nm,19.2s,baz=123,slow=39								
ASAJ	**Asahikawa**	**5.64**	**262**	PN	**Pn**	**22**	**54**	**07.0**	**+2.7**
JCH	**Churui**	**5.67**	**245**	P	**Pn**	**22**	**54**	**05.3**	**+0.5**
JCH				*e*S	**Sn**	**22**	**55**	**07.4**	**-1.1**
JFR	**Furan**	**5.94**	**253**	P	**Pn**	**22**	**54**	**10.5**	**+2.0**
ERM	**Erimo**	**6.12**	**241**	*ce*PN	**Pn**	**22**	**54**	**12.8**	**+2.0**
ERM				pmax	pmax				
	comp=Z,147nm,1.3s								
JNBK	**Urakawa-nobuka**	**6.23**	**245**	P	**Pn**	**22**	**54**	**12.5**	**+0.1**
JBT2	**Biratori 2**	**6.25**	**250**	P	**Pn**	**22**	**54**	**13.6**	**+0.9**
SKR	**Severo-Kuril's**	**6.72**	**33**	*e*P	**Pn**	**22**	**54**	**19.0**	**0.0**
SKR				AMB	AMB	22	54	22.0	
	comp=Z,30nm,0.7s								
SKR				*e*S	**Sn**	**22**	**55**	**32.4**	**-1.7**
SKR				A	A	22	55	35.8	
	comp=Z,40nm,0.9s								
SKR				A	A	22	55	35.8	
	comp=Z,60nm,0.9s								
SKR	**Severo-Kuril's**	**6.72**	**33**	*e*PN	**Pn**	**22**	**54**	**22.1**	**+3.1**
SKR				pmax	pmax				
	comp=Z,33nm,0.7s								
SKR				MLR	MLR				
	comp=Z,200nm,16.0s								
SKR				MLR	MLR				

comp=Z,400nm,16.0s
JEW Eniwo 6.84 253 Pn Pn 22 54 23.7 +3.0
UGL Uglegorsk 6.86 307 *eP* **Pn Pn 22 54 22.1 +1.1**
JNB Noboribetsu 7.27 251 P **Pn Pn 22 54 28.0 +1.4**
JNB *eS* **Sn Sn 22 55 47.6 -0.1**
JKB Kayabe 7.54 247 P **Pn Pn 22 54 30.6 +0.3**
JKB *eS* **Sn Sn 22 55 50.1 -4.2**
PAU Pauzhetka 7.61 32 *eP* **Pn Pn 22 54 32.7 +1.5**
PAU AMB AMB 22 54 42.9
comp=Z,40nm,0.4s
PAU *eS* **Sn Sn 22 55 54.8 -1.2**
PAU A A 22 55 57.7
comp=Z,110nm,0.3s
PAU A A 22 55 57.7
comp=Z,100nm,0.3s
TYV Tymovskoe 7.67 320 *eP* **Pn Pn 22 54 34.0 +1.9**
TYV AMB AMB 22 54 34.0
comp=Z,24nm,0.5s
TYV *eS* **Sn Sn 22 55 57.1 -0.4**
TYV A A 22 56 00.0
comp=Z,30nm,0.6s
TYV Tymovskoe 7.67 320 *ePN* **Pn Pn 22 54 34.6 +2.5**
TYV *eS* **Sn Sn 22 55 59.9 +2.4**
TYV pmax pmax
comp=Z,24nm,0.5s
TYV pmax pmax
comp=Z,600nm,3.5s
TYV smax smax
comp=N,28nm,0.6s
TYV smax smax
comp=E,1µm,3.8s
JYM2 Yakumo 2 7.87 251 P **Pn Pn 22 54 35.5 +0.7**
JANG Nango 8.09 237 P **Pn Pn 22 54 35.9 -2.0**
JANG *eS* **Sn Sn 22 56 00.5 -7.4**
JTM Tenmabayashi 8.11 240 *eS* **Sn Sn 22 56 02.4 -5.9**
JTM Tenmabayashi 8.11 240 Pn **Pn Pn 22 54 38.4 +0.2**
JTH Tanohata 8.17 233 *eS* Sn 22 56 01.1 -8.9
OFUJ Ofunato 8.88 230 P **Pn Pn 22 54 46.4 -2.4**
OFUJ *eS* **Sn Sn 22 56 19.3 -8.1**
JRG Rokugo 9.24 235 *eS* **Sn Sn 22 56 29.5 -6.7**
PEA0B Petropavlovsk- 9.26 29 PN **Pn Pn 22 54 55.2 +1.3**
PEA0B Petropavlovsk- 9.26 29 Pn **Pn Pn 22 54 55.2 +1.3**
PETK Petropavlovsk- 9.26 29 P **Pn Pn 22 54 54.8 +0.9**
comp=E,1.7nm,0.3s,baz=203,slow=12,SNR=25
PETK Petropavlovsk- 9.26 29 Pn **Pn Pn 22 54 54.4 +0.5**
JIO Ouri 9.51 228 *eS* Sn 22 56 34.3 -8.4
OKH Okha 9.66 333 *eP* **Pn Pn 22 55 01.5 +2.2**
TEY Ternei 9.73 274 *eP* **Pn Pn 22 55 01.9 +1.6**
TEY AMB AMB 22 55 07.0
comp=E,60nm,0.7s
TEY Ternei 9.73 274⇑ *ePN* Pn Pn 22 55 06.3 +6.0
TEY pmax pmax
comp=Z,60nm,0.9s
TEY pmax pmax
comp=N,10.0nm,1.5s
TEY pmax pmax
comp=E,80nm,0.8s
JMM Marumori 10.24 228 Pn **Pn Pn 22 55 06.5 -0.8**
JSD Sado 11.53 236 Pn **Pn Pn 22 55 26.0 +1.1**
MAJO Matsushiro 12.61 231 *i* PN **Pn Pn 22 55 41.3 +1.6**
MJAR Matsushiro Arr 12.61 231 P **Pn Pn 22 55 38.1 -1.6**
comp=E,0.1nm,0.3s,baz=26,slow=13,SNR=6.8
MJAR LR LR 23 00 27.4
comp=E,136nm,20.8s,baz=235,slow=36
MJAR Matsushiro Arr 12.61 231 PN **Pn Pn 22 55 40.8 +1.1**
MJAR Matsushiro Arr 12.61 231 Pn **Pn Pn 22 55 40.8 +1.1**
USA0B Ussuriysk Arra 13.11 272 PN **Pn Pn 22 55 47.2 +0.7**
USA0B Ussuriysk Arra 13.11 272 **Pn Pn 22 55 47.2 +0.7**
USRK Ussuriysk Ar. 13.11 272 P **Pn Pn 22 55 48.2 +1.7**
baz=82,slow=14,SNR=16
USRK LR LR 23 00 30.6
comp=E,194nm,19.7s,baz=58,slow=36
USRK Ussuriysk Ar. 13.11 272 **Pn Pn 22 55 48.1 +1.6**
JGF Kuroka 13.76 230 Pn **Pn Pn 22 55 56.0 +0.5**
EKMR Ekimchan 13.83 311 *eP* **Pn Pn 22 55 55.0 -1.3**
EKMR AMB AMB 22 56 08.5
comp=E,10.0nm,0.9s
MA2 Magadan 14.41 1 LR LR 23 01 39.8
comp=E,137nm,18.2s,baz=190,slow=38
JWT Wachi 15.09 234 **Pn Pn 22 56 15.4 +2.4**
JWT IAmb IAmb 22 56 20.8
comp=Z,64nm,1.1s
JHS Saijyo 16.63 238 Pn **Pn Pn 22 56 33.8 +1.1**
BMKR Bomnak 16.74 312 *eP* **Pn Pn 22 56 32.0 -1.9**
BMKR AMB AMB 22 56 39.0
comp=Z,7.0nm,0.8s
ZEA Zeya 17.22 308 *eP* **Pn Pn 22 56 38.0 -1.8**
ZEA AMB AMB 22 56 42.9
comp=Z,21nm,0.9s
ZEA AMB AMB 22 56 42.9
comp=Z,29nm,0.9s
ZEA Zeya 17.22 308 *eP* **P P 22 56 41.6 +0.8**
ZEA pmax pmax
comp=Z,20nm,0.9s
KROS Kirovskiy 17.62 310 *eP* **Pn Pn 22 56 42.2 -2.7**
KROS AMB AMB 22 56 48.0
comp=Z,7.0nm,0.4s
SEY Seymchan 17.81 3 P **Pn Pn 22 56 44.5 -2.6**
comp=Z,0.2nm,0.3s,baz=180,slow=15,SNR=2.6
SEY Seymchan 17.81 3 *eP* **Pn Pn 22 56 43.1 -4.0**
SEY Seymchan 17.81 3 *i* P **Pn Pn 22 56 43.1 -4.0**
KSRS Korea Array 18.50 253 P **Pn Pn 22 56 56.5 +0.9**
comp=Z,0.5nm,0.3s,baz=58,slow=11,SNR=9.4
KSRS LR LR 23 02 45.4
comp=Z,116nm,21.3s,baz=104,slow=32
KSAR Wonju Array Be 18.53 253 P **P P 22 56 55.7 +0.3**
KSAR Wonju Array Be 18.53 253 P **P P 22 56 55.7 +0.3**
JNU Nakatsue 19.27 238 LR LR 23 04 05.0
comp=Z,127nm,19.5s,baz=344,slow=35
YAK Yakutsk 20.69 332 P **P P 22 57 18.6 0.0**
comp=Z,61nm,0.8s,baz=138,slow=3.7,SNR=2.0
YAK LR LR 23 05 01.7
comp=Z,139nm,21.0s,baz=102,slow=36
YAK Yakutsk 20.69 332 *eP* Pn 22 57 22.3 +0.9
YAK *e* 22 57 43.4
YAK *e**SS sS 23 01 33.3 +8.4
YAK *e* 23 08 42.3
YAK pmax pmax
comp=Z,121nm,0.9s
YAK pmax pmax
comp=E,16nm,0.9s
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=Z,205nm,3.9s
YAK pmax pmax
comp=N,159nm,4.4s
YAK pmax pmax
comp=E,106nm,4.1s
YAK Yakutsk 20.69 332 P Pn 22 57 22.1 +0.7
BILL Bilibino 24.36 14 *eP* **P P 22 57 54.0 -2.0**
BILL Bilibino 24.36 14⇑ *eP* **P P 22 58 00.4 +4.4**
BILL PPP PPP 22 58 39.0
BILL S **S 23 02 02.0 -10**
BILL pmax pmax
comp=Z,27nm,1.9s
BILL MLR MLR
comp=Z,110nm,16.0s
HHC Hu-ho-hao-te 28.50 275 *eP* **P P 22 58 35.4 +1.7**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,260nm,6.3s
H11N2 WAKE ISLAND Hy 28.86 146 T T 23 29 24.5
baz=336,slow=74
H11N1 WAKE ISLAND Hy 28.87 146 T T 23 29 27.4
baz=336,slow=74
H11N3 WAKE ISLAND Hy 28.87 146 T T 23 29 29.1
baz=336
H11S1 WAKE ISLAND Hy 29.89 148 T T 23 30 37.8
baz=337,slow=76,SNR=2602
H11S3 WAKE ISLAND Hy 29.90 148 T T 23 30 38.2
baz=337,slow=76,SNR=1353
H11S2 WAKE ISLAND Hy 29.91 148 T T 23 30 40.0
baz=337,slow=76,SNR=1366
SONM Songino Array 30.07 291 P **P 22 58 47.8 +0.3**
comp=Z,0.4nm,0.3s,baz=84,slow=7.6,SNR=4.3
SONM PcP **PcP 23 01 48.8 +0.6**
comp=Z,0.6nm,0.7s,baz=118,slow=2.6,SNR=4.6
SONM LR LR 23 10 25.1
comp=Z,103nm,20.2s,baz=114,slow=36
SONM Songino Array 30.07 291 IAmb IAmb 22 58 52.3
comp=Z,0.8nm,0.9s
TPUB Ta-pu 32.58 238 P **P 22 59 11.1 +1.4**
SVW2 Sparrevohn 34.95 43 P **P 22 59 30.5 +0.6**
SVW2 IAmb IAmb 22 59 36.6
comp=Z,14nm,1.2s
CHIR Chirikof Islan 35.10 53 P **P 22 59 31.7 +0.5**
LZH Lanzhou 36.02 272 *eP* **P 22 59 40.3 +0.8**
LZH pP sP 22 59 59.6 +1.3
LZH *e*PP **PP 23 01 04.5 +2.5**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,79nm,5.2s
LZH LR LR
comp=N,320nm,13.2s
LZH LR LR
comp=E,330nm,13.4s
LZH LR LR
comp=Z,410nm,16.7s
IMAR Indian Mountai 36.15 35 P **P 22 59 40.5 +0.3**
KDAK Kodiak Island 36.58 49 P **P 22 59 44.3 +0.5**
KDAK pmax pmax
comp=Z,21nm,1.1s
KDAK Kodiak Island 36.58 49 P **P 22 59 44.3 +0.5**
PPLA Purkeypile 36.60 40 P **P 22 59 45.7 +1.6**
PPLA IAmb IAmb 22 59 49.9
comp=Z,14nm,1.2s
CNPM China Poot 37.14 46 P **P 22 59 49.4 +0.8**
BPAW Bear Paw Mtn. 37.17 38 P **P 22 59 50.3 +1.4**
KTH Kantishna Hill 37.19 39 P **P 22 59 50.4 +1.3**
GTA Gaotai 37.32 279 P **P 22 59 51.2 +0.6**
GTA pP sP 23 00 10.5 +1.2
GTA pmax pmax
comp=Z,6.0nm,0.7s
TRF Thorofare Moun 37.47 39 P **P 22 59 52.8 +1.2**
COLD Coldfoot 37.70 33 P **P 22 59 54.1 +0.9**
COLD IAmb IAmb 22 59 54.9
comp=Z,5.6nm,0.7s
SEW Seward 37.99 45 P **P 22 59 56.1 +0.3**
TOLK Toolik Lake Re 38.08 31 P **P 22 59 57.3 +0.8**
MDM Murphy Dome 38.38 37 P **P 23 00 00.3 +1.2**
WRH Wood River Hil 38.44 38 P **P 22 59 60.0 +0.4**
COLA College 38.55 37 *i* P **P 22 59 57.3 -3.1**
COLA pmax pmax
comp=Z,7.0nm,1.1s
CCB Clear Creek Bu 38.56 38 P **P 23 00 01.8 +1.3**
DHY Denali Highway 38.80 40 P **P 23 00 03.3 +0.5**
CD2 Chengdu 38.83 265⇓ *i* P **P 23 00 03.5 +0.3**
CD2 pmax pmax
comp=Z,30nm,0.7s
SCM Sheep Creek Mo 38.89 42 P **P 23 00 04.7 +1.2**
SCM pmax pmax
comp=Z,10.0nm,1.0s
SCM Sheep Creek Mo 38.89 42 P **P 23 00 04.7 +1.2**
SCM IAmb IAmb 23 00 12.3
comp=Z,10.0nm,1.0s
HDA Harding Lake 38.94 38 P **P 23 00 04.4 +0.7**
IL31 38.96 37 P **P 23 00 04.4 +0.6**
ILAR Eielson Array 38.96 37 P **P 23 00 03.5 -0.4**
comp=Z,1.7nm,0.6s,baz=269,slow=7.0,SNR=14
ILAR Eielson Array 38.96 37 P **P 23 00 03.7 -0.2**
ILAR Eielson Array 38.96 37 P **P 23 00 03.7 -0.2**
M24K Tolsona, Glenn 39.41 42 P **P 23 00 09.1 +1.3**
KLU Klutina 39.59 42 P **P 23 00 10.0 +0.7**
KLU IAmb IAmb 23 00 11.6
comp=Z,15nm,1.1s
BMAR Burnt Mountain 39.88 33 P **P 23 00 13.1 +1.6**
DOT Dot Lake 40.25 39 P **P 23 00 14.6 -0.1**
DOT IAmb IAmb 23 00 27.0
comp=Z,7.7nm,1.2s
GLB Gilahina Butte 40.60 42 P **P 23 00 18.4 +0.8**
GLB IAmb IAmb 23 00 19.5
comp=Z,8.1nm,1.0s
CRQM Cirque 41.02 43 P **P 23 00 22.8 +1.5**
TGL Tana Glacier 41.17 43 P **P 23 00 23.8 +1.4**
TGL IAmb IAmb 23 00 40.2
comp=Z,12nm,1.0s
BCAR Beaver Creek A 41.33 40 P **P 23 00 25.0 +1.4**
BALM Baldy 41.37 43 P **P 23 00 25.2 +1.3**
BALM IAmb IAmb 23 00 26.1
comp=Z,6.5nm,0.7s
BARN Barnard Glacie 41.69 43 P **P 23 00 28.0 +1.3**
YAH Yahtse 41.77 44 P **P 23 00 29.3 +1.8**
YAH IAmb IAmb 23 00 30.0
comp=Z,13nm,0.8s
CTGM Chitina Glacie 41.86 43 P **P 23 00 29.7 +1.6**
ZALV Zalesovo Beam 41.98 306 P **P 23 00 27.7 -1.2**
comp=Z,0.5nm,0.4s,baz=91,slow=12,SNR=3.7
ZALV PcP **PcP 23 02 23.8 +0.5**
comp=Z,2.2nm,0.6s,baz=66,slow=3.0,SNR=9.1
ZALV LR LR 23 17 55.4
comp=Z,82nm,19.8s,baz=76,slow=36
WMQ Urumqi 43.70 291 *eP* **P P 23 00 44.2 +1.1**
INK Inuvik 43.99 31 P **P 23 00 45.8 +0.9**
comp=Z,7.0nm,0.6s,baz=266,slow=6.3,SNR=12
INK Inuvik 43.99 31 P **P 23 00 45.5 +0.6**
INK IAmb IAmb 23 00 46.9
comp=Z,7.5nm,0.8s
MK31 Makanchi Array 45.95 298 P **P 23 01 00.5 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 45.95 298 P **P 23 01 00.5 -0.4**
MKAR Makanchi Array 45.95 298 P **P 23 00 59.5 -1.4**
comp=Z,1.9nm,0.6s,baz=72,slow=7.1,SNR=18
MKAR PcP **PcP 23 02 37.3 +0.3**
comp=Z,1.5nm,0.6s,baz=70,slow=2.5,SNR=8.7
MKAR LR LR 23 21 16.3
comp=Z,140nm,18.7s,baz=97,slow=37
MKAR Makanchi Array 45.95 298 *eP* **P P 23 01 01.1 +0.2**
MKAR Makanchi Array 45.95 298 *i* P **P 23 01 01.2 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.95 298 P **P 23 01 01.0 +0.1**
MAKZ Makanchi 46.14 298 P **P 23 01 02.7 +0.3**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 46.14 298 P **P 23 01 02.7 +0.3**
KURK Kurchatov 46.63 304 *eP* **P P 23 01 05.5 -0.6**
KURK Kurchatov 46.63 304 P **P 23 01 05.5 -0.6**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 46.63 304 P **P 23 01 05.5 -0.6**
C36M Paulatuk 47.12 29 P **P 23 01 10.4 +0.8**
CHTO Chiang Mai 49.88 256 P **P 23 01 32.1 +0.6**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 49.88 256 P **P 23 01 32.1 +0.6**
CHTO IAmb IAmb 23 01 33.2
comp=Z,3.6nm,0.7s
CMAR Chiang Mai Arr 50.12 255 P **P 23 01 34.5 +1.1**
comp=Z,1.4nm,0.7s,baz=46,slow=6.7,SNR=8.0
CMAR PcP **PcP 23 02 53.5 +1.2**
comp=Z,0.9nm,0.6s,baz=26,slow=2.6,SNR=4.8
SHL Shillong 50.40 268 P **P 23 01 35.7 +0.1**
SHL Shillong 50.40 268 P **P 23 01 35.7 +0.1**
BRVK Borovoye 50.41 310 *eP* **P 23 01 32.9 -2.2**
BRVK Borovoye 50.41 310 *i* P **P 23 01 32.9 -2.2**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BOOM Boomskoye usch 51.95 295 P **P 23 01 46.9 -0.2**
BOOM pmax pmax
comp=Z,5.0nm,1.0s
BOOM Boomskoye usch 51.95 295 P **P 23 01 46.9 -0.2**
BOOM IAmb IAmb 23 01 48.5
comp=Z,4.9nm,1.0s
AAK Ala-Archa 52.80 296 *eP* **P 23 01 52.0 -1.3**
AAK Ala-Archa 52.80 296 *ce*P **P 23 01 52.0 -1.3**
AAK pmax pmax
comp=Z,25nm,2.5s
RES Resolute Bay 52.91 18 P **P 23 01 53.3 -0.2**
comp=Z,5.7nm,0.9s,baz=26,slow=0.9,SNR=5.4
RES PcP **PcP 23 03 02.0 +0.3**
comp=Z,5.4nm,1.1s,baz=257,slow=4.6,SNR=4.1
YKA Yellowknife Ar 53.31 35 P **P 23 01 57.3 +0.7**
comp=Z,5.2nm,0.8s,baz=304,slow=6.9,SNR=8.6
ARU Arti 54.85 317 *eP* **P 23 02 05.7 -2.2**
ARU Arti 54.85 317 *d* *i*P **P 23 02 05.8 -2.2**
ARU 23 03 08.2
ARU S **S 23 09 44.6 -0.6**
ARU SS **SS 23 13 24.2 -4.1**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 54.85 317 P **P 23 02 06.8 -1.1**
ARU IAmb IAmb 23 02 08.2
comp=Z,3.6nm,0.6s
KK31 Karatay Array 55.06 298 P **P 23 02 09.4 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 55.06 298 P **P 23 02 09.4 -0.2**
KK31 IAmb IAmb 23 02 10.2
comp=Z,3.8nm,0.6s
KKAR Karatay Array 55.06 298 P **P 23 02 09.7 +0.1**
KKAR Karatay Array 55.06 298 P **P 23 02 09.7 +0.1**
KKAR Karatay Array 55.06 298 IAmb IAmb 23 02 10.2
comp=Z,3.8nm,0.6s
BTK Batken 56.51 295 IAmb IAmb 23 02 21.5
comp=Z,3.4nm,0.6s
GAR Garm 57.42 294 P **P 23 02 26.4 -0.3**
ABKAR Akbulak array 57.94 309 P **P 23 02 29.2 -0.7**
ABKAR Akbulak array 57.94 309 IAmb IAmb 23 02 30.6
comp=Z,7.4nm,0.5s
F04A Amboy 57.97 55 P **P 23 02 30.5 +0.2**
CHGR Chuyangaron 58.36 295 P **P 23 02 33.0 -0.2**
NIL Nilore 58.56 288 P **P 23 02 35.1 +0.5**
NIL pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 58.56 288 P **P 23 02 35.1 +0.5**
KULM Kulim 58.66 243 P **P 23 02 36.6 +1.2**
ARCES ARCESS Array B 58.68 340 P **P 23 02 33.3 -1.5**
comp=Z,2.0nm,0.9s,baz=50,slow=6.0,SNR=1.9
ARCES PcP **PcP 23 03 23.1 -1.2**
comp=Z,2.7nm,1.0s,baz=63,slow=4.2,SNR=7.6
H04A Detroit Lake 58.81 56 P **P 23 02 36.6 +0.4**
H04A IAmb IAmb 23 02 39.4
comp=Z,8.0nm,1.1s
KRMB Red Mountain 59.57 60 P **P 23 02 44.0 +2.4**
KRMB IAmb IAmb 23 02 54.3
comp=Z,5.2nm,1.1s
PINE Pine Mountain 60.05 57 P **P 23 02 47.5 +2.5**
PINE IAmb IAmb 23 02 48.1
comp=Z,5.1nm,0.8s
KHMM Horse Mountain 60.05 61 P **P 23 02 46.1 +1.2**
KHMM IAmb IAmb 23 02 48.3
comp=Z,6.2nm,0.9s
YBH Yreka Blue Hor 60.18 59 P **P 23 02 46.0 +0.3**
comp=Z,0.9nm,0.4s,baz=43,slow=2.7,SNR=5.3
KMRM Mail Ridge 60.45 61 P **P 23 02 46.9 -0.6**
K05A Summer Lake 60.70 58 P **P 23 02 50.0 +0.6**
KBL Kabul 60.84 291 P **P 23 02 49.9 -0.6**
KBL pmax pmax
comp=Z,10.0nm,0.6s
KBL Kabul 60.84 291 P **P 23 02 49.9 -0.6**
WALA Waterton Lakes 60.91 49 P **P 23 02 51.3 +0.7**
WALA IAmb IAmb 23 02 52.5
comp=Z,4.6nm,0.8s
WDC Whiskeytown Da 60.96 60 P **P 23 02 52.2 +1.2**
WDC pmax pmax
comp=Z,3.0nm,1.0s
WDC Whiskeytown Da 60.96 60 P **P 23 02 52.2 +1.2**
JTMT Jette 61.50 50 P **P 23 02 55.4 +0.8**
MOD Modoc Plateau 61.54 58 IAmb IAmb 23 02 57.5
comp=Z,3.4nm,0.8s
PSI Prapat 61.66 243 P **P 23 02 56.2 +0.1**
PSI pmax pmax
comp=Z,9.0nm,1.1s
RPSI Rantau Prapat 61.75 242 P **P 23 02 56.2 -0.3**
RPSI IAmb IAmb 23 02 57.8
comp=Z,8.6nm,1.1s
J08A Circle Bar Ran 61.76 56 P **P 23 02 57.3 +0.8**
J08A IAmb IAmb 23 02 58.7
comp=Z,3.3nm,0.7s
PLID Pearl Lake 62.14 53 IAmb IAmb 23 03 01.3
comp=Z,6.6nm,1.1s
MSO Missoula 62.24 51 P **P 23 03 00.1 +0.5**
MSO IAmb IAmb 23 03 01.6
comp=Z,5.4nm,0.8s
SUMG Summit 62.37 3 *i* P **P 23 03 00.3 -0.1**
SUMG pmax pmax
comp=Z,36nm,1.1s
SUMG Summit 62.37 3 P **P 23 03 00.5 +0.1**
SUMG Summit 62.37 3 *i* P **P 23 03 00.3 -0.1**
comp=Z,36nm,1.1s
SUMG Summit 62.37 3 *i* P **P 23 03 00.4 -0.1**
SUMG IAmb IAmb 23 03 01.4
comp=Z,36nm,1.1s
AFDM Forest Hills D 62.90 61 P **P 23 03 05.1 +1.0**
FFC Flin Flon 63.16 38 P **P 23 03 05.9 +0.4**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 63.16 38 P **P 23 03 05.8 +0.4**
FCC Fort Churchill 63.61 32 P **P 23 03 08.2 -0.1**
FCC pmax pmax
comp=Z,13nm,0.7s
FCC Fort Churchill 63.61 32 P **P 23 03 08.2 -0.1**
PNTR Pine Nut 63.66 60 P **P 23 03 09.9 +0.6**
PNTR IAmb IAmb 23 03 11.8
comp=Z,6.2nm,0.8s
LRM Limekiln Ridge 63.67 51 P **P 23 03 09.9 +0.6**
EGMT Eagleton 63.73 48 P **P 23 03 10.2 +0.7**
EGMT IAmb IAmb 23 03 11.8
comp=Z,6.6nm,0.9s
CMB Columbia Colle 63.83 62 P **P 23 03 11.6 +1.4**
CMB pmax pmax
comp=Z,3.0nm,0.7s
CMB Columbia Colle 63.83 62 P **P 23 03 11.6 +1.4**
WAKR Walker 64.12 61 P **P 23 03 13.6 +1.2**
BOZ Bozeman (W) 64.26 51 P **P 23 03 14.2 +1.2**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 64.26 51 P **P 23 03 14.2 +1.2**
BOZ IAmb IAmb 23 03 14.8
comp=Z,4.4nm,0.8s
KVN Kaiserville 64.61 59 P **P 23 03 16.8 +1.4**
KVN pmax pmax
comp=Z,7.0nm,1.0s
KVN Kaiserville 64.61 59 P **P 23 03 16.8 +1.4**
KVN IAmb IAmb 23 03 17.9
comp=Z,6.9nm,1.0s
FIA1 FINESS Array S 64.61 334 P **P 23 03 15.5 +0.7**
FIA1 IAmb IAmb 23 03 24.9
comp=Z,7.6nm,1.0s
RYN Ryan 64.61 60 P **P 23 03 16.6 +1.1**
RYN IAmb IAmb 23 03 17.9
comp=Z,4.2nm,0.8s
FINES FINESS Array B 64.61 334 P **P 23 03 12.8 -2.0**
comp=Z,1.6nm,0.6s,baz=31,slow=8.2,SNR=12
FINES FINESS Array B 64.61 334 *i* P **P 23 03 15.8 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 64.61 334 P **P 23 03 13.8 -1.0**
LHV Little Huntoon 64.86 60 P **P 23 03 18.9 +2.1**
LHV IAmb IAmb 23 03 19.9
comp=Z,8.5nm,0.9s
NVAR Mina Array Bea 64.87 60 P **P 23 03 18.9 +1.7**
comp=Z,4.6nm,0.7s,baz=294,slow=7.2,SNR=20
NVAR Mina Array Bea 64.87 60 P **P 23 03 18.6 +1.4**
NV11 Mina Array Sit 64.96 60 P **P 23 03 18.8 +1.1**
ELK Elko 65.26 57 P **P 23 03 20.9 +1.1**
comp=Z,0.5nm,0.5s,baz=315,slow=12,SNR=4.3
HRA Herat 65.37 295 P **P 23 03 21.0 +0.5**
HRA IAmb IAmb 23 03 21.6
comp=Z,4.3nm,0.7s
GEYT Alibeck 65.73 300 P **P 23 03 20.7 -1.9**
comp=Z,3.9nm,0.5s,baz=81,slow=4.7,SNR=8.6
GEYT Alibeck 65.73 300 P **P 23 03 23.1 +0.5**
GYA0B ALIBECK ARRAY 65.73 300 P **P 23 03 23.0 +0.4**
GYA0B IAmb IAmb 23 03 23.6
comp=Z,6.0nm,0.6s
TPH Tonopah 65.75 60 P **P 23 03 23.7 +0.8**
TPH pmax pmax
comp=Z,30nm,0.9s
TPH Tonopah 65.75 60 P **P 23 03 23.7 +0.8**
ICESG Greenland Ices 65.80 4 *i* P **P 23 03 21.7 -1.2**
ICESG IAmb IAmb 23 03 23.7
comp=Z,5.8nm,0.9s
FXWY Fox Creek 65.84 52 P **P 23 03 25.0 +1.6**
WB0 Warramunga Arr 66.26 196 P **P 23 03 26.7 +0.7**
WB0 IAmb IAmb 23 03 39.8
comp=Z,5.2nm,1.1s
WR0 Warramunga Arr 66.42 196 P **P 23 03 27.9 +1.0**
WB2 Warramunga Arr 66.44 196 P **P 23 03 27.8 +0.7**
WRA Warramunga Arr 66.44 196 P **P 23 03 28.2 +1.0**
comp=Z,1.4nm,0.5s,baz=14,slow=6.9,SNR=24
WRA Warramunga Arr 66.44 196 P **P 23 03 28.1 +1.0**
TPNV Topopah Spring 67.06 60 P **P 23 03 32.6 +1.3**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 67.06 60 P **P 23 03 32.6 +1.3**
TPNV IAmb IAmb 23 03 33.6
comp=Z,7.1nm,1.1s
BW06 Boulder Array 67.22 52 P **P 23 03 33.2 +0.9**
PD31 Pinedale Array 67.22 52 P **P 23 03 32.9 +0.6**

PDAR Pinedale Array 67.22 52 P **P** **23 03 33.0 +0.8**
comp=Z,1.8nm,0.7s,baz=218,slow=0.7,SNR=11
PDAR Pinedale Array 67.22 52 P **P** **23 03 33.0 +0.8**
PRN Pahroc Range 67.50 59 P **P** **23 03 35.6 +1.6**
SHPR Sheep Range 68.02 60 P **P** **23 03 38.0 +0.7**
RDMU Red Mountain 68.66 54 P **P** **23 03 42.7 +1.4**
NC405 NORSAR Array S 68.87 340 P **P** **23 03 41.8 -0.2**
NC405 IAmb IAmb 23 03 51.9
comp=Z,5.7nm,0.9s
ULM Lac du Bonnet 68.95 39 P **P** **23 03 42.6 0.0**
comp=Z,3.9nm,0.5s,baz=322,slow=5.7,SNR=10
ULM Lac du Bonnet 68.95 39 IAmb IAmb 23 04 00.4
comp=Z,7.5nm,1.1s
NC204 NORSAR Array S 68.96 340 P **P** **23 03 42.2 -0.4**
NB201 NORSAR Array S 69.03 340 P **P** **23 03 42.0 -1.0**
NB2 NORSAR Subarra 69.06 340 P **P** **23 03 42.2 -1.0**
comp=Z,0.4nm,0.5s,baz=30,slow=6.2
NOA NORSAR Array B 69.06 340 P **P** **23 03 41.5 -1.7**
comp=Z,0.5nm,0.3s,baz=28,slow=6.6,SNR=11
SRU San Rafael Swe 69.08 55 P **P** **23 03 44.4 +0.5**
SRU pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael Swe 69.08 55 P **P** **23 03 44.4 +0.5**
NBO00 NORSAR Array S 69.17 340 P **P** **23 03 43.5 -0.4**
NBO00 IAmb IAmb 23 03 59.8
comp=Z,8.5nm,0.8s
NC602 NORSAR Array S 69.24 340 P **P** **23 03 43.1 -1.2**
NC602 IAmb IAmb 23 03 48.2
comp=Z,5.9nm,0.9s
RSSD Black Hills 69.30 48 P **P** **23 03 44.7 -0.5**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
NAO01 NORSAR Array S 69.31 340 P **P** **23 03 44.0 -0.7**
AKT Akhty 69.48 308 *eP* **P** **23 03 46.9 +0.6**
AKT *e* 23 04 10.6
AKT pmax pmax
comp=Z,7.0nm,0.6s
AS31 Alice Springs 70.15 196 P **P** **23 03 52.4 +2.1**
ASAR Alice Springs 70.15 196 P **P** **23 03 52.1 +1.8**
comp=Z,1.4nm,0.6s,baz=10,slow=6.0,SNR=23
BORG Borgarnes 70.21 356 P **P** **23 03 50.9 +0.8**
BORG pmax pmax
comp=Z,12nm,1.1s
BORG Borgarnes 70.21 356 P **P** **23 03 50.9 +0.8**
BORG IAmb IAmb 23 04 03.2
comp=Z,12nm,1.1s
PV23 Carpenter Ridg 70.40 55 P **P** **23 03 52.9 +0.7**
PV23 IAmb IAmb 23 03 53.6
comp=Z,4.4nm,0.7s
PV14 Lion Creek, Pa 70.44 55 P **P** **23 03 52.9 +0.5**
PV14 IAmb IAmb 23 03 53.8
comp=Z,4.0nm,0.6s
PV22 Blue Mesa, Par 70.47 55 P **P** **23 03 53.9 +1.4**
KIV Kislovodsk 70.48 313 *eP* **P** **23 03 52.2 -0.1**
KIV Kislovodsk 70.48 313 *eP* **P** **23 03 52.2 -0.1**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,170nm,17.0s
KIV Kislovodsk 70.48 313 P **P** **23 03 52.6 +0.3**
KIV IAmb IAmb 23 03 54.6
comp=Z,7.3nm,0.8s
PV20 West Nyswonger 70.50 55 P **P** **23 03 53.0 +0.3**
PV19 Morning Glory 70.51 55 P **P** **23 03 53.4 +0.7**
PV19 IAmb IAmb 23 03 54.8
comp=Z,8.6nm,1.0s
KBZ Khabaz 70.53 313 P **P** **23 03 53.5 +1.0**
comp=Z,7.3nm,0.8s,baz=55,slow=4.2,SNR=22
KBZ Khabaz 70.53 313 *eP* **P** **23 03 51.1 -1.4**
KBZ Khabaz 70.53 313 *ceP* **P** **23 03 51.1 -1.4**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
PV17 East Wray Mesa 70.55 55 P **P** **23 03 53.8 +0.8**
PV17 IAmb IAmb 23 03 54.5
comp=Z,6.7nm,0.6s
PV16 Nyswonger Mesa 70.55 55 P **P** **23 03 54.2 +1.2**
PV11 David Mesa, Pa 70.58 55 P **P** **23 03 54.2 +1.0**
PV11 IAmb IAmb 23 03 55.9
comp=Z,8.2nm,1.0s
PV18 Skein Mesa, Pa 70.60 55 P **P** **23 03 53.0 -0.3**
PV18 IAmb IAmb 23 04 08.5
comp=Z,6.6nm,0.8s
PV12 Saucer Basin, 70.61 55 P **P** **23 03 54.2 +0.9**
PV03 Paradox Valley 70.63 55 P **P** **23 03 54.2 +0.7**
ZEI Tsey 70.66 312 *eP* **P** **23 03 52.3 -1.3**
ZEI Tsey 70.66 312 *eP* **P** **23 03 52.3 -1.3**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
PV13 Radium Mtn., P 70.71 55 P **P** **23 03 55.0 +1.0**
PV13 IAmb IAmb 23 03 55.5
comp=Z,4.6nm,0.7s
AKASG Malin Array Be 71.75 325 P **P** **23 03 58.0 -1.7**
comp=Z,4.3nm,0.6s,baz=35,slow=6.2,SNR=13
AKASG Malin Array Be 71.75 325 P **P** **23 03 58.0 -1.7**
KIEV Kiev 71.76 325 P **P** **23 03 56.0 -3.8**
EYMN Ely 72.59 38 P **P** **23 04 05.0 +0.2**
EYMN IAmb IAmb 23 04 13.1
comp=Z,6.9nm,0.9s
BCA Borcka 72.81 312 ⇓P **P** **23 04 06.4 +0.1**
E38A The Farm, Brul 73.58 39 P **P** **23 04 11.0 +0.3**
SORM Soroca 74.10 324 ⇑P **P** **23 04 12.5 -1.2**
SORM Soroca 74.10 324 ⇑P **P** **23 04 12.5 -1.2**
LVV L'vov 74.39 327 *eP* P 23 04 25.2 +9.3
KMPD K-Podol'skiy 74.54 325 P **P** **23 04 15.0 -1.2**
D41A Chassel 74.54 37 P **P** **23 04 16.5 +0.2**
COWI Conover 75.04 38 P **P** **23 04 18.9 -0.3**
COWI IAmb IAmb 23 04 33.9
comp=Z,8.4nm,1.0s
KWP Kalwaria Pacla 75.14 328 IAmb IAmb 23 04 21.4
comp=Z,11nm,0.9s
UOSS Minazif 75.52 291 P **P** **23 04 22.7 +0.5**
UOSS IAmb IAmb 23 04 23.6
comp=Z,7.6nm,0.8s
E43A Lone Tree Farm 75.75 37 P **P** **23 04 22.9 -0.4**
BUR08 Bucovina Ar. S 75.78 325 IAmb IAmb 23 04 24.0
comp=Z,4.3nm,0.7s
BURAR Bucovina Array 75.80 325 ⇑P **P** **23 04 23.5 -0.1**
BURAR Bucovina Array 75.80 325 ⇑P **P** **23 04 23.5 -0.1**
BURAR Bucovina Array 75.80 325 P **P** **23 04 23.2 -0.5**
KOLS Kolonicke sedl 75.88 328 *eP* **P** **23 04 23.1 -0.9**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 75.88 328 *eP* **P** **23 04 23.1 -0.9**
BIZ Bicaz 75.98 324 ⇑P **P** **23 04 24.6 0.0**
MARD Mardin 76.24 309 P **P** **23 04 27.2 +0.8**
MARD IAmb IAmb 23 04 28.2
comp=Z,8.5nm,0.8s
CFR Carcaliu 76.51 322 ⇑P **P** **23 04 26.9 -0.7**
CFR Carcaliu 76.51 322 ⇑P **P** **23 04 26.9 -0.7**
JURR Jurilovca 76.51 321 ⇓P P 23 04 32.8 +5.2
VRI Vrincioaia 76.57 323 ⇑P **P** **23 04 27.5 -0.5**
VRI Vrincioaia 76.57 323 ⇑P **P** **23 04 27.5 -0.5**
OZUR 76.78 324 ⇑P **P** **23 04 29.8 +0.6**
DPC Dobruska-Polom 76.82 332 *eP* **P** **23 04 29.1 -0.2**
DPC Dobruska-Polom 76.82 332 *eP* **P** **23 04 29.1 -0.2**
MORC Moravsky Berou 76.89 331 ⇑P **P** **23 04 29.2 -0.4**
MORC Moravsky Berou 76.89 331 *eP* **P** **23 04 29.5 -0.2**
MORC Moravsky Berou 76.89 331 ⇑P **P** **23 04 29.3 -0.4**
MORC Moravsky Berou 76.89 331 IAmb IAmb 23 04 30.5
comp=Z,5.2nm,1.0s
KRLC Kraliky 76.90 331 *eP* **P** **23 04 29.6 -0.1**
KRLC Kraliky 76.90 331 *eP* **P** **23 04 29.6 -0.1**
HARR Harsova 76.99 322 ⇑P **P** **23 04 29.5 -0.8**
HARR Harsova 76.99 322 ⇑P **P** **23 04 29.5 -0.8**
CLL Collm 77.06 334 *i* P **P** **23 04 29.7 -0.8**
comp=Z,5.0nm,0.6s
CLL Collm 77.06 334 *i* P **P** **23 04 29.7 -0.8**
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 77.06 334 IAmb IAmb 23 04 30.5
comp=Z,4.6nm,0.6s
MLR Muntele Rosu 77.20 323 ⇑P **P** **23 04 32.0 +0.3**
MLR Muntele Rosu 77.20 323 P **P** **23 04 32.1 +0.5**
MLR pmax pmax
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 77.20 323 P **P** **23 04 32.1 +0.5**
MNTX Cornudas Mount 77.22 58 P **P** **23 04 32.4 +0.5**
ISR Istrita 77.25 323 ⇑P **P** **23 04 32.3 +0.5**
ISR Istrita 77.25 323 ⇑P **P** **23 04 32.3 +0.5**
EKB10 Eskdalemuir Ar 77.32 345 P **P** **23 04 31.9 -0.1**
EKB9 Eskdalemuir Ar 77.33 345 P **P** **23 04 31.2 -0.8**
EKB8 Eskdalemuir Ar 77.34 345 P **P** **23 04 31.8 -0.3**
EKB7 Eskdalemuir Ar 77.35 345 P **P** **23 04 31.6 -0.6**
EKB6 Eskdalemuir Ar 77.35 345 P **P** **23 04 31.8 -0.4**

EKB5 Eskdalemuir Ar 77.36 345 P **P** **23 04 31.7 -0.5**
EKR1 Eskdalemuir Ar 77.37 345 P **P** **23 04 32.1 -0.1**
EKR2 Eskdalemuir Ar 77.37 345 P **P** **23 04 32.0 -0.3**
EKR4 Eskdalemuir Ar 77.37 345 P **P** **23 04 31.7 -0.5**
EKB4 Eskdalemuir Ar 77.37 345 P **P** **23 04 32.0 -0.2**
EKR3 Eskdalemuir Ar 77.37 345 P **P** **23 04 32.0 -0.2**
EKR5 Eskdalemuir Ar 77.37 345 P **P** **23 04 31.9 -0.4**
EKR6 Eskdalemuir Ar 77.37 345 P **P** **23 04 31.6 -0.7**
EKR7 Eskdalemuir Ar 77.37 345 P **P** **23 04 31.9 -0.4**
EKR8 Eskdalemuir Ar 77.37 345 P **P** **23 04 31.9 -0.4**
EKR9 Eskdalemuir Ar 77.37 345 P **P** **23 04 31.7 -0.6**
EKR10 Eskdalemuir Ar 77.37 345 P **P** **23 04 32.0 -0.3**
EKB Eskdalemuir Ar 77.37 345 P **P** **23 04 31.9 -0.4**
EKB3 Eskdalemuir Ar 77.38 345 P **P** **23 04 31.9 -0.4**
EKB2 Eskdalemuir Ar 77.39 345 P **P** **23 04 31.9 -0.4**
ESK Eskdalemuir 77.39 345 P **P** **23 04 32.1 -0.3**
ESK pmax pmax
comp=Z,14nm,1.1s
ESK Eskdalemuir 77.39 345 P **P** **23 04 32.1 -0.3**
EKB1 Eskdalemuir Ar 77.39 345 P **P** **23 04 31.6 -0.8**
VYHS Vyhne 77.52 329 *eP* **P** **23 04 32.8 -0.4**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 77.52 329 *eP* **P** **23 04 32.8 -0.4**
VRAC Vranov 77.61 331 ⇑P **P** **23 04 34.1 +0.4**
VRAC Vranov 77.61 331 *eP* **P** **23 04 33.8 +0.1**
VRAC Vranov 77.61 331 ⇑P **P** **23 04 34.1 +0.4**
VOIR 77.62 324 ⇑P **P** **23 04 34.1 +0.2**
VOIR 77.62 324 ⇑P **P** **23 04 34.1 +0.2**
JAVC Velka Javorina 77.62 330 *eP* **P** **23 04 34.8 +0.9**
PRU Pruhonice 77.72 333 *eP* **P** **23 04 33.9 -0.4**
PRU Pruhonice 77.72 333 *eP* **P** **23 04 33.9 -0.4**
KRUC Moravsky 77.89 331 *eP* **P** **23 04 35.2 -0.1**
SMOL Smolenice 78.00 330 *eP* **P** **23 04 36.1 +0.2**
SMOL pmax pmax
comp=Z,2.0nm,0.8s
SMOL Smolenice 78.00 330 *eP* **P** **23 04 36.1 +0.2**
DEV Deva 78.13 325 ⇑P **P** **23 04 36.9 +0.2**
DEV Deva 78.13 325 ⇑P **P** **23 04 36.9 +0.2**
MODS Modra-Piesok 78.17 330 *eP* **P** **23 04 35.5 -1.4**
MODS pmax pmax
comp=Z,7.0nm,1.1s
MODS Modra-Piesok 78.17 330 *eP* **P** **23 04 35.5 -1.4**
BRTR Keskin Array B 78.17 315 P **P** **23 04 37.2 0.0**
comp=Z,2.1nm,0.8s,baz=87,slow=5.4,SNR=7.4
FORT Forrest 78.29 199 P **P** **23 04 39.3 +1.9**
HUMR Humele 78.38 323 ⇑P **P** **23 04 36.1 -2.0**
GZR Gura Zlata 78.59 325 ⇑P **P** **23 04 38.7 -0.6**
GZR Gura Zlata 78.59 325 ⇑P **P** **23 04 38.7 -0.6**
KHC Kasperske Hory 78.77 333 *eP* **P** **23 04 39.6 -0.6**
KHC Kasperske Hory 78.77 333 *ceP* **P** **23 04 39.2 -1.0**
KHC pmax pmax
comp=Z,24nm,1.7s
BZS Buzias 78.86 326 ⇑P **P** **23 04 39.9 -0.8**
BZS Buzias 78.86 326 ⇑P **P** **23 04 39.9 -0.8**
GEC2 GERESS Array S 78.98 332 P **P** **23 04 40.9 -0.4**
GEC2B GERESS ARRAY S 78.98 332 P **P** **23 04 40.8 -0.6**
GERES GERESS Array B 78.98 332 P **P** **23 04 41.0 -0.4**
comp=Z,1.9nm,0.5s,baz=34,slow=5.7,SNR=21
GERES GERESS Array B 78.98 332 P **P** **23 04 41.0 -0.4**
GERES GERESS Array B 78.98 332 P **P** **23 04 40.6 -0.8**
WET Wettzell 78.98 333 P **P** **23 04 42.7 +1.4**
WET pmax pmax
comp=Z,6.0nm,1.0s
CONA Conrad Observa 79.05 331 *eP* **P** **23 04 42.1 +0.3**
comp=Z,3.7nm,0.6s,SNR=7.4
HERR Herculane 79.15 325 ⇑P **P** **23 04 41.4 -0.9**
MOA Molln 79.66 332 *i* P **P** **23 04 45.4 +0.3**
comp=Z,3.1nm,0.8s
MEM Membach 79.69 338 P **P** **23 04 43.7 -1.4**
ARSA Arzberg 79.75 331 *i* P **P** **23 04 45.5 0.0**
comp=Z,3.0nm,0.9s
BSTI Sart Tilman 79.83 338 P **P** **23 04 45.8 -0.1**
TX32 Lajitas Array 79.94 58 IAmb IAmb 23 04 48.7
comp=Z,4.6nm,0.6s
TXAR Lajitas Array 79.94 58 P **P** **23 04 48.0 +1.0**
comp=Z,3.8nm,0.4s,baz=299,slow=4.4,SNR=45
BCLA Clavier 80.05 338 P **P** **23 04 46.4 -0.7**
RAR Rarotonga 80.16 134 LR LR 23 34 47.3
comp=Z,57nm,20.7s,baz=312,slow=31
BMRD Maredsous 80.30 338 P **P** **23 04 48.1 -0.3**
SOKA Soboth 80.41 331 *eP* **P** **23 04 49.0 -0.2**
comp=Z,4.5nm,0.7s,SNR=7.9
GROS Grobnik 80.43 330 *i* P **P** **23 04 48.8 -0.5**
SFIN Lafayette 80.46 41 P **P** **23 04 51.0 +1.6**
KBA Koelnbreinsper 80.64 332 *eP* **P** **23 04 50.8 +0.3**
comp=Z,5.3nm,0.7s
KBA Koelnbreinsper 80.64 332 P **P** **23 04 52.0 +1.5**
KBA pmax pmax
comp=Z,12nm,0.9s
OBKA Obir 80.72 331 *eP* **P** **23 04 50.2 -0.7**
comp=Z,2.8nm,0.7s,SNR=4.5
U40A Yellville 80.79 47 P **P** **23 04 51.5 +0.2**
U40A IAmb IAmb 23 05 02.8
comp=Z,6.2nm,0.8s
PLVO Plevna 80.82 32 P **P** **23 04 50.7 -0.6**
PLVO IAmb IAmb 23 04 51.2
comp=Z,7.5nm,1.0s
ALN Alexandroupoli 80.85 321 P **P** **23 04 51.3 -0.2**
ALN pmax pmax
comp=Z,18nm,1.1s
ALN Alexandroupoli 80.85 321 P **P** **23 04 51.3 -0.2**
GCIS Gornji Cirnik 80.90 330 *i* P **P** **23 04 51.1 -0.6**
WATA Walderalm 80.99 333 *i* P **P** **23 04 52.3 0.0**
comp=Z,5.3nm,0.5s
WTTA Wattenberg 81.03 333 *i* P **P** **23 04 52.7 +0.1**
comp=Z,6.1nm,0.5s,SNR=7.4
RETA Reutte 81.12 334 *eP* **P** **23 04 52.3 -0.6**
comp=Z,3.5nm,0.9s
MOTA Moosalm 81.13 333 *eP* **P** **23 04 52.9 -0.2**
comp=Z,5.1nm,0.8s
SQTA Saint Quirin 81.21 333 *eP* **P** **23 04 53.1 -0.4**
comp=Z,3.9nm,0.8s
VISS Visnje 81.23 330 *i* P **P** **23 04 52.6 -0.9**
CDF Champ du Feu 81.33 336 *eP* **P** **23 04 53.1 -1.0**
CDF pmax pmax
comp=Z,10.0nm,1.2s
BOJS Bojanci 81.35 330 *i* P **P** **23 04 53.4 -0.6**
FCAR Ozark Folk Cen 81.52 47 P **P** **23 04 55.3 +0.1**
FCAR IAmb IAmb 23 04 55.4
comp=Z,3.8nm,0.5s
DAVA Damuels 81.57 334 *eP* **P** **23 04 55.8 +0.3**
comp=Z,4.4nm,0.7s
CIMO Cimolais 81.61 332 P **P** **23 04 54.8 -0.7**
D62A Allapoint, All 81.79 26 P **P** **23 04 56.7 +0.4**
WHAR Wooly Hollow 81.90 47 P **P** **23 04 56.5 -0.7**
WHAR IAmb IAmb 23 05 11.2
comp=Z,8.1nm,1.0s
CSS Mathiatis 81.98 312 P **P** **23 04 57.9 +0.3**
CSS IAmb IAmb 23 04 58.5
comp=Z,5.6nm,0.8s
E62A Clayton Lake 82.05 27 P **P** **23 04 57.8 +0.1**
E62A IAmb IAmb 23 04 58.8
comp=Z,7.1nm,0.8s
MOQ Mont Orford 82.31 29 P **P** **23 04 59.8 +0.6**
PPT Papeete 82.85 124 LR LR 23 34 02.1
comp=Z,44nm,20.7s,baz=345,slow=30
G62A West of Eustis 82.97 28 P **P** **23 05 03.0 +0.4**
G62A IAmb IAmb 23 05 14.8
comp=Z,7.4nm,1.1s
FLN La Foliniere 83.02 341 *eP* **P** **23 05 01.9 -0.8**
FLN pmax pmax
comp=Z,30nm,1.4s
LDF La Druitiere 83.09 341 *eP* **P** **23 05 02.6 -0.5**
LDF pmax pmax
comp=Z,17nm,1.3s
F64A Sherman 83.09 26 P **P** **23 05 03.3 +0.1**
F64A IAmb IAmb 23 05 03.8
comp=Z,8.3nm,0.9s
J59A Piesco 83.12 31 P **P** **23 05 03.7 +0.3**
M55A Ridgway 83.18 35 P **P** **23 05 04.1 +0.3**
M55A IAmb IAmb 23 05 18.1
comp=Z,8.0nm,1.1s
O53A New Philadelph 83.18 37 P **P** **23 05 04.3 +0.5**
O53A IAmb IAmb 23 05 04.5
comp=Z,5.0nm,0.7s
LOR Lormes 83.33 338 *eP* **P** **23 05 03.4 -1.0**
LOR pmax pmax
comp=Z,4.0nm,0.7s
H62A Milan 83.33 28 P **P** **23 05 05.1 +0.6**
H62A IAmb IAmb 23 05 05.7
comp=Z,5.0nm,0.8s
PKME Peaks-Kenny Pk 83.33 27 P **P** **23 05 05.1 +0.7**
PKME IAmb IAmb 23 05 21.7
comp=Z,11nm,1.1s
NWAO Narrogin (SRO) 83.37 208 P **P** **23 05 05.6 +1.1**
NWAO pmax pmax
comp=Z,8.0nm,1.0s
NWAO Narrogin (SRO) 83.37 208 P **P** **23 05 05.6 +1.1**
NWAO IAmb IAmb 23 05 09.5
comp=Z,7.7nm,0.9s
GRR Gorron 83.45 341 *eP* **P** **23 05 04.4 -0.6**
GRR pmax pmax
comp=Z,9.0nm,0.7s
SSF Saint Saulge 83.61 338 *eP* **P** **23 05 05.3 -0.5**
SSF pmax pmax
comp=Z,7.0nm,1.0s
AVF Avril sur Loir 83.90 338 *eP* **P** **23 05 06.8 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.6s
SMF Signal de Mont 83.90 338 *eP* **P** **23 05 07.4 0.0**
SMF pmax pmax
comp=Z,8.0nm,0.9s
G65A Princeton 83.93 26 P **P** **23 05 07.9 +0.4**
M57A Sunshine Farm, 83.95 34 P **P** **23 05 07.8 +0.1**
M57A IAmb IAmb 23 05 10.5
comp=Z,3.5nm,0.7s
SGMF Saint Gilles 83.96 342 *eP* **P** **23 05 07.1 -0.5**
SGMF pmax pmax
comp=Z,25nm,1.2s
I63A Otisfield 83.99 28 P **P** **23 05 05.7 -2.1**
L59A Walton 84.02 32 P **P** **23 05 08.1 0.0**
ROSF Rostrenen 84.03 343 *eP* **P** **23 05 07.4 -0.6**
ROSF pmax pmax
comp=Z,49nm,1.3s
LPL La Plagne 84.11 335 *eP* **P** **23 05 08.9 +0.2**
LPL pmax pmax
comp=Z,13nm,1.2s
LMN Caledonia Moun 84.16 24 P **P** **23 05 08.5 -0.2**
U49A Red Boiling Sp 84.18 42 P **P** **23 05 08.9 0.0**
U49A IAmb IAmb 23 05 25.8
comp=Z,8.5nm,1.0s
VLC Villacollemand 84.19 332 P **P** **23 05 08.6 -0.3**
BGF Bois d'Agland 84.25 338 *eP* **P** **23 05 11.2 +2.1**
BGF pmax pmax
comp=Z,2.0nm,0.3s
O56A Blue Knob Stat 84.28 35 P **P** **23 05 09.5 +0.1**
S51A Beattyville 84.28 40 IAmb IAmb 23 05 10.5
comp=Z,7.6nm,0.9s
NRCA Norcia 84.43 330 IAmb IAmb 23 05 11.7
comp=Z,6.8nm,0.8s
OSSC Osservatorio P 84.47 331 P **P** **23 05 09.7 -0.6**
OSSC IAmb IAmb 23 05 10.3
comp=Z,7.7nm,1.0s
BNI Bardonecchia 84.55 335 P **P** **23 05 10.4 -0.4**
BNI pmax pmax
comp=Z,5.0nm,1.0s
BNI Bardonecchia 84.55 335 P **P** **23 05 10.4 -0.4**
BNI IAmb IAmb 23 05 15.9
comp=Z,5.4nm,1.0s
TCF Toulx Ste Croi 84.67 338 *eP* **P** **23 05 10.9 -0.4**
TCF pmax pmax
comp=Z,7.0nm,1.1s
MBDF Montbardon 84.82 335 *eP* **P** **23 05 15.0 +2.8**
MBDF pmax pmax
comp=Z,10.0nm,1.1s
INTR Introdacqua 84.86 329 P **P** **23 05 12.4 0.0**
ORIF Oris-en-Rattie 84.91 336 *eP* **P** **23 05 13.0 +0.4**
ORIF pmax pmax
comp=Z,5.0nm,0.7s
MFF Saint Martin d 84.96 340 *eP* **P** **23 05 11.8 -0.9**
MFF pmax pmax
comp=Z,25nm,1.5s
TZTN Tazewell 85.20 41 P **P** **23 05 14.2 +0.1**
TZTN IAmb IAmb 23 05 23.2
comp=Z,4.1nm,0.9s
R55A Marlinton 85.29 38 P **P** **23 05 14.9 +0.3**
R55A IAmb IAmb 23 05 16.0
comp=Z,6.2nm,0.8s
ITM Ithomi 85.73 321 P **P** **23 05 15.7 -1.0**
V52A Sevierville 85.75 41 P **P** **23 05 16.1 -0.7**
V52A IAmb IAmb 23 05 17.8
comp=Z,4.5nm,0.7s
RJF Les Rejaudoux 85.76 339 *eP* **P** **23 05 16.6 -0.1**
RJF pmax pmax
comp=Z,11nm,1.2s
TKL Tuckaleechee C 85.81 41 P **P** **23 05 17.4 +0.3**
comp=Z,4.4nm,0.6s,baz=254,slow=1.2,SNR=7.3
TKL Tuckaleechee C 85.81 41 IAmb IAmb 23 05 18.4
comp=Z,4.3nm,0.7s
SOCY Socotra 85.89 283 P **P** **23 05 16.5 -1.4**
SOCY IAmb IAmb 23 05 17.7
comp=Z,5.3nm,0.9s
IDI Anoyia 85.93 318 P **P** **23 05 16.9 -0.9**
CAF Calviac 85.97 338 *eP* **P** **23 05 18.1 +0.3**
CAF pmax pmax
comp=Z,8.0nm,0.8s
TIP Timpagrande 86.22 326 IAmb IAmb 23 05 19.2
comp=Z,5.2nm,1.0s
LFF La Frestale 86.30 339 *eP* **P** **23 05 19.5 +0.1**
LFF pmax pmax
comp=Z,35nm,1.7s
ESDC Sonseca Array 92.42 340 P **P** **23 05 47.1 -1.3**
comp=Z,0.3nm,0.8s,baz=15,slow=4.9,SNR=1.8
ESDC Sonseca Array 92.42 340 IAmb IAmb 23 05 52.7
comp=Z,1.0nm,1.1s
TORD Torodi Ar. Bea 115.37 326 PKP **PKiKP** **23 11 19.1 -0.4**
comp=Z,0.4nm,0.4s,baz=28,slow=2.2,SNR=10
VNDA Vanda 122.65 177 PKP **PKiKP** **23 11 32.5 +0.7**
comp=Z,0.7nm,0.7s,baz=320,slow=7.9,SNR=3.5
DBIC Dimbokro 123.78 330 PKP **PKPdf** **23 11 35.5 -0.2**
comp=Z,3.8nm,1.1s,baz=4.0,slow=3.6,SNR=4.1
H03N2 Juan Fernandez 140.67 90 T T 01 49 24.9
baz=306,slow=77,SNR=189
H03N3 Juan Fernandez 140.68 90 T T 01 49 26.4
baz=306,slow=77,SNR=180
H03N1 Juan Fernandez 140.68 90 T T 01 49 26.3
baz=306,slow=77,SNR=186
BDFB Brasilia 146.72 34 PKPbc **PKPab** **23 12 20.4 -0.5**
comp=Z,5.9nm,0.5s,baz=315,slow=2.3,SNR=9.0
PLCA Paso Flores 149.97 96 PKPbc **PKiKP** **23 12 28.3 -0.2**
comp=Z,3.1nm,0.6s,baz=246,slow=2.7,SNR=9.8
PLCA Paso Flores 149.97 96 **PKiKP** **23 12 29.0 +0.6**
CPUP Villa Florida 150.91 59 PKPbc **PKiKP** **23 12 30.8 +0.1**
comp=Z,0.6nm,0.4s,baz=13,slow=3.1,SNR=6.0
VNA3 Neumayer Olymp 152.14 194 PKPdf **PKPdf** **23 12 24.8 -0.1**

ANF ***1*** *0 22:57:20.5±0.2, 37°.13N×104°.95W, h5km±2km, ML3.6/14, Error ellipse: s-maj=1.4km s-min=1.3km az=33.0*
NEIC ***1*** *0 22:57:21.9±1.2, 37°.08N±0°.06×104°.90W±0°.06, h1km±7km, mb_Lg3.3/88, ML3.2/70, Error ellipse: s-maj=8.6km s-min=6.5km az=149.0*

ISC 10 22:57:21.6±0.8, 37°.12N±0°.02×104°.94W±0°.02, h10km, n74, σ1§71/71, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.42**	**87**	P		**Pg**	**22 57 28.8**	**-1.1**
	baz=260							
T25A				S		**Sg**	**22 57 35.0**	**-0.5**
	baz=260							
T25A	**Trinidad**	**0.42**	**87**			**Pg**	**22 57 28.7**	**-1.3**
T25A				Sg		**Sg**	**22 57 34.9**	**-0.7**
T25A				IAML			22 57 35.3	
	comp=E,2μm,0.6s							
SDCO	**Great Sand Dun**	**0.77**	**325**	P		**Pg**	**22 57 35.2**	**-1.2**
	baz=145,SNR=114							
SDCO				S		**Sg**	**22 57 46.4**	**-0.2**
	baz=145							
SDCO	**Great Sand Dun**	**0.77**	**325**	Pg		**Pg**	**22 57 35.3**	**-1.2**
SDCO				Sg		**Sg**	**22 57 46.2**	**-0.3**
S22A	**4UR Ranch, Cre**	**1.63**	**293**	Pb		**Pn**	**22 57 50.9**	**+0.2**
	baz=113,SNR=320							
S22A				Sb		**Sg**	**22 58 13.1**	**-1.0**
	baz=113							
S22A	**4UR Ranch, Cre**	**1.63**	**293**	Pn		**Pn**	**22 57 50.9**	**+0.2**
S22A				Sn		**Sg**	**22 58 13.0**	**-1.0**
Q24A	**Divide**	**1.85**	**355**	Pb		**Pb**	**22 57 55.1**	**-0.5**
	baz=174,SNR=21							
Q24A				Sb		**Sg**	**22 58 20.1**	**-1.0**
	baz=174							
Q24A	**Divide**	**1.85**	**355**	Pn		**Pb**	**22 57 55.4**	**-0.3**
Q24A				IAML			22 58 20.7	
	comp=E,250nm,0.2s							
Q24A				IAML			22 58 23.6	
	comp=N,153nm,0.2s							
ANMO	**Albuquerque**	**2.49**	**210**	P		**Pn**	**22 58 02.2**	**-0.2**
	baz=30							

ANMO				S	**Sb**	**22 58 34.5**	**-2.9**		
	baz=30								
ANMO	**Albuquerque**	**2.49**	**210**	Pn	**Pn**	**22 58 02.3**	**-0.2**		
KSCO	**Kaye Shedlock'**	**2.62**	**43**	Pb	**Pb**	**22 58 06.7**	**-2.0**		
	baz=224,SNR=71								
KSCO				Sb	**Sb**	**22 58 43.1**	**+1.9**		
	baz=224								
KSCO	**Kaye Shedlock'**	**2.62**	**43**	Pn	**Pb**	**22 58 06.8**	**-2.0**		
ISCO	**Idaho Springs**	**2.73**	**349**	Pb	**Pb**	**22 58 08.5**	**-2.1**		
	baz=168,SNR=25								
ISCO				Sb	**Sb**	**22 58 45.4**	**+1.1**		
	baz=168								
ISCO	**Idaho Springs**	**2.73**	**349**	Pn	**Pb**	**22 58 08.6**	**-2.1**		
MVCO	**Mesa Verde**	**2.84**	**273**	Pb	**Pb**	**22 58 11.4**	**-1.2**		
	baz=92,SNR=70								
MVCO				Sb	**Sb**	**22 58 48.8**	**+1.2**		
	baz=92								
MVCO	**Mesa Verde**	**2.84**	**273**		**Pb**	**22 58 09.5**	**-3.1**		
PV01	**Paradox Valley**	**3.06**	**290**		**Pn**	**22 58 11.1**	**+0.9**		
PV01				IAML		22 59 00.1			
	comp=E,72nm,0.8s								
PV15	**Paradox Valley**	**3.06**	**295**		**Pn**	**22 58 11.2**	**+0.9**		
PV15				IAML		22 59 00.9			
	comp=E,99nm,0.7s								
PV15				IAML		22 59 10.2			
	comp=N,85nm,0.9s								
PV02	**Paradox Valley**	**3.20**	**291**		**Pn**	**22 58 13.9**	**+1.7**		
PV02				IAML		22 59 09.4			
	comp=E,63nm,0.7s								
PV02				IAML		22 59 14.1			
	comp=N,82nm,0.8s								
PV07	**Paradox Valley**	**3.22**	**295**		**Pn**	**22 58 14.1**	**+1.7**		
PV07				IAML		22 59 07.9			
	comp=N,48nm,1.0s								
PV13	**Radium Mtn., P**	**3.25**	**290**		**Pn**	**22 58 15.0**	**+2.1**		
PV13				IAML		22 59 10.3			
	comp=N,83nm,1.2s								
PV13				IAML		22 59 15.6			
	comp=E,72nm,0.8s								
BNM	**Barren Site**	**3.27**	**205**	Pn	**Pn**	**22 58 12.8**	**-0.3**		
PV12	**Saucer Basin,**	**3.29**	**292**	Pn	**Pn**	**22 58 15.8**	**+2.4**		
PV03	**Paradox Valley**	**3.30**	**291**		**Pn**	**22 58 15.5**	**+2.0**		
PV03				IAML		22 59 16.8			
	comp=N,74nm,1.0s								
PV03				IAML		22 59 17.2			
	comp=E,39nm,1.1s								
PV11	**David Mesa, Pa**	**3.33**	**292**		**Pn**	**22 58 15.1**	**+1.2**		
PV18	**Skein Mesa, Pa**	**3.34**	**291**		**Pn**	**22 58 16.2**	**+2.1**		
PV18				IAML		22 59 20.1			
	comp=N,44nm,1.0s								
PV22	**Blue Mesa, Par**	**3.36**	**296**		**Pn**	**22 58 16.7**	**+2.4**		
PV22				IAML		22 59 12.6			
	comp=N,65nm,1.0s								
PV22				IAML		22 59 13.0			
	comp=E,39nm,1.2s								
PV16	**Nyswonger Mesa**	**3.37**	**292**		**Pn**	**22 58 16.3**	**+1.8**		
PV04	**Paradox Valley**	**3.39**	**293**		**Pn**	**22 58 16.6**	**+1.9**		
PV17	**East Wray Mesa**	**3.39**	**291**		**Pn**	**22 58 16.3**	**+1.5**		
PV17				IAML		22 59 17.4			
	comp=E,48nm,1.1s								
PV17				IAML		22 59 21.4			
	comp=N,56nm,1.4s								
PV20	**West Nyswonger**	**3.42**	**292**	Pn	**Pn**	**22 58 17.3**	**+2.2**		
PV19	**Morning Glory**	**3.42**	**292**	Pn	**Pn**	**22 58 17.5**	**+2.3**		
PV19				IAML		22 59 18.8			
	comp=N,52nm,1.2s								
PV19				IAML		22 59 19.3			
	comp=E,39nm,1.1s								
PV05	**Paradox Valley**	**3.44**	**287**	Pn	**Pn**	**22 58 17.5**	**+2.0**		
Y22D	**IRIS PASSCAL I**	**3.44**	**209**	Sb	**Sb**	**22 59 07.0**	**+2.4**		
	baz=28								
Y22D	**IRIS PASSCAL I**	**3.44**	**209**	Pn	**Pn**	**22 58 17.3**	**+1.8**		
AMTX	**Amarillo**	**3.46**	**129**	Pb	**Pb**	**22 58 22.6**	**-0.4**		
	baz=311								
AMTX				Sb	**Sb**	**22 59 05.8**	**+0.8**		
	baz=311								
AMTX	**Amarillo**	**3.46**	**129**		**Pn**	**22 58 16.3**	**+0.8**		
PV14	**Lion Creek, Pa**	**3.47**	**292**	Pn	**Pn**	**22 58 18.0**	**+2.1**		
PV14				IAML		22 59 20.5			
	comp=N,67nm,1.4s								
PV14				IAML		22 59 29.1			
	comp=E,54nm,1.2s								
PV10	**Paradox Valley**	**3.48**	**292**	Pn	**Pn**	**22 58 17.8**	**+1.7**		
PV10				IAML		22 59 20.2			
	comp=N,44nm,1.4s								
PV23	**Carpenter Ridg**	**3.49**	**294**	Pn	**Pn**	**22 58 18.5**	**+2.3**		
PV23				IAML		22 59 57.6			
	comp=N,36nm,4.1s								
PV21	**Cone Mtn., Par**	**3.50**	**295**	Pn	**Pn**	**22 58 18.3**	**+1.9**		
PV21				IAML		22 59 14.9			
	comp=N,59nm,1.3s								
PV21				IAML		22 59 23.1			
	comp=E,42nm,0.8s								
MSTX	**Muleshoe**	**3.61**	**150**	Pb	**Pb**	**22 58 25.6**	**+0.1**		
	baz=331								
MSTX				Sb	**Sb**	**22 59 09.3**	**-0.1**		
	baz=331								
N23A	**Red Feather La**	**3.85**	**349**	Pn	**Pn**	**22 58 23.2**	**+2.1**		
N23A				IAML		22 59 35.0			
	comp=E,53nm,0.7s								
N23A				IAML		22 59 36.1			
	comp=N,30nm,0.8s								
O20A	**White River Ci**	**3.97**	**320**	P	**Pn**	**22 58 25.7**	**+3.0**		
	baz=139,SNR=8.1								
O20A	**White River Ci**	**3.97**	**320**	Pn	**Pn**	**22 58 24.9**	**+2.1**		
W18A	**Petrified Fore**	**4.37**	**244**	Pb	**Pb**	**22 58 37.6**	**-0.9**		
	baz=62								
W18A				Sb	**Sb**	**22 59 34.7**	**+3.3**		
	baz=62								
OGNE	**Ogallala**	**4.44**	**30**	Pn	**Pn**	**22 58 30.9**	**+1.8**		
OGNE				IAmb_Lg		22 59 54.4			
	comp=Z,43nm,0.9s								
CBKS	**Cedar Bluff**	**4.44**	**66**	P	**Pn**	**22 58 29.6**	**+0.5**		
	baz=248								
CBKS				S	**Sn**	**22 59 22.0**	**+1.1**		
	baz=248								
CBKS	**Cedar Bluff**	**4.44**	**66**		**Pn**	**22 58 30.0**	**+0.9**		
U32A	**Winter Ranch,**	**4.83**	**97**	IAmb_Lg		22 59 56.8			
	comp=Z,49nm,0.9s								
RDMU	**Red Mountain**	**4.99**	**315**	Pn	**Pn**	**22 58 37.7**	**+0.9**		
R32A	**Long Quarter,**	**5.10**	**73**	IAmb_Lg		23 00 15.2			
	comp=Z,38nm,0.8s								
121A	**Cookes Peak, D**	**5.14**	**208**	P	**Pn**	**22 58 38.9**	**+0.1**		
	baz=27								
121A	**Cookes Peak, D**	**5.14**	**208**	Pn	**Pn**	**22 58 39.1**	**+0.3**		
121A				IAML		23 00 11.9			
	comp=E,13nm,0.8s								
121A				IAML		23 00 13.3			
	comp=N,13nm,1.4s								
MNTX	**Cornudas Mount**	**5.42**	**184**	Pb	**Pb**	**22 58 56.2**	**-0.2**		
	baz=4.0								
MNTX				Sb	**Sb**	**23 00 05.8**	**+4.3**		
	baz=4.0								
WUAZ	**Wupatki**	**5.44**	**255**	Pb	**Pb**	**22 58 55.0**	**-1.7**		
	baz=72								
WUAZ	**Wupatki**	**5.44**	**255**		**Pn**	**22 58 44.5**	**+1.7**		
CROK	**Carrier**	**5.61**	**94**	IAmb_Lg		23 00 27.7			
	comp=Z,39nm,0.7s								
T35A	**Sooner Cattle**	**6.75**	**89**	IAmb_Lg		23 01 03.5			
	comp=Z,37nm,0.9s								
KSU1	**Kansas State U**	**6.86**	**71**	IAmb_Lg		23 01 11.8			
	comp=Z,38nm,0.9s								
RSSD	**Black Hills**	**7.03**	**5**	IAmb_Lg		23 01 16.1			
	comp=Z,15nm,0.8s								
Z35A	**Perchaven, San**	**7.34**	**119**	IAmb_Lg		23 01 19.9			
	comp=Z,27nm,1.1s								
TUL1	**Leonard**	**7.46**	**97**	IAmb_Lg		23 01 19.3			
	comp=Z,37nm,0.9s								
JCT	**Junction City**	**7.88**	**146**	IAmb_Lg		23 01 37.5			
	comp=Z,28nm,1.0s								
WHTX	**Lake Whitney,**	**8.02**	**127**	IAmb_Lg		23 01 44.3			
	comp=Z,30nm,1.2s								
X37A	**Clayton**	**8.17**	**105**	IAmb_Lg		23 02 00.0			
	comp=Z,26nm,1.0s								
SUSD	**Miller**	**8.61**	**30**	IAmb_Lg		23 02 06.3			
	comp=Z,21nm,0.8s								
435B	**Jarrell**	**8.79**	**134**	IAmb_Lg		23 02 08.2			
	comp=Z,29nm,0.8s								
HHAR	**Hobbs**	**8.87**	**92**	IAmb_Lg		23 02 13.9			
	comp=Z,28nm,1.1s								
237A	**Washetta, Mont**	**9.10**	**121**	IAmb_Lg		23 02 28.5			
	comp=Z,25nm,0.9s								
S39A	**Bolivar**	**9.26**	**83**	IAmb_Lg		23 02 26.1			
	comp=Z,20nm,1.1s								
P38A	**Dawn**	**9.30**	**71**	IAmb_Lg		23 02 20.6			
	comp=Z,22nm,0.7s								
U40A	**Yellville**	**9.73**	**91**	IAmb_Lg		23 02 31.3			
	comp=Z,16nm,0.8s								
E28A	**Huff**	**9.96**	**17**	IAmb_Lg		23 02 44.6			
	comp=Z,21nm,0.9s								

*IDC **10** 23:20:50.0±2.2, 13°.68N×145°.38E, h62km±16km, mb3.8/5, mb1 4.0/5, mb1mx3.5/42, mbtmp4.1/5, Error ellipse: s-maj=41.6km s-min=25.4km az=95.0*
*NEIC **10** 23:20:51.1±1.1, 13°.62N±0°.09×145°.3E±0°.1, h72km±7km, mb4.4/21, Error ellipse: s-maj=17.5km s-min=9.1km az=129.0*

ISC 10 23:20:47.9±0.7, 13°.52N±0°.09×145°.62E±0°.09, h45km, n40, σ1§09/38, mb4.3/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.73**	**276**	P	**Pn**	**23 21 03.8**	**+1.9**
	852nm,0.3s,baz=278,slow=2.5,SNR=187						
GUMO				S	**Sn**	**23 21 13.1**	**+1.0**
	baz=38,slow=19						
GUMO	**Guam**	**0.73**	**276**		**Pn**	**23 21 03.8**	**+1.9**
GUMO					**Sn**	**23 21 12.3**	**+0.3**
ANA2	**Anatahan**	**2.81**	**2**	Pn	**Pn**	**23 21 33.1**	**+2.7**
H11N1	**WAKE ISLAND Hy**	**21.29**	**70**	T	T	23 48 33.5	
	baz=257,slow=75,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**21.29**	**70**	T	T	23 48 31.0	
	baz=257,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**21.30**	**70**	T	T	23 48 32.4	
	baz=257,slow=75,SNR=6.6						
WB0	**Warramunga Arr**	**34.87**	**199**	P	**P**	**23 27 36.4**	**+1.2**
WB2	**Warramunga Arr**	**35.05**	**199**	P	**P**	**23 27 37.2**	**+0.5**
WB2				IAmb	IAmb	23 27 42.3	
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**35.05**	**199**	P	**P**	**23 27 37.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=21,slow=9.7,SNR=10						
WRA	**Warramunga Arr**	**35.05**	**199**	IAmb	IAmb	23 27 44.8	
	comp=Z,0.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**37.08**	**213**	P	**P**	**23 27 52.3**	**-1.8**
BBOO	**Buckleboo**	**46.96**	**191**	P	**P**	**23 29 15.4**	**+1.0**
BBOO				IAmb	IAmb	23 29 19.2	
	comp=Z,3.1nm,1.0s						
OXZ	**Oxford**	**61.52**	**158**	P	**P**	**23 31 00.4**	**+0.2**
MK31	**Makanchi Array**	**62.05**	**316**	P	**P**	**23 31 02.6**	**-1.3**
MK31				IAmb	IAmb	23 31 10.0	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**62.05**	**316**	P	**P**	**23 31 02.8**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=92,slow=8.7,SNR=18						
SVW2	**Sparrevohn**	**63.40**	**28**	P	**P**	**23 31 13.1**	**+0.5**
CNPM	**China Poot**	**64.93**	**30**	P	**P**	**23 31 23.0**	**+0.3**
BRLK	**Bradley Lake**	**65.17**	**30**	P	**P**	**23 31 24.3**	**+0.1**
PPLA	**Purkeypile**	**65.53**	**26**	P	**P**	**23 31 27.4**	**+0.8**
PPLA				IAmb	IAmb	23 31 30.5	
	comp=Z,7.2nm,1.1s						
IMAR	**Indian Mountai**	**65.98**	**23**	P	**P**	**23 31 30.6**	**+1.3**
KTH	**Kantishna Hill**	**66.28**	**26**	P	**P**	**23 31 31.1**	**-0.3**
KTH				IAmb	IAmb	23 31 39.3	
	comp=Z,4.6nm,1.0s						
NRIK	**Noril'sk**	**66.44**	**341**	P	**P**	**23 31 31.1**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=123,slow=8.4,SNR=3.7						
TRF	**Thorofare Moun**	**66.52**	**26**	P	**P**	**23 31 33.0**	**0.0**
SML	**Sawmill**	**66.93**	**28**	P	**P**	**23 31 33.3**	**-2.2**
BWN	**Browne**	**67.08**	**26**	P	**P**	**23 31 36.3**	**-0.1**
BWN				IAmb	IAmb	23 31 44.7	
	comp=Z,11nm,0.8s						
SCM	**Sheep Creek Mo**	**67.40**	**28**	P	**P**	**23 31 39.1**	**+0.6**
SCM				IAmb	IAmb	23 31 41.2	
	comp=Z,9.0nm,1.0s						
WRH	**Wood River Hil**	**67.74**	**25**	P	**P**	**23 31 40.4**	**-0.2**
MDM	**Murphy Dome**	**67.82**	**25**	P	**P**	**23 31 41.5**	**+0.4**
KLU	**Klutina**	**67.97**	**29**	P	**P**	**23 31 42.8**	**+0.6**
KLU				IAmb	IAmb	23 31 58.7	
	comp=Z,4.0nm,1.1s						
M24K	**Tolsona, Glenn**	**67.99**	**28**	P	**P**	**23 31 43.1**	**+0.9**
IL31		**68.32**	**25**	P	**P**	**23 31 44.2**	**+0.1**
IL31				IAmb	IAmb	23 31 50.6	
	comp=Z,2.7nm,1.1s						
ILAR	**Eielson Array**	**68.32**	**25**	P	**P**	**23 31 43.9**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=253,slow=5.6,SNR=8.5						
PAX	**Paxson**	**68.50**	**27**	P	**P**	**23 31 46.2**	**+0.7**
PAX				IAmb	IAmb	23 31 50.4	
	comp=Z,4.7nm,1.2s						
DOT	**Dot Lake**	**69.27**	**27**	P	**P**	**23 31 51.2**	**+1.0**
ABKAR	**Akbulak array**	**77.09**	**318**	P	**P**	**23 32 35.6**	**-0.9**
FINES	**FINESS Array B**	**91.53**	**335**	P	**P**	**23 33 48.3**	**-1.3**
	comp=Z,2.7nm,1.1s,baz=90,slow=4.2,SNR=4.9						
DBIC	**Dimbokro**	**144.48**	**303**	PKP	**PKPab**	**23 40 18.4**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=43,slow=4.6,SNR=6.5						
KIC	**Kosan Boka**	**144.56**	**302**	*e*PKP2	**PKPab**	**23 40 18.7**	**-0.4**
	comp=Z,7.7nm,0.8s						
TIC	**Toumodi**	**144.63**	**303**	*e*PKP2	**PKPab**	**23 40 18.4**	**-0.9**
LIC	**Lamto**	**144.87**	**302**	*e*PKP2	**PKPab**	**23 40 19.7**	**-0.5**
	comp=Z,17nm,0.5s						

IDC 10 23:24:40.0±548.0, 4°.34S×9°.43E, h0km, Error ellipse: s-maj=270.1km s-min=214.6km az=151.0, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I35NA	**TSUMEB INFRASO**	**16.77**	**152**	*i*		01 12 00.0	
	baz=330,slow=315,SNR=2.8						
I17CI	**DIMBOKRO INFRA**	**17.97**	**307**	*i*		01 18 30.0	
	baz=129,slow=318,SNR=1.4						
I19DJ	**I19DJ**	**37.07**	**65**	*i*		03 10 20.0	
	baz=247,slow=316,SNR=1.4						

*REY **10** 23:51:17.8, 64°.67N×17°.45W, h10km*
*MOS **10** 23:51:18.6±1.0, 64°.62N×17°.66W, h13km, mb4.4/41, Error ellipse: s-maj=13.6km s-min=5.8km az=117.8*
*IDC **10** 23:51:18.2±0.6, 64°.62N×17°.67W, h0km, mb3.9/17, mb1 4.1/19, mb1mx4.0/42, mbtmp3.9/19, ML3.4/2, Error ellipse: s-maj=20.1km s-min=9.3km az=13.0*
*NEIC **10** 23:51:19.9±1.7, 64°.62N±0°.10×17°.6W±0°.1, h9km±4km, mb4.5/87, Error ellipse: s-maj=14.1km s-min=8.0km az=193.0*

ISC 10 23:51:19.5±0.3, 64°.69N±0°.02×17°.51W±0°.02, h10km, n299, σ1§64/312, mb4.4/110, 8C-3D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.12**	**31**	P	**Pg**	**23 51 20.8**	**-1.8**
	baz=17						
IDYN				S	**Sg**	**23 51 23.3**	**-1.4**
	baz=17						
IURH	**Urdarhals**	**0.20**	**49**	P	**Pg**	**23 51 22.0**	**-1.8**
	baz=41						
IURH				S	**Sg**	**23 51 25.8**	**-1.1**
	baz=41						
IDJK	**Dyngjujokull**	**0.22**	**147**	P	**Pg**	**23 51 21.6**	**-2.5**
	baz=150						
IGRF	**Grimsfjall**	**0.30**	**160**	P	**Pg**	**23 51 23.2**	**-2.4**
	baz=163						
IHUS	**Husbondi**	**0.40**	**189**	P	**Pg**	**23 51 25.2**	**-2.2**
	baz=193						
ISKR	**Skrokkalda**	**0.40**	**252**	P	**Pg**	**23 51 25.4**	**-1.9**
	baz=255						
IVOT	**Vottur**	**0.44**	**161**	P	**Pg**	**23 51 25.8**	**-2.4**
	baz=164						
IJOK	**Jokulheimar**	**0.49**	**220**	P	**Pg**	**23 51 26.6**	**-2.4**
	baz=224						
IJOK				S	**Sg**	**23 51 34.3**	**-1.1**
	baz=224						
IKRE	**Kreppuhraun**	**0.49**	**78**	P	**Pg**	**23 51 26.4**	**-2.7**
	baz=76						
IKRE				S	**Sg**	**23 51 33.5**	**-2.2**
	baz=76						
IMKO	**Mokollar**	**0.58**	**59**	P	**Pg**	**23 51 28.2**	**-2.6**
	baz=56						
IMKO				S	**Sg**	**23 51 36.6**	**-1.8**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**204**	P	**Pg**	**23 51 29.2**	**-2.9**
	baz=207						
IIEY				S	**Sg**	**23 51 38.5**	**-2.1**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**23 51 29.9**	**-2.4**
	baz=7.1						
IKSK	**Karasker**	**0.69**	**139**	P	**Pg**	**23 51 29.2**	**-3.7**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**186**	P	**Pg**	**23 51 31.0**	**-2.9**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**23 51 31.1**	**-3.4**
	baz=79						
IVSH				S	**Sg**	**23 51 41.5**	**-3.0**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**231**	P	**Pg**	**23 51 32.0**	**-2.7**
	baz=233						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**23 51 33.0**	**-3.6**
	baz=66						
IADA				S	**Sg**	**23 51 45.1**	**-3.1**
	baz=66						
IHVE	**Hveravellir**	**0.90**	**283**	P	**Pg**	**23 51 33.7**	**-3.1**
	baz=284						
IHVE				S	**Sg**	**23 51 46.8**	**-1.8**
	baz=284						
IMEL	**Melhnausar**	**0.96**	**22**	P	**Pg**	**23 51 34.7**	**-3.2**
	baz=20						
IREN	**Reynihlio**	**1.00**	**15**	P	**Pg**	**23 51 35.4**	**-3.3**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**23 51 36.5**	**-3.5**
	baz=13						
ISNB	**Snabyli**	**1.07**	**208**	P	**Pg**	**23 51 36.6**	**-3.5**
	baz=209						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pb**	**23 51 37.5**	**-3.4**
	baz=221						
IGRS	**Grimsstaoir**	**1.12**	**31**	P	**Pb**	**23 51 37.4**	**-3.6**
	baz=29						
IGRS				S	**Sg**	**23 51 53.0**	**-2.5**
	baz=29						
IFED	**Fedgar**	**1.16**	**236**	P	**Pb**	**23 51 38.6**	**-3.0**
	baz=237						
IRJU	**Rjupnafell**	**1.19**	**206**	P	**Pb**	**23 51 38.4**	**-3.7**
	baz=207						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pb**	**23 51 38.9**	**-3.5**
	baz=8.3						
ISKI				S	**Sb**	**23 51 55.2**	**-2.8**
	baz=8.3						
IMJO	**Mjoaskard**	**1.21**	**232**	P	**Pb**	**23 51 39.4**	**-3.1**
	baz=234						
IGHA	**Grjothals**	**1.21**	**17**	P	**Pn**	**23 51 38.8**	**-3.8**
	baz=15						
IGRA	**Granastaoir**	**1.24**	**359**	P	**Pn**	**23 51 39.2**	**-3.6**
	baz=358						
IHAU	**Haukadalur**	**1.29**	**237**	P	**Pn**	**23 51 40.4**	**-3.2**
	baz=238						
IHAU				S	**Sb**	**23 51 57.5**	**-2.9**
	baz=238						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**23 51 40.4**	**-3.4**
	baz=9.3						
IHVO	**Lagu-Hvolar**	**1.31**	**207**	P	**Pn**	**23 51 40.7**	**-3.1**
	baz=209						
IHLA	**Hella**	**1.31**	**344**	P	**Pn**	**23 51 40.9**	**-3.0**
	baz=343						
IHLA				S	**Sb**	**23 51 59.0**	**-2.2**
	baz=343						
IHED	**Heoinshofoi**	**1.40**	**3**	P	**Pn**	**23 51 41.7**	**-3.4**
	baz=2.4						
IALF	**Alftagrof**	**1.41**	**212**	P	**Pn**	**23 51 42.2**	**-2.9**
	baz=214						
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**	**23 51 42.9**	**-2.8**
	baz=218						
ISAU	**Saurbar**	**1.45**	**242**	P	**Pn**	**23 51 42.4**	**-3.3**
	baz=244						
ISAU				S	**Sn**	**23 52 02.0**	**-2.7**
	baz=244						
IBRE	**Brettingsstaoi**	**1.45**	**354**	P	**Pn**	**23 51 42.8**	**-3.0**
	baz=353						
IBRE				S	**Sn**	**23 52 02.4**	**-2.4**
	baz=353						
IMID	**Miomork**	**1.47**	**226**	P	**Pn**	**23 51 43.3**	**-2.7**
	baz=228						
IGIL	**Gilhagi**	**1.48**	**19**	P	**Pn**	**23 51 42.8**	**-3.4**
	baz=18						
ISIG	**Siglufjorour**	**1.56**	**339**	P	**Pn**	**23 51 44.7**	**-2.7**
	baz=338						
ISIG				S	**Sn**	**23 52 05.9**	**-1.7**
	baz=338						
BORG	**Borgarnes**	**1.64**	**274**	Pg	**Pn**	**23 51 45.6**	**-2.7**
	22nm,0.3s,baz=91,slow=7.8,SNR=60						
BORG				Lg	Lg	23 52 08.7	
	13nm,0.3s,baz=27,slow=22,SNR=13						
BORG	**Borgarnes**	**1.64**	**274**	P	**Pn**	**23 51 45.7**	**-2.7**
BORG						23 52 10.8	
BORG	**Borgarnes**	**1.64**	**274**	Pn	**Pn**	**23 51 45.7**	**-2.6**
BORG				Sn	**Sg**	**23 52 10.8**	**-1.4**
IKRO	**Krokur**	**1.68**	**251**	P	**Pn**	**23 51 45.9**	**-2.9**
	baz=252						
ISOL	**Solvholt**	**1.68**	**245**	P	**Pn**	**23 51 46.0**	**-2.9**
	baz=246						
IHEI	**Heioarbar**	**1.69**	**255**	P	**Pn**	**23 51 46.3**	**-2.7**
	baz=256						
IHRN	**Hraun**	**1.80**	**324**	P	**Pn**	**23 51 48.1**	**-2.5**
	baz=324						
ANGG	**Ammassalik, Gr**	**8.52**	**285**	Pn	**Pn**	**23 53 22.4**	**-0.3**
SUMG	**Summit**	**10.92**	**325**	P	**Pn**	**23 53 57.6**	**+1.6**
SUMG	**Summit**	**10.92**	**325**	Pn	**Pn**	**23 53 57.6**	**+1.6**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**23 54 06.1**	**-1.2**
	baz=320,slow=13,SNR=13						
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**	**23 54 07.6**	**+0.2**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**23 54 07.6**	**+0.2**
DSB	**Dublin**	**12.80**	**148**	Pn	**Pn**	**23 54 21.5**	**+0.1**
NC303	**NORSAR Array S**	**13.52**	**92**	Pn	**Pn**	**23 54 31.2**	**+0.1**
HFS	**Hagfors**	**15.05**	**93**	Pn	**P**	**23 54 58.1**	**+0.8**
	0.1nm,0.3s,baz=347,slow=6.1,SNR=9.0						
NOR	**Nord**	**17.01**	**0**	P	**P**	**23 55 20.4**	**+1.5**
NOR				pmax	pmax		
	comp=Z,20nm,2.4s						
BAIF	**Baives**	**18.61**	**132**	*e*P	**Pn**	**23 55 37.9**	**+1.0**
BAIF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GRR	**Gorron**	**18.63**	**143**	*e*P	**Pn**	**23 55 38.3**	**+1.0**
GRR				pmax	pmax		
	comp=Z,28nm,1.3s						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**23 55 50.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=179,slow=29,SNR=3.5						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**23 55 49.9**	**-0.1**
MFF	**Saint Martin d**	**20

comp=Z,21nm,1.3s
BRG Berggiesshubel 21.43 115 *e*P P 23 56 07.4 +0.1
BRG pmax pmax
comp=Z,21nm,1.3s
BFO Black Forest 21.47 127 P P 23 56 08.3 +0.5
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 21.47 127 P P 23 56 08.3 +0.5
SMF Signal de Mont 21.52 137 *e*P P 23 56 08.4 0.0
SMF pmax pmax
comp=Z,26nm,1.3s
VSU Vasula 21.57 86 *e*P P 23 56 08.6 -0.1
VSU Vasula 21.57 86 *i*P P 23 56 08.7 -0.1
VSU pmax pmax
comp=Z,10.0nm,1.5s
GRB1 Grafenberg Arr 21.75 121 P P 23 56 11.2 +0.3
GRB1 pmax pmax
comp=Z,15nm,1.2s
SLE Schleitheim 22.01 128 P P 23 56 17.3 +3.6
SLE pmax pmax
comp=Z,7.0nm,1.1s
RJF Les Rejaudoux 22.11 142 *e*P P 23 56 14.8 +0.1
RJF pmax pmax
comp=Z,18nm,1.2s
PABE Paberze 22.22 95 *e*P P 23 56 16.2 +0.4
LFF La Frestale 22.25 144 *e*P P 23 56 16.9 +0.8
LFF pmax pmax
comp=Z,45nm,1.4s
PRU Pruhonice 22.36 116 *e*P P 23 56 19.1 +1.7
PRU Pruhonice 22.36 116 *e*P P 23 56 19.1 +1.7
KSP Ksiaz 22.38 112 *e*P P 23 56 17.5 -0.1
PBCC Pribram 22.40 117 *e*P P 23 56 20.0 +2.2
WET Wettzell 22.41 119 P P 23 56 21.3 +3.3
WET pmax pmax
comp=Z,6.0nm,1.6s
CHVC Chvalec 22.48 113 *e*P P 23 56 20.4 +1.7
UPC Upice 22.53 113 *e*P P 23 56 21.5 +2.4
UPC Upice 22.53 113 *e*P P 23 56 21.5 +2.4
OSTC Ostas 22.57 113 *e*P P 23 56 20.7 +1.1
KHC Kasperske Hory 22.69 118 *e*P P 23 56 21.0 +0.1
KHC Kasperske Hory 22.69 118 *ce*P P 23 56 21.3 +0.3
KHC pmax pmax
comp=Z,17nm,1.0s
KHC Kasperske Hory 22.69 118 P P 23 56 21.2 +0.3
DPC Dobruska-Polom 22.77 113 *e*P P 23 56 22.9 +1.1
DPC Dobruska-Polom 22.77 113 *e*P P 23 56 22.9 +1.1
SUW Suwalki 22.89 98 P P 23 56 22.1 -0.8
SUW pmax pmax
comp=Z,35nm,1.3s
SUW Suwalki 22.89 98 P P 23 56 22.1 -0.8
DAVA Damuels 22.90 126 *e*P P 23 56 25.8 +2.5
comp=Z,10.0nm,1.2s
GEC2 GERESS Array S 22.97 119 P P 23 56 24.8 +0.9
GERES GERESS Array B 22.97 119 P P 23 56 24.4 +0.5
comp=Z,2.5nm,1.1s,baz=320,slow=7.9,SNR=11
SSB Saint Sauveur 22.97 137 P P 23 56 24.4 +0.5
SSB pmax pmax
comp=Z,23nm,1.5s
SSB Saint Sauveur 22.97 137 P P 23 56 24.4 +0.5
SSB IAmb IAmb 23 56 30.2
comp=Z,23nm,1.5s
IZAR Zarasai 23.03 92 *e*P P 23 56 25.0 +0.6
RETA Reutte 23.03 125 *e*P P 23 56 26.1 +1.5
comp=Z,8.1nm,1.9s
ISAL Salakas 23.10 93 *e*P P 23 56 25.6 +0.5
KRLC Kraliky 23.17 113 *e*P P 23 56 26.6 +0.7
KRLC Kraliky 23.17 113 *e*P P 23 56 26.6 +0.7
MOTA Moosalm 23.28 124 *e*P P 23 56 28.6 +1.5
comp=Z,13nm,1.5s
IIGN Ignalina 23.29 93 *e*P P 23 56 27.8 +0.8
TREC Trest 23.29 116 P P 23 56 28.0 +0.9
TREC pmax pmax
comp=Z,2.0nm,1.8s
DAVOX Davos/Dischmat 23.34 127 P P 23 56 28.3 +0.5
comp=Z,1.9nm,0.8s,baz=334,slow=10,SNR=2.2
SQTA Sankt Quirin 23.42 125 *e*P P 23 56 30.2 +1.7
comp=Z,9.8nm,1.4s
TUE Stuetta 23.42 128 P P 23 56 27.3 -1.4
WATA Walderalm 23.45 124 *e*P P 23 56 29.2 +0.3
comp=Z,6.3nm,1.1s
IDID Didziasalis 23.53 92 *e*P P 23 56 29.8 +0.3
WTTA Wattenberg 23.54 124 *e*P P 23 56 30.3 +0.5
comp=Z,12nm,1.6s
WTTA Wattenberg 23.54 124 P P 23 56 32.7 +3.0
WTTA pmax pmax
comp=Z,9.0nm,1.8s
VRAC Vranov 23.71 114 P P 23 56 31.7 +0.5
comp=Z,1.6nm,0.8s,baz=300,slow=7.6,SNR=5.8
MORC Moravsky Berou 23.71 112 P P 23 56 32.4 +1.1
MORC pmax pmax
comp=Z,16nm,1.5s
MORC Moravsky Berou 23.71 112 P P 23 56 32.4 +1.1
MORC IAmb IAmb 23 56 35.3
comp=Z,16nm,1.5s
NACGM Naroch 23.82 93 *e* P 23 56 32.0 -0.3
KRUC Moravsky 23.83 115 P P 23 56 32.6 +0.2
MOA Molln 24.00 119 *e*P P 23 56 35.4 +1.3
comp=Z,3.2nm,1.1s
OJC Ojcow 24.27 109 *e*P P 23 56 36.3 -0.2
OJC Ojcow 24.27 109 P P 23 56 36.3 -0.2
OJC pmax pmax
comp=Z,10.0nm,1.4s
OJC Ojcow 24.27 109 P P 23 56 36.3 -0.2
ABTA Abfaltersbach 24.29 123 *e*P P 23 56 36.8 0.0
comp=Z,5.2nm,1.4s
CONA Conrad Observa 24.54 117 *e*P P 23 56 39.7 +0.6
comp=Z,4.1nm,1.0s
CTI Castel Tesino 24.58 125 P P 23 56 40.5 +1.0
CTI pmax pmax
comp=Z,8.0nm,1.2s
CTI Castel Tesino 24.58 125 P P 23 56 40.5 +1.0
CTI IAmb IAmb 23 56 50.3
comp=Z,8.3nm,1.2s
ZOU Zoufplan 24.62 123 P P 23 56 41.3 +1.4
CIMO Cimolais 24.64 124 P P 23 56 41.8 +1.8
SMOL Smolenice 24.67 114 *e*P P 23 56 40.4 +0.2
SMOL pmax pmax
comp=Z,4.0nm,1.1s
SMOL Smolenice 24.67 114 *e*P P 23 56 40.4 +0.2
MODS Modra-Piesok 24.73 115 *e*P P 23 56 41.8 +1.1
MODS pmax pmax
comp=Z,11nm,1.3s
MODS Modra-Piesok 24.73 115 *e*P P 23 56 41.8 +1.1
STAL STALIGIAL 24.78 124 P P 23 56 40.8 -0.4
PRED Cave del Predi 24.93 122 P P 23 56 43.7 +1.2
PRED IAmb IAmb 23 56 48.3
comp=Z,11nm,1.4s
ARSA Arzberg 24.98 118 *e*P P 23 56 44.9 +2.0
comp=Z,3.6nm,0.8s
NIE Niedzica 25.10 109 *e*P P 23 56 44.8 +0.7
OBKA Obir 25.23 121 *e*P P 23 56 45.6 +0.2
comp=Z,5.6nm,1.6s
VYHS Vyhne 25.25 112 *e*P P 23 56 46.2 +0.8
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS Vyhne 25.25 112 *e*P P 23 56 46.2 +0.8
SOKA Soboth 25.27 120 *e*P P 23 56 47.0 +1.3
comp=Z,5.6nm,1.5s
KLMR Klimovskoe 25.60 72 *e*P P 23 56 47.6 -0.8
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 25.60 72 *e*P P 23 56 47.7 -0.7
KLMR AMP 23 56 49.9
comp=Z,12nm,1.2s
KWP Kalwaria Pacla 25.92 106 *e*P P 23 56 50.7 -0.8
KWP Kalwaria Pacla 25.92 106 P P 23 56 52.7 +1.2
KWP pmax pmax
comp=Z,30nm,1.3s
KWP Kalwaria Pacla 25.92 106 P P 23 56 52.7 +1.2
PSZ Piszkesteto 26.13 112 P P 23 56 55.0 +1.5
PSZ pmax pmax
comp=Z,15nm,1.4s
PSZ Piszkesteto 26.13 112 P P 23 56 55.0 +1.5
PSZ IAmb IAmb 23 57 12.6
comp=Z,15nm,1.4s
ESDC Sonseca Array 26.27 156 P P 23 56 55.3 +0.5
comp=Z,1.4nm,0.9s,baz=350,slow=9.1,SNR=9.9
ESDC Sonseca Array 26.27 156 P P 23 56 55.5 +0.7
KOLS Kolonicke sedl 26.29 108 *e*P P 23 56 54.9 +0.1
KOLS pmax pmax
comp=Z,11nm,1.5s
KOLS Kolonicke sedl 26.29 108 *e*P P 23 56 54.9 +0.1
LVV L'vov 26.32 104 *e*P P 23 56 54.8 -0.3
UZH Uzhgorod 26.53 108 *e*P P 23 56 57.9 +0.9
UZH *e* 23 57 04.1
OSSC Osservatorio P 26.66 129 P P 23 56 58.9 +0.7
OSSC IAmb IAmb 23 57 02.8
comp=Z,9.9nm,1.0s
CASP Castiglione de 27.18 130 P P 23 57 03.2 +0.3
AKASG Malin Array Be 27.85 98 P P 23 57 09.5 +0.8
comp=Z,1.4nm,0.7s,baz=322,slow=9.5,SNR=5.2
AKBB Malin Array Si 27.85 98 *ce*P P 23 57 09.6 +0.8
AKBB Malin Array Si 27.85 98 P P 23 57 08.2 -0.5
AKBB IAmb IAmb 23 57 10.7
comp=Z,11nm,1.4s
OBN Obninsk 27.88 84 P P 23 57 09.0 0.0
comp=Z,1.5nm,0.4s,baz=7.3,slow=12,SNR=3.3
OBN Obninsk 27.88 84 *e*P P 23 57 09.2 +0.2
OBN *e*PP pP 23 57 11.5 -1.0
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,55nm,16.0s
OBN Obninsk 27.88 84 P P 23 57 09.0 0.0
NRCA Norcia 27.90 127 P P 23 57 10.2 +0.7
NRCA IAmb IAmb 23 57 12.8
comp=Z,8.5nm,1.3s
BUR08 Bucovina Ar. S 28.51 106 P P 23 57 16.5 +1.7
BURAR Bucovina Array 28.54 106 P P 23 57 16.8 +1.7
BURAR Bucovina Array 28.54 106 P P 23 57 15.8 +0.8
DIVS Divibare 29.33 116 P P 23 57 22.2 +0.1
PDG Podgorica 30.47 119 P P 23 57 32.0 -0.1
KIRV Kirov 30.98 69 *ce*P P 23 57 37.1 +0.7
KNT Kendrikon 32.95 116 P P 23 57 57.0 +3.1
KNT pmax pmax
comp=Z,5.0nm,1.0s
SRS Serrai 33.26 115 P P 23 57 58.8 +2.2
SRS pmax pmax
comp=Z,8.0nm,1.1s
ALN Alexandroupoli 34.41 112 P P 23 58 07.7 +1.1
ALN pmax pmax
comp=Z,28nm,1.4s
ALN Alexandroupoli 34.41 112 P P 23 58 07.7 +1.1
BELG Belogornoye 34.49 79 *i*P P 23 58 07.2 +0.1
AGG Agios Georgios 34.58 118 P P 23 58 09.3 +1.1
AGG pmax pmax
comp=Z,20nm,1.3s
AGG Agios Georgios 34.58 118 P P 23 58 09.3 +1.1
MOQ Mont Orford 35.43 264 P P 23 58 15.1 -0.4
ARU Arti 36.08 66 *d*/P P 23 58 21.1 +0.3
ARU S S 00 04 01.2 +1.6
ARU SS SnSn 00 06 21.1 -2.9
ARU pmax pmax
comp=Z,9.0nm,2.0s
NRIK Noril'sk 36.44 35 *ce*P P 23 58 25.2 +1.4
NRIK pmax pmax
comp=Z,4.0nm,1.1s
BRTR Keskin Array B 38.49 105 P P 23 58 43.5 +1.8
comp=Z,1.7nm,1.0s,baz=300,slow=8.0,SNR=5.0
KIV Kislovodsk 38.85 92 *e*P P 23 58 44.3 -0.2
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 38.85 92 P P 23 58 45.6 +1.1
KIV IAmb IAmb 23 58 49.0
comp=Z,12nm,1.3s
SHA1 Shidzhatmaz 39.01 93 *i*P P 23 58 47.0 +1.0
KBZ Khabaz 39.12 92 P P 23 58 48.9 +2.3
comp=Z,3.2nm,1.0s,baz=335,slow=9.6,SNR=5.9
KBZ Khabaz 39.12 92 *i*P P 23 58 47.5 +0.9
KBZ pmax pmax
comp=Z,3.0nm,0.9s
ARTV Artvin 40.78 96 P P 23 59 01.5 +0.8
ABKAR Akbulak array 41.99 73 P P 23 59 10.6 +0.2
ABKAR Akbulak array 41.99 73 P P 23 59 10.8 +0.5
TIXI Tiksi 42.01 15 P P 23 59 11.4 +1.2
TIXI pmax pmax
comp=Z,61nm,1.3s
TIXI Tiksi 42.01 15 P P 23 59 11.4 +1.2
TOLK Toolik Lake Re 42.73 336 P P 23 59 18.1 +1.9
TOLK IAmb IAmb 23 59 19.5
comp=Z,14nm,1.2s
BMAR Burnt Mountain 42.87 333 P P 23 59 19.4 +2.0
BRVK Borovoye 43.12 62 *ce*P P 23 59 19.8 +0.3
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 43.12 62 P P 23 59 21.2 +1.7
MARD Mardin 43.52 100 P P 23 59 24.1 +1.1
MARD IAmb IAmb 23 59 38.1
comp=Z,9.5nm,1.1s
ILAR Eielson Array 45.66 332 P P 23 59 41.1 +1.5
comp=Z,2.2nm,1.1s,baz=31,slow=5.8,SNR=13
ILAR PcP PcP 00 01 18.2 +0.7
comp=Z,1.4nm,1.1s,baz=318,slow=1.2,SNR=4.9
ILAR Eielson Array 45.66 332 P P 23 59 40.6 +0.9
MDM Murphy Dome 45.76 333 P P 23 59 42.4 +1.9
MDM IAmb IAmb 23 59 44.6
comp=Z,11nm,1.3s
COLA College 45.76 333 *i*P P 23 59 41.3 +0.9
COLA pmax pmax
comp=Z,5.0nm,1.0s
SFIN Lafayette 45.80 273 P P 23 59 41.3 +0.3
IMAR Indian Mountai 45.84 337 P P 23 59 42.7 +1.7
BCAR Beaver Creek A 46.09 329 P P 23 59 45.0 +1.9
ZAA0 Zalesovo Array 47.62 51 P P 23 59 55.1 0.0
ZAA0 IAmb IAmb 23 59 56.8
comp=Z,3.3nm,1.1s
ZALV Zalesovo Beam 47.62 51 P P 23 59 56.0 +0.9
comp=Z,0.8nm,0.6s,baz=325,slow=7.2,SNR=5.3
ZALV Zalesovo Beam 47.62 51 P P 23 59 56.1 +0.9
Q44A Meyer Farm, Va 47.85 274 P P 23 59 57.2 +0.1
KURK Kurchatov 48.10 58 *ce*P P 23 59 59.3 +0.4
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 48.10 58 P P 23 59 59.5 +0.6
KURK IAmb IAmb 00 00 00.2
comp=Z,5.1nm,0.9s
PAULI Pauline 48.20 264 P P 00 00 00.5 +0.7
T47A Sharon Grove 48.63 270 P P 00 00 04.0 +0.9
T47A IAmb IAmb 00 00 07.2
comp=Z,7.8nm,1.1s
W50A Signal Mountai 49.37 268 P P 00 00 09.8 +1.0
MID Middleton Isla 50.34 329 P P 00 00 17.9 +2.1
MID Middleton Isla 50.34 329 P P 00 00 16.7 +0.9
Q23K Middleton Isla 50.34 329 P P 00 00 17.2 +1.3
GEYT Alibeck 50.43 84 P P 00 00 15.9 -1.0
comp=Z,1.5nm,0.7s,baz=306,slow=17,SNR=2.0
GEYT Alibeck 50.43 84 IAmb IAmb 00 00 18.5
comp=Z,2.2nm,1.1s
GCMT Greycliff 50.67 295 P P 00 00 18.3 -0.4
YAK Yakutsk 51.25 19 *i*P P 00 00 23.6 +0.9
YAK pmax pmax
comp=Z,9.0nm,0.8s
KK02 Karatay Array 51.27 70 P P 00 00 24.5 +1.3
KK31 Karatay Array 51.27 70 P P 00 00 24.6 +1.4
KK31 IAmb IAmb 00 00 28.0
comp=Z,5.9nm,1.3s
KKAR Karatay Array 51.27 70 P P 00 00 24.5 +1.3
KKAR IAmb IAmb 00 00 28.0
comp=Z,5.9nm,1.3s
KKAR Karatay Array 51.27 70 P P 00 00 24.2 +1.1
KK07 Karatay Array 51.28 70 P P 00 00 25.0 +1.8
KK06 Karatay Array 51.29 70 P P 00 00 24.0 +0.8
BOZ Bozeman (W) 51.59 297 P P 00 00 26.8 +1.1
BOZ pmax pmax
comp=Z,4.0nm,1.1s
BOZ Bozeman (W) 51.59 297 P P 00 00 26.8 +1.1
U40A Yellville 51.63 275 P P 00 00 26.4 +0.5
U40A IAmb IAmb 00 00 27.3
comp=Z,7.2nm,1.2s
DGZ Jazzator, Alta 52.07 53 *i*P P 00 00 28.1 -1.1
DGZ pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 52.72 58 P P 00 00 34.2 +0.4
comp=Z,2.3nm,1.1s,baz=23,slow=6.6,SNR=4.3
PHWY Pilot Hill 52.75 289 P P 00 00 35.0 +0.4
KAN13 South Haven SW 53.05 279 P P 00 00 35.3 -1.1
KAN08 Anthony NE Sta 53.08 280 P P 00 00 36.3 -0.3
TPAW Teton Pass 53.10 295 P P 00 00 37.0 0.0
TPAW IAmb IAmb 00 00 44.9
comp=Z,6.5nm,1.4s
TORD Torodi Ar. Bea 53.16 156 P P 00 00 36.7 -0.7
comp=Z,2.2nm,1.0s,baz=339,slow=7.3,SNR=6.7
TORD Torodi Ar. Bea 53.16 156 P P 00 00 36.9 -0.5
BW06 Boulder Array 53.16 293 IAmb IAmb 00 00 38.7
comp=Z,10nm,1.4s
PD31 Pinedale Array 53.16 293 P P 00 00 37.5 0.0
PD31 IAmb IAmb 00 00 38.8
comp=Z,9.2nm,1.4s
PDAR Pinedale Array 53.16 293 P P 00 00 37.9 +0.4
comp=Z,2.6nm,1.1s,baz=51,slow=4.7,SNR=11
PDAR Pinedale Array 53.16 293 P P 00 00 37.5 0.0
REDW Red Top Meadow 53.17 295 P P 00 00 38.4 +0.9
REDW IAmb IAmb 00 00 40.7
comp=Z,7.4nm,1.3s
AAK Ala-Archa 53.26 67↑ *e*P P 00 00 38.5 +0.4
AAK pmax pmax
comp=Z,12nm,1.2s
HWUT Hardware Ranch 54.94 294 P P 00 00 50.4 0.0
HWUT IAmb IAmb 00 00 52.3
comp=Z,8.7nm,1.4s
HRA Herat 55.19 82 P P 00 00 52.8 +0.5
HRA IAmb IAmb 00 00 56.7
comp=Z,4.3nm,1.4s
TARG Taragay, Kyrgy 55.33 65 P P 00 00 53.6 +0.1
TARG IAmb IAmb 00 00 55.7
comp=Z,5.8nm,1.0s
WMOK Wichita Mounta 55.54 279 P P 00 00 53.6 -1.0
WMOK pmax pmax
comp=Z,8.0nm,1.1s
WMOK Wichita Mounta 55.54 279 P P 00 00 53.6 -1.0
WMOK IAmb IAmb 00 00 58.0
comp=Z,7.9nm,1.1s
P17A Butcher Ranch, 56.43 292 P P 00 01 02.5 +1.3
KSH Kashi 56.49 68 P P 00 01 04.4 +2.9
KSH S S 00 08 54.6 +2.1
KSH pmax pmax
comp=Z,140nm,5.6s
KSH LR LR
comp=N,130nm,7.7s
KSH LR LR
comp=E,170nm,5.9s
KSH LR LR
comp=Z,94nm,4.4s
PV16 Nyswonger Mesa 56.69 290 P P 00 01 03.2 +0.2
PV16 IAmb IAmb 00 01 04.7
comp=Z,6.9nm,1.4s
PV01 Paradox Valley 56.71 289 P P 00 01 02.7 -0.4
PV01 IAmb IAmb 00 01 05.2
comp=Z,3.7nm,1.0s
PV02 Paradox Valley 56.71 290 P P 00 01 02.5 -0.7
PV02 IAmb IAmb 00 01 05.2
comp=Z,4.7nm,0.9s
PV03 Paradox Valley 56.72 290 P P 00 01 03.0 -0.2
PV03 IAmb IAmb 00 01 05.0
comp=Z,5.9nm,1.2s
PV17 East Wray Mesa 56.74 290 P P 00 01 03.5 +0.2
PV17 IAmb IAmb 00 01 05.0
comp=Z,8.8nm,1.4s
PV18 Skein Mesa, Pa 56.75 290 P P 00 01 03.5 0.0
PV18 IAmb IAmb 00 01 05.2
comp=Z,8.6nm,1.4s
PV13 Radium Mtn., P 56.79 290 P P 00 01 04.2 +0.4
PV13 IAmb IAmb 00 01 05.7
comp=Z,6.5nm,1.0s
MSU Marysvale 57.83 293 P P 00 01 12.7 +1.6
MSU Marysvale 57.83 293 P P 00 01 12.7 +1.6
MVU Marysvale 57.85 293 P P 00 01 12.0 +0.7
PSUT Pine Spring 58.47 294 P P 00 01 16.7 +1.1
SZCU Shurtz Canyon 58.98 293 P P 00 01 20.3 +1.2
CCUT Cedar City 59.13 293 P P 00 01 21.6 +1.5
R11A Troy Canyon, C 59.31 295 IAmb IAmb 00 01 23.9
comp=Z,5.3nm,1.4s
BNM Barren Site 59.34 285 P P 00 01 23.0 +1.4
SONM Songino Array 59.63 40 P P 00 01 23.6 +0.2
comp=Z,1.0nm,0.9s,baz=324,slow=7.3,SNR=4.4
SONM Songino Array 59.63 40 P P 00 01 23.7 +0.4
SONM pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 59.63 40 P P 00 01 23.7 +0.4
JCT Junction City 59.64 277 P P 00 01 23.8 +0.2
JCT pmax pmax
comp=Z,5.0nm,1.0s
JCT Junction City 59.64 277 P P 00 01 23.8 +0.2
JCT IAmb IAmb 00 01 25.9
comp=Z,5.6nm,1.0s
U15A North Rim 59.67 291 IAmb IAmb 00 01 24.9
comp=Z,4.7nm,1.3s
WUAZ Wupatki 60.10 290 P P 00 01 27.3 +0.5
WUAZ IAmb IAmb 00 01 28.9
comp=Z,7.9nm,1.3s
X16A Lo Mia Camp, P 61.08 290 P P 00 01 34.0 +0.5
TXAR Lajitas Array 62.28 280 P P 00 01 40.9 -0.7
comp=Z,1.0nm,1.1s,baz=89,slow=6.6,SNR=4.6
TXAR PcP PcP 00 02 21.4 +0.1
comp=Z,1.0nm,1.1s,baz=94,slow=5.1,SNR=4.0
TXAR Lajitas Array 62.28 280 P P 00 01 41.1 -0.4
TXAR Lajitas Array 62.28 280 P P 00 01 41.1 -0.4
TUC Tucson 62.65 288 P P 00 01 44.7 +0.7
TUC pmax pmax
comp=Z,12nm,1.9s
TUC Tucson 62.65 288 P P 00 01 44.7 +0.7
TUC IAmb IAmb 00 01 51.5
comp=Z,3.4nm,1.4s
GTA Gaotai 65.29 49 *e*P P 00 02 02.5 +1.2
GTA pP sP 00 02 06.4 0.0
GTA sP pP 00 02 09.4 +4.4
GTA pmax pmax
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 67.50 40 *e*P P 00 02 17.2 +1.8
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,640nm,5.8s
LZH Lanzhou 69.62 48 *e*P P 00 02 29.3 +0.5
LZH pP pP 00 02 31.8 -0.7
LZH sP sP 00 02 33.0 -0.9
LZH *e*PP PP 00 05 05.4 +3.3
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,65nm,5.4s
LZH LR LR
comp=N,110nm,17.0s
LZH LR LR
comp=E,120nm,16.8s
LZH LR LR
comp=Z,170nm,19.2s
CMAR Chiang Mai Arr 84.12 59 P P 00 03 50.5 0.0
comp=Z,0.6nm,0.3s,baz=312,slow=5.9,SNR=1.6
ASAR Alice Springs 134.95 38 PKP PKiKP 00 10 39.2 -0.6
comp=Z,0.9nm,1.1s,baz=350,slow=3.2,SNR=2.9

*IDC **11** 00:06:22.0±0.8,54.°10N×170.°33E,h0km,mb3.9/14, mb1 4.2/15,mb1mx4.0/55,mbtmp3.9/15,ML3.8/1,MS3.3/7, Ms1 3.3/7,ms1mx3.0/57,Error ellipse: s-maj=27.5km s-min=14.4km az=165.0*
*MOS **11** 00:06:25.1±0.9,53.°90N×170.°30E,h41km,mb4.3/9,Error ellipse: s-maj=8.8km s-min=5.4km az=19.9*
*NEIC **11** 00:06:26.6±1.3,54.°0N±0.°1×170.°4E±0.°1,h35km±4km, mb4.2/37,Error ellipse: s-maj=20.4km s-min=9.4km az=184.0*
*KRSC **11** 00:06:26.8±1.6,53.°91N×169.°99E,h80km±40km,ML4.6*
ISC 11 00:06:26.4±0.5,53.°90N±0.°07×170.°29E±0.°05,h35km,n180, σ1°59/208,mb4.2/38,MS3.5/4,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
BKI	**Bering**	**2.83**	**299**	*e*P		**Pn**	**00 07 10.6**	**+1.6**
BKI				*e*S		**Sn**	**00 07 40.2**	**-1.7**
BKI	**Bering**	**2.83**	**299**	P		**Pn**	**00 07 10.6**	**+1.6**
BKI				S		**Sn**	**00 07 40.2**	**-1.7**
KBTR	**Krutoberegovo**	**4.88**	**301**	*e*P		**Pn**	**00 07 37.3**	**+0.2**
KBTR	**Krutoberegovo**	**4.88**	**301**	P		**Pn**	**00 07 37.3**	**+0.2**
KBG	**Krutoberegovo**	**4.96**	**301**	*e*S		**Sn**	**00 08 33.3**	**-0.9**
SMKR	**Semkarok**	**5.72**	**302**	*e*P		**Pn**	**00 07 49.7**	**+1.0**
SMKR	**Semkarok**	**5.72**	**302**	P		**Pn**	**00 07 49.7**	**+1.0**
BDR	**Baidarnaya**	**5.84**	**301**	*e*P		**Pn**	**00 07 51.9**	**+1.4**
BDR	**Baidarnaya**	**5.84**	**301**	P		**Pn**	**00 07 51.9**	**+1.4**
ZLN	**Zelenaya**	**5.86**	**295**	*e*P		**Pn**	**00 07 53.3**	**+2.5**
ZLN	**Zelenaya**	**5.86**	**295**	P		**Pn**	**00 07 53.3**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**5.90**	**294**	*e*P		**Pn**	**00 07 52.7**	**+1.4**
BZGR				*e*S		**Sn**	**00 08 55.7**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**5.90**	**294**	P		**Pn**	**00 07 52.7**	**+1.4**
BZGR				S		**Sn**	**00 08 55.7**	**-1.9**
SRKR	**Sorokina**	**5.90**	**302**	*e*P		**Pn**	**00 07 52.4**	**+1.2**
SRKR	**Sorokina**	**5.90**	**302**	P		**Pn**	**00 07 52.4**	**+1.2**
TUMD	**Tumrok D**	**5.90**	**287**	*e*P		**Pn**	**00 07 52.2**	**+1.0**
TUMD				*e*S		**Sn**	**00 08 55.9**	**-1.7**
CIRR	**Tsirk**	**5.92**	**296**	*e*P		**Pn**	**00 07 54.2**	**+2.6**
CIRR	**Tsirk**	**5.92**	**296**	P		**Pn**	**00 07 54.2**	**+2.6**

	KZV	**Kizimen**	**5.95**	**286**	*e*P		**Pn**	**00 07 52.6**	**+0.6**
	KZV				*e*S		**Sn**	**00 08 56.0**	**-2.9**
	KZV	**Kizimen**	**5.95**	**286**	P		**Pn**	**00 07 52.6**	**+0.6**
	KZV				S		**Sn**	**00 08 56.0**	**-2.9**
	BZWR	**Bezymyannyi-We**	**6.01**	**294**	*e*P		**Pn**	**00 07 55.7**	**+2.8**
	BZWR	**Bezymyannyi-We**	**6.01**	**294**	P		**Pn**	**00 07 55.7**	**+2.8**
	AMKA	**Amchitka**	**6.04**	**111**	Pn		**Pn**	**00 07 51.8**	**-1.2**
	KRSR	**Krestovskiy**	**6.05**	**296**	*e*P		**Pn**	**00 07 54.6**	**+1.3**
	KRSR	**Krestovskiy**	**6.05**	**296**	P		**Pn**	**00 07 54.6**	**+1.3**
	TUMR	**Tumrok**	**6.06**	**287**	*e*P		**Pn**	**00 07 55.0**	**+1.5**
	TUMR				*e*S		**Sn**	**00 09 00.3**	**-1.3**
	TUMR	**Tumrok**	**6.06**	**287**	P		**Pn**	**00 07 52.2**	**-1.3**
	TUMR				S		**Sn**	**00 08 55.9**	**-5.7**
	KIRR	**Kirishev**	**6.09**	**294**	*e*P		**Pn**	**00 07 55.4**	**+1.4**
	KIRR	**Kirishev**	**6.09**	**294**	P		**Pn**	**00 07 55.4**	**+1.4**
	KMNR	**Kamenistaya**	**6.10**	**292**	*e*P		**Pn**	**00 07 55.9**	**+1.9**
	KMNR				*e*S		**Sn**	**00 09 01.6**	**-1.0**
	KMNR	**Kamenistaya**	**6.10**	**292**	P		**Pn**	**00 07 55.9**	**+1.9**
	KMNR				S		**Sn**	**00 09 01.6**	**-1.0**
	SPN	**Mys Shipunski**	**6.18**	**267**	*e*P		**Pn**	**00 07 55.4**	**+0.4**
	SPN				*e*S		**Sn**	**00 09 01.3**	**-3.1**
	SPN	**Mys Shipunski**	**6.18**	**267**	P		**Pn**	**00 07 55.4**	**+0.4**
	SPN				S		**Sn**	**00 09 01.3**	**-3.1**
	KOZ	**Kozyrevsk**	**6.38**	**294**	*e*P		**Pn**	**00 07 59.9**	**+2.2**
	KOZ	**Kozyrevsk**	**6.38**	**294**	P		**Pn**	**00 07 59.9**	**+2.2**
	KII	**Karymskiy**	**6.40**	**276**	*e*P		**Pn**	**00 07 58.8**	**+0.7**
	KII				*e*S		**Sn**	**00 09 07.4**	**-2.5**
	KII	**Karymskiy**	**6.40**	**276**	P		**Pn**	**00 07 58.8**	**+0.7**
	KII				S		**Sn**	**00 09 07.4**	**-2.5**
	SRDR	**Sredinnyy**	**6.53**	**296**	*e*P		**Pn**	**00 08 02.1**	**+2.2**
	SRDR	**Sredinnyy**	**6.53**	**296**	P		**Pn**	**00 08 02.1**	**+2.2**
	NLC	**Nalytchevo**	**6.57**	**268**	*e*P		**Pn**	**00 08 01.1**	**+0.8**
	NLC				*e*S		**Sn**	**00 09 10.9**	**-3.0**
	NLC	**Nalytchevo**	**6.57**	**268**	P		**Pn**	**00 08 01.1**	**+0.8**
	NLC				S		**Sn**	**00 09 10.9**	**-3.0**
	OSSR	**Ossora**	**6.68**	**326**	*e*P		**Pn**	**00 08 03.6**	**+1.7**
	OSSR	**Ossora**	**6.68**	**326**	P		**Pn**	**00 08 03.6**	**+1.7**
	SDLR	**Sedlovina**	**6.82**	**269**	*e*P		**Pn**	**00 08 04.9**	**+1.0**
	SDLR	**Sedlovina**	**6.82**	**269**	P		**Pn**	**00 08 04.9**	**+1.0**
	UGLR	**Uglovaya**	**6.87**	**269**	*e*P		**Pn**	**00 08 06.0**	**+1.4**
	UGLR				*e*S		**Sn**	**00 09 19.7**	**-1.8**
	UGLR	**Uglovaya**	**6.87**	**269**	P		**Pn**	**00 08 06.0**	**+1.4**
	UGLR				S		**Sn**	**00 09 19.7**	**-1.8**
	SMAR	**Somma**	**6.87**	**269**	*e*P		**Pn**	**00 08 05.3**	**+0.6**
	SMAR	**Somma**	**6.87**	**269**	P		**Pn**	**00 08 05.3**	**+0.6**
	KRER	**Koryakskii**	**6.90**	**270**	*e*P		**Pn**	**00 08 06.3**	**+1.3**
	KRER	**Koryakskii**	**6.90**	**270**	P		**Pn**	**00 08 06.3**	**+1.3**
	AVH	**Avacha**	**6.91**	**269**	*e*P		**Pn**	**00 08 06.4**	**+1.3**
	AVH	**Avacha**	**6.91**	**269**	P		**Pn**	**00 08 06.4**	**+1.3**
	TILK	**Tilichiki**	**6.94**	**343**	*e*P		**Pn**	**00 08 05.8**	**+0.5**
	TILK	**Tilichiki**	**6.94**	**343**	P		**Pn**	**00 08 05.8**	**+0.5**
	DALK	**Dalny**	**6.95**	**267**	*e*P		**Pn**	**00 08 06.2**	**+0.7**
	DALK	**Dalny**	**6.95**	**267**	P		**Pn**	**00 08 06.2**	**+0.7**
	KRX	**Arik**	**6.95**	**270**	*e*P		**Pn**	**00 08 06.4**	**+0.7**
	KRX				*e*S		**Sn**	**00 09 20.6**	**-2.9**
	KRX	**Arik**	**6.95**	**270**	P		**Pn**	**00 08 06.4**	**+0.7**
	KRX				S		**Sn**	**00 09 20.6**	**-2.9**
	KOK	**Koryaka**	**6.97**	**270**	*e*P		**Pn**	**00 08 06.8**	**+0.9**
	KOK	**Koryaka**	**6.97**	**270**	P		**Pn**	**00 08 06.8**	**+0.9**
	ESO	**Esso**	**6.98**	**292**	*e*P		**Pn**	**00 08 07.9**	**+1.8**
	ESO	**Esso**	**6.98**	**292**	P		**Pn**	**00 08 07.9**	**+1.8**
	PET	**Petropavlovsk**	**7.01**	**268**	*e*P		**Pn**	**00 08 07.5**	**+1.2**
	PET				*e*S		**Sn**	**00 09 22.3**	**-2.4**
	PET	**Petropavlovsk**	**7.01**	**268**	*e*P		**Pn**	**00 08 07.7**	**+1.4**
	PET				*e*S		**Sn**	**00 09 22.6**	**-2.1**
	PET				pmax	pmax			
		comp=Z,46nm,0.5s							
	PET				smax	smax			
		comp=E,93nm,0.6s							
	PET				MLR	MLR			
		comp=Z,200nm,11.0s							
	PET	**Petropavlovsk**	**7.01**	**268**	Pn		**Pn**	**00 08 07.7**	**+1.4**
	RUS	**Russkaya**	**7.23**	**263**	*e*P		**Pn**	**00 08 10.7**	**+1.3**
	RUS				*e*S		**Sn**	**00 09 27.3**	**-3.0**
	RUS	**Russkaya**	**7.23**	**263**	P		**Pn**	**00 08 10.7**	**+1.3**
	RUS				S		**Sn**	**00 09 27.3**	**-3.0**
	GNL	**Ganaly**	**7.32**	**273**	*e*P		**Pn**	**00 08 12.2**	**+1.4**
	GNL				*e*S		**Sn**	**00 09 31.0**	**-1.6**
	GNL	**Ganaly**	**7.32**	**273**	P		**Pn**	**00 08 12.2**	**+1.4**
	GNL				S		**Sn**	**00 09 31.0**	**-1.6**
	KRMR	**Karymshinskiy**	**7.36**	**267**	*e*P		**Pn**	**00 08 13.1**	**+1.9**
	KRMR				*e*S		**Sn**	**00 09 32.7**	**-0.6**
	KRMR	**Karymshinskiy**	**7.36**	**267**	P		**Pn**	**00 08 13.1**	**+1.9**
	KRMR				S		**Sn**	**00 09 32.7**	**-0.6**
	MTVR	**Mutnovka**	**7.41**	**264**	*e*P		**Pn**	**00 08 12.8**	**+0.7**
	MTVR				*e*S		**Sn**	**00 09 32.4**	**-2.5**
	MTVR	**Mutnovka**	**7.41**	**264**	P		**Pn**	**00 08 12.8**	**+0.7**
	MTVR				S		**Sn**	**00 09 32.4**	**-2.5**
	GRL	**Gorelyy**	**7.46**	**265**	*e*P		**Pn**	**00 08 14.4**	**+1.7**
	GRL	**Gorelyy**	**7.46**	**265**	P		**Pn**	**00 08 14.4**	**+1.7**
	PEA0B	**Petropavlovsk-**	**7.55**	**269**	P		**Pn**	**00 08 15.7**	**+1.8**
	PEA0B							00 09 38.5	
	PEA0B	**Petropavlovsk-**	**7.55**	**269**	Pn		**Pn**	**00 08 15.7**	**+1.8**
	PEA0B						**Sn**	**00 09 38.5**	**+0.3**
	PETK	**Petropavlovsk-**	**7.55**	**269**	Pn		**Pn**	**00 08 15.4**	**+1.6**
		comp=Z,6.6nm,0.3s,baz=94,slow=20,SNR=103							
	PETK				Sn		**Sn**	**00 09 38.5**	**+0.3**
		comp=Z,2.3nm,0.3s,baz=61,slow=17,SNR=6.5							
	PETK				LR		LR	00 11 21.5	
		comp=Z,65nm,19.0s,baz=86,slow=40							
	PETK	**Petropavlovsk-**	**7.55**	**269**	Pn		**Pn**	**00 08 15.6**	**+1.7**
	PETK						**Sn**	**00 09 39.0**	**+0.8**
	ASAK	**Asacha**	**7.61**	**263**	*e*P		**Pn**	**00 08 16.0**	**+1.3**
	ASAK	**Asacha**	**7.61**	**263**	P		**Pn**	**00 08 16.0**	**+1.3**
	KDTR	**Khodutka, Kamc**	**7.69**	**259**	*e*P		**Pn**	**00 08 15.9**	**+0.2**
	KDTR				*e*S		**Sn**	**00 09 37.4**	**-4.0**
	KDTR	**Khodutka, Kamc**	**7.69**	**259**	P		**Pn**	**00 08 15.9**	**+0.2**
	KDTR				S		**Sn**	**00 09 37.4**	**-4.0**
	APC	**Apacha**	**7.91**	**268**	*e*P		**Pn**	**00 08 20.4**	**+1.7**
	APC				*e*S		**Sn**	**00 09 44.1**	**-2.8**
	APC	**Apacha**	**7.91**	**268**	P		**Pn**	**00 08 20.4**	**+1.7**
	APC				S		**Sn**	**00 09 44.1**	**-2.8**
	PAU	**Pauzhetka**	**8.55**	**259**	*e*P		**Pn**	**00 08 29.0**	**+1.6**
	PAU	**Pauzhetka**	**8.55**	**259**	P		**Pn**	**00 08 29.0**	**+1.6**
	ALID	**Alaid**	**9.51**	**257**	*e*P		**Pn**	**00 08 42.4**	**+1.6**
	ALID	**Alaid**	**9.51**	**257**	P		**Pn**	**00 08 42.4**	**+1.6**
	MA2	**Magadan**	**12.11**	**306**	LR		LR	00 12 59.9	
		comp=Z,53nm,21.4s,baz=151,slow=33							
	SEY	**Seymchan**	**12.99**	**321**	LR		LR	00 14 00.3	
		comp=Z,107nm,18.3s,baz=163,slow=36							
	ASAJ	**Asahikawa**	**20.51**	**253**	LR		LR	00 20 20.7	
		comp=Z,41nm,18.7s,baz=191,slow=4							
	OHAK	**Old Harbor**	**20.70**	**66**	P		**P**	**00 11 02.4**	**-0.7**
	OHAK				IAmb		IAmb	00 11 15.7	
		comp=Z,16nm,1.1s							
	IMAR	**Indian Mountai**	**21.32**	**41**	P		**P**	**00 11 08.9**	**-0.9**
	SKT	**Skwentna**	**21.53**	**53**	P		**P**	**00 11 11.1**	**-1.0**
	SML	**Sawmill**	**23.03**	**53**	P		**P**	**00 11 26.3**	**-1.8**
	COLD	**Coldfoot**	**23.04**	**39**	P		**P**	**00 11 25.1**	**-2.9**
	COLD				IAmb		IAmb	00 11 29.0	
		comp=Z,7.6nm,0.9s							
	WRH	**Wood River Hil**	**23.34**	**47**	P		**P**	**00 11 30.3**	**-0.7**
	WRH				IAmb		IAmb	00 11 34.3	
		comp=Z,8.1nm,1.2s							
	MDM	**Murphy Dome**	**23.34**	**45**	P		**P**	**00 11 29.8**	**-1.3**
	CCB	**Clear Creek Bu**	**23.48**	**46**	P		**P**	**00 11 31.0**	**-1.4**
	COLA	**College**	**23.49**	**46**	P		**P**	**00 11 30.9**	**-1.6**
	COLA				pmax		pmax		
		comp=Z,14nm,1.1s							
	COLA	**College**	**23.49**	**46**	P		**P**	**00 11 30.9**	**-1.6**
	COLA				IAmb		IAmb	00 11 33.2	
		comp=Z,14nm,1.1s							
	TOLK	**Toolik Lake Re**	**23.68**	**36**	P		**P**	**00 11 33.3**	**-1.1**
	TOLK				IAmb		IAmb	00 11 35.5	
		comp=Z,10nm,0.8s							
	IL31		**23.89**	**46**	P		**P**	**00 11 35.4**	**-0.9**
	IL31				IAmb		IAmb	00 11 36.8	
		comp=Z,7.4nm,1.1s							
	ILAR	**Eielson Array**	**23.89**	**46**	P		**P**	**00 11 35.5**	**-0.8**
		comp=Z,2.7nm,0.9s,baz=256,slow=8.6,SNR=18							
	ILAR				LR		LR	00 19 56.2	
		comp=Z,124nm,19.7s,baz=168,slow=34							
	PAX	**Paxson**	**24.39**	**51**	P		**P**	**00 11 40.0**	**-1.1**
	PAX				pmax		pmax		
		comp=Z,5.0nm,1.2s							
	PAX	**Paxson**	**24.39**	**51**	P		**P**	**00 11 40.0**	**-1.1**
	RIDG	**Independent Ri**	**24.70**	**49**	P		**P**	**00 11 39.6**	**-4.2**
	RIDG				IAmb		IAmb	00 11 39.9	
		comp=Z,6.7nm,1.1s							
	BMAR	**Burnt Mountain**	**25.20**	**40**	P		**P**	**00 11 47.7**	**-0.6**
	BCAR	**Beaver Creek A**	**26.07**	**50**	P		**P**	**00 11 55.3**	**-0.9**
	EGAK	**Eagle**	**26.34**	**46**	P		**P**	**00 11 57.3**	**-1.3**
	EGAK				IAmb		IAmb	00 11 57.9	
		comp=Z,9.3nm,0.9s							
	USRK	**Ussuriysk Ar.**	**26.61**	**264**	P		**P**	**00 12 02.5**	**+1.4**
		comp=Z,1.9nm,0.7s,baz=60,slow=10,SNR=5.1							
	USRK	**Ussuriysk Ar.**	**26.61**	**264**	P		**P**	**00 12 01.1**	**-0.1**
	USRK	**Ussuriysk Ar.**	**26.61**	**264**	P		**P**	**00 12 01.1**	**-0.1**
	INK	**Inuvik**	**29.45**	**39**	P		**P**	**00 12 25.0**	**-1.3**
		comp=Z,1.8nm,0.8s,baz=344,slow=3.3,SNR=4.8							
	INK	**Inuvik**	**29.45**	**39**	P		**P**	**00 12 25.5**	**-0.8**
	INK				pmax		pmax		
		comp=Z,6.0nm,1.0s							
	INK	**Inuvik**	**29.45**	**39**	P		**P**	**00 12 25.4**	**-0.8**
	INK				IAmb		IAmb	00 12 40.2	
		comp=Z,5.8nm,0.9s							
	H11N2	**WAKE ISLAND Hy**	**34.21**	**186**	T		T	00 49 42.1	
		baz=3.7,slow=76,SNR=185							
	H11N3	**WAKE ISLAND Hy**	**34.22**	**186**	T		T	00 49 43.0	
		baz=3.7,slow=76,SNR=230							
	H11N1	**WAKE ISLAND Hy**	**34.23**	**186**	T		T	00 49 41.9	
		baz=3.7,slow=76,SNR=180							
	H11S1	**WAKE ISLAND Hy**	**35.43**	**186**	T		T	00 51 12.6	
		baz=3.6,slow=76,SNR=208							
	H11S3	**WAKE ISLAND Hy**	**35.45**	**186**	T		T	00 51 18.3	
		baz=3.6,slow=76,SNR=120							
	H11S2	**WAKE ISLAND Hy**	**35.45**	**186**	T		T	00 51 11.0	
		baz=3.6,slow=76,SNR=177							
	SONM	**Songino Array**	**39.55**	**288**	P		**P**	**00 13 54.2**	**+0.4**
		comp=Z,1.3nm,0.6s,baz=67,slow=8.2,SNR=9.6							
	SONM	**Songino Array**	**39.55**	**288**	P		**P**	**00 13 54.1**	**+0.4**
	SONM				pmax		pmax		
		comp=Z,1.0nm,0.7s							
	SONM	**Songino Array**	**39.55**	**288**	P		**P**	**00 13 54.1**	**+0.4**
	HHC	**Hu-ho-hao-te**	**40.69**	**276**	*e*P		**P**	**00 14 03.5**	**+0.2**
	HHC				pmax		pmax		
		comp=Z,17nm,0.7s							
	HHC				pmax		pmax		
		comp=Z,390nm,6.3s							
	B08A	**Colville Reser**	**42.85**	**67**	P		**P**	**00 14 20.6**	**-0.1**
	B08A				IAmb		IAmb	00 14 21.3	
		comp=Z,3.3nm,0.7s							
	NEW	**Newport**	**44.10**	**66**	P		**P**	**00 14 30.3**	**-0.6**
	NEW				pmax		pmax		
		comp=Z,1.0nm,0.8s							
	NEW	**Newport**	**44.10**	**66**	P		**P**	**00 14 30.3**	**-0.6**
	WALA	**Waterton Lakes**	**45.36**	**64**	P		**P**	**00 14 41.1**	**+0.1**
	JTMT	**Jette**	**45.95**	**65**	P		**P**	**00 14 45.6**	**0.0**
	JTMT				IAmb		IAmb	00 14 46.3	
		comp=Z,3.2nm,0.8s							
	MOD	**Modoc Plateau**	**46.23**	**75**	P		**P**	**00 14 48.2**	**+0.3**
	MOD				IAmb		IAmb	00 14 59.3	
		comp=Z,2.6nm,0.8s							
	LZH	**Lanzhou**	**48.38**	**277**	*e*P		**P**	**00 15 05.9**	**+1.2**
	LZH				pP		pwP	00 15 18.5	-0.8
	LZH				sP		sP	00 15 22.6	+5.1
	LZH				*e*PP		**PP**	**00 16 57.2**	**0.0**
	LZH				pmax		pmax		
		comp=Z,16nm,1.3s							
	LZH				pmax		pmax		
		comp=Z,69nm,6.0s							
	GTA	**Gaotai**	**48.48**	**283**	*e*P		**P**	**00 15 06.8**	**+1.4**
	GTA				pP		pP	00 15 10.4	-4.2
	GTA				sP		sP	00 15 12.9	-5.3
	GTA				pmax		pmax		
		comp=Z,3.0nm,0.7s							
	PNTR	**Pine Nut**	**48.48**	**78**	P		**P**	**00 15 05.8**	**+0.2**
	BCYI	**Bear Canyon**	**48.57**	**68**	P		**P**	**00 15 05.2**	**-0.9**
	WAKR	**Walker**	**48.96**	**78**	P		**P**	**00 15 09.8**	**+0.5**
	WAKR				IAmb		IAmb	00 15 14.3	
		comp=Z,2.0nm,0.8s							
	KVN	**Kaiserville**	**49.37**	**77**	P		**P**	**00 15 12.6**	**+0.2**
	KVN				pmax		pmax		
		comp=Z,2.0nm,0.9s							
	KVN	**Kaiserville**	**49.37**	**77**	P		**P**	**00 15 12.6**	**+0.2**
	NVAR	**Mina Array Bea**	**49.67**	**78**	P		**P**	**00 15 15.4**	**+0.7**
		comp=Z,0.8nm,0.6s,baz=309,slow=7.6,SNR=5.9							
	PD31	**Pinedale Array**	**51.69**	**68**	P		**P**	**00 15 29.3**	**-0.5**
	PDAR	**Pinedale Array**	**51.69**	**68**	P		**P**	**00 15 29.8**	**-0.1**
		comp=Z,1.2nm,0.7s,baz=297,slow=3.8,SNR=13							
	PDAR	**Pinedale Array**	**51.69**	**68**	P		**P**	**00 15 29.6**	**-0.3**
	WMQ	**Urumqi**	**52.31**	**295**	*e*P		**P**	**00 15 36.3**	**+2.0**
	KURK	**Kurchatov**	**52.32**	**307**	P		**P**	**00 15 34.1**	**0.0**
	KURK				pmax		pmax		
		comp=Z,5.0nm,0.7s							
	KURK	**Kurchatov**	**52.32**	**307**	P		**P**	**00 15 34.1**	**0.0**
	MK31	**Makanchi Array**	**53.14**	**301**	P		**P**	**00 15 39.9**	**-0.4**
	MK31				pmax		pmax		
		comp=Z,2.0nm,0.8s							
	MK31	**Makanchi Array**	**53.14**	**301**	P		**P**	**00 15 39.9**	**-0.4**
	MKAR	**Makanchi Array**	**53.14**	**301**	P		**P**	**00 15 39.2**	**-1.1**
		comp=Z,0.8nm,0.5s,baz=49,slow=5.9,SNR=8.2							
	MKAR	**Makanchi Array**	**53.14**	**301**	P		**P**	**00 15 40.0**	**-0.3**
	PV23	**Carpenter Ridg**	**54.95**	**71**	P		**P**	**00 15 53.6**	**-0.3**
	PV23				IAmb		IAmb	00 15 55.4	
		comp=Z,3.3nm,0.7s							
	PV14	**Lion Creek, Pa**	**55.00**	**71**	P		**P**	**00 15 54.8**	**+0.6**
	PV14				IAmb		IAmb	00 16 11.3	
		comp=Z,2.5nm,0.9s							
	PV13	**Radium Mtn., P**	**55.26**	**71**	P		**P**	**00 15 55.7**	**-0.5**
	ISCO	**Idaho Springs**	**55.89**	**68**	P		**P**	**00 16 02.0**	**+1.3**
	ISCO				pmax		pmax		
		comp=Z,2.0nm,0.9s							
	ISCO	**Idaho Springs**	**55.89**	**68**	P		**P**	**00 16 01.9**	**+1.3**
	EYMN	**Ely**	**57.32**	**52**	P		**P**	**00 16 10.2**	**-0.2**
	E38A	**The Farm, Brul**	**58.26**	**53**	P		**P**	**00 16 15.7**	**-1.3**
	AKTO	**Aktyubinsk**	**61.56**	**318**	LR		LR	00 44 43.5	
		comp=Z,45nm,19.1s,baz=203,slow=38							
	MNTX	**Cornudas Mount**	**61.88**	**74**	P		**P**	**00 16 42.8**	**+0.8**
	MNTX				IAmb		IAmb	00 16 44.3	
		comp=Z,1.5nm,0.9s							
	NC405	**NORSAR Array S**	**64.08**	**349**	P		**P**	**00 16 55.7**	**-0.5**
	NB201	**NORSAR Array S**	**64.19**	**349**	P		**P**	**00 16 56.3**	**-0.6**
	NB2	**NORSAR Subarra**	**64.20**	**349**	P		**P**	**00 16 56.9**	**-0.1**
		comp=Z,0.4nm,0.5s,baz=13,slow=6.5							
	NOA	**NORSAR Array B**	**64.20**	**349**	P		**P**	**00 16 56.5**	**-0.5**
		comp=Z,0.5nm,0.5s,baz=16,slow=6.6,SNR=4.2							
	CMAR	**Chiang Mai Arr**	**64.32**	**266**	P		**P**	**00 16 59.8**	**+1.5**
		comp=Z,1.4nm,0.3s,baz=26,slow=6.4,SNR=3.0							
	TX31	**Lajitas Ar. Si**	**64.62**	**75**	P		**P**	**00 17 00.2**	**-0.1**
	TX32	**Lajitas Array**	**64.62**	**75**	P		**P**	**00 16 59.9**	**-0.4**
	TX32				IAmb		IAmb	00 17 02.5	
		comp=Z,1.4nm,0.7s							
	TXAR	**Lajitas Array**	**64.62**	**75**	P		**P**	**00 17 01.1**	**+0.7**
		comp=Z,1.0nm,0.6s,baz=296,slow=4.6,SNR=15							
	TXAR	**Lajitas Array**	**64.62**	**75**	P		**P**	**00 17 00.5**	**+0.2**
	TXAR	**Lajitas Array**	**64.62**	**75**	P		**P**	**00 17 00.5**	**+0.2**
	CPNY	**Central Park**	**70.77**	**46**	P		**P**	**00 17 36.8**	**-2.0**
	AKASG	**Malin Array Be**	**70.77**	**335**	P		**P**	**00 17 38.8**	**+0.2**
		comp=Z,0.5nm,0.4s,baz=26,slow=6.1,SNR=2.5							
	GERES	**GERESS Array B**	**75.73**	**344**	P		**P**	**00 18 08.8**	**+0.8**
		comp=Z,0.1nm,0.3s,baz=32,slow=9.3,SNR=2.6							
	PPT	**Papeete**	**79.06**	**141**	LR		LR	00 45 44.3	
		comp=Z,61nm,19.5s,baz=333,slow=30							
	WB0	**Warramunga Arr**	**79.60**	**214**	P		**P**	**00 18 30.4**	**+0.7**
	WB0				IAmb		IAmb	00 18 46.8	
		comp=Z,3.2nm,1.1s							
	WRA	**Warramunga Arr**	**79.78**	**214**	P		**P**	**00 18 31.9**	**+1.2**
		comp=Z,0.5nm,0.8s,baz=26,slow=6.3,SNR=4.1							
	ASAR	**Alice Springs**	**83.39**	**213**	P		**P**	**00 18 51.9**	**+2.2**
		comp=Z,0.6nm,0.8s,baz=29,slow=3.0,SNR=5.9							
	ASAR	**Alice Springs**	**83.39**	**213**	P		**P**	**00 18 51.3**	**+1.6**
	ASAR	**Alice Springs**	**83.39**	**213**	P		**P**	**00 18 51.3**	**+1.6**

*IDC **11** 00:07:33.8±1.0,3°.32N×126°.41E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.7/45,mbtmp3.9/6,ML4.0/1,Error ellipse: s-maj=79.7km s-min=18.2km az=64.0*
*NEIC **11** 00:07:41±0.9,3°.39N±0°.08×126°.67E±0°.07,h58km±12km, mb4.2/12,Error ellipse: s-maj=11.6km s-min=10.1km az=197.0*

ISC 11 00:07:40.3±0.8,3°.3N±0°.1×126°.5E±0°.3,h53km,n18, σ0s99/19,mb4.0/11,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.85**	**346**	Pn		**Pn**	**Pn**	**00 08 37.2**	**+0.1**
SIJI	**Sorong**	**6.32**	**131**	Pn		**Pn**	**Pn**	**00 09 10.5**	**-0.5**
	3.2nm,0.3s,baz=322,slow=21,SNR=3.9								
FITZ	**Fitzroy Crossi**	**21.28**	**182**	P		**P**	**P**	**00 12 20.7**	**-1.8**
YHNB	**Yeheng**	**21.81**	**347**	P		**P**	**P**	**00 12 27.1**	**-1.1**
WB0	**Warramunga Arr**	**24.21**	**162**	P		**P**	**P**	**00 12 52.3**	**+0.1**
WB0				IAmb		IAmb	IAmb	00 12 55.1	
	comp=Z,4.7nm,0.8s								
WRAB	**Tennant Creek**	**24.35**	**162**	P		**P**	**P**	**00 12 55.2**	**+1.7**
WRAB				IAmb		IAmb	IAmb	00 13 02.8	
	comp=Z,11nm,0.6s								
WRA	**Warramunga Arr**	**24.35**	**162**	P		**P**	**P**	**00 12 53.5**	**0.0**
	comp=Z,3.3nm,0.8s,baz=342,slow=10,SNR=21								
WRA	**Warramunga Arr**	**24.35**	**162**	P		**P**	**P**	**00 12 52.5**	**-1.0**
WB2	**Warramunga Arr**	**24.36**	**162**	P		**P**	**P**	**00 12 54.3**	**+0.8**
WB2				IAmb		IAmb	IAmb	00 12 55.1	
	comp=Z,5.7nm,0.8s								
WR0	**Warramunga Arr**	**24.43**	**161**	P		**P**	**P**	**00 12 54.9**	**+0.7**
WR0				IAmb		IAmb	IAmb	00 12 55.9	
	comp=Z,5.1nm,0.9s								
ASAR	**Alice Springs**	**27.76**	**165**	P		**P**	**P**	**00 13 24.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=341,slow=7.2,SNR=4.6								
STKA	**Stephens Creek**	**37.82**	**159**	P		**P**	**P**	**00 14 52.4**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=342,slow=13,SNR=3.2								
SONM	**Songino Array**	**47.62**	**342**	P		**P**	**P**	**00 16 10.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=152,slow=8.7,SNR=4.0								
SONM	**Songino Array**	**47.62**	**342**	P		**P**	**P**	**00 16 10.2**	**-1.0**
MK31	**Makanchi Array**	**57.77**	**326**	P		**P**	**P**	**00 17 27.0**	**+0.9**
MK31				IAmb		IAmb	IAmb	00 17 27.9	
	comp=Z,1.7nm,0.8s								
MKAR	**Makanchi Array**	**57.77**	**326**	P		**P**	**P**	**00 17 26.3**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=122,slow=7.8,SNR=19								
MKAR				PcP		**PcP**	**PcP**	**00 18 20.0**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=129,slow=4.1,SNR=2.6								
MAKZ	**Makanchi**	**57.95**	**325**	P		**P**	**P**	**00 17 27.9**	**+0.5**
MAKZ				IAmb		IAmb	IAmb	00 17 35.8	
	comp=Z,4.2nm,1.1s								
KURK	**Kurchatov**	**61.97**	**328**	P		**P**	**P**	**00 17 55.2**	**+0.4**

*IDC **11** 00:14:54.8±0.5,16°.77S×173°.61W,h0km,mb4.4/14, mb1 4.6/15,mb1mx4.4/36,mbtmp4.4/15,ML4.3/1,MS3.3/6, Ms1 3.3/6,ms1mx3.1/44,Error ellipse: s-maj=25.5km s-min=13.3km az=131.0*
*NEIC **11** 00:14:59.8±1.8,16°.75S±0°.08×173°.5W±0°.1,h34km±4km, mb4.4/56,Error ellipse: s-maj=15.5km s-min=10.8km az=99.0*

ISC 11 00:14:59.5±0.4,16°.73S±0°.07×173°.48W±0°.08,h35km, n141,σ0s99/133,mb4.4/37,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3

NVAR	**Mina Array Bea**	**75.37**	**42**	P	**P**	**00 26 41.8**	**+2.0**
	comp=Z,2.8nm,1.0s,baz=224,slow=8.9,SNR=12						
NVAR	**Mina Array Bea**	**75.37**	**42**	P	**P**	**00 26 41.0**	**+1.2**
NV11	**Mina Array Sit**	**75.46**	**42**	P	**P**	**00 26 42.1**	**+1.8**
NV11				IAmb	IAmb	00 26 43.6	
	comp=Z,4.4nm,1.1s						
KVN	**Kaiserville**	**75.86**	**41**	P	**P**	**00 26 43.4**	**+0.8**
KVN				IAmb	IAmb	00 26 45.2	
	comp=Z,4.7nm,1.1s						
MOD	**Modoc Plateau**	**76.21**	**38**	P	**P**	**00 26 45.0**	**+0.5**
PRN	**Pahroc Range**	**76.92**	**44**	P	**P**	**00 26 48.6**	**+0.1**
PRN				IAmb	IAmb	00 26 51.1	
	comp=Z,2.3nm,0.9s						
TUC	**Tucson**	**77.29**	**50**	P	**P**	**00 26 51.6**	**+0.9**
X16A	**Lo Mia Camp, P**	**77.85**	**48**	P	**P**	**00 26 54.9**	**+0.9**
X16A				IAmb	IAmb	00 26 56.9	
	comp=Z,2.5nm,0.8s						
LCMT	**Little Creek M**	**77.92**	**45**	P	**P**	**00 26 55.5**	**+1.3**
CCUT	**Cedar City**	**78.13**	**45**	P	**P**	**00 26 56.6**	**+1.2**
U15A	**North Rim**	**78.27**	**46**	P	**P**	**00 26 57.8**	**+1.5**
U15A				IAmb	IAmb	00 26 59.4	
	comp=Z,3.5nm,1.1s						
PSUT	**Pine Spring**	**78.32**	**44**	P	**P**	**00 26 57.1**	**+0.6**
ELK	**Elko**	**78.63**	**41**	P	**P**	**00 26 59.1**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=246,slow=5.0,SNR=9.5						
ELK	**Elko**	**78.63**	**41**	P	**P**	**00 26 58.5**	**+0.3**
ELK				IAmb	IAmb	00 27 00.5	
	comp=Z,3.1nm,0.9s						
MSU	**Marysvale**	**79.43**	**44**	P	**P**	**00 27 04.3**	**+1.7**
TMUT	**Trail Mountain**	**80.48**	**44**	P	**P**	**00 27 09.2**	**+0.9**
MNTX	**Cornudas Mount**	**81.08**	**53**	P	**P**	**00 27 11.2**	**-0.2**
TXAR	**Lajitas Array**	**81.42**	**56**	P	**P**	**00 27 15.3**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=202,slow=2.7,SNR=3.7						
TXAR	**Lajitas Array**	**81.42**	**56**	P	**P**	**00 27 14.1**	**+0.7**
ANMO	**Albuquerque**	**81.72**	**50**	P	**P**	**00 27 16.2**	**+1.3**
	comp=Z,0.1nm,0.8s,baz=246,slow=6.9,SNR=3.8						
ANMO	**Albuquerque**	**81.72**	**50**	IAmb	IAmb	00 27 18.7	
	comp=Z,0.2nm,0.5s						
IMW	**Indian Meadow**	**83.01**	**40**	P	**P**	**00 27 20.4**	**-1.2**
IMW				IAmb	IAmb	00 27 24.1	
	comp=Z,3.7nm,0.8s						
FLWY	**Flagg Ranch**	**83.25**	**40**	P	**P**	**00 27 23.2**	**+0.4**
PD31	**Pinedale Array**	**83.31**	**42**	P	**P**	**00 27 23.4**	**+0.4**
PD31				IAmb	IAmb	00 27 24.8	
	comp=Z,2.7nm,0.8s						
PDAR	**Pinedale Array**	**83.31**	**42**	P	**P**	**00 27 23.9**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=204,slow=3.3,SNR=19						
PDAR	**Pinedale Array**	**83.31**	**42**	P	**P**	**00 27 23.6**	**+0.5**
BCAR	**Beaver Creek A**	**83.31**	**14**	P	**P**	**00 27 23.7**	**+1.4**
DOT	**Dot Lake**	**83.32**	**13**	P	**P**	**00 27 22.6**	**+0.3**
YHL	**Hebgen Lake**	**83.36**	**39**	P	**P**	**00 27 24.4**	**+1.1**
CCB	**Clear Creek Bu**	**83.48**	**11**	P	**P**	**00 27 23.9**	**+0.8**
CCB				IAmb	IAmb	00 27 25.5	
	comp=Z,4.2nm,0.9s						
MDM	**Murphy Dome**	**83.69**	**11**	P	**P**	**00 27 24.7**	**+0.4**
MDM				IAmb	IAmb	00 27 40.6	
	comp=Z,5.5nm,1.2s						
ILAR	**Eielson Array**	**83.76**	**11**	P	**P**	**00 27 25.3**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=227,slow=6.3,SNR=8.0						
IMAR	**Indian Mountai**	**83.80**	**8**	P	**P**	**00 27 25.2**	**+0.5**
HRY	**Holter Researc**	**83.95**	**38**	P	P	00 27 21.2	-4.9
H03S2	**Juan Fernandez**	**84.53**	**124**	T	T	02 01 10.9	
	baz=250,slow=75,SNR=9.6						
H03S1	**Juan Fernandez**	**84.55**	**124**	T	T	02 00 46.0	
	baz=250,slow=75,SNR=7.4						
H03S3	**Juan Fernandez**	**84.55**	**124**	T	T	02 00 51.8	
	baz=250,slow=75,SNR=9.2						
HHC	**Hu-ho-hao-te**	**89.87**	**313**	*e*P	**P**	**00 27 53.9**	**-1.2**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,400nm,6.9s						
CMAR	**Chiang Mai Arr**	**92.96**	**288**	P	**P**	**00 28 11.7**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=101,slow=3.4,SNR=5.8						
LZH	**Lanzhou**	**93.95**	**306**	*e*P	**P**	**00 28 14.8**	**+0.7**
LZH				pP	pP	00 28 25.2	+0.4
LZH				sP	sP	00 28 29.0	+0.3
LZH				pmax	pmax		
	comp=Z,49nm,5.2s						
LZH				LR	LR		
	comp=N,65nm,17.0s						
LZH				LR	LR		
	comp=E,72nm,17.3s						
LZH				LR	LR		
	comp=Z,100nm,19.7s						
LVC	**Limon Verde**	**96.51**	**116**	LR	LR	01 03 06.8	
	comp=Z,38nm,20.3s,baz=264,slow=30						
FINES	**FINESS Array B**	**133.22**	**347**	PKP	**PKiKP**	**00 34 12.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=289,slow=5.8,SNR=3.8						
KWP	**Kalwaria Pacla**	**144.66**	**342**	*e*PKP	**PKPdf**	**00 34 32.0**	**-0.4**
KMBO	**Kilima Mbogo**	**144.87**	**243**	PKP	**PKPdf**	**00 34 35.0**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=43,slow=7.1,SNR=7.2						
OJC	**Ojcow**	**144.92**	**345**	*e*PKP	**PKPdf**	**00 34 32.9**	**0.0**
KSP	**Ksiaz**	**145.08**	**349**	*e*PKP	**PKPdf**	**00 34 33.6**	**+0.4**
CLL	**Collm**	**145.12**	**353**	*i* PKPbc	**PKPab**	**00 34 32.9**	**+0.2**
	comp=Z,7.0nm,1.3s						
OSTC	**Ostas**	**145.37**	**349**	*e*PKP	**PKPdf**	**00 34 33.8**	**+0.1**
OSTC				*ex*	x	00 34 54.8	
UPC	**Upice**	**145.45**	**349**	*e*PKP	**PKPab**	**00 34 34.8**	**+0.8**
NIE	**Niedzica**	**145.53**	**344**	*e*PKP	**PKPab**	**00 34 35.4**	**+1.0**
DPC	**Dobruska-Polom**	**145.55**	**349**	*e*PKP	**PKPab**	**00 34 34.9**	**+0.5**
DPC				*ex*	x	00 34 55.8	
PVCC	**Panska Ves**	**145.67**	**351**	*e*PKP	**PKPab**	**00 34 35.4**	**+0.6**
KRLC	**Kraliky**	**145.72**	**348**	*e*PKP	**PKPab**	**00 34 35.5**	**+0.4**
KRLC				*ex*	x	00 34 54.1	
MORC	**Moravsky Berou**	**145.85**	**347**	*e*PKP	**PKPab**	**00 34 36.9**	**+1.3**
PRU	**Pruhonice**	**146.20**	**351**	*e*PKP	**PKPab**	**00 34 36.8**	**0.0**
PRU				*ex*	x	00 34 57.5	
NKC	**Novy Kostel**	**146.24**	**353**	*e*PKP	**PKPab**	**00 34 38.0**	**+1.0**
VRAC	**Vranov**	**146.49**	**348**	*e*PKP	**PKPab**	**00 34 38.2**	**+0.2**
JAVC	**Velka Javorina**	**146.69**	**347**	*e*PKP	**PKiKP**	**00 34 40.2**	**-0.2**
KRUC	**Moravsky**	**146.77**	**348**	*e*PKP	**PKPbc**	**00 34 38.3**	**+0.5**
BRTR	**Keskin Array B**	**147.13**	**320**	PKPbc	**PKPab**	**00 34 40.0**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=221,slow=4.9,SNR=5.6						
BRTR	**Keskin Array B**	**147.13**	**320**		**PKPbc**	**00 34 39.6**	**+0.3**
KHC	**Kasperske Hory**	**147.18**	**351**	*e*PKP	**PKPbc**	**00 34 38.8**	**-0.2**
KHC				*ex*	x	00 34 59.8	
GERES	**GERESS Array B**	**147.44**	**351**	PKPbc	**PKPbc**	**00 34 40.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=44,slow=4.1,SNR=6.2						
GERES	**GERESS Array B**	**147.44**	**351**		**PKPbc**	**00 34 40.4**	**+0.6**
CONA	**Conrad Observa**	**147.96**	**348**	*e*P	**PKPbc**	**00 34 41.6**	**+0.4**
	comp=Z,5.8nm,1.2s						
MOA	**Molln**	**148.32**	**350**	*e*P	**PKiKP**	**00 34 43.7**	**-0.1**
	comp=Z,3.4nm,1.2s						
ARSA	**Arzberg**	**148.67**	**348**	*e*P	**PKiKP**	**00 34 44.5**	**0.0**
	comp=Z,1.8nm,0.8s						
RETA	**Reutte**	**149.13**	**354**	*e*P	**PKPbc**	**00 34 44.8**	**+0.6**
	comp=Z,6.2nm,1.3s						
WATA	**Walderalm**	**149.20**	**353**	*e*P	**PKiKP**	**00 34 45.9**	**+0.1**
	comp=Z,6.6nm,1.6s						
KBA	**Koelnbreinsper**	**149.22**	**351**	*e*P	**PKPbc**	**00 34 43.9**	**-0.8**
	comp=Z,2.3nm,0.9s						
MOTA	**Moosalm**	**149.24**	**354**	*e*P	**PKPbc**	**00 34 45.3**	**+0.6**
	comp=Z,7.5nm,1.5s						
WTTA	**Wattenberg**	**149.26**	**353**	*e*P	**PKPbc**	**00 34 45.1**	**+0.3**
	comp=Z,4.7nm,0.7s						
SOKA	**Soboth**	**149.31**	**348**	*e*P	**PKPbc**	**00 34 45.3**	**+0.5**
	comp=Z,6.7nm,1.4s						
MMAI	**Mount Meron Ar**	**149.33**	**307**	PKPbc	**PKiKP**	**00 34 46.4**	**0.0**
	comp=Z,3.1nm,0.8s,baz=56,slow=6.4,SNR=5.1						
MMAI				PKPab	**pPKPdf**	**00 34 51.4**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=81,slow=5.2,SNR=6.5						
SQTA	**Sankt Quirin**	**149.35**	**354**	*e*P	**PKiKP**	**00 34 45.6**	**-0.4**
	comp=Z,5.8nm,1.2s						
DAVA	**Damuels**	**149.41**	**356**	*i* P	**PKiKP**	**00 34 46.3**	**0.0**
	comp=Z,5.0nm,0.9s						
FETA	**Feichten**	**149.60**	**354**	*e*P	**PKPbc**	**00 34 45.2**	**-0.3**
	comp=Z,4.9nm,1.1s						
MYKA	**Terra Mystica**	**149.61**	**350**	*e*P	**PKPbc**	**00 34 45.1**	**-0.4**
	comp=Z,1.8nm,0.5s						
ABTA	**Abfaltersbach**	**149.66**	**352**	*e*P	**PKPbc**	**00 34 45.7**	**0.0**
	comp=Z,9.0nm,1.2s						
EIL	**Elat**	**150.96**	**301**	PKPbc	**PKPbc**	**00 34 48.9**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=135,slow=7.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**174.13**	**127**	PKP	**PKPdf**	**00 35 05.0**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=333,slow=2.4,SNR=4.7						
TORD				PKPab	**PKPab**	**00 36 38.0**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=255,slow=3.7,SNR=6.2						

*DJA **11** 00:18:39.7±1.8, 1°N±8°×9°7E±°, h11km±7km, M4.0/12, mb4.2/2, MLv3.9/12*
*IDC **11** 00:18:40.3±2.3, 0°92N×97°19E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, ML2.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/38, Error ellipse: s-maj=57.6km s-min=32.3km az=55.0*

ISC 11 00:18:44.1±1.4, 1°2N±0°1×97°1E±0°1, h25km, n19, σ2s05/13, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.49**	**79**	P	**Pb**	**00 18 52.8**	**-1.3**
GSI				S	**Sn**	**00 19 02.8**	**-0.4**
TPTI		**2.04**	**2**	P	**Pn**	**00 19 14.9**	**-1.9**
PSI	**Prapat**	**2.41**	**49**	Pn	**Pn**	**00 19 22.2**	**+0.1**
	1.8nm,0.3s,baz=157,slow=13,SNR=4.5						
MNSI	**Mandailing Nat**	**2.52**	**99**	P	**Pn**	**00 19 22.6**	**-0.8**
TSI	**Tuntungan**	**2.71**	**33**	P	**Pn**	**00 19 25.1**	**-0.9**
MLSI	**Meulaboh, Aceh**	**3.11**	**347**	P	**Pn**	**00 19 29.3**	**-2.3**
LHMI	**Lhok Sumawe**	**3.99**	**358**	P	**Pn**	**00 19 41.6**	**-2.2**
BKNI	**Bangkinang**	**4.04**	**103**	P	**Pn**	**00 19 43.5**	**-0.9**
H08S2	**Diego Garcia H**	**26.07**	**250**	T	T	00 51 18.2	
	baz=71,slow=75,SNR=576						
H08S3	**Diego Garcia H**	**26.07**	**250**	T	T	00 51 16.6	
	baz=71,slow=75,SNR=641						
H08S1	**Diego Carcia H**	**26.09**	**250**	T	T	00 51 18.7	
	baz=71,slow=75,SNR=473						
H01W3	**Cape Leeuwin H**	**39.29**	**158**	T	T	01 07 35.0	
	baz=333,slow=76,SNR=4.8						
H01W2	**Cape Leeuwin H**	**39.31**	**158**	T	T	01 07 38.0	
	baz=333,slow=76,SNR=6.8						
H01W1	**Cape Leeuwin H**	**39.31**	**158**	T	T	01 07 39.3	
	baz=333,slow=76,SNR=5.4						
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**00 26 32.5**	**-2.2**
	0.2nm,0.7s,baz=306,slow=9.2,SNR=2.3						
ASAR	**Alice Springs**	**43.48**	**127**	LR	LR	00 47 14.3	
	comp=Z,44nm,18.2s,baz=297,slow=40						
SONM	**Songino Array**	**47.14**	**9**	P	**P**	**00 27 18.0**	**+3.6**
	0.6nm,0.5s,baz=188,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**00 27 16.9**	**+2.1**
	0.8nm,0.7s,baz=156,slow=9.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**53.53**	**351**	P	**P**	**00 28 03.9**	**+1.3**
	0.4nm,0.3s,baz=176,slow=5.5,SNR=4.3						

*TEH **11** 00:24:29.0, 26°99N×58°21E, h4km, ML2.5*
*OMAN **11** 00:24:31.2, 26°72N×58°14E, h10km, ml2.7/7, Mwp4.3/3*

ISC 11 00:24:28.3±1.1, 26°91N±0°05×58°17E±0°07, h10km, n12, σ0s99/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**1.11**	**338**	*e*Pg	**Pg**	**00 24 50.0**	**+0.3**
KHNJ				*e*Sg	**Sn**	**00 25 05.5**	**+0.1**
KHNJ				*e*		00 25 11.0	
IBND	**Bandar-abas**	**1.55**	**291**	*e*Pg	**Pg**	**00 24 59.6**	**+1.6**
IBND				*e*		00 25 00.6	
GENO	**Geno**	**1.85**	**286**	*e*Pg	**Pg**	**00 25 03.9**	**+0.2**
BANOM	**Banah**	**1.95**	**240**	P	**Pb**	**00 25 02.5**	**-1.4**
	SNR=13						
BANOM				S	**Sg**	**00 25 30.7**	**-0.2**
KBAM	**BAM**	**2.23**	**6**	*e*		00 25 15.3	
KBAM				*e*Pn	**Pg**	**00 25 09.7**	**-1.3**
KBAM				*e*Sg	**Sg**	**00 25 41.5**	**+1.5**
MDH	**Madha**	**2.33**	**227**	P	**Pn**	**00 25 06.1**	**-0.6**
UOSS	**Minazif**	**2.64**	**223**	P	**Pn**	**00 25 11.8**	**+0.9**
SOHO	**SOHO**	**3.14**	**209**	P	**Pn**	**00 25 16.9**	**-0.8**
SOHO				P	**Pn**	**00 25 16.9**	**-0.8**
HOQ	**Hoqain**	**3.41**	**193**	P	**Pn**	**00 25 21.2**	**-0.3**
	SNR=12						
BSY	**Bisya**	**4.24**	**192**	P	**Pn**	**00 25 32.7**	**-0.3**
BSY				S	**Sn**	**00 26 23.4**	**+0.7**
WBK	**Wadi Bani Khal**	**4.34**	**170**	P	**Pn**	**00 25 35.9**	**+1.5**
	SNR=15						
JLN	**Jalan Bani Buh**	**4.87**	**166**	P	**Pn**	**00 25 42.2**	**+0.6**
JLN				P	**Pn**	**00 25 42.2**	**+0.6**

*ISK **11** 00:43:19.9, 38°15N×25°77E, h20km, ML2.6/12*
*ATH **11** 00:43:20.1, 38°12N×25°83E, h26km±2km, ML2.5/3, Error ellipse: s-maj=2.3km s-min=1.1km az=66.0*
*THE **11** 00:43:21.4, 38°11N×25°89E, h14km±1km, ML2.3/6, Error ellipse: s-maj=1.4km s-min=0.6km az=76.0*
*DDA **11** 00:43:23.0, 38°16N×25°97E, h10km±7km, ML2.2*

ISC 11 00:43:21.0±0.9, 38°12N±0°03×25°83E±0°02, h16km±8km, n38, σ0s69/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.33**	**33**	P	**Pg**	**00 43 27.7**	**-0.2**
CHOS				S	**Sg**	**00 43 32.7**	**+0.1**
	1μm,0.4s						
CHOS	**Chios island**	**0.33**	**33**	P	**Pg**	**00 43 27.6**	**-0.2**
CHOS				S	**Sg**	**00 43 32.7**	**+0.1**
CHOS				AML	AML	00 43 33.9	
	comp=E,2904μm,0.4s						
CHOS				AML	AML	00 43 34.9	
	comp=N,1869μm,0.3s						
CHOS	**Chios island**	**0.33**	**33**	PG	**Pg**	**00 43 27.6**	**-0.2**
CHOS				SG	**Sg**	**00 43 32.7**	**+0.1**
PSRA	**Psara**	**0.47**	**334**	P	**Pg**	**00 43 30.3**	**-0.2**
PSRA				S	**Sg**	**00 43 36.5**	**-0.4**
PSRA				AML	AML	00 43 37.8	
	comp=N,1313μm,0.2s						
PSRA				AML	AML	00 43 41.2	
	comp=E,2258μm,0.2s						
URLA	**Izmir**	**0.65**	**68**	PG	**Pb**	**00 43 33.9**	**-0.1**
URLA				SG	**Sg**	**00 43 43.9**	**+1.4**
URLA	**Izmir**	**0.65**	**68**	*i* P	**Pb**	**00 43 34.2**	**+0.2**
URLA				*i* S	**Sg**	**00 43 43.8**	**+1.3**
URLA				IAML		00 43 45.0	
	comp=N,172nm,0.5s						
TNSA	**Tinos**	**0.78**	**223**	P	**Pb**	**00 43 35.9**	**-0.2**
TNSA				S	**Sb**	**00 43 46.4**	**0.0**
DGB	**zmir**	**0.83**	**94**	*i* P	**Pb**	**00 43 36.1**	**-0.9**
DGB				*i* S	**Sb**	**00 43 48.0**	**0.0**
SMG	**Samos**	**0.90**	**117**	P	**Pb**	**00 43 37.7**	**-0.4**
SMG	**Samos**	**0.90**	**117**	P	**Pb**	**00 43 37.4**	**-0.7**
SMG				S	**Sb**	**00 43 49.9**	**+0.1**
SMG				AML	AML	00 43 50.5	
	comp=N,600μm,0.4s						
SMG				AML	AML	00 43 50.9	
	comp=E,462μm,0.4s						
BLCB	**Balcova**	**0.99**	**74**	P	**Pb**	**00 43 38.5**	**-1.3**
BLCB				S	**Sb**	**00 43 52.3**	**-0.3**
BLCB	**Balcova**	**0.99**	**74**	PG	**Pb**	**00 43 40.1**	**+0.3**
APE	**Apeiranthos**	**1.07**	**193**	P	**Pb**	**00 43 41.0**	**-0.1**
APE				S	**Sb**	**00 43 55.6**	**+0.7**
	comp=E,72nm,0.4s						
APE	**Apeiranthos**	**1.07**	**193**	P	**Pb**	**00 43 40.6**	**-0.6**
APE	**Apeiranthos**	**1.07**	**193**	PN	**Pb**	**00 43 40.4**	**-0.7**
SIGR	**SIGRI**	**1.09**	**1**	P	**Pb**	**00 43 41.2**	**-0.4**
SIGR				S	**Sg**	**00 43 57.3**	**+0.8**
	comp=E,108nm,0.6s						
SIGR	**SIGRI**	**1.09**	**1**	P	**Pb**	**00 43 41.1**	**-0.4**
SIGR	**SIGRI**	**1.09**	**1**	PG	**Pb**	**00 43 40.8**	**-0.7**
KARY	**Karystos**	**1.10**	**266**	P	**Pb**	**00 43 41.6**	**0.0**
KARY				S	**Sg**	**00 43 57.5**	**+0.8**
	comp=E,88nm,1.4s						
KARY	**Karystos**	**1.10**	**266**	P	**Pb**	**00 43 41.7**	**+0.1**
PRK	**Paraskevi**	**1.18**	**17**	P	**Pn**	**00 43 43.1**	**+0.3**
PRK				S	**Sb**	**00 43 58.4**	**+0.4**
	comp=E,178nm,0.4s						
PRK	**Paraskevi**	**1.18**	**17**	P	**Pn**	**00 43 43.1**	**+0.3**
DKL	**Dikili**	**1.27**	**41**	PN	**Pn**	**00 43 42.9**	**-1.2**
AMGA	**Amorgos Island**	**1.28**	**178**	P	**Pn**	**00 43 44.2**	**0.0**
AMGA				S	**Sn**	**00 44 01.4**	**+0.4**
	comp=E,272nm,1.6s						
ZEDA	**zmir-Bergama**	**1.30**	**49**	*i* P	**Pb**	**00 43 46.0**	**+1.1**
ZEDA				IAML		00 44 08.0	
	comp=N,30nm,0.3s						
ZEDA				IAML		00 44 08.0	
	comp=E,38nm,0.7s						
AYVA	**Ayvalik**	**1.37**	**29**	*i* P	**Pb**	**00 43 47.0**	**+0.8**
AYVA				*i* S	**Sg**	**00 44 05.7**	**+0.5**
AYVA				IAML		00 44 07.0	
	comp=N,33nm,0.3s						
AYVA				IAML		00 44 09.0	
	comp=E,50nm,0.6s						
SERI	**Serifos**	**1.43**	**229**	P	**Pn**	**00 43 46.3**	**0.0**
SERI				S	**Sb**	**00 44 06.0**	**+0.8**
IOSP	**Ios island**	**1.45**	**197**	P	**Pn**	**00 43 46.2**	**-0.4**
DION	**Dionisos Attik**	**1.50**	**269**	P	**Pn**	**00 43 46.9**	**-0.3**
PTL	**Penteli**	**1.55**	**268**	P	**Pn**	**00 43 47.7**	**-0.2**
BODT	**Bodrum**	**1.58**	**131**	PN	**Pn**	**00 43 48.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**95**	PN	**Pn**	**00 43 49.1**	**-0.1**
BOZC	**Bozcaada**	**1.73**	**6**	PN	**Pn**	**00 43 48.9**	**-1.5**
EZN	**Ezine**	**1.75**	**13**	PN	**Pn**	**00 43 49.3**	**-1.3**
STEP	**BALIKESIR_Sava**	**1.94**	**49**	*i* P	**Pb**	**00 43 57.8**	**+1.8**
STEP				*i* S	**Sg**	**00 44 23.9**	**+0.4**
STEP				IAML		00 44 26.0	
	comp=N,37nm,1.1s						
STEP				IAML		00 44 31.0	
	comp=E,32nm,0.6s						
GADA	**Gvkgeada**	**2.07**	**1**	PN	**Pn**	**00 43 54.1**	**-1.0**
MANT	**Manisa**	**2.18**	**79**	*i* P	**Pg**	**00 44 02.5**	**-0.3**
MANT				*i* S	**Sg**	**00 44 30.5**	**-0.7**
GELI	**Tayfur-Gelibol**	**2.33**	**12**	PN	**Pn**	**00 43 58.1**	**-0.6**

*IDC **11** 00:57:29.0±7.8, 7°55N×94°72E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/44, mbtmp3.6/4, Error ellipse: s-maj=403.9km s-min=25.2km az=59.0*

ISC 11 00:57:29.9±2.0, 7°4N±0°2×94°5E±0°4, h10km, n13, σ1s15/10, mb3.6/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM05	**Chiang Mai Arr**	**11.71**	**21**	P	**Pn**	**01 00 17.5**	**+0.3**
CM13	**Chiang Mai Arr**	**11.72**	**21**	P	**Pn**	**01 00 19.0**	**+1.7**
CM04	**Chiang Mai Arr**	**11.72**	**21**	P	**Pn**	**01 00 17.3**	**0.0**
CM01	**Chiang Mai Arr**	**11.73**	**21**	P	**Pn**	**01 00 17.7**	**+0.2**
CM02	**Chiang Mai Arr**	**11.74**	**21**	P	**Pn**	**01 00 16.3**	**-1.3**
CM09	**Chiang Mai Arr**	**11.77**	**21**	P	**Pn**	**01 00 16.4**	**-1.5**
H08S3	**Diego Garcia H**	**26.60**	**236**	T	T	01 29 47.2	
	baz=55,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**26.60**	**236**	T	T	01 29 57.5	
	baz=55,slow=75,SNR=21						
H08S1	**Diego Carcia H**	**26.61**	**236**	T	T	01 29 55.5	
	baz=55,slow=75,SNR=17						
MKAR	**Makanchi Array**	**40.60**	**347**	P	**P**	**01 05 08.9**	**-0.9**
	1.4nm,0.7s,baz=169,slow=7.4,SNR=8.9						
ZALV	**Zalesovo Beam**	**47.04**	**352**	P	**P**	**01 06 02.6**	**+1.2**
	1.0nm,0.6s,baz=170,slow=9.0,SNR=5.0						
WRA	**Warramunga Arr**	**47.69**	**125**	P	**P**	**01 06 07.0**	**0.0**
	0.4nm,0.9s,baz=307,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**49.34**	**130**	P	**P**	**01 06 19.6**	**-0.1**
	0.4nm,1.0s,baz=306,slow=8.0,SNR=2.0						

IDC 11 01:34:00.1±1.8, 11°20N×92°06E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/37, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=59.0km s-min=23.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.81**	**42**	Pn	Pn	01 36 21.1	-1.4
	0.5nm,0.3s,baz=217,slow=18,SNR=5.0						
H08S3	**Diego Garcia H**	**27.01**	**227**	T	T	02 07 47.2	
	baz=46,slow=76,SNR=64						
H08S2	**Diego Garcia H**	**27.01**	**227**	T	T	02 07 46.2	
	baz=46,slow=76,SNR=78						
H08S1	**Diego Carcia H**	**27.03**	**227**	T	T	02 07 44.3	
	baz=46,slow=76,SNR=68						
MKAR	**Makanchi Array**	**36.43**	**349**	P	P	01 41 06.2	-0.3
	0.9nm,0.8s,baz=168,slow=7.4,SNR=2.6						
SONM	**Songino Array**	**38.45**	**16**	P	P	01 41 24.8	+1.0
	0.3nm,0.3s,baz=212,slow=8.1,SNR=3.5						
WRA	**Warramunga Arr**	**51.86**	**126**	P	P	01 43 10.5	-0.1
	0.3nm,0.3s,baz=300,slow=10,SNR=20						
ASAR	**Alice Springs**	**53.62**	**131**	P	P	01 43 23.4	-0.1
	0.3nm,0.7s,baz=307,slow=7.4,SNR=4.5						
ARCES	**ARCESS Array B**	**71.46**	**340**	P	P	01 45 21.8	-0.3
	3.0nm,1.1s,baz=90,slow=6.5,SNR=4.0						

*BER **11** 01:41:59.8±3.2, 80°57N×2°38W, h10km, ML1.9, ML2.5(DNK)*
*DNK **11** 01:41:59.9±3.8, 80°68N×1°81W, h80km±97km, ML2.5*
*IEPN **11** 01:42:02.0, 80°01N×1°66W, h15km*

ISC 11 01:41:56.9±1.2, 80°48N±0°05×2°18W±0°05, h12km, n19, σ2s86/37, 3C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.53**	**303**	*i* P	**Pn**	**01 42 38.7**	**+1.1**
NOR				*i* S

GLBA				Sn	**Sn**	01 56 18.5	+0.6	
SIZA	**Siyzn**	**2.81**	**308**	Pn	**Pn**	01 55 51.2	+2.4	
SIZA				Sn	**Sn**	01 56 21.3	-0.1	
LRK	**Lerik**	**2.82**	**256**	Pn	**Pn**	01 55 50.3	+1.3	
LRK				Sn	**Sn**	01 56 21.4	-0.5	
YRD	**Yardimli**	**2.83**	**262**	Pn	**Pn**	01 55 50.4	+1.2	
YRD				Sn	**Sn**	01 56 22.7	+0.5	
PQL	**Pirkuli**	**2.85**	**300**	Pn	**Pn**	01 55 51.2	+1.8	
PQL				Sn	**Sn**	01 56 22.9	+0.3	
KDMR	**Kurdemir**	**2.98**	**291**	Pn	**Pn**	01 55 52.4	+1.4	
KDMR				Sn	**Sn**	01 56 26.9	+1.5	
IML	**Ismayilli**	**3.13**	**298**	Pn	**Pn**	01 55 54.4	+1.2	
IML				Sn	**Sn**	01 56 27.4	-2.0	
ZRD	**Zardab**	**3.31**	**287**	Pn	**Pn**	01 55 57.2	+1.5	
ZRD				Sn	**Sn**	01 56 33.1	-0.7	
BLQ	**Beylaqan**	**3.32**	**277**	Pn	**Pn**	01 55 56.7	+0.9	
BLQ				Sn	**Sn**	01 56 32.3	-1.7	
XNQ	**Khinaliq**	**3.34**	**303**	Pn	**Pn**	01 55 57.4	+1.2	
XNQ				Sn	**Sn**	01 56 33.5	-1.3	
QBL	**Gabala**	**3.43**	**298**	Pn	**Pn**	01 55 57.9	+0.5	
QBL				Sn	**Sn**	01 56 34.4	-2.4	
QSAR	**Qusar**	**3.45**	**309**	Pn	**Pn**	01 55 59.7	+2.0	
QSAR				Sn	**Sn**	01 56 35.4	-1.9	
QRD	**Qoradiz**	**3.49**	**273**	Pn	**Pn**	01 55 59.0	+0.8	
QRD				Sn	**Sn**	01 56 38.7	+0.4	
BRDA	**Brd**	**3.69**	**285**	Pn	**Pn**	01 56 02.4	+1.6	
BRDA				Sn	**Sn**	01 56 43.2	+0.2	
AGDM	**Agdam**	**3.71**	**283**	Pn	**Pn**	01 56 02.0	+0.8	
AGDM				Sn	**Sn**	01 56 41.9	-1.8	
SEKA	**Sheki**	**3.98**	**299**	Pn	**Pn**	01 56 05.1	+0.2	
SEKA				Sn	**Sn**	01 56 47.6	-2.8	
GANJ	**Ganja**	**4.41**	**288**	Pn	**Pn**	01 56 11.0	+0.2	
GANJ				Sn	**Sn**	01 56 56.3	-4.7	
ORD	**Ordubad**	**4.56**	**266**	Pn	**Pn**	01 56 14.4	+1.5	
ORD				Sn	**Sn**	01 57 03.4	-1.3	
ZKTA	**Zakatala**	**4.56**	**301**	Pn	**Pn**	01 56 15.0	+2.1	
ZKTA				Sn	**Sn**	01 57 01.6	-3.0	
GDB	**GEDABAY**	**4.85**	**288**	Pn	**Pn**	01 56 17.0	+0.1	
GDB				Sn	**Sn**	01 57 07.4	-4.5	
SBZ	**Shahbuz**	**4.86**	**272**	Pn	**Pn**	01 56 19.1	+2.1	
SBZ				Sn	**Sn**	01 57 12.2	0.0	
QZX	**Qazax, Azerbai**	**5.22**	**291**	Sn	**Sn**	01 57 18.4	-2.4	
AB31	**Akbulak array**	**11.44**	**28**	⇓P	**Pn**	01 57 45.6	-1.5	
	0.2nm,0.3s,baz=211,slow=14,SNR=9.6							
AB31				⇑S	Sn	01 59 45.8	-7.8	
	0.3nm,0.4s,baz=216,slow=26,SNR=4.3							
AKTO	**Aktyubinsk**	**11.88**	**20**	⇑P	**Pn**	**01 57 51.5**	**-1.6**	
	0.6nm,0.4s							
AKTO				⇓S	Sn	01 59 57.0	-7.3	
	1.1nm,0.5s							

WEL 11 01:59:25.4,43°S±1°×17°2E±°,h11km±1km,M2.1/7,ML2.2/7, MLv2.1/7,Error ellipse: s-maj=0.0km s-min=0.0km az=99.6,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**0.12**	**200**	P	Pb	01 59 29.7	0.0
LTZ	**Lake Taylor**	**0.46**	**17**	P	Pb	01 59 35.8	+0.3
MHCZ	**Mount Hutt**	**0.50**	**230**	P	Pb	01 59 36.7	+0.6
MQZ	**McQueen's Vall**	**0.64**	**140**	P	Pb	01 59 39.0	+0.5
INZ	**Inchbonnie**	**0.69**	**316**	P	Pb	01 59 40.0	+0.7
GVZ	**Greta Valley S**	**0.73**	**70**	P	Pn	01 59 41.6	-0.1
WACZ	**Wakanui South**	**0.75**	**194**	P	Pn	01 59 41.6	-0.3
OKCZ	**Okains Bay**	**0.87**	**126**	P	Pn	01 59 43.4	-0.1
AKCZ	**Akaroa Harbour**	**0.88**	**138**	P	Pn	01 59 43.6	-0.1
RPZ	**Rata Peaks**	**0.91**	**236**	P	Pn	01 59 43.9	-0.2
ARCZ	**Arundel**	**0.99**	**222**	P	Pn	01 59 44.9	-0.3
LBZ	**Lake Benmore**	**1.81**	**229**	P	Pg	02 00 01.3	+1.3
ODZ	**Otahua Downs**	**2.10**	**209**	P	Pg	02 00 05.6	-0.1

*NEIC **11** 01:59:59.1±1.5,4°.53N±0°.09×94°.8E±0°.1,h30km±7km, mb4.3/8,Error ellipse: s-maj=17.4km s-min=12.1km az=65.0*

*IDC **11** 02:00:03.6±6.0,4°.79N×95°.20E,h63km±50km,mb3.7/8, mb1 3.8/9,mb1mx3.5/40,mbtmp3.9/9,ML3.0/1,Error ellipse: s-maj=84.0km s-min=18.6km az=52.0*

ISC 11 02:00:01.4±0.8,4°.58N±0°.09×94°.94E±0°.09,h48km,n27, σ0°96/26,mb4.0/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**2.10**	**72**		**Pn**	**02 00 34.0**	**0.0**
GSI	**Gunungsitoli**	**4.18**	**141**	Pn	**Pn**	**02 01 01.1**	**-1.7**
PSI	**Prapat**	**4.35**	**114**	P	**Pn**	**02 01 07.0**	**+1.9**
	0.9nm,0.3s,baz=358,slow=14,SNR=3.8						
PSI				S	**Sn**	**02 01 54.7**	**+0.2**
	1.9nm,0.3s,baz=172,slow=16,SNR=5.2						
RPSI	**Rantau Prapat**	**4.39**	**115**		**Pn**	**02 01 07.0**	**+1.4**
RPSI					**Sn**	**02 01 54.7**	**-0.7**
RPSI	**Rantau Prapat**	**4.39**	**115**	Pn	**Pn**	**02 01 05.0**	**-0.6**
KULM	**Kulim**	**5.73**	**83**	Pn	**Pn**	**02 01 24.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**14.34**	**16**	P	**P**	**02 03 27.1**	**-0.5**
	0.8nm,0.3s,baz=207,slow=11,SNR=11						
CHTO	**Chiang Mai**	**14.68**	**15**	Pn	**Pn**	**02 03 24.4**	**-1.8**
H08S2	**Diego Garcia H**	**25.48**	**242**	T	T	02 32 31.3	
	baz=62,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**25.48**	**242**	T	T	02 32 32.8	
	baz=62,slow=58,SNR=58						
H08S1	**Diego Carcia H**	**25.50**	**242**	T	T	02 32 29.7	
	baz=62,slow=76,SNR=12						
MKAR	**Makanchi Array**	**43.46**	**347**	P	**P**	**02 07 59.7**	**-0.1**
	1.2nm,0.6s,baz=168,slow=7.8,SNR=12						
KK31	**Karatay Array**	**44.05**	**334**	P	**P**	**02 08 05.0**	**+0.4**
KK31				IAmb	IAmb	02 09 18.4	
	comp=Z,5.6nm,1.6s						
KKAR	**Karatay Array**	**44.05**	**334**	P	**P**	**02 08 05.1**	**+0.6**
WRA	**Warramunga Arr**	**45.75**	**124**	P	**P**	**02 08 18.5**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=302,slow=9.2,SNR=28						
WB2	**Warramunga Arr**	**45.76**	**124**	P	**P**	**02 08 19.0**	**+0.5**
ASAR	**Alice Springs**	**47.23**	**128**	P	**P**	**02 08 30.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=305,slow=8.2,SNR=7.2						
ZAA0	**Zalesovo Array**	**49.91**	**352**	P	**P**	**02 08 49.4**	**-0.6**
ZALV	**Zalesovo Beam**	**49.91**	**352**	P	**P**	**02 08 49.4**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=182,slow=7.6,SNR=5.4						
BRVK	**Borovoye**	**52.41**	**341**	P	**P**	**02 09 08.8**	**0.0**
BRVK				IAmb	IAmb	02 09 09.5	
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**53.49**	**332**	P	**P**	**02 09 16.7**	**-0.2**
AKASG	**Malin Array Be**	**71.22**	**322**	P	**P**	**02 11 14.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=91,slow=5.0,SNR=4.9						
FIA1	**FINESS Array S**	**75.98**	**332**	P	**P**	**02 11 44.5**	**+1.4**
FINES	**FINESS Array B**	**75.98**	**332**	P	**P**	**02 11 43.0**	**-0.1**
	comp=Z,5.6nm,1.1s,baz=120,slow=5.0,SNR=8.9						
ARA0	**ARCESS Array S**	**78.62**	**340**	P	**P**	**02 11 59.0**	**+1.2**
ARCES	**ARCESS Array B**	**78.62**	**340**	P	**P**	**02 11 57.6**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=91,slow=6.2,SNR=8.0						
GERES	**GERESS Array B**	**80.81**	**319**	P	**P**	**02 12 11.9**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=108,slow=7.2,SNR=5.2						

*MAN **11** 02:09:42.8,10°.90N×126°.53E,h7km,mb4.7,ML3.6,MS3.5*

*IDC **11** 02:09:43.2±0.7,10°.69N×126°.25E,h0km,mb4.0/11, mb1 4.1/11,mb1mx3.9/39,mbtmp4.0/11,MS3.2/1, Ms1 3.2/1,ms1mx2.7/46,Error ellipse: s-maj=40.7km s-min=14.5km az=71.0*

*NEIC **11** 02:09:48.4±1.6,10°.62N±0°.08×126°.1E±0°.2,h35km±2km, mb4.3/8,Error ellipse: s-maj=38.8km s-min=6.1km az=70.0*

ISC 11 02:09:43.6±2.0,10°.65N±0°.04×126°.29E±0°.08,h7km±12km, n34,σ1°50/37,mb4.1/12,4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.26**	**319**	*eP*	**Pn**	**02 10 06.7**	**-1.0**
BESP				*eS*	**Sg**	**02 10 25.7**	**+1.5**
MSLP	**Maasin**	**1.50**	**250**	*eP*	**Pg**	**02 10 13.8**	**+1.4**
MSLP				*eS*	**Sn**	**02 10 28.1**	**-2.7**
LLP	**Lapu-Lapu**	**2.31**	**262**	*eP*	**Pb**	**02 10 26.4**	**+0.7**
LLP				*eS*	**Sg**	**02 10 58.7**	**+0.8**
TBP	**Tagbilaran**	**2.57**	**248**	⇓*eP*	**Pg**	**02 10 33.9**	**+0.9**
CGP	**Cagayan de Oro**	**2.69**	**216**	⇓*eP*	**Pg**	**02 10 33.2**	**-2.0**
CGP				*eS*	**Sg**	**02 11 08.8**	**-1.3**
BUKP	**Musuan**	**3.01**	**204**	*eP*	**Pb**	**02 10 35.7**	**-1.9**
BUKP				*eS*	**Sb**	**02 11 13.8**	**-0.9**
PVCP	**Virac**	**3.60**	**325**	*eP*	**Pn**	**02 10 39.3**	**-0.5**
PVCP				*eS*	**Sn**	**02 11 22.1**	**-0.6**
GUIM	**Jordan**	**3.64**	**270**	*eP*	**Pn**	**02 10 43.2**	**+2.8**
KCP	**Kidapawan**	**3.81**	**198**	⇓*eP*	**Pb**	**02 10 50.9**	**-0.4**
DDMP	**Don Marcelino,**	**4.55**	**187**	*eP*	Pb	02 10 58.1	-5.8
DDMP				*eS*	**Sn**	**02 11 49.8**	**+3.5**
LQP	**Lukban**	**5.78**	**307**	⇓*eP*	**Pn**	**02 11 06.3**	**-3.8**
GUMO	**Guam**	**18.40**	**79**	LR	LR	02 21 37.3	
	comp=Z,71nm,18.9s,baz=266,slow=39						
CMAR	**Chiang Mai Arr**	**27.56**	**290**	P	**P**	**02 15 32.3**	**+0.8**
	0.8nm,0.3s,baz=99,slow=7.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**27.56**	**290**	P	**P**	**02 15 30.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.57**	**181**	P	**P**	**02 15 40.7**	**+0.2**
	1.4nm,0.6s,baz=24,slow=7.3,SNR=7.6						
FITZ	**Fitzroy Crossi**	**28.57**	**181**	IAmb	IAmb	02 15 51.7	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**31.42**	**165**	P	**P**	**02 16 05.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=347,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**34.91**	**168**	P	**P**	**02 16 37.7**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=350,slow=7.1,SNR=7.8						
SHL	**Shillong**	**35.77**	**299**	P	**P**	**02 16 42.4**	**-1.5**
SONM	**Songino Array**	**40.6**	**339**	P	**P**	**02 17 25.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=159,slow=7.8,SNR=2.9						
STKA	**Stephens Creek**	**44.75**	**161**	P	**P**	**02 18 00.1**	**+2.1**
	comp=Z,1.3nm,0.4s,baz=330,slow=9.4,SNR=4.4						
STKA	**Stephens Creek**	**44.75**	**161**	IAmb	IAmb	02 18 04.6	
	comp=Z,1.5nm,1.1s						
MK31	**Makanchi Array**	**51.74**	**323**	P	**P**	**02 18 52.1**	**+0.3**
MKAR	**Makanchi Array**	**51.74**	**323**	P	**P**	**02 18 52.2**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=122,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**51.74**	**323**	P	**P**	**02 18 52.1**	**+0.3**
ZAA0	**Zalesovo Array**	**54.30**	**331**	P	**P**	**02 19 10.6**	**0.0**
ZAA0				IAmb	IAmb	02 19 11.1	
	comp=Z,4.1nm,0.9s						
ZALV	**Zalesovo Beam**	**54.30**	**331**	P	**P**	**02 19 10.1**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=120,slow=7.0,SNR=11						
KURK	**Kurchatov**	**55.77**	**325**	P	**P**	**02 19 21.0**	**-0.2**
KKAR	**Karatay Array**	**58.00**	**314**	P	**P**	**02 19 36.1**	**-1.2**
ABKAR	**Akbulak array**	**66.60**	**319**	P	**P**	**02 20 34.8**	**0.0**
ILAR	**Eielson Array**	**79.09**	**26**	P	**P**	**02 21 49.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=277,slow=7.2,SNR=2.7						
ARCES	**ARCESS Array B**	**83.84**	**340**	P	**P**	**02 22 13.7**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=80,slow=4.5,SNR=15						
FINES	**FINESS Array B**	**85.57**	**332**	P	**P**	**02 22 21.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=76,slow=4.7,SNR=11						
PLCA	**Paso Flores**	**146.55**	**156**	PKPbc	**PKPab**	**02 29 26.6**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=268,slow=3.0,SNR=5.1						

*BJI **11** 02:35:43.2±0.0,40°.95N×143°.30E,h20km,mB6.1/74, mb5.9/81,Ms6.3/92,Ms7 6.1/88*

*JMA **11** 02:35:46.4±0.1,40°.95N×143°.24E,h36km,M6.1*

JMA Felt IV J1.

*NIED **11** 02:35:46.5,40°.95N×143°.25E,h36km,MW6.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.98; Mθθ0.05; Mϕϕ-1.02; Mrθ0.27; Mθϕ-0.82; Mϕr1.13; Fault plane solution: M₀1.70000×10¹⁸ NP1:φs14.00000°, δ68.00000°,λ75.00000°. NP2:φs230.00000°,δ26.00000°, λ122.00000°.*

*NEIC **11** 02:35:47,41°.01N×143°.15E,h23km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.72; Mθθ0.00; Mϕϕ-0.73; Mrθ0.46; Mθϕ-0.28; Mϕr1.08; Fault plane solution: M₀1.41000×10¹⁸ NP1:φs194.00000°, δ16.84000°,λ81.71000°. NP2:φs22.66000°,δ73.34000°, λ92.50000°. Principal axes: T 1.3555, Plg62.0000°, Azm296.0000°; N 0.0967, Plg2.0000°, Azm202.0000°; P -1.4522, Plg28.0000°, Azm111.0000°;*

*NEIC **11** 02:35:47.5±1.5,41°.03N±0°.04×143°.17E±0°.09,h22km±1km, mb5.8/587,Ms_20 6.0/869,Mwb6.0/102,Mww6.1, Mwc6.1(GCMT) Error ellipse: s-maj=12.1km s-min=6.8km az=88.0*

*MOS **11** 02:35:47.5±1.0,41°.08N×143°.08E,h34km,mb6.1/75, MS6.2/69,Error ellipse: s-maj=5.6km s-min=3.6km az=110.4*

*KEA **11** 02:35:48.3±0.0,41°.10N×143°.40E,h24km,mB5.9/3, MS5.2/3*

*BGR **11** 02:35:49.4±0.0,41°.52N×143°.46E,h10km,mb5.8,Ms6.5*

*IDC **11** 02:35:49.4±1.3,40°.99N×143°.03E,h39km±10km,mb5.2/27, mb1 5.3/33,mb1mx5.3/35,mbtmp5.4/33,ML4.8/6,MS5.9/46, Ms1 5.9/46,ms1mx5.8/51,Error ellipse: s-maj=10.0km s-min=9.1km az=79.0*

*GCMT **11** 02:35:51.5±0.1,41°.06N×143°.25E,h24km,MW6.0/166, Moment Tensor Solution. s160,c372; s166,c581; Duration: 2ᵉ5 Moment tensor: Scale 10¹⁸Nm; Mrr0.86±.01; Mθθ-0.05±.01; Mϕϕ-0.80±.01; Mrθ0.48±.01; Mθϕ-0.24±.00; Mϕr1.02±.01; Best double couple: M₀1.42300×10¹⁸ NP1:φs189.00000°,δ19.00000°, λ76.00000°. NP2:φs23.00000°,δ71.00000°,λ95.00000°. Principal axes: T 1.4230, Plg63.0000°, Azm301.0000°; N 0.0000, Plg5.0000°, Azm202.0000°; P -1.4230, Plg26.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **11** 02:35:52,41°.06N×143°.33E,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.83; Mθθ-0.01; Mϕϕ-0.83; Mrθ0.65; Mθϕ-0.23; Mϕr1.23; Fault plane solution: M₀1.64000×10¹⁸ NP1:φs183.00000°, δ17.00000°,λ68.00000°. NP2:φs26.00000°,δ74.00000°, λ96.00000°. Principal axes: T 1.6248, Plg60.0000°, Azm305.0000°; N 0.0219, Plg6.0000°, Azm204.0000°; P -1.6467, Plg29.0000°, Azm111.0000°;*

*NEIC **11** 02:35:53,40°.99N×143°.48E,h26km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.63; Mθθ0.01; Mϕϕ-0.64; Mrθ0.64; Mθϕ-0.12; Mϕr1.60; Fault plane solution: M₀1.84000×10¹⁸ NP1:φs179.00000°, δ11.00000°,λ68.00000°. NP2:φs21.00000°,δ80.00000°, λ94.00000°. Principal axes: T 1.8352, Plg55.0000°, Azm296.0000°; N 0.0084, Plg4.0000°, Azm200.0000°; P -1.8436, Plg35.0000°, Azm108.0000°;*

ISC 11 02:35:48.0±0.3,41°.06N±0°.02×143°.21E±0°.02,h26km±1km, h26km:pP-P,n2124,σ1973/1936,mb5.8/499,MS6.0/584, 172C-25D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.95**	**358**	*ceP*	**Pn**	**02 36 05.4**	**-0.3**
ERM	**Erimo**	**0.95**	**358**		**Pn**	**02 36 05.7**	**0.0**
JEM	**Erimo**	**0.95**	**358**	⇑P	**Pn**	**02 36 05.1**	**-0.6**
JEM				*eS*	**Sn**	**02 36 20.1**	**+1.6**
JTHR	**Tokachihiroo**	**1.23**	**3**	P	**Pb**	**02 36 10.1**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.26**	**345**	⇑P	**Pn**	**02 36 10.0**	**0.0**
JNBK				*eS*	**Sn**	**02 36 25.9**	**-0.2**
JARK	**Aomorirokkasho**	**1.39**	**268**	P	**Pn**	**02 36 10.4**	**-1.3**
JARK				*eS*	**Sn**	**02 36 28.6**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.42**	**234**	⇑P	**Pn**	**02 36 09.7**	**-2.5**
JAHD	**Aomorihigashid**	**1.43**	**279**	⇑P	**Pn**	**02 36 11.3**	**-0.9**
JSHD	**Hidakashinhida**	**1.46**	**338**	⇑P	**Pn**	**02 36 13.4**	**+0.8**
JANG	**Nango**	**1.46**	**242**	P	**Pn**	**02 36 10.8**	**-1.9**
JANG				*eS*	**Sn**	**02 36 28.8**	**-2.1**
JTH	**Tanohata**	**1.52**	**223**	⇑P	**Pn**	**02 36 11.0**	**-2.5**
JCH	**Churui**	**1.56**	**4**	P	**Pn**	**02 36 13.8**	**-0.2**
JCH				*eS*	**Sn**	**02 36 33.3**	**0.0**
JTM	**Tenmabayashi**	**1.64**	**261**	⇑P	**Pn**	**02 36 14.3**	**-0.9**
JTM	**Tenmabayashi**	**1.64**	**261**	Pn	**Pn**	**02 36 16.1**	**+0.9**
JOT	**Ohata**	**1.66**	**282**	⇓P	**Pn**	**02 36 14.7**	**-0.7**
JKZ	**Kuzumaki**	**1.79**	**234**	P	**Pn**	**02 36 16.6**	**-0.7**
JBT2	**Biratori 2**	**1.83**	**340**	P	**Pn**	**02 36 18.0**	**+0.3**
JKB	**Kayabe**	**1.83**	**298**	⇑P	**Pn**	**02 36 17.3**	**-0.4**
JIAM	**Iburiatsuma**	**1.83**	**329**	P	**Pb**	**02 36 19.4**	**-1.4**
JSI2	**Shiura 2**	**2.11**	**271**	⇑P	**Pn**	**02 36 21.6**	**0.0**
JAH	**Hinai**	**2.14**	**247**	P	**Pn**	**02 36 22.0**	**0.0**
JOM	**Ohasama**	**2.16**	**223**	P	**Pn**	**02 36 20.8**	**-1.5**
JSZI	**Iwateshizukuis**	**2.17**	**233**	⇑P	**Pn**	**02 36 22.0**	**-0.4**
JHHS	**Hirosakihykuz**	**2.20**	**260**	⇑P	**Pn**	**02 36 23.1**	**+0.3**
JEW	**Eniwo**	**2.21**	**324**	P	**Pn**	**02 36 24.2**	**+1.2**
JEW	**Eniwo**	**2.21**	**324**		**Pn**	**02 36 23.9**	**+0.9**
JAK	**Akkeshi**	**2.23**	**29**	P	**Pn**	**02 36 22.2**	**-1.0**
JAK				*eS*	**Sn**	**02 36 50.1**	**+0.2**
JAR	**Ashorobuto**	**2.27**	**10**	⇑P	**Pn**	**02 36 22.8**	**-1.1**
JAR				*eS*	**Sn**	**02 36 50.9**	**-0.1**
JYM2	**Yakumo 2**	**2.38**	**297**	⇑P	**Pn**	**02 36 25.5**	**+0.3**
JIW	**Iwasaki**	**2.47**	**260**	P	**Pn**	**02 36 27.2**	**+0.6**
JRG	**Rokugo**	**2.58**	**231**	P	**Pn**	**02 36 27.9**	**-0.1**
JMK	**Ichinoseki**	**2.60**	**217**	⇑P	**Pn**	**02 36 27.1**	**-1.3**
JYW	**Yuwa**	**2.75**	**237**	P	**Pn**	**02 36 30.4**	**0.0**
NMR	**Nemuro--Hokkai**	**2.97**	**38**	*eP*	**Pn**	**02 36 31.9**	**-1.5**
NMR				*eS*	**Sn**	**02 37 06.1**	**-2.1**
JYK	**Kaneyama**	**3.06**	**227**	⇑P	**Pn**	**02 36 33.8**	**-0.9**
JKA	**Kamikawa-asahi**	**3.08**	**352**		**Sn**	**02 37 12.9**	**+1.9**
ASAJ	**Asahikawa**	**3.09**	**352**	Pn	**Pn**	**02 36 36.0**	**+1.0**
	85nm,0.3s,baz=206,slow=16,SNR=38						
ASAJ				Sn	**Sn**	**02 37 12.9**	**+1.9**
	415nm,0.3s,baz=217,slow=12,SNR=5.2						
GLVR	**Golovnino**	**3.18**	**32**	*eP*	**Pn**	**02 36 35.7**	**-0.5**
GLVR				*eS*	**Sn**	**02 37 12.4**	**-0.9**
GLVR				pmax	pmax		
	comp=Z,5μm,0.5s						
GLVR				pmax	pmax		
	comp=N,1μm,0.6s						
GLVR				pmax	pmax		
	comp=E,1μm,0.3s						
GLVR				smax	smax		
	comp=N,19μm,0.4s						
GLVR				smax	smax		
	comp=E,27μm,0.5s						
GLVR				MLR	MLR		
	comp=Z,225μm,16.0s						
GRPR	**Tuman**	**3.49**	**32**	*dP*	**Pn**	**02 36 40.0**	**-0.6**
GRPR				*eS*	**Sn**	**02 37 19.3**	**-1.7**
GRPR				pmax	pmax		
	comp=N,505nm,0.3s						
GRPR				pmax	pmax		
	comp=E,1μm,0.3s						
GRPR				pmax	pmax		
	comp=Z,4μm,0.3s						
GRPR				smax	smax		
	comp=N,22μm,0.5s						
GRPR				smax	smax		
	comp=E,9μm,0.4s						
GRPR				MLR	MLR		
	comp=N,144μm,14.0s						
GRPR				MLR	MLR		
	comp=E,122μm,14.0s						
GRPR				MLR	MLR		
	comp=Z,136μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**3.56**	**33**	*cP*	**Pn**	**02 36 40.9**	**-0.6**
YUK				*i S*	**Sn**	**02 37 22.3**	**-0.4**
YUK				pmax	pmax		
	comp=E,2μm,0.2s						
YUK				pmax	pmax		
	comp=Z,5μm,0.2s						
YUK				pmax	pmax		
	comp=N,789nm,0.3s						
YUK				smax	smax		
	comp=N,18μm,0.4s						
YUK				smax	smax		
	comp=E,14μm,0.4s						
YUK				MLR	MLR		
	comp=E,86μm,14.0s						
YUK				MLR	MLR		
	comp=Z,114μm,14.0s						
YUK				MLR	MLR		
	comp=N,92μm,12.0s						
JYA	**Atsumi**	**3.65**	**229**	P	**Pn**	**02 36 42.3**	**-0.5**
JMM	**Marumori**	**3.70**	**211**	Pn	**Pn**	**02 36 42.2**	**-1.2**
JFT	**Otama**	**4.18**	**213**	P	**Pn**	**02 36 50.0**	**-0.1**
JNS	**Sasagawa**	**4.42**	**224**	P	**Pn**	**02 36 54.0**	**+0.6**
JSD	**Sado**	**4.87**	**233**	P	**Pn**	**02 36 59.0**	**-0.5**
JSD	**Sado**	**4.87**	**233**	Pn	**Pn**	**02 36 59.1**	**-0.5**
JIZZ	**Izumozaki**	**4.96**	**226**	P	**Pn**	**02 37 01.1**	**+0.3**
JYT	**Yasato**	**5.37**	**207**		**Pn**	**02 37 04.0**	**-2.4**
KUR	**Kuril'sk**	**5.38**	**38**	*dP*	**Pn**	**02 37 07.1**	**+0.5**
KUR				*eS*	**Sn**	**02 38 08.3**	**+0.6**
KUR				pmax	pmax		
	comp=Z,3μm,0.6s						
KUR				pmax	pmax		
	comp=E,1μm,0.5s						
KUR				pmax	pmax		
	comp=N,1μm,0.7s						
KUR				pmax	pmax		
	comp=Z,16μm,8.0s						
KUR				smax	smax		
	comp=E,57μm,5.2s						
KUR				smax	smax		
	comp=N,30μm,5.5s						
KUR				smax	smax		
	comp=E,5μm,0.5s						
KUR				smax	smax		
	comp=N,2μm,0.6s						
KUR				MLR	MLR		
	comp=E,52μm,14.0s						
KUR				MLR	MLR		
	comp=Z,100μm,14.0s						
KUR				MLR	MLR		
	comp=N,121μm,17.0s						
JAG	**Ashikaga**	**5.48**	**214**	P	**Pn**	**02 37 06.8**	**-1.2**
JSZ	**Suzu**	**5.79**	**233**	P	**Pn**	**02 37 13.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.90**	**357**	*ceP*	**Pn**	**02 37 14.9**	**+1.2**
YSS				*eS*	**Sn**	**02 38 20.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,8μm,6.1s						
YSS				pmax	pmax		
	comp=Z,250nm,1.1s						
YSS				MLR	MLR		
	comp=Z,141μm,16.0s						
YSS				MLR	MLR		
	comp=N,108μm,17

comp=Z,120μm,18.0s
JHS Saijyo 9.99 236 Pn Pn 02 38 09.6 -0.3
CHJN Chongjin 10.10 279 P Pn 02 38 12.9 +1.6
JMN Monobe 10.42 228 Pn Pn 02 38 15.9 +0.2
MDJ Mudanjiang 10.61 294 P Pn 02 38 20.7 +2.4
MDJ pP 02 38 24.1
MDJ PP **PnPn 02 38 28.4 +2.6**
MDJ S **Sn 02 40 18.7 +2.5**
MDJ SS **SnSn 02 40 32.2 +4.5**
MDJ pmax pmax
comp=Z,310nm,1.0s
MDJ pmax pmax
comp=Z,15μm,4.7s
MDJ LR LR
comp=Z,77μm,18.6s
MDJ LR LR
comp=Z,157μm,17.3s
MDJ LR LR
comp=Z,232μm,17.7s
MDJ Mudanjiang 10.61 294 Pn Pn 02 38 18.8 +0.5
GRNR Gornyy 10.79 336 ⇑*i*P **Pn 02 38 22.3 +1.6**
GRNR *e*S **Sn 02 40 25.1 +4.5**
GRNR pmax pmax
comp=N,50nm,0.9s
GRNR pmax pmax
comp=Z,50nm,0.9s
GRNR smax smax
comp=N,50nm,1.0s
GRNR MLR MLR
comp=E,50μm,15.0s
GRNR MLR MLR
comp=N,58μm,16.0s
GRNR MLR MLR
comp=Z,54μm,17.0s
HHU Hamhung 11.99 270 P Pn 02 38 39.0 +1.8
HHU pP 02 38 46.9
HHU S Sn 02 41 33.5 +43
NKL Nikolayevsk 12.21 353 *e*P **Pn 02 38 41.2 +1.1**
NKL *e*S **Sn 02 40 53.7 -1.6**
NKL pmax pmax
comp=N,13nm,1.0s
NKL pmax pmax
comp=Z,162nm,1.5s
NKL smax smax
comp=N,22nm,3.2s
NKL MLR MLR
comp=N,168nm,13.0s
NKL MLR MLR
comp=Z,28μm,15.0s
WOSN Wonsan 12.24 266 P Pn 02 38 42.8 +2.3
KSRS Korea Array 12.38 258 Pn Pn 02 38 43.9 +1.3
comp=Z,1.9nm,0.3s,baz=72,slow=13,SNR=97
KSRS Sn Sn 02 41 09.4 +10
comp=Z,6.7nm,0.3s,baz=69,slow=23,SNR=6.9
KSRS LR LR 02 43 21.7
comp=Z,111μm,18.4s,baz=66,slow=37
KS19 Wonju Array Si 12.41 258 Pn 02 38 44.0 +1.1
OKH Okha 12.50 359*c i*P **Pn 02 38 44.4 +0.4**
OKH *i* S **Sn 02 41 09.4 +7.2**
OKH pmax pmax
comp=Z,2μm,14.1s
OKH smax smax
comp=E,7μm,14.0s
OKH MLR MLR
comp=E,67μm,19.0s
OKH MLR MLR
comp=N,89μm,18.0s
OKH MLR MLR
comp=Z,79μm,18.0s
KGE Kanggye 12.54 275 P Pn 02 38 46.6 +1.9
JNU Nakatsue 12.63 235 Pn Pn 02 38 45.8 -0.2
comp=Z,3.3nm,0.3s,baz=117,slow=1.3,SNR=12
JNU Sn **Sn 02 41 13.3 +7.6**
baz=170,slow=11,SNR=1.2
JNU LR LR 02 44 07.7
comp=Z,42μm,18.9s,baz=64,slow=40
JNU Nakatsue 12.63 235 Pn Pn 02 38 45.6 -0.3
JTU Tsushima 12.71 244 Pn Pn 02 38 47.5 +0.4
SKR Severo-Kuril's 13.15 39 *e*P **Pn 02 38 56.4 +3.5**
SKR *e*S **Sn 02 41 15.5 -2.7**
SKR pmax pmax
comp=Z,222nm,0.9s
SKR MLR MLR
comp=Z,32μm,18.0s
SKR MLR MLR
comp=Z,30μm,18.0s
TJN Taejon 13.22 254*ce*P **Pn 02 38 54.8 +0.8**
INCN Inchon 13.33 260 P Pn 02 38 55.9 +0.4
INCN Inchon 13.33 260 Pn Pn 02 38 55.9 +0.4
PYS Pyongsong 13.40 268 P Pn 02 38 58.7 +2.3
CN2 Changchun 13.40 288 *e*P **Pn 02 38 56.8 +0.4**
CN2 pmax pmax
comp=Z,200nm,1.0s
CN2 pmax pmax
comp=Z,5μm,5.9s
CN2 LR LR
comp=Z,58μm,15.3s
CN2 LR LR
comp=Z,71μm,20.0s
CN2 LR LR
comp=Z,89μm,19.0s
PYAG Pyongyang 13.52 267 P Pn 02 39 00.0 +2.0
PYAG pP **P 02 39 03.3 -3.6**
PYAG S **Sn 02 41 33.5 +6.2**
HJU Haeju 13.82 263 P Pn 02 39 05.0 +2.8
JCJ Chichijima 13.96 184 Pn Pn 02 39 02.6 -1.5
comp=Z,34nm,0.3s,baz=275,slow=20,SNR=2.7
JCJ Chichijima 13.96 184 Pn Pn 02 39 01.4 -2.7
JSU Suzuyama 14.01 231 Pn Pn 02 39 04.4 -0.4
SUJ Sinuiju 14.26 272 P Pn 02 39 09.0 +0.9
SUJ S **Sn 02 41 41.2 -4.1**
SNY Shenyang 14.74 279 ⇑P **Pn 02 39 15.5 +0.8**
SNY S **Sn 02 42 01.7 +4.5**
SNY pmax pmax
comp=Z,230nm,2.5s
SNY pmax pmax
comp=Z,9μm,11.7s
SNY LR LR
comp=Z,23μm,15.7s
SNY LR LR
comp=Z,63μm,17.2s
SNY LR LR
comp=Z,90μm,17.8s
PEA0B Petropavlovsk- 15.54 34*ce*P **Pn 02 39 21.6 -3.6**
PEA0B Petropavlovsk- 15.54 34 Pn **Pn 02 39 21.6 -3.6**
PETK Petropavlovsk- 15.54 34 Pn **Pn 02 39 21.6 -3.6**
comp=Z,0.6nm,0.3s,baz=212,slow=5.1,SNR=21
PETK Sn **S 02 42 24.6 -6.8**
baz=280,slow=35,SNR=2.0
PETK LR LR 02 45 53.4
comp=Z,28μm,18.0s,baz=218,slow=38
PETK Petropavlovsk- 15.54 34 P **Pn 02 39 21.1 -4.1**
PETK Petropavlovsk- 15.54 34 Pn 02 39 21.1 -4.1
PET Petropavlovsk 15.89 36 *e*P **Pn 02 39 27.2 -2.5**
PET *e*S **Sn 02 42 23.8 -1.2**
PET pmax pmax
comp=Z,3μm,8.9s
PET pmax pmax
comp=Z,5μm,7.0s
PET pmax pmax
comp=Z,129nm,1.3s
PET MLR MLR
comp=Z,46μm,16.0s
PET MLR MLR
comp=Z,42μm,16.0s
PET Petropavlovsk 15.89 36 Pn **Pn 02 39 26.2 -3.5**
ZEA Zeya 16.61 325*de*P **Pn 02 39 36.3 -2.5**
ZEA *e*S **S 02 42 48.6 -4.6**
ZEA pmax pmax
comp=N,180nm,1.0s
ZEA pmax pmax
comp=E,190nm,1.0s
ZEA pmax pmax
comp=Z,280nm,1.0s
ZEA pmax pmax
comp=Z,4μm,13.8s
ZEA smax smax
comp=N,3μm,12.7s
ZEA MLR MLR
comp=N,38μm,17.0s
ZEA MLR MLR
comp=E,54μm,17.0s
ZEA MLR MLR
comp=Z,66μm,16.0s
DL2 Dalian 16.68 270 P P 02 39 41.1 -0.9
DL2 S **Sn 02 42 48.5 +4.4**
DL2 pmax pmax
comp=Z,1μm,1.1s
DL2 pmax pmax
comp=Z,11μm,4.9s
DL2 LR LR
comp=Z,13μm,15.9s
DL2 LR LR
comp=Z,22μm,21.8s
DL2 LR LR
comp=Z,29μm,22.8s
HIA Hailar 18.41 304 P P 02 39 59.8 -1.4
HIA pmax pmax
comp=Z,224nm,0.9s
HIA Hailar 18.41 304 P P 02 39 59.8 -1.4
MA2 Magadan 19.13 12 S Sn 02 43 34.4 -8.8
baz=177,slow=12,SNR=1.8
MA2 LR LR 02 48 19.3
comp=Z,20μm,18.3s,baz=198,slow=39
MA2 Magadan 19.13 12*ce*P **P 02 40 05.7 -3.2**
MA2 pmax pmax
comp=Z,46nm,0.7s
MA2 MLR MLR
comp=Z,21μm,17.0s
MA2 Magadan 19.13 12 P P 02 40 07.8 -1.0
SSE Sheshan 20.34 248 P P 02 40 21.4 -0.8
SSE pP Pn 02 40 24.2 -0.2
SSE sP **pP 02 40 26.9 -2.0**
SSE S Sn 02 44 11.0 -1.7
SSE pmax pmax
comp=Z,99nm,1.2s
SSE pmax pmax
comp=Z,2μm,12.6s
SSE Sheshan 20.34 248 P P 02 40 20.8 -1.5
SSE IAmb IAmb 02 40 29.7
comp=Z,537nm,1.0s
BJI Beijing 20.54 276 P P 02 40 22.2 -2.2
BJI S **S 02 44 09.0 -3.8**
BJI pmax pmax
comp=Z,300nm,1.6s
BJI pmax pmax
comp=Z,3μm,3.5s
BJI LR LR
comp=Z,25μm,15.5s
BJI LR LR
comp=Z,52μm,17.7s
BJI LR LR
comp=Z,40μm,18.6s
BJT Baijiatuau 20.55 276 P P 02 40 22.3 -2.2
BJT pmax pmax
comp=Z,836nm,1.5s
BJT MLR MLR
comp=Z,62μm,19.0s
BJT Baijiatuau 20.55 276 P P 02 40 22.3 -2.2
BJT IAmb IAmb 02 40 37.4
comp=Z,836nm,1.5s
BJT Baijiatuau 20.55 276 IAMs_20 IAMs_20 02 48 16.4
comp=Z,63μm,19.0s
TIA Tai'an 20.91 265 P P 02 40 25.6 -2.8
TIA sP **sP 02 40 41.2 +3.1**
TIA S **S 02 44 11.6 -8.6**
TIA pmax pmax
comp=Z,4μm,3.5s
TIA LR LR
comp=Z,23μm,17.1s
TIA LR LR
comp=Z,26μm,20.6s
TIA LR LR
comp=Z,46μm,18.5s
NJ2 Nanjing 21.48 253 *e*P **P 02 40 32.4 -2.1**
NJ2 S **S 02 44 34.3 +2.9**
NJ2 SS **SnSn 02 45 01.2 +6.1**
NJ2 pmax pmax
comp=Z,550nm,1.3s
NJ2 pmax pmax
comp=Z,5μm,5.5s
NJ2 LR LR
comp=Z,86μm,18.9s
NJ2 LR LR
comp=Z,84μm,18.0s
NJ2 LR LR
comp=Z,79μm,18.5s
YAK Yakutsk 22.53 343 *c* P **P 02 40 41.8 -3.7**
comp=Z,263nm,0.7s,baz=343,slow=3.2,SNR=68
YAK S S 02 44 38.0 -13
comp=Z,16nm,0.4s,baz=258,slow=18,SNR=2.5
YAK LR LR 02 50 32.9
comp=Z,43μm,18.5s,baz=152,slow=39
YAK Yakutsk 22.53 343*c i*P **P 02 40 41.9 -3.6**
YAK *e**PP **pP 02 40 50.3 -1.8**
YAK *e* 02 41 07.3
YAK *e* 02 44 33.7
YAK *e*S **S 02 44 47.5 -3.3**
YAK *e**SS **sS 02 45 02.6 +0.6**
YAK *e* 02 51 59.3
YAK pmax pmax
comp=Z,728nm,0.9s
YAK pmax pmax
comp=N,209nm,1.0s
YAK pmax pmax
comp=E,94nm,1.0s
YAK pmax pmax
comp=Z,927nm,1.9s
YAK pmax pmax
comp=N,690nm,2.0s
YAK pmax pmax
comp=E,247nm,2.1s
YAK smax smax
comp=N,2μm,1.6s
YAK smax smax
comp=E,592nm,1.2s
YAK MLR MLR
comp=Z,44μm,18.0s
YAK MLR MLR
comp=E,30μm,15.0s
YAK MLR MLR
comp=N,33μm,17.0s
YAK Yakutsk 22.53 343 P **P 02 40 42.1 -3.4**
YAK IAMs_20 IAMs_20 02 50 21.1
comp=Z,44μm,19.0s
SEY Seymchan 22.58 11 P **P 02 40 43.1 -2.9**
comp=Z,30nm,0.4s,baz=191,slow=7.5,SNR=61
SEY S **S 02 44 45.2 -6.5**
comp=Z,8.0nm,0.8s,baz=218,slow=20,SNR=5.5
SEY LR LR 02 51 31.2
comp=Z,21μm,18.1s,baz=200,slow=42
SEY Seymchan 22.58 11*c i*P **P 02 40 42.7 -3.3**
CIT Chita 22.99 308 *e*P **P 02 40 48.6 -2.0**
CIT *e* 02 41 02.5
CIT *e* 02 41 15.8
CIT *e* 02 41 34.2
CIT *e*S **S 02 45 01.1 +1.7**
CIT pmax pmax
comp=Z,1μm,2.2s
HHC Hu-ho-hao-te 23.84 280 *e*P **P 02 40 56.3 -2.8**
HHC sP pP 02 41 05.5 -0.5
HHC S **S 02 45 07.9 -5.5**
HHC sS pS 02 45 18.9 -2.1
HHC SS **SnSn 02 46 00.2 +7.2**
HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,4μm,6.4s
HHC LR LR
comp=Z,22μm,13.6s
HHC LR LR
comp=Z,48μm,15.7s
HHC LR LR
comp=Z,70μm,15.3s
TIY Taiyuan 23.96 272 *e*P **P 02 40 57.1 -3.1**
TIY S **S 02 45 12.8 -2.5**
TIY SS **SnSn 02 46 04.1 +8.2**
TIY pmax pmax
comp=Z,71nm,0.9s
TIY pmax pmax
comp=Z,2μm,7.1s
TIY LR LR
comp=Z,9μm,11.9s
TIY LR LR
comp=Z,20μm,15.5s
TIY LR LR
comp=Z,22μm,16.2s
TATO Taipei 24.17 235 P P 02 41 02.8 +0.7
TATO P **P 02 41 02.8 +0.7**
TATO Taipei 24.17 235 P P 02 41 00.8 -1.3
TATO Taipei 24.17 235 IAMs_20 IAMs_20 02 51 41.1
comp=Z,39μm,18.0s
YHNB Yeheng 24.46 235 P P 02 41 03.0 -1.9
YHNB IAmb IAmb 02 41 12.4
comp=Z,442nm,1.1s
YHNB IAMs_20 IAMs_20 02 51 24.5
comp=Z,32μm,19.0s
BTO Baotou 25.03 280 *e*P **P 02 41 08.3 -1.7**
BOD Bodaibo 25.04 322 *e*P **P 02 41 07.4 -2.4**
BOD pmax pmax
comp=Z,185nm,1.0s
SSLB Suanglung 25.37 234 IAMs_20 IAMs_20 02 52 14.5
comp=Z,39μm,19.0s
YULB Yu-li 25.46 233 P P 02 41 12.7 -1.2
WHN Wuhan 25.54 255 P P 02 41 12.3 -2.3
WHN S **S 02 45 35.9 -4.7**
WHN pmax pmax
comp=Z,1μm,0.9s
WHN pmax pmax
comp=Z,11μm,7.5s
WHN LR LR
comp=Z,91μm,15.1s
WHN LR LR
comp=Z,156μm,15.6s
WHN LR LR
comp=Z,218μm,17.0s
TPUB Ta-pu 25.93 234 P P 02 41 16.3 -1.9
TPUB IAmb IAmb 02 41 28.7
comp=Z,212nm,1.0s
TPUB IAMs_20 IAMs_20 02 52 51.4
comp=Z,43μm,18.0s
QZH Quanzhou 26.04 239 ⇑*i*P **P 02 41 17.7 -1.4**
QZH S **S 02 45 49.0 +0.6**
QZH pmax pmax
comp=Z,330nm,1.9s
QZH pmax pmax
comp=Z,7μm,5.0s
QZH LR LR
comp=Z,20μm,22.2s
QZH LR LR
comp=Z,25μm,20.2s
QZH LR LR
comp=Z,39μm,17.8s
KNMB Chin-men Tao 26.50 239 IAMs_20 IAMs_20 02 52 52.6
comp=Z,34μm,18.0s
ULN Ulaanbaatar 26.50 297 P P 02 41 23.9 +0.6
ULN P **P 02 41 23.9 +0.6**
ULN P **P 02 41 23.9 +0.6**
ULN Ulaanbaatar 26.50 297*ce*P **P 02 41 23.2 -0.1**
ULN pmax pmax
comp=Z,1μm,2.5s
ULN MLR MLR
comp=Z,76μm,17.0s
ULN Ulaanbaatar 26.50 297 P P 02 41 22.6 -0.8
ULN IAmb IAmb 02 41 26.3
comp=Z,309nm,1.0s
AMKA Amchitka 26.77 55 P P 02 41 21.4 -4.1
SONM Songino Array 26.95 297 P P 02 41 26.1 -1.2
comp=Z,144nm,1.0s,baz=99,slow=9.2,SNR=84
SONM LR LR 02 53 06.8
comp=Z,83μm,18.0s,baz=93,slow=39
SONM Songino Array 26.95 297 P P 02 41 26.8 -0.5
GUMO Guam 27.41 176 LR LR 02 51 20.2
comp=Z,11μm,21.7s,baz=7.0,slow=34
XAN Xi'an 27.94 267 P P 02 41 35.2 -1.0
XAN pP sP 02 41 47.7 +1.4
XAN pmax pmax
comp=Z,78nm,0.9s
XAN pmax pmax
comp=Z,4μm,7.3s
XAN LR LR
comp=Z,16μm,17.9s
XAN LR LR
comp=Z,38μm,17.4s
XAN LR LR
comp=Z,38μm,17.9s
XAN Xi'an 27.94 267 P P 02 41 34.8 -1.4
XAN pmax pmax
comp=Z,452nm,1.4s
XAN MLR MLR
comp=Z,29μm,19.0s
XAN Xi'an 27.94 267 P P 02 41 34.8 -1.4
XAN IAmb IAmb 02 41 39.3
comp=Z,452nm,1.4s
XAN Xi'an 27.94 267 IAMs_20 IAMs_20 02 52 52.0
comp=Z,29μm,19.0s
IRK Irkutsk 28.63 306 *e*P **P 02 41 43.8 +1.6**
IRK pmax pmax
comp=Z,1μm,2.4s
TLY Talaya 28.95 305 P P 02 41 43.7 -1.3
comp=Z,63nm,1.0s,baz=105,slow=8.0,SNR=44
TLY LR LR 02 54 20.7
comp=Z,39μm,18.6s,baz=90,slow=38
TLY Talaya 28.95 305 P P 02 41 45.9 +0.9
TLY P **P 02 41 45.9 +0.9**
TLY Talaya 28.95 305*c i*P **P 02 41 44.5 -0.5**
TLY *e*S **S 02 46 35.3 +1.2**
TLY pmax pmax
comp=Z,783nm,1.3s
TLY MLR MLR
comp=Z,84μm,19.0s
TLY Talaya 28.95 305 P P 02 41 45.3 +0.2
TLY IAMs_20 IAMs_20 02 53 58.9
comp=Z,38μm,20.0s
ZAK Zakamensk 29.08 302 *e*P **P 02 41 45.9 -0.4**
ZAK pmax pmax
comp=Z,224nm,1.2s
ENH Enshi 29.27 259 P P 02 41 46.5 -1.5
ENH IAMs_20 IAMs_20 02 53 40.8
comp=Z,40μm,20.0s
H11N2 WAKE ISLAND Hy 29.32 129 T T 03 12 25.4
baz=322,slow=75,SNR=1920
H11N1 WAKE ISLAND Hy 29.33 129 T T 03 12 30.5
baz=322,slow=75,SNR=1764
H11N3 WAKE ISLAND Hy 29.34 129 T T 03 12 35.7
baz=322,slow=75,SNR=2182
BILL Bilibino 29.77 17*ce*P **P 02 41 50.5 -1.6**
BILL *e* 02 41 58.0
BILL *e*PPP PPP 02 42 54.1
BILL *e* 02 44 53.6
BILL *e*S **S 02 46 45.3 -1.3**
BILL *e*SSS SSS 02 48 36.4
BILL pmax pmax
comp=Z,107nm,1.0s
BILL MLR MLR
comp=Z,30μm,21.0s
BILL Bilibino 29.77 17 P P 02 41 52.1 +0.1
BILL IAMs_20 IAMs_20 02 55 06.2
comp=Z,30μm,21.0s
H11S1 WAKE ISLAND Hy 30.17 131 T T 03 13 35.0
baz=324,slow=76,SNR=1284
H11S3 WAKE ISLAND Hy 30.17 131 T T 03 13 36.1
baz=324,slow=76,SNR=1325
H11S2 WAKE ISLAND Hy 30.19 131 T T 03 13 36.7
baz=324,slow=76,SNR=709
MOY Mondy 30.60 305 *e*P **P 02 42 00.0 +0.3**
MOY pmax pmax
comp=Z,685nm,3.2s
GZH Guangzhou 30.79 244 P P 02 41 56.8 -4.7
GZH S **S 02 46 55.2 -8.2**
GZH LR LR
comp=Z,40μm,18.7s
GZH LR LR
comp=Z,22μm,17.3s
GZH LR LR
comp=Z,3μm,4.0s
HKPS Hong Kong Po S 30.81 241 P P 02 42 02.3 +0.6
HKPS IAmb IAmb 02 42 20.2
comp=Z,202nm,1.0s
HKPS IAMs_20 IAMs_20 02 55 35.8
comp=Z,39μm,19.0s
ATKA Atka Island 30.87 54 P P 02 42 00.8 -1.1
ATKA IAMs_20 IAMs_20 02 53 35.8
comp=Z,24μm,21.0s
LZH Lanzhou 30.99 274 ⇑P **P 02 42 01.6 -1.7**
LZH pP pP 02 42 09.0 -1.5
LZH sP pwP 02 42 12.6 -0.4
LZH PP **PP 02 43 09.8 -3.6**
LZH S **S 02 47 05.0 -1.6**
LZH sS pS 02 47 16.1 +1.5
LZH SS **SnSn 02 48 51.5 +3.8**
LZH pmax pmax
comp=Z,210nm,1.3s
LZH pmax pmax
comp=Z,3μm,5.4s
LZH LR LR
comp=Z,19μm,14.0s
LZH LR LR

comp=Z,22µm,14.2s
LZH LR LR
comp=Z,24µm,16.3s
TIXI Tiksi 31.49 351 *i* P **P 02 42 05.9 -1.3**
TIXI pmax pmax
comp=Z,51nm,1.2s
TIXI MLR MLR
comp=Z,74µm,16.0s
TIXI Tiksi 31.49 351 P **P 02 42 06.5 -0.7**
TIXI IAmb IAmb 02 42 17.8
comp=Z,92nm,0.8s
GTA Gaotai 32.92 282 ⇑P **P 02 42 20.2 0.0**
GTA pP pP 02 42 26.3 -1.1
GTA sP pwP 02 42 29.7 -0.3
GTA PP **PP 02 43 32.6 -2.1**
GTA PcP **PcP 02 45 05.1 +0.9**
GTA S **S 02 47 38.6 +2.0**
GTA sS pS 02 47 45.2 +0.6
GTA ScP **ScP 02 48 48.3 +1.9**
GTA PcS **PcS 02 48 50.3 +0.7**
GTA SS **SnSn 02 49 40.3 +5.9**
GTA pmax pmax
comp=Z,36nm,1.1s
GTA pmax pmax
comp=Z,3µm,8.0s
GTA LR LR
comp=Z,22µm,17.1s
GTA LR LR
comp=Z,53µm,17.8s
GTA LR LR
comp=Z,65µm,18.9s
TGY Tagaytay City 33.13 222 P **P 02 42 21.9 -0.3**
comp=Z,185nm,0.4s,baz=308,slow=4.1,SNR=6.9
CD2 Chengdu 33.24 265 P **P 02 42 21.1 -2.0**
CD2 sP pP 02 42 28.4 -1.8
CD2 PP **PP 02 43 36.0 -2.4**
CD2 S **S 02 47 40.0 -1.6**
CD2 pmax pmax
comp=Z,150nm,0.7s
CD2 pmax pmax
comp=Z,4µm,6.5s
CD2 LR LR
comp=Z,30µm,13.5s
CD2 LR LR
comp=Z,30µm,15.9s
CD2 LR LR
comp=Z,45µm,15.9s
GYA Guiyang 33.43 256 ⇑P **P 02 42 24.0 -0.8**
GYA PcP **PcP 02 45 07.1 +1.3**
GYA S **S 02 47 43.8 -0.9**
GYA pmax pmax
comp=Z,270nm,0.9s
GYA pmax pmax
comp=Z,3µm,3.8s
GYA LR LR
comp=Z,33µm,17.7s
GYA LR LR
comp=Z,48µm,16.4s
GYA LR LR
comp=Z,66µm,16.7s
QIZ Qiongzhong 35.95 242 P **P 02 42 46.5 0.0**
QIZ PP **PP 02 44 08.4 0.0**
QIZ S **S 02 48 25.4 +2.0**
QIZ pmax pmax
comp=Z,2µm,7.1s
QIZ LR LR
comp=Z,19µm,18.3s
QIZ LR LR
comp=Z,20µm,19.3s
QIZ LR LR
comp=Z,19µm,17.0s
QIZ Qiongzhong 35.95 242 IAMs_20 IAMs_20 02 58 42.7
comp=Z,22µm,18.0s
PATS Pohnpei 36.65 154 IAMs_20 IAMs_20 02 55 16.5
comp=Z,23µm,20.0s
KMI Kunming 37.08 257 ⇑P **P 02 42 56.4 0.0**
KMI pP pP 02 43 02.3 -1.3
KMI sP pwP 02 43 05.9 -0.2
KMI PP **PnPn 02 44 22.4 +1.0**
KMI S **S 02 48 36.4 -4.6**
KMI sS pS 02 48 49.4 0.0
KMI SS **SnSn 02 51 14.3 -1.5**
KMI pmax pmax
comp=Z,580nm,1.3s
KMI pmax pmax
comp=Z,5µm,5.2s
KMI LR LR
comp=Z,31µm,16.5s
KMI LR LR
comp=Z,30µm,16.8s
KMI LR LR
comp=Z,46µm,18.7s
DAV Davao City (W) 37.32 210 P **P 02 42 58.1 0.0**
FALS False Pass 37.37 50 IAMs_20 IAMs_20 02 57 01.6
comp=Z,18µm,21.0s
SLVN Son La 38.54 251 P **P 02 43 07.8 -0.7**
SLVN IAmb IAmb 02 43 24.5
comp=Z,256nm,1.2s
SLVN IAMs_20 IAMs_20 03 00 13.6
comp=Z,24µm,18.0s
KWAJ Kwajalein Atol 38.73 139 IAMs_20 IAMs_20 02 56 18.0
comp=Z,21µm,21.0s
RDOG Red Dog Mine 39.29 29 P **P 02 43 14.8 +0.5**
RDOG IAMs_20 IAMs_20 03 01 27.7
comp=Z,22µm,18.0s
DGZ Jazzator, Alta 39.30 302*c i* P **P 02 43 13.9 -0.8**
DGZ pmax pmax
comp=Z,184nm,1.0s
DGZ MLR MLR
comp=Z,71µm,17.0s
CNBA Chernabura Isl 39.59 50 P **P 02 43 17.6 +0.8**
CNBA IAmb IAmb 02 43 29.5
comp=Z,174nm,1.2s
CNBA IAMs_20 IAMs_20 02 59 31.8
comp=Z,17µm,22.0s
NRIK Noril'sk 40.25 333 P **P 02 43 21.8 -0.4**
comp=Z,77nm,1.0s,baz=111,slow=9.5,SNR=38
NRIK S S 02 49 17.2 -10
comp=Z,4.0nm,0.7s,baz=287,slow=20,SNR=2.2
NRIK LR LR 03 01 28.1
comp=Z,70µm,19.5s,baz=102,slow=38
NRIK Noril'sk 40.25 333*ce* P **P 02 43 20.9 -1.3**
NRIK pmax pmax
comp=Z,92nm,1.2s
NRIK MLR MLR
comp=Z,68µm,19.0s
ZAA0 Zalesovo Array 40.35 309 P **P 02 43 22.2 -1.0**
ZAA0 IAmb IAmb 02 43 49.2
comp=Z,171nm,0.8s
ZALV Zalesovo Beam 40.35 309 P **P 02 43 22.5 -0.7**
comp=Z,130nm,0.7s,baz=89,slow=7.8,SNR=119
ZALV PcP **PcP 02 45 25.1 -0.9**
comp=Z,46nm,0.9s,baz=102,slow=2.7,SNR=3.4
ZALV S S 02 49 14.9 -14
comp=Z,5.4nm,0.9s,baz=96,slow=5.8,SNR=2.9
ZALV LR LR 03 01 22.3
comp=Z,35µm,18.3s,baz=79,slow=38
ZALV Zalesovo Beam 40.35 309 P **P 02 43 21.7 -1.5**
WMQ Urumqi 40.41 293 P **P 02 43 24.5 +0.6**
WMQ sP pwP 02 43 33.6 -0.2
WMQ PcS **PcS 02 49 16.3 -0.8**
WMQ S **S 02 49 33.3 +2.7**
WMQ sS sS 02 49 42.0 -0.6
WMQ ScS **ScS 02 53 21.3 -6.8**
WMQ pmax pmax
comp=Z,150nm,1.3s
WMQ pmax pmax
comp=Z,3µm,4.7s
WMQ LR LR
comp=Z,16µm,16.7s
WMQ LR LR
comp=Z,3µm,10.7s
WMQ LR LR
comp=Z,12µm,20.5s
WMQ Urumqi 40.41 293 IAmb IAmb 02 43 46.2
comp=Z,301nm,1.0s
ZSN Zaisan 41.41 299 *e* P **P 02 43 31.2 -0.9**
comp=Z,619nm,2.7s
ZSN *e* S S 02 49 54.5 +9.2
ZSN *e* LR LR 03 01 20.8
ZSN Zaisan 41.41 299 *e* P **P 02 43 31.1 -1.0**
ZSN pmax pmax
comp=Z,619nm,2.7s
SVW2 Sparrevohn 41.51 40 IAMs_20 IAMs_20 03 00 27.0
comp=Z,17µm,22.0s
UBPT Khong Chiam 41.54 243 P **P 02 43 34.0 +0.7**
UBPT IAmb IAmb 02 43 36.2
comp=Z,207nm,1.1s
CHIR Chirikof Islan 41.76 48 IAMs_20 IAMs_20 03 00 35.3
comp=Z,15µm,22.0s
MYLDM Lahad Datu 42.02 218 IAMs_20 IAMs_20 02 58 35.3
comp=Z,16µm,22.0s
DLV T Lat 42.03 236 P **P 02 43 37.4 -0.2**
DLV IAmb IAmb 02 43 40.7
comp=Z,241nm,1.0s
A21K Barrow 42.22 25 S **S 02 49 54.8 -1.7**
baz=257
A21K Barrow 42.22 25 IAMs_20 IAMs_20 03 03 04.8
comp=Z,14µm,20.0s
SII Sitkinak Islan 42.48 47 IAMs_20 IAMs_20 03 01 25.3
comp=Z,19µm,20.0s
IMAR Indian Mountai 42.49 33 P **P 02 43 40.2 -0.4**
TNTI Ternate 42.59 204 P **P 02 43 42.6 +0.7**
comp=Z,3µmcomp=Z,104nm,1.9s
OHAK Old Harbor 42.90 46 P **P 02 43 44.5 +0.6**
OHAK IAmb IAmb 02 44 06.9
comp=Z,173nm,1.1s
PPLA Purkeypile 43.09 37 P **P 02 43 46.2 +0.5**
PPLA IAmb IAmb 02 44 34.0
comp=Z,285nm,1.2s
MK31 Makanchi Array 43.28 299 *e* P **P 02 43 45.8 -1.5**
MK31 Makanchi Array 43.28 299 P **P 02 43 46.3 -1.0**
MKAR Makanchi Array 43.28 299 P **P 02 43 46.0 -1.3**
comp=Z,171nm,1.0s,baz=84,slow=8.8,SNR=165
MKAR S **S 02 50 09.1 -3.8**
comp=Z,2.3nm,0.8s,baz=336,slow=27,SNR=1.8
MKAR LR LR 03 03 13.1
comp=Z,39µm,18.9s,baz=77,slow=38
MKAR Makanchi Array 43.28 299 *i* P **P 02 43 46.0 -1.3**
MKAR pmax pmax
comp=Z,171nm,1.0s
MKAR Makanchi Array 43.28 299 P **P 02 43 46.6 -0.7**
LSA Lhasa 43.35 272 P **P 02 43 49.7 +1.1**
LSA S **S 02 50 16.5 +1.3**
LSA pmax pmax
comp=Z,320nm,1.7s
LSA LR LR
comp=Z,25µm,20.6s
LSA LR LR
comp=Z,76µm,22.1s
LSA LR LR
comp=Z,117µm,21.4s
LSA Lhasa 43.35 272 P **P 02 43 49.5 +0.9**
LSA Lhasa 43.35 272 P **P 02 43 48.9 +0.3**
LSA pmax pmax
comp=Z,214nm,1.0s
LSA MLR MLR
comp=Z,28µm,20.0s
LSA Lhasa 43.35 272 P **P 02 43 48.9 +0.3**
LSA IAmb IAmb 02 44 06.7
comp=Z,214nm,1.0s
SPMM Sapulut 43.41 221 P **P 02 43 52.0 +3.4**
SKT Skwentna 43.43 39 IAMs_20 IAMs_20 03 01 52.2
comp=Z,13µm,20.0s
MAKZ Makanchi 43.48 299 P **P 02 43 47.5 -1.4**
MAKZ Makanchi 43.48 299 P **P 02 43 48.2 -0.7**
BPAW Bear Paw Mtn. 43.62 36 IAMs_20 IAMs_20 03 02 01.1
comp=Z,17µm,22.0s
KTH Kantishna Hill 43.66 36 IAmb IAmb 02 44 05.0
comp=Z,253nm,1.0s
MLY Manley 43.72 34 P **P 02 43 52.2 +1.6**
baz=270,SNR=14
MLY S **S 02 50 21.1 +2.3**
baz=270
CHTO Chiang Mai 43.72 253 P **P 02 43 51.7 +0.6**
CHTO P **P 02 43 51.7 +0.6**
CHTO Chiang Mai 43.72 253 P **P 02 43 50.4 -0.7**
CHTO pmax pmax
comp=Z,231nm,1.1s
CHTO MLR MLR
comp=Z,18µm,22.0s
CHTO Chiang Mai 43.72 253 P **P 02 43 50.4 -0.7**
CHTO IAmb IAmb 02 43 53.7
comp=Z,231nm,1.1s
CHTO Chiang Mai 43.72 253 IAMs_20 IAMs_20 03 01 33.8
comp=Z,18µm,22.0s
CNPM China Poot 43.74 42 P **P 02 43 51.1 +0.3**
KMSI Cibinong 43.91 208 P **P 02 43 59.6 +7.1**
TRF Thorofare Moun 43.94 36 P **P 02 43 54.3 +1.8**
CM31 Chiang Mai Arr 43.95 253 P **P 02 43 54.0 +1.1**
SNR=47
CM31 Chiang Mai Arr 43.95 253 P **P 02 43 52.6 -0.3**
CM31 IAmb IAmb 02 43 57.1
comp=Z,155nm,1.0s
CMAR Chiang Mai Arr 43.95 253 P **P 02 43 52.6 -0.3**
comp=Z,92nm,0.9s,baz=45,slow=6.5,SNR=126
CMAR LR LR 03 03 09.7
comp=Z,13µm,18.7s,baz=93,slow=37
CMAR Chiang Mai Arr 43.95 253 P **P 02 43 52.5 -0.5**
CMAR Chiang Mai Arr 43.95 253 P **P 02 43 52.5 -0.5**
COLD Coldfoot 43.97 31 P **P 02 43 53.7 +1.2**
baz=268,SNR=51
COLD S **S 02 50 20.4 -2.0**
baz=268
COLD Coldfoot 43.97 31 P **P 02 43 53.3 +0.8**
CUT Chulitna 44.00 38 P **P 02 43 55.2 +2.4**
baz=273
CUT S **S 02 50 20.6 -2.2**
baz=273
GTOI Gorontalo 44.20 210 P **P 02 43 54.5 -0.4**
comp=Z,2µmcomp=Z,52nm,0.9s
TOLK Toolik Lake Re 44.27 29 P **P 02 43 55.8 +0.9**
baz=267,SNR=9.2
TOLK S **S 02 50 25.0 -1.8**
baz=267
TOLK Toolik Lake Re 44.27 29 IAMs_20 IAMs_20 03 04 43.1
comp=Z,15µm,18.0s
BWN Browne 44.28 35 IAMs_20 IAMs_20 03 02 22.6
comp=Z,16µm,22.0s
RC01 Rabbit Creek A 44.34 40 S **S 02 50 23.4 -4.6**
baz=275
O22K Cooper Landing 44.41 41 P **P 02 43 57.1 +1.1**
baz=276
O22K S **S 02 50 27.2 -1.7**
baz=276
NEA2 Nenana 44.44 35 P **P 02 43 57.1 +0.8**
baz=272,SNR=36
NEA2 S **S 02 50 31.9 +2.6**
baz=272
MCK McKinley 44.53 36 P **P 02 43 58.2 +1.0**
baz=273,SNR=18
MCK S **S 02 50 31.0 +0.2**
baz=273
SEW Seward 44.58 41 IAmb IAmb 02 44 21.3
comp=Z,86nm,0.9s
SEW IAMs_20 IAMs_20 03 04 53.7
comp=Z,14µm,20.0s
RND Reindeer 44.59 36 IAmb IAmb 02 44 12.1
comp=Z,226nm,1.2s
PMR Palmer 44.59 39 IAmb IAmb 02 44 11.8
comp=Z,121nm,1.0s
PMR IAMs_20 IAMs_20 03 02 18.0
comp=Z,12µm,20.0s
KURK Kurchatov 44.65 305 P **P 02 43 57.3 -0.9**
KURK P **P 02 43 57.3 -0.9**
KURK Kurchatov 44.65 305*ce* P **P 02 43 56.3 -1.9**
KURK pmax pmax
comp=Z,198nm,1.0s
KURK MLR MLR
comp=Z,21µm,15.0s
KURK Kurchatov 44.65 305 P **P 02 43 57.1 -1.0**
KURK Kurchatov 44.65 305 IAMs_20 IAMs_20 03 03 32.1
comp=Z,19µm,19.0s
GHO Glory Hole Cre 44.67 39 IAmb IAmb 02 44 21.6
comp=Z,131nm,0.8s
KURBB Kurchatov Arra 44.73 305 P **P 02 43 57.4 -1.4**
WRH Wood River Hil 44.87 35 IAmb IAmb 02 44 18.7
comp=Z,171nm,1.4s
FAKI Fak Fak 44.90 196 P **P 02 44 00.6 +0.1**
comp=Z,6µmcomp=Z,3µmcomp=Z,162nm,0.8s
FAKI Fak Fak 44.90 196 P **P 02 44 00.3 -0.2**
KNK Knik Glacier 44.93 39 IAmb IAmb 02 44 28.3
comp=Z,120nm,0.9s
KNK IAMs_20 IAMs_20 03 03 11.9
comp=Z,15µm,22.0s
TCOL CIGO, UAF Yank 44.95 34 P **P 02 44 01.1 +0.8**
baz=273,SNR=13
TCOL S **S 02 50 38.7 +2.1**
baz=273
COLA College 44.95 34 ⇑*i* P **P 02 44 01.6 +1.3**
COLA pmax pmax
comp=Z,40nm,0.8s
COLA College 44.95 34 P **P 02 44 01.1 +0.8**
COLA IAmb IAmb 02 44 19.3
comp=Z,170nm,1.0s
SHL Shillong 44.95 266 P **P 02 44 02.1 +1.0**
SNR=33
SHL Shillong 44.95 266 P **P 02 43 59.5 -1.6**
SHL pmax pmax
comp=Z,204nm,1.0s
SHL Shillong 44.95 266 P **P 02 43 59.5 -1.6**
CCB Clear Creek Bu 44.98 35 IAmb IAmb 02 44 20.5
comp=Z,88nm,1.1s
POKR Poker Flat Res 45.12 34 P **P 02 44 03.1 +1.4**
baz=273,SNR=18
POKR S **S 02 50 40.0 +0.9**
baz=273
DHY Denali Highway 45.28 37 IAmb IAmb 02 44 24.4
comp=Z,94nm,0.8s
HDA Harding Lake 45.37 35 P **P 02 44 03.6 -0.1**
baz=274,SNR=22
HDA S **S 02 50 40.3 -2.4**
baz=274
HDA Harding Lake 45.37 35 IAmb IAmb 02 44 18.0
comp=Z,149nm,1.1s
IL31 45.37 34 P **P 02 44 04.2 +0.6**
IL31 IAmb IAmb 02 44 22.5
comp=Z,138nm,0.8s
ILAR Eielson Array 45.37 34 P **P 02 44 04.0 +0.3**
comp=Z,23nm,0.9s,baz=264,slow=5.9,SNR=59
ILAR LR LR 03 05 52.4
comp=Z,4µm,18.3s,baz=286,slow=40
ILAR Eielson Array 45.37 34 P **P 02 44 04.0 +0.3**
ILAR Eielson Array 45.37 34 P **P 02 44 04.4 +0.7**
SCM Sheep Creek Mo 45.42 39 IAmb IAmb 02 44 19.1
comp=Z,151nm,0.9s
GLI Glacier Island 45.65 40 P **P 02 44 07.4 +1.4**
SANI Sanana 45.69 204 P **P 02 44 06.9 +0.2**
comp=Z,4µmcomp=Z,3µmcomp=Z,137nm,0.9s
MPSI Mapaga 45.71 214 P **P 02 44 06.8 -0.1**
comp=Z,2µmcomp=Z,94nm,1.3s
RABL Rabaul 45.77 167 P **P 02 44 07.9 +0.4**
LUWI Luwuk 45.84 209 P **P 02 44 06.3 -1.6**
comp=Z,6µmcomp=Z,163nm,1.0s
LUWI Luwuk 45.84 209 P **P 02 44 06.5 -1.4**
M24K Tolsona, Glenn 45.93 38 P **P 02 44 11.6 +3.4**
baz=277
M24K S **S 02 50 54.2 +3.1**
baz=277
FID Port Fidalgo 45.96 40 IAMs_20 IAMs_20 03 06 10.2
comp=Z,13µm,19.0s
HIN Hinchinbrook I 46.00 41 IAMs_20 IAMs_20 03 05 11.3
comp=Z,12µm,19.0s
MSAI Masohi 46.08 200 P **P 02 44 11.9 +2.1**
comp=Z,989nmcomp=Z,31nm,1.0s
KLU Klutina 46.13 39 IAMs_20 IAMs_20 03 03 17.7
comp=Z,12µm,21.0s
BMAR Burnt Mountain 46.15 31 P **P 02 44 10.8 +1.0**
PDGK Podgornoye 46.23 295 P **P 02 44 10.3 -0.7**
RIDG Independent Ri 46.35 36 IAmb IAmb 02 44 44.0
comp=Z,83nm,0.9s
RIDG IAMs_20 IAMs_20 03 04 39.7
comp=Z,11µm,19.0s
EYAK Cordova Ski Ar 46.35 40 P **P 02 44 11.4 -0.1**
EYAK IAmb IAmb 02 44 26.7
comp=Z,149nm,1.0s
EYAK IAMs_20 IAMs_20 03 05 24.5
comp=Z,14µm,20.0s
TDK Taldyqorghan 46.40 298 *e* P **P 02 44 12.5 +0.3**
comp=Z,238nm,0.8s
TDK *e* S **S 02 50 56.8 -1.4**
TDK *e* LR LR 03 03 47.0
comp=Z,28µm,17.5s
TDK Taldyqorghan 46.40 298 *e* P **P 02 44 12.4 +0.3**
TDK *e* S **S 02 50 56.7 -1.4**
TDK pmax pmax
comp=Z,238nm,0.8s
TDK MLR MLR
comp=Z,28µm,17.0s
AAI Ambon 46.60 201 P **P 02 44 14.3 +0.4**
comp=Z,139µmcomp=Z,4µmcomp=Z,176nm,0.9s
UZB Uzynbulak 46.61 295 *e* P **P 02 44 13.0 -1.0**
comp=Z,320nm,2.7s
UZB *e* S **S 02 51 03.9 +2.3**
UZB *e* LR LR 03 04 09.1
comp=Z,22µm,18.9s
UZB Uzynbulak 46.61 295 *e* P **P 02 44 13.0 -1.0**
UZB *e* S **S 02 51 03.8 +2.3**
UZB pmax pmax
comp=Z,319nm,2.7s
UZB MLR MLR
comp=Z,22µm,19.0s
SCRK Sand Creek 46.70 35 P **P 02 44 15.1 +0.7**
baz=277,SNR=48
SCRK S **S 02 51 02.9 +0.8**
baz=277
DOT Dot Lake 46.70 36 IAmb IAmb 02 44 27.9
comp=Z,59nm,0.8s
DOT IAMs_20 IAMs_20 03 03 46.7
comp=Z,13µm,22.0s
KPKS Kokpek 46.73 295 ⇑*i* P **P 02 44 14.0 -0.9**
comp=Z,711nm,2.8s
KPKS *e* S **S 02 51 08.1 +4.9**
KPKS *e* LR LR 03 04 20.3
KPKS Kokpek 46.73 295*c i* P **P 02 44 13.9 -0.9**
KPKS *e* S **S 02 51 08.0 +4.9**
KPKS pmax pmax
comp=Z,711nm,2.8s
N25K Chitina, Valde 46.74 39 P **P 02 44 15.7 +1.0**
baz=279
N25K S **S 02 51 04.9 +2.2**
baz=279
RAGM Ragged Mountai 46.90 40 IAMs_20 IAMs_20 03 06 37.4
comp=Z,19µm,19.0s
MENT Mentasta 46.95 37 IAmb IAmb 02 44 56.1
comp=Z,137nm,1.1s
BNDI Bandanaira 46.97 198 P P 02 44 25.5 +8.7
SATY Saty 47.07 295 ⇑*i* P **P 02 44 17.4 -0.1**
comp=Z,341nm,2.9s
SATY *e* S **S 02 51 07.7 -0.3**
SATY *e* LR LR 03 04 32.7
comp=Z,11µm,16.3s
SATY Saty 47.07 295*c i* P **P 02 44 17.4 -0.1**
SATY *e* S **S 02 51 07.6 -0.3**
SATY pmax pmax
comp=Z,341nm,2.9s
SATY MLR MLR
comp=Z,11µm,16.0s
HMT Hamilton 47.11 40 IAMs_20 IAMs_20 03 06 53.0
comp=Z,19µm,18.0s
GLB Gilahina Butte 47.14 39 IAMs_20 IAMs_20 03 04 43.7
comp=Z,13µm,21.0s
JOHN Johnston Islan 47.24 107 IAMs_20 IAMs_20 03 01 09.0
comp=Z,17µm,21.0s
VRDI Verde Repeater 47.35 39 IAmb IAmb 02 44 34.8
comp=Z,99nm,1.0s
SBUM Sibu 47.51 224 P **P 02 44 21.0 -0.1**
SBUM Sibu 47.51 224 P **P 02 44 22.0 +1.0**
MCARA McCarthy VSAT 47.52 39 IAMs_20 IAMs_20 03 05 14.9
comp=Z,11µm,20.0s
K27K Chicken 47.52 35 P **P 02 44 21.9 +1.3**
baz=278
K27K S **S 02 51 15.4 +1.8**
baz=278
CRQM Cirque 47.58 40 IAMs_20 IAMs_20 03 04 48.5
comp=Z,17µm,22.0s
TGL Tana Glacier 47.73 40 IAmb IAmb 02 44 37.8
comp=Z,127nm,1.0s
TGL IAMs_20 IAMs_20 03 05 03.4
comp=Z,17µm,21.0s
BCAR Beaver Creek A 47.81 36 P **P 02 44 23.0 +0.1**
EGAK Eagle 47.81 34 P **P 02 44 23.4 +0.6**
BALM Baldy 47.91 39 IAmb IAmb 02 44 38.4
comp=Z,97nm,1.0s
BALM IAMs_20 IAMs_20 03 03 55.1
comp=Z,11µm,21.0s
MDOK Medeo 47.96 296 *i* P **P 02 44 24.6 +0.1**
MDOK *e* S **S 02 51 22.3 +1.7**
MDOK *e* LR LR 03 04 15.9
comp=Z,19µm,17.6s
MDOK Medeo 47.96 296 *i* P **P 02 44 24.6 +0.1**
MDOK *e* S **S 02 51 22.3 +1.7**
MDOK MLR MLR
comp=Z,19µm,18.0s
ISLE Juniper Island 48.00 40 P **P 02 44 26.0 +1.5**
ISLE IAMs_20 IAMs_20 03 05 53.4
comp=Z,14µm,20.0s
AAA Alma-Ata 48.03 296 ⇑*e* P **P 02 44 24.1 -0.8**

comp=Z,917nm,1.9s
AAA eLR LR 03 05 01.1
comp=Z,17µm,15.2s
AAA Alma-Ata 48.03 296 *ce*P **P 02 44 24.1 -0.8**
AAA pmax pmax
comp=Z,917nm,1.9s
AAA MLR MLR
comp=Z,17µm,15.0s
TNSS Tian-Shan 48.07 296 *e*P **P 02 44 25.2 -0.5**
TNSS Tian-Shan 48.07 296 *e*P **P 02 44 25.2 -0.5**
KUU Kurty 48.17 297 *e*P **P 02 44 25.2 -0.8**
comp=Z,141nm,0.9s
KUU *e*S **S 02 51 27.3 +3.8**
KUU eLR LR 03 04 54.0
comp=Z,27µm,17.5s
KUU Kurty 48.17 297 *e*P **P 02 44 25.2 -0.8**
KUU *e*S **S 02 51 27.2 +3.8**
KUU pmax pmax
comp=Z,141nm,0.9s
KUU MLR MLR
comp=Z,27µm,18.0s
BARN Barnard Glacie 48.23 39 IAmb IAmb 02 45 00.3
comp=Z,114nm,1.1s
BARN IAMs_20 IAMs_20 03 05 21.1
comp=Z,13µm,22.0s
YAH Yahtse 48.33 40 IAMs_20 IAMs_20 03 05 23.3
comp=Z,11µm,21.0s
MTBS Maitube 48.39 296 *e*P **P 02 44 27.8 0.0**
MTBS Maitube 48.39 296 *e*P **P 02 44 27.7 0.0**
CTGM Chitina Glacie 48.41 39 IAmb IAmb 02 44 42.4
comp=Z,99nm,0.9s
CTGM IAMs_20 IAMs_20 03 05 26.0
comp=Z,15µm,22.0s
BKB Balikpapan 48.44 216 P **P 02 44 26.3 -2.0**
BRZS Berezniki 48.51 306 *e*P **P 02 44 27.0 -1.5**
comp=Z,608nm,2.4s
BRZS *e*S **S 02 51 26.6 -1.4**
BRZS eLR LR 03 05 39.1
BRZS Berezniki 48.51 306 *e*P **P 02 44 26.9 -1.5**
BRZS *e*S **S 02 51 26.6 -1.4**
BRZS pmax pmax
comp=Z,608nm,2.4s
TABL Table Mountain 48.61 40 IAmb IAmb 02 44 44.4
comp=Z,141nm,1.2s
TABL IAMs_20 IAMs_20 03 05 31.1
comp=Z,11µm,20.0s
TTSI Tana Toraja 48.81 212 P P 02 44 36.1 +5.1
comp=Z,47nm,1.4s
ULHL Ulahol 48.85 295 P **P 02 44 31.6 +0.1**
SNR=12
BOOM Boomskoye usch 48.97 295 P **P 02 44 31.9 -0.4**
BOOM pmax pmax
comp=Z,392nm,1.0s
BOOM MLR MLR
comp=Z,66µm,20.0s
BOOM Boomskoye usch 48.97 295 P **P 02 44 31.9 -0.4**
BRVK Borovoye 49.02 310 P **P 02 44 33.0 +0.7**
BRVK P **P 02 44 33.0 +0.7**
BRVK P **P 02 44 33.0 +0.7**
BRVK Borovoye 49.02 310 P **P 02 44 31.9 -0.4**
BRVK pmax pmax
comp=Z,267nm,1.1s
BRVK MLR MLR
comp=Z,31µm,19.0s
BRVK Borovoye 49.02 310 P **P 02 44 31.9 -0.4**
TKM2 Tokmak 2 49.04 296 P **P 02 44 32.0 -0.9**
SNR=175
MTKI Muara Teweh, K 49.08 219 P **P 02 44 33.3 +0.1**
comp=Z,4µmcomp=Z,207nm,1.2s
BTLS Baital 49.29 299 *e*P **P 02 44 32.8 -1.8**
BTLS *e*S **S 02 51 46.0 +6.9**
BTLS eLR LR 03 06 08.9
BTLS Baital 49.29 299 *e*P **P 02 44 32.7 -1.8**
BTLS *e*S **S 02 51 46.0 +6.9**
KSM Kuching 49.35 226 IAmb IAmb 02 44 38.2
comp=Z,154nm,1.1s
KSM Kuching 49.35 226 P **P 02 44 37.0 +1.8**
SGDS Sogindy 49.49 297 *e*P **P 02 44 35.1 -1.1**
comp=Z,332nm,2.7s
SGDS *e*S **S 02 51 41.6 -0.4**
SGDS eLR LR 03 06 20.8
SGDS Sogindy 49.49 297 *e*P **P 02 44 35.0 -1.1**
SGDS *e*S **S 02 51 41.6 -0.4**
SGDS pmax pmax
comp=Z,332nm,2.7s
KBK Karagaybulak 49.58 296 P **P 02 44 35.8 -1.2**
SNR=125
CHMS Chumysh 49.58 296 P **P 02 44 36.8 0.0**
SNR=19
USP Ospenovka 49.65 297 P **P 02 44 37.4 +0.1**
SNR=46
AAK Ala-Archa 49.89 296 P **P 02 44 39.3 0.0**
SNR=25
AAK Ala-Archa 49.89 296 *i* P **P 02 44 38.7 -0.6**
SNR=52
AAK Ala-Archa 49.89 296 P **P 02 44 39.1 -0.2**
AAK P **P 02 44 39.1 -0.2**
AAK P **P 02 44 39.1 -0.2**
AAK Ala-Archa 49.89 296 *ce*P **P 02 44 38.8 -0.6**
AAK pmax pmax
comp=Z,268nm,1.7s
AAK MLR MLR
comp=Z,74µm,19.0s
BNSI Bone 49.94 211 P **P 02 44 39.7 +0.1**
comp=Z,3µmcomp=Z,238nm,1.1s
SAUI Saumlaki 50.02 195 P **P 02 44 40.9 +0.7**
UCH Uchtor 50.04 295 P **P 02 44 41.1 +0.3**
SNR=34
KSH Kashi 50.13 292 P **P 02 44 43.9 +2.8**
KSH sP sP 02 44 52.5 +1.1
KSH S **S 02 51 56.1 +4.9**
KSH pmax pmax
comp=Z,67nm,1.3s
KSH pmax pmax
comp=Z,2µm,4.3s
KSH LR LR
comp=Z,13µm,15.2s
KSH LR LR
comp=Z,15µm,17.0s
KSH LR LR
comp=Z,18µm,17.6s
INK Inuvik 50.18 29 LR LR 03 08 18.6
comp=Z,9µm,19.2s,baz=274,slow=39
INK Inuvik 50.18 29 IAmb IAmb 02 44 55.5
comp=Z,166nm,1.1s
INK IAMs_20 IAMs_20 03 07 58.8
comp=Z,12µm,20.0s
PMG Port Moresby 50.35 175 LR LR 03 03 25.8
comp=Z,3µm,21.1s,baz=316,slow=33
PMG Port Moresby 50.35 175 *i* P **P 02 44 39.7 -3.0**
PMG pmax pmax
comp=Z,18nm,1.4s
PMG MLR MLR
comp=Z,3µm,19.0s
PMG Port Moresby 50.35 175 P **P 02 44 42.4 -0.3**
EKS2 Erkin-Say 50.37 296 P **P 02 44 43.0 +0.1**
SNR=46
KBKI Kotabaru 50.58 216 P **P 02 44 44.3 -0.2**
comp=Z,40nm,1.3s
KAPI Kappang 50.63 211 P **P 02 44 44.8 -0.1**
KAPI pmax pmax
comp=Z,374nm,1.6s
KAPI Kappang 50.63 211 P **P 02 44 44.8 -0.1**
AML Almayashu 50.64 296 P **P 02 44 45.8 +0.6**
SNR=68
BBKI Banjar Baru 51.32 217 P **P 02 44 52.4 +2.3**
comp=Z,68nm,1.1s
WHY Whitehorse 51.55 39 IAmb IAmb 02 45 06.7
comp=Z,102nm,1.1s
WHY IAMs_20 IAMs_20 03 06 32.2
comp=Z,10µm,21.0s
SKAG Skagway 51.69 40 P **P 02 44 53.3 +0.9**
DZA Taraz 51.93 297 *e*P **P 02 44 54.0 -0.5**
DZA eLR LR 03 07 47.0
DZA Taraz 51.93 297 *e*P **P 02 44 54.0 -0.5**
KULM Kulim 52.08 239 IAmb IAmb 02 44 58.9
comp=Z,192nm,1.0s
KULM Kulim 52.08 239 P **P 02 44 57.0 +1.2**
BESE Bessie Mountai 52.20 41 P **P 02 44 58.4 +2.1**
BESE IAmb IAmb 02 45 12.1
comp=Z,107nm,1.0s
KK31 Karatay Array 52.39 298 *i* P **P 02 44 56.2 -1.7**
KKAR Karatay Array 52.39 298 P **P 02 44 56.7 -1.2**
KKAR Karatay Array 52.39 298 P **P 02 44 56.7 -1.2**
IPM Ipoh 52.45 238 IAmb IAmb 02 45 00.9
comp=Z,143nm,1.1s
IPM Ipoh 52.45 238 P **P 02 44 59.0 +0.4**
HNR Honiara 52.56 159 LR LR 03 05 05.4
comp=Z,7µm,21.8s,baz=330,slow=33
OPA Opana 52.78 93 P **P 02 45 02.1 +1.1**
OPA pmax pmax
comp=Z,159nm,1.0s
OPA Opana 52.78 93 P **P 02 45 02.1 +1.1**
OPA IAmb IAmb 02 45 07.4
comp=Z,159nm,1.0s
MYKOM Kota Tinggi 52.79 233 P **P 02 45 01.6 +0.5**
MYKOM IAmb IAmb 02 45 04.3
comp=Z,226nm,1.4s
MYKOM Kota Tinggi 52.79 233 P **P 02 45 04.0 +2.9**
PBA Port Blair 52.92 251 P P 02 45 02.9 +0.8
KIP Kipapa 52.93 93 IAMs_20 IAMs_20 03 01 41.9
comp=Z,13µm,18.0s
MMRI Maumere 53.09 206 P **P 02 45 05.9 +2.7**
comp=Z,5µmcomp=Z,190nm,0.8s
SVE Sverdlovsk 53.10 317 ⇓ *e*P **P 02 45 02.4 -0.5**
SVE *e* 02 47 02.7
SVE *e*S **S 02 52 31.9 +0.5**
SVE pmax pmax
comp=Z,278nm,1.0s
SVE MLR MLR
comp=Z,36µm,18.0s
SVE MLR MLR
comp=E,25µm,16.0s
IUG luzhnay 53.11 297 *e*P **P 02 45 02.3 -1.1**
comp=E,183nm,1.8s
IUG *e*S **S 02 52 29.9 -2.2**
IUG eLR LR 03 08 33.2
IUG luzhnay 53.11 297 *e*P **P 02 45 02.3 -1.1**
IUG *e*S **S 02 52 29.9 -2.2**
IUG pmax pmax
comp=Z,183nm,1.8s
C36M Paulatuk 53.20 26 P **P 02 45 04.6 +1.2**
baz=289
BTK Batken 53.48 294 P **P 02 45 05.8 -0.3**
BTK MLR MLR
comp=Z,61µm,20.0s
BTK Batken 53.48 294 P **P 02 45 05.8 -0.3**
SOEI Soe 53.50 203 P **P 02 45 07.6 +1.3**
comp=Z,4µmcomp=Z,376nm,0.9s
SOEI Soe 53.50 203 P **P 02 45 05.4 -1.0**
TAS Tashkent 53.97 297 P **P 02 45 09.4 -0.1**
TAS pmax pmax
comp=Z,263nm,1.3s
TAS Tashkent 53.97 297 P **P 02 45 09.4 -0.1**
BATI Baumata 54.11 204 P **P 02 45 12.2 +1.5**
comp=Z,1µmcomp=Z,96nm,1.1s
ARU Arti 54.32 317 *c* *i*P **P 02 45 10.8 -1.0**
ARU *PP **sP** **02 45 22.2 +0.1**
ARU 02 46 13.2
ARU 02 47 09.4
ARU PPP PPP 02 48 22.3
ARU S **S 02 52 47.3 -0.5**
ARU *SS **sS** **02 53 04.8 +4.7**
ARU 02 54 55.4
ARU SS **SS 02 56 26.0 -3.4**
ARU pmax pmax
comp=Z,336nm,1.5s
ARU pmax pmax
comp=Z,708nm,5.4s
ARU MLR MLR
comp=Z,36µm,17.0s
ARU Arti 54.32 317 P **P 02 45 11.2 -0.6**
TPI Tanjungpandan 54.32 226 P **P 02 45 13.0 +0.7**
comp=Z,3µmcomp=Z,174nm,1.2s
NDI New Delhi 54.35 279 *e*P **P 02 45 12.0 -0.5**
LHMI Lhok Sumawe 54.56 242 IAMs_20 IAMs_20 03 08 13.9
comp=Z,12µm,20.0s
DLBC Dease Lake 54.62 40 LR LR 03 12 17.6
comp=Z,5µm,18.0s,baz=312,slow=40
HLK Haleakala 54.65 92 IAMs_20 IAMs_20 03 02 20.4
comp=Z,13µm,22.0s
PPBI Pangkal Pinang 54.66 228 P **P 02 45 15.4 +0.6**
COEN Coen 54.74 180 P **P 02 45 15.5 +0.3**
NIL Nilore 54.75 286 P **P 02 45 15.8 +0.5**
NIL P **P 02 45 15.8 +0.5**
NIL Nilore 54.75 286 P **P 02 45 15.0 -0.3**
NIL pmax pmax
comp=Z,387nm,1.0s
NIL MLR MLR
comp=Z,14µm,20.0s
NIL Nilore 54.75 286 P **P 02 45 15.0 -0.3**
NIL Nilore 54.75 286 IAMs_20 IAMs_20 03 10 22.5
comp=Z,14µm,20.0s
MTN Manton Dam 54.78 194 P **P 02 45 15.2 -0.3**
MTN IAmb IAmb 02 45 35.7
comp=Z,204nm,1.3s
CHLP Challavanipeta 54.94 264 *e*P **P 02 45 17.3 +0.5**
CHLP IVmB_BB 02 45 18.9
comp=Z,2µm,2.5s
CHLP IVMsBB 03 10 02.3
comp=Z,2µm,21.9s
RPSI Rantau Prapat 55.16 238 IAmb IAmb 02 45 20.3
comp=Z,97nm,1.0s
RPSI IAMs_20 IAMs_20 03 11 28.9
comp=Z,8µm,18.0s
TWSI Taliwang, Sumb 55.16 212 P **P 02 45 18.0 -0.3**
comp=Z,900nmcomp=Z,49nm,1.1s
JBP Jabalpur 55.28 272 ⇑ *e*P **P 02 45 19.9 +0.6**
JBP *ex* x 02 53 16.5
KHLU Kahalu`u 55.61 93 IAMs_20 IAMs_20 03 02 48.8
comp=Z,12µm,22.0s
MLSI Meulaboh, Aceh 55.63 242 P **P 02 45 21.7 -0.1**
comp=Z,233nm,1.1s
BKNI Bangkinang 55.66 234 P **P 02 45 23.1 +1.1**
comp=Z,9µmcomp=Z,6µmcomp=Z,597nm,1.2s
POHA Pohakuloa 55.78 93 IAMs_20 IAMs_20 03 03 05.4
comp=Z,11µm,22.0s
TPTI 55.86 240 P **P 02 45 24.2 +0.7**
comp=Z,16nm,1.2s
MLOA Mauna Loa Obse 55.88 93 IAMs_20 IAMs_20 03 03 20.0
comp=Z,12µm,22.0s
ALE Alert 56.01 4 IAMs_20 IAMs_20 03 12 08.1
comp=Z,14µm,20.0s
MNSI Mandailing Nat 56.20 236 P **P 02 45 26.3 +0.5**
comp=Z,47nm,0.8s
SDSI Sungai Dareh 56.41 233 P **P 02 45 28.5 +1.1**
comp=Z,10µmcomp=Z,418nm,1.2s
AB31 Akbulak array 56.46 309 *i* P **P 02 45 26.4 -1.0**
ABKAR Akbulak array 56.46 309 P **P 02 45 27.4 +0.1**
HOPEN Hopen 56.48 346 ⇑ *i*P **P 02 45 28.0 +1.0**
HOPEN IVmB_BB 02 45 29.4
comp=Z,3µm,3.1s
HOPEN *e*S **S 02 53 17.4 +1.2**
HOPEN IVMs_BB IVMs_BB 03 15 15.7
comp=Z,4µm,14.2s
SMRI Semarang 56.54 220 P **P 02 45 29.2 +0.9**
comp=Z,201nm,1.0s
PWJI Pagerwojo 56.74 218 P **P 02 45 30.2 +0.6**
comp=Z,3µmcomp=Z,128nm,1.0s
SPA0 Spitsbergen Ar 56.85 349 P **P 02 45 30.4 +0.6**
SPA0 IAmb IAmb 02 46 07.8
comp=Z,135nm,1.1s
SPA0 Spitsbergen Ar 56.85 349 *e*P **P 02 45 30.3 +0.6**
SPA0 *e*S **S 02 53 22.1 +1.0**
SPA0 IVMs_BB IVMs_BB 03 12 31.8
comp=Z,5µm,19.1s
SPITS Spitsbergen Ar 56.85 349 LR LR 03 13 10.5
comp=Z,11µm,18.1s,baz=35,slow=39
KBS Kingsbay 56.94 350 *ce*P **P 02 45 29.3 -1.0**
KBS pmax pmax
comp=Z,131nm,1.0s
KBS Kingsbay 56.94 350 P **P 02 45 31.4 +1.1**
KBS IAmb IAmb 02 45 33.6
comp=Z,132nm,1.1s
KBS Kingsbay 56.94 350 IAMs_20 IAMs_20 03 12 01.5
comp=Z,7µm,19.0s
KBS Kingsbay 56.94 350 *e*P **P 02 45 30.6 +0.4**
KBS IVmB_BB 02 45 32.8
comp=Z,3µm,3.0s
KBS *e*S **S 02 53 23.8 +1.6**
KBS IVMs_BB IVMs_BB 03 13 05.7
comp=Z,3µm,16.3s
KBS Kingsbay 56.94 350 *i* P **P 02 45 31.2 +0.9**
KBS IAmb IAmb 02 45 32.8
comp=Z,338nm,1.1s
KBS IAMs_20 IAMs_20 03 13 09.5
comp=Z,18µm,16.9s
WOJI Wonogiri, Jawa 56.99 219 P **P 02 45 33.2 +1.8**
comp=Z,50nm,1.3s
GSI Gunungsitoli 57.08 238 P **P 02 45 33.6 +1.4**
comp=Z,8µmcomp=Z,8µmcomp=Z,265nm,1.0s
GSI Gunungsitoli 57.08 238 IAMs_20 IAMs_20 03 10 38.9
comp=Z,11µm,19.0s
NOR Nord 57.12 357 ⇑ *i*P **P 02 45 31.6 0.0**
NOR pmax pmax
comp=Z,32nm,0.8s
NOR MLR MLR
comp=Z,6µm,16.0s
NOR Nord 57.12 357 ⇑ *i*P **P 02 45 31.6 0.0**
comp=Z,32nm,0.8s
comp=Z,6µm,16.0s
NOR Nord 57.12 357 ⇑ *i*P **P 02 45 31.7 0.0**
NOR IAmb IAmb 02 45 38.5
comp=Z,32nm,0.8s
NOR IAMs_20 IAMs_20 03 17 32.1
comp=Z,6µm,15.9s
NGP Nagpur 57.15 270 *e*P **P 02 45 32.5 -0.1**
NGP *e*S **S 02 53 26.5 0.0**
UGM Wanagama 57.25 219 P **P 02 45 33.5 +0.2**
comp=Z,6µmcomp=Z,308nm,1.3s
UGM Wanagama 57.25 219 P **P 02 45 32.5 -0.8**
KRJI Kerinci 57.31 232 P **P 02 45 35.9 +2.0**
comp=Z,10µmcomp=Z,560nm,1.1s
KBL Kabul 57.34 289 P **P 02 45 33.4 -0.6**
SNR=41
KBL P **P 02 45 33.4 -0.6**
SNR=41
KBL P **P 02 45 33.4 -0.6**
SNR=41
KBL Kabul 57.34 289 P **P 02 45 33.1 -1.0**
KBL pmax pmax
comp=Z,168nm,1.0s
KBL MLR MLR
comp=Z,35µm,18.0s
KBL Kabul 57.34 289 P **P 02 45 33.1 -1.0**
LHSI Lahat 57.50 229 P **P 02 45 35.8 +0.7**
comp=Z,8µmcomp=Z,526nm,1.2s
KLSI 57.53 227 P **P 02 45 35.7 +0.4**
comp=Z,2µmcomp=Z,2µmcomp=Z,79nm,1.5s
KPJI Karang Pucung 57.53 221 P **P 02 45 34.6 -0.6**
comp=Z,9µmcomp=Z,3µmcomp=Z,225nm,1.2s
PVM Polavaram 57.54 265 *e*P **P 02 45 35.5 +0.2**
PVM IVmB_BB 02 45 37.1
comp=Z,2µm,2.6s
PVM IVMs_BB IVMs_BB 03 11 28.3
comp=Z,2µm,25.0s
MDSI Maura Dua 57.67 228 P **P 02 45 35.9 -0.3**
comp=Z,3µmcomp=Z,178nm,1.6s
MASI Maura Aman, Be 57.69 231 P **P 02 45 37.6 +1.1**
comp=Z,6µmcomp=Z,613nm,1.2s
BLSI Bandar Lampung 57.80 226 P **P 02 45 37.8 +0.6**
comp=Z,163nm,0.4s
HSPB Hornsund (broa 57.81 348 *e*P **P 02 45 37.2 +0.8**
HSPB *e*S **S 02 53 33.2 -0.4**
HSPB eL L 03 12 53.6
comp=Z,15µm,20.3s
KIRV Kirov 57.91 322 *c* *i*P **P 02 45 36.5 -0.9**
KNRA Kununurra 58.02 196 P **P 02 45 37.2 -1.3**
KNRA IAmb IAmb 02 46 01.9
comp=Z,174nm,1.2s
LWLI Liwa 58.17 228 P **P 02 45 40.2 +0.3**
comp=Z,8µmcomp=Z,101nm,0.5s
PRGR Permogore 58.18 326 *e*P **P 02 45 38.4 -0.8**
PRGR pmax pmax
comp=Z,135nm,1.0s
BBB Bella Bella 58.24 46 LR LR 03 08 40.4
comp=Z,5µm,21.2s,baz=312,slow=34
GGR Gangavaram 58.26 266 *e*P **P 02 45 40.2 -0.3**
GGR IVmB_BB 02 45 41.8
comp=Z,1µm,2.8s
GGR IVMs_BB IVMs_BB 03 17 28.8
comp=Z,959nm,15.7s
RPR Rampur 58.32 268 *e*P **P 02 45 40.6 -0.2**
RPR IVmB_BB 02 45 42.2
comp=Z,2µm,2.9s
RPR IVMs_BB IVMs_BB 03 12 27.2
comp=Z,1µm,17.6s
RES Resolute Bay 58.35 15 LR LR 03 11 04.7
comp=Z,2µm,22.0s,baz=314,slow=36
RES Resolute Bay 58.35 15 IAmb IAmb 02 46 00.1
comp=Z,97nm,0.8s
RES IAMs_20 IAMs_20 03 14 26.4
comp=Z,11µm,20.0s
MYLAV Mylavaram 58.59 265 *e*P **P 02 45 43.4 +0.7**
MYLAV IVmBBB 02 45 44.9
comp=Z,2µm,1.6s
MYLAV IVMs_BB IVMs_BB 03 12 01.5
comp=Z,1µm,21.6s
CGJI Cibinong 58.60 225 P **P 02 45 41.6 -1.1**
comp=Z,2µmcomp=Z,93nm,1.3s
BJO1 Bjornoya 58.94 345 *e*P **P 02 45 44.3 -0.1**
BJO1 IVmB_BB 02 45 47.2
comp=Z,2µm,7.6s
BJO1 *e*S **S 02 53 49.4 +1.0**
BJO1 IVMs_BB IVMs_BB 03 16 24.1
comp=Z,6µm,14.6s
LVZ Lovozero 59.03 335 *c* *i*P **P 02 45 44.2 -0.9**
LVZ pmax pmax
comp=Z,31nm,1.0s
LVZ MLR MLR
comp=Z,20µm,17.0s
LVZ Lovozero 59.03 335 P **P 02 45 45.0 -0.2**
LVZ IAmb IAmb 02 46 20.1
comp=Z,56nm,0.9s
CUPL Choutuppal 59.55 267 *e*P **P 02 45 49.4 0.0**
CUPL IVmB_BB 02 45 50.7
comp=Z,2µm,1.2s
CUPL IVMs_BB IVMs_BB 03 17 14.5
comp=Z,1µm,15.0s
APA Apatity 59.61 335 ⇓ *i*P **P 02 45 47.5 -1.6**
APA *i* 02 47 59.0
APA *i*S **S 02 53 50.0 -7.2**
APA *i*PS 02 54 13.0
APA *i* 02 55 37.0
APA *i*SS **SS 02 57 53.0 +1.0**
APA *i*SSS SSS 03 00 28.0
APA pmax pmax
comp=Z,26µm,0.9s
YKA Yellowknife Ar 59.64 32 P **P 02 45 49.8 +0.4**
comp=Z,8.0nm,0.8s,baz=305,slow=6.6,SNR=7.4
YKA LR LR 03 16 05.2
comp=Z,6µm,18.6s,baz=0.0,slow=40
ADKI Addanki 59.65 265 *e*P **P 02 45 50.4 +0.3**
ADKI IVmB_BB 02 45 52.0
comp=Z,1µm,2.8s
NJS Nagarjunasagar 59.71 266 *e*P **P 02 45 51.1 +0.6**
NJS IVmB_BB 02 45 51.7
comp=Z,1µm,3.1s
NJS IVMs_BB IVMs_BB 03 16 50.2
comp=Z,1µm,16.4s
HYB Hyderabad 59.75 267 *i* P **P 02 45 50.0 -0.9**
comp=Z,170nm,1.0s
HYB *e*PP **PP 02 48 05.0 +2.2**
HYB *e*S **S 02 54 04.0 +3.5**
HYB *e*SS SS 02 58 16.0 +19
HYBB Hyderabad (bro 59.75 267 *e*P **P 02 45 50.4 -0.5**
HYBB IVmB_BB 02 45 51.9
comp=Z,2µm,2.9s
HYBB IVMs_BB IVMs_BB 03 13 00.5
comp=Z,1µm,17.7s
KNTN Kanton 59.87 125 IAMs_20 IAMs_20 03 08 17.5
comp=Z,9µm,20.0s
KEV Kevo 60.18 339 P **P 02 45 52.5 -0.5**
KEV pmax pmax
comp=Z,58nm,0.8s
KEV MLR MLR
comp=Z,20µm,20.0s
KEV Kevo 60.18 339 P **P 02 45 52.5 -0.5**
KEV IAmb IAmb 02 46 13.5
comp=Z,58nm,0.8s
SRLM Srisailam 60.30 266 *e*P **P 02 45 54.1 -0.5**
SRLM IVmB_BB 02 45 55.6
comp=Z,1µm,3.1s
SRLM IVMs_BB IVMs_BB 03 19 38.6
comp=Z,1µm,15.8s
SANVU Saraoutou 60.46 153 P **P 02 45 56.2 +0.7**
SANVU IAmb IAmb 02 46 33.3
comp=Z,86nm,0.8s
SANVU IAMs_20 IAMs_20 03 06 47.4
comp=Z,8µm,22.0s
HAMF Hammerfest 60.48 341 *e*P **P 02 45 54.8 -0.3**
HAMF IVmB_BB 02 45 56.2
comp=Z,2µm,3.3s
HAMF *e*S **S 02 54 10.1 +1.7**
HAMF IVMs_BB IVMs_BB 03 19 20.2
comp=Z,5µm,15.1s
ARCES ARCESS Array B 60.73 339 P **P 02 45 56.7 0.0**

comp=Z,16nm,0.9s,baz=56,slow=8.9,SNR=23
ARCES LR LR 03 17 12.4
comp=Z,22µm,19.4s,baz=45,slow=41
KLRI Killari 60.84 269 eP **P 02 45 57.6 -0.7**
KLRI IVmB_BB 02 45 59.0
comp=Z,2µm,2.6s
KLRI IVMs_BB IVMs_BB 03 14 40.8
comp=Z,2µm,16.8s
CTAO Charters Tower 60.90 177 P **P 02 45 58.1 -0.4**
CTAO pmax pmax
comp=Z,30nm,1.2s
CTAO Charters Tower 60.90 177 P **P 02 45 58.0 -0.4**
TULEG Thule 60.93 8 IAMs_20 IAMs_20 03 15 15.1
comp=Z,13µm,20.0s
TULEG Thule 60.93 8 *i* P **P 02 45 57.6 -0.4**
TULEG IAmb IAmb 02 46 04.0
comp=Z,65nm,0.7s
TULEG IAMs_20 IAMs_20 03 15 08.8
comp=Z,13µm,18.6s
WB0 Warramunga Arr 61.07 189 IAmb IAmb 02 46 34.9
comp=Z,101nm,0.9s
FITZ Fitzroy Crossi 61.08 199 IAmb IAmb 02 46 53.4
comp=Z,119nm,1.4s
KLMR Klimovskoe 61.12 327*c* *i* P **P 02 45 59.4 -0.1**
KLMR *e* 02 48 14.8
KLMR *e*S **S 02 54 18.6 +1.9**
KLMR *e*SS **SS 02 58 21.2 +5.2**
KLMR pmax pmax
comp=Z,212nm,1.4s
KLMR MLR MLR
comp=Z,11µm,17.0s
KLMR Klimovskoe 61.12 327⇑ *i* P **P 02 45 59.4 -0.1**
KLMR *i* P **P 02 45 59.4 -0.1**
KLMR ⇓ *i* P **P 02 45 59.4 -0.1**
KLMR AMP 02 46 04.0
comp=Z,212nm,1.4s
KLMR *e*PP **PP 02 48 14.9 +1.1**
KLMR *e*S **S 02 54 18.7 +2.0**
KLMR *e*S **S 02 54 18.7 +2.0**
KLMR *e*SS **SS 02 58 21.2 +5.2**
KLMR *e*SS **SS 02 58 21.2 +5.2**
KLMR LQ LQ 03 08 12.1
KLMR LQ LQ 03 08 12.1
KLMR LR LR 03 12 59.9
KLMR AMP 03 15 20.8
comp=Z,11µm,16.7s
SKHT Srikalahasti 61.16 263 eP **P 02 46 01.0 +0.5**
SKHT IVmB_BB 02 46 02.5
comp=Z,1µm,2.6s
SKHT IVMs_BB IVMs_BB 03 13 31.6
comp=Z,1µm,21.0s
WRAB Tennant Creek 61.24 190 P **P 02 45 58.6 -2.1**
WRAB pmax pmax
comp=Z,122nm,1.1s
WRAB Tennant Creek 61.24 190 P **P 02 45 58.6 -2.1**
WRAB IAmb IAmb 02 46 31.8
comp=Z,122nm,1.1s
WR0 Warramunga Arr 61.24 189 P **P 02 45 59.2 -1.5**
WR0 IAmb IAmb 02 46 31.9
comp=Z,85nm,1.0s
WB2 Warramunga Arr 61.25 190 P **P 02 45 59.3 -1.5**
WB2 IAmb IAmb 02 46 31.9
comp=Z,107nm,0.9s
WRA Warramunga Arr 61.25 190 P **P 02 45 58.4 -2.5**
comp=Z,30nm,0.5s,baz=7.3,slow=6.9,SNR=106
WRA S **S 02 54 15.5 -3.7**
comp=Z,3.6nm,1.1s,baz=12,slow=14,SNR=6.2
WRA LR LR 03 11 43.1
comp=Z,4µm,21.7s,baz=10.0,slow=35
WRA PKP2bc 03 15 24.5
comp=Z,2.0nm,1.0s,baz=193,slow=2.3,SNR=7.8
BELG Belogornoye 61.84 316*c* *i* P **P 02 46 03.4 -1.1**
DAG Danmarks Havn 61.88 355⇑ *i* P **P 02 46 04.6 +0.2**
DAG pmax pmax
comp=Z,50nm,0.8s
DAG MLR MLR
comp=Z,5µm,20.0s
DAG Danmarks Havn 61.88 355⇑ *i* P **P 02 46 04.6 +0.2**
comp=Z,50nm,0.8s
comp=Z,5µm,20.0s
DAG Danmarks Havn 61.88 355⇑ *i* P **P 02 46 04.6 +0.2**
DAG IAmb IAmb 02 46 13.4
comp=Z,50nm,0.8s
DAG IAMs_20 IAMs_20 03 16 01.7
comp=Z,5µm,19.6s
HRA Herat 62.22 293 P **P 02 46 06.8 -0.8**
HRA IAmb IAmb 02 46 10.2
comp=Z,118nm,1.1s
URV Uravakonda 62.25 266 eP **P 02 46 07.6 -0.2**
URV IVmB_BB 02 46 09.0
comp=Z,1µm,3.1s
URV IVMs_BB IVMs_BB 03 14 28.4
comp=Z,1µm,21.4s
TRO Tromso 62.37 341 eP **P 02 46 07.9 +0.2**
TRO IVmB_BB 02 46 09.0
comp=Z,2µm,3.3s
TRO *e*S **S 02 54 34.0 +1.7**
TRO IVMs_BB IVMs_BB 03 19 21.8
comp=Z,7µm,15.8s
POO Poona 62.64 271⇑ *i* P **P 02 46 08.0 -2.4**
A04D Lummi Island 62.96 48 P **P 02 46 15.6 +3.6**
baz=302
ASHT Ashkhabad 62.96 298 P **P 02 46 12.3 0.0**
ASHT pmax pmax
comp=Z,157nm,1.1s
ASHT MLR MLR
comp=Z,28µm,18.0s
ASHT Ashkhabad 62.96 298 P **P 02 46 12.3 0.0**
NLWA Neilton Lookou 63.01 50 IAMs_20 IAMs_20 03 09 07.6
comp=Z,9µm,22.0s
KAD Karad 63.12 270⇓ *i* P **P 02 46 12.0 -1.7**
GEYT Alibeck 63.15 298 P **P 02 46 11.9 -1.7**
comp=Z,102nm,1.0s,baz=38,slow=2.6,SNR=89
GEYT LR LR 03 16 07.1
comp=Z,40µm,18.2s,baz=115,slow=38
GEYT Alibeck 63.15 298 P **P 02 46 12.5 -1.1**
GYA0 ALIBECK ARRAY 63.15 298 P **P 02 46 11.9 -1.7**
GYA0B ALIBECK ARRAY 63.15 298 P **P 02 46 13.1 -0.5**
D03D Eldon 63.38 49 P **P 02 46 18.9 +4.0**
baz=302
B05A Bryant 63.55 48 P **P 02 46 19.9 +4.0**
baz=303,SNR=12
B06A Marblemount 63.75 48 IAMs_20 IAMs_20 03 10 35.3
comp=Z,8µm,21.0s
E04D Cinebar 64.21 50 P **P 02 46 22.1 +1.8**
baz=303,SNR=13
N2IH Innhavet 64.33 341 eP **P 02 46 21.5 +0.8**
DBG Daneborg 64.38 355 *i* P **P 02 46 21.5 +0.5**
DBG IAmb IAmb 02 46 24.7
comp=Z,73nm,1.4s
DBG IAMs_20 IAMs_20 03 18 31.9
comp=Z,7µm,18.3s
N2VI Vinje 64.49 341 eP **P 02 46 21.0 -0.8**
STEI Steigen 64.53 341 eP **P 02 46 22.2 +0.1**
STEI IVmB_BB 02 46 23.3
comp=Z,2µm,3.4s
STEI *e*S **S 02 54 59.9 +0.7**
STEI IVMs_BB IVMs_BB 03 20 14.2
comp=Z,6µm,16.2s
G03D McMinnville, O 64.54 51 P **P 02 46 27.1 +4.5**
baz=303
G03D S **S 02 55 04.6 +4.6**
baz=303
PALK Pallekele 64.62 257 P **P 02 46 23.8 +0.2**
PALK P **P 02 46 23.8 +0.2**
PALK P **P 02 46 23.8 +0.2**
PALK Pallekele 64.62 257 P **P 02 46 23.7 +0.2**
PALK MLR MLR
comp=Z,12µm,20.0s
PALK Pallekele 64.62 257 P **P 02 46 23.7 +0.2**
PALK Pallekele 64.62 257 IAMs_20 IAMs_20 03 15 39.8
comp=Z,12µm,20.0s
F04A Amboy 64.64 50 IAmb IAmb 02 46 38.4
comp=Z,118nm,1.1s
LOF Lofoten 64.79 341 eP **P 02 46 23.7 -0.1**
LOF IVmB_BB 02 46 25.3
comp=Z,2µm,3.0s
LOF *e*S **S 02 55 03.7 +1.2**
LOF IVMs_BB IVMs_BB 03 19 10.0
comp=Z,3µm,17.2s
I02D Swisshome 64.80 53 P **P 02 46 28.5 +4.3**
baz=303,SNR=9.2
I02D S **S 02 55 06.3 +3.1**
baz=303
N2TV TVrnvik 64.83 341 eP **P 02 46 24.2 +0.1**
MOS Moscow 64.86 323 eP **P 02 46 21.3 -3.2**
MOS *e* 02 46 54.0
MOS *e* 02 48 42.4
MOS *e*S **S 02 55 01.5 -2.2**
MOS *e*SS **SS 02 59 12.8 -1.7**
MOS pmax pmax
comp=Z,2µm,3.2s
MOS pmax pmax
comp=Z,274nm,1.6s
MOS MLR MLR
comp=N,19µm,16.0s
MOS MLR MLR
comp=E,17µm,16.0s
MOS MLR MLR
comp=Z,30µm,16.0s
N2ST Straumen 64.88 340 eP **P 02 46 24.6 +0.2**
LTY Liberty 64.90 48 IAmb IAmb 02 46 43.3
comp=Z,77nm,1.2s
FAUS Fauske 64.93 340 eP **P 02 46 24.6 -0.1**
FAUS IVmB_BB 02 46 26.2
comp=Z,2µm,3.1s
FAUS *e*S **S 02 55 02.7 -1.6**
FAUS IVMs_BB IVMs_BB 03 19 49.1
comp=Z,5µm,16.0s
ASAR Alice Springs 64.97 189 P **P 02 46 23.9 -1.5**
comp=Z,20nm,0.6s,baz=7.2,slow=4.7,SNR=95
ASAR LR LR 03 13 35.8
comp=Z,4µm,21.6s,baz=360,slow=35
ASAR PKP2bc 03 15 13.2
comp=Z,2.3nm,1.1s,baz=171,slow=2.0,SNR=5.3
ASAR Alice Springs 64.97 189 P **P 02 46 24.0 -1.5**
ASAR Alice Springs 64.97 189 P **P 02 46 24.5 -1.0**
B08A Colville Reser 65.03 47 P **P 02 46 26.5 +0.7**
B08A IAmb IAmb 02 46 40.8
comp=Z,141nm,1.3s
NBB08 Skaug oppvekst 65.09 341 eP **P 02 46 26.1 +0.3**
F05D White Salmon 65.22 50 P **P 02 46 31.2 +4.2**
baz=304,SNR=6.2
H04D Lebanon 65.23 52 P **P 02 46 31.5 +4.5**
baz=304,SNR=7.0
H04D S **S 02 55 11.9 +3.3**
baz=304
J01E Myrtle Point 65.27 54 P **P 02 46 29.2 +1.9**
baz=304,SNR=11
J01E S **S 02 55 12.7 +3.6**
baz=304
NBB28 Valnes 65.29 340 eP **P 02 46 26.2 -0.8**
I03D Drain, OR 65.32 53 P **P 02 46 29.2 +1.5**
baz=304,SNR=20
I03D S **S 02 55 13.1 +3.3**
baz=304
N2VA Vr.y 65.36 341 eP **P 02 46 27.4 0.0**
PUL Pulkovo 65.44 329*c* eP **P 02 46 27.8 -0.3**
PUL pmax pmax
comp=Z,178nm,1.0s
PUL MLR MLR
comp=Z,27µm,17.0s
H04A Detroit Lake 65.47 51 IAmb IAmb 02 46 43.8
comp=Z,133nm,1.2s
NBB05 Inndyr 65.52 340 eP **P 02 46 28.8 +0.3**
VRH Novokhopyorsk 65.55 317 eP **P 02 46 28.2 -0.8**
VRH *e* 02 48 49.0
VRH *e*S **S 02 55 10.0 -2.3**
VRH pmax pmax
comp=Z,240nm,1.0s
VRH smax smax
comp=N,320nm,9.3s
VRH MLR MLR
comp=Z,35µm,16.0s
N2RO R,st 65.61 341 eP **P 02 46 30.5 +1.4**
NBB30 Finnes 65.64 341 eP **P 02 46 28.4 -0.9**
G05D Wamic, OR 65.66 51 P **P 02 46 33.6 +3.7**
baz=304,SNR=11
G05D S **S 02 55 18.0 +4.0**
baz=304
K02D Willamette Mer 65.69 54 P **P 02 46 31.7 +1.5**
baz=304,SNR=16
NBB17 Glomfjord B¥r 65.70 340 eP **P 02 46 29.7 0.0**
OBN Obninsk 65.72 323*c* *i* P **P 02 46 29.8 -0.2**
OBN *e* 02 46 59.2
OBN *e* 02 48 50.2
OBN *e*S **S 02 55 15.7 +1.5**
OBN *e*SS **SS 02 59 28.5 +0.6**
OBN pmax pmax
comp=Z,160nm,1.0s
OBN MLR MLR
comp=Z,38µm,16.0s
OBN Obninsk 65.72 323 P **P 02 46 29.8 -0.2**
E07A Sunnyside 65.76 49 IAmb IAmb 02 46 45.8
comp=Z,124nm,1.3s
I04A Tendick Farm, 65.83 52 P **P 02 46 31.8 +0.8**
baz=304,SNR=30
I04A S **S 02 55 19.7 +3.5**
baz=304
FIA1 FINESS Array S 65.91 332 P **P 02 46 30.6 -0.5**
FINES FINESS Array B 65.91 332 P **P 02 46 29.7 -1.5**
comp=Z,64nm,0.8s,baz=55,slow=7.2,SNR=101
FINES LR LR 03 18 06.9
comp=Z,40µm,19.0s,baz=40,slow=38
PSA00 Pilbara Seismi 65.99 204 IAmb IAmb 02 46 33.8
comp=Z,104nm,1.3s
D08A Wollman Farm, 66.00 48 P **P 02 46 32.4 +0.3**
D08A IAmb IAmb 02 46 46.3
comp=Z,58nm,1.0s
L02E Cave Junction 66.03 54 P **P 02 46 36.3 +4.0**
baz=304,SNR=13
HAWA Hanford 66.04 49 IAmb IAmb 02 46 47.5
comp=Z,108nm,1.4s
MOR8 Moi Rana 66.07 340 eP **P 02 46 30.9 -1.3**
MOR8 IVmB_BB 02 46 32.2
comp=Z,2µm,3.1s
MOR8 *e*S **S 02 55 18.0 -0.3**
MOR8 IVMs_BB IVMs_BB 03 19 59.5
comp=Z,10µm,19.3s
LPSR Galich'ya Gora 66.12 320 eP **P 02 46 32.1 -0.5**
LPSR *e* 02 48 55.1
LPSR *e*S **S 02 55 15.2 -4.0**
LPSR *e*SS **SS 02 59 40.7 +6.5**
LPSR pmax pmax
comp=Z,220nm,0.9s
LPSR smax smax
comp=E,1µm,6.8s
LPSR MLR MLR
comp=Z,15µm,16.0s
I05D Terrebonne, OR 66.16 51 P **P 02 46 34.9 +1.8**
baz=305,SNR=16
KONS Konsvik 66.16 340 eP **P 02 46 33.4 +0.8**
NBB40 Tonnes 66.18 340 eP **P 02 46 31.8 -1.0**
E08A Dider Farm, El 66.25 48 IAmb IAmb 02 46 48.7
comp=Z,103nm,1.3s
NEW Newport 66.30 46 P **P 02 46 34.7 +0.7**
baz=306,SNR=23
NEW Newport 66.30 46 P **P 02 46 34.7 +0.7**
NEW pmax pmax
comp=Z,157nm,1.3s
NEW MLR MLR
comp=Z,5µm,21.0s
NEW Newport 66.30 46 P **P 02 46 34.7 +0.7**
NEW IAmb IAmb 02 46 48.9
comp=Z,157nm,1.3s
STOK Stokkvaagen 66.32 340 eP **P 02 46 34.2 +0.6**
J04D Umpqua Nationa 66.33 53 P **P 02 46 36.1 +1.7**
baz=305,SNR=15
DZM Mont Dzumac 66.42 156 eP P 02 46 41.8 +6.9
comp=Z,114nm,1.3s
DZM *e*S **S 02 55 30.9 +7.4**
comp=Z,12µm,28.2s
DZM *e*LQ LQ 03 03 34.8
comp=Z,12µm,29.6s
DZM *e*LR LR 03 06 34.5
comp=Z,16µm,22.9s
DZM Mont Dzumac 66.42 156 S **S 02 55 28.3 +4.8**
baz=197,slow=19
DZM Mont Dzumac 66.42 156 P **P 02 46 35.4 +0.5**
DZM IAMs_20 IAMs_20 03 10 20.1
comp=Z,9µm,22.0s
JMIC Jan Mayen 66.42 350 LR LR 03 17 15.4
comp=Z,2µm,18.9s,baz=28,slow=37
JMIC Jan Mayen 66.42 350 eP **P 02 46 33.9 -0.4**
JMIC *e*S **S 02 55 25.1 +2.7**
JMIC IVMs_BB IVMs_BB 03 19 38.2
comp=Z,2µm,3.0s
EIDS Eidsvold 66.50 172 P **P 02 46 35.7 +0.5**
EIDS IAmb IAmb 02 46 49.1
comp=Z,75nm,1.2s
SUMG Summit 66.66 1 P **P 02 46 36.0 -0.3**
SUMG pmax pmax
comp=Z,101nm,0.8s
SUMG MLR MLR
comp=Z,16µm,20.0s
SUMG Summit 66.66 1 P **P 02 46 36.0 -0.3**
SUMG Summit 66.66 1 *i* P **P 02 46 36.3 +0.1**
comp=Z,231nm,0.7s
comp=Z,41µm,19.0s
SUMG Summit 66.66 1 eP **P 02 46 36.4 +0.1**
SUMG IAmb IAmb 02 46 43.8
comp=Z,231nm,0.7s
SUMG IAMs_20 IAMs_20 03 18 13.0
comp=Z,41µm,19.1s
L04D Klamath Falls 66.79 54 P **P 02 46 38.7 +1.4**
baz=305,SNR=31
YBH Yreka Blue Hor 66.82 54 IAmb IAmb 02 46 53.3
comp=Z,77nm,1.3s
J05D Fort Rock, OR 66.82 52 P **P 02 46 39.2 +1.6**
baz=305,SNR=23
J05D S **S 02 55 31.0 +2.6**
baz=305
MSVF Nonsavu 66.83 144 eP **P 02 46 37.6 0.0**
MSVF pmax pmax
comp=Z,18nm,1.1s
MSVF Nonsavu 66.83 144 P **P 02 46 37.9 +0.3**
MSVF Nonsavu 66.83 144 IAMs_20 IAMs_20 03 09 19.8
comp=Z,10µm,22.0s
VSR Storozhevoye 66.84 318 eP **P 02 46 36.8 -0.4**
VSR *e* 02 49 01.8
VSR *e*S **S 02 55 25.2 -2.7**
VSR *e*SS **SS 02 59 46.4 +1.0**
VSR pmax pmax
comp=Z,180nm,0.9s
VSR smax smax
comp=E,880nm,5.4s
VSR MLR MLR
comp=Z,22µm,17.0s
K04D Chiloquin, OR 66.89 53 P **P 02 46 42.1 +4.1**
baz=305
VORD Divnogorie 66.92 318 eP **P 02 46 37.1 -0.7**
VORD *e* 02 49 02.8
VORD *e*S **S 02 55 26.6 -2.4**
VORD pmax pmax
comp=Z,190nm,1.3s
VORD smax smax
comp=N,70nm,3.8s
VORD MLR MLR
comp=Z,20µm,15.0s
M02C Callahan 66.92 55 P **P 02 46 41.2 +3.1**
baz=305,SNR=19
M02C S **S 02 55 34.5 +4.9**
baz=305
KMRM Mail Ridge 67.06 56 IAMs_20 IAMs_20 03 09 59.5
comp=Z,8µm,22.0s
MAK Makhachkala 67.10 308 eP **P 02 46 36.7 -2.3**
MAK *e* 02 49 04.3
MAK *e*PPP PPP 02 50 41.4
MAK *e*S **S 02 55 29.6 -1.7**
MAK *e*SS **SS 02 59 50.3 +0.5**
MAK pmax pmax
comp=Z,226nm,1.0s
MAK MLR MLR
comp=Z,13µm,15.0s
NUUG Nuugaatsiaq 67.10 6 eP **P 02 46 38.9 +0.4**
NUUG IAMs_20 IAMs_20 03 19 03.6
comp=Z,11µm,20.3s
N02D Trinity Center 67.26 55 P **P 02 46 43.3 +3.1**
baz=305,SNR=22
M04C Macdoel 67.32 54 P **P 02 46 43.3 +2.6**
baz=305,SNR=27
M04C S **S 02 55 38.1 +3.6**
baz=305
WALA Waterton Lakes 67.54 44 IAmb IAmb 02 46 57.0
comp=Z,151nm,1.4s
WALA IAMs_20 IAMs_20 03 20 43.5
comp=Z,6µm,18.0s
O02D Mt. Diablo Mer 67.66 56 P **P 02 46 47.1 +4.3**
baz=305,SNR=15
O02D S **S 02 55 43.0 +4.5**
baz=305
VSU Vasula 67.70 329 eP **P 02 46 41.7 -0.9**
VSU Vasula 67.70 329*c* *i* P **P 02 46 42.4 -0.1**
VSU pmax pmax
comp=Z,230nm,1.1s
VSU MLR MLR
comp=Z,46µm,17.0s
GROC Groznyy 67.97 309 eP **P 02 46 44.5 -0.1**
GROC *e* 02 47 08.4
GROC *e* 02 49 18.3
GROC *e*S **S 02 55 43.5 +1.6**
GROC pmax pmax
comp=Z,182nm,1.1s
NSS Namsos 68.01 339 eP **P 02 46 44.2 -0.2**
NSS *e*S **S 02 55 43.3 +1.7**
NSS IVMs_BB IVMs_BB 03 21 59.9
comp=Z,8µm,16.5s
JTMT Jette 68.14 45 IAMs_20 IAMs_20 03 21 24.3
comp=Z,6µm,19.0s
HOPS Hopland Field 68.17 57 IAMs_20 IAMs_20 03 09 20.7
comp=Z,7µm,21.0s
MOD Modoc Plateau 68.19 53 IAmb IAmb 02 47 01.3
comp=Z,59nm,1.1s
BMO Blue Mountains 68.20 49 IAmb IAmb 02 47 01.3
comp=Z,80nm,1.4s
O03E Paynes Creek 68.21 55 P **P 02 46 46.6 +0.3**
baz=306,SNR=22
O03E S **S 02 55 45.3 +0.3**
baz=306
J08A Circle Bar Ran 68.42 51 IAmb IAmb 02 47 02.9
comp=Z,96nm,1.1s
GDXM Geysers 68.46 57 IAMs_20 IAMs_20 03 10 15.2
comp=Z,8µm,22.0s
GOF Gofitskoye 68.47 311⇑ *i* P **P 02 46 48.6 +0.9**
GOF *i* S **S 02 55 49.6 +1.9**
GOF pmax pmax
comp=Z,698nm,0.9s
GOF smax smax
comp=E,126nm,1.8s
AFI Afiamalu 68.73 133 LR LR 03 10 44.5
comp=E,7µm,22.0s,baz=342,slow=30
AFI Afiamalu 68.73 133 P **P 02 46 48.4 -1.2**
AFI pmax pmax
comp=Z,37nm,0.9s
AFI Afiamalu 68.73 133 P **P 02 46 48.4 -1.2**
AFI Afiamalu 68.73 133 IAMs_20 IAMs_20 03 10 01.0
comp=Z,8µm,22.0s
PLID Pearl Lake 68.81 48 IAmb IAmb 02 47 04.8
comp=Z,78nm,1.2s
MSO Missoula 68.89 46 P **P 02 46 51.0 +0.6**
baz=308,SNR=13
MSO Missoula 68.89 46 IAmb IAmb 02 47 05.2
comp=Z,112nm,1.2s
KIV Kislovodsk 69.34 311⇑ *i* P **P 02 46 54.4 +1.2**
KIV Kislovodsk 69.34 311 *i* P **P 02 46 54.0 +0.8**
SNR=118
KIV Kislovodsk 69.34 311 P **P 02 46 53.2 0.0**
KIV P **P 02 46 53.2 0.0**
KIV Kislovodsk 69.34 311 eP **P 02 46 53.5 +0.3**
KIV *e* 02 49 25.9
KIV *e*PPP PPP 02 51 08.3
KIV *e*S **S 02 55 58.0 -0.3**
KIV *e*SS **SS 03 00 26.4 +1.8**
KIV pmax pmax
comp=Z,3µm,4.5s
KIV pmax pmax
comp=Z,2µm,1.0s
KIV Kislovodsk 69.34 311 P **P 02 46 53.2 0.0**
ZEI Tsey 69.34 309 eP **P 02 46 50.6 -2.8**
ZEI pmax pmax
comp=Z,159nm,1.0s
KBZ Khabaz 69.35 310 P **P 02 46 52.8 -0.3**
comp=Z,223nm,1.0s,baz=54,slow=4.0,SNR=175
KBZ S **S 02 55 59.2 +1.0**
comp=Z,1.1nm,0.8s,baz=32,slow=18,SNR=3.6
KBZ LR LR 03 22 26.6
comp=Z,15µm,18.3s,baz=34,slow=40
KBZ Khabaz 69.35 310*c* *i* P **P 02 46 52.4 -0.7**
KBZ pmax pmax
comp=Z,282nm,1.0s
SHA1 Shidzhatmaz 69.48 310*c* *i* P **P 02 46 53.0 -1.3**
TBLU Trondheim 69.49 339 eP **P 02 46 51.7 -2.0**
TBLU IVmB_BB 02 46 54.2
comp=Z,2µm,3.5s
TBLU *e*S **S 02 55 57.1 -2.1**
TBLU IVMs_BB IVMs_BB 03 22 41.4
comp=Z,7µm,15.2s
ILULI Ilulissat 69.53 5 *i* P **P 02 46 53.9 +0.1**

ILULI						pmax	pmax			
	comp=Z,35nm,0.8s									
ILULI						MLR	MLR			
	comp=Z,10µm,19.0s									
ILULI	**Ilulissat**	**69.53**	**5**	IAMs_20	IAMs_20	03 19 14.5				
	comp=Z,10µm,20.0s									
ILULI	**Ilulissat**	**69.53**	**5**	*i* P	**P**	**02 46 53.9**	**+0.1**			
	comp=Z,34nm,0.8s									
	comp=Z,10µm,19.0s									
ILULI	**Ilulissat**	**69.53**	**5**	*i* P	**P**	**02 46 53.9**	**+0.1**			
ILULI				IAmb	IAmb	02 46 55.4				
	comp=Z,34nm,0.8s									
ILULI				IAMs_20	IAMs_20	03 19 39.7				
	comp=Z,10µm,19.0s									
FFC	**Flin Flon**	**69.58**	**34**	P	**P**	**02 46 54.8**	**+0.4**			
FFC				pmax	pmax					
	comp=Z,91nm,1.1s									
FFC				MLR	MLR					
	comp=Z,6µm,22.0s									
FFC	**Flin Flon**	**69.58**	**34**	P	**P**	**02 46 54.8**	**+0.4**			
FFC				IAmb	IAmb	02 47 13.5				
	comp=Z,91nm,1.1s									
IZAR	**Zarasai**	**69.76**	**328**	*e*P	**P**	**02 46 55.9**	**+0.4**			
IDID	**Didziasalis**	**69.86**	**327**	*e*P	**P**	**02 46 56.5**	**+0.4**			
ISAL	**Salakas**	**69.94**	**327**	*e*P	**P**	**02 46 56.8**	**+0.3**			
MICGM	**Minsk**	**69.95**	**326**⇓	*e*P	**P**	**02 46 56.0**	**-0.6**			
MICGM				PM		02 46 57.0				
	comp=Z,0.7nm,2.0s									
MICGM				*e*pP	**sP**	**02 47 09.0**	**+1.9**			
MICGM				*e*PP	**PP**	**02 49 32.0**	**+1.1**			
MICGM				*e*PPP	PPP	02 51 18.0				
MICGM				*e*S	**S**	**02 56 03.0**	**-1.9**			
MICGM				*e*SS	SS	03 00 52.0	+19			
MICGM				*e*SSS	SSS	03 04 02.0				
MICGM				*e*LQ	LQ	03 13 18.0				
MICGM				LQM		03 18 00.0				
	comp=E,17nm,19.0s									
MICGM				*e*LR	LR	03 18 06.0				
MICGM				LRM	MLR	03 20 40.0				
	comp=Z,60nm,16.0s									
MICGM				LRM	MLR	03 20 44.0				
	comp=Z,78nm,16.0s									
MICGM				LRM	MLR	03 20 46.0				
	comp=E,25nm,18.0s									
MICGM				LRM	MLR	03 20 47.0				
	comp=N,10nm,18.0s									
MNK	**Minsk**	**69.95**	**326**⇓	*e*P	**P**	**02 46 56.0**	**-0.6**			
MNK				*e*		02 47 09.0				
MNK				*e*		02 49 32.0				
MNK				*e*		02 51 18.0				
MNK				*e*S	**S**	**02 56 03.0**	**-1.9**			
MNK				pmax	pmax					
	comp=Z,740nm,2.0s									
MNK				MLR	MLR					
	comp=Z,60µm,16.0s									
MNK				MLR	MLR					
	comp=Z,78µm,16.0s									
MNK				MLR	MLR					
	comp=E,25µm,18.0s									
MNK				MLR	MLR					
	comp=N,10µm,18.0s									
ICESG	**Greenland Ices**	**70.15**	**1**	*e*P	**P**	**02 46 59.2**	**+1.2**			
PNTR	**Pine Nut**	**70.29**	**55**	IAmb	IAmb	02 47 22.6				
	comp=Z,109nm,1.3s									
EGMT	**Eagleton**	**70.35**	**43**	P	**P**	**02 47 00.0**	**+0.6**			
	baz=310,SNR=16									
EGMT	**Eagleton**	**70.35**	**43**	IAmb	IAmb	02 47 14.2				
	comp=Z,154nm,1.2s									
EGMT				IAMs_20	IAMs_20	03 17 15.7				
	comp=Z,7µm,22.0s									
CMB	**Columbia Colle**	**70.44**	**56**	IAMs_20	IAMs_20	03 11 05.6				
	comp=Z,8µm,22.0s									
DLMT	**Dillon**	**70.53**	**46**	IAmb	IAmb	02 47 15.6				
	comp=Z,124nm,1.1s									
YERR	**Yerington**	**70.58**	**55**	P	**P**	**02 47 02.4**	**+1.3**			
YERR				IAmb	IAmb	02 47 16.3				
	comp=Z,131nm,1.2s									
HLID	**Hailey**	**70.64**	**49**	P	**P**	**02 47 01.8**	**+0.4**			
	baz=308,SNR=34									
HLID	**Hailey**	**70.64**	**49**	IAMs_20	IAMs_20	03 13 42.6				
	comp=Z,7µm,22.0s									
WAKR	**Walker**	**70.75**	**56**	IAMs_20	IAMs_20	03 11 23.7				
	comp=Z,6µm,22.0s									
MOL	**Molde**	**70.76**	**340**	*e*P	**P**	**02 47 01.9**	**+0.5**			
MOL				IVmBBB		02 47 03.1				
	comp=Z,2µm,3.4s									
MOL				*e*S	**S**	**02 56 17.3**	**+3.3**			
MOL				IVMs_BB	IVMs_BB	03 22 58.5				
	comp=Z,4µm,3.8s									
DOMB	**Dombas**	**70.80**	**339**	*e*P	**P**	**02 47 01.9**	**+0.1**			
DOMB				*e*S	**S**	**02 56 15.0**	**+0.4**			
TASB	**TASBURUN-IGDIR**	**70.84**	**307**	*e*P	**P**	**02 47 03.9**	**+1.4**			
PABE	**Paberze**	**70.85**	**328**	*e*P	**P**	**02 47 01.3**	**-0.8**			
BOZ	**Bozeman (W)**	**70.91**	**46**	P	**P**	**02 47 02.9**	**0.0**			
	baz=310,SNR=80									
BOZ	**Bozeman (W)**	**70.91**	**46**	IAMs_20	IAMs_20	03 19 41.6				
	comp=Z,6µm,20.0s									
NB2	**NORSAR Subarra**	**71.01**	**338**	P	**P**	**02 47 02.0**	**-1.1**			
	comp=Z,170nm,1.4s,baz=37,slow=6.5									
NB2	**NORSAR Subarra**	**71.01**	**338**	P	**P**	**02 47 02.0**	**-1.1**			
	baz=37,slow=6.5									
NOA	**NORSAR Array B**	**71.01**	**338**	P	**P**	**02 47 02.0**	**-1.1**			
	comp=Z,27nm,0.8s,baz=37,slow=6.1,SNR=60									
NOA				LR	LR	03 21 59.3				
	comp=Z,22µm,20.3s,baz=35,slow=39									
KARS	**Kars**	**71.14**	**308**	*e*P	**P**	**02 47 06.0**	**+1.6**			
NC602	**NORSAR Array S**	**71.16**	**337**	P	**P**	**02 47 04.5**	**+0.5**			
NC602	**NORSAR Array S**	**71.16**	**337**	*e*P	**P**	**02 47 03.5**	**-0.5**			
NC602				*e*S	**S**	**02 56 17.8**	**-1.0**			
NC602				IVMs_BB	IVMs_BB	03 21 39.6				
	comp=Z,8µm,19.0s									
WSAR	**Wadi Sarin**	**71.19**	**285**	P	**P**	**02 47 05.3**	**+0.6**			
	SNR=23									
AKN	**Aaknes**	**71.23**	**340**	*e*P	**P**	**02 47 04.5**	**+0.1**			
AKN				*e*S	**S**	**02 56 22.7**	**+3.0**			
AKN				IVMs_BB	IVMs_BB	03 22 48.4				
	comp=Z,6µm,5.0s									
RYN	**Ryan**	**71.24**	**55**	IAmb	IAmb	02 47 20.3				
	comp=Z,65nm,1.2s									
KVN	**Kaiserville**	**71.24**	**54**	IAmb	IAmb	02 47 20.3				
	comp=Z,140nm,1.1s									
SOC	**Sochi**	**71.26**	**312***c*	*i* P	**P**	**02 47 04.9**	**+0.1**			
SOC				*e**PP	**pwP**	**02 47 14.2**	**-0.9**			
SOC				*e**SP	**sP**	**02 47 18.8**	**+3.5**			
SOC				*e*		02 49 37.6				
SOC				*e*PPP	PPP	02 51 23.1				
SOC				*e*S	**S**	**02 56 21.5**	**+1.0**			
SOC				*e**SS	**SKiKP**	**02 56 39.1**	**-4.3**			
SOC				*e*SS	**SS**	**03 00 54.5**	**+0.7**			
SOC				pmax	pmax					
	comp=Z,167nm,1.2s									
SOC				pmax	pmax					
	comp=Z,1µm,2.2s									
SOC				MLR	MLR					
	comp=Z,13µm,20.0s									
BANOM	**Banah**	**71.26**	**288**	*i* P	**P**	**02 47 05.1**	**-0.1**			
	SNR=47									
BANOM	**Banah**	**71.26**	**288**	P	**P**	**02 47 05.6**	**+0.4**			
	SNR=32									
BANOM				P	**P**	**02 47 05.6**	**+0.4**			
	SNR=32									
NAO01	**NORSAR Array S**	**71.26**	**338**	*e*P	**P**	**02 47 04.5**	**-0.1**			
PBUR	**Paburge**	**71.27**	**330**	*e*P	**P**	**02 47 03.9**	**-0.7**			
JLN	**Jalan Bani Buh**	**71.27**	**283**	P	**P**	**02 47 05.7**	**+0.5**			
	SNR=48									
JLN				P	**P**	**02 47 05.7**	**+0.5**			
	SNR=48									
SHME	**Shamm**	**71.30**	**288**	*i* P	**P**	**02 47 04.6**	**-0.8**			
	SNR=144									
WBK	**Wadi Bani Khal**	**71.32**	**284**	P	**P**	**02 47 06.5**	**+0.9**			
	SNR=72									
WBK				P	**P**	**02 47 06.5**	**+0.9**			
	SNR=72									
BIDO	**Bidbid**	**71.39**	**285**	P	**P**	**02 47 06.4**	**+0.5**			
	SNR=60									
BIDO				P	**P**	**02 47 06.4**	**+0.5**			
	SNR=60									
ARTV	**Artvin**	**71.48**	**309**	IAmb	IAmb	02 47 10.0				
	comp=Z,160nm,1.2s									
LHV	**Little Huntoon**	**71.48**	**55**	IAMs_20	IAMs_20	03 11 49.2				
	comp=Z,7µm,22.0s									
NVAR	**Mina Array Bea**	**71.50**	**55**	P	**P**	**02 47 07.5**	**+0.8**			
	comp=Z,16nm,0.8s,baz=291,slow=5.3,SNR=42									
NVAR				S	**S**	**02 56 25.4**	**+1.4**			
	comp=Z,0.1nm,0.4s,baz=35,slow=3.3,SNR=2.0									
NVAR				LR	LR	03 17 53.9				
	comp=Z,3µm,19.5s,baz=304,slow=35									
NVAR	**Mina Array Bea**	**71.50**	**55**	P	**P**	**02 47 07.1**	**+0.4**			
BCA	**Borcka**	**71.50**	**309**	⇓P	**P**	**02 47 07.2**	**+0.9**			
BCA	**Borcka**	**71.50**	**309**	*e*P	**P**	**02 47 07.0**	**+0.6**			
MDPB	**Devils Postpil**	**71.50**	**56**	IAMs_20	IAMs_20	03 11 39.8				
	comp=Z,6µm,22.0s									
CLDR	**Caldiran**	**71.55**	**306**	*e*P	**P**	**02 47 08.4**	**+1.4**			
OMMB	**Old Mammoth Mi**	**71.56**	**56**	IAMs_20	IAMs_20	03 12 04.4				
	comp=Z,7µm,21.0s									
SENK	**Senkaya-Erzuru**	**71.62**	**308**	*e*P	**P**	**02 47 08.7**	**+1.3**			
MDH	**Madha**	**71.64**	**288**	*i* P	**P**	**02 47 06.0**	**-1.4**			
	SNR=20									
MDH	**Madha**	**71.64**	**288**	P	**P**	**02 47 07.9**	**+0.5**			
	SNR=16									
MDH				P	**P**	**02 47 07.9**	**+0.5**			
	SNR=16									
MLAC	**Mammoth, Mammo**	**71.66**	**56**	P	**P**	**02 47 10.4**	**+2.8**			
	baz=308									
MSFE	**Esma-Masafi**	**71.70**	**288**	*i* P	**P**	**02 47 07.3**	**-0.6**			
	SNR=59									
SMDO	**Samad**	**71.72**	**285**	P	**P**	**02 47 08.5**	**+0.4**			
	SNR=45									
SMDO				P	**P**	**02 47 08.5**	**+0.4**			
	SNR=45									
ANN	**Anapa**	**71.75**	**314**	*e*P	**P**	**02 47 07.2**	**-0.6**			
ANN				*e**PP	**sP**	**02 47 19.2**	**+0.9**			
ANN				*e*		02 49 43.0				
ANN				*e*PPP	PPP	02 51 30.7				
ANN				*e*S	**S**	**02 56 27.8**	**+1.7**			
ANN				*e*SS	**SS**	**03 00 58.0**	**-3.3**			
ANN				pmax	pmax					
	comp=Z,209nm,1.4s									
SFJD	**Kangerlussuaq**	**71.75**	**6**	P	**P**	**02 47 07.7**	**+0.3**			
SFJD				pmax	pmax					
	comp=Z,105nm,1.3s									
SFJD				MLR	MLR					
	comp=Z,12µm,20.0s									
SFJD	**Kangerlussuaq**	**71.75**	**6**	P	**P**	**02 47 07.7**	**+0.3**			
SFJD				IAmb	IAmb	02 47 36.7				
	comp=Z,105nm,1.2s									
SFJD	**Kangerlussuaq**	**71.75**	**6**	*i* P	**P**	**02 47 08.0**	**+0.7**			
	comp=Z,800nm,20.0s									
SFJD	**Kangerlussuaq**	**71.75**	**6**	*i* P	**P**	**02 47 08.1**	**+0.7**			
SFJD				IAMs_20	IAMs_20	03 21 01.9				
	comp=Z,808nm,19.5s									
UOSS	**Minazif**	**71.92**	**288**	*i* P	**P**	**02 47 08.0**	**-1.1**			
	SNR=98									
UOSS	**Minazif**	**71.92**	**288**	P	**P**	**02 47 08.9**	**-0.2**			
UOSS				P	**P**	**02 47 08.9**	**-0.2**			
UOSS	**Minazif**	**71.92**	**288**	P	**P**	**02 47 08.4**	**-0.8**			
PAGB	**Antelope Grade**	**71.92**	**58**	IAmb	IAmb	02 47 24.3				
	comp=Z,89nm,1.0s									
HOQ	**Hoqain**	**71.94**	**286**	P	**P**	**02 47 09.5**	**+0.2**			
	SNR=58									
HOQ				P	**P**	**02 47 09.5**	**+0.2**			
	SNR=58									
UMQ	**Umm Al-Quwin**	**71.96**	**288**	*i* P	**P**	**02 47 10.1**	**+0.9**			
	SNR=12									
UMQ	**Umm Al-Quwin**	**71.96**	**288**	P	**P**	**02 47 10.2**	**+0.9**			
	SNR=17									
UMQ				P	**P**	**02 47 10.2**	**+0.9**			
	SNR=17									
AKASG	**Malin Array Be**	**71.97**	**322**	P	**P**	**02 47 07.5**	**-1.4**			
	comp=Z,84nm,0.8s,baz=43,slow=6.6,SNR=79									
AKASG				S	**S**	**02 56 26.8**	**-1.7**			
	comp=Z,0.2nm,0.3s,baz=42,slow=10.0,SNR=2.8									
AKASG				LR	LR	03 21 55.7				
	comp=Z,22µm,19.3s,baz=50,slow=38									
AKASG	**Malin Array Be**	**71.97**	**322**	*i* P	**P**	**02 47 07.5**	**-1.4**			
AKASG				pmax	pmax					
	comp=Z,26nm,0.4s									
AKASG	**Malin Array Be**	**71.97**	**322**	P	**P**	**02 47 08.0**	**-1.0**			
HATD	**Hatta, Dubai**	**72.04**	**287**	*i* P	**P**	**02 47 09.7**	**-0.2**			
	SNR=47									
HATD	**Hatta, Dubai**	**72.04**	**287**	P	**P**	**02 47 10.4**	**+0.5**			
	SNR=72									
HATD				P	**P**	**02 47 10.4**	**+0.5**			
	SNR=72									
OSL	**Oslo**	**72.05**	**337**	*e*P	**P**	**02 47 09.9**	**+0.7**			
OSL				*e*S	**S**	**02 56 29.5**	**+0.5**			
OSL				IVMs_BB	IVMs_BB	03 22 57.0				
	comp=Z,9µm,12.6s									
JMDO	**Jabal Madar**	**72.10**	**284**	P	**P**	**02 47 10.5**	**+0.2**			
	SNR=42									
JMDO				P	**P**	**02 47 10.5**	**+0.2**			
	SNR=42									
SKAR	**Skarslia**	**72.13**	**339**	*e*P	**P**	**02 47 10.3**	**+0.5**			
SKAR				*e*S	**S**	**02 56 33.1**	**+3.0**			
SKAR				IVMs_BB	IVMs_BB	03 22 26.4				
	comp=Z,8µm,21.6s									
SOHO	**SOHO**	**72.17**	**287**	*i* P	**P**	**02 47 10.2**	**-0.5**			
	SNR=63									
SOHO	**SOHO**	**72.17**	**287**	P	**P**	**02 47 10.5**	**-0.1**			
SOHO				P	**P**	**02 47 10.5**	**-0.1**			
ASHO	**Ashiyiah**	**72.18**	**287**	*i* P	**P**	**02 47 10.6**	**-0.2**			
	SNR=117									
ASHO	**Ashiyiah**	**72.18**	**287**	P	**P**	**02 47 11.0**	**+0.3**			
	SNR=66									
ASHO				P	**P**	**02 47 11.0**	**+0.3**			
	SNR=66									
VANB	**Van**	**72.21**	**306**	*e*P	**P**	**02 47 12.2**	**+1.4**			
FOO	**Floro**	**72.22**	**340**	*e*P	**P**	**02 47 11.0**	**+0.7**			
FOO				*e*S	**S**	**02 56 35.2**	**+4.2**			
FOO				IVMs_BB	IVMs_BB	03 23 31.7				
	comp=Z,6µm,4.6s									
CHOM	**Cayeli-Rize**	**72.22**	**309**	*e*P	**P**	**02 47 11.7**	**+1.0**			
LKWY	**Lake**	**72.24**	**46**	IAMs_20	IAMs_20	03 20 55.8				
	comp=Z,7µm,22.0s									
SUW	**Suwalki**	**72.25**	**328**	*e*P	**P**	**02 47 10.4**	**-0.2**			
SUW				*e*PP	**PP**	**02 49 45.9**	**-4.8**			
SUW				*e*S	**S**	**02 56 30.2**	**-1.3**			
SUW				*e*L	L	03 21 32.9				
	comp=Z,18µm,18.6s									
H17A	**Grant Village**	**72.25**	**46**	P	**P**	**02 47 14.1**	**+2.9**			
	baz=310,SNR=38									
H17A				S	**SKiKP**	**02 56 39.8**	**-5.4**			
	baz=310									
H17A	**Grant Village**	**72.25**	**46**	IAmb	IAmb	02 47 27.3				
	comp=Z,124nm,1.1s									
KOPR	**Koprukoy-ERZUR**	**72.27**	**308**	*e*P	**P**	**02 47 12.7**	**+1.5**			
NAZ	**Nazwa, Dubai**	**72.28**	**288**	*i* P	**P**	**02 47 10.7**	**-0.6**			
	SNR=33									
NAZ	**Nazwa, Dubai**	**72.28**	**288**	P	**P**	**02 47 11.5**	**+0.2**			
	SNR=28									
NAZ				P	**P**	**02 47 11.5**	**+0.2**			
	SNR=28									
HYA	**Hoyanger**	**72.29**	**340**	*e*P	**P**	**02 47 10.6**	**-0.1**			
HYA				*e*S	**S**	**02 56 25.5**	**-6.2**			
TIN	**Tinemaha, Big**	**72.39**	**56**	P	**P**	**02 47 14.9**	**+3.0**			
	baz=308									
FAQ	**Al Faqa, Dubai**	**72.48**	**288**	*i* P	**P**	**02 47 11.7**	**-0.8**			
	SNR=38									
FAQ	**Al Faqa, Dubai**	**72.48**	**288**	P	**P**	**02 47 12.4**	**-0.1**			
	SNR=49									
FAQ				P	**P**	**02 47 12.4**	**-0.1**			
	SNR=49									
RLMT	**Red Lodge**	**72.49**	**45**	P	**P**	**02 47 13.4**	**+0.9**			
	baz=311,SNR=26									
RLMT	**Red Lodge**	**72.49**	**45**	IAmb	IAmb	02 47 27.9				
	comp=Z,136nm,1.4s									
FXWY	**Fox Creek**	**72.49**	**47**	IAmb	IAmb	02 47 27.5				
	comp=Z,88nm,1.4s									
BSY	**Bisya**	**72.53**	**285**	P	**P**	**02 47 13.1**	**+0.2**			
	SNR=70									
BSY				P	**P**	**02 47 13.1**	**+0.2**			
	SNR=70									
STKA	**Stephens Creek**	**72.59**	**181**	P	**P**	**02 47 11.9**	**-0.7**			
	comp=Z,7.9nm,0.7s,baz=357,slow=6.4,SNR=23									
STKA				LR	LR	03 19 21.5				
	comp=Z,3µm,21.3s,baz=17,slow=36									
STKA	**Stephens Creek**	**72.59**	**181**	P	**P**	**02 47 12.0**	**-0.7**			
STKA	**Stephens Creek**	**72.59**	**181**	P	**P**	**02 47 12.8**	**+0.1**			
GEVA	**Gevas**	**72.59**	**306**	P	**P**	**02 47 13.2**	**0.0**			
GEVA				IAmb	IAmb	02 47 16.5				
	comp=Z,108nm,1.1s									
VES	**Vestal, Richgr**	**72.60**	**58**	P	**P**	**02 47 15.0**	**+1.9**			
	baz=308,SNR=10									
KONO	**Kongsberg**	**72.61**	**337**	*e*P	**P**	**02 47 12.8**	**+0.2**			
KONO				*e*S	**S**	**02 56 38.5**	**+3.0**			
KONO				IVMs_BB	IVMs_BB	03 22 44.3				
	comp=Z,8µm,19.1s									
AKDM	**Akdamar-Van**	**72.63**	**306**	*e*P	**P**	**02 47 14.4**	**+1.0**			
TPAW	**Teton Pass**	**72.63**	**47**	IAmb	IAmb	02 47 28.6				
	comp=Z,84nm,1.1s									
ARQ	**Araqi**	**72.67**	**286**	P	**P**	**02 47 14.0**	**+0.3**			
	SNR=54									
ARQ				P	**P**	**02 47 14.0**	**+0.3**			
	SNR=54									
PKM	**Mcpherson Peak**	**72.72**	**59**	P	**P**	**02 47 14.3**	**+0.3**			
	baz=308									
ASUD	**Al Ashush, Dub**	**72.74**	**288**	*i* P	**P**	**02 47 13.7**	**-0.3**			
	SNR=51									
ASUD	**Al Ashush, Dub**	**72.74**	**288**	P	**P**	**02 47 14.3**	**+0.3**			
	SNR=23									
ASUD				P	**P**	**02 47 14.3**	**+0.3**			
	SNR=23									
LOHW	**Long Hollow**	**72.74**	**47**	P	**P**	**02 47 14.6**	**+0.6**			
SUE	**Sulen**	**72.75**	**340**	*e*P	**P**	**02 47 14.0**	**+0.6**			
SUE				*e*S	**S**	**02 56 40.2**	**+3.1**			
SUE				IVMs_BB	IVMs_BB	03 24 13.3				
	comp=Z,8µm,4.6s									
REDW	**Red Top Meadow**	**72.77**	**47**	IAmb	IAmb	02 47 29.9				
	comp=Z,147nm,1.4s									
ALNE	**Al Ain**	**72.79**	**287**	*i* P	**P**	**02 47 14.3**	**-0.1**			
	SNR=11									
DGMT	**Dagmar**	**72.84**	**40**	P	**P**	**02 47 14.7**	**+0.4**			
	baz=313,SNR=14									
DGMT	**Dagmar**	**72.84**	**40**	IAmb	IAmb	02 47 28.9				
	comp=Z,180nm,1.4s									
FORT	**Forrest**	**72.84**	**194**	IAmb	IAmb	02 47 43.0				
	comp=Z,85nm,1.0s									
CWC	**Cottonwood Cre**	**72.87**	**57**	P	**P**	**02 47 16.6**	**+1.7**			
	baz=309									
KTUT	**Trabzon**	**72.87**	**310**	⇑P	**P**	**02 47 14.9**	**+0.4**			
KTUT	**Trabzon**	**72.87**	**310**	*e*P	**P**	**02 47 14.8**	**+0.2**			
AHID	**Auburn Hatcher**	**73.02**	**48**	P	**P**	**02 47 16.4**	**+0.7**			
AHID				IAMs_20	IAMs_20	03 15 23.5				
	comp=Z,6µm,22.0s									
AJN	**Ajban**	**73.03**	**288**	*i* P	**P**	**02 47 15.4**	**-0.4**			
	SNR=22									
AJN	**Ajban**	**73.03**	**288**	P	**P**	**02 47 16.4**	**+0.6**			
	SNR=15									
AJN				P	**P**	**02 47 16.4**	**+0.6**			
	SNR=15									
VRTB	**Varto-Mus**	**73.03**	**307**	*e*P	**P**	**02 47 17.3**	**+1.5**			
LAO	**LASA Array**	**73.04**	**42**	P	**P**	**02 47 16.7**	**+1.1**			
	baz=312,SNR=21									
LAO	**LASA Array**	**73.04**	**42**	IAmb	IAmb	02 47 30.7				
	comp=Z,174nm,1.2s									
LAO				IAMs_20	IAMs_20	03 19 32.8				
	comp=Z,6µm,20.0s									
MHTO	**MHTO**	**73.04**	**283**	P	**P**	**02 47 16.1**	**+0.2**			
	SNR=143									
MHTO				P	**P**	**02 47 16.1**	**+0.2**			
	SNR=143									
GURO	**Guroymak-BITLI**	**73.07**	**306**	*e*P	**P**	**02 47 17.4**	**+1.4**			
ISA	**Isabella, Lake**	**73.10**	**57**	P	**P**	**02 47 17.4**	**+1.3**			
	baz=309,SNR=7.9									
ISA				S	**S**	**02 56 41.7**	**-0.3**			
	baz=309									
ASK	**Askoy**	**73.13**	**340**	*e*P	**P**	**02 47 16.5**	**+0.8**			
BER	**Bergen**	**73.18**	**340**	*e*P	**P**	**02 47 16.7**	**+0.8**			
BER				*e*S	**SKiKP**	**02 56 46.4**	**+0.6**			
KARO	**Karliova-Bingo**	**73.18**	**308**	*e*P	**P**	**02 47 17.8**	**+1.1**			
ARVC	**Arvin**	**73.20**	**58**	P	**P**	**02 47 20.0**	**+3.4**			
	baz=309									
ARVC				S	**S**	**02 56 44.0**	**+0.9**			
	baz=309									
R11A	**Troy Canyon, C**	**73.22**	**54**	P	**P**	**02 47 17.5**	**+0.6**			
	baz=309,SNR=53									
R11A				S	**SKiKP**	**02 56 45.7**	**-1.1**			
	baz=309									
R11A	**Troy Canyon, C**	**73.22**	**54**	IAmb	IAmb	02 47 32.1				
	comp=Z,115nm,1.4s									
ODD1	**Odda**	**73.23**	**339**	*e*P	**P**	**02 47 17.0**	**+0.6**			
ODD1				*e*S	**SKiKP**	**02 56 45.8**	**-0.2**			
YEDI	**Yedisu-Bingol**	**73.40**	**308**	*e*P	**P**	**02 47 19.1**	**+1.2**			
SIM	**Simferopol'**	**73.44**	**316**	*e*P	**P**	**02 47 16.9**	**-0.9**			
SIM				*e*S	**S**	**02 56 44.3**	**-1.1**			
SIM				pmax	pmax					
	comp=Z,318nm,1.4s									
MPMC	**Manual Prospec**	**73.48**	**57**	P	**P**	**02 47 20.0**	**+1.5**			
	baz=309,SNR=16									
MPMC				S	**SKiKP**	**02 56 48.4**	**+1.2**			
	baz=309									
SIRT	**Sirnak**	**73.48**	**305**	*e*P	**P**	**02 47 19.1**	**+0.7**			
HWUT	**Hardware Ranch**	**73.51**	**49**	IAmb	IAmb	02 47 34.0				
	comp=Z,136nm,1.3s									
ESPY	**Espiye-Giresun**	**73.52**	**310**	*e*P	**P**	**02 47 18.4**	**0.0**			
OSI	**Osito Audit: C**	**73.59**	**58**	S	**S**	**02 56 49.6**	**+2.0**			
	baz=309									
OSI	**Osito Audit: C**	**73.59**	**58**	IAMs_20	IAMs_20	03 12 25.4				
	comp=Z,7µm,22

GSC	**Goldstone, Bar**	74.39	57	P		P		02 47 26.0	+2.4	
	baz=309,SNR=7.9									
SNART	**Snartemo**	74.39	338	*e*P		P		02 47 24.0	+0.9	
SNART				*e*S		S		02 56 57.9	+2.2	
SNART	**Snartemo**	74.39	338	*i* P		P		02 47 24.0	+0.9	
NUUK	**Nuuk**	74.44	7	*i* P		P		02 47 23.5	+0.3	
NUUK				IAmb		IAmb		02 47 27.5		
	comp=Z,55nm,0.8s									
NUUK				IAMs_20		IAMs_20		03 22 39.1		
	comp=Z,10µm,19.1s									
PTK	**Pertek**	74.44	308	*e*P		P		02 47 25.6	+1.5	
BFSC	**Mount Baldy Ra**	74.51	58	P		P		02 47 27.2	+2.7	
	baz=309,SNR=9.8									
CIS	**Catalina Islan**	74.55	59	P		P		02 47 26.2	+1.6	
	baz=309									
CIS				S		S		02 56 58.6	+0.2	
	baz=309									
BSD	**Bornholm Skovb**	74.55	332⇑	*i* P		P		02 47 23.8	-0.3	
BSD				pmax		pmax				
	comp=Z,120nm,1.2s									
BSD				MLR		MLR				
	comp=Z,31µm,19.0s									
BSD	**Bornholm Skovb**	74.55	332⇑	*i* P		P		02 47 23.8	-0.3	
	comp=Z,121nm,1.2s									
	comp=Z,31µm,19.0s									
BSD	**Bornholm Skovb**	74.55	332⇑	*i* P		P		02 47 23.9	-0.3	
BSD				IAmb		IAmb		02 47 28.3		
	comp=Z,122nm,1.2s									
BSD				IAMs_20		IAMs_20		03 23 05.1		
	comp=Z,31µm,18.6s									
ILIC	**ilic-Erzincan**	74.56	309	*e*P		P		02 47 26.1	+1.4	
MARD	**Mardin**	74.62	306	P		P		02 47 25.2	+0.2	
SHPR	**Sheep Range**	74.65	55	IAmb		IAmb		02 47 40.8		
	comp=Z,128nm,1.4s									
SHPR				IAMs_20		IAMs_20		03 13 50.3		
	comp=Z,7µm,22.0s									
RSDY	**Resadiye-TOKAT**	74.67	310	*e*P		P		02 47 26.2	+1.0	
SCI2	**San Clemente I**	74.73	60	P		P		02 47 28.3	+2.7	
	baz=309									
KIS	**Kishinev**	74.73	320⇑	*i* P		P		02 47 25.0	-0.3	
KIS	**Kishinev**	74.73	320	*i* PcP		PcP		02 47 34.0	-5.4	
KIS	**Kishinev**	74.73	320⇓	*i*PP		PP		02 50 12.0	0.0	
KIS	**Kishinev**	74.73	320	*e*SS		SS		03 01 55.0	+8.4	
KIS				*i* PS		SKSac		02 57 28.0	-4.0	
KIS				*e*LR		LR		03 16 27.0		
	comp=Z,2µm,20.5s									
KIS	**Kishinev**	74.73	320	⇑P		P		02 47 25.5	+0.2	
KIS	**Kishinev**	74.73	320	*c i* P		P		02 47 25.0	-0.3	
KIS				*i*				02 47 34.0		
KIS				*i*				02 50 12.0		
KIS				*e*PPP		PPP		02 51 58.0		
KIS				*i* S		S		02 56 57.0	-2.9	
KIS				*i* PS				02 57 28.0		
KIS				pmax		pmax				
	comp=Z,800nm,5.3s									
KIS				pmax		pmax				
	comp=Z,780nm,5.7s									
KIS				MLR		MLR				
	comp=Z,2µm,20.5s									
KIS				MLR		MLR				
	comp=N,5µm,18.0s									
MILM	**Milestii Mici**	74.79	320	⇑P		P		02 47 25.5	-0.1	
SNOP	**Sinop**	74.80	313	*e*P		P		02 47 26.3	+0.5	
SVRC	**Sivrice-ELAZID**	74.82	308	*e*P		P		02 47 27.9	+1.6	
BEL	**Belsk**	74.83	327	*e*P		P		02 47 26.8	+1.0	
BEL				*e*S		S		02 57 01.5	+0.7	
BEL				*e*L		L		03 23 13.2		
	comp=N,32µm,19.6s									
TUQ	**Turquoise Moun**	74.86	56	P		P		02 47 28.6	+2.1	
	baz=310,SNR=17									
GOET	**G??ttrup**	74.88	336	*i* P		P		02 47 26.5	+0.6	
	comp=N,188nm,0.9s									
GOET	**G??ttrup**	74.88	336	*e*P		P		02 47 26.6	+0.6	
GOET				IAmb		IAmb		02 47 29.7		
	comp=Z,189nm,0.9s									
LVV	**L'vov**	74.94	324	*d i* P		P		02 47 27.0	+0.5	
LVV				*i*				02 50 13.8		
LVV				*e*PPP		PPP		02 52 00.6		
LVV				*i* S		S		02 57 01.8	-0.4	
LVV				*e*PS				02 57 44.2		
LVV				*e*SS		SS		03 01 54.8	+5.1	
LVV				pmax		pmax				
	comp=Z,210nm,1.6s									
LVV				MLR		MLR				
	comp=N,20µm,17.0s									
LVV				MLR		MLR				
	comp=E,24µm,17.0s									
LVV				MLR		MLR				
	comp=Z,33µm,17.0s									
KVT	**Kavak**	74.95	312	*e*P		P		02 47 28.0	+1.2	
COP	**Copenhagen**	74.95	334	*i* P		P		02 47 26.8	+0.4	
COP				*i*				02 50 11.5		
COP				MLR		MLR				
	comp=Z,19µm,17.0s									
COP	**Copenhagen**	74.95	334	*i* P		P		02 47 26.8	+0.4	
COP				*i*				02 50 11.5		
	comp=Z,19µm,17.0s									
HEC	**Hector,Ludlow**	74.98	57	P		P		02 47 29.0	+1.9	
	baz=310,SNR=17									
HEC				S		S		02 57 03.8	+0.5	
	baz=310									
DIKM	**Dikmen**	75.01	312	⇑P		P		02 47 27.4	+0.3	
DIKM	**Dikmen**	75.01	312	*e*P		P		02 47 28.2	+1.1	
GKP	**Gorka Klasztor**	75.14	330	*e*P		P		02 47 28.0	+0.4	
GKP				*e*PP		PP		02 50 11.9	-3.4	
GKP				*e*S		S		02 57 03.7	-0.5	
GKP				*e*L		L		03 25 40.8		
	comp=Z,21µm,16.5s									
TOKT	**Tokat**	75.17	311	*e*P		P		02 47 29.1	+1.0	
SVSK	**Karacayir**	75.17	310	*e*P		P		02 47 29.4	+1.4	
IAS	**Iasi**	75.20	321	⇑P		P		02 47 28.5	+0.5	
TOKA	**Tokat**	75.20	311	P		P		02 47 29.4	+1.1	
TOKA				IAmb		IAmb		02 47 31.8		
	comp=Z,137nm,1.3s									
TOKA				IAMs_20		IAMs_20		03 25 17.5		
	comp=Z,7µm,20.0s									
MURC	**Murrieta**	75.22	58	P		P		02 47 30.4	+2.0	
	baz=310									
MUD	**Monsted U'grnd**	75.38	336	*i* P		P		02 47 29.3	+0.5	
MUD				MLR		MLR				
	comp=Z,14µm,19.0s									
MUD	**Monsted U'grnd**	75.38	336	*i* P		P		02 47 29.3	+0.5	
	comp=Z,14µm,19.0s									
MUD	**Monsted U'grnd**	75.38	336	*i* P		P		02 47 29.3	+0.5	
MUD				IAMs_20		IAMs_20		03 24 23.4		
	comp=Z,14µm,18.7s									
ULM	**Lac du Bonnet**	75.39	35	P		P		02 47 28.7	-0.3	
	comp=Z,21nm,0.8s,baz=316,slow=6.7,SNR=17									
ULM				LR		LR		03 23 44.7		
	comp=Z,5µm,18.7s,baz=326,slow=38									
ULM	**Lac du Bonnet**	75.39	35	IAMs_20		IAMs_20		03 25 32.5		
	comp=Z,6µm,18.0s									
MALT	**Malatya**	75.39	308	*e*P		P		02 47 31.2	+1.8	
GMRC	**Granite Mounta**	75.44	57	P		P		02 47 31.9	+2.1	
	baz=310,SNR=15									
GMRC				S		S		02 57 10.8	+2.4	
	baz=310									
MDND	**Maddock**	75.47	38	P		P		02 47 30.6	+1.0	
	baz=316									
MDND	**Maddock**	75.47	38	IAMs_20		IAMs_20		03 21 20.9		
	comp=Z,6µm,20.0s									
VASR	**Vaslui**	75.48	320	⇑P		P		02 47 30.5	+0.8	
BZK	**Bozkurt**	75.50	313	*e*P		P		02 47 31.3	+1.5	
RGN	**Rugen**	75.56	333	*e*P		P		02 47 30.7	+0.8	
RGN	**Rugen**	75.56	333	*e*P		P		02 47 30.5	+0.5	
	comp=Z,162nm,1.2s,baz=34,slow=5.4									
RGN	**Rugen**	75.56	333	P		P		02 47 30.5	+0.5	
RGN				IAmb		IAmb		02 47 50.1		
	comp=Z,153nm,1.1s									
K22A	**Casper**	75.61	46	P		P		02 47 31.3	+0.6	
	baz=313,SNR=17									
K22A				S		S		02 57 07.8	-2.4	
	baz=313									
K22A	**Casper**	75.61	46	IAmb		IAmb		02 47 45.5		
	comp=Z,172nm,1.4s									
KWP	**Kalwaria Pacla**	75.67	325	*e*P		P		02 47 31.7	+1.0	
KWP				*e*PP		PP		02 50 16.9	-2.9	
KWP				*e*S		S		02 57 10.3	+0.1	
KWP				*e*L		L		03 24 23.1		
	comp=Z,43µm,17.1s									
PFO	**Pinyon Flats O**	75.68	58	P		P		02 47 32.7	+1.5	
	baz=310,SNR=11									
PFO	**Pinyon Flats O**	75.68	58	P		P		02 47 31.6	+0.4	
PFO				pmax		pmax				
	comp=Z,38nm,1.1s									
PFO	**Pinyon Flats O**	75.68	58	P		P		02 47 31.6	+0.4	
PFO				IAMs_20		IAMs_20		03 14 23.7		
	comp=Z,7µm,21.0s									
XPFO	**Pion Flat**	75.68	58	IAMs_20		IAMs_20		03 14 23.6		
	comp=Z,7µm,21.0s									
PRAR	**RASCA**	75.72	321	⇓P		P		02 47 31.3	+0.3	
URFA	**Urfa**	75.72	307	*e*P		P		02 47 32.9	+1.6	
109C	**Camp Elliot, M**	75.72	59	P		P		02 47 33.7	+2.4	
	baz=310									
109C	**Camp Elliot, M**	75.72	59	IAMs_20		IAMs_20		03 14 17.9		
	comp=Z,5µm,20.0s									
BELC	**Belle Mtn. Jos**	75.73	57	P		P		02 47 31.6	+0.1	
	baz=310,SNR=16									
DARE	**Darende-Malaty**	75.78	309	*e*P		P		02 47 33.3	+1.6	
RWWY	**Rawlins**	75.89	47	IAmb		IAmb		02 47 46.2		
	comp=Z,132nm,1.2s									
RSSD	**Black Hills**	75.92	43	P		P		02 47 32.8	+0.3	
	baz=314									
RSSD	**Black Hills**	75.92	43	P		P		02 47 32.2	-0.3	
RSSD				pmax		pmax				
	comp=Z,209nm,1.7s									
RSSD				MLR		MLR				
	comp=Z,4µm,20.0s									
RSSD	**Black Hills**	75.92	43	P		P		02 47 32.2	-0.3	
RSSD				IAmb		IAmb		02 47 47.0		
	comp=Z,209nm,1.6s									
VARL	**Varlezi**	75.98	319	⇑P		P		02 47 32.1	-0.5	
TLCR		76.01	318	⇑P		P		02 47 33.2	+0.5	
BURAR	**Bucovina Array**	76.01	322	⇑P		P		02 47 32.2	-0.6	
BURAR	**Bucovina Array**	76.01	322	P		P		02 47 32.1	-0.8	
BIZ	**Bicaz**	76.08	321	⇑P		P		02 47 33.3	+0.1	
GHRR		76.08	320	⇑P		P		02 47 33.6	+0.5	
TESR	**Tescani**	76.13	320	⇑P		P		02 47 34.1	+0.7	
BAR	**Barrett**	76.14	59	IAMs_20		IAMs_20		03 14 29.8		
	comp=Z,5µm,21.0s									
MONP2	**Monument Peak**	76.16	58	P		P		02 47 36.8	+2.7	
	baz=310									
MONP2				S		S		02 57 17.8	+1.1	
	baz=310									
IRM	**Iron Mountain**	76.17	57	P		P		02 47 35.9	+2.1	
	baz=310,SNR=14									
CAN	**Canberra**	76.20	175	P		P		02 47 34.9	+1.2	
CAN				pmax		pmax				
	comp=Z,38nm,1.1s									
CAN	**Canberra**	76.20	175	P		P		02 47 34.9	+1.2	
KURC	**Kurucasile-Bar**	76.27	314	*e*P		P		02 47 34.9	+0.7	
SCHL	**Schela**	76.28	319	⇑P		P		02 47 35.8	+1.6	
BC3	**Big Chuckawall**	76.29	57	P		P		02 47 36.8	+2.1	
	baz=310,SNR=11									
BC3				S		S		02 57 18.5	+0.6	
	baz=310									
CFR	**Carcaliu**	76.35	319	⇑P		P		02 47 35.0	+0.4	
CORM	**Corum**	76.35	312	*e*P		P		02 47 36.2	+1.3	
O20A	**White River Ci**	76.37	48	P		P		02 47 35.6	+0.5	
	baz=312,SNR=13									
O20A				S		S		02 57 19.3	+0.7	
	baz=312									
O20A	**White River Ci**	76.37	48	IAmb		IAmb		02 47 53.9		
	comp=Z,100nm,1.4s									
KOLS	**Kolonicke sedl**	76.37	324	*e*P		P		02 47 34.4	-0.4	
KOLS				pmax		pmax				
	comp=Z,44nm,1.1s									
KOLS	**Kolonicke sedl**	76.37	324	*e*P		P		02 47 34.3	-0.5	
KOLS				*e*S		S		02 57 17.3	-0.7	
PETR	**Petresti**	76.41	320	⇑P		P		02 47 36.3	+1.4	
U15A	**North Rim**	76.46	53	IAmb		IAmb		02 47 51.5		
	comp=Z,121nm,1.2s									
U15A				IAMs_20		IAMs_20		03 15 09.8		
	comp=Z,6µm,22.0s									
OJC	**Ojcow**	76.47	327	*e*P		P		02 47 36.0	+0.7	
OJC				*e*PP		PP		02 50 23.0	-3.5	
OJC				*e*S		S		02 57 18.2	-0.7	
OJC				*e*SS		SS		03 02 13.7	+1.0	
OJC				*e*L		L		03 24 28.4		
	comp=Z,33µm,19.2s									
ODBI	**Odobesti**	76.47	320	⇑P		P		02 47 36.3	+1.0	
SARI	**SarD1z-Kayseri**	76.51	309	*e*P		P		02 47 37.3	+1.4	
IKP	**In-Ko-Pah, Jac**	76.52	58	P		P		02 47 38.1	+2.1	
	baz=310									
BNN	**Bunyan**	76.55	310	*e*P		P		02 47 37.1	+1.0	
VRI	**Vrincioaia**	76.55	320	⇑P		P		02 47 36.5	+0.7	
RMX	**La Rumorosa**	76.57	59	IAMs_20		IAMs_20		03 14 56.0		
	comp=Z,6µm,21.0s									
UZH	**Uzhgorod**	76.59	324⇓	*i* P		P		02 47 37.0	+1.1	
UZH				*e*				02 47 40.4		
UZH				*i*				02 50 26.7		
UZH				*i* S		S		02 57 22.8	+2.5	
UZH				*i*				02 57 43.3		
UZH				*i*				02 57 58.0		
UZH				MLR		MLR				
	comp=N,6µm,16.0s									
UZH				MLR		MLR				
	comp=E,7µm,16.0s									
UZH				MLR		MLR				
	comp=Z,5µm,16.0s									
PLOR	**Plostina**	76.60	320	⇑P		P		02 47 36.7	+0.6	
SHAO	**Shalim**	76.61	282	*i* P		P		02 47 36.5	-0.1	
	SNR=34									
SHAO	**Shalim**	76.61	282	P		P		02 47 36.7	+0.1	
	SNR=28									
SHAO				P		P		02 47 36.7	+0.1	
	SNR=28									
CANT	**Cankiri**	76.63	312	*e*P		P		02 47 37.2	+0.8	
TIRR	**Tirgusor**	76.72	318	IAmb		IAmb		02 47 41.1		
	comp=Z,178nm,1.2s									
SKMB	**Sankelmark Bun**	76.73	335	*e*P		P		02 47 37.6	+1.0	
	comp=Z,188nm,1.2s,baz=34,slow=5.4									
CRVS	**Cervenica-Dubn**	76.75	325	*e*P		P		02 47 37.3	+0.4	
CRVS				pmax		pmax				
	comp=Z,277nm,1.7s									
CRVS	**Cervenica-Dubn**	76.75	325	*e*P		P		02 47 37.3	+0.4	
CRVS				*e*S		S		02 57 22.2	0.0	
GRER		76.78	320	⇑P		P		02 47 38.1	+1.0	
BISRR	**Bisoca**	76.79	320	⇑P		P		02 47 38.6	+1.4	
ARCR	**ARCALIA**	76.80	322	⇑P		P		02 47 38.8	+1.7	
HARR	**Harsova**	76.80	319	⇑P		P		02 47 37.0	-0.2	
KMRS	**Kahramanmaras**	76.83	308	*e*P		P		02 47 38.8	+1.2	
OZUR		76.84	321	⇓P		P		02 47 37.9	+0.4	
AGMN	**Agassiz Nation**	76.85	36	P		P		02 47 37.0	-0.5	
	baz=318,SNR=10									
AGMN	**Agassiz Nation**	76.85	36	IAMs_20		IAMs_20		03 22 06.2		
	comp=Z,7µm,21.0s									
TLBR	**Topalu**	76.85	318	⇑P		P		02 47 37.3	-0.2	
NIE	**Niedzica**	76.86	326	*e*P		P		02 47 38.7	+1.1	
NIE				*e*PP		PP		02 50 27.1	-2.9	
NIE				*e*S		S		02 57 23.6	+0.2	
NIE				*e*L		L		03 25 02.6		
	comp=Z,24µm,18.1s									
GAZ	**Gaziantep**	76.86	308	*e*P		P		02 47 39.3	+1.5	
GAZ	**Gaziantep**	76.86	308	IAMs_20		IAMs_20		03 25 30.6		
	comp=Z,7µm,19.0s									
MFTR	**Murfatlar**	76.92	318	⇑P		P		02 47 38.7	+0.9	
PV21	**Cone Mtn., Par**	77.01	50	P		P		02 47 39.5	+0.7	
PV21				IAmb		IAmb		02 47 53.9		
	comp=Z,90nm,1.2s									
RUE	**Ruedersdorf**	77.06	331	*e*P		P		02 47 39.0	+0.6	
RUE	**Ruedersdorf**	77.06	331	*e*P		P		02 47 39.1	+0.6	
	comp=Z,167nm,1.3s,baz=34,slow=5.4									
PV23	**Carpenter Ridg**	77.06	50	IAmb		IAmb		02 47 54.3		
	comp=Z,121nm,1.1s									
PV23				IAMs_20		IAMs_20		03 17 01.7		
	comp=Z,6µm,22.0s									
NEHR	**Nehoiu**	77.08	320	⇑P		P		02 47 39.4	+0.6	
GLA	**Glamis**	77.08	57	P		P		02 47 40.9	+1.9	
	baz=311									
GLA				S		S		02 57 28.5	+2.1	
	baz=311									
GLA	**Glamis**	77.08	57	IAMs_20		IAMs_20		03 15 09.8		
	comp=Z,7µm,21.0s									
MANR	**Mangalia**	77.09	318	⇑P		P		02 47 40.4	+1.6	
BSEG	**Bad Segeberg**	77.09	334	*e*P		P		02 47 39.3	+0.7	
	comp=Z,110nm,1.1s,baz=34,slow=5.4									
PV14	**Lion Creek, Pa**	77.11	50	IAmb		IAmb		02 47 54.5		
	comp=Z,167nm,1.3s									
PV14				IAMs_20		IAMs_20		03 17 13.0		
	comp=Z,5µm,21.0s									
PGOR	**Pogoanele**	77.12	319	⇑P		P		02 47 39.7	+0.7	
PHWY	**Pilot Hill**	77.12	46	IAmb		IAmb		02 47 54.3		
	comp=Z,232nm,2.0s									
DOPR	**Dopca**	77.13	321	⇑P		P		02 47 40.5	+1.4	
N23A	**Red Feather La**	77.13	47	P		P		02 47 40.7	+1.2	
	baz=314,SNR=16									
N23A	**Red Feather La**	77.13	47	IAmb		IAmb		02 48 05.2		
	comp=Z,83nm,1.1s									
PV22	**Blue Mesa, Par**	77.13	50	IAmb		IAmb		02 48 05.6		
	comp=Z,60nm,0.9s									
AMRR	**Amara**	77.16	319	⇑P		P		02 47 40.5	+1.4	
PV04	**Paradox Valley**	77.16	50	IAMs_20		IAMs_20		03 17 15.5		
	comp=Z,5µm,22.0s									
ISR	**Istrita**	77.18	320	⇑P		P		02 47 40.5	+1.1	
D32A	**Dogwood Acres,**	77.19	37	IAMs_20		IAMs_20		03 21 33.4		
	comp=Z,6µm,21.0s									
MLR	**Muntele Rosu**	77.20	320	⇑P		P		02 47 40.0	+0.4	
BR131	**Keskin Array S**	77.22	312	P		P		02 47 40.3	+0.4	
	SNR=20									
BR131				P		P		02 47 40.3	+0.4	
	SNR=20									
BRTR	**Keskin Array B**	77.22	312	P		P		02 47 39.4	-0.5	
	comp=Z,24nm,1.1s,baz=72,slow=4.0,SNR=46									
BRTR				PP		PP		02 50 34.5	+1.1	
	comp=Z,12nm,1.0s,baz=64,slow=5.6,SNR=3.7									
BRTR				LR		LR		03 26 31.9		
	comp=Z,4µm,18.8s,baz=54,slow=39									
BRTR	**Keskin Array B**	77.22	312	P		P		02 47 39.7	-0.2	
ICOR	**Ion Corvin**	77.28	318	⇑P		P		02 47 40.3	+0.4	
DMTO	**DMTO**	77.30	282	P		P		02 47 39.9	-0.5	
	SNR=20									
DMTO				P		P		02 47 39.9	-0.5	
	SNR=20									
PSN	**Preselentsi**	77.39	318	P		P		02 47 40.0	-0.5	
KSP	**Ksiaz**	77.40	329	*e*P		P		02 47 41.2	+0.7	
KSP				*e*PP		PP		02 50 31.8	-2.6	
KSP				*e*S		S		02 57 28.9	-0.2	
KSP				*e*L		L		03 25 31.2		
	comp=Z,29µm,17.3s									
LANS	**Liptovska Anna**	77.42	326	*e*P		P		02 47 42.3	+1.6	
LANS				*e*				02 47 54.2		
LANS	**Liptovska Anna**	77.42	326	*e*P		P		02 47 42.3	+1.6	
LANS				*e*				02 47 54.2		
CJR	**Cluj-Napoca**	77.42	322	⇑P		P		02 47 42.3	+1.6	
NWAO	**Narrogin (SRO)**	77.42	202	P		P		02 47 40.1	-0.5	
NWAO				pmax		pmax				
	comp=Z,84nm,1.1s									
NWAO	**Narrogin (SRO)**	77.42	202	P		P		02 47 40.1	-0.5	
NWAO				IAmb		IAmb		02 48 11.0		
	comp=Z,84nm,1.1s									
OKC	**Ostrava-Krasne**	77.44	327	AMS		AMS		03 25 10.0		
	comp=Z,32µm,17.0s									
PV15	**Paradox Valley**	77.44	50	IAMs_20		IAMs_20		03 17 13.8		
	comp=Z,5µm,22.0s									
KOZT	**Kozan**	77.48	309	*e*P		P		02 47 42.1	+0.9	
LEHL	**Lehliu**	77.51	319	⇑P		P		02 47 42.5	+1.3	
RASA	**Rasa**	77.53	319	⇑P		P		02 47 42.1	+0.8	
LOD	**Lodumlu**	77.60	312	*e*P		P		02 47 42.8	+0.9	
WUAZ	**Wupatki**	77.62	54	P		P		02 47 43.6	+1.4	
	baz=312,SNR=26									
WUAZ	**Wupatki**	77.62	54	IAmb		IAmb		02 47 57.7		
	comp=Z,96nm,1.1s									
WUAZ				IAMs_20		IAMs_20		03 16 05.7		
	comp=Z,5µm,21.0s									
BR231	**Keskin MP Arra**	77.62	312	P		P		02 47 42.5	+0.5	
BR231				IAmb		IAmb		02 47 45.3		
	comp=Z,130nm,1.1s									
SULR		77.64	319	⇓P		P		02 47 42.5	+0.6	
Y14A	**Wickenburg**	77.66	56	IAmb		IAmb		02 47 57.5		
	comp=Z,83nm,1.2s									
YAYX	**Yaylak**	77.66	311	*e*P		P		02 47 42.7	+0.4	
OSTC	**Ostas**	77.66	329	*e*P		P		02 47 42.6	+0.6	
OSTC				*e*S		S		02 57 25.6	-6.4	
OSTC				AMS		AMS		03 25 30.0		
	comp=Z,31µm,16.8s									
VOIR		77.68	321	⇑P		P		02 47 43.1	+0.8	
AFSR	**Afar-Bala (An**	77.73	312	*e*P		P		02 47 43.7	+1.0	
B35A	**Bob, Littlefor**	77.74	35	IAmb		IAmb		02 48 25.1		
	comp=Z,76nm,1.1s									
B35A				IAMs_20		IAMs_20		03 27 11.7		
	comp=Z,5µm,20.0s									
MORC	**Moravsky Berou**	77.74	327	⇑P		P		02 47 43.5	+1.0	
MORC	**Moravsky Berou**	77.74	327	*i* P		P		02 47 43.2	+0.8	
MORC				*e*S		S		02 57 30.1	-2.8	
MORC	**Moravsky Berou**	77.74	327	IAmb		IAmb		02 47 59.9		
	comp=Z,104nm,1.0s									
UPC	**Upice**	77.78	329	*e*P		P		02 47 43.3	+0.7	
UPC				*ex*		x		02 47 58.1		
UPC				*e*S		S		02 57 27.6	-5.6	
UPC				AMS		AMS		03 25 40.0		
	comp=Z,32µm,16.5s									
UPC	**Upice**	77.78	329	*e*P		P		02 47 43.3	+0.7	
UPC				*e*				02 47 58.1		
UPC				*e*S		S		02 57 27.6	-5.6	
UPC				MLR		MLR				
	comp=Z,32µm,16.5s									
DPC	**Dobruska-

comp=Z,58nm,1.2s
BRG *i* 02 48 01.6
comp=Z,41nm,1.0s
BRG *e*PP **PP** **02 50 41.3 -0.4**
comp=Z,47nm,1.7s
BRG S **S** **02 57 40.0 +1.3**
BRG SS **SS** **03 02 37.0 -3.0**
BRG *e*PKPPKP 03 14 47.0
comp=Z,2.9nm,0.8s
comp=N,14µm,22.3s
comp=E,13µm,16.6s
comp=Z,18µm,21.4s
BRG Berggiesshubel 78.29 330 *i* P **P** **02 47 45.7 +0.3**
BRG *i* 02 48 01.6
BRG *e* 02 50 41.3
BRG S **S** **02 57 40.0 +1.3**
BRG SS **SS** **03 02 37.0 -3.0**
BRG pmax pmax
comp=Z,58nm,1.2s
BRG pmax pmax
comp=Z,47nm,1.7s
BRG MLR MLR
comp=N,14µm,22.3s
BRG MLR MLR
comp=E,13µm,16.6s
BRG MLR MLR
comp=Z,18µm,21.4s
BRG Berggiesshubel 78.29 330 *e*P **P** **02 47 45.6 +0.3**
comp=Z,114nm,1.4s,baz=34,slow=5.4
YAYL Yayladag 78.29 308 *e*P **P** **02 47 46.9 +1.1**
CLL Collm 78.29 331 *i* P **P** **02 47 45.3 -0.1**
comp=Z,93nm,1.1s
CLL *e*Pmax 02 47 48.0
CLL *e*(PcP) **pP** **02 47 52.0 -1.1**
CLL *i* pP **PcP** **02 47 54.9 +0.2**
CLL *i* 02 48 01.6
CLL *e*PP **PP** **02 50 40.0 -1.7**
CLL *e* 02 51 31.0
CLL *e*PPP PPP 02 52 36.0
CLL *e*S **S** **02 57 37.0 -1.6**
CLL *e*SKSac **SKSac** **02 57 54.0 -4.0**
CLL *e*ScS **SKKSac** **02 58 00.0 +1.0**
CLL *e*PS **PnS** **02 58 17.0 -4.3**
CLL *e*(SS) 03 03 12.0
CLL *e* 03 07 12.0
CLL LmH 03 21 00.0
comp=N,18µm,20.1s
CLL LmH 03 21 00.0
comp=E,24µm,20.5s
CLL LmV 03 25 00.0
comp=Z,25µm,19.8s
CLL Lmax 03 25 00.0
CLL Collm 78.29 331 *i* P **P** **02 47 45.3 -0.1**
CLL *i* *PP **PcP** **02 47 54.9 +0.2**
CLL *e*S **S** **02 57 37.0 -1.6**
CLL *e* 02 58 00.0
CLL pmax pmax
comp=Z,93nm,1.1s
CLL MLR MLR
comp=Z,25µm,19.8s
CLL Collm 78.29 331 *e*P **P** **02 47 45.4 -0.1**
comp=Z,93nm,1.1s,baz=34,slow=5.4
CLL Collm 78.29 331 lAmb lAmb 02 48 05.0
comp=Z,68nm,0.9s
KAC Achnashellach 78.31 343 *e*P **P** **02 47 45.4 0.0**
X16A Lo Mia Camp, P 78.31 54 lAmb lAmb 02 48 01.7
comp=Z,73nm,1.1s
RAZG Razgrad 78.32 318 ⇑P **P** **02 47 46.3 +0.5**
PVCC Panska Ves 78.32 329 *e*P **P** **02 47 46.4 +0.8**
PVCC *ex* x 02 48 01.4
PVCC *e*S **S** **02 57 35.4 -3.7**
PVCC AMS AMS 03 26 30.0
comp=Z,20µm,16.0s
PVCC Panska Ves 78.32 329 *e*P **P** **02 47 46.4 +0.8**
PVCC *e* 02 48 01.4
PVCC *e*S **S** **02 57 35.4 -3.7**
PVCC MLR MLR
comp=Z,20µm,16.0s
SULT Sultanhani-AKS 78.33 311 *e*P **P** **02 47 46.7 +0.7**
SAUV Serdivan-Sakar 78.34 314 *e*P **P** **02 47 46.2 +0.3**
NRDL Niedersach Rie 78.35 333 *e*P **P** **02 47 46.0 +0.4**
comp=Z,140nm,1.7s,baz=34,slow=5.4
KRTS Karatas 78.36 309 *e*P **P** **02 47 47.5 +1.5**
DEV Deva 78.36 322 ⇓P **P** **02 47 46.3 +0.4**
HUMR Humele 78.38 320 ⇑P **P** **02 47 47.0 +1.0**
SFX San Felipe 78.38 59 P **P** **02 47 45.8 -0.5**
SPNC Sapanca-Adapaz 78.39 314 *e*P **P** **02 47 47.1 +0.9**
JAVC Velka Javorina 78.40 327 ⇑*i*P **P** **02 47 47.8 +1.7**
JAVC *e*S **S** **02 57 39.4 -0.7**
ORH Orhaniye 78.40 315 P **P** 02 47 52.6 +6.4
CHBY Cihanbeyli 78.43 311 *e*P **P** **02 47 46.8 +0.3**
ASSE Asse, Remlinge 78.46 332 *e*P **P** **02 47 46.7 +0.5**
comp=Z,148nm,1.6s,baz=34,slow=5.4
GULT Gulveren 78.46 314 *e*P **P** **02 47 46.9 +0.2**
FBE Freiberg 78.47 330 *e*P **P** **02 47 47.1 +0.7**
comp=Z,175nm,1.6s,baz=34,slow=5.4
F33A 5 Mile Ranch, 78.49 38 lAmb lAmb 02 48 06.0
comp=Z,77nm,1.0s
F33A IAMs_20 IAMs_20 03 23 07.7
comp=Z,5µm,22.0s
YESY Yesilyurt 78.49 310 *e*P **P** **02 47 47.5 +0.6**
VRAC Vranov 78.49 328 ⇑P **P** **02 47 47.5 +1.0**
VRAC Vranov 78.49 328 ⇑*i*P **P** **02 47 47.4 +0.8**
VRAC *e*S **S** **02 57 40.4 -0.5**
KPL Plockton 78.53 343 *e*P **P** **02 47 47.1 +0.5**
KPL lAmb lAmb 02 47 53.5
comp=Z,64nm,0.9s
KPL IAMs_20 IAMs_20 03 27 55.1
comp=Z,7µm,18.2s
COPA Copaceanca 78.55 320 ⇑P **P** **02 47 47.3 +0.3**
SVRH Sivrihisar-ESK 78.59 313 *e*P P 02 47 41.5 -5.9
HRT Hereke 78.64 315 *e*P **P** **02 47 44.8 -2.8**
SIRR Siria 78.65 323 ⇑P **P** **02 47 48.2 +0.7**
MERS Mersin 78.66 309 *e*P **P** **02 47 48.8 +1.0**
KLYT Kilyos 78.67 315 *e*P **P** **02 47 48.1 +0.4**
SRCK Saricakaya, Es 78.67 314 *e*P P 02 47 42.2 -5.5
RAO Raoul Island 78.68 146 IAMs_20 IAMs_20 03 18 26.5
comp=Z,9µm,21.0s
GOPC GO Pecny, Ondr 78.73 329 *e*P **P** **02 47 48.5 +0.6**
GOPC *ex* x 02 48 02.9
GOPC *e*S **S** **02 57 37.4 -6.1**
GOPC AMS AMS 03 26 10.0
comp=Z,21µm,15.9s
GOPC GO Pecny, Ondr 78.73 329 *e*P **P** **02 47 48.5 +0.6**
GOPC *e* 02 48 02.9
GOPC *e*S **S** **02 57 37.4 -6.1**
GOPC MLR MLR
comp=Z,21µm,15.9s
PRA Prague 78.74 329 *e*P **P** **02 47 48.7 +0.8**
PRA *ex* x 02 48 03.5
PRA *e*S **S** **02 57 43.3 -0.2**
PRA AMS AMS 03 27 30.0
comp=Z,10µm,15.4s
PRA Prague 78.74 329 *e*P **P** **02 47 48.7 +0.8**
PRA *e* 02 48 03.5
PRA *e*S **S** **02 57 43.3 -0.2**
PRA MLR MLR
comp=Z,10µm,15.4s
ABTO Aybut 78.75 283 P **P** **02 47 48.1 -0.5**
SNR=52
ABTO P **P** **02 47 48.1 -0.5**
SNR=52
KRUC Moravsky 78.76 328 ⇑*i*P **P** **02 47 48.7 +0.6**
KRUC *e*S **S** **02 57 39.1 -4.8**
PRU Pruhonice 78.77 329 *e*P **P** **02 47 48.5 +0.4**
PRU *e*pP **pP** **02 47 56.0 +0.2**
PRU *ex* x 02 48 03.3
PRU *e*S **S** **02 57 37.4 -6.4**
PRU AMS AMS 03 26 10.0
comp=Z,19µm,17.1s
PRU Pruhonice 78.77 329 *e*P **P** **02 47 48.5 +0.4**
PRU *e* 02 47 56.0
PRU *e* 02 48 03.3
SMOL Smolenice 78.77 327 *e*P **P** **02 47 49.4 +1.3**
SMOL pmax pmax
comp=Z,36nm,1.2s
SMOL Smolenice 78.77 327 *e*P **P** **02 47 49.3 +1.2**
SMOL *e*S **S** **02 57 43.4 -0.5**
GZR Gura Zlata 78.79 322 ⇓P **P** **02 47 48.9 +0.5**
KIZT Kizilcal 78.79 312 *e*P **P** **02 47 48.8 +0.2**
ISK Istanbul-Kandi 78.80 315 *e*P **P** **02 47 48.1 -0.3**
KAVV Kandilli-Istan 78.80 315 *e*P **P** **02 47 48.1 -0.3**
CLZ Clausthal 78.80 332 *e*P **P** **02 47 48.8 +0.5**
comp=Z,127nm,1.3s,baz=34,slow=5.4

S22A 4UR Ranch, Cre 78.80 49 P **P** **02 47 50.2 +1.3**
baz=314,SNR=22
S22A 4UR Ranch, Cre 78.80 49 lAMs_20 lAMs_20 03 29 37.6
comp=Z,4µm,19.0s
NEUB Neuenburg 78.82 331 *e*P **P** **02 47 48.7 +0.3**
comp=Z,102nm,1.1s,baz=34,slow=5.4
ZIMR 78.82 319 ⇑P **P** **02 47 49.2 +0.7**
SZH Strazhica 78.83 319 P **P** **02 47 48.0 -0.5**
W18A Petrified Fore 78.88 53 S **S** **02 57 48.9 +3.0**
baz=313
W18A Petrified Fore 78.88 53 lAMs_20 lAMs_20 03 16 49.0
comp=Z,7µm,22.0s
ADVT Abdulvahap 78.88 314 *e*P **P** **02 47 48.1 -0.8**
Q24A Divide 78.91 48 P **P** **02 47 46.1 -3.4**
baz=314
Q24A S **S** **02 57 50.1 +3.7**
baz=314
CIFT Cifteler, Eski 78.91 313 *e*P **P** **02 47 49.0 -0.2**
CTYL Yalikoy Yolu 78.91 316 *e*P **P** **02 47 49.5 +0.5**
MODS Modra-Piesok 78.94 327 *e*P **P** **02 47 49.4 +0.3**
MODS pmax pmax
comp=Z,140nm,1.7s
MODS Modra-Piesok 78.94 327 *e*P **P** **02 47 49.4 +0.3**
MODS *e*S **S** **02 57 46.4 +0.6**
SRO Srobarova 78.94 326 *e*P **P** **02 47 50.5 +1.5**
SRO pmax pmax
comp=Z,125nm,1.4s
SRO Srobarova 78.94 326 *e*P **P** **02 47 50.5 +1.5**
TREC Trest 78.94 328 *e*P **P** **02 47 49.5 +0.4**
TREC *ex* x 02 48 05.4
TREC *e*S **S** **02 57 41.3 -4.5**
TREC AMS AMS 03 26 10.0
comp=Z,20µm,17.4s
TREC Trest 78.94 328 *e*P **P** **02 47 49.5 +0.4**
TREC *e* 02 48 05.4
TREC *e*S **S** **02 57 41.3 -4.5**
TREC MLR MLR
comp=Z,20µm,17.4s
CTKS Kestanelik-??a 78.97 316 *e*P **P** **02 47 49.7 +0.4**
CAVI Cavuskoy 78.99 314 *e*P **P** **02 47 49.9 +0.4**
LADK Ladik-KONYA 78.99 311 *e*P **P** **02 47 48.6 -1.1**
INVG Invergeldie, C 79.00 342 *e*P **P** **02 47 49.0 -0.3**
INVG lAmb lAmb 02 47 51.8
comp=Z,708nm,2.9s
INVG IAMs_20 IAMs_20 03 28 22.9
comp=Z,9µm,16.3s
EYMN Ely 79.01 34 P **P** **02 47 49.4 -0.1**
baz=321,SNR=16
EYMN Ely 79.01 34 lAmb lAmb 02 48 07.9
comp=Z,141nm,1.4s
EYMN Ely 79.01 34 lAMs_20 lAMs_20 03 23 56.3
comp=Z,5µm,20.0s
JMB Yambol 79.08 318 P **P** **02 47 49.0 -0.9**
214A Organ Pipe Nat 79.08 57 P **P** **02 47 52.1 +1.9**
baz=312,SNR=8.2
214A S **S** **02 57 50.1 +2.2**
baz=312
214A Organ Pipe Nat 79.08 57 lAMs_20 lAMs_20 03 15 14.8
comp=Z,6µm,22.0s
ESY Stoneypath 79.13 341 *e*P **P** **02 47 49.8 -0.1**
SLVT Silivri 79.13 316 *e*P **P** **02 47 51.6 +1.4**
SRE Strehaia 79.13 321 ⇑P **P** **02 47 51.5 +1.3**
ZST Bratislava 79.15 327 *e*P **P** **02 47 50.4 +0.2**
ZST *e*S **S** **02 57 49.6 +1.6**
ZST Bratislava 79.15 327 *e*P **P** **02 47 50.4 +0.2**
ZST *e*S **S** **02 57 49.6 +1.6**
KONT Konya--Tatoy 79.17 311 *e*P **P** **02 47 51.0 +0.5**
GEMT Gemlik 79.17 315 *e*P **P** **02 47 51.3 +0.8**
GTTG Gottingen 79.19 332 *e*P **P** **02 47 50.8 +0.5**
comp=Z,86nm,1.3s,baz=34,slow=5.4
PHSR Pinarhisar 79.20 317 *e*P **P** **02 47 51.4 +0.8**
TANN Tannenbergstha 79.21 330 *e*P **P** **02 47 50.9 +0.3**
comp=Z,1µm,3.0s,baz=34,slow=5.4
PBCC Pribram 79.22 329 *e*P **P** **02 47 50.5 -0.1**
PBCC *ex* x 02 48 07.0
ARMT Armutlu 79.26 315 *e*P **P** **02 47 51.0 0.0**
PLN Plauen 79.27 331 *e*P **P** **02 47 51.2 +0.4**
comp=Z,586nm,2.8s,baz=34,slow=5.4
EAB Aberfoyle 79.29 342 *e*P **P** **02 47 51.3 +0.5**
GUNZ Gunzen 79.30 330 *e*P **P** **02 47 51.5 +0.5**
comp=Z,116nm,1.6s,baz=34,slow=5.4
IBBN Ibbenburen 79.30 334 *e*P **P** **02 47 51.3 +0.3**
comp=Z,161nm,1.2s,baz=34,slow=5.4
MOX Moxa 79.34 331 *e*P **P** **02 47 51.6 +0.4**
comp=Z,97nm,1.5s,baz=34,slow=5.4
MOX *e*L L 03 26 30.1
comp=Z,24µm,18.4s
HERR Herculane 79.34 322 ⇑P **P** **02 47 51.4 +0.1**
WERN Wernitzgruen 79.35 330 *e*P **P** **02 47 51.9 +0.6**
comp=Z,121nm,1.7s,baz=34,slow=5.4
SILI Silifke-Mersin 79.35 309 *e*P **P** **02 47 51.7 +0.2**
NKC Novy Kostel 79.37 330 *e*P **P** **02 47 51.5 +0.1**
NKC *ex* x 02 48 08.3
NKC *e*S S 02 57 39.3 -11
NKC AMS AMS 03 25 50.0
comp=Z,21µm,19.2s
NKC Novy Kostel 79.37 330 *e*P **P** **02 47 51.5 +0.1**
NKC *e* 02 48 08.3
NKC *e*S S 02 57 39.3 -11
NKC MLR MLR
comp=Z,21µm,19.2s
MDNY Mudanya-Bursa 79.38 315 *e*P **P** **02 47 51.9 +0.3**
EDRB Edirne 79.45 317 P **P** **02 47 51.4 -0.5**
EDRB Edirne 79.45 317 *e*P **P** **02 47 51.9 0.0**
CRLT Corlu 79.45 316 *e*P **P** **02 47 53.2 +1.2**
LAWE Loch Awe, Argy 79.47 343 *e*P **P** **02 47 52.2 +0.4**
LAWE lAmb lAmb 02 47 55.8
comp=Z,88nm,1.2s
LAWE IAMs_20 IAMs_20 03 28 42.6
comp=Z,9µm,16.7s
BAIL Bailesti 79.54 320 ⇑P **P** **02 47 53.6 +1.2**
PUNG Punghina 79.55 321 ⇑P **P** **02 47 52.2 -0.2**
BANR Banloc 79.56 323 ⇑P **P** **02 47 53.4 +0.9**
SDCO Great Sand Dun 79.56 49 P **P** **02 47 54.1 +1.1**
baz=314,SNR=13
IKL Isikli 79.58 309 *e*P **P** **02 47 52.9 +0.1**
TEVE Tevekalti-Mers 79.59 310 *e*P **P** **02 47 53.0 +0.1**
PGBU Glenifferbraes 79.67 342 *e*P **P** **02 47 53.6 +0.7**
PGBU lAmb lAmb 02 47 57.7
comp=Z,133nm,1.2s
PGBU IAMs_20 IAMs_20 03 24 32.4
comp=Z,6µm,18.6s
MANZ Manzenberg 79.69 330 *e*P **P** **02 47 53.5 +0.4**
comp=Z,80nm,1.3s,baz=34,slow=5.4
AKKU Akkuyu-Mersin 79.72 309 *e*P **P** **02 47 53.8 +0.3**
TVSB Tavsanli 79.73 314 *e*P **P** **02 47 54.1 +0.5**
F36A Milaca 79.73 36 lAMs_20 lAMs_20 03 23 42.7
comp=Z,7µm,22.0s
MDVR Moldovita 79.74 322 ⇓P **P** **02 47 54.1 +0.5**
SHUT Suhut-Afyon 79.76 313 *e*P **P** **02 47 54.5 +0.6**
BERE Bereket-Mersin 79.78 310 *e*P **P** **02 47 54.0 0.0**
UBBA Unterbreizbach 79.78 332 *e*P **P** **02 47 53.7 +0.3**
comp=Z,637nm,3.0s,baz=34,slow=5.4
EREN Erenkoy 79.78 308 *e*P **P** **02 47 54.1 +0.2**
ESK Eskdalemuir 79.81 341 *e*P **P** **02 47 53.7 0.0**
ESK lAmb lAmb 02 47 56.1
comp=Z,41nm,1.1s
ESK IAMs_20 IAMs_20 03 28 43.3
comp=Z,15µm,17.0s
ESK Eskdalemuir 79.81 341 P **P** **02 47 53.6 0.0**
ESK pmax pmax
comp=Z,35nm,1.0s
ESK Eskdalemuir 79.81 341 P **P** **02 47 53.6 0.0**
KHC Kasperske Hory 79.83 329 *e*P **P** **02 47 53.7 -0.2**
KHC *ex* x 02 48 10.3
KHC *ex* x 02 48 25.0
KHC *e*S **S** **02 57 51.1 -4.1**
KHC AMS AMS 03 29 10.0
comp=Z,22µm,16.6s
KHC Kasperske Hory 79.83 329 *e*P **P** **02 47 53.7 -0.2**
KHC *e* 02 48 10.3
KHC *e*S **S** **02 57 51.1 -4.1**
KHC MLR MLR
comp=Z,22µm,16.6s
KHC Kasperske Hory 79.83 329 P **P** **02 47 54.1 +0.2**
ROTZ Rotzenmuhle 79.84 330 *e*P **P** **02 47 54.7 +0.8**
comp=Z,155nm,1.6s,baz=34,slow=5.4
CONA Conrad Observa 79.88 327 *i* P **P** **02 47 55.5 +1.2**
comp=Z,69nm,1.2s,SNR=37
MRMT Marmara Adasi 79.90 316 *e*P **P** **02 47 54.9 +0.4**
ECSD EROS Data Cent 79.91 40 P **P** **02 47 54.6 +0.2**
baz=318,SNR=23
ECSD EROS Data Cent 79.91 40 lAMs_20 lAMs_20 03 24 16.5
comp=Z,8µm,21.0s

EDC Edincik 79.94 315 *e*P **P** **02 47 55.1 +0.4**
TEKE Tekeli-Mersin 79.98 309 *e*P **P** **02 47 54.8 -0.1**
BHL Bhannes 80.00 306 *e*P **P** **02 47 55.5 +0.3**
GEC2 GERESS Array S 80.01 329 *e*P **P** **02 47 55.3 +0.2**
comp=Z,86nm,1.6s,baz=34,slow=5.4
GERES GERESS Array B 80.01 329 P **P** **02 47 55.2 +0.2**
comp=Z,12nm,0.9s,baz=39,slow=5.1,SNR=78
GERES PP **PP** **02 50 58.7 +2.4**
comp=Z,12nm,1.1s,baz=45,slow=13,SNR=4.0
GERES PKKPbc **PKKPbc** **03 06 39.4 +0.9**
comp=Z,0.6nm,0.8s,baz=222,slow=1.8,SNR=4.7
GERES LR LR 03 26 59.6
comp=Z,12µm,18.1s,baz=25,slow=38
GERES GERESS Array B 80.01 329 P **P** **02 47 54.3 -0.7**
GERES GERESS Array B 80.01 329 P **P** **02 47 54.3 -0.7**
E38A The Farm, Brul 80.03 35 lAMs_20 lAMs_20 03 28 21.3
comp=Z,5µm,20.0s
MORH Mrgy, Hungar 80.04 325 ⇑*i*P **P** **02 47 53.5 -1.5**
RKY Sarkoy-Tekirda 80.06 316 *e*P **P** **02 47 56.1 +0.7**
WET Wettzell 80.09 329 *e*P **P** **02 47 56.1 +0.8**
comp=Z,108nm,1.4s,baz=34,slow=5.4
TUC Tucson 80.13 56 P **P** **02 47 57.3 +1.4**
baz=312
TUC Tucson 80.13 56 P **P** **02 47 56.3 +0.4**
TUC pmax pmax
comp=Z,91nm,1.7s
TUC Tucson 80.13 56 P **P** **02 47 56.3 +0.4**
TUC Tucson 80.13 56 lAMs_20 lAMs_20 03 17 03.2
comp=Z,5µm,21.0s
DQRL Deir Qamar 80.19 306 *e*P **P** **02 47 56.5 +0.3**
BUG Bochum--Univer 80.20 334 *e*P **P** **02 47 55.8 +0.1**
comp=Z,99nm,1.2s,baz=34,slow=5.4
KRBG Karabiga-Canak 80.21 316 *e*P **P** **02 47 56.8 +0.7**
PGB Panagyurishte 80.23 319 P **P** **02 47 55.0 -1.3**
SIMA Simav-Kutahya 80.25 314 *e*P **P** **02 47 56.7 +0.2**
GRA1 Grafenberg Arr 80.27 331 lAmb lAmb 02 48 00.9
comp=Z,151nm,1.1s
GRF Grafenberg Arr 80.27 331 *e*P **P** **02 47 57.1 +0.9**
comp=Z,201nm,1.3s,baz=34,slow=5.4
GRF *e*L L 03 26 49.3
comp=Z,21µm,19.4s
KSCO Kaye Shedlock' 80.27 46 P **P** **02 47 57.6 +1.0**
baz=316
KSCO Kaye Shedlock' 80.27 46 lAmb lAmb 02 48 11.3
comp=Z,199nm,1.4s
KDZ Kurdzhali 80.27 318 P **P** **02 47 57.0 +0.6**
ISP Isparta 80.29 312 lAMs_20 lAMs_20 03 28 14.9
comp=Z,8µm,20.0s
PLD Plovdiv 80.30 318 P **P** **02 47 57.0 +0.5**
FRGS Fruska Gora 80.33 323 ⇑*i*P **P** **02 47 55.6 -1.1**
GAZI Gazipasa 80.38 310 *e*P **P** **02 47 55.9 -1.2**
ERIK Erikli-Kesan 80.42 316 *e*P **P** **02 47 55.9 -1.3**
BALB Balikesir 80.44 315 *e*P **P** **02 47 57.7 +0.3**
KESW Keswick, Cumbr 80.45 341 *e*P **P** **02 47 57.8 +0.7**
KESW lAmb lAmb 02 47 59.1
comp=Z,150nm,1.3s
KESW IAMs_20 IAMs_20 03 29 02.4
comp=Z,16µm,17.4s
ALN Alexandroupoli 80.50 317 P **P** **02 47 57.5 -0.1**
ALN Alexandroupoli 80.50 317 lAmb lAmb 02 48 26.5
comp=Z,72nm,1.1s
LPK Lapseki 80.51 316 *e*P **P** **02 47 58.6 +0.9**
BCK Bucak 80.51 312 *e*P **P** **02 47 57.8 -0.1**
SPMN Marine on St. 80.55 36 P **P** **02 47 57.5 -0.3**
baz=321
SPMN S **S** **02 58 02.7 -0.2**
baz=321
SPMN Marine on St. 80.55 36 lAmb lAmb 02 48 11.8
comp=Z,122nm,1.6s
SPMN IAMs_20 IAMs_20 03 24 31.1
comp=Z,7µm,22.0s
ARSA Arzberg 80.55 327 *i* P **P** **02 47 58.6 +0.7**
comp=Z,52nm,1.1s,SNR=23
ENEZ Enez 80.56 317 *e*P **P** **02 47 58.6 +0.6**
RDO Rodhopi 80.58 317 P **P** **02 47 58.5 +0.5**
MOA Molln 80.59 328 *i* P **P** **02 47 58.7 +0.6**
comp=Z,41nm,1.6s,SNR=18
MOA *e*P **PP** **02 51 01.2 +0.3**
comp=Z,31nm,1.3s
DGAR Diego Garcia 80.60 252 lAMs_20 lAMs_20 03 25 13.0
comp=Z,5µm,20.0s
T25A Trinidad 80.60 49 P **P** **02 47 59.6 +1.0**
baz=315,SNR=19
T25A Trinidad 80.60 49 lAmb lAmb 02 48 13.5
comp=Z,87nm,1.2s
GELI Tayfur-Gelibol 80.64 316 *e*P **P** **02 47 58.9 +0.5**
VTS Vitosha 80.64 320 P **P** **02 47 58.0 -0.6**
HPK Haverah Park 80.64 340 *e*P **P** **02 47 58.6 +0.5**
HPK lAmb lAmb 02 48 01.6
comp=Z,45nm,0.8s
HPK IAMs_20 IAMs_20 03 28 06.6
comp=Z,13µm,20.9s
BEHE Becsehely 80.65 326 ⇑*i*P **P** **02 48 00.8 +2.5**
CSS Mathiatis 80.67 308 P **P** **02 47 57.8 -0.9**
CSS lAmb lAmb 02 48 15.7
comp=Z,78nm,1.0s
CSS IAMs_20 IAMs_20 03 28 39.3
comp=Z,7µm,19.0s
CLGH Cloghs, Cushen 80.71 343 *e*P **P** **02 47 58.7 +0.2**
CLGH lAmb lAmb 02 48 03.8
comp=Z,153nm,1.4s
CLGH IAMs_20 IAMs_20 03 29 34.0
comp=Z,7µm,16.1s
LEF Lefka 80.82 309 ⇑P **P** **02 47 59.3 -0.2**
LEF Lefka 80.82 309 *e*P **P** **02 47 59.3 -0.2**
TNS Taunus Mts 80.82 332 *e*P **P** **02 47 59.5 +0.3**
comp=Z,70nm,1.3s,baz=34,slow=5.4
KULA Kula-Manisa 80.83 314 *e*P **P** **02 47 59.8 +0.2**
ANTB Antalya 80.87 311 *e*P **P** **02 47 58.7 -1.0**
BGNE Belgrade 80.88 42 P **P** **02 47 59.8 +0.1**
baz=318,SNR=14
BGNE Belgrade 80.88 42 lAMs_20 lAMs_20 03 25 12.2
comp=Z,8µm,21.0s
KOGS Kog 80.89 326 *i* P **P** **02 47 59.5 -0.1**
comp=Z,1µm,3.2s
KOGS *e*PP **PP** **02 51 04.4 +1.0**
KOGS *e* 02 52 49.5
KOGS *e*S **S** **02 58 03.8 -2.5**
OUZ Omahuta 80.89 155 lAMs_20 lAMs_20 03 18 50.8
comp=Z,8µm,21.0s
TEKS Tekeris 80.93 323 *e*P **P** **02 47 58.5 -1.4**
D41A Chassel 80.93 33 lAMs_20 lAMs_20 03 25 13.9
comp=Z,5µm,19.0s
ANMO Albuquerque 80.95 51 P **P** **02 48 01.7 +1.3**
baz=314
ANMO Albuquerque 80.95 51 *i* P **P** **02 47 59.3 -1.1**
ANMO pmax pmax
comp=Z,27nm,1.1s
ANMO Albuquerque 80.95 51 P **P** **02 48 00.5 +0.1**
ANMO lAmb lAmb 02 48 16.0
comp=Z,86nm,1.3s
KORT Korkueli 80.97 312 *e*P **P** **02 48 00.0 -0.4**
AHRW Bad Neuenahr-A 81.03 333 *e*P **P** **02 48 00.7 +0.4**
comp=Z,90nm,1.2s,baz=34,slow=5.4
DIVS Divibare 81.06 322 ⇑*i*P **P** **02 47 59.3 -1.4**
SCHQ Schefferville 81.08 17 P **P** **02 48 00.9 +0.3**
comp=Z,25nm,0.7s,baz=355,slow=6.3,SNR=14
SCHQ LR LR 03 29 10.5
comp=Z,5µm,18.1s,baz=344,slow=39
SCHQ Schefferville 81.08 17 P **P** **02 48 00.9 +0.3**
SCHQ lAmb lAmb 02 48 04.9
comp=Z,232nm,1.9s
SCHQ IAMs_20 IAMs_20 03 23 05.1
comp=Z,8µm,22.0s
GADA Gvkgeada 81.09 316 *e*P **P** **02 48 00.4 -0.4**
EZN Ezine 81.13 316 *e*P **P** **02 48 01.5 +0.5**
LBWR Ladybower, Pea 81.17 340 *e*P **P** **02 48 01.5 +0.5**
LBWR lAmb lAmb 02 48 06.5
comp=Z,78nm,0.9s
LBWR IAMs_20 IAMs_20 03 30 18.7
comp=Z,12µm,16.7s
I37A Lemond, Waseca 81.21 38 lAmb lAmb 02 48 21.1
comp=Z,143nm,1.0s
KAVA Kavala 81.21 318 P **P** **02 48 02.4 +1.0**
SOKA Soboth 81.21 327 *i* P **P** **02 48 02.1 +0.6**
comp=Z,156nm,1.5s,SNR=78
SOKA *e*P **PP** **02 51 06.3 +0.1**
comp=Z,17nm,1.3s
WIM Isle of Man 81.23 342 *e*P **P** **02 48 01.7 +0.4**
BOZC Bozcaada 81.27 316 *e*P **P** **02 48 01.9 +0.1**
BEBN Eben Emael 81.27 334 ⇑P **P** **02 48 01.6 +0.1**
NVR Nevrokopi 81.28 318 P **P** **02 48 02.4 +0.6**
Y22D IRIS PASSCAL I 81.28 52 lAMs_20 lAMs_20 03 18 32.5
comp=Z,7µm,22.0s
BTNL Ternell 81.30 334 ⇑P **P** **02 48 01.9 +0.1**

MEM	**Membach**	81.33	334	P		P		02 48 01.9	0.0		
	comp=Z,43nm,1.2s										
MEM				x		x		02 48 12.6			
DKL	**Dikili**	81.38	315	*e*P		P		02 48 01.3	-1.0		
ELL	**Elmali**	81.40	312	*e*P		P		02 48 02.7	0.0		
RAR	**Rarotonga**	81.45	128	IAMs_20	IAMs_20			03 18 18.6			
	comp=Z,7µm,20.0s										
COWI	**Conover**	81.46	34	IAMs_20	IAMs_20			03 30 02.0			
	comp=Z,6µm,20.0s										
ZAG	**Zagreb**	81.49	326⇑	*i*P		P		02 48 03.0	+0.2		
BSTI	**Sart Tilman**	81.49	334	P		P		02 48 02.9	+0.2		
FUR	**Furstenfeldbru**	81.50	330	*e*P		P		02 48 03.5	+0.7		
	comp=Z,251nm,1.6s,baz=34,slow=5.4										
BBLS	**Lazići**	81.51	323⇑	*i*P		P		02 48 02.3	-0.8		
SOCY	**Socotra**	81.53	279	P		P		02 48 01.8	-1.8		
	SNR=47										
SOCY	**Socotra**	81.53	279	P		P		02 48 00.7	-2.9		
BHOU	**Houvegnez**	81.54	334	⇑P		P		02 48 03.5	+0.4		
OBKA	**Obir**	81.55	327	*i* P		P		02 48 03.5	+0.3		
	comp=Z,36nm,0.9s,SNR=21										
OBKA				*e*P		PP		02 51 09.1	+0.1		
	comp=Z,28nm,1.4s										
HAPS	**Han Pijesak,BI**	81.55	323	*e*P		P		02 48 02.4	-0.9		
STNC	**Stoke**	81.58	340	*e*P		P		02 48 04.0	+0.8		
STNC				IAmb	IAmb			02 48 08.7			
	comp=Z,106nm,1.2s										
STNC				IAMs_20	IAMs_20			03 30 31.5			
	comp=Z,13µm,16.7s										
KBA	**Koelnbreinsper**	81.58	328	*i* P		P		02 48 04.0	+0.4		
	comp=Z,116nm,0.9s,SNR=81										
KBA				*e*P		PP		02 51 09.8	+0.4		
	comp=Z,35nm,1.1s										
SRS	**Serrai**	81.59	318	P		P		02 48 03.6	+0.1		
CWF	**Charnwood Fore**	81.66	339	*e*P		P		02 48 03.6	+0.1		
CWF				IAMs_20	IAMs_20			03 29 19.7			
	comp=Z,10µm,19.1s										
AYDB	**Zeytinkoy-Aydi**	81.66	314	*e*P		P		02 48 04.5	+0.5		
G40A	**Rib Lake**	81.66	35	P		P		02 48 03.9	+0.1		
UCC	**Uccle**	81.70	335	P		P		02 48 03.7	-0.1		
UCC	**Uccle**	81.70	335	P		P		02 48 04.3	+0.5		
UCC				pmax	pmax						
	comp=Z,47nm,1.2s										
UCC				MLR	MLR						
	comp=Z,33µm,18.0s										
UCC	**Uccle**	81.70	335	P		P		02 48 04.3	+0.5		
SJES	**Sjenica**	81.72	322⇑	*i*P		P		02 48 03.3	-0.9		
CRES	**Cresnjev**	81.72	326⇑	*i*P		P		02 48 02.6	-1.5		
BCLA	**Clavier**	81.72	334	⇑P		P		02 48 03.6	-0.3		
	comp=Z,45nm,1.4s										
STU	**Stuttgart**	81.77	331	*e*P		P		02 48 04.7	+0.4		
	comp=Z,114nm,1.1s,baz=34,slow=5.4										
STU	**Stuttgart**	81.77	331	IAmb	IAmb			02 48 08.5			
	comp=Z,91nm,1.0s										
BLCB	**Balcova**	81.80	315	*e*P		P		02 48 04.7	+0.1		
BGES	**Gesves**	81.82	334	⇑P		P		02 48 04.3	-0.2		
MYKA	**Terra Mystica**	81.82	328	*i* P		P		02 48 04.6	-0.1		
	comp=Z,26nm,0.7s,SNR=25										
MYKA				P		PP		02 51 11.5	+0.3		
	comp=Z,19nm,1.0s										
BLY	**Banja Luka**	81.82	324⇑	*i*P		P		02 48 03.2	-1.4		
121A	**Cookes Peak, D**	81.83	54	P		P		02 48 06.6	+1.5		
	baz=314,SNR=15										
WME	**Myndd Eilian**	81.83	341	*e*P		P		02 48 04.3	-0.2		
STIP	**Stip**	81.85	320	*i* P		P		02 48 04.1	-0.7		
KNT	**Kendrikon**	81.90	319	P		P		02 48 05.6	+0.5		
SOH	**Sokhos**	81.93	318	P		P		02 48 05.1	-0.2		
LJU	**Ljubljana**	81.93	327	*i* P		P		02 48 05.1	-0.1		
LJU				*e*PP		PP		02 51 11.4	-0.7		
LJU				*e*				02 52 59.5			
LJU				*e*S		S		02 58 15.0	-2.2		
LJU				*e*				02 58 36.6			
LJU	**Ljubljana**	81.93	327	*e*P		P		02 48 03.8	-1.4		
PLE	**Pljevlja**	81.93	322⇑	*i*P		P		02 48 04.9	-0.5		
AKAS	**Kas**	81.94	312	*e*P		P		02 48 04.9	-0.6		
AKAS	**Kas**	81.94	312	IAMs_20	IAMs_20			03 31 14.6			
	comp=Z,8µm,20.0s										
FETY	**Fethiye**	81.94	312	P		P		02 48 04.6	-0.8		
FETY	**Fethiye**	81.94	312	*e*P		P		02 48 04.9	-0.5		
VAY	**Valandovo**	81.94	319	*i* P		P		02 48 05.8	+0.6		
WLF1	**Llynfaes**	81.95	341	*e*P		P		02 48 05.1	0.0		
WLF1				IAmb	IAmb			02 48 06.8			
	comp=Z,194nm,1.2s										
WLF1				IAMs_20	IAMs_20			03 29 57.2			
	comp=Z,29µm,17.3s										
CBKS	**Cedar Bluff**	81.97	45	P		P		02 48 05.4	-0.2		
	baz=317										
CBKS	**Cedar Bluff**	81.97	45	IAmb	IAmb			02 48 19.3			
	comp=Z,132nm,1.4s										
CBKS				IAMs_20	IAMs_20			03 30 02.1			
	comp=Z,4µm,19.0s										
RCHB	**Rochefort**	81.97	334	⇑P		P		02 48 05.2	0.0		
	comp=Z,71nm,0.0s										
OUR	**Ouranopolis**	81.97	318	P		P		02 48 05.4	-0.1		
SNF	**Seneffe**	81.97	335	⇑P		P		02 48 05.3	+0.1		
	comp=Z,60nm,1.3s										
BMRD	**Maredsous**	82.00	335	⇑P		P		02 48 05.4	0.0		
	comp=Z,75nm,1.4s										
SKO	**Skopje**	82.00	320	*i* P		P		02 48 06.7	+1.1		
KSL	**Kastellorizon**	82.01	312	P		P		02 48 05.1	-0.6		
FOEL	**Foel Wylfa**	82.02	340	*e*P		P		02 48 05.9	+0.4		
FOEL				IAmb	IAmb			02 48 10.3			
	comp=Z,114nm,0.7s										
FOEL				IAMs_20	IAMs_20			03 26 30.3			
	comp=Z,16µm,20.7s										
YER	**Yerkesik**	82.03	313	P		P		02 48 06.8	+0.9		
YER	**Yerkesik**	82.03	313	*e*P		P		02 48 06.8	+0.9		
YLL	**Llanberis**	82.03	341	*e*P		P		02 48 05.8	+0.3		
DALY	**Dalyan (Mula)**	82.05	313	*e*P		P		02 48 06.4	+0.5		
IVA	**Berane**	82.05	322⇑	*i*P		P		02 48 05.9	-0.1		
BOJS	**Bojanci**	82.06	326	*i* P		P		02 48 05.8	-0.1		
BOJS				*e*S		S		02 58 17.3	-1.2		
URLA	**Izmir**	82.06	315	*e*P		P		02 48 06.0	0.0		
WATA	**Walderalm**	82.07	329	*i* P		P		02 48 06.6	+0.6		
	comp=Z,57nm,0.9s,SNR=32										
WATA				*e*P		PP		02 51 13.5	+0.2		
	comp=Z,28nm,1.4s										
WLF	**Walferdange**	82.08	333	P		P		02 48 06.1	+0.2		
WLF	**Walferdange**	82.08	333	*e*P		P		02 48 06.2	+0.3		
	comp=Z,146nm,1.8s,baz=34,slow=5.4										
WTTA	**Wattenberg**	82.10	329	*i* P		P		02 48 06.9	+0.6		
	comp=Z,30nm,0.8s,SNR=24										
WTTA				*e*P		PP		02 51 13.8	+0.1		
	comp=Z,32nm,1.3s										
E43A	**Lone Tree Farm**	82.12	32	IAMs_20	IAMs_20			03 31 49.5			
	comp=Z,4µm,18.0s										
F42A	**Maple Grove Fa**	82.15	33	IAMs_20	IAMs_20			03 26 03.3			
	comp=Z,5µm,21.0s										
ZOU	**Zoufplan**	82.15	328	IAmb	IAmb			02 48 38.2			
	comp=Z,142nm,1.3s										
ABTA	**Abfaltersbach**	82.18	328	*i* P		P		02 48 06.2	-0.4		
	comp=Z,39nm,1.0s,SNR=24										
ABTA				*e*P		PP		02 51 14.6	+0.4		
	comp=Z,12nm,1.2s										
MLSB	**Milas**	82.19	313	*e*P		P		02 48 07.9	+1.2		
PLG	**Polygyros**	82.22	318	P		P		02 48 06.8	0.0		
CEY	**Cerknica**	82.22	327⇑	*i*P		P		02 48 04.9	-1.8		
HORT	**Hortiatis**	82.22	318	P		P		02 48 06.6	-0.3		
DOU	**Dourbes**	82.23	335	⇑P		P		02 48 06.4	-0.2		
DOU				pP		PcP		02 48 09.5	-2.5		
PVY	**Plav**	82.23	321⇓	*i*P		P		02 48 06.7	-0.3		
HSIG		82.24	58	P		P		02 48 07.3	+0.2		
MOTA	**Moosalm**	82.24	329	*i* P		P		02 48 07.6	+0.6		
	comp=Z,94nm,0.9s,SNR=52										
MOTA				P		PP		02 51 14.4	-0.3		
	comp=Z,18nm,1.2s										
KOME	**Kolasin**	82.25	322⇑	*i*P		P		02 48 06.7	-0.3		
RETA	**Reutte**	82.26	330	*i* P		P		02 48 07.6	+0.7		
	comp=Z,111nm,0.9s,SNR=73										
RETA				*e*P		PP		02 51 14.3	-0.4		
	comp=Z,11nm,1.0s										
UPM	**Unac-Piva**	82.26	322⇓	*i*P		P		02 48 06.4	-0.8		
UPM	**Unac-Piva**	82.26	322	*e*P		P		02 48 06.1	-1.1		
HLM1	**Long Mynd**	82.27	340	*e*P		P		02 48 07.1	+0.3		
HLM1				IAmb	IAmb			02 48 10.1			
	comp=Z,156nm,1.6s										
HLM1				IAMs_20	IAMs_20			03 26 38.2			
	comp=Z,12µm,19.1s										
SQTA	**Sankt Quirin**	82.31	329	*i* P		P		02 48 07.8	+0.5		
	comp=Z,30nm,0.8s,SNR=28										
SQTA				*e*P		PP		02 51 15.4	+0.1		
	comp=Z,19nm,1.0s										
TURN	**Turunc**	82.31	313	*e*P		P		02 48 08.0	+0.7		
UBR	**Ueberruh**	82.34	330	*e*P		P		02 48 07.6	+0.2		
	comp=Z,125nm,1.7s,baz=34,slow=5.4										
PAIG	**Paliouri**	82.43	318	P		P		02 48 07.6	-0.3		
BFO	**Black Forest**	82.46	332	P		P		02 48 08.0	+0.1		
BFO				pmax	pmax						
	comp=Z,105nm,1.3s										
BFO				MLR	MLR						
	comp=Z,11µm,20.0s										
BFO	**Black Forest**	82.46	332	*e*P		P		02 48 08.1	+0.2		
	comp=Z,128nm,1.5s,baz=34,slow=5.4										
BFO	**Black Forest**	82.46	332	P		P		02 48 08.0	+0.1		
BFO				IAmb	IAmb			02 48 32.0			
	comp=Z,105nm,1.3s										
DSB	**Dublin**	82.47	342	IAMs_20	IAMs_20			03 29 48.0			
	comp=Z,6µm,19.0s										
NKY	**Niksic**	82.52	322⇑	*i*P		P		02 48 08.0	-0.4		
RIY	**Rijeka**	82.53	326	*e*P		P		02 48 06.5	-1.8		
N35A	**Tabor**	82.54	41	IAmb	IAmb			02 48 36.5			
	comp=Z,70nm,0.8s										
N35A				IAMs_20	IAMs_20			03 26 16.1			
	comp=Z,5µm,21.0s										
SRIG	**Santa Rosalia**	82.55	60	P		P		02 48 09.4	+0.7		
SRIG				IAmb	IAmb			02 48 34.6			
	comp=Z,129nm,1.8s										
SRIG				IAMs_20	IAMs_20			03 17 33.5			
	comp=Z,6µm,22.0s										
K38A	**Parkersburg**	82.56	38	IAMs_20	IAMs_20			03 27 45.3			
	comp=Z,6µm,21.0s										
I40A	**Norwalk**	82.57	36	IAmb	IAmb			02 48 22.6			
	comp=Z,138nm,1.6s										
I40A				IAMs_20	IAMs_20			03 30 06.4			
	comp=Z,7µm,19.0s										
NKME	**Niksic**	82.57	322⇑	*i*P		P		02 48 08.3	-0.3		
BODT	**Bodrum**	82.62	313	P		P		02 48 09.1	+0.2		
BODT	**Bodrum**	82.62	313	*e*P		P		02 48 09.1	+0.2		
FETA	**Feichten**	82.65	329	*i* P		P		02 48 09.6	+0.5		
	comp=Z,43nm,0.9s,SNR=31										
FETA				P		PP		02 51 19.1	+0.9		
	comp=Z,15nm,1.2s										
BRY	**Bratogost**	82.66	322⇑	*i*P		P		02 48 08.6	-0.6		
BRY	**Bratogost**	82.66	322	*e*P		P		02 48 07.6	-1.6		
PDG	**Podgorica**	82.69	322	⇑P		P		02 48 09.4	+0.3		
PDG	**Podgorica**	82.69	322⇑	*i*P		P		02 48 08.0	-1.2		
TTG	**Podgorica**	82.69	322⇑	*i*P		P		02 48 09.2	0.0		
MATQ	**Matagami**	82.70	25	P		P		02 48 08.7	-0.4		
	baz=330,SNR=5.2										
PHP	**Peshkopia**	82.70	321	P		P		02 48 09.8	+0.4		
STRD	**Stroud**	82.75	339	*e*P		P		02 48 09.6	+0.3		
STRD				IAmb	IAmb			02 48 11.2			
	comp=Z,190nm,1.0s										
STRD				IAMs_20	IAMs_20			03 29 43.8			
	comp=Z,11µm,18.5s										
DAVA	**Damuels**	82.76	330	*i* P		P		02 48 10.1	+0.4		
	comp=Z,96nm,0.9s,SNR=37										
DAVA				*e*P		PP		02 51 18.5	-0.5		
	comp=Z,21nm,1.3s										
CEME	**Cevo**	82.76	322⇑	*i*P		P		02 48 09.4	-0.2		
MCH1	**Michaelchurch**	82.77	340	*e*P		P		02 48 09.5	0.0		
MCH1				IAmb	IAmb			02 48 11.2			
	comp=Z,80nm,0.9s										
MCH1				IAMs_20	IAMs_20			03 31 09.2			
	comp=Z,9µm,16.5s										
ARG	**Arkhangelos**	82.78	312	P		P		02 48 10.3	+0.5		
MONM	**Monmouth**	82.87	340	*e*P		P		02 48 09.7	-0.2		
MONM				IAMs_20	IAMs_20			03 30 26.2			
	comp=Z,10µm,17.9s										
SWN1	**Swindon**	82.89	339	*e*P		P		02 48 10.7	+0.6		
SWN1				IAmb	IAmb			02 48 13.7			
	comp=Z,312nm,1.1s										
SWN1				IAMs_20	IAMs_20			03 30 52.6			
	comp=Z,12µm,17.5s										
LIT	**Litokhoron**	82.90	318	P		P		02 48 09.8	-0.6		
LIT	**Litokhoron**	82.90	318	IAmb	IAmb			02 48 13.9			
	comp=Z,140nm,1.2s										
DRME	**Dracevica, Mon**	82.91	322⇑	*i*P		P		02 48 10.3	-0.1		
DRME	**Dracevica, Mon**	82.91	322	*e*P		P		02 48 09.3	-1.1		
SCIA	**State Center**	82.92	39	P		P		02 48 11.3	+0.8		
	baz=321										
SCIA	**State Center**	82.92	39	IAMs_20	IAMs_20			03 23 50.0			
	comp=Z,6µm,22.0s										
BUM	**Brajici-Budva**	82.96	322⇑	*i*P		P		02 48 10.3	-0.4		
OHR	**Ohrid**	82.97	320	*i* P		P		02 48 10.8	0.0		
HCY	**Herceg Novi**	83.03	322⇑	*i*P		P		02 48 10.7	-0.3		
HCY	**Herceg Novi**	83.03	322	*e*P		P		02 48 08.3	-2.7		
ULC	**Ulcinj**	83.06	321⇓	*i*P		P		02 48 11.0	-0.2		
CTI	**Castel Tesino**	83.10	328	IAmb	IAmb			02 48 33.5			
	comp=Z,92nm,1.1s										
XOR	**Xorichti**	83.10	317	P		P		02 48 10.5	-0.9		
KZN	**Kozani**	83.11	319	P		P		02 48 10.8	-0.7		
NEO	**Neokhori**	83.13	317	P		P		02 48 11.0	-0.6		
FUORN	**Ofenpass-Fuorn**	83.17	329	P		P		02 48 11.6	-0.3		
E46A	**Sault Ste Mari**	83.20	31	IAmb	IAmb			02 48 25.5			
	comp=Z,116nm,1.4s										
E46A				IAMs_20	IAMs_20			03 27 48.9			
	comp=Z,4µm,19.0s										
TIR	**Tirane**	83.24	321	P		P		02 48 12.5	+0.4		
TIR	**Tirane**	83.24	321	⇓P		P		02 48 11.4	-0.7		
TIR	**Tirane**	83.24	321	IAmb	IAmb			02 48 32.0			
	comp=Z,93nm,0.9s										
I42A	**Draeger Farm,**	83.32	35	IAmb	IAmb			02 48 26.7			
	comp=Z,138nm,1.6s										
I42A				IAMs_20	IAMs_20			03 23 43.2			
	comp=Z,5µm,22.0s										
H43A	**Windswept, Lux**	83.34	34	IAmb	IAmb			02 48 31.9			
	comp=Z,66nm,0.9s										
H43A				IAMs_20	IAMs_20			03 26 38.8			
	comp=Z,5µm,21.0s										
NEST	**Nestorio**	83.38	319	P		P		02 48 13.2	+0.3		
KSU1	**Kansas State U**	83.39	43	P		P		02 48 12.9	+0.1		
	baz=319,SNR=7.6										
KSU1	**Kansas State U**	83.39	43	IAmb	IAmb			02 48 33.2			
	comp=Z,42nm,0.8s										
JFWS	**Jewell Farm**	83.50	36	P		P		02 48 13.4	0.0		
	baz=322										
JFWS	**Jewell Farm**	83.50	36	IAMs_20	IAMs_20			03 25 05.2			
	comp=Z,8µm,22.0s										
LSQQ	**Lebel-sur-Quev**	83.52	25	P		P		02 48 13.3	-0.1		
	baz=331										
THL	**Klokotos Trika**	83.55	318	P		P		02 48 12.5	-1.2		
CHGQ	**Chibougamau**	83.58	23	P		P		02 48 13.2	-0.5		
	baz=332										
TUE	**Stuetta**	83.64	330	P		P		02 48 14.5	+0.2		
TUE				IAmb	IAmb			02 48 57.3			
	comp=Z,68nm,0.9s										
TAU	**Tasmania Unive**	83.67	177	IAMs_20	IAMs_20			03 20 41.9			
	comp=Z,4µm,21.0s										
ATAL	**Atalanti**	83.69	317	P		P		02 48 13.7	-0.8		
L40A	**Anamosa**	83.73	38	IAmb	IAmb			02 48 33.5			
	comp=Z,75nm,1.0s										
LKR	**Lokris**	83.74	317	P		P		02 48 14.2	-0.5		
G45A	**Suttons Bay**	83.75	32	IAMs_20	IAMs_20			03 29 43.6			
	comp=Z,5µm,20.0s										
AMTX	**Amarillo**	83.76	48	P		P		02 48 15.9	+0.9		
	baz=316										
AMTX	**Amarillo**	83.76	48	IAmb	IAmb			02 48 29.2			
	comp=Z,95nm,1.4s										
N38A	**Joes South For**	83.77	40	IAMs_20	IAMs_20			03 29 23.5			
	comp=Z,5µm,19.0s										
MSTX	**Muleshoe**	83.79	50	P		P		02 48 16.0	+0.8		
	baz=316,SNR=16										
AGG	**Agios Georgios**	83.80	318	P		P		02 48 14.0	-1.0		
AGG	**Agios Georgios**	83.80	318	IAmb	IAmb			02 48 37.0			
	comp=Z,57nm,0.9s										
KARP	**Karpathos**	83.80	313	IAMs_20	IAMs_20			03 30 54.0			
	comp=Z,6µm,21.0s										
LSK	**Leskovik**	83.80	319	P		P		02 48 14.0	-1.1		
MNTX	**Cornudas Mount**	83.87	53	P		P		02 48 16.8	+1.3		
	baz=315,SNR=15										
MNTX	**Cornudas Mount**	83.87	53	IAmb	IAmb			02 48 30.6			
	comp=Z,143nm,1.9s										
MAKR	**Makrakomi, Fth**	83.91	318	P		P		02 48 14.9	-0.7		
JAN	**Janina**	84.06	319	P		P		02 48 16.7	+0.4		
HTL	**Hartland**	84.07	340	*e*P		P		02 48 16.4	+0.2		
HTL				IAMs_20	IAMs_20			03 27 42.3			
	comp=Z,11µm,21.5s										
GDL2	**Guadalupe Moun**	84.12	52	P		P		02 48 17.1	+0.2		
SANT	**Santorini**	84.13	314	IAMs_20	IAMs_20			03 29 21.7			
	comp=Z,7µm,20.0s										
EVR	**Evrytania**	84.14	318	P		P		02 48 16.0	-0.9		
U32A	**Winter Ranch,**	84.15	46	IAmb	IAmb			02 48 39.3			
	comp=Z,58nm,1.1s										
U32A				IAMs_20	IAMs_20			03 27 01.0			
	comp=Z,5µm,21.0s										
DSF	**Desfina**	84.16	317	P		P		02 48 15.2	-1.7		
VLDQ	**Val d'Or**	84.19	26	IAmb	IAmb			02 48 20.4			
	comp=Z,67nm,0.9s										
VLDQ				IAMs_20	IAMs_20			03 32 37.3			
	comp=Z,7µm,18.0s										
SRN	**Sarande**	84.31	320	P		P		02 48 16.9	-0.6		
HIZ	**Hauiti**	84.31	156	IAMs_20	IAMs_20			03 20 32.3			
	comp=Z,4µm,20.0s										
ANX	**Ano Chora**	84.33	318	P		P		02 48 17.1	-0.7		
I45A	**Fountain**	84.34	33	IAmb	IAmb			02 48 22.6			
	comp=Z,74nm,0.8s										
I45A				IAMs_20	IAMs_20			03 27 20.2			
	comp=Z,6µm,21.0s										
GLMI	**Grayling**	84.35	32	P		P		02 48 18.0	+0.3		
	baz=326										
GLMI	**Grayling**	84.35	32	IAMs_20	IAMs_20			03 29 29.4			
	comp=Z,6µm,21.0s										
KALE	**Kalithea**	84.37	317	P		P		02 48 16.9	-1.1		
SERG	**Sergoula**	84.40	318	P		P		02 48 17.4	-0.7		
IGT	**Igoumenitsa**	84.41	319	P		P		02 48 17.7	-0.4		
TRIZ	**Trizonia**	84.43	317	P		P		02 48 17.4	-0.8		
L42A	**Oliver, Polo**	84.49	37	IAmb	IAmb			02 48 37.1			
	comp=Z,37nm,0.8s										
L42A				IAMs_20	IAMs_20			03 26 52.3			
	comp=Z,6µm,21.0s										
SENIN	**Lac Senin/Sane**	84.49	331	IAmb	IAmb			02 48 43.5			
	comp=Z,48nm,0.9s										
K43A	**Burlington**	84.52	35	IAmb	IAmb			02 48 37.5			
	comp=Z,92nm,1.1s										
K43A				IAMs_20	IAMs_20			03 25 38.1			
	comp=Z,5µm,20.0s										
P38A	**Dawn**	84.53	40	IAmb	IAmb			02 48 52.3			
	comp=Z,60nm,1.0s										
P38A				IAMs_20	IAMs_20			03 26 38.7			
	comp=Z,7µm,21.0s										
KEK	**Kerkira**	84.53	320	P		P		02 48 18.6	-0.1		
PMOR	**Pomariorio Ree**	84.56	115	*e*T		T		04 21 21.7			
	comp=Z,27nm,0.2s										
CROK	**Carrier**	84.61	45	IAMs_20	IAMs_20			03 31 43.1			
	comp=Z,7µm,19.0s										
GUR	**Goura**	84.61	317	P		P		02 48 18.1	-1.2		
CLF	**Chambon-Foret**	84.79	335	IAmb	IAmb			02 48 24.5			
	comp=Z,90nm,1.2s										
TSLK	**Tsoukalades, L**	84.79	319	P		P		02 48 19.7	-0.3		
URZ	**Urewera**	84.80	154	P		P		02 48 19.5	-0.2		
URZ				IAmb	IAmb			02 49 00.8			
	comp=Z,126nm,1.8s										
URZ				IAMs_20	IAMs_20			03 23 42.6			
	comp=Z,6µm,20.0s										
LKD2	**Lefkada island**	84.82	319	P		P		02 48 19.7	-0.5		
BAI	**Bari**	84.83	322	*e*P		P		02 48 19.7	-0.4		
NYDR	**Nydri-Lefkada**	84.86	319	P		P		02 48 18.6	-1.7		
CGL1	**Ceglie Messapi**	84.91	322	*e*P		P		02 48 20.4	-0.2		
DRO	**Drossia**	84.93	317	P		P		02 48 20.6	-0.1		
EVGI	**Lefkada island**	84.95	318	P		P		02 48 20.5	-0.3		
TRIP	**Tripoli**	84.96	317	P		P		02 48 21.1	+0.1		
N41A	**Harden Midland**	84.97	38	IAMs_20	IAMs_20			03 31 28.1

TUL1	**Leonard**	**86.22**	**44**	P	**P**	**02 48 27.8**	**+0.6**
	baz=320,SNR=6.7						
TUL1	**Leonard**	**86.22**	**44**	IAMs_20	IAMs_20	03 29 02.7	
	comp=Z,7µm,22.0s						
D57A	**Chemin Vers le**	**86.30**	**24**	P	**P**	**02 48 27.4**	**0.0**
	baz=333,SNR=19						
LATQ	**La Tuque**	**86.31**	**24**	P	**P**	**02 48 27.1**	**-0.3**
	baz=334						
G54A	**Lake Saint Pet**	**86.33**	**28**	P	**P**	**02 48 26.5**	**-1.1**
	baz=330						
NNZ	**Nelson**	**86.35**	**158**	IAMs_20	IAMs_20	03 20 36.4	
	comp=Z,6µm,22.0s						
E56A	**St. Veronique**	**86.36**	**25**	P	**P**	**02 48 27.4**	**-0.3**
	baz=332,SNR=8.4						
SSB	**Saint Sauveur**	**86.42**	**332**	IAmb	IAmb	02 48 31.6	
	comp=Z,54nm,0.9s						
TIP	**Timpagrande**	**86.42**	**321**	⇑P	**P**	**02 48 28.3**	**+0.2**
TIP	**Timpagrande**	**86.42**	**321**	P	**P**	**02 48 28.2**	**0.0**
TIP				IAmb	IAmb	02 49 08.5	
	comp=Z,98nm,1.3s						
P43A	**Skaggs, Pawnee**	**86.43**	**38**	IAMs_20	IAMs_20	03 33 47.9	
	comp=Z,5µm,20.0s						
MEH	**Mehetia**	**86.47**	**117**	*e*T	T	04 23 43.3	
	comp=Z,52nm,0.3s						
SADO	**Sadowa**	**86.49**	**29**	IAMs_20	IAMs_20	03 34 44.4	
	comp=Z,5µm,18.0s						
O44A	**Mansfield**	**86.51**	**37**	IAMs_20	IAMs_20	03 26 00.9	
	comp=Z,6µm,21.0s						
D58A	**Chemin du LacG**	**86.54**	**24**	P	**P**	**02 48 27.8**	**-0.8**
	baz=334						
U38A	**Gravette**	**86.55**	**43**	IAmb	IAmb	02 48 50.5	
	comp=Z,71nm,1.3s						
ABTX	**Abilene, Hawle**	**86.56**	**49**	P	**P**	**02 48 30.2**	**+1.2**
	baz=318,SNR=7.3						
TX32	**Lajitas Array**	**86.58**	**54**	IAmb	IAmb	02 48 44.1	
	comp=Z,81nm,1.4s						
TXAR	**Lajitas Array**	**86.58**	**54**	P	**P**	**02 48 29.4**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=307,slow=2.5,SNR=30						
TXAR				LR	LR	03 27 26.3	
	comp=Z,2µm,18.9s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**86.58**	**54**	P	**P**	**02 48 29.1**	**-0.1**
TXAR	**Lajitas Array**	**86.58**	**54**	P	**P**	**02 48 29.1**	**-0.1**
I51A	**Listowel**	**86.61**	**30**	P	**P**	**02 48 30.1**	**+1.1**
	baz=328						
THZ	**Tophouse**	**86.72**	**158**	IAMs_20	IAMs_20	03 21 23.1	
	comp=Z,6µm,22.0s						
E57A	**Chemin Saint G**	**86.76**	**25**	P	**P**	**02 48 29.4**	**-0.3**
	baz=333,SNR=21						
L48A	**N Adams**	**86.81**	**34**	IAmb	IAmb	02 48 49.5	
	comp=Z,66nm,0.9s						
L48A				IAMs_20	IAMs_20	03 28 55.6	
	comp=Z,6µm,21.0s						
SNZO	**South Karori**	**86.82**	**157**	IAMs_20	IAMs_20	03 21 39.9	
	comp=Z,7µm,21.0s						
AAM	**Ann Arbor**	**86.83**	**33**	IAmb	IAmb	02 48 51.1	
	comp=Z,102nm,1.4s						
AAM				IAMs_20	IAMs_20	03 31 30.2	
	comp=Z,6µm,20.0s						
K50A	**Casco**	**86.86**	**32**	IAMs_20	IAMs_20	03 32 50.7	
	comp=Z,5µm,18.0s						
H53A	**Bobcaygeon**	**86.86**	**28**	P	**P**	**02 48 30.0**	**-0.2**
	baz=330,SNR=7.4						
CCM	**Cathedral Cave**	**86.87**	**40**	P	**P**	**02 48 30.5**	**+0.2**
	baz=322						
CCM	**Cathedral Cave**	**86.87**	**40**	P	**P**	**02 48 30.2**	**-0.1**
CCM				pmax	pmax		
	comp=Z,85nm,1.1s						
CCM				MLR	MLR		
	comp=Z,4µm,20.0s						
CCM	**Cathedral Cave**	**86.87**	**40**	P	**P**	**02 48 30.2**	**-0.1**
CCM				IAmb	IAmb	02 48 49.2	
	comp=Z,85nm,1.1s						
CCM	**Cathedral Cave**	**86.87**	**40**	IAMs_20	IAMs_20	03 31 16.6	
	comp=Z,4µm,20.0s						
SLM	**Saint Louis**	**86.90**	**39**	IAmb	IAmb	02 48 49.2	
	comp=Z,68nm,1.1s						
SLM				IAMs_20	IAMs_20	03 26 21.2	
	comp=Z,6µm,22.0s						
D59A	**Saint-Raymond**	**86.94**	**23**	P	**P**	**02 48 31.0**	**+0.5**
	baz=334						
SFIN	**Lafayette**	**86.94**	**36**	P	**P**	**02 48 30.4**	**-0.3**
	baz=324						
SFIN	**Lafayette**	**86.94**	**36**	IAmb	IAmb	02 48 45.0	
	comp=Z,141nm,1.8s						
SFIN				IAMs_20	IAMs_20	03 28 27.3	
	comp=Z,6µm,21.0s						
PLVO	**Plevna**	**86.99**	**27**	IAMs_20	IAMs_20	03 34 59.0	
	comp=Z,5µm,18.0s						
E58A	**La Victoria**	**87.07**	**24**	P	**P**	**02 48 31.1**	**0.0**
	baz=333,SNR=10.0						
MGMO	**Mountain Grove**	**87.07**	**41**	P	**P**	**02 48 31.0**	**-0.4**
MGMO				IAmb	IAmb	02 48 45.3	
	comp=Z,166nm,1.9s						
MGMO				IAMs_20	IAMs_20	03 33 33.0	
	comp=Z,5µm,18.0s						
N47A	**Urbana**	**87.15**	**35**	IAmb	IAmb	02 48 50.8	
	comp=Z,99nm,1.3s						
N47A				IAMs_20	IAMs_20	03 33 25.7	
	comp=Z,5µm,20.0s						
DELO	**Deloro Mine**	**87.26**	**28**	IAmb	IAmb	02 48 51.0	
	comp=Z,53nm,1.2s						
DELO				IAMs_20	IAMs_20	03 31 26.0	
	comp=Z,7µm,20.0s						
Q44A	**Meyer Farm, Va**	**87.26**	**38**	IAmb	IAmb	02 48 51.7	
	comp=Z,63nm,1.0s						
Q44A				IAMs_20	IAMs_20	03 33 04.7	
	comp=Z,5µm,19.0s						
D60A	**Saint Jean D'O**	**87.29**	**23**	P	**P**	**02 48 32.0**	**-0.1**
	baz=335,SNR=7.8						
FVM	**French Village**	**87.32**	**40**	IAmb	IAmb	02 48 51.5	
	comp=Z,61nm,1.1s						
FVM				IAMs_20	IAMs_20	03 28 06.6	
	comp=Z,6µm,21.0s						
Z35A	**Perchaven, San**	**87.38**	**47**	IAMs_20	IAMs_20	03 34 33.5	
	comp=Z,5µm,18.0s						
U40A	**Yellville**	**87.40**	**42**	P	**P**	**02 48 32.9**	**-0.1**
	baz=321,SNR=29						
U40A	**Yellville**	**87.40**	**42**	IAmb	IAmb	02 48 54.6	
	comp=Z,68nm,1.0s						
U40A				IAMs_20	IAMs_20	03 29 00.7	
	comp=Z,7µm,22.0s						
X37A	**Clayton**	**87.45**	**45**	IAMs_20	IAMs_20	03 28 48.2	
	comp=Z,6µm,21.0s						
LTZ	**Lake Taylor**	**87.49**	**159**	IAMs_20	IAMs_20	03 25 20.5	
	comp=Z,6µm,20.0s						
KHZ	**Kahutara**	**87.50**	**158**	IAMs_20	IAMs_20	03 21 46.9	
	comp=Z,5µm,22.0s						
P46A	**Rosedale**	**87.51**	**37**	IAmb	IAmb	02 48 54.4	
	comp=Z,63nm,0.8s						
P46A				IAMs_20	IAMs_20	03 26 54.4	
	comp=Z,7µm,21.0s						
CEL	**Celeste**	**87.56**	**321**	P	**P**	**02 48 33.2**	**-0.5**
CEL				IAmb	IAmb	02 48 53.0	
	comp=Z,48nm,0.9s						
E60A	**Ste Agathe de**	**87.63**	**23**	P	**P**	**02 48 33.7**	**-0.1**
	baz=335						
G57A	**Newington**	**87.64**	**26**	P	**P**	**02 48 33.8**	**-0.1**
	baz=332						
D62A	**Allapoint, All**	**87.67**	**21**	P	**P**	**02 48 34.0**	**0.0**
	baz=336						
F59A	**Saint Guilaume**	**87.69**	**24**	P	**P**	**02 48 34.5**	**+0.4**
	baz=334						
T42A	**Van Buren**	**87.75**	**41**	IAmb	IAmb	02 48 49.0	
	comp=Z,116nm,1.6s						
T42A				IAMs_20	IAMs_20	03 35 19.9	
	comp=Z,5µm,18.0s						
N49A	**Columbus Grove**	**87.76**	**34**	IAmb	IAmb	02 48 54.1	
	comp=Z,76nm,1.2s						
N49A				IAMs_20	IAMs_20	03 34 09.8	
	comp=Z,4µm,18.0s						
W39A	**Magazine**	**87.82**	**43**	P	**P**	**02 48 35.2**	**+0.2**
	baz=321						
W39A	**Magazine**	**87.82**	**43**	IAmb	IAmb	02 48 49.3	
	comp=Z,98nm,1.6s						
OLIL	**Olney**	**87.82**	**38**	IAmb	IAmb	02 48 54.0	
	comp=Z,103nm,1.3s						
M50A	**Fremont**	**87.84**	**33**	IAMs_20	IAMs_20	03 29 36.7	
	comp=Z,6µm,21.0s						
F60A	**Warwick**	**87.84**	**24**	P	**P**	**02 48 35.6**	**+0.8**
	baz=334						
E61A	**Lac Etchemin**	**87.85**	**23**	P	**P**	**02 48 35.2**	**+0.2**
	baz=335						
G58A	**Ormstown**	**87.91**	**25**	P	**P**	**02 48 35.2**	**+0.1**
	baz=333						
OXZ	**Oxford**	**87.94**	**159**	P	**P**	**02 48 35.4**	**+0.4**
OXZ				IAmb	IAmb	02 49 02.7	
	comp=Z,42nm,1.1s						
E62A	**Clayton Lake**	**87.96**	**22**	P	**P**	**02 48 35.1**	**-0.3**
	baz=336						
E62A	**Clayton Lake**	**87.96**	**22**	IAMs_20	IAMs_20	03 32 51.2	
	comp=Z,7µm,19.0s						
J54A	**Appleton**	**87.97**	**29**	IAMs_20	IAMs_20	03 35 55.9	
	comp=Z,6µm,18.0s						
D63A	**Stockholm**	**87.97**	**21**	P	**P**	**02 48 35.4**	**-0.1**
	baz=337						
PECO	**Prince Edward**	**87.98**	**28**	IAMs_20	IAMs_20	03 31 28.3	
	comp=Z,5µm,21.0s						
JCT	**Junction City**	**88.05**	**50**	P	**P**	**02 48 38.4**	**+2.1**
	baz=318,SNR=7.8						
JCT	**Junction City**	**88.05**	**50**	IAMs_20	IAMs_20	03 23 07.6	
	comp=Z,6µm,22.0s						
H57A	**Richville**	**88.08**	**27**	P	**P**	**02 48 36.2**	**+0.2**
	baz=332,SNR=6.9						
S44A	**Carbondale**	**88.11**	**39**	IAMs_20	IAMs_20	03 29 03.4	
	comp=Z,5µm,20.0s						
F61A	**St Evariste**	**88.12**	**23**	P	**P**	**02 48 36.7**	**+0.5**
	baz=335,SNR=8.8						
MEDO	**Medina**	**88.13**	**29**	IAMs_20	IAMs_20	03 36 01.1	
	comp=Z,5µm,18.0s						
FCAR	**Ozark Folk Cen**	**88.13**	**42**	IAmb	IAmb	02 49 20.0	
	comp=Z,28nm,0.9s						
FCAR				IAMs_20	IAMs_20	03 27 31.1	
	comp=Z,5µm,21.0s						
BLO	**Bloomington**	**88.18**	**36**	IAmb	IAmb	02 48 56.3	
	comp=Z,92nm,1.4s						
LONY	**Lake Ozonia**	**88.21**	**26**	P	**P**	**02 48 36.3**	**-0.3**
	baz=332						
DRLN	**Deer Lake**	**88.23**	**13**	IAMs_20	IAMs_20	03 31 09.0	
	comp=Z,6µm,19.0s						
M51A	**Elyria**	**88.25**	**32**	P	**P**	**02 48 38.2**	**+1.3**
	baz=328						
G59A	**Clarenceville**	**88.25**	**25**	P	**P**	**02 48 36.8**	**0.0**
	baz=333						
WHTX	**Lake Whitney,**	**88.27**	**48**	IAmb	IAmb	02 48 52.0	
	comp=Z,131nm,1.6s						
WHTX				IAMs_20	IAMs_20	03 29 41.2	
	comp=Z,4µm,20.0s						
PBMO	**Poplar Bluff**	**88.27**	**40**	IAMs_20	IAMs_20	03 31 58.8	
	comp=Z,4µm,20.0s						
O49A	**Covington**	**88.31**	**34**	IAmb	IAmb	02 48 56.0	
	comp=Z,59nm,1.2s						
O49A				IAMs_20	IAMs_20	03 34 28.2	
	comp=Z,6µm,19.0s						
FRNY	**Flat Rock**	**88.34**	**25**	IAMs_20	IAMs_20	03 33 44.5	
	comp=Z,5µm,19.0s						
M52A	**Chesterland**	**88.40**	**32**	P	**P**	**02 48 38.2**	**+0.6**
	baz=328						
M52A	**Chesterland**	**88.40**	**32**	IAMs_20	IAMs_20	03 33 03.6	
	comp=Z,6µm,20.0s						
MIAR	**Mount Ida**	**88.43**	**44**	P	**P**	**02 48 38.4**	**+0.5**
	baz=321,SNR=18						
MIAR	**Mount Ida**	**88.43**	**44**	P	**P**	**02 48 38.2**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,96nm,1.4s						
MIAR				MLR	MLR		
	comp=Z,10µm,22.0s						
MIAR	**Mount Ida**	**88.43**	**44**	P	**P**	**02 48 38.2**	**+0.3**
MIAR				IAmb	IAmb	02 48 57.2	
	comp=Z,96nm,1.4s						
P48A	**Milroy**	**88.43**	**36**	IAmb	IAmb	02 49 13.0	
	comp=Z,77nm,1.4s						
P48A				IAMs_20	IAMs_20	03 36 12.7	
	comp=Z,5µm,18.0s						
E63A	**Oxbow**	**88.45**	**21**	P	**P**	**02 48 37.4**	**-0.3**
	baz=337						
E63A	**Oxbow**	**88.45**	**21**	IAmb	IAmb	02 49 20.7	
	comp=Z,36nm,1.1s						
E63A				IAMs_20	IAMs_20	03 34 06.1	
	comp=Z,6µm,20.0s						
I57A	**Carthage**	**88.45**	**27**	P	**P**	**02 48 37.4**	**-0.4**
	baz=332						
ERPA	**Erie**	**88.45**	**31**	P	**P**	**02 48 38.6**	**+0.7**
	baz=329						
ERPA	**Erie**	**88.45**	**31**	IAMs_20	IAMs_20	03 32 55.7	
	comp=Z,5µm,20.0s						
H59A	**Cadyville**	**88.48**	**25**	P	**P**	**02 48 37.8**	**-0.1**
	baz=333						
LCAR	**Lake Charles**	**88.48**	**41**	IAmb	IAmb	02 48 59.7	
	comp=Z,108nm,1.7s						
LCAR				IAMs_20	IAMs_20	03 29 02.2	
	comp=Z,6µm,22.0s						
L53A	**Girard**	**88.48**	**31**	P	**P**	**02 48 38.9**	**+0.8**
	baz=329,SNR=8.9						
F62A	**Pittston Farm,**	**88.49**	**22**	P	**P**	**02 48 38.5**	**+0.5**
	baz=336,SNR=11						
F62A	**Pittston Farm,**	**88.49**	**22**	IAmb	IAmb	02 48 42.9	
	comp=Z,42nm,1.1s						
F62A				IAMs_20	IAMs_20	03 32 45.4	
	comp=Z,6µm,19.0s						
G60A	**Masonville**	**88.50**	**24**	P	**P**	**02 48 39.2**	**+1.2**
	baz=334						
N51A	**Ashland**	**88.52**	**33**	P	**P**	**02 48 38.2**	**+0.1**
	baz=327						
N51A	**Ashland**	**88.52**	**33**	IAmb	IAmb	02 48 57.0	
	comp=Z,56nm,1.1s						
N51A				IAMs_20	IAMs_20	03 31 20.7	
	comp=Z,4µm,20.0s						
K54A	**Basiliko Farm,**	**88.52**	**30**	P	**P**	**02 48 38.4**	**+0.2**
	baz=330						
H58A	**Gabriels**	**88.52**	**26**	P	**P**	**02 48 38.2**	**+0.1**
	baz=333,SNR=7.7						
G61A	**St-Isidore-de-**	**88.58**	**24**	P	**P**	**02 48 38.2**	**-0.3**
	baz=334,SNR=8.6						
WKZ	**Wanaka**	**88.59**	**162**	IAMs_20	IAMs_20	03 22 10.4	
	comp=Z,5µm,22.0s						
L54A	**Sinclairville**	**88.61**	**30**	P	**P**	**02 48 38.4**	**-0.2**
	baz=329						
J56A	**Wolcott**	**88.61**	**28**	P	**P**	**02 48 38.8**	**+0.2**
	baz=331						
J56A	**Wolcott**	**88.61**	**28**	IAMs_20	IAMs_20	03 31 14.8	
	comp=Z,6µm,21.0s						
E64A	**Bridgewater**	**88.61**	**21**	P	**P**	**02 48 38.6**	**+0.1**
	baz=337,SNR=5.5						
W41B	**Gary Mavity, V**	**88.63**	**42**	P	**P**	**02 48 38.8**	**0.0**
	baz=322,SNR=12						
W41B	**Gary Mavity, V**	**88.63**	**42**	IAmb	IAmb	02 49 14.2	
	comp=Z,43nm,1.1s						
USIN	**University of**	**88.64**	**38**	IAMs_20	IAMs_20	03 34 50.3	
	comp=Z,4µm,19.0s						
Z38A	**Mt. Pleasant**	**88.67**	**45**	IAMs_20	IAMs_20	03 28 30.6	
	comp=Z,6µm,22.0s						
P49A	**Miami Univ. Ec**	**88.68**	**35**	P	**P**	**02 48 39.6**	**+0.6**
	baz=326						
P49A	**Miami Univ. Ec**	**88.68**	**35**	IAmb	IAmb	02 48 58.3	
	comp=Z,68nm,0.8s						
P49A				IAMs_20	IAMs_20	03 34 34.2	
	comp=Z,5µm,18.0s						
PARMO	**Parma**	**88.69**	**40**	IAMs_20	IAMs_20	03 28 26.9	
	comp=Z,4µm,20.0s						
MMNY	**Mt. Morris Dam**	**88.70**	**29**	P	**P**	**02 48 39.4**	**+0.4**
MMNY				IAmb	IAmb	02 48 58.9	
	comp=Z,37nm,0.9s						
MMNY				IAMs_20	IAMs_20	03 32 39.4	
	comp=Z,5µm,20.0s						
WVNY	**West Valley, N**	**88.73**	**30**	IAmb	IAmb	02 48 58.7	
	comp=Z,70nm,1.2s						
WVNY				IAMs_20	IAMs_20	03 33 27.0	
	comp=Z,5µm,20.0s						
M53A	**WI Miller and**	**88.76**	**31**	P	**P**	**02 48 39.7**	**+0.3**
	baz=328,SNR=7.8						
M53A	**WI Miller and**	**88.76**	**31**	IAMs_20	IAMs_20	03 32 06.0	
	comp=Z,4µm,20.0s						
ALLY	**Alegheny Colle**	**88.79**	**31**	IAMs_20	IAMs_20	03 32 59.8	
	comp=Z,6µm,21.0s						
HENM	**Henderson Moun**	**88.79**	**40**	IAMs_20	IAMs_20	03 28 08.4	
	comp=Z,4µm,20.0s						
J57A	**Williamstown**	**88.79**	**27**	P	**P**	**02 48 38.8**	**-0.6**
	baz=332						
J57A	**Williamstown**	**88.79**	**27**	IAmb	IAmb	02 49 00.8	
	comp=Z,47nm,1.2s						
J57A				IAMs_20	IAMs_20	03 29 16.7	
	comp=Z,4µm,22.0s						
ACSO	**Alum Creek Sta**	**88.84**	**34**	P	**P**	**02 48 39.6**	**-0.1**
	baz=327						
ACSO	**Alum Creek Sta**	**88.84**	**34**	IAmb	IAmb	02 48 59.2	
	comp=Z,46nm,0.8s						
ACSO				IAMs_20	IAMs_20	03 30 18.3	
	comp=Z,6µm,21.0s						
X40A	**Basin Creek Fa**	**88.86**	**43**	P	**P**	**02 48 40.8**	**+0.9**
	baz=321						
X40A	**Basin Creek Fa**	**88.86**	**43**	IAMs_20	IAMs_20	03 30 44.5	
	comp=Z,6µm,20.0s						
H60A	**Morristown**	**88.87**	**25**	P	**P**	**02 48 40.0**	**+0.2**
	baz=334						
N52A	**McGinn's Farm,**	**88.89**	**32**	P	**P**	**02 48 40.0**	**+0.1**
	baz=328						
UALR	**University of**	**88.89**	**43**	IAMs_20	IAMs_20	03 29 26.2	
	comp=Z,8µm,22.0s						
MLZ	**Mavora Lakes**	**88.89**	**163**	IAMs_20	IAMs_20	03 25 04.4	
	comp=Z,5µm,20.0s						
F63A	**Nahmakanta, Br**	**88.92**	**22**	P	**P**	**02 48 40.1**	**+0.1**
	baz=336						
F63A	**Nahmakanta, Br**	**88.92**	**22**	IAMs_20	IAMs_20	03 33 38.6	
	comp=Z,5µm,19.0s						
PVMO	**Portageville**	**88.92**	**40**	IAMs_20	IAMs_20	03 28 02.9	
	comp=Z,4µm,20.0s						
PENMO	**Penman**	**88.92**	**40**	IAMs_20	IAMs_20	03 28 02.0	
	comp=Z,5µm,21.0s						
G62A	**West of Eustis**	**88.94**	**23**	P	**P**	**02 48 40.7**	**+0.6**
	baz=335						
G62A	**West of Eustis**	**88.94**	**23**	IAmb	IAmb	02 48 55.1	
	comp=Z,124nm,1.7s						
T45A	**Paducah**	**88.94**	**39**	IAMs_20	IAMs_20	03 29 18.5	
	comp=Z,5µm,21.0s						
K56A	**Middlesex**	**88.94**	**29**	P	**P**	**02 48 40.4**	**+0.2**
	baz=331						
F64A	**Sherman**	**88.98**	**21**	P	**P**	**02 48 40.1**	**-0.1**
	baz=337						
F64A	**Sherman**	**88.98**	**21**	IAmb	IAmb	02 48 44.0	
	comp=Z,107nm,1.8s						
L55A	**Hinsdale**	**88.98**	**30**	P	**P**	**02 48 40.3**	**-0.1**
	baz=330						
WCI	**Wyandotte Cave**	**89.06**	**37**	P	**P**	**02 48 41.0**	**+0.3**
	baz=325						
WCI	**Wyandotte Cave**	**89.06**	**37**	P	**P**	**02 48 41.0**	**+0.3**
WCI				pmax	pmax		
	comp=Z,30nm,0.8s						
WCI	**Wyandotte Cave**	**89.06**	**37**	P	**P**	**02 48 41.0**	**+0.3**
WCI				IAmb	IAmb	02 48 58.1	
	comp=Z,30nm,0.8s						
VT1	**Waterbury**	**89.06**	**25**	IAmb	IAmb	02 49 00.9	
	comp=Z,37nm,1.0s						
O51A	**Pataskala**	**89.07**	**33**	P	**P**	**02 48 41.2**	**+0.4**
	baz=327						
PEBM	**Pemiscott Bayo**	**89.08**	**40**	IAMs_20	IAMs_20	03 32 25.1	
	comp=Z,4µm,20.0s						
J58A	**Remsen**	**89.08**	**27**	P	**P**	**02 48 40.6**	**-0.2**
	baz=332,SNR=8.6						
J58A	**Remsen**	**89.08**	**27**	IAMs_20	IAMs_20	03 33 31.3	
	comp=Z,5µm,20.0s						
M54A	**Oil Creek Stat**	**89.10**	**31**	P	**P**	**02 48 41.5**	**+0.5**
	baz=329,SNR=14						
M54A	**Oil Creek Stat**	**89.10**	**31**	IAMs_20	IAMs_20	03 33 16.9	
	comp=Z,5µm,20.0s						
GNAR	**Gosnell**	**89.12**	**41**	IAMs_20	IAMs_20	03 32 24.2	
	comp=Z,4µm,20.0s						
HBAR	**Harrisburg**	**89.13**	**41**	IAMs_20	IAMs_20	03 36 04.5	
	comp=Z,6µm,19.0s						
H61A	**Lyndonville**	**89.14**	**24**	P	**P**	**02 48 42.0**	**+0.9**
	baz=334,SNR=8.8						
I59A	**Olmsteadville**	**89.17**	**26**	P	**P**	**02 48 41.3**	**+0.1**
	baz=333						
237A	**Washetta, Mont**	**89.18**	**47**	IAMs_20	IAMs_20	03 25 07.2	
	comp=Z,6µm,22.0s						
K57A	**Scipio Center**	**89.20**	**28**	P	**P**	**02 48 41.9**	**+0.5**
	baz=331						
N53A	**Lisbon**	**89.23**	**32**	P	**P**	**02 48 42.2**	**+0.6**
	baz=328,SNR=8.2						
N53A	**Lisbon**	**89.23**	**32**	IAmb	IAmb	02 49 00.7	
	comp=Z,91nm,1.1s						
N53A				IAMs_20	IAMs_20	03 31 07.6	
	comp=Z,4µm,20.0s						
GLAT	**Glass**	**89.23**	**40**	IAMs_20	IAMs_20	03 28 33.2	
	comp=Z,5µm,21.0s						
J59A	**Piesco**	**89.26**	**26**	P	**P**	**02 48 41.1**	**-0.6**
	baz=332						
PKME	**Peaks-Kenny Pk**	**89.26**	**22**	P	**P**	**02 48 42.2**	**+0.6**
	baz=336						
PKME	**Peaks-Kenny Pk**	**89.26**	**22**	IAMs_20	IAMs_20	03 30 04.8	
	comp=Z,7µm,21.0s						
LPAR	**Lepanto**	**89.27**	**41**	IAMs_20	IAMs_20	03 29 46.2	
	comp=Z,4µm,20.0s						
G63A	**Kingsbury**	**89.31**	**23**	P	**P**	**02 48 42.6**	**+0.8**
	baz=336						
I60A	**Shoreham**	**89.32**	**25**	P	**P**	**02 48 42.4**	**+0.6**
	baz=333						
WLAR	**White Oak Lake**	**89.33**	**44**	IAmb	IAmb	02 49 05.2	
	comp=Z,107nm,1.2s						
WLAR				IAMs_20	IAMs_20	03 30 44.1	
	comp=Z,8µm,21.0s						
H62A	**Milan**	**89.34**	**24**	P	**P**	**02 48 42.6**	**+0.6**
	baz=335,SNR=13						
H62A	**Milan**	**89.34**	**24**	IAmb	IAmb	02 49 01.9	
	comp=Z,51nm,0.9s						
H62A				IAMs_20	IAMs_20	03 31 07.8	
	comp=Z,7µm,22.0s						
L56A	**Greenwood**	**89.35**	**29**	P	**P**	**02 48 41.8**	**-0.3**
	baz=330,SNR=8.8						
L56A	**Greenwood**	**89.35**	**29**	IAmb	IAmb	02 49 13.7	
	comp=Z,41nm,0.9s						
L56A				IAMs_20	IAMs_20	03 33 07.4	
	comp=Z,5µm,20.0s						
LBNH	**Lisbon**	**89.40**	**24**	P	**P**	**02 48 43.4**	**+1.1**
	baz=334						
LBNH	**Lisbon**	**89.40**	**24**	IAMs_20	IAMs_20	03 30 56.6	
	comp=Z,6µm,21.0s						
O52A	**Adamsville**	**89.41**	**33**	P	**P**	**02 48 42.7**	**+0.3**
	baz=328						
O52A	**Adamsville**	**89.41**	**33**	IAmb	IAmb	02 49 01.3	
	comp=Z,92nm,1.2s						
O52A				IAMs_20	IAMs_20	03 32 48.4	
	comp=Z,5µm,20.0s						
G64A	**Maxfield**	**89.43**	**22**	P	**P**	**02 48 43.0**	**+0.6**
	baz=336						
TBI	**Tubuai**	**89.43**	**122**	*e*S	**S**	**02 59 37.3**	**+6.2**
	comp=Z,3µm,25.2s						
TBI	**Tubuai**	**89.43**	**122**	*e*LR	LR	03 17 14.3	
	comp=Z,11µm,23.5s,baz=319						
TBI	**Tubuai**	**89.43**	**122**	*e*T	T	04 27 24.4	
	comp=Z,50nm,0.4s						
N54A	**Moraine State**	**89.44**	**31**	P	**P**	**02 48 43.0**	**+0.5**
	baz=329,SNR=11						
N54A	**Moraine State**	**89.44**	**31**	IAMs_20	IAMs_20	03 33 18.9	
	comp=Z,6µm,20.0s						
P51A

Q51A	**Peebles**	**89.70**	**34**	IAmb	IAmb	02 49 15.8			
	comp=Z,81nm,0.8s								
Q51A				IAMs_20	IAMs_20	03 28 33.0			
	comp=Z,6µm,21.0s								
P52A	**Corning**	**89.70**	**33**	P	**P**	**02 48 43.5**	**-0.3**		
	baz=328								
P52A	**Corning**	**89.70**	**33**	IAmb	IAmb	02 49 02.4			
	comp=Z,71nm,1.2s								
P52A				IAMs_20	IAMs_20	03 32 58.0			
	comp=Z,5µm,21.0s								
L57A	**Andrews Acres**	**89.72**	**29**	P	**P**	**02 48 44.2**	**+0.3**		
	baz=331,SNR=7.2								
K59A	**Cooperstown**	**89.75**	**27**	P	**P**	**02 48 44.2**	**+0.2**		
	baz=332,SNR=10								
WVL	**Waterville**	**89.80**	**23**	IAMs_20	IAMs_20	03 34 20.8			
	comp=Z,6µm,19.0s								
G65A	**Princeton**	**89.81**	**21**	P	**P**	**02 48 43.9**	**-0.2**		
	baz=337								
G65A	**Princeton**	**89.81**	**21**	IAmb	IAmb	02 49 21.7			
	comp=Z,72nm,1.5s								
J60A	**Lant Hill Farm**	**89.81**	**26**	P	**P**	**02 48 44.7**	**+0.5**		
	baz=333								
X43A	**Marvell**	**89.83**	**42**	IAMs_20	IAMs_20	03 30 45.2			
	comp=Z,6µm,21.0s								
H64A	**Troy**	**89.85**	**23**	P	**P**	**02 48 44.1**	**-0.3**		
	baz=336								
CCAR	**Cane Creek**	**89.85**	**43**	IAMs_20	IAMs_20	03 34 18.8			
	comp=Z,6µm,18.0s								
BINY	**Binghamton**	**89.86**	**28**	P	**P**	**02 48 44.3**	**-0.2**		
	baz=332								
BINY	**Binghamton**	**89.86**	**28**	IAmb	IAmb	02 49 03.4			
	comp=Z,63nm,1.3s								
BINY				IAMs_20	IAMs_20	03 32 13.9			
	comp=Z,5µm,21.0s								
833A	**Chaparral WMA,**	**89.88**	**52**	IAMs_20	IAMs_20	03 27 10.2			
	comp=Z,4µm,20.0s								
R50A	**Paris**	**89.89**	**35**	IAMs_20	IAMs_20	03 28 53.2			
	comp=Z,5µm,21.0s								
I62A	**Tamworth**	**89.92**	**24**	P	**P**	**02 48 45.9**	**+1.2**		
	baz=335								
LMN	**Caledonia Moun**	**89.92**	**19**	IAMs_20	IAMs_20	03 37 14.0			
	comp=Z,6µm,18.0s								
O54A	**Avella**	**89.95**	**32**	P	**P**	**02 48 45.4**	**+0.5**		
	baz=329,SNR=11								
O54A	**Avella**	**89.95**	**32**	IAmb	IAmb	02 49 17.1			
	comp=Z,56nm,0.8s								
O54A				IAMs_20	IAMs_20	03 30 16.5			
	comp=Z,6µm,22.0s								
N55A	**Marion Center**	**89.98**	**31**	P	**P**	**02 48 45.6**	**+0.5**		
	baz=330,SNR=12								
I63A	**Otisfield**	**89.99**	**24**	P	**P**	**02 48 45.8**	**+0.9**		
	baz=335,SNR=8.0								
I63A	**Otisfield**	**89.99**	**24**	IAmb	IAmb	02 49 33.3			
	comp=Z,89nm,1.2s								
I63A				IAMs_20	IAMs_20	03 33 18.0			
	comp=Z,7µm,21.0s								
NATX	**Nacogdoches**	**89.99**	**46**	IAMs_20	IAMs_20	03 25 55.7			
	comp=Z,6µm,22.0s								
J61A	**Chester**	**90.00**	**25**	P	**P**	**02 48 46.1**	**+1.0**		
	baz=334								
L58A	**Harry Jones Me**	**90.04**	**28**	P	**P**	**02 48 45.5**	**+0.2**		
	baz=332,SNR=11								
WVT	**Waverly**	**90.05**	**39**	P	**P**	**02 48 45.5**	**0.0**		
	baz=324								
WVT	**Waverly**	**90.05**	**39**	P	**P**	**02 48 45.7**	**+0.3**		
WVT				pmax	pmax				
	comp=Z,27nm,1.2s								
WVT				MLR	MLR				
	comp=Z,5µm,20.0s								
WVT	**Waverly**	**90.05**	**39**	P	**P**	**02 48 45.7**	**+0.3**		
WVT	**Waverly**	**90.05**	**39**	IAMs_20	IAMs_20	03 30 11.6			
	comp=Z,5µm,20.0s								
GGN	**Saint George**	**90.08**	**21**	IAMs_20	IAMs_20	03 33 45.4			
	comp=Z,5µm,20.0s								
H65A	**Eastbrook**	**90.08**	**22**	P	**P**	**02 48 46.2**	**+0.8**		
	baz=337								
N56A	**West Decatur**	**90.13**	**30**	P	**P**	**02 48 46.5**	**+0.8**		
	baz=330,SNR=12								
P53A	**Whipple**	**90.13**	**33**	P	**P**	**02 48 46.5**	**+0.7**		
	baz=328								
P53A	**Whipple**	**90.13**	**33**	IAmb	IAmb	02 49 00.3			
	comp=Z,133nm,1.8s								
P53A				IAMs_20	IAMs_20	03 31 09.4			
	comp=Z,5µm,20.0s								
FFD	**Franklin Falls**	**90.18**	**25**	IAMs_20	IAMs_20	03 36 19.2			
	comp=Z,5µm,18.0s								
TRY	**Troy**	**90.19**	**26**	IAmb	IAmb	02 48 51.7			
	comp=Z,92nm,1.7s								
TRY				IAMs_20	IAMs_20	03 29 42.5			
	comp=Z,6µm,21.0s								
ATD	**Arta Tunnel**	**90.19**	**285**	P	**P**	**02 48 47.6**	**+1.1**		
	SNR=31								
ATD	**Arta Tunnel**	**90.19**	**285**	IAMs_20	IAMs_20	03 32 09.3			
	comp=Z,6µm,22.0s								
L59A	**Walton**	**90.20**	**27**	P	**P**	**02 48 46.3**	**+0.1**		
	baz=332,SNR=15								
L59A	**Walton**	**90.20**	**27**	IAmb	IAmb	02 49 24.3			
	comp=Z,67nm,1.0s								
L59A				IAMs_20	IAMs_20	03 33 24.9			
	comp=Z,7µm,20.0s								
M57A	**Sunshine Farm,**	**90.20**	**29**	P	**P**	**02 48 46.7**	**+0.6**		
	baz=331,SNR=26								
M57A	**Sunshine Farm,**	**90.20**	**29**	IAmb	IAmb	02 49 18.2			
	comp=Z,79nm,0.9s								
M57A				IAMs_20	IAMs_20	03 37 16.0			
	comp=Z,5µm,18.0s								
Q52A	**Bidwell**	**90.21**	**34**	P	**P**	**02 48 45.6**	**-0.6**		
	baz=327								
J62A	**Henniker**	**90.35**	**25**	P	**P**	**02 48 48.5**	**+1.7**		
	baz=334								
O55A	**Ligonier**	**90.35**	**31**	P	**P**	**02 48 47.2**	**+0.4**		
	baz=329								
K61A	**Williamstown**	**90.38**	**26**	P	**P**	**02 48 47.0**	**+0.1**		
	baz=333								
I64A	**Boothbay**	**90.39**	**23**	P	**P**	**02 48 47.7**	**+0.9**		
	baz=336								
P54A	**Burton**	**90.40**	**32**	P	**P**	**02 48 47.4**	**+0.4**		
	baz=329								
M58A	**Price's Panora**	**90.42**	**29**	P	**P**	**02 48 47.6**	**+0.5**		
	baz=331,SNR=12								
735A	**Kenedy**	**90.42**	**50**	IAMs_20	IAMs_20	03 24 31.2			
	comp=Z,6µm,22.0s								
KSPA	**Keystone Colle**	**90.50**	**28**	IAmb	IAmb	02 49 07.0			
	comp=Z,109nm,1.5s								
KSPA				IAMs_20	IAMs_20	03 31 36.9			
	comp=Z,5µm,21.0s								
SSPA	**Standing Stone**	**90.53**	**30**	P	**P**	**02 48 48.3**	**+0.7**		
	baz=330								
SSPA	**Standing Stone**	**90.53**	**30**	P	**P**	**02 48 48.6**	**+1.0**		
SSPA				IAmb	IAmb	02 49 09.6			
	comp=Z,96nm,1.4s								
SSPA	**Standing Stone**	**90.53**	**30**	IAMs_20	IAMs_20	03 33 29.7			
	comp=Z,5µm,19.0s								
J63A	**Strafford**	**90.53**	**24**	P	**P**	**02 48 47.8**	**+0.2**		
	baz=335								
N57A	**Milroy**	**90.55**	**30**	P	**P**	**02 48 48.3**	**+0.6**		
	baz=330,SNR=22								
O56A	**Blue Knob Stat**	**90.58**	**31**	P	**P**	**02 48 48.2**	**+0.3**		
	baz=330,SNR=6.9								
O56A	**Blue Knob Stat**	**90.58**	**31**	IAmb	IAmb	02 49 09.2			
	comp=Z,58nm,1.1s								
O56A				IAMs_20	IAMs_20	03 34 23.3			
	comp=Z,5µm,19.0s								
Q53A	**Leroy**	**90.60**	**33**	P	**P**	**02 48 48.2**	**+0.2**		
	baz=328								
MCWV	**Mont Chateau**	**90.61**	**32**	P	**P**	**02 48 48.7**	**+0.7**		
	baz=329								
M59A	**Waymart**	**90.64**	**28**	P	**P**	**02 48 47.8**	**-0.4**		
	baz=332,SNR=8.1								
L60A	**Shokan**	**90.66**	**27**	P	**P**	**02 48 48.8**	**+0.6**		
	baz=333								
U49A	**Red Boiling Sp**	**90.69**	**37**	IAMs_20	IAMs_20	03 33 48.7			
	comp=Z,5µm,20.0s								
L61A	**Hillsdale 1, H**	**90.71**	**26**	P	**P**	**02 48 48.8**	**+0.4**		
	baz=333								
T50A	**Nancy**	**90.71**	**37**	IAMs_20	IAMs_20	03 28 53.4			
	comp=Z,7µm,22.0s								
K62A	**Royalston**	**90.72**	**25**	P	**P**	**02 48 49.3**	**+0.9**		
	baz=334								
K62A	**Royalston**	**90.72**	**25**	IAMs_20	IAMs_20	03 34 55.5			
	comp=Z,5µm,19.0s								
HKT	**Hockley**	**90.72**	**48**	IAMs_20	IAMs_20	03 36 38.8			
	comp=Z,4µm,19.0s								
P55A	**Reedsville**	**90.74**	**32**	P	**P**	**02 48 50.0**	**+1.3**		
	baz=329								
S51A	**Beattyville**	**90.75**	**35**	P	**P**	**02 48 48.8**	**+0.1**		
S51A				IAMs_20	IAMs_20	03 29 40.9			
	comp=Z,5µm,22.0s								
L61B	**Northampton**	**90.77**	**26**	P	**P**	**02 48 49.7**	**+1.0**		
	baz=334								
CLTN	**Cedars of Leba**	**90.78**	**38**	IAmb	IAmb	02 49 11.0			
	comp=Z,48nm,1.4s								
CLTN				IAMs_20	IAMs_20	03 35 37.1			
	comp=Z,5µm,18.0s								
Q54A	**Coxs Mills**	**90.78**	**33**	P	**P**	**02 48 49.4**	**+0.5**		
	baz=328,SNR=7.0								
Q54A	**Coxs Mills**	**90.78**	**33**	IAmb	IAmb	02 49 25.2			
	comp=Z,58nm,1.2s								
Q54A				IAMs_20	IAMs_20	03 31 38.7			
	comp=Z,6µm,20.0s								
N58A	**Sunbury**	**90.79**	**29**	P	**P**	**02 48 49.3**	**+0.5**		
	baz=331,SNR=12								
N58A	**Sunbury**	**90.79**	**29**	IAmb	IAmb	02 49 07.8			
	comp=Z,80nm,1.1s								
N58A				IAMs_20	IAMs_20	03 37 42.5			
	comp=Z,6µm,18.0s								
V48A	**Smith Brothers**	**90.84**	**39**	IAMs_20	IAMs_20	03 30 36.6			
	comp=Z,5µm,20.0s								
PLAL	**Pickwick Lake**	**90.85**	**40**	IAMs_20	IAMs_20	03 33 38.1			
	comp=Z,5µm,20.0s								
R53A	**Hurricane**	**90.87**	**34**	IAMs_20	IAMs_20	03 30 15.1			
	comp=Z,5µm,21.0s								
K63A	**Dunstable**	**90.92**	**25**	P	**P**	**02 48 50.1**	**+0.7**		
	baz=334								
O57A	**Amherson**	**90.99**	**30**	P	**P**	**02 48 51.5**	**+1.7**		
	baz=330								
Y45A	**Yeager Farm, C**	**91.03**	**41**	IAMs_20	IAMs_20	03 29 55.7			
	comp=Z,5µm,21.0s								
QUA2	**Belchertown**	**91.03**	**26**	IAMs_20	IAMs_20	03 35 15.7			
	comp=Z,5µm,20.0s								
N59A	**State Game Lan**	**91.06**	**28**	P	**P**	**02 48 50.7**	**+0.6**		
	baz=332,SNR=12								
N59A	**State Game Lan**	**91.06**	**28**	IAmb	IAmb	02 49 09.4			
	comp=Z,71nm,1.1s								
N59A				IAMs_20	IAMs_20	03 32 17.8			
	comp=Z,6µm,21.0s								
HRV	**Adam Dziewonsk**	**91.08**	**25**	P	**P**	**02 48 50.9**	**+0.8**		
	baz=334								
HRV	**Adam Dziewonsk**	**91.08**	**25**	P	**P**	**02 48 51.7**	**+1.6**		
HRV				pmax	pmax				
	comp=Z,42nm,1.2s								
HRV	**Adam Dziewonsk**	**91.08**	**25**	P	**P**	**02 48 51.7**	**+1.6**		
HRV				IAmb	IAmb	02 49 31.8			
	comp=Z,42nm,1.1s								
HRV	**Adam Dziewonsk**	**91.08**	**25**	IAMs_20	IAMs_20	03 37 05.0			
	comp=Z,6µm,18.0s								
Q55A	**Buckhannon**	**91.08**	**32**	P	**P**	**02 48 50.4**	**+0.1**		
	baz=329								
M60A	**Port Jervis**	**91.11**	**28**	P	**P**	**02 48 50.2**	**0.0**		
	baz=332								
P56A	**Dayton Farm, R**	**91.14**	**31**	P	**P**	**02 48 51.4**	**+1.0**		
	baz=330								
KSCT	**Kent School, K**	**91.15**	**27**	IAmb	IAmb	02 49 10.0			
	comp=Z,41nm,1.2s								
PAGS	**Pennsylvania G**	**91.32**	**29**	IAMs_20	IAMs_20	03 34 20.6			
	comp=Z,5µm,20.0s								
O58A	**Lewisberry**	**91.33**	**30**	P	**P**	**02 48 52.7**	**+1.3**		
	baz=331								
N60A	**Cedar Hill Far**	**91.34**	**28**	P	**P**	**02 48 51.6**	**+0.3**		
	baz=332								
HAL	**Halifax**	**91.36**	**19**	IAMs_20	IAMs_20	03 33 08.0			
	comp=Z,6µm,20.0s								
Q56A	**Snyder Ridge,**	**91.40**	**32**	P	**P**	**02 48 52.4**	**+0.7**		
	baz=329								
Q56A	**Snyder Ridge,**	**91.40**	**32**	IAMs_20	IAMs_20	03 34 30.7			
	comp=Z,5µm,20.0s								
R54A	**Victor**	**91.40**	**33**	P	**P**	**02 48 52.1**	**+0.4**		
	baz=328								
TRNY	**Table Rock, Ra**	**91.41**	**27**	IAmb	IAmb	02 49 10.6			
	comp=Z,52nm,1.1s								
M61A	**Granite Spring**	**91.42**	**27**	P	**P**	**02 48 52.3**	**+0.6**		
	baz=333,SNR=9.8								
O59A	**Robesonia**	**91.44**	**29**	P	**P**	**02 48 51.6**	**-0.3**		
	baz=331								
P57A	**Homestead Farm**	**91.48**	**31**	IAMs_20	IAMs_20	03 35 07.9			
	comp=Z,6µm,20.0s								
LUPA	**Lehigh Univers**	**91.49**	**28**	IAMs_20	IAMs_20	03 34 54.0			
	comp=Z,5µm,20.0s								
342A	**Flagon Creek P**	**91.55**	**45**	IAMs_20	IAMs_20	03 32 39.8			
	comp=Z,7µm,21.0s								
441A	**DeRidder**	**91.57**	**46**	IAMs_20	IAMs_20	03 31 31.4			
	comp=Z,7µm,22.0s								
S54A	**Dingess, Beckl**	**91.59**	**34**	P	**P**	**02 48 52.2**	**-0.4**		
	baz=328								
S54A	**Dingess, Beckl**	**91.59**	**34**	IAMs_20	IAMs_20	03 30 58.8			
	comp=Z,6µm,22.0s								
BRYW	**Bryant College**	**91.62**	**25**	IAMs_20	IAMs_20	03 37 23.3			
	comp=Z,5µm,18.0s								
PAL	**Palisades**	**91.64**	**27**	P	**P**	**02 48 53.3**	**+0.5**		
	baz=331								
PAL	**Palisades**	**91.64**	**27**	IAmb	IAmb	02 49 30.9			
	comp=Z,32nm,1.1s								
PAL				IAMs_20	IAMs_20	03 36 26.0			
	comp=Z,6µm,18.0s								
MVL	**Millersville**	**91.66**	**29**	IAMs_20	IAMs_20	03 33 04.6			
	comp=Z,6µm,21.0s								
R55A	**Marlinton**	**91.67**	**33**	P	**P**	**02 48 53.9**	**+0.8**		
	baz=329								
R55A	**Marlinton**	**91.67**	**33**	IAmb	IAmb	02 49 24.9			
	comp=Z,34nm,1.0s								
R55A				IAMs_20	IAMs_20	03 32 04.2			
	comp=Z,5µm,20.0s								
TZTN	**Tazewell**	**91.68**	**36**	P	**P**	**02 48 54.1**	**+1.1**		
	baz=327								
TZTN	**Tazewell**	**91.68**	**36**	IAmb	IAmb	02 49 12.2			
	comp=Z,43nm,1.1s								
TZTN				IAMs_20	IAMs_20	03 29 25.6			
	comp=Z,6µm,20.0s								
SWET	**Sewanee**	**91.69**	**38**	IAMs_20	IAMs_20	03 31 13.0			
	comp=Z,6µm,21.0s								
BRNJ	**Basking Ridge**	**91.70**	**28**	IAmb	IAmb	02 49 12.7			
	comp=Z,36nm,1.1s								
X48A	**Hartselle**	**91.78**	**39**	IAMs_20	IAMs_20	03 35 40.6			
	comp=Z,4µm,20.0s								
L64A	**Middleborough**	**91.82**	**25**	P	**P**	**02 48 55.7**	**+2.2**		
	baz=335								
VBMS	**Vicksburg**	**91.84**	**43**	IAMs_20	IAMs_20	03 31 18.3			
	comp=Z,7µm,22.0s								
M63A	**Gales Ferry**	**91.91**	**26**	P	**P**	**02 48 53.7**	**-0.3**		
	baz=334								
V51A	**Loudon**	**91.93**	**37**	IAMs_20	IAMs_20	03 29 18.4			
	comp=Z,6µm,22.0s								
ZAIG	**Zacatecas**	**91.98**	**57**	IAMs_20	IAMs_20	03 23 34.2			
	comp=Z,7µm,21.0s								
W50A	**Signal Mountai**	**91.99**	**38**	IAMs_20	IAMs_20	03 31 54.9			
	comp=Z,6µm,22.0s								
WUPA	**West Chester U**	**91.99**	**29**	IAMs_20	IAMs_20	03 38 01.3			
	comp=Z,4µm,19.0s								
PSUB	**Penn St. - Bra**	**92.05**	**29**	P	**P**	**02 48 53.6**	**-1.1**		
T54A	**Tazewell**	**92.10**	**34**	P	**P**	**02 48 55.3**	**+0.3**		
	baz=328								
CPCT	**Cooper Cave**	**92.15**	**37**	IAMs_20	IAMs_20	03 34 42.1			
	comp=Z,4µm,19.0s								
M65A	**Busby, Falmout**	**92.22**	**25**	IAMs_20	IAMs_20	03 35 12.2			
	comp=Z,6µm,20.0s								
V52A	**Sevierville**	**92.24**	**36**	IAmb	IAmb	02 49 16.8			
	comp=Z,49nm,1.3s								
V52A				IAMs_20	IAMs_20	03 29 41.0			
	comp=Z,6µm,22.0s								
146A	**Union**	**92.25**	**42**	IAMs_20	IAMs_20	03 32 19.2			
	comp=Z,5µm,21.0s								
Z47A	**Carrollton**	**92.29**	**41**	IAMs_20	IAMs_20	03 36 16.2			
	comp=Z,5µm,19.0s								
R57A	**Stanardsville**	**92.30**	**32**	P	**P**	**02 48 56.8**	**+1.0**		
	baz=330								
TKL	**Tuckaleechee C**	**92.31**	**37**	IAmb	IAmb	02 49 15.5			
	comp=Z,37nm,1.3s								
TKL				IAMs_20	IAMs_20	03 31 44.5			
	comp=Z,5µm,21.0s								
FPAL	**Fort Paine**	**92.39**	**38**	IAMs_20	IAMs_20	03 31 34.6			
	comp=Z,6µm,22.0s								
T55A	**Pulaski**	**92.39**	**34**	P	**P**	**02 48 56.7**	**+0.4**		
	baz=328								
U54A	**Nelsons Funny**	**92.45**	**35**	P	**P**	**02 48 58.1**	**+1.4**		
	baz=328								
U54A	**Nelsons Funny**	**92.45**	**35**	IAMs_20	IAMs_20	03 36 42.0			
	comp=Z,6µm,19.0s								
BLA	**Blacksburg**	**92.46**	**33**	P	**P**	**02 48 56.9**	**+0.2**		
	baz=329								
BLA	**Blacksburg**	**92.46**	**33**	IAMs_20	IAMs_20	03 32 32.2			
	comp=Z,5µm,22.0s								
Y49A	**Blount Mountai**	**92.57**	**39**	IAMs_20	IAMs_20	03 34 31.4			
	comp=Z,5µm,20.0s								
S57A	**Dark Hollow, R**	**92.59**	**32**	IAMs_20	IAMs_20	03 34 50.5			
	comp=Z,5µm,20.0s								
KEST	**Kesra**	**92.63**	**324**	P	**P**	**02 48 56.8**	**-0.7**		
	comp=Z,16nm,0.9s,baz=13,slow=5.0,SNR=11								
KEST				LR	LR	03 36 02.8			
	comp=Z,24µm,18.6s,baz=322,slow=39								
KEST	**Kesra**	**92.63**	**324**	IAmb	IAmb	02 49 20.8			
	comp=Z,33nm,1.1s								
W52A	**Murphy**	**92.71**	**37**	IAMs_20	IAMs_20	03 34 51.1			
	comp=Z,4µm,20.0s								
Q60A	**Greensboro**	**92.72**	**29**	IAMs_20	IAMs_20	03 33 46.7			
	comp=Z,5µm,21.0s								
X51A	**Calhoun**	**92.72**	**38**	IAMs_20	IAMs_20	03 34 52.4			
	comp=Z,5µm,20.0s								
V53A	**Saluda**	**92.73**	**36**	IAMs_20	IAMs_20	03 29 46.5			
	comp=Z,6µm,21.0s								
T56A	**Rocky Mt**	**92.78**	**33**	P	**P**	**02 49 00.6**	**+2.5**		
	baz=329								
CBN	**Corbin Frederi**	**92.83**	**31**	IAMs_20	IAMs_20	03 35 58.8			
	comp=Z,5µm,20.0s								
LRAL	**Lakeview Retre**	**92.95**	**40**	P	**P**	**02 49 01.2**	**+2.2**		
	baz=324								
LRAL	**Lakeview Retre**	**92.95**	**40**	IAMs_20	IAMs_20	03 35 11.7			
	comp=Z,4µm,20.0s								
346A	**Big Creek Wild**	**93.04**	**43**	IAMs_20	IAMs_20	03 32 15.1			
	comp=Z,5µm,22.0s								
S58A	**Poland Farm, P**	**93.08**	**32**	IAMs_20	IAMs_20	03 35 32.4			
	comp=Z,6µm,19.0s								
T57A	**Hurt**	**93.13**	**33**	P	**P**	**02 48 59.9**	**+0.2**		
	baz=329								
T57A	**Hurt**	**93.13**	**33**	IAMs_20	IAMs_20	03 30 57.7			
	comp=Z,7µm,22.0s								
PBRG	**Braganca**	**93.14**	**338**	*e*P	**P**	**02 48 59.6**	**-0.1**		
	comp=Z,48nm,1.4s								
PBRG	**Braganca**	**93.14**	**338**	*e*PP	PP	02 52 44.6	+2.5		
U56A	**King**	**93.21**	**34**	IAMs_20	IAMs_20	03 31 58.1			
	comp=Z,6µm,21.0s								
BG3	**Lake Jocassee**	**93.25**	**36**	P	**P**	**02 48 59.9**	**-0.4**		
BG3				IAMs_20	IAMs_20	03 30 23.1			
	comp=Z,5µm,22.0s								
V55A	**Taylorsville**	**93.28**	**35**	P	**P**	**02 49 01.4**	**+1.0**		
	baz=328								
PGAV	**Gavieira, Arco**	**93.42**	**339**	*e*P	**P**	**02 49 01.7**	**+0.6**		
	comp=Z,89nm,1.6s								
PGAV	**Gavieira, Arco**	**93.42**	**339**	*e*PP	PP	02 52 45.3	+1.0		
PGAV				*e*SKS	**SKSac**	**02 59 37.4**	**+3.6**		
PGAV	**Gavieira, Arco**	**93.42**	**339**	*e*LQ	LQ	03 17 48.5			
PGAV				*e*LR	LR	03 25 05.2			
	comp=Z,8µm,20.0s								
T58A	**Grand View Acr**	**93.46**	**32**	P	**P**	**02 49 02.4**	**+1.1**		
	baz=330								
R61A	**Willards**	**93.50**	**29**	IAMs_20	IAMs_20	03 39 09.3			
	comp=Z,5µm,18.0s								
545A	**Edgard**	**93.57**	**44**	IAMs_20	IAMs_20	03 32 30.3			
	comp=Z,7µm,21.0s								
U57A	**Blanch**	**93.58**	**33**	P	**P**	**02 49 01.7**	**-0.1**		
	baz=329								
PCAB	**Cabril**	**93.59**	**339**	*e*P	**P**	**02 49 03.5**	**+1.7**		
	comp=Z,52nm,1.4s								
Z51A	**Franklin**	**93.60**	**39**	IAmb	IAmb	02 49 15.8			
	comp=Z,70nm,1.9s								
Z51A				IAMs_20	IAMs_20	03 32 12.7			
	comp=Z,6µm,22.0s								
V56A	**Mocksville**	**93.62**	**34**	P	**P**	**02 49 03.3**	**+1.3**		
	baz=328								
Y52A	**Lilburn**	**93.67**	**38**	IAMs_20	IAMs_20	03 35 31.5			
	comp=Z,5µm,20.0s								
MVO	**Moncorvo**	**93.81**	**338**	*e*P	**P**	**02 49 02.8**	**-0.1**		
	comp=Z,42nm,1.3s								
MVO	**Moncorvo**	**93.81**	**338**	*e*PP	**PP**	**02 52 49.1**	**+1.7**		
MVO				*e*SKS	**SKSac**	**02 59 39.0**	**+3.1**		
MVO	**Moncorvo**	**93.81**	**338**	*e*LQ	LQ	03 18 14.6			
MVO				*e*LR	LR	03 24 47.3			
	comp=Z,10µm,20.0s								
KMSC	**Kings Mountain**	**93.83**	**35**	P	**P**	**02 49 03.4**	**+0.5**		
	baz=328								
KMSC	**Kings Mountain**	**93.83**	**35**	IAMs_20	IAMs_20	03 37 23.4			
	comp=Z,6µm,20.0s								
V57A	**Coltrane Farms**	**93.86**	**34**	P	**P**	**02 49 03.1**	**0.0**		
	baz=329								
PAULI	**Pauline**	**93.89**	**36**	IAMs_20	IAMs_20	03 30 45.1			
	comp=Z,5µm,22.0s								
PVRL	**Vila Real**	**93.91**	**338**	*e*P	**P**	**02 49 03.6**	**+0.3**		
	comp=Z,61nm,1.7s								
PVRL	**Vila Real**	**93.91**	**338**	*e*PP	**PP**	**02 52 49.5**	**+1.4**		
U58A	**Oxford**	**93.93**	**33**	P	**P**	**02 49 03.4**	**0.0**		
	baz=330								
S61A	**Accomac**	**93.94**	**30**	IAMs_20	IAMs_20	03 34 15.1			
	comp=Z,7µm,22.0s								
T60A	**Surry**	**94.01**	**31**	IAMs_20	IAMs_20	03 36 34.9			
	comp=Z,6µm,19.0s		

comp=Z,6µm,20.0s
PSBE So Bento 95.84 339 *e*SKS **SKSac 02 59 53.8 +7.0**
Y59A Loris 95.87 34 IAMs_20 IAMs_20 03 34 27.3
comp=Z,5µm,22.0s
TIGA Tifton 95.90 39 IAMs_20 IAMs_20 03 38 44.7
comp=Z,5µm,19.0s
255A Hazlehurst 96.02 38 IAMs_20 IAMs_20 03 36 54.6
comp=Z,6µm,21.0s
PMTG Montargil 96.10 338 *e*P **P 02 49 12.6 -0.7**
comp=Z,29nm,1.6s
PMTG Montargil 96.10 338 *e*PP **PP 02 53 07.7 +2.6**
PMTG *e*SKS **SKSac 02 59 52.9 +4.9**
Y60A Bolivia 96.13 34 IAMs_20 IAMs_20 03 34 42.3
comp=Z,6µm,22.0s
PMAFR Mafra 96.50 339 *e*P P 02 49 10.2 -4.9
comp=Z,90nm,1.4s
PMAFR Mafra 96.50 339 *e*PP **PP 02 53 11.2 +3.0**
PMAFR *e*SKS **SKSac 02 59 54.3 +4.1**
553A Crawfordville 96.53 40 IAMs_20 IAMs_20 03 41 44.4
comp=Z,5µm,18.0s
EVO Evora 96.54 338 *e*PP **PP 02 53 11.1 +2.6**
257A Skidaway Islan 96.64 37 IAMs_20 IAMs_20 03 39 31.0
comp=Z,5µm,19.0s
UNM Universidad Na 96.64 57 IAMs_20 IAMs_20 03 27 49.7
comp=Z,5µm,20.0s
LIS Lisbon 96.69 339 AMS AMS 03 38 42.0
comp=Z,14µm,16.3s
LIS *e*PP **PP 02 53 11.1 +1.5**
LIS Lisbon 96.69 339 *e*PP **PP 02 53 11.4 +1.8**
PBEJ Beja 96.97 337 *e*P **P 02 49 18.0 +0.8**
comp=Z,20nm,1.5s
PBEJ Beja 96.97 337 *e*PP **PP 02 53 13.3 +1.5**
PNCL Nicolau / Gran 97.08 338 *e*P Pdif 02 49 17.8 0.0
comp=Z,34nm,1.7s
PNCL Nicolau / Gran 97.08 338 *e*PP **PP 02 53 14.8 +2.2**
PNCL *e*SKS **SKSac 02 59 58.2 +5.1**
456A Hilliard 97.23 38 IAMs_20 IAMs_20 03 37 21.9
comp=Z,5µm,20.0s
PCVE Castro Verde 97.38 337 *e*P Pdif 02 49 19.5 +0.3
comp=Z,38nm,1.8s
PCVE Castro Verde 97.38 337 *e*PP **PP 02 53 17.3 +2.3**
PVAQ Vaqueiros 97.50 337 *e*P Pdif 02 49 20.2 +0.5
comp=Z,42nm,1.8s
PVAQ Vaqueiros 97.50 337 *e*PP **PP 02 53 17.4 +1.5**
PVAQ *e*SKS **SKSac 02 59 57.9 +2.6**
PVAQ Vaqueiros 97.50 337 *e*LQ LQ 03 21 09.8
PVAQ *e*LR LR 03 30 48.0
comp=Z,21µm,20.0s
PTEO Sao Teotonio 97.66 338 *e*PP **PP 02 53 18.6 +1.5**
PBDV Barranco-do-Ve 97.71 337 *e*P **P 02 49 20.4 -0.2**
comp=Z,51nm,1.7s
PBDV Barranco-do-Ve 97.71 337 *e*PP **PP 02 53 20.6 +3.0**
PBDV *e*SKS **SKSac 03 00 01.7 +5.2**
MORF Marmelete 97.86 338 *e*P Pdif 02 49 21.7 +0.3
MORF *e*PP **PP 02 53 20.2 +1.5**
MORF *e*SKSac **SKSac 02 59 58.9 +1.6**
MORF AMS AMS 03 33 16.1
comp=E,14µm,20.3s
MORF Marmelete 97.86 338 *e*P Pdif 02 49 21.6 +0.2
MORF *e* 02 53 20.2
MORF *e* 02 59 58.9
MORF Marmelete 97.86 338 *e*P Pdif 02 49 21.7 +0.3
comp=E,41nm,2.2s
MORF Marmelete 97.86 338 *e*PP **PP 02 53 20.4 +1.7**
MORF *e*SKS **SKSac 03 00 00.4 +3.1**
PFVI Vila Bisbo 98.07 338 *e*PP **PP 02 53 23.6 +3.3**
PFVI *e*SKS **SKSac 03 00 00.5 +2.2**
656A Willston 98.13 39 IAMs_20 IAMs_20 03 35 03.1
comp=Z,5µm,22.0s
RKT Rikitea 99.00 113 *e*SKSac **SKSac 03 00 08.0 +5.1**
comp=Z,2µm,30.8s
RKT Rikitea 99.00 113 *e*PS PS 03 02 31.2 +6.4
comp=Z,4µm,29.5s
RKT Rikitea 99.00 113 *e*LR LR 03 21 39.7
comp=Z,7µm,23.2s
ROSA Rosais 100.21 353 IAMs_20 IAMs_20 03 34 51.5
comp=Z,5µm,20.0s
CMLA Cha da Macela 100.88 351 IAMs_20 IAMs_20 03 41 52.1
comp=Z,3µm,19.0s
060A Indiantown 101.12 39 IAMs_20 IAMs_20 03 39 49.8
comp=Z,5µm,20.0s
061Z Ochoppi 101.84 40 IAMs_20 IAMs_20 03 37 29.0
comp=Z,6µm,22.0s
BBSR BB Station 102.52 24 IAMs_20 IAMs_20 03 39 36.9
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 102.74 280 P **Pdif 02 49 44.3 +0.6**
comp=Z,12nm,1.0s,baz=24,slow=7.1,SNR=18
KMBO PP **PP 02 53 59.0 +1.6**
comp=Z,4.1nm,0.8s,baz=42,slow=11,SNR=3.8
KMBO Kilima Mbogo 102.74 280 *i* P **Pdif 02 49 43.7 0.0**
SNR=12
KMBO Kilima Mbogo 102.74 280 P **Pdif 02 49 44.1 +0.4**
KMBO Kilima Mbogo 102.74 280 P **Pdif 02 49 43.1 -0.6**
KMBO Kilima Mbogo 102.74 280 Pdif **Pdif 02 49 43.1 -0.6**
KMBO Kilima Mbogo 102.74 280 IAMs_20 IAMs_20 03 41 49.3
comp=Z,5µm,20.0s
KIBK Kibwezi 102.95 278 P **Pdif 02 49 44.3 -0.1**
CCIG Comitan 103.33 54 IAMs_20 IAMs_20 03 30 12.8
comp=Z,4µm,22.0s
PETF Flores 104.22 52 IAMs_20 IAMs_20 03 32 11.1
comp=Z,3µm,21.0s
PMOZ Porto Moniz, M 104.29 343 *e*LR LR 03 31 03.3
comp=Z,4µm,18.0s
MTO3 Montecristo 106.48 53 IAMs_20 IAMs_20 03 32 54.1
comp=Z,3µm,21.0s
ABPO Ambohimpanom 106.65 259 IAMs_20 IAMs_20 03 36 07.4
comp=Z,5µm,21.0s
SNET Serv Nac Est T 107.11 54 IAMs_20 IAMs_20 03 32 34.1
comp=Z,3µm,21.0s
TGUH Tegucigalpa,Un 108.00 52 IAMs_20 IAMs_20 03 43 46.6
comp=Z,4µm,22.0s
GTBY Guantanamo Bay 109.66 38 IAMs_20 IAMs_20 03 40 40.6
comp=Z,5µm,22.0s
MTDJ Mount Denham 109.94 41 IAMs_20 IAMs_20 03 45 57.3
comp=Z,3µm,21.0s
GRTK Grand Turk 110.05 34 IAMs_20 IAMs_20 03 47 14.5
comp=Z,3µm,20.0s
FOMA Nahampoana Res 110.44 254 IAMs_20 IAMs_20 03 39 54.9
comp=Z,3µm,20.0s
SC01 Santiago de lo 112.07 35 IAMs_20 IAMs_20 03 49 42.1
comp=Z,5µm,20.0s
SDDR Presa de Saban 112.22 35 IAMs_20 IAMs_20 03 49 25.1
comp=Z,5µm,20.0s
SJG San Juan 115.13 31 *e*P **PP 02 55 19.9 -6.1**
TORD Torodi Ar. Bea 115.38 318 PKP **PKiKP 02 54 27.1 -0.7**
comp=Z,3.7nm,1.1s,baz=10,slow=1.8,SNR=9.7
TORD PP **PP 02 55 21.6 -6.6**
comp=Z,12nm,1.0s,baz=26,slow=4.7,SNR=9.7
TORD PKKPbc **PKKPbc 03 05 02.6 +2.3**
comp=Z,0.7nm,0.5s,baz=197,slow=3.7,SNR=3.8
TORD Torodi Ar. Bea 115.38 318 PKiKP **PKiKP 02 54 26.8 -1.0**
SMRT St. Maarten 116.33 28 *e*P **PP 02 55 36.2 +1.8**
SMRT St. Maarten 116.33 28 IAMs_20 IAMs_20 03 48 08.4
comp=Z,4µm,21.0s
SABA Saba 116.67 28 IAMs_20 IAMs_20 03 48 42.4
comp=Z,4µm,20.0s
SEUS St. Eustatius 116.88 28 *e*P **PP 02 55 40.0 +1.8**
SEUS St. Eustatius 116.88 28 IAMs_20 IAMs_20 03 48 46.9
comp=Z,4µm,21.0s
KOWA Kowa 116.94 324 PKPdf **PKPdf 02 54 30.4 -0.3**
SKI Saint Kitts 117.11 28 *e*P **PP 02 55 38.8 -1.2**
ANWB Willy Bob 117.13 27 *e*P PP 02 55 30.9 -9.1
PAYG Puerto Ayora 117.22 65 IAMs_20 IAMs_20 03 51 55.0
comp=Z,2µm,19.0s
LSZ Lusaka 118.68 275 *i* P **PKiKP 02 54 35.6 +1.4**
LSZ Lusaka 118.68 275 PKiKP **PKPdf 02 54 34.1 -0.1**
LSZ Lusaka 118.68 275 **PKPdf 02 54 34.1 -0.1**
LSZ Lusaka 118.68 275 IAMs_20 IAMs_20 03 48 24.2
comp=Z,4µm,21.0s
LSZ Lusaka 118.68 275 *i* P **PKiKP 02 54 35.6 +1.4**
VNDA Vanda 118.87 175 PKP **PKPdf 02 54 31.8 -0.8**
comp=Z,1.3nm,0.8s,baz=323,slow=4.6,SNR=7.1
VNDA PKKPbc **PKKPbc 03 04 48.3 -0.7**
comp=Z,2.5nm,1.2s,baz=273,slow=3.1,SNR=2.7
VNDA Vanda 118.87 175 PKPdf **PKiKP 02 54 33.5 +0.9**
TDBA Terre de Bas, 118.87 28 *e*P **PP 02 55 55.1 +3.0**
DSLB Salisbury 119.33 27 *e*P **PP 02 55 54.4 -0.9**
FDF Fort de France 120.08 27 *e*P **PP 02 56 04.6 +4.1**
FDF Fort de France 120.08 27 IAMs_20 IAMs_20 03 46 35.7
comp=Z,3µm,22.0s
ILAM Ilet Lapin Mar 120.13 27 *e*P **PP 02 55 57.5 -3.3**
MPOM Morne Pois Mar 120.44 27 *e*P PP 02 55 48.8 -14
MCLT Moule a Chique 121.10 28 *e*P PP 02 56 21.6 +14
BLWY Bulawayo 121.31 270 *i* P **PKPdf 02 54 39.0 -0.1**
BLWY Bulawayo 121.31 270 *i* P **PKPdf 02 54 39.0 -0.1**
SDV Santo Domingo 121.35 40 PKPdf **PKiKP 02 54 39.9 +0.2**
SDV Santo Domingo 121.35 40 IAMs_20 IAMs_20 03 57 12.4
comp=Z,3µm,19.0s
SVB Belmont 121.39 28 *e*P **PP 02 56 13.3 +3.8**
SVCV St. Vincent, C 121.43 28 *e*P PP 02 56 17.7 +7.9
MATP Matopo 121.56 270 *i* P **PKPdf 02 54 39.1 -0.5**
MATP Matopo 121.56 270 *i* P **PKPdf 02 54 39.1 -0.5**
GCMP Grenada, Carri 122.06 29 *e*P **PP 02 56 18.8 +4.8**
BBGH Gun Hill 122.10 26 *e*P PP 02 56 22.1 +7.8
GRGR Grenville 122.30 29 *e*P **PP 02 56 16.8 +1.1**
GRGR Grenville 122.30 29 IAMs_20 IAMs_20 03 52 10.7
comp=Z,3µm,20.0s
SACV Santiago Islan 122.93 345 IAMs_20 IAMs_20 03 46 59.9
comp=Z,4µm,20.0s
MAW Mawson 123.76 207 PKP **PKPdf 02 54 42.0 -0.2**
comp=Z,5.2nm,0.8s,baz=326,slow=3.5,SNR=5.5
MAW Mawson 123.76 207 PKIKP **PKPdf 02 54 42.0 -0.2**
MAW Mawson 123.76 207 PKPdf **PKiKP 02 54 43.1 +0.7**
TBH Brigand Hill 124.03 29 *e*P PP 02 56 39.0 +12
DBIC Dimbokro 124.19 321 PKP **PKiKP 02 54 45.6 +0.6**
comp=Z,4.5nm,0.7s,baz=263,slow=0.9,SNR=7.1
DBIC PP **PP 02 56 25.8 -2.9**
comp=Z,17nm,1.0s,baz=16,slow=10,SNR=4.4
OTAV Otavalo 124.21 53 *e*P **PKiKP 02 54 47.5 +1.9**
TIC Toumodi 124.29 321 *e*PKIKP **PKPdf 02 54 44.0 -1.0**
TIC Toumodi 124.29 321 *e*P **PP 02 56 23.1 -6.3**
KIC Kosan Boka 124.40 320 *e*PKIKP **PKPdf 02 54 44.3 -0.9**
comp=Z,81nm,1.8s
KIC Kosan Boka 124.40 320 *e*P **PP 02 56 27.4 -2.7**
comp=Z,32nm,1.1s
LIC Lamto 124.66 320 *e*PKIKP **PKPdf 02 54 44.5 -1.1**
comp=Z,55nm,1.2s
LIC Lamto 124.66 320 *e*P **PP 02 56 28.3 -3.5**
comp=Z,52nm,1.1s
LBTB Lobatse 126.38 267 *i* P **PKPdf 02 54 47.0 -1.7**
LBTB Lobatse 126.38 267 PKIKP **PKiKP 02 54 49.0 -0.1**
LBTB Lobatse 126.38 267 PKPdf **PKiKP 02 54 49.0 -0.1**
LBTB Lobatse 126.38 267 *i* P **PKPdf 02 54 47.0 -1.7**
BOSA Boshof 128.56 263 PKP **PKPdf 02 54 52.2 -0.5**
comp=Z,6.3nm,1.0s,baz=27,slow=4.3,SNR=4.6
TSUM Tsumeb 129.06 278 **PKiKP 02 54 55.2 +0.6**
TSUM Tsumeb 129.06 278 IAMs_20 IAMs_20 03 57 11.1
comp=Z,3µm,19.0s
ATAH Atahualpa 129.93 59 PKP **PKiKP 02 54 57.8 +0.8**
comp=Z,4.6nm,0.7s,baz=163,slow=4.6,SNR=5.2
QSPA South Pole Qui 130.80 180 **PKiKP 02 54 56.3 -0.4**
SYO Syowa Base 132.42 208 *e*PKPdf **PKiKP 02 55 00.2 +0.5**
SYO Syowa Base 132.42 208 *e*pPKiKP PKiKP 02 55 10.0 +10
CZSB Cruzeiro do Su 133.98 54 *e*P **PKiKP 02 55 04.8 +0.2**
NNA Nana 134.54 62 IAMs_20 IAMs_20 03 44 20.2
comp=Z,3µm,20.0s
MCPB Macapa, AP 137.19 23 *e*P **PKiKP 02 55 11.1 -0.1**
ETMB Extrema 139.46 48 *e*P **PKPdf 02 55 13.7 +0.3**
ITTB Itaituba 139.70 30 *e*P **PKPdf 02 55 15.1 +1.1**
SAML Samuel 140.39 44 IAMs_20 IAMs_20 04 04 49.7
comp=Z,2µm,20.0s
ROSB Rosrio 141.44 12 *e*P **PKPdf 02 55 17.9 +0.8**
NVL N'lazarevskaya 141.54 204 *e*PKHKP PKPpre 02 55 08.3
NVL *e*SS SS 03 16 43.8 -4.2
NPGB Novo Progresso 142.30 31 *e*P **PKPdf 02 55 14.6 -4.0**
BELA Belgrano 2 143.06 181 PKPdf PKPab 02 55 13.8 +0.3
PRPB Parauapebas 143.36 22 *e*P PKPbc 02 55 18.9 +1.3
LPAZ La Paz 143.38 57 PKP **PKPdf 02 55 19.9 -1.2**
comp=Z,6.4nm,0.8s,baz=350,slow=4.4,SNR=10
LPAZ La Paz 143.38 57 *e*P PKPbc 02 55 19.4 +1.0
AP01 Chacalluta 143.46 62 IAMs_20 IAMs_20 03 50 43.6
comp=Z,3µm,20.0s
MNMC Minye Minye 144.50 62 IAMs_20 IAMs_20 03 49 43.0
comp=Z,3µm,21.0s
RCBR Riachuelo 144.91 358 IAMs_20 IAMs_20 04 11 31.7
comp=Z,3µm,19.0s
SNAA Sanae 145.00 198 PKPdf **PKPbc 02 55 19.6 -1.5**
SNAA Sanae 145.00 198 PKIKP **PKPbc 02 55 20.8 -0.3**
SNAA Sanae 145.00 198 PKPdf **PKPbc 02 55 20.8 -0.3**
SNAA IAMs_20 IAMs_20 03 56 29.3
comp=Z,2µm,22.0s
VILB Vilhena 145.31 43 *e*P **PKPbc 02 55 23.4 -0.3**
CLDB Colider 145.58 34 *e*P **PKPdf 02 55 22.9 -1.4**
PB07 IPOC Station P 146.09 65 PKPbc **PKiKP 02 55 28.9 -0.5**
PB04 IPOC Station P 146.31 67 IAMs_20 IAMs_20 03 48 21.2
comp=Z,3µm,22.0s
SMTB Santa Maria do 146.53 20 *e*P **PKPbc 02 55 27.6 +0.3**
VNA2 Neumayer--Watz 146.57 197 PKPdf **PKPdf 02 55 24.7 +0.5**
PB09 IPOC Station P 146.58 65 PKPbc **PKPab 02 55 28.2 -0.4**
VNA3 Neumayer Olymp 146.81 196 PKPdf **PKPdf 02 55 24.8 +0.1**
PB06 IPOC Station P 146.95 66 IAMs_20 IAMs_20 03 49 11.3
comp=Z,2µm,21.0s
VNA1 Neumayer--Stat 146.97 197 PKPdf **PKPdf 02 55 25.4 +0.5**
LVC Limon Verde 147.35 66 PKPbc **PKPbc 02 55 30.5 +0.6**
comp=Z,13nm,0.7s,baz=277,slow=1.4,SNR=8.4
LVC Limon Verde 147.35 66 **PKPab 02 55 31.0 -0.8**
LVC Limon Verde 147.35 66 *e*P **PKPdf 02 55 28.2 +0.7**
PB15 IPOC Station P 147.35 67 IAMs_20 IAMs_20 04 03 58.9
comp=Z,2µm,20.0s
SIV San Ignacio de 147.37 47 PKPbc **PKPdf 02 55 27.8 +0.6**
comp=Z,47nm,0.9s,baz=317,slow=2.0,SNR=83
PTLB Pontes e Lacer 147.96 44 *e*P **PKPdf 02 55 29.3 +1.1**
SNDB Serra Nova Dou 148.35 28 *e*P **PKPdf 02 55 29.9 +0.9**
PEXB Peixe 149.44 23 *e*P **PKPdf 02 55 32.5 +1.8**
AC02 Maricunga 149.85 72 PKPbc **PKPbc 02 55 36.8 +0.4**
AC02 IAMs_20 IAMs_20 03 56 02.3
comp=Z,3µm,20.0s
SDBA SAO DESIDERIO 150.58 16 *e*P **PKPdf 02 55 34.0 +1.5**
PMSA Palmer Station 151.56 156 **PKiKP 02 55 38.9 -0.1**
PMSA Palmer Station 151.56 156 *e*P **PKPdf 02 55 32.1 -0.3**
ARAG Araguaiana, MT 151.58 32 *e*P **PKPdf 02 55 34.5 +0.5**
BO02 Sierra Bellavi 152.59 88 **PKPdf 02 55 35.9 +0.9**
BO02 PKPbc **sPKPdf 02 55 46.9 +1.0**
GDU01 Guandu, BA 152.65 6 *e*P **PKPdf 02 55 35.5 -0.1**
BDFB Brasilia 152.87 24 PKP **PKPdf 02 55 37.1 +1.1**
comp=Z,6.7nm,1.1s,baz=32,slow=9.5,SNR=4.1
BDFB PKPbc **PKiKP 02 55 43.6 +0.3**
comp=Z,13nm,1.0s,baz=72,slow=5.0,SNR=5.8
BDFB Brasilia 152.87 24 **PKPdf 02 55 36.1 +0.1**
BDFB **PKPbc 02 55 43.0 -0.2**
BDFB IAMs_20 IAMs_20 04 03 04.7
comp=Z,3µm,22.0s
JANB Januaria 153.28 16 *e*P **PKPdf 02 55 36.7 +0.1**
LL01 San Ignacio de 153.50 105 PKPdf **PKPdf 02 55 36.4 +0.4**
AQDB Aquidauana 153.94 44 *e*P **PKPdf 02 55 37.4 +0.1**
PLCA Paso Flores 154.57 100 PKP **PKPdf 02 55 38.2 +0.5**
comp=Z,1.6nm,0.8s,baz=258,slow=1.5,SNR=2.8
PLCA PKPab **PKPab 02 56 01.2 +0.3**
comp=Z,4.5nm,0.9s,baz=14,slow=4.7,SNR=2.8
PLCA Paso Flores 154.57 100 PKIKP **PKPdf 02 55 38.0 +0.3**
PLCA 02 55 47.9
PLCA Paso Flores 154.57 100 **PKPdf 02 55 38.0 +0.3**
PLCA **sPKPdf 02 55 47.9 -0.7**
PLCA Paso Flores 154.57 100 *e*P **PKPdf 02 55 38.2 +0.5**
IPMB Ipameri, GO 154.99 26 *e*P **PKPdf 02 55 40.5 +1.6**
NAN01 Guarapari, ES 156.68 8 *e*P **PKPdf 02 55 41.9 +0.8**
PCMB Pacaembu 157.06 37 *e*P **PKPdf 02 55 41.7 +0.2**
SJMB Sao Joao De Ma 157.40 11 *e*P **PKPdf 02 55 41.4 -0.6**
CPUP Villa Florida 157.54 56 PKPab **PKPab 02 56 14.7 +0.8**
comp=Z,4.4nm,1.0s,baz=342,slow=3.2,SNR=4.4
FRTB Fartura 159.33 35 *e*P **PKPdf 02 55 44.4 +0.1**
PLTB Pedras Altas 163.62 61 *e*P **PKPdf 02 55 48.7 +0.2**

*IDC **11** 03:00:14.5±3.1, 28°.35N×121°.18E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/53, mbtmp3.9/4, Error ellipse: s-maj=223.7km s-min=22.3km az=60.0*
*BJI **11** 03:00:16.5±0.0, 27°.69N×119°.95E, h10km, ML4.2/6*
ISC 11 03:00:17.8±1.1, 27.72N±0.0×119.9E±0.1, h10km, n9, σ1°8/12, mb3.9/4, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**3.01**	**204**	Pn	**Pn**	**03 01 04.9**	**-0.7**
QZH				Pg	**Pb**	**03 01 11.7**	**+0.2**
QZH				Sn	**Sn**	**03 01 40.0**	**-1.7**
QZH				Sg	**Sb**	**03 01 49.6**	**+1.2**
				smax	smax		
	comp=N,640nm,0.7s						
QZH				smax	smax		
	comp=E,650nm,1.0s						
SSE	**Sheshan**	**3.54**	**18**	Pn	Pn	03 01 01.1	-12
SSE				Sn	Sn	03 01 42.0	-13
SSE				smax	smax		
	comp=N,210nm,0.9s						
SSE				smax	smax		
	comp=E,540nm,0.7s						
NJ2	**Nanjing**	**4.42**	**348**	*e*Pn	**Pn**	**03 01 24.1**	**-0.8**
NJ2				Sn	**Sn**	**03 02 17.3**	**+1.0**
NJ2				Sg	**Sg**	**03 02 38.4**	**-1.2**
NJ2				smax	smax		
	comp=E,410nm,0.5s						
NJ2				smax	smax		
	comp=E,320nm,0.8s						
WHN	**Wuhan**	**5.62**	**301**	Pn	Pn	03 01 36.8	-4.7
WHN				Sn	**Sn**	**03 02 46.2**	**0.0**
WMQ	**Urumqi**	**30.45**	**310**	*e*P	P	03 06 38.7	+8.1
MKAR	**Makanchi Array**	**35.06**	**313**	P	**P**	**03 07 12.2**	**+1.4**
	comp=E,1.5nm,0.7s,baz=99,slow=8.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**36.68**	**325**	P	**P**	**03 07 24.2**	**-0.5**
	comp=E,0.8nm,0.4s,baz=111,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**49.40**	**162**	P	**P**	**03 09 08.6**	**+0.7**
	comp=E,1.4nm,0.6s,baz=347,slow=8.8,SNR=18						
ASAR	**Alice Springs**	**52.84**	**164**	P	**P**	**03 09 33.7**	**0.0**
	comp=E,0.7nm,0.8s,baz=348,slow=8.8,SNR=6.3						

IDC 11 03:06:05.1±1.4, 64°.88N×17°.88W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/47, mbtmp3.4/4, Error ellipse: s-maj=53.8km s-min=19.3km az=17.0, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**1.48**	**266**	Pn	Pb	03 06 33.8	+0.4
	8.0nm,0.3s,baz=99,slow=8.1,SNR=36						
BORG				Sn	Sn	03 06 57.4	+4.4
	11nm,0.3s,baz=288,slow=22,SNR=10						
GERES	**GERESS Array B**	**23.20**	**119**	P	P	03 11 13.6	+0.2
	0.4nm,0.8s,baz=335,slow=6.8,SNR=3.9						
ESDC	**Sonseca Array**	**26.52**	**155**	P	P	03 11 43.5	-0.6
	0.8nm,0.9s,baz=344,slow=9.2,SNR=4.9						
AKASG	**Malin Array Be**	**28.03**	**98**	P	P	03 11 58.1	+0.5
	0.3nm,0.4s,baz=320,slow=9.5,SNR=4.6						
PDAR	**Pinedale Array**	**52.94**	**293**	P	P	03 15 22.3	-0.7
	0.6nm,0.8s,baz=31,slow=11,SNR=3.5						

*IDC **11** 03:17:12.0±1.9, 40°.74N×143°.58E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/34, mbtmp3.5/5, ML2.8/2, Error ellipse: s-maj=77.8km s-min=24.3km az=92.0*
*JMA **11** 03:17:14.0±0.2, 40°.95N×143°.30E, h19km, M3.4*
ISC 11 03:17:12.3±1.7, 40°.94N±0°.04×143°.35E±0°.07, h6km±12km, n21, σ1°21/30, mb3.6/3, 3C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.08**	**352**	P	**Pb**	**03 17 33.6**	**+0.2**
JEM				*e*S	**Sg**	**03 17 48.0**	**+0.8**
JTHR	**Tokachihiroo**	**1.35**	**358**	P	**Pg**	**03 17 37.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.41**	**342**	⇑P	**Pn**	**03 17 38.3**	**-0.2**
JKEN	**Kujiedanarisaw**	**1.45**	**240**	P	**Pn**	**03 17 38.9**	**-0.1**
JARK	**Aomorirokkasho**	**1.50**	**273**	P	**Pn**	**03 17 39.2**	**-0.5**
JANG	**Nango**	**1.50**	**249**	⇑P	**Pn**	**03 17 39.8**	**0.0**
JANG				*e*S	**Sn**	**03 17 58.7**	**-1.0**
JCH	**Churui**	**1.67**	**0**	P	**Pn**	**03 17 42.1**	**0.0**
JCH				*e*S	**Sn**	**03 18 01.9**	**-1.9**
JTM	**Tenmabayashi**	**1.74**	**266**	P	**Pn**	**03 17 43.4**	**+0.5**
JTM				S	**Sn**	**03 18 04.6**	**-0.8**
JOT	**Ohata**	**1.79**	**285**	⇑P	**Pn**	**03 17 43.6**	**-0.1**
JOT				*e*S	**Sn**	**03 18 05.3**	**-1.4**
JBT2	**Biratori 2**	**1.98**	**339**	P	**Pn**	**03 17 47.1**	**+0.8**
JBT2				*e*S	**Sn**	**03 18 11.4**	**0.0**
JKB	**Kayabe**	**1.98**	**299**	P	**Pn**	**03 17 46.4**	**+0.1**
JKB				*e*S	**Sn**	**03 18 10.1**	**-1.3**
JOM	**Ohasama**	**2.15**	**228**	⇓P	**Pb**	**03 17 50.5**	**-1.1**
JOM				*e*S	**Sn**	**03 18 16.9**	**+1.3**
JAK	**Akkeshi**	**2.29**	**26**	*e*S	**Sn**	**03 18 17.9**	**-1.1**
JEW	**Eniwo**	**2.37**	**324**	*e*S	**Sn**	**03 18 23.1**	**+2.1**
JAR	**Ashorobuto**	**2.38**	**7**	P	**Pn**	**03 17 51.5**	**-0.3**
JAR				*e*S	**Sn**	**03 18 18.5**	**-2.7**
JMK	**Ichinoseki**	**2.57**	**220**	P	**Pn**	**03 17 56.3**	**+1.9**
JMK				*e*S	**Sn**	**03 18 26.5**	**+0.5**
ASAJ	**Asahikawa**	**3.22**	**350**	Pn	**Pn**	**03 18 05.2**	**+1.8**
	1.3nm,0.3s,baz=165,slow=20,SNR=4.1						
MJAR	**Matsushiro Arr**	**5.95**	**224**	Pn	**Pn**	**03 18 39.7**	**-1.2**
	0.1nm,0.3s,baz=37,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**61.15**	**190**	P	**P**	**03 27 26.9**	**-0.6**
	0.4nm,0.8s,baz=6.8,slow=6.9,SNR=6.9						
FINES	**FINESS Array B**	**66.07**	**332**	P	P	03 28 03.5	+4.0
	1.9nm,0.9s,baz=51,slow=7.3,SNR=6.3						
NOA	**NORSAR Array B**	**71.16**	**338**	P	**P**	**03 28 33.0**	**+1.6**
	0.2nm,0.4s,baz=31,slow=6.6,SNR=4.0						

TRN 11 03:47:29.9, 16°.45N×62°.02W, h184km, MD4.2, 12C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLYT	**Lee's Yard**	**0.32**	**329**	*e*P	Pn	03 47 55.0	+0.5
MLYT				*e*S	Sn	03 48 13.7	+0.1
ABD	**La Joyeuse, An**	**0.51**	**87**	*e*P	Pn	03 47 56.2	+1.1
ABD				*e*S	Sn	03 48 14.7	+0.3
CBE	**Ff, Capester**	**0.54**	**133**	*e*P	Pn	03 47 57.0	+1.7
CBE	**Ff, Capester**	**0.54**	**133**	*e*	Pn	03 48 07.5	+12
CBE				*e*S	Sn	03 48 15.7	+0.8
BPA	**Boggy Peak**	**0.62**	**15**	*e*P	Pn	03 47 56.8	+1.2
ANBD	**Bethesda, Anti**	**0.65**	**22**	⇓*i*P	Pn	03 47 57.1	+1.3
ANBD				*e*S	Sn	03 48 16.2	+0.3
TBG	**Guadaloupe-3**	**0.69**	**149**	*e*P	Pn	03 47 56.8	+0.8
TDBA	**Terre de Bas,**	**0.70**	**148**	*e*P	Pn	03 47 57.1	+1.0
TDBA	**Terre de Bas,**	**0.70**	**148**	*e*	Pn	03 48 08.8	+13
TDBA				*e*S	Sn	03 48 16.2	0.0
MAGL	**Barre de l'ile**	**0.86**	**125**	*e*P	Pn	03 47 58.3	+1.3
SKOC	**St. Kitts, UWI**	**1.08**	**321**	*e*P	Pn	03 47 59.5	+1.0
SKOC				*e*S	Sn	03 48 22.6	+1.7
SKI	**Saint Kitts**	**1.12**	**322**	⇓*i*P	Pn	03 47 59.8	+0.9
SKI				*e*S	Sn	03 48 23.0	+1.6
DSLB	**Salisbury**	**1.16**	**150**	⇑*e*P	Pn	03 48 00.0	+0.8
DSLB	**Salisbury**	**1.16**	**150**	*e*	Pn	03 48 13.9	+15
DSLB				*e*S	Sn	03 48 20.8	-1.1
ANWB	**Willy Bob**	**1.24**	**10**	*e*P	Pn	03 48 01.9	+2.1
ANWB				*e*S	Sn	03 48 23.4	+0.3
MDN	**Morne-Daniel**	**1.27**	**152**	⇑*i*P	Pn	03 48 01.0	+0.8
MDN				*e*S	Sn	03 48 25.2	+1.7
DPMT	**Pointe Michel**	**1.33**	**152**	*e*P	Pn	03 48 02.5	+1.9
DLPL	**La Plaine**	**1.33**	**146**	*e*P	Pn	03 48 02.1	+1.4
DLPL				*e*S	Sn	03 48 24.1	-0.4
DSHT	**Scott's Head**	**1.37**	**153**	*e*P	Pn	03 48 02.6	+1.5
SEUS	**St. Eustatius**	**1.39**	**319**	*e*P	Pn	03 48 02.0	+0.9
SABA	**Saba**	**1.65**	**315**	*e*P	Pn	03 48 04.5	+0.8
SABA				*e*S	Sn	03 48 30.4	+0.5
SVN	**Savane Anatole**	**1.79**	**153**	*e*P	Pn	03 48 05.6	+0.5
PCM	**Pelee Case P

GCMP	Grenada, Carri	3.98 172	*e*	Pn	03 48 19.9	-11
GCMP	Grenada, Carri	3.98 172	*e*P	Pn	03 48 32.9	+2.0
BCHC	Barbados, Cave	4.02 145	*e*P	Pn	03 48 33.0	+1.6
BCHC	Barbados, Cave	4.02 145	*e*S	Sn	03 49 18.3	-1.3
BBGH	Gun Hill	4.05 144	*e*P	Pn	03 48 33.9	+2.1
BBGH	Gun Hill	4.05 144	*e*S	Sn	03 49 19.7	-0.7
GRSS	Sisters	4.14 174	*e*	Pn	03 48 36.0	+3.1
BBSP	Saint Philip	4.14 143	*e*P	Pn	03 48 34.4	+1.5
BBSP	Saint Philip	4.14 143	*e*S	Sn	03 49 21.1	-1.3
GRHS	Sauteurs	4.21 175	*e*	Pn	03 48 38.4	+4.5
SJG	San Juan	4.28 293	*e*P	Pn	03 48 36.3	+1.7
GRGR	Grenville	4.30 175	*e*P	Pn	03 48 35.2	+0.2
TOSP	Speyside	5.32 164	*e*P	Pn	03 48 48.4	+0.4
TOSP	Speyside	5.32 164	*e*S	Sn	03 49 46.0	-3.6
BOT	Bacolet	5.40 166	*e*P	Pn	03 48 50.9	+1.8
TRN	Trinidad (W)	5.79 174	*e*P	Pn	03 48 54.9	+0.6

IDC 11 03:57:28.2±2.6, 6°40'N×91°68'E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/61, mbtmp3.6/5, ML4.4/1, Error ellipse: s-maj=94.7km s-min=24.3km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.92**	**30**	Pn	Pn	04 00 48.0	+1.0
	0.5nm,0.3s,baz=215,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**41.05**	**350**	P	P	04 05 14.3	+0.9
	0.8nm,0.7s,baz=169,slow=8.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**47.74**	**355**	P	P	04 06 05.6	-1.1
	0.4nm,0.3s,baz=152,slow=6.5,SNR=2.3						
WRA	**Warramunga Arr**	**49.45**	**123**	P	P	04 06 21.5	+1.0
	0.3nm,0.8s,baz=305,slow=8.7,SNR=4.2						
ASAR	**Alice Springs**	**50.90**	**127**	P	P	04 06 30.1	-1.4
	0.4nm,0.7s,baz=316,slow=7.0,SNR=4.6						

IDC 11 04:05:37.8±2.3, 48°.06N×33°.63E, h0km, mb3.5/2, mb1 3.7/6, mb1mx3.4/43, mbtmp3.6/6, ML2.9/5, Error ellipse: s-maj=32.4km s-min=14.3km az=98.0

ISC 11 04:05:39.7±1.4, 48°37'N±0'.07×32°.99E±0'.09, h10km, n25, σ1§98/28, 10C-8D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SORM	**Soroca**	**3.11**	**267**	⇓P	**Pn**	**04 06 30.4**	**+1.7**
SORM	**Soroca**	**3.11**	**267**	⇓S	**Sg**	**04 07 18.5**	**-1.0**
KIS	**Kishinev**	**3.14**	**246**	⇑S	**Sg**	**04 07 19.8**	**-0.5**
MILM	**Milestii Mici**	**3.18**	**244**	⇑P	**Pn**	**04 06 30.2**	**+0.6**
MILM	**Milestii Mici**	**3.18**	**244**	⇓S	**Sg**	**04 07 21.1**	**-0.5**
AKASG	**Malin Array Be**	**3.39**	**315**	Pn	**Pb**	**04 06 37.8**	**-1.9**
	1.0nm,0.3s,baz=121,slow=13,SNR=4.2						
AKASG				Pg	**Pg**	**04 06 46.1**	**+1.6**
	3.1nm,0.3s,baz=126,slow=17,SNR=10						
AKASG				Lg	Lg	04 07 34.5	
	10nm,0.3s,baz=131,slow=29,SNR=16						
IAS	**Iasi**	**3.85**	**254**	⇑S	**Sb**	**04 07 37.0**	**+2.9**
TLCR		**4.29**	**224**	⇓S	**Sb**	**04 07 45.0**	**-1.8**
CFR	**Carcaliu**	**4.62**	**228**	⇓P	**Pn**	**04 06 49.1**	**-0.3**
TESR	**Tescani**	**4.69**	**249**	⇑S	**Sb**	**04 07 58.1**	**-0.3**
BIZ	**Bicaz**	**4.87**	**255**	⇑P	**Pn**	**04 06 53.4**	**+0.5**
VRI	**Vrancioaia**	**4.96**	**242**	⇑P	**Pn**	**04 06 54.2**	**+0.1**
PLOR	**Plostina**	**5.01**	**242**	⇑P	**Pn**	**04 06 55.9**	**+1.0**
BISRR	**Bisoca**	**5.14**	**239**	⇑P	**Pn**	**04 06 56.9**	**+0.1**
BURAR	**Bucovina Array**	**5.28**	**265**	⇓P	**Pn**	**04 07 00.0**	**+1.4**
MLR	**Muntele Rosu**	**5.62**	**242**	Pn	**Pn**	**04 07 07.4**	**+4.1**
	0.4nm,0.3s,baz=144,slow=8.7,SNR=7.1						
MLR				Sn	**Sb**	**04 08 23.1**	**-2.3**
	0.2nm,0.3s,baz=17,slow=19,SNR=1.9						
MLR	**Muntele Rosu**	**5.62**	**242**	⇑P	**Pn**	**04 07 03.6**	**+0.2**
DOPR	**Dopca**	**5.71**	**248**	⇓P	**Pn**	**04 07 05.2**	**+0.7**
VOIR		**6.18**	**245**	⇑P	**Pn**	**04 07 12.2**	**+1.1**
GZR	**Gura Zlata**	**7.61**	**251**	⇑P	**Pn**	**04 07 32.3**	**+1.8**
FINES	**FINESS Array B**	**13.68**	**346**	Pn	**Pn**	**04 08 52.5**	**-0.9**
	0.1nm,0.3s,baz=157,slow=15,SNR=5.2						
FINES				Sn	**Sn**	**04 11 20.3**	**-5.1**
	0.1nm,0.3s,baz=156,slow=21,SNR=3.3						
HFS	**Hagfors**	**16.23**	**324**	Pn	**Pn**	**04 09 26.3**	**-1.3**
	0.1nm,0.3s,baz=123,slow=18,SNR=3.6						
NOA	**NORSAR Array B**	**17.75**	**324**	P	**P**	**04 09 50.8**	**+3.2**
	0.0nm,0.3s,baz=132,slow=11,SNR=3.1						
ARCES	**ARCESS Array B**	**21.55**	**353**	P	**P**	**04 10 31.3**	**+2.6**
	1.8nm,0.7s,baz=173,slow=10,SNR=23						
TORD	**Torodi Ar. Bea**	**43.66**	**227**	P	**P**	**04 13 44.2**	**-0.3**
	0.3nm,0.5s,baz=28,slow=8.0,SNR=2.5						

SKHL 11 04:07:36.4±0.3, 42°.68N×146°.99E, h42km±7km, mb4.3/3
JMA 11 04:07:37.2±0.4, 42°.82N×146°.91E, h57km, M3.4
IDC 11 04:08:03.2±10.0, 44°.22N×145°.55E, h157km±46km, mb3.3/3, mb1 3.3/4, mb1mx2.9/48, mbtmp3.7/4, Error ellipse: s-maj=278.3km s-min=75.7km az=157.0

ISC 11 04:07:38.5±3.1, 42°.8N±0°.1×146°.9E±0°.1, h31km±16km, n19, σ1§84/19, mb3.8/3, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.02**	**303**	P	**Pn**	**04 07 55.7**	**-1.0**
NEM2				*e*S	**Sb**	**04 08 09.4**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.03**	**303**	*e*P	**Pn**	**04 07 55.0**	**-1.8**
NMR				*e*S	**Sb**	**04 08 09.0**	**-2.0**
GLVR	**Golovnino**	**1.38**	**312**	*e*P	**Pn**	**04 08 00.9**	**-0.6**
GLVR				AMB	AMB	04 08 03.0	
	165nm,0.4s						
GLVR				*e*S	**Sn**	**04 08 19.5**	**+0.9**
GLVR				A	A	04 08 22.0	
	1μm,0.4s						
GLVR				A	A	04 08 22.0	
	839nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.44**	**328**	*e*P	**Pn**	**04 08 01.5**	**-0.9**
YUK				AMB	AMB	04 08 02.0	
	91nm,0.3s						
YUK				*e*S	**Sn**	**04 08 20.1**	**-0.1**
YUK				A	A	04 08 24.0	
	630nm,0.4s						
YUK				A	A	04 08 24.0	
	759nm,0.4s						
GRPR	**Tuman**	**1.44**	**325**	*e*P	**Pn**	**04 08 02.0**	**-0.5**
GRPR				AMB	AMB	04 08 03.0	
	83nm,0.3s						
GRPR				*e*rx	rx	04 08 12.0	
GRPR				A	A	04 08 13.0	
	134nm,0.3s						
GRPR				A	A	04 08 13.0	
	285nm,0.3s						
JAK	**Akkeshi**	**1.64**	**277**	P	**Pn**	**04 08 04.6**	**-0.6**
JNK	**Nakash**	**1.78**	**296**	*e*S	**Sn**	**04 08 26.6**	**-2.1**
JTKR	**Abashiri--Toko**	**2.48**	**299**	P	**Pn**	**04 08 16.8**	**+0.1**
JCH	**Churui**	**2.63**	**267**	P	**Pn**	**04 08 18.4**	**-0.4**
JCH				*e*S	**Sn**	**04 08 48.1**	**-1.5**
ASAJ	**Asahikawa**	**3.40**	**294**	P	**Pb**	**04 08 40.2**	**+2.1**
	3.8nm,0.3s,baz=84,slow=16,SNR=8.1						
ASAJ				S	**Sn**	**04 09 13.9**	**+5.2**
	2.2nm,0.3s,baz=346,slow=19,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.52**	**138**	T	T	04 44 21.8	
	baz=329,slow=75,SNR=74						
H11N1	**WAKE ISLAND Hy**	**28.53**	**138**	T	T	04 44 22.4	
	baz=329,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.54**	**138**	T	T	04 44 24.1	
	baz=329,slow=75,SNR=33						
SONM	**Songino Array**	**28.69**	**294**	P	**P**	**04 13 32.2**	**-0.4**
	0.6nm,0.6s,baz=81,slow=8.9,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**29.46**	**139**	T	T	04 45 35.5	
	baz=330,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**29.47**	**139**	T	T	04 45 37.2	
	baz=330,slow=76,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**29.48**	**139**	T	T	04 45 33.8	
	baz=330,slow=76,SNR=8.0						
FINES	**FINESS Array B**	**65.63**	**333**	P	**P**	**04 18 19.1**	**0.0**
	1.2nm,0.8s,baz=35,slow=10,SNR=3.1						
NOA	**NORSAR Array B**	**70.41**	**339**	P	**P**	**04 18 49.4**	**+0.2**
	0.4nm,0.4s,baz=31,slow=6.3,SNR=3.4						

JMA 11 04:16:36.6±0.1, 40°.98N×143°.27E, h32km, M3.7
IDC 11 04:16:43.4±2.9, 41°.05N×142°.96E, h75km±24km, mb3.3/5, mb1 3.4/8, mb1mx3.2/33, mbtmp3.5/8, Error ellipse: s-maj=41.5km s-min=19.4km az=80.0

ISC 11 04:16:35.5±3.3, 41°.03N±0°.05×143°.30E±0°.06, h15km±21km, n29, σ1§19/34, mb3.5/6, 3C, Hokkaido region

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

JEM	**Erimo**	**0.99**	**354**	P	**Pn**	**04 16 55.2**	**+0.4**
JEM				*e*S	**Sn**	**04 17 08.6**	**0.0**
JNBK	**Urakawa-nobuka**	**1.31**	**342**	P	**Pb**	**04 16 59.8**	**0.0**
JNBK				*e*S	**Sn**	**04 17 17.0**	**+0.5**
JARK	**Aomorirokkasho**	**1.46**	**270**	P	**Pn**	**04 17 01.1**	**-0.2**
JARK				*e*S	**Sn**	**04 17 19.3**	**-0.8**
JKEN	**Kujiedanarisaw**	**1.46**	**236**	P	**Pn**	**04 17 00.6**	**-0.7**
JKEN				*e*S	**Sn**	**04 17 18.1**	**-2.1**
JANG	**Nango**	**1.50**	**245**	⇑P	**Pn**	**04 17 01.5**	**-0.4**
JCH	**Churui**	**1.58**	**2**	P	**Pn**	**04 17 03.5**	**+0.5**
JCH				*e*S	**Sn**	**04 17 23.4**	**+0.2**
JTM	**Tenmabayashi**	**1.71**	**262**	P	**Pn**	**04 17 05.2**	**+0.5**
JTM				S	**Sn**	**04 17 26.6**	**+0.4**
JOT	**Ohata**	**1.73**	**282**	⇑P	**Pn**	**04 17 05.3**	**+0.3**
JOT				S	**Sn**	**04 17 27.1**	**+0.2**
JKB	**Kayabe**	**1.90**	**297**	P	**Pn**	**04 17 08.0**	**+0.6**
JKB				*e*S	**Sn**	**04 17 32.3**	**+1.2**
JOM	**Ohasama**	**2.18**	**225**	⇑P	**Pn**	**04 17 12.1**	**+0.8**
JAK	**Akkeshi**	**2.22**	**28**	P	**Pn**	**04 17 13.0**	**+1.2**
JAK				*e*S	**Sn**	**04 17 38.2**	**-0.8**
JEW	**Eniwo**	**2.27**	**323**	P	**Pb**	**04 17 15.2**	**-1.0**
JEW				*e*S	**Sb**	**04 17 43.0**	**-1.1**
JAR	**Ashorobuto**	**2.29**	**9**	P	**Pn**	**04 17 12.9**	**+0.1**
JAR				S	**Sn**	**04 17 39.7**	**-1.0**
JMK	**Ichinoseki**	**2.62**	**218**	P	**Pn**	**04 17 18.0**	**+0.8**
ASAJ	**Asahikawa**	**3.13**	**351**	P	**Pb**	**04 17 30.5**	**-0.3**
	1.9nm,0.3s,baz=257,slow=14,SNR=2.9						
MJAR	**Matsushiro Arr**	**5.99**	**223**	P	**Pn**	**04 18 06.0**	**+2.4**
	0.1nm,0.3s,baz=31,slow=13,SNR=3.3						
USRK	**Ussuriysk Ar.**	**8.92**	**295**	P	**Pn**	**04 18 46.2**	**+2.5**
	baz=101,slow=14,SNR=3.7						
SONM	**Songino Array**	**27.02**	**297**	P	**P**	**04 22 17.1**	**+0.1**
	0.7nm,0.8s,baz=111,slow=7.9,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**29.25**	**129**	T	T	04 53 21.1	
	baz=322,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**29.26**	**130**	T	T	04 53 24.4	
	baz=322,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**29.27**	**129**	T	T	04 53 21.7	
	baz=322,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**30.10**	**131**	T	T	04 54 35.2	
	baz=324,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**30.10**	**131**	T	T	04 54 30.9	
	baz=324,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**30.12**	**131**	T	T	04 54 31.4	
	baz=324,slow=74,SNR=6.1						
ZALV	**Zalesovo Beam**	**40.42**	**309**	P	**P**	**04 24 15.4**	**+2.5**
	0.7nm,0.3s,baz=91,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**43.35**	**299**	P	**P**	**04 24 36.0**	**-0.9**
	0.3nm,0.4s,baz=85,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**61.23**	**190**	P	**P**	**04 26 49.0**	**-0.8**
	0.3nm,0.7s,baz=7.8,slow=7.3,SNR=6.6						
ASAR	**Alice Springs**	**64.95**	**190**	P	**P**	**04 27 16.5**	**+2.0**
	0.2nm,0.7s,baz=354,slow=7.6,SNR=3.6						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**04 27 19.0**	**-1.7**
	1.6nm,0.8s,baz=48,slow=5.7,SNR=4.3						

JMA 11 04:18:37.4±0.1, 23°.52N×121°.58E, h32km±2km
TAP 11 04:18:38.2, 23°.53N×121°.55E, h30km, ML4.0, C

ISC 11 04:18:37.8±0.9, 23°.53N±0°.02×121°.59E±0°.02, h28km±4km, n119, σ0§88/192, 9C-26D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.16**	**257**	*i* P	**Pn**	**04 18 44.0**	**-0.4**
	baz=250						
HGSD				*e*S	**Sn**	**04 18 48.1**	**+0.8**
	baz=250						
EGFH	**Guangfu**	**0.21**	**313**	⇓*i*P	**Pn**	**04 18 44.4**	**-0.6**
	baz=309						
EGFH				S	**Sn**	**04 18 48.5**	**+0.4**
	baz=309						
EHY	**Hungye**	**0.25**	**265**	⇓*i*P	**Pb**	**04 18 44.5**	**0.0**
	baz=274						
EHY				*e*S	**Sb**	**04 18 48.5**	**-0.5**
	baz=274						
YULB	**Yu-li**	**0.30**	**244**	⇓*i*P	**Pb**	**04 18 45.4**	**+0.2**
	baz=249						
YULB				S	**Sb**	**04 18 48.4**	**-1.7**
	baz=249						
EYUL	**Yuli**	**0.31**	**234**	P	**Pn**	**04 18 45.8**	**-0.7**
	baz=240						
EYUL				S	**Sn**	**04 18 52.6**	**+0.6**
	baz=240						
ESL	**Shilin**	**0.32**	**333**	⇓*i*P	**Pb**	**04 18 45.4**	**0.0**
	baz=332						
ESL				S	**Sn**	**04 18 51.4**	**-1.0**
	baz=332						
TWF1	**Yuli**	**0.32**	**237**	⇑*i*P	**Pn**	**04 18 45.8**	**-0.9**
	baz=242						
TWF1				*e*S	**Sb**	**04 18 49.2**	**-1.5**
	baz=242						
FULB	**Fuli**	**0.42**	**220**	*i* P	**Pn**	**04 18 47.9**	**-0.2**
	baz=226						
FULB				*e*S	**Sn**	**04 18 55.5**	**+0.6**
	baz=226						
HWA	**Hwalien**	**0.45**	**2**	*e*P	**Pn**	**04 18 48.1**	**-0.3**
	baz=18						
HWA				*e*S	**Sn**	**04 18 55.9**	**+0.3**
	baz=18						
VWDT	**VWDT**	**0.47**	**299**	⇓*i*P	**Pb**	**04 18 47.8**	**+0.1**
	baz=297						
VWDT				*e*S	**Sb**	**04 18 54.0**	**-0.4**
	baz=297						
CHKT	**Chengkung**	**0.47**	**206**	*e*P	**Pn**	**04 18 48.0**	**-0.7**
	baz=188						
CHKT				*e*S	**Sn**	**04 18 55.8**	**-0.3**
	baz=188						
TWD	**Chiawan**	**0.55**	**1**	⇓*i*P	**Pb**	**04 18 49.2**	**+0.2**
	baz=352						
TWD				*e*S	**Sn**	**04 18 57.7**	**-0.3**
	baz=352						
OWD	**Renai**	**0.57**	**318**	⇓*i*P	**Pb**	**04 18 49.1**	**-0.3**
	baz=321						
OWD				*e*S	**Sb**	**04 18 56.4**	**-1.0**
	baz=321						
EDH	**Donghe**	**0.61**	**206**	*e*P	**Pn**	**04 18 50.6**	**-0.1**
	baz=191						
EDH				*e*S	**Sn**	**04 19 00.1**	**+0.5**
	baz=191						
ELDTW	**Lidau**	**0.62**	**238**	⇑*i*P	**Pb**	**04 18 49.7**	**-0.7**
	baz=238						
ELDTW				*e*S	**Sb**	**04 18 56.5**	**-2.3**
	baz=238						
SSLB	**Suanglung**	**0.64**	**294**	⇓*i*P	**Pb**	**04 18 49.9**	**-0.6**
	baz=287						
SSLB				S	**Sb**	**04 18 57.6**	**-1.6**
	baz=287						
NACB	**Ninganchiao**	**0.64**	**0**	⇓*i*P	**Pb**	**04 18 50.2**	**-0.4**
	baz=354						
NACB				*e*S	**Sn**	**04 19 00.4**	**+0.1**
	baz=354						
CHGB	**Renai**	**0.65**	**324**	⇓*i*P	**Pb**	**04 18 50.7**	**-0.2**
	baz=327						
CHGB				*e*S	**Sn**	**04 19 00.0**	**-0.9**
	baz=327						
ETLH	**Xiulin Townshi**	**0.68**	**352**	⇓P	**Pb**	**04 18 50.8**	**-0.5**
	baz=356						
ETLH				*e*S	**Sb**	**04 18 59.6**	**-1.0**
	baz=356						
WHF	**Hehuan Shan**	**0.68**	**334**	⇓*i*P	**Pb**	**04 18 50.9**	**-0.6**
	baz=338						
WHF				*e*S	**Sb**	**04 18 59.9**	**-1.0**
	baz=338						
WHYT	**Xinyi Township**	**0.70**	**284**	P	**Pn**	**04 18 51.5**	**-0.3**
	baz=281						
WHYT				*e*S	**Sb**	**04 19 00.2**	**-0.7**
	baz=281						
ALS	**Alishan**	**0.72**	**269**	⇓*i*P	**Pn**	**04 18 52.1**	**-0.3**
	baz=274						
ALS				*e*S	**Sb**	**04 19 01.3**	**-0.5**
	baz=274						
LONT	**Longtian**	**0.75**	**215**	⇑*i*P	**Pn**	**04 18 51.6**	**-0.9**
	baz=209						
LONT				*e*S	**Sn**	**04 19 03.5**	**+0.6**
	baz=209						
FUSS	**Fushou**	**0.79**	**336**	⇓*i*P	**Pn**	**04 18 52.8**	**-0.4**
	baz=339						
FUSS				*e*S	**Sb**	**04 19 02.6**	**-1.0**
	baz=339						
TWT	**Tachien**	**0.82**	**332**	⇓*i*P	**Pb**	**04 18 53.6**	**0.0**
	baz=334						
TWT				*e*S	**Sb**	**04 19 03.3**	**-1.1**
	baz=334						
TDCB	**Techi**	**0.82**	**331**	⇓*i*P	**Pb**	**04 18 53.6**	**-0.1**
	baz=334						
TDCB				*e*S	**Sb**	**04 19 03.0**	**-1.6**
	baz=334						
CHN5	**Tsauling**	**0.84**	**275**	⇓*i*P	**Pb**	**04 18 54.2**	**+0.3**
	baz=274						
CHN5				*e*S	**Sn**	**04 19 04.8**	**-0.5**
	baz=274						
WJS	**Zhushan**	**0.84**	**291**	⇓*i*P	**Pb**	**04 18 54.6**	**+0.6**
	baz=290						
WJS				*e*S	**Sn**	**04 19 05.7**	**+0.5**
	baz=290						
STYT	**Tauyuan**	**0.85**	**245**	⇑*i*P	**Pb**	**04 18 53.9**	**-0.2**
	baz=239						
STYT				*e*S	**Sb**	**04 19 04.5**	**-0.6**
	baz=239						
TWGBT	**Beinan**	**0.85**	**214**	⇑*i*P	**Pn**	**04 18 52.6**	**-1.2**
	baz=209						
TWGBT				*e*S	**Sn**	**04 19 03.3**	**-2.1**
	baz=209						
TWG	**Pinlang**	**0.85**	**214**	⇑*i*P	**Pn**	**04 18 52.7**	**-1.2**
	baz=209						
TWG				*e*S	**Sb**	**04 19 05.4**	**+0.3**
	baz=209						
LDUT	**Ludao**	**0.86**	**188**	*e*P	**Pn**	**04 18 53.1**	**-0.8**
	baz=173						
LDUT				*e*S	**Sn**	**04 19 04.4**	**-1.2**
	baz=173						
WNT	**Mingjian**	**0.90**	**293**	⇓*i*P	**Pb**	**04 18 55.4**	**+0.5**
	baz=293						
WNT				*e*S	**Sb**	**04 19 07.7**	**+1.1**
	baz=293						
ENA	**Nanau**	**0.91**	**9**	P	**Pb**	**04 18 55.2**	**+0.2**
	baz=359						
ENA				*e*S	**Sn**	**04 19 05.9**	**-0.9**
	baz=359						
TPUB	**Ta-pu**	**0.91**	**256**	*i* P	**Pb**	**04 18 55.3**	**+0.2**
	baz=254						
TPUB				*e*S	**Sb**	**04 19 06.9**	**+0.1**
	baz=254						
NNSB	**Datong**	**0.92**	**348**	⇓*i*P	**Pn**	**04 18 54.6**	**-0.4**
	baz=3.0						
NNSB				*e*S	**Sn**	**04 19 05.2**	**-2.1**
	baz=3.0						
NNSH	**Datong**	**0.92**	**348**	⇓*e*P	**Pn**	**04 18 54.7**	**-0.3**
	baz=1.0						
NNSH				*e*S	**Sn**	**04 19 05.8**	**-1.5**
	baz=1.0						
NNS	**Nan Shan**	**0.93**	**348**	*e*P	**Pn**	**04 18 54.9**	**-0.3**
	baz=3.0						
NNS				*e*S	**Sn**	**04 19 06.4**	**-1.2**
	baz=3.0						
CHN4	**Tsaushan**	**0.93**	**259**	*i* P	**Pb**	**04 18 56.0**	**+0.5**
	baz=254						
CHN4				*e*S	**Sb**	**04 19 08.3**	**+0.8**
	baz=254						
ENAH	**Nanao**	**0.94**	**12**	*e*P	**Pb**	**04 18 56.1**	**+0.5**
	baz=4.0						
WTP	**Ta-pu**	**0.94**	**253**	⇑*i*P	**Pb**	**04 18 55.7**	**+0.1**
	baz=250						
WTP				*e*S	**Sb**	**04 19 08.2**	**+0.5**
	baz=250						
WHP	**Taichung City**	**0.95**	**322**	⇓*i*P	**Pb**	**04 18 55.6**	**-0.2**
	baz=326						
WHP				*e*S	**Sb**	**04 19 08.2**	**+0.1**
	baz=326						
WGK	**Gukeng**	**0.96**	**280**	*e*P	**Pb**	**04 18 56.0**	**+0.1**
	baz=279						
WGK				*e*S	**Sb**	**04 19 08.8**	**+0.7**
	baz=279						
WDLH	**Douliu**	**0.98**	**280**	P	**Pb**	**04 18 56.4**	**+0.2**
	baz=279						
WDLH				*e*S	**Sb**	**04 19 09.0**	**+0.2**
	baz=279						
SLGT	**Liugui**	**1.02**	**239**	⇑*i*P	**Pb**	**04 18 57.0**	**+0.1**
	baz=235						
SLGT				*e*S	**Sb**	**04 19 10.2**	**+0.3**
	baz=235						
SGST	**Jiashian**	**1.03**	**245**	⇑*i*P	**Pb**	**04 18 56.3**	**-0.8**
	baz=242						
SGST				*e*S	**Sb**	**04 19 09.6**	**-0.5**
	baz=242						
CHN1	**Nanshi**	**1.03**	**251**	*e*P	**Pb**	**04 18 57.5**	**+0.3**
	baz=249						
CHN1				*e*S	**Sb**	**04 19 11.2**	**+0.8**
	baz=249						
TCU	**Taichung**	**1.04**	**307**	*e*P	**Pb**	**04 18 58.0**	**+0.8**
	baz=307						
TCU				*e*S	**Sb**	**04 19 11.8**	**+1.2**
	baz=307						
SNST	**Tainan City**	**1.05**	**253**	*e*P	**Pb**	**04 18 57.6**	**+0.2**
	baz=251						
SNST				*e*S	**Sb**	**04 19 11.8**	**+1.0**
	baz=251						
CHY	**Chiayi**	**1.07**	**269**	*e*P	**Pb**	**04 18 58.0**	**+0.2**
	baz=267						
CHY				*e*S	**Sb**	**04 19 11.8**	**+0.4**
	baz=267						
NDT	**Datong Townshi**	**1.07**	**356**	*e*P	**Pn**	**04 18 57.0**	**0.0**
	baz=12						
WCHH	**Zhanghua**	**1.09**	**300**	*e*P	**Pb**	**04 18 58.5**	**+0.3**
	baz=300						
WCHH				*e*S	**Sb**	**04 19 12.7**	**+0.7**
	baz=300						
ECL	**Taimali**	**1.09**	**212**	*e*P	**Pn**	**04 18 55.9**	**-1.4**
	baz=206						
TWC	**Suao**	**1.10**	**12**	*e*P	**Pb**	**04 18 58.0**	**-0.3**
	baz=3.0						
TWC				*e*S	**Sb**	**04 19 12.3**	**0.0**
	baz=3.0						
ENTT	**Nioudou**	**1.11**	**359**	P	**Pn**	**04 18 57.5**	**0.0**
	baz=5.0						
WTK	**Tuku**	**1.11**	**279**	*e*P	**Pb**	**04 18 58.2**	**-0.3**
	baz=278						
WTK				*e*S	**Sb**	**04 19 13.0**	**+0.4**
	baz=278						
YHNB	**Yeheng**	**1.16**	**350**	⇓P	**Pn**	**04 18 58.5**	**+0.3**
	baz=8.0						
NSK	**Sanguang**	**1.16**	**350**	⇓*i*P	**Pn**	**04 18 58.6**	**+0.3**
	baz=353						
NSK				*e*S	**Sn**	**04 19 12.7**	**-0.6**
	baz=353						
NSY	**Sanyi**	**1.17**	**320**	⇓P	**Pb**	**04 19 00.1**	**+0.7**
	baz=320						
NSY				*e*S	**Sb**	**04 19 15.9**	**+1.8**
	baz=320						
SSD	**Sandimen**	**1.18**	**229**	*e*P	**Pn**	**04 18 58.0**	**-0.4**
	baz=220						
RLNB	**Erlin**	**1.19**	**288**	*e*P	**Pb**	**04 18 58.8**	**-0.9**
	baz=288						
RLNB				*e*S	**Sb**	**04 19 16

NMLH				*e*S		**Sb**	**04 19 16.8**	**+0.5**
	baz=324								
WTCT	**Ta-ch'eng**	**1.25**	**286**	*e*P		**Pb**	**04 19 00.5**	**-0.3**
	baz=285								
WTCT				*e*S		**Sb**	**04 19 17.0**	**+0.6**
	baz=285								
NWLT	**Wulai**	**1.25**	**356**	*e*P		**Pn**	**04 18 59.8**	**+0.4**
	baz=14								
WSF	**Szhu**	**1.26**	**275**	*e*P		**Pb**	**04 18 60.0**	**-1.0**
	baz=274								
WSF				*e*S		**Sb**	**04 19 16.8**	**0.0**
	baz=274								
MASBT	**Mashibuluo**	**1.27**	**224**	*e*P		**Pn**	**04 18 59.8**	**+0.1**
	baz=220								
MASBT				*e*S		**Sb**	**04 19 16.8**	**-0.2**
	baz=220								
CHN8	**Yiju**	**1.28**	**262**	*e*P		**Pb**	**04 19 01.0**	**-0.2**
	baz=261								
CHN8				*e*S		**Sb**	**04 19 17.8**	**+0.4**
	baz=261								
TWM1	**Shoushan**	**1.28**	**237**	*e*P		**Pb**	**04 19 02.8**	**+1.4**
	baz=233								
WMLT	**Mailiao**	**1.28**	**283**	*e*S		**Sb**	**04 19 17.6**	**+0.1**
	baz=282								
SGLT	**Jiouru**	**1.29**	**232**	*e*P		**Pb**	**04 19 02.6**	**+1.1**
	baz=228								
EAST	**Anshuo**	**1.33**	**211**	*e*P		**Pn**	**04 18 59.6**	**-0.9**
	baz=195								
TAW	**Tawu**	**1.33**	**209**	*e*P		**Pb**	**04 19 01.4**	**-0.7**
	baz=202								
NTC	**Toucheng**	**1.34**	**9**	*e*P		**Pb**	**04 19 01.8**	**-0.6**
	baz=4.0								
SBCB	**Hsinchu**	**1.38**	**336**	*e*P		**Pb**	**04 19 02.9**	**-0.1**
	baz=339								
SNJT	**Kaohsiung City**	**1.39**	**237**	*e*P		**Pb**	**04 19 03.9**	**+0.7**
	baz=232								
SSPT	**Xinbi**	**1.40**	**222**	*e*P		**Pb**	**04 19 03.1**	**-0.2**
	baz=210								
TATO	**Taipei**	**1.45**	**356**	*e*P		**Pn**	**04 19 01.6**	**-0.6**
	baz=13								
TWA	**Mucha**	**1.45**	**360**	*e*P		**Pb**	**04 19 03.3**	**-0.8**
	baz=16								
TIPB	**Shuangxi**	**1.46**	**8**	*e*P		**Pn**	**04 19 03.1**	**+0.9**
	baz=4.0								
SCZT	**Fangliau**	**1.46**	**218**	*e*P		**Pn**	**04 19 02.9**	**+0.6**
	baz=200								
NCUH	**Zhongli**	**1.48**	**346**	*e*P		**Pb**	**04 19 04.0**	**-0.7**
	baz=349								
NCU	**National Centr**	**1.48**	**346**	*e*P		**Pb**	**04 19 04.3**	**-0.4**
	baz=351								
SLIU	**Shizi**	**1.50**	**209**	*e*P		**Pb**	**04 19 03.6**	**-1.4**
	baz=194								
NWF	**Wu-fen Shan**	**1.55**	**6**	P		**Pb**	**04 19 04.9**	**-1.1**
	baz=13								
WFSB	**Wu-fen Shan**	**1.55**	**6**	*e*P		**Pb**	**04 19 04.7**	**-1.2**
	baz=13								
TWS1	**Kuangyinshan**	**1.57**	**354**	*e*P		**Pn**	**04 19 04.8**	**+0.9**
	baz=18								
YOJ	**Yonaguni jima**	**1.60**	**54**	P		**Pn**	**04 19 04.0**	**-0.2**
YOJ				*e*S		**Sn**	**04 19 23.7**	**-0.2**
WLCH	**Liuqiu**	**1.62**	**224**	*e*P		**Pb**	**04 19 08.5**	**+1.4**
	baz=217								
YM04	**YM04**	**1.62**	**358**	*e*P		**Pn**	**04 19 04.3**	**-0.2**
	baz=5.0								
HEN	**Hengchun**	**1.71**	**208**	*e*P		**Pn**	**04 19 04.7**	**-1.0**
	baz=188								
TWKBT	**Hengchun**	**1.73**	**205**	*e*P		**Pb**	**04 19 07.4**	**-1.7**
	baz=187								
TWK1	**Hengchun**	**1.73**	**205**	*e*P		**Pn**	**04 19 07.3**	**+1.2**
	baz=187								
WDGT	**Dungji**	**1.79**	**262**	*e*P		**Pn**	**04 19 07.2**	**+0.3**
	baz=261								
PHUB	**P'eng-hu**	**1.85**	**270**	*e*P		**Pn**	**04 19 07.4**	**-0.3**
	baz=269								
PNG	**Penghu**	**1.87**	**272**	*e*P		**Pn**	**04 19 07.4**	**-0.5**
	baz=271								
IRIF	**Iriomote-Funau**	**2.12**	**67**	P		**Pn**	**04 19 11.6**	**+0.3**
IRIF				*e*S		**Sn**	**04 19 37.4**	**+0.7**
JKRS	**Kuro-shima**	**2.32**	**72**	P		**Pn**	**04 19 15.6**	**+1.4**
JKRS				*e*S		**Sn**	**04 19 43.5**	**+1.7**
JIJ	**Ishigaki jima**	**2.48**	**70**	P		**Pn**	**04 19 17.2**	**+0.9**
JIJ				S		**Sn**	**04 19 46.3**	**+0.6**
PTTC	**Pingtan**	**2.57**	**320**	*e*P		**Pn**	**04 19 17.7**	**+0.1**
	baz=321								
JISG	**Ishigakijimahi**	**2.70**	**66**	P		**Pn**	**04 19 20.6**	**+1.2**
JISG				S		**Sn**	**04 19 51.4**	**+0.3**
PTMZ	**Houxiangcun**	**2.71**	**304**	*e*P		**Pn**	**04 19 19.3**	**-0.2**
	baz=303								
KNM	**Kinmen**	**3.02**	**288**	*e*P		**Pn**	**04 19 25.6**	**+1.9**
	baz=287								
JTJ	**Tarama**	**3.05**	**68**	*e*S		**Sn**	**04 20 00.8**	**+1.0**
KNMB	**Chin-men Tao**	**3.07**	**288**	*e*P		**Pn**	**04 19 24.4**	**-0.1**
	baz=288								
LYJJ	**Jianjiangzhen**	**3.44**	**331**	*e*P		**Pn**	**04 19 29.7**	**+0.2**
	baz=333								
ZPLA	**Ao Xicun**	**3.54**	**277**	*e*P		**Pn**	**04 19 31.5**	**+0.6**
	baz=278								
AXDP	**Jialang**	**3.58**	**293**	*e*P		**Pn**	**04 19 31.7**	**+0.3**
	baz=293								
ZZJH	**Jiuhuzhen**	**3.74**	**285**	*e*P		**Pn**	**04 19 34.1**	**+0.4**
	baz=285								

SOME ***11*** *04:31:21.2, 43˚.12N×84˚.08E, h0km*
NNC ***11*** *04:31:26.1±4.2, 43˚.22N×84˚.00E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=37.4km s-min=21.2km az=151.0*
ISC 11 04:31:21.0±5.3**, 42˚.9N**±0˚.2×**84˚.5E**±0˚.2**, h10**km**, n9,** σ1§**40**/12**, 2C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PDGK	**Podgornoye**	**3.71**	**279**	Pg		**Pb**	**04 32 27.9**			**+1.1**
	1.5nm,0.3s									
PDGK				Lg		Lg	04 33 15.1			
	7.2nm,0.4s									
PDGK	**Podgornoye**	**3.71**	**279**	⇑Pg		**Pb**	**04 32 27.1**			**+0.3**
	1.8nm,0.3s									
PDGK				⇓Lg		Lg	04 33 08.5			
	7.1nm,0.5s									
UZB	**Uzynbulak**	**4.04**	**276**	*e*P		**Pb**	**04 32 30.6**			**-1.7**
	1.0nm,0.1s									
UZB				*e*S		**Sb**	**04 33 20.4**			**-0.9**
	12nm,0.4s									
UZB	**Uzynbulak**	**4.04**	**276**	Pg		**Pb**	**04 32 32.3**			**-0.1**
	1.8nm,0.2s									
UZB				Lg		Lg	04 33 22.3			
	9.7nm,0.5s									
MK31	**Makanchi Array**	**4.22**	**339**	⇑Pg		**Pb**	**04 32 35.5**			**+0.2**
	0.7nm,0.4s,baz=162,slow=17,SNR=4.9									
MK31				⇓Lg		Lg	04 33 29.1			
	1.2nm,0.3s,baz=160,slow=29,SNR=5.0									
KPKS	**Kokpek**	**4.31**	**280**	*e*P		**Pb**	**04 32 35.9**			**-1.0**
	6.0nm,0.2s									
KPKS				*e*S		**Sb**	**04 33 29.8**			**+0.8**
	21nm,0.4s									
SATY	**Saty**	**4.49**	**274**	*e*P		**Pb**	**04 32 39.7**			**-0.3**
	1.2nm,0.2s									
SATY				*e*S		**Sb**	**04 33 36.2**			**+2.0**
	7.5nm,0.2s									
SATY	**Saty**	**4.49**	**274**	Pg		**Pb**	**04 32 40.8**			**+0.8**
	2.3nm,0.4s									
SATY				Lg		Lg	04 33 37.1			
	9.4nm,0.2s									
ARXS	**Arharly**	**5.04**	**288**	Pg		**Pb**	**04 32 46.9**			**-2.5**
	3.6nm,0.3s									
ARXS				Lg		Lg	04 33 47.4			
	7.0nm,0.2s									

BJI ***11*** *04:39:58.8±0.0, 7˚.17S×130˚.17E, h155km, mB5.3/33, mb4.7/42*
IDC ***11*** *04:40:03.6±1.7, 6˚.61S×129˚.78E, h133km±16km, mb4.3/15, mb1 4.5/20, mb1mx4.3/41, mbtmp4.9/20, MS3.7/2, Ms1 3.7/2, ms1mx3.2/42, Error ellipse: s-maj=15.0km s-min=9.2km az=77.0*
NEIC ***11*** *04:40:06.3±1.7, 6˚.54S±0˚.07×129˚.80E±0˚.07, h162km±6km, mb4.8/54, Error ellipse: s-maj=10.6km s-min=9.8km az=59.0*
DJA ***11*** *04:40:07.6±0.2, 7˚.S±2˚×13˚0E±˚, h163km±2km, M5.1/51, mb5.0/51, mB5.5/23, MLv5.4/13, Mw(mB)5.0/23*
KLM ***11*** *04:40:11.0, 6˚.78S×129˚.74E, h178km, mb5.2*
ISC 11 04:40:05.1±0.3**, 6˚.64S**±0˚.04×**129˚.85E**±0˚.04**, h150**km**, n233,** σ1§**65**/226**, mb4.7**/52**, 1C-2D, Banda Sea**

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

SAUI	**Saumlaki**	**1.96**	**133**	P		**Pn**	**04 40 43.5**		**+3.7**
SAUI				S		**Sn**	**04 41 07.8**		**+1.4**
SAUI	**Saumlaki**	**1.96**	**133**	Pn		**Pn**	**04 40 43.7**		**+3.9**
BNDI	**Bandanaira**	**2.10**	**1**	P		**Pn**	**04 40 45.3**		**+3.8**
AAI	**Ambon**	**3.37**	**331**	P		**Pn**	**04 41 01.1**		**+3.9**
AAI				S		Sn	04 41 46.1		+8.5
MSAI	**Masohi**	**3.40**	**344**	P		**Pn**	**04 41 01.4**		**+3.8**
MSAI				S		**Sn**	**04 41 45.5**		**+7.1**
NLAI	**Namlea**	**4.35**	**321**	P		Pn	04 41 17.3		+7.3
FAKI	**Fak Fak**	**4.40**	**33**	P		**Pn**	**04 41 10.3**		**-0.4**
FAKI	**Fak Fak**	**4.40**	**33**	Pn		**Pn**	**04 41 10.5**		**-0.2**
SIJI	**Sorong**	**5.90**	**14**	P		**Pn**	**04 41 30.2**		**-0.4**
	141nm,0.3s,baz=205,slow=9.4,SNR=104								
SIJI				S		**Sn**	**04 42 33.5**		**-4.1**
	97nm,0.3s,baz=94,slow=24,SNR=20								
SANI	**Sanana**	**5.97**	**320**	P		**Pn**	**04 41 35.0**		**+3.5**
	1.2nm4µm249nm,1.0s								
MTN	**Manton Dam**	**6.29**	**169**	P		**Pn**	**04 41 37.2**		**+1.4**
	baz=6.3,SNR=180								
MTN				S		**Sn**	**04 42 44.7**		**-2.1**
	baz=6.3								
MTN	**Manton Dam**	**6.29**	**169**	Pn		**Pn**	**04 41 37.0**		**+1.2**
SOEI	**Soe**	**6.33**	**240**	P		**Pn**	**04 41 39.0**		**+2.5**
	5.6nm7µm823nm,0.8s								
SOEI	**Soe**	**6.33**	**240**	Pn		**Pn**	**04 41 38.4**		**+1.9**
KDU	**Kakadu**	**6.54**	**157**	P		**Pn**	**04 41 39.9**		**+0.9**
	baz=6.5,SNR=1000								
BATI	**Baumata**	**7.07**	**240**	P		**Pn**	**04 41 48.2**		**+1.9**
	184nm,0.3s,baz=108,slow=3.9,SNR=42								
BATI				S		**Sn**	**04 43 04.0**		**-1.6**
	235nm,0.3s,baz=316,slow=23,SNR=10								
BATI	**Baumata**	**7.07**	**240**	P		**Pn**	**04 41 48.3**		**+2.1**
	2.8nm6µm345nm,0.5s								
TNTI	**Ternate**	**7.77**	**341**	P		**Pn**	**04 41 57.7**		**+2.2**
	0.3nm81nm,0.8s								
TNTI	**Ternate**	**7.77**	**341**	Pn		**Pn**	**04 41 55.7**		**+0.2**
MMRI	**Maumere**	**7.80**	**255**	P		Pn	04 42 06.4	+10	
MMRI	**Maumere**	**7.80**	**255**	Pn		**Pn**	**04 41 58.4**		**+2.5**
BAKI	**Biak**	**8.26**	**49**	P		**Pn**	**04 42 03.4**		**+1.3**
	22µm3µm,1.0s								
LUWI	**Luwuk**	**8.99**	**308**	P		Pn	04 42 28.8	+17	
KNRA	**Kununurra**	**9.04**	**187**	P		**Pn**	**04 42 12.2**		**-0.2**
	baz=9.0,SNR=709								
KNRA	**Kununurra**	**9.04**	**187**	Pn		**Pn**	**04 42 12.3**		**-0.2**
KMSI	**Cibinong**	**9.26**	**321**	P		Pn	04 42 22.9		+7.5
	5µm235nm,0.9s								
GTOI	**Gorontalo**	**9.94**	**316**	P		Pn	04 42 30.2		+5.7
	906nm121nm,1.0s								
BNSI	**Bone**	**9.95**	**282**	P		Pn	04 42 31.8		+7.2
	2µm94nm,0.9s								
KAPI	**Kappang**	**10.18**	**279**	P		**Pn**	**04 42 30.8**		**+3.2**
	1.0nm,0.3s,baz=71,slow=3.7,SNR=5.7								
KAPI				LR		LR	04 47 28.0		
	comp=Z,179nm,18.1s,baz=94,slow=44								
KAPI	**Kappang**	**10.18**	**279**	Pn		**Pn**	**04 42 29.5**		**+1.9**
TTSI	**Tana Toraja**	**10.62**	**289**	P		Pn	04 42 38.7		+5.3
	64nm,1.2s								
JAY	**Jayapura**	**11.57**	**70**	P		**Pn**	**04 42 48.7**		**+2.8**
	1.4nm,0.3s,baz=288,slow=13,SNR=5.1								
JAY				S		**Sn**	**04 44 53.0**		**-0.8**
	1.0nm,0.3s,baz=78,slow=4.1,SNR=3.6								
FITZ	**Fitzroy Crossi**	**12.11**	**199**	P		**Pn**	**04 42 51.0**		**-1.8**
	18nm,0.3s,baz=34,slow=12,SNR=151								
FITZ				S		Sn	04 44 56.1	-11	
	10nm,0.3s,baz=80,slow=18,SNR=3.9								
FITZ	**Fitzroy Crossi**	**12.11**	**199**	P		**Pn**	**04 42 51.3**		**-1.5**
	baz=12,SNR=466								
FITZ	**Fitzroy Crossi**	**12.11**	**199**	Pn		**Pn**	**04 42 51.1**		**-1.7**
MPSI	**Mapaga**	**12.11**	**305**	P		**Pn**	**04 42 54.8**		**+1.8**
	2µm128nm,1.3s								
PLAI	**Plampang**	**12.16**	**259**	P		**Pn**	**04 42 52.9**		**-0.7**
WB0	**Warramunga Arr**	**13.77**	**162**	Pn		**Pn**	**04 43 11.7**		**-2.6**
WRA	**Warramunga Arr**	**13.92**	**162**	P		**Pn**	**04 43 14.1**		**-2.1**
	5.2nm,0.3s,baz=343,slow=13,SNR=186								
WRA				S		Sn	04 45 41.6		-8.9
	22nm,0.3s,baz=344,slow=22,SNR=11								
WRA	**Warramunga Arr**	**13.92**	**162**			**Pn**	**04 43 13.1**		**-3.0**
WB2	**Warramunga Arr**	**13.93**	**162**	Pn		**Pn**	**04 43 13.6**		**-2.6**
WC3	**Warramunga Arr**	**13.95**	**162**	P		**Pn**	**04 43 14.2**		**-2.3**
	baz=14								
BKB	**Balikpapan**	**13.98**	**292**	P		**P**	**04 43 24.5**		**+4.3**
	5µm422nm,1.2s								
BKB	**Balikpapan**	**13.98**	**292**	Pn		**Pn**	**04 43 15.7**		**-1.2**
WR0	**Warramunga Arr**	**14.00**	**161**			**Pn**	**04 43 15.5**		**-1.6**
KBKI	**Kotabaru**	**14.03**	**283**	P		**P**	**04 43 21.2**		**+0.5**
	2µm80nm,1.0s								
SMKI	**Samarinda**	**14.04**	**296**	P		P	04 43 25.7		+4.9
BBKI	**Banjar Baru**	**15.28**	**281**	P		**P**	**04 43 37.9**		**+3.3**
	234nm,0.9s								
JAGI	**Jajag, Banyuwa**	**15.67**	**262**	P		**Pn**	**04 43 37.2**		**-0.8**
JAGI	**Jajag, Banyuwa**	**15.67**	**262**	Pn		**Pn**	**04 43 36.5**		**-1.5**
JAGI				IAmb		IAmb	04 43 48.2		
	comp=Z,55nm,1.1s								
MTKI	**Muara Teweh, K**	**15.96**	**290**	P		**P**	**04 43 46.2**		**+4.1**
BLJI	**Banyuglugur**	**16.17**	**265**	P		**P**	**04 43 46.3**		**+1.9**
	comp=Z,155nm,0.9s								
MYLDM	**Lahad Datu**	**16.32**	**316**	P		**Pn**	**04 43 45.3**		**-0.5**
MYLDM				IAmb		IAmb	04 43 57.7		
	comp=Z,50nm,1.0s								
QIS	**Mount Isa**	**16.76**	**147**	P		**P**	**04 43 51.7**		**+0.8**
	baz=17,SNR=50								
PMG	**Port Moresby**	**17.36**	**100**	P		**Pn**	**04 43 59.6**		**+1.2**
	comp=Z,2.5nm,0.3s,baz=289,slow=6.0,SNR=13								
PMG	**Port Moresby**	**17.36**	**100**	P		**Pn**	**04 43 59.2**		**+0.8**
PMG				IAmb		IAmb	04 44 17.8		
	comp=Z,50nm,0.8s								
ASAR	**Alice Springs**	**17.37**	**167**	P		**Pn**	**04 43 59.0**		**+0.4**
	comp=Z,9.6nm,0.3s,baz=343,slow=10,SNR=442								
ASAR				S		**S**	**04 47 05.5**		**-5.5**
	comp=Z,6.8nm,0.3s,baz=356,slow=29,SNR=7.1								
ASAR	**Alice Springs**	**17.37**	**167**	P		**P**	**04 43 58.4**		**+0.8**
SPMM	**Sapulut**	**17.48**	**310**	P		**Pn**	**04 44 04.0**		**+4.0**
PSA00	**Pilbara Seismi**	**17.72**	**212**	P		**P**	**04 44 01.8**		**+0.3**
PSA00	**Pilbara Seismi**	**17.72**	**212**	P		**P**	**04 44 01.7**		**+0.3**
PSA00				IAmb		IAmb	04 44 21.4		
	comp=Z,97nm,0.8s								
PWJI	**Pagerwojo**	**17.95**	**264**	P		**P**	**04 44 04.4**		**+0.4**
	comp=Z,44nm,0.8s								
MTSU	**Mount Surprise**	**18.15**	**130**	P		**Pn**	**04 44 08.2**		**+0.4**
	baz=18,SNR=15								
WRKA	**Warakurna**	**18.35**	**184**	P		**P**	**04 44 09.9**		**+1.5**
	baz=18,SNR=102								
PBKI	**Pangkalan Bun**	**18.54**	**281**	P		**Pn**	**04 44 12.7**		**+0.3**
	comp=Z,332nm,1.0s								
KKM	**Kota Kinabalu**	**18.55**	**313**	P		**P**	**04 44 10.0**		**-0.6**
WOJI	**Wonogiri, Jawa**	**18.82**	**265**	P		**Pn**	**04 44 15.6**		**-0.1**
	comp=Z,39nm,1.1s								
SBUM	**Sibu**	**19.78**	**297**	P		**P**	**04 44 24.8**		**+0.9**
KPJI	**Karang Pucung**	**20.78**	**267**	P		Pn	04 44 37.9		-1.0
	comp=Z,54nm,1.8s								
CTA	**Charters Tower**	**20.79**	**132**	P		**P**	**04 44 36.0**		**+1.4**
	comp=Z,8.4nm,0.6s,baz=299,slow=9.7,SNR=19								
CTAO	**Charters Tower**	**20.79**	**132**	P		**P**	**04 44 37.0**		**+2.3**
CTAO				IAmb		IAmb	04 45 08.9		
	comp=Z,32nm,1.2s								
KSM	**Kuching**	**21.11**	**292**	P		**P**	**04 44 37.6**		**-0.5**
KSM	**Kuching**	**21.11**	**292**	P		**P**	**04 44 40.0**		**+1.9**
CISI	**Cisompet, Garu**	**21.89**	**266**	P		**P**	**04 44 47.6**		**+1.1**
	comp=Z,269nm,0.9s								
CISI	**Cisompet, Garu**	**21.89**	**266**	P		**P**	**04 44 45.7**		**-0.8**
GIRL	**Giralia**	**21.91**	**222**	P		**P**	**04 44 47.8**		**+1.3**
	baz=22,SNR=5.6								
LEM	**Lembang**	**22.08**	**268**	P		**P**	**04 44 49.2**		**+0.6**
	comp=Z,118nm,0.8s,baz=65,slow=10,SNR=9.5								
TGY	**Tagaytay City**	**22.43**	**337**	P		**P**	**04 44 52.0**		**+0.2**
	comp=Z,96nm,0.3s,baz=232,slow=2.2,SNR=4.6								
TPI	**Tanjungpandan**	**22.45**	**279**	P		**P**	**04 44 56.1**		**+4.1**
	comp=Z,730nmcomp=Z,39nm,1.2s								
CNJI	**Cibinong**	**22.56**	**267**	P		**P**	**04 44 51.8**		**-1.2**
	comp=Z,5µmcomp=Z,662nm,1.1s								
MEEK	**Meekatharra**	**22.59**	**207**	P		**P**	**04 44 53.5**		**+0.3**
	baz=23,SNR=16								
CBJI	**Citeko**	**22.85**	**269**	P		**P**	**04 44 56.1**		**+0.4**
	comp=Z,198nm,1.0s								
SKJI	**Sukabumi**	**23.13**	**268**	P		**P**	**04 45 02.0**		**+3.7**
	comp=Z,213nm,0.8s								
CGJI	**Cibinong**	**24.00**	**269**	P		**P**	**04 45 05.4**		**-0.8**
	comp=Z,140nm,1.0s								
PPBI	**Pangkal Pinang**	**24.05**	**280**	P		**P**	**04 45 10.1**		**+3.4**
	comp=Z,16µmcomp=Z,36nm,0.4s								
FORT	**Forrest**	**24.07**	**184**	P		**P**	**04 45 07.6**		**+0.9**
	baz=24,SNR=48								
FORT	**Forrest**	**24.07**	**184**	P		**P**	**04 45 06.7**		**0.0**
QLP	**Quilpie**	**24.10**	**147**	P		**P**	**04 45 07.8**		**+0.8**
	baz=24,SNR=24								
KLSI		**25.07**	**273**	P		P	04 45 23.6		+7.6

PMBI	**Palembang**	**25.26**	**277**	P		P	04 45 25.7		+8.0
MDSI	**Maura Dua**	**25.64**	**273**	P		**P**	**04 45 23.6**		**+2.5**
	comp=Z,14nm,1.1s								
KMBL	**Kambalda**	**25.71**	**196**	P		**P**	**04 45 22.0**		**+0.5**
	baz=26,SNR=20								
MORW	**Morawa**	**25.84**	**209**	P		**P**	**04 45 24.8**		**+2.1**
	baz=26,SNR=3.5								
BBOO	**Buckleboo**	**26.67**	**168**	P		**P**	**04 45 30.3**		**+0.2**
	baz=27,SNR=30								
BBOO	**Buckleboo**	**26.67**	**168**	P		**P**	**04 45 30.5**		**+0.3**
STKA	**Stephens Creek**	**27.40**	**158**	P		**P**	**04 45 37.0**		**+0.4**
	comp=Z,13nm,0.3s,baz=339,slow=8.4,SNR=96								
STKA	**Stephens Creek**	**27.40**	**158**	P		**P**	**04 45 37.2**		**+0.5**
	baz=28,SNR=40								
STKA	**Stephens Creek**	**27.40**	**158**	P		**P**	**04 45 37.1**		**+0.5**
HTT	**Hallett**	**27.95**	**164**	P		**P**	**04 45 42.4**		**+0.8**
	baz=28,SNR=28								
NWAO	**Narrogin (SRO)**	**28.67**	**203**	P		**P**	**04 45 48.6**		**+0.7**
	baz=29,SNR=5.5								
CMSA	**Cobar Meteorol**	**28.86**	**151**	P		**P**	**04 45 50.6**		**+1.0**
	baz=29,SNR=76								
SDSI	**Sungai Dareh**	**28.91**	**280**	P		**P**	**04 45 52.7**		**+2.4**
	comp=Z,24nm,1.2s								
HNR	**Honiara**	**29.92**	**97**	LR		LR	04 58 28.8		
	comp=Z,262nm,19.1s,baz=340,slow=37								
MNSI	**Mandailing Nat**	**31.10**	**283**	P		**P**	**04 46 12.4**		**+2.8**
ARPS	**Mount Arapiles**	**31.93**	**162**	P		**P**	**04 46 17.9**		**+1.4**
	baz=32,SNR=24								
RPSI	**Rantau Prapat**	**32.24**	**286**	P		**P**	**04 46 19.6**		**0.0**
PSI	**Prapat**	**32.27**	**286**	P		**P**	**04 46 19.1**		**-0.9**
	comp=Z,23nm,0.7s,baz=179,slow=1.9,SNR=17								
JMZ	**Minamidaito 2**	**32.29**	**2**	P		**P**	**04 46 18.7**		**-1.1**
YNG	**Young**	**32.42**	**151**	P		**P**	**04 46 22.7**		**+1.7**
	baz=32,SNR=23								
CAN	**Canberra**	**33.54**	**151**	P		**P**	**04 46 31.6**		**+0.9**
CAN				IAmb		IAmb	04 46 33.4		
	comp=Z,17nm,0.7s								
CNB	**Canberra Magne**	**33.71**	**151**	P		**P**	**04 46 33.7**		**+1.5**
	baz=34,SNR=5.5								
TOO	**Toolangi**	**33.92**	**157**	P		**P**	**04 46 36.1**		**+2.1**
	baz=34,SNR=4.9								
TOO	**Toolangi**	**33.92**	**157**	P		**P**	**04 46 34.9**		**+1.0**
TOO				IAmb		IAmb	04 47 00.8		
	comp=Z,48nm,1.8s								
TPTI		**34.07**	**286**	P		**P**	**04 46 37.6**		**+2.1**
	comp=Z,17nm,2.4s								
SANVU	**Saraoutou**	**37.63**	**107**	P		**P**	**04 47 06.3**		**+0.4**
CM31	**Chiang Mai Arr**	**39.39**	**310**	P		**P**	**04 47 19.5**		**-1.0**
CMAR	**Chiang Mai Arr**	**39.39**	**310**	P		**P**	**04 47 18.9**		**-1.6**
	comp=Z,2.3nm,0.5s,baz=141,slow=7.3,SNR=15								
CMAR				PcP		**PcP**	**04 49 25.7**		**-0.2**
	comp=Z,1.6nm,0.7s,baz=145,slow=3.8,SNR=4.3								
CMAR	**Chiang Mai Arr**	**39.39**	**310**	P		**P**	**04 47 19.7**		**-0.8**
CHTO	**Chiang Mai**	**39.60**	**310**	P		**P**	**04 47 21.5**		**-0.7**
WHN	**Wuhan**	**39.85**	**339**	P		**P**	**04 47 24.6**		**+0.6**
GYA	**Guiyang**	**39.85**	**327**	⇓*e*P		**P**	**04 47 24.1**		**-0.2**
GYA				sP		sP	04 48 20.7		+8.4
GYA				pmax		pmax			
	comp=Z,11nm,1.3s								
NJ2	**Nanjing**	**39.88**	**345**	*e*P		**P**	**04 47 26.7**		**+2.4**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
KMI	**Kunming**	**41.15**	**321**	⇑P		**P**	**04 47 35.5**		**+0.4**
KMI				pmax		pmax			
	comp=Z,14nm,1.0s								
**MAT

ZALV	**Zalesovo Beam**	**71.20**	**334**	P		**P**	**04 51 06.3**	**-1.2**
GAR	**Garm**	**71.31**	**315**			**P**	**04 51 08.0**	**-0.8**
BTK	**Batken**	**71.42**	**316**	IAmb		IAmb	04 51 10.6	
	comp=Z,14nm,1.1s							
SEY	**Seymchan**	**71.48**	**11**	P		**P**	**04 51 09.9**	**+0.8**
	comp=Z,6.4nm,0.6s,baz=209,slow=4.2,SNR=21							
BTLS	**Baital**	**71.65**	**322**	*e*P		**P**	**04 51 09.3**	**-1.2**
CHGR	**Chuyangaron**	**71.99**	**314**			**P**	**04 51 11.8**	**-1.0**
KURK	**Kurchatov**	**72.14**	**329**			**P**	**04 51 12.7**	**-0.6**
KURK					IAmb	IAmb	04 51 14.2	
	comp=Z,33nm,1.4s							
VNDA	**Vanda**	**72.82**	**173**	P		**P**	**04 51 17.1**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=318,slow=8.2,SNR=24							
IUG	**Iuzhnay**	**72.87**	**318**	*e*P		**P**	**04 51 17.1**	**-0.9**
KK31	**Karatay Array**	**72.97**	**319**			**P**	**04 51 17.6**	**-0.8**
KK31					IAmb	IAmb	04 51 19.5	
	comp=Z,18nm,1.1s							
KKAR	**Karatay Array**	**72.97**	**319**			**P**	**04 51 17.6**	**-0.8**
JLN	**Jalan Bani Buh**	**74.62**	**295**	P		**P**	**04 51 28.1**	**-0.3**
BRZS	**Berezniki**	**74.94**	**326**	*e*P		**P**	**04 51 27.1**	**-2.5**
WSAR	**Wadi Sarin**	**75.58**	**296**	P		**P**	**04 51 33.8**	**-0.1**
HRA	**Herat**	**75.62**	**308**	IAmb		IAmb	04 51 35.1	
	comp=Z,15nm,1.1s							
MHTO	**MHTO**	**75.66**	**294**	P		**P**	**04 51 33.7**	**-0.6**
DQM	**DQM**	**75.82**	**292**	P		**P**	**04 51 35.0**	**-0.3**
JMDO	**Jabal Madar**	**75.85**	**295**	P		**P**	**04 51 35.6**	**+0.1**
BIDO	**Bidbid**	**76.09**	**296**	P		**P**	**04 51 37.3**	**+0.5**
	SNR=9.3							
BSY	**Bisya**	**76.75**	**295**	P		**P**	**04 51 40.2**	**-0.3**
	SNR=5.6							
HOQ	**Hoqain**	**76.84**	**296**	P		**P**	**04 51 41.5**	**+0.5**
	SNR=6.5							
SHAO	**Shalim**	**77.20**	**290**	P		**P**	**04 51 43.8**	**+0.7**
SHAO	**Shalim**	**77.20**	**290**	P		**P**	**04 51 42.7**	**-0.4**
SOHO	**SOHO**	**77.65**	**296**	*i* P		**P**	**04 51 45.6**	**+0.1**
	SNR=8.8							
SOCY	**Socotra**	**77.70**	**284**	P		**P**	**04 51 45.2**	**-0.8**
	SNR=26							
SOCY	**Socotra**	**77.70**	**284**	P		**P**	**04 51 44.7**	**-1.3**
BRVK	**Borovoye**	**77.75**	**328**			**P**	**04 51 44.9**	**-0.6**
DMTO	**DMTO**	**77.77**	**290**	P		**P**	**04 51 45.4**	**-0.8**
UOSS	**Minazif**	**78.13**	**297**			**P**	**04 51 46.8**	**-1.4**
UOSS					IAmb	IAmb	04 51 48.6	
	comp=Z,13nm,1.1s							
TIXI	**Tiksi**	**78.13**	**360**	P		**P**	**04 51 45.9**	**-1.2**
HATD	**Hatta, Dubai**	**78.17**	**297**	P		**P**	**04 51 48.9**	**+0.5**
ASHO	**Ashiyiah**	**78.20**	**297**	*i* P		**P**	**04 51 49.0**	**+0.4**
	SNR=7.4							
ASHO	**Ashiyiah**	**78.20**	**297**	P		**P**	**04 51 47.7**	**-0.9**
MSFE	**Esma-Masafi**	**78.26**	**298**	*i* P		**P**	**04 51 49.1**	**+0.2**
	SNR=7.9							
BANOM	**Banah**	**78.27**	**298**	*i* P		**P**	**04 51 49.4**	**+0.5**
	SNR=7.9							
SHME	**Shamm**	**78.44**	**298**	*i* P		**P**	**04 51 50.1**	**+0.2**
	SNR=12							
FAQ	**Al Faqa, Dubai**	**78.63**	**297**	*i* P		**P**	**04 51 50.5**	**-0.4**
	SNR=8.5							
FAQ	**Al Faqa, Dubai**	**78.63**	**297**	P		**P**	**04 51 50.4**	**-0.4**
ASUD	**Al Ashush, Dub**	**78.83**	**297**	P		**P**	**04 51 52.1**	**+0.1**
WHFO	**Wadi Hawf**	**78.91**	**290**	P		**P**	**04 51 52.1**	**-0.5**
	SNR=12							
AJN	**Ajban**	**79.12**	**296**	*i* P		**P**	**04 51 53.8**	**+0.2**
	SNR=21							
ABTO	**Aybut**	**79.25**	**289**	P		**P**	**04 51 54.8**	**+0.3**
	SNR=6.6							
GEYT	**Alibeck**	**79.87**	**310**	P		**P**	**04 51 57.8**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=183,slow=5.9,SNR=5.6							
GEYT	**Alibeck**	**79.87**	**310**	P		**P**	**04 51 57.2**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**79.87**	**310**	P		**P**	**04 51 56.5**	**-1.0**
GYA0B					IAmb	IAmb	04 51 58.8	
	comp=Z,15nm,1.2s							
UNV	**Unalaska Valle**	**80.28**	**33**	P		**P**	**04 51 58.6**	**-0.5**
NRIK	**Noril'sk**	**81.18**	**346**	P		**P**	**04 52 03.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=107,slow=3.5,SNR=4.2							
ABKAR	**Akbulak array**	**82.14**	**322**			**P**	**04 52 07.7**	**-1.4**
ARU	**Arti**	**85.33**	**328**	P		**P**	**04 52 24.9**	**-0.2**
ARU					IAmb	IAmb	04 52 25.4	
	comp=Z,13nm,1.2s							
DAMY	**Dhamar**	**87.28**	**285**	IAmb		IAmb	04 52 38.6	
	comp=Z,16nm,1.1s							
ATD	**Arta Tunnel**	**88.39**	**282**	P		**P**	**04 52 41.6**	**+0.7**
ATD					IAmb	IAmb	04 52 43.5	
	comp=Z,7.6nm,1.0s							
BWN	**Browne**	**91.88**	**26**	P		**P**	**04 52 57.2**	**+1.2**
KIV	**Kislovodsk**	**92.52**	**314**	P		**P**	**04 52 57.9**	**-1.7**
KIV					IAmb	IAmb	04 56 14.5	
	comp=Z,11nm,1.1s							
ILAR	**Eielson Array**	**93.09**	**25**	P		**P**	**04 52 59.5**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=257,slow=4.5,SNR=10							
ILAR	**Eielson Array**	**93.09**	**25**	P		**P**	**04 52 59.9**	**-1.7**
MARD	**Mardin**	**93.24**	**307**	P		**P**	**04 53 02.3**	**-0.8**
BMAR	**Burnt Mountain**	**94.38**	**23**	P		**P**	**04 53 06.9**	**-0.6**
BELA	**Belgrano 2**	**95.17**	**183**	P		**P**	**04 53 10.7**	**-0.3**
CLL	**Collm**	**111.78**	**323**	*e*PKPdf		**PKiKP**	**04 58 23.0**	**+0.9**
GERES	**GERESS Array B**	**112.05**	**320**	PKiKP		**PKiKP**	**04 58 22.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=90,slow=0.3,SNR=4.4							
PDAR	**Pinedale Array**	**116.74**	**45**	PKP		**PKPdf**	**04 58 32.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=132,slow=2.2,SNR=5.3							
TORD	**Torodi Ar. Bea**	**128.60**	**281**	PKP		**PKPdf**	**04 58 55.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=83,slow=1.8,SNR=6.0							
MATN	**Matagalpa**	**144.22**	**77**	PKPdf		PKPbc	04 59 23.4	+0.4
CPUP	**Villa Florida**	**146.49**	**168**	PKPbc		**PKPbc**	**04 59 29.2**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=159,slow=1.2,SNR=7.6							
LPAZ	**La Paz**	**151.09**	**142**	PKPbc		**PKPbc**	**04 59 42.6**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=357,slow=4.3,SNR=13							
LPAZ	**La Paz**	**151.09**	**142**			**PKiKP**	**04 59 43.5**	**+0.7**

IDC 11 04:50:52.4±6.5, 19°.38S×179°.86E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/35, mbtmp4.0/3, MS4.3/1, Ms1 4.3/1, ms1mx3.2/43, Error ellipse: s-maj=282.0km s-min=36.3km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.77**	**261**	P	P	04 58 52.0	-0.1
	1.0nm,0.4s,baz=97,slow=7.7,SNR=30						
ASAR	**Alice Springs**	**42.83**	**256**	P	P	04 58 52.4	-0.2
	2.1nm,0.5s,baz=92,slow=7.7,SNR=17						
NWAO	**Narrogin (SRO)**	**57.08**	**243**	LR	LR	05 22 44.7	
	comp=Z,250nm,21.0s,baz=141,slow=34						
ILAR	**Eielson Array**	**87.69**	**14**	P	P	05 03 42.5	0.0
	0.5nm,0.7s,baz=230,slow=5.5,SNR=6.9						

*BJI **11** 05:20:33.3±0.0, 40°.96N×143°.03E, h20km, mB5.6/62, mb5.6/81, Ms5.5/86, Ms7 5.3/82*
*KEA **11** 05:20:34.9±0.0, 40°.80N×143°.60E, h31km, mB5.4/2, MS4.6/2*
*JMA **11** 05:20:35.5±0.1, 40°.92N×143°.29E, h34km, M5.6*
JMA Felt III J1.
*MOS **11** 05:20:35.5±0.8, 40°.99N×143°.13E, h33km, mb5.7/121, MS5.5/67, Error ellipse: s-maj=5.1km s-min=3.5km az=107.8*
*NIED **11** 05:20:35.5, 40°.92N×143°.29E, h34km, MW5.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.09; Mθθ0.02; Mϕϕ-1.10; Mrθ0.52; Mθϕ-0.74; Mϕr1.99; Fault plane solution: M₀2.43000×10¹⁷ NP1:ϕs15.00000°, δ74.00000°, λ,82.00000°. NP2:ϕs224.00000°, δ17.00000°, λ117.00000°.*
*NIED **11** 05:20:35.0±1.2, 40°.95N±0°.04×143°.08E±0°.07, h20km±1km, mb5.5/439, Ms_20 5.4/265, Mwb5.5/32, Mww5.4, Mwc5.5(GCMT) Error ellipse: s-maj=9.9km s-min=6.0km az=115.0*
*NEIC **11** 05:20:35.2, 40°.93N×143°.05E, h21km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.42; Mθθ-0.02; Mϕϕ-1.40; Mrθ0.40; Mθϕ-0.44; Mϕr1.50; Fault plane solution: M₀2.14000×10¹⁷ NP1:ϕs197.25000°, δ21.75000°, λ,91.93000°. NP2:ϕs15.18000°, δ68.26000°, λ89.23000°. Principal axes: T 2.0842, Plg67.0000°, Azm284.0000°; N 0.1060, Plg1.0000°, Azm15.0000°; P -2.1902, Plg23.0000°, Azm106.0000°;*
*NEIC **11** 05:20:38, 41°.00N×143°.53E, h34km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.27; Mθθ0.09; Mϕϕ-1.36; Mrθ0.56; Mθϕ-0.35; Mϕr1.43; Fault plane solution: M₀2.05000×10¹⁷ NP1:ϕs184.00000°, δ21.00000°, λ,76.00000°. NP2:ϕs20.00000°, δ69.00000°, λ96.00000°. Principal axes: T 1.9751, Plg65.0000°, Azm299.0000°; N 0.1489, Plg5.0000°, Azm198.0000°; P -2.1240, Plg24.0000°, Azm105.0000°;*
*IDC **11** 05:20:38.3±1.8, 40°.96N×143°.15E, h43km±15km, mb4.8/32, mb1 5.0/39, mb1mx4.9/48, mbtmp5.1/39, ML4.2/6, MS5.1/40, Ms1 5.1/40, ms1mx4.9/50 Error ellipse: s-maj=13.2km s-min=8.5km az=98.0*
*GCMT **11** 05:20:39.0±0.1, 41°.01N±0°.01×143°.42E±0°.01, h31km, MW5.5/147, Moment Tensor Solution. s126,c230; s147,c296; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.33±.03; Mθθ-0.06±.02; Mϕϕ-1.28±.02; Mrθ0.59±.03; Mθϕ-0.33±.01; Mϕr1.43±.03; Best double couple: M₀2.05000×10¹⁷ NP1:ϕs188.00000°, δ21.00000°, λ78.00000°. NP2:ϕs20.00000°, δ70.00000°, λ94.00000°. Principal axes: T 2.0430, Plg65.0000°, Azm298.0000°; N 0.0060, Plg4.0000°, Azm199.0000°; P -2.0570, Plg24.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **11** 05:20:42.6±0.0, 41°.56N×143°.28E, h33km, mb5.5, Ms5.7*
*NEIC **11** 05:20:42, 40°.97N×142°.99E, h36km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.82; Mθθ-0.07; Mϕϕ-0.75; Mrθ0.34; Mθϕ-0.47; Mϕr0.99; Fault plane solution: M₀1.39000×10¹⁷ NP1:ϕs216.00000°, δ21.00000°, λ,104.00000°. NP2:ϕs21.00000°, δ70.00000°, λ84.00000°. Principal axes: T 1.3089, Plg65.0000°, Azm281.0000°; N 0.1553, Plg5.0000°, Azm23.0000°; P -1.4642, Plg24.0000°, Azm115.0000°;*

ISC 11 05:20:36.7±0.4, 41°.01N±0°.02×143°.17E±0°.03, h33km±1km, h33km:pP-P, n1516, s1951/1563, mb5.5/415, MS5.4/252, 152C-23D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.00**	**359**	*c i*P	**Pn**	**05 20 54.7**	**+0.3**
ERM	**Erimo**	**1.00**	**359**		**Pb**	**05 20 55.2**	**-0.5**
ERM				Sn	**Sb**	**05 21 09.0**	**+0.5**
JEM	**Erimo**	**1.00**	**359**	⇑P	**Pn**	**05 20 54.9**	**+0.4**
JEM				*e*S	**Sb**	**05 21 08.9**	**+0.4**
JTHR	**Tokachihiroo**	**1.28**	**4**	⇑P	**Pn**	**05 20 58.9**	**+0.6**
JTHR				*e*S	**Sb**	**05 21 17.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.30**	**346**	⇑P	**Pb**	**05 20 59.8**	**-0.9**
JNBK				*e*S	**Sb**	**05 21 17.3**	**+0.2**
JARK	**Aomorirokkasho**	**1.37**	**270**	⇓P	**Pn**	**05 21 00.2**	**+0.7**
JARK				*e*S	**Sb**	**05 21 19.0**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.38**	**235**	⇑P	**Pn**	**05 20 59.0**	**-0.6**
JANG	**Nango**	**1.41**	**244**	⇓P	**Pn**	**05 21 00.2**	**+0.1**
JCH	**Churui**	**1.61**	**5**	⇑P	**Pn**	**05 21 03.1**	**+0.3**
JCH				*e*S	**Sn**	**05 21 23.3**	**+1.0**
JTM	**Tenmabayashi**	**1.61**	**263**	⇑P	**Pn**	**05 21 04.1**	**+1.3**
JTM				S	**Sb**	**05 21 25.3**	**-0.6**
JTM	**Tenmabayashi**	**1.61**	**263**	Pn	**Pn**	**05 21 04.3**	**+1.4**
JTM				Sn	**Sb**	**05 21 25.9**	**0.0**
JOT	**Ohata**	**1.65**	**284**	⇑P	**Pn**	**05 21 04.8**	**+1.5**
JOT				S	**Sb**	**05 21 26.9**	**+0.1**
JKB	**Kayabe**	**1.83**	**299**	⇑P	**Pn**	**05 21 07.3**	**+1.5**
JIAM	**Iburiatsuma**	**1.86**	**330**	⇑P	**Pb**	**05 21 09.1**	**-1.0**
JIAM				*e*S	**Sb**	**05 21 33.1**	**+0.1**
JBT2	**Biratori 2**	**1.86**	**341**	⇑P	**Pn**	**05 21 08.1**	**+1.8**
JOM	**Ohasama**	**2.11**	**224**	⇑P	**Pn**	**05 21 10.3**	**+0.6**
JOM				*e*S	**Sn**	**05 21 35.6**	**+0.9**
JFR	**Furan**	**2.19**	**349**	P	**Pn**	**05 21 11.0**	**+0.2**
JEW	**Eniwo**	**2.23**	**325**	⇑P	**Pn**	**05 21 13.5**	**+2.1**
JEW	**Eniwo**	**2.23**	**325**	Pn	**Pn**	**05 21 13.4**	**+2.0**
JAK	**Akkeshi**	**2.28**	**29**	P	**Pn**	**05 21 11.9**	**-0.2**
JAK				*e*S	**Sn**	**05 21 39.2**	**+0.2**
JAR	**Ashorobuto**	**2.33**	**11**	⇑P	**Pn**	**05 21 12.6**	**-0.1**
JAR				S	**Sn**	**05 21 40.6**	**+0.5**
JOMM	**Oshimamatsumae**	**2.44**	**283**	P	**Pn**	**05 21 15.7**	**+1.5**
JMK	**Ichinoseki**	**2.55**	**217**	⇑P	**Pn**	**05 21 16.2**	**+0.5**
NMR	**Nemuro--Hokkai**	**3.02**	**38**	⇓*i*P	**Pn**	**05 21 21.3**	**-0.9**
NMR				*i* S	**Sn**	**05 21 53.6**	**-3.7**
JKA	**Kamikawa-asahi**	**3.13**	**352**	Pn	**Pn**	**05 21 24.9**	**+1.2**
JKA	**Kamikawa-asahi**	**3.13**	**352**		**Sn**	**05 21 59.7**	**-0.2**
ASAJ	**Asahikawa**	**3.13**	**352**	P	**Pn**	**05 21 25.0**	**+1.3**
	39nm,0.3s,baz=225,slow=10,SNR=43						
ASAJ				S	**Sn**	**05 21 59.7**	**-0.2**
	121nm,0.3s,baz=226,slow=19,SNR=6.6						
GLVR	**Golovnino**	**3.23**	**32**	*e*P	**Pn**	**05 21 24.3**	**-0.8**
GLVR				*i* S	**Sn**	**05 22 00.6**	**-1.8**
GLVR				pmax	pmax		
	comp=Z,2μm,0.5s						
GLVR				pmax	pmax		
	comp=N,425nm,0.4s						
GLVR				MLR	MLR		
	comp=Z,14μm,14.0s						
GRPR	**Tuman**	**3.54**	**32**	*e*P	**Pn**	**05 21 29.4**	**0.0**
GRPR				*e*S	**Sn**	**05 22 07.5**	**-2.6**
GRPR				pmax	pmax		
	comp=Z,2μm,0.4s						
GRPR				smax	smax		
	comp=N,3μm,0.4s						
GRPR				smax	smax		
	comp=E,8μm,0.3s						
GRPR				MLR	MLR		
	comp=Z,23μm,14.0s						
GRPR				MLR	MLR		
	comp=E,20μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**3.61**	**32**	*d i*P	**Pn**	**05 21 29.8**	**-0.5**
YUK				*i* S	**Sn**	**05 22 09.5**	**-2.3**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				smax	smax		
	comp=N,10.0nm,0.5s						
YUK				smax	smax		
	comp=E,20nm,0.6s						
YUK				MLR	MLR		
	comp=Z,17μm,12.0s						
YUK				MLR	MLR		
	comp=E,15μm,13.0s						
JMM	**Marumori**	**3.64**	**211**	Pn	**Pn**	**05 21 29.9**	**-0.9**
JSD	**Sado**	**4.82**	**234**		**Pn**	**05 21 47.9**	**+0.9**
JYT	**Yasato**	**5.32**	**207**	Pn	**Pn**	**05 21 51.5**	**-2.3**
KUR	**Kuril'sk**	**5.44**	**38**	*d*P	**Pn**	**05 21 55.4**	**0.0**
KUR				*i* S	**Sn**	**05 22 55.3**	**-1.5**
KUR				pmax	pmax		
	comp=Z,1μm,0.8s						
KUR				pmax	pmax		
	comp=E,342nm,0.4s						
KUR				pmax	pmax		
	comp=N,317nm,0.7s						
KUR				smax	smax		
	comp=N,2μm,0.5s						
KUR				smax	smax		
	comp=E,3μm,0.5s						
KUR				MLR	MLR		
	comp=Z,21μm,13.0s						
KUR				MLR	MLR		
	comp=E,14μm,15.0s						
KUR				MLR	MLR		
	comp=N,29μm,18.0s						
MJAR	**Matsushiro Arr**	**5.91**	**223**	P	**Pn**	**05 22 03.2**	**+1.2**
	comp=N,2.6nm,0.3s,baz=28,slow=12,SNR=331						
MJAR				S	**Sn**	**05 23 08.9**	**+0.3**
	baz=31,slow=13,SNR=2.6						
MJAR				LR	LR	05 24 41.9	
	comp=N,19μm,19.5s,baz=60,slow=42						
MJAR	**Matsushiro Arr**	**5.91**	**223**		**Pn**	**05 22 03.0**	**+1.0**
MJB9	**Matsu-Tunnel**	**5.91**	**223**		**Pn**	**05 22 03.1**	**+1.1**
MJB9				Sn	**Sn**	**05 23 06.0**	**-2.6**
MAJO	**Matsushiro**	**5.91**	**223**	Pn	**Pn**	**05 22 02.7**	**+0.6**
MAJO				Sn	**Sn**	**05 23 05.9**	**-2.7**
MAT	**Matsushiro**	**5.91**	**223**	P	**Pn**	**05 22 03.2**	**+1.2**
MAT				*e*S	**Sn**	**05 23 10.3**	**+1.7**
YSS	**Yuzh-Sakhalins**	**5.95**	**357**	⇑*e*P	**Pn**	**05 22 03.8**	**+1.4**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				MLR	MLR		
	comp=N,18μm,15.0s						
YSS				MLR	MLR		
	comp=Z,24μm,15.0s						
YSS				MLR	MLR		
	comp=E,12μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.95**	**357**	Pn	**Pn**	**05 22 03.6**	**+1.2**
TEY	**Ternei**	**6.27**	**312**	⇑*i*P	**Pn**	**05 22 09.1**	**+2.2**
TEY				pmax	pmax		
	comp=E,140nm,1.5s						
TEY				pmax	pmax		
	comp=Z,140nm,1.5s						
TEY				pmax	pmax		
	comp=N,100nm,1.4s						
TEY				MLR	MLR		
	comp=E,700nm,14.0s						
TEY				MLR	MLR		
	comp=N,1μm,13.0s						
TEY				MLR	MLR		
	comp=Z,1μm,13.0s						
JGF	**Kuroka**	**7.08**	**222**		**Pn**	**05 22 18.8**	**+0.8**
INU	**Inuyama**	**7.45**	**223**		**Pn**	**05 22 23.2**	**+0.2**
JSG	**Sagara**	**7.46**	**214**		**Pn**	**05 22 24.0**	**+0.9**
JHJ2	**Mitsune**	**8.33**	**200**	Pn	**Pn**	**05 22 34.6**	**-0.5**
JHJ	**Hachijo jima 2**	**8.33**	**200**	P	**Pn**	**05 22 33.7**	**-1.4**
	comp=Z,81nm,0.3s,baz=257,slow=3.3,SNR=9.1						
JHJ				S	**Sn**	**05 24 00.3**	**-7.7**
	comp=Z,40nm,0.3s,baz=66,slow=20,SNR=3.6						
JHJ				LR	LR	05 26 20.9	
	comp=Z,6μm,18.0s,baz=49,slow=41						
JWT	**Wachi**	**8.38**	**229**		**Pn**	**05 22 36.3**	**+0.5**
VLA	**Vladivostok**	**8.66**	**288**	*c i*P	**Pn**	**05 22 43.2**	**+3.6**
USA0B	**Ussuriysk Arra**	**8.84**	**295**	*c i*P	**Pn**	**05 22 45.0**	**+2.9**
USA0B	**Ussuriysk Arra**	**8.84**	**295**		**Pn**	**05 22 43.8**	**+1.7**
USRK	**Ussuriysk Ar.**	**8.84**	**295**	P	**Pn**	**05 22 44.4**	**+2.3**
	baz=104,slow=14,SNR=121						
USRK				S	**Sn**	**05 24 29.3**	**+8.7**
	baz=100,slow=26,SNR=3.7						
USRK				LR	LR	05 26 18.4	
	comp=Z,26μm,18.6s,baz=85,slow=38						
USRK	**Ussuriysk Ar.**	**8.84**	**295**		**Pn**	**05 22 43.5**	**+1.4**
USRK					**Sn**	**05 24 18.2**	**-2.3**
TYV	**Tymovskoe**	**9.86**	**358**	*e*P	Pn	05 23 01.8	+5.8
TYV				*e*S	**Sn**	**05 24 51.1**	**+5.7**
TYV				pmax	pmax		
	comp=Z,40nm,1.3s						
TYV				pmax	pmax		
	comp=Z,600nm,3.9s						
TYV				smax	smax		
	comp=N,54nm,1.4s						
TYV				smax	smax		
	comp=E,3μm,8.6s						
TYV				MLR	MLR		
	comp=E,13μm,17.0s						
TYV				MLR	MLR		
	comp=Z,16μm,17.0s						
JHS	**Saijyo**	**9.95**	**236**		**Pn**	**05 22 58.2**	**+0.8**
CHJN	**Chongjin**	**10.08**	**279**	P	**Pn**	**05 23 03.0**	**+3.9**
JMN	**Monobe**	**10.37**	**228**		**Pn**	**05 23 02.2**	**-0.9**
MDJ	**Mudanjiang**	**10.61**	**294**	P	**Pn**	**05 23 09.0**	**+2.7**
MDJ				PP	**PnPn**	**05 23 18.8**	**+4.9**
MDJ				S	**Sn**	**05 25 02.0**	**-1.9**
MDJ				pmax	pmax		
	comp=Z,210nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,4μm,4.4s						
MDJ				LR	LR		
	comp=Z,11μm,17.8s						
MDJ				LR	LR		
	comp=Z,24μm,18.5s						
MDJ				LR	LR		
	comp=Z,35μm,18.0s						
MDJ	**Mudanjiang**	**10.61**	**294**		**Pn**	**05 23 08.3**	**+2.0**
GRNR	**Gornyy**	**10.83**	**337**	⇑*i*P	**Pn**	**05 23 10.9**	**+1.6**
GRNR				pmax	pmax		
	comp=E,100nm,1.2s						
GRNR				pmax	pmax		
	comp=N,10.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,9μm,17.0s						
GRNR				MLR	MLR		
	comp=N,10μm,16.0s						
GRNR				MLR	MLR		
	comp=Z,8μm,19.0s						
HHU	**Hamhung**	**11.97**	**270**	P	**Pn**	**05 23 27.0**	**+2.1**
WOSN	**Wonsan**	**12.21**	**266**	P	**Pn**	**05 23 30.9**	**+2.7**
NKL	**Nikolayevsk**	**12.26**	**353**	P	**Pn**	**05 23 29.0**	**+0.2**
NKL				MLR	MLR		
	comp=N,86nm,16.0s						
NKL				MLR	MLR		
	comp=Z,4μm,12.0s						
KSRS	**Korea Array**	**12.35**	**258**	P	**Pn**	**05 23 32.6**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=72,slow=14,SNR=71						
KSRS				S	Sn	05 25 57.0	+11
	comp=Z,1.8nm,0.3s,baz=71,slow=23,SNR=7.4						
KSRS				LR	LR	05 28 09.1	
	comp=Z,18μm,18.2s,baz=66,slow=36						
KS19	**Wonju Array Si**	**12.37**	**259**		**Pn**	**05 23 29.3**	**-1.2**
KSAR	**Wonju Array Be**	**12.38**	**258**	P	**Pn**	**05 23 31.3**	**+0.7**
KSAR	**Wonju Array Be**	**12.38**	**258**		**Pn**	**05 23 31.3**	**+0.7**
KGE	**Kanggye**	**12.52**	**275**	P	**Pn**	**05 23 35.1**	**+2.6**
OKH	**Okha**	**12.54**	**359**	*de*P	**P**	**05 23 39.3**	**-4.6**
OKH				*e*S	**Sn**	**05 25 54.6**	**+3.5**
OKH				pmax	pmax		
	comp=Z,300nm,13.2s						
OKH				smax	smax		
	comp=E,1μm,12.3s						
OKH				MLR	MLR		
	comp=E,11μm,18.0s						
OKH				MLR	MLR		
	comp=N,14μm,16.0s						
OKH				MLR	MLR		
	comp=Z,11μm,18.0s						
JNU	**Nakatsue**	**12.58**	**235**	P	**Pn**	**05 23 34.0**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=40,slow=7.1,SNR=9.8						
JNU				LR	LR	05 28 54.1	
	comp=Z,7μm,18.3s,baz=60,slow=40						
JNU	**Nakatsue**	**12.58**	**235**		**Pn**	**05 23 32.0**	**-1.3**
TJN	**Taejon**	**13.19**	**255**	*c*eP	**Pn**	**05 23 42.9**	**+1.3**
SKR	**Severo-Kuril's**	**13.21**	**39**	*e*P	**P**	**05 23 51.1**	**-0.1**
SKR				*e*S	**Sn**	**05 26 12.3**	**+5.0**
SKR				pmax	pmax		
	comp=Z,82nm,1.0s						
SKR				MLR	MLR		
	comp=Z,5μm,19.0s						
SKR				MLR	MLR		
	comp=Z,5μm,18.0s						
INCN	**Inchon**	**13.30**	**260**	P	**Pn**	**05 23 42.8**	**-0.3**
INCN	**Inchon**	**13.30**	**260**		**Pn**	**05 23 42.8**	**-

PET MLR MLR
comp=Z,9μm,17.0s
PET Petropavlovsk 15.95 36 Pn **Pn 05 24 19.8 +1.4**
ZEA Zeya 16.63 325*ce*P **Pn 05 24 25.6 -1.5**
ZEA pmax pmax
comp=E,110nm,1.0s
ZEA pmax pmax
comp=N,140nm,1.4s
ZEA pmax pmax
comp=Z,230nm,1.2s
ZEA pmax pmax
comp=E,600nm,15.2s
ZEA pmax pmax
comp=Z,800nm,15.8s
ZEA MLR MLR
comp=E,8μm,17.0s
ZEA MLR MLR
comp=Z,9μm,18.0s
DL2 Dalian 16.65 270 P **Pn 05 24 27.8 +0.3**
DL2 S **Sn 05 27 36.4 +5.1**
DL2 pmax pmax
comp=Z,680nm,1.0s
DL2 pmax pmax
comp=Z,2μm,4.2s
DL2 LR LR
comp=Z,2μm,15.5s
DL2 LR LR
comp=Z,3μm,21.4s
DL2 LR LR
comp=Z,5μm,19.8s
HIA Hailar 18.42 304 P **P 05 24 47.2 -1.9**
HIA pmax pmax
comp=Z,154nm,0.9s
HIA Hailar 18.42 304 P **P 05 24 47.2 -1.9**
MA2 Magadan 19.18 12 LR LR 05 33 07.2
comp=Z,4μm,18.9s,baz=196,slow=39
MA2 Magadan 19.18 12*ce*P **P 05 24 55.6 -1.7**
MA2 pmax pmax
comp=Z,21nm,1.0s
MA2 MLR MLR
comp=Z,3μm,17.0s
MA2 Magadan 19.18 12 P **P 05 24 56.2 -1.2**
SSE Sheshan 20.30 248 P **P 05 25 08.3 -1.4**
SSE S **S 05 28 55.5 0.0**
SSE pmax pmax
comp=Z,31nm,0.8s
SSE pmax pmax
comp=Z,630nm,4.8s
SSE LR LR
comp=Z,2μm,19.8s
SSE LR LR
comp=Z,3μm,17.1s
SSE Sheshan 20.30 248 P **P 05 25 07.9 -1.8**
SSE IAmb IAmb 05 25 16.7
comp=Z,247nm,1.1s
BJI Beijing 20.52 276 P **P 05 25 10.6 -1.5**
BJI S **S 05 28 53.4 -6.4**
BJI pmax pmax
comp=Z,140nm,1.4s
BJI pmax pmax
comp=Z,700nm,3.5s
BJI LR LR
comp=Z,4μm,16.8s
BJI LR LR
comp=Z,9μm,15.2s
BJI LR LR
comp=Z,6μm,17.6s
BJT Baijiatuau 20.53 276 P **P 05 25 09.7 -2.5**
BJT pmax pmax
comp=Z,226nm,1.2s
BJT MLR MLR
comp=Z,10μm,18.0s
BJT Baijiatuau 20.53 276 P **P 05 25 09.7 -2.5**
BJT IAmb IAmb 05 25 16.8
comp=Z,226nm,1.2s
BJT Baijiatuau 20.53 276 IAMs_20 IAMs_20 05 33 04.1
comp=Z,10μm,18.0s
TIA Tai'an 20.88 265 P **P 05 25 14.2 -1.8**
TIA pP **sP 05 25 28.0 -0.2**
TIA S **S 05 29 04.2 -2.8**
TIA pmax pmax
comp=Z,88nm,1.1s
TIA pmax pmax
comp=Z,1μm,3.5s
TIA LR LR
comp=Z,4μm,14.2s
TIA LR LR
comp=Z,4μm,18.5s
TIA LR LR
comp=Z,7μm,17.1s
NJ2 Nanjing 21.44 253 *e*P **P 05 25 20.4 -1.6**
NJ2 sP **pwP 05 25 31.7 -1.0**
NJ2 S **S 05 29 17.4 -0.6**
NJ2 pmax pmax
comp=Z,350nm,1.2s
NJ2 pmax pmax
comp=Z,2μm,5.3s
NJ2 LR LR
comp=Z,13μm,18.5s
NJ2 LR LR
comp=Z,13μm,18.5s
NJ2 LR LR
comp=Z,15μm,14.7s
YAK Yakutsk 22.57 343 P **P 05 25 30.6 -3.2**
comp=Z,94nm,0.8s,baz=333,slow=2.8,SNR=28
YAK S **S 05 29 31.5 -7.4**
comp=Z,14nm,0.4s,baz=196,slow=0.5,SNR=3.4
YAK LR LR 05 35 30.9
comp=Z,7μm,18.2s,baz=163,slow=40
YAK Yakutsk 22.57 343*c i*P **P 05 25 30.4 -3.4**
YAK *e**PP **pP 05 25 40.5 -1.6**
YAK *e* 05 29 27.3
YAK *e*S **S 05 29 31.7 -7.1**
YAK *e**SS **pS 05 29 46.9 -1.4**
YAK *e* 05 36 44.9
YAK pmax pmax
comp=Z,266nm,1.1s
YAK pmax pmax
comp=N,87nm,1.1s
YAK pmax pmax
comp=E,42nm,1.3s
YAK pmax pmax
comp=Z,229nm,1.0s
YAK pmax pmax
comp=E,85nm,1.3s
YAK pmax pmax
comp=N,77nm,1.3s
YAK smax smax
comp=N,672nm,2.5s
YAK smax smax
comp=E,411nm,2.5s
YAK MLR MLR
comp=Z,7μm,18.0s
YAK MLR MLR
comp=E,2μm,14.0s
YAK MLR MLR
comp=N,4μm,14.0s
YAK Yakutsk 22.57 343 P **P 05 25 30.7 -3.2**
YAK IAmb IAmb 05 25 33.6
comp=Z,288nm,1.1s
SEY Seymchan 22.63 11 P **P 05 25 31.5 -3.0**
comp=Z,30nm,0.6s,baz=195,slow=8.3,SNR=56
SEY S **S 05 29 33.2 -6.7**
comp=Z,1.1nm,0.3s,baz=38,slow=22,SNR=6.9
SEY LR LR 05 35 53.2
comp=Z,5μm,18.1s,baz=200,slow=40
SEY Seymchan 22.63 11 *i* P **P 05 25 31.8 -2.7**
CIT Chita 23.00 309 *e*P **P 05 25 35.2 -3.4**
CIT *e* 05 25 45.9
CIT *e* 05 25 52.6
CIT *e* 05 26 04.0
CIT *e*S **S 05 29 44.0 -2.8**
CIT pmax pmax
comp=Z,551nm,1.4s
HHC Hu-ho-hao-te 23.82 280 *e*P **P 05 25 44.7 -2.0**
HHC sP sP 05 25 58.7 -0.7
HHC PP **PnPn 05 26 17.0 +1.8**
HHC S **S 05 29 57.2 -3.1**
HHC pmax pmax
comp=Z,61nm,1.3s
HHC pmax pmax
comp=Z,640nm,6.6s
HHC LR LR
comp=Z,3μm,12.3s
HHC LR LR
comp=Z,8μm,14.9s

HHC LR LR
comp=Z,12μm,12.8s
TIY Taiyuan 23.93 272 *e*P **P 05 25 46.2 -1.6**
TIY pP **pwP 05 25 57.9 -1.2**
TIY sP **sP 05 26 00.3 -0.1**
TIY S **S 05 29 57.8 -4.3**
TIY pmax pmax
comp=Z,52nm,0.9s
TIY pmax pmax
comp=Z,920nm,6.2s
TIY LR LR
comp=Z,2μm,15.5s
TIY LR LR
comp=Z,3μm,13.7s
TIY LR LR
comp=Z,4μm,14.7s
TATO Taipei 24.12 235 P **P 05 25 49.9 +0.4**
YHNB Yeheng 24.41 235 P **P 05 25 50.6 -1.6**
NACB Ninganchiao 24.64 234 P **P 05 25 52.5 -1.8**
BTO Baotou 25.02 280 *e*P **P 05 25 56.4 -1.3**
BOD Bodaibo 25.06 322 *e*P **P 05 25 57.4 -0.4**
BOD pmax pmax
comp=Z,137nm,1.1s
SSLB Suanglung 25.32 234 P **P 05 26 00.1 -0.3**
YULB Yu-li 25.41 233 P **P 05 25 59.1 -2.1**
YULB IAmb IAmb 05 26 27.8
comp=Z,74nm,0.8s
WHN Wuhan 25.51 255 ⇓P **P 05 26 00.1 -1.9**
WHN S **S 05 30 20.6 -6.6**
WHN pmax pmax
comp=Z,580nm,0.9s
WHN LR LR
comp=Z,27μm,18.0s
WHN LR LR
comp=Z,45μm,18.0s
WHN LR LR
comp=Z,40μm,17.5s
TPUB Ta-pu 25.88 234 P **P 05 26 05.1 -0.4**
TPUB IAmb IAmb 05 26 08.4
comp=Z,114nm,1.0s
QZH Quanzhou 25.99 240⇑*i*P **P 05 26 06.8 +0.3**
QZH S **S 05 30 37.3 +2.4**
QZH LR LR
comp=Z,4μm,21.3s
QZH LR LR
comp=Z,4μm,19.9s
QZH LR LR
comp=Z,6μm,18.0s
KNMB Chin-men Tao 26.46 239 P **P 05 26 09.8 -0.8**
KNMB IAMs_20 IAMs_20 05 37 57.2
comp=Z,6μm,18.0s
ULN Ulaanbaatar 26.50 297*ce*P **P 05 26 11.9 +0.8**
ULN pmax pmax
comp=Z,187nm,1.3s
ULN Ulaanbaatar 26.50 297 P **P 05 26 11.3 +0.2**
ULN IAmb IAmb 05 26 15.2
comp=Z,102nm,0.9s
ULN Ulaanbaatar 26.50 297 IAMs_20 IAMs_20 05 37 29.4
comp=Z,12μm,18.0s
SONM Songino Array 26.95 297 P **P 05 26 15.9 +0.9**
comp=Z,66nm,0.9s,baz=92,slow=7.5,SNR=178
SONM LR LR 05 37 45.9
comp=Z,12μm,19.2s,baz=90,slow=38
SONM Songino Array 26.95 297 P **P 05 26 14.9 -0.2**
GUMO Guam 27.36 176 LR LR 05 35 53.8
comp=Z,2μm,21.8s,baz=9.0,slow=34
XAN Xi'an 27.91 267 P **P 05 26 22.8 -1.0**
XAN pP pwP 05 26 34.0 -1.3
XAN pmax pmax
comp=Z,140nm,1.2s
XAN pmax pmax
comp=Z,2μm,7.3s
XAN LR LR
comp=Z,3μm,18.7s
XAN LR LR
comp=Z,6μm,16.8s
XAN LR LR
comp=Z,7μm,19.0s
XAN Xi'an 27.91 267 P **P 05 26 22.6 -1.2**
XAN pmax pmax
comp=Z,125nm,1.0s
XAN MLR MLR
comp=Z,5μm,19.0s
XAN Xi'an 27.91 267 P **P 05 26 22.6 -1.2**
XAN IAmb IAmb 05 26 28.3
comp=Z,125nm,1.0s
IRK Irkutsk 28.64 306 *e*P **P 05 26 30.8 +0.8**
IRK pmax pmax
comp=Z,292nm,2.7s
TLY Talaya 28.96 305 P **P 05 26 33.5 +0.6**
comp=Z,70nm,1.0s,baz=99,slow=6.8,SNR=42
TLY LR LR 05 39 09.2
comp=Z,6μm,18.8s,baz=90,slow=38
TLY Talaya 28.96 305*c i*P **P 05 26 33.5 +0.6**
TLY pmax pmax
comp=Z,307nm,1.0s
TLY MLR MLR
comp=Z,13μm,14.0s
TLY Talaya 28.96 305 P **P 05 26 33.2 +0.3**
TLY IAmb IAmb 05 26 49.0
comp=Z,168nm,1.2s
ZAK Zakamensk 29.09 302 *e*P **P 05 26 34.8 +0.7**
ZAK pmax pmax
comp=Z,124nm,1.2s
ZAK pmax pmax
comp=Z,53nm,1.2s
ENH Enshi 29.23 259 P **P 05 26 34.1 -1.4**
ENH IAMs_20 IAMs_20 05 38 55.8
comp=Z,8μm,18.0s
H11N2 WAKE ISLAND Hy 29.31 129 T T 05 57 17.1
baz=322,SNR=878
H11N1 WAKE ISLAND Hy 29.32 129 T T 05 57 15.0
baz=322,slow=74,SNR=1156
H11N3 WAKE ISLAND Hy 29.32 129 T T 05 57 16.7
baz=322,slow=74,SNR=819
APYP Conner 29.79 226 *e*P **P 05 26 43.0 +2.6**
BILL Bilibino 29.83 17 *e*P **P 05 26 41.2 +0.9**
BILL *e* 05 26 59.8
BILL *e*PPP PPP 05 27 43.7
BILL *e* 05 29 43.1
BILL *e*S **S 05 31 34.6 0.0**
BILL pmax pmax
comp=Z,82nm,1.3s
BILL MLR MLR
comp=Z,5μm,20.0s
BILL Bilibino 29.83 17 P **P 05 26 40.8 +0.5**
BILL IAmb IAmb 05 26 42.7
comp=Z,85nm,1.2s
H11S1 WAKE ISLAND Hy 30.16 131 T T 05 58 24.5
baz=323,slow=74,SNR=431
H11S3 WAKE ISLAND Hy 30.16 131 T T 05 58 22.8
baz=323,slow=74,SNR=536
H11S2 WAKE ISLAND Hy 30.17 131 T T 05 58 24.8
baz=323,SNR=332
MOY Mondy 30.61 305 *e*P **P 05 26 48.6 +1.0**
MOY pmax pmax
comp=Z,353nm,2.0s
HKPS Hong Kong Po S 30.77 241 IAMs_20 IAMs_20 05 40 22.0
comp=Z,6μm,18.0s
LZH Lanzhou 30.96 274 ⇑P **P 05 26 50.9 -0.1**
LZH pP pP 05 27 01.0 +1.0
LZH sP sP 05 27 03.8 +0.1
LZH PP **PnPn 05 27 55.2 +2.9**
LZH pmax pmax
comp=Z,80nm,1.1s
LZH pmax pmax
comp=Z,600nm,4.9s
LZH LR LR
comp=Z,3μm,13.0s
LZH LR LR
comp=Z,5μm,13.2s
LZH LR LR
comp=Z,5μm,16.5s
SMPP San Manuel, Pa 31.50 225 *e*P **P 05 26 54.0 -1.6**
TIXI Tiksi 31.54 351 *i* P **P 05 26 55.1 -0.2**
TIXI Tiksi 31.54 351 P **P 05 26 54.3 -1.0**
TIXI IAmb IAmb 05 27 19.4
comp=Z,153nm,1.5s
LQP Lukban 32.77 221⇑*e*P **P 05 27 06.9 0.0**
GTA Gaotai 32.90 282 ⇑P **P 05 27 08.4 +0.5**
GTA pP pwP 05 27 18.1 -1.3
GTA sP sP 05 27 22.2 +1.5
GTA PcP **PcP 05 29 53.4 +1.6**
GTA S **S 05 32 25.8 +2.3**
GTA sS pS 05 32 32.7 -0.9

GTA ScP **ScP 05 33 35.8 +2.5**
GTA PcS **PcS 05 33 39.0 +1.8**
GTA pmax pmax
comp=Z,80nm,1.3s
GTA pmax pmax
comp=Z,640nm,6.7s
GTA LR LR
comp=Z,4μm,17.4s
GTA LR LR
comp=Z,9μm,17.8s
GTA LR LR
comp=Z,11μm,17.8s
CD2 Chengdu 33.21 265 P **P 05 27 10.1 -0.5**
CD2 pP pP 05 27 18.5 -1.1
CD2 sP sP 05 27 23.3 -0.1
CD2 S **S 05 32 25.6 -2.8**
CD2 sS sS 05 32 42.7 -0.9
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,1μm,5.9s
CD2 LR LR
comp=Z,6μm,15.7s
CD2 LR LR
comp=Z,6μm,14.7s
CD2 LR LR
comp=Z,8μm,14.9s
GYA Guiyang 33.39 256 ⇑P **P 05 27 12.2 -0.1**
GYA pP pP 05 27 21.1 -0.2
GYA sP sP 05 27 25.8 +0.8
GYA pmax pmax
comp=Z,250nm,1.0s
GYA pmax pmax
comp=Z,760nm,3.5s
GYA LR LR
comp=Z,6μm,16.9s
GYA LR LR
comp=Z,8μm,16.0s
GYA LR LR
comp=Z,12μm,16.4s
OTRP Odiongan 34.04 219 *e*P **P 05 27 17.4 -0.4**
BUSP Coron 35.24 221 *e*P **P 05 27 28.0 -0.2**
QIZ Qiongzhong 35.90 242 P **P 05 27 33.2 -0.7**
QIZ PP **PnPn 05 28 54.7 -0.1**
QIZ S **S 05 33 09.2 -0.7**
QIZ LR LR
comp=Z,3μm,19.3s
QIZ LR LR
comp=Z,3μm,19.4s
QIZ LR LR
comp=Z,3μm,15.7s
QIZ Qiongzhong 35.90 242 P **P 05 27 32.4 -1.5**
QIZ Qiongzhong 35.90 242 IAMs_20 IAMs_20 05 43 37.5
comp=Z,4μm,18.0s
CNOP Candoni, Negro 35.98 216 *e*P P 05 27 28.1 -6.4
BUKP Musuan 36.72 211 *e*P **P 05 27 40.6 -0.3**
KMI Kunming 37.05 257 ⇑P **P 05 27 44.5 +0.6**
KMI pP pP 05 27 53.2 +0.2
KMI sP sP 05 27 58.7 +2.0
KMI S **S 05 33 23.6 -4.1**
KMI sS pS 05 33 39.5 +1.3
KMI pmax pmax
comp=Z,310nm,1.2s
KMI pmax pmax
comp=Z,1μm,3.7s
KMI LR LR
comp=Z,5μm,16.5s
KMI LR LR
comp=Z,6μm,16.6s
KMI LR LR
comp=Z,8μm,16.8s
KMI Kunming 37.05 257 P **P 05 27 41.2 -2.7**
KMI pmax pmax
comp=Z,366nm,1.1s
KMI MLR MLR
comp=Z,8μm,19.0s
KMI Kunming 37.05 257 P **P 05 27 41.2 -2.7**
KMI Kunming 37.05 257 IAMs_20 IAMs_20 05 43 39.9
comp=Z,8μm,19.0s
MATI Mati 37.13 209 *e*P **P 05 27 43.4 -0.9**
PAGZ Pagadian 37.43 214 *e*P **P 05 27 45.9 -0.9**
KCP Kidapawan 37.51 210⇓*i*P **P 05 27 49.2 +1.6**
DDMP Don Marcelino, 38.10 209 *e*P **P 05 27 51.2 -1.4**
SKMP Bagumbayan, Su 38.16 211 *e*P **P 05 27 54.1 +1.0**
SLVN Son La 38.50 251 P **P 05 27 54.8 -1.1**
SLVN IAmb IAmb 05 27 58.2
comp=Z,67nm,0.9s
SLVN IAMs_20 IAMs_20 05 45 08.9
comp=Z,4μm,18.0s
DGZ Jazzator, Alta 39.31 302*c i*P **P 05 28 04.2 +1.6**
DGZ pmax pmax
comp=Z,243nm,1.2s
DGZ MLR MLR
comp=Z,11μm,16.0s
RDOG Red Dog Mine 39.35 29 IAMs_20 IAMs_20 05 46 14.1
comp=Z,4μm,18.0s
CNBA Chernabura Isl 39.63 50 P **P 05 28 04.2 -0.8**
CNBA IAmb IAmb 05 28 16.4
comp=Z,134nm,1.4s
NRIK Noril'sk 40.29 333 P **P 05 28 10.5 +0.2**
comp=Z,55nm,1.1s,baz=111,slow=8.2,SNR=66
NRIK LR LR 05 46 16.9
comp=Z,10μm,19.4s,baz=102,slow=38
NRIK Noril'sk 40.29 333*ce*P **P 05 28 10.4 +0.2**
NRIK pmax pmax
comp=Z,88nm,1.3s
NRIK MLR MLR
comp=Z,10μm,19.0s
ZAA0 Zalesovo Array 40.36 309 P **P 05 28 11.2 +0.2**
ZAA0 IAMs_20 IAMs_20 05 46 00.1
comp=Z,6μm,18.0s
ZALV Zalesovo Beam 40.36 309 P **P 05 28 11.6 +0.5**
comp=Z,54nm,0.7s,baz=87,slow=7.8,SNR=135
ZALV PcP **PcP 05 30 13.4 -0.3**
comp=Z,16nm,0.9s,baz=163,slow=1.5,SNR=3.1
ZALV LR LR 05 46 01.9
comp=Z,5μm,19.8s,baz=81,slow=38
WMQ Urumqi 40.41 293 *e*P **P 05 28 12.5 +0.9**
WMQ pP pwP 05 28 22.1 -1.2
WMQ ScS ScS 05 38 18.1 +3.1
WMQ pmax pmax
comp=Z,61nm,1.3s
WMQ pmax pmax
comp=Z,430nm,3.6s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,4μm,11.3s
WMQ LR LR
comp=Z,3μm,19.5s
WMQ Urumqi 40.41 293 P **P 05 28 12.6 +0.9**
WMQ pmax pmax
comp=Z,204nm,1.0s
WMQ MLR MLR
comp=Z,10μm,18.0s
WMQ Urumqi 40.41 293 P **P 05 28 12.6 +0.9**
TTA Tatalina 41.40 37 P **P 05 28 20.9 +1.3**
TTA pmax pmax
comp=Z,39nm,1.3s
TTA MLR MLR
comp=Z,2μm,20.0s
TTA Tatalina 41.40 37 P **P 05 28 20.9 +1.3**
ZSN Zaisan 41.42 299⇑*i*P **P 05 28 20.9 +1.0**
comp=Z,201nm,2.5s
ZSN *e*LR LR 05 46 10.2
ZSN Zaisan 41.42 299*c i*P **P 05 28 20.9 +1.0**
ZSN pmax pmax
comp=Z,201nm,2.5s
UBPT Khong Chiam 41.49 243 P **P 05 28 20.6 -0.1**
UBPT IAmb IAmb 05 28 23.2
comp=Z,94nm,1.1s
UBPT IAMs_20 IAMs_20 05 47 39.3
comp=Z,4μm,18.0s
SVW2 Sparrevohn 41.56 40 P **P 05 28 22.5 +1.6**
MYLDM Lahad Datu 41.97 218 P **P 05 28 23.9 -0.7**
DLV T Lat 41.98 236 P **P 05 28 23.2 -1.8**
DLV IAmb IAmb 05 28 27.6
comp=Z,126nm,1.0s
TNTI Ternate 42.54 204 P P 05 28 38.7 +9.4
TNTI Ternate 42.54 204 P **P 05 28 27.5 -1.7**
IMAR Indian Mountai 42.55 33 P **P 05 28 30.4 +1.6**
OHAK Old Harbor 42.95 46 P **P 05 28 33.1 +0.9**
OHAK IAmb IAmb 05 28 46.9
comp=Z,82nm,1.0s
SIJI Sorong 43.07 198 P **P 05 28 34.3 +0.7**

comp=Z,15nm,0.6s,baz=2.9,slow=15,SNR=8.7
PPLA Purkeypile 43.15 37 P **P** **05 28 35.8 +1.9**
PPLA IAmb IAmb 05 28 57.9
comp=Z,85nm,1.2s
KDAK Kodiak Island 43.27 45 P **P** **05 28 35.7 +1.0**
KDAK pmax pmax
comp=Z,183nm,1.2s
KDAK Kodiak Island 43.27 45 P **P** **05 28 35.7 +1.0**
MK31 Makanchi Array 43.28 299 *i* P **P** **05 28 35.2 +0.1**
MK31 Makanchi Array 43.28 299 P **P** **05 28 34.9 -0.1**
MK31 IAmb IAmb 05 28 50.1
comp=Z,68nm,0.8s
MKAR Makanchi Array 43.28 299 P **P** **05 28 35.6 +0.6**
comp=Z,57nm,0.8s,baz=81,slow=9.1,SNR=172
MKAR S **S** **05 35 08.7 +8.7**
comp=Z,5.0nm,1.1s,baz=87,slow=29,SNR=2.9
MKAR LR LR 05 48 01.2
comp=Z,6µm,18.5s,baz=78,slow=38
MKAR Makanchi Array 43.28 299 P **P** **05 28 34.9 -0.1**
LSA Lhasa 43.33 272 P **P** **05 28 37.6 +1.4**
LSA pmax pmax
comp=Z,210nm,1.4s
LSA Lhasa 43.33 272 P **P** **05 28 37.7 +1.5**
LSA Lhasa 43.33 272 P **P** **05 28 37.4 +1.2**
LSA P **P** **05 28 37.4 +1.2**
LSA Lhasa 43.33 272 P **P** **05 28 36.3 +0.1**
LSA pmax pmax
comp=Z,142nm,1.0s
LSA MLR MLR
comp=Z,5µm,19.0s
LSA Lhasa 43.33 272 P **P** **05 28 36.3 +0.1**
LSA IAmb IAmb 05 29 03.2
comp=Z,142nm,1.0s
LSA IAMs_20 IAMs_20 05 47 33.0
comp=Z,5µm,19.0s
SPMM Sapulut 43.36 221 P **P** **05 28 36.0 0.0**
JAY Jayapura 43.38 184 LR LR 05 45 32.0
comp=Z,689nm,21.8s,baz=6.5,slow=34
MAKZ Makanchi 43.49 299 P **P** **05 28 36.6 -0.1**
MAKZ Makanchi 43.49 299 P **P** **05 28 36.6 -0.1**
MAKZ IAmb IAmb 05 28 55.1
comp=Z,120nm,0.9s
MAKZ IAMs_20 IAMs_20 05 47 47.6
comp=Z,7µm,19.0s
BPAW Bear Paw Mtn. 43.67 35 P **P** **05 28 39.3 +1.3**
CHTO Chiang Mai 43.68 253 P **P** **05 28 39.4 +0.8**
CHTO Chiang Mai 43.68 253 P **P** **05 28 38.4 -0.2**
CHTO pmax pmax
comp=Z,103nm,0.9s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 43.68 253 P **P** **05 28 38.4 -0.2**
CHTO IAmb IAmb 05 28 40.8
comp=Z,102nm,0.9s
KTH Kantishna Hill 43.71 36 P **P** **05 28 40.0 +1.7**
KTH IAmb IAmb 05 28 52.6
comp=Z,152nm,1.3s
MLY Manley 43.77 34 P **P** **05 28 41.0 +2.2**
baz=270,SNR=9.5
SUA Susitna One 43.88 39 P **P** **05 28 41.5 +1.7**
CM31 Chiang Mai Arr 43.91 253 P **P** **05 28 41.9 +1.5**
SNR=18
CM31 Chiang Mai Arr 43.91 253 P **P** **05 28 39.8 -0.6**
CMAR Chiang Mai Arr 43.91 253 P **P** **05 28 41.0 +0.6**
comp=Z,33nm,0.9s,baz=46,slow=6.9,SNR=26
CMAR LR LR 05 47 57.4
comp=Z,2µm,18.8s,baz=94,slow=37
CMAR Chiang Mai Arr 43.91 253 *ce* P **P** **05 28 41.5 +1.1**
CMAR pmax pmax
comp=Z,34nm,0.9s
CMAR Chiang Mai Arr 43.91 253 P **P** **05 28 40.5 +0.1**
TRF Thorofare Moun 44.00 36 P **P** **05 28 42.6 +1.8**
COLD Coldfoot 44.03 31 P **P** **05 28 42.5 +1.8**
baz=268,SNR=12
COLD Coldfoot 44.03 31 P **P** **05 28 41.6 +0.9**
COLD IAmb IAmb 05 28 54.8
comp=Z,79nm,1.2s
GTOI Gorontalo 44.15 210 P **P** **05 28 42.8 +0.5**
comp=Z,850nmcomp=Z,46nm,0.9s
TOLK Toolik Lake Re 44.32 29 P **P** **05 28 44.6 +1.5**
baz=267,SNR=7.6
TOLK Toolik Lake Re 44.32 29 P **P** **05 28 44.5 +1.4**
TOLK IAmb IAmb 05 28 57.1
comp=Z,86nm,1.4s
TOLK IAMs_20 IAMs_20 05 49 09.5
comp=Z,3µm,18.0s
BWN Browne 44.34 35 P **P** **05 28 45.0 +1.7**
RC01 Rabbit Creek A 44.40 40 P **P** **05 28 45.0 +1.2**
baz=275
O22K Cooper Landing 44.46 41 P **P** **05 28 45.8 +1.5**
baz=276
NEA2 Nenana 44.49 35 P **P** **05 28 46.2 +1.7**
baz=272,SNR=14
MCK McKinley 44.59 36 P **P** **05 28 46.8 +1.5**
baz=273,SNR=7.8
SEW Seward 44.63 41 P **P** **05 28 46.4 +0.8**
SEW IAmb IAmb 05 29 07.8
comp=Z,64nm,1.1s
RND Reindeer 44.64 36 P **P** **05 28 47.2 +1.4**
RND pmax pmax
comp=Z,78nm,1.2s
RND Reindeer 44.64 36 P **P** **05 28 47.2 +1.4**
RND IAmb IAmb 05 28 59.6
comp=Z,78nm,1.2s
PMR Palmer 44.65 39 P **P** **05 28 46.2 +0.5**
PMR pmax pmax
comp=Z,55nm,1.3s
PMR MLR MLR
comp=Z,2µm,19.0s
PMR Palmer 44.65 39 P **P** **05 28 46.2 +0.5**
KURK Kurchatov 44.66 305 *ce* P **P** **05 28 46.4 +0.4**
KURK pmax pmax
comp=Z,113nm,0.7s
KURK MLR MLR
comp=Z,3µm,15.0s
KURK Kurchatov 44.66 305 P **P** **05 28 45.6 -0.4**
KURK Kurchatov 44.66 305 IAMs_20 IAMs_20 05 48 20.6
comp=Z,3µm,20.0s
GHO Glory Hole Cre 44.73 39 P **P** **05 28 48.1 +1.6**
GHO IAmb IAmb 05 29 10.8
comp=Z,92nm,1.2s
KURBB Kurchatov Arra 44.73 305 P **P** **05 28 46.6 0.0**
MDM Murphy Dome 44.84 34 P **P** **05 28 48.4 +1.1**
MDM IAmb IAmb 05 29 06.6
comp=Z,73nm,1.1s
FAKI Fak Fak 44.85 196 P **P** **05 28 49.1 +1.3**
comp=Z,134nm,1.4s
FAKI Fak Fak 44.85 196 P **P** **05 28 47.5 -0.4**
WRH Wood River Hil 44.92 35 P **P** **05 28 49.5 +1.6**
WRH IAmb IAmb 05 29 18.8
comp=Z,57nm,1.2s
TCOL CIGO, UAF Yank 45.00 34 P **P** **05 28 50.6 +2.1**
baz=273
COLA College 45.00 34 P **P** **05 28 49.9 +1.4**
COLA pmax pmax
comp=Z,83nm,1.0s
COLA College 45.00 34 P **P** **05 28 49.9 +1.4**
COLA IAmb IAmb 05 29 15.9
comp=Z,83nm,0.9s
SML Sawmill 45.01 39 P **P** **05 28 49.7 +1.0**
SML IAmb IAmb 05 29 04.9
comp=Z,91nm,1.0s
SML IAMs_20 IAMs_20 05 47 27.2
comp=Z,3µm,18.0s
CCB Clear Creek Bu 45.03 35 P **P** **05 28 49.5 +0.7**
POKR Poker Plat Res 45.17 34 P **P** **05 28 51.8 +1.9**
baz=273,SNR=12
DHY Denali Highway 45.33 37 P **P** **05 28 53.0 +1.6**
HDA Harding Lake 45.42 35 P **P** **05 28 53.1 +1.3**
baz=274,SNR=11
HDA Harding Lake 45.42 35 P **P** **05 28 52.5 +0.6**
IL31 45.42 34 P **P** **05 28 53.0 +1.2**
IL31 IAmb IAmb 05 29 10.4
comp=Z,46nm,0.9s
ILAR Eielson Array 45.42 34 P **P** **05 28 53.0 +1.1**
comp=Z,6.9nm,0.8s,baz=257,slow=6.0,SNR=62
ILAR LR LR 05 47 50.6
comp=Z,855nm,21.8s,baz=285,slow=36
ILAR Eielson Array 45.42 34 P **P** **05 28 53.1 +1.2**
SCM Sheep Creek Mo 45.48 39 P **P** **05 28 53.8 +1.4**
SCM pmax pmax
comp=Z,80nm,1.2s
SCM Sheep Creek Mo 45.48 39 P **P** **05 28 53.8 +1.4**
SCM IAmb IAmb 05 29 13.1
comp=Z,80nm,1.2s
MPSI Mapaga 45.66 214 P **P** **05 28 55.1 +0.8**

comp=Z,2µmcomp=Z,60nm,1.4s
RABL Rabaul 45.73 167 P **P** **05 28 54.3 -0.6**
KRVT Keravat (AS076 45.82 168 P **P** **05 28 58.4 +2.9**
comp=Z,50nm,0.8s,baz=281,slow=16
M24K Tolsona, Glenn 45.99 38 P **P** **05 28 58.6 +2.1**
baz=277
M24K Tolsona, Glenn 45.99 38 P **P** **05 28 58.2 +1.7**
M24K IAmb IAmb 05 29 14.7
comp=Z,87nm,1.1s
FYU Fort Yukon 45.99 32 P **P** **05 28 58.2 +1.8**
FID Port Fidalgo 46.02 40 P **P** **05 28 57.4 +0.8**
FID IAmb IAmb 05 29 23.9
comp=Z,115nm,1.4s
MSAI Masohi 46.03 200 P **P** 05 29 10.5 +13
KLU Klutina 46.18 39 P **P** **05 28 59.5 +1.5**
KLU IAmb IAmb 05 29 11.8
comp=Z,108nm,1.3s
BMAR Burnt Mountain 46.20 31 P **P** **05 29 00.5 +2.4**
PAX Paxson 46.21 37 P **P** **05 28 59.9 +1.7**
PAX pmax pmax
comp=Z,16nm,0.9s
PAX Paxson 46.21 37 P **P** **05 28 59.9 +1.7**
PDGK Podgornoye 46.23 295 P **P** **05 28 58.2 -0.5**
EYAK Cordova Ski Ar 46.40 40 P **P** **05 29 01.0 +1.3**
EYAK IAmb IAmb 05 29 13.5
comp=Z,61nm,1.2s
TDK Taldyqorghan 46.40 298 *i* P **P** **05 29 00.6 +0.6**
comp=Z,204nm,1.0s
TDK *e*LR LR 05 48 41.2
comp=Z,5µm,15.2s
TDK Taldyqorghan 46.40 298 *i* P **P** **05 29 00.5 +0.6**
TDK pmax pmax
comp=Z,204nm,1.0s
TDK MLR MLR
comp=Z,5µm,15.0s
AAI Ambon 46.55 201 P P 05 29 06.9 +5.7
UZB Uzynbulak 46.61 295 ⇑ *i* P **P** **05 29 01.9 +0.1**
comp=Z,98nm,2.4s
UZB *e*LR LR 05 48 57.2
UZB Uzynbulak 46.61 295 *c i* P **P** **05 29 01.8 +0.1**
UZB pmax pmax
comp=Z,98nm,2.4s
KPKS Kokpek 46.73 296 ⇑ *i* P **P** **05 29 03.0 +0.4**
comp=Z,166nm,2.4s
KPKS *e*LR LR 05 48 56.1
KPKS Kokpek 46.73 296 *c i* P **P** **05 29 03.0 +0.4**
KPKS pmax pmax
comp=Z,166nm,2.4s
SCRK Sand Creek 46.75 35 P **P** **05 29 03.4 +0.9**
baz=277,SNR=14
DOT Dot Lake 46.76 36 P **P** **05 29 02.8 +0.3**
DOT IAMs_20 IAMs_20 05 48 35.2
comp=Z,3µm,20.0s
BNDI Bandanaira 46.92 198 P P 05 29 14.6 +10
MENT Mentasta 47.01 37 P **P** **05 29 05.2 +0.8**
MENT IAmb IAmb 05 29 22.8
comp=Z,83nm,1.2s
MENT IAMs_20 IAMs_20 05 48 58.1
comp=Z,3µm,20.0s
SATY Saty 47.07 295 ⇑ *i* P **P** **05 29 05.8 +0.5**
comp=Z,95nm,2.5s
SATY *e*LR LR 05 49 12.9
SATY Saty 47.07 295 *c i* P **P** **05 29 05.7 +0.5**
SATY pmax pmax
comp=Z,95nm,2.5s
GLB Gilahina Butte 47.19 39 P **P** **05 29 07.6 +1.7**
GLB IAmb IAmb 05 29 24.1
comp=Z,48nm,1.3s
VRDI Verde Repeater 47.40 39 P **P** **05 29 09.2 +1.5**
VRDI IAmb IAmb 05 29 32.0
comp=Z,52nm,1.2s
SBUM Sibu 47.46 224 P **P** **05 29 07.9 -0.5**
SBUM Sibu 47.46 224 P **P** **05 29 09.0 +0.6**
MCARA McCarthy VSAT 47.58 39 P **P** **05 29 09.9 +1.1**
MCARA IAmb IAmb 05 29 24.3
comp=Z,71nm,1.1s
K27K Chicken 47.58 35 P **P** **05 29 10.8 +2.0**
baz=278
CRQM Cirque 47.63 40 P **P** **05 29 11.7 +2.1**
TARA Tarawa 47.76 138 IAMs_20 IAMs_20 05 53 11.1
comp=Z,3µm,20.0s
TGL Tana Glacier 47.78 40 P **P** **05 29 12.2 +1.7**
TGL IAmb IAmb 05 29 37.7
comp=Z,80nm,1.1s
BCAR Beaver Creek A 47.86 36 P **P** **05 29 13.0 +2.0**
EGAK Eagle 47.86 34 P **P** **05 29 12.6 +1.6**
EGAK IAmb IAmb 05 29 24.4
comp=Z,90nm,1.4s
BALM Baldy 47.96 39 P **P** **05 29 12.9 +0.9**
TARG Taragay, Kyrgy 47.97 294 P **P** **05 29 11.7 -1.0**
AAA Alma-Ata 48.03 296 *eP* **P** **05 29 12.2 -0.5**
AAA *e*LR LR 05 49 20.1
AAA Alma-Ata 48.03 296 ⇑ *eP* **P** **05 29 14.0 +1.3**
TNSS Tian-Shan 48.07 296 ⇑ *iP* **P** **05 29 14.3 +0.8**
TNSS Tian-Shan 48.07 296 ⇑ *iP* **P** **05 29 14.2 +0.8**
KUU Kurty 48.17 297 ⇑ *iP* **P** **05 29 13.6 -0.2**
comp=Z,89nm,1.1s
KUU *e*LR LR 05 50 18.0
KUU Kurty 48.17 297 *c iP* **P** **05 29 13.5 -0.2**
KUU pmax pmax
comp=Z,89nm,1.1s
KDJ Kajisay 48.25 294 P **P** **05 29 14.8 +0.2**
KDJ pmax pmax
comp=Z,81nm,1.2s
KDJ Kajisay 48.25 294 P **P** **05 29 14.8 +0.2**
KDJ IAmb IAmb 05 29 40.4
comp=Z,81nm,1.1s
BARN Barnard Glacie 48.29 39 P **P** **05 29 16.7 +2.1**
BARN IAmb IAmb 05 29 37.0
comp=Z,69nm,1.3s
MTBS Maitube 48.39 296 *eP* **P** **05 29 14.7 -0.8**
MTBS Maitube 48.39 296 *eP* **P** **05 29 14.7 -0.8**
CTGM Chitina Glacie 48.46 39 P **P** **05 29 17.8 +1.9**
CTGM IAmb IAmb 05 29 29.7
comp=Z,72nm,1.3s
BRZS Berezniki 48.52 306 ⇑ *iP* **P** **05 29 16.8 +0.4**
comp=Z,230nm,2.0s
BRZS Berezniki 48.52 306 *c iP* **P** **05 29 16.7 +0.4**
BRZS pmax pmax
comp=Z,230nm,2.0s
ULHL Ulahol 48.85 295 P **P** **05 29 20.0 +0.8**
SNR=11
BOOM Boomskoye usch 48.96 295 P **P** **05 29 20.2 +0.2**
BOOM pmax pmax
comp=Z,174nm,1.1s
BOOM MLR MLR
comp=Z,10µm,20.0s
BOOM Boomskoye usch 48.96 295 P **P** **05 29 20.2 +0.2**
MTKI Muara Teweh, K 49.03 219 P **P** **05 29 21.7 +1.2**
comp=Z,126nm,1.3s
TKM2 Tokmak 2 49.03 296 P **P** **05 29 21.8 +1.2**
SNR=97
BRVK Borovoye 49.04 310 P **P** **05 29 21.3 +1.1**
BRVK P **P** **05 29 21.3 +1.1**
BRVK Borovoye 49.04 310 P **P** **05 29 20.9 +0.7**
BRVK Borovoye 49.04 310 P **P** **05 29 20.4 +0.2**
BRVK Borovoye 49.04 310 IAMs_20 IAMs_20 05 51 35.6
comp=Z,5µm,18.0s
BTLS Baital 49.29 299 ⇑ *iP* **P** **05 29 22.4 +0.1**
comp=Z,18nm,0.9s
BTLS *e*LR LR 05 50 53.7
BTLS Baital 49.29 299 *c iP* **P** **05 29 22.3 +0.1**
BTLS pmax pmax
comp=Z,18nm,0.9s
KSM Kuching 49.30 226 P **P** **05 29 21.9 -0.7**
KSM Kuching 49.30 226 P **P** **05 29 24.0 +1.4**
EPYK Eagle Plains 49.41 32 P **P** **05 29 25.2 +2.3**
baz=281
EPYK Eagle Plains 49.41 32 P **P** **05 29 24.6 +1.7**
SGDS Sogindy 49.49 297 ⇑ *iP* **P** **05 29 24.1 +0.2**
comp=Z,129nm,2.6s
SGDS Sogindy 49.49 297 *c iP* **P** **05 29 24.1 +0.2**
SGDS pmax pmax
comp=Z,129nm,2.6s
KBK Karagaybulak 49.58 296 P **P** **05 29 25.7 +1.0**
SNR=27
CHMS Chumysh 49.58 296 P **P** **05 29 25.6 +1.1**
SNR=5.8
USP Ospenovka 49.65 297 P **P** **05 29 25.8 +0.7**
SNR=26
FRU1 Bishkek 49.73 296 P **P** **05 29 26.0 +0.2**
FRU1 pmax pmax
comp=Z,89nm,1.1s
FRU1 Bishkek 49.73 296 P **P** **05 29 26.0 +0.2**
FRU1 IAMs_20 IAMs_20 05 52 10.7

comp=Z,5µm,18.0s
BNSI Bone 49.88 211 P **P** **05 29 27.8 +0.8**
comp=Z,130nm,1.2s
AAK Ala-Archa 49.89 296 P **P** **05 29 27.7 +0.6**
SNR=14
AAK Ala-Archa 49.89 296 *i* P **P** **05 29 27.7 +0.6**
SNR=32
AAK Ala-Archa 49.89 296 P **P** **05 29 27.8 +0.6**
AAK P **P** **05 29 27.8 +0.6**
AAK Ala-Archa 49.89 296 *ce* P **P** **05 29 27.5 +0.4**
AAK pmax pmax
comp=Z,164nm,1.7s
AAK MLR MLR
comp=Z,11µm,19.0s
UCH Uchtor 50.04 296 P **P** **05 29 29.2 +0.6**
SNR=14
KSH Kashi 50.12 292 P **P** **05 29 32.6 +3.8**
KSH pP pwP 05 29 40.6 -0.1
KSH S **S** **05 36 40.7 +2.5**
KSH sS sS 05 36 57.4 +3.6
KSH pmax pmax
comp=Z,20nm,0.8s
KSH pmax pmax
comp=Z,460nm,4.7s
KSH LR LR
comp=Z,3µm,18.4s
KSH LR LR
comp=Z,1µm,13.4s
KSH LR LR
comp=Z,1µm,19.0s
INK Inuvik 50.23 29 P **P** **05 29 30.2 +1.2**
INK pmax pmax
comp=Z,111nm,1.1s
INK MLR MLR
comp=Z,3µm,20.0s
INK Inuvik 50.23 29 P **P** **05 29 30.2 +1.2**
INK IAMs_20 IAMs_20 05 50 40.8
comp=Z,3µm,20.0s
HYT Haines Junctio 50.31 39 P **P** **05 29 31.4 +1.4**
EKS2 Erkin-Say 50.37 296 P **P** **05 29 31.4 +0.7**
SNR=24
KAPI Kappang 50.58 211 P **P** **05 29 32.7 +0.4**
comp=Z,34nm,0.9s,baz=16,slow=3.7,SNR=15
KAPI Kappang 50.58 211 P **P** **05 29 32.8 +0.6**
KAPI P **P** **05 29 32.8 +0.6**
KAPI Kappang 50.58 211 P **P** **05 29 32.6 +0.3**
AML Almayashu 50.64 296 P **P** **05 29 34.1 +1.0**
SNR=50
BKSI Bulukumba 50.72 210 P **P** **05 29 33.5 +0.2**
comp=Z,36nm,1.0s
BBKI Banjar Baru 51.27 217 P **P** **05 29 37.8 +0.3**
comp=Z,12µmcomp=Z,100nm,0.9s
WHY Whitehorse 51.60 38 P **P** **05 29 42.1 +2.5**
SKAG Skagway 51.74 40 P **P** **05 29 43.1 +2.6**
DZA Taraz 51.93 297 *eP* **P** **05 29 41.6 -0.6**
DZA *e*LR LR 05 52 03.4
DZA Taraz 51.93 297 *eP* **P** **05 29 41.6 -0.6**
KULM Kulim 52.03 239 P **P** **05 29 43.4 +0.2**
KULM Kulim 52.03 239 P **P** **05 29 45.0 +1.8**
KK31 Karatay Array 52.39 298 P **P** **05 29 45.5 -0.2**
KK31 pmax pmax
comp=Z,64nm,1.0s
KK31 Karatay Array 52.39 298 P **P** **05 29 45.5 -0.2**
KK31 IAmb IAmb 05 30 11.9
comp=Z,64nm,0.9s
KKAR Karatay Array 52.39 298 P **P** **05 29 45.3 -0.3**
KKAR pmax pmax
comp=Z,64nm,1.0s
KKAR Karatay Array 52.39 298 P **P** **05 29 45.3 -0.3**
KKAR IAmb IAmb 05 30 11.9
comp=Z,64nm,0.9s
IPM Ipoh 52.41 238 P **P** **05 29 45.7 -0.3**
IPM IAmb IAmb 05 29 47.9
comp=Z,65nm,1.0s
IPM Ipoh 52.41 238 P **P** **05 29 47.0 +1.0**
HNR Honiara 52.52 159 LR LR 05 48 31.2
comp=Z,1µm,21.8s,baz=329,slow=32
HNR Honiara 52.52 159 P **P** **05 29 47.2 +0.4**
HNR pmax pmax
comp=Z,93nm,0.9s
HNR Honiara 52.52 159 P **P** **05 29 47.2 +0.4**
MYKOM Kota Tinggi 52.74 233 P **P** **05 29 48.8 +0.3**
MYKOM Kota Tinggi 52.74 233 P **P** **05 29 50.0 +1.5**
MMRI Maumere 53.03 206 P **P** **05 29 50.2 -0.3**
IUG Iuzhnay 53.11 297 ⇑ *iP* **P** **05 29 51.7 +0.5**
comp=Z,43nm,1.1s
IUG *e*LR LR 05 52 56.0
IUG Iuzhnay 53.11 297 *c iP* **P** **05 29 51.6 +0.5**
IUG pmax pmax
comp=Z,43nm,1.1s
SVE Sverdlovsk 53.12 317 *d iP* **P** **05 29 52.1 +1.3**
SVE *e*S **S** **05 37 20.8 +2.1**
SVE pmax pmax
comp=Z,291nm,1.1s
SVE MLR MLR
comp=Z,5µm,16.0s
SVE MLR MLR
comp=E,4µm,16.0s
C36M Paulatuk 53.25 26 P **P** **05 29 53.1 +1.5**
baz=289
C36M Paulatuk 53.25 26 P **P** **05 29 53.7 +2.2**
SOEI Soe 53.44 203 P **P** **05 29 55.1 +1.4**
comp=E,2µmcomp=E,251nm,0.9s
SOEI Soe 53.44 203 P **P** **05 29 53.0 -0.7**
BTK Batken 53.48 294 P **P** **05 29 53.7 -0.1**
BTK pmax pmax
comp=Z,45nm,0.9s
BTK MLR MLR
comp=Z,9µm,20.0s
BTK Batken 53.48 294 P **P** **05 29 53.7 -0.1**
BTK IAmb IAmb 05 30 12.9
comp=Z,45nm,0.8s
BHK Bhakra 53.53 282 *ex* P **P** **05 29 54.0 -0.2**
TAS Tashkent 53.96 297 P **P** **05 29 57.5 +0.2**
TAS pmax pmax
comp=Z,124nm,1.0s
TAS Tashkent 53.96 297 P **P** **05 29 57.5 +0.2**
BATI Baumata 54.05 204 P **P** **05 29 57.6 -0.5**
comp=Z,15nm,0.3s,baz=270,slow=4.0,SNR=3.6
DSRI Dabo 54.13 230 P **P** **05 30 00.8 +2.2**
comp=Z,860nmcomp=Z,45nm,1.5s
TPI Tanjungpandan 54.27 226 P **P** **05 30 00.6 +0.9**
comp=Z,1µmcomp=Z,114nm,1.1s
GAR Garm 54.30 294 P **P** **05 29 59.5 -0.4**
ARU Arti 54.34 317 *c iP* **P** **05 30 00.5 +0.8**
ARU *PP **sP** **05 30 13.7 +0.9**
ARU 05 31 02.0
ARU 05 32 01.3
ARU PPP PPP 05 33 10.6
ARU S **S** **05 37 38.9 +3.8**
ARU *SS sS 05 37 58.8 +8.2
ARU 05 39 45.3
ARU pmax pmax
comp=Z,370nm,1.3s
ARU MLR MLR
comp=Z,6µm,17.0s
ARU Arti 54.34 317 P **P** **05 30 00.6 +0.9**
NDI New Delhi 54.34 279 *ex* P **P** **05 30 00.0 -0.1**
PPBI Pangkal Pinang 54.61 228 P **P** **05 30 03.0 +0.9**
comp=Z,41µmcomp=Z,149nm,1.6s
DLBC Dease Lake 54.67 40 P **P** **05 30 03.9 +1.6**
MTN Manton Dam 54.73 194 P **P** **05 30 02.5 -0.4**
MTN IAmb IAmb 05 30 03.9
comp=Z,68nm,1.1s
NIL Nilore 54.74 286 P **P** **05 30 04.2 +1.2**
NIL P **P** **05 30 04.2 +1.2**
NIL Nilore 54.74 286 P **P** **05 30 03.3 +0.2**
NIL pmax pmax
comp=Z,176nm,1.0s
NIL MLR MLR
comp=Z,2µm,20.0s
NIL Nilore 54.74 286 P **P** **05 30 03.3 +0.2**
NIL Nilore 54.74 286 IAMs_20 IAMs_20 05 55 10.7
comp=Z,2µm,20.0s
CHLP Challavanipeta 54.91 264 *eP* **P** **05 30 05.3 +1.0**
PSI Prapat 55.03 238 P **P** **05 30 06.0 +0.7**
comp=Z,38nm,0.9s,baz=360,slow=5.4,SNR=28
PSI LR LR 05 53 53.6
comp=Z,946nm,21.3s,baz=88,slow=36
TWSI Taliwang, Sumb 55.11 212 P **P** **05 30 05.8 +0.1**
comp=Z,29nm,1.1s
RPSI Rantau Prapat 55.11 238 P **P** **05 30 05.9 +0.1**
RPSI IAmb IAmb 05 30 07.2
comp=Z,53nm,0.9s
RPSI Rantau Prapat 55.11 238 P **P** **05 30 06.0 +0.2**

SRBI	Singaraja	55.21	214	P		P		05 30 08.6	+2.1	
	comp=Z,102nm,1.6s									
CHGR	Chuyangaron	55.26	294	P		P		05 30 06.4	-0.4	
MLSI	Meulaboh, Aceh	55.58	242	P		P		05 30 09.0	-0.2	
	comp=Z,19µmcomp=Z,122nm,1.4s									
BKNI	Bangkinang	55.61	234	P		P		05 30 10.5	+1.1	
	comp=Z,365nm,1.1s									
BKNI	Bangkinang	55.61	234	P		P		05 30 09.8	+0.5	
ALE	Alert	56.06	4	IAMs_20		IAMs_20		05 56 43.8		
	comp=Z,2µm20.0s									
MNSI	Mandailing Nat	56.15	236	P		P		05 30 12.8	-0.5	
	comp=Z,3µmcomp=Z,28nm,0.8s									
SDSI	Sungai Dareh	56.36	233	P		P		05 30 15.8	+1.1	
	comp=Z,15µmcomp=Z,245nm,1.2s									
AB31	Akbulak array	56.48	309	*i* P		P		05 30 15.4	+0.2	
ABKAR	Akbulak array	56.48	309	P		P		05 30 14.9	-0.2	
ABKAR	Akbulak array	56.48	309	P		P		05 30 15.2	0.0	
SMRI	Semarang	56.49	220	P		P		05 30 16.2	+0.6	
	comp=Z,169nm,1.2s									
SMRI	Semarang	56.49	220	P		P		05 30 15.8	+0.2	
PWJI	Pagerwojo	56.68	218	P		P		05 30 15.3	-1.7	
SPA0	Spitsbergen Ar	56.89	349	P		P		05 30 18.6	+0.8	
SPA0				IAmb		IAmb		05 30 40.4		
	comp=Z,89nm,1.3s									
WOJI	Wonogiri, Jawa	56.94	219	P		P		05 30 19.4	+0.6	
	comp=Z,61nm,1.6s									
KBS	Kingsbay	56.98	350	*ce*P		P		05 30 19.8	+1.5	
KBS				pmax		pmax				
	comp=Z,79nm,1.3s									
KBS				MLR		MLR				
	comp=Z,1µm,17.0s									
KBS	Kingsbay	56.98	350	P		P		05 30 19.8	+1.5	
KBS	Kingsbay	56.98	350	⇑*i* P		P		05 30 19.8	+1.5	
KBS				IAmb		IAmb		05 30 20.9		
	comp=Z,238nm,1.1s									
GSI	Gunungsitoli	57.04	238	P		P		05 30 20.5	+0.9	
	comp=Z,176nm,1.6s									
GSI	Gunungsitoli	57.04	238	P		P		05 30 19.3	-0.2	
NOR	Nord	57.17	357	⇑*i* P		P		05 30 20.2	+0.6	
NOR				pmax		pmax				
	comp=Z,70nm,1.5s									
NOR	Nord	57.17	357	⇑*i* P		P		05 30 20.2	+0.6	
	comp=Z,70nm,1.5s									
NOR	Nord	57.17	357	⇑*i* P		P		05 30 20.2	+0.6	
NOR				IAmb		IAmb		05 30 20.8		
	comp=Z,70nm,1.5s									
KRJI	Kerinci	57.26	232	P		P		05 30 22.3	+1.1	
	comp=Z,266nm,1.2s									
KBL	Kabul	57.33	289	P		P		05 30 21.2	-0.5	
KBL				pmax		pmax				
	comp=Z,72nm,1.0s									
KBL				MLR		MLR				
	comp=Z,6µm,18.0s									
KBL	Kabul	57.33	289	P		P		05 30 21.2	-0.5	
KBL				IAmb		IAmb		05 30 36.6		
	comp=Z,72nm,0.9s									
LHSI	Lahat	57.45	229	P		P		05 30 23.4	+1.0	
	comp=Z,4µmcomp=Z,325nm,1.3s									
KLSI		57.48	227	P		P		05 30 23.2	+0.6	
	comp=Z,656nmcomp=Z,44nm,1.7s									
KPJI	Karang Pucung	57.48	221	P		P		05 30 22.4	-0.2	
	comp=Z,140nm,1.3s									
PVM	Polavaram	57.51	265	*e*P		P		05 30 23.4	+0.4	
MDSI	Maura Dua	57.62	228	P		P		05 30 23.9	+0.3	
	comp=Z,2µmcomp=Z,102nm,1.3s									
MASI	Maura Aman, Be	57.64	231	P		P		05 30 25.0	+1.2	
	comp=Z,296nm,1.1s									
LEM	Lembang	57.71	223	P		P		05 30 23.3	-1.2	
	comp=Z,112nm,1.0s,baz=65,slow=4.8,SNR=16									
KSI	Kapahiang	57.84	230	P		P		05 30 25.2	-0.1	
	comp=Z,93nm,0.8s									
HSPB	Hornsund (broa	57.85	348	*e*P		P		05 30 25.6	+1.1	
HSPB				*e*S		S		05 38 21.8	+0.5	
HSPB				*e*L		L		05 57 51.5		
	comp=Z,2µm,19.9s									
KIRV	Kirov	57.93	322	*ce*P		P		05 30 26.0	+0.7	
KNRA	Kununurra	57.96	196	P		P		05 30 25.8	-0.2	
KNRA				IAmb		IAmb		05 30 45.1		
	comp=Z,108nm,1.4s									
PRGR	Permogore	58.20	326	*e*P		P		05 30 25.8	-1.3	
PRGR				pmax		pmax				
	comp=Z,117nm,1.1s									
GGR	Gangavaram	58.23	266	*e*P		P		05 30 27.8	-0.3	
RPR	Rampur	58.30	268	*e*P		P		05 30 28.8	+0.4	
RES	Resolute Bay	58.41	15	P		P		05 30 29.0	+0.6	
RES				pmax		pmax				
	comp=Z,35nm,0.8s									
RES	Resolute Bay	58.41	15	P		P		05 30 29.0	+0.6	
RES				IAmb		IAmb		05 30 56.1		
	comp=Z,35nm,0.8s									
MYLAV	Mylavaram	58.56	265	*e*P		P		05 30 30.6	+0.3	
LVZ	Lovozero	59.06	335	*ce*P		P		05 30 32.6	-0.5	
LVZ				pmax		pmax				
	comp=Z,63nm,2.5s									
LVZ				MLR		MLR				
	comp=Z,3µm,17.0s									
LVZ	Lovozero	59.06	335	IAMs_20		IAMs_20		05 59 30.3		
	comp=Z,3µm,18.0s									
CUPL	Choutuppal	59.52	267	*e*P		P		05 30 36.7	-0.3	
APA	Apatity	59.64	335	⇓*i* P		P		05 30 33.4	-3.6	
APA				pmax		pmax				
	comp=Z,10.0nm,0.8s									
APA				MLR		MLR				
	comp=Z,3µm,17.0s									
NJS	Nagarjunasagar	59.68	266	*e*P		P		05 30 38.2	+0.2	
YKA	Yellowknife Ar	59.69	32	P		P		05 30 37.2	-0.3	
	comp=Z,5.6nm,1.0s,baz=302,slow=6.6,SNR=6.6									
YKA				LR		LR		06 00 52.9		
	comp=Z,955nm,18.2s,baz=0.0,slow=40									
HYB	Hyderabad	59.73	267	*i* P		P		05 30 37.0	-1.4	
HYBB	Hyderabad (bro	59.73	267	*e*P		P		05 30 38.2	-0.2	
KEV	Kevo	60.22	339	P		P		05 30 41.2	+0.2	
KEV				pmax		pmax				
	comp=Z,43nm,1.1s									
KEV				MLR		MLR				
	comp=Z,3µm,20.0s									
KEV	Kevo	60.22	339	P		P		05 30 41.1	+0.2	
KEV				IAmb		IAmb		05 30 42.3		
	comp=Z,43nm,1.1s									
KEV				IAMs_20		IAMs_20		06 01 24.0		
	comp=Z,3µm,20.0s									
SRLM	Srisailam	60.28	266	*e*P		P		05 30 41.9	-0.3	
SANVU	Saraoutou	60.43	153	P		P		05 30 42.8	-0.2	
ARCES	ARCESS Array B	60.77	339	P		P		05 30 45.3	+0.5	
	comp=Z,11nm,0.9s,baz=43,slow=6.9,SNR=19									
ARCES				LR		LR		06 02 01.3		
	comp=Z,4µm,19.3s,baz=60,slow=41									
KLRI	Killari	60.81	269	*e*P		P		05 30 45.1	-0.8	
CTAO	Charters Tower	60.85	177	P		P		05 30 44.9	-1.0	
CTAO				pmax		pmax				
	comp=Z,74nm,1.0s									
CTAO	Charters Tower	60.85	177	P		P		05 30 44.9	-1.0	
TULEG	Thule	60.98	8	IAMs_20		IAMs_20		06 00 02.3		
	comp=Z,2µm,19.0s									
TULEG	Thule	60.98	8	*i* P		P		05 30 46.3	+0.2	
TULEG				IAMs_20		IAMs_20		05 59 56.7		
	comp=Z,2µm,19.9s									
WB0	Warramunga Arr	61.02	189	P		P		05 30 46.0	-1.0	
WB0				IAmb		IAmb		05 31 05.8		
	comp=Z,60nm,1.1s									
FITZ	Fitzroy Crossi	61.02	199	P		P		05 30 47.2	+0.2	
	comp=Z,14nm,0.9s,baz=5.0,slow=6.1,SNR=16									
FITZ	Fitzroy Crossi	61.02	199	P		P		05 30 45.9	-1.0	
SKHT	Srikalahasti	61.13	263	*e*P		P		05 30 48.5	+0.6	
KLMR	Klimovskoe	61.15	327	*e*P		P		05 30 45.7	-1.7	
KLMR				*e*				05 33 00.5		
KLMR				pmax		pmax				
	comp=Z,202nm,1.5s									
KLMR				MLR		MLR				
	comp=Z,1µm,14.0s									
KLMR	Klimovskoe	61.15	327	*e*P		P		05 30 45.8	-1.7	
KLMR				AMP				05 30 49.4		
	comp=Z,202nm,1.5s									
KLMR				*e*PP		PP		05 33 00.5	-1.3	
KLMR				LQ		LQ		05 53 14.2		
KLMR				LQ		LQ		05 53 14.2		
KLMR				LR		LR		05 57 50.5		
KLMR				AMP				06 00 01.3		
	comp=Z,1µm,13.8s									
WRAB	Tennant Creek	61.19	189	P		P		05 30 47.3	-0.8	
WRAB				pmax		pmax				
	comp=Z,50nm,1.1s									
WRAB	Tennant Creek	61.19	189	P		P		05 30 47.3	-0.8	
WRAB				IAmb		IAmb		05 31 07.6		
	comp=Z,50nm,1.1s									
WR0	Warramunga Arr	61.19	189	P		P		05 30 47.2	-0.9	
WR0				IAmb		IAmb		05 31 07.7		
	comp=Z,53nm,1.1s									
WB2	Warramunga Arr	61.19	189	P		P		05 30 47.0	-1.2	
WB2				IAmb		IAmb		05 31 07.6		
	comp=Z,52nm,1.1s									
WRA	Warramunga Arr	61.20	189	P		P		05 30 47.4	-0.8	
	comp=Z,20nm,0.9s,baz=6.7,slow=7.0,SNR=198									
WRA				LR		LR		05 56 28.2		
	comp=Z,618nm,21.5s,baz=15,slow=35									
WRA	Warramunga Arr	61.20	189	P		P		05 30 47.3	-0.8	
BELG	Belogornoye	61.85	316	*c* P		P		05 30 53.3	+1.0	
DAG	Danmarks Havn	61.93	355	⇑*i* P		P		05 30 52.9	+0.4	
DAG				pmax		pmax				
	comp=Z,42nm,1.1s									
DAG	Danmarks Havn	61.93	355	⇑*i* P		P		05 30 52.9	+0.4	
	comp=Z,42nm,1.1s									
DAG				*i*				05 31 15.4		
DAG	Danmarks Havn	61.93	355	⇑*i* P		P		05 30 53.0	+0.4	
DAG				IAmb		IAmb		05 30 53.6		
	comp=Z,42nm,1.1s									
DAG				*i*				05 31 15.4		
HRA	Herat	62.21	293	P		P		05 30 55.3	0.0	
URV	Uravakonda	62.22	266	*e*P		P		05 30 56.0	+0.7	
POO	Poona	62.61	271	*ex*		P		05 30 56.0	-2.0	
KAD	Karad	63.10	270	⇑*ix*		P		05 31 01.2	0.0	
GEYT	Alibeck	63.15	298	P		P		05 31 01.7	+0.4	
	comp=Z,54nm,0.9s,baz=29,slow=3.4,SNR=58									
GEYT				LR		LR		06 00 46.2		
	comp=Z,5µm,18.7s,baz=60,slow=38									
GEYT	Alibeck	63.15	298	P		P		05 31 01.4	+0.1	
GYA0	ALIBECK ARRAY	63.15	298	P		P		05 31 00.9	-0.4	
GYA0B	ALIBECK ARRAY	63.15	298	P		P		05 31 01.6	+0.3	
D03D	Eldon	63.43	49	P		P		05 31 05.3	+2.4	
	baz=302									
B05A	Bryant	63.60	48	P		P		05 31 06.6	+2.5	
	baz=303									
B06A	Marblemount	63.80	48	P		P		05 31 05.6	+0.3	
B06A				IAmb		IAmb		05 31 18.7		
	comp=Z,40nm,1.0s									
D05A	Enumclaw	64.24	49	P		P		05 31 09.0	+0.7	
D05A				IAmb		IAmb		05 31 22.8		
	comp=Z,55nm,1.1s									
E04D	Cinebar	64.26	50	P		P		05 31 10.9	+2.5	
	baz=303									
DBG	Daneborg	64.43	355	⇑*i* P		P		05 31 09.4	+0.4	
DBG				IAmb		IAmb		05 31 09.9		
	comp=Z,59nm,1.5s									
PALK	Pallekele	64.58	257	P		P		05 31 11.9	+0.9	
PALK				pmax		pmax				
	comp=Z,60nm,1.1s									
PALK				MLR		MLR				
	comp=Z,2µm,19.0s									
PALK	Pallekele	64.58	257	P		P		05 31 11.9	+0.9	
PALK				IAmb		IAmb		05 31 12.8		
	comp=Z,60nm,1.1s									
PALK	Pallekele	64.58	257	IAMs_20		IAMs_20		06 00 28.7		
	comp=Z,2µm,19.0s									
G03D	McMinnville, O	64.58	51	P		P		05 31 12.6	+2.0	
	baz=303									
F04A	Amboy	64.69	50	P		P		05 31 12.2	+0.9	
F04A				IAmb		IAmb		05 31 25.0		
	comp=Z,54nm,1.0s									
I02D	Swisshome	64.84	53	P		P		05 31 14.4	+2.2	
	baz=304									
MOS	Moscow	64.89	323	*e*P		P		05 31 09.7	-2.6	
MOS				*e*				05 33 31.1		
MOS				*e*S		S		05 39 49.1	-2.0	
MOS				pmax		pmax				
	comp=Z,240nm,1.5s									
MOS				pmax		pmax				
	comp=Z,700nm,2.2s									
MOS				MLR		MLR				
	comp=N,3µm,16.0s									
MOS				MLR		MLR				
	comp=E,3µm,16.0s									
MOS				MLR		MLR				
	comp=Z,4µm,16.0s									
COR	Corvallis	64.91	52	P		P		05 31 14.1	+1.4	
COR				pmax		pmax				
	comp=Z,96nm,1.2s									
COR	Corvallis	64.91	52	P		P		05 31 14.1	+1.4	
AS31	Alice Springs	64.92	189	P		P		05 31 12.4	-0.5	
ASAR	Alice Springs	64.92	189	P		P		05 31 12.8	-0.1	
	comp=Z,18nm,1.0s,baz=6.9,slow=5.2,SNR=123									
ASAR				LR		LR		05 58 20.9		
	comp=Z,678nm,21.4s,baz=360,slow=35									
ASAR				PKP2bc				06 00 00.6		
	comp=Z,2.1nm,1.2s,baz=178,slow=2.1,SNR=6.5									
LTY	Liberty	64.95	48	P		P		05 31 13.5	+0.4	
LTY				IAmb		IAmb		05 31 26.5		
	comp=Z,35nm,1.1s									
B08A	Colville Reser	65.08	47	P		P		05 31 14.5	+0.7	
B08A				IAmb		IAmb		05 31 27.4		
	comp=Z,80nm,1.4s									
KEBM	Edson Butte	65.23	54	P		P		05 31 16.2	+1.4	
F05D	White Salmon	65.27	50	P		P		05 31 17.3	+2.3	
	baz=304									
H04D	Lebanon	65.28	52	P		P		05 31 17.5	+2.4	
	baz=304									
J01E	Myrtle Point	65.32	54	P		P		05 31 17.8	+2.4	
	baz=304									
I03D	Drain, OR	65.37	53	P		P		05 31 18.1	+2.4	
	baz=304,SNR=8.9									
PUL	Pulkovo	65.47	329	*i* P		P		05 31 16.8	+0.8	
PUL				pmax		pmax				
	comp=Z,92nm,1.1s									
PUL				MLR		MLR				
	comp=Z,4µm,17.0s									
H04A	Detroit Lake	65.52	51	P		P		05 31 17.3	+0.6	
H04A				IAmb		IAmb		05 31 30.4		
	comp=Z,54nm,1.0s									
VRH	Novokhopyorsk	65.57	317	*e*P		P		05 31 17.1	+0.3	
VRH				pmax		pmax				
	comp=Z,190nm,1.1s									
VRH				MLR		MLR				
	comp=Z,5µm,17.0s									
KBO	Bosley Butte	65.66	55	P		P		05 31 19.2	+1.4	
KBO				IAmb		IAmb		05 31 32.1		
	comp=Z,72nm,1.2s									
UPNV	Upernavik	65.71	6	*i* P		P		05 31 17.8	+0.4	
UPNV				IAmb		IAmb		05 31 18.6		
	comp=Z,102nm,1.4s									
G05D	Wamic, OR	65.71	50	P		P		05 31 20.2	+2.2	
	baz=304									
K02D	Willamette Mer	65.74	54	P		P		05 31 20.3	+2.1	
	baz=304,SNR=8.9									
OBN	Obninsk	65.74	323	*ce*P		P		05 31 18.3	+0.4	
OBN				*e*				05 31 49.6		
OBN				*e*				05 33 38.7		
OBN				*e*PPP		PPP		05 35 14.3		
OBN				*e*S		S		05 40 03.7	+2.1	
OBN				*e*SS		SS		05 44 17.9	+2.5	
OBN				pmax		pmax				
	comp=Z,258nm,1.7s									
OBN				MLR		MLR				
	comp=Z,5µm,16.0s									
OBN	Obninsk	65.74	323	P		P		05 31 17.6	-0.3	
E07A	Sunnyside	65.81	49	P		P		05 31 19.7	+1.1	
E07A				IAmb		IAmb		05 31 32.4		
	comp=Z,66nm,1.2s									
I04A	Tendick Farm,	65.88	52	P		P		05 31 21.0	+1.9	
	baz=304,SNR=16									
PSA00	Pilbara Seismi	65.93	204	P		P		05 31 18.3	-1.1	
PSA00				IAmb		IAmb		05 31 20.4		
	comp=Z,59nm,1.3s									
FIA1	FINESS Array S	65.94	332	P		P		05 31 19.0	0.0	
FIA1				IAmb		IAmb		05 31 20.1		
	comp=Z,52nm,0.9s									
PSAA1	Pilbara Seismi	65.94	204	IAMs_20		IAMs_20		05 52 01.1		
	comp=Z,2µm,18.0s									
FINES	FINESS Array B	65.94	332	P		P		05 31 19.4	+0.4	
	comp=Z,33nm,0.8s,baz=51,slow=7.0,SNR=107									
FINES				LR		LR		06 02 46.2		
	comp=Z,6µm,19.4s,baz=39,slow=38									
FINES	FINESS Array B	65.94	332	P		P		05 31 18.5	-0.5	
C09A	Chrisman Ranch	65.99	47	P		P		05 31 20.3	+0.7	
D08A	Wollman Farm,	66.05	48	P		P		05 31 20.8	+0.7	
D08A				IAmb		IAmb		05 31 33.5		
	comp=Z,39nm,1.0s									
L02E	Cave Junction	66.08	54	P		P		05 31 22.3	+2.0	
	baz=304									
HAWA	Hanford	66.09	49	P		P		05 31 20.1	-0.2	
HAWA				IAmb		IAmb		05 31 34.1		
	comp=Z,40nm,1.1s									
LPSR	Galich'ya Gora	66.14	320	*e*P		P		05 31 20.6	+0.1	
LPSR				pmax		pmax				
	comp=Z,190nm,1.1s									
LPSR				pmax		pmax				
	comp=Z,290nm,1.2s									
LPSR				MLR		MLR				
	comp=Z,2µm,14.0s									
F07A	Phinny Hill Vi	66.15	49	P		P		05 31 21.4	+0.7	
F07A				IAmb		IAmb		05 31 34.6		
	comp=Z,43nm,0.9s									
I05D	Terrebonne, OR	66.21	51	P		P		05 31 23.0	+1.8	
	baz=305									
HUMO	Hull Mountain	66.22	54	P		P		05 31 22.3	+1.1	
KRMB	Red Mountain	66.25	55	P		P		05 31 22.5	+0.9	
KRMB				IAmb		IAmb		05 31 35.8		
	comp=Z,49nm,1.3s									
E08A	Dider Farm, El	66.30	48	P		P		05 31 23.3	+1.6	
E08A				IAmb		IAmb		05 31 35.3		
	comp=Z,45nm,1.1s									
NEW	Newport	66.35	46	P		P		05 31 23.7	+1.7	
	baz=306									
NEW	Newport	66.35	46	P		P		05 31 22.7	+0.7	
NEW				pmax		pmax				
	comp=Z,65nm,1.2s									
NEW	Newport	66.35	46	P		P		05 31 22.6	+0.7	
NEW				IAmb		IAmb		05 31 35.5		
	comp=Z,65nm,1.2s									
J04D	Umpqua Nationa	66.37	53	P		P		05 31 24.7	+2.2	
	baz=305									
DZM	Mont Dzumac	66.38	156	*e*P		P		05 31 22.8	+0.4	
	comp=Z,123nm,1.3s									
DZM				*e*S		S		05 40 11.4	+1.3	
	comp=Z,2µm,27.6s									
EIDS	Eidsvold	66.45	172	P		P		05 31 22.7	0.0	
SUMG	Summit	66.71	1	⇑*i* P		P		05 31 25.7	+1.4	
SUMG				pmax		pmax				
	comp=Z,170nm,1.0s									
SUMG	Summit	66.71	1	P		P		05 31 25.0	+0.7	
SUMG	Summit	66.71	1	⇑*i* P		P		05 31 25.7	+1.4	
	comp=Z,170nm,1.0s									
SUMG	Summit	66.71	1	⇑*i* P		P		05 31 25.7	+1.4	
SUMG				IAmb		IAmb		05 31 26.3		
	comp=Z,171nm,1.0s									
KHMM	Horse Mountain	66.72	56	P		P		05 31 25.5	+0.9	
KHMM				IAmb		IAmb		05 31 39.1		
	comp=Z,43nm,1.1s									
PINE	Pine Mountain	66.76	52	P		P		05 31 26.4	+1.6	
E09A	Wood Farm, Sta	66.80	48	P		P		05 31 25.5	+0.7	
MSVF	Nonsavu	66.81	144	IAMs_20		IAMs_20		05 53 29.4		
	comp=Z,2µm,22.0s									
L04D	Klamath Falls	66.84	54	P		P		05 31 27.3	+2.0	
	baz=305,SNR=14									
VSR	Storozhevoye	66.86	318	*e*P		P		05 31 25.3	+0.2	
VSR				pmax		pmax				
	comp=Z,170nm,1.2s									
VSR				pmax		pmax				
	comp=Z,320nm,1.4s									
VSR				MLR		MLR				
	comp=Z,3µm,16.0s									
YBH	Yreka Blue Hor	66.87	54	P		P		05 31 26.4	+0.9	
YBH				pmax		pmax				
	comp=Z,45nm,1.2s									
YBH	Yreka Blue Hor	66.87	54	P		P		05 31 26.4	+0.9	
YBH				IAmb		IAmb		05 31 39.8		
	comp=Z,45nm,1.2s									
J05D	Fort Rock, OR	66.87	52	P		P		05 31 27.9	+2.4	
	baz=305,SNR=11									
VORD	Divnogorie	66.94	318	*e*P		P		05 31 26.0	+0.4	
VORD				pmax		pmax				
	comp=Z,170nm,1.4s									
M02C	Callahan	66.97	55	P		P		05 31 29.1	+2.9	
	baz=305									
G08A	Pilot Rock	67.05	49	P		P		05 31 27.6	+1.0	
MAK	Makhachkala	67.11	308	*e*P		P		05 31 25.2	-1.6	
MAK				*e*				05 33 55.0		
MAK				*e*PPP		PPP		05 35 31.6		
MAK				*e*S		S		05 40 17.8	-0.7	
MAK				*e*SS		SS		05 44 37.7	+0.6	
MAK				pmax		pmax				
	comp=Z,233nm,1.3s									
MAK				MLR		MLR				
	comp=Z,2µm,15.0s									
N02D	Trinity Center	67.30	55	P		P		05 31 30.6	+2.4	
	baz=305									
M04C	Macdoel	67.37	54	P		P		05 31 30.6	+1.8	
	baz=305,SNR=19									
K05A	Summer Lake	67.40	53	P		P		05 31 30.3	+1.3	
I07A	Izee	67.44	51	P		P		05 31 30.0	+1.0	
WDC	Whiskeytown Da	67.63	55	P		P		05 31 31.5	+1.3	
WDC				pmax		pmax				
	comp=Z,37nm,1.2s									
WDC	Whiskeytown Da	67.63	55	P		P		05 31 31.5	+1.3	
WDC				IAmb		IAmb		05 31 44.1		
	comp=Z,37nm,1.1s									
F10A	Beach Ranch, E	67.64	48	P		P		05 31 31.7	+1.5	
O02D	Mt. Diablo Mer	67.71	56	P		P		05 31 32.5	+1.7	
	baz=305									
VSU	Vasula	67.73	329	*e*P		P		05 31 31.4	+0.9	
VSU	Vasula	67.73	329	*c* P		P		05 31 30.8	+0.3	
VSU				pmax		pmax				
	comp=Z,92nm,0.9s									
VSU				MLR		MLR				
	comp=Z,7µm,17.0s									
GROC	Groznyy	67.98	309	*e*P		P		05 31 32.9	+0.5	
GROC				*e*S		S		05 40 27.8	-1.3	
GROC				pmax		pmax				
	comp=Z,103nm,1.3s									
GROC				MLR		MLR				
	comp=Z,907nm,15.0s									
JTMT	Jette	68.19	45	P		P		05 31 34.3	+0.5	
MOD	Modoc Plateau	68.23	53	P		P		05 31 34.6	+0.4	
MOD				IAmb		IAmb		05 31 48.0		
	comp=Z,33nm,1.1s									
BMO	Blue Mountains	68.25

ILULI	**Ilulissat**	**69.58**	**5**	P	**P**	**05 31 42.6 +0.7**
ILULI				IAmb	IAmb	05 31 43.7
	comp=Z,50nm,1.1s					
FFC	**Flin Flon**	**69.63**	**34**	P	**P**	**05 31 43.0 +0.5**
FFC				pmax	pmax	
	comp=Z,32nm,1.0s					
FFC	**Flin Flon**	**69.63**	**34**	P	**P**	**05 31 43.0 +0.5**
FFC				IAmb	IAmb	05 31 55.7
	comp=Z,32nm,1.0s					
IZAR	**Zarasai**	**69.79 328**		*e*P	**P**	**05 31 43.6 +0.3**
IDID	**Didziasalis**	**69.89 327**		*e*P	**P**	**05 31 45.2 +1.2**
ISAL	**Salakas**	**69.97 327**		*e*P	**P**	**05 31 45.2 +0.8**
MFID	**Camas Ranch**	**69.97**	**50**	P	**P**	**05 31 45.6 +0.7**
MFID				IAmb	IAmb	05 31 58.7
	comp=Z,48nm,1.3s					
MICGM	**Minsk**	**69.97 326**	⇓	*i*P	**P**	**05 31 46.0 +1.5**
MICGM				PM		05 31 47.0
	comp=Z,0.5nm,1.0s					
MICGM				*e*PcP	**PcP**	**05 32 10.0 +3.3**
MICGM				*e*PP	sP	05 32 20.0 +22
MICGM				*e*PPP	PPP	05 35 56.0
MICGM				*e*S	**S**	**05 40 53.0 +0.8**
MICGM				*e*LQ	LQ	05 59 00.0
MICGM				*e*LR	LR	06 02 00.0
MICGM				LRM	MLR	06 05 24.0
	comp=E,3.1nm,18.0s					
MICGM				LRM	MLR	06 05 26.0
	comp=Z,7.7nm,16.0s					
MNK	**Minsk**	**69.97 326**	⇓	*i*P	**P**	**05 31 46.0 +1.5**
MNK				*e*		05 32 10.0
MNK				*e*		05 34 20.0
MNK				*e*		05 35 56.0
MNK				*e*S	**S**	**05 40 53.0 +0.8**
MNK				pmax	pmax	
	comp=Z,450nm,1.0s					
MNK				MLR	MLR	
	comp=E,3µm,18.0s					
MNK				MLR	MLR	
	comp=Z,8µm,16.0s					
RUBR	**Rubicon Trail**	**70.02**	**55**	P	**P**	**05 31 45.9 +0.5**
RUBR				IAmb	IAmb	05 31 59.1
	comp=Z,52nm,1.1s					
IIGN	**Ignalina**	**70.08 327**		*e*P	**P**	**05 31 45.8 +0.6**
PAHR	**Pah Rah Range**	**70.10**	**54**	P	**P**	**05 31 46.6 +0.8**
PAHR				IAmb	IAmb	05 31 59.4
	comp=Z,55nm,1.1s					
HRY	**Holter Researc**	**70.15**	**45**	P	**P**	**05 31 46.4 +0.5**
NACGM	**Naroch**	**70.16 327**		*e*	**P**	**05 31 45.0 -0.6**
NACGM				*e*LQ	LQ	05 59 08.0
NACGM				*e*LR	LR	06 03 36.0
NACGM				LRM	MLR	06 05 34.0
	comp=Z,8.6nm,18.0s					
VCNR	**Virginia City**	**70.18**	**55**	P	**P**	**05 31 47.4 +1.0**
VCNR				IAmb	IAmb	05 32 00.3
	comp=Z,49nm,1.2s					
ICESG	**Greenland Ices**	**70.20**	**1**	⇑ *i*P	**P**	**05 31 47.1 +1.0**
ICESG				IAmb	IAmb	05 31 47.8
	comp=Z,98nm,1.2s					
PNTR	**Pine Nut**	**70.34**	**55**	P	**P**	**05 31 48.3 +1.0**
PNTR				IAmb	IAmb	05 32 01.4
	comp=Z,61nm,1.2s					
LRM	**Limekiln Ridge**	**70.37**	**46**	P	**P**	**05 31 48.2 +0.8**
EGMT	**Eagleton**	**70.40**	**43**	P	**P**	**05 31 48.7 +1.3**
	baz=310					
EGMT	**Eagleton**	**70.40**	**43**	P	**P**	**05 31 48.0 +0.6**
EGMT				IAmb	IAmb	05 32 00.9
	comp=Z,62nm,1.1s					
CMB	**Columbia Colle**	**70.48**	**56**	P	**P**	**05 31 48.5 +0.5**
CMB				pmax	pmax	
	comp=Z,47nm,1.4s					
CMB	**Columbia Colle**	**70.48**	**56**	P	**P**	**05 31 48.5 +0.5**
CMB				IAmb	IAmb	05 32 01.7
	comp=Z,47nm,1.4s					
DLMT	**Dillon**	**70.58**	**46**	P	**P**	**05 31 49.5 +0.9**
DLMT				IAmb	IAmb	05 32 02.9
	comp=Z,45nm,1.0s					
YERR	**Yerington**	**70.62**	**55**	P	**P**	**05 31 50.0 +1.0**
HLID	**Hailey**	**70.69**	**49**	P	**P**	**05 31 50.8 +1.5**
	baz=309					
HLID	**Hailey**	**70.69**	**49**	P	**P**	**05 31 49.0 -0.3**
MCMT	**McKenzie Canyo**	**70.78**	**47**	P	**P**	**05 31 50.7 +0.8**
WAKR	**Walker**	**70.79**	**55**	P	**P**	**05 31 50.4 +0.3**
NC405	**NORSAR Array S**	**70.84 337**		P	**P**	**05 31 49.5 -0.2**
NC303	**NORSAR Array S**	**70.85 338**		P	**P**	**05 31 50.0 +0.2**
PABE	**Paberze**	**70.88 328**		*e*P	**P**	**05 31 50.7 +0.7**
BOZ	**Bozeman (W)**	**70.96**	**46**	P	**P**	**05 31 52.3 +1.3**
	baz=310					
BOZ	**Bozeman (W)**	**70.96**	**46**	P	**P**	**05 31 51.6 +0.7**
BOZ				pmax	pmax	
	comp=Z,47nm,1.0s					
BOZ	**Bozeman (W)**	**70.96**	**46**	P	**P**	**05 31 51.6 +0.7**
BOZ				IAmb	IAmb	05 32 04.6
	comp=Z,47nm,0.9s					
NC204	**NORSAR Array S**	**70.98 338**		P	**P**	**05 31 50.8 +0.2**
NB201	**NORSAR Array S**	**71.01 337**		P	**P**	**05 31 51.0 +0.2**
NB2	**NORSAR Subarra**	**71.05 338**		P	**P**	**05 31 51.2 +0.2**
	comp=Z,159nm,2.0s,baz=38,slow=6.2					
NB2	**NORSAR Subarra**	**71.05 338**		P	**P**	**05 31 51.2 +0.2**
	baz=38,slow=6.2					
NOA	**NORSAR Array B**	**71.05 338**		P	**P**	**05 31 51.4 +0.4**
	comp=Z,19nm,0.9s,baz=36,slow=6.1,SNR=43					
NOA				LR	LR	06 06 47.9
	comp=Z,3µm,20.2s,baz=25,slow=39					
WSAR	**Wadi Sarin**	**71.18 285**		P	**P**	**05 31 53.9 +1.5**
	SNR=9.8					
NBO00	**NORSAR Array S**	**71.18 338**		P	**P**	**05 31 52.0 +0.2**
NC602	**NORSAR Array S**	**71.19 337**		P	**P**	**05 31 51.9 0.0**
NC602				IAmb	IAmb	05 31 57.5
	comp=Z,89nm,1.5s					
BANOM	**Banah**	**71.25 288**		*i*P	**P**	**05 31 53.5 +0.6**
	SNR=35					
BANOM	**Banah**	**71.25 288**		P	**P**	**05 31 54.0 +1.1**
	SNR=17					
BANOM				P	**P**	**05 31 54.0 +1.1**
	SNR=17					
JLN	**Jalan Bani Buh**	**71.26 283**		P	**P**	**05 31 54.1 +1.2**
	SNR=26					
JLN				P	**P**	**05 31 54.1 +1.2**
	SNR=26					
SOC	**Sochi**	**71.27 312**		*e*P	**P**	**05 31 51.9 -0.7**
SOC				*e*PP	**pP**	**05 32 01.8 -0.5**
SOC				*e*PPP	PPP	05 36 11.8
SOC				*e*S	**S**	**05 41 06.2 -1.5**
SOC				*e*SS	**SS**	**05 45 43.3 +2.1**
SOC				pmax	pmax	
	comp=Z,91nm,1.1s					
SOC				MLR	MLR	
	comp=Z,2µm,20.0s					
RYN	**Ryan**	**71.29**	**55**	P	**P**	**05 31 54.5 +1.5**
RYN				IAmb	IAmb	05 32 06.9
	comp=Z,51nm,1.2s					
KVN	**Kaiserville**	**71.29**	**54**	P	**P**	**05 31 54.3 +1.2**
KVN				pmax	pmax	
	comp=Z,76nm,1.1s					
KVN	**Kaiserville**	**71.29**	**54**	P	**P**	**05 31 54.3 +1.2**
SHME	**Shamn**	**71.29 288**		*i*P	**P**	**05 31 53.4 +0.3**
	SNR=46					
NAO01	**NORSAR Array S**	**71.30 338**		P	**P**	**05 31 52.3 -0.2**
NAO01				IAmb	IAmb	05 32 15.0
	comp=Z,28nm,0.8s					
PBUR	**Paburge**	**71.30 330**		*e*P	**P**	**05 31 52.9 +0.4**
WBK	**Wadi Bani Khal**	**71.31 284**		P	**P**	**05 31 55.0 +1.8**
	SNR=34					
WBK				P	**P**	**05 31 55.0 +1.8**
	SNR=34					
BATM	**Batumi**	**71.37 309**	⇑	P	**P**	**05 31 54.8 +1.5**
BIDO	**Bidbid**	**71.37 285**		P	**P**	**05 31 55.0 +1.4**
	SNR=30					
BIDO				P	**P**	**05 31 55.0 +1.4**
	SNR=30					
ARTV	**Artvin**	**71.49 309**		P	**P**	**05 31 54.9 +0.6**
ARMA	**Armidale**	**71.50 172**		P	**P**	**05 31 54.1 0.0**
BCA	**Borcka**	**71.51 309**	⇑	P	**P**	**05 31 55.4 +1.3**
LHV	**Little Huntoon**	**71.53**	**55**	P	**P**	**05 31 55.5 +1.3**
NVAR	**Mina Array Bea**	**71.55**	**55**	P	**P**	**05 31 56.4 +1.7**
	comp=Z,4.5nm,0.9s,baz=286,slow=5.9,SNR=19					
NVAR				LR	LR	05 56 53.3
	comp=Z,552nm,21.4s,baz=308,slow=30					
NVAR	**Mina Array Bea**	**71.55**	**55**	P	**P**	**05 31 55.4 +0.7**
MDPB	**Devils Postpil**	**71.55**	**56**	P	**P**	**05 31 55.2 +0.4**
QLMT	**Earthquake Lak**	**71.56**	**46**	P	**P**	**05 31 55.9 +1.3**
OMMB	**Old Mammoth Mi**	**71.61**	**56**	P	**P**	**05 31 55.8 +0.6**
MDH	**Madha**	**71.63 288**		*i*P	**P**	**05 31 54.9 -0.2**
	SNR=9.6					
MDH	**Madha**	**71.63 288**		P	**P**	**05 31 57.0 +1.9**
	SNR=11					
MDH				P	**P**	**05 31 57.0 +1.9**
	SNR=11					
NV11	**Mina Array Sit**	**71.64**	**55**	P	**P**	**05 31 55.7 +0.6**
NV11				IAmb	IAmb	05 32 09.0
	comp=Z,58nm,1.2s					
YHL	**Hebgen Lake**	**71.68**	**46**	P	**P**	**05 31 56.4 +0.9**
MSFE	**Esma-Masafi**	**71.69 288**		*i*P	**P**	**05 31 56.0 +0.5**
	SNR=25					
SMDO	**Samad**	**71.71 285**		P	**P**	**05 31 57.0 +1.2**
	SNR=26					
SMDO				P	**P**	**05 31 57.0 +1.2**
	SNR=26					
ANN	**Anapa**	**71.77 314**		*e*P	**P**	**05 31 54.7 -0.9**
ANN				*e**PP	**pP**	**05 32 06.3 +1.0**
ANN				*e*		05 32 10.8
ANN				*e*		05 34 33.9
ANN				*e*PPP	PPP	05 36 17.3
ANN				*e*S	**S**	**05 41 12.2 -1.1**
ANN				*e*SS	**SS**	**05 45 49.3 +0.6**
ANN				pmax	pmax	
	comp=Z,209nm,1.5s					
ANN				MLR	MLR	
	comp=Z,3µm,18.0s					
SFJD	**Kangerlussuaq**	**71.80**	**6**	*e*P	**P**	**05 31 56.0 +0.6**
SFJD	**Kangerlussuaq**	**71.80**	**6**	*i*P	**P**	**05 31 56.0 +0.6**
SFJD	**Kangerlussuaq**	**71.80**	**6**	*e*P	**P**	**05 31 56.0 +0.6**
GCMT	**Greycliff**	**71.89**	**45**	P	**P**	**05 31 57.9 +1.4**
YHH	**Holmes Hill**	**71.90**	**46**	P	**P**	**05 31 57.5 +0.7**
UOSS	**Minazif**	**71.91 288**		*i*P	**P**	**05 31 56.9 +0.1**
	SNR=45					
UOSS	**Minazif**	**71.91 288**		P	**P**	**05 31 56.5 -0.3**
UOSS	**Minazif**	**71.91 288**		IAMs_20	IAMs_20	06 07 16.9
	comp=Z,2µm,20.0s					
YMR	**Madison River**	**71.92**	**46**	P	**P**	**05 31 57.6 +0.8**
HOQ	**Hoqain**	**71.93 286**		P	**P**	**05 31 58.0 +1.0**
	SNR=37					
HOQ				P	**P**	**05 31 58.0 +1.0**
	SNR=37					
UMQ	**Umm Al-Quwin**	**71.95 288**		*i*P	**P**	**05 31 58.4 +1.4**
	SNR=7.6					
ELK	**Elko**	**71.97**	**52**	P	**P**	**05 31 58.2 +1.0**
ELK				pmax	pmax	
	comp=Z,23nm,1.1s					
ELK	**Elko**	**71.97**	**52**	P	**P**	**05 31 58.1 +1.0**
PAGB	**Antelope Grade**	**71.97**	**58**	P	**P**	**05 31 57.9 +0.9**
PAGB				IAmb	IAmb	05 32 10.9
	comp=Z,82nm,1.3s					
AKASG	**Malin Array Be**	**71.99 322**		P	**P**	**05 31 57.2 +0.4**
	comp=Z,7.5nm,0.4s,baz=41,slow=6.6,SNR=86					
AKASG				LR	LR	06 06 44.0
	comp=Z,3µm,19.1s,baz=45,slow=38					
AKASG	**Malin Array Be**	**71.99 322**		P	**P**	**05 31 56.7 -0.1**
AKBB	**Malin Array Si**	**71.99 322**		*e*P	**P**	**05 31 57.1 +0.3**
AKBB	**Malin Array Si**	**71.99 322**		P	**P**	**05 31 56.9 +0.1**
AKBB				IAmb	IAmb	05 31 57.9
	comp=Z,55nm,1.1s					
HATD	**Hatta, Dubai**	**72.03 287**		*i*P	**P**	**05 31 58.3 +0.8**
	SNR=49					
HATD	**Hatta, Dubai**	**72.03 287**		P	**P**	**05 31 59.0 +1.4**
	SNR=49					
HATD				P	**P**	**05 31 59.0 +1.4**
	SNR=49					
YNR	**Norris Junctio**	**72.04**	**46**	P	**P**	**05 31 58.8 +1.2**
JMDO	**Jabal Madar**	**72.09 284**		P	**P**	**05 31 59.0 +1.1**
	SNR=32					
JMDO				P	**P**	**05 31 59.0 +1.1**
	SNR=32					
SOHO	**SOHO**	**72.16 287**		*i*P	**P**	**05 31 58.6 +0.4**
	SNR=16					
ASHO	**Ashiyiah**	**72.17 287**		*i*P	**P**	**05 31 59.2 +0.8**
	SNR=64					
ASHO	**Ashiyiah**	**72.17 287**		P	**P**	**05 31 60.0 +1.5**
	SNR=54					
ASHO				P	**P**	**05 31 60.0 +1.5**
	SNR=54					
YNE	**Yellowstone No**	**72.22**	**45**	P	**P**	**05 31 59.1 +0.4**
YPP	**Pitchstone Pla**	**72.26**	**46**	P	**P**	**05 32 00.6 +1.6**
SUW	**Suwalki**	**72.28 328**		*e*P	**P**	**05 31 58.8 +0.4**
SUW				*e*L	L	06 06 21.6
	comp=Z,3µm,18.2s					
SUW	**Suwalki**	**72.28 328**		P	**P**	**05 31 58.2 -0.2**
SUW				pmax	pmax	
	comp=Z,87nm,1.2s					
SUW				MLR	MLR	
	comp=Z,3µm,18.0s					
SUW	**Suwalki**	**72.28 328**		P	**P**	**05 31 58.2 -0.2**
SUW				IAmb	IAmb	05 32 20.7
	comp=Z,87nm,1.2s					
SUW				IAMs_20	IAMs_20	06 06 25.6
	comp=Z,3µm,18.0s					
NAZ	**Nazwa, Dubai**	**72.28 288**		*i*P	**P**	**05 31 59.3 +0.4**
	SNR=5.9					
NAZ	**Nazwa, Dubai**	**72.28 288**		P	**P**	**05 31 60.0 +1.0**
	SNR=24					
NAZ				P	**P**	**05 31 60.0 +1.0**
	SNR=24					
H17A	**Grant Village**	**72.30**	**46**	P	**P**	**05 32 02.3 +3.1**
	baz=310,SNR=16					
H17A	**Grant Village**	**72.30**	**46**	P	**P**	**05 31 59.9 +0.7**
H17A				IAmb	IAmb	05 32 15.2
	comp=Z,68nm,1.1s					
IMW	**Indian Meadow**	**72.43**	**47**	P	**P**	**05 32 00.9 +0.9**
TPH	**Tonopah**	**72.43**	**55**	P	**P**	**05 32 00.9 +0.9**
TPH				pmax	pmax	
	comp=Z,243nm,1.1s					
TPH	**Tonopah**	**72.43**	**55**	P	**P**	**05 32 00.9 +0.9**
FLWY	**Flagg Ranch**	**72.44**	**47**	P	**P**	**05 32 00.2 +0.3**
FLWY				IAmb	IAmb	05 32 26.6
	comp=Z,58nm,1.4s					
FAQ	**Al Faqa, Dubai**	**72.47 288**		*i*P	**P**	**05 32 00.4 +0.2**
	SNR=10					
FAQ	**Al Faqa, Dubai**	**72.47 288**		P	**P**	**05 32 01.0 +0.8**
	SNR=21					
FAQ				P	**P**	**05 32 01.0 +0.8**
	SNR=21					
BSY	**Bisya**	**72.52 285**		P	**P**	**05 32 02.0 +1.5**
	SNR=43					
BSY				P	**P**	**05 32 02.0 +1.5**
	SNR=43					
RLMT	**Red Lodge**	**72.54**	**45**	P	**P**	**05 32 01.1 +0.6**
	baz=311					
RLMT	**Red Lodge**	**72.54**	**45**	P	**P**	**05 32 00.8 +0.3**
STKA	**Stephens Creek**	**72.54 181**		P	**P**	**05 32 00.2 +0.1**
	comp=Z,1.9nm,0.5s,baz=349,slow=8.6,SNR=4.7					
STKA				LR	LR	06 08 00.3
	comp=Z,469nm,19.5s,baz=16,slow=39					
STKA	**Stephens Creek**	**72.54 181**		P	**P**	**05 32 00.2 +0.1**
FXWY	**Fox Creek**	**72.55**	**47**	P	**P**	**05 32 01.6 +1.0**
GEVA	**Gevas**	**72.60 306**		P	**P**	**05 32 01.1 +0.1**
GEVA				IAmb	IAmb	05 32 03.9
	comp=Z,82nm,1.3s					
GEVA				IAMs_20	IAMs_20	06 07 15.1
	comp=Z,2µm,19.0s					
VES	**Vestal, Richgr**	**72.65**	**58**	P	**P**	**05 32 02.3 +1.3**
	baz=308					
ARQ	**Araqi**	**72.66 286**		P	**P**	**05 32 03.0 +1.7**
	SNR=28					
ARQ				P	**P**	**05 32 03.0 +1.7**
	SNR=28					
TPAW	**Teton Pass**	**72.68**	**47**	P	**P**	**05 32 03.1 +1.6**
TPAW				IAmb	IAmb	05 32 15.9
	comp=Z,59nm,1.2s					
ASUD	**Al Ashush, Dub**	**72.73 288**		*i*P	**P**	**05 32 02.5 +0.8**
	SNR=25					
ASUD	**Al Ashush, Dub**	**72.73 288**		P	**P**	**05 32 03.0 +1.3**
	SNR=13					
ASUD				P	**P**	**05 32 03.0 +1.3**
	SNR=13					
HVU	**Hansel Valley**	**72.75**	**49**	P	**P**	**05 32 03.3 +1.5**
HVU				pmax	pmax	
	comp=Z,48nm,1.2s					
HVU	**Hansel Valley**	**72.75**	**49**	P	**P**	**05 32 03.3 +1.5**
ALNE	**Al Ain**	**72.78 287**		*i*P	**P**	**05 32 02.6 +0.6**
	SNR=6.9					
FORT	**Forrest**	**72.79 194**		P	**P**	**05 32 01.6 -0.1**
LOHW	**Long Hollow**	**72.80**	**47**	P	**P**	**05 32 03.3 +1.2**
SNOW	**Snow King Moun**	**72.81**	**47**	P	**P**	**05 32 02.9 +0.7**
REDW	**Red Top Meadow**	**72.82**	**47**	P	**P**	**05 32 03.4 +1.2**
DGMT	**Dagmar**	**72.89**	**40**	P	**P**	**05 32 02.9 +0.6**
	baz=313					
DGMT	**Dagmar**	**72.89**	**40**	P	**P**	**05 32 02.9 +0.6**
DGMT				IAmb	IAmb	05 32 15.6
	comp=Z,58nm,1.1s					
CWC	**Cottonwood Cre**	**72.91**	**56**	P	**P**	**05 32 04.3 +1.5**
	baz=309					
AJN	**Ajban**	**73.02 288**		*i*P	**P**	**05 32 03.5 +0.1**
	SNR=13					
AJN	**Ajban**	**73.02 288**		P	**P**	**05 32 05.1 +1.7**
	SNR=12					
AJN				P	**P**	**05 32 05.1 +1.7**
	SNR=12					
MHTO	**MHTO**	**73.03 283**		P	**P**	**05 32 04.5 +1.0**
	SNR=93					
MHTO				P	**P**	**05 32 04.5 +1.0**
	SNR=93					
AHID	**Auburn Hatcher**	**73.07**	**48**	P	**P**	**05 32 04.7 +1.0**
KOPT	**Kop Dagi**	**73.07 308**		P	**P**	**05 32 03.9 +0.1**
KOPT				IAMs_20	IAMs_20	06 09 42.6
	comp=Z,2µm,20.0s					
LAO	**LASA Array**	**73.09**	**42**	P	**P**	**05 32 05.0 +1.5**
	baz=312					
LAO	**LASA Array**	**73.09**	**42**	P	**P**	**05 32 04.1 +0.5**
LAO				IAmb	IAmb	05 32 17.4
	comp=Z,56nm,1.1s					
ISA	**Isabella, Lake**	**73.15**	**57**	P	**P**	**05 32 06.3 +2.2**
	baz=309					
BGU	**Big Grassy Mou**	**73.15**	**50**	P	**P**	**05 32 05.0 +0.8**
SPUT	**South Promonto**	**73.24**	**50**	P	**P**	**05 32 05.9 +1.3**
R11A	**Troy Canyon, C**	**73.27**	**54**	P	**P**	**05 32 06.3 +1.4**
	baz=309,SNR=20					
R11A	**Troy Canyon, C**	**73.27**	**54**	P	**P**	**05 32 05.6 +0.7**
R11A				IAmb	IAmb	05 32 18.7
	comp=Z,53nm,1.2s					
SIM	**Simferopol'**	**73.45 316**		P	**P**	**05 32 05.4 -0.2**
SIM				pmax	pmax	
	comp=Z,140nm,1.2s					
MPMC	**Manual Prospec**	**73.52**	**56**	P	**P**	**05 32 07.6 +1.1**
	baz=309,SNR=14					
HWUT	**Hardware Ranch**	**73.56**	**49**	P	**P**	**05 32 07.3 +0.8**
HWUT				IAmb	IAmb	05 32 20.6
	comp=Z,86nm,1.2s					
FURC	**Furnace Creek,**	**73.66**	**56**	P	**P**	**05 32 09.3 +2.3**
	baz=309,SNR=24					
ANGG	**Ammassalik, Gr**	**73.70**	**0**	*e*P	**P**	**05 32 06.7 0.0**
TPNV	**Topopah Spring**	**73.74**	**55**	P	**P**	**05 32 09.5 +1.8**
	baz=309					
TPNV	**Topopah Spring**	**73.74**	**55**	P	**P**	**05 32 08.7 +1.0**
TPNV				pmax	pmax	
	comp=Z,96nm,1.3s					
TPNV	**Topopah Spring**	**73.74**	**55**	P	**P**	**05 32 08.7 +1.0**
TPNV				IAmb	IAmb	05 32 21.5
	comp=Z,96nm,1.2s					
DUG	**Dugway, Tooele**	**73.75**	**51**	P	**P**	**05 32 09.0 +1.3**
	baz=310					
DUG	**Dugway, Tooele**	**73.75**	**51**	P	**P**	**05 32 08.7 +1.0**
DUG				pmax	pmax	
	comp=Z,63nm,1.1s					
DUG	**Dugway, Tooele**	**73.75**	**51**	P	**P**	**05 32 08.7 +1.0**
DUG				IAmb	IAmb	05 32 21.6
	comp=Z,63nm,1.1s					
BBOO	**Buckleboo**	**73.75 186**		P	**P**	**05 32 06.8 -0.4**
BBOO				IAmb	IAmb	05 32 09.2
	comp=Z,56nm,1.2s					
LRMC	**Laurel Mtn Rad**	**73.76**	**57**	P	**P**	**05 32 09.0 +1.2**
	baz=309					
BW06	**Boulder Array**	**73.93**	**47**	P	**P**	**05 32 09.2 +0.4**
	baz=311					
BW06	**Boulder Array**	**73.93**	**47**	P	**P**	**05 32 08.8 0.0**
PD31	**Pinedale Array**	**73.93**	**47**	P	**P**	**05 32 09.5 +0.7**
PDAR	**Pinedale Array**	**73.93**	**47**	P	**P**	**05 32 09.5 +0.7**
	comp=Z,5.1nm,0.7s,baz=267,slow=0.7,SNR=36					
PDAR				LR	LR	06 02 00.6
	comp=Z,395nm,21.7s,baz=336,slow=34					
PDAR	**Pinedale Array**	**73.93**	**47**	P	**P**	**05 32 08.8 0.0**
EDW2	**Edwards Air Fo**	**73.94**	**58**	P	**P**	**05 32 10.3 +1.5**
	baz=309					
TCUT	**Toone Canyon**	**73.96**	**49**	P	**P**	**05 32 10.4 +1.4**
DQM	**DQM**	**74.00 283**		P	**P**	**05 32 10.0 +0.8**
	SNR=31					
DQM				P	**P**	**05 32 10.0 +0.8**
	SNR=31					
CTU	**Camp Tracy**	**74.04**	**50**	P	**P**	**05 32 10.6 +1.2**
SORM	**Soroca**	**74.18 321**	⇑	P	**P**	**05 32 10.2 +0.4**
PRN	**Pahroc Range**	**74.19**	**54**	P	**P**	**05 32 11.5 +1.2**
PRN				IAmb	IAmb	05 32 24.4
	comp=Z,60nm,1.3s					
PSUT	**Pine Spring**	**74.19**	**53**	P	**P**	**05 32 11.3 +0.9**
PASC	**Pasadena Art C**	**74.26**	**58**	IAMs_20	IAMs_20	05 57 40.4
	comp=Z,1µm,19.0s					
JLU	**Jordanelle**	**74.28**	**50**	P	**P**	**05 32 12.4 +1.6**
MWC	**Mount Wilson**	**74.31**	**58**	P	**P**	**05 32 11.8 +0.7**
MWC				pmax	pmax	
	comp=Z,72nm,1.3s					
MWC	**Mount Wilson**	**74.31**	**58**	P	**P**	**05 32 11.8 +0.7**
MWC				IAmb	IAmb	05 32 25.1
	comp=Z,72nm,1.3s					
MWC				IAMs_20	IAMs_20	05 57 42.7
	comp=Z,2µm,21.0s					
SNART	**Snartemo**	**74.43 338**		*i*P	**P**	**05 32 12.6 +1.5**
GSC	**Goldstone, Bar**	**74.43**	**57**	P	**P**	**05 32 13.4 +1.8**
	baz=309					
GSC	**Goldstone, Bar**	**74.43**	**57**	P	**P**	**05 32 12.7 +1.0**
GSC				pmax	pmax	
	comp=Z,43nm,1.4s					
GSC	**Goldstone, Bar**	**74.43**	**57**	P	**P**	**05 32 12.7 +1.0**
NUUK	**Nuuk**	**74.49**	**7**	*i*P	**P**	**05 32 12.5 +1.2**
NUUK				IAmb	IAmb	05 32 13.4
	comp=Z,70nm,1.1s					
BFSC	**Mount Baldy Ra**	**74.56**	**58**	P	**P**	**05 32 15.5 +3.0**
	baz=309,SNR=6.9					
BSD	**Bornholm Skovb**	**74.58 332**	⇑	*i*P	**P**	**05 32 12.1 +0.1**
BSD				pmax	pmax	
	comp=Z,67nm,1.1s					
BSD				MLR	MLR	
	comp=Z,4µm,20.0s					
BSD	**Bornholm Skovb**	**74.58 332**	⇑	*i*P	**P**	**05 32 12.1 +0.1**
	comp=Z,67nm,1.1s					
	comp=Z,4µm,20.0s					
BSD	**Bornholm Skovb**	**74.58 332**	⇑	*i*P	**P**	**05 32 12.1 +0.1**
BSD				IAmb	IAmb	05 32 13.5
	comp=Z,67nm,1.1s					
BSD				IAMs_20	IAMs_20	06 07 53.9
	comp=Z,4µm,19.6s					
MARD	**Mardin**	**74.63 306**		P	**P**	**05 32 13.0 +0.2**
SHPR	**Sheep Range**	**74.70**	**55**	P	**P**	**05 32 13.9 +0.7**
SHPR				IAmb	IAmb	05 32 27.4
	comp=Z,78nm,1.4s					
MILM	**Milestii Mici**	**74.81 320**	⇓	P	**P**	**05 32 14.2 +0.7**
BEL	**Belsk**	**74.86 327**		*e*P	**P**	**05 32 15.2 +1.5**
BEL				*e*L	L	06 08 04.0
	comp=Z,5µm,19.7s					
TUQ	**Turquoise Moun**	**74.90**	**56**	P	**P**	**05 32 16.2 +1.8**
	baz=310,SNR=38					
GOET	**G??ttrup**	**74.92 336**		*i*P	**P**	**05 32 15.6 +1.8**
GOET	**G??ttrup**	**74.92 336**		*i*P	**P**	**05 32 15.7 +1.8**
LVV	**L'vov**	**74.97 324**		*e*P	**P**	**05 32 14.9 +0.5**
LVV				*e*		05 35 03.4
LVV				*e*PPP	PPP	05 36 45.3
LVV				*e*S	**S**	**05

TOKA IAmb IAmb 05 32 19.2
comp=Z,96nm,1.3s
MURC Murrieta 75.26 58 P P 05 32 18.2 +1.8
baz=310
SZCU Shurtz Canyon 75.26 53 P P 05 32 17.6 +1.1
TMUT Trail Mountain 75.27 51 P P 05 32 17.5 +0.8
RDMU Red Mountain 75.37 49 P P 05 32 17.6 +0.4
MUD Monsted U'grnd 75.41 336 *i* P **P 05 32 17.6 +0.9**
MUD pmax pmax
comp=Z,14nm,0.9s
MUD Monsted U'grnd 75.41 336 *i* P **P 05 32 17.6 +0.9**
comp=Z,14nm,0.9s
MUD Monsted U'grnd 75.41 336 *i* P **P 05 32 17.6 +0.9**
MUD IAmb IAmb 05 32 18.3
comp=Z,14nm,0.9s
P17A Butcher Ranch, 75.43 50 P P 05 32 18.1 +0.7
ULM Lac du Bonnet 75.44 35 P P 05 32 17.4 +0.3
comp=Z,5.7nm,0.8s,baz=324,slow=6.8,SNR=4.3
ULM LR LR 06 08 22.6
comp=Z,687nm,18.7s,baz=326,slow=38
GMRC Granite Mounta 75.48 57 P P 05 32 19.1 +1.4
baz=310,SNR=7.9
MDND Maddock 75.52 38 P P 05 32 19.2 +1.6
baz=316
MDND Maddock 75.52 38 P P 05 32 17.5 -0.1
Q16A Castle Valley 75.54 51 P P 05 32 19.0 +0.9
LCMT Little Creek M 75.55 53 P P 05 32 20.0 +1.8
RGN Rugen 75.59 332 *eP* **P 05 32 19.7 +1.8**
RGN Rugen 75.59 332 *eP* **P 05 32 19.2 +1.4**
comp=Z,95nm,1.2s,baz=34,slow=5.4
K22A Casper 75.67 46 P **P 05 32 19.7 +1.0**
baz=313
K22A Casper 75.67 46 P **P 05 32 19.5 +0.7**
K22A IAmb IAmb 05 32 35.1
comp=Z,52nm,1.1s
KWP Kalwaria Pacla 75.69 325 *eP* **P 05 32 20.2 +1.6**
KWP *eS* **S 05 41 58.0 +0.5**
KWP *eL* L 06 09 11.7
comp=Z,6μm,17.0s
KWP Kalwaria Pacla 75.69 325 P **P 05 32 18.7 +0.2**
KWP pmax pmax
comp=Z,150nm,1.2s
KWP MLR MLR
comp=Z,4μm,18.0s
KWP Kalwaria Pacla 75.69 325 P **P 05 32 18.7 +0.2**
PFO Pinyon Flats O 75.73 58 P **P 05 32 20.9 +1.7**
baz=310
PFO Pinyon Flats O 75.73 58 P **P 05 32 20.1 +0.9**
PFO pmax pmax
comp=Z,55nm,1.5s
PFO Pinyon Flats O 75.73 58 P **P 05 32 20.1 +0.9**
PFO IAmb IAmb 05 32 32.5
comp=Z,55nm,1.4s
PFO IAMs_20 IAMs_20 06 01 19.2
comp=Z,2μm,19.0s
XPFO Pion Flat 75.73 58 P **P 05 32 19.9 +0.7**
XPFO IAmb IAmb 05 32 32.5
comp=Z,60nm,1.5s
XPFO IAMs_20 IAMs_20 06 01 19.2
comp=Z,2μm,19.0s
109C Camp Elliot, M 75.77 59 P **P 05 32 19.9 +0.6**
109C IAmb IAmb 05 32 32.7
comp=Z,50nm,1.3s
BELC Belle Mtn. Jos 75.77 57 P **P 05 32 20.3 +0.8**
baz=310
SRU San Rafael Swe 75.79 50 P **P 05 32 20.2 +0.7**
SRU pmax pmax
comp=Z,42nm,1.1s
SRU San Rafael Swe 75.79 50 P **P 05 32 20.2 +0.7**
KNB Kanab 75.80 53 P **P 05 32 20.5 +0.9**
KNB pmax pmax
comp=Z,105nm,1.3s
KNB Kanab 75.80 53 P **P 05 32 20.5 +0.9**
RWWY Rawlins 75.94 47 P **P 05 32 20.8 +0.4**
RWWY IAmb IAmb 05 32 32.8
comp=Z,76nm,1.3s
RSSD Black Hills 75.97 43 P **P 05 32 21.3 +0.8**
baz=314
RSSD Black Hills 75.97 43 P **P 05 32 21.5 +1.0**
RSSD pmax pmax
comp=Z,39nm,1.0s
RSSD Black Hills 75.97 43 P **P 05 32 21.4 +1.0**
RSSD IAmb IAmb 05 32 33.7
comp=Z,38nm,1.0s
BUR08 Bucovina Ar. S 76.02 322 P **P 05 32 20.8 +0.2**
BURAR Bucovina Array 76.03 322 ⇑P **P 05 32 21.6 +0.9**
BURAR Bucovina Array 76.03 322 P **P 05 32 21.1 +0.4**
TJX Tijuana 76.05 59 IAMs_20 IAMs_20 05 58 43.6
comp=Z,1μm,20.0s
BIZ Bicaz 76.10 321 ⇓P **P 05 32 22.2 +1.3**
TESR Tescani 76.15 320 ⇓P **P 05 32 22.1 +0.8**
BAR Barrett 76.19 59 P **P 05 32 22.2 +0.5**
MONP2 Monument Peak 76.21 58 P **P 05 32 24.1 +2.1**
baz=310
IRM Iron Mountain 76.21 57 P **P 05 32 23.4 +1.6**
baz=310,SNR=13
ILGA Ilgaz 76.29 313 P **P 05 32 22.6 +0.3**
ILGA IAMs_20 IAMs_20 06 12 35.7
comp=Z,1μm,19.0s
TKX Tecate 76.30 59 P **P 05 32 23.1 +0.8**
BC3 Big Chuckawall 76.34 57 P **P 05 32 24.4 +1.7**
baz=310
CFR Carcaliu 76.37 319 ⇑P **P 05 32 23.3 +0.8**
W13A Hualapai Mount 76.39 55 P **P 05 32 23.6 +0.6**
KOLS Kolonicke sedl 76.40 324 *eP* **P 05 32 22.8 +0.2**
KOLS pmax pmax
comp=Z,26nm,1.1s
KOLS Kolonicke sedl 76.40 324 *eP* **P 05 32 22.8 +0.2**
O20A White River Ci 76.42 48 P **P 05 32 24.0 +0.9**
baz=313
O20A White River Ci 76.42 48 P **P 05 32 23.8 +0.7**
OJC Ojcow 76.49 327 *eP* **P 05 32 24.2 +1.2**
OJC *eS* **S 05 42 06.0 -0.2**
OJC *eL* L 06 09 16.0
comp=Z,5μm,19.1s
OJC Ojcow 76.49 327 P **P 05 32 23.3 +0.2**
OJC pmax pmax
comp=Z,51nm,0.9s
OJC Ojcow 76.49 327 P **P 05 32 23.3 +0.2**
OJC IAmb IAmb 05 32 47.7
comp=Z,51nm,0.9s
U15A North Rim 76.51 53 P **P 05 32 24.0 +0.3**
U15A IAmb IAmb 05 32 38.1
comp=Z,84nm,1.2s
IKP In-Ko-Pah, Jac 76.57 58 P **P 05 32 26.7 +2.8**
baz=310
VRI Vrincioaia 76.58 320 ⇑P **P 05 32 25.0 +1.3**
SWSC Sam W. Stewart 76.58 58 P **P 05 32 24.7 +0.9**
baz=310
SHAO Shalim 76.59 282 *i* P **P 05 32 24.3 +0.1**
SNR=16
SHAO Shalim 76.59 282 P **P 05 32 25.0 +0.8**
SNR=11
SHAO P **P 05 32 25.0 +0.8**
SNR=11
UZH Uzhgorod 76.62 324 *eP* **P 05 32 22.5 -1.3**
UZH *i* 05 32 31.9
RMX La Rumorosa 76.62 58 IAMs_20 IAMs_20 05 58 03.5
comp=Z,1μm,21.0s
PLOR Plostina 76.62 320 ⇑P **P 05 32 25.2 +1.3**
TIRR Tirgusor 76.74 318 P **P 05 32 24.8 +0.3**
TIRR pmax pmax
comp=Z,75nm,1.1s
TIRR MLR MLR
comp=Z,8μm,18.0s
TIRR Tirgusor 76.74 318 P **P 05 32 24.8 +0.3**
TIRR IAmb IAmb 05 32 26.2
comp=Z,75nm,1.1s
SKMB Sankelmark Bun 76.77 334 *eP* **P 05 32 25.8 +1.3**
comp=Z,200nm,1.3s,baz=34,slow=5.4
CRVS Cervenica-Dubn 76.78 325 *eP* **P 05 32 26.0 +1.3**
CRVS pmax pmax
comp=Z,50nm,1.2s
CRVS Cervenica-Dubn 76.78 325 *eP* **P 05 32 26.0 +1.3**
HARR Harsova 76.82 318 ⇑P **P 05 32 26.2 +1.2**
ARCR ARCALIA 76.82 322 ⇑P **P 05 32 27.1 +2.1**
OZUR 76.86 321 ⇑P **P 05 32 27.3 +2.0**
GAZ Gaziantep 76.88 308 P **P 05 32 25.7 +0.1**
NIE Niedzica 76.89 326 *eP* **P 05 32 27.0 +1.6**
NIE *eS* **S 05 42 08.5 -2.2**
NIE *eL* L 06 09 50.7
comp=Z,3μm,18.1s
AGMN Agassiz Nation 76.90 36 P **P 05 32 25.4 0.0**
baz=318
AGMN Agassiz Nation 76.90 36 P **P 05 32 26.0 +0.6**

PV21 Cone Mtn., Par 77.06 50 P **P 05 32 28.1 +1.3**
PV21 IAmb IAmb 05 32 40.5
comp=Z,50nm,1.2s
ESJX Sierra Juarez 77.09 59 P **P 05 32 27.8 +0.8**
RUE Ruedersdorf 77.09 331 *eP* **P 05 32 27.6 +1.2**
RUE Ruedersdorf 77.09 331 *eP* **P 05 32 27.6 +1.2**
comp=Z,104nm,1.4s,baz=34,slow=5.4
NEHR Nehoiu 77.10 320 ⇑P **P 05 32 27.9 +1.2**
PV23 Carpenter Ridg 77.11 50 P **P 05 32 28.4 +1.2**
BSEG Bad Segeberg 77.12 334 *eP* **P 05 32 27.8 +1.3**
comp=Z,66nm,1.1s,baz=34,slow=5.4
GLA Glamis 77.13 57 P **P 05 32 30.7 +3.7**
baz=311
PV10 Paradox Valley 77.15 50 P **P 05 32 28.4 +1.1**
DOPR Dopca 77.15 321 ⇑P **P 05 32 28.8 +1.9**
PV14 Lion Creek, Pa 77.16 50 P **P 05 32 27.7 +0.3**
PV14 IAmb IAmb 05 32 41.1
comp=Z,99nm,1.3s
PHWY Pilot Hill 77.17 46 P **P 05 32 27.8 +0.3**
N23A Red Feather La 77.18 47 P **P 05 32 28.3 +0.8**
baz=314
N23A Red Feather La 77.18 47 P **P 05 32 27.4 -0.1**
N23A IAmb IAmb 05 32 41.6
comp=Z,55nm,1.3s
PV22 Blue Mesa, Par 77.19 50 P **P 05 32 28.8 +1.3**
ISR Istrita 77.20 320 ⇓P **P 05 32 29.1 +1.8**
PV20 West Nyswonger 77.21 50 P **P 05 32 28.5 +0.9**
PV20 IAmb IAmb 05 32 41.3
comp=Z,89nm,1.3s
PV04 Paradox Valley 77.21 50 P **P 05 32 28.7 +1.1**
PV04 IAmb IAmb 05 32 41.5
comp=Z,93nm,1.3s
PV19 Morning Glory 77.22 50 P **P 05 32 28.3 +0.6**
PV19 IAmb IAmb 05 32 41.4
comp=Z,82nm,1.2s
MLR Muntele Rosu 77.23 320 ⇓P **P 05 32 28.6 +1.1**
MLR Muntele Rosu 77.23 320 P **P 05 32 27.8 +0.3**
MLR pmax pmax
comp=Z,69nm,1.4s
MLR MLR MLR
comp=Z,3μm,20.0s
MLR Muntele Rosu 77.23 320 P **P 05 32 27.8 +0.3**
MLR IAmb IAmb 05 32 30.2
comp=Z,69nm,1.4s
BR131 Keskin Array S 77.23 312 *c i* P **P 05 32 28.3 +0.7**
BR131 Keskin Array S 77.23 312 P **P 05 32 27.3 -0.4**
BR131 IAmb IAmb 05 32 30.3
comp=Z,54nm,1.5s
BRTR Keskin Array B 77.23 312 P **P 05 32 28.5 +0.9**
comp=Z,23nm,1.2s,baz=98,slow=2.6,SNR=33
BRTR PP **PP 05 35 15.1 -6.2**
comp=Z,2.8nm,0.8s,baz=71,slow=7.3,SNR=3.1
BRTR LR LR 06 11 20.7
comp=Z,535nm,19.3s,baz=49,slow=39
BRTR Keskin Array B 77.23 312 P **P 05 32 27.5 -0.1**
PV17 East Wray Mesa 77.26 50 P **P 05 32 28.7 +0.8**
PV16 Nyswonger Mesa 77.26 50 IAMs_20 IAMs_20 06 01 43.3
comp=Z,1μm,20.0s
DMTO DMTO 77.29 282 P **P 05 32 29.0 +0.9**
SNR=16
DMTO P **P 05 32 29.0 +0.9**
SNR=16
PV07 Paradox Valley 77.33 50 P **P 05 32 29.9 +1.6**
PV07 IAmb IAmb 05 32 42.0
comp=Z,56nm,1.3s
PV07 IAMs_20 IAMs_20 06 11 50.1
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 77.37 202 P **P 05 32 27.6 -0.4**
comp=Z,24nm,1.1s,baz=275,slow=5.1,SNR=3.8
PSN Preselentsi 77.41 318 P **P 05 32 29.0 +0.7**
KSP Ksiaz 77.43 329 *eP* **P 05 32 29.6 +1.2**
KSP *eS* **S 05 42 17.3 +0.8**
KSP *eL* L 06 10 11.4
comp=Z,4μm,17.6s
CJR Cluj-Napoca 77.45 322 ⇑P **P 05 32 29.5 +0.9**
LANS Liptovska Anna 77.45 326 *eP* **P 05 32 30.6 +2.1**
LANS pmax pmax
comp=Z,16nm,1.0s
LANS Liptovska Anna 77.45 326 *eP* **P 05 32 30.6 +2.1**
OKC Ostrava-Krasne 77.47 327 AMS AMS 06 09 50.0
comp=Z,5μm,17.6s
WUAZ Wupatki 77.67 54 P **P 05 32 32.9 +2.7**
baz=312
WUAZ Wupatki 77.67 54 P **P 05 32 30.6 +0.4**
WUAZ IAmb IAmb 05 32 44.3
comp=Z,67nm,1.2s
OSTC Ostas 77.69 329 *eP* **P 05 32 31.1 +1.3**
OSTC *ex* x 05 33 00.0
OSTC *eS* **S 05 42 15.0 -4.3**
OSTC AMS AMS 06 10 10.0
comp=Z,4μm,16.9s
VOIR 77.70 321 ⇑P **P 05 32 31.4 +1.3**
Y14A Wickenburg 77.70 56 P **P 05 32 30.3 0.0**
Y14A IAmb IAmb 05 32 44.1
comp=Z,52nm,1.4s
CHVC Chvalec 77.73 329 AMS AMS 06 10 10.0
comp=Z,4μm,16.5s
MORC Moravsky Berou 77.76 327 ⇑P **P 05 32 31.7 +1.4**
MORC Moravsky Berou 77.76 327 ⇑*iP* **P 05 32 31.5 +1.2**
MORC Moravsky Berou 77.76 327 P **P 05 32 29.1 -1.2**
MORC pmax pmax
comp=Z,40nm,1.0s
MORC MLR MLR
comp=Z,4μm,18.0s
MORC Moravsky Berou 77.76 327 P **P 05 32 29.1 -1.2**
MORC IAmb IAmb 05 32 33.0
comp=Z,40nm,1.0s
UPC Upice 77.81 329 *eP* **P 05 32 31.2 +0.7**
UPC *ex* x 05 33 00.2
UPC *eS* **S 05 42 17.0 -3.6**
UPC AMS AMS 06 10 10.0
comp=Z,5μm,16.6s
UPC Upice 77.81 329 *eP* **P 05 32 31.2 +0.7**
UPC *eS* **S 05 42 17.0 -3.6**
UPC MLR MLR
comp=Z,5μm,16.6s
DPC Dobruska-Polom 77.81 328 *eP* **P 05 32 32.0 +1.5**
DPC *ex* x 05 32 42.3
DPC *eS* **S 05 42 12.9 -7.8**
DPC AMS AMS 06 10 10.0
comp=Z,4μm,16.3s
DPC Dobruska-Polom 77.81 328 *eP* **P 05 32 32.0 +1.5**
DPC *e* 05 32 42.3
DPC *eS* **S 05 42 12.9 -7.8**
DPC MLR MLR
comp=Z,4μm,16.3s
KRLC Kraliky 77.84 328 *eP* **P 05 32 32.0 +1.3**
KRLC *eS* **S 05 42 19.1 -1.9**
KRLC AMS AMS 06 10 00.0
comp=Z,3μm,15.9s
KRLC Kraliky 77.84 328 *eP* **P 05 32 32.0 +1.3**
KRLC *eS* **S 05 42 19.1 -1.9**
KRLC MLR MLR
comp=Z,3μm,15.9s
ARR Arges 77.95 321 ⇓P **P 05 32 33.3 +1.9**
RBK Rabkut 77.97 283 P **P 05 32 32.0 +0.1**
SNR=18
RBK P **P 05 32 32.0 +0.1**
SNR=18
113A Mohawk Valley, 77.99 57 P **P 05 32 33.6 +1.8**
SPX San Pedro Mart 78.03 59 IAMs_20 IAMs_20 05 59 27.0
comp=Z,1μm,20.0s
WHFO Wadi Hawf 78.03 283 P **P 05 32 32.1 -0.2**
SNR=20
WHFO P **P 05 32 32.1 -0.2**
SNR=20
MDUB Mudurnu 78.08 314 P **P 05 32 32.0 -0.3**
ISCO Idaho Springs 78.12 47 P **P 05 32 34.2 +1.4**
baz=314
ISCO Idaho Springs 78.12 47 P **P 05 32 32.4 -0.4**
ISCO pmax pmax
comp=Z,51nm,1.5s
ISCO Idaho Springs 78.12 47 P **P 05 32 32.4 -0.4**
PSZ Piszkesteto 78.21 325 ⇓P **P 05 32 34.4 +1.6**
PSZ Piszkesteto 78.21 325 P **P 05 32 33.3 +0.5**
PSZ pmax pmax
comp=Z,52nm,1.1s
PSZ MLR MLR
comp=Z,8μm,19.0s
PSZ Piszkesteto 78.21 325 P **P 05 32 33.3 +0.5**
PSZ IAmb IAmb 05 32 35.1
comp=Z,52nm,1.1s
VYHS Vyhne 78.22 326 *eP* **P 05 32 33.7 +0.9**
VYHS pmax pmax
comp=Z,39nm,1.2s

VYHS Vyhne 78.22 326 *eP* **P 05 32 33.7 +0.9**
MVCO Mesa Verde 78.25 51 P **P 05 32 34.8 +1.4**
baz=313
MVCO Mesa Verde 78.25 51 P **P 05 32 32.9 -0.6**
MVCO IAmb IAmb 05 32 47.2
comp=Z,69nm,1.5s
LOT Lotru 78.30 321 ⇑P **P 05 32 34.4 +0.9**
SUSD Miller 78.30 40 P **P 05 32 32.7 -0.7**
BRG Berggiesshubel 78.31 330 *i* P **P 05 32 34.0 +0.7**
comp=Z,36nm,1.2s
BRG *i* PP **PP 05 35 29.0 -0.8**
comp=Z,17nm,1.2s
BRG S **S 05 42 28.0 +2.0**
comp=N,2μm,22.1s
comp=E,2μm,16.5s
comp=Z,3μm,20.8s
BRG Berggiesshubel 78.31 330 *i* P **P 05 32 34.0 +0.7**
BRG *i* 05 35 29.0
BRG S **S 05 42 28.0 +2.0**
BRG pmax pmax
comp=Z,36nm,1.2s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG MLR MLR
comp=N,2μm,22.1s
BRG MLR MLR
comp=E,2μm,16.5s
BRG MLR MLR
comp=Z,3μm,20.8s
BRG Berggiesshubel 78.31 330 *eP* **P 05 32 34.0 +0.7**
comp=Z,36nm,1.2s,baz=34,slow=5.4
CLL Collm 78.32 331 ⇑*iP* **P 05 32 33.9 +0.7**
comp=Z,58nm,1.1s
CLL *e*Pmax 05 32 39.0
CLL *i* PcP **pP 05 32 43.3 +0.3**
CLL *i* pPcP 05 32 49.0
CLL *e*PP **PP 05 35 29.0 -0.7**
CLL *e*S **S 05 42 26.0 0.0**
CLL *e*PS **PnS 05 43 10.0 +0.3**
CLL *e*SS **SS 05 47 18.0 -10**
CLL *e* 05 48 24.0
CLL *e* 05 52 06.0
CLL *e*SSSS 05 53 18.0
CLL LmH 06 05 00.0
comp=N,3μm,19.4s
CLL LmH 06 05 00.0
comp=E,4μm,20.3s
CLL LmV 06 10 00.0
comp=Z,4μm,19.7s
CLL Lmax 06 10 00.0
CLL Collm 78.32 331 ⇑*iP* **P 05 32 33.9 +0.7**
CLL *i* *PP **pP 05 32 43.3 +0.3**
CLL *e*S **S 05 42 26.0 0.0**
CLL pmax pmax
comp=Z,58nm,1.1s
CLL MLR MLR
comp=Z,4μm,19.7s
CLL Collm 78.32 331 *eP* **P 05 32 33.7 +0.4**
comp=Z,58nm,1.1s,baz=34,slow=5.4
CLL Collm 78.32 331 P **P 05 32 32.2 -1.1**
CLL IAmb IAmb 05 32 35.2
comp=Z,44nm,0.9s
RAZG Razgrad 78.34 318 ⇑P **P 05 32 34.9 +1.3**
PVCC Panska Ves 78.35 329 AMS AMS 06 11 20.0
comp=Z,2μm,16.1s
X16A Lo Mia Camp, P 78.36 54 P **P 05 32 34.8 +0.8**
X16A IAmb IAmb 05 32 48.3
comp=Z,48nm,1.3s
NRDL Niedersach Rie 78.38 333 *eP* **P 05 32 34.4 +0.9**
comp=Z,30nm,1.1s,baz=34,slow=5.4
JAVC Velka Javorina 78.43 327 ⇑*iP* **P 05 32 36.3 +2.3**
ASSE Asse, Remlinge 78.49 332 *eP* **P 05 32 35.1 +1.0**
comp=Z,39nm,1.1s,baz=34,slow=5.4
FBE Freiberg 78.50 330 *eP* **P 05 32 35.3 +1.0**
comp=Z,51nm,1.2s,baz=34,slow=5.4
VRAC Vranov 78.52 328 ⇑P **P 05 32 35.9 +1.5**
VRAC Vranov 78.52 328 ⇑*iP* **P 05 32 35.8 +1.4**
F33A 5 Mile Ranch, 78.54 38 P **P 05 32 34.9 +0.3**
F33A IAmb IAmb 05 32 47.6
comp=Z,58nm,1.2s
SIRR Siria 78.67 323 ⇓P **P 05 32 37.0 +1.6**
ABTO Aybut 78.73 283 P **P 05 32 37.0 +0.8**
SNR=31
ABTO P **P 05 32 37.0 +0.8**
SNR=31
GOPC GO Pecny, Ondr 78.76 329 *eP* **P 05 32 37.0 +1.2**
GOPC *ex* x 05 33 05.3
GOPC *eS* **S 05 42 29.4 -1.4**
GOPC AMS AMS 06 10 40.0
comp=Z,3μm,16.3s
GOPC GO Pecny, Ondr 78.76 329 *eP* **P 05 32 37.0 +1.2**
GOPC *eS* **S 05 42 29.4 -1.4**
GOPC MLR MLR
comp=Z,3μm,16.3s
PRA Prague 78.77 329 *eP* **P 05 32 37.1 +1.3**
PRA *eS* **S 05 42 25.3 -5.6**
PRA AMS AMS 06 10 50.0
comp=Z,1μm,17.6s
PRA Prague 78.77 329 *eP* **P 05 32 37.1 +1.3**
PRA *eS* **S 05 42 25.3 -5.6**
PRA MLR MLR
comp=Z,1μm,17.6s
KRUC Moravsky 78.79 328 ⇑*iP* **P 05 32 37.2 +1.3**
PRU Pruhonice 78.79 329 *eP* **P 05 32 36.8 +0.9**
PRU *ex* x 05 33 05.9
PRU *eS* **S 05 42 25.3 -5.9**
PRU AMS AMS 06 10 50.0
comp=Z,3μm,17.0s
PRU Pruhonice 78.79 329 *eP* **P 05 32 36.8 +0.9**
PRU *eS* **S 05 42 25.3 -5.9**
PRU MLR MLR
comp=Z,3μm,17.0s
SMOL Smolenice 78.80 327 *eP* **P 05 32 37.5 +1.5**
SMOL pmax pmax
comp=Z,18nm,1.1s
SMOL Smolenice 78.80 327 *eP* **P 05 32 37.5 +1.5**
GZR Gura Zlata 78.81 322 ⇑P **P 05 32 37.0 +0.8**
CLZ Clausthal 78.83 332 *eP* **P 05 32 37.3 +1.1**
comp=Z,72nm,1.1s,baz=34,slow=5.4
NEUB Neuenburg 78.85 331 *eP* **P 05 32 37.0 +0.8**
comp=Z,63nm,1.1s,baz=34,slow=5.4
S22A 4UR Ranch, Cre 78.85 49 P **P 05 32 38.0 +1.1**
baz=314
S22A 4UR Ranch, Cre 78.85 49 P **P 05 32 36.6 -0.2**
Q24A Divide 78.96 48 P **P 05 32 38.7 +1.3**
baz=314
Q24A Divide 78.96 48 P **P 05 32 37.5 0.0**
SRO Srobarova 78.97 326 *eP* **P 05 32 38.7 +1.8**
SRO pmax pmax
comp=Z,61nm,1.2s
SRO Srobarova 78.97 326 *eP* **P 05 32 38.7 +1.8**
MODS Modra-Piesok 78.97 327 *eP* **P 05 32 37.6 +0.7**
MODS pmax pmax
comp=Z,55nm,1.3s
MODS Modra-Piesok 78.97 327 *eP* **P 05 32 37.6 +0.7**
TREC Trest 78.97 328 *eP* **P 05 32 38.0 +1.1**
TREC *ex* x 05 32 58.9
TREC AMS AMS 06 10 40.0
comp=Z,3μm,15.6s
TREC Trest 78.97 328 *eP* **P 05 32 38.0 +1.1**
TREC MLR MLR
comp=Z,3μm,15.6s
PIX Pinacate 78.98 58 P **P 05 32 36.4 -0.8**
EYMN Ely 79.06 34 P **P 05 32 37.8 +0.3**
baz=321
EYMN Ely 79.06 34 P **P 05 32 37.5 +0.1**
214A Organ Pipe Nat 79.13 57 P **P 05 32 40.8 +2.6**
baz=312
214A Organ Pipe Nat 79.13 57 P **P 05 32 38.6 +0.5**
214A IAMs_20 IAMs_20 06 00 32.2
comp=Z,1μm,19.0s
ZST Bratislava 79.18 327 *eP* **P 05 32 38.9 +0.8**
ZST pmax pmax
comp=Z,96nm,1.3s
ZST Bratislava 79.18 327 *eP* **P 05 32 38.9 +0.8**
BZS Buzias 79.18 322 ⇑P **P 05 32 38.9 +0.8**
GTTG Gottingen 79.22 332 *eP* **P 05 32 39.3 +1.1**
comp=Z,53nm,1.1s,baz=34,slow=5.4
TANN Tannenbergstha 79.24 330 *eP* **P 05 32 39.3 +0.8**
comp=Z,55nm,1.4s,baz=34,slow=5.4
PBCC Pribram 79.25 329 *eP* **P 05 32 39.3 +0.9**
PBCC *ex* x 05 33 00.4
PLN Plauen 79.30 331 *eP* **P 05 32 39.6 +0.9**
comp=Z,28nm,1.2s,baz=34,slow=5.4
GUNZ Gunzen 79.33 330 *eP* **P 05 32 39.8 +0.9**

comp=Z,33nm,1.1s,baz=34,slow=5.4
IBBN Ibbenburen 79.34 334 *e*P P **05 32 39.8 +1.0**
comp=Z,76nm,1.1s,baz=34,slow=5.4
HERR Herculane 79.36 322 ⇑P P **05 32 39.7 +0.6**
MOX Moxa 79.37 331 *e*P P **05 32 40.0 +0.9**
comp=Z,33nm,1.2s,baz=34,slow=5.4
MOX *e*L L 06 11 18.6
comp=Z,3μm,18.1s
WERN Wernitzgruen 79.38 330 *e*P P **05 32 40.3 +1.1**
comp=Z,35nm,1.1s,baz=34,slow=5.4
NKC Novy Kostel 79.40 330 *e*P P **05 32 40.1 +0.9**
NKC *e*S S **05 42 35.5 -2.1**
NKC AMS AMS 06 13 10.0
comp=Z,3μm,14.7s
NKC Novy Kostel 79.40 330 *e*P P **05 32 40.1 +0.9**
NKC *e*S S **05 42 35.5 -2.1**
NKC MLR MLR
comp=Z,3μm,14.7s
SDCO Great Sand Dun 79.61 49 P P **05 32 42.4 +1.4**
baz=314
SDCO Great Sand Dun 79.61 49 P P **05 32 41.9 +0.9**
MANZ Manzenberg 79.72 330 *e*P P **05 32 42.1 +1.0**
comp=Z,33nm,1.2s,baz=34,slow=5.4
K31A O'Neill 79.73 41 P P **05 32 41.4 +0.2**
MDVR Moldovita 79.77 322 ⇑P P **05 32 42.2 +0.8**
UBBA Unterbreizbach 79.81 332 *e*P P **05 32 42.0 +0.7**
comp=Z,42nm,1.6s,baz=34,slow=5.4
ESK Eskdalemuir 79.85 341 IAMs_20 IAMs_20 06 13 43.3
comp=Z,2μm,18.0s
KHC Kasperske Hory 79.86 329 *e*P P **05 32 42.6 +0.8**
KHC *ex* x 05 32 57.9
KHC *e*S S 05 42 27.8 -15
KHC AMS AMS 06 13 50.0
comp=Z,3μm,15.1s
KHC Kasperske Hory 79.86 329 *e*P P **05 32 42.6 +0.8**
KHC *e* 05 32 57.9
KHC MLR MLR
comp=Z,3μm,15.1s
KHC Kasperske Hory 79.86 329 P P **05 32 41.0 -0.8**
KHC IAMs_20 IAMs_20 06 14 04.2
comp=Z,1μm,19.0s
ROTZ Rotzenmuhle 79.87 330 *e*P P **05 32 43.1 +1.3**
comp=Z,48nm,1.3s,baz=34,slow=5.4
CONA Conrad Observa 79.90 327 *i*P P **05 32 43.7 +1.6**
comp=Z,36nm,1.1s,SNR=30
ECSD EROS Data Cent 79.96 40 P P **05 32 42.9 +0.5**
baz=318
ECSD EROS Data Cent 79.96 40 P P **05 32 42.4 -0.1**
ECSD IAmb IAmb 05 32 55.4
comp=Z,48nm,1.2s
GEC2 GERESS Array S 80.04 329 *e*P P **05 32 43.7 +0.8**
comp=Z,27nm,1.2s,baz=34,slow=5.4
GEC2 GERESS Array S 80.04 329 P P **05 32 41.3 -1.6**
GERES GERESS Array B 80.04 329 P P **05 32 43.4 +0.5**
comp=Z,9.4nm,0.9s,baz=39,slow=5.1,SNR=63
GERES PKPPKP **P'P'df 05 59 40.9 +4.4**
comp=Z,0.3nm,0.7s,baz=166,slow=5.0,SNR=4.4
GERES LR LR 06 12 40.2
comp=Z,2μm,18.3s,baz=25,slow=39
MORH Mrgy, Hungar 80.06 324 ⇑*i*P P **05 32 43.1 +0.2**
E38A The Farm, Brul 80.08 35 P P **05 32 43.0 0.0**
WET Wettzell 80.12 329 *e*P P **05 32 44.5 +1.3**
comp=Z,51nm,1.2s,baz=34,slow=5.4
TUC Tucson 80.17 56 P P **05 32 45.2 +1.4**
baz=313
TUC Tucson 80.17 56 P P **05 32 45.5 +1.6**
TUC pmax pmax
comp=Z,22nm,1.2s
TUC Tucson 80.17 56 P P **05 32 45.5 +1.6**
BUG Bochum--Univer 80.23 334 *e*P P **05 32 44.4 +0.7**
comp=Z,70nm,1.3s,baz=34,slow=5.4
PGB Panagyurishte 80.25 319 P P **05 32 44.0 -0.1**
GRA1 Grafenberg Arr 80.30 331 P P **05 32 44.0 -0.1**
GRA1 IAmb IAmb 05 32 46.8
comp=Z,74nm,1.0s
GRF Grafenberg Arr 80.30 331 P P **05 32 44.0 -0.1**
GRF pmax pmax
comp=Z,75nm,1.0s
GRF MLR MLR
comp=Z,3μm,19.0s
GRF Grafenberg Arr 80.30 331 *e*P P **05 32 45.5 +1.4**
comp=Z,88nm,1.1s,baz=34,slow=5.4
GRF *e*L L 06 11 38.0
comp=Z,3μm,19.2s
ISP Isparta 80.31 312 P P **05 32 44.2 -0.3**
ISP pmax pmax
comp=Z,31nm,1.1s
ISP MLR MLR
comp=Z,1μm,19.0s
ISP Isparta 80.31 312 P P **05 32 44.2 -0.3**
ISP Isparta 80.31 312 IAMs_20 IAMs_20 06 13 02.9
comp=Z,1μm,19.0s
KSCO Kaye Shedlock' 80.32 46 P P **05 32 45.4 +0.8**
baz=316
KSCO Kaye Shedlock' 80.32 46 P P **05 32 45.3 +0.7**
KSCO IAmb IAmb 05 32 58.6
comp=Z,65nm,1.2s
FRGS Fruska Gora 80.36 323 ⇑*i*P P **05 32 45.4 +0.9**
KESW Keswick, Cumbr 80.49 341 *e*P P **05 32 46.1 +1.1**
KESW IAmb IAmb 05 32 47.2
comp=Z,83nm,1.1s
KESW IAMs_20 IAMs_20 06 13 42.0
comp=Z,2μm,15.9s
ALN Alexandroupoli 80.52 317 P P **05 32 43.8 -1.6**
ALN pmax pmax
comp=Z,42nm,1.1s
ALN MLR MLR
comp=Z,2μm,20.0s
ALN Alexandroupoli 80.52 317 P P **05 32 43.8 -1.6**
ALN IAMs_20 IAMs_20 06 11 40.6
comp=Z,2μm,20.0s
ARSA Arzberg 80.58 327 *i*P P **05 32 46.9 +1.2**
comp=Z,21nm,1.0s,SNR=9.2
RDO Rodhopi 80.60 317 P P **05 32 46.8 +1.0**
SPMN Marine on St. 80.60 36 P P **05 32 46.1 +0.3**
baz=321
SPMN Marine on St. 80.60 36 P P **05 32 45.5 -0.3**
MOA Molln 80.62 328 *i*P P **05 32 47.0 +1.1**
comp=Z,14nm,1.1s,SNR=8.2
T25A Trinidad 80.65 48 P P **05 32 47.8 +1.3**
baz=315,SNR=7.8
T25A Trinidad 80.65 48 P P **05 32 47.5 +1.0**
T25A IAmb IAmb 05 33 00.2
comp=Z,47nm,1.2s
VTS Vitosha 80.66 320 P P **05 32 47.0 +0.6**
BEHE Becsehely 80.67 326 ⇑*i*P P **05 32 49.2 +3.0**
CSS Mathiatis 80.68 308 P P **05 32 46.0 -0.5**
CSS IAmb IAmb 05 33 09.5
comp=Z,52nm,1.1s
CLGH Cloghs, Cushen 80.75 343 *e*P P **05 32 46.7 +0.3**
CLGH IAmb IAmb 05 32 47.9
comp=Z,72nm,1.2s
LEF Lefka 80.83 309 ⇑P P **05 32 47.5 +0.3**
TNS Taunus Mts 80.85 332 *e*P P **05 32 48.0 +0.8**
comp=Z,38nm,1.2s,baz=34,slow=5.4
KOGS Kog 80.91 326 *i*P P **05 32 48.1 +0.7**
MANT Manisa 80.92 314 P P **05 32 47.5 -0.4**
TEKS Tekeris 80.95 323 *e*P P **05 32 46.9 -0.8**
D41A Chassel 80.98 33 P P **05 32 48.5 +0.7**
D41A IAmb IAmb 05 33 01.0
comp=Z,85nm,1.5s
ANMO Albuquerque 81.00 51 P P **05 32 50.2 +1.8**
baz=314
ANMO Albuquerque 81.00 51 P P **05 32 49.4 +1.0**
ANMO pmax pmax
comp=Z,44nm,1.3s
ANMO Albuquerque 81.00 51 P P **05 32 49.4 +1.0**
AHRW Bad Neuenahr-A 81.06 333 *e*P P **05 32 48.9 +0.8**
comp=Z,60nm,1.3s,baz=34,slow=5.4
DIVS Divibare 81.09 322 ⇑*i*P P **05 32 49.2 +0.7**
DIVS Divibare 81.09 322 P P **05 32 48.8 +0.2**
DIVS IAMs_20 IAMs_20 06 09 19.7
comp=Z,1μm,20.0s
SCHQ Schefferville 81.14 17 P P **05 32 49.1 +0.6**
comp=Z,10nm,0.9s,baz=315,slow=7.7,SNR=3.5
SCHQ LR LR 06 14 07.0
comp=Z,681nm,18.0s,baz=344,slow=40
LBWR Ladybower, Pea 81.21 340 *e*P P **05 32 49.5 +0.6**
LBWR IAmb IAmb 05 32 50.4
comp=Z,55nm,1.0s
LBWR IAMs_20 IAMs_20 06 15 15.0
comp=Z,2μm,17.1s
PERS Pernice 81.24 327 *i*P P **05 32 50.3 +1.0**
SOKA Soboth 81.24 327 *i*P P **05 32 50.4 +1.1**
comp=Z,68nm,1.0s,SNR=58
SOKA *e*P **PP 05 35 48.6 -5.7**
comp=Z,14nm,1.8s
I37A Lemond, Waseca 81.26 38 P P **05 32 48.8 -0.5**
I37A IAmb IAmb 05 33 02.7
comp=Z,71nm,1.1s
BEBN Eben Emael 81.31 334 P P **05 32 50.1 +0.7**
Y22D IRIS PASSCAL I 81.33 52 P P **05 32 49.5 -0.6**
BTNL Ternell 81.34 334 P P **05 32 50.2 +0.6**
comp=Z,90nm,1.2s
MEM Membach 81.36 334 P P **05 32 50.2 +0.5**
MEM PcP **PcP 05 32 56.8 +1.0**
ELL Elmali 81.41 312 P P **05 32 50.5 +0.1**
ELL pmax pmax
comp=Z,135nm,1.1s
ELL Elmali 81.41 312 P P **05 32 50.5 +0.1**
BNM Barren Site 81.45 52 P P **05 32 50.9 0.0**
SOCY Socotra 81.51 279 P P **05 32 50.1 -1.1**
SNR=29
SOCY Socotra 81.51 279 P P **05 32 49.4 -1.8**
BSTI Sart Tilman 81.53 334 P P **05 32 51.3 +0.7**
FUR Furstenfeldbru 81.53 330 *e*P P **05 32 52.0 +1.3**
comp=Z,86nm,1.1s,baz=34,slow=5.4
BBLS Lazići 81.54 323 ⇑*i*P P **05 32 52.1 +1.2**
HAPS Han Pijesak,BI 81.57 323 *e*P P **05 32 51.6 +0.4**
OBKA Obir 81.58 327 *i*P P **05 32 51.8 +0.7**
comp=Z,24nm,0.9s,SNR=14
OBKA *e*P **PP 05 35 50.2 -6.9**
comp=Z,17nm,1.2s
BHOU Houvegnez 81.58 334 ⇑P P **05 32 51.7 +0.8**
SRS Serrai 81.61 318 P P **05 32 51.5 +0.2**
KBA Koelnbreinsper 81.61 328 *i*P P **05 32 52.3 +0.9**
comp=Z,79nm,1.2s,SNR=43
KBA *e*P **PP 05 35 51.0 -6.4**
comp=Z,33nm,1.6s
CWF Charnwood Fore 81.69 339 *e*P P **05 32 52.4 +1.0**
CWF IAmb IAmb 05 32 54.5
comp=Z,51nm,1.1s
CWF IAMs_20 IAMs_20 06 14 19.1
comp=Z,1μm,17.8s
UCC Uccle 81.73 335 P P **05 32 51.5 -0.1**
SJES Sjenica 81.74 322 ⇑*i*P P **05 32 53.0 +1.0**
CRES Cresnjev 81.74 326 ⇑*i*P P **05 32 52.4 +0.5**
BCLA Clavier 81.75 334 ⇑P P **05 32 51.9 +0.1**
comp=Z,26nm,1.4s
STU Stuttgart 81.80 331 P P **05 32 51.9 -0.2**
STU pmax pmax
comp=Z,63nm,0.4s
STU MLR MLR
comp=Z,2μm,18.0s
STU Stuttgart 81.80 331 P P **05 32 51.9 -0.2**
STU IAMs_20 IAMs_20 06 12 31.7
comp=Z,2μm,18.0s
BLY Banja Luka 81.85 324 *e*P P **05 32 52.2 -0.2**
MYKA Terra Mystica 81.85 328 *i*P P **05 32 52.8 +0.3**
comp=Z,24nm,1.0s,SNR=18
MYKA *e*P **PP 05 35 52.5 -6.7**
comp=Z,15nm,1.6s
BGES Gesves 81.85 334 P P **05 32 52.8 +0.4**
BGES PcP **PcP 05 32 57.3 -0.7**
STIP Stip 81.87 320 *i*P P **05 32 52.8 +0.1**
121A Cookes Peak, D 81.88 54 P P **05 32 54.9 +1.8**
baz=314
121A Cookes Peak, D 81.88 54 P P **05 32 53.9 +0.9**
KNT Kendrikon 81.92 319 P P **05 32 53.6 +0.7**
AKAS Kas 81.95 312 P P **05 32 52.9 -0.4**
AKAS IAMs_20 IAMs_20 06 16 12.6
comp=Z,1μm,20.0s
PLE Pljevlja 81.96 322 ⇓*i*P P **05 32 53.6 +0.4**
LJU Ljubljana 81.96 327 *i*P P **05 32 53.3 +0.3**
LJU Ljubljana 81.96 327 ⇑*i*P P **05 32 53.3 +0.3**
VAY Valandovo 81.96 319 *i*P P **05 32 54.4 +1.3**
RCHB Rochefort 82.00 334 P P **05 32 53.4 +0.3**
SNF Seneffe 82.01 335 P P **05 32 53.8 +0.7**
CBKS Cedar Bluff 82.02 45 P P **05 32 54.0 +0.5**
baz=317
CBKS Cedar Bluff 82.02 45 P P **05 32 53.4 -0.1**
CBKS pmax pmax
comp=Z,68nm,1.3s
CBKS Cedar Bluff 82.02 45 P P **05 32 53.4 -0.1**
CBKS IAmb IAmb 05 33 06.6
comp=Z,68nm,1.2s
SKO Skopje 82.03 320 *i*P P **05 32 55.1 +1.7**
BMRD Maredsous 82.03 335 P P **05 32 53.9 +0.6**
comp=Z,45nm,1.2s
PRED Cave del Predi 82.03 327 P P **05 32 52.8 -0.7**
FOEL Foel Wylfa 82.05 340 *e*P P **05 32 54.3 +0.9**
FOEL IAmb IAmb 05 32 56.6
comp=Z,86nm,1.0s
FOEL IAMs_20 IAMs_20 06 11 18.6
comp=Z,2μm,20.7s
YLL Llanberis 82.07 341 *e*P P **05 32 54.5 +1.0**
IVA Berane 82.08 322 ⇑*i*P P **05 32 54.4 +0.6**
BOJS Bojanci 82.09 326 *i*P P **05 32 54.3 +0.6**
WATA Walderalm 82.10 329 *i*P P **05 32 54.8 +0.9**
comp=Z,30nm,1.0s,SNR=15
WLF Walferdange 82.12 333 P P **05 32 54.6 +0.8**
WLF Walferdange 82.12 333 P P **05 32 54.2 +0.4**
WLF pmax pmax
comp=Z,20nm,1.1s
WLF MLR MLR
comp=Z,3μm,20.0s
WLF Walferdange 82.12 333 *e*P P **05 32 54.8 +1.0**
comp=Z,40nm,1.4s,baz=34,slow=5.4
WLF Walferdange 82.12 333 P P **05 32 54.2 +0.4**
WTTA Wattenberg 82.13 329 *i*P P **05 32 55.2 +1.1**
comp=Z,36nm,1.0s,SNR=14
ZOU Zoufplan 82.18 328 P P **05 32 54.2 -0.2**
ABTA Abfaltersbach 82.21 328 *i*P P **05 32 54.4 0.0**
comp=Z,23nm,1.4s,SNR=9.6
LLW Llanuwychllyn 82.21 340 *e*P P **05 32 55.0 +0.9**
LLW IAMs_20 IAMs_20 06 14 42.9
comp=Z,1μm,21.4s
CEY Cerknica 82.25 327 ⇑*i*P P **05 32 54.8 +0.2**
PVY Plav 82.26 321 ⇑*i*P P **05 32 55.3 +0.5**
DOU Dourbes 82.26 335 P P **05 32 54.9 +0.4**
KOME Kolasin 82.27 322 ⇑*i*P P **05 32 55.3 +0.5**
MOTA Moosalm 82.27 329 *i*P P **05 32 55.7 +0.9**
comp=Z,65nm,1.0s,SNR=24
MOTA *e*P **PP 05 35 55.9 -6.9**
comp=Z,17nm,1.5s
UPM Unac-Piva 82.28 322 ⇓*i*P P **05 32 55.0 +0.1**
UPM Unac-Piva 82.28 322 ⇑*i*P P **05 32 55.1 +0.1**
RETA Reutte 82.29 330 *i*P P **05 32 55.9 +1.1**
comp=Z,52nm,1.0s,SNR=31
HLM1 Long Mynd 82.31 340 *e*P P **05 32 55.5 +0.8**
SQTA Sanki Quirin 82.33 329 *i*P P **05 32 56.1 +0.9**
comp=Z,38nm,1.0s,SNR=14
UBR Ueberruh 82.37 330 *e*P P **05 32 56.0 +0.7**
comp=Z,31nm,1.4s,baz=34,slow=5.4
BFO Black Forest 82.49 331 P P **05 32 55.5 -0.2**
BFO pmax pmax
comp=Z,49nm,1.2s
BFO MLR MLR
comp=Z,2μm,20.0s
BFO Black Forest 82.49 331 *e*P P **05 32 56.5 +0.7**
comp=Z,51nm,1.3s,baz=34,slow=5.4
BFO Black Forest 82.49 331 P P **05 32 55.5 -0.2**
BFO IAmb IAmb 05 33 19.4
comp=Z,49nm,1.2s
BFO IAMs_20 IAMs_20 06 12 31.8
comp=Z,2μm,20.0s
NKY Niksic 82.54 322 ⇑*i*P P **05 32 56.6 +0.4**
RIY Rijeka 82.55 326 ⇑*i*P P **05 32 56.0 -0.1**
CIMO Cimolais 82.59 328 P P **05 32 55.1 -1.3**
NKME Niksic 82.59 322 ⇑*i*P P **05 32 56.9 +0.4**
N35A Tabor 82.60 41 P P **05 32 57.1 +0.7**
N35A IAmb IAmb 05 33 09.6
comp=Z,60nm,1.1s
BRY Bratogost 82.68 322 ⇑*i*P P **05 32 57.1 0.0**
BRY Bratogost 82.68 322 ⇑*i*P P **05 32 57.0 0.0**
FETA Feichten 82.68 329 *i*P P **05 32 57.9 +0.9**
comp=Z,31nm,1.0s,SNR=17
PDG Podgorica 82.72 322 ⇑P P **05 32 57.8 +0.8**
PDG Podgorica 82.72 322 ⇑*i*P P **05 32 57.6 +0.6**
PDG Podgorica 82.72 322 P P **05 32 56.9 -0.1**
PDG IAmb IAmb 05 32 59.0
comp=Z,61nm,1.0s
PDG IAMs_20 IAMs_20 06 13 10.8
comp=Z,1μm,18.0s
TTG Podgorica 82.72 322 ⇑*i*P P **05 32 57.8 +0.8**
PHP Peshkopia 82.73 321 P P **05 32 57.5 +0.3**
MATQ Matagami 82.75 25 P P **05 32 56.5 -0.6**
baz=330
CEME Cevo 82.78 322 ⇑*i*P P **05 32 57.9 +0.4**
DAVA Damuels 82.79 330 *i*P P **05 32 58.4 +0.9**
comp=Z,41nm,0.9s,SNR=14
STRD Stroud 82.79 339 *e*P P **05 32 58.0 +0.8**
STRD IAmb IAmb 05 32 59.6
comp=Z,94nm,0.9s
STRD IAMs_20 IAMs_20 06 14 31.4
comp=Z,2μm,21.1s
MCH1 Michaelchurch 82.81 340 *e*P P **05 32 57.5 +0.1**
MCH1 IAmb IAmb 05 33 00.0
comp=Z,57nm,1.0s
MCH1 IAMs_20 IAMs_20 06 16 13.9
comp=Z,2μm,16.7s
R32A Long Quarter, 82.85 44 P P **05 32 56.9 -0.9**
MONM Monmouth 82.90 340 *e*P P **05 32 58.5 +0.7**
MONM IAmb IAmb 05 33 00.5
comp=Z,53nm,1.1s
MONM IAMs_20 IAMs_20 06 16 08.5
comp=Z,2μm,17.2s
LIT Litokhoron 82.92 318 P P **05 32 58.0 -0.2**
LIT Litokhoron 82.92 318 IAMs_20 IAMs_20 06 13 13.3
comp=Z,2μm,20.0s
SWN1 Swindon 82.93 339 *e*P P **05 32 59.1 +1.2**
SWN1 IAmb IAmb 05 33 01.1
comp=Z,205nm,1.2s
SWN1 IAMs_20 IAMs_20 06 15 41.5
comp=Z,2μm,17.5s
DRME Dracevica, Mon 82.94 322 ⇑*i*P P **05 32 58.9 +0.8**
DRME Dracevica, Mon 82.94 322 ⇑*i*P P **05 32 59.0 +0.8**
SCIA State Center 82.97 39 P P **05 32 59.4 +1.0**
baz=321
SCIA State Center 82.97 39 P P **05 32 59.4 +1.0**
SCIA IAmb IAmb 05 33 11.8
comp=Z,65nm,1.1s
BUM Brajici-Budva 82.98 322 ⇑*i*P P **05 32 58.9 +0.4**
OHR Ohrid 82.99 320 *i*P P **05 32 59.2 +0.7**
ECH Echery 83.00 332 P P **05 32 58.4 -0.1**
ECH Echery 83.00 332 P P **05 32 58.4 -0.1**
ECH IAMs_20 IAMs_20 06 13 45.4
comp=Z,2μm,19.0s
HCY Herceg Novi 83.06 322 ⇑*i*P P **05 32 59.0 +0.2**
HCY Herceg Novi 83.06 322 ⇑*i*P P **05 32 58.7 -0.1**
ULC Ulcinj 83.08 321 ⇑*i*P P **05 32 59.4 +0.4**
CTI Castel Tesino 83.12 328 P P **05 32 58.5 -0.7**
CTI pmax pmax
comp=Z,27nm,0.9s
CTI MLR MLR
comp=Z,4μm,18.0s
CTI Castel Tesino 83.12 328 P P **05 32 58.5 -0.7**
CTI IAmb IAmb 05 33 23.6
comp=Z,27nm,0.9s
FUORN Ofenpass-Fuorn 83.19 329 P P **05 33 00.7 +1.0**
TIR Tirane 83.26 321 P P **05 33 00.6 +0.7**
TIR pmax pmax
comp=Z,67nm,0.9s
TIR MLR MLR
comp=Z,2μm,18.0s
TIR Tirane 83.26 321 P P **05 33 00.6 +0.7**
TIR IAMs_20 IAMs_20 06 14 40.3
comp=Z,2μm,18.0s
I42A Draeger Farm, 83.37 35 P P **05 33 00.4 0.0**
I42A IAmb IAmb 05 33 13.2
comp=Z,28nm,1.1s
NEST Nestorio 83.40 319 P P **05 33 01.5 +0.8**
KSU1 Kansas State U 83.44 43 P P **05 33 00.9 +0.1**
baz=319
KSU1 Kansas State U 83.44 43 P P **05 33 00.9 +0.1**
KSU1 Kansas State U 83.44 43 IAMs_20 IAMs_20 06 10 55.3
comp=Z,2μm,20.0s
JFWS Jewell Farm 83.56 36 P P **05 33 01.2 -0.1**
baz=322
LSQQ Lebel-sur-Quev 83.58 25 P P **05 33 01.7 +0.3**
baz=331
CHGQ Chibougamau 83.64 23 P P **05 33 01.7 +0.1**
baz=332
TUE Stuetta 83.67 330 P P **05 33 02.3 +0.2**
TUE IAmb IAmb 05 33 03.8
comp=Z,50nm,1.2s
TEOL Teolo 83.68 328 P P **05 33 01.9 0.0**
TEOL IAmb IAmb 05 33 03.7
comp=Z,44nm,1.0s
ATAL Atalanti 83.71 317 P P **05 33 01.8 -0.4**
LKR Lokris 83.75 317 P P **05 33 01.1 -1.3**
L40A Anamosa 83.78 38 P P **05 33 02.4 -0.1**
L40A IAmb IAmb 05 33 15.1
comp=Z,35nm,1.1s
AMTX Amarillo 83.81 48 P P **05 33 03.2 +0.2**
baz=317
AMTX Amarillo 83.81 48 P P **05 33 03.4 +0.5**
AMTX IAmb IAmb 05 33 16.7
comp=Z,56nm,1.4s
AGG Agios Georgios 83.82 318 P P **05 33 02.3 -0.5**
AGG pmax pmax
comp=Z,28nm,1.0s
AGG MLR MLR
comp=Z,1μm,20.0s
AGG Agios Georgios 83.82 318 P P **05 33 02.2 -0.5**
AGG IAmb IAmb 05 33 03.5
comp=Z,28nm,1.0s
AGG IAMs_20 IAMs_20 06 13 33.0
comp=Z,1μm,20.0s
LSK Leskovik 83.83 319 P P **05 33 03.9 +1.0**
MSTX Muleshoe 83.84 50 P P **05 33 04.5 +1.3**
baz=316,SNR=7.2
MSTX Muleshoe 83.84 50 P P **05 33 03.7 +0.6**
MSTX IAmb IAmb 05 33 16.4
comp=Z,50nm,1.2s
MNTX Cornudas Mount 83.92 53 P P **05 33 04.7 +1.3**
baz=315
MNTX Cornudas Mount 83.92 53 P P **05 33 03.9 +0.5**
MNTX IAmb IAmb 05 33 17.1
comp=Z,38nm,1.4s
SALO Salr 83.92 329 P P **05 33 03.2 0.0**
SALO IAMs_20 IAMs_20 06 12 55.8
comp=Z,2μm,19.0s
SANT Santorini 84.15 314 IAMs_20 IAMs_20 06 17 36.8
comp=Z,1μm,18.0s
GDL2 Guadalupe Moun 84.17 52 P P **05 33 05.1 +0.2**
VLDQ Val d'Or 84.24 26 P P **05 33 04.3 -0.4**
VLDQ IAmb IAmb 05 33 05.2
comp=Z,56nm,1.2s
ANX Ano Chora 84.35 318 P P **05 33 05.3 -0.3**
KALE Kalithea 84.39 317 P P **05 33 04.6 -1.2**
GLMI Grayling 84.41 32 P P **05 33 06.4 +0.7**
baz=326
GLMI Grayling 84.41 32 P P **05 33 06.0 +0.3**
SERG Sergoula 84.42 317 P P **05 33 06.5 +0.6**
IGT Igoumenitsa 84.43 319 P P **05 33 05.8 -0.1**
SENIN Lac Senin/Sane 84.52 331 P P **05 33 06.1 -0.4**
SENIN IAmb IAmb 05 33 07.9
comp=Z,30nm,1.1s
SENIN IAMs_20 IAMs_20 06 13 54.7
comp=Z,2μm,20.0s
KEK Kerkira 84.55 320 P P **05 33 06.5 0.0**
PMOR Pomariorio Ree 84.56 115 *e*T T 07 06 05.7
comp=Z,7.0nm,0.2s
P38A Dawn 84.58 40 P P **05 33 06.9 +0.2**
P38A IAmb IAmb 05 33 19.2
comp=Z,33nm,1.1s
GUR Goura 84.63 317 P P **05 33 06.2 -0.9**
URZ Urewera 84.77 154 IAMs_20 IAMs_20 06 08 17.1
comp=Z,1μm,20.0s
ZCCA Zocca 84.79 328 P P **05 33 07.5 -0.2**
ZCCA IAmb IAmb 05 33 34.9
comp=Z,48nm,1.0s
ZCCA IAMs_20 IAMs_20 06 14 58.8
comp=Z,2μm,18.0s
CLF Chambon-Foret 84.82 335 P P **05 33 07.7 0.0**
LKD2 Lefkada island 84.84 319 P P **05 33 07.9 -0.1**
SGRT San Giovanni R 84.86 323 P P **05 33 08.2 +0.1**
NYDR Nydri-Lefkada 84.88 318 P P **05 33 08.1 0.0**
SCTE Santa Cesarea 84.92 321 P P **05 33 08.2 -0.1**
EVGI Lefkada island 84.97 318 P P **05 33 08.6 0.0**
RLS Riolos of Patr 84.99 318 P P **05 33 09.5 +0.8**
MURB Monte Urbino 85.05 326 P P **05 33 09.4 +0.4**
T35A Sooner Cattle 85.13 44 P P **05 33 10.1 +0.6**
FSK Fiskardo 85.14 318 P P **05 33 09.3 -0.1**
NRCA Norcia 85.15 326 P P **05 33 09.8 +0.2**
PPT Papeete 85.24 118 LR LR 06 05 17.9
comp=Z,3μm,20.2s,baz=317,slow=31
PPT2 Papeete2 85.25 118 *e*S S **05 43 33.6 -4.8**
comp=Z,412nm,24.0s
PPT2 Papeete2 85.25 118 *e*LR LR 06 00 00.8
comp=Z,4μm,21.0s,baz=316
PPT2 Papeete2 85.25 118 *e*T T 07 06 58.4
comp=Z,4.9nm,0.3s
IDI Anoyia 85.26 314 P P **05 33 10.1 -0.1**
IDI IAmb IAmb 05 33 39.9

comp=Z,39nm,0.8s
IDI IAMs_20 IAMs_20 06 16 44.3
comp=Z,1µm,19.0s
MATE Matera 85.30 322 ⇓P P 05 33 10.6 +0.5
OSSC Osservatorio P 85.37 327 P P 05 33 10.8 +0.2
OSSC IAmb IAmb 05 33 11.8
comp=Z,28nm,1.1s
OSSC IAMs_20 IAMs_20 06 15 38.0
comp=Z,2µm,18.0s
P40A Paris 85.38 40 P P 05 33 11.0 +0.4
P40A IAmb IAmb 05 33 23.9
comp=Z,56nm,1.4s
TIAR Tiarei 85.38 118 *e*T T 07 07 07.8
comp=Z,3.5nm,0.4s
BKZ Black Stump Fm 85.39 155 IAMs_20 IAMs_20 06 06 06.4
comp=Z,956nm,21.0s
MSSA Maissana 85.40 329 IAMs_20 IAMs_20 06 17 37.0
comp=Z,2µm,19.0s
AQU L'Aquila 85.41 325 P P 05 33 10.7 -0.2
AQU pmax pmax
comp=Z,53nm,1.1s
AQU L'Aquila 85.41 325 ⇑*i*P P 05 33 11.6 +0.8
AQU L'Aquila 85.41 325 P P 05 33 10.7 -0.2
AQU IAmb IAmb 05 33 13.2
comp=Z,53nm,1.1s
ITM Ithomi 85.42 317 P P 05 33 10.9 0.0
ITM Ithomi 85.42 317 P P 05 33 10.9 0.0
ITM IAMs_20 IAMs_20 06 14 58.5
comp=Z,1µm,21.0s
OK029 Liberty Lake 85.47 45 P P 05 33 11.9 +0.7
INTR Introdacqua 85.47 325 P P 05 33 10.5 -0.7
INTR IAmb IAmb 05 33 13.3
comp=Z,50nm,1.0s
BCOK Bluff Creek, N 85.49 45 P P 05 33 11.9 +0.6
WMOK Wichita Mounta 85.54 47 P P 05 33 11.5 -0.1
baz=318
WMOK Wichita Mounta 85.54 47 P P 05 33 12.4 +0.8
WMOK pmax pmax
comp=Z,44nm,1.4s
WMOK Wichita Mounta 85.54 47 P P 05 33 12.4 +0.8
WMOK IAmb IAmb 05 33 24.8
comp=Z,44nm,1.4s
QUOK Quay 85.59 45 P P 05 33 10.8 -0.9
QUOK IAmb IAmb 05 33 25.1
comp=Z,46nm,1.1s
J47A Sunmer 85.63 33 P P 05 33 12.1 +0.3
J47A IAmb IAmb 05 33 30.1
comp=Z,37nm,1.0s
OK025 Westminster Rd 85.70 45 P P 05 33 11.9 -0.4
PYL PYLOS 85.73 317 P P 05 33 11.4 -1.0
OKCFA Oklahoma City 85.76 46 IAMs_20 IAMs_20 06 16 32.5
comp=Z,1µm,20.0s
D55A Sainte-Anne-du 85.85 25 P P 05 33 11.9 -1.0
baz=332
TAOE Nuku Hiva Isla 85.85 105 *e*LR LR 06 00 21.0
comp=Z,3µm,21.8s,baz=312
HDIL Hopedale 85.86 37 P P 05 33 13.2 +0.2
baz=323
HDIL Hopedale 85.86 37 P P 05 33 13.4 +0.4
HDIL IAmb IAmb 05 33 38.7
comp=Z,39nm,1.1s
BNI Bardonecchia 85.87 331 P P 05 33 13.3 +0.1
BNI pmax pmax
comp=Z,30nm,1.1s
BNI MLR MLR
comp=Z,3µm,20.0s
BNI Bardonecchia 85.87 331 P P 05 33 13.3 +0.1
BNI IAmb IAmb 05 33 28.3
comp=Z,30nm,1.1s
LATE Laterza 85.88 326 P P 05 33 13.3 +0.2
LATE IAMs_20 IAMs_20 06 16 26.7
comp=Z,1µm,19.0s
FNO Franklin 85.91 46 P P 05 33 14.1 +0.7
ALGO Algonquin Park 85.91 27 P P 05 33 11.8 -1.4
baz=330
PAOL Paolisi 85.97 324 P P 05 33 13.7 +0.1
PAOL IAMs_20 IAMs_20 06 16 10.9
comp=Z,2µm,20.0s
D56A ZEC Mazanza, M 86.05 25 P P 05 33 14.0 +0.1
baz=332,SNR=9.3
CASP Castiglione de 86.13 327 IAMs_20 IAMs_20 06 16 03.8
comp=Z,2µm,18.0s
S39A Bolivar 86.18 42 P P 05 33 14.2 -0.5
R40A Maddies Statio 86.24 40 P P 05 33 14.7 -0.2
R40A IAmb IAmb 05 33 27.9
comp=Z,41nm,1.4s
W35A Tecumseh 86.27 45 P P 05 33 15.0 -0.1
TUL1 Leonard 86.27 44 P P 05 33 15.4 +0.3
baz=320
TUL1 Leonard 86.27 44 P P 05 33 15.0 -0.1
TUL1 IAmb IAmb 05 33 28.6
comp=Z,57nm,1.4s
NNZ Nelson 86.31 158 P P 05 33 15.9 +1.1
NNZ IAmb IAmb 05 33 23.3
comp=Z,36nm,1.1s
D57A Chemin Vers le 86.36 24 P P 05 33 15.6 +0.3
baz=333,SNR=11
G54A Lake Saint Pet 86.38 28 P P 05 33 15.0 -0.5
baz=330
E56A St. Veronique 86.41 25 P P 05 33 16.0 +0.4
baz=332
TIP Timpagrande 86.44 321 ⇑P P 05 33 16.4 +0.4
TIP Timpagrande 86.44 321 P P 05 33 16.0 0.0
TIP IAmb IAmb 05 33 18.0
comp=Z,53nm,1.3s
TIP IAMs_20 IAMs_20 06 17 05.0
comp=Z,2µm,18.0s
SSB Saint Sauveur 86.45 332 P P 05 33 16.1 +0.2
SSB pmax pmax
comp=Z,24nm,1.0s
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 86.45 332 P P 05 33 16.1 +0.2
SSB Saint Sauveur 86.45 332 IAMs_20 IAMs_20 06 15 58.2
comp=Z,2µm,20.0s
MEH Mehetia 86.47 117 *e*T T 07 08 33.5
comp=Z,27nm,0.3s
D58A Chemin du LacG 86.60 24 P P 05 33 16.8 +0.2
baz=334
U38A Gravette 86.60 43 P P 05 33 16.6 -0.1
ABTX Abilene, Hawle 86.62 49 P P 05 33 17.9 +1.0
baz=318
ABTX Abilene, Hawle 86.62 49 P P 05 33 16.7 -0.2
ABTX IAmb IAmb 05 33 30.4
comp=Z,52nm,1.2s
TX31 Lajitas Ar. Si 86.63 54 P P 05 33 17.6 +0.5
TXAR Lajitas Array 86.63 54 P P 05 33 18.2 +1.1
comp=Z,5.1nm,0.9s,baz=297,slow=3.6,SNR=24
TXAR LR LR 06 13 37.1
comp=Z,310nm,18.4s,baz=0.0,slow=37
TXAR Lajitas Array 86.63 54 P P 05 33 17.3 +0.2
THZ Tophouse 86.68 158 IAMs_20 IAMs_20 06 05 56.0
comp=Z,957nm,21.0s
SNZO South Karori 86.79 157 IAMs_20 IAMs_20 06 06 34.7
comp=Z,1µm,21.0s
E57A Chemin Saint G 86.81 25 P P 05 33 18.1 +0.5
baz=333
K50A Casco 86.91 32 IAMs_20 IAMs_20 06 17 36.0
comp=Z,974nm,18.0s
H53A Bobcaygeon 86.92 28 P P 05 33 18.4 +0.2
baz=330
CCM Cathedral Cave 86.92 40 P P 05 33 18.7 +0.5
baz=322
CCM Cathedral Cave 86.92 40 P P 05 33 18.2 -0.1
CCM pmax pmax
comp=Z,36nm,1.2s
CCM Cathedral Cave 86.92 40 P P 05 33 18.2 -0.1
CCM IAmb IAmb 05 33 31.3
comp=Z,36nm,1.1s
HHAR Hobbs 86.95 43 P P 05 33 18.8 +0.3
E58A La Victoria 87.12 24 P P 05 33 19.4 +0.3
baz=333
MGMO Mountain Grove 87.12 41 P P 05 33 19.3 0.0
D60A Saint Jean D'O 87.34 23 P P 05 33 19.6 -0.5
baz=335
FVM French Village 87.38 40 P P 05 33 20.8 +0.3
FVM pmax pmax
comp=Z,23nm,1.2s
FVM French Village 87.38 40 P P 05 33 20.8 +0.3
U40A Yellville 87.45 42 P P 05 33 21.1 +0.3
baz=321,SNR=9.3
U40A Yellville 87.45 42 P P 05 33 20.4 -0.5
U40A IAmb IAmb 05 33 33.0
comp=Z,29nm,1.1s
LTZ Lake Taylor 87.45 159 IAMs_20 IAMs_20 06 10 02.4
comp=Z,1µm,19.0s

CEL Celeste 87.58 321 IAMs_20 IAMs_20 06 17 10.2
comp=Z,2µm,19.0s
E60A Ste Agathe de 87.68 23 P P 05 33 22.1 +0.3
baz=335
G57A Newington 87.70 26 P P 05 33 21.6 -0.3
baz=332
D62A Allapoint, All 87.72 21 P P 05 33 22.5 +0.6
baz=336
F59A Saint Guilaume 87.74 24 P P 05 33 22.3 +0.2
baz=334
T42A Van Buren 87.80 41 P P 05 33 22.3 -0.2
T42A IAmb IAmb 05 33 37.8
comp=Z,27nm,1.4s
W39A Magazine 87.87 43 P P 05 33 23.8 +0.9
baz=321
OXZ Oxford 87.90 159 IAMs_20 IAMs_20 06 14 20.1
comp=Z,1µm,21.0s
G58A Ormstown 87.97 25 P P 05 33 22.9 -0.2
baz=333
J54A Appleton 88.02 29 P P 05 33 24.1 +0.7
baz=330
D63A Stockholm 88.02 21 P P 05 33 24.0 +0.6
baz=337
JCT Junction City 88.10 50 P P 05 33 25.8 +1.6
baz=318
JCT Junction City 88.10 50 P P 05 33 23.9 -0.3
JCT pmax pmax
comp=Z,32nm,1.4s
JCT Junction City 88.10 50 P P 05 33 23.9 -0.3
JCT IAmb IAmb 05 33 38.3
comp=Z,32nm,1.4s
JCT IAMs_20 IAMs_20 06 07 43.9
comp=Z,1µm,22.0s
S44A Carbondale 88.17 39 P P 05 33 24.6 +0.3
S44A IAmb IAmb 05 33 42.6
comp=Z,41nm,1.1s
F61A St Evariste 88.17 23 P P 05 33 25.1 +0.9
baz=335,SNR=6.2
FCAR Ozark Folk Cen 88.18 42 P P 05 33 24.4 0.0
FCAR IAmb IAmb 05 33 37.1
comp=Z,32nm,1.3s
LONY Lake Ozonia 88.26 26 P P 05 33 25.3 +0.7
baz=332
G59A Clarenceville 88.31 25 P P 05 33 25.1 +0.4
baz=333
WHTX Lake Whitney, 88.32 48 P P 05 33 26.6 +1.5
baz=319
PBMO Poplar Bluff 88.33 40 P P 05 33 24.5 -0.5
PBMO IAmb IAmb 05 33 43.4
comp=Z,25nm,1.1s
MOQ Mont Orford 88.39 24 P P 05 33 25.7 +0.5
MIAR Mount Ida 88.48 44 P P 05 33 26.7 +0.9
baz=321
MIAR Mount Ida 88.48 44 P P 05 33 26.1 +0.3
MIAR pmax pmax
comp=Z,29nm,1.2s
MIAR Mount Ida 88.48 44 P P 05 33 26.1 +0.3
MIAR IAmb IAmb 05 33 39.1
comp=Z,29nm,1.2s
E63A Oxbow 88.50 21 P P 05 33 26.1 +0.4
baz=337
LCAR Lake Charles 88.53 41 P P 05 33 25.6 -0.4
H59A Cadyville 88.53 25 P P 05 33 26.2 +0.3
baz=333
L53A Girard 88.54 31 P P 05 33 26.9 +0.9
baz=329
F62A Pittston Farm, 88.55 22 P P 05 33 26.9 +1.0
baz=336,SNR=5.3
WHAR Wooly Hollow 88.57 42 P P 05 33 26.1 -0.1
WHAR IAmb IAmb 05 33 39.1
comp=Z,42nm,1.2s
H58A Gabriels 88.57 26 P P 05 33 26.1 0.0
baz=333
G61A St-Isidore-de- 88.64 24 P P 05 33 27.5 +1.2
baz=335
E64A Bridgewater 88.67 21 P P 05 33 26.6 +0.2
baz=337,SNR=5.9
W41B Gary Mavity, V 88.68 42 P P 05 33 27.3 +0.6
baz=322
P49A Miami Univ. Ec 88.74 35 P P 05 33 27.5 +0.5
baz=326,SNR=5.4
P49A Miami Univ. Ec 88.74 35 P P 05 33 26.7 -0.2
P49A IAmb IAmb 05 33 44.9
comp=Z,33nm,1.0s
M53A WI Miller and 88.81 31 P P 05 33 28.8 +1.5
baz=328
MLZ Mavora Lakes 88.85 163 IAMs_20 IAMs_20 06 10 05.1
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 88.90 34 P P 05 33 28.4 +0.7
baz=327
X40A Basin Creek Fa 88.91 43 P P 05 33 29.0 +1.2
baz=321
X40A Basin Creek Fa 88.91 43 P P 05 33 28.4 +0.6
X40A IAmb IAmb 05 33 41.2
comp=Z,36nm,1.4s
X40A IAMs_20 IAMs_20 06 14 48.8
comp=Z,2µm,20.0s
G62A West of Eustis 89.00 23 P P 05 33 29.3 +1.3
baz=335
G62A West of Eustis 89.00 23 P P 05 33 27.3 -0.7
G62A IAmb IAmb 05 33 52.3
comp=Z,35nm,1.3s
F64A Sherman 89.03 21 P P 05 33 29.2 +1.0
baz=337
F64A Sherman 89.03 21 IAMs_20 IAMs_20 06 12 43.4
comp=Z,2µm,22.0s
WCI Wyandotte Cave 89.11 37 P P 05 33 29.5 +0.8
baz=325
J58A Remsen 89.14 27 P P 05 33 29.8 +1.0
baz=332
M54A Oil Creek Stat 89.15 31 P P 05 33 29.9 +1.0
baz=329
H61A Lyndonville 89.19 24 P P 05 33 30.5 +1.5
baz=334,SNR=5.3
K57A Scipio Center 89.26 28 P P 05 33 32.9 +3.6
baz=331
N53A Lisbon 89.29 32 P P 05 33 30.9 +1.4
baz=328
J59A Piesco 89.31 26 P P 05 33 27.9 -1.7
baz=333
G63A Kingsbury 89.36 23 P P 05 33 30.8 +1.1
baz=336
I60A Shoreham 89.38 25 P P 05 33 30.7 +0.9
baz=333
WLAR White Oak Lake 89.39 44 P P 05 33 30.2 +0.1
WLAR IAmb IAmb 05 33 43.6
comp=Z,46nm,1.3s
H62A Milan 89.39 24 P P 05 33 31.2 +1.2
baz=335,SNR=5.8
L56A Greenwood 89.40 29 P P 05 33 30.8 +0.8
baz=330
TBI Tubuai 89.42 122 *e*S S 05 44 12.8 -5.3
comp=Z,423nm,26.0s
TBI Tubuai 89.42 122 *e*LR LR 06 01 44.5
comp=Z,2µm,23.5s,baz=320
TBI Tubuai 89.42 122 *e*T T 07 12 12.5
comp=Z,18nm,0.3s
O52A Adamsville 89.47 33 P P 05 33 31.0 +0.6
baz=328
G64A Maxfield 89.48 22 P P 05 33 31.4 +1.1
baz=336
N54A Moraine State 89.49 31 P P 05 33 31.2 +0.7
baz=329
VSL Villasalto 89.49 326 IAMs_20 IAMs_20 06 18 17.8
comp=Z,2µm,18.0s
M55A Ridgway 89.53 30 P P 05 33 31.6 +0.9
baz=330,SNR=5.3
K58A Earlville 89.54 27 P P 05 33 31.5 +0.8
baz=332
I61A Oroboro, Fairl 89.64 25 P P 05 33 32.2 +1.1
baz=334
H63A New Sharon 89.65 23 P P 05 33 32.5 +1.4
baz=336
M56A Emporium 89.74 30 P P 05 33 32.5 +0.9
baz=330,SNR=5.6
T47A Sharon Grove 89.75 38 P P 05 33 32.6 +0.9
Q51A Peebles 89.75 34 P P 05 33 32.3 +0.6
Q51A IAmb IAmb 05 33 49.9
comp=Z,25nm,0.8s
P52A Corning 89.75 33 P P 05 33 31.7 +0.1
baz=328
L57A Andrews Acres 89.78 29 P P 05 33 32.7 +0.9
baz=331
K59A Cooperstown 89.80 27 P P 05 33 32.5 +0.6
baz=332
BINY Binghamton 89.91 28 P P 05 33 33.6 +1.2
baz=332

O54A Avella 90.00 32 P P 05 33 33.6 +0.7
baz=329
N55A Marion Center 90.04 31 P P 05 33 33.9 +0.9
baz=330
I63A Otisfield 90.04 24 P P 05 33 33.8 +0.9
baz=335
I63A Otisfield 90.04 24 P P 05 33 33.8 +0.9
I63A IAmb IAmb 05 33 47.1
comp=Z,43nm,1.2s
NATX Nacogdoches 90.04 46 IAMs_20 IAMs_20 06 10 41.9
comp=Z,1µm,18.0s
J61A Chester 90.06 25 P P 05 33 33.8 +0.8
baz=334
L58A Harry Jones Me 90.10 28 P P 05 33 34.1 +0.9
baz=332
WVT Waverly 90.10 39 P P 05 33 33.8 +0.5
baz=324
WVT Waverly 90.10 39 IAMs_20 IAMs_20 06 12 08.9
comp=Z,1µm,19.0s
ATD Arta Tunnel 90.18 285 P P 05 33 34.6 +0.4
N56A West Decatur 90.18 30 P P 05 33 34.5 +0.8
baz=330
L59A Walton 90.25 27 P P 05 33 34.9 +0.8
baz=332,SNR=6.0
L59A Walton 90.25 27 P P 05 33 34.6 +0.6
L59A IAmb IAmb 05 33 35.9
comp=Z,34nm,1.1s
M57A Sunshine Farm, 90.25 29 P P 05 33 35.2 +1.2
baz=331,SNR=8.1
M57A Sunshine Farm, 90.25 29 P P 05 33 34.8 +0.8
O55A Ligonier 90.41 31 P P 05 33 35.2 +0.4
baz=329
K61A Williamstown 90.43 26 P P 05 33 35.5 +0.7
baz=333
P54A Burton 90.46 32 P P 05 33 36.1 +1.1
baz=329
M58A Price's Panora 90.47 29 P P 05 33 35.8 +0.7
baz=331,SNR=6.1
SSPA Standing Stone 90.58 30 P P 05 33 36.5 +1.0
baz=330
N57A Milroy 90.60 30 P P 05 33 36.2 +0.6
baz=330,SNR=6.4
O56A Blue Knob Stat 90.64 31 P P 05 33 36.6 +0.7
baz=330
O56A Blue Knob Stat 90.64 31 P P 05 33 36.7 +0.8
O56A IAmb IAmb 05 33 37.2
comp=Z,31nm,1.4s
Q53A Leroy 90.66 33 P P 05 33 37.0 +1.1
baz=328
MCWV Mont Chateau 90.66 32 P P 05 33 37.3 +1.4
baz=329
M59A Waymart 90.69 28 P P 05 33 36.8 +0.7
baz=332
L60A Shokan 90.72 27 P P 05 33 37.1 +1.0
baz=333
U49A Red Boiling Sp 90.75 37 P P 05 33 37.2 +0.8
T50A Nancy 90.76 37 P P 05 33 37.0 +0.6
L61A Hillsdale 1, H 90.76 26 P P 05 33 37.0 +0.6
baz=333
K62A Royalston 90.77 25 P P 05 33 37.7 +1.4
baz=334
Q54A Coxs Mills 90.84 33 P P 05 33 38.1 +1.4
baz=328
N58A Sunbury 90.84 29 P P 05 33 37.7 +0.9
baz=331
N59A State Game Lan 91.12 28 P P 05 33 39.2 +1.1
baz=332,SNR=6.0
N59A State Game Lan 91.12 28 P P 05 33 37.0 -1.1
N59A IAmb IAmb 05 33 51.7
comp=Z,36nm,1.2s
HRV Adam Dziewonsk 91.13 25 P P 05 33 39.0 +0.9
baz=335
M60A Port Jervis 91.16 27 P P 05 33 39.2 +1.0
baz=332
HAL Halifax 91.41 19 IAMs_20 IAMs_20 06 19 10.1
comp=Z,1µm,20.0s
TRNY Table Rock, Ra 91.46 27 P P 05 33 39.8 +0.2
TRNY IAmb IAmb 05 34 00.5
comp=Z,36nm,1.4s
TZTN Tazewell 91.73 36 P P 05 33 42.7 +1.7
baz=327
TZTN Tazewell 91.73 36 P P 05 33 40.8 -0.2
ZAIG Zacatecas 92.03 57 IAMs_20 IAMs_20 06 07 15.4
comp=Z,1µm,21.0s
T54A Tazewell 92.16 34 P P 05 33 44.2 +1.2
baz=328
KEST Kesra 92.65 324 P P 05 33 45.5 +0.2
comp=Z,12nm,1.0s,baz=317,slow=5.1,SNR=7.3
KEST LR LR 06 20 51.4
comp=Z,3µm,18.4s,baz=336,slow=39
V53A Saluda 92.79 36 IAMs_20 IAMs_20 06 22 41.8
comp=Z,1µm,18.0s
ES19 SONSECA Array 94.25 335 IAMs_20 IAMs_20 06 18 20.8
comp=Z,2µm,22.0s
ES08 SONSECA Array 94.27 335 IAMs_20 IAMs_20 06 18 43.2
comp=Z,2µm,22.0s
ES03 SONSECA Array 94.29 335 IAMs_20 IAMs_20 06 18 32.9
comp=Z,2µm,22.0s
ESBB Sonseca Array 94.29 335 IAMs_20 IAMs_20 06 18 32.9
comp=Z,2µm,22.0s
ESDC Sonseca Array 94.30 335 P P 05 33 53.2 +0.4
comp=Z,3.7nm,1.1s,baz=25,slow=2.5,SNR=15
ESDC PP PP **05 37 43.0 +4.0**
comp=Z,6.6nm,1.2s,baz=25,slow=7.8,SNR=6.9
ESDC LR LR 06 23 01.7
comp=Z,1µm,19.0s,baz=20,slow=40
ESDC Sonseca Array 94.30 335 P P 05 33 52.2 -0.5
ES04 SONSECA Array 94.31 335 IAMs_20 IAMs_20 06 18 32.2
comp=Z,2µm,22.0s
ES11 SONSECA Array 94.31 335 IAMs_20 IAMs_20 06 16 52.2
comp=Z,2µm,22.0s
ES12 SONSECA Array 94.32 335 IAMs_20 IAMs_20 06 18 21.6
comp=Z,2µm,22.0s
MTE Manteigas 94.71 338 IAMs_20 IAMs_20 06 21 32.8
comp=Z,2µm,19.0s
FURI Furi 94.98 286 IAMs_20 IAMs_20 06 22 21.8
comp=Z,1µm,20.0s
COI Coimbra 95.13 339 IAMs_20 IAMs_20 06 22 08.0
comp=Z,1µm,20.0s
NHSC New Hope 96.11 35 IAMs_20 IAMs_20 06 23 48.8
comp=Z,1µm,19.0s
UNM Universidad Na 96.69 57 IAMs_20 IAMs_20 06 13 13.8
comp=Z,1µm,19.0s
PFVI Vila Bisbo 98.11 338 IAMs_20 IAMs_20 06 24 33.9
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 102.73 280 P Pdif 05 34 33.5 +2.2
comp=Z,5.0nm,0.2s,baz=38,slow=6.7,SNR=7.7
CCIG Comitan 103.38 54 IAMs_20 IAMs_20 06 14 25.0
comp=Z,814nm,22.0s
PETF Flores 104.27 52 IAMs_20 IAMs_20 06 16 33.3
comp=Z,717nm,22.0s
MBAR Mbarara 107.19 285 IAMs_20 IAMs_20 06 29 33.7
comp=Z,911nm,20.0s
MTDJ Mount Denham 110.00 41 IAMs_20 IAMs_20 06 30 44.1
comp=Z,644nm,20.0s
SC01 Santiago de lo 112.12 35 IAMs_20 IAMs_20 06 34 15.9
comp=Z,934nm,20.0s
SDDR Presa de Saban 112.28 35 IAMs_20 IAMs_20 06 32 24.5
comp=Z,697nm,20.0s
TOC1 Torodi Ar. Sit 115.38 318 IAMs_20 IAMs_20 06 35 47.7
comp=Z,1µm,18.0s
TOC2 Torodi Ar. Sit 115.38 318 IAMs_20 IAMs_20 06 35 56.8
comp=Z,1µm,18.0s
TOB1 Torodi Ar. Sit 115.39 318 IAMs_20 IAMs_20 06 36 06.0
comp=Z,1µm,18.0s
TOC7 Torodi Ar. Sit 115.40 318 IAMs_20 IAMs_20 06 36 06.2
comp=Z,1µm,18.0s
TOC3 Torodi Ar. Sit 115.40 318 IAMs_20 IAMs_20 06 36 05.2
comp=Z,1µm,18.0s
TOA2 Torodi Ar. Sit 115.40 318 IAMs_20 IAMs_20 06 35 57.2
comp=Z,1µm,18.0s
TOA0 Torodi Ar. Sit 115.40 318 IAMs_20 IAMs_20 06 37 57.3
comp=Z,805nm,19.0s
TORD Torodi Ar. Bea 115.40 318 PKP PKiKP 05 39 14.5 -0.9
comp=Z,1.1nm,0.9s,baz=24,slow=1.9,SNR=5.4
TORD PP PP **05 40 11.2 -4.9**
comp=Z,11nm,1.1s,baz=16,slow=7.3,SNR=14
TORD PKKPab PKKPab **05 49 57.6 +0.9**
comp=Z,0.7nm,1.0s,baz=201,slow=4.3,SNR=4.0
TOB5 Torodi Ar. Sit 115.41 318 IAMs_20 IAMs_20 06 37 57.4
comp=Z,824nm,20.0s
TOB3 Torodi Ar. Sit 115.41 318 IAMs_20 IAMs_20 06 36 05.4
comp=Z,1µm,18.0s
TOB4 Torodi Ar. Sit 115.42 318 IAMs_20 IAMs_20 06 37 57.7
comp=Z,764nm,19.0s
TOC4 Torodi Ar. Sit 115.42 318 IAMs_20 IAMs_20 06 36 06.8
comp=Z,1µm,18.0s
SMRT St. Maarten 116.38 28 IAMs_20 IAMs_20 06 32 55.2

	comp=Z,705nm,21.0s							
SEUS	**St. Eustatius**	**116.93**	**28**	IAMs_20	IAMs_20	06 33 42.1		
	comp=Z,646nm,21.0s							
SKI	**Saint Kitts**	**117.17**	**28**	IAMs_20	IAMs_20	06 33 52.9		
	comp=Z,884nm,20.0s							
LSZ	**Lusaka**	**118.66**	**274**	IAMs_20	IAMs_20	06 33 11.8		
	comp=Z,740nm,20.0s							
VNDA	**Vanda**	**118.82**	**175**	PKP	**PKiKP**	**05 39 20.7**	**+0.6**	
	comp=Z,0.7nm,0.9s,baz=280,slow=5.8,SNR=3.7							
DLPL	**La Plaine**	**119.54**	**27**	IAMs_20	IAMs_20	06 40 31.7		
	comp=Z,1μm,20.0s							
MAW	**Mawson**	**123.71**	**207**	PKP	**PKiKP**	**05 39 30.0**	**+0.1**	
	comp=Z,3.0nm,0.9s,baz=343,slow=7.9,SNR=4.3							
DBIC	**Dimbokro**	**124.21**	**321**	PP	PP	05 41 15.0	-1.5	
	comp=Z,5.6nm,0.8s,baz=50,slow=9.6,SNR=3.8							
LBTB	**Lobatse**	**126.35**	**267**	PKIKP	**PKiKP**	**05 39 36.7**	**0.0**	
LBTB	**Lobatse**	**126.35**	**267**		**PKiKP**	**05 39 36.7**	**0.0**	
QSPA	**South Pole Qui**	**130.75**	**180**		**PKPdf**	**05 39 43.6**	**+0.3**	
MACA	**Manacapuru-AM**	**136.62**	**36**	*e*P	**PKiKP**	**05 40 00.8**	**+3.1**	
SAML	**Samuel**	**140.44**	**44**	IAMs_20	IAMs_20	06 50 19.6		
	comp=Z,437nm,20.0s							
NVL	**N'lazarevskaya**	**141.48**	**204**	*e*PKHKP	PKPpre	05 39 57.7		
NVL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
LPAZ	**La Paz**	**143.43**	**57**	PKP	PKPbc	05 40 07.4	+1.3	
	comp=Z,1.5nm,0.8s,baz=58,slow=2.4,SNR=5.5							
LPAZ	**La Paz**	**143.43**	**57**	*e*P	**PKiKP**	**05 40 13.4**	**+1.2**	
PB16	**IPOC Station P**	**144.04**	**61**		**PKPdf**	**05 40 11.0**	**+1.1**	
SNAA	**Sanae**	**144.95**	**198**	PKPdf	**PKPab**	**05 40 08.4**	**-0.2**	
SNAA	**Sanae**	**144.95**	**198**	PKIKP	PKPbc	05 40 08.8	+0.2	
SNAA	**Sanae**	**144.95**	**198**		**PKPdf**	**05 40 08.8**	**-0.4**	
GO01	**Chusmiza**	**145.19**	**62**		**PKPdf**	**05 40 12.6**	**+0.9**	
PATCX	**Punta Patache**	**145.34**	**65**		**PKPab**	**05 40 12.5**	**+1.1**	
PB08	**IPOC Station P**	**145.55**	**63**		**PKPab**	**05 40 13.6**	**+1.0**	
VNA2	**Neumayer--Watz**	**146.52**	**197**	PKPdf	**PKPdf**	**05 40 11.3**	**-0.5**	
SMTB	**Santa Maria do**	**146.59**	**20**	*e*P	**PKiKP**	**05 40 17.3**	**-0.8**	
VNA3	**Neumayer Olymp**	**146.76**	**196**	PKPdf	**PKPdf**	**05 40 12.8**	**+0.6**	
VNA1	**Neumayer--Stat**	**146.92**	**197**	PKPdf	**PKPdf**	**05 40 13.2**	**+0.7**	
LVC	**Limon Verde**	**147.39**	**66**	IAMs_20	IAMs_20	06 34 16.0		
	comp=Z,840nm,20.0s							
LVC	**Limon Verde**	**147.39**	**66**	*e*P	**PKiKP**	**05 40 19.9**	**0.0**	
PTLB	**Pontes e Lacer**	**148.01**	**44**	*e*P	**PKPab**	**05 40 21.4**	**-0.4**	
SNDB	**Serra Nova Dou**	**148.40**	**28**	*e*P	**PKiKP**	**05 40 21.5**	**-0.2**	
PEXB	**Peixe**	**149.49**	**23**	*e*P	**PKPbc**	**05 40 13.2**	**+0.1**	
AC05	**El Transito**	**150.19**	**77**		**PKiKP**	**05 40 25.1**	**-0.1**	
GO04	**Tololo Observa**	**150.50**	**79**		**PKiKP**	**05 40 26.2**	**+0.2**	
SDBA	**SAO DESIDERIO**	**150.64**	**16**	*e*P	**PKPbc**	**05 40 25.0**	**-0.7**	
VA01	**Torpederas**	**151.22**	**85**	IAMs_20	IAMs_20	06 35 01.1		
	comp=Z,803nm,18.0s							
PMSA	**Palmer Station**	**151.52**	**156**	*e*P	**PKPbc**	**05 40 25.3**	**-0.9**	
ARAG	**Araguaiana, MT**	**151.63**	**32**	*e*P	**PKPbc**	**05 40 26.3**	**-1.6**	
ROC1	**El Roble**	**151.68**	**85**		**PKiKP**	**05 40 28.9**	**+0.6**	
VA03	**San Esteban**	**151.93**	**84**		**PKiKP**	**05 40 29.3**	**+0.6**	
VA03				IAMs_20	IAMs_20	06 39 46.8		
	comp=Z,636nm,20.0s							
GDU01	**Guandu, BA**	**152.70**	**6**	*e*P	**PKPbc**	**05 40 28.1**	**-2.3**	
BDFB	**Brasilia**	**152.92**	**24**	PKPbc	**PKiKP**	**05 40 31.5**	**+0.4**	
	comp=Z,10nm,1.0s,baz=341,slow=2.6,SNR=10.0							
BDFB	**Brasilia**	**152.92**	**24**	IAMs_20	IAMs_20	06 48 02.7		
	comp=Z,844nm,21.0s							
BI02	**San Fabin de**	**152.93**	**92**	IAMs_20	IAMs_20	06 34 26.7		
	comp=Z,804nm,22.0s							
PLCA	**Paso Flores**	**154.58**	**101**	PKPbc	**PKiKP**	**05 40 35.5**	**+1.6**	
	comp=Z,2.7nm,0.9s,baz=226,slow=5.8,SNR=4.3							
PLCA	**Paso Flores**	**154.58**	**101**	*e*P	**PKPbc**	**05 40 30.5**	**-3.3**	
PCMB	**Pacaembu**	**157.12**	**37**	*e*P	**PKPdf**	**05 40 33.9**	**+4.7**	
FRTB	**Fartura**	**159.39**	**35**	*e*P	**PKPdf**	**05 40 36.5**	**+4.5**	
PLTB	**Pedras Altas**	**163.66**	**61**	*e*P	**PKPdf**	**05 40 41.1**	**+5.0**	

IDC 11 05:30:48.3±1.5,25°78S×126°85E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/38, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=33.9km s-min=26.0km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.81**	**67**	Pn	Pn	05 32 04.0	+1.9
	3.8nm,0.3s,baz=270,slow=20,SNR=4.3						
SIJI				Sn	Sn	05 32 59.7	+1.2
	2.9nm,0.3s,baz=226,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**18.56**	**157**	P	P	05 35 06.3	-0.6
	0.1nm,0.3s,baz=340,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**21.86**	**162**	P	P	05 35 42.3	-0.5
	0.6nm,0.5s,baz=348,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**63.00**	**327**	P	P	05 41 16.9	-0.1
	1.1nm,1.0s,baz=142,slow=7.3,SNR=2.6						

IDC 11 05:34:10.7±6.2,13°42S×169°13E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/37, mbtmp3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx3.3/27, Error ellipse: s-maj=303.9km s-min=33.1km az=142.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**22.87**	**250**	LR	LR	05 46 55.5	
	comp=Z,267nm,20.1s,baz=159,slow=33						
WRA	**Warramunga Arr**	**33.91**	**254**	P	P	05 40 56.2	+0.6
	0.3nm,0.9s,baz=84,slow=8.3,SNR=2.6						
ASAR	**Alice Springs**	**34.83**	**248**	P	P	05 41 02.9	-0.8
	0.4nm,0.6s,baz=77,slow=8.8,SNR=6.5						
ILAR	**Eielson Array**	**84.73**	**17**	P	P	05 46 46.3	0.0
	0.5nm,0.6s,baz=230,slow=5.2,SNR=7.9						

*JMA **11** 05:56:49.7±0.1,40°94N×143°27E, h21km, M4.0*
*IDC **11** 05:56:51.9±2.8,40°99N×143°55E, h46km±23km, mb3.6/9, mb1 3.7/12, mb1mx3.5/52, mbtmp3.8/12, ML2.9/3, Error ellipse: s-maj=34.7km s-min=17.3km az=86.0*
ISC 11 05:56:50.0±2.1,40°93N±0°05×143°42E±0°07, h28km±14km, n34, σ1s08/38, mb3.7/9, 4C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.10**	**350**	P	**Pn**	**05 57 09.2**	**-0.3**
JEM				*e*S	**Sn**	**05 57 23.7**	**0.0**
JNBK	**Urakawa-nobuka**	**1.44**	**340**	⇑P	**Pn**	**05 57 14.2**	**+0.1**
JNBK				*e*S	**Sn**	**05 57 31.8**	**-0.2**
JKEN	**Kujiedanarisaw**	**1.49**	**241**	⇑P	**Pn**	**05 57 13.8**	**-1.1**
JANG	**Nango**	**1.56**	**250**	⇑P	**Pn**	**05 57 15.2**	**-0.6**
JANG				*e*S	**Sn**	**05 57 33.6**	**-1.4**
JCH	**Churui**	**1.68**	**359**	P	**Pn**	**05 57 17.9**	**+0.4**
JCH				S	**Sn**	**05 57 37.8**	**-0.3**
JTM	**Tenmabayashi**	**1.79**	**266**	P	**Pn**	**05 57 18.8**	**-0.2**
JTM				*e*S	**Sn**	**05 57 40.4**	**-0.4**
JOT	**Ohata**	**1.85**	**285**	⇑P	**Pn**	**05 57 19.4**	**-0.4**
JBT2	**Biratori 2**	**2.00**	**37**	P	**Pn**	**05 57 23.1**	**+1.1**
JIAM	**Iburiatsuma**	**2.03**	**327**	P	**Pb**	**05 57 25.2**	**-0.9**
JKB	**Kayabe**	**2.03**	**299**	P	**Pn**	**05 57 22.3**	**0.0**
JKB				*e*S	**Sn**	**05 57 47.2**	**+0.4**
JOM	**Ohasama**	**2.19**	**229**	P	**Pn**	**05 57 25.5**	**+1.0**
JAK	**Akkeshi**	**2.27**	**24**	P	**Pn**	**05 57 25.8**	**+0.2**
JAK				S	**Sn**	**05 57 52.6**	**0.0**
JAR	**Ashorobuto**	**2.38**	**6**	P	**Pn**	**05 57 27.2**	**+0.2**
JAR				S	**Sn**	**05 57 54.4**	**-0.8**
JMK	**Ichinoseki**	**2.60**	**221**	P	**Pn**	**05 57 31.2**	**+1.0**
JOMM	**Oshimamatsumae**	**2.64**	**284**	P	**Pn**	**05 57 31.8**	**+1.1**
ASAJ	**Asahikawa**	**3.24**	**349**	P	**Pn**	**05 57 41.4**	**+2.4**
	1.9nm,0.3s,baz=170,slow=12,SNR=2.3						
ASAJ				S	**Sb**	**05 58 26.9**	**+1.2**
	4.0nm,0.3s,baz=151,slow=19,SNR=2.9						
MJAR	**Matsushiro Arr**	**5.99**	**225**	P	**Pn**	**05 58 18.3**	**+1.6**
	0.2nm,0.3s,baz=28,slow=14,SNR=9.3						
MAT	**Matsushiro**	**5.99**	**225**	P	**Pn**	**05 58 18.4**	**+1.7**
MAT				*e*S	**Sn**	**05 59 24.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.04**	**295**	P	**Pn**	**05 59 01.3**	**+2.7**
	baz=106,slow=13,SNR=12						
SEY	**Seymchan**	**22.67**	**11**	P	**P**	**06 01 46.3**	**-2.5**
	0.9nm,0.4s,baz=180,slow=23,SNR=4.2						
SONM	**Songino Array**	**27.15**	**297**	P	**P**	**06 02 29.8**	**-1.0**
	1.2nm,0.7s,baz=80,slow=7.9,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**29.11**	**130**	T	T	06 33 34.8	
	baz=322,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**29.12**	**130**	T	T	06 33 35.9	
	baz=322,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**29.13**	**130**	T	T	06 33 32.9	
	baz=322,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.96**	**131**	T	T	06 34 39.3	
	baz=323,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.97**	**131**	T	T	06 34 39.3	
	baz=323,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**29.98**	**131**	T	T	06 34 40.9	
	baz=323,slow=75,SNR=13						

ZALV	**Zalesovo Beam**	**40.56**	**309**	P	**P**	**06 04 27.1**	**+0.5**	
	1.9nm,0.6s,baz=88,slow=7.8,SNR=7.1							
MKAR	**Makanchi Array**	**43.48**	**299**	P	**P**	**06 04 50.5**	**-0.2**	
	1.2nm,0.6s,baz=90,slow=9.0,SNR=6.9							
WRA	**Warramunga Arr**	**61.15**	**190**	P	**P**	**06 07 02.4**	**+0.5**	
	0.2nm,0.4s,baz=6.7,slow=6.9,SNR=11							
ASAR	**Alice Springs**	**64.88**	**190**	P	**P**	**06 07 26.4**	**-0.2**	
	0.4nm,0.8s,baz=4.0,slow=7.7,SNR=4.3							
FINES	**FINESS Array B**	**66.10**	**332**	P	**P**	**06 07 33.9**	**-0.1**	
	1.0nm,0.5s,baz=38,slow=9.9,SNR=7.8							
KBZ	**Khabaz**	**69.56**	**310**	P	**P**	**06 07 57.1**	**+1.0**	
	1.0nm,0.7s,baz=12,slow=4.1,SNR=3.5							
AKASG	**Malin Array Be**	**72.17**	**322**	P	**P**	**06 08 12.0**	**+0.2**	
	0.3nm,0.4s,baz=50,slow=6.5,SNR=4.3							

*MAN **11** 06:04:09.6,5°67N×126°87E, h16km, mb4.9, ML3.9, MS3.9*
*IDC **11** 06:04:11.6±3.0,5°79N×126°82E, h45km±29km, mb4.1/21, mb1 4.3/24, mb1mx4.0/57, mbtmp4.4/24, ML4.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/53, Error ellipse: s-maj=31.4km s-min=11.9km az=75.0*
*DJA **11** 06:04:11.6±0.5,6°N±5°×12°7E±°, h10km, M4.9/12, mb4.8/12, mB5.4/5, MLv5.0/11, Mw(mB)4.9/5*
*NEIC **11** 06:04:13.8±1.3,5°76N±0°04×126°89E±0°07, h67km±7km, mb4.6/35, Error ellipse: s-maj=11.5km s-min=4.1km az=62.0*
ISC 11 06:04:10.1±1.5,5°79N±0°04×126°96E±0°06, h30km±10km, n103, σ1s56/115, mb4.6/39, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.28**	**284**	*e*P	**Pn**	**06 04 31.5**	**-0.4**
DDMP				*e*S	**Sn**	**06 04 48.4**	**+0.3**
MATI	**Mati**	**1.34**	**329**	*e*P	**Pn**	**06 04 33.5**	**+0.6**
MATI				*e*S	**Sb**	**06 04 53.0**	**+1.5**
DAV	**Davao City (W)**	**1.87**	**313**	P	**Pb**	**06 04 43.1**	**-0.6**
	118nm,0.3s,baz=71,slow=1.3,SNR=10						
DAV				S	**Sb**	**06 05 07.7**	**+1.1**
	358nm,0.3s,baz=279,slow=18,SNR=17						
DAV				LR	LR	06 05 26.0	
	comp=Z,1μm,20.0s,baz=107,slow=42						
DAV	**Davao City (W)**	**1.87**	**313**		**Pb**	**06 04 43.2**	**-0.4**
DAV				Sn	**Sn**	**06 05 05.0**	**+2.4**
KCP	**Kidapawan**	**2.22**	**303**	⇑*e*P	**Pn**	**06 04 47.1**	**+2.2**
KCP				*i* S	**Sn**	**06 05 13.0**	**+1.7**
SKMP	**Bagumbayan, Su**	**2.51**	**287**	*e*P	**Pn**	**06 04 49.0**	**+0.1**
SKMP				*e*S	**Sn**	**06 05 21.2**	**+2.8**
SGSI	**Sangihe**	**2.53**	**214**	P	**Pn**	**06 04 49.3**	**+0.1**
BUKP	**Musuan**	**2.80**	**318**	*e*P	**Pn**	**06 04 55.3**	**+2.4**
BUKP				*e*S	**Sb**	**06 05 30.8**	**-2.7**
CGP	**Cagayan de Oro**	**3.47**	**320**	⇑*e*P	**Pb**	**06 05 07.5**	**-3.5**
CGP				*i* S	**Sn**	**06 05 48.0**	**+5.8**
PAGZ	**Pagadian**	**4.10**	**300**	*e*P	**Pn**	**06 05 12.3**	**+1.6**
PAGZ				*e*S	**Sn**	**06 05 55.5**	**-2.1**
TNTI	**Ternate**	**5.00**	**175**	P	**Pn**	**06 05 23.9**	**+0.7**
TNTI	**Ternate**	**5.00**	**175**	Pn	**Pn**	**06 05 26.0**	**+2.8**
TNTI				Sn	**Sn**	**06 06 21.6**	**+1.5**
KMSI	**Cibinong**	**5.97**	**210**	P	**Pn**	**06 05 36.4**	**-0.1**
	1.3nm165nm,0.8s						
LBMI	**Labuha**	**6.41**	**175**	P	**Pn**	**06 05 43.4**	**+0.9**
	1.0nm2μm204nm,0.9s						
GTOI	**Gorontalo**	**6.46**	**218**	P	**Pn**	**06 05 43.2**	**0.0**
	0.2nm832nm65nm,0.7s						
SANI	**Sanana**	**7.85**	**187**	P	**Pn**	**06 05 59.7**	**-2.6**
SIJI	**Sorong**	**7.89**	**147**	P	**Pn**	**06 06 03.3**	**+0.4**
	9.4nm,0.3s,baz=332,slow=20,SNR=10						
LUWI	**Luwuk**	**7.97**	**212**	P	**Pn**	**06 06 04.1**	**+0.1**
	1.0nm205nm,0.9s						
LUWI	**Luwuk**	**7.97**	**212**	Pn	**Pn**	**06 06 06.7**	**+2.7**
LUWI				Sn	**Sn**	**06 07 34.5**	**+1.3**
MYLDM	**Lahad Datu**	**8.44**	**266**		**Pn**	**06 06 13.6**	**+3.1**
MYLDM				Sn	**Sn**	**06 07 46.4**	**+1.6**
MPSI	**Mapaga**	**8.89**	**233**	P	**Pn**	**06 06 16.9**	**+0.3**
	22nm,0.7s						
NLAI	**Namlea**	**8.97**	**179**	P	**Pn**	**06 06 18.3**	**+0.6**
	3μm49nm,0.4s						
MSAI	**Masohi**	**9.29**	**168**	P	Pn	06 06 30.9	+8.8
TTSI	**Tana Toraja**	**11.31**	**219**	P	**Pn**	**06 06 54.5**	**+4.7**
KAPI	**Kappang**	**12.92**	**214**	P	**Pn**	**06 07 11.5**	**-0.3**
	1.3nm,0.3s,baz=357,slow=9.3,SNR=4.0						
KAPI				LR	LR	06 12 30.0	
	comp=Z,207nm,21.2s,baz=317,slow=39						
SBUM	**Sibu**	**15.07**	**258**	Pn	**Pn**	**06 07 40.5**	**-0.6**
SBUM				IAmb	IAmb	06 07 48.7	
	comp=Z,42nm,0.8s						
SOEI	**Soe**	**15.68**	**190**		**P**	**06 07 51.8**	**-1.1**
SOEI				IAmb	IAmb	06 08 14.7	
	comp=Z,34nm,0.9s						
BATI	**Baumata**	**16.23**	**192**	P	**P**	**06 07 57.8**	**-1.1**
	comp=Z,5.7nm,0.3s,baz=342,slow=15,SNR=1.9						
KSM	**Kuching**	**17.16**	**256**	P	**P**	**06 08 09.6**	**+0.4**
MTN	**Manton Dam**	**18.97**	**167**	P	**P**	**06 08 28.4**	**-0.8**
MTN				IAmb	IAmb	06 08 35.4	
	comp=Z,50nm,1.4s						
JAGI	**Jajag, Banyuwa**	**19.07**	**222**	P	**P**	**06 08 30.3**	**-0.1**
JAGI				IAmb	IAmb	06 08 42.8	
	comp=Z,61nm,1.3s						
GUMO	**Guam**	**19.27**	**65**	Pn	**Pn**	**06 08 35.2**	**+1.6**
KNRA	**Kununurra**	**21.40**	**175**		**P**	**06 08 55.6**	**0.0**
FITZ	**Fitzroy Crossi**	**23.77**	**183**	P	**P**	**06 09 19.7**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=10,slow=7.1,SNR=18						
FITZ	**Fitzroy Crossi**	**23.77**	**183**	P	**P**	**06 09 20.5**	**+0.3**
MDSI	**Maura Dua**	**24.93**	**246**	P	**P**	**06 09 34.8**	**+3.8**
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**26.58**	**164**	P	**P**	**06 09 45.9**	**+0.1**
	comp=Z,11nm,0.6s,baz=344,slow=10,SNR=50						
WRA	**Warramunga Arr**	**26.58**	**164**	P	**P**	**06 09 45.5**	**-0.3**
WB2	**Warramunga Arr**	**26.59**	**164**	P	**P**	**06 09 46.0**	**+0.2**
WB2				IAmb	IAmb	06 09 51.2	
	comp=Z,16nm,0.6s						
WR0	**Warramunga Arr**	**26.65**	**164**	P	**P**	**06 09 47.1**	**+0.6**
WR0				IAmb	IAmb	06 09 51.9	
	comp=Z,13nm,0.7s						
NJ2	**Nanjing**	**27.20**	**345**	*e*P	**P**	**06 09 52.0**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PSA00	**Pilbara Seismi**	**28.07**	**194**	P	**P**	**06 09 58.9**	**-0.3**
PSA00				IAmb	IAmb	06 10 01.7	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**30.05**	**167**	P	**P**	**06 10 16.7**	**-0.1**
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**06 10 16.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=352,slow=7.6,SNR=26						
ASAR				PcP	**PcP**	**06 13 18.4**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=351,slow=2.3,SNR=4.9						
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**06 10 17.6**	**+0.8**
BJI	**Beijing**	**35.45**	**346**	P	**P**	**06 11 06.2**	**+2.5**
MORW	**Morawa**	**36.22**	**196**	P	**P**	**06 11 10.1**	**-0.3**
MORW				IAmb	IAmb	06 11 11.3	
	comp=Z,16nm,1.3s						
FORT	**Forrest**	**36.38**	**178**	P	**P**	**06 11 11.4**	**-0.4**
LZH	**Lanzhou**	**36.87**	**328**	*e*P	**P**	**06 11 18.1**	**+1.9**
LZH				pP	pwP	06 11 34.7	+5.9
LZH				sP	sP	06 11 42.5	+15
LZH				*e*PP	**PnPn**	**06 12 46.3**	**+5.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,72nm,5.2s						
LZH				LR	LR		
	comp=N,230nm,13.2s						
LZH				LR	LR		
	comp=E,240nm,13.0s						
LZH				LR	LR		
	comp=Z,310nm,16.4s						
HHC	**Hu-ho-hao-te**	**37.53**	**341**	*e*P	**P**	**06 11 22.7**	**+1.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,650nm,4.2s						
USA0B	**Ussuriysk Arra**	**38.51**	**6**	P	**P**	**06 11 29.8**	**+0.1**
USA0B				IAmb	IAmb	06 11 52.2	
	comp=Z,14nm,1.3s						
USRK	**Ussuriysk Ar.**	**38.51**	**6**	P	**P**	**06 11 29.9**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=174,slow=6.7,SNR=9.6						
USRK	**Ussuriysk Ar.**	**38.51**	**6**	P	**P**	**06 11 30.0**	**+0.4**
BBOO	**Buckleboo**	**39.35**	**168**	P	**P**	**06 11 36.0**	**-0.8**
NWAO	**Narrogin (SRO)**	**39.60**	**193**	P	**P**	**06 11 39.1**	**+0.2**
	comp=Z,10nm,0.7s,baz=34,slow=7.4,SNR=9.4						
NWAO	**Narrogin (SRO)**	**39.60**	**193**	P	**P**	**06 11 38.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**39.60**	**193**	P	**P**	**06 11 38.1**	**-0.9**
NWAO				IAmb	IAmb	06 11 48.9	
	comp=Z,32nm,1.3s						
STKA	**Stephens Creek**	**39.97**	**160**	P	**P**	**06 11 42.4**	**+0.3**
	comp=Z,3.7nm,0.5s,baz=335,slow=10,SNR=15						
STKA	**Stephens Creek**	**39.97**	**160**	P	**P**	**06 11 42.5**	**+0.4**
GTA	**Gaotai**	**41.47**	**328**	*e*P	**P**	**06 11 56.1**	**+1.6**
GTA				pP	pwP	06 12 13.6	+6.4
GTA				sP	sP	06 12 20.2	+14
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,260nm,5.5s						
GTA				LR	LR		
	comp=N,270nm,14.2s						
GTA				LR	LR		
	comp=E,600nm,14.5s						
GTA				LR	LR		
	comp=Z,360nm,14.9s						
ARMA	**Armidale**	**43.07**	**148**	P	**P**	**06 12 08.2**	**+0.5**
ARMA				IAmb	IAmb	06 12 11.1	
	comp=Z,16nm,1.5s						
ULN	**Ulaanbaatar**	**45.25**	**341**	P	**P**	**06 12 25.2**	**+0.2**
ULN				IAmb	IAmb	06 12 28.4	
	comp=Z,9.5nm,1.1s						
SONM	**Songino Array**	**45.44**	**341**	P	**P**	**06 12 28.5**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=168,slow=7.4,SNR=2.7						
SONM	**Songino Array**	**45.44**	**341**	P	**P**	**06 12 27.1**	**+0.7**
TLY	**Talaya**	**49.66**	**341**	P	**P**	**06 13 00.2**	**+1.2**
	comp=Z,5.1nm,0.8s,baz=56,slow=2.0,SNR=4.2						
WMQ	**Urumqi**	**51.19**	**324**	*e*P	P	06 13 17.7	+6.9
MK31	**Makanchi Array**	**56.01**	**324**	P	**P**	**06 13 45.7**	**-0.3**
MK31				IAmb	IAmb	06 14 14.4	
	comp=Z,11nm,1.4s						
MKAR	**Makanchi Array**	**56.01**	**324**	P	**P**	**06 13 46.2**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=118,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**56.01**	**324**	P	**P**	**06 13 44.8**	**-1.3**
KDJ	**Kajisay**	**56.98**	**317**	P	**P**	**06 13 52.9**	**-0.4**
KDJ				IAmb	IAmb	06 13 58.5	
	comp=Z,5.6nm,0.8s						
ZALV	**Zalesovo Beam**	**58.87**	**332**	P	**P**	**06 14 05.7**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=116,slow=6.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**58.87**	**332**	P	**P**	**06 14 05.5**	**-0.5**
KURK	**Kurchatov**	**60.14**	**327**	P	**P**	**06 14 13.9**	**-0.9**
KURBB	**Kurchatov Arra**	**60.15**	**327**	P	**P**	**06 14 14.7**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=125,slow=6.7,SNR=27						
KK31	**Karatay Array**	**61.90**	**316**		**P**	**06 14 25.8**	**-1.2**
KK31				IAmb	IAmb	06 14 28.0	
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**61.90**	**316**	P	**P**	**06 14 26.5**	**-0.5**
KKAR				IAmb	IAmb	06 14 28.0	
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**61.90**	**316**		**P**	**06 14 25.3**	**-1.7**
KHZ	**Kahutara**	**63.96**	**143**	P	**P**	**06 14 40.0**	**-0.6**
BRVK	**Borovoye**	**65.81**	**326**		**P**	**06 14 51.7**	**-0.7**
BRVK				IAmb	IAmb	06 14 54.4	
	comp=Z,5.7nm,0.7s						
NRIK	**Noril'sk**	**68.50**	**346**	P	**P**	**06 15 08.5**	**-0.7**
	comp=Z,3.1nm,0.5s,baz=122,slow=6.9,SNR=4.8						
ABKAR	**Akbulak array**	**70.71**	**320**	P	**P**	**06 15 22.4**	**-0.9**
ABKAR	**Akbulak array**	**70.71**	**320**	P	**P**	**06 15 22.6**	**-0.7**
ABKAR				IAmb	IAmb	06 15 41.3	
	comp=Z,7.5nm,1.2s						
SOCY	**Socotra**	**72.19**	**281**	P	**P**	**06 15 30.7**	**-2.2**
AKTO	**Aktyubinsk**	**72.20**	**321**	P	**P**	**06 15 29.9**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=100,slow=6.1,SNR=3.5						
ARU	**Ar

CD2	**Chengdu**	**7.97**	**20**	P	**Pn**	**06 07 10.6**	**+0.1**
CD2				S	**Sn**	**06 08 41.9**	**+1.1**
CD2				smax	smax		
	comp=Z,430nm,2.3s						
CD2				smax	smax		
	comp=Z,500nm,1.0s						
CD2				LR	LR		
	comp=Z,4μm,10.6s						
CD2				LR	LR		
	comp=Z,5μm,10.0s						
SHL	**Shillong**	**8.15**	**287**	Pn	**Pn**	**06 07 11.8**	**-1.3**
SHL				Sn	**Sn**	**06 08 42.2**	**-3.1**
UBPT	**Khong Chiam**	**9.37**	**149**		**Pn**	**06 07 30.5**	**+0.9**
QIZ	**Qiongzhong**	**9.74**	**115**	P	**Pn**	**06 07 34.5**	**-0.2**
QIZ				S	**Sn**	**06 09 24.9**	**+0.7**
QIZ				LR	LR		
	comp=Z,960nm,5.9s						
QIZ				LR	LR		
	comp=Z,1μm,5.2s						
QIZ				LR	LR		
	comp=Z,1μm,13.2s						
QIZ	**Qiongzhong**	**9.74**	**115**	Pn	**Pn**	**06 07 34.0**	**-0.6**
LSA	**Lhasa**	**10.45**	**309**	P	**Pn**	**06 07 46.6**	**+1.8**
LSA				pmax	pmax		
	comp=Z,98nm,0.6s						
LSA	**Lhasa**	**10.45**	**309**		**Pn**	**06 07 44.8**	**0.0**
ENH	**Enshi**	**10.50**	**48**		**Pn**	**06 07 45.4**	**+0.3**
XAN	**Xi'an**	**12.86**	**33**	Pn	**Pn**	**06 08 14.7**	**-2.8**
LZH	**Lanzhou**	**12.92**	**12**	*e*P	Pn	06 08 23.1	+4.7
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=Z,1μm,9.2s						
LZH				LR	LR		
	comp=Z,1μm,12.5s						
DLV	**T Lat**	**13.72**	**145**	Pn	**Pn**	**06 08 28.8**	**-0.5**
WHN	**Wuhan**	**14.20**	**57**	P	P	06 08 48.2	+5.0
GTA	**Gaotai**	**15.93**	**358**	*e*P	**Pn**	**06 08 57.4**	**-1.4**
GTA				pP	P	06 09 03.5	+1.0
GTA				sP	sP	06 09 06.5	-0.8
GTA				S	**Sn**	**06 11 53.0**	**-2.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,360nm,6.7s						
GTA				LR	LR		
	comp=Z,1μm,13.1s						
GTA				LR	LR		
	comp=Z,3μm,12.0s						
GTA				LR	LR		
	comp=Z,870nm,14.2s						
KNMB	**Chin-men Tao**	**16.36**	**83**	P	**Pn**	**06 09 05.0**	**+0.6**
KNMB				IAmb	IAmb	06 09 13.9	
	comp=Z,64nm,0.9s						
NJ2	**Nanjing**	**18.33**	**58**	*e*P	**P**	**06 09 31.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**19.68**	**26**	*e*P	**Pn**	**06 09 48.4**	**+3.2**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,300nm,7.0s						
HHC				LR	LR		
	comp=Z,1μm,12.3s						
HHC				LR	LR		
	comp=Z,810nm,11.1s						
HHC				LR	LR		
	comp=Z,890nm,12.3s						
PSI	**Prapat**	**20.58**	**185**	LR	LR	06 17 44.1	
	comp=Z,421nm,19.7s,baz=90,slow=36						
BJT	**Baijiatuan**	**21.16**	**35**	P	**P**	**06 09 59.7**	**-0.1**
BJT				IAmb	IAmb	06 10 03.9	
	comp=Z,24nm,0.8s						
BJI	**Beijing**	**21.18**	**35**	P	**P**	**06 10 00.8**	**+0.8**
BJI				pmax	pmax		
	comp=Z,27nm,0.8s						
TGY	**Tagaytay City**	**21.42**	**112**	LR	LR	06 17 21.3	
	comp=Z,284nm,19.7s,baz=89,slow=34						
WMQ	**Urumqi**	**22.90**	**336**	*e*P	**P**	**06 10 20.3**	**+1.8**
WMQ				pP	sP	06 10 24.8	+1.7
WMQ				sP	pP	06 10 28.5	+6.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,6.1s						
WMQ				LR	LR		
	comp=Z,330nm,16.9s						
WMQ				LR	LR		
	comp=Z,130nm,16.1s						
WMQ	**Urumqi**	**22.90**	**336**	P	**P**	**06 10 17.6**	**-0.9**
WMQ				IAmb	IAmb	06 10 23.2	
	comp=Z,23nm,1.1s						
BKNI	**Bangkinang**	**22.99**	**179**	P	**P**	**06 10 18.1**	**-1.4**
KSM	**Kuching**	**23.82**	**155**	P	**P**	**06 10 26.8**	**-0.9**
KSM				IAmb	IAmb	06 10 29.4	
	comp=Z,13nm,0.7s						
SONM	**Songino Array**	**24.78**	**9**	P	**P**	**06 10 36.8**	**+0.2**
	comp=Z,6.3nm,0.9s,baz=188,slow=8.4,SNR=22						
SONM				PcP	**PcP**	**06 14 11.7**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=171,slow=3.8,SNR=2.4						
SONM				LR	LR	06 22 07.4	
	comp=Z,111nm,21.8s,baz=299,slow=41						
SONM	**Songino Array**	**24.78**	**9**	P	**P**	**06 10 36.3**	**-0.3**
ULN	**Ulaanbaatar**	**24.92**	**10**	*e*P	**P**	**06 10 38.5**	**+0.7**
ULN				pmax	pmax		
	comp=Z,14nm,1.7s						
ULN	**Ulaanbaatar**	**24.92**	**10**	P	**P**	**06 10 37.7**	**-0.1**
NIL	**Nilore**	**25.95**	**299**	P	**P**	**06 10 46.0**	**-1.3**
NIL				IAmb	IAmb	06 10 49.6	
	comp=Z,15nm,0.8s						
KSH	**Kashi**	**26.24**	**313**	P	**P**	**06 10 51.4**	**+1.5**
KSH				S	**S**	**06 15 22.1**	**-0.3**
KSH				pmax	pmax		
	comp=Z,28nm,1.4s						
KSH				pmax	pmax		
	comp=Z,290nm,8.1s						
KSH				LR	LR		
	comp=Z,910nm,16.0s						
KSH				LR	LR		
	comp=Z,230nm,6.3s						
KSH				LR	LR		
	comp=Z,250nm,5.6s						
TARG	**Taragay, Kyrgy**	**26.30**	**319**	P	**P**	**06 10 48.8**	**-2.0**
ZAK	**Zakamensk**	**26.97**	**4**	*e*P	**P**	**06 10 56.7**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KSRS	**Korea Array**	**27.32**	**53**	LR	LR	06 22 01.2	
	comp=Z,240nm,18.2s,baz=232,slow=37						
MK31	**Makanchi Array**	**27.53**	**332**	*de*P	**P**	**06 11 02.4**	**+1.1**
MK31	**Makanchi Array**	**27.53**	**332**	P	**P**	**06 11 01.2**	**0.0**
MK31				IAmb	IAmb	06 11 03.7	
	comp=Z,9.6nm,0.8s						
MKAR	**Makanchi Array**	**27.53**	**332**	P	**P**	**06 11 02.0**	**+0.8**
	comp=Z,9.4nm,0.6s,baz=140,slow=9.1,SNR=33						
MKAR	**Makanchi Array**	**27.53**	**332**	*i* P	**P**	**06 11 01.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	**Makanchi Array**	**27.53**	**332**	P	**P**	**06 11 01.5**	**+0.2**
BOOM	**Boomskoye usch**	**27.87**	**319**	P	**P**	**06 11 04.9**	**+0.3**
DGZ	**Jazzator, Alta**	**28.15**	**342**	*e*P	**P**	**06 11 09.6**	**+2.6**
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TLY	**Talaya**	**28.29**	**4**	LR	LR	06 23 32.5	
	comp=Z,338nm,21.7s,baz=194,slow=39						
AAK	**Ala-Archa**	**28.84**	**318**	*de*P	**P**	**06 11 15.2**	**+2.0**
AAK				pmax	pmax		
	comp=Z,18nm,1.0s						
GAR	**Garm**	**29.95**	**308**	P	**P**	**06 11 22.9**	**-0.2**
GAR				IAmb	IAmb	06 11 24.6	
	comp=Z,31nm,1.3s						
BTK	**Batken**	**30.02**	**311**	P	**P**	**06 11 23.0**	**-0.6**
BTK				IAmb	IAmb	06 11 26.1	
	comp=Z,11nm,1.1s						
CHGR	**Chuyangaron**	**30.67**	**307**	P	**P**	**06 11 28.5**	**-0.9**
CHGR				IAmb	IAmb	06 11 31.3	
	comp=Z,12nm,1.2s						
KKAR	**Karatay Array**	**31.59**	**316**	P	**P**	**06 11 37.1**	**-0.2**
KURBB	**Kurchatov Arra**	**32.07**	**333**	P	**P**	**06 11 41.8**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=137,slow=9.9,SNR=31						
KURK	**Kurchatov**	**32.10**	**333**	*de*P	**P**	**06 11 42.4**	**+0.7**
KURK				pmax	pmax		
	comp=Z,18nm,1.7s						
KURK	**Kurchatov**	**32.10**	**333**	P	**P**	**06 11 42.2**	**+0.6**
KURK				IAmb	IAmb	06 11 43.8	
	comp=Z,8.9nm,0.9s						
ZAA0	**Zalesovo Array**	**32.68**	**343**	P	**P**	**06 11 48.0**	**+1.4**
ZALV	**Zalesovo Beam**	**32.68**	**343**	P	**P**	**06 11 48.1**	**+1.4**
	comp=Z,8.9nm,0.7s,baz=148,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**32.68**	**343**	P	**P**	**06 11 47.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**33.04**	**44**	P	**P**	**06 11 50.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=212,slow=7.7,SNR=6.1						
USRK				LR	LR	06 25 47.6	
	comp=Z,324nm,19.8s,baz=223,slow=37						
USRK	**Ussuriysk Ar.**	**33.04**	**44**	P	**P**	**06 11 50.0**	**0.0**
MAJO	**Matsushiro**	**34.93**	**59**	*e*P	**P**	**06 12 04.1**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,12nm,1.1s						
BRVK	**Borovoye**	**37.41**	**330**	*c i* P	**P**	**06 12 28.9**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s						
BRVK	**Borovoye**	**37.41**	**330**	P	**P**	**06 12 28.0**	**+0.5**
BRVK				IAmb	IAmb	06 12 30.3	
	comp=Z,17nm,1.2s						
GEYT	**Alibeck**	**38.88**	**302**	P	**P**	**06 12 40.1**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=124,slow=9.2,SNR=7.1						
GEYT	**Alibeck**	**38.88**	**302**	P	**P**	**06 12 40.5**	**+0.3**
ABKAR	**Akbulak array**	**40.90**	**319**	P	**P**	**06 12 56.3**	**-0.4**
ABKAR	**Akbulak array**	**40.90**	**319**	P	**P**	**06 12 56.0**	**-0.7**
AKTO	**Aktyubinsk**	**42.51**	**320**	P	**P**	**06 13 11.2**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=104,slow=8.3,SNR=3.7						
SVE	**Sverdlovsk**	**44.12**	**330**	*e*P	**P**	**06 13 24.7**	**+1.9**
SVE				pmax	pmax		
	comp=Z,24nm,1.2s						
ARU	**Arti**	**44.90**	**328**	P	**P**	**06 13 29.6**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=143,slow=6.6,SNR=11						
ARU	**Arti**	**44.90**	**328**	*c i* P	**P**	**06 13 29.0**	**-0.1**
ARU						06 15 13.0	
ARU				S	**S**	**06 20 09.8**	**+3.0**
ARU				pmax	pmax		
	comp=Z,21nm,1.4s						
ARU	**Arti**	**44.90**	**328**	P	**P**	**06 13 29.2**	**+0.2**
ARU				IAmb	IAmb	06 13 32.6	
	comp=Z,17nm,1.2s						
NRIK	**Noril'sk**	**46.57**	**354**	P	**P**	**06 13 42.6**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=127,slow=6.9,SNR=4.7						
NRIK	**Noril'sk**	**46.57**	**354**	*e*P	**P**	**06 13 43.2**	**+1.1**
NRIK				pmax	pmax		
	comp=Z,10.0nm,1.5s						
FITZ	**Fitzroy Crossi**	**48.03**	**147**	P	**P**	**06 13 56.1**	**+2.0**
	comp=Z,2.5nm,0.5s,baz=337,slow=5.4,SNR=8.2						
FITZ	**Fitzroy Crossi**	**48.03**	**147**	P	**P**	**06 13 54.4**	**+0.3**
BELG	**Belogornoye**	**49.30**	**320**	*e*P	**P**	**06 14 03.4**	**0.0**
ZEI	**Tsey**	**50.23**	**307**	*e*P	**P**	**06 14 09.8**	**-1.2**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KIRV	**Kirov**	**50.28**	**328**	*e*P	**P**	**06 14 11.5**	**+0.7**
TIXI	**Tiksi**	**50.85**	**11**	*e*P	**P**	**06 14 15.7**	**+0.7**
ARTV	**Artvin**	**51.63**	**305**	P	**P**	**06 14 20.7**	**-0.9**
PETK	**Petropavlovsk-**	**51.99**	**40**	LR	LR	06 36 35.5	
	comp=Z,208nm,18.3s,baz=257,slow=36						
PRGR	**Permogore**	**53.14**	**331**	*e*P	**P**	**06 14 31.8**	**-0.4**
PRGR				pmax	pmax		
	comp=Z,34nm,1.6s						
WRA	**Warramunga Arr**	**54.29**	**140**	P	**P**	**06 14 40.9**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=329,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**54.29**	**140**	P	**P**	**06 14 41.4**	**+0.2**
WR0	**Warramunga Arr**	**54.42**	**140**	P	**P**	**06 14 41.8**	**-0.3**
WR0				IAmb	IAmb	06 14 44.0	
	comp=Z,5.9nm,1.0s						
KLMR	**Klimovskoe**	**55.74**	**329**	*e*P	**P**	**06 14 50.9**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,32nm,1.5s						
KLMR	**Klimovskoe**	**55.74**	**329**	*e*P	**P**	**06 14 51.0**	**-0.2**
KLMR				AMP		06 14 53.9	
	comp=Z,32nm,1.5s						
MOS	**Moscow**	**55.74**	**322**	*e*P	**P**	**06 14 50.1**	**-1.1**
MOS				*e*		06 17 03.1	
OBN	**Obninsk**	**56.26**	**322**	*e*P	**P**	**06 14 55.7**	**+0.8**
OBN				*e*		06 15 50.8	
OBN				*e*		06 16 59.5	
OBN				*e*PPP	PPP	06 18 16.2	
OBN				*e*S	**S**	**06 22 47.0**	**+2.5**
OBN				*e*SS	**SS**	**06 26 36.1**	**+5.2**
OBN				pmax	pmax		
	comp=Z,17nm,0.4s						
AS31	**Alice Springs**	**56.96**	**143**	P	**P**	**06 14 59.3**	**-1.0**
ASAR	**Alice Springs**	**56.96**	**143**	P	**P**	**06 15 00.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=320,slow=7.0,SNR=8.8						
ASAR	**Alice Springs**	**56.96**	**143**	P	**P**	**06 14 59.7**	**-0.6**
BILL	**Bilibino**	**59.44**	**23**	*e*P	**P**	**06 15 17.0**	**0.0**
BILL				*e*		06 16 04.1	
BILL				*e*		06 17 35.4	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BILL				MLR	MLR		
	comp=Z,190nm,14.0s						
AKASG	**Malin Array Be**	**60.49**	**316**	P	**P**	**06 15 23.0**	**-1.6**
	comp=Z,4.2nm,0.8s,baz=74,slow=7.2,SNR=14						
AKASG	**Malin Array Be**	**60.49**	**316**	P	**P**	**06 15 24.4**	**-0.2**
AKBB	**Malin Array Si**	**60.49**	**316**	*e*P	**P**	**06 15 23.8**	**-0.8**
AKBB	**Malin Array Si**	**60.49**	**316**	P	**P**	**06 15 23.7**	**-0.8**
ELL	**Elmali**	**61.28**	**300**	P	**P**	**06 15 28.8**	**-1.6**
FINES	**FINESS Array B**	**62.27**	**328**	P	**P**	**06 15 35.9**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=98,slow=5.8,SNR=8.6						
ARCES	**ARCESS Array B**	**63.01**	**339**	P	**P**	**06 15 42.6**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=96,slow=7.4,SNR=5.3						
MLR	**Muntele Rosu**	**63.06**	**310**	P	**P**	**06 15 42.0**	**-0.2**
BURAR	**Bucovina Array**	**63.33**	**313**	P	**P**	**06 15 43.2**	**-0.6**
BUR08	**Bucovina Ar. S**	**63.33**	**313**	P	**P**	**06 15 42.8**	**-1.1**
BUR08				IAmb	IAmb	06 15 45.9	
	comp=Z,5.0nm,1.2s						
CRVS	**Cervenica-Dubn**	**65.65**	**315**	*e*P	**P**	**06 16 00.7**	**+1.8**
CRVS	**Cervenica-Dubn**	**65.65**	**315**	*e*P	**P**	**06 16 00.7**	**+1.8**
OJC	**Ojcow**	**66.53**	**316**	P	**P**	**06 16 04.6**	**0.0**
OJC				IAmb	IAmb	06 16 05.9	
	comp=Z,7.1nm,0.9s						
HNR	**Honiara**	**66.64**	**112**	P	**P**	**06 16 04.5**	**-1.2**
VYHS	**Vyhne**	**67.44**	**315**	*e*P	**P**	**06 16 10.8**	**+0.5**
VYHS	**Vyhne**	**67.44**	**315**	*e*P	**P**	**06 16 10.8**	**+0.5**
DIVS	**Divibare**	**67.47**	**310**	P	**P**	**06 16 10.1**	**-0.6**
DIVS				IAmb	IAmb	06 16 11.6	
	comp=Z,6.1nm,1.2s						
STKA	**Stephens Creek**	**67.60**	**143**	P	**P**	**06 16 11.3**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=260,slow=6.1,SNR=4.6						
MORC	**Moravsky Berou**	**68.04**	**316**	*e*P	**P**	**06 16 14.3**	**+0.1**
MORC	**Moravsky Berou**	**68.04**	**316**	P	**P**	**06 16 13.0**	**-1.2**
MORC				IAmb	IAmb	06 16 15.9	
	comp=Z,9.9nm,1.2s						
JAVC	**Velka Javorina**	**68.13**	**315**	*e*P	**P**	**06 16 16.6**	**+1.8**
PDG	**Podgorica**	**68.34**	**308**	P	**P**	**06 16 15.3**	**-0.8**
HFS	**Hagfors**	**68.41**	**327**	LR	LR	06 48 51.3	
	comp=Z,194nm,18.3s,baz=19,slow=38						
VRAC	**Vranov**	**68.73**	**316**	*e*P	**P**	**06 16 19.1**	**+0.6**
KRUC	**Moravsky**	**68.91**	**315**	*e*P	**P**	**06 16 20.3**	**+0.7**
NB2	**NORSAR Subarra**	**69.45**	**329**	P	**P**	**06 16 21.3**	**-1.5**
	comp=Z,3.1nm,1.1s,baz=77,slow=6.5						
NB2	**NORSAR Subarra**	**69.45**	**329**	P	**P**	**06 16 22.2**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=75,slow=6.2						
NOA	**NORSAR Array B**	**69.45**	**329**	P	**P**	**06 16 21.2**	**-1.5**
	comp=Z,1.7nm,0.9s,baz=80,slow=6.3,SNR=4.1						
NOA				LR	LR	06 49 36.3	
	comp=Z,78nm,19.8s,baz=210,slow=38						
CONA	**Conrad Observa**	**69.50**	**314**	*e*P	**P**	**06 16 23.0**	**-0.3**
	comp=Z,11nm,1.1s,SNR=5.0						
ARSA	**Arzberg**	**69.87**	**314**	*e*P	**P**	**06 16 25.1**	**-0.5**
	comp=Z,4.8nm,1.0s						
BRG	**Berggiesshubel**	**70.08**	**318**	*e*P	**P**	**06 16 26.9**	**+0.2**
	comp=Z,4.4nm,0.8s						
BRG	**Berggiesshubel**	**70.08**	**318**	*e*P	**P**	**06 16 26.9**	**+0.2**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SOKA	**Soboth**	**70.33**	**313**	*e*P	**P**	**06 16 27.8**	**-0.6**
	comp=Z,8.3nm,1.4s						
CLL	**Collm**	**70.55**	**318**	*i* P	**P**	**06 16 30.2**	**+0.6**
	comp=Z,8.0nm,1.3s						
CLL	**Collm**	**70.55**	**318**	*i* P	**P**	**06 16 30.2**	**+0.6**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GEC2	**GERESS Array S**	**70.69**	**316**	P	**P**	**06 16 29.2**	**-1.4**
GEC2				IAmb	IAmb	06 16 33.0	
	comp=Z,14nm,1.5s						
GERES	**GERESS Array B**	**70.69**	**316**	P	**P**	**06 16 29.8**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=71,slow=5.8,SNR=16						
GERES	**GERESS Array B**	**70.69**	**316**	P	**P**	**06 16 29.7**	**-1.0**
OBKA	**Obir**	**70.69**	**313**	P	**P**	**06 16 30.3**	**-0.4**
	comp=Z,6.8nm,1.2s						
KHC	**Kasperske Hory**	**70.70**	**316**	*e*P	**P**	**06 16 31.3**	**+0.6**
KHC				pmax	pmax		
	comp=Z,10.0nm,2.5s						
KBA	**Koelnbreinsper**	**71.36**	**314**	*i* P	**P**	**06 16 34.2**	**-0.7**
	comp=Z,6.8nm,1.2s,SNR=4.6						
PRED	**Cave del Predi**	**71.37**	**313**	P	**P**	**06 16 34.5**	**-0.3**
PRED				IAmb	IAmb	06 16 35.5	
	comp=Z,6.2nm,1.0s						
MBAR	**Mbarara**	**71.75**	**261**	P	**P**	**06 16 35.2**	**-2.5**
ABTA	**Abfaltersbach**	**71.99**	**314**	*e*P	**P**	**06 16 38.2**	**-0.4**
	comp=Z,7.4nm,1.3s,SNR=7.0						
CIMO	**Cimolais**	**72.16**	**313**	P	**P**	**06 16 38.9**	**-0.6**
CIMO				IAmb	IAmb	06 16 41.4	
	comp=Z,14nm,1.2s						
WTTA	**Wattenberg**	**72.43**	**314**	*e*P	**P**	**06 16 40.3**	**-1.0**
	comp=Z,6.7nm,0.8s						
SQTA	**Sankt Quirin**	**72.72**	**314**	*i* P	**P**	**06 16 41.9**	**-1.0**
	comp=Z,7.9nm,1.1s						
MOTA	**Moosalm**	**72.76**	**315**	*e*P	**P**	**06 16 42.7**	**-0.5**
	comp=Z,15nm,1.4s						
MURB	**Monte Urbino**	**72.93**	**310**	P	**P**	**06 16 43.5**	**-0.7**
TEOL	**Teolo**	**72.93**	**312**	P	**P**	**06 16 43.8**	**-0.3**
RETA	**Reutte**	**72.94**	**315**	*e*P	**P**	**06 16 43.3**	**-0.9**
	comp=Z,5.6nm,0.9s						
FETA	**Feichten**	**73.09**	**314**	*e*P	**P**	**06 16 44.4**	**-0.8**
	comp=Z,10nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**73.52**	**314**	P	**P**	**06 16 47.2**	**-0.6**
FUORN				IAmb	IAmb	06 16 49.0	
	comp=Z,12nm,1.5s						
LSZ	**Lusaka**	**80.48**	**249**	P	**P**	**06 17 28.0**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=50,slow=6.7,SNR=4.4						

IDC ***11*** *06:06:35.2±0.9,5.97N×94.35E,h62km±5km,mb4.0/16, mb1 4.1/17,mb1mx3.8/63,mbtmp4.3/17, Error ellipse: s-maj=30.5km s-min=10.5km az=47.0*

NEIC ***11*** *06:06:36.1±0.6,6.0N±0.1×94.32E±0.09,h72km±7km, mb4.6/9, Error ellipse: s-maj=16.4km s-min=12.0km az=204.0*

DJA ***11*** *06:06:37.6±0.5,6°N±5°×94°E±°, h92km±21km, M4.5/8, mB5.1/1, mb4.4/7, MLv4.5/8, Mw(mB)4.4/1*

ISC 11 06:06:35.8±0.5,5.89N±0.07×94.29E±0.07, h73km, n47, σ0°90/58, mb4.4/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**1.08**	**111**	P	**Pn**	**06 06 56.4**	**+1.0**
MLSI	**Meulaboh, Aceh**	**2.65**	**127**	P	**Pn**	**06 07 17.0**	**+0.6**
MLSI				S	**Sn**	**06 07 46.6**	**-0.9**
LHMI	**Lhok Sumawe**	**2.73**	**104**	P	**Pn**	**06 07 17.8**	**+0.5**
LHMI				S	**Sn**	**06 07 48.8**	**-0.5**
LHMI	**Lhok Sumawe**	**2.73**	**104**	Pn	**Pn**	**06 07 18.0**	**+0.6**
LHMI				Sn	**Sn**	**06 07 49.3**	**0.0**
TPTI		**3.89**	**132**	P	**Pn**	**06 07 33.2**	**0.0**
TPTI				S	**Sn**	**06 08 16.5**	**-1.2**
PSI	**Prapat**	**5.55**	**123**	P	**Pn**	**06 07 58.0**	**+2.0**
	6.9nm,0.3s,baz=360,slow=7.0,SNR=24						
PSI				S	**Sn**	**06 08 59.4**	**+0.9**
	8.1nm,0.3s,baz=0.3,slow=23,SNR=7.2						
RPSI	**Rantau Prapat**	**5.61**	**124**		**Pn**	**06 07 58.0**	**+1.3**
RPSI					**Sn**	**06 08 59.4**	**-0.4**
GSI	**Gunungsitoli**	**5.61**	**144**	P	**Pn**	**06 07 56.6**	**-0.2**
	0.6nm37nm,0.6s						
GSI				S	**Sn**	**06 08 58.8**	**-1.2**
	0.6nm37nm,0.6s						
GSI	**Gunungsitoli**	**5.61**	**144**	Pn	**Pn**	**06 07 56.2**	**-0.6**
GSI				Sn	**Sn**	**06 09 00.3**	**+0.3**
KULM	**Kulim**	**6.36**	**95**		**Pn**	**06 08 06.9**	**0.0**
IPM	**Ipoh**	**6.85**	**101**	Pn	**Pn**	**06 08 14.0**	**+0.3**
PBSI	**Pulau Batu**	**7.12**	**146**	P	**Pn**	**06 08 17.2**	**-0.2**
	0.5nm66nm,0.6s						
MNSI	**Mandailing Nat**	**7.32**	**134**	P	**Pn**	**06 08 19.7**	**-0.3**
	0.4nm2μm34nm,0.6s						
PALK	**Pallekele**	**13.57**	**277**	Pn	**Pn**	**06 09 45.9**	**+0.7**
H08S3	**Diego Garcia H**	**25.56**	**239**	T	T	06 38 49.3	
	baz=61,SNR=199						
H08S2	**Diego Garcia H**	**25.57**	**239**	T	T	06 38 49.2	
	baz=61,slow=74,SNR=177						
H08S1	**Diego Carcia H**	**25.58**	**239**	T	T	06 38 50.4	
	baz=61,slow=74,SNR=171						
MTN	**Manton Dam**	**41.07**	**117**	P	P	**06 14 12.1**	**-0.5**
MKAR	**Makanchi Array**	**42.04**	**348**	P	P	**06 14 20.7**	**+0.5**
	2.7nm,0.6s,baz=157,slow=8.1,SNR=4.4						
SONM	**Songino Array**	**43.06**	**12**	P	P	**06 14 27.9**	**-0.6**
	3.8nm,0.7s,baz=195,slow=8.4,SNR=8.7						
SONM	**Songino Array**	**43.06**	**12**	P	P	**06 14 26.6**	**-2.0**
KSRS	**Korea Array**	**43.87**	**39**	P	P	**06 14 34.7**	**-0.4**
	1.8nm,0.8s,baz=215,slow=8.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**46.49**	**346**	P	P	**06 14 56.5**	**+0.9**
	3.1nm,0.6s,baz=171,slow=6.7,SNR=5.9						
KURBB				pP	**pP**	**06 15 10.4**	**-2.8**
	2.6nm,0.7s,baz=165,slow=7.5,SNR=4.9						
KURK	**Kurchatov**	**46.56**	**346**	P	P	**06 14 55.6**	**-0.5**
KURK				IAmb	IAmb	06 15 11.2	
	comp=Z,7.7nm,1.1s						
WB0	**Warramunga Arr**	**46.98**	**124**	P	P	**06 15 00.5**	**+0.6**
WB0				IAmb	IAmb	06 15 05.3	
	comp=Z,9.6nm,1.1s						
WRA	**Warramunga Arr**	**47.01**	**124**	P	P	**06 15 00.9**	**+0.7**
	comp=Z,3.8nm,0.4s,baz=307,slow=8.6,SNR=30						
WRA

ASAR	**Alice Springs**	**48.52**	**253**	P	P	06 23 27.8	-0.3
	0.9nm,0.6s,baz=88,slow=8.8,SNR=15						
AKASG	**Malin Array Be**	**140.90**	**336**	PKP	PKPdf	06 34 11.9	+0.3
	1.0nm,0.5s,baz=24,slow=2.7,SNR=6.2						

*SOME **11** 06:30:44.5, 39.°13N × 75.°75E, h5km*
*NNC **11** 06:30:45.7 ± 1.6, 39.°18N ± 75.°61E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=11.6km s-min=10.1km az=164.0
ISC 11 06:30:46.2 ± 2.6, 39.°2N ± 0.°1 × 75.°76E ± 0.°06, h10km, n30,
σ2s 40/42, 6C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.54**	**345**	⇑Pn		**Pn**	**06 31 41.0**	**-0.5**
	2.4nm,0.5s							
AAK				⇑Lg		Lg	06 32 35.1	
	4.3nm,0.6s							
TKM2	**Tokmak 2**	**3.70**	**358**	⇑Pn		**Pn**	**06 31 42.4**	**-1.2**
	2.3nm,0.5s							
TKM2				⇑Lg		Lg	06 32 42.9	
	9.3nm,0.6s							
KST	**Kastek**	**3.82**	**2**	*e*P		**Pb**	**06 31 56.5**	**+2.7**
	5.6nm,0.5s							
KST				*e*S		**Sg**	**06 32 48.6**	**-0.3**
	8.8nm,0.9s							
KST	**Kastek**	**3.82**	**2**	Pg		**Pg**	**06 31 56.7**	**-2.7**
	5.6nm,0.5s							
KST				Lg		Lg	06 32 48.6	
	8.8nm,0.9s							
IZV	**Izvestkoviy**	**3.86**	**9**	*e*P		**Pg**	**06 31 58.6**	**-1.7**
	3.5nm,0.6s							
IZV				*e*S		**Sg**	**06 32 51.7**	**+1.3**
	12nm,0.6s							
IZV	**Izvestkoviy**	**3.86**	**9**	Pg		**Pg**	**06 31 58.6**	**-1.7**
	3.5nm,0.6s							
IZV				Lg		Lg	06 32 51.7	
	12nm,0.6s							
TNSS	**Tian-Shan**	**3.92**	**13**	*e*P		**Pg**	**06 31 58.9**	**-2.3**
	1.6nm,0.4s							
TNSS				*e*S		**Sg**	**06 32 52.5**	**+0.5**
	6.9nm,0.7s							
MRKS	**Merke**	**4.01**	**332**	*e*P		**Pg**	**06 32 00.7**	**-2.3**
	4.6nm,0.6s							
MRKS				*e*S		**Sg**	**06 32 55.5**	**+0.7**
	3.3nm,0.6s							
MRKS	**Merke**	**4.01**	**332**	Pg		**Pg**	**06 32 00.7**	**-2.3**
	4.6nm,0.6s							
MRKS				Lg		Lg	06 32 55.5	
	3.3nm,0.6s							
DGS	**Degeres**	**4.02**	**0**	*e*P		**Pg**	**06 32 01.3**	**-1.9**
	8.3nm,1.3s							
DGS				*e*S		**Sg**	**06 32 56.3**	**+1.1**
	12nm,0.9s							
DGS	**Degeres**	**4.02**	**0**	Pg		**Pg**	**06 32 01.3**	**-1.9**
	8.3nm,1.3s							
DGS				Lg		Lg	06 32 56.3	
	12nm,0.9s							
KOTS	**Kotyrbulak**	**4.14**	**14**	*e*P		**Pg**	**06 32 03.4**	**-2.1**
	13nm,0.5s							
KOTS				*e*S		**Sg**	**06 33 00.2**	**+1.2**
	41nm,0.5s							
KOTS	**Kotyrbulak**	**4.14**	**14**	Pg		**Pg**	**06 32 03.4**	**-2.1**
	13nm,0.5s							
KOTS				Lg		Lg	06 32 59.9	
	41nm,0.5s							
SGDS	**Sogindy**	**4.31**	**349**	Pg		**Pb**	**06 32 05.0**	**+2.9**
	3.3nm,0.6s							
SGDS				Lg		Lg	06 33 03.0	
	3.6nm,0.5s							
SATY	**Saty**	**4.32**	**27**	*e*P		**Pg**	**06 32 07.1**	**-2.0**
	3.6nm,0.6s							
SATY				*e*S		**Sg**	**06 33 06.8**	**+1.7**
	11nm,0.7s							
SATY	**Saty**	**4.32**	**27**	Pg		**Pg**	**06 32 07.2**	**-1.8**
	2.9nm,0.8s							
SATY				Lg		Lg	06 33 07.1	
	8.2nm,0.7s							
ZHN	**Zhinishke**	**4.43**	**26**	*e*P		**Pg**	**06 32 08.2**	**-2.9**
	2.4nm,0.2s							
ZHN				*e*S		**Sg**	**06 33 08.4**	**0.0**
	3.3nm,0.5s							
ZHN	**Zhinishke**	**4.43**	**26**	Pg		**Pg**	**06 32 08.2**	**-2.9**
	2.3nm,0.2s							
ZHN				Lg		Lg	06 33 08.8	
	1.6nm,0.3s							
KRBS	**Karabastau**	**4.47**	**359**	*e*P		**Pb**	**06 32 07.5**	**+2.7**
	2.5nm,0.3s							
KRBS				*e*S		**Sg**	**06 33 07.5**	**-2.2**
	4.4nm,0.6s							
KRBS	**Karabastau**	**4.47**	**359**	Pg		**Pb**	**06 32 07.5**	**+2.7**
	2.5nm,0.3s							
KRBS				Lg		Lg	06 33 08.0	
	4.4nm,0.6s							
UZB	**Uzynbulak**	**4.63**	**31**	*e*P		**Pb**	**06 32 11.0**	**+3.4**
	1.8nm,0.5s							
UZB				*e*S		**Sg**	**06 33 13.3**	**-1.6**
	6.3nm,0.7s							
UZB	**Uzynbulak**	**4.63**	**31**	Pg		**Pb**	**06 32 11.0**	**+3.4**
	1.6nm,0.6s							
UZB				Lg		Lg	06 33 14.1	
	5.2nm,0.7s							
KUU	**Kurty**	**4.69**	**5**	*e*P		**Pb**	**06 32 11.9**	**+3.4**
	1.5nm,0.3s							
KUU				*e*S		**Sg**	**06 33 14.9**	**-1.8**
	6.9nm,0.9s							
KUU	**Kurty**	**4.69**	**5**	Pg		**Pb**	**06 32 12.1**	**+3.5**
	1.5nm,0.4s							
KUU				Lg		Lg	06 33 14.9	
	8.2nm,0.7s							
KPKS	**Kokpek**	**4.78**	**27**	*e*P		**Pg**	**06 32 15.5**	**-2.3**
	4.1nm,0.3s							
KPKS				*e*S		**Sg**	**06 33 20.9**	**+1.3**
	19nm,0.6s							
PDGK	**Podgornoye**	**4.97**	**33**	Pg		**Pb**	**06 32 16.8**	**+3.4**
	1.0nm,0.7s							
PDGK				Lg		Lg	06 33 24.1	
	3.0nm,0.7s							
PDGK	**Podgornoye**	**4.97**	**33**	⇑Pg		**Pg**	**06 32 18.9**	**-2.6**
	2.8nm,0.8s							
PDGK				⇑Lg		Lg	06 33 26.9	
	7.1nm,0.7s							
ARXS	**Arharly**	**5.22**	**17**	Pg		**Pg**	**06 32 22.2**	**-4.0**
	2.9nm,0.5s							
ARXS				Lg		Lg	06 33 32.3	
	5.6nm,0.5s							
KTMS	**Ketmen**	**5.46**	**38**	Pg		**Pg**	**06 32 27.4**	**-3.4**
	1.2nm,0.9s							
KTMS				Lg		Lg	06 33 41.8	
	2.4nm,0.8s							
DJR	**Jarkent**	**5.93**	**29**	Pg		**Pg**	**06 32 37.3**	**-2.5**
	1.3nm,0.5s							
DJR				Lg		Lg	06 33 58.7	
	1.6nm,0.4s							

*ISK **11** 06:42:09.8, 38.°21N × 27.°06E, h13km, ML4.0/57*
*ATH **11** 06:42:10.3, 38.°14N × 27.°02E, h28km ± 1km, ML3.7/6, Error*
ellipse: s-maj=3.0km s-min=1.0km az=247.0
*THE **11** 06:42:10.4, 38.°19N × 27.°06E, h2km ± 1km, ML3.7/8, Error*
ellipse: s-maj=1.2km s-min=0.5km az=60.0
*DDA **11** 06:42:10.1, 38.°19N × 27.°06E, h11km ± 1km, MW4.0*
ISC 11 06:42:10.4 ± 0.8, 38.°21N ± 0.°02 × 27.°06E ± 0.°02, h12km ± 6km,
n137, σ0s 83/169, 11C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.18**	**357**	P		**Pg**	**06 42 14.1**	**-0.2**
BLCB	**Balcova**	**0.18**	**357**	PG		**Pg**	**06 42 14.1**	**-0.2**
BLCB				SG		**Sg**	**06 42 16.4**	**-0.6**
DGB	**zmir**	**0.21**	**221**	⇑*i*P		**Pg**	**06 42 14.9**	**+0.1**
DGB				*i* S		**Sg**	**06 42 17.9**	**+0.1**
DGB				IAML			06 42 19.0	
	comp=E,10μm,0.3s							
URLA	**Izmir**	**0.39**	**293**	PG		**Pg**	**06 42 18.4**	**+0.2**
URLA	**Izmir**	**0.39**	**293**	⇓*i*P		**Pg**	**06 42 18.3**	**+0.2**
URLA				*i* S		**Sb**	**06 42 24.8**	**-0.5**
URLA				IAML			06 42 25.0	
	comp=E,3μm,1.1s							
SMG	**Samos**	**0.53**	**199**	P		**Pg**	**06 42 20.7**	**+0.1**
SMG				S		**Sb**	**06 42 28.4**	**-0.8**
	comp=E,7μm,0.3s							
SMG	**Samos**	**0.53**	**199**	P		**Pg**	**06 42 20.8**	**+0.1**
SMG				S		**Sg**	**06 42 26.8**	**-0.9**
SMG				AML		AML	06 42 35.5	
	comp=E,12394μm,0.2s							
SMG				AML		AML	06 42 36.1	
	comp=N,16294μm,0.3s							
AYDB	**Zeytinkoy-Aydi**	**0.71**	**111**	PG		**Pg**	**06 42 24.2**	**+0.1**
ZEDA	**zmir-Bergama**	**0.76**	**1**	⇑*i*P		**Pg**	**06 42 24.9**	**-0.1**
ZEDA				*i* S		**Sg**	**06 42 35.0**	**+0.1**
ZEDA				IAML			06 42 39.0	
	comp=N,3μm,0.3s							
ZEDA				IAML			06 42 39.0	
	comp=E,2μm,0.6s							
CHOS	**Chios island**	**0.81**	**283**	P		**Pg**	**06 42 26.0**	**+0.1**
CHOS				S		**Sn**	**06 42 38.6**	**-1.0**
	comp=E,7μm,0.6s							
CHOS	**Chios island**	**0.81**	**283**	P		**Pg**	**06 42 26.1**	**+0.1**
CHOS				S		**Sb**	**06 42 38.1**	**+0.8**
CHOS				AML	AML		06 42 41.3	
	comp=E,15207μm,0.4s							
CHOS				AML	AML		06 42 44.0	
	comp=N,11752μm,0.7s							
CHOS	**Chios island**	**0.81**	**283**	PG		**Pg**	**06 42 26.1**	**+0.1**
GOMA	**Golmarmara-Man**	**0.84**	**53**	PG		**Pg**	**06 42 26.5**	**-0.1**
AYDN	**Tasoluk**	**0.85**	**130**	⇓*i*P		**Pb**	**06 42 26.9**	**-0.2**
AYDN				*i* S		**Sb**	**06 42 37.8**	**-0.8**
AYDN				IAML			06 42 42.0	
	comp=N,6μm,0.7s							
AYDN				IAML			06 42 42.0	
	comp=E,7μm,0.5s							
DKL	**Dikili**	**0.87**	**352**	PG		**Pg**	**06 42 26.9**	**-0.2**
AKS	**Akhisar**	**0.89**	**41**	PG		**Pg**	**06 42 26.9**	**-0.7**
AKHS	**Akhisar**	**0.90**	**41**	⇑*i*P		**Pg**	**06 42 26.8**	**-0.8**
AKHS				*i* S		**Sb**	**06 42 39.8**	**+0.1**
AKHS				IAML			06 42 42.0	
	comp=E,2μm,0.5s							
MLSB	**Milas**	**1.08**	**148**	PG		**Pg**	**06 42 30.8**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.10**	**171**	PN		**Pg**	**06 42 31.2**	**-0.3**
AYVA	**Ayvalik**	**1.13**	**346**	*i* P		**Pn**	**06 42 32.1**	**0.0**
AYVA				*i* S		**Sb**	**06 42 47.1**	**+0.5**
AYVA				IAML			06 42 54.0	
	comp=E,2μm,0.6s							
AYVA				IAML			06 42 55.0	
	comp=N,2μm,0.6s							
BODT	**Bodrum**	**1.16**	**170**	P		**Pn**	**06 42 32.1**	**-0.4**
BODT	**Bodrum**	**1.16**	**170**	PN		**Pn**	**06 42 32.2**	**-0.3**
BDRM	**Kayabasi**	**1.18**	**165**	*i* P		**Pn**	**06 42 32.5**	**-0.3**
BDRM				*i* S		**Sn**	**06 42 48.7**	**-0.1**
BDRM				IAML			06 42 52.0	
	comp=E,1μm,0.8s							
PRK	**Paraskevi**	**1.20**	**330**	P		**Pb**	**06 42 33.2**	**+0.1**
PRK				S		**Sg**	**06 42 50.3**	**+1.2**
PRK	**Paraskevi**	**1.20**	**330**	P		**Pg**	**06 42 34.4**	**+0.9**
PRK				S		**Sg**	**06 42 50.5**	**+1.4**
PRK				AML	AML		06 42 54.1	
	comp=E,19179μm,1.0s							
PRK				AML	AML		06 42 54.4	
	comp=N,28795μm,0.7s							
MANT	**Manisa**	**1.22**	**76**	⇓*i*P		**Pn**	**06 42 33.2**	**-0.2**
MANT				*i* S		**Sb**	**06 42 48.3**	**-0.9**
MANT				IAML			06 42 52.0	
	comp=N,3μm,0.8s							
MANT				IAML			06 42 52.0	
	comp=E,3μm,0.3s							
PSRA	**Psara**	**1.22**	**286**	P		**Pb**	**06 42 33.4**	**0.0**
PSRA				S		**Sg**	**06 42 50.2**	**+0.6**
PSRA				AML	AML		06 42 53.2	
	comp=E,5101μm,0.2s							
PSRA				AML	AML		06 42 54.6	
	comp=N,6624μm,0.2s							
STEP	**BALIKESIR_Sava**	**1.27**	**24**	⇑*i*P		**Pn**	**06 42 33.7**	**-0.4**
STEP				IAML			06 42 52.0	
	comp=N,4μm,0.5s							
STEP				*i* S		**Sg**	**06 42 52.1**	**+0.7**
STEP				IAML			06 42 55.0	
	comp=E,4μm,0.4s							
KULA	**Kula-Manisa**	**1.30**	**76**	P		**Pb**	**06 42 34.8**	**0.0**
KULA	**Kula-Manisa**	**1.30**	**76**	PN		**Pn**	**06 42 34.4**	**0.0**
SIGR	**SIGRI**	**1.37**	**317**	P		**Pb**	**06 42 35.8**	**-0.2**
SIGR				S		**Sg**	**06 42 55.3**	**+0.8**
	comp=E,3μm,0.5s							
SIGR	**SIGRI**	**1.37**	**317**	P		**Pn**	**06 42 35.5**	**+0.1**
SIGR				AML	AML		06 42 58.7	
	comp=E,6222μm,0.6s							
SIGR				AML	AML		06 42 59.1	
	comp=N,7886μm,0.7s							
SIGR	**SIGRI**	**1.37**	**317**	PN		**Pn**	**06 42 35.4**	**+0.1**
YER	**Yerkesik**	**1.45**	**137**	P		**Pb**	**06 42 36.7**	**-0.6**
YER				S		**Sb**	**06 42 55.5**	**-0.3**
YER	**Yerkesik**	**1.45**	**137**	PN		**Pb**	**06 42 36.5**	**-0.8**
KOSK	**Kos Island**	**1.46**	**182**	PN		**Pn**	**06 42 36.4**	**-0.1**
DAT	**Datca**	**1.54**	**164**	PN		**Pn**	**06 42 37.4**	**-0.3**
DAT	**Datca**	**1.54**	**164**	*i* P		**Pn**	**06 42 37.4**	**-0.3**
DAT				*i* S		**Sg**	**06 43 03.4**	**+3.7**
DAT				IAML			06 43 07.0	
	comp=N,294nm,0.5s							
DAT				IAML			06 43 08.0	
	comp=E,301nm,0.6s							
BALB	**Balikesir**	**1.57**	**24**	PN		**Pn**	**06 42 37.8**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.58**	**346**	*i* P		**Pn**	**06 42 38.4**	**+0.2**
BAYC				*i* S		**Sn**	**06 42 56.0**	**-2.6**
BAYC				IAML			06 43 02.0	
	comp=E,1μm,0.5s							
BAYC				IAML			06 43 05.0	
	comp=N,629nm,0.4s							
BALY	**Balya**	**1.59**	**16**	⇑*i*P		**Pn**	**06 42 38.1**	**-0.3**
BALY				*i* S		**Sb**	**06 43 00.3**	**+0.4**
BALY				IAML			06 43 03.0	
	comp=E,2μm,0.4s							
BALY				IAML			06 43 04.0	
	comp=N,2μm,0.8s							
NIS1	**Nisyros Isl.**	**1.61**	**176**	P		**Pn**	**06 42 38.0**	**-0.6**
NIS1				S		**Sb**	**06 43 00.3**	**0.0**
	comp=N,2μm,0.6s							
NIS1	**Nisyros Isl.**	**1.61**	**176**	P		**Pn**	**06 42 38.3**	**-0.3**
NIS1	**Nisyros Isl.**	**1.61**	**176**	PN		**Pn**	**06 42 38.5**	**-0.1**
USAK	**Uak-Merkez**	**1.62**	**71**	⇓*i*P		**Pb**	**06 42 40.6**	**+0.3**
USAK				*i* S		**Sb**	**06 43 01.3**	**+0.6**
USAK				IAML			06 43 04.0	
	comp=N,561nm,0.6s							
USAK				IAML			06 43 05.0	
	comp=E,528nm,0.3s							
TAVA	**DENIZLI_Tavas**	**1.65**	**116**	*i* P		**Pb**	**06 42 39.7**	**-1.0**
TAVA				*i* S		**Sg**	**06 43 06.5**	**+3.2**
TAVA				IAML			06 43 11.0	
	comp=N,406nm,0.6s							
TAVA				IAML			06 43 14.0	
	comp=E,377nm,0.6s							
AMGA	**Amorgos Island**	**1.66**	**214**	P		**Pn**	**06 42 38.3**	**-1.0**
APE	**Apeiranthos**	**1.66**	**227**	P		**Pn**	**06 42 38.6**	**-0.8**
APE				S		**Sb**	**06 43 01.8**	**-0.1**
	comp=E,595nm,0.6s							
APE	**Apeiranthos**	**1.66**	**227**	P		**Pn**	**06 42 38.6**	**-0.8**
APE				AML	AML		06 43 06.6	
	comp=N,1453μm,0.6s							
APE				AML	AML		06 43 18.5	
	comp=E,1223μm,0.6s							
APE	**Apeiranthos**	**1.66**	**227**	⇑P		**Pn**	**06 42 38.7**	**-0.8**
APE	**Apeiranthos**	**1.66**	**227**	⇓S		**Sg**	**06 43 03.5**	**-0.3**
APE	**Apeiranthos**	**1.66**	**227**	PN		**Pn**	**06 42 38.8**	**-0.6**
EZN	**Ezine**	**1.71**	**341**	PN		**Pn**	**06 42 40.1**	**+0.1**
TURN	**Turunc**	**1.72**	**146**	PN		**Pn**	**06 42 39.9**	**-0.2**
TURN	**Turunc**	**1.72**	**146**	*i* P		**Pn**	**06 42 40.0**	**0.0**
TURN				*i* S		**Sg**	**06 43 07.9**	**+2.3**
TURN				IAML			06 43 09.0	
	comp=N,756nm,0.6s							
TURN				IAML			06 43 11.0	
	comp=E,1μm,0.6s							
SIMA	**Simav-Kutahya**	**1.74**	**59**	PN		**Pn**	**06 42 40.5**	**-0.1**
BOZC	**Bozcaada**	**1.81**	**335**	PN		**Pn**	**06 42 41.7**	**+0.4**
SHAP	**Saphane-Kutahy**	**1.88**	**64**	PN		**Pn**	**06 42 42.5**	**0.0**
DALY	**Dalyan (Mula)**	**1.88**	**137**	PN		**Pn**	**06 42 42.8**	**+0.4**
DALY	**Dalyan (Mula)**	**1.88**	**137**	*i* P		**Pn**	**06 42 42.9**	**+0.5**
DALY				*i* S		**Sg**	**06 43 13.3**	**+2.4**
DALY				IAML			06 43 20.0	
	comp=N,750nm,1.0s							
DALY				IAML			06 43 21.0	
	comp=E,744nm,0.8s							
GONE	**Gonen-Balikesi**	**1.90**	**15**	PN		**Pn**	**06 42 42.7**	**+0.1**
GEDZ	**Gediz**	**2.02**	**65**	PN		**Pn**	**06 42 44.5**	**+0.1**
IOSP	**Ios island**	**2.04**	**224**	P		**Pn**	**06 42 44.5**	**-0.1**
IOSP	**Ios island**	**2.04**	**224**	P		**Pn**	**06 42 44.7**	**+0.1**
GDZ	**Gediz**	**2.09**	**64**	*i* P		**Pb**	**06 42 48.6**	**+0.2**
GDZ				*i* S		**Sg**	**06 43 16.4**	**-1.2**
GDZ				IAML			06 43 22.0	
	comp=E,240nm,0.5s							
GDZ				IAML			06 43 27.0	
	comp=N,216nm,0.5s							
ANAF	**Anafi Island**	**2.11**	**209**	P		**Pn**	**06 42 45.6**	**0.0**
ANAF				S		**Sb**	**06 43 13.0**	**-1.8**
	comp=N,2μm,0.4s							
ANAF	**Anafi Island**	**2.11**	**209**	P		**Pn**	**06 42 45.4**	**-0.1**
ARG	**Arkhangelos**	**2.17**	**156**	P		**Pn**	**06 42 46.1**	**-0.2**
ARG				S		**Sb**	**06 43 14.8**	**-1.5**
	comp=N,1μm,1.0s							
ARG	**Arkhangelos**	**2.17**	**156**	P		**Pn**	**06 42 46.9**	**+0.7**
LPK	**Lapseki**	**2.17**	**354**	PN		**Pn**	**06 42 46.8**	**+0.4**
GADA	**Gvkgeada**	**2.17**	**336**	PN		**Pn**	**06 42 46.6**	**+0.2**
KRBG	**Karabiga-Canak**	**2.19**	**5**	PN		**Pn**	**06 42 46.7**	**+0.1**
THT2	**Imerovigli**	**2.20**	**217**	PN		**Pn**	**06 42 46.8**	**+0.1**
EDZ	**Edincik**	**2.23**	**16**	PN		**Pn**	**06 42 46.9**	**-0.2**
LIA	**Limnos Island**	**2.23**	**320**	P		**Pn**	**06 42 47.6**	**+0.5**
LIA				S		**Sb**	**06 43 16.7**	**-1.4**
	comp=N,590nm,0.8s							
LIA	**Limnos Island**	**2.23**	**320**	P		**Pn**	**06 42 47.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.23**	**349**	PN		**Pn**	**06 42 47.6**	**+0.4**
TVSB	**Tavsanli**	**2.25**	**56**	PN		**Pn**	**06 42 47.8**	**+0.2**
FETY	**Fethiye**	**2.25**	**134**	PN		**Pn**	**06 42 48.6**	**+1.1**
BASM	**Basmaki-Afyon**	**2.38**	**96**	PN		**Pn**	**06 42 49.5**	**+0.2**
MRMT	**Marmara Adasi**	**2.43**	**10**	PN		**Pn**	**06 42 50.3**	**+0.4**
DION	**Dionisos Attik**	**2.46**	**268**	P		**Pn**	**06 42 51.0**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.48**	**2**	PN		**Pn**	**06 42 51.1**	**+0.5**
ERIK	**Erikli-Kesan**	**2.49**	**350**	PN		**Pn**	**06 42 51.3**	**+0.5**
MAR6	**Marsite Statio**	**2.50**	**4**	PN		**Pn**	**06 42 51.4**	**+0.6**
SMTH	**Samothraki Isl**	**2.55**	**333**	P		**Pn**	**06 42 52.0**	**+0.4**
MAR4	**Marsite Statio**	**2.58**	**4**	PN		**Pn**	**06 42 52.6**	**+0.5**
ENEZ	**Enez**	**2.62**	**345**	PN		**Pn**	**06 42 53.2**	**+0.7**
KARP	**Karpathos**	**2.66**	**178**	PN		**Pn**	**06 42 53.5**	**+0.4**
AOS	**Alonnisos**	**2.66**	**292**	PN		**Pn**	**06 42 53.9**	**+0.8**
ELL	**Elmali**	**2.70**	**122**	PN		**Pn**	**06 42 53.9**	**+0.2**
ARMT	**Armutlu**	**2.74**	**30**	PN		**Pn**	**06 42 54.5**	**+0.3**
ISP	**Isparta**	**2.77**	**97**	PN		**Pn**	**06 42 55.1**	**+0.5**
SHUT	**Suhut-Afyon**	**2.77**	**82**	PN		**Pn**	**06 42 54.8**	**+0.1**
GEMT	**Gemlik**	**2.77**	**36**	PN		**Pn**	**06 42 55.3**	**+0.7**
ALN	**Alexandroupoli**	**2.79**	**344**	PN		**Pn**	**06 42 55.4**	**+0.5**
AUBOZ	**BOZOYUK**	**2.87**	**53**	PN		**Pn**	**06 42 56.6**	**+0.5**
KORT	**Korkueli**	**2.88**	**114**	PN		**Pn**	**06 42 56.2**	**-0.1**
KSL	**Kastellorizon**	**2.88**	**135**	P		**Pn**	**06 42 57.6**	**+1.5**
TRML	**Termal-Yalova**	**2.91**	**34**	PN		**Pn**	**06 42 56.5**	**+0.1**
UKOP	**Uzunkopru-Edir**	**2.93**	**354**	PN		**Pn**	**06 42 57.7**	**+0.9**
CAVI	**Cavuskoy**	**2.94**	**47**	PN		**Pn**	**06 42 57.7**	**+0.7**
BORA	**Eskisehir**	**3.13**	**57**	PN		**Pn**	**06 43 00.4**	**+0.8**
SLVT	**Silivri**	**3.15**	**16**	PN		**Pn**	**06 43 00.2**	**+0.5**
RDO	**Rodhopi**	**3.16**	**339**	PN		**Pn**	**06 43 00.9**	**+1.0**
ZKR	**Zakros**	**3.16**	**193**	PN		**Pn**	**06 43 00.4**	**-0.4**
OUR	**Ouranopolis**	**3.19**	**313**	PN		**Pn**	**06 43 01.2**	**+0.8**
CTKS	**Kestenalik-??a**	**3.22**	**20**	PN		**Pn**	**06 43 01.8**	**+1.0**
KAVV	**Kandilli-Istan**	**3.24**	**28**	PN		**Pn**	**06 43 01.3**	**+0.2**
LAST	**Lasithi**	**3.30**	**203**	P		**Pn**	**06 43 01.9**	**0.0**
HRT	**Hereke**	**3.30**	**37**	PN		**Pn**	**06 43 03.2**	**+1.3**
SRCK	**Saricakaya, Es**	**3.33**	**56**	PN		**Pn**	**06 43 03.2**	**+1.0**
IDI	**Anoyia**	**3.40**	**211**	P		**Pn**	**06 43 02.8**	**-0.5**
IDI	**Anoyia**	**3.40**	**211**	⇑P		**Pn**	**06 43 02.9**	**-0.3**
IDI	**Anoyia**	**3.40**	**211**	PN		**Pn**	**06 43 03.3**	**+0.1**
KLYT	**Kilyos**	**3.40**	**26**	PN		**Pn**	**06 43 04.1**	**+0.8**
EDRB	**Edirne**	**3.64**	**356**	PN		**Pn**	**06 43 07.6**	**+1.0**
KDZ	**Kurdzhali**	**3.66**	**340**	PN		**Pn**	**06 43 07.6**	**+0.8**
KDZ	**Kurdzhali**	**3.66**	**340**	P		**Pn**	**06 43 07.4**	**+0.6**
KDZ	**Kurdzhali**	**3.66**	**340**	P		**Pn**	**06 43 07.4**	**+0.6**
RZN	**Rozhen**	**3.91**	**333**	P		**Pn**	**06 43 11.7**	**+1.2**
RZN	**Rozhen**	**3.91**	**333**	P		**Pn**	**06 43 11.7**	**+1.2**
STIP	**Stip**	**5.11**	**314**	*i* Pn		**Pn**	**06 43 27.3**	**+0.5**
VTS	**Vitosha**	**5.28**	**328**	P		**Pn**	**06 43 31.4**	**+2.2**
VTS	**Vitosha**	**5.28**	**328**	P		**Pn**	**06 43 31.4**	**+2.2**
MLR	**Muntele Rosu**	**7.32**	**354**	⇑P		**Pn**	**06 43 56.8**	**-0.4**
VOIR		**7.38**	**349**	⇑P		**Pn**	**06 43 57.9**	**0.0**
ARR	**Arges**	**7.38**	**347**	⇑P		**Pn**	**06 43 58.4**	**+0.5**
HERR	**Herculane**	**7.52**	**334**	⇓P		**Pn**	**06 44 00.8**	**+1.0**
PLOR	**Plostina**	**7.64**	**358**	⇓P		**Pn**	**06 44 01.2**	**-0.4**
VRI	**Vrincioaia**	**7.66**	**358**	⇓P		**Pn**	**06 44 00.2**	**-1.5**
MDVR	**Moldovita**	**7.69**	**330**	⇓P		**Pn**	**06 44 02.3**	**0.0**
GZR	**Gura Zlata**	**7.86**	**337**	⇓P		**Pn**	**06 44 05.0**	**+0.5**
TIP	**Timpagrande**	**8.11**	**280**	⇓P		**Pn**	**06 44 09.7**	**+1.6**
BZS	**Buzias**	**8.44**	**333**	⇑P		**Pn**	**06 44 12.3**	**-0.1**
BIZ	**Bicaz**	**8.75**	**356**	⇓P		**Pn**	**06 44 16.3**	**-0.4**
BURAR	**Bucovina Array**	**9.50**	**352**	⇓P		**Pn**	**06 44 26.3**	**-0.7**

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TGIG		2.46	30		Pn	07 07 13.9	-0.5
TGIG					Sn	07 07 41.5	-2.4
CMIG	**Matias Romero**	**2.50**	**349**	*eP*	**Pn**	**07 07 14.4**	**-0.4**
CMIG				*eS*	**Sn**	**07 07 43.0**	**-1.5**
CMIG	**Matias Romero**	**2.50**	**349**		**Pn**	**07 07 14.4**	**-0.4**
CMIG					**Sn**	**07 07 43.0**	**-1.5**
RTAL	**Retalhuleu**	**2.62**	**92**	Pn	**Pn**	**07 07 16.2**	**-0.2**
CCIG	**Comitan**	**2.73**	**53**	*eP*	**Pn**	**07 07 18.3**	**+0.2**
CCIG				*eS*	**Sn**	**07 07 50.9**	**+0.4**
CCIG	**Comitan**	**2.73**	**53**		**Pn**	**07 07 18.8**	**+0.6**
HUEH	**Huehuetenango**	**2.88**	**76**	Pn	**Pn**	**07 07 20.9**	**+0.6**
MTO3	**Montecristo**	**4.88**	**92**	Pn	**Pn**	**07 07 48.6**	**+0.9**
ESQI	**Esquipulas**	**4.89**	**90**	Pn	**Pn**	**07 07 50.7**	**+2.8**
PETF	**Flores**	**4.92**	**62**	Pn	**Pn**	**07 07 48.4**	**+0.4**
TLIG	**Tlapa**	**4.96**	**307**	Pn	**Pn**	**07 07 49.5**	**+0.7**
HDC	**Heredia**	**11.04**	**113**	Pn	**Pn**	**07 09 14.6**	**+2.2**
TX31	**Lajitas Ar. Si**	**16.96**	**331**	P	**Pn**	**07 10 33.7**	**+2.2**
TX31				IAmb	IAmb	07 10 54.6	
	comp=Z,24nm,1.8s						
TX32	**Lajitas Array**	**16.96**	**331**	Pn	**Pn**	**07 10 33.1**	**+1.6**
237A	**Washetta, Mont**	**17.34**	**356**	P	**Pn**	**07 10 36.7**	**+0.6**
237A				IAmb	IAmb	07 10 60.0	
	comp=Z,24nm,1.1s						
WHTX	**Lake Whitney,**	**17.51**	**351**	P	**Pn**	**07 10 39.1**	**+0.8**
Z35A	**Perchaven, San**	**18.80**	**353**	P	**P**	**07 10 54.8**	**+1.3**
Z35A				IAmb	IAmb	07 11 17.3	
	comp=Z,6.8nm,0.6s						

NEIC ***11*** *07:28:33.5±2.0,21.21S±0.09×178.7W±0.1,h548km±5km, mb4.6/74,Error ellipse: s-maj=16.0km s-min=12.4km az=108.0*

IDC ***11*** *07:28:33.3±1.9,21.22S×178.78W,h537km±22km, mb3.7/16,mb1 3.9/19,mb1mx3.7/42,mbtmp4.6/19,Error ellipse: s-maj=15.9km s-min=11.4km az=133.0*

ISC 11 07:28:33.7±0.3,21.22S±0.05×178.67W±0.06,h550km, n236,σ1§17/258,mb4.5/54,27C-10D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.65**	**318**	P	**P**	**07 30 01.2**	**+0.3**
RIZ	**Raoul Island**	**8.02**	**175**	S	**S**	**07 32 10.7**	**+2.5**
RAO	**Raoul Island**	**8.03**	**175**	P	**P**	**07 30 31.1**	**-0.5**
RAO				S	**S**	**07 32 09.1**	**+0.8**
GLKZ	**Green Lake**	**8.04**	**175**	P	**P**	**07 30 32.6**	**+0.9**
GLKZ				S	**S**	**07 32 07.3**	**-1.2**
NIUE	**Niue**	**8.48**	**77**	P	**P**	**07 30 36.2**	**-0.1**
AFI	**Afiamalu**	**9.80**	**43**	P	**P**	**07 30 48.5**	**-1.3**
	5.0nm,0.3s,baz=220,slow=3.2,SNR=6.4						
AFI				S	**S**	**07 32 35.6**	**-5.9**
	2.0nm,0.3s,baz=172,slow=5.9,SNR=6.1						
AFI	**Afiamalu**	**9.80**	**43**	P	**P**	**07 30 48.6**	**-1.2**
AFI				S	**S**	**07 32 40.3**	**-1.2**
DZM	**Mont Dzumac**	**13.87**	**264**	P	**P**	**07 31 31.1**	**-0.7**
	0.5nm,0.3s,baz=66,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**13.87**	**264**	P	**P**	**07 31 32.2**	**+0.5**
SANVU	**Saraoutou**	**14.59**	**291**	P	**P**	**07 31 38.8**	**-0.3**
OUZ	**Omahuta**	**15.52**	**204**	P	**P**	**07 31 49.2**	**+0.8**
OUZ	**Omahuta**	**15.52**	**204**	P	**P**	**07 31 49.3**	**+1.0**
WCZ	**Waipu Caves**	**15.89**	**201**	P	**P**	**07 31 53.8**	**+1.7**
KUZ	**Kuaotunu**	**16.22**	**196**	P	**P**	**07 31 55.2**	**0.0**
WIAZ	**Waiheke Island**	**16.43**	**198**	P	**P**	**07 31 56.9**	**-0.2**
HAZ	**Te Kaha**	**16.76**	**190**	P	**P**	**07 32 00.1**	**-0.1**
HAZ				S	**S**	**07 34 48.1**	**-0.3**
RUGZ	**Raukumara Rang**	**16.98**	**190**	P	**P**	**07 31 59.7**	**-2.6**
PUZ	**Puketiti**	**17.00**	**188**	P	**P**	**07 32 03.5**	**+1.2**
TGRZ	**Tauranga**	**17.03**	**194**	P	**P**	**07 32 03.8**	**+1.2**
TWGZ	**Tauwhareparae**	**17.14**	**189**	P	**P**	**07 32 04.6**	**+0.9**
TOZ	**Tahuroa Road**	**17.21**	**196**	P	**P**	**07 32 05.9**	**+1.7**
KMRZ	**Kaimai**	**17.21**	**195**	P	**P**	**07 32 06.1**	**+1.8**
URZ	**Urewera**	**17.37**	**191**	P	**P**	**07 32 03.9**	**-1.7**
	3.5nm,0.3s,baz=299,slow=3.0,SNR=20						
URZ	**Urewera**	**17.37**	**191**	P	**P**	**07 32 03.9**	**-1.7**
URZ	**Urewera**	**17.37**	**191**	P	**P**	**07 32 04.3**	**-1.3**
MWZ	**Matawai**	**17.37**	**190**	P	**P**	**07 32 04.5**	**-1.2**
MWZ				S	**S**	**07 34 53.9**	**-4.6**
HRRZ	**Handcock Road**	**17.66**	**193**	P	**P**	**07 32 07.9**	**-0.5**
RIGZ	**Rimuhau**	**17.70**	**189**	P	**P**	**07 32 08.3**	**-0.4**
RIGZ				S	**S**	**07 35 00.6**	**-3.2**
RTZ	**Ruatahuna**	**17.74**	**191**	P	**P**	**07 32 07.4**	**-1.7**
TLZ	**Tolley Road**	**17.77**	**195**	P	**P**	**07 32 11.4**	**+2.0**
HIZ	**Hauiti**	**18.12**	**197**	P	**P**	**07 32 15.0**	**+2.4**
HIZ	**Hauiti**	**18.12**	**197**	P	**P**	**07 32 13.8**	**+1.3**
RATZ	**Rangitukua**	**18.23**	**194**	P	**P**	**07 32 12.9**	**-0.7**
NMHZ	**Naumai**	**18.24**	**191**	P	**P**	**07 32 12.6**	**-1.1**
NMHZ				S	**S**	**07 35 15.6**	**+3.0**
BKZ	**Black Stump Fm**	**18.36**	**192**	P	**P**	**07 32 12.6**	**-2.3**
BKZ	**Black Stump Fm**	**18.36**	**192**	P	**P**	**07 32 13.2**	**-1.7**
BKZ				IAmb	IAmb	07 32 20.8	
	comp=Z,9.7nm,0.6s						
OTVZ	**Oturere**	**18.53**	**194**	P	**P**	**07 32 15.0**	**-1.5**
KWHZ	**Kaweka Forest**	**18.63**	**192**	P	**P**	**07 32 15.3**	**-1.9**
KWHZ				S	**S**	**07 35 16.6**	**-2.3**
TUVZ	**Tukino**	**18.64**	**194**	P	**P**	**07 32 16.8**	**-0.7**
WNVZ	**Wahianoa**	**18.71**	**194**	P	**P**	**07 32 17.3**	**-0.8**
BHHZ	**Black Hill Sta**	**18.76**	**193**	P	**P**	**07 32 16.3**	**-2.1**
KRHZ	**Kereru**	**18.85**	**192**	P	**P**	**07 32 18.0**	**-1.2**
KRHZ				S	**S**	**07 35 21.9**	**-0.5**
KNTN	**Kanton**	**19.54**	**21**	P	**P**	**07 32 24.9**	**-1.0**
BFZ	**Birch Farm**	**19.88**	**191**	P	**P**	**07 32 27.4**	**-1.2**
MSWZ	**Moikau Station**	**20.78**	**193**	P	**P**	**07 32 36.3**	**-0.5**
SNZO	**South Karori**	**20.80**	**194**	P	**P**	**07 32 35.6**	**-1.2**
SNZO				IAmb	IAmb	07 32 46.7	
	comp=Z,17nm,0.9s						
BHW	**Baring Head**	**20.86**	**194**	P	**P**	**07 32 36.5**	**-0.8**
QRZ	**Quartz Range**	**20.93**	**199**	P	**P**	**07 32 37.8**	**-0.2**
QRZ				IAmb	IAmb	07 32 41.8	
	comp=Z,15nm,0.6s						
NNZ	**Nelson**	**21.04**	**197**	P	**P**	**07 32 38.1**	**-0.9**
TUWZ	**Tuamarina**	**21.10**	**196**	P	**P**	**07 32 39.0**	**-0.5**
BSWZ	**Blackbirch Sta**	**21.38**	**195**	P	**P**	**07 32 41.3**	**-0.8**
THZ	**Tophouse**	**21.68**	**197**	P	**P**	**07 32 44.1**	**-0.7**
THZ				IAmb	IAmb	07 32 46.5	
	comp=Z,19nm,1.1s						
KHZ	**Kahutara**	**22.13**	**195**	P	**P**	**07 32 47.2**	**-1.5**
KHZ				IAmb	IAmb	07 32 52.9	
	comp=Z,8.6nm,0.7s						
LTZ	**Lake Taylor**	**22.80**	**197**	P	**P**	**07 32 53.0**	**-1.9**
LTZ				IAmb	IAmb	07 32 56.6	
	comp=Z,16nm,0.9s						
OXZ	**Oxford**	**23.37**	**197**	P	**P**	**07 32 58.5**	**-1.4**
MQZ	**McQueen's Vall**	**23.56**	**196**	P	**P**	**07 32 60.0**	**-1.5**
MQZ				IAmb	IAmb	07 33 06.3	
	comp=Z,21nm,1.2s						
RPZ	**Rata Peaks**	**24.01**	**199**	P	**P**	**07 33 03.8**	**-1.8**
	comp=Z,5.0nm,0.5s,baz=3.5,slow=4.0,SNR=6.6						
RPZ	**Rata Peaks**	**24.01**	**199**	P	**P**	**07 33 04.3**	**-1.3**
RPZ				IAmb	IAmb	07 33 12.8	
	comp=Z,9.6nm,1.0s						
FOZ	**Fox Glacier**	**24.23**	**201**	P	**P**	**07 33 06.7**	**-0.8**
FOZ				IAmb	IAmb	07 33 08.7	
	comp=Z,21nm,0.9s						
ODZ	**Otahua Downs**	**25.34**	**198**	P	**P**	**07 33 15.9**	**-1.4**
ODZ				IAmb	IAmb	07 33 29.1	
	comp=Z,26nm,1.4s						
WKZ	**Wanaka**	**25.65**	**201**	P	**P**	**07 33 19.2**	**-0.8**
WKZ				IAmb	IAmb	07 33 41.7	
	comp=Z,27nm,1.3s						
MLZ	**Mavora Lakes**	**26.42**	**201**	P	**P**	**07 33 26.4**	**-0.4**
MLZ				IAmb	IAmb	07 33 29.9	
	comp=Z,8.8nm,0.9s						
WHZ	**Wether Hill Ro**	**26.94**	**201**	P	**P**	**07 33 32.1**	**+0.7**
CTA	**Charters Tower**	**32.81**	**266**	P	**P**	**07 34 22.6**	**+0.3**
	comp=Z,14nm,0.4s,baz=94,slow=12,SNR=14						
CTAO	**Charters Tower**	**32.81**	**266**	P	**P**	**07 34 22.4**	**0.0**
PMG	**Port Moresby**	**34.91**	**284**	P	**P**	**07 34 39.4**	**-0.6**
TOO	**Toolangi**	**34.97**	**234**	P	**P**	**07 34 40.6**	**+0.3**
TOO				IAmb	IAmb	07 34 58.7	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**36.92**	**245**	P	**P**	**07 34 56.9**	**+0.4**
	comp=Z,8.2nm,0.8s,baz=89,slow=8.4,SNR=18						
STKA	**Stephens Creek**	**36.92**	**245**	P	**P**	**07 34 56.6**	**+0.2**
COEN	**Coen**	**37.01**	**275**	P	**P**	**07 34 57.0**	**-0.5**
COEN				IAmb	IAmb	07 34 58.7	
	comp=Z,17nm,0.8s						
BBOO	**Buckleboo**	**41.67**	**244**	P	**P**	**07 35 33.7**	**-0.9**
BBOO				IAmb	IAmb	07 35 35.1	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**43.70**	**263**	P	**P**	**07 35 49.7**	**-1.0**
AS31	**Alice Springs**	**43.75**	**258**	P	**P**	**07 35 50.5**	**-0.6**
AS31				IAmb	IAmb	07 35 51.4	
	comp=Z,6.1nm,0.6s						
ASAR	**Alice Springs**	**43.75**	**258**	P	**P**	**07 35 50.7**	**-0.4**
	comp=Z,22nm,0.6s,baz=98,slow=7.9,SNR=455						
ASAR				PcP	**PcP**	**07 37 25.8**	**0.0**
	comp=Z,2.5nm,0.7s,baz=100,slow=4.0,SNR=8.0						
ASAR				S	**S**	**07 41 39.1**	**-2.9**
	comp=Z,2.3nm,0.8s,baz=95,slow=15,SNR=18						
ASAR	**Alice Springs**	**43.75**	**258**	P	**P**	**07 35 50.4**	**-0.7**
WB2	**Warramunga Arr**	**43.88**	**263**	P	**P**	**07 35 50.9**	**-1.2**
WB2				IAmb	IAmb	07 35 52.1	
	comp=Z,21nm,1.1s						
WRA	**Warramunga Arr**	**43.89**	**263**	P	**P**	**07 35 51.1**	**-1.1**
	comp=Z,4.6nm,0.4s,baz=98,slow=7.7,SNR=195						
WRA				S	**S**	**07 41 39.0**	**-5.0**
	comp=Z,1.4nm,0.8s,baz=97,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**43.89**	**263**	P	**P**	**07 35 51.4**	**-0.8**
FORT	**Forrest**	**48.44**	**247**	P	**P**	**07 36 25.5**	**-1.0**
MTN	**Manton Dam**	**48.55**	**271**	P	**P**	**07 36 26.5**	**-1.1**
MTN				IAmb	IAmb	07 36 27.3	
	comp=Z,13nm,0.6s						
KNRA	**Kununurra**	**49.99**	**267**	P	**P**	**07 36 37.5**	**-0.7**
KNRA				IAmb	IAmb	07 36 38.5	
	comp=Z,18nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.32**	**263**	P	**P**	**07 36 54.2**	**-0.7**
SOEI	**Soe**	**55.90**	**272**	P	**P**	**07 37 20.6**	**+0.2**
PSA00	**Pilbara Seismi**	**56.90**	**258**	P	**P**	**07 37 25.9**	**-1.1**
PSA00				IAmb	IAmb	07 37 26.8	
	comp=Z,13nm,0.7s						
VNDA	**Vanda**	**57.14**	**185**	P	**P**	**07 37 29.6**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=358,slow=6.4,SNR=15						
VNDA	**Vanda**	**57.14**	**185**	P	**P**	**07 37 28.9**	**+1.1**
PCI	**Palu**	**63.20**	**280**	P	**P**	**07 38 09.6**	**+0.6**
	comp=Z,1µmcomp=Z,72nm,0.8s						
QSPA	**South Pole Qui**	**68.85**	**180**	P	**P**	**07 38 44.1**	**+0.8**
MJAR	**Matsushiro Arr**	**70.42**	**324**	P	**P**	**07 38 52.1**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=159,slow=5.8,SNR=5.2						
PMBI	**Palembang**	**76.42**	**272**	P	**P**	**07 39 28.4**	**+0.8**
	comp=Z,1µm,0.6s						
PEA0B	**Petropavlovsk-**	**76.81**	**346**	P	**P**	**07 39 29.2**	**+0.4**
PEA0B				IAmb	IAmb	07 39 29.6	
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**76.81**	**346**	P	**P**	**07 39 29.3**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=137,slow=6.7,SNR=10						
BELA	**Belgrano 2**	**78.93**	**173**	P	**P**	**07 39 38.9**	**-1.1**
CHGN	**Chignik**	**79.10**	**11**	P	**P**	**07 39 41.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**79.21**	**326**	P	**P**	**07 39 43.5**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=119,slow=4.4,SNR=6.3						
USRK	**Ussuriysk Ar.**	**79.21**	**326**	P	**P**	**07 39 42.0**	**0.0**
KMRM	**Mail Ridge**	**79.70**	**40**	P	**P**	**07 39 46.2**	**+1.4**
KMRM				IAmb	IAmb	07 39 48.7	
	comp=Z,16nm,0.9s						
NJ2	**Nanjing**	**79.86**	**310**	*eP*	**P**	**07 39 46.7**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KRMB	**Red Mountain**	**80.41**	**38**	P	**P**	**07 39 49.8**	**+1.3**
PMSA	**Palmer Station**	**80.88**	**157**	P	**P**	**07 39 50.9**	**+0.6**
PMSA				IAmb	IAmb	07 40 13.0	
	comp=Z,25nm,1.5s						
YBH	**Yreka Blue Hor**	**81.24**	**39**	P	**P**	**07 39 55.1**	**+2.4**
	comp=Z,4.4nm,0.8s,baz=174,slow=1.4,SNR=17						
YBH	**Yreka Blue Hor**	**81.24**	**39**	P	**P**	**07 39 52.4**	**-0.3**
PNTR	**Pine Nut**	**81.53**	**42**	P	**P**	**07 39 56.1**	**+1.7**
VCNR	**Virginia City**	**81.62**	**42**	P	**P**	**07 39 56.1**	**+1.3**
YERR	**Yerington**	**81.70**	**43**	P	**P**	**07 39 56.5**	**+1.3**
LHV	**Little Huntoon**	**81.74**	**44**	P	**P**	**07 39 56.1**	**+0.9**
NVAR	**Mina Array Bea**	**81.97**	**44**	P	**P**	**07 39 58.5**	**+1.8**
	comp=Z,2.5nm,0.6s,baz=224,slow=7.8,SNR=26						
NVAR	**Mina Array Bea**	**81.97**	**44**	P	**P**	**07 39 58.1**	**+1.4**
NV11	**Mina Array Sit**	**82.07**	**44**	P	**P**	**07 39 58.7**	**+1.6**
KVN	**Kaiserville**	**82.46**	**43**	P	**P**	**07 40 00.4**	**+1.3**
TPH	**Tonopah**	**82.47**	**44**	P	**P**	**07 40 00.6**	**+1.4**
TPNV	**Topopah Spring**	**82.49**	**46**	P	**P**	**07 39 60.0**	**+0.7**
MOD	**Modoc Plateau**	**82.77**	**40**	P	**P**	**07 40 01.5**	**+1.0**
K05A	**Summer Lake**	**82.91**	**39**	P	**P**	**07 40 02.6**	**+1.3**
K05A				IAmb	IAmb	07 40 04.5	
	comp=Z,10.0nm,1.0s						
H04A	**Detroit Lake**	**83.38**	**37**	P	**P**	**07 40 04.0**	**+0.6**
H04A				IAmb	IAmb	07 40 05.4	
	comp=Z,5.6nm,0.6s						
PINE	**Pine Mountain**	**83.53**	**38**	P	**P**	**07 40 05.9**	**+1.5**
PINE				IAmb	IAmb	07 40 07.6	
	comp=Z,10nm,0.9s						
G08A	**Pilot Rock**	**85.56**	**38**	P	**P**	**07 40 13.2**	**-1.0**
PMR	**Palmer**	**85.86**	**14**	P	**P**	**07 40 15.1**	**+0.1**
PMR				IAmb	IAmb	07 40 25.5	
	comp=Z,11nm,1.1s						
GHO	**Glory Hole Cre**	**86.07**	**14**	P	**P**	**07 40 15.7**	**-0.4**
SCM	**Sheep Creek Mo**	**86.48**	**14**	P	**P**	**07 40 18.8**	**+0.8**
SEY	**Seymchan**	**86.93**	**347**	P	**P**	**07 40 20.6**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=130,slow=4.5,SNR=15						
GLB	**Gilahina Butte**	**87.00**	**16**	P	**P**	**07 40 20.8**	**+0.4**
GLB				IAmb	IAmb	07 40 21.9	
	comp=Z,6.9nm,0.7s						
B08A	**Colville Reser**	**87.18**	**35**	P	**P**	**07 40 22.1**	**+0.5**
B08A				IAmb	IAmb	07 40 23.4	
	comp=Z,6.5nm,0.9s						
KTH	**Kantishna Hill**	**87.25**	**12**	P	**P**	**07 40 21.0**	**-0.6**
KTH				IAmb	IAmb	07 40 22.7	
	comp=Z,14nm,1.0s						
HLID	**Hailey**	**87.28**	**41**	P	**P**	**07 40 21.4**	**-0.9**
TRF	**Thorofare Moun**	**87.28**	**12**	P	**P**	**07 40 21.8**	**-0.1**
TXAR	**Lajitas Array**	**87.97**	**58**	P	**P**	**07 40 27.4**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=224,slow=7.0,SNR=5.1						
TXAR	**Lajitas Array**	**87.97**	**58**	P	**P**	**07 40 26.1**	**+0.2**
WRH	**Wood River Hil**	**88.64**	**13**	P	**P**	**07 40 28.0**	**0.0**
HDA	**Harding Lake**	**88.82**	**13**	P	**P**	**07 40 28.8**	**0.0**
HDA				IAmb	IAmb	07 40 30.0	
	comp=Z,7.7nm,0.6s						
CCB	**Clear Creek Bu**	**88.85**	**13**	P	**P**	**07 40 28.1**	**-0.9**
CCB				IAmb	IAmb	07 40 29.6	
	comp=Z,8.7nm,0.8s						
BCAR	**Beaver Creek A**	**88.88**	**16**	P	**P**	**07 40 27.8**	**-1.4**
MCMT	**McKenzie Canyo**	**88.90**	**40**	P	**P**	**07 40 31.8**	**+1.8**
DLBC	**Dease Lake**	**88.95**	**23**	P	**P**	**07 40 30.7**	**+1.0**
	comp=Z,5.5nm,0.8s,baz=243,slow=4.5,SNR=3.3						
IMAR	**Indian Mountai**	**88.97**	**10**	P	**P**	**07 40 29.8**	**+0.3**
MDM	**Murphy Dome**	**89.04**	**12**	P	**P**	**07 40 29.6**	**-0.2**
MDM				IAmb	IAmb	07 40 30.5	
	comp=Z,7.7nm,0.8s						
IL31		**89.15**	**13**	P	**P**	**07 40 29.5**	**-0.8**
IL31				IAmb	IAmb	07 40 31.0	
	comp=Z,4.7nm,0.9s						
ILAR	**Eielson Array**	**89.15**	**13**	P	**P**	**07 40 30.2**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=224,slow=5.5,SNR=32						
ILAR	**Eielson Array**	**89.15**	**13**	P	**P**	**07 40 29.5**	**-0.9**
REDW	**Red Top Meadow**	**89.38**	**42**	P	**P**	**07 40 32.1**	**-0.2**
REDW				IAmb	IAmb	07 40 35.5	
	comp=Z,7.6nm,1.2s						
HHC	**Hu-ho-hao-te**	**89.41**	**315**	*eP*	**P**	**07 40 32.6**	**+0.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,470nm,5.4s						
LOHW	**Long Hollow**	**89.67**	**42**	P	**P**	**07 40 34.4**	**+0.8**
CMAR	**Chiang Mai Ar**	**89.77**	**290**	P	**P**	**07 40 33.5**	**-0.8**
PDAR	**Pinedale Array**	**89.91**	**43**	P	**P**	**07 40 36.0**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=209,slow=3.6,SNR=21						
PDAR	**Pinedale Array**	**89.91**	**43**	P	**P**	**07 40 34.3**	**-0.4**
DAWY	**Dawson**	**90.32**	**16**	P	**P**	**07 40 36.3**	**+0.4**
DAWY				IAmb	IAmb	07 40 37.6	
	comp=Z,8.2nm,1.0s						
EGAK	**Eagle**	**90.46**	**15**	P	**P**	**07 40 36.7**	**+0.3**
EGAK				IAmb	IAmb	07 40 38.0	
	comp=Z,5.9nm,0.8s						
LZH	**Lanzhou**	**92.71**	**308**	⇑P	**P**	**07 40 49.2**	**+1.5**
LZH				pP	pwP	07 42 51.2	-0.7
LZH				sP	sP	07 43 45.3	+3.0
LZH				PP	**PP**	**07 44 44.6**	**+4.9**
LZH				pmax	pmax		
	comp=Z,22nm,1.4s						
LZH				pmax	pmax		
	comp=Z,76nm,9.3s						
MKAR	**Makanchi Array**	**111.24**	**313**	PKiKP	**PKiKP**	**07 46 04.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=131,slow=1.8,SNR=2.8						
SPITS	**Spitsbergen Ar**	**122.54**	**356**	PKP	**PKPdf**	**07 46 24.9**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=79,slow=4.3,SNR=8.6						
ARCES	**ARCESS Array B**	**129.51**	**349**	PKP	**PKPdf**	**07 46 39.3**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=14,slow=1.8,SNR=24						
FINES	**FINESS Array B**	**136.28**	**343**	PKP	**PKiKP**	**07 46 53.5**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=31,slow=4.6,SNR=9.6						
NB2	**NORSAR Subarra**	**139.62**	**353**	PKP	PKPpre	07 46 50.5	
	comp=Z,0.4nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**139.62**	**353**	PKhKP	PKPpre	07 46 49.2	
	comp=Z,0.8nm,0.5s,baz=16,slow=4.7,SNR=6.6						
NOA				PKP	**PKPdf**	**07 46 59.3**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=14,slow=4.0,SNR=5.1						
SUW	**Suwalki**	**143.28**	**338**	*e*PKP	PKPab	07 47 03.5	0.0
AKASG	**Malin Array Be**	**143.33**	**330**	PKhKP	PKPpre	07 46 58.3	
	comp=Z,14nm,0.5s,baz=42,slow=4.6,SNR=7.2						
AKASG				PKP	PKPab	07 47 03.4	-0.3
	comp=Z,15nm,0.5s,baz=43,slow=4.1,SNR=56						
SORM	**Soroca**	**145.48**	**328**	⇑P	**PKPbc**	**07 47 10.6**	**0.0**
GKP	**Gorka Klasztor**	**145.76**	**343**	*e*PKP	**PKPbc**	**07 47 11.6**	**+0.4**
BR131	**Keskin Array S**	**146.85**	**311**		**PKPbc**	**07 47 14.8**	**-0.1**
BRTR	**Keskin Array B**	**146.85**	**311**	PKPbc	**PKPbc**	**07 47 14.8**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=132,slow=3.9,SNR=9.7						
BRTR	**Keskin Array B**	**146.85**	**311**		**PKPbc**	**07 47 14.6**	**-0.4**
KWP	**Kalwaria Pacla**	**146.97**	**334**	*e*PKP	**PKPbc**	**07 47 15.2**	**+0.4**
TLCR		**147.12**	**323**	⇓P	**PKPbc**	**07 47 15.6**	**+0.3**
BURAR	**Bucovina Array**	**147.37**	**329**	⇑P	**PKPbc**	**07 47 16.5**	**+0.6**
BURAR	**Bucovina Array**	**147.37**	**329**		**PKPbc**	**07 47 16.2**	**+0.2**
BIZ	**Bicaz**	**147.41**	**328**	⇓P	**PKPbc**	**07 47 16.7**	**+0.7**
SCHL	**Schela**	**147.47**	**324**	⇑P	**PKPbc**	**07 47 16.0**	**-0.1**
CFR	**Carcaliu**	**147.50**	**324**	⇑P	**PKPbc**	**07 47 16.7**	**+0.5**
OJC	**Ojcow**	**147.59**	**338**	*e*PKP	**PKPbc**	**07 47 16.6**	**+0.3**
OJC	**Ojcow**	**147.59**	**338**		**PKPbc**	**07 47 16.7**	**+0.3**
VRI	**Vrincioaia**	**147.82**	**326**	⇓P	**PKPbc**	**07 47 17.2**	**+0.1**
PLOR	**Plostina**	**147.87**	**326**	⇑P	**PKPbc**	**07 47 17.2**	**0.0**
HARR	**Harsova**	**147.92**	**323**	⇓P	**PKiKP**	**07 47 18.2**	**-0.5**
MANR	**Mangalia**	**148.07**	**321**	⇑P	**PKiKP**	**07 47 18.6**	**-0.4**
NIE	**Niedzica**	**148.08**	**336**	*e*PKP	**PKiKP**	**07 47 18.6**	**-0.3**
KSP	**Ksiaz**	**148.19**	**342**	*e*PKP	**PKPbc**	**07 47 18.6**	**+0.7**
NEHR	**Nehoiu**	**148.34**	**326**	⇑P	**PKiKP**	**07 47 18.7**	**+0.3**
DOPR	**Dopca**	**148.44**	**327**	⇑P	**PKiKP**	**07 47 19.8**	**0.0**
OSTC	**Ostas**	**148.46**	**342**	⇑*e*PKP	**PKiKP**	**07 47 19.4**	**-0.3**
OSTC				*e*PKPAB	**PKPab**	**07 47 25.3**	**+1.3**
MLR	**Muntele Rosu**	**148.48**	**326**	⇑P	**PKiKP**	**07 47 19.7**	**-0.3**
MLR	**Muntele Rosu**	**148.48**	**326**		**PKPbc**	**07 47 19.0**	**+0.1**
CHVC	**Chvalec**	**148.48**	**342**	⇑*e*PKP	**PKiKP**	**07 47 19.4**	**-0.3**
CHVC				*e*PKPAB	**PKPab**	**07 47 24.6**	**+0.5**
UPC	**Upice**	**148.57**	**342**	⇑*e*PKP	**PKiKP**	**07 47 19.6**	**-0.3**
CLL	**Collm**	**148.61**	**346**	*e*PKPdf	**PKPdf**	**07 47 16.0**	**+1.6**
CLL				⇓*i*PKPbc	**PKPbc**	**07 47 19.2**	**+0.4**
	comp=Z,13nm,0.7s						
CLL				*i* PKiKP	**PKiKP**	**07 47 21.6**	**+1.7**
CLL				*i* PKPab	**PKPab**	**07 47 24.8**	**+0.2**
	comp=Z,6.0nm,0.7s						
CLL				*ep*PKPab	**pPKPab**	**07 49 27.0**	**-0.3**
DPC	**Dobru

SVAN				SN		Sn	07 33 37.6	+1.0
SVAN	**Silvan-Diyarba**	**1.09**	**146**	*i* P		Pg	07 33 22.6	+0.7
SVAN				*i* S		Sn	07 33 36.2	-0.4
SVAN				IAML			07 33 42.0	
	comp=N,717nm,0.8s							
SVAN				IAML			07 33 43.0	
	comp=E,792nm,0.8s							
SVRC	**Sivrice-ELAZID**	**1.10**	**232**	PN		Pg	07 33 22.3	+0.3
DIYA	**Diyarbakir**	**1.16**	**192**	*i* P		Pg	07 33 24.3	+1.3
DIYA				*i* S		Sg	07 33 39.8	+1.7
DIYA				IAML			07 33 43.0	
	comp=N,2µm,0.6s							
DIYA				IAML			07 33 44.0	
	comp=E,1µm,0.2s							
BAYB	**BAYBURT**	**1.21**	**354**	*i* P		Pg	07 33 24.8	+0.8
BAYB				*i* S		Sg	07 33 43.5	+3.7
ELZG	**Elazig**	**1.25**	**244**	*i* P		Pg	07 33 24.0	-0.8
ELZG				*i* S		Sg	07 33 42.5	+1.5
ELZG				IAML			07 33 50.0	
	comp=N,1µm,0.9s							
ELZG				IAML			07 33 55.0	
	comp=E,2µm,0.7s							
EKAR	**Karacoban**	**1.30**	**81**	*i* P		Pg	07 33 26.0	+0.2
EKAR				*i* S		Sg	07 33 46.0	+3.3
EKAR				IAML			07 33 51.0	
	comp=N,2µm,0.8s							
EKAR				IAML			07 33 56.0	
	comp=E,3µm,1.2s							
REFA	**Refahiye_ERZN**	**1.32**	**285**	*i* P		Pg	07 33 30.1	+3.8
REFA				*i* S		Sg	07 33 51.7	+8.2
REFA				IAML			07 33 58.0	
	comp=E,352nm,0.7s							
REFA				IAML			07 34 06.0	
	comp=N,320nm,1.2s							
KRIK	**Erzurum-spir**	**1.34**	**17**	*i* P		Pg	07 33 25.9	-0.6
KRIK				*i* S		Sg	07 33 46.4	+2.4
BTMN	**Batman**	**1.34**	**150**	*i* P		Pg	07 33 27.0	+0.4
BTMN				*i* S		Sg	07 33 43.5	-0.6
BTMN				IAML			07 33 48.0	
	comp=N,4µm,0.6s							
BTMN				IAML			07 33 48.0	
	comp=E,3µm,1.2s							
BAYT	**Aydıntepe-Bayb**	**1.35**	**351**	PN		Pg	07 33 26.3	-0.5
GURO	**Guroymak-BITLI**	**1.36**	**111**	PN		Pn	07 33 24.9	-0.6
KELT	**Kelkit**	**1.41**	**321**	*i* P		Pg	07 33 27.1	-0.7
KELT				*i* S		Sg	07 33 46.1	-0.1
KELT				IAML			07 33 55.0	
	comp=E,656nm,1.3s							
KOPR	**Koprukoy-ERZUR**	**1.45**	**50**	PN		Pb	07 33 27.6	-0.1
KOPR				SN		Sg	07 33 48.0	+0.4
BLIS	**Bitlis-Merkez**	**1.48**	**115**	*i* P		Pb	07 33 28.0	-0.1
BLIS				*i* S		Sg	07 33 48.0	-0.4
BLIS				IAML			07 33 53.0	
	comp=N,1000nm,0.6s							
BLIS				IAML			07 33 53.0	
	comp=E,693nm,0.7s							
ILIC	**ilic-Erzincan**	**1.48**	**286**	PN		Pg	07 33 28.3	-1.0
KEMA	**Kemaliye**	**1.51**	**279**	*i* P		Pb	07 33 28.1	-0.4
KEMA				*i* S		Sg	07 33 50.3	+1.0
KEMA				IAML			07 33 55.0	
	comp=E,711nm,0.5s							
KEMA				IAML			07 33 58.0	
	comp=N,912nm,0.6s							
HOMI	**Horasan**	**1.52**	**49**	*i* P		Pb	07 33 28.7	-0.1
HOMI				*i* S		Sg	07 33 49.7	0.0
HOMI				IAML			07 34 00.0	
	comp=E,2µm,0.8s							
HOMI				IAML			07 34 11.0	
	comp=N,1µm,1.9s							
SRTM	**Siirt_Merkez**	**1.59**	**131**	*i* P		Pg	07 33 30.9	-0.4
SRTM				*i* S		Sg	07 33 51.5	-0.5
SRTM				IAML			07 33 55.0	
	comp=E,1µm,0.7s							
SRTM				IAML			07 33 58.0	
	comp=N,2µm,0.8s							
ARPR	**Arapgir-MALATY**	**1.62**	**272**	PN		Pb	07 33 30.1	-0.3
MLAZ	**Malazgirt-MUS**	**1.67**	**86**	PN		Pb	07 33 30.6	-0.7
MALT	**Malatya**	**1.72**	**245**	PN		Pb	07 33 32.0	-0.2
MARD	**Mardin**	**1.77**	**170**	*i* P		Pb	07 33 32.6	-0.3
MARD				*i* S		Sb	07 33 55.0	0.0
MARD				IAML			07 33 58.0	
	comp=E,2µm,0.6s							
MARD				IAML			07 34 04.0	
	comp=N,2µm,0.6s							
EATA	**Eleskirt**	**1.80**	**63**	*i* P		Pb	07 33 33.7	0.0
EATA				*i* S		Sg	07 33 58.0	-0.7
EATA				IAML			07 34 08.0	
	comp=E,498nm,0.7s							
EATA				IAML			07 34 09.0	
	comp=N,474nm,0.9s							
ADCV	**BITLIS_Adilcev**	**1.82**	**97**	*i* P		Pb	07 33 33.1	-0.8
ADCV				*i* S		Sg	07 33 59.4	+0.1
HEKM	**Malatya_Hekimh**	**1.92**	**265**	*i* P		Pb	07 33 35.6	0.0
HEKM				*i* S		Sg	07 34 03.8	+1.2
HEKM				IAML			07 34 13.0	
	comp=N,750nm,0.7s							
HEKM				IAML			07 34 13.0	
	comp=E,953nm,0.5s							
KTUT	**Trabzon**	**1.99**	**346**	PN		Pb	07 33 35.9	-0.8
URFA	**Urfa**	**2.04**	**218**	PN		Pb	07 33 37.2	-0.5
CHOM	**Cayeli-Rize**	**2.05**	**7**	PN		Pb	07 33 36.5	-1.3
AKCD	**Akcadag**	**2.09**	**249**	*i* P		Pb	07 33 37.8	-0.8
AKCD				*i* S		Sg	07 34 08.8	+0.7
AKCD				IAML			07 34 13.0	
	comp=E,367nm,0.6s							
AKCD				IAML			07 34 28.0	
	comp=N,369nm,0.8s							
DDEM	**Demirkent**	**2.10**	**29**	*i* P		Pb	07 33 38.4	-0.3
DDEM				*i* S		Sb	07 34 04.8	+0.2
DDEM				IAML			07 34 11.0	
	comp=E,380nm,0.7s							
DDEM				IAML			07 34 15.0	
	comp=N,374nm,0.6s							
SENK	**Senkaya-Erzuru**	**2.12**	**44**	PN		Pb	07 33 37.3	-1.7
AKDM	**Akdamar-Van**	**2.14**	**109**	PN		Pb	07 33 38.5	-0.8
DBAD	**Bademkaya**	**2.19**	**26**	*i* P		Pb	07 33 38.7	-1.5
DBAD				*i* S		Sb	07 34 07.2	-0.1
DBAD				IAML			07 34 12.0	
	comp=E,239nm,0.6s							
DBAD				IAML			07 34 18.0	
	comp=N,258nm,0.8s							
SANL	**SANLIURFA_Merk**	**2.19**	**211**	*i* P		Pb	07 33 39.6	-0.5
SANL				*i* S		Sg	07 34 09.0	-2.2
SANL				IAML			07 34 20.0	
	comp=E,484nm,0.9s							
SANL				IAML			07 34 21.0	
	comp=N,348nm,0.5s							
CUZAR	**Zara_SIVAS**	**2.21**	**293**	*i* P		Pg	07 33 42.0	-1.0
CUZAR				*i* S		Sg	07 34 12.0	+0.3
CUZAR				IAML			07 34 16.0	
	comp=E,256nm,0.8s							
CUZAR				IAML			07 34 23.0	
	comp=N,332nm,1.0s							
SIRN	**Sırnak**	**2.22**	**134**	*i* P		Pb	07 33 41.3	+0.7
SIRN				*i* S		Sb	07 34 08.6	+0.7
SIRN				IAML			07 34 17.0	
	comp=E,771nm,1.2s							
SIRN				IAML			07 34 25.0	
	comp=N,636nm,0.8s							
SIRT	**Sirnak**	**2.23**	**134**	PN		Pb	07 33 38.9	-1.9
ESPY	**Espiye-Giresun**	**2.26**	**326**	PN		Pb	07 33 40.3	-1.1
ATAB	**Bozova**	**2.30**	**227**	*i* P		Pb	07 33 41.2	-0.8
ATAB				*i* S		Sn	07 34 06.4	0.0
CUKAN	**kangal_SIVAS**	**2.30**	**277**	*i* P		Pb	07 33 41.7	-0.5
CUKAN				*i* S		Sg	07 34 14.9	+0.1
CUKAN				IAML			07 34 20.0	
	comp=E,267nm,1.1s							
CUKAN				IAML			07 34 21.0	
	comp=N,173nm,0.3s							
DARE	**Darende-Malaty**	**2.34**	**259**	PN		Pb	07 33 41.2	-1.5
VANB	**Van**	**2.37**	**100**	PN		Pb	07 33 41.4	-1.9
TVAN	**Van**	**2.40**	**102**	*i* P		Pb	07 33 44.8	+1.0
TVAN				*i* S		Sg	07 34 18.3	+0.4
TVAN				IAML			07 34 41.0	
	comp=N,142nm,0.9s							
TVAN				IAML			07 34 42.0	
	comp=E,161nm,1.4s							
ARTV	**Artvin**	**2.42**	**28**	*i* P		Pb	07 33 41.8	-2.4
ARTV				*i* S		Sg	07 34 16.8	-1.8
VMUR	**Van-Muradiye**	**2.46**	**91**	*i* P		Pb	07 33 45.4	+0.5
VMUR				*i* S		Sg	07 34 18.4	-1.5
VMUR				IAML			07 34 22.0	
	comp=E,166nm,1.0s							
VMUR				IAML			07 34 24.0	
	comp=N,198nm,1.3s							
CUGUR	**Gurin_SVAS**	**2.47**	**263**	*i* P		Pg	07 33 46.2	-2.0
CUGUR				*i* S		Sg	07 34 20.0	-0.2
CUGUR				IAML			07 34 31.0	
	comp=N,602nm,0.7s							
CUGUR				IAML			07 34 34.0	
	comp=E,566nm,0.6s							
DBOC	**Borcka**	**2.48**	**22**	*i* P		Pn	07 33 42.5	+1.7
DBOC				*i* S		Sb	07 34 13.1	-2.3
BCA	**Borcka**	**2.56**	**21**	PN		Pn	07 33 43.6	+1.8
KARS	**Kars**	**2.58**	**52**	PN		Pn	07 33 44.0	+1.8
SURC	**SANLIURFA_SURC**	**2.60**	**214**	*i* P		Pb	07 33 45.2	-1.9
SURC				*i* S		Sg	07 34 23.4	-0.8
SURC				IAML			07 34 30.0	
	comp=E,399nm,1.0s							
SURC				IAML			07 34 34.0	
	comp=N,332nm,0.7s							
DIGO	**Kars**	**2.66**	**58**	*i* P		Pg	07 33 50.0	-1.6
DIGO				*i* S		Sg	07 34 25.7	-0.4
DIGO				IAML			07 34 29.0	
	comp=N,138nm,0.6s							
DIGO				IAML			07 34 30.0	
	comp=E,135nm,0.7s							
BATM	**Batumi**	**2.73**	**21**	PN		Pb	07 33 46.3	-2.9
BATM	**Batumi**	**2.73**	**21**	*i* P		Pn	07 33 45.7	+1.7
BATM				*i* S		Sb	07 34 22.1	-0.4
CLDR	**Caldiran**	**2.73**	**87**	PN		Pn	07 33 46.0	+1.7
RSDY	**Resadiye-TOKAT**	**2.73**	**300**	PN		Pb	07 33 46.5	-2.8
SVSK	**Karacayir**	**2.78**	**289**	PN		Pb	07 33 47.4	-2.7
CUALT	**Altinyayla-SIV**	**2.85**	**275**	*i* P		Pg	07 33 52.9	-2.5
CUALT				*i* S		Sg	07 34 31.2	-1.2
CUALT				IAML			07 34 36.0	
	comp=E,117nm,0.7s							
CUALT				IAML			07 34 40.0	
	comp=N,193nm,0.7s							
IGDI	**IGDIR**	**2.95**	**73**	*i* P		Pb	07 33 54.8	+1.6
IGDI				*i* S		Sb	07 34 31.5	+2.4
HAKT	**HAKKARI**	**2.99**	**119**	*i* P		Pb	07 33 53.7	-0.3
HAKT				*i* S		Sg	07 34 33.9	-3.0
HAKT				IAML			07 34 54.0	
	comp=E,99nm,1.0s							
ERBA	**Erbaa**	**3.25**	**301**	*i* P		Pg	07 34 00.7	-2.3
ERBA				*i* S		Sg	07 34 42.0	-3.1
CUSAR	**Sarkisla-SIVAS**	**3.26**	**278**	*i* P		Pb	07 33 59.6	+1.2
CUSAR				*i* S		Sg	07 34 43.7	-1.7

JMA ***11*** *07:36:26.1±0.1, 40°.90N×143°.29E, h32km, M3.8*

NIED ***11*** *07:36:26.1, 40°.90N×143°.29E, h32km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr6.48; Mθθ0.95; Mϕϕ-7.43; Mrθ1.77; Mθϕ-3.87; Mϕr2.86; Fault plane solution: M₀8.43000×10¹⁴ NP1:φ₀28.00000°, δ57.00000°, λ,98.00000°. NP2:φs193.00000°, δ34.00000°, λ,78.00000°.*

IDC ***11*** *07:36:29.4±2.5, 40°.92N×143°.20E, h49km±23km, mb3.5/10, mb1 3.6/13, mb1mx3.4/60, mbtmp3.7/13, ML2.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32 Error ellipse: s-maj=24.4km s-min=17.1km az=93.0*

ISC 11 07:36:27.2±0.8, 40°.93N±0°.05×143°.33E±0°.07, h31km, n35, σ0.74/34, mb3.7/10, 2C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.09**	**353**	P		**Pn**	**07 36 45.9**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.42**	**343**	P		**Pn**	**07 36 50.7**	**-0.1**
JNBK				*e*S		**Sn**	**07 37 08.9**	**+0.5**
JKEN	**Kujiedanarisaw**	**1.43**	**240**	↑↑P		**Pn**	**07 36 49.5**	**-1.5**
JANG	**Nango**	**1.49**	**249**	P		**Pn**	**07 36 50.8**	**-1.0**
JANG				*e*S		**Sn**	**07 37 09.6**	**-0.6**
JCH	**Churui**	**1.68**	**1**	P		**Pn**	**07 36 54.3**	**-0.2**
JCH				*e*S		**Sn**	**07 37 15.1**	**+0.1**
JTM	**Tenmabayashi**	**1.72**	**266**	P		**Pn**	**07 36 54.8**	**-0.2**
JTM				S		**Sn**	**07 37 16.3**	**+0.4**
JOT	**Ohata**	**1.78**	**285**	↑↑P		**Pn**	**07 36 55.5**	**-0.3**
JKB	**Kayabe**	**1.97**	**300**	P		**Pn**	**07 36 58.5**	**0.0**
JBT2	**Biratori 2**	**1.98**	**339**	P		**Pn**	**07 36 59.2**	**+0.6**
JOM	**Ohasama**	**2.13**	**228**	P		**Pn**	**07 37 00.6**	**-0.1**
JAK	**Akkeshi**	**2.30**	**26**	*e*S		**Sn**	**07 37 29.3**	**-1.0**
JAR	**Ashorobuto**	**2.39**	**8**	↓↓P		**Pn**	**07 37 03.6**	**-0.6**
JAR				*e*S		**Sn**	**07 37 31.3**	**-1.1**
JMK	**Ichinoseki**	**2.55**	**220**	P		**Pn**	**07 37 06.7**	**+0.2**
ASAJ	**Asahikawa**	**3.23**	**351**	P		**Pn**	**07 37 16.1**	**+0.3**
	2.1nm,0.3s,baz=238,slow=15,SNR=5.1							
ASAJ				S		**Sn**	**07 37 52.8**	**-0.4**
	3.3nm,0.3s,baz=83,slow=17,SNR=3.3							
MAT	**Matsushiro**	**5.93**	**224**	P		**Pn**	**07 37 53.8**	**+0.8**
MAT				*e*S		**Sn**	**07 39 00.5**	**+0.6**
MJAR	**Matsushiro Arr**	**5.93**	**224**	P		**Pn**	**07 37 53.8**	**+0.8**
	0.1nm,0.3s,baz=28,slow=14,SNR=7.0							
USRK	**Usurisyk Ar.**	**9.98**	**295**	P		**Pn**	**07 38 36.8**	**+2.1**
	baz=98,slow=14,SNR=10							
KSRS	**Korea Array**	**12.44**	**259**	LR		LR	07 43 51.2	
	comp=Z,56nm,21.6s,baz=155,slow=36							
SONM	**Songino Array**	**27.09**	**297**	P		**P**	**07 42 06.6**	**-0.5**
	0.8nm,0.6s,baz=90,slow=8.9,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**29.17**	**129**	T		T	08 13 08.5	
	baz=322,slow=74,SNR=48							
H11N1	**WAKE ISLAND Hy**	**29.18**	**129**	T		T	08 13 11.4	
	baz=322,slow=74,SNR=36							
H11N3	**WAKE ISLAND Hy**	**29.18**	**129**	T		T	08 13 09.3	
	baz=322,slow=74,SNR=41							
H11S1	**WAKE ISLAND Hy**	**30.02**	**131**	T		T	08 14 15.8	
	baz=323,slow=76,SNR=37							
H11S3	**WAKE ISLAND Hy**	**30.02**	**131**	T		T	08 14 15.5	
	baz=323,slow=76,SNR=21							
H11S2	**WAKE ISLAND Hy**	**30.03**	**131**	T		T	08 14 17.1	
	baz=323,slow=76,SNR=26							
ZALV	**Zalesovo Beam**	**40.50**	**309**	P		**P**	**07 44 02.7**	**-0.3**
	1.2nm,0.4s,baz=77,slow=6.5,SNR=4.5							
MKAR	**Makanchi Array**	**43.42**	**299**	P		**P**	**07 44 26.7**	**-0.3**
	1.2nm,0.7s,baz=82,slow=11,SNR=5.4							
ILAR	**Eielson Array**	**45.42**	**34**	P		**P**	**07 44 43.9**	**+1.2**
	0.5nm,0.7s,baz=270,slow=7.3,SNR=5.5							
HNR	**Honiara**	**52.40**	**159**	LR		LR	08 06 45.0	
	comp=Z,57nm,19.6s,baz=240,slow=35							
WRA	**Warramunga Arr**	**61.13**	**190**	P		**P**	**07 46 37.9**	**-0.7**
	0.3nm,0.6s,baz=7.1,slow=6.9,SNR=9.6							
ASAR	**Alice Springs**	**64.86**	**190**	P		**P**	**07 47 03.6**	**+0.3**
	0.3nm,0.8s,baz=356,slow=4.4,SNR=5.4							
FINES	**FINESS Array B**	**66.07**	**332**	P		**P**	**07 47 10.3**	**-0.4**
	0.8nm,0.4s,baz=34,slow=5.0,SNR=6.1							
NOA	**NORSAR Array B**	**71.17**	**338**	P		**P**	**07 47 42.6**	**0.0**
	0.6nm,0.8s,baz=35,slow=6.1,SNR=2.8							
AKASG	**Malin Array Be**	**72.13**	**322**	P		**P**	**07 47 47.9**	**-0.5**
	0.8nm,0.5s,baz=54,slow=4.7,SNR=2.1							
PDAR	**Pinedale Array**	**73.90**	**47**	P		**P**	**07 48 00.2**	**+0.7**
	0.3nm,0.7s,baz=344,slow=3.0,SNR=2.9							

NEIC ***11*** *07:42:16.6±2.5, 14°.74N±0°.06×94°.36W±0°.05, h10km±1km, mb4.5/118, Md4.6/20(MEX), Error ellipse: s-maj=10.3km s-min=7.7km az=185.0*

GCG ***11*** *07:42:17.5±0.3, 14°.68N×94°.23W, h2km, MD4.7*

GCMT ***11*** *07:42:18.6±0.5, 14°.85N±0°.03×94°.53W±0°.04, h21km±1km, MW4.8/71, Moment Tensor Solution. s21,c23; s71,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.95±.14; Mθθ-1.32±.10; Mϕϕ-0.62±.09; Mrθ0.70±.14; Mθϕ0.42±.05; Mϕr-1.20±.16; Best double couple: M₀2.19600×10¹⁶ NP1:φ₀288.00000°, δ29.00000°, λ,66.00000°. NP2: φs134.00000°, δ64.00000°, λ,102.00000°. Principal axes: T 2.4890, Plg69.0000°, Azm69.0000°; N -0.5800, Plg11.0000°, Azm309.0000°; P -1.9040, Plg18.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MEX ***11*** *07:42:21.4±0.9, 14°.83N×94°.43W, h17km±43km, MD4.6*

IDC ***11*** *07:42:24.3±2.7, 15°.03N×93°.90W, h59km±23km, mb3.9/14, mb1 4.1/18, mb1mx4.0/47, mbtmp4.2/18, ML3.9/4, MS3.9/17, Ms1 3.9/17, ms1mx3.7/27, Error ellipse: s-maj=28.7km s-min=12.7km az=53.0*

ISC 11 07:42:16.9±0.4, 14°.82N±0°.05×94°.29W±0°.04, h10km, n290, σ1.72/296, mb4.5/58, MS3.9/16, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.99**	**298**	*e*P		**Pn**	**07 42 49.4**	**-1.3**
HUIG				*e*S		**Sn**	**07 43 10.8**	**-4.8**
HUIG	**Huatulco**	**1.99**	**298**			**Pn**	**07 42 49.4**	**-1.3**
HUIG						**Sn**	**07 43 10.8**	**-4.8**
TGIG		**2.25**	**30**	*e*P		**Pn**	**07 42 55.4**	**+1.1**
TGIG				*e*S		**Sb**	**07 43 23.1**	**-2.5**
TGIG		**2.25**	**30**			**Pn**	**07 42 55.4**	**+1.1**
TGIG						**Sb**	**07 43 23.1**	**-2.5**
CMIG	**Matias Romero**	**2.33**	**346**	*e*P		**Pn**	**07 42 55.7**	**+0.4**
CMIG				*i* S		**Sn**	**07 43 22.2**	**-1.8**
CMIG	**Matias Romero**	**2.33**	**346**			**Pn**	**07 42 55.7**	**+0.4**
CMIG						**Sn**	**07 43 22.2**	**-1.8**
RTAL	**Retalhuleu**	**2.53**	**96**			**Pn**	**07 42 57.1**	**-1.0**
CCIG	**Comitan**	**2.54**	**55**	Pn		**Pn**	**07 42 59.9**	**+1.5**
HUEH	**Huehuetenango**	**2.74**	**79**			**Pn**	**07 43 01.8**	**+0.5**
PEIG	**Puerto Escondi**	**2.99**	**293**	*e*P		**Pn**	**07 43 03.2**	**-1.2**
PEIG				*i* S		**Sn**	**07 43 35.1**	**-5.3**
VHO	**Vista Hermosa**	**3.24**	**314**	*e*P		**Pn**	**07 43 09.8**	**+1.8**
VHO				*e*S		**Sn**	**07 43 45.9**	**-1.0**
FUG	**Fuego 3**	**3.36**	**96**	*e*P		**Pn**	**07 43 10.4**	**+0.7**
FUG				*e*S		**Sn**	**07 43 50.5**	**+0.7**
APG	**El Apazote**	**3.71**	**87**	P		**Pn**	**07 43 14.1**	**-0.4**
	3.4nm,0.3s,baz=295,slow=12,SNR=48							
APG				S		**Sb**	**07 44 03.8**	**-4.0**
	9.4nm,0.3s,baz=283,slow=18,SNR=6.0							
YOIG	**Yosondua**	**3.73**	**303**	*e*P		**Pn**	**07 43 16.4**	**+1.7**
YOIG				*e*S		**Sn**	**07 43 56.3**	**-2.6**
IXG	**Ixpaco**	**3.79**	**99**	*e*P		**Pn**	**07 43 16.3**	**+0.7**
NBG	**Las Nubes**	**3.83**	**93**	*e*P		**Pn**	**07 43 18.6**	**+2.4**
PNIG	**Pinotepa**	**4.01**	**293**	*e*P		**Pn**	**07 43 18.5**	**0.0**
PNIG				*i* S		**Sn**	**07 44 03.1**	**-2.4**
PNIG	**Pinotepa**	**4.01**	**293**			**Pn**	**07 43 18.5**	**0.0**
PNIG						**Sn**	**07 44 03.1**	**-2.4**
TXIG	**Tlaxiaco**	**4.12**	**306**	*e*P		**Pn**	**07 43 22.3**	**+2.0**
TXIG				*i* S		**Sn**	**07 44 09.4**	**+0.7**
MRL	**Marmol**	**4.46**	**86**	*e*P		**Pn**	**07 43 26.3**	**+1.4**
HLIG	**Huajuapan de L**	**4.50**	**312**	*e*P		**Pn**	**07 43 28.1**	**+2.7**
HLIG				*e*S		**Sn**	**07 44 16.3**	**-1.8**
PETF	**Flores**	**4.74**	**63**			**Pn**	**07 43 29.0**	**+0.5**
MTO3	**Montecristo**	**4.79**	**94**			**Pn**	**07 43 27.9**	**-1.5**
ESQI	**Esquipulas**	**4.80**	**92**	Pn		**Pn**	**07 43 27.8**	**-1.7**
TLIG	**Tlapa**	**4.93**	**304**	*e*P		**Pn**	**07 43 33.5**	**+2.3**
TLIG				*e*S		**Sn**	**07 44 26.9**	**-1.4**
TLIG	**Tlapa**	**4.93**	**304**	Pn		**Pn**	**07 43 32.4**	**+1.2**
TLIG				Sn		**Sn**	**07 44 29.7**	**+1.4**
SNET	**Serv Nac Est T**	**5.04**	**102**	Pn		**Pn**	**07 43 32.2**	**-0.4**
TEIG	**Tepich**	**7.86**	**46**	P		**Pn**	**07 44 10.4**	**-0.9**
	13nm,0.3s,baz=252,slow=0.5,SNR=62							
TEIG				S		**Sn**	**07 45 34.3**	**-6.2**
	baz=210,slow=20,SNR=2.4							
TEIG				LR		LR	07 47 33.9	
	comp=Z,2µm,19.8s,baz=284,slow=42							
TEIG	**Tepich**	**7.86**	**46**	Pn		**Pn**	**07 44 11.1**	**-0.3**
MOIG	**Morelia**	**8.17**	**307**	Pn		**Pn**	**07 44 16.4**	**+0.6**
MATN	**Matagalpa**	**8.34**	**102**	Pn		**Pn**	**07 44 16.7**	**-1.4**
ACON	**Acoyapa**	**9.32**	**107**	Pn		**Pn**	**07 44 30.5**	**-0.9**
JTS	**Las Juntas de**	**10.17**	**115**	P		**Pn**	**07 44 46.0**	**+2.9**
	0.5nm,0.3s,baz=15,slow=18,SNR=3.7							
JTS	**Las Juntas de**	**10.17**	**115**			**Pn**	**07 44 43.4**	**+0.3**
ZAIG	**Zacatecas**	**11.12**	**317**	Pn		**Pn**	**07 44 56.8**	**+0.4**
KVTX	**Kingsville**	**13.10**	**346**	Pn		**Pn**	**07 45 24.8**	**+1.7**
833A	**Chaparral WMA,**	**14.24**	**341**	P		**Pn**	**07 45 42.2**	**+3.4**
	baz=160							
833A	**Chaparral WMA,**	**14.24**	**341**	Pn		**Pn**	**07 45 39.0**	**+0.2**
435B	**Jarrell**	**16.17**	**350**	P		**P**	**07 46 07.7**	**+0.1**
	baz=169							
435B	**Jarrell**	**16.17**	**350**	Pn		**Pn**	**07 46 04.6**	**+0.3**
435B				IAmb		IAmb	07 46 10.1	
	comp=Z,29nm,1.1s							
JCT	**Junction City**	**16.39**	**343**	P		**Pn**	**07 46 09.4**	**+2.2**
	baz=161,SNR=8.5							
JCT	**Junction City**	**16.39**	**343**	Pn		**Pn**	**07 46 06.7**	**-0.5**
342A	**Flagon Creek P**	**16.57**	**6**	Pn		**Pn**	**07 46 10.0**	**+0.5**
342A				IAmb		IAmb	07 46 30.0	
	comp=Z,26nm,0.9s							
TX32	**Lajitas Array**	**16.84**	**331**			**Pn**	**07 46 13.5**	**+0.6**
TXAR	**Lajitas Array**	**16.84**	**331**	P		**P**	**07 46 15.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=15							
TXAR	**Lajitas Array**	**16.84**	**331**			**Pn**	**07 46 14.8**	**+1.8**
LPIG	**La Paz**	**17.68**	**304**	LR		LR	07 53 22.5	
	comp=Z,276nm,18.2s,baz=126,slow=37							
143A	**Socs Landing,**	**18.00**	**8**	P		**P**	**07 46 28.3**	**+0.6**
143A				IAmb		IAmb	07 46 40.0	
	comp=Z,52nm,1.4s							
ABTX	**Abilene, Hawle**	**18.38**	**346**	P		**P**	**07 46 34.2**	**+2.2**
	baz=164,SNR=11							
ABTX	**Abilene, Hawle**	**18.38**	**346**			**P**	**07 46 34.0**	**+2.0**
ABTX				IAmb		IAmb	07 46 36.4	
	comp=Z,25nm,0.9s							
WLAR	**White Oak Lake**

QUOK IAmb IAmb 07 47 08.0
comp=Z,26nm,1.1s
HHAR Hobbs 21.37 1 P **P** **07 47 05.5 +0.9**
U40A Yellville 21.48 3 P **P** **07 47 06.0 +0.2**
baz=184
U40A Yellville 21.48 3 P **P** **07 47 07.3 +1.5**
121A Cookes Peak, D 21.49 327 P **P** **07 47 10.2 +4.1**
baz=142,SNR=27
121A Cookes Peak, D 21.49 327 P **P** **07 47 06.6 +0.5**
GCUF Volcan Galeras 21.51 127 *eP* **P** **07 47 07.1 +0.3**
U38A Gravette 21.53 360 P **P** **07 47 07.4 +1.2**
PCON Cinco Dias 21.59 123 *eP* **P** **07 47 06.8 -0.8**
MARP Paez Belalcaza 21.65 122 *eP* **P** **07 47 14.2 +6.1**
ORTC Ortega, Tolima 21.67 118 *eP* **P** **07 47 08.1 +0.1**
CROK Carrier 21.84 352 P **P** **07 47 10.8 +1.2**
SPBC San Pablo de B 21.87 113 *eP* **P** **07 47 10.1 0.0**
U32A Winter Ranch, 21.88 350 P **P** **07 47 09.9 -0.1**
WVT Waverly 21.99 14 P **P** **07 47 11.7 +0.5**
baz=197
WVT Waverly 21.99 14 P **P** **07 47 11.7 +0.5**
ROSC El Rosal 22.02 115 P **P** **07 47 14.1 +2.0**
comp=Z,10nm,0.8s,baz=69,slow=5.0,SNR=11
ROSC LR LR 07 56 50.6
comp=Z,179nm,20.5s,baz=333,slow=40
ROSC El Rosal 22.02 115 *eP* **P** **07 47 13.3 +1.2**
ROSC El Rosal 22.02 115 P **P** **07 47 13.1 +1.0**
PRAC Prado 22.08 118 *eP* **P** **07 47 12.5 +0.1**
T35A Sooner Cattle 22.09 355 P **P** **07 47 12.2 -0.1**
T35A IAmb IAmb 07 47 36.1
comp=Z,31nm,1.3s
PBMO Poplar Bluff 22.14 8 P **P** **07 47 14.6 +1.8**
PBMO IAmb IAmb 07 47 28.6
comp=Z,30nm,1.4s
HODGE Hodges 22.17 27 P **P** **07 47 12.1 -1.1**
W52A Murphy 22.24 23 P **P** **07 47 14.2 +0.3**
BNM Barren Site 22.24 332 P **P** **07 47 15.7 +1.5**
BARC Barichara 22.28 109 *eP* **P** **07 47 17.8 +3.0**
T42A Van Buren 22.30 7 P **P** **07 47 14.5 0.0**
Y22D IRIS PASSCAL I 22.31 331 P **P** **07 47 18.8 +4.0**
baz=146
Y22D IRIS PASSCAL I 22.31 331 P **P** **07 47 15.2 +0.3**
Y22D IAmb IAmb 07 47 25.5
comp=Z,30nm,1.2s
MGMO Mountain Grove 22.32 4 P **P** **07 47 15.4 +0.7**
MGMO IAmb IAmb 07 47 17.4
comp=Z,18nm,1.1s
CLTN Cedars of Leba 22.35 17 P **P** **07 47 14.9 -0.1**
CLTN IAmb IAmb 07 47 33.1
comp=Z,22nm,1.3s
SDDR Presa de Saban 22.39 76 P **P** **07 47 15.7 -0.1**
SDDR IAmb IAmb 07 47 25.7
comp=Z,13nm,0.9s
LENM Lemitar 22.41 331 P **P** **07 47 17.8 +1.9**
KAN05 Bluff City Nor 22.42 352 P **P** **07 47 16.8 +1.0**
PAMC Pamplona, Colo 22.44 107 *eP* **P** **07 47 16.9 +0.1**
FLOC Florencia 22.63 124 *eP* **P** **07 47 23.1 +4.8**
KAN12 Harper NE Stat 22.63 352 P **P** **07 47 17.8 -0.3**
CHIC Chingaza 22.63 115 *eP* **P** **07 47 21.0 +2.3**
RUSC La Rusia 22.65 111 *eP* **P** **07 47 18.7 -0.3**
S39A Bolivar 22.79 2 P **P** **07 47 19.0 -0.7**
S39A IAmb IAmb 07 47 21.2
comp=Z,22nm,0.9s
TKL Tuckaleechee C 22.79 23 P **P** **07 47 18.7 -1.1**
comp=Z,7.4nm,1.0s,baz=191,slow=13,SNR=6.4
TKL Tuckaleechee C 22.79 23 P **P** **07 47 19.1 -0.7**
TKL IAmb IAmb 07 47 37.9
comp=Z,15nm,1.1s
ANMO Albuquerque 22.83 334 P **P** **07 47 22.6 +2.2**
comp=Z,0.2nm,0.8s,baz=158,slow=9.9,SNR=9.3
ANMO Albuquerque 22.83 334 P **P** **07 47 22.8 +2.3**
baz=148
ANMO Albuquerque 22.83 334 P **P** **07 47 21.8 +1.4**
W54A Cherokee Point 22.93 26 P **P** **07 47 21.7 +0.4**
baz=211
T47A Sharon Grove 22.99 15 P **P** **07 47 21.3 -0.5**
T47A IAmb IAmb 07 47 32.4
comp=Z,16nm,1.1s
TUC Tucson 23.00 322 P **P** **07 47 25.1 +3.0**
baz=136
TUC Tucson 23.00 322 P **P** **07 47 23.8 +1.7**
CCM Cathedral Cave 23.30 6 P **P** **07 47 23.7 -1.3**
baz=187
CCM Cathedral Cave 23.30 6 P **P** **07 47 24.1 -0.9**
CCM IAmb IAmb 07 47 25.3
comp=Z,13nm,0.9s
R40A Maddies Statio 23.45 4 P **P** **07 47 25.9 -0.6**
R40A IAmb IAmb 07 47 26.9
comp=Z,18nm,0.9s
V54A Nebo 23.62 26 P **P** **07 47 27.8 -0.4**
baz=211
TZTN Tazewell 23.66 22 P **P** **07 47 27.6 -1.0**
baz=206
MACC Macarena, Meta 23.79 120 *eP* **P** **07 47 30.6 +0.5**
R32A Long Quarter, 23.83 351 P **P** **07 47 29.8 -0.4**
SOCV Socops 23.85 103 *eP* **P** **07 47 26.1 -4.6**
T25A Trinidad 23.98 340 P **P** **07 47 34.9 +3.0**
baz=155,SNR=11
T25A Trinidad 23.98 340 P **P** **07 47 33.8 +1.9**
V55A Taylorsville 24.00 27 P **P** **07 47 29.9 -1.9**
baz=212
214A Organ Pipe Nat 24.01 318 P **P** **07 47 35.0 +3.0**
baz=131,SNR=6.8
KSU1 Kansas State U 24.27 356 P **P** **07 47 33.8 -0.5**
KSU1 IAmb IAmb 07 47 47.7
comp=Z,18nm,1.1s
WCI Wyandotte Cave 24.37 15 P **P** **07 47 34.3 -0.9**
baz=199
CBKS Cedar Bluff 24.38 350 P **P** **07 47 36.9 +1.6**
baz=167,SNR=5.3
CBKS Cedar Bluff 24.38 350 P **P** **07 47 35.8 +0.5**
P40A Paris 24.69 4 P **P** **07 47 36.5 -1.7**
X16A Lo Mia Camp, P 24.90 325 P **P** **07 47 41.7 +1.3**
X16A IAmb IAmb 07 47 54.7
comp=Z,11nm,0.9s
SDCO Great Sand Dun 24.90 339 P **P** **07 47 42.9 +2.4**
baz=154,SNR=14
SDCO Great Sand Dun 24.90 339 P **P** **07 47 42.4 +2.0**
SDCO IAmb IAmb 07 47 44.8
comp=Z,8.9nm,1.1s
113A Mohawk Valley, 25.15 319 P **P** **07 47 42.9 +0.5**
KSCO Kaye Shedlock[1] 25.19 345 P **P** **07 47 42.2 -0.6**
KSCO IAmb IAmb 07 47 48.5
comp=Z,9.2nm,0.8s
S22A 4UR Ranch, Cre 25.40 336 P **P** **07 47 47.5 +2.6**
baz=151
S22A 4UR Ranch, Cre 25.40 336 P **P** **07 47 45.4 +0.5**
Y14A Wickenburg 25.47 322 P **P** **07 47 47.2 +1.9**
Y14A IAmb IAmb 07 47 51.2
comp=Z,8.4nm,1.1s
ELOV Elorza 25.55 105 *eP* **P** **07 47 46.3 +0.1**
MVCO Mesa Verde 25.63 333 P **P** **07 47 49.4 +2.5**
baz=147,SNR=7.3
MVCO Mesa Verde 25.63 333 P **P** **07 47 48.3 +1.3**
MVCO IAmb IAmb 07 47 50.6
comp=Z,12nm,1.1s
WUAZ Wupatki 25.68 326 P **P** **07 47 52.6 +5.2**
baz=139,SNR=9.4
WUAZ Wupatki 25.68 326 P **P** **07 47 47.4 0.0**
WUAZ IAmb IAmb 07 47 53.7
comp=Z,15nm,1.1s
P48A Milroy 25.75 16 P **P** **07 47 45.8 -1.9**
P48A IAmb IAmb 07 47 55.9
comp=Z,21nm,1.2s
N38A Joes South For 25.89 2 P **P** **07 47 48.5 -0.5**
N35A Tabor 25.97 358 P **P** **07 47 48.9 -0.8**
HDIL Hopedale 26.01 9 P **P** **07 47 49.1 -1.0**
baz=191
HDIL Hopedale 26.01 9 P **P** **07 47 49.4 -0.7**
Q52A Bidwell 26.28 22 P **P** **07 47 52.0 -0.5**
baz=207
SWSC Sam W. Stewart 26.59 316 P **P** **07 47 58.4 +3.0**
baz=128
PV12 Saucer Basin, 26.69 334 P **P** **07 47 57.2 +0.7**
PV07 Paradox Valley 26.72 334 P **P** **07 47 58.8 +2.0**
PV07 IAmb IAmb 07 48 00.8
comp=Z,16nm,1.0s
ISCO Idaho Springs 26.79 340 P **P** **07 47 59.8 +2.3**
baz=155,SNR=9.4
ISCO Idaho Springs 26.79 340 P **P** **07 47 59.0 +1.4**
BC3 Big Chuckawall 26.81 318 P **P** **07 48 00.3 +2.7**
baz=130,SNR=10
IRM Iron Mountain 26.93 319 P **P** **07 48 01.6 +3.1**
baz=131,SNR=5.4
PV21 Cone Mtn., Par 26.96 334 P **P** **07 47 59.4 +0.3**
PV21 IAmb IAmb 07 48 08.3
comp=Z,6.5nm,0.9s
SCIA State Center 27.00 2 P **P** **07 47 58.6 -0.5**
baz=182,SNR=6.4
SCIA State Center 27.00 2 P **P** **07 47 58.1 -0.9**
L34A Svendsen Farm, 27.11 357 P **P** **07 48 00.4 +0.4**
BELC Belle Mtn. Jos 27.38 318 P **P** **07 48 05.3 +2.6**
baz=129
O52A Adamsville 27.45 21 P **P** **07 48 02.1 -1.1**
baz=207
KNB Kanab 27.58 327 P **P** **07 48 02.4 -2.1**
GMRC Granite Mounta 27.66 320 P **P** **07 48 08.1 +2.9**
baz=131
O20A White River Ci 28.01 337 P **P** **07 48 10.8 +2.5**
baz=150
HEC Hector,Ludlow 28.11 319 P **P** **07 48 12.2 +3.0**
baz=130
SZCU Shurtz Canyon 28.15 327 P **P** **07 48 11.6 +1.9**
JFWS Jewell Farm 28.21 6 P **P** **07 48 08.8 -1.0**
baz=188
JFWS Jewell Farm 28.21 6 P **P** **07 48 08.3 -1.6**
JFWS IAmb IAmb 07 48 19.4
comp=Z,9.9nm,0.8s
TUQ Turquoise Moun 28.25 321 P **P** **07 48 13.8 +3.3**
baz=131
P17A Butcher Ranch, 28.49 333 P **P** **07 48 14.3 +1.7**
SHPR Sheep Range 28.51 323 P **P** **07 48 14.2 +1.4**
TMUT Trail Mountain 28.55 332 P **P** **07 48 14.5 +1.1**
BFSC Mount Baldy Ra 28.61 317 P **P** **07 48 16.4 +2.8**
baz=127
ECSD EROS Data Cent 28.88 357 P **P** **07 48 15.7 -0.1**
baz=175,SNR=5.6
ECSD EROS Data Cent 28.88 357 P **P** **07 48 15.4 -0.4**
ECSD IAmb IAmb 07 48 33.0
comp=Z,8.8nm,0.9s
RWWY Rawlins 29.02 340 P **P** **07 48 17.8 +0.5**
MPMC Manual Prospec 29.62 320 P **P** **07 48 25.1 +2.4**
baz=130
R11A Troy Canyon, C 30.05 325 P **P** **07 48 29.6 +3.1**
baz=136
TCUT Toone Canyon 30.13 334 P **P** **07 48 28.0 +0.8**
SPMN Marine on St. 30.33 2 P **P** **07 48 28.0 -0.6**
baz=183,SNR=12
SPMN Marine on St. 30.33 2 P **P** **07 48 27.8 -0.8**
VES Vestal, Richgr 30.50 318 P **P** **07 48 33.6 +3.3**
baz=127
PD31 Pinedale Array 30.79 338 P **P** **07 48 33.4 +0.4**
PDAR Pinedale Array 30.79 338 P **P** **07 48 34.5 +1.5**
comp=Z,1.2nm,0.9s,baz=137,slow=13,SNR=8.1
PDAR LR LR 08 01 07.9
comp=Z,73nm,18.6s,baz=147,slow=37
NV11 Mina Array Sit 31.57 323 P **P** **07 48 40.3 +0.5**
NV11 IAmb IAmb 07 48 44.4
comp=Z,12nm,1.1s
MDPB Devils Postpil 31.61 321 P **P** **07 48 40.8 +0.5**
MDPB IAmb IAmb 07 48 44.5
comp=Z,8.3nm,1.1s
ELK Elko 31.62 329 P **P** **07 48 42.3 +2.0**
ELK IAmb IAmb 07 48 44.3
comp=Z,5.4nm,1.1s
NVAR Mina Array Bea 31.65 322 P **P** **07 48 43.6 +2.9**
comp=Z,7.9nm,1.0s,baz=141,slow=8.6,SNR=42
NVAR Mina Array Bea 31.65 322 P **P** **07 48 42.5 +1.8**
LHV Little Huntoon 31.66 322 P **P** **07 48 41.6 +1.2**
LHV IAmb IAmb 07 48 59.6
comp=Z,11nm,1.2s
REDW Red Top Meadow 31.78 337 P **P** **07 48 42.1 +0.3**
SNOW Snow King Moun 31.83 337 P **P** **07 48 42.8 +0.6**
LOHW Long Hollow 31.90 337 P **P** **07 48 43.7 +0.9**
LOHW IAmb IAmb 07 48 45.6
comp=Z,6.2nm,1.1s
RYN Ryan 31.91 323 P **P** **07 48 45.0 +2.1**
RYN IAmb IAmb 07 48 47.3
comp=Z,7.7nm,1.3s
KVN Kaiserville 31.95 324 P **P** **07 48 42.8 -0.5**
KVN IAmb IAmb 07 48 47.4
comp=Z,9.4nm,1.3s
YERR Yerington 32.57 322 P **P** **07 48 50.1 +1.4**
YERR IAmb IAmb 07 48 53.0
comp=Z,13nm,1.3s
CMB Columbia Colle 32.66 320 P **P** **07 48 48.9 -0.5**
RLMT Red Lodge 32.75 340 P **P** **07 48 52.0 +1.8**
baz=153
PNTR Pine Nut 32.85 322 P **P** **07 48 49.3 -1.9**
PNTR IAmb IAmb 07 48 55.6
comp=Z,11nm,1.1s
YNE Yellowstone No 32.90 339 P **P** **07 48 53.6 +2.1**
VCNR Virginia City 33.02 322 P **P** **07 48 53.2 +0.6**
VCNR IAmb IAmb 07 48 56.9
comp=Z,6.9nm,1.2s
PAHR Pah Rah Range 33.13 323 P **P** **07 48 53.6 +0.1**
AGMN Agassiz Nation 33.40 358 P **P** **07 48 55.1 -0.5**
baz=177,SNR=5.1
HLID Hailey 33.41 333 P **P** **07 48 58.4 +2.4**
baz=143,SNR=8.6
HLID Hailey 33.41 333 P **P** **07 48 57.4 +1.4**
HLID IAmb IAmb 07 49 00.9
comp=Z,4.5nm,1.0s
BCYI Bear Canyon 33.59 335 P **P** **07 48 58.4 +0.8**
MCMT McKenzie Canyo 33.79 336 P **P** **07 49 00.8 +1.5**
DLMT Dillon 34.14 337 P **P** **07 49 03.3 +1.0**
DLMT IAmb IAmb 07 49 06.7
comp=Z,7.3nm,0.9s
O03E Paynes Creek 34.93 322 P **P** **07 49 11.1 +2.0**
baz=129
J08A Circle Bar Ran 35.17 329 P **P** **07 49 12.6 +1.4**
ULM Lac du Bonnet 35.36 358 P **P** **07 49 10.8 -1.7**
comp=Z,1.7nm,0.4s,baz=174,slow=9.5,SNR=4.7
ULM LR LR 08 05 11.0
comp=Z,117nm,20.2s,baz=144,slow=39
EGMT Eagleton 35.49 342 P **P** **07 49 15.7 +1.8**
baz=154
MSO Missoula 35.88 337 P **P** **07 49 19.2 +2.0**
baz=146
MSO Missoula 35.88 337 P **P** **07 49 18.3 +1.1**
MSO IAmb IAmb 07 49 24.6
comp=Z,6.1nm,1.1s
YBH Yreka Blue Hor 36.37 323 P **P** **07 49 21.8 +0.4**
comp=Z,1.2nm,0.8s,baz=113,slow=10,SNR=4.8
L04D Klamath Falls 36.44 324 P **P** **07 49 24.3 +2.2**
baz=130
J04D Umpqua Nationa 37.00 325 P **P** **07 49 29.7 +2.8**
baz=132
J01E Myrtle Point 37.97 324 P **P** **07 49 37.3 +2.4**
baz=129,SNR=6.3
I03D Drain, OR 37.98 325 P **P** **07 49 37.1 +2.2**
baz=130
H04A Detroit Lake 38.01 327 P **P** **07 49 36.4 +1.1**
H04A IAmb IAmb 07 49 38.1
comp=Z,15nm,1.2s
C09A Chrisman Ranch 38.42 334 P **P** **07 49 39.6 +1.0**
C09A IAmb IAmb 07 49 40.8
comp=Z,7.2nm,1.1s
F05D White Salmon 38.47 329 P **P** **07 49 41.8 +2.8**
baz=135
SAML Samuel 38.85 126 P **P** **07 49 43.0 +0.4**
LPAZ La Paz 40.29 139 P **P** **07 49 54.1 -1.2**
comp=Z,0.7nm,0.8s,baz=346,slow=8.3,SNR=2.5
LPAZ LR LR 08 04 38.1
comp=Z,102nm,20.4s,baz=313,slow=33
LPAZ La Paz 40.29 139 P **P** **07 49 53.5 -1.7**
RPN Rapa Nui 44.18 199 P **P** **07 50 25.9 -0.2**
SCHQ Schefferville 45.26 22 LR LR 08 11 05.4
comp=Z,336nm,18.4s,baz=254,slow=38
YKA Yellowknife Ar 49.74 348 P **P** **07 51 09.1 -0.1**
comp=Z,4.7nm,0.9s,baz=144,slow=7.7,SNR=7.6
YKA LR LR 08 15 17.3
comp=Z,102nm,20.1s,baz=0.0,slow=40
CPUP Villa Florida 54.45 138 LR LR 08 15 40.5
comp=Z,42nm,20.3s,baz=20,slow=37
BDFB Brasilia 54.84 122 P **P** **07 51 46.8 -1.1**
comp=Z,2.3nm,0.6s,baz=256,slow=7.1,SNR=4.9
BCAR Beaver Creek A 58.40 337 P **P** **07 52 13.1 +0.6**
PLCA Paso Flores 59.50 159 P **P** **07 52 23.4 +3.0**
comp=Z,3.3nm,1.1s,baz=200,slow=3.3,SNR=3.0
PLCA LR LR 08 13 09.5
comp=Z,67nm,18.8s,baz=84,slow=31
PLCA Paso Flores 59.50 159 P **P** **07 52 19.7 -0.7**
SCRK Sand Creek 59.73 337 P **P** **07 52 24.0 +2.2**
baz=121
ILAR Eielson Array 61.22 337 P **P** **07 52 32.4 +0.6**
comp=Z,4.4nm,1.0s,baz=137,slow=4.5,SNR=24
ILAR LR LR 08 19 33.8
comp=Z,163nm,18.0s,baz=152,slow=36
ILAR Eielson Array 61.22 337 P **P** **07 52 31.1 -0.7**
MCK McKinley 61.53 336 P **P** **07 52 35.5 +1.5**
baz=116
MLY Manley 62.80 337 P **P** **07 52 43.3 +0.8**
baz=115
ESDC Sonseca Array 80.95 51 P **P** **07 54 29.8 -2.2**
comp=Z,1.7nm,1.0s,baz=292,slow=5.6,SNR=7.5
ESDC LR LR 08 29 07.7
comp=Z,66nm,18.5s,baz=290,slow=35
NB2 NORSAR Subarra 84.48 28 P **P** **07 54 49.7 -0.2**
comp=Z,85nm,2.5s,baz=292,slow=5.1
NB2 NORSAR Subarra 84.48 28 P **P** **07 54 49.7 -0.2**
baz=292,slow=5.1
NOA NORSAR Array B 84.48 28 P **P** **07 54 50.3 +0.5**
comp=Z,1.5nm,0.9s,baz=290,slow=5.0,SNR=4.6
NOA LR LR 08 31 35.4
comp=Z,57nm,19.6s,baz=280,slow=35
ARCES ARCESS Array B 86.05 18 P **P** **07 54 57.2 -0.3**
comp=Z,3.3nm,1.0s,baz=286,slow=4.5,SNR=5.7
ARCES LR LR 08 33 46.3
comp=Z,69nm,19.2s,baz=350,slow=36
DBIC Dimbokro 87.78 84 LR LR 08 32 28.4
comp=Z,38nm,19.4s,baz=301,slow=34
GERES GERESS Array B 90.37 39 P **P** **07 55 18.4 -0.3**
comp=Z,0.1nm,0.3s,baz=20,slow=3.1,SNR=5.8
FINES FINESS Array B 90.69 24 LR LR 08 35 08.4
comp=Z,76nm,20.9s,baz=320,slow=35
AKASG Malin Array Be 98.25 32 LR LR 08 42 04.4
comp=Z,58nm,18.5s,baz=25,slow=37
LZH Lanzhou 126.54 342 *e*PKP **PKPdf** **08 01 21.5 +0.4**
LZH pPKP sPKPdf 08 01 29.1 +4.7
LZH sPKP 08 01 31.7
LZH LR LR
comp=N,45nm,17.6s
LZH LR LR
comp=E,52nm,18.0s
LZH LR LR
comp=Z,79nm,20.1s
LZH Lanzhou 126.54 342 *e*PKP **PKPdf** **08 01 21.5 +0.4**
LZH Lanzhou 126.54 342 pPKP pPKPdf 08 01 29.1 +5.6
LZH Lanzhou 126.54 342 sPKP 08 01 31.7
WRA Warramunga Arr 133.43 256 PKP **PKPdf** **08 01 34.6 +0.2**
comp=Z,0.4nm,0.8s,baz=87,slow=2.5,SNR=3.8
ASAR Alice Springs 133.83 251 PKP **PKiKP** **08 01 37.9 +1.6**
comp=Z,0.3nm,0.8s,baz=87,slow=1.5,SNR=3.5
ASAR Alice Springs 133.83 251 **PKPdf** **08 01 34.1 -0.9**
CMAR Chiang Mai Arr 144.45 338 PKP **PKPab** **08 01 53.1 +0.5**
comp=Z,1.5nm,0.3s,baz=347,slow=2.7,SNR=7.6

NEIC ***11*** *07:44:04.2±1.4,20°0.5S±0.1°×178°1.1W±0.1,h583km±7km, mb4.5/106,Error ellipse: s-maj=17.5km s-min=14.4km az=130.0*
BGR ***11*** *07:44:06.9±0.0, 19°.98S×178°.68W, h600km*
IDC ***11*** *07:44:06.0±1.5, 19°.99S×178°.32W, h584km±17km, mb3.9/21,mb1 4.0/22,mb1mx3.9/33,mbtmp4.8/22,Error ellipse: s-maj=12.7km s-min=9.8km az=145.0*
ISC 11 07:44:03.8±0.3,20°.04S±0°.07×178°.15W±0°.06,h569km, n369,σ1$26/396,mb4.5/70,29C-11D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MSVF	**Nonsavu**	**4.26**	**302**	P	**P**	**07 45 33.1**	**+3.9**
NIUE	**Niue**	**7.81**	**84**	P	**P**	**07 46 01.3**	**+1.0**
AFI	**Afiamalu**	**8.62**	**46**	P	**P**	**07 46 09.9**	**+1.5**
	13nm,0.3s,baz=182,slow=2.5,SNR=15						
AFI				S	**S**	**07 47 48.2**	**-2.3**
	12nm,0.3s,baz=35,slow=22,SNR=13						
AFI	**Afiamalu**	**8.62**	**46**	P	**P**	**07 46 09.2**	**+0.8**
AFI				S	**S**	**07 47 50.1**	**-0.4**
DZM	**Mont Dzumac**	**14.52**	**259**	P	**P**	**07 47 11.4**	**+3.1**
	1.1nm,0.3s,baz=80,slow=18,SNR=15						
DZM	**Mont Dzumac**	**14.52**	**259**	P	**P**	**07 47 10.6**	**+2.3**
SANVU	**Saraoutou**	**14.68**	**286**	P	**P**	**07 47 10.0**	**+0.2**
KNTN	**Kanton**	**18.27**	**21**	P	**P**	**07 47 43.4**	**0.0**
URZ	**Urewera**	**18.62**	**192**	P	**P**	**07 47 44.9**	**-1.3**
	7.3nm,0.3s,baz=279,slow=2.1,SNR=46						
URZ	**Urewera**	**18.62**	**192**	P	**P**	**07 47 45.6**	**-0.7**
BKZ	**Black Stump Fm**	**19.62**	**192**	P	**P**	**07 47 54.1**	**-1.2**
BKZ				IAmb	IAmb	07 48 03.0	
	comp=Z,28nm,1.5s						
BFZ	**Birch Farm**	**21.13**	**192**	P	**P**	**07 48 07.3**	**-1.7**
MSWZ	**Moikau Station**	**22.04**	**193**	P	**P**	**07 48 15.7**	**-1.4**
SNZO	**South Karori**	**22.06**	**194**	P	**P**	**07 48 16.5**	**-0.8**
BHW	**Baring Head**	**22.11**	**194**	P	**P**	**07 48 17.1**	**-0.7**
PLWZ	**Palliser**	**22.18**	**193**	P	**P**	**07 48 17.9**	**-0.6**
QRZ	**Quartz Range**	**22.20**	**199**	P	**P**	**07 48 18.6**	**0.0**
NNZ	**Nelson**	**22.31**	**197**	P	**P**	**07 48 19.0**	**-0.5**
NNZ				IAmb	IAmb	07 48 21.7	
	comp=Z,12nm,0.9s						
TUWZ	**Tuamarina**	**22.36**	**196**	P	**P**	**07 48 18.4**	**-1.6**
BSWZ	**Blackbirch Sta**	**22.65**	**196**	P	**P**	**07 48 22.0**	**-0.5**
THZ	**Tophouse**	**22.95**	**197**	P	**P**	**07 48 24.9**	**-0.4**
THZ				IAmb	IAmb	07 48 32.3	
	comp=Z,24nm,1.4s						
KHZ	**Kahutara**	**23.39**	**196**	P	**P**	**07 48 28.0**	**-1.1**
KHZ				IAmb	IAmb	07 48 29.5	
	comp=Z,12nm,0.9s						
LTZ	**Lake Taylor**	**24.07**	**197**	P	**P**	**07 48 34.7**	**-0.5**
LTZ				IAmb	IAmb	07 48 37.3	
	comp=Z,10nm,0.8s						
OXZ	**Oxford**	**24.64**	**197**	P	**P**	**07 48 40.3**	**+0.1**
OXZ				IAmb	IAmb	07 48 40.9	
	comp=Z,14nm,0.7s						
MQZ	**McQueen's Vall**	**24.82**	**196**	P	**P**	**07 48 41.7**	**-0.1**
RPZ	**Rata Peaks**	**25.28**	**199**	P	**P**	**07 48 46.0**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=7.1,slow=3.0,SNR=6.8						
RPZ	**Rata Peaks**	**25.28**	**199**	P	**P**	**07 48 47.1**	**+1.2**
RPZ				IAmb	IAmb	07 48 53.5	
	comp=Z,18nm,1.4s						
FOZ	**Fox Glacier**	**25.50**	**201**	P	**P**	**07 48 48.0**	**+0.2**
LBZ	**Lake Benmore**	**26.15**	**199**	P	**P**	**07 48 53.3**	**-0.2**
LBZ				IAmb	IAmb	07 49 01.6	
	comp=Z,22nm,1.5s						
ODZ	**Otahua Downs**	**26.61**	**198**	P	**P**	**07 48 57.9**	**+0.3**
WKZ	**Wanaka**	**26.92**	**200**	P	**P**	**07 48 59.3**	**-1.0**
WKZ				IAmb	IAmb	07 49 06.5	
	comp=Z,29nm,1.4s						
MLZ	**Mavora Lakes**	**27.70**	**201**	P	**P**	**07 49 06.7**	**-0.4**
MLZ				IAmb	IAmb	07 49 11.3	
	comp=Z,11nm,0.8s						
PYZ	**Puysegur Point**	**28.89**	**202**	P	**P**	**07 49 17.8**	**+0.4**
CTA	**Charters Tower**	**33.40**	**264**	P	**P**	**07 49 56.6**	**+0.3**
	comp=Z,9.0nm,0.5s,baz=98,slow=11,SNR=13						
CTAO	**Charters Tower**	**33.40**	**264**	P	**P**	**07 49 55.9**	**-0.4**
PMG	**Port Moresby**	**35.10**	**282**	P	**P**	**07 50 10.5**	**-0.1**
	comp=Z,22nm,0.8s,baz=119,slow=5.2,SNR=6.0						
PMG	**Port Moresby**	**35.10**	**282**	P	**P**	**07 50 10.2**	**-0.3**
STKA	**Stephens Creek**	**37.86**	**244**	P	**P**	**07 50 34.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=315,slow=1.4,SNR=2.8						
STKA				PcP	**PcP**	**07 52 33.3**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=70,slow=7.6,SNR=3.7						
BBOO	**Buckleboo**	**42.63**	**243**	P	**P**	**07 51 11.0**	**0.0**
BBOO				IAmb	IAmb	07 51 35.0	
	comp=Z,22nm,1.2s						
JAY	**Jayapura**	**43.76**	**288**	P	**P**	**07 51 20.8**	**+0.7**
	comp=Z,40nm,0.7s,baz=131,slow=2.3,SNR=16						
WR0	**Warramunga Arr**	**44.34**	**262**	P	**P**	**07 51 23.5**	**-0.9**
AS31	**Alice Springs**	**44.49**	**256**	P	**P**	**07 51 24.1**	**-1.5**
ASAR	**Alice Springs**	**44.49**	**256**	P	**P**	**07 51 25.4**	**-0.1**
	comp=Z,12nm,0.8s,baz=96,slow=8.0,SNR=166						
ASAR				PcP	**PcP**	**07 52 56.3**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=96,slow=4.8,SNR=10						
ASAR				ScP	**ScP**	**07 55 53.8**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=102,slow=4.2,SNR=4.2						
ASAR				S	**S**	**07 57 16.1**	**-4.1**
	comp=Z,1.0nm,0.7s,baz=92,slow=15,SNR=9.6						
ASAR	**Alice Springs**	**44.49**	**256**	P	**P**	**07 51 24.5**	**-1.1**
WB0	**Warramunga Arr**	**44.50**	**262**	P	**P**	**07 51 24.4**	**-1.3**
WB0				IAmb	IAmb	07 51 25.8	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**44.51**	**262**	P	**P**	**07 51 24.7**	**-1.1**
WB2				IAmb	IAmb	07 51 25.9	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**44.52**	**262**	P	**P**	**07 51 24.8**	**-1.0**
WRAB				IAmb	IAmb	07 51 25.9	
	comp=Z,31nm,1.5s						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**07 51 25.0**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=98,slow=7.0,SNR=233						
WRA				PcP	**PcP**	**07 52 55.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=97,slow=3.3,SNR=5.4						
WRA				S	**S**	**07 57 16.6**	**-4.2**
	comp=Z,1.4nm,0.9s,baz=94,slow=13,SNR=6.7						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**07 51 24.8**	**-1.1**
MTN	**Manton Dam**	**49.02**	**270**	P	**P**	**07 51 58.8**	**-1.0**
MTN				IAmb	IAmb	07 51 59.6	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.95**	**262**	P	**P**	**07 52 28.1**	**-0.1**

comp=Z,3.0nm,0.5s,baz=130,slow=4.9,SNR=17
FITZ Fitzroy Crossi 52.95 262 P P 07 52 27.9 -0.2
SIJI Sorong 52.98 285 P P 07 52 28.7 +0.2
comp=Z,35nm,0.6s,baz=120,slow=20,SNR=2.7
VNDA Vanda 58.36 185 P P 07 53 06.8 +2.2
comp=Z,1.7nm,0.5s,baz=347,slow=6.4,SNR=35
VNDA Vanda 58.36 185 P P 07 53 05.5 +0.9
MJAR Matsushiro Arr 69.75 324 P P 07 54 17.2 -0.3
comp=Z,8.3nm,0.6s,baz=160,slow=6.0,SNR=30
MJAR Matsushiro Arr 69.75 324 P P 07 54 16.8 -0.7
MAJO Matsushiro 69.76 324 P P 07 54 16.9 -0.5
MAJO IAmb IAmb 07 54 17.7
comp=Z,11nm,0.7s
MAT Matsushiro 69.76 324 P P 07 54 16.9 -0.6
QSPA South Pole Qui 70.03 180 P P 07 54 19.5 +0.7
QSPA IAmb IAmb 07 54 21.1
comp=Z,12nm,0.8s
JWT Wachi 70.48 321 P P 07 54 21.4 -0.3
JWT IAmb IAmb 07 54 25.7
comp=Z,26nm,1.2s
JHS Saijyo 71.66 319 P P 07 54 27.9 -0.8
PEA0B Petropavlovsk- 75.79 345 P P 07 54 52.1 +0.4
PETK Petropavlovsk- 75.79 345 P P 07 54 51.7 0.0
comp=Z,9.5nm,0.6s,baz=125,slow=6.9,SNR=27
PETK Petropavlovsk- 75.79 345 P P 07 54 51.5 -0.2
KSRS Korea Array 76.45 319 P P 07 54 56.4 +0.7
comp=Z,2.8nm,0.6s,baz=127,slow=6.3,SNR=9.5
KSAR Wonju Array Be 76.46 319 P P 07 54 56.0 +0.3
KMRM Mail Ridge 78.49 39 P P 07 55 07.1 +0.4
KMRM IAmb IAmb 07 55 10.7
comp=Z,23nm,0.8s
USA0B Ussuriysk Arra 78.50 326 P P 07 55 06.7 +0.1
USA0B IAmb IAmb 07 55 08.6
comp=Z,12nm,0.9s
USRK Ussuriysk Ar. 78.50 326 P P 07 55 07.8 +1.2
comp=Z,11nm,0.8s,baz=111,slow=3.5,SNR=17
USRK Ussuriysk Ar. 78.50 326 P P 07 55 06.5 -0.1
VES Vestal, Richgr 78.81 45 P P 07 55 10.1 +1.7
baz=235
MURC Murrieta 78.85 48 P P 07 55 10.7 +1.9
baz=237
BFSC Mount Baldy Ra 78.88 47 P P 07 55 10.4 +1.4
baz=236
EDW2 Edwards Air Fo 79.00 47 P P 07 55 11.8 +2.2
baz=236
MONP2 Monument Peak 79.01 49 P P 07 55 12.0 +2.1
baz=237
O02D Mt. Diablo Mer 79.01 40 P P 07 55 12.3 +2.7
baz=232
IKP In-Ko-Pah, Jac 79.11 49 P P 07 55 12.5 +2.3
baz=238
ISA Isabella, Lake 79.11 46 P P 07 55 12.4 +2.2
baz=236
ISA Isabella, Lake 79.11 46 P P 07 55 10.8 +0.6
CMB Columbia Colle 79.22 43 P P 07 55 11.3 +0.7
PFO Pinyon Flats O 79.37 48 P P 07 55 13.8 +2.1
baz=210,slow=9.9
PFO Pinyon Flats O 79.37 48 P P 07 55 13.8 +2.1
baz=237
AFDM Forest Hills D 79.39 42 P P 07 55 11.7 +0.3
WDC Whiskeytown Da 79.41 40 P P 07 55 12.1 +0.6
ORV Oroville 79.42 41 P P 07 55 10.3 -1.3
NJ2 Nanjing 79.47 310 eP P 07 55 13.2 +1.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SWSC Sam W. Stewart 79.48 49 P P 07 55 15.1 +3.1
baz=238
LRMC Laurel Mtn Rad 79.55 46 P P 07 55 14.6 +2.0
baz=236
N02D Trinity Center 79.56 39 P P 07 55 14.4 +2.0
baz=232,SNR=6.1
O03E Paynes Creek 79.68 40 P P 07 55 14.7 +1.7
baz=232,SNR=6.1
M02C Callahan 79.72 39 P P 07 55 15.8 +2.6
baz=232,SNR=14
L02E Cave Junction 79.76 38 P P 07 55 15.7 +2.3
baz=231
CWC Cottonwood Cre 79.81 45 P P 07 55 16.3 +2.3
baz=236
MDPB Devils Postpil 79.83 44 P P 07 55 12.5 -1.6
OMMB Old Mammoth Mi 79.87 44 P P 07 55 12.2 -2.2
BELC Belle Mtn. Jos 79.91 48 P P 07 55 16.6 +2.2
baz=237
MPMC Manual Prospec 80.00 46 P P 07 55 17.2 +2.3
baz=236
YBH Yreka Blue Hor 80.02 39 P P 07 55 17.0 +2.2
comp=Z,9.5nm,0.8s,baz=217,slow=1.3,SNR=41
YBH Yreka Blue Hor 80.02 39 P P 07 55 14.3 -0.5
YBH IAmb IAmb 07 55 18.0
comp=Z,11nm,0.9s
BELA Belgrano 2 80.03 173 P P 07 55 14.6 +0.4
GSC Goldstone, Bar 80.05 47 P P 07 55 14.3 -0.8
TIN Tinemaha, Big 80.06 45 P P 07 55 17.7 +2.5
baz=236
K02D Willamette Mer 80.06 38 P P 07 55 17.3 +2.3
baz=231
WAKR Walker 80.10 43 P P 07 55 13.2 -2.3
WAKR IAmb IAmb 07 55 18.6
comp=Z,15nm,1.0s
BC3 Big Chuckawall 80.11 49 P P 07 55 18.3 +2.8
baz=238
HEC Hector,Ludlow 80.12 47 P P 07 55 17.5 +2.0
baz=237
J01E Myrtle Point 80.21 37 P P 07 55 17.2 +1.6
baz=231
GLA Glamis 80.23 50 P P 07 55 19.0 +3.0
baz=238
PNTR Pine Nut 80.34 42 P P 07 55 15.8 -0.9
PNTR IAmb IAmb 07 55 19.7
comp=Z,20nm,0.8s
HUMO Hull Mountain 80.42 38 P P 07 55 15.5 -1.3
HUMO IAmb IAmb 07 55 20.2
comp=Z,15nm,1.2s
VCNR Virginia City 80.42 42 P P 07 55 15.1 -2.0
L04D Klamath Falls 80.56 39 P P 07 55 19.5 +1.9
baz=232,SNR=9.1
GMRC Granite Mounta 80.56 48 P P 07 55 19.7 +1.9
baz=238
M04C Macdoel 80.56 39 P P 07 55 20.0 +2.3
baz=232,SNR=6.3
IRM Iron Mountain 80.59 49 P P 07 55 20.1 +2.2
baz=238
FURC Furnace Creek, 80.65 46 P P 07 55 19.8 +1.8
baz=236
TUQ Turquoise Moun 80.73 47 P P 07 55 20.7 +2.0
baz=237
NVAR Mina Array Bea 80.79 43 P P 07 55 21.1 +2.1
comp=Z,5.2nm,0.8s,baz=224,slow=9.1,SNR=34
NVAR Mina Array Bea 80.79 43 P P 07 55 19.1 0.0
PAHR Pah Rah Range 80.83 42 P P 07 55 17.4 -1.7
PAHR IAmb IAmb 07 55 22.0
comp=Z,11nm,1.1s
I03D Drain, OR 80.88 37 P P 07 55 21.0 +1.9
baz=231
214A Organ Pipe Nat 81.14 51 P P 07 55 23.0 +2.3
baz=240
214A Organ Pipe Nat 81.14 51 P P 07 55 18.2 -2.6
KVN Kaiserville 81.27 43 P P 07 55 19.9 -1.6
KVN IAmb IAmb 07 55 24.0
comp=Z,8.9nm,1.0s
TPH Tonopah 81.29 44 P P 07 55 20.3 -1.3
J04D Umpqua Nationa 81.30 38 P P 07 55 23.7 +2.2
baz=232,SNR=9.4
TPNV Topopah Spring 81.32 46 P P 07 55 23.8 +2.0
baz=237
I04A Tendick Farm, 81.47 37 P P 07 55 23.7 +1.5
baz=232,SNR=5.4
MOD Modoc Plateau 81.55 40 P P 07 55 21.3 -1.5
MOD IAmb IAmb 07 55 25.5
comp=Z,12nm,0.8s
K05A Summer Lake 81.69 39 P P 07 55 21.8 -1.7
K05A IAmb IAmb 07 55 26.6
comp=Z,21nm,1.0s
H04D Lebanon 81.73 37 P P 07 55 25.2 +1.8
baz=231
J05D Fort Rock, OR 81.83 38 P P 07 55 26.4 +2.2
baz=233,SNR=26
Y14A Wickenburg 82.00 50 P P 07 55 25.0 -0.1
H04A Detroit Lake 82.14 37 P P 07 55 24.3 -1.3
H04A IAmb IAmb 07 55 27.4
comp=Z,11nm,0.6s
PINE Pine Mountain 82.31 38 P P 07 55 25.8 -0.8
PINE IAmb IAmb 07 55 29.8
comp=Z,22nm,0.9s
PRN Pahroc Range 82.37 46 P P 07 55 25.3 -1.7
PRN IAmb IAmb 07 55 30.2

comp=Z,11nm,1.0s
I05D Terrebonne, OR 82.41 37 P P 07 55 28.6 +1.7
baz=232,SNR=5.4
R11A Troy Canyon, C 82.52 45 P P 07 55 29.3 +1.4
baz=237
R11A Troy Canyon, C 82.52 45 P P 07 55 25.8 -2.0
TUC Tucson 82.81 52 P P 07 55 32.0 +2.7
baz=241
E04D Cinebar 83.10 35 P P 07 55 31.8 +1.5
baz=231
X16A Lo Mia Camp, P 83.36 50 P P 07 55 30.7 -1.4
D03D Eldon 83.43 34 P P 07 55 33.9 +2.0
baz=231
WUAZ Wupatki 83.95 49 P P 07 55 37.8 +2.8
baz=240
ELK Elko 84.04 43 P P 07 55 34.6 -0.8
G08A Pilot Rock 84.34 38 P P 07 55 34.7 -1.9
G08A IAmb IAmb 07 55 39.3
comp=Z,22nm,1.4s
B05A Bryant 84.41 34 P P 07 55 38.4 +1.8
baz=231
HAWA Hanford 84.66 36 P 07 55 35.6 -2.4
HAWA IAmb IAmb 07 55 40.7
comp=Z,8.1nm,1.0s
GHO Glory Hole Cre 84.81 13 P P 07 55 37.7 -0.7
E08A Dider Farm, El 84.98 37 P P 07 55 37.4 -2.2
BMO Blue Mountains 85.04 39 P P 07 55 38.3 -1.7
MFID Camas Ranch 85.13 40 P P 07 55 39.0 -1.5
121A Cookes Peak, D 85.15 53 P P 07 55 43.2 +2.3
baz=243
121A Cookes Peak, D 85.15 53 P P 07 55 39.5 -1.4
BJI Beijing 85.46 315 P P 07 55 42.5 +0.5
N25K Chitina, Valde 85.68 15 P P 07 55 43.1 +0.5
baz=211
F10A Beach Ranch, E 85.72 38 P P 07 55 42.5 -0.7
GLB Gilahina Butte 85.74 16 P P 07 55 42.4 -0.5
GLB IAmb IAmb 07 55 44.1
comp=Z,24nm,1.4s
BALM Baldy 85.78 17 P P 07 55 42.4 -0.8
BALM IAmb IAmb 07 55 44.7
comp=Z,11nm,1.0s
B08A Colville Reser 85.94 35 P 07 55 44.2 +0.1
B08A IAmb IAmb 07 55 45.5
comp=Z,5.7nm,0.7s
TMUT Trail Mountain 85.94 46 P P 07 55 44.7 0.0
PLID Pearl Lake 85.94 39 P P 07 55 43.1 -1.4
PLID IAmb IAmb 07 55 46.1
comp=Z,5.1nm,0.8s
KTH Kantishna Hill 86.00 12 P P 07 55 42.7 -1.4
KTH IAmb IAmb 07 55 44.2
comp=Z,14nm,1.0s
TRF Thorofare Moun 86.03 12 P P 07 55 43.8 -0.6
HLID Hailey 86.07 41 P P 07 55 46.9 +1.8
baz=238
HLID Hailey 86.07 41 P P 07 55 45.1 0.0
HLID IAmb IAmb 07 55 47.9
comp=Z,6.4nm,0.8s
RND Reindeer 86.28 13 P P 07 55 45.2 -0.2
MCK McKinley 86.55 13 P P 07 55 46.7 0.0
baz=207,SNR=7.0
MNTX Cornudas Mount 86.60 55 P P 07 55 49.6 +1.9
baz=244
TX31 Lajitas Ar. Si 86.93 57 P P 07 55 47.2 -2.1
TX32 Lajitas Array 86.93 57 P P 07 55 47.0 -2.3
TX32 IAmb IAmb 07 55 52.7
comp=Z,6.7nm,1.1s
TXAR Lajitas Array 86.93 57 P P 07 55 51.9 +2.6
comp=Z,3.3nm,0.8s,baz=228,slow=4.7,SNR=11
BCYI Bear Canyon 87.08 41 P P 07 55 48.5 -1.4
PV02 Paradox Valley 87.10 48 P P 07 55 48.0 -2.0
PV02 IAmb IAmb 07 55 54.8
comp=Z,12nm,1.4s
PV12 Saucer Basin, 87.10 47 P P 07 55 48.5 -1.6
PV12 IAmb IAmb 07 55 53.3
comp=Z,8.0nm,1.4s
ANMO Albuquerque 87.23 51 P P 07 55 52.1 +1.4
baz=243
ANMO Albuquerque 87.23 51 P P 07 55 49.1 -1.6
NEA2 Nenana 87.30 12 P P 07 55 49.8 -0.3
baz=207
MLY Manley 87.37 11 P P 07 55 49.9 -0.6
baz=206,SNR=7.7
WRH Wood River Hil 87.38 13 P P 07 55 49.2 -1.3
DOT Dot Lake 87.55 14 P P 07 55 49.3 -2.1
DOT IAmb IAmb 07 55 52.6
comp=Z,14nm,1.1s
HDA Harding Lake 87.57 13 P P 07 55 51.3 -0.1
baz=209,SNR=17
HDA Harding Lake 87.57 13 P P 07 55 50.1 -1.3
CCB Clear Creek Bu 87.60 13 P P 07 55 50.2 -1.2
MCMT McKenzie Canyo 87.69 40 P P 07 55 52.0 -0.7
IMAR Indian Mountai 87.73 10 P P 07 55 51.5 -0.6
XAN Xi'an 87.74 307 P P 07 55 53.0 0.0
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN pmax pmax
comp=Z,520nm,4.3s
TCOL CIGO, UAF Yank 87.79 12 P P 07 55 52.1 -0.3
baz=208,SNR=9.2
MDM Murphy Dome 87.79 12 P P 07 55 50.9 -1.5
COLA College 87.79 12 P P 07 55 51.1 -1.2
SCRK Sand Creek 87.85 14 P P 07 55 53.2 +0.3
baz=212
IL31 87.90 13 P P 07 55 51.9 -1.0
ILAR Eielson Array 87.90 13 P P 07 55 52.5 -0.4
comp=Z,6.0nm,0.5s,baz=213,slow=5.2,SNR=68
ILAR Eielson Array 87.90 13 P P 07 55 51.7 -1.1
POKR Poker Flat Res 88.09 12 P P 07 55 53.4 -0.4
baz=209
MSO Missoula 88.09 38 P P 07 55 54.7 +0.3
baz=238
REDW Red Top Meadow 88.19 42 P P 07 55 53.9 -1.2
REDW IAmb IAmb 07 55 57.7
comp=Z,13nm,1.1s
S22A 4UR Ranch, Cre 88.22 49 P P 07 55 56.5 +1.1
baz=243
K27K Chicken 88.35 15 P P 07 55 56.2 +1.2
baz=214
QLMT Earthquake Lak 88.56 41 P P 07 55 55.6 -1.1
VNA3 Neumayer Olymp 88.61 176 P P 07 55 56.3 -0.1
FLWY Flagg Ranch 88.64 42 P P 07 55 56.3 -0.9
FLWY IAmb IAmb 07 56 00.1
comp=Z,7.9nm,0.9s
BW06 Boulder Array 88.72 43 P P 07 55 58.5 +1.0
baz=241
BW06 Boulder Array 88.72 43 P P 07 55 56.8 -0.8
BW06 IAmb IAmb 07 55 59.5
comp=Z,4.4nm,0.8s
PD31 Pinedale Array 88.72 43 P P 07 55 56.5 -1.1
PD31 IAmb IAmb 07 55 59.5
comp=Z,4.0nm,0.8s
PDAR Pinedale Array 88.72 43 P P 07 55 58.8 +1.2
comp=Z,2.6nm,0.6s,baz=210,slow=3.2,SNR=31
PDAR Pinedale Array 88.72 43 P P 07 55 56.5 -1.1
YHL Hebgen Lake 88.72 41 P P 07 55 55.5 -2.1
YMR Madison River 88.77 41 P P 07 55 56.7 -1.0
BOZ Bozeman (W) 88.83 40 P P 07 55 59.7 +1.9
baz=239
BOZ Bozeman (W) 88.83 40 P P 07 55 57.0 -0.9
BOZ IAmb IAmb 07 56 00.5
comp=Z,6.5nm,1.0s
H17A Grant Village 88.87 42 P P 07 56 01.1 +2.8
baz=240
YHH Holmes Hill 88.90 41 P P 07 55 57.2 -1.2
HHC Hu-ho-hao-te 88.93 314 eP P 07 55 55.5 -2.9
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,410nm,6.2s
SDCO Great Sand Dun 89.16 49 P P 07 56 01.5 +1.7
baz=244
COLD Coldfoot 89.45 11 P P 07 56 01.0 +1.0
baz=206
MSTX Muleshoe 89.55 54 P P 07 56 02.6 +1.1
baz=245
PLCA Paso Flores 89.69 134 P P 07 56 03.5 +1.4
comp=Z,2.0nm,0.9s,baz=198,slow=13,SNR=3.5
CMAR Chiang Mai Arr 89.83 290 P P 07 56 03.6 +0.7
comp=Z,3.5nm,0.7s,baz=121,slow=3.0,SNR=19
CMAR Chiang Mai Arr 89.83 290 P P 07 56 02.4 -0.6
N23A Red Feather La 90.25 46 P P 07 56 06.4 +1.7
baz=243
EPYK Eagle Plains 91.58 15 P P 07 56 10.3 +0.3
baz=218
LZH Lanzhou 92.38 308 ⇑P P 07 56 15.5 +1.0

LZH pP pP 07 58 23.8 +5.4
LZH sP sP 07 59 20.3 +5.6
LZH PP PP 08 00 10.4 +4.5
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,69nm,9.5s
LZH LR LR
comp=N,45nm,17.6s
LZH LR LR
comp=E,52nm,18.0s
LZH LR LR
comp=Z,79nm,20.1s
INK Inuvik 93.86 15 P P 07 56 20.1 -0.2
comp=Z,1.8nm,0.6s,baz=188,slow=7.1,SNR=4.0
INK Inuvik 93.86 15 P P 07 56 20.1 -0.2
ZALV Zalesovo Beam 110.04 321 PKiKP PKiKP 08 01 29.5 -1.3
comp=Z,1.5nm,0.6s,baz=155,slow=1.4,SNR=3.7
MKAR Makanchi Array 110.78 314 PKiKP PKiKP 08 01 31.4 -1.1
comp=Z,1.1nm,0.6s,baz=198,slow=0.5,SNR=9.0
KKAR Karatay Array 118.85 309 PKPdf 08 01 46.8 -1.4
ABKAR Akbulak array 125.65 317 PKPdf 08 02 00.1 -0.9
GEYT Alibeck 128.41 303 PKP PKiKP 08 02 06.8 -0.5
comp=Z,2.8nm,0.6s,baz=46,slow=6.4,SNR=3.7
ARCES ARCESS Array B 128.44 350 PKP PKPdf 08 02 05.1 -0.6
comp=Z,1.8nm,0.4s,baz=41,slow=1.1,SNR=30
FINES FINESS Array B 135.29 344 PKhKP PKPpre 08 02 10.9
comp=Z,2.6nm,1.1s,baz=66,slow=4.8,SNR=4.8
FINES PKP PKPdf 08 02 17.6 -1.1
comp=Z,1.8nm,0.5s,baz=86,slow=4.0,SNR=8.5
NB2 NORSAR Subarra 138.51 353 PKP PKPpre 08 02 15.1
comp=Z,1.1nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B 138.51 353 PKhKP PKPpre 08 02 15.0
comp=Z,1.3nm,0.6s,baz=16,slow=4.6,SNR=6.9
NOA PKP PKiKP 08 02 26.2 -0.9
comp=Z,0.8nm,0.5s,baz=14,slow=3.9,SNR=4.9
KAC Achnashellach 142.22 6 eP PKPdf 08 02 28.1 -3.5
KPL Plockton 142.34 7 eP PKPdf 08 02 28.3 -3.4
SUW Suwalki 142.36 339 ePKP PKPdf 08 02 28.8 -3.1
AKASG Malin Array Be 142.54 331 PKhKP PKPpre 08 02 28.2
comp=Z,6.6nm,0.4s,baz=42,slow=4.6,SNR=45
DRUM Mains of Drumt 143.04 4 eP PKPab 08 02 29.6 -1.0
INVG Invergeldie, C 143.40 5 eP PKPab 08 02 31.4 -0.6
LAWE Loch Awe, Argy 143.43 7 eP PKPab 08 02 31.8 -0.4
EAB Aberfoyle 143.61 6 eP PKPab 08 02 32.4 -0.5
PGBU Glenifferbraes 143.96 6 eP PKPbc 08 02 33.5 -0.5
ESY Stoneypath 144.02 4 eP PKPbc 08 02 33.5 -0.7
EBL Broad Law 144.13 5 eP PKPbc 08 02 34.1 -0.4
NEWG New Galloway 144.68 6 eP PKPdf 08 02 35.3 -0.5
SORM Soroca 144.74 329 ⇑P PKPdf 08 02 36.2 0.0
GKP Gorka Klasztor 144.76 344 ePKP PKPbc 08 02 36.3 -0.3
BEL Belsk 144.97 339 ePKP PKPab 08 02 37.7 -0.5
IOMK Kirk Michael 145.49 7 eP PKPbc 08 02 38.1 -0.6
BSEG Bad Segeberg 145.54 351 ePKPbc PKPbc 08 02 39.1 +0.3
baz=16,slow=2.4
WIM Isle of Man 145.58 7 eP PKPdf 08 02 37.9 +0.4
VASR Vaslui 146.03 327 ⇑P PKPbc 08 02 40.9 +0.4
KWP Kalwaria Pacla 146.10 335 ePKP PKPbc 08 02 40.5 -0.2
KWP Kalwaria Pacla 146.10 335 PKPbc 08 02 39.9 -0.8
WME Myndd Eilian 146.36 7 eP PKPbc 08 02 40.7 -0.5
BRTR Keskin Array B 146.42 313 PKPbc PKPbc 08 02 41.3 -0.7
comp=Z,5.9nm,0.6s,baz=135,slow=3.2,SNR=15
TLCR 146.45 325 ⇑P PKPbc 08 02 41.7 0.0
WLF1 Llynfaes 146.46 7 eP PKPbc 08 02 40.4 -1.0
BUR08 Bucovina Ar. S 146.58 331 PKPbc 08 02 41.6 -0.5
BURAR Bucovina Array 146.59 331 ⇓P PKPbc 08 02 42.2 +0.1
BURAR Bucovina Array 146.59 331 PKPbc 08 02 41.8 -0.3
BIZ Bicaz 146.66 329 ⇓P PKPbc 08 02 42.7 +0.5
OJC Ojcow 146.68 339 ePKP PKPbc 08 02 41.9 -0.3
OJC Ojcow 146.68 339 PKPbc 08 02 41.5 -0.7
CFR Carcaliu 146.82 325 ⇑P PKPbc 08 02 42.6 0.0
FOEL Foel Wylfa 146.98 6 eP PKPbc 08 02 42.4 -0.4
VRI Vrincioaia 147.10 327 ⇓P PKPbc 08 02 43.2 -0.3
TIRR Tirgusor 147.13 324 ⇑P PKPbc 08 02 43.2 -0.3
PLOR Plostina 147.15 327 ⇑P PKPbc 08 02 43.4 -0.2
NIE Niedzica 147.18 338 ePKP PKPbc 08 02 44.0 +0.4
KSP Ksiaz 147.21 343 ePKP PKPbc 08 02 43.8 +0.3
ASSE Asse, Remlinge 147.24 350 ePKPbc PKPbc 08 02 43.9 +0.5
baz=16,slow=2.4
HARR Harsova 147.25 325 ⇑P PKPbc 08 02 44.1 +0.3
TLBR Topalu 147.28 324 ⇓P PKPbc 08 02 43.8 -0.1
HLM1 Long Mynd 147.37 5 eP PKPbc 08 02 43.0 -0.9
MANR Mangalia 147.44 323 ⇑P PKPbc 08 02 44.7 +0.4
IBBN Ibbenburen 147.46 353 ePKPbc PKPbc 08 02 44.2 0.0
baz=16,slow=2.4
OSTC Ostas 147.49 343⇑ePKP PKPbc 08 02 44.6 +0.3
CHVC Chvalec 147.50 343⇑ePKP PKPbc 08 02 44.3 -0.1
CLZ Clausthal 147.56 350 ePKPbc PKPbc 08 02 45.0 +0.5
baz=16,slow=2.4
CLL Collm 147.58 347 ePKPdf 08 02 41.0 +0.1
CLL ⇓iPKPbc PKPbc 08 02 44.4 -0.1
comp=Z,34nm,1.0s
CLL iPKPab PKPab 08 02 48.2 -0.4
comp=Z,18nm,0.8s
CLL Collm 147.58 347 PKPbc 08 02 43.0 -1.5
UPC Upice 147.59 343⇑ePKP PKPbc 08 02 43.5 -1.0
UPC ePKPAB PKPab 08 02 49.0 +0.3
NEHR Nehoiu 147.62 327 ⇑P PKPbc 08 02 44.8 -0.1
DPC Dobruska-Polom 147.64 343⇑ePKP PKPbc 08 02 44.9 +0.2
DPC ePKPAB PKPab 08 02 49.4 +0.4
DOPR Dopca 147.70 329 ⇓P PKPbc 08 02 45.4 +0.4
MDUB Mudurnu 147.72 316 PKPbc 08 02 44.6 -0.7
KRLC Kraliky 147.76 342⇑ePKP PKPbc 08 02 44.9 -0.1
KRLC ePKPAB PKPab 08 02 49.8 +0.3
MLR Muntele Rosu 147.76 327 ⇑P PKPbc 08 02 44.9 -0.5
MLR Muntele Rosu 147.76 327 PKPbc 08 02 44.6 -0.7
BRG Berggiesshubel 147.78 346 ePKP PKPdf 08 02 41.3 +0.1
comp=Z,4.5nm,1.4s
BRG Berggiesshubel 147.78 346 iPKP PKPbc 08 02 45.1 +0.1
comp=Z,15nm,0.6s
BRG Berggiesshubel 147.78 346 iPKP PKPab 08 02 49.4 -0.1
comp=Z,9.8nm,0.8s
BRG Berggiesshubel 147.78 346 ePKPbc PKPbc 08 02 45.4 +0.4
baz=16,slow=2.4
BRG ePKPab PKPab 08 02 49.8 +0.3
baz=16,slow=2.4
MORC Moravsky Berou 147.79 341 ⇓P PKPbc 08 02 45.1 -0.1
MORC Moravsky Berou 147.79 341 ePKP PKPbc 08 02 45.1 -0.1
MORC Moravsky Berou 147.79 341 PKPbc 08 02 44.8 -0.4
FBE Freiberg 147.87 346 ePKPbc PKiKP 08 02 45.8 -0.8
baz=16,slow=2.4
MCH1 Michaelchurch 147.88 6 eP PKPbc 08 02 44.5 -0.7
GTTG Gottingen 147.92 350 ePKPbc PKiKP 08 02 45.8 -0.9
baz=16,slow=2.4
GTTG ePKPab PKPab 08 02 50.4 +0.4
baz=16,slow=2.4
NEUB Neuenburg 147.93 348 ePKPbc PKPbc 08 02 45.6 +0.2
baz=16,slow=2.4
PVCC Panska Ves 147.95 345⇑ePKP PKPbc 08 02 45.8 +0.4
SECR 148.01 327 ⇓P PKPbc 08 02 45.6 -0.2
VOIR 148.25 328 ⇑P PKPbc 08 02 46.4 -0.1
PRA Prague 148.40 344⇑ePKP PKPbc 08 02 46.8 +0.2
PRU Pruhonice 148.45 344⇑ePKP PKPbc 08 02 46.5 -0.2
PRU ePKPAB PKPab 08 02 52.5 +0.2
GOPC GO Pecny, Ondr 148.46 344⇑ePKP PKPbc 08 02 47.0 +0.2
MOX Moxa 148.49 348 ePKPbc PKPbc 08 02 47.1 +0.3
baz=16,slow=2.4
VRAC Vranov 148.50 341 ⇓P PKPbc 08 02 45.2 -1.7
VRAC Vranov 148.50 341 ePKP PKPbc 08 02 46.9 0.0
VRAC e 08 02 52.8
ARR Arges 148.50 328 ⇑P PKiKP 08 02 48.0 -0.2
CSS Mathiatis 148.52 305 PKPbc 08 02 47.1 -0.3
TANN Tannenbergstha 148.54 347 ePKPbc PKPbc 08 02 47.2 +0.2
baz=16,slow=2.4
JAVC Velka Javorina 148.56 340 ePKP PKiKP 08 02 48.2 0.0
PSZ Piszkesteto 148.58 336 ⇑P PKPbc 08 02 47.4 +0.2
PSZ Piszkesteto 148.58 336 PKPbc 08 02 46.6 -0.6
UBBA Unterbreizbach 148.61 350 ePKPbc PKPbc 08 02 47.1 +0.2
baz=16,slow=2.4
GUNZ Gunzen 148.62 347 ePKPbc PKPbc 08 02 47.3 +0.2
baz=16,slow=2.4
GUNZ ePKPab PKPab 08 02 52.8 -0.2
baz=16,slow=2.4
WERN Wernitzgruen 148.68 347 ePKPbc PKiKP 08 02 47.9 -0.4
baz=16,slow=2.4
WERN ePKPab PKPab 08 02 53.6 +0.4
baz=16,slow=2.4
NKC Novy Kostel 148.71 347⇑ePKP PKPbc 08 02 47.4 0.0
NKC ePKPAB PKPab 08 02 53.1 -0.3
KRUC Moravsky 148.78 341 ePKP PKPbc 08 02 47.4 -0.1
KRUC e 08 02 53.9
LEF Lefka 148.81 305 ⇓P PKPbc 08 02 47.6 -0.5
PBCC Pribram 148.87 345⇑ePKP PKPbc 08 02 47.6 -0.2

PBCC				*e*PKPAB	**PKPab**	**08 02 54.2**	**+0.2**
MANZ	**Manzenberg**	**149.02 347**		*e*PKPbc	**PKiKP**	**08 02 48.7**	**-0.4**
	baz=16,slow=2.4						
ROTZ	**Rotzenmuhle**	**149.21 347**		*e*PKPbc	**PKiKP**	**08 02 49.1**	**-0.3**
	baz=16,slow=2.4						
MEM	**Membach**	**149.31 355**		PKiKP	**PKPbc**	**08 02 48.8**	**0.0**
GZR	**Gura Zlata**	**149.37 330**	⇑	P	**PKPbc**	**08 02 48.9**	**-0.3**
BSTI	**Sart Tilman**	**149.38 355**		PKiKP	**PKPbc**	**08 02 48.9**	**0.0**
TNS	**Taunus Mts**	**149.43 352**		*e*PKPbc	**PKiKP**	**08 02 49.5**	**-0.4**
	baz=16,slow=2.4						
KHC	**Kasperske Hory**	**149.49 345**	⇑	*e*PKP	**PKPbc**	**08 02 49.2**	**-0.1**
KHC				*e*PKPAB	**PKPab**	**08 02 57.0**	**+0.4**
KHC	**Kasperske Hory**	**149.49 345**			**PKPbc**	**08 02 49.3**	**0.0**
SNF	**Seneffe**	**149.53 357**		PKiKP	**PKPbc**	**08 02 49.4**	**+0.1**
WET	**Wettzell**	**149.64 346**		*e*PKPbc	**PKiKP**	**08 02 50.0**	**-0.4**
	baz=16,slow=2.4						
WET				*e*PKPab	**PKPab**	**08 02 57.8**	**+0.6**
	baz=16,slow=2.4						
BMRD	**Maredsous**	**149.71 356**		PKiKP	**PKPbc**	**08 02 49.7**	**0.0**
GEC2	**GERESS Array S**	**149.72 344**		*e*PKPbc	**PKPbc**	**08 02 50.1**	**+0.1**
	baz=16,slow=2.4						
GEC2	**GERESS Array S**	**149.72 344**			**PKPbc**	**08 02 49.9**	**-0.1**
GERES	**GERESS Array B**	**149.72 344**		PKP	**PKPdf**	**08 02 45.3**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=248,slow=1.4,SNR=4.5						
GERES				PKPbc	**PKPbc**	**08 02 49.8**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=41,slow=2.5,SNR=42						
GERES	**GERESS Array B**	**149.72 344**			**PKPbc**	**08 02 49.0**	**-0.9**
BZS	**Buzias**	**149.72 332**	⇑	P	**PKPbc**	**08 02 49.9**	**-0.1**
RCHB	**Rochefort**	**149.83 356**		PKiKP	**PKPbc**	**08 02 49.8**	**-0.2**
HERR	**Herculane**	**149.92 330**	⇓	P	**PKPbc**	**08 02 50.0**	**-0.4**
DOU	**Dourbes**	**149.93 356**		PKiKP	**PKiKP**	**08 02 50.4**	**-0.5**
CONA	**Conrad Observa**	**149.95 341**		*i* P	**PKPbc**	**08 02 50.4**	**-0.1**
	comp=Z,8.3nm,0.6s,SNR=9.7						
CONA				*i* P	**PKPab**	**08 02 59.5**	**+0.8**
	comp=Z,9.5nm,1.5s						
WLF	**Walferdange**	**150.24 354**		PKiKP	**PKiKP**	**08 02 51.3**	**-0.2**
WLF	**Walferdange**	**150.24 354**		*e*PKPbc	**PKiKP**	**08 02 51.9**	**+0.3**
	baz=16,slow=2.4						
WLF	**Walferdange**	**150.24 354**			**PKiKP**	**08 02 51.3**	**-0.2**
MDVR	**Moldovita**	**150.32 331**	⇑	P	**PKPbc**	**08 02 51.2**	**-0.2**
MOA	**Molln**	**150.48 343**		*e*P	**PKPbc**	**08 02 51.1**	**-0.6**
	comp=Z,3.3nm,0.5s						
MOA				*e*P	**PKPab**	**08 03 00.7**	**-0.1**
	comp=Z,6.5nm,1.0s						
BFO	**Black Forest**	**151.29 351**		*e*PKPbc	**PKPbc**	**08 02 52.8**	**-0.6**
	baz=16,slow=2.4						
BFO				*e*PKPab	**PKPab**	**08 03 03.9**	**-0.3**
	baz=16,slow=2.4						
SOKA	**Soboth**	**151.32 341**		*e*P	**PKPbc**	**08 02 52.8**	**-0.9**
	comp=Z,2.2nm,0.5s						
SOKA				*i* P	**PKPab**	**08 03 04.4**	**0.0**
	comp=Z,6.9nm,1.0s						
KBA	**Koelnbreinsper**	**151.44 343**		*e*P	**PKPbc**	**08 02 53.7**	**-0.4**
	comp=Z,4.6nm,0.5s						
KBA				*e*P	**PKPab**	**08 03 05.9**	**+0.9**
	comp=Z,6.2nm,0.5s						
OBKA	**Obir**	**151.62 341**		P	**PKPbc**	**08 02 53.6**	**-0.7**
	comp=Z,1.6nm,0.4s						
UBR	**Ueberruh**	**151.62 348**		*e*PKPbc	**PKiKP**	**08 02 54.3**	**-0.3**
	baz=16,slow=2.4						
WATA	**Walderalm**	**151.64 346**		*i* P	**PKPbc**	**08 02 53.8**	**-0.7**
	comp=Z,4.9nm,0.5s						
WATA				*i* P	**PKPab**	**08 03 06.1**	**+0.3**
	comp=Z,4.7nm,0.7s						
RETA	**Reutte**	**151.67 347**		*i* P	**PKPbc**	**08 02 53.9**	**-0.5**
	comp=Z,2.3nm,0.5s						
RETA				*i* P	**PKPab**	**08 03 06.0**	**+0.1**
	comp=Z,11nm,1.4s						
WTTA	**Wattenberg**	**151.69 346**		*i* P	**PKPbc**	**08 02 54.2**	**-0.4**
	comp=Z,9.5nm,0.4s,SNR=5.0						
WTTA				*e*P	**PKPab**	**08 03 06.5**	**+0.3**
	comp=Z,7.8nm,0.6s						
MOTA	**Moosalm**	**151.74 347**		*i* P	**PKPbc**	**08 02 54.0**	**-0.7**
	comp=Z,5.0nm,0.7s						
MOTA				*i* P	**PKPab**	**08 03 06.4**	**+0.1**
	comp=Z,5.3nm,0.6s						
MYKA	**Terra Mystica**	**151.77 343**		*e*P	**PKPbc**	**08 02 53.5**	**-1.2**
	comp=Z,5.6nm,0.5s						
MYKA				*e*P	**PKPab**	**08 03 05.7**	**-0.6**
	comp=Z,3.3nm,0.6s						
SQTA	**Sankt Quirin**	**151.83 346**		*i* P	**PKPbc**	**08 02 54.4**	**-0.5**
	comp=Z,5.0nm,0.5s						
SQTA				*e*P	**PKPab**	**08 03 06.7**	**+0.1**
	comp=Z,2.4nm,0.5s						
PDKS	**Podkum**	**151.88 340**		*i* PKPbc	**PKPbc**	**08 02 54.1**	**-0.8**
ABTA	**Abfaltersbach**	**151.97 344**		*i* P	**PKPbc**	**08 02 54.0**	**-1.1**
	comp=Z,6.5nm,0.6s,SNR=5.3						
ABTA				*e*P	**PKPab**	**08 03 06.4**	**-0.8**
	comp=Z,9.0nm,0.7s						
DAVA	**Damuels**	**152.04 348**		*i* P	**PKPbc**	**08 02 54.8**	**-0.6**
	comp=Z,2.7nm,0.6s						
FETA	**Feichten**	**152.12 347**		*e*P	**PKPbc**	**08 02 55.2**	**-0.3**
	comp=Z,2.9nm,0.5s						
FETA				*i* P	**PKPab**	**08 03 08.1**	**+0.2**
	comp=Z,7.0nm,1.1s						
BOJS	**Bojanci**	**152.29 339**		*i* PKPbc	**PKPbc**	**08 02 55.5**	**-0.3**
ESDC	**Sonseca Array**	**159.80 13**		PKPab	**PKPab**	**08 03 40.2**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=345,slow=3.8,SNR=11						
ESDC	**Sonseca Array**	**159.80 13**			**PKPab**	**08 03 39.5**	**-1.6**
TORD	**Torodi Ar. Bea**	**173.15 179**		PKPab	**PKPab**	**08 04 40.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=188,slow=2.4,SNR=3.2						

ISK 11 07:59:57.2, 40.89N, 35.67E, h3km, ML1.8/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAYA	**Kayacik-Havza(**	**0.08**	**47**	PG	Pg	07 59 59.5	+0.6
KUPE	**Kupecik-Ladik(**	**0.29**	**93**	PG	Pg	08 00 03.5	+0.7
KVT	**Kavak**	**0.34**	**56**	PG	Pg	08 00 04.5	+0.7
KVT				SG	Sb	08 00 10.5	-1.3
DIKM	**Dikmen**	**0.82**	**338**	PG	Pg	08 00 13.4	+0.5
TOKT	**Tokat**	**0.88**	**130**	PG	Pb	08 00 15.1	0.0
CORM	**Corum**	**1.06**	**228**	PG	Pb	08 00 18.7	+0.4
CORM				SG	Sn	08 00 33.9	-0.6
SNOP	**Sinop**	**1.18**	**343**	PN	Pb	08 00 20.3	+0.1
SNOP				SN	Sn	08 00 37.6	+0.5
SVSK	**Karacayir**	**1.41**	**133**	PN	Pb	08 00 23.9	-0.1
SVSK				SN	Sn	08 00 42.6	0.0

IDC ***11*** *08:13:32.7±0.7, 34°.31N×79°.09E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.0/48, mbtmp4.1/20, ML3.9/4, MS3.7/6, Ms1 3.7/6, ms1mx3.2/41, Error ellipse: s-maj=19.4km s-min=14.1km az=51.0*

BJI ***11*** *08:13:36.3±0.0, 34°.37N×79°.23E, h23km, mB4.3/2, mb4.3/10, ML3.8/2, Ms3.5/3, Ms7 3.3/1*

MOS ***11*** *08:13:36.2±1.2, 34°.39N×79°.08E, h31km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=5.6km az=101.0*

NEIC ***11*** *08:13:37.9±1.2, 34°.39N±0°.08×79°.20E±0°.09, h35km±2km, mb4.5/19, Error ellipse: s-maj=13.7km s-min=12.2km az=155.0*

ISC 11 08:13:38.1±0.4, 34°35N±0°.05×79°15E±0°.05, h35km, n105, σ1s34/107, mb4.4/26, MS3.4/5, 4C-6D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**4.95**	**263**	P	**Pn**	**08 14 50.4**	**+0.4**
NIL						08 15 46.7	
NIL	**Nilore**	**4.95**	**263**		**Pn**	**08 14 50.4**	**+0.4**
NIL				Sn	**Sn**	**08 15 46.7**	**+0.7**
KSH	**Kashi**	**5.74**	**335**	Pn	**Pn**	**08 15 01.2**	**+0.2**
KSH				Sn	**Sn**	**08 16 05.2**	**-0.5**
KUDL	**Kundal**	**6.59**	**201**	*e*P	**Pn**	**08 15 15.4**	**+2.8**
KUDL				*e*S	**Sn**	**08 16 24.1**	**-2.4**
TARG	**Taragay, Kyrgy**	**7.44**	**352**	Pn	**Pn**	**08 15 24.9**	**+0.4**
TARG				Sn	**Sn**	**08 16 46.5**	**-1.4**
KDJ	**Kajisay**	**7.92**	**349**	P	**Pn**	**08 15 31.7**	**+0.9**
KDJ	**Kajisay**	**7.92**	**349**		**Pn**	**08 15 31.7**	**+0.9**
ULHL	**Ulahol**	**8.20**	**345**	P	**Pn**	**08 15 38.6**	**+3.8**
	SNR=8.3						
KBL	**Kabul**	**8.35**	**274**	P	**Pn**	**08 15 37.6**	**+0.8**
KBL	**Kabul**	**8.35**	**274**	Pn	**Pn**	**08 15 37.6**	**+0.8**
GAR	**Garm**	**8.47**	**306**	Pn	**Pn**	**08 15 38.1**	**-0.3**
BOOM	**Boomskoye usch**	**8.50**	**344**	P	**Pn**	**08 15 39.2**	**+0.3**
BOOM	**Boomskoye usch**	**8.50**	**344**		**Pn**	**08 15 39.2**	**+0.3**
UCH	**Uchtor**	**8.66**	**337**	P	**Pn**	**08 15 43.3**	**+2.0**
	SNR=39						
BTK	**Batken**	**8.74**	**313**	P	**Pn**	**08 15 40.4**	**-1.7**
BTK	**Batken**	**8.74**	**313**	Pn	**Pn**	**08 15 40.4**	**-1.7**
AML	**Almayashu**	**8.87**	**333**	P	**Pn**	**08 15 46.8**	**+2.7**
	SNR=8.8						
KBK	**Karagaybulak**	**8.92**	**340**	P	Pn	08 15 51.0	+6.5
	SNR=5.3						
TKM2	**Tokmak 2**	**8.99**	**343**	P	**Pn**	**08 15 50.3**	**+4.7**
	SNR=12						
AAK	**Ala-Archa**	**9.04**	**338**	P	**Pn**	**08 15 49.0**	**+2.7**
	SNR=11						
AAK	**Ala-Archa**	**9.04**	**338**	*e*P	**Pn**	**08 15 48.9**	**+2.7**
AAK				pmax	pmax		
	comp=Z,65nm,1.3s						
CHGR	**Chuyangaron**	**9.11**	**301**	Pn	**Pn**	**08 15 47.5**	**+0.4**
KK31	**Karatay Array**	**11.03**	**325**	P	**Pn**	**08 16 13.8**	**+0.4**
KK31	**Karatay Array**	**11.03**	**325**	Pn	**Pn**	**08 16 13.8**	**+0.4**
KKAR	**Karatay Array**	**11.03**	**325**	P	**Pn**	**08 16 12.2**	**-1.1**
KKAR	**Karatay Array**	**11.03**	**325**		**Pn**	**08 16 12.7**	**-0.7**
KKAR	**Karatay Array**	**11.03**	**325**		**Pn**	**08 16 12.2**	**-1.1**
WMQ	**Urumqi**	**11.55**	**33**	*e*P	**Pn**	**08 16 21.8**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WMQ				LR	LR		
	comp=Z,52nm,3.9s						
WMQ				LR	LR		
	comp=Z,57nm,6.3s						
MAKZ	**Makanchi**	**12.62**	**9**	P	**Pn**	**08 16 34.8**	**-0.3**
MAKZ	**Makanchi**	**12.62**	**9**	Pn	**Pn**	**08 16 34.8**	**-0.3**
MK31	**Makanchi Array**	**12.65**	**10**	*de*P	**Pn**	**08 16 37.0**	**+1.5**
MK31	**Makanchi Array**	**12.65**	**10**		**Pn**	**08 16 35.2**	**-0.3**
MKAR	**Makanchi Array**	**12.65**	**10**	Pn	**Pn**	**08 16 35.4**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=185,slow=13,SNR=30						
MKAR				Sn	**Sn**	**08 18 54.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=191,slow=26,SNR=6.5						
MKAR				LR	LR	08 22 12.6	
	comp=Z,110nm,20.5s,baz=230,slow=41						
MKAR	**Makanchi Array**	**12.65**	**10**	P	**Pn**	**08 16 35.2**	**-0.3**
MKAR	**Makanchi Array**	**12.65**	**10**		**Pn**	**08 16 35.2**	**-0.3**
KURBB	**Kurchatov Arra**	**16.27**	**359**	Pn	**Pn**	**08 17 22.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=186,slow=11,SNR=38						
KURK	**Kurchatov**	**16.36**	**359**	*d* P	**Pn**	**08 17 26.8**	**+1.9**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s						
KURK	**Kurchatov**	**16.36**	**359**	P	**Pn**	**08 17 26.6**	**+1.7**
DGZ	**Jazzator, Alta**	**16.51**	**19**	*e*P	**Pn**	**08 17 28.1**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,22nm,1.3s						
GTA	**Gaotai**	**17.28**	**67**	*e*P	**P**	**08 17 40.7**	**+2.8**
GTA				pP	pP	08 17 45.3	-3.4
GTA				sP	sP	08 17 48.0	-5.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GEYT	**Alibeck**	**17.35**	**288**	P	**Pn**	**08 17 37.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=94,slow=13,SNR=4.9						
GEYT	**Alibeck**	**17.35**	**288**	P	**Pn**	**08 17 37.2**	**-0.3**
BVAR	**Borovoye Array**	**19.68**	**344**	P	**P**	**08 18 03.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=190,slow=22,SNR=26						
BRVK	**Borovoye**	**19.73**	**344**	*d* P	**P**	**08 18 04.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s						
BRVK	**Borovoye**	**19.73**	**344**	P	**P**	**08 18 04.2**	**-0.4**
BRVK				IAmb	IAmb	08 18 08.8	
	comp=Z,16nm,0.9s						
ZAA0	**Zalesovo Array**	**20.00**	**10**	P	**P**	**08 18 06.6**	**-0.8**
ZALV	**Zalesovo Beam**	**20.00**	**10**	P	**P**	**08 18 07.2**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=199,slow=10.0,SNR=8.8						
ZALV	**Zalesovo Beam**	**20.00**	**10**	P	**P**	**08 18 06.3**	**-1.1**
LZH	**Lanzhou**	**20.24**	**78**	*e*P	**P**	**08 18 11.0**	**+0.5**
LZH				pP	pP	08 18 21.2	-0.1
LZH				sP	sP	08 18 26.5	0.0
LZH				*e*PP	**PnPn**	**08 18 32.3**	**+4.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,67nm,4.8s						
ABKAR	**Akbulak array**	**20.57**	**322**	P	**P**	**08 18 13.7**	**+0.1**
ABKAR	**Akbulak array**	**20.57**	**322**	P	**P**	**08 18 13.5**	**-0.2**
WSAR	**Wadi Sarin**	**21.07**	**244**	P	**P**	**08 18 19.3**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=96,slow=9.5,SNR=10.0						
AKTO	**Aktyubinsk**	**22.28**	**323**	P	**P**	**08 18 31.7**	**-0.4**
	comp=Z,15nm,0.8s,baz=115,slow=11,SNR=26						
AKTO				LR	LR	08 28 00.3	
	comp=Z,90nm,19.1s,baz=149,slow=39						
CMAR	**Chiang Mai Arr**	**23.70**	**127**	P	**P**	**08 18 47.2**	**+0.4**
	comp=Z,7.4nm,1.0s,baz=312,slow=9.8,SNR=26						
SONM	**Songino Array**	**24.41**	**48**	P	**P**	**08 18 53.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=12,slow=41,SNR=2.5						
SONM	**Songino Array**	**24.41**	**48**	P	**P**	**08 18 51.3**	**-2.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**24.41**	**48**	P	**P**	**08 18 51.3**	**-2.0**
TLY	**Talaya**	**24.73**	**38**	LR	LR	08 29 57.5	
	comp=Z,115nm,20.5s,baz=228,slow=40						
TLY	**Talaya**	**24.73**	**38**	P	**P**	**08 18 55.0**	**-1.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**24.73**	**38**	P	**P**	**08 18 55.0**	**-1.1**
ULN	**Ulaanbaatar**	**24.83**	**49**	*e*P	**P**	**08 18 59.2**	**+2.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ARU	**Arti**	**26.19**	**334**	P	**P**	**08 19 07.8**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=149,slow=4.7,SNR=7.1						
ARU	**Arti**	**26.19**	**334**	*d* P	**P**	**08 19 09.2**	**0.0**
ARU						08 19 46.2	
ARU				S	**S**	**08 23 40.9**	**+2.3**
ARU				SS	**SnSn**	**08 24 39.8**	**+0.7**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARU	**Arti**	**26.19**	**334**	P	**P**	**08 19 08.7**	**-0.5**
ARU				IAmb	IAmb	08 19 11.0	
	comp=Z,6.6nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.39**	**66**	*e*P	**P**	**08 19 12.4**	**+1.1**
KBZ	**Khabaz**	**29.47**	**299**	LR	LR	08 33 54.0	
	comp=Z,91nm,18.6s,baz=32,slow=42						
UBPT	**Khong Chiam**	**30.37**	**122**	P	**P**	**08 19 46.0**	**-0.8**
UBPT				IAmb	IAmb	08 20 02.6	
	comp=Z,7.8nm,1.0s						
KIRV	**Kirov**	**31.26**	**330**	*e*P	**P**	**08 19 54.5**	**+0.2**
NJ2	**Nanjing**	**33.16**	**83**	*e*P	**P**	**08 20 08.5**	**-2.8**
AKASG	**Malin Array Be**	**39.44**	**310**	P	**P**	**08 21 03.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=97,slow=9.2,SNR=4.5						
AKASG	**Malin Array Be**	**39.44**	**310**	*ce*P	**P**	**08 21 04.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**41.44**	**60**	P	**P**	**08 21 22.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**41.44**	**60**	P	**P**	**08 21 22.0**	**+0.8**
MLR	**Muntele Rosu**	**41.59**	**302**	P	**P**	**08 21 23.0**	**+0.3**
MLR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MLR	**Muntele Rosu**	**41.59**	**302**	P	**P**	**08 21 23.0**	**+0.3**
MLR				IAmb	IAmb	08 21 25.2	
	comp=Z,7.6nm,0.9s						
BURAR	**Bucovina Array**	**41.99**	**305**	P	**P**	**08 21 24.6**	**-1.3**
KARP	**Karpathos**	**42.21**	**287**	P	**P**	**08 21 27.8**	**0.0**
FINES	**FINESS Array B**	**42.99**	**326**	P	**P**	**08 21 33.9**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=106,slow=8.0,SNR=17						
FINES	**FINESS Array B**	**42.99**	**326**	P	**P**	**08 21 33.8**	**+0.1**
SBUM	**Sibu**	**44.23**	**129**	P	**P**	**08 21 44.3**	**+0.1**
SBUM				IAmb	IAmb	08 21 45.8	
	comp=Z,16nm,1.5s						
JWT	**Wachi**	**45.65**	**72**	P	**P**	**08 21 55.2**	**-0.1**
ARCES	**ARCESS Array B**	**45.70**	**337**	P	**P**	**08 21 55.8**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=97,slow=6.6,SNR=16						
DIVS	**Divibare**	**45.96**	**301**	P	**P**	**08 21 57.4**	**-0.3**
DIVS				IAmb	IAmb	08 21 59.1	
	comp=Z,5.4nm,1.0s						
CONA	**Conrad Observa**	**48.25**	**306**	*i* P	**P**	**08 22 16.4**	**+0.8**
	comp=Z,4.2nm,0.8s						
SOKA	**Soboth**	**49.00**	**305**	*i* P	**P**	**08 22 22.1**	**+0.8**
	comp=Z,4.6nm,0.7s						
TIP	**Timpagrande**	**49.35**	**295**	P	**P**	**08 22 23.5**	**-0.5**
TIP				IAmb	IAmb	08 22 26.4	
	comp=Z,4.1nm,1.0s						
CLL	**Collm**	**49.66**	**311**	*e*P	**P**	**08 22 26.0**	**-0.2**
CLL				*i*		08 22 45.4	
CLL	**Collm**	**49.66**	**311**	*e*P	**P**	**08 22 26.0**	**-0.2**
JHJ2	**Mitsune**	**49.80**	**73**	P	**P**	**08 22 26.2**	**-1.3**
NC405	**NORSAR Array S**	**49.82**	**324**	P	**P**	**08 22 26.7**	**-0.5**
NC405				IAmb	IAmb	08 22 45.5	
	comp=Z,10nm,1.1s						
JEM	**Erimo**	**49.85**	**61**	P	P	08 22 20.4	-7.4
NC303	**NORSAR Array S**	**49.98**	**324**	P	**P**	**08 22 28.4**	**-0.1**
NC303				IAmb	IAmb	08 22 45.2	
	comp=Z,8.0nm,1.1s						
NB2	**NORSAR Subarra**	**50.06**	**324**	P	**P**	**08 22 28.5**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**50.06**	**324**	P	**P**	**08 22 29.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=90,slow=7.5,SNR=9.9						
DAV	**Davao City (W)**	**50.61**	**111**	LR	LR	08 46 42.2	
	comp=Z,191nm,18.3s,baz=150,slow=39						
SEY	**Seymchan**	**52.51**	**34**	*e*P	**P**	**08 22 48.5**	**+1.1**
JCJ	**Chichijima**	**53.92**	**79**	LR	LR	08 46 04.5	
	comp=Z,288nm,19.7s,baz=45,slow=36						
BILL	**Bilibino**	**57.58**	**26**	*e*P	**P**	**08 23 24.1**	**+0.1**
BILL				pmax	pmax		
	comp=E,4.0nm,0.7s						
ESDC	**Sonseca Array**	**64.29**	**302**	P	**P**	**08 24 09.9**	**-0.2**
	comp=E,0.9nm,1.0s,baz=59,slow=6.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**72.42**	**274**	P	**P**	**08 25 00.3**	**-0.9**
	comp=E,3.1nm,0.8s,baz=48,slow=5.3,SNR=14						
ILAR	**Eielson Array**	**74.85**	**19**	P	**P**	**08 25 14.6**	**-0.1**
	comp=E,0.3nm,0.6s,baz=321,slow=5.8,SNR=4.6						
WRA	**Warramunga Arr**	**75.30**	**127**	P	**P**	**08 25 18.0**	**+0.2**
	comp=E,1.3nm,1.0s,baz=314,slow=6.9,SNR=7.8						
ASAR	**Alice Springs**	**77.67**	**130**	P	**P**	**08 25 30.5**	**-0.8**
	comp=E,1.0nm,1.0s,baz=330,slow=7.1,SNR=6.7						
ULM	**Lac du Bonnet**	**95.65**	**357**	P	**P**	**08 27 01.3**	**+1.4**
	comp=E,3.2nm,0.9s,baz=264,slow=6.5,SNR=3.3						
LPAZ	**La Paz**	**145.59**	**293**	PKPbc	**PKPdf**	**08 33 13.3**	**-0.7**
	comp=E,1.2nm,1.0s,baz=9.6,slow=7.5,SNR=5.2						

IDC 11 08:37:40.5±1.8, 2°.99S×142°.49E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/37, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=31.6km s-min=30.2km az=64.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.84**	**285**	Pn	Pn	08 38 13.4	0.0
	1.4nm,0.3s,baz=181,slow=23,SNR=4.9						
JAY				Sn	Sb	08 38 38.3	-0.4
	2.1nm,0.3s,baz=184,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**18.63**	**205**	P	Pn	08 42 00.1	+0.1
	0.1nm,0.3s,baz=28,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**22.17**	**201**	P	P	08 42 38.1	-0.2
	0.2nm,0.6s,baz=34,slow=10,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**32.92**	**46**	T	T	09 19 12.3	
	baz=229,slow=76,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**32.94**	**46**	T	T	09 19 12.4	
	baz=229,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**32.94**	**46**	T	T	09 19 12.7	
	baz=229,slow=76,SNR=4.6						
ILAR	**Eielson Array**	**84.54**	**24**	P	P	08 50 15.3	0.0
	0.7nm,1.0s,baz=249,slow=6.7,SNR=4.1						

IDC ***11*** *08:44:41.1±1.6, 2°.22N×96°.08E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/43, mbtmp3.8/9, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.6/37, Error ellipse: s-maj=51.3km s-min=18.1km az=55.0*

DJA ***11*** *08:44:43.7±1.0, 2°.N±4°×96°.6E±°, h13km±8km, M3.9/7, mb4.3/2, MLv3.7/7*

ISC 11 08:44:45.5±1.0, 2°.35N±0°.06×96°.2E±0°.1, h25km, n22, σ0s69/17, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.35**	**48**	P	**Pn**	**08 45 07.8**	**-1.0**
TPTI				S	**Sb**	**08 45 26.9**	**-0.1**
GSI	**Gunungsitoli**	**1.74**	**127**	P	**Pn**	**08 45 14.1**	**-0.1**
MLSI	**Meulaboh, Aceh**	**1.92**	**7**	P	**Pn**	**08 45 16.0**	**-0.6**
MLSI				S	**Sn**	**08 45 40.7**	**+0.8**
TSI	**Tuntungan**	**2.65**	**64**	P	Pb	08 45 40.9	+8.7
PSI	**Prapat**	**2.78**	**81**	Pn	**Pn**	**08 45 29.1**	**+0.5**
	2.9nm,0.3s,baz=359,slow=3.8,SNR=12						
PSI				LR	LR	08 46 09.9	
	comp=Z,139nm,19.6s,baz=272,slow=31						
LHMI	**Lhok Sumawe**	**2.96**	**15**	P	**Pn**	**08 45 30.3**	**-0.6**
LHMI				S	**Sn**	**08 46 06.7**	**+1.0**
PBSI	**Pulau Batu**	**3.18**	**139**	P	**Pn**	**08 45 34.1**	**+0.1**
**PPB

comp=N,9μm,0.1s
GO01 Chusmiza 1.76 83 Pn 08 51 54.2 +0.6
PB08 IPOC Station P 1.80 99⇑ iP Pn 08 51 54.6 +0.5
PB08 *i* S **Sb 08 52 18.3 -1.0**
PB08 IAML 08 52 20.9
comp=N,3μm,0.5s
PB08 IPOC Station P 1.80 99 Pn 08 51 54.6 +0.5
PB01 IPOC Station P 1.87 129⇑ iP Pn 08 51 54.9 +0.1
PB01 *i* S **Sn 08 52 17.8 +0.3**
PB01 IAML 08 52 28.5
comp=N,7μm,0.4s
PB16 IPOC Station P 2.12 44⇑ iP Pn 08 51 59.6 +0.9
PB16 *eS* **Sb 08 52 26.9 -1.7**
PB16 IAML 08 52 36.3
comp=E,3μm,0.6s
PB16 IPOC Station P 2.12 44 Pn 08 51 59.5 +0.9
PB07 IPOC Station P 2.13 150⇑ iP Pn 08 51 58.0 -0.5
PB07 *i* S **Sb 08 52 29.4 +0.6**
PB07 IAML 08 52 41.4
comp=E,3μm,0.7s
PB07 IPOC Station P 2.13 150 Pn 08 51 58.1 -0.5
PB03 IPOC Station P 2.48 151⇑ eP Pn 08 52 02.8 -0.4
PB03 IAML 08 52 52.5
comp=E,1μm,0.7s
PB09 IPOC Station P 2.55 139⇑ iP Pn 08 52 05.2 +1.0
PB09 *eS* **Sn 08 52 35.2 +0.8**
PB09 IAML 08 52 54.1
comp=E,3μm,0.5s
PB09 IPOC Station P 2.55 139 Pn 08 52 05.3 +1.0
PB04 IPOC Station P 2.58 161 eP Pn 08 52 03.8 -0.9
PB04 *i* S **Sn 08 52 34.4 -0.9**
PB04 IAML 08 52 58.3
comp=N,1μm,0.6s
PB04 IPOC Station P 2.58 161 Pn 08 52 03.8 -0.9
PB05 IPOC Station P 3.06 165⇑ iP Pn 08 52 09.9 -1.3
PB05 IAML 08 53 17.1
comp=N,654nm,0.6s
PB06 IPOC Station P 3.13 154⇓ eP Pn 08 52 11.7 -0.5
PB06 *i* S **Sn 08 52 49.1 +0.3**
PB06 IAML 08 53 11.8
comp=N,945nm,0.6s
PB06 IPOC Station P 3.13 154 Pn 08 52 11.5 -0.7
LVC Limon Verde 3.37 144 Pn **Pn 08 52 16.8 +1.1**
comp=N,8.4nm,0.3s,baz=310,slow=8.7,SNR=64
LVC Lg Lg 08 53 08.6
comp=N,35nm,0.3s,baz=43,slow=16,SNR=5.7
LVC Limon Verde 3.37 144 Pn 08 52 16.3 +0.6
LVC Limon Verde 3.37 144 eP Sb 08 53 09.7 +5.2
PB15 IPOC Station P 3.62 156 Pn 08 52 18.2 -0.8
PB10 IPOC Station P 3.65 173⇑ eP Pn 08 52 17.2 -1.9
PB10 IPOC Station P 3.65 173 Pn 08 52 17.5 -1.7
LPAZ La Paz 4.52 38 Pn **Pn 08 52 35.8 +4.0**
comp=N,5.3nm,0.3s,baz=186,slow=5.6,SNR=15
LPAZ LR LR 08 54 28.1
comp=N,318nm,20.2s,baz=234,slow=42
PB14 IPOC Station P 4.76 173 Pn 08 52 33.5 -1.3
GO02 Mina Guanaco 5.43 166 Pn **Pn 08 52 43.3 -0.6**
AC01 Pan de Azucar 6.25 176 Pn **Pn 08 52 53.5 -1.5**
AC01 Sn **Sn 08 54 03.5 -2.1**
AC02 Maricunga 7.14 166 Pn **Pn 08 53 07.4 -0.3**
AC02 Sn **Sn 08 54 27.1 -1.1**
GO03 Copiap 7.72 175 Pn **Pn 08 53 13.4 -1.7**
GO03 Sn **Sn 08 54 41.1 -0.6**
AC05 El Transito 8.95 176 Pn **Pn 08 53 31.4 -0.7**
NNA Nana 9.62 324 LR LR 08 56 51.9
comp=N,35nm,18.8s,baz=150,slow=33
SIV San Ignacio 10.25 69 Pn **Pn 08 53 48.9 -1.0**
comp=N,3.5nm,0.3s,baz=281,slow=8.9,SNR=48
PTLB Pontes e Lacer 12.18 71 eP Pn 08 54 16.2 0.0
VILB Vilhena 12.47 58 eP Pn 08 54 19.1 -1.3
SAML Samuel 13.26 36 Pn **Pn 08 54 30.7 -0.4**
CPUP Villa Florida 14.16 120 LR LR 09 01 27.9
comp=N,118nm,20.2s,baz=302,slow=43
H03N1 Juan Fernandez 15.22 206 T T 09 11 16.8
baz=32,slow=72,SNR=89
H03N2 Juan Fernandez 15.23 206 T T 09 11 15.4
baz=32,slow=72,SNR=106
H03N3 Juan Fernandez 15.24 206 T T 09 11 14.4
baz=32,slow=72,SNR=90
CLDB Colider 17.20 61 eP Pn 08 55 20.6 -2.4
ARAG Araguaiana, MT 18.78 80 eP P 08 55 40.9 -0.9
NPGB Novo Progresso 19.86 52 eP P 08 55 51.4 -2.3
FRTB Fartura 20.27 104 eP Pn 08 56 05.2 +5.1
SNDB Serra Nova Dou 20.54 70 eP P 08 55 59.5 -1.6
PLCA Paso Flores 20.79 179 P Pn 08 56 06.1 -0.1
comp=N,1.6nm,0.7s,baz=356,slow=12,SNR=6.4
PLCA Paso Flores 20.79 179 P P 08 56 02.8 -0.9
ITTB Itaituba 21.46 46 eP P 08 56 09.3 -1.5
IPMB Ipameri, GO 21.68 89 eP P 08 56 13.4 0.0
BDFB Brasilia 22.33 83 P P 08 56 18.6 -1.8
comp=N,1.7nm,0.5s,baz=229,slow=9.3,SNR=3.3
BDFB Brasilia 22.33 83 P P 08 56 20.1 -0.3
BDFB IAmb IAmb 08 56 34.4
comp=Z,19nm,1.2s
POPC Popayan, Colom 22.95 345 eP P 08 56 36.0 +8.9
PRAC Prado 23.75 350 eP P 08 56 36.3 +1.6
ORTC Ortega, Tolima 24.00 350 eP P 08 56 38.4 +1.3
YOTC Yotoco, Valle 24.28 347 eP P 08 56 43.6 +3.8
PLMC San Jos del P 25.16 348 eP P 08 56 50.0 +2.3
SMTB Santa Maria do 25.19 68 eP P 08 56 49.0 +1.0
GUY2C Guyana, Caldas 25.30 350 eP P 08 56 50.5 +1.0
SPBC San Pablo de B 25.54 353 eP P 08 56 51.9 +0.7
RUSC La Rusia 25.69 355 eP P 08 56 53.1 +0.1
CBOC Ciudad Bolivar 26.04 349 eP P 08 56 59.2 +3.4
BARC Barichara 26.39 355 eP P 08 56 55.3 -3.8
PTBC PUERTO BERRIO, 26.46 352 eP P 08 56 57.7 -1.7
MCPB Macapa, AP 26.87 46 eP P 08 57 03.1 -0.1
SMLC San Martn de 28.65 354 eP P 08 57 17.6 -1.4
RCBR Riachuelo 36.90 73 P **P 08 58 30.6 -0.5**
RCBR IAmb IAmb 08 58 32.2
comp=Z,17nm,0.9s
PDPR Patillas Dam, 37.98 8 P **P 08 58 39.6 -0.6**
PDPR IAmb IAmb 08 58 44.5
comp=Z,6.8nm,0.9s
DBIC Dimbokro 70.22 75 P **P 09 02 35.1 -0.4**
comp=Z,3.3nm,0.6s,baz=218,slow=8.5,SNR=4.3
DBIC Dimbokro 70.22 75 P **P 09 02 35.4 -0.2**
DBIC IAmb IAmb 09 02 49.1
comp=Z,8.5nm,1.1s
QSPA South Pole Qui 70.30 180 P **P 09 02 38.1 +2.7**
QSPA IAmb IAmb 09 02 54.2
comp=Z,2.0nm,1.0s
TOA0 Torodi Ar. Sit 78.72 72 P **P 09 03 24.9 -0.1**
TORD Torodi Ar. Bea 78.72 72 P **P 09 03 25.2 +0.3**
comp=Z,4.7nm,0.6s,baz=253,slow=5.4,SNR=20
TORD pP **PcP 09 03 34.1 +0.4**
comp=Z,8.5nm,0.9s,baz=256,slow=5.5,SNR=14
TORD LR LR 09 37 27.0
comp=Z,46nm,18.0s,baz=310,slow=35
TORD Torodi Ar. Bea 78.72 72 P **P 09 03 25.1 +0.2**
RPZ Rata Peaks 94.97 220 LR LR 09 39 55.6
comp=Z,48nm,18.7s,baz=260,slow=30
H11S2 WAKE ISLAND Hyl 25.67 279 T T 11 29 51.9
baz=102,slow=74,SNR=65
H11S1 WAKE ISLAND Hyl 25.68 279 T T 11 29 50.6
baz=102,slow=74,SNR=37
H11S3 WAKE ISLAND Hyl 25.69 279 T T 11 29 55.8
baz=102,slow=74,SNR=27
H11N3 WAKE ISLAND Hyl 25.72 280 T T 11 29 51.6
baz=100,slow=75,SNR=19
H11N2 WAKE ISLAND Hyl 25.73 280 T T 11 29 51.7
baz=100,slow=75,SNR=24
H11N1 WAKE ISLAND Hyl 25.73 280 T T 11 29 53.2
baz=100,slow=75,SNR=4.8
WRA Warramunga Arr 133.26 214 PKP **PKiKP 09 10 41.0 +1.1**
comp=Z,0.2nm,0.7s,baz=171,slow=2.0,SNR=2.4
WRA pPKP **sPKPdf 09 10 49.7 +0.3**
comp=Z,0.3nm,0.6s,baz=152,slow=1.9,SNR=2.3
ZALV Zalesovo Beam 141.29 23 PKP **PKiKP 09 10 54.6 -0.5**
comp=Z,0.7nm,0.3s,baz=289,slow=4.4,SNR=3.3
ZALV pPKP **sPKPdf 09 11 04.0 +1.0**
comp=Z,1.4nm,0.5s,baz=303,slow=3.5,SNR=2.4
MKAR Makanchi Array 145.43 33 PKPbc **PKPab 09 11 02.0 +1.9**
comp=Z,2.4nm,1.1s,baz=300,slow=5.2,SNR=3.6
SONM Songino Array 152.03 4 PKPbc **PKiKP 09 11 19.6 +1.9**
comp=Z,0.9nm,0.5s,baz=268,slow=0.9,SNR=4.5

*IDC **11** 09:13:53.2±1.1,22.°65S×68.°30W,h103km±10km,mb3.3/2, mb1 3.5/5,mb1mx3.3/21,mbtmp3.7/5, Error ellipse: s-maj=32.6km s-min=25.8km az=170.0*
*GUC **11** 09:13:53.4±0.7,22.°54S×68.°62W,h133km±5km,ML3.9*
*NEIC **11** 09:13:54.1±1.6,22.°57S±0.°05×68.°5W±0.°1,h110km±6km,*

Error ellipse: s-maj=16.0km s-min=7.9km az=92.0
ISC 11 09:13:53.2±0.8,22.°54S±0.°04×68.°45W±0.°06,h115km±7km, n42,σ1°59/57,5C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.43**	**261**	P		**Pn**	**Pn**	**09 14 10.7**	**+0.2**
	477nm,0.3s,baz=87,slow=1.8,SNR=3590								
LVC				S		**Sn**	**Sn**	**09 14 22.4**	**-1.2**
	931nm,0.3s,baz=282,slow=21,SNR=22								
LVC				LR		LR	LR	09 14 25.5	
	comp=Z,59nm,18.8s,baz=21,slow=57								
LVC	**Limon Verde**	**0.43**	**261**	Pn		**Pn**	**Pn**	**09 14 10.6**	**0.0**
LVC				Sn		**Sn**	**Sn**	**09 14 22.8**	**-0.8**
PB09	**IPOC Station P**	**1.04**	**315⇑**	*iP*		**Pn**	**Pn**	**09 14 16.1**	**+0.7**
PB09				*i* S		**Sn**	**Sn**	**09 14 33.1**	**+0.9**
PB09				IAML				09 14 34.3	
	comp=E,3μm,0.7s								
PB09	**IPOC Station P**	**1.04**	**315**			**Pn**	**Pn**	**09 14 16.2**	**+0.8**
PB06	**IPOC Station P**	**1.05**	**261⇑**	*iP*		**Pn**	**Pn**	**09 14 15.3**	**-0.1**
PB06				*i* S		**Sn**	**Sn**	**09 14 31.9**	**-0.3**
PB06				IAML				09 14 33.9	
	comp=N,3μm,0.2s								
PB06	**IPOC Station P**	**1.05**	**261**			**Pn**	**Pn**	**09 14 15.5**	**0.0**
PB06				Sn		**Sn**	**Sn**	**09 14 31.9**	**-0.3**
PB15	**IPOC Station P**	**1.15**	**235**	*i* P		**Pn**	**Pn**	**09 14 16.9**	**+0.3**
PB15				*i* S		**Sn**	**Sn**	**09 14 34.7**	**+0.4**
PB15	**IPOC Station P**	**1.15**	**235**			**Pn**	**Pn**	**09 14 17.1**	**+0.5**
PB15				Sn		**Sn**	**Sn**	**09 14 34.5**	**+0.3**
PB03	**IPOC Station P**	**1.30**	**292⇑**	*iP*		**Pn**	**Pn**	**09 14 18.2**	**+0.1**
PB03				*i* S		**Sn**	**Sn**	**09 14 36.4**	**-0.7**
PB03				IAML				09 14 37.3	
	comp=E,4μm,0.2s								
PB07	**IPOC Station P**	**1.56**	**301⇑**	*iP*		**Pn**	**Pn**	**09 14 21.3**	**+0.1**
PB07				*i* S		**Sn**	**Sn**	**09 14 41.6**	**-0.9**
PB07				IAML				09 14 44.1	
	comp=E,3μm,0.5s								
PB07	**IPOC Station P**	**1.56**	**301**			**Pn**	**Pn**	**09 14 21.5**	**+0.3**
PB04	**IPOC Station P**	**1.59**	**277⇑**	*iP*		**Pn**	**Pn**	**09 14 21.2**	**-0.3**
PB04				*i* S		**Sn**	**Sn**	**09 14 41.9**	**-1.1**
PB04				IAML				09 14 44.5	
	comp=N,3μm,0.3s								
PB04	**IPOC Station P**	**1.59**	**277**			**Pn**	**Pn**	**09 14 21.3**	**-0.1**
PB01	**IPOC Station P**	**1.78**	**327**			**Pn**	**Pn**	**09 14 24.3**	**+0.6**
PB10	**IPOC Station P**	**2.17**	**243**	*eP*		**Pn**	**Pn**	**09 14 28.1**	**-0.4**
PB10				*i* S		**Sn**	**Sn**	**09 14 52.6**	**-3.0**
PB10				IAML				09 15 10.0	
	comp=E,312nm,0.4s								
PB10	**IPOC Station P**	**2.17**	**243**	Pn		**Pn**	**Pn**	**09 14 27.4**	**-1.1**
PATCX	**Punta Patache**	**2.33**	**317**			**Pn**	**Pn**	**09 14 30.5**	**-0.2**
PB08	**IPOC Station P**	**2.48**	**344**	*eP*		**Pn**	**Pn**	**09 14 34.3**	**+1.4**
PB08				*i* S		**Sn**	**Sn**	**09 15 04.9**	**+1.6**
PB08				IAML				09 15 11.7	
	comp=N,179nm,0.8s								
PB08	**IPOC Station P**	**2.48**	**344**			**Pn**	**Pn**	**09 14 34.8**	**+1.9**
TA01	**Diego Aracena**	**2.54**	**320**	*eP*		**Pn**	**Pn**	**09 14 32.5**	**-0.8**
TA01				*i* S		**Sn**	**Sn**	**09 15 00.6**	**-3.6**
TA01				IAML				09 15 10.4	
	comp=E,498nm,0.5s								
TA01	**Diego Aracena**	**2.54**	**320**	Pn		**Pn**	**Pn**	**09 14 33.4**	**0.0**
PB14	**IPOC Station P**	**2.74**	**220**	*eP*		**Pn**	**Pn**	**09 14 35.8**	**-0.4**
PB14				IAML				09 15 19.6	
PB14	**IPOC Station P**	**2.74**	**220**	Pn		**Pn**	**Pn**	**09 14 36.7**	**+0.4**
GO02	**Mina Guanaco**	**2.81**	**202**	Pn		**Pn**	**Pn**	**09 14 37.2**	**+0.1**
GO01	**Chusmiza**	**2.94**	**346**			**Pn**	**Pn**	**09 14 40.4**	**+1.3**
PB11	**IPOC Station P**	**2.99**	**338**	*eP*		**Pn**	**Pn**	**09 14 39.2**	**-0.2**
PB11				*i* S		**Sn**	**Sn**	**09 15 15.0**	**+0.1**
PB11				IAML				09 15 23.2	
	comp=N,239nm,0.4s								
PB11	**IPOC Station P**	**2.99**	**338**			**Pn**	**Pn**	**09 14 39.5**	**+0.2**
PSGC	**Pisagua**	**3.32**	**332**	*eP*		**Pn**	**Pn**	**09 14 42.3**	**-1.4**
PSGC				IAML				09 15 44.1	
	comp=E,206nm,0.2s								
PSGCX	**Pisagua**	**3.32**	**332**	Pn		**Pn**	**Pn**	**09 14 42.4**	**-1.3**
MNMC	**Minye Minye**	**3.56**	**342**			**Pn**	**Pn**	**09 14 47.2**	**+0.2**
AC01	**Pan de Azucar**	**4.09**	**208**	Pn		**Pn**	**Pn**	**09 14 51.9**	**-1.9**
PB16	**IPOC Station P**	**4.30**	**346**	Pn		**Pn**	**Pn**	**09 14 58.0**	**+0.8**
AC02	**Maricunga**	**4.32**	**188**	Pn		**Pn**	**Pn**	**09 14 57.6**	**+0.2**
LPAZ	**La Paz**	**6.23**	**3**	P		**Pn**	**Pn**	**09 15 26.4**	**+3.2**
	comp=E,0.7nm,0.3s,baz=225,slow=0.9,SNR=22								
LPAZ	**La Paz**	**6.23**	**3**	Pn		**Pn**	**Pn**	**09 15 22.4**	**-0.8**
AC05	**El Transito**	**6.48**	**194**	Pn		**Pn**	**Pn**	**09 15 23.8**	**-2.4**
SIV	**San Ignacio**	**9.54**	**48**	P		**Pn**	**Pn**	**09 16 05.5**	**-2.1**
	comp=E,1.3nm,0.3s,baz=285,slow=8.1,SNR=42								
SIV				S		**Sn**	**Sn**	**09 17 45.5**	**-7.5**
	comp=E,0.6nm,0.3s,baz=315,slow=19,SNR=5.5								
CPUP	**Villa Florida**	**10.81**	**113**	P		**Pn**	**Pn**	**09 16 24.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=262,slow=7.8,SNR=2.3								
NVAR	**Mina Array Bea**	**76.57**	**322**	P		**P**	**P**	**09 25 33.8**	**+2.5**
	comp=E,0.1nm,0.3s,baz=150,slow=7.3,SNR=1.2								
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P		**P**	**P**	**09 25 36.3**	**+0.7**
	comp=E,0.6nm,0.5s,baz=253,slow=5.3,SNR=7.7								
WRA	**Warramunga Arr**	**132.27**	**209**	PKP		**PKiKP**	**PKiKP**	**09 32 55.6**	**0.0**
	comp=E,0.4nm,0.8s,baz=155,slow=1.7,SNR=6.1								
MKAR	**Makanchi Array**	**146.21**	**37**	PKPbc		**PKPab**	**PKPab**	**09 33 20.9**	**-0.2**
	comp=E,1.5nm,1.1s,baz=308,slow=5.3,SNR=3.6								

IDC 11 09:16:35.0±5.0,31.°38S×177.°73W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.5/19,mbtmp3.5/2,Error ellipse: s-maj=261.6km s-min=48.1km az=162.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.30**	**268**	P		P	P	09 24 38.2	-0.6
	0.2nm,0.4s,baz=102,slow=7.6,SNR=5.4								
WRA	**Warramunga Arr**	**44.38**	**273**	P		P	P	09 24 47.7	+0.2
	0.5nm,0.4s,baz=111,slow=8.1,SNR=22								
FINES	**FINESS Array B**	**146.14**	**340**	PKPbc		PKPab	PKPab	09 36 17.2	+0.3
	1.7nm,0.9s,baz=22,slow=6.2,SNR=3.8								
AKASG	**Malin Array Be**	**152.21**	**322**	PKPbc		PKPbc	PKPbc	09 36 30.9	-1.3
	0.5nm,0.5s,baz=67,slow=1.2,SNR=2.2								

*CNRM **11** 09:27:36.4,34.°91N×4.°53W,h10km*
*SFS **11** 09:27:36.0,34.°87N×4.°42W,ML2.7,ZERKAT (MARRUECOS)*
*INMG **11** 09:27:37.9±1.9,34.°96N×4.°38W,h6km±10km,ML2.4, Error ellipse: s-maj=4.4km s-min=3.5km az=45.0*
*MDD **11** 09:27:37.7±1.1,34.°90N×4.°36W,h8km±4km,mbLg2.6/31, Error ellipse: s-maj=8.2km s-min=5.2km az=12.0,PRXIMO*
ISC 11 09:27:38.1±1.0,34.°96N±0.°03×4.°38W±0.°02,h18km±2km, n68,σ1°65/122,1C,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.22**	**17**	P		**Pg**	**Pg**	**09 27 43.4**	**0.0**
PVLZ				S		**Sb**	**Sb**	**09 27 46.4**	**-0.1**
PVLZ	**Peæn de**	**0.22**	**17⇑**	*iP*		**Pg**	**Pg**	**09 27 43.4**	**0.0**
PVLZ				*eS*		**Sb**	**Sb**	**09 27 46.4**	**-0.1**
PALE	**Palemas**	**0.44**	**54**	P		**Pg**	**Pg**	**09 27 46.8**	**-0.4**
PALE				S		**Sb**	**Sb**	**09 27 54.3**	**+0.5**
SICH	**Sidi Chahed**	**1.15**	**222**	P		**Pg**	**Pg**	**09 27 59.9**	**-0.4**
SICH				S		**Sg**	**Sg**	**09 28 15.7**	**+0.2**
EMEL	**Melilla**	**1.22**	**73**	P		**Pn**	**Pn**	**09 27 59.6**	**-0.5**
	45nm,0.2s,SNR=11								
EMEL				S		**Sn**	**Sn**	**09 28 16.4**	**+0.3**
	360nm,0.4s,SNR=7.9								
MELI	**Melilla**	**1.23**	**74**	P		**Pn**	**Pn**	**09 27 60.0**	**-0.3**
	215nm,0.3s,SNR=7.9								
MELI				S		**Sg**	**Sg**	**09 28 17.6**	**-0.4**
	292nm,0.4s,SNR=7.9								
MELI	**Melilla**	**1.23**	**74**	*eP*		**Pn**	**Pn**	**09 27 59.5**	**-0.7**
MELI				*eS*		**Sg**	**Sg**	**09 28 17.3**	**-0.7**
CEU	**Ceuta**	**1.24**	**319**	P		**Pn**	**Pn**	**09 27 56.9**	**-3.5**
CEU				S		Sb	Sb	09 28 05.0	-11
CEU	**Ceuta**	**1.24**	**319**	*eP*		**Pn**	**Pn**	**09 27 56.9**	**-3.5**
CEU				*eS*		Sb	Sb	09 28 05.0	-11
ECEU	**Ceuta**	**1.24**	**319**	P		**Pn**	**Pn**	**09 27 58.7**	**-1.8**
	7.5nm,0.1s,SNR=5.7								
ECEU				S		**Sb**	**Sb**	**09 28 15.3**	**-1.3**
	27nm,0.2s,SNR=5.1								
LCRM	**LCR**	**1.33**	**197**	P		**Pb**	**Pb**	**09 28 02.5**	**0.0**
LCRM				S		**Sg**	**Sg**	**09 28 20.4**	**-0.8**
EALB	**Alboran**	**1.47**	**48**	P		**Pn**	**Pn**	**09 28 02.5**	**-1.1**
	47nm,0.3s,SNR=24								
EALB				S		**Sn**	**Sn**	**09 28 21.1**	**-1.3**
	52nm,0.2s,SNR=15								
IFR	**Ifrane**	**1.57**	**203**	*eP*		**Pn**	**Pn**	**09 28 04.2**	**-0.9**
IFR				*eS*		**Sn**	**Sn**	**09 28 23.3**	**-1.7**
EMAL	**Malaga-Limoner**	**1.80**	**359**	P		**Pn**	**Pn**	**09 28 08.0**	**-0.2**
EMAL				S		**Sn**	**Sn**	**09 28 27.5**	**-3.0**
EMAL	**Malaga-Limoner**	**1.80**	**359**	*eP*		**Pn**	**Pn**	**09 28 08.0**	**-0.2**
EMAL				*eS*		**Sn**	**Sn**	**09 28 27.5**	**-3.0**
ELGU	**Los Guajares,**	**2.00**	**18**	P		**Pn**	**Pn**	**09 28 10.3**	**-0.7**
	3.2nm,0.1s,SNR=7.9								
ELGU				S		**Sn**	**Sn**	**09 28 35.6**	**0.0**
	45nm,0.2s,SNR=4.0								
MD31	**MD31**	**2.11**	**189**	P		**Pn**	**Pn**	**09 28 12.2**	**-0.2**
MD31				S		**Sn**	**Sn**	**09 28 37.5**	**-0.8**
MDT	**Midelt**	**2.15**	**185**	P		**Pn**	**Pn**	**09 28 12.8**	**-0.2**
MDT				S		**Sn**	**Sn**	**09 28 39.5**	**+0.2**
EGOR	**Sierra Gorda,**	**2.16**	**6**	P		**Pn**	**Pn**	**09 28 12.8**	**-0.4**
	0.5nm,0.0s,SNR=4.0								
EGOR				S		**Sb**	**Sb**	**09 28 42.9**	**-0.1**
	21nm,0.5s,SNR=7.9								
ESPR	**Espera**	**2.25**	**328**	S		**Sn**	**Sn**	**09 28 43.2**	**+1.6**
	15nm,0.3s,SNR=7.9								
EBER	**Berja**	**2.28**	**32**	P		**Pn**	**Pn**	**09 28 14.1**	**-0.9**
	1.7nm,0.2s,SNR=11								
EBER				S		**Sn**	**Sn**	**09 28 43.4**	**+0.7**
	48nm,0.4s,SNR=6.6								
EQUE	**Quentar**	**2.37**	**18**	P		**Pn**	**Pn**	**09 28 16.7**	**+0.6**
	3.8nm,0.3s,SNR=13								
EQUE				S		**Sn**	**Sn**	**09 28 45.3**	**+0.7**
	13nm,0.5s,SNR=7.1								
ENIJ	**Nijar**	**2.67**	**41**	S		**Sn**	**Sn**	**09 28 50.0**	**-2.1**
	17nm,0.2s,SNR=7.9								
TDRA	**Tendrara**	**2.73**	**134**	P		**Pn**	**Pn**	**09 28 21.2**	**0.0**
TDRA				Lg		Lg	Lg	09 29 03.6	
HORN	**Hornachuelos**	**2.97**	**346**	P		**Pn**	**Pn**	**09 28 24.8**	**+0.6**
HORN				S		**Sn**	**Sn**	**09 28 59.8**	**+0.5**
AVE	**Averroes**	**3.01**	**237**	*eP*		**Pn**	**Pb**	**09 28 32.8**	**+1.7**
AVE				*eS*		**Sn**	**Sn**	**09 29 03.1**	**+2.6**
EQES	**Quesada**	**3.03**	**20**	P		**Pn**	**Pn**	**09 28 27.3**	**+2.1**
	3.3nm,0.3s,SNR=8.9								
EQES				S		**Sn**	**Sn**	**09 29 03.3**	**+2.4**
	41nm,0.5s,SNR=4.6								
EADA	**Adamuz**	**3.21**	**357**	P		**Pn**	**Pn**	**09 28 28.4**	**+0.9**
	0.7nm,0.3s,SNR=12								
EADA				S		**Sn**	**Sn**	**09 29 06.1**	**+0.8**
	16nm,0.4s								
ECAB	**El Cabril**	**3.22**	**345**	P		**Pn**	**Pn**	**09 28 27.3**	**-0.4**
	0.7nm,0.3s,SNR=8.5								
ECAB				S		**Sn**	**Sn**	**09 29 04.5**	**-1.1**
	8.4nm,0.4s								
EMIN	**Mina Concepcio**	**3.36**	**327**	P		**Pn**	**Pn**	**09 28 29.9**	**+0.4**
	0.9nm,0.2s,SNR=8.9								
EMIN				S		**Sn**	**Sn**	**09 29 09.5**	**+0.6**
	2.9nm,0.3s								
SESP	**Santiago Espad**	**3.48**	**25**	P		**Pn**	**Pn**	**09 28 33.9**	**+2.5**
	0.8nm,0.3s,SNR=7.9								
SESP				S		**Sn**	**Sn**	**09 29 14.8**	**+2.5**
	12nm,0.3s,SNR=7.9								
EGRO	**El Granado**	**3.59**	**317**	P		**Pn**	**Pn**	**09 28 32.8**	**0.0**
	5.5nm,0.3s,SNR=11								
EGRO				S		**Sn**	**Sn**	**09 29 13.8**	**-0.9**
	5.2nm,0.2s,SNR=9.3								
PVAQ	**Vaqueiros**	**3.64**	**313**	P		**Pn**	**Pn**	**09 28 33.3**	**-0.1**
PVAQ				S		**Sn**	**Sn**	**09 29 16.1**	**+0.3**
	7.2nm,0.6s								
PVAQ	**Vaqueiros**	**3.64**	**313**	*ePn*		**Pn**	**Pn**	**09 28 33.3**	**-0.1**
PVAQ	**Vaqueiros**	**3.64**	**313**	*ePg*		**Pn**	**Pn**	**09 28 35.9**	**+2.5**
PVAQ				*eSn*		**Sn**	**Sn**	**09 29 16.1**	**+0.3**
PVAQ				A		A	A	09 29 26.0	
	7.2nm,0.6s								
PBDV	**Barranco-do-Ve**	**3.67**	**309**	P		**Pn**	**Pn**	**09 28 34.7**	**+0.8**
PBDV				S		**Sn**	**Sn**	**09 29 16.6**	**-0.1**
	8.1nm,0.5s								
PBDV	**Barranco-do-Ve**	**3.67**	**309**	*ePn*		**Pn**	**Pn**	**09 28 34.7**	**+0.8**
PBDV				*eSn*		**Sn**	**Sn**	**09 29 16.6**	**-0.1**
PBDV				A		A	A	09 29 23.4	
	8.1nm,0.5s								
EMUR	**La Murta**	**3.83**	**40**	S		**Sn**	**Sn**	**09 29 19.3**	**-1.4**
	6.8nm,0.4s,SNR=7.9								
PBEJ	**Beja**	**4.15**	**318**	P		**Pn**	**Pn**	**09 28 42.4**	**+1.9**
PBEJ				S		**Sn**	**Sn**	**09 29 27.6**	**-1.0**
PBEJ	**Beja**	**4.15**	**318**	*ePn*		**Pn**	**Pn**	**09 28 42.4**	**+1.9**
PBEJ				*eSn*		**Sn**	**Sn**	**09 29 27.6**	**-1.0**
MORF	**Marmelete**	**4.17**	**305**	P		**Pn**	**Pn**	**09 28 42.8**	**+2.0**
MORF				S		**Sn**	**Sn**	**09 29 30.1**	**+0.9**
	4.6nm,0.5s								
MORF	**Marmelete**	**4.17**	**305**	*ePn*		**Pn**	**Pn**	**09 28 42.8**	**+2.0**
MORF				*eSn*		**Sn**	**Sn**	**09 29 30.1**	**+0.9**
MORF				A		A	A	09 29 35.0	
	4.6nm,0.5s								
PFVI	**Vila Bisbo**	**4.21**	**302**	P		**Pn**	**Pn**	**09 28 41.1**	**-0.1**
	0.5nm,0.1s,SNR=7.9								
PFVI				S		**Sn**	**Sn**	**09 29 27.7**	**-2.1**
	12nm,0.4s,SNR=7.9								
PFVI	**Vila Bisbo**	**4.21**	**302**	*ePn*		**Pn**	**Pn**	**09 28 41.5**	**+0.3**
PFVI				*eSn*		**Sn**	**S

mb1 3.7/6,mb1mx3.4/28,mbtmp4.2/6,MS4.0/1,Ms1 4.0/1, ms1mx2.6/29,Error ellipse: s-maj=35.4km s-min=10.2km az=103.0

GUC ***11*** *09:57:29.5±0.6,21˚.14S×68˚.46W,h143km±3km,ML3.6*

ISC 11 09:57:28.7±0.7,21˚.15S±0˚.03×68˚.53W±0˚.07,h149km±7km, n68,σ1§02/91,12C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.90**	**276**	⇑*iP*	**Pn**	**09 57 52.6**	**-0.1**
PB01				*i* S	**Sn**	**09 58 10.2**	**-0.6**
PB01				IAML		09 58 11.5	
	comp=N,891nm,0.5s						
PB01	**IPOC Station P**	**0.90**	**276**		**Pn**	**09 57 52.7**	**+0.1**
PB01				Sn	**Sn**	**09 58 10.7**	**-0.1**
PB09	**IPOC Station P**	**0.92**	**225**	⇑*iP*	**Pn**	**09 57 53.5**	**+0.6**
PB09				*i* S	**Sn**	**09 58 11.7**	**+0.2**
PB09				IAML		09 58 14.4	
	comp=E,786nm,0.5s						
PB09	**IPOC Station P**	**0.92**	**225**		**Pn**	**09 57 53.6**	**+0.7**
PB09				Sn	**Sn**	**09 58 11.9**	**+0.5**
PB08	**IPOC Station P**	**1.16**	**330**	⇓*iP*	**Pn**	**09 57 55.7**	**+0.5**
PB08				*i* S	**Sn**	**09 58 15.2**	**-0.2**
PB08				IAML		09 58 16.6	
	comp=N,1µm,0.4s						
PB08	**IPOC Station P**	**1.16**	**330**		**Pn**	**09 57 55.7**	**+0.5**
PB07	**IPOC Station P**	**1.39**	**245**	⇑*iP*	**Pn**	**09 57 57.7**	**+0.6**
PB07				*i* S	**Sn**	**09 58 18.9**	**0.0**
PB07				IAML		09 58 19.3	
	comp=N,666nm,0.4s						
PB07	**IPOC Station P**	**1.39**	**245**		**Pn**	**09 57 57.8**	**+0.6**
PB03	**IPOC Station P**	**1.45**	**231**	⇑*iP*	**Pn**	**09 57 58.3**	**+0.5**
PB03				*i* S	**Sn**	**09 58 19.9**	**-0.1**
PB03				IAML		09 58 20.8	
	comp=N,880nm,0.4s						
LVC	**Limon Verde**	**1.50**	**193**	P	**Pn**	**09 57 59.0**	**+0.4**
	comp=N,53nm,0.3s,baz=19,slow=8.0,SNR=500						
LVC				S	**Sn**	**09 58 21.5**	**+0.1**
	comp=N,62nm,0.3s,baz=309,slow=3.4,SNR=54						
LVC				LR	LR	09 58 36.1	
	comp=N,87nm,18.3s,baz=285,slow=42						
LVC	**Limon Verde**	**1.50**	**193**	⇓*iP*	**Pn**	**09 57 58.8**	**+0.3**
LVC				*i* S	**Sn**	**09 58 21.4**	**0.0**
LVC	**Limon Verde**	**1.50**	**193**	*eP*	**Pn**	**09 57 59.0**	**+0.4**
LVC				*e*S	**Sn**	**09 58 21.4**	**0.0**
PATCX	**Punta Patache**	**1.55**	**282**	⇑*iP*	**Pn**	**09 57 59.1**	**+0.4**
PATCX				*i* S	**Sn**	**09 58 21.7**	**0.0**
PATCX				IAML		09 58 25.1	
	comp=E,736nm,0.4s						
PATCX	**Punta Patache**	**1.55**	**282**		**Pn**	**09 57 59.1**	**+0.4**
GO01	**Chusmiza**	**1.59**	**337**	*eP*	**Pn**	**09 57 59.7**	**-0.1**
GO01				*i* S	**Sn**	**09 58 23.3**	**-0.2**
GO01	**Chusmiza**	**1.59**	**337**		**Pn**	**09 57 59.9**	**+0.2**
TA01	**Diego Aracena**	**1.65**	**290**	⇑*iP*	**Pn**	**09 57 59.8**	**+0.1**
TA01				*i* S	**Sn**	**09 58 23.1**	**-0.4**
TA01				IAML		09 58 25.4	
	comp=N,663nm,0.4s						
TA01	**Diego Aracena**	**1.65**	**290**	Pn	**Pn**	**09 57 59.8**	**+0.1**
TA02	**Huaiquique**	**1.73**	**300**	*eP*	**Pn**	**09 58 00.4**	**-0.3**
TA02				*i* S	**Sn**	**09 58 24.6**	**-0.5**
PB11	**IPOC Station P**	**1.73**	**322**	⇑*iP*	**Pn**	**09 58 00.8**	**-0.1**
PB11				*i* S	**Sn**	**09 58 25.0**	**-0.6**
PB11				IAML		09 58 26.9	
	comp=E,976nm,0.3s						
PB11	**IPOC Station P**	**1.73**	**322**		**Pn**	**09 58 00.9**	**-0.1**
PB06	**IPOC Station P**	**1.83**	**212**	⇑*iP*	**Pn**	**09 58 02.5**	**+0.6**
PB06				*i* S	**Sn**	**09 58 27.7**	**+0.2**
PB06				IAML		09 58 29.3	
	comp=E,570nm,0.3s						
PB06	**IPOC Station P**	**1.83**	**212**		**Pn**	**09 58 02.6**	**+0.6**
PB04	**IPOC Station P**	**1.91**	**232**	*eP*	**Pn**	**09 58 03.6**	**+0.6**
PB04				*i* S	**Sn**	**09 58 29.4**	**+0.2**
PB04				IAML		09 58 33.9	
	comp=N,370nm,0.4s						
PB04	**IPOC Station P**	**1.91**	**232**		**Pn**	**09 58 03.5**	**+0.6**
PSGC	**Pisagua**	**2.14**	**316**	⇑*iP*	**Pn**	**09 58 05.0**	**-0.6**
PSGC				*i* S	**Sn**	**09 58 32.6**	**-1.3**
PSGC				IAML		09 58 37.8	
	comp=E,294nm,0.6s						
PSGCX	**Pisagua**	**2.14**	**316**	Pn	**Pn**	**09 58 05.1**	**-0.5**
PB15	**IPOC Station P**	**2.23**	**203**	⇑*iP*	**Pn**	**09 58 07.2**	**+0.5**
PB15				*i* S	**Sn**	**09 58 36.5**	**+0.5**
PB15	**IPOC Station P**	**2.23**	**203**		**Pn**	**09 58 07.6**	**+0.9**
MNMC	**Minye Minye**	**2.24**	**333**	*eP*	**Pn**	**09 58 07.4**	**+0.5**
MNMC				*i* S	**Sn**	**09 58 36.7**	**+0.4**
MNMC	**Minye Minye**	**2.24**	**333**		**Pn**	**09 58 07.4**	**+0.5**
PB05	**IPOC Station P**	**2.30**	**222**	⇑*iP*	**Pn**	**09 58 07.7**	**+0.3**
PB05				*i* S	**Sn**	**09 58 36.3**	**-1.0**
PB05				IAML		09 58 41.0	
	comp=N,180nm,0.6s						
PB16	**IPOC Station P**	**2.94**	**342**	⇑*iP*	**Pn**	**09 58 16.6**	**+0.7**
PB16				*i* S	**Sn**	**09 58 53.1**	**+0.8**
PB16				IAML		09 59 01.5	
	comp=N,69nm,0.5s						
PB16	**IPOC Station P**	**2.94**	**342**	Pn	**Pn**	**09 58 16.6**	**+0.7**
PB10	**IPOC Station P**	**3.01**	**218**	⇓*eP*	**Pn**	**09 58 16.2**	**+0.1**
PB10				IAML		09 58 50.9	
	comp=E,91nm,0.4s						
PB10	**IPOC Station P**	**3.01**	**218**		**Pn**	**09 58 16.5**	**+0.4**
PB14	**IPOC Station P**	**3.87**	**206**	Pn	**Pn**	**09 58 27.5**	**0.0**
GO02	**Mina Guanaco**	**4.11**	**193**	*eP*	**Pn**	**09 58 30.6**	**-0.1**
GO02				*i* S	**Sn**	**09 59 17.8**	**-1.1**
GO02	**Mina Guanaco**	**4.11**	**193**	Pn	**Pn**	**09 58 30.7**	**-0.1**
LPAZ	**La Paz**	**4.85**	**5**	P	**Pn**	**09 58 42.0**	**+1.3**
	comp=E,0.9nm,0.3s,baz=194,slow=2.9,SNR=28						
LPAZ				S	**Sn**	**09 59 38.7**	**+2.0**
	comp=E,0.3nm,0.3s,baz=156,slow=20,SNR=3.1						
LPAZ	**La Paz**	**4.85**	**5**	Pn	**Pn**	**09 58 39.4**	**-1.4**
LPAZ	**La Paz**	**4.85**	**5**	*eP*	**Pn**	**09 58 42.9**	**+2.2**
AC01	**Pan de Azucar**	**5.33**	**200**	Pn	**Pn**	**09 58 45.2**	**-1.2**
AC02	**Maricunga**	**5.69**	**185**	Pn	**Pn**	**09 58 51.6**	**-0.1**
AC04	**Llanos de Chal**	**7.40**	**198**	Pn	**Pn**	**09 59 10.8**	**-3.2**
AC05	**El Transito**	**7.82**	**191**	Pn	**Pn**	**09 59 17.9**	**-1.9**
SIV	**San Ignacio**	**8.74**	**55**	P	**Pn**	**09 59 27.9**	**-4.1**
	comp=E,6.2nm,0.3s,baz=255,slow=11,SNR=76						
SIV				S	Sn	10 00 58.9	-10
	comp=E,0.1nm,0.3s,baz=202,slow=11,SNR=4.4						
ARAG	**Araguaiana, MT**	**16.76**	**74**	*eP*	**Pn**	**10 01 17.0**	**+2.2**
FRTB	**Fartura**	**17.70**	**101**	*eP*	**P**	**10 01 25.4**	**+0.5**
IPMB	**Ipameri, GO**	**19.41**	**84**	*eP*	**P**	**10 01 43.6**	**0.0**
RCLB	**Rio Claro- Sao**	**19.55**	**98**	*eP*	**P**	**10 01 44.5**	**-0.5**
PLCA	**Paso Flores**	**19.60**	**185**	P	**P**	**10 01 46.7**	**+1.3**
	comp=E,0.1nm,0.3s,baz=24,slow=14,SNR=3.6						
PLCA	**Paso Flores**	**19.60**	**185**	P	**P**	**10 01 47.1**	**+1.7**
PLCA				IAmb	IAmb	10 01 54.6	
	comp=Z,5.4nm,1.3s						
BDFB	**Brasilia**	**20.22**	**78**	P	**P**	**10 01 51.3**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=269,slow=8.8,SNR=5.9						
BDFB	**Brasilia**	**20.22**	**78**	P	**P**	**10 01 52.2**	**-0.1**
BDFB				IAmb	IAmb	10 01 55.2	
	comp=Z,6.6nm,0.5s						
ITTB	**Itaituba**	**20.80**	**38**	*eP*	**P**	**10 01 57.1**	**-1.4**
BSCB	**Bom Sucesso**	**22.17**	**94**	*eP*	**P**	**10 02 11.3**	**-1.6**
SMTB	**Santa Maria do**	**23.59**	**62**	*eP*	**P**	**10 02 26.2**	**0.0**
MALB	**Monte Alegre**	**23.69**	**38**	*eP*	**P**	**10 02 26.6**	**-0.4**
JANB	**Januaria**	**23.79**	**79**	*eP*	**P**	**10 02 26.8**	**-1.2**
MCPB	**Macapa, AP**	**26.19**	**40**	*eP*	**P**	**10 02 47.6**	**-2.0**
NAN01	**Guarapari, ES**	**26.96**	**88**	*eP*	**P**	**10 02 55.2**	**-1.4**
GDU01	**Guandu, BA**	**28.57**	**80**	*eP*	**P**	**10 03 09.6**	**-1.3**
DBIC	**Dimbokro**	**68.30**	**73**	P	**P**	**10 08 13.6**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=205,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**	**10 09 05.5**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=256,slow=5.2,SNR=19						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**	**10 09 05.6**	**+0.5**
URZ	**Urewera**	**94.70**	**226**	LR	LR	10 45 30.1	
	comp=Z,79nm,20.6s,baz=207,slow=30						
MKAR	**Makanchi Array**	**145.14**	**36**	PKP	**PKPdf**	**10 16 50.9**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=20,slow=3.9,SNR=3.7						

MOS ***11*** *09:58:07.5±1.2,40˚.90N×143˚.34E,h22km,mb4.5/12,Error ellipse: s-maj=9.3km s-min=6.1km az=89.1*

JMA ***11*** *09:58:09.3±0.1,40˚.88N×143˚.28E,h29km,M4.2*

JMA Felt I J1.

NIED ***11*** *09:58:09.3,40˚.88N×143˚.28E,h29km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.27; Mθθ-0.29; Mφφ-0.98; Mrθ0.42; Mφθ-1.34; Mφr1.77; Fault plane solution: M₀2.50000×10¹⁵ NP1:φs16.00000°, δ71.00000°,λ,68.00000°. NP2:φs247.00000°,δ28.00000°, λ138.00000°.*

NEIC ***11*** *09:58:10.4±2.1,40˚.84N±0˚.05×143˚.2E±0˚.1,h33km±4km, mb4.5/13 Error ellipse: s-maj=11.8km s-min=5.8km az=111.0*

IDC ***11*** *09:58:12.8±2.1,40˚.91N×143˚.24E,h47km±18km,mb3.7/10, mb1 3.9/14,mb1mx3.7/34,mbtmp3.9/14,ML3.0/4,MS3.5/9, Ms1 3.5/9,ms1mx3.2/46,Error ellipse: s-maj=24.4km s-min=13.3km az=98.0*

ISC 11 09:58:08.9±1.8,40.86N±0˚.04×143˚.37E±0˚.05,h24km±12km, n115,σ1§36/129,mb4.3/31,MS3.7/5,14C-11D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.17**	**352**	*ceP*	**Pn**	**09 58 30.3**	**+0.5**
ERM	**Erimo**	**1.17**	**352**		**Pn**	**09 58 29.9**	**0.0**
ERM					**Sb**	**09 58 46.1**	**+1.0**
JEM	**Erimo**	**1.17**	**352**	P	**Pn**	**09 58 29.7**	**-0.1**
JEM				*e*S	**Sn**	**09 58 44.4**	**-0.6**
JKEN	**Kujiedanarisaw**	**1.42**	**243**	⇑P	**Pn**	**09 58 32.6**	**-0.7**
JKEN				*e*S	**Sn**	**09 58 49.9**	**-1.3**
JTHR	**Tokachihiroo**	**1.44**	**358**	P	**Pn**	**09 58 33.7**	**+0.2**
JTHR				*e*S	**Sn**	**09 58 51.5**	**-0.1**
JTH	**Tanohata**	**1.47**	**232**	P	**Pn**	**09 58 34.0**	**+0.1**
JANG	**Nango**	**1.49**	**252**	⇓P	**Pn**	**09 58 33.8**	**-0.4**
JANG				*e*S	**Sn**	**09 58 51.7**	**-1.3**
JNBK	**Urakawa-nobuka**	**1.50**	**342**	⇑P	**Pn**	**09 58 34.3**	**0.0**
JNBK				*e*S	**Sn**	**09 58 52.4**	**-0.7**
JTM	**Tenmabayashi**	**1.75**	**268**	P	**Pn**	**09 58 37.7**	**-0.1**
JTM				*e*S	**Sn**	**09 58 58.8**	**-0.5**
JTM	**Tenmabayashi**	**1.75**	**268**		**Pn**	**09 58 38.3**	**+0.5**
JTM				Sn	**Sb**	**09 59 02.1**	**+0.3**
JCH	**Churui**	**1.76**	**360**	P	**Pn**	**09 58 38.0**	**+0.1**
JOT	**Ohata**	**1.83**	**287**	⇑P	**Pn**	**09 58 38.5**	**-0.4**
JOT				*e*S	**Sn**	**09 59 00.0**	**-1.3**
JKB	**Kayabe**	**2.04**	**301**	P	**Pn**	**09 58 41.2**	**-0.5**
JOM	**Ohasama**	**2.11**	**230**	⇑P	**Pn**	**09 58 44.2**	**+1.5**
JAK	**Akkeshi**	**2.36**	**24**	P	**Pn**	**09 58 46.7**	**+0.6**
JEW	**Eniwo**	**2.45**	**325**		**Pn**	**09 58 48.1**	**+0.7**
JEW				Sn	**Sn**	**09 59 15.1**	**-1.5**
JAR	**Ashorobuto**	**2.46**	**7**	⇓P	**Pn**	**09 58 47.4**	**-0.1**
JAR				*e*S	**Sn**	**09 59 14.9**	**-1.9**
JMK	**Ichinoseki**	**2.52**	**222**	⇑P	**Pn**	**09 58 50.0**	**+1.6**
NMR	**Nemuro--Hokkai**	**3.06**	**34**	⇑*iP*	**Pn**	**09 58 56.3**	**+0.4**
NMR				*i* S	**Sn**	**09 59 29.7**	**-2.0**
GLVR	**Golovnino**	**3.29**	**28**	*eP*	**Pn**	**09 58 59.4**	**+0.4**
GLVR				*e*S	**Sn**	**09 59 34.5**	**-2.9**
GLVR				pmax	pmax		
	comp=Z,102nm,0.1s						
GLVR				smax	smax		
	comp=E,230nm,0.5s						
GLVR				smax	smax		
	comp=N,219nm,0.3s						
JKA	**Kamikawa-asahi**	**3.31**	**350**		**Pn**	**09 58 59.5**	**+0.3**
JKA					**Sn**	**09 59 41.3**	**+3.5**
ASAJ	**Asahikawa**	**3.31**	**350**	P	**Pn**	**09 59 00.5**	**+1.2**
	comp=N,1.4nm,0.3s,baz=196,slow=14,SNR=17						
ASAJ				S	**Sn**	**09 59 38.8**	**+1.0**
	comp=N,7.4nm,0.3s,baz=260,slow=28,SNR=5.4						
JMM	**Marumori**	**3.59**	**215**		**Pn**	**09 59 02.6**	**-0.5**
GRPR	**Tuman**	**3.60**	**29**	*eP*	**Pn**	**09 59 05.1**	**+1.8**
GRPR				*e*S	**Sn**	**09 59 43.0**	**-2.1**
GRPR				pmax	pmax		
	comp=Z,73nm,0.2s						
GRPR				pmax	pmax		
	comp=N,32nm,0.1s						
GRPR				pmax	pmax		
	comp=E,68nm,0.1s						
GRPR				smax	smax		
	comp=E,225nm,0.4s						
GRPR				smax	smax		
	comp=N,180nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.67**	**29**	*eP*	**Pn**	**09 59 05.5**	**+1.3**
YUK				*e*S	**Sn**	**09 59 45.0**	**-1.8**
YUK				pmax	pmax		
	comp=E,42nm,0.1s						
YUK				pmax	pmax		
	comp=Z,133nm,0.1s						
YUK				smax	smax		
	comp=N,161nm,0.2s						
YUK				smax	smax		
	comp=E,200nm,0.4s						
YUK				MLR	MLR		
	comp=Z,157nm,10.0s						
JSD	**Sado**	**4.85**	**236**		**Pn**	**09 59 19.9**	**-0.5**
JYT	**Yasato**	**5.25**	**209**		**Pn**	**09 59 26.8**	**+0.9**
KUR	**Kuril'sk**	**5.48**	**35**	*eP*	**Pn**	**09 59 27.7**	**-1.3**
KUR				*e*S	**Sn**	**10 00 29.8**	**-1.4**
KUR				smax	smax		
	comp=N,61nm,0.6s						
MJAR	**Matsushiro Arr**	**5.90**	**225**	P	**Pn**	**09 59 37.4**	**+2.5**
	comp=N,0.3nm,0.3s,baz=30,slow=14,SNR=20						
MJAR				LR	LR	10 02 04.3	
	comp=N,192nm,19.0s,baz=50,slow=40						
MJAR	**Matsushiro Arr**	**5.90**	**225**		**Pn**	**09 59 34.9**	**0.0**
MAJO	**Matsushiro**	**5.90**	**225**	⇓*iP*	**Pn**	**09 59 37.3**	**+2.4**
MAJO	**Matsushiro**	**5.90**	**225**	Pn	**Pn**	**09 59 36.9**	**+2.0**
MAT	**Matsushiro**	**5.90**	**225**	P	**Pn**	**09 59 37.3**	**+2.4**
MAT				*e*S	**Sn**	**10 00 45.3**	**+3.5**
YSS	**Yuzh-Sakhalins**	**6.11**	**356**	⇓*eP*	**Pn**	**09 59 35.5**	**-2.2**
YSS				pmax	pmax		
	comp=Z,92nm,1.6s						
JGF	**Kuroka**	**7.06**	**224**	Pn	**Pn**	**09 59 51.5**	**+0.6**
JSG	**Sagara**	**7.41**	**215**	Pn	**Pn**	**09 59 54.0**	**-1.6**
JSG				Sn	**Sn**	**10 01 18.1**	**-0.8**
INU	**Inuyama**	**7.43**	**224**	Pn	**Pn**	**09 59 55.5**	**-0.4**
USA0B	**Ussuriysk Arra**	**9.04**	**295**	*eP*	**Pn**	**10 00 20.4**	**+2.5**
USA0B	**Ussuriysk Arra**	**9.04**	**295**	Pn	**Pn**	**10 00 15.2**	**-2.8**
USRK	**Ussuriysk Ar.**	**9.04**	**295**	P	**Pn**	**10 00 20.2**	**+2.3**
	baz=107,slow=12,SNR=17						
USRK				LR	LR	10 03 51.2	
	comp=Z,240nm,19.3s,baz=96,slow=38						
USRK	**Ussuriysk Ar.**	**9.04**	**295**	Pn	**Pn**	**10 00 16.4**	**-1.6**
JHS	**Saijyo**	**9.98**	**237**	Pn	**Pn**	**10 00 27.2**	**-3.7**
KSRS	**Korea Array**	**12.46**	**259**	P	**Pn**	**10 01 06.5**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=73,slow=9.2,SNR=4.6						
KSRS				LR	LR	10 05 31.4	
	comp=Z,161nm,18.3s,baz=162,slow=35						
PETK	**Petropavlovsk-**	**15.64**	**34**	LR	LR	10 08 38.5	
	comp=Z,110nm,18.0s,baz=228,slow=40						
SEY	**Seymchan**	**22.75**	**11**	P	**P**	**10 03 07.1**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=160,slow=15,SNR=5.1						
SEY	**Seymchan**	**22.75**	**11**	⇓*eP*	**P**	**10 03 07.8**	**-1.3**
HHC	**Hu-ho-hao-te**	**23.99**	**281**	*eP*	**P**	**10 03 19.8**	**-2.0**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,360nm,5.9s						
ULN	**Ulaanbaatar**	**26.71**	**297**	⇓*eP*	**P**	**10 03 46.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**27.15**	**297**	P	**P**	**10 03 50.3**	**0.0**
	comp=Z,2.0nm,0.7s,baz=91,slow=9.5,SNR=8.6						
SONM				LR	LR	10 14 35.0	
	comp=Z,130nm,19.6s,baz=139,slow=36						
SONM	**Songino Array**	**27.15**	**297**	P	**P**	**10 03 48.6**	**-1.7**
XAN	**Xi'an**	**28.05**	**267**	P	**P**	**10 03 57.7**	**-0.8**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,700nm,5.4s						
H11N2	**WAKE ISLAND Hy**	**29.09**	**129**	T	T	10 34 50.4	
	baz=318,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy**	**29.10**	**129**	T	T	10 34 51.0	
	baz=318,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**29.11**	**129**	T	T	10 34 53.8	
	baz=318,slow=75,SNR=81						
TLY	**Talaya**	**29.17**	**305**	P	**P**	**10 04 08.7**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=108,slow=9.6,SNR=3.2						
TLY				LR	LR	10 16 22.4	
	comp=Z,87nm,18.6s,baz=124,slow=38						
TLY	**Talaya**	**29.17**	**305**	P	**P**	**10 04 07.2**	**-1.1**
ZAK	**Zakamensk**	**29.30**	**303**	*eP*	**P**	**10 04 08.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL	**Bilibino**	**29.93**	**17**	*eP*	**P**	**10 04 14.6**	**-0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**29.94**	**131**	T	T	10 36 00.3	
	baz=323,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.95**	**131**	T	T	10 36 10.3	
	baz=323,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.96**	**131**	T	T	10 35 56.2	
	baz=323,slow=76,SNR=17						
LZH	**Lanzhou**	**31.12**	**274**	*eP*	**P**	**10 04 25.9**	**+0.1**
LZH				pP	sP	10 04 36.4	+1.4
LZH				sP	pP	10 04 39.5	+7.1
LZH				*e*PP	**PnPn**	**10 05 28.3**	**+0.8**
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,65nm,5.2s						
GTA	**Gaotai**	**33.08**	**282**	*eP*	**P**	**10 04 43.4**	**+0.5**
GTA				pP	pP	10 04 50.2	+0.7
GTA				sP	pwP	10 04 52.9	+1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GYA	**Guiyang**	**33.49**	**256**	⇑P	**P**	**10 04 46.8**	**+0.2**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DGZ	**Jazzator, Alta**	**39.52**	**302**	⇑*iP*	**P**	**10 05 38.0**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NRIK	**Noril'sk**	**40.49**	**333**	LR	LR	10 23 41.5	
	comp=Z,121nm,21.3s,baz=196,slow=38						
NRIK	**Noril'sk**	**40.49**	**333**	⇓*eP*	**P**	**10 05 43.9**	**-1.5**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.58**	**309**	P	**P**	**10 05 46.3**	**0.0**
	comp=Z,1.5nm,0.4s,baz=98,slow=7.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**40.58**	**309**	*i* P	**P**	**10 05 46.9**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**40.58**	**309**	P	**P**	**10 05 44.9**	**-1.4**
WMQ	**Urumqi**	**40.60**	**293**	*eP*	**P**	**10 05 46.7**	**-0.1**
MK31	**Makanchi Array**	**43.49**	**299**	*de*P	**P**	**10 06 09.9**	**-0.3**
MK31	**Makanchi Array**	**43.49**	**299**	P	**P**	**10 06 09.7**	**-0.6**
MK31				IAmb	IAmb	10 06 21.7	
	comp=Z,3.4nm,1.0s						
MKAR	**Makanchi Array**	**43.49**	**299**	P	**P**	**10 06 10.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=85,slow=9.9,SNR=11						
MKAR				LR	LR	10 25 34.2	
	comp=Z,84nm,18.7s,baz=85,slow=38						
MKAR	**Makanchi Array**	**43.49**	**299**	P	**P**	**10 06 09.4**	**-0.8**
MAKZ	**Makanchi**	**43.69**	**299**	P	**P**	**10 06 12.1**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAKZ	**Makanchi**	**43.69**	**299**	P	**P**	**10 06 12.1**	**+0.3**
MAKZ				IAmb	IAmb	10 06 25.8	
	comp=Z,5.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.01**	**253**	P	**P**	**10 06 15.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=50,slow=8.4,SNR=3.7						
CMAR				LR	LR	10 24 50.6	
	comp=Z,79nm,18.1s,baz=80,slow=36						
CMAR	**Chiang Mai Arr**	**44.01**	**253**	P	**P**	**10 06 13.8**	**-0.8**
KURK	**Kurchatov**	**44.87**	**305**	*ce*P	**P**	**10 06 20.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**44.87**	**305**	P	**P**	**10 06 20.7**	**-0.4**
KURK				IAmb	IAmb	10 06 35.9	
	comp=Z,5.8nm,0.6s						
WRH	**Wood River Hil**	**44.97**	**35**	P	**P**	**10 06 22.0**	**+0.3**
WRH				IAmb	IAmb	10 06 31.6	
	comp=Z,4.7nm,0.9s						
COLA	**College**	**45.05**	**34**	⇓*eP*	**P**	**10 06 22.3**	**-0.1**
ILAR	**Eielson Array**	**45.47**	**34**	P	**P**	**10 06 27.3**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=274,slow=6.4,SNR=6.0						
ILAR	**Eielson Array**	**45.47**	**34**	P	**P**	**10 06 28.0**	**+2.2**
ILAR	**Eielson Array**	**45.47**	**34**	P	**P**	**10 06 28.0**	**+2.2**
BRVK	**Borovoye**	**49.25**	**310**	*de*P	**P**	**10 06 55.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,2.5s						
BCPM	**Bancas Point**	**49.53**	**40**	P	**P**	**10 06 58.1**	**+0.7**
KKAR	**Karatay Array**	**52.60**	**298**	P	**P**	**10 07 20.1**	**-0.6**
KKAR	**Karatay Array**	**52.60**	**298**	P	**P**	**10 07 20.1**	**-0.6**
ARU	**Arti**	**54.55**	**317**	*c iP*	**P**	**10 07 34.9**	**+0.1**
ARU						10 09 37.0	
ARU				S	**S**	**10 15 15.8**	**+3.4**
ARU				SS	**SS**	**10 18 51.6**	**-2.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARU	**Arti**	**54.55**	**317**	P	**P**	**10 07 34.4**	**-0.3**
ARU				IAmb	IAmb	10 07 35.7	
	comp=Z,6.6nm,1.0s						
EUNU	**Eureka**	**56.18**	**9**	P	**P**	**10 07 47.4**	**+1.1**
EUNU				IAmb	IAmb	10 07 57.1	
	comp=Z,

ASAJ	**Asahikawa**	**3.26**	**350**	P	**Pn**	**10 06 30.4**	**+0.4**
	3.3nm,0.3s,baz=201,slow=11,SNR=31						
ASAJ				S	**Sn**	**10 07 08.5**	**+1.0**
	4.9nm,0.3s,baz=236,slow=9.4,SNR=4.8						
JMM	**Marumori**	**3.63**	**214**	Pn	**Pn**	**10 06 34.4**	**-0.8**
JMM				Sn	**Sn**	**10 07 15.5**	**-1.2**
JSD	**Sado**	**4.88**	**236**	Pn	**Pn**	**10 06 51.9**	**-0.4**
JYT	**Yasato**	**5.29**	**209**		**Pn**	**10 06 57.1**	**-0.8**
JYT				Sn	**Sn**	**10 07 56.9**	**-0.8**
MAJO	**Matsushiro**	**5.94**	**224**	Pn	**Pn**	**10 07 07.2**	**+0.4**
MAT	**Matsushiro**	**5.94**	**224**	P	**Pn**	**10 07 07.6**	**+0.8**
MAT				eS	**Sn**	**10 08 13.8**	**+0.2**
MJAR	**Matsushiro Arr**	**5.94**	**224**	P	**Pn**	**10 07 07.7**	**+0.9**
	0.2nm,0.3s,baz=30,slow=14,SNR=13						
MJAR	**Matsushiro Arr**	**5.94**	**224**		**Pn**	**10 07 07.3**	**+0.5**
JGF	**Kuroka**	**7.10**	**224**	Pn	**Pn**	**10 07 25.0**	**+2.2**
INU	**Inuyama**	**7.47**	**224**	Pn	**Pn**	**10 07 30.6**	**+2.7**
JWT	**Wachi**	**8.42**	**231**	Pn	**Pn**	**10 07 43.6**	**+2.7**
USRK	**Ussuriysk Ar.**	**9.02**	**295**	P	**Pn**	**10 07 48.9**	**-0.2**
	baz=97,slow=15,SNR=9.5						
USRK	**Ussuriysk Ar.**	**9.02**	**295**	Pn	**Pn**	**10 07 50.8**	**+1.7**
JHS	**Saijyo**	**10.01**	**237**	Pn	**Pn**	**10 08 06.4**	**+3.6**
KSRS	**Korea Array**	**12.47**	**259**	P	**Pn**	**10 08 37.1**	**+0.8**
	0.1nm,0.3s,baz=70,slow=13,SNR=3.3						
SEY	**Seymchan**	**22.70**	**11**	P	**P**	**10 10 36.8**	**-2.9**
	1.5nm,0.5s,baz=176,slow=11,SNR=5.1						
SONM	**Songino Array**	**27.12**	**297**	P	**P**	**10 11 18.3**	**-2.8**
	1.1nm,0.5s,baz=89,slow=8.6,SNR=5.6						
SONM	**Songino Array**	**27.12**	**297**	P	**P**	**10 11 20.8**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**29.13**	**129**	T	T	10 42 21.8	
	baz=322,slow=75,SNR=129						
H11N1	**WAKE ISLAND Hy**	**29.14**	**129**	T	T	10 42 22.9	
	baz=322,slow=75,SNR=113						
H11N3	**WAKE ISLAND Hy**	**29.15**	**129**	T	T	10 42 24.3	
	baz=322,slow=75,SNR=112						
H11S1	**WAKE ISLAND Hy**	**29.98**	**131**	T	T	10 43 27.7	
	baz=323,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**29.98**	**131**	T	T	10 43 29.8	
	baz=323,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.99**	**131**	T	T	10 43 28.9	
	baz=323,slow=76,SNR=30						
ZALV	**Zalesovo Beam**	**40.54**	**309**	P	**P**	**10 13 16.3**	**-0.6**
	2.0nm,0.5s,baz=87,slow=8.5,SNR=5.2						
MK31	**Makanchi Array**	**43.46**	**299**	P	**P**	**10 13 40.0**	**-0.9**
MKAR	**Makanchi Array**	**43.46**	**299**	P	**P**	**10 13 40.0**	**-0.9**
	1.1nm,0.6s,baz=85,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**43.46**	**299**	P	**P**	**10 13 40.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**44.02**	**253**	P	**P**	**10 13 45.8**	**+0.1**
	0.7nm,0.3s,baz=38,slow=10,SNR=4.4						
PMR	**Palmer**	**44.64**	**39**	P	**P**	**10 13 51.9**	**+1.9**
PMR				IAmb	IAmb	10 13 58.8	
	comp=Z,55nm,1.8s						
GHO	**Glory Hole Cre**	**44.72**	**39**	P	**P**	**10 13 52.7**	**+1.9**
KURK	**Kurchatov**	**44.84**	**305**	P	**P**	**10 13 51.1**	**-0.7**
KURK				IAmb	IAmb	10 13 51.6	
	comp=Z,3.6nm,0.7s						
ILAR	**Eielson Array**	**45.43**	**34**	P	**P**	**10 13 56.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=256,slow=6.1,SNR=5.9						
INK	**Inuvik**	**50.26**	**29**	P	**P**	**10 14 35.4**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=314,slow=3.5,SNR=5.0						
INK	**Inuvik**	**50.26**	**29**	IAmb	IAmb	10 15 10.5	
	comp=Z,15nm,1.4s						
ARU	**Arti**	**54.51**	**317**	LR	LR	10 42 06.0	
	comp=Z,75nm,19.5s,baz=83,slow=40						
ABKAR	**Akbulak array**	**56.66**	**309**	P	**P**	**10 15 20.3**	**-0.5**
ABKAR	**Akbulak array**	**56.66**	**309**	P	**P**	**10 15 20.4**	**-0.4**
ABKAR				IAmb	IAmb	10 15 32.9	
	comp=Z,6.0nm,1.5s						
WRA	**Warramunga Arr**	**61.12**	**190**	P	**P**	**10 15 51.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=7.6,slow=6.6,SNR=6.5						
ASAR	**Alice Springs**	**64.84**	**190**	P	**P**	**10 16 17.1**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=17,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**66.10**	**332**	P	**P**	**10 16 24.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=46,slow=6.8,SNR=12						
KBZ	**Khabaz**	**69.54**	**310**	P	**P**	**10 16 47.6**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=55,slow=20,SNR=3.5						
AKASG	**Malin Array Be**	**72.16**	**322**	P	**P**	**10 17 01.3**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=44,slow=6.6,SNR=2.1						
PDAR	**Pinedale Array**	**73.89**	**47**	P	**P**	**10 17 13.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=298,slow=1.9,SNR=2.9						

WEL 11 10:37:45.5,38°S±3°×17°7'E±°,h146km±6km,M2.2/18,
MLv2.2/18,Error ellipse: s-maj=0.0km s-min=0.0km
az=88.4,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.35**	**254**	P	Pn	10 38 05.8	+0.2
URZ	**Urewera**	**0.52**	**168**	P	Pn	10 38 06.5	+0.1
RUGZ	**Raukumara Rang**	**0.60**	**111**	P	Pn	10 38 06.5	-0.5
RUGZ				S	Sn	10 38 22.1	-1.3
HAZ	**Te Kaha**	**0.64**	**91**	P	Pn	10 38 06.9	-0.2
MWZ	**Matawai**	**0.73**	**143**	P	Pn	10 38 08.1	+0.3
MWZ				S	Sn	10 38 24.3	-0.5
RTZ	**Ruatahuna**	**0.86**	**180**	P	Pn	10 38 09.3	+0.5
PKGZ	**Pakihiroa**	**0.88**	**99**	S	Sn	10 38 26.1	-0.7
TKGZ	**Te Karaka**	**0.97**	**135**	P	Pn	10 38 10.4	+0.8
PUZ	**Puketiti**	**1.06**	**108**	P	Pn	10 38 10.2	-0.2
PUZ				S	Sn	10 38 29.4	0.0
SNGZ	**Shannon Statio**	**1.07**	**165**	P	Pn	10 38 11.3	+0.9
RIGZ	**Rimuhau**	**1.14**	**147**	P	Pn	10 38 12.3	+1.2
RIGZ				S	Sn	10 38 31.8	+1.0
MRHZ	**Matea Rd**	**1.17**	**202**	P	Pn	10 38 11.9	+0.5
TLZ	**Tolley Road**	**1.27**	**243**	P	Pn	10 38 13.5	+1.1
NMHZ	**Naumai**	**1.35**	**186**	P	Pn	10 38 13.6	+0.3
KNZ	**Kokohu**	**1.38**	**157**	P	Pn	10 38 14.2	+0.8
BKZ	**Black Stump Fm**	**1.46**	**195**	P	Pn	10 38 13.9	-0.5
BKZ				S	Sn	10 38 36.1	-0.5
KWHZ	**Kaweka Forest**	**1.73**	**194**	P	Pn	10 38 17.7	+0.4
KWHZ				S	Sn	10 38 42.1	+0.4
OTVZ	**Oturere**	**1.75**	**216**	P	Pn	10 38 18.1	+0.5
ETAZ	**East Tamaki Re**	**1.81**	**295**	P	Pn	10 38 18.9	+0.7
BHHZ	**Black Hill Sta**	**1.88**	**202**	P	Pn	10 38 18.9	-0.1
BHHZ				S	Sn	10 38 44.3	-0.4
KRHZ	**Kereru**	**1.95**	**194**	P	Pn	10 38 19.7	-0.1
KRHZ				S	Sn	10 38 45.3	-0.9
KAHZ	**Kahuranaki**	**2.04**	**182**	P	Pn	10 38 21.5	+0.6
KAHZ				S	Sn	10 38 49.8	+1.7
PNHZ	**Pukenui**	**2.24**	**195**	P	Pn	10 38 23.0	-0.3
PNHZ				S	Sn	10 38 52.0	-0.4
PXZ	**Pawanui**	**2.28**	**182**	P	Pn	10 38 23.6	0.0
PXZ				S	Sn	10 38 52.6	-0.4
WPHZ	**Waipukurau**	**2.35**	**190**	P	Pn	10 38 24.2	-0.3
WPHZ				S	Sn	10 38 53.7	-0.9
TSZ	**Takapari Road**	**2.44**	**199**	P	Pn	10 38 25.1	-0.5
TSZ				S	Sn	10 38 55.1	-1.5
PRHZ	**Porangahau**	**2.53**	**186**	P	Pn	10 38 26.4	-0.3
DVHZ	**Dannevirke**	**2.62**	**194**	P	Pn	10 38 27.0	-0.9
DVHZ				S	Sn	10 38 59.7	-1.0
MRZ	**Mangatainoka R**	**3.10**	**200**	P	Pn	10 38 32.6	-1.3
MRZ				S	Sn	10 39 09.0	-2.5
TIWZ	**Tintock**	**3.14**	**195**	P	Pn	10 38 33.3	-1.2
TIWZ				S	Sn	10 39 09.9	-2.5
CPWZ	**Castlepoint**	**3.21**	**191**	P	Pn	10 38 34.8	-0.5
OGWZ	**Otaki Gorge**	**3.37**	**204**	P	Pn	10 38 35.7	-1.6
KIW	**Kapiti Island**	**3.50**	**207**	P	Pn	10 38 37.2	-1.8
CAW	**Cannon Point**	**3.66**	**203**	P	Pn	10 38 38.8	-2.3
PLWZ	**Palliser**	**4.04**	**199**	P	Pn	10 38 43.3	-2.8
TUWZ	**Tuamarina**	**4.36**	**212**	P	Pn	10 38 49.2	-1.1
NNZ	**Nelson**	**4.44**	**218**	P	Pn	10 38 49.4	-1.9
KHZ	**Kahutara**	**5.35**	**208**	P	Pn	10 39 00.3	-3.1
GVZ	**Greta Valley S**	**6.02**	**209**	P	Pn	10 39 08.4	-3.9

DJA 11 10:39:53.9±0.5,9°S±7°×11°8E±°,h126km±9km,M3.9/10,
mb4.2/2,MLv3.7/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.63**	**264**	P	Pn	10 40 13.4	+0.1
TWSI	**Taliwang, Sumb**	**1.51**	**271**	P	Pn	10 40 22.6	+0.8
BASI	**Baing, Sumba**	**2.58**	**124**	P	Pn	10 40 30.1	-4.9
EDFI	**Ende, Flores**	**3.24**	**90**	P	Pn	10 40 45.4	+1.7
MMRI	**Maumere**	**3.79**	**88**	P	Pn	10 40 51.3	+0.6
BKSI	**Bulukumba**	**3.81**	**27**	P	Pn	10 40 50.9	-0.2
JAGI	**Jajag, Banyuwa**	**4.22**	**274**	P	Pn	10 40 55.5	-1.0
BNSI	**Bone**	**4.65**	**21**	P	Pn	10 41 06.4	+4.2
BATI	**Baumata**	**5.38**	**106**	P	Pn	10 41 11.2	-0.9
	0.1nm18nm,0.6s						
SOEI	**Soe**	**5.87**	**100**	P	Pn	10 41 18.9	+0.2

IDC ***11*** *10:40:05.1±1.2,14°.30S×76°.42W,h0km,mb4.1/5,*
mb1 4.1/9,mb1mx3.9/33,mbtmp4.0/9,ML3.5/4,MS2.9/3,
Ms1 2.8/3,ms1mx2.7/21,Error ellipse: s-maj=39.8km
s-min=16.4km az=63.0
NEIC ***11*** *10:40:07.4±2.1,14°.50S±0°.09×76°.7W±0°.2,h35km±10km,*
mb4.1/5,Error ellipse: s-maj=24.0km s-min=9.6km
az=66.0
VAO ***11*** *10:40:14.6±1.9,14°.19S×76°.18W,h10km,mb4.4*
ISC 11 10:40:06.9±0.8,14°.53S±0°.07×76°.7W±0°.1,h23km,n64,
σ2s25/60,mb4.0/5,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.53**	**356**	Pn	**Pn**	**10 40 45.7**	**-1.0**
	22nm,0.3s,baz=180,slow=11,SNR=16						
NNA				Sn	**Sn**	**10 41 15.7**	**-1.2**
	94nm,0.3s,baz=218,slow=15,SNR=14						
NNA				LR	LR	10 41 40.6	
	comp=Z,109nm,19.7s,baz=156,slow=41						
NNA	**Nana**	**2.53**	**356**	Pn	**Pn**	**10 40 46.1**	**-0.6**
NNA					**Sn**	**10 41 13.3**	**-3.6**
ATAH	**Atahualpa**	**7.54**	**347**	Pn	**Pn**	**10 41 56.5**	**+0.6**
	1.2nm,0.3s,baz=103,slow=10,SNR=7.0						
ATAH				Sn	**Sn**	**10 43 20.2**	**-0.7**
	0.6nm,0.3s,baz=108,slow=6.4,SNR=1.9						
CZSB	**Cruzeiro do Su**	**7.80**	**30**	eP	**Pn**	**10 42 01.5**	**+2.5**
PB16	**IPOC Station P**	**7.84**	**120**	Pn	**Pn**	**10 42 02.1**	**+2.0**
PSGCX	**Pisagua**	**8.03**	**130**	Pn	**Pn**	**10 42 01.8**	**-0.6**
MNMC	**Minye Minye**	**8.17**	**125**		**Pn**	**10 42 05.5**	**+1.1**
LPAZ	**La Paz**	**8.42**	**103**	Pn	**Pn**	**10 42 11.0**	**+2.9**
	0.9nm,0.3s,baz=286,slow=7.4,SNR=13						
LPAZ	**La Paz**	**8.42**	**103**	eP	**Pn**	**10 42 09.0**	**+1.0**
LPAZ	**La Paz**	**8.42**	**103**	Pn	**Pn**	**10 42 11.3**	**+3.2**
LPAZ	**La Paz**	**8.42**	**103**	eP	**Pn**	**10 42 11.8**	**+3.7**
PB11	**IPOC Station P**	**8.48**	**129**		**Pn**	**10 42 08.4**	**-0.1**
TA01	**Diego Aracena**	**8.62**	**135**	Pn	**Pn**	**10 42 10.8**	**+0.5**
GO01	**Chusmiza**	**8.78**	**127**		**Pn**	**10 42 13.4**	**+0.4**
PATCX	**Punta Patache**	**8.81**	**136**	Pn	**Pn**	**10 42 13.6**	**+0.5**
PB08	**IPOC Station P**	**9.09**	**129**		**Pn**	**10 42 16.8**	**-0.3**
PB01	**IPOC Station P**	**9.42**	**134**		**Pn**	**10 42 21.6**	**+0.2**
PB01					**Sn**	**10 44 04.7**	**-1.9**
PB07	**IPOC Station P**	**9.63**	**139**		**Pn**	**10 42 24.8**	**+0.5**
PB09	**IPOC Station P**	**10.10**	**137**		**Pn**	**10 42 31.2**	**+0.5**
LVC	**Limon Verde**	**10.89**	**139**	Pn	**Pn**	**10 42 43.3**	**+1.5**
	0.6nm,0.3s,baz=294,slow=6.2,SNR=5.0						
LVC				Sn	**Sn**	**10 44 39.8**	**-3.4**
	0.4nm,0.3s,baz=71,slow=18,SNR=3.3						
LVC	**Limon Verde**	**10.89**	**139**	Pn	**Pn**	**10 42 43.2**	**+1.4**
ETMB	**Extrema**	**11.24**	**67**	eP	**Pn**	**10 42 46.4**	**+0.1**
PB14	**IPOC Station P**	**11.65**	**151**	Pn	**Pn**	**10 42 51.8**	**-0.3**
AC01	**Pan de Azucar**	**12.88**	**155**	Pn	**Pn**	**10 43 08.3**	**-0.3**
AC02	**Maricunga**	**14.12**	**151**	Pn	**Pn**	**10 43 26.5**	**+0.4**
SAML	**Samuel**	**14.32**	**69**	eP	**Pn**	**10 43 25.0**	**-3.4**
SAML	**Samuel**	**14.32**	**69**		**Pn**	**10 43 27.0**	**-1.4**
PTLC	**Puerto Leguiza**	**14.72**	**7**	eP	Pn	10 43 26.2	-7.7
OTAV	**Otavalo**	**14.78**	**353**	eP	**P**	**10 43 43.7**	**+2.8**
OTAV	**Otavalo**	**14.78**	**353**	eP	**P**	**10 43 39.6**	**-1.3**
PUAC	**Puerto Asis, P**	**14.98**	**0**	eP	**Pn**	**10 43 38.4**	**+0.9**
SIV	**San Ignacio**	**15.12**	**98**	Pn	**Pn**	**10 43 37.2**	**-2.0**
	0.1nm,0.3s,baz=255,slow=18,SNR=3.1						
GCUF	**Volcan Galeras**	**15.67**	**357**	eP	**Pn**	**10 43 43.7**	**-3.1**
FLOC	**Florencia**	**16.04**	**4**	eP	**Pn**	**10 43 51.8**	**+0.6**
GARC	**Garzon, Huila**	**16.65**	**4**	eP	Pn	10 43 49.1	-10
PCON	**Cinco Dias**	**16.75**	**1**	eP	**P**	**10 44 02.5**	**-0.4**
ORTC	**Ortega, Tolima**	**18.38**	**5**	eP	**P**	**10 44 23.9**	**+3.7**
H03N1	**Juan Fernandez**	**18.94**	**186**	T	T	11 04 09.4	
	baz=7.4,slow=74,SNR=772						
H03N2	**Juan Fernandez**	**18.94**	**186**	T	T	11 04 08.7	
	baz=7.4,slow=74,SNR=317						
H03N3	**Juan Fernandez**	**18.95**	**186**	T	T	11 04 07.8	
	baz=7.4,slow=74,SNR=425						
TOLC	**Tolima**	**19.04**	**4**	eP	**Pn**	**10 44 32.0**	**+3.3**
CHIC	**Chingaza**	**19.26**	**9**	eP	**Pn**	**10 44 34.7**	**+3.2**
ROSC	**El Rosal**	**19.39**	**7**	LR	LR	10 51 59.7	
	comp=Z,94nm,18.2s,baz=248,slow=37						
MACA	**Manacapuru-AM**	**19.40**	**56**	eP	**Pn**	**10 44 35.6**	**+2.9**
GUY2C	**Guyana, Caldas**	**19.67**	**4**	eP	**P**	**10 44 34.7**	**-0.3**
RUSC	**La Rusia**	**20.60**	**10**	eP	**P**	**10 44 45.4**	**+0.3**
BO02	**Sierra Bellavi**	**20.86**	**166**	P	**P**	**10 44 46.2**	**-1.2**
PTBC	**PUERTO BERRIO,**	**21.05**	**6**	eP	**P**	**10 44 45.4**	**-4.0**
CPUP	**Villa Florida**	**21.56**	**126**	P	**P**	**10 44 55.9**	**+1.0**
	3.9nm,1.0s,baz=288,slow=12,SNR=3.9						
ZARC	**Zaragoza, Cauc**	**21.95**	**5**	eP	**P**	**10 44 56.1**	**-3.0**
PAMC	**Pamplona, Colo**	**22.08**	**11**	eP	**P**	**10 44 56.1**	**-4.9**
URCC	**San Jos de Ur**	**22.17**	**3**	eP	**P**	**10 44 56.1**	**-5.3**
SMLC	**San Martn de**	**23.32**	**6**	eP	**P**	**10 45 12.2**	**-1.3**
SOCV	**Socops**	**23.39**	**15**	eP	**P**	**10 45 09.5**	**-4.7**
PLCA	**Paso Flores**	**26.64**	**170**	P	**P**	**10 45 47.8**	**+3.8**
	2.4nm,1.0s,baz=353,slow=7.7,SNR=3.3						
PLCA	**Paso Flores**	**26.64**	**170**	IAmb	IAmb	10 45 53.4	
	comp=Z,6.8nm,1.2s						
BDFB	**Brasilia**	**27.68**	**96**	LR	LR	10 57 07.9	
	comp=Z,16nm,18.9s,baz=281,slow=37						
PDAR	**Pinedale Array**	**64.52**	**334**	P	**P**	**10 50 42.7**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=127,slow=10,SNR=2.7						
DBIC	**Dimbokro**	**74.25**	**79**	P	**P**	**10 51 42.5**	**-0.2**
	comp=Z,12nm,1.1s,baz=231,slow=8.0,SNR=6.0						
DBIC	**Dimbokro**	**74.25**	**79**	IAmb	IAmb	10 51 44.0	
	comp=Z,12nm,0.9s						
TOA0	**Torodi Ar. Sit**	**82.30**	**74**	P	**P**	**10 52 28.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**82.30**	**74**	P	**P**	**10 52 28.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**82.30**	**74**	P	**P**	**10 52 28.1**	**+0.7**
WRA	**Warramunga Arr**	**134.13**	**222**	PKP	**PKiKP**	**10 59 26.2**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=134,slow=1.7,SNR=3.0						

DSN ***11*** *11:04:08.4±1.5,26°.89N×55°.24E,h10km,ML3.2/9,Error*
ellipse: s-maj=20.8km s-min=5.7km az=22.0
OMAN ***11*** *11:04:08.1,26°.76N×54°.90E,h32km,mb5.2/1,ml3.1/7*
ISC 11 11:04:07.1±3.4,26°.8N±0°.2×55°.05E±0°.09,h17km,n17,
σ0s67/20,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.22**	**127**	eP	**Pg**	**11 04 30.1**	**-0.7**
	SNR=58						
SHME				S	**Sg**	**11 04 46.7**	**0.0**
BANOM	**Banah**	**1.41**	**127**	eP	**Pb**	**11 04 33.0**	**0.0**
	SNR=102						
BANOM				S	**Sg**	**11 04 52.4**	**-0.3**
BANOM	**Banah**	**1.41**	**127**	P	**Pb**	**11 04 33.0**	**0.0**
	SNR=102						
BANOM				S	**Sg**	**11 04 52.0**	**-0.7**
MSFE	**Esma-Masafi**	**1.74**	**145**	eP	**Pb**	**11 04 38.7**	**+0.2**
	SNR=12						
MDH	**Madha**	**1.86**	**142**	P	**Pb**	**11 04 40.5**	**-0.1**
MDH	**Madha**	**1.86**	**142**	P	**Pb**	**11 04 40.5**	**-0.1**
NAZ	**Nazwa, Dubai**	**1.87**	**163**	P	**Pb**	**11 04 40.7**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.09**	**166**	eP	**Pb**	**11 04 44.0**	**-0.5**
	SNR=5.1						
FAQ	**Al Faqa, Dubai**	**2.09**	**166**	P	**Pb**	**11 04 43.9**	**-0.6**
	SNR=6.7						
UOSS	**Minazif**	**2.11**	**150**	P	**Pb**	**11 04 44.2**	**-0.6**
UOSS	**Minazif**	**2.11**	**150**	P	**Pb**	**11 04 44.1**	**-0.8**
ASUD	**Al Ashush, Dub**	**2.17**	**173**	eP	**Pb**	**11 04 46.7**	**+0.9**
	SNR=6.0						
HATD	**Hatta, Dubai**	**2.18**	**153**	P	**Pb**	**11 04 45.9**	**-0.2**
ASHO	**Ashiyiah**	**2.28**	**156**	eP	**Pn**	**11 04 45.2**	**+1.2**
	SNR=10						
ASHO	**Ashiyiah**	**2.28**	**156**	P	**Pn**	**11 04 45.0**	**+1.0**
	SNR=7.8						
HOQ	**Hoqain**	**3.79**	**147**	S	**Sn**	**11 05 50.1**	**+1.1**
	SNR=5.4						
WHFO	**Wadi Hawf**	**8.90**	**188**	P	**Pn**	**11 06 14.4**	**-0.6**
	SNR=13						

NEIC ***11*** *11:12:05.1±0.6,47°.69N±0°.02×121°.96W±0°.01,h11km±8km,*
Error ellipse: s-maj=3.3km s-min=1.3km az=192.0
ANF ***11*** *11:12:06.5±0.7,47°.73N×122°.03W,h24km±7km,ML2.5/6,*
Error ellipse: s-maj=9.1km s-min=2.8km az=109.0
SEA ***11*** *11:12:06.4,47°.69N×121°.93W,h26km,ML2.6,ML2.1/15,*
Washington
PNSN ***11*** *11:12:06.5,47°.69N×121°.94W,h25km,MD2.5,Fault plane*
solution: NP1:φs330.00000°,δ90.00000°,λ-160.00000°.
ISC 11 11:12:05.4±1.0,47°.69N±0°.02×121°.97W±0°.02,h21km±2km,
n62,σ0s65/87,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C05A	**Tolt Reservoir**	**0.19**	**89**	P	**Pb**	**11 12 11.3**	**+0.1**
C05A				S	**Sb**	**11 12 15.1**	**-0.2**
JCW	**Jim Creek**	**0.50**	**3**	P	**Pb**	**11 12 16.0**	**+0.4**
D05A	**Enumclaw**	**0.51**	**181**	P	**Pb**	**11 12 16.3**	**+0.7**
D05A				S	**Sb**	**11 12 23.7**	**+1.2**
D05A	**Enumclaw**	**0.51**	**181**		**Pb**	**11 12 16.3**	**+0.7**
B05A	**Bryant**	**0.58**	**352**	P	**Pb**	**11 12 17.3**	**+0.3**
	baz=170,SNR=628						
B05A				S	**Sb**	**11 12 25.3**	**+0.5**
	baz=170						
GNW	**Green Mountain**	**0.59**	**258**	P	**Pb**	**11 12 17.1**	**0.0**
GNW				S	**Sb**	**11 12 25.3**	**+0.1**
GPW	**Glacier Peak**	**0.70**	**53**	P	**Pb**	**11 12 19.2**	**0.0**
HDW	**Hoodsport**	**0.73**	**267**	P	**Pb**	**11 12 19.3**	**-0.2**
CMW	**Cultus Mountai**	**0.74**	**352**	P	**Pn**	**11 12 20.2**	**-0.6**
BLN	**Blyn Mountain**	**0.74**	**295**	P	**Pb**	**11 12 19.6**	**-0.2**
SVOH	**Skagit Valley**	**0.74**	**324**	P	**Pb**	**11 12 19.7**	**0.0**
D04E	**Lakebay**	**0.75**	**227**	P	**Pn**	**11 12 20.5**	**-0.3**
	baz=47,SNR=36						
D04E				S	**Sn**	**11 12 32.3**	**+0.9**
	baz=47						
D03D	**Eldon**	**0.77**	**259**	P	**Pb**	**11 12 20.0**	**-0.1**
	baz=78,SNR=119						
D03D				S	**Sb**	**11 12 30.6**	**+0.4**
	baz=78						
FMW	**Mount Fremont**	**0.79**	**165**	P	**Pb**	**11 12 20.3**	**-0.3**
RPW	**Rockport**	**0.82**	**22**	P	**Pn**	**11 12 21.2**	**-0.7**
B06A	**Marblemount**	**0.89**	**21**	P	**Pn**	**11 12 22.1**	**-0.6**
B06A	**Marblemount**	**0.89**	**21**		**Pn**	**11 12 22.2**	**-0.6**
LON	**Longmire**	**0.95**	**173**	P	**Pb**	**11 12 22.8**	**-0.4**
LON				S	**Sb**	**11 12 35.1**	**-0.3**
LON	**Longmire**	**0.95**	**173**		**Pb**	**11 12 22.8**	**-0.4**
LTY	**Liberty**	**0.98**	**116**	P	**Pn**	**11 12 24.1**	**-0.1**
LTY				S	**Sn**	**11 12 36.9**	**-0.6**
LTY	**Liberty**	**0.98**	**116**		**Pn**	**11 12 24.1**	**-0.1**
CPW	**Capitol Peak**	**1.07**	**228**	P	**Pn**	**11 12 24.9**	**-0.4**
MBW	**Mount Baker**	**1.09**	**2**	P	**Pb**	**11 12 25.8**	**+0.1**
A04D	**Lummi Island**	**1.14**	**335**	P	**Pb**	**11 12 26.6**	**+0.2**
	baz=153						
A04D				S	**Sn**	**11 12 41.1**	**-0.1**
	baz=153						
MCW	**Mount Constitu**	**1.14**	**330**	P	**Pn**	**11 12 26.2**	**-0.1**
VGZ	**Gonzales**	**1.16**	**309**	P	**Pn**	**11 12 25.7**	**-0.8**
VGZ				S	**Sb**	**11 12 40.5**	**-0.9**
OSD	**Olympics--Snow**	**1.18**	**277**	P	**Pn**	**11 12 26.7**	**-0.2**
E04D	**Cinebar**	**1.21**	**200**	P	**Pb**	**11 12 27.2**	**-0.4**
	baz=20,SNR=19						
STW	**Striped Peak**	**1.23**	**292**	P	**Pn**	**11 12 27.0**	**-0.5**
NLWA	**Neilton Lookou**	**1.32**	**258**		**Pb**	**11 12 29.5**	**0.0**
VDB	**Vedder Mountai**	**1.34**	**356**	P	**Pb**	**11 12 29.6**	**-0.2**
SOKB	**Sooke**	**1.34**	**302**	P	**Pn**	**11 12 28.4**	**-0.6**
SOKB				S	**Sn**	**11 12 45.4**	**-0.8**
SNB	**Saturna Island**	**1.35**	**324**	P	**Pb**	**11 12 29.4**	**-0.6**
SNB				S	**Sn**	**11 12 45.7**	**-0.7**
WISH	**Wishkah**	**1.35**	**245**	P	**Pb**	**11 12 30.5**	**+0.5**
B011	**North Saanich**	**1.38**	**315**	P	**Pn**	**11 12 29.4**	**-0.1**
B011				S	**Sn**	**11

baz=20
IKVO Krokottuvotn 1.07 13 P **Pg** **11 30 36.1 -3.8**
baz=13
ISNB Snabyli 1.07 209 P **Pg** **11 30 36.1 -4.0**
baz=209
IGRS Grimsstaoir 1.12 30 P **Pb** **11 30 37.0 -3.8**
baz=30
ISLY Slysaalda 1.12 221 P **Pb** **11 30 37.1 -3.8**
baz=221
IFED Fedgar 1.17 237 P **Pb** **11 30 38.2 -3.5**
baz=237
IRJU Rjupnafell 1.19 207 P **Pb** **11 30 38.2 -3.9**
baz=207
ISKI Skildingahlsh 1.21 9 P **Pb** **11 30 38.5 -3.9**
baz=8.4
ISKI S **Sb** **11 30 54.5 -3.6**
baz=8.4
IGHA Grjothals 1.22 16 P **Pn** **11 30 38.4 -4.1**
baz=16
IMJO Mjoaskard 1.22 233 P **Pn** **11 30 39.1 -3.5**
baz=234
IGRA Granastaoir 1.25 358 P **Pn** **11 30 38.9 -4.0**
baz=358
IHAU Haukadalur 1.30 238 P **Pn** **11 30 40.0 -3.6**
baz=238
IHVO Lagu-Hvolar 1.31 208 P **Pn** **11 30 40.3 -3.4**
baz=209
IDIM Dimmadalss 1.31 10 P **Pn** **11 30 40.0 -3.8**
baz=9.5
IHLA Hella 1.33 343 P **Pn** **11 30 40.5 -3.5**
baz=344
IHED Heoinshofoi 1.41 3 P **Pn** **11 30 41.4 -3.8**
baz=2.5
IALF Alftagrof 1.41 213 P **Pn** **11 30 41.9 -3.3**
baz=213
IESK Eystri-Skogar 1.45 218 P **Pn** **11 30 42.5 -3.1**
baz=218
ISAU Saurbar 1.46 243 P **Pn** **11 30 41.6 -4.2**
baz=243
IBRE Brettingsstaoi 1.46 353 P **Pn** **11 30 42.4 -3.5**
baz=353
IMID Miomork 1.48 227 P **Pn** **11 30 43.0 -3.0**
baz=227
ISIG Siglufjorour 1.58 338 P **Pn** **11 30 44.3 -3.2**
baz=338
BORG Borgarnes 1.66 274 Pn **Pn** **11 30 45.1 -3.4**
43nm,0.3s,baz=90,slow=8.6,SNR=70
BORG Sn **Sn** **11 31 09.2 -0.6**
42nm,0.3s,baz=334,slow=16,SNR=11
BORG Borgarnes 1.66 274 P **Pn** **11 30 45.4 -3.2**
BORG 11 31 11.4
BORG Borgarnes 1.66 274 Pn **Pn** **11 30 45.4 -3.2**
BORG **Sg** **11 31 11.4 -1.3**
ISOL Solvholt 1.69 245 P **Pn** **11 30 45.7 -3.3**
baz=246
JMIC Jan Mayen 7.18 24 LR LR 11 34 28.5
comp=Z,279nm,21.6s,baz=248,slow=34
SUMG Summit 10.94 325 P **Pn** **11 32 56.7 +0.6**
SUMG Summit 10.94 325 Pn **Pn** **11 32 56.7 +0.6**
EKA Eskdalemuir Ar 11.76 136 Pn **Pn** **11 33 06.8 -0.1**
baz=321,slow=13,SNR=22
ESK Eskdalemuir 11.76 136 P **Pn** **11 33 07.3 +0.3**
ESK Eskdalemuir 11.76 136 Pn **Pn** **11 33 07.3 +0.3**
DAG Danmarks Havn 12.16 359 *i* P **Pn** **11 33 14.5 +2.1**
DAG Danmarks Havn 12.16 359 *i* P **Pn** **11 33 14.5 +2.1**
DAG Danmarks Havn 12.16 359 *i* P **Pn** **11 33 14.5 +2.1**
NC204 NORSAR Array S 13.21 92 Pn **Pn** **11 33 24.1 -2.9**
NB000 NORSAR Array S 13.34 93 Pn **Pn** **11 33 26.9 -1.7**
NA001 NORSAR Array S 13.47 93 Pn **Pn** **11 33 29.2 -1.2**
NC303 NORSAR Array S 13.50 92 Pn **Pn** **11 33 30.3 -0.4**
NB2 NORSAR Subarra 13.52 92 Pn **Pn** **11 33 28.3 -2.8**
comp=Z,4.2nm,1.1s,baz=298,slow=14
NOA NORSAR Array B 13.52 92 Pn **Pn** **11 33 28.5 -2.6**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.7
NOA LR LR 11 38 59.1
comp=Z,97nm,20.5s,baz=300,slow=38
SFJD Kangerlussuaq 13.68 295 LR LR 11 38 24.7
comp=Z,291nm,19.4s,baz=93,slow=36
HFS Hagfors 15.03 93 Pn **Pn** **11 33 51.0 -0.6**
comp=Z,0.1nm,0.3s,baz=297,slow=14,SNR=3.8
HFS LR LR 11 39 03.7
comp=Z,104nm,20.6s,baz=320,slow=35
HLG Helgoland 16.50 118 *eP* **P** **11 34 17.4 +4.1**
comp=Z,178nm,1.1s
KBS Kingsbay 16.62 19 P **Pn** **11 34 11.6 -0.5**
KBS pmax pmax
comp=Z,58nm,1.5s
KBS Kingsbay 16.62 19 Pn **Pn** **11 34 11.6 -0.5**
KBS IAmb IAmb 11 34 19.7
comp=Z,58nm,1.5s
SPITS Spitsbergen Ar 16.85 23 Pn **Pn** **11 34 13.8 -1.3**
baz=170,slow=17,SNR=7.8
SPITS LR LR 11 38 38.0
comp=Z,100nm,20.4s,baz=45,slow=30
NOR Nord 17.02 0 *i* P **P** **11 34 18.8 -0.1**
NOR Nord 17.02 0 *i* P **P** **11 34 18.8 -0.1**
NOR Nord 17.02 0 *i* P **P** **11 34 18.8 -0.1**
ARCES ARCESS Array B 17.10 55 P **Pn** **11 34 18.3 +0.1**
baz=273,slow=9.5,SNR=5.8
ARCES LR LR 11 39 53.5
comp=Z,149nm,18.7s,baz=300,slow=34
BSEG Bad Segeberg 17.63 114 *eP* **Pn** **11 34 23.8 -1.0**
comp=Z,13nm,1.0s
IBBN Ibbenburen 17.92 122 *eP* **Pn** **11 34 27.1 -1.4**
comp=Z,5.5nm,0.6s
RGN Rugen 18.38 109 P **P** **11 34 33.7 -0.3**
BUG Bochum--Univer 18.45 124 *eP* **P** **11 34 34.3 -0.6**
comp=Z,8.5nm,0.8s
BMRD Maredsous 18.56 130 P **Pn** **11 34 35.6 -0.6**
NRDL Niedersach Rie 18.65 118 *eP* **P** **11 34 35.3 -1.7**
comp=Z,14nm,0.9s
MEM Membach 18.71 128 P **Pn** **11 34 38.3 +0.2**
AHRW Bad Neuenahr-A 19.13 126 *eP* **Pn** **11 34 45.3 +2.1**
comp=Z,11nm,0.9s
ASSE Asse, Remlinge 19.15 118 *eP* **P** **11 34 39.7 -2.8**
comp=Z,15nm,1.1s
CLZ Clausthal 19.27 119 *eP* **Pn** **11 34 45.1 +0.2**
comp=Z,20nm,1.0s
GTTG Gottingen 19.35 120 *eP* **Pn** **11 34 47.0 +1.1**
comp=Z,14nm,0.9s
FINES FINESS Array B 19.69 79 P **Pn** **11 34 49.4 -0.4**
comp=Z,0.1nm,0.3s,baz=316,slow=12,SNR=6.2
FINES LR LR 11 42 36.8
comp=Z,104nm,18.6s,baz=273,slow=37
FINES FINESS Array B 19.69 79 P **P** **11 34 47.9 -0.5**
CLF Chambon-Foret 19.80 138 P **Pn** **11 34 50.0 -1.1**
CLF IAmb IAmb 11 35 04.0
comp=Z,33nm,1.1s
UBBA Unterbreizbach 19.95 121 *eP* **Pn** **11 34 53.1 +0.2**
comp=Z,26nm,1.6s
NEUB Neuenburg 20.30 118 *eP* Pn 11 34 56.6 -0.5
comp=Z,23nm,0.9s
APA Apatity 20.31 59⇓ *i* P Pn 11 34 57.0 -0.1
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,200nm,11.0s
MOX Moxa 20.70 119 *eP* Pn 11 35 00.3 -1.5
comp=Z,6.1nm,0.8s
CLL Collm 20.70 116 *i* P Pn 11 35 00.0 -1.7
comp=Z,28nm,1.4s
CLL *i* 11 35 08.5
CLL *e* PPP PPP 11 35 23.0
CLL *e* S Sn 11 38 54.0 -0.9
CLL Lm MLR 11 43 00.0
comp=Z,100nm,19.1s
CLL Collm 20.70 116 *i* P Pn 11 35 00.0 -1.7
CLL pmax pmax
comp=Z,28nm,1.4s
CLL Collm 20.70 116 *eP* **P** **11 34 59.9 +0.6**
comp=Z,14nm,1.2s
CLL Collm 20.70 116 P **P** **11 34 59.7 +0.4**
FBE Freiberg 21.14 116 *eP* **P** **11 35 04.7 +0.6**
comp=Z,11nm,0.8s
ECH Echery 21.15 129 P **P** **11 35 05.4 +1.0**
ECH pmax pmax
comp=Z,12nm,0.9s
ECH Echery 21.15 129 P **P** **11 35 05.4 +1.0**
GUNZ Gunzen 21.19 118 *eP* **P** **11 35 05.5 +0.7**
comp=Z,20nm,1.1s
TANN Tannenbergstha 21.20 118 *eP* **P** **11 35 05.7 +0.8**
comp=Z,26nm,1.0s
WERN Wernitzgruen 21.27 118 *eP* **P** **11 35 06.5 +0.9**
comp=Z,24nm,1.1s
GRA1 Grafenberg Arr 21.33 121 P **P** **11 35 07.3 +1.1**
GRA1 IAmb IAmb 11 35 19.6
comp=Z,47nm,1.3s

GRF Grafenberg Arr 21.33 121 P **P** **11 35 07.3 +1.1**
GRF pmax pmax
comp=Z,47nm,1.3s
GRF Grafenberg Arr 21.33 121 *eP* **P** **11 35 07.8 +1.6**
comp=Z,11nm,0.9s
NKC Novy Kostel 21.34 118 *eP* **P** **11 35 09.1 +2.7**
NKC *ex* x 11 35 16.5
NKC AMS AMS 11 46 00.0
comp=Z,200nm,14.5s
NKC Novy Kostel 21.34 118 *eP* **P** **11 35 09.1 +2.7**
NKC *e* 11 35 16.5
NKC MLR MLR
comp=Z,200nm,14.5s
STU Stuttgart 21.37 125 P **P** **11 35 07.6 +1.0**
STU pmax pmax
comp=Z,42nm,1.2s
STU Stuttgart 21.37 125 *eP* **P** **11 35 08.3 +1.6**
comp=Z,15nm,0.8s
STU Stuttgart 21.37 125 P **P** **11 35 07.6 +1.0**
STU IAmb IAmb 11 35 13.2
comp=Z,42nm,1.2s
BRG Berggiesshubel 21.40 115 *i* P **P** **11 35 07.1 +0.1**
comp=Z,24nm,1.3s
BRG S Sn 11 39 14.0 +2.0
comp=N,107nm,17.5s
comp=E,264nm,14.4s
comp=Z,192nm,11.5s
BRG Berggiesshubel 21.40 115 *i* P **P** **11 35 07.1 +0.1**
BRG S Sn 11 39 14.0 +2.0
BRG pmax pmax
comp=Z,24nm,1.3s
BRG MLR MLR
comp=N,107nm,17.5s
BRG MLR MLR
comp=E,264nm,14.4s
BRG MLR MLR
comp=Z,192nm,11.5s
BRG Berggiesshubel 21.40 115 *eP* **P** **11 35 07.5 +0.5**
comp=Z,13nm,0.9s
MANZ Manzenberg 21.41 119 *eP* **P** **11 35 08.0 +0.8**
comp=Z,6.0nm,1.0s
BFO Black Forest 21.45 127 P **P** **11 35 08.6 +1.0**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 21.45 127 *eP* **P** **11 35 08.5 +1.0**
comp=Z,9.5nm,0.9s
BFO Black Forest 21.45 127 P **P** **11 35 08.6 +1.0**
VSU Vasula 21.55 86 *eP* **P** **11 35 08.4 -0.1**
VSU Vasula 21.55 86 *d* P **P** **11 35 08.7 +0.2**
VSU pmax pmax
comp=Z,72nm,0.9s
ROTZ Rotzenmuhle 21.63 119 *eP* **P** **11 35 09.9 +0.4**
comp=Z,7.6nm,1.2s
FRB Frobisher Bay 21.76 291 LR LR 11 41 50.7
comp=Z,99nm,21.9s,baz=52,slow=32
PVCC Panska Ves 21.92 115 AMS AMS 11 44 00.0
comp=Z,200nm,8.9s
PABE Paberze 22.20 95 *eP* **P** **11 35 15.6 +0.2**
PRA Prague 22.23 116 *eS* Sn 11 39 29.7 -2.1
PRA AMS AMS 11 46 20.0
comp=Z,100nm,10.6s
PRU Pruhonice 22.34 116 *eP* **P** **11 35 17.8 +0.7**
PRU *eS* **S** **11 39 26.1 +3.7**
PRU AMS AMS 11 46 50.0
comp=Z,300nm,9.7s
PRU Pruhonice 22.34 116 *eP* **P** **11 35 17.8 +0.7**
PRU *eS* **S** **11 39 26.1 +3.7**
PRU MLR MLR
comp=Z,300nm,9.7s
KSP Ksiaz 22.35 112 *eP* **P** **11 35 17.2 0.0**
KSP *eS* **S** **11 39 26.4 +3.8**
WET Wettzell 22.39 119 *eP* **P** **11 35 18.4 +0.7**
comp=Z,4.2nm,0.9s
CHVC Chvalec 22.46 113 *eP* **P** **11 35 18.9 +0.5**
CHVC *ex* x 11 35 23.0
CHVC AMS AMS 11 46 00.0
comp=Z,200nm,13.1s
GOPC GO Pecny, Ondr 22.50 116 *eS* **S** **11 39 22.6 -2.7**
GOPC AMS AMS 11 47 00.0
comp=Z,200nm,13.6s
GOPC GO Pecny, Ondr 22.50 116 *eP* P 11 35 08.4 -10
GOPC *eS* **S** **11 39 22.6 -2.7**
GOPC MLR MLR
comp=Z,200nm,13.6s
UPC Upice 22.50 113 *eP* **P** **11 35 19.8 +1.0**
UPC *eS* **S** **11 39 21.1 -4.3**
UPC AMS AMS 11 46 00.0
comp=Z,200nm,12.7s
UPC Upice 22.50 113 *eP* **P** **11 35 19.8 +1.0**
UPC *eS* **S** **11 39 21.1 -4.3**
UPC MLR MLR
comp=Z,200nm,12.7s
OSTC Ostas 22.55 113 *eP* **P** **11 35 20.3 +1.0**
OSTC *eS* Sn 11 39 33.4 -6.0
OSTC AMS AMS 11 47 40.0
comp=Z,200nm,12.0s
UBR Ueberruh 22.62 126 *eP* **P** **11 35 21.3 +1.2**
comp=Z,10nm,0.9s
KHC Kasperske Hory 22.67 118 *eP* **P** **11 35 20.5 -0.1**
KHC *ex* x 11 35 27.0
KHC *eS* **S** **11 39 28.2 -0.3**
KHC AMS AMS 11 46 30.0
comp=Z,300nm,8.1s
KHC Kasperske Hory 22.67 118 *eP* **P** **11 35 20.5 -0.1**
KHC *e* 11 35 27.0
KHC *eS* **S** **11 39 28.2 -0.3**
KHC MLR MLR
comp=Z,300nm,8.1s
KHC Kasperske Hory 22.67 118 P **P** **11 35 20.9 +0.2**
DPC Dobruska-Polom 22.75 113 *eP* **P** **11 35 21.8 +0.3**
DPC AMS AMS 11 47 00.0
comp=Z,100nm,17.0s
DPC Dobruska-Polom 22.75 113 *eP* **P** **11 35 21.8 +0.3**
DPC MLR MLR
comp=Z,100nm,17.0s
SENIN Lac Senin/Sane 22.82 132 P **P** **11 35 22.8 +0.4**
SUW Suwalki 22.87 98 P **P** **11 35 23.1 +0.4**
SUW pmax pmax
comp=Z,45nm,0.4s
SUW Suwalki 22.87 98 P **P** **11 35 23.1 +0.4**
DAVA Damuels 22.88 126 *eP* **P** **11 35 23.5 +0.5**
comp=Z,13nm,1.1s
GEC2 GERESS Array S 22.95 119 P **P** **11 35 24.0 +0.4**
GERES GERESS Array B 22.95 119 P **P** **11 35 24.1 +0.5**
comp=Z,3.6nm,1.0s,baz=330,slow=7.7,SNR=18
GERES GERESS Array B 22.95 119 P **P** **11 35 22.4 -1.2**
RETA Reutte 23.01 125 Pg **P** **11 35 25.8 +1.5**
comp=Z,22nm,1.9s
IZAR Zarasai 23.01 92 *eP* **P** **11 35 24.3 +0.2**
ISAL Salakas 23.08 93 *eP* **P** **11 35 25.4 +0.6**
KRLC Kraliky 23.15 113 *eP* **P** **11 35 25.9 +0.3**
KRLC AMS AMS 11 48 00.0
comp=Z,200nm,7.6s
KRLC Kraliky 23.15 113 *eP* **P** **11 35 25.9 +0.3**
KRLC MLR MLR
comp=Z,200nm,7.6s
MOTA Moosalm 23.25 125 *eP* **P** **11 35 27.3 +0.5**
comp=Z,12nm,1.3s
TREC Trest 23.27 116 AMS AMS 11 45 10.0
comp=Z,200nm,15.9s
IIGN Ignalina 23.27 93 *eP* **P** **11 35 27.5 +0.8**
DAVOX Davos/Dischmat 23.31 127 P **P** **11 35 27.6 +0.2**
comp=Z,3.7nm,0.9s,baz=336,slow=20,SNR=5.3
DAVOX LR LR 11 44 30.2
comp=Z,74nm,20.1s,baz=88,slow=36
SQTA Sankt Quirin 23.40 125 *eP* **P** **11 35 28.9 +0.6**
comp=Z,9.9nm,1.0s
FETA Feichten 23.40 126 *eP* **P** **11 35 30.4 +2.0**
comp=Z,12nm,1.7s
TUE Stuetta 23.40 128 P **P** **11 35 29.4 +1.0**
TUE IAmb IAmb 11 35 36.5
comp=Z,17nm,1.2s
WATA Walderalm 23.43 124 *eP* **P** **11 35 28.0 -0.6**
comp=Z,12nm,1.2s
IDID Didziasalis 23.51 92 *eP* **P** **11 35 28.9 -0.2**
WTTA Wattenberg 23.51 124 *eP* **P** **11 35 30.2 +0.7**
comp=Z,11nm,1.0s
FUORN Ofenpass-Fuorn 23.58 127 P **P** **11 35 33.1 +2.9**
EUNU Eureka 23.66 336 P **P** **11 35 31.8 +1.2**
VRAC Vranov 23.69 114 P **P** **11 35 31.5 +0.6**
comp=Z,3.0nm,0.8s,baz=330,slow=12,SNR=5.8
VRAC LR LR 11 44 37.7
comp=Z,88nm,20.5s,baz=330,slow=36
VRAC Vranov 23.69 114⇑ **P** **11 35 31.6 +0.7**
VRAC Vranov 23.69 114 *eP* **P** **11 35 30.7 -0.2**

MORC Moravsky Berou 23.69 112⇓ P **P** **11 35 30.8 -0.2**
MORC Moravsky Berou 23.69 112 *eP* **P** **11 35 30.4 -0.6**
MORC Moravsky Berou 23.69 112 P **P** **11 35 30.6 -0.4**
MORC pmax pmax
comp=Z,17nm,1.4s
MORC Moravsky Berou 23.69 112 P **P** **11 35 30.6 -0.4**
KRUC Moravsky 23.81 115 *eP* **P** **11 35 31.8 -0.3**
MOA Molln 23.98 119 *eP* **P** **11 35 37.1 +3.3**
comp=Z,13nm,1.5s
OJC Ojcow 24.25 109 *eP* **P** **11 35 36.3 0.0**
OJC Ojcow 24.25 109 P **P** **11 35 35.9 -0.4**
OJC pmax pmax
comp=Z,11nm,1.4s
OJC Ojcow 24.25 109 P **P** **11 35 35.9 -0.4**
ABTA Abfaltersbach 24.27 123 *eP* **P** **11 35 38.6 +2.1**
comp=Z,3.5nm,1.2s
KBA Koelnbreinsper 24.29 122 *eP* **P** **11 35 37.9 +1.1**
comp=Z,10nm,1.5s
MVO Moncorvo 24.31 161 *eP* **P** **11 35 38.0 +1.0**
comp=Z,32nm,1.8s
JAVC Velka Javorina 24.47 113 *eP* **P** **11 35 38.8 +0.5**
CONA Conrad Observa 24.52 117 *eP* **P** **11 35 39.5 +0.6**
comp=Z,6.4nm,0.9s
MICGM Minsk 24.55 93 *e* P 11 35 46.0 +7.1
MNK Minsk 24.55 93 *eP* **P** **11 35 40.0 +1.1**
CTI Castel Tesino 24.56 125 P **P** **11 35 40.0 +0.8**
CTI pmax pmax
comp=Z,11nm,1.1s
CTI Castel Tesino 24.56 125 P **P** **11 35 40.0 +0.8**
ZOU Zoufplan 24.60 123 P **P** **11 35 40.8 +1.1**
CIMO Cimolais 24.61 124 P **P** **11 35 40.2 +0.6**
CIMO IAmb IAmb 11 35 51.3
comp=Z,27nm,1.5s
PVIS Viseu 24.64 162 *eP* **P** **11 35 42.0 +2.1**
comp=Z,34nm,1.5s
SMOL Smolenice 24.65 114 *eP* **P** **11 35 40.8 +0.9**
SMOL pmax pmax
comp=Z,9.0nm,1.1s
SMOL Smolenice 24.65 114 *eP* **P** **11 35 40.8 +0.9**
MODS Modra-Piesok 24.71 115 *eP* **P** **11 35 40.1 -0.3**
MODS pmax pmax
comp=Z,21nm,1.5s
MODS Modra-Piesok 24.71 115 *eP* **P** **11 35 40.1 -0.3**
MYKA Terra Mystica 24.78 122 *eP* **P** **11 35 42.0 +0.8**
comp=Z,7.9nm,1.4s
PRED Cave del Predi 24.91 122 P **P** **11 35 42.9 +0.6**
PRED IAmb IAmb 11 35 47.8
comp=Z,14nm,1.2s
LANS Liptovska Anna 24.95 111 *eP* **P** **11 35 44.2 +1.5**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 24.95 111 *eP* **P** **11 35 44.2 +1.5**
ARSA Arzberg 24.95 118 *eP* **P** **11 35 43.5 +0.9**
comp=Z,5.6nm,1.1s
MTE Manteigas 24.99 162 *eP* **P** **11 35 45.5 +2.4**
comp=Z,45nm,1.7s
NIE Niedzica 25.08 109 *eP* **P** **11 35 44.8 +1.0**
OBKA Obir 25.21 121 *eP* **P** **11 35 45.0 -0.1**
comp=Z,5.8nm,1.0s
VYHS Vyhne 25.22 112 *eP* **P** **11 35 45.6 +0.5**
VYHS pmax pmax
comp=Z,27nm,1.6s
VYHS Vyhne 25.22 112 *eP* **P** **11 35 45.6 +0.5**
SOKA Soboth 25.25 120 P **P** **11 35 45.3 -0.1**
comp=Z,5.0nm,1.0s
PCBR Castelo Branco 25.55 162 *eP* **P** **11 35 53.0 +4.9**
comp=Z,22nm,1.5s
KLMR Klimovskoe 25.59 72 *eP* **P** **11 35 47.3 -0.9**
KLMR *e* 11 39 17.3
KLMR pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 25.59 72 *eP* **P** **11 35 47.3 -0.9**
KLMR AMP 11 35 50.2
comp=Z,21nm,1.2s
KLMR *e*PcP **PcP** **11 39 17.3 -1.4**
KWP Kalwaria Pacla 25.90 106 *eP* **P** **11 35 52.4 +1.2**
SCHQ Schefferville 26.05 271 LR LR 11 44 50.5
comp=Z,203nm,19.2s,baz=33,slow=34
PSZ Piszkesteto 26.11 112⇑ P **P** **11 35 54.0 +0.8**
PSZ Piszkesteto 26.11 112 P **P** **11 35 54.6 +1.4**
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 26.11 112 P **P** **11 35 54.5 +1.4**
PSZ IAmb IAmb 11 36 01.4
comp=Z,16nm,1.1s
ESBB Sonseca Array 26.26 156 P **P** **11 35 55.8 +1.2**
ESDC Sonseca Array 26.26 156 P **P** **11 35 54.6 0.0**
comp=Z,2.4nm,0.9s,baz=347,slow=9.7,SNR=16
ESDC LR LR 11 45 28.0
comp=Z,54nm,20.9s,baz=280,slow=35
ESDC Sonseca Array 26.26 156 P **P** **11 35 55.0 +0.4**
KOLS Kolonicke sedl 26.26 108 *eP* **P** **11 35 54.8 +0.3**
KOLS pmax pmax
comp=Z,16nm,1.4s
KOLS Kolonicke sedl 26.26 108 *eP* **P** **11 35 54.8 +0.3**
LVV L'vov 26.30 104 *eP* **P** **11 35 55.1 +0.3**
LVV *e* 11 36 46.2
LVV *eS* **S** **11 40 23.8 -3.4**
LVV pmax pmax
comp=Z,100nm,1.2s
LVV MLR MLR
comp=E,270nm,14.0s
LVV MLR MLR
comp=N,200nm,13.0s
LVV MLR MLR
comp=Z,250nm,14.0s
UZH Uzhgorod 26.51 108 *eP* **P** **11 35 58.0 +1.3**
UZH *i* 11 36 06.0
OSSC Osservatorio P 26.64 129 P **P** **11 35 58.5 +0.6**
OSSC IAmb IAmb 11 36 05.8
comp=Z,16nm,1.0s
AKASG Malin Array Be 27.83 98 P **P** **11 36 08.0 -0.6**
comp=Z,0.7nm,0.4s,baz=325,slow=9.7,SNR=5.2
AKASG Malin Array Be 27.83 98*ceP* **P** **11 36 10.1 +1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 27.83 98 P **P** **11 36 07.9 -0.6**
AKBB Malin Array Si 27.83 98⇓ *eP* **P** **11 36 08.7 +0.2**
AKBB Malin Array Si 27.83 98 P **P** **11 36 08.3 -0.2**
OBN Obninsk 27.87 84 *eP* **P** **11 36 09.5 +0.7**
OBN *e* 11 36 55.2
OBN *e*PPP PPP 11 37 04.3
OBN pmax pmax
comp=Z,44nm,1.6s
OBN Obninsk 27.87 84 P **P** **11 36 09.6 +0.7**
MOS Moscow 27.90 82 *eP* **P** **11 36 11.0 +1.9**
BURAR Bucovina Array 28.51 106⇑ P **P** **11 36 15.3 +0.5**
BURAR Bucovina Array 28.51 106 P **P** **11 36 16.0 +1.2**
GZR Gura Zlata 29.32 112⇑ P **P** **11 36 22.4 +0.5**
BIZ Bicaz 29.42 106⇑ P **P** **11 36 21.8 -0.9**
VOIR 30.20 109⇑ P **P** **11 36 30.1 +0.4**
MLR Muntele Rosu 30.52 108 P **P** **11 36 32.8 +0.2**
comp=Z,2.1nm,0.8s,baz=295,slow=14,SNR=2.3
MLR LR LR 11 49 45.7
comp=Z,128nm,18.1s,baz=306,slow=38
MLR Muntele Rosu 30.52 108⇓ P **P** **11 36 33.3 +0.7**
MLR Muntele Rosu 30.52 108 P **P** **11 36 33.4 +0.8**
MLR pmax pmax
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 30.52 108 P **P** **11 36 33.4 +0.8**
KIRV Kirov 30.96 69⇓ *eP* **P** **11 36 36.8 +0.6**
MATE Matera 31.07 124⇓ P **P** **11 36 38.1 +0.8**
CFR Carcaliu 31.68 106⇓ P **P** **11 36 42.8 +0.2**
SCTE Santa Cesarea 32.21 122 P **P** **11 36 47.9 +0.6**
SCTE IAmb IAmb 11 36 50.1
comp=Z,17nm,1.3s
KEST Kesra 33.16 138 P **P** **11 36 55.9 +0.1**
comp=Z,1.5nm,0.6s,baz=315,slow=11,SNR=3.1
KEST Kesra 33.16 138 P **P** **11 36 55.5 -0.3**
BELG Belogornoye 34.47 79⇑ *eP* **P** **11 37 06.2 -0.7**
AGG Agios Georgios 34.56 118 P **P** **11 37 07.7 -0.2**
AGG pmax pmax
comp=Z,17nm,1.1s
AGG Agios Georgios 34.56 118 P **P** **11 37 07.7 -0.2**
AGG IAmb IAmb 11 37 09.5
comp=Z,17nm,1.1s
ARU Arti 36.06 66 P **P** **11 37 21.2 +0.6**
comp=Z,0.6nm,0.3s,baz=328,slow=7.5,SNR=4.3
ARU Arti 36.06 66 *d* P **P** **11 37 20.5 -0.1**
ARU 11 38 41.2
ARU S **S** **11 43 01.4 +2.1**
ARU SS **SnSn** **11 45 26.2 +2.6**
ARU pmax pmax
comp=Z,6.0nm,1.1s

ARU Arti 36.06 66 P **P** 11 37 20.8 +0.2
NRIK Noril'sk 36.44 35 P **P** 11 37 24.8 +1.1
comp=Z,1.9nm,0.5s,baz=282,slow=7.1,SNR=5.2
NRIK Noril'sk 36.44 35⇑*i*P **P** 11 37 25.0 +1.3
NRIK pmax pmax
comp=Z,10.0nm,1.1s
BRTR Keskin Array B 38.47 105 P **P** 11 37 43.1 +1.7
comp=Z,3.3nm,1.0s,baz=317,slow=5.2,SNR=6.9
BRTR Keskin Array B 38.47 105 P **P** 11 37 41.4 0.0
KIV Kislovodsk 38.83 92 *e*P **P** 11 37 44.4 +0.1
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,132nm,16.0s
SADO Sadowa 38.83 270 LR LR 11 51 02.1
comp=Z,94nm,19.4s,baz=242,slow=32
KBZ Khabaz 39.10 92 P **P** 11 37 47.9 +1.5
comp=Z,5.6nm,0.8s,baz=331,slow=9.3,SNR=7.6
KBZ LR LR 11 54 05.5
comp=Z,74nm,21.8s,baz=324,slow=36
KBZ Khabaz 39.10 92⇓*e*P **P** 11 37 47.8 +1.4
KBZ pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 39.22 313 P **P** 11 37 47.4 +0.2
comp=Z,3.9nm,1.1s,baz=43,slow=8.6,SNR=4.0
YKA Yellowknife Ar 39.22 313*ce*P **P** 11 37 50.5 +3.3
YKA pmax pmax
comp=Z,1.0nm,0.7s
E46A Sault Ste Mari 39.79 276 P **P** 11 37 53.5 +1.4
E46A IAmb IAmb 11 37 54.9
comp=Z,19nm,1.1s
AKTO Aktyubinsk 40.27 73 P **P** 11 37 56.8 +0.7
comp=Z,3.0nm,0.8s,baz=317,slow=9.6,SNR=8.4
ABKAR Akbulak array 41.97 73 P **P** 11 38 10.4 +0.3
ABKAR Akbulak array 41.97 73 P **P** 11 38 10.3 +0.2
TIXI Tiksi 42.02 15*ce*P **P** 11 38 12.3 +2.1
TIXI Tiksi 42.02 15 P **P** 11 38 11.8 +1.6
TOLK Toolik Lake Re 42.74 336 P **P** 11 38 18.8 +2.6
BMAR Burnt Mountain 42.89 333 P **P** 11 38 16.3 -1.1
BRVK Borovoye 43.11 62⇑*i*P **P** 11 38 20.3 +1.0
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 43.11 62 P **P** 11 38 19.8 +0.5
G40A Rib Lake 43.17 280 P **P** 11 38 20.0 +0.1
G40A IAmb IAmb 11 38 23.9
comp=Z,22nm,1.5s
BVAR Borovoye Array 43.18 62 P **P** 11 38 20.7 +0.8
comp=Z,4.2nm,1.0s,baz=184,slow=11,SNR=19
FYU Fort Yukon 43.77 333 P **P** 11 38 26.4 +1.9
P53A Whipple 44.10 267 P **P** 11 38 28.2 +0.7
P53A IAmb IAmb 11 38 30.4
comp=Z,15nm,1.1s
COLD Coldfoot 44.11 336 P **P** 11 38 28.2 +1.0
COLD IAmb IAmb 11 38 31.4
comp=Z,13nm,1.4s
N49A Columbus Grove 44.12 271 P **P** 11 38 27.8 +0.2
DAWY Dawson 44.70 328 P **P** 11 38 32.7 +0.7
DAWY IAmb IAmb 11 38 34.6
comp=Z,8.0nm,1.1s
O49A Covington 44.79 270 P **P** 11 38 33.5 +0.6
P51A Williamsport 44.83 269 P **P** 11 38 33.8 +0.6
HQIL Hanson Quary C 44.98 275 P **P** 11 38 36.7 +2.3
Q51A Peebles 45.33 269 P **P** 11 38 38.1 +0.9
Q51A IAmb IAmb 11 38 38.9
comp=Z,19nm,1.4s
S54A Dingess, Beckl 45.48 266 P **P** 11 38 39.3 +0.8
S54A IAmb IAmb 11 38 54.6
comp=Z,15nm,1.4s
IL31 45.68 332 P **P** 11 38 41.1 +1.4
IL31 IAmb IAmb 11 38 42.3
comp=Z,14nm,1.3s
ILAR Eielson Array 45.68 332 P **P** 11 38 40.4 +0.7
comp=Z,4.4nm,1.1s,baz=26,slow=6.5,SNR=21
ILAR PcP **PcP** 11 40 17.5 +0.1
comp=Z,1.9nm,1.0s,baz=347,slow=2.7,SNR=7.2
ILAR LR LR 12 01 05.3
comp=Z,139nm,18.6s,baz=144,slow=40
ILAR Eielson Array 45.68 332 P **P** 11 38 40.5 +0.8
MDM Murphy Dome 45.78 333 P **P** 11 38 42.4 +1.8
MDM IAmb IAmb 11 38 43.9
comp=Z,16nm,1.2s
COLA College 45.78 333⇑*i*P **P** 11 38 42.3 +1.8
COLA pmax pmax
comp=Z,14nm,1.1s
COLA College 45.78 333 P **P** 11 38 41.7 +1.3
IMAR Indian Mountai 45.85 337 P **P** 11 38 41.8 +0.7
P48A Milroy 45.86 271 P **P** 11 38 42.1 +0.6
P48A IAmb IAmb 11 38 44.3
comp=Z,8.6nm,1.0s
BCAR Beaver Creek A 46.10 329 P **P** 11 38 44.1 +0.9
O44A Mansfield 46.59 274 P **P** 11 38 48.4 +1.2
S51A Beattyville 46.59 268 P **P** 11 38 48.0 +0.7
S51A IAmb IAmb 11 38 48.8
comp=Z,5.4nm,0.9s
HDIL Hopedale 46.62 275 P **P** 11 38 48.5 +1.2
BPAW Bear Paw Mtn. 47.08 334 P **P** 11 38 50.8 +0.1
BPAW IAmb IAmb 11 38 53.8
comp=Z,5.7nm,1.0s
ECSD EROS Data Cent 47.11 284 P **P** 11 38 52.0 +0.8
ECSD IAmb IAmb 11 38 53.4
comp=Z,11nm,1.5s
BILL Bilibino 47.54 358 *e*P **P** 11 38 55.3 +1.1
BILL *e* 11 40 50.3
BILL pmax pmax
comp=Z,7.0nm,1.3s
ZAA0 Zalesovo Array 47.61 51 P **P** 11 38 55.4 +0.4
ZAA0 IAmb IAmb 11 38 56.4
comp=Z,5.4nm,1.1s
ZALV Zalesovo Beam 47.61 51 P **P** 11 38 54.7 -0.2
comp=Z,0.8nm,0.4s,baz=325,slow=7.6,SNR=6.0
ZALV Zalesovo Beam 47.61 51 *i*P **P** 11 38 55.7 +0.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 47.61 51 P **P** 11 38 55.5 +0.5
KURK Kurchatov 48.09 58*d i*P **P** 11 38 58.7 0.0
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 48.09 58 P **P** 11 38 58.6 -0.2
KURK IAmb IAmb 11 39 00.4
comp=Z,10nm,1.0s
PAULI Pauline 48.22 264 P **P** 11 39 00.6 +0.7
TNA Tin City 48.29 344 P **P** 11 39 00.7 +0.7
JSC Jenkinsville 48.44 263 P **P** 11 39 01.2 -0.4
JSC pmax pmax
comp=Z,5.0nm,1.1s
JSC Jenkinsville 48.44 263 P **P** 11 39 01.2 -0.4
JSC IAmb IAmb 11 39 05.3
comp=Z,4.9nm,1.1s
V51A Loudon 48.47 267 P **P** 11 39 02.5 +0.7
V51A IAmb IAmb 11 39 05.3
comp=Z,10nm,1.1s
U49A Red Boiling Sp 48.48 269 P **P** 11 39 02.2 +0.3
U49A IAmb IAmb 11 39 13.4
comp=Z,8.1nm,1.2s
LAO LASA Array 48.60 293 P **P** 11 39 04.5 +1.6
T47A Sharon Grove 48.65 270 P **P** 11 39 03.9 +0.7
EGMT Eagleton 48.88 297 P **P** 11 39 06.2 +1.2
HODGE Hodges 48.91 264 P **P** 11 39 05.9 +0.7
HODGE IAmb IAmb 11 39 08.2
comp=Z,14nm,1.2s
W50A Signal Mountai 49.39 268 P **P** 11 39 09.2 +0.2
X51A Calhoun 49.74 267 P **P** 11 39 11.1 -0.4
X51A IAmb IAmb 11 39 14.5
comp=Z,12nm,1.1s
Y52A Lilburn 49.99 266 P **P** 11 39 14.2 +0.7
Y52A IAmb IAmb 11 39 16.8
comp=Z,12nm,1.1s
GEYT Alibeck 50.41 84 P **P** 11 39 16.9 +0.2
comp=Z,1.9nm,0.5s,baz=307,slow=12,SNR=4.5
GEYT Alibeck 50.41 84 P **P** 11 39 12.8 -3.9
X48A Hartselle 50.77 269 P **P** 11 39 19.4 0.0
X48A IAmb IAmb 11 39 23.3
comp=Z,12nm,1.4s
KSU1 Kansas State U 50.94 280 P **P** 11 39 21.3 +0.6
KSU1 IAmb IAmb 11 39 21.4
comp=Z,7.8nm,0.7s
KK31 Karatay Array 51.26 70 P **P** 11 39 23.6 +0.6
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KK31 Karatay Array 51.26 70 P **P** 11 39 23.6 +0.6
KKAR Karatay Array 51.26 70 P **P** 11 39 23.4 +0.4
KKAR pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 51.26 70 P **P** 11 39 23.4 +0.4
YNE Yellowstone No 51.48 295 P **P** 11 39 26.2 +1.3

BOZ Bozeman (W) 51.62 297 P **P** 11 39 26.2 +0.4
BOZ pmax pmax
comp=Z,10.0nm,1.2s
BOZ Bozeman (W) 51.62 297 P **P** 11 39 26.2 +0.4
BOZ IAmb IAmb 11 39 28.3
comp=Z,9.6nm,1.2s
U40A Yellville 51.65 275 P **P** 11 39 26.3 +0.3
U40A IAmb IAmb 11 39 26.9
comp=Z,8.7nm,1.2s
YMP Mirror Lake Pl 51.76 295 P **P** 11 39 24.9 -2.2
DGZ Jazzator, Alta 52.06 53⇓*e*P **P** 11 39 30.2 +1.2
DGZ pmax pmax
comp=Z,9.0nm,1.1s
H17A Grant Village 52.22 295 P **P** 11 39 30.9 +0.5
H17A IAmb IAmb 11 39 35.9
comp=Z,8.7nm,1.2s
YPP Pitchstone Pla 52.41 295 P **P** 11 39 32.3 +0.5
SEY Seymchan 52.47 6⇓*e*P **P** 11 39 35.1 +3.4
MK31 Makanchi Array 52.71 58⇓*e*P **P** 11 39 33.4 -0.3
MKAR Makanchi Array 52.71 58 P **P** 11 39 34.1 +0.4
comp=Z,3.2nm,0.9s,baz=332,slow=7.4,SNR=9.1
MKAR Makanchi Array 52.71 58 P **P** 11 39 33.3 -0.4
IMW Indian Meadow 52.77 295 P **P** 11 39 34.8 +0.2
LOHW Long Hollow 52.88 295 P **P** 11 39 36.4 +1.1
FXWY Fox Creek 53.03 295 P **P** 11 39 37.4 +1.0
SNOW Snow King Moun 53.07 295 P **P** 11 39 38.7 +2.0
SNOW IAmb IAmb 11 39 40.6
comp=Z,12nm,1.4s
TPAW Teton Pass 53.12 295 P **P** 11 39 38.2 +1.0
TPAW IAmb IAmb 11 39 43.7
comp=Z,14nm,1.5s
TORD Torodi Ar. Bea 53.15 156 P **P** 11 39 36.2 -1.0
comp=Z,3.6nm,1.0s,baz=342,slow=8.5,SNR=12
TORD Torodi Ar. Bea 53.15 156 P **P** 11 39 36.4 -0.8
PD31 Pinedale Array 53.19 293 P **P** 11 39 37.4 -0.2
PD31 IAmb IAmb 11 39 39.1
comp=Z,11nm,1.3s
PDAR Pinedale Array 53.19 293 P **P** 11 39 37.7 +0.1
comp=Z,4.8nm,1.0s,baz=52,slow=6.0,SNR=19
PDAR LR LR 12 03 16.5
comp=Z,109nm,21.1s,baz=326,slow=37
PDAR Pinedale Array 53.19 293 P **P** 11 39 36.9 -0.6
BW06 Boulder Array 53.19 293 P **P** 11 39 37.0 -0.6
BW06 IAmb IAmb 11 39 39.1
comp=Z,12nm,1.3s
REDW Red Top Meadow 53.19 295 P **P** 11 39 39.6 +2.0
REDW IAmb IAmb 11 39 44.6
comp=Z,7.2nm,1.2s
AAK Ala-Archa 53.24 67*c i*P **P** 11 39 39.7 +1.8
AAK pmax pmax
comp=Z,24nm,1.1s
N23A Red Feather La 53.31 289 P **P** 11 39 39.7 +1.1
N23A IAmb IAmb 11 39 42.3
comp=Z,13nm,1.1s
BTK Batken 53.94 72 P **P** 11 39 42.8 -0.2
BTK pmax pmax
comp=Z,15nm,1.0s
BTK Batken 53.94 72 P **P** 11 39 42.8 -0.2
CHGR Chuyangaron 54.45 74 P **P** 11 39 46.3 -0.3
MOY Mondy 54.64 42 *e*P **P** 11 39 50.0 +2.1
MOY pmax pmax
comp=Z,26nm,1.6s
KDJ Kajisay 54.73 65 P **P** 11 39 49.1 +0.3
KDJ pmax pmax
comp=Z,4.0nm,1.0s
KDJ Kajisay 54.73 65 P **P** 11 39 49.1 +0.3
HWUT Hardware Ranch 54.96 294 P **P** 11 39 50.5 0.0
HWUT IAmb IAmb 11 39 52.8
comp=Z,8.7nm,1.2s
RDMU Red Mountain 55.05 292 P **P** 11 39 51.8 +0.6
TARG Taragay, Kyrgy 55.31 65 P **P** 11 39 53.8 +0.5
TARG IAmb IAmb 11 39 55.8
comp=Z,5.7nm,0.9s
TCUT Toone Canyon 55.31 294 P **P** 11 39 54.2 +1.1
TLY Talaya 55.38 40 P **P** 11 39 54.2 +1.1
comp=Z,1.3nm,0.6s,baz=307,slow=5.1,SNR=4.3
TLY Talaya 55.38 40⇓*e*P **P** 11 39 52.5 -0.6
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 55.38 40 P **P** 11 39 53.6 +0.4
WMOK Wichita Mounta 55.56 279 P **P** 11 39 55.0 +0.3
WMOK pmax pmax
comp=Z,8.0nm,1.3s
WMOK Wichita Mounta 55.56 279 P **P** 11 39 55.0 +0.3
WMOK IAmb IAmb 11 39 57.8
comp=Z,8.4nm,1.2s
S22A 4UR Ranch, Cre 56.35 288 P **P** 11 40 02.3 +1.6
ZAK Zakamensk 56.44 41 *e*P **P** 11 40 01.7 +0.8
ZAK pmax pmax
comp=Z,6.0nm,1.2s
P17A Butcher Ranch, 56.45 292 P **P** 11 40 01.3 +0.1
PV22 Blue Mesa, Par 56.47 290 P **P** 11 40 02.6 +1.2
PV21 Cone Mtn., Par 56.53 290 P **P** 11 40 02.0 +0.2
PV21 IAmb IAmb 11 40 06.1
comp=Z,7.9nm,1.2s
HUMP Col San Antoni 56.56 238 P **P** 11 40 02.9 +1.0
PV23 Carpenter Ridg 56.63 290 P **P** 11 40 02.6 0.0
PV23 IAmb IAmb 11 40 10.0
comp=Z,8.0nm,1.0s
DUG Dugway, Tooele 56.66 294 P **P** 11 40 03.6 +1.0
DUG pmax pmax
comp=Z,10.0nm,1.5s
DUG Dugway, Tooele 56.66 294 P **P** 11 40 03.6 +1.0
DUG IAmb IAmb 11 40 15.4
comp=Z,9.5nm,1.5s
PV12 Saucer Basin, 56.66 290 P **P** 11 40 04.2 +1.4
PV12 IAmb IAmb 11 40 04.9
comp=Z,13nm,1.4s
SRU San Rafael Swe 56.68 292 P **P** 11 40 03.3 +0.5
SRU pmax pmax
comp=Z,6.0nm,1.1s
SRU San Rafael Swe 56.68 292 P **P** 11 40 03.3 +0.5
PV14 Lion Creek, Pa 56.71 290 P **P** 11 40 03.6 +0.5
PV14 IAmb IAmb 11 40 09.7
comp=Z,4.8nm,0.7s
PV16 Nyswonger Mesa 56.72 290 P **P** 11 40 03.6 +0.4
PV16 IAmb IAmb 11 40 11.6
comp=Z,5.1nm,1.0s
PV01 Paradox Valley 56.73 289 P **P** 11 40 03.4 +0.2
PV01 IAmb IAmb 11 40 04.9
comp=Z,7.2nm,1.1s
PV03 Paradox Valley 56.74 290 P **P** 11 40 03.8 +0.5
PV03 IAmb IAmb 11 40 05.3
comp=Z,8.8nm,1.2s
PV17 East Wray Mesa 56.76 290 P **P** 11 40 03.6 +0.2
PV18 Skein Mesa, Pa 56.77 290 P **P** 11 40 03.9 +0.4
PV18 IAmb IAmb 11 40 05.1
comp=Z,6.0nm,0.9s
TMUT Trail Mountain 56.79 292 P **P** 11 40 04.7 +0.9
PV13 Radium Mtn., P 56.81 290 P **P** 11 40 04.6 +0.8
ELK Elko 57.13 296 P **P** 11 40 05.8 -0.3
comp=Z,0.6nm,0.5s,baz=43,slow=6.3,SNR=2.6
ELK Elko 57.13 296 P **P** 11 40 06.8 +0.8
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 57.13 296 P **P** 11 40 06.8 +0.8
WMQ Urumqi 57.21 56 *e*P **P** 11 40 10.0 +3.6
MSU Marysvale 57.85 293 P **P** 11 40 12.3 +1.2
MSU Marysvale 57.85 293 P **P** 11 40 12.3 +1.2
MVU Marysvale 57.87 293 P **P** 11 40 11.8 +0.5
PSUT Pine Spring 58.49 294 P **P** 11 40 16.3 +0.6
DBIC Dimbokro 58.60 165 P **P** 11 40 15.9 -0.3
comp=Z,5.4nm,1.0s,baz=346,slow=9.8,SNR=3.1
DBIC Dimbokro 58.60 165 P **P** 11 40 16.6 +0.3
DBIC pmax pmax
comp=Z,17nm,1.2s
DBIC Dimbokro 58.60 165 P **P** 11 40 16.6 +0.3
ANMO Albuquerque 58.60 286 P **P** 11 40 15.4 -1.0
comp=Z,0.1nm,0.6s,baz=60,slow=8.1,SNR=3.0
ANMO Albuquerque 58.60 286*de*P **P** 11 40 18.2 +1.8
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 58.60 286 P **P** 11 40 16.2 -0.2
SZCU Shurtz Canyon 59.00 293 P **P** 11 40 19.9 +0.8
CCUT Cedar City 59.15 293 P **P** 11 40 21.1 +0.9
LCMT Little Creek M 59.57 293 P **P** 11 40 23.9 +0.8
SONM Songino Array 59.62 40 P **P** 11 40 23.7 +0.5
comp=Z,1.2nm,0.8s,baz=335,slow=6.8,SNR=6.8
SONM Songino Array 59.62 40 P **P** 11 40 23.7 +0.5
JCT Junction City 59.66 278 P **P** 11 40 23.7 +0.1
JCT pmax pmax
comp=Z,11nm,1.2s
JCT Junction City 59.66 278 P **P** 11 40 23.7 +0.1
JCT IAmb IAmb 11 40 25.6
comp=Z,11nm,1.1s
U15A North Rim 59.70 291 P **P** 11 40 24.4 +0.3
U15A IAmb IAmb 11 40 25.7
comp=Z,5.4nm,1.1s
ULN Ulaanbaatar 59.78 40⇓*e*P **P** 11 40 24.2 -0.1
ULN pmax pmax
comp=Z,8.0nm,2.5s
WUAZ Wupatki 60.12 290 P **P** 11 40 27.2 +0.3
NVAR Mina Array Bea 60.31 297 LR LR 12 07 18.7
comp=Z,190nm,18.3s,baz=348,slow=37
NIL Nilore 60.43 74 P **P** 11 40 29.3 +0.4
NIL pmax pmax
comp=Z,20nm,1.3s
NIL Nilore 60.43 74 P **P** 11 40 29.3 +0.4
SHPR Sheep Range 60.77 294 P **P** 11 40 32.9 +1.6
SHPR IAmb IAmb 11 40 50.1
comp=Z,6.1nm,1.3s
MNTX Cornudas Mount 60.96 283 P **P** 11 40 32.4 -0.1
MNTX IAmb IAmb 11 40 35.1
comp=Z,6.0nm,1.4s
X16A Lo Mia Camp, P 61.10 290 P **P** 11 40 34.1 +0.5
X16A IAmb IAmb 11 40 35.8
comp=Z,5.4nm,1.1s
TX31 Lajitas Ar. Si 62.30 280 P **P** 11 40 41.1 -0.5
TX32 Lajitas Array 62.30 280 P **P** 11 40 41.1 -0.5
TXAR Lajitas Array 62.30 280 P **P** 11 40 40.8 -0.8
comp=Z,2.0nm,1.0s,baz=55,slow=4.8,SNR=6.8
TXAR LR LR 12 07 20.7
comp=Z,90nm,18.6s,baz=0.0,slow=36
TXAR Lajitas Array 62.30 280 P **P** 11 40 42.1 +0.5
TXAR Lajitas Array 62.30 280 P **P** 11 40 42.1 +0.5
TUC Tucson 62.67 288 P **P** 11 40 44.8 +0.8
TUC pmax pmax
comp=Z,6.0nm,1.3s
TUC Tucson 62.67 288 P **P** 11 40 44.8 +0.8
TUC IAmb IAmb 11 40 46.6
comp=Z,5.9nm,1.3s
GTA Gaotai 65.28 49 ⇑P **P** 11 41 02.2 +1.0
GTA pP sP 11 41 06.4 +0.1
GTA sP pP 11 41 09.3 +4.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,210nm,5.6s
GTA LR LR
comp=N,270nm,17.4s
GTA LR LR
comp=E,400nm,17.1s
GTA LR LR
comp=Z,340nm,18.5s
HHC Hu-ho-hao-te 67.49 40 *e*P **P** 11 41 15.6 +0.3
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,400nm,7.2s
ROSC El Rosal 71.94 241 LR LR 12 13 36.7
comp=Z,35nm,18.1s,baz=64,slow=36
NJ2 Nanjing 77.72 37 *e*P **P** 11 42 17.8 +1.7
NJ2 pmax pmax
comp=Z,14nm,0.5s
CHTO Chiang Mai 83.79 59 P **P** 11 42 48.8 0.0
CHTO pmax pmax
comp=Z,8.0nm,1.2s
CHTO Chiang Mai 83.79 59 P **P** 11 42 48.8 0.0
CHTO IAmb IAmb 11 42 49.6
comp=Z,7.6nm,1.1s
CMAR Chiang Mai Arr 84.11 59 P **P** 11 42 51.0 +0.6
comp=Z,0.6nm,0.4s,baz=314,slow=6.5,SNR=10
CMAR Chiang Mai Arr 84.11 59 *i* P **P** 11 42 50.7 +0.3
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 84.11 59 P **P** 11 42 50.2 -0.3

IDC ***11*** *11:44:18.3±1.5,6°.37S×149°.14E,h52km±12km,mb4.1/9, mb1 4.3/13,mb1mx4.0/34,mbtmp4.4/13,ML4.7/2,MS3.6/11, Ms1 3.6/11,ms1mx3.4/39,Error ellipse: s-maj=19.8km s-min=9.8km az=123.0*
NEIC ***11*** *11:44:18.4±1.3,6°.50S±0°.06×149°.36E±0°.08,h63km±5km, mb4.5/23,Error ellipse: s-maj=11.5km s-min=9.0km az=108.0*
DJA ***11*** *11:44:19.2±0.5,6°S±3°×14°9E±°,h51km±6km,M4.8/16, mb4.5/16,mB5.3/3,MLv5.1/2,Mw(mB)4.7/3*
ISC 11 11:44:18.2±0.4,6°.50S±0°.06×149°.21E±0°.06,h53km,n69, σ1s78/71,mb4.6/17,MS3.7/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.54**	**215**	P	**Pn**	**11 45 12.4**	**+1.7**
	66nm,0.3s,baz=42,slow=5.7,SNR=174						
PMG				LR	LR	11 45 52.2	
	comp=Z,162nm,21.4s,baz=344,slow=26						
PMG				S	**Sn**	**11 45 53.2**	**+1.9**
	73nm,0.3s,baz=58,slow=16,SNR=12						
KRVT	**Keravat (AS076**	**3.55**	**52**	P	**Pn**	**11 45 10.5**	**-0.3**
	50nm,0.3s,baz=56,slow=1.3,SNR=18						
KRVT				S	**Sn**	**11 45 56.2**	**+4.6**
	23nm,0.3s,baz=191,slow=19,SNR=3.5						
RABL	**Rabaul**	**3.73**	**52**		**Pn**	**11 45 12.4**	**-0.9**
MANU	**Manus Island**	**4.79**	**337**	Pn	**Pn**	**11 45 29.3**	**+1.3**
JAY	**Jayapura**	**9.36**	**295**	P	**Pn**	**11 46 34.3**	**+3.7**
	1.3nm,0.3s,baz=139,slow=7.4,SNR=5.0						
JAY	**Jayapura**	**9.36**	**295**	P	**Pn**	**11 46 29.9**	**-0.7**
	11nm,1.0s						
COEN	**Coen**	**9.50**	**218**	Pn	**Pn**	**11 46 33.4**	**+0.9**
CTA	**Charters Tower**	**13.81**	**192**	P	**Pn**	**11 47 32.0**	**+0.6**
	0.1nm,0.3s,baz=7.0,slow=14,SNR=2.9						
CTAO	**Charters Tower**	**13.81**	**192**	Pn	**Pn**	**11 47 32.5**	**+1.0**
FAKI	**Fak Fak**	**17.27**	**281**	P	**Pn**	**11 48 14.9**	**-1.0**
	14nm,1.1s						
SAUI	**Saumlaki**	**17.83**	**264**	P	**P**	**11 48 23.0**	**+0.1**
	128nm,0.9s						
SIJI	**Sorong**	**18.75**	**287**	LR	LR	11 57 53.6	
	comp=Z,210nm,18.6s,baz=174,slow=44						
EIDS	**Eidsvold**	**18.85**	**175**		**P**	**11 48 34.5**	**+0.5**
MTN	**Manton Dam**	**18.90**	**249**	P	**P**	**11 48 34.8**	**+0.2**
BNDI	**Bandanaira**	**19.32**	**275**	P	**Pn**	**11 48 41.1**	**+0.4**
	20µm56nm,0.9s						
WB0	**Warramunga Arr**	**19.53**	**226**	P	**P**	**11 48 42.4**	**+0.9**
WB0					IAmb	IAmb	11 48 55.7
	comp=Z,14nm,0.7s						
WR0	**Warramunga Arr**	**19.55**	**225**			**P**	**11 48 42.5**	**+0.8**
WR0					IAmb	IAmb	11 48 55.9
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**19.67**	**226**	P	**P**	**11 48 43.3**	**+0.3**
WRAB					IAmb	IAmb	11 48 57.0
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**19.67**	**226**	P	**P**	**11 48 43.1**	**+0.1**
WB2					IAmb	IAmb	11 48 57.2
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**19.68**	**226**	P	**P**	**11 48 44.2**	**+1.0**
	comp=Z,3.1nm,0.3s,baz=11,slow=11,SNR=141						
WRA				S	**S**	**11 52 15.1**	**-7.4**
	comp=Z,0.1nm,0.3s,baz=48,slow=25,SNR=3.5						
WRA				ScP	**ScP**	**11 56 34.0**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=51,slow=2.5,SNR=4.8						
WRA				LR	LR	11 57 34.4	
	comp=Z,215nm,18.8s,baz=45,slow=40						
WRA	**Warramunga Arr**	**19.68**	**226**	P	**P**	**11 48 43.2**	**+0.1**
GUMO	**Guam**	**20.41**	**348**	LR	LR	11 55 20.0	
	comp=Z,148nm,20.3s,baz=171,slow=33						
KNRA	**Kununurra**	**22.02**	**244**	P	**P**	**11 49 08.8**	**+0.4**
KNRA					IAmb	IAmb	11 49 23.4
	comp=Z,28nm,1.1s						
AS31	**Alice Springs**	**22.54**	**219**	P	**P**	**11 49 14.1**	**+0.1**
ASAR	**Alice Springs**	**22.54**	**219**	P	**P**	**11 49 14.9**	**+0.9**
	comp=Z,2.8nm,0.5s,baz=52,slow=9.6,SNR=73						
ASAR				PcP	**PcP**	**11 53 05.2**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=44,slow=3.1,SNR=5.4						
ASAR				S	**S**	**11 53 17.6**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=32,slow=22,SNR=7.3						
ASAR				ScP	**ScP**	**11 56 40.9**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=96,slow=1.3,SNR=4.2						
ASAR				LR	LR	11 58 20.2	
	comp=Z,162nm,19.8s,baz=338,slow=37						
ASAR	**Alice Springs**	**22.54**	**219**	P	**P**	**11 49 14.2**	**+0.2**
DZM	**Mont Dzumac**	**22.73**	**135**	P	**P**	**11 49 16.9**	**+0.8**
	comp=Z,12nm,0.7s,baz=278,slow=8.1,SNR=16						
DZM	**Mont Dzumac**	**22.73**	**135**	P	**P**	**11 49 14.9**	**-1.2**
DZM					IAmb	IAmb	11 49 17.8
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**23.91**	**175**	P	**P**	**11 49 29.8**	**+2.4**
ARMA					IAmb	IAmb	11 49 58.7
	comp=Z,15nm,1.1s						
SOEI	**Soe**	**24.90**	**261**	P	**P**	**11 49 40.3**	**+3.6**

SOEI	**Soe**	**24.90**	**261**	P	**P**	**11 49 36.7**	**+0.1**
SOEI				IAmb	IAmb	11 50 03.4	
	comp=Z,23nm,0.7s						
BATI	**Baumata**	**25.54**	**260**	P	**P**	**11 49 42.8**	**+0.4**
	comp=Z,27nm,0.5s,baz=186,slow=3.4,SNR=5.6						
BATI	**Baumata**	**25.54**	**260**	P	**P**	**11 49 39.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**25.72**	**241**	P	**P**	**11 49 45.0**	**+1.1**
	comp=Z,4.9nm,0.3s,baz=66,slow=6.3,SNR=38						
FITZ	**Fitzroy Crossi**	**25.72**	**241**	P	**P**	**11 49 44.2**	**+0.4**
FITZ				IAmb	IAmb	11 50 00.6	
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**26.24**	**195**	P	**P**	**11 49 49.4**	**+0.9**
	comp=Z,4.3nm,0.8s,baz=18,slow=7.0,SNR=7.0						
STKA				LR	LR	12 00 09.9	
	comp=Z,237nm,18.8s,baz=24,slow=36						
STKA	**Stephens Creek**	**26.24**	**195**	P	**P**	**11 49 49.3**	**+0.9**
MMRI	**Maumere**	**26.82**	**264**	P	**P**	**11 49 52.5**	**-1.4**
EDFI	**Ende, Flores**	**27.37**	**264**	P	**P**	**11 49 57.5**	**-1.4**
	comp=Z,26nm,0.7s						
UGM	**Wanagama**	**38.40**	**265**	P	**P**	**11 51 34.4**	**-0.6**
MORW	**Morawa**	**38.52**	**230**	P	**P**	**11 51 35.5**	**-0.2**
URZ	**Urewera**	**40.48**	**145**	LR	LR	12 07 33.6	
	comp=Z,135nm,18.9s,baz=15,slow=34						
CISI	**Cisompet, Garu**	**41.09**	**266**	P	**P**	**11 51 56.4**	**-1.0**
SNZO	**South Karori**	**41.44**	**151**	P	**P**	**11 51 56.4**	**-3.3**
SNZO				IAmb	IAmb	11 52 13.8	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**44.04**	**347**	LR	LR	12 08 15.1	
	comp=Z,93nm,20.6s,baz=220,slow=33						
KSRS	**Korea Array**	**48.03**	**337**	P	**P**	**11 52 50.6**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=160,slow=8.9,SNR=5.9						
TSI	**Tuntungan**	**51.53**	**280**	P	**P**	**11 53 21.7**	**+2.4**
	comp=Z,79nm,0.5s						
CMAR	**Chiang Mai Arr**	**55.42**	**298**	P	**P**	**11 53 46.7**	**-1.0**
PEA0B	**Petropavlovsk-**	**59.81**	**6**	P	**P**	**11 54 17.7**	**-0.2**
PETK	**Petropavlovsk-**	**59.81**	**6**	P	**P**	**11 54 18.2**	**+0.2**
	comp=Z,4.7nm,0.5s,baz=157,slow=6.3,SNR=50						
MA2	**Magadan**	**65.87**	**1**	LR	LR	12 25 10.9	
	comp=Z,43nm,18.1s,baz=198,slow=37						
SONM	**Songino Array**	**65.92**	**330**	LR	LR	12 21 38.7	
	comp=Z,106nm,21.9s,baz=162,slow=34						
YAK	**Yakutsk**	**69.98**	**350**	LR	LR	12 32 06.2	
	comp=Z,49nm,18.5s,baz=98,slow=41						
VNDA	**Vanda**	**71.30**	**177**	P	**P**	**11 55 34.1**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=342,slow=6.9,SNR=12						
VNDA	**Vanda**	**71.30**	**177**	P	**P**	**11 55 29.1**	**-2.6**
KURK	**Kurchatov**	**82.93**	**323**	P	**P**	**11 56 37.5**	**+0.1**
KURK				IAmb	IAmb	11 56 54.3	
	comp=Z,3.6nm,0.8s						
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**11 56 41.3**	**+1.1**
QSPA				IAmb	IAmb	11 56 57.1	
	comp=Z,9.3nm,1.4s						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**11 56 46.0**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=247,slow=4.9,SNR=12						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**11 56 46.7**	**-1.4**
GERES	**GERESS Array B**	**123.55**	**326**	PKP	**PKPdf**	**12 03 07.6**	**-2.4**
	comp=Z,3.3nm,0.3s,baz=90,slow=1.3,SNR=5.9						
GERES	**GERESS Array B**	**123.55**	**326**		**PKPdf**	**12 03 09.1**	**-0.9**
LPAZ	**La Paz**	**136.66**	**122**	PKP	**PKPdf**	**12 03 37.2**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=357,slow=4.4,SNR=4.1						
LPAZ	**La Paz**	**136.66**	**122**		**PKPdf**	**12 03 34.8**	**-1.6**
TORD	**Torodi Ar. Bea**	**147.34**	**284**	PKPbc	**PKPbc**	**12 03 57.0**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=64,slow=3.1,SNR=36						
TORD	**Torodi Ar. Bea**	**147.34**	**284**		**PKPdf**	**12 03 55.2**	**+0.5**
BDFB	**Brasilia**	**152.16**	**142**	PKPbc	**PKPbc**	**12 04 09.6**	**+0.5**
	comp=Z,6.2nm,0.6s,baz=277,slow=2.6,SNR=7.7						
BDFB				PKPab	**PKPab**	**12 04 20.1**	**+1.4**
	comp=Z,4.1nm,0.5s,baz=148,slow=3.2,SNR=5.1						
BDFB	**Brasilia**	**152.16**	**142**		**PKPdf**	**12 04 05.5**	**+3.0**
BDFB					**PKPab**	**12 04 20.1**	**+1.4**
DBIC	**Dimbokro**	**154.24**	**272**	PKPbc	**PKPbc**	**12 04 13.3**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=86,slow=3.1,SNR=3.4						
DBIC	**Dimbokro**	**154.24**	**272**		**PKPbc**	**12 04 12.1**	**-1.5**

*ASRS **11** 11:53:19.1±0.2,50°N±1°×88°.5E±0°.9,h10km,MLh3.2/16, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **11** 11:53:24.3±17.0,49°.89N×88°.26E,h0km,mpv2.5,Error ellipse: s-maj=119.5km s-min=45.7km az=60.0*
ISC 11 11:53:22.7±0.8,50°.08N±0°.03×88°.35E±0°.03,h10km,n23,
σ2§56/44,3C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**0.02**	**356**	Pg	**Pg**	**11 53 23.4**	**-1.4**
CUR				Sg	**Sg**	**11 53 25.4**	**-0.8**
AKAR	**Aktash**	**0.53**	**297**	Pg	**Pg**	**11 53 31.8**	**-1.3**
AKAR				Sg	**Sg**	**11 53 40.0**	**-0.1**
CHBI	**Chibit, Altay**	**0.59**	**294**	Pg	**Pg**	**11 53 33.0**	**-1.3**
CHBI				Sg	**Sg**	**11 53 42.1**	**0.0**
ULGR	**Ulagan, Altay**	**0.60**	**335**	Pg	**Pg**	**11 53 32.8**	**-1.6**
ULGR				Sg	**Sg**	**11 53 41.1**	**-1.2**
DGZ	**Jazzator, Alta**	**0.71**	**238**	Pg	**Pg**	**11 53 34.7**	**-1.7**
DGZ				Sg	**Sg**	**11 53 44.2**	**-1.5**
TUNR	**Tungur**	**1.30**	**274**	Pg	**Pn**	**11 53 45.8**	**-1.3**
TUNR				Sg	**Sb**	**11 54 04.2**	**0.0**
TEL	**Teeli**	**1.51**	**51**	Pg	**Pn**	**11 53 48.6**	**-1.3**
TEL				Sg	**Sn**	**11 54 07.5**	**-2.2**
ARTR	**Artybash**	**1.85**	**339**	Pg	**Pn**	**11 53 54.9**	**+0.4**
ARTR				Sg	**Sb**	**11 54 20.4**	**+0.6**
GALT	**Gorno-Altaysk,**	**2.42**	**322**	Pg	**Pb**	**11 54 05.7**	**-0.6**
GALT				Pg	**Pg**	**11 54 06.2**	**-2.9**
GALT				Sg	**Sb**	**11 54 38.9**	**+2.7**
GALT				Sg	**Sg**	**11 54 39.3**	**-1.2**
UKR	**Ust'-Kan**	**2.44**	**292**	Pg	**Pb**	**11 54 07.0**	**+0.2**
UKR				Sg	**Sg**	**11 54 40.2**	**-1.0**
TASR	**Tashtagol**	**2.70**	**354**	Pg	**Pb**	**11 54 10.9**	**-0.2**
TASR				Sg	**Sb**	**11 54 47.6**	**+3.2**
DJOS	**Djoyskaya Sosn**	**3.32**	**34**	Sg	**Sg**	**11 55 06.5**	**-2.8**
CERR	**Cheremushki**	**3.38**	**33**	Sg	**Sb**	**11 55 07.2**	**+3.5**
ELT	**Eltsovka**	**3.45**	**338**	Sg	**Sg**	**11 55 12.3**	**-1.1**
BLRR	**Bol'shaya Rech**	**3.91**	**39**	Pg	**Pg**	**11 54 34.7**	**-2.8**
BLRR				Sg	**Sb**	**11 55 22.7**	**+3.8**
ARDR	**Aradan**	**4.05**	**50**	Pg	**Pb**	**11 54 35.4**	**+1.3**
ARDR				Sg	**Sb**	**11 55 26.5**	**+3.4**
ERNS	**Erzin**	**4.38**	**85**	Pg	**Pb**	**11 54 38.0**	**-1.7**
ERNS				Sg	**Sb**	**11 55 36.1**	**+3.5**
SHRR	**Shira**	**4.56**	**13**	Pg	**Pb**	**11 54 45.4**	**+2.6**
SHRR				Sg	**Sb**	**11 55 43.4**	**+5.7**
MK31	**Makanchi Array**	**5.20**	**233**	Pn	Pb	11 54 46.3	-7.5
	0.1nm,0.1s,baz=54,slow=14,SNR=9.1						
MK31				⇓Sn	**Sn**	**11 55 42.8**	**+2.1**
	0.6nm,0.3s,baz=55,slow=25,SNR=6.5						
MK31				⇑Lg	Lg	11 56 07.0	
	2.2nm,0.6s,baz=55,slow=32						
MKAR	**Makanchi Array**	**5.20**	**233**	P	**Pn**	**11 54 43.1**	**+2.5**
MKAR				Pg	**Pg**	**11 54 58.5**	**-3.8**
MKAR				S	**Sn**	**11 55 43.3**	**+2.7**
MKAR				Sg	**Sg**	**11 56 09.0**	**-0.7**
TDJR	**Todzha**	**5.39**	**62**	S	**Sn**	**11 55 40.5**	**-4.9**
TDJR				Sg	**Sb**	**11 56 07.8**	**+6.0**
KURK	**Kurchatov**	**6.26**	**280**	⇑Sn	**Sn**	**11 56 08.6**	**+2.0**
	0.6nm,0.4s						
KURK				⇑Lg	Lg	11 56 39.0	
	3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.31**	**279**	⇓Sn	**Sn**	**11 56 10.5**	**+2.6**
	1.6nm,0.4s						
KURBB				⇓Lg	Lg	11 56 42.1	
	4.9nm,0.7s						

*IDC **11** 12:07:58.4±2.0,15°.14S×170°.39E,h0km,mb4.1/5, mb1 4.3/6,mb1mx3.8/46,mbtmp4.1/6,ML3.4/1,MS3.6/10, Ms1 3.6/10,ms1mx3.4/39,Error ellipse: s-maj=68.1km s-min=26.5km az=129.0*
ISC 11 12:08:03.5±1.9,15°.2S±0°.2×170°.5E±0°.4,h35km,n15,
σ1§49/7,mb4.2/5,MS3.6/9,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.78**	**209**	*e*Pn	**Pn**	**12 09 55.0**	**+0.6**
	2.1nm,0.3s						
DZM				*e*LR	LR	12 11 57.9	
	comp=Z,483nm,24.7s						
DZM	**Mont Dzumac**	**7.78**	**209**	Pn	**Pn**	**12 09 53.9**	**-0.5**
	0.6nm,0.3s,baz=43,slow=19,SNR=8.2						
DZM				LR	LR	12 12 38.1	
	comp=Z,326nm,21.1s,baz=20,slow=36						
KRVT	**Keravat (AS076**	**21.13**	**299**	LR	LR	12 20 11.5	
	comp=Z,70nm,21.9s,baz=55,slow=35						
PMG	**Port Moresby**	**23.47**	**282**	LR	LR	12 20 12.7	
	comp=Z,194nm,19.2s,baz=102,slow=31						
RPZ	**Rata Peaks**	**28.38**	**179**	LR	LR	12 23 12.0	
	comp=Z,196nm,20.0s,baz=330,slow=32						
RAR	**Rarotonga**	**28.88**	**106**	LR	LR	12 23 28.1	
	comp=Z,53nm,21.8s,baz=244,slow=32						
STKA	**Stephens Creek**	**31.06**	**233**	P	**P**	**12 14 19.2**	**+0.8**
	1.7nm,0.6s,baz=49,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**34.69**	**257**	P	**P**	**12 14 48.6**	**-1.6**
	0.9nm,0.8s,baz=86,slow=8.3,SNR=10						
WRA				LR	LR	12 28 07.7	
	comp=Z,128nm,19.5s,baz=340,slow=35						
ASAR	**Alice Springs**	**35.38**	**251**	P	**P**	**12 14 55.0**	**-1.2**
	2.4nm,0.8s,baz=77,slow=9.2,SNR=23						
PPT	**Papeete**	**38.37**	**99**	LR	LR	12 29 30.3	
	comp=Z,45nm,18.3s,baz=313,slow=34						
MJAR	**Matsushiro Arr**	**59.82**	**330**	LR	LR	12 39 08.0	
	comp=Z,58nm,21.7s,baz=235,slow=31						
VNDA	**Vanda**	**62.45**	**182**	LR	LR	12 42 30.0	
	comp=Z,40nm,18.7s,baz=320,slow=33						
PETK	**Petropavlovsk-**	**68.95**	**352**	LR	LR	12 43 49.3	
	comp=Z,101nm,20.9s,baz=163,slow=31						
CMAR	**Chiang Mai Arr**	**77.97**	**293**	P	**P**	**12 20 00.5**	**+1.8**
	0.9nm,0.4s,baz=110,slow=3.5,SNR=7.2						
ILAR	**Eielson Array**	**86.09**	**17**	P	**P**	**12 20 39.6**	**-0.7**
	1.6nm,0.7s,baz=232,slow=5.4,SNR=22						

*NEIC **11** 12:16:31.7±2.6,6°.79S±0°.05×104°.62E±0°.05,h23km±3km, mb4.8/56,Error ellipse: s-maj=7.9km s-min=6.6km az=185.0*
*IDC **11** 12:16:34.1±2.0,6°.21S×104°.99E,h26km±13km,mb4.3/39, mb1 4.3/40,mb1mx4.2/58,mbtmp4.4/40,ML3.6/1,MS3.8/10, Ms1 3.9/10,ms1mx3.5/42,Error ellipse: s-maj=12.5km s-min=7.8km az=39.0*
*DJA **11** 12:16:35.6±0.4,7°.S±3°×10°.5E±°,h38km±5km,M4.9/25, mb5.1/25,mB5.4/13,MLv5.1/25,Mw(mB)4.8/13*
*KLM **11** 12:16:37.0,6°.64S×104°.87E,h39km,mb4.7*
ISC 11 12:16:35.3±1.0,6°.59S±0°.05×104°.78E±0°.05,h42km±8km,
n235,σ1§86/238,mb4.6/61,MS4.1/10,6C-8D,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.91**	**92**	P	**Pn**	**12 16 49.1**	**-2.5**
CGJI				S	**Sn**	**12 17 00.1**	**-3.5**
BLSI	**Bandar Lampung**	**1.30**	**21**	P	**Pn**	**12 16 55.1**	**-1.9**
LWLI	**Liwa**	**1.72**	**335**	P	**Pn**	**12 17 02.8**	**0.0**
SKJI	**Sukabumi**	**1.81**	**103**	P	**Pn**	**12 17 02.2**	**-1.8**
SKJI				S	**Sn**	**12 17 25.9**	**+0.1**
KLSI		**1.89**	**359**	P	**Pn**	**12 17 04.6**	**-0.4**
KLSI				S	**Sn**	**12 17 30.4**	**+2.8**
TNG	**Tangerang**	**1.90**	**78**	P	**Pn**	**12 17 03.6**	**-1.6**
DBJI	**Dramaga**	**1.96**	**89**	P	**Pn**	**12 17 05.0**	**-1.0**
CBJI	**Citeko**	**2.07**	**85**	P	**Pn**	**12 17 08.6**	**+1.1**
MDSI	**Maura Dua**	**2.17**	**344**	P	**Pn**	**12 17 09.1**	**+0.1**
CNJI	**Cibinong**	**2.44**	**107**	P	**Pn**	**12 17 10.7**	**-2.0**
CNJI				S	**Sn**	**12 17 40.4**	**-0.9**
LEM	**Lembang**	**2.83**	**95**	Pn	**Pn**	**12 17 19.0**	**+0.9**
	298nm,0.3s,baz=182,slow=16,SNR=187						
LEM				Sn	**Sn**	**12 17 54.7**	**+3.6**
	244nm,0.3s,baz=163,slow=18,SNR=4.2						
LEM				LR	LR	12 18 38.1	
	comp=Z,2μm,18.1s,baz=260,slow=46						
LEM	**Lembang**	**2.83**	**95**	P	**Pn**	**12 17 18.6**	**+0.5**
MNAI	**Manna**	**2.86**	**321**	P	**Pn**	**12 17 18.6**	**+0.2**
MNAI	**Manna**	**2.86**	**321**	Pn	**Pn**	**12 17 18.9**	**+0.4**
LHSI	**Lahat**	**3.02**	**335**	P	**Pn**	**12 17 22.2**	**+1.7**
CISI	**Cisompet, Garu**	**3.17**	**108**	P	**Pn**	**12 17 21.0**	**-1.6**
CISI	**Cisompet, Garu**	**3.17**	**108**	Pn	**Pn**	**12 17 21.8**	**-0.8**
CISI				Sn	**Sn**	**12 17 59.2**	**0.0**
JCJI	**Jatiwangi**	**3.47**	**89**	P	**Pn**	**12 17 26.5**	**-0.3**
PMBI	**Palembang**	**3.64**	**360**	P	**Pn**	**12 17 32.7**	**+3.6**
PMBI	**Palembang**	**3.64**	**360**		**Pn**	**12 17 31.3**	**+2.2**
KSI	**Kapahiang**	**3.64**	**323**	P	**Pn**	**12 17 31.2**	**+2.0**
CMJI	**Cimerak**	**3.83**	**108**	P	**Pn**	**12 17 30.4**	**-1.4**
XMIS	**Christmas Isla**	**3.96**	**167**	Pn	Pn	12 17 30.7	-2.9
XMIS				Sn	Sn	12 18 13.6	-5.2
KPJI	**Karang Pucung**	**4.19**	**100**	P	**Pn**	**12 17 37.7**	**+1.0**
PPBI	**Pangkal Pinang**	**4.60**	**17**	P	**Pn**	**12 17 42.1**	**-0.3**
TPI	**Tanjungpandan**	**4.76**	**37**	P	**Pn**	**12 17 43.1**	**-1.5**
KRJI	**Kerinci**	**5.56**	**323**	P	**Pn**	**12 17 57.2**	**+1.6**
	3.7nm8μm359nm,0.5s						
SMRI	**Semarang**	**5.64**	**95**		**Pn**	**12 17 57.7**	**+1.1**
UGM	**Wanagama**	**5.85**	**103**	P	**Pn**	**12 17 58.6**	**-0.9**
	1.1nm285nm,0.7s						
UGM	**Wanagama**	**5.85**	**103**	Pn	**Pn**	**12 17 59.2**	**-0.3**
DSRI	**Dabo**	**6.07**	**358**	P	**Pn**	**12 18 04.4**	**+1.8**
	0.9nm732nm51nm,0.8s						
WOJI	**Wonogiri, Jawa**	**6.22**	**102**	P	**Pn**	**12 18 05.9**	**+1.3**
	0.4nm2μm78nm,0.9s						
SDSI	**Sungai Dareh**	**6.54**	**329**	P	**Pn**	**12 18 09.7**	**+0.8**
	0.8nm33nm,0.8s						
RGRI	**Rengat**	**6.66**	**338**	P	**Pn**	**12 18 15.4**	**+4.8**
PWJI	**Pagerwojo**	**7.11**	**102**	P	**Pn**	**12 18 17.8**	**+0.9**
	1.2nm4μm376nm,0.8s						
GRJI	**Gresik**	**7.66**	**93**	P	**Pn**	**12 18 24.6**	**+0.3**
	0.5nm1μm145nm,0.8s						
BKNI	**Bangkinang**	**7.82**	**331**	Pn	**Pn**	**12 18 24.9**	**-1.7**
MYKOM	**Kota Tinggi**	**8.37**	**354**	Pn	**Pn**	**12 18 33.5**	**-0.6**
MYKOM	**Kota Tinggi**	**8.37**	**354**	P	**Pn**	**12 18 38.0**	**+3.8**
GMJI	**Gumukmas**	**8.76**	**102**	P	**Pn**	**12 18 41.5**	**+2.1**
BLJI	**Banyuglugur**	**8.82**	**98**	P	**Pn**	**12 18 43.3**	**+3.0**
MNSI	**Mandailing Nat**	**8.98**	**325**	P	Pn	12 18 38.4	-4.1
KMMI	**Kalianget**	**9.14**	**93**	P	**Pn**	**12 18 45.1**	**+0.5**
	104nm,0.9s						
ABJI	**Asem Bagus**	**9.46**	**98**	P	**Pn**	**12 18 52.5**	**+3.5**
JAGI	**Jajag, Banyuwa**	**9.48**	**102**	P	**Pn**	**12 18 49.7**	**+0.3**
	6μm331nm,1.1s						
JAGI	**Jajag, Banyuwa**	**9.48**	**102**	Pn	**Pn**	**12 18 50.0**	**+0.7**
GSI	**Gunungsitoli**	**10.64**	**317**	P	**Pn**	**12 19 02.0**	**-3.2**
GSI	**Gunungsitoli**	**10.64**	**317**	Pn	**Pn**	**12 19 02.5**	**-2.7**
RPSI	**Rantau Prapat**	**10.92**	**327**		**Pn**	**12 19 07.9**	**-1.1**
PSI	**Prapat**	**11.01**	**328**	Pn	**Pn**	**12 19 07.9**	**-2.5**
	0.4nm,0.3s,baz=180,slow=17,SNR=2.5						
PSI				LR	LR	12 23 57.6	
	comp=Z,574nm,18.2s,baz=91,slow=41						
IPM	**Ipoh**	**11.62**	**341**	P	**Pn**	**12 19 23.0**	**+4.4**
SBUM	**Sibu**	**11.65**	**40**		**Pn**	**12 19 20.9**	**+1.7**
SBUM	**Sibu**	**11.65**	**40**	P	Pn	12 19 23.0	+3.9
TWSI	**Taiwang, Sumb**	**12.19**	**101**	P	**Pn**	**12 19 24.6**	**-1.8**
	50nm,0.7s						
PLAI	**Plampang**	**13.07**	**101**	P	**Pn**	**12 19 36.3**	**-2.2**
KAPI	**Kappang**	**14.98**	**85**	Pn	**P**	**12 20 06.7**	**-2.4**
	9.2nm,0.3s,baz=278,slow=4.6,SNR=5.5						
KAPI				LR	LR	12 26 22.7	
	comp=Z,446nm,21.2s,baz=268,slow=40						
KAPI	**Kappang**	**14.98**	**85**		**Pn**	**12 20 03.4**	**-0.9**
KAPI				IAmb	IAmb	12 20 11.8	
	comp=Z,49nm,1.3s						
BKSI	**Bulukumba**	**15.31**	**86**	P	**Pn**	**12 20 08.6**	**-0.1**
	comp=Z,723nmcomp=Z,75nm,1.0s						
TTSI	**Tana Toraja**	**15.39**	**77**	P	**Pn**	**12 20 09.4**	**-0.3**
	comp=Z,21nm,0.9s						
BNSI	**Bone**	**15.41**	**83**	P	**Pn**	**12 20 09.8**	**-0.1**
	comp=Z,47nm,1.0s						
EDFI	**Ende, Flores**	**16.90**	**98**	P	**Pn**	**12 20 22.7**	**-6.3**
KKM	**Kota Kinabalu**	**16.96**	**43**	P	**Pn**	**12 20 27.6**	**-2.2**
MMRI	**Maumere**	**17.43**	**98**	P	**Pn**	**12 20 34.4**	**-1.0**
	comp=Z,3μmcomp=Z,265nm,0.7s						
MMRI	**Maumere**	**17.43**	**98**	P	**Pn**	**12 20 33.0**	**-2.4**
MYLDM	**Lahad Datu**	**18.01**	**50**	P	**P**	**12 20 43.8**	**+1.1**
GIRL	**Giralia**	**18.38**	**151**	P	**P**	**12 20 47.7**	**+1.0**
	baz=18,SNR=15						
LUWI	**Luwuk**	**18.77**	**74**	P	**Pn**	**12 20 51.8**	**-0.1**
	comp=Z,83nm,1.1s						
LUWI	**Luwuk**	**18.77**	**74**	P	**Pn**	**12 20 51.9**	**0.0**
LUWI				IAmb	IAmb	12 21 08.9	
	comp=Z,52nm,0.7s						
BATI	**Baumata**	**19.02**	**102**	P	**Pn**	**12 20 54.1**	**-0.8**
	comp=Z,112nm,0.3s,baz=21,slow=1.0,SNR=36						
BATI				S	**Sn**	**12 24 26.6**	**-0.7**
	comp=Z,18nm,0.3s,baz=244,slow=12,SNR=7.4						
BATI	**Baumata**	**19.02**	**102**	P	**Pn**	**12 20 54.2**	**-0.8**
	comp=Z,3μmcomp=Z,173nm,0.5s						
SOEI	**Soe**	**19.55**	**101**	P	**P**	**12 20 59.3**	**-0.4**
	comp=Z,5μmcomp=Z,503nm,0.8s						
SOEI	**Soe**	**19.55**	**101**	P	**P**	**12 20 59.5**	**-0.2**
GTOI	**Gorontalo**	**19.56**	**69**	P	**P**	**12 20 59.2**	**-0.5**
	comp=Z,28nm,0.9s						
PSA00	**Pilbara Seismi**	**20.84**	**137**	P	**P**	**12 21 14.4**	**+0.9**
PSA00	**Pilbara Seismi**	**20.84**	**137**	P	**P**	**12 21 13.1**	**-0.4**
PSA00				IAmb	IAmb	12 21 18.6	
	comp=Z,32nm,1.1s						
FITZ	**Fitzroy Crossi**	**23.34**	**121**	P	**P**	**12 21 40.0**	**0.0**
	comp=Z,9.3nm,0.8s,baz=312,slow=8.1,SNR=22						
FITZ	**Fitzroy Crossi**	**23.34**	**121**	P	**P**	**12 21 40.0**	**0.0**
	baz=23,SNR=22						
FITZ	**Fitzroy Crossi**	**23.34**	**121**	P	**P**	**12 21 40.1**	**0.0**
TNTI	**Ternate**	**23.70**	**73**	P	**P**	**12 21 44.7**	**+1.1**
TNTI				IAmb	IAmb	12 21 46.5	
	comp=Z,26nm,0.8s						
MEEK	**Meekatharra**	**23.90**	**148**	P	**P**	**12 21 46.6**	**+1.2**
	baz=24,SNR=3.6						
MORW	**Morawa**	**24.76**	**156**	P	**P**	**12 21 55.4**	**+2.3**
	baz=25,SNR=4.0						
KNRA	**Kununurra**	**25.18**	**113**	P	**P**	**12 21 56.3**	**-0.7**
	baz=25,SNR=77						
KNRA	**Kununurra**	**25.18**	**113**	P	**P**	**12 21 56.8**	**-0.3**
CM31	**Chiang Mai Arr**	**25.54**	**347**	P	**P**	**12 21 58.5**	**-1.8**
CMAR	**Chiang Mai Arr**	**25.54**	**347**	P	**P**	**12 21 57.4**	**-2.9**
	comp=Z,2.9nm,0.8s,baz=182,slow=8.9,SNR=9.9						
CMAR				LR	LR	12 33 42.3	
	comp=Z,128nm,18.0s,baz=212,slow=41						
CMAR	**Chiang Mai Arr**	**25.54**	**347**	P	**P**	**12 21 58.2**	**-2.1**
CHTO	**Chiang Mai**	**25.89**	**347**	P	**P**	**12 22 01.2**	**-2.2**
QIZ	**Qiongzhong**	**25.94**	**11**	P	**P**	**12 22 06.4**	**+2.5**
QIZ				S	S	12 26 40.1	+8.6
QIZ				LR	LR		
	comp=N,480nm,5.6s						
QIZ				LR	LR		
	comp=E,740nm,17.3s						
QIZ				LR	LR		
	comp=Z,340nm,16.1s						
MTN	**Manton Dam**	**26.70**	**105**	P	**P**	**12 22 10.2**	**-0.6**
	baz=27,SNR=18						
MTN	**Manton Dam**	**26.70**	**105**	P	**P**	**12 22 10.4**	**-0.4**
SIJI	**Sorong**	**27.02**	**79**	P	**P**	**12 22 11.0**	**-2.8**
	comp=Z,6.9nm,0.7s,baz=225,slow=18,SNR=4.1						
FAKI	**Fak Fak**	**27.61**	**84**	P	**P**	**12 22 18.6**	**-0.5**
FAKI				IAmb	IAmb	12 22 30.2	
	comp=Z,9.1nm,0.7s						
KDU	**Kakadu**	**27.95**	**105**	P	**P**	**12 22 20.8**	**-1.2**
	baz=28,SNR=90						
NWAO	**Narrogin (SRO)**	**28.65**	**158**	P	**P**	**12 22 31.1**	**+3.0**
	comp=Z,7.3nm,0.9s,baz=32,slow=19,SNR=3.5						
NWAO	**Narrogin (SRO)**	**28.65**	**158**	P	P	12 22 24.3	-3.8
NWAO				IAmb	IAmb	12 22 32.1	
	comp=Z,18nm,1.0s						
WRKA	**Warakurna**	**29.04**	**132**	P	**P**	**12 22 32.5**	**+0.8**
	baz=29,SNR=18						
H01W3	**Cape Leeuwin H**	**29.45**	**164**	T	T	12 52 58.1	
	baz=344,slow=76,SNR=601						
H01W2	**Cape Leeuwin H**	**29.46**	**164**	T	T	12 52 59.2	
	baz=344,slow=76,SNR=754						
H01W1	**Cape Leeuwin H**	**29.46**	**164**	T	T	12 52 56.6	
	baz=344,slow=76,SNR=657						
WB0	**Warramunga Arr**	**31.60**	**117**	P	**P**	**12 22 54.5**	**+0.2**
WB0				IAmb	IAmb	12 23 07.3	
	comp=Z,8.7nm,0.7s						
WRA	**Warramunga Arr**	**31.61**	**118**	P	**P**	**12 22 54.4**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=299,slow=11,SNR=94						
WRA	**Warramunga Arr**	**31.61**	**118**	P	**P**	**12 22 54.8**	**+0.3**
WRAB	**Tennant Creek**	**31.62**	**118**	P	**P**	**12 22 53.8**	**-0.8**
WRAB				IAmb	IAmb	12 23 08.1	
	comp=Z,19nm,1.1s						
WB2	**Warramunga Arr**	**31.62**	**118**

NIL IAmb IAmb 12 25 27.5
comp=Z,11nm,0.8s
WMQ Urumqi 52.50 344 *e*P **P 12 25 46.2 +2.0**
MAT Matsushiro 53.12 34 P **P 12 25 45.1 -3.8**
MJAR Matsushiro Arr 53.12 34 P **P 12 25 45.4 -3.5**
comp=Z,1.1nm,0.5s,baz=196,slow=8.7,SNR=8.5
MJAR PcP **PcP 12 26 58.1 +1.3**
comp=Z,2.5nm,0.8s,baz=181,slow=3.7,SNR=4.5
MJAR Matsushiro Arr 53.12 34 P **P 12 25 45.8 -3.1**
WSAR Wadi Sarin 53.96 305 P **P 12 25 56.4 +1.1**
comp=Z,2.2nm,0.6s,baz=151,slow=8.4,SNR=4.4
TARG Taragay, Kyrgy 54.04 335 P **P 12 25 54.9 -1.1**
SONM Songino Array 54.21 1 P **P 12 25 55.3 -1.5**
comp=Z,1.3nm,0.7s,baz=178,slow=9.2,SNR=7.0
SONM PcP **PcP 12 27 00.6 -0.2**
comp=Z,0.9nm,0.3s,baz=180,slow=4.6,SNR=6.8
SONM ScP **ScP 12 30 56.9 +1.1**
comp=Z,0.8nm,0.7s,baz=169,slow=2.9,SNR=3.4
SONM Songino Array 54.21 1 P **P 12 25 54.9 -1.9**
KDJ Kajisay 54.64 335 P **P 12 25 59.7 -0.4**
KDJ IAmb IAmb 12 26 01.0
comp=Z,6.7nm,0.7s
GAR Garm 55.47 328 P **P 12 26 04.8 -1.3**
CHGR Chuyangaron 55.85 327 P **P 12 26 07.0 -1.7**
BTK Batken 55.99 329 P **P 12 26 08.1 -1.6**
BTK IAmb IAmb 12 26 10.0
comp=Z,12nm,1.2s
USA0B Ussuriysk Arra 56.20 23 P **P 12 26 09.4 -1.6**
USA0B IAmb IAmb 12 26 09.8
comp=Z,7.1nm,0.7s
USRK Ussuriysk Ar. 56.20 23 P **P 12 26 09.3 -1.7**
comp=Z,3.7nm,0.5s,baz=202,slow=6.2,SNR=14
USRK Ussuriysk Ar. 56.20 23 P **P 12 26 09.1 -2.0**
MK31 Makanchi Array 56.78 342 P **P 12 26 13.3 -1.8**
MKAR Makanchi Array 56.78 342 P **P 12 26 13.2 -2.0**
comp=Z,2.2nm,0.4s,baz=154,slow=8.4,SNR=36
MKAR LR LR 12 53 52.1
comp=Z,95nm,19.0s,baz=151,slow=40
MKAR Makanchi Array 56.78 342 P **P 12 26 12.7 -2.4**
KKAR Karatay Array 58.42 331 P **P 12 26 24.3 -2.4**
ASAJ Asahikawa 60.91 30 P **P 12 26 41.5 -2.3**
comp=Z,5.7nm,0.8s,baz=257,slow=14,SNR=3.9
JKA Kamikawa-asahi 60.91 30 P **P 12 26 41.5 -2.3**
KURBB Kurchatov Arra 61.33 341 P **P 12 26 45.0 -1.6**
comp=Z,1.8nm,0.7s,baz=155,slow=6.4,SNR=7.2
KURK Kurchatov 61.39 341 P **P 12 26 44.8 -2.1**
GEYT Alibeck 62.00 319 P **P 12 26 51.4 0.0**
comp=Z,4.5nm,0.7s,baz=161,slow=9.4,SNR=5.6
GEYT LR LR 12 57 20.4
comp=Z,61nm,18.8s,baz=80,slow=40
GEYT Alibeck 62.00 319 P **P 12 26 49.6 -1.8**
ZALV Zalesovo Beam 62.61 347 P **P 12 26 52.7 -2.4**
comp=Z,1.5nm,0.3s,baz=40,slow=6.2,SNR=6.0
ZALV Zalesovo Beam 62.61 347 P **P 12 26 52.5 -2.6**
BVAR Borovoye Array 66.15 338 P **P 12 27 16.5 -1.8**
comp=Z,2.3nm,0.7s,baz=184,slow=20,SNR=10
BRVK Borovoye 66.21 338 P **P 12 27 17.7 -1.0**
BRVK IAmb IAmb 12 27 19.0
comp=Z,7.3nm,1.4s
MAW Mawson 67.13 196 P **P 12 27 27.7 +3.4**
comp=Z,3.4nm,0.7s,baz=19,slow=7.4,SNR=7.9
MAW Mawson 67.13 196 P **P 12 27 21.6 -2.8**
ABKAR Akbulak array 67.94 330 P **P 12 27 29.3 -0.4**
ABKAR Akbulak array 67.94 330 P **P 12 27 29.2 -0.6**
RPZ Rata Peaks 68.39 134 P **P 12 27 33.8 +1.0**
comp=Z,4.8nm,0.6s,baz=300,slow=8.1,SNR=2.5
RPZ LR LR 12 55 56.4
comp=Z,136nm,19.5s,baz=254,slow=34
RPZ Rata Peaks 68.39 134 P **P 12 27 31.0 -1.8**
RPZ IAmb IAmb 12 27 43.5
comp=Z,19nm,1.3s
AKTO Aktyubinsk 69.66 330 P **P 12 27 40.2 -0.2**
comp=Z,4.3nm,0.6s,baz=144,slow=7.0,SNR=10
YAK Yakutsk 71.08 12 P **P 12 27 48.1 -0.7**
comp=Z,2.9nm,0.5s,baz=229,slow=2.4,SNR=1.9
YAK Yakutsk 71.08 12 P **P 12 27 48.4 -0.4**
BKZ Black Stump Fm 71.70 129 P **P 12 27 49.4 -3.8**
BKZ IAmb IAmb 12 28 01.3
comp=Z,22nm,1.4s
ARU Arti 73.31 335 P **P 12 28 02.0 -0.3**
comp=Z,1.6nm,0.4s,baz=146,slow=5.6,SNR=10.0
ARU Arti 73.31 335 P **P 12 28 01.5 -0.8**
ARU IAmb IAmb 12 28 03.4
comp=Z,13nm,1.1s
PETK Petropavlovsk- 74.33 30 P **P 12 28 06.1 -2.2**
comp=Z,1.1nm,0.6s,baz=213,slow=3.5,SNR=7.0
PETK Petropavlovsk- 74.33 30 P **P 12 28 08.1 -0.2**
KBZ Khabaz 74.87 319 P **P 12 28 11.3 -0.4**
comp=Z,2.2nm,0.5s,baz=144,slow=6.7,SNR=5.3
MATP Matopo 74.90 251 P **P 12 28 15.0 +2.5**
comp=Z,2.7nm,0.6s,baz=110,slow=4.5,SNR=9.4
SYO Syowa Base 75.13 200⇑ *e*X **P 12 28 14.7 +2.0**
MA2 Magadan 75.33 22 P **P 12 28 12.6 -1.4**
comp=Z,1.5nm,0.4s,baz=204,slow=16,SNR=3.6
MA2 Magadan 75.33 22 P **P 12 28 14.9 +0.9**
MA2 IAmb IAmb 12 28 23.4
comp=Z,27nm,1.4s
NRIK Noril'sk 76.69 354 P **P 12 28 20.5 -1.0**
comp=Z,1.4nm,0.5s,baz=135,slow=2.9,SNR=3.5
VNDA Vanda 76.78 169 P **P 12 28 24.6 +2.6**
comp=Z,1.8nm,0.9s,baz=320,slow=5.8,SNR=8.8
BOSA Boshof 77.69 242 P **P 12 28 31.5 +3.3**
comp=Z,4.1nm,1.0s,baz=107,slow=6.3,SNR=5.4
BOSA Boshof 77.69 242 P **P 12 28 25.1 -3.1**
BOSA IAmb IAmb 12 28 34.9
comp=Z,22nm,1.4s
SEY Seymchan 78.17 20 P **P 12 28 28.6 -1.3**
comp=Z,1.5nm,0.8s,baz=240,slow=20,SNR=5.2
BRTR Keskin Array B 79.91 312 P **P 12 28 40.9 +0.7**
comp=Z,2.9nm,0.7s,baz=136,slow=6.6,SNR=11
BRTR LR LR 13 07 15.7
comp=Z,14nm,19.2s,baz=111,slow=38
BRTR Keskin Array B 79.91 312 P **P 12 28 37.9 -2.3**
MDUB Mudurnu 81.92 312 P **P 12 28 48.1 -2.8**
QSPA South Pole Qui 83.40 180 P **P 12 29 00.6 +2.6**
comp=Z,1.9nm,0.7s,baz=261,slow=0.9,SNR=8.3
QSPA South Pole Qui 83.40 180 P **P 12 28 54.8 -3.2**
QSPA IAmb IAmb 12 29 02.1
comp=Z,5.5nm,1.1s
KLMR Klimovskoe 84.02 333 *e*P **P 12 28 59.4 -1.7**
KLMR AMP 12 29 02.2
comp=Z,14nm,1.3s
CFR Carcaliu 85.31 316⇓ P **P 12 29 10.6 +2.6**
SORM Soroca 85.90 319⇑ P **P 12 29 11.4 +0.6**
AKASG Malin Array Be 86.01 322 P **P 12 29 11.3 0.0**
comp=Z,0.4nm,0.4s,baz=92,slow=4.4,SNR=4.3
AKASG Malin Array Be 86.01 322 P **P 12 29 10.3 -0.9**
VRI Vrincioaia 86.43 317⇑ P **P 12 29 15.6 +2.1**
PLOR Plostina 86.48 317⇑ P **P 12 29 15.8 +2.0**
MLR Muntele Rosu 86.89 316⇑ P **P 12 29 17.7 +1.8**
MLR Muntele Rosu 86.89 316 P **P 12 29 14.2 -1.7**
BIZ Bicaz 87.09 318⇓ P **P 12 29 17.9 +1.2**
DOPR Dopca 87.37 317⇓ P **P 12 29 19.3 +1.2**
VOIR 87.49 316⇓ P **P 12 29 20.9 +2.1**
ARR Arges 87.76 316⇓ P **P 12 29 21.4 +1.3**
BURAR Bucovina Array 87.83 318⇓ P **P 12 29 22.0 +1.6**
BURAR Bucovina Array 87.83 318 P **P 12 29 21.3 +0.9**
BUR08 Bucovina Ar. S 87.85 318 P **P 12 29 16.6 -3.8**
BUR08 IAmb IAmb 12 29 33.3
comp=Z,5.6nm,0.8s
GZR Gura Zlata 89.05 316⇑ P **P 12 29 26.7 +0.5**
SNAA Sanae 89.25 198 P **P 12 29 30.7 +4.1**
MDVR Moldovita 89.69 315⇓ P **P 12 29 30.5 +1.3**
BZS Buzias 89.89 316⇓ P **P 12 29 31.6 +1.6**
KOLS Kolonicke sedl 90.01 319 *e*P **P 12 29 31.4 +0.9**
FINES FINESS Array B 90.37 332 P **P 12 29 32.1 +0.3**
comp=Z,2.2nm,0.7s,baz=130,slow=7.7,SNR=6.6
FINES FINESS Array B 90.37 332 P **P 12 29 30.1 -1.7**
ARCES ARCESS Array B 92.39 340 P **P 12 29 39.7 -1.4**
comp=Z,1.1nm,0.5s,baz=76,slow=5.1,SNR=14
ARCES LR LR 13 18 18.9
comp=Z,98nm,19.4s,baz=130,slow=40
GERES GERESS Array B 95.62 318 P **P 12 29 57.6 +1.1**
comp=Z,0.4nm,0.7s,baz=101,slow=2.7,SNR=3.4
GERES GERESS Array B 95.62 318 P **P 12 29 55.6 -0.9**
NOA NORSAR Array B 97.45 331 LR LR 13 19 47.0
comp=Z,52nm,20.0s,baz=80,slow=39
PDAR Pinedale Array 132.94 35 PKP **PKiKP 12 35 47.0 -0.8**
comp=Z,0.2nm,0.6s,baz=61,slow=5.6,SNR=2.7
PDAR SKPbc **SKPab 12 39 10.6 -2.2**
comp=Z,0.5nm,0.6s,baz=124,slow=1.3,SNR=5.0
PDAR Pinedale Array 132.94 35 **PKPdf 12 35 45.5 -1.2**
ULM Lac du Bonnet 133.17 18 PKP **PKPdf 12 35 46.3 -0.3**
comp=Z,2.9nm,0.8s,baz=113,slow=11,SNR=3.1
ULM SKPbc **SKPab 12 39 11.2 -2.0**
comp=Z,3.7nm,0.9s,baz=281,slow=5.2,SNR=2.3
ULM Lac du Bonnet 133.17 18 **PKPdf 12 35 46.5 -0.1**
TXAR Lajitas Array 144.92 46 PKP **PKPdf 12 36 10.0 +1.3**
comp=Z,3.7nm,0.8s,baz=264,slow=1.3,SNR=16
TXAR Lajitas Array 144.92 46 **PKPdf 12 36 09.7 +0.9**
BDFB Brasilia 145.16 230 PKPbc **PKiKP 12 36 12.2 -1.1**
comp=Z,2.4nm,0.6s,baz=344,slow=0.3,SNR=4.4
BDFB Brasilia 145.16 230 **PKPbc 12 36 06.5 -2.6**

IDC ***11*** *12:26:01.4±0.5, 10°.23S×161°.54E, h78km±4km, mb4.2/19, mb1 4.3/19, mb1mx4.1/39, mbtmp4.5/19, MS3.4/3, Ms1 3.4/3, ms1mx3.1/30, Error ellipse: s-maj=11.0km s-min=8.7km az=35.0*
NEIC ***11*** *12:26:02.7±1.4, 10°.22S±0°.08×161°.52E±0°.08, h92km±6km, mb4.7/58, Error ellipse: s-maj=14.1km s-min=8.5km az=222.0*
ISC 11 12:26:01.8±0.5,**10°.22S**±0°.05×**161°.54E**±0°.06,**h82**km±4km,
h82km:pP-P,n113,σ1§**10**/126,**mb4.7**/53,**2C,**
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**296**	P	P	**Pn**	**12 26 31.5**	**+0.9**
	78nm,0.3s,baz=171,slow=6.7,SNR=43							
HNR				S		**Sn**	**12 26 52.7**	**+0.2**
	645nm,0.3s,baz=172,slow=19,SNR=43							
HNR	**Honiara**	**1.76**	**296**			**Pn**	**12 26 31.0**	**+0.4**
HNR					Sn	**Sn**	**12 26 52.5**	**0.0**
SANVU	**Saraoutou**	**7.58**	**134**		Pn	**Pn**	**12 27 50.8**	**+1.2**
SANVU					Sn	**Sn**	**12 29 11.0**	**-3.0**
KRVT	**Keravat (AS076**	**11.12**	**301**	S		**Sn**	**12 30 39.2**	**-1.3**
	5.3nm,0.3s,baz=110,slow=12,SNR=3.4							
DZM	**Mont Dzumac**	**12.69**	**159**	P		**Pn**	**12 29 01.4**	**+2.2**
	2.2nm,0.3s,baz=351,slow=19,SNR=42							
DZM				S		**Sn**	**12 31 16.8**	**-1.9**
	0.7nm,0.3s,baz=81,slow=19,SNR=7.2							
DZM				LR	LR		12 32 55.6	
	comp=Z,148nm,21.8s,baz=31,slow=33							
PMG	**Port Moresby**	**14.20**	**272**	LR	LR		12 34 49.2	
	comp=Z,126nm,19.3s,baz=98,slow=37							
TARA	**Tarawa**	**16.14**	**45**	P		**P**	**12 29 46.2**	**+0.5**
PATS	**Pohnpei**	**17.25**	**349**			**P**	**12 29 58.9**	**+1.0**
CTA	**Charters Tower**	**17.71**	**235**	P		**Pn**	**12 30 05.7**	**+2.6**
	1.4nm,0.3s,baz=55,slow=12,SNR=16							
CTAO	**Charters Tower**	**17.71**	**235**	P		**P**	**12 30 02.8**	**-0.2**
EIDS	**Eidsvold**	**18.04**	**212**	P	Pn	**Pn**	**12 30 09.8**	**+2.6**
COEN	**Coen**	**18.34**	**256**	P		**Pn**	**12 30 10.7**	**-0.1**
ARMA	**Armidale**	**22.12**	**203**	P		**P**	**12 30 51.9**	**+1.2**
RAO	**Raoul Island**	**26.97**	**137**	P		**P**	**12 31 35.8**	**-0.2**
CAN	**Canberra**	**27.48**	**203**	P		**P**	**12 31 40.2**	**-0.2**
CAN					IAmb	IAmb	12 31 49.2	
	comp=Z,28nm,1.4s							
WR0	**Warramunga Arr**	**27.77**	**246**	P		**P**	**12 31 42.9**	**-0.3**
WB0	**Warramunga Arr**	**27.85**	**247**	P		**P**	**12 31 43.7**	**-0.2**
WRAB	**Tennant Creek**	**27.94**	**247**	P		**P**	**12 31 44.5**	**-0.2**
WB2	**Warramunga Arr**	**27.94**	**247**	P		**P**	**12 31 44.8**	**+0.1**
WRA	**Warramunga Arr**	**27.95**	**247**	P		**P**	**12 31 44.1**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=77,slow=9.0,SNR=20							
WRA				pP		**pP**	**12 32 03.7**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=76,slow=9.5,SNR=6.4							
WRA	**Warramunga Arr**	**27.95**	**247**	P		**P**	**12 31 43.4**	**-1.4**
STKA	**Stephens Creek**	**28.38**	**218**	P		**P**	**12 31 49.6**	**+1.2**
	comp=Z,3.9nm,0.7s,baz=57,slow=14,SNR=11							
STKA	**Stephens Creek**	**28.38**	**218**	P		**P**	**12 31 47.3**	**-1.1**
AS31	**Alice Springs**	**29.55**	**240**	P		**P**	**12 31 58.2**	**-0.8**
ASAR	**Alice Springs**	**29.55**	**240**	P		**P**	**12 31 58.0**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=65,slow=10,SNR=19							
ASAR	**Alice Springs**	**29.55**	**240**	P		**P**	**12 31 59.0**	**0.0**
TOO	**Toolangi**	**30.83**	**205**	P		**P**	**12 32 09.8**	**-0.3**
TOO					IAmb	IAmb	12 32 16.9	
	comp=Z,11nm,1.2s							
URZ	**Urewera**	**31.22**	**156**	P		**P**	**12 32 14.2**	**+0.7**
	comp=Z,6.6nm,0.9s,baz=304,slow=11,SNR=4.6							
URZ	**Urewera**	**31.22**	**156**	P		**P**	**12 32 14.2**	**+0.7**
URZ					IAmb	IAmb	12 32 22.8	
	comp=Z,12nm,1.0s							
BKZ	**Black Stump Fm**	**31.77**	**158**	P		**P**	**12 32 19.0**	**+0.6**
BKZ					IAmb	IAmb	12 32 20.1	
	comp=Z,11nm,0.8s							
KNRA	**Kununurra**	**32.38**	**257**	P		**P**	**12 32 23.8**	**-0.2**
KNRA					IAmb	IAmb	12 32 24.9	
	comp=Z,26nm,1.2s							
BBOO	**Buckleboo**	**32.51**	**222**	P		**P**	**12 32 25.4**	**+0.6**
BBOO					IAmb	IAmb	12 32 32.2	
	comp=Z,13nm,1.2s							
FITZ	**Fitzroy Crossi**	**35.63**	**253**	P		**P**	**12 32 51.2**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=70,slow=9.5,SNR=16							
FITZ				pP		**pP**	**12 33 09.8**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=86,slow=9.5,SNR=3.1							
FITZ	**Fitzroy Crossi**	**35.63**	**253**	P		**P**	**12 32 51.5**	**-0.6**
FITZ					IAmb	IAmb	12 32 53.2	
	comp=Z,8.1nm,1.2s							
EDFI	**Ende, Flores**	**39.32**	**269**	P		**P**	**12 33 22.0**	**-1.4**
MORW	**Morawa**	**46.44**	**240**	P		**P**	**12 34 20.7**	**+0.1**
MORW					IAmb	IAmb	12 34 22.9	
	comp=Z,21nm,1.1s							
NWAO	**Narrogin (SRO)**	**46.55**	**234**	P		**P**	**12 34 22.0**	**+0.5**
	comp=Z,17nm,1.1s,baz=96,slow=8.8,SNR=3.5							
NWAO	**Narrogin (SRO)**	**46.55**	**234**	P		**P**	**12 34 21.5**	**0.0**
JGF	**Kuroka**	**50.98**	**335**	P		**P**	**12 34 55.3**	**-0.1**
JGF					IAmb	IAmb	12 34 58.8	
	comp=Z,10nm,1.0s							
MJAR	**Matsushiro Arr**	**51.44**	**336**	P		**P**	**12 34 57.5**	**-1.3**
	comp=Z,3.3nm,0.7s,baz=168,slow=8.4,SNR=15							
MJAR				PcP		**PcP**	**12 36 12.1**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=160,slow=4.6,SNR=3.7							
MJAR	**Matsushiro Arr**	**51.44**	**336**	P		**P**	**12 34 57.4**	**-1.3**
MAJO	**Matsushiro**	**51.44**	**336**	P		**P**	**12 34 58.0**	**-0.7**
MAJO					IAmb	IAmb	12 35 06.6	
	comp=Z,17nm,1.4s							
MAT	**Matsushiro**	**51.44**	**336**	P		**P**	**12 34 57.4**	**-1.3**
JWT	**Wachi**	**51.57**	**333**	P		**P**	**12 34 58.5**	**-1.2**
JMM	**Marumori**	**51.63**	**339**	P		**P**	**12 35 00.1**	**+0.1**
JNU	**Nakatsue**	**52.07**	**327**	P		**P**	**12 35 03.7**	**+0.2**
SSLB	**Suanglung**	**52.12**	**311**	P		**P**	**12 35 02.5**	**-1.5**
JTM	**Tenmabayashi**	**54.16**	**341**	P		**P**	**12 35 18.6**	**-0.1**
JKA	**Kamikawa-asahi**	**56.75**	**344**	P		**P**	**12 35 38.2**	**+1.0**
ASAJ	**Asahikawa**	**56.75**	**344**	P		**P**	**12 35 38.0**	**+0.8**
	comp=Z,15nm,0.6s,baz=215,slow=8.9,SNR=18							
KSRS	**Korea Array**	**56.94**	**328**	P		**P**	**12 35 38.6**	**0.0**
	comp=Z,4.4nm,1.0s,baz=148,slow=7.4,SNR=12							
KSAR	**Wonju Array Be**	**56.95**	**328**	P		**P**	**12 35 38.4**	**-0.4**
NJ2	**Nanjing**	**58.58**	**318**	*e*P		**P**	**12 35 51.0**	**+0.7**
NJ2					pmax	pmax		
	comp=Z,18nm,0.5s							
USA0B	**Ussuriysk Arra**	**60.44**	**336**	P		**P**	**12 36 02.8**	**0.0**
USRK	**Ussuriysk Ar.**	**60.44**	**336**	P		**P**	**12 36 03.2**	**+0.4**
	comp=Z,14nm,0.8s,baz=147,slow=5.8,SNR=29							
USRK	**Ussuriysk Ar.**	**60.44**	**336**	P		**P**	**12 36 02.9**	**+0.1**
WHN	**Wuhan**	**60.80**	**314**	P		**P**	**12 36 17.3**	**+12**
PEA0B	**Petropavlovsk-**	**63.16**	**357**	P		**P**	**12 36 20.6**	**-0.3**
PEA0B					IAmb	IAmb	12 36 35.4	
	comp=Z,18nm,1.4s							
PETK	**Petropavlovsk-**	**63.16**	**357**	P		**P**	**12 36 21.4**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=163,slow=6.7,SNR=6.4							
PETK				pP		**pP**	**12 36 41.9**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=153,slow=7.1,SNR=3.5							
PETK				LR	LR		13 01 35.1	
	comp=Z,44nm,19.6s,baz=181,slow=34							
PETK	**Petropavlovsk-**	**63.16**	**357**	P		**P**	**12 36 21.1**	**+0.1**
CASY	**Casey**	**65.68**	**200**	P		**P**	**12 36 35.6**	**-1.6**
CASY					IAmb	IAmb	12 36 42.2	
	comp=Z,6.2nm,1.1s							
XAN	**Xi'an**	**66.55**	**314**	P		**P**	**12 36 42.6**	**-0.8**
XAN					pmax	pmax		
	comp=Z,11nm,0.7s							
XAN					pmax	pmax		
	comp=Z,700nm,5.4s							
VNDA	**Vanda**	**67.28**	**180**	P		**P**	**12 36 48.0**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=342,slow=6.7,SNR=20							
VNDA	**Vanda**	**67.28**	**180**	P		**P**	**12 36 48.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**68.01**	**295**	P		**P**	**12 36 52.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=120,slow=5.3,SNR=4.5							
CMAR				pP		**pP**	**12 37 12.7**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=128,slow=5.3,SNR=3.4							
CMAR	**Chiang Mai Arr**	**68.01**	**295**	P		**P**	**12 36 52.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**68.57**	**321**	*e*P		**P**	**12 36 57.7**	**+1.6**
HHC					pmax	pmax		
	comp=Z,17nm,0.8s							
HHC					pmax	pmax		
	comp=Z,750nm,8.9s							
CD2	**Chengdu**	**68.84**	**309**	P		**P**	**12 36 57.5**	**-0.4**
CD2					pmax	pmax		
	comp=Z,20nm,0.6s							
LZH	**Lanzhou**	**71.17**	**314**	*e*P		**P**	**12 37 15.5**	**+3.3**
LZH				pP		pwP	12 37 37.6	+2.0
LZH				sP		sP	12 37 46.8	+5.1
LZH				pmax		pmax		
	comp=Z,23nm,1.3s							
LZH				pmax		pmax		
	comp=Z,82nm,8.1s							
LZH				LR		LR		
	comp=N,140nm,16.5s							
LZH				LR		LR		
	comp=E,150nm,16.7s							
LZH				LR		LR		
	comp=Z,210nm,18.9s							
ULN	**Ulaanbaatar**	**75.25**	**325**	P		**P**	**12 37 35.9**	**-0.1**
ULN					IAmb	IAmb	12 37 37.3	
	comp=Z,11nm,0.9s							
GTA	**Gaotai**	**75.54**	**315**	⇑P		**P**	**12 37 37.9**	**+0.1**
GTA				pP		pP	12 37 57.5	-1.4
GTA				sP		sP	12 38 06.1	-1.6
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,140nm,6.2s							
GTA				LR		LR		
	comp=N,350nm,17.5s							
GTA				LR		LR		
	comp=E,360nm,17.4s							
GTA				LR		LR		
	comp=Z,340nm,15.6s							
SONM	**Songino Array**	**75.60**	**325**	P		**P**	**12 37 38.3**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=141,slow=5.8,SNR=40							
SONM				pP		**pP**	**12 37 58.8**	**0.0**
	comp=Z,5.7nm,0.8s,baz=138,slow=5.5,SNR=9.3							
SONM	**Songino Array**	**75.60**	**325**	P		**P**	**12 37 37.9**	**-0.1**
YAK	**Yakutsk**	**76.19**	**345**	P		**P**	**12 37 40.3**	**-0.5**
	comp=Z,7.3nm,0.4s,baz=301,slow=0.7,SNR=7.1							
YAK	**Yakutsk**	**76.19**	**345**	P		**P**	**12 37 40.7**	**-0.1**
BILL	**Bilibino**	**78.13**	**2**	P		**P**	**12 37 52.4**	**+0.8**
BILL					IAmb	IAmb	12 37 53.3	
	comp=Z,21nm,1.1s							
LSA	**Lhasa**	**78.44**	**303**	P		**P**	**12 37 53.4**	**-1.3**
LSA					IAmb	IAmb	12 37 53.9	
	comp=Z,6.9nm,1.2s							
TLY	**Talaya**	**79.18**	**328**	P		**P**	**12 37 57.6**	**-0.1**
TLY					IAmb	IAmb	12 37 58.3	
	comp=Z,6.9nm,0.8s							
QSPA	**South Pole Qui**	**79.78**	**180**	P		**P**	**12 38 00.2**	**-0.7**
QSPA					IAmb	IAmb	12 38 01.6	
	comp=Z,10nm,0.8s							
IMAR	**Indian Mountai**	**82.79**	**17**	P		**P**	**12 38 16.3**	**-0.3**
WRH	**Wood River Hil**	**83.50**	**20**	P		**P**	**12 38 19.6**	**-0.6**
WRH					IAmb	IAmb	12 38 20.8	
	comp=Z,17nm,1.2s							
MDM	**Murphy Dome**	**83.77**	**19**	P		**P**	**12 38 20.3**	**-1.3**
MDM					IAmb	IAmb	12 38 22.7	
	comp=Z,11nm,1.1s							
COLA	**College**	**83.84**	**19**	P		**P**	**12 38 21.6**	**-0.3**
COLA					IAmb	IAmb	12 38 22.4	
	comp=Z,15nm,1.0s							
MAW	**Mawson**	**83.92**	**202**	P		**P**	**12 38 22.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=94,slow=13,SNR=3.2							
MAW				pP		**pP**	**12 38 42.5**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=41,slow=7.3,SNR=4.1							
MAW	**Mawson**	**83.92**	**202**	P		**P**	**12 38 22.6**	**+0.2**
IL31		**84.09**	**20**	P		**P**	**12 38 22.1**	**-1.1**
IL31					IAmb	IAmb	12 38 24.3	
	comp=Z,4.4nm,0.9s							
ILAR	**Eielson Array**	**84.09**	**20**	P		**P**	**12 38 22.9**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=245,slow=5.2,SNR=34							
ILAR				pP		**pP**	**12 38 43.8**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=256,slow=4.9,SNR=5.1							
ILAR	**Eielson Array**	**84.09**	**20**	P		**P**	**12 38 23.3**	**0.0**
BCAR	**Beaver Creek A**	**84.87**	**22**	P		**P**	**12 38 27.2**	**-0.1**
WMQ	**Urumqi**	**85.61**	**316**	*e*P		**P**	**12 38 31.9**	**+0.5**
EGAK	**Eagle**	**86.07**	**21**	P		**P**	**12 38 33.4**	**+0.3**
EGAK					IAmb	IAmb	12 38 35.2	
	comp=Z,13nm,1.1s							
DAWY	**Dawson**	**86.32**	**22**	P		**P**	**12 38 33.6**	**-0.8**
DAWY					IAmb	IAmb	12 38 36.8	
	comp=Z,11nm,1.1s							
LHV	**Little Huntoon**	**88.48**	**51**	P		**P**	**12 38 44.7**	**-0.7**
LHV					IAmb	IAmb	12 38 49.0	
	comp=Z,4.4nm,1.1s							
NVAR	**Mina Array Bea**	**88.68**	**51**	P		**P**	**12 38 48.2**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=238,slow=7.4,SNR=9.8							
NVAR				pP		**pP**	**12 39 09.7**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=234,slow=6.0,SNR=3.5							
NVAR	**Mina Array Bea**	**88.68**	**51**	P		**P**	**12 38 48.5**	**+1.9**
NV11	**Mina Array Sit**	**88.79**	**51**	P		**P**	**12 38 48.4**	**+1.3**
KVN	**Kaiserville**	**88.98**	**50**	P		**P**	**12 38 49.1**	**+1.2**
KVN					IAmb	IAmb	12 38 50.9	
	comp=Z,4.5nm,1.2s							
TPNV	**Topopah Spring**	**89.92**	**53**	P		**P**	**12 38 52.0**	**-0.3**
TPNV					IAmb	IAmb	12 38 54.2	
	comp=Z,3.2nm,1.0s							
MKAR	**Makanchi Array**	**90.11**	**318**	P		**P**	**12 38 52.0**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=98,slow=5.8,SNR=11							
MKAR				pP		**pP**	**12 39 12.8**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=94,slow=6.5,SNR=5.7							
MKAR	**Makanchi Array**	**90.11**	**318**	P		**P**	**12 38 51.8**	**-1.1**
SHPR	**Sheep Range**	**90.68**	**53**	P		**P**	**12 38 55.6**	**-0.3**
SHPR					IAmb	IAmb	12 38 58.4	

WRAB	**Tennant Creek**	**13.65 161**			**Pn**	12 39 11.0	**-1.1**
WRA	**Warramunga Arr**	**13.65 161**	P		**Pn**	12 39 11.4	**-0.7**
	1.5nm,0.3s,baz=343,slow=13,SNR=50						
WRA			S		**Sn**	12 41 37.2	**-6.0**
	1.7nm,0.3s,baz=334,slow=23,SNR=6.4						
WRA	**Warramunga Arr**	**13.65 161**			**Pn**	12 39 10.3	**-1.8**
WB2	**Warramunga Arr**	**13.66 161**	Pn		**Pn**	12 39 11.5	**-0.7**
WR0	**Warramunga Arr**	**13.74 160**	Pn		**Pn**	12 39 13.7	**+0.5**
COEN	**Coen**	**15.05 118**			**P**	12 39 33.8	**+2.0**
COEN			IAmb		IAmb	12 39 50.4	
	comp=Z,24nm,1.9s						
AS31	**Alice Springs**	**17.06 166**	P		**P**	12 39 54.1	**+0.2**
AS31			IAmb		IAmb	12 39 57.7	
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**17.07 166**	P		**Pn**	12 39 56.0	**+1.5**
	comp=Z,1.4nm,0.3s,baz=340,slow=10.0,SNR=146						
ASAR			S		**S**	12 42 58.0	**-6.9**
	comp=Z,0.3nm,0.3s,baz=350,slow=26,SNR=5.1						
ASAR	**Alice Springs**	**17.07 166**	P		**Pn**	12 39 56.9	**+2.4**
PSA00	**Pilbara Seismi**	**17.24 212**	P		**P**	12 39 56.0	**+0.1**
PSA00			IAmb		IAmb	12 40 22.4	
	comp=Z,24nm,1.4s						
KKM	**Kota Kinabalu**	**18.60 314**	P		**P**	12 40 10.4	**-0.5**
KKM			IAmb		IAmb	12 40 17.6	
	comp=Z,45nm,1.2s						
BBOO	**Buckleboo**	**26.36 168**	P		**P**	12 41 32.4	**+5.1**
STKA	**Stephens Creek**	**27.16 157**	P		**P**	12 41 36.4	**+1.9**
	comp=Z,0.4nm,0.4s,baz=337,slow=15,SNR=1.8						
CMAR	**Chiang Mai Arr**	**39.41 310**	P		**P**	12 43 21.2	**+0.5**
	comp=Z,0.7nm,0.5s,baz=135,slow=7.5,SNR=4.6						
SONM	**Songino Array**	**58.33 342**	P		**P**	12 45 46.2	**+1.6**
	comp=Z,0.3nm,0.4s,baz=156,slow=7.6,SNR=2.1						
MK31	**Makanchi Array**	**68.01 327**	P		**P**	12 46 48.6	**+0.3**
MK31			IAmb		IAmb	12 48 54.6	
	comp=Z,15nm,1.9s						
MKAR	**Makanchi Array**	**68.01 327**	P		**P**	12 46 49.3	**+0.9**
	comp=Z,1.1nm,0.4s,baz=117,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**68.01 327**	P		**P**	12 46 48.4	**0.0**
PDAR	**Pinedale Array**	**117.22 45**	PKP		**PKPdf**	12 54 33.8	**+0.3**
	comp=Z,0.2nm,0.7s,baz=290,slow=5.3,SNR=2.3						

*SNET **11** 12:49:01.7±0.6, 13°.30N×90°.32W, h25km±6km, ML2.8*
*GCG **11** 12:49:02.4±0.7, 13°.39N×90°.64W, h17km±14km, MD3.7*
ISC 11 12:48:59.8±3.6, 13°.1N±0°.2×90°.5W±0°.1, h35km, n13, σ1♀03/15, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IXG	**Ixpaco**	**1.05**	**0**		*e*P		**Pn**	**12 49 17.5**	**-0.7**
SBLS	**San Blas**	**1.07**	**48**	↓	*e*P		**Pn**	**12 49 18.0**	**-0.7**
RTR	**El Retiro**	**1.10**	**45**	↓	*i*P		**Pn**	**12 49 18.5**	**-0.5**
SNJE	**San Jose**	**1.11**	**48**		*e*P		**Pn**	**12 49 18.4**	**-0.6**
SNJE					*e*S		**Sn**	**12 49 31.9**	**-1.3**
PCG	**Pacaya**	**1.27**	**353**		*e*P		**Pn**	**12 49 20.9**	**-0.5**
TACO	**Tacachico**	**1.36**	**51**	↑	*e*P		**Pn**	**12 49 22.2**	**-0.2**
TACO					IAML			12 49 40.5	
	comp=Z,105nm,0.3s								
FUG	**Fuego 3**	**1.37**	**344**		*e*P		**Pn**	**12 49 22.2**	**-0.6**
LFRS	**El Faro**	**1.44**	**69**		*e*P		**Pn**	**12 49 24.0**	**+0.4**
NBG	**Las Nubes**	**1.46**	**4**		*e*P		**Pn**	**12 49 25.5**	**+1.5**
NBG					*e*S		**Sn**	**12 49 42.5**	**+0.4**
PAVA	**Las Pavas**	**1.58**	**68**		*e*P		**Pn**	**12 49 26.4**	**+0.9**
PAVA					IAML			12 49 55.5	
	comp=Z,222nm,0.3s								
COEG	**Centro de Oper**	**1.60**	**72**		*e*P		**Pn**	**12 49 26.1**	**+0.3**
MTO3	**Montecristo**	**1.65**	**40**	↑	*e*P		**Pn**	**12 49 26.5**	**-0.1**
MRL	**Marmol**	**2.09**	**21**		*e*P		**Pn**	**12 49 34.9**	**+2.3**

*IDC **11** 12:53:26.4±2.6, 60°.78S×50°.54W, h0km, mb3.8/2,*
mb1 3.9/2, mb1mx3.6/25, mbtmp3.8/2, MS3.3/3, Ms1 3.4/3,
ms1mx3.1/20, Error ellipse: s-maj=113.7km s-min=44.7km az=31.0
*NEIC **11** 12:53:30.6±0.3, 60°.29S±0°.08×50°.0W±0°.2, h10km±2km,*
mb4.2/4, Error ellipse: s-maj=20.7km s-min=12.5km az=289.0
ISC 11 12:53:30.7±0.8, 60°.3S±0°.1×50°.0W±0°.1, h10km, n16, σ0♀99/14, mb4.2/4, MS3.2/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMSA	**Palmer Station**	**7.87**	**229**			Pn	**Pn**	**12 55 25.0**	**0.0**
HOPE	**Hope Point**	**9.49**	**56**			Pn	**Pn**	**12 55 46.9**	**-0.3**
VNA3	**Neumayer Olymp**	**19.39**	**141**			P	**Pn**	**12 57 57.0**	**-0.4**
SNAA	**Sanae**	**21.61**	**141**			P	**P**	**12 58 20.5**	**0.0**
SNAA	**Sanae**	**21.61**	**141**			P	**P**	**12 58 20.5**	**0.0**
SNAA						IAmb	IAmb	12 58 21.4	
	comp=Z,11nm,1.2s								
PLCA	**Paso Flores**	**23.35**	**318**			P	**P**	**12 58 38.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=172,slow=7.1,SNR=1.5								
PLCA						LR	LR	13 08 20.0	
	comp=Z,48nm,18.4s,baz=156,slow=38								
PLCA	**Paso Flores**	**23.35**	**318**			P	**P**	**12 58 39.0**	**-0.1**
PLCA						IAmb	IAmb	12 59 01.4	
	comp=Z,4.4nm,1.1s								
QSPA	**South Pole Qui**	**29.93**	**180**			P	**P**	**12 59 38.2**	**-0.4**
QSPA						IAmb	IAmb	12 59 39.1	
	comp=Z,7.0nm,0.8s								
CPUP	**Villa Florida**	**34.33**	**348**			LR	LR	13 12 44.5	
	comp=Z,50nm,21.9s,baz=199,slow=33								
LPAZ	**La Paz**	**45.87**	**335**			LR	LR	13 22 32.5	
	comp=Z,52nm,18.4s,baz=138,slow=38								
TORD	**Torodi Ar. Bea**	**84.01**	**50**			P	**P**	**13 06 00.9**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=214,slow=5.1,SNR=7.4								
TORD	**Torodi Ar. Bea**	**84.01**	**50**			P	**P**	**13 06 00.9**	**-0.2**
ILAR	**Eielson Array**	**143.99**	**314**			PKP	**PKPab**	**13 13 01.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=150,slow=2.1,SNR=12								
ILAR	**Eielson Array**	**143.99**	**314**				**PKPab**	**13 13 02.2**	**+0.1**
MKAR	**Makanchi Array**	**149.37**	**94**	PKPbc			**PKPdf**	**13 13 16.4**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=202,slow=1.6,SNR=4.6								
MKAR	**Makanchi Array**	**149.37**	**94**				**PKPdf**	**13 13 16.6**	**+2.3**

WEL 11 12:54:54.9±1.1, 37°S±6°×177°E±°, h26km±6km, M3.5/19, ML3.8/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=67.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MXZ	**Matakaoa Point**	**0.43**	**188**			P	Pn	12 55 04.9	-0.5
MXZ						S	Sn	12 55 11.8	-0.6
WMGZ	**Waiomatatini S**	**0.68**	**178**			P	Pn	12 55 09.5	+0.7
HAZ	**Te Kaha**	**0.78**	**217**			P	Pb	12 55 09.3	-0.5
PKGZ	**Pakihiroa**	**0.79**	**198**			P	Pn	12 55 10.6	+0.2
PKGZ						S	Sn	12 55 22.1	+0.7
PUZ	**Puketiti**	**0.94**	**186**			P	Pb	12 55 12.6	0.0
PUZ						S	Sn	12 55 26.0	+1.0
RUGZ	**Raukumara Rang**	**0.99**	**214**			P	Pn	12 55 13.4	+0.1
RUGZ						S	Sn	12 55 27.4	+0.8
WIZ	**White Island**	**1.02**	**247**			P	Pn	12 55 13.1	-0.5
WSRZ	**White Island S**	**1.03**	**248**			P	Pn	12 55 13.3	-0.4
TWGZ	**Tauwhareparae**	**1.08**	**197**			P	Pb	12 55 15.0	-0.1
WHRZ	**Whale Island**	**1.33**	**237**			P	Pn	12 55 18.3	+0.5
CNGZ	**Carnagh Statio**	**1.35**	**186**			P	Pn	12 55 17.8	-0.3
TKGZ	**Te Karaka**	**1.36**	**198**			P	Pn	12 55 18.1	-0.2
MWZ	**Matawai**	**1.37**	**209**			P	Pn	12 55 18.7	+0.3
URZ	**Urewera**	**1.50**	**222**			P	Pn	12 55 20.0	-0.2
URZ						S	Sn	12 55 38.7	-0.3
RAGZ	**Rawiri**	**1.55**	**209**			P	Pn	12 55 21.2	+0.2
OPRZ	**Ohinepanea**	**1.61**	**244**			P	Pn	12 55 21.3	-0.4
RIGZ	**Rimuhau**	**1.64**	**197**			P	Pn	12 55 21.6	-0.4
MYRZ	**Mayor Island**	**1.71**	**265**			P	Pn	12 55 23.3	+0.2
TGRZ	**Tauranga**	**1.79**	**250**			P	Pn	12 55 23.9	-0.1
MKRZ	**Makatiti**	**1.82**	**236**			P	Pn	12 55 25.2	+0.6
PRGZ	**Paritu Road**	**1.82**	**192**			P	Pn	12 55 23.1	-1.5
SNGZ	**Shannon Statio**	**1.83**	**206**			P	Pn	12 55 24.9	+0.1
RTZ	**Ruatahuna**	**1.84**	**216**			P	Pn	12 55 24.8	-0.1
TARZ	**Mount Tarawera**	**1.85**	**233**			P	Pn	12 55 25.3	+0.3
OMRZ	**Omania**	**1.86**	**238**			P	Pn	12 55 26.0	+0.9
RRRZ	**Republican Roa**	**1.90**	**230**			P	Pn	12 55 25.7	0.0
KARZ	**Kaharoa**	**1.91**	**242**			P	Pn	12 55 25.8	0.0
HLRZ	**Highlands Stat**	**1.95**	**235**			P	Pn	12 55 27.6	+1.2
KNZ	**Kokohu**	**1.96**	**196**			P	Pn	12 55 24.8	-1.6
NGRZ	**Ngongotaha**	**1.99**	**240**			P	Pn	12 55 27.7	+0.8
UTU	**Utuhina**	**2.02**	**239**			P	Pb	12 55 29.8	-1.1
MHGZ	**Mahia Peninsul**	**2.04**	**190**			P	Pn	12 55 26.5	-1.1
RAHZ	**Arahi**	**2.05**	**210**			P	Pn	12 55 27.9	+0.2
HSRZ	**Hossack Road**	**2.06**	**235**			P	Pb	12 55 30.3	-1.3
KMRZ	**Kaimai**	**2.06**	**249**			P	Pn	12 55 27.8	-0.1
HRRZ	**Handcock Road**	**2.08**	**232**			P	Pn	12 55 29.1	+1.0
PRRZ	**Plateau Road**	**2.08**	**229**			P	Pn	12 55 28.1	0.0
MTHZ	**Maungataniwha**	**2.10**	**215**			P	Pn	12 55 28.5	+0.1
WHHZ	**Waihua**	**2.13**	**205**			P	Pn	12 55 28.6	-0.3
ALRZ	**Allen Road**	**2.15**	**228**			P	Pn	12 55 29.2	+0.1
KUZ	**Kuaotunu**	**2.17**	**280**			P	Pn	12 55 29.1	-0.1
GRRZ	**Galatos Road**	**2.17**	**235**			P	Pn	12 55 30.5	+1.2
WPRZ	**Whakapapatarin**	**2.23**	**231**			P	Pn	12 55 31.2	+1.0
MRHZ	**Matea Rd**	**2.29**	**222**			P	Pn	12 55 31.1	0.0
NMHZ	**Naumai**	**2.31**	**212**			P	Pn	12 55 31.5	+0.1
TOZ	**Tahuroa Road**	**2.37**	**255**			P	Pn	12 55 32.0	0.0
ARHZ	**Aropaoanui**	**2.38**	**207**			P	Pn	12 55 31.8	-0.5
KUTZ	**Kaahu Road**	**2.43**	**236**			P	Pn	12 55 33.4	+0.4
GRZ	**Great Barrier**	**2.51**	**290**			P	Pn	12 55 34.7	+0.7
BKZ	**Black Stump Fm**	**2.51**	**216**			P	Pn	12 55 33.7	-0.4
TLZ	**Tolley Road**	**2.55**	**241**			P	Pn	12 55 34.9	+0.3
WATZ	**Wairara**	**2.61**	**232**			P	Pn	12 55 36.7	+1.2
WIAZ	**Waiheke Island**	**2.62**	**277**			P	Pn	12 55 36.0	+0.4
MCHZ	**McNeill Hill**	**2.66**	**209**			P	Pn	12 55 35.5	-0.6
RATZ	**Rangitukua**	**2.69**	**229**			P	Pn	12 55 37.5	+1.0
RITZ	**Rihia Road**	**2.71**	**227**			P	Pn	12 55 37.0	+0.2
CKHZ	**Cape Kidnapper**	**2.71**	**202**			P	Pn	12 55 35.1	-1.8
KWHZ	**Kaweka Forest**	**2.75**	**213**			P	Pn	12 55 36.5	-1.0
ETAZ	**East Tamaki Re**	**2.77**	**273**			P	Pn	12 55 38.3	+0.7
KATZ	**Kakaramea**	**2.80**	**228**			P	Pn	12 55 38.9	+0.7
MBAZ	**Motutapu North**	**2.81**	**277**			P	Pn	12 55 39.0	+0.9
TMVZ	**Te Maari**	**2.89**	**226**			P	Pn	12 55 39.5	+0.2
ABAZ	**Army Bay**	**2.90**	**280**			P	Pn	12 55 40.4	+1.1
ETVZ	**East Tongariro**	**2.90**	**226**			P	Pn	12 55 39.6	+0.1
KAHZ	**Kahuranaki**	**2.90**	**204**			P	Pn	12 55 37.7	-1.7
KRVZ	**Karewarewa**	**2.91**	**227**			P	Pn	12 55 40.1	+0.4
EPAZ	**Eden Park BICE**	**2.92**	**274**			P	Pn	12 55 41.0	+1.4
HBAZ	**Herne Bay Bore**	**2.94**	**275**			P	Pn	12 55 41.3	+1.4
OTVZ	**Oturere**	**2.94**	**226**			P	Pn	12 55 40.2	0.0
WTVZ	**West Tongariro**	**2.96**	**227**			P	Pn	12 55 40.8	+0.6
KRHZ	**Kereru**	**2.96**	**212**			P	Pn	12 55 38.6	-1.6
BHHZ	**Black Hill Sta**	**2.97**	**217**			P	Pn	12 55 39.7	-0.7
AWAZ	**Awhitu Peninsu**	**2.99**	**270**			P	Pn	12 55 41.6	+1.0
NGZ	**Ngauruhoe**	**2.99**	**226**			P	Pn	12 55 41.0	+0.2
TWVZ	**Taurewa**	**3.02**	**229**			P	Pn	12 55 41.6	+0.5
TUVZ	**Tukino**	**3.02**	**224**			P	Pn	12 55 41.1	-0.1
WTAZ	**Waiatarua**	**3.05**	**273**			P	Pn	12 55 42.6	+1.1
MOVZ	**Moawhango**	**3.07**	**222**			P	Pn	12 55 41.0	-0.7
RVAZ	**Riverhead Bore**	**3.07**	**276**			P	Pn	12 55 42.8	+1.2
FWVZ	**Far West T-bar**	**3.07**	**226**			P	Pn	12 55 41.8	-0.1
WNVZ	**Wahianoa**	**3.09**	**224**			P	Pn	12 55 41.9	-0.3
HIZ	**Hauiti**	**3.11**	**243**			P	Pn	12 55 43.2	+0.9
PXZ	**Pawanui**	**3.12**	**202**			P	Pn	12 55 39.9	-2.5
MTVZ	**Mangateitei**	**3.20**	**225**			P	Pn	12 55 43.5	-0.1
PKVZ	**Pokaka**	**3.21**	**227**			P	Pn	12 55 44.1	+0.3
PNHZ	**Pukenui**	**3.25**	**211**			P	Pn	12 55 42.1	-2.3
WPHZ	**Waipukurau**	**3.29**	**207**			P	Pn	12 55 42.7	-2.1
PRHZ	**Porangahau**	**3.41**	**203**			P	Pn	12 55 43.6	-2.8
WCZ	**Waipu Caves**	**3.46**	**289**			P	Pn	12 55 48.4	+1.2
VRZ	**Vera Road**	**3.48**	**234**			P	Pn	12 55 48.6	+1.4
TSZ	**Takapari Road**	**3.48**	**212**			P	Pn	12 55 44.9	-2.5
DVHZ	**Dannevirke**	**3.60**	**208**			P	Pn	12 55 45.9	-3.1
ANWZ	**Angora Road**	**3.63**	**204**			P	Pn	12 55 46.8	-2.7
POWZ	**Post Office Ro**	**3.84**	**211**			P	Pn	12 55 49.6	-2.6
DREZ	**Durham Road**	**3.88**	**237**			P	Pn	12 55 55.1	+2.3
OHWZ	**Ohakea**	**3.89**	**217**			P	Pn	12 55 51.7	-1.2
LREZ	**Lake Rotokare**	**3.89**	**232**			P	Pn	12 55 54.1	+1.1
PRWZ	**Pori Road**	**3.89**	**208**			P	Pn	12 55 50.2	-2.9
NEZ	**North Egmont**	**3.99**	**236**			P	Pn	12 55 56.8	+2.4
PKE	**Pukeiti**	**4.02**	**238**			P	Pn	12 55 56.9	+2.1
KHEZ	**Kahui Hut**	**4.05**	**237**			P	Pn	12 55 57.7	+2.4
CPWZ	**Castlepoint**	**4.13**	**204**			P	Pn	12 55 53.0	-3.3
OUZ	**Omahuta**	**4.32**	**295**			P	Pn	12 56 00.6	+1.7
CTZ	**Chatham Island**	**7.61**	**151**			P	Pn	12 56 41.8	-2.3

*IDC **11** 12:56:49.9±1.8, 6°.65N×92°.99E, h0km, mb3.6/5, mb1 3.8/6,*
mb1mx3.5/40, mbtmp3.6/6, ML4.1/1, Error ellipse:
s-maj=72.2km s-min=23.9km az=58.0
ISC 11 12:56:53.9±1.5, 6°.7N±0°.2×93°.0E±0°.3, h25km, n9, σ0♀35/6, mb3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CMAR	**Chiang Mai Arr**	**13.04**	**26**			Pn	**Pn**	**12 59 57.8**	**+0.1**
	0.3nm,0.3s,baz=218,slow=13,SNR=5.6								
H08S3	**Diego Garcia H**	**24.95**	**236**			T	T	13 29 19.1	
	baz=54,slow=75,SNR=42								
H08S2	**Diego Garcia H**	**24.95**	**236**			T	T	13 29 19.8	
	baz=54,slow=75,SNR=31								
H08S1	**Diego Carcia H**	**24.97**	**236**			T	T	13 29 20.4	
	baz=54,slow=75,SNR=13								
MKAR	**Makanchi Array**	**41.02**	**349**			P	**P**	**13 04 34.6**	**-0.5**
	0.6nm,0.4s,baz=167,slow=7.9,SNR=5.8								
ZALV	**Zalesovo Beam**	**47.59**	**353**			P	**P**	**13 05 27.4**	**-0.1**
	1.3nm,0.4s,baz=171,slow=10,SNR=4.7								
WRA	**Warramunga Arr**	**48.48**	**124**			P	**P**	**13 05 34.8**	**-0.2**
	0.5nm,1.1s,baz=304,slow=9.1,SNR=4.0								
ASAR	**Alice Springs**	**50.01**	**128**			P	**P**	**13 05 46.7**	**+0.1**
	0.3nm,0.9s,baz=316,slow=6.6,SNR=2.7								
FINES	**FINESS Array B**	**73.25**	**332**			P	**P**	**13 08 23.1**	**+0.3**
	1.4nm,0.8s,baz=116,slow=4.4,SNR=7.1								

*IDC **11** 13:26:38.9±0.7, 4°.81S×151°.68E, h129km±8km, mb3.8/5,*
mb1 3.9/6, mb1mx3.4/42, mbtmp4.2/6, Error ellipse:
s-maj=35.1km s-min=17.3km az=126.0
*NEIC **11** 13:26:39.2±0.4, 4°.8S±0°.2×151°.8E±0°.2, h143km±21km,*
mb4.2/11, Error ellipse: s-maj=29.9km s-min=21.4km az=46.0
ISC 11 13:26:39.0±0.9, 4°.86S±0°.09×151°.7E±0°.1, h129km, n23, σ0♀87/25, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KRVT	**Keravat (AS076**	**0.64**	**30**			P	**Pn**	**13 27 00.3**	**+1.4**
	370nm,0.3s,baz=204,slow=0.9,SNR=496								
KRVT						S	**Sn**	**13 27 14.4**	**+0.5**
	113nm,0.3s,baz=69,slow=23,SNR=11								
RABL	**Rabaul**	**0.81**	**35**				**Pn**	**13 27 01.2**	**+1.0**
MANU	**Manus Island**	**5.16**	**303**			Pn	**Pn**	**13 27 54.5**	**+0.3**
PMG	**Port Moresby**	**6.38**	**225**			P	**Pn**	**13 28 11.3**	**+0.6**
	1.7nm,0.3s,baz=72,slow=4.4,SNR=7.0								
PMG						S	**Sn**	**13 29 23.7**	**+1.3**
	3.1nm,0.3s,baz=195,slow=20,SNR=7.3								
PMG	**Port Moresby**	**6.38**	**225**				**Pn**	**13 28 12.2**	**+1.5**
SIJI	**Sorong**	**20.79**	**280**			P	**P**	**13 31 10.3**	**+0.1**
	4.9nm,0.4s,baz=166,slow=17,SNR=6.4								
MTN	**Manton Dam**	**21.80**	**247**			P	**P**	**13 31 21.6**	**+0.5**
MTN						IAmb	IAmb	13 31 26.2	
	comp=Z,5.7nm,0.8s								
WB0	**Warramunga Arr**	**22.45**	**227**			P	**P**	**13 31 27.6**	**+0.1**
WB0						IAmb	IAmb	13 31 29.1	
	comp=Z,6.3nm,0.6s								
WR0	**Warramunga Arr**	**22.46**	**227**			P	**P**	**13 31 27.6**	**-0.1**
WR0						IAmb	IAmb	13 31 29.3	
	comp=Z,8.4nm,0.9s								
WRAB	**Tennant Creek**	**22.58**	**227**			P	**P**	**13 31 28.8**	**-0.1**
WB2	**Warramunga Arr**	**22.59**	**227**			P	**P**	**13 31 28.9**	**0.0**
WRA	**Warramunga Arr**	**22.60**	**227**			P	**P**	**13 31 28.7**	**-0.3**
	comp=Z,6.5nm,0.3s,baz=51,slow=9.9,SNR=151								
WRA	**Warramunga Arr**	**22.60**	**227**			P	**P**	**13 31 28.0**	**-1.0**
KNRA	**Kununurra**	**24.97**	**243**			P	**P**	**13 31 50.8**	**0.0**
KNRA						IAmb	IAmb	13 31 55.8	
	comp=Z,7.3nm,0.8s								
AS31	**Alice Springs**	**25.38**	**221**			P	**P**	**13 31 55.0**	**+0.5**
ASAR	**Alice Springs**	**25.38**	**221**			P	**P**	**13 31 54.8**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=48,slow=8.8,SNR=33								
ASAR	**Alice Springs**	**25.38**	**221**			P	**P**	**13 31 54.7**	**+0.1**
STKA	**Stephens Creek**	**28.50**	**198**			P	**P**	**13 32 21.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=4.8,slow=12,SNR=2.6								
STKA	**Stephens Creek**	**28.50**	**198**			P	**P**	**13 32 20.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**28.67**	**241**			P	**P**	**13 32 23.5**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=48,slow=7.2,SNR=37								
FITZ	**Fitzroy Crossi**	**28.67**	**241**			P	**P**	**13 32 23.7**	**-0.3**
FITZ						IAmb	IAmb	13 32 24.4	
	comp=Z,3.8nm,1.1s								
MORW	**Morawa**	**41.46**	**230**			P	**P**	**13 34 12.9**	**-0.5**
MORW						IAmb	IAmb	13 34 13.5	
	comp=Z,6.9nm,0.5s								
TORD	**Torodi Ar. Bea**	**149.29**	**288**	PKPbc			**PKPbc**	**13 46 12.7**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=97,slow=2.3,SNR=7.0								

*TIF **11** 13:33:44.8, 42°.60N×43°.45E, h16km*
*MOS **11** 13:33:45.7±0.0, 42°.56N×43°.43E, h12km, MPVA3.5*
*NORS **11** 13:33:45.0±0.0, 42°.58N×43°.51E, h10km, MPVA3.5*
*DDA **11** 13:33:46.3, 42°.54N×43°.22E, h7km±1km, ML2.3*
ISC 11 13:33:45.7±0.8, 42°.56N±0°.02×43°.46E±0°.02, h12km±5km,
n24, σ0♀62/48, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ONI	**Oni**	**0.04**	**356**		*e*Pg		**Pg**	**13 33 47.8**	**-0.1**
ONI					*e*Sg		**Sg**	**13 33 49.5**	**0.0**
ONI	**Oni**	**0.04**	**356**		P		**Pg**	**13 33 47.8**	**-0.1**
ONI					S		**Sg**	**13 33 49.5**	**0.0**
TKB	**Tkibuli**	**0.40**	**239**		*e*Pg		**Pg**	**13 33 54.0**	**+0.4**
TKB					*e*Sg		**Sb**	**13 34 00.2**	**-0.6**
TKB	**Tkibuli**	**0.40**	**239**		P		**Pg**	**13 33 54.0**	**+0.4**
TKB					S		**Sb**	**13 34 00.2**	**-0.6**
ZEI	**Tsey**	**0.40**	**55**		*e*Pg		**Pg**	**13 33 53.8**	**+0.1**
ZEI					*e*Sg		**Sg**	**13 33 59.6**	**+0.5**
LACR	**Lac**	**0.68**	**66**		*e*Pg		**Pg**	**13 33 58.9**	**0.0**
LACR					*e*Sg		**Sg**	**13 34 07.8**	**0.0**
KORR	**Kora**	**0.70**	**40**		*e*Pg		**Pb**	**13 34 00.4**	**+0.6**
KORR					*e*Sg		**Sb**	**13 34 10.4**	**+0.9**
LSNR	**Lesken**	**0.77**	**21**		*e*Pg		**Pb**	**13 34 00.9**	**-0.2**
LSNR					*e*Sg		**Sb**	**13 34 12.3**	**+0.7**
TRLG	**Trialeti**	**1.12**	**154**		*e*Pg		**Pb**	**13 34 06.6**	**-0.6**
TRLG					*e*Sg		**Sn**	**13 34 23.2**	**+0.3**
TRLG	**Trialeti**	**1.12**	**154**		P		**Pb**	**13 34 06.6**	**-0.6**
TRLG					S		**Sn**	**13 34 23.2**	**+0.3**
EPOS	**Posof**	**1.18**	**208**		*i*P		**Pn**	**13 34 07.7**	**-0.6**
EPOS					*i*S		**Sb**	**13 34 23.4**	**-0.1**
KBZ	**Khabaz**	**1.24**	**341**		*i*Pg		**Pg**	**13 34 08.9**	**-0.6**
KBZ					*i*Sg		**Sn**	**13 34 25.0**	**-0.6**
SHA1	**Shidzhatmaz**	**1.32**	**334**		*e*Pg		**Pg**	**13 34 10.9**	**-0.1**
SHA1					*e*Sg		**Sg**	**13 34 27.9**	**-0.3**
DMNI	**Dmanisi**	**1.34**	**156**		*e*Pg		**Pn**	**13 34 10.1**	**-0.3**
DMNI					*e*Sg		**Sb**	**13 34 28.9**	**+0.8**
DMNI	**Dmanisi**	**1.34**	**156**		P		**Pn**	**13 34 10.1**	**-0.3**
DMNI					S		**Sb**	**13 34 28.9**	**+0.8**
KIV0	**Kislovodsk Arr**	**1.51**	**339**		*e*Pg		**Pg**	**13 34 13.8**	**-0.8**
KIV0					*e*Sg		**Sg**	**13 34 33.4**	**-0.7**
KIV	**Kislovodsk**	**1.51**	**338**		*i*

moment-rate function
ISC 11 14:11:02.3±0.5,**22°88S**±0.07×**172°80E**±0.07,**h49**km,**n63**,
σ1ᵍ**79**/58,**mb4.5**/23,**MS3.9**/15,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.93**	**277**	*e*Pn	**Pn**	**14 12 26.3**	**-1.4**
	30nm,0.3s						
DZM				*e*Sn	**Sn**	**14 13 30.9**	**-3.5**
	23nm,0.2s						
DZM				*e*LR	LR	14 13 40.5	
DZM	**Mont Dzumac**	**5.93**	**277**	Pn	**Pn**	**14 12 26.5**	**-1.1**
	2.1nm,0.3s,baz=118,slow=12,SNR=24						
DZM				Sn	**Sn**	**14 13 34.6**	**+0.2**
	2.7nm,0.3s,baz=164,slow=18,SNR=2.2						
DZM	**Mont Dzumac**	**5.93**	**277**	Pn	**Pn**	**14 12 26.7**	**-1.0**
DZM				Sn	**Sn**	**14 13 35.7**	**+1.4**
MSVF	**Nonsavu**	**7.11**	**45**		**Pn**	**14 12 41.8**	**-2.1**
SANVU	**Saraoutou**	**9.09**	**323**	Pn	**Pn**	**14 13 10.5**	**-0.3**
RAO	**Raoul Island**	**10.48**	**129**	LR	LR	14 16 28.9	
	comp=Z,1μm,21.9s,baz=322,slow=32						
URZ	**Urewera**	**15.77**	**167**	Pn	**Pn**	**14 14 41.9**	**+0.9**
	0.5nm,0.3s,baz=101,slow=7.9,SNR=3.9						
URZ				LR	LR	14 19 17.5	
	comp=Z,1μm,20.9s,baz=35,slow=32						
HNR	**Honiara**	**18.18**	**315**	LR	LR	14 21 06.3	
	comp=Z,532nm,20.5s,baz=148,slow=34						
SNZO	**South Karori**	**18.45**	**175**	P	**P**	**14 15 09.4**	**-4.3**
SNZO				IAmb	IAmb	14 15 23.8	
	comp=Z,79nm,1.2s						
ARMA	**Armidale**	**20.34**	**244**	P	**P**	**14 15 32.3**	**-2.3**
RPZ	**Rata Peaks**	**20.83**	**184**	P	**P**	**14 15 40.3**	**+0.5**
	comp=Z,21nm,1.0s,baz=21,slow=11,SNR=3.9						
RPZ				LR	LR	14 23 19.5	
	comp=Z,1μm,18.5s,baz=340,slow=35						
CTA	**Charters Tower**	**24.84**	**271**	P	**P**	**14 16 19.9**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=104,slow=5.5,SNR=10						
CTAO	**Charters Tower**	**24.84**	**271**	P	**P**	**14 16 19.0**	**-1.3**
PMG	**Port Moresby**	**27.97**	**294**	LR	LR	14 25 39.0	
	comp=Z,247nm,20.4s,baz=356,slow=32						
STKA	**Stephens Creek**	**29.04**	**245**	P	**P**	**14 16 58.6**	**+0.7**
	comp=Z,6.1nm,1.1s,baz=63,slow=9.1,SNR=7.2						
STKA	**Stephens Creek**	**29.04**	**245**	P	**P**	**14 16 57.9**	**0.0**
BBOO	**Buckleboo**	**33.81**	**245**	P	**P**	**14 17 39.9**	**0.0**
TBI	**Tubuai**	**34.65**	**98**	*e*LR	LR	14 26 55.4	
	comp=Z,225nm,28.8s						
PPT2	**Papeete2**	**35.63**	**89**	*e*LQ	LQ	14 25 52.9	
	comp=Z,279nm,24.2s						
PPT2				*e*LR	LR	14 27 27.2	
	comp=Z,122nm,24.5s						
PPT	**Papeete**	**35.63**	**88**	LR	LR	14 28 04.7	
	comp=Z,78nm,21.4s,baz=246,slow=29						
AS31	**Alice Springs**	**35.66**	**261**	P	**P**	**14 17 55.8**	**-0.2**
AS31				IAmb	IAmb	14 17 57.1	
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**35.66**	**261**	P	**P**	**14 17 55.5**	**-0.5**
	comp=Z,11nm,0.9s,baz=85,slow=8.7,SNR=94						
ASAR				LR	LR	14 32 41.7	
	comp=Z,172nm,18.2s,baz=304,slow=37						
ASAR	**Alice Springs**	**35.66**	**261**	P	**P**	**14 17 54.1**	**-1.9**
WR0	**Warramunga Arr**	**35.67**	**267**	P	**P**	**14 17 54.8**	**-1.3**
WR0				IAmb	IAmb	14 17 58.7	
	comp=Z,6.1nm,0.9s						
WB0	**Warramunga Arr**	**35.84**	**268**	P	**P**	**14 17 54.6**	**-2.9**
WB0				IAmb	IAmb	14 17 59.1	
	comp=Z,8.6nm,1.0s						
WB2	**Warramunga Arr**	**35.84**	**267**	P	**P**	**14 17 56.1**	**-1.4**
WB2				IAmb	IAmb	14 17 59.2	
	comp=Z,7.9nm,1.1s						
WRAB	**Tennant Creek**	**35.85**	**267**	P	**P**	**14 17 56.3**	**-1.3**
WRAB				IAmb	IAmb	14 17 59.1	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**35.86**	**267**	P	**P**	**14 17 56.2**	**-1.5**
	comp=Z,4.8nm,0.9s,baz=97,slow=8.6,SNR=20						
WRA	**Warramunga Arr**	**35.86**	**267**	P	**P**	**14 17 56.1**	**-1.5**
FORT	**Forrest**	**40.48**	**249**	P	**P**	**14 18 36.2**	**-0.2**
MTN	**Manton Dam**	**40.77**	**277**	P	**P**	**14 18 36.7**	**-2.3**
MTN				IAmb	IAmb	14 18 42.9	
	comp=Z,7.7nm,0.8s						
TAOE	**Nuku Hiva Isla**	**47.15**	**81**	*e*LR	LR	14 32 49.0	
	comp=Z,65nm,23.5s						
MORW	**Morawa**	**50.99**	**250**	P	**P**	**14 19 59.2**	**-0.2**
VNDA	**Vanda**	**54.95**	**183**	P	**P**	**14 20 29.0**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=355,slow=7.0,SNR=4.0						
VNDA				LR	LR	14 39 59.7	
	comp=Z,370nm,21.9s,baz=7.0,slow=32						
BLJI	**Banyuglugur**	**58.69**	**275**	P	P	14 21 03.4	+8.1
MTKI	**Muara Teweh, K**	**60.24**	**283**	P	P	14 21 18.5	+12
QSPA	**South Pole Qui**	**67.19**	**180**	P	**P**	**14 21 51.5**	**+0.3**
QSPA				IAmb	IAmb	14 22 00.3	
	comp=Z,10nm,1.2s						
MJAR	**Matsushiro Arr**	**67.53**	**330**	P	**P**	**14 21 52.8**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=169,slow=8.8,SNR=5.6						
MJAR				LR	LR	14 46 45.1	
	comp=Z,76nm,21.1s,baz=230,slow=32						
MJAR	**Matsushiro Arr**	**67.53**	**330**	P	**P**	**14 21 52.5**	**-1.0**
MNSI	**Mandailing Nat**	**74.87**	**277**	P	**P**	**14 22 41.3**	**+2.9**
NJ2	**Nanjing**	**75.12**	**315**	*e*P	**P**	**14 22 41.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,24nm,0.5s						
MAW	**Mawson**	**76.31**	**202**	P	**P**	**14 22 49.8**	**+4.1**
	comp=Z,1.7nm,0.5s,baz=191,slow=10,SNR=3.3						
MAW				LR	LR	14 53 29.9	
	comp=Z,118nm,18.2s,baz=66,slow=33						
MAW	**Mawson**	**76.31**	**202**	P	**P**	**14 22 45.9**	**+0.2**
PETK	**Petropavlovsk-**	**76.80**	**351**	P	**P**	**14 22 47.4**	**-1.1**
	comp=Z,5.6nm,0.9s,baz=160,slow=9.3,SNR=8.8						
PETK				LR	LR	14 49 49.0	
	comp=Z,114nm,21.8s,baz=152,slow=30						
PETK	**Petropavlovsk-**	**76.80**	**351**	P	**P**	**14 22 50.6**	**+2.2**
GSI	**Gunungsitoli**	**76.91**	**277**	P	**P**	**14 22 51.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**83.00**	**293**	P	**P**	**14 23 23.6**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=144,slow=4.7,SNR=4.1						
HHC	**Hu-ho-hao-te**	**85.13**	**318**	*e*P	**P**	**14 23 34.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,500nm,5.5s						
SNAA	**Sanae**	**85.65**	**181**	P	**P**	**14 23 34.8**	**-0.6**
SNAA	**Sanae**	**85.65**	**181**	P	**P**	**14 23 34.8**	**-0.6**
SNAA				IAmb	IAmb	14 23 48.2	
	comp=Z,4.8nm,1.0s						
VNA3	**Neumayer Olymp**	**86.12**	**179**	P	**P**	**14 23 37.7**	**0.0**
SEY	**Seymchan**	**87.04**	**351**	P	**P**	**14 23 41.8**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=142,slow=9.2,SNR=5.7						
LZH	**Lanzhou**	**87.62**	**311**	*e*P	**P**	**14 23 47.7**	**+2.0**
LZH				pP	PcP	14 23 51.0	+3.4
LZH				sP	pP	14 23 52.6	-6.3
LZH				*e*PP	**PP**	**14 27 16.8**	**+5.1**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,8.6s						
LZH				LR	LR		
	comp=N,130nm,17.0s						
LZH				LR	LR		
	comp=E,130nm,16.8s						
LZH				LR	LR		
	comp=Z,220nm,19.6s						
NVAR	**Mina Array Bea**	**88.77**	**47**	P	**P**	**14 23 51.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=219,slow=6.9,SNR=8.1						
SONM	**Songino Array**	**92.12**	**322**	LR	LR	15 02 01.7	
	comp=Z,56nm,21.4s,baz=154,slow=33						
ILAR	**Eielson Array**	**92.75**	**16**	P	**P**	**14 24 06.1**	**-2.6**
	comp=Z,0.8nm,0.8s,baz=220,slow=6.6,SNR=6.0						
ILAR				LR	LR	15 01 13.8	
	comp=Z,116nm,18.8s,baz=154,slow=33						
PLCA	**Paso Flores**	**93.62**	**137**	LR	LR	14 56 37.5	
	comp=Z,47nm,21.9s,baz=170,slow=29						
DPC	**Dobruska-Polom**	**146.99**	**332**	*e*PKP	**PKPdf**	**14 30 37.9**	**+0.5**
BRG	**Berggiesshubel**	**147.57**	**335**	*e*PKP	**PKPdf**	**14 30 39.4**	**+1.1**
	comp=Z,2.9nm,0.9s						
CLL	**Collm**	**147.59**	**336**	*e*PKPdf	**PKPdf**	**14 30 39.0**	**+0.7**
	comp=Z,4.0nm,1.0s						
CLL				*i* PKiKP	**PKPab**	**14 30 44.1**	**+0.9**
	comp=Z,5.0nm,1.0s						
CLL				*e*pPKPdf	**pPKPdf**	**14 30 48.0**	**-3.7**
KHC	**Kasperske Hory**	**149.08**	**333**	*e*PKP	**PKiKP**	**14 30 47.3**	**+1.0**
GERES	**GERESS Array B**	**149.24**	**333**	PKPbc	**PKPbc**	**14 30 43.9**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=116,slow=2.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**167.15**	**223**	PKPab	**PKPab**	**14 32 07.5**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=118,slow=3.0,SNR=7.0						

PRE 11 14:20:58.7±0.8,**24°91S**×**29°49E**,**h5**km,**ML1.8**,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAGI	**HAGI**	**1.95**	**128**	*e*P	Pn	14 21 32.0	-0.6
HAGI				*e*S	Sn	14 21 57.1	-0.3
HAGI				AML	AML	14 21 58.8	
	comp=Z,15nm,0.5s						
MAGG	**Maguga Dam**	**1.98**	**126**	*e*P	Pn	14 21 33.4	+0.5
MAGG				*e*S	Sn	14 21 59.1	+1.0
MAGG				AML	AML	14 22 04.3	
	comp=Z,9.2nm,0.6s						
LBTB	**Lobatse**	**3.54**	**268**	*e*P	Pn	14 21 55.5	+1.1
LBTB				*e*S	Sn	14 22 35.7	-0.9
LBTB				*e*S		14 25 49.4	
LBTB				AML	AML	14 26 01.8	
	comp=Z,19nm,0.3s						

IDC ***11*** *14:36:01.5±1.5, 18°.24S×172°.58W, h0ᵏᵐ, mb3.9/6, mb1 4.2/7, mb1mx3.9/26, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=65.1km s-min=22.3km az=143.0*
NEIC ***11*** *14:36:02.4±3.0, 18°.35S±0°.05×172°.4W±0°.1, h18ᵏᵐ±5ᵏᵐ, mb4.4/5, Error ellipse: s-maj=15.0km s-min=7.9km az=89.0*
ISC 11 14:36:02.0±0.8,**18°25S**±0°09×**172°3W**±0°.1,**h10**km,**n20**,
σ1ᵍ**63**/21,**mb4.0**/7,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.38**	**111**		**Pn**	**14 36 40.7**	**-0.5**
AFI	**Afiamalu**	**4.34**	**7**	Pn	**Pn**	**14 37 08.4**	**+0.2**
	6.5nm,0.3s,baz=207,slow=3.1,SNR=25						
AFI				Sn	**Sn**	**14 37 55.4**	**-3.6**
	40nm,0.3s,baz=106,slow=19,SNR=12						
AFI	**Afiamalu**	**4.34**	**7**		**Pn**	**14 37 08.1**	**-0.1**
RAR	**Rarotonga**	**12.15**	**106**	Pn	**Pn**	**14 38 54.1**	**-1.1**
	3.4nm,0.3s,baz=264,slow=9.4,SNR=7.6						
RAR				Sn	Sn	14 40 59.1	-12
	0.9nm,0.3s,baz=311,slow=20,SNR=2.7						
KNTN	**Kanton**	**15.39**	**2**	P	**P**	**14 39 44.1**	**+0.1**
KNTN				IAmb	IAmb	14 39 45.1	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**50.28**	**259**	P	**P**	**14 44 58.0**	**-1.1**
WB2				IAmb	IAmb	14 44 58.4	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**50.29**	**259**	P	**P**	**14 44 58.1**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=98,slow=6.3,SNR=26						
WRA	**Warramunga Arr**	**50.29**	**259**	P	**P**	**14 44 56.7**	**-2.5**
AS31	**Alice Springs**	**50.30**	**254**	P	**P**	**14 44 58.8**	**-0.5**
ASAR	**Alice Springs**	**50.30**	**254**	P	**P**	**14 44 58.2**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=88,slow=8.1,SNR=29						
FITZ	**Fitzroy Crossi**	**58.70**	**260**	P	**P**	**14 45 58.2**	**-2.1**
PETK	**Petropavlovsk-**	**75.66**	**342**	P	**P**	**14 47 48.5**	**+1.4**
	comp=Z,1.4nm,0.9s,baz=119,slow=9.9,SNR=4.2						
NVAR	**Mina Array Bea**	**75.75**	**41**	P	**P**	**14 47 50.6**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=229,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**83.68**	**41**	P	**P**	**14 48 33.4**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=188,slow=3.0,SNR=6.3						
PDAR	**Pinedale Array**	**83.68**	**41**	P	**P**	**14 48 32.2**	**+0.9**
ILAR	**Eielson Array**	**85.03**	**11**	P	**P**	**14 48 38.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=231,slow=5.8,SNR=4.9						
ILAR	**Eielson Array**	**85.03**	**11**	P	**P**	**14 48 39.1**	**+1.8**
CLL	**Collm**	**146.75**	**354**	*e*PKiKP	**PKPab**	**14 55 46.0**	**+0.7**
BRTR	**Keskin Array B**	**149.01**	**319**	PKPbc	**PKPbc**	**14 55 49.9**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=62,slow=2.5,SNR=3.6						
GERES	**GERESS Array B**	**149.10**	**352**	PKPbc	**PKiKP**	**14 55 51.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=323,slow=3.3,SNR=4.9						

IDC ***11*** *14:54:42.7±2.1, 0°.04S×123°.98E, h94ᵏᵐ±22ᵏᵐ, mb3.7/12, mb1 3.8/15, mb1mx3.7/34, mbtmp4.1/15, Error ellipse: s-maj=14.8km s-min=12.9km az=100.0*
DJA ***11*** *14:54:43.9±0.2, 0°S±3°×12°4E±°, h70ᵏᵐ±5ᵏᵐ, M4.5/16, mb4.5/13, mB5.0/6, MLv4.7/16, Mw(mB)4.3/6*
ISC 11 14:54:43.7±0.5,**0°09S**±0°06×**124°03E**±0°06,**h110**km,**n38**,
σ1ᵍ**36**/41,**mb3.9**/13,**1C, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.66**	**356**	P	**Pn**	**14 55 00.0**	**-1.8**
KMSI				S	**Sn**	**14 55 12.1**	**-3.3**
LUWI	**Luwuk**	**1.57**	**233**	P	**Pn**	**14 55 09.9**	**-1.5**
SANI	**Sanana**	**2.76**	**135**	P	**Pn**	**14 55 23.7**	**-2.9**
TNTI	**Ternate**	**3.45**	**76**	P	**Pn**	**14 55 34.6**	**-1.1**
SGSI	**Sangihe**	**4.04**	**22**	P	**Pn**	**14 55 44.4**	**+0.7**
KDI	**Kendari**	**4.09**	**200**	P	**Pn**	**14 55 43.7**	**-0.6**
MPSI	**Mapaga**	**4.15**	**276**	P	**Pn**	**14 55 45.6**	**+0.5**
NLAI	**Namlea**	**4.38**	**136**	P	**Pn**	**14 55 47.5**	**-0.8**
TTSI	**Tana Toraja**	**5.13**	**235**	P	**Pn**	**14 55 58.5**	**+0.2**
	1.1nm2μm221nm,0.8s						
SPSI	**Sidrap Palu**	**5.74**	**228**	P	**Pn**	**14 56 06.9**	**+0.4**
	0.4nm1μm76nm,0.5s						
MSAI	**Masohi**	**5.87**	**123**	P	**Pn**	**14 56 09.5**	**+1.1**
KAPI	**Kappang**	**6.49**	**221**	P	**Pn**	**14 56 17.5**	**+0.7**
	4.5nm,0.3s,baz=184,slow=13,SNR=3.4						
KAPI				S	**Sn**	**14 57 28.4**	**-1.1**
	13nm,0.3s,baz=171,slow=19,SNR=7.0						
BKSI	**Bulukumba**	**6.50**	**217**	P	**Pn**	**14 56 16.2**	**-0.7**
	0.2nm842nm24nm,0.6s						
KCP	**Kidapawan**	**7.13**	**9**	*i*P	**Pn**	**14 56 28.5**	**+2.9**
SIJI	**Sorong**	**7.28**	**96**	P	**Pn**	**14 56 26.3**	**-1.2**
	5.4nm,0.3s,baz=290,slow=9.3,SNR=27						
SIJI				S	**Sn**	**14 57 50.0**	**+1.3**
	baz=73,slow=19,SNR=2.4						
BNDI	**Bandanaira**	**7.34**	**127**	P	**Pn**	**14 56 28.1**	**-0.2**
	0.4nm91nm,0.9s						
KBKI	**Kotabaru**	**8.48**	**248**	P	Pn	14 56 55.2	+11
FAKI	**Fak Fak**	**8.69**	**109**	P	**Pn**	**14 56 43.8**	**-2.8**
EDFI	**Ende, Flores**	**8.91**	**195**	P	**Pn**	**14 56 48.2**	**-1.5**
	7.8nm,0.8s						
SOEI	**Soe**	**9.60**	**179**	P	**Pn**	**14 56 58.4**	**-0.8**
	28nm,0.9s						
BBKI	**Banjar Baru**	**9.77**	**250**	P	**Pn**	**14 57 01.8**	**+0.5**
	2μm23nm,1.0s						
GENI	**Genyem**	**16.33**	**99**	P	**P**	**14 58 28.3**	**+0.7**
	40nm,1.7s						
FITZ	**Fitzroy Crossi**	**17.96**	**175**	P	**Pn**	**14 58 47.1**	**+0.6**
	0.1nm,0.3s,baz=3.6,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**22.16**	**153**	P	**P**	**14 59 30.8**	**-0.1**
	1.8nm,0.6s,baz=335,slow=10,SNR=22						
ASAR	**Alice Springs**	**25.32**	**158**	P	**P**	**15 00 01.5**	**+1.1**
	0.6nm,0.4s,baz=336,slow=9.4,SNR=19						
CMAR	**Chiang Mai Arr**	**30.77**	**308**	P	**P**	**15 00 49.6**	**+0.5**
	0.6nm,0.4s,baz=133,slow=8.7,SNR=4.7						
STKA	**Stephens Creek**	**35.72**	**154**	P	**P**	**15 01 32.7**	**+0.9**
	0.7nm,0.5s,baz=328,slow=11,SNR=4.3						
KSRS	**Korea Array**	**37.53**	**5**	P	**P**	**15 01 46.1**	**-1.0**
	1.3nm,0.7s,baz=176,slow=8.6,SNR=6.2						
MAT	**Matsushiro**	**38.75**	**18**	P	**P**	**15 01 56.8**	**-0.7**
MJAR	**Matsushiro Arr**	**38.75**	**18**	P	**P**	**15 01 57.0**	**-0.4**
	5.2nm,0.7s,baz=188,slow=9.1,SNR=24						
USRK	**Ussuriysk Ar.**	**44.67**	**8**	P	**P**	**15 02 45.9**	**+0.4**
	5.5nm,0.5s,baz=193,slow=6.9,SNR=23						
SONM	**Songino Array**	**50.14**	**345**	P	**P**	**15 03 27.7**	**-0.3**
	1.0nm,0.7s,baz=162,slow=4.9,SNR=4.5						
MKAR	**Makanchi Array**	**59.23**	**328**	P	**P**	**15 04 33.2**	**-0.3**
	1.8nm,0.5s,baz=122,slow=7.9,SNR=18						
MKAR				PcP	**PcP**	**15 05 21.9**	**+1.1**
	0.7nm,0.4s,baz=144,slow=3.2,SNR=5.8						
PETK	**Petropavlovsk-**	**59.97**	**23**	P	**P**	**15 04 40.2**	**+1.7**
	5.4nm,0.8s,baz=202,slow=3.0,SNR=32						
NRIK	**Noril'sk**	**73.50**	**347**	P	**P**	**15 06 04.2**	**+0.2**
	1.7nm,0.5s,baz=112,slow=7.3,SNR=4.0						
ILAR	**Eielson Array**	**89.69**	**25**	P	**P**	**15 07 30.2**	**+1.0**
	0.2nm,0.5s,baz=255,slow=4.0,SNR=6.6						
ARCES	**ARCESS Array B**	**93.07**	**340**	P	**P**	**15 07 42.4**	**-2.4**
	1.3nm,0.8s,baz=75,slow=5.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**121.42**	**285**	PKP	**PKiKP**	**15 13 25.4**	**0.0**
	0.3nm,0.6s,baz=43,slow=2.3,SNR=2.8						

WEL 11 14:55:05.5,40°S±1°×17°4E±°,h109km±4km,**M2.7**/47,
ML2.9/6,**MLv2.7**/47,**Error ellipse: s-maj=0.0km s-min=0.0km az=69.8,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.68**	**7**	P	Pn	14 55 23.9	+0.2
DUWZ	**D'Urville Isla**	**0.72**	**203**	P	Pn	14 55 24.4	+0.4
NMEZ	**Namu Road**	**0.79**	**336**	P	Pn	14 55 24.8	+0.2
KIW	**Kapiti Island**	**0.86**	**147**	P	Pn	14 55 25.5	+0.2
KHEZ	**Kahui Hut**	**0.87**	**345**	P	Pn	14 55 25.6	+0.2
NEZ	**North Egmont**	**0.88**	**350**	P	Pn	14 55 25.6	0.0
NBEZ	**Newall Road No**	**0.93**	**339**	P	Pn	14 55 26.4	+0.5
DREZ	**Durham Road**	**0.95**	**356**	P	Pn	14 55 26.6	+0.4
OGWZ	**Otaki Gorge**	**0.95**	**136**	P	Pn	14 55 27.7	+1.6
PKE	**Pukeiti**	**0.97**	**346**	P	Pn	14 55 26.8	+0.4
VRZ	**Vera Road**	**1.07**	**20**	P	Pn	14 55 27.6	+0.2
TCW	**Tory Channel**	**1.07**	**181**	P	Pn	14 55 28.1	+0.7
MRZ	**Mangatainoka R**	**1.11**	**119**	P	Pn	14 55 28.3	+0.5
CAW	**Cannon Point**	**1.13**	**149**	P	Pn	14 55 28.6	+0.5
POWZ	**Post Office Ro**	**1.16**	**103**	P	Pn	14 55 29.7	+1.4
PKVZ	**Pokaka**	**1.17**	**44**	P	Pn	14 55 28.8	+0.2
HOWZ	**Holdsworth Sta**	**1.20**	**130**	P	Pn	14 55 32.1	+3.2
WEL	**Wellington**	**1.20**	**163**	P	Pn	14 55 29.4	+0.6
TSZ	**Takapari Road**	**1.28**	**87**	P	Pn	14 55 29.5	-0.3
NNZ	**Nelson**	**1.28**	**212**	P	Pn	14 55 30.7	+1.0
WNVZ	**Wahianoa**	**1.29**	**52**	P	Pn	14 55 30.4	+0.4
FWVZ	**Far West T-bar**	**1.31**	**48**	P	Pn	14 55 30.7	+0.4
TUWZ	**Tuamarina**	**1.32**	**192**	P	Pn	14 55 30.7	+0.6
MOVZ	**Moawhango**	**1.34**	**58**	P	Pn	14 55 30.6	+0.1
TUVZ	**Tukino**	**1.36**	**51**	P	Pn	14 55 31.2	+0.4
TIWZ	**Tintock**	**1.37**	**118**	P	Pn	14 55 33.7	+2.9
TWVZ	**Taurewa**	**1.38**	**40**	P	Pn	14 55 31.3	+0.3
NGZ	**Ngauruhoe**	**1.39**	**47**	P	Pn	14 55 31.8	+0.6
WTVZ	**West Tongariro**	**1.43**	**45**	P	Pn	14 55 31.9	+0.3
OTVZ	**Oturere**	**1.44**	**48**	P	Pn	14 55 32.1	+0.4
MSWZ	**Moikau Station**	**1.47**	**151**	P	Pn	14 55 32.4	+0.5
KRVZ	**Karewarewa**	**1.47**	**45**	P	Pn	14 55 32.4	+0.4
PNHZ	**Pukenui**	**1.48**	**82**	P	Pn	14 55 31.9	-0.1
ETVZ	**East Tongariro**	**1.48**	**48**	P	Pn	14 55 32.5	+0.3
TMVZ	**Te Maari**	**1.49**	**47**	P	Pn	14 55 32.8	+0.5
BHHZ	**Black Hill Sta**	**1.51**	**65**	P	Pn	14 55 32.6	+0.2
QRZ	**Quartz Range**	**1.51**	**242**	P	Pn	14 55 33.0	+0.6
KATZ	**Kakaramea**	**1.59**	**43**	P	Pn	14 55 34.2	+0.7
PLWZ	**Pelliser**	**1.61**	**153**	P	Pn	14 55 33.9	+0.3
BSWZ	**Blackbirch Sta**	**1.61**	**191**	P	Pn	14 55 35.1	+1.6
WPHZ	**Waipukurau**	**1.65**	**88**	P	Pn	14 55 37.8	+3.7
KRHZ	**Kereru**	**1.67**	**74**	P	Pn	14 55 35.1	+0.8
HIZ	**Hauiti**	**1.68**	**15**	P	Pn	14 55 34.8	+0.3
KWHZ	**Kaweka Forest**	**1.79**	**67**	P	Pn	14 55 37.4	+1.6
THZ	**Tophouse**	**1.94**	**212**	P	Pn	14 55 39.0	+1.3
BKZ	**Black Stump Fm**	**1.95**	**61**	P	Pn	14 55 38.1	+0.2
KUTZ	**Kaahu Road**	**2.03**	**36**	P	Pn	14 55 40.5	+1.6
TLZ	**Tolley Road**	**2.05**	**29**	P	Pn	14 55 39.5	+0.4
NMHZ	**Naumai**	**2.20**	**63**	P	Pn	14 55 44.9	+3.9
KHZ	**Kahutara**	**2.35**	**194**	P	Pn	14 55 44.0	+1.2
MTHZ	**Maungataniwha**	**2.35**	**58**	P	Pn	14 55 43.7	+0.7
DSZ	**Denniston Nort**	**2.48**	**229**	P	Pn	14 55 45.8	+1.1
TOZ	**Tahuroa Road**	**2.58**	**22**	P	Pn	14 55 46.6	+0.6
GVZ	**Greta Valley S**	**2.98**	**198**	P	Pn	14 55 51.7	+0.5
LTZ	**Lake Taylor**	**3.05**	**209**	P	Pn	14 55 52.4	+0.3
AWAZ	**Awhitu Peninsu**	**3.08**	**5**	P	Pn	14 55 53.7	+1.2
ETAZ	**East Tamaki Re**	**3.22**	**9**	P	Pn	14 55 55.4	+1.1
INZ	**Inchbonnie**	**3.36**	**219**	P	Pn	14 55 57.5	+1.3
RVAZ	**Riverhead Bore**	**3.37**	**4**	P	Pn	14 55 57.5	+1.2
WIAZ	**Waiheke Island**	**3.40**	**11**	P	Pn	14 55 58.1	+1.3
OXZ	**Oxford**	**3.61**	**207**	P	Pn	14 55 58.6	-1.0
OKCZ	**Okains Bay**	**3.70**	**194**	P	Pn	14 56 00.3	-0.5
MQZ	**McQueen's Vall**	**

WRA S Sn 15 56 29.5 -6.0
0.6nm,0.3s,baz=354,slow=23,SNR=8.2
ASAR Alice Springs 17.36 169 P **Pn 15 54 48.4 +3.7**
0.1nm,0.3s,baz=348,slow=12,SNR=10
ASAR S **S 15 57 54.4 -2.8**
0.1nm,0.3s,baz=359,slow=28,SNR=4.8
MKAR Makanchi Array 67.99 327 P **P 16 01 36.4 +1.9**
0.3nm,0.3s,baz=115,slow=6.1,SNR=6.5
KURBB Kurchatov Arra 72.26 328 P **P 16 02 01.5 +1.1**
0.2nm,0.6s,baz=128,slow=6.0,SNR=3.0

*IDC **11** 15:55:11.2±2.0, 15°.04S×170°.30E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.8/38, mbtmp3.9/7, ML3.6/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/40, Error ellipse: s-maj=60.5km s-min=24.9km az=125.0*
ISC 11 15:55:16.2±1.9, 15°.0S±0°.2×170°.3E±0°.3, h35km, n13, σ2§00/8, mb4.0/6, MS3.6/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.93**	**207**	Pn	**Pn**	**15 57 07.0**	**-2.1**
	0.9nm,0.3s,baz=160,slow=22,SNR=8.9						
DZM				Sn	**Sn**	**15 58 40.5**	**+2.9**
	0.9nm,0.3s,baz=309,slow=23,SNR=7.5						
DZM				LR	LR	15 59 51.9	
	comp=Z,333nm,20.7s,baz=32,slow=36						
PMG	**Port Moresby**	**23.32**	**281**	LR	LR	16 08 27.2	
	comp=Z,190nm,18.1s,baz=102,slow=34						
URZ	**Urewera**	**23.91**	**167**	LR	LR	16 07 29.2	
	comp=Z,114nm,21.9s,baz=31,slow=31						
RPZ	**Rata Peaks**	**28.61**	**179**	LR	LR	16 10 37.1	
	comp=Z,153nm,19.5s,baz=356,slow=32						
RAR	**Rarotonga**	**29.04**	**107**	LR	LR	16 10 17.6	
	comp=Z,88nm,22.0s,baz=238,slow=31						
STKA	**Stephens Creek**	**31.12**	**232**	P	**P**	**16 01 31.9**	**+0.4**
	1.9nm,0.9s,baz=90,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**34.64**	**257**	P	**P**	**16 02 01.4**	**-1.1**
	0.9nm,0.8s,baz=84,slow=8.1,SNR=7.2						
WRA				LR	LR	16 15 21.8	
	comp=Z,139nm,18.5s,baz=160,slow=35						
ASAR	**Alice Springs**	**35.36**	**250**	P	**P**	**16 02 07.5**	**-1.1**
	1.6nm,0.8s,baz=78,slow=9.0,SNR=17						
ASAR				LR	LR	16 14 26.4	
	comp=Z,162nm,21.9s,baz=336,slow=33						
PPT2	**Papeete2**	**38.51**	**99**	*e*LR	LR	16 13 02.7	
	comp=Z,150nm,24.5s						
FITZ	**Fitzroy Crossi**	**42.88**	**259**	P	**P**	**16 03 10.9**	**-0.7**
	4.2nm,0.9s,baz=108,slow=11,SNR=5.2						
TAOE	**Nuku Hiva Isla**	**48.75**	**89**	*e*LR	LR	16 17 54.0	
	comp=Z,98nm,28.3s						
CMAR	**Chiang Mai Arr**	**77.79**	**293**	P	**P**	**16 07 12.4**	**+2.1**
	0.5nm,0.6s,baz=127,slow=5.7,SNR=4.5						
ILAR	**Eielson Array**	**85.91**	**17**	P	**P**	**16 07 52.2**	**+0.2**
	0.9nm,0.7s,baz=233,slow=5.3,SNR=9.9						

*IDC **11** 16:09:08.8±0.7, 7°.53N×94°.39E, h0km, mb4.1/15, mb1 4.2/16, mb1mx3.9/56, mbtmp4.1/16, ML3.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/47, Error ellipse: s-maj=25.0km s-min=16.5km az=60.0*
*NEIC **11** 16:09:13.2±1.7, 7°.4N±0°.1×94°.4E±0°.1, h35km±2km, mb4.5/12, Error ellipse: s-maj=24.4km s-min=14.4km az=236.0*
*DJA **11** 16:09:17.4±0.7, 7°.N±4°×9°.5E±°, h10km, M4.3/7, mb4.3/7, mB5.0/4, MLv4.4/6, Mw(mB)4.3/4*
ISC 11 16:09:12.6±0.5, 7°.44N±0°.07×94°.36E±0°.07, h24km, n61, σ1§82/56, mb4.3/25, MS3.8/10, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.14**	**154**	P	**Pn**	**16 09 46.0**	**-0.8**
LHMI	**Lhok Sumawe**	**3.38**	**130**	P	**Pn**	**16 10 05.7**	**+1.8**
LHMI	**Lhok Sumawe**	**3.38**	**130**		**Pn**	**16 10 04.8**	**+0.9**
MLSI	**Meulaboh, Aceh**	**3.75**	**147**	P	**Pn**	**16 10 13.3**	**+4.3**
TPTI		**5.01**	**146**	P	**Pn**	**16 10 29.5**	**+3.2**
TSI	**Tuntungan**	**5.73**	**133**	P	**Pn**	**16 10 37.9**	**+1.7**
	0.4nm36nm,1.3s						
PSI	**Prapat**	**6.47**	**135**	Pn	**Pn**	**16 10 48.6**	**+2.1**
	1.0nm,0.3s,baz=353,slow=1.4,SNR=12						
PSI				LR	LR	16 13 31.2	
	comp=Z,646nm,20.9s,baz=269,slow=40						
KULM	**Kulim**	**6.61**	**108**		**Pn**	**16 10 47.8**	**-0.5**
IPM	**Ipoh**	**7.25**	**114**		**Pn**	**16 10 55.7**	**-1.5**
MNSI	**Mandailing Nat**	**8.40**	**142**	P	**Pn**	**16 11 12.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.83**	**22**	Pn	**Pn**	**16 12 01.4**	**+1.6**
	0.4nm,0.3s,baz=213,slow=15,SNR=10.0						
CMAR				LR	LR	16 16 44.2	
	comp=Z,323nm,18.1s,baz=250,slow=39						
CMAR	**Chiang Mai Arr**	**11.83**	**22**	Pn	**Pn**	**16 12 00.4**	**+0.5**
CHTO	**Chiang Mai**	**12.15**	**21**		**Pn**	**16 12 06.4**	**+2.1**
DSRI	**Dabo**	**12.87**	**127**	P	**Pn**	**16 12 15.4**	**+1.2**
HYB	**Hyderabad**	**18.33**	**304**	*i* P	**P**	**16 13 25.0**	**-0.4**
SBUM	**Sibu**	**18.47**	**105**		**P**	**16 13 23.8**	**-3.0**
QIZ	**Qiongzhong**	**18.95**	**51**	P	**P**	**16 13 30.5**	**-1.6**
QIZ				S	**Sn**	**16 17 02.7**	**-1.9**
QIZ				LR	LR		
	comp=N,1μm,13.0s						
QIZ				LR	LR		
	comp=E,670nm,14.3s						
QIZ				LR	LR		
	comp=Z,340nm,8.9s						
KMI	**Kunming**	**19.32**	**24**	⇓P	**Pn**	**16 13 41.5**	**+3.9**
KMI				pP	pwP	16 13 47.7	+1.8
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
MTKI	**Muara Teweh, K**	**22.11**	**111**	P	P	16 13 49.6	-17
LSA	**Lhasa**	**22.35**	**353**	P	**P**	**16 14 11.2**	**+1.8**
LSA	**Lhasa**	**22.35**	**353**	P	**P**	**16 14 11.2**	**+1.8**
LSA				IAmb	IAmb	16 14 12.6	
	comp=Z,8.4nm,0.8s						
H08S3	**Diego Garcia H**	**26.45**	**236**	T	T	16 41 34.6	
	baz=55,slow=75,SNR=225						
H08S2	**Diego Garcia H**	**26.46**	**236**	T	T	16 41 34.8	
	baz=55,slow=75,SNR=248						
H08S1	**Diego Carcia H**	**26.47**	**236**	T	T	16 41 33.1	
	baz=55,slow=75,SNR=89						
LZH	**Lanzhou**	**29.81**	**16**	*e*P	**P**	**16 15 20.7**	**+2.8**
LZH				pP	pwP	16 15 31.2	+3.9
LZH				sP	sP	16 15 35.6	+8.5
LZH				*e*PP	**PnPn**	**16 16 19.0**	**+4.9**
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,95nm,4.9s						
LZH				LR	LR		
	comp=N,270nm,13.0s						
LZH				LR	LR		
	comp=E,280nm,13.2s						
LZH				LR	LR		
	comp=Z,380nm,16.3s						
DAV	**Davao City (W)**	**30.97**	**89**	LR	LR	16 29 44.1	
	comp=Z,201nm,18.1s,baz=11,slow=40						
GTA	**Gaotai**	**32.21**	**8**	*e*P	**P**	**16 15 39.5**	**+0.5**
GTA				pP	pwP	16 15 48.7	+0.2
GTA				sP	sP	16 15 52.6	+4.4
GTA				PcP	**PcP**	**16 18 23.4**	**-4.0**
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,7.1s						
GTA				LR	LR		
	comp=N,340nm,15.3s						
GTA				LR	LR		
	comp=E,260nm,16.0s						
GTA				LR	LR		
	comp=Z,190nm,15.3s						
NIL	**Nilore**	**32.58**	**326**	P	**P**	**16 15 41.3**	**-0.9**
NJ2	**Nanjing**	**33.46**	**40**	*e*P	**P**	**16 15 48.6**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.64**	**22**	*e*P	**P**	**16 16 17.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,6.8s						
WMQ	**Urumqi**	**36.71**	**352**	*e*P	**P**	**16 16 19.3**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,6.5s						
WMQ				LR	LR		
	comp=N,250nm,29.2s						
WMQ				LR	LR		
	comp=E,370nm,29.1s						
WMQ				LR	LR		
	comp=Z,55nm,17.3s						
GAR	**Garm**	**38.16**	**329**	P	**P**	**16 16 29.7**	**-0.6**
GAR				IAmb	IAmb	16 16 36.3	
	comp=Z,14nm,1.0s						
CHGR	**Chuyangaron**	**38.51**	**328**	P	**P**	**16 16 32.5**	**-0.7**
MK31	**Makanchi Array**	**40.56**	**347**	P	**P**	**16 16 48.5**	**-1.5**
MKAR	**Makanchi Array**	**40.56**	**347**	P	**P**	**16 16 49.1**	**-1.0**
	comp=Z,4.1nm,0.8s,baz=160,slow=7.5,SNR=14						
MKAR				LR	LR	16 36 55.5	
	comp=Z,103nm,19.0s,baz=144,slow=41						
MAKZ	**Makanchi**	**40.64**	**347**	P	**P**	**16 16 48.9**	**-1.9**
MAKZ				IAmb	IAmb	16 16 55.9	
	comp=Z,3.5nm,0.7s						
KKAR	**Karatay Array**	**41.25**	**333**	P	**P**	**16 16 54.1**	**-1.7**
SONM	**Songino Array**	**41.54**	**12**	P	**P**	**16 16 57.6**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=224,slow=4.0,SNR=2.6						
SONM				LR	LR	16 38 16.7	
	comp=Z,136nm,18.2s,baz=168,slow=42						
GEYT	**Alibeck**	**44.67**	**318**	P	**P**	**16 17 24.1**	**+0.4**
	comp=Z,5.5nm,0.6s,baz=147,slow=8.8,SNR=9.4						
GEYT				LR	LR	16 39 26.9	
	comp=Z,55nm,18.3s,baz=180,slow=41						
GEYT	**Alibeck**	**44.67**	**318**	P	**P**	**16 17 24.0**	**+0.4**
KURBB	**Kurchatov Arra**	**45.02**	**346**	P	**P**	**16 17 25.6**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=166,slow=7.0,SNR=28						
KURK	**Kurchatov**	**45.08**	**346**	P	**P**	**16 17 26.1**	**-0.5**
KURK				IAmb	IAmb	16 17 33.4	
	comp=Z,7.5nm,0.9s						
ZALV	**Zalesovo Beam**	**47.01**	**352**	P	**P**	**16 17 42.0**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=186,slow=8.0,SNR=9.9						
WRA	**Warramunga Arr**	**47.83**	**125**	P	**P**	**16 17 48.8**	**0.0**
	comp=Z,1.1nm,1.0s,baz=305,slow=8.8,SNR=6.6						
WRA	**Warramunga Arr**	**47.83**	**125**	P	**P**	**16 17 48.5**	**-0.2**
MJAR	**Matsushiro Arr**	**49.29**	**47**	P	**P**	**16 18 03.4**	**+3.6**
	comp=Z,0.8nm,0.7s,baz=259,slow=4.3,SNR=3.1						
ASAR	**Alice Springs**	**49.47**	**130**	P	**P**	**16 18 01.1**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=300,slow=7.9,SNR=6.1						
ABKAR	**Akbulak array**	**50.72**	**331**	P	**P**	**16 18 09.4**	**-0.9**
KMBO	**Kilima Mbogo**	**57.59**	**264**	P	**P**	**16 19 01.7**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=57,slow=18,SNR=2.9						
STKA	**Stephens Creek**	**59.65**	**134**	LR	LR	16 47 46.1	
	comp=Z,110nm,18.2s,baz=302,slow=39						
BRTR	**Keskin Array B**	**62.88**	**311**	LR	LR	16 49 15.3	
	comp=Z,36nm,19.4s,baz=124,slow=38						
KLMR	**Klimovskoe**	**66.94**	**334**	*e*P	**P**	**16 20 03.0**	**+0.1**
KLMR				AMP		16 20 09.2	
	comp=Z,8.0nm,1.2s						
AKASG	**Malin Array Be**	**68.63**	**322**	LR	LR	16 54 38.3	
	comp=Z,22nm,18.6s,baz=330,slow=40						
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**16 20 40.4**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=86,slow=4.1,SNR=22						
BOSA	**Boshof**	**75.54**	**238**	P	**P**	**16 20 56.5**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=68,slow=5.4,SNR=2.9						
BOSA	**Boshof**	**75.54**	**238**	P	**P**	**16 20 54.7**	**-1.0**
BOSA				IAmb	IAmb	16 21 11.7	
	comp=Z,16nm,1.5s						
ARCES	**ARCESS Array B**	**75.75**	**340**	P	**P**	**16 20 55.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=103,slow=5.2,SNR=5.9						
GERES	**GERESS Array B**	**78.29**	**318**	P	**P**	**16 21 10.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=76,slow=5.6,SNR=11						
NOA	**NORSAR Array B**	**80.21**	**331**	P	**P**	**16 21 20.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=93,slow=4.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**90.91**	**283**	P	**P**	**16 22 15.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=97,slow=4.6,SNR=3.2						
ESDC	**Sonseca Array**	**91.66**	**310**	P	**P**	**16 22 16.6**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=65,slow=3.0,SNR=4.1						

*IDC **11** 16:12:51.7±1.3, 15°.25S×170°.47E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.2/37, mbtmp4.4/13, ML3.9/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/38, Error ellipse: s-maj=39.2km s-min=18.8km az=139.0*
*NEIC **11** 16:12:54.5±1.9, 15°.14S±0°.10×170°.28E±0°.08, h15km±4km, mb4.6/7, Error ellipse: s-maj=14.8km s-min=10.0km az=157.0*
*GCMT **11** 16:12:59.5±0.4, 15°.22S±0°.02×170°.31E±0°.03, h16km±2km, MW4.9/66, Moment Tensor Solution. s9,c9; s66,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.70±.16; Mθθ2.94±.18; Mθθ-2.24±.13; Mrθ-0.87±.46; Mθθ0.26±.13; Mθr0.20±.38; Best double couple: M₀2.71800×10¹⁶ NP1:φ221.00000°, δ74.00000°, λ178.00000°. NP2: φ312.00000°, δ88.00000°, λ16.00000°. Principal axes: T 3.1440, Plg13.0000°, Azm178.0000°; N -0.8490, Plg74.0000°, Azm320.0000°; P -2.2920, Plg9.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 16:12:57.5±0.7, 15°.2S±0°.1×170°.31E±0°.09, h35km, n38, σ1§00/26, mb4.5/15, MS4.0/15, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.01**	**264**		**Pn**	**16 13 40.1**	**-2.7**
DZM	**Mont Dzumac**	**7.79**	**207**	*e*Pn	**Pn**	**16 14 47.6**	**-0.9**
	4.1nm,0.3s						
DZM				*e*LR	LR	16 16 32.5	
	comp=Z,1μm,24.0s						
DZM	**Mont Dzumac**	**7.79**	**207**	Pn	**Pn**	**16 14 48.0**	**-0.5**
	1.6nm,0.3s,baz=171,slow=17,SNR=18						
DZM	**Mont Dzumac**	**7.79**	**207**	Pn	**Pn**	**16 14 48.2**	**-0.3**
MSVF	**Nonsavu**	**7.85**	**110**	Pn	**Pn**	**16 14 48.9**	**-0.5**
AFI	**Afiamalu**	**17.39**	**88**	LR	LR	16 21 54.5	
	comp=Z,470nm,20.8s,baz=261,slow=32						
RAO	**Raoul Island**	**17.74**	**144**	LR	LR	16 22 05.2	
	comp=Z,517nm,21.9s,baz=310,slow=32						
KRVT	**Keravat (AS076**	**20.98**	**299**	LR	LR	16 25 28.5	
	comp=Z,207nm,19.3s,baz=127,slow=36						
PMG	**Port Moresby**	**23.32**	**282**	P	**P**	**16 18 03.8**	**+1.0**
	8.2nm,0.8s,baz=90,slow=12,SNR=3.1						
PMG				LR	LR	16 26 17.2	
	comp=Z,518nm,18.2s,baz=84,slow=34						
CTA	**Charters Tower**	**23.43**	**254**	P	**P**	**16 18 04.8**	**+1.0**
	5.3nm,0.8s,baz=86,slow=13,SNR=7.8						
RPZ	**Rata Peaks**	**28.46**	**179**	LR	LR	16 28 28.5	
	comp=Z,236nm,20.1s,baz=15,slow=33						
RAR	**Rarotonga**	**29.02**	**106**	LR	LR	16 27 59.5	
	comp=Z,219nm,21.8s,baz=264,slow=32						
STKA	**Stephens Creek**	**31.01**	**233**	P	**P**	**16 19 11.8**	**-0.1**
	7.9nm,1.1s,baz=34,slow=6.1,SNR=11						
WB0	**Warramunga Arr**	**34.52**	**257**	P	**P**	**16 19 41.9**	**-1.0**
WB0				IAmb	IAmb	16 19 42.5	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**34.58**	**257**	P	**P**	**16 19 42.2**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=87,slow=8.6,SNR=15						
WRA				LR	LR	16 33 11.6	
	comp=Z,335nm,18.6s,baz=65,slow=35						
WRA	**Warramunga Arr**	**34.58**	**257**	P	**P**	**16 19 42.9**	**-0.4**
AS31	**Alice Springs**	**35.28**	**250**	P	**P**	**16 19 49.6**	**+0.2**
ASAR	**Alice Springs**	**35.28**	**250**	P	**P**	**16 19 48.5**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=77,slow=9.1,SNR=51						
ASAR				LR	LR	16 33 07.2	
	comp=Z,212nm,20.1s,baz=56,slow=34						
ASAR	**Alice Springs**	**35.28**	**250**	P	**P**	**16 19 48.2**	**-1.2**
PPT2	**Papeete2**	**38.51**	**99**	*e*LR	LR	16 31 04.3	
	comp=Z,480nm,27.2s,baz=262						
PPT	**Papeete**	**38.52**	**99**	LR	LR	16 32 10.6	
	comp=Z,178nm,21.0s,baz=250,slow=30						
TBI	**Tubuai**	**38.74**	**108**	*e*LR	LR	16 31 17.9	
	comp=Z,346nm,26.2s,baz=291						
KNRA	**Kununurra**	**40.01**	**264**	P	**P**	**16 20 29.1**	**-0.3**
SIJI	**Sorong**	**41.08**	**287**	P	**P**	**16 20 38.4**	**+0.1**
	comp=Z,20nm,1.0s,baz=116,slow=8.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	**42.83**	**260**	P	**P**	**16 20 52.8**	**+0.3**
	comp=Z,12nm,0.9s,baz=124,slow=2.7,SNR=16						
FITZ				LR	LR	16 38 31.6	
	comp=Z,384nm,18.2s,baz=68,slow=36						
FITZ	**Fitzroy Crossi**	**42.83**	**260**	P	**P**	**16 20 52.9**	**+0.5**
FITZ				IAmb	IAmb	16 20 53.6	
	comp=Z,13nm,0.9s						
BATI	**Baumata**	**45.71**	**270**	P	**P**	**16 21 17.4**	**+1.8**
	comp=Z,22nm,0.8s,baz=100,slow=3.1,SNR=4.8						
BATI				LR	LR	16 38 50.5	
	comp=Z,382nm,20.6s,baz=194,slow=34						
MJAR	**Matsushiro Arr**	**59.69**	**330**	LR	LR	16 44 36.6	
	comp=Z,74nm,21.8s,baz=205,slow=32						
VNDA	**Vanda**	**62.52**	**182**	LR	LR	16 45 54.0	
	comp=Z,73nm,20.0s,baz=346,slow=32						
KSRS	**Korea Array**	**65.78**	**324**	LR	LR	16 52 19.6	
	comp=Z,109nm,18.5s,baz=202,slow=36						
PETK	**Petropavlovsk-**	**68.86**	**352**	P	**P**	**16 23 58.6**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=108,slow=9.3,SNR=3.1						
QSPA	**South Pole Qui**	**74.87**	**180**	P	**P**	**16 24 34.0**	**-0.5**
QSPA				IAmb	IAmb	16 24 43.1	
	comp=Z,8.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**77.82**	**293**	P	**P**	**16 24 53.5**	**+1.6**
	comp=Z,2.4nm,1.0s,baz=115,slow=4.3,SNR=13						
YBH	**Yreka Blue Hor**	**83.67**	**44**	LR	LR	16 57 23.6	
	comp=Z,197nm,18.2s,baz=0.5,slow=32						
IL31		**86.06**	**17**	P	**P**	**16 25 34.6**	**+0.5**
IL31				IAmb	IAmb	16 25 40.3	
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**86.06**	**17**	P	**P**	**16 25 34.0**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=233,slow=5.4,SNR=28						
ILAR	**Eielson Array**	**86.06**	**17**	P	**P**	**16 25 34.1**	**0.0**
TXAR	**Lajitas Array**	**93.91**	**61**	P	**P**	**16 26 11.1**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=207,slow=5.2,SNR=4.0						

*IDC **11** 16:27:59.3±1.3, 14°.95S×169°.97E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/35, mbtmp3.7/7, ML3.1/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/34, Error ellipse: s-maj=54.5km s-min=22.0km az=138.0*
ISC 11 16:28:00.7±1.2, 15°.1S±0°.2×170°.1E±0°.3, h10km, n10, σ1§65/7, mb3.7/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.72**	**206**	Pn	**Pn**	**16 29 52.5**	**-0.8**
	0.3nm,0.3s,baz=18,slow=20,SNR=3.9						
DZM				LR	LR	16 32 36.5	
	comp=Z,250nm,18.0s,baz=23,slow=35						
AFI	**Afiamalu**	**17.64**	**88**	LR	LR	16 36 49.0	
	comp=Z,197nm,20.0s,baz=280,slow=30						
RAO	**Raoul Island**	**17.93**	**144**	LR	LR	16 37 10.0	
	comp=Z,254nm,19.2s,baz=14,slow=30						
RPZ	**Rata Peaks**	**28.52**	**178**	LR	LR	16 43 30.9	
	comp=Z,130nm,18.1s,baz=26,slow=32						
STKA	**Stephens Creek**	**30.84**	**232**	P	**P**	**16 34 18.2**	**+1.1**
	2.6nm,0.8s,baz=72,slow=4.2,SNR=7.3						
WRA	**Warramunga Arr**	**34.34**	**257**	P	**P**	**16 34 48.5**	**+0.6**
	0.4nm,0.7s,baz=84,slow=7.5,SNR=3.5						
WRA				LR	LR	16 48 17.4	
	comp=Z,88nm,19.1s,baz=240,slow=36						
ASAR	**Alice Springs**	**35.06**	**250**	P	**P**	**16 34 53.8**	**-0.4**
	1.0nm,0.8s,baz=83,slow=8.5,SNR=10						
CMAR	**Chiang Mai Arr**	**77.56**	**293**	P	**P**	**16 39 57.4**	**-0.1**
	0.6nm,0.9s,baz=139,slow=4.5,SNR=3.6						
NVAR	**Mina Array Bea**	**85.50**	**48**	P	**P**	**16 40 41.2**	**+1.9**
	0.2nm,0.5s,baz=246,slow=7.8,SNR=2.4						
ILAR	**Eielson Array**	**86.08**	**17**	P	**P**	**16 40 39.0**	**-2.2**
	3.0nm,0.7s,baz=237,slow=5.5,SNR=18						

*IDC **11** 16:45:56.9±0.5, 16°.15N×95°.61W, h0km, mb4.7/31, mb1 4.8/34, mb1mx4.8/40, mbtmp4.7/34, ML4.8/3, MS4.9/33, Ms1 4.9/33, ms1mx4.8/39, Error ellipse: s-maj=18.0km s-min=8.9km az=52.0*
*BGR **11** 16:46:00.9±0.0, 16°.03N×96°.11W, h33km, mb5.0*
*MOS **11** 16:46:01.6±1.2, 16°.27N×95°.46W, h38km, mb5.3/14, MS5.0/18, Error ellipse: s-maj=9.7km s-min=5.4km az=102.5*
*NEIC **11** 16:46:01.6±4.0, 16°.10N±0°.06×95°.70W±0°.03, h35km±1km, Error ellipse: s-maj=9.6km s-min=4.5km az=190.0*
*MEX **11** 16:46:02.1±1.1, 16°.03N×95°.65W, h10km, MD5.6*
*GCG **11** 16:46:03.2±1.7, 16°.73N×95°.50W, h42km±999km, MD5.4*
*NEIC **11** 16:46:04, 16°.38N×95°.64W, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.50; Mθθ-0.46; Mθθ0.97; Mrθ1.56; Mθθ-0.67; Mθr-0.60; Fault plane solution: M₀1.99000×10¹⁷ NP1:φ195.00000°, δ31.00000°, λ-16.00000°. NP2:φ299.00000°, δ82.00000°, λ-120.00000°. Principal axes: T 1.9230, Plg30.0000°, Azm53.0000°; N 0.1219, Plg30.0000°, Azm303.0000°; P -2.0448, Plg45.0000°, Azm179.0000°;*
*GCMT **11** 16:46:05.1±0.2, 16°.35N±0°.01×95°.68W±0°.01, h24km, MW5.5/130, Moment Tensor Solution. s112,c181; s130,c227; Duration: 1§4 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.46±.03; Mθθ-0.51±.02; Mθθ0.97±.02; Mrθ1.77±.03; Mθθ-0.68±.02; Mθr-0.83±.03; Best double couple: M₀2.23300×10¹⁷ NP1:φ196.00000°, δ27.00000°, λ-14.00000°. NP2:φ299.00000°, δ84.00000°, λ-117.00000°. Principal axes: T 2.2080, Plg33.0000°, Azm51.0000°; N 0.0500, Plg26.0000°, Azm302.0000°; P -2.2580, Plg45.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **11** 16:46:07, 16°.27N×95°.58W, h30km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.51; Mθθ-0.60; Mθθ1.12; Mrθ1.90; Mθθ-0.80; Mθr-0.79; Fault plane solution: M₀2.41000×10¹⁷ NP1:φ196.00000°, δ30.00000°, λ-13.00000°. NP2:φ298.00000°, δ83.00000°, λ-119.00000°. Principal axes: T 2.3540, Plg32.0000°, Azm52.0000°; N 0.1017, Plg29.0000°, Azm302.0000°; P -2.4556, Plg44.0000°, Azm180.0000°;*
*UCR **11** 16:46:20.8±1.1, 15°.58N×94°.36W, h58km±171km, ML4.4, mb5.5(NEIC)*
*SNET **11** 16:46:20.6±1.1, 15°.59N×94°.36W, h63km±119km, ML4.8*
ISC 11 16:46:01.2±0.4, 16°.09N±0°.03×95°.66W±0°.03, h30km±2km, h30km:pP-P,n1007, σ1§85/865, mb5.2/141, MS5.0/262, 27C-19D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.54**	**233**	*e*P	**Pb**	**16 46 10.9**	**-1.3**
HUIG				*i* S	**Sb**	**16 46 18.7**	**-1.0**
HUIG	**Huatulco**	**0.54**	**233**		**Pb**	**16 46 10.9**	**-1.3**
HUIG					**Sb**	**16 46 18.7**	**-1.0**
PANG	**Puerto Angel**	**0.89**	**242**	*e*P	**Pn**	**16 46 14.8**	**-2.8**
PANG

comp=Z,2µm,0.5s
RTAL Retalhuleu 4.13 112 Pn Pn 16 47 04.3 +2.0
ERG Entre ros, C 4.28 112 eP Pn 16 47 07.6 +3.3
PLIG Platanillo 4.32 303⇑ eP Pn 16 47 06.9 +1.9
PLIG i S Sn 16 48 00.1 +5.7
PLIG Platanillo 4.32 303 Pn 16 47 06.9 +1.9
CAIG El Cayaco 4.52 283⇑ eP Pn 16 47 06.6 -0.9
CAIG eS Sn 16 47 59.3 +0.2
CAIG El Cayaco 4.52 283 Pn 16 47 06.6 -0.9
UNM Universidad Na 4.65 314 P Pn 16 47 13.3 +3.7
UNM Universidad Na 4.65 314 Pn 16 47 13.3 +3.7
FUG Fuego 3 4.93 109 eP Pn 16 47 18.0 +4.5
ARIG Puente Sto Nin 4.98 297 i P Pn 16 47 15.7 +1.7
ARIG eS Sn 16 48 12.7 +2.2
ARIG Puente Sto Nin 4.98 297 Pn 16 47 15.7 +1.7
APG El Apazote 5.13 101 Pn Pn 16 47 16.9 +0.7
comp=Z,39nm,0.3s,baz=289,slow=10.0,SNR=74
APG Sn Sn 16 48 13.9 -0.6
comp=Z,67nm,0.3s,baz=264,slow=12,SNR=5.6
PCG Pacaya 5.17 108 eP Pn 16 47 21.7 +4.9
NBG Las Nubes 5.34 106 eP Pn 16 47 25.2 +6.0
IXG Ixpaco 5.39 110 eP Pn 16 47 21.5 +1.7
IXG Ixpaco 5.39 110 eP Pn 16 47 21.5 +1.7
IXG Ixpaco 5.39 110 eP Pn 16 47 23.2 +3.5
PETF Flores 5.62 81 Pn 16 47 23.7 +1.0
ZIIG Zihuatanejo 5.75 286⇓ iP Pn 16 47 25.1 +0.5
ZIIG i S Sn 16 48 32.2 +2.5
ZIIG Zihuatanejo 5.75 286 Pn 16 47 25.1 +0.5
MRL Marmol 5.85 99 eP Pn 16 47 27.1 +1.0
MRL Marmol 5.85 99 eP Pn 16 47 27.1 +1.0
MRL Marmol 5.85 99 eP Pn 16 47 28.2 +2.1
MRL eS Sn 16 48 35.4 +3.1
RTR El Retiro 6.21 110 eP Pn 16 47 32.5 +1.4
RTR El Retiro 6.21 110 eP Pn 16 47 32.5 +1.4
MTO3 Montecristo 6.31 105 eP Pn 16 47 34.7 +2.2
MTO3 eS Sn 16 48 32.4 -11
MTO3 Montecristo 6.31 105 eP Pn 16 47 34.7 +2.2
MTO3 eS Sn 16 48 32.4 -11
MOIG Morelia 6.36 305 eP Pn 16 47 33.3 +0.2
MOIG i S Sn 16 48 49.0 +4.2
MOIG Morelia 6.36 305 Pn Pn 16 47 36.0 +2.9
TACO Tacachico 6.45 108 eP Pn 16 47 35.5 +1.3
TACO Tacachico 6.45 108 eP Pn 16 47 35.5 +1.3
LFRS El Faro 6.84 110 eP Pn 16 47 41.4 +1.8
LFRS El Faro 6.84 110 eP Pn 16 47 41.4 +1.8
PAVA Las Pavas 6.92 109 eP Pn 16 47 41.6 +0.9
PAVA Las Pavas 6.92 109 eP Pn 16 47 41.6 +0.9
COEG Centro de Oper 7.00 110 eP Pn 16 47 42.6 +0.8
COEG IAML 16 48 01.1
comp=Z,776nm,0.4s
COEG Centro de Oper 7.00 110 eP Pn 16 47 42.6 +0.8
COEG IAML 16 48 01.1
comp=Z,776nm,0.4s
IGIG Irapuato, Guan 7.10 312 eP Pn 16 47 45.8 +2.6
IGIG eS Sn 16 49 06.4 +3.4
IGIG Irapuato, Guan 7.10 312 Pb 16 48 09.8 +5.9
TEIG Tepich 8.14 59 Pn Pn 16 47 55.4 -1.9
comp=Z,49nm,0.3s,baz=252,slow=9.2,SNR=87
TEIG Sn Sn 16 49 22.0 -6.3
baz=18,slow=20,SNR=2.6
TEIG LR LR 16 51 42.4
comp=Z,15µm,18.3s,baz=244,slow=43
TEIG Tepich 8.14 59⇑ eP Pn 16 47 55.4 -1.9
TEIG eS Sn 16 49 20.3 -8.0
TEIG Tepich 8.14 59 Pn Pn 16 47 55.3 -2.0
TGUH Tegucigalpa,Un 8.35 103 eP Pn 16 48 02.5 +2.1
TGUH Tegucigalpa,Un 8.35 103 Pn Pn 16 48 02.3 +1.9
CRIN San Cristobal 9.00 111 Pn 16 48 13.2 +3.9
ZAIG Zacatecas 9.30 317 eP Pn 16 48 17.5 +3.9
ZAIG eS Sn 16 50 00.4 +3.1
ZAIG Zacatecas 9.30 317 Pn Pn 16 48 17.2 +3.7
CJM Chamela 9.55 292 eP Pn 16 48 16.1 -0.7
CJM eS Sn 16 50 06.6 +3.4
ACON Acoyapa 10.97 111 Pn 16 48 37.1 +0.9
JTS Las Juntas de 11.91 118 Pn Pn 16 48 52.4 +3.3
comp=Z,9.6nm,0.3s,baz=17,slow=20,SNR=20
JTS Sn Sn 16 51 18.8 +18
comp=Z,0.5nm,0.3s,baz=229,slow=19,SNR=1.6
JTS LR LR 16 53 05.0
comp=Z,4µm,21.8s,baz=9.0,slow=36
833A Chaparral WMA, 12.65 345 P Pn 16 49 01.6 +2.4
baz=163,SNR=20
HKT Hockley 13.79 359ce P Pn 16 49 14.0 -0.7
HKT pmax pmax
comp=Z,148nm,1.6s
FSCY Frank Sound, G 14.16 75 Pn 16 49 19.2 -0.6
435B Jarrell 14.73 353 P Pn 16 49 29.0 +1.5
baz=172,SNR=26
JCT Junction City 14.81 346 P Pn 16 49 30.2 +1.5
baz=164,SNR=20
TXAR Lajitas Array 15.10 332 Pn Pn 16 49 33.6 +1.1
comp=Z,0.3nm,0.3s,baz=150,slow=11,SNR=62
TXAR Lg Lg 16 53 52.2
comp=Z,0.1nm,0.3s,baz=135,slow=30,SNR=2.4
TXAR LR LR 16 56 11.1
comp=Z,2µm,20.4s,baz=0.0,slow=41
TXAR Lajitas Array 15.10 332 P Pn 16 49 33.1 +0.6
TXAR Lajitas Array 15.10 332 Pn 16 49 33.1 +0.6
NATX Nacogdoches 15.62 3 P Pn 16 49 40.0 +0.7
baz=183,SNR=13
NATX Nacogdoches 15.62 3 P Pn 16 49 38.7 -0.6
NATX IAmb IAmb 16 49 53.4
comp=Z,224nm,0.8s
237A Washetta, Mont 15.84 360 P Pn 16 49 43.0 +1.0
237A IAmb IAmb 16 49 51.1
comp=Z,332nm,1.1s
LPIG La Paz 15.89 302 Pn P 16 49 45.6 -0.5
comp=Z,8.4nm,0.3s,baz=124,slow=7.3,SNR=2.9
LPIG LR LR 16 55 30.1
comp=Z,5µm,18.5s,baz=128,slow=36
WHTX Lake Whitney, 15.91 354 P Pn 16 49 44.5 +1.6
baz=173,SNR=19
346A Big Creek Wild 16.24 19 Pn 16 49 45.2 -2.0
346A IAmb IAmb 16 50 01.7
comp=Z,246nm,1.0s
PNME Penonome 16.77 115 eP P 16 49 56.5 +0.5
ABTX Abilene, Hawle 16.85 348 P Pn 16 49 54.6 -0.4
baz=166,SNR=38
ABTX Abilene, Hawle 16.85 348 P Pn 16 49 54.0 -0.9
ABTX IAmb IAmb 16 50 12.4
comp=Z,306nm,1.0s
BCIP Isla Barro Col 16.90 112 eP P 16 49 56.8 -0.6
BRAL Brewton 16.94 26 P P 16 49 57.1 -0.6
baz=210,SNR=6.4
AZU Azuero 17.16 117 eP P 16 50 02.6 +2.3
UPA Univ. de Panam 17.25 112 eP Pn 16 49 52.4 -7.6
Z41A Richland Creek 17.29 8 P Pn 16 50 00.8 +0.5
baz=189,SNR=65
553A Crawfordville 17.41 34 Pn 16 49 59.1 -2.7
MTDJ Mount Denham 17.45 80 eP Pn 16 49 51.5 -11
MTDJ Mount Denham 17.45 80 Pn 16 50 02.4 -0.2
PAYG Puerto Ayora 17.48 162 eP Pn 16 50 00.8 -2.1
MNTX Cornudas Mount 17.88 332 P Pn 16 50 07.4 -0.4
baz=148,SNR=92
MNTX Cornudas Mount 17.88 332 P P 16 50 08.2 0.0
MIAR Mount Ida 18.47 5 P P 16 50 13.8 -0.8
baz=186,SNR=69
MIAR Mount Ida 18.47 5 P P 16 50 14.3 -0.3
MIAR pmax pmax
comp=Z,198nm,0.9s
MIAR Mount Ida 18.47 5 P P 16 50 14.3 -0.3
MIAR IAmb IAmb 16 50 24.7
comp=Z,198nm,0.9s
X40A Basin Creek Fa 18.49 7 P P 16 50 14.2 -0.7
baz=188,SNR=17
LRAL Lakeview Retre 18.60 23 P P 16 50 15.0 -1.0
baz=207,SNR=19
WMOK Wichita Mounta 18.78 352 P P 16 50 17.7 -0.3
baz=170,SNR=68
WMOK Wichita Mounta 18.78 352 P P 16 50 17.0 -1.1
WMOK pmax pmax
comp=Z,78nm,0.9s
WMOK Wichita Mounta 18.78 352 P P 16 50 16.9 -1.1
UPD2 Meteti 18.79 111 eP Pn 16 50 20.3 +1.3
TIGA Tifton 18.83 34 P Pn 16 50 19.1 -0.1
baz=218
UALR University of 18.84 8 P P 16 50 18.0 -0.7
UALR IAmb IAmb 16 50 34.0
comp=Z,419nm,1.2s
X43A Marvell 18.85 12 P P 16 50 18.7 -0.1
baz=194
MSTX Muleshoe 18.92 342 P Pn 16 50 20.1 -0.3
baz=158,SNR=49
MSTX Muleshoe 18.92 342 P P 16 50 20.0 +0.3

W39A Magazine 19.10 5 P P 16 50 21.1 -0.4
baz=185,SNR=23
W39A Magazine 19.10 5 P P 16 50 21.2 -0.4
W39A IAmb IAmb 16 50 40.8
comp=Z,237nm,0.8s
W41B Gary Mavity, V 19.25 9 P P 16 50 22.3 -0.8
baz=190,SNR=67
CAPC Capurgana 19.35 110 eP Pn 16 50 25.5 -0.1
WHAR Wooly Hollow 19.36 8 P P 16 50 23.6 -0.7
WHAR IAmb IAmb 16 50 38.1
comp=Z,242nm,1.0s
OK025 Westminster Rd 19.47 356 P P 16 50 24.9 -0.6
OK025 IAmb IAmb 16 50 40.7
comp=Z,419nm,1.3s
AMTX Amarillo 19.48 345 P Pn 16 50 26.7 -0.5
baz=162
AMTX Amarillo 19.48 345 Pn 16 50 26.5 -0.6
AMTX IAmb IAmb 16 50 37.3
comp=Z,218nm,1.1s
Y49A Blount Mountai 19.56 24 P P 16 50 24.6 -2.0
BCOK Bluff Creek, N 19.56 355 P 16 50 26.5 -0.1
OK029 Liberty Lake 19.69 356 P P 16 50 27.4 -0.6
OK029 IAmb IAmb 16 50 43.0
comp=Z,148nm,1.0s
121A Cookes Peak, D 19.72 328 P Pn 16 50 30.5 +0.4
baz=143,SNR=74
121A Cookes Peak, D 19.72 328 Pn 16 50 30.4 +0.3
TUL1 Leonard 19.74 360 P P 16 50 27.4 -1.1
baz=179,SNR=39
TUL1 Leonard 19.74 360 P P 16 50 27.3 -1.2
TUL1 IAmb IAmb 16 50 47.1
comp=Z,199nm,0.9s
X48A Hartselle 19.86 21 P P 16 50 27.6 -2.2
HBAR Harrisburg 19.89 12 P P 16 50 29.4 -0.7
GTBY Guantanamo Bay 19.91 76 eP Pn 16 50 32.1 -0.2
FCAR Ozark Folk Cen 19.97 8 P P 16 50 29.8 -1.2
FCAR IAmb IAmb 16 50 43.1
comp=Z,180nm,0.8s
LCBC Los crdobas, 20.15 109 eP Pn 16 50 36.1 +0.9
HHAR Hobbs 20.17 4 P P 16 50 31.9 -1.3
HHAR IAmb IAmb 16 50 49.1
comp=Z,146nm,0.8s
U38A Gravette 20.30 3 P P 16 50 33.5 -1.1
U38A IAmb IAmb 16 50 43.8
comp=Z,307nm,1.1s
LCAR Lake Charles 20.30 11 P P 16 50 32.9 -1.7
LCAR IAmb IAmb 16 50 45.5
comp=Z,227nm,1.3s
U40A Yellville 20.34 7 P P 16 50 34.1 -0.9
baz=188,SNR=108
U40A Yellville 20.34 7 P P 16 50 34.1 -0.9
GOGA Godfrey 20.46 30 P P 16 50 34.5 -2.0
baz=215,SNR=21
GOGA Godfrey 20.46 30 P P 16 50 34.4 -2.0
GOGA pmax pmax
comp=Z,103nm,1.2s
GOGA MLR MLR
comp=Z,2µm,20.0s
GOGA Godfrey 20.46 30 P P 16 50 34.4 -2.0
FPAL Fort Paine 20.47 24 P P 16 50 33.6 -2.9
BNM Barren Site 20.51 333 P Pn 16 50 38.7 -0.8
Y22D IRIS PASSCAL I 20.58 333 P Pn 16 50 40.0 -0.2
baz=147
SJCC San Jacinto, C 20.88 105 eP P 16 50 40.3 -0.8
KAN05 Bluff City Nor 21.03 355 P P 16 50 40.7 -1.8
DBBC Dabeiba 21.07 113 eP P 16 50 44.5 +1.3
V48A Smith Brothers 21.10 20 P P 16 50 40.9 -2.4
V48A IAmb IAmb 16 50 56.9
comp=Z,176nm,1.5s
ANMO Albuquerque 21.12 335 P P 16 50 44.1 +0.4
comp=Z,1.0nm,0.9s,baz=147,slow=11,SNR=26
ANMO Lg Lg 16 57 11.6
comp=Z,0.2nm,1.1s,baz=115,slow=14,SNR=2.1
ANMO LR LR 17 00 13.9
comp=Z,51nm,20.5s,baz=158,slow=41
ANMO Albuquerque 21.12 335 P P 16 50 44.6 +0.9
baz=150
ANMO Albuquerque 21.12 335⇓ eP P 16 50 44.2 +0.5
ANMO pmax pmax
comp=Z,71nm,1.3s
ANMO Albuquerque 21.12 335 P P 16 50 45.2 +1.5
ANMO IAmb IAmb 16 50 58.2
comp=Z,195nm,1.1s
PBMO Poplar Bluff 21.12 12 P P 16 50 41.7 -1.7
PBMO IAmb IAmb 16 50 47.7
comp=Z,235nm,1.1s
WVT Waverly 21.14 18 P P 16 50 41.6 -2.1
baz=201
WVT Waverly 21.14 18 P P 16 50 41.6 -2.1
WVT pmax pmax
comp=Z,123nm,1.3s
WVT MLR MLR
comp=Z,3µm,22.0s
WVT Waverly 21.14 18 P P 16 50 41.6 -2.1
KAN08 Anthony NE Sta 21.15 355 P P 16 50 43.7 -0.1
W50A Signal Mountai 21.17 24 P P 16 50 41.0 -3.0
TUC Tucson 21.19 322 P P 16 50 46.2 +1.8
baz=136
TUC Tucson 21.19 322 P P 16 50 45.0 +0.6
TUC pmax pmax
comp=Z,170nm,1.1s
TUC MLR MLR
comp=Z,11µm,18.0s
TUC Tucson 21.19 322 P P 16 50 45.0 +0.6
TUC IAmb IAmb 16 50 58.9
comp=Z,170nm,1.1s
MGMO Mountain Grove 21.19 8 P P 16 50 46.3 +2.0
MGMO IAmb IAmb 16 51 04.8
comp=Z,118nm,0.8s
157A Early Branch 21.20 36 P P 16 50 45.7 +1.4
baz=222
T42A Van Buren 21.25 10 P P 16 50 43.8 -1.0
T42A IAmb IAmb 16 50 56.1
comp=Z,126nm,0.9s
UREC San Jos de Ur 21.35 110 eP P 16 50 46.0 -0.2
SMRC Santa Marta, M 21.40 101 eP P 16 50 40.6 -6.0
Z56A Williston 21.48 34 P P 16 50 47.9 +0.6
baz=220
GR1C Gorgona, Isla 21.58 125 eP P 16 50 52.4 +3.8
CPCT Cooper Cave 21.70 25 P P 16 50 47.9 -1.9
T45A Paducah 21.75 15 P P 16 50 50.0 -0.2
ARGC Ariguani, Magd 21.76 104 eP P 16 50 56.2 +5.6
CBOC Ciudad Bolivar 21.78 116 eP P 16 50 52.3 +1.3
Z57A Bowman 21.82 36 P P 16 50 51.1 +0.1
baz=222
TUMC Tumaco 21.90 129 eP P 16 51 06.0 +14
X54A Belton 21.91 31 P P 16 50 49.7 -2.3
baz=216,SNR=19
NHSC New Hope 21.98 37 P P 16 50 54.2 +1.5
baz=223
BG3 Lake Jocassee 22.01 29 P P 16 50 51.9 -1.2
BG3 IAmb IAmb 16 51 10.8
comp=Z,150nm,1.2s
PLMC San Jos del P 22.04 118 eP P 16 50 53.0 -0.6
ZARC Zaragoza, Cauc 22.07 110 eP P 16 50 53.9 0.0
T47A Sharon Grove 22.16 18 P P 16 50 53.0 -1.6
U49A Red Boiling Sp 22.16 22 P P 16 50 52.8 -1.8
U49A IAmb IAmb 16 51 05.1
comp=Z,128nm,1.1s
214A Organ Pipe Nat 22.19 318 P P 16 50 56.8 +1.7
baz=131,SNR=12
TKL Tuckaleechee C 22.19 26 P P 16 50 52.5 -2.5
comp=Z,7.1nm,0.4s,baz=194,slow=9.9,SNR=13
TKL S S 16 55 02.2 +4.4
comp=Z,15nm,0.7s,baz=0.0,slow=7.1,SNR=4.6
TKL LR LR 17 03 00.8
comp=Z,1µm,18.3s,baz=200,slow=46
TKL Tuckaleechee C 22.19 26 P P 16 50 52.3 -2.7
TKL pmax pmax
comp=Z,94nm,1.0s
TKL MLR MLR
comp=Z,3µm,19.0s
TKL Tuckaleechee C 22.19 26 P P 16 50 52.3 -2.7
TKL IAmb IAmb 16 51 10.9
comp=Z,94nm,0.9s
X55A Gracelyn & Ava 22.22 32 P P 16 50 53.2 -2.1
baz=218,SNR=24
CCM Cathedral Cave 22.22 9 P P 16 50 52.9 -2.4
baz=191
CCM Cathedral Cave 22.22 9 P P 16 50 53.0 -2.4
CCM pmax pmax
comp=Z,94nm,0.9s
CCM MLR MLR
comp=Z,1µm,19.0s
CCM Cathedral Cave 22.22 9 P P 16 50 53.0 -2.3

CCM IAmb IAmb 16 51 09.5
comp=Z,94nm,0.8s
S44A Carbondale 22.25 14 P P 16 50 53.8 -1.8
S44A IAmb IAmb 16 51 09.9
comp=Z,154nm,0.8s
SMLC San Martn de 22.28 106 eP P 16 50 53.8 -2.4
R40A Maddies Statio 22.32 7 P P 16 50 54.4 -1.9
R40A IAmb IAmb 16 51 14.0
comp=Z,99nm,0.8s
T25A Trinidad 22.35 341 P P 16 50 57.8 +0.8
baz=157,SNR=60
T25A Trinidad 22.35 341 P P 16 50 59.1 +2.2
Z58A St. Stephen 22.36 37 P P 16 51 00.1 +3.4
baz=224
PIX Pinacate 22.36 317 P P 16 50 57.9 +1.1
PIX IAms_20 IAms_20 17 00 11.9
comp=Z,6µm,21.0s
W54A Cherokee Point 22.44 30 P P 16 50 55.0 -2.7
baz=216,SNR=53
YOTC Yotoco, Valle 22.48 120 eP P 16 50 59.5 +1.1
X56A White Oak 22.55 33 P P 16 50 56.0 -2.8
baz=219
V53A Saluda 22.62 28 P P 16 50 57.6 -2.0
GUY2C Guyana, Caldas 22.66 116 eP P 16 51 02.4 +1.8
W18A Petrified Fore 22.75 329 P P 16 51 02.7 +1.5
baz=142,SNR=8.5
W18A Petrified Fore 22.75 329 IAms_20 IAms_20 17 00 44.5
comp=Z,4µm,18.0s
RREF El Recreo 22.83 117⇑ eP P 16 51 01.3 -1.4
PTBC PUERTO BERRIO, 22.84 112 eP P 16 51 02.2 +0.1
PAC1 Pacho, Paraso 22.90 132 eP P 16 51 02.4 -0.5
BBAC Balboa, Cauca 22.90 126⇓ eP P 16 51 04.4 +1.5
KMSC Kings Mountain 22.90 31 P P 16 51 01.0 -1.5
baz=218,SNR=17
KMSC Kings Mountain 22.90 31 P P 16 51 00.8 -1.8
CBKS Cedar Bluff 22.92 352 P P 16 51 01.9 -0.8
baz=170,SNR=34
KSU1 Kansas State U 22.94 358 P P 16 51 01.3 -1.6
baz=178,SNR=16
KSU1 Kansas State U 22.94 358 P P 16 51 01.2 -1.6
KSU1 IAmb IAmb 16 51 20.2
comp=Z,119nm,0.8s
ANIL Santa Ana 23.00 118⇑ eP P 16 51 07.2 +3.2
TOLC Tolima 23.02 118 eP P 16 51 06.1 +1.8
POPC Popayan, Colom 23.04 124⇓ eP P 16 51 06.1 +1.7
TZTN Tazewell 23.04 26 P P 16 51 01.1 -2.9
baz=211
X16A Lo Mia Camp, P 23.11 325 P P 16 51 07.6 +2.7
X16A IAmb IAmb 16 51 18.5
comp=Z,116nm,0.9s
X16A IAms_20 IAms_20 17 00 25.9
comp=Z,4µm,18.0s
V54A Nebo 23.11 29 P P 16 51 02.7 -2.0
baz=215,SNR=22
CUSE Cuicocha Este 23.16 131 eP P 16 51 08.5 +2.8
OTAV Otavalo 23.16 131 eP P 16 51 07.0 +1.1
OTAV Otavalo 23.16 131 P P 16 51 07.4 +1.5
OTAV pmax pmax
comp=Z,22nm,1.0s
OTAV MLR MLR
comp=Z,2µm,21.0s
OTAV Otavalo 23.16 131 P P 16 51 07.4 +1.5
OTAV Otavalo 23.16 131 eP P 16 51 06.8 +0.9
SDCO Great Sand Dun 23.25 340 P P 16 51 07.1 +0.7
baz=155,SNR=94
SDCO Great Sand Dun 23.25 340 P P 16 51 08.7 +2.3
SDCO IAmb IAmb 16 51 24.5
comp=Z,65nm,0.8s
BRRC Barranca, Sant 23.26 110 eP P 16 51 07.1 +0.7
W56A Indian Trail 23.28 33 P P 16 51 04.3 -2.1
baz=219,SNR=10.0
GCUF Volcan Galeras 23.33 127⇓ eP P 16 51 09.7 +2.1
113A Mohawk Valley, 23.33 319 P P 16 51 08.3 +1.4
SOTA Rioblanco 23.34 125 eP P 16 51 08.5 +0.9
URIC Uribia, Colomb 23.38 98 eP P 16 51 05.0 -2.5
PCON Cinco Dias 23.39 124 eP P 16 51 09.8 +1.6
SPX San Pedro Mart 23.41 313 IAms_20 IAms_20 16 59 45.8
comp=Z,4µm,21.0s
SDDR Presa de Saban 23.41 79 P P 16 51 07.2 -0.7
ORTC Ortega, Tolima 23.44 119 eP P 16 51 09.7 +1.6
MARP Paez Belalcaza 23.44 122 eP P 16 51 09.4 +1.0
Q44A Meyer Farm, Va 23.46 13 P P 16 51 06.1 -2.0
X58A Rowland 23.51 36 IAms_20 IAms_20 17 01 59.1
comp=Z,3µm,19.0s
P38A Dawn 23.52 4 P P 16 51 08.6 -0.1
P38A IAmb IAmb 16 51 23.2
comp=Z,81nm,0.8s
V55A Taylorsville 23.52 31 P P 16 51 05.1 -3.7
baz=217,SNR=21
V55A Taylorsville 23.52 31 P P 16 51 06.2 -2.6
V55A IAmb IAmb 16 51 16.3
comp=Z,74nm,0.8s
WCI Wyandotte Cave 23.55 19 P P 16 51 06.0 -2.9
baz=203
WCI Wyandotte Cave 23.55 19 P P 16 51 06.0 -2.9
WCI pmax pmax
comp=Z,184nm,1.1s
WCI Wyandotte Cave 23.55 19 P P 16 51 06.0 -2.9
P40A Paris 23.57 7 P P 16 51 07.4 -1.7
P40A IAmb IAmb 16 51 23.5
comp=Z,127nm,1.0s
SPBC San Pablo de B 23.58 114⇑ eP P 16 51 11.1 +1.6
W57A Gilead 23.60 34 P P 16 51 06.6 -2.9
baz=220,SNR=15
KSCO Kaye Shedlock' 23.64 346 P P 16 51 10.5 +0.5
baz=163,SNR=13
Y14A Wickenburg 23.66 322 IAms_20 IAms_20 16 59 39.4
comp=Z,4µm,19.0s
S22A 4UR Ranch, Cre 23.72 338 P P 16 51 11.8 +0.9
baz=152,SNR=19
ROSC El Rosal 23.75 116 P P 16 51 15.1 +3.5
comp=Z,68nm,1.1s,baz=99,slow=4.0,SNR=18
ROSC El Rosal 23.75 116⇑ eP P 16 51 15.1 +3.5
Y60A Bolivia 23.77 38 IAms_20 IAms_20 17 01 46.8
comp=Z,3µm,20.0s
U54A Nelsons Funny 23.78 29 P P 16 51 08.7 -2.5
baz=215,SNR=31
U54A Nelsons Funny 23.78 29 P P 16 51 08.8 -2.5
U54A IAmb IAmb 16 51 18.6
comp=Z,123nm,1.0s
GRTK Grand Turk 23.83 73 IAms_20 IAms_20 17 00 45.5
comp=Z,4µm,20.0s
T53A Wise 23.84 27 P P 16 51 10.1 -1.8
baz=213
PRAC Prado 23.84 119⇓ eP P 16 51 13.3 +1.2
V56A Mocksville 23.85 32 P P 16 51 09.2 -2.6
baz=218
WUAZ Wupatki 23.90 327 P P 16 51 14.2 +1.6
baz=140,SNR=31
WUAZ Wupatki 23.90 327 P P 16 51 14.7 +2.1
WUAZ IAmb IAmb 16 51 26.3
comp=Z,117nm,0.9s
MVCO Mesa Verde 23.91 334 P P 16 51 13.6 +0.9
baz=148,SNR=28
MVCO Mesa Verde 23.91 334 P P 16 51 14.5 +1.8
W58A Raeford 23.92 35 P P 16 51 10.2 -2.3
baz=222,SNR=12
BARC Barichara 23.95 111 eP P 16 51 14.7 +1.4
R49A Shelbyville 23.97 21 P P 16 51 09.7 -3.3
R49A IAmb IAmb 16 51 22.5
comp=Z,94nm,1.0s
S51A Beattyville 23.97 24 P P 16 51 09.6 -3.3
PAMC Pamplona, Colo 24.09 109 eP P 16 51 15.2 +0.3
CPBX Cerro Prieto 24.12 316 IAms_20 IAms_20 17 00 32.5
comp=Z,3µm,20.0s
U55A TA2, Sparta 24.13 30 P P 16 51 12.3 -2.3
baz=216,SNR=47
GLA Glamis 24.20 318 P P 16 51 16.5 +1.3
baz=129,SNR=10
GLA Glamis 24.20 318 IAms_20 IAms_20 17 00 55.6
comp=Z,7µm,18.0s
R50A Paris 24.25 22 P P 16 51 12.8 -2.7
Q24A Divide 24.26 342 P P 16 51 17.0 +1.0
baz=157,SNR=8.8
V57A Coltrane Farms 24.28 33 P P 16 51 13.0 -2.9
baz=220,SNR=17
ESJX Sierra Juarez 24.30 314 IAms_20 IAms_20 17 00 24.4
comp=Z,4µm,22.0s
U56A King 24.33 31 P P 16 51 14.5 -1.8
baz=218,SNR=12
U56A King 24.33 31 IAms_20 IAms_20 17 00 53.8
comp=Z,3µm,19.0s
T54A Tazewell 24.33 28 P P 16 51 13.9 -2.5
baz=214,SNR=13
UABX UABC, Campus M 24.34 316 IAms_20 IAms_20 17 00 58.4
comp=Z,6µm,21.0s

RUSC **La Rusia** 24.34 112 eP P 16 51 16.6 -0.6
BLO **Bloomington** 24.35 17 IAms_20 IAms_20 17 01 24.5
comp=Z,3µm,21.0s
PUAC **Puerto Asis, P** 24.36 128 eP P 16 51 16.8 +0.1
CHIC **Chingaza** 24.36 116‖ eP P 16 51 20.3 +3.1
FLOC **Florencia** 24.43 124‖ eP P 16 51 18.6 +1.2
V58A **Windy Hill, Pi** 24.56 34 P P 16 51 16.8 -1.5
baz=221,SNR=9.1
V58A **Windy Hill, Pi** 24.56 34 IAms_20 IAms_20 17 01 22.8
comp=Z,3µm,19.0s
VILC **Villavicencio,** 24.65 117 eP P 16 51 23.1 +3.4
N38A **Joes South For** 24.70 4 P P 16 51 19.1 -0.5
CCX **Cicese** 24.72 313 IAms_20 IAms_20 17 00 47.5
comp=Z,4µm,19.0s
PV01 **Paradox Valley** 24.73 335 P P 16 51 21.0 +0.8
T55A **Pulaski** 24.75 29 P P 16 51 18.2 -1.9
baz=216,SNR=16
SWSC **Sam W. Stewart** 24.77 316 P P 16 51 21.8 +1.5
baz=128
IKP **In-Ko-Pah, Jac** 24.80 315 P P 16 51 22.1 +1.4
baz=126,SNR=7.4
W60A **Pink Hill** 24.80 37 P P 16 51 21.1 +0.6
baz=225
CNNC **Cliffs of the** 24.83 37 IAms_20 IAms_20 17 02 48.9
comp=Z,3µm,19.0s
U57A **Blanch** 24.92 33 P P 16 51 20.7 -0.9
baz=220
P48A **Milroy** 24.94 19 IAms_20 IAms_20 17 01 38.3
comp=Z,3µm,22.0s
BC3 **Big Chuckawall** 24.98 318 P P 16 51 23.9 +1.5
baz=129,SNR=27
W13A **Hualapai Mount** 24.99 323 IAms_20 IAms_20 17 00 57.6
comp=Z,3µm,20.0s
BLA **Blacksburg** 25.00 30 P P 16 51 22.0 -0.4
baz=217,SNR=15
HDIL **Hopedale** 25.00 12 P P 16 51 21.0 -1.3
baz=194
V59A **Middlesex** 25.01 35 P P 16 51 21.2 -1.3
baz=223,SNR=22
T56A **Rocky Mt** 25.04 31 P P 16 51 20.6 -2.1
baz=218,SNR=12
S54A **Dingess, Beckl** 25.06 28 P P 16 51 21.5 -1.5
baz=214
U15A **North Rim** 25.08 327 P P 16 51 25.6 +2.2
IRM **Iron Mountain** 25.11 319 P P 16 51 25.1 +1.7
baz=131,SNR=58
MONP2 **Monument Peak** 25.15 315 P P 16 51 25.5 +1.4
baz=126,SNR=11
PV22 **Blue Mesa, Par** 25.16 335 IAms_20 IAms_20 17 02 37.2
comp=Z,3µm,18.0s
ISCO **Idaho Springs** 25.17 342 P P 16 51 24.9 +0.7
baz=157,SNR=39
ISCO **Idaho Springs** 25.17 342 P P 16 51 25.5 +1.3
ISCO pmax pmax
comp=Z,124nm,1.3s
ISCO MLR MLR
comp=Z,2µm,18.0s
ISCO **Idaho Springs** 25.17 342 P P 16 51 25.4 +1.3
ISCO IAmb IAmb 16 51 43.5
comp=Z,124nm,1.2s
BAR **Barrett** 25.20 315 IAms_20 IAms_20 17 01 47.0
comp=Z,6µm,19.0s
R53A **Hurricane** 25.23 26 P P 16 51 23.9 -0.5
baz=212
P49A **Miami Univ. Ec** 25.24 20 P P 16 51 22.1 -2.4
baz=205,SNR=16
Q51A **Peebles** 25.27 23 P P 16 51 23.3 -1.6
Q51A IAmb IAmb 16 51 40.3
comp=Z,70nm,0.7s
TAMC **Tame, Arauca** 25.27 110 eP P 16 51 26.2 +1.1
U58A **Oxford** 25.31 34 P P 16 51 24.1 -1.1
baz=221
BGNE **Belgrade** 25.32 356 P P 16 51 25.3 +0.1
baz=174
SFIN **Lafayette** 25.32 15 P P 16 51 22.8 -2.4
baz=199,SNR=14
SFIN **Lafayette** 25.32 15 P P 16 51 23.1 -2.1
TJX **Tijuana** 25.36 314 IAms_20 IAms_20 17 01 06.4
comp=Z,7µm,20.0s
T57A **Hurt** 25.40 32 P P 16 51 25.3 -0.7
baz=219,SNR=12
T57A **Hurt** 25.40 32 P P 16 51 24.0 -2.0
S55A **Lewisburg** 25.41 29 P P 16 51 24.5 -1.6
baz=216
SDV **Santo Domingo** 25.45 103 P P 16 51 28.2 +1.4
comp=Z,22nm,0.5s,baz=289,slow=5.3,SNR=13
SDV LR LR 17 02 27.5
comp=Z,1µm,19.5s,baz=108,slow=39
SDV **Santo Domingo** 25.45 103 eP P 16 51 28.3 +1.4
SDV **Santo Domingo** 25.45 103 P P 16 51 27.8 +0.9
SDV **Santo Domingo** 25.45 103 eP P 16 51 28.3 +1.5
R54A **Victor** 25.52 28 P P 16 51 23.4 -3.7
baz=214,SNR=8.2
BELC **Belle Mtn. Jos** 25.55 318 P P 16 51 29.4 +1.8
baz=129,SNR=8.3
V60A **Jim Taylor Roa** 25.56 37 IAms_20 IAms_20 17 03 10.3
comp=Z,3µm,18.0s
MACC **Macarena, Meta** 25.57 121 eP P 16 51 29.3 +1.5
TPFO **Pinon Flats** 25.61 317 P P 16 51 29.7 +1.6
baz=128,SNR=7.8
XPFO **Pion Flat** 25.61 317 IAms_20 IAms_20 17 01 26.0
comp=Z,6µm,20.0s
PFO **Pinyon Flats O** 25.61 317 P P 16 51 29.8 +1.7
comp=Z,6.7nm,1.0s,baz=130,slow=9.9,SNR=7.7
PFO Lg Lg 16 59 34.8
comp=Z,1.1nm,0.8s,baz=216,slow=19,SNR=2.1
PFO LR LR 17 01 48.0
comp=Z,5µm,20.8s,baz=141,slow=37
PFO **Pinyon Flats O** 25.61 317 P P 16 51 29.9 +1.7
baz=128,SNR=9.8
PFO **Pinyon Flats O** 25.61 317 IAms_20 IAms_20 17 01 25.0
comp=Z,6µm,20.0s
109C **Camp Elliot, M** 25.61 315 IAms_20 IAms_20 17 01 13.1
comp=Z,6µm,20.0s
Q52A **Bidwell** 25.64 25 P P 16 51 26.3 -1.8
baz=211,SNR=20
U59A **Littleton** 25.69 35 P P 16 51 29.6 +1.0
baz=223
RCRC **Randolf Colleg** 25.73 31 P P 16 51 27.1 -1.9
T58A **Grand View Acr** 25.73 33 P P 16 51 27.4 -1.7
baz=221,SNR=12
S56A **Natural Bridge** 25.78 30 P P 16 51 26.8 -2.6
baz=218,SNR=8.1
P51A **Williamsport** 25.78 23 P P 16 51 27.8 -1.6
baz=209
SCIA **State Center** 25.81 4 P P 16 51 28.4 -1.3
baz=185,SNR=40
SCIA **State Center** 25.81 4 P P 16 51 28.6 -1.1
GMRC **Granite Mounta** 25.84 320 P P 16 51 31.1 +0.8
baz=131,SNR=9.2
Q53A **Leroy** 25.85 26 P P 16 51 27.8 -2.3
baz=212
O49A **Covington** 25.96 20 P P 16 51 28.3 -2.7
PTGC **Puerto Gaitan,** 25.96 115 eP P 16 51 33.6 +2.2
PTLC **Puerto Leguiza** 25.96 126 eP P 16 51 34.9 +3.5
V61A **Roper** 25.98 37 IAms_20 IAms_20 17 03 06.3
comp=Z,3µm,19.0s
R55A **Marlinton** 26.00 29 P P 16 51 29.6 -1.9
baz=216,SNR=8.3
R55A **Marlinton** 26.00 29 P P 16 51 29.3 -2.2
R55A IAmb IAmb 16 51 48.4
comp=Z,71nm,0.9s
R55A IAms_20 IAms_20 17 01 21.0
comp=Z,3µm,21.0s
M44A **Midewin, Midew** 26.05 13 P P 16 51 31.3 -0.5
S57A **Dark Hollow, R** 26.14 31 P P 16 51 30.6 -2.1
baz=219
N47A **Urbana** 26.17 17 IAms_20 IAms_20 17 03 47.7
comp=Z,3µm,18.0s
V62A **Hyde County Ai** 26.18 39 IAms_20 IAms_20 17 03 17.8
comp=Z,4µm,20.0s
Q54A **Coxs Mills** 26.25 27 P P 16 51 32.5 -1.2
baz=214,SNR=8.4
P52A **Corning** 26.26 24 P P 16 51 31.5 -2.3
baz=210,SNR=6.9
P52A **Corning** 26.26 24 IAms_20 IAms_20 17 00 40.1
comp=Z,3µm,19.0s
N23A **Red Feather La** 26.27 342 P P 16 51 35.0 +0.8
baz=157,SNR=19
HEC **Hector,Ludlow** 26.30 319 P P 16 51 36.4 +2.2
baz=130
L42A **Oliver, Polo** 26.33 10 P P 16 51 32.5 -1.9
O20A **White River Ci** 26.34 338 P P 16 51 35.8 +1.0
baz=152,SNR=11
O20A **White River Ci** 26.34 338 IAms_20 IAms_20 17 03 07.5
comp=Z,2µm,18.0s
U61A **Possum Corner** 26.43 37 IAms_20 IAms_20 17 03 56.3
comp=Z,2µm,18.0s
R56A **Bull Pasture M** 26.43 30 P P 16 51 36.2 +0.8
baz=217
TUQ **Turquoise Moun** 26.44 321 P P 16 51 37.4 +1.8
baz=131,SNR=24
P53A **Whipple** 26.44 25 P P 16 51 33.6 -1.8
baz=212,SNR=8.2
ACSO **Alum Creek Sta** 26.46 22 P P 16 51 36.0 +0.4
baz=206,SNR=8.0
S58A **Poland Farm, P** 26.49 33 P P 16 51 38.3 +2.5
baz=221
O51A **Pataskala** 26.53 23 P P 16 51 36.1 -0.1
baz=209
K38A **Parkersburg** 26.58 5 P P 16 51 34.8 -1.9
Q55A **Buckhannon** 26.59 28 P P 16 51 37.1 +0.2
baz=215,SNR=10
N49A **Columbus Grove** 26.67 20 IAms_20 IAms_20 17 02 41.9
comp=Z,3µm,22.0s
SHPR **Sheep Range** 26.71 323 IAms_20 IAms_20 17 01 26.2
comp=Z,3µm,21.0s
R57A **Stanardsville** 26.77 31 P P 16 51 38.6 +0.1
baz=219
BFSC **Mount Baldy Ra** 26.78 316 P P 16 51 40.0 +1.3
baz=127
O52A **Adamsville** 26.80 24 P P 16 51 37.1 -1.5
baz=210
O52A **Adamsville** 26.80 24 P P 16 51 37.1 -1.5
O52A IAmb IAmb 16 51 55.7
comp=Z,66nm,0.9s
L44A **Lake County Fo** 26.84 13 P P 16 51 36.6 -2.3
baz=197
T60A **Surry** 26.84 35 IAms_20 IAms_20 17 04 18.3
comp=Z,3µm,20.0s
GSC **Goldstone, Bar** 26.89 319 P P 16 51 41.1 +1.4
baz=130
GSC **Goldstone, Bar** 26.89 319 IAms_20 IAms_20 17 03 15.0
comp=Z,7µm,20.0s
P54A **Burton** 26.92 27 P P 16 51 39.6 -0.1
baz=214,SNR=8.0
SHOC **Shoshone, Teco** 26.96 321 P P 16 51 41.6 +1.4
baz=131
S59A **Mechanicsville** 27.00 33 P P 16 51 43.8 +3.4
baz=222
R58A **Rapidan** 27.04 32 P P 16 51 39.1 -1.6
baz=220
Q56A **Snyder Ridge,** 27.04 29 P P 16 51 40.5 -0.4
baz=217
Q56A **Snyder Ridge,** 27.04 29 IAms_20 IAms_20 17 02 19.6
comp=Z,3µm,20.0s
MWC **Mount Wilson** 27.04 316 IAms_20 IAms_20 17 02 31.9
comp=Z,4µm,19.0s
PASC **Pasadena Art C** 27.09 316 IAms_20 IAms_20 17 01 59.3
comp=Z,5µm,21.0s
P55A **Reedsville** 27.13 28 P P 16 51 42.8 +1.2
baz=215
JFWS **Jewell Farm** 27.13 9 P P 16 51 40.0 -1.6
baz=191,SNR=21
O53A **New Philadelph** 27.16 25 P P 16 51 40.4 -1.4
baz=212
O53A **New Philadelph** 27.16 25 P P 16 51 39.9 -2.0
O53A IAmb IAmb 16 51 59.1
comp=Z,50nm,0.9s
O53A IAms_20 IAms_20 17 04 26.7
comp=Z,3µm,18.0s
MCWV **Mont Chateau** 27.24 27 P P 16 51 41.6 -1.0
baz=215
CBN **Corbin Frederi** 27.29 33 IAms_20 IAms_20 17 01 12.0
comp=Z,3µm,21.0s
N51A **Ashland** 27.29 22 P P 16 51 46.2 +3.1
baz=209
PRN **Pahroc Range** 27.29 325 IAms_20 IAms_20 17 03 00.5
comp=Z,4µm,21.0s
EDW2 **Edwards Air Fo** 27.39 317 P P 16 51 45.0 +0.9
baz=127
O54A **Avella** 27.44 26 P P 16 51 44.1 -0.3
baz=213
O54A **Avella** 27.44 26 IAms_20 IAms_20 17 01 13.3
comp=Z,4µm,19.0s
L48A **N Adams** 27.52 18 P P 16 51 43.3 -1.8
L48A IAmb IAmb 16 51 53.2
comp=Z,98nm,1.1s
L48A IAms_20 IAms_20 17 03 41.4
comp=Z,3µm,21.0s
LRMC **Laurel Mtn Rad** 27.56 319 P P 16 51 47.0 +1.3
baz=129
ECSD **EROS Data Cent** 27.56 359 P P 16 51 44.0 -1.5
baz=178,SNR=21
ECSD **EROS Data Cent** 27.56 359 P P 16 51 44.4 -1.1
ECSD IAmb IAmb 16 51 58.5
comp=Z,48nm,1.0s
P56A **Dayton Farm, R** 27.57 29 P P 16 51 51.0 +5.4
baz=217
TPNV **Topopah Spring** 27.65 323 P P 16 51 48.1 +1.6
baz=133
TPNV **Topopah Spring** 27.65 323 IAms_20 IAms_20 17 03 38.0
comp=Z,6µm,20.0s
FURC **Furnace Creek,** 27.69 321 P P 16 51 47.7 +1.0
baz=131
Q58A **Fox Den Farm,** 27.69 31 P P 16 51 50.1 +3.5
baz=220
OSI **Osito Audit: C** 27.71 316 IAms_20 IAms_20 17 02 27.7
comp=Z,6µm,21.0s
N53A **Lisbon** 27.78 25 P P 16 51 45.3 -2.1
baz=212,SNR=18
N53A **Lisbon** 27.78 25 P P 16 51 45.5 -1.9
MPMC **Manual Prospec** 27.80 320 P P 16 51 49.2 +1.2
baz=130,SNR=15
S61A **Accomac** 27.82 36 IAms_20 IAms_20 17 04 57.1
comp=Z,3µm,18.0s
O55A **Ligonier** 27.93 27 P P 16 51 49.5 +0.7
baz=215
P57A **Homestead Farm** 27.95 30 P P 16 51 49.7 +0.7
baz=218
P57A **Homestead Farm** 27.95 30 IAms_20 IAms_20 17 04 59.6
comp=Z,3µm,19.0s
K22A **Casper** 28.06 343 P P 16 51 51.0 +0.9
baz=157
ISA **Isabella, Lake** 28.18 318 P P 16 51 52.9 +1.8
baz=128
ISA **Isabella, Lake** 28.18 318 IAms_20 IAms_20 17 03 33.1
comp=Z,5µm,21.0s
N54A **Moraine State** 28.26 26 P P 16 51 50.6 -1.1
baz=213
N54A **Moraine State** 28.26 26 IAms_20 IAms_20 17 02 43.9
comp=Z,3µm,22.0s
R11A **Troy Canyon, C** 28.26 326 P P 16 51 53.7 +1.7
baz=136,SNR=15
R11A **Troy Canyon, C** 28.26 326 IAms_20 IAms_20 17 03 42.2
comp=Z,3µm,19.0s
SJG **San Juan** 28.27 82 P P 16 51 51.9 -0.1
comp=Z,4.1nm,0.4s,baz=338,slow=19,SNR=3.3
SJG LR LR 17 04 41.9
comp=Z,2µm,19.6s,baz=262,slow=40
DUG **Dugway, Tooele** 28.27 332 P P 16 51 53.2 +1.2
baz=143
DUG **Dugway, Tooele** 28.27 332 IAms_20 IAms_20 17 04 35.6
comp=Z,3µm,20.0s
I42A **Draeger Farm,** 28.30 10 P P 16 51 52.2 +0.2
I42A IAmb IAmb 16 51 52.6
comp=Z,86nm,1.1s
M53A **WI Miller and** 28.38 24 P P 16 51 50.1 -2.7
baz=211
M53A **WI Miller and** 28.38 24 P P 16 51 51.4 -1.4
M53A IAmb IAmb 16 52 00.2
comp=Z,50nm,1.0s
CWC **Cottonwood Cre** 28.42 320 P P 16 51 55.1 +1.7
baz=129
N55A **Marion Center** 28.54 27 P P 16 51 52.7 -1.5
baz=215
ATAH **Atahualpa** 28.72 142 P P 16 51 58.5 +1.9
comp=Z,16nm,0.8s,baz=348,slow=6.5,SNR=9.7
ATAH LR LR 17 01 40.2
comp=Z,2µm,18.8s,baz=325,slow=33
RSSD **Black Hills** 28.83 347 P P 16 51 58.1 +1.1
baz=163
MTP **Monte Pirata** 28.84 82 P P 16 51 54.0 -3.1
K50A **Casco** 28.84 20 IAms_20 IAms_20 17 04 23.4
comp=Z,3µm,22.0s
M54A **Oil Creek Stat** 28.85 25 P P 16 51 54.8 -2.2
baz=213
SSPA **Standing Stone** 28.91 29 P P 16 51 57.7 +0.2
baz=217
SSPA **Standing Stone** 28.91 29 IAms_20 IAms_20 17 05 34.2
comp=Z,2µm,20.0s
N56A **West Decatur** 28.95 28 P P 16 51 58.6 +0.7
baz=216
L53A **Girard** 28.98 24 P P 16 51 56.8 -1.4
baz=212
BW06 **Boulder Array** 29.13 339 P P 16 52 00.1 +0.4
baz=152,SNR=10
PDAR **Pinedale Array** 29.13 339 P P 16 51 60.0 +0.3
comp=Z,5.3nm,0.9s,baz=138,slow=9.1,SNR=27
PDAR **Pinedale Array** 29.13 339 P P 16 52 00.5 +0.8
SPMN **Marine on St.** 29.14 4 P P 16 51 57.9 -1.6
baz=186,SNR=20
SPMN **Marine on St.** 29.14 4 P P 16 51 58.3 -1.2
SPMN IAms_20 IAms_20 17 05 34.5
comp=Z,3µm,20.0s
M55A **Ridgway** 29.19 27 P P 16 52 00.4 +0.3
baz=215
ERPA **Erie** 29.23 24 P P 16 51 59.2 -1.1
baz=212
ERPA **Erie** 29.23 24 IAms_20 IAms_20 17 05 30.6
comp=Z,2µm,19.0s
PAGB **Antelope Grade** 29.38 316 IAms_20 IAms_20 17 05 51.8
comp=Z,4µm,20.0s
M56A **Emporium** 29.46 27 P P 16 52 00.8 -1.6
baz=216
M56A **Emporium** 29.46 27 IAms_20 IAms_20 17 03 31.7
comp=Z,3µm,22.0s
L54A **Sinclairville** 29.60 25 P P 16 52 01.5 -2.1
baz=213
N58A **Sunbury** 29.62 30 IAms_20 IAms_20 17 03 06.0
comp=Z,4µm,21.0s
P61A **Hammonton** 29.73 34 IAms_20 IAms_20 17 05 18.6
comp=Z,2µm,18.0s
OMMB **Old Mammoth Mi** 29.73 321 IAms_20 IAms_20 17 04 26.1
comp=Z,6µm,20.0s
F36A **Milaca** 29.73 3 P P 16 52 03.0 -1.7
F36A IAmb IAmb 16 52 17.2
comp=Z,43nm,1.0s
F36A IAms_20 IAms_20 17 05 42.2
comp=Z,4µm,20.0s
MDPB **Devils Postpil** 29.79 321 IAms_20 IAms_20 17 04 59.7
comp=Z,5µm,21.0s
M57A **Sunshine Farm,** 29.82 29 P P 16 52 06.2 +0.6
baz=218
M57A **Sunshine Farm,** 29.82 29 IAms_20 IAms_20 17 04 04.2
comp=Z,3µm,22.0s
I49A **Point Hope** 29.82 19 IAms_20 IAms_20 17 04 40.4
comp=Z,3µm,20.0s
LHV **Little Huntoon** 29.85 322 IAms_20 IAms_20 17 05 46.3
comp=Z,4µm,18.0s
NVAR **Mina Array Bea** 29.85 323 P P 16 52 08.0 +1.9
comp=Z,11nm,0.8s,baz=140,slow=9.0,SNR=74
NVAR LR LR 17 05 01.7
comp=Z,4µm,20.5s,baz=140,slow=38
NVAR **Mina Array Bea** 29.85 323 P P 16 52 08.3 +2.1
ELK **Elko** 29.86 329 P P 16 52 07.8 +1.6
comp=Z,11nm,1.0s,baz=141,slow=6.4,SNR=32
ELK LR LR 17 04 39.2
comp=Z,2µm,19.0s,baz=144,slow=38
ELK **Elko** 29.86 329 P P 16 52 08.0 +1.8
ELK IAms_20 IAms_20 17 05 08.5
comp=Z,2µm,19.0s
L55A **Hinsdale** 29.92 26 P P 16 52 07.4 +0.9
baz=215
PMPB **Monarch Peak** 30.02 317 IAms_20 IAms_20 17 04 50.9
comp=Z,4µm,19.0s
LUPA **Lehigh Univers** 30.10 32 IAms_20 IAms_20 17 05 53.7
comp=Z,2µm,19.0s
REDW **Red Top Meadow** 30.11 338 P P 16 52 09.8 +1.4
RYN **Ryan** 30.11 323 IAms_20 IAms_20 17 04 17.2
comp=Z,4µm,20.0s
GLMI **Grayling** 30.12 16 P P 16 52 07.7 -0.5
baz=201
GLMI **Grayling** 30.12 16 IAms_20 IAms_20 17 05 22.4
comp=Z,2µm,19.0s
N59A **State Game Lan** 30.14 31 IAms_20 IAms_20 17 03 34.7
comp=Z,2µm,21.0s
KVN **Kaiserville** 30.15 324 P P 16 52 10.5 +1.7
KVN pmax pmax
comp=Z,34nm,1.0s
KVN MLR MLR
comp=Z,8µm,18.0s
KVN **Kaiserville** 30.15 324 P P 16 52 10.5 +1.7
M58A **Price's Panora** 30.16 30 P P 16 52 11.5 +2.9
baz=219
LOHW **Long Hollow** 30.23 338 IAms_20 IAms_20 17 06 39.6
comp=Z,3µm,20.0s
TPAW **Teton Pass** 30.25 338 P P 16 52 11.9 +2.2
L56A **Greenwood** 30.26 27 IAms_20 IAms_20 17 04 19.9
comp=Z,3µm,20.0s
I51A **Listowel** 30.30 21 P P 16 52 08.4 -1.4
baz=209
FXWY **Fox Creek** 30.41 338 IAms_20 IAms_20 17 06 29.2
comp=Z,2µm,18.0s
L57A **Andrews Acres** 30.47 28 P P 16 52 10.3 -1.0
baz=218
BRNJ **Basking Ridge** 30.58 33 IAms_20 IAms_20 17 05 01.2
comp=Z,2µm,19.0s
MMNY **Mt. Morris Dam** 30.59 26 IAms_20 IAms_20 17 05 08.7
comp=Z,2µm,18.0s
E28A **Huff** 30.68 353 IAms_20 IAms_20 17 02 02.3
comp=Z,2µm,19.0s
J54A **Appleton** 30.74 25 IAms_20 IAms_20 17 06 59.5
comp=Z,3µm,22.0s
PCRV **Puerto La Cruz** 30.76 97 P P 16 52 15.2 +1.0
comp=Z,6.3nm,0.6s,baz=333,slow=6.8,SNR=3.3
PCRV LR LR 17 05 48.8
comp=Z,2µm,21.0s,slow=39
SAO **San Andreas Ge** 30.77 317 IAms_20 IAms_20 17 04 37.5
comp=Z,5µm,19.0s
K56A **Middlesex** 30.82 27 P P 16 52 13.5 -0.9
baz=216
CMB **Columbia Colle** 30.85 320 IAms_20 IAms_20 17 05 55.7
comp=Z,5µm,18.0s
H17A **Grant Village** 30.91 339 P P 16 52 17.6 +2.2
baz=151
L58A **Harry Jones Me** 30.97 29 P P 16 52 18.2 +2.4
baz=219
BINY **Binghamton** 31.03 29 IAms_20 IAms_20 17 06 10.1
comp=Z,2µm,18.0s
RLMT **Red Lodge** 31.13 341 P P 16 52 17.9 +0.6
baz=154,SNR=12
RLMT **Red Lodge** 31.13 341 P P 16 52 18.1 +0.7
RLMT IAmb IAmb 16 52 29.4
comp=Z,91nm,1.3s
K57A **Scipio Center** 31.20 28 P P 16 52 18.1 +0.3
baz=217
VCNR **Virginia City** 31.21 322 IAms_20 IAms_20 17 06 03.3
comp=Z,5µm,22.0s
PAHR **Pah Rah Range** 31.33 323 IAms_20 IAms_20 17 05 06.5
comp=Z,3µm,21.0s
L59A **Walton** 31.47 30 P P 16 52 21.9 +1.8
baz=220
L59A **Walton** 31.47 30 IAms_20 IAms_20 17 06 49.7
comp=Z,3µm,20.0s
J56A **Wolcott** 31.48 27 P P 16 52 19.8 -0.4
baz=216
J56A **Wolcott** 31.48 27 IAms_20 IAms_20 17 04 21.3
comp=Z,3µm,22.0s
K58A **Earlville** 31.62 29 P P 16 52 21.9 +0.4
baz=219
K58A **Earlville** 31.62 29 IAms_20 IAms_20 17 05 00.9
comp=Z,2µm,21.0s
HLID **Hailey** 31.69 334 P P 16 52 23.2 +0.9
baz=144,SNR=67
HLID **Hailey** 31.69 334 P P 16 52 23.9 +1.6
HLID IAmb IAmb 16 52 35.5
comp=Z,44nm,0.9s
AFDM **Forest Hills D** 31.78 321 IAms_20 IAms_20 17 06 13.2
comp=Z,3µm,20.0s
SADO **Sadowa** 31.81 23 IAms_20 IAms_20 17 03 16.9
comp=Z,2µm,18.0s
MDND **Maddock** 31.83 355 P P 16 52 23.2 -0.1
baz=173
H53A **Bobcaygeon** 31.85 23 P P 16 52 20.9 -2.6
baz=212,SNR=14
EYMN **Ely** 31.95 5 P P 16 52 22.8 -1.5
baz=187,SNR=9.9
EYMN **Ely** 31.95 5 P P 16 52 22.4 -1.8
EYMN IAmb IAmb 16 52 37.8
comp=Z,27nm,0.8s
EYMN **Ely** 31.95 5 IAms_20 IAms_20 17 07 19.8
comp=Z,3µm,18.0s
PECO **Prince Edward** 31.96 26 IAms_20 IAms_20 17 05 13.9
comp=Z,2µm,22.0s
J57A **Williamstown** 31.97 28 P P 16 52 23.7 -0.8
baz=218
J57A **Williamstown** 31.97 28 IAms_20 IAms_20 17 05 22.1
comp=Z,3µm,19.0s
AGMN **Agassiz Nation** 32.12 360 P P 16 52 24.6 -1.1
baz=180,SNR=16
AGMN **Agassiz Nation** 32.12 360 P P 16 52 24.5 -1.2
MFID **Camas Ranch** 32.20 332 IAms_20 IAms_20 17 07 09.5

	comp=Z,3µm,19.0s								
B35A	**Bob, Littlefor**	32.22	2	IAMs_20	IAMs_20	17 07 41.0			
	comp=Z,3µm,19.0s								
J58A	**Remsen**	32.25	28	P	P	16 52 27.3	+0.2		
	baz=219								
BOZ	**Bozeman (W)**	32.32	339	P	P	16 52 28.6	+0.8		
	baz=150								
BBSR	**BB Station**	32.40	54	IAMs_20	IAMs_20	17 04 56.1			
	comp=Z,3µm,22.0s								
DLMT	**Dillon**	32.47	338	P	P	16 52 31.1	+2.0		
ORV	**Oroville**	32.48	321	IAMs_20	IAMs_20	17 06 35.8			
	comp=Z,4µm,20.0s								
MCCM	**Marconi Confer**	32.49	318	IAMs_20	IAMs_20	17 05 42.2			
	comp=Z,5µm,20.0s								
I57A	**Carthage**	32.54	27	P	P	16 52 29.4	-0.1		
	baz=218								
I58A	**Old Forge**	32.65	28	P	P	16 52 30.7	+0.1		
	baz=219								
J59A	**Piesco**	32.70	29	P	P	16 52 29.3	-1.6		
	baz=220								
J59A	**Piesco**	32.70	29	P	P	16 52 29.1	-1.9		
J59A				IAMs_20	IAMs_20	17 07 37.3			
	comp=Z,3µm,20.0s								
G54A	**Lake Saint Pet**	32.74	23	P	P	16 52 27.0	-4.2		
	baz=212								
LRM	**Limekiln Ridge**	32.81	338	P	P	16 52 33.8	+1.7		
CZSB	**Cruzeiro do Su**	32.82	134	*e*P	P	16 52 33.2	+1.0		
PLVO	**Plevna**	32.83	25	P	P	16 52 29.2	-2.8		
PLVO				IAMs_20	IAMs_20	17 04 22.0			
	comp=Z,3µm,19.0s								
H57A	**Richville**	33.07	27	P	P	16 52 33.2	-0.9		
	baz=218								
DLPL	**La Plaine**	33.12	86	IAMs_20	IAMs_20	17 04 55.4			
	comp=Z,2µm,19.0s								
O03E	**Paynes Creek**	33.12	322	P	P	16 52 35.8	+1.1		
	baz=129								
NCB	**Newcomb**	33.21	29	IAMs_20	IAMs_20	17 08 15.1			
	comp=Z,2µm,20.0s								
ALGO	**Algonquin Park**	33.22	23	P	P	16 52 32.9	-2.5		
	baz=212								
I59A	**Olmsteadville**	33.24	29	P	P	16 52 36.3	+0.6		
	baz=221								
FDF	**Fort de France**	33.28	88	IAMs_20	IAMs_20	17 05 53.8			
	comp=Z,2µm,20.0s								
M65A	**Busby, Falmout**	33.30	35	IAMs_20	IAMs_20	17 08 45.2			
	comp=Z,4µm,19.0s								
MOD	**Modoc Plateau**	33.32	325	IAMs_20	IAMs_20	17 07 54.3			
	comp=Z,4µm,19.0s								
SVB	**Belmont**	33.38	90	IAMs_20	IAMs_20	17 06 41.3			
	comp=Z,3µm,22.0s								
J08A	**Circle Bar Ran**	33.41	329	P	P	16 52 38.8	+1.5		
J08A				IAMs_20	IAMs_20	17 07 45.5			
	comp=Z,4µm,21.0s								
NNA	**Nana**	33.54	145	P	P	16 52 39.2	+0.6		
	comp=Z,9.8nm,0.7s,baz=328,slow=4.6,SNR=3.8								
NNA				LR	LR	17 03 48.8			
	comp=Z,2µm,20.9s,baz=328,slow=32								
NNA	**Nana**	33.54	145	*e*P	P	16 52 39.3	+0.7		
NNA				pmax	pmax				
	comp=Z,70nm,1.7s								
NNA	**Nana**	33.54	145	IAMs_20	IAMs_20	17 03 13.4			
	comp=Z,2µm,22.0s								
BCX	**Boston College**	33.54	34	IAMs_20	IAMs_20	17 08 55.7			
	comp=Z,2µm,22.0s								
LONY	**Lake Ozonia**	33.55	28	P	P	16 52 39.2	+0.8		
	baz=219								
I60A	**Shoreham**	33.56	30	P	P	16 52 38.4	0.0		
	baz=221								
H58A	**Gabriels**	33.58	28	P	P	16 52 38.6	0.0		
	baz=220								
PLID	**Pearl Lake**	33.59	334	P	P	16 52 40.0	+1.0		
PLID				IAmb	IAmb	16 52 56.0			
	comp=Z,62nm,0.9s								
WDC	**Whiskeytown Da**	33.74	322	IAMs_20	IAMs_20	17 06 53.2			
	comp=Z,3µm,21.0s								
G57A	**Newington**	33.76	27	P	P	16 52 42.0	+2.0		
	baz=218								
EGMT	**Eagleton**	33.89	343	P	P	16 52 42.0	+0.7		
	baz=155,SNR=5.4								
H59A	**Cadyville**	33.98	29	P	P	16 52 40.5	-1.6		
	baz=220								
BMO	**Blue Mountains**	33.98	332	IAMs_20	IAMs_20	17 09 04.8			
	comp=Z,3µm,18.0s								
ULM	**Lac du Bonnet**	34.07	360	P	P	16 52 40.9	-1.9		
	comp=Z,32nm,1.0s,baz=186,slow=8.8,SNR=16								
ULM				LR	LR	17 08 27.4			
	comp=Z,1µm,18.8s,baz=179,slow=40								
ULM	**Lac du Bonnet**	34.07	360	*e*P	P	16 52 41.2	-1.6		
I61A	**Oroboro, Fairl**	34.15	31	P	P	16 52 46.6	+3.1		
	baz=223								
FRNY	**Flat Rock**	34.17	28	IAMs_20	IAMs_20	17 08 45.3			
	comp=Z,3µm,20.0s								
G58A	**Ormstown**	34.20	28	P	P	16 52 45.8	+1.8		
	baz=219								
MSO	**Missoula**	34.21	337	P	P	16 52 44.5	+0.4		
	baz=147,SNR=11								
M02C	**Callahan**	34.43	323	P	P	16 52 45.1	-1.0		
	baz=129								
I07A	**Izee**	34.45	329	P	P	16 52 47.7	+1.4		
LBNH	**Lisbon**	34.51	31	P	P	16 52 45.4	-1.3		
	baz=223								
I62A	**Tamworth**	34.54	32	P	P	16 52 48.0	+1.1		
	baz=224								
G59A	**Clarenceville**	34.54	29	P	P	16 52 48.1	+1.2		
	baz=220								
YBH	**Yreka Blue Hor**	34.56	323	P	P	16 52 46.6	-0.7		
	comp=Z,1.6nm,0.6s,baz=85,slow=4.1,SNR=8.5								
KHMM	**Horse Mountain**	34.63	321	IAMs_20	IAMs_20	17 08 33.9			
	comp=Z,4µm,18.0s								
H61A	**Lyndonville**	34.73	30	P	P	16 52 52.0	+3.4		
	baz=223								
J05D	**Fort Rock, OR**	34.77	326	P	P	16 52 51.4	+2.2		
	baz=133								
JCC	**Jacoby Creek,**	34.78	321	IAMs_20	IAMs_20	17 07 15.8			
	comp=Z,4µm,20.0s								
E56A	**St. Veronique**	34.88	25	P	P	16 52 48.1	-1.7		
	baz=216								
G60A	**Masonville**	34.95	29	P	P	16 52 51.4	+0.9		
	baz=222								
BBGH	**Gun Hill**	35.03	90	IAMs_20	IAMs_20	17 08 34.0			
	comp=Z,3µm,20.0s								
G08A	**Pilot Rock**	35.08	331	IAMs_20	IAMs_20	17 08 02.7			
	comp=Z,2µm,18.0s								
D55A	**Sainte-Anne-du**	35.09	24	P	P	16 52 49.0	-2.6		
	baz=215,SNR=9.7								
E57A	**Chemin Saint G**	35.15	26	P	P	16 52 50.1	-2.1		
	baz=218								
J04D	**Umpqua Nationa**	35.21	326	P	P	16 52 53.7	+0.7		
	baz=132								
L02E	**Cave Junction**	35.35	323	P	P	16 52 56.7	+2.7		
	baz=129								
D56A	**ZEC Mazanza, M**	35.41	25	P	P	16 52 51.6	-2.8		
	baz=216								
E58A	**La Victoria**	35.49	27	P	P	16 52 53.1	-2.0		
	baz=219								
I05D	**Terrebonne, OR**	35.56	328	P	P	16 52 56.3	+0.5		
	baz=134								
E09A	**Wood Farm, Sta**	35.64	333	IAMs_20	IAMs_20	17 09 50.7			
	comp=Z,3µm,18.0s								
K02D	**Willamette Mer**	35.72	324	P	P	16 52 59.1	+1.9		
	baz=129								
D57A	**Chemin Vers le**	35.74	26	P	P	16 52 55.2	-2.0		
	baz=218								
I04A	**Tendick Farm,**	35.75	326	P	P	16 52 58.2	+0.8		
	baz=132								
F60A	**Warwick**	35.78	29	P	P	16 52 58.3	+0.8		
	baz=221								
G62A	**West of Eustis**	35.91	31	P	P	16 52 56.6	-2.0		
	baz=224								
J01E	**Myrtle Point**	36.17	324	P	P	16 53 02.6	+1.7		
	baz=129,SNR=6.5								
I03D	**Drain, OR**	36.19	325	P	P	16 53 02.0	+0.9		
	baz=131								
D58A	**Chemin du LacG**	36.23	27	P	P	16 52 59.4	-2.0		
	baz=219								
LSQQ	**Lebel-sur-Quev**	36.24	21	P	P	16 52 59.5	-2.0		
	baz=211								
E60A	**Ste Agathe de**	36.31	29	P	P	16 53 05.3	+3.2		
	baz=222								
D08A	**Wollman Farm,**	36.40	333	IAMs_20	IAMs_20	17 10 22.7			
	comp=Z,3µm,18.0s								
H04D	**Lebanon**	36.41	327	P	P	16 53 03.1	+0.1		
	baz=132								
NEW	**Newport**	36.61	336	P	P	16 53 04.5	-0.2		
	baz=144								
NEW	**Newport**	36.61	336	P	P	16 53 05.2	+0.5		
NEW				pmax	pmax				
	comp=Z,20nm,1.2s								
NEW	**Newport**	36.61	336	P	P	16 53 05.2	+0.5		
MATQ	**Matagami**	36.63	20	P	P	16 53 01.7	-3.1		
	baz=210								
F05D	**White Salmon**	36.71	329	P	P	16 53 07.2	+1.7		
	baz=135,SNR=6.7								
COR	**Corvallis**	36.75	326	IAMs_20	IAMs_20	17 08 09.0			
	comp=Z,2µm,19.0s								
G03D	**McMinnville, O**	37.15	327	P	P	16 53 11.0	+1.7		
	baz=132,SNR=7.1								
LTY	**Liberty**	37.34	332	IAMs_20	IAMs_20	17 09 22.3			
	comp=Z,2µm,21.0s								
E62A	**Clayton Lake**	37.40	30	P	P	16 53 13.9	+2.5		
	baz=224								
E62A	**Clayton Lake**	37.40	30	IAMs_20	IAMs_20	17 10 10.8			
	comp=Z,3µm,21.0s								
LON	**Longmire**	37.50	330	IAMs_20	IAMs_20	17 10 56.7			
	comp=Z,3µm,19.0s								
E63A	**Ostbow**	37.80	31	P	P	16 53 16.1	+1.3		
	baz=226								
CHGQ	**Chibougamau**	37.89	22	P	P	16 53 13.6	-1.8		
	baz=215								
D62A	**Allapoint, All**	37.96	30	P	P	16 53 18.3	+2.2		
	baz=224								
D62A	**Allapoint, All**	37.96	30	IAMs_20	IAMs_20	17 10 15.5			
	comp=Z,2µm,20.0s								
E64A	**Bridgewater**	38.09	32	P	P	16 53 17.1	-0.1		
	baz=227								
E03A	**Lebam**	38.21	329	IAMs_20	IAMs_20	17 10 54.7			
	comp=Z,3µm,18.0s								
D63A	**Stockholm**	38.38	31	P	P	16 53 20.2	+0.5		
	baz=226								
D03D	**Eldon**	38.67	330	P	P	16 53 22.1	+0.1		
	baz=135								
B05A	**Bryant**	38.73	332	P	P	16 53 22.1	-0.4		
	baz=137								
FFC	**Flin Flon**	38.86	354	P	P	16 53 24.4	+0.8		
FFC				pmax	pmax				
	comp=Z,82nm,1.4s								
FFC	**Flin Flon**	38.86	354	P	P	16 53 24.4	+0.8		
FFC				IAmb	IAmb	16 53 39.0			
	comp=Z,82nm,1.4s								
ETMB	**Extrema**	38.89	129	*e*P	P	16 53 24.1	-0.1		
HAL	**Halifax**	39.25	37	IAMs_20	IAMs_20	17 10 08.5			
	comp=Z,4µm,20.0s								
LMN	**Caledonia Moun**	39.31	34	IAMs_20	IAMs_20	17 11 43.1			
	comp=Z,2µm,19.0s								
MACA	**Manacapuru-AM**	39.52	116	*e*P	P	16 53 30.0	+0.4		
SAML	**Samuel**	40.66	125	P	P	16 53 38.0	-1.0		
SAML				pmax	pmax				
	comp=Z,31nm,1.1s								
SAML	**Samuel**	40.66	125	P	P	16 53 38.0	-1.0		
SAML	**Samuel**	40.66	125	*e*P	P	16 53 37.9	-1.0		
LPAZ	**La Paz**	42.11	139	P	P	16 53 51.6	+0.1		
	comp=Z,4.5nm,0.5s,baz=336,slow=5.2,SNR=19								
LPAZ				LR	LR	17 11 37.0			
	comp=Z,691nm,18.9s,baz=314,slow=37								
LPAZ	**La Paz**	42.11	139	*e*P	P	16 53 51.5	-0.1		
LPAZ	**La Paz**	42.11	139	P	P	16 53 49.9	-1.7		
LPAZ				pmax	pmax				
	comp=Z,17nm,1.2s								
LPAZ	**La Paz**	42.11	139	P	P	16 53 49.9	-1.7		
LPAZ	**La Paz**	42.11	139	*e*P	P	16 53 50.7	-0.8		
PB12	**IPOC Station P**	42.56	143	IAMs_20	IAMs_20	17 09 39.4			
	comp=Z,1µm,20.0s								
MNMC	**Minye Minye**	43.39	143	IAMs_20	IAMs_20	17 10 06.4			
	comp=Z,1µm,21.0s								
MDP	**Montagnes des**	43.58	100	P	P	16 54 02.6	-0.4		
	comp=Z,2.0nm,0.5s,baz=298,slow=4.8,SNR=2.6								
PB11	**IPOC Station P**	43.85	143	P	P	16 54 05.9	+0.8		
PB11				IAmb	IAmb	16 54 19.7			
	comp=Z,58nm,1.4s								
GO01	**Chusmiza**	44.05	143	IAMs_20	IAMs_20	17 10 53.8			
	comp=Z,1µm,20.0s								
ITTB	**Itaituba**	44.42	114	*e*P	P	16 54 09.1	-0.5		
SCHQ	**Schefferville**	44.61	23	P	P	16 54 09.7	-1.0		
	comp=Z,3.8nm,0.4s,baz=220,slow=3.6,SNR=3.8								
SCHQ				LR	LR	17 15 14.3			
	comp=Z,1µm,20.2s,baz=222,slow=40								
MALB	**Monte Alegre**	44.61	110	*e*P	P	16 54 11.3	+0.1		
PB01	**IPOC Station P**	44.96	144	P	P	16 54 14.3	+0.4		
VILB	**Vilhena**	45.42	127	*e*P	P	16 54 17.3	-0.2		
MCPB	**Macapa, AP**	46.03	107	*e*P	P	16 54 21.9	-0.6		
LVC	**Limon Verde**	46.53	145	P	P	16 54 27.4	+0.8		
	comp=Z,6.7nm,0.6s,baz=295,slow=3.2,SNR=11								
LVC	**Limon Verde**	46.53	145	P	P	16 54 28.3	+1.6		
LVC				IAmb	IAmb	16 54 42.7			
	comp=Z,52nm,1.5s								
LVC	**Limon Verde**	46.53	145	IAMs_20	IAMs_20	17 12 50.7			
	comp=Z,1µm,20.0s								
LVC	**Limon Verde**	46.53	145	*e*P	P	16 54 27.5	+0.9		
CLDB	**Colider**	47.69	122	*e*P	P	16 54 33.4	-2.0		
PTLB	**Pontes e Lacer**	47.78	129	*e*P	P	16 54 35.0	-0.9		
YKA	**Yellowknife Ar**	48.23	348	P	P	16 54 38.0	-0.9		
	comp=Z,9.7nm,1.0s,baz=150,slow=7.7,SNR=12								
YKA	**Yellowknife Ar**	48.23	348	P	P	16 54 38.0	-0.9		
GO02	**Mina Guanaco**	48.24	148	P	P	16 54 40.5	+0.6		
GO02				IAmb	IAmb	16 54 56.4			
	comp=Z,37nm,1.1s								
GO02				IAMs_20	IAMs_20	17 10 41.8			
	comp=Z,1µm,20.0s								
TMAB	**Tom-Au,PA,Br**	50.45	107	*e*P	P	16 54 56.2	-0.4		
PRPB	**Parauapebas**	50.48	112	*e*P	P	16 54 56.8	0.0		
TAOE	**Nuku Hiva Isla**	50.53	244	*e*T	T	17 48 20.8			
	comp=Z,60nm,0.2s								
AC05	**El Transito**	50.97	151	P	P	16 55 01.0	+0.6		
AC05				IAMs_20	IAMs_20	17 11 35.9			
	comp=Z,1µm,22.0s								
GO04	**Tololo Observa**	51.86	152	IAMs_20	IAMs_20	17 11 37.7			
	comp=Z,1µm,22.0s								
CO01	**Juntas del Tor**	52.01	152	IAMs_20	IAMs_20	17 13 51.7			
	comp=Z,860nm,19.0s								
CO03	**El Pedregal**	52.48	153	IAMs_20	IAMs_20	17 13 27.0			
	comp=Z,884nm,18.0s								
CO02	**Combarbal**	52.66	153	IAMs_20	IAMs_20	17 12 01.7			
	comp=Z,1µm,21.0s								
ARAG	**Araguaiana, MT**	53.59	124	*e*P	P	16 55 19.6	-0.3		
SMTB	**Santa Maria do**	53.66	114	*e*P	P	16 55 21.0	+0.5		
VA03	**San Esteban**	54.20	154	IAMs_20	IAMs_20	17 12 29.4			
	comp=Z,1µm,22.0s								
ROSB	**Rosrio**	54.31	106	*e*P	P	16 55 26.4	+1.1		
MT02	**Curacav**	54.38	155	IAMs_20	IAMs_20	17 12 51.2			
	comp=Z,985nm,21.0s								
PEXB	**Pelee**	54.59	118	*e*P	P	16 55 26.9	-0.3		
RKT	**Rikitea**	54.74	226	*e*LR	LR	17 11 30.4			
	comp=Z,2µm,27.8s								
GO05	**Huala**	55.59	156	IAMs_20	IAMs_20	17 13 29.4			
	comp=Z,1µm,21.0s								
BO02	**Sierra Bellavi**	55.86	155	IAMs_20	IAMs_20	17 13 28.4			
	comp=Z,788nm,20.0s								
CPUP	**Villa Florida**	56.28	138	P	P	16 55 38.1	-1.1		
	comp=Z,5.0nm,0.7s,baz=323,slow=7.5,SNR=10								
CPUP				LR	LR	17 19 37.0			
	comp=Z,1µm,21.8s,baz=328,slow=36								
BDFB	**Brasilia**	56.62	122	P	P	16 55 42.2	+0.2		
	comp=Z,4.6nm,0.4s,baz=272,slow=6.8,SNR=15								
BDFB				LR	LR	17 21 02.8			
	comp=Z,571nm,18.8s,baz=307,slow=37								
BDFB	**Brasilia**	56.62	122	IAMs_20	IAMs_20	17 19 29.6			
	comp=Z,762nm,21.0s								
BCAR	**Beaver Creek A**	56.72	337	P	P	16 55 42.8	+0.9		
BI03	**Tigo**	56.82	158	IAMs_20	IAMs_20	17 14 20.8			
	comp=Z,1µm,20.0s								
ITRB	**Iturama**	57.00	127	*e*P	P	16 55 44.3	-0.1		
N25K	**Chitina, Valde**	57.06	335	P	P	16 55 45.3	+0.9		
	baz=120								
TRCB	**Terra Rica**	57.16	131	*e*P	P	16 55 44.7	-0.8		
BI02	**San Fabin de**	57.30	157	IAMs_20	IAMs_20	17 14 31.6			
	comp=Z,1µm,20.0s								
K27K	**Chicken**	57.37	338	P	P	16 55 47.2	+0.8		
	baz=124								
PCMB	**Pacaembu**	57.43	129	*e*P	P	16 55 47.0	-0.4		
INK	**Inuvik**	57.46	344	P	P	16 55 47.1	+0.1		
	comp=Z,11nm,0.7s,baz=124,slow=6.0,SNR=11								
INK	**Inuvik**	57.46	344	P	P	16 55 47.0	+0.1		
INK				pmax	pmax				
	comp=Z,45nm,0.8s								
INK	**Inuvik**	57.46	344	P	P	16 55 47.0	+0.1		
EGAK	**Eagle**	57.48	339	P	P	16 55 47.3	+0.1		
EGAK				IAmb	IAmb	16 56 01.6			
	comp=Z,20nm,0.8s								
SDBA	**SAO DESIDERIO**	57.64	116	*e*P	P	16 55 47.5	-1.6		
IPMB	**Ipameri, GO**	57.71	124	*e*P	P	16 55 50.3	+0.7		
SCRK	**Sand Creek**	58.05	337	P	P	16 55 52.1	+0.8		
	baz=122,SNR=7.8								
PTGB	**Pitanga**	58.76	133	*e*P	P	16 55 55.3	-1.5		
LC01	**Cunco**	59.06	158	P	P	16 55 58.7	+0.2		
LC01				IAmb	IAmb	16 56 00.7			
	comp=Z,24nm,0.8s								
LC01				IAMs_20	IAMs_20	17 15 50.6			
	comp=Z,2µm,20.0s								
BB19B	**Bebedouro**	59.18	127	*e*P	P	16 55 59.9	+0.2		
HDA	**Harding Lake**	59.39	337	P	P	16 56 00.5	0.0		
	baz=119								
JANB	**Januaria**	59.41	119	*e*P	P	16 56 00.6	-0.8		
ILAR	**Eielson Array**	59.54	337	P	P	16 56 01.4	-0.2		
	comp=Z,6.9nm,1.0s,baz=127,slow=4.6,SNR=25								
ILAR				LR	LR	17 24 00.3			
	comp=Z,975nm,18.9s,baz=142,slow=38								
ILAR	**Eielson Array**	59.54	337	P	P	16 56 02.1	+0.6		
MCK	**McKinley**	59.84	336	P	P	16 56 04.1	+0.5		
	baz=117								
POKR	**Poker Plat Res**	59.91	337	P	P	16 56 04.8	+0.7		
	baz=119								
COLA	**College**	59.95	337	*e*P	P	16 56 04.4	+0.1		
COLA				pmax	pmax				
	comp=Z,12nm,1.2s								
TCOL	**CIGO, UAF Yank**	59.96	337	P	P	16 56 04.8	+0.4		
	baz=118								
PMOR	**Pomariorio Ree**	60.12	242	*e*T	T	18 00 18.1			
	comp=Z,3.4nm,0.3s								
BMAR	**Burnt Mountain**	60.13	340	P	P	16 56 06.6	+1.0		
SKT	**Skwentna**	60.16	333	P	P	16 56 06.6	+0.7		
SKT				IAmb	IAmb	16 56 17.0			
	comp=Z,47nm,1.1s								
BWN	**Browne**	60.24	336	P	P	16 56 06.7	+0.4		
TRF	**Thorofare Moun**	60.25	335	P	P	16 56 07.2	+0.6		
NEA2	**Nenana**	60.28	336	P	P	16 56 07.3	+0.7		
	baz=117								
ITAB	**Concordia**	60.32	135	*e*P	P	16 56 06.4	-1.0		
KTH	**Kantishna Hill**	60.55	335	IAMs_20	IAMs_20	17 20 46.4			
	comp=Z,2µm,20.0s								
RCLB	**Rio Claro- Sao**	60.71	128	*e*P	P	16 56 10.4	+0.2		
MLY	**Manley**	61.12	337	P	P	16 56 12.7	+0.4		
	baz=116,SNR=8.8								
PLCA	**Paso Flores**	61.16	158	P	P	16 56 13.2	+0.2		
	comp=Z,11nm,0.6s,baz=320,slow=6.7,SNR=37								
PLCA				LR	LR	17 17 19.0			
	comp=Z,1µm,19.8s,baz=356,slow=31								
PLCA	**Paso Flores**	61.16	158	P	P	16 56 13.5	+0.5		
PLCA				IAmb	IAmb	16 56 15.6			
	comp=Z,18nm,0.8s								
PLCA	**Paso Flores**	61.16	158	*e*P	P	16 56 13.4	+0.5		
VAO	**Valinhos**	61.47	128	*e*P	P	16 56 15.3	-0.1		
CPSB	**Cacapava Do Su**	61.56	139	*e*P	P	16 56 15.0	-0.7		
COLD	**Coldfoot**	61.91	339	P	P	16 56 19.5	+1.9		
	baz=117								
PET01	**Itanhaem-SP**	61.98	129	*e*P	P	16 56 18.5	-0.2		
LL01	**San Ignacio de**	62.00	161	IAMs_20	IAMs_20	17 17 38.9			
	comp=Z,2µm,19.0s								
BSCB	**Bom Sucesso**	62.06	125	*e*P	P	16 56 21.1	+1.7		
TOLK	**Toolik Lake Re**	62.37	340	P	P	16 56 21.2	+0.4		
TOLK				IAmb	IAmb	16 56 35.9			
	comp=Z,32nm,0.9s								
PLTB	**Pedras Altas**	62.38	140	*e*P	P	16 56 20.8	-0.5		
TTA	**Tatalina**	62.45	333	P	P	16 56 21.7	+0.3		
TTA				pmax	pmax				
	comp=Z,45nm,1.3s								
TTA	**Tatalina**	62.45	333	P	P	16 56 21.7	+0.3		
TTA				IAmb	IAmb	16 56 31.7			
	comp=Z,45nm,1.3s								
PPT	**Papeete**	62.77	240	LR	LR	17 16 00.6			
	comp=Z,818nm,20.6s,baz=44,slow=29								
PPT2	**Papeete2**	62.78	240	*e*S	S	17 04 48.9	-2.9		
	comp=Z,413nm,27.5s								
PPT2				*e*LQ	LQ	17 12 27.8			
	comp=Z,1µm,32.2s								
PPT2				*e*LR	LR	17 14 56.6			
	comp=Z,3µm,25.8s,baz=60								
GDU01	**Guandu, BA**	62.85	115	*e*P	P	16 56 26.3	+1.6		
RCBR	**Riachuelo**	63.01	105	IAMs_20	IAMs_20	17 24 54.2			
	comp=Z,980nm,20.0s								
ICESG	**Greenland Ices**	63.26	19	*i* P	P	16 56 26.8	-0.2		
SJMB	**Sao Joao De Ma**	63.80	121	*e*P	P	16 56 31.1	+0.2		
BSFB	**Barra de Sao F**	64.14	121	*e*P	P	16 56 33.5	+0.3		
EUNU	**Eureka**	64.14	2	P	P	16 56 32.6	+0.3		
RIB01	**Linhares ES**	64.74	121	*e*P	P	16 56 36.8	-0.3		
SUMG	**Summit**	65.20	16	*i* P	P	16 56 40.0	+0.3		
SUMG	**Summit**	65.20	16	*i* P	P	16 56 40.0	+0.3		
SUMG	**Summit**	65.20	16	*i* P	P	16 56 40.0	+0.3		
TBI	**Tubu

PCBR **Castelo Branco** **78.51** **52** *e*P **P** **16 58 00.8 +1.0**
comp=Z,92nm,1.6s
PCBR **Castelo Branco** **78.51** **52** *e*PcP **PcP** **16 58 09.3 +0.5**
PCVE **Castro Verde** **78.52** **54** *e*P **P** **16 57 59.6 -0.2**
comp=Z,78nm,1.6s
PCVE **Castro Verde** **78.52** **54** *e*PcP **PcP** **16 58 09.9 +1.0**
PBEJ **Beja** **78.57** **54** *e*P **P** **16 58 02.3 +2.2**
comp=Z,40nm,1.8s
PBEJ **Beja** **78.57** **54** *e*PcP **PcP** **16 58 10.3 +1.2**
MVO **Moncorvo** **78.58** **50** *e*P **P** **16 58 00.5 +0.2**
comp=Z,81nm,1.5s
MVO **Moncorvo** **78.58** **50** *e*PcP **PcP** **16 58 10.3 +1.1**
MVO *e*S **S** **17 07 57.2 +2.0**
MVO **Moncorvo** **78.58** **50** *e*LR LR 17 22 51.3
comp=Z,1µm,22.0s
PMRV **Marv??o** **78.66** **52** *e*P **P** **16 58 00.3 -0.3**
comp=Z,75nm,2.0s
PMRV **Marv??o** **78.66** **52** *e*PcP **PcP** **16 58 10.0 +0.5**
PMRV *e*S **S** **17 07 58.8 +2.9**
PMRV **Marv??o** **78.66** **52** *e*LR LR 17 23 17.3
comp=Z,2µm,20.0s
PBRG **Braganca** **78.67** **50** *e*P **P** **16 58 00.6 -0.1**
comp=Z,123nm,1.8s
PBRG **Braganca** **78.67** **50** *e*PcP **PcP** **16 58 10.3 +0.7**
PBDV **Barranco-do-Ve** **78.68** **54** *e*P **P** **16 58 03.0 +2.2**
comp=Z,85nm,1.6s
PBDV **Barranco-do-Ve** **78.68** **54** *e*PcP **PcP** **16 58 11.1 +1.5**
PVAQ **Vaqueiros** **78.81** **54** *e*P **P** **16 58 01.2 -0.3**
comp=Z,67nm,1.6s
PVAQ **Vaqueiros** **78.81** **54** *e*PcP **PcP** **16 58 11.3 +1.1**
PVAQ *e*S **S** **17 08 01.4 +3.8**
PVAQ **Vaqueiros** **78.81** **54** *e*LR LR 17 23 13.1
comp=Z,1µm,24.0s
ESDC **Sonseca Array** **81.19** **51** P **P** **16 58 14.3 0.0**
comp=Z,13nm,1.1s,baz=293,slow=5.3,SNR=32
ESDC LR LR 17 29 40.7
comp=Z,1µm,21.9s,baz=280,slow=32
ESDC **Sonseca Array** **81.19** **51** P **P** **16 58 14.0 -0.4**
KONO **Kongsberg** **83.75** **30** IAMs_20 IAMs_20 17 33 31.4
comp=Z,1µm,22.0s
UCC **Uccle** **83.88** **39** IAMs_20 IAMs_20 17 35 23.0
comp=Z,963nm,20.0s
SNF **Seneffe** **83.92** **39** P **P** **16 58 26.1 -2.2**
SNF PcP **PcP** **16 58 30.4 -1.8**
SNF pP **pP** **16 58 38.2 +0.1**
NB2 **NORSAR Subarra** **83.98** **28** P **P** **16 58 29.0 +0.5**
comp=Z,128nm,1.2s,baz=294,slow=5.1
NB2 **NORSAR Subarra** **83.98** **28** P **P** **16 58 29.0 +0.5**
baz=294,slow=5.1
NOA **NORSAR Array B** **83.98** **28** P **P** **16 58 28.9 +0.4**
comp=Z,10nm,0.9s,baz=296,slow=5.0,SNR=23
NOA LR LR 17 34 32.7
comp=Z,629nm,21.9s,baz=290,slow=35
NB201 **NORSAR Array S** **84.02** **28** P **P** **16 58 28.6 -0.1**
PMSA **Palmer Station** **84.15** **167** LR LR 17 28 28.0
comp=Z,498nm,20.2s,baz=338,slow=30
DOU **Dourbes** **84.23** **40** PcP **PcP** **16 58 32.2 -1.4**
DOU pP **pP** **16 58 39.5 -0.2**
BMRD **Maredsous** **84.28** **39** PcP **PcP** **16 58 32.3 -1.5**
BMRD pP **pP** **16 58 39.5 -0.4**
BGES **Gesves** **84.44** **39** P **P** **16 58 30.8 -0.1**
BGES pP **pP** **16 58 40.6 -0.2**
BCLA **Clavier** **84.56** **39** P **P** **16 58 31.1 -0.5**
BCLA PcP **PcP** **16 58 34.1 -1.0**
BCLA pP **pP** **16 58 41.2 -0.2**
RCHB **Rochefort** **84.60** **39** P **P** **16 58 29.4 -2.4**
RCHB PcP **PcP** **16 58 32.8 -2.5**
RCHB pP **pP** **16 58 41.3 -0.3**
BEBN **Eben Emael** **84.67** **39** PcP **P** **16 58 33.5 +1.4**
BEBN pP **pP** **16 58 41.8 -0.1**
BSTI **Sart Tilman** **84.67** **39** PcP **P** **16 58 33.8 +1.7**
BSTI pP **pP** **16 58 42.3 +0.4**
MEM **Membach** **84.93** **39** PcP **P** **16 58 34.2 +0.8**
MEM pP **pP** **16 58 43.1 -0.1**
BTNL **Ternell** **85.01** **39** pP pP 16 58 43.9 +0.2
BHOU **Houvegnez** **85.01** **39** pP pP 16 58 43.8 +0.1
ARCES **ARCESS Array B** **85.25** **18** P **P** **16 58 35.4 +0.8**
comp=Z,4.2nm,0.7s,baz=294,slow=5.3,SNR=15
ARCES LR LR 17 36 17.5
comp=Z,748nm,21.9s,baz=310,slow=36
WLF **Walferdange** **85.33** **40** PcP **P** **16 58 36.8 +1.4**
WLF pP **pP** **16 58 45.8 +0.6**
WLF **Walferdange** **85.33** **40** *e*P **P** **16 58 36.6 +1.2**
comp=Z,31nm,1.0s,baz=293,slow=4.8
SEY **Seymchan** **85.38** **335**‖ *e*P **P** **16 58 35.2 -0.2**
IBBN **Ibbenburen** **85.39** **37** *e*P **P** **16 58 36.6 +0.9**
comp=Z,36nm,1.1s,baz=293,slow=4.8
KEV **Kevo** **85.55** **17** P **P** **16 58 36.7 +0.6**
KEV pmax pmax
comp=Z,23nm,1.0s
KEV MLR MLR
comp=Z,700nm,21.0s
KEV **Kevo** **85.55** **17** P **P** **16 58 36.7 +0.6**
KEV IAmb IAmb 16 58 47.1
comp=Z,23nm,1.0s
KEV IAMs_20 IAMs_20 17 37 40.5
comp=Z,653nm,21.0s
AHRW **Bad Neuenahr-A** **85.59** **39** *e*P **P** **16 58 38.2 +1.5**
comp=Z,22nm,0.9s,baz=293,slow=4.8
SSB **Saint Sauveur** **85.71** **44** IAMs_20 IAMs_20 17 32 49.8
comp=Z,868nm,22.0s
BSEG **Bad Segeberg** **86.24** **35** *e*P **P** **16 58 40.8 +1.0**
comp=Z,22nm,1.0s,baz=293,slow=4.8
ECH **Echery** **86.44** **41** IAMs_20 IAMs_20 17 37 07.0
comp=Z,813nm,20.0s
TNS **Taunus Mts** **86.53** **39** *e*P **P** **16 58 42.4 +1.0**
comp=Z,17nm,0.9s,baz=293,slow=4.8
NRDL **Niedersach Rie** **86.66** **36** *e*P **P** **16 58 42.8 +1.0**
comp=Z,12nm,0.9s,baz=293,slow=4.8
PEA0B **Petropavlovsk-** **86.91** **325**‖ *e*P **P** **16 58 44.6 +1.4**
PETK **Petropavlovsk-** **86.91** **325** P **P** **16 58 43.8 +0.6**
comp=Z,1.4nm,0.8s,baz=100,slow=7.8,SNR=3.7
PETK LR LR 17 38 25.5
comp=Z,162nm,19.0s,baz=61,slow=36
GTTG **Gottingen** **86.94** **37** *e*P **P** **16 58 44.5 +1.2**
comp=Z,24nm,1.1s,baz=293,slow=4.8
ASSE **Asse, Remlinge** **87.12** **36** *e*P **P** **16 58 43.8 -0.3**
comp=Z,20nm,1.2s,baz=293,slow=4.8
BFO **Black Forest** **87.13** **40** *e*P **P** **16 58 43.8 -0.5**
comp=Z,9.5nm,1.1s,baz=293,slow=4.8
BFO **Black Forest** **87.13** **40** IAMs_20 IAMs_20 17 38 33.3
comp=Z,927nm,19.0s
SENIN **Lac Senin/Sane** **87.17** **43** IAMs_20 IAMs_20 17 34 47.4
comp=Z,1µm,22.0s
BNI **Bardonecchia** **87.21** **44** IAMs_20 IAMs_20 17 36 17.5
comp=Z,908nm,20.0s
UBBA **Unterbreizbach** **87.23** **38** *e*P **P** **16 58 46.3 +1.7**
comp=Z,20nm,1.3s,baz=293,slow=4.8
TIXI **Tiksi** **87.47** **347**‖ *e*P **P** **16 58 46.3 +0.9**
KOWA **Kowa** **87.61** **76** P **P** **16 58 47.1 -0.2**
RGN **Rugen** **87.61** **33** IAMs_20 IAMs_20 17 35 25.6
comp=Z,852nm,22.0s
GRA1 **Grafenberg Arr** **88.39** **38** IAMs_20 IAMs_20 17 36 39.4
comp=Z,752nm,22.0s
UBR **Ueberruh** **88.48** **41** *e*P **P** **16 58 51.2 +0.3**
comp=Z,6.6nm,0.9s,baz=293,slow=4.8
DAVA **Damuels** **88.49** **41** P **P** **16 58 50.5 -0.5**
comp=Z,35nm,1.5s
APA **Apatity** **88.75** **17**‖ *i*P P 16 58 59.9 +8.3
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,800nm,19.0s
GUNZ **Gunzen** **88.78** **38** *e*P **P** **16 58 53.2 +1.1**
comp=Z,5.2nm,1.0s,baz=293,slow=4.8
CLL **Collm** **88.78** **36** *i* P **P** **16 58 52.2 +0.1**
comp=Z,5.0nm,1.2s
CLL *i* sP **PcP** **16 58 56.5 +2.8**
comp=Z,7.0nm,1.1s
CLL *i* 16 59 01.3
CLL *i* 16 59 08.8
CLL *e*PP **PP** **17 02 21.0 +0.2**
CLL *e* 17 02 57.0
CLL *e*SKSac **SKSac** **17 09 12.0 -7.4**
CLL *e*S **S** **17 09 39.0 +1.7**
CLL *e*SS **SS** **17 15 30.0 +1.3**
CLL **Collm** **88.78** **36** *i* P **P** **16 58 52.2 +0.1**
CLL *i* 16 59 01.3
CLL *e*S **S** **17 09 39.0 +1.7**
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL **Collm** **88.78** **36** *e*P **P** **16 58 52.6 +0.5**
comp=Z,4.8nm,1.0s,baz=293,slow=4.8
CLL **Collm** **88.78** **36** IAMs_20 IAMs_20 17 43 11.6
comp=Z,527nm,19.0s

MANZ **Manzenberg** **88.80** **38** *e*P **P** **16 58 52.2 -0.1**
comp=Z,1.9nm,0.8s,baz=293,slow=4.8
TANN **Tannenbergstha** **88.83** **37** *e*P **P** **16 58 53.0 +0.6**
comp=Z,14nm,1.0s,baz=293,slow=4.8
WERN **Wernitzgruen** **88.83** **38** *e*P **P** **16 58 53.2 +0.8**
comp=Z,6.0nm,1.0s,baz=293,slow=4.8
LVZ **Lovozero** **88.88** **17**‖ *e*P **P** **16 58 53.1 +0.8**
LVZ pmax pmax
comp=Z,12nm,1.0s
LVZ **Lovozero** **88.88** **17** IAMs_20 IAMs_20 17 38 45.4
comp=Z,658nm,20.0s
NKC **Novy Kostel** **88.90** **38** *e*P **P** **16 58 54.4 +1.7**
NKC AMS AMS 17 37 50.0
comp=Z,900nm,21.1s
NKC **Novy Kostel** **88.90** **38** *e*P **P** **16 58 54.4 +1.7**
NKC MLR MLR
comp=Z,900nm,21.1s
ROTZ **Rotzenmuhle** **88.94** **38** *e*P **P** **16 58 53.5 +0.6**
comp=Z,2.0nm,0.9s,baz=293,slow=4.8
DBIC **Dimbokro** **88.95** **83** P **P** **16 58 52.9 -0.8**
comp=Z,2.6nm,0.4s,baz=291,slow=6.9,SNR=10
DBIC LR LR 17 35 51.1
comp=Z,374nm,20.1s,baz=275,slow=34
DBIC **Dimbokro** **88.95** **83** P **P** **16 58 52.9 -0.8**
DBIC IAmb IAmb 16 59 06.9
comp=Z,23nm,1.0s
RETA **Reutte** **88.97** **41** *e*P **P** **16 58 52.7 -0.5**
comp=Z,21nm,1.3s
FETA **Feichten** **89.12** **41** *e*P **P** **16 58 54.5 +0.5**
comp=Z,14nm,1.2s
MOTA **Moosalm** **89.23** **41** *e*P **P** **16 58 53.9 -0.7**
comp=Z,14nm,1.0s
SQTA **Sankt Quirin** **89.35** **41** P **P** **16 58 55.6 +0.5**
comp=Z,14nm,1.5s
MSSA **Maissana** **89.37** **44** IAMs_20 IAMs_20 17 36 39.5
comp=Z,763nm,20.0s
BRG **Berggiesshubel** **89.50** **37** *e*P **P** **16 58 55.6 +0.1**
comp=Z,5.9nm,1.1s
BRG *i* pP **pP** **16 59 05.1 -0.3**
comp=Z,12nm,1.2s
BRG *i* sP **sP** **16 59 11.1 +2.1**
comp=Z,10.0nm,1.1s
BRG SKS **SKSac** **17 09 17.0 -6.7**
BRG S **ScS** **17 09 49.0 +0.3**
BRG SS SS 17 15 17.0 -22
comp=N,727nm,25.4s
comp=E,799nm,23.9s
comp=Z,1µm,24.3s
BRG **Berggiesshubel** **89.50** **37** *e*P **P** **16 58 55.6 +0.1**
BRG *i* *PP **pP** **16 59 05.1 -0.3**
BRG *i* *SP **sP** **16 59 11.1 +2.1**
BRG 17 09 17.0
BRG S **ScS** **17 09 49.0 +0.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.2s
BRG pmax pmax
comp=N,10.0nm,1.1s
BRG MLR MLR
comp=N,727nm,25.4s
BRG MLR MLR
comp=E,799nm,23.9s
BRG MLR MLR
comp=Z,1µm,24.3s
BRG **Berggiesshubel** **89.50** **37** *e*P **P** **16 58 55.4 -0.1**
comp=Z,6.4nm,1.0s,baz=293,slow=4.8
SALO **Salr** **89.53** **42** IAMs_20 IAMs_20 17 42 34.9
comp=Z,592nm,20.0s
WET **Wettzell** **89.60** **39** *e*P **P** **16 58 57.1 +1.1**
comp=Z,5.4nm,1.0s,baz=293,slow=4.8
VLC **Villacollemand** **90.00** **44** IAMs_20 IAMs_20 17 36 59.4
comp=Z,738nm,21.0s
PVCC **Panska Ves** **90.01** **37** AMS AMS 17 34 10.0
comp=Z,1µm,25.3s
KHC **Kasperske Hory** **90.02** **38** *e*P **P** **16 58 58.1 0.0**
KHC *e*pP **pP** **16 59 08.1 +0.1**
KHC *e*S **S** **17 09 45.4 -3.8**
KHC AMS AMS 17 33 30.0
comp=Z,2µm,24.0s
KHC **Kasperske Hory** **90.02** **38** *e*P **P** **16 58 58.1 0.0**
KHC *e* 16 59 08.1
KHC *e*S **S** **17 09 45.4 -3.8**
KHC MLR MLR
comp=Z,2µm,24.0s
KHC **Kasperske Hory** **90.02** **38** IAMs_20 IAMs_20 17 38 46.6
comp=Z,486nm,20.0s
FINES **FINESS Array B** **90.08** **24** P **P** **16 58 58.8 +0.8**
comp=Z,1.4nm,0.7s,baz=318,slow=2.6,SNR=7.3
FINES LR LR 17 42 08.3
comp=Z,613nm,18.6s,baz=310,slow=38
FINES **FINESS Array B** **90.08** **24** P **P** **16 58 59.1 +1.1**
PRA **Prague** **90.13** **37** *e*S **S** **17 09 54.9 +4.9**
PRA AMS AMS 17 34 00.0
comp=Z,600nm,28.6s
GEC2 **GERESS Array S** **90.22** **39** *e*P **P** **16 58 59.9 +0.8**
comp=Z,4.7nm,1.0s,baz=293,slow=4.8
GERES **GERESS Array B** **90.22** **39** P **P** **16 58 59.5 +0.4**
comp=Z,1.7nm,0.9s,baz=304,slow=2.9,SNR=13
GERES LR LR 17 40 43.9
comp=Z,899nm,18.1s,baz=265,slow=36
GERES **GERESS Array B** **90.22** **39** P **P** **16 58 59.7 +0.7**
PRU **Pruhonice** **90.22** **37** *e*P **P** **16 58 59.9 +1.0**
PRU *e*pP **pP** **16 59 09.4 +0.6**
PRU *e*SKS **SKSac** **17 09 25.4 -2.6**
PRU AMS AMS 17 34 00.0
comp=Z,1µm,25.7s
PRU **Pruhonice** **90.22** **37** *e*P **P** **16 58 59.9 +1.0**
PRU *e* 16 59 09.4
ABTA **Abfaltersbach** **90.36** **41** *e*P **P** **16 59 00.0 +0.3**
comp=Z,10nm,1.3s
GOPC **GO Pecny, Ondr** **90.40** **37** *e*S SKSac 17 09 10.7 -18
GOPC AMS AMS 17 34 10.0
comp=Z,1µm,23.6s
CIMO **Cimolais** **90.49** **41** IAMs_20 IAMs_20 17 37 03.2
comp=Z,858nm,21.0s
KBA **Koelnbreinsper** **90.74** **40** *e*P **P** **16 59 02.0 +0.4**
comp=Z,9.8nm,1.1s
OSSC **Osservatorio P** **90.82** **44** IAMs_20 IAMs_20 17 37 58.1
comp=Z,922nm,20.0s
CHVC **Chvalec** **90.83** **36** *e*P **P** **16 59 01.6 -0.2**
CHVC *ex* x 16 59 11.4
CHVC AMS AMS 17 35 00.0
comp=Z,1µm,28.4s
UPC **Upice** **90.84** **36** *e*S SKSac 17 09 19.6 -12
UPC AMS AMS 17 35 00.0
comp=Z,1µm,25.8s
OSTC **Ostas** **90.94** **36** *e*P **P** **16 59 01.3 -1.0**
OSTC *ex* x 16 59 12.6
OSTC AMS AMS 17 35 00.0
comp=Z,1µm,23.1s
MOA **Molln** **90.98** **39** *e*P **P** **16 59 02.8 +0.3**
comp=Z,11nm,1.5s
TREC **Trest** **91.08** **38** AMS AMS 17 34 30.0
comp=Z,2µm,24.6s
DPC **Dobruska-Polom** **91.09** **36** *e*P **P** **16 59 03.4 +0.4**
DPC *e*pP **pP** **16 59 12.6 -0.3**
DPC *e*SKS **SKSac** **17 09 28.4 -4.7**
DPC AMS AMS 17 35 10.0
comp=Z,1µm,23.6s
DPC **Dobruska-Polom** **91.09** **36** *e*P **P** **16 59 03.4 +0.4**
DPC *e* 16 59 12.6
DPC *e*S **SKSac** **17 09 28.4 -4.7**
DPC MLR MLR
comp=Z,1µm,23.6s
MYKA **Terra Mystica** **91.11** **41** *e*P **P** **16 59 03.4 +0.2**
comp=Z,6.2nm,1.0s
ROBS **Robic** **91.19** **41** *i* P P 16 59 12.6 +9.1
MSVF **Nonsavu** **91.38** **252**‖ *e*P **P** **16 59 07.7 +2.8**
MSVF pmax pmax
comp=Z,17nm,1.3s
KRLC **Kraliky** **91.48** **37** *e*P **P** **16 59 05.4 +0.6**
KRLC *e*pP **pP** **16 59 13.7 -1.0**
KRLC *e*SKS **SKSac** **17 09 28.4 -6.9**
KRLC AMS AMS 17 35 30.0
comp=Z,700nm,26.9s
KRLC **Kraliky** **91.48** **37** *e*P **P** **16 59 05.4 +0.6**
KRLC *e* 16 59 13.7
KRLC *e*S **SKSac** **17 09 28.4 -6.9**
KRLC MLR MLR
comp=Z,700nm,26.9s
KRUC **Moravsky** **91.72** **38** *e*P **P** **16 59 06.1 +0.2**
KRUC *e*pP **pP** **16 59 14.6 -1.2**
VRAC **Vranov** **91.72** **37** *e*P **P** **16 59 06.2 +0.3**
VRAC *e*pP **pP** **16 59 14.8 -1.0**
CONA **Conrad Observa** **91.91** **39** P **P** **16 59 07.7 +0.8**
comp=Z,18nm,1.7s
SOKA **Soboth** **91.96** **40** *e*P **P** **16 59 06.2 -1.0**
comp=Z,14nm,1.3s
MORC **Moravsky Berou** **92.05** **37** *e*P **P** **16 59 06.7 -0.8**
MORC *e*pP **pP** **16 59 16.2 -1.2**
MORC **Moravsky Berou** **92.05** **37** IAMs_20 IAMs_20 17 43 12.3
comp=Z,548nm,20.0s
PDKS **Podkum** **92.20** **41** *e*P P 16 59 17.0 +8.7
NRCA **Norcia** **92.35** **44** IAMs_20 IAMs_20 17 48 59.6
comp=Z,318nm,19.0s
KEST **Kesra** **92.43** **52** P **P** **16 59 09.8 +0.3**
comp=Z,4.4nm,0.8s,baz=90,slow=4.0,SNR=3.8
KEST LR LR 17 36 04.5
comp=Z,690nm,21.9s,baz=280,slow=33
KEST **Kesra** **92.43** **52** IAMs_20 IAMs_20 17 35 43.1
comp=Z,834nm,22.0s
ZST **Bratislava** **92.53** **38** *e*P **P** **16 59 10.1 +0.5**
ZST pmax pmax
comp=Z,85nm,1.6s
ZST **Bratislava** **92.53** **38** *e*P **P** **16 59 10.1 +0.5**
MODS **Modra-Piesok** **92.55** **38** *e*P **P** **16 59 10.7 +0.9**
MODS pmax pmax
comp=Z,31nm,1.5s
MODS **Modra-Piesok** **92.55** **38** *e*P **P** **16 59 10.7 +0.9**
AQU **L'Aquila** **92.74** **45** IAMs_20 IAMs_20 17 39 02.0
comp=Z,879nm,21.0s
TORD **Torodi Ar. Bea** **93.31** **75** P **P** **16 59 13.8 0.0**
comp=Z,2.2nm,0.7s,baz=295,slow=5.1,SNR=9.2
TORD PKKP **PKKPbc** **17 16 21.9 +1.1**
comp=Z,0.7nm,0.8s,baz=60,slow=3.4,SNR=3.5
TORD LR LR 17 36 48.5
comp=Z,860nm,21.9s,baz=285,slow=33
VYHS **Vyhne** **93.41** **37** *e*P **P** **16 59 13.5 -0.2**
VYHS pmax pmax
comp=Z,17nm,1.6s
VYHS **Vyhne** **93.41** **37** *e*P **P** **16 59 13.5 -0.2**
PAOL **Paolisi** **94.09** **45** IAMs_20 IAMs_20 17 39 01.7
comp=Z,643nm,20.0s
NACGM **Naroch** **94.19** **29** *e* P **16 59 14.0 -3.1**
NACGM *e*LR LR 17 33 56.0
NACGM LRM MLR 17 39 26.0
comp=Z,1.5nm,24.0s
YAK **Yakutsk** **94.34** **340** *e*P **P** **16 59 17.4 -0.2**
YAK *e**PP **pP** **16 59 26.4 -1.1**
YAK *e* 17 03 03.2
YAK *e*S **SKSac** **17 09 49.5 -1.0**
YAK *e* 17 10 25.6
YAK *e*SS SS 17 17 03.3 +15
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK pmax pmax
comp=Z,8.0nm,1.3s
YAK pmax pmax
comp=N,2.0nm,1.4s
YAK pmax pmax
comp=Z,121nm,4.2s
YAK pmax pmax
comp=N,90nm,4.8s
YAK smax smax
comp=N,296nm,6.4s
YAK smax smax
comp=E,140nm,6.7s
YAK MLR MLR
comp=Z,800nm,25.0s
YAK MLR MLR
comp=E,386nm,21.0s
YAK MLR MLR
comp=N,407nm,20.0s
YAK **Yakutsk** **94.34** **340** IAMs_20 IAMs_20 17 43 00.1
comp=Z,575nm,22.0s
NRIK **Noril'sk** **94.77** **359** PKKP 17 16 11.1
comp=Z,1.4nm,0.5s,baz=324,slow=4.4,SNR=3.6
NRIK **Noril'sk** **94.77** **359**‖ *e*P **P** **16 59 20.7 +1.2**
NRIK pmax pmax
comp=Z,4.0nm,1.3s
KWP **Kalwaria Pacla** **95.03** **35** IAMs_20 IAMs_20 17 45 02.0
comp=Z,834nm,20.0s
UZH **Uzhgorod** **95.33** **36** *e*P **P** **16 59 23.6 +1.1**
UZH *e* 16 59 34.5
KLMR **Klimovskoe** **95.37** **20** *e*P **P** **16 59 19.9 -2.4**
KLMR *e* 17 03 07.7
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR **Klimovskoe** **95.37** **20** *e*P **P** **16 59 20.0 -2.4**
KLMR AMP 16 59 32.0
comp=Z,20nm,1.1s
KLMR *e*PP **PP** **17 03 07.8 -4.5**
KLMR LQ LQ 17 36 06.9
KLMR LQ LQ 17 36 06.9
KLMR LR LR 17 37 21.7
CEL **Celeste** **96.21** **47** IAMs_20 IAMs_20 17 39 57.9
comp=Z,557nm,20.0s
DIVS **Divibare** **96.25** **41** IAMs_20 IAMs_20 17 43 54.5
comp=Z,625nm,19.0s
TIP **Timpagrande** **96.41** **46** IAMs_20 IAMs_20 17 42 17.2
comp=Z,756nm,22.0s
PDG **Podgorica** **96.59** **43** IAMs_20 IAMs_20 17 47 44.6
comp=Z,573nm,19.0s
PRGR **Permogore** **96.67** **17** *e*P **P** **16 59 27.0 -1.3**
PRGR *e**PP **pP** **16 59 35.8 -2.4**
PRGR pmax pmax
comp=Z,22nm,1.0s
SCTE **Santa Cesarea** **97.18** **45** IAMs_20 IAMs_20 17 41 18.4
comp=Z,681nm,21.0s
TIR **Tirane** **97.51** **43** IAMs_20 IAMs_20 17 44 20.9
comp=Z,663nm,20.0s
URZ **Urewera** **97.66** **233** LR LR 17 33 30.4
comp=Z,546nm,21.8s,baz=12,slow=29
AKASG **Malin Array Be** **97.88** **32** LR LR 17 45 25.1
comp=Z,646nm,19.0s,baz=305,slow=36
MOS **Moscow** **98.37** **25** *e*P Pdif 16 59 44.2 +8.1
MOS *e* 16 59 58.5
OBN **Obninsk** **98.38** **25**‖ *e*P **P** **16 59 34.8 -1.3**
OBN *e* 16 59 43.6
OBN *e* 17 03 34.8
OBN *e*PPP PPP 17 05 38.5
OBN pmax pmax
comp=Z,30nm,1.8s
SNZO **South Karori** **100.17** **230** IAMs_20 IAMs_20 17 34 06.8
comp=Z,788nm,22.0s
KIRV **Kirov** **100.27** **18**‖ *e*P **Pdif** **16 59 43.3 -1.1**
ITM **Ithomi** **100.94** **46** IAMs_20 IAMs_20 17 47 43.1
comp=Z,503nm,21.0s
LPSR **Galich'ya Gora** **101.15** **26** *e*P **Pdif** **16 59 57.3 +8.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=Z,630nm,20.0s
MQZ **McQueen's Vall** **102.13** **228** IAMs_20 IAMs_20 17 41 11.6
comp=Z,735nm,20.0s
VSR **Storozhevoye** **102.25** **27** *e*P **Pdif** **17 00 01.7 +8.3**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD **Divnogorie** **102.48** **27** *e*P **Pdif** **17 00 01.5 +7.0**
VORD pmax pmax
comp=Z,4.0nm,0.6s
OXZ **Oxford** **102.50** **228** IAMs_20 IAMs_20 17 52 31.4
comp=Z,338nm,18.0s
DZM **Mont Dzumac** **103.02** **251** *e*LR LR 17 33 47.2
comp=Z,1µm,23.5s
RPZ **Rata Peaks** **103.27** **228** IAMs_20 IAMs_20 17 39 54.9
comp=Z,715nm,19.0s
VRH **Novokhopyorsk** **103.35** **26** *e*P **Pdif** **16 59 58.1 -0.3**
VRH pmax pmax
comp=Z,7.0nm,1.0s
SANT **Santorini** **103.79** **45** IAMs_20 IAMs_20 17 48 48.4
comp=Z,347nm,21.0s
IDI **Anoyia** **103.97** **47** IAMs_20 IAMs_20 17 42 37.2
comp=Z,547nm,22.0s
ARU **Arti** **104.59** **14** P **Pdif** **17 00 11.6 +7.8**
ARU 17 04 25.8
ARU SP SP 17 13 25.6 -5.8
ARU MLR MLR
comp=Z,650nm,21.0s
ARU **Arti** **104.59** **14** IAMs_20 IAMs_20 17 48 30.7
comp=Z,681nm,20.0s
SNAA **Sanae** **106.04** **161** IAMs_20 IAMs_20 17 39 40.3
comp=Z,385nm,21.0s
ILGA **Ilgaz** **106.32** **38** IAMs_20 IAMs_20 17 51 59.9
comp=Z,416nm,21.0s
ISP **Isparta** **106.33** **42** IAMs_20 IAMs_20 17 47 24.0
comp=Z,492nm,22.0s
KIV **Kislovodsk** **109.16** **31** IAMs_20 IAMs_20 17 49 06.5
comp=Z,558nm,21.0s
CSS **Mathiatis** **109.86** **43** IAMs_20 IAMs_20 17 57 23.9
comp=Z,284nm,21.0s

ZAA0	**Zalesovo Array**	**110.25**	**360**	IAMs_20	IAMs_20	17 56 05.1		
	comp=Z,442nm,22.0s							
NVL	**N'lazarevskaya**	**110.83**	**160**	*i* PKIKP	PKiKP	17 04 17.7		-13
NVL				*e*SS	SS	17 20 39.6		+3.2
NVL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KOPT	**Kop Dagi**	**110.86**	**35**	IAMs_20	IAMs_20	17 55 19.7		
	comp=Z,359nm,22.0s							
MAK	**Makhachkala**	**112.20**	**28**	*e*P	**Pdif**	**17 00 28.6**		**-9.3**
MAK				*i*		17 04 32.1		
MAK				*e*		17 05 14.2		
MAK				*e*PPP	PPP	17 07 38.3		
MAK				*e*		17 11 07.5		
MAK				*e*PS	**SP**	**17 14 43.4**		**-4.5**
MAK				*e*SS	**SS**	**17 20 51.6**		**-2.6**
MAK				*e*SSS	SSS	17 24 58.9		
MAK				pmax	pmax			
	comp=Z,216nm,1.1s							
MAK				MLR	MLR			
	comp=Z,704nm,19.0s							
MARD	**Mardin**	**112.90**	**37**	IAMs_20	IAMs_20	17 48 58.0		
	comp=Z,369nm,21.0s							
ULN	**Ulaanbaatar**	**113.17**	**344**	*i* PKIKP	**PKiKP**	**17 04 35.9**		**-0.1**
GEVA	**Gevas**	**113.47**	**34**	IAMs_20	IAMs_20	17 53 41.8		
	comp=Z,462nm,21.0s							
DGZ	**Jazzator, Alta**	**114.44**	**358**	*i* PKIKP	PKPdf	17 04 38.6		+0.2
MAKZ	**Makanchi**	**117.36**	**2**	IAMs_20	IAMs_20	18 01 47.2		
	comp=Z,611nm,21.0s							
MKAR	**Makanchi Array**	**117.38**	**2**	PKP	**PKPdf**	**17 04 43.9**		**-0.1**
	comp=Z,0.6nm,0.8s,baz=29,slow=3.3,SNR=3.3							
HHC	**Hu-ho-hao-te**	**117.97**	**337**	*e*PKP	**PKPdf**	**17 04 45.1**		**-0.3**
JOW	**Kunigami**	**119.66**	**314**	IAMs_20	IAMs_20	18 07 23.2		
	comp=Z,388nm,19.0s							
WMQ	**Urumqi**	**120.30**	**357**	PKP	**PKiKP**	**17 04 50.2**		**+0.3**
WMQ				sPKP		17 05 01.6		
WMQ				PP	**PP**	**17 06 17.5**		**+3.1**
WMQ				AMB	AMB			
	comp=Z,73nm,4.7s							
WMQ				LR	LR			
	comp=Z,350nm,25.7s							
WMQ				LR	LR			
	comp=Z,370nm,21.3s							
WMQ				LR	LR			
	comp=Z,310nm,27.3s							
WMQ	**Urumqi**	**120.30**	**357**	IAMs_20	IAMs_20	18 04 25.4		
	comp=Z,552nm,20.0s							
GYA0B	**ALIBECK ARRAY**	**120.89**	**24**	IAMs_20	IAMs_20	18 02 17.4		
	comp=Z,471nm,21.0s							
ASHT	**Ashkhabad**	**120.98**	**24**	IAMs_20	IAMs_20	17 59 44.8		
	comp=Z,527nm,22.0s							
NJ2	**Nanjing**	**121.81**	**326**	*e*PKP	**PKiKP**	**17 04 53.5**		**+0.5**
TARG	**Taragay, Kyrgy**	**122.16**	**6**	IAMs_20	IAMs_20	18 04 18.2		
	comp=Z,598nm,21.0s							
BTK	**Batken**	**122.74**	**12**	IAMs_20	IAMs_20	18 02 30.8		
	comp=Z,540nm,21.0s							
GTA	**Gaotai**	**122.92**	**346**	*e*PKP	**PKiKP**	**17 05 00.4**		**+5.2**
GTA				sPKP		17 05 14.4		
GTA				PP	PP	17 06 41.1		+8.7
GTA				SKKS		17 13 29.8		
GTA				AMB	AMB			
	comp=Z,230nm,7.3s							
GTA				LR	LR			
	comp=Z,530nm,22.2s							
GTA				LR	LR			
	comp=Z,500nm,18.5s							
GTA				LR	LR			
	comp=Z,480nm,22.9s							
XAN	**Xi'an**	**124.92**	**335**	P	PKiKP	17 05 08.6		+9.4
XAN				pmax	pmax			
	comp=Z,14nm,0.9s							
XAN				pmax	pmax			
	comp=Z,360nm,5.4s							
LZH	**Lanzhou**	**124.92**	**341**	*e*PKP	**PKPdf**	**17 04 59.0**		**0.0**
LZH				sPKP		17 05 14.3		
LZH				LR	LR			
	comp=Z,140nm,18.1s							
LZH				LR	LR			
	comp=Z,150nm,18.3s							
LZH				LR	LR			
	comp=Z,180nm,20.2s							
WHN	**Wuhan**	**125.37**	**328**	PKPbc	PKiKP	17 05 09.4		+9.3
STKA	**Stephens Creek**	**125.95**	**242**	PKP	**PKPdf**	**17 05 00.2**		**-0.6**
	comp=Z,2.3nm,0.6s,baz=93,slow=2.5,SNR=8.3							
MAW	**Mawson**	**126.67**	**170**	PKP	**PKPdf**	**17 05 00.9**		**-0.1**
	comp=Z,1.7nm,0.6s,baz=326,slow=3.6,SNR=4.8							
FURI	**Furi**	**128.43**	**64**	IAMs_20	IAMs_20	17 58 02.8		
	comp=Z,438nm,20.0s							
CD2	**Chengdu**	**129.67**	**338**	Pdif	**Pdif**	**17 01 53.3**		**-2.7**
UOSS	**Minazif**	**130.85**	**34**	IAMs_20	IAMs_20	18 13 28.0		
	comp=Z,311nm,20.0s							
WRA	**Warramunga Arr**	**132.43**	**258**	PKP	**PKPdf**	**17 05 13.2**		**-0.3**
	comp=Z,2.1nm,0.8s,baz=87,slow=2.6,SNR=16							
ASAR	**Alice Springs**	**132.97**	**253**	PKhKP	PKPpre	17 05 04.0		
	comp=Z,0.4nm,0.6s,baz=92,slow=2.9,SNR=4.4							
ASAR				PKP	**PKPdf**	**17 05 13.8**		**-0.6**
	comp=Z,1.2nm,0.6s,baz=90,slow=2.4,SNR=8.6							
FITZ	**Fitzroy Crossi**	**140.53**	**261**	PKhKP	PKPpre	17 05 21.9		
	comp=Z,1.5nm,0.5s,baz=315,slow=5.7,SNR=6.0							
CMAR	**Chiang Mai Arr**	**142.78**	**337**	PKP	**PKPdf**	**17 05 32.0**		**-0.5**
	comp=Z,2.0nm,1.0s,baz=347,slow=3.2,SNR=9.3							
PSA00	**Pilbara Seismi**	**146.00**	**255**		**PKPdf**	**17 05 38.3**		**+0.3**
HYB	**Hyderabad**	**146.22**	**10**	*i* PKP	**PKPdf**	**17 05 38.0**		**-0.6**
HYB				epPKP	**pPKPdf**	**17 05 48.5**		**-0.3**
SBUM	**Sibu**	**146.85**	**301**		**PKPbc**	**17 05 41.2**		**-0.3**
KSM	**Kuching**	**148.97**	**302**		**PKPbc**	**17 05 47.3**		**+0.1**

IDC 11 16:52:32.5±12.0, 53.65N×159.47E, h0km, Error ellipse: s-maj=100.0km s-min=25.7km az=63.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK- 1.19**		**243**	*i*		16 58 00.0	
	baz=61,slow=309,SNR=8.9						
PETK	**Petropavlovsk- 1.19**		**243**	Pg	Pg	16 52 55.5	+0.2
	0.4nm,0.3s,baz=65,slow=17,SNR=17						
I53US	**FAIRBANKS INFR 28.27**		**46**	*i*		19 40 55.6	
	baz=272,slow=327,SNR=7.4						

*IDC **11** 16:54:56.6±1.3, 3.44S×145.27E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/31, mbtmp3.7/7, ML1.5/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/37, Error ellipse: s-maj=36.2km s-min=19.3km az=93.0*

ISC 11 16:54:58.3±1.1, 3.5S±0.1×145.2E±0.2, h10km, n10, σ0.8s75/8, mb3.8/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**		**4.59 282**	LR	LR	16 58 01.7	
	comp=Z,107nm,21.8s,baz=354,slow=40						
PMG	**Port Moresby**		**6.22 162**	Pn	**Pn**	**16 56 31.0**	**+0.8**
	0.7nm,0.3s,baz=256,slow=8.3,SNR=3.6						
PMG				Sn	**Sn**	**16 57 40.8**	**-0.6**
	0.5nm,0.3s,baz=322,slow=18,SNR=2.1						
WRA	**Warramunga Arr**		**19.52 212**	P	**P**	**16 59 26.6**	**-0.7**
	0.6nm,0.3s,baz=34,slow=11,SNR=52						
DAV	**Davao City (W)**		**22.21 298**	LR	LR	17 07 37.3	
	comp=Z,239nm,19.0s,baz=10.0,slow=34						
ASAR	**Alice Springs**		**22.87 208**	P	**P**	**17 00 02.8**	**+0.6**
	0.8nm,0.5s,baz=28,slow=12,SNR=28						
FITZ	**Fitzroy Crossi**		**24.07 231**	P	**P**	**17 00 13.7**	**-0.3**
	3.9nm,0.8s,baz=45,slow=6.2,SNR=16						
MJAR	**Matsushiro Arr**		**40.32 351**	LR	LR	17 18 13.1	
	comp=Z,47nm,20.3s,baz=210,slow=35						
KSRS	**Korea Array**		**43.76 340**	P	**P**	**17 03 04.6**	**+0.6**
	1.3nm,0.9s,baz=148,slow=8.1,SNR=4.1						
CMAR	**Chiang Mai Arr**		**50.49 297**	P	**P**	**17 03 56.9**	**-0.1**
	0.2nm,0.6s,baz=130,slow=8.4,SNR=2.5						
ILAR	**Eielson Array**		**83.87 24**	P	**P**	**17 07 27.2**	**-0.8**
	0.6nm,0.8s,baz=249,slow=5.9,SNR=5.0						

*SFS **11** 17:14:00.6, 35.01N×4.55W, h12km, ML2.6, ZERKAT (MARRUECOS)*
*CNRM **11** 17:14:01.4, 34.91N×4.37W, h16km*
*INMG **11** 17:14:02.4±1.7, 34.92N×4.39W, h14km±16km, ML2.2, Error ellipse: s-maj=11.7km s-min=8.0km az=78.0*
*MDD **11** 17:14:02.1±1.1, 34.97N×4.30W, h15km±4km, mbLg2.1/13, Error ellipse: s-maj=9.9km s-min=6.2km az=7.0, PRXIMO*
ISC 11 17:14:01.1±1.0, 34.98N±0.04×4.39W±0.03, h18km, n45, σ1.9s77/79, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**		**0.20 20**	P	**Pg**	**17 14 06.5**	**+0.3**
PVLZ				S	**Sb**	**17 14 10.1**	**+0.7**
PVLZ	**Peæn de**		**0.20 20**	*e*P	**Pg**	**17 14 06.5**	**+0.3**
PVLZ				*e*S	**Sb**	**17 14 10.1**	**+0.7**
PALE	**Palemas**		**0.44 57**	P	**Pg**	**17 14 10.1**	**-0.1**
PALE				S	**Sb**	**17 14 17.7**	**+1.0**
SICH	**Sidi Chahed**		**1.16 222**	P	**Pn**	**17 14 23.3**	**+0.7**
EMEL	**Melilla**		**1.22 74**	P	**Pn**	**17 14 22.3**	**-0.9**
	17nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**17 14 43.1**	**+2.5**
	24nm,0.1s,SNR=7.9						
CEU	**Ceuta**		**1.22 319**	P	Pn	17 14 19.6	-3.7
CEU				S	**Sb**	**17 14 36.4**	**-2.7**
CEU	**Ceuta**		**1.22 319**	*e*P	Pn	17 14 19.6	-3.7
CEU				*e*S	**Sb**	**17 14 36.4**	**-2.7**
ECEU	**Ceuta**		**1.22 319**	P	**Pn**	**17 14 21.0**	**-2.4**
	2.6nm,0.1s,SNR=7.9						
ECEU				S	**Sb**	**17 14 36.8**	**-2.4**
	12nm,0.2s,SNR=7.9						
MELI	**Melilla**		**1.23 75**	P	**Pn**	**17 14 22.7**	**-0.7**
	25nm,0.2s,SNR=7.9						
MELI				S	**Sg**	**17 14 42.0**	**+0.9**
	21nm,0.2s,SNR=7.9						
EALB	**Alboran**		**1.46 49**	P	**Pn**	**17 14 24.7**	**-1.9**
	1.1nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**17 14 44.2**	**-1.1**
	19nm,0.2s,SNR=7.9						
IFR	**Ifrane**		**1.58 203**	*e*Pn	**Pn**	**17 14 27.3**	**-1.2**
IFR	**Ifrane**		**1.58 203**	*i* Pg	**Pn**	**17 14 29.1**	**+0.7**
IFR				*e*S	**Sn**	**17 14 46.9**	**-1.7**
EMAL	**Malaga-Limoner**		**1.78 359**	P	**Pn**	**17 14 31.4**	**+0.4**
EMAL				S	**Sn**	**17 14 50.4**	**-2.8**
EMAL	**Malaga-Limoner**		**1.78 359**	*e*P	**Pn**	**17 14 31.4**	**+0.4**
EMAL				*e*S	**Sn**	**17 14 50.4**	**-2.8**
ELGU	**Los Guajares,**		**1.98 18**	P	**Pn**	**17 14 33.1**	**-0.8**
	1.4nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**17 14 57.1**	**-1.2**
	8.0nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**		**2.14 6**	P	**Pn**	**17 14 35.5**	**-0.5**
	0.4nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**17 15 01.3**	**-0.9**
	3.8nm,0.4s,SNR=7.9						
EBER	**Berja**		**2.27 32**	P	**Pn**	**17 14 37.1**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 15 05.6**	**+0.1**
	9.5nm,0.3s,SNR=7.9						
EQUE	**Quentar**		**2.35 19**	P	**Pn**	**17 14 40.0**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**17 15 06.6**	**-0.8**
	2.1nm,0.3s,SNR=7.9						
ENIJ	**Nijar**		**2.66 41**	S	**Sn**	**17 15 11.8**	**-3.1**
	4.6nm,0.2s,SNR=7.9						
EQES	**Quesada**		**3.01 20**	P	**Pn**	**17 14 49.3**	**+1.2**
	1.3nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**17 15 25.6**	**+1.9**
	2.2nm,0.3s,SNR=7.9						
EADA	**Adamuz**		**3.19 357**	P	**Pn**	**17 14 50.7**	**+0.3**
	0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**17 15 29.0**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**		**3.20 345**	P	**Pn**	**17 14 51.8**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**17 15 27.6**	**-0.6**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**		**3.34 327**	P	**Pn**	**17 14 53.2**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**17 15 29.8**	**-1.8**
	0.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**		**3.57 316**	P	**Pn**	**17 14 56.4**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**17 15 36.4**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**		**3.62 313**	P	**Pn**	**17 14 56.4**	**+0.1**
PVAQ				S	**Sn**	**17 15 39.5**	**+0.9**
	4.3nm,0.6s						
PVAQ	**Vaqueiros**		**3.62 313**	*e*Pn	**Pn**	**17 14 56.4**	**+0.1**
PVAQ				*e*Sn	**Sn**	**17 15 39.5**	**+0.9**
PVAQ				A	A	17 15 43.2	
	4.3nm,0.6s						
PBDV	**Barranco-do-Ve**		**3.65 309**	P	**Pn**	**17 14 57.8**	**+1.0**
PBDV				S	**Sn**	**17 15 39.5**	**+0.1**
PBDV	**Barranco-do-Ve**		**3.65 309**	*e*Pn	**Pn**	**17 14 57.8**	**+1.0**
PBDV				*e*Sn	**Sn**	**17 15 39.5**	**+0.1**
EMUR	**La Murta**		**3.82 41**	P	**Pn**	**17 15 00.8**	**+1.7**
	0.3nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**17 15 41.9**	**-1.7**
	3.2nm,0.5s,SNR=7.9						
PCVE	**Castro Verde**		**3.96 313**	P	**Pn**	**17 15 02.5**	**+1.5**
PCVE				S	**Sn**	**17 15 42.1**	**-4.9**
PCVE	**Castro Verde**		**3.96 313**	*e*Pn	**Pn**	**17 15 02.5**	**+1.5**
PCVE				*e*Sn	**Sn**	**17 15 42.1**	**-4.9**
MORF	**Marmelete**		**4.16 305**	P	**Pn**	**17 15 07.7**	**+3.9**
MORF				S	**Sn**	**17 15 51.0**	**-0.9**
MORF	**Marmelete**		**4.16 305**	*e*Pn	**Pn**	**17 15 07.7**	**+3.9**
MORF				*e*Sn	**Sn**	**17 15 51.0**	**-0.9**
ETOB	**Tobarra**		**4.31 31**	P	**Pn**	**17 15 07.1**	**+1.2**
	0.7nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**17 15 54.2**	**-1.5**
	0.3nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**		**4.34 307**	P	**Pn**	**17 15 08.5**	**+2.3**
PTEO				S	**Sn**	**17 15 57.8**	**+1.5**
PTEO	**Sao Teotonio**		**4.34 307**	*e*Pn	**Pn**	**17 15 08.5**	**+2.3**
PTEO				*e*Sn	**Sn**	**17 15 57.8**	**+1.5**
PAB	**San Pablo**		**4.56 0**	P	**Pn**	**17 15 08.7**	**-0.6**
	0.2nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**17 15 58.5**	**-3.4**
	0.1nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**		**4.57 314**	P	**Pn**	**17 15 10.2**	**+0.9**
PNCL				S	**Sn**	**17 16 01.8**	**-0.2**
	1.6nm,0.6s						
PNCL	**Nicolau / Gran**		**4.57 314**	*e*Pn	**Pn**	**17 15 10.2**	**+0.9**
PNCL				*e*Sn	**Sn**	**17 16 01.8**	**-0.2**
PNCL				A	A	17 16 12.9	
	1.6nm,0.6s						
PMRV	**Marv??o**		**5.04 333**	P	**Pn**	**17 15 16.8**	**+0.9**
PMRV	**Marv??o**		**5.04 333**	*e*Pn	**Pn**	**17 15 16.8**	**+0.9**
PMTG	**Montargil**		**5.11 324**	P	**Pn**	**17 15 19.3**	**+2.6**
PMTG	**Montargil**		**5.11 324**	*e*Pn	**Pn**	**17 15 19.3**	**+2.6**
PMAFR	**Mafra**		**5.58 317**	S	**Sn**	**17 16 24.5**	**-2.3**
	SNR=7.9						
PMAFR	**Mafra**		**5.58 317**	*e*Sn	**Sn**	**17 16 27.1**	**+0.3**

*IDC **11** 17:21:28.8±1.2, 5.91S×150.12E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.6/38, mbtmp3.8/6, ML1.8/1, Error ellipse: s-maj=78.8km s-min=19.5km az=137.0*

ISC 11 17:21:33.7±1.0, 5.9S±0.4×150.1E±0.4, h35km, n7, σ0.6s65/9, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**		**2.47 51**	Pn	**Pn**	**17 22 12.3**	**+0.8**
	22nm,0.3s,baz=153,slow=1.5,SNR=13						
KRVT				Sn	**Sn**	**17 22 40.1**	**-0.4**
	28nm,0.3s,baz=143,slow=8.2,SNR=3.6						
PMG	**Port Moresby**		**4.56 219**	Pn	**Pn**	**17 22 41.1**	**+0.9**
	3.2nm,0.3s,baz=20,slow=5.0,SNR=13						
PMG				Sn	**Sn**	**17 23 31.7**	**-0.4**
	5.4nm,0.3s,baz=211,slow=12,SNR=9.3						
WRA	**Warramunga Arr**		**20.74 226**	P	**P**	**17 26 10.8**	**-0.7**
	1.6nm,0.5s,baz=53,slow=11,SNR=30						
ASAR	**Alice Springs**		**23.58 220**	P	**P**	**17 26 41.0**	**-0.4**
	1.0nm,0.5s,baz=54,slow=9.3,SNR=16						
FITZ	**Fitzroy Crossi**		**26.78 241**	P	**P**	**17 27 11.0**	**+0.3**
	0.7nm,0.4s,baz=72,slow=11,SNR=8.7						
NVAR	**Mina Array Bea**		**94.86 52**	P	**P**	**17 34 52.3**	**-0.4**
	0.2nm,0.5s,baz=238,slow=5.2,SNR=2.6						
TORD	**Torodi Ar. Bea**		**148.03 285**	PKPbc	**PKPbc**	**17 41 16.6**	**-0.1**
	1.0nm,0.6s,baz=93,slow=3.1,SNR=6.7						

WEL 11 17:22:10.9, 40.7S±1.0×17.5E±., h38km±2km, M3.4/20, ML3.7/20, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**		**0.09 205**	P	Pn	17 22 17.4	+0.2
KIW	**Kapiti Island**		**0.27 242**	P	Pn	17 22 19.0	-0.1
KIW				S	Sn	17 22 24.4	-1.9
HOWZ	**Holdsworth Sta**		**0.28 127**	P	Pn	17 22 18.9	-0.2
HOWZ				S	Sn	17 22 24.8	-1.5
MRZ	**Mangatainoka R**		**0.28 75**	P	Pn	17 22 18.6	-0.5
MRZ				S	Sn	17 22 24.2	-2.0
CAW	**Cannon Point**		**0.39 197**	P	Pn	17 22 20.4	+0.6
TIWZ	**Tintock**		**0.51 95**	P	Pn	17 22 21.9	+0.3
TIWZ				S	Sn	17 22 30.3	+1.2
OHWZ	**Ohakea**		**0.53 8**	P	Pn	17 22 22.5	+0.6
OHWZ				S	Sn	17 22 31.3	+1.6
POWZ	**Post Office Ro**		**0.54 51**	P	Pn	17 22 21.9	-0.2
PRWZ	**Pori Road**		**0.60 73**	P	Pn	17 22 23.3	+0.4
TMWZ	**Te Maipa**		**0.63 127**	P	Pn	17 22 23.5	0.0
TMWZ				S	Sn	17 22 33.4	+1.2
WEL	**Wellington**		**0.65 212**	P	Pn	17 22 24.2	+0.6
WEL				S	Sn	17 22 33.8	+1.1
PAWZ	**Paruwai Farm**		**0.67 167**	P	Pn	17 22 24.0	0.0
MSWZ	**Moikau Station**		**0.68 178**	P	Pn	17 22 24.2	+0.1
MSWZ				S	Sn	17 22 35.1	+1.6
BHW	**Baring Head**		**0.73 201**	P	Pn	17 22 25.0	+0.4
BHW				S	Sn	17 22 35.7	+1.2
TRWZ	**Traveller**		**0.75 152**	P	Pn	17 22 24.8	-0.2
CPWZ	**Castlepoint**		**0.76 104**	P	Pn	17 22 25.7	+0.6
BFZ	**Birch Farm**		**0.78 87**	P	Pn	17 22 25.2	-0.1
PLWZ	**Palliser**		**0.84 178**	P	Pn	17 22 26.1	-0.1
DVHZ	**Dannevirke**		**0.84 59**	P	Pn	17 22 26.1	-0.1
TCW	**Tory Channel**		**0.86 236**	P	Pn	17 22 27.1	+0.7
TSZ	**Takapari Road**		**0.88 40**	P	Pn	17 22 27.2	+0.4
DUWZ	**D'Urville Isla**		**0.99 266**	P	Pn	17 22 28.9	+0.7
ANWZ	**Angora Road**		**0.99 74**	P	Pn	17 22 30.0	+1.8
PNHZ	**Pukenui**		**1.11 43**	P	Pn	17 22 29.9	+0.1
WPHZ	**Waipukurau**		**1.15 55**	P	Pn	17 22 32.5	+2.1
PRHZ	**Porangahau**		**1.17 67**	P	Pn	17 22 30.7	0.0
TUWZ	**Tuamarina**		**1.19 234**	P	Pn	17 22 31.3	+0.3
CMWZ	**Cape Campbell**		**1.27 217**	P	Pn	17 22 33.2	+1.2
MTVZ	**Mangateitei**		**1.36 8**	P	Pn	17 22 34.2	+1.3
MOVZ	**Moawhango**		**1.39 17**	P	Pn	17 22 34.2	+0.5
BHHZ	**Black Hill Sta**		**1.40 28**	P	Pn	17 22 34.3	+0.5
KRHZ	**Kereru**		**1.40 39**	P	Pn	17 22 33.7	-0.1
BSWZ	**Blackbirch Sta**		**1.41 226**	P	Pn	17 22 34.3	+0.3
LREZ	**Lake Rotokare**		**1.42 333**	P	Pn	17 22 36.0	+1.9
WNVZ	**Wahianoa**		**1.43 12**	P	Pn	17 22 35.5	+1.0
PXZ	**Pawanui**		**1.44 61**	P	Pn	17 22 34.3	0.0
PKVZ	**Pokaka**		**1.44 4**	P	Pn	17 22 35.8	+1.3
NNZ	**Nelson**		**1.48 250**	P	Pn	17 22 35.5	+0.6
DRZ	**Dome Shelter**		**1.48 10**	P	Pn	17 22 36.8	+1.5
FWVZ	**Far West T-bar**		**1.50 10**	P	Pn	17 22 36.6	+1.3
TUVZ	**Tukino**		**1.50 13**	P	Pn	17 22 36.6	+1.3
KAHZ	**Kahuranaki**		**1.57 54**	P	Pn	17 22 36.1	-0.1
NGZ	**Ngauruhoe**		**1.58 11**	P	Pn	17 22 37.8	+1.3
KWHZ	**Kaweka Forest**		**1.60 36**	P	Pn	17 22 36.4	-0.2
OTVZ	**Oturere**		**1.60 12**	P	Pn	17 22 38.0	+1.3
PREZ	**Palmer Road**		**1.61 329**	P	Pn	17 22 38.9	+2.2
ETVZ	**East Tongariro**		**1.64 13**	P	Pn	17 22 38.2	+1.0
WTVZ	**West Tongariro**		**1.64 10**	P	Pn	17 22 38.5	+1.3
VRZ	**Vera Road**		**1.65 347**	P	Pn	17 22 38.7	+1.5
TMVZ	**Te Maari**		**1.66 13**	P	Pn	17 22 38.5	+1.0
KRVZ	**Karewarewa**		**1.67 11**	P	Pn	17 22 39.0	+1.4
TWVZ	**Taurewa**		**1.67 6**	P	Pn	17 22 38.7	+1.1
NMEZ	**Namu Road**		**1.67 321**	P	Pn	17 22 39.9	+2.3
NEZ	**North Egmont**		**1.70 329**	P	Pn	17 22 40.0	+2.0
KHEZ	**Kahui Hut**		**1.71 327**	P	Pn	17 22 40.3	+2.1
MCHZ	**McNeill Hill**		**1.71 42**	P	Pn	17 22 40.1	+1.9
DREZ	**Durham Road**		**1.73 333**	P	Pn	17 22 40.6	+2.2
KATZ	**Kakaramea**		**1.79 12**	P	Pn	17 22 40.4	+1.1
MHEZ	**Mangahewa**		**1.79 337**	P	Pn	17 22 41.8	+2.6
NBEZ	**Newall Road No**		**1.79 324**	P	Pn	17 22 42.0	+2.7
PKE	**Pukeiti**		**1.81 328**	P	Pn	17 22 41.9	+2.5
RITZ	**Rihia Road**		**1.82 16**	P	Pn	17 22 40.6	+0.9
BKZ	**Black Stump Fm**		**1.84 32**	P	Pn	17 22 39.6	-0.4
RATZ	**Rangitukua**		**1.91 13**	P	Pn	17 22 43.0	+2.1
HATZ	**Hinemaiaia**		**1.96 20**	P	Pn	17 22 41.6	+0.1
ARHZ	**Aropaoanui**		**2.00 43**	P	Pn	17 22 43.6	+1.5
THZ	**Tophouse**		**2.03 239**	P	Pn	17 22 42.3	-0.2
NMHZ	**Naumai**		**2.04 37**	P	Pn	17 22 43.0	+0.3
QRZ	**Quartz Range**		**2.05 267**	P	Pn	17 22 43.6	+0.9
WATZ	**Wairara**		**2.06 11**	P	Pn	17 22 45.6	+2.7
KHZ	**Kahutara**		**2.10 216**	P	Pn	17 22 43.0	-0.4
MRHZ	**Matea Rd**		**2.11 26**	P	Pn	17 22 43.4	-0.2
HIZ	**Hauiti**		**2.23 353**	P	Pn	17 22 46.7	+1.4
MTHZ	**Maungataniwha**		**2.25 34**	P	Pn	17 22 45.4	-0.2
KUTZ	**Kaahu Road**		**2.29 12**	P	Pn	17 22 49.7	+3.6
TLZ	**Tolley Road**		**2.41 6**	P	Pn	17 22 48.3	+0.5
RTZ	**Ruatahuna**		**2.51 33**	P	Pn	17 22 48.3	-0.9
GVZ	**Greta Valley S**		**2.77 215**	P	Pn	17 22 51.5	-1.1
DSZ	**Denniston Nort**		**2.77 247**	P	Pn	17 22 52.5	-0.2
RIGZ	**Rimuhau**		**2.82 45**	P	Pn	17 22 51.7	-1.6
URZ	**Urewera**		**2.87 31

LIM1 **Limonal** 2.06 113 eP Pn **Pn** 17 34 49.1 -1.3
HORNC **Hornillas** 2.12 112 eP Pn **Pn** 17 34 50.9 -0.4
PLVR **Palo Verde** 2.14 123 eP Pn **Pn** 17 34 49.3 -2.3
CUI **Cuipilapa** 2.16 113 eP Pn **Pn** 17 34 50.8 -1.0
BLLM **Bellamira** 2.18 332 eP Pn **Pn** 17 34 50.7 -1.4
BLLM **Bellamira** 2.18 332 eP Pn **Pn** 17 34 50.7 -1.4
VSM **San Miguel** 2.18 331 eP Pn **Pn** 17 34 51.6 -0.6
VSM eS Sn **Sn** 17 35 17.1 -1.2
VSM **San Miguel** 2.18 331 eP Pn **Pn** 17 34 51.6 -0.6
VSM eS Sn **Sn** 17 35 17.1 -1.2
RANC **El Ranchito** 2.19 331 eP Pn **Pn** 17 34 51.2 -1.1
RANC **El Ranchito** 2.19 331 eP Pn **Pn** 17 34 51.2 -1.1
ACAL **Aguas Claras** 2.28 112 eP Pn **Pn** 17 34 53.8 +0.3
PTEN **Parque Tenorio** 2.30 110 eP Pn **Pn** 17 34 53.6 -0.1
TECA **Tecapa** 2.35 327 eP Pn **Pn** 17 34 53.4 -1.2
TECA **Tecapa** 2.35 327 eP Pn **Pn** 17 34 53.4 -1.2
JTS **Las Juntas de** 2.50 119 Pn **Pn** 17 34 54.3 -2.2
comp=Z,3.7nm,0.3s,baz=6.6,slow=20,SNR=10
JTS Sn **Sn** 17 35 26.0 +0.1
comp=Z,16nm,0.3s,baz=297,slow=2.3,SNR=6.8
JTS **Las Juntas de** 2.50 119 **Pn** 17 34 55.3 -1.2
TGUH **Tegucigalpa,Un** 2.53 358 ⇑iP **Pn** 17 34 57.9 +0.9
TGUH **Tegucigalpa,Un** 2.53 358 Pn **Pn** 17 34 57.8 +0.9
CEDE **Laguna Cedeo** 2.64 112 eP **Pn** 17 34 58.7 +0.4
SNVI **San Vicente** 2.64 322 eP **Pn** 17 34 56.6 -1.8
SNVI **San Vicente** 2.64 322 eP **Pn** 17 34 56.6 -1.8
COEG **Centro de Oper** 2.67 322 eP **Pn** 17 34 56.6 -2.2
COEG IAML 17 35 44.3
comp=Z,447nm,0.4s
COEG **Centro de Oper** 2.67 322 eP **Pn** 17 34 56.6 -2.2
COEG eS **Sn** 17 35 26.5 -3.5
COEG IAML 17 35 44.3
comp=Z,447nm,0.4s
ESPN **Las Esperanzas** 2.90 76 **Pn** 17 35 02.7 +0.8
SNET **Serv Nac Est T** 2.94 317 Pn Pn 17 35 06.1 +3.5
HDC **Heredia** 3.37 116 Pn **Pn** 17 35 09.1 +0.7
MTO3 **Montecristo** 3.57 324 **Pn** 17 35 10.3 -1.0
LCR2 **La Lucha 2** 3.59 119 eP **Pn** 17 35 12.2 +0.6
ESQI **Esquipulas** 3.69 325 Pn **Pn** 17 35 13.2 +0.4
RIMA **Rio Macho** 3.70 118 eP **Pn** 17 35 13.9 +0.9
CDM **Cerro de Muert** 3.88 120 eP **Pn** 17 35 16.1 +0.3
RIOS **Rincon, Osa** 4.57 127 eP **Pn** 17 35 24.6 -0.2
APG **El Apazote** 4.72 318 Pn **Pn** 17 35 27.8 +0.7
comp=Z,1.0nm,0.3s,baz=165,slow=16,SNR=6.2
PETF **Flores** 5.97 334 Pn **Pn** 17 35 47.1 +3.0
CCIG **Comitan** 6.75 315 Pn **Pn** 17 35 56.6 +1.6
BCIP **Isla Barro Col** 7.59 107 Pn **Pn** 17 36 06.3 -0.1
TEIG **Tepich** 8.73 353 Pn **Pn** 17 36 19.0 -2.8
comp=Z,0.2nm,0.3s,baz=350,slow=18,SNR=2.8
TEIG **Tepich** 8.73 353 Pn **Pn** 17 36 23.8 +1.9
MTDJ **Mount Denham** 11.47 53 Pn **Pn** 17 36 58.1 -1.4
DBBC **Dabeiba** 11.71 111 eP Pn 17 36 52.2 -11
SJCC **San Jacinto, C** 11.90 97 eP Pn 17 37 16.4 +11
PAYG **Puerto Ayora** 12.49 194 Pn **Pn** 17 37 15.4 +2.0
TLIG **Tlapa** 12.55 300 Pn **Pn** 17 37 15.3 +1.0
ZARC **Zaragoza, Cauc** 12.79 107 eP **P** 17 37 27.1 -0.3
GUY2C **Guyana, Caldas** 13.25 117 eP **P** 17 37 29.8 -3.2
TOLC **Tolima** 13.61 119 eP **P** 17 37 40.6 +3.7
POPC **Popayan, Colom** 13.71 130⇓eP P 17 37 43.3 +5.4
OCAC **Ocana** 14.04 102 eP **P** 17 37 43.3 +1.8
OTAV **Otavalo** 14.17 142 **Pn** 17 37 38.8 +2.1
ROSC **El Rosal** 14.35 116 **P** 17 37 42.8 -2.3
PRAC **Prado** 14.44 122 eP **P** 17 37 43.3 -2.5
BARC **Barichara** 14.66 108 eP **Pn** 17 37 43.3 +0.1
PAMC **Pamplona, Colo** 14.88 105 eP **P** 17 37 48.6 -2.5
CHIC **Chingaza** 14.96 116 eP Pn 17 37 40.6 -6.7
RUSC **La Rusia** 15.01 111 eP **P** 17 37 51.3 -1.3
FLOC **Florencia** 15.11 130 eP **Pn** 17 37 48.6 -0.1
LGNH **Logne** 15.70 62 **P** 17 37 58.4 -1.3
LGNH IAmb IAmb 17 38 22.2
comp=Z,86nm,1.7s
MOIG **Morelia** 15.74 303 Pn **P** 17 37 58.9 -1.5
MOIG IAmb IAmb 17 38 01.0
comp=Z,90nm,1.2s
SDV **Santo Domingo** 16.50 98 Pn **Pn** 17 38 03.3 -3.4
comp=Z,1.6nm,0.3s,baz=13,slow=9.8,SNR=2.2
SDV LR LR 17 44 48.8
comp=Z,195nm,20.0s,baz=254,slow=39
SDV **Santo Domingo** 16.50 98 eP Pn 17 37 56.7 -10
SDV **Santo Domingo** 16.50 98 **Pn** 17 38 06.7 0.0
SDV IAmb IAmb 17 38 38.5
comp=Z,34nm,1.2s
SDV **Santo Domingo** 16.50 98 eP **P** 17 38 10.1 +1.3
GRTK **Grand Turk** 18.30 55 P **Pn** 17 38 29.0 +0.1
GRTK IAmb IAmb 17 38 48.2
comp=Z,84nm,1.2s
ZAIG **Zacatecas** 18.46 309 **Pn** 17 38 31.9 +0.9
BRAL **Brewton** 19.56 0 P **Pn** 17 38 43.3 -0.5
346A **Big Creek Wild** 19.89 354 P **Pn** 17 38 47.5 -0.2
346A IAmb IAmb 17 38 49.1
comp=Z,38nm,0.9s
441A **DeRidder** 19.94 345 P **Pn** 17 38 48.5 +0.2
352A **Blakely** 19.98 6 P **Pn** 17 38 47.4 -1.4
HKT **Hockley** 20.03 338 P Pn 17 38 48.1 -1.3
HKT IAmb IAmb 17 38 50.1
comp=Z,58nm,1.6s
TIGA **Tifton** 20.11 9 P Pn 17 38 50.9 +0.6
baz=190
TIGA **Tifton** 20.11 9 P **P** 17 38 48.2 0.0
344A **Westbrook Farm** 20.11 351 P Pn 17 38 49.0 -1.4
833A **Chaparral WMA,** 20.26 327 P Pn 17 38 50.5 -1.7
baz=143,SNR=6.6
833A **Chaparral WMA,** 20.26 327 P Pn 17 38 50.4 -1.7
342A **Flagon Creek P** 20.33 347 P Pn 17 38 52.2 -0.8
250A **Grady** 20.39 2 P Pn 17 38 52.6 -1.0
250A IAmb IAmb 17 38 54.4
comp=Z,59nm,1.2s
CRPR **Cabo Rojo, PR** 20.45 69 P **P** 17 38 51.2 -0.7
MPR **Mayaguez** 20.48 69 P **P** 17 38 52.9 +0.7
MPR IAmb IAmb 17 39 30.4
comp=Z,49nm,1.4s
ATAH **Atahualpa** 20.48 154 LR LR 17 45 57.1
comp=Z,265nm,18.5s,baz=358,slow=34
255A **Hazlehurst** 20.78 11 P **P** 17 38 55.0 -0.4
255A IAmb IAmb 17 39 32.6
comp=Z,57nm,1.4s
OBIP **Obispado Ponce** 20.92 69 P **P** 17 38 56.5 -0.6
146A **Union** 21.10 356 P **P** 17 38 60.0 +1.1
257A **Skidaway Islan** 21.14 15 P **P** 17 38 59.8 +0.5
152A **Waverly Hall** 21.18 6 **P** 17 39 01.4 +1.6
NATX **Nacogdoches** 21.30 342 P **P** 17 39 03.0 +2.0
baz=159
NATX **Nacogdoches** 21.30 342 P **P** 17 39 01.4 +0.3
154A **Montrose** 21.33 9 P **P** 17 39 02.3 +1.0
154A IAmb IAmb 17 39 06.8
comp=Z,47nm,1.0s
LRAL **Lakeview Retre** 21.42 0 P **P** 17 39 04.2 +1.8
baz=180,SNR=9.1
LRAL **Lakeview Retre** 21.42 0 P **P** 17 39 03.7 +1.3
LRAL IAmb IAmb 17 39 06.2
comp=Z,28nm,1.1s
435B **Jarrell** 21.46 335 P **P** 17 39 03.5 +0.6
435B IAmb IAmb 17 39 40.2
comp=Z,26nm,1.2s
Z47A **Carrollton** 21.60 358 P **P** 17 39 04.4 +0.1
Z47A IAmb IAmb 17 39 23.0
comp=Z,30nm,1.0s
CBYP **Canovanas** 21.67 69 P **P** 17 39 03.7 -1.5
Z51A **Franklin** 21.78 5 P **P** 17 39 07.2 +1.0
Z51A IAmb IAmb 17 39 17.9
comp=Z,38nm,1.1s
157A **Early Branch** 21.82 14 P **P** 17 39 10.6 +4.0
baz=196
237A **Washetta, Mont** 21.89 340 P **P** 17 39 08.5 +1.2
237A IAmb IAmb 17 39 15.3
comp=Z,34nm,0.9s
GOGA **Godfrey** 22.06 8 P **P** 17 39 10.7 +1.5
baz=190,SNR=11
GOGA **Godfrey** 22.06 8 P **P** 17 39 10.4 +1.2
GOGA IAmb IAmb 17 39 12.9
comp=Z,28nm,1.1s
JCT **Junction City** 22.21 330 P **P** 17 39 12.9 +2.0
baz=145
JCT **Junction City** 22.21 330 P **P** 17 39 10.6 -0.3
JCT IAmb IAmb 17 39 29.5
comp=Z,34nm,1.4s
Z41A **Richland Creek** 22.25 347 P **P** 17 39 12.3 +1.1
baz=165
Z41A **Richland Creek** 22.25 347 P **P** 17 39 12.1 +0.9
Z41A IAmb IAmb 17 39 20.2
comp=Z,30nm,1.0s
Y49A **Blount Mountai** 22.25 2 P **P** 17 39 12.0 +0.7
Y49A IAmb IAmb 17 39 14.2
comp=Z,25nm,0.8s
Y45A **Yeager Farm, C** 22.36 355 P **P** 17 39 13.8 +1.5
Y45A IAmb IAmb 17 39 24.3
comp=Z,42nm,1.1s
Y52A **Lilburn** 22.43 7 P **P** 17 39 14.5 +1.3
Y52A IAmb IAmb 17 39 23.9
comp=Z,41nm,1.1s
NHSC **New Hope** 22.43 16 P **P** 17 39 16.6 +3.4
baz=198
NHSC **New Hope** 22.43 16 P **P** 17 39 15.0 +1.8
WHTX **Lake Whitney,** 22.48 337 P **P** 17 39 14.5 +0.8
WHTX IAmb IAmb 17 39 17.4
comp=Z,21nm,0.9s
CCAR **Cane Creek** 22.69 350 P **P** 17 39 17.1 +1.2
CCAR IAmb IAmb 17 39 25.6
comp=Z,25nm,0.9s
WLAR **White Oak Lake** 22.73 347 P **P** 17 39 17.2 +0.8
WLAR IAmb IAmb 17 39 31.2
comp=Z,40nm,1.1s
Z58A **St. Stephen** 22.75 16 P **P** 17 39 19.5 +2.9
baz=199
Z38A **Mt. Pleasant** 22.80 343 P **P** 17 39 17.9 +0.8
X48A **Hartselle** 22.84 0 P **P** 17 39 17.1 -0.4
X48A IAmb IAmb 17 39 51.0
comp=Z,41nm,1.6s
FPAL **Fort Paine** 22.97 3 P **P** 17 39 18.4 -0.4
X51A **Calhoun** 23.05 5 P **P** 17 39 19.7 +0.1
HODGE **Hodges** 23.06 10 P **P** 17 39 18.3 -1.4
X43A **Marvell** 23.15 352 P **P** 17 39 20.3 -0.3
Y57A **Sumter** 23.25 14 P **P** 17 39 22.2 +0.7
X54A **Belton** 23.35 10 P **P** 17 39 23.6 +1.0
baz=192
PLAL **Pickwick Lake** 23.38 358 P **P** 17 39 22.8 0.0
PLAL IAmb IAmb 17 39 23.9
comp=Z,19nm,1.1s
X55A **Gracelyn & Ava** 23.41 12 P **P** 17 39 24.9 +1.8
baz=194
X40A **Basin Creek Fa** 23.44 348 P **P** 17 39 23.9 +0.5
baz=166
X40A **Basin Creek Fa** 23.44 348 P **P** 17 39 22.7 -0.8
TX31 **Lajitas Ar. Si** 23.46 322 P **P** 17 39 23.7 -0.1
TX31 IAmb IAmb 17 39 40.9
comp=Z,37nm,1.1s
TX32 **Lajitas Array** 23.46 322 P **P** 17 39 23.8 -0.1
TXAR **Lajitas Array** 23.46 322 P **P** 17 39 24.1 +0.2
comp=Z,2.6nm,0.5s,baz=136,slow=10,SNR=36
TXAR PcP **PcP** 17 43 11.4 +2.4
comp=Z,0.6nm,0.9s,baz=132,slow=5.1,SNR=5.5
TXAR **Lajitas Array** 23.46 322 P **P** 17 39 23.4 -0.4
TXAR **PcP** 17 43 11.0 +2.1
X56A **White Oak** 23.55 13 P **P** 17 39 26.4 +1.9
baz=195
Z35A **Perchaven, San** 23.60 339 P **P** 17 39 24.9 -0.1
Z35A IAmb IAmb 17 39 35.9
comp=Z,22nm,0.8s
W45A **Hickory Valley** 23.61 356 P **P** 17 39 24.3 -0.7
SWET **Sewanee** 23.63 3 P **P** 17 39 25.1 -0.2
SWET IAmb IAmb 17 39 27.0
comp=Z,34nm,1.1s
UALR **University of** 23.63 349 P **P** 17 39 25.2 0.0
UALR IAmb IAmb 17 39 33.8
comp=Z,29nm,1.1s
W50A **Signal Mountai** 23.64 4 P **P** 17 39 26.0 +0.6
W50A IAmb IAmb 17 39 27.9
comp=Z,30nm,0.9s
MIAR **Mount Ida** 23.66 347 P **P** 17 39 25.6 +0.1
baz=164,SNR=10
MIAR **Mount Ida** 23.66 347 P **P** 17 39 25.3 -0.2
MIAR IAmb IAmb 17 39 34.3
comp=Z,34nm,1.1s
W52A **Murphy** 23.66 7 P **P** 17 39 25.9 +0.3
W52A IAmb IAmb 17 39 28.9
comp=Z,16nm,0.9s
BG3 **Lake Jocassee** 23.69 9 P **P** 17 39 26.7 +0.9
BG3 IAmb IAmb 17 39 28.3
comp=Z,40nm,1.8s
PAULI **Pauline** 23.71 11 P **P** 17 39 26.9 +0.9
PAULI IAmb IAmb 17 39 28.2
comp=Z,23nm,1.2s
BIRD **Birdtown, Kers** 23.83 14 P **P** 17 39 27.6 +0.6
W54A **Cherokee Point** 23.90 10 P **P** 17 39 29.3 +1.5
baz=192,SNR=5.4
ABTX **Abilene, Hawle** 23.93 333 P **P** 17 39 28.6 +0.5
baz=148
ABTX **Abilene, Hawle** 23.93 333 P **P** 17 39 27.7 -0.4
ABTX IAmb IAmb 17 39 41.2
comp=Z,19nm,1.1s
CPCT **Cooper Cave** 23.95 5 P **P** 17 39 28.9 +0.6
W41B **Gary Mavity, V** 24.00 350 P **P** 17 39 28.7 0.0
baz=168
W41B **Gary Mavity, V** 24.00 350 P **P** 17 39 28.2 -0.5
W41B IAmb IAmb 17 39 37.3
comp=Z,24nm,1.1s
X58A **Rowland** 24.03 16 P **P** 17 39 30.3 +1.4
X58A IAmb IAmb 17 39 32.3
comp=Z,14nm,0.8s
KMSC **Kings Mountain** 24.12 12 P **P** 17 39 31.1 +1.4
baz=194
KMSC **Kings Mountain** 24.12 12 P **P** 17 39 30.3 +0.6
WHAR **Wooly Hollow** 24.12 350 P **P** 17 39 29.0 -0.8
V48A **Smith Brothers** 24.12 1 P **P** 17 39 29.6 -0.2
V48A IAmb IAmb 17 40 06.7
comp=Z,34nm,1.5s
HBAR **Harrisburg** 24.14 353 P **P** 17 39 29.7 -0.3
X37A **Clayton** 24.15 343 P **P** 17 39 31.1 +1.0
TKL **Tuckaleechee C** 24.24 7 P **P** 17 39 31.8 +1.0
comp=Z,19nm,1.0s,baz=189,slow=8.8,SNR=12
TKL LR LR 17 50 39.8
comp=Z,176nm,18.0s,baz=90,slow=41
TKL **Tuckaleechee C** 24.24 7 P **P** 17 39 31.7 +0.9
TKL IAmb IAmb 17 39 34.1
comp=Z,25nm,0.9s
W56A **Indian Trail** 24.27 13 P **P** 17 39 32.4 +1.2
baz=196
W39A **Magazine** 24.33 347 P **P** 17 39 32.5 +0.8
baz=164
W39A **Magazine** 24.33 347 P **P** 17 39 31.9 +0.2
W39A IAmb IAmb 17 40 08.5
comp=Z,50nm,1.6s
V53A **Saluda** 24.38 9 P **P** 17 39 33.8 +1.6
V53A IAmb IAmb 17 39 35.7
comp=Z,34nm,1.2s
W57A **Gilead** 24.43 14 P **P** 17 39 33.3 +0.7
baz=197,SNR=6.4
W57A **Gilead** 24.43 14 P **P** 17 39 32.8 +0.3
V52A **Sevierville** 24.44 7 P **P** 17 39 33.5 +0.9
CLTN **Cedars of Leba** 24.48 2 P **P** 17 39 33.5 +0.4
CLTN IAmb IAmb 17 39 35.5
comp=Z,31nm,1.0s
W58A **Raeford** 24.50 16 P **P** 17 39 34.3 +1.1
baz=199
WVT **Waverly** 24.52 359 P **P** 17 39 33.2 -0.2
baz=178
WVT **Waverly** 24.52 359 P **P** 17 39 33.2 -0.2
V54A **Nebo** 24.62 10 P **P** 17 39 35.5 +1.2
baz=192,SNR=6.2
FCAR **Ozark Folk Cen** 24.68 350 P **P** 17 39 34.1 -0.8
LCAR **Lake Charles** 24.71 352 P **P** 17 39 34.5 -0.6
V55A **Taylorsville** 24.83 12 P **P** 17 39 37.2 +0.9
baz=194
V55A **Taylorsville** 24.83 12 P **P** 17 39 36.2 0.0
V55A IAmb IAmb 17 39 57.3
comp=Z,32nm,1.6s
U49A **Red Boiling Sp** 24.93 3 P **P** 17 39 37.7 +0.7
U49A IAmb IAmb 17 39 40.1
comp=Z,37nm,1.2s
V56A **Mocksville** 24.94 13 P **P** 17 39 38.6 +1.4
baz=196
HICK **Hickman** 24.99 356 P **P** 17 39 37.1 -0.6
W35A **Tecumseh** 25.13 341 P **P** 17 39 38.5 -0.5
TZTN **Tazewell** 25.14 7 P **P** 17 39 39.7 +0.6
baz=188
TZTN **Tazewell** 25.14 7 P **P** 17 39 39.6 +0.6
TZTN IAmb IAmb 17 40 11.7
comp=Z,28nm,1.4s
V57A **Coltrane Farms** 25.18 14 P **P** 17 39 40.7 +1.4
baz=197,SNR=5.6
V58A **Windy Hill, Pi** 25.26 16 P **P** 17 39 41.3 +1.2
baz=199,SNR=9.4
V58A **Windy Hill, Pi** 25.26 16 P **P** 17 39 39.1 -1.0
V58A IAmb IAmb 17 39 42.6
comp=Z,42nm,1.3s
U40A **Yellville** 25.26 349 P **P** 17 39 40.1 0.0
baz=167,SNR=8.5
U40A **Yellville** 25.26 349 P **P** 17 39 39.5 -0.6
U40A IAmb IAmb 17 39 48.4
comp=Z,22nm,1.1s
PBMO **Poplar Bluff** 25.33 354 P **P** 17 39 39.7 -1.0
PBMO IAmb IAmb 17 39 48.2
comp=Z,24nm,1.1s
T47A **Sharon Grove** 25.37 0 P **P** 17 39 39.5 -1.6
T47A IAmb IAmb 17 39 54.6
comp=Z,18nm,1.0s
U54A **Nelsons Funny** 25.37 10 P **P** 17 39 42.1 +1.0
baz=192
U54A **Nelsons Funny** 25.37 10 P **P** 17 39 39.8 -1.3
U54A IAmb IAmb 17 39 45.9
comp=Z,12nm,0.8s
FNO **Franklin** 25.39 340 P **P** 17 39 40.9 -0.5
HHAR **Hobbs** 25.41 347 P **P** 17 39 40.0 -1.5
WMOK **Wichita Mounta** 25.42 337 P **P** 17 39 43.2 +1.6
baz=153,SNR=27
WMOK **Wichita Mounta** 25.42 337 P **P** 17 39 40.9 -0.8
WMOK IAmb IAmb 17 39 51.5
comp=Z,41nm,1.4s
V59A **Middlesex** 25.47 17 P **P** 17 39 43.0 +1.0
baz=200
U56A **King** 25.48 13 P **P** 17 39 43.6 +1.5
baz=195
U56A **King** 25.48 13 P **P** 17 39 41.9 -0.3
U56A IAmb IAmb 17 39 47.2
comp=Z,24nm,1.2s
T50A **Nancy** 25.49 4 P **P** 17 39 41.8 -0.4
U55A **TA2, Sparta** 25.49 12 P **P** 17 39 43.3 +1.0
baz=194
NNA **Nana** 25.50 156 LR LR 17 48 37.3
comp=Z,76nm,18.7s,baz=352,slow=34
TUL1 **Leonard** 25.51 344 P **P** 17 39 43.2 +0.8
baz=160,SNR=13
TUL1 **Leonard** 25.51 344 P **P** 17 39 41.8 -0.6
T42A **Van Buren** 25.65 353 P **P** 17 39 42.4 -1.3
T42A IAmb IAmb 17 39 52.5
comp=Z,21nm,1.2s
U38A **Gravette** 25.66 346 P **P** 17 39 43.1 -0.6
U57A **Blanch** 25.80 15 P **P** 17 39 46.6 +1.6
baz=198
T54A **Tazewell** 25.93 10 P **P** 17 39 47.1 +0.8
baz=192
MGMO **Mountain Grove** 25.94 351 P **P** 17 39 45.2 -1.0
U58A **Oxford** 25.97 16 P **P** 17 39 47.6 +1.0
baz=199
QUOK **Quay** 26.02 342 P **P** 17 39 47.2 +0.2
T55A **Pulaski** 26.14 12 P **P** 17 39 49.0 +0.9
baz=194
U59A **Littleton** 26.15 17 P **P** 17 39 47.9 -0.2
MNTX **Cornudas Mount** 26.19 323 P **P** 17 39 49.2 +0.6
baz=196
MNTX **Cornudas Mount** 26.19 323 P **P** 17 39 47.9 -0.7
T56A **Rocky Mt** 26.21 13 P **P** 17 39 50.7 +1.9
baz=196
BLA **Blacksburg** 26.30 12 P **P** 17 39 50.7 +1.1
baz=195
T57A **Hurt** 26.36 14 P **P** 17 39 51.5 +1.4
baz=198
T57A **Hurt** 26.36 14 P **P** 17 39 50.9 +0.8
MSTX **Muleshoe** 26.51 330 P **P** 17 39 51.7 +0.2
baz=144,SNR=5.8
MSTX **Muleshoe** 26.51 330 P **P** 17 39 51.1 -0.5
MSTX IAmb IAmb 17 40 04.9
comp=Z,26nm,1.1s
WCI **Wyandotte Cave** 26.62 2 P **P** 17 39 52.5 +0.1
baz=182
WCI **Wyandotte Cave** 26.62 2 P **P** 17 39 51.4 -0.9
S39A **Bolivar** 26.64 349 P **P** 17 39 51.8 -0.9
S39A IAmb IAmb 17 39 59.9
comp=Z,19nm,1.0s
T35A **Sooner Cattle** 26.65 343 P **P** 17 39 53.0 +0.2
T35A IAmb IAmb 17 40 03.4
comp=Z,22nm,1.2s
CCM **Cathedral Cave** 26.68 353 P **P** 17 39 52.9 -0.1
baz=171
CCM **Cathedral Cave** 26.68 353 P **P** 17 39 52.1 -0.9
CCM IAmb IAmb 17 40 01.4
comp=Z,24nm,1.1s
AMTX **Amarillo** 26.75 333 P **P** 17 39 56.2 +2.5
baz=147
AMTX **Amarillo** 26.75 333 P **P** 17 39 53.3 -0.4
RCRC **Randolf Colleg** 26.77 14 P **P** 17 39 50.2 -3.6
S55A **Lewisburg** 26.83 12 P **P** 17 39 55.4 +1.1
baz=194
U32A **Winter Ranch,** 26.96 339 P **P** 17 39 56.0 +0.5
R40A **Maddies Statio** 27.05 351 P **P** 17 39 54.9 -1.3
KAN08 **Anthony NE Sta** 27.38 341 P **P** 17 39 59.0 -0.3
Q51A **Peebles** 27.61 6 P **P** 17 40 01.4 +0.1
Q51A IAmb IAmb 17 40 10.4
comp=Z,33nm,1.4s
R58B **Mineral** 27.63 16 P **P** 17 40 03.0 +1.6
baz=200
R56A **Bull Pasture M** 27.67 13 P **P** 17 40 03.6 +1.6
baz=196
Q52A **Bidwell** 27.69 8 P **P** 17 40 02.4 +0.4
baz=190
Q53A **Leroy** 27.70 10 P **P** 17 40 02.5 +0.4
baz=192
R57A **Stanardsville** 27.77 15 P **P** 17 40 04.1 +1.4
baz=198
Q54A **Coxs Mills** 27.94 11 P **P** 17 40 05.3 +1.1
baz=193
Q55A **Buckhannon** 28.09 12 P **P** 17 40 07.3 +1.7
baz=195
Q56A **Snyder Ridge,** 28.33 13 P **P** 17 40 09.3 +1.6
baz=196
P53A **Whipple** 28.33 9 P **P** 17 40 08.6 +0.9
baz=192,SNR=7.0
P53A **Whipple** 28.33 9 P **P** 17 40 07.8 +0.1
P52A **Corning** 28.36 8 P **P** 17 40 09.1 +1.1
baz=190
P38A **Dawn** 28.56 350 P **P** 17 40 08.6 -1.1
P38A IAmb IAmb 17 40 17.4
comp=Z,22nm,1.1s
BNM **Barren Site** 28.68 325 **P** 17 40 10.2 -1.0
KSU1 **Kansas State U** 28.73 345 P **P** 17 40 11.0 -0.3
KSU1 IAmb IAmb 17 40 19.4
comp=Z,34nm,1.4s
ACSO **Alum Creek Sta** 28.85 7 P **P** 17 40 12.8 +0.6
baz=188
P56A **Dayton Farm, R** 28.85 13 P **P** 17 40 13.3 +1.0
baz=197
O52A **Adamsville** 28.88 9 P **P** 17 40 13.6 +1.0
baz=191
P57A **Homestead Farm** 29.02 15 P **P** 17 40 15.8 +1.9
baz=199
P57A **Homestead Farm** 29.02 15 P **P** 17 40 14.2 +0.3
P57A IAmb IAmb 17 40 16.4
comp=Z,27nm,1.2s
O53A **New Philadelph** 29.11 9 P **P** 17 40 15.4 +0.8
baz=192
O53A **New Philadelph** 29.11 9 P **P** 17 40 15.0 +0.4
O53A IAmb IAmb 17 40 16.1
comp=Z,28nm,1.1s
ANMO **Albuquerque** 29.18 326 P **P** 17 40 17.5 +2.0
comp=Z,0.0nm,0.4s,baz=122,slow=14,SNR=3.4
ANMO **Albuquerque** 29.18 326 **P** 17 40 14.4 -1.1
N49A **Columbus Grove** 29.41 5 P **P** 17 40 17.5 +0.2
N49A IAmb IAmb 17 40 18.0
comp=Z,19nm,0.9s
N53A **Lisbon** 29.71 10 P **P** 17 40 20.7 +0.7
baz=192
ETMB **Extrema** 29.73 135 eP **P** 17 40 19.8 -0.6
O57A **Amberson** 29.80 15 P **P** 17 40 22.4 +1.6
baz=199
O58A **Lewisberry** 29.91 16 P **P** 17 40 23.0 +1.3
baz=200
MACA **Manacapuru-AM** 30.12 117 eP **P** 17 40 23.9 0.0
SSPA **Standing Stone** 30.15 14 P **P** 17 40 24.7 +0.9
baz=198
O59A **Robesonia** 30.29 17 P **P** 17 40 26.4 +1.4
baz=202
N56A **West Decatur** 30.32 13 P **P** 17 40 26.6 +1.2
baz=197
N57A **Milroy** 30.34 15 P **P** 17 40 26.5 +1.0
baz=199
N58A **Sunbury** 30.63 16 P **P** 17 40 29.3 +1.1
baz=200
SDCO **Great Sand Dun** 30.85 331 P **P** 17 40 31.7 +1.3
baz=143
SDCO **Great Sand Dun** 30.85 331 P **P** 17 40 30.4 -0.1
M56A **Emporium** 30.88 13 P **P** 17 40 30.7 +0.4
baz=197
M56A **Emporium** 30.88 13 P **P** 17 40 30.4 0.0
N59A **State Game Lan** 30.97 17 P **P** 17 40 32.5 +1.4

baz=202
M57A **Sunshine Farm,** 31.00 15 P P 17 40 32.7 +1.4
baz=199
M57A **Sunshine Farm,** 31.00 15 P P 17 40 30.9 -0.4
M58A **Price's Panora** 31.20 16 P P 17 40 34.3 +1.2
baz=200
SAML **Samuel** 31.35 129 P P 17 40 33.2 -1.5
SAML IAmb IAmb 17 40 45.6
comp=Z,12nm,1.2s
SAML **Samuel** 31.35 129 *e*P P 17 40 33.7 -1.0
S22A **4UR Ranch, Cre** 31.50 329 P P 17 40 36.8 +0.7
baz=141
S22A **4UR Ranch, Cre** 31.50 329 P P 17 40 36.1 0.0
M59A **Waymart** 31.64 17 P P 17 40 38.5 +1.5
baz=202
L56A **Greenwood** 31.65 14 P P 17 40 37.1 +0.1
baz=198
L57A **Andrews Acres** 31.69 15 P P 17 40 37.9 +0.5
baz=199
X16A **Lo Mia Camp, P** 31.75 320 P P 17 40 38.8 +0.4
L58A **Harry Jones Me** 31.99 16 P P 17 40 40.5 +0.5
baz=201
BINY **Binghamton** 32.10 16 P P 17 40 41.9 +0.9
baz=201
K56A **Middlesex** 32.23 14 P P 17 40 42.7 +0.5
baz=198
L59A **Walton** 32.35 17 P P 17 40 44.1 +0.9
baz=202
L60A **Shokan** 32.41 18 P P 17 40 44.7 +0.9
baz=204
WUAZ **Wupatki** 32.43 321 P 17 40 42.2 -2.0
WUAZ IAmb IAmb 17 40 58.3
comp=Z,12nm,1.4s
I51A **Listowel** 32.61 8 P P 17 40 45.6 +0.1
baz=191
K58A **Earlville** 32.72 16 P P 17 40 46.8 +0.4
baz=201
I37A **Lemond, Waseca** 32.83 352 P P 17 40 45.9 -1.5
PV13 **Radium Mtn., P** 32.84 328 P P 17 40 46.4 -1.5
PV13 IAmb IAmb 17 41 09.1
comp=Z,9.8nm,1.2s
J56A **Wolcott** 32.89 14 P P 17 40 47.9 0.0
baz=199,SNR=5.8
J56A **Wolcott** 32.89 14 P P 17 40 47.2 -0.7
PV03 **Paradox Valley** 32.92 328 IAmb IAmb 17 41 03.2
comp=Z,10nm,1.0s
PV05 **Paradox Valley** 32.92 327 IAmb IAmb 17 41 02.5
comp=Z,9.9nm,1.1s
K59A **Cooperstown** 32.94 17 P P 17 40 49.1 +0.6
baz=202
PV12 **Saucer Basin,** 32.95 328 IAmb IAmb 17 41 11.3
comp=Z,16nm,1.1s
PV18 **Skein Mesa, Pa** 32.95 328 IAmb IAmb 17 41 03.3
comp=Z,8.5nm,1.0s
PV11 **David Mesa, Pa** 32.97 328 IAmb IAmb 17 41 10.7
comp=Z,16nm,1.1s
PV17 **East Wray Mesa** 33.00 328 P P 17 40 48.4 -0.8
PV17 IAmb IAmb 17 41 00.2
comp=Z,20nm,1.4s
PV20 **West Nyswonger** 33.05 328 P P 17 40 49.3 -0.3
PV20 IAmb IAmb 17 41 04.7
comp=Z,15nm,1.3s
PV04 **Paradox Valley** 33.06 328 IAmb IAmb 17 41 04.4
comp=Z,12nm,1.0s
PV14 **Lion Creek, Pa** 33.10 328 IAmb IAmb 17 41 04.1
comp=Z,9.3nm,1.1s
ECSD **EROS Data Cent** 33.12 347 P P 17 40 49.3 -0.7
baz=163,SNR=6.0
PV23 **Carpenter Ridg** 33.16 328 P P 17 40 51.2 +0.6
PV23 IAmb IAmb 17 41 28.7
comp=Z,9.6nm,1.0s
J57A **Williamstown** 33.23 15 P P 17 40 50.9 0.0
baz=200
J57A **Williamstown** 33.23 15 P P 17 40 50.4 -0.5
LPAZ **La Paz** 33.44 145 LR LR 17 55 22.7
comp=Z,98nm,18.4s,baz=342,slow=38
LPAZ **La Paz** 33.44 145 P P 17 40 53.3 -0.3
J59A **Plesco** 33.68 17 P P 17 40 53.9 -0.9
baz=203
G40A **Rib Lake** 33.74 356 P P 17 40 54.1 -1.2
G40A IAmb IAmb 17 41 03.1
comp=Z,11nm,1.1s
I58A **Old Forge** 33.76 16 P P 17 40 55.6 +0.1
baz=202
H53A **Bobcaygeon** 33.77 11 P P 17 40 55.3 -0.2
baz=195
I57A **Carthage** 33.81 15 P P 17 40 55.8 -0.1
baz=200
SADO **Sadowa** 33.85 10 P P 17 40 54.9 -1.4
comp=Z,3.8nm,0.5s,baz=214,slow=9.5,SNR=5.0
SPMN **Marine on St.** 33.94 353 P P 17 40 56.0 -1.0
baz=170
SPMN **Marine on St.** 33.94 353 P P 17 40 55.4 -1.6
BC3 **Big Chuckawall** 33.96 315 P P 17 41 00.4 +2.8
baz=124
COWI **Conover** 34.51 358 IAmb IAmb 17 41 07.9
comp=Z,15nm,1.2s
TPFO **Pinon Flats** 34.63 314 P P 17 41 06.2 +2.9
baz=122
H58A **Gabriels** 34.65 16 P P 17 41 03.0 -0.2
baz=203
Q16A **Castle Valley** 34.65 326 P P 17 41 04.3 +0.8
G54A **Lake Saint Pet** 34.65 11 P P 17 41 02.8 -0.4
baz=196
LONY **Lake Ozonia** 34.72 16 P P 17 41 04.1 +0.2
baz=202
CCUT **Cedar City** 34.97 322 P 17 41 06.5 +0.1
ITTB **Itaituba** 35.04 115 *e*P P 17 41 05.5 -1.4
ALGO **Algonquin Park** 35.20 11 P P 17 41 07.5 -0.3
baz=196
PSUT **Pine Spring** 35.91 323 P 17 41 14.2 -0.2
TPNV **Topopah Spring** 36.39 319 P P 17 41 20.3 +1.9
baz=127
EDW2 **Edwards Air Fo** 36.39 315 P P 17 41 20.9 +2.5
baz=122
NPGB **Novo Progresso** 36.64 119 *e*P P 17 41 19.2 -1.4
MPMC **Manual Prospec** 36.69 317 P P 17 41 23.5 +2.5
baz=124
E58A **La Victoria** 36.70 16 P P 17 41 20.8 +0.1
baz=203
PDAR **Pinedale Array** 36.72 332 P P 17 41 20.9 -0.4
comp=Z,1.1nm,0.6s,baz=130,slow=10,SNR=3.9
PDAR **Pinedale Array** 36.72 332 P P 17 41 21.1 -0.1
D55A **Sainte-Anne-du** 36.75 13 P P 17 41 20.5 -0.6
baz=199
R11A **Troy Canyon, C** 36.83 321 P P 17 41 24.2 +2.0
baz=129
BGU **Big Grassy Mou** 37.08 327 P 17 41 23.7 -0.6
AHID **Auburn Hatcher** 37.44 331 P P 17 41 27.4 +0.1
AHID IAmb IAmb 17 41 40.8
comp=Z,9.5nm,1.0s
ELK **Elko** 38.18 325 P 17 41 33.2 -0.5
CLDB **Colider** 38.30 124 *e*P P 17 41 33.3 -1.4
LSQQ **Lebel-sur-Quev** 38.38 11 P P 17 41 34.1 -0.8
baz=196
NV11 **Mina Array Sit** 38.48 319 P P 17 41 36.2 +0.1
NVAR **Mina Array Bea** 38.58 319 P P 17 41 39.4 +2.4
comp=Z,1.5nm,0.8s,baz=136,slow=7.5,SNR=12
NVAR **Mina Array Bea** 38.58 319 P P 17 41 37.6 +0.5
PTLB **Pontes e Lacer** 38.58 133 *e*P P 17 41 35.7 -1.3
YHH **Holmes Hill** 38.88 333 P P 17 41 38.9 -0.7
MATQ **Matagami** 38.94 10 P P 17 41 38.5 -1.2
baz=195
YHL **Hebgen Lake** 39.08 333 P 17 41 41.3 +0.1
ULM **Lac du Bonnet** 39.28 351 P P 17 41 41.3 -1.1
comp=Z,4.5nm,0.8s,baz=166,slow=13,SNR=3.5
ULM **Lac du Bonnet** 39.28 351 IAmb IAmb 17 41 49.2
comp=Z,13nm,1.1s
HLID **Hailey** 39.67 329 P P 17 41 46.9 +0.8
baz=135
BOZ **Bozeman (W)** 39.86 333 P P 17 41 47.8 +0.3
BOZ IAmb IAmb 17 41 59.4
comp=Z,14nm,1.6s
SNDB **Serra Nova Dou** 42.60 122 *e*P P 17 42 09.1 -1.1
F10A **Beach Ranch, E** 42.79 329 P P 17 42 11.8 +0.2
E07A **Sunnyside** 44.53 328 P P 17 42 25.6 +0.2
H03N2 **Juan Fernandez** 45.39 170 T T 18 30 50.8
baz=349,slow=76,SNR=9.4
H03N1 **Juan Fernandez** 45.39 170 T T 18 30 51.3
baz=349,slow=76,SNR=9.4
H03N3 **Juan Fernandez** 45.40 170 T T 18 30 50.4
baz=349,slow=76,SNR=6.1
SCHQ **Schefferville** 46.10 16 LR LR 18 01 24.2
comp=Z,202nm,21.7s,baz=162,slow=36
BDFB **Brasilia** 47.24 124 P P 17 42 47.2 0.0
comp=Z,5.1nm,0.8s,baz=263,slow=7.1,SNR=6.6
BDFB LR LR 18 03 10.3
comp=Z,173nm,19.5s,baz=307,slow=37
BDFB **Brasilia** 47.24 124 P P 17 42 46.8 -0.4
PLCA **Paso Flores** 54.21 164 P P 17 43 38.8 -0.6
comp=Z,2.6nm,1.0s,baz=326,slow=5.7,SNR=3.5
PLCA **Paso Flores** 54.21 164 IAmb IAmb 17 43 43.0
comp=Z,23nm,1.8s
YKA **Yellowknife Ar** 54.58 345 P P 17 43 42.2 +0.6
comp=Z,2.0nm,0.7s,baz=135,slow=7.7,SNR=7.8
IL31 66.98 336 P P 17 45 06.1 +0.2
IL31 IAmb IAmb 17 45 17.4
comp=Z,11nm,1.5s
ILAR **Eielson Array** 66.98 336 P P 17 45 05.7 -0.2
comp=Z,1.0nm,0.9s,baz=122,slow=4.4,SNR=4.8
ILAR **Eielson Array** 66.98 336 P P 17 45 06.4 +0.5
PPT **Papeete** 68.05 246 LR LR 18 06 19.5
comp=Z,62nm,19.7s,baz=92,slow=28
ESDC **Sonseca Array** 77.56 52 LR LR 18 16 27.9
comp=Z,55nm,20.3s,baz=355,slow=33
NOA **NORSAR Array B** 84.06 29 LR LR 18 21 48.8
comp=Z,40nm,20.1s,baz=65,slow=34
FINES **FINESS Array B** 90.69 26 LR LR 18 24 05.7
comp=Z,61nm,21.2s,baz=114,slow=33
AKASG **Malin Array Be** 97.13 35 LR LR 18 30 30.1
comp=Z,44nm,19.5s,baz=40,slow=35
GTA **Gaotai** 128.92 353 *e*PKP PKiKP 17 53 23.0 +0.8
GTA sPKP 17 53 46.8
LZH **Lanzhou** 131.53 348 *e*PKP PKiKP 17 53 27.0 -0.6
LZH pPKP sPKPdf 17 53 43.1 -2.5
LZH sPKP 17 53 49.5
LZH LR LR
comp=N,57nm,18.0s
LZH LR LR
comp=E,63nm,18.1s
LZH LR LR
comp=Z,92nm,20.3s
ASAR **Alice Springs** 139.16 247 PKhKP PKPpre 17 53 33.2
comp=Z,0.2nm,0.8s,baz=114,slow=4.1,SNR=3.2
ASAR PKP PKPdf 17 53 41.4 +0.5
comp=Z,0.4nm,0.8s,baz=106,slow=2.9,SNR=4.7
WRA **Warramunga Arr** 139.25 253 PKhKP PKPpre 17 53 39.2
comp=Z,1.1nm,0.9s,baz=92,slow=2.5,SNR=5.2
WRA **Warramunga Arr** 139.25 253 PKPdf 17 53 41.8 +0.7
CMAR **Chiang Mai Arr** 149.61 348 PKPbc PKiKP 17 54 04.8 +0.1
comp=Z,5.4nm,0.9s,baz=337,slow=3.3,SNR=31
CMAR **Chiang Mai Arr** 149.61 348 PKPbc 17 54 03.1 -0.6

IDC ***11*** *17:42:47.8s 1.2,27.87N×52.12E,h0km,mb3.9/11, mb1 3.9/14,mb1mx3.7/40,mbtmp3.9/14,ML3.6/3,Error ellipse: s-maj=26.2km s-min=17.9km az=156.0*
TEH ***11*** *17:42:49.9,27.92N×52.19E,h16km,ML3.9*
NEIC ***11*** *17:42:50.7±2.2,27.94N±0.06×52.17E±0.07,h25km±7km, mb4.1/33,mb_Lg3.9(TEH),Error ellipse: s-maj=11.4km s-min=5.6km az=222.0*
DSN ***11*** *17:42:52.5±1.4,27.82N×52.35E,h10km,ML4.1/9,Error ellipse: s-maj=19.4km s-min=8.8km az=1.0*
THR ***11*** *17:42:52.9±1.0,28.20N×52.28E,h17km±7km,ML3.7*
OMAN ***11*** *17:42:53.8±0.3,27.85N×52.29E,h159km±11km,mb4.5/6, ml3.7/9,Error ellipse: s-maj=9.3km s-min=8.0km az=27.0*

ISC 11 17:42:49.0±0.5,27.92N±0.04×52.18E±0.04,h10km,n166, σ1°60/178,mb4.1/34,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.80**	**63**	*e*Pg		**Pg**	**17 43 05.5**	**+1.0**
GHIR	**Ghir-Karzin**	**0.80**	**63**	*e*Pg		**Pg**	**17 43 05.5**	**+1.0**
LMD1	**Lamerd**	**1.05**	**123**	*e*Pg		**Pg**	**17 43 10.0**	**+0.7**
LMD1				*e*			17 43 33.0	
AHBU	**AHRAM**	**1.22**	**321**	*e*Pg		**Pg**	**17 43 13.7**	**+1.3**
JHRM	**Jahrom**	**1.37**	**65**	*e*Pg		**Pn**	**17 43 15.7**	**+1.5**
JHRM				*e*			17 43 45.2	
SHI	**Shiraz**	**1.74**	**10**	*e*Pg		**Pn**	**17 43 21.3**	**+1.9**
SHI				*e*			17 43 49.8	
KAZ1	**Kazerun**	**1.76**	**345**	*e*Pg		**Pb**	**17 43 22.2**	**+0.8**
KAZ1				*e*			17 44 04.2	
LAR1	**LAR**	**1.96**	**97**	*e*Pn		**Pn**	**17 43 24.7**	**+2.3**
LAR1				*e*			17 44 26.1	
JRN	**Qarnain Island**	**3.03**	**168**	*e*Pn		**Pn**	**17 43 38.6**	**+1.6**
KLNJ	**Kolanjah**	**3.12**	**351**	*e*Pn		**Pn**	**17 43 39.5**	**+0.9**
BNDS	**Bandar-Abbas**	**3.58**	**97**	*e*Pn		**Pn**	**17 43 49.1**	**+4.3**
BNDS				*e*Sg		**Sg**	**17 44 43.1**	**-1.1**
BNDS	**Bandar-Abbas**	**3.58**	**97**	*e*Pn		**Pn**	**17 43 49.1**	**+4.3**
GENO	**Geno**	**3.58**	**97**	*e*Pn		**Pn**	**17 43 46.4**	**+1.6**
SLWR	**Sila**	**3.86**	**187**	*e*Pn		**Pn**	**17 43 49.8**	**+1.3**
IRAM	**Ramesheh**	**3.88**	**3**	*e*Pn		**Pn**	**17 43 50.1**	**+1.2**
IRAM	**Ramesheh**	**3.88**	**3**	Pn		**Pn**	**17 43 49.6**	**+0.7**
IBND	**Bandar-abas**	**3.90**	**96**	*e*			17 45 25.4	
SHME	**Shamm**	**4.00**	**117**	P		**Pn**	**17 43 51.6**	**+1.2**
IMEH	**Mehriz**	**4.05**	**31**	*e*Pn		**Pn**	**17 43 54.3**	**+3.0**
IMEH	**Mehriz**	**4.05**	**31**	Pn		**Pn**	**17 43 54.1**	**+2.8**
BANOM	**Banah** SNR=16	**4.19**	**117**	*i* P		**Pn**	**17 43 53.7**	**+0.7**
BANOM				S		**Sn**	**17 44 41.9**	**-0.1**
BANOM	**Banah** SNR=16	**4.19**	**117**	P		**Pn**	**17 43 54.0**	**+1.0**
BANOM	**Banah**	**4.19**	**117**	*e*Pn		**Pn**	**17 43 53.9**	**+1.0**
ISAD	**Sadrabad**	**4.19**	**18**	*e*Pn		**Pn**	**17 43 55.6**	**+2.4**
NAZ	**Nazwa, Dubai** SNR=6.6	**4.28**	**132**	*i* P		**Pn**	**17 43 56.3**	**+2.1**
NAZ	**Nazwa, Dubai** SNR=6.7	**4.28**	**132**	P		**Pn**	**17 43 56.8**	**+2.5**
NAZ				S		**Sn**	**17 44 45.6**	**+1.4**
NAZ	**Nazwa, Dubai**	**4.28**	**132**	*e*Pn		**Pn**	**17 43 56.7**	**+2.5**
ASUD	**Al Ashush, Dub** SNR=16	**4.34**	**139**	*i* P		**Pn**	**17 43 57.2**	**+2.2**
ASUD	**Al Ashush, Dub** SNR=16	**4.34**	**139**	P		**Pn**	**17 43 57.2**	**+2.2**
ASUD	**Al Ashush, Dub**	**4.34**	**139**	*e*Pn		**Pn**	**17 43 57.3**	**+2.3**
NGRK	**Negar Kerman**	**4.35**	**66**	*e*Pn		**Pn**	**17 43 57.0**	**+1.5**
MSFE	**Esma-Masafi**	**4.38**	**125**	P		**Pn**	**17 43 56.0**	**+0.3**
MSFE	**Esma-Masafi**	**4.38**	**125**	*e*Pn		**Pn**	**17 43 56.3**	**+0.6**
FAQ	**Al Faqa, Dubai**	**4.41**	**135**	*e*Pn		**Pn**	**17 43 57.0**	**+1.0**
IGAR	**Gharneh**	**4.47**	**359**	*e*Pn		**Pn**	**17 43 59.1**	**+2.1**
KHGB	**Koh Gabri**	**4.49**	**56**	*e*Pn		**Pn**	**17 43 59.1**	**+1.8**
KHGB				*e*			17 44 21.6	
JHBN	**Jahan bin**	**4.49**	**343**	*e*Pn		**Pn**	**17 43 59.2**	**+1.8**
KRBR	**Kerman**	**4.51**	**62**	*e*Pn		**Pn**	**17 43 59.7**	**+2.0**
KRBR	**Kerman**	**4.51**	**62**	*e*Pn		**Pn**	**17 43 59.7**	**+2.0**
TVBK	**TV Kerman**	**4.51**	**62**	*e*Pn		**Pn**	**17 43 59.9**	**+2.1**
TVBK				*e*			17 44 18.0	
MDH	**Madha**	**4.52**	**124**	P		**Pn**	**17 43 59.0**	**+1.5**
MDH				S		**Sn**	**17 44 49.9**	**-0.3**
UOSS	**Minazif**	**4.67**	**128**	P		**Pn**	**17 44 00.6**	**+1.0**
UOSS	**Minazif**	**4.67**	**128**	P		**Pn**	**17 44 00.6**	**+1.0**
UOSS				S		**Sn**	**17 44 54.9**	**+1.0**
UOSS	**Minazif**	**4.67**	**128**	*e*Pn		**Pn**	**17 44 00.7**	**+1.0**
UOSS	**Minazif**	**4.67**	**128**	Pn		**Pn**	**17 44 00.4**	**+0.7**
HATD	**Hatta, Dubai**	**4.70**	**130**	P		**Pn**	**17 44 01.5**	**+1.4**
HATD	**Hatta, Dubai**	**4.70**	**130**	P		**Pn**	**17 44 02.0**	**+1.9**
HATD	**Hatta, Dubai**	**4.70**	**130**	*e*Pn		**Pn**	**17 44 01.9**	**+1.8**
ICHK	**Chekchek**	**4.72**	**24**	*e*Pn		**Pn**	**17 44 02.5**	**+2.0**
ASHO	**Ashiyiah** SNR=27	**4.75**	**132**	*i* P		**Pn**	**17 44 02.0**	**+1.2**
ASHO	**Ashiyiah** SNR=27	**4.75**	**132**	P		**Pn**	**17 44 01.9**	**+1.2**
ASHO	**Ashiyiah**	**4.75**	**132**	*e*Pn		**Pn**	**17 44 02.5**	**+1.8**
IPIR	**Pirpir**	**4.87**	**347**	*e*Pn		**Pn**	**17 44 03.4**	**+0.7**
KHNJ	**Kahnooj**	**4.89**	**88**	*e*Pn		**Pn**	**17 44 04.7**	**+2.0**
YZKH	**Yazd**	**4.92**	**25**	*e*Pn		**Pn**	**17 44 04.8**	**+1.7**
YZKH	**Yazd**	**4.92**	**25**	*e*Pn		**Pn**	**17 44 04.8**	**+1.7**
IZEF	**Zefreh**	**4.96**	**2**	*e*Pn		**Pn**	**17 44 05.0**	**+1.2**
ALNE	**Al Ain**	**5.02**	**139**	*e*Pn		**Pn**	**17 44 06.8**	**+2.4**
CHMN	**Cheshme madani**	**5.08**	**66**	*e*			17 44 29.4	
CHMN				*e*Pn		**Pn**	**17 44 07.1**	**+1.5**
SHGR	**Shooshtar-Gavs**	**5.09**	**326**	*e*Pn		**Pn**	**17 44 08.5**	**+3.1**
SHGR	**Shooshtar-Gavs**	**5.09**	**326**	*e*Pn		**Pn**	**17 44 08.5**	**+3.1**
IKLH	**Kolahrood**	**5.40**	**355**	*e*Pn		**Pn**	**17 44 10.6**	**+0.7**
ANAR	**Anarak**	**5.42**	**14**	*e*Pn		**Pn**	**17 44 11.1**	**+1.1**
SOHO	**SOHO** SNR=6.7	**5.44**	**133**	*i* P		**Pn**	**17 44 11.3**	**+1.1**
SOHO	**SOHO**	**5.44**	**133**	P		**Pn**	**17 44 11.7**	**+1.5**
SOHO				S		**Sn**	**17 45 15.2**	**+2.3**
SOHO	**SOHO**	**5.44**	**133**	*e*Pn		**Pn**	**17 44 11.8**	**+1.6**
KBAM	**BAM**	**5.65**	**76**	*e*Pn		**Pn**	**17 44 15.2**	**+2.0**
UMZA	**Um Al Zommool**	**5.85**	**152**	*e*Pn		**Pn**	**17 44 18.3**	**+2.5**
ARQ	**Araqi** SNR=19	**6.02**	**138**	P		**Pn**	**17 44 19.3**	**+1.1**
KRSH	**Karshahi**	**6.03**	**360**	*e*Pn		**Pn**	**17 44 19.0**	**+0.6**
KHMZ	**Khomeyn**	**6.10**	**342**	*e*Pn		**Pn**	**17 44 22.4**	**+2.9**
KHMZ	**Khomeyn**	**6.10**	**342**	*e*Pn		**Pn**	**17 44 22.4**	**+2.9**

HOQ **Hoqain** 6.33 132 P Pn 17 44 24.2 +1.7
SNR=9.3
HOQ S Sn 17 45 33.4 -1.6
TPRV **Parvadeh(Tabas** 6.41 36 *e*Pn Pn 17 44 24.7 +1.2
IKFM **Kafar-mosalman** 6.71 327 *e*Pn Pn 17 44 29.8 +2.2
IDOB **Doab** 6.78 331 *e*Pn Pn 17 44 29.3 +0.5
BSY **Bisya** 6.87 137 P Pn 17 44 31.1 +1.1
SNR=7.7
BSY S Sn 17 45 47.1 -1.1
IQOM **Qom** 6.96 352 *e*Pn Pn 17 44 31.1 -0.2
HSAM **Samen** 6.98 335 *e*Pn Pn 17 44 32.9 +1.4
IVRN **Varamin** 7.06 357 *e*Pn Pn 17 44 32.9 +0.4
TKDS **Koohdasht(Taba** 7.09 36 *e*Pn Pn 17 44 33.8 +0.9
TABS **Tabas** 7.12 35 *e*Pn Pn 17 44 34.5 +1.2
TABS **Tabas** 7.12 35 *e*Pn Pn 17 44 34.5 +1.2
BSRN **Basiran** 7.25 55 *e*Pn Pn 17 44 37.2 +2.0
BSRN **Basiran** 7.25 55 *e*Pn Pn 17 44 37.2 +2.0
HAGD **Aghdareh** 7.35 340 *e*Pn Pn 17 44 37.9 +1.3
IKOM **Komasi** 7.41 328 *e*Pn Pn 17 44 38.7 +1.4
WSAR **Wadi Sarin** 7.46 127 Pn Pn 17 44 38.2 +0.2
0.8nm,0.3s,baz=306,slow=14,SNR=11
WSAR Sn Sn 17 46 00.4 -2.4
0.6nm,0.3s,baz=195,slow=20,SNR=4.2
IALM **Almabolaq** 7.72 335 *e*Pn Pn 17 44 43.5 +1.8
IGHG **Ghaleghazi** 7.99 324 *e*Pn Pn 17 44 46.5 +1.1
HSRG **Sareghieh** 8.02 336 *e*Pn Pn 17 44 46.4 +0.6
QABG **Abgarm-Qazvin** 8.07 345 *e*Pn Pn 17 44 47.5 +1.0
WBK **Wadi Bani Khal** 8.11 129 P Pn 17 44 47.4 +0.5
SNR=6.5
WBK S Sn 17 46 15.8 -2.9
IDHR **Dehrash** 8.37 325 *e*Pn Pn 17 44 50.6 0.0
QALM **Alamut, Qazvin** 8.58 352 *e*Pn Pn 17 44 54.9 +1.4
MHTO **MHTO** 8.69 141 P Pn 17 44 55.7 +0.9
SNR=16
MHTO S Sn 17 46 28.1 -4.7
SNR=5.2
WHFO **Wadi Hawf** 10.06 171 P Pn 17 45 13.2 -0.6
SNR=5.6
GEYT **Alibeck** 11.15 25 Pn Pn 17 45 31.1 +2.6
0.4nm,0.3s,baz=207,slow=16,SNR=3.6
GEYT **Alibeck** 11.15 25 Pn Pn 17 45 30.6 +2.0
GYA0B **ALIBECK ARRAY** 11.15 25 Pn Pn 17 45 30.3 +1.7
GEVA **Gevas** 12.86 326 Pn Pn 17 45 50.9 -1.2
GEVA Sn 17 48 15.2 -0.2
MARD **Mardin** 13.40 317 Pn Pn 17 45 56.0 -3.4
DAMY **Dhamar** 15.13 210 Pn Pn 17 46 24.6 +1.4
DAMY IAmb IAmb 17 46 36.1
comp=Z,8.1nm,0.6s
ARTV **Artvin** 15.68 330 Pn 17 46 31.3 +1.2
KIV **Kilovodsk** 17.73 337 Pn Pn 17 46 52.9 -3.1
CHGR **Chuyangaron** 17.75 49 Pn Pn 17 46 53.7 -2.6
GAR **Garm** 18.70 49 P P 17 47 06.8 -0.9
GAR IAmb IAmb 17 47 11.3
comp=Z,20nm,1.6s
NIL **Nilore** 18.98 67 P P 17 47 08.6 -2.0
NIL IAmb IAmb 17 47 17.5
comp=Z,9.9nm,1.1s
BR131 **Keskin Array S** 19.34 312 P 17 47 13.9 -0.8
BRTR **Keskin Array B** 19.34 312 P P 17 47 15.0 +0.3
comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=11
BRTR **Keskin Array B** 19.34 312 P P 17 47 11.7 -3.0
KK31 **Karatay Array** 21.20 40 P P 17 47 34.2 -0.5
KK31 IAmb IAmb 17 47 56.8
comp=Z,3.9nm,0.6s
KKAR **Karatay Array** 21.20 40 P P 17 47 34.4 -0.3
KKAR IAmb IAmb 17 47 56.8
comp=Z,3.9nm,0.6s
KKAR **Karatay Array** 21.20 40 P P 17 47 34.3 -0.4
ABKAR **Akbulak array** 22.12 14 P P 17 47 43.9 -0.7
ABKAR **Akbulak array** 22.12 14 P P 17 47 43.9 -0.7
ABKAR IAmb IAmb 17 47 49.9
comp=Z,5.9nm,1.1s
KARP **Karpathos** 22.55 296 P P 17 47 46.2 -3.2
AKTO **Aktyubinsk** 22.92 10 P P 17 47 55.0 +2.0
comp=Z,1.6nm,0.7s,baz=201,slow=12,SNR=5.2
SANT **Santorini** 24.08 297 P P 17 48 03.9 -0.8
BOOM **Boomskoye usch** 24.15 47 P P 17 48 05.1 -0.4
BOOM IAmb IAmb 17 48 08.5
comp=Z,5.5nm,1.0s
TIRR **Tirgusor** 25.16 317 P P 17 48 14.7 +0.3
MLR **Muntele Rosu** 27.20 317 P P 17 48 34.8 +1.9
comp=Z,0.9nm,0.5s,baz=170,slow=15,SNR=2.9
MLR **Muntele Rosu** 27.20 317 P P 17 48 30.6 -2.4
MLR IAmb IAmb 17 48 41.8
comp=Z,3.9nm,0.9s
BRVK **Borovoye** 28.47 23 P P 17 48 42.5 -1.6
BVAR **Borovoye Array** 28.48 23 P P 17 48 44.8 +0.6
comp=Z,0.5nm,0.6s,baz=214,slow=21,SNR=5.0
AKASG **Malin Array Be** 28.64 329 P P 17 48 44.9 -0.7
comp=Z,0.2nm,0.2s,baz=139,slow=7.4,SNR=4.5
AKASG **Malin Array Be** 28.64 329 IAmb IAmb 17 48 50.9
comp=Z,2.1nm,1.4s
AKBB **Malin Array Si** 28.64 329 P P 17 48 44.6 -1.0
MAKZ **Makanchi** 30.01 43 P P 17 48 57.6 -0.2
MAKZ IAmb IAmb 17 49 08.2
comp=Z,6.5nm,1.1s
MK31 **Makanchi Array** 30.19 43 P P 17 48 59.7 +0.2
MK31 IAmb IAmb 17 49 01.3
comp=Z,4.4nm,1.4s
MKAR **Makanchi Array** 30.19 43 P P 17 49 00.5 +1.0
comp=Z,0.7nm,0.7s,baz=233,slow=6.5,SNR=6.1
MKAR **Makanchi Array** 30.19 43 P P 17 49 00.2 +0.8
KURBB **Kurchatov Arra** 30.21 34 P P 17 49 00.4 +0.9
comp=Z,0.8nm,0.7s,baz=234,slow=9.1,SNR=7.1
KURK **Kurchatov** 30.32 34 P P 17 49 01.1 +0.7
KURK IAmb IAmb 17 49 28.8
comp=Z,2.6nm,1.1s
DIVS **Divibare** 30.39 311 P P 17 49 01.0 -0.3
DIVS IAmb IAmb 17 49 02.9
comp=Z,2.4nm,1.1s
KOLS **Kolonicke sedl** 31.13 321 *e*P P 17 49 07.8 +0.1
CRVS **Cervenica-Dubn** 31.57 320 *e*P P 17 49 10.7 -0.9
WMQ **Urumqi** 32.57 51 *e*P P 17 49 22.5 +2.0
MORC **Moravsky Berou** 34.24 319 P P 17 49 33.3 -1.7
MORC IAmb IAmb 17 50 07.0
comp=Z,4.4nm,1.4s
NRCA **Norcia** 34.82 306 P P 17 49 40.7 +0.6
ZAA0 **Zalesovo Array** 35.30 33 P P 17 49 42.7 -1.2
ZAA0 IAmb IAmb 17 49 45.2
comp=Z,4.3nm,0.9s
ZALV **Zalesovo Beam** 35.30 33 P P 17 49 44.5 +0.5
comp=Z,1.3nm,0.3s,baz=224,slow=8.3,SNR=6.5
ZALV **Zalesovo Beam** 35.30 33 P P 17 49 43.8 -0.1
MOA **Molln** 35.46 314 *e*P P 17 49 46.1 +0.6
comp=Z,4.7nm,1.4s
CIMO **Cimolais** 36.15 311 P P 17 49 50.9 -0.6
CIMO IAmb IAmb 17 49 56.8
comp=Z,5.0nm,1.3s
CTI **Castel Tesino** 36.61 311 P P 17 49 54.6 -0.9
CTI IAmb IAmb 17 49 59.6
comp=Z,2.8nm,0.7s
WTTA **Wattenberg** 36.96 313 *e*P P 17 49 58.7 +0.2
comp=Z,5.0nm,1.1s
WATA **Walderalm** 37.02 313 *e*P P 17 49 58.9 -0.1
comp=Z,2.3nm,0.6s
SQTA **Sankt Quirin** 37.22 312 *i* P P 17 50 00.7 0.0
comp=Z,1.7nm,0.6s
MOTA **Moosalm** 37.33 313 *e*P P 17 50 01.4 -0.2
comp=Z,7.6nm,1.5s
FETA **Feichten** 37.48 312 *e*P P 17 50 02.3 -0.7
comp=Z,5.6nm,1.7s
CLL **Collm** 37.51 319 *e*P P 17 50 02.0 -0.9
CLL *e*PP **PnPn** 17 51 30.0 +0.8
FINES **FINESS Array B** 37.78 340 P P 17 50 05.1 +0.1
comp=Z,2.1nm,0.8s,baz=145,slow=8.4,SNR=13
DAVA **Damuels** 38.11 312 *e*P P 17 50 07.7 -0.6
comp=Z,3.2nm,0.5s
GTA **Gaotai** 40.85 61 *e*P P 17 50 31.8 +0.6
GTA pP sP 17 50 37.3 +1.5
GTA sP pP 17 50 40.0 +5.5
GTA pmax pmax
comp=Z,3.0nm,1.3s
NB2 **NORSAR Subarra** 42.93 332 P P 17 50 48.0 +0.2
comp=Z,1.3nm,0.8s,baz=121,slow=8.6
NOA **NORSAR Array B** 42.93 332 P P 17 50 47.3 -0.5
comp=Z,0.6nm,0.7s,baz=121,slow=8.2,SNR=5.3
LZH **Lanzhou** 44.13 66 *e*P P 17 50 58.6 +0.6
LZH pP sP 17 51 07.3 +4.7
LZH sP pP 17 51 10.2 +8.9
LZH *e*PP **PP** 17 52 42.5 +1.8
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,52nm,5.6s

TOA0	**Torodi Ar. Sit**	**49.17**	**263**	P	**P**	**17 51 37.7**	**+0.1**
TOA0				IAmb	IAmb	17 52 12.0	
	comp=Z,8.9nm,1.5s						
TORD	**Torodi Ar. Bea**	**49.17**	**263**	P	**P**	**17 51 37.1**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=56,slow=7.4,SNR=11						
TORD	**Torodi Ar. Bea**	**49.17**	**263**	P	**P**	**17 51 36.6**	**-0.9**
HHC	**Hu-ho-hao-te**	**49.81**	**59**	*e*P	**P**	**17 51 42.9**	**+0.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,450nm,8.9s						
KOWA	**Kowa**	**53.65**	**268**	P	**P**	**17 52 11.2**	**+0.1**
DBIC	**Dimbokro**	**57.85**	**260**	P	**P**	**17 52 41.6**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=40,slow=6.7,SNR=7.2						
DBIC	**Dimbokro**	**57.85**	**260**	P	**P**	**17 52 41.0**	**-0.3**
LBTB	**Lobatse**	**58.53**	**208**	P	**P**	**17 52 46.9**	**+1.0**

IDC ***11*** *17:59:29.8±8.8, 18°.10S×169°.39E, h162km±59km, mb3.6/3, mb1 3.8/3, mb1mx3.2/27, mbtmp4.1/3, Error ellipse: s-maj=126.3km s-min=70.0km az=114.0*
NEIC ***11*** *17:59:38.2±1.1, 18°.89S±0°.09×169°.2E±0°.2, h220km±12km, mb4.4/12, Error ellipse: s-maj=22.9km s-min=12.8km az=94.0*

ISC 11 17:59:33.6±2.0, 18°.5S±0°.2×169°.5E±0°.2, h200km, n17, σ0661/17, mb4.4/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**3.74**	**324**	Pn		Pn	18 00 39.4	+7.2
DZM	**Mont Dzumac**	**4.55**	**218**	P		**Pn**	**18 00 41.6**	**-0.8**
	0.7nm,0.3s,baz=76,slow=19,SNR=11							
DZM				S		**Sn**	**18 01 37.2**	**+0.7**
	0.6nm,0.3s,baz=90,slow=17,SNR=2.9							
STKA	**Stephens Creek**	**28.43**	**237**	P		**P**	**18 05 10.1**	**+0.4**
	1.0nm,0.6s,baz=84,slow=11,SNR=5.1							
STKA	**Stephens Creek**	**28.43**	**237**	P		**P**	**18 05 09.7**	**-0.1**
WR0	**Warramunga Arr**	**32.98**	**262**	P		**P**	**18 05 49.1**	**-0.8**
WB0	**Warramunga Arr**	**33.14**	**262**	P		**P**	**18 05 50.8**	**-0.4**
WB0				IAmb		IAmb	18 06 26.7	
	comp=Z,10nm,1.4s							
WB2	**Warramunga Arr**	**33.16**	**262**	P		**P**	**18 05 51.2**	**-0.3**
WB2				IAmb		IAmb	18 06 26.1	
	comp=Z,11nm,1.5s							
WRAB	**Tennant Creek**	**33.17**	**262**	P		**P**	**18 05 51.1**	**-0.4**
WRAB				IAmb		IAmb	18 06 45.2	
	comp=Z,14nm,1.8s							
WRA	**Warramunga Arr**	**33.18**	**262**	P		**P**	**18 05 51.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=89,slow=8.4,SNR=21							
AS31	**Alice Springs**	**33.53**	**255**	P		**P**	**18 05 54.7**	**+0.1**
AS31				IAmb		IAmb	18 05 55.0	
	comp=Z,4.2nm,0.3s							
ASAR	**Alice Springs**	**33.53**	**255**	P		**P**	**18 05 54.8**	**+0.2**
	comp=Z,4.0nm,0.4s,baz=83,slow=8.8,SNR=153							
ASAR	**Alice Springs**	**33.53**	**255**	P		**P**	**18 05 54.3**	**-0.3**
MTN	**Manton Dam**	**37.29**	**273**	P		**P**	**18 06 27.6**	**+0.9**
MTN				IAmb		IAmb	18 07 16.4	
	comp=Z,18nm,1.3s							
KNRA	**Kununurra**	**38.96**	**268**	P		**P**	**18 06 41.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**41.55**	**263**	P		**P**	**18 07 02.9**	**+1.1**
FITZ				IAmb		IAmb	18 08 31.5	
	comp=Z,28nm,2.0s							
SOEI	**Soe**	**44.59**	**275**	P		**P**	**18 07 26.0**	**-0.4**
QSPA	**South Pole Qui**	**71.55**	**180**	P		**P**	**18 10 32.9**	**+0.2**
QSPA				IAmb		IAmb	18 11 06.4	
	comp=Z,18nm,1.8s							

VIE 11 18:10:52.9±1.1, 44°.56N×12°.66E, h12km±4km, mb1.9/4, ml2.2/11, Error ellipse: s-maj=9.6km s-min=5.3km az=46.0 73 km NNE of San Marino, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RIY	**Rijeka**	**1.51**	**59**	Sg		Sn	18 11 35.5	-3.7
NVLJ	**Novalja**	**1.58**	**89**	*i* Pn		Pn	18 11 17.2	-3.6
NVLJ				Sg		Sn	18 11 36.0	-5.1
DUGI	**Dugi Otok**	**1.82**	**107**	*e*Pn		Pn	18 11 19.6	-4.3
ABTA	**Abfaltersbach**	**2.19**	**357**	*e*Pn		Pn	18 11 29.5	+0.3
	0.1nm,0.1s							
UDBI	**Udbina**	**2.22**	**90**	*e*Pn		Pn	18 11 27.1	-2.5
UDBI				Sn		Sn	18 11 53.7	-3.4
MORI	**Morici**	**2.30**	**106**	*i* Pn		Pn	18 11 29.3	-1.3
MORI				Sn		Sn	18 12 00.1	+1.3
OBKA	**Obir**	**2.36**	**34**	*e*Pn		Pn	18 11 32.2	+0.7
	0.7nm,0.2s							
OBKA				Sn		Sn	18 12 01.2	+0.7
	0.7nm,0.2s							
KIJV	**Kijevo**	**2.75**	**100**	Sn		Sn	18 12 10.3	+0.3
WTTA	**Wattenberg**	**2.80**	**346**	*e*Pg		Pg	18 11 46.4	-0.1
	0.4nm,0.1s							
WTTA				Sg		Sg	18 12 26.0	+3.2
	1.9nm,0.3s							
FETA	**Feichten**	**2.81**	**332**	Pn		Pb	18 11 40.9	-2.2
	0.4nm,0.3s							
FETA				*e*Sg		Sg	18 12 23.8	+0.8
	3.6nm,0.9s							
SQTA	**Sankt Quirin**	**2.85**	**340**	Pn		Pn	18 11 39.7	+1.4
	0.4nm,0.1s							
SQTA				Pg		Pg	18 11 46.4	-1.1
	2.5nm,0.4s							
SQTA				*e*Sg		Sg	18 12 28.1	+3.8
	2.6nm,0.3s							
WATA	**Walderalm**	**2.88**	**345**	*e*Pg		Pg	18 11 48.0	0.0
	0.7nm,0.2s							

ROM 11 18:11:47.5±0.2, 43°.216N±0°.006×12°.68E±0°.01, h6km, ML1.3/1, 1C, Error ellipse: s-maj=1.4km s-min=0.2km az=241.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATCC	**AVT- Casa Cast**	**0.04**	**222**	P		Pg	18 11 49.1	+0.2
ATCC				S		Sg	18 11 50.1	+0.2
ATCC				AML		AML		
	comp=E,1206μm,0.2s							
ATCC				AML		AML		
	comp=N,1075μm,0.3s							
MURB	**Monte Urbino**	**0.12**	**293**	P		Pg	18 11 50.4	+0.3
MURB				S		Sg	18 11 52.6	+0.8
MURB				AML		AML		
	comp=N,153μm,0.3s							
MURB				AML		AML		
	comp=E,313μm,0.5s							
ASSB	**Assisi San Ben**	**0.17**	**184**	⇑P		Pg	18 11 51.5	+0.5
ASSB				S		Sg	18 11 54.5	+1.2

TRN 11 18:23:36.4, 17°.00N×61°.84W, h22km, MD2.7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BPA	**Boggy Peak**	**0.05**	**344**	*e*P		Pb	18 23 42.3	+1.9
BPA				*e*S		Sb	18 23 44.8	+1.7
ANBD	**Bethesda, Anti**	**0.09**	**54**	*e*P		Pb	18 23 42.1	+1.5
ANBD				*e*S		Sb	18 23 44.5	+1.1
MLYT	**Lee's Yard**	**0.43**	**231**	*e*S		Sn	18 23 55.1	+0.5
ANWB	**Willy Bob**	**0.67**	**5**	*e*P		Pn	18 23 51.5	+0.8
CBE	**Ff, Capester**	**0.95**	**166**	*e*P		Pn	18 23 56.2	+1.8
CBE				*e*S		Sb	18 24 00.1	-6.3
MAGL	**Barre de l'ile**	**1.17**	**153**	*e*P		Pb	18 24 03.8	+5.8
MAGL				*e*S		Sn	18 24 12.9	+0.1
DSLB	**Salisbury**	**1.60**	**165**	*e*S		Sn	18 24 24.2	+0.7
DSLB	**Salisbury**	**1.60**	**165**	*e*S		Sb	18 24 24.3	-0.8

MDD ***11*** *18:44:13.2±1.2, 37°.02N×13°.51W, h30km, mb4.4/6, Error ellipse: s-maj=14.4km s-min=10.7km az=131.0, PRXIMO*
IGIL ***11*** *18:44:15.6, 37°.17N×13°.25W, h14km, ML2.6*
INMG ***11*** *18:44:16.7±1.4, 37°.01N×13°.51W, h10km, ML2.5, Error ellipse: s-maj=7.1km s-min=4.9km az=73.0*
CNRM ***11*** *18:44:20.5±1.1, 36°.81N×12°.74W, h123km±29km, Error ellipse: s-maj=10.3km s-min=7.3km az=85.0*

ISC 11 18:44:11.6±3.3, 37°.17N±0°.09×13°.3W±0°.2, h10km, n66, σ2917/111, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.56**	**89**	Pn		**Pn**	**18 45 08.5**	**+1.6**
	4.7nm,0.1s,SNR=14							
PFVI				Sn		**Sn**	**18 45 47.5**	**-1.5**
	9.2nm,0.1s,SNR=7.2							
PFVI	**Vila Bisbo**	**3.56**	**89**	P		**Pn**	**18 45 08.2**	**+1.3**
PFVI				S		**Sn**	**18 45 47.0**	**-1.9**
PFVI	**Vila Bisbo**	**3.56**	**89**	⇑*e*Pn		**Pn**	**18 45 08.5**	**+1.6**
PFVI				*e*Sn		**Sn**	**18 45 47.3**	**-1.7**
PFVI				A		A	18 45 47.9	
	9.7nm,0.4s							
PMAFR	**Mafra**	**3.62**	**59**	Pn		**Pn**	**18 45 10.3**	**+2.5**
	2.6nm,0.1s,SNR=7.9							
PMAFR				Sn		**Sn**	**18 45 50.5**	**-0.1**
	6.6nm,0.2s,SNR=7.3							
PMAFR	**Mafra**	**3.62**	**59**	*e*Pn		**Pn**	**18 45 10.4**	**+2.5**
PMAFR				*e*Sn		**Sn**	**18 45 51.0**	**+0.4**
PMAFR				A		A	18 45 51.8	
	12nm,0.5s							
PTEO	**Sao Teotonio**	**3.65**	**83**	Pn		**Pn**	**18 45 10.3**	**+2.2**
PTEO				Sn		**Sn**	**18 45 49.4**	**-1.8**
	4.0nm,1.0s							
PTEO	**Sao Teotonio**	**3.65**	**83**	*e*Pn		**Pn**	**18 45 10.3**	**+2.2**
PTEO				*e*Sn		**Sn**	**18 45 49.4**	**-1.8**
PTEO				A		A	18 45 51.9	
	8.0nm,1.0s							
MORF	**Marmelete**	**3.69**	**86**	*e*P		**Pn**	**18 45 10.5**	**+1.6**
MORF				*e*S		**Sn**	**18 45 50.4**	**-2.0**
MORF				AML		AML	18 45 54.2	
	comp=N,14nm,0.2s							
MORF	**Marmelete**	**3.69**	**86**	Pn		**Pn**	**18 45 10.5**	**+1.6**
MORF				Sn		**Sn**	**18 45 50.8**	**-1.7**
	comp=N,11nm,0.1s							
MORF	**Marmelete**	**3.69**	**86**	*e*Pn		**Pn**	**18 45 10.5**	**+1.6**
MORF				*e*Sn		**Sn**	**18 45 50.8**	**-1.7**
MORF				A		A	18 45 54.9	
	comp=N,11nm,0.1s							
PNCL	**Nicolau / Gran**	**3.88**	**75**	Pn		**Pn**	**18 45 13.0**	**+1.6**
PNCL				Sn		**Sn**	**18 45 55.4**	**-1.7**
	comp=N,6.1nm,0.1s							
PNCL	**Nicolau / Gran**	**3.88**	**75**	*e*Pn		**Pn**	**18 45 13.0**	**+1.6**
PNCL				*e*Sn		**Sn**	**18 45 55.4**	**-1.7**
PNCL				A		A	18 46 01.0	
	comp=N,6.1nm,0.1s							
PCVE	**Castro Verde**	**4.20**	**82**	Pn		**Pn**	**18 45 17.6**	**+1.9**
PCVE				Sn		**Sn**	**18 46 02.8**	**-2.0**
	comp=N,4.4nm,0.6s							
PCVE	**Castro Verde**	**4.20**	**82**	*e*Pn		**Pn**	**18 45 17.6**	**+1.9**
PCVE				*e*Sn		**Sn**	**18 46 02.8**	**-2.0**
PCVE				A		A	18 46 08.2	
	comp=N,4.4nm,0.6s							
PSBE	**So Bento**	**4.23**	**55**	*e*Pn		**Pn**	**18 45 20.5**	**+4.3**
PSBE				*e*Sn		**Sn**	**18 46 07.7**	**+2.0**
PSBE				A		A	18 46 13.2	
	comp=N,6.1nm,0.9s							
PBDV	**Barranco-do-Ve**	**4.27**	**87**	Pn		**Pn**	**18 45 18.9**	**+2.2**
PBDV				Sn		**Sn**	**18 46 05.3**	**-1.3**
	comp=N,4.0nm,0.2s							
PBDV	**Barranco-do-Ve**	**4.27**	**87**	*e*Pn		**Pn**	**18 45 18.9**	**+2.2**
PBDV				*e*Sn		**Sn**	**18 46 05.3**	**-1.3**
PBDV				A		A	18 46 08.3	
	comp=N,4.0nm,0.2s							
PBEJ	**Beja**	**4.38**	**77**	Pn		**Pn**	**18 45 22.8**	**+4.6**
PBEJ				Sn		**Sn**	**18 46 09.4**	**+0.1**
	comp=N,1.9nm,0.5s							
PBEJ	**Beja**	**4.38**	**77**	*e*Pn		**Pn**	**18 45 22.8**	**+4.6**
PBEJ				*e*Sn		**Sn**	**18 46 09.4**	**+0.1**
PBEJ				A		A	18 46 13.3	
	comp=N,3.8nm,0.5s							
PMTG	**Montargil**	**4.41**	**63**	Pn		**Pn**	**18 45 20.7**	**+2.0**
PMTG				Sn		**Sn**	**18 46 08.8**	**-1.3**
	comp=N,2.4nm,0.2s							
PMTG	**Montargil**	**4.41**	**63**	*e*Pn		**Pn**	**18 45 20.7**	**+2.0**
PMTG				*e*Sn		**Sn**	**18 46 08.8**	**-1.3**
PMTG				A		A	18 46 13.0	
	comp=N,2.4nm,0.2s							
PVAQ	**Vaqueiros**	**4.44**	**85**	Pn		**Pn**	**18 45 21.2**	**+2.2**
PVAQ				Sn		**Sn**	**18 46 08.8**	**-2.0**
	comp=N,6.5nm,0.1s							
PVAQ	**Vaqueiros**	**4.44**	**85**	P		**Pn**	**18 45 19.8**	**+0.8**
PVAQ				S		**Sn**	**18 46 08.8**	**-2.0**
PVAQ	**Vaqueiros**	**4.44**	**85**	*e*Pn		**Pn**	**18 45 21.2**	**+2.2**
PVAQ				*e*Sn		**Sn**	**18 46 08.8**	**-2.0**
PVAQ				A		A	18 46 14.8	
	comp=N,6.5nm,0.1s							
EGRO	**El Granado**	**4.63**	**84**	Pn		**Pn**	**18 45 23.3**	**+1.7**
	comp=N,0.9nm,0.1s,SNR=4.0							
EGRO				Sn		**Sn**	**18 46 13.0**	**-2.5**
	comp=N,3.0nm,0.1s,SNR=6.5							
PCAS	**Casmilo, Conde**	**4.72**	**51**	Pn		**Pn**	**18 45 25.2**	**+2.3**
PCAS				Sn		**Sn**	**18 46 17.6**	**-0.1**
	comp=N,2.9nm,0.3s							
PCAS	**Casmilo, Conde**	**4.72**	**51**	*e*Pn		**Pn**	**18 45 25.2**	**+2.3**
PCAS				*e*Sn		**Sn**	**18 46 17.6**	**-0.1**
PCAS				A		A	18 46 20.5	
	comp=N,2.9nm,0.3s							
PMPST	**Porto Santo, M**	**4.79**	**212**	*e*Pn		Pn	18 45 18.4	-5.4
PMPST				*e*Sn		Sn	18 46 03.8	-16
PMPST				A		A	18 46 05.9	
	comp=N,33nm,0.7s							
PMPS	**Porto Santo**	**4.81**	**212**	Pn		Pn	18 45 18.4	-5.7
PMPS				Sn		Sn	18 46 03.8	-16
	comp=N,17nm,0.7s							
PMPS	**Porto Santo**	**4.81**	**212**	*e*Pn		Pn	18 45 18.3	-5.8
PMPS				*e*Sn		Sn	18 46 04.3	-15
PBAR	**Barrancos**	**5.05**	**77**	Sn		**Sn**	**18 46 27.3**	**+1.5**
PBAR	**Barrancos**	**5.05**	**77**	*e*Sn		**Sn**	**18 46 27.3**	**+1.5**
PMRV	**Marv??o**	**5.15**	**62**	Pn		**Pn**	**18 45 30.7**	**+1.9**
PMRV				Sn		**Sn**	**18 46 26.8**	**-1.5**
	comp=N,2.5nm,0.3s							
PMRV	**Marv??o**	**5.15**	**62**	*e*Pn		**Pn**	**18 45 30.7**	**+1.9**
PMRV				*e*Sn		**Sn**	**18 46 26.8**	**-1.5**
PMRV				A		A	18 46 29.6	
	comp=N,2.5nm,0.3s							
PCBR	**Castelo Branco**	**5.27**	**58**	Sn		**Sn**	**18 46 30.8**	**-0.5**
PCBR	**Castelo Branco**	**5.27**	**58**	*e*Sn		**Sn**	**18 46 30.8**	**-0.5**
EMIN	**Mina Concepcio**	**5.29**	**82**	Pn		**Pn**	**18 45 31.0**	**+0.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**18 46 29.2**	**-2.5**
	comp=N,2.0nm,0.1s,SNR=7.3							
PMAR	**Madeira**	**5.34**	**215**	Sn		Sn	18 46 18.3	-15
PMAR	**Madeira**	**5.34**	**215**	*e*Sn		Sn	18 46 18.3	-15
PVIS	**Viseu**	**5.49**	**48**	Pn		**Pn**	**18 45 36.2**	**+2.7**
PVIS				Sn		**Sn**	**18 46 35.2**	**-1.5**
	comp=N,1.7nm,0.5s							
PVIS	**Viseu**	**5.49**	**48**	*e*Pn		**Pn**	**18 45 36.2**	**+2.7**
PVIS				*e*Sn		**Sn**	**18 46 35.2**	**-1.5**
PVIS				A		A	18 46 42.0	
	comp=N,3.4nm,0.5s							
MTE	**Manteigas**	**5.52**	**52**	Pn		**Pn**	**18 45 36.6**	**+2.7**
MTE				Sn		**Sn**	**18 46 36.7**	**-0.8**
	comp=N,2.2nm,0.2s							
MTE	**Manteigas**	**5.52**	**52**	*e*Pn		**Pn**	**18 45 36.6**	**+2.7**
MTE				*e*Sn		**Sn**	**18 46 36.7**	**-0.8**
MTE				A		A	18 46 38.9	
	comp=N,4.5nm,0.2s							
PVRL	**Vila Real**	**5.95**	**45**	Sn		**Sn**	**18 46 47.0**	**-1.2**
PVRL	**Vila Real**	**5.95**	**45**	*e*Sn		**Sn**	**18 46 47.0**	**-1.2**
PCAB	**Cabril**	**6.09**	**40**	Pn		**Pn**	**18 45 43.6**	**+1.9**
PCAB				Sn		**Sn**	**18 46 48.9**	**-2.6**
	comp=N,2.5nm,0.8s							
PCAB	**Cabril**	**6.09**	**40**	*e*Pn		**Pn**	**18 45 43.6**	**+1.9**
PCAB				*e*Sn		**Sn**	**18 46 48.9**	**-2.6**
PCAB				A		A	18 46 50.9	
	comp=N,5.0nm,0.8s							
EZAM	**Zamans**	**6.10**	**34**	Pn		**Pn**	**18 45 43.1**	**+1.3**
	comp=N,1.4nm,0.1s,SNR=7.9							
EZAM				Sn		**Sn**	**18 46 48.0**	**-3.7**
	comp=N,1.1nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.16**	**37**	Pn		**Pn**	**18 45 44.9**	**+2.2**
PGAV				Sn		**Sn**	**18 46 50.5**	**-2.7**
	comp=N,3.8nm,0.7s							
PGAV	**Gavieira, Arco**	**6.16**	**37**	*e*Pn		**Pn**	**18 45 44.9**	**+2.2**
PGAV				*e*Sn		**Sn**	**18 46 50.5**	**-2.7**
PGAV				A		A	18 47 01.4	
	comp=N,3.8nm,0.7s							
ELOB	**Lobios**	**6.19**	**39**	Pn		**Pn**	**18 45 45.2**	**+2.1**
	comp=N,0.8nm,0.2s,SNR=8.2							
ELOB				Sn		**Sn**	**18 46 50.9**	**-3.0**
	comp=N,0.8nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.28**	**49**	Pn		**Pn**	**18 45 46.6**	**+2.2**
	comp=N,1.7nm,0.1s,SNR=6.9							
MVO				Sn		**Sn**	**18 46 54.4**	**-2.0**
	comp=N,0.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.28**	**49**	*e*Pn		**Pn**	**18 45 46.6**	**+2.2**
MVO				*e*Sn		**Sn**	**18 46 53.5**	**-2.8**
MVO				A		A	18 46 56.5	
	comp=N,3.1nm,0.9s							
ECAB	**El Cabril**	**6.30**	**79**	Pn		**Pn**	**18 45 46.5**	**+1.9**
	comp=N,0.8nm,0.3s,SNR=6.9							
ECAB				Sn		**Sn**	**18 46 54.6**	**-2.2**
	comp=N,0.5nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**6.33**	**61**	Pn		**Pn**	**18 45 47.4**	**+2.3**
	comp=N,0.4nm,0.1s,SNR=4.0							
EPLA				Sn		**Sn**	**18 46 55.2**	**-2.3**
	comp=N,0.6nm,0.1s,SNR=7.9							
HORN	**Hornachuelos**	**6.41**	**82**	P		**Pn**	**18 45 47.1**	**+0.9**
HORN				S		**Sn**	**18 46 55.0**	**-4.4**
PBRG	**Braganca**	**6.85**	**45**	Pn		**Pn**	**18 45 54.2**	**+2.0**
PBRG				Sn		**Sn**	**18 47 08.2**	**-2.1**
	comp=N,0.6nm,0.7s							
PBRG	**Braganca**	**6.85**	**45**	*e*Pn		**Pn**	**18 45 54.2**	**+2.0**
PBRG				*e*Sn		**Sn**	**18 47 08.2**	**-2.1**
PBRG				A		A	18 47 16.5	
	comp=N,1.3nm,0.7s							
EAGO	**Agolada(Pontev**	**6.89**	**34**	Pn		**Pn**	**18 45 54.1**	**+1.3**
	comp=N,1.5nm,0.1s,SNR=7.9							
EAGO				Sn		**Sn**	**18 47 05.6**	**-5.7**
	SNR=7.9							
ECAL	**Calabor**	**6.95**	**45**	Pn		**Pn**	**18 45 55.7**	**+2.2**
	comp=N,2.3nm,0.4s,SNR=8.4							
ECAL				Sn		**Sn**	**18 47 10.5**	**-2.1**
	comp=N,0.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.97**	**79**	Pn		**Pn**	**18 45 55.4**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=7.9							
EADA				Sn		**Sn**	**18 47 10.7**	**-2.5**
	comp=N,0.4nm,0.1s,SNR=7.9							
OUK	**Oukaimeden**	**7.45**	**141**	P		**Pn**	**18 46 00.1**	**-0.5**
OUK				S		Sn	18 47 16.2	-9.1
EPON	**Pontenova**	**7.73**	**35**	Pn		**Pn**	**18 46 05.9**	**+1.6**
	comp=N,0.5nm,0.1s,SNR=4.0							
EPON				Sn		**Sn**	**18 47 27.1**	**-4.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
MD31	**MD31**	**8.20**	**119**	P		**Pn**	**18 46 09.8**	**-1.0**
MD31				S		Sn	18 47 35.0	-8.5
OUZM	**OUZ**	**8.26**	**137**	P		Pn	18 46 09.9	-1.8
OUZM				S		Sn	18 47 36.2	-8.8
MDT	**Midelt**	**8.33**	**119**	P		**Pn**	**18 46 12.7**	**+0.1**
MDT				S		Sn	18 47 38.1	-8.7

WEL 11 18:46:49.8±1.5, 46°S±5°×16°7E±°, h5km, M3.2/7, ML3.4/7, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=74.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.17**	**17**	P		Pg	18 46 53.8	+0.6
PYZ				S		Sg	18 46 56.2	+0.8
WHZ	**Wether Hill Ro**	**1.03**	**65**	P		Pg	18 47 09.2	-0.3
WHZ				S		Sb	18 47 23.6	-0.3
APZ	**The Paps**	**1.08**	**118**	P		Pg	18 47 09.8	-0.6
APZ				S		Sb	18 47 25.3	0.0
MLZ	**Mavora Lakes**	**1.43**	**48**	P		Pn	18 47 15.9	-0.5
MLZ				S		Sn	18 47 35.5	-0.1
SYZ	**Scrubby Hill**	**1.76**	**98**	P		Pn	18 47 20.7	-0.2
MSZ	**Milford Sound**	**1.90**	**30**	P		Pn	18 47 23.5	+0.7
TUZ	**Tuapeka**	**2.14**	**81**	P		Pn	18 47 25.6	-0.5
WKZ	**Wanaka**	**2.26**	**49**	P		Pn	18 47 29.2	+1.3
JCZ	**Jackson Bay**	**2.73**	**35**	P		Pn	18 47 36.1	+1.8
HHSZ	**Highcliff Hill**	**2.81**	**82**	P		Pn	18 47 35.1	-0.2
ODZ	**Otahua Downs**	**3.11**	**67**	P		Pn	18 47 37.6	-1.9
LBZ	**Lake Benmore**	**3.19**	**54**	P		Pn	18 47 40.0	-0.5

MOS ***11*** *18:54:52.3±0.0, 41°.10N×45°.49E, h9km, MPVA3.4*
NORS ***11*** *18:54:55.0±0.0, 40°.96N×45°.47E, h17km, MPVA3.4*
TIF ***11*** *18:54:55.0, 41°.24N×45°.48E, h28km±1km*
ATA ***11*** *18:54:56.0±0.8, 41°.13N×45°.66E, h41km±484km, ML2.0, MW4.1*
DDA ***11*** *18:54:57.3, 41°.18N×45°.59E, h20km±5km, ML2.3*
DRS ***11*** *18:55:02.8±0.0, 41°.35N×45°.45E, h24km*

ISC 11 18:54:55.2±1.1, 41°.20N±0°.03×45°.49E±0°.02, h13km±11km, n31, σ0974/48, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDFL	**Dedoflistskaro**	**0.54**	**62**	*e*P		**Pn**	**18 55 07.7**	**-1.0**
DDFL				*e*S		**Sb**	**18 55 15.2**	**+1.0**
DDFL				IAML			18 55 16.6	
	comp=Z,41nm,0.8s							
DDFL	**Dedoflistskaro**	**0.54**	**62**	*i* P		**Pb**	**18 55 07.4**	**+0.9**
DDFL	**Dedoflistskaro**	**0.54**	**62**	P		**Pn**	**18 55 07.7**	**-1.0**
BTNK	**Botanikuri**	**0.71**	**313**	*e*Pg		**Pg**	**18 55 08.7**	**-0.2**
BTNK	**Botanikuri**	**0.71**	**313**	P		**Pg**	**18 55 08.7**	**-0.2**
BTNK				S		Sg	18 55 09.0	-9.3
LGD	**Lagodekhi**	**0.85**	**42**	*e*Pg		**Pg**	**18 55 11.3**	**-0.4**
LGD	**Lagodekhi**	**0.85**	**42**	P		**Pg**	**18 55 11.3**	**-0.4**
DMNI	**Dmanisi**	**0.98**	**278**	*e*Pg		**Pg**	**18 55 13.8**	**+0.5**
DMNI				*e*Sg		**S

KRTS	**Karatas**	**0.55**	**321**	PG	**Pb**	**19 14 45.1**	**+0.5**
YURE	**YUREGIR**	**0.70**	**348**	PG	**Pb**	**19 14 47.7**	**+0.7**
YURE	**YUREGIR**	**0.70**	**348**	*i* P	**Pb**	**19 14 47.4**	**+0.4**
YURE				*i* S	**Sg**	**19 14 54.0**	**-1.6**
CEYT	**Ceyhan**	**0.87**	**357**	PG	**Pn**	**19 14 51.1**	**+0.1**
DED	**Mersin**	**1.15**	**315**	*i* P	**Pg**	**19 14 54.4**	**-0.7**
DED				*i* S	**Sn**	**19 15 10.6**	**-0.1**
DED				IAML		19 15 16.0	
	comp=N,223nm,0.6s						
DED				IAML		19 15 16.0	
	comp=E,523nm,0.4s						
KUZU	**Kuzuini**	**1.20**	**58**	*i* P	**Pg**	**19 14 56.2**	**+0.3**
KUZU				*i* S	**Sg**	**19 15 11.1**	**-0.5**
KUZU				IAML		19 15 14.0	
	comp=E,762nm,0.3s						
KUZU				IAML		19 15 19.0	
	comp=N,802nm,0.3s						
KAMA	**Osmaniye**	**1.25**	**33**	*i* P	**Pg**	**19 14 57.2**	**+0.3**
KAMA				*i* S	**Sg**	**19 15 11.7**	**-1.5**
MERS	**Mersin**	**1.26**	**305**	PN	**Pb**	**19 14 56.2**	**-0.5**
KARA	**Karaisali**	**1.27**	**332**	PN	**Pn**	**19 14 56.6**	**+0.1**
KARA				SN	**Sn**	**19 15 14.9**	**+1.3**
KOZT	**Kozan**	**1.34**	**1**	PN	**Pn**	**19 14 58.1**	**+0.6**
KIZK	**Mersin**	**1.39**	**285**	PN	**Pb**	**19 14 58.6**	**-0.2**
KIZK				SN	**Sg**	**19 15 17.3**	**-0.2**
KIZK	**Mersin**	**1.39**	**285**	*i* P	**Pn**	**19 14 58.3**	**+0.2**
KIZK				*i* S	**Sb**	**19 15 15.1**	**-1.4**
GULE	**Gulek**	**1.41**	**324**	*i* P	**Pg**	**19 14 59.6**	**-0.3**
EREN	**Erenkoy**	**1.47**	**246**	PN	**Pn**	**19 14 59.5**	**+0.3**
EREN	**Erenkoy**	**1.47**	**246**	*i* P	**Pb**	**19 14 59.9**	**-0.2**
ANDN	**Andirin**	**1.50**	**17**	*i* P	**Pg**	**19 15 01.8**	**+0.1**
ANDN				*i* S	**Sn**	**19 15 17.9**	**-1.5**
ANDN				IAML		19 15 29.0	
	comp=E,161nm,0.4s						
ANDN				IAML		19 15 32.0	
	comp=N,182nm,0.6s						
GAZ	**Gaziantep**	**1.53**	**47**	PN	**Pn**	**19 15 00.6**	**+0.5**
SILI	**Silifke-Mersin**	**1.54**	**279**	PN	**Pn**	**19 15 00.2**	**0.0**
KMRS	**Kahramanmaras**	**1.62**	**32**	PN	**Pn**	**19 15 01.8**	**+0.4**
CMRD	**Camardi-Nigde**	**1.65**	**337**	PN	**Pn**	**19 15 02.5**	**+0.6**
IKL	**Isikli**	**1.72**	**274**	PN	**Pn**	**19 15 03.2**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.83**	**271**	PN	**Pn**	**19 15 04.8**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.83**	**272**	*i* P	**Pn**	**19 15 05.2**	**+0.9**
GULN				*i* S	**Sn**	**19 15 23.4**	**-4.0**
SAIM	**ADANA**	**1.84**	**7**	*i* P	**Pn**	**19 15 05.4**	**+0.9**
SAIM				*i* S	**Sn**	**19 15 27.7**	**-0.2**
SAIM				IAML		19 15 42.0	
	comp=E,106nm,0.4s						
KERG	**Konya-Eregli**	**1.85**	**314**	*i* P	**Pb**	**19 15 06.6**	**-0.3**
KERG				*i* S	**Sn**	**19 15 28.8**	**+0.6**
GZT	**Gaziantep**	**1.86**	**49**	*i* P	**Pn**	**19 15 04.8**	**0.0**
GZT				*i* S	**Sn**	**19 15 27.7**	**-0.6**
GZT				IAML		19 15 37.0	
	comp=N,145nm,0.5s						
GZT				IAML		19 15 40.0	
	comp=E,108nm,0.6s						
HWQ	**Hawqa**	**1.86**	**176**	*e*P	**Pn**	**19 15 05.4**	**+0.6**
HWQ				*e*S	**Sn**	**19 15 29.9**	**+1.5**
TEVE	**Tevekalti-Mers**	**1.93**	**279**	PN	**Pn**	**19 15 06.6**	**+0.9**
YAHY	**KAYSERI_Yahyal**	**1.98**	**350**	*i* P	**Pb**	**19 15 08.6**	**-0.4**
YAHY				*i* S	**Sb**	**19 15 34.5**	**+0.7**
BERE	**Bereket-Mersin**	**2.10**	**276**	PN	**Pn**	**19 15 08.9**	**+0.8**
TEKE	**Tekeli-Mersin**	**2.18**	**271**	PN	**Pn**	**19 15 09.6**	**+0.6**
BHL	**Bhannes**	**2.24**	**183**	*e*P	**Pn**	**19 15 10.4**	**+0.5**
BHL				*e*S	**Sn**	**19 15 38.4**	**+0.8**
KRMN	**Karaman**	**2.29**	**297**	PN	**Pn**	**19 15 11.6**	**+0.9**
SARI	**SarD1z-Kayseri**	**2.31**	**12**	PN	**Pn**	**19 15 11.9**	**+0.9**
YESY	**Yesilyurt**	**2.33**	**315**	PN	**Pn**	**19 15 12.3**	**+1.1**
CSS	**Mathiatis**	**2.34**	**240**	Pn	**Pn**	**19 15 11.2**	**0.0**
SURC	**SANLIURFA_SURC**	**2.38**	**71**	*i* P	**Pn**	**19 15 11.9**	**+0.2**
SURC				*i* S	**Sn**	**19 15 40.0**	**-1.0**
SURC				IAML		19 15 48.0	
	comp=N,180nm,0.3s						
SURC				IAML		19 15 54.0	
	comp=E,203nm,0.4s						
ATAB	**Bozova**	**2.40**	**56**	*i* P	**Pb**	**19 15 16.3**	**+0.3**
ATAB				*i* S	**Sn**	**19 15 41.6**	**+0.2**
ELBS	**KAHRAMANMARAS**	**2.42**	**25**	*i* P	**Pn**	**19 15 15.0**	**+2.5**
ELBS				IAML		19 15 58.0	
	comp=E,87nm,0.5s						
ELBS				IAML		19 15 59.0	
	comp=N,78nm,0.7s						
DQRL	**Deir Qamar**	**2.44**	**185**	*e*P	**Pn**	**19 15 13.1**	**+0.5**
GULA	**Gulagac**	**2.53**	**331**	PN	**Pn**	**19 15 15.0**	**+1.0**
LEF	**Lefka**	**2.59**	**248**	*i* P	**Pn**	**19 15 15.8**	**+1.1**
QRWL	**Qaraoun**	**2.59**	**182**	*e*P	**Pn**	**19 15 15.4**	**+0.6**
BNN	**Bunyan**	**2.71**	**1**	PN	**Pn**	**19 15 17.3**	**+0.9**
URFA	**Urfa**	**2.74**	**61**	PN	**Pn**	**19 15 17.2**	**+0.3**
SANL	**SANLIURFA_Merk**	**2.76**	**67**	*i* P	**Pb**	**19 15 20.7**	**-1.5**
SANL				*i* S	**Sn**	**19 15 49.6**	**-0.7**
SANL				IAML		19 16 02.0	
	comp=E,94nm,0.3s						
SANL				IAML		19 16 09.0	
	comp=N,99nm,1.0s						
AVNS	**Nevsehir-Avano**	**2.77**	**344**	*i* P	**Pb**	**19 15 21.6**	**-0.8**
AVNS				*i* S	**Sn**	**19 15 52.8**	**+2.2**
AVNS				IAML		19 16 03.0	
	comp=N,54nm,0.6s						
AVNS				IAML		19 16 05.0	
	comp=E,62nm,0.6s						
DARE	**Darende-Malaty**	**2.77**	**28**	PN	**Pn**	**19 15 18.4**	**+1.2**
SHBL	**Chebaa**	**2.79**	**181**	*e*P	**Pn**	**19 15 18.3**	**+0.7**
GAZI	**Gazipasa**	**2.83**	**273**	*i* P	**Pn**	**19 15 17.4**	**-0.6**
GAZI				IAML		19 16 00.0	
	comp=N,53nm,1.0s						
NATI	**Neve Ativ**	**2.87**	**181**	Pn	**Pn**	**19 15 18.6**	**0.0**
NATI				Sn	**Sn**	**19 15 54.5**	**+1.4**
GEM	**Giv'at Ha'Em**	**2.93**	**182**	Pn	**Pn**	**19 15 19.6**	**+0.3**
AKSY	**AKSARAY - Alti**	**2.99**	**328**	*i* P	**Pn**	**19 15 19.7**	**-0.5**
MALT	**Malatya**	**3.01**	**43**	PN	**Pn**	**19 15 21.5**	**+0.9**
HNTI	**Hanita**	**3.10**	**190**	Pn	**Pn**	**19 15 21.5**	**-0.2**
MMA0B	**Mount Meron ar**	**3.14**	**186**	Pn	**Pn**	**19 15 22.7**	**+0.4**
MMA0B				Sn	**Sn**	**19 15 59.8**	**+0.1**
HEKM	**Malatya_Hekimh**	**3.22**	**31**	*i* P	**Pn**	**19 15 23.2**	**-0.3**
HEKM				IAML		19 16 26.0	
	comp=E,58nm,0.7s						
HEKM				IAML		19 16 26.0	
	comp=N,53nm,0.5s						
SHMJ	**Saham**	**3.41**	**181**	Pn	**Pn**	**19 15 25.6**	**-0.3**
BLGI	**Bet Lehem HaGe**	**3.44**	**189**	Pn	**Pn**	**19 15 26.0**	**-0.3**
BLGI				Sn	**Sn**	**19 16 08.2**	**+1.1**
KEPZ	**Antalya-Kepez**	**3.47**	**284**	*i* P	**Pn**	**19 15 30.0**	**+3.1**
KEPZ				*i* S	**Sn**	**19 16 09.5**	**+1.6**
OFRI	**`Ofer**	**3.58**	**191**	Pn	**Pn**	**19 15 28.6**	**+0.3**
KEMA	**Kemaliye**	**3.78**	**33**	*i* P	**Pn**	**19 15 32.6**	**+1.5**
HMDT	**Nahal Hemdat**	**3.89**	**184**	Pn	**Pn**	**19 15 32.8**	**+0.3**
SLTI	**Sal'it**	**3.94**	**190**	Pn	**Pn**	**19 15 34.1**	**+0.8**
SLTI				Sn	**Sn**	**19 16 19.5**	**0.0**
MARD	**Mardin**	**4.16**	**72**	*i* P	**Pn**	**19 15 35.3**	**-1.1**
MARD				*i* S	**Sb**	**19 16 35.7**	**-0.8**
MARD				IAML		19 16 53.0	
	comp=E,78nm,0.8s						
DSI	**Dead Sea**	**4.58**	**185**	Pn	**Pn**	**19 15 40.8**	**-1.2**
DSI				Sn	**Sn**	**19 16 35.3**	**+0.2**
YTIR	**Yattir**	**4.80**	**187**	Pn	**Pn**	**19 15 45.9**	**+0.7**
YTIR				Sn	**Sn**	**19 16 42.1**	**+1.3**

WEL 11 19:14:45.1, 45°S±16″×16°7E±4′5, h5km±19km, M2.8/6, ML2.8/6, MLv2.8/6, Error ellipse: s-maj=0.1km s-min=0.0km az=71.9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.81**	**192**	P	Pb	19 15 01.7	+0.1
MLZ	**Mavora Lakes**	**0.84**	**90**	P	Pb	19 15 02.2	0.0
WHZ	**Wether Hill Ro**	**0.89**	**126**	P	Pb	19 15 03.6	+0.6
MSZ	**Milford Sound**	**1.00**	**46**	P	Pg	19 15 02.2	-2.0
WKZ	**Wanaka**	**1.58**	**71**	P	Pb	19 15 14.5	-0.3
APZ	**The Paps**	**1.64**	**153**	P	Pg	19 15 17.5	+1.0
JCZ	**Jackson Bay**	**1.86**	**46**	P	Pn	19 15 16.4	-1.2
SYZ	**Scrubby Hill**	**1.94**	**128**	P	Pb	19 15 20.3	-0.4
HHSZ	**Highcliff Hill**	**2.63**	**102**	P	Pb	19 15 31.3	-1.3
ODZ	**Otahua Downs**	**2.65**	**84**	P	Pn	19 15 29.2	+0.7
FOZ	**Fox Glacier**	**2.77**	**49**	P	Pb	19 15 34.7	-0.3

*ISN **11** 19:18:26.9±1.1, 33°.78N×45°.70E, h22km±7km, ML2.2*
*TEH **11** 19:18:27.5, 33°.77N×45°.70E, h17km, ML2.6*
ISC 11 19:18:28.2±1.0, 33°.77N±0°.04×45°.60E±0°.06, h10km, n13, σ2.59/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.71**	**157**	*e*Pg	**Pg**	**19 18 40.0**	**-2.0**
IBDR				*e*Sg	**Sg**	**19 18 50.0**	**-1.3**
IBDR				AML	AML	19 18 55.2	
	comp=N,42nm,0.2s						
IBDR				AML	AML	19 19 01.4	
	comp=E,38nm,0.8s						
IGHG	**Ghaleghazi**	**0.98**	**55**	*e*Pg	**Pg**	**19 18 45.1**	**-1.9**
IGHG				*e*		19 18 48.4	
IDHR	**Dehrash**	**1.13**	**35**	*e*Pg	**Pg**	**19 18 48.1**	**-1.9**
IDHR				*e*		19 18 50.4	
IDHR				*e*Sg	**Sg**	**19 19 03.5**	**-1.2**
BHD	**Baghdad**	**1.14**	**244**	*e*Pn	**Pb**	**19 18 50.0**	**+0.1**
BHD				*e*Sn	**Sb**	**19 19 08.0**	**+3.3**
BHD				AML	AML	19 19 12.7	
	comp=E,16nm,0.7s						
IVIS	**Veis**	**1.28**	**54**	*e*Pg	**Pn**	**19 18 50.9**	**-1.3**
IVIS				*e*		19 19 11.5	
KER	**Kermanshah**	**1.41**	**64**	*e*Pg	**Pn**	**19 18 53.6**	**-0.4**
KER				*e*		19 19 14.5	
ILIN	**Lien**	**1.61**	**44**	*e*Pg	**Pn**	**19 18 56.2**	**-0.6**
IKOM	**Komasi**	**1.64**	**75**	*e*Pg	**Pn**	**19 18 56.7**	**-0.5**
IKOM				*e*		19 19 22.4	
IKFM	**Kafar-mosalman**	**1.89**	**97**	*e*Pg	**Pn**	**19 19 00.7**	**+0.2**
IKFM				*e*		19 19 28.3	
IBZA	**Bozab**	**2.00**	**69**	*e*		19 19 05.0	
IBZA				*e*Pn	**Pn**	**19 19 01.8**	**-0.5**
IDOB	**Doab**	**2.15**	**89**	*e*	**Sn**	**19 19 38.9**	**+7.9**
IKMR	**Kamar-syah**	**2.33**	**95**	*e*		19 19 09.7	
IKMR				*e*Pn	**Pn**	**19 19 05.6**	**-1.0**
NSR	**Nassriya**	**2.79**	**170**	*e*Pn	**Pn**	**19 19 13.0**	**+0.1**
NSR				*e*Sn	**Sn**	**19 19 45.0**	**-1.6**
NSR				AML	AML	19 19 53.9	
	comp=E,222nm,0.3s						

WEL 11 19:21:10.6, 43°S±2″×17°2E±″, h5km±2km, M2.5/20, ML2.6/18, MLv2.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.32**	**56**	P	Pb	19 21 17.9	-0.8
OXZ	**Oxford**	**0.38**	**166**	P	Pb	19 21 20.2	+0.4
INZ	**Inchbonnie**	**0.42**	**304**	P	Pb	19 21 20.3	-0.2
AMCZ	**Amberley**	**0.58**	**112**	P	Pb	19 21 24.0	+0.8
MHCZ	**Mount Hutt**	**0.62**	**204**	P	Pb	19 21 24.9	+0.9
GVZ	**Greta Valley S**	**0.82**	**91**	P	Pn	19 21 28.4	-0.5
WVZ	**Waitaha Valley**	**0.87**	**262**	P	Pn	19 21 29.0	-0.5
MQZ	**McQueen's Vall**	**0.92**	**144**	P	Pn	19 21 29.7	-0.5
RPZ	**Rata Peaks**	**0.98**	**220**	P	Pn	19 21 31.4	+0.4
WAZ	**Wakanui South**	**0.98**	**183**	P	Pn	19 21 31.3	+0.3
ARCZ	**Arundel**	**1.12**	**208**	P	Pn	19 21 33.6	+0.6
OKCZ	**Okains Bay**	**1.13**	**133**	P	Pn	19 21 33.0	-0.1
AKCZ	**Akaroa Harbour**	**1.16**	**142**	P	Pb	19 21 33.3	+0.1
DSZ	**Denniston Nort**	**1.22**	**356**	P	Pn	19 21 34.4	+0.1
GCSZ	**Gaunt Creek Bo**	**1.22**	**252**	P	Pn	19 21 35.3	+1.0
KHZ	**Kahutara**	**1.31**	**66**	P	Pg	19 21 36.5	+0.7
THZ	**Tophouse**	**1.40**	**32**	P	Pn	19 21 36.8	-0.1
FOZ	**Fox Glacier**	**1.64**	**249**	P	Pb	19 21 40.9	-0.3
LBZ	**Lake Benmore**	**1.90**	**221**	P	Pg	19 21 48.7	+1.7
BSWZ	**Blackbirch Sta**	**1.91**	**50**	P	Pb	19 21 45.7	-0.2
NNZ	**Nelson**	**2.05**	**33**	P	Pb	19 21 47.5	-0.8
TUWZ	**Tuamarina**	**2.15**	**45**	P	Pb	19 21 48.9	-1.0
QRZ	**Quartz Range**	**2.18**	**12**	P	Pn	19 21 48.1	+0.6
ODZ	**Otahua Downs**	**2.28**	**203**	P	Pn	19 21 49.1	+0.3
TCW	**Tory Channel**	**2.48**	**46**	P	Pb	19 21 53.6	-1.9
JCZ	**Jackson Bay**	**2.54**	**243**	P	Pn	19 21 53.9	+1.4
DUWZ	**D'Urville Isla**	**2.63**	**35**	P	Pb	19 21 56.5	-1.6
KIW	**Kapiti Island**	**3.06**	**48**	P	Pn	19 22 01.8	+2.2
OGWZ	**Otaki Gorge**	**3.24**	**50**	P	Pn	19 22 03.3	+1.3
PKE	**Pukeiti**	**4.08**	**23**	P	Pn	19 22 16.9	+3.4

*BGR **11** 19:33:51.0±2.8, 65°.93N×19°.02W, h10km, mb4.5, Error ellipse: s-maj=86.7km s-min=65.6km az=19.0*
*REY **11** 19:33:60.0, 64°.67N×17°.46W, h7km*
*IDC **11** 19:34:00.5±0.6, 64°.63N×17°.63W, h0km, mb3.9/16, mb1 4.1/20, mb1mx4.0/42, mbtmp3.9/20, ML2.6/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/44, Error ellipse: s-maj=20.4km s-min=10.9km az=19.0*
*MOS **11** 19:34:00.4±1.1, 64°.60N×17°.52W, h10km, mb4.6/26, Error ellipse: s-maj=11.1km s-min=7.2km az=124.3*
*NEIC **11** 19:34:01.7±1.0, 64°.6N±0°.1×17°.5W±0°.1, h9km±4km, mb4.5/73, Error ellipse: s-maj=15.9km s-min=8.3km az=191.0*
ISC 11 19:34:01.0±0.7, 64°.69N±0°.02×17°.49W±0°.02, h4km±4km, n342, σ1s41/363, mb4.4/104, 30C-23D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**27**	P	**Pg**	**19 34 02.9**	**-0.5**
	baz=18						
IDYN				S	**Sg**	**19 34 05.5**	**+0.5**
	baz=18						
IVON	**Vonarskard**	**0.12**	**262**	P	**Pg**	**19 34 02.7**	**-0.7**
	baz=270						
IDJK	**Dyngjujokull**	**0.22**	**149**	P	**Pg**	**19 34 03.9**	**-1.4**
	baz=150						
IGRF	**Grimsfjall**	**0.30**	**161**	P	**Pg**	**19 34 05.5**	**-1.3**
	baz=163						
IHUS	**Husbondi**	**0.40**	**190**	P	**Pg**	**19 34 07.5**	**-1.2**
	baz=193						
ISKR	**Skrokkalda**	**0.41**	**252**	P	**Pg**	**19 34 07.6**	**-1.3**
	baz=255						
IVOT	**Vottur**	**0.44**	**162**	P	**Pg**	**19 34 08.0**	**-1.5**
	baz=163						
IKRE	**Kreppuhraun**	**0.48**	**78**	P	**Pg**	**19 34 08.6**	**-1.7**
	baz=76						
IKRE				S	**Sg**	**19 34 15.6**	**-1.0**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**19 34 08.8**	**-1.6**
	baz=223						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**19 34 10.4**	**-1.6**
	baz=57						
IMKO				S	**Sg**	**19 34 19.2**	**-0.2**
	baz=57						
IIEY	**Innrieyrar**	**0.66**	**205**	P	**Pg**	**19 34 11.6**	**-2.0**
	baz=207						
IIEY				S	**Sg**	**19 34 21.8**	**-0.3**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**19 34 12.1**	**-1.6**
	baz=7.3						
ISVA				S	**Sg**	**19 34 21.9**	**-0.3**
	baz=7.3						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**19 34 11.4**	**-2.8**
	baz=140						
IKSK				S	**Sg**	**19 34 21.3**	**-1.9**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**19 34 13.2**	**-2.2**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**19 34 13.2**	**-2.4**
	baz=79						
IVSH				S	**Sg**	**19 34 23.7**	**-1.8**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**19 34 14.4**	**-1.9**
	baz=233						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**19 34 15.2**	**-2.7**
	baz=66						
IADA				S	**Sg**	**19 34 27.6**	**-1.8**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**282**	P	**Pg**	**19 34 16.0**	**-2.5**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**19 34 16.8**	**-2.5**
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**19 34 17.6**	**-2.4**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**19 34 18.7**	**-2.7**
	baz=13						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**19 34 18.8**	**-2.8**
	baz=209						
ISNB				S	**Sg**	**19 34 33.5**	**-2.1**
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pg**	**19 34 19.6**	**-2.8**
	baz=30						
IGRS				S	**Sg**	**19 34 35.8**	**-1.0**
	baz=30						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pg**	**19 34 19.8**	**-2.7**
	baz=221						
IFED	**Fedgar**	**1.17**	**236**	P	**Pg**	**19 34 20.8**	**-2.6**
	baz=237						
IRJU	**Rjupnafell**	**1.20**	**206**	P	**Pg**	**19 34 21.0**	**-2.9**
	baz=207						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pg**	**19 34 21.0**	**-3.0**
	baz=8.4						
ISKI				S	**Sg**	**19 34 37.9**	**-1.7**
	baz=8.4						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pg**	**19 34 21.0**	**-3.2**
	baz=16						
IMJO	**Mjoaskard**	**1.22**	**232**	P	**Pg**	**19 34 21.5**	**-2.8**
	baz=233						
IGRA	**Granastaoir**	**1.23**	**358**	P	**Pg**	**19 34 21.4**	**-3.2**
	baz=358						
IGRA				S	**Sg**	**19 34 38.8**	**-1.8**
	baz=358						
IHAU	**Haukadalur**	**1.30**	**237**	P	**Pg**	**19 34 22.7**	**-3.1**
	baz=238						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pg**	**19 34 22.5**	**-3.4**
	baz=9.4						
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	**Pg**	**19 34 23.0**	**-3.1**
	baz=209						
IHLA	**Hella**	**1.31**	**344**	P	**Pn**	**19 34 23.1**	**-3.0**
	baz=343						
IHLA				S	**Sg**	**19 34 41.0**	**-2.2**
	baz=343						
IHED	**Heoinshofoi**	**1.40**	**3**	P	**Pn**	**19 34 24.1**	**-3.2**
	baz=2.4						
IHED				S	**Sb**	**19 34 43.5**	**-2.4**
	baz=2.4						
IALF	**Alftagrof**	**1.42**	**213**	P	**Pn**	**19 34 24.5**	**-2.9**
	baz=213						
IALF				S	**Sb**	**19 34 43.6**	**-2.6**
	baz=213						
IBRE	**Brettingsstaoi**	**1.45**	**353**	P	**Pn**	**19 34 25.0**	**-3.0**
	baz=353						
IBRE				S	**Sb**	**19 34 45.0**	**-2.3**
	baz=353						
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**	**19 34 25.1**	**-2.8**
	baz=218						
ISAU	**Saurbar**	**1.45**	**242**	P	**Pn**	**19 34 24.5**	**-3.4**
	baz=243						
IGIL	**Gilhagi**	**1.47**	**18**	P	**Pn**	**19 34 25.0**	**-3.3**
	baz=18						
IMID	**Miomork**	**1.47**	**226**	P	**Pn**	**19 34 25.9**	**-2.4**
	baz=227						
ISIG	**Siglufjorour**	**1.57**	**338**	P	**Pn**	**19 34 26.9**	**-2.6**
	baz=338						
ISIG				S	**Sn**	**19 34 48.0**	**-2.2**
	baz=338						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**19 34 27.9**	**-2.7**
	16nm,0.3s,baz=90,slow=8.4,SNR=62						
BORG				Sn	**Sb**	**19 34 53.2**	**+0.3**
	12nm,0.3s,baz=20,slow=20,SNR=4.0						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**19 34 27.6**	**-3.0**
BORG					**Sn**	**19 34 51.1**	**-1.1**
IKRO	**Krokur**	**1.69**	**251**	P	**Pn**	**19 34 28.7**	**-2.5**
	baz=252						
ISOL	**Solvholt**	**1.69**	**245**	P	**Pn**	**19 34 28.8**	**-2.4**
	baz=245						
IHEI	**Heioarbar**	**1.70**	**255**	P	**Pn**	**19 34 28.7**	**-2.6**
	baz=256						
IHRN	**Hraun**	**1.80**	**324**	P	**Pn**	**19 34 30.2**	**-2.6**
	baz=324						
IHRN				S	**Sn**	**19 34 54.2**	**-1.8**
	baz=324						
IBJA	**Bjarnastaoir**	**1.82**	**248**	P	**Pn**	**19 34 31.4**	**-1.7**
	baz=248						
ISAN	**Sandskeio**	**1.89**	**252**	P	**Pn**	**19 34 32.0**	**-1.9**
	baz=253						
IKUD	**Kuludalsa**	**1.93**	**261**	P	**Pn**	**19 34 32.2**	**-2.4**
	baz=262						
IKAS	**Kald??rsel**	**2.01**	**253**	P	**Pn**	**19 34 33.4**	**-2.2**
	baz=253						
IVOS	**Vogsosar**	**2.02**	**247**	P	**Pn**	**19 34 34.6**	**-1.2**
	baz=248						
IKRI	**Krysuvik**	**2.16**	**250**	P	**Pn**	**19 34 36.5**	**-1.2**
	baz=250						
IGRV	**Grindav??k**	**2.32**	**251**	P	**Pn**	**19 34 40.1**	**+0.2**
	baz=252						
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR	19 38 03.1	
	comp=Z,88nm,19.4s,baz=246,slow=34						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**19 36 48.3**	**-1.2**
	baz=320,slow=13,SNR=29						
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**19 36 47.6**	**-1.9**
ESK	**Eskdalemuir**	**11.77**	**136**		**Pn**	**19 36 47.6**	**-1.9**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**19 37 07.1**	**-2.3**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**19 37 11.1**	**-2.4**
	0.0nm,0.3s,baz=299,slow=13,SNR=2.7						
NOA				LR	LR	19 41 47.2	
	comp=Z,49nm,20.1s,baz=300,slow=34						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**19 37 32.4**	**-1.7**
	0.1nm,0.3s,baz=15,slow=6.0,SNR=2.5						
HLG	**Helgoland**	**16.51**	**118**	*e*P	**P**	**19 37 57.0**	**+1.2**
	184nm,1.7s						
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**P**	**19 38 06.8**	**+4.5**
	baz=279,slow=8.1,SNR=5.6						
ARCES				LR	LR	19 43 25.1	
	comp=Z,59nm,18.9s,baz=355,slow=33						
NRDL	**Niedersach Rie**	**18.67**	**118**	*e*P	**P**	**19 38 17.9**	**-1.6**
	18nm,1.2s						
AHRW	**Bad Neuenahr-A**	**19.15**	**126**	*e*P	**Pn**	**19 38 27.7**	**+

comp=Z,26nm,1.4s
BRG Berggiesshubel 21.42 115 *e*P P 19 38 49.9 +0.3
comp=Z,23nm,1.2s
MANZ Manzenberg 21.43 119 *e*P P 19 38 49.9 +0.2
comp=Z,11nm,1.2s
BFO Black Forest 21.46 127 P P 19 38 50.0 -0.1
BFO pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 21.46 127 *e*P P 19 38 51.0 +0.9
comp=Z,19nm,1.2s
BFO Black Forest 21.46 127 P P 19 38 50.0 -0.1
VSU Vasula 21.56 86 *e*P P 19 38 51.2 +0.2
VSU Vasula 21.56 86*c i*P P 19 38 50.7 -0.3
VSU pmax pmax
comp=Z,50nm,1.0s
ROTZ Rotzenmuhle 21.65 119 *e*P P 19 38 52.6 +0.6
comp=Z,16nm,1.6s
PABE Paberze 22.21 95 *e*P P 19 38 58.5 +0.6
PRU Pruhonice 22.36 116 *e*P P 19 38 59.7 +0.1
PRU Pruhonice 22.36 116 *e*P P 19 38 59.7 +0.1
KSP Ksiaz 22.37 112 *e*P P 19 38 59.5 -0.3
PBCC Pribram 22.39 117 *e*P P 19 39 03.9 +3.9
WET Wettzell 22.41 119 *e*P P 19 39 00.5 +0.3
comp=Z,9.8nm,1.2s
CHVC Chvalec 22.47 113 *e*P P 19 38 59.7 -1.2
CHVC *ex* x 19 39 13.0
GOPC GO Pecny, Ondr 22.51 116 *e*P P 19 39 02.7 +1.4
GOPC GO Pecny, Ondr 22.51 116 *e*P P 19 39 02.7 +1.4
OSTC Ostas 22.56 113 *e*P P 19 39 02.0 +0.2
OSTC *ex* x 19 39 19.3
KHC Kasperske Hory 22.68 118 *e*P P 19 39 02.8 -0.4
KHC *e*pP **sP** 19 39 08.5 +3.0
KHC *ex* x 19 41 00.0
KHC Kasperske Hory 22.68 118 *e*P P 19 39 02.8 -0.4
KHC *e* 19 39 08.5
KHC Kasperske Hory 22.68 118 P P 19 39 02.1 -1.1
DPC Dobruska-Polom 22.77 113 *e*P P 19 39 04.8 +0.8
DPC *ex* x 19 39 17.5
DPC Dobruska-Polom 22.77 113 *e*P P 19 39 04.8 +0.8
SUW Suwalki 22.88 98 *e*P P 19 39 05.8 +0.6
SUW Suwalki 22.88 98 P P 19 39 04.0 -1.2
SUW pmax pmax
comp=Z,24nm,1.2s
SUW Suwalki 22.88 98 P P 19 39 04.0 -1.2
SUW IAmb IAmb 19 39 07.7
comp=Z,24nm,1.2s
DAVA Damuels 22.89 126 P P 19 39 05.9 +0.4
comp=Z,6.9nm,1.1s
GEC2 GERESS Array S 22.96 119 *e*P P 19 39 06.8 +0.6
comp=Z,14nm,1.4s
GEC2 GERESS Array S 22.96 119 P P 19 39 05.8 -0.4
GERES GERESS Array B 22.96 119 P P 19 39 06.8 +0.6
comp=Z,2.0nm,0.9s,baz=324,slow=8.9,SNR=17
GERES LR LR 19 48 11.4
comp=Z,73nm,18.6s,baz=318,slow=37
GERES GERESS Array B 22.96 119 P P 19 39 06.0 -0.2
GERES GERESS Array B 22.96 119 P P 19 39 06.0 -0.2
SSB Saint Sauveur 22.96 137 P P 19 39 06.2 0.0
SSB pmax pmax
comp=Z,12nm,1.4s
SSB Saint Sauveur 22.96 137 P P 19 39 06.2 0.0
IZAR Zarasai 23.02 92 *e*P P 19 39 07.6 +0.9
RETA Reutte 23.03 125 *e*P P 19 39 07.3 +0.5
comp=Z,4.0nm,0.9s
ISAL Salakas 23.09 93 *e*P P 19 39 08.1 +0.8
KRLC Kraliky 23.16 113 *e*P P 19 39 08.7 +0.5
KRLC *ex* x 19 39 18.8
KRLC Kraliky 23.16 113 *e*P P 19 39 08.7 +0.5
MOTA Moosalm 23.27 125 *e*P P 19 39 09.8 +0.4
comp=Z,5.9nm,1.1s
IIGN Ignalina 23.28 93 *e*P P 19 39 10.1 +0.9
TREC Trest 23.28 116 *e*P P 19 39 09.5 +0.2
TREC Trest 23.28 116 *e*P P 19 39 09.5 +0.2
DAVOX Davos/Dischmat 23.33 127 P P 19 39 10.4 +0.4
comp=Z,2.6nm,0.9s,baz=348,slow=10.0,SNR=5.3
SQTA Sankt Quirin 23.41 125 *e*P P 19 39 11.3 +0.5
comp=Z,11nm,1.1s
FETA Feichten 23.41 126 *e*P P 19 39 12.8 +1.9
comp=Z,9.2nm,1.2s
TUE Stuetta 23.42 128 P P 19 39 10.6 -0.4
WATA Walderalm 23.45 124 *e*P P 19 39 11.2 0.0
comp=Z,7.8nm,1.1s
IDID Didziasalis 23.52 92 *e*P P 19 39 11.6 0.0
WTTA Wattenberg 23.53 124 *e*P P 19 39 12.6 +0.6
comp=Z,10.0nm,1.2s
VRAC Vranov 23.70 114 P P 19 39 13.6 +0.1
comp=Z,0.9nm,0.4s,baz=342,slow=9.9,SNR=5.3
VRAC Vranov 23.70 114 ⇓P P 19 39 14.5 +1.0
VRAC Vranov 23.70 114 *e*P P 19 39 13.8 +0.3
VRAC Vranov 23.70 114 ⇓P P 19 39 14.5 +1.0
MORC Moravsky Berou 23.70 112 ⇓P P 19 39 14.6 +1.0
MORC Moravsky Berou 23.70 112 *e*P P 19 39 13.4 -0.2
MORC Moravsky Berou 23.70 112 ⇓P P 19 39 14.6 +1.0
MORC Moravsky Berou 23.70 112 P P 19 39 12.7 -0.8
MORC IAmb IAmb 19 39 17.4
comp=Z,17nm,1.6s
NACGM Naroch 23.82 93 *e* P 19 39 14.0 -0.5
KRUC Moravsky 23.82 115 *e*P P 19 39 14.2 -0.5
MOA Molln 24.00 119 *e*P P 19 39 16.6 +0.2
comp=Z,6.9nm,1.4s
OJC Ojcow 24.26 109 P P 19 39 17.6 -1.2
OJC pmax pmax
comp=Z,17nm,1.6s
OJC Ojcow 24.26 109 P P 19 39 17.6 -1.2
OJC IAmb IAmb 19 39 32.8
comp=Z,17nm,1.6s
ABTA Abfaltersbach 24.28 123 *e*P P 19 39 20.0 +0.9
comp=Z,5.9nm,1.7s
CONA Conrad Observa 24.54 117 *e*P P 19 39 21.2 -0.2
comp=Z,6.1nm,1.0s
CTI Castel Tesino 24.58 125 P P 19 39 20.9 -0.9
CTI pmax pmax
comp=Z,8.0nm,1.2s
CTI Castel Tesino 24.58 125 P P 19 39 20.9 -0.9
ZOU Zoufplan 24.61 123 P P 19 39 21.3 -0.9
ZOU IAmb IAmb 19 39 35.2
comp=Z,18nm,1.6s
CIMO Cimolais 24.63 124 P P 19 39 21.2 -1.0
CIMO IAmb IAmb 19 39 36.3
comp=Z,12nm,1.3s
SMOL Smolenice 24.67 114 *e*P P 19 39 24.0 +1.5
SMOL Smolenice 24.67 114 *e*P P 19 39 24.0 +1.5
MODS Modra-Piesok 24.72 115 *e*P P 19 39 23.0 0.0
MODS pmax pmax
comp=Z,16nm,1.4s
MODS Modra-Piesok 24.72 115 *e*P P 19 39 23.0 0.0
MYKA Terra Mystica 24.79 122 *e*P P 19 39 24.8 +1.1
comp=Z,7.1nm,1.4s
LANS Liptovska Anna 24.97 111 *e*P P 19 39 26.4 +1.2
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 24.97 111 *e*P P 19 39 26.4 +1.2
NIE Niedzica 25.09 109 *e*P P 19 39 27.1 +0.8
OBKA Obir 25.23 121 *e*P P 19 39 27.5 -0.2
comp=Z,5.9nm,1.2s
VYHS Vyhne 25.24 112 *e*P P 19 39 28.1 +0.5
VYHS pmax pmax
comp=Z,15nm,1.4s
VYHS Vyhne 25.24 112 *e*P P 19 39 28.1 +0.5
SOKA Soboth 25.26 120 *e*P P 19 39 27.7 -0.3
comp=Z,5.0nm,1.2s
SRO Srobarova 25.58 114 *e*P P 19 39 32.1 +1.4
SRO pmax pmax
comp=Z,11nm,1.1s
SRO Srobarova 25.58 114 *e*P P 19 39 32.1 +1.4
KLMR Klimovskoe 25.59 72 *e*P P 19 39 29.6 -1.1
KLMR pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 25.59 72 *e*P P 19 39 29.7 -1.0
KLMR AMP 19 39 33.3
comp=Z,22nm,1.4s
KWP Kalwaria Pacla 25.91 106 *e*P P 19 39 34.6 +0.9
KWP Kalwaria Pacla 25.91 106 P P 19 39 33.6 -0.1
KWP pmax pmax
comp=Z,22nm,1.1s
KWP Kalwaria Pacla 25.91 106 P P 19 39 33.6 -0.1
PSZ Piszkesteto 26.12 112 ⇑P P 19 39 36.5 +0.8
PSZ Piszkesteto 26.12 112 ⇑P P 19 39 36.5 +0.8
PSZ Piszkesteto 26.12 112 P P 19 39 35.0 -0.7
PSZ IAmb IAmb 19 39 41.8
comp=Z,18nm,1.3s
ESDC Sonseca Array 26.27 156 P P 19 39 37.3 +0.2
comp=Z,1.4nm,0.9s,baz=349,slow=9.0,SNR=8.8
ESDC Sonseca Array 26.27 156 P P 19 39 36.3 -0.8

KOLS Kolonicke sedl 26.28 108 *e*P P 19 39 37.4 +0.3
KOLS pmax pmax
comp=Z,13nm,1.4s
KOLS Kolonicke sedl 26.28 108 *e*P P 19 39 37.4 +0.3
LVV L'vov 26.32 104 *e*P P 19 39 40.0 +2.6
RES Resolute Bay 26.45 324 LR LR 19 50 33.8
comp=Z,106nm,18.4s,baz=314,slow=38
UZH Uzhgorod 26.52 108 ⇑*i*P P 19 39 40.8 +1.6
UZH *i* 19 39 47.4
AKASG Malin Array Be 27.84 98 P P 19 39 51.3 +0.2
comp=Z,0.2nm,0.2s,baz=322,slow=9.9,SNR=4.9
AKASG Malin Array Be 27.84 98*ce*P P 19 39 50.7 -0.4
AKASG Malin Array Si 27.84 98 P P 19 39 50.9 -0.2
AKBB Malin Array Si 27.84 98⇓*e*P P 19 39 52.2 +1.1
AKBB Malin Array Si 27.84 98 P P 19 39 50.8 -0.3
AKBB IAmb IAmb 19 39 53.1
comp=Z,9.1nm,1.3s
OBN Obninsk 27.88 84 *e*P P 19 39 51.3 0.0
OBN *e* 19 39 58.4
OBN *e*PPP PPP 19 40 44.6
OBN *e* 19 43 07.0
OBN pmax pmax
comp=Z,16nm,1.0s
BUR08 Bucovina Ar. S 28.50 106 P P 19 39 57.3 +0.2
BURAR Bucovina Array 28.53 106 ⇑P P 19 39 58.1 +0.7
BURAR Bucovina Array 28.53 106 ⇑P P 19 39 58.1 +0.7
BURAR Bucovina Array 28.53 106 P P 19 39 57.9 +0.6
CJR Cluj-Napoca 28.59 109 ⇓P P 19 39 58.8 +1.0
CJR Cluj-Napoca 28.59 109 ⇓P P 19 39 58.8 +1.0
BZS Buzias 28.68 113 ⇓P P 19 39 59.3 +0.7
BZS Buzias 28.68 113 ⇓P P 19 39 59.3 +0.7
DIVS Divibare 29.32 116 P P 19 40 04.2 -0.2
GZR Gura Zlata 29.33 112 ⇑P P 19 40 04.2 -0.3
GZR Gura Zlata 29.33 112 ⇑P P 19 40 04.2 -0.3
SORM Soroca 29.43 102 ⇑P P 19 40 05.4 +0.2
SORM Soroca 29.43 102 ⇑P P 19 40 05.4 +0.2
BIZ Bicaz 29.43 106 ⇓P P 19 40 06.4 +1.2
HERR Herculane 29.61 113 ⇓P P 19 40 06.7 -0.2
DOPR Dopca 29.92 108 ⇓P P 19 40 10.5 +0.9
VOIR 30.21 109 ⇑P P 19 40 12.5 +0.2
VOIR 30.21 109 ⇑P P 19 40 12.5 +0.2
PDG Podgorica 30.46 119 ⇑P P 19 40 13.2 -1.2
PLOR Plostina 30.53 107 ⇑P P 19 40 15.0 0.0
PLOR Plostina 30.53 107 ⇑P P 19 40 15.0 0.0
MLR Muntele Rosu 30.53 108 ⇑P P 19 40 15.5 +0.3
MLR Muntele Rosu 30.53 108 ⇑P P 19 40 15.5 +0.3
VRI Vrincioaia 30.55 107 ⇑P P 19 40 14.9 -0.3
VRI Vrincioaia 30.55 107 ⇑P P 19 40 14.9 -0.3
NEHR Nehoiu 30.73 108 ⇑P P 19 40 17.2 +0.5
BISRR Bisoca 30.80 107 ⇑P P 19 40 17.8 +0.3
KIRV Kirov 30.97 69⇓*e*P P 19 40 19.1 +0.4
MATE Matera 31.08 124 ⇑P P 19 40 15.8 -4.1
CFR Carcaliu 31.69 106 ⇓P P 19 40 25.4 +0.3
CFR Carcaliu 31.69 106 ⇓P P 19 40 25.4 +0.3
VSR Storozhevoye 31.73 88 *e*P P 19 40 24.3 -1.2
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 31.96 88 *e*P P 19 40 25.0 -2.5
VORD pmax pmax
comp=Z,8.0nm,0.4s
VRH Novokhopyorsk 32.83 85 *e*P P 19 40 34.7 -0.4
VRH pmax pmax
comp=Z,10.0nm,1.4s
KEST Kesra 33.17 138 P P 19 40 38.5 +0.2
BELG Belogornoye 34.48 79*d i*P P 19 40 48.8 -0.6
ARU Arti 36.07 66*d i*P P 19 41 03.2 +0.1
ARU 19 42 21.5
ARU S S 19 46 42.6 +0.2
ARU SS SnSn 19 49 01.2 -5.1
ARU pmax pmax
comp=Z,10.0nm,2.5s
NRIK Noril'sk 36.44 35⇓*e*P P 19 41 08.3 +2.2
NRIK pmax pmax
comp=Z,10.0nm,1.6s
BR131 Keskin Array S 38.48 105 P P 19 41 23.9 0.0
BR131 pmax pmax
comp=Z,4.0nm,1.2s
BR131 Keskin Array S 38.48 105 P P 19 41 23.9 0.0
BRTR Keskin Array B 38.48 105 P P 19 41 25.2 +1.3
comp=Z,2.0nm,0.9s,baz=335,slow=5.5,SNR=7.3
BRTR Keskin Array B 38.48 105 P P 19 41 24.0 0.0
KIV Kislovodsk 38.84 92 *e*P P 19 41 26.9 +0.1
KIV pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 38.84 92 P P 19 41 26.2 -0.6
KIV IAmb IAmb 19 41 30.5
comp=Z,10nm,1.2s
KBZ Khabaz 39.11 92 P P 19 41 30.1 +1.1
comp=Z,3.9nm,0.9s,baz=306,slow=9.3,SNR=6.1
KBZ Khabaz 39.11 92⇑*e*P P 19 41 30.9 +1.9
KBZ pmax pmax
comp=Z,7.0nm,1.0s
AKTO Aktyubinsk 40.28 73 LR LR 19 57 04.8
comp=Z,34nm,19.6s,baz=351,slow=34
KOPT Kop Dagi 41.12 98 P P 19 41 46.0 -0.1
KOPT IAmb IAmb 19 42 05.0
comp=Z,20nm,1.7s
ABKAR Akbulak array 41.98 73 P P 19 41 52.5 -0.1
ABKAR Akbulak array 41.98 73 P P 19 41 52.7 +0.1
TIXI Tiksi 42.01 15⇓*e*P P 19 41 54.2 +1.6
TIXI pmax pmax
comp=Z,47nm,1.3s
TIXI Tiksi 42.01 15 P P 19 41 53.8 +1.2
TOLK Toolik Lake Re 42.73 336 P P 19 42 00.1 +1.5
TOLK IAmb IAmb 19 42 04.6
comp=Z,25nm,1.4s
BMAR Burnt Mountain 42.88 333 P P 19 42 00.8 +1.0
BRVK Borovoye 43.12 62⇑*e*P P 19 42 02.8 +1.0
BRVK pmax pmax
comp=Z,7.0nm,1.5s
BRVK Borovoye 43.12 62 P P 19 42 02.4 +0.5
MARD Mardin 43.51 100 P P 19 42 05.0 -0.4
MARD IAmb IAmb 19 42 12.4
comp=Z,14nm,1.3s
N49A Columbus Grove 44.11 271 P P 19 42 10.7 +0.7
Q51A Peebles 45.32 269 P P 19 42 20.2 +0.5
IL31 45.67 332 P P 19 42 23.0 +1.0
ILAR Eielson Array 45.67 332 P P 19 42 22.6 +0.5
comp=Z,4.0nm,1.1s,baz=26,slow=6.3,SNR=16
ILAR PcP **PcP** 19 44 00.1 +0.2
comp=Z,1.9nm,1.1s,baz=350,slow=3.0,SNR=6.2
ILAR Eielson Array 45.67 332 P P 19 42 23.0 +0.9
MDM Murphy Dome 45.76 333 P P 19 42 23.8 +0.9
MDM IAmb IAmb 19 42 26.5
comp=Z,11nm,1.2s
COLA College 45.77 333⇓*e*P P 19 42 25.5 +2.7
COLA pmax pmax
comp=Z,5.0nm,0.9s
IMAR Indian Mountai 45.84 337 P P 19 42 25.1 +1.7
BCAR Beaver Creek A 46.09 329 P P 19 42 26.5 +1.0
BILL Bilibino 47.53 358 *e*P P 19 42 38.7 +2.1
BILL *e* 19 44 30.5
BILL pmax pmax
comp=Z,5.0nm,1.1s
ZAA0 Zalesovo Array 47.62 51 P P 19 42 37.8 +0.4
ZAA0 IAmb IAmb 19 42 40.8
comp=Z,3.8nm,0.9s
ZALV Zalesovo Beam 47.62 51 P P 19 42 37.9 +0.4
comp=Z,0.8nm,0.3s,baz=322,slow=11,SNR=4.0
ZALV Zalesovo Beam 47.62 51 P P 19 42 37.4 0.0
USIN University of 48.06 272 P P 19 42 40.9 -0.3
KURK Kurchatov 48.10 58⇑*i*P P 19 42 41.7 +0.5
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 48.10 58 P P 19 42 41.2 0.0
KURK IAmb IAmb 19 42 42.5
comp=Z,6.8nm,1.1s
T47A Sharon Grove 48.64 270 P P 19 42 45.7 +0.1
W50A Signal Mountai 49.38 268 P P 19 42 51.9 +0.6
GYA0B ALIBECK ARRAY 50.42 84 P P 19 42 59.2 0.0
GYA0B IAmb IAmb 19 43 03.6
comp=Z,16nm,1.8s
KK31 Karatay Array 51.26 70 P P 19 43 05.8 +0.3
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KK31 Karatay Array 51.26 70 P P 19 43 05.8 +0.3
KK31 IAmb IAmb 19 43 07.8
comp=Z,5.6nm,1.2s
KKAR Karatay Array 51.26 70 P P 19 43 06.1 +0.6
KKAR Karatay Array 51.26 70 P P 19 43 06.0 +0.6
BOZ Bozeman (W) 51.60 297 P P 19 43 08.9 +0.8
BOZ pmax pmax
comp=Z,7.0nm,1.2s

BOZ Bozeman (W) 51.60 297 P P 19 43 08.9 +0.8
BOZ IAmb IAmb 19 43 11.0
comp=Z,7.2nm,1.2s
DGZ Jazzator, Alta 52.06 53⇑*i*P P 19 43 12.4 +0.9
DGZ pmax pmax
comp=Z,7.0nm,1.5s
SEY Seymchan 52.46 6⇓*e*P P 19 43 17.0 +2.9
MKAR Makanchi Array 52.71 58 P P 19 43 16.8 +0.6
comp=Z,2.5nm,1.0s,baz=354,slow=6.1,SNR=7.2
MKAR Makanchi Array 52.71 58 P P 19 43 16.4 +0.1
FXWY Fox Creek 53.01 295 P P 19 43 19.7 +0.9
FRU1 Bishkek 53.16 67 P P 19 43 20.7 +1.1
FRU1 pmax pmax
comp=Z,11nm,1.1s
FRU1 Bishkek 53.16 67 P P 19 43 20.7 +1.1
FRU1 IAmb IAmb 19 43 22.2
comp=Z,11nm,1.1s
TOA0 Torodi Ar. Sit 53.16 156 P P 19 43 18.6 -1.2
TOA0 IAmb IAmb 19 43 24.3
comp=Z,17nm,1.7s
TORD Torodi Ar. Bea 53.16 156 P P 19 43 19.1 -0.7
comp=Z,2.9nm,1.1s,baz=336,slow=8.4,SNR=7.6
TORD Torodi Ar. Bea 53.16 156 P P 19 43 18.7 -1.1
BW06 Boulder Array 53.17 293 P P 19 43 19.7 -0.3
BW06 IAmb IAmb 19 43 21.7
comp=Z,6.4nm,1.1s
PD31 Pinedale Array 53.17 293 P P 19 43 19.8 -0.2
PD31 IAmb IAmb 19 43 21.7
comp=Z,7.2nm,1.2s
PDAR Pinedale Array 53.17 293 P P 19 43 19.8 -0.2
comp=Z,3.6nm,1.1s,baz=51,slow=5.9,SNR=17
PDAR LR LR 20 04 53.1
comp=Z,202nm,18.3s,baz=317,slow=35
PDAR Pinedale Array 53.17 293 P P 19 43 19.6 -0.4
AAK Ala-Archa 53.25 67⇑*i*P P 19 43 22.2 +1.8
AAK pmax pmax
comp=Z,16nm,1.3s
N23A Red Feather La 53.30 289 P P 19 43 21.9 +1.0
N23A IAmb IAmb 19 43 23.8
comp=Z,7.9nm,1.1s
BTK Batken 53.95 72 P P 19 43 25.9 +0.4
BTK pmax pmax
comp=Z,20nm,1.4s
BTK Batken 53.95 72 P P 19 43 25.9 +0.4
F07A Phinny Hill Vi 54.44 303 P P 19 43 28.5 -0.3
CHGR Chuyangaron 54.45 74 P P 19 43 29.2 0.0
GAR Garm 54.64 73 P P 19 43 31.0 +0.5
HWUT Hardware Ranch 54.95 294 P P 19 43 32.5 -0.4
HWUT IAmb IAmb 19 43 34.6
comp=Z,9.4nm,1.3s
HRA Herat 55.18 82 P P 19 43 34.8 +0.1
HRA IAmb IAmb 19 43 36.5
comp=Z,7.4nm,1.4s
TARG Taragay, Kyrgy 55.32 65 P P 19 43 36.3 +0.5
TARG IAmb IAmb 19 43 37.9
comp=Z,6.2nm,1.2s
T25A Trinidad 55.86 285 P P 19 43 39.1 -0.4
T25A IAmb IAmb 19 43 47.4
comp=Z,4.5nm,1.1s
ZAK Zakamensk 56.44 41 *e*P P 19 43 44.4 +1.1
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 56.49 68 P P 19 43 46.5 +2.6
KSH S S 19 51 35.8 +0.4
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,170nm,4.9s
KSH LR LR
comp=N,89nm,7.0s
KSH LR LR
comp=E,150nm,5.6s
KSH LR LR
comp=Z,170nm,4.4s
DUG Dugway, Tooele 56.64 294 P P 19 43 45.3 +0.3
DUG pmax pmax
comp=Z,14nm,1.7s
DUG Dugway, Tooele 56.64 294 P P 19 43 45.3 +0.3
DUG IAmb IAmb 19 43 47.4
comp=Z,14nm,1.6s
SJG San Juan 56.70 239 P P 19 43 44.9 -0.5
SJG pmax pmax
comp=Z,45nm,1.8s
SJG San Juan 56.70 239 P P 19 43 44.9 -0.5
PV13 Radium Mtn., P 56.79 290 P P 19 43 46.4 +0.2
WMQ Urumqi 57.22 56 *e*P P 19 43 52.7 +3.8
ANMO Albuquerque 58.59 286⇑*i*P P 19 44 00.2 +1.4
ANMO pmax pmax
comp=Z,9.0nm,2.5s
R11A Troy Canyon, C 59.32 295 P P 19 44 04.2 +0.4
R11A IAmb IAmb 19 44 06.2
comp=Z,5.6nm,1.4s
SONM Songino Array 59.62 40 P P 19 44 06.2 +0.5
comp=Z,1.1nm,1.0s,baz=325,slow=7.0,SNR=5.8
SONM Songino Array 59.62 40 P P 19 44 05.8 +0.1
JCT Junction City 59.65 278 P P 19 44 05.9 -0.1
JCT pmax pmax
comp=Z,10.0nm,1.2s
JCT Junction City 59.65 278 P P 19 44 05.9 -0.1
KVN Kaiserville 59.68 298 P P 19 44 06.4 +0.1
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 59.68 298 P P 19 44 06.4 +0.1
ULN Ulaanbaatar 59.77 40⇓*e*P P 19 44 07.6 +0.8
WUAZ Wupatki 60.10 290 P P 19 44 09.4 +0.2
WUAZ IAmb IAmb 19 44 11.2
comp=Z,8.5nm,1.2s
NVAR Mina Array Bea 60.30 297 P P 19 44 10.6 0.0
comp=Z,0.1nm,0.4s,baz=40,slow=5.8,SNR=4.2
NIL Nilore 60.44 74 P P 19 44 11.3 -0.1
NIL pmax pmax
comp=Z,9.0nm,1.0s
NIL Nilore 60.44 74 P P 19 44 11.3 -0.1
TX32 Lajitas Array 62.28 280 P P 19 44 23.5 -0.5
TXAR Lajitas Array 62.28 280 P P 19 44 24.6 +0.5
comp=Z,1.5nm,1.1s,baz=59,slow=4.8,SNR=7.0
TXAR Lajitas Array 62.28 280 P P 19 44 23.3 -0.7
TUC Tucson 62.66 288 P P 19 44 26.8 +0.4
TUC pmax pmax
comp=Z,4.0nm,1.3s
TUC Tucson 62.66 288 P P 19 44 26.8 +0.4
TUC IAmb IAmb 19 44 28.3
comp=Z,3.9nm,1.2s
GTA Gaotai 65.28 49 *e*P P 19 44 43.5 -0.2
GTA pP sP 19 44 48.2 +2.0
GTA sP pP 19 44 50.9 +5.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,7.5s
GTA LR LR
comp=N,250nm,17.4s
GTA LR LR
comp=E,200nm,16.4s
GTA LR LR
comp=Z,190nm,16.7s
HHC Hu-ho-hao-te 67.49 40 *e*P P 19 44 59.3 +1.5
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,400nm,6.8s
LZH Lanzhou 69.61 48 *e*P P 19 45 11.4 +0.2
LZH pP sP 19 45 14.1 +0.4
LZH sP pP 19 45 15.3 +2.3
LZH *e*PP **PP** 19 47 47.5 +3.1
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,76nm,8.5s
LZH LR LR
comp=N,150nm,16.8s
LZH LR LR
comp=E,160nm,16.7s
LZH LR LR
comp=Z,200nm,18.6s
NJ2 Nanjing 77.72 37 *e*P P 19 45 59.0 +0.4
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
WHN Wuhan 77.93 41 *e*P P 19 46 10.1 +10
KMI Kunming 79.34 53⇓P P 19 46 07.4 -0.5
KMI pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 84.12 59 P P 19 46 33.0 0.0
comp=Z,1.7nm,1.1s,baz=321,slow=6.5,SNR=7.6
CMAR Chiang Mai Arr 84.12 59*ce*P P 19 46 33.2 +0.2

				pmax	pmax		
CMAR							
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**19 46 32.8**	**-0.2**
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKiKP**	**19 53 21.8**	**-0.5**
	comp=Z,0.5nm,1.1s,baz=345,slow=2.5,SNR=4.2						

DSN ***11*** *19:34:40.2±0.8,26.96N×56.24E,h10km,ML3.0/8, Error ellipse: s-maj=23.0km s-min=5.3km az=90.0*
OMAN ***11*** *19:34:42.4±1.6,26.92N×55.82E,h21km±35km,mb4.7/3, ml2.9/11, Error ellipse: s-maj=59.9km s-min=8.4km az=320.0*

ISC 11 19:34:38.0±3.7, 27.0N±0.2×56.0E±0.2, h10km, n23, σ1s03/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.94**	**173**	*e*P	**Pn**	**19 34 56.4**	**-0.9**
	SNR=17						
SHME				S	**Sn**	**19 35 10.6**	**-0.3**
BANOM	**Banah**	**1.09**	**166**	*e*P	**Pn**	**19 35 00.5**	**+1.1**
	SNR=63						
BANOM				S	**Sn**	**19 35 14.8**	**+0.2**
BANOM	**Banah**	**1.09**	**166**	P	**Pn**	**19 35 00.4**	**+1.0**
	SNR=63						
BANOM				S	**Sn**	**19 35 14.7**	**+0.2**
MSFE	**Esma-Masafi**	**1.62**	**175**	*e*P	**Pg**	**19 35 09.1**	**-0.2**
	SNR=16						
MDH	**Madha**	**1.70**	**171**	*e*P	**Pg**	**19 35 10.0**	**-0.6**
	SNR=11						
MDH	**Madha**	**1.70**	**171**	P	**Pg**	**19 35 10.0**	**-0.6**
	SNR=17						
UOSS	**Minazif**	**2.04**	**175**	*e*P	**Pb**	**19 35 14.9**	**-0.3**
	SNR=8.2						
UOSS	**Minazif**	**2.04**	**175**	P	**Pg**	**19 35 15.7**	**-1.4**
UOSS				S	**Sb**	**19 35 41.7**	**+1.1**
HATD	**Hatta, Dubai**	**2.15**	**177**	*e*P	**Pb**	**19 35 16.3**	**-0.9**
	SNR=14						
HATD	**Hatta, Dubai**	**2.15**	**177**	P	**Pb**	**19 35 17.0**	**-0.2**
FAQ	**Al Faqa, Dubai**	**2.26**	**190**	P	**Pb**	**19 35 18.0**	**-1.0**
ASHO	**Ashiyiah**	**2.29**	**179**	*e*P	**Pb**	**19 35 18.7**	**-0.9**
	SNR=16						
ASHO	**Ashiyiah**	**2.29**	**179**	P	**Pb**	**19 35 18.7**	**-0.9**
	SNR=16						
ASUD	**Al Ashush, Dub**	**2.43**	**195**	*e*P	**Pb**	**19 35 20.5**	**-1.3**
	SNR=15						
ASUD	**Al Ashush, Dub**	**2.43**	**195**	P	**Pb**	**19 35 20.8**	**-1.0**
	SNR=15						
SOHO	**SOHO**	**2.88**	**171**	P	**Pn**	**19 35 24.5**	**+0.5**
SOHO	**SOHO**	**2.88**	**171**	P	**Pn**	**19 35 24.9**	**+0.9**
ARQ	**Araqi**	**3.66**	**173**	P	**Pn**	**19 35 36.5**	**+1.7**
	SNR=17						
DQM	**DQM**	**7.16**	**168**	P	**Pn**	**19 36 23.1**	**+0.2**
	SNR=13						
SHAO	**Shalim**	**8.93**	**182**	P	**Pn**	**19 36 48.7**	**+1.6**
WHFO	**Wadi Hawf**	**9.26**	**193**	P	**Pn**	**19 36 53.3**	**+1.6**
	SNR=7.9						
DMTO	**DMTO**	**9.28**	**186**	P	**Pn**	**19 36 53.6**	**+1.6**
ABTO	**Aybut**	**9.91**	**195**	P	**Pn**	**19 37 00.9**	**+0.2**
	SNR=12						

IDC ***11*** *19:35:55.2±1.2,64.28N×18.11W,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.5/40,mbtmp3.7/6,ML4.1/1, Error ellipse: s-maj=53.5km s-min=15.5km az=22.0*
NEIC ***11*** *19:35:56.1±1.1,64.36N±0.09×17.9W±0.1,h7km±5km, mb4.3/15, Error ellipse: s-maj=12.4km s-min=6.9km az=190.0*

ISC 11 19:35:56.5±0.6, 64.3N±0.2×17.97W±0.08, h10km, n29, σ0s78/31, mb4.0/9, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.51**	**287**	Pn	**Pn**	**19 36 22.6**	**-0.9**
	25nm,0.3s,baz=94,slow=7.5,SNR=13						
BORG				Sn	**Sg**	**19 36 45.5**	**+0.6**
	13nm,0.3s,baz=348,slow=20,SNR=4.3						
BORG	**Borgarnes**	**1.51**	**287**		**Pn**	**19 36 22.3**	**-1.2**
BORG				Sg	**Sg**	**19 36 45.5**	**+0.6**
ESK	**Eskdalemuir**	**11.67**	**134**	Pn	**Pn**	**19 38 42.3**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.67**	**134**	Pn	**Pn**	**19 38 43.4**	**+0.5**
	baz=321,slow=13,SNR=7.7						
HFS	**Hagfors**	**15.24**	**91**	Pn	**P**	**19 39 35.2**	**-1.1**
	0.0nm,0.3s,baz=316,slow=8.3,SNR=4.2						
FINES	**FINESS Array B**	**19.97**	**78**	P	**P**	**19 40 28.7**	**+0.3**
	4.3nm,1.1s,baz=294,slow=7.5,SNR=3.8						
CLL	**Collm**	**20.75**	**114**	*e*P	**P**	**19 40 35.0**	**-2.0**
STU	**Stuttgart**	**21.36**	**124**	P	**P**	**19 40 44.4**	**+0.9**
STU				IAmb	IAmb	19 40 47.9	
	comp=Z,7.7nm,0.6s						
BFO	**Black Forest**	**21.42**	**126**	P	**P**	**19 40 43.7**	**-0.6**
BFO				IAmb	IAmb	19 40 47.3	
	comp=Z,9.2nm,1.4s						
GEC2	**GERESS Array S**	**22.98**	**117**	P	**P**	**19 41 00.8**	**-0.2**
GEC2				IAmb	IAmb	19 41 05.0	
	comp=Z,8.4nm,1.4s						
GERES	**GERESS Array B**	**22.98**	**117**	P	**P**	**19 41 01.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=332,slow=8.1,SNR=3.6						
GERES	**GERESS Array B**	**22.98**	**117**	P	**P**	**19 41 00.6**	**-0.4**
SUW	**Suwalki**	**23.04**	**97**	P	**P**	**19 41 01.5**	**0.0**
SUW				IAmb	IAmb	19 41 02.9	
	comp=Z,16nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**23.56**	**125**	P	**P**	**19 41 07.0**	**-0.1**
FUORN				IAmb	IAmb	19 41 11.0	
	comp=Z,9.8nm,1.4s						
BR131	**Keskin Array S**	**38.59**	**104**	P	**P**	**19 43 20.6**	**+1.1**
BRTR	**Keskin Array B**	**38.59**	**104**	P	**P**	**19 43 20.3**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=330,slow=8.3,SNR=3.7						
BRTR	**Keskin Array B**	**38.59**	**104**	P	**P**	**19 43 20.0**	**+0.6**
ILAR	**Eielson Array**	**45.88**	**332**	P	**P**	**19 44 19.1**	**+0.7**
	comp=Z,1.5nm,1.1s,baz=34,slow=5.7,SNR=5.0						
IMAR	**Indian Mountai**	**46.08**	**337**	P	**P**	**19 44 19.0**	**-0.9**
PHWY	**Pilot Hill**	**52.68**	**289**	P	**P**	**19 45 10.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**52.93**	**156**	P	**P**	**19 45 12.4**	**-0.2**
PD31	**Pinedale Array**	**53.12**	**293**	P	**P**	**19 45 14.4**	**+0.3**
PD31				IAmb	IAmb	19 45 16.3	
	comp=Z,7.1nm,1.8s						
PDAR	**Pinedale Array**	**53.12**	**293**	P	**P**	**19 45 13.4**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=54,slow=7.5,SNR=4.6						
E09A	**Wood Farm, Sta**	**53.27**	**302**	P	**P**	**19 45 15.2**	**+0.2**
E09A				IAmb	IAmb	19 45 18.5	
	comp=Z,9.3nm,1.1s						
HWUT	**Hardware Ranch**	**54.90**	**294**	P	**P**	**19 45 28.3**	**+1.3**
GAR	**Garm**	**54.94**	**72**	P	**P**	**19 45 27.0**	**-0.3**
HRA	**Herat**	**55.44**	**82**	P	**P**	**19 45 31.1**	**0.0**
PV01	**Paradox Valley**	**56.63**	**289**	P	**P**	**19 45 40.0**	**+0.3**
TXAR	**Lajitas Array**	**62.14**	**280**	P	**P**	**19 46 17.7**	**+0.1**

PPT 11 19:47:37.8±0.1, 18.10S×149.45W, h10km, Ml0.0/8, Error ellipse: s-maj=2.3km s-min=1.7km az=11.0, Society Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVO	**Taravao**	**0.36**	**31**	*e*Sn	Sg	19 47 42.4	-7.5
	1.5nm,0.1s						
TVO	**Taravao**	**0.36**	**31**	*e*Pn	Pg	19 47 44.2	-0.8
	0.8nm,0.1s						
TVO				*e*Sn	Sg	19 47 48.6	-1.3
	6.6nm,0.1s						
PAE	**Paea**	**0.45**	**344**	*e*Pn	Pg	19 47 39.1	-7.5
	0.3nm,0.1s						
PAE				*e*Sn	Sg	19 47 45.1	-7.5
	0.7nm,0.1s						
PAE	**Paea**	**0.45**	**344**	*e*Pn	Pg	19 47 45.5	-1.1
	0.5nm,0.1s						
PAE				*e*Sn	Sg	19 47 51.2	-1.4
	1.6nm,0.1s						
PPT2	**Papeete2**	**0.52**	**346**	*e*Pn	Pg	19 47 40.3	-7.6
	0.6nm,0.1s						
PPT2	**Papeete2**	**0.52**	**346**	*e*Pn	Pg	19 47 46.5	-1.4
	2.2nm,0.1s						
PPT2				*e*Sn	Sg	19 47 52.8	-2.0
	2.9nm,0.1s						
TIAR	**Tiarei**	**0.55**	**10**	*e*Pn	Pg	19 47 40.6	-7.8
	0.9nm,0.1s						
TIAR	**Tiarei**	**0.55**	**10**	*e*Pn	Pg	19 47 46.8	-1.6
	3.4nm,0.1s						
TIAR				*e*Sn	Sg	19 47 53.2	-2.4
	2.7nm,0.1s						

IDC ***11*** *19:49:46.2±9.0, 19.95S×178.29W, h589km±105km, mb2.7/4,mb1 3.1/4,mb1mx2.7/23,mbtmp3.6/4, Error ellipse: s-maj=122.8km s-min=43.0km az=157.0*

ISC 11 19:49:47.0±2.1, 19.9S±0.8×178.3W±0.4, h602km, n7, σ0s93/7, mb3.1/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.35**	**256**	P	**P**	**19 57 05.8**	**+0.3**
	0.5nm,0.7s,baz=91,slow=7.5,SNR=9.7						
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**19 57 05.8**	**0.0**
	0.2nm,0.3s,baz=97,slow=7.6,SNR=15						
TXAR	**Lajitas Array**	**87.00**	**57**	P	**P**	**20 01 30.4**	**+0.5**
	0.3nm,0.8s,baz=224,slow=5.0,SNR=3.4						
ILAR	**Eielson Array**	**87.81**	**13**	P	**P**	**20 01 32.9**	**+0.2**
	0.5nm,0.5s,baz=218,slow=5.9,SNR=3.9						
EKA	**Eskdalemuir Ar**	**144.44**	**5**	PKP	**PKPdf**	**20 08 13.7**	**-1.7**
	0.4nm,0.6s,baz=335,slow=3.1,SNR=3.8						
BRTR	**Keskin Array B**	**146.20**	**313**	PKPbc	**PKPbc**	**20 08 21.6**	**+0.1**
	0.5nm,0.6s,baz=130,slow=3.9,SNR=3.6						
GERES	**GERESS Array B**	**149.54**	**344**	PKPbc	**PKiKP**	**20 08 30.3**	**+0.1**
	0.5nm,0.7s,baz=79,slow=2.0,SNR=4.8						

IDC ***11*** *20:08:05.6±1.6,35.19S×179.35E,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.9/20,mbtmp4.2/5,ML5.4/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/23, Error ellipse: s-maj=40.3km s-min=25.7km az=53.0*
WEL ***11*** *20:08:17.8,36°S±16'×17°9E±°,h33km,M4.9/30,ML5.2/28, MLv4.9/30, Error ellipse: s-maj=0.0km s-min=0.0km az=12.6*
NEIC ***11*** *20:08:20.0±1.9,35.98S±0.07×179.0E±0.1,h92km±8km, mb4.3/16, Error ellipse: s-maj=12.2km s-min=10.6km az=107.0*

ISC 11 20:08:20.0±1.6, 35.98S±0.07×179.06E±0.10, h92km±12km, n120, σ1s73/129, mb4.3/11, 1C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.69**	**201**	P	**Pn**	**20 08 48.1**	**-0.1**
MXZ				S	**Sn**	**20 09 09.2**	**-0.5**
MXZ	**Matakaoa Point**	**1.69**	**201**	Pn	**Pn**	**20 08 48.2**	**-0.1**
MXZ				Sn	**Sn**	**20 09 09.3**	**-0.5**
WMGZ	**Waiomatatini S**	**1.91**	**196**	P	**Pn**	**20 08 52.5**	**+1.5**
HAZ	**Te Kaha**	**2.05**	**210**	P	**Pn**	**20 08 52.1**	**-0.7**
HAZ				S	**Sn**	**20 09 21.8**	**+3.9**
PKGZ	**Pakihiroa**	**2.06**	**202**	P	**Pn**	**20 08 54.1**	**+0.9**
PKGZ				S	**Sn**	**20 09 19.3**	**+1.0**
WIZ	**White Island**	**2.15**	**224**	P	**Pn**	**20 08 54.1**	**-0.1**
WIZ				S	**Sn**	**20 09 20.3**	**-0.1**
WSRZ	**White Island S**	**2.15**	**224**	P	**Pn**	**20 08 54.5**	**+0.2**
PUZ	**Puketiti**	**2.18**	**197**	P	**Pn**	**20 08 55.5**	**+0.8**
PUZ				S	**Sn**	**20 09 21.3**	**+0.1**
RUGZ	**Raukumara Rang**	**2.27**	**209**	P	**Pn**	**20 08 56.2**	**+0.2**
TWGZ	**Tauwhareparae**	**2.36**	**201**	P	**Pn**	**20 08 57.9**	**+0.9**
WHRZ	**Whale Island**	**2.51**	**221**	P	**Pn**	**20 09 00.3**	**+1.3**
CNGZ	**Carnagh Statio**	**2.59**	**195**	P	**Pn**	**20 09 00.7**	**+0.6**
MYRZ	**Mayor Island**	**2.61**	**239**	P	**Pn**	**20 09 00.5**	**+0.1**
TKGZ	**Te Karaka**	**2.64**	**201**	P	**Pn**	**20 09 01.0**	**+0.3**
MWZ	**Matawai**	**2.65**	**207**	P	**Pn**	**20 09 01.5**	**+0.6**
OPRZ	**Ohinepanea**	**2.74**	**226**	P	**Pn**	**20 09 02.0**	**0.0**
URZ	**Urewera**	**2.76**	**214**	Pn	**Pn**	**20 09 02.7**	**+0.4**
	307nm,0.3s,baz=275,slow=2.6,SNR=532						
URZ				Sn	**Sn**	**20 09 35.9**	**+1.2**
	257nm,0.3s,baz=304,slow=22,SNR=10						
URZ	**Urewera**	**2.76**	**214**	P	**Pn**	**20 09 03.2**	**+1.0**
URZ				S	**Sn**	**20 09 34.9**	**+0.2**
URZ	**Urewera**	**2.76**	**214**	Pn	**Pn**	**20 09 03.0**	**+0.8**
URZ				Sn	**Sn**	**20 09 35.7**	**+0.9**
KUZ	**Kuaotunu**	**2.80**	**253**	P	**Pn**	**20 09 03.9**	**-1.0**
RIGZ	**Rimuhau**	**2.91**	**200**	P	**Pn**	**20 09 03.3**	**-1.1**
GRZ	**Great Barrier**	**2.93**	**264**	P	**Pn**	**20 09 03.3**	**-1.3**
KNZ	**Kokohu**	**3.23**	**200**	P	**Pn**	**20 09 07.4**	**-1.2**
HSRZ	**Hossack Road**	**3.23**	**223**	P	**Pn**	**20 09 11.2**	**+2.5**
WIAZ	**Waiheke Island**	**3.27**	**254**	P	**Pn**	**20 09 08.8**	**-0.4**
RAHZ	**Arahi**	**3.32**	**208**	P	**Pn**	**20 09 10.1**	**+0.1**
GRRZ	**Galatos Road**	**3.34**	**224**	P	**Pn**	**20 09 12.9**	**+2.8**
TOZ	**Tahuroa Road**	**3.34**	**237**	P	**Pn**	**20 09 11.1**	**+0.9**
MTHZ	**Maungataniwha**	**3.37**	**211**	P	**Pn**	**20 09 10.9**	**+0.3**
WHHZ	**Waihua**	**3.41**	**205**	P	**Pn**	**20 09 11.0**	**-0.2**
WPRZ	**Whakapapatarin**	**3.43**	**221**	P	**Pn**	**20 09 13.9**	**+2.5**
MRHZ	**Matea Rd**	**3.54**	**216**	P	**Pn**	**20 09 12.7**	**-0.1**
NMHZ	**Naumai**	**3.59**	**209**	P	**Pn**	**20 09 13.4**	**-0.2**
KUTZ	**Kaahu Road**	**3.60**	**225**	P	**Pn**	**20 09 14.8**	**+1.2**
WHTZ	**Whakaora**	**3.65**	**222**	P	**Pn**	**20 09 16.9**	**+2.6**
TLZ	**Tolley Road**	**3.66**	**229**	P	**Pn**	**20 09 16.2**	**+1.7**
ARHZ	**Aropaoanui**	**3.66**	**206**	P	**Pn**	**20 09 14.0**	**-0.4**
ARHZ				S	**Sn**	**20 09 35.5**	**-0.7**
HATZ	**Hinemaiaia**	**3.74**	**218**	P	**Pn**	**20 09 15.9**	**+0.3**
BKZ	**Black Stump Fm**	**3.78**	**212**	P	**Pn**	**20 09 15.5**	**-0.6**
BKZ	**Black Stump Fm**	**3.78**	**212**	Pn	**Pn**	**20 09 15.2**	**-0.9**
WATZ	**Wairara**	**3.80**	**223**	P	**Pn**	**20 09 18.8**	**+2.4**
RATZ	**Rangitukua**	**3.89**	**221**	P	**Pn**	**20 09 18.1**	**+0.5**
RITZ	**Rihia Road**	**3.93**	**219**	P	**Pn**	**20 09 18.3**	**+0.2**
MCHZ	**McNeill Hill**	**3.93**	**208**	P	**Pn**	**20 09 17.9**	**-0.2**
CKHZ	**Cape Kidnapper**	**3.99**	**203**	P	**Pn**	**20 09 17.6**	**-1.3**
CKHZ				S	**Sn**	**20 10 02.9**	**-1.7**
KATZ	**Kakaramea**	**4.01**	**221**	P	**Pn**	**20 09 21.1**	**+1.8**
KWHZ	**Kaweka Forest**	**4.02**	**211**	P	**Pn**	**20 09 18.2**	**-1.2**
TMVZ	**Te Maari**	**4.11**	**219**	P	**Pn**	**20 09 20.5**	**-0.2**
ETVZ	**East Tongariro**	**4.12**	**219**	P	**Pn**	**20 09 20.8**	**0.0**
KRVZ	**Karewarewa**	**4.13**	**220**	P	**Pn**	**20 09 21.2**	**+0.3**
OTVZ	**Oturere**	**4.17**	**219**	P	**Pn**	**20 09 21.5**	**0.0**
WTVZ	**West Tongariro**	**4.17**	**220**	P	**Pn**	**20 09 22.1**	**+0.7**
KAHZ	**Kahuranaki**	**4.18**	**204**	P	**Pn**	**20 09 20.2**	**-1.3**
HIZ	**Hauiti**	**4.20**	**232**	P	**Pn**	**20 09 23.3**	**+1.8**
HIZ	**Hauiti**	**4.20**	**232**		**Pn**	**20 09 22.6**	**+0.9**
NGZ	**Ngauruhoe**	**4.21**	**220**	P	**Pn**	**20 09 22.4**	**+0.4**
TWVZ	**Taurewa**	**4.22**	**222**	P	**Pn**	**20 09 22.5**	**+0.4**
KRHZ	**Kereru**	**4.23**	**209**	P	**Pn**	**20 09 20.2**	**-2.0**
KRHZ				S	**Sn**	**20 10 07.8**	**-2.6**
BHHZ	**Black Hill Sta**	**4.23**	**213**	P	**Pn**	**20 09 21.5**	**-0.8**
TUVZ	**Tukino**	**4.25**	**218**	P	**Pn**	**20 09 23.3**	**+0.7**
FWVZ	**Far West T-bar**	**4.29**	**219**	P	**Pn**	**20 09 26.6**	**+3.3**
DRZ	**Dome Shelter**	**4.30**	**219**	P	**Pn**	**20 09 27.3**	**+3.8**
MOVZ	**Moawhango**	**4.31**	**216**	P	**Pn**	**20 09 22.2**	**-1.1**
WNVZ	**Wahianoa**	**4.32**	**218**	P	**Pn**	**20 09 23.9**	**+0.4**
PXZ	**Pawanui**	**4.40**	**203**	P	**Pn**	**20 09 22.1**	**-2.3**
PXZ				S	**Sn**	**20 10 11.7**	**-2.7**
PKVZ	**Pokaka**	**4.43**	**221**	P	**Pn**	**20 09 25.3**	**+0.4**
MTVZ	**Mangateitei**	**4.43**	**219**	P	**Pn**	**20 09 26.0**	**+1.1**
OUZ	**Omahuta**	**4.52**	**278**	Pn	**Pn**	**20 09 25.2**	**-0.8**
PNHZ	**Pukenui**	**4.53**	**209**	P	**Pn**	**20 09 24.0**	**-2.3**
PNHZ				S	**Sn**	**20 10 13.6**	**-4.1**
WPHZ	**Waipukurau**	**4.57**	**206**	P	**Pn**	**20 09 25.6**	**-1.2**
VRZ	**Vera Road**	**4.64**	**226**	P	**Pn**	**20 09 29.2**	**+1.5**
PRHZ	**Porangahau**	**4.69**	**203**	P	**Pn**	**20 09 26.0**	**-2.4**
PRHZ				S	**Sn**	**20 10 18.0**	**-3.4**
TSZ	**Takapari Road**	**4.75**	**210**	P	**Pn**	**20 09 27.2**	**-2.0**
TSZ				S	**Sn**	**20 10 18.0**	**-5.0**
MHEZ	**Mangahewa**	**4.87**	**229**	P	Pn	20 09 37.1	+6.2
DVHZ	**Dannevirke**	**4.88**	**207**	P	**Pn**	**20 09 28.4**	**-2.5**
DVHZ				S	**Sn**	**20 10 22.5**	**-3.7**
DREZ	**Durham Road**	**5.01**	**229**	P	Pn	20 09 37.3	+4.5
LREZ	**Lake Rotokare**	**5.07**	**225**	P	Pn	20 09 38.1	+4.6
POWZ	**Post Office Ro**	**5.11**	**209**	P	**Pn**	**20 09 32.8**	**-1.3**
NEZ	**North Egmont**	**5.13**	**229**	P	**Pn**	**20 09 37.5**	**+3.1**
PREZ	**Palmer Road**	**5.13**	**228**	P	**Pn**	**20 09 38.1**	**+3.6**
OHWZ	**Ohakea**	**5.15**	**214**	P	**Pn**	**20 09 34.2**	**-0.4**
PKE	**Pukeiti**	**5.15**	**230**	P	Pn	20 09 39.4	+4.8
PRWZ	**Pori Road**	**5.17**	**207**	P	**Pn**	**20 09 33.1**	**-1.9**
BFZ	**Birch Farm**	**5.19**	**204**	Pn	**Pn**	**20 09 32.3**	**-2.8**
KHEZ	**Kahui Hut**	**5.19**	**229**	P	**Pn**	**20 09 37.9**	**+2.6**
NBEZ	**Newall Road No**	**5.27**	**230**	P	**Pn**	**20 09 39.9**	**+3.7**
NMEZ	**Namu Road**	**5.35**	**229**	P	Pn	20 09 42.8	+5.4
TIWZ	**Tintock**	**5.40**	**207**	P	**Pn**	**20 09 35.7**	**-2.4**
WEL	**Wellington**	**6.27**	**211**	P	**Pn**	**20 09 47.4**	**-2.5**
CMWZ	**Cape Campbell**	**6.89**	**212**	P	**Pn**	**20 09 56.9**	**-1.3**
RPZ	**Rata Peaks**	**9.87**	**216**	Pn	Pn	20 10 33.4	-5.5
	6.3nm,0.3s,baz=260,slow=2.0,SNR=16						
RPZ				Sn	Sn	20 12 16.7	-11
	6.0nm,0.3s,baz=54,slow=1.4,SNR=8.9						
RPZ				LR	LR	20 14 37.9	
	comp=Z,62nm,21.4s,baz=258,slow=37						
DZM	**Mont Dzumac**	**17.69**	**318**	P	**P**	**20 12 19.1**	**-1.0**
DZM				IAmb	IAmb	20 12 19.8	
	comp=Z,17nm,1.4s						
MSVF	**Nonsavu**	**18.20**	**357**	P	**P**	**20 12 24.6**	**-1.1**
MSVF				IAmb	IAmb	20 12 30.1	
	comp=Z,8.5nm,1.2s						
STKA	**Stephens Creek**	**31.23**	**267**	P	**P**	**20 14 29.8**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=116,slow=15,SNR=2.7						
STKA	**Stephens Creek**	**31.23**	**267**	P	**P**	**20 14 29.9**	**-0.8**
BBOO	**Buckleboo**	**35.41**	**262**	P	**P**	**20 15 07.7**	**+0.6**
COEN	**Coen**	**38.91**	**295**	P	**P**	**20 15 35.3**	**-1.5**
COEN				IAmb	IAmb	20 15 51.5	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**40.72**	**275**	P	**P**	**20 15 51.5**	**-0.3**
AS31				IAmb	IAmb	20 15 56.7	
	comp=Z,2.0nm,1.3s						
ASAR	**Alice Springs**	**40.72**	**275**	P	**P**	**20 15 49.5**	**-2.3**
	comp=Z,1.6nm,0.6s,baz=118,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**40.72**	**275**	P	**P**	**20 15 51.7**	**-0.1**
WB2	**Warramunga Arr**	**42.22**	**280**	P	**P**	**20 16 02.5**	**-1.6**
WB2				IAmb	IAmb	20 16 04.4	
	comp=Z,3.5nm,0.6s						
WRA	**Warramunga Arr**	**42.23**	**280**	P	**P**	**20 16 01.4**	**-2.7**
	comp=Z,1.7nm,0.3s,baz=120,slow=7.7,SNR=48						
WRA	**Warramunga Arr**	**42.23**	**280**	P	**P**	**20 16 02.2**	**-1.9**
VNDA	**Vanda**	**42.31**	**185**	P	**P**	**20 16 04.7**	**+0.6**
KNRA	**Kununurra**	**48.99**	**281**	P	**P**	**20 16 57.0**	**-0.5**
CASY	**Casey**	**49.08**	**210**	P	**P**	**20 16 56.9**	**-0.5**
CASY				IAmb	IAmb	20 17 00.2	
	comp=Z,7.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.18**	**276**	P	**P**	**20 17 06.3**	**-0.1**
QSPA	**South Pole Qui**	**54.14**	**180**	P	**P**	**20 17 38.2**	**+2.8**
	comp=Z,2.0nm,0.6s,baz=53,slow=0.4,SNR=23						
QSPA	**South Pole Qui**	**54.14**	**180**	P	**P**	**20 17 38.1**	**+2.7**
QSPA				IAmb	IAmb	20 17 40.8	
	comp=Z,2.2nm,0.6s						
BELA	**Belgrano 2**	**64.59**	**173**	P	**P**	**20 18 45.2**	**-1.7**
MAW	**Mawson**	**66.23**	**202**	P	**P**	**20 18 58.2**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=115,slow=7.5,SNR=6.4						
MAW	**Mawson**	**66.23**	**202**	P	**P**	**20 18 57.9**	**+0.3**
SYO	**Syowa Base**	**71.12**	**194**	*e*P	**P**	**20 19 27.0**	**-0.9**
SYO	**Syowa Base**	**71.12**	**194**	*e*P	**P**	**20 19 30.0**	**+2.1**
SNAA	**Sanae**	**72.64**	**179**	P	**P**	**20 19 37.8**	**+0.7**
SNAA				IAmb	IAmb	20 19 41.3	
	comp=Z,7.4nm,1.5s						
PLCA	**Paso Flores**	**80.48**	**134**	P	**P**	**20 20 24.3**	**+2.4**
	comp=Z,1.2nm,0.5s,baz=224,slow=7.0,SNR=6.0						
PETK	**Petropavlovsk-**	**90.65**	**347**	LR	LR	20 59 10.2	
	comp=Z,38nm,18.7s,baz=172,slow=34						
ARCES	**ARCESS Array B**	**143.41**	**345**	PKP	PKPab	20 27 38.8	-0.2
	comp=Z,1.7nm,0.9s,baz=38,slow=1.0,SNR=5.1						
FINES	**FINESS Array B**	**149.34**	**335**	PKPbc	**PKPdf**	**20 27 53.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=33,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**157.14**	**187**	PKPab	**PKPab**	**20 28 39.6**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=185,slow=2.6,SNR=4.5						

IDC ***11*** *20:28:04.1±0.8,35.47N×140.90E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.7/43,mbtmp3.8/11,ML3.3/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/34, Error ellipse: s-maj=23.5km s-min=19.4km az=80.0*
JMA ***11*** *20:28:06.8±0.2,35.60N×140.92E,h20km±1km,M4.3*
JMA Felt II J1.
NIED ***11*** *20:28:06.8,35.60N×140.92E,h20km,MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=7.24; Mθθ=0.94; Mφφ=8.18; Mrθ=0.16; Mrφ=1.07; Mθφ=1.23; Fault plane solution: M0=7.87000×10^14 NP1:φs=7.00000°, δ=50.00000°, λ=-90.00000°. NP2:φs=186.00000°, δ=40.00000°, λ=-90.00000°.*
NEIC ***11*** *20:28:08.2±1.6,35.66N±0.04×140.89E±0.07, h23km±6km, mb4.5/14 Error ellipse: s-maj=8.3km s-min=6.2km az=74.0*

ISC 11 20:28:07.0±1.1, 35.60N±0.03×140.92E±0.05, h18km±6km, n65, σ0s90/64, mb4.1/15, 5C-3D, Near east coast of eastern Honshu

| Code | Station Name | Δ° | AZ

comp=Z,0.8nm,0.6s,baz=122,slow=10.0,SNR=3.2

FINES	**FINESS Array B**	**69.90 332**	P	**P**	**20 39 17.1**	**+0.5**
NC204	**NORSAR Array S**	**75.31 338**	P	**P**	**20 39 48.9**	**0.0**
NB2	**NORSAR Subarra**	**75.35 337**	P	**P**	**20 39 49.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=40,slow=6.2					
NOA	**NORSAR Array B**	**75.35 337**	P	**P**	**20 39 48.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=39,slow=5.8,SNR=4.1					
NVAR	**Mina Array Bea**	**76.17 53**	P	**P**	**20 39 55.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=305,slow=3.2,SNR=3.3					
NVAR	**Mina Array Bea**	**76.17 53**	P	**P**	**20 39 55.1**	**+0.6**
PDAR	**Pinedale Array**	**78.96 45**	P	**P**	**20 40 10.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=253,slow=1.5,SNR=4.6					
PDAR	**Pinedale Array**	**78.96 45**	P	**P**	**20 40 10.6**	**+0.6**
BURAR	**Bucovina Array**	**79.19 322**	P	**P**	**20 40 10.5**	**-0.4**

*TRN **11** 20:28:56.2, 19°.31N×63°.72W, h3km*
*RSPR **11** 20:28:57.7, 19°.17N×64°.24W, h53km±7km, MD3.1/8*
*NEIC **11** 20:28:58.6±1.4, 19°.12N±0°.09×64°.35W±0°.05, h36km±55km, Error ellipse: s-maj=14.1km s-min=3.9km az=205.0*

ISC 11 20:28:57.6±3.0, **19°.18N**±0°.10×**64°.37W**±0°.04, **h26**km±25km, **n45**, σ**0**s**75**/56, **11C**, **Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.79**	**197**	i	eP		**Pn**	**20 29 12.4**	**-0.7**
TBVI	**Tortola**	**0.79**	**197**		eS		**Sn**	**20 29 22.1**	**-1.9**
TBVI	**Tortola**	**0.79**	**197**				**Pn**	**20 29 12.4**	**-0.7**
TBVI							**Sn**	**20 29 22.1**	**-1.9**
CUPR	**Culebra, Puert**	**1.22**	**225**	i	eP		**Pn**	**20 29 18.6**	**-0.4**
CUPR	**Culebra, Puert**	**1.22**	**225**		eS		**Sn**	**20 29 35.4**	**+0.6**
CUPR	**Culebra, Puert**	**1.22**	**225**				**Pn**	**20 29 18.9**	**-0.1**
CUPR							**Sn**	**20 29 34.7**	**0.0**
CDVI	**St. Croix**	**1.47**	**195**				**Pn**	**20 29 22.9**	**+0.6**
MTP	**Monte Pirata**	**1.55**	**227**	i	eP		**Pn**	**20 29 23.2**	**-0.4**
MTP	**Monte Pirata**	**1.55**	**227**		eS		**Sn**	**20 29 43.0**	**+0.1**
MTP	**Monte Pirata**	**1.55**	**227**				**Pn**	**20 29 23.8**	**+0.2**
MTP							**Sn**	**20 29 43.2**	**+0.3**
SMRT	**St. Maarten**	**1.66**	**132**		eP		**Pn**	**20 29 25.4**	**+0.3**
SMRT					eS		**Sn**	**20 29 46.0**	**+0.4**
SMRT	**St. Maarten**	**1.66**	**132**				**Pn**	**20 29 24.5**	**-0.6**
CBYP	**Canovanas**	**1.67**	**238**	Pn			**Pn**	**20 29 24.8**	**-0.5**
HUMP	**Col San Antoni**	**1.74**	**234**	i	eP		**Pn**	**20 29 26.3**	**+0.1**
HUMP	**Col San Antoni**	**1.74**	**234**		eS		**Sn**	**20 29 48.2**	**+0.7**
HUMP	**Col San Antoni**	**1.74**	**234**				**Pn**	**20 29 26.2**	**+0.1**
HUMP							**Sn**	**20 29 47.9**	**+0.3**
GCPR	**Guaynabo City**	**1.84**	**242**	Pn			**Pn**	**20 29 26.7**	**-0.8**
SABA	**Saba**	**1.88**	**145**		eP		**Pn**	**20 29 29.2**	**+1.1**
SABA					eS		**Sb**	**20 29 54.5**	**+0.1**
PDPR	**Patillas Dam,**	**1.95**	**234**	i	eP		**Pn**	**20 29 29.0**	**0.0**
PDPR	**Patillas Dam,**	**1.95**	**234**		eS		**Sn**	**20 29 53.4**	**+0.8**
PDPR	**Patillas Dam,**	**1.95**	**234**				**Pn**	**20 29 29.1**	**0.0**
PDPR							**Sn**	**20 29 53.2**	**+0.6**
SJG	**San Juan**	**2.00**	**238**	Pn			**Pn**	**20 29 29.9**	**+0.3**
IGPR	**InterUniversit**	**2.04**	**234**	i	eP		**Pn**	**20 29 30.5**	**+0.2**
IGPR	**InterUniversit**	**2.04**	**234**		eS		**Sn**	**20 29 55.5**	**+0.5**
EMPR	**Esperanza - Ma**	**2.16**	**252**	i	eP		**Pn**	**20 29 32.1**	**+0.1**
EMPR	**Esperanza - Ma**	**2.16**	**252**				**Pn**	**20 29 32.5**	**+0.6**
CELP	**Cerrillos**	**2.37**	**243**	i	eP		**Pn**	**20 29 35.1**	**+0.3**
CELP	**Cerrillos**	**2.37**	**243**				**Pn**	**20 29 35.1**	**+0.3**
SKI	**Saint Peters**	**2.40**	**140**		eP		**Pn**	**20 29 35.7**	**+0.5**
SKI					eS		**Sn**	**20 30 05.3**	**+1.5**
OBIP	**Obispado Ponce**	**2.40**	**242**	Pn			**Pn**	**20 29 34.9**	**-0.4**
AOPR	**Arecibo Observ**	**2.41**	**250**	i	eP		**Pn**	**20 29 35.4**	**+0.1**
AOPR	**Arecibo Observ**	**2.41**	**250**		eS		**Sn**	**20 30 05.1**	**+1.0**
AOPR	**Arecibo Observ**	**2.41**	**250**				**Pn**	**20 29 34.8**	**-0.5**
AOPR							**Sn**	**20 30 04.8**	**+0.8**
ICMP	**Isla Caja de M**	**2.42**	**238**	Pn			**Pn**	**20 29 35.3**	**-0.2**
AGPR	**Aguadilla, PR**	**2.69**	**255**	Pn			**Pn**	**20 29 38.0**	**-1.2**
MLPR	**Magueyes Islan**	**2.81**	**245**	i	eP		**Pn**	**20 29 40.9**	**0.0**
MLPR	**Magueyes Islan**	**2.81**	**245**				**Pn**	**20 29 40.6**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.85**	**246**	i	eP		**Pn**	**20 29 41.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.85**	**246**				**Pn**	**20 29 41.4**	**0.0**
BPA	**Boggy Peak**	**3.19**	**131**		eP		**Pn**	**20 29 45.0**	**-1.2**
BPA					eS		**Sn**	**20 30 22.8**	**-0.6**
ANBD	**Bethesda, Anti**	**3.26**	**130**		eP		**Pn**	**20 29 45.8**	**-1.2**
ANBD					eS		**Sn**	**20 30 23.6**	**-1.3**
CBE	**Ff, Capester**	**4.06**	**139**		eP		**Pn**	**20 29 59.5**	**+1.4**
CBE	**Ff, Capester**	**4.06**	**139**		eS		**Sn**	**20 30 45.0**	**+0.2**
DR12	**Loma Pena Alta**	**4.76**	**266**	Pn			**Pn**	**20 30 06.7**	**-1.0**
SDDR	**Presa de Saban**	**6.55**	**269**				**Pn**	**20 30 32.2**	**-0.1**

*NEIC **11** 20:36:30.5±1.5, 7°.33N±0°.08×94°.33E±0°.08, h28km±6km, mb4.5/25, Error ellipse: s-maj=11.9km s-min=11.5km az=56.0*
*IDC **11** 20:36:34.1±4.5, 7°.40N×94°.23E, h55km±41km, mb3.6/10, mb1 3.7/11, mb1mx3.5/34, mbtmp3.8/11, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/29, Error ellipse: s-maj=43.8km s-min=15.9km az=55.0*

ISC 11 20:36:30.1±0.5, **7°.36N**±0°.07×**94°.36E**±0°.06, **h24**km, **n54**, σ**0**s**81**/52, **mb4.4**/21, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.55**	**231**		eP		**Pn**	**20 36 42.7**	**+0.2**
CMBY					eS		**Sn**	**20 36 51.5**	**+0.6**
CMBY					IAML			20 36 55.4	
	comp=N,22μm,0.4s								
CMBY					IAML			20 36 55.9	
	comp=E,17μm,0.2s								
LHMI	**Lhok Sumawe**	**3.33**	**129**		Pn		**Pn**	**20 37 21.7**	**+1.0**
LHMI					Sn		**Sn**	**20 37 58.2**	**-1.4**
PSI	**Prapat**	**6.42**	**135**		P		Pn	20 38 09.6	+6.2
	comp=E,0.8nm,0.3s,baz=180,slow=2.0,SNR=5.7								
PSI					LR		LR	20 40 48.8	
	comp=E,344nm,18.9s,baz=270,slow=38								
RPSI	**Rantau Prapat**	**6.49**	**135**				**Pn**	**20 38 03.4**	**-0.8**
KULM	**Kulim**	**6.58**	**108**				**Pn**	**20 38 04.9**	**-0.6**
IPM	**Ipoh**	**7.22**	**113**		Pn		**Pn**	**20 38 14.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**11.90**	**22**		P		Pn	20 39 27.2	+8.8
	comp=E,0.2nm,0.3s,baz=217,slow=14,SNR=4.6								
LSA	**Lhasa**	**22.43**	**353**		P		**P**	**20 41 29.2**	**+1.4**
H08S3	**Diego Garcia H**	**26.41**	**236**		T		T	21 08 55.3	
	baz=54,slow=75,SNR=51								
H08S2	**Diego Garcia H**	**26.41**	**236**		T		T	21 08 52.9	
	baz=54,slow=75,SNR=11								
H08S1	**Diego Garcia H**	**26.43**	**236**		T		T	21 08 51.8	
	baz=54,slow=75,SNR=11								
CHGR	**Chuyangaron**	**38.57**	**328**		P		**P**	**20 43 51.0**	**-0.3**
CHGR					IAmb		IAmb	20 43 59.0	
	comp=Z,15nm,1.0s								
FITZ	**Fitzroy Crossi**	**39.92**	**130**		P		**P**	**20 44 03.1**	**+0.5**
FITZ					IAmb		IAmb	20 44 16.6	
	comp=Z,7.6nm,1.3s								
MK31	**Makanchi Array**	**40.63**	**347**		P		**P**	**20 44 07.9**	**-0.4**
MKAR	**Makanchi Array**	**40.63**	**347**		P		**P**	**20 44 07.6**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=157,slow=7.6,SNR=10								
MKAR	**Makanchi Array**	**40.63**	**347**		P		**P**	**20 44 07.8**	**-0.5**
MAKZ	**Makanchi**	**40.72**	**347**		P		**P**	**20 44 08.2**	**-0.8**
KKAR	**Karatay Array**	**41.32**	**333**		P		**P**	**20 44 14.0**	**0.0**
KKAR	**Karatay Array**	**41.32**	**333**		P		**P**	**20 44 13.9**	**0.0**
KKAR					IAmb		IAmb	20 44 20.1	
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**41.62**	**12**		P		**P**	**20 44 17.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=200,slow=7.1,SNR=4.1								
SONM	**Songino Array**	**41.62**	**12**		P		**P**	**20 44 17.6**	**+1.1**
KSAR	**Wonju Array Be**	**42.68**	**40**		P		**P**	**20 44 25.0**	**-0.1**
GEYT	**Alibeck**	**44.73**	**318**		P		**P**	**20 44 41.7**	**0.0**
	comp=Z,3.0nm,0.6s,baz=147,slow=8.5,SNR=5.7								
GEYT	**Alibeck**	**44.73**	**318**		P		**P**	**20 44 42.3**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**44.73**	**318**		P		**P**	**20 44 42.2**	**+0.5**
GYA0B					IAmb		IAmb	20 44 48.6	
	comp=Z,3.9nm,0.7s								
KURK	**Kurchatov**	**45.16**	**346**		P		**P**	**20 44 43.7**	**-1.2**
KURK					IAmb		IAmb	20 44 52.1	
	comp=Z,4.5nm,0.8s								
ZAA0	**Zalesovo Array**	**47.09**	**352**		P		**P**	**20 45 00.7**	**+0.7**
ZAA0					IAmb		IAmb	20 45 08.7	
	comp=Z,3.4nm,0.8s								
ZALV	**Zalesovo Beam**	**47.09**	**352**		P		**P**	**20 45 00.2**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=182,slow=7.4,SNR=8.4								
ZALV	**Zalesovo Beam**	**47.09**	**352**		P		**P**	**20 44 59.9**	**-0.1**
WB0	**Warramunga Arr**	**47.74**	**125**		P		**P**	**20 45 05.8**	**+0.2**
WB0					IAmb		IAmb	20 45 17.9	
	comp=Z,8.3nm,1.5s								
WRA	**Warramunga Arr**	**47.79**	**125**		P		**P**	**20 45 06.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=306,slow=8.6,SNR=13								
WRA	**Warramunga Arr**	**47.79**	**125**		P		**P**	**20 45 06.3**	**+0.4**
ASAR	**Alice Springs**	**49.42**	**130**		P		**P**	**20 45 19.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=325,slow=7.8,SNR=6.0								
ASAR					PcP		**PcP**	**20 46 42.1**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=298,slow=3.6,SNR=6.8								
BRVK	**Borovoye**	**49.60**	**341**		P		**P**	**20 45 19.6**	**+0.2**
BRVK					IAmb		IAmb	20 45 24.8	
	comp=Z,3.1nm,0.7s								
ABKAR	**Akbulak array**	**50.78**	**331**		P		**P**	**20 45 28.4**	**0.0**
ABKAR	**Akbulak array**	**50.78**	**331**		P		**P**	**20 45 28.6**	**+0.2**
ABKAR					IAmb		IAmb	20 45 37.5	
	comp=Z,2.9nm,0.9s								
BBOO	**Buckleboo**	**56.29**	**138**		P		**P**	**20 46 09.5**	**+0.5**
ARU	**Arti**	**56.45**	**337**		P		**P**	**20 46 10.3**	**+0.5**
ARU					IAmb		IAmb	20 46 15.8	
	comp=Z,4.1nm,0.9s								
BRTR	**Keskin Array B**	**62.93**	**311**		P		**P**	**20 46 52.9**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=124,slow=7.7,SNR=3.7								
BRTR	**Keskin Array B**	**62.93**	**311**		P		**P**	**20 46 53.6**	**-1.4**
ARMA	**Armidale**	**66.47**	**128**		P		**P**	**20 47 18.8**	**+0.6**
ARMA					IAmb		IAmb	20 47 21.1	
	comp=Z,9.2nm,1.2s								
CAN	**Canberra**	**66.66**	**133**		P		**P**	**20 47 18.9**	**-0.3**
TIXI	**Tiksi**	**67.69**	**11**		P		**P**	**20 47 24.9**	**-0.1**
FIA1	**FINESS Array S**	**73.26**	**332**		P		**P**	**20 47 59.0**	**-0.2**
FIA1					IAmb		IAmb	20 48 12.4	
	comp=Z,15nm,1.4s								
FINES	**FINESS Array B**	**73.26**	**332**		P		**P**	**20 47 58.1**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=67,slow=6.4,SNR=6.4								
FINES	**FINESS Array B**	**73.26**	**332**		P		**P**	**20 47 58.8**	**-0.4**
SCTE	**Santa Cesarea**	**74.51**	**309**		P		**P**	**20 48 06.6**	**-0.3**
SCTE					IAmb		IAmb	20 48 25.4	
	comp=Z,12nm,1.3s								
GERES	**GERESS Array B**	**78.35**	**318**		P		**P**	**20 48 29.3**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=85,slow=1.6,SNR=6.0								
GERES	**GERESS Array B**	**78.35**	**318**		P		**P**	**20 48 28.6**	**-0.1**
NC602	**NORSAR Array S**	**80.11**	**330**		P		**P**	**20 48 37.0**	**-0.9**
NB2	**NORSAR Subarra**	**80.28**	**331**		P		**P**	**20 48 38.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=93,slow=5.6								
NOA	**NORSAR Array B**	**80.28**	**331**		P		**P**	**20 48 38.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=93,slow=5.8,SNR=4.0								
BKZ	**Black Stump Fm**	**88.54**	**130**		P		**P**	**20 49 22.0**	**+0.8**
CPUP	**Villa Florida**	**147.12**	**232**		PKPbc		**PKPab**	**20 56 11.3**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=135,slow=5.7,SNR=3.0								

ASRS 11 20:58:55.3±0.2, **52°N**±1°×**9°6E**±°, **h5**km, **MLh3.5**/10, **smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.54**	**17**		Pg		Pn	20 59 08.7	-1.1
TDJR					Sg		Sb	20 59 16.7	+1.2
KZLR	**Kyzyl**	**0.88**	**259**		Pg		Pn	20 59 14.4	0.0
KZLR					Sg		Sn	20 59 26.3	-1.2
ARDR	**Aradan**	**1.64**	**296**		Pg		Pg	20 59 28.1	+1.4
ARDR					Sg		Sg	20 59 49.9	+2.0
KNGR	**Kungurtug, Tuv**	**1.66**	**140**		Pg		Pb	20 59 26.0	-0.4
KNGR					Sg		Sn	20 59 46.9	-0.1
ERNS	**Erzin**	**1.68**	**195**		Pg		Pb	20 59 26.1	-0.6
ERNS					Sg		Sn	20 59 47.7	+0.4
BLRR	**Bol'shaya Rech**	**2.38**	**300**		Pn		Pb	20 59 39.4	+0.7
BLRR					Pg		Pg	20 59 41.4	+0.4
BLRR					Sg		Sg	21 00 13.7	+1.8
ORL	**Orlik**	**2.53**	**73**		Pn		Pn	20 59 39.1	+1.9
ORL					Pg		Pb	20 59 41.4	+0.1
ORL					Sg		Sb	21 00 14.4	+1.6
DJOS	**Djoyskaya Sosn**	**2.87**	**290**		Pg		Pg	20 59 50.1	-0.2
DJOS					Sg		Sg	21 00 27.7	+0.2
CERR	**Cheremushki**	**2.88**	**291**		Pn		Pb	20 59 45.8	-1.3
CERR					Pg		Pg	20 59 50.9	+0.5
CERR					Sg		Sg	21 00 27.9	+0.2
DJO	**Djoy, Khakassi**	**2.97**	**289**		Pn		Pb	20 59 47.1	-1.6
DJO					Pg		Pg	20 59 52.4	+0.2
DJO					Sg		Sg	21 00 30.9	+0.2
ORY	**Orie**	**3.15**	**352**		Pn		Pb	20 59 49.4	-2.5
ORY					Pg		Pg	20 59 53.5	-2.2
ORY					Sg		Sg	21 00 34.2	-2.4
ABNR	**Abakan**	**3.25**	**306**		Pn		Pb	20 59 50.2	-3.2
ABNR					Pg		Pg	20 59 56.3	-1.1
ABNR					Sg		Sg	21 00 40.2	+0.8
TBTR	**Tabat**	**3.30**	**290**		Pn		Pb	20 59 51.6	-2.7
TBTR					Pg		Pg	20 59 58.5	-0.1
TBTR					Sg		Sg	21 00 40.7	-0.6
TEL	**Teeli**	**3.63**	**258**		Pn		Pn	20 59 56.1	+3.9
TEL					Pg		Pg	21 00 04.5	-0.3
TEL					Sg		Sg	21 00 51.4	-0.4
SHRR	**Shira**	**4.30**	**310**		Pn		Pn	21 00 05.5	+4.2
SHRR					Pg		Pg	21 00 16.9	-0.7
SHRR					S		Sn	21 00 54.1	+2.3
SHRR					Sg		Sg	21 01 13.2	-0.1
GZLN	**Zheleznogorsk**	**4.67**	**346**		Pg		Pg	21 00 25.7	+1.1
GZLN					Sg		Sg	21 01 20.6	-4.4
TLY	**Talaya**	**4.85**	**89**		Pg		Pg	21 00 26.5	-1.7
TLY					Sg		Sg	21 01 26.5	-4.6
TASR	**Tashtagol**	**4.96**	**283**		Pg		Pg	21 00 30.2	0.0
TASR					Sg		Sg	21 01 31.7	-2.8
CUR	**Chagan-Uzun**	**5.05**	**252**		Pn		Pn	21 00 15.9	+4.1
CUR					Pg		Pg	21 00 29.5	-2.6
CUR					Sg		Sg	21 01 34.1	-3.4
ULGR	**Ulagan, Altay**	**5.10**	**259**		Pn		Pn	21 00 18.2	+5.7
ULGR					Pg		Pg	21 00 32.6	-0.5
ULGR					Sg		Sg	21 01 36.4	-2.8
ARTR	**Artybash**	**5.30**	**272**		Pg		Pg	21 00 38.2	+1.3
ARTR					Sg		Sg	21 01 43.9	-1.6
AKAR	**Aktash**	**5.41**	**256**		Pn		Pn	21 00 20.7	+4.1
AKAR					Pg		Pg	21 00 38.7	-0.2
AKAR					Sg		Sg	21 01 49.0	+0.2
CHBI	**Chibit, Altay**	**5.48**	**257**		Pn		Pn	21 00 22.5	+4.8
CHBI					Pg		Pg	21 00 39.7	-0.5
CHBI					Sg		Sg	21 01 47.3	-3.8
DGZ	**Jazzator, Alta**	**5.76**	**251**		Pn		Pn	21 00 27.9	+6.4
DGZ					Pg		Pg	21 00 44.6	-1.0
DGZ					Sg		Sg	21 01 57.3	-2.8
ELT	**Eltsovka**	**6.01**	**287**		Pg		Pg	21 00 48.9	-1.5
ELT					Sg		Sg	21 02 03.1	-5.2
GALT	**Gorno-Altaysk,**	**6.12**	**275**		Pg		Pg	21 00 52.7	+0.3
GALT					Sg		Sg	21 02 07.2	-4.5
TUNR	**Tungur**	**6.24**	**258**		Pg		Pg	21 00 56.0	+1.2
TUNR					Sg		Sg	21 02 16.5	+0.9
TRG	**Tyrgan**	**6.51**	**78**		Sg		Sg	21 02 16.8	-7.3
SALR	**Pechorkino, Sa**	**6.60**	**297**		Sg		Sg	21 02 28.6	+1.5
UKR	**Ust'-Kan**	**6.99**	**267**		Pg		Pg	21 01 12.2	+3.2
UKR					Sg		Sg	21 02 40.9	+1.4
ULN	**Ulaanbaatar**	**8.29**	**115**		Sg		Sg	21 03 14.6	-6.5

*ANF **11** 21:02:43.7±0.1, 34°.03N×116°.66W, h17km±1km, ML3.1/31, Error ellipse: s-maj=0.9km s-min=0.8km az=58.0*
*PAS **11** 21:02:44.8±1.1, 34°.03N±0°.02×116°.65W±0°.02, h12km±2km, ML3.2/201, Error ellipse: s-maj=3.3km s-min=2.0km az=152.0*
*SCEDC **11** 21:02:44.8, 34°.03N×116°.65W, h12km, ML3.2, ML3.2, ML3.2, ML3.2*
*NEIC **11** 21:02:44.6±1.3, 34°.01N±0°.02×116°.65W±0°.01, h14km±2km, Error ellipse: s-maj=2.9km s-min=1.5km az=188.0*

ISC 11 21:02:44.6±0.8, **34°.03N**±0°.01×**116°.65W**±0°.01, **h16**km±5km, **n114**, σ**0**s**90**/168, **Southern California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DEVC	**Devers**	**0.11**	**146**				**Pg**	**21 02 47.9**	**-0.2**
DEVC							**Sg**	**21 02 50.5**	**0.0**
RMR	**Rimrock**	**0.20**	**19**				**Pg**	**21 02 48.8**	**-0.6**
EW2	**E Wide Canyon**	**0.22**	**113**				**Pg**	**21 02 49.4**	**-0.3**
EW2							**Sg**	**21 02 53.1**	**-0.1**
BLAC	**Blackrock camp**	**0.22**	**79**				**Pg**	**21 02 49.4**	**-0.4**
BLAC							**Sg**	**21 02 52.9**	**-0.4**
BBSC	**Beaumont Base**	**0.29**	**249**				**Sg**	**21 02 55.2**	**+0.1**
BBRC	**Big Bear Solar**	**0.32**	**317**		P		**Pg**	**21 02 51.0**	**-0.5**
	baz=136,SNR=84								
BBRC					S		**Sg**	**21 02 55.7**	**-0.6**
	baz=136								
BBRC	**Big Bear Solar**	**0.32**	**317**				**Sg**	**21 02 55.4**	**-0.9**
SVD	**Seven Oaks Dam**	**0.38**	**282**				**Pg**	**21 02 51.9**	**-0.5**
SVD							**Sg**	**21 02 57.2**	**-0.5**
CFT	**Crafton Hills**	**0.38**	**271**				**Pg**	**21 02 52.1**	**-0.3**
POB	**Polly Butte**	**0.41**	**214**				**Pg**	**21 02 52.7**	**-0.2**
HMTC	**Hemet**	**0.43**	**223**				**Pg**	**21 02 53.0**	**-0.3**
HMTC							**Sg**	**21 02 59.0**	**-0.3**
PMD	**Palm Desert**	**0.44**	**149**				**Sg**	**21 02 58.8**	**-0.7**
PEC	**Perris**	**0.44**	**252**				**Pg**	**21 02 53.1**	**-0.4**
PEC							**Sg**	**21 02 59.3**	**-0.3**

PFO	**Pinyon Flats O**	**0.44**	**159**		P		**Pg**	**21 02 53.2**	**-0.4**
	baz=340,SNR=193								
PFO					S		**Sg**	**21 02 59.0**	**-0.6**
	baz=340								
PFO	**Pinyon Flats O**	**0.44**	**159**		Pg		**Pg**	**21 02 53.3**	**-0.2**
PFO					Sg		**Sg**	**21 02 59.4**	**-0.3**
PFO	**Pinyon Flats O**	**0.44**	**159**				**Sg**	**21 02 59.1**	**-0.6**
XPFO	**Pion Flat**	**0.45**	**158**		Pg		**Pg**	**21 02 53.4**	**-0.3**
XPFO					Sg		**Sg**	**21 02 59.3**	**-0.4**
XPFO	**Pion Flat**	**0.45**	**158**				**Sg**	**21 02 59.2**	**-0.6**
DNR	**Dunn Ranch,Anz**	**0.46**	**178**				**Sb**	**21 03 00.5**	**-0.5**
CRY	**Cary Ranch**	**0.47**	**189**				**Sb**	**21 03 00.3**	**-0.8**
DGR	**Domenigoni Val**	**0.48**	**218**				**Pg**	**21 02 53.9**	**-0.3**
DGR							**Sg**	**21 03 00.4**	**-0.3**
TPC	**Twentynine Pal**	**0.51**	**81**				**Pg**	**21 02 54.2**	**-0.5**
CFSC	**Central Fire S**	**0.53**	**279**				**Pg**	**21 02 54.7**	**-0.4**
BELC	**Belle Mtn. Jos**	**0.54**	**93**		P		**Pg**	**21 02 54.9**	**-0.5**
	baz=274,SNR=397								
BELC					S		**Sg**	**21 03 02.5**	**-0.3**
	baz=274								
CLTC	**Calectric**	**0.56**	**277**				**Sg**	**21 03 02.9**	**-0.1**
RSBC	**Riverside Bore**	**0.56**	**265**				**Sg**	**21 03 02.4**	**-0.9**
RSBC	**Riverside Bore**	**0.56**	**265**				**Pg**	**21 02 55.1**	**-0.7**
RVR	**Riverside**	**0.60**	**267**				**Sg**	**21 03 04.0**	**-0.5**
MURC	**Murrieta**	**0.62**	**227**		P		**Pg**	**21 02 56.2**	**-0.6**
	baz=46,SNR=91								
MURC					S		**Sg**	**21 03 04.6**	**-0.5**
	baz=46								
MURC	**Murrieta**	**0.62**	**227**				**Pg**	**21 02 56.2**	**-0.6**
MURC							**Sg**	**21 03 04.6**	**-0.5**
CTCC	**Cactus City**	**0.66**	**124**				**Pg**	**21 02 57.2**	**-0.4**
CTCC							**Sg**	**21 03 06.3**	**-0.1**
PLM	**Palomar**	**0.69**	**195**				**Sg**	**21 03 07.2**	**-0.2**
CTW	**Cottonwood Mou**	**0.74**	**118**				**Pg**	**21 02 58.5**	**-0.5**
ELS	**Elsinore Mount**	**0.75**	**240**				**Pg**	**21 02 58.4**	**-0.8**
MLSC	**Mira Loma**	**0.76**	**269**				**Pg**	**21 02 58.4**	**-0.9**
MLSC							**Sg**	**21 03 08.4**	**-0.9**
VTV	**Victorville**	**0.77**	**314**				**Pg**	**21 02 58.9**	**-0.8**
BORC	**Borrego Spring**	**0.78**	**165**				**Pg**	**21 02 59.4**	**-0.5**
BORC							**Sg**	**21 03 09.5**	**-0.7**
ADO	**Adelanto Recei**	**0.83**	**309**				**Pg**	**21 03 00.2**	**-0.6**
ADO							**Sg**	**21 03 11.7**	**-0.1**
HEC	**Hector,Ludlow**	**0.84**	**18**		P		**Pg**	**21 03 00.1**	**-0.9**
	baz=198,SNR=186

baz=161
CCX Cicese 2.15 180 Pn Pn 21 03 21.0 +1.2
ISA Isabella, Lake 2.21 318 Pn Pn 21 03 20.9 +0.2
baz=137
ISA Pg Pb 21 03 25.2 +1.0
baz=137,SNR=20
ISA Isabella, Lake 2.21 318 Pn 21 03 20.6 -0.1
ISA Pg Pb 21 03 25.3 +1.0
W13A Hualapai Mount 2.52 64 Pn Pn 21 03 25.4 +0.4
W13A Pg 21 03 32.2 -0.8
PKM Mcpherson Peak 2.75 289 P Pn 21 03 28.8 +0.7
baz=107
SHPR Sheep Range 2.76 26 Pn Pn 21 03 28.7 +0.5
TPNV Topopah Spring 2.93 6 P Pn 21 03 31.4 +0.7
baz=186,SNR=9.8
TPNV Topopah Spring 2.93 6 Pn Pn 21 03 31.2 +0.5
TPNV Pg Pg 21 03 39.8 -1.0
Y14A Wickenburg 3.03 91 Pn 21 03 32.1 +0.2
SPX San Pedro Mart 3.15 161 Pg Pb 21 03 41.3 +1.1
SFX San Felipe 3.35 152 Pn Pn 21 03 36.9 +0.7
PRN Pahroc Range 3.62 21 Pn Pn 21 03 41.1 +1.1
PRN Pg Pg 21 03 52.2 -1.7
PIX Pinacate 3.64 132 Pg Pg 21 03 57.0 +2.6
214A Organ Pipe Nat 3.83 122 Pg Pg 21 03 58.9 +0.9
OMMB Old Mammoth Mi 4.05 333 Pg 21 04 01.4 -0.8
LCMT Little Creek M 4.07 42 Pn Pn 21 03 47.4 +1.1
MDPB Devils Postpil 4.10 332 Pn Pn 21 03 49.3 +2.5
U15A North Rim 4.30 55 Pn Pn 21 03 50.4 +0.9
KNB Kanab 4.32 45 Pn Pn 21 03 50.8 +1.1
X16A Lo Mia Camp, P 4.33 83 Pn Pn 21 03 51.0 +1.1
X16A Pg 21 04 07.3 -0.3
R11A Troy Canyon, C 4.40 11 Pg Pg 21 04 06.0 -2.8
baz=192
R11A Troy Canyon, C 4.40 11 Pn Pn 21 03 52.1 +1.2
CCUT Cedar City 4.42 36 Pn Pn 21 03 52.2 +1.1
LHV Little Huntoon 4.47 341 Pn 21 03 54.4 +2.8
LHV Pg Pg 21 04 09.0 -1.2
NV11 Mina Array Sit 4.56 345 Pg 21 04 08.7 -3.3
WUAZ Wupatki 4.59 70 Pg Pg 21 04 09.5 -3.0
RYN Ryan 4.83 342 Pg Pg 21 04 14.3 -2.9
KVN Kaiserville 5.15 347 Pg Pg 21 04 24.4 +1.2

NEIC ***11*** *21:04:24.7±0.5, 51.9°N±0.1°×178.28°E±0.09, h129km±4km, Error ellipse: s-maj=17.5km s-min=7.6km az=192.0*
AEIC ***11*** *21:04:25.2±0.8, 51.9°N±0.1°×178.24°E±0.05, h128km±4km, ML3.2, Error ellipse: s-maj=15.4km s-min=1.9km az=166.0*
IDC ***11*** *21:04:27.6±5.7, 52.59°N×178.30°E, h144km±55km, mb3.0/4, mb1 3.4/6, mb1mx3.0/46, mbtmp3.7/6, Error ellipse: s-maj=108.3km s-min=19.6km az=6.0*
ISC 11 21:04:23.9±0.8, 52.0°N±0.2°×178.12°E±0.06, h128km±7km, n26, σ1°s44/31, mb3.4/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	Little Sitkin	0.24	95		Pn	21 04 42.4	+0.7
LSSA					Sn	21 04 55.9	+0.9
LSPA	Little Sitkin	0.28	93		Pn	21 04 42.5	+0.8
LSPA					Sn	21 04 55.8	+0.6
LSSE	Little Sitkin	0.28	98		Pn	21 04 42.4	+0.7
CESW	Semis' Southwe	0.90	94		Pn	21 04 45.7	+0.1
AMKA	Amchitka	0.94	129		Pn	21 04 45.8	-0.2
AMKA	Amchitka	0.94	129		Sn	21 05 01.6	-1.2
CERAA	Semis' Rag'd T	0.97	93		Pn	21 04 46.2	-0.1
CERAA					Sn	21 05 02.9	-0.4
TASE	Tanaga Southea	2.38	92		Pn	21 05 02.2	-0.3
TAFP	Tanaga Falls P	2.41	90		Pn	21 05 02.3	-0.5
TAFP					Sn	21 05 31.6	-1.2
KIMD	Kanaga Island	2.89	92		Pn	21 05 08.3	-0.5
ADK	Adak	3.22	90		Pn	21 05 12.3	-0.8
GSMY	Great Sitkin M	3.60	87		Pn	21 05 17.7	-0.5
ATKA	Atka Island	4.74	84	Pn	Pn	21 05 33.7	+0.3
NIKH	Nikolski High	8.02	78	Pn	Pn	21 06 18.1	+0.7
UNV	Unalaska Valle	9.48	73	Pn	Pn	21 06 38.0	+1.0
AKUT	Akutan	9.94	71	Pn	Pn	21 06 44.9	+1.8
FALS	False Pass	11.38	68	Pn	Pn	21 07 03.1	+0.7
PEA0B	Petropavlovsk-	12.48	283	Pn	Pn	21 07 19.1	+2.2
PETK	Petropavlovsk-	12.48	283	P	Pn	21 07 19.7	+2.8
	0.4nm,0.3s,baz=100,slow=19,SNR=14						
PETK				S	Sn	21 09 29.4	-4.9
	0.1nm,0.3s,baz=117,slow=21,SNR=3.5						
SDPT	Sand Point	13.12	67	Pn	Pn	21 07 24.6	-0.5
CNBA	Chernabura Isl	13.59	69	Pn	Pn	21 07 29.9	-1.2
KDAK	Kodiak Island	17.74	59	P	P	21 08 20.1	-1.3
	0.5nm,0.3s,baz=253,slow=5.5,SNR=12						
NVAR	Mina Array Bea	45.37	81	P	P	21 12 30.6	+1.2
	0.2nm,0.5s,baz=305,slow=6.5,SNR=3.3						
PDAR	Pinedale Array	47.94	71	P	P	21 12 48.3	-1.1
	0.3nm,0.5s,baz=316,slow=4.1,SNR=4.7						
MKAR	Makanchi Array	58.15	306	P	P	21 14 04.1	+0.2
	0.4nm,0.7s,baz=49,slow=7.6,SNR=3.3						
TXAR	Lajitas Array	60.44	79	P	P	21 14 20.1	+0.2
	0.3nm,0.6s,baz=319,slow=3.6,SNR=4.0						

NEIC ***11*** *21:38:53.5±0.7, 4.8S±0.1°×149.9E±0.1°, h404km±12km, mb4.2/7, Error ellipse: s-maj=18.1km s-min=11.5km az=135.0*
IDC ***11*** *21:38:55.3±1.4, 5.15S×149.66E, h380km±18km, mb3.3/4, mb1 3.5/6, mb1mx3.1/32, mbtmp4.0/6, Error ellipse: s-maj=36.0km s-min=18.2km az=115.0*
ISC 11 21:38:54.1±0.8, 4.9S±0.1°×150.0E±0.1°, h400km, n23, σ1°s51/23, mb4.0/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.13	75	P	Pn	21 39 52.7	+1.7
	9.3nm,0.3s,baz=56,slow=7.3,SNR=4.7						
RABL	Rabaul	2.30	73		Pn	21 39 52.3	+0.2
PMG	Port Moresby	5.29	212	P	Pn	21 40 21.8	+2.5
	0.8nm,0.3s,baz=349,slow=5.2,SNR=4.6						
JAY	Jayapura	9.53	284	P	P	21 41 05.6	-1.1
	1.3nm,0.3s,baz=153,slow=6.8,SNR=5.6						
FAKI	Fak Fak	17.78	276	P	P	21 42 35.1	-1.3
FAKI				IAmb	IAmb	21 42 46.7	
	comp=Z,9.2nm,0.8s						
MTN	Manton Dam	20.21	246	P	P	21 42 59.5	-1.1
MTN				IAmb	IAmb	21 43 06.1	
	comp=Z,7.5nm,0.9s						
WB0	Warramunga Arr	21.19	224	P	P	21 43 09.1	-0.5
WR0	Warramunga Arr	21.22	224	P	P	21 43 08.6	-1.3
WRAB	Tennant Creek	21.34	224	P	P	21 43 09.7	-1.2
WRAB				IAmb	IAmb	21 43 10.5	
	comp=Z,5.3nm,0.6s						
WB2	Warramunga Arr	21.34	224	P	P	21 43 10.1	-0.9
WRA	Warramunga Arr	21.35	224	P	P	21 43 10.1	-0.9
	comp=Z,3.9nm,0.5s,baz=48,slow=10,SNR=120						
WRA	Warramunga Arr	21.35	224	P	P	21 43 09.4	-1.6
DZM	Mont Dzumac	23.39	138	P	P	21 43 29.6	0.0
KNRA	Kununurra	23.43	241	P	P	21 43 29.6	-0.3
AS31	Alice Springs	24.27	218	P	P	21 43 36.5	-0.9
ASAR	Alice Springs	24.27	218	P	P	21 43 36.5	-0.8
	comp=Z,0.9nm,0.4s,baz=51,slow=8.1,SNR=39						
ARMA	Armidale	25.46	177	P	P	21 43 47.5	-0.5
ARMA				IAmb	IAmb	21 43 55.7	
	comp=Z,7.5nm,1.1s						
FITZ	Fitzroy Crossi	27.17	239	P	P	21 44 01.9	-1.2
	comp=Z,1.7nm,0.3s,baz=48,slow=10,SNR=26						
JSG	Sagara	40.87	345	P	P	21 45 57.8	-1.4
MCQ	Macquarie Isla	50.01	173	P	P	21 47 08.6	-0.9
SONM	Songino Array	64.91	329	P	P	21 48 56.4	+3.9
	comp=Z,0.3nm,0.4s,baz=132,slow=2.1,SNR=3.6						
SONM	Songino Array	64.91	329	P	P	21 48 54.3	+1.8
TORD	Torodi Ar. Bea	147.63	287	PKPbc	PKiKP	21 57 54.9	-0.1
	comp=Z,0.3nm,0.4s,baz=89,slow=2.6,SNR=8.2						

NEIC ***11*** *21:42:27.8±1.5, 6.55N±0.07°×72.76W±0.04, h180km±11km, mb4.2/7, Error ellipse: s-maj=10.0km s-min=5.8km az=186.0*
IDC ***11*** *21:42:27.4±1.3, 6.57N×72.76W, h174km±16km, mb3.3/4, mb1 3.6/7, mb1mx3.2/34, mbtmp3.9/7, Error ellipse: s-maj=52.6km s-min=8.2km az=136.0*
RSNC ***11*** *21:42:29.0±1.2, 6.82N×73.16W, h152km±4km, ML3.8, Mw4.0, Fault plane solution: NP1:φs139.00000°, δ59.00000°, λ158.00000°.*
ISC 11 21:42:27.9±0.7, 6.83N±0.03×73.11W±0.04, h158km±5km, n65, σ1°s67/88, mb4.0/8, 7C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.25	197	⇑*i*	P	21 42 49.4	-0.2
BARC				*eS*	Sn	21 43 05.0	-1.2
BARC				*i*		21 43 07.3	
	comp=Z,3μm,0.3s						
PAMC	Pamplona, Colo	0.65	39	⇑*i*	P	21 42 52.2	+0.6
PAMC				*eS*	Sn	21 43 09.5	-0.1
PAMC				*i*		21 43 12.5	
	comp=Z,868nm,0.4s						
BRRC	Barranca, Sant	0.66	295	⇑*i*	P	21 42 51.3	+0.2
BRRC				*eS*	Sn	21 43 08.3	-0.4
BRRC				*i*		21 43 12.2	
	comp=Z,885nm,0.3s						
RUSC	La Rusia	0.93	178	⇓*i*	P	21 42 53.3	-0.2
RUSC				*eS*	Sn	21 43 12.2	-0.9
RUSC				*i*		21 43 13.4	
	comp=Z,492nm,0.3s						
PTBC	PUERTO BERRIO,	1.37	258	⇑*eP*	P	21 42 56.0	-0.8
PTBC				*eS*	Sn	21 43 16.9	-2.0
PTBC				*i*		21 43 19.6	
	comp=Z,495nm,0.1s						
TAMC	Tame, Arauca	1.37	107	⇑*i*	P	21 42 57.9	+1.0
TAMC				*i*		21 43 19.0	
	comp=Z,351nm,0.3s						
TAMC				*eS*	Sn	21 43 19.7	+0.7
OCAC	Ocana	1.42	352	*eP*	Pn	21 42 57.5	0.0
OCAC				*eS*	Sn	21 43 20.3	+0.1
OCAC				*i*		21 43 27.7	
	comp=Z,672nm,0.3s						
SPBC	San Pablo de B	1.51	219	*eP*	Pn	21 42 58.2	-0.1
SPBC				*eS*	Sn	21 43 20.3	-1.4
SPBC				*i*		21 43 25.1	
	comp=Z,742nm,0.3s						
ZARC	Zaragoza, Cauc	1.85	291	*eP*	Pn	21 43 02.0	+0.1
ZARC				*eS*	Sn	21 43 26.8	-1.3
ZARC				*i*		21 43 32.5	
	comp=Z,728nm,0.3s						
CTAB	Cerro Tablazo,	2.11	211	*eP*	Pn	21 43 07.7	+2.4
SMLC	San Martn de	2.18	334	*eP*	Pn	21 43 05.5	-0.1
SMLC				*eS*	Sn	21 43 33.8	-0.9
SMLC				*i*		21 43 41.5	
	comp=Z,506nm,0.2s						
CHIC	Chingaza	2.27	196	*eP*	Pn	21 43 07.4	+0.2
CHIC				*eS*	Sn	21 43 37.1	-0.3
CHIC				*i*		21 43 42.1	
	comp=Z,349nm,0.4s						
ROSC	El Rosal	2.31	211	P	Pn	21 43 09.4	+1.8
	comp=Z,82nm,0.3s,baz=308,slow=23,SNR=171						
ROSC				S	Sn	21 43 39.5	+1.3
	comp=Z,234nm,0.3s,baz=206,slow=23,SNR=7.2						
ROSC	El Rosal	2.31	211	⇓*iP*	Pn	21 43 09.1	+1.5
ROSC				*eS*	Sn	21 43 39.5	+1.3
ROSC				*i*		21 43 44.0	
	comp=Z,1μm,0.5s						
ROSC	El Rosal	2.31	211		Pn	21 43 08.9	+1.3
ROSC					Sn	21 43 39.3	+1.0
CVER	Cruz Verde, Cu	2.48	203	*eP*	Pn	21 43 11.0	+1.3
UREC	San Jose de Ur	2.57	291	*eP*	Pn	21 43 09.9	-0.4
UREC				*eS*	Sn	21 43 39.8	-3.3
UREC				*i*		21 43 51.4	
	comp=Z,332nm,0.2s						
SOCV	Socops	2.66	57	*eP*	Pn	21 43 12.2	+0.8
GUY2C	Guyana, Caldas	2.75	235	*eP*	Pn	21 43 13.3	+0.4
GUY2C				*eS*	Sn	21 43 46.9	-0.9
GUY2C				*i*		21 43 55.8	
	comp=Z,417nm,0.6s						
VILC	Villavicencio,	2.76	192	*eP*	Pn	21 43 12.7	-0.1
VILC				*eS*	Sn	21 43 47.5	-0.1
VILC				*i*		21 43 56.9	
	comp=Z,474nm,0.5s						
PTGC	Puerto Gaitan,	2.79	160	⇓*iP*	Pn	21 43 12.6	-0.4
PTGC				*eS*	Sn	21 43 45.8	-2.1
PTGC				*i*		21 43 46.8	
	comp=N,678nm,0.3s						
RREF	El Recreo	2.94	229	*eP*	Pn	21 43 11.3	-4.1
CBOC	Ciudad Bolivar	3.04	252	*eP*	Pn	21 43 16.9	+0.6
DBBC	Dabeiba	3.08	274	⇑*eP*	Pn	21 43 16.7	0.0
TOLC	Tolima	3.13	225	*eP*	Pn	21 43 18.1	+0.5
TOLC				*eS*	Sn	21 43 54.1	-2.0
TOLC				*i*		21 44 05.7	
	comp=Z,726nm,0.4s						
MOTC	Monteria, Cord	3.19	308	*eP*	Pn	21 43 16.4	-1.5
MOTC				*eS*	Sn	21 43 55.1	-1.6
MOTC				*i*		21 44 10.2	
	comp=Z,178nm,0.5s						
SDV	Santo Domingo	3.19	50	P	Pn	21 43 18.9	+0.6
	comp=Z,62nm,0.3s,baz=204,slow=3.5,SNR=58						
SDV				S	Sn	21 43 56.3	-1.0
	comp=Z,14nm,0.3s,baz=249,slow=23,SNR=9.7						
SDV	Santo Domingo	3.19	50	*eP*	Pn	21 43 18.9	+0.6
SDV	Santo Domingo	3.19	50		Pn	21 43 18.8	+0.6
ARGC	Ariguani, Magd	3.21	340	*eP*	Pn	21 43 19.3	+1.0
ANIL	Santa Ana	3.25	225	*eP*	Pn	21 43 20.5	+1.4
PRAC	Prado	3.56	210	*eP*	Pn	21 43 22.5	-0.3
PRAC				*eS*	Sn	21 44 04.9	-0.6
PRAC				*i*		21 44 11.6	
	comp=Z,331nm,0.5s						
ORTC	Ortega, Tolima	3.60	216	*eP*	Pn	21 43 23.7	+0.4
ORTC				*eS*	Sn	21 44 07.2	+0.9
ORTC				*i*		21 44 13.1	
	comp=Z,182nm,0.4s						
SJCC	San Jacinto, C	3.67	326	*eP*	Pn	21 43 23.1	-1.1
PLMC	San Jos del P	3.69	239	⇑*eP*	Pn	21 43 24.9	+0.5
PLMC				*eS*	Sn	21 44 06.3	-2.1
PLMC				*i*		21 44 18.6	
	comp=Z,70nm,0.4s						
LCBC	Los crdobas,	3.80	302	*eP*	Pn	21 43 26.4	+0.6
YOTC	Yotoco, Valle	4.28	229	⇓*eP*	Pn	21 43 31.7	-0.6
SMRC	Santa Marta, M	4.45	346	*eP*	Pn	21 43 33.8	-0.4
MACC	Macarena, Meta	4.71	189	*eP*	Pn	21 43 36.3	-1.4
URIC	Uribia, Colomb	4.97	13	⇓*eP*	Pn	21 43 39.9	-1.1
URIC				*eS*	Sn	21 44 32.4	-5.8
URIC				*i*		21 44 42.4	
	comp=Z,30nm,0.5s						
GARC	Garzon, Huila	5.19	207	*eP*	Pn	21 43 43.7	-0.6
PCON	Cinco Dias	5.54	216	*eP*	Pn	21 43 50.0	+0.8
FLOC	Florencia	5.79	206	*eP*	Pn	21 43 52.0	-0.1
FLOC				*eS*	Sn	21 44 58.0	0.0
FLOC				*i*		21 45 02.2	
	comp=Z,24nm,0.4s						
BCIP	Isla Barro Col	7.05	290	Pn	Pn	21 44 13.1	+4.4
OTAV	Otavalo	8.44	219	Pn	Pn	21 44 27.3	-0.3
PCRV	Puerto La Cruz	9.02	68	P	Pn	21 44 31.0	-3.9
	comp=Z,0.6nm,0.3s,baz=290,slow=12,SNR=2.6						
PLCV	Puerto La Cruz	9.06	68		Pn	21 44 31.0	-4.4
MTDJ	Mount Denham	12.12	340	Pn	Pn	21 45 19.2	+3.6
MLPR	Magueyes Islan	12.55	28	Pn	Pn	21 45 19.8	-1.4
ICMP	Isla Caja de M	12.73	30	Pn	Pn	21 45 23.1	-0.3
AGPR	Aguadilla, PR	12.96	26	Pn	Pn	21 45 26.9	+0.5
GTBY	Guantanamo Bay	13.16	352	Pn	P	21 45 32.8	-0.4
CBCY	The Bluff, Cay	14.36	334		P	21 45 48.9	+2.3
LPAZ	La Paz	23.49	168		S	21 51 21.6	-5.1
Y49A	Blount Mountai	29.58	337	P	P	21 48 19.8	+1.8
Y49A				IAmb	IAmb	21 48 29.6	
	comp=Z,2.9nm,1.1s						
PB10	IPOC Station P	30.26	175	P	P	21 48 19.6	-4.5
S51A	Beattyville	32.12	344	P	P	21 48 42.9	+2.7
S51A				IAmb	IAmb	21 48 58.9	
	comp=Z,5.6nm,1.0s						
WVT	Waverly	32.13	337	P	P	21 48 42.3	+1.9
U40A	Yellville	34.49	331	P	P	21 49 02.1	+1.3
U40A				IAmb	IAmb	21 49 03.0	
	comp=Z,4.3nm,0.7s						
CCM	Cathedral Cave	35.17	335	P	P	21 49 08.2	+1.6
CCM				IAmb	IAmb	21 49 09.1	
	comp=Z,7.0nm,0.9s						
TXAR	Lajitas Array	36.46	312	P	P	21 49 19.4	+1.5
	comp=Z,0.1nm,0.5s,baz=133,slow=9.0,SNR=4.1						
ULM	Lac du Bonnet	47.28	340	P	P	21 50 45.9	+0.7
	comp=Z,2.1nm,0.4s,baz=166,slow=8.3,SNR=3.9						
ULM	Lac du Bonnet	47.28	340	IAmb	IAmb	21 50 55.8	
	comp=Z,5.2nm,1.0s						
PDAR	Pinedale Array	48.08	324	P	P	21 50 52.7	+0.9
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=3.8						
YKA	Yellowknife Ar	63.26	340	P	P	21 52 39.5	+0.1
	comp=Z,0.7nm,0.5s,baz=132,slow=6.9,SNR=4.3						

IDC ***11*** *21:51:37.6±1.8, 23.31S×179.84W, h516km±19km, mb3.6/13, mb1 3.7/15, mb1mx3.5/38, mbtmp4.4/15, Error ellipse: s-maj=16.5km s-min=14.8km az=151.0*
NEIC ***11*** *21:51:39.0±1.8, 23.4S±0.1°×179.7W±0.1°, h560km±12km, mb4.5/43, Error ellipse: s-maj=18.8km s-min=16.6km az=108.0*
ISC 11 21:51:39.5±0.5, 23.32S±0.08×179.80W±0.08, h550km, n73, σ1°s44/71, mb4.4/30, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.91	340	P	P	21 53 18.1	+0.6
RAO	Raoul Island	6.14	164	P	P	21 53 20.2	+1.0
NIUE	Niue	10.13	67	P	P	21 53 57.9	-0.9
AFI	Afiamalu	12.05	40	P	P	21 54 16.5	-2.2
	2.6nm,0.3s,baz=50,slow=16,SNR=6.9						
DZM	Mont Dzumac	12.76	273	P	P	21 54 23.8	-2.2
	0.1nm,0.3s,baz=191,slow=5.2,SNR=4.5						
DZM	Mont Dzumac	12.76	273	P	P	21 54 28.9	+2.9
OUZ	Omahuta	13.18	204	P	P	21 54 29.4	-0.6
FUNA	Funafuti	14.74	356	P	P	21 54 46.0	-0.4
URZ	Urewera	15.12	189	P	P	21 54 45.7	-4.3
	4.6nm,0.3s,baz=275,slow=2.2,SNR=24						
URZ	Urewera	15.12	189	IAmb	IAmb	21 54 50.8	
	comp=Z,11nm,0.6s						
HIZ	Hauiti	15.82	196	P	P	21 54 55.7	-1.4
BKZ	Black Stump Fm	16.11	190	P	P	21 54 56.7	-3.2
BFZ	Birch Farm	17.63	190	P	P	21 55 10.8	-2.9
BFZ				IAmb	IAmb	21 55 15.2	
	comp=Z,12nm,0.7s						
MSWZ	Moikau Station	18.52	192	P	P	21 55 19.8	-2.0
SNZO	South Karori	18.52	193	P	P	21 55 20.9	-1.0
BHW	Baring Head	18.58	193	P	P	21 55 20.6	-1.8
QRZ	Quartz Range	18.61	199	P	P	21 55 23.1	+0.3
PLWZ	Palliser	18.66	192	P	P	21 55 21.1	-2.2
NNZ	Nelson	18.74	196	P	P	21 55 23.1	-0.8
TUWZ	Tuamarina	18.80	195	P	P	21 55 23.1	-1.4
CMWZ	Cape Campbell	19.05	194	P	P	21 55 26.0	-0.7
BSWZ	Blackbirch Sta	19.09	195	P	P	21 55 26.0	-1.1
THZ	Tophouse	19.38	197	P	P	21 55 29.4	-0.3
THZ				IAmb	IAmb	21 55 33.0	
	comp=Z,20nm,0.9s						
KHZ	Kahutara	19.84	195	P	P	21 55 32.5	-1.3
KHZ				IAmb	IAmb	21 55 33.3	
	comp=Z,14nm,0.7s						
LTZ	Lake Taylor	20.50	197	P	P	21 55 37.9	-1.9
OXZ	Oxford	21.06	197	P	P	21 55 45.0	0.0
MQZ	McQueen's Vall	21.27	195	P	P	21 55 45.1	-1.6
MQZ				IAmb	IAmb	21 55 52.7	
	comp=Z,7.7nm,0.7s						
RPZ	Rata Peaks	21.70	198	P	P	21 55 49.3	-1.3
	comp=Z,22nm,0.5s,baz=342,slow=2.3,SNR=28						
RPZ	Rata Peaks	21.70	198	P	P	21 55 49.5	-1.2
KNTN	Kanton	21.87	22	P	P	21 55 52.9	+0.3
KNTN				IAmb	IAmb	21 56 02.2	
	comp=Z,6.8nm,0.8s						
FOZ	Fox Glacier	21.91	201	P	P	21 55 51.8	-0.7
FOZ				IAmb	IAmb	21 55 53.0	
	comp=Z,24nm,1.0s						
LBZ	Lake Benmore	22.56	199	P	P	21 55 55.7	-2.7
LBZ				IAmb	IAmb	21 55 59.7	
	comp=Z,12nm,1.0s						
ODZ	Otahua Downs	23.03	198	P	P	21 56 00.3	-2.2
ODZ				IAmb	IAmb	21 56 01.9	
	comp=Z,13nm,1.2s						
WKZ	Wanaka	23.32	200	P	P	21 56 03.2	-2.0
WKZ				IAmb	IAmb	21 56 18.4	
	comp=Z,14nm,1.0s						
MLZ	Mavora Lakes	24.09	201	P	P	21 56 12.2	+0.2
MLZ				IAmb	IAmb	21 56 13.7	
	comp=Z,9.8nm,0.6s						
WHZ	Wether Hill Ro	24.62	201	P	P	21 56 17.0	+0.4
ARMA	Armidale	26.40	248	P	P	21 56 32.9	+0.2
ARMA				IAmb	IAmb	21 56 34.4	
	comp=Z,9.9nm,1.1s						
EIDS	Eidsvold	26.59	260	P	P	21 56 34.5	+0.2
EIDS				IAmb	IAmb	21 56 34.9	
	comp=Z,6.7nm,0.8s						
CAN	Canberra	29.59	239	P	P	21 57 01.1	+0.6
CAN				IAmb	IAmb	21 57 01.4	
	comp=Z,9.5nm,0.6s						
CTA	Charters Tower	31.66	269	P	P	21 57 18.7	+0.3
	comp=Z,22nm,0.5s,baz=92,slow=11,SNR=41						
CTAO	Charters Tower	31.66	269	P	P	21 57 18.7	+0.3
TOO	Toolangi	32.92	236	P	P	21 57 28.9	+0.1
TOO				IAmb	IAmb	21 57 29.7	
	comp=Z,9.2nm,0.9s						
TAU	Tasmania Unive	33.47	226	P	P	21 57 32.2	-1.0
TAU				IAmb	IAmb	21 57 48.2	
	comp=Z,7.1nm,0.9s						
PMG	Port Moresby	34.48	288	P	P	21 57 42.4	+0.2
	comp=Z,9.9nm,0.6s,baz=137,slow=3.6,SNR=4.2						
PMG	Port Moresby	34.48	288	IAmb	IAmb	21 57 42.6	
	comp=Z,12nm,0.7s						
STKA	Stephens Creek	35.11	247	P	P	21 57 47.3	0.0
	comp=Z,6.3nm,0.5s,baz=102,slow=12,SNR=15						
STKA	Stephens Creek	35.11	247		P	21 57 47.4	+0.2
BBOO	Buckleboo	39.84	246	P	P	21 58 24.8	-1.1
BBOO				IAmb	IAmb	21 58 25.2	
	comp=Z,6.7nm,0.5s						
ASAR	Alice Springs	42.31	260	P	P	21 58 45.4	-0.2
	comp=Z,8.4nm,0.8s,baz=91,slow=7.9,SNR=49						
ASAR				ScP	ScP	22 03 26.9	+1.9
	comp=Z,0.7nm,0.8s,baz=90,slow=3.8,SNR=4.2						
ASAR	Alice Springs	42.31	260	P	P	21 58 43.5	-2.1
WB2	Warramunga Arr	42.62	265	P	P	21 58 47.3	-0.7
WB2				IAmb	IAmb	21 58 47.8	
	comp=Z,8.7nm,0.7s						
WB0	Warramunga Arr	42.62	266	P	P	21 58 47.6	-0.4
WB0				IAmb	IAmb	21 58 47.7	
	comp=Z,12nm,0.7s						
WRAB	Tennant Creek	42.63	265	P	P	21 58 46.4	-1.6
WRAB				IAmb	IAmb	21 58 47.4	
	comp=Z,9.7nm,0.9s						
WRA	Warramunga Arr	42.63	265	P	P	21 58 47.1	-1.0
	comp=Z,9.7nm,0.7s,baz=102,slow=7.8,SNR=8.3						
WRA				ScP	ScP	22 03 28.4	+2.1
	comp=Z,0.7nm,0.6s,baz=98,slow=3.

WRA	**Warramunga Arr**	**13.41**	**162**	P		Pn	21 54 53.8	-0.6
	0.7nm,0.3s,baz=340,slow=11,SNR=45							
WRA				S		Sn	21 57 15.2	-7.3
	3.0nm,0.3s,baz=335,slow=22,SNR=15							
ASAR	**Alice Springs**	**16.85**	**167**	P		Pn	21 55 39.0	+1.7
	0.5nm,0.3s,baz=340,slow=9.3,SNR=32							
ASAR				S		Sn	21 58 38.2	-7.2
	0.5nm,0.3s,baz=345,slow=24,SNR=7.2							
MKAR	**Makanchi Array**	**68.31**	**327**	P		P	22 02 36.5	+0.4
	1.4nm,0.5s,baz=114,slow=8.9,SNR=24							
ZALV	**Zalesovo Beam**	**71.69**	**334**	P		P	22 02 56.1	-0.5
	0.7nm,0.4s,baz=108,slow=4.7,SNR=2.9							

NEIC **11** *22:13:15.1±1.8,6°.09S±0°.08×125°.84E±0°.09,h524km±11km, mb4.3/22,Error ellipse: s-maj=16.0km s-min=7.8km az=51.0*

IDC **11** *22:13:15.6±0.9,6°.03S×125°.89E,h530km±13km,mb3.2/3, mb1 3.5/9,mb1mx3.0/45,mbtmp4.3/9,Error ellipse: s-maj=18.6km s-min=14.4km az=64.0*

DJA **11** *22:13:15.9±0.3,6°.S±3°×12°.6E±°,h511km±6km,M4.2/19, mb4.1/16,mB4.9/7,MLv4.3/19,Mw(mB)4.2/7*

ISC 11 22:13:14.7±0.6,6°.14S±0°.06×125°.90E±0°.07,h500km,n61, σ1§70/66,mb4.3/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.12**	**23**	P	**P**	**22 14 28.1**	**+1.5**
SOEI	**Soe**	**3.94**	**204**	P	**P**	**22 14 34.0**	**+1.2**
SOEI	**Soe**	**3.94**	**204**	P	**P**	**22 14 35.8**	**+3.0**
SOEI					**S**	**22 15 38.3**	**+2.0**
SANI	**Sanana**	**4.07**	**1**	P	**P**	**22 14 34.5**	**+0.8**
MSAI	**Masohi**	**4.10**	**47**	P	**P**	**22 14 35.8**	**+1.8**
BNDI	**Bandanaira**	**4.30**	**68**	P	**P**	**22 14 38.3**	**+2.7**
MMRI	**Maumere**	**4.40**	**235**	P	**P**	**22 14 38.0**	**+1.6**
MMRI	**Maumere**	**4.40**	**235**	P	**P**	**22 14 38.9**	**+2.4**
BATI	**Baumata**	**4.61**	**209**	P	**P**	**22 14 41.0**	**+2.7**
	14nm,0.3s,baz=335,slow=1.3,SNR=12						
BATI				S	**S**	**22 15 46.2**	**-0.2**
	11nm,0.3s,baz=352,slow=3.7,SNR=6.0						
BATI	**Baumata**	**4.61**	**209**	P	**P**	**22 14 40.2**	**+1.9**
EDFI	**Ende, Flores**	**4.92**	**238**	P	**P**	**22 14 42.4**	**+1.3**
SAUI	**Saumlaki**	**5.66**	**109**	P	**P**	**22 14 49.6**	**+1.8**
	1.3nm11µm208nm,0.9s						
SAUI	**Saumlaki**	**5.66**	**109**	P	**P**	**22 14 50.6**	**+2.8**
LUWI	**Luwuk**	**5.95**	**328**	P	**P**	**22 14 51.7**	**+1.1**
BNSI	**Bone**	**6.03**	**286**	P	**P**	**22 14 53.5**	**+2.2**
	0.2nm42nm,0.7s						
KAPI	**Kappang**	**6.22**	**280**	P	**P**	**22 14 55.4**	**+2.1**
	31nm,0.3s,baz=99,slow=7.3,SNR=56						
KAPI				S	**S**	**22 16 16.7**	**+2.9**
	1.4nm,0.3s,baz=206,slow=19,SNR=1.2						
KAPI	**Kappang**	**6.22**	**280**	P	**P**	**22 14 55.7**	**+2.4**
SPSI	**Sidrap Palu**	**6.48**	**289**	P	**P**	**22 14 57.2**	**+1.4**
	0.1nm28nm,0.8s						
TTSI	**Tana Toraja**	**6.80**	**297**	P	**P**	**22 15 00.5**	**+1.6**
	0.1nm16nm,1.1s						
KMSI	**Cibinong**	**6.94**	**344**	P	**P**	**22 15 01.9**	**+1.5**
	0.6nm5µm88nm,0.6s						
TNTI	**Ternate**	**7.02**	**12**	P	**P**	**22 15 01.8**	**+0.6**
	0.2nm48nm,0.8s						
TNTI	**Ternate**	**7.02**	**12**	P	**P**	**22 15 02.3**	**+1.1**
FAKI	**Fak Fak**	**7.09**	**63**	P	**P**	**22 15 04.1**	**+2.2**
	0.5nm2µm70nm,0.4s						
FAKI	**Fak Fak**	**7.09**	**63**	P	**P**	**22 15 03.0**	**+1.1**
SIJI	**Sorong**	**7.49**	**46**	P	**P**	**22 15 07.8**	**+1.9**
	8.9nm,0.3s,baz=288,slow=3.9,SNR=38						
SIJI				S	**S**	**22 16 38.3**	**+1.3**
	0.9nm,0.3s,baz=214,slow=22,SNR=2.1						
MTN	**Manton Dam**	**8.42**	**143**	P	**P**	**22 15 17.6**	**+2.1**
MPSI	**Mapaga**	**8.79**	**317**	P	**P**	**22 15 21.3**	**+1.9**
	9.9nm,0.7s						
TWSI	**Taliwang, Sumb**	**9.31**	**253**	P	**P**	**22 15 26.1**	**+1.3**
	9.1nm,1.2s						
KNRA	**Kununurra**	**9.88**	**164**	P	**P**	**22 15 32.9**	**+2.1**
JAGI	**Jajag, Banyuwa**	**11.88**	**258**	P	**P**	**22 15 51.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.89**	**181**	P	**P**	**22 15 53.1**	**+1.1**
	0.3nm,0.3s,baz=3.6,slow=10.0,SNR=23						
FITZ				S	**S**	**22 18 02.3**	**+0.6**
	0.5nm,0.3s,baz=349,slow=23,SNR=16						
WB0	**Warramunga Arr**	**15.86**	**149**		**P**	**22 16 34.1**	**+0.2**
WRAB	**Tennant Creek**	**15.98**	**150**	P	**P**	**22 16 35.2**	**0.0**
WRA	**Warramunga Arr**	**15.98**	**150**	P	**P**	**22 16 35.3**	**+0.1**
	3.7nm,0.3s,baz=332,slow=10,SNR=272						
WRA				S	**S**	**22 19 20.2**	**-0.3**
	0.1nm,0.3s,baz=326,slow=16,SNR=5.0						
WRA	**Warramunga Arr**	**15.98**	**150**	IAmb	IAmb	22 16 43.8	
	comp=Z,0.2nm,0.9s						
WB2	**Warramunga Arr**	**15.99**	**150**		**P**	**22 16 35.3**	**0.0**
WB2				IAmb	IAmb	22 16 37.2	
	comp=Z,13nm,0.8s						
MBWA	**Marble Bar**	**16.08**	**201**	P	**P**	**22 16 36.4**	**+0.2**
PSA00	**Pilbara Seismi**	**16.42**	**200**	P	**P**	**22 16 39.5**	**-0.3**
PSA00				IAmb	IAmb	22 16 57.9	
	comp=Z,10nm,1.1s						
KPJI	**Karang Pucung**	**16.90**	**265**	P	**P**	**22 16 44.8**	**0.0**
	comp=Z,31nm,0.8s						
COEN	**Coen**	**18.68**	**116**	P	**P**	**22 17 01.3**	**-0.2**
COEN				IAmb	IAmb	22 17 17.9	
	comp=Z,5.1nm,1.0s						
AS31	**Alice Springs**	**19.05**	**157**	IAmb	IAmb	22 17 06.9	
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**19.05**	**157**	P	**P**	**22 17 05.4**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=342,slow=15,SNR=130						
ASAR				S	**S**	**22 20 12.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=341,slow=22,SNR=4.7						
ASAR				ScP	**ScP**	**22 23 47.8**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=350,slow=2.1,SNR=14						
ASAR	**Alice Springs**	**19.05**	**157**	P	**P**	**22 17 05.3**	**+0.5**
GIRL	**Giralia**	**19.90**	**213**	P	**P**	**22 17 13.6**	**+1.2**
CTA	**Charters Tower**	**24.14**	**127**	P	**P**	**22 17 50.5**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=312,slow=14,SNR=1.9						
FORT	**Forrest**	**24.59**	**176**	P	**P**	**22 17 54.1**	**-0.4**
FORT				IAmb	IAmb	22 17 57.0	
	comp=Z,13nm,1.0s						
MORW	**Morawa**	**24.64**	**201**	P	**P**	**22 17 53.4**	**-1.6**
MORW				IAmb	IAmb	22 18 13.2	
	comp=Z,12nm,1.1s						
KULM	**Kulim**	**27.65**	**294**	P	**P**	**22 18 20.6**	**-1.2**
NWAO	**Narrogin (SRO)**	**27.85**	**196**	P	**P**	**22 18 22.5**	**-0.7**
NWAO				IAmb	IAmb	22 18 22.9	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**28.17**	**162**	P	**P**	**22 18 26.0**	**-0.1**
BBOO				IAmb	IAmb	22 18 26.6	
	comp=Z,6.2nm,0.9s						
RPSI	**Rantau Prapat**	**28.33**	**287**	P	**P**	**22 18 28.8**	**+1.0**
RPSI				IAmb	IAmb	22 18 33.0	
	comp=Z,3.7nm,0.4s						
GSI	**Gunungsitoli**	**29.23**	**284**	P	**P**	**22 18 33.1**	**-2.6**
STKA	**Stephens Creek**	**29.51**	**152**	P	**P**	**22 18 38.0**	**+0.2**
	comp=Z,3.9nm,0.4s,baz=326,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**29.51**	**152**	IAmb	IAmb	22 18 38.9	
	comp=Z,0.9nm,0.8s						
CAN	**Canberra**	**35.99**	**147**	P	**P**	**22 19 33.5**	**+0.6**
CAN				IAmb	IAmb	22 19 34.9	
	comp=Z,15nm,1.0s						
TOO	**Toolangi**	**36.01**	**153**	P	**P**	**22 19 34.0**	**+1.0**
KHZ	**Kahutara**	**55.42**	**138**	P	**P**	**22 22 00.0**	**-1.2**
MQZ	**McQueen's Vall**	**55.44**	**140**	P	**P**	**22 22 00.1**	**-1.3**
BHW	**Baring Head**	**55.87**	**137**	P	**P**	**22 22 03.0**	**-1.4**
MKAR	**Makanchi Array**	**65.33**	**329**	P	**P**	**22 23 04.5**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=128,slow=8.2,SNR=2.9						
KDJ	**Kajisay**	**65.36**	**322**	P	**P**	**22 23 05.2**	**-2.3**
KDJ				IAmb	IAmb	22 23 05.5	
	comp=Z,5.0nm,0.8s						

NNC **11** *22:23:48.7±1.4,41°.95N×63°.55E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=28.3km s-min=10.6km az=148.0*

IDC **11** *22:23:50.7±0.7,41°.95N×63°.52E,h0km,mb3.9/16, mb1 4.1/26,mb1mx3.9/56,mbtmp4.0/26,ML4.0/9,MS2.9/1, Ms1 2.9/1,ms1mx2.3/47,Error ellipse: s-maj=12.8km s-min=9.1km az=153.0*

MOS **11** *22:23:50.2±1.3,42°.07N×63°.62E,h9km,mb4.3/5,Error ellipse: s-maj=6.3km s-min=5.7km az=134.6*

NEIC **11** *22:23:52.8±2.1,41°.98N±0°.06×63°.43E±0°.08,h14km±4km, mb4.5/62,Error ellipse: s-maj=9.4km s-min=8.6km az=162.0*

ISU **11** *22:23:55.7,42°.14N×63°.94E,h5km*

ISC 11 22:23:52.0±0.3,42°.06N±0°.03×63°.59E±0°.03,h10km,n255, σ1§83/273,mb4.3/52,16C-19D,Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMD	**Tamdy-Bulak**	**0.84**	**111**	*i* P	**Pg**	**22 24 08.8**	**+0.5**
TMD				*i* S	**Sg**	**22 24 19.0**	**-0.3**
NUT	**Nurota**	**2.18**	**133**	*i* P	**Pb**	**22 24 32.9**	**+1.4**
NUT				*i* S	**Sg**	**22 25 01.4**	**-0.6**
BUXR	**Bukhara**	**2.39**	**166**	*i* P	**Pb**	**22 24 36.2**	**+1.1**
BUXR				*i* S	**Sb**	**22 25 05.6**	**+1.0**
SAM	**Samarkand**	**3.51**	**132**	*i* P	**Pn**	**22 24 48.2**	**+1.5**
SAM				*i* S	**Sg**	**22 25 44.4**	**-0.4**
TAS	**Tashkent**	**4.34**	**98**	PN	**Pn**	**22 24 59.5**	**+1.5**
TAS	**Tashkent**	**4.34**	**98**	Pn	**Pn**	**22 24 59.5**	**+1.5**
TAS	**Tashkent**	**4.34**	**98**	*i* P	**Pn**	**22 24 59.1**	**+1.1**
TAS				*i* S	**Sg**	**22 26 10.7**	**-0.5**
ZRB	**Zarabog**	**4.47**	**152**	*i* P	**Pb**	**22 25 09.1**	**-1.5**
ZRB				*i* S	**Sg**	**22 26 20.9**	**+5.3**
KK08	**Karatay Array**	**5.20**	**76**	Pn	**Pn**	**22 25 11.5**	**+1.7**
KK07	**Karatay Array**	**5.21**	**76**	Pn	**Pn**	**22 25 11.5**	**+1.6**
KK03	**Karatay Array**	**5.21**	**76**	Pn	**Pn**	**22 25 11.6**	**+1.6**
KK09	**Karatay Array**	**5.21**	**76**	Pn	**Pn**	**22 25 11.6**	**+1.6**
KK01	**Karatay Array**	**5.21**	**76**	Pn	**Pn**	**22 25 11.7**	**+1.6**
KK04	**Karatay Array**	**5.21**	**76**	Pn	**Pn**	**22 25 11.7**	**+1.7**
KK02	**Karatay Array**	**5.22**	**76**	Pn	**Pn**	**22 25 11.7**	**+1.6**
KK31	**Karatay Array**	**5.22**	**76**	Pn	**Pn**	**22 25 11.3**	**+1.3**
	17nm,0.2s,baz=261,slow=15,SNR=1146						
KK31				⇓Sn	**Sn**	**22 26 09.4**	**-0.9**
	30nm,0.4s,baz=260,slow=28,SNR=4.6						
KK31				⇓Lg	Lg	22 26 36.5	
	39nm,0.3s,baz=263,slow=28,SNR=7.0						
KK31	**Karatay Array**	**5.22**	**76**	PN	**Pn**	**22 25 11.6**	**+1.6**
KK31	**Karatay Array**	**5.22**	**76**	Pn	**Pn**	**22 25 11.6**	**+1.6**
KKAR	**Karatay Array**	**5.22**	**76**	PN	**Pn**	**22 25 11.7**	**+1.6**
KKAR	**Karatay Array**	**5.22**	**76**	Pn	**Pn**	**22 25 11.7**	**+1.6**
KKAR	**Karatay Array**	**5.22**	**76**	Pn	**Pn**	**22 25 11.5**	**+1.5**
KK06	**Karatay Array**	**5.22**	**76**	Pn	**Pn**	**22 25 11.8**	**+1.7**
KK05	**Karatay Array**	**5.23**	**76**	Pn	**Pn**	**22 25 11.9**	**+1.7**
CHGR	**Chuyangaron**	**5.45**	**127**	Pn	**Pn**	**22 25 14.3**	**+1.0**
BTK	**Batken**	**5.82**	**108**	PN	**Pn**	**22 25 18.9**	**+0.5**
BTK	**Batken**	**5.82**	**108**	Pn	**Pn**	**22 25 18.9**	**+0.5**
GYA2	**ALIBECK ARRAY**	**5.88**	**227**	Pn	**Pn**	**22 25 18.9**	**-0.3**
GEYT	**Alibeck**	**5.89**	**227**	Pn	**Pn**	**22 25 18.7**	**-0.6**
	16nm,0.3s,baz=42,slow=7.3,SNR=70						
GEYT				Sn	**Sn**	**22 26 22.4**	**-4.5**
	15nm,0.3s,baz=131,slow=29,SNR=3.2						
GEYT				Lg	Lg	22 26 54.3	
	1.4nm,0.3s,baz=37,slow=32,SNR=2.0						
GEYT				LR	LR	22 28 05.3	
	comp=Z,111nm,19.2s,baz=180,slow=44						
GYA0	**ALIBECK ARRAY**	**5.89**	**227**	PN	**Pn**	**22 25 19.1**	**-0.2**
GYA0	**ALIBECK ARRAY**	**5.89**	**227**	Pn	**Pn**	**22 25 19.1**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**5.89**	**227**	⇑Pn	**Pn**	**22 25 18.4**	**-0.9**
GYA0B				⇓Sn	**Sn**	**22 26 22.1**	**-4.8**
GYA0B				⇑Lg	Lg	22 26 54.1	
GYA0B	**ALIBECK ARRAY**	**5.89**	**227**	Pn	**Pn**	**22 25 18.7**	**-0.6**
GYA3	**ALIBECK ARRAY**	**5.89**	**227**	Pn	**Pn**	**22 25 19.0**	**-0.3**
GYB1	**ALIBECK ARRAY**	**5.89**	**227**	Pn	**Pn**	**22 25 19.0**	**-0.4**
GYA1	**ALIBECK ARRAY**	**5.89**	**227**	Pn	**Pn**	**22 25 18.9**	**-0.5**
GYB4	**ALIBECK ARRAY**	**5.90**	**227**	Pn	**Pn**	**22 25 19.0**	**-0.4**
GYB5	**ALIBECK ARRAY**	**5.90**	**227**	Pn	**Pn**	**22 25 19.1**	**-0.4**
GAR	**Garm**	**5.97**	**119**	Pn	**Pn**	**22 25 22.2**	**+1.7**
FRG	**Fergana**	**6.30**	**99**	*i* P	**Pn**	**22 25 27.4**	**+2.4**
FRG				*i* S	**Sn**	**22 26 40.0**	**+2.9**
AML	**Almayashu**	**7.52**	**86**	P	**Pn**	**22 25 43.8**	**+1.8**
	SNR=25						
EKS2	**Erkin-Say**	**7.57**	**82**	P	**Pn**	**22 25 43.9**	**+1.4**
	SNR=23						
AB07	**Akbulak array**	**7.62**	**342**	Pn	**Pn**	**22 25 42.5**	**-0.5**
AB08	**Akbulak array**	**7.62**	**342**	Pn	**Pn**	**22 25 42.7**	**-0.3**
AB03	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 42.7**	**-0.4**
AB01	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 43.0**	**-0.2**
AB06	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 42.9**	**-0.2**
AB31	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 42.1**	**-1.0**
	3.0nm,0.4s,baz=154,slow=14,SNR=152						
AB31				⇓Lg	Lg	22 27 53.7	
	30nm,0.5s,baz=158,slow=29,SNR=3.5						
AB31	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 43.0**	**-0.1**
ABKAR	**Akbulak array**	**7.63**	**342**		**Pn**	**22 25 42.4**	**-0.8**
ABKAR	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 42.8**	**-0.4**
AB02	**Akbulak array**	**7.63**	**342**	Pn	**Pn**	**22 25 42.9**	**-0.4**
AB04	**Akbulak array**	**7.64**	**342**	Pn	**Pn**	**22 25 43.5**	**+0.3**
AB09	**Akbulak array**	**7.64**	**342**	Pn	**Pn**	**22 25 43.0**	**-0.3**
AB05	**Akbulak array**	**7.65**	**342**	Pn	**Pn**	**22 25 43.2**	**-0.2**
HRA	**Herat**	**7.74**	**188**	Pn	**Pn**	**22 25 44.4**	**-0.4**
AAK	**Ala-Archa**	**8.10**	**82**	P	**Pn**	**22 25 51.3**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**8.10**	**82**	*ce*P	**Pn**	**22 25 51.0**	**+1.2**
AAK				pmax	pmax		
	comp=Z,34nm,1.0s						
UCH	**Uchtor**	**8.12**	**85**	P	**Pn**	**22 25 51.8**	**+1.5**
	SNR=16						
FRU1	**Bishkek**	**8.20**	**81**	P	**Pn**	**22 25 52.3**	**+1.2**
FRU1	**Bishkek**	**8.20**	**81**	Pn	**Pn**	**22 25 52.3**	**+1.2**
CHMS	**Chumysh**	**8.30**	**80**	P	**Pn**	**22 25 54.0**	**+1.6**
	SNR=16						
KBK	**Karaybulak**	**8.43**	**82**	P	**Pn**	**22 25 55.9**	**+1.5**
	SNR=16						
KBL	**Kabul**	**8.64**	**149**	P	**Pn**	**22 25 57.0**	**-0.3**
KBL	**Kabul**	**8.64**	**149**	Pn	**Pn**	**22 25 57.0**	**-0.3**
TKM2	**Tokmak 2**	**8.92**	**80**	P	**Pn**	**22 26 02.5**	**+1.4**
	SNR=20						
BOOM	**Boomskoye usch**	**9.17**	**83**	P	**Pn**	**22 26 05.2**	**+0.8**
BOOM	**Boomskoye usch**	**9.17**	**83**	Pn	**Pn**	**22 26 05.2**	**+0.8**
AKTO	**Aktyubinsk**	**9.22**	**337**	Pn	**Pn**	**22 26 04.8**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=152,slow=14,SNR=16						
AKTO				Sn	**Sn**	**22 27 45.1**	**-3.5**
	comp=Z,1.9nm,0.3s,baz=158,slow=16,SNR=1.9						
AKTO				Lg	Lg	22 28 46.9	
	comp=Z,3.3nm,0.3s,baz=252,slow=21,SNR=5.5						
KDJ	**Kajisay**	**10.11**	**85**	P	**Pn**	**22 26 18.3**	**+1.0**
KDJ	**Kajisay**	**10.11**	**85**	Pn	**Pn**	**22 26 18.3**	**+1.0**
CEP	**Cherat**	**10.52**	**139**	P	**Pn**	**22 26 24.6**	**+1.6**
CEP				S	**Sn**	**22 28 20.0**	**-0.9**
TARG	**Taragay, Kyrgy**	**10.61**	**87**		**Pn**	**22 26 24.8**	**+0.4**
NIL	**Nilore**	**11.34**	**135**	P	**Pn**	**22 26 34.6**	**+0.4**
NIL	**Nilore**	**11.34**	**135**	Pn	**Pn**	**22 26 34.6**	**+0.4**
PDGK	**Podgornoye**	**11.77**	**78**	⇑Pn	**Pn**	**22 26 41.0**	**+0.9**
	comp=Z,2.8nm,0.7s						
BVAR	**Borovoye Array**	**11.88**	**20**	Pn	**Pn**	**22 26 41.3**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=148,slow=42,SNR=11						
BVAR				Sn	**Sn**	**22 28 48.3**	**-5.7**
	comp=Z,7.9nm,0.3s,baz=294,slow=29,SNR=8.5						
BRVK	**Borovoye**	**11.89**	**20**	⇑Pn	**Pn**	**22 26 40.7**	**-0.8**
	comp=Z,20nm,0.6s						
BRVK	**Borovoye**	**11.89**	**20**	*de*P	**Pn**	**22 26 40.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,16nm,0.6s						
BRVK	**Borovoye**	**11.89**	**20**	Pn	**Pn**	**22 26 41.1**	**-0.4**
GROC	**Groznyy**	**13.15**	**281**	*e*P	**Pn**	**22 26 58.7**	**-0.1**
GROC				*e*S	**Sn**	**22 29 29.3**	**+4.2**
GROC				pmax	pmax		
	comp=Z,14nm,0.5s						
KURBB	**Kurchatov Arra**	**13.39**	**45**	Pn	**Pn**	**22 26 59.7**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=243,slow=13,SNR=8.2						
KURBB				Sn	Sn	22 29 20.3	-10
	comp=Z,0.1nm,0.3s,baz=207,slow=36,SNR=1.6						
KURBB				Lg	Lg	22 30 58.5	
	comp=Z,0.1nm,0.3s,baz=239,slow=29,SNR=4.3						
KURK	**Kurchatov**	**13.49**	**45**	⇑Pn	**Pn**	**22 27 01.2**	**-2.1**
	comp=Z,1.8nm,0.6s						
KURK	**Kurchatov**	**13.49**	**45**	⇑*e*P	**Pn**	**22 27 01.6**	**-1.7**
KURK	**Kurchatov**	**13.49**	**45**		**Pn**	**22 27 01.5**	**-1.8**
MAKZ	**Makanchi**	**13.96**	**64**	⇓Pn	Pn	22 27 06.4	-3.4
	comp=Z,3.1nm,0.4s						
MAKZ	**Makanchi**	**13.96**	**64**	P	**Pn**	**22 27 07.6**	**-2.2**
MAKZ	**Makanchi**	**13.96**	**64**		**Pn**	**22 27 07.6**	**-2.2**
MK31	**Makanchi Array**	**14.17**	**64**	⇓Pn	**Pn**	**22 27 10.6**	**-2.1**
	comp=Z,8.8nm,0.6s						
MK31	**Makanchi Array**	**14.17**	**64**	*ce*P	**Pn**	**22 27 10.3**	**-2.4**
MKAR	**Makanchi Array**	**14.17**	**64**	Pn	**Pn**	**22 27 10.3**	**-2.3**
	comp=Z,2.3nm,0.3s,baz=251,slow=14,SNR=85						
MKAR				Sn	**Sn**	**22 29 43.7**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=288,slow=32,SNR=1.6						
MKAR				Lg	Lg	22 31 22.2	
	comp=Z,0.4nm,0.3s,baz=268,slow=33,SNR=2.0						
MKAR	**Makanchi Array**	**14.17**	**64**		**Pn**	**22 27 10.6**	**-2.1**
ARU	**Arti**	**14.74**	**349**	Pn	**Pn**	**22 27 18.9**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=169,slow=11,SNR=4.1						
ARU				Sn	Sn	22 29 51.0	-13
	comp=Z,0.0nm,0.3s,baz=327,slow=21,SNR=2.1						
ARU				Lg	Lg	22 31 41.1	
	comp=Z,0.0nm,0.3s,baz=158,slow=22,SNR=1.5						
ARU	**Arti**	**14.74**	**349**	*d* i P	**Pn**	**22 27 22.4**	**+2.0**
ARU				S	**Sn**	**22 30 02.2**	**-1.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**14.74**	**349**	Pn	**Pn**	**22 27 20.6**	**+0.2**
SVE	**Sverdlovsk**	**14.90**	**354**	*e*P	**P**	**22 27 27.0**	**-1.3**
SVE				*e*S	**Sn**	**22 30 04.4**	**-3.1**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KBZ	**Khabaz**	**15.26**	**283**	Pn	**Pn**	**22 27 23.5**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=87,slow=7.3,SNR=6.5						
KBZ				Sn	Sn	22 30 01.8	-14
	comp=Z,0.1nm,0.3s,baz=70,slow=9.8,SNR=1.8						
KBZ	**Khabaz**	**15.26**	**283**	⇓*e*P	**Pn**	**22 27 27.0**	**-0.3**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KVAR	**Kislovodsk Arr**	**15.40**	**284**	Pn	**Pn**	**22 27 26.3**	**-3.1**
	baz=269,slow=23,SNR=1.3						
KVAR				Sn	Sn	22 30 05.0	-15
	baz=357,slow=20,SNR=2.3						
KIV	**Kislovodsk**	**15.41**	**284**	⇓P	**Pn**	**22 27 27.9**	**-1.5**
KIV	**Kislovodsk**	**15.41**	**284**	*e*P	**Pn**	**22 27 29.8**	**+0.4**
KIV				*e*S	**Sn**	**22 30 21.9**	**+1.8**
KIV				pmax	pmax		
	comp=Z,32nm,0.9s						
KIV				MLR	MLR		
	comp=Z,59nm,12.0s						
KIV	**Kislovodsk**	**15.41**	**284**		**Pn**	**22 27 27.0**	**-2.4**
KIV				IAmb	IAmb	22 27 45.4	
	comp=Z,10nm,0.6s						
VRH	**Novokhopyorsk**	**17.52**	**309**	*e*P	**P**	**22 27 58.0**	**+0.7**
VRH				pmax	pmax		
	comp=Z,50nm,1.8s						
WMQ	**Urumqi**	**17.73**	**76**	P	**Pn**	**22 28 00.6**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ	**Urumqi**	**17.73**	**76**		**Pn**	**22 28 00.6**	**+1.7**
DGZ	**Jazzator, Alta**	**18.22**	**57**	⇑*e*P	**Pn**	**22 28 04.6**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**18.44**	**43**	P	**P**	**22 28 07.2**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=244,slow=12,SNR=31						
ZALV				S	Sn	22 31 22.1	-11
	comp=Z,0.3nm,0.3s,baz=243,slow=27,SNR=1.9						
KIRV	**Kirov**	**18.78**	**337**	P	**P**	**22 28 10.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=139,slow=11,SNR=2.2						
VORD	**Divnogorie**	**18.87**	**306**	*e*P	**P**	**22 28 12.1**	**-0.1**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.4s						
VSR	**Storozhevoye**	**19.03**	**307**	*e*P	**P**	**22 28 13.4**	**-0.5**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ANN	**Anapa**	**19.16**	**287**	*e*P	**P**	**22 28 15.1**	**-0.3**
ANN				*e*S	**S**	**22 31 51.5**	**-1.1**
ANN				pmax	pmax		
	comp=Z,31nm,1.4s						
WSAR	**Wadi Sarin**	**19.22**	**194**	P	**P**	**22 28 11.9**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=51,slow=6.5,SNR=2.0						
LPSR	**Galich'ya Gora**	**19.66**	**311**	*e*P	**Pn**	**22 28 23.5**	**+1.3**
LPSR				*e*S	S	22 31 48.3	-14
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s

SPA0					IAmb	IAmb	22 31 35.8	
	comp=Z,9.2nm,1.1s							
SPA1	**Spitsbergen Ar**	**40.76**	**347**		P	**P**	**22 31 34.5**	**+1.8**
SPB3	**Spitsbergen Ar**	**40.76**	**347**		P	**P**	**22 31 34.0**	**+1.4**
SPA3	**Spitsbergen Ar**	**40.77**	**347**		P	**P**	**22 31 35.0**	**+2.3**
SPB5	**Spitsbergen Ar**	**40.77**	**347**		P	**P**	**22 31 34.2**	**+1.5**
SPB4	**Spitsbergen Ar**	**40.77**	**347**		P	**P**	**22 31 34.4**	**+1.6**
KBS	**Kingsbay**	**41.91**	**347**	*e*	P	**P**	**22 31 44.8**	**+2.7**
KBS	**Kingsbay**	**41.91**	**347**		P	**P**	**22 31 43.3**	**+1.3**
KBS					IAmb	IAmb	22 31 47.0	
	comp=Z,15nm,1.1s							
WHN	**Wuhan**	**41.94**	**89**		P	**P**	**22 31 40.5**	**-2.3**
KEST	**Kesra**	**42.09**	**280**		P	**P**	**22 31 42.9**	**-1.2**
EKR10	**Eskdalemuir Ar**	**44.24**	**311**		P	**P**	**22 32 01.8**	**+0.6**
EKR9	**Eskdalemuir Ar**	**44.25**	**311**		P	**P**	**22 32 01.7**	**+0.4**
EKR8	**Eskdalemuir Ar**	**44.26**	**311**		P	**P**	**22 32 01.9**	**+0.6**
EKR7	**Eskdalemuir Ar**	**44.27**	**311**		P	**P**	**22 32 01.4**	**0.0**
EKB10	**Eskdalemuir Ar**	**44.27**	**311**		P	**P**	**22 32 01.4**	**0.0**
EKR6	**Eskdalemuir Ar**	**44.27**	**311**		P	**P**	**22 32 01.9**	**+0.4**
EKB8	**Eskdalemuir Ar**	**44.28**	**311**		P	**P**	**22 32 01.6**	**+0.1**
EKR5	**Eskdalemuir Ar**	**44.28**	**311**		P	**P**	**22 32 01.1**	**-0.4**
EKB7	**Eskdalemuir Ar**	**44.28**	**311**		P	**P**	**22 32 02.1**	**+0.5**
EKR4	**Eskdalemuir Ar**	**44.29**	**311**		P	**P**	**22 32 01.3**	**-0.3**
EKB6	**Eskdalemuir Ar**	**44.29**	**311**		P	**P**	**22 32 02.3**	**+0.7**
EKB5	**Eskdalemuir Ar**	**44.29**	**311**		P	**P**	**22 32 00.8**	**-0.9**
EKR3	**Eskdalemuir Ar**	**44.29**	**311**		P	**P**	**22 32 01.6**	**0.0**
EKB4	**Eskdalemuir Ar**	**44.30**	**311**		P	**P**	**22 32 02.4**	**+0.7**
EKB3	**Eskdalemuir Ar**	**44.30**	**311**		P	**P**	**22 32 02.4**	**+0.7**
EKB2	**Eskdalemuir Ar**	**44.31**	**311**		P	**P**	**22 32 02.7**	**+1.0**
EKR1	**Eskdalemuir Ar**	**44.31**	**311**		P	**P**	**22 32 01.7**	**0.0**
EKB1	**Eskdalemuir Ar**	**44.31**	**311**		P	**P**	**22 32 01.5**	**-0.3**
EKB	**Eskdalemuir**	**44.31**	**311**		P	**P**	**22 32 01.4**	**-0.4**
ESK	**Eskdalemuir**	**44.33**	**311**		P	**P**	**22 32 02.6**	**+0.7**
ESK					pmax	pmax		
	comp=Z,9.0nm,1.2s							
ESK	**Eskdalemuir**	**44.33**	**311**		P	**P**	**22 32 02.6**	**+0.7**
ESK					IAmb	IAmb	22 32 12.4	
	comp=Z,9.0nm,1.1s							
DSB	**Dublin**	**46.62**	**309**		P	**P**	**22 32 18.2**	**-1.9**
DSB					IAmb	IAmb	22 32 22.2	
	comp=Z,6.7nm,1.1s							
USA0B	**Ussuriysk Arra**	**48.63**	**63**		P	**P**	**22 32 36.3**	**+0.5**
USA0B					pmax	pmax		
	comp=Z,4.0nm,1.0s							
USA0B	**Ussuriysk Arra**	**48.63**	**63**		P	**P**	**22 32 36.3**	**+0.5**
USA0B					IAmb	IAmb	22 32 47.6	
	comp=Z,4.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**48.63**	**63**		P	**P**	**22 32 36.8**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=307,slow=8.6,SNR=6.5							
ESBB	**Sonseca Array**	**49.92**	**291**		P	**P**	**22 32 46.2**	**+0.4**
ESBB					IAmb	IAmb	22 32 58.0	
	comp=Z,4.2nm,1.1s							
ESDC	**Sonseca Array**	**49.92**	**291**		P	**P**	**22 32 46.1**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=56,slow=7.4,SNR=9.8							
PAB	**San Pablo**	**50.24**	**291**		P	**P**	**22 32 48.3**	**0.0**
PAB					pmax	pmax		
	comp=Z,3.0nm,0.9s							
PAB	**San Pablo**	**50.24**	**291**		P	**P**	**22 32 48.3**	**0.0**
BORG	**Borgarnes**	**50.86**	**327**		P	**P**	**22 32 51.5**	**-1.0**
BORG					pmax	pmax		
	comp=Z,21nm,1.1s							
BORG	**Borgarnes**	**50.86**	**327**		P	**P**	**22 32 51.5**	**-1.0**
TWG	**Pinlang**	**51.19**	**93**		P	**P**	**22 32 56.4**	**+0.8**
JWT	**Wachi**	**54.97**	**72**		P	**P**	**22 33 24.4**	**+1.1**
JWT					IAmb	IAmb	22 33 35.1	
	comp=Z,2.1nm,0.7s							
BILL	**Bilibino**	**56.16**	**26**	*e*	P	**P**	**22 33 31.4**	**+0.1**
BILL				*e*			22 35 36.7	
BILL					pmax	pmax		
	comp=Z,3.0nm,1.0s							
JGF	**Kuroka**	**56.19**	**70**		P	**P**	**22 33 32.2**	**+0.1**
JGF					IAmb	IAmb	22 33 42.6	
	comp=Z,3.2nm,1.0s							
MJAR	**Matsushiro Arr**	**56.31**	**69**		P	**P**	**22 33 33.3**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=294,slow=9.1,SNR=2.6							
JMM	**Marumori**	**57.42**	**66**		P	**P**	**22 33 41.2**	**+0.5**
TOA0	**Torodi Ar. Sit**	**60.49**	**261**		P	**P**	**22 34 01.8**	**-0.5**
TOA0					IAmb	IAmb	22 34 02.6	
	comp=Z,3.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**60.49**	**261**		P	**P**	**22 34 01.7**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=45,slow=7.1,SNR=8.6							
TORD	**Torodi Ar. Bea**	**60.49**	**261**		P	**P**	**22 34 01.8**	**-0.5**
KOWA	**Kowa**	**63.84**	**266**		P	**P**	**22 34 24.3**	**-0.5**
KOWA					IAmb	IAmb	22 34 28.9	
	comp=Z,3.4nm,0.8s							
TOLK	**Toolik Lake Re**	**66.88**	**13**		P	**P**	**22 34 46.0**	**+2.2**
TOLK					IAmb	IAmb	22 34 50.1	
	comp=Z,3.3nm,0.8s							
COLD	**Coldfoot**	**68.05**	**13**		P	**P**	**22 34 52.6**	**+1.5**
COLD					IAmb	IAmb	22 34 54.1	
	comp=Z,5.9nm,1.1s							
IMAR	**Indian Mountai**	**68.49**	**15**		P	**P**	**22 34 55.3**	**+1.4**
C36M	**Paulatuk**	**68.76**	**3**		P	**P**	**22 34 56.4**	**+0.9**
MDM	**Murphy Dome**	**70.45**	**14**		P	**P**	**22 35 08.2**	**+2.1**
MDM					IAmb	IAmb	22 35 08.3	
	comp=Z,2.1nm,0.9s							
BPAW	**Bear Paw Mtn.**	**70.71**	**15**		P	**P**	**22 35 08.7**	**+1.0**
CCB	**Clear Creek Bu**	**70.81**	**14**		P	**P**	**22 35 09.7**	**+1.5**
IL31		**70.85**	**13**		P	**P**	**22 35 09.9**	**+1.5**
ILAR	**Eielson Array**	**70.85**	**13**		P	**P**	**22 35 09.5**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=329,slow=3.6,SNR=5.1							
WRH	**Wood River Hil**	**70.92**	**14**		P	**P**	**22 35 10.4**	**+1.5**
WRH					IAmb	IAmb	22 35 11.3	
	comp=Z,2.5nm,1.0s							
KTH	**Kantishna Hill**	**71.21**	**16**		P	**P**	**22 35 12.1**	**+1.3**
KTH					IAmb	IAmb	22 35 12.6	
	comp=Z,5.2nm,1.0s							
TRF	**Thorofare Moun**	**71.43**	**15**		P	**P**	**22 35 13.4**	**+1.1**
TRF					IAmb	IAmb	22 35 18.8	
	comp=Z,2.2nm,1.0s							
AMKA	**Amchitka**	**71.48**	**37**		P	**P**	**22 35 13.0**	**+0.5**
PPLA	**Purkeypile**	**71.54**	**16**		P	**P**	**22 35 14.3**	**+1.5**
RND	**Reindeer**	**71.75**	**15**		P	**P**	**22 35 15.1**	**+1.1**
RND					pmax	pmax		
	comp=Z,4.0nm,1.0s							
RND	**Reindeer**	**71.75**	**15**		P	**P**	**22 35 15.1**	**+1.1**
RND					IAmb	IAmb	22 35 15.4	
	comp=Z,4.4nm,1.0s							
SKT	**Skwentna**	**72.50**	**17**		P	**P**	**22 35 19.3**	**+0.8**
SKT					IAmb	IAmb	22 35 23.8	
	comp=Z,2.0nm,0.7s							
SUA	**Susitna One**	**73.13**	**16**		P	**P**	**22 35 23.6**	**+1.2**
SUA					IAmb	IAmb	22 35 24.7	
	comp=Z,4.4nm,1.0s							
BCAR	**Beaver Creek A**	**73.27**	**12**		P	**P**	**22 35 24.9**	**+1.9**
M24K	**Tolsona, Glenn**	**73.44**	**14**		P	**P**	**22 35 25.2**	**+1.1**
SCM	**Sheep Creek Mo**	**73.48**	**15**		P	**P**	**22 35 25.6**	**+1.3**
SCM					pmax	pmax		
	comp=Z,8.0nm,1.1s							
SCM	**Sheep Creek Mo**	**73.48**	**15**		P	**P**	**22 35 25.6**	**+1.3**
SCM					IAmb	IAmb	22 35 31.4	
	comp=Z,8.0nm,1.1s							
YKA	**Yellowknife Ar**	**75.78**	**359**		P	**P**	**22 35 37.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=6.1,slow=6.1,SNR=4.3							
MESA	**MESA**	**75.98**	**13**		P	**P**	**22 35 39.8**	**+0.8**
KDAK	**Kodiak Island**	**76.02**	**19**		P	**P**	**22 35 39.4**	**+0.4**
KDAK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KDAK	**Kodiak Island**	**76.02**	**19**		P	**P**	**22 35 39.4**	**+0.4**
FAKI	**Fak Fak**	**76.30**	**107**		P	**P**	**22 35 41.5**	**+0.2**
OHAK	**Old Harbor**	**76.35**	**20**		P	**P**	**22 35 42.1**	**+1.2**
GIRL	**Giralia**	**79.59**	**133**		P	**P**	**22 36 00.1**	**+0.9**
BATG	**Bathurst New B**	**80.49**	**328**		P	**P**	**22 36 03.5**	**-0.4**
BATG					IAmb	IAmb	22 36 10.2	
	comp=Z,5.1nm,1.0s							
FITZ	**Fitzroy Crossi**	**82.77**	**122**		P	**P**	**22 36 15.4**	**-0.9**
FITZ					IAmb	IAmb	22 36 35.2	
	comp=Z,2.3nm,0.8s							
KNRA	**Kununurra**	**83.00**	**118**		P	**P**	**22 36 17.5**	**0.0**
MOQ	**Mont Orford**	**84.49**	**330**		P	**P**	**22 36 26.1**	**+1.1**
WRA	**Warramunga Arr**	**89.73**	**117**		P	**P**	**22 36 50.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=324,slow=5.0,SNR=8.4							
ASAR	**Alice Springs**	**92.09**	**120**		P	**P**	**22 37 00.8**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=191,slow=24,SNR=5.3							

*NEIC **11** 22:28:44.7±2.9, 17°.14N±0°.06×95°.49W±0°.05, h109km±7km, Error ellipse: s-maj=8.6km s-min=6.2km az=177.0*
*MEX **11** 22:28:46.1±0.8, 17°.20N×95°.53W, h106km±7km, MD4.2*
*IDC **11** 22:28:48.4±2.8, 17°.17N×95°.06W, h132km±28km, mb3.5/5, mb1 3.7/8, mb1mx3.4/44, mbtmp3.9/8, Error ellipse: s-maj=28.9km s-min=15.6km az=59.0*

ISC 11 22:28:44.4±0.7, **17°.13N**±0°.04×**95°.47W**±0°.03, **h107**km±7km, **n81**, σ1s**72**/99, **mb4.0**/12, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.57**	**94**	*i*	P		**Pn**	**22 29 02.5**	**+1.1**
CMIG					eS		**Sn**	**22 29 14.4**	**+0.2**
CMIG	**Matias Romero**	**0.57**	**94**				**Pn**	**22 29 02.5**	**+1.1**
CMIG							**Sn**	**22 29 14.4**	**+0.2**
OXBJ	**Oaxaca**	**1.20**	**267**	*e*	P		**Pn**	**22 29 07.3**	**-0.5**
OXBJ				*i*	S		**Sn**	**22 29 23.7**	**-1.6**
OXBJ	**Oaxaca**	**1.20**	**267**				**Pn**	**22 29 07.3**	**-0.5**
OXBJ							**Sn**	**22 29 23.7**	**-1.6**
VHO	**Vista Hermosa**	**1.21**	**267**	*e*	P		**Pn**	**22 29 07.2**	**-0.7**
VHO				*i*	S		**Sn**	**22 29 24.5**	**-1.0**
TUIG	**Tuzandepetl**	**1.34**	**48**	*i*	P		**Pn**	**22 29 09.9**	**+0.7**
TUIG				*i*	S		**Sn**	**22 29 28.3**	**+0.3**
TUIG	**Tuzandepetl**	**1.34**	**48**				**Pn**	**22 29 09.9**	**+0.7**
TUIG							**Sn**	**22 29 28.3**	**+0.3**
HUIG	**Huatulco**	**1.49**	**204**	*e*	P		**Pn**	**22 29 11.3**	**+0.4**
HUIG				*e*	S		**Sn**	**22 29 32.0**	**+1.0**
HUIG	**Huatulco**	**1.49**	**204**				**Pn**	**22 29 11.3**	**+0.4**
HUIG							**Sn**	**22 29 32.0**	**+1.0**
TOIG	**Toxpalan**	**1.79**	**302**	*i*	P		**Pn**	**22 29 16.0**	**+1.2**
TOIG				*i*	S		**Sn**	**22 29 37.5**	**-0.3**
PEIG	**Puerto Escondi**	**1.96**	**235**	*e*	P		**Pn**	**22 29 16.4**	**-0.4**
PEIG				*e*	S		**Sn**	**22 29 41.9**	**+0.3**
YOIG	**Yosondua**	**2.00**	**262**	*e*	P		**Pn**	**22 29 18.0**	**+0.5**
YOIG				*e*	S		**Sn**	**22 29 42.1**	**-0.7**
TXIG	**Tlaxiaco**	**2.19**	**273**	*i*	P		**Pn**	**22 29 21.2**	**+1.2**
TXIG				*i*	S		**Sn**	**22 29 46.5**	**-0.8**
TGIG		**2.28**	**99**	*i*	P		**Pn**	**22 29 22.7**	**+1.8**
TGIG				*i*	S		**Sn**	**22 29 49.2**	**+0.3**
TGIG		**2.28**	**99**				**Pn**	**22 29 22.7**	**+1.8**
TGIG							**Sn**	**22 29 49.2**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.31**	**99**	*i*	S		**Sn**	**22 29 49.7**	**+0.2**
TGBT	**Tuxtla Gutierr**	**2.31**	**99**				**Sn**	**22 29 49.7**	**+0.2**
PCIG		**2.59**	**123**	*e*	P		**Pn**	**22 29 26.9**	**+2.0**
PCIG				*e*	S		**Sn**	**22 29 58.0**	**+2.0**
PCIG		**2.59**	**123**				**Pn**	**22 29 26.9**	**+2.0**
PCIG							**Sn**	**22 29 58.0**	**+2.0**
PNIG	**Pinotepa**	**2.65**	**254**	*e*	P		**Pn**	**22 29 25.0**	**-0.7**
PNIG				*i*	S		**Sn**	**22 29 54.0**	**-3.4**
PNIG	**Pinotepa**	**2.65**	**254**				**Pn**	**22 29 25.0**	**-0.7**
PNIG							**Sn**	**22 29 54.0**	**-3.4**
TLIG	**Tlapa**	**2.98**	**279**		Pn		**Pn**	**22 29 31.8**	**+1.6**
TLIG					Sn		**Sn**	**22 29 59.8**	**-5.8**
CCIG	**Comitan**	**3.31**	**104**		Pn		**Pn**	**22 29 35.6**	**+1.0**
CCIG					Sn		**Sn**	**22 30 06.1**	**-7.3**
UNM	**Universidad Na**	**4.14**	**302**		Pn		**Pn**	**22 29 44.5**	**-1.4**
HUEH	**Huehuetenango**	**4.22**	**115**		Pn		**Pn**	**22 29 47.2**	**+0.3**
RTAL	**Retalhuleu**	**4.47**	**125**		Pn		**Pn**	**22 29 49.0**	**-1.1**
APG	**El Apazote**	**5.26**	**113**		P		**Pn**	**22 30 01.3**	**+0.3**
	1.4nm,0.3s,baz=310,slow=13,SNR=28								
APG					S		**Sn**	**22 30 58.0**	**-2.6**
	17nm,0.3s,baz=176,slow=22,SNR=13								
PETF	**Flores**	**5.37**	**91**		Pn		**Pn**	**22 30 02.7**	**+0.5**
PETF					Sn		**Sn**	**22 31 00.1**	**-2.8**
MOIG	**Morelia**	**5.99**	**296**		Pn		**Pn**	**22 30 10.1**	**-0.7**
ESQI	**Esquipulas**	**6.43**	**113**		Pn		**Pn**	**22 30 15.9**	**-0.9**
MTO3	**Montecristo**	**6.48**	**114**		Pn		**Pn**	**22 30 17.1**	**-0.5**
TEIG	**Tepich**	**7.48**	**65**		P		**Pn**	**22 30 29.4**	**-1.5**
	6.0nm,0.3s,baz=229,slow=2.4,SNR=25								
TEIG					S		**Sn**	**22 31 48.6**	**-5.6**
	24nm,0.3s,baz=112,slow=1.5,SNR=24								
TEIG	**Tepich**	**7.48**	**65**				**Pn**	**22 30 29.7**	**-1.2**
TGUH	**Tegucigalpa,Un**	**8.47**	**110**		Pn		**Pn**	**22 30 42.0**	**-2.5**
CRIN	**San Cristobal**	**9.26**	**117**		Pn		**Pn**	**22 30 54.0**	**-1.1**
MATN	**Matagalpa**	**10.13**	**113**		Pn		**Pn**	**22 31 05.6**	**-1.3**
KVTX	**Kingsville**	**10.60**	**348**		Pn		**Pn**	**22 31 13.8**	**+0.6**
FSCY	**Frank Sound, G**	**13.75**	**79**		Pn		**Pn**	**22 31 55.4**	**+0.5**
TXAR	**Lajitas Array**	**14.28**	**330**		P		**P**	**22 32 05.3**	**-0.5**
	baz=144,slow=13,SNR=3.6								
TXAR	**Lajitas Array**	**14.28**	**330**				**P**	**22 32 03.5**	**-2.3**
LCCY	**Blossom Villag**	**14.82**	**78**		Pn		**Pn**	**22 32 07.5**	**-1.2**
WHTX	**Lake Whitney,**	**14.90**	**353**		Pn		**Pn**	**22 32 09.8**	**+0.2**
CBCY	**The Bluff, Cay**	**15.14**	**78**		Pn		**Pn**	**22 32 12.4**	**-0.3**
346A	**Big Creek Wild**	**15.21**	**20**		Pn		**Pn**	**22 32 10.8**	**-2.6**
ABTX	**Abilene, Hawle**	**15.88**	**347**		Pn		**P**	**22 32 22.9**	**-0.5**
ABTX					IAmb		IAmb	22 32 26.8	
	comp=Z,5.0nm,0.6s								
553A	**Crawfordville**	**16.45**	**36**				**P**	**22 32 29.9**	**+0.2**
X37A	**Clayton**	**17.38**	**0**		P		**Pn**	**22 32 42.0**	**+1.7**
X37A					IAmb		IAmb	22 32 51.4	
	comp=Z,5.5nm,0.8s								
MIAR	**Mount Ida**	**17.42**	**5**		P		**Pn**	**22 32 41.1**	**+0.4**
MIAR					IAmb		IAmb	22 32 49.0	
	comp=Z,6.1nm,0.9s								
Y45A	**Yeager Farm, C**	**17.49**	**17**		P		**Pn**	**22 32 41.3**	**-0.3**
Y45A					IAmb		IAmb	22 32 43.6	
	comp=Z,10nm,0.7s								
LRAL	**Lakeview Retre**	**17.58**	**24**		P		**Pn**	**22 32 43.5**	**+0.8**
WMOK	**Wichita Mounta**	**17.78**	**351**		P		**Pn**	**22 32 45.7**	**+0.6**
MSTX	**Muleshoe**	**18.00**	**340**		P		**Pn**	**22 32 48.1**	**+0.2**
MSTX					IAmb		IAmb	22 32 49.5	
	comp=Z,4.2nm,0.7s								
W41B	**Gary Mavity, V**	**18.20**	**8**		P		**Pn**	**22 32 51.0**	**+1.0**
W41B					IAmb		IAmb	22 33 09.7	
	comp=Z,6.4nm,1.1s								
AMTX	**Amarillo**	**18.53**	**344**		P		**Pn**	**22 32 54.4**	**+0.3**
Y49A	**Blount Mountai**	**18.54**	**24**		P		**P**	**22 32 53.0**	**+0.3**
X48A	**Hartselle**	**18.83**	**22**		P		**P**	**22 32 55.0**	**-0.8**
X48A					IAmb		IAmb	22 32 56.7	
	comp=Z,3.1nm,0.7s								
255A	**Hazlehurst**	**18.86**	**36**		P		**P**	**22 32 55.5**	**-0.7**
FCAR	**Ozark Folk Cen**	**18.92**	**8**		P		**Pn**	**22 32 57.6**	**-1.0**
FCAR					IAmb		IAmb	22 32 58.7	
	comp=Z,3.2nm,0.7s								
121A	**Cookes Peak, D**	**18.94**	**326**		IAmb		IAmb	22 33 03.7	
	comp=Z,3.8nm,0.8s								
PLAL	**Pickwick Lake**	**18.96**	**19**		P		**Pn**	**22 32 58.1**	**-1.0**
LCAR	**Lake Charles**	**19.25**	**11**		P		**Pn**	**22 33 01.2**	**-1.2**
U38A	**Gravette**	**19.25**	**3**		P		**Pn**	**22 33 01.4**	**-1.2**
U38A					IAmb		IAmb	22 33 03.8	
	comp=Z,3.1nm,0.6s								
U40A	**Yellville**	**19.29**	**6**		P		**Pn**	**22 33 02.1**	**-0.8**
U40A					IAmb		IAmb	22 33 02.6	
	comp=Z,7.3nm,0.6s								
ANMO	**Albuquerque**	**20.27**	**333**		P		Pn	22 33 16.2	+1.6
	comp=Z,0.0nm,0.6s,baz=132,slow=10,SNR=3.6								
Z56A	**Williston**	**20.52**	**36**		P		**P**	**22 33 15.3**	**+1.1**
HODGE	**Hodges**	**20.74**	**32**		IAmb		IAmb	22 33 31.2	
	comp=Z,7.7nm,0.8s								
T47A	**Sharon Grove**	**21.11**	**19**		P		**P**	**22 33 22.9**	**+2.4**
T47A					IAmb		IAmb	22 33 23.7	
	comp=Z,10.0nm,0.7s								
TKL	**Tuckaleechee C**	**21.18**	**27**		P		**P**	**22 33 20.7**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=4.8,slow=1.0,SNR=3.5								
S44A	**Carbondale**	**21.20**	**14**		P		**P**	**22 33 20.9**	**-0.5**
S44A					IAmb		IAmb	22 33 24.4	
	comp=Z,7.9nm,0.8s								
R40A	**Maddies Statio**	**21.27**	**7**		P		**P**	**22 33 22.6**	**+0.5**
JSC	**Jenkinsville**	**21.30**	**34**		P		**P**	**22 33 22.4**	**-0.2**
JSC					IAmb		IAmb	22 33 22.6	
	comp=Z,4.9nm,0.5s								
BLO	**Bloomington**	**23.31**	**18**		IAmb		IAmb	22 33 44.7	
	comp=Z,9.3nm,0.8s								
PV22	**Blue Mesa, Par**	**24.30**	**334**		IAmb		IAmb	22 33 56.5	
	comp=Z,3.3nm,0.9s								
R55A	**Marlinton**	**25.00**	**30**		P		**P**	**22 33 58.6**	**+0.2**
R55A					IAmb		IAmb	22 34 00.2	
	comp=Z,6.2nm,0.7s								
PDAR	**Pinedale Array**	**28.23**	**338**		P		**P**	**22 34 30.7**	**+3.2**
	comp=Z,0.2nm,0.5s,baz=151,slow=12,SNR=2.9								
NVAR	**Mina Array Bea**	**29.14**	**321**		P		**P**	**22 34 39.0**	**+3.3**
	comp=Z,1.5nm,0.7s,baz=137,slow=9.5,SNR=9.3								
NVAR	**Mina Array Bea**	**29.14**	**321**		P		P	22 34 39.3	+3.6
LHV	**Little Huntoon**	**29.15**	**321**		P		**P**	**22 34 37.5**	**+2.0**
LHV					IAmb		IAmb	22 34 39.8	
	comp=Z,2.2nm,0.8s								
PLCA	**Paso Flores**	**62.05**	**159**		P		**P**	**22 38 53.2**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=22,slow=8.4,SNR=4.1								
ARCES	**ARCESS Array B**	**84.20**	**18**		P		**P**	**22 41 04.9**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=316,slow=3.3,SNR=4.5								
WRA	**Warramunga Arr**	**132.82**	**258**		PKP		**PKiKP**	**22 47 48.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=80,slow=2.6,SNR=2.3								

*WEL **11** 22:32:49.1, 43°.3E±1°×17°.3E±°, h40km±2km, M3.5/12, ML3.7/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=83.3*
*IDC **11** 22:32:50.8±2.8, 42°.65S×172°.94E, h42km±26km, mb3.0/2, mb1 3.3/3, mb1mx3.2/20, mbtmp3.2/3, ML3.2/1, MS3.3/1,*

Ms1 3.3/1, ms1mx3.0/6, Error ellipse: s-maj=46.6km s-min=16.4km az=135.0

ISC 11 22:32:49.1±1.0, **42°.72S**±0°.04×**173°.24E**±0°.04, **h47**km±9km, **n77**, σ1s**37**/82, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.29**	**211**		P		**Pn**	**22 32 58.6**	**+0.7**
KHZ	**Kahutara**	**0.37**	**36**		P		**Pn**	**22 32 58.9**	**+0.2**
KHZ					S		**Sn**	**22 33 05.2**	**-0.3**
AMCZ	**Amberley**	**0.63**	**223**		P		**Pn**	**22 33 02.4**	**+0.6**
LTZ	**Lake Taylor**	**0.72**	**265**		P		**Pn**	**22 33 03.0**	**0.0**
LTZ					S		**Sn**	**22 33 12.0**	**-1.1**
THZ	**Tophouse**	**0.99**	**345**		P		**Pn**	**22 33 06.2**	**-0.4**
OKCZ	**Okains Bay**	**1.01**	**187**		P		**Pn**	**22 33 07.7**	**+0.7**
OKCZ					S		**Sn**	**22 33 21.0**	**+0.8**
OXZ	**Oxford**	**1.07**	**235**		S		**Sn**	**22 33 20.4**	**-1.1**
MQZ	**McQueen's Vall**	**1.08**	**203**		P		**Pn**	**22 33 07.6**	**-0.2**
MQZ					S		**Sn**	**22 33 20.9**	**-0.7**
BSWZ	**Blackbirch Sta**	**1.11**	**25**		P		**Pn**	**22 33 09.3**	**+1.1**
AKCZ	**Akaroa Harbour**	**1.18**	**192**		P		**Pn**	**22 33 09.9**	**+0.7**
CMWZ	**Cape Campbell**	**1.21**	**37**		P		**Pn**	**22 33 11.4**	**+1.8**
INZ	**Inchbonnie**	**1.32**	**269**		P		**Pn**	**22 33 11.3**	**+0.1**
TUWZ	**Tuamarina**	**1.39**	**22**		P		**Pn**	**22 33 12.6**	**+0.6**
DSZ	**Denniston Nort**	**1.44**	**312**		P		**Pn**	**22 33 12.7**	**-0.1**
MHCZ	**Mount Hutt**	**1.47**	**236**		P		**Pn**	**22 33 13.1**	**-0.1**
NNZ	**Nelson**	**1.50**	**4**		P		**Pn**	**22 33 14.2**	**+0.6**
WACZ	**Wakanui South**	**1.59**	**219**		P		**Pn**	**22 33 15.1**	**+0.2**
TCW	**Tory Channel**	**1.69**	**28**		P		**Pn**	**22 33 16.6**	**+0.4**
BHW	**Baring Head**	**1.79**	**43**		P		**Pn**	**22 33 17.6**	**+0.1**
WEL	**Wellington**	**1.83**	**39**		P		**Pn**	**22 33 18.7**	**+0.6**
WVZ	**Waitaha Valley**	**1.87**	**258**		P		**Pn**	**22 33 19.2**	**+0.6**
RPZ	**Rata Peaks**	**1.88**	**237**		P		**Pn**	**22 33 19.1**	**+0.2**
	16nm,0.3s,baz=42,slow=14,SNR=80								
RPZ					S		**Sn**	**22 33 39.6**	**-1.8**
	25nm,0.3s,baz=72,slow=4.7,SNR=16								
RPZ	**Rata Peaks**	**1.88**	**237**		P		**Pn**	**22 33 18.7**	**-0.2**
PLWZ	**Palliser**	**1.89**	**53**		P		**Pn**	**22 33 18.9**	**-0.1**
ARCZ	**Arundel**	**1

comp=Z,0.6nm,0.4s,baz=96,slow=7.9,SNR=17
WRA Warramunga Arr 43.00 265 IAmb IAmb 23 29 34.6
comp=Z,0.1nm,0.9s
FORT Forrest 47.16 249 P **P** **23 30 06.6 -0.7**
KNRA Kununurra 49.21 269 P **P** **23 30 21.7 -1.1**
KNRA IAmb IAmb 23 30 28.7
comp=Z,9.6nm,1.1s
FITZ Fitzroy Crossi 51.43 265 P **P** **23 30 38.3 -0.7**
FITZ IAmb IAmb 23 30 39.5
comp=Z,3.4nm,0.9s
QSPA South Pole Qui 67.24 180 P **P** **23 32 25.1 +1.0**
BELA Belgrano 2 77.42 173 P **P** **23 33 22.5 -0.2**
USA0B Ussuriysk Arra 80.16 327 P **P** **23 33 38.4 +0.8**
USA0B IAmb IAmb 23 33 50.4
comp=Z,4.2nm,0.6s
AKASG Malin Array Be 144.35 328 PKhKP PKPpre 23 40 54.6
comp=Z,0.8nm,0.5s,baz=45,slow=4.3,SNR=4.2
BRTR Keskin Array B 147.33 309 PKPbc **PKPbc** **23 41 09.0 +1.8**
comp=Z,0.4nm,0.8s,baz=71,slow=2.3,SNR=2.4
CLL Collm 149.99 344 ePKPbc **PKPbc** **23 41 13.0 -0.1**
TORD Torodi Ar. Bea 170.30 187 PKP **PKPdf** **23 41 30.4 -0.2**
comp=Z,0.7nm,0.8s,baz=290,slow=2.1,SNR=3.4
TORD PKPab **PKPab** **23 42 49.0 -1.4**
comp=Z,0.3nm,0.8s,baz=181,slow=4.6,SNR=1.8

VAO ***11*** *23:26:59.6±2.5, 2.°04N×80.°06W, h10km, mb4.5*
IDC ***11*** *23:27:04.6±0.7, 1.°40N×79.°53W, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/30, mbtmp4.0/18, ML2.7/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/32, Error ellipse: s-maj=21.3km s-min=13.8km az=60.0*
RSNC ***11*** *23:27:06.7±1.3, 1.°57N×79.°73W, h30km±6km, ML3.9, Mw4.3, Fault plane solution: NP1:ϕ=23.00000°, δ75.00000°, λ-82.00000°,*
IGQ ***11*** *23:27:07.1±1.4, 2.°18N±8.°0W×1.°7, h15km, M4.6*
NEIC ***11*** *23:27:09.3±1.8, 1.°48N±0.°05×79.°45W±0.°08, h33km±4km, mb4.6/69, Error ellipse: s-maj=12.4km s-min=4.7km az=59.0*

ISC 11 23:27:08.1±1.3, 1.°50N±0.°03×79.°52W±0.°04, h24km±9km, n182, σ1°36/181, mb4.5/49, MS3.5/5, 7C-1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**0.86**	**68**	*i* P		**Pb**	**23 27 24.3**	**0.0**
TUMC				*e*S		**Sn**	**23 27 36.9**	**+0.3**
TUMC				*i*			23 27 46.6	
comp=Z,7μm,0.6s								
BV15	**Puerto Quito-O**	**1.36**	**167**	P		**Pn**	**23 27 32.0**	**+0.4**
BV15				S		**Sb**	**23 27 50.5**	**+0.6**
PAC1	**Pacto, Paraso**	**1.42**	**149**	*e*P		**Pn**	**23 27 32.3**	**-0.3**
PAC1				*e*S		**Sb**	**23 27 52.5**	**+0.6**
PAC1	**Pacto, Paraso**	**1.42**	**149**	P		**Pn**	**23 27 32.8**	**+0.1**
CUSE	**Cuicocha Este**	**1.63**	**136**	*e*P		**Pn**	**23 27 36.0**	**+0.3**
URCU	**Urcuqui**	**1.65**	**130**	P		**Pn**	**23 27 36.3**	**+0.3**
OTAV	**Otavalo**	**1.65**	**139**	*e*P		**Pn**	**23 27 35.6**	**-0.4**
OTAV				*e*S		**Sb**	**23 27 58.4**	**-0.1**
OTAV				*i*			23 28 06.9	
comp=Z,597nm,0.7s								
OTAV	**Otavalo**	**1.65**	**139**	Pn		**Pn**	**23 27 36.0**	**0.0**
OTAV				Sn		**Sn**	**23 27 52.0**	**-4.6**
CUIC	**Cuicocha-Domo**	**1.66**	**136**	P		**Pn**	**23 27 36.3**	**+0.2**
CHL1	**Volc¡n Chiles**	**1.72**	**114**	P		**Pn**	**23 27 37.2**	**+0.1**
CHL2	**Volc¡n Chiles**	**1.75**	**113**	P		**Pn**	**23 27 37.8**	**+0.4**
IMBA	**Imbabura, San**	**1.79**	**132**	P		**Pn**	**23 27 39.5**	**-1.0**
YAHU	**Yahuarcocha**	**1.83**	**128**	P		**Pn**	**23 27 39.7**	**+1.2**
FLF1	**Flavio Alfaro-**	**1.87**	**190**	P		**Pb**	**23 27 40.5**	**-1.0**
FLFR	**Flavio Alfaro**	**1.87**	**190**	P		**Pb**	**23 27 41.0**	**-0.6**
TULM	**Tulcn-Chalpat**	**1.90**	**114**	P		**Pn**	**23 27 40.3**	**+0.8**
GGPC	**Guagua Pichinc**	**1.90**	**151**	P		**Pn**	**23 27 40.9**	**+1.3**
GR1C	**Gorgona, Isla**	**2.02**	**42**	*i* P		**Pn**	**23 27 38.2**	**-2.5**
GR1C				*e*S		**Sn**	**23 28 04.4**	**-0.8**
CAB1	**Cabo Pasado-Ma**	**2.08**	**206**	P		**Pn**	**23 27 41.6**	**+0.1**
CABP	**Cabo Pasado**	**2.08**	**206**	P		**Pn**	**23 27 41.7**	**+0.2**
CCUFI	**Cufio, Nario**	**2.19**	**97**	*e*P		**Pn**	**23 27 44.6**	**+1.1**
GCUF	**Volcan Galeras**	**2.19**	**97**	*e*P		**Pn**	**23 27 44.4**	**+0.8**
CPAS1	**Pasto**	**2.22**	**98**	*e*P		**Pn**	**23 27 45.5**	**+1.6**
CPAS2	**Pasto**	**2.29**	**97**	*e*P		**Pb**	**23 27 48.6**	**-0.3**
BBAC	**Balboa, Cauca**	**2.33**	**77**	*e*P		**Pn**	**23 27 44.5**	**-0.7**
BBAC				*e*S		**Sb**	**23 28 15.7**	**-2.4**
BBAC				*i*			23 28 24.1	
comp=Z,740nm,0.5s								
ILLI	**Illinizas Sur**	**2.33**	**160**	P		**Pn**	**23 27 47.1**	**+1.6**
BREF	**Cotopaxi Volca**	**2.41**	**153**	P		**Pb**	**23 27 51.1**	**0.0**
BTAM	**Cotopaxi Volca**	**2.43**	**152**	P		**Pb**	**23 27 50.6**	**-0.9**
CRUC	**La Cruz**	**2.57**	**88**	*e*P		**Pn**	**23 27 50.4**	**+1.8**
SOTA	**Rioblanco**	**2.98**	**78**	*e*P		**Pn**	**23 27 55.1**	**+0.7**
ARDO	**Archidona, Ten**	**3.01**	**145**	P		**Pb**	**23 27 59.0**	**-2.2**
POPC	**Popayan, Colom**	**3.03**	**70**	*e*P		**Pn**	**23 27 54.5**	**-0.3**
POPC				*e*S		**Sb**	**23 28 35.3**	**-2.9**
PUAC	**Puerto Asis, P**	**3.10**	**108**	*e*P		**Pn**	**23 27 58.2**	**+2.6**
PCON	**Cinco Dias**	**3.23**	**75**	*e*P		**Pn**	**23 27 58.8**	**+0.9**
PPLP	**Puerto Lpez**	**3.27**	**203**	P		**Pn**	**23 27 58.4**	**+0.4**
MALC	**Bahia Malaga**	**3.32**	**41**	*e*P		**Pn**	**23 27 57.5**	**-1.1**
MAHP	**Paez Belalcaza**	**3.81**	**69**	*e*P		**Pn**	**23 28 07.6**	**+2.0**
FLOC	**Florencia**	**3.87**	**89**	*e*P		**Pn**	**23 28 08.1**	**+1.9**
YOTC	**Yotoco, Valle**	**4.02**	**52**	*e*P		**Pn**	**23 28 05.2**	**-3.2**
YOTC				*e*S		**Sn**	**23 28 54.2**	**-0.7**
YOTC				*i*			23 29 24.9	
comp=Z,105nm,0.6s								
GARC	**Garzon, Huila**	**4.09**	**80**	*e*P		**Pn**	**23 28 10.4**	**+1.1**
BETC	**Betania**	**4.25**	**74**	*e*P		**Pn**	**23 28 13.4**	**+2.0**
ORTC	**Ortega, Tolima**	**4.90**	**61**	*e*P		**Pn**	**23 28 23.0**	**+2.6**
PTLC	**Puerto Leguiza**	**4.91**	**106**	*e*P		**Pn**	**23 28 24.1**	**+3.6**
ANIL	**Santa Ana**	**5.08**	**54**	*e*P		**Pn**	**23 28 23.3**	**+0.3**
PRAC	**Prado**	**5.13**	**64**	*e*P		**Pn**	**23 28 25.2**	**+1.7**
TOLC	**Tolima**	**5.20**	**54**	*e*P		**Pn**	**23 28 24.5**	**-0.3**
RREF	**El Recreo**	**5.37**	**51**	*e*P		**Pn**	**23 28 22.9**	**-4.5**
CBOC	**Ciudad Bolivar**	**5.58**	**39**	*e*P		**Pn**	**23 28 28.5**	**-1.3**
MACC	**Macarena, Meta**	**5.71**	**83**	*e*P		**Pn**	**23 28 33.5**	**+2.0**
ROSC	**El Rosal**	**6.17**	**57**	Pn		**Pn**	**23 28 39.7**	**+1.6**
comp=Z,1.2nm,0.3s,baz=216,slow=23,SNR=2.8								
ROSC				Sn		**Sn**	**23 29 53.1**	**+4.9**
baz=25,slow=21,SNR=1.6								
ROSC	**El Rosal**	**6.17**	**57**			**Pn**	**23 28 39.6**	**+1.5**
CHIC	**Chingaza**	**6.57**	**62**	*e*P		**Pn**	**23 28 45.5**	**+1.9**
PTBC	**PUERTO BERRIO,**	**7.12**	**45**	*e*P		**Pn**	**23 28 50.3**	**-0.5**
UREC	**San Jos de Ur**	**7.38**	**32**	*e*P		**Pn**	**23 28 55.1**	**+0.6**
CAPC	**Capurgana**	**7.42**	**17**	*e*P		**Pn**	**23 28 55.2**	**+0.3**
CAPC				*e*S		Pn	23 29 09.8	+15
ZARC	**Zaragoza, Cauc**	**7.56**	**38**	*e*P		**Pn**	**23 28 58.9**	**+2.0**
BCIP	**Isla Barro Col**	**7.63**	**358**	Pn		**Pn**	**23 28 57.6**	**-0.2**
RUSC	**La Rusia**	**7.77**	**56**	*e*P		**Pn**	**23 29 02.1**	**+1.8**
ATAH	**Atahualpa**	**8.65**	**173**	Pn		**Pn**	**23 29 16.4**	**+4.2**
comp=Z,1.5nm,0.3s,baz=9.7,slow=13,SNR=7.9								
SMLC	**San Martn de**	**9.06**	**37**	*e*P		**Pn**	**23 29 19.1**	**+1.6**
SJCC	**San Jacinto, C**	**9.40**	**27**	*e*P		**Pn**	**23 29 23.8**	**+1.6**
JTS	**Las Juntas de**	**10.27**	**329**	Pn		**Pn**	**23 29 35.5**	**+1.4**
comp=Z,0.3nm,0.3s,baz=342,slow=21,SNR=2.4								
JTS				LR		LR	23 32 59.6	
comp=Z,343nm,18.6s,baz=211,slow=34								
PAYG	**Puerto Ayora**	**10.98**	**259**	Pn		**Pn**	**23 29 45.0**	**+1.2**
CZSB	**Cruzeiro do Su**	**11.41**	**144**	*e*P		**Pn**	**23 29 53.2**	**+3.5**
SDV	**Santo Domingo**	**11.50**	**50**	LR		LR	23 34 42.7	
comp=Z,128nm,19.5s,baz=126,slow=40								
MTDJ	**Mount Denham**	**16.74**	**7**			**P**	**23 31 03.1**	**-0.3**
PCRV	**Puerto La Cruz**	**17.13**	**59**	P		**P**	**23 31 07.3**	**-0.4**
comp=Z,1.2nm,0.3s,baz=167,slow=0.2,SNR=5.6								
PLCV	**Puerto La Cruz**	**17.16**	**59**	P		**P**	**23 31 07.3**	**-0.7**
BANI	**BANI**	**19.05**	**28**	P		**P**	**23 31 28.2**	**-0.7**
SDDR	**Presa de Saban**	**19.16**	**24**	P		**P**	**23 31 30.3**	**+0.2**
CCIG	**Comitan**	**19.24**	**320**	P		**Pn**	**23 31 33.2**	**+1.0**
SAML	**Samuel**	**19.31**	**123**	P		**P**	**23 31 31.9**	**+0.2**
MACA	**Manacapuru-AM**	**19.39**	**104**	*e*P		**Pn**	**23 31 33.2**	**-0.6**
DR12	**Loma Pena Alta**	**19.86**	**29**	P		**Pn**	**23 31 38.6**	**-0.8**
PCDR	**Punta Cana, DR**	**20.14**	**32**	P		**P**	**23 31 41.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**20.44**	**36**	P		**P**	**23 31 44.1**	**+0.1**
MLPR	**Magueyes Islan**	**20.45**	**36**	P		**P**	**23 31 44.0**	**0.0**
MLPR				IAmb		IAmb	23 31 45.7	
comp=Z,15nm,0.8s								
TEIG	**Tepich**	**20.49**	**336**	P		Pn	23 31 46.4	-0.3
comp=Z,6.0nm,0.9s,baz=62,slow=20,SNR=2.0								
TEIG	**Tepich**	**20.49**	**336**	P		**P**	**23 31 45.0**	**+0.5**
MPR	**Mayaguez**	**20.58**	**35**	P		**P**	**23 31 45.5**	**0.0**
MPR				IAmb		IAmb	23 31 48.4	
comp=Z,20nm,0.7s								
ICMP	**Isla Caja de M**	**20.70**	**37**	P		**P**	**23 31 46.5**	**-0.2**
ICMP				IAmb		IAmb	23 31 48.3	
comp=Z,27nm,0.9s								
OBIP	**Obispado Ponce**	**20.77**	**37**	P		**P**	**23 31 48.5**	**+1.0**
AGPR	**Aguadilla, PR**	**20.80**	**35**	P		**P**	**23 31 47.8**	**-0.1**
AOPR	**Arecibo Observ**	**20.92**	**36**	P		**P**	**23 31 50.3**	**+1.2**
LPAZ	**La Paz**	**20.95**	**148**	P		**P**	**23 31 50.5**	**+0.3**
LPAZ				LR		LR	23 41 16.9	
comp=Z,222nm,20.8s,baz=322,slow=41								
LPAZ	**La Paz**	**20.95**	**148**			**P**	**23 31 49.3**	**-0.9**
LPAZ	**La Paz**	**20.95**	**148**	*e*P		Pn	23 31 51.5	-1.2
SJG	**San Juan**	**21.10**	**38**	P		**P**	**23 31 51.6**	**+0.6**
comp=Z,6.2nm,0.4s,baz=229,slow=9.2,SNR=10								
SJG	**San Juan**	**21.10**	**38**	P		**P**	**23 31 49.7**	**-1.4**
SJG				IAmb		IAmb	23 31 52.6	
comp=Z,17nm,0.8s								
PDPR	**Patillas Dam,**	**21.10**	**38**			**P**	**23 31 50.9**	**-0.2**
EMPR	**Esperanza - Ma**	**21.15**	**36**	P		**P**	**23 31 50.3**	**-1.3**
GCPR	**Guaynabo City**	**21.29**	**37**	P		**P**	**23 31 53.0**	**-0.1**
GCPR				IAmb		IAmb	23 31 55.7	
comp=Z,15nm,0.8s								
HUMP	**Col San Antoni**	**21.30**	**38**	P		**P**	**23 31 53.1**	**-0.2**
HUMP				IAmb		IAmb	23 31 54.8	
comp=Z,28nm,0.8s								
CBYP	**Canovanas**	**21.40**	**38**	P		**P**	**23 31 53.9**	**-0.4**
MTP	**Monte Pirata**	**21.45**	**39**			**P**	**23 31 54.8**	**-0.1**
MTP				IAmb		IAmb	23 31 57.1	
comp=Z,22nm,1.1s								
CDVI	**St. Croix**	**21.71**	**41**	P		**P**	**23 31 58.0**	**+0.3**
CUPR	**Culebra, Puert**	**21.78**	**39**	P		**P**	**23 31 58.3**	**-0.1**
CUPR				IAmb		IAmb	23 32 00.6	
comp=Z,22nm,0.9s								
PB16	**IPOC Station P**	**22.03**	**154**	P		**P**	**23 32 01.5**	**-0.2**
FDF	**Fort de France**	**22.41**	**53**	P		**P**	**23 32 03.2**	**-2.1**
FDF				IAmb		IAmb	23 32 15.5	
comp=Z,21nm,0.7s								
SABA	**Saba**	**22.64**	**44**	P		**P**	**23 32 08.5**	**+0.8**
SABA				IAmb		IAmb	23 32 16.4	
comp=Z,32nm,1.1s								
MNMC	**Minye Minye**	**22.70**	**155**	P		**P**	**23 32 08.1**	**-0.5**
MNMC				IAmb		IAmb	23 32 20.2	
comp=Z,18nm,0.8s								
SMRT	**St. Maarten**	**23.05**	**43**	P		**P**	**23 32 11.3**	**-0.7**
SMRT				IAmb		IAmb	23 32 22.7	
comp=Z,19nm,1.1s								
PB11	**IPOC Station P**	**23.24**	**156**	P		**P**	**23 32 13.3**	**-0.6**
PB11				IAmb		IAmb	23 32 28.5	
comp=Z,18nm,1.0s								
GO01	**Chusmiza**	**23.35**	**155**	P		**P**	**23 32 14.6**	**-0.8**
PB01	**IPOC Station P**	**24.46**	**157**	P		**P**	**23 32 23.6**	**-1.9**
ITTB	**Itaituba**	**24.47**	**104**	*e*P		**P**	**23 32 25.6**	**-0.1**
PB07	**IPOC Station P**	**24.93**	**158**	IAmb		IAmb	23 32 30.0	
comp=Z,12nm,0.6s								
SIV	**San Ignacio**	**25.18**	**134**	P		**P**	**23 32 33.2**	**+1.2**
comp=Z,3.2nm,0.7s,baz=320,slow=10.0,SNR=17								
MALB	**Monte Alegre**	**25.47**	**97**	*e*P		**P**	**23 32 34.6**	**-0.1**
NPGB	**Novo Progresso**	**25.56**	**110**	*e*P		**P**	**23 32 34.6**	**-0.9**
PB06	**IPOC Station P**	**25.94**	**159**	P		**P**	**23 32 36.5**	**-2.5**
PB06				IAmb		IAmb	23 32 39.9	
comp=Z,20nm,1.0s								
LVC	**Limon Verde**	**26.10**	**157**	P		**P**	**23 32 39.3**	**-1.4**
comp=Z,1.5nm,0.3s,baz=256,slow=22,SNR=7.5								
LVC	**Limon Verde**	**26.10**	**157**	IAmb		IAmb	23 32 45.8	
comp=Z,4.6nm,0.8s								
PTLB	**Pontes e Lacer**	**26.26**	**131**	*e*P		**P**	**23 32 42.6**	**+0.8**
PB10	**IPOC Station P**	**26.35**	**161**	P		**P**	**23 32 41.5**	**-1.0**
PB10				IAmb		IAmb	23 32 45.0	
comp=Z,23nm,1.1s								
PB15	**IPOC Station P**	**26.43**	**159**	P		**P**	**23 32 42.7**	**-0.8**
CLDB	**Colider**	**26.61**	**118**	*e*P		**P**	**23 32 43.6**	**-1.4**
MDP	**Montagnes des**	**27.07**	**82**	P		**P**	**23 32 48.8**	**-0.3**
comp=Z,5.2nm,0.7s,baz=249,slow=14,SNR=6.9								
553A	**Crawfordville**	**28.91**	**351**	P		**P**	**23 33 06.2**	**+0.8**
553A				IAmb		IAmb	23 33 06.9	
comp=Z,21nm,1.1s								
456A	**Hilliard**	**29.17**	**356**	P		**P**	**23 33 07.0**	**-0.6**
TIGA	**Tifton**	**30.03**	**353**	P		**P**	**23 33 15.7**	**+0.4**
TIGA				IAmb		IAmb	23 33 24.6	
comp=Z,12nm,0.8s								
152A	**Waverly Hall**	**31.39**	**352**	P		**P**	**23 33 27.4**	**+0.1**
152A				IAmb		IAmb	23 33 35.8	
comp=Z,8.4nm,0.7s								
ARAG	**Araguaiana, MT**	**32.28**	**123**	*e*P		**P**	**23 33 34.2**	**-1.2**
Y59A	**Loris**	**32.33**	**1**	P		**P**	**23 33 37.0**	**+1.5**
Y45A	**Yeager Farm, C**	**33.54**	**345**	P		**P**	**23 33 45.1**	**-1.1**
CPCT	**Cooper Cave**	**34.10**	**353**	IAmb		IAmb	23 34 00.8	
comp=Z,5.1nm,0.8s								
X43A	**Marvell**	**34.52**	**343**	P		**P**	**23 33 53.8**	**-0.9**
X43A				IAmb		IAmb	23 34 05.4	
comp=Z,9.3nm,0.8s								
JCT	**Junction City**	**34.66**	**328**	P		**P**	**23 33 55.9**	**0.0**
CPUP	**Villa Florida**	**34.99**	**144**	LR		LR	23 50 04.5	
comp=Z,128nm,18.2s,baz=320,slow=40								
H06E1	**CORRO T-PHAS**	**35.25**	**301**	T		T	00 11 11.3	
BDFB	**Brasilia**	**35.49**	**120**	LR		LR	23 50 41.8	
comp=Z,52nm,20.5s,baz=327,slow=40								
ROSB	**Rosrio**	**35.66**	**97**	*e*P		**P**	**23 34 03.8**	**-1.0**
TXAR	**Lajitas Array**	**35.99**	**323**	P		**P**	**23 34 09.4**	**+2.0**
comp=Z,0.3nm,0.7s,baz=147,slow=12,SNR=2.0								
TXAR				LR		LR	23 48 20.4	
comp=Z,97nm,18.5s,baz=0.0,slow=35								
TXAR	**Lajitas Array**	**35.99**	**323**	P		**P**	**23 34 08.7**	**+1.3**
LCAR	**Lake Charles**	**36.05**	**344**	P		**P**	**23 34 06.6**	**-1.2**
LCAR				IAmb		IAmb	23 34 15.2	
comp=Z,4.9nm,0.7s								
IPMB	**Ipameri, GO**	**36.40**	**124**	*e*P		**P**	**23 34 10.5**	**-0.6**
U40A	**Yellville**	**36.82**	**342**	P		**P**	**23 34 14.4**	**0.0**
U40A				IAmb		IAmb	23 34 22.1	
comp=Z,5.3nm,0.7s								
T42A	**Van Buren**	**36.94**	**345**	P		**P**	**23 34 14.3**	**-1.0**
T42A				IAmb		IAmb	23 34 22.4	
comp=Z,5.5nm,0.6s								
FVM	**French Village**	**37.67**	**346**	P		**P**	**23 34 22.5**	**+0.9**
FVM				IAmb		IAmb	23 34 30.5	
comp=Z,6.0nm,0.8s								
BB19B	**Bebedouro**	**37.71**	**128**	*e*P		**P**	**23 34 22.3**	**+0.1**
CCM	**Cathedral Cave**	**37.95**	**345**	P		**P**	**23 34 24.7**	**+0.8**
CCM				IAmb		IAmb	23 34 32.0	
comp=Z,8.0nm,0.8s								
BSCB	**Bom Sucesso**	**40.69**	**125**	*e*P		**P**	**23 34 46.8**	**-0.4**
PLCA	**Paso Flores**	**42.82**	**170**	P		**P**	**23 35 02.8**	**-1.5**
comp=Z,3.2nm,0.6s,baz=339,slow=9.7,SNR=8.2								
E62A	**Clayton Lake**	**45.79**	**10**	P		**P**	**23 35 28.6**	**+0.8**
PDAR	**Pinedale Array**	**49.09**	**331**	P		**P**	**23 35 54.2**	**+0.3**
comp=Z,0.3nm,0.6s,baz=101,slow=9.3,SNR=1.3								
ULM	**Lac du Bonnet**	**50.53**	**346**	P		**P**	**23 36 03.4**	**-1.1**
comp=Z,3.6nm,0.8s,baz=162,slow=9.6,SNR=3.2								
ULM	**Lac du Bonnet**	**50.53**	**346**	IAmb		IAmb	23 36 11.2	
comp=Z,7.8nm,0.9s								
NVAR	**Mina Array Bea**	**51.09**	**321**	P		**P**	**23 36 10.9**	**+1.7**
comp=Z,0.3nm,0.4s,baz=128,slow=5.8,SNR=3.8								
NVAR	**Mina Array Bea**	**51.09**	**321**	P		**P**	**23 36 10.2**	**+1.0**
PNTR	**Pine Nut**	**52.30**	**321**	P		**P**	**23 36 18.9**	**+0.7**
PNTR				IAmb		IAmb	23 36 24.0	
comp=Z,5.4nm,1.0s								
MFID	**Camas Ranch**	**52.79**	**327**	P		**P**	**23 36 23.7**	**+2.1**
MFID				IAmb		IAmb	23 36 33.0	
comp=Z,6.0nm,1.1s								
ICESG	**Greenland Ices**	**72.56**	**14**	*i* P		**P**	**23 38 31.2**	**-2.1**
ICESG				IAmb		IAmb	23 38 33.6	
comp=Z,6.6nm,0.7s								
SUMG	**Summit**	**75.42**	**12**	P		**P**	**23 38 50.4**	**+0.4**
SUMG				IAmb		IAmb	23 38 58.3	
comp=Z,8.9nm,1.1s								
SUMG	**Summit**	**75.42**	**12**	*i* P		**P**	**23 38 50.0**	**-0.1**
comp=Z,17nm,0.8s								
SUMG	**Summit**	**75.42**	**12**	*i* P		**P**	**23 38 50.0**	**-0.1**
SUMG				IAmb		IAmb	23 38 50.8	
comp=Z,17nm,0.8s								
DOT	**Dot Lake**	**77.59**	**336**	P		**P**	**23 39 03.4**	**+1.3**
DOT				IAmb		IAmb	23 39 11.4	
comp=Z,6.1nm,0.8s								
ESDC	**Sonseca Array**	**77.94**	**50**	P		**P**	**23 39 05.2**	**+0.6**
comp=Z,1.8nm,0.6s,baz=263,slow=6.2,SNR=16								
ESDC	**Sonseca Array**	**77.94**	**50**	P		**P**	**23 39 05.5**	**+0.9**
ILAR	**Eielson Array**	**79.15**	**336**	P		**P**	**23 39 11.1**	**+0.5**
comp=Z,1.1nm,0.9s,baz=104,slow=3.5,SNR=7.8								
RSO	**Redoubt South**	**80.48**	**331**	P		**P**	**23 39 18.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**81.11**	**77**	P		**P**	**23 39 21.4**	**-0.8**
comp=Z,1.5nm,0.9s,baz=268,slow=5.8,SNR=6.0								
TORD	**Torodi Ar. Bea**	**81.11**	**77**	P		**P**	**23 39 21.6**	**-0.6**
CHGN	**Chignik**	**82.59**	**327**	P		**P**	**23 39 27.5**	**-1.7**
ECH	**Echery**	**86.68**	**42**	P		**P**	**23 39 48.6**	**-1.5**
SNAA	**Sanae**	**87.23**	**162**	P		**P**	**23 39 52.7**	**+0.3**
BFO	**Black Forest**	**87.46**	**42**	P		**P**	**23 39 54.2**	**+0.4**
BFO				IAmb		IAmb	23 39 55.1	
comp=Z,4.2nm,1.1s								
TUE	**Stuetta**	**88.15**	**44**	P		**P**	**23 39 57.8**	**+0.4**
DAVA	**Damuels**	**88.51**	**43**	*e*P		**P**	**23 39 59.0**	**0.0**
comp=Z,6.5nm,1.0s								
NAO01	**NORSAR Array S**	**88.91**	**29**	P		**P**	**23 40 00.1**	**-0.4**
NOA	**NORSAR Array B**	**89.06**	**29**	LR		LR	00 17 39.2	
comp=Z,11nm,19.4s,baz=300,slow=34								
FETA	**Feichten**	**89.09**	**43**	*e*P		**P**	**23 40 02.7**	**+0.9**
comp=Z,3.3nm,1.1s								
RETA	**Reutte**	**89.10**	**43**	*e*P		**P**	**23 40 03.5**	**+1.7**
comp=Z,2.8nm,1.4s								
MOTA	**Moosalm**	**89.34**	**43**	*e*P		**P**	**23 40 04.5**	**+1.6**
comp=Z,3.3nm,1.1s								
WTTA	**Wattenberg**	**89.70**	**43**	*e*P		**P**	**23 40 05.0**	**+0.3**
comp=Z,3.0nm,1.0s								
CTI	**Castel Tesino**	**89.75**	**44**	P		**P**	**23 40 04.8**	**-0.1**
CTI				IAmb		IAmb	23 40 21.0	
comp=Z,2.3nm,0.9s								
CIMO	**Cimolais**	**90.29**	**44**	P		**P**	**23 40 07.7**	**+0.5**
CIMO				IAmb		IAmb	23 40 09.0	
comp=Z,2.7nm,1.0s								
GERES	**GERESS Array B**	**91.01**	**41**	P		**P**	**23 40 12.4**	**+1.8**
comp=Z,0.2nm,0.5s,baz=264,slow=2.4,SNR=3.8								
GERES	**GERESS Array B**	**91.01**	**41**	P		**P**	**23 40 07.8**	**-2.8**
PRED	**Cave del Predi**	**91.06**	**44**	P		**P**	**23 40 09.6**	**-1.3**
PRED				IAmb		IAmb	23 40 12.8	
comp=Z,1.7nm,0.8s								
MKAR	**Makanchi Array**	**129.32**	**16**	PKP		**PKPdf**	**23 46 14.9**	**0.0**
comp=Z,0.6nm,0.8s,baz=327,slow=2.4,SNR=2.9								
ASAR	**Alice Springs**	**140.83**	**233**	PKhKP		PKPpre	23 46 28.9	
comp=Z,0.3nm,0.8s,baz=118,slow=4.3,SNR=2.3								
ASAR				PKP		**PKPdf**	**23 46 36.4**	**-0.6**
comp=Z,0.6nm,0.7s,baz=109,slow=3.5,SNR=4.2								
WRA	**Warramunga Arr**	**142.16**	**239**	PKP		**PKPdf**	**23 46 39.4**	**-0.1**
comp=Z,1.0nm,0.7s,baz=107,slow=2.5,SNR=13								

HEL ***11*** *23:31:33.9, 67.°79N×20.°28E, h0km, ML1.7, Explosion*
UPP 11 23:31:33.9±0.1, 67.°82N×20.°20E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P		Pg	23 31 36.9	+0.3
KUA				S		Sg	23 31 38.9	+0.5
KUA	**Kurravaara**	**0.14**	**21**	*i* P		Pg	23 31 36.9	+0.3
KUA				*i* S		Sg	23 31 38.9	+0.5
RATU	**Laukkuluspa**	**0.23**	**271**	P		Pg	23 31 38.6	+0.2
RATU	**Laukkuluspa**	**0.23**	**271**	*i* P		Pg	23 31 38.6	+0.2
KOVU	**Salmi**	**0.40**	**358**	P		P

*NEIC **11** 23:55:24.7±1.2,1.82N±0.06×99.13E±0.06, h24km±5km, mb4.3/11, Error ellipse: s-maj=9.5km s-min=8.0km az=130.0*

ISC 11 23:55:26.0±0.6, 1.78N±0.04×99.08E±0.05, h35km, n45, σ1§13/42, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SBSI	**Sibolga**	**0.30**	**220**	P		**Pn**	**23 55 32.4**	**-1.6**
RPSI	**Rantau Prapat**	**0.92**	**350**			**Pn**	**23 55 41.5**	**-1.0**
RPSI	**Rantau Prapat**	**0.92**	**350**			**Pn**	**23 55 41.7**	**-0.8**
PSI	**Prapat**	**1.02**	**351**	Pg		**Pn**	**23 55 41.7**	**-2.3**
	30nm,0.3s,baz=180,slow=14,SNR=120							
PSI				Lg		Lg	23 55 53.6	
	98nm,0.3s,baz=0.2,slow=15,SNR=12							
PSI				LR		LR	23 55 59.9	
	comp=Z,254nm,19.5s,baz=271,slow=38							
MNSI	**Mandailing Nat**	**1.10**	**153**	P		**Pn**	**23 55 43.5**	**-1.4**
GSI	**Gunungsitoli**	**1.58**	**253**	P		**Pn**	**23 55 51.8**	**+0.2**
GSI	**Gunungsitoli**	**1.58**	**253**	Pn		**Pn**	**23 55 52.0**	**+0.4**
TSI	**Tuntungan**	**1.78**	**343**	P		**Pn**	**23 55 55.7**	**+1.3**
TPTI		**2.40**	**308**	P		**Pn**	**23 56 03.6**	**+0.7**
BKNI	**Bangkinang**	**2.43**	**126**	P		**Pn**	**23 56 04.0**	**+0.7**
BKNI	**Bangkinang**	**2.43**	**126**			**Pn**	**23 56 07.3**	**+4.0**
SISI	**Saibi**	**3.09**	**180**	P		**Pn**	**23 56 12.1**	**-0.2**
IPM	**Ipoh**	**3.31**	**36**	Pn		**Pn**	**23 56 14.7**	**-0.7**
SDSI	**Sungai Dareh**	**3.57**	**139**	P		Pn	23 56 27.2	+8.2
MLSI	**Meulaboh, Aceh**	**3.64**	**313**	P		**Pn**	**23 56 22.8**	**+2.9**
KULM	**Kulim**	**3.82**	**24**	Pn		**Pn**	**23 56 22.5**	**+0.1**
RGRI	**Rengat**	**3.88**	**123**	P		Pn	23 56 32.2	+9.0
LHMI	**Lhok Sumawe**	**4.03**	**328**	Pn		**Pn**	**23 56 25.3**	**0.0**
MDSI	**Maura Dua**	**8.04**	**141**	P		Pn	23 57 35.1	+15
PBKI	**Pangkalan Bun**	**13.35**	**109**	P		P	23 58 51.4	+9.2
CMAR	**Chiang Mai Arr**	**16.57**	**360**	Pn		**Pn**	**23 59 16.2**	**+0.3**
	0.5nm,0.3s,baz=190,slow=13,SNR=7.3							
CMAR				LR		LR	00 05 53.6	
	comp=Z,108nm,21.7s,baz=244,slow=38							
WRA	**Warramunga Arr**	**40.77**	**124**	P		**P**	**00 03 04.8**	**+0.6**
	2.4nm,0.9s,baz=300,slow=9.2,SNR=8.7							
WRA	**Warramunga Arr**	**40.77**	**124**	P		**P**	**00 03 05.3**	**+1.2**
WB2	**Warramunga Arr**	**40.78**	**124**	P		**P**	**00 03 05.0**	**+0.8**
WR0	**Warramunga Arr**	**40.94**	**124**	P		**P**	**00 03 06.2**	**+0.6**
WR0				IAmb		IAmb	00 03 09.2	
	comp=Z,3.5nm,0.8s							
ASAR	**Alice Springs**	**42.27**	**129**	P		**P**	**00 03 14.9**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=306,slow=8.2,SNR=9.3							
ASAR				PcP		**PcP**	**00 05 10.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=297,slow=2.8,SNR=5.4							
FORT	**Forrest**	**42.54**	**142**	P		**P**	**00 03 17.9**	**-0.6**
FORT				IAmb		IAmb	00 03 30.1	
	comp=Z,7.9nm,0.9s							
JHS	**Saijyo**	**45.76**	**40**	P		P	00 03 39.3	-5.0
SONM	**Songino Array**	**46.31**	**7**	P		**P**	**00 03 49.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=193,slow=5.9,SNR=3.6							
SONM				PcP		**PcP**	**00 05 22.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=190,slow=4.4,SNR=2.7							
SONM	**Songino Array**	**46.31**	**7**	P		**P**	**00 03 48.3**	**-0.2**
MK31	**Makanchi Array**	**47.16**	**344**	P		**P**	**00 03 55.1**	**0.0**
MK31				IAmb		IAmb	00 04 04.0	
	comp=Z,3.2nm,1.1s							
MKAR	**Makanchi Array**	**47.16**	**344**	P		**P**	**00 03 55.6**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=158,slow=9.1,SNR=11							
MAKZ	**Makanchi**	**47.26**	**344**	P		**P**	**00 03 56.5**	**+0.6**
MAKZ				IAmb		IAmb	00 03 58.0	
	comp=Z,2.6nm,0.9s							
STKA	**Stephens Creek**	**52.37**	**133**	P		**P**	**00 04 34.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=300,slow=4.2,SNR=3.1							
ZALV	**Zalesovo Beam**	**53.31**	**350**	P		**P**	**00 04 41.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=176,slow=7.0,SNR=6.9							
ZALV	**Zalesovo Beam**	**53.31**	**350**	P		**P**	**00 04 41.6**	**+0.2**
ABKAR	**Akbulak array**	**57.91**	**331**	P		**P**	**00 05 14.7**	**+0.1**
ABKAR	**Akbulak array**	**57.91**	**331**	P		**P**	**00 05 14.6**	**+0.1**
NRIK	**Noril'sk**	**67.89**	**356**	P		**P**	**00 06 19.3**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=174,slow=4.9,SNR=3.7							
BRTR	**Keskin Array B**	**70.12**	**312**	P		**P**	**00 06 35.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=112,slow=9.4,SNR=4.2							
PETK	**Petropavlovsk-**	**70.22**	**33**	P		**P**	**00 06 35.1**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=186,slow=5.8,SNR=3.0							
FIA1	**FINESS Array S**	**80.36**	**332**	P		**P**	**00 07 33.5**	**0.0**
FINES	**FINESS Array B**	**80.36**	**332**	P		**P**	**00 07 33.7**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=104,slow=5.9,SNR=7.3							
ARCES	**ARCESS Array B**	**82.63**	**340**	P		**P**	**00 07 45.1**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=101,slow=6.3,SNR=4.6							
ARCES				LR		LR	00 48 41.7	
	comp=Z,33nm,20.1s,baz=105,slow=39							
CIMO	**Cimolais**	**86.40**	**316**	P		**P**	**00 08 05.7**	**+0.7**
CIMO				IAmb		IAmb	00 08 12.2	
	comp=Z,1.8nm,1.0s							

*IDC **12** 00:09:22.1±11.0, 51.34N×174.60W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/31, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=286.0km s-min=34.1km az=165.0*
*AEIC **12** 00:09:27.8±1.4, 51.26N±0.04×174.84W±0.04, h34km±2km, ML3.2, Error ellipse: s-maj=5.8km s-min=2.9km az=157.0*
*NEIC **12** 00:09:27.4±1.1, 51.19N±0.04×174.79W±0.03, h34km±8km, Error ellipse: s-maj=5.6km s-min=1.6km az=157.0*

ISC 12 00:09:26.1±2.3, 51.2N±0.1×174.64W±0.08, h32km±14km, n20, σ0§67/25, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATKA	**Atka Island**	**1.08**	**15**			**Pb**	**00 09 45.6**	**-0.6**
ATKA	**Atka Island**	**1.08**	**15**			**Sn**	**00 10 00.1**	**+1.4**
KOFP	**Korovin Flat P**	**1.16**	**17**			**Pb**	**00 09 47.6**	**-0.1**
KOKL	**Mount Kliuchef**	**1.19**	**13**			**Pb**	**00 09 47.7**	**-0.5**
KOKL						**Sb**	**00 10 04.4**	**+1.1**
KOWE	**Korovin West**	**1.23**	**11**			**Pb**	**00 09 48.1**	**-0.6**
KOSE	**Korovin Southe**	**1.24**	**17**			**Pb**	**00 09 49.0**	**+0.1**
KOSE						**Sb**	**00 10 05.0**	**+0.4**
GSMY	**Great Sitkin M**	**1.25**	**315**			**Pn**	**00 09 46.9**	**-0.4**
GSTR	**Great Sitkin T**	**1.29**	**317**	Pn		**Pn**	**00 09 46.6**	**-1.2**
GSTR						**Sn**	**00 10 04.7**	**+0.8**
GSTD	**Great Sitkin T**	**1.30**	**314**			**Pn**	**00 09 47.6**	**-0.4**
GSTD						**Sn**	**00 10 03.4**	**-0.9**
ADK	**Adak**	**1.47**	**300**			**Pn**	**00 09 49.7**	**-0.5**
ADAG	**Mount Adagdak**	**1.47**	**305**			**Pn**	**00 09 50.8**	**+0.5**
KIMD	**Kanaga Island**	**1.73**	**291**			**Pn**	**00 09 53.9**	**0.0**
KIKV	**Kanaga Island**	**1.74**	**295**			**Pn**	**00 09 54.2**	**+0.2**
TAFP	**Tanaga Falls P**	**2.22**	**291**			**Pn**	**00 10 00.6**	**0.0**
TAFP						**Sn**	**00 10 27.0**	**+0.1**
TASE	**Tanaga Southea**	**2.23**	**289**			**Pn**	**00 10 01.6**	**+0.8**
AMKA	**Amchitka**	**3.81**	**276**			**Pn**	**00 10 23.0**	**+0.5**
KDAK	**Kodiak Island**	**14.39**	**54**	Pn		**Pn**	**00 12 46.7**	**-0.5**
	0.2nm,0.3s,baz=248,slow=5.4,SNR=1.9							
ILAR	**Eielson Array**	**19.83**	**36**	P		**P**	**00 13 53.3**	**-0.4**
	0.1nm,0.3s,baz=243,slow=11,SNR=1.8							
MKAR	**Makanchi Array**	**62.19**	**311**	P		**P**	**00 19 44.1**	**+0.1**
	0.3nm,0.4s,baz=47,slow=5.9,SNR=7.9							
NOA	**NORSAR Array B**	**68.05**	**357**	P		**P**	**00 20 21.9**	**+0.1**
	0.3nm,0.7s,baz=0.8,slow=6.3,SNR=3.2							

*IDC **12** 00:24:12.0±2.1, 37.56N×56.59E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/28, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=51.3km s-min=12.6km az=175.0*
*TEH **12** 00:24:13.5, 37.43N×56.86E, h12km, ML3.6*
*THR **12** 00:24:14.9±0.3, 37.37N×56.95E, h18km±10km, ML3.3*

ISC 12 00:24:13.5±0.8, 37.50N±0.05×56.87E±0.04, h10km, n57, σ1§60/58, mb3.4/3, 2C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BJRD	**Bojnurd**	**0.47**	**65**	*e*Pg		**Pb**	**00 24 24.8**	**+0.8**
BJRD				*e*S		**Sb**	**00 24 32.1**	**+1.1**
BJRD	**Bojnurd**	**0.47**	**65**	*e*Pg		**Pb**	**00 24 24.8**	**+0.8**
ISFR	**Sfrayin**	**1.00**	**116**	*e*Pg		**Pg**	**00 24 31.6**	**-1.3**
ISFR				*e*			00 25 01.0	
GEYT	**Alibeck**	**1.07**	**66**	Pg		**Pn**	**00 24 36.0**	**+1.3**
	52nm,0.3s,baz=259,slow=9.9,SNR=147							
GEYT				Lg		Lg	00 24 52.2	
	57nm,0.3s,baz=348,slow=41,SNR=9.1							
IMND	**Minoodasht**	**1.19**	**259**	*e*Pg		**Pn**	**00 24 35.6**	**-0.7**
IEMG	**Emamgholi**	**1.42**	**93**	*e*Pg		**Pn**	**00 24 40.2**	**+0.5**
IEMG				*e*			00 25 09.2	
IKRD	**Kardeh**	**1.50**	**118**	*e*Pn		Pg	00 24 52.8	+10
IKRD				*e*			00 24 54.1	
IAKL	**Akhelmad**	**1.75**	**120**	*e*Pn		**Pn**	**00 24 44.9**	**+0.6**
IAKL				*e*			00 25 21.2	
IPAY	**Payeh**	**2.00**	**121**	*e*Pn		**Pn**	**00 24 48.9**	**+1.3**
IPAY				*e*			00 25 25.8	
IMOG	**Moghan**	**2.42**	**124**	*e*Pn		**Pn**	**00 24 55.6**	**+2.2**
IMOG				*e*			00 25 07.5	
IGLO	**Ghaloghah**	**2.63**	**249**	*e*Pn		**Pn**	**00 24 55.7**	**-0.6**
IGLO				*e*			00 25 48.0	
IMYA	**Miami**	**2.83**	**113**	*e*Pn		**Pn**	**00 25 00.5**	**+1.5**
IMYA				*e*			00 25 58.7	
IANJ	**Anjilo**	**3.13**	**230**	*e*Pn		**Pn**	**00 25 04.8**	**+1.6**
IANJ				*e*			00 25 58.7	
TNSJ	**Nastanj**	**3.54**	**184**	*e*Pn		**Pn**	**00 25 09.1**	**+0.5**
TNSJ				*e*			00 26 21.3	
IALA	**Alasht**	**3.56**	**248**	*e*Pn		**Pn**	**00 25 11.8**	**+2.7**
IALA				*e*			00 26 20.0	
ILAS	**Lasjerd**	**3.80**	**237**	*e*Pn		**Pn**	**00 25 13.3**	**+0.9**
IFIR	**Firoozkooh**	**3.80**	**242**	*e*Pn		**Pn**	**00 25 14.8**	**+2.4**
IFIR				*e*			00 25 19.3	
IPRN	**Peran**	**3.85**	**252**	*e*Pn		**Pn**	**00 25 15.3**	**+2.4**
TABS	**Tabas**	**3.85**	**177**	*e*Pn		**Pn**	**00 25 13.6**	**+0.6**
TABS					IAML		00 26 19.9	
	comp=N,42nm,0.6s							
TABS	**Tabas**	**3.85**	**177**	*e*Pn		**Pn**	**00 25 13.6**	**+0.6**
TKDS	**Koohdasht(Taba**	**3.88**	**177**	*e*Pn		**Pn**	**00 25 14.9**	**+1.5**
TKDS				*e*			00 25 32.0	
IDMV	**Damavand**	**4.34**	**245**	*e*Pn		**Pn**	**00 25 22.6**	**+2.7**
DAMV	**Damavand**	**4.37**	**246**	*e*Pn		**Pn**	**00 25 22.7**	**+2.5**
DAMV	**Damavand**	**4.37**	**246**	*e*Pn		**Pn**	**00 25 22.7**	**+2.5**
AFRZ	**Afriz**	**4.43**	**156**	*e*Pn		**Pn**	**00 25 21.8**	**+0.9**
TPRV	**Parvadeh(Tabas**	**4.47**	**182**	*e*Pn		**Pn**	**00 25 21.9**	**+0.5**
SHRT	**Shahrakht**	**4.75**	**143**	*e*Pn		**Pn**	**00 25 25.8**	**+0.5**
SHRT	**Shahrakht**	**4.75**	**143**	*e*Pn		**Pn**	**00 25 25.8**	**+0.5**
IMON	**Monand**	**4.87**	**151**	*e*Pn		**Pn**	**00 25 28.3**	**+1.2**
CHTH	**Charan**	**4.88**	**253**	*e*Pn		**Pn**	**00 25 30.1**	**+2.8**
CHTH	**Charan**	**4.88**	**253**	*e*Pn		**Pn**	**00 25 30.1**	**+2.8**
ANAR	**Anarak**	**5.01**	**212**	*e*Pn		**Pn**	**00 25 29.4**	**+0.5**
QALM	**Alamut, Qazvin**	**5.10**	**260**	*e*Pn		**Pn**	**00 25 32.0**	**+1.8**
KRSH	**Karshahi**	**5.22**	**229**	*e*Pn		**Pn**	**00 25 32.9**	**+1.0**
IDAH	**Dahanechah**	**5.35**	**152**	*e*Pn		**Pn**	**00 25 34.2**	**+0.5**
IKOO	**Kooshah**	**5.36**	**160**	*e*Pn		**Pn**	**00 25 34.5**	**+0.7**
YZKH	**Yazd**	**5.43**	**201**	*e*Pn		**Pn**	**00 25 36.0**	**+1.3**
YZKH					IAML		00 27 12.0	
	comp=E,10nm,0.6s							
YZKH					IAML		00 27 19.5	
	comp=N,9.4nm,0.7s							
YZKH	**Yazd**	**5.43**	**201**	*e*Pn		**Pn**	**00 25 36.0**	**+1.3**
ICHK	**Chekchek**	**5.62**	**202**	*e*Pn		**Pn**	**00 25 37.4**	**0.0**
QAM	**Ghamsar**	**5.79**	**231**	*e*Pn		**Pn**	**00 25 41.5**	**+1.8**
BSRN	**Basiran**	**5.83**	**161**	*e*Pn		**Pn**	**00 25 40.8**	**+0.7**
BSRN	**Basiran**	**5.83**	**161**	*e*Pn		**Pn**	**00 25 40.8**	**+0.7**
IZEF	**Zefreh**	**5.91**	**220**	*e*Pn		**Pn**	**00 25 42.6**	**+1.2**
IKLH	**Kolahrood**	**6.01**	**228**	*e*Pn		**Pn**	**00 25 44.1**	**+1.4**
QABG	**Abgarm-Qazvin**	**6.13**	**255**	*e*Pn		**Pn**	**00 25 45.9**	**+1.5**
QSDN	**Sirdan**	**6.24**	**263**	*e*Pn		**Pn**	**00 25 48.3**	**+2.4**
IPIR	**Pirpir**	**6.86**	**227**	*e*Pn		**Pn**	**00 25 56.2**	**+1.7**
ISRB	**Sarab**	**7.31**	**275**	*e*Pn		**Pn**	**00 26 01.8**	**+1.2**
IHRS	**Heris**	**7.81**	**279**	*e*Pn		**Pn**	**00 26 08.9**	**+1.4**
IMRD	**Marand**	**8.89**	**281**	*e*Pn		**Pn**	**00 26 23.9**	**+1.7**
AB31	**Akbulak array**	**11.96**	**10**	⇓P		**Pn**	**00 27 04.8**	**+0.8**
	comp=N,0.6nm,0.6s,baz=189,slow=12,SNR=10							
AB31				⇑S		**Sn**	**00 29 15.0**	**-2.4**
	comp=N,3.9nm,0.8s,baz=196,slow=24,SNR=6.3							
KBZ	**Khabaz**	**12.30**	**305**	Pn		Pn	00 27 05.0	-3.7
	comp=N,0.2nm,0.3s,baz=120,slow=5.5,SNR=3.0							
KBZ				Sn		Sn	00 29 04.3	-21
	comp=N,0.1nm,0.3s,baz=272,slow=18,SNR=1.6							
AKTO	**Aktyubinsk**	**12.96**	**3**	⇑P		**Pn**	**00 27 17.3**	**-0.3**
	comp=N,4.5nm,1.1s							
AKTO				⇓S		**Sn**	**00 29 38.8**	**-2.9**
	comp=N,2.3nm,0.6s							
MKAR	**Makanchi Array**	**20.93**	**56**	P		**P**	**00 28 58.2**	**+1.8**
	comp=N,0.9nm,0.5s,baz=241,slow=11,SNR=8.8							
AKASG	**Malin Array Be**	**23.67**	**313**	P		**P**	**00 29 23.8**	**-1.2**
	comp=N,0.2nm,0.2s,baz=100,slow=8.8,SNR=1.2							
ZALV	**Zalesovo Beam**	**25.28**	**40**	P		**P**	**00 29 41.7**	**+1.9**
	comp=N,0.4nm,0.3s,baz=258,slow=7.1,SNR=1.3							
TORD	**Torodi Ar. Bea**	**54.59**	**259**	P		**P**	**00 33 40.6**	**-1.8**
	comp=N,0.4nm,0.9s,baz=49,slow=7.3,SNR=1.7							

*DDA **12** 00:35:56.0, 35.35N×45.07E, h15km±251km, ML2.5*
*ISN **12** 00:35:58.3±0.3, 35.49N×45.22E, h4km±3km, ML2.3*
*TEH **12** 00:35:59.7, 35.52N×45.26E, h10km, ML2.6*

ISC 12 00:35:58.0±1.3, 35.46N±0.04×45.14E±0.05, h10km±12km, n17, σ1§28/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDHR	**Dehrash**	**1.27**	**126**	*e*Pg		**Pg**	**00 36 22.6**	**+0.2**
IDHR				*e*Sg		**Sn**	**00 36 41.3**	**+2.1**
IDHR				*e*			00 36 47.6	
MAHB	**Mahabad**	**1.38**	**19**	*e*Pg		**Pg**	**00 36 24.3**	**-0.3**
MAHB				*e*			00 36 49.0	
ILIN	**Lien**	**1.58**	**109**	*e*Pn		**Pg**	**00 36 28.8**	**+0.4**
ILIN				*e*			00 36 59.7	
IGHG	**Ghaleghazi**	**1.62**	**133**	*e*Pn		**Pg**	**00 36 29.6**	**+0.4**
IGHG				*e*			00 37 00.2	
IVIS	**Veis**	**1.68**	**123**	*e*Pn		**Pg**	**00 36 30.5**	**+0.2**
IVIS				*e*			00 36 56.5	
MSL	**Mosul**	**1.90**	**300**	*e*Pn		**Pb**	**00 36 34.0**	**+1.2**
MSL				*e*Sn		**Sg**	**00 37 00.0**	**+0.9**
KER	**Kermanshah**	**1.95**	**123**	*e*Pn		**Pb**	**00 36 34.3**	**+0.5**
KER				*e*			00 37 10.9	
KCHF	**Cheshme Sefid,**	**1.96**	**127**	*e*Pn		**Pg**	**00 36 34.6**	**-0.9**
KCHF				*e*			00 37 05.4	
YOVA	**Hakkari_Yksek**	**2.23**	**342**	*i* P		**Pn**	**00 36 34.5**	**-0.7**
YOVA				*i* S		**Sn**	**00 37 04.5**	**+1.5**
YOVA					IAML		00 37 07.0	
	comp=E,79nm,0.6s							
YOVA					IAML		00 37 09.0	
	comp=N,31nm,1.7s							
BHD	**Baghdad**	**2.27**	**196**	*e*Pn		**Pb**	**00 36 39.0**	**-0.1**
BHD				*e*Sn		**Sb**	**00 37 09.0**	**+1.8**
IAZR	**Azarshahr**	**2.32**	**17**	*e*Pn		**Pb**	**00 36 40.4**	**+0.4**
IAZR				*e*			00 37 18.2	
IKOM	**Komasi**	**2.33**	**123**	*e*Pn		**Pb**	**00 36 39.5**	**-0.7**
IKOM				*e*			00 37 25.2	
HAKT	**HAKKARI**	**2.39**	**332**	*i* P		**Pn**	**00 36 36.1**	**-1.4**
HAKT				*i* S		**Sn**	**00 37 06.6**	**-0.4**
HAKT					IAML		00 37 19.0	
	comp=N,13nm,0.6s							
IBDR	**Badra**	**2.43**	**164**	*e*Pn		**Pb**	**00 36 41.0**	**-0.8**
IBDR				*e*Sn		**Sb**	**00 37 12.0**	**+0.2**
IBDR					AML	AML	00 37 13.9	
	comp=E,26nm,0.5s							
IBDR					AML	AML	00 37 19.2	
	comp=N,20nm,0.6s							
SIRN	**Sirnak**	**3.00**	**314**	*i* P		**Pn**	**00 36 44.4**	**-1.3**
SIRN				*i* S		**Sn**	**00 37 21.2**	**-0.5**
SIRN					IAML		00 37 51.0	
	comp=E,17nm,0.7s							
SIRN					IAML		00 37 53.0	
	comp=N,18nm,0.6s							
SRTM	**Siirt_Merkez**	**3.62**	**315**	*i* P		**Pn**	**00 36 53.9**	**-0.3**
SRTM				*i* S		**Sn**	**00 37 38.0**	**+1.0**
SRTM					IAML		00 38 06.0	
	comp=E,7.9nm,0.6s							
SRTM					IAML		00 38 10.0	
	comp=N,12nm,0.8s							
SVAN	**Silvan-Diyarba**	**4.15**	**311**	*i* P		**Pn**	**00 36 57.8**	**-3.7**

*IDC **12** 00:41:32.5±7.1, 37.73N×74.45E, h170km±71km, mb3.2/4, mb1 3.2/9, mb1mx2.9/58, mbtmp3.7/9, Error ellipse: s-maj=60.1km s-min=46.5km az=111.0*
*KRNET **12** 00:41:35.8±0.1, 38.31N×74.50E, mb3.8*
*NNC **12** 00:41:37.0±5.3, 38.84N×75.15E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=39.2km s-min=27.6km az=146.0*

ISC 12 00:41:30.4±1.6, 37.7N±0.1×74.7E±0.1, h150km, n17, σ3§10/21, mb3.4/4, 14C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTK	**Batken**	**3.81**	**309**	⇑*i*P		**Pn**	**00 42 31.5**	**+3.2**
	baz=3.0							
BTK				⇑*i*S		**Sn**	**00 43 13.0**	**-0.2**
	baz=3.0							
ARLS	**Aral**	**4.13**	**356**	⇑*i*P		**Pn**	**00 42 35.3**	**+2.8**
	baz=58							
ARLS				⇑*i*S		**Sn**	**00 43 17.6**	**-3.2**
	baz=58							
AAK	**Ala-Archa**	**4.90**	**358**	⇑Pg		**Pn**	**00 42 46.0**	**+3.4**
	1.9nm,0.6s							
AAK				⇑Lg		Lg	00 43 40.1	
	12nm,0.9s							
MNAS	**Manas**	**5.03**	**341**	⇑*i*P		**Pn**	**00 42 46.5**	**+2.1**
	baz=41							
MNAS				⇑*i*S		**Sn**	**00 43 38.3**	**-3.8**
	baz=41							
TKM2	**Tokmak 2**	**5.22**	**7**	⇑Pg		**Pn**	**00 42 50.8**	**+3.8**
	2.4nm,1.0s							
TKM2				⇑Lg		Lg	00 43 47.6	
	5.8nm,0.7s							
KK31	**Karatay Array**	**6.24**	**331**	⇓Pn		**Pn**	**00 43 01.3**	**+1.0**
	1.0nm,0.3s,baz=147,slow=14,SNR=36							
KK31				⇑Sn		**Sn**	**00 44 04.1**	**-6.5**
	19nm,0.5s,baz=137,slow=22,SNR=41							
MKAR	**Makanchi Array**	**10.65**	**29**	P		**Pn**	**00 44 02.7**	**+3.7**
	0.1nm,0.3s,baz=209,slow=15,SNR=1.8							
KURBB	**Kurchatov Array**	**13.17**	**11**	P		**Pn**	**00 44 32.0**	**+0.4**
	0.1nm,0.3s,baz=203,slow=10,SNR=4.3							
BVAR	**Borovoye Array**	**15.58**	**350**	P		**P**	**00 45 03.1**	**+0.2**
	0.5nm,0.3s,baz=178,slow=16,SNR=4.6							
AB31	**Akbulak array**	**15.69**	**322**	⇑Pn		P	00 45 10.9	+6.8
	0.6nm,0.6s,baz=124,slow=12,SNR=7.7							
AB31				⇑Sn		**S**	**00 48 02.0**	**+2.8**
	0.5nm,0.5s,baz=157,slow=22,SNR=5.6							
AKTO	**Aktyubinsk**	**17.40**	**322**	P		**Pn**	**00 45 22.5**	**-1.5**
	0.7nm,0.3s,baz=114,slow=9.4,SNR=8.3							
AKTO	**Aktyubinsk**	**17.40**	**322**	⇓Pn		Pn	00 45 34.1	+10
	1.5nm,0.4s							
AKTO				⇑Sn		**Sn**	**00 48 43.9**	**+5.2**
	2.3nm,1.1s							
ZALV	**Zalesovo Beam**	**17.65**	**20**	P		**Pn**	**00 45 27.1**	**+0.3**
	0.6nm,0.3s,baz=216,slow=11,SNR=13							
FINES	**FINESS Array B**	**38.16**	**324**	P		**P**	**00 48 34.2**	**-0.6**
	0.7nm,0.5s,baz=104,slow=11,SNR=7.8							
ARCES	**ARCESS Array B**	**41.17**	**336**	P		**P**	**00 48 59.0**	**-0.6**
	0.6nm,0.5s,baz=104,slow=7.5,SNR=10							
NOA	**NORSAR Array B**	**45.20**	**322**	P		**P**	**00 49 30.5**	**-1.6**
	0.5nm,0.8s,baz=113,slow=8.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**68.68**	**270**	P		**P**	**00 52 16.6**	**-1.4**
	0.4nm,0.9s,baz=48,slow=6.2,SNR=8.0							

IDC 12 00:44:12.7±0.9, 54.89S×127.00W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/32, mbtmp3.9/5, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=41.8km s-min=26.6km az=128.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**33.14**	**202**	P		P	00 50 50.7	+0.6
	0.5nm,0.9s,baz=90,slow=6.2,SNR=1.7							
QSPA	**South Pole Qui**	**35.29**	**180**	P		P	00 51 08.3	-0.7
	2.2nm,0.9s,baz=72,slow=6.0,SNR=4.6							
TBI	**Tubuai**	**35.67**	**323**	*e*LR		LR	01 00 26.9	
	comp=Z,302nm,27.0s,baz=160							
TBI	**Tubuai**	**35.67**	**323**	*e*T		T	01 28 15.5	
	21nm,0.4s							
H03S2	**Juan Fernandez**	**39.31**	**78**	T		T	01 33 52.7	
	baz=220,slow=74,SNR=27							
H03S1	**Juan Fernandez**	**39.32**	**78**	T		T

0.3nm27nm,0.8s
CISI Cisompet, Garu 7.82 134 P Pn **00 54 09.7 +1.7**
0.3nm21nm,1.2s
MLSI Meulaboh, Aceh 8.54 318 P Pn 00 54 23.0 +5.6
CMAR Chiang Mai Arr 20.66 351 P **P** **00 56 42.1 +0.6**
0.6nm,0.3s,baz=179,slow=12,SNR=4.2
AAI Ambon 26.04 94 P P 00 57 39.5 +7.4
WRA Warramunga Arr 36.09 122 P **P** **00 58 59.4 -0.6**
0.4nm,0.4s,baz=299,slow=11,SNR=11
ASAR Alice Springs 37.47 128 P **P** **00 59 12.1 +0.5**
2.2nm,0.5s,baz=302,slow=7.9,SNR=57
SONM Songino Array 49.85 4 P **P** **01 00 52.2 +2.2**
1.2nm,0.6s,baz=183,slow=9.0,SNR=8.6
MKAR Makanchi Array 51.72 343 P **P** **01 01 04.3 +0.5**
0.6nm,0.4s,baz=153,slow=9.2,SNR=8.8
ZALV Zalesovo Beam 57.68 348 P **P** **01 01 46.8 +0.5**
0.6nm,0.4s,baz=157,slow=5.6,SNR=2.0
TXAR Lajitas Array 143.41 40 PKP **PKPdf** **01 11 26.9 -1.7**
0.2nm,0.5s,baz=248,slow=0.5,SNR=5.0
BDFB Brasilia 145.66 238 PKPbc **PKPdf** **01 11 30.3 -2.5**
1.2nm,0.4s,baz=168,slow=9.3,SNR=3.2

IDC 12 00:56:05.5±1.6, 54.69S×126.64W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/25, mbtmp3.7/3, MS3.6/7, Ms1 3.6/7, ms1mx3.5/20, Error ellipse: s-maj=118.1km s-min=37.9km az=158.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**39.06**	**78**	T	T	01 45 49.2	
	baz=220,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**39.07**	**78**	T	T	01 45 52.1	
	baz=220,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**39.08**	**78**	T	T	01 45 51.2	
	baz=220,slow=74,SNR=12						
PLCA	**Paso Flores**	**39.16**	**93**	LR	LR	01 15 36.3	
	comp=Z,69nm,18.9s,baz=198,slow=30						
H03N3	**Juan Fernandez**	**39.34**	**77**	T	T	01 45 57.9	
	baz=224,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**39.35**	**77**	T	T	01 45 57.0	
	baz=224,slow=72,SNR=72						
H03N1	**Juan Fernandez**	**39.36**	**77**	T	T	01 45 57.0	
	baz=224,slow=72,SNR=76						
PPT	**Papeete**	**41.03**	**326**	LR	LR	01 14 10.5	
	comp=Z,32nm,21.6s,baz=198,slow=26						
RAR	**Rarotonga**	**41.71**	**310**	LR	LR	01 17 25.8	
	comp=Z,58nm,18.4s,baz=240,slow=31						
CPUP	**Villa Florida**	**57.09**	**90**	LR	LR	01 26 54.4	
	comp=Z,124nm,18.5s,baz=220,slow=32						
MAW	**Mawson**	**57.82**	**184**	LR	LR	01 28 35.4	
	comp=Z,58nm,18.2s,baz=75,slow=34						
LPAZ	**La Paz**	**58.79**	**73**	P	P	01 06 06.0	-0.1
	1.1nm,0.7s,baz=200,slow=12,SNR=3.1						
LPAZ				LR	LR	01 25 00.1	
	comp=Z,48nm,21.8s,baz=197,slow=30						
ROSC	**El Rosal**	**73.42**	**55**	LR	LR	01 36 04.4	
	comp=Z,75nm,18.5s,baz=99,slow=33						
WRA	**Warramunga Arr**	**79.02**	**251**	P	P	01 08 11.5	+0.1
	1.4nm,1.0s,baz=146,slow=5.4,SNR=3.9						
TXAR	**Lajitas Array**	**85.99**	**20**	P	P	01 08 47.4	0.0
	0.1nm,0.5s,baz=186,slow=7.3,SNR=1.6						
SONM	**Songino Array**	**146.81**	**280**	PKPbc	PKPdf	01 15 47.7	+0.9
	0.4nm,0.7s,baz=132,slow=4.1,SNR=1.9						

*GCG **12** 01:00:34.8±0.5, 14.°97N×92.°19W, h60km±25km, MD3.8*
*MEX **12** 01:00:34.1±0.6, 14.°63N×92.°10W, h90km±6km, MD3.7*
ISC 12 01:00:35.3±3.2, 14.°5N±0.°4×92.°3W±0.°2, h68km±22km, n6, σ0°66/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.37**	**9**	***e*P**	**Pn**	**01 00 46.4**	**-0.5**
THIG				***e*S**	**Sn**	**01 00 55.8**	**+0.6**
ERG	**Entre ros, C**	**0.74**	**98**	***e*P**	**Pn**	**01 00 50.2**	**-0.3**
FUG	**Fuego 3**	**1.44**	**93**	***e*P**	**Pn**	**01 00 59.1**	**-0.5**
FUG				***e*S**	**Sn**	**01 01 17.6**	**-0.2**
PCIG		**1.45**	**323**	***e*P**	**Pn**	**01 00 59.4**	**-0.1**
PCIG				***e*S**	**Sn**	**01 01 18.0**	**+0.2**
PCG	**Pacaya**	**1.67**	**95**	***e*S**	**Sn**	**01 01 23.6**	**+0.1**
IXG	**Ixpaco**	**1.86**	**101**	***e*P**	**Pn**	**01 01 05.0**	**-0.2**
IXG				***e*S**	**Sn**	**01 01 29.2**	**+1.3**

*IDC **12** 01:06:04.4±0.9, 57.°32N×33.°30W, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.7/55, mbtmp3.8/14, ML3.5/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/41, Error ellipse: s-maj=28.0km s-min=16.0km az=6.0*
*NEIC **12** 01:06:06.8±1.6, 57.°45N±0.°10×33.°3W±0.°1, h10km±1km, mb4.3/16, Error ellipse: s-maj=17.0km s-min=10.1km az=170.0*
ISC 12 01:06:07.5±0.7, 57.°42N±0.°10×33.°26W±0.°07, h16km, n53, σ1°§07/38, mb3.9/14, MS3.4/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.27**	**306**	P	**Pn**	**01 01 52.2**	**-0.6**
ANGG	**Ammassalik, Gr**	**8.48**	**348**	P	**Pn**	**01 08 09.4**	**0.0**
BORG	**Borgarnes**	**9.33**	**33**	P	**Pn**	**01 08 21.4**	**+0.4**
	0.5nm,0.3s,baz=199,slow=12,SNR=1.6						
BORG				Sn	**Sn**	**01 10 03.5**	**-2.0**
	5.3nm,0.3s,baz=100,slow=6.6,SNR=16						
BORG				LR	LR	01 10 32.4	
	comp=Z,44nm,18.9s,baz=228,slow=28						
SFJD	**Kangerlussuaq**	**12.51**	**327**	LR	LR	01 13 21.2	
	comp=Z,243nm,18.4s,baz=140,slow=35						
EKA	**Eskdalemuir Ar**	**16.73**	**84**	Pn	**P**	**01 10 01.9**	**-1.2**
	baz=292,slow=6,SNR=4.8						
H07N1	**FLORES T-PHASE**	**17.80**	**175**	T	T	01 28 04.6	
SCHQ	**Schefferville**	**18.78**	**276**	LR	LR	01 16 12.2	
	comp=Z,253nm,18.4s,baz=45,slow=32						
NOA	**NORSAR Array B**	**22.69**	**62**	P	**P**	**01 11 08.4**	**+0.4**
	2.8nm,1.2s,baz=281,slow=9.5,SNR=4.0						
NOA				LR	LR	01 18 12.0	
	comp=Z,50nm,21.1s,baz=285,slow=32						
COI	**Coimbra**	**23.54**	**126**	P	**P**	**01 11 17.8**	**+1.1**
HFS	**Hagfors**	**24.09**	**64**	P	**P**	**01 11 21.9**	**+0.1**
	3.9nm,1.0s,baz=282,slow=10,SNR=3.1						
ESDC	**Sonseca Array**	**25.98**	**120**	P	**P**	**01 11 39.1**	**-0.1**
	2.1nm,1.0s,baz=322,slow=9.1,SNR=6.3						
ESDC				LR	LR	01 19 37.8	
	comp=Z,89nm,20.8s,baz=320,slow=31						
CLL	**Collm**	**27.19**	**83**	***e*P**	**P**	**01 11 51.0**	**+1.0**
CLL				*i*		01 11 54.1	
CLL				Lm	MLR	01 22 00.0	
	comp=Z,100nm,18.7s						
ARCES	**ARCESS Array B**	**27.63**	**40**	LR	LR	01 20 42.6	
	comp=Z,63nm,18.2s,baz=330,slow=32						
FINES	**FINESS Array B**	**29.52**	**57**	LR	LR	01 22 27.2	
	comp=Z,53nm,18.6s,baz=286,slow=33						
BUR08	**Bucovina Ar. S**	**35.81**	**80**	P	**P**	**01 13 06.0**	**+0.2**
BURAR	**Bucovina Array**	**35.84**	**80**	P	**P**	**01 13 06.6**	**+0.6**
AKASG	**Malin Array Be**	**36.10**	**73**	P	**P**	**01 13 07.8**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=308,slow=8.6,SNR=6.6						
AKASG				LR	LR	01 27 38.1	
	comp=Z,58nm,18.7s,baz=355,slow=36						
AKBB	**Malin Array Si**	**36.10**	**73**	P	**P**	**01 13 08.7**	**+0.6**
YKA	**Yellowknife Ar**	**38.50**	**312**	LR	LR	01 28 54.6	
	comp=Z,222nm,18.6s,baz=0,slow=36						
LAO	**LASA Array**	**44.02**	**289**	P	**P**	**01 14 16.3**	**+2.3**
BR131	**Keskin Array S**	**45.65**	**83**	P	**P**	**01 14 28.1**	**+1.1**
BR131				IAmb	IAmb	01 14 34.6	
	comp=Z,4.6nm,1.2s						
BRTR	**Keskin Array B**	**45.65**	**83**	P	**P**	**01 14 26.9**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=302,slow=7.1,SNR=8.1						
BRTR				LR	LR	01 33 02.0	
	comp=Z,25nm,21.5s,baz=324,slow=35						
BRTR	**Keskin Array B**	**45.65**	**83**	P	**P**	**01 14 28.1**	**+1.1**
KBZ	**Khabaz**	**47.69**	**72**	LR	LR	01 37 05.4	
	comp=Z,61nm,18.4s,baz=344,slow=39						
ILAR	**Eielson Array**	**48.17**	**328**	P	**P**	**01 14 47.7**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=37,slow=6.0,SNR=8.6						
ILAR	**Eielson Array**	**48.17**	**328**	P	**P**	**01 14 48.0**	**+1.7**
PD31	**Pinedale Array**	**48.45**	**287**	P	**P**	**01 14 49.7**	**+0.6**
PDAR	**Pinedale Array**	**48.45**	**287**	P	**P**	**01 14 48.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=59,slow=7.4,SNR=6.0						
MCMT	**McKenzie Canyo**	**48.67**	**291**	P	**P**	**01 14 51.5**	**+0.8**
ARTV	**Artvin**	**49.00**	**75**	P	P	01 14 58.0	+4.7
ARTV				IAmb	IAmb	01 15 00.7	
	comp=Z,2.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.53**	**135**	P	**P**	**01 15 10.7**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=332,slow=7.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**51.53**	**135**	IAmb	IAmb	01 15 16.1	
	comp=Z,1.7nm,1.1s						
ABKAR	**Akbulak array**	**52.01**	**56**	P	**P**	**01 15 16.6**	**+1.0**
ABKAR				IAmb	IAmb	01 15 17.7	
	comp=Z,3.1nm,0.8s						
DBIC	**Dimbokro**	**55.27**	**145**	LR	LR	01 36 31.6	
	comp=Z,58nm,19.3s,baz=267,slow=33						
TXAR	**Lajitas Array**	**55.37**	**271**	P	**P**	**01 15 39.5**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=60,slow=5.3,SNR=1.5						
KVN	**Kaiserville**	**55.56**	**290**	P	**P**	**01 15 42.4**	**+0.4**
PAHR	**Pah Rah Range**	**55.71**	**291**	P	**P**	**01 15 43.2**	**+0.2**
NVAR	**Mina Airway Bea**	**56.13**	**290**	P	**P**	**01 15 44.8**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=46,slow=5.2,SNR=2.6						
MK31	**Makanchi Array**	**63.21**	**44**	P	**P**	**01 16 35.0**	**+0.6**
MKAR	**Makanchi Array**	**63.21**	**44**	P	**P**	**01 16 33.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=341,slow=4.9,SNR=7.2						
GAR	**Garm**	**64.65**	**57**	P	**P**	**01 16 45.4**	**+1.2**
H10N2	**ASCENSION HYDR**	**66.81**	**160**	T	T	02 28 58.8	
	baz=350,slow=75,SNR=5.4						
H10N3	**ASCENSION HYDR**	**66.82**	**160**	T	T	02 28 57.6	
	baz=350,slow=75,SNR=6.4						
H10N1	**ASCENSION HYDR**	**66.83**	**160**	T	T	02 28 59.6	
	baz=350,slow=75,SNR=4.4						
H10S3	**ASCENSION HYDR**	**67.88**	**160**	T	T	02 30 19.9	
	baz=350,slow=74,SNR=9.3						
H10S2	**ASCENSION HYDR**	**67.89**	**160**	T	T	02 30 20.2	
	baz=230,slow=74,SNR=4.2						
PETK	**Petropavlovsk-**	**69.47**	**353**	LR	LR	01 49 18.1	
	comp=Z,80nm,18.3s,baz=130,slow=37						
SONM	**Songino Array**	**69.90**	**28**	P	**P**	**01 17 16.2**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=319,slow=5.9,SNR=5.8						
SONM	**Songino Array**	**69.90**	**28**	P	**P**	**01 17 17.4**	**0.0**
WRAB	**Tennant Creek**	**141.46**	**19**	PKPdf	**PKPdf**	**01 25 35.1**	**-2.3**
WRA	**Warramunga Arr**	**141.47**	**19**	PKP	**PKPdf**	**01 25 36.6**	**-0.8**
	comp=Z,0.4nm,1.1s,baz=338,slow=2.6,SNR=1.7						
ASAR	**Alice Springs**	**145.02**	**21**	PKPbc	**PKPdf**	**01 25 43.0**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=343,slow=2.5,SNR=21						
ASAR	**Alice Springs**	**145.02**	**21**		**PKPab**	**01 25 42.6**	**-0.4**

*IDC **12** 01:10:35.9±1.4, 7.°35N×94.°12E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/44, mbtmp3.6/8, ML3.9/1, Error ellipse: s-maj=54.3km s-min=23.5km az=59.0*
ISC 12 01:10:39.2±1.3, 7.°4N±0.°2×94.°2E±0.°2, h20km, n11, σ0°32/8, mb3.5/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.95**	**22**	Pn	**Pn**	**01 13 28.6**	**+0.1**
	0.2nm,0.3s,baz=215,slow=16,SNR=1.8						
H08S3	**Diego Garcia H**	**26.27**	**236**	T	T	01 42 57.1	
	baz=55,slow=74,SNR=13						
H08S2	**Diego Garcia H**	**26.27**	**236**	T	T	01 42 53.6	
	baz=55,slow=74,SNR=9.3						
H08S1	**Diego Garcia H**	**26.29**	**236**	T	T	01 42 52.1	
	baz=55,slow=74,SNR=6.3						
MKAR	**Makanchi Array**	**40.58**	**347**	P	**P**	**01 18 17.0**	**-0.4**
	0.9nm,0.6s,baz=168,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**41.64**	**12**	P	**P**	**01 18 26.3**	**0.0**
	0.2nm,0.4s,baz=193,slow=5.9,SNR=1.3						
ZALV	**Zalesovo Beam**	**47.05**	**352**	P	**P**	**01 19 09.5**	**+0.2**
	0.7nm,0.3s,baz=167,slow=7.2,SNR=2.3						
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**01 19 16.8**	**0.0**
	0.2nm,0.6s,baz=306,slow=8.9,SNR=1.2						
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**01 19 29.2**	**-0.1**
	0.5nm,0.9s,baz=296,slow=8.0,SNR=3.2						
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**01 22 08.0**	**-0.3**
	1.5nm,0.9s,baz=85,slow=6.1,SNR=5.7						
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**01 22 38.1**	**+0.4**
	0.2nm,0.8s,baz=79,slow=6.1,SNR=1.8						

*IDC **12** 01:12:17.4±1.3, 7.°40N×93.°43E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/46, mbtmp3.6/8, ML3.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/41, Error ellipse: s-maj=52.0km s-min=23.3km az=52.0*
ISC 12 01:12:25.2±1.2, 7.°6N±0.°2×93.°7E±0.°2, h55km, n13, σ0°98/8, mb3.6/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.08**	**132**	LR	LR	01 16 50.9	
	comp=Z,378nm,18.5s,baz=268,slow=38						
CMAR	**Chiang Mai Arr**	**11.92**	**25**	Pn	**Pn**	**01 15 12.0**	**-0.5**
	0.2nm,0.3s,baz=218,slow=12,SNR=1.6						
H08S3	**Diego Garcia H**	**26.01**	**235**	T	T	01 44 43.9	
	baz=55,slow=74,SNR=18						
H08S2	**Diego Garcia H**	**26.01**	**235**	T	T	01 44 42.0	
	baz=55,slow=74,SNR=15						
H08S1	**Diego Garcia H**	**26.03**	**235**	T	T	01 44 45.3	
	baz=55,slow=74,SNR=10						
MKAR	**Makanchi Array**	**40.24**	**348**	P	**P**	**01 19 57.5**	**+0.9**
	0.9nm,0.7s,baz=175,slow=8.8,SNR=5.0						
GEYT	**Ailbeck**	**44.09**	**319**	LR	LR	01 40 04.1	
	comp=Z,80nm,18.5s,baz=60,slow=38						
ZALV	**Zalesovo Beam**	**46.75**	**353**	P	**P**	**01 20 50.0**	**+1.2**
	0.8nm,0.4s,baz=185,slow=5.4,SNR=4.8						
WRA	**Warramunga Arr**	**48.48**	**125**	P	**P**	**01 21 02.2**	**-0.6**
	0.3nm,0.5s,baz=306,slow=8.9,SNR=2.2						
ASAR	**Alice Springs**	**50.10**	**129**	P	**P**	**01 21 15.9**	**+0.8**
	0.3nm,0.7s,baz=302,slow=7.8,SNR=2.8						
BRTR	**Keskin Array B**	**62.26**	**311**	P	**P**	**01 22 41.4**	**-0.4**
	0.4nm,0.7s,baz=119,slow=5.6,SNR=3.2						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**01 23 47.7**	**+0.4**
	1.6nm,0.8s,baz=72,slow=2.4,SNR=5.4						
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**01 24 15.4**	**-1.0**
	0.1nm,0.4s,baz=110,slow=5.6,SNR=2.2						

WEL 12 01:24:38.0, 45.°5S±3.°×16.°7E±.°, h72km±3km, M2.9/10, ML3.0/10, MLv2.9/10, Error ellipse: s-maj=0.0km s-min=0.0km az=49.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.46**	**101**	P	Pn	01 24 51.5	+0.8
MLZ				S	Sn	01 25 01.4	+1.3
MSZ	**Milford Sound**	**0.69**	**28**	P	Pn	01 24 53.0	+0.1
WHZ	**Wether Hill Ro**	**0.69**	**152**	P	Pn	01 24 53.8	+0.8
WHZ				S	Sn	01 25 05.6	+1.5
PYZ	**Puysegur Point**	**1.04**	**212**	P	Pn	01 24 57.7	+0.6
WKZ	**Wanaka**	**1.19**	**68**	P	Pn	01 25 00.5	+1.5
JCZ	**Jackson Bay**	**1.53**	**38**	P	Pn	01 25 03.8	+0.2
APZ	**The Paps**	**1.59**	**167**	P	Pn	01 25 05.0	+0.7
TUZ	**Tuapeka**	**1.66**	**115**	P	Pn	01 25 06.4	+1.3
TUZ				S	Sn	01 25 26.9	+1.4
SYZ	**Scrubby Hill**	**1.71**	**138**	P	Pn	01 25 07.1	+1.3
SYZ				S	Sn	01 25 29.1	+2.3
LBZ	**Lake Benmore**	**2.13**	**66**	P	Pn	01 25 11.5	+0.1
ODZ	**Otahua Downs**	**2.26**	**85**	P	Pn	01 25 13.7	+0.5
HHSZ	**Highcliff Hill**	**2.27**	**106**	P	Pn	01 25 14.9	+1.5
FOZ	**Fox Glacier**	**2.42**	**45**	P	Pn	01 25 14.9	-0.5
GCSZ	**Gaunt Creek Bo**	**2.84**	**47**	P	Pn	01 25 21.8	+0.7
RPZ	**Rata Peaks**	**3.00**	**60**	P	Pn	01 25 22.4	-0.8
MHCZ	**Mount Hutt**	**3.42**	**61**	P	Pn	01 25 27.8	-1.2
DSZ	**Dennistoun Nort**	**4.74**	**43**	P	Pn	01 25 46.7	-0.2
THZ	**Tophouse**	**5.29**	**50**	P	Pn	01 25 53.4	-1.1
KAHZ	**Kahuranaki**	**8.84**	**55**	P	Pn	01 26 41.4	-1.6
UTU	**Utuhina**	**9.63**	**46**	P	Pn	01 26 52.5	-1.3

*IDC **12** 01:26:04.7±1.5, 0.°20N×16.°95W, h0km, mb3.7/3, mb1 4.1/6, mb1mx3.7/41, mbtmp4.1/6, ML4.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/41, Error ellipse: s-maj=63.3km s-min=25.4km az=146.0*
*NEIC **12** 01:26:06.1±1.0, 0.°3N±0.°4×17.°0W±0.°3, h10km±2km, mb4.0/4, Error ellipse: s-maj=76.5km s-min=15.9km az=148.0*
ISC 12 01:26:05.6±1.4, 0.°1N±0.°3×16.°8W±0.°1, h13km, n23, σ1°§50/16, mb4.0/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.17**	**163**	T	T	01 37 12.0	
	baz=341,slow=74,SNR=156						
H10N3	**ASCENSION HYDR**	**8.18**	**164**	T	T	01 37 03.0	
	baz=341,slow=74,SNR=164						
H10N1	**ASCENSION HYDR**	**8.19**	**163**	T	T	01 37 08.6	
	baz=341,slow=74,SNR=165						
H10S3	**ASCENSION HYDR**	**9.20**	**166**	T	T	01 38 30.1	
	baz=344,slow=74,SNR=46						
H10S2	**ASCENSION HYDR**	**9.21**	**166**	T	T	01 38 31.6	
	baz=236,slow=74,SNR=7.4						
LIC	**Lamto**	**13.28**	**62**	***e*PKP1**	**P**	**01 29 20.2**	**-3.5**
	4.5nm,0.3s						
TIC	**Toumodi**	**13.48**	**61**	***e*PKP1**	**Pn**	**01 29 19.2**	**+2.5**
KIC	**Kosan Boka**	**13.59**	**62**	***e*PKP1**	**Pn**	**01 29 19.7**	**+1.5**
	3.0nm,0.4s						
DBIC	**Dimbokro**	**13.63**	**61**	Pn	**Pn**	**01 29 19.2**	**+0.4**
	2.1nm,0.3s,baz=236,slow=15,SNR=34						
DBIC				Sn	Sn	01 31 40.6	-10
	0.2nm,0.3s,baz=202,slow=14,SNR=1.8						
DBIC	**Dimbokro**	**13.63**	**61**		**Pn**	**01 29 18.6**	**-0.2**
KOWA	**Kowa**	**19.15**	**41**	P	**Pn**	**01 30 30.1**	**+0.4**
	0.4nm,0.3s,baz=231,slow=8.3,SNR=14						
KOWA				S	Sn	01 33 48.5	-16
	0.3nm,0.3s,baz=94,slow=16,SNR=2.0						
KOWA	**Kowa**	**19.15**	**41**	P	**Pn**	**01 30 30.6**	**+1.0**
KOWA				IAmb	IAmb	01 30 31.6	
	comp=Z,7.0nm,0.8s						
RCBR	**Riachuelo**	**19.92**	**253**	P	**P**	**01 30 37.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=74,slow=12,SNR=11						
TOA0	**Torodi Ar. Sit**	**22.50**	**54**	P	**P**	**01 31 06.5**	**+1.4**
TOA0				IAmb	IAmb	01 31 11.4	
	comp=Z,5.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**22.50**	**54**	P	**P**	**01 31 06.6**	**+1.4**
	comp=Z,5.1nm,0.9s,baz=294,slow=11,SNR=9.3						
TORD				LR	LR	01 38 44.5	
	comp=Z,63nm,21.0s,baz=310,slow=34						
TORD	**Torodi Ar. Bea**	**22.50**	**54**	P	**P**	**01 31 04.8**	**-0.4**
CPUP	**Villa Florida**	**47.00**	**233**	LR	LR	01 53 10.5	
	comp=Z,24nm,20.6s,baz=25,slow=35						
GEC2B	**GERESS ARRAY S**	**55.27**	**24**	P	**P**	**01 35 39.0**	**+0.2**
GERES	**GERESS Array B**	**55.27**	**24**	P	**P**	**01 35 38.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=208,slow=5.5,SNR=1.7						
BANI	**BANI**	**55.62**	**292**	P	**P**	**01 35 40.9**	**-0.9**
FINES	**FINESS Array B**	**69.35**	**20**	P	**P**	**01 37 13.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=238,slow=8.0,SNR=3.6						
ASAR	**Alice Springs**	**143.15**	**132**	PKhKP	PKPpre	01 45 38.1	
	comp=Z,0.3nm,0.4s,baz=221,slow=2.6,SNR=6.9						
WRA	**Warramunga Arr**	**145.53**	**127**	PKPbc	**PKPdf**	**01 45 45.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=252,slow=2.6,SNR=5.1						

*IDC **12** 01:28:50.1±1.2, 1.°66N×98.°85E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/39, mbtmp3.7/7, ML4.5/1, MS3.6/5, Ms1 3.7/5, ms1mx3.2/47, Error ellipse: s-maj=37.5km s-min=17.6km az=69.0*
*DJA **12** 01:28:54.2±0.3, 2.°N±3.°×9.°9E±.°, h10km, M4.0/8, MLv4.0/8*
*NEIC **12** 01:28:57.3±1.9, 1.°91N±0.°05×99.°04E±0.°06, h48km±9km, mb4.2/4, Error ellipse: s-maj=8.9km s-min=7.9km az=75.0*
ISC 12 01:28:55.9±0.8, 1.°79N±0.°04×99.°12E±0.°05, h35km, n35, σ1°§81/30, mb3.9/7, MS3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.92**	**348**		**Pn**	**01 29 11.2**	**-1.2**
RPSI	**Rantau Prapat**	**0.92**	**348**		**Pn**	**01 29 12.0**	**-0.4**
RPSI					**Sn**	**01 29 27.2**	**+2.8**
PSI	**Prapat**	**1.02**	**349**	Pn	**Pn**	**01 29 12.0**	**-1.9**
	23nm,0.3s,baz=180,slow=12,SNR=34						
PSI				Sn	**Sn**	**01 29 27.2**	**+0.1**
	22nm,0.3s,baz=180,slow=16,SNR=5.8						
MNSI	**Mandailing Nat**	**1.09**	**155**	P	**Pn**	**01 29 13.4**	**-1.3**
GSI	**Gunungsitoli**	**1.61**	**253**	P	**Pn**	**01 29 23.5**	**+1.6**
GSI	**Gunungsitoli**	**1.61**	**253**		**Pn**	**01 29 22.9**	**+1.0**
TSI	**Tuntungan**	**1.79**	**342**	P	**Pn**	**01 29 27.7**	**+3.4**
PBSI	**Pulau Batu**	**2.01**	**205**	P	**Pn**	**01 29 28.4**	**+1.0**
BKNI	**Bangkinang**	**2.41**	**127**	P	**Pn**	**01 29 33.1**	**+0.2**
BKNI	**Bangkinang**	**2.41**	**127**	Pn	**Pn**	**01 29 36.2**	**+3.3**
TPTI		**2.42**	**307**	P	**Pn**	**01 29 36.6**	**+3.5**
IPM	**Ipoh**	**3.28**	**35**		**Pn**	**01 29 46.6**	**+1.6**
MLSI	**Meulaboh, Aceh**	**3.66**	**312**	P	**Pn**	**01 29 52.8**	**+2.7**
KULM	**Kulim**	**3.80**	**24**		**Pn**	**01 29 53.0**	**+1.0**
LHMI	**Lhok Sumawe**	**4.04**	**328**	Pn	**Pn**	**01 29 54.8**	**-0.5**
MYKOM	**Kota Tinggi**	**4.73**	**90**	Pn	**Pn**	**01 30 08.1**	**+3.3**
LEM	**Lembang**	**12.05**	**135**	LR	LR	01 36 35.5	
	comp=Z,215nm,19.6s,baz=273,slow=38						
CMAR	**Chiang Mai Arr**	**16.57**	**359**	Pn	**P**	**01 32 47.5**	**-0.4**
	0.6nm,0.3s,baz=194,slow=10,SNR=1.3						
CMAR				LR	LR	01 40 31.2	
	comp=Z,188nm,18.4s,baz=212,slow=42						
KAPI	**Kappang**	**21.70**	**108**	LR	LR	01 41 49.6	
	comp=Z,144nm,18.5s,baz=292,slow=36					

	baz=286								
IADA	**Aoalbol**	**0.93**	**66**	P		**Pg**	**01 36 27.1**	**-2.3**	
	baz=64								
IMEL	**Melhnausar**	**1.00**	**22**	P		**Pg**	**01 36 28.6**	**-2.2**	
	baz=20								
ISNB	**Snabyli**	**1.03**	**207**	P		**Pg**	**01 36 29.0**	**-2.4**	
	baz=209								
ISNB				S		**Sg**	**01 36 42.9**	**-1.8**	
	baz=209								
IREN	**Reynihlio**	**1.04**	**15**	P		**Pg**	**01 36 29.3**	**-2.2**	
	baz=14								
ISLY	**Slysaalda**	**1.07**	**220**	P		**Pg**	**01 36 29.9**	**-2.3**	
	baz=222								
IKVO	**Krokottuvotn**	**1.10**	**15**	P		**Pg**	**01 36 30.4**	**-2.4**	
	baz=13								
IFED	**Fedgar**	**1.12**	**237**	P		**Pg**	**01 36 31.0**	**-2.1**	
	baz=239								
IRJU	**Rjupnafell**	**1.15**	**206**	P		**Pg**	**01 36 31.1**	**-2.5**	
	baz=207								
IGRS	**Grimsstaoir**	**1.16**	**31**	P		**Pg**	**01 36 31.3**	**-2.7**	
	baz=29								
IGRS				S		**Sg**	**01 36 47.4**	**-1.6**	
	baz=29								
IMJO	**Mjoaskard**	**1.17**	**233**	P		**Pg**	**01 36 31.7**	**-2.3**	
	baz=235								
ISKI	**Skildingahlsh**	**1.24**	**10**	P		**Pg**	**01 36 32.6**	**-2.8**	
	baz=8.9								
IHAU	**Haukadalur**	**1.25**	**238**	P		**Pg**	**01 36 32.8**	**-2.8**	
	baz=239								
IGHA	**Grjothals**	**1.26**	**17**	P		**Pg**	**01 36 32.7**	**-3.0**	
	baz=16								
IHVO	**Lagu-Hvolar**	**1.26**	**207**	P		**Pg**	**01 36 33.1**	**-2.7**	
	baz=209								
IGRA	**Granastaoir**	**1.27**	**360**	P		**Pn**	**01 36 33.0**	**-2.7**	
	baz=359								
IDIM	**Dimmadalss**	**1.34**	**11**	P		**Pn**	**01 36 34.2**	**-2.4**	
	baz=9.9								
BORG	**Borgarnes**	**1.62**	**275**	Pg		**Pn**	**01 36 38.8**	**-1.6**	
	37nm,0.3s,baz=98,slow=7.3,SNR=128								
BORG				Lg		Lg	01 36 59.4		
	12nm,0.3s,baz=113,slow=18,SNR=4.9								
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn		**Pn**	**01 38 58.7**	**-0.8**	
	baz=328,slow=13,SNR=14								
NOA	**NORSAR Array B**	**13.56**	**92**	Pn		**Pn**	**01 39 25.7**	**+1.6**	
	0.0nm,0.3s,baz=300,slow=12,SNR=1.8								
ARCES	**ARCESS Array B**	**17.15**	**55**	P		**P**	**01 40 14.3**	**+1.3**	
	baz=272,slow=9.8,SNR=5.6								
FINES	**FINESS Array B**	**19.73**	**79**	P		**Pn**	**01 40 43.4**	**+0.6**	
	0.1nm,0.3s,baz=298,slow=8.4,SNR=5.0								
BRG	**Berggiesshubel**	**21.43**	**115**	*e*PKP		**P**	**01 41 03.4**	**+3.6**	
	4.0nm,1.1s								
CHVC	**Chvalec**	**22.49**	**113**	*e*P		**P**	**01 41 13.3**	**+2.1**	
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P		**P**	**01 41 14.1**	**+0.7**	
GERES	**GERESS Array B**	**22.97**	**119**	P		**P**	**01 41 18.3**	**+1.9**	
	0.5nm,0.7s,baz=322,slow=7.8,SNR=4.2								
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**	**01 41 45.5**	**-1.5**	
	0.8nm,0.9s,baz=345,slow=9.8,SNR=4.9								
BRTR	**Keskin Array B**	**38.50**	**105**	P		**P**	**01 43 36.6**	**+2.4**	
	0.6nm,0.8s,baz=330,slow=7.8,SNR=3.2								
KURBB	**Kurchatov Arra**	**48.19**	**58**	P		**P**	**01 44 53.4**	**+1.5**	
	0.5nm,0.2s,baz=324,slow=6.7,SNR=1.5								
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P		**P**	**01 45 29.8**	**+0.2**	
	0.7nm,0.8s,baz=334,slow=8.8,SNR=6.2								
PDAR	**Pinedale Array**	**53.16**	**293**	P		**P**	**01 45 30.3**	**+0.4**	
	1.1nm,0.7s,baz=52,slow=6.6,SNR=11								

ATA ***12*** *01:46:12.5±1.7, 38.86°N×43.67°E, h25km±9km, ML1.4, MW4.2*
DDA ***12*** *01:46:12.7, 38.91°N×43.52°E, h16km±1km, ML1.4*
ISK ***12*** *01:46:13.3, 38.86°N×43.65°E, h15km, ML1.9/7*

ISC 12 01:46:12.5±0.9, 38°86'N±0'.02×43°59'E±0'.03, h14km±7km, n27, σ1°31/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**354**	*i* P		**Pg**	**01 46 16.4**	**+0.2**
VMUR				*i* S		**Sg**	**01 46 18.6**	**-0.1**
VMUR				IAML			01 46 22.0	
	comp=N,282nm,0.4s							
VMUR				IAML			01 46 23.0	
	comp=E,308nm,0.3s							
ERCV	**ERCIS-VAN**	**0.25**	**309**	PG		**Pb**	**01 46 19.5**	**+0.4**
ERCV				SG		**Sb**	**01 46 24.9**	**+1.5**
VANB	**Van**	**0.31**	**211**	PG		**Pn**	**01 46 21.7**	**-1.1**
VANB				SG		**Sn**	**01 46 28.2**	**-1.0**
TVAN	**Van**	**0.36**	**204**	*e*P		**Pb**	**01 46 22.0**	**+1.2**
TVAN				*e*S		**Sn**	**01 46 29.1**	**-1.5**
TVAN				IAML			01 46 30.8	
	comp=Z,32nm,0.3s							
TVAN	**Van**	**0.36**	**204**	*i* P		**Pb**	**01 46 21.5**	**+0.7**
TVAN				*i* S		**Sb**	**01 46 27.1**	**+0.6**
TVAN				IAML			01 46 29.0	
	comp=E,60nm,0.5s							
TVAN				IAML			01 46 29.0	
	comp=N,58nm,0.4s							
CLDR	**Caldiran**	**0.38**	**42**	PG		**Pb**	**01 46 20.7**	**-0.6**
CLDR				SG		**Sb**	**01 46 26.5**	**-0.7**
CLDR	**Caldiran**	**0.38**	**42**	*i* P		**Pg**	**01 46 20.4**	**+0.1**
CLDR				*i* S		**Sg**	**01 46 24.6**	**-1.0**
CLDR				IAML			01 46 27.0	
	comp=N,38nm,0.2s							
CLDR				IAML			01 46 30.0	
	comp=E,26nm,0.4s							
ADCV	**BITLIS_Adilcev**	**0.68**	**266**	*i* P		**Pg**	**01 46 22.0**	**-3.8**
ADCV				*i* S		**Sg**	**01 46 34.6**	**-0.2**
ADCV				IAML			01 46 38.0	
	comp=N,76nm,0.9s							
ADCV				IAML			01 46 40.0	
	comp=E,14nm,0.2s							
GEVA	**Gevas**	**0.69**	**218**	*e*P		**Pn**	**01 46 28.1**	**+0.1**
GEVA				*e*S		**Sn**	**01 46 38.2**	**-0.4**
GEVA				IAML			01 46 44.4	
	comp=Z,8.0nm,0.4s							
GEVA	**Gevas**	**0.69**	**218**	*i* P		**Pg**	**01 46 25.6**	**-0.3**
GEVA				*i* S		**Sb**	**01 46 37.4**	**+1.6**
DYDN	**Diyadin**	**0.69**	**6**	*e*P		**Pn**	**01 46 27.4**	**-0.8**
DYDN				*e*S		**Sb**	**01 46 36.7**	**+0.7**
DYDN	**Diyadin**	**0.69**	**6**	*i* P		**Pg**	**01 46 24.8**	**-1.2**
DYDN				*i* S		**Sg**	**01 46 34.7**	**-0.4**
DYDN				IAML			01 46 38.0	
	comp=E,21nm,0.2s							
DYDN				IAML			01 46 38.0	
	comp=N,22nm,0.2s							
AKDM	**Akdamar-Van**	**0.71**	**222**	PG		**Pb**	**01 46 27.4**	**+0.5**
MLAZ	**Malazgirt-MUS**	**0.86**	**290**	PG		**Pn**	**01 46 31.5**	**+1.1**
BASK	**Baskale_VAN**	**0.87**	**158**	*e*P		**Pb**	**01 46 29.5**	**0.0**
BASK				*e*S		**Sn**	**01 46 42.1**	**-1.0**
BASK				IAML			01 46 48.6	
	comp=N,8.6nm,0.4s							
IGDI	**IGDIR**	**1.08**	**20**	*e*P		**Pb**	**01 46 32.8**	**-0.2**
IGDI	**IGDIR**	**1.08**	**20**	*i* P		**Pg**	**01 46 33.6**	**+0.3**
IGDI				*i* S		**Sn**	**01 46 49.4**	**+1.3**
TASB	**TASBURUN-IGDIR**	**1.23**	**24**	PN		**Pg**	**01 46 36.7**	**+0.5**
BLIS	**Bitlis-Merkez**	**1.24**	**249**	*e*P		**Pb**	**01 46 36.2**	**+0.4**
BLIS	**Bitlis-Merkez**	**1.24**	**249**	*i* P		**Pg**	**01 46 36.5**	**+0.2**
GURO	**Guroymak-BITLI**	**1.26**	**256**	PN		**Pg**	**01 46 37.0**	**+0.3**
HAKT	**HAKKARI**	**1.30**	**176**	*i* P		**Pg**	**01 46 37.5**	**-0.2**
HAKT				*i* S		**Sg**	**01 46 58.5**	**+3.9**
EATA	**Eleskirt**	**1.31**	**320**	*e*P		**Pg**	**01 46 38.9**	**+1.0**
EATA	**Eleskirt**	**1.31**	**320**	*i* P		**Pn**	**01 46 37.0**	**+0.2**
EATA				IAML			01 46 59.0	
	comp=E,6.6nm,1.1s							
EATA				IAML			01 47 02.0	
	comp=N,7.0nm,0.3s							
DIGO	**Kars**	**1.56**	**354**	*e*P		**Pg**	**01 46 43.1**	**+0.5**
DIGO	**Kars**	**1.56**	**354**	*i* P		**Pg**	**01 46 43.3**	**+0.7**
DIGO				IAML			01 47 01.0	
	comp=N,4.8nm,1.1s							
SRTM	**Siirt_Merkez**	**1.57**	**237**	*i* P		**Pn**	**01 46 36.6**	**-3.5**

IDC ***12*** *01:57:51.8±2.1, 40.72°N×143.65E, h0km, mb3.8/6, mb1 3.7/9, mb1mx3.5/68, mbtmp3.7/9, ML2.9/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/40, Error ellipse: s-maj=40.9km s-min=28.5km az=134.0*
NEIC ***12*** *01:57:53.4±1.3, 40.75°N±0.07°×143.5E±0.1, h8km±7km, mb4.1/6, Error ellipse: s-maj=16.3km s-min=7.6km az=115.0*
JMA ***12*** *01:57:57.4±0.1, 40.87°N×143.28E, h24km, M4.0*
NIED ***12*** *01:57:57.4, 40.87°N×143.28E, h24km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.46; Mθθ1.25; Mϕϕ-4.71; Mrθ2.16; Mθϕ-2.38; Mϕr4.82;*

Fault plane solution: M0 6.95000×10¹⁴ NP1:φ=25.00000°, δ70.00000°, λ95.00000°. NP2:φ=189.00000°, δ21.00000°, λ76.00000°.

ISC 12 01:57:53.7±1.7, 40°78'N±0'.05×143°48'E±0'.07, h9km±11km, n47, σ1°11/47, mb3.9/8, 3C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.25**	**349**			**Pn**	**01 58 17.4**	**0.0**
JEM	**Erimo**	**1.26**	**349**	P		**Pg**	**01 58 18.0**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.47**	**247**	↑P		**Pb**	**01 58 21.0**	**-0.2**
JTH	**Tanohata**	**1.50**	**236**	↓P		**Pg**	**01 58 22.2**	**-0.2**
JTH				*e*S		**Sn**	**01 58 40.2**	**-0.2**
JTHR	**Tokachihiroo**	**1.51**	**355**	P		**Pb**	**01 58 21.9**	**-0.1**
JANG	**Nango**	**1.55**	**255**	P		**Pb**	**01 58 22.2**	**-0.4**
JANG				*e*S		**Sn**	**01 58 40.5**	**-1.3**
JNBK	**Urakawa-nobuka**	**1.59**	**340**	↑P		**Pn**	**01 58 22.7**	**+0.6**
JTM	**Tenmabayashi**	**1.83**	**271**	P		**Pn**	**01 58 26.3**	**+0.9**
JTM				*e*S		**Sn**	**01 58 47.3**	**-1.4**
JTM	**Tenmabayashi**	**1.83**	**271**	Pn		**Pn**	**01 58 26.1**	**+0.8**
JCH	**Churui**	**1.83**	**357**	P		**Pn**	**01 58 26.3**	**+0.9**
JCH				S		**Sn**	**01 58 47.3**	**-1.4**
JOT	**Ohata**	**1.93**	**289**	↑P		**Pn**	**01 58 27.0**	**+0.2**
JOT				S		**Sn**	**01 58 50.0**	**-1.2**
JOM	**Ohasama**	**2.13**	**233**	P		**Pb**	**01 58 32.4**	**0.0**
JOM				*e*S		**Sb**	**01 58 58.2**	**-0.7**
JKB	**Kayabe**	**2.15**	**302**	P		**Pn**	**01 58 29.8**	**+0.1**
JAK	**Akkeshi**	**2.39**	**22**	P		**Pn**	**01 58 34.5**	**+1.4**
JAK				*e*S		**Sn**	**01 59 01.1**	**-1.4**
JFR	**Furan**	**2.47**	**345**	P		**Pb**	**01 58 37.0**	**-1.3**
JAR	**Ashorobuto**	**2.52**	**5**	↓P		**Pn**	**01 58 35.8**	**+0.9**
JAR				S		**Sn**	**01 59 03.2**	**-2.5**
JMK	**Ichinoseki**	**2.52**	**224**	P		**Pb**	**01 58 38.4**	**-0.8**
JEW	**Eniwo**	**2.56**	**324**	P		**Pn**	**01 58 37.2**	**+1.9**
JEW				*e*S		**Sn**	**01 59 05.9**	**-0.7**
JEW	**Eniwo**	**2.56**	**324**			**Pn**	**01 58 35.7**	**+0.4**
JOMM	**Oshimamatsumae**	**2.73**	**287**	P		**Pn**	**01 58 38.8**	**+1.1**
JKA	**Kamikawa-asahi**	**3.40**	**349**			**Pn**	**01 58 45.6**	**-1.2**
JKA	**Kamikawa-asahi**	**3.40**	**349**			**Sn**	**01 59 29.4**	**+2.2**
ASAJ	**Asahikawa**	**3.40**	**349**	Pn		**Pn**	**01 58 48.8**	**+1.9**
	2.8nm,0.3s,baz=202,slow=9.5,SNR=18							
ASAJ				Sn		**Sn**	**01 59 29.4**	**+2.2**
	5.8nm,0.3s,baz=171,slow=9.2,SNR=4.1							
JMM	**Marumori**	**3.58**	**216**			**Pn**	**01 58 50.4**	**+0.9**
JSD	**Sado**	**4.88**	**238**	Pn		**Pn**	**01 59 09.0**	**+1.6**
MJAR	**Matsushiro Arr**	**5.91**	**226**	Pn		**Pn**	**01 59 22.1**	**+0.6**
	0.1nm,0.3s,baz=36,slow=13,SNR=1.4							
USRK	**Ussuriysk Ar.**	**9.15**	**296**	Pn		**Pn**	**02 00 07.8**	**+1.9**
	baz=99,slow=14,SNR=6.0							
USRK				LR		LR	02 03 32.0	
	comp=Z,129nm,18.1s,baz=133,slow=37							
KSRS	**Korea Array**	**12.53**	**260**	LR		LR	02 05 12.4	
	comp=Z,59nm,19.3s,baz=200,slow=35							
YAK	**Yakutsk**	**22.86**	**343**	LR		LR	02 11 40.4	
	comp=Z,64nm,19.4s,baz=264,slow=36							
SONM	**Songino Array**	**27.26**	**297**	P		**P**	**02 03 38.5**	**+0.2**
	0.6nm,0.3s,baz=92,slow=10,SNR=3.9							
SONM	**Songino Array**	**27.26**	**297**	IAmb		IAmb	02 03 41.8	
	comp=Z,2.7nm,1.4s							
XAN	**Xi'an**	**28.14**	**267**	P		**P**	**02 03 46.3**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.98**	**129**	T		T	02 34 37.9	
	baz=322,slow=74,SNR=77							
H11N1	**WAKE ISLAND Hy**	**28.99**	**129**	T		T	02 34 46.3	
	baz=322,slow=74,SNR=62							
H11N3	**WAKE ISLAND Hy**	**29.00**	**129**	T		T	02 34 43.9	
	baz=322,slow=74,SNR=66							
H11S1	**WAKE ISLAND Hy**	**29.83**	**131**	T		T	02 35 41.8	
	baz=323,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.83**	**131**	T		T	02 35 44.5	
	baz=323,slow=74							
H11S2	**WAKE ISLAND Hy**	**29.85**	**131**	T		T	02 35 47.6	
	baz=323							
ZAA0	**Zalesovo Array**	**40.69**	**309**	P		**P**	**02 05 34.8**	**+0.6**
ZALV	**Zalesovo Beam**	**40.69**	**309**	P		**P**	**02 05 34.3**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=84,slow=8.1,SNR=4.7							
MK31	**Makanchi Array**	**43.60**	**299**	P		**P**	**02 05 58.5**	**+0.3**
MK31				IAmb		IAmb	02 07 37.6	
	comp=Z,3.7nm,1.2s							
MKAR	**Makanchi Array**	**43.60**	**299**	P		**P**	**02 05 58.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=82,slow=10,SNR=9.5							
CMAR	**Chiang Mai Arr**	**44.07**	**253**	LR		LR	02 24 33.7	
	comp=Z,31nm,19.1s,baz=210,slow=36							
KURK	**Kurchatov**	**44.98**	**305**	P		**P**	**02 06 08.9**	**-0.2**
KURK				IAmb		IAmb	02 06 09.7	
	comp=Z,2.3nm,0.8s							
ILAR	**Eielson Array**	**45.48**	**34**	P		**P**	**02 06 12.0**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=258,slow=5.8,SNR=1.4							
FINES	**FINESS Array B**	**66.25**	**332**	P		**P**	**02 08 41.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=42,slow=6.7,SNR=12							
AKASG	**Malin Array Be**	**72.31**	**323**	P		**P**	**02 09 20.1**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=40,slow=6.6,SNR=3.0							

IDC 12 01:58:35.7±1.4, 5°64'S×150°77'E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/42, mbtmp3.2/3, Error ellipse: s-maj=76.7km s-min=19.2km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.83**	**43**	Pn		Pb	01 59 09.7	-0.4
	89nm,0.3s,baz=220,slow=0.9,SNR=40							
KRVT				Sn		Sn	01 59 31.9	-0.4
	73nm,0.3s,baz=54,slow=19,SNR=11							
WRA	**Warramunga Arr**	**21.38**	**227**	P		P	02 03 25.6	+0.5
	0.3nm,0.5s,baz=53,slow=10,SNR=2.4							
ASAR	**Alice Springs**	**24.18**	**220**	P		P	02 03 54.2	+0.2
	0.2nm,0.6s,baz=57,slow=10,SNR=1.4							
FITZ	**Fitzroy Crossi**	**27.48**	**241**	P		P	02 04 24.1	+0.2
	1.0nm,0.8s,baz=79,slow=10,SNR=1.8							
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc		PKPbc	02 18 24.4	-1.5
	0.4nm,0.4s,baz=96,slow=2.5,SNR=8.5							

IDC ***12*** *01:58:38.8±0.9, 57.26°N×33.34W, h0km, mb3.5/12, mb1 3.7/14, mb1mx3.6/57, mbtmp3.5/14, ML3.5/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/39, Error ellipse: s-maj=28.1km s-min=17.4km az=4.0*

ISC 12 01:58:41.3±0.8, 57°3'N±0'.1×33°30'W±0'.10, h16km, n19, σ1°17/16, mb3.6/12, MS3.5/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.46**	**33**	Pn		**Pn**	**02 00 54.6**	**-2.0**
	0.4nm,0.3s,baz=351,slow=6.7,SNR=2.6							
BORG				Sn		**Sn**	**02 02 43.1**	**+0.5**
	0.2nm,0.3s,baz=169,slow=16,SNR=1.8							
EKA	**Eskdalemuir Ar**	**16.77**	**84**	Pn		**Pn**	**02 02 35.0**	**-0.2**
	baz=299,slow=8.8,SNR=2.4							
H07N1	**FLORES T-PHASE**	**17.66**	**174**	T		T	02 20 45.8	
	SNR=24							
HFS	**Hagfors**	**24.17**	**63**	P		**P**	**02 03 57.2**	**+0.8**
	1.2nm,0.6s,baz=258,slow=7.2,SNR=1.8							
ESDC	**Sonseca Array**	**25.93**	**120**	P		**P**	**02 04 12.7**	**+0.1**
	1.1nm,0.9s,baz=324,slow=9.7,SNR=3.0							
DAVOX	**Davos/Dischmat**	**28.10**	**93**	LR		LR	02 15 18.8	
	comp=Z,149nm,19.0s,baz=289,slow=36							
RES	**Resolute Bay**	**28.58**	**331**	LR		LR	02 14 25.7	
	comp=Z,96nm,18.4s,baz=106,slow=33							
VRAC	**Vranov**	**30.25**	**84**	LR		LR	02 16 34.7	
	comp=Z,105nm,19.1s,baz=308,slow=36							
AKASG	**Malin Array Be**	**36.16**	**73**	P		**P**	**02 05 41.8**	**-0.6**
	0.4nm,0.4s,baz=306,slow=8.6,SNR=1.6							
BRTR	**Keskin Array B**	**45.69**	**83**	P		**P**	**02 07 01.0**	**-0.2**
	0.5nm,0.8s,baz=317,slow=7.4,SNR=2.7							
KBZ	**Khabaz**	**47.76**	**72**	P		**P**	**02 07 19.2**	**+2.1**
	2.1nm,1.1s,baz=132,slow=12,SNR=2.5							
ILAR	**Eielson Array**	**48.28**	**328**	P		**P**	**02 07 22.4**	**+1.5**
	0.2nm,0.8s,baz=42,slow=6.5,SNR=1.6							
PDAR	**Pinedale Array**	**48.46**	**287**	P		**P**	**02 07 21.3**	**-1.6**
	0.2nm,0.6s,baz=64,slow=8.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**51.45**	**134**	P		**P**	**02 07 45.5**	**-0.1**
	0.6nm,0.8s,baz=338,slow=6.8,SNR=2.0							
TXAR	**Lajitas Array**	**55.35**	**271**	P		**P**	**02 08 13.8**	**-0.4**
	0.3nm,1.0s,baz=65,slow=6.4,SNR=1.9							
NVAR	**Mina Array Bea**	**56.16**	**290**	P		**P**	**02 08 20.8**	**+0.7**
	0.2nm,0.6s,baz=56,slow=5.7,SNR=1.7							
MKAR	**Makanchi Array**	**63.33**	**44**	P		**P**	**02 09 08.8**	**-0.3**
	0.4nm,0.6s,baz=340,slow=5.6,SNR=2.4							
SONM	**Songino Array**	**70.03**	**28**	P		**P**	**02 09 53.2**	**+1.2**
	1.7nm,0.8s,baz=331,slow=5.9,SNR=2.3							
ASAR	**Alice Springs**	**145.16**	**21**	PKPbc		**PKPbc**	**02 18 16.3**	**-1.0**
	0.8nm,1.0s,baz=347,slow=2.8,SNR=3.4							

IDC ***12*** *02:03:25.2±1.1, 1.55N×127.13E, h0km, mb4.1/10, mb1 4.3/10, mb1mx3.9/45, mbtmp4.1/10, Error ellipse: s-maj=41.0km s-min=23.7km az=79.0*
DJA ***12*** *02:03:33.2±0.4, 2°N±5'×127°7'E±1', h10km, M4.3/9, mB5.1/2, mb4.5/3, MLv4.1/9, Mw(mB)4.5/2*
NEIC ***12*** *02:03:35.2±1.2, 1.55N±0.08×127°2'E±0'.1, h81km±5km, mb4.3/18, Error ellipse: s-maj=16.0km s-min=10.8km az=72.0*

ISC 12 02:03:30.7±0.7, 1°65'N±0'.07×127°3'E±0'.1, h35km, n49, σ1°28/42, mb4.3/13, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.87**	**177**	P		Pn	02 03 52.8	+6.3
TNTI	**Ternate**	**0.87**	**177**			Pn	02 03 51.9	+5.5
LBMI	**Labuha**	**2.28**	**176**	P		Pn	02 04 13.5	+7.7
LBMI	**Labuha**	**2.28**	**176**	P		Pn	02 04 13.4	+7.6
KMSI	**Cibinong**	**3.51**	**252**	P		**Pn**	**02 04 23.2**	**+0.5**
GTOI	**Gorontalo**	**4.43**	**257**	P		**Pn**	**02 04 37.1**	**+1.7**
DDMP	**Don Marcelino,**	**4.71**	**340**	*e*P		**Pn**	**02 04 40.5**	**+1.2**
DDMP				*e*S		**Sn**	**02 05 33.6**	**+0.8**
NLAI	**Namlea**	**4.86**	**183**	P		Pn	02 04 48.9	+7.6
MSAI	**Masohi**	**5.21**	**162**	P		Pn	02 04 54.0	+7.8
LUWI	**Luwuk**	**5.28**	**240**	P		**Pn**	**02 04 48.3**	**+1.2**
	0.5nm7μm45nm,0.6s							
LUWI	**Luwuk**	**5.28**	**240**			**Pn**	**02 04 49.8**	**+2.7**
SKMP	**Bagumbayan, Su**	**5.58**	**330**	*e*P		**Pn**	**02 04 51.3**	**+0.1**
SKMP				*e*S		**Sn**	**02 05 50.4**	**-3.8**
DAV	**Davao City (W)**	**5.66**	**342**	Pn		Pn	02 04 57.4	+5.0
KCP	**Kidapawan**	**5.77**	**337**	↓*e*P		**Pn**	**02 04 58.4**	**+4.4**
BNDI	**Bandanaira**	**6.65**	**157**	P		**Pn**	**02 05 06.2**	**+4.3**
BNDI	**Bandanaira**	**6.65**	**157**	P		**Pn**	**02 05 06.3**	**+0.3**
SBUM	**Sibu**	**15.11**	**273**	Pn		**Pn**	**02 07 02.9**	**+1.1**
SBUM				IAmb		IAmb	02 07 07.0	
	comp=Z,13nm,0.9s							
KSM	**Kuching**	**17.01**	**270**	Pn		**Pn**	**02 07 25.8**	**-0.2**
WRAB	**Tennant Creek**	**22.53**	**163**	P		**P**	**02 08 27.3**	**-0.4**
WRA	**Warramunga Arr**	**22.53**	**163**	P		**P**	**02 08 26.8**	**-0.9**
	comp=Z,14nm,0.9s,baz=341,slow=11,SNR=9.6							
KSRS	**Korea Array**	**35.64**	**1**	P		**P**	**02 10 26.6**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=173,slow=9.4,SNR=2.6							
MAJO	**Matsushiro**	**36.15**	**15**	P		**P**	**02 10 29.5**	**-0.2**
MJAR	**Matsushiro Arr**	**36.15**	**15**	P		**P**	**02 10 29.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=192,slow=8.3,SNR=4.3							
MJAR	**Matsushiro Arr**	**36.15**	**15**	IAmb		IAmb	02 10 30.9	
	comp=Z,2.7nm,1.2s							
USA0B	**Ussuriysk Arra**	**42.57**	**5**	P		**P**	**02 11 23.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**42.57**	**5**	P		**P**	**02 11 23.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=198,slow=6.4,SNR=3.3							
ULN	**Ulaanbaatar**	**49.27**	**342**	P		**P**	**02 12 16.4**	**+0.2**
SONM	**Songino Array**	**49.45**	**342**	P		**P**	**02 12 17.7**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=159,slow=8.0,SNR=11							
SONM	**Songino Array**	**49.45**	**342**	P		**P**	**02 12 18.0**	**+0.5**
PETK	**Petropavlovsk-**	**59.13**	**21**	P		**P**	**02 13 14.9**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=185,slow=4.2,SNR=4.1							
MK31	**Makanchi Array**	**59.60**	**326**	P		**P**	**02 13 31.1**	**0.0**
MKAR	**Makanchi Array**	**59.60**	**326**	P		**P**	**02 13 30.9**	**-0.2**
	comp=Z,6.7nm,0.6s,baz=121,slow=8.8,SNR=43							
MKAR	**Makanchi Array**	**59.60**	**326**	P		**P**	**02 13 30.7**	**-0.4**
MAKZ	**Makanchi**	**59.78**	**326**	P		**P**	**02 13 32.3**	**0.0**
ZAA0	**Zalesovo Array**	**62.70**	**333**	P		**P**	**02 13 51.3**	**-0.7**
ZALV	**Zalesovo Beam**	**62.70**	**333**	P		**P**	**02 13 51.0**	**-1.0**
	comp=Z,1.

ABKAR					IAmb	IAmb	02 13 12.1	
	comp=Z,3.4nm,0.9s							
DBIC	**Dimbokro**	**54.95**	**145**	LR	LR		02 33 55.0	
	comp=Z,93nm,20.2s,baz=332,slow=33							
TXAR	**Lajitas Array**	**55.29**	**271**	P		**P**	**02 13 33.3**	**+1.0**
	comp=Z,0.1nm,0.7s,baz=38,slow=4.6,SNR=1.3							
TXAR				LR		LR	02 38 29.1	
	comp=Z,105nm,18.1s,baz=0.0,slow=37							
NVAR	**Mina Array Bea**	**56.20**	**290**	P		**P**	**02 13 38.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=35,slow=3.8,SNR=2.3							
GEYT	**Alibeck**	**59.97**	**66**	P		**P**	**02 14 05.0**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=296,slow=11,SNR=3.7							
GYA0B	**ALIBECK ARRAY**	**59.97**	**66**	P		**P**	**02 14 06.0**	**+0.9**
MKAR	**Makanchi Array**	**63.60**	**44**	P		**P**	**02 14 29.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=308,slow=7.0,SNR=2.5							
BTK	**Batken**	**64.35**	**56**	P		**P**	**02 14 35.1**	**+0.6**
SONM	**Songino Array**	**70.35**	**27**	P		**P**	**02 15 12.6**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=338,slow=7.3,SNR=6.5							
SONM	**Songino Array**	**70.35**	**27**	P		**P**	**02 15 12.7**	**+0.2**
ULN	**Ulaanbaatar**	**70.48**	**27**	P		**P**	**02 15 12.9**	**-0.3**
KSRS	**Korea Array**	**84.63**	**15**	P		**P**	**02 16 32.3**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=352,slow=7.5,SNR=3.2							
ASAR	**Alice Springs**	**145.48**	**21**	PKPbc		**PKPab**	**02 23 37.3**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=357,slow=2.8,SNR=24							
ASAR	**Alice Springs**	**145.48**	**21**			**PKPdf**	**02 23 36.6**	**-0.2**

NEIC ***12*** *02:04:28.9±2.8, 6.42S±0.05×129.98E±0.09, h172km±8km, mb4.2/10, Error ellipse: s-maj=13.2km s-min=6.9km az=74.0*

IDC ***12*** *02:04:29.0±1.6, 6.43S×129.94E, h166km±15km, mb3.7/9, mb1 3.9/14, mb1mx3.6/41, mbtmp4.3/14, Error ellipse: s-maj=20.4km s-min=11.2km az=72.0*

DJA ***12*** *02:04:30.5±0.2, 7.5±3.3×13.0E±°, h154km±4km, M4.6/18, mb4.5/18, mB5.2/6, MLv4.7/8, Mw(mB)4.6/6*

ISC 12 02:04:28.0±0.5, 6.53S±0.05×129.94E±0.05, h166km, n56, σ2s27/59, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.97**	**137**	P		**Pn**	**02 05 06.2**	**+2.4**
SAUI				S		**Sn**	**02 05 31.4**	**-0.1**
SAUI	**Saumlaki**	**1.97**	**137**	Pn		**Pn**	**02 05 06.1**	**+2.3**
AAI	**Ambon**	**3.32**	**328**	P		**Pn**	**02 05 22.9**	**+2.9**
MSAI	**Masohi**	**3.32**	**342**	P		**Pn**	**02 05 22.7**	**+2.7**
FAKI	**Fak Fak**	**4.26**	**33**	P		**Pn**	**02 05 31.3**	**-0.8**
FAKI	**Fak Fak**	**4.26**	**33**	P		**Pn**	**02 05 31.3**	**-0.8**
FAKI	**Fak Fak**	**4.26**	**33**	Pn		**Pn**	**02 05 30.7**	**-1.4**
NLAI	**Namlea**	**4.33**	**319**	P		Pn	02 05 38.2	+5.3
SIJI	**Sorong**	**5.78**	**13**	P		**Pn**	**02 05 51.3**	**-0.7**
	3.5nm,0.3s,baz=18,slow=9.9,SNR=32							
SIJI				S		**Sn**	**02 06 51.7**	**-6.2**
	16nm,0.3s,baz=234,slow=23,SNR=17							
SANI	**Sanana**	**5.95**	**318**	P		**Pn**	**02 05 57.6**	**+3.4**
	0.2nm53nm,0.5s							
MTN	**Manton Dam**	**6.38**	**169**	Pn		**Pn**	**02 06 01.1**	**+1.2**
SOEI	**Soe**	**6.47**	**240**	P		**Pn**	**02 06 03.3**	**+2.2**
	0.9nm1μm60nm,0.7s							
SOEI	**Soe**	**6.47**	**240**	Pn		**Pn**	**02 06 03.4**	**+2.2**
BATI	**Baumata**	**7.21**	**239**	P		**Pn**	**02 06 12.7**	**+1.8**
	19nm,0.3s,baz=88,slow=3.5,SNR=10							
BATI				S		**Sn**	**02 07 30.8**	**-1.1**
	41nm,0.3s,baz=139,slow=17,SNR=16							
BATI	**Baumata**	**7.21**	**239**	P		**Pn**	**02 06 13.3**	**+2.4**
	0.4nm50nm,0.6s							
BAKI	**Biak**	**8.12**	**49**	P		**Pn**	**02 06 24.9**	**+1.9**
	65nm,0.9s							
EDFI	**Ende, Flores**	**8.47**	**254**	P		**Pn**	**02 06 30.7**	**+3.0**
	4.9nm,0.4s							
KNRA	**Kununurra**	**9.16**	**187**	Pn		**Pn**	**02 06 37.6**	**+0.9**
MPSI	**Mapaga**	**12.13**	**304**	P		**P**	**02 07 20.2**	**-1.0**
	2μm7.9nm,1.0s							
FITZ	**Fitzroy Crossi**	**12.24**	**200**	P		**Pn**	**02 07 17.5**	**+0.6**
	1.0nm,0.3s,baz=25,slow=9.4,SNR=29							
FITZ				S		**Sn**	**02 09 25.2**	**-7.4**
	3.7nm,0.3s,baz=130,slow=20,SNR=6.9							
FITZ	**Fitzroy Crossi**	**12.24**	**200**	Pn		**Pn**	**02 07 17.4**	**+0.5**
PLAI	**Plampang**	**12.27**	**259**	P		**P**	**02 07 19.9**	**-3.0**
	30nm,0.7s							
TWSI	**Taliwang, Sumb**	**13.13**	**260**	P		**P**	**02 07 31.0**	**-1.4**
	13nm,0.5s							
WB0	**Warramunga Arr**	**13.85**	**162**	Pn		**Pn**	**02 07 38.1**	**+0.7**
WRA	**Warramunga Arr**	**14.00**	**163**	P		**Pn**	**02 07 38.6**	**-0.8**
	1.7nm,0.3s,baz=346,slow=11,SNR=30							
WRA				S		Sn	02 10 05.3	-10
	8.7nm,0.3s,baz=334,slow=22,SNR=9.2							
WRA				ScP		**ScP**	**02 16 04.0**	**-1.8**
	0.0nm,0.3s,baz=315,slow=1.9,SNR=3.8							
WB2	**Warramunga Arr**	**14.00**	**163**	Pn		**Pn**	**02 07 38.8**	**-0.5**
WR0	**Warramunga Arr**	**14.08**	**162**	Pn		**Pn**	**02 07 40.9**	**+0.6**
COEN	**Coen**	**14.96**	**121**			**P**	**02 07 52.3**	**-0.4**
BBKI	**Banjar Baru**	**15.35**	**281**	P		**P**	**02 08 01.1**	**+4.0**
	8μm57nm,0.7s							
JAGI	**Jajag, Banyuwa**	**15.77**	**262**	Pn		**Pn**	**02 08 00.6**	**-0.7**
BLJI	**Banyuglugur**	**16.27**	**265**	P		**Pn**	**02 08 12.1**	**+4.8**
	69nm,0.7s							
PMG	**Port Moresby**	**17.29**	**101**	P		**Pn**	**02 08 20.6**	**+1.0**
	1.2nm,0.3s,baz=306,slow=14,SNR=3.6							
PMG	**Port Moresby**	**17.29**	**101**	IAmb		IAmb	02 08 23.1	
	comp=Z,15nm,0.8s							
AS31	**Alice Springs**	**17.46**	**168**	P		**Pn**	**02 08 21.5**	**-0.1**
AS31				IAmb		IAmb	02 08 24.8	
	comp=Z,6.6nm,0.6s							
ASAR	**Alice Springs**	**17.46**	**168**	P		**Pn**	**02 08 23.0**	**+1.4**
	comp=Z,3.1nm,0.3s,baz=347,slow=9.9,SNR=154							
ASAR				S		**S**	**02 11 27.8**	**-5.8**
	comp=Z,1.3nm,0.3s,baz=343,slow=16,SNR=5.7							
ASAR				ScP		**ScP**	**02 16 11.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=356,slow=2.0,SNR=4.8							
ASAR	**Alice Springs**	**17.46**	**168**	P		**Pn**	**02 08 21.8**	**+0.2**
ASAR						**P**	**02 08 22.5**	**+2.3**
PWJI	**Pagerwojo**	**18.05**	**264**	P		**Pn**	**02 08 27.8**	**-0.8**
SBUM	**Sibu**	**19.82**	**296**	P		**Pn**	**02 08 49.6**	**+0.2**
CTA	**Charters Tower**	**20.79**	**132**	P		Pn	02 08 58.7	-2.5
	comp=Z,12nm,0.8s,baz=309,slow=12,SNR=15							
CTAO	**Charters Tower**	**20.79**	**132**	P		**P**	**02 08 57.5**	**+1.2**
STKA	**Stephens Creek**	**27.47**	**158**	P		**P**	**02 10 00.1**	**+1.5**
	comp=Z,3.7nm,0.3s,baz=336,slow=8.3,SNR=20							
STKA	**Stephens Creek**	**27.47**	**158**	IAmb		IAmb	02 10 56.4	
	comp=Z,9.4nm,1.9s							
CMAR	**Chiang Mai Arr**	**39.39**	**310**	P		**P**	**02 11 42.7**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=139,slow=7.3,SNR=7.8							
PBA	**Port Blair**	**41.18**	**296**	P		P	02 11 55.1	-1.4
MJAR	**Matsushiro Arr**	**43.54**	**10**	P		**P**	**02 12 14.8**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=179,slow=11,SNR=4.6							
USRK	**Ussuriysk Ar.**	**50.53**	**2**	P		**P**	**02 13 09.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=164,slow=7.0,SNR=4.5							
SONM	**Songino Array**	**57.98**	**341**	P		**P**	**02 14 02.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=152,slow=6.5,SNR=1.8							
SONM	**Songino Array**	**57.98**	**341**	IAmb		IAmb	02 15 13.7	
	comp=Z,1.8nm,0.9s							
MKAR	**Makanchi Array**	**67.81**	**327**	P		**P**	**02 15 09.0**	**+1.0**
	comp=Z,6.0nm,0.7s,baz=113,slow=8.5,SNR=25							
MKAR				pP		**pP**	**02 15 47.5**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=119,slow=8.4,SNR=1.2							
MKAR	**Makanchi Array**	**67.81**	**327**			**P**	**02 15 09.3**	**+1.3**
ZALV	**Zalesovo Beam**	**71.14**	**334**	P		**P**	**02 15 28.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=147,slow=6.5,SNR=2.8							
GAR	**Garm**	**71.30**	**315**			**P**	**02 15 31.2**	**+1.5**
VNDA	**Vanda**	**72.92**	**173**	P		**P**	**02 15 39.7**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=309,slow=6.2,SNR=9.5							
KKAR	**Karatay Array**	**72.95**	**319**			**P**	**02 15 40.5**	**+1.2**
TORD	**Torodi Ar. Bea**	**128.66**	**282**	PKP		**PKiKP**	**02 23 17.7**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=88,slow=0.9,SNR=1.8							
TORD				SKPbc		SKPbc	02 26 20.5	
	comp=Z,0.4nm,0.7s,baz=64,slow=3.6,SNR=3.0							
LPAZ	**La Paz**	**151.12**	**142**	PKPbc		**PKiKP**	**02 24 05.2**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=49,slow=3.5,SNR=6.8							

ATH ***12*** *02:52:38.0, 41.54N×24.31E, h25km±1km, ML2.2/11, Error ellipse: s-maj=2.7km s-min=1.0km az=179.0*

BEO ***12*** *02:52:38.5±0.6, 41.60N×24.36E, h11km±5km, ML2.0/6*

THE ***12*** *02:52:38.0, 41.60N×24.32E, h3km, ML2.2/9, Error ellipse: s-maj=1.1km s-min=0.5km az=184.0*

SKO ***12*** *02:52:39.0, 41.64N×24.26E, h0km*

DDA ***12*** *02:52:41.0, 41.23N×24.35E, h9km±5km, ML2.5*

ISC 12 02:52:37.8±0.9, 41.56N±0.02×24.34E±0.02, h17km±8km, n50, σ1s11/79, 6C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVR	**Nevrokopi**	**0.42**	**240**	P		**Pg**	**02 52 46.1**	**-0.3**
NVR				S		**Sb**	**02 52 52.6**	**-0.2**
	175nm,0.1s							
NVR	**Nevrokopi**	**0.42**	**240**	P		**Pg**	**02 52 46.2**	**-0.3**
NVR				S		**Sg**	**02 52 52.1**	**0.0**
NVR				AML		AML	02 52 56.0	
	comp=N,366μm,0.1s							
NVR				AML		AML	02 53 00.2	
	comp=E,407μm,0.1s							
KAVA	**Kavala**	**0.58**	**167**	P		**Pb**	**02 52 49.7**	**+0.3**
KAVA				S		**Sn**	**02 52 59.0**	**-1.2**
	comp=E,252nm,0.2s							
KAVA	**Kavala**	**0.58**	**167**	P		**Pb**	**02 52 49.6**	**+0.1**
KAVA				S		**Sn**	**02 52 58.2**	**-2.1**
KAVA				AML		AML	02 53 04.5	
	comp=N,578μm,0.2s							
KAVA				AML		AML	02 53 04.7	
	comp=E,702μm,0.2s							
PLD	**Plovdiv**	**0.61**	**26**	*e*Pg		**Pg**	**02 52 49.5**	**-0.4**
PLD				*e*Sg		**Sg**	**02 52 57.5**	**-0.6**
KVLA	**Kavala**	**0.62**	**177**	P		**Pb**	**02 52 50.5**	**+0.3**
SRS	**Serrai**	**0.72**	**232**	P		**Pb**	**02 52 51.8**	**-0.1**
SRS	**Serrai**	**0.72**	**232**	*e*Pg		**Pg**	**02 52 52.3**	**+0.4**
SRS				*e*Sg		**Sn**	**02 53 02.6**	**-1.2**
SRS	**Serrai**	**0.72**	**232**	P		**Pb**	**02 52 51.8**	**-0.1**
SRS				S		**Sb**	**02 53 00.8**	**-0.6**
SRS				AML		AML	02 53 03.8	
	comp=E,319μm,0.2s							
SRS				AML		AML	02 53 09.0	
	comp=N,301μm,0.1s							
RDO	**Rodhopi**	**0.99**	**114**	P		**Pg**	**02 52 57.0**	**0.0**
RDO				S		**Sn**	**02 53 11.9**	**+1.4**
RDO	**Rodhopi**	**0.99**	**114**	P		**Pg**	**02 52 57.0**	**0.0**
RDO				S		**Sn**	**02 53 10.6**	**+0.1**
RDO				AML		AML	02 53 13.6	
	comp=E,1076μm,0.2s							
RDO				AML		AML	02 53 13.8	
	comp=N,615μm,0.2s							
THAS	**Thassos island**	**0.99**	**163**	P		**Pg**	**02 52 57.3**	**+0.3**
THAS				S		**Sn**	**02 53 13.1**	**+2.6**
	comp=N,192nm,0.2s							
THAS	**Thassos island**	**0.99**	**163**	P		**Pg**	**02 52 57.4**	**+0.3**
THAS				AML		AML	02 53 13.9	
	comp=E,370μm,0.3s							
THAS				AML		AML	02 53 14.5	
	comp=N,377μm,0.2s							
SOH	**Sokhos**	**1.05**	**226**	P		**Pg**	**02 52 57.9**	**-0.3**
SOH				S		**Sn**	**02 53 12.9**	**+0.9**
	comp=N,158nm,0.5s							
SOH	**Sokhos**	**1.05**	**226**	P		**Pn**	**02 52 57.6**	**-0.2**
SOH				S		**Sb**	**02 53 10.9**	**-0.1**
SOH				AML		AML	02 53 16.4	
	comp=E,242μm,0.3s							
SOH				AML		AML	02 53 16.5	
	comp=N,545μm,0.6s							
KNT	**Kendrikon**	**1.16**	**250**	P		**Pb**	**02 52 59.7**	**+0.3**
KNT				S		**Sg**	**02 53 16.2**	**+0.8**
	comp=N,122nm,0.2s							
KNT	**Kendrikon**	**1.16**	**250**	P		**Pn**	**02 52 59.3**	**+0.1**
KNT				S		**Sg**	**02 53 15.3**	**0.0**
KNT				AML		AML	02 53 18.4	
	comp=N,275μm,0.2s							
KNT				AML		AML	02 53 19.0	
	comp=E,210μm,0.2s							
HORT	**Hortiatis**	**1.34**	**225**	P		**Pg**	**02 53 03.5**	**-0.2**
HORT				S		**Sg**	**02 53 22.7**	**+1.4**
	comp=E,82nm,0.3s							
HORT	**Hortiatis**	**1.34**	**225**	P		**Pg**	**02 53 03.5**	**-0.2**
HORT				AML		AML	02 53 24.4	
	comp=E,149μm,0.2s							
HORT				AML		AML	02 53 24.7	
	comp=N,179μm,0.3s							
VAY	**Valandovo**	**1.35**	**261**	*e*Pg		**Pg**	**02 53 03.9**	**0.0**
VAY				*e*Sg		**Sg**	**02 53 22.8**	**+1.2**
VAY	**Valandovo**	**1.35**	**261**	*i* Pn		**Pg**	**02 53 03.9**	**0.0**
PLG	**Polygyros**	**1.36**	**210**	P		**Pg**	**02 53 03.8**	**-0.4**
PLG				S		**Sg**	**02 53 23.5**	**+1.6**
	comp=N,82nm,0.3s							
PLG	**Polygyros**	**1.36**	**210**	P		**Pg**	**02 53 03.8**	**-0.4**
PLG				S		**Sg**	**02 53 21.1**	**-0.8**
PLG				AML		AML	02 53 25.2	
	comp=N,155μm,0.3s							
PLG				AML		AML	02 53 25.9	
	comp=E,182μm,0.3s							
SMTH	**Samothraki Isl**	**1.41**	**140**	P		**Pg**	**02 53 04.3**	**-0.7**
SMTH				S		**Sg**	**02 53 24.5**	**+1.1**
	comp=E,55nm,0.5s							
SMTH	**Samothraki Isl**	**1.41**	**140**	P		**Pg**	**02 53 04.3**	**-0.7**
SMTH				S		**Sg**	**02 53 22.7**	**-0.7**
SMTH				AML		AML	02 53 26.9	
	comp=E,95μm,0.3s							
SMTH				AML		AML	02 53 28.7	
	comp=N,102μm,0.6s							
ALN	**Alexandroupoli**	**1.44**	**117**	P		**Pg**	**02 53 05.2**	**-0.5**
ALN				S		**Sg**	**02 53 25.0**	**+0.5**
	comp=N,62nm,0.4s							
ALN	**Alexandroupoli**	**1.44**	**117**	P		**Pg**	**02 53 05.1**	**-0.5**
ALN				S		**Sg**	**02 53 24.2**	**-0.2**
ALN				AML		AML	02 53 28.2	
	comp=E,132μm,0.4s							
ALN				AML		AML	02 53 29.3	
	comp=N,117μm,0.5s							
STIP	**Stip**	**1.62**	**276**	*i* Pn		**Pn**	**02 53 03.8**	**-1.8**
BOSS	**Bosilegrad**	**1.68**	**305**	*e*Pg		**Pb**	**02 53 08.4**	**+0.2**
BOSS				*e*Sg		**Sg**	**02 53 31.7**	**-0.1**
PAIG	**Paliouri**	**1.71**	**197**	P		**Pb**	**02 53 07.9**	**-0.8**
LIA	**Limnos Island**	**1.78**	**159**	P		**Pb**	**02 53 09.0**	**-0.9**
LIA	**Limnos Island**	**1.78**	**159**	P		**Pb**	**02 53 09.3**	**-0.6**
LIA				S		**Sb**	**02 53 31.3**	**-0.6**
GOKA	**anakkale-Gk**	**1.81**	**139**	*i* P		**Pb**	**02 53 10.3**	**-0.2**
GOKA				*i* S		**Sn**	**02 53 29.9**	**-0.7**
GOKA				IAML			02 53 33.0	
	comp=E,82nm,0.8s							
GOKA				IAML			02 53 42.0	
	comp=N,71nm,0.6s							
KESN	**Edirne-Kesan**	**1.91**	**112**	*i* P		**Pb**	**02 53 11.3**	**-1.1**
KESN				*i* S		**Sb**	**02 53 37.0**	**+0.9**
KESN				IAML			02 53 41.0	
	comp=E,76nm,0.6s							
KESN				IAML			02 53 41.0	
	comp=N,81nm,0.4s							
LIT	**Litokhoron**	**2.02**	**225**	P		**Pb**	**02 53 13.3**	**-0.9**
LIT	**Litokhoron**	**2.02**	**225**	P		**Pn**	**02 53 11.9**	**+0.8**
ZAPS	**Zavoj**	**2.13**	**324**	*e*Pg		**Pb**	**02 53 17.2**	**+1.2**
ZAPS				*e*Sg		**Sg**	**02 53 45.6**	**-0.8**
SART	**Tekirdag**	**2.31**	**111**	*i* P		**Pg**	**02 53 22.1**	**-0.2**
SART				*i* S		**Sg**	**02 53 47.9**	**+0.5**
XOR	**Xorichti**	**2.36**	**202**	P		**Pn**	**02 53 16.7**	**+1.0**
BLKB	**Belogradchik**	**2.40**	**330**	⇑S		**Sb**	**02 53 53.2**	**+3.2**
BAYC	**CANAKKALE_Bayr**	**2.47**	**137**	*i* P		**Pn**	**02 53 18.3**	**+1.0**
BAYC				*i* S		**Sn**	**02 53 45.8**	**-1.3**
BAYC				IAML			02 53 51.0	
	comp=N,11nm,0.2s							
ZAGS	**Zajecar**	**2.74**	**326**	*e*Pg		**Pb**	**02 53 26.8**	**+0.5**
BOVS	**Bovan**	**2.85**	**318**	*e*Pg		**Pb**	**02 53 27.8**	**-0.4**
HERR	**Herculane**	**3.61**	**338**	⇓P		**Pb**	**02 53 43.3**	**+2.2**
HERR	**Herculane**	**3.61**	**338**	⇑S		**Sg**	**02 54 32.2**	**-1.5**
MDVR	**Moldovita**	**3.75**	**330**	⇑P		**Pg**	**02 53 47.6**	**-2.1**
GZR	**Gura Zlata**	**4.00**	**344**	⇑P		**Pb**	**02 53 50.1**	**+2.2**
BZS	**Buzias**	**4.51**	**335**	*e*Pn		**Pn**	**02 53 45.5**	**+0.1**
BZS	**Buzias**	**4.51**	**335**	⇑P		**Pb**	**02 53 59.1**	**+2.5**
BZS	**Buzias**	**4.51**	**335**	⇑S		**Sg**	**02 54 58.9**	**-3.9**

ATH ***12*** *02:56:50.3, 41.63N×20.06E, h28km±1km, ML2.3/8, Error ellipse: s-maj=2.6km s-min=0.9km az=314.0*

THE ***12*** *02:56:50.4, 41.74N×20.05E, h13km±8km, ML2.3/6, Error ellipse: s-maj=11.7km s-min=1.4km az=344.0*

SKO ***12*** *02:56:51.2, 41.40N×20.16E, h33km*

TIR ***12*** *02:56:51.6, 41.52N×20.15E, h19km, Ml2.7*

PDG ***12*** *02:56:52.0±0.3, 41.48N×20.05E, h15km, ML2.9/13, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

BEO ***12*** *02:56:53.0±0.3, 41.50N×20.18E, h8km±2km, ML2.4/8*

ISC 12 02:56:52.0±1.0, 41.50N±0.01×20.17E±0.02, h9km±8km, n111, σ1s17/161, 18C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.27**	**236**	*e*Pg		**Pg**	**02 56 58.0**	**+0.5**
TIR				*e*Sg		**Sb**	**02 57 03.6**	**-0.2**
TIR	**Tirane**	**0.27**	**236**	P		**Pg**	**02 56 58.1**	**+0.5**
TIR				S		**Sb**	**02 57 03.3**	**-0.5**
TIR				AML		AML	02 57 05.0	
	comp=N,4189μm,0.1s							
TIR				AML		AML	02 57 05.3	
	comp=E,3802μm,0.2s							
TIR	**Tirane**	**0.27**	**236**	⇑P		**Pg**	**02 56 57.7**	**+0.2**
TIR				⇑S		**Sg**	**02 57 00.2**	**-1.0**
TIR	**Tirane**	**0.27**	**236**	P		**Pg**	**02 56 58.0**	**+0.5**
	baz=231							
TIR				S		**Sg**	**02 57 02.7**	**+1.5**
	baz=231							
TIR				AMP				
	comp=N,3.2nm,0.1s,baz=231							
PHP	**Peshkopia**	**0.28**	**48**	P		**Pb**	**02 56 58.0**	**-1.2**
	baz=53							
PHP				S		**Sb**	**02 57 02.4**	**-1.5**
	baz=53							
PHP				AMP				
	comp=N,8.7nm,0.2s,baz=53							
PUK	**Puka**	**0.58**	**339**	P		**Pg**	**02 57 03.2**	**-0.1**
	baz=340							
PUK				S		**Sg**	**02 57 11.6**	**+0.7**
	baz=340							
PUK				AMP				
	comp=E,2.4nm,0.3s,baz=340							
OHR	**Ohrid**	**0.61**	**129**	*i* Pg		**Pg**	**02 57 03.1**	**-0.8**
OHR				*i* Sg		**Sb**	**02 57 13.4**	**-0.3**
OHR				*e*Lg		Lg	02 57 14.1	
	comp=N,259nm,0.4s							
OHR				*e*Lg		Lg	02 57 15.4	
	comp=E,241nm,0.5s							
ULC	**Ulcinj**	**0.83**	**304**	⇑*i* Pg		**Pg**	**02 57 06.5**	**-1.5**
ULC				*i* Sg		**Sg**	**02 57 19.2**	**+0.3**
ULC	**Ulcinj**	**0.83**	**304**	P		**Pg**	**02 57 07.4**	**-0.6**
	baz=304							
BCI	**Bajram Curri**	**0.87**	**355**	P		**Pg**	**02 57 08.2**	**-0.6**
	baz=356							
BCI				S		**Sg**	**02 57 20.7**	**+0.6**
	baz=356							
BCI				AMP				
	comp=E,0.7nm,0.3s,baz=356							
DRME	**Dracevica, Mon**	**1.00**	**313**	⇑*i* Pg		**Pg**	**02 57 09.9**	**-1.4**
DRME				*i* Sg		**Sg**	**02 57 25.4**	**+1.0**
DRME	**Dracevica, Mon**	**1.00**	**313**	*e*Pn		**Pg**	**02 57 10.3**	**-1.0**
SKO	**Skopje**	**1.06**	**63**	*e*Pg		**Pn**	**02 57 12.3**	**-0.8**
SKO				*e*Sg		**Sb**	**02 57 26.0**	**-0.5**
SKO	**Skopje**	**1.06**	**63**	*i* Pg		**Pb**	**02 57 12.1**	**-0.4**
SKO				*i* Sg		**Sb**	**02 57 26.2**	**-0.3**
PVY	**Plav**	**1.10**	**352**	⇓*i* Pg		**Pg**	**02 57 12.3**	**-1.0**
PVY				*i* Sg		**Sn**	**02 57 30.7**	**+1.5**
VLO	**Vlora**	**1.15**	**206**	P		**Pn**	**02 57 14.3**	**+0.1**
VLO				S		**Sn**	**02 57 31.8**	**+1.8**
VLO	**Vlora**	**1.15**	**206**	P		**Pg**	**02 57 13.8**	**-0.3**
	baz=206							
VLO				S		**Sn**	**02 57 30.7**	**+0.7**
	baz=206							
PDG	**Podgorica**	**1.15**	**324**	*e*Pg		**Pg**	**02 57 13.3**	**-0.9**
PDG				*e*Sg		**Sn**	**02 57 30.7**	**+0.6**
PDG	**Podgorica**	**1.15**	**324**	⇑P		**Pg**	**02 57 13.2**	**-0.9**
PDG				⇑S		**Sg**	**02 57 29.9**	**+0.8**
PDG	**Podgorica**	**1.15**	**324**	*e*Pn		**Pg**	**02 57 13.2**	**-0.9**
TTG	**Podgorica**	**1.15**	**324**	⇓*i* Pg		**Pg**	**02 57 12.8**	**-1.3**
TTG				*i* Sg		**Sn**	**02 57 30.9**	**+0.8**
BUM	**Brajici-Budva**	**1.24**	**310**	⇑*i* Pg		**Pn**	**02 57 14.1**	**-1.5**
BUM				*i* Sg		**Sg**	**02 57 33.3**	**+1.3**
NEST	**Nestorio**	**1.27**	**148**	P		**Pn**	**02 57 16.0**	**0.0**
NEST				S		**Sn**	**02 57 37.4**	**+4.1**
	comp=E,70nm,0.4s							
NEST	**Nestorio**	**1.27**	**148**	P		**Pn**	**02 57 15.6**	**-0.4**
NEST				S		**Sn**	**02 57 35.4**	**+2.1**
NEST				AML		AML	02 57 41.1	
	comp=N,143μm,0.3s							
NEST				AML		AML	02 57 42.6	
	comp=E,198μm,0.5s							
IVA	**Berane**	**1.39**	**352**	⇑*i* Pg		**Pn**	**02 57 17.8**	**+0.2**
IVA				*i* Sg		**Sg**	**02 57 38.8**	**+2.2**
LSK	**Leskovik**	**1.39**	**166**	P		**Pb**	**02 57 17.6**	**-0.6**
LSK				S		**Sn**	**02 57 39.8**	**+3.7**
	comp=E,150nm,0.6s							
LSK	**Leskovik**	**1.39**	**166**	P		**Pg**	**02 57 18.1**	**-0.6**

BOVS	**Bovan**	**2.42**	**28**	*e*Pn	**Pn**	**02 57 31.4**	**-0.3**
GRUS	**Gruza**	**2.42**	**9**	*e*Pn	**Pn**	**02 57 32.8**	**+1.1**
BBLS	**Lazić**	**2.43**	**347**	*e*Pn	**Pn**	**02 57 34.0**	**+2.1**
BBLS	**Lazić**	**2.43**	**347**	*e*Pn	**Pn**	**02 57 34.0**	**+2.1**
NOCI	**Noci**	**2.45**	**254**	P	**Pn**	**02 57 30.8**	**-1.3**
SOH	**Sokhos**	**2.50**	**105**	P	**Pn**	**02 57 33.8**	**+1.0**
SOH				AML	AML	02 58 17.0	
	comp=E,50µm,0.6s						
SOH				AML	AML	02 58 17.2	
	comp=N,53µm,0.6s						
ZAPS	**Zavoj**	**2.54**	**45**	*e*Pn	**Pb**	**02 57 36.9**	**-0.9**
DIVS	**Divibare**	**2.60**	**357**	*e*Pn	**Pn**	**02 57 35.6**	**+1.3**
DIVS	**Divibare**	**2.60**	**357**	*e*Pn	**Pn**	**02 57 34.4**	**+0.1**
SRS	**Serrai**	**2.61**	**97**	P	**Pn**	**02 57 33.9**	**-0.4**
TSLK	**Tsoukalades, L**	**2.70**	**172**	P	**Pn**	**02 57 36.1**	**+0.6**
TSLK	**Tsoukalades, L**	**2.70**	**172**	P	**Pn**	**02 57 36.1**	**+0.6**
TRUS	**Trudelj**	**2.73**	**4**	*e*Pn	**Pn**	**02 57 38.3**	**+2.3**
HAPS	**Han Pijesak,Bl**	**2.73**	**341**	*e*Pn	**Pn**	**02 57 36.8**	**+0.6**
HAPS	**Han Pijesak,Bl**	**2.73**	**341**	*e*Pn	**Pn**	**02 57 36.3**	**+0.1**
LKD2	**Lefkada island**	**2.73**	**172**	P	**Pn**	**02 57 36.3**	**+0.2**
LSTV	**Lastovo**	**2.75**	**299**	*e*Pn	**Pb**	**02 57 40.9**	**-0.4**
LSTV				Sn	**Sn**	**02 58 07.1**	**-2.3**
MATE	**Matera**	**2.75**	**253**	⇓P	**Pn**	**02 57 35.0**	**-1.3**
MATE	**Matera**	**2.75**	**253**	⇓S	**Sn**	**02 58 07.3**	**-2.3**
ZAGS	**Zajecar**	**2.77**	**33**	*e*Pn	**Pn**	**02 57 36.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**2.81**	**172**	P	**Pn**	**02 57 37.2**	**+0.1**
BLKB	**Belogradchik**	**2.82**	**40**	⇑S	**Sn**	**02 58 13.2**	**+2.0**
EVR	**Evrytania**	**2.87**	**154**	P	**Pn**	**02 57 39.5**	**+1.5**
EVGI	**Lefkada island**	**2.90**	**172**	P	**Pn**	**02 57 38.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.90**	**148**	P	**Pn**	**02 57 39.7**	**+1.3**
MAKA	**Makarska**	**2.94**	**308**	*e*Pn	**Pn**	**02 57 40.4**	**+1.6**
MAKA				Sn	**Sn**	**02 58 16.1**	**+1.9**
AGG	**Agios Georgios**	**2.98**	**146**	P	**Pn**	**02 57 40.8**	**+1.4**
AGG				S	**Sn**	**02 58 16.4**	**+1.2**
RICI	**Ricice**	**3.00**	**313**	*e*Pn	**Pn**	**02 57 41.4**	**+1.6**
RICI				Sn	**Sn**	**02 58 17.5**	**+1.7**
KUBS	**Kucevo**	**3.11**	**20**	*e*Pn	**Pn**	**02 57 42.7**	**+1.4**
XOR	**Xorichti**	**3.14**	**132**	P	**Pn**	**02 57 42.2**	**+0.5**
DMLN	**Damoulianata-K**	**3.26**	**177**	P	**Pn**	**02 57 42.8**	**-0.6**
MDVR	**Moldovita**	**3.47**	**19**	⇓P	**Pn**	**02 57 46.8**	**+0.6**
TIP	**Timpagrande**	**3.49**	**229**	P	**Pn**	**02 57 45.3**	**-1.2**
FRGS	**Fruska Gora**	**3.67**	**356**	*e*Pn	**Pn**	**02 57 49.7**	**+0.8**
FRGS	**Fruska Gora**	**3.67**	**356**	*e*Pn	**Pn**	**02 57 49.3**	**+0.4**
HERR	**Herculane**	**3.76**	**25**	⇑P	**Pn**	**02 57 50.1**	**0.0**
HERR	**Herculane**	**3.76**	**25**	⇑S	**Sn**	**02 58 35.2**	**+0.8**
BLY	**Banja Luka**	**3.91**	**327**	*e*Pn	**Pn**	**02 57 53.7**	**+1.5**
BLY	**Banja Luka**	**3.91**	**327**	*e*Pn	**Pn**	**02 57 52.0**	**-0.2**
BZS	**Buzias**	**4.25**	**14**	*e*Pn	**Pn**	**02 57 56.3**	**-0.6**
BZS	**Buzias**	**4.25**	**14**	⇑P	**Pn**	**02 57 56.2**	**-0.6**
BZS	**Buzias**	**4.25**	**14**	⇑S	**Sn**	**02 58 47.3**	**+0.8**
GZR	**Gura Zlata**	**4.33**	**25**	⇑P	**Pn**	**02 57 58.3**	**+0.3**
GZR	**Gura Zlata**	**4.33**	**25**	⇑S	**Sn**	**02 58 50.3**	**+1.7**
UDBI	**Udbina**	**4.42**	**315**	Sn	**Sn**	**02 58 51.1**	**+0.1**
DUGI	**Dugi Otok**	**4.51**	**305**	*e*Pn	**Pn**	**02 58 01.2**	**+0.7**
DUGI				Sn	**Sn**	**02 58 53.2**	**+0.1**
MORH	**Mrgy, Hungar**	**4.84**	**347**	*e*Pn	**Pn**	**02 58 05.7**	**+0.7**
AQU	**L'Aquila**	**5.12**	**282**	*e*Pn	**Pn**	**02 58 05.3**	**-3.6**

NEIC **12** *03:07:47.6±1.2,5.°49S±0.°06×147.°4E±0.°2,h191km±8km, mb4.2/15, Error ellipse: s-maj=28.1km s-min=3.4km az=106.0*
IDC **12** *03:07:48.9±1.7,5.°55S×147.°41E,h206km±16km,mb3.7/12, mb1 3.9/15,mb1mx3.7/43,mbtmp4.3/15,MS4.4/1, Ms1 4.4/1,ms1mx2.9/40, Error ellipse: s-maj=23.4km s-min=9.2km az=109.0*
DJA **12** *03:07:48.0±1.5,6.°S±10.°×14.°7E±.°,h180km±10km,M4.8/11, mb4.3/11,mB4.8/3,MLv5.1/1,Mw(mB)4.0/3*
ISC 12 03:07:45.6±0.7,**5.°45S**±0.°07×**147.°3E**±0.°2,**h170**km,**n35,**
σ1ŝ**25**/35,**mb4.0**/13,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.93**	**182**	P	**Pn**	**03 08 47.2**	**+1.7**
	23nm,0.3s,baz=8.6,slow=10,SNR=82						
PMG				S	**Sn**	**03 09 31.2**	**-1.2**
	80nm,0.3s,baz=110,slow=23,SNR=8.2						
COEN	**Coen**	**9.38**	**205**	Pn	**Pn**	**03 09 59.2**	**+1.9**
CTA	**Charters Tower**	**14.58**	**184**	P	**P**	**03 11 06.3**	**+0.5**
	1.1nm,0.3s,baz=5.8,slow=13,SNR=25						
CTAO	**Charters Tower**	**14.58**	**184**		**P**	**03 11 06.4**	**+0.5**
MTN	**Manton Dam**	**17.57**	**244**		**P**	**03 11 38.9**	**0.0**
MTN				IAmb	IAmb	03 11 41.8	
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**18.98**	**220**	P	**P**	**03 11 55.3**	**+1.0**
WR0	**Warramunga Arr**	**19.03**	**220**	P	**P**	**03 11 55.4**	**+0.6**
WRAB	**Tennant Creek**	**19.13**	**220**	P	**P**	**03 11 56.6**	**+0.7**
WB2	**Warramunga Arr**	**19.14**	**220**	P	**P**	**03 11 57.1**	**+1.1**
WRA	**Warramunga Arr**	**19.15**	**220**	P	**P**	**03 11 57.0**	**+0.9**
	comp=Z,3.4nm,0.3s,baz=48,slow=12,SNR=125						
WRA				S	**S**	**03 15 22.2**	**-2.0**
	baz=45,slow=19,SNR=5.7						
EIDS	**Eidsvold**	**20.13**	**170**	P	**P**	**03 12 07.5**	**+0.9**
KNRA	**Kununurra**	**20.85**	**239**	P	Pn	03 12 17.2	-2.2
AS31	**Alice Springs**	**22.24**	**214**	P	**P**	**03 12 29.2**	**+0.3**
AS31				IAmb	IAmb	03 12 30.8	
	comp=Z,8.9nm,1.1s						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**03 12 29.6**	**+0.8**
	comp=Z,16nm,0.7s,baz=50,slow=8.9,SNR=203						
ASAR				S	**S**	**03 16 18.4**	**-2.7**
	comp=Z,1.4nm,1.1s,baz=38,slow=17,SNR=4.3						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**03 12 29.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.61**	**237**	P	**P**	**03 12 51.3**	**+0.9**
	comp=Z,11nm,0.6s,baz=53,slow=7.3,SNR=42						
FITZ	**Fitzroy Crossi**	**24.61**	**237**	P	**P**	**03 12 51.4**	**+0.9**
ARMA	**Armidale**	**25.16**	**171**	P	**P**	**03 12 57.7**	**+2.3**
STKA	**Stephens Creek**	**26.83**	**191**	P	**P**	**03 13 09.7**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=359,slow=7.2,SNR=7.3						
MJAR	**Matsushiro Arr**	**42.64**	**349**	P	**P**	**03 15 25.5**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=169,slow=6.2,SNR=5.1						
MJAR	**Matsushiro Arr**	**42.64**	**349**	IAmb	IAmb	03 15 27.6	
	comp=Z,3.1nm,1.3s						
PSI	**Prapat**	**49.02**	**278**	LR	LR	03 39 10.6	
	comp=Z,396nm,21.0s,baz=271,slow=38						
PETK	**Petropavlovsk-**	**59.00**	**7**	P	**P**	**03 17 28.7**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=178,slow=4.2,SNR=3.0						
SONM	**Songino Array**	**64.08**	**331**	P	**P**	**03 18 02.6**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=136,slow=4.7,SNR=8.6						
SONM	**Songino Array**	**64.08**	**331**	P	**P**	**03 18 02.7**	**+1.1**
VNDA	**Vanda**	**72.44**	**177**	P	**P**	**03 18 51.8**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=307,slow=6.2,SNR=6.6						
MKAR	**Makanchi Array**	**77.28**	**320**	P	**P**	**03 19 21.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=104,slow=7.7,SNR=7.0						
MKAR	**Makanchi Array**	**77.28**	**320**	P	**P**	**03 19 21.0**	**-0.2**
ZALV	**Zalesovo Beam**	**78.72**	**328**	P	**P**	**03 19 28.0**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=105,slow=6.3,SNR=7.8						
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**	**03 19 58.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=264,slow=1.2,SNR=5.1						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**03 19 59.2**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=252,slow=4.9,SNR=26						
GEYT	**Alibeck**	**92.68**	**308**	P	**P**	**03 20 38.9**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=164,slow=42,SNR=1.7						
LBTB	**Lobatse**	**115.79**	**239**	PKP	**PKiKP**	**03 26 09.4**	**+0.6**
	comp=Z,4.4nm,1.0s,baz=127,slow=5.1,SNR=2.9						
GERES	**GERESS Array B**	**121.53**	**326**	PKP	**PKPdf**	**03 26 17.0**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**145.25**	**285**	PKPbc	**PKPdf**	**03 27 03.0**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=42,slow=3.8,SNR=11						

KRNET **12** *03:10:36.6±0.1,40.°13N×78.°71E,mb3.6*
SOME **12** *03:10:38.3,40.°12N×78.°15E,h5km*
NNC **12** *03:10:41.6±1.3,40.°21N×78.°21E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=9.0km s-min=7.4km az=158.0*
ISC 12 03:10:31.3±2.4,**39.°86N**±0.°10×**78.°26E**±0.°05,**h10**km,**n60,**
σ1ŝ**38**/91,**26C-8D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.90**	**350**	⇑*i*P	**Pg**	**03 11 09.0**	**+1.3**
	baz=37						
TARG				⇑*i*S	**Sg**	**03 11 33.1**	**+0.7**
	baz=37						
KDJ	**Kajisay**	**2.41**	**341**	⇑*i*P	**Pg**	**03 11 18.2**	**+0.7**
	baz=31						
KDJ				⇑*i*S	**Sg**	**03 11 48.3**	**-0.5**
	baz=31						
ULHL	**Ulahol**	**2.83**	**328**	⇑*i*P	**Pg**	**03 11 25.5**	**0.0**
	baz=19						
ULHL				⇑*i*S	**Sg**	**03 12 00.9**	**-1.3**
	baz=19						
ULHL	**Ulahol**	**2.83**	**328**	P	**Pg**	**03 11 27.3**	**+1.8**
	SNR=20						
ANVS	**Anan'yevo**	**2.95**	**352**	⇓*i*P	**Pb**	**03 11 24.3**	**+0.1**
	baz=44						
ANVS				⇓*i*S	**Sb**	**03 11 59.4**	**-1.0**
	baz=44						
BOOM	**Boomskoye usch**	**3.16**	**327**	⇑*e*P	**Pb**	**03 11 29.7**	**+2.1**
	baz=19						
BOOM				⇑*i*S	**Sb**	**03 12 09.0**	**+2.8**
	baz=19						
SATY	**Saty**	**3.20**	**2**	*e*P	**Pg**	**03 11 34.2**	**+1.6**
	19nm,0.5s						
SATY				*e*S	**Sg**	**03 12 14.3**	**+0.3**
	58nm,0.8s						
SATY	**Saty**	**3.20**	**2**	Pg	**Pg**	**03 11 33.9**	**+1.4**
	32nm,0.6s						
SATY				Lg	Lg	03 12 14.5	
	58nm,0.8s						
ZHN	**Zhinishke**	**3.31**	**2**	*e*P	**Pg**	**03 11 34.1**	**-0.5**
	63nm,0.3s						
ZHN				*e*S	**Sg**	**03 12 14.1**	**-3.4**
	32nm,0.5s						
ZHN	**Zhinishke**	**3.31**	**2**	Pg	**Pg**	**03 11 34.1**	**-0.5**
	63nm,0.3s						
ZHN				Lg	Lg	03 12 14.1	
	32nm,0.5s						
UZB	**Uzynbulak**	**3.33**	**10**	*e*P	**Pg**	**03 11 34.6**	**-0.6**
	7.7nm,0.6s						
UZB				*e*S	**Sg**	**03 12 14.9**	**-3.5**
	34nm,0.6s						
UZB	**Uzynbulak**	**3.33**	**10**	Pg	**Pg**	**03 11 34.6**	**-0.6**
	7.7nm,0.6s						
UZB				Lg	Lg	03 12 14.9	
	34nm,0.6s						
IZV	**Izvestkoviy**	**3.41**	**339**	*e*P	**Pg**	**03 11 37.6**	**+1.1**
	17nm,0.6s						
IZV				*e*S	**Sg**	**03 12 20.5**	**-0.1**
	103nm,0.5s						
IZV	**Izvestkoviy**	**3.41**	**339**	Pg	**Pg**	**03 11 37.7**	**+1.1**
	17nm,0.6s						
IZV				Lg	Lg	03 12 20.5	
	103nm,0.5s						
KOTS	**Kotyrbulak**	**3.48**	**346**	*e*P	**Pg**	**03 11 39.1**	**+1.1**
	30nm,0.5s						
KOTS				*e*S	**Sg**	**03 12 23.0**	**-0.1**
	39nm,0.5s						
KOTS	**Kotyrbulak**	**3.48**	**346**	Pg	**Pg**	**03 11 39.1**	**+1.1**
	30nm,0.5s						
KOTS				Lg	Lg	03 12 23.0	
	39nm,0.5s						
AAA	**Alma-Ata**	**3.50**	**344**	*e*P	**Pg**	**03 11 39.0**	**+0.8**
	26nm,0.2s						
AAA				*e*S	**Sg**	**03 12 22.4**	**-1.1**
	4.0nm,0.1s						
AAA	**Alma-Ata**	**3.50**	**344**	Pg	**Pg**	**03 11 39.0**	**+0.8**
	26nm,0.2s						
AAA				Lg	Lg	03 12 22.4	
	4.0nm,0.1s						
MTBS	**Maitube**	**3.54**	**338**	*e*P	**Pg**	**03 11 40.1**	**+0.9**
	9.6nm,0.3s						
MTBS				*e*S	**Sg**	**03 12 24.2**	**-0.9**
	16nm,0.3s						
MTBS	**Maitube**	**3.54**	**338**	Pg	**Pg**	**03 11 40.1**	**+0.9**
	9.6nm,0.3s						
MTBS				Lg	Lg	03 12 24.2	
	16nm,0.3s						
PDGK	**Podgornoye**	**3.59**	**15**	⇑Pn	**Pb**	**03 11 34.2**	**-0.7**
	5.5nm,0.5s						
PDGK				⇓Lg	Lg	03 12 24.6	
	45nm,0.9s						
ARLS	**Aral**	**3.59**	**305**	⇑*i*P	**Pb**	**03 11 38.0**	**+3.0**
	baz=99						
ARLS				⇑*i*S	**Sg**	**03 12 22.9**	**-3.8**
	baz=99						
KPKS	**Kokpek**	**3.62**	**5**	*e*P	**Pg**	**03 11 41.4**	**+0.8**
	22nm,0.5s						
KPKS				*e*S	**Sg**	**03 12 27.0**	**-0.4**
	55nm,0.5s						
KST	**Kastek**	**3.62**	**332**	*e*P	**Pg**	**03 11 42.0**	**+1.4**
	21nm,0.6s						
KST				*e*S	**Sg**	**03 12 27.8**	**+0.3**
	23nm,0.7s						
KST	**Kastek**	**3.62**	**332**	Pg	**Pg**	**03 11 42.0**	**+1.4**
	21nm,0.6s						
KST				Lg	Lg	03 12 27.8	
	23nm,0.7s						
KURS	**Kuram**	**3.62**	**359**	*e*P	**Pg**	**03 11 40.6**	**-0.1**
	24nm,0.6s						
KURS				*e*S	**Sg**	**03 12 25.4**	**-2.3**
	39nm,1.0s						
KURS	**Kuram**	**3.62**	**359**	Pg	**Pg**	**03 11 40.7**	**-0.1**
	24nm,0.6s						
KURS				Lg	Lg	03 12 25.4	
	39nm,1.0s						
TKM2	**Tokmak 2**	**3.66**	**328**	⇓*i*P	**Pb**	**03 11 36.4**	**+0.3**
	baz=21						
TKM2				⇓*i*S	**Sb**	**03 12 20.9**	**+0.3**
	baz=21						
TKM2	**Tokmak 2**	**3.66**	**328**	P	**Pb**	**03 11 36.7**	**+0.6**
	SNR=6.0						
TKM2	**Tokmak 2**	**3.66**	**328**	⇑Pn	**Pb**	**03 11 35.8**	**-0.3**
	4.8nm,0.4s						
TKM2				⇑Lg	Lg	03 12 27.0	
	13nm,0.7s						
UCH	**Uchtor**	**3.69**	**311**	⇑*i*P	**Pb**	**03 11 39.3**	**+2.5**
	baz=5.0						
UCH				⇑*i*S	**Sb**	**03 12 24.4**	**+2.6**
	baz=5.0						
UCH	**Uchtor**	**3.69**	**311**	P	**Pg**	**03 11 42.1**	**+0.1**
	SNR=7.7						
KBK	**Karagaybulak**	**3.75**	**319**	⇑*i*P	**Pb**	**03 11 38.9**	**+1.3**
	baz=13						
KBK				⇑*i*S	**Sb**	**03 12 24.0**	**+0.8**
	baz=13						
KBK	**Karagaybulak**	**3.75**	**319**	P	**Pg**	**03 11 43.9**	**+0.9**
	SNR=16						
DGS	**Degeres**	**3.86**	**332**	*e*P	**Pg**	**03 11 45.8**	**+0.5**
	24nm,0.5s						
DGS				*e*S	**Sg**	**03 12 33.8**	**-1.4**
	25nm,0.9s						
DGS	**Degeres**	**3.86**	**332**	Pg	**Pg**	**03 11 45.3**	**0.0**
	359nm,0.2s						
DGS				Lg	Lg	03 12 34.3	
	42nm,0.7s						
KTMS	**Ketmen**	**3.91**	**23**	*e*P	**Pg**	**03 11 47.2**	**+1.0**
	4.5nm,0.3s						
KTMS				*e*S	**Sg**	**03 12 36.7**	**-0.2**
	20nm,0.6s						
KTMS	**Ketmen**	**3.91**	**23**	Pg	**Pg**	**03 11 47.2**	**+1.0**
	4.5nm,0.3s						
KTMS				Lg	Lg	03 12 36.7	
	20nm,0.6s						
AAK	**Ala-Archa**	**3.97**	**316**	⇑*i*P	**Pb**	**03 11 42.1**	**+0.7**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**03 12 29.8**	**+0.2**
	baz=10.0						
AAK	**Ala-Archa**	**3.97**	**316**	P	**Pg**	**03 11 47.8**	**+0.5**
	SNR=7.4						
AAK	**Ala-Archa**	**3.97**	**316**	⇑Pn	**Pb**	**03 11 43.1**	**+1.7**
	8.7nm,0.8s						
AAK				⇓Lg	Lg	03 12 38.0	
	21nm,0.6s						
KTBS	**Karatobe**	**4.03**	**343**	*e*P	**Pg**	**03 11 49.8**	**+1.4**
	6.3nm,0.4s						
KTBS				*e*S	**Sg**	**03 12 41.5**	**+1.0**
	33nm,0.6s						
KTBS	**Karatobe**	**4.03**	**343**	Pg	**Pg**	**03 11 49.8**	**+1.4**
	6.3nm,0.4s						
KTBS				Lg	Lg	03 12 41.5	
	33nm,0.6s						
CHMS	**Chumysh**	**4.10**	**321**	⇑*i*P	**Pb**	**03 11 43.3**	**-0.2**
	baz=15						
CHMS				⇑*i*S	**Sb**	**03 12 32.0**	**-1.1**
	baz=15						
CHMS	**Chumysh**	**4.10**	**321**	P	**Pg**	**03 11 50.0**	**+0.2**
	SNR=8.4						
AML	**Almayashu**	**4.13**	**305**	⇓*i*P	**Pb**	**03 11 45.7**	**+1.3**
	baz=99						
AML				⇓*i*S	**Sb**	**03 12 36.2**	**+1.7**
	baz=99						
AML	**Almayashu**	**4.13**	**305**	P	**Pb**	**03 11 44.6**	**+0.3**
	SNR=6.0						
KUU	**Kurty**	**4.28**	**341**	*e*P	**Pg**	**03 11 52.4**	**-0.8**
	3.8nm,0.7s						
KUU				*e*S	**Sg**	**03 12 45.6**	**-3.0**
	15nm,0.6s						
KUU	**Kurty**	**4.28**	**341**	Pg	**Pg**	**03 11 52.4**	**-0.8**
	3.8nm,0.7s						
KUU				Lg	Lg	03 12 45.6	
	15nm,0.6s						
KRBS	**Karabastau**	**4.29**	**334**	*e*P	**Pg**	**03 11 52.8**	**-0.7**
	10nm,0.4s						
KRBS				*e*S	**Sg**	**03 12 46.4**	**-2.7**
	22nm,0.7s						
KRBS	**Karabastau**	**4.29**	**334**	Pg	**Pg**	**03 11 52.8**	**-0.7**
	10nm,0.4s						
KRBS				Lg	Lg	03 12 46.4	
	22nm,0.7s						
ARXS	**Arharly**	**4.36**	**356**	*e*P	**Pg**	**03 11 55.3**	**+0.5**
	54nm,0.6s						
ARXS				*e*S	**Sg**	**03 12 50.3**	**-1.0**
	18nm,0.7s						
ARXS	**Arharly**	**4.36**	**356**	Pg	**Pg**	**03 11 55.3**	**+0.5**
	54nm,0.6s						
ARXS				Lg	Lg	03 12 50.3	
	18nm,0.7s						
EKS2	**Erkin-Say**	**4.39**	**311**	⇑*e*P	**Pb**	**03 11 48.5**	**0.0**
	baz=6.0						
EKS2				⇑*i*S	**Sb**	**03 12 40.5**	**-1.0**
	baz=6.0						
SGDS	**Sogindy**	**4.50**	**324**	Pg	**Pg**	**03 11 56.7**	**-0.8**
	9.0nm,0.6s						
SGDS				Lg	Lg	03 12 52.8	
	8.6nm,0.7s						
DJR	**Jarkent**	**4.61**	**14**	*e*P	**Pg**	**03 11 59.5**	**-0.1**
	3.4nm,0.4s						
DJR				*e*S	**Sg**	**03 12 57.9**	**-1.5**
	9.8nm,0.5s						
DJR	**Jarkent**	**4.61**	**14**	Pg	**Pg**	**03 11 59.7**	**+0.1**
	7.3nm,0.5s						
DJR				Lg	Lg	03 12 58.5	
	7.3nm,0.5s						
MRKS	**Merke**	**4.76**	**309**	*e*P	**Pg**	**03 12 01.4**	**-1.1**
	4.5nm,0.6s						
MRKS				*e*S	**Sg**	**03 13 00.9**	**-3.3**
	3.9nm,0.7s						
MRKS	**Merke**	**4.76**	**309**	Pg	**Pg**	**03 12 01.4**	**-1.1**
	4.5nm,0.6s						
MRKS				Lg	Lg	03 13 00.9	
	3.9nm,0.7s						
KK31	**Karatay Array**	**6.66**	**302**	⇑Pg	**Pg**	**03 12 37.6**	**-1.2**
	1.5nm,0.8s,baz=127,slow=17,SNR=7.6						
KK31				⇑Lg	Lg	03 14 06.5	
	1.4nm,0.7s,baz=120,slow=26,SNR=4.5						

IDC **12** *03:14:55.8±0.5,52.°52S×27.°93E,h0km,mb4.4/19, mb1 4.5/19,mb1mx4.4/30,mbtmp4.5/19,MS3.9/18, Ms1 3.9/18,ms1mx3.8/30, Error ellipse: s-maj=20.1km s-min=12.1km az=82.0*
NEIC **12** *03:14:57.2±1.1,52.°5S±0.°1×28.°0E±0.°2,h10km±1km, mb4.7/23, Error ellipse: s-maj=20.3km s-min=17.5km az=74.0*
GCMT **12** *03:15:02.2±0.3,52.°40S±0.°02×28.°07E±0.°02,h17km±1km, MW5.1/92, Moment Tensor Solution. s46,c54; s92,c135; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.78±.21; Mθθ2.59±.15; Mϕϕ-4.37±.20; Mrθ2.27±.52; Mrϕ3.69±.13; Mθr-1.29±.48; Best double couple: Mo5.77300×10¹⁶ NP1:ϕs20.00000°,δ59.00000°,λ169.00000°. NP2: ϕs116.00000°,δ81.00000°,λ31.00000°. Principal axes: T 5.0440, Plg29.0000°, Azm343.0000°; N 1.4570, Plg57.0000°, Azm131.0000°; P -6.5020, Plg15.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 03:14:56.9±0.4,**52.°48S**±0.°07×**28.°2E**±0.°1,**h10**km,**n62,**
σ1ŝ**41**/59,**mb4.5**/20,**MS3.9**/18,**1C,South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**16.52**	**78**	Pn	**Pn**	**03 18 46.8**	**-1.7**
SYO	**Syowa Base**	**17.44**	**166**	⇑*i*Pn	**Pn**	**03 18 57.8**	**-2.1**
SUR	**Sutherland**	**20.78**	**342**	P	**P**	**03 19 39.4**	**+1.3**
	82nm,1.0s,baz=154,slow=9.9,SNR=22						
SUR				S	**S**	**03 23 22.8**	**-7.3**
	11nm,1.1s,baz=174,slow=21,SNR=1.6						
SUR				LR	LR	03 26 11.6	
	comp=Z,243nm,21.9s,baz=145,slow=32						
SUR	**Sutherland**	**20.78**	**342**	P	**P**	**03 19 38.4**	**+0.3**
MAW	**Mawson**	**22.57**	**145**	P	**P**	**03 19 57.9**	**+1.1**
	11nm,0.9s,baz=294,slow=12,SNR=24						
MAW				S	**S**	**03 23 59.5**	**-4.4**
	6.7nm,0.8s,baz=272,slow=16,SNR=4.8						
MAW				LR	LR	03 27 00.9	
	comp=Z,317nm,21.1s,baz=292,slow=32						
MAW	**Mawson**	**22.57**	**145**	P	**P**	**03 19 57.6**	**+0.8**
SNAA	**Sanae**	**23.60**	**204**	P	**P**	**03 20 08.9**	**+1.5**
SNAA	**Sanae**	**23.60**	**204**	P	**P**	**03 20 08.3**	**+0.9**
	11nm,0.8s,baz=70,slow=8.0,SNR=36						
SNAA				LR	LR	03 27 02.7	
	comp=Z,376nm,19.7s,baz=7.0,slow=31						
SNAA	**Sanae**	**23.60**	**204**	P	**P**	**03 20 06.6**	**-0.8**
SNAA				IAmb	IAmb	03 20 16.1	
	comp=Z,16nm,0.8s						
BOSA	**Boshof**	**23.94**	**354**	P	**P**	**03 20 11.3**	**+0.2**
	comp=Z,31nm,0.9s,baz=178,slow=9.9,SNR=37

comp=Z,6,6nm,0.7s,baz=133,slow=6.4,SNR=11
BDFB LR LR 03 50 51.4
comp=Z,112nm,19.5s,baz=151,slow=31
BDFB Brasilia 69.34 271 P **P** **03 26 05.2 +0.5**
KOWA Kowa 72.26 327 P **P** **03 26 22.9 +0.7**
ASAR Alice Springs 80.59 117 P **P** **03 27 10.5 +0.9**
comp=Z,2.4nm,0.8s,baz=209,slow=4.4,SNR=27
AS31 Alice Springs 80.59 117 P **P** **03 27 10.1 +0.5**
LPAZ La Paz 81.01 255 P **P** **03 27 12.7 0.0**
comp=Z,0.8nm,0.8s,baz=202,slow=5.4,SNR=2.6
LPAZ LR LR 03 58 11.4
comp=Z,54nm,21.9s,baz=118,slow=32
LPAZ La Paz 81.01 255 P **P** **03 27 12.6 0.0**
SAML Samuel 83.79 263 P **P** **03 27 26.4 0.0**
SAML IAmb IAmb 03 27 27.0
comp=Z,5.8nm,0.7s
WRA Warramunga Arr 83.81 115 P **P** **03 27 27.4 +0.9**
comp=Z,2.4nm,0.9s,baz=211,slow=4.4,SNR=11
WB2 Warramunga Arr 83.81 115 P **P** **03 27 27.0 +0.5**
KEST Kesra 89.36 345 LR LR 04 09 35.3
comp=Z,100nm,18.9s,baz=236,slow=37
TIP Timpagrande 91.82 351 P **P** **03 28 05.5 +1.0**
BRTR Keskin Array B 91.95 4 P **P** **03 28 06.0 +0.9**
comp=Z,0.9nm,0.9s,baz=188,slow=5.0,SNR=4.4
CMAR Chiang Mai Arr 93.32 64 LR LR 04 03 21.9
comp=Z,80nm,18.5s,baz=246,slow=31
ESDC Sonseca Array 95.93 336 LR LR 04 14 00.1
comp=Z,34nm,18.1s,baz=335,slow=37
KBZ Khabaz 96.67 11 LR LR 04 11 36.9
comp=Z,54nm,20.3s,baz=185,slow=35
TXAR Lajitas Array 137.88 256 PKP **PKiKP** **03 34 22.6 -0.8**
comp=Z,0.3nm,0.7s,baz=147,slow=7.1,SNR=4.0
ISCO Idaho Springs 146.13 267 PKPbc **PKPab** **03 34 37.3 -0.4**
MVCO Mesa Verde 146.25 261 PKPbc **PKPab** **03 34 38.0 -0.1**
PDAR Pinedale Array 150.28 268 PKPbc **PKPbc** **03 34 46.5 -1.3**
comp=Z,0.5nm,0.7s,baz=148,slow=3.3,SNR=5.9
PDAR PKPab **PKPab** **03 34 53.7 -0.4**
comp=Z,0.8nm,0.6s,baz=125,slow=7.4,SNR=7.7
ELK Elko 152.55 259 PKPbc **PKiKP** **03 34 53.5 +0.2**
comp=Z,0.8nm,0.7s,baz=153,slow=2.3,SNR=2.4
NVAR Mina Array Bea 152.88 252 PKPbc **PKiKP** **03 34 54.3 +0.2**
comp=Z,0.7nm,0.6s,baz=138,slow=3.0,SNR=8.8
NVAR Mina Array Bea 152.88 252 **PKiKP** **03 34 54.5 +0.4**

IDC ***12*** *03:23:31.8±0.7,52.47S×27.82E,h0km,mb4.0/13, mb1 4.1/13,mb1mx4.0/35,mbtmp4.1/13,MS3.3/1, Ms1 3.2/1,ms1mx2.8/26,Error ellipse: s-maj=24.9km s-min=15.1km az=77.0*
NEIC ***12*** *03:23:33.7±1.9,52.5S±0.1×27.6E±0.1,h10km±1km, mb4.3/17,Error ellipse: s-maj=21.4km s-min=11.1km az=29.0*
ISC 12 03:23:33.4±0.6,52.53S±0.09×27.9E±0.1,h10km,n28, σ1ᵎ79/28,mb4.2/14,South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.78**	**343**	P	P		Pn	03 28 15.7	-1.4
	14nm,0.8s,baz=157,slow=14,SNR=6.7								
SUR	**Sutherland**	**20.78**	**343**	P	**P**			**03 28 14.8**	**+0.2**
MAW	**Mawson**	**22.63**	**145**	P	**P**			**03 28 35.9**	**+1.9**
	3.5nm,0.7s,baz=296,slow=9.2,SNR=8.2								
MAW				S	**S**			**03 32 34.6**	**-7.0**
	1.3nm,0.5s,baz=238,slow=13,SNR=2.2								
MAW	**Mawson**	**22.63**	**145**	P	**P**			**03 28 35.5**	**+1.5**
SNAA	**Sanae**	**23.48**	**204**	P	**P**			**03 28 44.3**	**+1.5**
	3.5nm,0.7s,baz=74,slow=6.9,SNR=13								
SNAA	**Sanae**	**23.48**	**204**	P	**P**			**03 28 44.1**	**+1.3**
SNAA				IAmb	IAmb			03 28 54.2	
	comp=Z,5.9nm,0.9s								
BOSA	**Boshof**	**23.97**	**354**	P	**P**			**03 28 46.3**	**-1.7**
	comp=Z,7.7nm,0.9s,baz=169,slow=8.9,SNR=11								
BOSA				LR	LR			03 36 46.5	
	comp=Z,63nm,18.9s,baz=126,slow=33								
LBTB	**Lobatse**	**27.53**	**356**	P	**P**			**03 29 19.9**	**-0.4**
LBTB				IAmb	IAmb			03 30 16.8	
	comp=Z,10nm,1.3s								
TSUM	**Tsumeb**	**34.22**	**343**	P	**P**			**03 30 18.6**	**-0.7**
LSZ	**Lusaka**	**37.16**	**1**	P	**P**			**03 30 44.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=188,slow=7.1,SNR=2.1								
QSPA	**South Pole Qui**	**37.69**	**180**	P	**P**			**03 30 49.1**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=62,slow=3.6,SNR=13								
QSPA	**South Pole Qui**	**37.69**	**180**	P	**P**			**03 30 48.9**	**+0.2**
QSPA				IAmb	IAmb			03 31 04.9	
	comp=Z,8.5nm,1.0s								
VNDA	**Vanda**	**47.12**	**168**	P	**P**			**03 32 05.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=242,slow=5.9,SNR=3.7								
VNDA	**Vanda**	**47.12**	**168**	P	**P**			**03 32 06.5**	**+1.5**
VNDA				IAmb	IAmb			03 32 48.7	
	comp=Z,4.9nm,1.4s								
PLCA	**Paso Flores**	**63.47**	**237**	P	**P**			**03 34 02.2**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=126,slow=4.7,SNR=3.8								
CPUP	**Villa Florida**	**66.72**	**257**	P	**P**			**03 34 23.9**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=168,slow=4.7,SNR=4.0								
BDFB	**Brasilia**	**69.16**	**271**	P	**P**			**03 34 41.1**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=170,slow=6.6,SNR=4.1								
BDFB	**Brasilia**	**69.16**	**271**	IAmb	IAmb			03 34 47.3	
	comp=Z,15nm,1.5s								
TOA0	**Torodi Ar. Sit**	**69.19**	**333**	P	**P**			**03 34 39.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**69.19**	**333**	P	**P**			**03 34 40.2**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=168,slow=6.5,SNR=12								
TORD	**Torodi Ar. Bea**	**69.19**	**333**	P	**P**			**03 34 40.4**	**+0.3**
ASAR	**Alice Springs**	**80.72**	**117**	P	**P**			**03 35 46.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=208,slow=5.1,SNR=7.4								
AS31	**Alice Springs**	**80.72**	**117**	P	**P**			**03 35 48.4**	**+1.5**
AS31				IAmb	IAmb			03 36 51.1	
	comp=Z,4.7nm,1.9s								
WRA	**Warramunga Arr**	**83.95**	**115**	P	**P**			**03 36 03.7**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=208,slow=4.1,SNR=2.9								
CM31	**Chiang Mai Arr**	**93.50**	**64**	P	**P**			**03 36 51.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**93.50**	**64**	P	**P**			**03 36 50.5**	**+1.3**
PDAR	**Pinedale Array**	**150.10**	**268**	PKPbc	**PKPbc**			**03 43 22.2**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=98,slow=2.7,SNR=2.0								
PDAR				PKPab	**PKPab**			**03 43 28.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=110,slow=5.1,SNR=4.0								
NVAR	**Mina Array Bea**	**152.70**	**252**	PKPbc	**PKiKP**			**03 43 30.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=141,slow=3.2,SNR=4.7								

NEIC ***12*** *03:28:20.2±1.7,27.7N±0.2×140.7E±0.3,h480km±11km, mb4.0/11,Error ellipse: s-maj=41.7km s-min=19.0km az=69.0*
IDC ***12*** *03:28:21.6±1.1,27.66N×140.68E,h490km±13km, mb3.1/10,mb1 3.1/12,mb1mx2.9/48,mbtmp3.9/12,Error ellipse: s-maj=32.1km s-min=13.4km az=73.0*
JMA ***12*** *03:28:22.3±0.1,27.86N×140.86E,h477km,M3.5*
ISC 12 03:28:21.1±0.8,27.76N±0.09×141.1E±0.2,h500km,n34, σ1ᵎ40/37,mb3.6/14,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.20**	**123**	P	**P**			**03 29 23.0**	**0.0**
CBIJ					*e*S		**S**	**03 30 11.1**	**-2.1**
JCJ	**Chichijima**	**1.20**	**123**	P	**P**			**03 29 23.5**	**+0.5**
	65nm,0.3s,baz=280,slow=24,SNR=16								
JCJ				S	**S**			**03 30 10.1**	**-3.1**
	71nm,0.3s,baz=283,slow=22,SNR=3.7								
JCJ	**Chichijima**	**1.20**	**123**	P	**P**			**03 29 22.4**	**-0.6**
BSO3	**Boso 3**	**7.04**	**356**	*e*S	**S**			**03 31 32.8**	**-1.5**
JIE	**Ise**	**7.59**	**332**	P	**P**			**03 30 13.7**	**+0.5**
JKN2	**Miekihoku**	**7.65**	**329**	P	**P**			**03 30 14.0**	**+0.2**
JHU	**Hanno**	**8.21**	**350**	P	**P**			**03 30 19.5**	**0.0**
JRY	**Ryogami san**	**8.44**	**348**	P	**P**			**03 30 22.8**	**+0.9**
JAG	**Ashikaga**	**8.75**	**351**	P	**P**			**03 30 25.6**	**+0.5**
JAG				*e*S	**S**			**03 32 04.3**	**-2.8**
JHO	**Hitachi**	**8.84**	**357**	P	**P**			**03 30 28.8**	**+2.7**
JHO				*e*S	**S**			**03 32 07.3**	**-1.5**
MJAR	**Matsushiro Arr**	**9.08**	**345**	P	**P**			**03 30 28.3**	**-0.4**
	0.1nm,0.3s,baz=159,slow=11,SNR=5.6								
KSRS	**Korea Array**	**14.68**	**314**	P	**P**			**03 31 29.9**	**+2.1**
	0.2nm,0.3s,baz=132,slow=8.6,SNR=4.8								
USRK	**Ussuriysk Ar.**	**17.95**	**338**	P	**P**			**03 32 01.5**	**+0.7**
	baz=151,slow=10,SNR=6.7								
ULN	**Ulaanbaatar**	**33.15**	**316**	P	**P**			**03 34 14.4**	**-1.0**
SONM	**Songino Array**	**33.54**	**316**	P	**P**			**03 34 17.5**	**-1.2**
	0.5nm,0.5s,baz=126,slow=7.3,SNR=2.7								
SONM	**Songino Array**	**33.54**	**316**	IAmb	IAmb			03 34 19.4	
	comp=Z,2.1nm,0.8s								
WRA	**Warramunga Arr**	**47.86**	**189**	P	**P**			**03 36 13.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=4.4,slow=7.7,SNR=7.6								
ZAA0	**Zalesovo Array**	**48.33**	**319**	P	**P**			**03 36 15.5**	**-0.7**
ZALV	**Zalesovo Beam**	**48.33**	**319**	P	**P**			**03 36 15.1**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=108,slow=8.4,SNR=5.1								
MK31	**Makanchi Array**	**49.28**	**309**	P	**P**			**03 36 22.1**	**-1.4**
MKAR	**Makanchi Array**	**49.28**	**309**	P	**P**			**03 36 22.4**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=88,slow=10,SNR=14								
ASAR	**Alice Springs**	**51.59**	**188**	P	**P**			**03 36 41.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=356,slow=4.8,SNR=5.7								
KURK	**Kurchatov**	**51.80**	**314**	P	**P**			**03 36 41.2**	**-0.6**
KURK					IAmb		IAmb	03 36 41.8	
	comp=Z,5.4nm,0.7s								
BRVK	**Borovoye**	**56.94**	**317**	P	**P**			**03 37 17.9**	**-0.1**
BRVK					IAmb		IAmb	03 37 18.8	
	comp=Z,4.9nm,0.7s								
KK31	**Karatay Array**	**57.88**	**305**	P	**P**			**03 37 24.0**	**-0.7**
KK31					IAmb		IAmb	03 39 38.2	
	comp=Z,14nm,1.2s								
KKAR	**Karatay Array**	**57.88**	**305**	P	**P**			**03 37 23.7**	**-0.9**
ABKAR	**Akbulak array**	**63.91**	**314**	P	**P**			**03 38 04.0**	**-0.3**
ABKAR					IAmb		IAmb	03 38 04.7	
	comp=Z,2.2nm,0.7s								
ARCES	**ARCESS Array B**	**72.59**	**341**	P	**P**			**03 38 59.6**	**+3.0**
	comp=Z,0.9nm,0.5s,baz=74,slow=9.0,SNR=9.3								
FINES	**FINESS Array B**	**76.91**	**333**	P	**P**			**03 39 22.9**	**+1.8**
	comp=Z,2.7nm,0.4s,baz=64,slow=5.3,SNR=64								
AKASG	**Malin Array Be**	**81.49**	**323**	P	**P**			**03 39 46.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=43,slow=6.2,SNR=2.2								
NB2	**NORSAR Subarra**	**82.62**	**338**	P	**P**			**03 39 52.5**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.1								
NOA	**NORSAR Array B**	**82.62**	**338**	P	**P**			**03 39 52.6**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=47,slow=4.7,SNR=7.0								
BRTR	**Keskin Array B**	**84.81**	**312**	P	**P**			**03 40 03.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=45,slow=5.8,SNR=2.2								
LPAZ	**La Paz**	**150.71**	**73**	PKPbc	**PKPbc**			**03 47 18.3**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=264,slow=3.7,SNR=14								

NDI ***12*** *03:32:43.4±4.6,12.83N×94.21E,h120km±23km, mb5.0, ML5.1,mb4.9(NEIC)*
GCMT ***12*** *03:32:45.3±0.2,12.73N±0.01×93.94E±0.01,h140km±1km, MW5.2/131,Moment Tensor Solution. s81,c103; s131,c233; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr2.84±.16; Mθθ-1.04±.19; Mϕϕ-1.80±.17; Mrθ-6.72±.12; Mθϕ3.90±.19; Mϕr1.55±.12; Best double couple: Mo8.29300×10¹⁶ NP1:ϕs173.00000°,δ27.00000°, λ154.00000°. NP2:ϕs286.00000°,δ78.00000°,λ65.00000°. Principal axes: T 8.0350, Plg50.0000°, Azm169.0000°; N 0.5140, Plg24.0000°, Azm292.0000°; P -8.5500, Plg29.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***12*** *03:32:45.0±0.0,12.79N×93.87E,h142km,mB5.3/40, mb5.0/55*
IDC ***12*** *03:32:45.9±0.5,12.82N×93.93E,h133km±4km,mb4.4/29, mb1 4.5/31,mb1mx4.3/47,mbtmp4.8/31,MS3.8/19, Ms1 3.8/19,ms1mx3.6/48,Error ellipse: s-maj=11.5km s-min=7.5km az=62.0*
DJA ***12*** *03:32:46.6±0.3,13.N±2.°×9.°4E±.°,h126km±3km,M5.0/49, mb4.9/49,mB5.5/16,MLv5.2/4,Mw(mB)5.0/16,Mwp4.9/1*
NEIC ***12*** *03:32:46.3±1.6,12.87N±0.07×93.87E±0.07,h136km±4km, mb4.9/127,Error ellipse: s-maj=10.6km s-min=9.1km az=122.0*
ISC 12 03:32:46.2±0.4,12.88N±0.03×93.88E±0.03,h136km±2km, h136km:pP-P,n455,σ1ᵎ52/495,mb4.8/119,23C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.98**	**288**	*e*P	**P**		**Pn**	**03 33 08.1**	**-1.3**
DGPR				*e*S	**Sn**		**Sn**	**03 33 25.3**	**-1.6**
PBA	**Port Blair**	**1.65**	**223**	*e*P	Pn		Pn	03 33 15.3	-1.0
PBA				*e*S	Sn		Sn	03 33 37.9	-1.4
PBA				IAML				03 33 40.8	
	comp=E,25μm,0.3s								
PBA				IAML				03 33 43.1	
	comp=N,19μm,0.9s								
PBA	**Port Blair**	**1.65**	**223**	P	Pn		Pn	03 33 15.2	-1.1
	SNR=55								
PBA	**Port Blair**	**1.65**	**223**	Pn	Pn			03 33 15.1	-1.2
CMBY	**CAMPBELL BAY**	**5.83**	**180**	*e*P	Pn			03 34 02.9	-7.6
CMBY				*e*S	**Sn**			**03 35 10.0**	**-6.3**
MHMT	**Maesarieng**	**6.56**	**36**	P	**Pn**			**03 34 21.2**	**+1.0**
SUKH	**Sukhothai**	**7.19**	**50**	P	**Pn**			**03 34 29.6**	**+0.8**
CM13	**Chiang Mai Arr**	**7.33**	**41**	P	**Pn**			**03 34 32.1**	**+1.4**
CM05	**Chiang Mai Arr**	**7.34**	**41**	P	**Pn**			**03 34 32.3**	**+1.4**
CM04	**Chiang Mai Arr**	**7.37**	**41**	P	**Pn**			**03 34 32.6**	**+1.5**
CM01	**Chiang Mai Arr**	**7.37**	**41**	P	**Pn**			**03 34 32.8**	**+1.6**
CM15	**Chiang Mai Arr**	**7.37**	**41**	P	**Pn**			**03 34 32.7**	**+1.5**
CM02	**Chiang Mai Arr**	**7.37**	**41**	P	**Pn**			**03 34 32.6**	**+1.4**
CM31	**Chiang Mai Arr**	**7.38**	**41**	P	**Pn**			**03 34 31.5**	**+0.2**
	SNR=24								
CM31				S	**Sn**			**03 35 57.2**	**+3.4**
CM31	**Chiang Mai Arr**	**7.38**	**41**		**Pn**			**03 34 31.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**7.38**	**41**	P	**Pn**			**03 34 32.9**	**+1.5**
	comp=N,9.8nm,0.3s,baz=231,slow=14,SNR=47								
CMAR				S	**Sn**			**03 35 54.8**	**+1.0**
	comp=N,5.0nm,0.3s,baz=233,slow=24,SNR=4.3								
CMAR				LR	LR			03 37 54.2	
	comp=N,402nm,19.2s,baz=220,slow=42								
CMAR	**Chiang Mai Arr**	**7.38**	**41**	Pn	**Pn**			**03 34 30.5**	**-0.9**
CM09	**Chiang Mai Arr**	**7.41**	**41**	P	**Pn**			**03 34 33.3**	**+1.6**
TRTT	**Trang**	**7.60**	**131**	P	**Pn**			**03 34 35.3**	**+1.0**
PHIT	**Phitsanulok**	**7.63**	**55**	P	**Pn**			**03 34 35.7**	**+1.1**
CHTO	**Chiang Mai**	**7.65**	**39**	P	**Pn**			**03 34 34.5**	**-0.4**
CHTO				S	**Sn**			**03 35 57.2**	**-3.1**
CHTO	**Chiang Mai**	**7.65**	**39**	Pn	**Pn**			**03 34 35.8**	**+0.9**
CMMT	**Chiang Mai**	**7.65**	**39**	P	**Pn**			**03 34 36.4**	**+1.4**
UTTA	**Uttaradit**	**8.05**	**52**	P	**Pn**			**03 34 41.3**	**+1.0**
LHMI	**Lhok Sumawe**	**8.18**	**158**	P	**Pn**			**03 34 45.7**	**+3.7**
LHMI	**Lhok Sumawe**	**8.18**	**158**	Pn	**Pn**			**03 34 43.5**	**+1.4**
PHRA	**Phrae**	**8.28**	**47**	P	**Pn**			**03 34 43.9**	**+0.5**
CHAI	**Chaiyaphum**	**8.41**	**68**	P	**Pn**			**03 34 46.7**	**+1.6**
PAYA	**Payao**	**8.64**	**41**	P	**Pn**			**03 34 49.4**	**+1.2**
MLSI	**Meulaboh, Aceh**	**8.91**	**164**	P	**Pn**			**03 34 50.9**	**-1.0**
	comp=N,5μmcomp=N,344nm,0.9s								
CRAI	**Chiangrai**	**9.60**	**40**	P	**Pn**			**03 35 01.7**	**+0.7**
KULM	**Kulim**	**10.07**	**138**		**Pn**			**03 35 08.1**	**+0.6**
TPTI		**10.10**	**161**	P	**Pn**			**03 35 08.7**	**+1.0**
	comp=N,26nm,0.9s								
TSI	**Tuntungan**	**10.40**	**153**	P	**Pn**			**03 35 16.0**	**+4.2**
BWNR	**Bhubaneshwar**	**10.69**	**315**	*e*P	**Pn**			**03 35 11.7**	**-3.9**
BWNR				*e*S	Sn			03 37 00.5	-13
IPM	**Ipoh**	**10.93**	**139**		**Pn**			**03 35 18.8**	**-0.1**
CHLP	**Challavanipeta**	**10.99**	**302**	*e*P	**Pn**			**03 35 19.4**	**-0.2**
PSI	**Prapat**	**11.18**	**153**	P	**Pn**			**03 35 23.9**	**+1.6**
	comp=N,3.5nm,0.3s,baz=360,slow=10,SNR=28								
RPSI	**Rantau Prapat**	**11.28**	**153**	Pn	**Pn**			**03 35 24.0**	**+0.5**
RPSI	**Rantau Prapat**	**11.28**	**153**		**Pn**			**03 35 23.9**	**+0.5**
UBPT	**Khong Chiam**	**11.49**	**77**	Pn	**Pn**			**03 35 27.3**	**+1.0**
IMP	**Imphal**	**11.89**	**0**	*ex*	**Pn**			**03 35 30.4**	**-1.2**
IMP				*ex*	**Sn**			**03 37 37.3**	**-5.5**
GSI	**Gunungsitoli**	**12.06**	**162**		**Pn**			**03 35 35.9**	**+2.1**
PVM	**Polavaram**	**12.61**	**292**	*e*P	**Pn**			**03 35 43.2**	**+2.4**
SLVN	**Son La**	**12.74**	**47**	Pn	**Pn**			**03 35 42.7**	**+0.1**
SHL	**Shillong**	**12.77**	**352**	*ex*	**Pn**			**03 35 41.7**	**-1.3**
SHL	**Shillong**	**12.77**	**352**	P	**Pn**			**03 35 41.7**	**-1.3**
	SNR=35								
SHL				S	**Sn**			**03 37 55.8**	**-8.2**
SHL	**Shillong**	**12.77**	**352**	Pn	**Pn**			**03 35 41.1**	**-1.9**
KOHI	**KOHIMA**	**12.78**	**1**	*ex*	**Pn**			**03 35 41.6**	**-1.6**
BOK	**Bokaro**	**13.24**	**326**	*e*P	**Pn**			**03 35 50.7**	**+1.7**
MNSI	**Mandailing Nat**	**13.26**	**154**	P	**Pn**			**03 35 45.6**	**-3.7**
MDRS	**Chennai**	**13.29**	**272**	*ex*	Sn			03 38 07.1	-10
MYLAV	**Mylavaram**	**13.38**	**288**	*e*P	**Pn**			**03 35 51.5**	**+0.7**
TEZP	**TEZPUR**	**13.71**	**356**	*ex*	**Pn**			**03 35 53.2**	**-1.7**
TEZP				*ex*	Sn			03 38 16.5	-10
ADKI	**Addanki**	**13.80**	**284**	*e*P	**Pn**			**03 35 57.0**	**+0.9**
SKHT	**Srikalahasti**	**13.82**	**275**	*e*P	**Pn**			**03 35 58.4**	**+1.9**
GGR	**Gangavaram**	**14.08**	**292**	*e*P	**P**			**03 36 02.2**	**-1.1**
PALK	**Pallekele**	**14.12**	**248**	P	**P**			**03 36 04.1**	**+0.4**
ITAN	**ITANAGAR**	**14.20**	**359**	*ex*	**Pn**			**03 35 58.2**	**-2.9**
ITAN				*ex*	Sn			03 38 28.9	-9.3
DLV	**T Lat**	**14.29**	**92**		**P**			**03 36 05.5**	**-0.4**
BKNI	**Bangkinang**	**14.35**	**150**	Pn	**Pn**			**03 36 03.1**	**0.0**
LKP	**Lekhapani**	**14.50**	**7**	*ex*	**Pn**			**03 36 03.7**	**-1.3**
NJS	**Nagarjunasagar**	**14.57**	**286**	*e*P	**P**			**03 36 08.0**	**-0.7**
ZIRO	**ZIRO**	**14.58**	**360**	*ex*	**Pn**			**03 36 02.8**	**-3.3**
ZIRO				*ex*	Sn			03 38 36.5	-11
TAWA	**Tawang**	**14.77**	**353**	*ex*	**Pn**			**03 36 09.1**	**+0.4**
KMI	**Kunming**	**14.77**	**33**	‖P	**P**			**03 36 10.9**	**-0.2**
KMI				S	**S**			**03 38 58.0**	**-3.4**
KMI				pmax	pmax				
	comp=N,81nm,1.7s								
KMI				pmax	pmax				
	comp=N,1μm,7.2s								
KMI				LR	LR				
	comp=N,940nm,14.4s								
KMI				LR	LR				
	comp=N,720nm,15.6s								
KMI				LR	LR				
	comp=N,800nm,14.3s								
KMI	**Kunming**	**14.77**	**33**	P	**P**			**03 36 12.3**	**+1.2**
MYKOM	**Kota Tinggi**	**14.79**	**137**	P	**P**			**03 36 11.7**	**+0.6**
SRLM	**Srisailam**	**14.87**	**284**	*e*P	**P**			**03 36 11.3**	**-0.7**
CUPL	**Choutuppal**	**15.10**	**289**	*e*P	**P**			**03 36 14.0**	**-0.6**
RPR	**Rampur**	**15.24**	**295**	*e*P	**P**			**03 36 17.0**	**+0.9**
HYB	**Hyderabad**	**15.47**	**289**	*i* P	**P**			**03 36 20.0**	**+1.3**
HYB				*e*				03 38 54.0	
HYB				*e*S	**Sn**			**03 39 11.0**	**+1.9**
HYBB	**Hyderabad (bro**	**15.47**	**289**	*e*P	**Pn**			**03 36 16.4**	**-0.9**
SDSI	**Sungai Dareh**	**15.63**	**151**	P	**Pn**			**03 36 17.9**	**-1.2**
	comp=N,5μmcomp=N,99nm,0.7s								
URV	**Uravakonda**	**16.27**	**279**	*e*P	**Pn**			**03 36 26.0**	**-1.1**
NGP	**Nagpur**	**16.39**	**302**	*ex*	**P**			**03 36 32.8**	**+3.9**
NGP				*ex*	**Sn**			**03 39 25.2**	**-5.9**
QIZ	**Qiongzhong**	**16.52**	**66**	P	**Pn**			**03 36 29.6**	**-0.4**
QIZ				S	**Sn**			**03 39 33.8**	**-0.3**
QIZ				LR	LR				
	comp=N,640nm,16.0s								
QIZ				LR	LR				
	comp=N,640nm,11.9s								
QIZ				LR	LR				
	comp=N,620nm,9.0s								
QIZ	**Qiongzhong**	**16.52**	**66**	P	**P**			**03 36 32.9**	**+2.7**
KRJI	**Kerinci**	**16.66**	**153**	P	**P**			**03 36 32.9**	**+0.9**
	comp=N,439nm,0.5s								
JBP	**Jabalpur**	**16.70**	**310**	*ex*	**S**			**03 39 43.2**	**+4.0**
LSA	**Lhasa**	**16.93**	**352**	P	**Pn**			**03 36 35.7**	**+0.2**
LSA				S	**Sn**			**03 39 38.7**	**-6.0**
LSA				pmax	pmax				
	comp=N,340nm,0.9s								
LSA				LR	LR				
	comp=N,3μm,8.2s								
LSA				LR	LR				
	comp=N,5μm,10.0s								
LSA				LR	LR				
	comp=N,4μm,8.5s								
LSA	**Lhasa**	**16.93**	**352**	P	**Pn**			**03 36 36.0**	**+0.6**
LSA				S	**Sn**			**03 39 36.7**	**-8.0**
LSA	**Lhasa**	**16.93**	**352**	P	**Pn**			**03 36 36.6**	**+1.1**
DSRI	**Dabo**	**16.99**	**141**	P	**Pn**			**03 36 36.9**	**+1.1**
	comp=N,65nm,2.3s								
KLRI	**Killari**	**17.44**	**289**	*e*P	**Pn**			**03 36 45.7**	**+4.5**
GYA	**Guiyang**	**18.07**	**40**	⇑P	**Pn**			**03 36 49.3**	**+0.5**
GYA				S	**Sn**			**03 40 11.7**	**+0.1**
GYA				pmax	pmax				
	comp=N,51nm,1.5s								
KSI	**Kapahiang**	**18.56**	**152**	P	**P**			**03 36 53.6**	**+0.8**
BHPL	**Bhopal**	**18.72**	**306**	*e*P	**Pn**			**03 36 57.0**	**+0.6**
PMBI	**Palembang**	**19.06**	**145**	P	**P**			**03 36 58.7**	**+0.5**
PPBI	**Pangkal Pinang**	**19.27**	**140**	P	**Pn**			**03 37 02.3**	**-0.5**
	comp=N,203nm,1.3s								
MNAI	**Manna**	**19.35**	**152**	P	**Pn**			**03 37 02.8**	**-1.0**
KAD	**Karad**	**19.52**	**285**	‖ *i*x	**S**			**03 40 33.0**	**-3.6**
KSM	**Kuching**	**

LUWI **Luwuk** 31.82 114 P P 03 38 59.9 +1.6
comp=Z,104nm,1.2s
LUWI **Luwuk** 31.82 114 P P 03 38 59.4 +1.1
HHC **Hu-ho-hao-te** 31.89 26 eP P 03 39 00.5 +1.8
HHC pmax pmax
comp=Z,26nm,1.3s
HHC pmax pmax
comp=Z,370nm,7.8s
TARG **Taragay, Kyrgy** 31.98 337 IAmb IAmb 03 39 01.7
comp=Z,13nm,0.8s
UZB **Uzynbulak** 32.78 340 eP P 03 39 06.3 -0.3
UZB eS S 03 44 14.0 +0.4
KPKS **Kokpek** 33.18 340 eP P 03 39 11.1 +1.1
comp=Z,25nm,1.4s
KPKS eS S 03 44 19.6 0.0
BJI **Beijing** 33.43 32 P P 03 39 13.5 +1.5
BJI pmax pmax
comp=Z,12nm,1.3s
TNSS **Tian-Shan** 33.43 337 eP P 03 39 13.6 +1.1
MDOK **Medeo** 33.50 337 eP P 03 39 14.0 +1.2
MDOK eS S 03 44 24.9 +0.2
UCH **Uchtor** 33.74 334 P P 03 39 16.8 +1.6
SNR=5.8
CHGR **Chuyangaron** 33.77 324 P P 03 39 15.8 +0.7
BTK **Batken** 33.84 327 IAmb IAmb 03 39 19.6
comp=Z,44nm,1.2s
TKM2 **Tokmak 2** 33.86 336 P P 03 39 17.5 +1.5
SNR=5.8
AML **Almayashu** 34.02 333 P P 03 39 19.3 +1.7
SNR=11
JLN **Jalan Bani Buh** 34.07 291 P P 03 39 21.3 +3.4
SNR=5.2
AAK **Ala-Archa** 34.08 334 P P 03 39 19.9 +2.1
SNR=7.9
FRU1 **Bishkek** 34.17 334 P P 03 39 19.5 +1.1
CHMS **Chumysh** 34.27 335 P P 03 39 20.7 +1.4
SNR=5.6
KUU **Kurty** 34.39 337 eP P 03 39 19.2 -1.1
KUU eS S 03 44 39.0 +0.9
EKS2 **Erkin-Say** 34.41 333 P P 03 39 22.7 +2.1
SNR=12
SGDS **Sogindy** 34.70 335 eP P 03 39 22.8 -0.2
WSAR **Wadi Sarin** 34.98 292 P P 03 39 25.6 -0.1
EDFI **Ende, Flores** 34.99 126 P P 03 39 24.8 -1.1
comp=Z,12nm,1.8s
MK31 **Makanchi Array** 35.19 346 IAmb IAmb 03 39 29.4
comp=Z,32nm,0.9s
MKAR **Makanchi Array** 35.19 346 P P 03 39 28.0 +0.8
comp=Z,20nm,0.6s,baz=162,slow=8.3,SNR=129
MKAR S S 03 44 52.3 +1.9
comp=Z,0.9nm,0.9s,baz=163,slow=10,SNR=2.0
MKAR ScP ScP 03 45 29.0 +0.5
comp=Z,3.8nm,1.1s,baz=126,slow=6.2,SNR=4.1
MKAR LR LR 03 57 10.7
comp=Z,166nm,21.3s,baz=156,slow=42
MKAR **Makanchi Array** 35.19 346 P P 03 39 27.6 +0.4
MKAR ScP 03 45 28.8 +0.3
MHTO **MHTO** 35.23 288 P P 03 39 31.2 +3.4
MAKZ **Makanchi** 35.28 346 P P 03 39 28.3 +0.4
MAKZ IAmb IAmb 03 39 30.0
comp=Z,23nm,0.8s
ZSN **Zaisan** 35.28 349 eP P 03 39 29.5 +1.6
comp=Z,24nm,1.0s
ZSN eS S 03 44 53.8 +2.0
JMDO **Jabal Madar** 35.30 291 P P 03 39 30.3 +1.8
SMDO **Samad** 35.47 292 P P 03 39 32.1 +2.2
IUG **Iuzhnay** 35.78 329 eP P 03 39 33.5 +1.1
comp=Z,16nm,0.9s
IUG eS S 03 44 59.1 -0.5
HRA **Herat** 35.80 312 P P 03 39 32.8 +0.1
BSY **Bisya** 36.19 291 P P 03 39 39.6 +3.6
SNR=6.2
HOQ **Hoqain** 36.23 292 P P 03 39 40.2 +3.8
SNR=5.8
BTLS **Baital** 36.24 336 eP P 03 39 35.3 -0.8
KK31 **Karatay Array** 36.26 331 P P 03 39 36.7 +0.4
KKAR **Karatay Array** 36.26 331 P P 03 39 36.8 +0.5
KKAR **Karatay Array** 36.26 331 IAmb IAmb 03 39 38.2
comp=Z,14nm,1.2s
SONM **Songino Array** 36.39 14 P P 03 39 38.7 +1.2
comp=Z,9.6nm,0.8s,baz=197,slow=8.1,SNR=47
SONM pP pP 03 40 06.8 +0.1
comp=Z,11nm,0.9s,baz=202,slow=11,SNR=7.4
SONM PcP PcP 03 42 00.0 +1.1
comp=Z,2.3nm,0.5s,baz=214,slow=5.0,SNR=2.5
SONM ScP ScP 03 45 33.3 +0.3
comp=Z,9.4nm,0.9s,baz=192,slow=4.2,SNR=22
SONM LR LR 03 56 26.3
comp=Z,216nm,19.1s,baz=188,slow=39
SONM **Songino Array** 36.39 14 P P 03 39 38.1 +0.7
ULN **Ulaanbaatar** 36.58 15 P P 03 39 40.1 +1.0
ULN IAmb IAmb 03 39 41.1
comp=Z,27nm,1.3s
UOSS **Minazif** 37.49 294 P P 03 39 48.2 +1.2
UOSS IAmb IAmb 03 39 51.6
comp=Z,21nm,1.1s
SOEI **Soe** 37.63 125 P P 03 39 46.8 -1.5
SOEI IAmb IAmb 03 39 54.2
comp=Z,18nm,0.8s
DMTO **DMTO** 37.82 282 P P 03 39 52.9 +3.1
FAQ **Al Faqa, Dubai** 37.99 294 P P 03 39 54.1 +3.0
MSAI **Masohi** 38.35 113 P P 03 39 54.9 +0.6
comp=Z,5.3nm,1.0s
SOCY **Socotra** 38.92 274 P P 03 39 59.9 +0.7
SOCY IAmb IAmb 03 40 02.2
comp=Z,63nm,1.7s
WHFO **Wadi Hawf** 38.94 283 P P 03 40 01.9 +2.7
SNR=8.4
KSRS **Korea Array** 39.00 45 P P 03 39 58.7 -0.7
comp=Z,1.8nm,0.6s,baz=237,slow=8.2,SNR=8.9
KSRS LR LR 03 58 02.0
comp=Z,328nm,19.5s,baz=238,slow=39
TLY **Talaya** 39.50 10 P P 03 40 03.4 0.0
TLY IAmb IAmb 03 40 06.5
comp=Z,49nm,1.9s
KURK **Kurchatov** 39.74 345 P P 03 40 06.5 +1.2
KURK **Kurchatov** 39.74 345 P P 03 40 06.1 +0.8
GEYT **Alibeck** 40.43 315 P P 03 40 13.3 +2.1
comp=Z,14nm,0.5s,baz=133,slow=8.7,SNR=29
GEYT PcP PcP 03 42 13.0 +1.4
comp=Z,5.5nm,0.5s,baz=108,slow=4.7,SNR=3.6
GEYT ScP ScP 03 45 49.0 +0.5
comp=Z,2.0nm,0.7s,baz=216,slow=7.3,SNR=4.2
GEYT LR LR 03 58 45.1
comp=Z,92nm,19.3s,baz=45,slow=38
GEYT **Alibeck** 40.43 315 P P 03 40 12.4 +1.1
GYA0B **ALIBECK ARRAY** 40.43 315 P P 03 40 12.9 +1.6
GYA0B IAmb IAmb 03 40 14.4
comp=Z,47nm,1.1s
FAKI **Fak Fak** 41.20 110 P P 03 40 17.9 0.0
FAKI IAmb IAmb 03 40 20.0
comp=Z,36nm,1.5s
ZAA0 **Zalesovo Array** 41.60 352 P P 03 40 21.2 +0.7
ZAA0 IAmb IAmb 03 40 22.7
comp=Z,35nm,0.8s
ZALV **Zalesovo Beam** 41.60 352 P P 03 40 21.6 +1.0
comp=Z,19nm,0.3s,baz=175,slow=8.4,SNR=77
ZALV ScP ScP 03 45 51.3 -1.4
comp=Z,2.1nm,0.8s,baz=174,slow=1.5,SNR=4.4
ZALV S S 03 46 25.7 -0.7
comp=Z,0.6nm,0.3s,baz=186,slow=6.5,SNR=2.0
ZALV ScS ScS 03 50 06.2 -3.2
comp=Z,1.7nm,0.7s,baz=156,slow=7.6,SNR=4.9
ZALV **Zalesovo Beam** 41.60 352 P P 03 40 20.4 -0.1
ZALV ScP 03 45 52.1 -0.6
PSA00 **Pilbara Seismi** 42.68 143 IAmb IAmb 03 40 30.2
comp=Z,46nm,1.2s
FITZ **Fitzroy Crossi** 43.92 134 P P 03 40 39.2 -0.5
comp=Z,28nm,1.1s,baz=339,slow=7.9,SNR=34
FITZ **Fitzroy Crossi** 43.92 134 P P 03 40 39.3 -0.5
FITZ IAmb IAmb 03 40 40.4
comp=Z,40nm,1.2s
BRVK **Borovoye** 44.28 340 P P 03 40 42.8 +0.7
BRVK **Borovoye** 44.28 340 P P 03 40 42.1 0.0
USRK **Ussuriysk Ar.** 45.11 39 LR LR 04 00 21.2
comp=Z,101nm,18.1s,baz=220,slow=37
ABKAR **Akbulak array** 45.78 329 P P 03 40 54.6 +0.5
ABKAR **Akbulak array** 45.78 329 P P 03 40 54.3 +0.2
MJAR **Matsushiro Arr** 46.12 51 PcP PcP 03 42 31.1 +0.1
comp=Z,1.0nm,0.6s,baz=225,slow=2.7,SNR=6.2
MJAR ScP ScP 03 46 11.1 -0.6
comp=Z,6.6nm,0.8s,baz=248,slow=3.7,SNR=15
MJAR LR LR 04 04 11.6
comp=Z,134nm,18.5s,baz=200,slow=41
MJAR **Matsushiro Arr** 46.12 51 ScP 03 46 11.2 -0.5
MORW **Morawa** 46.87 153 P P 03 41 03.3 +0.5

DAMY **Dhamar** 48.03 278 P P 03 41 15.6 +3.1
NWAO **Narrogin (SRO)** 50.71 154 P P 03 41 31.5 -0.6
comp=Z,42nm,0.5s,baz=327,slow=6.7,SNR=54
NWAO **Narrogin (SRO)** 50.71 154 P P 03 41 31.5 -0.6
ARU **Arti** 51.23 336 P P 03 41 35.6 -0.1
WRA **Warramunga Arr** 51.47 129 P P 03 41 36.8 -1.2
comp=Z,14nm,0.6s,baz=299,slow=10,SNR=196
WRA ScP ScP 03 46 32.6 -1.9
comp=Z,2.5nm,0.7s,baz=314,slow=4.0,SNR=12
WRA S S 03 48 43.0 -4.9
comp=Z,0.7nm,0.9s,baz=309,slow=15,SNR=3.8
WRA **Warramunga Arr** 51.47 129 P P 03 41 36.7 -1.3
WRAB **Tennant Creek** 51.47 129 P P 03 41 37.5 -0.5
WRAB IAmb IAmb 03 41 38.7
comp=Z,22nm,0.7s
WR0 **Warramunga Arr** 51.63 129 P P 03 41 38.5 -0.6
ASAJ **Asahikawa** 51.90 43 LR LR 04 05 27.9
comp=Z,103nm,18.9s,baz=212,slow=38
MARD **Mardin** 53.10 307 P P 03 41 51.0 +1.0
ARTV **Artvin** 53.21 312 P P 03 41 51.7 +0.9
KBZ **Khabaz** 53.31 315 P P 03 41 52.0 +0.8
comp=Z,2.7nm,0.9s,baz=86,slow=4.7,SNR=4.7
KBZ ScP ScP 03 46 42.1 0.0
comp=Z,2.3nm,0.8s,baz=133,slow=2.5,SNR=3.3
AS31 **Alice Springs** 53.39 133 P P 03 41 51.8 -0.4
ASAR **Alice Springs** 53.39 133 P P 03 41 51.0 -1.1
comp=Z,11nm,0.6s,baz=308,slow=7.1,SNR=157
ASAR ScP ScP 03 46 41.1 -1.8
comp=Z,3.7nm,0.8s,baz=315,slow=4.5,SNR=13
ASAR S S 03 49 12.0 -2.1
comp=Z,0.1nm,0.5s,baz=286,slow=28,SNR=3.3
ASAR ScS ScS 03 51 25.4 -3.1
comp=Z,1.1nm,0.9s,baz=307,slow=7.6,SNR=6.9
ASAR **Alice Springs** 53.39 133 ScP 03 46 40.9 -2.0
KIV **Kislovodsk** 53.52 316 P P 03 41 53.3 +0.4
KIV IAmb IAmb 03 42 31.4
comp=Z,22nm,0.9s
KOPT **Kop Dagi** 53.95 310 P P 03 41 57.4 +1.0
FURI **Furi** 54.27 272 P P 03 41 58.6 -0.5
FORT **Forrest** 54.44 144 P P 03 41 59.4 -0.1
YAK **Yakutsk** 55.38 20 P P 03 42 05.3 -0.6
OPO **Ambohidratompo** 55.64 237 PcP PcP 03 42 07.2 +0.5
comp=Z,4.0nm,0.6s,baz=65,slow=6.0,SNR=2.5
ABPO **Ambohimpanom** 55.84 236 P P 03 42 10.4 +0.4
GAZ **Gaziantep** 55.86 306 IAmb IAmb 03 42 12.4
comp=Z,23nm,1.1s
NRIK **Noril'sk** 56.56 357 P P 03 42 14.9 +0.7
comp=Z,5.8nm,0.4s,baz=184,slow=5.3,SNR=11
NRIK pP pP 03 42 45.8 0.0
comp=Z,3.9nm,0.5s,baz=135,slow=6.3,SNR=3.0
NRIK PcP PcP 03 43 08.8 -0.3
comp=Z,6.5nm,0.6s,baz=163,slow=2.6,SNR=4.6
NRIK ScP ScP 03 46 56.9 +0.9
comp=Z,7.6nm,1.0s,baz=145,slow=1.1,SNR=7.6
PMG **Port Moresby** 57.35 110 P P 03 42 20.4 -0.3
PMG IAmb IAmb 03 42 56.3
comp=Z,17nm,1.0s
KMBO **Kilima Mbogo** 57.86 260 P P 03 42 27.6 +3.0
comp=Z,3.1nm,0.8s,baz=48,slow=9.5,SNR=7.6
KMBO **Kilima Mbogo** 57.86 260 P P 03 42 25.2 +0.6
KMBO IAmb IAmb 03 42 27.5
comp=Z,32nm,1.6s
BR131 **Keskin Array S** 59.05 309 P P 03 42 32.1 -0.2
SNR=6.2
BR131 **Keskin Array S** 59.05 309 IAmb IAmb 03 42 33.4
comp=Z,6.5nm,0.7s
BRTR **Keskin Array B** 59.05 309 P P 03 42 31.9 -0.4
comp=Z,6.2nm,0.6s,baz=133,slow=6.8,SNR=51
BRTR ScP ScP 03 47 07.6 -0.2
comp=Z,1.0nm,0.8s,baz=126,slow=3.9,SNR=4.8
BRTR LR LR 04 12 10.6
comp=Z,28nm,18.6s,baz=148,slow=40
BRTR **Keskin Array B** 59.05 309 P P 03 42 31.5 -0.9
BBOO **Buckleboo** 60.71 140 P P 03 42 43.1 -0.3
MDUB **Mudurnu** 61.02 309 P P 03 42 44.3 -1.3
CTA **Charters Tower** 61.05 122 P P 03 42 44.9 -1.1
comp=Z,6.0nm,1.0s,baz=266,slow=5.3,SNR=5.6
CTA ScP ScP 03 47 16.0 -0.8
comp=Z,0.8nm,0.2s,baz=259,slow=5.2,SNR=3.9
CTAO **Charters Tower** 61.05 122 P P 03 42 45.6 -0.4
CTAO IAmb IAmb 03 42 47.5
comp=Z,30nm,1.4s
OBN **Obninsk** 61.07 326 P P 03 42 44.3 -1.2
OBN IAmb IAmb 03 43 28.9
comp=Z,16nm,0.7s
KLMR **Klimovskoe** 61.89 333 eP P 03 42 50.4 -0.5
KLMR AMP 03 42 52.0
comp=Z,16nm,1.1s
TIXI **Tiksi** 62.41 12 P P 03 42 53.3 -0.9
MA2 **Magadan** 62.50 29 P P 03 42 54.6 -0.5
comp=Z,2.3nm,0.4s,baz=262,slow=14,SNR=1.6
MA2 **Magadan** 62.50 29 IAmb IAmb 03 43 18.1
comp=Z,28nm,1.1s
TIRR **Tirgusor** 63.61 313 ⇑P P 03 43 02.9 +0.3
TIRR **Tirgusor** 63.61 313 ↑P P 03 43 03.0 +0.3
MILM **Milestii Mici** 63.71 316 ⇑P P 03 43 02.1 -1.1
KARP **Karpathos** 63.74 303 P P 03 43 02.8 -1.0
STKA **Stephens Creek** 63.78 135 P P 03 43 03.3 -0.6
comp=Z,4.3nm,0.3s,baz=321,slow=7.2,SNR=20
STKA LR LR 04 15 49.8
comp=Z,113nm,18.2s,baz=275,slow=41
STKA **Stephens Creek** 63.78 135 P P 03 43 03.3 -0.6
CFR **Carcaliu** 63.91 314 ⇑P P 03 43 05.0 +0.4
HARR **Harsova** 63.98 314 ⇑P P 03 43 05.6 +0.5
MBAR **Mbarara** 64.01 263 P P 03 43 05.4 -0.7
MBAR IAmb IAmb 03 43 08.8
comp=Z,10.0nm,0.8s
AKASG **Malin Array Be** 64.13 320 P P 03 43 05.5 -0.4
comp=Z,3.1nm,0.6s,baz=88,slow=4.8,SNR=20
AKASG LR LR 04 16 23.1
comp=Z,66nm,20.8s,baz=105,slow=41
AKASG **Malin Array Be** 64.13 320 P P 03 43 06.0 0.0
AKBB **Malin Array Si** 64.13 320 P P 03 43 05.3 -0.6
PEA0B **Petropavlovsk-** 64.15 37 P P 03 43 05.6 -0.5
PEA0B IAmb IAmb 03 44 00.1
comp=Z,18nm,0.8s
PETK **Petropavlovsk-** 64.15 37 LR LR 04 13 56.0
comp=Z,88nm,18.0s,baz=244,slow=38
SORM **Soroca** 64.22 317 ⇑P P 03 43 06.6 0.0
ALN **Alexandroupoli** 64.96 309 P P 03 43 11.9 +0.4
ALN IAmb IAmb 03 43 13.0
comp=Z,16nm,1.1s
VRI **Vrincioaia** 64.98 315 ⇑P P 03 43 12.8 +1.2
ISR **Istrita** 65.02 314 ⇑P P 03 43 12.6 +0.7
PLOR **Plostina** 65.03 315 ⇑P P 03 43 13.3 +1.3
MLR **Muntele Rosu** 65.48 314 ⇑P P 03 43 15.7 +0.7
MLR **Muntele Rosu** 65.48 314 P P 03 43 14.8 -0.2
PRAR **RASCA** 65.52 316 ⇓P P 03 43 15.4 +0.4
BIZ **Bicaz** 65.55 316 ⇑P P 03 43 15.9 +0.6
DOPR **Dopca** 65.59 315 ⇑P P 03 43 16.1 +0.4
BURAR **Bucovina Array** 66.23 316 ⇑P P 03 43 20.6 +0.9
BURAR **Bucovina Array** 66.23 316 P P 03 43 20.1 +0.4
BUR08 **Bucovina Ar. S** 66.24 317 P P 03 43 19.7 -0.1
ARR **Arges** 66.38 314 ⇑P P 03 43 20.9 +0.2
CJR **Cluj-Napoca** 67.23 315 ⇑P P 03 43 27.2 +1.2
LIT **Litokhoron** 67.62 308 IAmb IAmb 03 44 06.2
comp=Z,17nm,1.0s
AGG **Agios Georgios** 67.72 307 P P 03 43 27.4 -1.7
HERR **Herculane** 67.91 313 ⇑P P 03 43 30.7 +0.4
ITM **Ithomi** 68.01 305 IAmb IAmb 03 44 19.6
comp=Z,18nm,0.8s
KWP **Kalwaria Pacla** 68.11 318 eP P 03 43 31.5 +0.1
KWP epP pP 03 44 05.6 +1.5
KWP **Kalwaria Pacla** 68.11 318 IAmb IAmb 03 43 33.2
comp=Z,18nm,1.0s
FINES **FINESS Array B** 68.21 331 P P 03 43 31.8 +0.1
comp=Z,3.3nm,0.5s,baz=111,slow=7.8,SNR=39
FINES pP pP 03 44 04.0 -0.2
comp=Z,3.0nm,0.6s,baz=102,slow=8.0,SNR=3.7
KOLS **Kolonicke sedl** 68.33 318 eP P 03 43 32.3 -0.5
SUW **Suwalki** 68.35 323 eP P 03 43 32.4 -0.3
SUW **Suwalki** 68.35 323 P P 03 43 32.8 0.0
SIRR **Siria** 68.53 315 ⇑P P 03 43 34.9 +0.8
CRVS **Cervenica-Dubn** 68.86 318 eP P 03 43 36.8 +0.7
DIVS **Divibare** 69.61 312 eP P 03 43 40.7 -0.2
TIR **Tirane** 69.64 309 P P 03 43 40.7 -0.3
TIR IAmb IAmb 03 44 29.8
comp=Z,17nm,1.1s
NIE **Niedzica** 69.66 318 eP P 03 43 41.9 +0.8
TOO **Toolangi** 69.71 138 P P 03 43 42.1 +0.6
TOO IAmb IAmb 03 43 43.4
comp=Z,29nm,1.2s
PSZ **Piszkesteto** 69.83 316 ⇑P P 03 43 42.5 +0.3
BBLS **Lazići** 70.02 312 eP P 03 43 43.5 +0.1
OJC **Ojcow** 70.03 319 eP P 03 43 43.5 +0.2

OJC epP pP 03 44 17.8 +1.6
OJC **Ojcow** 70.03 319 IAmb IAmb 03 43 44.8
comp=Z,18nm,1.1s
PDG **Podgorica** 70.11 311 ⇑P P 03 43 43.1 -0.7
PDG **Podgorica** 70.11 311 eP P 03 43 42.9 -1.0
DRME **Dracevica, Mon** 70.16 310 eP P 03 43 43.4 -0.8
ARMA **Armidale** 70.24 129 P P 03 43 45.6 +0.7
ARMA IAmb IAmb 03 43 47.6
comp=Z,19nm,1.1s
HAPS **Han Pijesak,Bl** 70.36 312 eP P 03 43 44.9 -0.6
UPM **Unac-Piva** 70.38 311 eP P 03 43 44.9 -0.8
ARCES **ARCESS Array B** 70.51 340 P P 03 43 45.6 -0.2
comp=Z,3.8nm,0.3s,baz=104,slow=7.3,SNR=116
ARCES LR LR 04 17 35.1
comp=Z,118nm,18.1s,baz=115,slow=38
VYHS **Vyhne** 70.57 317 eP P 03 43 46.6 0.0
MORH **Mrgy, Hungar** 70.62 315 eP P 03 43 46.9 0.0
BRY **Bratogost** 70.64 311 eP P 03 43 46.4 -0.9
LSZ **Lusaka** 70.77 249 P P 03 43 49.0 +0.5
LSZ IAmb IAmb 03 43 50.5
comp=Z,20nm,0.9s
CAN **Canberra** 70.81 135 P P 03 43 48.6 +0.3
CAN IAmb IAmb 03 45 40.9
comp=Z,56nm,1.8s
SRO **Srobarova** 70.89 316 eP P 03 43 49.0 +0.5
JAVC **Velka Javorina** 71.35 317 eP P 03 43 52.3 +0.9
HAMF **Hammerfest** 71.40 341 eP P 03 43 52.2 +1.1
MORC **Moravsky Berou** 71.47 318 ⇑P P 03 43 52.9 +0.9
MORC **Moravsky Berou** 71.47 318 eP P 03 43 52.4 +0.4
BILL **Bilibino** 71.57 22 P P 03 43 51.9 -0.3
BILL IAmb IAmb 03 44 20.6
comp=Z,34nm,1.2s
MODS **Modra-Piesok** 71.60 317 eP P 03 43 52.1 -0.7
BLY **Banja Luka** 71.63 313 eP P 03 43 53.1 +0.1
ZST **Bratislava** 71.71 317 eP P 03 43 52.8 -0.6
BEHE **Becsehely** 71.92 315 eP P 03 43 57.4 +2.7
KRLC **Kraliky** 71.97 319 eP P 03 43 55.3 +0.3
TIP **Timpagrande** 72.05 307 P P 03 43 55.4 -0.3
VRAC **Vranov** 72.07 318 eP P 03 43 55.9 +0.3
KRUC **Moravsky** 72.20 318 eP P 03 43 56.5 +0.2
DPC **Dobruska-Polom** 72.27 319 eP P 03 43 57.4 +0.6
KOGS **Kog** 72.28 315 eP P 03 43 57.1 +0.2
KSP **Ksiaz** 72.30 319 eP P 03 43 57.5 +0.6
KSP epP pP 03 44 29.7 +0.1
OSTC **Ostas** 72.34 319 ex x 03 44 29.8
CHVC **Chvalec** 72.44 319 eP P 03 43 57.9 +0.1
CONA **Conrad Observa** 72.54 316 eP P 03 43 58.7 +0.2
comp=Z,2.5nm,0.8s
CONA eP pP 03 44 31.2 -0.3
comp=Z,3.6nm,0.8s
CEL **Celeste** 72.77 306 IAmb IAmb 03 44 35.4
comp=Z,20nm,0.9s
ARSA **Arzberg** 72.78 316 eP P 03 44 00.3 +0.4
comp=Z,6.7nm,1.2s
ARSA eP pP 03 44 32.0 -0.9
comp=Z,5.4nm,1.0s
TRO **Tromso** 72.78 339 eP P 03 43 59.6 +0.3
CRES **Cresnjev** 72.84 314 eP P 03 44 00.3 +0.1
BOJS **Bojanci** 72.99 314 iP P 03 44 01.0 0.0
SOKA **Soboth** 73.12 315 eP P 03 44 02.5 +0.6
comp=Z,3.7nm,0.8s
PRU **Pruhonice** 73.41 319 eP P 03 44 03.5 0.0
PRU epP pwP 03 44 37.7 -1.1
OBKA **Obir** 73.45 315 eP P 03 44 04.4 +0.5
comp=Z,5.5nm,0.7s,SNR=6.1
LJU **Ljubljana** 73.48 314 iP P 03 44 04.3 +0.3
LJU **Ljubljana** 73.48 314 eP P 03 44 04.0 0.0
GBAS **Gorenja Brezov** 73.54 314 iP P 03 44 04.3 -0.1
CEY **Cerknica** 73.56 314 eP P 03 44 04.5 0.0
MOA **Molln** 73.62 316 eP P 03 44 04.5 -0.2
comp=Z,7.5nm,1.2s
MOA eP pP 03 44 37.3 -0.6
comp=Z,7.8nm,1.2s
N2IH **Innhavet** 73.63 337 eP P 03 44 04.8 +0.5
PBCC **Pribram** 73.77 318 eP P 03 44 05.6 0.0
BRG **Berggiesshubel** 73.79 319 iP P 03 44 06.0 +0.4
comp=Z,9.8nm,1.0s
BRG epP pP 03 44 38.1 -0.4
comp=Z,6.0nm,0.8s
FAUS **Fauske** 73.81 337 eP P 03 44 06.2 +0.7
STEI **Steigen** 73.88 337 eP P 03 44 06.6 +0.7
N2TV **TΨrnvik** 73.89 337 eP P 03 44 06.8 +0.9
VOJS **Vojsko** 73.93 314 iP P 03 44 06.5 -0.2
GEC2 **GERESS Array S** 73.97 317 P P 03 44 07.2 +0.3
GEC2 IAmb IAmb 03 44 08.0
comp=Z,11nm,0.7s
GERES **GERESS Array B** 73.97 317 P P 03 44 07.2 +0.3
comp=Z,6.6nm,0.6s,baz=85,slow=6.2,SNR=93
GERES **GERESS Array B** 73.97 317 P P 03 44 06.5 -0.4
MOR8 **Moi Rana** 74.04 335 eP P 03 44 06.9 0.0
KHC **Kasperske Hory** 74.05 318 eP P 03 44 07.3 0.0
KHC epP pP 03 44 39.9 -0.3
PRED **Cave del Predi** 74.14 315 IAmb IAmb 03 44 08.6
comp=Z,10nm,0.7s
KBA **Koelnbreinsper** 74.27 316 eP P 03 44 08.3 -0.5
comp=Z,1.7nm,0.6s
KBA eP pP 03 44 40.9 -1.0
comp=Z,5.0nm,1.1s
NBB17 **Glomfjord BΨr** 74.28 336 eP P 03 44 08.9 +0.7
N2VI **Vinje** 74.31 338 eP P 03 44 08.8 +0.5
CLL **Collm** 74.37 320 ⇑iP P 03 44 09.3 +0.3
comp=Z,12nm,1.4s
CLL epP pP 03 44 41.0 -1.0
CLL esP sP 03 44 59.0 +2.7
CLL **Collm** 74.37 320 P P 03 44 09.6 +0.6
NBB30 **Finnes** 74.38 336 eP P 03 44 09.7 +1.0
LOF **Lofoten** 74.54 337 eP P 03 44 09.8 +0.2
KONS **Konsvik** 74.60 336 eP P 03 44 10.7 +0.7
ABTA **Abfaltersbach** 74.85 315 eP P 03 44 11.5 -0.5
comp=Z,2.2nm,0.7s
CIMO **Cimolais** 74.92 315 IAmb IAmb 03 44 13.0
comp=Z,14nm,0.7s
SPA0 **Spitsbergen Ar** 74.92 348 eP P 03 44 12.5 +0.8
NSS **Namsos** 74.99 334 eP P 03 44 12.9 +0.6
NC602 **NORSAR Array S** 75.13 330 eP P 03 44 13.5 +0.3
NB2 **NORSAR Subarra** 75.29 330 P P 03 44 13.6 -0.6
comp=Z,5.6nm,0.8s,baz=90,slow=5.9
NB2 **NORSAR Subarra** 75.29 330 P P 03 44 13.6 -0.6
baz=90,slow=5.9
NOA **NORSAR Array B** 75.29 330 P P 03 44 13.6 -0.6
comp=Z,3.4nm,0.8s,baz=90,slow=5.7,SNR=14
NOA LR LR 04 23 24.7
comp=Z,28nm,18.3s,baz=85,slow=40
WTTA **Wattenberg** 75.42 316 eP P 03 44 14.8 -0.6
comp=Z,3.1nm,0.6s
NAO01 **NORSAR Array S** 75.45 330 P P 03 44 14.8 -0.3
WATA **Walderalm** 75.46 316 eP P 03 44 14.8 -0.8
comp=Z,2.3nm,0.6s
OSL **Oslo** 75.54 329 eP P 03 44 16.2 +0.7
GRA1 **Grafenberg Arr** 75.57 318 IAmb IAmb 03 45 09.3
comp=Z,24nm,1.5s
SQTA **Sankt Quirin** 75.71 316 eP P 03 44 16.3 -0.6
comp=Z,7.1nm,0.6s
MOTA **Moosalm** 75.78 316 eP P 03 44 16.9 -0.5
comp=Z,6.9nm,0.7s,SNR=6.7
MOTA eP pP 03 44 48.0 -2.5
comp=Z,10nm,1.1s
RETA **Reutte** 76.00 316 eP P 03 44 18.2 -0.3
comp=Z,14nm,1.3s,SNR=6.6
FETA **Feichten** 76.05 316 eP P 03 44 18.4 -0.5
comp=Z,4.4nm,0.7s
FETA eP pP 03 44 49.9 -2.2
comp=Z,8.4nm,1.1s
ZCCA **Zocca** 76.08 313 IAmb IAmb 03 45 00.9
comp=Z,15nm,0.7s
DOMB **Dombas** 76.30 331 eP P 03 44 20.4 +0.5
LBTB **Lobatse** 76.45 240 P P 03 44 22.2 +0.7
LBTB IAmb IAmb 03 44 23.3
comp=Z,53nm,1.4s
DAVA **Damuels** 76.61 316 eP P 03 44 22.2 +0.1
comp=Z,5.0nm,0.7s
AKN **Aaknes** 77.27 331 eP P 03 44 25.9 +0.6
BOSA **Boshof** 78.06 237 P P 03 44 30.5 +0.1
comp=Z,13nm,0.7s,baz=69,slow=4.1,SNR=26
BOSA LR LR 04 13 25.6
comp=Z,68nm,21.9s,baz=89,slow=31
BOSA **Boshof** 78.06 237 P P 03 44 30.4 +0.1
KEST **Kesra** 78.21 304 P P 03 44 31.2 0.0
comp=Z,11nm,0.9s,baz=253,slow=2.2,SNR=11
KEST pP pP 03 45 05.2 +0.7
comp=Z,9.7nm,0.9s,baz=271,slow=4.0,SNR=5.5
KEST **Kesra** 78.21 304 IAmb IAmb 03 44 32.7
comp=Z,17nm,1.1s
ECH **Echery** 78.35 317 P P 03 44 31.8 +0.2

CASY	**Casey**		**79.89**	**173**	P		**P**	**03 44 39.4**	**+0.1**
NOR	**Nord**		**80.29**	**352**	*i* P		**P**	**03 44 41.0**	**-0.5**
	comp=Z,18nm,1.2s								
NOR					*i*			03 45 16.8	
NOR	**Nord**		**80.29**	**352**	*i* P		**P**	**03 44 41.0**	**-0.5**
NOR					IAmb		IAmb	03 44 42.2	
	comp=Z,18nm,1.2s								
NOR					*i*			03 45 16.8	
JMIC	**Jan Mayen**		**81.92**	**341**	LR		LR	04 27 27.7	
	comp=Z,54nm,18.0s,baz=72,slow=40								
SUR	**Sutherland**		**82.98**	**235**	LR		LR	04 18 04.2	
	comp=Z,63nm,20.3s,baz=74,slow=33								
MAW	**Mawson**		**83.35**	**191**	P		**P**	**03 44 58.6**	**+1.1**
	comp=Z,10nm,0.8s,baz=22,slow=7.2,SNR=14								
MAW					LR		LR	04 17 13.3	
	comp=Z,40nm,18.4s,baz=58,slow=32								
MAW	**Mawson**		**83.35**	**191**	P		**P**	**03 44 57.7**	**+0.2**
IMAR	**Indian Mountai**		**87.13**	**22**	P		**P**	**03 45 15.8**	**-0.7**
EUNU	**Eureka**		**87.22**	**0**	P		**P**	**03 45 16.9**	**+0.1**
EUNU					IAmb		IAmb	03 45 18.4	
	comp=Z,12nm,0.8s								
ESDC	**Sonseca Array**		**87.82**	**310**	P		**P**	**03 45 20.8**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=50,slow=4.4,SNR=9.7								
ESDC					pP		**pP**	**03 45 54.8**	**+0.4**
	comp=Z,2.9nm,1.1s,baz=62,slow=4.0,SNR=4.1								
ESDC	**Sonseca Array**		**87.82**	**310**	P		**P**	**03 45 20.2**	**-0.3**
BORG	**Borgarnes**		**88.75**	**337**	LR		LR	04 28 24.9	
	comp=Z,51nm,18.7s,baz=94,slow=38								
BPAW	**Bear Paw Mtn.**		**89.02**	**23**	P		**P**	**03 45 26.0**	**+0.4**
BPAW					IAmb		IAmb	03 45 27.3	
	comp=Z,18nm,1.4s								
TOA0	**Torodi Ar. Sit**		**89.21**	**283**	P		**P**	**03 45 27.0**	**-0.4**
TOA0					IAmb		IAmb	03 45 29.1	
	comp=Z,26nm,1.5s								
TORD	**Torodi Ar. Bea**		**89.21**	**283**	P		**P**	**03 45 27.8**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=84,slow=4.4,SNR=66								
TORD					pP		**pP**	**03 46 01.8**	**+0.4**
	comp=Z,4.3nm,1.0s,baz=69,slow=8.1,SNR=6.8								
TORD					PP		**PP**	**03 48 59.1**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=46,slow=6.4,SNR=5.1								
TORD	**Torodi Ar. Bea**		**89.21**	**283**	P		**P**	**03 45 27.2**	**-0.2**
SUMG	**Summit**		**89.24**	**347**	P		**P**	**03 45 26.9**	**+0.1**
SUMG					IAmb		IAmb	03 45 28.6	
	comp=Z,18nm,1.2s								
SUMG	**Summit**		**89.24**	**347**	*i* P		**P**	**03 45 27.0**	**+0.1**
	comp=Z,62nm,1.3s								
SUMG					*i*			03 45 59.5	
SUMG	**Summit**		**89.24**	**347**	*i* P		**P**	**03 45 27.0**	**+0.1**
SUMG					IAmb		IAmb	03 45 28.3	
	comp=Z,62nm,1.3s								
SUMG					*i*			03 45 59.6	
BMAR	**Burnt Mountain**		**89.58**	**19**	P		**P**	**03 45 30.0**	**+1.9**
SYO	**Syowa Base**		**90.08**	**197**	ǁ *i* P		**P**	**03 45 30.4**	**+0.2**
SYO	**Syowa Base**		**90.08**	**197**	ǁ *i* PcP		**PcP**	**03 45 31.4**	**+0.1**
SYO	**Syowa Base**		**90.08**	**197**	ǁ *e*pP		pP	03 46 06.0	+1.9
ILAR	**Eielson Array**		**90.23**	**22**	P		**P**	**03 45 30.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=279,slow=5.0,SNR=5.3								
ILAR					PKKPbc		**PKKPbc**	**04 03 00.1**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=136,slow=1.9,SNR=7.2								
ICESG	**Greenland Ices**		**91.97**	**345**	*i* P		**P**	**03 45 39.6**	**0.0**
ICESG					IAmb		IAmb	03 45 41.5	
	comp=Z,11nm,0.9s								
INK	**Inuvik**		**92.28**	**16**	P		**P**	**03 45 41.1**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=331,slow=4.8,SNR=2.9								
INK	**Inuvik**		**92.28**	**16**	IAmb		IAmb	03 46 24.4	
	comp=Z,21nm,1.4s								
KOWA	**Kowa**		**94.29**	**286**	P		**P**	**03 45 50.9**	**0.0**
DBIC	**Dimbokro**		**96.99**	**278**	P		**P**	**03 46 03.9**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=69,slow=6.0,SNR=4.9								
VNDA	**Vanda**		**97.85**	**168**	P		Pdif	03 46 05.7	0.0
	comp=Z,0.3nm,0.4s,baz=307,slow=8.5,SNR=5.8								
PDAR	**Pinedale Array**		**120.60**	**20**	PKP		**PKPdf**	**03 51 22.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=107,slow=0.9,SNR=16								
PDAR					SKP			03 54 45.0	
	comp=Z,2.4nm,0.9s,baz=48,slow=2.2,SNR=12								
PDAR					PKKPbc		**PKKPbc**	**04 01 25.6**	**-4.0**
	comp=Z,0.4nm,0.6s,baz=124,slow=5.2,SNR=5.2								
PDAR	**Pinedale Array**		**120.60**	**20**	PKPdf		**PKPdf**	**03 51 21.9**	**-0.5**
NVAR	**Mina Array Bea**		**120.74**	**29**	PKP		**PKiKP**	**03 51 23.6**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=314,slow=2.3,SNR=21								
NVAR					SKP			03 54 47.1	
	comp=Z,1.4nm,0.8s,baz=305,slow=0.8,SNR=6.8								
NVAR	**Mina Array Bea**		**120.74**	**29**	PKPdf		**PKiKP**	**03 51 23.9**	**+1.0**
TXAR	**Lajitas Array**		**134.75**	**22**	PKP		**PKPdf**	**03 51 50.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=215,slow=0.7,SNR=29								
TXAR					SKPbc		**SKPbc**	**03 55 07.7**	**+0.2**
	comp=Z,7.0nm,0.9s,baz=295,slow=0.7,SNR=30								
VAS01	**Vassouras-RJ**		**138.38**	**251**	*e*P		**PKPdf**	**03 51 57.0**	**+0.7**
SMTB	**Santa Maria do**		**141.98**	**272**	*e*P		**PKPdf**	**03 52 03.5**	**+0.4**
BDFB	**Brasilia**		**143.00**	**261**	PKP		PKPbc	03 52 02.7	+0.5
	comp=Z,2.2nm,0.4s,baz=133,slow=7.4,SNR=5.2								
BDFB					SKPbc		**SKPbc**	**03 55 31.0**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=324,slow=2.1,SNR=4.3								
PEXB	**Peixe**		**143.09**	**267**	*e*P		**PKPdf**	**03 52 06.2**	**+1.2**
IPMB	**Ipameri, GO**		**143.16**	**257**	*e*P		**PKPdf**	**03 52 05.5**	**+0.4**
BB19B	**Bebedouro**		**143.21**	**252**	*e*P		**PKPdf**	**03 52 05.4**	**+0.3**
CNLB	**Canela**		**143.44**	**238**	*e*P		**PKPdf**	**03 52 06.3**	**+0.9**
PRPB	**Parauapebas**		**143.62**	**277**	*e*P		**PKPdf**	**03 52 06.6**	**+0.6**
OBIP	**Obispado Ponce**		**143.74**	**328**	PKPdf		PKPbc	03 52 03.9	0.0
FRTB	**Fartura**		**143.83**	**248**	*e*P		**PKPdf**	**03 52 06.5**	**+0.4**
MCPB	**Macapa, AP**		**144.02**	**288**	*e*P		**PKPdf**	**03 52 06.3**	**-0.5**
CRPR	**Cabo Rojo, PR**		**144.03**	**328**	PKPdf		PKPbc	03 52 05.0	+0.1
SVB	**Belmont**		**144.19**	**316**	PKPdf		**PKPab**	**03 52 04.7**	**-0.2**
PLTB	**Pedras Altas**		**144.73**	**232**	*e*P		PKPbc	03 52 06.8	+0.1
ITRB	**Iturama**		**145.06**	**254**	*e*P		**PKPbc**	**03 52 07.4**	**-0.7**
SDDR	**Presa de Saban**		**145.13**	**335**	PKPbc		**PKPdf**	**03 52 09.5**	**+0.9**
ITAB	**Concordia**		**145.16**	**241**	*e*P		**PKPbc**	**03 52 07.5**	**-0.6**
PCMB	**Pacaembu**		**145.66**	**251**	*e*P		**PKPdf**	**03 52 09.4**	**+0.1**
PTGB	**Pitanga**		**145.78**	**245**	*e*P		**PKPbc**	**03 52 10.5**	**+0.3**
SNDB	**Serra Nova Dou**		**146.00**	**265**	*e*P		**PKPbc**	**03 52 11.6**	**-0.2**
LGNH	**Logne**		**146.09**	**337**	PKPbc		**PKPab**	**03 52 11.5**	**-0.4**
ARAG	**Araguaiana, MT**		**146.66**	**261**	*e*P		**PKPbc**	**03 52 13.3**	**+0.3**
TRCB	**Terra Rica**		**146.71**	**248**	*e*P		**PKPbc**	**03 52 12.1**	**-0.9**
CBCY	**The Bluff, Cay**		**146.99**	**349**	PKPbc		**PKPbc**	**03 52 13.1**	**-0.7**
TEIG	**Tepich**		**147.04**	**4**	PKPbc		**PKPbc**	**03 52 13.6**	**-0.2**
TLIG	**Tlapa**		**147.35**	**22**	PKPbc		**PKPab**	**03 52 16.5**	**-0.6**
FSCY	**Frank Sound, G**		**147.65**	**351**	PKPbc		**PKPbc**	**03 52 14.4**	**-1.1**
LL01	**San Ignacio de**		**148.29**	**200**	PKPbc		**PKPbc**	**03 52 16.3**	**-0.3**
ITTB	**Itaituba**		**148.83**	**283**	*e*P		**PKPbc**	**03 52 17.3**	**-1.5**
PLCA	**Paso Flores**		**149.07**	**203**	PKPbc		**PKPbc**	**03 52 19.2**	**+0.5**
	comp=Z,16nm,0.8s,baz=150,slow=2.3,SNR=37								
PLCA	**Paso Flores**		**149.07**	**203**	PKPbc		**PKPbc**	**03 52 19.0**	**+0.2**
PLCA	**Paso Flores**		**149.07**	**203**	*e*P		**PKPdf**	**03 52 13.8**	**-0.7**
NPGB	**Novo Progresso**		**149.18**	**278**	*e*P		**PKPdf**	**03 52 15.8**	**+0.5**
CPUP	**Villa Florida**		**149.85**	**239**	PKPbc		**PKPbc**	**03 52 20.9**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=82,slow=1.8,SNR=9.4								
CPUP	**Villa Florida**		**149.85**	**239**	PKPbc		**PKPbc**	**03 52 20.5**	**-0.5**
CPUP	**Villa Florida**		**149.85**	**239**	*e*P		**PKPdf**	**03 52 17.4**	**+1.3**
CLDB	**Colider**		**150.27**	**271**	*e*P		**PKPdf**	**03 52 17.6**	**+0.5**
MACA	**Manacapuru-AM**		**153.06**	**289**	*e*P		**PKPdf**	**03 52 22.8**	**+1.5**
PTLB	**Pontes e Lacer**		**153.72**	**261**	*e*P		**PKPdf**	**03 52 24.5**	**+2.3**
VILB	**Vilhena**		**154.74**	**267**	*e*P		**PKPdf**	**03 52 24.8**	**+1.1**
LVC	**Limon Verde**		**160.98**	**237**	*e*P		**PKPdf**	**03 52 32.1**	**+0.5**
LPAZ	**La Paz**		**162.27**	**257**	PKP		**PKPdf**	**03 52 33.5**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=32,slow=6.6,SNR=10.0								
LPAZ					PKPab		**PKPab**	**03 53 20.6**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=119,slow=3.0,SNR=6.2								
LPAZ	**La Paz**		**162.27**	**257**	*e*P		**PKPdf**	**03 52 34.2**	**+0.9**
OTAV	**Otavalo**		**164.91**	**329**	*e*P		**PKPdf**	**03 52 36.6**	**+0.9**

UPA ***12*** *04:03:20.3±1.9,7°.54N×81°.42W,h4km±5km,MW4.3*
ISC 12 04:03:19.4±1.2,7°.51N±0°.05×81°.48W±0°.02,h15km±9km, n45,σ1°21/69,1C-1D,Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.35**	**44**	ǁ *i* P		**Pb**	**04 03 27.3**	**-0.1**
GMAL				*e*S		**Sb**	**04 03 33.3**	**+0.5**
MARI3	**Mariato, Verag**	**0.51**	**74**	*e*P		**Pb**	**04 03 30.2**	**+0.1**
MARI3				*e*S		**Sb**	**04 03 38.2**	**+0.9**
PVID3	**Puerto Vidal,**	**0.55**	**347**	*e*P		**Pb**	**04 03 31.0**	**+0.2**
PONU3	**Ponuga, Veragu**	**0.62**	**53**	*e*P		**Pb**	**04 03 32.1**	**+0.1**
PONU3				*e*S		**Sb**	**04 03 41.4**	**+0.8**
CACAO	**El Cacao, Vera**	**0.64**	**105**	*e*P		**Pg**	**04 03 31.3**	**-0.6**
CACAO				*e*S		**Sb**	**04 03 40.8**	**-0.2**
STIA3	**Santiago, Vera**	**0.77**	**41**	*e*P		**Pb**	**04 03 34.5**	**-0.1**
STIA3				*e*S		**Sb**	**04 03 45.7**	**+0.8**
CNAZ3	**Canazas, Verag**	**0.88**	**18**	*e*P		**Pg**	**04 03 35.7**	**-0.7**
CNAZ3				*e*S		**Sb**	**04 03 48.3**	**+0.4**
SFRA3	**San Francisco,**	**0.89**	**34**	*e*P		**Pb**	**04 03 36.5**	**-0.1**
SFRA3				*e*S		**Sb**	**04 03 48.6**	**+0.3**
CALO3	**Calobre, Verag**	**1.02**	**38**	*e*P		**Pb**	**04 03 38.9**	**0.0**
TOSI3	**Tonosi**	**1.04**	**96**	*e*P		**Pb**	**04 03 39.3**	**+0.2**
TOSI3				*e*S		**Sn**	**04 03 53.4**	**-0.3**
CRIS3	**El Cristo, Coc**	**1.13**	**49**	*e*P		**Pb**	**04 03 40.4**	**-0.3**
CRIS3				*e*S		**Sn**	**04 03 56.6**	**+0.6**
CHIT3	**Chitre**	**1.14**	**67**	*e*P		**Pn**	**04 03 41.0**	**+0.1**
CHIT3				*e*S		**Sn**	**04 03 56.1**	**-0.2**
AZU	**Azuero**	**1.23**	**77**	*e*P		**Pg**	**04 03 43.1**	**0.0**
AZU	**Azuero**	**1.23**	**77**	*e*P		**Pn**	**04 03 41.6**	**-0.5**
AZU				*e*S		**Sn**	**04 03 59.3**	**+0.9**
PEDE3	**Pedregal, Chir**	**1.27**	**313**	*e*P		**Pn**	**04 03 40.6**	**-2.1**
GUAL3	**Gualaca, Chiri**	**1.30**	**321**	*e*P		**Pb**	**04 03 43.9**	**+0.3**
GUAL3				*e*S		**Sg**	**04 04 05.1**	**+3.7**
ACHO3	**Achotines, Los**	**1.30**	**94**	*e*P		**Pn**	**04 03 42.7**	**-0.4**
PCRI3	**Pocri, Los San**	**1.36**	**84**	*e*P		**Pn**	**04 03 43.6**	**-0.3**
PCRI3				*e*S		**Sg**	**04 04 03.9**	**+0.6**
BAGA3	**Bagala, Chiriq**	**1.41**	**313**	*e*P		**Pg**	**04 03 46.1**	**-0.4**
PSOM3	**Paja de Sombre**	**1.43**	**325**	*e*P		**Pn**	**04 03 42.8**	**-2.2**
PEDA3	**Pedasi**	**1.44**	**89**	*e*P		**Pg**	**04 03 48.0**	**+0.8**
PNME	**Penonome**	**1.50**	**50**	*e*P		**Pn**	**04 03 44.7**	**-1.1**
PNME	**Penonome**	**1.50**	**50**	*e*P		**Pn**	**04 03 46.3**	**+0.5**
PNME				*e*S		**Sg**	**04 04 06.5**	**-1.2**
PTAR3	**Potrerillos Ar**	**1.55**	**319**	*e*P		**Pg**	**04 03 48.9**	**-0.2**
CHGR2	**Aguacate**	**1.56**	**335**	*e*P		**Pb**	**04 03 48.1**	**0.0**
CHGR2				*e*S		**Sg**	**04 04 09.9**	**0.0**
BCO2	**Palmira**	**1.59**	**319**	*e*P		**Pn**	**04 03 47.8**	**+0.6**
BCO2				*e*S		**Sb**	**04 04 08.8**	**+0.3**
BC3P	**Paso Ancho**	**1.71**	**319**	*e*P		**Pb**	**04 03 50.6**	**-0.2**
BC3P				*e*S		**Sg**	**04 04 14.6**	**0.0**
BRU2	**Volcan**	**1.75**	**317**	*e*P		**Pb**	**04 03 50.8**	**-0.6**
BRU2				*e*S		**Sg**	**04 04 17.8**	**+1.9**
PTJ1	**Puerto Jimnez**	**2.07**	**300**	*e*S		**Sb**	**04 04 23.6**	**+1.3**
CHOR3	**La Chorrera**	**2.19**	**51**	*e*P		**Pb**	**04 03 58.7**	**-0.1**
CHOR3				⇑ *e*S		**Sn**	**04 04 23.9**	**+1.7**
ARRA3	**Arraijan, Pana**	**2.31**	**51**	*e*P		**Pg**	**04 04 02.4**	**-1.4**
ARRA3				*e*S		**Sb**	**04 04 30.4**	**+1.1**
BCIP	**Isla Barro Col**	**2.31**	**45**	*e*P		**Pb**	**04 03 59.3**	**-1.6**
BCIP	**Isla Barro Col**	**2.31**	**45**	*e*P		**Pb**	**04 03 59.9**	**-1.0**
BCIP				*e*S		**Sb**	**04 04 27.4**	**-1.9**
RIOS	**Rincon, Osa**	**2.33**	**301**	*e*P		**Pb**	**04 04 00.7**	**-0.6**
FLAM	**Flamenco Islan**	**2.38**	**54**	*e*P		**Pb**	**04 04 01.3**	**-0.6**
FLAM				*e*S		**Sb**	**04 04 31.8**	**+0.7**
UPA	**Univ. de Panam**	**2.42**	**53**	*e*P		**Pn**	**04 03 57.6**	**-0.8**
UPA	**Univ. de Panam**	**2.42**	**53**	*e*P		**Pn**	**04 04 00.5**	**+2.1**
UPA				*e*S		**Sb**	**04 04 32.0**	**-0.3**
FRIJ	**El Hiral**	**2.43**	**45**	*e*P		**Pb**	**04 04 01.6**	**-1.3**
DRK0	**Durika**	**2.46**	**315**	*e*P		**Pb**	**04 04 01.9**	**-1.7**
DRK0				*e*S		**Sb**	**04 04 33.2**	**-0.7**
UPD2	**Meteti**	**3.58**	**73**	*e*P		**Pb**	**04 04 21.9**	**-0.7**
UPD2	**Meteti**	**3.58**	**73**	*e*P		**Pn**	**04 04 18.1**	**+3.6**
UPD2				*e*S		**Sb**	**04 05 02.2**	**-3.7**
CAP2	**Capurgana**	**4.23**	**74**	*e*P		**Pb**	**04 04 32.0**	**-1.7**
CAP2				*e*S		**Sb**	**04 05 24.0**	**-0.7**
CAPC	**Capurgana**	**4.24**	**74**	*e*P		**Pb**	**04 04 32.6**	**-1.1**
MOTC	**Monteria, Cord**	**5.89**	**77**	*e*P		Pn	04 04 53.3	+7.0
MONA	**Monteria**	**5.90**	**77**	*e*P		Pn	04 04 51.5	+5.0

NEIC ***12*** *04:30:40.2±2.1,5°.36S±0°.07×152°.09E±0°.10,h54km±6km, mb4.5/42,Error ellipse: s-maj=15.2km s-min=8.7km az=117.0*
DJA ***12*** *04:30:40.3±0.6,5°.S±7°.×15°.2E±1°.0,h75km±9km,M4.8/8, mb4.3/8,mB5.0/3,MLv5.0/2,Mw(mB)4.3/3*
IDC ***12*** *04:30:40.3±1.3,5°.43S×152°.09E,h58km±10km,mb3.9/14, mb1 4.2/16,mb1mx4.0/34,mbtmp4.3/16,MS3.9/14, Ms1 3.9/14,ms1mx3.8/27,Error ellipse: s-maj=18.8km s-min=9.0km az=115.0*
ISC 12 04:30:39.2±0.5,5°.40S±0°.05×152°.15E±0°.08,h45km,n73, σ1§15/67,mb4.4/24,MS3.9/14,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.10**	**354**	P		**Pn**	**04 30 58.6**	**+0.4**
	1μm,0.3s,baz=171,slow=2.5,SNR=764							
KRVT				S		**Sn**	**04 31 14.5**	**+2.3**
	2μm,0.3s,baz=176,slow=22,SNR=7.9							
RABL	**Rabaul**	**1.21**	**1**			**Pn**	**04 30 59.6**	**0.0**
PMG	**Port Moresby**	**6.35**	**231**	P		**Pn**	**04 32 11.2**	**+0.9**
	10nm,0.3s,baz=40,slow=7.7,SNR=15							
PMG				S		**Sn**	**04 33 23.3**	**+1.8**
	90nm,0.3s,baz=124,slow=17,SNR=10.0							
PMG	**Port Moresby**	**6.35**	**231**	Pn		**Pn**	**04 32 11.6**	**+1.4**
HNR	**Honiara**	**8.71**	**118**	LR		LR	04 35 37.4	
	comp=Z,654nm,21.3s,baz=246,slow=34							
CTA	**Charters Tower**	**15.68**	**201**	P		**P**	**04 34 19.1**	**-1.5**
	0.2nm,0.3s,baz=34,slow=13,SNR=6.0							
CTAO	**Charters Tower**	**15.68**	**201**	Pn		**Pn**	**04 34 18.5**	**+1.2**
SANVU	**Saraoutou**	**17.84**	**125**	P		**Pn**	**04 34 45.0**	**+0.7**
EIDS	**Eidsvold**	**19.88**	**183**	P		**P**	**04 35 07.8**	**+0.9**
EIDS				IAmb		IAmb	04 35 10.1	
	comp=Z,29nm,1.4s							
SIJI	**Sorong**	**21.32**	**281**	P		**P**	**04 35 23.2**	**+0.6**
	comp=Z,5.0nm,0.3s,baz=43,slow=15,SNR=4.0							
DZM	**Mont Dzumac**	**21.59**	**141**	*e*S		**S**	**04 39 23.2**	**+0.8**
	comp=Z,348nm,23.8s							
DZM				eLR		LR	04 40 43.7	
	comp=Z,1μm,27.2s							
DZM	**Mont Dzumac**	**21.59**	**141**	P		**P**	**04 35 25.5**	**+0.1**
	comp=Z,6.5nm,0.9s,baz=313,slow=19,SNR=2.8							
DZM	**Mont Dzumac**	**21.59**	**141**	IAmb		IAmb	04 35 25.9	
	comp=Z,23nm,1.3s							
MTN	**Manton Dam**	**22.01**	**249**	P		**P**	**04 35 30.6**	**+0.7**
WB0	**Warramunga Arr**	**22.41**	**229**	P		**P**	**04 35 33.5**	**-0.8**
WB0				IAmb		IAmb	04 36 00.0	
	comp=Z,16nm,1.0s							
WR0	**Warramunga Arr**	**22.42**	**228**	P		**P**	**04 35 35.1**	**+0.8**
WR0				IAmb		IAmb	04 35 42.9	
	comp=Z,31nm,1.2s							
WRAB	**Tennant Creek**	**22.55**	**229**	P		**P**	**04 35 37.1**	**+1.5**
WRAB				IAmb		IAmb	04 35 43.9	
	comp=Z,35nm,1.3s							
WB2	**Warramunga Arr**	**22.55**	**229**	P		**P**	**04 35 35.1**	**-0.6**
WB2				IAmb		IAmb	04 35 44.1	
	comp=Z,25nm,1.2s							
WRA	**Warramunga Arr**	**22.56**	**229**	P		**P**	**04 35 34.9**	**-0.9**
	comp=Z,5.2nm,0.5s,baz=54,slow=10.0,SNR=62							
WRA				S		**S**	**04 39 37.5**	**-2.9**
	comp=Z,3.6nm,1.2s,baz=55,slow=19,SNR=7.2							
WRA				LR		LR	04 44 51.0	
	comp=Z,315nm,19.5s,baz=60,slow=38							
KNRA	**Kununurra**	**25.12**	**244**	P		**P**	**04 36 00.3**	**+0.1**
AS31	**Alice Springs**	**25.27**	**222**	P		**P**	**04 36 02.5**	**+1.0**
ASAR	**Alice Springs**	**25.27**	**222**	P		**P**	**04 36 01.0**	**-0.5**
	comp=Z,6.6nm,0.6s,baz=58,slow=9.4,SNR=48							
ASAR				LR		LR	04 47 34.4	
	comp=Z,284nm,18.9s,baz=54,slow=40							
ASAR	**Alice Springs**	**25.27**	**222**	P		**P**	**04 36 00.7**	**-0.8**
SOEI	**Soe**	**27.96**	**259**	P		**P**	**04 36 27.6**	**+1.6**
STKA	**Stephens Creek**	**28.13**	**199**	P		**P**	**04 36 25.9**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=31,slow=7.9,SNR=4.4							
STKA				LR		LR	04 47 56.4	
	comp=Z,297nm,18.9s,baz=7.7,slow=37							
FITZ	**Fitzroy Crossi**	**28.80**	**242**	P		**P**	**04 36 32.8**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=68,slow=6.8,SNR=26							
FITZ	**Fitzroy Crossi**	**28.80**	**242**	P		**P**	**04 36 32.4**	**-0.8**
FITZ				IAmb		IAmb	04 36 48.9	
	comp=Z,15nm,1.1s							
MJAR	**Matsushiro Arr**	**43.72**	**344**	LR		LR	04 54 55.8	
	comp=Z,108nm,21.4s,baz=210,slow=33							
KSRS	**Korea Array**	**48.25**	**334**	LR		LR	04 58 17.9	
	comp=Z,100nm,19.4s,baz=178,slow=34							
NJ2	**Nanjing**	**48.91**	**322**	*e*P		**P**	**04 39 21.2**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.61**	**342**	LR		LR	05 02 26.3	
	comp=Z,48nm,18.1s,baz=199,slow=36							
KMI	**Kunming**	**56.79**	**305**	ǁ P		**P**	**04 40 20.9**	**+1.4**
KMI				pmax		pmax		
	comp=Z,12nm,0.6s							
CMAR	**Chiang Mai Arr**	**57.55**	**296**	P		**P**	**04 40 24.4**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=116,slow=5.7,SNR=9.0							
CMAR	**Chiang Mai Arr**	**57.55**	**296**	P		**P**	**04 40 23.6**	**-1.2**
CHTO	**Chiang Mai**	**57.66**	**296**	P		**P**	**04 40 24.4**	**-1.1**
PPT	**Papeete**	**58.17**	**107**	LR		LR	05 03 27.4	
	comp=Z,36nm,18.2s,baz=260,slow=34							
PETK	**Petropavlovsk-**	**58.48**	**4**	LR		LR	05 01 10.8	
	comp=Z,104nm,21.7s,baz=201,slow=31							
HHC	**Hu-ho-hao-te**	**59.16**	**325**	*e*P		**P**	**04 40 37.2**	**+1.5**
HHC				pmax		pmax		
	comp=Z,12nm,0.9s							
HHC				pmax		pmax		
	comp=Z,190nm,6.4s							
LZH	**Lanzhou**	**61.21**	**316**	*e*P		**P**	**04 40 50.9**	**+1.0**
LZH				pP		pP	04 41 00.2	-2.7
LZH				sP		sP	04 41 04.4	-3.8
LZH				pmax		pmax		
	comp=Z,16nm,1.1s							
SHL	**Shillong**	**66.05**	**301**	P		**P**	**04 41 21.7**	**-0.4**
ULN	**Ulaanbaatar**	**66.17**	**329**	P		**P**	**04 41 23.2**	**+0.9**
ULN				IAmb		IAmb	04 41 37.2	
	comp=Z,2.5nm,0.6s							
SONM	**Songino Array**	**66.49**	**328**	P		**P**	**04 41 25.0**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=144,slow=7.5,SNR=8.1							
SONM				LR		LR	05 09 28.0	
	comp=Z,109nm,20.3s,baz=157,slow=35							
SONM	**Songino Array**	**66.49**	**328**	P		**P**	**04 41 24.0**	**-0.4**
VNDA	**Vanda**	**72.25**	**178**	P		**P**	**04 41 58.5**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=335,slow=5.5,SNR=5.9							
VNDA				LR		LR	05 09 25.1	
	comp=Z,48nm,19.8s,baz=340,slow=32							
VNDA	**Vanda**	**72.25**	**178**	P		**P**	**04 41 58.9**	**-0.4**
VNDA				IAmb		IAmb	04 42 16.1	
	comp=Z,5.3nm,1.4s							
WMQ	**Urumqi**	**75.74**	**318**	*e*P		**P**	**04 42 22.1**	**+1.7**
TTA	**Tatalina**	**78.57**	**22**	P		**P**	**04 42 36.1**	**+0.2**
MKAR	**Makanchi Array**	**80.35**	**319**	P		**P**	**04 42 44.1**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=113,slow=5.8,SNR=4.7							
MKAR				LR		LR	05 16 37.8	
	comp=Z,90nm,21.4s,baz=84,slow=34					

EHY	**Hungye**	**1.05**	**239**	*i*	P	**Pn**	**04 36 16.9**	**-0.4**
	baz=248							
EHY					S	**Sn**	**04 36 30.6**	**-0.5**
	baz=248							
NSK	**Sanguang**	**1.06**	**306**	*i*	P	**Pn**	**04 36 17.6**	**+0.1**
	baz=291							
NSK					S	**Sn**	**04 36 31.4**	**0.0**
	baz=291							
TDCB	**Techi**	**1.06**	**281**		P	**Pn**	**04 36 17.9**	**+0.3**
	baz=266							
VWDT	**VWDT**	**1.10**	**255**		P	**Pn**	**04 36 18.3**	**+0.3**
	baz=240							
VWDT					S	**Sn**	**04 36 32.6**	**+0.2**
	baz=240							
NWF	**Wu-fen Shan**	**1.12**	**335**	*i*	P	**Pn**	**04 36 18.5**	**+0.2**
	baz=348							
NWF				*i*	S	**Sn**	**04 36 32.3**	**-0.6**
	baz=348							
WFSB	**Wu-fen Shan**	**1.12**	**335**		P	**Pn**	**04 36 18.4**	**+0.1**
	baz=347							
WFSB					S	**Sn**	**04 36 32.5**	**-0.3**
	baz=347							
YULB	**Yu-li**	**1.13**	**235**		P	**Pn**	**04 36 18.1**	**-0.3**
	baz=246							
YULB					S	**Sn**	**04 36 32.4**	**-0.7**
	baz=246							
EYUL	**Yuli**	**1.14**	**232**		P	**Pn**	**04 36 18.8**	**+0.3**
	baz=245							
EYUL					S	**Sb**	**04 36 34.0**	**+0.1**
	baz=245							
TWF1	**Yuli**	**1.16**	**233**	*i*	P	**Pn**	**04 36 18.7**	**-0.1**
	baz=245							
TWF1				*i*	S	**Sn**	**04 36 33.9**	**+0.2**
	baz=245							
TATO	**Taipei**	**1.18**	**321**		P	**Pn**	**04 36 19.6**	**+0.5**
	baz=318							
TATO					S	**Sb**	**04 36 35.1**	**+0.1**
	baz=318							
TAP	**Taipei**	**1.22**	**324**	*e*	P	**Pb**	**04 36 21.0**	**+0.2**
	baz=321							
TAP				*e*	S	**Sn**	**04 36 35.8**	**+0.6**
	baz=321							
WHP	**Taichung City**	**1.26**	**281**	*i*	P	**Pb**	**04 36 21.1**	**-0.3**
	baz=267							
WHP				*e*	S	**Sn**	**04 36 36.7**	**+0.4**
	baz=267							
SSLB	**Suanglung**	**1.26**	**258**		P	**Pn**	**04 36 20.6**	**+0.4**
	baz=255							
SSLB				*e*	S	**Sn**	**04 36 36.4**	**+0.1**
	baz=255							
YM01	**YM01**	**1.28**	**329**		P	**Pn**	**04 36 20.8**	**+0.4**
	baz=340							
YM01				*e*	S	**Sn**	**04 36 36.6**	**-0.1**
	baz=340							
CHKT	**Chengkung**	**1.28**	**222**		P	**Pn**	**04 36 20.0**	**-0.5**
	baz=210							
CHKT					S	**Sn**	**04 36 35.4**	**-1.4**
	baz=210							
YM10	**YM10**	**1.29**	**329**	*e*	P	**Pb**	**04 36 21.7**	**-0.3**
	baz=342							
YM11	**YM11**	**1.29**	**329**	*e*	P	**Pn**	**04 36 20.6**	**0.0**
	baz=341							
YM11				*e*	S	**Sn**	**04 36 36.5**	**-0.6**
	baz=341							
SMLT	**Sun Moon Lake**	**1.29**	**263**	*i*	P	**Pn**	**04 36 21.3**	**+0.6**
	baz=260							
SMLT					S	**Sn**	**04 36 37.4**	**+0.1**
	baz=260							
YM05	**YM05**	**1.29**	**329**		P	**Pn**	**04 36 21.4**	**+0.6**
	baz=342							
YM04	**YM04**	**1.30**	**328**		P	**Pn**	**04 36 20.9**	**+0.1**
	baz=339							
YM04				*e*	S	**Sn**	**04 36 37.2**	**0.0**
	baz=339							
YM08	**YM08**	**1.30**	**330**	*e*	P	**Pn**	**04 36 21.2**	**+0.4**
	baz=342							
LIOB	**Emei**	**1.31**	**297**	*i*	P	**Pb**	**04 36 22.0**	**-0.4**
	baz=295							
TWS1	**Kuangyinshan**	**1.32**	**323**	*e*	P	**Pn**	**04 36 21.8**	**+0.8**
	baz=330							
TWS1					S	**Sb**	**04 36 39.3**	**+0.4**
	baz=330							
NSTT	**Nanjuang**	**1.32**	**296**	*i*	P	**Pb**	**04 36 22.3**	**-0.2**
	baz=293							
NSTT				*e*	S	**Sn**	**04 36 38.4**	**+0.7**
	baz=293							
YM03	**YM03**	**1.32**	**328**		P	**Pn**	**04 36 21.6**	**+0.5**
	baz=340							
TYC	**Yuchr**	**1.33**	**264**	*i*	P	**Pn**	**04 36 21.6**	**+0.5**
	baz=261							
TYC				*e*	S	**Sn**	**04 36 38.1**	**+0.1**
	baz=261							
IRIF	**Iriomote-Funau**	**1.33**	**78**		P	**Pb**	**04 36 22.9**	**+0.2**
NTST	**Danshui**	**1.35**	**325**	*e*	P	**Pn**	**04 36 20.8**	**-0.6**
	baz=337							
NTST				*e*	S	**Sn**	**04 36 38.9**	**+0.4**
	baz=337							
NCUH	**Zhongli**	**1.37**	**312**	*e*	P	**Pn**	**04 36 22.0**	**+0.4**
	baz=309							
NCUH				*e*	S	**Sb**	**04 36 40.0**	**-0.3**
	baz=309							
WHYT	**Xinyi Township**	**1.37**	**255**		S	**Sb**	**04 36 40.7**	**+0.1**
	baz=242							
SBCB	**Hsinchu**	**1.41**	**302**	*e*	P	**Pb**	**04 36 23.5**	**-0.5**
	baz=299							
EDH	**Donghe**	**1.41**	**221**		P	**Pn**	**04 36 21.8**	**-0.5**
	baz=210							
EDH					S	**Sn**	**04 36 38.8**	**-1.2**
	baz=210							
TWQ1	**Liyutan**	**1.43**	**282**	*i*	P	**Pb**	**04 36 24.2**	**-0.1**
	baz=279							
TWQ1				*e*	S	**Sb**	**04 36 42.6**	**+0.5**
	baz=279							
NSY	**Sanyi**	**1.45**	**285**	*i*	P	**Pb**	**04 36 25.1**	**+0.3**
	baz=282							
NSY				*e*	S	**Sb**	**04 36 42.9**	**+0.1**
	baz=282							
ELDTW	**Lidau**	**1.46**	**234**		P	**Pn**	**04 36 23.9**	**+0.9**
	baz=221							
ELDTW					S	**Sn**	**04 36 40.4**	**-1.0**
	baz=221							
WJS	**Zhushan**	**1.46**	**261**	*i*	P	**Pb**	**04 36 24.6**	**-0.2**
	baz=259							
WJS					S	**Sb**	**04 36 44.4**	**+1.5**
	baz=259							
NMLH	**Miaoli**	**1.46**	**290**		P	**Pb**	**04 36 24.3**	**-0.6**
	baz=286							
NMLH					S	**Sb**	**04 36 43.5**	**+0.4**
	baz=286							
ALS	**Alishan**	**1.47**	**249**	*i*	P	**Pn**	**04 36 24.4**	**+1.0**
	baz=246							
ALS					S	**Sn**	**04 36 43.0**	**+1.0**
	baz=246							
TCU	**Taichung**	**1.49**	**274**	*e*	P	**Pb**	**04 36 24.7**	**-0.7**
	baz=271							
TCU				*e*	S	**Sb**	**04 36 44.2**	**+0.3**
	baz=271							
WNT	**Mingjian**	**1.49**	**264**	*i*	P	**Pb**	**04 36 24.7**	**-0.6**
	baz=261							
WNT				*i*	S	**Sb**	**04 36 44.2**	**+0.3**
	baz=261							
WDJ	**Dajia District**	**1.55**	**281**	*e*	P	**Pn**	**04 36 25.2**	**+1.1**
	baz=278							
WDJ				*e*	S	**Sb**	**04 36 44.8**	**-0.6**
	baz=278							
CHN5	**Tsauling**	**1.56**	**253**	*i*	P	**Pb**	**04 36 26.1**	**-0.4**
	baz=251							
CHN5				*i*	S	**Sb**	**04 36 46.1**	**+0.3**
	baz=251							
LONT	**Longtian**	**1.57**	**224**		P	**Pn**	**04 36 24.2**	**-0.2**
	baz=223							
LONT					S	**Sn**	**04 36 43.9**	**0.0**
	baz=223							
JKRS	**Kuro-shima**	**1.57**	**83**		P	**Pb**	**04 36 25.8**	**-0.9**
LDUT	**Ludao**	**1.57**	**209**	*e*	S	**Sn**	**04 36 42.5**	**-1.4**
	baz=209							
WCHH	**Zhanghua**	**1.59**	**271**	*e*	P	**Pb**	**04 36 26.5**	**-0.6**
	baz=268							
WCHH					S	**Sb**	**04 36 46.8**	**-0.1**
	baz=268							
WGK	**Gukeng**	**1.64**	**257**		P	**Pb**	**04 36 27.1**	**-0.7**
	baz=255							
WGK					S	**Sb**	**04 36 48.8**	**+0.8**
	baz=255							
WDLH	**Douliu**	**1.66**	**258**		P	**Pn**	**04 36 27.1**	**+1.5**
	baz=244							
WDLH				*i*	S	**Sb**	**04 36 48.9**	**+0.3**
	baz=244							
TWGBT	**Beinan**	**1.67**	**223**		P	**Pn**	**04 36 25.1**	**-0.7**
	baz=232							
TWGBT					S	**Sn**	**04 36 46.0**	**-0.3**
	baz=232							
TWG	**Pinlang**	**1.67**	**223**	*i*	P	**Pn**	**04 36 25.4**	**-0.4**
	baz=232							
TWG				*i*	S	**Sn**	**04 36 45.4**	**-0.9**
	baz=232							
STYT	**Tauyuan**	**1.67**	**238**	*i*	P	**Pb**	**04 36 27.7**	**-0.8**
	baz=237							
STYT				*i*	S	**Sn**	**04 36 47.9**	**+1.4**
	baz=237							
TPUB	**Ta-pu**	**1.71**	**244**		P	**Pb**	**04 36 28.3**	**-0.8**
	baz=243							
TPUB					S	**Sb**	**04 36 49.2**	**-0.9**
	baz=243							
JIJ	**Ishigaki jima**	**1.71**	**79**		P	**Pn**	**04 36 27.4**	**+1.1**
JIJ					S	**Sb**	**04 36 48.9**	**-1.2**
WTP	**Ta-pu**	**1.74**	**243**	*i*	P	**Pb**	**04 36 28.8**	**-0.9**
	baz=241							
WTP					S	**Sb**	**04 36 50.8**	**-0.4**
	baz=241							
RLNB	**Erlin**	**1.79**	**265**		P	**Pb**	**04 36 29.6**	**-0.8**
	baz=263							
RLNB				*e*	S	**Sb**	**04 36 51.6**	**-0.7**
	baz=263							
WTK	**Tuku**	**1.79**	**259**		P	**Pb**	**04 36 29.6**	**-0.8**
	baz=246							
WTK				*e*	S	**Sb**	**04 36 52.4**	**0.0**
	baz=246							
CHY	**Chiayi**	**1.81**	**253**		P	**Pn**	**04 36 29.2**	**+1.5**
	baz=251							
CHY					S	**Sb**	**04 36 53.2**	**+0.2**
	baz=251							
TWK	**Hsinying**	**1.84**	**245**	*i*	P	**Pb**	**04 36 30.4**	**-0.9**
	baz=244							
TWK				*i*	S	**Sb**	**04 36 53.7**	**-0.3**
	baz=244							
CHN1	**Nanshi**	**1.84**	**242**	*i*	P	**Pb**	**04 36 30.9**	**-0.5**
	baz=241							
CHN1					S	**Sb**	**04 36 53.7**	**-0.3**
	baz=241							
SGST	**Jiashian**	**1.85**	**239**		P	**Pb**	**04 36 30.5**	**-1.0**
	baz=238							
SGST				*i*	S	**Sb**	**04 36 54.0**	**-0.2**
	baz=238							
SLGT	**Liugui**	**1.85**	**236**	*i*	P	**Pn**	**04 36 30.2**	**+1.9**
	baz=225							
SLGT				*i*	S	**Sb**	**04 36 54.2**	**0.0**
	baz=225							
SNST	**Tainan City**	**1.85**	**244**	*i*	P	**Pb**	**04 36 31.0**	**-0.5**
	baz=242							
SNST				*i*	S	**Sb**	**04 36 54.3**	**+0.1**
	baz=242							
WTCT	**Ta-ch'eng**	**1.86**	**265**	*e*	S	**Sb**	**04 36 53.4**	**-1.1**
	baz=262							
ECL	**Taimali**	**1.91**	**221**	*i*	P	**Pn**	**04 36 28.9**	**-0.2**
	baz=230							
ECL					S	**Sn**	**04 36 51.5**	**-0.7**
	baz=230							
JISG	**Ishigakijimahi**	**1.91**	**73**		S	**Sb**	**04 36 55.1**	**-0.8**
WLGB	**Puzi**	**1.92**	**253**	*e*	S	**Sb**	**04 36 55.6**	**-0.6**
	baz=251							
WSF	**Szhu**	**1.95**	**258**		S	**Sb**	**04 36 57.1**	**+0.1**
	baz=271							
ICHU	**Yijhu**	**1.98**	**250**		P	**Pn**	**04 36 31.3**	**+1.2**
	baz=248							
ICHU					S	**Sb**	**04 36 56.6**	**-1.3**
	baz=248							
SSD	**Sandimen**	**2.01**	**230**	*e*	P	**Pn**	**04 36 32.5**	**+1.9**
	baz=223							
SSD				*e*	S	**Sn**	**04 36 56.9**	**+2.1**
	baz=223							
SCST	**Cishan**	**2.03**	**235**		P	**Pn**	**04 36 32.3**	**+1.5**
	baz=248							
SCST					S	**Sb**	**04 36 58.8**	**-0.5**
	baz=248							
TSMG	**Majia**	**2.03**	**229**		P	**Pn**	**04 36 32.8**	**+2.1**
	baz=222							
TSMG				*e*	S	**Sn**	**04 36 56.8**	**+1.5**
	baz=222							
CHN8	**Yiju**	**2.04**	**250**		S	**Sb**	**04 36 58.9**	**-0.8**
	baz=249							
MASBT	**Mashibuluo**	**2.10**	**227**		P	**Pn**	**04 36 33.0**	**+1.3**
	baz=222							
MASBT				*e*	S	**Sn**	**04 36 59.0**	**+2.0**
	baz=222							
LAY	**Lan-yu**	**2.12**	**199**	*e*	P	**Pn**	**04 36 32.5**	**+0.5**
	baz=208							
LAY				*e*	S	**Sn**	**04 36 55.2**	**-2.4**
	baz=208							
EAST	**Anshuo**	**2.13**	**219**	*e*	P	**Pn**	**04 36 32.8**	**+0.5**
	baz=219							
EAST				*e*	S	**Sn**	**04 36 57.0**	**-0.9**
	baz=219							
SCZT	**Fangliau**	**2.28**	**223**	*e*	P	**Pn**	**04 36 36.1**	**+1.9**
	baz=218							
SCZT				*e*	S	**Sn**	**04 37 02.6**	**+1.2**
	baz=218							
SLIU	**Shizi**	**2.29**	**217**		P	**Pn**	**04 36 35.3**	**+0.9**
	baz=218							
SLIU				*e*	S	**Sn**	**04 37 03.0**	**+1.3**
	baz=218							
TWK1	**Hengchun**	**2.51**	**214**	*e*	S	**Sn**	**04 37 08.3**	**+1.1**
	baz=214							
WDGT	**Dungji**	**2.55**	**252**	*e*	P	**Pn**	**04 36 38.4**	**+0.5**
	baz=240							
WDGT				*e*	S	**Sn**	**04 37 09.8**	**+1.7**
	baz=240							
PHUB	**P'eng-hu**	**2.56**	**258**		P	**Pn**	**04 36 39.0**	**+1.0**
	baz=271							
PHUB					S	**Sn**	**04 37 09.4**	**+1.1**
	baz=271							
PNG	**Penghu**	**2.56**	**260**	*e*	P	**Pn**	**04 36 39.2**	**+1.1**
	baz=257							
PNG					S	**Sn**	**04 37 09.7**	**+1.4**
	baz=257							
PTTC	**Pingtan**	**2.71**	**303**	*e*	S	**Sn**	**04 37 12.5**	**+0.3**
	baz=299							
LYJJ	**Jianjiangzhen**	**3.39**	**318**	*e*	P	**Pn**	**04 36 49.4**	**-0.1**
	baz=317							
KNM	**Kinmen**	**3.55**	**277**	*e*	S	**Sn**	**04 37 34.8**	**+2.1**
	baz=273							
KNMB	**Chin-men Tao**	**3.60**	**277**	*e*	P	**Pn**	**04 36 52.6**	**+0.3**
	baz=274							
KNMB				*e*	S	**Sn**	**04 37 33.6**	**-0.3**
	baz=274							
AXDP	**Jialang**	**4.04**	**283**	*e*	P	**Pn**	**04 36 58.5**	**+0.2**
	baz=268							
ZPLA	**Ao Xicun**	**4.17**	**269**		P	**Pn**	**04 37 00.5**	**+0.3**
	baz=267							
ZPLA				*e*	S	**Sn**	**04 37 47.2**	**-0.8**
	baz=267							

ROM 12 04:49:59.1±0.0, 43°.440N±0°.002×12°.520E±0°.003, h9km, ML1.2/10, 1C-2D, Error ellipse: s-maj=0.2km s-min=0.1km az=99.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.08**	**153**	⇓P		Pg	04 50 01.5	+0.1
ATFO				S		Sg	04 50 03.3	+0.2
ATFO				AML		AML		
	comp=E,136μm,0.3s							
ATFO				AML		AML		
	comp=N,164μm,1.5s							
ATFO				AML		AML		
	comp=N,165μm,1.5s							
ATPI	**Pietralunga -**	**0.09**	**277**	P		Pg	04 50 01.8	+0.3
ATPI				S		Sg	04 50 03.5	+0.4
ATPI				AML		AML		
	comp=E,152μm,1.5s							
ATPI				AML		AML		
	comp=E,152μm,1.5s							
ATPI				AML		AML		
	comp=N,134μm,0.5s							
PIEI	**Pieia**	**0.10**	**6**	P		Pg	04 50 02.0	+0.4
PIEI				S		Sg	04 50 04.2	+0.8
PIEI				AML		AML		
	comp=E,340μm,0.2s							
PIEI				AML		AML		
	comp=N,188μm,0.8s							
FRON	**Frontone**	**0.17**	**63**	P		Pg	04 50 03.3	+0.5
FRON				S		Sg	04 50 06.4	+1.2
NARO	**Abbazia di Nar**	**0.18**	**14**	P		Pg	04 50 03.4	+0.5
NARO				S		Sg	04 50 06.5	+1.1
NARO				AML		AML		
	comp=E,58μm,0.2s							
NARO				AML		AML		
	comp=N,38μm,0.9s							
MURB	**Monte Urbino**	**0.18**	**179**	⇑P		Pg	04 50 03.6	+0.8
MURB				S		Sg	04 50 06.8	+1.3
MURB				AML		AML		
	comp=E,182μm,0.3s							
MURB				AML		AML		
	comp=N,100μm,0.4s							
MURB				AML		AML		
	comp=E,181μm,0.3s							
MURB				AML		AML		
	comp=N,100μm,0.4s							
SSFR	**Montelago di S**	**0.19**	**91**	P		Pg	04 50 03.7	+0.6
SSFR				S		Sg	04 50 07.2	+1.4
SSFR				AML		AML		
	comp=E,151μm,1.0s							
SSFR				AML		AML		
	comp=N,176μm,0.7s							
BADI	**Badiali**	**0.21**	**289**	P		Pg	04 50 04.1	+0.6
BADI				S		Sg	04 50 08.0	+1.5
BADI				AML		AML		
	comp=E,182μm,0.2s							
BADI				AML		AML		
	comp=N,97μm,0.2s							
BADI				AML		AML		
	comp=N,97μm,0.2s							
PE3	**Peglio**	**0.26**	**356**	⇓P		Pb	04 50 05.3	-0.7
MPAG	**Monte Paganucc**	**0.26**	**43**	P		Pg	04 50 04.9	+0.6
MPAG				S		Sb	04 50 09.4	-1.2
ATCC	**AVT- Casa Cast**	**0.27**	**161**	P		Pg	04 50 05.3	+0.7
ATCC				S		Sb	04 50 10.5	-0.4
ATCC				AML		AML		
	comp=E,158μm,0.3s							
ATCC				AML		AML		
	comp=N,108μm,0.2s							
PARC	**Parchiule**	**0.29**	**316**	P		Pg	04 50 05.5	+0.6
PARC				S		Sb	04 50 11.0	-0.6
PARC				AML		AML		
	comp=E,35μm,1.4s							
PARC				AML		AML		
	comp=N,36μm,0.3s							
ARVD	**Arcevia**	**0.31**	**79**	P		Pg	04 50 06.0	+0.6
FSSB	**Fossombrone**	**0.31**	**37**	P		Pg	04 50 06.2	+0.8
FSSB				S		Sb	04 50 11.6	-0.7
FSSB				AML		AML		
	comp=E,69μm,1.5s							
FSSB				AML		AML		
	comp=N,82μm,1.3s							
FSSB				AML		AML		
	comp=N,82μm,1.3s							

IDC ***12*** *04:50:52.5±1.1, 38°.54N×20°.23E, h0km, mb3.6/9, mb1 3.6/16, mb1mx3.5/52, mbtmp3.5/16, ML3.1/7, MS2.9/3, Ms1 2.9/3, ms1mx2.5/57, Error ellipse: s-maj=18.8km s-min=17.5km az=167.0*
THE ***12*** *04:50:53.1, 38°.43N×20°.41E, h0km, ML3.5/21, Error ellipse: s-maj=1.0km s-min=0.3km az=253.0*
ATH ***12*** *04:50:53.3, 38°.43N×20°.48E, h14km, ML3.5/27, Error ellipse: s-maj=1.1km s-min=0.5km az=270.0*
PDG ***12*** *04:50:56.3±0.7, 38°.57N×20°.25E, h28km±2km, ML3.8/13, Error ellipse: s-maj=1.4km s-min=1.6km az=0.0*
BEO ***12*** *04:51:04.3±1.4, 39°.30N×19°.43E, h2km±6km, ML3.3/4*
ISC 12 04:50:53.0±0.8, 38°.43N±0°.02×20°.41E±0°.02, h13km±5km, n181, σ1s71/259, mb3.5/9, 9C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VSK1	**VASILIKIADES**	**0.13**	**99**	P		**Pg**	**04 50 55.9**	**-0.5**
VSK1				S		**Sg**	**04 50 57.8**	**-0.9**
KEF5	**Kardakata, Kep**	**0.16**	**162**	P		**Pg**	**04 50 57.2**	**+0.3**
KEF5				S		**Sg**	**04 51 00.0**	**+0.6**
EVGI	**Lefkada island**	**0.27**	**46**	P		**Pg**	**04 50 58.6**	**-0.1**
EVGI	**Lefkada island**	**0.27**	**46**	P		**Pg**	**04 50 58.7**	**-0.1**
EVGI				S		**Sg**	**04 51 02.6**	**0.0**
VLS	**Valsamata**	**0.29**	**150**	P		**Pg**	**04 50 59.0**	**-0.1**
VLS				S		**Sg**	**04 51 03.7**	**+0.6**
	14μm,0.2s							
VLS	**Valsamata**	**0.29**	**150**	P		**Pg**	**04 50 59.0**	**-0.1**
VLS				S		**Sg**	**04 51 03.4**	**+0.3**
VLS				AML		AML	04 51 04.0	
	comp=E,27684μm,0.2s							
VLS				AML		AML	04 51 04.0	
	comp=N,28613μm,0.2s							
NYDR	**Nydri-Lefkada**	**0.36**	**39**	P		**Pg**	**04 51 00.1**	**-0.3**
NYDR				S		**Sg**	**04 51 05.6**	**+0.3**
	comp=N,12μm,0.3s							
NYDR	**Nydri-Lefkada**	**0.36**	**39**	P		**Pg**	**04 51 00.1**	**-0.3**
NYDR				S		**Sg**	**04 51 05.4**	**0.0**
MGNA	**Meganis**	**0.38**	**53**	P		**Pg**	**04 51 00.2**	**-0.4**
MGNA				S		**Sg**	**04 51 04.8**	**-0.9**
MGNA				AML		AML	04 51 06.2	
	comp=E,21446μm,0.1s							
MGNA				AML		AML	04 51 06.2	
	comp=N,33882μm,0.2s							
LKD2	**Lefkada island**	**0.41**	**29**	P		**Pg**	**04 51 01.1**	**-0.2**
LKD2				S		**Sg**	**04 51 06.9**	**+0.1**
	comp=N,8μm,0.3s							
LKD2	**Lefkada island**	**0.41**	**29**	P		**Pg**	**04 51 01.1**	**-0.2**
LKD2				S		**Sg**	**04 51 06.4**	**-0.4**
LKD2				AML		AML	04 51 07.8	
	comp=E,17704μm,0.9s							
LKD2				AML		AML	04 51 08.2	
	comp=N,19668μm,0.5s							
TSLK	**Tsoukalades, L**	**0.44**	**26**	P		**Pg**	**04 51 01.8**	**0.0**
TSLK				S		**Sb**	**04 51 08.6**	**-0.6**
	comp=N,13μm,0.8s							
TSLK	**Tsoukalades, L**	**0.44**	**26**	P		**Pg**	**04 51 01.8**	**0.0**
TSLK				S		**Sg**	**04 51 07.5**	**-0.2**
TSLK				AML		AML	04 51 10.7	
	comp=E,19283μm,0.4s							
TSLK				AML		AML	04 51 14.8	
	comp=N,23987μm,0.8s							
AST1	**Astakos**	**0.55**	**78**	P		**Pg**	**04 51 03.3**	**-0.5**
AST1				S		**Sb**	**04 51 11.7**	**-0.6**
VLMS	**Volimes, Zakyn**	**0.59**	**160**	P		**Pg**	**04 51 04.3**	**-0.2**
VLMS				S		**Sg**	**04 51 12.7**	**+0.4**
VLMS				AML		AML	04 51 14.1	
	comp=N,24172μm,0.8s							
VLMS				AML		AML	04 51 18.2	
	comp=E,15330μm,0.6s							
ZAK2	**Zakynthos**	**0.75**	**148**	P		**Pg**	**04 51 07.0**	**-0.6**
ZAK2				S		**Sb**	**04 51 18.1**	**0.0**
VTN	**Vitineika**	**0.80**	**130**	P		**Pg**	**04 51 08.1**	**-0.4**
VTN	**Vitineika**	**0.80**	**130**	P		**Pg**	**04 51 08.2**	**-0.3**
KRI1	**kERI**	**0.83**	**157**	P		**Pg**	**04 51 08.3**	**-0.9**
KRI1				S		**Sb**	**04 51 21.4**	**+0.9**
RLS	**Riolos of Patr**	**0.92**	**114**	P		**Pg**	**04 51 09.7**	**-1.1**
RLS				S		**Sb**	**04 51 23.4**	**+0.6**
	comp=E,2μm,0.6s							
RLS	**Riolos of Patr**	**0.92**	**114**	P		**Pg**	**04 51 09.6**	**-1.1**
RLS				S		**Sg**	**04 51 21.9**	**-0.7**
RLS				AML		AML	04 51 30.9	
	comp=N,2872μm,0.5s							
RLS				AML		AML	04 51 32.1	
	comp=E,3549μm,0.6s							
IGT	**Igoumenitsa**	**1.10**	**357**	P		**Pb**	**04 51 14.0**	**0.0**
IGT				S		**Sn**	**04 51 29.7**	**+0.3**
	comp=E,2μm,0.4s							
IGT	**Igoumenitsa**	**1.10**	**357**	*e*Pg		**Pg**	**04 51 17.3**	**+3.0**
IGT				*e*Sg		**Sn**	**04 51 29.1**	**-0.3**
IGT	**Igoumenitsa**	**1.10**	**357**	P		**Pb**	**04 51 13.9**	**0.0**
IGT				S		**Sg**	**04 51 28.8**	**+0.1**
IGT				AML		AML	04 51 34.5	
	comp=E,3638μm,0.3s							
IGT				AML		AML	04 51 35.5	
	comp=N,3190μm,0.3s							
DRO	**Drossia**	**1.13**	**114**	P		**Pb**	**04 51 13.8**	**-0.7**
DRO				S		**Sn**	**04 51 32.0**	**+1.9**
	comp=N,3μm,0.4s							
DRO	**Drossia**	**1.13**	**114**	P		**Pb**	**04 51 13.3**	**-1.2**
DRO				S		**Sb**	**04 51 28.5**	**-0.7**
DRO				AML		AML	04 51 35.8	
	comp=E,4656μm,0.5s							
DRO				AML		AML	04 51 36.2	
	comp=N,7917μm,0.3s							
EVR	**Evrytania**	**1.20**	**66**	P		**Pn**	**04 51 14.9**	**-0.8**
EVR				S		**Sn**	**04 51 33.5**	**+1.6**
	comp=N,1μm,1.0s							
EVR	**Evrytania**	**1.20**	**66

comp=E,2291μm,0.9s
EVR AML AML 04 51 42.0
comp=N,3009μm,0.6s
LAKA Lakka 1.25 98 P **Pn** **04 51 15.2 -1.0**
LAKA S **Sg** **04 51 34.1 +0.7**
JAN Janina 1.27 16 P **Pg** **04 51 17.7 +0.1**
JAN S **Sg** **04 51 36.1 +2.0**
comp=N,1μm,0.6s
JAN Janina 1.27 16 P **Pg** **04 51 17.5 -0.1**
JAN AML AML 04 51 40.3
comp=E,2661μm,0.4s
JAN AML AML 04 51 44.8
comp=N,2444μm,0.6s
TRIZ Trizonia 1.31 92 P **Pn** **04 51 16.3 -0.8**
TRIZ S **Sg** **04 51 35.4 0.0**
KALE Kalithea 1.36 91 P **Pn** **04 51 17.0 -0.9**
KALE S **Sg** **04 51 36.9 -0.1**
KALE AML AML 04 51 42.5
comp=E,3128μm,0.7s
KALE AML AML 04 51 43.1
comp=N,6067μm,0.7s
KASA Kassiopi 1.36 345 P **Pg** **04 51 19.5 +0.2**
KASA AML AML 04 51 42.2
comp=E,2320μm,0.4s
KASA AML AML 04 51 49.1
comp=N,2077μm,0.6s
KEK Kerkira 1.37 340 P **Pb** **04 51 18.5 0.0**
KEK S **Sg** **04 51 38.0 +0.9**
comp=N,810nm,0.6s
KEK Kerkira 1.37 340 P **Pg** **04 51 19.0 -0.3**
KEK S **Sg** **04 51 38.2 +1.1**
KEK AML AML 04 51 43.9
comp=E,1736μm,0.5s
KEK AML AML 04 51 44.4
comp=N,1477μm,0.7s
MAKR Makrakomi, Fth 1.47 66 P **Pb** **04 51 20.2 -0.1**
MAKR S **Sg** **04 51 41.1 +0.7**
comp=N,2μm,0.5s
MAKR Makrakomi, Fth 1.47 66 P **Pb** **04 51 19.8 -0.5**
MAKR AML AML 04 51 46.6
comp=E,1738μm,0.8s
MAKR AML AML 04 51 55.0
comp=N,2064μm,1.2s
SRN Sarande 1.48 348 P **Pb** **04 51 20.6 +0.1**
SRN S **Sg** **04 51 41.6 +0.8**
GUR Goura 1.60 107 P **Pn** **04 51 21.4 +0.2**
GUR S **Sg** **04 51 44.1 -0.6**
comp=N,2μm,0.4s
GUR Goura 1.60 107 P **Pn** **04 51 21.4 +0.2**
GUR S **Sg** **04 51 43.9 -0.8**
GUR AML AML 04 51 49.9
comp=N,3872μm,0.5s
GUR AML AML 04 51 58.3
comp=E,2930μm,0.6s
AGG Agios Georgios 1.62 68 P **Pb** **04 51 22.3 -0.5**
AGG S **Sg** **04 51 44.5 -0.6**
comp=E,972nm,0.6s
AGG Agios Georgios 1.62 68 P **Pb** **04 51 22.1 -0.7**
AGG S **Sg** **04 51 44.5 -0.6**
AGG AML AML 04 51 51.8
comp=E,1989μm,0.8s
AGG AML AML 04 51 51.8
comp=N,1825μm,0.5s
DSF Desfina 1.67 90 P **Pn** **04 51 22.3 +0.3**
DSF Desfina 1.67 90 P **Pn** **04 51 22.3 +0.3**
DSF AML AML 04 51 55.2
comp=N,2014μm,0.7s
DSF AML AML 04 52 02.9
comp=E,1451μm,1.0s
THL Klokotos Trika 1.69 47 P **Pb** **04 51 23.4 -0.6**
THL S **Sg** **04 51 46.9 -0.5**
comp=E,1μm,0.7s
THL Klokotos Trika 1.69 47 P **Pb** **04 51 23.4 -0.6**
THL S **Sg** **04 51 46.3 -1.1**
THL AML AML 04 51 52.9
comp=N,2577μm,0.8s
THL AML AML 04 51 54.7
comp=E,2388μm,0.6s
TRIP Tripoli 1.73 121 P **Pb** **04 51 23.8 -0.9**
TRIP S **Sb** **04 51 47.0 +0.7**
comp=E,1μm,0.8s
TRIP Tripoli 1.73 121 P **Pb** **04 51 24.2 -0.5**
TRIP S **Sb** **04 51 46.2 -0.1**
TRIP AML AML 04 51 58.8
comp=N,2024μm,0.9s
TRIP AML AML 04 52 04.8
comp=E,2333μm,0.7s
ITM Ithomi 1.73 136 P **Pb** **04 51 24.5 -0.3**
ITM S **Sg** **04 51 48.2 -0.7**
comp=E,732nm,0.9s
ITM Ithomi 1.73 136 P **Pb** **04 51 24.4 -0.4**
ITM S **Sb** **04 51 47.5 +1.0**
ITM AML AML 04 52 05.4
comp=N,1887μm,0.9s
ITM AML AML 04 52 13.0
comp=E,1228μm,1.8s
THAL Thalero 1.82 102 P **Pb** **04 51 25.2 -1.0**
THAL S **Sb** **04 51 49.3 +0.4**
comp=E,2μm,0.7s
THAL Thalero 1.82 102 P **Pb** **04 51 25.6 -0.6**
THAL AML AML 04 52 08.9
comp=N,2927μm,0.7s
THAL AML AML 04 52 12.9
comp=E,3326μm,0.7s
PENT Pentalofos 1.85 18 P **Pb** **04 51 27.3 +0.5**
PYL PYLOS 1.86 145 P **Pn** **04 51 25.8 +1.2**
PYL PYLOS 1.86 145 P **Pn** **04 51 25.9 +1.2**
VLX Vlachokerasia 1.89 123 P **Pb** **04 51 27.4 0.0**
VLX AML AML 04 52 00.6
comp=N,2154μm,0.6s
VLX AML AML 04 52 03.7
comp=E,2596μm,0.7s
NEST Nestorio 2.04 14 P **Pb** **04 51 30.1 0.0**
LKR Lokris 2.05 83 P **Pb** **04 51 29.5 -0.6**
LTK Loutraki 2.06 101 P **Pn** **04 51 28.5 +1.1**
LTK Loutraki 2.06 101 P **Pn** **04 51 28.8 +1.4**
ATAL Atalanti 2.07 82 P **Pn** **04 51 28.2 +0.7**
ATAL S **Sb** **04 51 55.7 -0.4**
comp=E,545nm,0.9s
ATAL Atalanti 2.07 82 P **Pb** **04 51 29.9 -0.6**
ATAL AML AML 04 52 08.7
comp=N,1404μm,0.9s
ATAL AML AML 04 52 15.7
comp=E,808μm,0.9s
LOUT Loutraki 2.07 101 P **Pb** **04 51 29.7 -0.9**
KZN Kozani 2.15 29 P **Pb** **04 51 30.9 -1.0**
KZN AML AML 04 52 07.9
comp=E,968μm,0.6s
KZN AML AML 04 52 08.2
comp=N,701μm,0.6s
VIL2 Platees 2.26 95 P **Pb** **04 51 32.6 -1.2**
VIL2 AML AML 04 52 16.5
comp=N,993μm,0.7s
VIL2 AML AML 04 52 19.9
comp=E,1586μm,0.8s
EPID Epidavros 2.29 110 P **Pn** **04 51 32.3 +1.7**
VILL Villia 2.30 96 P **Pn** **04 51 31.8 +1.0**
VILL S **Sb** **04 52 01.8 -1.1**
comp=E,732nm,0.8s
LIT Litokhoron 2.33 43 P **Pb** **04 51 33.8 -1.1**
LIT AML AML 04 52 16.9
comp=E,1135μm,0.8s
LIT AML AML 04 52 22.6
comp=N,814μm,1.1s
XOR Xorichti 2.37 66 P **Pn** **04 51 33.0 +1.4**
XOR S **Sb** **04 52 02.6 -2.1**
comp=N,362nm,0.8s
XOR Xorichti 2.37 66 P **Pb** **04 51 33.9 -1.6**
NEO Neokhori 2.37 67 P **Pb** **04 51 34.0 -1.6**
KRND KRANIDI 2.41 115 P **Pn** **04 51 33.2 +1.0**
KRND S **Sb** **04 52 04.5 -1.4**
comp=N,498nm,0.7s
KRND KRANIDI 2.41 115 P **Pb** **04 51 34.3 -1.9**
VLI Veliai 2.64 130 P **Pn** **04 51 37.7 +2.4**
ATH Athens Observa 2.65 99 P **Pn** **04 51 37.2 +1.8**
ATH AML AML 04 52 24.0
comp=E,832μm,1.0s
ATH AML AML 04 52 31.2
comp=N,674μm,0.8s
ATHU Athens Univers 2.70 99 P **Pn** **04 51 38.3 +2.0**
PTL Penteli 2.75 97 P **Pn** **04 51 38.0 +1.1**
DION Dionisos Attik 2.80 96 P **Pn** **04 51 39.5 +2.0**
AOS Alonnisos 2.81 74 P **Pn** **04 51 38.7 +1.0**
AOS S **Sn** **04 52 14.3 +2.8**
TIR Tirane 2.94 352 *e*Pg **Pn** **04 51 41.8 +2.3**

TIR Tirane 2.94 352 ⇑P **Pn** **04 51 41.6 +2.0**
TIR Tirane 2.94 352 ⇑S **Sn** **04 52 15.9 +1.1**
TIP Timpagrande 2.95 286 ⇑P **Pb** **04 51 45.8 +0.3**
KTHA Kythira Island 3.03 135 P **Pn** **04 51 43.6 +2.8**
PLG Polygyros 3.05 50 P **Pn** **04 51 42.4 +1.3**
KARY Karystos 3.20 96 P **Pn** **04 51 45.6 +2.6**
VAY Valandovo 3.33 29 *e*Pn **Pb** **04 51 52.7 +0.7**
KNT Kendrikon 3.34 34 P **Pn** **04 51 46.2 +1.3**
ANKY Antikythira Is 3.45 137 P **Pn** **04 51 49.3 +2.9**
STIP Stip 3.54 22 *e*Pn **Pb** **04 51 52.4 -3.0**
MATE Matera 3.62 309 ⇓P **Pb** **04 51 53.4 -3.5**
ULC Ulcinj 3.64 346 ⇑*i*Pn **Pn** **04 51 49.2 +0.1**
ULC *i* Sn **Sn** **04 52 30.5 -1.5**
DRME Dracevica, Mon 3.87 346 ⇓*i*Pn **Pn** **04 51 53.3 +1.1**
DRME *i* Sn **Sn** **04 52 36.0 -1.5**
DRME Dracevica, Mon 3.87 346 *e*Pn **Pn** **04 51 52.8 +0.6**
BUM Brajici-Budva 4.04 344 ⇓*i*Pn **Pn** **04 51 54.8 +0.2**
BUM *i* Sn **Sn** **04 52 39.9 -1.9**
MMB Musomiste 4.06 38 *e*P **Sn** **04 52 45.6 +3.3**
PDG Podgorica 4.09 348 *e*Pn **Pn** **04 51 56.1 +0.8**
PDG *e*Sg **Sn** **04 52 42.9 -0.1**
PDG Podgorica 4.09 348 ⇓P **Pn** **04 51 57.0 +1.7**
PDG Podgorica 4.09 348 ⇓S **Sn** **04 51 41.9 -1.1**
PDG Podgorica 4.09 348 *e*Pn **Pn** **04 51 55.5 +0.2**
TTG Podgorica 4.09 348 *e*Pn **Pn** **04 51 56.3 +1.0**
TTG *i* Sn **Sn** **04 52 41.4 -1.6**
PVY Plav 4.17 355 ⇑*i*Pn **Pn** **04 51 57.7 +1.1**
PVY *i* Sn **Sn** **04 52 43.8 -1.5**
CEME Cevo 4.27 345 ⇑*i*Pn **Pn** **04 51 57.8 0.0**
CEME *i* Sn **Sn** **04 52 45.4 -2.1**
HCY Herceg Novi 4.27 341 ⇓*i*Pn **Pn** **04 51 57.5 -0.3**
HCY *i* Sn **Sn** **04 52 45.3 -2.2**
HCY Herceg Novi 4.27 341 *e*Pn **Pn** **04 51 57.1 -0.7**
APE Apeiranthos 4.28 107 ⇓P **Pb** **04 52 05.6 -2.6**
APE Apeiranthos 4.28 107 ⇑S **Sb** **04 52 59.1 -0.8**
BOSS Bosilegrad 4.36 21 *e*Pn **Pb** **04 52 06.2 -3.3**
IVA Berane 4.46 355 ⇓*i*Pn **Pn** **04 52 01.5 +1.1**
IVA *i* Sn **Sn** **04 52 50.3 -1.8**
KOME Kolasin 4.47 352 *e*Pn **Pn** **04 52 01.5 +0.9**
KOME *i* Sn **Sn** **04 52 50.3 -2.2**
NKME Niksic 4.47 346 ⇓*i*Pn **Pn** **04 52 00.6 0.0**
NKME *i* Sn **Sn** **04 52 50.2 -2.3**
NKY Niksic 4.51 347 ⇓*i*Pn **Pn** **04 52 01.9 +0.8**
NKY *i* Sn **Sn** **04 52 51.0 -2.5**
BRY Bratogost 4.69 343 ⇓*i*Pn **Pn** **04 52 03.5 -0.1**
BRY *i* Sn **Sn** **04 52 55.0 -2.9**
BRY Bratogost 4.69 343 *e*Pn **Pn** **04 52 03.5 -0.1**
IDI Anoyia 4.77 130 Pn **Pn** **04 52 07.0 +2.3**
comp=N,0.2nm,0.3s,baz=156,slow=20,SNR=2.0
IDI Sn **Sn** **04 52 59.6 -0.3**
comp=N,0.8nm,0.3s,baz=320,slow=20,SNR=2.1
IDI LR LR 04 54 29.8
comp=N,87nm,18.7s,baz=322,slow=44
IDI Anoyia 4.77 130 ⇓P **Pb** **04 52 15.3 -1.2**
SELS Selova 4.82 6 *e*Pn **Pn** **04 52 05.7 +0.4**
VAE Valguarnera 4.83 261 Pn **Pn** **04 52 06.3 +0.8**
comp=N,1.1nm,0.3s,baz=352,slow=7.1,SNR=2.5
VAE Sn **Sn** **04 53 00.0 -1.4**
comp=N,1.3nm,0.3s,baz=4.0,slow=23,SNR=1.8
SJES Sjenica 4.84 356 *e*Pn **Pn** **04 52 07.2 +1.5**
SJES Sjenica 4.84 356 *e*Pn **Pn** **04 52 06.7 +1.0**
UPM Unac-Piva 4.90 347 ⇑*i*Pn **Pn** **04 52 07.2 +0.6**
UPM *i* Sn **Sn** **04 53 00.2 -3.1**
UPM Unac-Piva 4.90 347 *e*Pn **Pn** **04 52 07.1 +0.5**
PLE Pljevlja 4.96 351 ⇓*i*Pn **Pn** **04 52 08.1 +0.8**
PLE *i* Sn **Sn** **04 53 01.6 -2.9**
ZAPS Zavoj 5.13 19 *e*Pn **Pn** **04 52 13.6 +4.0**
IVAS Ivanjica 5.15 358 *e*Pn **Pn** **04 52 10.2 +0.4**
RUDO Rudo 5.24 352 *e*Pn **Pn** **04 52 10.9 -0.2**
BOVS Bovan 5.29 10 *e*Pn **Pn** **04 52 14.6 +2.8**
GRUS Gruza 5.46 2 *e*Pn **Pn** **04 52 16.4 +2.3**
BLKB Belogradchik 5.46 18 ⇓S **Sn** **04 53 17.0 0.0**
BBLS Lazići 5.48 352 *e*Pn **Pn** **04 52 15.2 +0.7**
BBLS Lazići 5.48 352 *e*Pn **Pn** **04 52 14.8 +0.3**
ZAGS Zajecar 5.55 14 *e*Pn **Pn** **04 52 20.5 +5.1**
DIVS Divibare 5.67 357 *e*Pn **Pn** **04 52 17.0 -0.1**
DIVS Divibare 5.67 357 *e*Pn **Pn** **04 52 16.7 -0.4**
HAPS Han Pijesak,BI 5.76 349 *e*Pn **Pn** **04 52 17.6 -0.7**
HAPS Han Pijesak,BI 5.76 349 *e*Pn **Pn** **04 52 17.4 -0.9**
TRUS Trudelj 5.79 0 *e*Pn **Pn** **04 52 19.1 +0.5**
AQU L'Aquila 6.63 308 *e*Pn **Pn** **04 52 32.5 +2.3**
FRGS Fruska Gora 6.74 356 *e*Pn **Pn** **04 52 30.8 -0.9**
FRGS Fruska Gora 6.74 356 *e*Pn **Pn** **04 52 30.8 -0.9**
BLY Banja Luka 6.76 340 *e*Pn **Pn** **04 52 31.2 -0.7**
BLY Banja Luka 6.76 340 *e*Pn **Pn** **04 52 32.2 +0.3**
BZS Buzias 7.24 7 ⇑S **Sn** **04 53 60.0 -0.6**
VOIR 7.81 25 ⇓P **Pn** **04 52 49.4 +3.0**
MORH Mrgy, Hungar 7.89 351 *e*Pn **Pn** **04 52 46.7 -0.7**
MLR Muntele Rosu 8.17 29 Pn **Pn** **04 52 53.7 +2.2**
comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=2.0
MLR Muntele Rosu 8.17 29 ⇓P **Pn** **04 52 54.2 +2.8**
RIY Rijeka 8.18 329 *e*Pn **Pn** **04 52 51.6 +0.2**
GBRS Gornja Briga 8.23 331 *i* Pn **Pn** **04 52 52.3 +0.1**
GBRS *e*Sn **Sn** **04 54 20.3 -4.6**
KALN Kalnik 8.23 340 *e*Pn **Pn** **04 52 51.9 -0.3**
KALN Sn **Sn** **04 54 18.2 -6.9**
CRES Cresnjev 8.25 335 *e*Pn **Pn** **04 52 52.0 -0.4**
VISS Visnje 8.45 332 *e*Pn **Pn** **04 52 55.6 +0.5**
VISS *e*Sn **Sn** **04 54 24.9 -5.4**
CEY Cerknica 8.55 331 *e*Pn **Pn** **04 52 56.3 -0.2**
SKDS Skadanscina 8.55 328 *e*Pn **Pn** **04 52 56.3 -0.3**
SKDS *e*Sn **Sn** **04 54 27.7 -5.2**
LJU Ljubljana 8.77 332 *e*Pn **Pn** **04 52 59.7 +0.2**
OBKA Obir 9.16 334 *e*Pn **Pn** **04 53 05.5 +0.5**
comp=N,0.9nm,0.2s
OBKA *e*Sn **Sn** **04 54 44.2 -3.6**
comp=N,3.5nm,0.4s
KEST Kesra 9.24 256 Pn **Pn** **04 53 06.2 +0.1**
comp=N,0.3nm,0.3s,baz=32,slow=19,SNR=4.5
KBA Koelnbreinsper 10.08 331 *e*Pn **Pn** **04 53 17.7 +0.1**
comp=N,1.3nm,0.3s
KBA *e*Sn **Sn** **04 55 05.9 -4.7**
comp=N,0.9nm,0.4s
ABTA Abfaltersbach 10.14 328 *e*Pn **Pn** **04 53 18.0 -0.4**
comp=N,0.7nm,0.3s
ABTA Sn **Sn** **04 55 04.5 -7.5**
comp=N,1.2nm,0.4s
BRTR Keskin Array B 10.37 79 Pn **Pn** **04 53 29.1 +7.5**
comp=N,0.1nm,0.3s,baz=259,slow=13,SNR=2.9
MOA Molln 10.43 337 *e*Pn **Pn** **04 53 22.2 -0.1**
comp=N,1.8nm,0.3s,SNR=7.7
MOA *e*Sn **Sn** **04 55 15.4 -3.5**
comp=N,1.8nm,0.4s
WTTA Wattenberg 10.92 327 *e*Pn **Pn** **04 53 29.5 +0.4**
comp=N,1.2nm,0.3s
WTTA *e*Sn **Sn** **04 55 28.7 -2.5**
comp=N,1.1nm,0.3s
WATA Walderalm 11.00 327 *e*Pn **Pn** **04 53 30.8 +0.6**
comp=N,2.4nm,0.4s,SNR=4.3
SQTA Sankt Quirin 11.07 325 *e*Pn **Pn** **04 53 31.7 +0.5**
comp=N,1.5nm,0.3s
SQTA *e*Sn **Sn** **04 55 33.0 -1.8**
comp=N,2.5nm,0.5s
FETA Feichten 11.14 323 *e*Pn **Pn** **04 53 33.8 +1.6**
comp=N,0.4nm,0.2s
MOTA Moosalm 11.21 326 *e*Pn **Pn** **04 53 34.1 +1.0**
comp=N,2.0nm,0.3s,SNR=6.7
MOTA *e*Sn **Sn** **04 55 35.2 -3.2**
comp=N,1.1nm,0.3s
VRAC Vranov 11.22 347 LR LR 04 58 14.2
comp=N,72nm,18.6s,baz=167,slow=40
DAVOX Davos/Dischmat 11.38 321 Pn **Pn** **04 53 34.5 -1.0**
comp=N,0.2nm,0.3s,baz=119,slow=19,SNR=2.4
DAVOX Sn **Sn** **04 55 36.0 -6.6**
comp=N,0.2nm,0.3s,baz=250,slow=12,SNR=1.7
RETA Reutte 11.47 325 *e*Pn **Pn** **04 53 38.2 +1.6**
comp=N,0.8nm,0.4s
RETA *e*Sn **Sn** **04 55 42.2 -2.4**
comp=N,0.7nm,0.3s
GERES GERESS Array B 11.48 337 Pn **Pn** **04 53 35.7 -1.0**
comp=N,0.2nm,0.3s,baz=157,slow=14,SNR=10.0
GERES Sn **Sn** **04 55 37.9 -7.0**
comp=N,0.1nm,0.3s,baz=152,slow=19,SNR=2.1
KHC Kasperske Hory 11.77 338 *e*P **Pn** **04 53 38.9 -1.8**
KHC *e*S **Sn** **04 55 47.3 -4.6**
HFS Hagfors 22.14 351 P **P** **04 55 48.4 +0.2**
comp=N,1.8nm,0.7s,baz=148,slow=12,SNR=7.7
EKA Eskdalemuir Ar 23.17 325 P **P** **04 55 59.7 +0.6**
comp=N,0.9nm,0.7s,baz=125,slow=8.7,SNR=4.1
FINES FINESS Array B 23.31 7 P **P** **04 56 00.3 -0.1**
comp=N,0.5nm,0.3s,baz=183,slow=10,SNR=12
NOA NORSAR Array B 23.35 349 P **P** **04 56 01.4 +0.5**
comp=N,0.6nm,0.8s,baz=160,slow=10.0,SNR=3.3

NOA LR LR 05 05 15.0
comp=N,23nm,19.3s,baz=30,slow=37
TORD Torodi Ar. Bea 30.17 218 P **P** **04 57 03.8 +0.8**
comp=N,0.7nm,0.8s,baz=27,slow=8.4,SNR=3.4
ARCES ARCESS Array B 31.29 3 P **P** **04 57 12.6 +0.2**
comp=N,1.7nm,1.0s,baz=194,slow=10,SNR=1.7
KURBB Kurchatov Arra 42.15 54 P **P** **04 58 46.6 +1.6**
comp=N,0.4nm,0.6s,baz=277,slow=8.3,SNR=3.3
MKAR Makanchi Array 45.25 59 P **P** **04 59 11.2 +1.2**
comp=N,0.4nm,0.6s,baz=301,slow=3.9,SNR=4.1
ZALV Zalesovo Beam 45.59 48 P **P** **04 59 15.2 +2.6**
comp=N,1.2nm,0.4s,baz=284,slow=5.8,SNR=4.3

NNC 12 05:00:18.2±2.0, 52.70N×87.78E, h0km, mb4.0, mpv3.6, 7C-7D, Error ellipse: s-maj=17.3km s-min=7.0km az=81.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.17**	**306**	⇑Pn		Pn	05 00 54.4	-1.1
	2.2nm,0.4s							
ZAA0				⇑Sn		Sb	05 01 24.8	-1.0
	5.2nm,0.5s							
KURK	**Kurchatov**	**6.03**	**254**	⇓Pn		Pn	05 01 48.5	-0.1
	4.3nm,0.8s							
KURK				⇑Sn		Sn	05 02 58.7	+0.5
	4.3nm,0.7s							
KURK				⇑Lg		Lg	05 03 31.5	
	22nm,1.2s							
KURBB	**Kurchatov Arra**	**6.12**	**254**	⇓Pn		Pn	05 01 49.5	-0.3
	5.4nm,0.5s							
KURBB				⇑Sn		Sn	05 02 59.5	-1.0
	6.5nm,0.5s							
KURBB				⇓Lg		Lg	05 03 31.6	
	32nm,0.7s							
MK31	**Makanchi Array**	**6.90**	**213**	⇑Pn		Pn	05 02 01.9	+1.4
	3.5nm,0.5s,baz=31,slow=13,SNR=138							
MK31				⇓Sn		Sn	05 03 22.7	+3.1
	2.0nm,0.6s,baz=37,slow=24,SNR=3.9							
MK31				⇓Lg		Lg	05 03 57.5	
	14nm,0.8s,baz=34,slow=34,SNR=5.0							
MAKZ	**Makanchi**	**6.99**	**215**	⇓Pn		Pn	05 02 02.5	+0.7
	8.6nm,0.7s							
MAKZ				⇑Sn		Sn	05 03 23.3	+1.3
	3.8nm,0.6s							
MAKZ				⇓Lg		Lg	05 03 58.7	
	15nm,1.1s							

IDC **12** *05:00:59.2±2.6, 7.12S×101.02E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/46, mbtmp3.8/5, ML4.6/1, Error ellipse: s-maj=77.6km s-min=24.3km az=53.0*
DJA **12** *05:01:03.7±1.4, 7.3S×107.1E±1.2, h10km, M4.4/6, MLv4.4/6*
ISC 12 05:01:06.7±1.5, 6.75S±0.09×101.5E±0.1, h35km, n12, σ1§25/15, mb3.6/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.79**	**32**	P		Pn	**05 01 48.4**	**-0.5**
MNAI				S		Sn	**05 02 21.7**	**+0.3**
LWLI	**Liwa**	**3.09**	**56**	P		Pn	**05 01 53.5**	**+0.4**
MDSI	**Maura Dua**	**3.50**	**50**	P		Pn	**05 01 59.4**	**+0.7**
MDSI				S		Sn	**05 02 39.4**	**+0.5**
LHSI	**Lahat**	**3.54**	**35**	P		Pn	**05 01 59.7**	**+0.4**
KLSI		**3.82**	**58**	P		Pn	**05 02 03.3**	**+0.2**
CGJI	**Cibinong**	**4.18**	**88**	P		Pn	**05 02 08.1**	**+0.1**
LEM	**Lembang**	**6.09**	**91**	Pn		Pn	**05 02 37.4**	**+3.0**
	13nm,0.3s,baz=332,slow=22,SNR=5.3							
LEM				Sn		Sn	**05 03 40.6**	**-2.4**
	2.0nm,0.3s,baz=170,slow=20,SNR=1.2							
CMAR	**Chiang Mai Arr**	**25.18**	**354**	P		P	**05 06 28.8**	**-0.3**
	1.4nm,0.8s,baz=185,slow=8.7,SNR=7.9							
WRA	**Warramunga Ar**	**34.46**	**116**	P		P	**05 07 51.2**	**-0.3**
	0.5nm,0.7s,baz=283,slow=12,SNR=7.2							
ASAR	**Alice Springs**	**35.38**	**122**	P		P	**05 07 58.1**	**-1.3**
	0.2nm,0.5s,baz=304,slow=8.5,SNR=2.1							
SONM	**Songino Array**	**54.52**	**4**	P		P	**05 10 32.1**	**+0.8**
	1.3nm,0.7s,baz=184,slow=6.9,SNR=5.2							
TXAR	**Lajitas Array**	**147.34**	**43**	PKPbc		**PKPbc**	**05 20 47.3**	**-0.3**
	0.2nm,0.7s,baz=250,slow=2.6,SNR=2.7							

BJI **12** *05:17:34.0±0.0, 57.40N×33.40W, h10km, mB5.5/17, mb4.8/28, Ms5.4/6, Ms7 5.1/5*
IDC **12** *05:17:35.2±0.3, 57.29N×33.27W, h0km, mb4.4/47, mb1 4.5/52, mb1mx4.4/68, mbtmp4.4/52, ML3.9/5, MS4.9/26, Ms1 4.9/26, ms1mx4.6/50, Error ellipse: s-maj=11.0km s-min=7.9km az=178.0*
NEIC **12** *05:17:37.3±1.1, 57.30N±0.08×33.3W±0.1, h10km±1km, mb4.9/355, Mwc5.3(GCMT), Error ellipse: s-maj=13.3km s-min=11.2km az=171.0*
DNK **12** *05:17:37.2±4.2, 57.43N×33.36W, h0km±160km, mb5.1, Ms4.7*
GCMT **12** *05:17:38.3±0.1, 57.34N±0.01×33.18W±0.01, h12km, MW5.3/148, Moment Tensor Solution. s105,c163; s148,c307; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-1.15±.02; Mθθ0.00±.02; Mϕϕ1.14±.01; Mrθ0.26±.04; Mrϕ0.42±.01; Mθr-0.08±.04; Best double couple: M0 1.24800×10^17 NP1:ϕs5.00000°, δ47.00000°, λ-110.00000°. NP2:ϕs212.00000°, δ47.00000°, λ-70.00000°. Principal axes: T 1.2780, Plg0.0000°, Azm288.0000°; N -0.0670, Plg14.0000°, Azm18.0000°; P -1.2180, Plg76.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **12** *05:17:38, 57.38N×33.17W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-1.21; Mθθ0.05; Mϕϕ1.16; Mrθ0.09; Mϕϕ0.44; Mθr-0.12; Fault plane solution: M0 1.27000×10^17 NP1:ϕs206.00000°, δ43.00000°, λ-81.00000°. NP2:ϕs13.00000°, δ47.00000°, λ-99.00000°. Principal axes: T 1.3173, Plg2.0000°, Azm109.0000°; N -0.0911, Plg6.0000°, Azm199.0000°; P -1.2262, Plg83.0000°, Azm215.0000°;*
ISC 12 05:17:37.9±0.3, 57.35N±0.05×33.37W±0.04, h16km, n876, σ1§24/849, mb4.8/245, MS4.9/47, 14C-7D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.26**	**307**	Pn		**Pn**	**05 19 24.6**	**+1.4**
NRS	**Narsarsuaq**	**7.26**	**307**	*i* P		**Pn**	**05 19 25.5**	**+2.4**
	comp=Z,23μm,16.0s							
NRS	**Narsarsuaq**	**7.26**	**307**	*i* P		**Pn**	**05 19 25.6**	**+2.4**
NRS					IAMs_20	IAMs_20	05 21 28.4	
	comp=Z,23μm,16.2s							
ANGG	**Ammassalik, Gr**	**8.54**	**348**	Pn		**Pn**	**05 19 41.7**	**+1.0**
ANGG				Sn		**Sn**	**05 21 10.4**	**-6.1**
ANGG	**Ammassalik, Gr**	**8.54**	**348**	*i* P		**Pn**	**05 19 41.0**	**+0.4**
ANGG					IAMs_20	IAMs_20	05 21 59.4	
	comp=Z,7μm,19.7s							
ISOG	**Isortoq, Green**	**8.65**	**344**	*e*P		**Pn**	**05 19 43.5**	**+1.3**
BORG	**Borgarnes**	**9.42**	**33**	Pn		**Pn**	**05 19 53.3**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=289,slow=6.5,SNR=17							
BORG				Sn		**Sn**	**05 21 39.6**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=212,slow=2.7,SNR=1.6							
BORG				LR		LR	05 22 40.3	
	comp=Z,9μm,19.6s,baz=259,slow=32							
BORG	**Borgarnes**	**9.42**	**33**	Pn		**Pn**	**05 19 53.6**	**+0.8**
DY2G	**Dye2**	**10.96**	**332**		IAMs_20	IAMs_20	05 23 40.1	
	comp=Z,10μm,14.0s							
NUUK	**Nuuk**	**11.25**	**315**	*i* P		**Pn**	**05 20 18.7**	**+0.9**
NUUK					IAMs_20	IAMs_20	05 23 47.8	
	comp=Z,15μm,15.7s							
SFJD	**Kangerlussuaq**	**12.53**	**328**	Pn		**Pn**	**05 20 34.7**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=119,slow=19,SNR=3.0							
SFJD				LR		LR	05 24 42.4	
	comp=Z,9μm,18.6s,baz=136,slow=34							
SFJD	**Kangerlussuaq**	**12.53**	**328**	Pn		**Pn**	**05 20 36.9**	**+1.7**
SFJD	**Kangerlussuaq**	**12.53**	**328**		IAMs_20	IAMs_20	05 24 29.9	
	comp=Z,564nm,16.0s							
ILULI	**Ilulissat**	**14.24**	**334**			**Pn**	**05 20 57.0**	**-1.5**
ILULI	**Ilulissat**	**14.24**	**334**	*i* P		**Pn**	**05 20 56.6**	**-1.9**
	comp=Z,10μm,14.0s							
ILULI	**Ilulissat**	**14.24**	**334**	*e*P		**Pn**	**05 20 56.6**	**-1.9**
	comp=Z,10μm,14.4s				IAMs_20	IAMs_20	05 25 36.0	
LAWE	**Loch Awe, Argy**	**15.31**	**82**	*e*P		**Pn**	**05 21 11.6**	**-1.5**
LAWE					IAMs_20	IAMs_20	05 25 33.2	

comp=Z,6µm,18.8s
SUMG Summit 15.43 354 Pn **Pn** 05 21 15.5 +0.6
SUMG Summit 15.43 354 *i* P **Pn** 05 21 14.1 -0.8
comp=Z,83nm,1.0s
comp=Z,9µm,14.0s
SUMG Summit 15.43 354 *i* P **Pn** 05 21 14.1 -0.8
SUMG IAmb IAmb 05 21 16.2
comp=Z,83nm,1.0s
SUMG IAMs_20 IAMs_20 05 26 02.2
comp=Z,9µm,13.6s
DSB Dublin 15.86 94 Pn **Pn** 05 21 17.4 -2.8
PGBU Glenifferbraes 15.94 83 *e*P **Pn** 05 21 19.6 -1.6
PGBU IAmb IAmb 05 21 26.6
comp=Z,42nm,0.9s
PGBU IAMs_20 IAMs_20 05 26 11.5
comp=Z,5µm,16.4s
INVG Invergeldie, C 15.99 81 *e*P **Pn** 05 21 20.0 -2.0
INVG IAMs_20 IAMs_20 05 26 37.4
comp=Z,4µm,16.8s
IOMK Kirk Michael 16.42 89 *e*P **Pn** 05 21 25.9 -1.5
IOMK IAMs_20 IAMs_20 05 26 25.3
comp=Z,10µm,19.4s
DRLN Deer Lake 16.48 251 Pn **Pn** 05 21 26.5 -1.6
DRLN IAmb IAmb 05 21 32.1
comp=Z,125nm,1.1s
EDI Edinburgh 16.60 82 *e*P **Pn** 05 21 28.4 -1.3
EDI IAMs_20 IAMs_20 05 26 12.4
comp=Z,5µm,18.2s
ESK Eskdalemuir 16.78 84 *e*P **Pn** 05 21 31.5 -0.4
ESK IAMs_20 IAMs_20 05 26 45.8
comp=Z,5µm,18.2s
ESK Eskdalemuir 16.78 84 Pn **Pn** 05 21 31.6 -0.4
EKA Eskdalemuir Ar 16.80 84 Pn **Pn** 05 21 29.8 -2.4
baz=302,slow=11,SNR=11
EKA LR LR 05 26 54.0
comp=Z,5µm,18.7s,baz=290,slow=33
WLF1 Llynfaes 16.91 92 *e*P **Pn** 05 21 32.2 -1.5
WLF1 IAmb IAmb 05 21 38.5
comp=Z,189nm,1.3s
WLF1 IAMs_20 IAMs_20 05 25 57.2
comp=Z,10µm,24.7s
KESW Keswick, Cumbr 17.09 86 *e*P **Pn** 05 21 34.9 -1.0
KESW IAMs_20 IAMs_20 05 27 44.8
comp=Z,5µm,14.0s
LLW Llanuwychllyn 17.50 92 *e*P **Pn** 05 21 39.5 -1.5
LLW IAMs_20 IAMs_20 05 26 27.5
comp=Z,2µm,22.0s
EDMD Edmundbyers 17.62 85 *e*P **Pn** 05 21 41.3 -1.1
EDMD IAMs_20 IAMs_20 05 27 54.5
comp=Z,5µm,14.8s
FOEL Foel Wylfa 17.74 92 *e*P **Pn** 05 21 43.2 -0.8
FOEL IAMs_20 IAMs_20 05 26 19.8
comp=Z,5µm,27.5s
H07N1 FLORES T-PHASE 17.74 174 T T 05 39 27.1
SNR=7.7
DBG Daneborg 17.77 12 *e*P **P** 05 21 48.3 +3.4
DBG IAMs_20 IAMs_20 05 30 09.5
comp=Z,5µm,7.8s
HTL Hartland 17.97 98 *e*P **Pn** 05 21 45.9 -0.9
HTL IAMs_20 IAMs_20 05 27 57.8
comp=Z,7µm,15.1s
UPNV Upernavik 18.00 338 *e*P **Pn** 05 21 46.0 -0.9
H07S1 FLORES T-PHASE 18.04 175 T T 05 39 49.0
HLM1 Long Mynd 18.08 92 *e*P **Pn** 05 21 47.2 -1.0
HLM1 IAmb IAmb 05 21 52.4
comp=Z,49nm,1.1s
HLM1 IAMs_20 IAMs_20 05 27 17.6
comp=Z,5µm,19.1s
HPK Haverah Park 18.14 87 *e*P **Pn** 05 21 48.3 -0.5
HPK IAmb IAmb 05 21 52.1
comp=Z,218nm,1.7s
HPK IAMs_20 IAMs_20 05 27 17.9
comp=Z,5µm,20.6s
STNC Stoke 18.18 90 *e*P **Pn** 05 21 49.3 -0.1
STNC IAMs_20 IAMs_20 05 26 34.8
comp=Z,5µm,24.4s
FRB Frobisher Bay 18.25 305 P **P** 05 21 50.5 +0.3
comp=Z,0.4nm,0.3s,baz=90,slow=10,SNR=4.3
FRB LR LR 05 27 57.0
comp=Z,4µm,18.9s,baz=98,slow=34
MCH1 Michaelchurch 18.26 94 *e*P **Pn** 05 21 49.0 -1.4
MCH1 IAmb IAmb 05 21 53.6
comp=Z,72nm,1.0s
MCH1 IAMs_20 IAMs_20 05 27 23.3
comp=Z,6µm,19.6s
LBWR Ladybower, Pea 18.31 89 *e*P **Pn** 05 21 50.5 -0.5
LBWR IAmb IAmb 05 21 55.2
comp=Z,83nm,1.2s
LBWR IAMs_20 IAMs_20 05 28 08.5
comp=Z,4µm,15.4s
GDLE Glaisdale, N Y 18.39 85 *e*P **P** 05 21 51.3 -0.6
GDLE IAMs_20 IAMs_20 05 28 27.2
comp=Z,6µm,13.6s
MONM Monmouth 18.44 94 *e*P **Pn** 05 21 52.8 +0.2
MONM IAmb IAmb 05 21 57.4
comp=Z,94nm,1.2s
MONM IAMs_20 IAMs_20 05 27 18.1
comp=Z,6µm,21.2s
OLDB Oldbury-Upon-S 18.67 95 *e*P **P** 05 21 54.4 -0.6
OLDB IAMs_20 IAMs_20 05 27 46.3
comp=Z,6µm,18.7s
PGRA Graciosa 18.67 167 *e*P **P** 05 21 54.4 -0.7
PGRA *e*LR LR 05 26 14.9
comp=Z,2µm,18.1s
SCHQ Schefferville 18.73 277 P **P** 05 21 55.4 -0.3
comp=Z,1.1nm,0.3s,baz=82,slow=8.4,SNR=12
SCHQ LR LR 05 28 02.6
comp=Z,6µm,18.6s,baz=80,slow=33
SCHQ Schefferville 18.73 277 **Pn** 05 21 55.9 -0.2
STRD Stroud 18.82 94 *e*P **Pn** 05 21 56.9 -0.3
STRD IAmb IAmb 05 22 01.0
comp=Z,162nm,1.0s
STRD IAMs_20 IAMs_20 05 27 50.5
comp=Z,5µm,19.2s
CWF Charnwood Fore 18.83 90 *e*P **P** 05 21 56.1 -0.7
CWF IAmb IAmb 05 22 02.0
comp=Z,511nm,2.6s
CWF IAMs_20 IAMs_20 05 27 19.0
comp=Z,4µm,20.0s
BATH Bath 18.90 95 *e*P **P** 05 21 56.9 -0.6
BATH IAMs_20 IAMs_20 05 27 53.1
comp=Z,6µm,19.4s
ROSA Rosais 18.95 168 *e*P **P** 05 21 57.4 -0.7
ROSA *e*LR LR 05 26 13.3
comp=Z,2µm,17.6s
CALA Caldeira 19.03 169 *e*LR LR 05 26 14.9
comp=Z,2µm,16.6s
LMK Market Rasen 19.05 88 *e*P **Pn** 05 21 59.8 -0.1
LMK IAMs_20 IAMs_20 05 27 46.3
comp=Z,5µm,19.9s
SWN1 Swindon 19.15 94 *e*P **Pn** 05 22 01.1 -0.1
SWN1 IAmb IAmb 05 22 04.2
comp=Z,280nm,1.4s
SWN1 IAMs_20 IAMs_20 05 27 50.3
comp=Z,6µm,22.6s
PSET Sete Cidades 20.18 162 *e*P **P** 05 22 11.8 +0.1
PSET *e*LR LR 05 26 53.0
comp=Z,4µm,18.7s
DAG Danmarks Havn 20.20 10 *i* P Pn 05 22 13.0 -0.4
DAG Danmarks Havn 20.20 10 *e*P Pn 05 22 13.0 -0.4
DAG IAMs_20 IAMs_20 05 30 01.4
comp=Z,3µm,9.9s
JSA Saint Aubin 20.22 100 *e*P **P** 05 22 12.3 +0.4
JSA IAmb IAmb 05 22 15.7
comp=Z,40nm,1.0s
JSA IAMs_20 IAMs_20 05 29 26.1
comp=Z,7µm,14.9s
CMLA Cha da Macela 20.28 162 *e*P **P** 05 22 11.8 -0.8
CMLA *e*LR LR 05 27 07.0
comp=Z,4µm,19.7s
GBN Guysborough 21.07 248 P **P** 05 22 20.9 -0.2
PSMN Pico do Norte, 21.10 161 *e*LR LR 05 27 23.3
comp=Z,3µm,23.3s
SNART Snartemo 21.39 70 *i* P **P** 05 22 23.0 -1.5
SNART *i* P **P** 05 22 23.5 -1.0
HOMB Homborsund 22.07 70 *e*P **P** 05 22 33.8 +2.1
BATG Bathurst New B 22.17 257 P **P** 05 22 33.3 +0.3
BATG IAmb IAmb 05 22 42.2
comp=Z,44nm,1.2s
PGAV Gavieira, Arco 22.19 123 *e*P **P** 05 22 31.0 -2.4
comp=Z,62nm,1.6s
PGAV *e*LQ LQ 05 26 49.6
PGAV *e*LR LR 05 27 45.5
comp=Z,5µm,20.0s
KONO Kongsberg 22.28 66 IAmb IAmb 05 22 42.3
comp=Z,73nm,1.5s

LMN Caledonia Moun 22.45 253 P **P** 05 22 35.4 -0.5
PCAB Cabril 22.51 123 *e*P **P** 05 22 39.2 +2.6
comp=Z,69nm,1.1s
NC204 NORSAR Array S 22.52 61 P **P** 05 22 36.1 -0.6
NBO00 NORSAR Array S 22.57 62 P **P** 05 22 36.5 -0.7
NAO01 NORSAR Array S 22.66 63 P **P** 05 22 40.5 +2.4
HAL Halifax 22.66 249 P **P** 05 22 37.7 -0.5
NB2 NORSAR Subarra 22.78 62 P **P** 05 22 39.4 0.0
comp=Z,151nm,2.5s,baz=282,slow=11
NOA NORSAR Array B 22.78 62 P **P** 05 22 38.5 -0.9
comp=Z,4.0nm,1.1s,baz=281,slow=9.8,SNR=7.6
NOA LR LR 05 30 06.6
comp=Z,1µm,21.7s,baz=280,slow=33
GOET G??ttrup 22.81 73 *i* P **P** 05 22 42.0 +2.4
GOET G??ttrup 22.81 73 *e*P **P** 05 22 41.4 +1.7
GOET *e*P **P** 05 22 42.0 +2.4
NB201 NORSAR Array S 22.82 62 P **P** 05 22 39.8 +0.1
NC303 NORSAR Array S 22.82 61 P **P** 05 22 39.8 +0.1
UCC Uccle 22.85 90 P **P** 05 22 39.4 -0.7
UCC Uccle 22.85 90 P **P** 05 22 39.4 -0.7
MUD Monsted U'grnd 22.98 74 *i* P **P** 05 22 41.2 -0.1
MUD Monsted U'grnd 22.98 74 *i* P **P** 05 22 41.3 -0.1
PVRL Vila Real 22.99 123 *e*P **P** 05 22 43.5 +1.7
comp=Z,56nm,1.6s
NC602 NORSAR Array S 23.00 63 P **P** 05 22 45.1 +3.5
NC602 IAmb IAmb 05 23 05.0
comp=Z,50nm,1.2s
NC405 NORSAR Array S 23.00 62 P **P** 05 22 41.5 -0.2
PBRG Braganca 23.02 121 *e*P **P** 05 22 45.9 +3.8
comp=Z,72nm,2.5s
CLF Chambon-Foret 23.27 98 P **P** 05 22 44.7 +0.2
BMRD Maredsous 23.33 91 P **P** 05 22 43.8 -1.2
BMRD PnPn **PnPn** 05 23 09.2 -1.8
DOU Dourbes 23.35 92 P **P** 05 22 45.1 -0.1
DOU PnPn **PnPn** 05 23 09.2 -2.0
PVIS Viseu 23.36 124 *e*P **P** 05 22 45.5 0.0
comp=Z,69nm,1.7s
MVO Moncorvo 23.40 122 *e*P **P** 05 22 46.8 +0.9
comp=Z,70nm,2.2s
MVO *e*LR LR 05 28 11.8
comp=Z,5µm,18.0s
D63A Stockholm 23.41 259 P **P** 05 22 45.8 -0.1
baz=51
BGES Gesves 23.46 91 P **P** 05 22 46.2 -0.2
COI Coimbra 23.55 126 *e*P **P** 05 22 48.8 +1.5
comp=Z,82nm,1.5s
BCLA Clavier 23.56 90 P **P** 05 22 46.9 -0.5
BCLA PnPn **PnPn** 05 23 11.9 -2.2
BEBN Eben Emael 23.57 89 P **P** 05 22 46.0 -1.4
BEBN PnPn **PnPn** 05 23 11.8 -2.3
BSTI Sart Tilman 23.62 90 P **P** 05 22 45.5 -2.4
PCAS Casmilo, Conde 23.64 126 *e*P **P** 05 22 47.9 -0.3
comp=Z,133nm,1.6s
E64A Bridgewater 23.65 257 P **P** 05 22 49.0 +0.7
baz=50
MTE Manteigas 23.78 124 *e*P P 05 22 57.6 +8.0
comp=Z,35nm,1.3s
MTE *e*LQ LQ 05 27 15.6
MTE *e*LR LR 05 28 27.0
comp=Z,4µm,18.0s
MEM Membach 23.84 89 P **P** 05 22 48.8 -1.3
D62A Allapoint, All 23.88 260 P **P** 05 22 51.0 +0.5
baz=52,SNR=7.4
D62A Allapoint, All 23.88 260 P **P** 05 22 51.1 +0.7
D62A IAmb IAmb 05 22 53.2
comp=Z,50nm,1.2s
PSBE So Bento 23.95 128 *e*P **P** 05 22 50.8 -0.4
comp=Z,94nm,1.9s
E63A Oxbow 23.97 258 P **P** 05 22 51.0 -0.3
baz=50
E63A Oxbow 23.97 258 P **P** 05 22 50.6 -0.6
E63A IAmb IAmb 05 22 58.2
comp=Z,53nm,1.2s
BHOU Houvegnez 23.98 90 P **P** 05 22 50.6 -0.7
GGN Saint George 24.00 254 P **P** 05 22 52.0 +0.5
GGN IAmb IAmb 05 23 03.0
comp=Z,37nm,1.1s
HFS Hagfors 24.17 63 P **P** 05 22 53.0 0.0
comp=Z,9.4nm,0.9s,baz=262,slow=9.5,SNR=5.8
HFS LR LR 05 31 08.4
comp=Z,2µm,19.6s,baz=276,slow=34
PCBR Castelo Branco 24.26 125 *e*P **P** 05 22 53.0 -1.0
comp=Z,98nm,1.8s
F64A Sherman 24.29 257 P **P** 05 22 53.7 -0.6
baz=49
F64A Sherman 24.29 257 P **P** 05 22 53.5 -0.8
F64A IAmb IAmb 05 22 58.8
comp=Z,24nm,1.0s
G65A Princeton 24.32 255 P **P** 05 22 56.6 +2.1
baz=48
D61A St Aubert, Com 24.41 261 P **P** 05 22 56.1 +0.7
baz=52
E62A Clayton Lake 24.43 260 P **P** 05 22 55.4 -0.1
baz=51
E62A Clayton Lake 24.43 260 P **P** 05 22 56.1 +0.6
E62A IAmb IAmb 05 23 14.3
comp=Z,23nm,1.2s
WLF Walferdange 24.43 91 P **P** 05 22 56.6 +1.1
H66A Whiting 24.47 254 P **P** 05 22 56.4 +0.6
baz=47
LIS Lisbon 24.47 129 *e*P **P** 05 22 55.2 -0.7
LIS AMS AMS 05 30 30.2
comp=Z,4µm,22.1s
PMTG Montargil 24.57 127 *e*P **P** 05 22 56.9 0.0
comp=Z,102nm,1.7s
EMMW East Machias 24.59 254 P **P** 05 22 57.9 +0.8
EMMW IAmb IAmb 05 23 04.7
comp=Z,47nm,1.3s
PMRV Marv?ʔo 24.64 126 *e*P **P** 05 22 59.5 +2.0
comp=Z,57nm,2.0s
PMRV *e*LR LR 05 28 53.3
comp=Z,3µm,18.0s
F63A Nahmakanta, Br 24.79 257 P **P** 05 22 58.6 -0.3
baz=49
F63A Nahmakanta, Br 24.79 257 P **P** 05 22 59.3 +0.4
F63A IAmb IAmb 05 23 17.7
comp=Z,29nm,1.2s
NOR Nord 24.83 6 *i* P **P** 05 22 59.2 +0.4
comp=Z,3µm,17.0s
NOR Nord 24.83 6 *i* P **P** 05 22 59.2 +0.4
NOR IAMs_20 IAMs_20 05 31 32.2
comp=Z,3µm,16.7s
G64A Maxfield 24.91 256 P **P** 05 22 59.8 -0.1
baz=48
COP Copenhagen 24.96 74 *i* P **P** 05 23 01.1 +0.9
comp=Z,2µm,17.0s
COP Copenhagen 24.96 74 *e*P **P** 05 22 59.9 -0.3
COP *i* P **P** 05 23 01.2 +0.9
COP IAMs_20 IAMs_20 05 32 43.0
comp=Z,2µm,16.7s
D60A Saint Jean D'O 24.99 262 P **P** 05 23 00.3 -0.3
baz=52
E61A Lac Etchemin 25.06 260 P **P** 05 23 02.5 +1.2
baz=51
CHGQ Chibougamau 25.10 270 P **P** 05 23 01.8 +0.2
baz=57,SNR=6.4
F62A Pittston Farm, 25.12 259 P **P** 05 23 02.5 +0.6
baz=50,SNR=12
F62A Pittston Farm, 25.12 259 P **P** 05 23 02.3 +0.5
PKME Peaks-Kenny Pk 25.18 257 P **P** 05 23 03.4 +1.0
baz=48,SNR=6.6
PKME Peaks-Kenny Pk 25.18 257 P **P** 05 23 03.8 +1.5
G63A Kingsbury 25.45 257 P **P** 05 23 04.9 +0.1
baz=48
H64A Troy 25.56 256 P **P** 05 23 06.0 +0.3
baz=48
PBEJ Beja 25.59 128 *e*P **P** 05 23 06.6 +0.5
comp=Z,56nm,1.4s
E60A Ste Agathe de 25.61 261 P **P** 05 23 06.4 +0.2
baz=51
F61A St Evariste 25.62 260 P **P** 05 23 06.5 +0.1
baz=50
PTEO Sao Teotonio 25.64 130 *e*P **P** 05 23 02.8 -3.7
comp=Z,159nm,1.6s
LATQ La Tuque 25.70 264 P **P** 05 23 07.2 +0.2
baz=53
LATQ La Tuque 25.70 264 P **P** 05 23 08.2 +1.2
LATQ IAmb IAmb 05 23 10.6
comp=Z,28nm,1.4s
ECH Echery 25.80 93 P **P** 05 23 09.2 +1.2
UCM Universidad Co 25.84 118 *i* P **P** 05 23 09.9 +1.5
UCM *e*S S 05 27 54.0 +17
PCVE Castro Verde 25.85 129 *e*P **P** 05 23 09.7 +1.2
comp=Z,82nm,1.4s
G62A West of Eustis 25.87 258 P **P** 05 23 10.7 +2.1
baz=49

G62A West of Eustis 25.87 258 P **P** 05 23 09.2 +0.6
G62A IAmb IAmb 05 23 11.7
comp=Z,45nm,1.2s
MORF Marmelete 25.88 130 *e*P **P** 05 23 08.3 -0.4
MORF *e*S **S** 05 27 38.1 +0.3
MORF AMS AMS 05 31 00.2
comp=Z,3µm,22.1s
MORF Marmelete 25.88 130 *e*P **P** 05 23 02.8 -6.0
comp=Z,97nm,1.3s
PAB San Pablo 25.92 121 P **P** 05 23 09.1 -0.1
PAB IAmb IAmb 05 23 17.7
comp=Z,28nm,1.4s
D58A Chemin du LacG 25.93 264 P **P** 05 23 09.6 +0.4
baz=52
H63A New Sharon 25.98 257 P **P** 05 23 11.1 +1.5
baz=48
ESBB Sonseca Array 26.00 120 P **P** 05 23 10.6 +0.7
ESBB IAmb IAmb 05 23 15.4
comp=Z,27nm,1.4s
ESDC Sonseca Array 26.00 120 P **P** 05 23 08.6 -1.3
comp=Z,7.7nm,1.2s,baz=320,slow=8.4,SNR=14
ESDC LR LR 05 31 37.8
comp=Z,3µm,18.1s,baz=320,slow=32
ESDC Sonseca Array 26.00 120 P **P** 05 23 09.4 -0.5
KBS Kingsbay 26.08 18 IAMs_20 IAMs_20 05 34 36.7
comp=Z,2µm,11.9s
F60A Warwick 26.14 261 P **P** 05 23 10.9 -0.1
baz=50
PVAQ Vaqueiros 26.18 129 *e*P **P** 05 23 13.2 +1.7
comp=Z,74nm,1.7s
PVAQ *e*LR LR 05 29 27.1
comp=Z,5µm,20.0s
PBDV Barranco-do-Ve 26.23 129 *e*P **P** 05 23 07.3 -4.6
comp=Z,88nm,1.5s
G61A St-Isidore-de- 26.36 259 P **P** 05 23 15.2 +2.2
baz=49
BFO Black Forest 26.37 92 P **P** 05 23 13.3 +0.2
BSD Bornholm Skovb 26.48 74 *i* P **P** 05 23 15.0 +1.0
comp=Z,2µm,22.0s
BSD Bornholm Skovb 26.48 74 *e*P **P** 05 23 15.1 +1.0
BSD IAMs_20 IAMs_20 05 32 11.1
comp=Z,2µm,22.2s
STU Stuttgart 26.58 90 P **P** 05 23 15.8 +0.7
E58A La Victoria 26.59 263 P **P** 05 23 15.2 +0.1
baz=51
H62A Milan 26.63 258 P **P** 05 23 18.5 +3.0
baz=48
H62A Milan 26.63 258 P **P** 05 23 16.3 +0.8
H62A IAmb IAmb 05 23 25.7
comp=Z,49nm,1.3s
G60A Masonville 26.91 260 P **P** 05 23 18.0 0.0
baz=49
PMOZ Porto Moniz, M 26.91 149 *e*LR LR 05 30 01.9
comp=Z,2µm,20.0s
MATQ Matagami 26.95 273 P **P** 05 23 18.0 -0.3
baz=57
D56A ZEC Mazanza, M 26.97 265 P **P** 05 23 19.1 +0.6
baz=52
LSQQ Lebel-sur-Quev 26.99 271 P **P** 05 23 19.0 +0.4
baz=56
E57A Chemin Saint G 27.04 264 P **P** 05 23 19.3 +0.1
baz=51
H61A Lyndonville 27.07 258 P **P** 05 23 21.0 +1.6
baz=48
GRA1 Grafenberg Arr 27.16 87 P **P** 05 23 19.8 -0.5
GRA1 IAmb IAmb 05 23 27.0
comp=Z,25nm,1.1s
I62A Tamworth 27.20 257 P **P** 05 23 21.3 +0.7
CLL Collm 27.26 83 *e*P **P** 05 23 21.0 -0.1
comp=Z,9.0nm,0.9s
CLL *e* 05 23 49.0
CLL *e*(PP) 05 24 00.0
CLL *e*S **S** 05 27 57.0 -2.4
CLL *e* 05 28 30.0
CLL *e*SSSS 05 29 36.0
CLL Lm MLR 05 33 00.0
comp=Z,3µm,20.2s
CLL Lmax 05 34 00.0
CLL Collm 27.26 83 P **P** 05 23 21.3 +0.3
G59A Clarenceville 27.37 261 P **P** 05 23 22.7 +0.6
baz=49
D55A Sainte-Anne-du 27.38 266 P **P** 05 23 21.2 -1.0
baz=52
E56A St. Veronique 27.43 265 P **P** 05 23 22.9 +0.2
baz=52
BNI Bardonecchia 27.52 99 P **P** 05 23 23.3 -0.3
BNI IAmb IAmb 05 23 30.6
comp=Z,29nm,1.5s
NKC Novy Kostel 27.53 85 AMS AMS 05 33 50.0
comp=Z,3µm,16.7s
SFS San Fernando 27.62 127 *e*P **P** 05 23 23.4 -1.0
ARCES ARCESS Array B 27.72 40 P **P** 05 23 23.5 -1.6
comp=Z,1.6nm,0.6s,baz=264,slow=8.4,SNR=15
ARCES PcP **PcP** 05 26 39.4 -1.8
comp=Z,2.4nm,0.8s,baz=229,slow=3.5,SNR=3.9
ARCES LR LR 05 32 16.0
comp=Z,1µm,19.4s,baz=290,slow=32
VLDQ Val d'Or 27.79 270 P **P** 05 23 27.4 +1.5
VLDQ IAmb IAmb 05 23 45.2
comp=Z,23nm,1.1s
G58A Ormstown 27.79 262 P **P** 05 23 25.5 -0.4
baz=49
DAVA Damuels 27.83 92 P **P** 05 23 30.8 +4.4
comp=Z,7.0nm,1.3s
BRG Berggiesshubel 27.99 83 *e*P **P** 05 23 30.6 +3.0
comp=Z,15nm,1.5s
comp=N,2µm,14.7s
comp=E,4µm,15.9s
comp=Z,4µm,15.8s
TUE Stuetta 28.04 94 P **P** 05 23 28.4 0.0
TUE IAmb IAmb 05 23 38.9
comp=Z,13nm,0.9s
DAVOX Davos/Dischmat 28.14 93 P **P** 05 23 31.0 +1.8
comp=Z,1.7nm,0.8s,baz=307,slow=15,SNR=1.8
DAVOX LR LR 05 34 11.6
comp=Z,5µm,19.1s,baz=308,slow=36
EMAL Malaga-Limoner 28.15 125 *e*P **P** 05 23 30.2 +1.1
EMAL *e*S S 05 28 25.2 +12
RETA Reutte 28.19 91 *e*P **P** 05 23 33.4 +3.9
comp=Z,6.9nm,1.0s
G57A Newington 28.32 262 P **P** 05 23 31.5 +0.8
baz=50
H58A Gabriels 28.34 261 P **P** 05 23 34.0 +3.2
baz=48
FUORN Ofenpass-Fuorn 28.45 93 P **P** 05 23 31.0 -1.1
FETA Feichten 28.45 92 *e*P **P** 05 23 33.8 +1.8
comp=Z,7.6nm,1.1s
CEU Ceuta 28.46 127 *e*P **P** 05 23 33.4 +1.5
MOTA Moosalm 28.46 91 *e*P **P** 05 23 33.6 +1.6
comp=Z,5.5nm,1.2s
RES Resolute Bay 28.50 331 LR LR 05 34 26.1
comp=Z,2µm,18.3s,baz=111,slow=35
PVCC Panska Ves 28.51 83 AMS AMS 05 35 10.0
comp=Z,4µm,15.2s
SQTA Sankt Quirin 28.59 91 *e*P **P** 05 23 36.7 +3.6
comp=Z,4.2nm,0.8s
PRA Prague 28.69 84 AMS AMS 05 34 30.0
comp=Z,1µm,18.8s
WATA Walderalm 28.72 91 *e*P **P** 05 23 38.4 +4.1
comp=Z,5.5nm,0.8s
KHC Kasperske Hory 28.75 86 *e*P **P** 05 23 37.5 +3.0
KHC AMS AMS 05 34 40.0
comp=Z,3µm,17.6s
PRU Pruhonice 28.79 84 AMS AMS 05 34 10.0
comp=Z,3µm,19.1s
WTTA Wattenberg 28.80 91 *e*P **P** 05 23 35.8 +0.7
comp=Z,8.8nm,1.2s
GOPC GO Pecny, Ondr 28.97 84 AMS AMS 05 34 20.0
comp=Z,3µm,18.9s
GEC2 GERESS Array S 28.98 87 P **P** 05 23 36.5 -0.1
GERES GERESS Array B 28.98 87 P **P** 05 23 35.7 -0.9
comp=Z,0.5nm,0.7s,baz=343,slow=9.7,SNR=4.3
GERES LR LR 05 35 00.4
comp=Z,2µm,18.0s,baz=304,slow=36
CART Cartagena 29.06 119 *e*P **P** 05 23 38.2 +1.0
KSP Ksiaz 29.27 81 *e*P **P** 05 23 38.6 -0.4
KSP *e*S **S** 05 28 31.8 +0.8
CHVC Chvalec 29.28 82 *e*P **P** 05 23 39.6 +0.5
CHVC AMS AMS 05 35 50.0
comp=Z,4µm,16.0s
UPC Upice 29.30 82 AMS AMS 05 35 50.0
comp=Z,4µm,15.7s
OSTC Ostas 29.38 82 *e*P **P** 05 23 39.8 -0.2
OSTC AMS AMS 05 35 50.0
comp=Z,4µm,16.2s
PVLZ Peæn de 29.54 126 *e*P **P** 05 23 40.5 -0.9
PVLZ *e*S **S** 05 28 41.1 +5.7

DPC Dobruska-Polom 29.55 82 eP P 05 23 41.3 -0.3
DPC eS S 05 28 36.5 +0.9
DPC AMS AMS 05 36 00.0
comp=Z,4µm,15.3s
ABTA Abfaltersbach 29.59 91 P P 05 23 42.0 0.0
comp=Z,7.2nm,1.3s
FINES FINESS Array B 29.61 57 P P 05 23 41.1 -0.8
comp=Z,1.3nm,0.6s,baz=290,slow=5.5,SNR=13
FINES PcP PcP 05 26 46.9 +1.0
comp=Z,0.9nm,0.6s,baz=339,slow=2.7,SNR=6.2
FINES LR LR 05 35 10.4
comp=Z,1µm,18.1s,baz=284,slow=36
FINES FINESS Array B 29.61 57 P P 05 23 38.6 -3.3
FIA1 FINESS Array S 29.61 57 P P 05 23 41.0 -0.9
FIA1 IAmb IAmb 05 23 55.6
comp=Z,17nm,1.2s
TREC Trest 29.69 84 AMS AMS 05 35 10.0
comp=Z,3µm,17.7s
CIMO Cimolais 29.82 92 P P 05 23 43.4 -0.5
KBA Koelnbreinsper 29.84 90 eP P 05 23 46.5 +2.2
comp=Z,9.8nm,1.8s
AVE Averroes 29.85 133 eP P 05 23 44.6 +0.4
AVE eS S 05 28 46.5 +6.2
MOA Molln 29.87 88 P P 05 23 45.7 +1.3
comp=Z,4.0nm,1.5s
KRLC Kraliky 29.95 82 eP P 05 23 45.3 +0.2
KRLC eS S 05 28 44.8 +3.0
KRLC AMS AMS 05 36 00.0
comp=Z,3µm,16.2s
ZOU Zoufplan 29.95 91 P P 05 23 45.7 +0.4
ZOU IAmb IAmb 05 23 59.2
comp=Z,15nm,1.1s
TEOL Teolo 30.00 94 P P 05 23 44.8 -0.8
TEOL IAmb IAmb 05 23 50.7
comp=Z,18nm,0.9s
MELI Melilla 30.04 124 eP P 05 23 46.0 +0.1
MYKA Terra Mystica 30.27 90 eP P 05 23 48.8 +0.9
comp=Z,8.6nm,0.9s
VRAC Vranov 30.28 84 P P 05 23 46.0 -2.0
comp=Z,3.7nm,0.9s,baz=323,slow=10,SNR=4.8
VRAC LR LR 05 35 37.6
comp=Z,3µm,19.6s,baz=308,slow=36
VRAC Vranov 30.28 84 ⇑P P 05 23 48.3 +0.3
PRED Cave del Predi 30.34 91 P P 05 23 47.8 -0.8
MORC Moravsky Berou 30.52 82 ⇑P P 05 23 51.3 +1.1
IFR Ifrane 30.59 129 eP P 05 23 52.1 +1.1
IFR eS S 05 28 58.3 +5.9
CONA Conrad Observa 30.69 86 P P 05 23 50.1 -1.6
comp=Z,6.4nm,1.5s
SADO Sadowa 30.78 266 P P 05 23 52.8 +0.3
comp=Z,5.4nm,0.6s,baz=73,slow=12,SNR=4.2
SADO LR LR 05 34 57.4
comp=Z,5µm,19.0s,baz=84,slow=34
SADO Sadowa 30.78 266 IAmb IAmb 05 24 00.7
comp=Z,19nm,1.0s
OKC Ostrava-Krasne 30.82 82 AMS AMS 05 36 40.0
comp=Z,4µm,15.7s
OBKA Obir 30.84 90 eP P 05 23 53.6 +0.6
comp=Z,4.8nm,1.0s
ARSA Arzberg 30.91 88 eP P 05 23 54.6 +1.0
comp=Z,2.3nm,0.7s
SOKA Soboth 31.00 89 eP P 05 23 55.6 +1.3
comp=Z,6.0nm,0.9s
BEL Belsk 31.13 77 eP P 05 23 57.5 +2.1
MODS Modra-Piesok 31.19 85 eP P 05 23 55.1 -0.9
SMOL Smolenice 31.19 84 eP P 05 23 57.5 +1.5
L57A Andrews Acres 31.42 260 P P 05 23 59.2 +1.1
baz=46
MDT Midelt 31.42 129 P P 05 23 58.2 -0.1
comp=Z,11nm,1.0s,baz=355,slow=11,SNR=7.4
MMNY Mt. Morris Dam 31.48 262 P P 05 23 59.7 +1.2
OJC Ojcow 31.48 80 eP P 05 23 58.3 -0.3
OJC eS S 05 29 07.9 +2.1
OJC Ojcow 31.48 80 P P 05 23 58.8 +0.2
OJC IAmb IAmb 05 24 04.8
comp=Z,15nm,1.3s
LANS Liptovska Anna 31.91 82 eP P 05 24 02.8 +0.4
NIE Niedzica 32.21 81 eP P 05 24 05.1 +0.2
NIE eS S 05 29 17.8 +0.7
E46A Sault Ste Mari 32.56 273 P P 05 24 08.5 +0.5
M55A Ridgway 32.81 261 P P 05 24 11.7 +1.4
baz=46
M55A Ridgway 32.81 261 P P 05 24 11.6 +1.3
M55A IAmb IAmb 05 24 18.9
comp=Z,19nm,1.1s
PSZ Piszkesteto 32.87 83 ⇓P P 05 24 11.2 +0.4
PSZ Piszkesteto 32.87 83 P P 05 24 10.8 0.0
PSZ IAmb IAmb 05 24 17.9
comp=Z,11nm,0.9s
N56A West Decatur 32.95 260 P P 05 24 12.9 +1.3
baz=45
M54A Oil Creek Stat 33.27 262 P P 05 24 15.5 +1.2
baz=46
N55A Marion Center 33.42 260 P P 05 24 16.6 +1.0
baz=45
KOLS Kolonicke sedl 33.54 80 eP P 05 24 17.6 +1.0
O56A Blue Knob Stat 33.56 259 P P 05 24 18.1 +1.2
baz=44
O56A Blue Knob Stat 33.56 259 P P 05 24 16.9 0.0
O56A IAmb IAmb 05 24 25.5
comp=Z,14nm,0.8s
GLMI Grayling 33.71 271 P P 05 24 19.5 +1.4
N54A Moraine State 33.83 261 P P 05 24 20.7 +1.5
baz=45
N54A Moraine State 33.83 261 P P 05 24 20.0 +0.9
P57A Homestead Farm 33.83 258 P P 05 24 20.9 +1.7
baz=43
P57A Homestead Farm 33.83 258 P P 05 24 20.2 +1.0
P57A IAmb IAmb 05 24 21.6
comp=Z,28nm,1.4s
K50A Casco 33.99 266 P P 05 24 21.5 +1.0
O55A Ligonier 34.00 260 P P 05 24 21.9 +1.2
baz=44
P56A Dayton Farm, R 34.26 258 P P 05 24 23.9 +1.0
baz=43
Q57A Strasburg 34.37 257 P P 05 24 24.8 +0.9
baz=43
N53A Lisbon 34.39 262 P P 05 24 25.3 +1.2
baz=45
N53A Lisbon 34.39 262 P P 05 24 25.1 +1.0
N53A IAmb IAmb 05 24 26.8
comp=Z,26nm,1.1s
MCWV Mont Chateau 34.68 260 P P 05 24 31.6 +5.1
baz=44
SIRR Siria 34.84 84 ⇓P P 05 24 28.4 +0.6
R57A Stanardsville 34.98 257 P P 05 24 30.3 +1.2
baz=42
O53A New Philadelph 34.99 262 P P 05 24 30.2 +1.0
baz=45
F42A Maple Grove Fa 35.02 275 P P 05 24 30.6 +1.2
F42A IAmb IAmb 05 24 37.1
comp=Z,9.1nm,0.7s
P54A Burton 35.06 260 P P 05 24 31.5 +1.7
baz=44
M50A Fremont 35.16 265 P P 05 24 30.5 -0.2
BZS Buzias 35.23 85 ⇑P P 05 24 31.4 +0.2
DIVS Divibare 35.33 89 P P 05 24 31.4 -0.8
COWI Conover 35.34 276 P P 05 24 33.3 +1.1
COWI IAmb IAmb 05 24 40.4
comp=Z,20nm,0.8s
R56A Bull Pasture M 35.36 258 P P 05 24 33.8 +1.3
baz=42
O52A Adamsville 35.42 262 P P 05 24 34.3 +1.4
baz=44
O52A Adamsville 35.42 262 P P 05 24 34.0 +1.1
EYMN Ely 35.46 280 P P 05 24 34.0 +0.8
baz=53,SNR=6.3
EYMN Ely 35.46 280 P P 05 24 33.9 +0.7
S57A Dark Hollow, R 35.60 257 P P 05 24 35.9 +1.4
baz=42
S57A Dark Hollow, R 35.60 257 P P 05 24 35.7 +1.2
P53A Whipple 35.63 261 P P 05 24 36.5 +1.8
baz=44
KEST Kesra 35.65 109 P P 05 24 34.6 -0.4
comp=Z,13nm,0.9s,baz=210,slow=3.8,SNR=9.8
KEST LR LR 05 37 26.3
comp=Z,1µm,20.8s,baz=252,slow=34
KEST Kesra 35.65 109 P P 05 24 34.4 -0.6
DEV Deva 35.75 84 ⇓P P 05 24 36.0 +0.3
O51A Pataskala 35.81 263 P P 05 24 36.8 +0.6
baz=45
KLMR Klimovskoe 35.82 53 eP P 05 24 34.0 -2.1
KLMR AMP 05 24 44.7
comp=Z,82nm,1.5s
KLMR LQ LQ 05 33 57.4
KLMR LQ LQ 05 33 57.4
KLMR LR LR 05 36 04.0
BUR08 Bucovina Ar. S 35.88 80 P P 05 24 37.0 +0.1
BUR08 IAmb IAmb 05 24 44.3
comp=Z,13nm,1.1s
BURAR Bucovina Array 35.91 80 ⇓P P 05 24 37.3 +0.2
BURAR Bucovina Array 35.91 80 P P 05 24 36.9 -0.2
P52A Corning 35.92 262 P P 05 24 38.0 +0.7
baz=44
P52A Corning 35.92 262 P P 05 24 38.4 +1.1
P52A IAmb IAmb 05 24 45.8
comp=Z,20nm,1.1s
ACSO Alum Creek Sta 35.95 263 P P 05 24 38.8 +1.3
baz=45
ACSO Alum Creek Sta 35.95 263 P P 05 24 38.1 +0.6
ACSO IAmb IAmb 05 24 46.0
comp=Z,17nm,0.9s
GZR Gura Zlata 35.99 85 ⇑P P 05 24 38.2 +0.3
PDG Podgorica 36.05 91 ⇑P P 05 24 37.3 -0.9
PDG Podgorica 36.05 91 P P 05 24 37.5 -0.8
CORL Corleone 36.08 102 P P 05 24 37.3 -1.3
N49A Columbus Grove 36.11 265 P P 05 24 39.8 +0.9
HERR Herculane 36.13 86 ⇓P P 05 24 39.7 +0.7
Q53A Leroy 36.16 260 P P 05 24 40.6 +1.4
baz=43
AKASG Malin Array Be 36.17 73 P P 05 24 38.0 -1.3
comp=Z,6.6nm,0.8s,baz=307,slow=8.4,SNR=20
AKASG LR LR 05 39 09.6
comp=Z,2µm,20.0s,baz=295,slow=36
AKASG Malin Array Be 36.17 73 P P 05 24 38.2 -1.0
AKBB Malin Array Si 36.17 73 P P 05 24 38.6 -0.6
AKBB IAmb IAmb 05 24 43.5
comp=Z,15nm,0.9s
CLTB Caltabellotta 36.26 103 P P 05 24 40.2 -0.1
CLTB IAmb IAmb 05 24 46.9
comp=Z,25nm,1.0s
ULM Lac du Bonnet 36.39 286 P P 05 24 40.9 -0.3
comp=Z,8.0nm,0.9s,baz=46,slow=8.1,SNR=5.6
ULM LR LR 05 38 16.2
comp=Z,4µm,19.0s,baz=74,slow=34
ULM Lac du Bonnet 36.39 286 P P 05 24 41.1 -0.1
ULM IAmb IAmb 05 24 48.5
comp=Z,22nm,1.0s
B35A Bob, Littlefor 36.39 282 P P 05 24 41.9 +0.7
B35A IAmb IAmb 05 24 42.1
comp=Z,21nm,1.1s
G40A Rib Lake 36.45 276 P P 05 24 42.4 +0.7
G40A IAmb IAmb 05 24 49.9
comp=Z,8.7nm,0.8s
LOT Lotru 36.49 84 ⇑P P 05 24 42.9 +0.7
P51A Williamsport 36.53 263 P P 05 24 43.4 +1.0
baz=44
P51A Williamsport 36.53 263 P P 05 24 43.2 +0.8
P51A IAmb IAmb 05 24 50.8
comp=Z,29nm,1.1s
O49A Covington 36.71 265 P P 05 24 45.0 +1.0
O49A IAmb IAmb 05 24 52.4
comp=Z,24nm,1.1s
R53A Hurricane 36.77 260 P P 05 24 45.9 +1.4
baz=43
BIZ Bicaz 36.80 80 ⇑P P 05 24 46.0 +1.4
U57A Blanch 36.80 255 P P 05 24 46.0 +1.2
baz=41
S54A Dingess, Beckl 36.82 259 P P 05 24 45.7 +0.8
baz=42
FFC Flin Flon 36.95 296 P P 05 24 46.2 +0.4
FFC IAmb IAmb 05 24 47.1
comp=Z,16nm,1.1s
Q51A Peebles 37.01 262 P P 05 24 47.5 +1.0
Q51A IAmb IAmb 05 24 55.0
comp=Z,15nm,0.8s
DOPR Dopca 37.03 82 ⇑P P 05 24 46.9 +0.3
RAFF Raffo Rosso 37.14 102 P P 05 24 47.2 -0.4
OZUR 37.16 81 ⇑P P 05 24 48.0 +0.2
VOIR 37.19 83 ⇓P P 05 24 48.2 +0.1
SORM Soroca 37.25 77 ⇓P P 05 24 48.8 +0.4
P49A Miami Univ. Ec 37.38 264 P P 05 24 50.4 +0.8
baz=44
P49A Miami Univ. Ec 37.38 264 P P 05 24 50.7 +1.0
T54A Tazewell 37.51 258 P P 05 24 51.5 +0.7
baz=42
AGMN Agassiz Nation 37.56 284 P P 05 24 51.9 +0.8
baz=52
AGMN Agassiz Nation 37.56 284 P P 05 24 51.5 +0.4
AGMN IAmb IAmb 05 24 59.3
comp=Z,16nm,1.0s
I40A Norwalk 37.57 274 P P 05 24 52.2 +1.0
MLR Muntele Rosu 37.64 82 ⇑P P 05 24 52.2 +0.3
U55A TAZ, Sparta 37.65 257 P P 05 24 53.2 +1.2
baz=41,SNR=6.5
PLOR Plostina 37.78 81 ⇑P P 05 24 53.8 +0.8
VRI Vrincioaia 37.81 81 ⇑P P 05 24 53.8 +0.5
P48A Milroy 37.82 265 P P 05 24 54.0 +0.7
P48A IAmb IAmb 05 25 01.4
comp=Z,19nm,0.9s
W58A Raeford 37.83 254 P P 05 24 55.0 +1.6
baz=39
F36A Milaca 37.85 279 P P 05 24 54.5 +0.9
F36A IAmb IAmb 05 25 07.2
comp=Z,23nm,1.3s
SPMN Marine on St. 37.88 278 P P 05 24 54.9 +1.1
baz=50
SPMN Marine on St. 37.88 278 P P 05 24 54.4 +0.6
U54A Nelsons Funny 38.05 258 P P 05 24 57.6 +2.2
baz=41
SFIN Lafayette 38.07 267 P P 05 24 56.6 +1.1
baz=45
SFIN Lafayette 38.07 267 P P 05 24 56.1 +0.7
SFIN IAmb IAmb 05 25 03.9
comp=Z,19nm,0.9s
VTS Vitosha 38.08 88 eP P 05 24 56.2 +0.5
R50A Paris 38.08 262 P P 05 24 56.6 +1.0
S51A Beattyville 38.16 261 P P 05 24 57.4 +1.1
S51A IAmb IAmb 05 25 04.8
comp=Z,18nm,0.9s
L42A Oliver, Polo 38.33 271 P P 05 24 58.4 +0.7
YKA Yellowknife Ar 38.50 313 P P 05 24 59.0 +0.2
comp=Z,3.6nm,0.8s,baz=59,slow=9.7,SNR=6.1
YKA LR LR 05 40 15.9
comp=Z,8µm,18.5s,baz=0.0,slow=35
KKB Krupnik 38.51 89 eP P 05 25 00.5 +1.3
BLO Bloomington 38.62 265 P P 05 25 01.1 +1.1
BLO IAmb IAmb 05 25 01.7
comp=Z,20nm,1.2s
PGB Panagyurishte 38.63 87 eP P 05 25 05.4 +5.2
P46A Rosedale 38.67 266 P P 05 25 01.4 +0.9
V54A Nebo 38.67 257 P P 05 25 01.9 +1.3
baz=41
TZTN Tazewell 38.95 260 P P 05 25 04.4 +1.5
baz=42
TZTN Tazewell 38.95 260 P P 05 25 04.4 +1.5
TZTN IAmb IAmb 05 25 11.8
comp=Z,24nm,1.1s
I37A Lemond, Waseca 38.99 277 P P 05 24 04.2 +1.0
I37A IAmb IAmb 05 25 05.0
comp=Z,40nm,1.4s
CFR Carcaliu 39.02 81 ⇑P P 05 25 03.5 +0.2
MMB Musomiste 39.05 89 eP P 05 25 03.1 -0.6
HDIL Hopedale 39.14 269 P P 05 25 06.5 +2.0
baz=45
HDIL Hopedale 39.14 269 P P 05 25 05.8 +1.4
HDIL IAmb IAmb 05 25 13.5
comp=Z,49nm,1.4s
WCI Wyandotte Cave 39.18 264 P P 05 25 06.1 +1.3
baz=43
WCI Wyandotte Cave 39.18 264 P P 05 25 05.7 +0.9
V53A Saluda 39.21 258 P P 05 25 06.6 +1.4
T50A Nancy 39.28 261 P P 05 25 06.5 +0.9
W54A Cherokee Point 39.33 257 P P 05 25 07.6 +1.6
baz=40
F33A 5 Mile Ranch, 39.34 281 P P 05 25 06.8 +0.7
K38A Parkersburg 39.57 275 P P 05 25 09.1 +1.0
K38A IAmb IAmb 05 25 21.7
comp=Z,53nm,1.4s
BG3 Lake Jocassee 39.79 258 P P 05 25 11.4 +1.5
MDND Maddock 39.80 286 P P 05 25 10.9 +1.0
baz=51
MDND Maddock 39.80 286 P P 05 25 10.1 +0.1
MDND IAmb IAmb 05 25 18.1
comp=Z,34nm,0.8s
N41A Harden Midland 39.88 271 P P 05 25 11.7 +1.1
N41A IAmb IAmb 05 25 22.4
comp=Z,24nm,1.1s
P43A Skaggs, Pawnee 39.91 268 P P 05 25 11.9 +1.1
P43A IAmb IAmb 05 25 19.5
comp=Z,13nm,0.8s
V51A Loudon 39.93 260 P P 05 25 12.1 +1.0
AGG Agios Georgios 40.10 93 P P 05 25 12.5 0.0
AGG IAmb IAmb 05 25 19.0
comp=Z,27nm,0.8s
Q44A Meyer Farm, Va 40.16 267 P P 05 25 13.5 +0.5
Q44A IAmb IAmb 05 25 21.4
comp=Z,22nm,0.9s
U49A Red Boiling Sp 40.16 262 P P 05 25 13.9 +0.9
CPCT Cooper Cave 40.29 260 P P 05 25 14.9 +0.8
T47A Sharon Grove 40.52 264 P P 05 25 16.7 +0.7
CLTN Cedars of Leba 40.77 262 P P 05 25 19.4 +1.3
ALN Alexandroupoli 40.79 87 P P 05 25 18.2 +0.1
ALN IAmb IAmb 05 25 24.9
comp=Z,14nm,0.9s
ECSD EROS Data Cent 40.91 279 P P 05 25 20.5 +1.4
baz=48,SNR=10
ECSD EROS Data Cent 40.91 279 P P 05 25 20.5 +1.4
ECSD IAmb IAmb 05 25 31.9
comp=Z,18nm,1.1s
S44A Carbondale 41.17 266 P P 05 25 22.8 +1.5
S44A IAmb IAmb 05 25 29.6
comp=Z,24nm,0.9s
E28A Huff 41.19 285 P P 05 25 22.5 +1.1
SWET Sewanee 41.22 261 P P 05 25 22.4 +0.6
Y52A Lilburn 41.25 258 P P 05 25 23.5 +1.4
KIRV Kirov 41.28 52 P P 05 25 22.2 +0.3
comp=Z,5.6nm,0.5s,baz=261,slow=6.1,SNR=5.0
GOGA Godfrey 41.29 257 P P 05 25 23.4 +1.1
baz=39,SNR=10
GOGA Godfrey 41.29 257 P P 05 25 23.6 +1.3
GOGA IAmb IAmb 05 25 30.9
comp=Z,15nm,0.8s
V48A Smith Brothers 41.30 262 P P 05 25 23.9 +1.5
P40A Paris 41.35 270 P P 05 25 23.8 +1.0
P40A IAmb IAmb 05 25 31.1
comp=Z,21nm,1.4s
WVT Waverly 41.55 263 P P 05 25 24.7 +0.3
baz=42
WVT Waverly 41.55 263 P P 05 25 25.2 +0.7
DGMT Dagmar 41.78 289 P P 05 25 27.6 +1.4
baz=50,SNR=5.6
DGMT Dagmar 41.78 289 P P 05 25 28.0 +1.7
DGMT IAmb IAmb 05 25 35.4
comp=Z,36nm,1.1s
INK Inuvik 41.88 327 P P 05 25 26.2 -0.5
comp=Z,2.8nm,0.8s,baz=349,slow=2.3,SNR=3.8
INK LR LR 05 42 23.1
comp=Z,2µm,21.7s,baz=46,slow=36
INK Inuvik 41.88 327 P P 05 25 26.9 +0.2
CCM Cathedral Cave 41.98 268 P P 05 25 28.8 +0.9
baz=43
CCM Cathedral Cave 41.98 268 P P 05 25 28.9 +0.9
P38A Dawn 42.09 272 P P 05 25 30.4 +1.5
R40A Maddies Statio 42.36 269 P P 05 25 31.4 +0.4
X48A Hartselle 42.39 261 P P 05 25 32.4 +1.0
PBMO Poplar Bluff 42.47 266 P P 05 25 33.0 +1.0
PBMO IAmb IAmb 05 25 40.2
comp=Z,22nm,1.1s
Y49A Blount Mountai 42.51 260 P P 05 25 33.0 +0.7
152A Waverly Hall 42.52 257 P P 05 25 33.2 +0.8
PLAL Pickwick Lake 42.54 262 P P 05 25 33.3 +0.8
T42A Van Buren 42.65 267 P P 05 25 34.4 +1.0
MGMO Mountain Grove 43.19 268 P P 05 25 38.3 +0.5
BGNE Belgrade 43.33 277 P P 05 25 39.6 +0.8
S39A Bolivar 43.37 270 P P 05 25 39.5 +0.3
LCAR Lake Charles 43.39 266 P P 05 25 40.0 +0.6
N33A J Bar K, Exete 43.42 276 P P 05 25 39.6 -0.1
LRAL Lakeview Retre 43.45 260 P P 05 25 40.9 +0.9
baz=39,SNR=7.2
LRAL Lakeview Retre 43.45 260 P P 05 25 40.9 +0.9
MDUB Mudurnu 43.87 84 P P 05 25 44.0 +0.7
250A Grady 43.88 258 P P 05 25 44.0 +0.6
Z47A Carrollton 43.90 261 P P 05 25 44.1 +0.6
LAO LASA Array 43.98 289 P P 05 25 45.5 +1.4
baz=48,SNR=32
LAO LASA Array 43.98 289 P P 05 25 45.7 +1.5
FCAR Ozark Folk Cen 44.05 267 P P 05 25 45.5 +0.8
EPYK Eagle Plains 44.06 326 P P 05 25 45.0 +0.5
baz=49
EPYK Eagle Plains 44.06 326 P P 05 25 45.4 +0.9
U40A Yellville 44.10 268 P P 05 25 45.6 +0.5
baz=42,SNR=7.1
U40A Yellville 44.10 268 P P 05 25 45.7 +0.6
U40A IAmb IAmb 05 26 04.5
comp=Z,26nm,1.4s
KSU1 Kansas State U 44.13 274 P P 05 25 45.7 +0.3
KSU1 IAmb IAmb 05 25 56.4
comp=Z,18nm,1.0s
Y45A Yeager Farm, C 44.18 263 P P 05 25 46.1 +0.4
IDI Anoyia 44.23 94 P P 05 25 46.3 +0.1
comp=Z,14nm,0.8s,baz=22,slow=9.0,SNR=6.0
IDI Anoyia 44.23 94 IAmb IAmb 05 25 52.1
comp=Z,20nm,0.9s
RSSD Black Hills 44.58 284 P P 05 25 49.9 +0.7
baz=47
WHAR Wooly Hollow 44.58 266 P P 05 25 49.9 +0.9
WHAR IAmb IAmb 05 26 07.4
comp=Z,17nm,1.3s
W41B Gary Mavity, V 44.65 266 P P 05 25 50.4 +0.9
baz=41
W41B Gary Mavity, V 44.65 266 P P 05 25 49.9 +0.4
W41B IAmb IAmb 05 25 57.1
comp=Z,12nm,0.8s
HHAR Hobbs 44.74 269 P P 05 25 50.6 +0.3
ILGA Ilgaz 44.81 81 P P 05 25 51.6 +0.6
U38A Gravette 44.87 269 P P 05 25 51.3 +0.1
U38A IAmb IAmb 05 25 59.2
comp=Z,8.0nm,0.8s
EGMT Eagleton 44.89 292 P P 05 25 52.7 +1.3
baz=48
EGMT Eagleton 44.89 292 P P 05 25 51.9 +0.5
CCAR Cane Creek 45.34 265 P P 05 25 55.5 +0.5
W39A Magazine 45.46 268 P P 05 25 57.1 +1.1
baz=41,SNR=5.5
W39A Magazine 45.46 268 P P 05 25 56.2 +0.2
W39A IAmb IAmb 05 26 04.4
comp=Z,19nm,1.1s
X40A Basin Creek Fa 45.48 266 P P 05 25 56.8 +0.7
baz=41,SNR=12
X40A Basin Creek Fa 45.48 266 P P 05 25 56.3 +0.2
X40A IAmb IAmb 05 26 04.1
comp=Z,12nm,0.8s
BMAR Burnt Mountain 45.61 330 P P 05 25 57.9 +1.1
T35A Sooner Cattle 45.67 272 P P 05 25 57.6 0.0
T35A IAmb IAmb 05 26 04.1
comp=Z,8.7nm,0.8s
BR131 Keskin Array S 45.72 83 P P 05 25 58.8 +0.7
BRTR Keskin Array B 45.72 83 P P 05 25 58.8 +0.7
comp=Z,5.4nm,0.8s,baz=318,slow=5.5,SNR=27
BRTR LR LR 05 46 08.2
comp=Z,299nm,19.9s,baz=308,slow=38
BRTR Keskin Array B 45.72 83 P P 05 25 58.3 +0.2
R32A Long Quarter, 45.76 275 P P 05 25 58.3 0.0
R32A IAmb IAmb 05 26 03.5
comp=Z,12nm,1.1s
MIAR Mount Ida 45.84 267 P P 05 25 60.0 +1.0
baz=41
MIAR Mount Ida 45.84 267 P P 05 26 00.0 +1.0
MIAR IAmb IAmb 05 26 09.7
comp=Z,15nm,1.1s
ELL Elmali 45.86 88 P P 05 26 00.1 +0.8
TUL1 Leonard 46.02 270 P P 05 26 00.3 0.0
baz=42
TUL1 Leonard 46.02 270 P P 05 26 00.4 0.0
TOLK Toolik Lake Re 46.03 333 P P 05 26 01.3 +1.1
baz=42
TOLK Toolik Lake Re 46.03 333 P P 05 26 01.4 +1.3
346A Big Creek Wild 46.04 260 P P 05 26 01.2 +0.7
KAN13 South Haven SW 46.12 272 P P 05 26 00.7 -0.4
KAN12 Harper NE Stat 46.19 273 P P 05 26 02.1 +0.3
KAN08 Anthony NE Sta 46.23 273 P P 05 26 01.9 -0.2
WALA Waterton Lakes 46.25 296 P P 05 26 02.9 +0.7
GCMT Greycliff 46.35 290 P P 05 26 04.4 +1.3
DAWY Dawson 46.45 324 P P 05 26 05.2 +1.7
ARU Arti 46.48 50 P P 05 26 03.7 -0.1
comp=Z,5.3nm,1.0s,baz=312,slow=6.9,SNR=9.7
ARU Arti 46.48 50 P P 05 26 03.7 -0.1
ARU IAmb IAmb 05 26 09.9
comp=Z,18nm,1.1s
EGAK Eagle 46.50 326 P P 05 26 04.9 +1.1
EGAK IAmb IAmb 05 26 05.7
comp=Z,20nm,1.4s
NRIK Noril'sk 46.62 25 LR LR 05 46 45.9

comp=Z,385nm,18.6s,baz=16,slow=38
344A Westbrook Farm 46.67 262 P P 05 26 05.8 +0.3
X37A Clayton 46.78 268 P P 05 26 07.8 +1.5
X37A IAmb IAmb 05 26 22.7
comp=Z,12nm,1.2s
HRY Holter Researc 46.81 292 P P 05 26 08.1 +1.4
K22A Casper 46.91 285 P P 05 26 07.9 +0.5
baz=45
K22A Casper 46.91 285 P P 05 26 08.1 +0.6
K22A IAmb IAmb 05 26 23.9
comp=Z,13nm,1.1s
DLBC Dease Lake 47.03 314 P P 05 26 10.2 +2.1
comp=Z,9.9nm,1.1s,baz=292,slow=24,SNR=4.3
DLBC Dease Lake 47.03 314 P P 05 26 09.0 +1.0
YNE Yellowstone No 47.07 289 P P 05 26 09.5 +0.7
OK025 Westminster Rd 47.10 271 P P 05 26 09.4 +0.6
W35A Tecumseh 47.17 270 P P 05 26 10.0 +0.6
COLD Coldfoot 47.25 332 P P 05 26 10.7 +1.1
baz=41
COLD Coldfoot 47.25 332 P P 05 26 10.3 +0.7
K27K Chicken 47.31 325 P P 05 26 12.0 +1.8
baz=44
JTMT Jette 47.32 295 P P 05 26 11.2 +0.6
JTMT IAmb IAmb 05 26 17.8
comp=Z,11nm,0.8s
FNO Franklin 47.38 271 P P 05 26 12.1 +1.1
KSCO Kaye Shedlock' 47.44 278 P P 05 26 12.4 +0.8
BOZ Bozeman (W) 47.48 291 P P 05 26 13.3 +1.4
baz=46
BOZ Bozeman (W) 47.48 291 P P 05 26 13.4 +1.4
Z38A Mt. Pleasant 47.58 267 P P 05 26 16.1 +3.5
YHH Holmes Hill 47.65 290 P P 05 26 15.3 +2.0
LRM Limekiln Ridge 47.74 292 P P 05 26 15.6 +1.5
KBZ Khabaz 47.77 72 P P 05 26 15.0 +1.1
comp=Z,4.3nm,0.7s,baz=308,slow=6.8,SNR=9.6
KBZ LR LR 05 47 27.3
comp=Z,930nm,18.2s,baz=318,slow=38
YHL Hebgen Lake 47.77 290 P P 05 26 14.6 +0.2
MSO Missoula 47.78 294 P P 05 26 14.3 +0.2
baz=46
MSO Missoula 47.78 294 P P 05 26 14.7 +0.5
MSO IAmb IAmb 05 26 21.8
comp=Z,9.9nm,1.1s
YMR Madison River 47.79 290 P P 05 26 15.2 +0.8
N23A Red Feather La 47.85 283 P P 05 26 16.4 +1.5
baz=44
N23A Red Feather La 47.85 283 P P 05 26 16.5 +1.6
N23A IAmb IAmb 05 26 22.6
comp=Z,10nm,0.9s
BCAR Beaver Creek A 47.92 324 P P 05 26 15.1 +0.2
SCRK Sand Creek 47.93 326 P P 05 26 16.9 +1.7
baz=43,SNR=7.0
POKR Poker Flat Res 48.09 329 P P 05 26 18.0 +1.8
baz=42
DLMT Dillon 48.13 292 P P 05 26 18.5 +1.6
DLMT IAmb IAmb 05 26 24.6
comp=Z,11nm,1.1s
KOWA Kowa 48.19 140 P P 05 26 16.8 -0.7
KOWA IAmb IAmb 05 26 24.2
comp=Z,15nm,1.0s
IL31 48.20 328 P P 05 26 18.4 +1.5
IL31 IAmb IAmb 05 26 36.9
comp=Z,10.0nm,1.0s
ILAR Eielson Array 48.20 328 P P 05 26 18.1 +1.0
comp=Z,5.6nm,0.9s,baz=36,slow=6.4,SNR=50
ILAR PcP PcP 05 27 43.7 -0.2
comp=Z,1.4nm,0.5s,baz=353,slow=2.5,SNR=13
ILAR LR LR 05 47 02.6
comp=Z,746nm,18.3s,baz=62,slow=37
ILAR Eielson Array 48.20 328 P P 05 26 17.6 +0.6
DOT Dot Lake 48.20 326 P P 05 26 18.0 +0.9
DOT IAmb IAmb 05 26 27.3
comp=Z,14nm,1.2s
NEW Newport 48.35 297 P P 05 26 18.9 +0.5
baz=46
NEW Newport 48.35 297 P P 05 26 19.2 +0.8
NEW IAmb IAmb 05 26 26.4
comp=Z,8.9nm,0.9s
COLA College 48.39 329 P P 05 26 20.2 +1.8
PD31 Pinedale Array 48.41 287 P P 05 26 18.9 -0.3
PD31 IAmb IAmb 05 26 26.6
comp=Z,8.5nm,0.8s
PDAR Pinedale Array 48.41 287 P P 05 26 18.6 -0.6
comp=Z,4.2nm,0.8s,baz=66,slow=6.9,SNR=32
PDAR LR LR 05 45 42.8
comp=Z,3µm,18.4s,baz=34,slow=35
PDAR Pinedale Array 48.41 287 P P 05 26 19.2 0.0
BW06 Boulder Array 48.41 287 P P 05 26 18.9 -0.4
baz=45
BW06 Boulder Array 48.41 287 P P 05 26 19.0 -0.2
BW06 IAmb IAmb 05 26 26.6
comp=Z,9.2nm,0.8s
MDM Murphy Dome 48.44 329 P P 05 26 20.4 +1.5
MDM IAmb IAmb 05 26 21.2
comp=Z,13nm,1.0s
ISCO Idaho Springs 48.46 281 P P 05 26 21.1 +1.3
baz=44,SNR=8.4
ISCO Idaho Springs 48.46 281 P P 05 26 21.3 +1.5
ISCO IAmb IAmb 05 26 28.9
comp=Z,6.7nm,0.8s
HDA Harding Lake 48.49 328 P P 05 26 20.2 +1.0
baz=42,SNR=5.4
HDA Harding Lake 48.49 328 P P 05 26 20.6 +1.4
HDA IAmb IAmb 05 26 34.9
comp=Z,8.4nm,1.0s
WMOK Wichita Mounta 48.52 271 P P 05 26 20.5 +0.6
baz=41
WMOK Wichita Mounta 48.52 271 P P 05 26 20.8 +0.9
SNOW Snow King Moun 48.53 289 P P 05 26 21.6 +1.4
FXWY Fox Creek 48.55 289 P P 05 26 20.8 +0.5
FXWY IAmb IAmb 05 26 22.3
comp=Z,6.9nm,1.0s
TPAW Teton Pass 48.61 289 P P 05 26 21.6 +0.7
TPAW IAmb IAmb 05 26 28.8
comp=Z,11nm,0.7s
MCMT McKenzie Canyo 48.63 291 P P 05 26 22.7 +1.7
REDW Red Top Meadow 48.65 288 P P 05 26 21.9 +0.9
WRH Wood River Hil 48.77 328 P P 05 26 22.5 +1.1
WRH IAmb IAmb 05 26 22.8
comp=Z,19nm,1.4s
NEA2 Nenana 48.95 329 P P 05 26 23.8 +1.1
baz=40
MLY Manley 49.07 330 P P 05 26 24.4 +0.6
baz=40
ARTV Artvin 49.07 75 P P 05 26 25.2 +0.9
ARTV IAmb IAmb 05 26 31.1
comp=Z,6.6nm,0.8s
IMAR Indian Mountai 49.11 332 P P 05 26 24.4 +0.4
AHID Auburn Hatcher 49.20 288 P P 05 26 25.4 +0.1
AHID IAmb IAmb 05 26 32.5
comp=Z,9.9nm,0.7s
C09A Chrisman Ranch 49.22 298 P P 05 26 25.6 +0.5
C09A IAmb IAmb 05 26 26.1
comp=Z,20nm,1.1s
BCYI Bear Canyon 49.28 291 P P 05 26 27.1 +1.2
B08A Colville Reser 49.34 299 P P 05 26 26.6 +0.5
B08A IAmb IAmb 05 26 27.6
comp=Z,20nm,1.2s
BWN Browne 49.38 329 P P 05 26 26.7 +0.6
GAZ Gaziantep 49.49 82 P P 05 26 28.2 +0.8
MCK McKinley 49.57 328 P P 05 26 28.8 +1.3
baz=40
O20A White River Ci 49.61 284 P P 05 26 29.6 +1.2
baz=43,SNR=5.7
O20A White River Ci 49.61 284 P P 05 26 29.1 +0.6
O20A IAmb IAmb 05 26 37.0
comp=Z,9.9nm,0.8s
T25A Trinidad 49.77 278 P P 05 26 31.0 +1.4
baz=42
T25A Trinidad 49.77 278 P P 05 26 30.6 +1.0
T25A IAmb IAmb 05 26 43.9
comp=Z,14nm,1.2s
RND Reindeer 49.80 328 P P 05 26 30.4 +1.0
RND IAmb IAmb 05 26 37.9
comp=Z,15nm,1.3s
WHTX Lake Whitney, 49.88 268 P P 05 26 30.5 +0.2
WHTX IAmb IAmb 05 26 46.3
comp=Z,8.2nm,0.9s
N25K Chitina, Valde 49.88 324 P P 05 26 31.7 +1.6
baz=41
SDCO Great Sand Dun 49.90 279 P P 05 26 31.7 +1.0
baz=42
SDCO Great Sand Dun 49.90 279 P P 05 26 31.4 +0.7
AMTX Amarillo 49.98 274 P P 05 26 32.8 +1.7
baz=41
AMTX Amarillo 49.98 274 P P 05 26 32.9 +1.7
AMTX IAmb IAmb 05 26 45.3
comp=Z,16nm,0.8s
RDMU Red Mountain 49.99 285 P P 05 26 32.2 +0.9
F10A Beach Ranch, E 50.01 295 P P 05 26 31.8 +0.5
F10A IAmb IAmb 05 26 32.0
comp=Z,18nm,1.1s
PLID Pearl Lake 50.03 294 P P 05 26 31.7 +0.2
PLID IAmb IAmb 05 26 33.2
comp=Z,20nm,1.2s
HWUT Hardware Ranch 50.28 287 P P 05 26 33.6 +0.2
HWUT IAmb IAmb 05 26 41.2
comp=Z,15nm,0.8s
HLID Hailey 50.33 291 P P 05 26 35.1 +1.3
baz=44
HLID Hailey 50.33 291 P P 05 26 34.7 +0.9
HLID IAmb IAmb 05 26 45.9
comp=Z,12nm,1.0s
TCUT Toone Canyon 50.55 287 P P 05 26 35.5 -0.1
ABTX Abilene, Hawle 50.59 270 P P 05 26 35.1 -0.5
ABTX IAmb IAmb 05 26 46.7
comp=Z,24nm,1.4s
HKT Hockley 50.59 265 P P 05 26 35.9 +0.3
HKT IAmb IAmb 05 26 55.0
comp=Z,15nm,1.4s
S22A 4UR Ranch, Cre 50.61 280 P P 05 26 37.7 +1.6
baz=42,SNR=6.1
S22A 4UR Ranch, Cre 50.61 280 P P 05 26 36.1 -0.1
TIXI Tiksi 50.68 7 P P 05 26 36.6 +0.8
LTY Liberty 50.76 299 P P 05 26 36.7 -0.1
LTY IAmb IAmb 05 26 37.5
comp=Z,11nm,1.1s
JLU Jordanelle 50.95 286 P P 05 26 38.4 -0.2
CTU Camp Tracy 51.04 287 P P 05 26 39.7 +0.6
PV15 Paradox Valley 51.05 282 P P 05 26 40.2 +0.8
PV15 IAmb IAmb 05 26 48.0
comp=Z,8.1nm,0.8s
PV07 Paradox Valley 51.06 282 P P 05 26 39.8 +0.3
PV22 Blue Mesa, Par 51.07 283 P P 05 26 40.6 +1.2
MFID Camas Ranch 51.15 292 P P 05 26 39.6 -0.3
PV21 Cone Mtn., Par 51.15 283 P P 05 26 40.8 +0.7
PV04 Paradox Valley 51.23 283 P P 05 26 41.9 +1.2
PV04 IAmb IAmb 05 26 43.2
comp=Z,18nm,1.4s
PV12 Saucer Basin, 51.24 282 P P 05 26 41.2 +0.4
PV12 IAmb IAmb 05 26 49.6
comp=Z,12nm,1.1s
PV01 Paradox Valley 51.25 282 P P 05 26 41.7 +0.8
MSTX Muleshoe 51.26 274 P P 05 26 41.5 +0.7
baz=41
PV02 Paradox Valley 51.28 282 P P 05 26 42.8 +1.6
PV02 IAmb IAmb 05 26 49.8
comp=Z,15nm,0.7s
PV11 David Mesa, Pa 51.29 283 P P 05 26 42.6 +1.5
PV11 IAmb IAmb 05 26 49.7
comp=Z,11nm,0.7s
MARD Mardin 51.30 79 P P 05 26 41.6 +0.5
MARD IAmb IAmb 05 26 47.5
comp=Z,17nm,0.9s
PV16 Nyswonger Mesa 51.30 283 P P 05 26 42.3 +1.0
PV16 IAmb IAmb 05 26 51.6
comp=Z,8.3nm,0.8s
PV20 West Nyswonger 51.31 283 P P 05 26 42.4 +1.2
PV03 Paradox Valley 51.31 282 P P 05 26 42.2 +0.9
PV03 IAmb IAmb 05 26 49.9
comp=Z,10nm,0.9s
PV14 Lion Creek, Pa 51.31 283 P P 05 26 42.0 +0.7
PV14 IAmb IAmb 05 26 58.8
comp=Z,12nm,1.3s
G08A Pilot Rock 51.34 296 P P 05 26 41.6 +0.3
PV18 Skein Mesa, Pa 51.34 282 P P 05 26 42.4 +0.9
PV18 IAmb IAmb 05 26 47.3
comp=Z,13nm,0.9s
PV17 East Wray Mesa 51.35 283 P P 05 26 42.3 +0.7
PV17 IAmb IAmb 05 26 50.3
comp=Z,11nm,0.8s
PV13 Radium Mtn., P 51.36 282 P P 05 26 42.7 +1.0
P17A Butcher Ranch, 51.41 285 P P 05 26 41.9 0.0
TOAO Torodi Ar. Sit 51.53 134 P P 05 26 41.9 -0.9
TORD Torodi Ar. Bea 51.53 134 P P 05 26 40.8 -2.0
comp=Z,5.5nm,0.9s,baz=342,slow=7.2,SNR=17
TORD Torodi Ar. Bea 51.53 134 P P 05 26 40.8 -2.0
BGU Big Grassy Mou 51.53 288 P P 05 26 42.8 -0.1
SRU San Rafael Swe 51.56 284 P P 05 26 43.8 +0.6
SKT Skwentna 51.69 328 P P 05 26 44.4 +0.9
SKT IAmb IAmb 05 26 56.1
comp=Z,25nm,1.4s
TMUT Trail Mountain 51.78 285 P P 05 26 45.6 +0.6
SUA Susitna One 51.87 327 P P 05 26 46.0 +0.9
MVCO Mesa Verde 51.90 281 P P 05 26 47.7 +1.9
baz=42,SNR=6.8
MVCO Mesa Verde 51.90 281 P P 05 26 46.7 +1.0
DUG Dugway, Tooele 51.95 287 P P 05 26 46.4 +0.4
baz=43
DUG Dugway, Tooele 51.95 287 P P 05 26 46.9 +0.9
DUG IAmb IAmb 05 26 57.9
comp=Z,11nm,1.1s
Q16A Castle Valley 52.04 285 P P 05 26 48.0 +1.3
ABKAR Akbulak array 52.10 56 P P 05 26 46.8 +0.1
ABKAR IAmb IAmb 05 26 52.5
comp=Z,11nm,0.8s
TTA Tatalina 52.16 331 P P 05 26 47.5 +0.4
TTA IAmb IAmb 05 26 54.9
comp=Z,14nm,1.1s
JCT Junction City 52.32 269 P P 05 26 49.1 +0.4
baz=39
JCT Junction City 52.32 269 P P 05 26 48.8 +0.1
JCT IAmb IAmb 05 26 59.6
comp=Z,22nm,1.1s
I07A Izee 52.49 295 P P 05 26 50.9 +1.0
ANMO Albuquerque 52.50 278 P P 05 26 51.7 +1.5
baz=41
ANMO Albuquerque 52.50 278 P P 05 26 51.7 +1.5
J08A Circle Bar Ran 52.51 294 P P 05 26 50.8 +0.7
J08A IAmb IAmb 05 26 57.9
comp=Z,16nm,0.8s
ELK Elko 52.80 289 P P 05 26 53.9 +1.5
comp=Z,4.6nm,0.9s,baz=35,slow=5.4,SNR=16
ELK Elko 52.80 289 P P 05 26 53.9 +1.5
MSU Marysvale 52.87 285 P P 05 26 54.1 +1.2
MVU Marysvale 52.89 285 P P 05 26 54.7 +1.6
I05D Terrebonne, OR 53.20 296 P P 05 26 55.9 +0.8
baz=42
PINE Pine Mountain 53.41 296 P P 05 26 58.2 +1.5
BVAR Borovoye Array 53.71 47 P P 05 26 58.4 -0.2
comp=Z,3.4nm,0.5s,baz=243,slow=13,SNR=20
PSUT Pine Spring 53.73 286 P P 05 26 60.0 +0.7
J05D Fort Rock, OR 53.92 295 P P 05 27 02.4 +1.8
baz=42,SNR=13
SZCU Shurtz Canyon 54.03 285 P P 05 27 02.2 +0.7
I04A Tendick Farm, 54.12 297 P P 05 27 01.9 +0.1
baz=42
K05A Summer Lake 54.17 295 P P 05 27 03.4 +1.0
CCUT Cedar City 54.21 285 P P 05 27 03.6 +0.8
MDP Montagnes des 54.28 204 LR LR 05 45 40.1
comp=Z,199nm,19.7s,baz=8.0,slow=31
KNB Kanab 54.33 284 P P 05 27 03.5 -0.1
J04D Unpqua Nationa 54.38 296 P P 05 27 04.8 +0.9
baz=42
MNTX Cornudas Mount 54.40 274 P P 05 27 04.8 +0.8
baz=39
MNTX Cornudas Mount 54.40 274 P P 05 27 04.3 +0.3
U15A North Rim 54.49 284 P P 05 27 04.7 -0.2
U15A IAmb IAmb 05 27 12.6
comp=Z,6.3nm,0.8s
MOD Modoc Plateau 54.49 294 P P 05 27 05.0 +0.3
MOD IAmb IAmb 05 27 06.5
comp=Z,13nm,0.9s
LCMT Little Creek M 54.55 285 P P 05 27 06.1 +1.0
WUAZ Wupatki 54.70 282 P P 05 27 07.5 +1.3
baz=40
WUAZ Wupatki 54.70 282 P P 05 27 07.1 +0.9
WUAZ IAmb IAmb 05 27 14.9
comp=Z,10nm,1.1s
R11A Troy Canyon, C 54.76 287 P P 05 27 07.7 +1.0
baz=41,SNR=8.3
R11A Troy Canyon, C 54.76 287 P P 05 27 07.2 +0.5
121A Cookes Peak, D 55.06 277 P P 05 27 10.6 +1.7
baz=40
121A Cookes Peak, D 55.06 277 P P 05 27 09.7 +0.8
121A IAmb IAmb 05 27 10.8
comp=Z,11nm,1.4s
PRN Pahroc Range 55.20 286 P P 05 27 10.6 +0.8
PRN IAmb IAmb 05 27 21.3
comp=Z,12nm,1.2s
TIC Toumodi 55.22 145 eP P 05 27 10.4 +0.4
DBIC Dimbokro 55.24 145 P P 05 27 09.0 -1.1
comp=Z,6.7nm,0.8s,baz=340,slow=10,SNR=4.6
DBIC Dimbokro 55.24 145 P P 05 27 09.5 -0.6
TX31 Lajitas Ar. Si 55.31 271 P P 05 27 11.3 +0.6
TX31 IAmb IAmb 05 27 20.5
comp=Z,14nm,1.1s
TX32 Lajitas Array 55.31 271 P P 05 27 11.3 +0.7
TXAR Lajitas Array 55.31 271 P P 05 27 10.8 +0.1
comp=Z,1.2nm,0.8s,baz=58,slow=5.6,SNR=12
TXAR Lajitas Array 55.31 271 P P 05 27 10.9 +0.3
M04C Macdoel 55.34 295 P P 05 27 11.4 +0.6
baz=41,SNR=7.2
KVN Kaiserville 55.52 290 P P 05 27 13.0 +0.8
K02D Willamette Mer 55.55 297 P P 05 27 13.1 +0.9
baz=41
X16A Lo Mia Camp, P 55.57 281 P P 05 27 14.0 +1.4
KIC Kosan Boka 55.57 145 eP P 05 27 14.4 +1.9
comp=Z,41nm,1.3s
LIC Lamto 55.61 145 eP P 05 27 11.7 -1.1
comp=Z,18nm,0.7s
SMRC Santa Marta, M 55.67 231 eP P 05 27 12.1 -1.1
PAHR Pah Rah Range 55.68 291 P P 05 27 14.5 +1.2
YBH Yreka Blue Hor 55.81 295 P P 05 27 13.0 -1.1
comp=Z,4.0nm,0.9s,baz=23,slow=6.6,SNR=4.5
YBH Yreka Blue Hor 55.81 295 P P 05 27 15.2 +1.1
TPH Tonopah 55.81 288 P P 05 27 14.8 +0.5
L02E Cave Junction 55.92 296 P P 05 27 14.6 -0.2
baz=41
SHPR Sheep Range 55.94 286 P P 05 27 15.9 +0.8
NV11 Mina Array Sit 56.02 289 P P 05 27 16.6 +0.9
NV11 IAmb IAmb 05 27 28.4
comp=Z,12nm,1.2s
RYN Ryan 56.06 290 P P 05 27 16.9 +0.9
RYN IAmb IAmb 05 27 24.1
comp=Z,11nm,0.8s
NVAR Mina Array Bea 56.10 290 P P 05 27 16.9 +0.5
comp=Z,1.3nm,0.6s,baz=58,slow=5.6,SNR=18
NVAR Mina Array Bea 56.10 290 P P 05 27 16.6 +0.2
VCNR Virginia City 56.13 291 P P 05 27 18.0 +1.5
VCNR IAmb IAmb 05 27 27.9
comp=Z,8.0nm,1.0s
M02C Callahan 56.14 295 P P 05 27 16.1 -0.4
baz=41
TPNV Topopah Spring 56.17 287 P P 05 27 17.5 +0.7
baz=40,SNR=6.4
TPNV Topopah Spring 56.17 287 P P 05 27 17.7 +0.9
TPNV IAmb IAmb 05 27 25.1
comp=Z,10nm,0.8s
PNTR Pine Nut 56.26 291 P P 05 27 18.4 +0.9
PNTR IAmb IAmb 05 27 25.8
comp=Z,12nm,0.8s
LHV Little Huntoon 56.34 290 P P 05 27 18.3 +0.5
LHV IAmb IAmb 05 27 28.8
comp=Z,12nm,1.2s
W13A Hualapai Mount 56.34 284 P P 05 27 18.1 0.0
N02D Trinity Center 56.38 295 P P 05 27 17.7 -0.5
baz=41
O03E Paynes Creek 56.45 293 P P 05 27 18.8 +0.1
baz=40,SNR=6.0
WAKR Walker 56.62 290 P P 05 27 20.4 +0.4
TUC Tucson 56.84 279 P P 05 27 22.5 +1.0
baz=39
TUC Tucson 56.84 279 P P 05 27 21.6 +0.1
FURC Furnace Creek, 56.85 287 P P 05 27 22.5 +1.1
baz=40
ARGC Ariguani, Magd 56.85 230 eP P 05 27 14.5 -7.1
SOCV Socops 56.91 226 eP P 05 27 32.6 +11
BRZS Berezniki 56.97 48 eP P 05 27 21.3 -0.9
SHOC Shoshone, Teco 56.98 286 P P 05 27 23.6 +1.2
baz=40
AFDM Forest Hills D 57.06 292 P P 05 27 23.0 0.0
OMMB Old Mammoth Mi 57.08 289 P P 05 27 24.2 +0.8
MPMC Manual Prospec 57.49 287 P P 05 27 27.6 +1.4
baz=40,SNR=13
CWC Cottonwood Cre 57.50 288 P P 05 27 27.2 +0.9
baz=40
GMRC Granite Mounta 57.51 285 P P 05 27 27.3 +1.0
baz=40
GSC Goldstone, Bar 57.72 286 P P 05 27 28.7 +1.0
baz=40
GSC Goldstone, Bar 57.72 286 P P 05 27 28.6 +0.9
GSC IAmb IAmb 05 27 39.8
comp=Z,13nm,1.1s
SMLC San Martn de 57.73 230 eP P 05 27 32.8 +4.9
HEC Hector,Ludlow 57.83 285 P P 05 27 29.6 +1.1
baz=39
113A Mohawk Valley, 58.07 282 P P 05 27 30.8 +0.7
113A IAmb IAmb 05 27 38.8
comp=Z,8.7nm,0.8s
214A Organ Pipe Nat 58.19 280 P P 05 27 32.2 +1.1
baz=39,SNR=5.7
214A Organ Pipe Nat 58.19 280 P P 05 27 32.8 +1.7
214A IAmb IAmb 05 27 39.8
comp=Z,5.9nm,0.8s
ZALV Zalesovo Beam 58.23 38 P P 05 27 31.1 +0.2
comp=Z,1.1nm,0.5s,baz=339,slow=7.9,SNR=3.6
ZALV PcP PcP 05 28 22.1 +0.1
comp=Z,2.0nm,0.5s,baz=352,slow=5.1,SNR=4.3
BC3 Big Chuckawall 58.28 284 P P 05 27 32.9 +1.2
baz=39,SNR=6.2
BELC Belle Mtn. Jos 58.30 284 P P 05 27 33.1 +1.2
baz=39,SNR=6.5
ISA Isabella, Lake 58.30 288 P P 05 27 32.5 +0.7
baz=39
ISA Isabella, Lake 58.30 288 P P 05 27 32.3 +0.5
ISA IAmb IAmb 05 27 35.4
comp=Z,12nm,1.3s
GLA Glamis 58.41 283 P P 05 27 34.0 +1.5
baz=39,SNR=5.8
GLA Glamis 58.41 283 P P 05 27 33.5 +0.9
MOTC Monteria, Cord 58.42 231 eP P 05 27 30.9 -1.8
BBRC Big Bear Solar 58.58 285 P P 05 27 36.0 +2.1
baz=39
EDW2 Edwards Air Fo 58.66 287 P P 05 27 36.0 +1.7
baz=39,SNR=7.3
KURK Kurchatov 58.69 44 P P 05 27 33.9 -0.2
KURK IAmb IAmb 05 27 35.3
comp=Z,6.7nm,0.6s
KURBB Kurchatov Arra 58.73 44 P P 05 27 34.2 -0.2
comp=Z,6.0nm,0.5s,baz=326,slow=6.9,SNR=65
PFO Pinyon Flats O 58.84 285 P P 05 27 36.5 +0.9
comp=Z,6.8nm,0.8s,baz=46,slow=6.8,SNR=17
PFO Pinyon Flats O 58.84 285 P P 05 27 37.4 +1.8
baz=39,SNR=7.9
PFO Pinyon Flats O 58.84 285 P P 05 27 36.5 +0.9
TPFO Pinon Flats 58.84 284 P P 05 27 37.4 +1.7
baz=39,SNR=7.2
TAMC Tame, Arauca 58.96 226 eP P 05 27 41.9 +5.4
BFSC Mount Baldy Ra 58.98 286 P P 05 27 38.1 +1.5
baz=39
SWSC Sam W. Stewart 59.01 284 P P 05 27 38.3 +1.6
baz=39
BRRC Barranca, Sant 59.12 228 eP P 05 27 34.7 -2.8
MURC Murrieta 59.23 285 P P 05 27 39.8 +1.5
baz=39
ZARC Zaragoza, Cauc 59.24 230 eP P 05 27 30.0 -8.4
OSI Osito Audit: C 59.24 287 P P 05 27 39.4 +1.0
CAPC Capurgana 59.27 233 eP P 05 27 37.2 -1.4
MONP2 Monument Peak 59.38 284 P P 05 27 41.4 +1.9
baz=39,SNR=5.2
IKP In-Ko-Pah, Jac 59.40 284 P P 05 27 41.1 +1.6
baz=39
MCPB Macapa, AP 59.46 202 eP P 05 27 38.8 -1.0
HSIG 59.49 277 P P 05 27 39.8 -0.2
HSIG IAmb IAmb 05 27 51.6
comp=Z,12nm,1.3s
BAR Barrett 59.68 284 P P 05 27 42.5 +1.2
BAR IAmb IAmb 05 27 50.3
comp=Z,11nm,0.9s
GEYT Alibeck 59.78 66 P P 05 27 40.6 -1.4
comp=Z,2.9nm,0.8s,baz=255,slow=5.7,SNR=2.0
GEYT Alibeck 59.78 66 P P 05 27 40.9 -1.1
ZAIG Zacatecas 59.93 266 P P 05 27 44.4 +0.9
ZAIG IAmb IAmb 05 27 52.2
comp=Z,13nm,1.2s
PTBC PUERTO BERRIO, 59.94 229 eP P 05 27 42.3 -0.9
SEY Seymchan 59.96 357 P P 05 27 43.3 +0.6
comp=Z,1.0nm,0.5s,baz=68,slow=11,SNR=2.4
RUSC La Rusia 59.97 227 eP P 05 27 49.9 +5.9
SFX San Felipe 60.00 281 P P 05 27 44.4 +0.9
SFX IAmb IAmb 05 27 45.3
comp=Z,7.2nm,1.0s
DBBC Dabeiba 60.23 231 eP P 05 27 43.0 -2.4
SPBC San Pablo de B 60.58 228 eP P 05 27 48.7 +1.0

ROSB	Rosrio	60.68	192	eP		P		05 27 47.9	-0.4
TMAB	Tom-Au,PA,Br	60.71	197	eP		P		05 27 48.6	+0.2
PTGC	Puerto Gaitan,	61.14	225	eP		P		05 27 51.5	+0.1
CBOC	Ciudad Bolivar	61.19	230	eP		P		05 27 49.9	-2.0
MALB	Monte Alegre	61.37	204	eP		P		05 27 52.8	-0.1
ROSC	El Rosal	61.42	228	P		P		05 27 54.0	+0.2
	comp=Z,7.5nm,0.5s,baz=30,slow=4.1,SNR=8.0								
ROSC	El Rosal	61.42	228	eP		P		05 27 54.4	+0.6
ROSC	El Rosal	61.42	228	P		P		05 27 54.6	+0.9
BTLS	Baital	61.47	50	eP		P		05 27 52.8	-0.6
GUY2C	Guyana, Caldas	61.50	229	eP		P		05 27 54.3	-0.1
KK31	Karatay Array	61.51	54	P		P		05 27 54.4	+0.7
KKAR	Karatay Array	61.51	54	P		P		05 27 54.7	+1.0
KKAR	Karatay Array	61.51	54	P		P		05 27 54.2	+0.5
RREF	El Recreo	61.78	229	eP		P		05 27 52.7	-3.8
TOLC	Tolima	62.06	229	eP		P		05 28 00.5	+2.5
IUG	Iuzhnay	62.07	55	eP		P		05 27 59.9	+2.3
PLMC	San Jos del P	62.17	230	eP		P		05 27 59.9	+1.5
ORTC	Ortega, Tolima	62.64	229	eP		P		05 27 59.1	-2.5
PRAC	Prado	62.67	228	eP		P		05 28 01.6	-0.2
SGDS	Sogindy	63.00	51	eP		P		05 28 03.4	-0.3
YOTC	Yotoco, Valle	63.02	230	eP		P		05 28 02.0	-2.2
MK31	Makanchi Array	63.30	44	P		P		05 28 05.9	+0.3
MK31				IAmb	IAmb			05 28 06.6	
	comp=Z,4.2nm,0.5s								
MKAR	Makanchi Array	63.30	44	P		P		05 28 05.2	-0.3
	comp=Z,4.3nm,0.5s,baz=336,slow=4.7,SNR=41								
MKAR	Makanchi Array	63.30	44	P		P		05 28 04.8	-0.8
KUU	Kurty	63.35	50	eP		P		05 28 05.8	-0.2
MA2	Magadan	63.37	358	P		P		05 28 05.5	-0.3
	comp=Z,2.8nm,0.4s,baz=172,slow=18,SNR=1.7								
MA2	Magadan	63.37	358	P		P		05 28 06.0	+0.3
BETC	Betania	63.84	228	eP		P		05 28 00.8	-8.7
MARP	Paez Belalcaza	63.90	229	eP		P		05 28 06.7	-3.5
BTK	Batken	64.10	56	P		P		05 28 11.1	0.0
ITTB	Itaituba	64.14	205	eP		P		05 28 10.5	-0.9
MACA	Manacapuru-AM	64.23	211	eP		P		05 28 10.7	-1.3
MDOK	Medeo	64.25	50	eP		P		05 28 11.7	-0.4
TNSS	Tian-Shan	64.31	50	eP		P		05 28 12.6	-0.2
BOOM	Boomskoye usch	64.34	51	P		P		05 28 13.3	+0.6
BOOM				IAmb	IAmb			05 28 19.2	
	comp=Z,5.9nm,1.0s								
POPC	Popayan, Colom	64.47	229	eP		P		05 28 04.0	-10
CHGR	Chuyangaron	64.48	58	P		P		05 28 13.0	-0.5
PCON	Cinco Dias	64.55	229	eP		P		05 28 09.6	-5.1
KPKS	Kokpek	64.67	48	eP		P		05 28 14.4	-0.3
PRPB	Parauapebas	64.72	198	eP		P		05 28 14.6	-0.6
GAR	Garm	64.74	57	P		P		05 28 16.3	+1.1
SATY	Saty	64.89	49	eP		P		05 28 15.2	-1.0
FLOC	Florencia	64.92	228	eP		P		05 28 14.2	-2.4
UZB	Uzynbulak	65.07	48	eP		P		05 28 17.4	0.0
TARG	Taragay, Kyrgy	65.75	50	P		P		05 28 23.1	+0.9
PTLC	Puerto Leguiza	65.86	226	eP		P		05 28 22.6	-0.1
NPGB	Novo Progresso	66.64	204	eP		P		05 28 28.1	+0.5
H10N2	ASCENSION HYDR	66.77	160	T		T		06 40 34.1	
	baz=350,slow=75,SNR=23								
H10N3	ASCENSION HYDR	66.78	160	T		T		06 40 32.0	
	baz=350,slow=75,SNR=19								
H10N1	ASCENSION HYDR	66.79	160	T		T		06 40 32.5	
	baz=350,slow=75,SNR=29								
KSH	Kashi	66.81	53	P		P		05 28 30.8	+2.2
KSH				S		S		05 37 18.1	-2.2
KSH				pmax	pmax				
	comp=Z,20nm,1.2s								
KSH				pmax	pmax				
	comp=Z,130nm,4.6s								
KSH				LR	LR				
	comp=Z,190nm,5.0s								
KSH				LR	LR				
	comp=Z,330nm,5.9s								
SMTB	Santa Maria do	67.01	195	eP		P		05 28 28.3	-1.6
CUSE	Cuicocha Este	67.20	230	eP		P		05 28 24.3	-7.4
OTAV	Otavalo	67.28	230	eP		P		05 28 33.4	+1.1
OTAV	Otavalo	67.28	230	P		P		05 28 32.1	-0.1
OTAV	Otavalo	67.28	230	eP		P		05 28 32.0	-0.1
PAC1	Pacto, Paraso	67.40	230	eP		P		05 28 27.7	-5.0
WMQ	Urumqi	67.83	42	eP		P		05 28 37.9	+3.0
WMQ				pmax	pmax				
	comp=Z,13nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,130nm,4.9s								
H10S3	ASCENSION HYDR	67.83	160	T		T		06 41 47.9	
	baz=350,slow=74,SNR=30								
H10S2	ASCENSION HYDR	67.84	160	T		T		06 41 52.4	
	baz=230,slow=74,SNR=26								
PETK	Petropavlovsk-	69.53	353	P		P		05 28 45.4	+0.2
	comp=Z,0.7nm,0.5s,baz=103,slow=4.6,SNR=2.0								
SONM	Songino Array	69.99	28	P		P		05 28 48.2	-0.2
	comp=Z,2.7nm,0.8s,baz=321,slow=5.1,SNR=8.5								
SONM	Songino Array	69.99	28	P		P		05 28 48.1	-0.2
ULN	Ulaanbaatar	70.12	27	P		P		05 28 49.6	+0.3
ULN				IAmb	IAmb			05 29 07.6	
	comp=Z,14nm,1.2s								
SDBA	SAO DESIDERIO	70.16	192	eP		P		05 28 48.9	-0.7
PEXB	Peixe	70.30	196	eP		P		05 28 50.1	-0.3
SAML	Samuel	70.44	211	P		P		05 28 50.1	-1.1
SAML	Samuel	70.44	211	eP		P		05 28 50.5	-0.8
CLDB	Colider	70.45	203	eP		P		05 28 49.7	-1.6
SNDB	Serra Nova Dou	70.65	199	eP		P		05 28 51.4	-1.1
WSAR	Wadi Sarin	71.80	75	P		P		05 28 59.7	+0.1
	comp=Z,2.7nm,0.8s,baz=118,slow=15,SNR=1.7								
ETMB	Extrema	72.16	214	eP		P		05 28 59.7	-1.9
CZSB	Cruzeiro do Su	72.35	221	eP		P		05 29 01.7	-1.1
JANB	Januaria	72.71	191	eP		P		05 29 04.2	-0.7
VILB	Vilhena	73.48	207	eP		P		05 29 09.0	-0.5
BDFB	Brasilia	73.74	195	P		P		05 29 10.4	-0.6
	comp=Z,6.1nm,0.7s,baz=12,slow=6.0,SNR=13								
BDFB	Brasilia	73.74	195	P		P		05 29 10.9	-0.2
BDFB				IAmb	IAmb			05 29 12.5	
	comp=Z,5.9nm,0.7s								
ARAG	Araguaiana, MT	74.39	198	eP		P		05 29 14.2	-0.5
NAN01	Guarapari, ES	75.12	187	eP		P		05 29 18.5	-0.5
PTLB	Pontes e Lacer	75.63	206	eP		P		05 29 21.3	-0.5
GTA	Gaotai	75.88	36	eP		P		05 29 21.9	-1.5
GTA				pP	pP			05 29 26.3	-1.7
GTA				sP	sP			05 29 29.1	-0.6
GTA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
GTA				pmax	pmax				
	comp=Z,98nm,7.6s								
GTA				LR	LR				
	comp=Z,350nm,18.5s								
GTA				LR	LR				
	comp=Z,440nm,17.4s								
GTA				LR	LR				
	comp=Z,370nm,17.4s								
SJMB	Sao Joao De Ma	76.05	188	eP		P		05 29 23.9	-0.3
IPMB	Ipameri, GO	76.07	195	eP		P		05 29 24.7	+0.3
BSFB	Barra de Sao F	76.15	187	eP		P		05 29 24.3	-0.5
RIB01	Linhares ES	76.60	187	eP		P		05 29 26.8	-0.5
HHC	Hu-ho-hao-te	77.82	26	eP		P		05 29 36.0	+1.7
HHC				pmax	pmax				
	comp=Z,28nm,1.0s								
HHC				pmax	pmax				
	comp=Z,320nm,8.4s								
ITRB	Iturama	78.07	196	eP		P		05 29 35.6	0.0
BSCB	Bom Sucesso	78.63	191	eP		P		05 29 38.5	-0.2
LPAZ	La Paz	78.85	214	P		P		05 29 40.9	+0.2
	comp=Z,1.4nm,0.8s,baz=7.9,slow=13,SNR=6.1								
LPAZ	La Paz	78.85	214	eP		P		05 29 40.0	-0.7
BB19B	Bebedouro	79.14	194	eP		P		05 29 41.4	-0.1
VAS01	Vassouras-RJ	79.78	189	eP		P		05 29 44.8	-0.1
PCMB	Pacaembu	80.08	197	eP		P		05 29 45.5	-1.1
LZH	Lanzhou	80.18	34	eP		P		05 29 51.4	+4.0
LZH				pP	pwP			05 29 55.2	+0.5
LZH				sP	PcP			05 29 58.1	+3.5
LZH				pmax	pmax				
	comp=Z,12nm,1.2s								
MAN01	Angra dos Reis	80.40	190	eP		P		05 29 47.7	-0.6
ESAR	Angra dos Reis	80.60	190	eP		P		05 29 48.7	-0.6
VAO	Valinhos	80.86	193	eP		P		05 29 50.4	-0.4
PARB	Paraibuna	81.04	191	eP		P		05 29 51.2	-0.5
PB16	IPOC Station P	81.20	215	P		P		05 29 52.8	-0.5
PB16				IAmb	IAmb			05 30 00.4	
	comp=Z,12nm,0.9s								
MNMC	Minye Minye	81.97	214	P		P		05 29 57.0	-0.1
MNMC				IAmb	IAmb			05 30 04.0	
	comp=Z,9.9nm,0.9s								
GO01	Chusmiza	82.36	214	P		P		05 29 59.5	+0.2
GO01				IAmb	IAmb			05 30 01.3	
	comp=Z,8.1nm,0.8s								
PSGCX	Pisagua	82.58	215	P		P		05 29 60.0	0.0
PB11	IPOC Station P	82.58	214	P		P		05 29 59.5	-0.6
PB08	IPOC Station P	82.79	214	P		P		05 30 02.2	+0.8
PB08				IAmb	IAmb			05 30 03.0	
	comp=Z,8.3nm,0.8s								
KSRS	Korea Array	84.24	15	P		P		05 30 08.3	-0.1
	comp=Z,4.0nm,0.8s,baz=350,slow=6.0,SNR=10								
KSAR	Wonju Array Be	84.25	15	P		P		05 30 08.8	+0.4
LVC	Limon Verde	85.05	213	P		P		05 30 12.8	0.0
	comp=Z,4.3nm,0.9s,baz=336,slow=4.5,SNR=2.3								
LVC	Limon Verde	85.05	213	IAmb	IAmb			05 30 20.7	
	comp=Z,17nm,1.1s								
CPUP	Villa Florida	85.77	201	P		P		05 30 13.9	-2.0
	comp=Z,5.2nm,0.7s,baz=17,slow=5.7,SNR=16								
CPUP	Villa Florida	85.77	201	P		P		05 30 14.8	-1.1
CPUP				IAmb	IAmb			05 30 22.0	
	comp=Z,8.2nm,1.0s								
NJ2	Nanjing	87.90	23	eP		P		05 30 26.2	-0.4
NJ2				pmax	pmax				
	comp=Z,12nm,0.6s								
LSZ	Lusaka	88.33	122	P		P		05 30 28.2	-0.5
	comp=Z,2.0nm,0.8s,baz=45,slow=5.7,SNR=1.7								
LSZ	Lusaka	88.33	122	P		P		05 30 28.9	+0.1
LSZ				IAmb	IAmb			05 30 43.6	
	comp=Z,9.6nm,1.4s								
GYA	Guiyang	90.00	35	eP		P		05 30 37.8	+1.1
GYA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
CMAR	Chiang Mai Arr	94.70	45	P		P		05 30 59.1	+0.7
	comp=Z,0.4nm,0.3s,baz=322,slow=6.9,SNR=4.9								
CMAR	Chiang Mai Arr	94.70	45	P		P		05 30 58.8	+0.4
TAOE	Nuku Hiva Isla	106.45	279	eSS		SS		05 51 22.4	+4.2
	comp=Z,424nm,27.2s								
TAOE	Nuku Hiva Isla	106.45	279	eLR		LR		06 07 01.2	
	comp=Z,772nm,23.4s								
PPT2	Papeete2	118.73	283	eSS		SS		05 54 04.6	+3.4
	comp=Z,530nm,23.8s								
PPT2	Papeete2	118.73	283	eLR		LR		06 12 36.6	
	comp=Z,1µm,23.2s								
TBI	Tubuai	123.39	279	eSS		SS		05 55 06.5	+5.8
	comp=Z,348nm,28.0s								
TBI	Tubuai	123.39	279	eLR		LR		06 14 53.7	
	comp=Z,487nm,27.0s								
VNA3	Neumayer Olymp	129.39	170	PKPdf		PKPdf		05 36 43.4	-0.5
SNAA	Sanae	130.50	168	PKPdf		PKPdf		05 36 45.8	-0.2
SNAA	Sanae	130.50	168	PKPdf		PKPdf		05 36 45.8	-0.2
WRA	Warramunga Arr	141.55	19	PKhKP		PKPpre		05 36 59.6	
	comp=Z,0.5nm,0.8s,baz=348,slow=4.3,SNR=2.7								
WRA				PKP		PKPdf		05 37 07.1	-1.0
	comp=Z,1.0nm,0.6s,baz=340,slow=2.3,SNR=14								
WRA	Warramunga Arr	141.55	19			PKPdf		05 37 07.8	-0.2
DZM	Mont Dzumac	141.90	329	eLR		LR		06 23 27.9	
	comp=Z,903nm,23.6s								
MAW	Mawson	143.01	141	PKP		PKPbc		05 37 06.4	+0.3
	comp=Z,2.7nm,0.8s,baz=277,slow=10,SNR=8.4								
AS31	Alice Springs	145.10	21			PKPbc		05 37 13.1	-0.6
ASAR	Alice Springs	145.10	21	PKPbc		PKPbc		05 37 12.8	-0.9
	comp=Z,8.0nm,0.8s,baz=346,slow=2.5,SNR=62								
QSPA	South Pole Qui	147.25	180	PKPbc		PKPdf		05 37 17.5	+1.0
	comp=Z,9.8nm,0.7s,baz=191,slow=1.0,SNR=32								
QSPA	South Pole Qui	147.25	180			PKPdf		05 37 17.3	+0.8
EIDS	Eidsvold	147.88	352			PKiKP		05 37 23.3	-0.5
NWAO	Narrogin (SRO)	148.41	52	PKPbc		PKPbc		05 37 23.6	+0.6
	comp=Z,16nm,0.8s,baz=270,slow=4.4,SNR=5.1								
NWAO	Narrogin (SRO)	148.41	52			PKiKP		05 37 24.6	+0.1
FORT	Forrest	150.47	34			PKPbc		05 37 27.9	-0.2
VNDA	Vanda	159.07	189	PKP		PKPdf		05 37 32.9	-0.3
	comp=Z,0.8nm,0.8s,baz=266,slow=2.2,SNR=5.8								
VNDA				PKPab		PKPab		05 38 10.7	+0.5
	comp=Z,1.2nm,0.9s,baz=195,slow=2.9,SNR=4.8								

IDC ***12*** *05:37:31.1±0.9, 0.°70N×128.°89E, h0km, mb4.1/7, mb1 4.3/9, mb1mx3.9/37, mbtmp4.1/9, ML4.1/2, MS4.2/2, Ms1 4.2/2, ms1mx2.9/52, Error ellipse: s-maj=40.4km s-min=15.9km az=78.0*

DJA ***12*** *05:37:34.2±1.4, 1.°N±3.°×12.°9E±.°, h14km±11km, M4.6/13, mB5.3/3, mb5.0/7, MLv4.3/13, Mw(mB)4.7/3*

NEIC ***12*** *05:37:35.1±0.9, 0.°8N±0.°1×128.°99E±0.°04, h35km±2km, mb4.3/15, Error ellipse: s-maj=22.4km s-min=5.5km az=12.0*

ISC 12 05:37:35.6±0.6, 0.°74N±0.°06×129.°05E±0.°06, h35km, n54, σ1°34/48, mb4.3/14, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.68	271	P		P		05 38 01.5	-1.0
TNTI				S		Sn		05 38 24.6	+1.8
TNTI	Ternate	1.68	271			P		05 38 01.1	-1.4
SIJI	Sorong	2.74	126	Pn		P		05 38 17.2	+0.1
	66nm,0.3s,baz=234,slow=23,SNR=89								
SIJI				Sn		Sn		05 38 50.2	+1.2
	12nm,0.3s,baz=143,slow=23,SNR=4.4								
MSAI	Masohi	4.06	182	P		P		05 38 36.6	+1.3
SANI	Sanana	4.13	228	P		P		05 38 35.2	-1.0
NLAI	Namlea	4.41	206	P		P		05 38 40.8	+0.8
AAI	Ambon	4.48	191	P		P		05 38 42.4	+1.3
SGSI	Sangihe	4.57	310	P		P		05 38 43.7	+1.4
FAKI	Fak Fak	4.84	139	P		P		05 38 46.6	+0.5
FAKI	Fak Fak	4.84	139			P		05 38 46.0	-0.1
KMSI	Cibinong	5.07	268	P		P		05 38 49.7	+0.6
	0.8nm175nm,0.5s								
BNDI	Bandanaira	5.30	171	P		Pn		05 38 53.3	+1.0
	0.7nm167nm,0.6s								
GTOI	Gorontalo	6.04	269	P		Pn		05 39 05.2	+2.8
	0.2nm600nm46nm,0.7s								
SKMP	Bagumbayan, Su	7.29	322	eP		Pn		05 39 19.2	-0.5
BAKI	Biak	7.32	105	P		Pn		05 39 22.1	+2.0
	0.9nm3µm239nm,0.9s								
KCP	Kidapawan	7.37	328	eP		Pn		05 39 19.6	-1.3
BUKP	Musuan	8.13	331	eP		Pn		05 39 30.1	-1.2
TTSI	Tana Toraja	9.96	248	P		Pn		05 39 57.2	+0.9
	29nm,0.5s								
SPSI	Sidrap Palu	10.38	243	P		Pn		05 40 03.0	+0.9
KAPI	Kappang	10.90	238	Pn		Pn		05 40 10.1	+0.9
	1.7nm,0.3s,baz=120,slow=6.5,SNR=6.8								
KAPI	Kappang	10.90	238			Pn		05 40 08.8	-0.5
MTN	Manton Dam	13.65	171			Pn		05 40 43.7	-3.2
KNRA	Kununurra	16.32	181	Pn		Pn		05 41 19.4	-2.7
KNRA				IAmb	IAmb			05 41 26.9	
	comp=Z,16nm,0.7s								
FITZ	Fitzroy Crossi	19.02	190	P		P		05 41 54.7	+0.1
	comp=Z,0.2nm,0.3s,baz=20,slow=8.1,SNR=11								
FITZ	Fitzroy Crossi	19.02	190	P		P		05 41 54.8	+0.2
WB0	Warramunga Arr	21.05	166	P		P		05 42 17.6	+0.9
WRA	Warramunga Arr	21.20	166	P		P		05 42 18.9	+0.5
	comp=Z,9.7nm,1.0s,baz=345,slow=12,SNR=40								
WRA	Warramunga Arr	21.20	166	P		P		05 42 18.4	+0.1
WB2	Warramunga Arr	21.20	166	P		P		05 42 19.2	+0.8
WB2				IAmb	IAmb			05 42 23.0	
	comp=Z,16nm,1.1s								
WR0	Warramunga Arr	21.27	166	P		P		05 42 19.7	+0.6
WR0				IAmb	IAmb			05 42 23.2	
	comp=Z,12nm,1.0s								
PSA00	Pilbara Seismi	23.93	202	P		P		05 42 47.6	+1.1
PSA00				IAmb	IAmb			05 43 12.5	
	comp=Z,17nm,1.3s								
AS31	Alice Springs	24.71	169	P		P		05 42 55.0	+1.2
AS31				IAmb	IAmb			05 43 06.4	
	comp=Z,5.3nm,0.7s								
ASAR	Alice Springs	24.72	169	P		P		05 42 54.5	+0.7
	comp=Z,9.4nm,0.4s,baz=345,slow=9.4,SNR=134								
ASAR	Alice Springs	24.72	169	P		P		05 42 54.9	+1.1
BBOO	Buckleboo	34.02	169	P		P		05 44 17.0	+0.6
STKA	Stephens Creek	34.55	161	P		P		05 44 21.0	+0.1
	comp=Z,3.0nm,0.6s,baz=322,slow=7.8,SNR=4.5								
STKA	Stephens Creek	34.55	161	P		P		05 44 22.0	+1.1
MJAR	Matsushiro Arr	36.62	12	P		P		05 44 41.2	+2.5
	comp=Z,0.9nm,0.3s,baz=179,slow=9.1,SNR=6.3								
H11S3	WAKE ISLAND Hy	40.94	62	T		T		06 28 49.9	
	baz=249,slow=74,SNR=271								
H11S2	WAKE ISLAND Hy	40.95	62	T		T		06 28 50.9	
	baz=249,slow=74,SNR=146								
H11S1	WAKE ISLAND Hy	40.95	62	T		T		06 28 51.1	
	baz=249,slow=74,SNR=61								
H11N1	WAKE ISLAND Hy	41.57	61	T		T		06 29 36.3	
	baz=247,slow=75,SNR=191								
H11N2	WAKE ISLAND Hy	41.58	61	T		T		06 29 34.9	
	baz=247,slow=75,SNR=335								
H11N3	WAKE ISLAND Hy	41.58	61	T		T		06 29 35.5	
	baz=247,slow=75,SNR=369								
USRK	Usuriysk Ar.	43.35	3	LR		LR		06 03 51.7	
	comp=Z,138nm,18.3s,baz=357,slow=36								
SONM	Songino Array	50.86	340	P		P		05 46 35.5	+2.4
	comp=Z,0.4nm,0.5s,baz=161,slow=10,SNR=2.6								
PETK	Petropavlovsk-	57.37	20	P		P		05 47 20.4	+0.1
	comp=Z,0.9nm,0.5s,baz=183,slow=2.9,SNR=2.2								
MK31	Makanchi Array	61.31	325	P		P		05 47 46.9	-0.9
MK31				IAmb	IAmb			05 48 08.2	
	comp=Z,4.2nm,1.4s								
MKAR	Makanchi Array	61.31	325	P		P		05 47 46.7	-1.1
	comp=Z,0.3nm,0.4s,baz=119,slow=7.6,SNR=6.8								
KURK	Kurchatov	65.49	327	P		P		05 48 14.0	-1.2
KURK				IAmb	IAmb			05 48 38.9	
	comp=Z,3.3nm,1.1s								
SOCY	Socotra	75.24	282	P		P		05 49 13.7	-2.0
SOCY				IAmb	IAmb			05 49 37.8	
	comp=Z,6.7nm,1.2s								
BRLK	Bradley Lake	84.36	30	P		P		05 50 03.3	-0.8
KIV	Kislovodsk	86.86	314	P		P		05 50 15.8	-1.2
MLR	Muntele Rosu	98.64	316	LR		LR		06 42 16.5	
	comp=Z,207nm,19.5s,baz=34,slow=39								

DNK ***12*** *05:40:41.5±5.1, 57.°29N×33.°56W, h0km±197km, mb5.4, Ms5.1*

MOS ***12*** *05:40:42.1±0.9, 57.°31N×33.°34W, h11km, mb5.3/104, MS5.2/45, Error ellipse: s-maj=7.0km s-min=4.9km az=56.6*

IDC ***12*** *05:40:42.1±0.3, 57.°28N×33.°39W, h0km, mb4.6/40, mb1 4.7/45, mb1mx4.7/50, mbtmp4.6/45, ML3.9/5, MS5.1/38, Ms1 5.1/38, ms1mx5.0/42, Error ellipse: s-maj=10.7km s-min=8.4km az=168.0*

BJI ***12*** *05:40:42.0±0.0, 57.°50N×33.°24W, h11km, mB5.6/36, mb5.1/55, Ms5.5/25, Ms7 5.2/24*

GCMT ***12*** *05:40:43.7±0.1, 57.°35N±0.°01×33.°16W±0.°01, h12km, MW5.5/158, Moment Tensor Solution. s101, c169; s158, c346; Duration: 1ꢀ4 Moment tensor: Scale 10^17 Nm; Mrr=2.44±.03; Mθθ=0.01±.03; Mϕϕ=2.42±.02; Mrθ=0.30±.09; Mθϕ=0.87±.02; Mϕr=-0.02±.08; Best double couple: Mo=2.59100×10^17 NP1:ϕs=10.00000°, δ45.00000°, λ=-101.00000°. NP2:ϕs=205.00000°, δ46.00000°, λ=-80.00000°. Principal axes: T 2.7020, Plg1.0000°, Azm288.0000°; N -0.2280, Plg8.0000°, Azm18.0000°; P =2.4800, Plg82.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *05:40:43.7±1.3, 57.°28N±0.°07×33.°3W±0.°1, h10km±1km, mb5.2/466, Ms_20 5.4/723, Mww5.6, Mwc5.5(GCMT) Error ellipse: s-maj=12.1km s-min=10.1km az=168.0*

NEIC ***12*** *05:40:44, 57.°38N×33.°18W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=2.56; Mθθ=0.11; Mϕϕ=2.45; Mrθ=-0.16; Mθϕ=0.89; Mϕr=-0.04; Fault plane solution: Mo=2.66000×10^17 NP1:ϕs=195.00000°, δ44.00000°, λ=-95.00000°. NP2:ϕs=22.00000°, δ46.00000°, λ=-85.00000°. Principal axes: T 2.7502, Plg1.0000°, Azm109.0000°; N -0.1795, Plg3.0000°, Azm199.0000°; P =2.5707, Plg87.0000°, Azm3.0000°;*

NEIC ***12*** *05:40:45, 57.°26N×33.°21W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=2.72; Mθθ=0.50, Mϕϕ=2.22; Mrθ=0.40; Mθϕ=0.70; Mϕr=2.63; Fault plane solution: Mo=3.73000×10^17 NP1:ϕs=25.00000°, δ23.00000°, λ=-77.00000°. NP2:ϕs=192.00000°, δ68.00000°, λ=-95.00000°. Principal axes: T 3.5723, Plg23.0000°, Azm286.0000°; N 0.2898, Plg5.0000°, Azm194.0000°; P =3.8621, Plg67.0000°, Azm93.0000°;*

ISC 12 05:40:43.7±0.5, 57.°29N±0.°04×33.°32W±0.°03, h10km±2km, h10km:pP-P, n1526, σ1ꢀ49/1255, mb5.1/373, MS5.4/453, 51C-39D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	7.32	307	Pn		Pn		05 42 34.5	+4.1
NRS				Sn		Sn		05 43 44.9	-8.5
NRS	Narsarsuaq	7.32	307	IAMs_20		IAMs_20		05 44 34.9	
	comp=Z,51µm,16.8s								
ANGG	Ammassalik, Gr	8.61	348	Pn		Pn		05 42 45.4	-2.7
ANGG						Sn		05 44 17.1	-8.0
ANGG	Ammassalik, Gr	8.61	348	*i* P		Pn		05 42 46.4	-1.6
ANGG				IAM

DRUM	**Mains of Drumt**	**16.69**	**78**	*eP*		**Pn**		05 49 36.0	**-0.1**
DRUM					IAmb	IAmb		05 44 47.8	
	comp=Z,333nm,1.5s								
DRUM					IAMs_20	IAMs_20		05 50 15.2	
	comp=Z,12μm,14.6s								
ESK	**Eskdalemuir**	**16.76**	**84⇑**	*eP*		**Pn**		**05 44 37.8**	**-0.4**
ESK					IAmb	IAmb		05 44 49.6	
	comp=Z,637nm,2.0s								
ESK					IAMs_20	IAMs_20		05 49 53.2	
	comp=Z,12μm,17.5s								
ESK	**Eskdalemuir**	**16.76**	**84**	P		**P**		**05 44 40.8**	**+0.4**
ESK				pmax		pmax			
	comp=Z,162nm,1.2s								
ESK	**Eskdalemuir**	**16.76**	**84**			**P**		**05 44 40.8**	**+0.4**
ESK					IAmb	IAmb		05 44 48.3	
	comp=Z,162nm,1.2s								
EKA	**Eskdalemuir Ar**	**16.78**	**84**	Pn		**P**		**05 44 39.5**	**-1.1**
	baz=281,slow=6.7,SNR=9.2								
EKA					LR	LR		05 50 01.2	
	comp=Z,10μm,18.6s,baz=290,slow=33								
WLF1	**Llynfaes**	**16.88**	**91**	*eP*		**Pn**		**05 44 39.3**	**-0.4**
WLF1					IAmb	IAmb		05 44 50.5	
	comp=Z,497nm,1.3s								
WLF1					IAMs_20	IAMs_20		05 49 04.4	
	comp=Z,23μm,24.7s								
WME	**Myndd Eilian**	**16.89**	**91**	*eP*		**Pn**		**05 44 38.9**	**-0.9**
JMIC	**Jan Mayen**	**17.27**	**28**	LR		LR		05 49 37.2	
	comp=Z,3μm,21.1s,baz=226,slow=31								
JMIC	**Jan Mayen**	**17.27**	**28**	*eP*		**P**		**05 44 51.3**	**+5.3**
JMIC				e				05 48 25.3	
LLW	**Llanuwychllyn**	**17.47**	**92**	*eP*		**P**		**05 44 46.9**	**-1.4**
EDMD	**Edmundbyers**	**17.60**	**85**	*eP*		**Pn**		**05 44 47.8**	**-0.9**
EDMD					IAMs_20	IAMs_20		05 51 01.5	
	comp=Z,10μm,14.4s								
H07N1	**FLORES T-PHASE**	**17.67**	**174**	*eP*		**Pn**		**05 44 49.8**	**+0.2**
H07N1	**FLORES T-PHASE**	**17.67**	**174**	T		T		06 02 37.8	
	SNR=13								
FOEL	**Foel Wylfa**	**17.71**	**92**	*eP*		**Pn**		**05 44 49.0**	**-1.0**
FOEL					IAMs_20	IAMs_20		05 49 41.0	
	comp=Z,11μm,22.7s								
DBG	**Daneborg**	**17.83**	**12**		IAMs_20	IAMs_20		05 53 16.4	
	comp=Z,9μm,8.0s								
H07S1	**FLORES T-PHASE**	**17.97**	**175**	*eP*		**Pn**		**05 44 53.0**	**-0.4**
H07S1	**FLORES T-PHASE**	**17.97**	**175**	T		T		06 03 02.2	
HLM1	**Long Mynd**	**18.05**	**92**	*eP*		**P**		**05 44 54.5**	**-0.1**
HLM1					IAmb	IAmb		05 45 03.8	
	comp=Z,448nm,1.8s								
HLM1					IAMs_20	IAMs_20		05 50 14.8	
	comp=Z,11μm,20.1s								
UPNV	**Upernavik**	**18.07**	**338**		IAMs_20	IAMs_20		05 50 59.8	
	comp=Z,11μm,15.2s								
HPK	**Haverah Park**	**18.11**	**87**	*eP*		**P**		**05 44 54.9**	**-0.4**
HPK					IAmb	IAmb		05 45 04.2	
	comp=Z,494nm,1.4s								
HPK					IAMs_20	IAMs_20		05 50 15.1	
	comp=Z,11μm,20.0s								
MCH1	**Michaelchurch**	**18.23**	**94**	*eP*		**P**		**05 44 56.4**	**-0.3**
MCH1					IAmb	IAmb		05 45 05.5	
	comp=Z,187nm,1.1s								
MCH1					IAMs_20	IAMs_20		05 50 30.3	
	comp=Z,13μm,19.8s								
LBWR	**Ladybower, Pea**	**18.29**	**89**	*eP*		**P**		**05 44 57.0**	**-0.3**
LBWR					IAmb	IAmb		05 45 08.4	
	comp=Z,163nm,1.1s								
LBWR					IAMs_20	IAMs_20		05 50 19.8	
	comp=Z,10μm,20.9s								
FRB	**Frobisher Bay**	**18.31**	**305**	P		**Pn**		**05 44 57.1**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=115,slow=11,SNR=5.2								
FRB					LR	LR		05 51 04.6	
	comp=Z,8μm,18.6s,baz=98,slow=34								
GDLE	**Glaisdale, N Y**	**18.37**	**85**	*eP*		**P**		**05 44 58.1**	**-0.1**
GDLE					IAmb	IAmb		05 45 05.3	
	comp=Z,232nm,1.3s								
GDLE					IAMs_20	IAMs_20		05 51 33.9	
	comp=Z,12μm,13.9s								
MONM	**Monmouth**	**18.41**	**94**	*eP*		**P**		**05 44 59.0**	**+0.4**
MONM					IAmb	IAmb		05 45 11.1	
	comp=Z,291nm,1.4s								
MONM					IAMs_20	IAMs_20		05 50 25.5	
	comp=Z,13μm,20.9s								
PGRA	**Graciosa**	**18.60**	**167**	*eP*		**Pn**		**05 45 01.6**	**+0.5**
	comp=Z,209nm,2.0s								
PGRA					eLR	LR		05 49 17.8	
	comp=Z,868nm,16.1s								
OLDB	**Oldbury-Upon-S**	**18.64**	**94**	*eP*		**Pn**		**05 45 01.3**	**-0.1**
OLDB					IAmb	IAmb		05 45 08.3	
	comp=Z,168nm,1.1s								
OLDB					IAMs_20	IAMs_20		05 50 43.4	
	comp=Z,13μm,20.0s								
SCHQ	**Schefferville**	**18.77**	**277**	P		**P**		**05 45 02.0**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=73,slow=8.2,SNR=12								
SCHQ					LR	LR		05 51 01.1	
	comp=Z,14μm,19.6s,baz=76,slow=33								
SCHQ	**Schefferville**	**18.77**	**277**			**P**		**05 45 02.5**	**-0.1**
SCHQ					IAmb	IAmb		05 45 07.0	
	comp=Z,154nm,1.3s								
STRD	**Stroud**	**18.79**	**94**	*eP*		**Pn**		**05 45 03.3**	**+0.1**
STRD					IAmb	IAmb		05 45 11.2	
	comp=Z,429nm,1.1s								
STRD					IAMs_20	IAMs_20		05 50 57.6	
	comp=Z,12μm,19.2s								
CWF	**Charnwood Fore**	**18.80**	**90**	*eP*		**Pn**		**05 45 02.9**	**-0.5**
CWF					IAMs_20	IAMs_20		05 50 25.4	
	comp=Z,9μm,21.8s								
ROSA	**Rosais**	**18.88**	**168**	*eP*		**P**		**05 45 03.3**	**-0.6**
	comp=Z,196nm,1.9s								
ROSA					eLR	LR		05 49 03.0	
	comp=Z,2μm,15.3s								
PCED	**Cedros**	**18.92**	**169**	*eP*		**P**		**05 45 04.9**	**+0.6**
	comp=Z,189nm,1.3s								
CALA	**Caldeira**	**18.96**	**169**	*eP*		**P**		**05 45 05.4**	**+0.5**
	comp=Z,316nm,1.4s								
LMK	**Market Rasen**	**19.02**	**88**	*eP*		**Pn**		**05 45 06.4**	**+0.3**
LMK					IAMs_20	IAMs_20		05 50 42.7	
	comp=Z,11μm,20.2s								
PICO	**Pico**	**19.07**	**168**	*eP*		**P**		**05 45 05.9**	**-0.2**
	comp=Z,184nm,1.8s								
WOL	**Wolverton**	**19.53**	**94**	*eP*		**Pn**		**05 45 10.8**	**-1.4**
WOL					IAmb	IAmb		05 45 22.7	
	comp=Z,2μm,2.3s								
WOL					IAMs_20	IAMs_20		05 51 21.5	
	comp=Z,12μm,19.8s								
SUE	**Sulen**	**19.68**	**63**	*eP*		**Pn**		**05 45 14.6**	**+0.8**
SUE				*eS*		**Sn**		**05 48 58.1**	**+3.7**
BER	**Bergen**	**20.04**	**65**	*eP*		**Pn**		**05 45 18.7**	**+0.5**
BER					IVmB_BB			05 45 26.8	
	comp=Z,2μm,2.3s								
BER				*eS*		**Sn**		**05 49 06.3**	**+3.1**
BER					IVMs_BB	IVMs_BB		05 55 41.6	
	comp=Z,2μm,10.0s								
PSET	**Sete Cidades**	**20.11**	**162**	*eP*		Pn		05 45 21.3	+2.1
	comp=Z,348nm,1.5s								
PSET					eLR	LR		05 49 51.4	
	comp=Z,7μm,19.0s								
CMLA	**Cha da Macela**	**20.20**	**162**	*eP*		Pn		05 45 20.7	+0.4
	comp=Z,166nm,1.5s								
CMLA					eLR	LR		05 50 00.9	
	comp=Z,7μm,17.2s								
BART	**Pico Bartolome**	**20.25**	**161**	*eP*		**P**		**05 45 18.2**	**-0.8**
	comp=Z,331nm,1.7s								
DAG	**Danmarks Havn**	**20.26**	**10**	*i* P		Pn		05 45 21.5	+0.9
DAG					pmax	pmax			
	comp=Z,81nm,1.3s								
DAG					MLR	MLR			
	comp=Z,5μm,10.0s								
DAG	**Danmarks Havn**	**20.26**	**10**	*i* P		Pn		05 45 21.5	+0.9
	comp=Z,80nm,1.3s								
	comp=Z,5μm,10.0s								
DAG	**Danmarks Havn**	**20.26**	**10**	*i* P		Pn		05 45 21.5	+0.9
DAG					IAmb	IAmb		05 45 26.7	
	comp=Z,80nm,1.3s								
DAG					IAMs_20	IAMs_20		05 53 07.8	
	comp=Z,5μm,10.4s								
HYA	**Hoyanger**	**20.35**	**62**	*eP*		Pn		05 45 20.8	-1.0
HYA				*eS*		Sn		05 49 14.5	+3.7
AKN	**Aaknes**	**20.64**	**59**	*eP*		Pn		05 45 24.8	-0.4
AKN					IVmBBB			05 45 26.8	
	comp=Z,1μm,2.2s								
AKN				*eS*		Sn		05 49 18.2	+0.5
AKN					IVMs_BB	IVMs_BB		05 52 24.7	
	comp=Z,2μm,15.9s								
BLS5	**Blasjo**	**20.76**	**67**	*eP*		Pn		05 45 25.9	-0.8
BLS5				*eS*		Sn		05 49 20.4	-0.4
BLS5					IVMs_BB	IVMs_BB		05 52 25.6	
	comp=Z,3μm,19.9s								
MOL	**Molde**	**20.86**	**58**	*eP*		Pn		05 45 26.2	-1.5
MOL				*eS*		Sn		05 49 23.3	+0.3
ELSH	**Elham, Standar**	**20.89**	**92**	*eP*		Pn		05 45 25.9	-2.3
ELSH					IAmb	IAmb		05 45 36.6	
	comp=Z,423nm,1.1s								
ELSH					IAMs_20	IAMs_20		05 52 04.5	
	comp=Z,11μm,20.3s								
PSMA	**Santa Maria**	**21.02**	**161**	*eP*		**P**		**05 45 25.8**	**-1.4**
	comp=Z,107nm,1.0s								
PSMN	**Pico do Norte,**	**21.02**	**161**	*eP*		**P**		**05 45 26.5**	**-0.7**
	comp=Z,184nm,1.6s								
PSMN					eLR	LR		05 50 16.7	
	comp=Z,6μm,18.3s								
GBN	**Guysborough**	**21.07**	**248**	P		**P**		**05 45 27.1**	**-0.6**
SNART	**Snartemo**	**21.39**	**70**	*eP*		**P**		**05 45 30.9**	**-0.1**
SNART				*eS*		Sn		05 49 36.0	+0.3
SNART	**Snartemo**	**21.39**	**70**	*i* P		**P**		**05 45 29.0**	**-2.0**
SNART				*i* P		**pP**		**05 45 29.4**	**-3.9**
SKAR	**Skarslia**	**21.45**	**63**	*eP*		**P**		**05 45 32.6**	**+0.9**
SKAR					IVMs_BB	IVMs_BB		05 52 28.7	
	comp=Z,2μm,18.3s								
DOMB	**Dombas**	**21.62**	**60**	*eP*		**P**		**05 45 35.7**	**+2.2**
DOMB					IVmB_BB			05 45 44.5	
	comp=Z,1μm,2.4s								
DOMB				*eS*		Sn		05 49 41.5	+0.2
DOMB					IVMs_BB	IVMs_BB		05 52 46.5	
	comp=Z,2μm,19.1s								
TBLU	**Trondheim**	**22.05**	**56**	*eP*		**P**		**05 45 39.5**	**+1.4**
TBLU				*eS*		Sn		05 49 47.0	-4.5
HOMB	**Homborsund**	**22.07**	**70**	*i* P		**P**		**05 45 41.8**	**+3.5**
PGAV	**Gavieira, Arco**	**22.13**	**123**	*eP*		**P**		**05 45 42.1**	**+2.8**
	comp=Z,213nm,1.5s								
PGAV				*i* LQ		LQ		05 48 15.9	
PGAV				*eLR*		LR		05 50 49.9	
	comp=Z,11μm,20.0s								
BATG	**Bathurst New B**	**22.18**	**257**	P		**P**		**05 45 38.8**	**-0.8**
BATG					IAmb	IAmb		05 45 54.1	
	comp=Z,150nm,1.4s								
KONO	**Kongsberg**	**22.28**	**66**	*ceP*		**P**		**05 45 43.3**	**+2.7**
KONO					pmax	pmax			
	comp=Z,163nm,1.7s								
KONO	**Kongsberg**	**22.28**	**66**	P		**P**		**05 45 41.0**	**+0.5**
KONO					IAmb	IAmb		05 45 49.6	
	comp=Z,171nm,1.3s								
KONO	**Kongsberg**	**22.28**	**66**	*eP*		**P**		**05 45 40.1**	**-0.4**
PCAB	**Cabril**	**22.45**	**123**	*eP*		**P**		**05 45 46.5**	**+4.0**
	comp=Z,168nm,1.6s								
LMN	**Caledonia Moun**	**22.45**	**253**	P		**P**		**05 45 42.0**	**-0.5**
LMN					IAmb	IAmb		05 45 54.1	
	comp=Z,121nm,1.2s								
LMN					IAMs_20	IAMs_20		05 53 19.2	
	comp=Z,10μm,19.0s								
NC204	**NORSAR Array S**	**22.53**	**61**	P		**P**		**05 45 43.3**	**0.0**
NC204	**NORSAR Array S**	**22.53**	**61**	*eP*		**P**		**05 45 44.6**	**+1.3**
NBO00	**NORSAR Array S**	**22.58**	**62**	P		**P**		**05 45 43.9**	**+0.1**
HAL	**Halifax**	**22.66**	**249**	P		**P**		**05 45 43.9**	**-0.8**
HAL					pmax	pmax			
	comp=Z,122nm,1.1s								
HAL					MLR	MLR			
	comp=Z,5μm,21.0s								
HAL	**Halifax**	**22.66**	**249**	P		**P**		**05 45 43.9**	**-0.8**
HAL					IAmb	IAmb		05 45 53.6	
	comp=Z,122nm,1.1s								
NAO01	**NORSAR Array S**	**22.66**	**62**	P		**P**		**05 45 43.9**	**-0.8**
NAO01					IAmb	IAmb		05 45 58.7	
	comp=Z,152nm,1.5s								
NSS	**Namsos**	**22.73**	**53**	*eS*		Sn		05 49 58.0	-10
OSL	**Oslo**	**22.77**	**65**	*eP*		**P**		**05 45 51.2**	**+5.5**
OSL				*eS*		Sn		05 49 59.0	-10
NB2	**NORSAR Subarra**	**22.79**	**62**	P		**P**		**05 45 45.5**	**-0.5**
	comp=Z,222nm,1.4s,baz=281,slow=10								
NB2	**NORSAR Subarra**	**22.79**	**62**	P		**P**		**05 45 45.5**	**-0.5**
	baz=281,slow=10								
NOA	**NORSAR Array B**	**22.79**	**62**	P		**P**		**05 45 45.8**	**-0.2**
	comp=Z,6.7nm,1.2s,baz=281,slow=9.4,SNR=17								
NOA					LR	LR		05 53 13.5	
	comp=Z,3μm,21.5s,baz=285,slow=33								
GOET	**G??ttrup**	**22.80**	**73**	*i* P		**P**		**05 45 49.0**	**+3.0**
	comp=Z,643nm,1.1s								
GOET	**G??ttrup**	**22.80**	**73**	*i* P		**P**		**05 45 49.1**	**+3.0**
GOET				*i* P		**pwP**		**05 45 49.7**	**-1.5**
GOET					IAmb	IAmb		05 45 55.0	
	comp=Z,643nm,1.1s								
NB201	**NORSAR Array S**	**22.82**	**62**	P		**P**		**05 45 45.4**	**-0.9**
UCC	**Uccle**	**22.82**	**90**	P		**P**		**05 45 46.1**	**-0.3**
UCC					pmax	pmax			
	comp=Z,80nm,1.2s								
UCC					MLR	MLR			
	comp=Z,7μm,22.0s								
UCC	**Uccle**	**22.82**	**90**	P		**P**		**05 45 46.1**	**-0.3**
UCC					IAmb	IAmb		05 45 55.3	
	comp=Z,80nm,1.2s								
NC303	**NORSAR Array S**	**22.83**	**61**	P		**P**		**05 45 46.2**	**-0.1**
SNF	**Seneffe**	**22.93**	**91**	P		**P**		**05 45 48.1**	**+0.6**
PVRL	**Vila Real**	**22.93**	**123**	*eP*		P		05 45 55.4	+7.7
	comp=Z,186nm,1.6s								
PBRG	**Braganca**	**22.96**	**121**	*eP*		**P**		**05 45 52.0**	**+4.0**
	comp=Z,98nm,1.4s								
MUD	**Monsted U'grnd**	**22.97**	**74**	*i* P		**P**		**05 45 48.9**	**+1.1**
MUD	**Monsted U'grnd**	**22.97**	**74**	*i* P		**P**		**05 45 48.9**	**+1.1**
MUD	**Monsted U'grnd**	**22.97**	**74**	*i* P		**P**		**05 45 48.9**	**+1.1**
NC602	**NORSAR Array S**	**23.00**	**62**	P		**P**		**05 45 48.6**	**+0.4**
NC602	**NORSAR Array S**	**23.00**	**62**	*eP*		**P**		**05 45 50.8**	**+2.6**
NC602					IVmB_BB			05 46 00.5	
	comp=Z,1μm,2.1s								
NC602				*eS*		Sn		05 50 10.6	-3.7
NC405	**NORSAR Array S**	**23.01**	**62**	P		**P**		**05 45 48.2**	**-0.1**
TULEG	**Thule**	**23.09**	**340**	IAMs_20	IAMs_20			05 53 55.3	
	comp=Z,6μm,17.2s								
CLF	**Chambon-Foret**	**23.24**	**98**	P		**P**		**05 45 51.8**	**+1.2**
CLF					IAMs_20	IAMs_20		05 54 01.5	
	comp=Z,8μm,18.0s								
PVIS	**Viseu**	**23.30**	**124**	*eP*		**P**		**05 45 54.0**	**+2.5**
	comp=Z,165nm,1.7s								
BMRD	**Maredsous**	**23.30**	**91**	P		**P**		**05 45 51.0**	**-0.4**
DOU	**Dourbes**	**23.32**	**92**	P		**P**		**05 45 51.3**	**-0.2**
DOU					PnPn	**PnPn**		**05 46 17.1**	**-0.1**
MVO	**Moncorvo**	**23.34**	**122**	*eP*		**P**		**05 45 55.2**	**+3.4**
	comp=Z,164nm,1.9s								
MVO				*i* LQ		LQ		05 48 28.0	
MVO				*eLR*		LR		05 51 23.8	
	comp=Z,10μm,20.0s								
LOF	**Lofoten**	**23.41**	**43**	*eP*		**P**		**05 45 52.3**	**0.0**
LOF					IVmBBB			05 46 07.5	
	comp=Z,3μm,2.6s								
LOF				*eS*		**S**		**05 50 03.9**	**-1.1**
LOF					IVMs_BB	IVMs_BB		05 52 35.5	
	comp=Z,994nm,18.4s								
D63A	**Stockholm**	**23.42**	**259**	P		**P**		**05 45 53.9**	**+1.3**
	baz=51								
COI	**Coimbra**	**23.48**	**126**	P		**P**		**05 45 53.1**	**-0.1**
COI					pmax	pmax			
	comp=Z,179nm,1.1s								
COI	**Coimbra**	**23.48**	**126**	*eP*		**P**		**05 45 55.7**	**+2.5**
	comp=Z,252nm,1.7s								
COI				*i* LQ		LQ		05 48 32.6	
COI	**Coimbra**	**23.48**	**126**	P		**P**		**05 45 53.1**	**-0.1**
BEBN	**Eben Emael**	**23.54**	**89**	P		**P**		**05 45 53.3**	**-0.3**
PCAS	**Casmilo, Conde**	**23.57**	**126**	*eP*		**P**		**05 45 57.6**	**+3.5**
	comp=Z,150nm,1.4s								
BSTI	**Sart Tilman**	**23.59**	**90**	P		**P**		**05 45 53.5**	**-0.7**
E64A	**Bridgewater**	**23.67**	**258**	P		**P**		**05 45 55.3**	**+0.3**
	baz=50								
MOR8	**Moi Rana**	**23.71**	**48**	*eP*		**P**		**05 45 56.6**	**+1.4**
MOR8					IVmB_BB			05 46 07.2	
	comp=Z,1μm,3.5s								
MOR8				*eS*		**S**		**05 50 14.2**	**+4.4**
MOR8					IVMs_BB	IVMs_BB		05 52 27.6	
	comp=Z,1μm,24.7s								
MTE	**Manteigas**	**23.71**	**124**	*eP*		P		05 46 02.5	+6.9
	comp=Z,140nm,2.2s								
MTE				*i* LQ		LQ		05 48 36.2	
MTE				*eLR*		LR		05 51 32.9	
	comp=Z,8μm,20.0s								
MTE	**Manteigas**	**23.71**	**124**	P		**P**		**05 45 56.6**	**+1.1**
MTE					IAmb	IAmb		05 46 04.2	
	comp=Z,127nm,1.3s								
MTE					IAMs_20	IAMs_20		05 52 43.4	
	comp=Z,8μm,20.0s								
MEM	**Membach**	**23.82**	**89**	P		**P**		**05 45 55.4**	**-0.9**
MEM				pP		**pP**		**05 45 57.9**	**-0.9**
MEM				PnPn		**PnPn**		**05 46 22.7**	**-1.3**
PSBE	**So Bento**	**23.89**	**128**	*eP*		**P**		**05 46 02.0**	**+4.8**
	comp=Z,426nm,1.7s								
PSBE				*i* LQ		LQ		05 48 39.1	
BTNL	**Ternell**	**23.89**	**89**	P		**P**		**05 45 56.9**	**-0.3**
BTNL					PnPn	**PnPn**		**05 46 22.1**	**-3.0**
D62A	**Allapoint, All**	**23.90**	**260**	P		**P**		**05 45 58.3**	**+1.1**
	baz=52,SNR=9.7								
D62A	**Allapoint, All**	**23.90**	**260**	P		**P**		**05 45 56.2**	**-1.0**
D62A					IAmb	IAmb		05 46 05.7	
	comp=Z,53nm,1.1s								
D62A					IAMs_20	IAMs_20		05 53 52.4	
	comp=Z,10μm,20.0s								
BHOU	**Houvegnez**	**23.95**	**90**	P		**P**		**05 45 57.5**	**-0.2**
E63A	**Oxbow**	**23.98**	**258**	P		**P**		**05 45 58.2**	**+0.3**
	baz=50								
E63A	**Oxbow**	**23.98**	**258**	P		**P**		**05 45 58.4**	**+0.4**
E63A					IAmb	IAmb		05 46 17.8	
	comp=Z,58nm,1.2s								
E63A					IAMs_20	IAMs_20		05 53 54.6	
	comp=Z,10μm,20.0s								
GGN	**Saint George**	**24.00**	**254**	P		**P**		**05 45 56.7**	**-1.5**
GGN					IAmb	IAmb		05 46 15.0	
	comp=Z,56nm,1.2s								
STEI	**Steigen**	**24.04**	**44**	*eP*		**P**		**05 45 59.8**	**+1.4**
STEI				*eS*		**S**		**05 50 20.1**	**+5.1**
STEI					IVMs_BB	IVMs_BB		05 54 02.3	
	comp=Z,1μm,12.9s								
FAUS	**Fauske**	**24.04**	**45**	*eP*		**P**		**05 45 59.5**	**+1.2**
FAUS					IVmBBB			05 46 14.8	
	comp=Z,2μm,3.2s								
FAUS				*eS*		**S**		**05 50 19.1**	**+4.1**
FAUS					IVMs_BB	IVMs_BB		05 54 33.6	
	comp=Z,1μm,17.3s								
HFS	**Hagfors**	**24.18**	**63**	P		**P**		**05 46 00.8**	**+1.1**
	comp=Z,20nm,0.8s,baz=260,slow=8.7,SNR=18								
HFS					LR	LR		05 54 15.7	
	comp=Z,3μm,19.9s,baz=276,slow=34								
PCBR	**Castelo Branco**	**24.20**	**125**	*eP*		**P**		**05 46 00.5**	**+0.4**
	comp=Z,218nm,1.8s								
PCBR				*i* LQ		LQ		05 48 40.6	
F64A	**Sherman**	**24.30**	**257**	P		**P**		**05 46 01.1**	**+0.1**
	baz=49								
F64A	**Sherman**	**24.30**	**257**	P		**P**		**05 46 00.4**	**-0.6**
F64A					IAMs_20	IAMs_20		05 54 14.2	
	comp=Z,9μm,19.0s								
G65A	**Princeton**	**24.33**	**255**	P		**P**		**05 46 01.6**	**+0.5**
	baz=48								
G65A	**Princeton**	**24.33**	**255**	P		**P**		**05 46 00.4**	**-0.8**
G65A					IAMs_20	IAMs_20		05 54 23.8	
	comp=Z,8μm,18.0s								
WLF	**Walferdange**	**24.40**	**91**	PnPn		P		05 46 28.8	+27
WLF	**Walferdange**	**24.40**	**91**	P		**P**		**05 46 02.9**	**+1.0**
WLF					pmax	pmax			
	comp=Z,85nm,1.3s								
WLF					MLR	MLR			
	comp=Z,6μm,21.0s								
WLF	**Walferdange**	**24.40**	**91**	P		**P**		**05 46 02.9**	**+1.0**
WLF					IAmb	IAmb		05 46 12.7	
	comp=Z,85nm,1.3s								
LIS	**Lisbon**	**24.41**	**129**	*eP*		**P**		**05 46 01.9**	**-0.1**
LIS				*eS*		**S**		**05 50 22.3**	**+0.9**
LIS					AMS	AMS		05 53 37.4	
	comp=Z,10μm,20.3s								
LIS	**Lisbon**	**24.41**	**129**	*eP*		**P**		**05 46 01.8**	**-0.1**
LIS				*eS*		**S**		**05 50 22.3**	**+0.9**
D61A	**St Aubert, Com**	**24.43**	**262**	P		**P**		**05 46 04.0**	**+1.9**
	baz=52								
E62A	**Clayton Lake**	**24.44**	**260**	P		**P**		**05 46 03.0**	**+0.7**
	baz=51								
E62A	**Clayton Lake**	**24.44**	**260**	P		**P**		**05 46 01.5**	**-0.7**
E62A					IAmb	IAmb		05 46 11.6	
	comp=Z,94nm,1.5s								
E62A					IAMs_20	IAMs_20		05 54 08.8	
	comp=Z,11μm,20.0s								
H66A	**Whiting**	**24.48**	**254**	P		**P**		**05 46 03.7**	**+1.2**
	baz=47								
PMTG	**Montargil**	**24.51**	**127**	*eP*		**P**		**05 46 03.6**	**+0.7**
	comp=Z,270nm,1.9s								
PMTG				*i* LQ		LQ		05 48 38.8	
PMRV	**Marv??o**	**24.57**	**125**	*eP*		**P**		**05 46 04.2**	**+0.7**
	comp=Z,154nm,2.2s								
PMRV				*eLR*		LR		05 51 54.5	
	comp=Z,6μm,20.0s								
F63A	**Nahmakanta, Br**	**24.81**	**258**	P		**P**		**05 46 06.9**	**+1.4**
	baz=49								
F63A	**Nahmakanta, Br**	**24.81**	**258**	P		**P**		**05 46 07.0**	**+1.4**
F63A					IAmb	IAmb		05 46 23.6	
	comp=Z,43nm,1.2s								
F63A					IAMs_20	IAMs_20		05 54 30.5	
	comp=Z,9μm,19.0s								
NOR	**Nord**	**24.89**	**6**	*eP*		**P**		**05 46 06.8**	**+0.

MORF AMS AMS 05 54 08.4
comp=Z,6µm,19.3s
MORF Marmelete 25.81 130 *e*P **P 05 46 14.6 -0.1**
MORF Marmelete 25.81 130 *e*P **P 05 46 20.6 +5.9**
comp=Z,215nm,1.7s
WVL Waterville 25.86 256 P **P 05 46 13.7 -1.3**
WVL IAmb IAmb 05 46 21.9
comp=Z,84nm,1.3s
WVL IAMs_20 IAMs_20 05 55 21.3
comp=Z,7µm,18.0s
PAB San Pablo 25.86 121 P **P 05 46 14.9 -0.3**
PAB pmax pmax
comp=Z,72nm,1.2s
PAB MLR MLR
comp=Z,7µm,18.0s
PAB San Pablo 25.86 121 P **P 05 46 14.9 -0.3**
PAB IAmb IAmb 05 46 23.3
comp=Z,72nm,1.1s
PAB San Pablo 25.86 121 IAMs_20 IAMs_20 05 54 39.2
comp=Z,7µm,18.0s
RGN Rugen 25.88 76 *e*P **P 05 46 16.0 +0.8**
G62A West of Eustis 25.88 258 P **P 05 46 17.4 +2.0**
baz=49
G62A West of Eustis 25.88 258 P **P 05 46 16.3 +1.0**
G62A IAmb IAmb 05 46 21.7
comp=Z,56nm,1.1s
G62A IAMs_20 IAMs_20 05 55 12.0
comp=Z,10µm,19.0s
PFVI Vila Biebo 25.89 131 *e*P **P 05 46 16.9 +1.5**
comp=Z,270nm,1.4s
PFVI Vila Bisbo 25.89 131 P **P 05 46 14.5 -0.9**
ESBB Sonseca Array 25.94 120 P **P 05 46 16.4 +0.5**
ESBB IAmb IAmb 05 46 24.0
comp=Z,55nm,1.1s
ESDC Sonseca Array 25.94 120 P **P 05 46 16.4 +0.4**
comp=Z,13nm,0.8s,baz=320,slow=9.5,SNR=30
ESDC LR LR 05 54 45.2
comp=Z,5µm,18.0s,baz=320,slow=32
ESDC Sonseca Array 25.94 120 P **P 05 46 16.1 +0.1**
D58A Chemin du LacG 25.95 264 P **P 05 46 16.2 +0.3**
baz=52
HSPB Hornsund (broa 26.00 23 *e*P **P 05 46 16.5 +0.4**
BJO1 Bjornoya 26.10 29 *e*S **S 05 50 52.1 +4.4**
BJO1 *e*ScP **ScP 05 53 22.1 -1.1**
PVAQ Vaqueiros 26.12 129 *e*P **P 05 46 22.8 +5.3**
comp=Z,102nm,1.3s
PVAQ *e*LR LR 05 52 35.0
comp=Z,10µm,20.0s
PVAQ Vaqueiros 26.12 129 P **P 05 46 16.3 -1.2**
PVAQ IAmb IAmb 05 46 26.8
comp=Z,62nm,1.0s
PVAQ IAMs_20 IAMs_20 05 53 33.1
comp=Z,12µm,22.0s
KBS Kingsbay 26.13 18 IAMs_20 IAMs_20 05 57 42.8
comp=Z,4µm,12.9s
F60A Warwick 26.16 261 P **P 05 46 15.9 -1.8**
baz=50
PBDV Barranco-do-Ve 26.16 129 *e*P **P 05 46 22.8 +4.9**
comp=Z,98nm,1.2s
SSB Saint Sauveur 26.18 101 P **P 05 46 17.8 -0.3**
SSB pmax pmax
comp=Z,12nm,1.1s
SSB MLR MLR
comp=Z,10µm,18.0s
SSB Saint Sauveur 26.18 101 P **P 05 46 17.8 -0.3**
SSB Saint Sauveur 26.18 101 IAMs_20 IAMs_20 05 55 50.6
comp=Z,11µm,18.0s
I64A Boothbay 26.28 255 P **P 05 46 20.9 +2.0**
baz=47
BFO Black Forest 26.34 92 P **P 05 46 19.5 +0.1**
BFO pmax pmax
comp=Z,45nm,1.2s
BFO MLR MLR
comp=Z,4µm,21.0s
BFO Black Forest 26.34 92 P **P 05 46 19.5 +0.1**
BFO IAmb IAmb 05 46 30.3
comp=Z,45nm,1.2s
G61A St-Isidore-de- 26.37 259 P **P 05 46 20.4 +0.6**
baz=49
BSD Bornholm Skovb 26.48 74 IAMs_20 IAMs_20 05 55 50.4
comp=Z,5µm,19.7s
ALE Alert 26.52 352 IAMs_20 IAMs_20 05 55 59.7
comp=Z,8µm,20.0s
STU Stuttgart 26.55 90 P **P 05 46 21.6 +0.3**
STU pmax pmax
comp=Z,34nm,1.0s
STU MLR MLR
comp=Z,3µm,21.0s
STU Stuttgart 26.55 90 P **P 05 46 21.6 +0.3**
STU IAmb IAmb 05 46 31.5
comp=Z,34nm,1.0s
SPA0 Spitsbergen Ar 26.60 21 *e*P **P 05 46 22.5 +1.0**
SPA0 *e* 05 52 09.0
SPA0 *i* 05 54 22.6
SPITS Spitsbergen Ar 26.60 21 P **P 05 46 23.2 +1.7**
comp=Z,7.9nm,0.9s,baz=259,slow=15,SNR=3.2
SPITS LR LR 05 54 09.4
comp=Z,1µm,19.3s,baz=205,slow=30
E58A La Victoria 26.61 263 P **P 05 46 21.7 -0.2**
baz=51
H62A Milan 26.64 258 P **P 05 46 24.7 +2.5**
baz=48
H62A Milan 26.64 258 P **P 05 46 20.8 -1.4**
H62A IAmb IAmb 05 46 30.3
comp=Z,73nm,1.5s
H62A IAMs_20 IAMs_20 05 55 36.1
comp=Z,10µm,19.0s
I63A Otisfield 26.69 256 IAMs_20 IAMs_20 05 55 38.4
comp=Z,7µm,18.0s
MOQ Mont Orford 26.74 260 P **P 05 46 23.5 +0.3**
PMOZ Porto Moniz, M 26.84 149 *e*LR LR 05 52 54.0
comp=Z,4µm,18.0s
G60A Masonville 26.92 260 P **P 05 46 23.5 -1.2**
baz=49
SENIN Lac Senin/Sane 26.97 96 P **P 05 46 25.4 0.0**
SENIN IAmb IAmb 05 46 36.1
comp=Z,35nm,1.1s
D56A ZEC Mazanza, M 26.99 266 P **P 05 46 26.1 +0.8**
baz=52
LSQQ Lebel-sur-Quev 27.02 271 P **P 05 46 25.6 +0.1**
baz=56
E57A Chemin Saint G 27.06 264 P **P 05 46 25.3 -0.6**
baz=51
RUE Ruedersdorf 27.07 80 *e*P **P 05 46 26.8 +0.9**
HAMF Hammerfest 27.09 38 *e*P **P 05 46 21.2 -4.8**
HAMF *e*S **S 05 51 04.4 +0.9**
HAMF IVMs_BB IVMs_BB 05 54 57.6
comp=Z,984nm,16.0s
I62A Tamworth 27.21 257 IAMs_20 IAMs_20 05 56 03.1
comp=Z,9µm,18.0s
CLL Collm 27.24 83 *e*P **P 05 46 26.0 -1.5**
CLL *i* (pP) **pP 05 46 29.9 -0.1**
comp=Z,15nm,0.9s
CLL *i* 05 46 32.9
comp=Z,48nm,1.1s
CLL *e*PP **PnPn 05 47 06.0 -4.7**
CLL *e*S **S 05 51 00.0 -6.2**
CLL *e* 05 51 42.0
CLL *e*SSSS 05 52 42.0
CLL Lm MLR 05 56 00.0
comp=Z,7µm,20.5s
CLL Lmax 05 57 00.0
CLL Collm 27.24 83 *e*P **P 05 46 26.0 -1.5**
CLL *i* 05 46 29.9
CLL *i* 05 46 32.9
CLL MLR MLR
comp=Z,7µm,20.5s
CLL Collm 27.24 83 IAmb IAmb 05 46 34.0
comp=Z,44nm,1.1s
CLL IAMs_20 IAMs_20 05 57 38.4
comp=Z,8µm,18.0s
LBNH Lisbon 27.28 258 IAMs_20 IAMs_20 05 55 54.8
comp=Z,8µm,20.0s
D55A Sainte-Anne-du 27.40 266 P **P 05 46 29.7 +0.7**
baz=52
E56A St. Veronique 27.45 265 P **P 05 46 29.5 +0.1**
baz=52
BNI Bardonecchia 27.48 99 IAMs_20 IAMs_20 05 56 44.7
comp=Z,10µm,19.0s
NKC Novy Kostel 27.51 85 *e*P **P 05 46 30.1 +0.2**
NKC AMS AMS 05 57 10.0
comp=Z,6µm,17.0s
NKC Novy Kostel 27.51 85 *e*P **P 05 46 30.1 +0.2**
NKC MLR MLR
comp=Z,6µm,17.0s
VT1 Waterbury 27.66 259 IAMs_20 IAMs_20 05 56 08.0
comp=Z,8µm,20.0s
FFD Franklin Falls 27.66 257 IAMs_20 IAMs_20 05 56 17.9
comp=Z,9µm,20.0s
ARCES ARCESS Array B 27.75 40 P **P 05 46 32.5 +0.6**
comp=Z,9.9nm,1.0s,baz=258,slow=7.8,SNR=12
ARCES LR LR 05 55 22.8
comp=Z,3µm,19.5s,baz=275,slow=32
ARB3 ARCESS Array S 27.76 40 P **P 05 46 32.4 +0.5**
ARB3 IAmb IAmb 05 46 34.4
comp=Z,42nm,1.4s
FRNY Flat Rock 27.77 261 IAMs_20 IAMs_20 05 56 11.8
comp=Z,10µm,20.0s
DAVA Damuels 27.80 92 *e*P **P 05 46 36.6 +3.9**
comp=Z,25nm,1.1s
G58A Ormstown 27.81 262 P **P 05 46 33.5 +0.8**
baz=49
VLDQ Val d'Or 27.82 270 P **P 05 46 33.8 +1.1**
VLDQ IAmb IAmb 05 46 46.6
comp=Z,36nm,1.1s
HNH Hanover 27.83 258 IAMs_20 IAMs_20 05 56 22.5
comp=Z,8µm,18.0s
EUNU Eureka 27.92 343 P **P 05 46 33.7 +0.4**
H59A Cadyville 27.95 261 P **P 05 46 33.4 -0.5**
baz=49
HOPEN Hopen 27.97 25 *e* 05 54 13.2
BRG Berggiesshubel 27.97 83 *e*P **P 05 46 33.5 -0.6**
comp=Z,12nm,1.5s
comp=N,4µm,14.8s
comp=E,9µm,16.0s
comp=Z,10µm,15.5s
BRG Berggiesshubel 27.97 83 *e*P **P 05 46 33.5 -0.6**
BRG pmax pmax
comp=Z,12nm,1.5s
BRG MLR MLR
comp=N,4µm,14.8s
BRG MLR MLR
comp=E,9µm,16.0s
BRG MLR MLR
comp=Z,10µm,15.5s
TUE Stuetta 28.01 94 P **P 05 46 34.6 -0.1**
DAVOX Davos/Dischmat 28.11 93 P **P 05 46 36.5 +1.0**
comp=Z,4.3nm,1.0s,baz=257,slow=9.6,SNR=6.7
DAVOX LR LR 05 57 18.9
comp=Z,11µm,19.3s,baz=306,slow=35
RETA Reutte 28.16 91 *e*P **P 05 46 37.0 +1.2**
comp=Z,22nm,1.8s,SNR=7.1
KEV Kevo 28.26 40 P **P 05 46 36.9 +0.5**
KEV pmax pmax
comp=Z,36nm,1.4s
KEV Kevo 28.26 40 P **P 05 46 36.9 +0.5**
G57A Newington 28.34 263 P **P 05 46 37.8 +0.4**
baz=50
H58A Gabriels 28.36 261 P **P 05 46 38.0 +0.4**
baz=48
CEU Ceuta 28.40 127 *e*P **P 05 46 40.0 +2.1**
CEU *e*S **S 05 51 29.4 +4.8**
FUORN Ofenpass-Fuorn 28.41 93 P **P 05 46 37.6 -0.7**
FUORN IAMs_20 IAMs_20 05 57 09.5
comp=Z,10µm,19.0s
FETA Feichten 28.42 92 *e*P **P 05 46 41.1 +2.8**
comp=Z,28nm,1.1s,SNR=6.9
MOTA Moosalm 28.43 91 *e*P **P 05 46 40.3 +1.9**
comp=Z,30nm,1.6s
LONY Lake Ozonia 28.44 261 IAMs_20 IAMs_20 05 56 31.7
comp=Z,11µm,20.0s
M65A Busby, Falmout 28.48 253 IAMs_20 IAMs_20 05 57 08.6
comp=Z,10µm,18.0s
PVCC Panska Ves 28.49 83 AMS AMS 05 58 20.0
comp=Z,8µm,14.8s
K62A Royalston 28.52 256 IAMs_20 IAMs_20 05 56 51.8
comp=Z,6µm,18.0s
SQTA Sankt Quirin 28.56 91 *e*P **P 05 46 39.9 +0.4**
comp=Z,22nm,1.0s,SNR=5.7
RES Resolute Bay 28.57 331 LR LR 05 57 33.5
comp=Z,3µm,18.6s,baz=90,slow=35
I59A Olmsteadville 28.61 259 P **P 05 46 40.8 +1.0**
baz=48
PBCC Pribram 28.64 85 *e*P **P 05 46 42.7 +2.6**
PRA Prague 28.67 84 AMS AMS 05 57 50.0
comp=Z,3µm,17.2s
NCB Newcomb 28.68 260 IAMs_20 IAMs_20 05 56 48.0
comp=Z,7µm,18.0s
WATA Walderalm 28.69 91 *e*P **P 05 46 40.4 -0.2**
comp=Z,29nm,1.9s
KHC Kasperske Hory 28.73 86 *e*P **P 05 46 40.0 -0.9**
KHC *e*pP **pwP 05 46 46.8 +0.7**
KHC AMS AMS 05 57 40.0
comp=Z,6µm,17.9s
KHC Kasperske Hory 28.73 86 *e*P **P 05 46 40.0 -0.9**
KHC *e* 05 46 46.8
KHC MLR MLR
comp=Z,6µm,17.9s
WTTA Wattenberg 28.77 91 *e*P **P 05 46 42.0 +0.6**
comp=Z,34nm,1.5s,SNR=8.3
PRU Pruhonice 28.77 84 *e*P **P 05 46 44.5 +3.3**
PRU AMS AMS 05 57 10.0
comp=Z,6µm,18.6s
PRU Pruhonice 28.77 84 *e*P **P 05 46 44.5 +3.3**
PRU MLR MLR
comp=Z,6µm,18.6s
ACCN Adirondack Com 28.78 259 IAMs_20 IAMs_20 05 56 42.7
comp=Z,8µm,21.0s
GOPC GO Pecny, Ondr 28.95 84 AMS AMS 05 57 20.0
comp=Z,7µm,18.8s
GEC2 GERESS Array S 28.96 87 P **P 05 46 43.3 +0.3**
GERES GERESS Array B 28.96 87 P **P 05 46 43.4 +0.5**
comp=Z,2.2nm,0.8s,baz=291,slow=14,SNR=15
GERES LR LR 05 58 16.4
comp=Z,4µm,18.1s,baz=302,slow=36
GERES GERESS Array B 28.96 87 P **P 05 46 42.7 -0.2**
GERES GERESS Array B 28.96 87 P **P 05 46 42.7 -0.2**
CART Cartagena 29.00 119 *e*P **P 05 46 44.9 +1.6**
J59A Piesco 29.17 260 IAMs_20 IAMs_20 05 56 54.0
comp=Z,8µm,20.0s
SALO Salr 29.18 95 IAMs_20 IAMs_20 05 57 52.9
comp=Z,12µm,18.0s
SLIT Slitere, Latvi 29.21 65 *e*P **P 05 46 46.9 +2.0**
TRY Troy 29.23 258 IAMs_20 IAMs_20 05 57 05.6
comp=Z,7µm,20.0s
KSP Ksiaz 29.25 81 *e*P **P 05 46 45.1 -0.3**
KSP *e*pP **pwP 05 46 51.3 +0.6**
KSP *e*S **S 05 51 41.2 +3.3**
KSP *e*L L 05 58 46.9
comp=Z,10µm,18.5s
CHVC Chvalec 29.26 82 *e*P **P 05 46 46.1 +0.6**
CHVC AMS AMS 05 59 00.0
comp=Z,8µm,15.8s
UPC Upice 29.28 82 AMS AMS 05 58 50.0
comp=Z,8µm,15.2s
OSTC Ostas 29.36 82 *e*P **P 05 46 47.2 +0.7**
OSTC AMS AMS 05 59 00.0
comp=Z,8µm,15.6s
RTC Rabat Centre 29.40 131 IAMs_20 IAMs_20 05 57 26.1
comp=Z,5µm,18.0s
PVLZ Peæn de 29.48 126 *e*P **P 05 46 48.0 +0.5**
CTI Castel Tesino 29.52 93 IAMs_20 IAMs_20 05 57 45.8
comp=Z,8µm,20.0s
DPC Dobruska-Polom 29.53 82 *e*P **P 05 46 48.5 +0.5**
DPC AMS AMS 05 59 10.0
comp=Z,7µm,14.6s
DPC Dobruska-Polom 29.53 82 *e*P **P 05 46 48.5 +0.5**
DPC MLR MLR
comp=Z,7µm,14.6s
ABTA Abfaltersbach 29.56 91 *e*P **P 05 46 51.1 +2.8**
comp=Z,21nm,1.4s,SNR=12
PRMA PARMA 29.62 96 IAMs_20 IAMs_20 05 58 22.4
comp=Z,7µm,18.0s
FINES FINESS Array B 29.62 57 P **P 05 46 48.2 -0.4**
comp=Z,1.7nm,0.6s,baz=253,slow=2.0,SNR=12
FINES LR LR 05 58 08.6
comp=Z,2µm,18.2s,baz=284,slow=35
FINES FINESS Array B 29.62 57 P **P 05 46 48.0 -0.6**
FINES FINESS Array B 29.62 57 P **P 05 46 48.0 -0.6**
J58A Remsen 29.66 260 IAMs_20 IAMs_20 05 57 19.0
comp=Z,9µm,18.0s
TREC Trest 29.67 84 AMS AMS 05 58 20.0
comp=Z,7µm,17.4s
PBUR Paburge 29.69 69 *e*P **P 05 46 49.0 -0.3**
AVE Averroes 29.78 133 *e*P **P 05 46 49.2 -1.1**
AVE *e*S **S 05 51 46.1 -0.4**
CIMO Cimolais 29.79 92 IAmb IAmb 05 47 01.1
comp=Z,42nm,1.4s
KBA Koelnbreinsper 29.81 90 P **P 05 46 51.5 +0.9**
comp=Z,27nm,1.5s,SNR=7.6
G54A Lake Saint Pet 29.83 266 P **P 05 46 50.4 -0.2**
baz=50
KSCT Kent School, K 29.84 256 IAMs_20 IAMs_20 05 57 41.7
comp=Z,6µm,18.0s
MOA Molln 29.84 88 *e*P **P 05 46 52.3 +1.6**
comp=Z,13nm,1.4s
KRLC Kraliky 29.93 82 *e*P **P 05 46 53.6 +2.1**
KRLC AMS AMS 05 59 10.0
comp=Z,7µm,16.1s
KRLC Kraliky 29.93 82 *e*P **P 05 46 53.6 +2.1**
KRLC MLR MLR
comp=Z,7µm,16.1s
STAL STALIGIAL 29.97 92 IAmb IAmb 05 46 59.6
comp=Z,45nm,1.4s
TEOL Teolo 29.97 94 IAmb IAmb 05 46 59.0
comp=Z,52nm,1.0s
TEOL IAMs_20 IAMs_20 05 58 08.7
comp=Z,11µm,20.0s
MELI Melilla 29.98 124 *e*P **P 05 46 53.1 +1.1**
J57A Williamstown 30.01 261 IAMs_20 IAMs_20 05 57 29.2
comp=Z,11µm,19.0s
DELO Deloro Mine 30.15 264 IAMs_20 IAMs_20 05 57 42.7
comp=Z,10µm,18.0s
PECO Prince Edward 30.19 263 IAMs_20 IAMs_20 05 57 35.0
comp=Z,11µm,20.0s
MYKA Terra Mystica 30.24 90 *e*P **P 05 46 54.7 +0.4**
comp=Z,41nm,1.2s,SNR=6.6
VRAC Vranov 30.26 84 ⇑P **P 05 46 52.1 -2.3**
VRAC Vranov 30.26 84 *e*P **P 05 46 54.5 +0.1**
VRAC *e*S **S 05 51 56.0 +2.3**
VRAC Vranov 30.26 84 ⇑P **P 05 46 52.1 -2.3**
K58A Earlville 30.26 260 IAMs_20 IAMs_20 05 57 37.9
comp=Z,8µm,20.0s
KRUC Moravsky 30.29 84 *e*P **P 05 46 54.9 +0.3**
KRUC *e*S **S 05 51 57.1 +2.9**
PRED Cave del Predi 30.32 91 P **P 05 46 54.9 -0.1**
PRED IAmb IAmb 05 47 05.9
comp=Z,38nm,1.4s
L59A Walton 30.34 258 IAMs_20 IAMs_20 05 57 48.9
comp=Z,8µm,19.0s
MORC Moravsky Berou 30.51 82 ⇓P **P 05 46 57.4 +0.8**
MORC Moravsky Berou 30.51 82 *e*P **P 05 46 55.1 -1.5**
MORC *e*S **S 05 52 00.2 +2.5**
MORC Moravsky Berou 30.51 82 ⇓P **P 05 46 57.4 +0.8**
MORC Moravsky Berou 30.51 82 P **P 05 46 55.5 -1.1**
MORC IAmb IAmb 05 47 04.5
comp=Z,48nm,1.5s
MORC IAMs_20 IAMs_20 05 59 21.8
comp=Z,9µm,19.0s
IFR Ifrane 30.53 129 *e*P **P 05 46 58.5 +1.4**
IFR *e*S **S 05 51 58.7 +0.1**
J56A Wolcott 30.56 262 IAMs_20 IAMs_20 05 57 46.8
comp=Z,10µm,19.0s
H53A Bobcaygeon 30.63 265 P **P 05 46 59.5 +1.9**
baz=49
TRNY Table Rock, Ra 30.64 256 IAMs_20 IAMs_20 05 58 06.0
comp=Z,5µm,18.0s
CONA Conrad Observa 30.66 86 *e*P **P 05 47 00.1 +2.1**
comp=Z,17nm,1.3s,SNR=7.1
K57A Scipio Center 30.75 261 P **P 05 46 59.9 +1.1**
baz=47
OKC Ostrava-Krasne 30.80 82 AMS AMS 05 59 50.0
comp=Z,10µm,15.7s
SADO Sadowa 30.81 266 P **P 05 46 58.4 -0.8**
comp=Z,10nm,0.9s,baz=66,slow=10,SNR=3.4
SADO Sadowa 30.81 266 IAmb IAmb 05 47 08.1
comp=Z,27nm,1.1s
SADO IAMs_20 IAMs_20 05 57 55.2
comp=Z,9µm,18.0s
OBKA Obir 30.81 90 *e*P **P 05 46 59.6 +0.2**
comp=Z,29nm,1.2s,SNR=6.6
BINY Binghamton 30.84 259 IAMs_20 IAMs_20 05 57 56.0
comp=Z,7µm,20.0s
ARSA Arzberg 30.89 88 *e*P **P 05 47 00.7 +0.7**
comp=Z,18nm,1.1s
APA Apatity 30.93 43 *i* P **P 05 47 00.8 +0.7**
APA pmax pmax
comp=Z,17nm,0.8s
PABE Paberze 30.96 69 *e*P **P 05 47 01.0 +0.6**
SOKA Soboth 30.97 89 *e*P **P 05 47 00.3 -0.4**
comp=Z,36nm,1.4s,SNR=7.6
VSU Vasula 31.03 62 *e*P **P 05 47 02.7 +1.7**
VSU Vasula 31.03 62 *i* P **P 05 47 00.4 -0.7**
VSU pmax pmax
comp=Z,130nm,2.2s
LJU Ljubljana 31.09 90 *e*P **P 05 47 03.4 +1.7**
JAVC Velka Javorina 31.10 83 *e*P **P 05 47 02.3 +0.5**
BEL Belsk 31.12 77 *e*P **P 05 47 02.6 +0.7**
BEL *e*pP **pwP 05 47 08.4 +1.2**
BEL *e*L L 06 01 49.6
comp=Z,7µm,14.9s
SMOL Smolenice 31.17 84 *e*P **P 05 47 02.9 +0.5**
SMOL pmax pmax
comp=Z,16nm,1.3s
SMOL Smolenice 31.17 84 *e*P **P 05 47 02.9 +0.5**
MODS Modra-Piesok 31.17 85 *e*P **P 05 47 04.0 +1.6**
MODS pmax pmax
comp=Z,31nm,1.2s
MODS Modra-Piesok 31.17 85 *e*P **P 05 47 04.0 +1.6**
KSPA Keystone Colle 31.17 258 IAMs_20 IAMs_20 05 58 23.9
comp=Z,8µm,18.0s
CEY Cerknica 31.23 91 *e*P **P 05 47 04.2 +1.3**
CASP Castiglione de 31.24 98 IAMs_20 IAMs_20 05 59 11.2
comp=Z,5µm,18.0s
FCC Fort Churchill 31.25 299 IAMs_20 IAMs_20 05 57 59.7
comp=Z,9µm,20.0s
SUW Suwalki 31.27 71 *e*P **P 05 47 02.9 -0.2**
SUW *e*pP **pwP 05 47 09.1 +0.7**
SUW *e*L L 06 01 26.4
comp=Z,4µm,13.7s
SUW Suwalki 31.27 71 P **P 05 47 02.7 -0.5**
SUW pmax pmax
comp=Z,118nm,1.3s
SUW MLR MLR
comp=Z,3µm,21.0s
SUW Suwalki 31.27 71 P **P 05 47 02.7 -0.5**
LVZ Lovozero 31.31 42 *i* P **P 05 47 04.8 +1.3**
LVZ pmax pmax
comp=Z,18nm,1.0s
MDT Midelt 31.36 129 P **P 05 47 05.3 +1.0**
comp=Z,17nm,1.2s,baz=339,slow=9.2,SNR=12
MDT LR LR 05 58 22.6
comp=Z,2µm,19.6s,baz=338,slow=34
L57A Andrews Acres 31.43 260 P **P 05 47 06.5 +1.7**
baz=46
OJC Ojcow 31.47 80 *e*P **P 05 47 04.8 -0.2**
OJC *e*pP **pwP 05 47 10.9 +0.6**
OJC *e*S **S 05 52 12.0 -0.7**
OJC *e*L L 06 00 53.4
comp=Z,4µm,15.5s
OJC Ojcow 31.47 80 P **P 05 47 04.5 -0.5**
OJC pmax pmax
comp=Z,46nm,1.1s
OJC Ojcow 31.47 80 P **P 05 47 04.5 -0.5**
OJC IAmb IAmb 05 47 12.3
comp=Z,46nm,1.1s
MMNY Mt. Morris Dam 31.50 262 P **P 05 47 05.1 -0.2**
MMNY IAmb IAmb 05 47 11.5
comp=Z,41nm,1.1s
MMNY IAMs_20 IAMs_20 05 58 25.5
comp=Z,11µm,19.0s
MEDO Medina 31.50 263 IAMs_20 IAMs_20 05 58 24.5
comp=Z,11µm,20.0s
J54A Appleton 31.52 263 IAMs_20 IAMs_20 05 58 26.2
comp=Z,10µm,19.0s
N59A State Game Lan 31.62 257 IAMs_20 IAMs_20 05 58 37.9
comp=Z,8µm,18.0s
L56A Greenwood 31.72 261 IAMs_20 IAMs_20 05 58 33.4
comp=Z,9µm,18.0s
CRES Cresnjev 31.73 90 *e*P **P 05 47 05.3 -2.1**
MURB Monte Urbino 31.81 96 P **P 05 47 07.5 -0.6**
MURB IAmb IAmb 05 47 15.1
comp=Z,44nm,1.1s
MURB IAMs_20 IAMs_20 06 00 08.4
comp=Z,11µm,18.0s
LANS Liptovska Anna 31.90 82 *e*P **P 05 47 10.3 +1.5**
LANS pmax pmax
comp=Z,26nm,1.1s
LANS Liptovska Anna 31.90 82 *e*P **P 05 47 10.3 +1.5**
VYHS Vyhne 31.94 83 *e*P **P 05 47 09.4 +0.2**
VYHS pmax pmax
comp=Z,40nm,1.5s
VYHS Vyhne 31.94 83 *e*P **P 05 47 09.4 +0.2**
IZAR Zarasai 31.99 67 *e*P **P 05 47 10.3 +0.8**
ISAL Salakas 32.01 67 *e*P **P 05 47 10.9 +1.2**
BEHE Becsehely 32.04 88 *e*P P 05 47 15.5 +5.4
M57A Sunshine Farm, 32.05 259 IAMs_20 IAMs_20 05 58 43.1
comp=Z,9µm,20.0s
SRO Srobarova 32.06 85 *e*P **P 05 47 12.8 +2.6**

SRO pmax pmax
comp=Z,67nm,1.3s
SRO Srobarova 32.06 85 *e*P **P 05 47 12.8 +2.6**
WVNY West Valley, N 32.09 262 IAmb IAmb 05 47 18.0
WVNY comp=Z,40nm,1.2s
IAMs_20 IAMs_20 05 58 44.3
comp=Z,11µm,19.0s
IIGN Ignalina 32.16 68 *e*P **P 05 47 12.0 +0.9**
PSUB Penn St. - Bra 32.17 256 IAMs_20 IAMs_20 05 59 03.4
comp=Z,5µm,19.0s
N58A Sunbury 32.18 258 IAMs_20 IAMs_20 05 59 04.7
comp=Z,8µm,18.0s
NIE Niedzica 32.19 81 *e*P **P 05 47 11.9 +0.6**
NIE *ep*P **pwP 05 47 17.5 +0.8**
NIE *e*L L 06 01 13.8
comp=Z,6µm,15.9s
P60A Greenville 32.35 256 IAMs_20 IAMs_20 05 59 08.2
comp=Z,4µm,18.0s
NRCA Norcia 32.42 96 IAmb IAmb 05 47 23.3
comp=Z,31nm,1.1s
IDID Didziasalis 32.44 67 *e*P **P 05 47 14.6 +1.2**
M56A Emporium 32.51 260 IAMs_20 IAMs_20 05 58 58.3
comp=Z,9µm,20.0s
MVL Millersville 32.59 257 IAMs_20 IAMs_20 05 59 08.5
comp=Z,6µm,19.0s
E46A Sault Ste Mari 32.59 273 P **P 05 47 15.7 +0.8**
E46A IAmb IAmb 05 47 21.0
comp=Z,52nm,1.2s
PAGS Pennsylvania G 32.62 257 IAMs_20 IAMs_20 05 59 18.4
comp=Z,8µm,18.0s
NACGM Naroch 32.66 68 *e*P **P 05 47 14.0 -1.4**
NACGM *e*S **S 05 52 34.0 +2.9**
NACGM *e*LQ LQ 05 56 20.0
NACGM *e*LR LR 05 57 00.0
NACGM LRM MLR 05 59 22.0
comp=Z,6.6nm,16.0s
VSL Villasalto 32.78 104 IAMs_20 IAMs_20 05 58 31.1
comp=Z,6µm,22.0s
M55A Ridgway 32.83 261 P **P 05 47 18.4 +1.3**
baz=46
M55A Ridgway 32.83 261 IAmb IAmb 05 47 23.4
comp=Z,24nm,1.1s
M55A IAMs_20 IAMs_20 05 59 07.8
comp=Z,10µm,20.0s
PSZ Piszkesteto 32.85 83 ⇓P **P 05 47 18.4 +1.2**
PSZ Piszkesteto 32.85 83 ⇓P **P 05 47 18.4 +1.2**
PSZ Piszkesteto 32.85 83 P **P 05 47 17.8 +0.6**
PSZ IAMs_20 IAMs_20 06 00 17.7
comp=Z,7µm,19.0s
AQU L'Aquila 32.90 97 *e*P **P 05 47 17.6 -0.1**
AQU L'Aquila 32.90 97 IAMs_20 IAMs_20 06 00 49.3
comp=Z,6µm,18.0s
P59A Jarrettsville 32.92 256 P P 05 47 22.9 +5.1
baz=43
SSPA Standing Stone 32.95 259 IAMs_20 IAMs_20 05 59 30.0
comp=Z,8µm,18.0s
N56A West Decatur 32.97 260 P **P 05 47 19.8 +1.5**
baz=45
ERPA Erie 33.04 263 IAMs_20 IAMs_20 05 59 23.3
comp=Z,10µm,19.0s
Q60A Greensboro 33.05 255 IAMs_20 IAMs_20 05 59 48.8
comp=Z,4µm,18.0s
CRVS Cervenica-Dubn 33.11 81 *e*P **P 05 47 20.5 +1.0**
CRVS pmax pmax
comp=Z,64nm,1.3s
CRVS Cervenica-Dubn 33.11 81 *e*P **P 05 47 20.4 +1.0**
MORH Mrgy, Hungar 33.22 87 *e*P **P 05 47 20.1 -0.2**
M54A Oil Creek Stat 33.29 262 P **P 05 47 21.7 +0.6**
baz=46
M54A Oil Creek Stat 33.29 262 P **P 05 47 20.8 -0.3**
M54A IAMs_20 IAMs_20 05 59 30.9
comp=Z,11µm,19.0s
I49A Point Hope 33.35 268 IAMs_20 IAMs_20 05 59 30.4
comp=Z,11µm,19.0s
KWP Kalwaria Pacla 33.35 79 *e*P **P 05 47 21.6 +0.1**
KWP *ep*P **pwP 05 47 27.2 +0.4**
KWP Kalwaria Pacla 33.35 79 IAmb IAmb 05 47 29.1
comp=Z,44nm,1.2s
BLY Banja Luka 33.35 90 *e*P **P 05 47 21.5 -0.1**
INTR Introdacqua 33.41 97 P **P 05 47 22.5 +0.3**
INTR IAmb IAmb 05 47 32.6
comp=Z,51nm,1.4s
INTR IAMs_20 IAMs_20 06 00 55.7
comp=Z,8µm,19.0s
MICGM Minsk 33.42 68 *e*P **P 05 47 21.0 -1.0**
MICGM *e*PP **PnPn 05 48 30.0 -2.6**
MICGM *e*PPP PPP 05 48 42.0
MICGM *e*PcP **PcP 05 50 03.0 0.0**
MICGM *e*S **S 05 52 42.0 -0.8**
MICGM *e*SS **SnSn 05 54 42.0 -1.9**
MICGM *e*LQ LQ 05 56 36.0
MICGM *e*LR LR 05 57 16.0
MICGM LRM MLR 06 02 44.0
comp=Z,3.7nm,12.0s
MICGM LRM MLR 06 02 44.0
comp=E,2.3nm,14.0s
MNK Minsk 33.42 68 *e*P **P 05 47 21.0 -1.0**
MNK *e* 05 48 30.0
MNK *e* 05 50 03.0
MNK *e*S **S 05 52 42.0 -0.8**
MNK *e* 05 54 42.0
MNK MLR MLR
comp=Z,4µm,12.0s
MNK MLR MLR
comp=E,2µm,14.0s
N55A Marion Center 33.44 260 P **P 05 47 23.9 +1.5**
baz=45
KOLS Kolonicke sedl 33.53 80 *e*P **P 05 47 23.3 +0.2**
KOLS pmax pmax
comp=Z,31nm,1.3s
KOLS Kolonicke sedl 33.53 80 *e*P **P 05 47 23.3 +0.2**
O56A Blue Knob Stat 33.58 259 P **P 05 47 25.4 +1.8**
baz=44
O56A Blue Knob Stat 33.58 259 P **P 05 47 24.3 +0.7**
O56A IAmb IAmb 05 47 30.1
comp=Z,27nm,1.1s
O56A IAMs_20 IAMs_20 05 59 49.5
comp=Z,8µm,19.0s
UZH Uzhgorod 33.72 80 *e*P **P 05 47 22.2 -2.5**
UZH *e* 05 47 25.5
UZH *i* 05 47 31.0
UZH MLR MLR
comp=N,700nm,15.0s
UZH MLR MLR
comp=E,1µm,15.0s
UZH MLR MLR
comp=Z,900nm,15.0s
GLMI Grayling 33.74 271 P **P 05 47 27.2 +2.2**
baz=50
N54A Moraine State 33.84 262 P **P 05 47 27.8 +1.9**
baz=45
N54A Moraine State 33.84 262 P **P 05 47 26.9 +1.0**
N54A IAmb IAmb 05 47 35.4
comp=Z,38nm,1.1s
N54A IAMs_20 IAMs_20 05 59 38.6
comp=Z,11µm,21.0s
P57A Homestead Farm 33.85 258 P **P 05 47 27.9 +2.0**
baz=43
P57A Homestead Farm 33.85 258 P **P 05 47 26.5 +0.6**
P57A IAmb IAmb 05 47 32.4
comp=Z,39nm,1.4s
P57A IAMs_20 IAMs_20 05 59 56.7
comp=Z,7µm,18.0s
M53A WI Miller and 33.88 263 IAMs_20 IAMs_20 05 59 48.5
comp=Z,10µm,19.0s
LVV L'vov 33.95 78*d* *i*P **P 05 47 27.0 +0.3**
LVV *e* 05 48 42.5
LVV *e*PPP PPP 05 48 56.8
LVV *e*S **S 05 52 51.5 +0.3**
LVV *e*SS **SnSn 05 55 04.6 +7.7**
LVV MLR MLR
comp=N,3µm,18.0s
LVV MLR MLR
comp=E,2µm,18.0s
LVV MLR MLR
comp=Z,3µm,19.0s
S61A Accomac 33.95 253 IAMs_20 IAMs_20 06 00 18.6
comp=Z,5µm,20.0s
O55A Ligonier 34.01 260 P **P 05 47 28.6 +1.2**
baz=44
E43A Lone Tree Farm 34.05 275 P **P 05 47 28.7 +1.2**
E43A IAmb IAmb 05 47 43.5
comp=Z,39nm,1.3s
E43A IAMs_20 IAMs_20 06 00 12.8
comp=Z,6µm,18.0s
M52A Chesterland 34.18 264 IAMs_20 IAMs_20 06 00 06.4
comp=Z,9µm,18.0s
P56A Dayton Farm, R 34.27 259 P **P 05 47 30.8 +1.2**
baz=43
Q57A Strasburg 34.38 258 P **P 05 47 32.5 +1.9**
baz=43
N53A Lisbon 34.41 262 P **P 05 47 32.3 +1.5**
baz=45
N53A Lisbon 34.41 262 P **P 05 47 31.9 +1.1**
N53A IAmb IAmb 05 47 36.8
comp=Z,39nm,1.1s
PAOL Paolisi 34.45 97 P **P 05 47 30.6 -0.6**
PAOL IAMs_20 IAMs_20 06 00 58.2
comp=Z,7µm,20.0s
CBN Corbin Frederi 34.45 256 IAMs_20 IAMs_20 06 00 32.7
comp=Z,5µm,18.0s
D41A Chassel 34.47 277 P **P 05 47 32.3 +1.0**
FRGS Fruska Gora 34.52 87 *e*P **P 05 47 31.5 -0.2**
O54A Avella 34.61 261 P **P 05 47 33.8 +1.3**
baz=44
O54A Avella 34.61 261 P **P 05 47 33.5 +1.0**
O54A IAmb IAmb 05 47 41.9
comp=Z,23nm,1.1s
MCWV Mont Chateau 34.70 260 P **P 05 47 33.3 0.0**
baz=44
MCWV Mont Chateau 34.70 260 IAMs_20 IAMs_20 06 00 26.2
comp=Z,4µm,18.0s
TEKS Tekeris 34.76 88 *e*P **P 05 47 33.2 -0.6**
Q56A Snyder Ridge, 34.79 258 P **P 05 47 35.5 +1.4**
baz=43
Q56A Snyder Ridge, 34.79 258 IAMs_20 IAMs_20 06 00 27.8
comp=Z,6µm,19.0s
P55A Reedsville 34.80 260 P **P 05 47 36.0 +1.8**
baz=44
SIRR Siria 34.81 84 ⇓P **P 05 47 35.6 +1.4**
R58B Mineral 34.90 256 IAMs_20 IAMs_20 06 00 45.5
comp=Z,6µm,18.0s
J47A Sunmer 34.90 269 IAMs_20 IAMs_20 06 00 17.4
comp=Z,7µm,22.0s
T60A Surry 34.91 254 IAMs_20 IAMs_20 06 01 08.0
comp=Z,5µm,20.0s
R57A Stanardsville 34.99 257 P **P 05 47 37.4 +1.6**
baz=42
O53A New Philadelph 35.01 262 P **P 05 47 37.7 +1.8**
baz=45
O53A New Philadelph 35.01 262 P **P 05 47 36.5 +0.6**
O53A IAMs_20 IAMs_20 06 00 24.4
comp=Z,11µm,21.0s
F42A Maple Grove Fa 35.05 275 IAMs_20 IAMs_20 06 00 43.4
comp=Z,6µm,18.0s
P54A Burton 35.08 260 P **P 05 47 38.4 +1.8**
baz=44
BBLS Lazići 35.14 89 *e*P **P 05 47 37.4 +0.3**
N51A Ashland 35.16 264 IAMs_20 IAMs_20 06 00 37.4
comp=Z,9µm,18.0s
M50A Fremont 35.18 265 IAMs_20 IAMs_20 06 00 30.0
comp=Z,7µm,19.0s
BZS Buzias 35.20 85 ⇑P **P 05 47 39.3 +1.7**
BZS Buzias 35.20 85 ⇑P **P 05 47 39.3 +1.7**
S58A Poland Farm, P 35.25 256 P **P 05 47 39.8 +1.7**
baz=41
S58A Poland Farm, P 35.25 256 P **P 05 47 38.6 +0.6**
S58A IAMs_20 IAMs_20 06 00 55.8
comp=Z,4µm,18.0s
Q55A Buckhannon 35.30 259 P **P 05 47 40.1 +1.5**
baz=43
DIVS Divibare 35.30 89 *e*P **P 05 47 38.4 -0.2**
DIVS Divibare 35.30 89 IAmb IAmb 05 47 46.1
comp=Z,58nm,1.5s
UPM Unac-Piva 35.31 91 *e*P **P 05 47 41.9 +3.2**
BRY Bratogost 35.31 91 *e*P **P 05 47 37.8 -0.9**
R56A Bull Pasture M 35.37 258 P **P 05 47 40.6 +1.4**
baz=42
COWI Conover 35.38 276 IAmb IAmb 05 47 44.9
comp=Z,42nm,1.1s
COWI IAMs_20 IAMs_20 06 00 54.0
comp=Z,6µm,18.0s
U61A Possum Corner 35.38 252 IAMs_20 IAMs_20 06 01 57.3
comp=Z,8µm,18.0s
O52A Adamsville 35.44 262 P **P 05 47 40.8 +1.2**
baz=44
O52A Adamsville 35.44 262 IAmb IAmb 05 47 49.1
comp=Z,31nm,1.1s
O52A IAMs_20 IAMs_20 06 00 55.8
comp=Z,9µm,18.0s
EYMN Ely 35.50 280 P **P 05 47 41.4 +1.3**
baz=53,SNR=13
EYMN Ely 35.50 280 IAMs_20 IAMs_20 06 00 36.2
comp=Z,11µm,20.0s
HCY Hercegnovi 35.59 92 *e*P **P 05 47 41.4 +0.4**
KEST Kesra 35.60 109 P **P 05 47 41.6 +0.4**
comp=Z,26nm,1.0s,baz=260,slow=2.6,SNR=20
KEST LR LR 06 00 33.8
comp=Z,3µm,20.9s,baz=280,slow=33
S57A Dark Hollow, R 35.61 257 P **P 05 47 42.5 +1.3**
baz=42
S57A Dark Hollow, R 35.61 257 IAMs_20 IAMs_20 06 01 00.5
comp=Z,6µm,18.0s
P53A Whipple 35.65 261 P **P 05 47 43.1 +1.6**
baz=44
P53A Whipple 35.65 261 IAmb IAmb 05 47 51.3
comp=Z,25nm,1.0s
Q54A Coxs Mills 35.71 260 P **P 05 47 44.8 +2.8**
baz=43
Q54A Coxs Mills 35.71 260 IAMs_20 IAMs_20 06 01 07.1
comp=Z,9µm,18.0s
V62A Hyde County Ai 35.72 251 IAMs_20 IAMs_20 06 01 08.4
comp=Z,4µm,20.0s
DEV Deva 35.73 84 ⇑P **P 05 47 43.9 +1.8**
DEV Deva 35.73 84 ⇑P **P 05 47 43.9 +1.8**
ARCR ARCALIA 35.76 81 ⇑P **P 05 47 44.4 +2.1**
O51A Pataskala 35.83 263 P **P 05 47 44.5 +1.5**
baz=45,SNR=8.3
KLMR Klimovskoe 35.84 53 *e*P **P 05 47 41.6 -1.2**
KLMR *e* 05 50 11.4
KLMR pmax pmax
comp=Z,266nm,1.5s
KLMR MLR MLR
comp=Z,840nm,15.0s
KLMR Klimovskoe 35.84 53 *e*P **P 05 47 41.7 -1.1**
KLMR AMP 05 47 52.2
comp=Z,266nm,1.5s
KLMR *e*PcP **PcP 05 50 11.4 +1.5**
KLMR LQ LQ 05 57 16.0
KLMR LQ LQ 05 57 16.0
KLMR LR LR 05 59 16.8
KLMR AMP 06 01 25.3
comp=Z,840nm,14.5s
R55A Marlinton 35.84 258 IAMs_20 IAMs_20 06 01 00.6
comp=Z,7µm,19.0s
V61A Roper 35.86 252 IAMs_20 IAMs_20 06 02 20.1
comp=Z,7µm,18.0s
BUR08 Bucovina Ar. S 35.87 80 IAmb IAmb 05 47 51.8
comp=Z,45nm,1.1s
MATE Matera 35.87 96 ⇓P **P 05 47 45.6 +2.3**
BURAR Bucovina Array 35.89 80 ⇑P **P 05 47 45.3 +1.7**
BURAR Bucovina Array 35.89 80 ⇑P **P 05 47 45.3 +1.7**
BURAR Bucovina Array 35.89 80 P **P 05 47 43.9 +0.3**
P52A Corning 35.94 262 P **P 05 47 45.5 +1.5**
baz=44
P52A Corning 35.94 262 IAmb IAmb 05 47 50.3
comp=Z,32nm,1.2s
P52A IAMs_20 IAMs_20 06 01 03.1
comp=Z,9µm,19.0s
ACSO Alum Creek Sta 35.97 263 P **P 05 47 45.6 +1.4**
baz=45
ACSO Alum Creek Sta 35.97 263 P **P 05 47 45.5 +1.3**
ACSO IAmb IAmb 05 47 53.4
comp=Z,31nm,1.0s
ACSO IAMs_20 IAMs_20 06 01 03.9
comp=Z,9µm,19.0s
GZR Gura Zlata 35.97 85 ⇑P **P 05 47 45.8 +1.5**
GZR Gura Zlata 35.97 85 ⇑P **P 05 47 45.8 +1.5**
PDG Podgorica 36.02 91 ⇑P **P 05 47 46.7 +2.1**
PDG Podgorica 36.02 91 *e*P **P 05 47 44.5 -0.1**
PDG Podgorica 36.02 91 IAmb IAmb 05 47 51.4
comp=Z,43nm,1.1s
PDG IAMs_20 IAMs_20 06 01 45.8
comp=Z,5µm,21.0s
CORL Corleone 36.03 102 P **P 05 47 45.2 +0.3**
CORL IAMs_20 IAMs_20 06 00 43.2
comp=Z,6µm,20.0s
U59A Littleton 36.06 254 IAMs_20 IAMs_20 06 01 52.4
comp=Z,4µm,19.0s
HERR Herculane 36.11 86 ⇑P **P 05 47 46.5 +1.2**
N49A Columbus Grove 36.13 265 P **P 05 47 46.1 +0.5**
N49A IAmb IAmb 05 47 54.9
comp=Z,32nm,1.0s
DRME Dracevica, Mon 36.15 92 *e*P **P 05 47 45.7 0.0**
AKASG Malin Array Be 36.17 73 P **P 05 47 45.3 -0.5**
comp=Z,15nm,0.8s,baz=308,slow=8.3,SNR=38
AKASG LR LR 06 02 16.6
comp=Z,3µm,19.8s,baz=295,slow=36
AKBB Malin Array Si 36.17 73 *i*P **P 05 47 44.4 -1.4**
AKBB pmax pmax
comp=Z,86nm,1.1s
AKBB Malin Array Si 36.17 73 P **P 05 47 45.2 -0.6**
Q53A Leroy 36.17 260 P **P 05 47 47.5 +1.6**
baz=43
CLTB Caltabellotta 36.22 103 P **P 05 47 47.0 +0.4**
CLTB IAMs_20 IAMs_20 06 01 48.2
comp=Z,8µm,19.0s
V60A Jim Taylor Roa 36.24 253 IAMs_20 IAMs_20 06 02 15.0
comp=Z,7µm,18.0s
T57A Hurt 36.34 256 IAMs_20 IAMs_20 06 01 30.8
comp=Z,4µm,18.0s
E38A The Farm, Brul 36.36 279 P **P 05 47 50.0 +2.5**
E38A IAmb IAmb 05 47 52.9
comp=Z,48nm,1.2s
R54A Victor 36.38 259 P **P 05 47 49.3 +1.4**
baz=42
S55A Lewisburg 36.42 258 P **P 05 47 48.1 -0.1**
baz=42
U58A Oxford 36.43 255 P **P 05 47 49.6 +1.5**
baz=40
B35A Bob, Littlefor 36.44 282 P **P 05 47 48.2 +0.1**
B35A IAmb IAmb 05 47 53.6
comp=Z,54nm,1.2s
B35A IAMs_20 IAMs_20 06 01 03.0
comp=Z,9µm,20.0s
ULM Lac du Bonnet 36.44 286 P **P 05 47 47.6 -0.5**
comp=Z,18nm,1.0s,baz=70,slow=8.3,SNR=7.5
ULM LR LR 06 01 32.8
comp=Z,7µm,18.1s,baz=58,slow=34
ULM Lac du Bonnet 36.44 286 P **P 05 47 48.4 +0.3**
ULM pmax pmax
comp=Z,38nm,1.1s
ULM MLR MLR
comp=Z,8µm,18.0s
ULM Lac du Bonnet 36.44 286 P **P 05 47 48.4 +0.3**
ULM IAmb IAmb 05 47 53.0
comp=Z,38nm,1.1s
ULM IAMs_20 IAMs_20 06 01 13.0
comp=Z,8µm,18.0s
G40A Rib Lake 36.48 276 P **P 05 47 49.0 +0.4**
G40A IAMs_20 IAMs_20 06 01 38.2
comp=Z,6µm,18.0s
L46A Eue Claire 36.53 269 IAMs_20 IAMs_20 06 01 27.5
comp=Z,7µm,19.0s
P51A Williamsport 36.55 263 P **P 05 47 50.0 +0.8**
baz=44
P51A Williamsport 36.55 263 IAmb IAmb 05 47 58.2
comp=Z,32nm,1.1s
P51A IAMs_20 IAMs_20 06 01 22.2
comp=Z,7µm,19.0s
PRAR RASCA 36.59 79 ⇓P **P 05 47 51.6 +2.2**
SRE Strehaia 36.68 85 ⇓P **P 05 47 52.1 +1.8**
SRE Strehaia 36.68 85 ⇓P **P 05 47 52.1 +1.8**
T56A Rocky Mt 36.73 257 P **P 05 47 52.4 +1.6**
baz=41
O49A Covington 36.73 265 P **P 05 47 51.8 +1.0**
O49A IAmb IAmb 05 48 11.3
comp=Z,33nm,1.1s
O49A IAMs_20 IAMs_20 06 01 19.1
comp=Z,9µm,20.0s
BIZ Bicaz 36.78 80 ⇑P **P 05 47 53.5 +2.4**
R53A Hurricane 36.79 260 P **P 05 47 52.2 +1.0**
baz=43
BLA Blacksburg 36.80 258 IAMs_20 IAMs_20 06 01 38.9
comp=Z,6µm,18.0s
U57A Blanch 36.81 256 P **P 05 47 52.8 +1.4**
baz=41
S54A Dingess, Beckl 36.84 259 P **P 05 47 53.4 +1.7**
baz=42
S54A Dingess, Beckl 36.84 259 IAMs_20 IAMs_20 06 01 59.8
comp=Z,7µm,18.0s
VAE Valguarnera 36.93 102 P **P 05 47 54.9 +2.3**
comp=Z,11nm,0.7s,baz=19,slow=8.2,SNR=3.8
TIP Timpagrande 36.95 97 ⇑P **P 05 47 56.6 +3.9**
TIP Timpagrande 36.95 97 IAMs_20 IAMs_20 06 02 44.3
comp=Z,6µm,20.0s
CNNC Cliffs of the 36.97 253 IAMs_20 IAMs_20 06 02 19.4
comp=Z,6µm,20.0s
N47A Urbana 36.98 267 P **P 05 47 53.3 +0.5**
N47A IAmb IAmb 05 47 58.8
comp=Z,38nm,1.2s
ARR Arges 36.99 83 ⇑P **P 05 47 54.4 +1.4**
FFC Flin Flon 37.00 296 P **P 05 47 53.9 +1.0**
FFC pmax pmax
comp=Z,14nm,1.0s
FFC MLR MLR
comp=Z,6µm,18.0s
FFC Flin Flon 37.00 296 P **P 05 47 53.9 +1.0**
FFC Flin Flon 37.00 296 IAMs_20 IAMs_20 06 01 49.7
comp=Z,6µm,18.0s
DOPR Dopca 37.01 82 ⇑P **P 05 47 55.1 +2.0**
Q51A Peebles 37.03 262 P **P 05 47 54.3 +1.0**
Q51A IAMs_20 IAMs_20 06 01 38.0
comp=Z,8µm,19.0s
T55A Pulaski 37.06 258 P **P 05 47 55.4 +1.8**
baz=42
TIR Tirane 37.09 92 IAMs_20 IAMs_20 06 03 03.1
comp=Z,5µm,20.0s
RAFF Raffo Rosso 37.09 102 P **P 05 47 53.6 -0.3**
RAFF IAMs_20 IAMs_20 06 02 12.3
comp=Z,5µm,19.0s
OZUR 37.15 81 ⇑P **P 05 47 56.0 +1.7**
CEL Celeste 37.15 99 IAMs_20 IAMs_20 06 02 53.6
comp=Z,6µm,19.0s
VOIR 37.17 83 ⇓P **P 05 47 55.9 +1.4**
VOIR 37.17 83 ⇓P **P 05 47 55.9 +1.4**
V58A Windy Hill, Pi 37.18 255 P **P 05 47 55.8 +1.2**
baz=40
SCTE Santa Cesarea 37.23 95 P **P 05 47 55.0 0.0**
SCTE IAMs_20 IAMs_20 06 04 02.8
comp=Z,5µm,18.0s
SORM Soroca 37.24 77 ⇑P **P 05 47 57.4 +2.4**
SORM Soroca 37.24 77 ⇑P **P 05 47 57.4 +2.4**
L44A Lake County Fo 37.29 270 IAMs_20 IAMs_20 06 02 11.7
comp=Z,4µm,18.0s
OBN Obninsk 37.38 63 ⇑P P 05 48 03.0 +7.0
OBN Obninsk 37.38 63*c* *i*P **P 05 47 55.8 -0.3**
OBN *e* 05 49 25.8
OBN *e*SS SS 05 56 09.6 -17
OBN pmax pmax
comp=Z,44nm,1.2s
OBN MLR MLR
comp=Z,3µm,19.0s
OBN Obninsk 37.38 63 P **P 05 47 55.8 -0.3**
P49A Miami Univ. Ec 37.41 264 P **P 05 47 57.7 +1.2**
baz=44
P49A Miami Univ. Ec 37.41 264 IAMs_20 IAMs_20 06 01 39.8
comp=Z,8µm,20.0s
U56A King 37.43 257 IAMs_20 IAMs_20 06 02 13.5
comp=Z,6µm,18.0s
HQIL Hanson Quary C 37.52 270 IAMs_20 IAMs_20 06 02 17.8
comp=Z,5µm,18.0s
SKO Skopje 37.52 90 *i*P **P 05 47 58.0 +0.6**
T54A Tazewell 37.52 259 P **P 05 47 58.4 +0.8**
baz=42
MOS Moscow 37.55 61 *e*P **P 05 47 56.3 -1.2**
MOS *e* 05 49 22.6
MOS *e*S **S 05 53 40.0 -6.2**
MOS pmax pmax
comp=Z,136nm,1.6s
AGMN Agassiz Nation 37.60 284 P **P 05 47 59.1 +1.1**
baz=52
AGMN Agassiz Nation 37.60 284 IAMs_20 IAMs_20 06 01 28.8
comp=Z,8µm,22.0s
I40A Norwalk 37.61 274 IAMs_20 IAMs_20 06 02 12.0
comp=Z,5µm,19.0s
MLR Muntele Rosu 37.62 82 ⇑P **P 05 48 01.1 +2.7**
MLR Muntele Rosu 37.62 82 ⇑P **P 05 48 01.1 +2.7**
U55A TA2, Sparta 37.66 257 P **P 05 48 00.2 +1.5**
baz=41
OHR Ohrid 37.76 92 *i*P **P 05 48 00.3 +0.8**
PLOR Plostina 37.77 81 ⇓P **P 05 48 02.7 +3.2**
PLOR Plostina 37.77 81 ⇓P **P 05 48 02.7 +3.2**
VRI Vrincioaia 37.80 81 ⇓P **P 05 48 02.9 +3.1**
VRI Vrincioaia 37.80 81 ⇓P **P 05 48 02.9 +3.1**
MPEP Malo Peshtene 37.83 86 *i*P **P 05 48 02.6 +2.6**
W58A Raeford 37.84 254 P **P 05 48 02.1 +2.0**
baz=39

F36A Milaca 37.89 279 IAMs_20 IAMs_20 06 02 12.4
comp=Z,7μm,18.0s
M44A Midewin, Midew 37.90 269 IAMs_20 IAMs_20 06 02 30.0
comp=Z,5μm,19.0s
SPMN Marine on St. 37.91 278 P P **05 48 02.0 +1.3**
baz=50
SPMN Marine on St. 37.91 278 IAmb IAmb 05 48 06.7
comp=Z,39nm,1.1s
PRGR Permogore 38.05 50 *e*P P **05 48 03.3 +1.7**
PRGR *e* 05 50 12.9
PRGR pmax pmax
comp=Z,24nm,1.4s
VTS Vitosha 38.05 88 *i* P P **05 48 01.7 -0.4**
U54A Nelsons Funny 38.06 258 P P **05 48 03.1 +1.0**
baz=41
U54A Nelsons Funny 38.06 258 P P **05 48 02.4 +0.3**
U54A IAMs_20 IAMs_20 06 02 36.2
comp=Z,8μm,18.0s
SFIN Lafayette 38.09 267 P P **05 48 03.1 +0.9**
baz=45
SFIN Lafayette 38.09 267 P P **05 48 03.0 +0.7**
SFIN IAmb IAmb 05 48 07.9
comp=Z,44nm,1.3s
Y60A Bolivia 38.09 252 IAMs_20 IAMs_20 06 02 52.2
comp=Z,5μm,20.0s
R50A Paris 38.10 262 P P **05 48 02.6 +0.3**
R50A IAmb IAmb 05 48 11.5
comp=Z,35nm,1.2s
R50A IAMs_20 IAMs_20 06 02 19.2
comp=Z,9μm,19.0s
STIP Stip 38.11 90 *i* P P **05 48 03.1 +0.7**
S51A Beattyville 38.17 261 P P **05 48 03.5 +0.6**
KEK Kerkira 38.20 94 P P **05 48 00.5 -2.7**
MILM Milestii Mici 38.24 78 ⇑P P **05 48 05.6 +2.2**
V55A Taylorsville 38.24 257 P P **05 48 04.8 +1.2**
baz=41
V55A Taylorsville 38.24 257 P P **05 48 04.7 +1.1**
V55A IAMs_20 IAMs_20 06 02 32.1
comp=Z,4μm,18.0s
X58A Rowland 38.25 254 P P **05 48 06.3 +2.7**
baz=39
X58A Rowland 38.25 254 IAMs_20 IAMs_20 06 03 09.3
comp=Z,6μm,18.0s
L42A Oliver, Polo 38.36 271 P P **05 48 04.8 +0.3**
Y59A Loris 38.45 253 IAMs_20 IAMs_20 06 03 32.5
comp=Z,6μm,19.0s
KKB Krupnik 38.48 89 *i* P P **05 48 06.4 +0.8**
C36M Paulatuk 38.50 325 IAMs_20 IAMs_20 06 03 02.8
comp=Z,5μm,20.0s
R49A Shelbyville 38.55 263 P P **05 48 06.7 +0.6**
YKA Yellowknife Ar 38.56 313 P P **05 48 05.8 -0.2**
comp=Z,5.8nm,0.7s,baz=58,slow=9.2,SNR=7.5
YKA PcP **PcP** **05 50 18.7 +0.5**
comp=Z,2.9nm,0.7s,baz=44,slow=3.8,SNR=4.0
YKA LR LR 06 03 23.3
comp=Z,17μm,18.6s,baz=0.0,slow=35
VAY Valandovo 38.58 90 *i* P P **05 48 08.9 +2.6**
PGB Panagyurishte 38.60 87 *i* P P 05 48 12.8 +6.2
V54A Nebo 38.69 258 P P **05 48 07.8 +0.5**
baz=41
KMSC Kings Mountain 38.84 256 IAMs_20 IAMs_20 06 02 58.0
comp=Z,3μm,18.0s
KNT Kendrikon 38.87 90 P P **05 48 09.2 +0.4**
D32A Dogwood Acres, 38.94 283 IAMs_20 IAMs_20 06 02 20.1
comp=Z,8μm,21.0s
TZTN Tazewell 38.96 260 P P **05 48 10.6 +1.0**
baz=42
TZTN Tazewell 38.96 260 P P **05 48 10.6 +1.0**
O44A Mansfield 39.00 268 IAMs_20 IAMs_20 06 03 04.0
comp=Z,8μm,18.0s
MMB Musomiste 39.02 89 *i* P P **05 48 10.7 +0.6**
I37A Lemond, Waseca 39.03 277 P P **05 48 11.2 +1.1**
I37A IAMs_20 IAMs_20 06 03 00.6
comp=Z,7μm,19.0s
PURM Purcari 39.05 78 ⇓P P 05 48 14.2 +4.0
HDIL Hopedale 39.16 269 P P **05 48 12.8 +1.6**
baz=45
HDIL Hopedale 39.16 269 P P **05 48 12.5 +1.3**
HDIL IAMs_20 IAMs_20 06 03 19.3
comp=Z,5μm,18.0s
X56A White Oak 39.18 255 P P **05 48 12.3 +0.8**
baz=39
RAZG Razgrad 39.19 84 ⇑P P **05 48 13.7 +2.2**
WCI Wyandotte Cave 39.20 264 P P **05 48 12.6 +1.0**
baz=43
WCI Wyandotte Cave 39.20 264 P P **05 48 11.9 +0.3**
WCI pmax pmax
comp=Z,29nm,1.1s
WCI Wyandotte Cave 39.20 264 P P **05 48 11.9 +0.3**
Y57A Sumter 39.22 254 IAMs_20 IAMs_20 06 03 37.9
comp=Z,5μm,18.0s
V53A Saluda 39.23 258 P P **05 48 12.4 +0.5**
T50A Nancy 39.30 262 P P **05 48 13.0 +0.6**
W54A Cherokee Point 39.34 257 P P **05 48 14.4 +1.6**
baz=40,SNR=8.5
PAULI University of 39.34 256 P P **05 48 13.5 +0.7**
SOH Sokhos 39.35 90 P P **05 48 13.4 +0.5**
F33A 5 Mile Ranch, 39.38 281 P P **05 48 13.4 +0.3**
LIT Litokhoron 39.39 91 P P **05 48 14.8 +1.6**
LIT Litokhoron 39.39 91 P P **05 48 13.3 +0.1**
LIT pmax pmax
comp=Z,79nm,1.0s
LIT MLR MLR
comp=Z,6μm,19.0s
LIT Litokhoron 39.39 91 P P **05 48 13.3 +0.1**
LIT IAmb IAmb 05 48 20.6
comp=Z,79nm,1.0s
LIT IAMs_20 IAMs_20 06 06 11.9
comp=Z,6μm,19.0s
THL Klokotos Trika 39.51 92 P P **05 48 14.1 0.0**
V52A Sevierville 39.51 259 P P **05 48 14.7 +0.4**
V52A IAMs_20 IAMs_20 06 03 16.7
comp=Z,7μm,19.0s
K38A Parkersburg 39.61 275 P P **05 48 15.5 +0.6**
K38A IAmb IAmb 05 48 21.0
comp=Z,66nm,1.2s
K38A IAMs_20 IAMs_20 06 03 24.0
comp=Z,4μm,19.0s
PLG Polygyros 39.72 90 P P **05 48 16.4 +0.5**
TKL Tuckaleechee C 39.75 259 IAMs_20 IAMs_20 06 03 23.9
comp=Z,8μm,20.0s
BG3 Lake Jocassee 39.80 258 P P **05 48 16.5 -0.2**
BG3 IAMs_20 IAMs_20 06 03 40.4
comp=Z,6μm,18.0s
NHSC New Hope 39.81 253 P P **05 48 18.3 +1.6**
baz=38
NHSC New Hope 39.81 253 P P **05 48 19.8 +3.1**
NHSC IAmb IAmb 05 48 23.4
comp=Z,87nm,1.3s
NHSC IAMs_20 IAMs_20 06 04 05.7
comp=Z,6μm,19.0s
MDND Maddock 39.85 286 P P **05 48 18.5 +1.6**
baz=51
MDND Maddock 39.85 286 IAmb IAmb 05 48 22.6
comp=Z,61nm,1.0s
MDND IAMs_20 IAMs_20 06 02 57.2
comp=Z,5μm,20.0s
X54A Belton 39.85 257 P P **05 48 18.4 +1.4**
baz=40
EVR Evrytania 39.86 93 P P **05 48 18.5 +1.3**
P43A Skaggs, Pawnee 39.93 269 P P **05 48 17.6 -0.1**
P43A IAmb IAmb 05 48 24.0
comp=Z,50nm,1.4s
P43A IAMs_20 IAMs_20 06 03 42.7
comp=Z,7μm,18.0s
Z57A Bowman 39.94 254 P P **05 48 21.8 +4.0**
baz=38
V51A Loudon 39.95 260 P P **05 48 18.1 +0.3**
LPSR Galich'ya Gora 39.96 65 *e*P P **05 48 17.4 -0.4**
LPSR *e*S S **05 54 23.8 +1.2**
LPSR pmax pmax
comp=Z,50nm,1.2s
LPSR smax smax
comp=E,320nm,8.1s
PSN Preselentsi 40.01 83 *i* P P **05 48 18.0 -0.3**
HODGE Hodges 40.03 256 P P **05 48 18.8 +0.3**
AGG Agios Georgios 40.07 93 P P **05 48 19.1 +0.2**
AGG Agios Georgios 40.07 93 P P **05 48 19.8 +0.9**
AGG pmax pmax
comp=Z,83nm,0.9s
AGG MLR MLR
comp=Z,3μm,20.0s
AGG Agios Georgios 40.07 93 P P **05 48 19.8 +0.9**
USIN University of 40.13 265 P P **05 48 19.6 +0.3**
USIN IAmb IAmb 05 48 25.4
comp=Z,46nm,0.9s

PAIG Paliouri 40.16 90 P P **05 48 20.1 +0.6**
U49A Red Boiling Sp 40.18 262 IAMs_20 IAMs_20 06 03 45.4
comp=Z,8μm,19.0s
Q44A Meyer Farm, Va 40.19 267 P P **05 48 20.4 +0.6**
W52A Murphy 40.26 259 IAMs_20 IAMs_20 06 03 39.4
comp=Z,7μm,19.0s
Z56A Williston 40.26 254 IAMs_20 IAMs_20 06 05 09.6
comp=Z,3μm,19.0s
XOR Xorichti 40.29 91 P P **05 48 21.0 +0.3**
CPCT Cooper Cave 40.30 260 P P **05 48 20.0 -0.8**
SCIA State Center 40.35 274 P P **05 48 22.1 +1.0**
SCIA IAmb IAmb 05 48 27.4
comp=Z,71nm,1.4s
SCIA IAMs_20 IAMs_20 06 03 48.7
comp=Z,4μm,19.0s
TRIZ Trizonia 40.40 93 P P **05 48 23.3 +1.7**
KALE Kalithea 40.42 93 P P **05 48 23.3 +1.5**
DRO Drossia 40.51 94 P P **05 48 23.8 +1.3**
T47A Sharon Grove 40.54 264 IAmb IAmb 05 48 36.3
comp=Z,50nm,1.4s
T47A IAMs_20 IAMs_20 06 03 37.9
comp=Z,8μm,19.0s
DSF Desfina 40.62 93 P P **05 48 23.1 -0.3**
ATAL Atalanti 40.68 92 P P **05 48 23.8 -0.1**
LKR Lokris 40.70 92 P P **05 48 23.9 -0.1**
ALN Alexandroupoli 40.76 87 P P 05 48 19.6 -4.9
ALN Alexandroupoli 40.76 87 IAMs_20 IAMs_20 06 06 06.2
comp=Z,5μm,19.0s
CLTN Cedars of Leba 40.79 262 P P **05 48 25.1 +0.3**
CLTN IAMs_20 IAMs_20 06 04 04.5
comp=Z,8μm,19.0s
GUR Goura 40.86 94 P P **05 48 26.5 +1.0**
W50A Signal Mountai 40.91 260 P P **05 48 26.1 +0.2**
VSR Storozhevoye 40.92 66 *e*P P **05 48 25.1 -0.6**
VSR *e*S S **05 54 34.3 -2.6**
VSR *e*SS SS **05 57 28.4 -10**
VSR pmax pmax
comp=Z,50nm,1.2s
VSR smax smax
comp=N,330nm,7.8s
VSR MLR MLR
comp=Z,3μm,18.0s
ECSD EROS Data Cent 40.95 279 P P **05 48 27.0 +0.9**
baz=48,SNR=20
ECSD EROS Data Cent 40.95 279 IAmb IAmb 05 48 32.3
comp=Z,41nm,1.1s
TRIP Tripoli 41.12 94 P P **05 48 28.6 +1.0**
VORD Divnogorie 41.13 67 *e*P P **05 48 27.8 +0.4**
VORD pmax pmax
comp=Z,90nm,0.2s
VORD MLR MLR
comp=Z,4μm,16.0s
LTK Loutraki 41.14 93 P P **05 48 28.4 +0.7**
N38A Joes South For 41.14 273 IAMs_20 IAMs_20 06 04 48.5
comp=Z,4μm,18.0s
257A Skidaway Islan 41.15 253 IAMs_20 IAMs_20 06 04 57.0
comp=Z,6μm,19.0s
X51A Calhoun 41.15 259 IAMs_20 IAMs_20 06 04 18.1
comp=Z,7μm,19.0s
ITM Ithomi 41.19 95 P P **05 48 28.4 +0.3**
ITM Ithomi 41.19 95 P P **05 48 27.9 -0.2**
ITM IAMs_20 IAMs_20 06 05 43.6
comp=Z,4μm,20.0s
S44A Carbondale 41.19 266 P P **05 48 28.6 +0.6**
S44A IAmb IAmb 05 48 34.1
comp=Z,49nm,1.1s
VILL Villia 41.22 93 P P 05 48 23.5 -4.9
E28A Huff 41.23 285 P P **05 48 28.7 +0.3**
E28A IAmb IAmb 05 48 34.5
comp=Z,57nm,0.9s
E28A IAMs_20 IAMs_20 06 03 58.9
comp=Z,6μm,19.0s
SWET Sewanee 41.23 261 P P **05 48 28.6 +0.1**
Y52A Lilburn 41.27 258 P P **05 48 29.0 +0.3**
Y52A IAMs_20 IAMs_20 06 04 26.2
comp=Z,7μm,18.0s
VLX Vlachokerasia 41.29 94 P P **05 48 29.1 0.0**
KIRV Kirov 41.30 52 *ce*P P **05 48 29.2 +0.5**
GOGA Godfrey 41.30 257 P P **05 48 30.1 +1.0**
baz=39,SNR=11
GOGA Godfrey 41.30 257 P P **05 48 30.0 +1.0**
GOGA pmax pmax
comp=Z,22nm,1.0s
GOGA Godfrey 41.30 257 P P **05 48 30.0 +1.0**
GOGA Godfrey 41.30 257 IAMs_20 IAMs_20 06 04 27.1
comp=Z,3μm,19.0s
V48A Smith Brothers 41.32 262 P P **05 48 29.4 +0.3**
V48A IAMs_20 IAMs_20 06 04 29.5
comp=Z,7μm,18.0s
T45A Paducah 41.35 265 P P **05 48 29.9 +0.5**
T45A IAmb IAmb 05 48 35.3
comp=Z,36nm,0.8s
P40A Paris 41.38 271 P P **05 48 29.9 +0.3**
P40A IAmb IAmb 05 48 35.5
comp=Z,56nm,1.4s
P40A IAMs_20 IAMs_20 06 04 40.1
comp=Z,3μm,18.0s
EPID Epidavros 41.52 93 P P **05 48 30.4 -0.4**
WVT Waverly 41.57 263 P P **05 48 32.0 +0.8**
baz=42
WVT Waverly 41.57 263 P P **05 48 31.5 +0.3**
WVT pmax pmax
comp=Z,23nm,1.1s
WVT Waverly 41.57 263 P P **05 48 31.5 +0.3**
WVT Waverly 41.57 263 IAMs_20 IAMs_20 06 04 09.1
comp=Z,9μm,20.0s
FPAL Fort Paine 41.58 260 P P **05 48 31.7 +0.4**
PTL Penteli 41.60 92 P P **05 48 30.9 -0.6**
FVM French Village 41.61 268 P P **05 48 32.1 +0.6**
FVM pmax pmax
comp=Z,21nm,1.1s
FVM French Village 41.61 268 P P **05 48 32.1 +0.6**
VLY Voula,Athens 41.71 93 P P **05 48 35.0 +2.7**
SUSD Miller 41.72 281 IAMs_20 IAMs_20 06 04 23.8
comp=Z,8μm,19.0s
DGMT Dagmar 41.83 289 P P **05 48 34.5 +1.3**
baz=50
DGMT Dagmar 41.83 289 P P **05 48 32.7 -0.5**
DGMT IAmb IAmb 05 48 39.8
comp=Z,65nm,1.1s
DGMT Dagmar 41.83 289 IAMs_20 IAMs_20 06 04 27.5
comp=Z,7μm,20.0s
255A Hazlehurst 41.94 254 P P **05 48 34.9 +0.7**
255A IAmb IAmb 05 48 40.7
comp=Z,42nm,1.2s
255A IAMs_20 IAMs_20 06 05 12.0
comp=Z,4μm,18.0s
INK Inuvik 41.95 327 P P **05 48 33.8 -0.1**
comp=Z,8.6nm,1.0s,baz=52,slow=6.0,SNR=5.0
INK Inuvik 41.95 327 IAMs_20 IAMs_20 06 05 20.8
comp=Z,5μm,20.0s
CCM Cathedral Cave 42.01 268 P P **05 48 35.5 +0.8**
baz=43
CCM Cathedral Cave 42.01 268 P P **05 48 35.1 +0.3**
CCM pmax pmax
comp=Z,18nm,1.1s
CCM Cathedral Cave 42.01 268 P P **05 48 35.0 +0.3**
CCM Cathedral Cave 42.01 268 IAMs_20 IAMs_20 06 04 47.6
comp=Z,7μm,19.0s
VLI Veliai 42.08 94 P P **05 48 38.9 +3.6**
VRH Novokhopyorsk 42.19 65 *e*P P **05 48 36.2 +0.1**
VRH *e*S S **05 54 56.2 +0.5**
VRH *e*SS SS **05 58 01.7 -1.5**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH smax smax
comp=E,770nm,11.0s
Z51A Franklin 42.28 258 IAMs_20 IAMs_20 06 04 49.9
comp=Z,5μm,19.0s
N35A Tabor 42.39 275 IAMs_20 IAMs_20 06 05 02.7
comp=Z,3μm,18.0s
X48A Hartselle 42.41 261 P P **05 48 38.6 +0.6**
KTHA Kythira Island 42.48 95 P P **05 48 39.9 +1.2**
PBMO Poplar Bluff 42.50 266 IAmb IAmb 05 48 52.5
comp=Z,34nm,1.1s
Y49A Blount Mountai 42.52 260 P P **05 48 39.1 +0.1**
152A Waverly Hall 42.54 257 IAMs_20 IAMs_20 06 05 13.8
comp=Z,5μm,18.0s
PLAL Pickwick Lake 42.56 263 P P **05 48 39.6 +0.3**
PLAL IAMs_20 IAMs_20 06 04 41.4
comp=Z,6μm,21.0s
456A Hilliard 42.65 253 IAMs_20 IAMs_20 06 06 00.9
comp=Z,6μm,18.0s
ANKY Antikythira Is 42.90 95 P P 05 48 36.0 -6.1
TIGA Tifton 42.90 255 IAMs_20 IAMs_20 06 05 42.5

comp=Z,3μm,18.0s
MGMO Mountain Grove 43.22 268 P P **05 48 45.0 +0.4**
MGMO IAmb IAmb 05 48 50.7
comp=Z,46nm,1.5s
BGNE Belgrade 43.36 277 P P **05 48 44.0 -1.8**
BGNE IAmb IAmb 05 48 51.5
comp=Z,50nm,0.9s
S39A Bolivar 43.40 270 P P **05 48 45.9 -0.1**
LCAR Lake Charles 43.41 266 P P **05 48 46.2 0.0**
N33A J Bar K, Exete 43.46 276 P P **05 48 47.0 +0.4**
N33A IAmb IAmb 05 48 52.5
comp=Z,53nm,1.1s
LRAL Lakeview Retre 43.47 260 P P **05 48 47.9 +1.2**
baz=39,SNR=13
LRAL Lakeview Retre 43.47 260 P P **05 48 47.1 +0.4**
IMMV Iera Moni Meta 43.57 95 P P **05 48 43.3 -4.2**
MDUB Mudurnu 43.85 84 P P **05 48 51.0 +1.2**
MDUB IAMs_20 IAMs_20 06 06 35.8
comp=Z,7μm,20.0s
250A Grady 43.90 258 P P **05 48 50.4 +0.3**
250A IAMs_20 IAMs_20 06 05 31.8
comp=Z,3μm,21.0s
Z47A Carrollton 43.91 261 IAmb IAmb 05 49 03.5
comp=Z,31nm,1.1s
656A Willston 44.00 252 IAMs_20 IAMs_20 06 06 52.6
comp=Z,5μm,18.0s
LAO LASA Array 44.03 289 P P **05 48 52.4 +1.3**
baz=48,SNR=26
GVDS Gavdos 44.09 95 P P **05 48 51.9 +0.2**
U40A Yellville 44.12 268 P P **05 48 52.8 +0.9**
baz=42,SNR=12
EPYK Eagle Plains 44.13 326 P P **05 48 52.2 +0.5**
baz=49
EPYK Eagle Plains 44.13 326 IAmb IAmb 05 48 57.2
comp=Z,53nm,1.3s
EPYK IAMs_20 IAMs_20 06 06 03.5
comp=Z,4μm,20.0s
KSU1 Kansas State U 44.16 274 P P **05 48 52.6 +0.4**
KSU1 IAmb IAmb 05 48 57.0
comp=Z,29nm,0.9s
KSU1 Kansas State U 44.16 274 IAMs_20 IAMs_20 06 06 24.6
comp=Z,5μm,18.0s
ANN Anapa 44.18 75 *e*P P **05 48 51.2 -1.0**
ANN *e*S S **05 55 25.1 +0.1**
ANN *e*SS SS **05 58 42.9 +0.5**
ANN pmax pmax
comp=Z,96nm,1.9s
ANN MLR MLR
comp=Z,3μm,14.0s
IDI Anoyia 44.20 94 P P **05 48 53.7 +1.1**
comp=Z,54nm,0.9s,baz=349,slow=10,SNR=5.2
IDI Anoyia 44.20 94 P P **05 48 56.5 +3.9**
IDI Anoyia 44.20 94 P P **05 48 52.2 -0.4**
IDI IAMs_20 IAMs_20 06 07 38.1
comp=Z,3μm,20.0s
BELG Belogornoye 44.28 60 *c* *i*P P **05 48 52.5 -0.4**
553A Crawfordville 44.33 255 IAMs_20 IAMs_20 06 06 46.4
comp=Z,5μm,18.0s
SIVA Sivas 44.35 94 P P **05 48 54.8 +1.0**
WHAR Wooly Hollow 44.61 267 P P **05 48 56.1 +0.3**
WHAR IAmb IAmb 05 49 04.5
comp=Z,35nm,1.3s
LAST Lasithi 44.61 94 P P **05 48 55.5 -0.4**
RSSD Black Hills 44.63 285 IAMs_20 IAMs_20 06 05 46.6
comp=Z,6μm,21.0s
YER Yerkesik 44.67 89 P P **05 48 54.6 -1.7**
W41B Gary Mavity, V 44.67 266 P P **05 48 56.7 +0.4**
baz=41
W41B Gary Mavity, V 44.67 266 P P **05 48 56.6 +0.3**
W41B IAmb IAmb 05 49 11.4
comp=Z,47nm,1.4s
451A Vernon 44.69 256 IAMs_20 IAMs_20 06 07 23.7
comp=Z,3μm,21.0s
HHAR Hobbs 44.77 269 P P **05 48 57.1 0.0**
HHAR IAmb IAmb 05 49 12.8
comp=Z,32nm,1.3s
HHAR IAMs_20 IAMs_20 06 06 33.7
comp=Z,6μm,20.0s
ILGA Ilgaz 44.80 81 IAMs_20 IAMs_20 06 07 22.8
comp=Z,4μm,22.0s
146A Union 44.88 261 P P **05 48 57.4 -0.6**
146A IAmb IAmb 05 49 06.0
comp=Z,25nm,1.0s
146A IAMs_20 IAMs_20 06 06 14.7
comp=Z,6μm,20.0s
U38A Gravette 44.89 269 IAmb IAmb 05 49 03.7
comp=Z,54nm,1.4s
U38A IAMs_20 IAMs_20 06 06 30.0
comp=Z,3μm,20.0s
EGMT Eagleton 44.94 292 P P **05 49 00.2 +1.8**
baz=48,SNR=11
EGMT Eagleton 44.94 292 IAMs_20 IAMs_20 06 06 25.7
comp=Z,6μm,18.0s
BRAL Brewton 44.94 258 IAMs_20 IAMs_20 06 06 48.5
comp=Z,3μm,18.0s
UALR University of 45.02 266 P P **05 48 59.5 +0.4**
ZKR Zakros 45.04 93 P P **05 48 59.2 -0.1**
KARP Karpathos 45.23 92 P P **05 49 01.2 +0.3**
KARP IAMs_20 IAMs_20 06 09 14.6
comp=Z,4μm,18.0s
CCAR Cane Creek 45.36 265 P P **05 49 02.5 +0.7**
ISP Isparta 45.38 87 P P **05 49 02.2 +0.1**
ISP pmax pmax
comp=Z,18nm,0.8s
ISP MLR MLR
comp=Z,5μm,19.0s
ISP Isparta 45.38 87 P P **05 49 02.2 +0.1**
ISP IAmb IAmb 05 49 09.1
comp=Z,18nm,0.8s
ISP Isparta 45.38 87 IAMs_20 IAMs_20 06 09 43.9
comp=Z,5μm,19.0s
W39A Magazine 45.49 268 P P **05 49 03.6 +0.8**
baz=41,SNR=11
X40A Basin Creek Fa 45.51 266 P P **05 49 03.6 +0.7**
baz=41,SNR=17
X40A Basin Creek Fa 45.51 266 P P **05 49 02.8 -0.1**
X40A IAmb IAmb 05 49 11.4
comp=Z,17nm,0.9s
A21K Barrow 45.66 338 IAMs_20 IAMs_20 06 07 44.7
comp=Z,3μm,21.0s
BMAR Burnt Mountain 45.68 330 P P **05 49 04.1 +0.1**
BR131 Keskin Array S 45.70 83 P P **05 49 05.5 +0.9**
SNR=52
BR131 P P **05 49 05.5 +0.9**
SNR=52
BR131 Keskin Array S 45.70 83 *d* *i*P P **05 49 05.0 +0.4**
BRTR Keskin Array B 45.70 83 P P **05 49 06.0 +1.4**
comp=Z,15nm,1.0s,baz=308,slow=6.1,SNR=36
BRTR LR LR 06 09 15.3
comp=Z,696nm,20.0s,baz=309,slow=38
BRTR Keskin Array B 45.70 83 *ce*P P **05 49 06.0 +1.4**
BRTR pmax pmax
comp=Z,15nm,1.0s
BRTR Keskin Array B 45.70 83 P P **05 49 04.0 -0.6**
T35A Sooner Cattle 45.70 272 IAmb IAmb 05 49 10.4
comp=Z,37nm,1.4s
R32A Long Quarter, 45.79 275 P P **05 49 05.0 -0.2**
R32A IAmb IAmb 05 49 10.0
comp=Z,47nm,1.4s
R32A IAMs_20 IAMs_20 06 07 49.6
comp=Z,3μm,18.0s
CBYP Canovanas 45.84 225 P P **05 49 05.6 -0.2**
CBYP IAmb IAmb 05 49 06.8
comp=Z,41nm,1.2s
MIAR Mount Ida 45.87 267 P P **05 49 06.6 +0.8**
baz=41,SNR=14
MIAR Mount Ida 45.87 267 P P **05 49 06.1 +0.3**
MIAR pmax pmax
comp=Z,59nm,1.5s
MIAR Mount Ida 45.87 267 P P **05 49 06.0 +0.3**
HUMP Col San Antoni 45.96 225 P P **05 49 06.9 +0.3**
VBMS Vicksburg 45.98 262 P P **05 49 06.8 +0.1**
TUL1 Leonard 46.05 270 P P **05 49 07.5 +0.3**
baz=42,SNR=10
TUL1 Leonard 46.05 270 P P **05 49 07.2 0.0**
TUL1 IAmb IAmb 05 49 12.4
comp=Z,45nm,1.2s
TUL1 IAMs_20 IAMs_20 06 07 57.6
comp=Z,4μm,18.0s
AKAS Kas 46.05 89 IAmb IAmb 05 49 14.2
comp=Z,35nm,1.1s
346A Big Creek Wild 46.06 261 P P **05 49 07.3 0.0**
CBKS Cedar Bluff 46.06 276 P P **05 49 06.6 -0.8**
CBKS pmax pmax
comp=Z,39nm,1.3s
CBKS MLR MLR

comp=Z,8µm,18.0s
CBKS Cedar Bluff 46.06 276 P P 05 49 06.6 -0.8
CBKS IAmb IAmb 05 49 12.4
comp=Z,39nm,1.2s
143A Socs Landing, 46.09 263 P P 05 49 06.8 -0.7
SJG San Juan 46.10 226 P P 05 49 08.2 +0.5
comp=Z,7.7nm,0.8s,baz=0.7,slow=7.8,SNR=5.7
SJG San Juan 46.10 226 P P 05 49 08.3 +0.5
SJG pmax pmax
comp=Z,30nm,1.4s
SJG San Juan 46.10 226 P P 05 49 08.3 +0.5
SJG IAmb IAmb 05 49 12.8
comp=Z,30nm,1.4s
TOLK Toolik Lake Re 46.10 333 P P 05 49 07.4 0.0
baz=42
TOLK Toolik Lake Re 46.10 333 P P 05 49 08.3 +1.0
TOLK IAmb IAmb 05 49 13.2
comp=Z,24nm,1.1s
PDPR Patillas Dam, 46.14 225 P P 05 49 07.6 -0.4
PDPR IAmb IAmb 05 49 22.3
comp=Z,19nm,0.9s
KAN13 South Haven SW 46.15 273 P P 05 49 08.4 +0.4
SOC Sochi 46.21 74*c i* P **P 05 49 08.3 -0.1**
SOC *e* 05 50 55.9
SOC *e* PPP PPP 05 51 39.9
SOC *e* S **S 05 55 54.2 -0.2**
SOC pmax pmax
comp=Z,39nm,0.9s
SOC MLR MLR
comp=Z,2µm,18.0s
KAN12 Harper NE Stat 46.22 273 P P 05 49 08.7 +0.1
KAN08 Anthony NE Sta 46.26 273 P P 05 49 09.2 +0.3
WLAR White Oak Lake 46.26 266 P P 05 49 08.9 0.0
WLAR IAmb IAmb 05 49 17.4
comp=Z,16nm,0.9s
WALA Waterton Lakes 46.30 296 P P 05 49 09.7 +0.4
WALA IAMs_20 IAMs_20 06 06 43.7
comp=Z,6µm,20.0s
KAN10 Anthony SW Sta 46.40 273 P P 05 49 09.9 -0.2
Z41A Richland Creek 46.42 265 P P 05 49 10.6 +0.4
baz=40
Z41A Richland Creek 46.42 265 IAmb IAmb 05 49 30.2
comp=Z,43nm,1.2s
ARU Arti 46.50 50*d i* P **P 05 49 10.5 0.0**
ARU 05 51 01.3
ARU PPP PPP 05 51 41.6
ARU S **S 05 56 01.3 +3.0**
ARU pmax pmax
comp=Z,30nm,0.9s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 46.50 50 P P 05 49 10.3 -0.2
DAWY Dawson 46.52 324 IAMs_20 IAMs_20 06 08 01.8
comp=Z,5µm,20.0s
EGAK Eagle 46.57 326 P P 05 49 11.4 +0.4
EGAK IAmb IAmb 05 49 16.6
comp=Z,27nm,1.2s
EGAK IAMs_20 IAMs_20 06 08 10.0
comp=Z,3µm,20.0s
RLMT Red Lodge 46.66 289 P P 05 49 13.9 +1.8
baz=46,SNR=18
RLMT Red Lodge 46.66 289 IAmb IAmb 05 49 19.5
comp=Z,44nm,1.3s
NRIK Noril'sk 46.67 25 P P 05 49 12.4 +0.7
comp=Z,1.6nm,0.3s,baz=314,slow=7.3,SNR=9.5
NRIK LR LR 06 09 42.9
comp=Z,849nm,18.9s,baz=347,slow=37
NRIK Noril'sk 46.67 25*ce* P **P 05 49 13.2 +1.5**
NRIK pmax pmax
comp=Z,16nm,1.0s
X37A Clayton 46.81 269 IAmb IAmb 05 49 19.1
comp=Z,27nm,1.4s
GOF Gofitskoye 46.91 71*i e* P **P 05 49 14.3 +0.4**
GOF pmax pmax
comp=Z,148nm,0.9s
K22A Casper 46.95 285 P P 05 49 14.4 0.0
baz=45
K22A Casper 46.95 285 IAmb IAmb 05 49 19.8
comp=Z,32nm,1.2s
K22A IAMs_20 IAMs_20 06 07 11.2
comp=Z,5µm,20.0s
SVE Sverdlovsk 47.09 48 *e* P **P 05 49 15.4 +0.3**
SVE *e* S **S 05 56 09.1 +2.4**
SVE pmax pmax
comp=Z,26nm,1.1s
OK025 Westminster Rd 47.13 271 IAMs_20 IAMs_20 06 08 08.2
comp=Z,3µm,19.0s
BCOK Bluff Creek, N 47.22 271 P P 05 49 16.4 0.0
COLD Coldfoot 47.32 332 P P 05 49 17.7 +0.9
baz=41
COLD Coldfoot 47.32 332 P P 05 49 16.6 -0.1
PHWY Pilot Hill 47.34 283 IAMs_20 IAMs_20 06 07 33.6
comp=Z,6µm,20.0s
JTMT Jette 47.38 295 IAmb IAmb 05 49 22.2
comp=Z,15nm,1.0s
JTMT IAMs_20 IAMs_20 06 07 23.1
comp=Z,5µm,19.0s
YMP Mirror Lake Pl 47.38 289 P P 05 49 18.0 +0.1
K27K Chicken 47.38 325 P P 05 49 17.5 +0.1
baz=44
SDDR Presa de Saban 47.42 232 P P 05 49 18.0 -0.2
U32A Winter Ranch, 47.44 273 IAMs_20 IAMs_20 06 08 35.4
comp=Z,5µm,18.0s
KSCO Kaye Shedlock' 47.48 279 P P 05 49 18.8 +0.2
KIV Kislovodsk 47.49 72 *i* P **P 05 49 19.7 +1.1**
SNR=11
KIV Kislovodsk 47.49 72 *e* P **P 05 49 18.8 +0.2**
KIV *e* S **S 05 56 14.0 +1.0**
KIV pmax pmax
comp=Z,151nm,1.0s
KIV pmax pmax
comp=Z,151nm,3.5s
KIV MLR MLR
comp=Z,5µm,16.0s
KIV Kislovodsk 47.49 72 P P 05 49 19.3 +0.8
BOZ Bozeman (W) 47.53 291 P P 05 49 19.7 +0.8
baz=46,SNR=35
SHA1 Shidzhatmaz 47.63 72 *i* P **P 05 49 20.7 +0.9**
KBZ Khabaz 47.76 72 P P 05 49 21.9 +1.4
comp=Z,15nm,1.0s,baz=306,slow=9.5,SNR=17
KBZ LR LR 06 10 34.3
comp=Z,2µm,18.3s,baz=318,slow=38
KBZ Khabaz 47.76 72*ce* P **P 05 49 21.5 +1.0**
KBZ pmax pmax
comp=Z,68nm,1.4s
YHL Hebgen Lake 47.82 290 P P 05 49 22.0 +0.6
H17A Grant Village 47.83 289 P P 05 49 24.1 +2.7
baz=46
MSO Missoula 47.84 294 P P 05 49 21.3 +0.1
baz=46
MSO Missoula 47.84 294 P P 05 49 21.4 +0.2
MSO IAMs_20 IAMs_20 06 08 00.4
comp=Z,6µm,20.0s
N23A Red Feather La 47.89 283 P P 05 49 23.4 +1.5
baz=44,SNR=16
N23A Red Feather La 47.89 283 P P 05 49 22.3 +0.4
N23A IAmb IAmb 05 49 29.2
comp=Z,31nm,1.1s
N23A IAMs_20 IAMs_20 06 08 01.1
comp=Z,7µm,21.0s
QLMT Earthquake Lak 47.96 290 P P 05 49 23.1 +0.7
BCAR Beaver Creek A 47.99 324 P P 05 49 23.3 +1.2
SCRK Sand Creek 48.01 326 P P 05 49 23.9 +1.5
baz=43,SNR=15
KOWA Kowa 48.12 140 P P 05 49 23.2 -0.3
KOWA IAMs_20 IAMs_20 06 06 44.1
comp=Z,3µm,21.0s
POKR Poker Plat Res 48.16 329 P P 05 49 25.9 +2.5
baz=42,SNR=6.6
HYT Haines Junctio 48.18 320 IAmb IAmb 05 49 41.0
comp=Z,28nm,1.1s
HYT IAMs_20 IAMs_20 06 09 47.7
comp=Z,6µm,19.0s
DLMT Dillon 48.18 292 IAmb IAmb 05 49 31.6
comp=Z,18nm,1.1s
DOT Dot Lake 48.27 326 IAmb IAmb 05 49 30.7
comp=Z,20nm,1.1s
DOT IAMs_20 IAMs_20 06 09 33.0
comp=Z,3µm,18.0s
IL31 48.27 328 IAmb IAmb 05 49 30.2
comp=Z,25nm,1.1s
ILAR Eielson Array 48.27 328 P P 05 49 24.5 +0.3
comp=Z,16nm,1.1s,baz=37,slow=5.4,SNR=30
ILAR LR LR 06 09 00.7
comp=Z,2µm,21.5s,baz=60,slow=35
ILAR Eielson Array 48.27 328 P P 05 49 23.9 -0.3
ILAR Eielson Array 48.27 328 P P 05 49 23.9 -0.3
GTBY Guantanamo Bay 48.29 237*i e* P **P 05 49 25.2 +0.5**
LOHW Long Hollow 48.40 289 P P 05 49 26.0 +0.3
NEW Newport 48.40 297 P P 05 49 27.1 +1.6
baz=46
NEW Newport 48.40 297 P P 05 49 26.6 +1.1
NEW pmax pmax
comp=Z,21nm,1.2s
NEW Newport 48.40 297 P P 05 49 26.6 +1.1
NEW IAmb IAmb 05 49 43.9
comp=Z,21nm,1.2s
RIDG Independent Ri 48.44 326 IAMs_20 IAMs_20 06 09 39.3
comp=Z,4µm,18.0s
BW06 Boulder Array 48.45 287 P P 05 49 25.5 -0.7
baz=45,SNR=25
BW06 Boulder Array 48.45 287 IAmb IAmb 05 49 31.1
comp=Z,14nm,0.8s
PD31 Pinedale Array 48.45 287 IAmb IAmb 05 49 31.1
comp=Z,13nm,0.8s
PDAR Pinedale Array 48.45 287 P P 05 49 25.4 -0.7
comp=Z,3.4nm,0.6s,baz=65,slow=7.6,SNR=39
PDAR LR LR 06 08 50.6
comp=Z,6µm,18.5s,baz=31,slow=35
COLA College 48.47 329 IAMs_20 IAMs_20 06 09 07.1
comp=Z,3µm,22.0s
ISCO Idaho Springs 48.50 282 P P 05 49 28.3 +1.6
baz=44,SNR=26
ISCO Idaho Springs 48.50 282 IAmb IAmb 05 49 33.3
comp=Z,29nm,1.1s
ISCO IAMs_20 IAMs_20 06 08 22.3
comp=Z,5µm,21.0s
MDM Murphy Dome 48.51 329 IAmb IAmb 05 49 35.2
comp=Z,20nm,0.9s
WMOK Wichita Mounta 48.55 272 P P 05 49 27.6 +0.9
baz=41,SNR=28
HDA Harding Lake 48.56 328 P P 05 49 27.0 +0.6
baz=42,SNR=15
HDA Harding Lake 48.56 328 IAmb IAmb 05 49 36.5
comp=Z,17nm,0.8s
441A DeRidder 48.56 263 IAMs_20 IAMs_20 06 08 47.2
comp=Z,4µm,18.0s
NATX Nacogdoches 48.57 266 P P 05 49 27.8 +0.9
NATX IAmb IAmb 05 49 32.0
comp=Z,32nm,1.1s
SNOW Snow King Moun 48.58 289 IAmb IAmb 05 49 32.6
comp=Z,20nm,1.0s
FXWY Fox Creek 48.60 289 IAmb IAmb 05 49 33.2
comp=Z,17nm,1.1s
FXWY IAMs_20 IAMs_20 06 08 35.6
comp=Z,5µm,20.0s
CCB Clear Creek Bu 48.62 329 P P 05 49 26.6 -0.3
TPAW Teton Pass 48.66 289 P P 05 49 28.0 +0.2
TPAW IAmb IAmb 05 49 33.7
comp=Z,17nm,1.0s
TPAW IAMs_20 IAMs_20 06 08 46.3
comp=Z,5µm,18.0s
MENT Mentasta 48.69 325 IAMs_20 IAMs_20 06 09 18.0
comp=Z,3µm,20.0s
REDW Red Top Meadow 48.70 289 IAmb IAmb 05 49 34.8
comp=Z,20nm,1.0s
Z35A Perchaven, San 48.78 269 IAmb IAmb 05 49 34.8
comp=Z,42nm,1.5s
Z35A IAMs_20 IAMs_20 06 09 01.8
comp=Z,3µm,18.0s
WRH Wood River Hil 48.84 328 P P 05 49 29.2 +0.7
Q24A Divide 48.86 280 IAMs_20 IAMs_20 06 08 34.8
comp=Z,5µm,19.0s
ZEI Tsey 48.94 72 *e* P **P 05 49 28.7 -1.2**
ZEI pmax pmax
comp=Z,15nm,1.0s
237A Washetta, Mont 49.01 267 IAmb IAmb 05 49 45.2
comp=Z,22nm,0.9s
CSS Mathiatis 49.02 87 P P 05 49 30.4 0.0
NEA2 Nenana 49.02 329 P P 05 49 30.8 +0.8
baz=40
ARTV Artvin 49.06 75 IAmb IAmb 05 49 39.8
comp=Z,35nm,1.1s
MLY Manley 49.14 330 P P 05 49 31.5 +0.6
baz=40
IMAR Indian Mountai 49.19 332 P P 05 49 31.2 0.0
PAX Paxson 49.20 326 IAmb IAmb 05 49 37.9
comp=Z,19nm,1.1s
PAX IAMs_20 IAMs_20 06 10 03.5
comp=Z,2µm,20.0s
C09A Chrisman Ranch 49.28 298 IAmb IAmb 05 49 47.8
comp=Z,25nm,1.1s
B08A Colville Reser 49.40 299 P P 05 49 33.2 +0.2
BARN Barnard Glacie 49.41 323 IAMs_20 IAMs_20 06 10 04.3
comp=Z,4µm,19.0s
BWN Browne 49.45 329 IAMs_20 IAMs_20 06 09 47.9
comp=Z,3µm,22.0s
GAZ Gaziantep 49.47 82 P P 05 49 34.9 +1.0
BCPM Bancas Point 49.54 321 IAMs_20 IAMs_20 06 10 33.7
comp=Z,5µm,18.0s
RDOG Red Dog Mine 49.60 338 IAMs_20 IAMs_20 06 09 48.9
comp=Z,3µm,22.0s
MCARA McCarthy VSAT 49.62 323 IAMs_20 IAMs_20 06 10 09.7
comp=Z,4µm,18.0s
GROC Groznyy 49.62 70 *e* P **P 05 49 36.9 +2.1**
GROC *e* 05 50 54.9
GROC *e* S S 05 56 50.4 +7.6
GROC pmax pmax
comp=Z,16nm,0.5s
MCK McKinley 49.64 328 P P 05 49 36.3 +1.5
baz=40,SNR=9.2
PCA Pinnacle 49.65 321 IAMs_20 IAMs_20 06 08 10.6
comp=Z,3µm,20.0s
O20A White River Ci 49.65 284 P P 05 49 36.5 +1.2
baz=43,SNR=8.5
O20A White River Ci 49.65 284 IAmb IAmb 05 49 53.1
comp=Z,51nm,1.5s
O20A IAMs_20 IAMs_20 06 08 59.7
comp=Z,5µm,21.0s
BALM Baldy 49.66 323 IAMs_20 IAMs_20 06 10 29.7
comp=Z,5µm,19.0s
DHY Denali Highway 49.69 327 IAMs_20 IAMs_20 06 10 30.5
comp=Z,3µm,19.0s
TABL Table Mountain 49.70 322 IAMs_20 IAMs_20 06 10 14.8
comp=Z,4µm,20.0s
T25A Trinidad 49.80 278 P P 05 49 38.1 +1.6
baz=42,SNR=13
T25A Trinidad 49.80 278 P P 05 49 37.0 +0.4
T25A IAmb IAmb 05 49 44.1
comp=Z,27nm,1.1s
GLB Gilahina Butte 49.83 324 IAMs_20 IAMs_20 06 10 26.2
comp=Z,4µm,18.0s
RND Reindeer 49.87 328 P P 05 49 37.5 +1.0
RND pmax pmax
comp=Z,26nm,1.1s
RND MLR MLR
comp=Z,3µm,21.0s
RND Reindeer 49.87 328 P P 05 49 37.5 +1.0
RND IAmb IAmb 05 49 48.8
comp=Z,26nm,1.1s
RND IAMs_20 IAMs_20 06 10 59.3
comp=Z,3µm,21.0s
VRDI Verde Repeater 49.87 324 IAMs_20 IAMs_20 06 10 36.4
comp=Z,5µm,18.0s
BPAW Bear Paw Mtn. 49.94 329 P P 05 49 37.2 +0.3
SDCO Great Sand Dun 49.94 280 P P 05 49 38.7 +1.1
baz=42,SNR=12
SDCO Great Sand Dun 49.94 280 P P 05 49 38.4 +0.7
SDCO IAMs_20 IAMs_20 06 09 21.4
comp=Z,6µm,20.0s
N25K Chitina, Valde 49.96 324 P P 05 49 39.1 +1.9
baz=41
ISLE Juniper Island 49.98 322 P P 05 49 37.9 +0.4
AMTX Amarillo 50.01 274 P P 05 49 38.7 +0.7
baz=41
AMTX Amarillo 50.01 274 IAmb IAmb 05 49 47.3
comp=Z,24nm,0.8s
TGL Tana Glacier 50.02 323 IAMs_20 IAMs_20 06 10 58.4
comp=Z,4µm,19.0s
F10A Beach Ranch, E 50.06 295 IAmb IAmb 05 49 46.2
comp=Z,16nm,0.9s
F10A IAMs_20 IAMs_20 06 09 22.1
comp=Z,4µm,20.0s
M24K Tolsona, Glenn 50.07 326 IAMs_20 IAMs_20 06 10 30.5
comp=Z,2µm,20.0s
PLID Pearl Lake 50.08 294 P P 05 49 38.5 -0.1
CRQM Cirque 50.12 323 IAMs_20 IAMs_20 06 10 26.7
comp=Z,4µm,18.0s
TRF Thorofare Moun 50.25 329 P P 05 49 39.9 +0.4
TRF IAmb IAmb 05 49 55.0
comp=Z,36nm,1.1s
TRF IAMs_20 IAMs_20 06 10 02.1
comp=Z,3µm,22.0s
B06A Marblemount 50.30 300 IAMs_20 IAMs_20 06 09 53.3
comp=Z,5µm,18.0s
HWUT Hardware Ranch 50.33 287 P P 05 49 40.0 -0.4
HWUT IAmb IAmb 05 49 45.7
comp=Z,29nm,0.9s
KTH Kantishna Hill 50.34 329 IAmb IAmb 05 49 56.1
comp=Z,38nm,1.4s
KTH IAMs_20 IAMs_20 06 10 14.7
comp=Z,3µm,22.0s
HLID Hailey 50.38 291 P P 05 49 42.4 +1.6
baz=44,SNR=26
HLID Hailey 50.38 291 IAmb IAmb 05 49 47.4
comp=Z,39nm,1.4s
AKTO Aktyubinsk 50.39 56 P P 05 49 40.4 -0.2
KLU Klutina 50.46 325 IAMs_20 IAMs_20 06 10 16.8
comp=Z,3µm,22.0s
TCUT Toone Canyon 50.60 287 P P 05 49 42.9 +0.3
HKT Hockley 50.61 265 P P 05 49 42.6 +0.2
HKT pmax pmax
comp=Z,25nm,1.4s
HKT MLR MLR
comp=Z,5µm,19.0s
HKT Hockley 50.61 265 P P 05 49 42.6 +0.2
HKT IAmb IAmb 05 49 47.0
comp=Z,24nm,1.4s
HKT Hockley 50.61 265 IAMs_20 IAMs_20 06 10 39.3
comp=Z,5µm,19.0s
ABTX Abilene, Hawle 50.61 271 P P 05 49 42.9 +0.4
baz=40
ABTX Abilene, Hawle 50.61 271 P P 05 49 42.4 -0.2
ABTX IAmb IAmb 05 50 01.0
comp=Z,32nm,1.3s
ABTX IAMs_20 IAMs_20 06 10 18.4
comp=Z,4µm,18.0s
SCM Sheep Creek Mo 50.63 326 IAMs_20 IAMs_20 06 10 07.3
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 50.65 281 P P 05 49 44.7 +1.6
baz=42,SNR=15
S22A 4UR Ranch, Cre 50.65 281 P P 05 49 44.0 +1.0
S22A IAMs_20 IAMs_20 06 09 36.2
comp=Z,4µm,21.0s
MAK Makhachkala 50.67 70 *e* P **P 05 49 38.0 -4.7**
MAK *e* 05 51 34.5
MAK *e* S **S 05 56 50.4 -7.0**
MAK *e* SS **SS 06 00 22.3 -8.8**
MAK *e* SSS SSS 06 01 55.2
MAK pmax pmax
comp=Z,234nm,1.2s
MAK MLR MLR
comp=Z,2µm,15.0s
TIXI Tiksi 50.75 7*ce* P **P 05 49 43.9 +1.0**
TIXI pmax pmax
comp=Z,105nm,1.0s
TIXI Tiksi 50.75 7 P P 05 49 44.1 +1.1
HMT Hamilton 50.81 323 IAMs_20 IAMs_20 06 10 59.1
comp=Z,5µm,18.0s
LTY Liberty 50.81 299 P P 05 49 43.7 -0.2
LTY IAmb IAmb 05 49 48.4
comp=Z,25nm,1.2s
LTY IAMs_20 IAMs_20 06 10 05.9
comp=Z,5µm,19.0s
HVU Hansel Valley 50.83 288 P P 05 49 43.8 -0.4
HVU pmax pmax
comp=Z,12nm,0.9s
HVU Hansel Valley 50.83 288 P P 05 49 43.8 -0.4
BMO Blue Mountains 50.90 294 IAMs_20 IAMs_20 06 09 47.4
comp=Z,4µm,20.0s
435B Jarrell 50.91 267 P P 05 49 44.7 0.0
435B IAmb IAmb 05 49 50.5
comp=Z,29nm,1.4s
E07A Sunnyside 50.92 297 IAMs_20 IAMs_20 06 09 48.9
comp=Z,6µm,20.0s
JLU Jordanelle 50.99 286 P P 05 49 45.9 +0.4
CUT Chulitna 51.06 328 P P 05 49 48.7 +3.3
baz=38
CTU Camp Tracy 51.09 287 P P 05 49 46.7 +0.5
PV15 Paradox Valley 51.09 282 P P 05 49 47.2 +0.9
PV07 Paradox Valley 51.11 283 P P 05 49 47.3 +0.9
PV07 IAmb IAmb 05 49 52.8
comp=Z,42nm,1.4s
PGC Sidney 51.12 302 IAMs_20 IAMs_20 06 10 55.0
comp=Z,4µm,18.0s
GHO Glory Hole Cre 51.16 327 IAMs_20 IAMs_20 06 11 15.3
comp=Z,2µm,20.0s
PV21 Cone Mtn., Par 51.19 283 P P 05 49 47.3 +0.3
FID Port Fidalgo 51.20 325 IAMs_20 IAMs_20 06 11 02.9
comp=Z,4µm,20.0s
PV04 Paradox Valley 51.28 283 IAmb IAmb 05 49 54.7
comp=Z,44nm,1.4s
PV12 Saucer Basin, 51.28 283 IAmb IAmb 05 49 54.0
comp=Z,40nm,1.1s
MARD Mardin 51.28 79 P P 05 49 49.0 +1.4
MARD IAMs_20 IAMs_20 06 12 13.4
comp=Z,2µm,21.0s
MSTX Muleshoe 51.29 274 P P 05 49 48.2 +0.5
baz=41
MSTX Muleshoe 51.29 274 IAmb IAmb 05 49 52.8
comp=Z,44nm,1.5s
PV01 Paradox Valley 51.29 282 P P 05 49 48.7 +0.9
PV23 Carpenter Ridg 51.29 283 P P 05 49 47.6 -0.2
GLI Glacier Island 51.30 325 IAMs_20 IAMs_20 06 11 03.9
comp=Z,3µm,18.0s
PV02 Paradox Valley 51.33 282 P P 05 49 49.1 +1.0
PV02 IAmb IAmb 05 49 54.3
comp=Z,27nm,0.9s
PV11 David Mesa, Pa 51.33 283 P P 05 49 48.7 +0.7
PV16 Nyswonger Mesa 51.34 283 P P 05 49 48.8 +0.7
PV16 IAmb IAmb 05 49 54.4
comp=Z,44nm,1.2s
PV20 West Nyswonger 51.35 283 P P 05 49 48.6 +0.4
PV03 Paradox Valley 51.35 283 P P 05 49 47.9 -0.3
PV03 IAmb IAmb 05 49 54.4
comp=Z,27nm,1.1s
PV14 Lion Creek, Pa 51.35 283 P P 05 49 48.6 +0.4
PV14 IAmb IAmb 05 49 53.6
comp=Z,30nm,1.4s
PV10 Paradox Valley 51.36 283 P P 05 49 48.5 +0.1
PV10 IAmb IAmb 05 49 55.0
comp=Z,34nm,1.1s
PV19 Morning Glory 51.38 283 P P 05 49 48.7 +0.2
PV19 IAmb IAmb 05 49 54.6
comp=Z,47nm,1.5s
PV18 Skein Mesa, Pa 51.39 283 P P 05 49 48.9 +0.4
PV18 IAmb IAmb 05 49 54.6
comp=Z,31nm,0.9s
PV17 East Wray Mesa 51.39 283 P P 05 49 48.8 +0.3
PV17 IAmb IAmb 05 49 54.7
comp=Z,39nm,1.0s
G08A Pilot Rock 51.40 296 P P 05 49 47.8 -0.5
PV13 Radium Mtn., P 51.41 282 P P 05 49 49.3 +0.6
PV13 IAmb IAmb 05 49 54.9
comp=Z,35nm,0.9s
TOC7 Torodi Ar. Sit 51.44 134 IAMs_20 IAMs_20 06 09 03.9
comp=Z,2µm,20.0s
TOC1 Torodi Ar. Sit 51.44 134 IAMs_20 IAMs_20 06 09 03.9
comp=Z,3µm,19.0s
TOB1 Torodi Ar. Sit 51.45 134 IAMs_20 IAMs_20 06 09 14.1
comp=Z,2µm,20.0s
P17A Butcher Ranch, 51.45 285 P P 05 49 49.1 +0.2
TOB5 Torodi Ar. Sit 51.45 134 IAMs_20 IAMs_20 06 09 04.2
comp=Z,2µm,20.0s
TOA0 Torodi Ar. Sit 51.46 134 P P 05 49 48.1 -0.9
SNR=9.0
TOA0 P P 05 49 48.1 -0.9
SNR=9.0
TOA0 Torodi Ar. Sit 51.46 134 P P 05 49 47.8 -1.1
TOA0 IAmb IAmb 05 49 55.1
comp=Z,35nm,1.2s
TOA0 IAMs_20 IAMs_20 06 09 04.5
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 51.46 134 P P 05 49 48.0 -1.0
comp=Z,15nm,1.0s,baz=340,slow=8.2,SNR=21
TORD LR LR 06 09 25.5
comp=Z,2µm,19.4s,baz=330,slow=34
TORD Torodi Ar. Bea 51.46 134 P P 05 49 47.6 -1.4
TOA2 Torodi Ar. Sit 51.46 134 IAMs_20 IAMs_20 06 09 13.5
comp=Z,2µm,20.0s
TOC2 Torodi Ar. Sit 51.46 134 IAMs_20 IAMs_20 06 09 04.5
comp=Z,2µm,19.0s
TOB4 Torodi Ar. Sit 51.47 134 IAMs_20 IAMs_20 06 09 04.6
comp=Z,2µm,20.0s
TOC5 Torodi Ar. Sit 51.47 134 IAMs_20 IAMs_20 06 09 04.7
comp=Z,3µm,20.0s
TOB3 Torodi Ar. Sit 51.48 134 IAMs_20 IAMs_20 06 09 04.8
comp=Z,2µm,20.0s
HIN Hinchinbrook I 51.48 324 IAMs_20 IAMs_20 06 11 10.9

comp=Z,5µm,20.0s
TOC3 Torodi Ar. Sit 51.48 134 IAMs_20 IAMs_20 06 09 05.0
comp=Z,2µm,20.0s
TOC4 Torodi Ar. Sit 51.49 134 IAMs_20 IAMs_20 06 09 05.1
comp=Z,2µm,20.0s
BGU Big Grassy Mou 51.58 288 P **P** **05 49 48.8 -1.0**
SRU San Rafael Swe 51.60 285 P **P** **05 49 50.0 -0.1**
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael Swe 51.60 285 P **P** **05 49 50.0 -0.1**
LON Longmire 51.72 299 IAMs_20 IAMs_20 06 10 35.9
comp=Z,5µm,20.0s
GEVA Gevas 51.75 77 P **P** **05 49 52.4 +1.2**
SKT Skwentna 51.76 328 P **P** **05 49 50.5 -0.2**
SKT IAmb IAmb 05 49 56.0
comp=Z,32nm,1.2s
SKT IAMs_20 IAMs_20 06 12 07.1
comp=Z,3µm,19.0s
TMUT Trail Mountain 51.83 285 P **P** **05 49 52.2 +0.3**
MVCO Mesa Verde 51.94 281 P **P** **05 49 54.0 +1.4**
baz=42,SNR=24
MVCO Mesa Verde 51.94 281 P **P** **05 49 53.7 +1.0**
MVCO IAMs_20 IAMs_20 06 10 38.2
comp=Z,6µm,20.0s
RC01 Rabbit Creek A 51.94 326 P **P** **05 49 54.9 +2.9**
baz=38
SUA Susitna One 51.94 327 IAMs_20 IAMs_20 06 11 51.0
comp=Z,2µm,20.0s
DUG Dugway, Tooele 52.00 287 P **P** **05 49 54.0 +1.0**
baz=43
DUG Dugway, Tooele 52.00 287 P **P** **05 49 52.6 -0.4**
DUG pmax pmax
comp=Z,11nm,0.9s
DUG Dugway, Tooele 52.00 287 P **P** **05 49 52.6 -0.4**
DUG IAMs_20 IAMs_20 06 10 45.7
comp=Z,5µm,20.0s
Q16A Castle Valley 52.09 285 P **P** **05 49 53.0 -0.7**
AB31 Akbulak array 52.11 56 *i* P **P** **05 49 53.3 -0.2**
ABKAR Akbulak array 52.11 56 P **P** **05 49 53.4 -0.1**
ABKAR Akbulak array 52.11 56 IAmb IAmb 05 50 01.6
comp=Z,55nm,1.1s
F05D White Salmon 52.18 298 P **P** **05 49 56.2 +2.1**
baz=43
NLWA Neilton Lookou 52.22 301 IAMs_20 IAMs_20 06 10 55.2
comp=Z,5µm,20.0s
TTA Tatalina 52.23 331 P **P** **05 49 54.0 -0.3**
TTA pmax pmax
comp=Z,13nm,1.0s
TTA MLR MLR
comp=Z,2µm,21.0s
TTA Tatalina 52.23 331 P **P** **05 49 54.0 -0.3**
JCT Junction City 52.35 269 P **P** **05 49 56.0 +0.4**
baz=39
JCT Junction City 52.35 269 IAmb IAmb 05 50 00.9
comp=Z,53nm,1.4s
JCT IAMs_20 IAMs_20 06 11 13.4
comp=Z,5µm,19.0s
735A Kenedy 52.53 266 IAMs_20 IAMs_20 06 12 18.4
comp=Z,4µm,20.0s
ANMO Albuquerque 52.54 278 P **P** **05 49 58.7 +1.5**
baz=41
ANMO Albuquerque 52.54 278 *ce*P **P** **05 49 58.3 +1.2**
ANMO pmax pmax
comp=Z,22nm,1.7s
ANMO Albuquerque 52.54 278 P **P** **05 49 58.9 +1.8**
I07A Izee 52.54 295 IAMs_20 IAMs_20 06 10 51.8
comp=Z,5µm,20.0s
J08A Circle Bar Ran 52.56 294 IAmb IAmb 05 50 02.3
comp=Z,41nm,1.1s
J08A IAMs_20 IAMs_20 06 11 00.4
comp=Z,5µm,20.0s
F04A Amboy 52.60 299 P **P** **05 49 58.2 +1.0**
F04A IAmb IAmb 05 50 02.8
comp=Z,27nm,1.1s
F04A IAMs_20 IAMs_20 06 11 13.3
comp=Z,5µm,19.0s
SEW Seward 52.63 326 IAMs_20 IAMs_20 06 12 03.2
comp=Z,2µm,18.0s
E03A Lebam 52.70 300 P **P** **05 49 58.2 +0.3**
ELK Elko 52.85 289 IAmb IAmb 05 50 06.2
comp=Z,31nm,1.2s
MVU Marysvale 52.94 285 P **P** **05 50 00.7 +0.6**
ANM Nome 53.11 336 IAMs_20 IAMs_20 06 12 46.5
comp=Z,4µm,21.0s
H04A Detroit Lake 53.41 297 P **P** **05 50 03.8 +0.6**
H04A IAmb IAmb 05 50 09.6
comp=Z,32nm,1.4s
H04A IAMs_20 IAMs_20 06 11 05.6
comp=Z,5µm,22.0s
Y22D IRIS PASSCAL I 53.45 278 IAMs_20 IAMs_20 06 11 35.4
comp=Z,6µm,20.0s
PINE Pine Mountain 53.46 296 IAmb IAmb 05 50 10.1
comp=Z,31nm,1.1s
PINE IAMs_20 IAMs_20 06 11 20.1
comp=Z,5µm,20.0s
KVTX Kingsville 53.61 265 IAMs_20 IAMs_20 06 13 21.9
comp=Z,4µm,19.0s
BRVK Borovoye 53.67 47 P **P** **05 50 05.8 +0.9**
BRVK P **P** **05 50 05.8 +0.9**
BRVK Borovoye 53.67 47 *ce*P **P** **05 50 05.5 +0.6**
BRVK pmax pmax
comp=Z,38nm,1.7s
BRVK Borovoye 53.67 47 P **P** **05 50 05.5 +0.6**
BRVK IAmb IAmb 05 50 13.1
comp=Z,36nm,1.1s
833A Chaparral WMA, 53.81 267 P **P** **05 50 06.5 +0.3**
baz=38
833A Chaparral WMA, 53.81 267 IAmb IAmb 05 50 10.2
comp=Z,14nm,0.8s
J05D Fort Rock, OR 53.98 296 P **P** **05 50 09.2 +1.6**
baz=42,SNR=20
BILL Bilibino 54.15 351 *ce*P **P** **05 50 10.5 +2.2**
BILL *e* 05 51 07.2
BILL *e* 05 52 06.3
BILL *e*S **S** **05 57 48.5 +4.0**
BILL pmax pmax
comp=Z,23nm,2.0s
BILL MLR MLR
comp=Z,4µm,20.0s
I04A Tendick Farm, 54.17 297 P **P** **05 50 08.9 +0.1**
baz=42
K05A Summer Lake 54.23 295 IAMs_20 IAMs_20 06 11 46.4
comp=Z,5µm,22.0s
MDP Montagnes des 54.23 204 P **P** **05 50 10.2 +0.8**
comp=Z,21nm,0.8s,baz=5.3,slow=7.7,SNR=18
URIC Uribia, Colomb 54.24 229 *e*P **P** **05 50 08.6 -0.8**
CCUT Cedar City 54.25 285 P **P** **05 50 09.6 -0.1**
KNB Kanab 54.37 284 P **P** **05 50 10.1 -0.4**
KNB pmax pmax
comp=Z,49nm,1.2s
KNB Kanab 54.37 284 P **P** **05 50 10.1 -0.4**
MNTX Cornudas Mount 54.44 274 P **P** **05 50 11.0 +0.2**
baz=39
MNTX Cornudas Mount 54.44 274 IAMs_20 IAMs_20 06 12 53.5
comp=Z,3µm,18.0s
TEIG Tepich 54.45 251 *e*P P 05 50 21.7 +11
TEIG Tepich 54.45 251 IAMs_20 IAMs_20 06 11 46.5
comp=Z,2µm,22.0s
U15A North Rim 54.53 284 IAmb IAmb 05 50 17.1
comp=Z,14nm,0.9s
U15A IAMs_20 IAMs_20 06 11 56.9
comp=Z,4µm,21.0s
MOD Modoc Plateau 54.55 294 IAmb IAmb 05 50 17.5
comp=Z,35nm,1.1s
MOD IAMs_20 IAMs_20 06 12 33.9
comp=Z,3µm,18.0s
LCMT Little Creek M 54.59 285 P **P** **05 50 12.1 0.0**
I03D Drain, OR 54.70 297 P **P** **05 50 14.3 +1.8**
baz=42
WUAZ Wupatki 54.74 282 P **P** **05 50 14.6 +1.4**
baz=40
WUAZ Wupatki 54.74 282 P **P** **05 50 13.6 +0.4**
WUAZ IAmb IAmb 05 50 19.5
comp=Z,38nm,1.3s
WUAZ IAMs_20 IAMs_20 06 12 25.3
comp=Z,3µm,20.0s
R11A Troy Canyon, C 54.81 288 P **P** **05 50 15.0 +1.3**
baz=41,SNR=28
R11A Troy Canyon, C 54.81 288 IAmb IAmb 05 50 19.6
comp=Z,18nm,1.1s
R11A IAMs_20 IAMs_20 06 12 43.1
comp=Z,4µm,18.0s
121A Cookes Peak, D 55.09 277 P **P** **05 50 17.6 +1.8**
baz=40
TIC Toumodi 55.15 145 *e*P **P** **05 50 14.0 -2.1**
DBIC Dimbokro 55.17 145 P **P** **05 50 16.0 -0.2**
comp=Z,12nm,0.9s,baz=285,slow=13,SNR=3.2
DBIC LR LR 06 10 49.7
comp=Z,4µm,21.2s,baz=336,slow=33
DBIC Dimbokro 55.17 145 P **P** **05 50 15.4 -0.9**
DBIC pmax pmax
comp=Z,56nm,1.1s
DBIC Dimbokro 55.17 145 P **P** **05 50 15.4 -0.9**
PRN Pahroc Range 55.24 286 P **P** **05 50 17.5 +0.7**
PRN IAmb IAmb 05 50 23.2
comp=Z,29nm,1.2s
L04D Klamath Falls 55.30 295 P **P** **05 50 18.3 +1.2**
baz=41
HUMO Hull Mountain 55.33 296 IAMs_20 IAMs_20 06 11 57.4
comp=Z,3µm,22.0s
TX31 Lajitas Ar. Si 55.34 271 IAmb IAmb 05 50 22.7
comp=Z,22nm,1.1s
TXAR Lajitas Array 55.34 271 P **P** **05 50 17.8 +0.3**
TXAR comp=Z,6.6nm,0.8s,baz=59,slow=5.4,SNR=15 LR LR 06 13 02.5
comp=Z,2µm,20.3s,baz=0.0,slow=35
TXAR Lajitas Array 55.34 271 P **P** **05 50 17.9 +0.4**
M04C Macdoel 55.40 295 P **P** **05 50 17.9 +0.1**
baz=41,SNR=12
KDAK Kodiak Island 55.47 325 IAMs_20 IAMs_20 06 15 42.2
comp=Z,3µm,19.0s
KIC Kosan Boka 55.50 145 *e*P **P** **05 50 17.7 -0.9**
comp=Z,168nm,1.4s
LIC Lamto 55.54 145 *e*P **P** **05 50 17.9 -1.0**
comp=Z,134nm,1.3s
K02D Willamette Mer 55.60 297 P **P** **05 50 19.9 +0.6**
baz=41,SNR=5.9
X16A Lo Mia Camp, P 55.61 281 P **P** **05 50 20.3 +0.8**
SMRC Santa Marta, M 55.65 231 *e*P **P** **05 50 17.3 -2.4**
PAHR Pah Rah Range 55.73 291 P **P** **05 50 20.4 +0.2**
YBH Yreka Blue Hor 55.86 295 P **P** **05 50 20.2 -0.9**
YBH pmax pmax
comp=Z,14nm,1.2s
YBH Yreka Blue Hor 55.86 295 P **P** **05 50 20.2 -0.9**
L02E Cave Junction 55.98 296 P **P** **05 50 22.4 +0.5**
baz=41
SHPR Sheep Range 55.98 286 IAmb IAmb 05 50 28.1
comp=Z,19nm,1.1s
NV11 Mina Array Sit 56.07 289 IAmb IAmb 05 50 28.5
comp=Z,32nm,1.4s
RYN Ryan 56.11 290 P **P** **05 50 23.0 0.0**
RYN IAmb IAmb 05 50 28.5
comp=Z,23nm,0.9s
NVAR Mina Array Bea 56.15 290 P **P** **05 50 23.4 +0.1**
comp=Z,5.0nm,0.8s,baz=54,slow=6.5,SNR=16
NVAR LR LR 06 13 47.1
comp=Z,6µm,18.2s,baz=39,slow=35
NVAR Mina Array Bea 56.15 290 P **P** **05 50 22.8 -0.6**
VCNR Virginia City 56.18 291 P **P** **05 50 23.5 0.0**
VCNR IAmb IAmb 05 50 31.8
comp=Z,14nm,0.9s
TPNV Topopah Spring 56.21 287 P **P** **05 50 24.6 +0.8**
baz=40,SNR=13
TPNV Topopah Spring 56.21 287 P **P** **05 50 23.9 +0.1**
TPNV pmax pmax
comp=Z,15nm,1.1s
TPNV Topopah Spring 56.21 287 P **P** **05 50 23.9 +0.1**
TPNV IAMs_20 IAMs_20 06 12 27.2
comp=Z,3µm,22.0s
SDV Santo Domingo 56.25 226 ‖ *e*P **P** **05 50 23.1 -1.2**
SDV Santo Domingo 56.25 226 P **P** **05 50 24.4 +0.2**
SDV IAmb IAmb 05 50 36.8
comp=Z,17nm,1.0s
SDV Santo Domingo 56.25 226 *e*P **P** **05 50 24.8 +0.6**
PNTR Pine Nut 56.31 291 P **P** **05 50 24.9 +0.4**
PNTR IAmb IAmb 05 50 39.9
comp=Z,34nm,1.0s
W13A Hualapai Mount 56.38 284 P **P** **05 50 25.0 -0.1**
W13A IAMs_20 IAMs_20 06 13 53.9
comp=Z,3µm,18.0s
LHV Little Huntoon 56.39 290 P **P** **05 50 24.6 -0.1**
LHV IAmb IAmb 05 50 30.8
comp=Z,22nm,1.1s
N02D Trinity Center 56.43 295 P **P** **05 50 24.9 -0.3**
baz=41
O03E Paynes Creek 56.50 294 P **P** **05 50 27.0 +1.3**
baz=40
KRMB Red Mountain 56.61 296 IAMs_20 IAMs_20 06 13 36.4
comp=Z,4µm,19.0s
RUBR Rubicon Trail 56.62 291 IAMs_20 IAMs_20 06 13 43.8
comp=Z,4µm,18.0s
WDC Whiskeytown Da 56.65 294 IAMs_20 IAMs_20 06 13 38.6
comp=Z,3µm,19.0s
Y14A Wickenburg 56.81 282 P **P** **05 50 28.4 +0.5**
Y14A IAMs_20 IAMs_20 06 13 59.1
comp=Z,4µm,18.0s
ARGC Ariguani, Magd 56.83 230 ⇑ *e*P **P** **05 50 29.5 +1.4**
TUC Tucson 56.88 279 P **P** **05 50 29.8 +1.4**
baz=39
TUC Tucson 56.88 279 P **P** **05 50 28.9 +0.5**
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC Tucson 56.88 279 P **P** **05 50 28.9 +0.5**
SOCV Socops 56.88 226 *e*P **P** **05 50 27.6 -1.0**
FURC Furnace Creek, 56.90 287 P **P** **05 50 29.7 +1.3**
baz=40,SNR=5.9
ORV Oroville 56.91 293 P **P** **05 50 28.2 -0.3**
ORV pmax pmax
comp=Z,14nm,1.2s
ORV Oroville 56.91 293 P **P** **05 50 28.2 -0.3**
SII Sitkinak Islan 56.97 325 IAMs_20 IAMs_20 06 14 50.0
comp=Z,3µm,18.0s
BRZS Berezniki 56.99 48 *e*P **P** **05 50 27.2 -1.7**
BRZS Berezniki 56.99 48 *e*P **P** **05 50 27.2 -1.7**
KHMM Horse Mountain 57.01 295 P **P** **05 50 30.8 +1.4**
KHMM IAmb IAmb 05 50 35.1
comp=Z,37nm,1.0s
SHOC Shoshone, Teco 57.03 286 P **P** **05 50 30.9 +1.5**
baz=40
AFDM Forest Hills D 57.11 292 P **P** **05 50 30.0 +0.1**
AFDM IAmb IAmb 05 50 35.2
comp=Z,19nm,1.2s
AFDM IAMs_20 IAMs_20 06 13 28.8
comp=Z,2µm,22.0s
OMMB Old Mammoth Mi 57.13 289 P **P** **05 50 31.1 +0.6**
OMMB IAmb IAmb 05 50 36.2
comp=Z,22nm,1.4s
MDPB Devils Postpil 57.15 290 P **P** **05 50 30.4 -0.1**
SJCC San Jacinto, C 57.19 231 *e*P **P** **05 50 31.5 +0.8**
TUQ Turquoise Moun 57.20 286 P **P** **05 50 31.6 +0.8**
baz=40
KMRM Mail Ridge 57.50 295 P **P** **05 50 33.3 +0.5**
CMB Columbia Colle 57.51 291 P **P** **05 50 32.6 -0.2**
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 57.51 291 P **P** **05 50 32.6 -0.2**
MPMC Manual Prospec 57.54 287 P **P** **05 50 34.4 +1.2**
baz=40,SNR=25
CWC Cottonwood Cre 57.55 288 P **P** **05 50 34.4 +1.2**
baz=40
GMRC Granite Mounta 57.56 285 P **P** **05 50 34.5 +1.2**
baz=40,SNR=6.0
SMLC San Martn de 57.71 230 *e*P P 05 50 29.3 -5.0
GSC Goldstone, Bar 57.76 286 P **P** **05 50 36.1 +1.5**
baz=40,SNR=18
GSC Goldstone, Bar 57.76 286 P **P** **05 50 34.8 +0.1**
GSC pmax pmax
comp=Z,35nm,1.3s
GSC Goldstone, Bar 57.76 286 P **P** **05 50 34.8 +0.1**
GSC IAmb IAmb 05 50 41.0
comp=Z,35nm,1.2s
GSC IAMs_20 IAMs_20 06 14 15.2
comp=Z,4µm,21.0s
IRM Iron Mountain 57.77 284 P **P** **05 50 36.1 +1.4**
baz=39
CHIR Chirikof Islan 58.03 326 IAMs_20 IAMs_20 06 16 17.0
comp=Z,5µm,20.0s
LRMC Laurel Mtn Rad 58.08 287 P **P** **05 50 38.4 +1.4**
baz=39,SNR=14
113A Mohawk Valley, 58.11 282 P **P** **05 50 37.2 +0.2**
113A IAmb IAmb 05 50 43.4
comp=Z,29nm,1.1s
113A IAMs_20 IAMs_20 06 14 01.7
comp=Z,4µm,21.0s
214A Organ Pipe Nat 58.23 281 P **P** **05 50 39.3 +1.3**
baz=39
214A Organ Pipe Nat 58.23 281 P **P** **05 50 38.8 +0.8**
214A IAmb IAmb 05 50 44.4
comp=Z,19nm,1.1s
214A IAMs_20 IAMs_20 06 14 17.0
comp=Z,4µm,20.0s
ZAA0 Zalesovo Array 58.27 38 P **P** **05 50 37.6 -0.2**
ZALV Zalesovo Beam 58.27 38 P **P** **05 50 37.3 -0.5**
comp=Z,2.9nm,0.6s,baz=315,slow=8.0,SNR=7.7
ZALV PcP **PcP** **05 51 28.9 0.0**
comp=Z,2.2nm,0.6s,baz=327,slow=2.4,SNR=2.6
ZALV Zalesovo Beam 58.27 38 P **P** **05 50 37.5 -0.3**
ZALV Zalesovo Beam 58.27 38 P **P** **05 50 37.5 -0.3**
BC3 Big Chuckawall 58.32 284 P **P** **05 50 39.8 +1.1**
baz=39,SNR=17
BELC Belle Mtn. Jos 58.34 285 P **P** **05 50 40.4 +1.6**
baz=39,SNR=19
ISA Isabella, Lake 58.35 288 P **P** **05 50 40.4 +1.6**
baz=39,SNR=7.0
ISA Isabella, Lake 58.35 288 P **P** **05 50 39.7 +0.9**
ISA pmax pmax
comp=Z,43nm,1.4s
ISA Isabella, Lake 58.35 288 P **P** **05 50 39.7 +0.9**
ISA IAmb IAmb 05 50 46.4
comp=Z,43nm,1.4s
ISA IAMs_20 IAMs_20 06 15 00.8
comp=Z,3µm,18.0s
MOTC Monteria, Cord 58.40 231 *e*P **P** **05 50 39.7 +0.5**
GLA Glamis 58.46 283 P **P** **05 50 40.9 +1.4**
baz=39,SNR=20
GLA Glamis 58.46 283 IAMs_20 IAMs_20 06 15 08.8
comp=Z,4µm,19.0s
PAMC Pamplona, Colo 58.48 228 *e*P **P** **05 50 38.3 -2.0**
VES Vestal, Richgr 58.53 288 P **P** **05 50 41.5 +1.6**
baz=39,SNR=15
BBRC Big Bear Solar 58.62 285 P **P** **05 50 43.2 +2.3**
baz=39
LCBC Los crdobas, 58.63 232 ‖ *e*P **P** **05 50 42.0 +1.2**
EDW2 Edwards Air Fo 58.70 287 P **P** **05 50 43.1 +1.9**
baz=39,SNR=18
KURK Kurchatov 58.72 44 P **P** **05 50 41.0 -0.1**
KURK Kurchatov 58.72 44 *ce*P **P** **05 50 40.9 -0.1**
KURK pmax pmax
comp=Z,13nm,0.6s
KURK Kurchatov 58.72 44 P **P** **05 50 40.9 -0.1**
KURBB Kurchatov Arra 58.76 44 P **P** **05 50 40.0 -1.3**
XPFO Pion Flat 58.88 285 IAMs_20 IAMs_20 06 14 59.0
comp=Z,4µm,21.0s
PFO Pinyon Flats O 58.88 285 P **P** **05 50 43.6 +1.0**
baz=39,SNR=22
PFO Pinyon Flats O 58.88 285 P **P** **05 50 43.4 +0.8**
PFO pmax pmax
comp=Z,31nm,1.0s
PFO Pinyon Flats O 58.88 285 P **P** **05 50 43.4 +0.8**
PFO Pinyon Flats O 58.88 285 IAMs_20 IAMs_20 06 14 59.0
comp=Z,4µm,21.0s
TPFO Pinon Flats 58.89 285 P **P** **05 50 43.4 +0.8**
baz=39,SNR=24
PIX Pinacate 58.89 281 IAMs_20 IAMs_20 06 14 44.2
comp=Z,3µm,19.0s
TAMC Tame, Arauca 58.94 226 *e*P **P** **05 50 44.1 +1.1**
BFSC Mount Baldy Ra 59.03 286 P **P** **05 50 45.1 +1.5**
baz=39,SNR=5.4
SWSC Sam W. Stewart 59.05 284 P **P** **05 50 44.8 +1.2**
baz=39,SNR=21
BRRC Barranca, Sant 59.09 229 ‖ *e*P **P** **05 50 43.0 -1.0**
PAGB Antelope Grade 59.21 289 IAMs_20 IAMs_20 06 15 38.6
comp=Z,4µm,18.0s
ZARC Zaragoza, Cauc 59.22 230 *e*P **P** **05 50 43.4 -1.5**
MWC Mount Wilson 59.25 286 P **P** **05 50 45.4 +0.2**
MWC pmax pmax
comp=Z,41nm,1.3s
MWC Mount Wilson 59.25 286 P **P** **05 50 45.4 +0.2**
MWC IAMs_20 IAMs_20 06 15 12.6
comp=Z,4µm,19.0s
CAPC Capurgana 59.25 233 ‖ *e*P **P** **05 50 44.5 -0.6**
UREC San Jos de Ur 59.27 231 *e*P **P** **05 50 45.0 -0.2**
MURC Murrieta 59.28 285 P **P** **05 50 47.1 +1.9**
baz=39
PASC Pasadena Art C 59.35 286 IAMs_20 IAMs_20 06 15 15.4
comp=Z,3µm,20.0s
MCPB Macapa, AP 59.41 202 *e*P **P** **05 50 45.9 -0.2**
MONP2 Monument Peak 59.42 284 P **P** **05 50 48.2 +1.7**
baz=39,SNR=20
IKP In-Ko-Pah, Jac 59.45 284 P **P** **05 50 48.3 +1.8**
baz=39,SNR=15
MATN Matagalpa 59.46 244 IAmb IAmb 05 50 47.7
comp=Z,19nm,1.2s
RMX La Rumorosa 59.47 284 IAmb IAmb 05 51 04.6
comp=Z,34nm,1.4s
RMX IAMs_20 IAMs_20 06 15 48.8
comp=Z,2µm,20.0s
HSIG 59.53 277 IAMs_20 IAMs_20 06 15 48.3
comp=Z,3µm,18.0s
BAR Barrett 59.72 284 IAmb IAmb 05 50 54.8
comp=Z,27nm,1.1s
BAR IAMs_20 IAMs_20 06 15 14.2
comp=Z,3µm,22.0s
CCIG Comitan 59.74 252 IAMs_20 IAMs_20 06 15 29.5
comp=Z,3µm,21.0s
GEYT Alibeck 59.78 66 P **P** **05 50 49.4 +0.7**
comp=Z,10nm,0.9s,baz=294,slow=8.0,SNR=11
GEYT LR LR 06 17 16.9
comp=Z,966nm,20.8s,baz=290,slow=37
GEYT Alibeck 59.78 66 P **P** **05 50 49.6 +0.9**
109C Camp Elliot, M 59.78 285 IAMs_20 IAMs_20 06 15 29.9
comp=Z,4µm,21.0s
ESJX Sierra Juarez 59.86 283 IAMs_20 IAMs_20 06 16 04.0
comp=Z,3µm,18.0s
SDPT Sand Point 59.87 328 IAMs_20 IAMs_20 06 19 02.6
comp=Z,2µm,18.0s
BCIP Isla Barro Col 59.88 236 *e*P **P** **05 50 49.8 +0.3**
MTO3 Montecristo 59.91 248 P **P** **05 50 49.3 -0.6**
MTO3 IAmb IAmb 05 51 04.9
comp=Z,18nm,1.1s
PTBC PUERTO BERRIO, 59.91 229 ‖ *e*P **P** **05 50 49.3 -0.4**
ACON Acoyapa 59.92 243 P **P** **05 50 49.6 -0.2**
ACON IAmb IAmb 05 50 55.5
comp=Z,35nm,1.4s
RUSC La Rusia 59.94 227 *e*P P 05 50 45.8 -4.7
ZAIG Zacatecas 59.95 266 P **P** **05 50 50.2 -0.1**
ZAIG IAmb IAmb 05 51 08.6
comp=Z,30nm,1.5s
SEY Seymchan 60.03 357 *i* P **P** **05 50 51.6 +1.7**
SFX San Felipe 60.04 281 IAMs_20 IAMs_20 06 15 31.7
comp=Z,3µm,20.0s
TJX Tijuana 60.05 284 IAMs_20 IAMs_20 06 15 07.0
comp=Z,3µm,21.0s
CIS Catalina Islan 60.07 286 P **P** **05 50 51.9 +1.3**
baz=38
DBBC Dabeiba 60.21 231 ⇑ *e*P **P** **05 50 52.6 +0.8**
YAK Yakutsk 60.28 9 *e*P **P** **05 50 51.7 +0.1**
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.5s
CCX Cicese 60.35 283 IAMs_20 IAMs_20 06 16 16.9
comp=Z,2µm,19.0s
SPX San Pedro Mart 60.36 282 IAMs_20 IAMs_20 06 15 41.1
comp=Z,3µm,21.0s
SPBC San Pablo de B 60.56 228 *e*P **P** **05 50 54.2 0.0**
ROSB Rosrio 60.62 192 *e*P **P** **05 50 55.0 +0.6**
TMAB Tom-Au,PA,Br 60.65 197 *e*P **P** **05 50 55.1 +0.5**
UNM Universidad Na 60.92 260 IAMs_20 IAMs_20 06 18 39.7
comp=Z,2µm,21.0s
PTGC Puerto Gaitan, 61.12 226 ‖ *e*P **P** **05 50 57.4 -0.5**
CBOC Ciudad Bolivar 61.17 230 *e*P **P** **05 50 58.7 +0.2**
AZU Azuero 61.29 236 *e*P P 05 50 45.8 -13
MALB Monte Alegre 61.32 204 *e*P **P** **05 50 59.1 -0.1**
CHIC Chingaza 61.35 227 *e*P **P** **05 50 57.7 -2.3**
ROSC El Rosal 61.40 228 P **P** **05 51 01.1 +0.9**
comp=Z,48nm,1.0s,baz=24,slow=5.3,SNR=37
ROSC LR LR 06 15 06.6
comp=Z,412nm,21.8s,baz=13,slow=34
ROSC El Rosal 61.40 228 ‖ *e*P **P** **05 51 01.1 +0.9**
ROSC El Rosal 61.40 228 P **P** **05 51 01.9 +1.7**
GUY2C Guyana, Caldas 61.48 229 ‖ *e*P **P** **05 51 00.8 -0.1**
BTLS Baital 61.49 50 *e*P **P** **05 51 00.0 -0.1**
comp=Z,26nm,2.3s
BTLS Baital 61.49 50 *e*P **P** **05 51 00.0 -0.1**
BTLS pmax pmax
comp=Z,26nm,2.3s
KK31 Karatay Array 61.53 54 *i* P **P** **05 51 00.5 +0.1**
KK31 Karatay Array 61.53 54 IAmb IAmb 05 51 08.9
comp=Z,36nm,1.5s
KKAR Karatay Array 61.53 54 P **P** **05 51 00.5 +0.1**
KKAR Karatay Array 61.53 54 P **P** **05 51 00.5 +0.1**
KKAR Karatay Array 61.53 54 IAmb IAmb 05 51 08.9
comp=Z,36nm,1.5s
SRIG Santa Rosalia 61.56 277 IAMs_20 IAMs_20 06 17 00.3
comp=Z,3µm,19.0s

RREF El Recreo 61.76 229 ‖ eP P 05 50 58.6 -4.4
VILC Villavicencio, 61.81 227 eP P 05 51 01.8 -0.9
TOLC Tolima 62.04 229 eP P 05 51 04.8 +0.4
TLIG Tlapa 62.05 259 P P 05 51 04.3 -0.1
TLIG IAmb IAmb 05 51 10.6
comp=Z,27nm,1.3s
TLIG IAMs_20 IAMs_20 06 20 31.6
comp=Z,2μm,19.0s
IUG luzhnay 62.08 55 eP P 05 51 04.1 -0.2
comp=Z,31nm,1.9s
IUG luzhnay 62.08 55 eP P 05 51 04.1 -0.2
IUG pmax pmax
comp=Z,31nm,1.9s
PLMC San Jos del P 62.15 230 ‖ eP P 05 51 04.6 -0.3
ANIL Santa Ana 62.16 229 ‖ eP P 05 51 06.6 +1.3
BOD Bodaibo 62.30 19 eP P 05 51 03.4 -2.0
BOD pmax pmax
comp=Z,34nm,1.9s
ORTC Ortega, Tolima 62.62 229 ‖ eP P 05 51 07.8 -0.2
PRAC Prado 62.65 228 ‖ eP P 05 51 08.2 0.0
DGZ Jazzator, Alta 62.72 39 d iP P 05 51 08.9 +0.4
DGZ pmax pmax
comp=Z,46nm,2.1s
YOTC Yotoco, Valle 63.00 230 eP P 05 51 07.8 -2.9
SGDS Sogindy 63.02 51 eP P 05 51 10.6 0.0
comp=Z,17nm,1.8s
SGDS Sogindy 63.02 51 eP P 05 51 10.5 0.0
SGDS pmax pmax
comp=Z,17nm,1.8s
MAKZ Makanchi 63.20 44 P P 05 51 11.2 -0.4
MAKZ pmax pmax
comp=Z,38nm,1.5s
MAKZ Makanchi 63.20 44 P P 05 51 11.2 -0.4
MK31 Makanchi Array 63.33 44 ce P P 05 51 12.8 +0.4
MK31 Makanchi Array 63.33 44 IAmb IAmb 05 51 16.6
comp=Z,7.9nm,0.7s
MKAR Makanchi Array 63.33 44 P P 05 51 12.4 0.0
comp=Z,9.3nm,0.7s,baz=335,slow=6.0,SNR=28
MKAR LR LR 06 18 55.4
comp=Z,555nm,18.5s,baz=312,slow=36
MKAR Makanchi Array 63.33 44 P P 05 51 12.0 -0.4
MKAR Makanchi Array 63.33 44 P P 05 51 12.0 -0.4
KUU Kurty 63.38 50 eP P 05 51 12.7 -0.2
comp=Z,61nm,2.1s
KUU Kurty 63.38 50 eP P 05 51 12.6 -0.2
KUU pmax pmax
comp=Z,61nm,2.1s
FRU1 Bishkek 63.55 51 IAMs_20 IAMs_20 06 18 08.4
comp=Z,2μm,20.0s
AAK Ala-Archa 63.63 52 i P P 05 51 16.1 +1.5
SNR=11
AAK Ala-Archa 63.63 52 P P 05 51 15.8 +1.2
AAK Ala-Archa 63.63 52 ce P P 05 51 14.8 +0.2
AAK pmax pmax
comp=Z,34nm,1.1s
MACC Macarena, Meta 63.66 226 eP P 05 51 13.3 -1.6
ZSN Zaisan 63.73 42 eP P 05 51 15.1 +0.1
comp=Z,66nm,2.8s
ZSN Zaisan 63.73 42 eP P 05 51 15.1 +0.1
ZSN pmax pmax
comp=Z,66nm,2.8s
BETC Betania 63.81 228 eP P 05 51 15.6 -0.4
MARP Paez Belalcaza 63.87 229 eP P 05 51 16.6 -0.1
ITTB Itaituba 64.09 205 eP P 05 51 17.6 -0.1
BTK Batken 64.12 56 IAMs_20 IAMs_20 06 18 51.6
comp=Z,2μm,19.0s
AAA Alma-Ata 64.18 50 eP P 05 51 18.4 +0.3
AAA Alma-Ata 64.18 50 eP P 05 51 18.4 +0.3
MACA Manacapuru-AM 64.18 211 eP P 05 51 18.6 +0.3
MDOK Medeo 64.27 50 eP P 05 51 18.7 -0.1
MDOK Medeo 64.27 50 eP P 05 51 18.7 -0.1
GARC Garzon, Huila 64.28 228 ‖ eP P 05 51 16.4 -2.9
TNSS Tian-Shan 64.33 50 eP P 05 51 19.3 -0.3
TNSS Tian-Shan 64.33 50 eP P 05 51 19.2 -0.3
BOOM Boomskoye usch 64.36 51 P P 05 51 20.5 +1.0
BOOM pmax pmax
comp=Z,35nm,1.1s
BOOM Boomskoye usch 64.36 51 P P 05 51 20.5 +1.0
BOOM IAMs_20 IAMs_20 06 18 09.0
comp=Z,2μm,19.0s
POPC Popayan, Colom 64.44 229 ‖ eP P 05 51 19.2 -1.1
CHGR Chuyangaron 64.50 58 P P 05 51 20.4 +0.1
PCON Cinco Dias 64.52 229 ‖ eP P 05 51 21.3 0.0
PRPB Parauapebas 64.66 198 eP P 05 51 21.5 +0.1
KPKS Kokpek 64.69 48 eP P 05 51 21.7 +0.2
comp=Z,53nm,1.8s
KPKS Kokpek 64.69 48 eP P 05 51 21.7 +0.2
KPKS pmax pmax
comp=Z,53nm,1.8s
GAR Garm 64.75 57 IAMs_20 IAMs_20 06 21 36.4
comp=Z,3μm,21.0s
SOTA Rioblanco 64.78 229 eP P 05 51 22.6 -0.2
FLOC Florencia 64.89 228 ‖ eP P 05 51 21.5 -1.6
SATY Saty 64.92 49 eP P 05 51 23.5 +0.5
comp=Z,30nm,2.0s
SATY Saty 64.92 49 eP P 05 51 23.5 +0.5
SATY pmax pmax
comp=Z,30nm,2.0s
UZB Uzynbulak 65.09 48 eP P 05 51 23.9 -0.3
comp=Z,26nm,2.0s
UZB Uzynbulak 65.09 48 eP P 05 51 23.9 -0.3
UZB pmax pmax
comp=Z,26nm,2.0s
MOY Mondy 65.12 29 eP P 05 51 24.6 +0.4
MOY pmax pmax
comp=Z,78nm,2.2s
BBAC Balboa, Cauca 65.15 230 eP P 05 51 23.8 -1.1
KDJ Kajisay 65.18 50 P P 05 51 23.7 -1.1
KDJ pmax pmax
comp=Z,24nm,1.1s
KDJ Kajisay 65.18 50 P P 05 51 23.7 -1.1
KDJ IAmb IAmb 05 51 33.6
comp=Z,24nm,1.1s
KDJ IAMs_20 IAMs_20 06 18 34.8
comp=Z,2μm,20.0s
TARG Taragay, Kyrgy 65.77 50 P P 05 51 28.3 -0.7
TARG IAMs_20 IAMs_20 06 19 04.3
comp=Z,2μm,19.0s
TLY Talaya 65.79 28 LR LR 06 22 09.6
comp=Z,370nm,19.9s,baz=346,slow=38
TLY Talaya 65.79 28 eP P 05 51 28.3 -0.1
TLY pmax pmax
comp=Z,30nm,1.1s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 65.79 28 P P 05 51 26.8 -1.6
TLY IAmb IAmb 05 51 34.7
comp=Z,11nm,1.0s
PTLC Puerto Leguiza 65.84 227 ‖ eP P 05 51 30.5 +1.4
GCUF Volcan Galeras 65.91 230 ‖ eP P 05 51 30.1 -0.1
PUAC Puerto Asis, P 66.20 228 eP P 05 51 31.1 -0.3
NPGB Novo Progresso 66.59 204 eP P 05 51 33.7 -0.2
H10N2 ASCENSION HYDR 66.70 160 T T 07 03 33.7
baz=350,slow=75,SNR=50
H10N3 ASCENSION HYDR 66.71 160 T T 07 03 34.6
baz=350,slow=75,SNR=63
H10N1 ASCENSION HYDR 66.72 160 T T 07 03 34.1
baz=350,slow=75,SNR=63
KSH Kashi 66.83 53 P P 05 51 37.1 +1.7
KSH S S 06 00 22.8 -4.9
KSH pmax pmax
comp=Z,56nm,1.4s
KSH LR LR
comp=Z,1μm,14.9s
KSH LR LR
comp=Z,860nm,14.5s
KSH LR LR
comp=Z,530nm,11.9s
ZAK Zakamensk 66.89 29 eP P 05 51 35.4 -0.2
ZAK pmax pmax
comp=Z,12nm,1.8s
SMTB Santa Maria do 66.95 195 eP P 05 51 36.0 -0.1
CUSE Cuicocha Este 67.18 230 eP P 05 51 37.7 -0.5
OTAV Otavalo 67.26 230 eP P 05 51 38.7 0.0
OTAV Otavalo 67.26 230 P P 05 51 38.5 -0.2
OTAV pmax pmax
comp=Z,38nm,1.4s
OTAV Otavalo 67.26 230 P P 05 51 38.5 -0.2
OTAV Otavalo 67.26 230 eP P 05 51 38.2 -0.6
PAC1 Pacto, Paraso 67.38 231 eP P 05 51 37.0 -2.1
H10S3 ASCENSION HYDR 67.76 160 T T 07 04 58.4
baz=230,slow=74,SNR=44
H10S2 ASCENSION HYDR 67.77 160 T T 07 04 58.2
baz=350,slow=74,SNR=35
KBL Kabul 67.79 61 P P 05 51 41.2 -0.5
KBL pmax pmax
comp=Z,23nm,1.2s
KBL MLR MLR
comp=Z,1μm,20.0s
KBL Kabul 67.79 61 P P 05 51 41.1 -0.5
KBL IAmb IAmb 05 51 50.0
comp=Z,23nm,1.1s
WMQ Urumqi 67.86 42 eP P 05 51 43.1 +1.3
WMQ pP pwP 05 51 50.1 +2.8
WMQ S S 06 00 40.9 +1.1
WMQ pmax pmax
comp=Z,18nm,1.3s
WMQ pmax pmax
comp=Z,240nm,4.1s
WMQ LR LR
comp=Z,800nm,16.1s
WMQ LR LR
comp=Z,520nm,17.5s
WMQ LR LR
comp=Z,440nm,20.7s
WMQ Urumqi 67.86 42 P P 05 51 42.9 +1.1
WMQ pmax pmax
comp=Z,38nm,1.2s
WMQ Urumqi 67.86 42 P P 05 51 42.9 +1.1
ZEA Zeya 68.20 12 eP P 05 51 46.8 +3.1
ZEA pmax pmax
comp=Z,20nm,1.0s
BANOM Banah 68.38 76 P P 05 51 45.7 +0.4
MSFE Esma-Masafi 68.77 76 P P 05 51 46.3 -1.4
UOSS Minazif 69.12 76 i P P 05 51 49.0 -0.9
SNR=8.0
UOSS Minazif 69.12 76 P P 05 51 48.7 -1.2
UOSS P P 05 51 48.7 -1.2
UOSS Minazif 69.12 76 P P 05 51 48.8 -1.0
UOSS Minazif 69.12 76 IAMs_20 IAMs_20 06 24 39.9
comp=Z,1μm,21.0s
HATD Hatta, Dubai 69.18 76 i P P 05 51 49.5 -0.8
SNR=12
HATD Hatta, Dubai 69.18 76 P P 05 51 49.5 -0.8
SNR=14
HATD P P 05 51 49.5 -0.8
SNR=14
ASHO Ashiyiah 69.26 77 P P 05 51 49.8 -1.0
PETK Petropavlovsk- 69.60 353 P P 05 51 52.6 +0.3
comp=Z,2.2nm,0.8s,baz=45,slow=8.8,SNR=4.4
PETK LR LR 06 23 16.3
comp=Z,695nm,19.6s,baz=17,slow=37
PET Petropavlovsk 69.61 352 IAMs_20 IAMs_20 06 21 06.6
comp=Z,1μm,21.0s
SOHO SOHO 69.96 77 P P 05 51 54.2 -0.8
SOHO SOHO 69.96 77 P P 05 51 53.4 -1.6
SONM Songino Array 70.03 28 P P 05 51 55.6 +0.3
comp=Z,12nm,0.8s,baz=322,slow=6.1,SNR=27
SONM Songino Array 70.03 28 P P 05 51 54.5 -0.8
SONM pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 70.03 28 P P 05 51 54.5 -0.8
SDBA SAO DESIDERIO 70.10 192 eP P 05 51 54.4 -1.4
ULN Ulaanbaatar 70.17 27 P P 05 51 56.4 +0.3
ULN P P 05 51 56.4 +0.3
ULN Ulaanbaatar 70.17 27 ce P P 05 51 56.7 +0.5
ULN pmax pmax
comp=Z,103nm,2.5s
ULN Ulaanbaatar 70.17 27 P P 05 51 56.9 +0.7
PEXB Peixe 70.24 196 eP P 05 51 57.1 +0.4
SAML Samuel 70.40 211 eP P 05 51 54.5 -3.2
SAML Samuel 70.40 211 P P 05 51 56.5 -1.1
SAML pmax pmax
comp=Z,16nm,1.4s
SAML Samuel 70.40 211 P P 05 51 56.5 -1.1
SAML IAmb IAmb 05 51 57.6
comp=Z,16nm,1.4s
SAML Samuel 70.40 211 eP P 05 51 56.2 -1.5
NIL Nilore 70.49 58 P P 05 51 57.7 -0.5
NIL P P 05 51 57.7 -0.5
NIL Nilore 70.49 58 P P 05 51 58.7 +0.5
NIL pmax pmax
comp=Z,46nm,1.1s
NIL MLR MLR
comp=Z,2μm,20.0s
NIL Nilore 70.49 58 P P 05 51 58.7 +0.5
NIL Nilore 70.49 58 IAMs_20 IAMs_20 06 25 23.6
comp=Z,2μm,20.0s
SNDB Serra Nova Dou 70.59 199 eP P 05 51 58.9 +0.1
HOQ Hoqain 70.82 76 P P 05 51 58.2 -2.1
SNR=11
HOQ P P 05 51 58.2 -2.1
SNR=11
GDU01 Guandu, BA 70.93 186 eP P 05 51 59.6 -1.2
BIDO Bidbid 71.30 76 P P 05 52 01.7 -1.5
SNR=11
BIDO P P 05 52 01.7 -1.5
SNR=11
BSY Bisya 71.44 77 P P 05 52 02.3 -1.8
SNR=7.4
BSY P P 05 52 02.3 -1.8
SNR=7.4
SMDO Samad 71.63 76 P P 05 52 03.5 -1.9
SNR=9.2
SMDO P P 05 52 03.5 -1.9
SNR=9.2
WSAR Wadi Sarin 71.79 75 P P 05 52 08.6 +2.4
SNR=5.2
SKR Severo-Kuril's 72.11 354 pmax pmax
comp=Z,600nm,5.0s
SKR pmax pmax
comp=Z,400nm,5.8s
SKR MLR MLR
comp=Z,800nm,15.0s
SKR MLR MLR
comp=Z,800nm,18.0s
ETMB Extrema 72.11 214 eP P 05 52 06.1 -1.9
JMDO Jabal Madar 72.22 76 P P 05 52 07.3 -1.5
SNR=6.4
JMDO P P 05 52 07.3 -1.5
SNR=6.4
CZSB Cruzeiro do Su 72.32 221 eP P 05 52 07.5 -1.8
JANB Januaria 72.65 191 eP P 05 52 10.8 -0.5
FURI Furi 72.85 100 IAMs_20 IAMs_20 06 26 18.5
comp=Z,1μm,20.0s
MHTO MHTO 73.28 77 P P 05 52 12.9 -2.1
SNR=11
MHTO P P 05 52 12.9 -2.1
SNR=11
VILB Vilhena 73.43 207 eP P 05 52 16.7 +0.8
WHFO Wadi Hawf 73.56 82 P P 05 52 15.0 -1.8
SNR=12
BDFB Brasilia 73.68 195 P P 05 52 16.9 -0.5
comp=Z,9.3nm,0.8s,baz=349,slow=2.6,SNR=13
BDFB LR LR 06 19 53.9
comp=Z,389nm,19.1s,baz=332,slow=32
BDFB Brasilia 73.68 195 P P 05 52 17.7 +0.3
BDFB pmax pmax
comp=Z,19nm,1.0s
BDFB Brasilia 73.68 195 P P 05 52 17.6 +0.3
BDFB IAmb IAmb 05 52 24.9
comp=Z,19nm,1.0s
ABTO Aybut 73.77 83 P P 05 52 18.0 0.0
SNR=10
ABTO P P 05 52 18.0 0.0
SNR=10
RBK Rabkut 74.13 82 P P 05 52 19.2 -1.0
SNR=13
RBK P P 05 52 19.2 -1.0
SNR=13
ARAG Araguaiana, MT 74.33 199 eP P 05 52 21.5 +0.4
NAN01 Guarapari, ES 75.06 187 eP P 05 52 25.3 +0.1
PTLB Pontes e Lacer 75.58 206 eP P 05 52 28.3 0.0
GTA Gaotai 75.91 36 ⇑P P 05 52 30.2 -0.1
GTA pP pwP 05 52 35.7 -0.2
GTA sP PcP 05 52 38.2 -4.5
GTA S S 06 02 12.8 +0.1
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,230nm,6.7s
GTA LR LR
comp=Z,510nm,20.4s
GTA LR LR
comp=Z,700nm,19.6s
GTA LR LR
comp=Z,680nm,19.3s
SJMB Sao Joao De Ma 75.98 188 eP P 05 52 30.4 -0.1
IPMB Ipameri, GO 76.01 195 eP P 05 52 30.5 -0.3
YSS Yuzh-Sakhalins 76.08 3 eP P 05 52 32.8 +1.9
YSS e*SP pwP 05 52 38.9 +2.5
YSS e 05 52 45.8
YSS e 05 55 30.2
YSS eS S 06 02 18.6 +4.7
YSS ePS PnS 06 02 45.7 -4.3
YSS eSSS SSS 06 10 29.0
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=E,800nm,17.0s
YSS MLR MLR
comp=Z,800nm,17.0s
BSFB Barra de Sao F 76.09 187 eP P 05 52 30.9 -0.2
RIB01 Linhares ES 76.54 187 eP P 05 52 34.0 +0.3
MBAR Mbarara 76.77 113 IAMs_20 IAMs_20 06 27 13.8
comp=Z,2μm,19.0s
BTO Baotou 77.72 28 eP P 05 52 39.1 -1.3
CN2 Changchun 77.72 16 eP P 05 52 40.6 +0.4
CN2 pmax pmax
comp=Z,10.0nm,0.5s
NNA Nana 77.76 224 ce P P 05 52 39.9 -0.8
NNA pmax pmax
comp=Z,27nm,1.2s
HHC Hu-ho-hao-te 77.87 27 eP P 05 52 41.9 +0.7
HHC pmax pmax
comp=Z,25nm,1.7s
HHC pmax pmax
comp=Z,640nm,9.2s
HHC LR LR
comp=Z,400nm,15.1s
HHC LR LR
comp=Z,460nm,16.2s
HHC LR LR
comp=Z,410nm,13.4s
ITRB Iturama 78.01 196 eP P 05 52 42.8 +0.9
USA0B Ussuriysk Arra 78.13 11 IAmb IAmb 05 52 55.0
comp=Z,24nm,1.4s
USRK Ussuriysk Ar. 78.13 11 P P 05 52 42.2 -0.3
comp=Z,2.5nm,0.8s,baz=12,slow=4.5,SNR=8.1
USRK LR LR 06 28 38.0
comp=Z,367nm,18.0s,baz=354,slow=37
USRK Ussuriysk Ar. 78.13 11 P P 05 52 40.2 -2.3
USRK Ussuriysk Ar. 78.13 11 P P 05 52 40.2 -2.3
SOCY Socotra 78.40 86 P P 05 52 42.1 -2.3
SOCY IAmb IAmb 05 52 49.8
comp=Z,23nm,1.1s
BSCB Bom Sucesso 78.57 191 eP P 05 52 44.6 -0.5
LPAZ La Paz 78.81 214 P P 05 52 46.8 -0.3
comp=Z,4.4nm,1.0s,baz=22,slow=5.9,SNR=11
LPAZ LR LR 06 25 49.3
comp=Z,234nm,19.8s,baz=358,slow=34
LPAZ La Paz 78.81 214 eP P 05 52 45.2 -1.9
LPAZ La Paz 78.81 214 P P 05 52 47.0 -0.1
LPAZ pmax pmax
comp=Z,13nm,1.3s
LPAZ La Paz 78.81 214 P P 05 52 47.0 -0.1
LPAZ La Paz 78.81 214 eP P 05 52 47.0 -0.1
BB19B Bebedouro 79.09 194 eP P 05 52 48.2 +0.3
BJI Beijing 79.69 23 P P 05 52 51.9 +0.8
BJI pmax pmax
comp=Z,15nm,2.0s
BJI LR LR
comp=Z,490nm,6.3s
BJI LR LR
comp=Z,550nm,5.6s
VAS01 Vassouras-RJ 79.71 190 eP P 05 52 52.1 +0.9
PCMB Pacaembu 80.02 197 eP P 05 52 53.5 +0.6
LZH Lanzhou 80.22 34 eP P 05 52 54.0 -0.3
LZH pP pP 05 52 57.3 +0.4
LZH sP pwP 05 52 59.7 -0.2
LZH pmax pmax
comp=Z,25nm,1.2s
LZH LR LR
comp=Z,860nm,11.9s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,1μm,15.5s
TRCB Terra Rica 81.41 198 eP P 05 53 00.8 +0.5
SPB Sao Paulo 81.44 193 P P 05 53 00.9 +0.5
SPB IAmb IAmb 05 53 08.9
comp=Z,17nm,1.0s
SPB Sao Paulo 81.44 193 eP P 05 53 00.9 +0.5
FRTB Fartura 81.47 195 eP P 05 53 01.2 +0.6
MNMC Minye Minye 81.94 214 IAmb IAmb 05 53 16.9
comp=Z,29nm,1.2s
GO01 Chusmiza 82.32 214 IAmb IAmb 05 53 06.8
comp=Z,34nm,1.2s
PB08 IPOC Station P 82.75 214 IAmb IAmb 05 53 12.7
comp=Z,25nm,1.1s
PTGB Pitanga 83.20 197 eP P 05 53 09.8 0.0
XAN Xi'an 83.60 31 P P 05 53 11.5 -0.5
XAN pmax pmax
comp=Z,22nm,1.3s
XAN pmax pmax
comp=Z,940nm,4.9s
PB01 IPOC Station P 83.70 214 IAmb IAmb 05 53 21.0
comp=Z,35nm,1.5s
KSRS Korea Array 84.30 15 P P 05 53 15.4 +0.1
comp=Z,12nm,0.9s,baz=350,slow=5.4,SNR=18
KSAR Wonju Array Be 84.31 15 P P 05 53 14.3 -1.1
KSAR Wonju Array Be 84.31 15 P P 05 53 14.3 -1.1
CD2 Chengdu 84.98 36 eP P 05 53 18.4 -0.6
CD2 pmax pmax
comp=Z,20nm,0.8s
LVC Limon Verde 85.01 213 P P 05 53 20.0 +0.7
LVC pmax pmax
comp=Z,75nm,1.4s
LVC Limon Verde 85.01 213 P P 05 53 20.0 +0.7
LVC Limon Verde 85.01 213 eP P 05 53 19.3 0.0
SHL Shillong 85.54 48 IAMs_20 IAMs_20 06 31 47.4
comp=Z,1μm,20.0s
CPUP Villa Florida 85.72 201 P P 05 53 22.1 -0.2
comp=Z,5.0nm,0.7s,baz=19,slow=5.6,SNR=15
CPUP LR LR 06 26 51.9
comp=Z,406nm,21.9s,baz=7.0,slow=32
CPUP Villa Florida 85.72 201 IAmb IAmb 05 53 21.6
comp=Z,32nm,1.5s
MJAR Matsushiro Arr 86.26 7 P P 05 53 26.0 +0.8
comp=Z,0.8nm,0.2s,baz=129,slow=10.0,SNR=4.5
MJAR Matsushiro Arr 86.26 7 P P 05 53 26.0 +0.8
MJAR pmax pmax
comp=Z,4.0nm,1.3s
MJAR Matsushiro Arr 86.26 7 IAmb IAmb 05 53 34.5
comp=Z,4.1nm,1.3s
TSUM Tsumeb 87.19 133 IAMs_20 IAMs_20 06 28 22.2
comp=Z,1μm,22.0s
NJ2 Nanjing 87.95 23 eP P 05 53 33.1 -0.4
NJ2 pmax pmax
comp=Z,20nm,0.5s
LSZ Lusaka 88.27 122 IAMs_20 IAMs_20 06 33 53.8
comp=Z,2μm,19.0s
KMI Kunming 89.99 39 ⇑P P 05 53 43.3 -0.2
KMI pP pwP 05 53 48.4 -0.7
KMI sP sP 05 53 50.2 +3.1
KMI pmax pmax
comp=Z,18nm,1.5s
KMI pmax pmax
comp=Z,250nm,6.7s
KMI LR LR
comp=Z,1μm,29.4s
KMI LR LR
comp=Z,750nm,16.9s
KMI LR LR
comp=Z,740nm,24.6s
GYA Guiyang 90.04 35 ⇑P P 05 53 43.7 +0.2
GYA pmax pmax
comp=Z,22nm,1.6s
CMAR Chiang Mai Arr 94.72 45 P P 05 54 04.7 -0.5
comp=Z,0.6nm,0.4s,baz=336,slow=6.3,SNR=2.6
QIZ Qiongzhong 97.99 35 P P 05 54 18.4 -1.5
QIZ S S 06 05 43.7 -2.9
QIZ LR LR
comp=Z,580nm,8.4s
QIZ LR LR
comp=Z,700nm,13.6s
QIZ LR LR
comp=Z,610nm,6.5s
KULM Kulim 107.37 49 IAMs_20 IAMs_20 06 47 60.0
comp=Z,603nm,18.0s
MPSI Mapaga 118.67 31 PKP PKiKP 05 59 34.1 +2.2
MPSI PKP pPKPdf 05 59 34.3 -0.3
MPSI PKP sPKPdf 05 59 35.3 -0.3
PPT2 Papeete2 118.78 283 eLR LR 06 35 56.7
comp=Z,2μm,23.2s,baz=21
TBI Tubuai 123.42 279 eLR LR 06 38 03.2
comp=Z,1μm,27.2s

VNA1	Neumayer--Stat	128.88	170	PKPdf	PKPdf	05 59 49.5	-0.1
VNA2	Neumayer--Watz	129.23	169	PKPdf	PKPdf	05 59 49.7	-0.5
VNA3	Neumayer Olymp	129.32	170	PKPdf	PKPdf	05 59 50.1	-0.4
SNAA	Sanae	130.43	168	PKPdf	PKPdf	05 59 52.5	-0.1
SNAA	Sanae	130.43	168	PKIKP	PKPdf	05 59 52.2	-0.4
SNAA	Sanae	130.43	168	PKPdf	PKPdf	05 59 52.1	-0.4
NVL	N'lazarevskaya	131.71	162	ePKIKP	PKiKP	05 59 57.0	+1.1
NVL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BELA	Belgrano 2	134.91	180		PKPdf	06 00 00.4	-0.4
FITZ	Fitzroy Crossi	137.84	31	PKP	PKPdf	06 00 05.8	-2.2
	comp=Z,1.3nm,1.0s,baz=182,slow=7.2,SNR=1.6						
FITZ	Fitzroy Crossi	137.84	31		PKPdf	06 00 06.6	-1.4
WB0	Warramunga Arr	141.44	19	PKPdf	PKPdf	06 00 13.7	-0.9
WRA	Warramunga Arr	141.60	19	PKP	PKPdf	06 00 14.0	-0.9
	comp=Z,2.1nm,0.9s,baz=346,slow=2.6,SNR=12						
WRA	Warramunga Arr	141.60	19	PKIKP	PKPdf	06 00 13.4	-1.5
WRA	Warramunga Arr	141.60	19		PKPdf	06 00 13.3	-1.5
WR2	Warramunga Arr	141.61	19	IAMs_20	IAMs_20	07 00 47.6	
	comp=Z,1µm,22.0s						
WR0	Warramunga Arr	141.66	19		PKPdf	06 00 14.5	-0.4
DZM	Mont Dzumac	141.97	329	eLR	LR	06 46 41.1	
	comp=Z,2µm,23.1s						
CTA	Charters Tower	142.85	1	PKP	PKPdf	06 00 14.5	-2.6
	comp=Z,2.2nm,0.9s,baz=18,slow=9.6,SNR=2.3						
MAW	Mawson	142.94	141	PKP	PKPdf	06 00 14.7	-1.0
	comp=Z,7.6nm,1.1s,baz=300,slow=7.4,SNR=7.7						
MAW	Mawson	142.94	141	PKIKP	PKPdf	06 00 16.4	+0.7
MAW	Mawson	142.94	141	PKPdf	PKPdf	06 00 16.4	+0.7
AS31	Alice Springs	145.16	21		PKPbc	06 00 19.1	-1.5
ASAR	Alice Springs	145.16	21	PKPbc	PKPbc	06 00 19.8	-0.8
	comp=Z,28nm,0.9s,baz=343,slow=2.8,SNR=134						
QSPA	South Pole Qui	147.18	180		PKPdf	06 00 23.1	0.0
EIDS	Eidsvold	147.95	352	PKPdf	PKPdf	06 00 26.5	+0.9
FORT	Forrest	150.51	34	PKPdf	PKPdf	06 00 29.5	-0.1
FORT					PKPbc	06 00 34.7	-0.2
URZ	Urewera	152.43	301	PKPbc	PKPbc	06 00 37.7	-1.5
	comp=Z,12nm,0.7s,baz=139,slow=4.0,SNR=6.9						
URZ	Urewera	152.43	301		PKPdf	06 00 33.6	+1.3
URZ				PKPab	PKPab	06 00 50.6	+1.2
BKZ	Black Stump Fm	153.44	300	IAMs_20	IAMs_20	07 02 18.4	
	comp=Z,844nm,20.0s						
STKA	Stephens Creek	154.35	10	PKPbc	PKPbc	06 00 42.0	-1.6
	comp=Z,3.6nm,0.7s,baz=202,slow=2.8,SNR=2.8						
STKA	Stephens Creek	154.35	10	PKIKP	PKPdf	06 00 32.7	-2.5
STKA	Stephens Creek	154.35	10		PKPdf	06 00 32.7	-2.5
OXZ	Oxford	158.78	300	IAMs_20	IAMs_20	07 11 34.8	
	comp=Z,743nm,19.0s						
VNDA	Vanda	159.01	189	PKP	PKPdf	06 00 38.2	-1.7
	comp=Z,2.1nm,1.1s,baz=274,slow=2.2,SNR=5.4						
VNDA				PKPab	PKPab	06 01 17.4	+0.8
	comp=Z,3.2nm,1.0s,baz=159,slow=5.5,SNR=4.8						
VNDA	Vanda	159.01	189	PKIKP	PKPdf	06 00 38.0	-1.9
VNDA	Vanda	159.01	189	PKPdf	PKPdf	06 00 38.0	-1.9
VNDA					PKPab	06 01 17.6	+1.0

TEH **12** *05:43:04.5,34.16N×51.22E,h12km,ML3.8*
THR **12** *05:43:04.8±0.7,34.18N×51.17E,h24km±7km,ML3.9*
ISC 12 05:43:04.1±0.8,34.16N±0.02×51.07E±0.02,h10km,n74,
σ1§01/77,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHVR	GHOM	0.37	30	ePg	Pg	05 43 12.0	+0.5
GHVR				IAML		05 43 18.9	
	comp=E,9µm,0.5s						
GHVR	GHOM	0.37	30	ePg	Pg	05 43 12.0	+0.5
QAM	Ghamsar	0.50	142	ePg	Pg	05 43 13.7	-0.3
IQOM	Qom	0.68	360	ePg	Pg	05 43 18.1	+0.7
IQOM				eSg	Sb	05 43 28.2	+0.3
KRSH	Karshahi	0.90	102	ePg	Pg	05 43 20.0	-1.6
IKLH	Kolahrood	0.94	153	ePg	Pg	05 43 21.6	-0.7
IKLH				e		05 43 34.7	
ASAO	Ashtian	0.95	294	ePg	Pn	05 43 24.1	+0.3
ASAO	Ashtian	0.95	294	ePg	Pn	05 43 24.1	+0.3
IVRN	Varamin	0.99	33	ePg	Pg	05 43 22.6	-0.7
KHMZ	Khomeyn	1.02	246	ePg	Pn	05 43 25.1	+0.4
KHMZ				eSg	Sn	05 43 39.7	+0.6
KHMZ	Khomeyn	1.02	246	ePg	Pn	05 43 25.1	+0.4
IHSB	Hasanabad	1.28	7	ePg	Pn	05 43 28.5	+0.2
IHSB				e		05 43 28.9	
IPIR	Pirpir	1.48	186	ePg	Pg	05 43 32.2	-0.4
IPIR				e		05 43 57.2	
TEH	Tehran	1.59	9	ePg	Pn	05 43 33.6	+1.0
IDMV	Damavand	1.62	29	ePg	Pn	05 43 33.1	+0.1
IDMV				e		05 43 56.2	
DAMV	Damavand	1.64	27	ePg	Pn	05 43 33.3	0.0
DAMV	Damavand	1.64	27	ePg	Pn	05 43 33.3	0.0
IZEF	Zefreh	1.64	140	ePg	Pn	05 43 33.5	+0.2
IZEF				e		05 43 56.2	
HAGD	Aghdareh	1.73	293	ePn	Pg	05 43 37.4	+0.1
HAGD				e		05 44 15.5	
CHTH	Charan	1.74	1	ePg	Pb	05 43 36.1	-0.3
CHTH	Charan	1.74	1	ePg	Pb	05 43 36.1	-0.3
THKV	Tehran--Karaj	1.76	355	ePg	Pn	05 43 35.9	+1.0
THKV				eSg	Sb	05 43 59.2	+0.4
THKV				IAML		05 44 02.4	
	comp=N,1µm,0.4s						
THKV	Tehran--Karaj	1.76	355	ePg	Pn	05 43 35.9	+1.0
ROKH	ROKH	1.81	181	ePg	Pb	05 43 37.8	+0.3
BMDN	Meydan	1.93	256	ePn	Pg	05 43 41.6	+0.4
BMDN				e		05 44 14.8	
IGAR	Gharneh	1.93	155	ePn	Pb	05 43 39.1	-0.5
JHBN	Jahan bin	1.95	190	ePn	Pn	05 43 41.4	-0.3
JHBN				e		05 44 15.4	
QABG	Abgarm-Qazvin	1.97	322	ePn	Pb	05 43 40.1	-0.2
ILAS	Lasjerd	1.98	51	ePn	Pn	05 43 37.8	-0.1
ILAS				e		05 44 07.0	
IFIR	Firoozkooh	2.02	43	ePn	Pn	05 43 39.1	+0.5
HSAM	Samen	2.05	272	ePn	Pg	05 43 42.9	-0.5
HSAM				e		05 44 17.1	
QALM	Alamut, Qazvin	2.29	351	ePn	Pb	05 43 45.1	-0.7
IPRN	Peran	2.32	26	ePn	Pn	05 43 44.8	+2.2
IPRN				e		05 44 19.2	
IKMR	Kamar-syah	2.33	255	ePn	Pg	05 43 47.9	-0.9
IKMR				e		05 44 30.9	
IALA	Alasht	2.39	36	ePn	Pn	05 43 45.3	+1.7
IALA				e		05 44 21.7	
ANAR	Anarak	2.42	113	ePn	Pn	05 43 44.2	+0.3
IDOB	Doab	2.43	262	ePn	Pg	05 43 50.4	-0.4
ISHM	Shahmirzad	2.45	47	ePn	Pn	05 43 44.5	0.0
IALM	Almabolaq	2.50	287	ePn	Pg	05 43 50.7	-1.3
HSRG	Sareghieh	2.54	296	ePn	Pb	05 43 50.9	+0.9
IRAM	Ramesheh	2.59	154	ePn	Pb	05 43 49.5	-1.3
IBZA	Bozab	2.67	278	ePn	Pg	05 43 54.5	-0.9
IBZA				e		05 44 37.4	
IANJ	Anjilo	2.68	60	ePn	Pn	05 43 47.1	-0.5
IANJ				e		05 44 38.9	
IKFM	Kafar-mosalman	2.76	258	ePn	Pb	05 43 53.7	+0.2
QSDN	Sirdan	2.81	327	ePn	Pb	05 43 52.9	-1.6
IKOM	Komasi	2.95	271	ePn	Pb	05 43 57.0	0.0
IKOM				e		05 44 49.3	
ISAD	Sadrabad	3.14	135	ePn	Pn	05 43 55.8	+1.9
KLNJ	Kolanjah	3.17	172	ePn	Pn	05 43 57.4	+2.9
IGLO	Ghaloghah	3.25	43	ePn	Pn	05 43 56.3	+0.9
IGLO				e		05 45 09.8	
ICHK	Chekchek	3.39	123	ePn	Pn	05 43 58.3	+1.0
ICHK				e		05 44 59.1	
YZKH	Yazd	3.44	120	ePn	Pn	05 43 58.9	+1.0
YZKH	Yazd	3.44	120	ePn	Pn	05 43 58.9	+1.0
ILIN	Lien	3.48	284	ePn	Pb	05 44 04.1	-1.8
IVIS	Veis	3.51	277	ePn	Pb	05 44 03.8	-2.7
IDHR	Dehrash	3.91	279	ePn	Pb	05 44 10.5	-2.8
IMEH	Mehriz	4.07	132	ePn	Pn	05 44 07.6	+1.0
IBAF	Bafgh	4.57	123	ePn	Pn	05 44 15.0	+1.5
TNSJ	Nastanj	4.60	91	ePn	Pn	05 44 13.6	-0.3
TPRV	Parvadeh(Tabas	4.82	102	ePn	Pn	05 44 17.3	+0.4
TABS	Tabas	5.05	94	ePn	Pn	05 44 20.8	+0.7
TABS	Tabas	5.05	94	ePn	Pn	05 44 20.8	+0.7
TKDS	Koohdasht(Taba	5.06	95	ePn	Pn	05 44 20.8	+0.6
SBZV	Sabzevar	5.79	66	ePn	Pn	05 44 30.6	+0.3
KHGB	Koh Gabri	5.93	128	ePn	Pn	05 44 34.3	+2.0
GHIR	Ghir-Karzin	6.08	164	ePn	Pn	05 44 35.2	+0.9
GHIR	Ghir-Karzin	6.08	164	ePn	Pn	05 44 35.2	+0.9
ISFR	Sfrayin	6.34	61	ePn	Pn	05 44 38.4	+0.5
ITEG	Tejag	6.53	99	ePn	Pn	05 44 41.4	+0.9
IKOO	Kooshah	6.87	102	ePn	Pn	05 44 45.7	+0.6
BSRN	Basiran	7.11	106	ePn	Pn	05 44 48.4	+0.1
BSRN	Basiran	7.11	106	ePn	Pn	05 44 48.4	+0.1
SHRT	Shahrakht	7.68	91	ePn	Pn	05 44 56.7	+0.5
SHRT	Shahrakht	7.68	91	ePn	Pn	05 44 56.7	+0.5
IMYA	Miami	7.70	71	ePn	Pn	05 44 57.1	+0.6

IDC **12** *05:43:17.3±0.5,57.32N×33.28W,h0km,mb4.3/31, mb1 4.4/34,mb1mx4.3/49,mbtmp4.3/34,ML3.5/3,Error ellipse: s-maj=13.9km s-min=11.2km az=178.0*
NEIC **12** *05:43:19.2±1.2,57.37N±0.07×33.2W±0.1,h10km±1km, mb4.8/70,Error ellipse: s-maj=12.6km s-min=11.6km az=162.0*
ISC 12 05:43:19.1±0.3,57.40N±0.06×33.26W±0.05,h10km,n127,
σ1§32/121,mb4.7/58,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	7.28	306	Pn	Pn	05 45 05.8	+0.4
ANGG	Ammassalik, Gr	8.50	348	Pn	Pn	05 45 23.3	+1.2
ANGG				Sn	Sn	05 46 52.1	-5.9
BORG	Borgarnes	9.35	33	Pn	Pn	05 45 34.8	+1.1
	1.2nm,0.3s,baz=218,slow=7.7,SNR=2.7						
BORG				Sn	Sn	05 47 21.9	+3.2
	0.7nm,0.3s,baz=76,slow=23,SNR=1.5						
BORG	Borgarnes	9.35	33		Pn	05 45 33.7	0.0
SUMG	Summit	15.39	354	Pn	Pn	05 46 56.0	-0.3
DSB	Dublin	15.80	94	Pn	Pn	05 46 59.0	-2.4
DRLN	Deer Lake	16.55	251	Pn	Pn	05 47 09.3	-1.7
EKA	Eskdalemuir Ar	16.74	84	Pn	Pn	05 47 12.1	-1.3
	baz=288,slow=12,SNR=4.2						
H07N1	FLORES T-PHASE	17.78	175	T	T	06 05 15.4	
SCHQ	Schefferville	18.79	276	P	P	05 47 36.2	-2.1
	0.4nm,0.3s,baz=80,slow=15,SNR=1.7						
GBN	Guysborough	21.14	248	P	P	05 48 04.1	+0.1
GBN				IAmb	IAmb	05 48 21.7	
	comp=Z,73nm,1.4s						
BATG	Bathurst New B	22.24	257	P	P	05 48 17.5	+1.7
BATG				IAmb	IAmb	05 48 27.8	
	comp=Z,44nm,1.3s						
LMN	Caledonia Moun	22.52	253	P	P	05 48 17.9	-0.8
LMN				IAmb	IAmb	05 48 28.3	
	comp=Z,28nm,1.0s						
NOA	NORSAR Array B	22.70	62	P	P	05 48 20.8	+0.1
	comp=Z,2.6nm,0.9s,baz=281,slow=9.6,SNR=6.0						
HAL	Halifax	22.73	249	P	P	05 48 20.8	-0.2
D62A	Allapoint, All	23.95	260	P	P	05 48 33.8	+0.6
E63A	Oxbow	24.03	258	P	P	05 48 34.2	+0.2
HFS	Hagfors	24.10	64	P	P	05 48 34.4	-0.1
	comp=Z,7.0nm,0.8s,baz=285,slow=8.1,SNR=3.9						
G62A	West of Eustis	25.94	258	P	P	05 48 53.3	+1.9
G62A				IAmb	IAmb	05 49 12.1	
	comp=Z,26nm,1.2s						
ESBB	Sonseca Array	25.97	120	P	P	05 48 52.6	+0.8
ESDC	Sonseca Array	25.97	120	P	P	05 48 51.6	-0.1
	comp=Z,9.4nm,1.1s,baz=312,slow=7.5,SNR=6.4						
ESDC	Sonseca Array	25.97	120	P	P	05 48 50.8	-0.9
SPITS	Spitsbergen Ar	26.49	21	P	P	05 48 58.1	+2.0
	comp=Z,5.2nm,0.9s,baz=202,slow=11,SNR=2.1						
CLL	Collm	27.20	83	e(P)	P	05 49 06.0	+3.4
ARCES	ARCESS Array B	27.65	40	P	P	05 49 06.2	-0.3
	comp=Z,3.9nm,0.9s,baz=284,slow=15,SNR=2.9						
TUE	Stuetta	27.99	94	P	P	05 49 11.8	+1.8
TUE				IAmb	IAmb	05 49 19.4	
	comp=Z,23nm,1.3s						
FINES	FINESS Array B	29.54	57	P	P	05 49 23.8	+0.4
	comp=Z,1.9nm,0.8s,baz=287,slow=7.1,SNR=1.9						
ZOU	Zoufplan	29.89	91	P	P	05 49 27.0	+0.1
ZOU				IAmb	IAmb	05 49 39.1	
	comp=Z,14nm,1.1s						
SADO	Sadowa	30.84	266	P	P	05 49 35.5	+0.4
	comp=Z,4.0nm,0.8s,baz=33,slow=9.5,SNR=1.9						
SADO	Sadowa	30.84	266	IAmb	IAmb	05 49 37.9	
	comp=Z,28nm,1.4s						
MDT	Midelt	31.40	129	P	P	05 49 40.6	+0.4
	comp=Z,9.3nm,1.1s,baz=328,slow=13,SNR=3.2						
E46A	Sault Ste Mari	32.62	273	P	P	05 49 52.5	+1.9
PSZ	Piszkesteto	32.80	83	P	P	05 49 52.6	+0.2
PSZ				IAmb	IAmb	05 49 57.5	
	comp=Z,9.0nm,0.9s						
O56A	Blue Knob Stat	33.63	259	P	P	05 50 01.2	+1.6
O56A				IAmb	IAmb	05 50 08.5	
	comp=Z,15nm,1.1s						
KEST	Kesra	35.61	109	P	P	05 50 17.8	+1.1
	comp=Z,20nm,1.1s,baz=61,slow=1.8,SNR=3.7						
KEST	Kesra	35.61	109	P	P	05 50 18.1	+1.3
KEST				IAmb	IAmb	05 50 24.0	
	comp=Z,21nm,1.1s						
BUR08	Bucovina Ar. S	35.81	80	P	P	05 50 17.0	-1.4
BURAR	Bucovina Array	35.84	80	P	P	05 50 18.8	+0.1
PDG	Podgorica	35.99	91	P	P	05 50 24.1	+4.3
AKASG	Malin Array Be	36.10	73	P	P	05 50 19.9	-0.9
	comp=Z,7.7nm,0.8s,baz=306,slow=8.4,SNR=6.4						
N49A	Columbus Grove	36.17	265	P	P	05 50 21.7	+0.2
N49A				IAmb	IAmb	05 50 29.8	
	comp=Z,17nm,0.9s						
CLTB	Caltabellotta	36.22	103	P	P	05 50 21.6	-0.4
ULM	Lac du Bonnet	36.44	286	P	P	05 50 23.4	-0.2
	comp=Z,5.0nm,0.8s,baz=19,slow=4.9,SNR=3.0						
ULM	Lac du Bonnet	36.44	286	P	P	05 50 23.8	+0.2
ULM				IAmb	IAmb	05 50 25.0	
	comp=Z,30nm,1.4s						
S51A	Beattyville	38.22	261	P	P	05 50 39.1	+0.2
YKA	Yellowknife Ar	38.51	313	P	P	05 50 40.6	-0.4
	comp=Z,2.8nm,0.8s,baz=46,slow=3.6,SNR=3.0						
ALN	Alexandroupoli	40.73	88	P	P	05 50 59.6	-0.1
ALN				IAmb	IAmb	05 51 04.7	
	comp=Z,20nm,1.1s						
WVT	Waverly	41.62	263	P	P	05 51 11.3	+4.2
DGMT	Dagmar	41.82	289	P	P	05 51 09.5	+0.8
INK	Inuvik	41.87	327	P	P	05 51 09.7	+0.9
	comp=Z,4.3nm,0.9s,baz=78,slow=7.9,SNR=1.7						
INK	Inuvik	41.87	327	IAmb	IAmb	05 51 12.0	
	comp=Z,11nm,1.1s						
LAO	LASA Array	44.02	289	P	P	05 51 27.7	+1.0
IDI	Anoyia	44.17	94	P	P	05 51 27.0	-0.9
	comp=Z,8.6nm,0.9s,baz=277,slow=8.1,SNR=2.5						
IDI	Anoyia	44.17	94	P	P	05 51 27.3	-0.6
IDI				IAmb	IAmb	05 51 32.1	
	comp=Z,18nm,1.1s						
KSU1	Kansas State U	44.19	274	P	P	05 51 29.3	+1.4
Y45A	Yeager Farm, C	44.24	263	P	P	05 51 29.4	+1.0
ILGA	Ilgaz	44.75	81	P	P	05 51 32.7	+0.1
ILGA				IAmb	IAmb	05 51 40.1	
	comp=Z,23nm,1.2s						
ANTO	Ankara	45.09	83	P	P	05 51 35.7	+0.5
BMAR	Burnt Mountain	45.60	330	P	P	05 51 39.7	+0.8
BR131	Keskin Array S	45.65	83	P	P	05 51 39.6	-0.1
BR131				IAmb	IAmb	05 51 45.9	
	comp=Z,13nm,1.4s						
BRTR	Keskin Array B	45.65	83	P	P	05 51 40.9	+1.1
	comp=Z,4.5nm,1.0s,baz=310,slow=6.0,SNR=5.3						
BRTR	Keskin Array B	45.65	83	P	P	05 51 40.1	+0.4
NRIK	Noril'sk	46.56	25	P	P	05 51 46.6	+0.3
	comp=Z,2.9nm,0.8s,baz=314,slow=9.4,SNR=2.3						
YNE	Yellowstone No	47.11	290	P	P	05 51 51.6	+0.4
BOZ	Bozeman (W)	47.52	291	P	P	05 51 55.4	+1.1
BOZ				IAmb	IAmb	05 52 00.8	
	comp=Z,12nm,1.1s						
BCAR	Beaver Creek A	47.92	324	P	P	05 51 58.5	+1.5
IL31		48.19	328	P	P	05 51 59.4	+0.4
IL31				IAmb	IAmb	05 52 08.7	
	comp=Z,6.2nm,0.8s						
ILAR	Eielson Array	48.19	328	P	P	05 51 59.5	+0.4
	comp=Z,4.6nm,0.8s,baz=36,slow=5.7,SNR=4.1						
ILAR				PcP	PcP	05 53 28.6	+2.4
	comp=Z,1.4nm,0.7s,baz=0.4,slow=2.4,SNR=6.5						
ILAR	Eielson Array	48.19	328	P	P	05 51 59.8	+0.7
ILAR					PcP	05 53 27.7	+1.6
PDAR	Pinedale Array	48.45	287	P	P	05 52 00.6	-1.1
	comp=Z,5.0nm,0.9s,baz=67,slow=6.2,SNR=5.8						
PDAR	Pinedale Array	48.45	287	P	P	05 52 00.8	-0.9
IMAR	Indian Mountai	49.10	332	P	P	05 52 06.4	+0.3
BWN	Browne	49.37	329	P	P	05 52 08.5	+0.4
HWUT	Hardware Ranch	50.32	287	P	P	05 52 17.0	+1.1
HWUT				IAmb	IAmb	05 52 23.4	
	comp=Z,7.8nm,0.9s						
TIXI	Tiksi	50.63	7	P	P	05 52 18.4	+0.8
BMO	Blue Mountains	50.88	294	P	P	05 52 20.7	+0.7
BMO				IAmb	IAmb	05 52 28.3	
	comp=Z,11nm,0.9s						
PV13	Radium Mtn., P	51.41	282	P	P	05 52 24.9	+0.7
PV13				IAmb	IAmb	05 52 31.1	
	comp=Z,14nm,0.9s						
TORD	Torodi Ar. Bea	51.52	135	P	P	05 52 22.4	-2.5
	comp=Z,2.2nm,0.8s,baz=335,slow=6.1,SNR=5.7						
TORD	Torodi Ar. Bea	51.52	135	P	P	05 52 24.6	-0.3
ABKAR	Akbulak array	52.02	56	P	P	05 52 28.3	0.0
ABKAR	Akbulak array	52.02	56	IAmb	IAmb	05 52 33.8	
	comp=Z,8.0nm,0.8s						
J08A	Circle Bar Ran	52.55	294	P	P	05 52 32.6	+0.1
J08A				IAmb	IAmb	05 52 37.9	
	comp=Z,9.7nm,1.0s						
BRVK	Borovoye	53.57	47	P	P	05 52 40.2	+0.5
MDP	Montagnes des	54.34	204	P	P	05 52 45.5	-0.2
	comp=Z,10nm,0.8s,baz=9.5,slow=9.5,SNR=5.6						
MOD	Modoc Plateau	54.53	294	P	P	05 52 48.2	+1.2
MOD				IAmb	IAmb	05 52 58.7	
	comp=Z,7.2nm,0.9s						
DBIC	Dimbokro	55.25	145	P	P	05 52 52.0	-0.3
	comp=Z,12nm,1.1s,baz=350,slow=11,SNR=2.5						
DBIC	Dimbokro	55.25	145	P	P	05 52 52.7	+0.4
TXAR	Lajitas Array	55.37	271	P	P	05 52 52.7	-0.6
	comp=Z,0.5nm,0.7s,baz=38,slow=6.0,SNR=2.2						
TXAR	Lajitas Array	55.37	271	P	P	05 52 55.0	+1.8
KVN	Kaiserville	55.57	290	P	P	05 52 54.9	+0.3
KVN				IAmb	IAmb	05 53 01.5	
	comp=Z,12nm,0.9s						
PAHR	Pah Rah Range	55.72	291	P	P	05 52 56.0	+0.3
PAHR				IAmb	IAmb	05 53 03.0	
	comp=Z,12nm,1.1s						
TPH	Tonopah	55.86	289	P	P	05 52 56.4	-0.3
NVAR	Mina Array Bea	56.14	290	P	P	05 52 58.7	-0.1
	comp=Z,1.2nm,0.8s,baz=56,slow=4.8,SNR=2.4						
NVAR	Mina Array Bea	56.14	290	P	P	05 52 59.4	+0.6
ZALV	Zalesovo Beam	58.16	38	P	P	05 53 12.7	+0.2
	comp=Z,0.8nm,0.3s,baz=304,slow=10,SNR=2.0						
214A	Organ Pipe Nat	58.24	281	P	P	05 53 13.8	+0.3
GLA	Glamis	58.46	283	P	P	05 53 15.4	+0.3
KURK	Kurchatov	58.62	44	P	P	05 53 15.6	-0.2
KURK				IAmb	IAmb	05 53 20.2	
	comp=Z,6.1nm,0.8s						
PFO	Pinyon Flats O	58.89	285	P	P	05 53 18.3	+0.2
PFO				IAmb	IAmb	05 53 27.6	
	comp=Z,7.7nm,0.8s						
GEYT	Alibeck	59.71	66	P	P	05 53 23.2	-0.5
	comp=Z,3.2nm,0.9s,baz=250,slow=12,SNR=2.4						
GEYT	Alibeck	59.71	66	P	P	05 53 21.9	-1.8
ROSC	El Rosal	61.50	228	P	P	05 53 37.6	+1.1
MK31	Makanchi Array	63.22	44	P	P	05 53 46.9	-0.3
MK31				IAmb	IAmb	05 53 58.1	
	comp=Z,5.6nm,1.1s						
MKAR	Makanchi Array	63.22	44	P	P	05 53 46.7	-0.5
	comp=Z,4.0nm,0.7s,baz=346,slow=4.2,SNR=8.0						
TARG	Taragay, Kyrgy	65.67	50	P	P	05 54 03.6	-0.2
H10N2	ASCENSION HYDR	66.79	160	T	T	07 06 11.2	
	baz=354						
H10N3	ASCENSION HYDR	66.80	160	T	T	07 06 11.3	
	baz=354						
H10N1	ASCENSION HYDR	66.81	160	T	T	07 06 13.4	
	baz=354						
H10S3	ASCENSION HYDR	67.86	160	T	T	07 07 32.2	
H10S2	ASCENSION HYDR	67.87	160	T	T	07 07 32.2	
SONM	Songino Array	69.92	28	P	P	05 54 30.0	-0.1
	comp=Z,4.9nm,0.7s,baz=331,slow=6.6,SNR=11						
SONM	Songino Array	69.92	28	P	P	05 54 30.4	+0.3
ULN	Ulaanbaatar	70.06	27	P	P	05 54 30.4	-0.6
BDFB	Brasilia	73.80	195	P	P	05 54 53.1	-0.5
	comp=Z,4.8nm,0.9s,baz=22,slow=5.4,SNR=3.7						
BDFB	Brasilia	73.80	195	IAmb	IAmb	05 54 57.8	
	comp=Z,5.0nm,0.9s						
USRK	Ussuriysk Ar.	78.02	11	P	P	05 55 17.5	+0.2
	comp=Z,1.4nm,0.7s,baz=16,slow=7.5,SNR=3.0						
PB16	IPOC Station P	81.27	215	P	P	05 55 35.9	+0.1
PB16				IAmb	IAmb	05 55 40.2	
	comp=Z,7.0nm,1.0s						
GO01	Chusmiza	82.43	214	P	P	05 55 41.8	-0.1
GO01				IAmb	IAmb	05 55 46.1	
	comp=Z,8.7nm,0.9s						
PB11	IPOC Station P	82.66	214	P	P	05 55 42.7	0.0
KSRS	Korea Array	84.18	15	P	P	05

JNU	**Nakatsue**	**7.80**	**257**	Pn		**Pn**	**06 02 35.1**	**+0.8**
ASAJ	**Asahikawa**	**9.09**	**12**	P		**Pn**	**06 02 51.6**	**-0.1**
	0.6nm,0.3s,baz=69,slow=28,SNR=1.3							
JKA	**Kamikawa-asahi**	**9.09**	**12**	Pn		**Pn**	**06 02 49.8**	**-1.8**
KSRS	**Korea Array**	**9.94**	**286**	P		**Pn**	**06 03 04.7**	**+1.5**
	0.5nm,0.3s,baz=99,slow=15,SNR=9.2							
USRK	**Ussuriysk Ar.**	**10.83**	**328**	P		**Pn**	**06 03 17.3**	**+2.1**
	baz=101,slow=15,SNR=3.0							
USRK	**Ussuriysk Ar.**	**10.83**	**328**			**Pn**	**06 03 13.2**	**-2.1**
HHC	**Hu-ho-hao-te**	**22.98**	**293**	*e*P		**P**	**06 05 38.7**	**+0.1**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,310nm,6.9s							
SONM	**Songino Array**	**27.86**	**307**	P		**P**	**06 06 21.5**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=115,slow=9.3,SNR=5.4							
SONM	**Songino Array**	**27.86**	**307**	P		**P**	**06 06 22.2**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**28.35**	**116**	T		T	06 36 12.1	
	baz=309,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**28.35**	**116**	T		T	06 36 12.5	
	baz=309,slow=75,SNR=41							
H11N3	**WAKE ISLAND Hy**	**28.36**	**116**	T		T	06 36 13.2	
	baz=309,slow=75,SNR=36							
H11S1	**WAKE ISLAND Hy**	**28.98**	**118**	T		T	06 36 38.7	
	baz=311,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**28.98**	**118**	T		T	06 36 54.1	
	baz=311,slow=75,SNR=16							
H11S2	**WAKE ISLAND Hy**	**28.99**	**118**	T		T	06 36 51.0	
	baz=311,slow=75,SNR=15							
WMQ	**Urumqi**	**40.61**	**298**	*e*P		**P**	**06 08 14.3**	**+2.0**
ZALV	**Zalesovo Beam**	**42.27**	**314**	PcP		**PcP**	**06 10 17.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=130,slow=2.3,SNR=4.3							
MK31	**Makanchi Array**	**44.08**	**303**	P		**P**	**06 08 41.1**	**+0.7**
MKAR	**Makanchi Array**	**44.08**	**303**	P		**P**	**06 08 39.4**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=85,slow=9.7,SNR=16							
MKAR				PcP		**PcP**	**06 10 24.0**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=101,slow=5.1,SNR=1.6							
MKAR	**Makanchi Array**	**44.08**	**303**	P		**P**	**06 08 40.3**	**-0.1**
KURK	**Kurchatov**	**46.12**	**309**	P		**P**	**06 08 56.6**	**+0.3**
KURK				IAmb		IAmb	06 08 59.1	
	comp=Z,6.2nm,0.8s							
MTN	**Manton Dam**	**48.55**	**191**	P		**P**	**06 09 14.6**	**-0.8**
BPAW	**Bear Paw Mtn.**	**49.87**	**32**	P		**P**	**06 09 27.1**	**+2.1**
BPAW				IAmb		IAmb	06 09 34.1	
	comp=Z,5.0nm,1.3s							
PMR	**Palmer**	**50.77**	**36**	P		**P**	**06 09 33.2**	**+1.4**
PMR				IAmb		IAmb	06 09 46.3	
	comp=Z,9.4nm,1.3s							
MDM	**Murphy Dome**	**51.06**	**31**	P		**P**	**06 09 36.2**	**+2.2**
MDM				IAmb		IAmb	06 09 36.7	
	comp=Z,5.1nm,0.8s							
ILAR	**Eielson Array**	**51.64**	**32**	P		**P**	**06 09 38.9**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=271,slow=6.6,SNR=11							
ILAR				pP		**pP**	**06 10 05.6**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=287,slow=6.1,SNR=2.6							
ILAR				PcP		**PcP**	**06 10 49.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=285,slow=3.5,SNR=1.8							
ILAR	**Eielson Array**	**51.64**	**32**	P		**P**	**06 09 39.3**	**+1.0**
KNRA	**Kununurra**	**51.74**	**194**	P		**P**	**06 09 38.8**	**-0.7**
KNRA				IAmb		IAmb	06 09 39.0	
	comp=Z,7.0nm,0.8s							
WB0	**Warramunga Arr**	**54.96**	**186**	P		**P**	**06 10 02.0**	**-1.1**
WB2	**Warramunga Arr**	**55.14**	**186**	P		**P**	**06 10 03.1**	**-1.2**
WR0	**Warramunga Arr**	**55.14**	**186**	P		**P**	**06 10 03.1**	**-1.2**
WR0				IAmb		IAmb	06 10 10.8	
	comp=Z,9.7nm,1.3s							
WRA	**Warramunga Arr**	**55.14**	**186**	P		**P**	**06 10 03.0**	**-1.3**
	comp=Z,3.1nm,0.5s,baz=1.6,slow=7.6,SNR=75							
WRA				PcP		**PcP**	**06 11 03.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=1.1,slow=4.1,SNR=3.1							
WRA	**Warramunga Arr**	**55.14**	**186**	P		**P**	**06 10 02.7**	**-1.6**
INK	**Inuvik**	**56.51**	**26**	P		**P**	**06 10 13.6**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=324,slow=15,SNR=1.7							
INK	**Inuvik**	**56.51**	**26**	P		**P**	**06 10 14.7**	**+1.2**
INK				IAmb		IAmb	06 10 17.9	
	comp=Z,11nm,1.4s							
ABKAR	**Akbulak array**	**58.19**	**311**	P		**P**	**06 10 24.9**	**-0.7**
ABKAR				IAmb		IAmb	06 10 26.2	
	comp=Z,1.5nm,0.8s							
ABKAR	**Akbulak array**	**58.19**	**311**	P		**P**	**06 10 25.9**	**+0.3**
AS31	**Alice Springs**	**58.87**	**186**	P		**P**	**06 10 29.8**	**-0.8**
ASAR	**Alice Springs**	**58.87**	**186**	P		**P**	**06 10 29.6**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=17,slow=12,SNR=30							
ASAR				PcP		**PcP**	**06 11 18.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=0.7,slow=4.5,SNR=2.5							
ASAR	**Alice Springs**	**58.87**	**186**	P		**P**	**06 10 29.0**	**-1.6**
C36M	**Paulatuk**	**59.55**	**24**	P		**P**	**06 10 34.3**	**-0.3**
EIDS	**Eidsvold**	**61.20**	**168**	P		**P**	**06 10 46.6**	**+0.2**
EIDS				IAmb		IAmb	06 11 04.6	
	comp=Z,5.8nm,1.2s							
EUNU	**Eureka**	**62.12**	**8**	P		**P**	**06 10 52.9**	**+0.7**
EUNU				IAmb		IAmb	06 10 56.1	
	comp=Z,7.5nm,1.4s							
ARCES	**ARCESS Array B**	**65.25**	**339**	P		**P**	**06 11 12.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=60,slow=9.9,SNR=3.8							
FORT	**Forrest**	**66.62**	**191**	P		**P**	**06 11 21.1**	**-0.7**
STKA	**Stephens Creek**	**66.79**	**178**	P		**P**	**06 11 22.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=330,slow=6.0,SNR=3.0							
STKA	**Stephens Creek**	**66.79**	**178**	P		**P**	**06 11 22.5**	**-0.3**
MORW	**Morawa**	**67.83**	**203**	P		**P**	**06 11 28.7**	**-0.8**
FINES	**FINESS Array B**	**69.84**	**332**	P		**P**	**06 11 41.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=57,slow=6.8,SNR=7.5							
FINES				pP		**pP**	**06 12 10.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=67,slow=4.7,SNR=1.5							
FINES	**FINESS Array B**	**69.84**	**332**	P		**P**	**06 11 40.8**	**-0.8**
K05A	**Summer Lake**	**73.00**	**50**	P		**P**	**06 12 03.5**	**+2.3**
K05A				IAmb		IAmb	06 12 09.2	
	comp=Z,3.9nm,1.1s							
JTMT	**Jette**	**74.11**	**42**	P		**P**	**06 12 09.4**	**+1.8**
JTMT				IAmb		IAmb	06 12 09.7	
	comp=Z,6.0nm,0.9s							
AKASG	**Malin Array Be**	**74.98**	**322**	P		**P**	**06 12 08.2**	**-4.1**
	comp=Z,0.5nm,0.4s,baz=57,slow=4.9,SNR=6.1							
AKASG	**Malin Array Be**	**74.98**	**322**	P		**P**	**06 12 12.0**	**-0.3**
AKBB	**Malin Array Si**	**74.98**	**322**	P		**P**	**06 12 12.3**	**0.0**
AKBB				IAmb		IAmb	06 12 12.6	
	comp=Z,4.1nm,1.2s							
NC204	**NORSAR Array S**	**75.33**	**337**	P		**P**	**06 12 14.5**	**+0.3**
NOA	**NORSAR Array B**	**75.37**	**337**	P		**P**	**06 12 14.3**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=79,slow=4.4,SNR=2.1							
FFC	**Flin Flon**	**75.85**	**32**	P		**P**	**06 12 18.0**	**+0.8**
FFC				IAmb		IAmb	06 12 31.1	
	comp=Z,16nm,1.5s							
CMB	**Columbia Colle**	**75.88**	**53**	P		**P**	**06 12 19.6**	**+1.8**
WAKR	**Walker**	**76.24**	**53**	P		**P**	**06 12 22.1**	**+2.0**
RYN	**Ryan**	**76.76**	**52**	P		**P**	**06 12 24.9**	**+2.0**
RYN				IAmb		IAmb	06 12 37.6	
	comp=Z,5.2nm,1.4s							
NVAR	**Mina Array Bea**	**77.02**	**52**	P		**P**	**06 12 26.0**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=299,slow=5.2,SNR=16							
NVAR	**Mina Array Bea**	**77.02**	**52**	P		**P**	**06 12 26.3**	**+1.9**
NV11	**Mina Array Sit**	**77.11**	**52**	P		**P**	**06 12 26.6**	**+1.7**
R11A	**Troy Canyon, C**	**78.81**	**51**	P		**P**	**06 12 35.8**	**+1.5**
BRTR	**Keskin Array B**	**79.14**	**311**	P		**P**	**06 12 37.3**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=50,slow=1.2,SNR=1.9							
BRTR	**Keskin Array B**	**79.14**	**311**	P		**P**	**06 12 34.0**	**-2.0**
DUG	**Dugway, Tooele**	**79.43**	**48**	P		**P**	**06 12 39.5**	**+1.9**
DUG				IAmb		IAmb	06 12 40.0	
	comp=Z,4.7nm,1.1s							
PDAR	**Pinedale Array**	**79.77**	**44**	P		**P**	**06 12 39.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=222,slow=0.9,SNR=4.6							
PDAR	**Pinedale Array**	**79.77**	**44**	P		**P**	**06 12 36.9**	**-2.7**
PV14	**Lion Creek, Pa**	**82.86**	**48**	P		**P**	**06 12 57.7**	**+1.7**
PV14				IAmb		IAmb	06 12 58.2	
	comp=Z,6.6nm,1.1s							
GERES	**GERESS Array B**	**83.59**	**328**	P		**P**	**06 12 59.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=46,slow=4.2,SNR=2.6							
GERES	**GERESS Array B**	**83.59**	**328**	P		**P**	**06 12 59.1**	**-0.2**
TXAR	**Lajitas Array**	**92.16**	**52**	P		**P**	**06 13 41.8**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=291,slow=2.7,SNR=8.9							
TXAR	**Lajitas Array**	**92.16**	**52**	P		**P**	**06 13 40.5**	**-0.3**
QSPA	**South Pole Qui**	**124.99**	**180**	PKP		**PKPdf**	**06 19 29.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=297,slow=2.3,SNR=14							
QSPA	**South Pole Qui**	**124.99**	**180**			**PKPdf**	**06 19 29.3**	**-0.3**
LPAZ	**La Paz**	**148.62**	**60**	PKPbc		**PKPbc**	**06 20 19.3**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=315,slow=5.7,SNR=7.7							
LPAZ	**La Paz**	**148.62**	**60**			**PKPbc**	**06 20 18.5**	**-0.2**

IDC ***12*** *06:20:11.0±0.9, 64.85N×17.43W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.5/66, mbtmp3.7/9, ML4.1/1, Error ellipse: s-maj=26.6km s-min=11.5km az=7.0*
REY ***12*** *06:20:12.0, 64.67N×17.45W, h4km*
ISC 12 06:20:11.1±0.8, 64.70N±0.04×17.47W±0.03, h14km±5km,
n41, σ1=83/45, mb3.6/10, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IDYN	**Dyngjuhals**	**0.10**	**26**	P		Pg	06 20 14.9	+0.5
	baz=15							
IDYN				S		**Sg**	**06 20 17.3**	**+0.8**
	baz=15							
IVON	**Vonarskard**	**0.13**	**256**	P		**Pg**	**06 20 14.8**	**+0.1**
	baz=273							
IVON				S		**Sg**	**06 20 17.3**	**+0.2**
	baz=273							
IGRF	**Grimsfjall**	**0.31**	**164**	P		**Pb**	**06 20 17.3**	**-1.2**
	baz=163							
IHUS	**Husbondi**	**0.42**	**191**	P		**Pb**	**06 20 19.5**	**-0.9**
	baz=194							
IHUS				S		**Sg**	**06 20 25.0**	**-0.2**
	baz=194							
ISKR	**Skrokkalda**	**0.42**	**250**	P		**Pb**	**06 20 19.7**	**-0.7**
	baz=256							
IVOT	**Vottur**	**0.45**	**164**	P		**Pb**	**06 20 19.7**	**-1.2**
	baz=164							
IJOK	**Jokulheimar**	**0.51**	**220**	P		**Pb**	**06 20 20.8**	**-1.1**
	baz=224							
IJOK				S		**Sb**	**06 20 28.2**	**-1.0**
	baz=224							
IMKO	**Mokollar**	**0.56**	**60**	P		**Pn**	**06 20 22.3**	**-2.3**
	baz=56							
IMKO				S		**Sb**	**06 20 30.7**	**+0.2**
	baz=56							
ISVA	**Svartarkot**	**0.64**	**8**	P		**Pn**	**06 20 24.1**	**-1.8**
	baz=6.8							
ISVA				S		**Sn**	**06 20 33.8**	**-2.0**
	baz=6.8							
IIEY	**Innrieyrar**	**0.67**	**205**	P		**Pb**	**06 20 23.5**	**-1.1**
	baz=208							
IIEY				S		**Sg**	**06 20 32.6**	**-0.5**
	baz=208							
IKSK	**Karasker**	**0.69**	**141**	P		**Pb**	**06 20 23.3**	**-1.7**
	baz=140							
IVSH	**V-Sauoahnukur**	**0.75**	**81**	P		**Pn**	**06 20 25.2**	**-2.2**
	baz=78							
IVSH				S		**Sn**	**06 20 35.4**	**-3.2**
	baz=78							
IKAL	**Kalfafell**	**0.77**	**187**	P		**Pb**	**06 20 25.1**	**-1.0**
	baz=188							
IVAT	**Vatnsfell**	**0.81**	**231**	P		**Pb**	**06 20 26.2**	**-0.8**
	baz=234							
IADA	**Aoalbol**	**0.87**	**68**	P		**Pn**	**06 20 27.2**	**-1.8**
	baz=65							
IHVE	**Hveravellir**	**0.92**	**281**	P		**Pn**	**06 20 27.9**	**-1.7**
	baz=284							
IHVE				S		**Sn**	**06 20 40.9**	**-1.6**
	baz=284							
IMEL	**Melhnausar**	**0.94**	**21**	P		**Pn**	**06 20 28.8**	**-1.1**
	baz=20							
IREN	**Reynihlio**	**0.98**	**14**	P		**Pn**	**06 20 29.5**	**-0.9**
	baz=13							
IKVO	**Krokottuvotn**	**1.04**	**13**	P		**Pn**	**06 20 30.6**	**-0.8**
	baz=12							
IGRS	**Grimsstaoir**	**1.10**	**31**	P		**Pn**	**06 20 31.5**	**-0.6**
	baz=29							
ISNB	**Snabyli**	**1.10**	**208**	P		**Pb**	**06 20 30.7**	**-1.1**
	baz=210							
ISLY	**Slysaalda**	**1.14**	**220**	P		**Pn**	**06 20 31.6**	**-1.1**
	baz=222							
IFED	**Fedgar**	**1.18**	**236**	P		**Pn**	**06 20 32.6**	**-0.6**
	baz=238							
ISKI	**Skildingahlsh**	**1.19**	**9**	P		**Pn**	**06 20 33.0**	**-0.3**
	baz=8.1							
IGHA	**Grjothals**	**1.19**	**16**	P		**Pn**	**06 20 32.7**	**-0.7**
	baz=15							
IRJU	**Rjupnafell**	**1.21**	**206**	P		**Pb**	**06 20 32.8**	**-1.0**
	baz=208							
IGRA	**Granastaoir**	**1.22**	**358**	P		**Pn**	**06 20 33.3**	**-0.4**
	baz=358							
IMJO	**Mjoaskard**	**1.23**	**232**	P		**Pb**	**06 20 33.2**	**-1.0**
	baz=234							
BORG	**Borgarnes**	**1.66**	**273**	Pg		**Pg**	**06 20 40.1**	**-2.8**
	24nm,0.3s,baz=96,slow=7.8,SNR=58							
BORG				Lg		Lg	06 21 03.5	
	14nm,0.3s,baz=254,slow=22,SNR=11							
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn		**Pn**	**06 23 01.0**	**+2.5**
	baz=320,slow=13,SNR=14							
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P		**P**	**06 25 00.8**	**+2.6**
	7.7nm,1.2s							
	comp=N,311nm,14.4s							
	comp=E,907nm,15.5s							
	comp=Z,1μm,15.9s							
KHC	**Kasperske Hory**	**22.68**	**119**	*e*P		**P**	**06 25 06.0**	**-5.9**
KHC				*ex*		x	06 25 15.0	
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**06 25 17.1**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=327,slow=7.0,SNR=2.8							
ESDC	**Sonseca Array**	**26.28**	**156**	P		**P**	**06 25 48.9**	**+3.0**
	comp=Z,1.1nm,0.9s,baz=350,slow=9.0,SNR=5.2							
BRTR	**Keskin Array B**	**38.48**	**105**	P		P	06 27 35.6	+3.1
	comp=Z,0.9nm,0.9s,baz=329,slow=8.3,SNR=1.6							
ILAR	**Eielson Array**	**45.66**	**332**	P		P	06 28 34.5	+3.9
	comp=Z,0.7nm,0.9s,baz=23,slow=7.1,SNR=6.0							
MKAR	**Makanchi Array**	**52.69**	**58**	P		**P**	**06 29 24.3**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=299,slow=6.5,SNR=2.7							
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P		**P**	**06 29 31.4**	**+3.0**
	comp=Z,0.7nm,0.9s,baz=334,slow=13,SNR=3.4							
PDAR	**Pinedale Array**	**53.17**	**293**	P		P	06 29 31.4	+2.9
	comp=Z,1.0nm,0.9s,baz=52,slow=5.8,SNR=6.0							
TXAR	**Lajitas Array**	**62.29**	**280**	P		P	06 30 35.7	+3.1
	comp=Z,0.5nm,1.0s,baz=33,slow=6.9,SNR=3.8							
KSRS	**Korea Array**	**74.61**	**28**	P		**P**	**06 31 50.4**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=336,slow=6.2,SNR=4.2							

DNK ***12*** *06:20:28.7±2.1, 59.82N×22.38E, h0km±11km, ML2.6*
IDC ***12*** *06:20:29.7±1.8, 59.78N×22.35E, h0km, mb1 3.1/4, mb1mx2.9/57, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=26.1km s-min=8.8km az=158.0*
NAO ***12*** *06:20:29.3±1.1, 59.84N×22.36E, ML2.2*
HEL ***12*** *06:20:29.8±0.1, 59.83N×22.32E, h0km, ML2.2, ML2.7(UPP), Explosion*
BER ***12*** *06:20:30.5±4.2, 59.84N×22.36E, h0km, ML1.8, ML2.7(UPP), Suspected explosion*
UPP ***12*** *06:20:31.1±1.0, 59.83N×22.08E, h0km, ML2.7, Suspected explosion*
ISC 12 06:20:27.9±0.7, 59.85N±0.03×22.39E±0.02, h0km, n73,
σ1=98/100, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**1.07**	**69**	*e*P		**Pb**	**06 20 49.7**	**+0.4**
RAF	**Rauma**	**1.22**	**346**	*e*P		**Pb**	**06 20 51.9**	**+0.1**
RAF				*e*SB		**Sb**	**06 21 08.6**	**+0.5**
AAL	**Aland**	**1.25**	**287**	P		**Pg**	**06 20 51.5**	**-0.3**
AAL				S		**Sg**	**06 21 07.0**	**-0.9**
AAL	**Aland**	**1.25**	**287**	*e*P		**Pg**	**06 20 51.5**	**-0.3**
AAL				*e*S		**Sg**	**06 21 07.3**	**-0.7**
MTSE	**Matsula**	**1.35**	**147**	*e*P		**Pg**	**06 20 54.0**	**+0.3**
MTSE				*e*S		**Sg**	**06 21 11.2**	**+0.1**
ARBE	**Arbavere**	**1.87**	**101**	*e*P		**Pb**	**06 21 03.4**	**+0.6**
ARBE				*e*S		**Sb**	**06 21 28.4**	**+1.7**
PVF	**Pernaja**	**1.87**	**66**	*e*P		**Pb**	**06 21 03.5**	**+0.7**
PVF				*e*S		**Sb**	**06 21 27.8**	**+1.1**
PVF				MSG			06 21 30.6	
	comp=Z,16nm,0.2s							
NRTU	**Norrtaelje**	**1.91**	**267**	P		**Pn**	**06 21 02.4**	**+0.8**
NRTU				S		**Sn**	**06 21 27.6**	**+1.3**
NRTU	**Norrtaelje**	**1.91**	**267**	*e*P		**Pn**	**06 21 02.4**	**+0.8**
NRTU				*e*S		**Sn**	**06 21 27.6**	**+1.3**
NRTU	**Norrtaelje**	**1.91**	**267**	P		**Pn**	**06 21 02.4**	**+0.8**
NRTU				S		**Sn**	**06 21 27.6**	**+1.3**
FORU	**Forsmark**	**2.18**	**286**	P		**Pn**	**06 21 06.8**	**+1.6**
FORU	**Forsmark**	**2.18**	**286**	*e*P		**Pn**	**06 21 06.8**	**+1.6**
FORU	**Forsmark**	**2.18**	**286**	P		**Pn**	**06 21 06.8**	**+1.6**
SLIT	**Slitere, Latvi**	**2.22**	**181**	*e*P		**Pn**	**06 21 07.7**	**+1.8**
SLIT				*e*SG		**Sb**	**06 21 38.6**	**+1.7**
NYNU	**Nynaeshamn**	**2.40**	**251**	P		**Pn**	**06 21 09.7**	**+1.5**
NYNU	**Nynaeshamn**	**2.40**	**251**	*e*P		**Pn**	**06 21 09.7**	**+1.5**
NYNU	**Nynaeshamn**	**2.40**	**251**	P		**Pn**	**06 21 09.7**	**+1.5**
UPP	**Uppsala**	**2.41**	**272**	P		**Pn**	**06 21 09.9**	**+1.5**
UPP	**Uppsala**	**2.41**	**272**	*e*P		**Pn**	**06 21 09.9**	**+1.5**
FIA0	**FINESS Array S**	**2.42**	**47**	Pn		**Pb**	**06 21 12.2**	**0.0**
	baz=227,slow=14							
FIA0				Lg		Lg	06 21 44.3	
	baz=232,slow=28							
FIA0				Rg		Rg	06 22 00.4	
	baz=205,slow=37							
FIA0	**FINESS Array S**	**2.42**	**47**	*e*PB		**Pb**	**06 21 12.3**	**0.0**
FIA0				*e*SG		**Sg**	**06 21 45.0**	**-0.6**
FIA0				MSG			06 21 46.9	
	comp=Z,7.0nm,0.1s							
FIA0	**FINESS Array S**	**2.42**	**47**	Pn		**Pb**	**06 21 12.2**	**0.0**
	baz=227,slow=14							
FIA0				Sg		**Sg**	**06 21 44.3**	**-1.3**
	baz=232,slow=28							
FINES	**FINESS Array B**	**2.42**	**47**	Pn		**Pb**	**06 21 12.2**	**0.0**
	comp=Z,1.7nm,0.3s,baz=228,slow=14,SNR=107							
FINES				Sn		**Sg**	**06 21 44.4**	**-1.2**
	comp=Z,4.5nm,0.3s,baz=234,slow=23,SNR=32							
FIBU	**Brunna**	**2.54**	**273**	P		**Pn**	**06 21 11.8**	**+1.5**
FIBU	**Brunna**	**2.54**	**273**	P		**Pn**	**06 21 11.8**	**+1.5**
KEF	**Keuruu**	**2.62**	**26**	*e*SB		**Sg**	**06 21 50.4**	**-1.7**
KEF				MSG			06 21 52.8	
	comp=Z,8.7nm,0.1s							
VSU	**Vasula**	**2.63**	**120**	Pn		**Pn**	**06 21 14.4**	**+2.9**
VSU				Lg		Lg	06 21 50.5	
VSU	**Vasula**	**2.63**	**120**	*e*P		**Pn**	**06 21 14.3**	**+2.7**
VSU				*e*SG		**Sb**	**06 21 50.8**	**+2.1**
VSU	**Vasula**	**2.63**	**120**	Pn		**Pn**	**06 21 14.4**	**+2.9**
VSU				Sg		**Sb**	**06 21 50.5**	**+1.9**
OSTU	**Oestervaala**	**2.67**	**281**	P		**Pn**	**06 21 13.2**	**+1.3**
OSTU	**Oestervaala**	**2.67**	**281**	*e*P		**Pn**	**06 21 13.2**	**+1.3**
OSTU	**Oestervaala**	**2.67**	**281**	P		**Pn**	**06 21 13.2**	**+1.3**
BACU	**Backbrunna**	**2.67**	**272**	P		**Pn**	**06 21 13.6**	**+1.6**
BACU	**Backbrunna**	**2.67**	**272**	*e*P		**Pn**	**06 21 13.6**	**+1.6**
BACU	**Backbrunna**	**2.67**	**272**	P		**Pn**	**06 21 13.6**	**+1.6**
ARNU	**Arnoeviken**	**3.08**	**309**	P		**Pn**	**06 21 19.4**	**+1.8**
ARNU	**Arnoeviken**	**3.08**	**309**	*e*P		**Pn**	**06 21 19.4**	**+1.8**
ARNU	**Arnoeviken**	**3.08**	**309**	P		**Pn**	**06 21 19.4**	**+1.8**
ESKU	**Eskilstuna**	**3.12**	**261**	P		**Pn**	**06 21 19.7**	**+1.5**
ESKU	**Eskilstuna**	**3.12**	**261**	*e*P		**Pn**	**06 21 19.7**	**+1.5**
ESKU	**Eskilstuna**	**3.12**	**261**	P		**Pn**	**06 21 19.7**	**+1.5**
VIKU	**Vikbolandet**	**3.23**	**248**	P		**Pn**	**06 21 20.6**	**+0.9**
VIKU	**Vikbolandet**	**3.23**	**248**	*e*P		**Pn**	**06 21 20.6**	**+0.9**
VIKU	**Vikbolandet**	**3.23**	**248**	P		**Pn**	**06 21 20.6**	**+0.9**
HEMU	**Hemsoen**	**3.53**	**325**	*e*P		**Pn**	**06 21 26.5**	**+2.6**
NRAU	**Nora**	**3.73**	**269**	P		**Pn**	**06 21 28.1**	**+1.5**
NRAU	**Nora**	**3.73**	**269**	*e*P		**Pn**	**06 21 28.1**	**+1.5**
NRAU	**Nora**	**3.73**	**269**	P		**Pn**	**06 21 28.1**	**+1.5**
HFS	**Hagfors**	**4.38**	**278**	Pn		**Pn**	**06 21 36.3**	**+0.8**
	baz=92,slow=10							
HFS				Sn		**Sn**	**06 22 27.0**	**-0.2**
	baz=101,slow=22							
HFS				Lg		Lg	06 22 42.8	
	baz=104,slow=28							
HFS	**Hagfors**	**4.38**	**278**	Pn		**Pn**	**06 21 36.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=100,slow=11,SNR=36							
HFS				Sn		**Sn**	**06 22 26.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=99,slow=24,SNR=2.5							
HFS				Lg		Lg	06 22 40.4	
	comp=Z,0.9nm,0.3s,baz=103,slow=26,SNR=7.0							
HFS	**Hagfors**	**4.38**	**278**	Pn		**Pn**	**06 21 36.3**	**+0.8**
	baz=92,slow=10							
HFS				Sn		**Sn**	**06 22 27.0**	**-0.2**
	baz=101,slow=22							
HFS				Sg		**Sb**	**06 22 42.8**	**+3.9**
	baz=104,slow=28							
NC602	**NORSAR Array S**	**5.47**	**284**	*e*P		**Pn**	**06 21 51.4**	**+0.9**
NRA0	**NORESS Array S**	**5

E03A Sn 06 25 25.9 -0.3
BLN Blyn Mountain 0.89 351 P Pn 06 25 16.0 0.0
C05A Tolt Reservoir 0.92 52 P Pn 06 25 16.2 -0.3
C05A S Sn 06 25 28.5 -0.5
OSD Olympics--Snow 0.94 318 P Pn 06 25 17.1 +0.3
F04D Rainier, OR 1.06 189 P Pn 06 25 18.0 -0.3
baz=10,SNR=38
F04D S Sn 06 25 32.4 +0.2
baz=10
SVOH Skagit Valley 1.16 4 P Pn 06 25 20.2 +0.7
STW Striped Peak 1.19 329 P Pn 06 25 20.2 +0.3
JCW Jim Creek 1.20 28 P Pn 06 25 20.3 +0.2
B05A Bryant 1.22 22 P Pn 06 25 20.6 +0.3
baz=201,SNR=37
B05A S Sn 06 25 37.6 +1.7
baz=201
F04A Amboy 1.22 169 Pn 06 25 19.6 -0.8
F04A Sn 06 25 35.9 -0.1
OBC Olympics--Boni 1.27 316 P Pn 06 25 21.1 0.0
VGZ Gonzales 1.34 344 P Pn 06 25 21.7 -0.2
VGZ S Sn 06 25 38.1 -0.6
SOKB Sooke 1.40 335 P Pn 06 25 22.3 -0.4
SOKB S Sn 06 25 39.1 -1.2
LTY Liberty 1.44 84 P Pn 06 25 23.0 -0.3
LTY Liberty 1.44 84 06 25 24.1 -0.3
GPW Glacier Peak 1.48 48 P Pn 06 25 24.0 -0.1
F05D White Salmon 1.54 144 P Pn 06 25 24.0 -0.7
baz=325,SNR=112
F05D S Sn 06 25 44.4 +0.7
baz=325
MCW Mount Constitu 1.55 358 P Pn 06 25 25.3 +0.5
RPW Rockport 1.56 32 P Pn 06 25 25.4 +0.4
PA12 PA12 Sannich 1.58 343 P Pn 06 25 25.1 -0.1
PA12 S Sn 06 25 44.0 -0.7
B009 North Saanich 1.59 343 P Pn 06 25 25.1 -0.1
B009 S Sn 06 25 43.9 -0.8
B011 North Saanich 1.59 343 P Pn 06 25 25.1 -0.2
B011 S Sn 06 25 43.9 -0.8
B010 North Saanich 1.59 343 P Pn 06 25 25.1 -0.1
B010 S Sn 06 25 44.0 -0.8
PA03 PA03 Flamable 1.59 344 P Pn 06 25 25.2 0.0
PA03 S Sn 06 25 44.1 -0.6
PA04 PA04 Cage 1.59 344 P Pn 06 25 25.2 -0.1
PA04 S Sn 06 25 44.0 -0.7
PGC Sidney 1.59 343 P Pn 06 25 25.2 0.0
PGC S Sn 06 25 44.1 -0.6
PGC Sidney 1.59 343 Pn 06 25 25.3 0.0
PA02 PA02 Ocean 1.59 343 P Pn 06 25 25.2 -0.1
PA02 S Sn 06 25 44.2 -0.6
A04D Lummi Island 1.59 1 P Pn 06 25 25.8 +0.6
baz=181,SNR=24
A04D S Sn 06 25 45.4 +0.6
baz=181
PA01 PA01 North 1.59 344 P Pn 06 25 25.2 -0.1
PA01 S Sn 06 25 44.1 -0.6
B06A Marblemount 1.63 31 P Pn 06 25 26.1 +0.2
B06A Marblemount 1.63 31 Pn 06 25 26.3 +0.4
SNB Saturna Island 1.67 351 P Pn 06 25 26.8 +0.4
SNB S Sn 06 25 46.1 -0.6
OCP Olym-Cheeka Pk 1.71 314 P Pn 06 25 26.7 -0.3
MBW Mount Baker 1.75 19 P Pn 06 25 28.3 +0.6
GOBB Galiano Island 1.89 345 P Pn 06 25 29.4 +0.1
B926 Mesachie Lake 1.92 332 P Pn 06 25 29.4 -0.4
B926 S Sn 06 25 51.1 -1.8
VDB Vedder Mountai 1.95 13 P Pn 06 25 30.3 +0.2
VDB S Sn 06 25 52.8 -0.7
G03D McMinnville, O 1.95 190 P Pn 06 25 29.9 -0.3
baz=11,SNR=9.8
E07A Sunnyside 2.08 105 Pn Pn 06 25 31.1 -0.9
G05D Wamic, OR 2.14 151 P Pn 06 25 32.8 -0.1
baz=333,SNR=45
NLLB Nanaimo Lost L 2.25 339 P Pn 06 25 34.3 0.0
NLLB S Sn 06 25 59.6 -1.2
MGB Mount Grey 2.27 326 P Pn 06 25 34.5 -0.2
MGB S Sn 06 26 00.0 -1.6
BIB Bowen Island 2.30 351 P Pn 06 25 35.4 +0.4
F07A Phinny Hill Vi 2.32 121 Pn 06 25 34.5 -0.7
B928 Bamfield 2.33 318 P Pn 06 25 34.7 -0.6
B928 S Sn 06 26 00.7 -2.1
BFSB Bamfield 2.33 318 P Pn 06 25 34.7 -0.6
BFSB S Sn 06 26 01.0 -1.8
HAWA Hanford 2.34 107 Pn Pn 06 25 34.6 -0.9
GHNB Nanoose 2.39 336 P Pn 06 25 36.0 -0.1
GHNB S Sn 06 26 02.7 -1.5
HOPB Hope 2.43 21 S Sn 06 26 04.1 -1.2
H04A Detroit Lake 2.48 170 Pn Pn 06 25 36.9 -0.6
B927 Port Alberni 2.50 328 P Pn 06 25 37.4 -0.1
B927 S Sn 06 26 05.3 -1.5
WPB Watts Point 2.54 353 P Pn 06 25 38.4 +0.1
COR Corvallis 2.57 189 Pn 06 25 38.3 -0.4
SHB Sechelt 2.58 344 P Pn 06 25 39.0 +0.2
SHB S Sn 06 26 07.9 -1.1
B012 Ucluelet 2.59 315 S Sn 06 26 06.7 -2.3
OZB Mount Ozzard 2.59 316 P Pn 06 25 38.1 -0.8
OZB S Sn 06 26 06.3 -2.9
H04D Lebanon 2.61 180 P Pn 06 25 40.3 +1.1
SNR=14
B08A Colville Reser 2.62 61 P Pn 06 25 38.0 -1.4
B08A Colville Reser 2.62 61 Pn Pn 06 25 38.6 -0.8
E08A Dider Farm, El 2.63 103 Pn 06 25 38.8 -0.6
D08A Wollman Farm, 2.63 90 Pn Pn 06 25 38.5 -1.0
NCBC Barkley Canyon 2.64 301 S Sn 06 26 09.0 -1.2
TXB Texada 2.80 337 P Pn 06 25 42.0 +0.2
TOFB Tofino 2.92 315 P Pn 06 25 42.6 -0.8
TOFB S Sn 06 26 14.3 -2.9
I05D Terrebonne, OR 2.97 160 P Pn 06 25 43.7 -0.4
baz=341
BTB Buttle Lake 2.97 323 P Pn 06 25 44.2 -0.1
BTB S Sn 06 26 16.8 -2.1
WSLR Whistler 3.00 358 P Pn 06 25 45.2 +0.7
PNT Penticton 3.04 43 P Pn 06 25 45.2 +0.2
C09A Chrisman Ranch 3.12 76 P Pn 06 25 45.1 -1.0
C09A Chrisman Ranch 3.12 76 Pn 06 25 45.1 -1.0
I02D Swisshome 3.12 194 S Sn 06 26 21.8 -0.3
baz=14
NC89 ODP889 3.15 301 S Sn 06 26 21.4 -1.2
G08A Pilot Rock 3.22 123 Pn Pn 06 25 46.0 -1.7
E09A Wood Farm, Sta 3.23 99 Pn 06 25 46.7 -1.0
SPLB Strathcona Par 3.36 326 P Pn 06 25 49.8 +0.4
SPLB S Sn 06 26 26.6 -1.5
CBB Campbell River 3.38 330 P Pn 06 25 49.8 +0.1
CBB S Sn 06 26 26.9 -1.6
GDR Gold River 3.43 322 P Pn 06 25 50.7 +0.4
NC27 ODP1027 3.44 282 P Pn 06 25 47.8 -2.4
I03D Drain, OR 3.46 187 P Pn 06 25 50.8 0.0
baz=7.0
LLLB Lillooet 3.53 9 P Pn 06 25 52.2 +0.4
LLLB S Sn 06 26 31.3 -0.9
PINE Pine Mountain 3.58 158 Pn 06 25 52.0 -0.6
I07A Izee 3.81 142 Pn Pn 06 25 55.5 -0.3
NCRB Newcastle Ridg 3.93 328 P Pn 06 25 58.1 -1.8
WOSB Woss 3.94 322 P Pn 06 25 58.4 +0.9
NEW Newport 3.98 71 P Pn 06 25 56.6 -1.3
baz=255
NEW Newport 3.98 71 Pn 06 25 56.4 -1.6
EDB Eliza Dome 3.99 315 P Pn 06 25 59.2 +1.2
F10A Beach Ranch, E 3.99 105 Pn 06 25 57.6 -0.6
FHRB Fair Harbour 4.11 317 P Pn 06 26 00.6 +1.0
TLCB Telegraph Cove 4.35 323 P Pn 06 26 03.5 +0.7
TLCB S Sn 06 26 50.3 -1.8
MAYB Maynard 4.38 320 P Pn 06 26 04.4 +0.9
BMO Blue Mountains 4.44 119 Pn 06 26 03.8 -0.4
K02D Willamette Mer 4.48 189 P Pn 06 26 04.4 -0.5
baz=8.2
BPBC Brooks Peninsu 4.49 314 P Pn 06 26 05.7 +0.8
HUMO Hull Mountain 4.53 182 Pn Pn 06 26 04.2 -1.3
K05A Summer Lake 4.60 163 Pn Pn 06 26 08.3 +1.6
PHC Port Hardy 4.72 321 P Pn 06 26 09.1 +1.1
PHC S Sn 06 26 59.5 -1.8
J08A Circle Bar Ran 4.84 140 Pn Pn 06 26 09.7 -0.1
L04D Klamath Falls 4.92 176 P Pn 06 26 11.7 +0.7
baz=357
HOLB Holberg 4.99 317 P Pn 06 26 13.1 +1.4
PLID Pearl Lake 5.13 111 Pn 06 26 13.5 -0.4
YBH Yreka Blue Hor 5.40 180 Pn Pn 06 26 17.1 -0.3
0.1nm,0.3s,baz=11,slow=5.2,SNR=1.9
YBH Yreka Blue Hor 5.40 180 Pn 06 26 16.9 -0.6
BSMT Bassoo Peak 5.46 80 P Pn 06 26 16.9 -1.4
FBMT Ferry Basin 5.69 84 P Pn 06 26 20.1 -1.3
JTMT Jette 5.79 81 P Pn 06 26 21.6 -1.3
JTMT Jette 5.79 81 Pn 06 26 21.1 -1.7

MSO Missoula 6.05 90 Pn 06 26 25.0 -1.4
BBB Bella Bella 6.13 328 Pn Pn 06 26 28.9 +1.6
0.7nm,0.3s,baz=155,slow=9.7,SNR=5.7
BBB Sn 06 27 33.5 -2.5
baz=175,slow=11,SNR=2.7
BBB Bella Bella 6.13 328 P Pn 06 26 27.5 +0.1
WALA Waterton Lakes 6.24 69 P Pn 06 26 28.4 -0.5
WALA Waterton Lakes 6.24 69 Pn 06 26 28.9 -0.1
HLID Hailey 6.88 118 Pn Pn 06 26 37.3 -0.5
BCYI Bear Canyon 7.11 110 Pn 06 26 40.0 -1.3
LRM Limekiln Ridge 7.24 97 Pn Pn 06 26 41.0 -1.8
DLMT Dillon 7.27 100 Pn 06 26 39.3 -3.8
MCMT McKenzie Canyo 7.28 105 Pn 06 26 42.8 -0.6
HWKB Hawksbury Isla 7.65 330 P Pn 06 26 48.8 +0.6
BOZ Bozeman (W) 7.86 97 P Pn 06 26 50.6 -0.5
baz=285
BOZ Bozeman (W) 7.86 97 Pn Pn 06 26 50.0 -1.2
YHL Hebgen Lake 8.38 102 Pn 06 26 58.2 -0.2
YHH Holmes Hill 8.63 101 Pn 06 27 01.9 0.0
NVAR Mina Array Bea 9.29 158 Pn Pn 06 27 12.1 +1.2
0.1nm,0.3s,baz=336,slow=15,SNR=3.4
NVAR Pg 06 27 33.4
0.1nm,0.3s,baz=325,slow=11,SNR=5.2
PDAR Pinedale Array 10.33 110 Pn Pn 06 27 28.0 +3.0
0.1nm,0.3s,baz=297,slow=11,SNR=7.1
ILAR Eielson Array 22.00 332 P P 06 29 50.1 +1.9
0.3nm,0.7s,baz=137,slow=9.4,SNR=2.3
TXAR Lajitas Array 23.15 133 P P 06 30 00.2 -0.6
0.4nm,0.6s,baz=325,slow=7.7,SNR=6.3

NEIC ***12*** *06:25:25.0±2.3, 8.°40N±0.°05×83.°04W±0.°01, h10km±1km, mb4.7/187, Error ellipse: s-maj=9.0km s-min=2.8km az=182.0*
UCR ***12*** *06:25:26.6±2.1, 8.°46N×83.°10W, h6km±6km, MD3.4, MW4.8, mb4.7(NEIC), Fault plane solution: NP1: ϕs41.19000°, δ43.96000°, λ-22.18000°.*
IDC ***12*** *06:25:29.8±2.1, 8.°48N×83.°03W, h39km±19km, mb4.1/25, mb1 4.3/32, mb1mx4.3/42, mbtmp4.4/32, ML3.6/6, MS3.8/2, Ms1 3.7/2, ms1mx3.3/24, Error ellipse: s-maj=18.1km s-min=9.6km az=47.0*
INET ***12*** *06:25:42.0, 9.°25N×83.°44W, h15km, ML4.2*
ISC 12 06:25:26.0±0.7, 8.°42N±0.°04×83.°08W±0.°03, h14km±4km, n482, σ1§42/486, mb4.6/107, **7C-10D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.25**	**297**	*eP*		**Pg 06 25 31.3**	**-0.1**
PTJ1				*eS*		**Sg 06 25 36.5**	**+1.5**
CDITO	**Canoas**	**0.25**	**53**	*eP*		**Pb 06 25 31.9**	**-0.5**
CDITO				*eS*		**Sb 06 25 37.1**	**+0.4**
EDSV	**San Vito**	**0.41**	**15**	*i P*		**Pb 06 25 34.9**	**-0.3**
EDSV				*eS*		**Sb 06 25 41.0**	**-0.3**
RIOS	**Rincon, Osa**	**0.51**	**303**	*eP*		**Pg 06 25 35.2**	**-0.9**
BRU2	**Volcan**	**0.53**	**46**	*eP*		**Pb 06 25 37.1**	**-0.2**
EDPN	**Palmar Norte**	**0.66**	**325**	*eP*		**Pg 06 25 38.2**	**-0.7**
EDPN				*i S*		**Sb 06 25 48.0**	**-0.3**
EDBA	**Buenos Aires**	**0.76**	**345**	*i P*		**Pg 06 25 40.6**	**-0.3**
DRK0	**Durika**	**0.85**	**349**	*eP*		**Pb 06 25 41.7**	**-1.1**
DRK0				*eS*		**Sn 06 25 54.2**	**-2.0**
PEZE	**Perez Zeledon,**	**1.12**	**328**	*eP*		**Pb 06 25 46.1**	**-1.2**
CDM	**Cerro de Muert**	**1.31**	**329**	*eP*		**Pn 06 25 48.9**	**-1.5**
RIMA	**Rio Macho**	**1.55**	**330**	*eP*		**Pn 06 25 52.3**	**-1.1**
LCR2	**La Lucha 2**	**1.60**	**325**	*eP*		**Pn 06 25 53.3**	**-0.9**
BATAN	**Batan**	**1.69**	**350**	*eP*		**Pn 06 25 55.8**	**+0.6**
CVTR	**Volcan Turrial**	**1.73**	**337**	*eP*		**Pn 06 25 56.1**	**0.0**
SJS	**Escuela Geolog**	**1.79**	**327**	*eP*		**Pn 06 25 57.5**	**+0.8**
HDC	**Heredia**	**1.87**	**327**	*eP*		**Pn 06 25 57.5**	**-0.4**
HDC	**Heredia**	**1.87**	**327**			**Pn 06 25 58.5**	**+0.6**
HDC					Sn	**Sg 06 25 5**	**-0.9**
JACO	**JACO, Garabito**	**1.99**	**308**	*eP*		**Pn 06 25 58.0**	**-1.4**
SRA1	**San Ramn**	**2.16**	**320**	*eP*		**Pn 06 26 01.8**	**+0.1**
LAFE	**Finca La Fe, P**	**2.27**	**307**	*eP*		**Pn 06 26 03.8**	**+0.6**
FORC	**Fortuna**	**2.57**	**322**	*i P*		**Pn 06 26 08.8**	**+1.5**
CASO	**Castillo**	**2.58**	**321**	*i P*		**Pn 06 26 09.3**	**+1.8**
ARE1	**Arenal 1**	**2.59**	**321**	*eP*		**Pn 06 26 09.0**	**+1.3**
CEDE	**Laguna Cedeo**	**2.60**	**322**	*i P*		**Pn 06 26 08.2**	**+0.3**
JTS	**Las Juntas de**	**2.62**	**315**		Pn	**Pn 06 26 07.9**	**-0.1**
	56nm,0.3s,baz=169,slow=3.8,SNR=190						
JTS					Sn	**Sn 06 26 40.2**	**+0.4**
	74nm,0.3s,baz=228,slow=19,SNR=4.7						
JTS	**Las Juntas de**	**2.62**	**315**			**Pn 06 26 09.8**	**+1.7**
JTS						**Sn 06 26 40.3**	**+0.6**
COVE	**Coope Vega, Sa**	**2.63**	**330**	*eP*		**Pn 06 26 09.2**	**+1.0**
PNME	**Penonome**	**2.72**	**88**	*eP*		**Pn 06 26 11.9**	**+2.5**
AZU	**Azuero**	**2.84**	**103**	*eP*		**Pn 06 26 12.3**	**+1.2**
DUNO	**Dulce Nombre,**	**2.90**	**305**	*eP*		**Pn 06 26 11.9**	**+0.1**
PLVR	**Palo Verde**	**2.95**	**311**	*eP*		**Pn 06 26 13.6**	**+0.9**
PTEN	**Parque Tenorio**	**2.96**	**321**	*i P*		**Pn 06 26 14.6**	**+1.8**
GUAI	**GUAI**	**3.02**	**308**	*i P*		**Pn 06 26 14.0**	**+0.4**
GUAI				*i S*		**Sn 06 26 50.6**	**+1.0**
ORTG	**Ortega, Santa**	**3.04**	**310**	*eP*		**Pn 06 26 14.8**	**+0.9**
BCIP	**Isla Barro Col**	**3.29**	**77**	*eP*		**Pn 06 26 17.7**	**+0.5**
BCIP	**Isla Barro Col**	**3.29**	**77**			**Pn 06 26 18.4**	**+1.2**
LAPC	**Finca la Perla**	**3.29**	**315**	*i P*		**Pn 06 26 19.1**	**+1.8**
BUEV	**Buena Vista**	**3.29**	**316**	*eP*		**Pn 06 26 19.4**	**+2.0**
GB1A	**Boringuen Arri**	**3.30**	**316**	*eP*		**Pn 06 26 19.8**	**+2.3**
GBS3	**Finca Las Img**	**3.32**	**315**	*i P*		**Pn 06 26 18.6**	**+0.9**
UPA	**Univ. de Panam**	**3.55**	**81**	*eP*		**Pn 06 26 22.5**	**+1.7**
ESPN	**Las Esperanzas**	**3.94**	**342**			**Pn 06 26 26.4**	**+0.2**
ACON	**Acoyapa**	**4.08**	**330**			**Pn 06 26 29.5**	**+1.3**
UPD2	**Meteti**	**5.01**	**88**	*eP*		**Pn 06 26 45.0**	**+4.2**
MATN	**Matagalpa**	**5.28**	**328**	Pn		**Pn 06 26 46.1**	**+1.4**
PTAC	**Punta Ardita,**	**5.37**	**103**	*eP*		**Pn 06 26 43.5**	**-2.3**
CAPC	**Capurgana**	**5.67**	**87**	*eP*		**Pn 06 26 52.9**	**+3.0**
CRIN	**San Cristobal**	**5.77**	**318**			**Pn 06 26 52.8**	**+1.4**
SOLC	**Bahia Solano**	**6.03**	**111**	*eP*		**Pn 06 26 54.1**	**-0.8**
DBBC	**Dabeiba**	**6.95**	**101**	*eP*		**Pn 06 27 07.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**6.95**	**324**	*eP*		**Pn 06 27 07.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**6.95**	**324**	Pn		**Pn 06 27 09.4**	**+1.7**
MOTC	**Monteria, Cord**	**7.34**	**87**	*eP*		**Pn 06 27 14.9**	**+2.0**
CBOC	**Ciudad Bolivar**	**7.46**	**109**	*eP*		**Pn 06 27 13.8**	**-0.8**
UREC	**San Jos de Ur**	**7.50**	**95**	*eP*		**Pn 06 27 13.7**	**-1.5**
PLMC	**San Jos del P**	**7.60**	**117**	*eP*		**Pn 06 27 16.8**	**+0.3**
SJCC	**San Jacinto, C**	**7.93**	**79**	*eP*		**Pn 06 27 22.7**	**+1.5**
SNET	**Serv Nac Est T**	**7.99**	**311**	Pn		**Pn 06 27 24.4**	**+2.4**
YOTC	**Yotoco, Valle**	**8.01**	**123**	*eP*		**Pn 06 27 22.7**	**+0.4**
ZARC	**Zaragoza, Cauc**	**8.19**	**96**	*eP*		**Pn 06 27 25.7**	**+1.0**
GUY2C	**Guyana, Caldas**	**8.29**	**112**	*eP*		**Pn 06 27 28.8**	**+2.4**
MTO3	**Montecristo**	**8.56**	**315**			**Pn 06 27 31.9**	**+2.0**
TOLC	**Tolima**	**8.60**	**116**	*eP*		**Pn 06 27 31.7**	**+1.2**
BBAC	**Balboa, Cauca**	**8.61**	**137**	*eP*		**Pn 06 27 32.4**	**+1.9**
POPC	**Popayan, Colom**	**8.64**	**132**	*eP*		**Pn 06 27 33.2**	**+2.2**
ESQI	**Esquipulas**	**8.65**	**315**			**Pn 06 27 33.6**	**+2.5**
PTBC	**PUERTO BERRIO,**	**8.75**	**102**	*eP*		Pn 06 27 37.7	+5.4
SMLC	**San Martn de**	**8.91**	**87**	*eP*		**Pn 06 27 39.2**	**+4.7**
ORTC	**Ortega, Tolima**	**8.98**	**119**	*eP*		**Pn 06 27 39.7**	**+4.2**
PCON	**Cinco Dias**	**8.99**	**132**	*eP*		**Pn 06 27 39.2**	**+3.1**
SMRC	**Santa Marta, M**	**9.14**	**72**	*eP*		**Pn 06 27 39.2**	**+1.6**
GCUF	**Volcan Galeras**	**9.15**	**141**	*eP*		**Pn 06 27 39.7**	**+1.5**
OTAV	**Otavalo**	**9.35**	**150**	*eP*		**Pn 06 27 43.5**	**+2.6**
OTAV	**Otavalo**	**9.35**	**150**			**Pn 06 27 42.5**	**+1.6**
OTAV					Sn	**Sn 06 29 29.6**	**+3.4**
OTAV	**Otavalo**	**9.35**	**150**	*eP*		**Pn 06 27 42.3**	**+1.4**
SPBC	**San Pablo de B**	**9.35**	**107**	*eP*		**Pn 06 27 39.2**	**-1.4**
PRAC	**Prado**	**9.39**	**119**	*eP*		**Pn 06 27 45.2**	**+4.1**
ROSC	**El Rosal**	**9.40**	**112**	Pn		**Pn 06 27 44.1**	**+2.6**
	1.3nm,0.3s,baz=312,slow=18,SNR=4.1						
ROSC					LR	LR 06 31 02.2	
	comp=Z,362nm,20.8s,baz=360,slow=36						
ROSC	**El Rosal**	**9.40**	**112**	*eP*		**Pn 06 27 45.2**	**+3.7**
ROSC	**El Rosal**	**9.40**	**112**	Pn		**Pn 06 27 42.3**	**+0.8**
ROSC					Sn	**Sn 06 29 24.9**	**-2.4**
BETC	**Betania**	**9.50**	**126**	*eP*		**Pn 06 27 43.8**	**+1.1**
APG	**El Apazote**	**9.75**	**313**	Pn		**Pn 06 27 48.6**	**+2.4**
	3.4nm,0.3s,baz=150,slow=10,SNR=75						
GARC	**Garzon, Huila**	**9.76**	**129**	*eP*		**Pn 06 27 47.3**	**+0.9**
CHIC	**Chingaza**	**10.02**	**112**	*eP*		**Pn 06 27 54.4**	**+4.3**
FLOC	**Florencia**	**10.04**	**132**	*eP*		Pn 06 27 54.9	+4.9
PUAC	**Puerto Asis, P**	**10.16**	**140**	*eP*		**Pn 06 27 52.8**	**+1.2**
RUSC	**La Rusia**	**10.23**	**104**	*eP*		**Pn 06 27 54.3**	**+1.3**
VILC	**Villavicencio,**	**10.26**	**114**	*eP*		**Pn 06 27 55.8**	**+2.6**
RTAL	**Retalhuleu**	**10.40**	**306**	Pn		**Pn 06 27 54.4**	**-0.5**
HUEH	**Huehuetenango**	**10.72**	**311**			**Pn 06 27 59.4**	**-0.2**
PETF	**Flores**	**10.73**	**323**			**Pn 06 27 58.7**	**-0.7**
FSCY	**Frank Sound, G**	**10.98**	**9**	Pn		**Pn 06 28 03.3**	**+0.4**
MACC	**Macarena, Meta**	**11.10**	**124**	*eP*		Pn 06 28 10.1	+5.6
MTDJ	**Mount Denham**	**11.14**	**28**	Pn		**Pn 06 28 05.2**	**+0.1**
URIC	**Uribia, Colomb**	**11.39**	**72**	*eP*		**Pn 06 28 09.3**	**+0.8**
LCCY	**Blossom Villag**	**11.55**	**14**	Pn		**Pn 06 28 11.7**	**+1.0**

PTLC Puerto Leguiza 11.63 134 *eP* **Pn 06 28 13.8 +2.1**
PTGC Puerto Gaitan, 11.66 110 *eP* **Pn 06 28 10.8 -1.3**
CCIG Comitan 11.80 312 Pn Pn 06 28 13.9 -0.4
SDV Santo Domingo 12.31 87 Pn **Pn 06 28 22.0 +0.7**
1.1nm,0.3s,baz=280,slow=5.5,SNR=2.0
SDV Sn **Sn 06 30 38.4 -0.1**
1.3nm,0.3s,baz=182,slow=21,SNR=1.5
SDV Santo Domingo 12.31 87 Pn **Pn 06 28 21.8 +0.5**
GTBY Guantanamo Bay 13.79 33 Pn **Pn 06 28 39.9 -1.4**
LGNH Logne 14.28 44 Pn Pn 06 28 47.6 -0.5
SDDR Presa de Saban 15.53 46 Pn **Pn 06 29 06.0 +1.2**
SDDR IAmb IAmb 06 29 14.4
comp=Z,26nm,0.9s
BANI BANI 15.84 50 **Pn 06 29 08.2 -0.7**
ATAH Atahualpa 16.14 163 Pn **Pn 06 29 15.5 +2.4**
comp=Z,0.3nm,0.3s,baz=127,slow=22,SNR=6.9
DR12 Loma Pena Alta 16.82 51 **Pn 06 29 20.8 -0.6**
PCDR Punta Cana, DR 17.45 53 Pn **Pn 06 29 27.3 -1.9**
TLIG Tlapa 17.60 303 **Pn 06 29 31.0 -0.3**
CRPR Cabo Rojo, PR 18.22 57 **Pn 06 29 37.7 -1.0**
CRPR IAmb IAmb 06 29 43.6
comp=Z,49nm,1.3s
MLPR Magueyes Islan 18.25 57 **P 06 29 39.7 +0.4**
MLPR IAmb IAmb 06 29 43.6
comp=Z,89nm,1.4s
PCRV Puerto La Cruz 18.28 83 P **P 06 29 40.7 +1.0**
comp=Z,0.4nm,0.3s,baz=235,slow=3.1,SNR=5.5
ICMP Isla Caja de M 18.64 58 P **Pn 06 29 44.5 +0.5**
ICMP IAmb IAmb 06 29 56.8
comp=Z,40nm,0.8s
OBIP Obispado Ponce 18.65 58 P **Pn 06 29 44.1 +0.1**
OBIP IAmb IAmb 06 29 47.7
comp=Z,32nm,0.8s
AOPR Arecibo Observ 18.68 56 P **P 06 29 44.0 0.0**
AOPR IAmb IAmb 06 29 51.2
comp=Z,38nm,0.8s
SJG San Juan 19.07 58 P **Pn 06 29 50.1 +1.0**
comp=Z,3.0nm,0.3s,baz=252,slow=9.7,SNR=19
SJG San Juan 19.07 58 *eP* **Pn 06 29 48.7 -0.4**
SJG San Juan 19.07 58 P **P 06 29 48.1 -0.1**
SJG IAmb IAmb 06 29 54.4
comp=Z,33nm,0.7s
CZSB Cruzeiro do Su 19.09 147 *eP* **P 06 29 49.9 +1.4**
PDPR Patillas Dam, 19.13 58 P **P 06 29 48.8 -0.2**
GCPR Guaynabo City 19.22 58 P **Pn 06 29 51.6 +0.8**
GCPR IAmb IAmb 06 29 56.2
comp=Z,49nm,0.9s
HUMP Col San Antoni 19.33 58 P **Pn 06 29 53.5 +1.2**
CBYP Canovanas 19.39 58 P **Pn 06 29 52.9 0.0**
CBYP IAmb IAmb 06 29 56.9
comp=Z,31nm,0.8s
MTP Monte Pirata 19.56 59 P **P 06 29 54.0 +0.4**
MTP IAmb IAmb 06 29 57.2
comp=Z,42nm,0.7s
CUPR Culebra, Puert 19.89 59 P **Pn 06 29 59.8 +0.9**
CUPR IAmb IAmb 06 30 07.3
comp=Z,27nm,0.9s
CDVI St. Croix 20.08 61 P Pn 06 30 01.8 +0.6
656A Willston 20.84 1 P Pn 06 30 10.8 +0.7
656A IAmb IAmb 06 30 25.4
comp=Z,23nm,1.0s
NNA Nana 21.20 163 P **P 06 30 11.8 +0.2**
comp=Z,14nm,1.0s,baz=338,slow=12,SNR=5.3
NNA Nana 21.20 163 P **P 06 30 09.5 -2.1**
NNA IAmb IAmb 06 30 13.7
comp=Z,21nm,1.0s
553A Crawfordville 21.69 357 **P 06 30 17.6 +1.0**
553A IAmb IAmb 06 30 23.9
comp=Z,45nm,0.8s
451A Vernon 22.22 354 P **P 06 30 22.4 0.0**
451A IAmb IAmb 06 30 28.4
comp=Z,34nm,0.8s
TIGA Tifton 22.91 359 P **P 06 30 32.5 +2.9**
baz=178
TIGA Tifton 22.91 359 P **P 06 30 28.7 -0.9**
TIGA IAmb IAmb 06 30 34.1
comp=Z,55nm,1.4s
BRAL Brewton 22.93 351 P **P 06 30 33.2 +3.3**
baz=170
352A Blakely 23.01 356 P **P 06 30 32.5 +1.9**
352A IAmb IAmb 06 30 35.2
comp=Z,34nm,1.1s
255A Hazlehurst 23.39 1 P **P 06 30 35.6 +1.0**
255A IAmb IAmb 06 30 39.5
comp=Z,27nm,0.9s
250A Grady 23.63 353 P **P 06 30 37.6 +0.7**
250A IAmb IAmb 06 30 41.2
comp=Z,31nm,1.1s
344A Westbrook Farm 24.00 344 P **P 06 30 41.4 +0.9**
154A Montrose 24.07 360 P **P 06 30 39.2 -1.9**
157A Early Branch 24.21 4 P **P 06 30 45.0 +2.6**
baz=185
342A Flagon Creek P 24.41 341 P **P 06 30 44.0 -0.3**
HKT Hockley 24.53 333 P **P 06 30 45.3 0.0**
ETMB Extrema 24.70 137 *eP* **P 06 30 46.9 -0.2**
NHSC New Hope 24.71 6 P **P 06 30 49.0 +2.1**
baz=187
NHSC New Hope 24.71 6 P **P 06 30 47.3 +0.4**
146A Union 24.73 348 P **P 06 30 44.6 -2.5**
LRAL Lakeview Retre 24.76 352 P **P 06 30 49.3 +1.9**
baz=170
LRAL Lakeview Retre 24.76 352 P **P 06 30 47.7 +0.3**
LRAL IAmb IAmb 06 30 51.8
comp=Z,20nm,1.5s
Z56A Williston 24.83 3 P **P 06 30 49.7 +1.7**
baz=184
Z56A Williston 24.83 3 P **P 06 30 46.3 -1.7**
Z51A Franklin 24.85 356 P **P 06 30 48.9 +0.7**
Z51A IAmb IAmb 06 30 51.8
comp=Z,19nm,0.9s
Z57A Bowman 24.85 5 P **P 06 30 50.0 +1.8**
baz=185
GOGA Godfrey 24.87 359 P **P 06 30 49.9 +1.6**
baz=179,SNR=24
GOGA Godfrey 24.87 359 P **P 06 30 48.1 -0.2**
Z58A St. Stephen 24.98 6 P **P 06 30 52.0 +2.7**
baz=187
Z47A Carrollton 25.09 350 P **P 06 30 49.0 -1.3**
Z47A IAmb IAmb 06 30 58.2
comp=Z,15nm,0.9s
Y52A Lilburn 25.34 358 P **P 06 30 51.7 -0.9**
Y49A Blount Mountai 25.50 354 P **P 06 30 51.8 -2.3**
Y49A IAmb IAmb 06 30 59.9
comp=Z,8.2nm,0.7s
NATX Nacogdoches 25.60 337 P **P 06 30 54.4 -0.6**
NATX IAmb IAmb 06 30 59.2
comp=Z,14nm,0.8s
HODGE Hodges 25.70 2 P **P 06 30 56.6 +0.7**
HODGE IAmb IAmb 06 30 59.7
comp=Z,22nm,0.8s
JSC Jenkinsville 25.79 3 P **P 06 30 56.3 -0.4**
JSC IAmb IAmb 06 31 04.8
comp=Z,15nm,1.1s
X55A Gracelyn & Ava 25.96 3 P **P 06 30 59.7 +1.5**
baz=183,SNR=10
X54A Belton 26.01 1 P **P 06 31 00.7 +2.0**
baz=181
X56A White Oak 26.02 4 P **P 06 31 00.3 +1.5**
baz=184,SNR=8.4
Y45A Yeager Farm, C 26.02 348 P **P 06 30 59.4 +0.6**
435B Jarrell 26.05 331 P **P 06 31 00.5 +1.3**
baz=146
435B Jarrell 26.05 331 P **P 06 30 58.5 -0.6**
435B IAmb IAmb 06 31 09.7
comp=Z,14nm,0.8s
X51A Calhoun 26.07 357 P **P 06 30 59.3 0.0**
X51A IAmb IAmb 06 31 02.5
comp=

W54A Cherokee Point 26.55 2 P P 06 31 05.5 +1.9
baz=182
CCAR Cane Creek 26.61 344 P P 06 31 04.9 +0.8
CCAR pP pP 06 31 06.6 -1.7
KMSC Kings Mountain 26.64 3 P P 06 31 06.0 +1.6
baz=184,SNR=5.1
KMSC Kings Mountain 26.64 3 P P 06 31 04.7 +0.3
KMSC IAmb IAmb 06 31 07.9
comp=Z,12nm,0.9s
W50A Signal Mountai 26.73 356 P P 06 31 06.5 +1.2
W57A Gilead 26.76 6 P P 06 31 06.5 +1.0
baz=187
WLAR White Oak Lake 26.80 341 P P 06 31 06.5 +0.7
WLAR IAmb IAmb 06 31 15.9
comp=Z,28nm,1.1s
SWET Sewanee 26.80 355 P P 06 31 06.7 +0.8
SWET IAmb IAmb 06 31 10.1
comp=Z,9.3nm,0.8s
CPCT Cooper Cave 26.93 357 P P 06 31 07.8 +0.8
CPCT IAmb IAmb 06 31 10.1
comp=Z,12nm,1.1s
JCT Junction City 26.95 327 P P 06 31 09.1 +1.8
baz=141
JCT Junction City 26.95 327 P P 06 31 08.3 +1.0
TKL Tuckaleechee C 27.12 359 P P 06 31 09.2 +0.5
comp=Z,9.1nm,1.1s,baz=195,slow=6.0,SNR=6.6
TKL Tuckaleechee C 27.12 359 P P 06 31 09.3 +0.5
TKL IAmb IAmb 06 31 12.0
comp=Z,25nm,1.4s
V53A Saluda 27.12 0 P P 06 31 09.8 +1.0
V54A Nebo 27.25 2 P P 06 31 12.7 +2.8
baz=182
V51A Loudon 27.28 358 P P 06 31 11.2 +1.1
V51A IAmb IAmb 06 31 17.1
comp=Z,20nm,1.1s
V52A Sevierville 27.30 359 P P 06 31 12.3 +2.0
V52A IAmb IAmb 06 31 13.6
comp=Z,14nm,1.1s
V55A Taylorsville 27.36 3 P P 06 31 12.5 +1.6
baz=184
V55A Taylorsville 27.36 3 P P 06 31 10.4 -0.5
V55A IAmb IAmb 06 31 18.7
comp=Z,22nm,1.4s
V48A Smith Brothers 27.41 353 P P 06 31 12.2 +0.9
V48A IAmb IAmb 06 31 15.1
comp=Z,8.9nm,0.9s
X40A Basin Creek Fa 27.45 342 P P 06 31 12.4 +0.7
baz=159
X40A Basin Creek Fa 27.45 342 P P 06 31 10.3 -1.4
V58A Windy Hill, Pi 27.48 7 P P 06 31 12.9 +1.0
baz=188
V58A Windy Hill, Pi 27.48 7 P P 06 31 12.2 +0.2
V58A IAmb IAmb 06 31 15.3
comp=Z,9.3nm,0.8s
V57A Coltrane Farms 27.50 6 P P 06 31 13.8 +1.6
baz=187
UALR University of 27.57 343 P P 06 31 12.4 -0.4
UALR IAmb IAmb 06 31 15.0
comp=Z,15nm,0.8s
MIAR Mount Ida 27.73 341 P P 06 31 15.1 +0.9
baz=157,SNR=7.0
MIAR Mount Ida 27.73 341 P P 06 31 13.6 -0.6
MIAR IAmb IAmb 06 31 17.0
comp=Z,14nm,1.2s
WVT Waverly 27.92 352 P P 06 31 16.6 +0.7
baz=170
WVT Waverly 27.92 352 P P 06 31 16.3 +0.4
W41B Gary Mavity, V 27.92 344 P P 06 31 15.9 0.0
baz=160,SNR=9.6
W41B Gary Mavity, V 27.92 344 P P 06 31 14.8 -1.1
W41B IAmb IAmb 06 31 18.1
comp=Z,14nm,0.8s
TZTN Tazewell 28.00 359 P P 06 31 17.7 +1.1
baz=179
TZTN Tazewell 28.00 359 P P 06 31 16.9 +0.3
TZTN IAmb IAmb 06 31 19.4
comp=Z,12nm,1.1s
WHAR Wooly Hollow 28.04 344 P P 06 31 15.8 -1.1
U49A Red Boiling Sp 28.07 355 P P 06 31 16.7 -0.6
W39A Magazine 28.40 341 P P 06 31 21.4 +1.2
baz=157
W39A Magazine 28.40 341 P P 06 31 18.7 -1.5
W39A IAmb IAmb 06 31 22.8
comp=Z,19nm,1.2s
TXAR Lajitas Array 28.40 320 P P 06 31 21.1 +0.7
comp=Z,0.6nm,0.8s,baz=129,slow=9.9,SNR=7.2
TXAR PcP PcP 06 34 34.1 +1.3
comp=Z,0.3nm,0.7s,baz=161,slow=4.9,SNR=3.8
TXAR Lajitas Array 28.40 320 P P 06 31 20.5 +0.1
LCAR Lake Charles 28.49 346 P P 06 31 18.7 -2.3
T50A Nancy 28.52 357 P P 06 31 20.2 -0.9
T50A IAmb IAmb 06 31 24.0
comp=Z,8.5nm,1.0s
T54A Tazewell 28.54 3 P P 06 31 22.6 +1.1
baz=183
ABTX Abilene, Hawle 28.56 330 P P 06 31 24.3 +2.6
baz=144
FCAR Ozark Folk Cen 28.56 345 P P 06 31 21.0 -0.6
FCAR IAmb IAmb 06 31 23.5
comp=Z,13nm,0.9s
T56A Rocky Mt 28.61 5 P P 06 31 23.6 +1.5
baz=186
T57A Hurt 28.66 6 P P 06 31 24.3 +1.8
baz=188
LPAZ La Paz 28.66 149 P P 06 31 23.5 +0.1
comp=Z,2.1nm,0.9s,baz=356,slow=9.1,SNR=5.6
LPAZ La Paz 28.66 149 P P 06 31 22.6 -0.8
LPAZ La Paz 28.66 149 eP P 06 31 23.9 +0.5
T47A Sharon Grove 28.67 353 P P 06 31 20.7 -1.9
T47A IAmb IAmb 06 31 27.0
comp=Z,10nm,1.1s
BLA Blacksburg 28.76 4 P P 06 31 29.3 +5.9
baz=185
H06E1 SOCORRO T-PHAS 28.91 294 T T 07 01 19.9
SNR=13
S51A Beattyville 29.09 359 P P 06 31 27.0 +0.7
S51A IAmb IAmb 06 31 29.4
comp=Z,14nm,0.8s
U40A Yellville 29.20 344 P P 06 31 27.3 0.0
baz=160,SNR=10
U40A Yellville 29.20 344 P P 06 31 26.9 -0.4
U40A IAmb IAmb 06 31 29.5
comp=Z,14nm,0.9s
S55A Lewisburg 29.31 4 P P 06 31 30.3 +1.9
baz=185
T42A Van Buren 29.39 347 P P 06 31 28.4 -0.6
T42A IAmb IAmb 06 31 32.2
comp=Z,7.6nm,0.7s
HHAR Hobbs 29.45 342 P P 06 31 29.6 +0.1
R54A Victor 29.69 3 P P 06 31 33.1 +1.5
baz=184
U38A Gravette 29.73 341 P P 06 31 31.7 -0.4
U38A IAmb IAmb 06 31 33.7
comp=Z,11nm,1.2s
R50A Paris 29.75 358 P P 06 31 33.1 +1.0
R50A IAmb IAmb 06 31 35.1
comp=Z,16nm,1.0s
PB16 IPOC Station P 29.77 153 P P 06 31 34.3 +1.2
MGMO Mountain Grove 29.80 345 P P 06 31 32.2 -0.4
R49A Shelbyville 29.80 357 P P 06 31 33.6 +1.0
R49A IAmb IAmb 06 31 35.2
comp=Z,16nm,0.8s
WCI Wyandotte Cave 29.82 355 P P 06 31 33.4 +0.7
baz=173
WCI Wyandotte Cave 29.82 355 P P 06 31 32.8 +0.1
WCI IAmb IAmb 06 31 35.9
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 29.90 333 P P 06 31 34.8 +1.2
baz=147
WMOK Wichita Mounta 29.90 333 P P 06 31 34.2 +0.6
R58A Rapidan 30.10 8 P P 06 31 37.7 +2.5
baz=190
Q53A Leroy 30.34 2 P P 06 31 38.6 +1.3
baz=183
LPIG La Paz 30.35 304 P P 06 31 37.3 -0.3
comp=Z,17nm,0.4s,baz=234,slow=7.6,SNR=2.8
CCM Cathedral Cave 30.41 347 P P 06 31 37.5 -0.5
baz=164
CCM Cathedral Cave 30.41 347 P P 06 31 38.2 +0.2
CCM IAmb IAmb 06 31 39.4
comp=Z,8.6nm,0.8s
Q52A Bidwell 30.42 1 P P 06 31 39.3 +1.2
baz=181
Q51A Peebles 30.47 360 P P 06 31 39.0 +0.5
Q54A Coxs Mills 30.50 3 P P 06 31 40.0 +1.3
baz=184

OLIL Olney 30.52 352 P P 06 31 39.1 +0.2
Q55A Buckhannon 30.56 5 P P 06 31 41.2 +1.9
baz=186,SNR=6.1
S39A Bolivar 30.58 344 P P 06 31 39.1 -0.4
Q56A Snyder Ridge, 30.69 6 P P 06 31 42.3 +1.9
baz=187
Q57A Strasburg 30.77 7 P P 06 31 42.4 +1.3
baz=189
BLO Bloomington 30.77 355 P P 06 31 41.2 +0.1
BLO IAmb IAmb 06 31 43.5
comp=Z,11nm,0.8s
R40A Maddies Statio 30.87 346 P P 06 31 42.7 +0.6
R40A IAmb IAmb 06 31 44.5
comp=Z,6.1nm,0.8s
P51A Williamsport 30.93 0 P P 06 31 44.0 +1.5
baz=180
P51A Williamsport 30.93 0 P P 06 31 42.0 -0.5
P51A IAmb IAmb 06 31 45.3
comp=Z,9.8nm,0.8s
P53A Whipple 30.97 3 P P 06 31 44.2 +1.3
baz=183
P53A Whipple 30.97 3 P P 06 31 43.4 +0.5
P53A IAmb IAmb 06 31 46.3
comp=Z,11nm,0.8s
P48A Milroy 30.98 356 P P 06 31 41.6 -1.4
P49A Miami Univ. Ec 31.01 358 P P 06 31 44.8 +1.5
baz=177
GO01 Chusmiza 31.08 154 P P 06 31 45.9 +1.3
GO01 IAmb IAmb 06 32 01.4
comp=Z,9.5nm,1.1s
P52A Corning 31.09 1 P P 06 31 44.7 +0.7
baz=182
P52A Corning 31.09 1 P P 06 31 43.3 -0.7
P52A IAmb IAmb 06 31 48.9
comp=Z,21nm,1.4s
MNTX Cornudas Mount 31.10 321 P P 06 31 44.7 +0.5
baz=133
VILB Vilhena 31.10 133 eP P 06 31 44.6 +0.2
P56A Dayton Farm, R 31.18 6 P P 06 31 46.9 +2.1
baz=188
MCWV Mont Chateau 31.24 5 P P 06 31 47.1 +1.8
baz=186
O51A Pataskala 31.59 1 P P 06 31 49.3 +0.9
baz=181,SNR=6.4
NPGB Novo Progresso 31.62 118 eP P 06 31 48.3 -0.6
ACSO Alum Creek Sta 31.68 0 P P 06 31 51.3 +2.2
baz=180,SNR=7.7
ACSO Alum Creek Sta 31.68 0 P P 06 31 48.7 -0.5
O54A Avella 31.72 4 P P 06 31 50.6 +1.1
baz=185
O53A New Philadelph 31.74 3 P P 06 31 50.8 +1.1
baz=183
O55A Ligonier 31.83 5 P P 06 31 52.1 +1.6
baz=187
P40A Paris 32.00 347 P P 06 31 51.9 -0.1
P40A IAmb IAmb 06 31 53.9
comp=Z,13nm,1.2s
O57A Amberson 32.03 8 P P 06 31 54.3 +2.1
baz=190
O58A Lewisberry 32.04 9 P P 06 31 53.8 +1.5
baz=191
N51A Ashland 32.37 1 P P 06 31 56.6 +1.4
baz=181
P38A Dawn 32.45 345 P P 06 31 55.6 -0.3
HDIL Hopedale 32.48 351 P P 06 31 56.7 +0.6
baz=168
HDIL Hopedale 32.48 351 P P 06 31 55.8 -0.4
KSU1 Kansas State U 32.88 340 P P 06 32 00.1 +0.4
baz=155
KSU1 Kansas State U 32.88 340 P P 06 31 59.4 -0.3
N41A Harden Midland 32.89 349 P P 06 31 58.9 -0.8
R32A Long Quarter, 33.03 337 P P 06 32 01.0 -0.1
R32A IAmb IAmb 06 32 04.1
comp=Z,11nm,1.1s
M55A Ridgway 33.13 6 P P 06 32 02.5 +0.5
baz=188
121A Cookes Peak, D 33.17 320 P P 06 32 05.4 +2.8
baz=131
121A Cookes Peak, D 33.17 320 P P 06 32 03.8 +1.3
M57A Sunshine Farm, 33.20 8 P P 06 32 04.8 +2.2
baz=191
M56A Emporium 33.21 7 P P 06 32 04.1 +1.5
baz=189
CLDB Colider 33.23 125 eP P 06 32 00.9 -2.2
N38A Joes South For 33.48 346 P P 06 32 03.5 -1.4
PTLB Pontes e Lacer 33.54 135 eP P 06 32 03.8 -2.0
M59A Waymart 33.67 10 P P 06 32 09.0 +2.3
baz=194
L55A Hinsdale 33.87 6 P P 06 32 09.9 +1.5
baz=188
L57A Andrews Acres 33.89 8 P P 06 32 10.4 +1.9
baz=191
L42A Oliver, Polo 33.95 351 P P 06 32 07.7 -1.3
L42A IAmb IAmb 06 32 10.3
comp=Z,12nm,0.8s
ANMO Albuquerque 34.01 324 P P 06 32 09.5 -0.3
comp=Z,0.1nm,0.6s,baz=162,slow=6.4,SNR=5.4
ANMO Albuquerque 34.01 324 P P 06 32 10.2 +0.4
L58A Harry Jones Me 34.09 10 P P 06 32 12.7 +2.4
baz=193
N35A Tabor 34.18 343 P P 06 32 09.3 -1.8
L40A Anamosa 34.27 349 P P 06 32 10.7 -1.1
L40A IAmb IAmb 06 32 14.8
comp=Z,10nm,0.7s
JFWS Jewell Farm 34.93 351 P P 06 32 17.4 -0.1
baz=167
TUC Tucson 35.01 317 P P 06 32 20.7 +2.3
baz=127
K38A Parkersburg 35.14 348 P P 06 32 19.7 +0.4
J58A Remsen 35.47 10 P P 06 32 23.6 +1.5
baz=193
J58A Remsen 35.47 10 P P 06 32 23.6 +1.5
J58A IAmb IAmb 06 32 25.2
comp=Z,6.3nm,0.8s
SDCO Great Sand Dun 35.54 329 P P 06 32 24.8 +1.6
baz=140
SDCO Great Sand Dun 35.54 329 P P 06 32 24.8 +1.6
SDCO pP pP 06 32 27.0 -0.4
I42A Draeger Farm, 35.70 353 P P 06 32 23.7 -0.3
I59A Olmsteadville 36.14 11 P P 06 32 29.5 +1.6
baz=195
214A Organ Pipe Nat 36.21 314 P P 06 32 30.9 +2.2
baz=124
214A Organ Pipe Nat 36.21 314 P P 06 32 29.9 +1.2
214A IAmb IAmb 06 32 34.1
comp=Z,6.8nm,0.9s
X16A Lo Mia Camp, P 36.72 319 P P 06 32 34.8 +1.6
K31A O'Neill 36.75 341 P P 06 32 33.8 +0.6
ECSD EROS Data Cent 37.11 344 P P 06 32 34.5 -1.7
baz=157,SNR=7.5
ECSD EROS Data Cent 37.11 344 P P 06 32 34.8 -1.3
ECSD IAmb IAmb 06 32 37.4
comp=Z,12nm,1.1s
ECSD pP pP 06 32 40.7 +0.3
G40A Rib Lake 37.22 352 P P 06 32 36.8 -0.3
G40A IAmb IAmb 06 32 38.5
comp=Z,15nm,1.1s
113A Mohawk Valley, 37.33 315 P P 06 32 39.7 +1.6
Y14A Wickenburg 37.47 317 P P 06 32 40.0 +0.6
AC02 Maricunga 37.57 159 P P 06 32 42.8 +2.0
AC02 IAmb IAmb 06 32 43.9
comp=Z,11nm,1.0s
SPMN Marine on St. 37.62 349 P P 06 32 40.9 +0.5
baz=164,SNR=5.0
SPMN Marine on St. 37.62 349 P P 06 32 40.0 -0.4
SPMN IAmb IAmb 06 32 42.3
comp=Z,11nm,1.0s
PV13 Radium Mtn., P 37.62 326 P P 06 32 39.6 -1.3
ALGO Algonquin Park 37.65 6 P P 06 32 40.9 +0.3
baz=188
PV03 Paradox Valley 37.71 326 P P 06 32 42.4 +0.8
PV12 Saucer Basin, 37.73 326 P P 06 32 43.1 +1.3
PV18 Skein Mesa, Pa 37.73 326 P P 06 32 43.1 +1.3
PV17 East Wray Mesa 37.79 326 P P 06 32 42.1 -0.1
PV17 IAmb IAmb 06 32 47.9
comp=Z,13nm,1.5s
COWI Conover 37.90 353 P P 06 32 42.0 -0.8
COWI IAmb IAmb 06 32 44.1
comp=Z,8.8nm,0.9s
GLA Glamis 38.23 314 P P 06 32 48.2 +2.3
baz=123
GLA Glamis 38.23 314 P P 06 32 47.4 +1.5
GLA IAmb IAmb 06 32 51.3
comp=Z,13nm,0.8s
F36A Milaca 38.37 348 P P 06 32 45.0 -1.8
F36A IAmb IAmb 06 32 48.1

comp=Z,8.7nm,0.7s
ESJX Sierra Juarez 38.49 312 P P 06 32 49.1 +0.9
U15A North Rim 38.52 321 P P 06 32 47.3 -1.2
W13A Hualapai Mount 38.73 318 P P 06 32 51.6 +1.3
SWSC Sam W. Stewart 38.87 314 P P 06 32 53.8 +2.6
baz=122
IKP In-Ko-Pah, Jac 38.94 313 P P 06 32 56.6 +4.7
baz=121
F33A 5 Mile Ranch, 38.98 345 P P 06 32 49.0 -2.9
BC3 Big Chuckawall 38.99 315 P P 06 32 54.1 +1.7
baz=123
D55A Sainte-Anne-du 39.01 8 P P 06 32 52.6 +0.5
baz=192
AC05 El Transito 39.05 162 P P 06 32 50.5 -2.3
AC05 IAmb IAmb 06 32 55.0
comp=Z,25nm,1.1s
IRM Iron Mountain 39.05 316 P P 06 32 54.9 +2.1
baz=124
ARAG Araguaiana, MT 39.16 128 eP P 06 32 52.7 -1.1
MONP2 Monument Peak 39.28 313 P P 06 32 56.9 +2.0
baz=121
SMTB Santa Maria do 39.30 115 eP P 06 32 54.1 -1.0
BELC Belle Mtn. Jos 39.56 315 P P 06 32 59.5 +2.3
baz=122,SNR=6.6
TPFO Pinon Flats 39.68 314 P P 06 33 00.3 +2.2
baz=122
PFO Pinyon Flats O 39.68 314 P P 06 32 59.5 +1.4
comp=Z,2.7nm,0.6s,baz=84,slow=6.2,SNR=6.8
PFO Pinyon Flats O 39.68 314 P P 06 33 00.3 +2.2
baz=122
PFO Pinyon Flats O 39.68 314 P P 06 32 57.1 -1.0
GMRC Granite Mounta 39.75 316 P P 06 33 00.9 +2.1
baz=124
109C Camp Elliot, M 39.78 313 P P 06 33 01.7 +2.9
baz=120
109C Camp Elliot, M 39.78 313 P P 06 32 58.4 -0.4
109C IAmb IAmb 06 33 04.1
comp=Z,12nm,0.9s
MURC Murrieta 40.20 314 P P 06 33 04.7 +2.3
baz=121
TUQ Turquoise Moun 40.30 317 P P 06 33 05.6 +2.4
baz=124
PSUT Pine Spring 40.81 322 P P 06 33 08.4 +1.0
GSC Goldstone, Bar 40.82 316 P P 06 33 07.2 -0.3
baz=123
GSC Goldstone, Bar 40.82 316 P P 06 33 06.6 -0.9
E28A Huff 40.90 341 P P 06 33 06.8 -1.1
E28A IAmb IAmb 06 33 09.6
comp=Z,24nm,1.1s
CIS Catalina Islan 40.99 312 P P 06 33 13.5 +4.7
baz=119
BW06 Boulder Array 41.36 330 P P 06 33 15.1 +3.1
baz=138
PDAR Pinedale Array 41.36 330 P P 06 33 12.0 0.0
comp=Z,0.9nm,0.8s,baz=123,slow=9.3,SNR=6.9
PDAR PcP PcP 06 35 10.4 +0.1
comp=Z,1.1nm,0.8s,baz=116,slow=6.8,SNR=6.1
PDAR Pinedale Array 41.36 330 P P 06 33 11.9 -0.1
TPNV Topopah Spring 41.37 318 P P 06 33 18.8 +6.7
baz=125
MATQ Matagami 41.45 5 P P 06 33 11.6 -0.8
baz=188
FURC Furnace Creek, 41.50 317 P P 06 33 15.6 +2.7
baz=124
HWUT Hardware Ranch 41.55 327 P P 06 33 13.2 -0.3
MPMC Manual Prospec 41.70 316 P P 06 33 16.7 +1.9
baz=123,SNR=5.5
R11A Troy Canyon, C 41.76 321 P P 06 33 19.4 +4.1
baz=127
H03N2 Juan Fernandez 41.81 175 T T 07 17 39.6
baz=354,slow=76,SNR=16
H03N1 Juan Fernandez 41.82 175 T T 07 17 41.4
baz=354,slow=76,SNR=13
H03N3 Juan Fernandez 41.83 175 T T 07 17 47.6
baz=354,slow=76,SNR=14
BDFB Brasilia 42.16 124 P P 06 33 18.6 -0.1
comp=Z,4.4nm,0.9s,baz=311,slow=12,SNR=4.7
BDFB LR LR 06 52 00.2
comp=Z,176nm,21.1s,baz=332,slow=38
BDFB Brasilia 42.16 124 P P 06 33 17.5 -1.2
ISA Isabella, Lake 42.17 315 P P 06 33 20.8 +2.3
baz=121
ISA Isabella, Lake 42.17 315 P P 06 33 18.9 +0.3
CWC Cottonwood Cre 42.31 317 P P 06 33 21.8 +2.0
baz=122
REDW Red Top Meadow 42.44 330 P P 06 33 20.7 -0.1
TPH Tonopah 42.65 319 P P 06 33 22.2 -0.3
CPUP Villa Florida 42.65 145 P P 06 33 23.6 +1.2
comp=Z,2.4nm,0.9s,baz=340,slow=7.5,SNR=4.6
CPUP Villa Florida 42.65 145 P P 06 33 21.4 -1.0
VES Vestal, Richgr 42.69 315 P P 06 33 24.6 +2.0
baz=121
PKM Mcpherson Peak 42.72 314 P P 06 33 27.1 +3.9
baz=119
RLMT Red Lodge 43.01 333 P P 06 33 25.6 +0.2
baz=140
RLMT Red Lodge 43.01 333 P P 06 33 25.6 +0.2
ELK Elko 43.03 324 P P 06 33 26.2 +0.6
comp=Z,1.8nm,0.9s,baz=127,slow=5.7,SNR=6.4
ELK PcP PcP 06 35 16.7 +0.9
comp=Z,1.4nm,0.8s,baz=124,slow=5.2,SNR=4.9
ELK Elko 43.03 324 P P 06 33 26.3 +0.6
ULM Lac du Bonnet 43.04 348 P P 06 33 23.7 -1.5
comp=Z,9.4nm,0.6s,baz=159,slow=7.6,SNR=18
ULM Lac du Bonnet 43.04 348 P P 06 33 25.0 -0.2
ULM IAmb IAmb 06 33 26.9
comp=Z,9.5nm,0.7s
SMMC Simmler 43.06 314 P P 06 33 27.5 +1.8
baz=120
NV11 Mina Array Sit 43.45 319 P P 06 33 29.0 0.0
YMR Madison River 43.46 331 P P 06 33 28.7 -0.4
NVAR Mina Array Bea 43.55 319 P P 06 33 31.1 +1.2
comp=Z,2.1nm,0.8s,baz=130,slow=7.0,SNR=14
NVAR Mina Array Bea 43.55 319 P P 06 33 29.3 -0.6
LHV Little Huntoon 43.58 319 P P 06 33 30.8 +1.0
MDPB Devils Postpil 43.62 317 P P 06 33 30.9 +0.3
GCMT Greycliff 43.70 333 P P 06 33 28.2 -2.6
DGMT Dagmar 43.71 340 P P 06 33 31.5 +0.7
baz=149
DGMT Dagmar 43.71 340 P P 06 33 29.9 -0.9
DGMT IAmb IAmb 06 33 32.8
comp=Z,20nm,1.0s
WAKR Walker 44.33 318 P P 06 33 35.8 -0.3
HLID Hailey 44.42 327 P P 06 33 37.6 +0.8
baz=133
HLID Hailey 44.42 327 P P 06 33 36.5 -0.3
BOZ Bozeman (W) 44.46 331 P P 06 33 39.0 +2.0
baz=138
BOZ Bozeman (W) 44.46 331 P P 06 33 37.0 0.0
ORV Oroville 46.25 318 P P 06 33 50.8 -0.3
ORV IAmb IAmb 06 33 54.7
comp=Z,6.8nm,1.2s
SCHQ Schefferville 48.07 13 P P 06 34 05.6 +0.6
comp=Z,5.1nm,0.8s,baz=232,slow=7.3,SNR=4.0
SCHQ Schefferville 48.07 13 P P 06 34 04.5 -0.5
SCHQ IAmb IAmb 06 34 07.0
comp=Z,9.3nm,0.9s
C09A Chrisman Ranch 49.27 329 P P 06 34 12.7 -1.7
C09A IAmb IAmb 06 34 18.4
comp=Z,3.6nm,0.7s
PLCA Paso Flores 50.26 168 P P 06 34 22.4 +0.4
comp=Z,3.4nm,0.9s,baz=341,slow=7.5,SNR=9.9
PLCA Paso Flores 50.26 168 P P 06 34 21.3 -0.7
PLCA IAmb IAmb 06 34 28.6
comp=Z,5.6nm,1.0s
D03D Eldon 51.65 326 P P 06 34 33.3 +0.9
baz=126
YKA Yellowknife Ar 58.64 343 P P 06 35 21.6 -1.0
comp=Z,3.6nm,0.8s,baz=131,slow=7.2,SNR=6.5
RES Resolute Bay 66.57 357 P P 06 36 14.6 -0.7
comp=Z,3.0nm,0.7s,baz=175,slow=9.5,SNR=6.3
RES Resolute Bay 66.57 357 P P 06 36 13.3 -2.1
ICESG Greenland Ices 66.81 16 *i* P P 06 36 15.9 -1.5
ICESG IAmb IAmb 06 36 18.6
comp=Z,8.5nm,0.7s
EPYK Eagle Plains 68.31 340 P P 06 36 27.3 +0.7
baz=121
INK Inuvik 68.33 342 P P 06 36 26.4 -0.1
comp=Z,8.3nm,1.0s,baz=107,slow=5.6,SNR=4.2
INK Inuvik 68.33 342 P P 06 36 24.8 -1.8
BCAR Beaver Creek A 68.68 335 P P 06 36 29.0 0.0
EGAK Eagle 69.17 337 P P 06 36 30.3 -1.6
K27K Chicken 69.21 336 P P 06 36 33.2 +1.1
baz=115
SUMG Summit 69.46 13 P P 06 36 32.4 -1.7
SUMG Summit 69.46 13 *i* P P 06 36 33.0 -1.1

comp=Z,50nm,1.1s
SUMG Summit 69.46 13 *i* P **P 06 36 33.0 -1.1**
SUMG IAmb IAmb 06 36 35.8
comp=Z,50nm,1.1s
DOT Dot Lake 69.86 335 P **P 06 36 35.6 -0.7**
SCRK Sand Creek 69.95 336 P **P 06 36 38.0 +1.1**
baz=113
RIDG Independent Ri 70.22 335 P **P 06 36 37.5 -1.0**
HDA Harding Lake 71.32 336 P **P 06 36 45.5 +0.4**
baz=110,SNR=13
HDA Harding Lake 71.32 336 P **P 06 36 43.7 -1.4**
IL31 71.42 336 P **P 06 36 45.1 -0.6**
IL31 IAmb IAmb 06 36 46.8
comp=Z,5.4nm,0.7s
ILAR Eielson Array 71.42 336 P **P 06 36 45.8 0.0**
comp=Z,4.5nm,0.7s,baz=110,slow=4.6,SNR=47
ILAR Eielson Array 71.42 336 P **P 06 36 44.6 -1.1**
BMAR Burnt Mountain 71.55 339 P **P 06 36 46.3 -0.2**
POKR Poker Plat Res 71.76 336 P **P 06 36 48.1 +0.4**
baz=110
RND Reindeer 71.78 334 P **P 06 36 47.5 -0.5**
WRH Wood River Hil 71.81 336 P **P 06 36 47.4 -0.6**
WRH IAmb IAmb 06 36 52.1
comp=Z,5.2nm,0.8s
MCK McKinley 71.92 335 P **P 06 36 49.4 +0.6**
baz=108
MDM Murphy Dome 72.03 336 P **P 06 36 49.4 0.0**
MDM IAmb IAmb 06 36 50.8
comp=Z,6.1nm,1.0s
NEA2 Nenana 72.25 336 P **P 06 36 50.9 +0.2**
baz=108,SNR=7.2
KTH Kantishna Hill 72.71 334 P **P 06 36 53.1 -0.5**
KTH IAmb IAmb 06 37 01.2
comp=Z,10nm,1.1s
BPAW Bear Paw Mtn. 72.90 335 P **P 06 36 54.1 -0.5**
MLY Manley 73.06 336 P **P 06 36 55.2 -0.4**
baz=107,SNR=6.3
COLD Coldfoot 73.52 338 P **P 06 36 59.9 +1.8**
baz=108
COLD Coldfoot 73.52 338 P **P 06 36 57.9 -0.2**
COLD IAmb IAmb 06 37 00.4
comp=Z,5.3nm,0.9s
DAG Danmarks Havn 76.12 12 *i* P **P 06 37 11.1 -1.9**
comp=Z,4.6nm,1.1s
DAG Danmarks Havn 76.12 12 *i* P **P 06 37 11.1 -1.9**
DAG IAmb IAmb 06 37 14.5
comp=Z,4.6nm,1.1s
ESDC Sonseca Array 76.31 51 P **P 06 37 14.9 -0.1**
comp=Z,4.4nm,0.9s,baz=277,slow=5.7,SNR=14
ESDC Sonseca Array 76.31 51 P **P 06 37 14.3 -0.7**
TIC Toumodi 77.28 85 *eP* **P 06 37 20.9 0.0**
LIC Lamto 77.33 85 *eP* **P 06 37 21.3 +0.2**
comp=Z,37nm,1.1s
KOWA Kowa 77.41 77 P **P 06 37 18.0 -3.5**
DBIC Dimbokro 77.44 85 P **P 06 37 22.0 +0.3**
comp=Z,15nm,1.1s,baz=256,slow=10,SNR=4.0
DBIC Dimbokro 77.44 85 P **P 06 37 20.4 -1.3**
KIC Kosan Boka 77.59 85 *eP* **P 06 37 22.6 0.0**
comp=Z,56nm,1.3s
TORD Torodi Ar. Bea 83.07 78 P **P 06 37 51.9 -0.1**
comp=Z,2.3nm,0.8s,baz=272,slow=4.9,SNR=12
TORD Torodi Ar. Bea 83.07 78 P **P 06 37 50.6 -1.4**
NB2 NORSAR Subarra 84.78 29 P **P 06 37 59.4 -0.5**
comp=Z,7.7nm,1.2s,baz=282,slow=5.1
NOA NORSAR Array B 84.78 29 P **P 06 37 58.8 -1.1**
comp=Z,1.6nm,0.9s,baz=281,slow=5.0,SNR=6.7
HFS Hagfors 86.12 30 P **P 06 38 05.6 -1.0**
comp=Z,3.3nm,0.8s,baz=270,slow=5.8,SNR=4.1
CLL Collm 87.28 39 *eP* **P 06 38 12.0 -0.4**
GERES GERESS Array B 88.16 41 P **P 06 38 15.7 -1.1**
comp=Z,1.0nm,0.9s,baz=292,slow=4.2,SNR=7.3
GERES GERESS Array B 88.16 41 P **P 06 38 15.9 -0.9**
PRED Cave del Predi 88.51 43 P **P 06 38 17.7 -0.8**
PRED IAmb IAmb 06 38 18.9
comp=Z,4.8nm,1.1s
ARCES ARCESS Array B 88.55 19 P **P 06 38 17.5 -0.6**
comp=Z,3.8nm,0.9s,baz=306,slow=4.3,SNR=7.5
FINES FINESS Array B 91.63 27 P **P 06 38 31.7 -0.9**
comp=Z,3.4nm,1.0s,baz=205,slow=8.4,SNR=6.0
FINES FINESS Array B 91.63 27 P **P 06 38 30.6 -2.0**
QSPA South Pole Qui 98.41 180 P **P 06 39 00.5 -3.1**
KSRS Korea Array 125.93 330 PKP **PKPdf 06 44 26.8 -1.4**
comp=Z,1.7nm,0.7s,baz=12,slow=3.6,SNR=4.4
ASAR Alice Springs 141.51 242 PKhKP PKPpre 06 44 51.3
comp=Z,0.7nm,0.9s,baz=117,slow=3.8,SNR=6.7
ASAR PKP **PKPdf 06 44 57.0 -0.8**
comp=Z,0.5nm,0.5s,baz=116,slow=3.0,SNR=8.3
ASAR Alice Springs 141.51 242 PKPdf 06 44 57.1 -0.7
WRA Warramunga Arr 142.05 248 PKhKP PKPpre 06 44 52.9
comp=Z,0.8nm,0.9s,baz=106,slow=2.9,SNR=5.3
CMAR Chiang Mai Arr 153.22 356 PKPbc **PKPbc 06 45 24.0 -0.6**
comp=Z,1.1nm,0.4s,baz=328,slow=3.6,SNR=5.2
CMAR Chiang Mai Arr 153.22 356 PKPbc 06 45 24.2 -0.5

IDC **12** *06:38:10.2±1.8, 35°.96N×137°.08E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.3/55, mbtmp3.7/2, MS4.4/1, Ms1 4.4/1, ms1mx3.1/47, Error ellipse: s-maj=39.0km s-min=17.4km az=132.0*
JMA **12** *06:38:22.0, 36°.24N×137°.69E, h6km±1km, M1.6*
ISC 12 06:38:21.8±1.1,**36°.26N**±0°.07×**137°.68E**±0°.07,**h14**km±13km,
n7, σ0**58**/13,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JGN	**Niukaw**	**0.29**	**262**	P	**P**	**g**	**06 38 28.0**	**0.0**
JNG	**Nsakai**	**0.37**	**67**	P	**P**	**g**	**06 38 29.4**	**+0.1**
JNG				S	**S**	**g**	**06 38 34.3**	**-0.2**
MAJO	**Matsushiro**	**0.51**	**57**	*i* Pg	**P**	**g**	**06 38 32.3**	**+0.4**
MAJO				*i* Pn	**P**	**n**	**06 38 34.5**	**-0.2**
MAJO				*i* Sg	**S**	**g**	**06 38 38.5**	**-0.2**
MAT	**Matsushiro**	**0.51**	**57**	P	**P**	**g**	**06 38 31.8**	**-0.1**
MAT				S	**S**	**g**	**06 38 38.6**	**-0.1**
MJAR	**Matsushiro Arr**	**0.51**	**57**	Pg	**P**	**g**	**06 38 31.6**	**-0.3**
	0.3nm,0.3s,baz=242,slow=18,SNR=15							
MJAR				Lg	Lg		06 38 39.1	
	1.0nm,0.3s,baz=137,slow=24,SNR=14							
JGF	**Kuroka**	**0.71**	**202**	*i* Pg	**Pg**		**06 38 35.2**	**-0.4**
JGF				*i* Sg	**Sg**		**06 38 46.1**	**+1.1**
INU	**Inuyama**	**1.06**	**211**	*i* Pg	**Pb**		**06 38 42.3**	**+0.4**
INU				*i* Sg	**Sg**		**06 38 55.0**	**-1.0**

IDC **12** *06:42:18.6±0.5, 57°.30N×33°.27W, h0km, mb4.1/30, mb1 4.2/33, mb1mx4.1/52, mbtmp4.1/33, ML3.6/3, MS4.2/28, Ms1 4.3/28, ms1mx4.1/50, Error ellipse: s-maj=15.5km s-min=10.0km az=174.0*
GCMT **12** *06:42:18.8±0.2, 57°.45N±0°.02×33°.10W±0°.03, h12km, MW4.9/108, Moment Tensor Solution. s25,c30; s108,c169; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.79±.08; Mθθ0.44±.09; Mϕϕ2.35±.06; Mrθ0.75±.29; Mθϕ1.30±.06; Mϕr-0.26±.26; Best double couple: Mo3.01100×10¹⁶ NP1:ϕs12.00000°,δ46.00000°, λ-112.00000°. NP2:ϕs222.00000°,δ48.00000°, λ-69.00000°. Principal axes: T 3.0110, Plg1.0000°, Azm297.0000°; N 0.0030, Plg16.0000°, Azm27.0000°; P -3.0110, Plg74.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **12** *06:42:20.8±1.2, 57°.38N±0°.08×33°.2W±0°.1, h10km±1km, mb4.6/106 Error ellipse: s-maj=14.4km s-min=11.6km az=167.0*
ISC 12 06:42:20.3±0.3,**57°.36N**±0°.06×**33°.26W**±0°.05,**h10**km,**n194,** σ1**°28**/188,**mb4.5**/75,**MS4.2**/25,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.30**	**306**	Pn	**Pn**		**06 44 04.4**	**-2.4**
ANGG	**Ammassalik, Gr**	**8.54**	**348**	Pn	**Pn**		**06 44 23.3**	**-0.5**
ANGG				Sn	**Sn**		**06 45 55.3**	**-4.7**
BORG	**Borgarnes**	**9.38**	**33**	Pn	**Pn**		**06 44 37.4**	**+2.1**
	2.7nm,0.3s,baz=210,slow=2.9,SNR=13							
BORG				Sn	**Sn**		**06 46 22.5**	**+1.8**
	0.3nm,0.3s,baz=31,slow=4.7,SNR=2.6							
BORG				LR	LR		06 47 20.5	
	comp=Z,2μm,18.6s,baz=236,slow=32							
BORG	**Borgarnes**	**9.38**	**33**	Pn	**Pn**		**06 44 35.5**	**+0.2**
SFJD	**Kangerlussuaq**	**12.55**	**327**	LR	LR		06 49 24.0	
	comp=Z,2μm,18.6s,baz=136,slow=34							
SUMG	**Summit**	**15.42**	**354**		**Pn**		**06 45 58.3**	**+0.4**
SUMG				IAmb	IAmb		06 46 11.5	
	comp=Z,41nm,1.5s							
SUMG	**Summit**	**15.42**	**354**	*i* P	**Pn**		**06 46 00.0**	**+2.0**
	comp=Z,101nm,1.4s							
SUMG	**Summit**	**15.42**	**354**	*i* P	**Pn**		**06 46 00.0**	**+2.0**
SUMG				IAmb	IAmb		06 46 01.3	
	comp=Z,101nm,1.4s							
DRLN	**Deer Lake**	**16.53**	**251**	Pn	**Pn**		**06 46 13.2**	**+1.2**
DRLN				IAmb	IAmb		06 46 16.8	
	comp=Z,45nm,1.2s							
ESK	**Eskdalemuir**	**16.72**	**84**	Pn	**Pn**		**06 46 12.7**	**-1.7**
EKA	**Eskdalemuir Ar**	**16.74**	**84**	Pn	**Pn**		**06 46 14.8**	**+0.2**
	baz=287,slow=10,SNR=6.8							
JMIC	**Jan Mayen**	**17.19**	**28**	LR	LR		06 50 53.2	
	comp=Z,123nm,18.2s,baz=242,slow=30							
SCHQ	**Schefferville**	**18.79**	**277**	P	**P**		**06 46 40.4**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=54,slow=9.3,SNR=5.5							
SCHQ				LR	LR		06 52 46.5	
	comp=Z,1μm,19.3s,baz=77,slow=33							
SCHQ	**Schefferville**	**18.79**	**277**		**P**		**06 46 39.7**	**+0.2**
SCHQ				IAmb	IAmb		06 46 46.2	
	comp=Z,54nm,1.5s							
LMN	**Caledonia Moun**	**22.50**	**253**	P	**P**		**06 47 20.8**	**+1.0**
LMN				IAmb	IAmb		06 47 29.1	
	comp=Z,34nm,1.2s							
NB2	**NORSAR Subarra**	**22.72**	**62**	P	**P**		**06 47 22.5**	**+0.5**
	comp=Z,59nm,2.5s,baz=280,slow=11							
NOA	**NORSAR Array B**	**22.72**	**62**	P	**P**		**06 47 21.9**	**-0.1**
	comp=Z,4.0nm,1.1s,baz=280,slow=9.0,SNR=3.4							
NOA				LR	LR		06 54 49.2	
	comp=Z,289nm,21.5s,baz=280,slow=33							
D62A	**Allapoint, All**	**23.94**	**260**	P	**P**		**06 47 36.6**	**+2.3**
D62A				IAmb	IAmb		06 47 41.6	
	comp=Z,17nm,1.4s							
E63A	**Oxbow**	**24.03**	**258**	P	**P**		**06 47 36.5**	**+1.4**
E63A				IAmb	IAmb		06 47 44.0	
	comp=Z,17nm,1.1s							
HFS	**Hagfors**	**24.11**	**64**	P	**P**		**06 47 35.6**	**-0.2**
	comp=Z,7.2nm,1.0s,baz=287,slow=10,SNR=6.1							
E62A	**Clayton Lake**	**24.48**	**260**	P	**P**		**06 47 40.9**	**+1.6**
E62A				IAmb	IAmb		06 47 45.1	
	comp=Z,18nm,1.4s							
F62A	**Pittston Farm,**	**25.19**	**259**	P	**P**		**06 47 47.8**	**+2.2**
G62A	**West of Eustis**	**25.93**	**258**	P	**P**		**06 47 55.0**	**+2.6**
ESDC	**Sonseca Array**	**25.95**	**120**	P	**P**		**06 47 52.7**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=316,slow=9.5,SNR=6.8							
ESDC				LR	LR		06 56 21.4	
	comp=Z,595nm,18.3s,baz=315,slow=32							
CLL	**Collm**	**27.20**	**83**	*i* P	**P**		**06 48 03.9**	**+0.1**
CLL				*e*SSSS			06 54 18.0	
CLL				Lm	MLR		06 58 00.0	
	comp=Z,700nm,20.1s							
CLL				Lmax			06 59 00.0	
ARCES	**ARCESS Array B**	**27.68**	**40**	LR	LR		06 56 57.2	
	comp=Z,269nm,19.2s,baz=20,slow=32							
BRG	**Berggiesshubel**	**27.93**	**83**	*e*P	**P**		**06 48 03.8**	**-6.6**
	comp=Z,1.7nm,1.0s							
TUE	**Stuetta**	**27.98**	**94**	P	**P**		**06 48 11.7**	**+0.5**
DAVOX	**Davos/Dischmat**	**28.08**	**93**	P	**P**		**06 48 13.1**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=323,slow=9.9,SNR=2.9							
GERES	**GERESS Array B**	**28.92**	**87**	P	**P**		**06 48 20.2**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=320,slow=4.4,SNR=2.2							
GERES				LR	LR		06 59 25.6	
	comp=Z,442nm,18.3s,baz=297,slow=36							
PLVO	**Plevna**	**29.55**	**264**	P	**P**		**06 48 27.2**	**+2.4**
FINES	**FINESS Array B**	**29.56**	**57**	P	**P**		**06 48 25.0**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=258,slow=9.5,SNR=4.0							
FINES				LR	LR		06 58 40.0	
	comp=Z,274nm,20.6s,baz=288,slow=33							
FINES	**FINESS Array B**	**29.56**	**57**	P	**P**		**06 48 25.6**	**+1.0**
ZOU	**Zoufplan**	**29.89**	**91**	P	**P**		**06 48 30.1**	**+2.0**
ZOU				IAmb	IAmb		06 48 54.2	
	comp=Z,7.8nm,1.1s							
VRAC	**Vranov**	**30.22**	**84**	P	**P**		**06 48 30.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=280,slow=5.4,SNR=1.8							
SADO	**Sadowa**	**30.84**	**266**	P	**P**		**06 48 38.1**	**+1.8**
MDT	**Midelt**	**31.38**	**129**	P	**P**		**06 48 41.7**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=348,slow=16,SNR=2.7							
MDT				LR	LR		06 59 58.2	
	comp=Z,314nm,19.2s,baz=355,slow=34							
VYHS	**Vyhne**	**31.90**	**83**	*e*P	**P**		**06 48 44.8**	**-0.7**
COWI	**Conover**	**35.40**	**276**	P	**P**		**06 49 16.5**	**+0.5**
KEST	**Kesra**	**35.59**	**109**	P	**P**		**06 49 18.1**	**+0.2**
	comp=Z,4.9nm,1.0s,baz=305,slow=5.7,SNR=4.2							
KEST				LR	LR		07 01 47.6	
	comp=Z,436nm,21.5s,baz=240,slow=33							
KEST	**Kesra**	**35.59**	**109**	P	**P**		**06 49 18.6**	**+0.8**
KEST				IAmb	IAmb		06 49 34.3	
	comp=Z,13nm,1.3s							
KLMR	**Klimovskoe**	**35.77**	**53**	*e*P	**P**		**06 49 18.0**	**-0.9**
KLMR				AMP			06 49 22.9	
	comp=Z,15nm,1.2s							
BUR08	**Bucovina Ar. S**	**35.82**	**80**	P	**P**		**06 49 19.6**	**-0.1**
BURAR	**Bucovina Array**	**35.85**	**80**	P	**P**		**06 49 20.6**	**+0.7**
AKASG	**Malin Array Be**	**36.12**	**73**	P	**P**		**06 49 20.5**	**-1.5**
	comp=Z,3.1nm,0.8s,baz=308,slow=8.2,SNR=10							
AKASG				PcP	**PcP**		**06 51 46.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=302,slow=4.2,SNR=2.1							
AKASG				LR	LR		07 03 41.8	
	comp=Z,347nm,19.9s,baz=285,slow=36							
AKASG	**Malin Array Be**	**36.12**	**73**	P	**P**		**06 49 21.0**	**-1.1**
AKBB	**Malin Array Si**	**36.12**	**73**	P	**P**		**06 49 19.7**	**-2.3**
AKBB				IAmb	IAmb		06 49 23.6	
	comp=Z,7.0nm,1.1s							
N49A	**Columbus Grove**	**36.17**	**265**	P	**P**		**06 49 23.7**	**+1.1**
N49A				IAmb	IAmb		06 49 29.1	
	comp=Z,11nm,1.0s							
ULM	**Lac du Bonnet**	**36.45**	**286**	P	**P**		**06 49 23.5**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=21,slow=13,SNR=4.5							
ULM				LR	LR		07 02 59.5	
	comp=Z,787nm,18.8s,baz=90,slow=34							
ULM	**Lac du Bonnet**	**36.45**	**286**	IAmb	IAmb		06 49 26.0	
	comp=Z,9.4nm,1.1s							
SPMN	**Marine on St.**	**37.93**	**278**	P	**P**		**06 49 38.1**	**+0.5**
SPMN				IAmb	IAmb		06 49 46.5	
	comp=Z,7.0nm,0.8s							
S51A	**Beattyville**	**38.22**	**261**	P	**P**		**06 49 40.6**	**+0.6**
S51A				IAmb	IAmb		06 49 47.4	
	comp=Z,8.4nm,1.0s							
YKA	**Yellowknife Ar**	**38.53**	**313**	P	**P**		**06 49 43.1**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=49,slow=12,SNR=2.5							
YKA				LR	LR		07 04 58.5	
	comp=Z,2μm,18.5s,baz=0.0,slow=35							
BG3	**Lake Jocassee**	**39.85**	**258**	P	**P**		**06 49 55.3**	**+1.5**
AGG	**Agios Georgios**	**40.04**	**93**	P	**P**		**06 49 55.9**	**+0.6**
AGG				IAmb	IAmb		06 49 57.3	
	comp=Z,9.3nm,0.9s							
USIN	**University of**	**40.17**	**265**	P	**P**		**06 49 58.0**	**+1.7**
Q44A	**Meyer Farm, Va**	**40.22**	**267**	P	**P**		**06 49 58.1**	**+1.4**
T47A	**Sharon Grove**	**40.58**	**264**	P	**P**		**06 50 01.2**	**+1.4**
ALN	**Alexandroupoli**	**40.73**	**88**	P	**P**		**06 50 00.9**	**0.0**
ALN				IAmb	IAmb		06 50 04.4	
	comp=Z,14nm,1.1s							
CLTN	**Cedars of Leba**	**40.83**	**262**	P	**P**		**06 50 03.6**	**+1.8**
W50A	**Signal Mountai**	**40.96**	**260**	P	**P**		**06 50 03.6**	**+0.6**
W50A				IAmb	IAmb		06 50 06.4	
	comp=Z,6.8nm,0.5s							
ECSD	**EROS Data Cent**	**40.96**	**279**	P	**P**		**06 50 03.5**	**+0.6**
ECSD				IAmb	IAmb		06 50 11.8	
	comp=Z,9.5nm,1.1s							
GOGA	**Godfrey**	**41.35**	**257**	P	**P**		**06 50 06.8**	**+0.7**
GOGA				IAmb	IAmb		06 50 08.1	
	comp=Z,15nm,1.4s							
P40A	**Paris**	**41.41**	**271**	P	**P**		**06 50 06.2**	**-0.4**
DGMT	**Dagmar**	**41.83**	**289**	P	**P**		**06 50 10.8**	**+0.8**
DGMT				IAmb	IAmb		06 50 18.6	
	comp=Z,12nm,0.9s							
INK	**Inuvik**	**41.90**	**327**	LR	LR		07 07 14.4	
	comp=Z,487nm,18.3s,baz=46,slow=36							
PBMO	**Poplar Bluff**	**42.53**	**266**	P	**P**		**06 50 16.4**	**+0.6**
PBMO				IAmb	IAmb		06 50 24.5	
	comp=Z,11nm,1.2s							
W45A	**Hickory Valley**	**43.07**	**264**	P	**P**		**06 50 21.3**	**+1.2**
W45A				IAmb	IAmb		06 50 24.6	
	comp=Z,15nm,1.0s							
IDI	**Anoyia**	**44.17**	**94**	P	**P**		**06 50 29.3**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=32,slow=18,SNR=1.7							
Y45A	**Yeager Farm, C**	**44.24**	**263**	P	**P**		**06 50 29.3**	**-0.3**
ILGA	**Ilgaz**	**44.75**	**81**	P	**P**		**06 50 34.9**	**+1.0**
ILGA				IAmb	IAmb		06 50 43.2	
	comp=Z,7.8nm,0.7s							
W39A	**Magazine**	**45.52**	**268**	P	**P**		**06 50 41.1**	**+1.3**
W39A				IAmb	IAmb		06 50 47.9	
	comp=Z,14nm,1.2s							
X40A	**Basin Creek Fa**	**45.54**	**266**	P	**P**		**06 50 40.6**	**+0.7**
X40A				IAmb	IAmb		06 50 47.2	
	comp=Z,5.7nm,1.1s							
BMAR	**Burnt Mountain**	**45.63**	**330**	P	**P**		**06 50 40.8**	**+0.5**
BR131	**Keskin Array S**	**45.65**	**83**	P	**P**		**06 50 41.8**	**+0.8**
BRTR	**Keskin Array B**	**45.65**	**83**	P	**P**		**06 50 41.1**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=319,slow=5.4,SNR=16							
BRTR				LR	LR		07 10 40.3	
	comp=Z,71nm,19.3s,baz=306,slow=37							
BRTR	**Keskin Array B**	**45.65**	**83**	P	**P**		**06 50 41.8**	**+0.8**
MIAR	**Mount Ida**	**45.90**	**267**	P	**P**		**06 50 43.8**	**+1.1**
MIAR				IAmb	IAmb		06 50 55.3	
	comp=Z,12nm,1.4s							
143A	**Socs Landing,**	**46.13**	**263**	P	**P**		**06 50 44.5**	**0.0**
KAN13	**South Haven SW**	**46.18**	**273**	P	**P**		**06 50 45.0**	**+0.1**
WALA	**Waterton Lakes**	**46.30**	**296**	P	**P**		**06 50 46.5**	**+0.6**
ARU	**Arti**	**46.43**	**50**	P	**P**		**06 50 47.1**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=283,slow=7.1,SNR=7.1							
ARU	**Arti**	**46.43**	**50**	P	**P**		**06 50 47.0**	**+0.3**
ARU				IAmb	IAmb		06 50 48.6	
	comp=Z,8.0nm,1.0s							
DAWY	**Dawson**	**46.48**	**324**	P	**P**		**06 50 47.5**	**+0.5**
RLMT	**Red Lodge**	**46.66**	**289**	P	**P**		**06 50 49.5**	**+0.6**
RLMT				IAmb	IAmb		06 51 04.7	
	comp=Z,9.4nm,1.3s							
DLBC	**Dease Lake**	**47.06**	**314**	LR	LR		07 10 15.4	
	comp=Z,2μm,19.4s,baz=74,slow=36							
W35A	**Tecumseh**	**47.23**	**270**	P	**P**		**06 50 53.3**	**+0.1**
YMP	**Mirror Lake PI**	**47.38**	**289**	P	**P**		**06 50 55.6**	**+1.0**
KIV	**Kislovodsk**	**47.44**	**72**	P	**P**		**06 50 55.2**	**+0.4**
KSCO	**Kaye Shedlock'**	**47.50**	**279**	P	**P**		**06 50 55.2**	**-0.2**
BOZ	**Bozeman (W)**	**47.53**	**291**	P	**P**		**06 50 56.0**	**+0.4**
BOZ				IAmb	IAmb		06 51 04.9	
	comp=Z,5.3nm,1.1s							
KBZ	**Khabaz**	**47.71**	**72**	P	**P**		**06 50 58.6**	**+1.8**
	comp=Z,6.8nm,1.0s,baz=333,slow=5.0,SNR=7.3							
KBZ				LR	LR		07 12 09.4	
	comp=Z,206nm,18.1s,baz=326,slow=38							
BCAR	**Beaver Creek A**	**47.95**	**324**	P	**P**		**06 50 59.7**	**+1.3**
IL31		**48.22**	**328**	P	**P**		**06 51 00.4**	**-0.1**
IL31				IAmb	IAmb		06 51 03.7	
	comp=Z,5.2nm,1.1s							
ILAR	**Eielson Array**	**48.22**	**328**	P	**P**		**06 51 01.2**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=216,slow=1.0,SNR=4.8							
ILAR				PcP	**PcP**		**06 52 26.7**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=354,slow=2.7,SNR=4.1							
ILAR				LR	LR		07 10 00.3	
	comp=Z,323nm,21.5s,baz=78,slow=34							
ILAR	**Eielson Array**	**48.22**	**328**	P	**P**		**06 51 00.5**	**+0.1**
BW06	**Boulder Array**	**48.46**	**287**	P	**P**		**06 51 02.5**	**-0.4**
BW06				IAmb	IAmb		06 51 10.4	
	comp=Z,6.8nm,1.2s							
PD31	**Pinedale Array**	**48.46**	**287**	P	**P**		**06 51 02.7**	**-0.3**
PD31				IAmb	IAmb		06 51 10.4	
	comp=Z,6.0nm,1.2s							
PDAR	**Pinedale Array**	**48.46**	**287**	P	**P**		**06 51 01.8**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=62,slow=7.0,SNR=12							
PDAR				LR	LR		07 10 26.2	
	comp=Z,681nm,18.2s,baz=30,slow=35							
ISCO	**Idaho Springs**	**48.52**	**281**	P	**P**		**06 51 03.4**	**-0.1**
ISCO				IAmb	IAmb		06 51 08.7	
	comp=Z,4.6nm,1.1s							
WMOK	**Wichita Mounta**	**48.58**	**272**	P	**P**		**06 51 04.2**	**+0.5**
WMOK				IAmb	IAmb		06 51 12.6	
	comp=Z,7.4nm,1.2s							
SNOW	**Snow King Moun**	**48.59**	**289**	P	**P**		**06 51 04.3**	**+0.4**
FXWY	**Fox Creek**	**48.60**	**289**	P	**P**		**06 51 05.4**	**+1.4**
MCMT	**McKenzie Canyo**	**48.69**	**291**	P	**P**		**06 51 05.4**	**+0.7**
ARTV	**Artvin**	**49.01**	**75**	P	**P**		**06 51 07.8**	**+0.7**
IMAR	**Indian Mountai**	**49.13**	**332**	P	**P**		**06 51 07.5**	**0.0**
BCYI	**Bear Canyon**	**49.33**	**291**	P	**P**		**06 51 10.0**	**+0.4**
AMTX	**Amarillo**	**50.03**	**274**	P	**P**		**06 51 15.9**	**+1.1**
AMTX				IAmb	IAmb		06 51 28.8	
	comp=Z,11nm,1.1s							
RDMU	**Red Mountain**	**50.05**	**285**	P	**P**		**06 51 16.1**	**+1.1**
AKTO	**Aktyubinsk**	**50.33**	**56**	P	**P**		**06 51 17.0**	**+0.2**
	comp=Z,8.1nm,0.9s,baz=326,slow=8.1,SNR=17							
HWUT	**Hardware Ranch**	**50.33**	**287**	P	**P**		**06 51 17.4**	**+0.2**
HWUT				IAmb	IAmb		06 51 25.0	
	comp=Z,6.0nm,1.1s							
HLID	**Hailey**	**50.38**	**291**	P	**P**		**06 51 17.7**	**+0.2**
BBB	**Bella Bella**	**50.65**	**308**	LR	LR		07 10 10.7	
	comp=Z,316nm,21.4s,baz=25,slow=33							
TIXI	**Tiksi**	**50.67**	**7**	P	**P**		**06 51 19.8**	**+0.8**
PV03	**Paradox Valley**	**51.36**	**283**	P	**P**		**06 51 25.4**	**+0.4**
PV18	**Skein Mesa, Pa**	**51.40**	**283**	P	**P**		**06 51 26.0**	**+0.7**
PV18				IAmb	IAmb		06 51 34.5	
	comp=Z,11nm,1.3s							
PV13	**Radium Mtn., P**	**51.42**	**282**	P	**P**		**06 51 26.5**	**+1.1**
PV13				IAmb	IAmb		06 51 34.7	
	comp=Z,6.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**51.49**	**135**	P	**P**		**06 51 24.1**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=338,slow=7.9,SNR=9.0							
TORD				LR	LR		07 11 10.9	
	comp=Z,290nm,19.4s,baz=320,slow=34							
TORD	**Torodi Ar. Bea**	**51.49**	**135**	P	**P**		**06 51 25.9**	**0.0**
ABKAR	**Akbulak array**	**52

MKAR	**Makanchi Array**	**63.25**	**44**	P		**P**	**06 52 48.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=342,slow=4.9,SNR=11							
MKAR	**Makanchi Array**	**63.25**	**44**	P		**P**	**06 52 48.2**	**-0.4**
BTK	**Batken**	**64.05**	**56**	P		**P**	**06 52 54.6**	**+0.6**
POPC	**Popayan, Colom**	**64.52**	**230**	*eP*		**P**	**06 52 53.7**	**-3.8**
BBAC	**Balboa, Cauca**	**65.22**	**230**	*eP*		**P**	**06 53 03.4**	**+1.3**
TARG	**Taragay, Kyrgy**	**65.70**	**50**	P		**P**	**06 53 05.3**	**+0.1**
TARG				IAmb		IAmb	06 53 08.6	
	comp=Z,4.4nm,0.7s							
PUAC	**Puerto Asis, P**	**66.28**	**229**	*eP*		**P**	**06 53 07.6**	**-1.1**
OTAV	**Otavalo**	**67.34**	**230**	*eP*		**P**	**06 53 13.6**	**-2.3**
WMQ	**Urumqi**	**67.78**	**42**	*eP*		**P**	**06 53 20.6**	**+2.6**
WMQ				pmax		pmax		
	comp=Z,12nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,140nm,5.3s							
UOSS	**Minazif**	**69.08**	**76**	P		**P**	**06 53 25.1**	**-1.2**
SONM	**Songino Array**	**69.95**	**28**	P		**P**	**06 53 31.5**	**0.0**
	comp=Z,3.4nm,0.9s,baz=333,slow=6.8,SNR=9.8							
SONM				LR		LR	07 25 55.4	
	comp=Z,105nm,19.6s,baz=64,slow=37							
SONM	**Songino Array**	**69.95**	**28**	IAmb		IAmb	06 53 33.2	
	comp=Z,3.1nm,0.9s							
ULN	**Ulaanbaatar**	**70.09**	**27**	P		**P**	**06 53 32.4**	**0.0**
SAML	**Samuel**	**70.48**	**212**	*eP*		**P**	**06 53 30.5**	**-4.4**
BDFB	**Brasilia**	**73.76**	**195**	P		**P**	**06 53 53.4**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=36,slow=1.9,SNR=5.0							
BDFB	**Brasilia**	**73.76**	**195**	P		**P**	**06 53 54.2**	**-0.4**
GTA	**Gaotai**	**75.83**	**36**	*eP*		**P**	**06 54 06.3**	**-0.2**
GTA				pP		sP	06 54 10.5	+0.4
GTA				sP		pwP	06 54 13.4	+1.5
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**77.78**	**27**	*eP*		**P**	**06 54 18.9**	**+1.4**
HHC				pmax		pmax		
	comp=Z,15nm,1.1s							
HHC				pmax		pmax		
	comp=Z,360nm,7.6s							
LPAZ	**La Paz**	**78.89**	**214**	P		**P**	**06 54 24.2**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=18,slow=6.4,SNR=4.1							
LPAZ	**La Paz**	**78.89**	**214**	IAmb		IAmb	06 54 25.4	
	comp=Z,5.3nm,1.4s							
LZH	**Lanzhou**	**80.14**	**34**	*eP*		**P**	**06 54 32.6**	**+2.1**
LZH				pP		pwP	06 54 36.7	+0.8
LZH				sP		PcP	06 54 38.8	+1.0
LZH				pmax		pmax		
	comp=Z,8.0nm,1.2s							
PB16	**IPOC Station P**	**81.24**	**215**	P		**P**	**06 54 37.2**	**+0.3**
PB16				IAmb		IAmb	06 54 45.5	
	comp=Z,8.1nm,1.1s							
KSRS	**Korea Array**	**84.22**	**15**	P		**P**	**06 54 50.0**	**-1.6**
	comp=Z,3.4nm,0.9s,baz=355,slow=4.8,SNR=5.0							
KSRS				LR		LR	07 32 23.8	
	comp=Z,31nm,20.6s,baz=350,slow=36							
LVC	**Limon Verde**	**85.09**	**213**	P		**P**	**06 54 57.4**	**+1.0**
CPUP	**Villa Florida**	**85.80**	**202**	P		**P**	**06 54 57.9**	**-1.6**
	comp=Z,2.3nm,1.0s,baz=6.5,slow=6.2,SNR=4.6							
CPUP	**Villa Florida**	**85.80**	**202**	P		**P**	**06 54 57.8**	**-1.6**
NJ2	**Nanjing**	**87.87**	**23**	*eP*		**P**	**06 55 09.1**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
WRA	**Warramunga Arr**	**141.52**	**19**	PKhKP		PKPpre	07 01 48.2	
	comp=Z,0.7nm,0.9s,baz=348,slow=2.2,SNR=4.0							
WRA				PKP		**PKPdf**	**07 01 52.0**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=343,slow=2.2,SNR=3.7							
ASAR	**Alice Springs**	**145.07**	**21**	PKPbc		**PKPbc**	**07 01 56.2**	**-0.8**
	comp=Z,7.9nm,0.9s,baz=348,slow=2.5,SNR=39							
ASAR	**Alice Springs**	**145.07**	**21**			**PKPbc**	**07 01 55.5**	**-1.5**

*IDC **12** 06:59:52.2±2.5,51°.26N×174°.94W,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/50,mbtmp3.5/6,ML3.8/1,Error ellipse: s-maj=68.5km s-min=29.1km az=12.0*
*AEIC **12** 06:59:57.0±0.8,51°.31N±0°.09×174°.87W±0°.05,h13km±8km, ML3.5,Error ellipse: s-maj=13.6km s-min=2.9km az=165.0*
*NEIC **12** 06:59:59.6±1.1,51°.39N±0°.07×174°.92W±0.07, h41km±38km,Error ellipse: s-maj=11.8km s-min=3.4km az=152.0*

ISC 12 06:59:59.0±1.8,51°.3N±0°.1×174°.86W±0°.05,h46km±16km, n38,σ1s25/37,mb3.5/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.98**	**25**		**Pn**	**07 00 15.1**	**-1.3**
ATKA	**Atka Island**	**0.98**	**25**		**Sn**	**07 00 29.6**	**+0.4**
GSMY	**Great Sitkin M**	**1.04**	**315**		**Pn**	**07 00 16.5**	**-0.8**
KOFP	**Korovin Flat P**	**1.08**	**26**		**Pn**	**07 00 17.2**	**-0.5**
GSTR	**Great Sitkin T**	**1.08**	**317**		**Pn**	**07 00 17.4**	**-0.4**
GSTD	**Great Sitkin T**	**1.09**	**314**		**Pn**	**07 00 17.3**	**-0.7**
GSTD					**Sn**	**07 00 33.0**	**+1.1**
KOKL	**Mount Kliuchef**	**1.09**	**22**		**Pn**	**07 00 17.3**	**-0.6**
KOKL					**Sn**	**07 00 33.1**	**+1.2**
KOWE	**Korovin West**	**1.12**	**19**		**Pn**	**07 00 17.8**	**-0.5**
GSSP	**Great Sitkin S**	**1.13**	**314**		**Pn**	**07 00 18.0**	**-0.4**
GSSP					**Sn**	**07 00 34.3**	**+1.5**
KOSE	**Korovin Southe**	**1.15**	**26**		**Pn**	**07 00 18.5**	**-0.3**
ADK	**Adak**	**1.27**	**297**		**Pn**	**07 00 19.3**	**-1.0**
ADK				Sn	**Sn**	**07 00 36.8**	**+0.6**
ADK	**Adak**	**1.27**	**297**	Pn	**Pn**	**07 00 19.1**	**-1.2**
ADAG	**Mount Adagdak**	**1.27**	**302**		**Pn**	**07 00 20.5**	**+0.1**
KIRH	**Kanaga Island**	**1.51**	**294**		**Pn**	**07 00 23.3**	**-0.3**
KIKV	**Kanaga Island**	**1.55**	**292**		**Pn**	**07 00 23.6**	**-0.5**
KIMD	**Kanaga Island**	**1.55**	**288**		**Pn**	**07 00 23.4**	**-0.7**
TAFP	**Tanaga Falls P**	**2.03**	**288**		**Pn**	**07 00 30.9**	**+0.1**
TAFP					**Sn**	**07 00 57.0**	**+2.1**
TASE	**Tanaga Southea**	**2.05**	**286**		**Pn**	**07 00 31.2**	**+0.2**
CESW	**Semis' Southwe**	**3.53**	**282**		**Pn**	**07 00 50.8**	**-0.4**
AMKA	**Amchitka**	**3.66**	**273**		**Pn**	**07 00 52.1**	**-0.9**
NIKH	**Nikolski High**	**4.06**	**63**	Pn	**Pn**	**07 00 59.6**	**+1.1**
UNV	**Unalaska Valle**	**5.69**	**60**	Pn	**Pn**	**07 01 22.4**	**+1.6**
OHAK	**Old Harbor**	**13.89**	**56**	Pn	**Pn**	**07 03 09.4**	**-3.5**
KDAK	**Kodiak Island**	**14.42**	**55**	Pn	**Pn**	**07 03 16.5**	**-3.5**
	0.1nm,0.3s,baz=264,slow=3.2,SNR=7.1							
SVW2	**Sparrevohn**	**14.47**	**40**	Pn	**Pn**	**07 03 22.7**	**+2.0**
PPLA	**Purkeypile**	**16.80**	**38**	Pn	**Pn**	**07 03 51.2**	**+0.4**
ILAR	**Eielson Array**	**19.79**	**36**	P	**P**	**07 04 24.9**	**-0.2**
	0.3nm,0.3s,baz=236,slow=9.9,SNR=12							
H11N2	**WAKE ISLAND Hy**	**34.63**	**211**	T	T	07 43 46.0	
	baz=18,slow=76,SNR=5.8							
H11N3	**WAKE ISLAND Hy**	**34.64**	**211**	T	T	07 43 59.5	
	baz=18,slow=76,SNR=5.7							
H11N1	**WAKE ISLAND Hy**	**34.65**	**211**	T	T	07 43 51.7	
	baz=18,slow=76,SNR=5.7							
H11S1	**WAKE ISLAND Hy**	**35.84**	**211**	T	T	07 45 37.7	
	baz=14,slow=74							
H11S2	**WAKE ISLAND Hy**	**35.86**	**211**	T	T	07 45 56.5	
	baz=14,slow=74							
H11S3	**WAKE ISLAND Hy**	**35.86**	**211**	T	T	07 45 44.5	
	baz=14							
PDAR	**Pinedale Array**	**43.96**	**75**	P	**P**	**07 08 02.5**	**+0.9**
	0.2nm,0.5s,baz=284,slow=3.6,SNR=2.3							
TXAR	**Lajitas Array**	**56.21**	**84**	P	**P**	**07 09 33.6**	**-0.8**
	0.1nm,0.5s,baz=299,slow=9.2,SNR=1.7							
MKAR	**Makanchi Array**	**61.98**	**311**	P	**P**	**07 10 14.1**	**+0.2**
	0.7nm,0.4s,baz=47,slow=6.0,SNR=9.2							
FINES	**FINESS Array B**	**66.36**	**349**	P	**P**	**07 10 41.7**	**-0.6**
	1.0nm,0.8s,baz=28,slow=6.3,SNR=2.0							
NOA	**NORSAR Array B**	**67.89**	**357**	P	**P**	**07 10 52.2**	**0.0**
	0.5nm,1.0s,baz=4.0,slow=6.0,SNR=1.8							

*IDC **12** 07:05:44.9±2.3,7°.08S×129°.97E,h104km±23km,mb4.1/1, mb1 3.8/6,mb1mx3.4/41,mbtmp4.1/6,Error ellipse: s-maj=26.7km s-min=19.8km az=104.0*

ISC 12 07:05:43.4±0.8,7°.17S±0°.06×130°.2E±0°.1,h104km,n7, σ3s15/12,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.36**	**10**	P	**Pn**	**07 07 15.2**	**+0.5**
	1.8nm,0.3s,baz=198,slow=20,SNR=7.9						
SIJI				S	**Sn**	**07 08 21.5**	**-4.4**
	4.8nm,0.3s,baz=247,slow=23,SNR=4.4						
BATI	**Baumata**	**7.09**	**244**	P	**Pn**	**07 07 25.1**	**+0.5**
	10nm,0.3s,baz=107,slow=2.4,SNR=7.1						
BATI				S	**Sn**	**07 08 43.7**	**+0.1**
	4.9nm,0.3s,baz=249,slow=9.7,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.72**	**202**	P	**Pn**	**07 08 27.8**	**+0.4**
	1.1nm,0.3s,baz=32,slow=12,SNR=45						
FITZ				S	**Sn**	**07 10 30.0**	**-6.2**
	1.0nm,0.3s,baz=89,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**13.33**	**163**	P	**Pn**	**07 08 50.7**	**+2.1**
	0.5nm,0.3s,baz=338,slow=13,SNR=23						
WRA				S	**Sn**	**07 11 13.3**	**-2.1**
	1.7nm,0.3s,baz=334,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.79**	**168**	P	**P**	**07 09 36.5**	**+3.6**
	0.4nm,0.3s,baz=339,slow=9.4,SNR=27						
ASAR				S	**Sn**	**07 12 36.5**	**-2.5**
	0.5nm,0.3s,baz=351,slow=25,SNR=6.9						
MKAR	**Makanchi Array**	**68.45**	**327**	P	**P**	**07 16 34.4**	**+0.1**
	2.4nm,0.6s,baz=124,slow=7.8,SNR=19						
CPUP	**Villa Florida**	**145.92**	**168**	PKPbc	**PKPbc**	**07 25 13.3**	**+1.6**
	1.2nm,0.7s,baz=194,slow=0.5,SNR=3.3						

*NEIC **12** 07:13:07.9±1.2,2°.1N±0°.2×90°.38E±0°.04,h10km±2km, mb4.0/2,Error ellipse: s-maj=33.0km s-min=4.4km az=191.0*
*IDC **12** 07:13:07.9±1.3,2°.35N×90°.06E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.6/47,mbtmp3.9/8,MS3.4/2,Ms1 3.4/2, ms1mx2.9/51,Error ellipse: s-maj=52.2km s-min=22.9km az=50.0*

ISC 12 07:13:12.9±1.0,2°.4N±0°.2×90°.44E±0°.08,h35km,n30, σ1s28/27,mb3.9/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**7.21**	**98**		**Pn**	**07 14 55.2**	**-0.7**
GSI				Sn	**Sn**	**07 16 15.1**	**-1.5**
RPSI	**Rantau Prapat**	**8.48**	**88**		**Pn**	**07 15 11.7**	**-1.7**
RPSI	**Rantau Prapat**	**8.48**	**88**		**Pn**	**07 15 11.4**	**-1.9**
RPSI					**Sn**	**07 16 47.9**	**+0.1**
PSI	**Prapat**	**8.48**	**87**	Pn	**Pn**	**07 15 11.4**	**-2.1**
	1.1nm,0.3s,baz=355,slow=1.0,SNR=2.1						
PSI				Sn	**Sn**	**07 16 47.9**	**-0.2**
	0.8nm,0.3s,baz=360,slow=14,SNR=1.6						
PSI				LR	LR	07 19 03.2	
	comp=Z,114nm,18.4s,baz=91,slow=40						
KULM	**Kulim**	**10.59**	**74**		**Pn**	**07 15 41.3**	**-0.9**
IPM	**Ipoh**	**10.77**	**79**		**Pn**	**07 15 45.7**	**+0.9**
PALK	**Pallekele**	**10.85**	**297**	Pn	**Pn**	**07 15 44.5**	**-1.4**
PMBI	**Palembang**	**15.27**	**110**		**S**	**07 19 48.4**	**-1.4**
H08S2	**Diego Garcia H**	**20.49**	**241**	T	T	07 38 54.0	
	baz=59,slow=75,SNR=152						
H08S3	**Diego Garcia H**	**20.49**	**241**	T	T	07 38 53.7	
	baz=59,slow=75,SNR=240						
H08S1	**Diego Carcia H**	**20.51**	**241**	T	T	07 39 04.8	
	baz=59,slow=75,SNR=84						
H01W3	**Cape Leeuwin H**	**43.23**	**151**	T	T	08 07 17.9	
	baz=325,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**43.24**	**151**	T	T	08 07 10.0	
	baz=325,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**43.24**	**151**	T	T	08 07 26.9	
	baz=325,slow=75,SNR=17						
KKAR	**Karatay Array**	**44.27**	**339**		**P**	**07 21 20.1**	**+0.9**
MK31	**Makanchi Array**	**44.80**	**352**	P	**P**	**07 21 23.8**	**+0.4**
MK31				IAmb	IAmb	07 21 32.0	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**44.80**	**352**	P	**P**	**07 21 23.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=169,slow=9.3,SNR=6.6						
SONM	**Songino Array**	**47.33**	**15**	P	**P**	**07 21 44.4**	**+1.0**
	comp=Z,4.1nm,0.5s,baz=192,slow=9.4,SNR=23						
SONM	**Songino Array**	**47.33**	**15**	P	**P**	**07 21 44.5**	**+1.0**
WRA	**Warramunga Arr**	**48.45**	**119**	P	**P**	**07 21 54.3**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=296,slow=8.4,SNR=5.0						
ASAR	**Alice Springs**	**49.58**	**124**	P	**P**	**07 22 03.8**	**+2.8**
	comp=Z,0.3nm,0.9s,baz=301,slow=7.4,SNR=1.9						
ZALV	**Zalesovo Beam**	**51.60**	**356**	P	**P**	**07 22 15.6**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=174,slow=6.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**51.60**	**356**	P	**P**	**07 22 15.7**	**0.0**
ABKAR	**Akbulak array**	**53.47**	**336**		**P**	**07 22 30.1**	**+0.5**
BRTR	**Keskin Array B**	**63.37**	**314**	P	**P**	**07 23 37.1**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=74,slow=6.2,SNR=1.5						
FINES	**FINESS Array B**	**75.88**	**333**	P	**P**	**07 24 55.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=88,slow=3.5,SNR=4.4						
FINES				LR	LR	08 01 47.1	
	comp=Z,33nm,18.2s,baz=74,slow=38						
FINES	**FINESS Array B**	**75.88**	**333**	P	**P**	**07 24 56.0**	**+0.4**
GERES	**GERESS Array B**	**79.49**	**319**	P	**P**	**07 25 15.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=101,slow=5.1,SNR=6.4						
GERES	**GERESS Array B**	**79.49**	**319**	P	**P**	**07 25 16.5**	**+0.3**
TXAR	**Lajitas Array**	**145.69**	**22**	PKPbc	**PKPab**	**07 32 49.8**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=328,slow=3.3,SNR=5.1						

*IDC **12** 07:13:46.0±2.1,6°.38S×147°.50E,h0km,mb3.8/3, mb1 3.9/5,mb1mx3.6/34,mbtmp3.8/5,ML3.8/1,MS3.9/4, Ms1 3.9/4,ms1mx3.1/42,Error ellipse: s-maj=46.3km s-min=24.2km az=108.0*

ISC 12 07:13:47.8±2.3,6°.1S±0°.1×147°.7E±0°.3,h35km,n10, σ0s95/8,mb3.8/3,MS4.0/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**189**	Pn	**Pn**	**07 14 37.0**	**+0.3**
	13nm,0.3s,baz=20,slow=14,SNR=18						
PMG				Sn	**Sn**	**07 15 13.9**	**-0.6**
	18nm,0.3s,baz=51,slow=19,SNR=9.5						
SIJI	**Sorong**	**17.19**	**287**	LR	LR	07 26 09.1	
	comp=Z,155nm,20.6s,baz=92,slow=44						
WRA	**Warramunga Arr**	**18.87**	**222**	P	**P**	**07 18 04.3**	**-0.9**
	0.3nm,0.3s,baz=51,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**21.89**	**216**	P	**P**	**07 18 36.8**	**-1.1**
	1.1nm,0.4s,baz=46,slow=9.3,SNR=26						
ASAR				S	**S**	**07 22 39.2**	**+1.3**
	0.7nm,0.9s,baz=28,slow=24,SNR=3.8						
FITZ	**Fitzroy Crossi**	**24.57**	**239**	P	**P**	**07 19 04.6**	**0.0**
	1.8nm,0.6s,baz=45,slow=7.5,SNR=9.1						
STKA	**Stephens Creek**	**26.23**	**192**	P	**P**	**07 19 20.2**	**+0.7**
	2.9nm,0.8s,baz=17,slow=11,SNR=2.2						
PSI	**Prapat**	**49.48**	**279**	LR	LR	07 46 12.3	
	comp=Z,331nm,18.1s,baz=214,slow=40						
WSAR	**Wadi Sarin**	**91.52**	**293**	LR	LR	08 12 01.0	
	comp=Z,34nm,18.1s,baz=162,slow=38						
AKTO	**Aktyubinsk**	**94.47**	**320**	LR	LR	08 10 20.4	
	comp=Z,50nm,18.1s,baz=86,slow=36						
TORD	**Torodi Ar. Bea**	**145.78**	**284**	PKPbc	**PKiKP**	**07 33 27.8**	**0.0**
	1.9nm,0.6s,baz=81,slow=4.5,SNR=10						

*IDC **12** 07:23:51.9±1.9,15°.77S×177°.85W,h412km±21km, mb3.6/12,mb1 3.8/13,mb1mx3.6/37,mbtmp4.4/13,Error ellipse: s-maj=21.4km s-min=11.0km az=141.0*
*NEIC **12** 07:23:54.7±1.8,15°.6S±0°.1×178°.0W±0°.1,h435km±7km, mb4.1/48,Error ellipse: s-maj=19.1km s-min=14.1km az=135.0*

ISC 12 07:23:55.7±0.5,15°.55S±0°.08×177°.96W±0°.08,h450km, n92,σ1s23/91,mb4.1/33,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.40**	**240**		**P**	**07 25 13.3**	**-1.2**
AFI	**Afiamalu**	**6.20**	**76**	P	P	07 25 26.3	-5.9
	7.7nm,0.3s,baz=107,slow=2.8,SNR=14						
AFI				S	S	07 26 34.4	-17
	baz=205,slow=23,SNR=0.8						
AFI	**Afiamalu**	**6.20**	**76**		P	07 25 26.4	-5.9
AFI				S	**S**	**07 26 47.4**	**-3.7**
FUNA	**Funafuti**	**7.52**	**338**		**P**	**07 25 43.5**	**-2.5**
FUNA				S	**S**	**07 27 12.0**	**-4.3**
KNTN	**Kanton**	**14.11**	**26**	P	**P**	**07 27 00.3**	**+2.8**
SANVU	**Saraoutou**	**14.30**	**268**	P	**P**	**07 27 01.9**	**+2.4**
OUZ	**Omahuta**	**21.00**	**200**	P	**P**	**07 28 06.9**	**+0.9**
URZ	**Urewera**	**23.03**	**190**	P	**P**	**07 28 19.8**	**-4.6**
	6.9nm,0.3s,baz=13,slow=1.5,SNR=22						
URZ				S	S	07 31 35.6	-26
	7.9nm,0.9s,baz=164,slow=19,SNR=8.9						
URZ	**Urewera**	**23.03**	**190**	P	**P**	**07 28 21.0**	**-3.5**
MLZ	**Mavora Lakes**	**31.95**	**199**	P	**P**	**07 29 42.5**	**-0.4**
MLZ				IAmb	IAmb	07 29 43.1	
	comp=Z,27nm,1.2s						
CTAO	**Charters Tower**	**34.32**	**257**	P	**P**	**07 30 03.6**	**+0.2**
CTAO				IAmb	IAmb	07 30 06.8	
	comp=Z,5.5nm,1.1s						
STKA	**Stephens Creek**	**40.17**	**239**	P	**P**	**07 30 51.3**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=163,slow=7.2,SNR=2.8						
STKA	**Stephens Creek**	**40.17**	**239**	P	**P**	**07 30 51.7**	**+0.2**
BBOO	**Buckleboo**	**44.95**	**239**	P	**P**	**07 31 28.6**	**-0.7**
WR0	**Warramunga Arr**	**45.34**	**257**	P	**P**	**07 31 31.4**	**-1.0**
WB0	**Warramunga Arr**	**45.48**	**257**	P	**P**	**07 31 33.0**	**-0.6**
WB2	**Warramunga Arr**	**45.51**	**257**	P	**P**	**07 31 33.1**	**-0.7**
WRA	**Warramunga Arr**	**45.52**	**257**	P	**P**	**07 31 33.6**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=81,slow=6.0,SNR=92						
WRA				S	**S**	**07 37 40.3**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=94,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**45.52**	**257**	P	**P**	**07 31 33.3**	**-0.6**
AS31	**Alice Springs**	**45.88**	**252**	P	**P**	**07 31 36.8**	**+0.2**
AS31				IAmb	IAmb	07 31 37.7	
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**45.88**	**252**	P	**P**	**07 31 36.6**	**-0.1**
	comp=Z,8.4nm,0.3s,baz=86,slow=8.4,SNR=391						
ASAR				S	**S**	**07 37 48.3**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=86,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**45.88**	**252**	P	**P**	**07 31 35.9**	**-0.8**
KNRA	**Kununurra**	**51.19**	**262**	P	**P**	**07 32 15.9**	**-0.5**
KNRA				IAmb	IAmb	07 32 39.6	
	comp=Z,17nm,1.4s						
FORT	**Forrest**	**51.43**	**243**	P	**P**	**07 32 18.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.87**	**259**	P	**P**	**07 32 35.5**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=30,slow=17,SNR=2.2						
FITZ	**Fitzroy Crossi**	**53.87**	**259**	P	**P**	**07 32 35.1**	**-0.6**
MJAR	**Matsushiro Arr**	**66.30**	**322**	P	**P**	**07 33 58.9**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=159,slow=5.5,SNR=5.1						
MJAR	**Matsushiro Arr**	**66.30**	**322**	P	**P**	**07 33 58.0**	**-0.4**
PETK	**Petropavlovsk-**	**71.53**	**345**	P	**P**	**07 34 30.0**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=109,slow=8.5,SNR=7.4						
PETK	**Petropavlovsk-**	**71.53**	**345**	P	**P**	**07 34 29.5**	**-0.2**
QSPA	**South Pole Qui**	**74.49**	**180**	P	**P**	**07 34 46.8**	**0.0**
YBH	**Yreka Blue Hor**	**76.44**	**39**	P	**P**	**07 34 59.1**	**+1.0**
YBH				IAmb	IAmb	07 35 01.8	
	comp=Z,9.5nm,1.4s						
MDPB	**Devils Postpil**	**76.50**	**44**	P	**P**	**07 34 59.7**	**+0.9**
MDPB				IAmb	IAmb	07 35 00.7	
	comp=Z,5.0nm,1.1s						
LHV	**Little Huntoon**	**77.21**	**44**	P	**P**	**07 35 03.3**	**+1.1**
LHV				IAmb	IAmb	07 35 04.3	
	comp=Z,9.6nm,1.1s						
NVAR	**Mina Array Bea**	**77.44**	**44**	P	**P**	**07 35 04.2**	**+0.4**
	comp=Z,2.8nm,1.0s,baz=225,slow=9.5,SNR=13						
NVAR	**Mina Array Bea**	**77.44**	**44**	P	**P**	**07 35 03.9**	**0.0**
NV11	**Mina Array Sit**	**77.54**	**44**	P	**P**	**07 35 04.4**	**+0.1**
NV11				IAmb	IAmb	07 35 05.8	
	comp=Z,6.2nm,1.2s						
KVN	**Kaiserville**	**77.90**	**44**	P	**P**	**07 35 06.9**	**+0.6**
KVN				IAmb	IAmb	07 35 07.7	
	comp=Z,4.4nm,1.1s						
TPH	**Tonopah**	**77.98**	**45**	P	**P**	**07 35 07.1**	**+0.3**
MOD	**Modoc Plateau**	**78.02**	**40**		**P**	**07 35 07.0**	**+0.2**
MOD				IAmb	IAmb	07 35 08.2	
	comp=Z,3.7nm,1.0s						
SHPR	**Sheep Range**	**78.63**	**47**	P	**P**	**07 35 11.3**	**+1.0**
SHPR				IAmb	IAmb	07 35 12.0	
	comp=Z,3.5nm,1.2s						
PINE	**Pine Mountain**	**78.69**	**38**	P	**P**	**07 35 11.3**	**+0.9**
PINE				IAmb	IAmb	07 35 13.0	
	comp=Z,9.0nm,1.2s						
PRN	**Pahroc Range**	**79.14**	**46**	P	**P**	**07 35 13.3**	**+0.4**
PRN				IAmb	IAmb	07 35 14.8	
	comp=Z,6.2nm,1.2s						
R11A	**Troy Canyon, C**	**79.24**	**45**	P	**P**	**07 35 14.1**	**+0.6**
ELK	**Elko**	**80.66**	**43**	P	**P**	**07 35 21.3**	**+0.4**
G08A	**Pilot Rock**	**80.70**	**38**	P	**P**	**07 35 21.0**	**+0.1**
G08A				IAmb	IAmb	07 35 22.3	
	comp=Z,5.1nm,1.1s						
MVU	**Marysvale**	**81.64**	**46**	P	**P**	**07 35 27.1**	**+1.0**
RND	**Reindeer**	**81.89**	**13**	P	**P**	**07 35 26.8**	**+0.2**
DHY	**Denali Highway**	**81.92**	**14**	P	**P**	**07 35 26.7**	**-0.2**
DHY				IAmb	IAmb	07 35 33.3	
	comp=Z,8.2nm,1.4s						
F10A	**Beach Ranch, E**	**82.09**	**38**	P	**P**	**07 35 28.1**	**0.0**
F10A				IAmb	IAmb	07 35 32.7	
	comp=Z,4.9nm,0.9s						
PAX	**Paxson**	**82.28**	**14**	P	**P**	**07 35 29.7**	**+1.1**
HLID	**Hailey**	**82.58**	**41**	P	**P**	**07 35 31.2**	**+0.4**
HLID				IAmb	IAmb	07 35 32.6	
	comp=Z,5.0nm,1

AFI	**Afiamalu**	**6.03**	**37**	P		**Pn**	**08 13 51.7**	**+1.4**
	12nm,0.3s,baz=196,slow=3.0,SNR=25								
AFI				S		**Sn**	**08 14 53.5**	**-5.0**
	69nm,0.3s,baz=244,slow=23,SNR=14								
AFI	**Afiamalu**	**6.03**	**37**	Pn		**Pn**	**08 13 51.3**	**+1.0**
AFI				Sn		**Sn**	**08 14 54.9**	**-3.6**
RAR	**Rarotonga**	**14.98**	**102**	P		P	08 15 54.0	+4.9
	1.1nm,0.3s,baz=354,slow=9.2,SNR=1.8								
RAR				S		**Sn**	**08 18 34.0**	**+0.1**
	0.7nm,0.3s,baz=72,slow=6.4,SNR=1.4								
RAR	**Rarotonga**	**14.98**	**102**	IAmb	IAmb		08 16 02.9		
	comp=Z,38nm,1.1s								
SANVU	**Saraoutou**	**16.86**	**279**	P		**P**	**08 16 09.1**	**-0.8**
SANVU				IAmb	IAmb		08 16 19.5		
	comp=Z,36nm,0.9s								
DZM	**Mont Dzumac**	**17.23**	**256**	P		**Pn**	**08 16 19.4**	**+4.5**
	comp=Z,1.7nm,0.3s,baz=80,slow=18,SNR=16								
DZM	**Mont Dzumac**	**17.23**	**256**	P		**P**	**08 16 13.2**	**-0.9**
DZM				IAmb	IAmb		08 16 21.2		
	comp=Z,52nm,1.1s								
URZ	**Urewera**	**20.44**	**197**	P		**P**	**08 16 49.2**	**+0.5**
	comp=Z,8.8nm,0.3s,baz=254,slow=2.2,SNR=34								
URZ				S		**S**	**08 20 21.1**	**-8.1**
	comp=Z,2.4nm,0.4s,baz=98,slow=21,SNR=7.0								
URZ	**Urewera**	**20.44**	**197**	P		**P**	**08 16 48.6**	**0.0**
URZ				IAmb	IAmb		08 16 58.8		
	comp=Z,44nm,1.4s								
QRZ	**Quartz Range**	**24.24**	**203**	P		**P**	**08 17 27.0**	**+0.9**
QRZ				IAmb	IAmb		08 17 28.5		
	comp=Z,36nm,1.0s								
RPZ	**Rata Peaks**	**27.30**	**202**	P		**P**	**08 17 55.1**	**+1.5**
	comp=Z,6.3nm,0.5s,baz=26,slow=3.2,SNR=8.8								
EIDS	**Eidsvold**	**31.59**	**252**	P		**P**	**08 18 31.3**	**-0.4**
EIDS				IAmb	IAmb		08 18 34.2		
	comp=Z,23nm,0.9s								
ARMA	**Armidale**	**31.93**	**242**	P		**P**	**08 18 35.2**	**+0.4**
ARMA				IAmb	IAmb		08 18 39.0		
	comp=Z,12nm,0.6s								
CAN	**Canberra**	**35.41**	**235**	P		**P**	**08 19 05.3**	**+0.5**
CAN				IAmb	IAmb		08 19 07.1		
	comp=Z,16nm,1.0s								
CTA	**Charters Tower**	**36.03**	**261**	P		**P**	**08 19 11.2**	**+1.0**
	comp=Z,40nm,0.8s,baz=100,slow=10,SNR=64								
CTAO	**Charters Tower**	**36.03**	**261**	P		**P**	**08 19 11.3**	**+1.1**
PMG	**Port Moresby**	**37.32**	**279**	P		**P**	**08 19 22.3**	**+1.2**
	comp=Z,31nm,0.9s,baz=322,slow=0.7,SNR=4.9								
PMG	**Port Moresby**	**37.32**	**279**	P		**P**	**08 19 21.8**	**+0.6**
PMG				IAmb	IAmb		08 19 24.2		
	comp=Z,43nm,1.1s								
TOO	**Toolangi**	**38.80**	**233**	P		**P**	**08 19 34.0**	**+0.7**
TOO				IAmb	IAmb		08 19 55.6		
	comp=Z,20nm,1.2s								
TAU	**Tasmania Unive**	**39.48**	**224**	P		**P**	**08 19 41.2**	**+2.3**
STKA	**Stephens Creek**	**40.65**	**243**	P		**P**	**08 19 49.2**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=95,slow=11,SNR=17								
STKA	**Stephens Creek**	**40.65**	**243**	P		**P**	**08 19 49.1**	**+0.5**
BBOO	**Buckleboo**	**45.41**	**242**	P		**P**	**08 20 26.8**	**-0.1**
BBOO				IAmb	IAmb		08 20 28.6		
	comp=Z,17nm,0.9s								
JAY	**Jayapura**	**45.80**	**285**	P		**P**	**08 20 31.5**	**+1.3**
	comp=Z,12nm,0.6s,baz=200,slow=13,SNR=6.0								
WR0	**Warramunga Arr**	**47.00**	**260**	P		**P**	**08 20 39.3**	**-0.2**
WR0				IAmb	IAmb		08 20 40.7		
	comp=Z,19nm,0.5s								
WB0	**Warramunga Arr**	**47.16**	**260**	P		**P**	**08 20 40.7**	**-0.1**
WB2	**Warramunga Arr**	**47.18**	**260**	P		**P**	**08 20 41.0**	**+0.1**
WRAB	**Tennant Creek**	**47.18**	**260**	P		**P**	**08 20 40.5**	**-0.4**
WRAB				IAmb	IAmb		08 20 41.3		
	comp=Z,29nm,0.6s								
WRA	**Warramunga Arr**	**47.19**	**260**	P		**P**	**08 20 40.8**	**-0.2**
	comp=Z,24nm,0.4s,baz=98,slow=5.7,SNR=466								
WRA				PcP		**PcP**	**08 22 09.8**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=88,slow=3.8,SNR=7.0								
WRA				S		**S**	**08 27 16.1**	**-6.5**
	comp=Z,0.3nm,0.9s,baz=102,slow=15,SNR=1.8								
WRA	**Warramunga Arr**	**47.19**	**260**	P		**P**	**08 20 40.8**	**-0.2**
AS31	**Alice Springs**	**47.21**	**255**	P		**P**	**08 20 41.4**	**+0.2**
ASAR	**Alice Springs**	**47.21**	**255**	P		**P**	**08 20 41.2**	**0.0**
	comp=Z,21nm,0.5s,baz=92,slow=8.0,SNR=422								
ASAR				PcP		**PcP**	**08 22 09.7**	**-0.5**
	comp=Z,6.5nm,0.7s,baz=106,slow=3.9,SNR=14								
ASAR				S		**S**	**08 27 16.5**	**-6.5**
	comp=Z,0.4nm,0.6s,baz=91,slow=15,SNR=4.4								
ASAR	**Alice Springs**	**47.21**	**255**	P		**P**	**08 20 40.6**	**-0.6**
MTN	**Manton Dam**	**51.53**	**268**	P		**P**	**08 21 14.1**	**+0.1**
FORT	**Forrest**	**52.13**	**245**	P		**P**	**08 21 17.7**	**-0.5**
KNRA	**Kununurra**	**53.14**	**264**	P		**P**	**08 21 25.8**	**0.0**
FAKI	**Fak Fak**	**53.45**	**281**	P		**P**	**08 21 28.0**	**-0.1**
FAKI				IAmb	IAmb		08 21 54.9		
	comp=Z,22nm,1.2s								
SIJI	**Sorong**	**55.12**	**282**	P		**P**	**08 21 41.0**	**+0.8**
	comp=Z,18nm,0.7s,baz=91,slow=9.7,SNR=6.0								
FITZ	**Fitzroy Crossi**	**55.60**	**261**	P		**P**	**08 21 44.1**	**+0.5**
FITZ				IAmb	IAmb		08 21 45.0		
	comp=Z,7.1nm,0.6s								
SOEI	**Soe**	**58.83**	**270**	P		**P**	**08 22 08.1**	**+1.7**
SOEI	**Soe**	**58.83**	**270**	P		**P**	**08 22 08.3**	**+1.9**
SANI	**Sanana**	**59.60**	**279**	P		**P**	**08 22 11.9**	**+0.3**
VNDA	**Vanda**	**59.82**	**186**	P		**P**	**08 22 13.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=356,slow=6.3,SNR=7.6								
VNDA	**Vanda**	**59.82**	**186**	P		**P**	**08 22 13.4**	**+1.3**
PSA00	**Pilbara Seismi**	**60.36**	**255**	P		**P**	**08 22 16.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**61.24**	**242**	P		**P**	**08 22 21.7**	**-0.8**
EDFI	**Ende, Flores**	**61.55**	**270**	P		**P**	**08 22 24.7**	**-0.2**
	comp=Z,14nm,0.8s								
MORW	**Morawa**	**62.66**	**246**	P		**P**	**08 22 30.9**	**-1.1**
MORW				IAmb	IAmb		08 22 34.1		
	comp=Z,38nm,1.5s								
CASY	**Casey**	**66.50**	**205**	P		**P**	**08 22 56.4**	**+0.2**
CASY				IAmb	IAmb		08 22 57.1		
	comp=Z,7.5nm,0.9s								
MJAR	**Matsushiro Arr**	**70.28**	**322**	P		**P**	**08 23 20.5**	**+0.3**
	comp=Z,4.7nm,0.7s,baz=158,slow=6.1,SNR=19								
MJAR	**Matsushiro Arr**	**70.28**	**322**	P		**P**	**08 23 20.6**	**+0.4**
MAT	**Matsushiro**	**70.28**	**322**	P		**P**	**08 23 20.8**	**+0.6**
ADK	**Adak**	**70.38**	**359**	P		**P**	**08 23 21.0**	**+0.7**
JWT	**Wachi**	**71.13**	**319**	P		**P**	**08 23 26.2**	**+0.9**
JWT				IAmb	IAmb		08 23 42.7		
	comp=Z,38nm,1.5s								
QSPA	**South Pole Qui**	**71.27**	**180**	P		**P**	**08 23 26.3**	**+0.4**
JNU	**Nakatsue**	**72.69**	**315**	P		**P**	**08 23 35.5**	**+0.8**
	comp=Z,12nm,0.7s,baz=18,slow=3.2,SNR=2.6								
JNU	**Nakatsue**	**72.69**	**315**	P		**P**	**08 23 35.9**	**+1.2**
UNV	**Unalaska Valle**	**72.75**	**6**	P		**P**	**08 23 33.8**	**-0.7**
PETK	**Petropavlovsk-**	**75.26**	**344**	P		**P**	**08 23 49.7**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=118,slow=8.1,SNR=7.3								
KSM	**Kuching**	**75.53**	**277**	P		**P**	**08 23 51.2**	**-0.4**
KSM				IAmb	IAmb		08 23 53.1		
	comp=Z,15nm,1.0s								
KSRS	**Korea Array**	**77.20**	**317**	P		**P**	**08 24 02.4**	**+1.9**
	comp=Z,6.3nm,1.0s,baz=133,slow=6.0,SNR=9.1								
KSAR	**Wonju Array Be**	**77.22**	**317**	P		**P**	**08 24 02.7**	**+2.1**
NVAR	**Mina Array Bea**	**78.18**	**42**	P		**P**	**08 24 06.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=225,slow=8.2,SNR=9.2								
NVAR	**Mina Array Bea**	**78.18**	**42**	P		**P**	**08 24 06.4**	**+0.3**
NVAR						PcP	08 24 06.7	-8.4	
TPH	**Tonopah**	**78.67**	**43**	P		**P**	**08 24 09.5**	**+0.7**
TPNV	**Topopah Spring**	**78.68**	**45**	P		**P**	**08 24 09.0**	**+0.1**
K05A	**Summer Lake**	**79.17**	**38**	P		**P**	**08 24 10.1**	**-1.4**
K05A				IAmb	IAmb		08 24 23.3		
	comp=Z,12nm,1.4s								
NJ2	**Nanjing**	**80.63**	**308**	*e*P		**P**	**08 24 20.4**	**+1.1**
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
X16A	**Lo Mia Camp, P**	**80.66**	**49**	P		**P**	**08 24 18.6**	**-1.1**
I07A	**Izee**	**80.81**	**37**	P		**P**	**08 24 20.5**	**+0.4**
BRLK	**Bradley Lake**	**80.81**	**12**	P		**P**	**08 24 18.6**	**-1.1**
BRLK				IAmb	IAmb		08 24 20.9		
	comp=Z,21nm,1.3s								
U15A	**North Rim**	**81.08**	**47**	P		**P**	**08 24 22.3**	**+0.3**
TTA	**Tatalina**	**82.88**	**9**	P		**P**	**08 24 30.8**	**+0.3**
WHN	**Wuhan**	**83.35**	**305**	⇑P		P	08 24 39.2	+5.7
SRU	**San Rafael Swe**	**83.65**	**45**	P		**P**	**08 24 35.9**	**+0.7**
MNTX	**Cornudas Mount**	**83.85**	**54**	P		**P**	**08 24 37.2**	**+1.1**
MAW	**Mawson**	**83.95**	**199**	P		**P**	**08 24 35.8**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=129,slow=11,SNR=9.1								
MAW	**Mawson**	**83.95**	**199**	P		**P**	**08 24 36.0**	**+0.1**
TX31	**Lajitas Ar. Si**	**84.16**	**57**	P		**P**	**08 24 38.5**	**+0.7**
TX32	**Lajitas Array**	**84.16**	**57**	P		**P**	**08 24 38.5**	**+0.7**
TXAR	**Lajitas Array**	**84.16**	**57**	P		**P**	**08 24 38.2**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=211,slow=7.1,SNR=11								
TXAR	**Lajitas Array**	**84.16**	**57**	P		**P**	**08 24 37.4**	**-0.4**
RND	**Reindeer**	**84.54**	**12**	P		**P**	**08 24 38.9**	**0.0**
RND				IAmb	IAmb		08 24 40.1		
	comp=Z,20nm,1.3s								

IPM	**Ipoh**	**85.26**	**276**	P		**P**	**08 24 44.0**	**+0.4**
IPM				IAmb	IAmb		08 24 44.8		
	comp=Z,11nm,0.6s								
SEY	**Seymchan**	**85.27**	**346**	P		**P**	**08 24 42.6**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=128,slow=6.5,SNR=8.7								
WRH	**Wood River Hil**	**85.65**	**12**	P		**P**	**08 24 43.6**	**-0.7**
WRH				IAmb	IAmb		08 24 44.9		
	comp=Z,8.6nm,1.0s								
HDA	**Harding Lake**	**85.81**	**12**	P		**P**	**08 24 45.0**	**-0.1**
HDA				IAmb	IAmb		08 24 46.5		
	comp=Z,5.6nm,0.8s								
CCB	**Clear Creek Bu**	**85.86**	**12**	P		**P**	**08 24 44.4**	**-1.0**
CCB				IAmb	IAmb		08 24 45.6		
	comp=Z,9.3nm,1.1s								
MDM	**Murphy Dome**	**86.06**	**11**	P		**P**	**08 24 45.9**	**-0.4**
MDM				IAmb	IAmb		08 24 46.7		
	comp=Z,8.0nm,1.1s								
PDAR	**Pinedale Array**	**86.12**	**42**	P		**P**	**08 24 47.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=224,slow=6.3,SNR=2.6								
ILAR	**Eielson Array**	**86.15**	**12**	P		**P**	**08 24 46.4**	**-0.4**
	comp=Z,2.5nm,1.0s,baz=215,slow=5.8,SNR=9.9								
ILAR	**Eielson Array**	**86.15**	**12**	P		**P**	**08 24 44.9**	**-1.8**
XAN	**Xi'an**	**88.99**	**306**	P		**P**	**08 25 02.6**	**+1.5**
XAN				pmax	pmax				
	comp=Z,18nm,1.1s								
XAN				pmax	pmax				
	comp=Z,610nm,6.2s								
XAN	**Xi'an**	**88.99**	**306**	P		**P**	**08 25 00.5**	**-0.6**
XAN				IAmb	IAmb		08 25 03.6		
	comp=Z,21nm,1.2s								
SNAA	**Sanae**	**89.63**	**178**	P		**P**	**08 25 02.4**	**-1.1**
VNA3	**Neumayer Olymp**	**89.67**	**175**	P		**P**	**08 25 02.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**89.86**	**314**	*e*P		**P**	**08 25 04.4**	**-0.7**
HHC				pmax	pmax				
	comp=Z,22nm,1.2s								
HHC				pmax	pmax				
	comp=Z,200nm,6.7s								
VNA2	**Neumayer--Watz**	**90.14**	**176**	P		**P**	**08 25 05.5**	**-0.3**
VNA1	**Neumayer--Stat**	**90.35**	**176**	P		**P**	**08 25 06.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P		**P**	**08 25 15.6**	**+1.2**
	comp=Z,1.6nm,0.4s,baz=103,slow=2.7,SNR=13								
LZH	**Lanzhou**	**93.62**	**307**	*e*P		**P**	**08 25 24.1**	**+1.4**
LZH				pP	pwP		08 26 02.6	-0.4	
LZH				sP	sP		08 26 15.2	-0.2	
LZH				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ARCES	**ARCESS Array B**	**127.64**	**351**	PKP		**PKPdf**	**08 31 08.9**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=45,slow=1.9,SNR=6.2								
FINES	**FINESS Array B**	**134.75**	**346**	PKP		**PKPdf**	**08 31 23.8**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=93,slow=3.8,SNR=4.5								
FINES	**FINESS Array B**	**134.75**	**346**			**PKPdf**	**08 31 22.1**	**-1.4**
OJC	**Ojcow**	**146.34**	**342**	*e*PKP		**PKPbc**	**08 31 45.8**	**-0.3**
BURAR	**Bucovina Array**	**146.64**	**334**	⇓P		**PKPab**	**08 31 48.3**	**-0.3**
KSAR	**Ksiaz**	**146.67**	**346**	*e*PKP		**PKPbc**	**08 31 47.3**	**0.0**
KOLS	**Kolonicke sedl**	**146.68**	**338**	*e*PKP		**PKPdf**	**08 31 46.4**	**+1.1**
BIZ	**Bicaz**	**146.79**	**333**	⇑P		**PKPbc**	**08 31 48.2**	**+0.7**
CLL	**Collm**	**146.86**	**350**	⇓*i* PKPbc		**PKPbc**	**08 31 47.1**	**-0.4**
	comp=Z,9.0nm,0.9s								
CLL				*i* PKPab		**PKPab**	**08 31 48.6**	**-0.6**
	comp=Z,5.0nm,0.8s								
NIE	**Niedzica**	**146.90**	**341**	*e*PKP		**PKPbc**	**08 31 48.1**	**+0.3**
OSTC	**Ostas**	**146.96**	**346**	*e*PKP		**PKPbc**	**08 31 48.2**	**+0.3**
BRG	**Berggiesshubel**	**147.12**	**349**	*e*PKP		**PKPdf**	**08 31 45.4**	**-0.5**
	comp=Z,4.7nm,1.1s								
BRG				*i*			08 31 48.1		
	comp=Z,6.8nm,1.1s								
DPC	**Dobruska-Polom**	**147.12**	**346**	*e*PKP		**PKPbc**	**08 31 48.3**	**-0.1**
KRLC	**Kraliky**	**147.27**	**345**	*e*PKP		**PKPbc**	**08 31 48.7**	**-0.1**
VRI	**Vrincioaia**	**147.33**	**331**	⇑P		**PKPbc**	**08 31 48.5**	**-0.5**
BRTR	**Keskin Array B**	**147.34**	**316**	PKPbc		**PKPbc**	**08 31 49.0**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=134,slow=3.6,SNR=16								
BRTR	**Keskin Array B**	**147.34**	**316**			**PKPbc**	**08 31 49.4**	**-0.1**
MORC	**Moravsky Berou**	**147.36**	**344**	⇑P		**PKPbc**	**08 31 49.2**	**+0.2**
PRU	**Pruhonice**	**147.85**	**348**	*e*PKP		**PKPbc**	**08 31 49.5**	**-0.8**
DOPR	**Dopca**	**147.86**	**332**	⇑P		**PKPbc**	**08 31 51.1**	**+0.6**
GOPC	**GO Pecny, Ondr**	**147.87**	**347**	*e*PKP		**PKPbc**	**08 31 50.4**	**0.0**
MLR	**Muntele Rosu**	**147.97**	**331**	⇑P		**PKPbc**	**08 31 51.8**	**+0.8**
VRAC	**Vranov**	**148.03**	**345**	⇓P		**PKPbc**	**08 31 51.0**	**+0.2**
VYHS	**Vyhne**	**148.17**	**342**	*e*PKP		**PKPbc**	**08 31 51.1**	**-0.1**
VYHS				*e*			08 31 55.0		
DRGR		**148.31**	**336**	⇓P		**PKPbc**	**08 31 52.0**	**+0.3**
VOIR		**148.42**	**332**	⇑P		**PKPbc**	**08 31 52.3**	**+0.2**
ARR	**Arges**	**148.66**	**332**	⇑P		**PKPbc**	**08 31 53.3**	**+0.6**
KHC	**Kasperske Hory**	**148.86**	**348**	*e*PKP		**PKPbc**	**08 31 52.4**	**-0.6**
KHC				*ex*		x	08 31 57.6		
GERES	**GERESS Array B**	**149.11**	**348**	PKPbc		**PKPbc**	**08 31 53.5**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=29,slow=3.0,SNR=16								
GERES	**GERESS Array B**	**149.11**	**348**	PKPdf		**PKPdf**	**08 31 48.5**	**-0.8**
GERES						**PKPbc**	**08 31 53.5**	**-0.2**
SIRR	**Siria**	**149.15**	**336**	⇑P		**PKPbc**	**08 31 53.8**	**0.0**
GZR	**Gura Zlata**	**149.43**	**334**	⇓P		**PKPbc**	**08 31 53.9**	**-0.7**
CONA	**Conrad Observa**	**149.49**	**345**	*e*P		**PKPbc**	**08 31 54.7**	**+0.1**
	comp=Z,5.7nm,1.0s								
BZS	**Buzias**	**149.71**	**336**	⇑P		**PKPbc**	**08 31 54.8**	**-0.4**
HERR	**Herculane**	**150.00**	**334**	⇑P		**PKPbc**	**08 31 55.0**	**-0.9**
MDVR	**Moldovita**	**150.37**	**335**	⇓P		**PKPbc**	**08 31 56.3**	**-0.5**
SOKA	**Soboth**	**150.86**	**345**	*e*P		**PKPbc**	**08 31 57.3**	**-0.7**
	comp=Z,2.1nm,0.7s								
KBA	**Koelnbreinsper**	**150.87**	**348**	*e*P		**PKPbc**	**08 31 57.1**	**-1.0**
	comp=Z,2.2nm,0.6s								
WATA	**Walderalm**	**150.94**	**350**	*i* P		**PKPbc**	**08 31 57.4**	**-0.9**
	comp=Z,3.4nm,0.6s								
WTTA	**Wattenberg**	**151.00**	**350**	*e*P		**PKPbc**	**08 31 57.7**	**-0.7**
	comp=Z,7.8nm,0.6s								
MOTA	**Moosalm**	**151.01**	**351**	*e*P		**PKPbc**	**08 31 58.1**	**-0.3**
	comp=Z,4.5nm,0.7s								
SQTA	**Sankt Quirin**	**151.11**	**351**	*i* P		**PKPbc**	**08 31 58.2**	**-0.4**
	comp=Z,4.6nm,0.8s								
MYKA	**Terra Mystica**	**151.23**	**347**	*e*P		**PKPbc**	**08 31 57.6**	**-1.2**
	comp=Z,3.2nm,0.7s								
ABTA	**Abfaltersbach**	**151.35**	**348**	*i* P		**PKPbc**	**08 31 57.7**	**-1.4**
	comp=Z,5.8nm,0.6s								
FETA	**Feichten**	**151.38**	**351**	*e*P		**PKPbc**	**08 31 58.7**	**-0.6**
	comp=Z,3.9nm,0.9s								
TORD	**Torodi Ar. Bea**	**173.78**	**154**	PKP		**PKPdf**	**08 32 13.2**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=257,slow=1.2,SNR=3.7								

TAP **12** *08:22:39.7,24.˚57N×122.˚94E,h101km,ML3.7,C*
JMA **12** *08:22:39.8±0.2,24.˚50N×122.˚90E,h101km±2km,M2.9*
ISC 12 08:22:40.0±1.3,24.˚50N±0.˚04×122.˚93E±0.˚02,h98km±7km,
n103,σ0.˚94/201,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.05**	**162**	P	**Pn**	**08 22 54.0**	**+0.3**
JYNG				S	**Sn**	**08 23 04.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.09**	**118**	*e*P	**Pn**	**08 22 54.2**	**+0.5**
	baz=161						
YOJ				S	**Sn**	**08 23 04.5**	**+0.5**
	baz=161						
YOJ	**Yonaguni jima**	**0.09**	**118**	P	**Pn**	**08 22 54.0**	**+0.3**
YOJ				*e*S	**Sn**	**08 23 03.9**	**0.0**
IRIF	**Iriomote-Funau**	**0.75**	**103**	P	**Pn**	**08 22 57.9**	**+0.2**
IRIF				S	**Sn**	**08 23 11.2**	**+0.2**
HATJ	**Hateruma jima**	**0.92**	**119**	P	**Pn**	**08 23 00.2**	**+0.8**
HATJ				S	**Sn**	**08 23 14.6**	**+0.6**
TWC	**Suao**	**0.99**	**276**	*i* P	**Pn**	**08 22 60.0**	**-0.2**
	baz=272						
TWC				*i* S	**Sn**	**08 23 14.0**	**-1.3**
	baz=272						
ENAH	**Nanao**	**1.02**	**267**	*e*P	**Pn**	**08 23 00.3**	**-0.2**
	baz=263						
ENAH				*e*S	**Sn**	**08 23 16.1**	**+0.1**
	baz=263						
JKRS	**Kuro-shima**	**1.02**	**105**	P	**Pn**	**08 23 01.3**	**+0.8**
JKRS				S	**Sn**	**08 23 16.6**	**+0.6**
NTC	**Toucheng**	**1.06**	**290**	*e*P	**Pn**	**08 23 01.2**	**+0.3**
	baz=278						
NTC				S	**Sn**	**08 23 15.9**	**-0.8**
	baz=278						
ENA	**Nanau**	**1.08**	**266**	*i* P	**Pn**	**08 23 02.0**	**+0.8**
	baz=256						
ENA				S	**Sn**	**08 23 17.1**	**-0.1**
	baz=256						
ILA	**Ilan**	**1.10**	**284**	*e*P	**Pn**	**08 23 02.2**	**+0.8**
	baz=273						
ILA				*e*S	**Sn**	**08 23 18.1**	**+0.5**
	baz=273						
TIPB	**Shuangxi**	**1.10**	**295**	*i* P	**Pn**	**08 23 01.3**	**-0.2**
	baz=286						
TIPB				*i* S	**Sn**	**08 23 16.7**	**-1.1**
	baz=286						
JIJ	**Ishigaki jima**	**1.12**	**97**	P	**Pn**	**08 23 01.7**	**+0.1**
JIJ				S	**Sn**	**08 23 17.0**	**-0.9**

TWE	**Neicheng**	**1.17**	**281**	*i* P		**Pn**	**08 23 02.3**	**+0.1**
	baz=272								
TWE				*i* S		**Sn**	**08 23 18.4**	**-0.5**
	baz=272								
NWF	**Wu-fen Shan**	**1.19**	**299**	*i* P		**Pn**	**08 23 03.0**	**+0.4**
	baz=287								
NWF				S		**Sn**	**08 23 18.7**	**-0.8**
	baz=287								
WFSB	**Wu-fen Shan**	**1.19**	**299**	P		**Pn**	**08 23 02.9**	**+0.5**
	baz=288								
WFSB				*e*S		**Sn**	**08 23 18.6**	**-0.7**
	baz=288								
ENTT	**Nioudou**	**1.25**	**277**	*i* P		**Pn**	**08 23 03.5**	**+0.4**
	baz=268								
ENTT				*e*S		**Sn**	**08 23 20.3**	**-0.3**
	baz=268								
NACB	**Ninganchiao**	**1.26**	**255**	P		**Pn**	**08 23 03.0**	**-0.3**
	baz=245								
NACB				S		**Sn**	**08 23 19.9**	**-0.9**
	baz=245								
JISG	**Ishigakijimahi**	**1.26**	**86**	P		**Pn**	**08 23 03.4**	**+0.1**
JISG				S		**Sn**	**08 23 19.9**	**-1.0**
TWD	**Chiawan**	**1.29**	**251**	*i* P		**Pn**	**08 23 03.3**	**-0.3**
	baz=248								
TWD				*i* S		**Sn**	**08 23 20.7**	**-0.7**
	baz=248								
NDT	**Datong Townshi**	**1.29**	**275**	*i* P		**Pn**	**08 23 04.2**	**+0.5**
	baz=271								
NDT				*i* S		**Sn**	**08 23 21.6**	**+0.1**
	baz=271								
TWA	**Mucha**	**1.31**	**292**	*i* P		**Pn**	**08 23 04.2**	**+0.3**
	baz=280								
TWA				*i* S		**Sn**	**08 23 21.3**	**-0.7**
	baz=280								
NWLT	**Wulai**	**1.32**	**282**	*i* P		**Pn**	**08 23 04.4**	**+0.3**
	baz=285								
NWLT				*i* S		**Sn**	**08 23 21.6**	**-0.7**
	baz=285								
ETLH	**Xiulin Townshi**	**1.35**	**258**	*i* P		**Pn**	**08 23 04.3**	**-0.1**
	baz=250								
ETLH				S		**Sn**	**08 23 22.3**	**-0.6**
	baz=250								
YM01	**YM01**	**1.39**	**298**	P		**Pn**	**08 23 05.1**	**+0.2**
	baz=294								
YM01				S		**Sn**	**08 23 23.4**	**-0.3**
	baz=294								
TATO	**Taipei**	**1.39**	**290**	P		**Pn**	**08 23 05.0**	**+0.2**
	baz=277								
TATO				S		**Sn**	**08 23 23.1**	**-0.6**
	baz=277								
YM05	**YM05**	**1.40**	**298**	P		**Pn**	**08 23 05.3**	**+0.3**
	baz=289								
YM05				*e*S		**Sn**	**08 23 24.6**	**+0.6**
	baz=289								

SMLT	**Sun Moon Lake**	**1.95**	**252**	*i* P		**Pn**	**08 23 12.6**	**+0.6**
	baz=246								
SMLT				S		**Sn**	**08 23 36.5**	**+0.1**
	baz=246								
TWQ1	**Liyutan**	**1.97**	**266**	P		**Pn**	**08 23 12.5**	**+0.3**
	baz=263								
TWQ1				S		**Sn**	**08 23 37.0**	**+0.3**
	baz=263								
NSY	**Sanyi**	**1.98**	**268**	*i* P		**Pn**	**08 23 13.2**	**+0.9**
	baz=265								
NSY				*i* S		**Sn**	**08 23 37.8**	**+1.0**
	baz=265								
FULB	**Fuli**	**1.98**	**229**	*i* P		**Pn**	**08 23 11.9**	**-0.4**
	baz=222								
FULB				*e*S		**Sn**	**08 23 36.8**	**-0.2**
	baz=222								
TYC	**Yuchr**	**1.98**	**253**	*i* P		**Pn**	**08 23 13.2**	**+0.9**
	baz=247								
TYC				S		**Sn**	**08 23 37.2**	**+0.3**
	baz=247								
CHKT	**Chengkung**	**2.00**	**226**	P		**Pn**	**08 23 12.0**	**-0.5**
	baz=222								
CHKT				S		**Sn**	**08 23 35.6**	**-1.7**
	baz=222								
PTSB	**Yuanli**	**2.03**	**269**	P		**Pn**	**08 23 13.6**	**+0.7**
	baz=266								
PTSB				S		**Sn**	**08 23 37.9**	**-0.1**
	baz=266								
WHYT	**Xinyi Township**	**2.06**	**247**	*i* P		**Pn**	**08 23 14.6**	**+1.3**
	baz=247								
WHYT				S		**Sn**	**08 23 40.1**	**+1.3**
	baz=247								
WDJ	**Dajia District**	**2.09**	**266**	*e*P		**Pn**	**08 23 14.0**	**+0.3**
	baz=264								
WDJ				S		**Sn**	**08 23 39.5**	**+0.1**
	baz=264								
WJS	**Zhushan**	**2.12**	**252**	*i* P		**Pn**	**08 23 15.8**	**+1.7**
	baz=249								
WJS				*i* S		**Sn**	**08 23 42.2**	**+2.0**
	baz=249								
EDH	**Donghe**	**2.13**	**225**	P		**Pn**	**08 23 13.8**	**-0.4**
	baz=221								
EDH				S		**Sn**	**08 23 38.7**	**-1.6**
	baz=221								
WNT	**Mingjian**	**2.14**	**254**	*i* P		**Pn**	**08 23 15.9**	**+1.5**
	baz=251								
WNT				*i* S		**Sn**	**08 23 42.7**	**+2.1**
	baz=251								
JMJ	**Miyako jima 2**	**2.17**	**81**	*e*P		**Pn**	**08 23 14.5**	**-0.3**
	baz=83								
JMJ				S		**Sn**	**08 23 42.0**	**+0.6**
	baz=83								
ALS	**Alishan**	**2.18**	**243**	*i* P		**Pn**	**08 23 16.1**	**+1.0**
	baz=236								
ALS				S		**Sn**	**08 23 42.7**	**+0.8**
	baz=236								
ELDTW	**Lidau**	**2.18**	**234**	P		**Pn**	**08 23 15.0**	**-0.1**
	baz=228								
ELDTW				S		**Sn**	**08 23 40.7**	**-1.1**
	baz=228								
JMJ2	**Miyako jima3**	**2.20**	**83**	*e*S		**Sn**	**08 23 40.9**	**-1.0**
WCHH	**Zhanghua**	**2.20**	**259**	P		**Pn**	**08 23 15.5**	**+0.4**
	baz=264								
WCHH				S		**Sn**	**08 23 42.1**	**0.0**
	baz=264								
CHN5	**Tsauling**	**2.25**	**247**	*i* P		**Pn**	**08 23 16.9**	**+1.0**
	baz=238								
CHN5				*i* S		**Sn**	**08 23 45.3**	**+2.1**
	baz=238								
LONT	**Longtian**	**2.29**	**226**	P		**Pn**	**08 23 16.0**	**-0.4**
	baz=233								
LONT				S		**Sn**	**08 23 44.0**	**-0.1**
	baz=233								
WGK	**Gukeng**	**2.31**	**250**	*e*P		**Pn**	**08 23 18.3**	**+1.7**
	baz=248								
WGK				*i* S		**Sn**	**08 23 47.0**	**+2.5**
	baz=248								
WDLH	**Douliu**	**2.33**	**250**	*i* P		**Pn**	**08 23 18.3**	**+1.4**
	baz=248								
WDLH				*i* S		**Sn**	**08 23 47.3**	**+2.3**
	baz=248								
TWGBT	**Beinan**	**2.38**	**226**	P		**Pn**	**08 23 17.3**	**-0.3**
	baz=232								
TWGBT				*e*S		**Sn**	**08 23 45.5**	**-0.9**
	baz=232								
TWG	**Pinlang**	**2.39**	**226**	*i* P		**Pn**	**08 23 17.3**	**-0.4**
	baz=232								
TWG				S		**Sn**	**08 23 45.4**	**-1.0**
	baz=232								
STYT	**Tauyuan**	**2.39**	**237**	*i* P		**Pn**	**08 23 18.7**	**+1.0**
	baz=231								
STYT				*i* S		**Sn**	**08 23 47.7**	**+1.0**
	baz=231								
TPUB	**Ta-pu**	**2.42**	**241**	P		**Pn**	**08 23 19.6**	**+1.5**
	baz=233								
TPUB				S		**Sn**	**08 23 48.6**	**+1.4**
	baz=233								
RLNB	**Erlin**	**2.42**	**256**	P		**Pn**	**08 23 18.8**	**+0.8**
	baz=254								
RLNB				*e*S		**Sn**	**08 23 46.9**	**-0.3**
	baz=254								
WTP	**Ta-pu**	**2.46**	**240**	*i* P		**Pn**	**08 23 20.1**	**+1.5**
	baz=238								
WTP				S		**Sn**	**08 23 50.1**	**+1.9**
	baz=238								
CHY	**Chiayi**	**2.50**	**247**	*e*P		**Pn**	**08 23 20.3**	**+1.2**
	baz=236								
CHY				S		**Sn**	**08 23 51.4**	**+2.4**
	baz=236								
CHN1	**Nanshi**	**2.56**	**240**	*i* P		**Pn**	**08 23 20.9**	**+1.0**
	baz=238								
CHN1				S		**Sn**	**08 23 51.9**	**+1.4**
	baz=238								
SNST	**Tainan City**	**2.56**	**241**	P		**Pn**	**08 23 22.1**	**+2.1**
	baz=239								
SNST				S		**Sn**	**08 23 52.6**	**+2.0**
	baz=239								
SGST	**Jiashian**	**2.57**	**237**	*i* P		**Pn**	**08 23 21.1**	**+1.0**
	baz=235								
SGST				*e*S		**Sn**	**08 23 52.6**	**+1.8**
	baz=235								
SLGT	**Liugui**	**2.57**	**235**	*i* P		**Pn**	**08 23 21.8**	**+1.7**
	baz=226								
SLGT				*i* S		**Sn**	**08 23 53.0**	**+2.1**
	baz=226								
ECL	**Taimali**	**2.62**	**224**	P		**Pn**	**08 23 19.7**	**-1.0**
	baz=229								
ECL				*e*S		**Sn**	**08 23 50.7**	**-1.3**
	baz=229								
ICHU	**Yijhu**	**2.68**	**245**	P		**Pn**	**08 23 22.9**	**+1.5**
	baz=235								
ICHU				S		**Sn**	**08 23 55.3**	**+2.1**
	baz=235								
SSD	**Sandimen**	**2.74**	**231**	*i* P		**Pn**	**08 23 24.1**	**+1.8**
	baz=229								
TSMG	**Majia**	**2.75**	**230**	P		**Pn**	**08 23 23.7**	**+1.2**
	baz=226								
TSMG				*e*S		**Sn**	**08 23 56.3**	**+1.2**
	baz=226								
LAY	**Lan-yu**	**2.76**	**208**	*e*P		**Pn**	**08 23 21.5**	**-1.1**
	baz=202								
LAY				*e*S		**Sn**	**08 23 53.1**	**-2.2**
	baz=202								
MASBT	**Mashibuluo**	**2.82**	**229**	P		**Pn**	**08 23 24.3**	**+0.9**
	baz=225								
MASBT				S		**Sn**	**08 23 57.7**	**+0.9**
	baz=225								
EAST	**Anshuo**	**2.85**	**223**	*i* P		**Pn**	**08 23 23.7**	**-0.1**
	baz=226								
EAST				S		**Sn**	**08 23 55.6**	**-1.8**
	baz=226								
SCZT	**Fangliau**	**3.00**	**225**	*i* P		**Pn**	**08 23 26.1**	**+0.4**
	baz=224								
SCZT				*e*S		**Sn**	**08 24 01.7**	**+0.8**
	baz=224								
SLIU	**Shizi**	**3.00**	**221**	P		**Pn**	**08 23 26.0**	**+0.2**
	baz=212								
SLIU				*e*S		**Sn**	**08 24 02.1**	**+1.0**
	baz=212								
PNG	**Penghu**	**3.22**	**254**	*e*P		**Pn**	**08 23 28.3**	**-0.4**
	baz=253								
PHUB	**P'eng-hu**	**3.22**	**253**	*e*P		**Pn**	**08 23 28.1**	**-0.7**
	baz=251								
PHUB				*e*S		**Sn**	**08 24 04.3**	**-2.0**
	baz=251								
PTMZ	**Houxiangcun**	**3.50**	**280**	*e*P		**Pn**	**08 23 32.0**	**-0.4**
	baz=276								
PTMZ				*e*S		**Sn**	**08 24 10.5**	**-2.5**
	baz=276								
KNMB	**Chin-men Tao**	**4.14**	**270**	P		**Pn**	**08 23 40.4**	**-0.6**
	baz=267								
KNMB				*e*S		**Sn**	**08 24 27.1**	**-1.3**
	baz=267								
AXDP	**Jialang**	**4.53**	**276**	*e*P		**Pn**	**08 23 46.0**	**-0.3**
	baz=267								
ZPLA	**Ao Xicun**	**4.76**	**264**	*e*P		**Pn**	**08 23 49.1**	**-0.4**
	baz=262								

REY **12** *08:43:40.5, 64.6°N× 17.5°W, h6km*
BGS **12** *08:43:41.7±1.8, 64.5°N× 17.6°W, h5km, MS4.9*
IDC **12** *08:43:42.2± 0.4, 64.56°N× 17.60°W, h0km, mb4.5/31, mb1 4.6/37, mb1mx4.5/54, mbtmp4.5/37, ML2.9/5, MS4.2/45, Ms1 4.3/45, ms1mx4.2/48, Error ellipse: s-maj=12.4km s-min=9.1km az=11.0*
MOS **12** *08:43:42.2± 1.0, 64.60N× 17.64W, h10km, mb5.1/101, MS4.5/29, Error ellipse: s-maj=7.2km s-min=5.1km az=104.0*
IEPN **12** *08:43:42.0, 64.53N× 17.77W, h10km*
NEIC **12** *08:43:44.1± 1.3, 64.53N± 0.08× 17.7W± 0.1, h10km± 1km, mb5.1/425, Error ellipse: s-maj=13.7km s-min=10.0km az=16.0*
GCMT **12** *08:43:45.1± 0.2, 64.68N± 0.02× 17.43W± 0.02, h12km, MW5.0/104, Moment Tensor Solution. s53,c76; s104,c168; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.48±.15; Mθθ-0.41±.10; Mϕϕ2.89±.09; Mrθ-2.44±.37; Mθϕ-1.12±.07; Mϕr-0.57±.19; Best double couple: Mo3.75300×10^16 NP1:ϕs12.00000°, δ53.00000°, λ-43.00000°. NP2:ϕs132.00000°, δ57.00000°, λ-134.00000°. Principal axes: T 3.2410, Plg2.0000°, Azm251.0000°; N 1.0210, Plg35.0000°, Azm160.0000°; P -4.2640, Plg55.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI **12** *08:43:45.5± 0.0, 65.21N× 16.95W, h10km, mB5.4/13, mb4.8/34, Ms5.1/9, Ms7 4.8/10*
DNK **12** *08:43:49.2± 4.2, 64.44N× 18.41W, h135km± 83km, Ms4.7*
ISC 12 08:43:43.8±0.2, 64.62N±0.02×17.60W±0.02, h10km, n1175, σ1ᵍ53/1233, mb5.0/319, MS4.5/70, 27C-15D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**310**	P		**Pg**	**08 43 42.7**	**-3.6**
	baz=268							
IVON				S		**Sg**	**08 43 44.3**	**-3.8**
	baz=268							
IDJK	**Dyngjujokull**	**0.20**	**126**	P		**Pg**	**08 43 45.0**	**-3.0**
	baz=144							
IDYN	**Dyngjuhals**	**0.20**	**30**	P		Pg	08 43 43.4	-4.6
	baz=30							
IGRF	**Grimsfjall**	**0.26**	**145**	P		**Pg**	**08 43 46.1**	**-3.0**
	baz=158							
IGRF				S		**Sg**	**08 43 50.8**	**-1.9**
	baz=158							
IHUS	**Husbondi**	**0.33**	**184**	P		**Pg**	**08 43 47.9**	**-2.5**
	baz=189							
ISKR	**Skrokkalda**	**0.34**	**260**	P		**Pg**	**08 43 47.6**	**-3.0**
	baz=253							
ISKR				S		**Sg**	**08 43 53.4**	**-1.8**
	baz=253							
IVOT	**Vottur**	**0.39**	**152**	P		**Pg**	**08 43 48.3**	**-3.3**
	baz=160							
IVOT				S		**Sg**	**08 43 55.0**	**-1.8**
	baz=160							
IJOK	**Jokulheimar**	**0.41**	**222**	P		**Pg**	**08 43 49.0**	**-2.8**
	baz=220							
IJOK				S		**Sg**	**08 43 55.8**	**-1.4**
	baz=220							
IKRE	**Kreppuhraun**	**0.55**	**72**	P		Pg	08 43 49.3	-5.2
	baz=77							
IKRE				S		**Sg**	**08 43 56.7**	**-5.0**
	baz=77							
IIEY	**Innrieyrar**	**0.57**	**204**	P		**Pg**	**08 43 51.6**	**-3.3**
	baz=204							
IIEY				S		**Sg**	**08 44 01.1**	**-1.4**
	baz=204							
IMKO	**Mokollar**	**0.65**	**56**	P		Pg	08 43 51.0	-5.4
	baz=59							
IMKO				S		**Sg**	**08 43 59.7**	**-5.2**
	baz=59							
IKSK	**Karasker**	**0.67**	**133**	P		**Pg**	**08 43 52.2**	**-4.6**
	baz=138							
IKSK				S		**Sg**	**08 44 02.4**	**-3.2**
	baz=138							
IKAL	**Kalfafell**	**0.68**	**183**	P		**Pg**	**08 43 53.1**	**-3.7**
	baz=186							
IKAL				S		**Sg**	**08 44 04.1**	**-1.5**
	baz=186							
IVAT	**Vatnsfell**	**0.72**	**233**	P		**Pg**	**08 43 54.4**	**-3.3**
	baz=232							
ISVA	**Svartarkot**	**0.74**	**11**	P		Pg	08 43 52.5	-5.5
	baz=9.7							
ISVA				S		**Sg**	**08 44 01.6**	**-6.1**
	baz=9.7							
IVSH	**V-Sauoahnukur**	**0.83**	**76**	P		Pg	08 43 53.9	-5.8
	baz=80							
IVSH				S		**Sg**	**08 44 04.9**	**-5.6**
	baz=80							
IHVE	**Hveravellir**	**0.88**	**288**	P		Pg	08 43 55.9	-4.8
	baz=283							
IHVE				S		**Sg**	**08 44 08.7**	**-3.4**
	baz=283							
IADA	**Aoalbol**	**0.96**	**64**	P		Pg	08 43 55.8	-6.4
	baz=67							
ISNB	**Snabyli**	**0.99**	**207**	P		**Pg**	**08 43 59.2**	**-3.7**
	baz=208							
IMEL	**Melhnausar**	**1.04**	**22**	P		Pg	08 43 57.3	-6.4
	baz=22							
ISLY	**Slysaalda**	**1.04**	**220**	P		**Pg**	**08 43 60.0**	**-3.8**
	baz=220							
IREN	**Reynihlio**	**1.07**	**16**	P		Pb	08 43 58.1	-6.4
	baz=15							
IFED	**Fedgar**	**1.09**	**238**	P		**Pg**	**08 44 00.6**	**-4.0**
	baz=236							
IRJU	**Rjupnafell**	**1.11**	**205**	P		**Pb**	**08 44 01.0**	**-4.0**
	baz=206							
IMJO	**Mjoaskard**	**1.14**	**234**	P		**Pb**	**08 44 01.3**	**-4.2**
	baz=232							
IKVO	**Krokottuvotn**	**1.14**	**15**	P		Pb	08 43 59.2	-6.4
	baz=14							
IGRS	**Grimsstaoir**	**1.20**	**31**	P		Pn	08 44 00.0	-6.6
	baz=31							
ISKI	**Skildingahlsh**	**1.28**	**11**	P		Pn	08 44 01.4	-6.3
	baz=9.7							
IGHA	**Grjothals**	**1.29**	**17**	P		Pn	08 44 01.5	-6.4
	baz=17							
IGRA	**Granastaoir**	**1.30**	**0**	P		Pn	08 44 01.8	-6.2
	baz=359							
IGIL	**Gilhagi**	**1.56**	**19**	P		Pn	08 44 05.4	-6.1
	baz=19							
BORG	**Borgarnes**	**1.61**	**276**	Pg		**Pn**	**08 44 08.0**	**-4.1**
	104nm,0.3s,baz=100,slow=10,SNR=243							
BORG				Lg		Lg	08 44 33.0	
	69nm,0.3s,baz=31,slow=21,SNR=9.5							
BORG	**Borgarnes**	**1.61**	**276**	P		**Pn**	**08 44 08.8**	**-3.4**
BORG	**Borgarnes**	**1.61**	**276**			**Pn**	**08 44 08.8**	**-3.4**
JMIC	**Jan Mayen**	**7.25**	**24**	Pn		**Pn**	**08 45 28.9**	**-0.8**
	baz=193,slow=4.5,SNR=6.6							
JMIC				LR		LR	08 47 12.1	
	comp=Z,375nm,20.8s,baz=220,slow=29							
LEWI	**Lewis, Hebride**	**8.28**	**137**	*e*P		**Pn**	**08 45 41.5**	**-2.3**
ANGG	**Ammassalik, Gr**	**8.50**	**286**	IAMs_20		IAMs_20	08 49 23.4	
	comp=Z,25μm,7.8s							
KAC	**Achnashellach**	**9.29**	**135**	*e*P		**Pn**	**08 45 55.1**	**-2.5**
KPL	**Plockton**	**9.31**	**136**	*e*P		**Pn**	**08 45 55.5**	**-2.4**
KPL				IAMs_20		IAMs_20	08 50 33.4	
	comp=Z,6μm,15.2s							
DBG	**Daneborg**	**9.78**	**356**	*i* P		Pn	08 46 09.2	+5.0
DBG				IAMs_20		IAMs_20	08 50 52.0	
	comp=Z,5μm,8.0s							
MCD	**Coleburn Disti**	**9.88**	**129**	*e*P		**Pn**	**08 46 04.1**	**-1.6**
LAWE	**Loch Awe, Argy**	**10.30**	**139**	*e*P		**Pn**	**08 46 10.2**	**-1.2**
INVG	**Invergeldie, C**	**10.56**	**135**	*e*P		**Pn**	**08 46 12.9**	**-2.1**
INVG				IAMs_20		IAMs_20	08 51 02.7	
	comp=Z,8μm,12.6s							
DRUM	**Mains of Drumt**	**10.66**	**129**	*e*P		**Pn**	**08 46 14.6**	**-1.8**
DRUM				IAMs_20		IAMs_20	08 51 18.6	
	comp=Z,5μm,11.5s							
EAB	**Aberfoyle**	**10.68**	**136**	*e*P		**Pn**	**08 46 14.6**	**-1.9**
PGBU	**Glenifferbraes**	**10.95**	**138**	*e*P		**Pn**	**08 46 18.8**	**-1.6**

SUMG	**Summit**	**10.96**	**326**	*i* P		**Pn**	**08 46 21.0**	**+0.3**
SUMG				MLR		MLR		
	comp=Z,27μm,10.0s							
SUMG	**Summit**	**10.96**	**326**			**Pn**	**08 46 20.9**	**+0.2**
SUMG	**Summit**	**10.96**	**326**	*i* P		**Pn**	**08 46 21.0**	**+0.3**
	comp=Z,27μm,10.0s							
SUMG	**Summit**	**10.96**	**326**	*i* P		**Pn**	**08 46 21.0**	**+0.3**
SUMG				IAMs_20		IAMs_20	08 50 36.3	
	comp=Z,27μm,10.0s							
CLGH	**Cloghs, Cushen**	**11.15**	**144**	*e*P		**Pn**	**08 46 20.6**	**-2.5**
CLGH				IAMs_20		IAMs_20	08 52 12.1	
	comp=Z,9μm,10.0s							
EDI	**Edinburgh**	**11.25**	**134**	*e*P		**Pn**	**08 46 22.8**	**-1.6**
EDI				IAMs_20		IAMs_20	08 51 25.2	
	comp=Z,6μm,12.9s							
NEWG	**New Galloway**	**11.63**	**139**	*e*P		**Pn**	**08 46 27.6**	**-1.9**
NEWG				IAMs_20		IAMs_20	08 52 01.5	
	comp=Z,10μm,10.1s							
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**	**08 46 29.4**	**-1.9**
	baz=321,slow=13,SNR=42							
ESK	**Eskdalemuir**	**11.76**	**136**	*e*P		**Pn**	**08 46 29.6**	**-1.7**
ESK				IAMs_20		IAMs_20	08 51 52.9	
	comp=Z,7μm,10.8s							
ESK	**Eskdalemuir**	**11.76**	**136**	P		**Pn**	**08 46 29.8**	**-1.5**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn		**Pn**	**08 46 29.8**	**-1.5**
DY2G	**Dye2**	**11.96**	**292**	IAMs_20		IAMs_20	08 51 10.0	
	comp=Z,9μm,10.0s							
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P		**Pn**	**08 46 40.0**	**+2.4**
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P		**Pn**	**08 46 40.0**	**+2.4**
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P		**Pn**	**08 46 40.0**	**+2.4**
DAG				IAMs_20		IAMs_20	08 52 26.6	
	comp=Z,3μm,9.3s							
KESW	**Keswick, Cumbr**	**12.41**	**137**	*e*P		**Pn**	**08 46 38.8**	**-1.5**
KESW				IAMs_20		IAMs_20	08 52 21.8	
	comp=Z,8μm,10.7s							
EDMD	**Edmundbyers**	**12.55**	**134**	*e*P		**Pn**	**08 46 40.3**	**-1.9**
EDMD				IAMs_20		IAMs_20	08 52 19.8	
	comp=Z,5μm,10.9s							
DSB	**Dublin**	**12.77**	**148**			**Pn**	**08 46 41.7**	**-3.4**
NRS	**Narsarsuaq**	**13.09**	**267**	P		**Pn**	**08 46 46.5**	**-3.0**
NRS	**Narsarsuaq**	**13.09**	**267**	Pn		**Pn**	**08 46 46.5**	**-3.0**
NRS	**Narsarsuaq**	**13.09**	**267**	*i* P		**Pn**	**08 46 45.8**	**-3.6**
NRS	**Narsarsuaq**	**13.09**	**267**	*i* P		**Pn**	**08 46 45.9**	**-3.6**
NRS				IAMs_20		IAMs_20	08 52 46.7	
	comp=Z,7μm,8.7s							
NC204	**NORSAR Array S**	**13.27**	**92**			**Pn**	**08 46 49.2**	**-2.9**
NBO00	**NORSAR Array S**	**13.39**	**92**			**Pn**	**08 46 50.8**	**-2.9**
NB2	**NORSAR Subarra**	**13.58**	**92**	Pn		**Pn**	**08 46 52.1**	**-4.1**
	comp=Z,198nm,3.3s,baz=298,slow=14							
NB2	**NORSAR Subarra**	**13.58**	**92**	Pn		**Pn**	**08 46 52.1**	**-4.1**
	baz=298,slow=14							
NOA	**NORSAR Array B**	**13.58**	**92**	Pn		**Pn**	**08 46 53.2**	**-3.0**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=5.9							
NOA				LR		LR	08 51 59.9	
	comp=Z,1μm,20.9s,baz=300,slow=37							
SFJD	**Kangerlussuaq**	**13.64**	**295**	IAMs_20		IAMs_20	08 51 59.6	
	comp=Z,648nm,9.3s							
NC405	**NORSAR Array S**	**13.76**	**91**	Pn		**Pn**	**08 46 55.4**	**-3.2**
ILULI	**Ilulissat**	**13.79**	**304**	IAMs_20		IAMs_20	08 53 35.0	
	comp=Z,13μm,6.3s							
LBWR	**Ladybower, Pea**	**13.85**	**137**	*e*P		**Pn**	**08 46 58.7**	**-1.2**
LBWR				IAMs_20		IAMs_20	08 53 15.5	
	comp=Z,8μm,10.5s							
HLM1	**Long Mynd**	**14.30**	**141**	*e*P		**Pn**	**08 47 03.7**	**-2.5**
HLM1				IAMs_20		IAMs_20	08 53 28.2	
	comp=Z,7μm,10.4s							
CWF	**Charnwood Fore**	**14.55**	**137**	*e*P		**Pn**	**08 47 07.5**	**-2.0**
CWF				IAMs_20		IAMs_20	08 53 44.0	
	comp=Z,6μm,11.3s							
NUUK	**Nuuk**	**14.65**	**284**	IAMs_20		IAMs_20	08 52 50.9	
	comp=Z,7μm,8.9s							
HFS	**Hagfors**	**15.09**	**93**	Pn		**Pn**	**08 47 15.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=299,slow=16,SNR=2.3							
HFS				LR		LR	08 52 56.8	
	comp=Z,1μm,21.3s,baz=293,slow=37							
MUD	**Monsted U'grnd**	**15.39**	**110**	*i* P		**P**	**08 47 24.6**	**-0.7**
MUD				MLR		MLR		
	comp=Z,3μm,10.0s							
MUD	**Monsted U'grnd**	**15.39**	**110**	*i* P		**P**	**08 47 24.6**	**-0.7**
	comp=Z,3μm,10.0s							
MUD	**Monsted U'grnd**	**15.39**	**110**	*i* P		**P**	**08 47 24.7**	**-0.7**
MUD				IAMs_20		IAMs_20	08 56 05.1	
	comp=Z,3μm,10.0s							
UPNV	**Upernavik**	**15.88**	**317**	IAMs_20		IAMs_20	08 54 05.0	
	comp=Z,9μm,7.6s							
HSPB	**Hornsund (broa**	**16.13**	**26**	*e*P		**Pn**	**08 47 30.9**	**+0.7**
HSPB				*e*S		**S**	**08 50 41.6**	**-0.5**
KBS	**Kingsbay**	**16.70**	**19**	⇓ *i* P		**Pn**	**08 47 38.0**	**+0.6**
KBS				*e*S		**Sn**	**08 50 44.9**	**+2.3**
KBS	**Kingsbay**	**16.70**	**19**	P		**P**	**08 47 39.8**	**+0.1**
KBS				pmax		pmax		
	comp=Z,95nm,1.5s							
KBS	**Kingsbay**	**16.70**	**19**	P		**P**	**08 47 39.8**	**+0.1**
KBS	**Kingsbay**	**16.70**	**19**	*i* P		**Pn**	**08 47 38.5**	**+1.1**
KBS				IAMs_20		IAMs_20	08 56 04.4	
	comp=Z,3μm,11.6s							
SPA0	**Spitsbergen Ar**	**16.93**	**23**	⇑ *i* P		**P**	**08 47 42.1**	**-0.2**
SPA0				*e*S		**Sn**	**08 50 52.6**	**+4.5**
SPITS	**Spitsbergen Ar**	**16.93**	**23**	Pn		**P**	**08 47 42.2**	**-0.1**
	baz=209,slow=15,SNR=1.9							
SPITS				LR		LR	08 52 33.4	
	comp=Z,1μm,20.4s,baz=230,slow=31							
NOR	**Nord**	**17.08**	**0**	*i* P		**Pn**	**08 47 42.2**	**+0.1**
NOR	**Nord**	**17.08**	**0**	*i* P		**Pn**	**08 47 42.2**	**+0.1**
NOR	**Nord**	**17.08**	**0**	*i* P		**Pn**	**08 47 42.2**	**+0.1**
NOR				IAMs_20		IAMs_20	08 55 01.0	
	comp=Z,2μm,8.2s							
ARCES	**ARCESS Array B**	**17.18**	**54**	P		**Pn**	**08 47 44.1**	**+0.5**
	baz=303,slow=12,SNR=12							
ARCES				LR		LR	08 53 06.0	
	comp=Z,1μm,19.1s,baz=300,slow=33							
COP	**Copenhagen**	**17.25**	**107**	*i* P		**Pn**	**08 47 41.6**	**-2.8**
COP	**Copenhagen**	**17.25**	**107**	*i* P		**Pn**	**08 47 41.6**	**-2.8**
COP	**Copenhagen**	**17.25**	**107**	*i* P		**Pn**	**08 47 41.7**	**-2.8**
KEV	**Kevo**	**17.69**	**54**	P		**Pn**	**08 47 49.9**	**+0.1**
KEV				pmax		pmax		
	comp=Z,34nm,1.2s							
KEV	**Kevo**	**17.69**	**54**	P		**Pn**	**08 47 49.9**	**+0.1**
HOPEN	**H

comp=Z,46nm,1.3s
CLL *i* pP **sP** 08 48 27.9 -1.0
comp=Z,154nm,1.7s
CLL *i* 08 48 33.6
CLL *e*PPP PPP 08 48 49.0
CLL *e*S **S** **08 52 17.0 +1.9**
CLL *e*SS **SnSn** **08 52 42.0 +7.7**
CLL Collm 20.73 115 *e*P **P** **08 48 24.0 0.0**
CLL *i* 08 48 27.9
CLL *e*S **S** **08 52 17.0 +1.9**
CLL pmax pmax
comp=Z,46nm,1.3s
CLL Collm 20.73 115 P **P** **08 48 23.5 -0.6**
LVZ Lovozero 20.76 58 P **P** **08 48 25.1 +0.8**
LVZ pmax pmax
comp=Z,62nm,1.4s
LVZ Lovozero 20.76 58 P **P** **08 48 25.1 +0.8**
GKP Gorka Klasztor 20.95 106 *e*P **P** **08 48 26.5 +0.2**
GKP *e*S **S** **08 52 21.1 +1.6**
PBUR Paburge 21.04 95 *e*P **P** **08 48 27.7 +0.4**
ECH Echery 21.16 129 P **P** **08 48 28.4 -0.4**
ECH pmax pmax
comp=Z,58nm,1.4s
ECH Echery 21.16 129 P **P** **08 48 28.4 -0.4**
GRA1 Grafenberg Arr 21.35 121 P **P** **08 48 31.2 +0.5**
GRA1 IAmb IAmb 08 48 49.8
comp=Z,150nm,1.5s
GRF Grafenberg Arr 21.35 121 P **P** **08 48 31.3 +0.5**
GRF pmax pmax
comp=Z,150nm,1.5s
NKC Novy Kostel 21.37 118 *e*P **P** **08 48 32.6 +1.6**
NKC *e*S Sn 08 52 31.6 -3.9
NKC AMS AMS 09 00 50.0
comp=Z,2µm,11.1s
NKC Novy Kostel 21.37 118 *e*P **P** **08 48 32.6 +1.6**
NKC *e*S Sn 08 52 31.6 -3.9
NKC MLR MLR
comp=Z,2µm,11.1s
STU Stuttgart 21.38 125 P **P** **08 48 31.4 +0.3**
STU pmax pmax
comp=Z,110nm,1.4s
STU Stuttgart 21.38 125 P **P** **08 48 31.4 +0.3**
STU IAmb IAmb 08 48 40.0
comp=Z,110nm,1.4s
BRG Berggiesshubel 21.43 115 *e*P **P** **08 48 30.3 -1.4**
comp=Z,64nm,1.2s
BRG S **P** **08 48 35.6 +3.9**
comp=Z,174nm,1.6s
BRG S **S** **08 52 32.0 +2.8**
comp=N,1µm,12.9s
comp=E,2µm,12.8s
comp=Z,1µm,13.4s
BRG Berggiesshubel 21.43 115 *e*P **P** **08 48 30.3 -1.4**
BRG S **P** **08 48 35.6 +3.9**
BRG S **S** **08 52 32.0 +2.8**
BRG pmax pmax
comp=Z,64nm,1.2s
BRG MLR MLR
comp=N,1µm,12.9s
BRG MLR MLR
comp=E,2µm,12.8s
BRG MLR MLR
comp=Z,1µm,13.4s
BFO Black Forest 21.46 127 P **P** **08 48 31.6 -0.4**
BFO pmax pmax
comp=Z,106nm,1.5s
BFO Black Forest 21.46 127 P **P** **08 48 31.6 -0.4**
BFO IAmb IAmb 08 48 45.4
comp=Z,106nm,1.5s
VSU Vasula 21.61 86 *e*P **P** **08 48 33.1 -0.4**
VSU Vasula 21.61 86 *i* P **P** **08 48 33.7 +0.2**
VSU pmax pmax
comp=Z,114nm,0.9s
FRB Frobisher Bay 21.72 291 P **P** **08 48 35.1 +0.4**
comp=Z,31nm,1.0s,baz=71,slow=17,SNR=4.2
FRB LR LR 08 56 15.4
comp=Z,928nm,21.8s,baz=65,slow=35
PVCC Panska Ves 21.95 115 *e*S Sn 08 52 44.9 -4.5
PVCC AMS AMS 09 01 20.0
comp=Z,2µm,10.0s
PABE Paberze 22.25 94 *e*P **P** **08 48 41.4 +1.0**
PRA Prague 22.26 116 *e*P **P** **08 48 42.8 +2.2**
PRA AMS AMS 09 01 20.0
comp=Z,1µm,10.9s
PRA Prague 22.26 116 *e*P **P** **08 48 42.8 +2.2**
PRA MLR MLR
comp=Z,1µm,10.9s
PRU Pruhonice 22.37 116 *e*P **P** **08 48 43.0 +1.3**
PRU *e*S **S** **08 52 47.1 -0.1**
PRU AMS AMS 09 01 50.0
comp=Z,2µm,11.1s
PRU Pruhonice 22.37 116 *e*P **P** **08 48 43.0 +1.3**
PRU *e*S **S** **08 52 47.1 -0.1**
PRU MLR MLR
comp=Z,2µm,11.1s
KSP Ksiaz 22.39 112 *e*P **P** **08 48 40.7 -1.2**
KSP *e*S **S** **08 52 50.2 +2.6**
PUL Pulkovo 22.41 80 *e*P **P** **08 48 42.6 +0.5**
CHVC Chvalec 22.49 113 *e*P **P** **08 48 44.2 +1.1**
CHVC *e*S **S** **08 52 51.7 +2.1**
CHVC AMS AMS 09 01 10.0
comp=Z,1µm,10.7s
GOPC GO Pecny, Ondr 22.52 115 *e*P **P** **08 48 44.9 +1.5**
GOPC *e*S **S** **08 52 54.0 +3.8**
GOPC AMS AMS 09 02 00.0
comp=Z,2µm,10.6s
GOPC GO Pecny, Ondr 22.52 115 *e*P **P** **08 48 44.9 +1.5**
GOPC *e*S **S** **08 52 54.0 +3.8**
GOPC MLR MLR
comp=Z,2µm,10.6s
UPC Upice 22.54 113 *e*P **P** **08 48 44.6 +1.1**
UPC *e*S **S** **08 52 53.5 +3.1**
UPC AMS AMS 09 02 10.0
comp=Z,2µm,10.8s
UPC Upice 22.54 113 *e*P **P** **08 48 44.6 +1.1**
UPC *e*S **S** **08 52 53.5 +3.1**
UPC MLR MLR
comp=Z,2µm,10.8s
OSTC Ostas 22.58 112 *e*P **P** **08 48 44.5 +0.5**
OSTC *e*S **S** **08 52 55.1 +3.9**
OSTC AMS AMS 09 01 20.0
comp=Z,1µm,10.4s
KHC Kasperske Hory 22.69 118 *e*P **P** **08 48 44.5 -0.7**
KHC *e*S **S** **08 52 57.7 +4.4**
KHC AMS AMS 09 01 20.0
comp=Z,2µm,9.5s
KHC Kasperske Hory 22.69 118 *e*P **P** **08 48 44.5 -0.7**
KHC *e*S **S** **08 52 57.7 +4.4**
KHC MLR MLR
comp=Z,2µm,9.5s
KHC Kasperske Hory 22.69 118 P **P** **08 48 45.0 -0.2**
DPC Dobruska-Polom 22.78 113 *e*P **P** **08 48 46.4 +0.2**
DPC *e*S **S** **08 52 57.5 +2.6**
DPC AMS AMS 09 02 20.0
comp=Z,2µm,10.7s
DPC Dobruska-Polom 22.78 113 *e*P **P** **08 48 46.4 +0.2**
DPC *e*S **S** **08 52 57.5 +2.6**
DPC MLR MLR
comp=Z,2µm,10.7s
SENIN Lac Senin/Sane 22.83 131 P **P** **08 48 46.3 -0.5**
SENIN IAmb IAmb 08 49 03.9
comp=Z,86nm,1.4s
DAVA Damuels 22.89 126 *e*P **P** **08 48 47.4 -0.1**
comp=Z,28nm,1.3s
SUW Suwalki 22.92 98 *e*P **P** **08 48 46.6 -0.9**
SUW *e*S **S** **08 52 59.0 +1.9**
SUW Suwalki 22.92 98 P **P** **08 48 47.2 -0.3**
SUW pmax pmax
comp=Z,119nm,1.4s
SUW Suwalki 22.92 98 P **P** **08 48 47.2 -0.3**
SUW IAmb IAmb 08 48 56.6
comp=Z,119nm,1.4s
SSB Saint Sauveur 22.95 137 P **P** **08 48 44.4 -3.5**
SSB pmax pmax
comp=Z,44nm,1.3s
SSB Saint Sauveur 22.95 137 P **P** **08 48 44.4 -3.5**
GEC2 GERESS Array S 22.97 118 P **P** **08 48 47.9 -0.3**
GERES GERESS Array B 22.97 118 P **P** **08 48 47.6 -0.6**
comp=Z,6.5nm,1.0s,baz=327,slow=8.5,SNR=20
GERES LR LR 08 58 19.8
comp=Z,820nm,18.5s,baz=328,slow=38
GERES GERESS Array B 22.97 118 P **P** **08 48 47.7 -0.5**
RETA Reutte 23.03 125 *e*P **P** **08 48 48.4 -0.4**
comp=Z,18nm,1.2s,SNR=11

IZAR Zarasai 23.07 92 *e*P **P** **08 48 48.5 -0.5**
ZFI Zemlya Franca- 23.13 22 *e*P **P** **08 48 50.2 +0.7**
comp=Z,106nm,1.7s
ZFI *e*S **S** **08 53 03.4 +3.0**
ISAL Salakas 23.14 92 *e*P **P** **08 48 50.5 +0.8**
KRLC Kraliky 23.18 112 *e*P **P** **08 48 50.3 0.0**
KRLC *e*S **S** **08 53 05.2 +3.4**
KRLC AMS AMS 09 02 40.0
comp=Z,2µm,10.3s
KRLC Kraliky 23.18 112 *e*P **P** **08 48 50.3 0.0**
KRLC *e*S **S** **08 53 05.2 +3.4**
KRLC MLR MLR
comp=Z,2µm,10.3s
MOTA Moosalm 23.27 124 *e*P **P** **08 48 50.7 -0.7**
comp=Z,36nm,1.2s,SNR=15
TREC Trest 23.29 115 *e*P **P** **08 48 50.9 -0.5**
TREC *e*S **S** **08 53 06.1 +2.5**
TREC AMS AMS 09 02 30.0
comp=Z,2µm,9.0s
TREC Trest 23.29 115 *e*P **P** **08 48 50.9 -0.5**
TREC *e*S **S** **08 53 06.1 +2.5**
TREC MLR MLR
comp=Z,2µm,9.0s
PGAV Gavieira, Arco 23.32 162 *i* LQ LQ 08 53 09.8
PGAV *e*LR LR 08 55 40.2
comp=Z,2µm,16.0s
IIGN Ignalina 23.32 93 *e*P **P** **08 48 52.6 +1.0**
DAVOX Davos/Dischmat 23.32 127 P **P** **08 48 51.9 0.0**
comp=Z,9.2nm,0.9s,baz=336,slow=13,SNR=11
DAVOX LR LR 08 57 41.7
comp=Z,465nm,19.9s,baz=272,slow=36
TUE Stuetta 23.41 128 P **P** **08 48 52.6 -0.2**
TUE IAmb IAmb 08 49 07.3
comp=Z,82nm,1.4s
FETA Feichten 23.41 125 *e*P **P** **08 48 52.7 -0.1**
comp=Z,24nm,1.3s
SQTA Sankt Quirin 23.41 124 *e*P **P** **08 48 51.8 -1.0**
comp=Z,36nm,1.6s
WATA Walderalm 23.45 124 *e*P **P** **08 48 52.7 -0.4**
comp=Z,44nm,1.8s,SNR=15
BEL Belsk 23.47 105 *e*P **P** **08 48 52.8 -0.3**
WTTA Wattenberg 23.53 124 *e*P **P** **08 48 53.1 -0.9**
comp=Z,56nm,1.6s,SNR=22
IDID Didziasalis 23.57 92 *e*P **P** **08 48 54.2 +0.2**
FUORN Ofenpass-Fuorn 23.60 126 P **P** **08 48 54.7 0.0**
FUORN IAmb IAmb 08 49 18.4
comp=Z,71nm,1.4s
EUNU Eureka 23.70 336 P **P** **08 48 55.5 +0.3**
EUNU IAmb IAmb 08 48 59.2
comp=Z,49nm,1.1s
VRAC Vranov 23.72 114 P **P** **08 48 55.9 +0.4**
comp=Z,5.3nm,0.8s,baz=323,slow=9.7,SNR=12
VRAC LR LR 08 59 13.7
comp=Z,834nm,18.2s,baz=330,slow=39
VRAC Vranov 23.72 114 ⇑P **P** **08 48 56.4 +0.8**
VRAC Vranov 23.72 114 *e*P **P** **08 48 54.3 -1.3**
VRAC *e*S **S** **08 53 15.5 +5.1**
MORC Moravsky Berou 23.72 112 ⇑P **P** **08 48 56.1 +0.5**
MORC Moravsky Berou 23.72 112 *e*P **P** **08 48 54.2 -1.5**
MORC *e*S **S** **08 53 14.2 +3.7**
MORC Moravsky Berou 23.72 112 P **P** **08 48 55.2 -0.4**
MORC pmax pmax
comp=Z,52nm,1.5s
MORC Moravsky Berou 23.72 112 P **P** **08 48 55.2 -0.4**
BNI Bardonecchia 23.80 134 P **P** **08 48 56.0 -0.5**
BNI pmax pmax
comp=Z,45nm,1.5s
BNI Bardonecchia 23.80 134 P **P** **08 48 56.0 -0.5**
KRUC Moravsky 23.84 114 *e*P **P** **08 48 55.4 -1.3**
KRUC *e*S **S** **08 53 14.8 +2.6**
NACGM Naroch 23.86 93 *e*P **P** **08 48 55.0 -1.9**
NACGM *e*P **P** **08 48 55.0 -1.9**
NACGM *e*S **S** **08 53 14.0 +1.5**
NACGM *e*LR LR 08 57 10.0
OKC Ostrava-Krasne 23.92 111 *e*P **P** **08 48 58.5 +1.0**
OKC AMS AMS 09 02 40.0
comp=Z,1µm,9.9s
OKC Ostrava-Krasne 23.92 111 *e*P **P** **08 48 58.5 +1.0**
OKC MLR MLR
comp=Z,1µm,9.9s
MOA Molln 24.01 119 *e*P **P** **08 48 58.1 -0.3**
comp=Z,30nm,1.6s
MVO Moncorvo 24.28 160 *e*P **P** **08 49 02.5 +1.5**
comp=Z,91nm,1.8s
MVO *i* LQ LQ 08 53 27.6
MVO *e*LR LR 08 55 53.8
comp=Z,1µm,18.0s
ABTA Abfaltersbach 24.29 123 *e*P **P** **08 49 01.7 +0.7**
comp=Z,26nm,1.6s
OJC Ojcow 24.29 108 *e*P **P** **08 48 59.1 -1.8**
OJC *e*S **S** **08 53 21.8 +2.4**
OJC Ojcow 24.29 108 P **P** **08 49 00.0 -1.0**
OJC pmax pmax
comp=Z,5.0nm,0.9s
OJC Ojcow 24.29 108 P **P** **08 48 60.0 -1.0**
KBA Koelnbreinsper 24.31 121 *e*P **P** **08 49 01.5 +0.2**
comp=Z,18nm,1.4s
JAVC Velka Javorina 24.50 113 *e*P **P** **08 49 02.9 -0.1**
JAVC *e*S **S** **08 53 26.6 +3.6**
CONA Conrad Observa 24.55 117 *e*P **P** **08 49 03.3 -0.2**
comp=Z,16nm,1.0s,SNR=12
CTI Castel Tesino 24.58 125 P **P** **08 49 04.1 +0.4**
CTI pmax pmax
comp=Z,77nm,1.4s
CTI Castel Tesino 24.58 125 P **P** **08 49 04.1 +0.4**
CTI IAmb IAmb 08 49 17.9
comp=Z,77nm,1.4s
PVIS Viseu 24.60 162 *e*P **P** **08 49 05.5 +1.6**
comp=Z,76nm,1.3s
MICGM Minsk 24.60 93 *e*P **P** **08 49 03.0 -0.7**
MICGM *e*PP **PnPn** **08 49 33.0 -1.8**
MICGM *e*S **S** **08 53 26.0 +1.6**
MICGM SM 08 53 36.0
comp=Z,2.3nm,8.0s
MICGM *e*SS **SnSn** **08 54 06.0 -3.3**
MICGM *e*LR LR 08 57 40.0
MNK Minsk 24.60 93 *e*P **P** **08 49 03.0 -0.7**
MNK *e* 08 49 33.0
MNK *e*S **S** **08 53 26.0 +1.6**
MNK smax smax
comp=E,2µm,8.0s
ZOU Zoufplan 24.61 123 P **P** **08 49 04.2 +0.1**
ZOU IAmb IAmb 08 49 18.6
comp=Z,68nm,1.4s
CIMO Cimolais 24.63 124 P **P** **08 49 04.2 +0.1**
SMOL Smolenice 24.68 114 *e*P **P** **08 49 04.7 +0.2**
SMOL pmax pmax
comp=Z,20nm,1.2s
SMOL Smolenice 24.68 114 *e*P **P** **08 49 04.7 +0.2**
SMOL *e*S **S** **08 53 32.8 +6.9**
MODS Modra-Piesok 24.74 114 *e*P **P** **08 49 05.3 +0.3**
MODS pmax pmax
comp=Z,145nm,2.0s
MODS Modra-Piesok 24.74 114 *e*P **P** **08 49 05.3 +0.3**
MODS *e*S **S** **08 53 32.5 +5.7**
STAL STALIGIAL 24.77 123 P **P** **08 49 05.2 -0.1**
MYKA Terra Mystica 24.80 122 *e*P **P** **08 49 05.5 -0.1**
comp=Z,25nm,1.5s
PRED Cave del Predi 24.93 122 P **P** **08 49 07.1 +0.3**
PRED IAmb IAmb 08 49 22.3
comp=Z,59nm,1.5s
MTE Manteigas 24.96 162 *e*P **P** **08 49 08.3 +1.2**
comp=Z,95nm,1.6s
MTE *i* LQ LQ 08 53 43.5
MTE *e*LR LR 08 56 02.2
comp=Z,2µm,18.0s
ARSA Arzberg 24.98 118 *e*P **P** **08 49 07.2 -0.1**
comp=Z,21nm,1.1s
LANS Liptovska Anna 24.99 110 *e*P **P** **08 49 07.7 +0.4**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 24.99 110 *e*P **P** **08 49 07.7 +0.4**
NIE Niedzica 25.11 109 *e*P **P** **08 49 08.7 +0.2**
NIE *e*S **S** **08 53 33.2 +0.3**
OBKA Obir 25.23 120 *e*P **P** **08 49 08.9 -0.7**
comp=Z,21nm,1.5s
PRMA PARMA 25.23 129 P **P** **08 49 08.1 -1.4**
PRMA IAmb IAmb 08 49 14.6
comp=Z,90nm,1.5s
VYHS Vyhne 25.26 112 *e*P **P** **08 49 10.2 +0.5**
VYHS pmax pmax
comp=Z,72nm,1.6s
VYHS Vyhne 25.26 112 *e*P **P** **08 49 10.2 +0.5**
VYHS *e*S **S** **08 53 41.4 +6.3**

SOKA Soboth 25.27 120 *e*P **P** **08 49 09.7 -0.2**
comp=Z,21nm,1.2s
PERS Pernice 25.34 120 *i* P **P** **08 49 10.3 -0.3**
PCBR Castelo Branco 25.52 162 *e*P **P** **08 49 12.6 +0.5**
comp=Z,58nm,1.8s
LJU Ljubljana 25.62 121 *e*P **P** **08 49 12.2 -0.8**
KLMR Klimovskoe 25.66 72 *e*P **P** **08 49 12.4 -0.8**
comp=Z,36nm,1.3s
KLMR *i* PcP **PcP** **08 52 42.6 -0.6**
KLMR *e*S **S** **08 53 41.6 +0.4**
KLMR Klimovskoe 25.66 72 *e*P **P** **08 49 12.4 -0.8**
KLMR *e* 08 52 42.5
KLMR *e*S **S** **08 53 42.2 +1.0**
KLMR pmax pmax
comp=Z,36nm,1.3s
KLMR Klimovskoe 25.66 72 *e*P **P** **08 49 12.5 -0.7**
KLMR AMP 08 49 17.6
comp=Z,36nm,1.3s
KLMR *e*PcP **PcP** **08 52 42.5 -0.6**
KLMR *e*S **S** **08 53 42.2 +1.0**
KLMR *e*S **S** **08 53 42.2 +1.0**
KLMR LQ LQ 08 56 18.4
KLMR LQ LQ 08 56 18.4
KLMR LR LR 08 57 16.0
UCM Universidad Co 25.75 154 *e*P **P** **08 49 14.9 +0.7**
UCM *e*S S 08 54 05.6 +23
ZCCA Zocca 25.82 128 P **P** **08 49 16.1 +1.2**
ZCCA IAmb IAmb 08 49 22.1
comp=Z,45nm,1.2s
PMRV Marv??o 25.93 162 *e*P **P** **08 49 18.4 +2.5**
comp=Z,72nm,1.6s
PMRV *i* LQ LQ 08 53 58.3
PMRV *e*LR LR 08 56 33.0
comp=Z,2µm,18.0s
KWP Kalwaria Pacla 25.94 106 *e*P **P** **08 49 15.6 -0.3**
KWP *e*S **S** **08 53 46.6 +0.8**
KWP Kalwaria Pacla 25.94 106 P **P** **08 49 16.3 +0.4**
KWP pmax pmax
comp=Z,124nm,1.2s
KWP Kalwaria Pacla 25.94 106 P **P** **08 49 16.3 +0.4**
CRVS Cervenica-Dubn 25.99 108 *e*P **P** **08 49 18.6 +2.2**
CRVS pmax pmax
comp=Z,79nm,1.5s
CRVS Cervenica-Dubn 25.99 108 *e*P **P** **08 49 18.6 +2.2**
CRVS Cervenica-Dubn 25.99 108 *e*SN **S** **08 53 52.9 +6.2**
SCHQ Schefferville 26.00 271 P **P** **08 49 15.2 -1.2**
comp=Z,29nm,0.9s,baz=53,slow=8.5,SNR=14
SCHQ LR LR 08 58 10.4
comp=Z,758nm,21.3s,baz=50,slow=33
SCHQ Schefferville 26.00 271 P **P** **08 49 16.0 -0.4**
SCHQ IAmb IAmb 08 49 19.9
comp=Z,29nm,0.8s
LSH Leshukonskoye 26.03 60 *e*P **P** **08 49 14.6 -1.9**
comp=Z,39nm,1.2s
LSH *e*S **S** **08 53 46.5 -0.4**
DRLN Deer Lake 26.06 253 P **P** **08 49 18.4 +1.4**
DRLN IAmb IAmb 08 49 19.6
comp=Z,80nm,1.4s
PSZ Piszkesteto 26.14 112 ⇓P **P** **08 49 18.4 +0.6**
PSZ Piszkesteto 26.14 112 P **P** **08 49 18.0 +0.2**
PSZ pmax pmax
comp=Z,90nm,1.4s
PSZ Piszkesteto 26.14 112 P **P** **08 49 18.0 +0.2**
ESBB Sonseca Array 26.23 156 P **P** **08 49 17.8 -0.8**
ESDC Sonseca Array 26.23 156 P **P** **08 49 17.8 -0.8**
comp=Z,8.5nm,0.9s,baz=348,slow=8.7,SNR=28
ESDC LR LR 08 59 27.7
comp=Z,1µm,18.6s,baz=335,slow=36
ESDC Sonseca Array 26.23 156 P **P** **08 49 17.9 -0.7**
PAB San Pablo 26.29 156 P **P** **08 49 19.6 +0.4**
PAB pmax pmax
comp=Z,54nm,1.4s
PAB San Pablo 26.29 156 P **P** **08 49 19.6 +0.4**
PAB IAmb IAmb 08 49 35.6
comp=Z,54nm,1.4s
KOLS Kolonicke sedl 26.30 107 *e*P **P** **08 49 18.8 -0.4**
KOLS pmax pmax
comp=Z,52nm,1.5s
KOLS Kolonicke sedl 26.30 107 *e*P **P** **08 49 18.8 -0.4**
BOJS Bojanci 26.34 121 *i* P **P** **08 49 18.8 -0.8**
LVV L'vov 26.35 104 *e*P **P** **08 49 21.5 +1.9**
LVV *e*S **S** **08 53 50.5 -1.8**
LVV pmax pmax
comp=Z,100nm,1.2s
LVV smax smax
comp=N,2µm,6.0s
LVV smax smax
comp=E,2µm,7.0s
LVV MLR MLR
comp=E,1µm,12.0s
LVV MLR MLR
comp=N,1µm,13.0s
LVV MLR MLR
comp=Z,1µm,13.0s
RES Resolute Bay 26.48 324 LR LR 08 59 39.7
comp=Z,704nm,19.1s,baz=72,slow=36
UZH Uzhgorod 26.55 108 *e*P **P** **08 49 21.3 -0.1**
UZH *i* 08 49 23.9
UZH *i* 08 50 13.8
UZH *i*S **S** **08 53 50.1 -5.3**
MURB Monte Urbino 27.31 127 P **P** **08 49 28.2 -0.1**
MURB IAmb IAmb 08 49 35.5
comp=Z,66nm,1.3s
AKASG Malin Array Be 27.88 97 P **P** **08 49 33.0 -0.3**
comp=Z,0.5nm,0.3s,baz=324,slow=9.5,SNR=13
AKASG PcP **PcP** **08 52 49.1 +0.5**
comp=Z,0.3nm,0.4s,baz=290,slow=2.5,SNR=4.1
AKASG LR LR 09 00 56.7
comp=Z,364nm,19.4s,baz=310,slow=37
AKASG Malin Array Be 27.88 97*ce*P **P** **08 49 33.0 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 27.88 97*ce*P **P** **08 49 34.8 +1.5**
AKBB Malin Array Si 27.88 97 P **P** **08 49 32.4 -0.9**
PVAQ Vaqueiros 27.88 163 *i* LQ LQ 08 54 31.1
PVAQ *e*LR LR 08 57 32.8
comp=Z,1µm,20.0s
NRCA Norcia 27.89 127 P **P** **08 49 32.4 -1.2**
NRCA IAmb IAmb 08 49 43.4
comp=Z,36nm,1.5s
OBN Obninsk 27.93 84 P **P** **08 49 33.9 +0.2**
comp=Z,6.0nm,0.4s,baz=311,slow=14,SNR=8.6
OBN LR LR 09 00 11.6
comp=Z,110nm,21.4s,baz=348,slow=35
OBN Obninsk 27.93 84*de*P **P** **08 49 34.7 +1.0**
OBN *e* 08 50 22.8
OBN *i*S **S** **08 54 15.9 -1.2**
OBN *e*SS **SnSn** **08 55 30.6 +0.1**
OBN pmax pmax
comp=Z,65nm,1.7s
OBN MLR MLR
comp=Z,371nm,14.0s
OBN Obninsk 27.93 84 P **P** **08 49 34.5 +0.8**
OBN IAmb IAmb 08 49 46.6
comp=Z,38nm,1.1s
MOS Moscow 27.97 82 *e*P **P** **08 49 34.4 +0.3**
MOS *e* 08 50 18.7
MOS *e*S **S** **08 54 19.4 +1.7**
MOS MLR MLR
comp=Z,500nm,13.0s
SIRR Siria 28.19 112 ⇑P **P** **08 49 37.0 +0.8**
BUR08 Bucovina Ar. S 28.52 106 P **P** **08 49 40.2 +0.9**
BURAR Bucovina Array 28.55 106 ⇑P **P** **08 49 41.3 +1.8**
BURAR Bucovina Array 28.55 106 P **P** **08 49 39.8 +0.3**
BZS Buzias 28.70 112 ⇓P **P** **08 49 41.5 +0.8**
CART Cartagena 28.81 152 *e*P **P** **08 49 42.9 +1.1**
CART *e*S S 08 54 40.2 +9.0
EMAL Malaga-Limoner 28.99 158 *e*S S 08 54 45.5 +12
DIVS Divibare 29.33 116 P **P** **08 49 46.2 -0.2**
GZR Gura Zlata 29.35 111 ⇓P **P** **08 49 47.8 +1.2**
MDVR Moldovita 29.43 113 ⇑P **P** **08 49 47.4 +0.1**
BIZ Bicaz 29.46 106 ⇑P **P** **08 49 50.0 +2.6**
HERR Herculane 29.63 112 ⇓P **P** **08 49 49.8 +0.9**
CEU Ceuta 29.68 160 *e*P P 08 49 58.1 +8.7
CEU *e*S S 08 54 55.3 +10
DOPR Dopca 29.94 108 ⇑P **P** **08 49 54.0 +2.3**
PAOL Paolisi 29.99 126 P **P** **08 49 52.3 +0.1**
PAOL IAmb IAmb 08 49 54.5
comp=Z,28nm,1.4s
ARR Arges 30.12 109 ⇓P **P** **08 49 54.4 +1.0**
VOIR 30.23 109 ⇑P **P** **08 49 55.5 +1.2**
KIS Kishinev 30.55 103 *e*P **P** **08 49 57.0 0.0**
comp=Z,140nm,3.4s
KIS *e*S **S** **08 54 54.0 -4.3**

KIS eL L 09 03 39.0
KIS LRM MLR 09 05 04.0
comp=Z,300nm,14.0s
KIS Kishinev 30.55 103 *e*P **P** **08 49 57.0 0.0**
KIS *e*S **S** **08 54 54.0 -4.3**
KIS pmax pmax
comp=Z,140nm,3.4s
KIS MLR MLR
comp=Z,300nm,14.0s
PLOR Plostina 30.56 106 ⇑P **P** **08 49 59.5 +2.3**
MLR Muntele Rosu 30.56 108 ⇑P **P** **08 49 58.8 +1.5**
MLR Muntele Rosu 30.56 108 P **P** **08 49 58.6 +1.3**
MLR Muntele Rosu 30.56 108 P **P** **08 49 58.6 +1.3**
VRI Vrincioaia 30.58 106 ⇓P **P** **08 49 59.2 +1.8**
MILM Milestii Mici 30.61 103 ⇓P **P** **08 49 59.9 +2.4**
MELI Melilla 30.67 156 *e*P P 08 50 10.2 +12
MELI *e*S **S** **08 55 05.9 +5.5**
LPSR Galich'ya Gora 30.68 86 *e*P **P** **08 49 58.7 +0.6**
LPSR *e*S **S** **08 55 01.9 +1.6**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR smax smax
comp=N,260nm,9.0s
LPSR MLR MLR
comp=Z,550nm,10.0s
BISRR Bisoca 30.83 107 ⇑P **P** **08 50 01.3 +1.7**
KIRV Kirov 31.04 69*ce*P **P** **08 50 02.2 +1.0**
ISR Istrita 31.11 107 ⇓P **P** **08 50 03.5 +1.4**
MPEP Malo Peshtene 31.43 112 *i* P **P** **08 50 04.5 -0.3**
SKO Skopje 31.70 117 *i* P **P** **08 50 11.6 +4.4**
CFR Carcaliu 31.72 106 ⇓P **P** **08 50 08.7 +1.4**
VSR Storozhevoye 31.78 87 *e*P **P** **08 50 08.4 +0.6**
VSR *e*S **S** **08 55 19.0 +1.5**
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR smax smax
comp=N,330nm,9.3s
VSR MLR MLR
comp=Z,630nm,12.0s
PMOZ Porto Moniz, M 31.82 179 *e*LR LR 08 59 00.5
comp=Z,698nm,20.0s
VTS Vitosha 31.85 114 *i* P **P** **08 50 09.4 +0.7**
AVE Averroes 31.97 164 *e*S **S** **08 55 24.6 +3.8**
VORD Divnogorie 32.02 88 *e*P **P** **08 50 09.3 -0.6**
VORD pmax pmax
comp=Z,30nm,1.7s
IFR Ifrane 32.06 160 *e*S **S** **08 55 27.6 +5.1**
OHR Ohrid 32.19 118 *i* P **P** **08 50 11.7 0.0**
STIP Stip 32.22 116 *i* P **P** **08 50 11.8 0.0**
PGB Panagyurishte 32.27 113 *i* P **P** **08 50 14.2 +1.9**
CORL Corleone 32.38 131 P **P** **08 50 13.9 +0.6**
TIP Timpagrande 32.41 125 P **P** **08 50 12.1 -1.4**
TIRR Tirgusor 32.42 106 P **P** **08 50 13.1 -0.4**
TIRR pmax pmax
comp=Z,58nm,1.4s
TIRR Tirgusor 32.42 106 P **P** **08 50 13.1 -0.4**
KKB Krupnik 32.42 115 *i* P **P** **08 50 14.6 +1.0**
CLTB Caltabellotta 32.64 131 P **P** **08 50 16.0 +0.4**
CLTB IAmb IAmb 08 50 22.3
comp=Z,39nm,1.2s
VAY Valandovo 32.69 116 *i* P **P** **08 50 18.0 +2.1**
CHGQ Chibougamau 32.74 271 P **P** **08 50 15.9 -0.4**
baz=42,SNR=5.3
VRH Novokhopyorsk 32.89 85 *e*P **P** **08 50 17.7 +0.2**
VRH pmax pmax
comp=Z,30nm,1.4s
VRH MLR MLR
comp=Z,770nm,12.0s
MMB Musomiste 32.91 114 *i* P **P** **08 50 17.5 -0.4**
PRD Provadia 33.03 108 *i* P **P** **08 50 20.5 +1.6**
KEST Kesra 33.15 138 P **P** **08 50 20.2 +0.1**
comp=Z,19nm,1.3s,baz=220,slow=6.0,SNR=4.2
KEST LR LR 09 03 40.1
comp=Z,647nm,18.4s,baz=334,slow=36
KEST Kesra 33.15 138 P **P** **08 50 19.9 -0.2**
KEST IAmb IAmb 08 50 32.8
comp=Z,31nm,1.2s
SRS Serrai 33.26 115 P **P** **08 50 20.3 -0.6**
KDZ Kurdzhali 33.53 112 *i* P **P** **08 50 22.4 -0.9**
D60A Saint Jean D'O 33.55 264 P **P** **08 50 24.9 +1.6**
baz=39
LIT Litokhoron 33.71 117 P **P** **08 50 24.3 -0.5**
LIT pmax pmax
comp=Z,21nm,1.4s
LIT Litokhoron 33.71 117 P **P** **08 50 24.3 -0.5**
F63A Nahmakanta, Br 33.72 261 P **P** **08 50 26.3 +1.4**
baz=38
F63A Nahmakanta, Br 33.72 261 P **P** **08 50 25.4 +0.5**
F63A IAmb IAmb 08 50 27.3
comp=Z,33nm,1.2s
E61A Lac Etchemin 33.74 263 P **P** **08 50 26.2 +1.2**
baz=38
G64A Maxfield 33.93 260 P **P** **08 50 28.7 +2.0**
baz=37
PKME Peaks-Kenny Pk 34.15 261 P **P** **08 50 30.6 +2.0**
baz=37
E60A Ste Agathe de 34.20 264 P **P** **08 50 29.6 +0.6**
baz=38,SNR=6.1
NYDR Nydri-Lefkada 34.24 120 P P 08 50 38.9 +9.5
D58A Chemin du LacG 34.25 266 P **P** **08 50 29.9 +0.5**
baz=39,SNR=6.8
MATQ Matagami 34.26 274 P **P** **08 50 30.2 +0.7**
baz=42
EVGI Lefkada island 34.31 121 P P 08 50 37.6 +7.6
F61A St Evariste 34.31 263 P **P** **08 50 31.9 +1.9**
baz=38
G63A Kingsbury 34.41 261 P **P** **08 50 32.4 +1.6**
baz=37
VSK1 VASILIKIADES 34.46 121 P **P** **08 50 34.8 +3.4**
LSQQ Lebel-sur-Quev 34.51 272 P **P** **08 50 32.0 +0.3**
baz=41
BELG Belogornoye 34.54 79 *i* P **P** **08 50 32.8 +1.0**
AGG Agios Georgios 34.59 118 P **P** **08 50 32.5 0.0**
AGG pmax pmax
comp=Z,30nm,1.2s
AGG Agios Georgios 34.59 118 P **P** **08 50 32.5 0.0**
AGG IAmb IAmb 08 50 39.4
comp=Z,30nm,1.2s
XOR Xorichti 34.62 117 P **P** **08 50 32.1 -0.6**
H64A Troy 34.62 260 P **P** **08 50 33.1 +0.5**
baz=36
VLS Valsamata 34.68 121 P **P** **08 50 30.4 -2.8**
F60A Warwick 34.73 264 P **P** **08 50 34.2 +0.6**
baz=38
D56A ZEC Mazanza, M 35.09 268 P **P** **08 50 37.0 +0.2**
baz=39
G61A St-Isidore-de- 35.09 263 P **P** **08 50 38.3 +1.5**
baz=37,SNR=6.1
E57A Chemin Saint G 35.32 267 P **P** **08 50 38.9 +0.1**
baz=38,SNR=6.8
MOQ Mont Orford 35.38 264 P **P** **08 50 39.5 +0.2**
D55A Sainte-Anne-du 35.42 269 P **P** **08 50 39.9 +0.4**
baz=39,SNR=8.8
VLDQ Val d'Or 35.43 272 P **P** **08 50 40.7 +1.1**
VLDQ IAmb IAmb 08 50 42.4
comp=Z,47nm,1.4s
EZN Ezine 35.45 113 P P 08 50 47.1 +7.3
H62A Milan 35.50 262 P **P** **08 50 41.9 +1.6**
baz=37
G60A Masonville 35.58 264 P **P** **08 50 42.4 +1.4**
baz=37
E56A St. Veronique 35.60 268 P **P** **08 50 41.3 +0.2**
baz=39,SNR=8.5
I63A Otisfield 35.67 261 P **P** **08 50 42.0 +0.2**
baz=36
ANN Anapa 35.95 96 *e*P **P** **08 50 42.2 -1.9**
ANN *e* 08 52 05.4
ANN *e*PPP PPP 08 52 19.1
ANN *e*S **S** **08 56 23.1 +1.0**
ANN pmax pmax
comp=Z,29nm,1.0s
ANN pmax pmax
comp=Z,189nm,3.1s
ANN MLR MLR
comp=Z,1μm,15.0s
E55A Montcerf-Lytto 36.11 269 P **P** **08 50 45.7 +0.2**
baz=39
ARU Arti 36.14 66*c* *i*P **P** **08 50 45.2 -0.4**
ARU 08 53 07.9
ARU S **S** **08 56 26.2 +1.4**
ARU SS **SnSn** **08 58 49.4 -0.4**
ARU pmax pmax
comp=Z,32nm,2.2s
ARU MLR MLR
comp=Z,650nm,16.0s

H60A Morristown 36.17 263 P **P** **08 50 47.4 +1.4**
baz=37
G58A Ormstown 36.28 265 P **P** **08 50 47.2 +0.3**
baz=37
FRNY Flat Rock 36.33 265 P **P** **08 50 47.4 +0.1**
FRNY IAmb IAmb 08 50 50.9
comp=Z,31nm,1.1s
I61A Oroboro, Fairl 36.46 262 P **P** **08 50 50.1 +1.6**
baz=36
NRIK Noril'sk 36.52 35 LR LR 09 07 48.8
comp=Z,451nm,18.0s,baz=7.5,slow=40
NRIK Noril'sk 36.52 35*ce*P **P** **08 50 47.2 -1.5**
NRIK pmax pmax
comp=Z,26nm,1.5s
H59A Cadyville 36.53 264 P **P** **08 50 49.8 +0.8**
baz=37
SVE Sverdlovsk 36.67 64 *e*P **P** **08 50 50.2 0.0**
SVE *e*S **S** **08 56 31.7 -1.2**
SVE pmax pmax
comp=Z,29nm,1.8s
SVE MLR MLR
comp=Z,769nm,18.0s
G57A Newington 36.72 266 P **P** **08 50 51.5 +0.8**
baz=38,SNR=8.3
H58A Gabriels 36.92 265 P **P** **08 50 52.4 0.0**
baz=37
LONY Lake Ozonia 36.93 265 P **P** **08 50 53.1 +0.6**
baz=37,SNR=7.3
LONY Lake Ozonia 36.93 265 P **P** **08 50 52.0 -0.5**
LONY IAmb IAmb 08 50 56.2
comp=Z,39nm,1.3s
I60A Shoreham 37.00 263 P **P** **08 50 54.1 +1.0**
baz=36
J61A Chester 37.09 262 P **P** **08 50 55.8 +2.0**
baz=36
ALGO Algonquin Park 37.37 270 P **P** **08 50 57.4 +1.2**
baz=38
H57A Richville 37.40 266 P **P** **08 50 56.9 +0.4**
baz=37
ILGA Ilgaz 37.43 104 P **P** **08 50 57.9 +0.8**
K62A Royalston 37.50 261 P **P** **08 50 59.4 +2.1**
baz=35
G54A Lake Saint Pet 37.82 269 P **P** **08 51 01.6 +1.5**
baz=38,SNR=6.9
J59A Piesco 37.82 264 P **P** **08 51 00.7 +0.6**
baz=36
J59A Piesco 37.82 264 P **P** **08 51 00.3 +0.2**
I58A Old Forge 37.84 265 P **P** **08 51 01.1 +0.8**
baz=36
SOC Sochi 37.91 95 *e*P **P** **08 50 59.8 -1.0**
SOC *e* 08 52 26.8
SOC *e*PPP PPP 08 52 47.7
SOC *e*S **S** **08 56 52.0 +0.1**
SOC *e*SS **SnSn** **08 59 32.3 -0.5**
SOC *e*SSS SSS 09 00 01.6
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC MLR MLR
comp=Z,652nm,13.0s
I57A Carthage 37.94 266 P **P** **08 51 01.8 +0.8**
baz=37,SNR=7.1
K61A Williamstown 37.94 262 P **P** **08 51 03.3 +2.2**
baz=35
GOF Gofitskoye 38.16 91⇑ *e*P **P** **08 51 05.1 +2.2**
GOF pmax pmax
comp=Z,118nm,1.3s
J58A Remsen 38.24 265 P **P** **08 51 04.5 +0.9**
baz=36
J58A Remsen 38.24 265 P **P** **08 51 04.2 +0.6**
BR131 Keskin Array S 38.51 105 P **P** **08 51 06.8 +0.7**
BR131 pmax pmax
comp=Z,8.0nm,1.1s
BR131 Keskin Array S 38.51 105 P **P** **08 51 06.8 +0.7**
BRTR Keskin Array B 38.51 105 P **P** **08 51 06.5 +0.4**
comp=Z,5.8nm,0.9s,baz=327,slow=6.6,SNR=22
BRTR ScP **ScP** **08 57 07.5 +1.2**
comp=Z,0.7nm,0.5s,baz=335,slow=6.4,SNR=3.6
BRTR LR LR 09 09 24.3
comp=Z,133nm,18.2s,baz=330,slow=40
BRTR Keskin Array B 38.51 105 P **P** **08 51 06.7 +0.6**
PECO Prince Edward 38.52 267 P **P** **08 51 06.8 +1.0**
PECO IAmb IAmb 08 51 08.8
comp=Z,30nm,1.2s
K59A Cooperstown 38.53 264 P **P** **08 51 08.1 +2.0**
baz=36
H53A Bobcaygeon 38.69 269 P **P** **08 51 08.9 +1.6**
baz=37,SNR=6.3
SADO Sadowa 38.77 270 P **P** **08 51 09.0 +1.0**
SADO IAmb IAmb 08 51 11.2
comp=Z,37nm,1.1s
K58A Earlville 38.88 265 P **P** **08 51 10.5 +1.5**
baz=36
K58A Earlville 38.88 265 P **P** **08 51 10.0 +1.0**
KIV Kislovodsk 38.88 92 *e*P **P** **08 51 10.6 +1.5**
KIV *e*S **S** **08 57 09.7 +2.8**
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,954nm,16.0s
KIV Kislovodsk 38.88 92 P **P** **08 51 11.2 +2.1**
J56A Wolcott 38.99 266 P **P** **08 51 10.4 +0.5**
SHA1 Shidzhatmaz 39.05 93 *i* P **P** **08 51 12.0 +1.4**
KBZ Khabaz 39.16 92 P **P** **08 51 11.2 -0.1**
comp=Z,12nm,1.0s,baz=325,slow=12,SNR=5.9
KBZ LR LR 09 07 34.4
comp=Z,677nm,21.2s,baz=324,slow=37
KBZ Khabaz 39.16 92*ce*P **P** **08 51 10.1 -1.1**
KBZ pmax pmax
comp=Z,21nm,1.1s
YKA Yellowknife Ar 39.21 313 P **P** **08 51 11.3 -0.1**
comp=Z,7.4nm,1.0s,baz=40,slow=9.6,SNR=8.6
YKA PcP **PcP** **08 53 20.5 +0.3**
comp=Z,5.6nm,1.1s,baz=30,slow=4.5,SNR=4.5
YKA LR LR 09 07 38.1
comp=Z,426nm,21.0s,baz=0.0,slow=37
YKA Yellowknife Ar 39.21 313*ce*P **P** **08 51 12.6 +1.1**
YKA pmax pmax
comp=Z,7.0nm,1.0s
ELL Elmali 39.52 111 P **P** **08 51 15.3 +0.8**
ELL pmax pmax
comp=Z,106nm,1.4s
ELL Elmali 39.52 111 P **P** **08 51 15.3 +0.8**
K56A Middlesex 39.66 266 P **P** **08 51 16.5 +1.0**
baz=36
E46A Sault Ste Mari 39.73 276 P **P** **08 51 16.6 +0.6**
E46A IAmb IAmb 08 51 19.5
comp=Z,55nm,1.1s
M59A Waymart 39.79 263 P **P** **08 51 17.3 +0.7**
baz=35
AKAS Kas 39.85 112 P **P** **08 51 18.0 +0.8**
INK Inuvik 39.86 329 P **P** **08 51 17.8 +1.0**
INK pmax pmax
comp=Z,20nm,1.4s
INK Inuvik 39.86 329 P **P** **08 51 17.8 +1.0**
MMNY Mt. Morris Dam 39.88 267 P **P** **08 51 17.3 0.0**
MMNY IAmb IAmb 08 51 21.5
comp=Z,45nm,1.2s
L57A Andrews Acres 40.02 265 P **P** **08 51 20.4 +1.9**
baz=35
L56A Greenwood 40.21 266 P **P** **08 51 21.2 +1.1**
baz=35,SNR=5.1
L56A Greenwood 40.21 266 P **P** **08 51 20.9 +0.7**
L56A IAmb IAmb 08 51 24.7
comp=Z,43nm,1.2s
ZEI Tsey 40.35 92 *e*P **P** **08 51 22.8 +1.4**
ZEI pmax pmax
comp=Z,11nm,1.4s
WVNY West Valley, N 40.44 267 P **P** **08 51 22.9 +0.9**
WVNY IAmb IAmb 08 51 25.8
comp=Z,61nm,1.1s
L55A Hinsdale 40.55 267 P **P** **08 51 24.4 +1.5**
baz=35
FFC Flin Flon 40.58 297 P **P** **08 51 23.2 +0.2**
FFC pmax pmax
comp=Z,41nm,1.3s
FFC Flin Flon 40.58 297 P **P** **08 51 23.2 +0.2**
FFC IAmb IAmb 08 51 26.0
comp=Z,41nm,1.3s
M57A Sunshine Farm, 40.68 265 P **P** **08 51 25.1 +1.2**
baz=35,SNR=6.6
M57A Sunshine Farm, 40.68 265 P **P** **08 51 24.2 +0.2**
M57A IAmb IAmb 08 51 29.1
comp=Z,39nm,1.2s
ARTV Artvin 40.81 95 P **P** **08 51 26.1 +0.8**
GROC Groznyy 40.83 90 *e*P **P** **08 51 23.9 -1.2**
GROC *e*S **S** **08 57 39.3 +3.4**

E43A Lone Tree Farm 40.88 278 P **P** **08 51 25.5 0.0**
L54A Sinclairville 40.89 267 P **P** **08 51 27.0 +1.4**
baz=36
N58A Sunbury 40.91 264 P **P** **08 51 28.3 +2.5**
baz=34,SNR=7.3
N58A Sunbury 40.91 264 P **P** **08 51 26.4 +0.5**
N58A IAmb IAmb 08 51 29.0
comp=Z,36nm,1.2s
D41A Chassel 41.01 280 P **P** **08 51 27.0 +0.5**
D41A IAmb IAmb 08 51 30.1
comp=Z,53nm,1.2s
M56A Emporium 41.02 266 P **P** **08 51 27.6 +0.8**
baz=35,SNR=5.8
M56A Emporium 41.02 266 P **P** **08 51 27.1 +0.3**
M56A IAmb IAmb 08 51 29.9
comp=Z,32nm,1.2s
GLMI Grayling 41.09 275 P **P** **08 51 28.2 +1.0**
baz=37
GLMI Grayling 41.09 275 P **P** **08 51 27.8 +0.5**
O59A Robesonia 41.12 263 P **P** **08 51 30.1 +2.5**
baz=34
KOPT Kop Dagi 41.16 98 P **P** **08 51 29.9 +1.7**
M55A Ridgway 41.28 266 P **P** **08 51 29.8 +0.9**
baz=35
M55A Ridgway 41.28 266 P **P** **08 51 29.5 +0.6**
M55A IAmb IAmb 08 51 32.1
comp=Z,35nm,1.2s
N57A Milroy 41.34 265 P **P** **08 51 31.8 +2.4**
baz=34,SNR=6.5
PAGS Pennsylvania G 41.42 263 P **P** **08 51 30.2 +0.2**
N56A West Decatur 41.53 265 P **P** **08 51 32.0 +1.0**
baz=35,SNR=10
EYMN Ely 41.55 283 P **P** **08 51 32.8 +1.7**
baz=39
EYMN Ely 41.55 283 P **P** **08 51 32.1 +1.1**
ULM Lac du Bonnet 41.57 289 LR LR 09 08 29.4
comp=Z,474nm,19.4s,baz=62,slow=36
SSPA Standing Stone 41.59 265 P **P** **08 51 32.4 +1.0**
baz=34
SSPA Standing Stone 41.59 265 P **P** **08 51 32.0 +0.6**
O58A Lewisberry 41.60 263 P **P** **08 51 33.4 +1.9**
baz=34
M54A Oil Creek Stat 41.63 267 P **P** **08 51 33.0 +1.2**
baz=35,SNR=7.2
M54A Oil Creek Stat 41.63 267 P **P** **08 51 32.4 +0.6**
M54A IAmb IAmb 08 51 35.6
comp=Z,55nm,1.1s
ALLY Alegheny Colle 41.72 268 P **P** **08 51 32.9 +0.4**
ALLY IAmb IAmb 08 51 36.8
comp=Z,50nm,1.3s
MAK Makhachkala 41.76 89 *e*P P 08 51 27.2 -5.6
MAK *e*S **S** **08 57 41.1 -8.5**
MAK *e*SS **SS** **09 00 48.5 -6.5**
MAK pmax pmax
comp=Z,223nm,1.0s
MAK MLR MLR
comp=Z,776nm,17.0s
P59A Jarrettsville 41.81 262 P **P** **08 51 35.0 +1.8**
baz=34
O57A Amberson 41.83 264 P **P** **08 51 34.8 +1.4**
baz=34,SNR=7.8
K50A Casco 41.88 271 P **P** **08 51 34.5 +0.7**
K50A IAmb IAmb 08 51 37.5
comp=Z,39nm,1.0s
N55A Marion Center 41.94 266 P **P** **08 51 35.0 +0.6**
baz=34,SNR=6.7
COWI Conover 42.01 280 P **P** **08 51 34.7 -0.1**
ABKAR Akbulak array 42.05 73 P **P** **08 51 35.2 +0.1**
ABKAR Akbulak array 42.05 73 P **P** **08 51 34.8 -0.3**
TIXI Tiksi 42.09 15*de*P **P** **08 51 34.4 -0.7**
TIXI pmax pmax
comp=Z,166nm,1.7s
TIXI Tiksi 42.09 15 P **P** **08 51 36.2 +1.1**
TIXI IAmb IAmb 08 51 40.1
comp=Z,39nm,1.4s
M53A WI Miller and 42.12 268 P **P** **08 51 38.2 +2.4**
baz=35
M53A WI Miller and 42.12 268 P **P** **08 51 36.2 +0.4**
M53A IAmb IAmb 08 51 38.8
comp=Z,41nm,1.1s
B35A Bob, Littlefor 42.16 285 P **P** **08 51 36.1 +0.2**
EPYK Eagle Plains 42.16 328 P **P** **08 51 37.0 +1.1**
baz=34
EPYK Eagle Plains 42.16 328 P **P** **08 51 37.3 +1.4**
EPYK IAmb IAmb 08 51 38.0
comp=Z,58nm,1.5s
O56A Blue Knob Stat 42.18 265 P **P** **08 51 37.4 +1.1**
baz=34,SNR=6.1
O56A Blue Knob Stat 42.18 265 P **P** **08 51 36.9 +0.6**
O56A IAmb IAmb 08 51 41.0
comp=Z,38nm,1.2s
N54A Moraine State 42.22 267 P **P** **08 51 38.0 +1.4**
baz=35,SNR=7.6
N54A Moraine State 42.22 267 P **P** **08 51 36.7 +0.1**
N54A IAmb IAmb 08 51 40.5
comp=Z,51nm,1.1s
P58A Pank, Wackersv 42.28 263 P **P** **08 51 37.9 +0.8**
baz=34
O55A Ligonier 42.55 266 P **P** **08 51 40.0 +0.8**
baz=34
P57A Homestead Farm 42.59 264 P **P** **08 51 40.4 +0.8**
baz=34
P57A Homestead Farm 42.59 264 P **P** **08 51 40.7 +1.1**
AAM Ann Arbor 42.70 271 P **P** **08 51 41.1 +0.6**
AAM pmax pmax
comp=Z,50nm,1.5s
AAM Ann Arbor 42.70 271 P **P** **08 51 41.1 +0.6**
AAM IAmb IAmb 08 51 44.3
comp=Z,50nm,1.4s
N53A Lisbon 42.71 268 P **P** **08 51 41.5 +0.9**
baz=35,SNR=7.5
N53A Lisbon 42.71 268 P **P** **08 51 41.1 +0.5**
N53A IAmb IAmb 08 51 44.4
comp=Z,73nm,1.4s
TOLK Toolik Lake Re 42.77 336 P **P** **08 51 41.4 +0.6**
baz=28,SNR=13
TOLK Toolik Lake Re 42.77 336 P **P** **08 51 42.2 +1.4**
TOLK IAmb IAmb 08 51 44.5
comp=Z,48nm,1.1s
M51A Elyria 42.86 269 P **P** **08 51 44.4 +2.7**
baz=35
Q58A Fox Den Farm, 42.90 263 P **P** **08 51 44.0 +1.8**
baz=33
BMAR Burnt Mountain 42.92 333 P **P** **08 51 43.5 +1.5**
P56A Dayton Farm, R 42.93 265 P **P** **08 51 43.9 +1.6**
baz=34
O54A Avella 43.03 267 P **P** **08 51 44.1 +0.9**
baz=34,SNR=7.1
O54A Avella 43.03 267 P **P** **08 51 43.8 +0.6**
O54A IAmb IAmb 08 51 46.4
comp=Z,39nm,1.1s
N52A McGinn's Farm, 43.08 268 P **P** **08 51 44.2 +0.7**
baz=35,SNR=5.3
AGMN Agassiz Nation 43.09 287 P **P** **08 51 44.2 +0.6**
baz=38,SNR=7.7
AGMN Agassiz Nation 43.09 287 P **P** **08 51 44.5 +0.9**
AGMN IAmb IAmb 08 51 47.0
comp=Z,32nm,1.2s
G40A Rib Lake 43.12 280 P **P** **08 51 44.0 +0.1**
G40A IAmb IAmb 08 51 47.2
comp=Z,41nm,1.2s
Q57A Strasburg 43.14 264 P **P** **08 51 46.2 +2.1**
baz=33,SNR=5.4
M50A Fremont 43.17 270 P **P** **08 51 44.8 +0.5**
M50A IAmb IAmb 08 51 48.1
comp=Z,52nm,1.1s
BRVK Borovoye 43.19 62 P **P** **08 51 44.7 +0.4**
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 43.19 62 P **P** **08 51 44.7 +0.4**
N51A Ashland 43.28 269 P **P** **08 51 46.2 +1.0**
baz=35
N51A Ashland 43.28 269 P **P** **08 51 44.7 -0.5**
N51A IAmb IAmb 08 51 48.9
comp=Z,60nm,1.1s
L48A N Adams 43.33 272 P **P** **08 51 46.4 +0.8**
L48A IAmb IAmb 08 51 48.5
comp=Z,34nm,1.1s
O53A New Philadelph 43.33 268 P **P** **08 51 46.3 +0.7**
baz=34,SNR=12
O53A New Philadelph 43.33 268 P **P** **08 51 46.5 +0.8**
P55A Reedsville 43.35 266 P **P** **08 51 46.9 +1.1**
baz=34
Q56A Snyder Ridge, 43.47 265 P **P** **08 51 46.6 -0.1**
baz=34
MARD Mardin 43.55 100 P **P** **08 51 48.8 +1.3**

MARD IAmb IAmb 08 51 52.0
comp=Z,30nm,1.0s
P54A Burton 43.55 266 P **P** **08 51 50.2 +2.8**
baz=34,SNR=5.8
R58A Rapidan 43.58 263 P **P** **08 51 48.0 +0.4**
baz=33
I42A Draeger Farm, 43.68 277 P **P** **08 51 49.5 +1.2**
GEVA Gevas 43.68 97 P **P** **08 51 50.1 +1.4**
O52A Adamsville 43.71 268 P **P** **08 51 49.7 +1.0**
baz=34,SNR=12
O52A Adamsville 43.71 268 P **P** **08 51 49.1 +0.4**
O52A IAmb IAmb 08 51 52.5
comp=Z,56nm,1.2s
FYU Fort Yukon 43.80 333 P **P** **08 51 50.3 +1.3**
R57A Stanardsville 43.80 263 P **P** **08 51 50.8 +1.4**
baz=33
R58B Mineral 43.81 263 P **P** **08 51 51.6 +2.2**
baz=33
R58B Mineral 43.81 263 P **P** **08 51 50.9 +1.4**
Q55A Buckhannon 43.89 265 P **P** **08 51 52.4 +2.3**
baz=34
O51A Pataskala 44.02 269 P **P** **08 51 51.8 +0.7**
baz=34,SNR=18
P53A Whipple 44.04 267 P **P** **08 51 52.7 +1.4**
baz=34,SNR=14
P53A Whipple 44.04 267 P **P** **08 51 52.2 +0.8**
F36A Milaca 44.05 283 P **P** **08 51 51.9 +0.6**
N49A Columbus Grove 44.06 271 P **P** **08 51 52.1 +0.7**
L46A Eue Claire 44.08 274 P **P** **08 51 52.8 +1.2**
R56A Bull Pasture M 44.09 264 P **P** **08 51 52.6 +0.8**
baz=33
ACSO Alum Creek Sta 44.11 269 P **P** **08 51 52.6 +0.7**
baz=34,SNR=10
ACSO Alum Creek Sta 44.11 269 P **P** **08 51 52.6 +0.7**
ACSO IAmb IAmb 08 51 54.9
comp=Z,36nm,1.0s
COLD Coldfoot 44.14 336 P **P** **08 51 52.8 +1.0**
baz=27,SNR=6.5
COLD Coldfoot 44.14 336 P **P** **08 51 54.0 +2.1**
S58A Poland Farm, P 44.17 262 P **P** **08 51 53.7 +1.3**
baz=33
Q54A Coxs Mills 44.22 266 P **P** **08 51 53.8 +1.0**
baz=34,SNR=9.6
Q54A Coxs Mills 44.22 266 P **P** **08 51 54.0 +1.3**
Q54A IAmb IAmb 08 51 57.4
comp=Z,47nm,1.4s
P52A Corning 44.24 268 P **P** **08 51 53.8 +0.9**
baz=34,SNR=14
P52A Corning 44.24 268 P **P** **08 51 53.8 +0.9**
SPMN Marine on St. 44.26 282 P **P** **08 51 53.7 +0.7**
baz=37
SPMN Marine on St. 44.26 282 P **P** **08 51 53.3 +0.3**
SPMN IAmb IAmb 08 51 56.7
comp=Z,24nm,1.2s
K43A Burlington 44.39 276 P **P** **08 51 54.6 +0.6**
I40A Norwalk 44.40 279 P **P** **08 51 55.1 +0.9**
I40A IAmb IAmb 08 51 57.4
comp=Z,28nm,1.1s
S57A Dark Hollow, R 44.44 263 P **P** **08 51 55.1 +0.6**
S57A IAmb IAmb 08 51 58.6
comp=Z,29nm,1.4s
EGAK Eagle 44.50 329 P **P** **08 51 56.4 +1.7**
T59A Double "B" Far 44.50 261 P **P** **08 51 55.7 +0.7**
baz=32
T59A Double "B" Far 44.50 261 P **P** **08 51 55.1 +0.1**
T59A IAmb IAmb 08 51 59.5
comp=Z,31nm,1.4s
Q53A Leroy 44.62 267 P **P** **08 51 57.3 +1.4**
baz=34,SNR=16
DAWY Dawson 44.72 328 P **P** **08 51 56.8 +0.4**
DAWY IAmb IAmb 08 51 59.5
comp=Z,44nm,1.4s
O49A Covington 44.73 270 P **P** **08 51 57.2 +0.4**
N47A Urbana 44.74 272 P **P** **08 51 57.3 +0.4**
N47A IAmb IAmb 08 52 00.1
comp=Z,30nm,1.1s
P51A Williamsport 44.77 269 P **P** **08 51 57.7 +0.6**
baz=34,SNR=12
P51A Williamsport 44.77 269 P **P** **08 51 57.4 +0.3**
RCRC Randolf Colleg 44.85 263 P **P** **08 51 58.0 +0.2**
Q52A Bidwell 44.85 267 P **P** **08 51 58.7 +0.9**
baz=34
HQIL Hanson Quary C 44.92 275 P **P** **08 51 59.3 +1.0**
R54A Victor 44.96 266 P **P** **08 52 00.0 +1.3**
baz=33,SNR=5.6
MDND Maddock 44.98 289 P **P** **08 52 00.6 +1.8**
baz=37
MDND Maddock 44.98 289 P **P** **08 52 00.4 +1.7**
JFWS Jewell Farm 45.04 278 P **P** **08 51 59.9 +0.7**
baz=36
JFWS Jewell Farm 45.04 278 P **P** **08 51 59.2 0.0**
JFWS pmax pmax
comp=Z,21nm,1.1s
JFWS Jewell Farm 45.04 278 P **P** **08 51 59.2 0.0**
JFWS IAmb IAmb 08 52 02.1
comp=Z,21nm,1.1s
S55A Lewisburg 45.09 265 P **P** **08 52 00.5 +0.8**
baz=33
U59A Littleton 45.13 261 P **P** **08 52 01.7 +1.7**
baz=32
T57A Hurt 45.21 263 P **P** **08 52 01.6 +0.9**
baz=32,SNR=6.1
T57A Hurt 45.21 263 P **P** **08 52 01.1 +0.5**
T57A IAmb IAmb 08 52 04.6
comp=Z,28nm,1.1s
F33A 5 Mile Ranch, 45.23 285 P **P** **08 52 01.8 +1.1**
F33A IAmb IAmb 08 52 04.3
comp=Z,29nm,1.2s
R53A Hurricane 45.25 267 P **P** **08 52 02.6 +1.7**
baz=33,SNR=8.3
R53A Hurricane 45.25 267 P **P** **08 52 01.6 +0.7**
Q51A Peebles 45.27 269 P **P** **08 52 01.6 +0.5**
VWCC Virginia Weste 45.31 264 P **P** **08 52 03.3 +1.8**
RDOG Red Dog Mine 45.33 342 P **P** **08 52 02.4 +1.1**
RDOG IAmb IAmb 08 52 06.0
comp=Z,41nm,1.3s
M44A Midewin, Midew 45.34 275 P **P** **08 52 01.8 +0.2**
K27K Chicken 45.35 329 P **P** **08 52 02.0 +0.6**
baz=30
S54A Dingess, Beckl 45.42 266 P **P** **08 52 03.2 +0.8**
baz=33,SNR=6.6
S54A Dingess, Beckl 45.42 266 P **P** **08 52 02.4 +0.1**
S54A IAmb IAmb 08 52 05.5
comp=Z,42nm,1.3s
P49A Miami Univ. Ec 45.44 270 P **P** **08 52 03.9 +1.5**
baz=34
P49A Miami Univ. Ec 45.44 270 P **P** **08 52 02.5 +0.1**
I37A Lemond, Waseca 45.48 281 P **P** **08 52 03.3 +0.6**
I37A IAmb IAmb 08 52 06.7
comp=Z,27nm,1.2s
POKR Poker Plat Res 45.51 333 P **P** **08 52 03.6 +0.8**
baz=28
T56A Rocky Mt 45.51 264 P **P** **08 52 05.9 +2.8**
baz=32
BLA Blacksburg 45.53 264 P **P** **08 52 03.8 +0.5**
baz=32
BLA Blacksburg 45.53 264 P **P** **08 52 04.2 +1.0**
BLA pmax pmax
comp=Z,15nm,1.2s
BLA Blacksburg 45.53 264 P **P** **08 52 04.2 +1.0**
L42A Oliver, Polo 45.53 276 P **P** **08 52 04.6 +1.4**
IL31 45.71 332 P **P** **08 52 05.2 +1.0**
IL31 IAmb IAmb 08 52 09.0
comp=Z,35nm,1.4s
ILAR Eielson Array 45.71 332 P **P** **08 52 04.8 +0.6**
comp=Z,16nm,1.2s,baz=24,slow=5.9,SNR=33
ILAR LR LR 09 13 38.4
comp=Z,457nm,18.8s,baz=30,slow=39
ILAR Eielson Array 45.71 332 P **P** **08 52 05.0 +0.8**
U57A Blanch 45.72 263 P **P** **08 52 05.4 +0.7**
baz=32
SFIN Lafayette 45.76 273 P **P** **08 52 05.3 +0.3**
baz=34
SFIN Lafayette 45.76 273 P **P** **08 52 05.1 +0.1**
T55A Pulaski 45.76 265 P **P** **08 52 07.2 +2.1**
baz=32,SNR=6.8
P48A Milroy 45.80 271 P **P** **08 52 05.5 +0.1**
MDM Murphy Dome 45.80 333 P **P** **08 52 06.1 +1.0**
COLA College 45.81 333 P **P** **08 52 05.9 +0.9**
COLA pmax pmax
comp=Z,42nm,1.3s
COLA College 45.81 333 P **P** **08 52 05.9 +0.9**
SCRK Sand Creek 45.81 330 P **P** **08 52 05.8 +0.5**
baz=29
S53A Williamson 45.87 266 P **P** **08 52 07.3 +1.5**
baz=33,SNR=7.2

IMAR Indian Mountai 45.88 337 P **P** **08 52 06.6 +1.0**
CCB Clear Creek Bu 46.00 333 P **P** **08 52 07.5 +0.9**
CCB IAmb IAmb 08 52 11.0
comp=Z,26nm,1.4s
HDA Harding Lake 46.04 332 P **P** **08 52 07.6 +0.6**
baz=28,SNR=6.4
HDA Harding Lake 46.04 332 P **P** **08 52 07.5 +0.6**
HDA IAmb IAmb 08 52 11.4
comp=Z,33nm,1.4s
DOT Dot Lake 46.12 330 P **P** **08 52 08.4 +0.8**
BCAR Beaver Creek A 46.12 328 P **P** **08 52 08.8 +1.2**
L40A Anamosa 46.15 278 P **P** **08 52 08.5 +0.5**
T54A Tazewell 46.15 265 P **P** **08 52 08.7 +0.5**
baz=32,SNR=16
V58A Windy Hill, Pi 46.17 262 P **P** **08 52 09.5 +1.3**
baz=32
RIDG Independent Ri 46.20 331 P **P** **08 52 09.0 +0.8**
RIDG IAmb IAmb 08 52 13.2
comp=Z,41nm,1.5s
WRH Wood River Hil 46.21 333 P **P** **08 52 08.9 +0.6**
MLY Manley 46.22 335 P **P** **08 52 08.9 +0.6**
baz=26,SNR=13
U56A King 46.24 264 P **P** **08 52 10.9 +2.1**
baz=32,SNR=5.3
NEA2 Nenana 46.30 333 P **P** **08 52 09.8 +0.9**
baz=27,SNR=12
R50A Paris 46.31 269 P **P** **08 52 09.7 +0.4**
R50A IAmb IAmb 08 52 12.2
comp=Z,29nm,1.2s
DGMT Dagmar 46.33 293 P **P** **08 52 12.2 +2.8**
baz=37
DGMT Dagmar 46.33 293 P **P** **08 52 09.9 +0.5**
K38A Parkersburg 46.33 280 P **P** **08 52 09.5 +0.1**
K38A IAmb IAmb 08 52 12.0
comp=Z,24nm,1.1s
U55A TA2, Sparta 46.39 264 P **P** **08 52 10.6 +0.5**
baz=32,SNR=12
P46A Rosedale 46.44 272 P **P** **08 52 10.6 +0.2**
P46A IAmb IAmb 08 52 13.2
comp=Z,26nm,1.1s
E28A Huff 46.45 289 P **P** **08 52 10.8 +0.5**
BLO Bloomington 46.51 271 P **P** **08 52 11.3 +0.4**
BLO pmax pmax
comp=Z,23nm,1.0s
BLO Bloomington 46.51 271 P **P** **08 52 11.3 +0.4**
BLO IAmb IAmb 08 52 13.7
comp=Z,23nm,1.0s
WHY Whitehorse 46.52 323 P **P** **08 52 13.2 +2.3**
S51A Beattyville 46.53 268 P **P** **08 52 11.7 +0.6**
O44A Mansfield 46.54 274 P **P** **08 52 12.1 +1.0**
BRZS Berezniki 46.55 63 *e*P **P** **08 52 10.1 -1.0**
comp=Z,26nm,1.5s
BRZS Berezniki 46.55 63 *e*P **P** **08 52 10.1 -1.0**
BRZS pmax pmax
comp=Z,26nm,1.5s
HDIL Hopedale 46.56 275 P **P** **08 52 12.4 +1.1**
baz=34,SNR=7.0
HDIL Hopedale 46.56 275 P **P** **08 52 11.6 +0.3**
T53A Wise 46.63 266 P **P** **08 52 12.9 +1.0**
baz=32,SNR=11
R49A Shelbyville 46.67 270 P **P** **08 52 12.2 0.0**
R49A IAmb IAmb 08 52 14.9
comp=Z,27nm,1.4s
U54A Nelsons Funny 46.71 265 P **P** **08 52 14.1 +1.5**
baz=32,SNR=6.8
V56A Mocksville 46.74 263 P **P** **08 52 13.8 +1.0**
baz=32,SNR=8.9
BWN Browne 46.75 333 P **P** **08 52 13.5 +1.0**
W58A Raeford 46.88 262 P **P** **08 52 15.6 +1.8**
baz=31
V55A Taylorsville 47.02 264 P **P** **08 52 16.0 +1.0**
baz=32,SNR=8.2
V55A Taylorsville 47.02 264 P **P** **08 52 15.8 +0.9**
MCK McKinley 47.04 333 P **P** **08 52 15.6 +0.8**
baz=26,SNR=5.9
HYT Haines Junctio 47.05 325 P **P** **08 52 16.1 +1.0**
HYT IAmb IAmb 08 52 19.5
comp=Z,14nm,1.2s
ECSD EROS Data Cent 47.06 284 P **P** **08 52 16.5 +1.3**
baz=35,SNR=8.6
ECSD EROS Data Cent 47.06 284 P **P** **08 52 16.0 +0.8**
ECSD IAmb IAmb 08 52 18.9
comp=Z,20nm,1.2s
W57A Gilead 47.09 262 P **P** **08 52 16.5 +1.0**
W57A Gilead 47.09 262 P **P** **08 52 15.7 +0.2**
BPAW Bear Paw Mtn. 47.10 334 P **P** **08 52 15.6 +0.3**
BPAW IAmb IAmb 08 52 18.4
comp=Z,32nm,1.4s
SCIA State Center 47.12 279 P **P** **08 52 16.2 +0.5**
WCI Wyandotte Cave 47.20 271 P **P** **08 52 16.9 +0.6**
baz=33
WCI Wyandotte Cave 47.20 271 P **P** **08 52 16.8 +0.5**
WCI pmax pmax
comp=Z,36nm,1.0s
WCI Wyandotte Cave 47.20 271 P **P** **08 52 16.8 +0.5**
X58A Rowland 47.32 261 P **P** **08 52 18.6 +1.3**
baz=31
W56A Indian Trail 47.35 263 P **P** **08 52 18.2 +0.6**
baz=32,SNR=7.3
V54A Nebo 47.39 265 P **P** **08 52 18.8 +0.9**
baz=32,SNR=12
P43A Skaggs, Pawnee 47.42 274 P **P** **08 52 18.6 +0.7**
TZTN Tazewell 47.43 267 P **P** **08 52 19.3 +1.1**
baz=32,SNR=6.7
TZTN Tazewell 47.43 267 P **P** **08 52 19.1 +0.9**
OLIL Olney 47.56 273 P **P** **08 52 19.4 +0.3**
T50A Nancy 47.59 268 P **P** **08 52 19.4 0.0**
T50A IAmb IAmb 08 52 22.3
comp=Z,12nm,1.1s
BILL Bilibino 47.60 358‖ *e*P **P** **08 52 20.6 +1.6**
BILL *e* 08 53 48.1
BILL *e* 08 54 15.5
BILL *i* S **S** **08 59 20.4 +6.6**
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,323nm,22.0s
KMSC Kings Mountain 47.67 264 P **P** **08 52 21.0 +1.0**
baz=32,SNR=7.1
KMSC Kings Mountain 47.67 264 P **P** **08 52 20.1 +0.1**
ZAA0 Zalesovo Array 47.70 51 P **P** **08 52 19.9 -0.1**
ZALV Zalesovo Beam 47.70 51 P **P** **08 52 18.9 -1.1**
comp=Z,1.6nm,0.7s,baz=321,slow=6.8,SNR=10
ZALV PcP **PcP** **08 53 49.5 +0.5**
comp=Z,3.1nm,1.1s,baz=292,slow=4.7,SNR=5.2
ZALV LR LR 09 12 58.6
comp=Z,126nm,18.5s,baz=5.0,slow=37
ZALV Zalesovo Beam 47.70 51 P **P** **08 52 20.5 +0.5**
Q44A Meyer Farm, Va 47.81 273 P **P** **08 52 21.4 +0.4**
V53A Saluda 47.86 266 P **P** **08 52 22.2 +0.7**
V53A IAmb IAmb 08 52 24.5
comp=Z,13nm,1.1s
USIN University of 48.01 272 P **P** **08 52 23.2 +0.6**
V52A Sevierville 48.05 266 P **P** **08 52 23.4 +0.5**
V52A IAmb IAmb 08 52 26.0
comp=Z,26nm,1.3s
W54A Cherokee Point 48.08 265 P **P** **08 52 23.9 +0.7**
baz=32,SNR=12
X56A White Oak 48.09 263 P **P** **08 52 24.2 +0.9**
baz=31,SNR=9.8
PAULI Pauline 48.15 264 P **P** **08 52 24.6 +0.9**
KURK Kurchatov 48.18 58 *i* P **P** **08 52 22.7 -1.0**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 48.18 58 P **P** **08 52 22.3 -1.4**
KURK IAmb IAmb 08 52 25.5
comp=Z,18nm,1.3s
TKL Tuckaleechee C 48.28 266 P **P** **08 52 25.2 +0.5**
TKL pmax pmax
comp=Z,27nm,1.2s
TKL Tuckaleechee C 48.28 266 P **P** **08 52 25.2 +0.5**
TKL IAmb IAmb 08 52 27.7
comp=Z,27nm,1.2s
X55A Gracelyn & Ava 48.37 264 P **P** **08 52 26.5 +1.1**
baz=31,SNR=7.2
V51A Loudon 48.41 267 P **P** **08 52 26.8 +1.1**
U49A Red Boiling Sp 48.42 269 P **P** **08 52 25.9 +0.1**
U49A IAmb IAmb 08 52 29.1
comp=Z,22nm,1.1s
SCM Sheep Creek Mo 48.42 331 P **P** **08 52 27.3 +1.7**
SCM pmax pmax
comp=Z,56nm,1.5s
SCM Sheep Creek Mo 48.42 331 P **P** **08 52 27.3 +1.7**
PPLA Purkeypile 48.43 334 P **P** **08 52 26.9 +1.2**

BG3 Lake Jocassee 48.48 265 P **P** **08 52 26.8 +0.5**
BG3 IAmb IAmb 08 52 30.0
comp=Z,20nm,1.2s
SLM Saint Louis 48.56 274 P **P** **08 52 26.8 0.0**
SLM pmax pmax
comp=Z,29nm,1.0s
SLM Saint Louis 48.56 274 P **P** **08 52 26.8 0.0**
LAO LASA Array 48.57 293 P **P** **08 52 28.1 +1.1**
baz=35,SNR=9.1
LAO LASA Array 48.57 293 P **P** **08 52 28.2 +1.3**
P40A Paris 48.59 277 P **P** **08 52 26.7 -0.4**
P40A IAmb IAmb 08 52 29.0
comp=Z,16nm,1.2s
T47A Sharon Grove 48.59 270 P **P** **08 52 27.1 0.0**
X54A Belton 48.62 264 P **P** **08 52 28.4 +1.1**
baz=31,SNR=5.6
CPCT Cooper Cave 48.78 267 P **P** **08 52 28.5 0.0**
CPCT IAmb IAmb 08 52 32.5
comp=Z,30nm,1.3s
W52A Murphy 48.83 266 P **P** **08 52 29.4 +0.5**
W52A IAmb IAmb 08 52 32.6
comp=Z,22nm,1.1s
HODGE Hodges 48.84 264 P **P** **08 52 29.5 +0.5**
EGMT Eagleton 48.86 297 P **P** **08 52 30.1 +0.9**
baz=35,SNR=33
EGMT Eagleton 48.86 297 P **P** **08 52 29.7 +0.6**
NHSC New Hope 48.92 261 P **P** **08 52 30.7 +1.1**
baz=30
NHSC New Hope 48.92 261 P **P** **08 52 30.8 +1.1**
S44A Carbondale 48.93 273 P **P** **08 52 29.7 +0.1**
Z57A Bowman 48.98 262 P **P** **08 52 30.7 +0.6**
baz=31
CLTN Cedars of Leba 49.02 269 P **P** **08 52 30.8 +0.4**
CLTN IAmb IAmb 08 52 33.2
comp=Z,27nm,1.3s
SKT Skwentna 49.14 333 P **P** **08 52 30.6 -0.4**
SKT IAmb IAmb 08 52 33.3
comp=Z,25nm,1.4s
FVM French Village 49.19 274 P **P** **08 52 31.6 0.0**
FVM pmax pmax
comp=Z,32nm,1.3s
FVM French Village 49.19 274 P **P** **08 52 31.6 0.0**
FVM IAmb IAmb 08 52 34.1
comp=Z,32nm,1.2s
Z56A Williston 49.24 263 P **P** **08 52 33.4 +1.3**
baz=31
W50A Signal Mountai 49.33 268 P **P** **08 52 33.5 +0.7**
CCM Cathedral Cave 49.48 275 P **P** **08 52 34.7 +0.8**
baz=33
CCM Cathedral Cave 49.48 275 P **P** **08 52 33.6 -0.3**
CCM pmax pmax
comp=Z,20nm,1.4s
CCM Cathedral Cave 49.48 275 P **P** **08 52 33.6 -0.3**
CCM IAmb IAmb 08 52 35.7
comp=Z,20nm,1.4s
V48A Smith Brothers 49.52 269 P **P** **08 52 34.3 +0.1**
V48A IAmb IAmb 08 52 37.0
comp=Z,26nm,1.2s
SWET Sewanee 49.58 268 P **P** **08 52 35.2 +0.5**
SWET IAmb IAmb 08 52 37.2
comp=Z,20nm,1.2s
WVT Waverly 49.63 270 P **P** **08 52 34.5 -0.5**
baz=32
WVT Waverly 49.63 270 P **P** **08 52 35.0 0.0**
WVT pmax pmax
comp=Z,17nm,1.5s
WVT Waverly 49.63 270 P **P** **08 52 35.0 0.0**
157A Early Branch 49.63 262 P **P** **08 52 36.8 +1.7**
baz=30
X51A Calhoun 49.67 267 P **P** **08 52 36.4 +0.9**
R40A Maddies Statio 49.72 276 P **P** **08 52 34.9 -0.8**
RSSD Black Hills 49.81 290 P **P** **08 52 36.9 +0.3**
baz=34
RSSD Black Hills 49.81 290 P **P** **08 52 37.3 +0.7**
RSSD pmax pmax
comp=Z,18nm,1.4s
RSSD Black Hills 49.81 290 P **P** **08 52 37.2 +0.7**
HENM Henderson Moun 49.84 272 P **P** **08 52 36.6 0.0**
Y52A Lilburn 49.93 265 P **P** **08 52 38.2 +0.8**
Y52A IAmb IAmb 08 52 40.3
comp=Z,32nm,1.1s
FPAL Fort Paine 50.02 267 P **P** **08 52 38.0 -0.1**
FPAL IAmb IAmb 08 52 40.7
comp=Z,34nm,1.3s
GOGA Godfrey 50.06 265 P **P** **08 52 38.8 +0.5**
baz=31,SNR=10
GOGA Godfrey 50.06 265 P **P** **08 52 38.6 +0.2**
GOGA pmax pmax
comp=Z,30nm,1.2s
GOGA Godfrey 50.06 265 P **P** **08 52 38.6 +0.2**
GOGA IAmb IAmb 08 52 41.8
comp=Z,30nm,1.2s
PBMO Poplar Bluff 50.20 273 P **P** **08 52 39.3 0.0**
T42A Van Buren 50.27 274 P **P** **08 52 39.5 -0.5**
T42A IAmb IAmb 08 52 42.0
comp=Z,24nm,1.2s
GEYT Alibeck 50.48 83 P **P** **08 52 42.1 +0.6**
comp=Z,2.0nm,0.7s,baz=263,slow=12,SNR=5.8
GEYT LR LR 09 15 44.1
comp=Z,233nm,19.4s,baz=15,slow=38
GEYT Alibeck 50.48 83 IAmb IAmb 08 52 44.4
comp=Z,7.9nm,1.4s
154A Montrose 50.59 264 P **P** **08 52 42.4 +0.1**
MGMO Mountain Grove 50.67 275 P **P** **08 52 42.2 -0.8**
S39A Bolivar 50.67 276 P **P** **08 52 42.5 -0.5**
S39A IAmb IAmb 08 52 45.0
comp=Z,19nm,1.1s
PLAL Pickwick Lake 50.71 270 P **P** **08 52 42.3 -0.9**
PLAL IAmb IAmb 08 52 45.0
comp=Z,33nm,1.4s
GNAR Gosnell 50.71 272 P **P** **08 52 43.0 -0.2**
X48A Hartselle 50.71 269 P **P** **08 52 42.8 -0.5**
X48A IAmb IAmb 08 52 45.3
comp=Z,25nm,1.1s
HRY Holter Researc 50.74 298 P **P** **08 52 43.7 +0.2**
Z51A Franklin 50.88 266 P **P** **08 52 45.0 +0.5**
KSU1 Kansas State U 50.89 280 P **P** **08 52 44.7 +0.1**
baz=33
KSU1 Kansas State U 50.89 280 P **P** **08 52 44.2 -0.4**
KSU1 IAmb IAmb 08 52 46.5
comp=Z,27nm,1.1s
255A Hazlehurst 50.91 263 P **P** **08 52 45.3 +0.5**
KOWA Kowa 50.93 163 P **P** **08 52 44.7 -0.4**
Y49A Blount Mountai 50.95 268 P **P** **08 52 44.5 -0.6**
Y49A IAmb IAmb 08 52 47.4
comp=Z,34nm,1.4s
RLMT Red Lodge 51.07 295 P **P** **08 52 46.7 +0.6**
baz=34,SNR=23
RLMT Red Lodge 51.07 295 P **P** **08 52 46.3 +0.2**
LCAR Lake Charles 51.11 273 P **P** **08 52 45.8 -0.5**
BRLS Boroldav 51.12 70 *e*S **S** **09 00 09.6 +5.8**
BTLS Baital 51.13 66 *e*P **P** **08 52 46.3 -0.1**
comp=Z,30nm,2.5s
BTLS *e*S **S** **09 00 07.6 +3.8**
BTLS Baital 51.13 66 *e*P **P** **08 52 46.2 -0.1**
BTLS *e*S **S** **09 00 07.6 +3.8**
BTLS pmax pmax
comp=Z,30nm,2.5s
152A Waverly Hall 51.24 265 P **P** **08 52 47.2 -0.1**
152A IAmb IAmb 08 52 49.9
comp=Z,29nm,1.4s
YAK Yakutsk 51.33 19 LR LR 09 13 34.8
comp=Z,201nm,20.9s,baz=342,slow=35
KK31 Karatay Array 51.34 70 P **P** **08 52 47.9 0.0**
KK31 pmax pmax
comp=Z,22nm,1.4s
KK31 Karatay Array 51.34 70 P **P** **08 52 47.9 0.0**
KKAR Karatay Array 51.34 70 P **P** **08 52 47.9 0.0**
KKAR pmax pmax
comp=Z,22nm,1.4s
KKAR Karatay Array 51.34 70 P **P** **08 52 47.9 0.0**
KKAR Karatay Array 51.34 70 P **P** **08 52 47.3 -0.6**
MSO Missoula 51.44 299 P **P** **08 52 48.5 -0.3**
baz=33
MSO Missoula 51.44 299 P **P** **08 52 48.3 -0.5**
YNE Yellowstone No 51.45 295 P **P** **08 52 49.6 +0.6**
BOZ Bozeman (W) 51.59 297 P **P** **08 52 50.6 +0.6**
baz=33,SNR=47
BOZ Bozeman (W) 51.59 297 P **P** **08 52 50.2 +0.2**
BOZ pmax pmax
comp=Z,56nm,1.3s
BOZ Bozeman (W) 51.59 297 P **P** **08 52 50.1 +0.2**
U40A Yellville 51.60 275 P **P** **08 52 49.5 -0.4**
baz=32,SNR=10.0
U40A Yellville 51.60 275 P **P** **08 52 49.5 -0.4**

U40A IAmb IAmb 08 52 52.1
comp=Z,33nm,1.4s
FCAR Ozark Folk Cen 51.68 274 P **P** **08 52 50.5 0.0**
LRM Limekiln Ridge 51.72 297 P **P** **08 52 51.3 +0.3**
YMP Mirror Lake Pl 51.73 295 P **P** **08 52 52.0 +0.8**
TIGA Tifton 51.81 263 P **P** **08 52 52.1 +0.6**
baz=30
LRAL Lakeview Retre 51.90 268 P **P** **08 52 51.5 -0.6**
baz=31,SNR=8.3
LRAL Lakeview Retre 51.90 268 P **P** **08 52 51.6 -0.6**
IUG luzhnay 51.94 71 *e*P **P** **08 52 53.0 +0.4**
comp=Z,23nm,1.8s
IUG *e*S **S** **09 00 14.7 -0.5**
IUG luzhnay 51.94 71 *e*P **P** **08 52 52.9 +0.4**
IUG *e*S **S** **09 00 14.7 -0.5**
IUG pmax pmax
comp=Z,23nm,1.8s
YNR Norris Junctio 51.96 295 P **P** **08 52 53.9 +1.1**
YHH Holmes Hill 51.96 295 P **P** **08 52 53.3 +0.3**
K22A Casper 52.04 291 P **P** **08 52 52.4 -1.0**
baz=33,SNR=9.2
K22A Casper 52.04 291 P **P** **08 52 52.2 -1.1**
K22A IAmb IAmb 08 52 55.9
comp=Z,23nm,1.1s
YHL Hebgen Lake 52.04 296 P **P** **08 52 54.1 +0.6**
YMR Madison River 52.11 295 P **P** **08 52 55.1 +1.2**
B08A Colville Reser 52.13 304 P **P** **08 52 55.1 +1.4**
HHAR Hobbs 52.13 276 P **P** **08 52 55.1 +1.2**
DGZ Jazzator, Alta 52.15 53 *i* P **P** **08 52 54.5 +0.5**
DGZ pmax pmax
comp=Z,23nm,1.8s
QLMT Earthquake Lak 52.15 296 P **P** **08 52 55.2 +1.0**
DLMT Dillon 52.16 297 P **P** **08 52 54.3 +0.1**
U38A Gravette 52.19 276 P **P** **08 52 53.6 -0.7**
H17A Grant Village 52.19 295 P **P** **08 52 56.5 +2.0**
baz=33,SNR=18
H17A Grant Village 52.19 295 P **P** **08 52 56.0 +1.5**
H17A IAmb IAmb 08 53 00.0
comp=Z,42nm,1.2s
WHAR Wooly Hollow 52.26 274 P **P** **08 52 54.5 -0.3**
WHAR IAmb IAmb 08 52 57.9
comp=Z,33nm,1.4s
X43A Marvell 52.31 272 P **P** **08 52 55.6 +0.4**
baz=31
X43A Marvell 52.31 272 P **P** **08 52 55.3 +0.1**
X43A IAmb IAmb 08 52 57.7
comp=Z,48nm,1.4s
W41B Gary Mavity, V 52.34 274 P **P** **08 52 54.6 -0.9**
baz=32
W41B Gary Mavity, V 52.34 274 P **P** **08 52 55.4 0.0**
352A Blakely 52.35 265 P **P** **08 52 57.5 +1.9**
352A IAmb IAmb 08 52 57.9
comp=Z,37nm,1.3s
R32A Long Quarter, 52.35 281 P **P** **08 52 55.0 -0.5**
R32A IAmb IAmb 08 52 58.2
comp=Z,28nm,1.2s
YPP Pitchstone Pla 52.38 295 P **P** **08 52 56.6 +0.6**
CBKS Cedar Bluff 52.46 283 P **P** **08 52 56.7 +0.3**
baz=33
CBKS Cedar Bluff 52.46 283 P **P** **08 52 56.4 0.0**
CBKS pmax pmax
comp=Z,33nm,1.2s
CBKS Cedar Bluff 52.46 283 P **P** **08 52 56.4 0.0**
CBKS IAmb IAmb 08 52 59.7
comp=Z,33nm,1.2s
250A Grady 52.49 266 P **P** **08 52 56.2 -0.5**
250A IAmb IAmb 08 52 58.9
comp=Z,27nm,1.2s
SEY Seymchan 52.54 6 LR LR 09 16 03.6
comp=Z,161nm,18.2s,baz=353,slow=37
SEY Seymchan 52.54 6 *i* P **P** **08 52 58.0 +1.5**
MAKZ Makanchi 52.66 58 P **P** **08 52 59.4 +1.7**
MAKZ pmax pmax
comp=Z,21nm,1.5s
MAKZ Makanchi 52.66 58 P **P** **08 52 59.4 +1.7**
SGDS Sogindy 52.69 66 *e*P **P** **08 52 59.1 +1.1**
comp=Z,40nm,3.5s
SGDS Sogindy 52.69 66 *e*P **P** **08 52 59.1 +1.1**
SGDS pmax pmax
comp=Z,40nm,3.5s
T35A Sooner Cattle 52.69 279 P **P** **08 52 57.4 -0.7**
T35A IAmb IAmb 08 53 00.7
comp=Z,30nm,1.3s
MCMT McKenzie Canyo 52.70 297 P **P** **08 52 59.0 +0.6**
MK31 Makanchi Array 52.79 58*ce*P **P** **08 53 00.7 +2.0**
MK31 Makanchi Array 52.79 58 P **P** **08 52 58.5 -0.1**
MKAR Makanchi Array 52.79 58 P **P** **08 52 57.3 -1.3**
comp=Z,4.2nm,1.1s,baz=339,slow=6.5,SNR=14
MKAR LR LR 09 16 11.6
comp=Z,165nm,18.2s,baz=320,slow=37
MKAR Makanchi Array 52.79 58*ce*P **P** **08 53 00.3 +1.6**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 52.79 58 P **P** **08 52 57.8 -0.8**
LOHW Long Hollow 52.85 294 P **P** **08 52 59.9 +0.5**
W39A Magazine 52.98 275 P **P** **08 52 59.9 -0.3**
baz=32
W39A Magazine 52.98 275 P **P** **08 53 00.2 0.0**
KUU Kurty 52.99 65 *e*P **P** **08 52 59.1 -1.1**
KUU *e*S **S** **09 00 30.5 +1.1**
KUU Kurty 52.99 65 *e*P **P** **08 52 59.1 -1.1**
KUU *e*S **S** **09 00 30.4 +1.1**
FXWY Fox Creek 53.00 295 P **P** **08 53 00.8 +0.3**
KAN12 Harper NE Stat 53.00 280 P **P** **08 52 59.7 -0.7**
KAN13 South Haven SW 53.02 279 P **P** **08 53 01.0 +0.5**
SNOW Snow King Moun 53.04 295 P **P** **08 53 01.7 +0.8**
SNOW IAmb IAmb 08 53 05.4
comp=Z,33nm,1.2s
KAN08 Anthony NE Sta 53.05 280 P **P** **08 52 59.9 -0.8**
TPAW Teton Pass 53.09 295 P **P** **08 53 01.3 +0.1**
TPAW IAmb IAmb 08 53 05.8
comp=Z,27nm,1.2s
KAN05 Bluff City Nor 53.11 280 P **P** **08 53 01.0 -0.1**
TOA0 Torodi Ar. Sit 53.12 156 P **P** **08 53 00.4 -0.9**
TOA0 IAmb IAmb 08 53 03.3
comp=Z,24nm,1.2s
TORD Torodi Ar. Bea 53.12 156 P **P** **08 53 00.1 -1.2**
comp=Z,12nm,1.0s,baz=340,slow=8.3,SNR=29
TORD LR LR 09 15 33.2
comp=Z,285nm,19.3s,baz=345,slow=36
TORD Torodi Ar. Bea 53.12 156 P **P** **08 53 00.3 -1.0**
RWWY Rawlins 53.12 291 P **P** **08 53 00.7 -0.8**
RWWY IAmb IAmb 08 53 03.5
comp=Z,37nm,1.4s
146A Union 53.13 269 P **P** **08 53 00.5 -0.8**
146A IAmb IAmb 08 53 02.4
comp=Z,32nm,1.2s
BW06 Boulder Array 53.15 293 P **P** **08 53 01.6 -0.1**
baz=33
PD31 Pinedale Array 53.15 293 P **P** **08 53 01.6 -0.1**
PDAR Pinedale Array 53.15 293 P **P** **08 53 01.1 -0.6**
comp=Z,21nm,1.1s,baz=56,slow=6.3,SNR=43
PDAR LR LR 09 15 38.5
comp=Z,349nm,18.1s,baz=32,slow=36
REDW Red Top Meadow 53.16 295 P **P** **08 53 02.4 +0.6**
REDW IAmb IAmb 08 53 06.1
comp=Z,36nm,1.3s
ZSN Zaisan 53.16 56 *e*P **P** **08 53 00.4 -1.1**
ZSN *e*S **S** **09 00 37.5 +5.8**
ZSN Zaisan 53.16 56 *e*P **P** **08 53 00.3 -1.1**
ZSN *e*S **S** **09 00 37.4 +5.8**
X40A Basin Creek Fa 53.18 274 P **P** **08 53 01.4 -0.2**
baz=31,SNR=6.9
X40A Basin Creek Fa 53.18 274 P **P** **08 53 01.6 0.0**
KAN10 Anthony SW Sta 53.19 280 P **P** **08 53 01.5 -0.3**
CCAR Cane Creek 53.20 272 P **P** **08 53 02.0 +0.2**
KDAK Kodiak Island 53.22 332 LR LR 09 16 51.7
comp=Z,278nm,21.9s,baz=53,slow=37
N23A Red Feather La 53.28 289 P **P** **08 53 03.3 +0.6**
baz=32,SNR=22
N23A Red Feather La 53.28 289 P **P** **08 53 03.3 +0.6**
AAK Ala-Archa 53.32 67*ce*P **P** **08 53 02.0 -0.8**
AAK pmax pmax
comp=Z,36nm,1.2s
BCYI Bear Canyon 53.35 297 P **P** **08 53 03.3 +0.2**
MIAR Mount Ida 53.45 274 P **P** **08 53 03.5 -0.1**
baz=31,SNR=8.5
MIAR Mount Ida 53.45 274 P **P** **08 53 03.2 -0.4**
MIAR pmax pmax
comp=Z,18nm,1.3s
MIAR Mount Ida 53.45 274 P **P** **08 53 03.1 -0.4**
KSCO Kaye Shedlock' 53.50 285 P **P** **08 53 04.8 +0.7**
baz=32
KSCO Kaye Shedlock' 53.50 285 P **P** **08 53 04.9 +0.7**
KSCO IAmb IAmb 08 53 07.8
comp=Z,38nm,1.3s
ECR Eagle Creek 53.63 295 P **P** **08 53 05.5 +0.4**
CROK Carrier 53.66 280 P **P** **08 53 04.5 -0.7**
PLID Pearl Lake 53.68 300 P **P** **08 53 04.9 -0.6**
PLID IAmb IAmb 08 53 09.9
comp=Z,20nm,1.2s
AHID Auburn Hatcher 53.76 294 P **P** **08 53 06.7 +0.6**
AHID IAmb IAmb 08 53 11.7
comp=Z,32nm,1.4s
MDOK Medeo 53.88 65 *e*P **P** **08 53 06.6 -0.3**
MDOK *e*S **S** **09 00 42.6 +0.8**
MDOK Medeo 53.88 65 *e*P **P** **08 53 06.5 -0.3**
MDOK *e*S **S** **09 00 42.6 +0.8**
TNSS Tian-Shan 53.95 65 *e*P **P** **08 53 08.2 +0.4**
TNSS Tian-Shan 53.95 65 *e*P **P** **08 53 08.1 +0.4**
BOOM Boomskoye usch 54.02 66 P **P** **08 53 07.7 -0.2**
BOOM pmax pmax
comp=Z,18nm,1.4s
BOOM Boomskoye usch 54.02 66 P **P** **08 53 07.7 -0.2**
BOOM IAmb IAmb 08 53 12.0
comp=Z,18nm,1.4s
BTK Batken 54.02 71 P **P** **08 53 07.3 -0.5**
BTK pmax pmax
comp=Z,34nm,1.2s
BTK Batken 54.02 71 P **P** **08 53 07.3 -0.5**
ISCO Idaho Springs 54.07 288 P **P** **08 53 09.1 +0.6**
baz=32
ISCO Idaho Springs 54.07 288 P **P** **08 53 08.3 -0.2**
ISCO pmax pmax
comp=Z,10.0nm,1.3s
ISCO Idaho Springs 54.07 288 P **P** **08 53 08.3 -0.2**
143A Socs Landing, 54.09 271 P **P** **08 53 07.8 -0.5**
OK025 Westminster Rd 54.17 278 P **P** **08 53 08.5 -0.4**
X37A Clayton 54.18 276 P **P** **08 53 10.3 +1.3**
X37A IAmb IAmb 08 53 11.1
comp=Z,18nm,1.4s
Z41A Richland Creek 54.21 273 P **P** **08 53 09.2 -0.1**
Z41A IAmb IAmb 08 53 11.5
comp=Z,23nm,1.2s
BCOK Bluff Creek, N 54.23 279 P **P** **08 53 09.9 +0.5**
KPKS Kokpek 54.25 63 *e*P **P** **08 53 10.3 +0.7**
comp=Z,19nm,1.7s
KPKS Kokpek 54.25 63 *e*P **P** **08 53 10.2 +0.7**
KPKS pmax pmax
comp=Z,19nm,1.7s
W35A Tecumseh 54.34 278 P **P** **08 53 10.3 +0.1**
OKCFA Oklahoma City 54.36 278 P **P** **08 53 09.8 -0.6**
BMO Blue Mountains 54.37 300 P **P** **08 53 09.6 -0.7**
BMO pmax pmax
comp=Z,19nm,1.4s
BMO Blue Mountains 54.37 300 P **P** **08 53 09.6 -0.7**
BMO IAmb IAmb 08 53 12.0
comp=Z,19nm,1.4s
HLID Hailey 54.37 297 P **P** **08 53 10.8 +0.3**
baz=32,SNR=5.4
HLID Hailey 54.37 297 P **P** **08 53 11.3 +0.8**
346A Big Creek Wild 54.38 269 P **P** **08 53 09.2 -1.2**
FNO Franklin 54.48 278 P **P** **08 53 11.6 +0.4**
SATY Saty 54.49 64 *e*P **P** **08 53 10.5 -0.8**
SATY Saty 54.49 64 *e*P **P** **08 53 10.5 -0.8**
UZB Uzynbulak 54.66 63 *e*P **P** **08 53 11.9 -0.6**
comp=Z,11nm,1.4s
UZB *e*S **S** **09 00 57.6 +5.3**
UZB Uzynbulak 54.66 63 *e*P **P** **08 53 11.9 -0.6**
UZB *e*S **S** **09 00 57.5 +5.3**
UZB pmax pmax
comp=Z,11nm,1.4s
GAR Garm 54.71 73 P **P** **08 53 12.7 -0.2**
O20A White River Ci 54.85 290 P **P** **08 53 14.3 +0.2**
baz=32,SNR=14
O20A White River Ci 54.85 290 P **P** **08 53 14.3 +0.2**
HWUT Hardware Ranch 54.93 294 P **P** **08 53 14.7 +0.1**
RDMU Red Mountain 55.02 292 P **P** **08 53 15.7 +0.4**
TCUT Toone Canyon 55.28 293 P **P** **08 53 17.4 +0.2**
TARG Taragay, Kyrgy 55.39 65 P **P** **08 53 18.5 +0.3**
TLY Talaya 55.46 40 LR LR 09 19 44.0
comp=Z,224nm,19.2s,baz=340,slow=39
TLY Talaya 55.46 40 *i* P **P** **08 53 19.3 +1.2**
TLY pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 55.51 279 P **P** **08 53 18.8 +0.2**
baz=31,SNR=25
WMOK Wichita Mounta 55.51 279 P **P** **08 53 19.0 +0.4**
WMOK pmax pmax
comp=Z,27nm,1.2s
WMOK Wichita Mounta 55.51 279 P **P** **08 53 19.0 +0.4**
WMOK IAmb IAmb 08 53 22.4
comp=Z,27nm,1.2s
JLU Jordanelle 55.74 293 P **P** **08 53 20.8 +0.3**
SDCO Great Sand Dun 55.77 287 P **P** **08 53 21.2 +0.4**
baz=31,SNR=5.5
SDCO Great Sand Dun 55.77 287 P **P** **08 53 20.8 0.0**
CTU Camp Tracy 55.78 293 P **P** **08 53 20.6 -0.1**
MA2 Magadan 55.81 7 LR LR 09 17 14.4
comp=Z,95nm,18.1s,baz=0.5,slow=36
T25A Trinidad 55.83 285 P **P** **08 53 22.7 +1.6**
baz=31,SNR=8.4
T25A Trinidad 55.83 285 P **P** **08 53 22.1 +0.9**
T25A IAmb IAmb 08 53 25.7
comp=Z,33nm,1.5s
Z35A Perchaven, San 56.06 277 P **P** **08 53 22.3 -0.3**
J08A Circle Bar Ran 56.08 300 P **P** **08 53 22.7 -0.1**
NATX Nacogdoches 56.30 274 P **P** **08 53 24.9 +0.6**
NATX IAmb IAmb 08 53 28.2
comp=Z,27nm,1.4s
S22A 4UR Ranch, Cre 56.31 288 P **P** **08 53 25.4 +0.7**
baz=31,SNR=9.0
S22A 4UR Ranch, Cre 56.31 288 P **P** **08 53 25.2 +0.5**
CBYP Canovanas 56.37 238 P **P** **08 53 23.9 -1.1**
CBYP IAmb IAmb 08 53 28.1
comp=Z,33nm,1.2s
MTP Monte Pirata 56.41 238 P **P** **08 53 24.8 -0.5**
GCPR Guaynabo City 56.42 239 P **P** **08 53 25.3 +0.1**
GCPR IAmb IAmb 08 53 27.7
comp=Z,25nm,1.5s
P17A Butcher Ranch, 56.42 292 P **P** **08 53 25.5 +0.1**
PV22 Blue Mesa, Par 56.44 290 P **P** **08 53 26.0 +0.5**
PV07 Paradox Valley 56.46 290 P **P** **08 53 25.5 -0.1**
PV07 IAmb IAmb 08 53 35.4
comp=Z,19nm,1.4s
PV15 Paradox Valley 56.48 289 P **P** **08 53 25.5 -0.3**
PV15 IAmb IAmb 08 53 28.4
comp=Z,24nm,1.4s
HUMP Col San Antoni 56.48 238 P **P** **08 53 25.5 -0.2**
PV21 Cone Mtn., Par 56.49 290 P **P** **08 53 25.6 -0.3**
ZAK Zakamensk 56.53 41 *e*P **P** **08 53 24.8 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
KSH Kashi 56.56 68 P **P** **08 53 26.8 +0.6**
KSH S **S** **09 01 15.1 -2.6**
KSH pmax pmax
comp=Z,26nm,1.2s
KSH pmax pmax
comp=Z,240nm,4.0s
KSH LR LR
comp=Z,280nm,6.2s
KSH LR LR
comp=Z,320nm,9.3s
KSH LR LR
comp=Z,320nm,7.4s
PV23 Carpenter Ridg 56.60 290 P **P** **08 53 26.7 0.0**
PV23 IAmb IAmb 08 53 29.1
comp=Z,18nm,1.0s
PV04 Paradox Valley 56.60 290 P **P** **08 53 26.2 -0.5**
PV04 IAmb IAmb 08 53 31.5
comp=Z,33nm,1.4s
DUG Dugway, Tooele 56.63 294 P **P** **08 53 27.5 +0.8**
baz=31,SNR=12
DUG Dugway, Tooele 56.63 294 P **P** **08 53 27.0 +0.3**
DUG pmax pmax
comp=Z,23nm,1.2s
DUG Dugway, Tooele 56.63 294 P **P** **08 53 27.0 +0.3**
DUG IAmb IAmb 08 53 30.8
comp=Z,23nm,1.2s
PV12 Saucer Basin, 56.63 290 P **P** **08 53 26.7 -0.1**
PV12 IAmb IAmb 08 53 30.8
comp=Z,28nm,1.3s
SRU San Rafael Swe 56.64 292 P **P** **08 53 26.3 -0.6**
SRU pmax pmax
comp=Z,18nm,1.2s
SRU San Rafael Swe 56.64 292 P **P** **08 53 26.3 -0.6**
PDPR Patillas Dam, 56.66 238 P **P** **08 53 25.9 -1.0**
PDPR IAmb IAmb 08 53 30.6
comp=Z,24nm,1.2s
PV14 Lion Creek, Pa 56.67 290 P **P** **08 53 27.2 0.0**
PV14 IAmb IAmb 08 53 29.6
comp=Z,16nm,0.9s
PV11 David Mesa, Pa 56.67 290 P **P** **08 53 27.1 -0.1**
PV10 Paradox Valley 56.67 290 P **P** **08 53 27.9 +0.7**
PV10 IAmb IAmb 08 53 30.4
comp=Z,30nm,1.1s
PV20 West Nyswonger 56.67 290 P **P** **08 53 26.8 -0.4**
PV20 IAmb IAmb 08 53 29.6
comp=Z,16nm,1.1s
PV16 Nyswonger Mesa 56.68 290 P **P** **08 53 27.2 0.0**
PV16 IAmb IAmb 08 53 30.5
comp=Z,31nm,1.3s
PV01 Paradox Valley 56.69 289 P **P** **08 53 27.3 0.0**
PV02 Paradox Valley 56.70 290 P **P** **08 53 27.6 +0.3**
PV03 Paradox Valley 56.70 290 P **P** **08 53 27.5 +0.1**
PV19 Morning Glory 56.71 290 P **P** **08 53 27.2 -0.3**
PV19 IAmb IAmb 08 53 31.4
comp=Z,29nm,1.5s
PV17 East Wray Mesa 56.72 290 P **P** **08 53 27.3 -0.2**
PV18 Skein Mesa, Pa 56.73 290 P **P** **08 53 27.6 0.0**
PV18 IAmb IAmb 08 53 30.2
comp=Z,24nm,1.1s
TMUT Trail Mountain 56.76 292 P **P** **08 53 28.1 +0.2**
PV13 Radium Mtn., P 56.77 290 P **P** **08 53 27.6 -0.3**
Q16A Castle Valley 57.07 292 P **P** **08 53 30.7 +0.8**
MLPR Magueyes Islan 57.08 239 P **P** **08 53 31.0 +1.1**
ELK Elko 57.10 296 P **P** **08 53 31.1 +0.9**
ELK pmax pmax
comp=Z,19nm,1.4s
ELK Elko 57.10 296 P **P** **08 53 31.1 +0.9**
ELK IAmb IAmb 08 53 34.4
comp=Z,18nm,1.4s
J05D Fort Rock, OR 57.16 302 P **P** **08 53 31.4 +0.9**
baz=30
DR12 Loma Pena Alta 57.21 242 P **P** **08 53 31.4 +0.5**
WMQ Urumqi 57.30 56 *e*P **P** **08 53 35.0 +3.7**
WMQ pP sP 08 53 40.4 +3.9
WMQ S **S** **09 01 31.2 +4.0**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,210nm,5.1s
WMQ LR LR
comp=Z,360nm,15.5s
WMQ LR LR
comp=Z,420nm,15.3s
WMQ LR LR
comp=Z,140nm,16.5s
WHTX Lake Whitney, 57.30 276 P **P** **08 53 32.1 +0.7**
baz=30,SNR=10
WHTX Lake Whitney, 57.30 276 P **P** **08 53 31.2 -0.2**
WHTX IAmb IAmb 08 53 33.6
comp=Z,29nm,1.2s
MVCO Mesa Verde 57.45 289 P **P** **08 53 33.3 +0.5**
baz=31,SNR=8.4
MVCO Mesa Verde 57.45 289 P **P** **08 53 33.3 +0.5**
K05A Summer Lake 57.52 302 P **P** **08 53 33.9 +0.8**
K05A IAmb IAmb 08 53 38.4
comp=Z,32nm,1.3s
ABTX Abilene, Hawle 57.69 279 P **P** **08 53 34.7 +0.5**
baz=30,SNR=14
ABTX Abilene, Hawle 57.69 279 P **P** **08 53 33.6 -0.6**
ABTX IAmb IAmb 08 53 37.9
comp=Z,35nm,1.3s
SDDR Presa de Saban 57.77 244 P **P** **08 53 33.5 -1.4**
SDDR IAmb IAmb 08 53 38.3
comp=Z,23nm,1.4s
MSU Marysvale 57.82 292 P **P** **08 53 35.9 +0.6**
MSU Marysvale 57.82 292 P **P** **08 53 35.9 +0.6**
MVU Marysvale 57.84 293 P **P** **08 53 36.0 +0.6**
MSTX Muleshoe 57.86 282 P **P** **08 53 36.6 +1.1**
baz=30
MSTX Muleshoe 57.86 282 P **P** **08 53 36.2 +0.7**
FDF Fort de France 57.98 232 P **P** **08 53 36.4 +0.1**
FDF pmax pmax
comp=Z,53nm,1.1s
FDF Fort de France 57.98 232 P **P** **08 53 36.4 +0.1**
MOD Modoc Plateau 58.02 301 P **P** **08 53 37.1 +0.5**
MOD IAmb IAmb 08 53 39.2
comp=Z,22nm,1.5s
HKT Hockley 58.36 274 P **P** **08 53 38.9 +0.1**
HKT pmax pmax
comp=Z,8.0nm,1.3s
HKT Hockley 58.36 274 P **P** **08 53 38.9 +0.1**
435B Jarrell 58.40 276 P **P** **08 53 40.9 +1.8**
baz=30
435B Jarrell 58.40 276 P **P** **08 53 38.2 -0.9**
435B IAmb IAmb 08 53 42.6
comp=Z,35nm,1.5s
PSUT Pine Spring 58.47 294 P **P** **08 53 40.7 +0.9**
L04D Klamath Falls 58.48 303 P **P** **08 53 40.6 +0.9**
baz=29
DBIC Dimbokro 58.55 165 P **P** **08 53 39.4 -0.8**
comp=Z,10nm,0.9s,baz=357,slow=7.2,SNR=6.7
DBIC LR LR 09 19 26.3
comp=Z,463nm,18.7s,baz=342,slow=37
DBIC Dimbokro 58.55 165 P **P** **08 53 39.5 -0.8**
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC Dimbokro 58.55 165 P **P** **08 53 39.5 -0.8**
DBIC IAmb IAmb 08 53 39.9
comp=Z,13nm,0.9s
ANMO Albuquerque 58.56 286 P **P** **08 53 41.2 +0.7**
baz=30
ANMO Albuquerque 58.56 286*ce*P **P** **08 53 40.8 +0.3**
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 58.56 286 P **P** **08 53 41.2 +0.7**
TIC Toumodi 58.56 165 *e*P **P** **08 53 39.2 -1.2**
M04C Macdoel 58.69 302 P **P** **08 53 42.1 +0.9**
baz=29
LGNH Logne 58.71 245 P **P** **08 53 41.2 -0.2**
KIC Kosan Boka 58.87 165 *e*P **P** **08 53 41.5 -1.0**
comp=Z,93nm,1.2s
SZCU Shurtz Canyon 58.97 293 P **P** **08 53 43.9 +0.6**
LIC Lamto 58.98 165 *e*P **P** **08 53 42.1 -1.1**
comp=Z,106nm,1.1s
CCUT Cedar City 59.12 293 P **P** **08 53 45.1 +0.8**
R11A Troy Canyon, C 59.30 295 P **P** **08 53 46.1 +0.6**
baz=30,SNR=20
R11A Troy Canyon, C 59.30 295 P **P** **08 53 46.0 +0.4**
R11A IAmb IAmb 08 53 49.5
comp=Z,23nm,1.4s
BNM Barren Site 59.32 285 P **P** **08 53 46.8 +1.0**
KNB Kanab 59.37 292 P **P** **08 53 46.0 0.0**
KNB pmax pmax
comp=Z,18nm,1.2s
KNB Kanab 59.37 292 P **P** **08 53 46.0 0.0**
Y22D IRIS PASSCAL I 59.50 286 P **P** **08 53 49.3 +2.3**
baz=30
Y22D IRIS PASSCAL I 59.50 286 P **P** **08 53 47.9 +1.0**
LCMT Little Creek M 59.54 292 P **P** **08 53 47.6 +0.4**
PAHR Pah Rah Range 59.58 299 P **P** **08 53 47.6 +0.2**
PAHR IAmb IAmb 08 53 50.5
comp=Z,28nm,1.5s
JCT Junction City 59.61 277 P **P** **08 53 47.9 +0.2**
baz=30,SNR=28
JCT Junction City 59.61 277 P **P** **08 53 47.8 +0.2**
JCT pmax pmax
comp=Z,60nm,1.3s
JCT Junction City 59.61 277 P **P** **08 53 47.8 +0.2**
U15A North Rim 59.66 291 P **P** **08 53 47.8 -0.4**
U15A IAmb IAmb 08 53 51.0
comp=Z,22nm,1.2s
KVN Kaiserville 59.66 297 P **P** **08 53 48.3 +0.2**
KVN pmax pmax
comp=Z,18nm,1.2s
KVN Kaiserville 59.66 297 P **P** **08 53 48.3 +0.2**
KVN IAmb IAmb 08 53 50.7
comp=Z,18nm,1.2s
SONM Songino Array 59.71 40 P **P** **08 53 48.0 -0.1**
comp=Z,2.1nm,1.0s,baz=319,slow=6.5,SNR=7.6
SONM LR LR 09 21 45.0
comp=Z,405nm,19.6s,baz=326,slow=38
SONM Songino Array 59.71 40 P **P** **08 53 47.9 -0.2**
W18A Petrified Fore 59.76 289 P **P** **08 53 48.6 -0.1**
ULN Ulaanbaatar 59.86 40*ce*P **P** **08 53 51.5 +2.3**
ULN pmax pmax
comp=Z,12nm,1.7s
PRN Pahroc Range 59.91 294 P **P** **08 53 51.0 +1.3**
PRN IAmb IAmb 08 53 55.9
comp=Z,28nm,1.5s
VCNR Virginia City 60.04 299 P **P** **08 53 51.1 +0.4**

VCNR				IAmb	IAmb	08 53 54.9	
	comp=Z,16nm,1.3s						
GDL2	**Guadalupe Moun**	**60.05**	**282**	P	**P**	**08 53 50.9**	**+0.1**
WUAZ	**Wupatki**	**60.08**	**290**	P	**P**	**08 53 51.3**	**+0.4**
	baz=30,SNR=10						
WUAZ	**Wupatki**	**60.08**	**290**	P	**P**	**08 53 51.3**	**+0.4**
YERR	**Yerington**	**60.16**	**298**	P	**P**	**08 53 52.1**	**+0.7**
YERR				IAmb	IAmb	08 53 55.1	
	comp=Z,27nm,1.3s						
TPH	**Tonopah**	**60.18**	**296**	P	**P**	**08 53 51.7**	**+0.1**
TPH				pmax	pmax		
	comp=Z,48nm,1.4s						
TPH	**Tonopah**	**60.18**	**296**	P	**P**	**08 53 51.7**	**+0.1**
PNTR	**Pine Nut**	**60.20**	**299**	P	**P**	**08 53 52.2**	**+0.4**
NVAR	**Mina Array Bea**	**60.28**	**297**	P	**P**	**08 53 52.6**	**+0.3**
	comp=Z,3.2nm,1.1s,baz=36,slow=4.1,SNR=10.0						
NVAR				LR	LR	09 18 10.3	
	comp=Z,627nm,19.9s,baz=35,slow=34						
NIL	**Nilore**	**60.51**	**73**	P	**P**	**08 53 53.3**	**-0.4**
NIL				pmax	pmax		
	comp=Z,20nm,1.0s						
NIL	**Nilore**	**60.51**	**73**	P	**P**	**08 53 53.2**	**-0.4**
NIL				IAmb	IAmb	08 53 57.0	
	comp=Z,20nm,1.0s						
LHV	**Little Huntoon**	**60.52**	**297**	P	**P**	**08 53 54.9**	**+1.3**
LHV				IAmb	IAmb	08 54 13.1	
	comp=Z,19nm,1.5s						
WAKR	**Walker**	**60.65**	**298**	P	**P**	**08 53 55.4**	**+0.6**
WAKR				IAmb	IAmb	08 53 58.0	
	comp=Z,26nm,1.5s						
SHPR	**Sheep Range**	**60.74**	**294**	P	**P**	**08 53 56.4**	**+1.0**
SHPR				IAmb	IAmb	08 53 59.6	
	comp=Z,30nm,1.4s						
TPNV	**Topopah Spring**	**60.78**	**295**	P	**P**	**08 53 56.0**	**+0.3**
	baz=29						
TPNV	**Topopah Spring**	**60.78**	**295**	P	**P**	**08 53 55.7**	**0.0**
TPNV				pmax	pmax		
	comp=Z,18nm,1.3s						
TPNV	**Topopah Spring**	**60.78**	**295**	P	**P**	**08 53 55.7**	**0.0**
TPNV				IAmb	IAmb	08 54 00.8	
	comp=Z,18nm,1.3s						
MNTX	**Cornudas Mount**	**60.92**	**283**	P	**P**	**08 53 56.5**	**0.0**
	baz=30,SNR=12						
MNTX	**Cornudas Mount**	**60.92**	**283**	P	**P**	**08 53 56.0**	**-0.5**
X16A	**Lo Mia Camp, P**	**61.06**	**290**	P	**P**	**08 53 58.1**	**+0.4**
X16A				IAmb	IAmb	08 54 01.6	
	comp=Z,23nm,1.2s						
121A	**Cookes Peak, D**	**61.20**	**285**	P	**P**	**08 53 58.9**	**+0.3**
	baz=30						
121A	**Cookes Peak, D**	**61.20**	**285**	P	**P**	**08 53 59.3**	**+0.7**
121A				IAmb	IAmb	08 54 02.0	
	comp=Z,17nm,1.2s						
OMMB	**Old Mammoth Mi**	**61.26**	**297**	P	**P**	**08 53 59.5**	**+0.4**
OMMB				IAmb	IAmb	08 54 02.7	
	comp=Z,18nm,1.3s						
MDPB	**Devils Postpil**	**61.28**	**297**	P	**P**	**08 54 00.1**	**+0.9**
MDPB				IAmb	IAmb	08 54 02.6	
	comp=Z,21nm,1.4s						
833A	**Chaparral WMA,**	**61.30**	**276**	P	**P**	**08 54 00.2**	**+1.1**
	baz=29						
833A	**Chaparral WMA,**	**61.30**	**276**	P	**P**	**08 53 59.0**	**-0.1**
CMB	**Columbia Colle**	**61.42**	**299**	P	**P**	**08 54 00.1**	**+0.2**
CMB				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CMB	**Columbia Colle**	**61.42**	**299**	P	**P**	**08 54 00.1**	**+0.2**
FURC	**Furnace Creek,**	**61.44**	**295**	P	**P**	**08 54 01.8**	**+1.9**
	baz=29						
W13A	**Hualapai Mount**	**61.45**	**292**	P	**P**	**08 54 00.5**	**+0.1**
SHOC	**Shoshone, Teco**	**61.70**	**294**	P	**P**	**08 54 02.9**	**+1.1**
	baz=29						
CWC	**Cottonwood Cre**	**61.94**	**296**	P	**P**	**08 54 06.0**	**+2.5**
	baz=29						
MPMC	**Manual Prospec**	**62.04**	**295**	P	**P**	**08 54 05.0**	**+0.8**
	baz=29						
Y14A	**Wickenburg**	**62.11**	**291**	P	**P**	**08 54 04.9**	**+0.3**
TX31	**Lajitas Ar. Si**	**62.25**	**280**	P	**P**	**08 54 05.8**	**+0.2**
TXAR	**Lajitas Array**	**62.25**	**280**	P	**P**	**08 54 05.8**	**+0.2**
	comp=Z,5.7nm,1.1s,baz=57,slow=4.6,SNR=29						
TXAR				LR	LR	09 19 57.8	
	comp=Z,475nm,21.2s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**62.25**	**280**	P	**P**	**08 54 05.5**	**-0.2**
TX32	**Lajitas Array**	**62.25**	**280**	P	**P**	**08 54 05.9**	**+0.3**
TX32				IAmb	IAmb	08 54 08.0	
	comp=Z,20nm,1.4s						
GMRC	**Granite Mounta**	**62.44**	**293**	P	**P**	**08 54 07.7**	**+0.8**
	baz=29,SNR=16						
GSC	**Goldstone, Bar**	**62.44**	**294**	P	**P**	**08 54 07.7**	**+0.9**
	baz=29						
GSC	**Goldstone, Bar**	**62.44**	**294**	P	**P**	**08 54 06.9**	**+0.1**
GSC				pmax	pmax		
	comp=Z,13nm,1.5s						
GSC	**Goldstone, Bar**	**62.44**	**294**	P	**P**	**08 54 06.8**	**+0.1**
PEA0B	**Petropavlovsk-**	**62.55**	**3**	P	**P**	**08 54 08.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**62.55**	**3**	P	**P**	**08 54 08.4**	**+1.2**
PETK	**Petropavlovsk-**	**62.55**	**3**	P	**P**	**08 54 08.8**	**+1.6**
	comp=Z,7.1nm,1.1s,baz=149,slow=3.1,SNR=4.6						
PETK	**Petropavlovsk-**	**62.55**	**3**	P	**P**	**08 54 07.2**	**0.0**
LRMC	**Laurel Mtn Rad**	**62.62**	**295**	P	**P**	**08 54 10.0**	**+1.9**
	baz=29						
TUC	**Tucson**	**62.63**	**288**	P	**P**	**08 54 09.3**	**+1.2**
	baz=29						
TUC	**Tucson**	**62.63**	**288**	P	**P**	**08 54 08.9**	**+0.8**
TUC				pmax	pmax		
	comp=Z,18nm,1.2s						
TUC	**Tucson**	**62.63**	**288**	P	**P**	**08 54 08.9**	**+0.8**
TUC				IAmb	IAmb	08 54 11.6	
	comp=Z,18nm,1.2s						
PET	**Petropavlovsk**	**62.66**	**3**	*e*P	**P**	**08 54 12.1**	**+4.3**
PET				*e*S	**S**	**09 02 35.0**	**-0.6**
PET				pmax	pmax		
	comp=Z,100nm,12.2s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 54 09.8**	**+0.8**
	baz=28,SNR=6.1						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 54 09.4**	**+0.4**
ISA				pmax	pmax		
	comp=Z,14nm,1.2s						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 54 09.4**	**+0.4**
ISA				IAmb	IAmb	08 54 12.3	
	comp=Z,14nm,1.1s						
IRM	**Iron Mountain**	**62.78**	**292**	P	**P**	**08 54 09.7**	**+0.6**
	baz=29,SNR=6.1						
BELC	**Belle Mtn. Jos**	**63.26**	**293**	P	**P**	**08 54 13.3**	**+0.9**
	baz=28,SNR=13						
BC3	**Big Chuckawall**	**63.34**	**292**	P	**P**	**08 54 13.9**	**+1.1**
	baz=28,SNR=6.3						
113A	**Mohawk Valley,**	**63.44**	**291**	P	**P**	**08 54 13.5**	**+0.1**
113A				IAmb	IAmb	08 54 17.0	
	comp=Z,19nm,1.4s						
214A	**Organ Pipe Nat**	**63.77**	**289**	P	**P**	**08 54 18.3**	**+2.7**
	baz=29						
214A	**Organ Pipe Nat**	**63.77**	**289**	P	**P**	**08 54 15.1**	**-0.5**
214A				IAmb	IAmb	08 54 20.9	
	comp=Z,12nm,1.2s						
MWC	**Mount Wilson**	**63.87**	**295**	P	**P**	**08 54 17.1**	**+0.6**
MWC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MWC	**Mount Wilson**	**63.87**	**295**	P	**P**	**08 54 17.1**	**+0.6**
SWSC	**Sam W. Stewart**	**64.10**	**292**	P	**P**	**08 54 18.4**	**+0.7**
	baz=28						
PIX	**Pinacate**	**64.38**	**290**	P	**P**	**08 54 19.6**	**+0.1**
PIX				IAmb	IAmb	08 54 23.1	
	comp=Z,16nm,1.3s						
MONP2	**Monument Peak**	**64.40**	**293**	P	**P**	**08 54 21.2**	**+1.3**
	baz=28						
MDP	**Montagnes des**	**64.46**	**219**	P	**P**	**08 54 19.8**	**-0.4**
	comp=Z,14nm,0.9s,baz=28,slow=8.4,SNR=3.8						
IKP	**In-Ko-Pah, Jac**	**64.49**	**292**	P	**P**	**08 54 21.1**	**+0.7**
	baz=28						
GTA	**Gaotai**	**65.36**	**49**	⇑P	**P**	**08 54 28.2**	**+2.1**
GTA				pP	sP	08 54 32.4	+1.1
GTA				sP	pP	08 54 35.1	+5.2
GTA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,250nm,7.3s						
GTA				LR	LR		
	comp=Z,280nm,18.2s						
GTA				LR	LR		
	comp=Z,440nm,18.5s						
GTA				LR	LR		
	comp=Z,380nm,18.5s						
HSIG		**65.58**	**286**	P	**P**	**08 54 27.3**	**-0.1**
HSIG				IAmb	IAmb	08 54 30.8	
	comp=Z,15nm,1.0s						
SPX	**San Pedro Mart**	**65.65**	**291**	P	**P**	**08 54 28.1**	**-0.1**
SPX				IAmb	IAmb	08 54 32.0	
	comp=Z,18nm,1.3s						
SDV	**Santo Domingo**	**66.76**	**239**	P	**P**	**08 54 35.6**	**+0.3**
	comp=Z,5.0nm,0.4s,baz=3.0,slow=7.7,SNR=7.7						
SDV	**Santo Domingo**	**66.76**	**239**	P	**P**	**08 54 35.1**	**-0.2**
SDV				IAmb	IAmb	08 54 38.9	
	comp=Z,14nm,0.9s						
SDV	**Santo Domingo**	**66.76**	**239**	*e*P	**P**	**08 54 34.9**	**-0.4**
ZAIG	**Zacatecas**	**67.53**	**276**	P	**P**	**08 54 39.8**	**-0.5**
ZAIG				IAmb	IAmb	08 54 44.6	
	comp=Z,15nm,1.1s						
SJCC	**San Jacinto, C**	**67.56**	**244**	*e*P	**P**	**08 54 40.7**	**+0.5**
HHC	**Hu-ho-hao-te**	**67.58**	**40**	*e*P	**P**	**08 54 42.9**	**+2.7**
HHC				pmax	pmax		
	comp=Z,32nm,1.0s						
HHC				pmax	pmax		
	comp=Z,310nm,7.4s						
ELOV	**Elorza**	**68.08**	**237**	*e*P	**P**	**08 54 43.9**	**+0.5**
CN2	**Changchun**	**68.10**	**28**	*e*P	**P**	**08 54 44.1**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MOTC	**Monteria, Cord**	**68.77**	**244**	*e*P	**P**	**08 54 47.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**68.93**	**23**	LR	LR	09 24 58.0	
	comp=Z,78nm,21.1s,baz=346,slow=36						
PAMC	**Pamplona, Colo**	**68.95**	**241**	*e*P	**P**	**08 54 50.4**	**+0.9**
MCPB	**Macapa, AP**	**69.53**	**217**	*e*P	**P**	**08 54 52.7**	**+0.3**
BRRC	**Barranca, Sant**	**69.55**	**242**	*e*P	**P**	**08 54 52.6**	**0.0**
BJI	**Beijing**	**69.56**	**36**	P	**P**	**08 54 51.6**	**-0.7**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ZARC	**Zaragoza, Cauc**	**69.63**	**243**	*e*P	**P**	**08 54 53.7**	**+0.5**
LZH	**Lanzhou**	**69.69**	**47**	*e*P	**P**	**08 54 55.9**	**+2.4**
LZH				pP	sP	08 54 59.4	+0.7
LZH				sP	pP	08 55 01.3	+4.0
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
ACON	**Acoyapa**	**69.71**	**255**	P	**P**	**08 54 54.1**	**+0.5**
ACON				IAmb	IAmb	08 54 55.8	
	comp=Z,15nm,1.1s						
PTBC	**PUERTO BERRIO,**	**70.35**	**242**	*e*P	**P**	**08 54 56.9**	**-0.6**
TLIG	**Tlapa**	**70.42**	**270**	P	**P**	**08 54 57.9**	**-0.1**
TLIG				IAmb	IAmb	08 55 01.3	
	comp=Z,12nm,1.0s						
RUSC	**La Rusia**	**70.43**	**240**	*e*P	**P**	**08 55 01.2**	**+2.7**
ASAJ	**Asahikawa**	**70.50**	**15**	LR	LR	09 27 01.5	
	comp=Z,143nm,18.0s,baz=346,slow=37						
DBBC	**Dabeiba**	**70.59**	**244**	*e*P	**P**	**08 55 00.2**	**+1.1**
SPBC	**San Pablo de B**	**71.02**	**241**	*e*P	**P**	**08 55 00.2**	**-1.6**
MALB	**Monte Alegre**	**71.54**	**219**	*e*P	**P**	**08 55 04.8**	**+0.1**
PTGC	**Puerto Gaitan,**	**71.64**	**239**	*e*P	**P**	**08 55 02.3**	**-3.0**
ROSC	**El Rosal**	**71.86**	**241**	P	**P**	**08 55 07.4**	**+0.2**
	comp=Z,19nm,0.8s,baz=206,slow=19,SNR=8.1						
ROSC				LR	LR	09 22 55.7	
	comp=Z,110nm,21.3s,baz=359,slow=33						
ROSC	**El Rosal**	**71.86**	**241**	*e*P	**P**	**08 55 05.6**	**-1.6**
ROSC	**El Rosal**	**71.86**	**241**	P	**P**	**08 55 07.1**	**-0.1**
GUY2C	**Guiana, Caldas**	**71.91**	**242**	*e*P	**P**	**08 55 07.7**	**+0.2**
TOLC	**Tolima**	**72.47**	**242**	*e*P	**P**	**08 55 08.8**	**-1.9**
ORTC	**Ortega, Tolima**	**73.07**	**242**	*e*P	**P**	**08 55 14.2**	**+0.3**
PRAC	**Prado**	**73.11**	**241**	*e*P	**P**	**08 55 13.1**	**-1.1**
XAN	**Xi'an**	**73.16**	**44**	P	**P**	**08 55 16.6**	**+2.3**
XAN				pmax	pmax		
	comp=Z,14nm,1.2s						
XAN	**Xi'an**	**73.16**	**44**	P	**P**	**08 55 15.4**	**+1.1**
XAN				pmax	pmax		
	comp=Z,23nm,1.4s						
XAN	**Xi'an**	**73.16**	**44**	P	**P**	**08 55 15.4**	**+1.1**
XAN				IAmb	IAmb	08 55 17.6	
	comp=Z,23nm,1.4s						
YOTC	**Yotoco, Valle**	**73.42**	**243**	*e*P	**P**	**08 55 15.3**	**-0.8**
ITTB	**Itaituba**	**74.35**	**220**	*e*P	**P**	**08 55 21.8**	**+0.5**
CD2	**Chengdu**	**74.43**	**50**	*e*P	**P**	**08 55 23.4**	**+1.6**
PRPB	**Parauapebas**	**74.56**	**213**	*e*P	**P**	**08 55 22.9**	**+0.3**
KSRS	**Korea Array**	**74.71**	**28**	LR	LR	09 33 19.1	
	comp=Z,97nm,18.1s,baz=349,slow=40						
GARC	**Garzon, Huila**	**74.74**	**241**	*e*P	**P**	**08 55 25.1**	**+1.1**
POPC	**Popayan, Colom**	**74.87**	**243**	*e*P	**P**	**08 55 20.7**	**-4.0**
SHL	**Shillong**	**75.08**	**62**	P	**P**	**08 55 27.3**	**+1.5**
SHL				pmax	pmax		
	comp=Z,15nm,1.1s						
SHL	**Shillong**	**75.08**	**62**	P	**P**	**08 55 27.3**	**+1.5**
SHL				IAmb	IAmb	08 55 28.1	
	comp=Z,15nm,1.1s						
FLOC	**Florencia**	**75.36**	**241**	*e*P	**P**	**08 55 28.3**	**+1.0**
SMTB	**Santa Maria do**	**76.66**	**211**	*e*P	**P**	**08 55 34.8**	**+0.2**
PUAC	**Puerto Asis, P**	**76.66**	**242**	*e*P	**P**	**08 55 33.7**	**-0.9**
NPGB	**Novo Progresso**	**76.81**	**219**	*e*P	**P**	**08 55 35.8**	**+0.3**
MJAR	**Matsushiro Arr**	**77.39**	**20**	P	**P**	**08 55 39.8**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=353,slow=5.9,SNR=4.4						
MJAR	**Matsushiro Arr**	**77.39**	**20**	P	**P**	**08 55 39.2**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MJAR	**Matsushiro Arr**	**77.39**	**20**	P	**P**	**08 55 39.2**	**+0.6**
OTAV	**Otavalo**	**77.66**	**243**	P	**P**	**08 55 40.9**	**+0.1**
OTAV				pmax	pmax		
	comp=Z,19nm,1.3s						
OTAV	**Otavalo**	**77.66**	**243**	P	**P**	**08 55 40.9**	**+0.1**
OTAV				IAmb	IAmb	08 55 44.0	
	comp=Z,19nm,1.3s						
OTAV	**Otavalo**	**77.66**	**243**	*e*P	**P**	**08 55 41.9**	**+1.1**
NJ2	**Nanjing**	**77.80**	**37**	*e*P	**P**	**08 55 41.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,18nm,0.8s						
GYA	**Guiyang**	**79.49**	**49**	*e*P	**P**	**08 55 52.3**	**+1.8**
GYA				pmax	pmax		
	comp=Z,24nm,1.6s						
CLDB	**Colider**	**80.58**	**218**	*e*P	**P**	**08 55 56.0**	**-0.2**
SAML	**Samuel**	**80.88**	**226**	P	**P**	**08 55 57.0**	**-0.7**
SAML				pmax	pmax		
	comp=Z,13nm,1.2s						
SAML	**Samuel**	**80.88**	**226**	P	**P**	**08 55 57.0**	**-0.7**
SAML	**Samuel**	**80.88**	**226**	*e*P	**P**	**08 55 57.5**	**-0.2**
ETMB	**Extrema**	**82.65**	**228**	*e*P	**P**	**08 56 06.5**	**-0.6**
CZSB	**Cruzeiro do Su**	**82.89**	**235**	*e*P	**P**	**08 56 08.4**	**0.0**
BDFB	**Brasilia**	**83.32**	**209**	P	**P**	**08 56 09.3**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=42,slow=8.5,SNR=3.7						
BDFB				LR	LR	09 27 08.7	
	comp=Z,265nm,21.3s,baz=55,slow=31						
BDFB	**Brasilia**	**83.32**	**209**	P	**P**	**08 56 09.3**	**-1.3**
BDFB				pmax	pmax		
	comp=Z,12nm,1.5s						
VILB	**Vilhena**	**83.78**	**222**	*e*P	**P**	**08 56 12.5**	**-0.4**
CHTO	**Chiang Mai**	**83.87**	**58**	P	**P**	**08 56 12.9**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,22nm,1.5s						
CHTO	**Chiang Mai**	**83.87**	**58**	P	**P**	**08 56 12.9**	**-0.6**
CHTO				IAmb	IAmb	08 56 16.0	
	comp=Z,22nm,1.5s						
CMAR	**Chiang Mai Arr**	**84.20**	**59**	P	**P**	**08 56 14.8**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=315,slow=6.2,SNR=12						
CMAR				LR	LR	09 36 49.9	
	comp=Z,61nm,18.1s,baz=325,slow=38						
CMAR	**Chiang Mai Arr**	**84.20**	**59**	P	**P**	**08 56 14.7**	**-0.5**
ARAG	**Araguaiana, MT**	**84.23**	**213**	*e*P	**P**	**08 56 15.1**	**0.0**
ATAH	**Atahualpa**	**84.41**	**240**	P	**P**	**08 56 17.4**	**+0.7**
	comp=Z,12nm,1.1s,baz=14,slow=2.7,SNR=6.0						
IPMB	**Ipameri, GO**	**85.63**	**209**	*e*P	**P**	**08 56 21.5**	**-0.7**
PTLB	**Pontes e Lacer**	**85.86**	**220**	*e*P	**P**	**08 56 23.4**	**+0.1**
SIV	**San Ignacio**	**86.92**	**222**	P	**P**	**08 56 28.8**	**+0.3**
	comp=Z,5.6nm,1.2s,baz=58,slow=5.2,SNR=8.1						
LPAZ	**La Paz**	**89.33**	**228**	LR	LR	09 33 21.2	
	comp=Z,57nm,19.9s,baz=359,slow=33						
CPUP	**Villa Florida**	**95.77**	**215**	LR	LR	09 36 22.0	
	comp=Z,138nm,18.9s,baz=16,slow=33						
BOSA	**Boshof**	**98.75**	**143**	LR	LR	09 44 23.3	
	comp=Z,465nm,18.4s,baz=319,slow=37						
PPT2	**Papeete2**	**123.09**	**302**	*e*LR	LR	09 40 52.9	
	comp=Z,135nm,24.2s						
TBI	**Tubuai**	**128.31**	**299**	*e*LR	LR	09 43 17.7	
	comp=Z,205nm,28.0s						
WB0	**Warramunga Arr**	**131.43**	**36**			**PKiKP**	**09 02 56.7**	**-0.3**
WRA	**Warramunga Arr**	**131.59**	**36**	PKP		**PKPdf**	**09 02 56.6**	**+0.3**
	comp=Z,4.7nm,1.2s,baz=359,slow=3.0,SNR=7.8						
WRA	**Warramunga Arr**	**131.59**	**36**			**PKiKP**	**09 02 57.6**	**+0.3**
ASAR	**Alice Springs**	**135.03**	**38**	PKP		**PKPdf**	**09 03 02.3**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=346,slow=2.5,SNR=8.3						
ASAR	**Alice Springs**	**135.03**	**38**			**PKPdf**	**09 03 02.7**	**-0.1**
SNAA	**Sanae**	**136.40**	**173**	PKiKP		**PKiKP**	**09 03 05.0**	**-0.5**
SNAA	**Sanae**	**136.40**	**173**	PKPdf		**PKiKP**	**09 03 05.0**	**-0.5**
DZM	**Mont Dzumac**	**137.38**	**354**	*e*LR	LR	09 47 32.5	
	comp=Z,201nm,24.5s						
SYO	**Syowa Base**	**139.25**	**152**	⇓*e*X		**Pdif**	**09 00 20.4**	**-1.6**
SYO	**Syowa Base**	**139.25**	**152**	⇑*e*X		**PKPdf**	**09 03 07.4**	**-1.6**
BELA	**Belgrano 2**	**142.64**	**186**			**PKPdf**	**09 03 15.0**	**0.0**
MAW	**Mawson**	**143.72**	**140**	PKP		**PKPdf**	**09 03 16.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=305,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**144.78**	**32**	PKP		**PKPdf**	**09 03 20.2**	**+0.2**
	comp=Z,7.3nm,1.1s,baz=270,slow=2.0,SNR=4.2						
STKA	**Stephens Creek**	**144.78**	**32**	PKPdf		**PKPdf**	**09 03 20.6**	**+0.5**
QSPA	**South Pole Qui**	**154.54**	**180**	PKPdf		**PKPdf**	**09 03 34.5**	**0.0**
QSPA						**PKiKP**	**09 03 43.4**	**+0.5**

MAN **12** *09:12:49.0, 6.2°N × 123.9°E, h6km, mb4.3, ML3.1, MS2.9*
DJA **12** *09:12:51.8 ± 3.4, 6.1°N ± 6.1 × 12.1°E ± 7.1°, h12km ± 27km, M4.5/6, mb4.7/4, mB4.9/1, MLv4.4/6, Mw(mB)4.2/1*
NEIC **12** *09:12:55.0 ± 1.8, 6.24°N ± 0.07° × 124.05°E ± 0.07°, h56km ± 5km, mb4.5/33, Error ellipse: s-maj=11.2km s-min=8.7km az=152.0*
IDC **12** *09:12:56.9 ± 3.4, 6.22°N × 124.16°E, h75km ± 32km, mb3.8/11, mb1 4.0/12, mb1mx3.6/43, mbtmp4.2/12, Error ellipse: s-maj=31.6km s-min=11.9km az=75.0*
ISC 12 09:12:51.6 ± 1.3, 6.23°N ± 0.03° × 124.06°E ± 0.04°, h26km ± 9km, n79, σ1 s27/92, mb4.4/26, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.56**	**59**	*e*P		**Pn**	**09 13 02.4**	**-1.6**
SKMP				*e*S		**Sn**	**09 13 10.4**	**-2.0**
KCP	**Kidapawan**	**1.29**	**53**	⇑*i*P		**Pb**	**09 13 14.8**	**-0.5**
KCP				*i* S		**Sb**	**09 13 31.6**	**+0.2**
DDMP	**Don Marcelino,**	**1.65**	**94**	*e*P		**Pb**	**09 13 20.7**	**-0.6**
DDMP				*e*S		**Sb**	**09 13 43.4**	**+1.7**
DAV	**Davao City (W)**	**1.73**	**61**	P		**Pb**	**09 13 22.6**	**-0.1**
	235nm,0.3s,baz=253,slow=9.6,SNR=19							
DAV				S		**Sb**	**09 13 44.6**	**+0.6**
	231nm,0.3s,baz=60,slow=22,SNR=13							
DAV				LR		LR	09 13 51.4	
	comp=Z,596nm,21.3s,baz=178,slow=33							
DAV	**Davao City (W)**	**1.73**	**61**			**Pb**	**09 13 22.1**	**-0.6**
DAV				Sn		**Sb**	**09 13 46.3**	**+2.2**
PAGZ	**Pagadian**	**1.75**	**337**	*e*P		**Pn**	**09 13 19.3**	**-0.9**
PAGZ				*e*S		**Sn**	**09 13 41.1**	**-0.5**
BUKP	**Musuan**	**1.92**	**31**	*e*P		**Pb**	**09 13 24.0**	**-2.0**
BUKP				*e*S		**Sb**	**09 13 49.8**	**+0.2**
ZCP	**Zamboanga City**	**2.09**	**290**	⇑*i*P		**Pn**	**09 13 23.7**	**-1.2**
ZCP				*i* S		**Sn**	**09 13 48.8**	**-1.4**
MATI	**Mati**	**2.30**	**72**	*e*P		**Pn**	**09 13 28.8**	**+0.9**
MATI				*e*S		**Sb**	**09 14 04.0**	**+3.5**
CGP	**Cagayan de Oro**	**2.30**	**16**	⇓*e*P		**Pb**	**09 13 30.6**	**-1.9**
CGP				*i* S		**Sb**	**09 13 59.4**	**-1.2**
SGSI	**Sangihe**	**2.92**	**150**	P		**Pb**	**09 13 38.9**	**-4.1**
MYLDM	**Lahad Datu**	**5.63**	**260**	Pn		**Pn**	**09 14 14.7**	**+1.1**
GTOI	**Gorontalo**	**5.65**	**191**	P		**Pn**	**09 14 11.8**	**-2.1**
	0.3nm1μm54nm,0.5s							
LUWI	**Luwuk**	**7.33**	**190**			**Pn**	**09 14 39.8**	**+2.7**
KKM	**Kota Kinabalu**	**7.80**	**269**			**Pn**	**09 14 45.9**	**+2.3**
NLAI	**Namlea**	**9.88**	**162**	P		Pn	09 15 24.0	+12
NACB	**Ninganchiao**	**18.00**	**353**	P		**P**	**09 17 02.4**	**+2.0**
NACB				IAmb		IAmb	09 17 12.3	
	comp=Z,64nm,1.4s							
GENI	**Genyem**	**18.32**	**118**	P		**P**	**09 17 06.5**	**+2.5**
	comp=Z,98nm,0.8s							
JAY	**Jayapura**	**18.75**	**117**	P		**Pn**	**09 17 09.7**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=289,slow=9.3,SNR=9.8							
MTN	**Manton Dam**	**20.21**	**160**	P		Pn	09 17 25.8	-0.8
CISI	**Cisompet, Garu**	**21.21**	**230**	P		**P**	**09 17 36.2**	**+0.6**
KNRA	**Kununurra**	**22.25**	**168**	P		**P**	**09 17 46.3**	**-0.4**
KNRA				IAmb		IAmb	09 17 57.8	
	comp=Z,27nm,1.3s							
FITZ	**Fitzroy Crossi**	**24.22**	**176**	P		**P**	**09 18 06.8**	**+0.5**
	comp=Z,4.0nm,0.5s,baz=12,slow=8.5,SNR=23							
FITZ	**Fitzroy Crossi**	**24.22**	**176**	P		**P**	**09 18 06.9**	**+0.5**
FITZ				IAmb		IAmb	09 18 08.3	
	comp=Z,16nm,1.4s							
RPSI	**Rantau Prapat**	**25.30**	**263**	P		**P**	**09 18 16.7**	**+0.5**
**

FINES	**FINESS Array B**	**88.39**	**332**	P	**P**	**09 25 40.0**	**-1.1**
TOA0	**Torodi Ar. Sit**	**119.61**	**289**	PKPdf	**PKPdf**	**09 31 38.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**119.61**	**289**	PKP	**PKPdf**	**09 31 38.6**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=32,slow=2.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**119.61**	**289**		**PKPdf**	**09 31 38.9**	**-1.3**
LC01	**Cunco**	**144.43**	**158**	PKPdf	**PKPab**	**09 32 23.9**	**-0.3**
ACON	**Acoyapa**	**145.77**	**58**		**PKPbc**	**09 32 29.2**	**-0.1**
BO02	**Sierra Bellavi**	**148.44**	**156**	PKPbc	**PKPbc**	**09 32 36.4**	**-0.1**
MT02	**Curacav**	**149.62**	**154**	PKPbc	**PKPbc**	**09 32 38.4**	**-1.0**
AGPR	**Aguadilla, PR**	**153.10**	**24**	PKPbc	**PKPbc**	**09 32 45.7**	**-2.1**
AC05	**El Transito**	**153.74**	**151**	PKPbc	**PKPbc**	**09 32 48.7**	**-0.5**

*TRN **12** 09:28:18.1, 16.˝76N×60.˝59W, h23km, MD4.2*
*NEIC **12** 09:28:21.3±2.1, 16.˝71N±0.˝03×60.˝62W±0.˝09, h34km±12km, mb4.2/5, Error ellipse: s-maj=13.2km s-min=3.3km az=78.0*
ISC 12 09:28:18.8±1.9**, 16.˝76N**±0.˝04×**60.˝57W**±0.˝06**, h17**km±10km**, n84**,σ1=**05**/118**, 2C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.93**	**252**	*eP*		**Pg**	**09 28 36.9**	**+0.1**
ABD				*eS*		**Sn**	**09 28 51.3**	**+1.3**
MAGL	**Barre de l'ile**	**1.06**	**220**	*eP*		**Pb**	**09 28 38.4**	**-0.4**
MAGL				*eS*		**Sg**	**09 28 54.5**	**+1.2**
ANBD	**Bethesda, Anti**	**1.18**	**284**	*eP*		**Pn**	**09 28 40.4**	**-0.2**
ANBD				*eS*		**Sn**	**09 28 56.3**	**+0.1**
CBF	**Ff, Capester**	**1.21**	**235**	*eP*		**Pn**	**09 28 41.0**	**0.0**
CBE				*eS*		**Sg**	**09 28 59.0**	**+0.9**
BPA	**Boggy Peak**	**1.26**	**283**	*eP*		**Pn**	**09 28 41.7**	**-0.1**
BPA				*eS*		**Sg**	**09 28 59.2**	**-0.6**
TDBA	**Terre de Bas,**	**1.37**	**229**	*eP*		**Pb**	**09 28 44.2**	**+0.2**
TDBA				*eS*		**Sg**	**09 29 02.2**	**-0.9**
TBG	**Guadaloupe-3**	**1.37**	**229**	*eP*		**Pn**	**09 28 43.5**	**+0.3**
TBG				*eS*		**Sg**	**09 29 02.0**	**-1.2**
ANWB	**Willy Bob**	**1.47**	**308**	*eP*		**Pn**	**09 28 44.4**	**-0.2**
ANWB				*eS*		**Sn**	**09 29 04.0**	**+0.7**
ANWB	**Willy Bob**	**1.47**	**308**			**Pn**	**09 28 43.9**	**-0.6**
ANWB					Sn	**Sn**	**09 29 02.9**	**-0.5**
DSLB	**Salisbury**	**1.55**	**212**	*eP*		**Pn**	**09 28 45.6**	**-0.1**
DSLB				*eS*		**Sb**	**09 29 06.4**	**-0.1**
MLYT	**Lee's Yard**	**1.55**	**269**	*eP*		**Pb**	**09 28 46.9**	**-0.3**
MLYT				*eS*		**Sb**	**09 29 07.0**	**+0.4**
DLPL	**La Plaine**	**1.56**	**205**	*eP*		**Pn**	**09 28 45.9**	**0.0**
DLPL				*eS*		**Sb**	**09 29 06.3**	**-0.7**
DLPL	**La Plaine**	**1.56**	**205**		Pn	**Pn**	**09 28 45.2**	**-0.6**
DPMT	**Pointe Michel**	**1.68**	**208**	*eP*		**Pb**	**09 28 48.9**	**-0.5**
SVN	**Savane Anatole**	**2.00**	**197**	*eP*		**Pn**	**09 28 51.1**	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.00**	**188**	*eP*		**Pn**	**09 28 51.8**	**0.0**
ILAM				*eS*		**Sn**	**09 29 16.4**	**-0.1**
BAMF	**Morne Balai**	**2.02**	**196**	*eP*		**Pn**	**09 28 51.6**	**-0.5**
CXM	**Morne La Croix**	**2.02**	**197**	*eP*		**Pn**	**09 28 51.9**	**-0.5**
PCM	**Pelee Case Pet**	**2.03**	**198**	*eP*		**Pn**	**09 28 51.6**	**-0.7**
GBMF	**Grand Be**	**2.04**	**196**	*eP*		**Pn**	**09 28 51.9**	**-0.6**
PML	**Morne Lenard**	**2.06**	**197**	*eP*		**Pn**	**09 28 52.2**	**-0.4**
FDF	**Fort de France**	**2.10**	**196**	*eP*		**Pn**	**09 28 52.8**	**-0.4**
FDF				*eS*		**Sn**	**09 29 17.4**	**-1.5**
FDF	**Fort de France**	**2.10**	**196**			**Pn**	**09 28 52.9**	**-0.4**
FDF					Sn	**Sn**	**09 29 17.4**	**-1.5**
SKOC	**St. Kitts, UWI**	**2.13**	**285**	*eP*		**Pn**	**09 28 54.8**	**+1.1**
SKI	**Saint Kitts**	**2.15**	**286**	*eP*		**Pn**	**09 28 53.6**	**-0.3**
SKI				*eS*		**Sn**	**09 29 20.6**	**+0.3**
SKI	**Saint Kitts**	**2.15**	**286**		Pn	**Pn**	**09 28 54.3**	**+0.4**
LPMF	**Morne Lapointe**	**2.21**	**190⇑**	*eP*		**Pn**	**09 28 54.2**	**-0.5**
MVM	**Montagne Vaucl**	**2.22**	**188**	*eP*		**Pn**	**09 28 55.5**	**+0.6**
ZAM	**Aeronautique**	**2.22**	**192⇑**	*eP*		**Pn**	**09 28 54.5**	**-0.5**
TRMF	**Trois Ilets**	**2.26**	**192**	*eP*		**Pn**	**09 28 55.3**	**-0.1**
BIM	**Bigot**	**2.29**	**192**	*eP*		**Pn**	**09 28 56.9**	**+1.1**
BIM				*eS*		**Sn**	**09 29 23.9**	**+0.3**
MPOM	**Morne Pois Mar**	**2.32**	**187**	*eP*		**Pn**	**09 28 56.8**	**+0.5**
MPOM				*eS*		**Sn**	**09 29 23.8**	**-0.6**
SEUS	**St. Eustatius**	**2.42**	**288**	*eP*		**Pn**	**09 28 58.7**	**+1.1**
SEUS				*eS*		**Sn**	**09 29 26.8**	**+0.1**
SEUS	**St. Eustatius**	**2.42**	**288**			**Pn**	**09 28 58.2**	**+0.6**
SEUS					Sn	**Sn**	**09 29 26.9**	**+0.1**
SABA	**Saba**	**2.69**	**289**	*eP*		**Pn**	**09 29 02.1**	**+0.7**
SABA				*eS*		**Sn**	**09 29 33.1**	**-0.5**
SABA	**Saba**	**2.69**	**289**		Pn	**Pn**	**09 29 03.1**	**+1.7**
SMRT	**St. Maarten**	**2.71**	**299**	*eP*		**Pn**	**09 29 02.0**	**+0.3**
SMRT				*eS*		**Sn**	**09 29 33.0**	**-0.9**
SMRT	**St. Maarten**	**2.71**	**299**		Pn	**Pn**	**09 29 01.6**	**-0.1**
SMRT					Sn	**Sn**	**09 29 32.5**	**-1.6**
SLW	**Petit Monier**	**2.75**	**187**	*eP*		**Pn**	**09 29 03.6**	**+1.4**
SLW				*eS*		**Sn**	**09 29 35.6**	**+0.6**
SLAC	**Saint Lucia, A**	**2.87**	**186**	*eP*		**Pn**	**09 29 04.4**	**+0.6**
SLAC				*eS*		**Sn**	**09 29 37.0**	**-1.0**
SLPA	**Patience**	**2.91**	**187**	*eP*		**Pn**	**09 29 06.0**	**+1.6**
SLB	**Belfond**	**2.96**	**189**	*eP*		**Pn**	**09 29 07.1**	**+2.0**
SLB				*eS*		**Sn**	**09 29 40.7**	**+0.6**
SLDE	**Delcer**	**2.98**	**189**	*eP*		**Pn**	**09 29 05.8**	**+0.5**
MCLT	**Moule a Chique**	**3.06**	**187**	*eP*		**Pn**	**09 29 07.9**	**+1.5**
MCLT				*eS*		**Sn**	**09 29 43.2**	**+0.6**
MCLT	**Moule a Chique**	**3.06**	**187**			**Pn**	**09 29 07.9**	**+1.5**
SFAN	**Fancy Village**	**3.41**	**190**	*eP*		**Pn**	**09 29 11.2**	**0.0**
SFAN				*eS*		**Sn**	**09 29 52.0**	**+0.7**
SVV	**Soufriere Volc**	**3.48**	**190**	*eP*		**Pn**	**09 29 14.2**	**+1.9**
SVV				*eS*		**Sn**	**09 29 53.2**	**0.0**
SVCV	**St. Vincent, C**	**3.52**	**189**	*eP*		**Pn**	**09 29 14.3**	**+1.5**
SVCV				*eS*		**Sn**	**09 29 53.9**	**-0.1**
SVB	**Belmont**	**3.53**	**191**	*eP*		**Pn**	**09 29 14.2**	**+1.2**
SVB				*eS*		**Sn**	**09 29 54.6**	**+0.2**
SVB	**Belmont**	**3.53**	**191**			**Pn**	**09 29 11.1**	**-1.9**
BBGH	**Gun Hill**	**3.73**	**165**	*eP*		**Pn**	**09 29 17.0**	**+1.4**
BBGH				*eS*		**Sn**	**09 29 58.5**	**-0.7**
BBGH	**Gun Hill**	**3.73**	**165**		Pn	**Pn**	**09 29 16.5**	**+0.8**
BBGH					Sn	**Sn**	**09 29 57.5**	**-1.8**
BBSP	**Saint Philip**	**3.79**	**163**	*eP*		**Pn**	**09 29 18.4**	**+1.9**
BBSP				*eS*		**Sn**	**09 30 01.4**	**+0.7**
CDVI	**St. Croix**	**4.13**	**284**		Pn	**Pn**	**09 29 22.5**	**+1.4**
GCMP	**Grenada, Carri**	**4.33**	**191**	*eP*		**Pn**	**09 29 25.0**	**+1.1**
GCMP	**Grenada, Carri**	**4.33**	**191**	*eS*		**Sn**	**09 30 13.3**	**-0.8**
GRGR	**Grenville**	**4.72**	**193**	*eP*		**Pn**	**09 29 30.2**	**+0.9**
GRGR	**Grenville**	**4.72**	**193**	*eS*		**Sn**	**09 30 24.3**	**+0.5**
GRGR	**Grenville**	**4.72**	**193**		Pn	**Pn**	**09 29 30.1**	**+0.8**
CUPR	**Culebra, Puert**	**4.75**	**290**		Pn	**Pn**	**09 29 29.7**	**0.0**
MTP	**Monte Pirata**	**4.94**	**286**		Pn	**Pn**	**09 29 32.8**	**+0.5**
HUMP	**Col San Antoni**	**5.22**	**286**			**Pn**	**09 29 37.6**	**+1.4**
CBYP	**Canovanas**	**5.26**	**287**			**Pn**	**09 29 36.2**	**-0.6**
PDPR	**Patillas Dam,**	**5.35**	**284**		Pn	**Pn**	**09 29 36.6**	**-1.3**
IGPR	**InterUniversit**	**5.42**	**284**		Pn	**Pn**	**09 29 39.5**	**+0.6**
TOSP	**Speyside**	**5.43**	**180**	*eP*		**Pn**	**09 29 40.7**	**+1.6**
GCPR	**Guaynabo City**	**5.48**	**287**			**Pn**	**09 29 39.5**	**-0.3**
SJG	**San Juan**	**5.49**	**285**			**Pn**	**09 29 41.0**	**+1.2**
ICMP	**Isla Caja de M**	**5.80**	**282**		Pn	**Pn**	**09 29 45.0**	**+0.9**
OBIP	**Obispado Ponce**	**5.90**	**283**		Pn	**Pn**	**09 29 47.0**	**+1.5**
MLPR	**Magueyes Islan**	**6.30**	**282**		Pn	**Pn**	**09 29 51.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**6.37**	**282**		Pn	**Pn**	**09 29 55.2**	**+3.3**
DR12	**Loma Pena Alta**	**8.63**	**285**		Pn	**Pn**	**09 30 24.6**	**+1.5**
SDDR	**Presa de Saban**	**10.44**	**284**		Pn	**Pn**	**09 30 48.3**	**+0.4**
OCAC	**Ocana**	**15.05**	**237**	*eP*		**P**	**09 31 54.7**	**-1.6**
SJCC	**San Jacinto, C**	**15.76**	**246**	*eP*		**Pn**	**09 32 01.3**	**+1.0**
BRRC	**Barranca, Sant**	**16.03**	**235**	*eP*		**Pn**	**09 32 03.4**	**-0.3**
MTDJ	**Mount Denham**	**16.25**	**278**	P		**Pn**	**09 32 08.2**	**+1.7**
MTDJ					IAmb	IAmb	09 32 21.3	
	comp=Z,32nm,1.1s							
RUSC	**La Rusia**	**16.34**	**230**	*eP*		**Pn**	**09 32 08.3**	**+0.3**
ZARC	**Zaragoza, Cauc**	**16.72**	**238**	*eP*		**Pn**	**09 32 08.2**	**-4.3**
BCIP	**Isla Barro Col**	**20.23**	**250**	P		**P**	**09 32 52.6**	**-0.7**
BCIP					IAmb	IAmb	09 33 05.9	
	comp=Z,10.0nm,1.0s							
OTAV	**Otavalo**	**24.09**	**229**			**P**	**09 33 36.1**	**+1.9**
SAML	**Samuel**	**25.68**	**186**	P		**P**	**09 33 47.8**	**-0.2**
SAML					IAmb	IAmb	09 33 48.8	
	comp=Z,6.7nm,1.4s							
TGUH	**Tegucigalpa,Un**	**25.88**	**268**			**P**	**09 33 50.4**	**+0.3**

*ANF **12** 09:34:10.8±0.6, 41.˝78N×119.˝48W, ML3.3/12, Error ellipse: s-maj=5.5km s-min=4.2km az=73.0*
*REN **12** 09:34:13.7±2.3, 41.˝90N±0.˝03×119.˝63W±0.˝04, h0km±8km, ML3.2/3, ML3.3/40(SEA), Error ellipse: s-maj=4.9km s-min=3.2km az=129.0*
*SEA **12** 09:34:14.2±2.8, 41.˝81N±0.˝04×119.˝67W±0.˝05, h0km±8km, Error ellipse: s-maj=6.2km s-min=4.4km az=214.0*
*NEIC **12** 09:34:15.7±1.8, 41.˝94N±0.˝05×119.˝73W±0.˝03, h15km±7km, Error ellipse: s-maj=6.9km s-min=2.9km az=177.0*
ISC 12 09:34:15.6±1.4**, 41.˝95N**±0.˝03×**119.˝75W**±0.˝03**, h9**km±13km**,**

n43,σ1=55/54, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.41**	**263**			**Pg**	**09 34 23.2**	**-0.5**
MOD						**Sg**	**09 34 30.3**	**+1.2**
K05A	**Summer Lake**	**1.14**	**313**	Pg		**Pn**	**09 34 37.4**	**-0.6**
M04C	**Macdoel**	**1.57**	**264**	P		**Pn**	**09 34 42.4**	**-1.3**
	baz=85,SNR=110							
M04C				S		**Sg**	**09 35 06.7**	**+0.8**
	baz=85							
K04D	**Chiloquin, OR**	**1.63**	**295**	P		**Pn**	**09 34 45.0**	**+0.5**
	baz=114,SNR=29							
K04D				S		**Sg**	**09 35 09.8**	**+1.9**
	baz=114							
J08A	**Circle Bar Ran**	**1.69**	**34**	Pn		**Pn**	**09 34 43.4**	**-2.0**
J05D	**Fort Rock, OR**	**1.72**	**321**	Pn		**Pn**	**09 34 45.7**	**-0.1**
	baz=139,SNR=187							
J05D				Pb		**Pb**	**09 34 47.4**	**-0.1**
	baz=139							
J05D				S		**Sg**	**09 35 12.5**	**+1.6**
	baz=139							
L04D	**Klamath Falls**	**1.92**	**279**	P		**Pn**	**09 34 47.3**	**-1.2**
	baz=98,SNR=54							
L04D				S		**Sg**	**09 35 17.2**	**0.0**
	baz=98							
I07A	**Izee**	**2.13**	**5**	Pn		**Pb**	**09 34 53.3**	**-1.1**
YBH	**Yreka Blue Hor**	**2.22**	**265**	Pn		**Pn**	**09 34 51.2**	**-1.4**
PAHR	**Pah Rah Range**	**2.26**	**173**	Pn		**Pn**	**09 34 52.9**	**-0.4**
O03E	**Paynes Creek**	**2.27**	**224**	P		**Pn**	**09 34 51.2**	**-2.1**
	baz=45,SNR=25							
O03E				Sb		**Sb**	**09 35 24.1**	**-0.8**
	baz=45							
M02C	**Callahan**	**2.39**	**257**	P		**Pn**	**09 34 53.0**	**-2.0**
	baz=77							
N02D	**Trinity Center**	**2.42**	**247**	Pb		**Pn**	**09 34 56.7**	**+1.3**
	baz=67,SNR=15							
N02D				Sb		**Sb**	**09 35 30.8**	**+1.4**
	baz=67							
HUMO	**Hull Mountain**	**2.46**	**286**	Pn		**Pn**	**09 34 54.7**	**-1.3**
WDC	**Whiskeytown Da**	**2.51**	**238**	Pn		**Pn**	**09 34 54.6**	**-1.9**
I05D	**Terrebonne, OR**	**2.65**	**335**	Pb		**Pb**	**09 35 03.4**	**+0.2**
	baz=152,SNR=19							
I05D				Sb		**Sg**	**09 35 42.0**	**+1.3**
	baz=152							
ORV	**Oroville**	**2.74**	**210**	Pn		**Pn**	**09 34 59.9**	**+0.2**
L02E	**Cave Junction**	**2.87**	**275**	P		**Pn**	**09 35 02.6**	**+1.0**
	baz=94,SNR=26							
O02D	**Mt. Diablo Mer**	**2.90**	**233**	Pb		**Pb**	**09 35 05.2**	**-2.3**
	baz=53,SNR=9.1							
O02D				Sb		**Sb**	**09 35 44.0**	**+0.9**
	baz=53							
YERR	**Yerington**	**2.99**	**172**	Pn		**Pn**	**09 35 01.6**	**-1.8**
K02D	**Willamette Mer**	**2.99**	**286**	P		**Pn**	**09 35 04.5**	**+1.3**
	baz=104,SNR=36							
K02D				Sb		**Sg**	**09 35 50.2**	**-1.5**
	baz=104							
AFDM	**Forest Hills D**	**3.14**	**198**	Pn		**Pn**	**09 35 05.2**	**0.0**
KVN	**Kaiserville**	**3.16**	**156**	Pn		**Pn**	**09 35 03.5**	**-2.2**
MFID	**Camas Ranch**	**3.24**	**62**	Pn		**Pn**	**09 35 04.6**	**-2.1**
RYN	**Ryan**	**3.45**	**164**	Pn		**Pn**	**09 35 07.6**	**-2.0**
WAKR	**Walker**	**3.46**	**176**	Pn		**Pn**	**09 35 09.4**	**-0.3**
ELK	**Elko**	**3.61**	**108**	Pn		**Pn**	**09 35 09.6**	**-2.2**
NVAR	**Mina Array Bea**	**3.69**	**162**	Pn		**Pn**	**09 35 12.0**	**-1.0**
NV11	**Mina Array Sit**	**3.73**	**160**	Pn		**Pn**	**09 35 13.1**	**-0.3**
LHV	**Little Huntoon**	**3.82**	**165**	Pn		**Pn**	**09 35 14.0**	**-0.6**
CMB	**Columbia Colle**	**3.94**	**187**	Pn		**Pn**	**09 35 17.0**	**+0.7**
TPH	**Tonopah**	**4.33**	**153**	Pn		**Pn**	**09 35 21.5**	**-0.3**
MDPB	**Devils Postpil**	**4.35**	**173**	Pn		**Pn**	**09 35 21.5**	**-0.6**
R11A	**Troy Canyon, C**	**4.81**	**137**	Sg		**Sb**	**09 36 40.1**	**+1.8**
	baz=320							
R11A	**Troy Canyon, C**	**4.81**	**137**	Pn		**Pn**	**09 35 27.5**	**-0.9**
BGU	**Big Grassy Mou**	**5.16**	**99**	Pn		**Pn**	**09 35 32.1**	**-0.9**
PSUT	**Pine Spring**	**5.66**	**125**	Pn		**Pn**	**09 35 38.6**	**-1.4**
TPNV	**Topopah Spring**	**5.69**	**150**	Sg		**Sb**	**09 37 09.5**	**+6.1**
	baz=333							
TPNV	**Topopah Spring**	**5.69**	**150**	Pn		**Pn**	**09 35 40.1**	**-0.3**
PRN	**Pahroc Range**	**5.81**	**140**	Pn		**Pn**	**09 35 41.6**	**-0.5**
PAGB	**Antelope Grade**	**6.23**	**184**	Pn		**Pn**	**09 35 47.2**	**-0.4**
JLU	**Jordanelle**	**6.40**	**99**	Pn		**Pn**	**09 35 49.7**	**-0.5**
CCUT	**Cedar City**	**6.60**	**130**	Pn		**Pn**	**09 35 52.2**	**-0.8**

*REY **12** 10:07:19.8, 64.˝68N×17.˝46W, h7km*
*IDC **12** 10:07:20.8±0.5, 64.˝61N×17.˝62W, h0km, mb4.1/18, mb1 4.3/22, mb1mx4.0/60, mbtmp4.1/22, ML3.4/4, MS3.1/5, Ms1 3.1/5, ms1mx2.8/47, Error ellipse: s-maj=18.3km s-min=8.7km az=12.0*
*MOS **12** 10:07:20.6±1.0, 64.˝63N×17.˝52W, h10km, mb4.7/50, Error ellipse: s-maj=10.7km s-min=7.3km az=123.3*
*NEIC **12** 10:07:22.5±1.5, 64.˝61N±0.˝09×17.˝6W±0.˝1, h10km±1km, mb4.6/113, Error ellipse: s-maj=14.5km s-min=8.5km az=4.0*
ISC 12 10:07:22.3±0.3**, 64.˝65N**±0.˝02×**17.˝51W**±0.˝02**, h10**km**, n344,**
σ1=36/357, mb4.6/116, MS3.2/7, 28C-2D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**281**	P		**Pg**	**10 07 22.6**	**-2.5**
	baz=269							
IVON				S		**Sg**	**10 07 24.7**	**-2.3**
	baz=269							
IDYN	**Dyngjuhals**	**0.15**	**24**	P		**Pg**	**10 07 22.7**	**-3.0**
	baz=20							
IDYN				S		**Sg**	**10 07 25.0**	**-3.2**
	baz=20							
IDJK	**Dyngjujokull**	**0.19**	**141**	P		**Pg**	**10 07 23.8**	**-2.6**
	baz=150							
IGRF	**Grimsfjall**	**0.27**	**157**	P		**Pg**	**10 07 25.7**	**-2.1**
	baz=162							
IHUS	**Husbondi**	**0.36**	**190**	P		**Pg**	**10 07 27.3**	**-2.2**
	baz=192							
ISKR	**Skrokalda**	**0.39**	**257**	P		**Pg**	**10 07 27.5**	**-2.4**
	baz=254							
IVOT	**Vottur**	**0.41**	**159**	P		**Pg**	**10 07 27.8**	**-2.5**
	baz=163							
IJOK	**Jokulheimar**	**0.46**	**223**	P		**Pg**	**10 07 28.7**	**-2.5**
	baz=223							
IJOK				S		**Sb**	**10 07 36.5**	**-2.8**
	baz=223							
IKRE	**Kreppuhraun**	**0.50**	**74**	P		Pg	10 07 28.4	-3.7
	baz=76							
IKRE				S		**Sg**	**10 07 35.5**	**-3.2**
	baz=76							
IMKO	**Mokollar**	**0.60**	**56**	P		Pg	10 07 30.2	-3.6
	baz=57							
IMKO				S		**Sg**	**10 07 38.9**	**-2.9**
	baz=57							
IIEY	**Innrieyrar**	**0.62**	**206**	P		**Pg**	**10 07 31.4**	**-2.8**
	baz=206							
IIEY				S		**Sg**	**10 07 40.8**	**-1.6**
	baz=206							
IKSK	**Karasker**	**0.67**	**137**	P		**Pg**	**10 07 31.4**	**-3.8**
	baz=140							
IKSK				S		**Sg**	**10 07 41.0**	**-2.9**
	baz=140							
ISVA	**Svartarkot**	**0.70**	**9**	P		Pg	10 07 32.0	-3.7
	baz=7.5							
IKAL	**Kalfafell**	**0.71**	**186**	P		**Pg**	**10 07 33.0**	**-3.0**
	baz=188							
IKAL				S		**Sg**	**10 07 43.5**	**-1.8**
	baz=188							
IVAT	**Vatnsfell**	**0.77**	**233**	P		**Pg**	**10 07 34.2**	**-2.8**
	baz=233							
IVAT				S		**Sg**	**10 07 44.6**	**-2.5**
	baz=233							
IVSH	**V-Sauoahnukur**	**0.78**	**78**	P		Pg	10 07 33.1	-4.2
	baz=79							
IVSH				S		**Sg**	**10 07 43.6**	**-3.9**
	baz=79							
IADA	**Aoalbol**	**0.91**	**65**	P		Pg	10 07 35.2	-4.5
	baz=66							
IADA				S		**Sg**	**10 07 47.5**	**-3.9**
	baz=66							
IHVE	**Hveravellir**	**0.91**	**285**	P		**Pg**	**10 07 35.7**	**-4.0**
	baz=283							
IHVE				S		**Sg**	**10 07 49.1**	**-2.4**
	baz=283							
IMEL	**Melhnausar**	**0.99**	**21**	P		Pg	10 07 36.8	-4.5
	baz=20							
IMEL				S		**Sg**	**10 07 50.9**	**-3.3**
	baz=20							
IREN	**Reynihlio**	**1.03**	**14**	P		Pb	10 07 37.6	-4.6
	baz=13							
ISNB	**Snabyli**	**1.04**	**209**	P		**Pg**	**10 07 38.5**	**-3.7**
	baz=209							
ISLY	**Slysaalda**	**1.09**	**221**	P		**Pg**	**10 07 39.7**	**-3.4**
	baz=221							
IKVO	**Krokottuvotn**	**1.10**	**14**	P		Pb	10 07 38.6	-4.7
	baz=13							
IFED	**Fedgar**	**1.14**	**237**	P		**Pg**	**10 07 40.8**	**-3.4**
	baz=237							
IGRS	**Grimsstaoir**	**1.15**	**30**	P		Pn	10 07 39.2	-5.2
	baz=30							
IRJU	**Rjupnafell**	**1.16**	**207**	P		**Pg**	**10 07 40.9**	**-3.5**
	baz=207							
ISKI	**Skildingahlsh**	**1.24**	**9**	P		Pn	10 07 41.0	-4.7
	baz=8.5							
ISKI				S		**Sb**	**10 07 58.0**	**-3.7**
	baz=8.5							
IGHA	**Grjothals**	**1.25**	**16**	P		Pn	10 07 41.0	-4.8
	baz=16							
IGRA	**Granasstaoir**	**1.27**	**359**	P		Pn	10 07 41.4	-4.6
	baz=358							
BORG	**Borgarnes**	**1.64**	**275**	Pg		**Pn**	**10 07 48.4**	**-2.7**
	36nm,0.3s,baz=89,slow=6.5,SNR=104							
BORG				Lg		Lg	10 08 12.0	
	30nm,0.3s,baz=276,slow=22,SNR=9.0							
BORG	**Borgarnes**	**1.64**	**275**		Pn	**Pn**	**10 07 48.2**	**-2.9**
BORG					Sn	**Sn**	**10 08 10.6**	**-1.7**
ANGG	**Ammassalik, Gr**	**8.53**	**286**		Pn	**Pn**	**10 09 24.7**	**-0.9**
SUMG	**Summit**	**10.95**	**325**	P		**Pn**	**10 10 00.6**	**+1.5**
SUMG	**Summit**	**10.95**	**325**	Pn		**Pn**	**10 10 00.6**	**+1.5**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn		**Pn**	**10 10 09.2**	**-0.6**
	baz=322,slow=13,SNR=22							
ESK	**Eskdalemuir**	**11.75**	**136**	P		**Pn**	**10 10 09.8**	**+0.1**
ESK	**Eskdalemuir**	**11.75**	**136**	Pn		**Pn**	**10 10 09.8**	**+0.1**
DSB	**Dublin**	**12.77**	**148**	Pn		**Pn**	**10 10 23.6**	**-0.1**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn		**Pn**	**10 10 26.9**	**-3.1**
NBO00	**NORSAR Array S**	**13.36**	**93**	Pn		**Pn**	**10 10 29.1**	**-2.5**
NOA	**NORSAR Array B**	**13.54**	**92**	Pn		**Pn**	**10 10 31.0**	**-3.1**
	0.0nm,0.3s,baz=299,slow=13,SNR=4.1							
HFS	**Hagfors**	**15.05**	**93**	Pn		**Pn**	**10 10 53.2**	**-1.5**
	0.1nm,0.3s,baz=317,slow=15,SNR=1.5							
HFS				LR		LR	10 15 50.4	
	comp=Z,71nm,19.8s,baz=309,slow=34							
ARCES	**ARCESS Array B**	**17.13**	**55**	P		**Pn**	**10 11 22.1**	**+0.7**
	baz=263,slow=9.3,SNR=5.5							
MEM	**Membach**	**18.71**	**128**	P		**Pn**	**10 11 41.5**	**+0.6**
BTNL	**Ternell**	**18.77**	**127**	P		**Pn**	**10 11 42.1**	**+0.4**
FINES	**FINESS Array B**	**19.71**	**79**	P		**P**	**10 11 52.0**	**+0.6**
	0.1nm,0.3s,baz=319,slow=8.4,SNR=6.7							
FINES	**FINESS Array B**	**19.71**	**79**	P		**P**	**10 11 52.0**	**+0.6**
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**10 12 02.5**	**+0.2**
	comp=Z,33nm,1.4s							
CLL				*eS*		**S**	**10 15 53.0**	**-0.2**
CLL				LmV			11 44 00.0	
	comp=Z,100nm,20.8s							
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**10 12 02.5**	**+0.2**
CLL				*eS*		**S**	**10 15 53.0**	**-0.2**
CLL				pmax		pmax		
	comp=Z,33nm,1.4s							
CLL	**Collm**	**20.70**	**116**	P		**P**	**10 12 02.8**	**+0.5**
CLL				IAmb		IAmb	10 12 05.9	
	comp=Z,28nm,1.2s							
PBUR	**Paburge**	**21.00**	**96**	*eP*		**P**	**10 12 05.6**

MORC Moravsky Berou 23.70 112 ⇑P **P 10 12 35.2 +1.3**
MORC Moravsky Berou 23.70 112 *e*P **P 10 12 33.3 -0.6**
MORC Moravsky Berou 23.70 112 P **P 10 12 33.6 -0.3**
MORC pmax pmax
comp=Z,24nm,1.5s
MORC Moravsky Berou 23.70 112 P **P 10 12 33.6 -0.3**
MORC IAmb IAmb 10 12 37.6
comp=Z,24nm,1.5s
KRUC Moravsky 23.81 115 *e*P **P 10 12 34.4 -0.6**
NACGM Naroch 23.82 93 *e* **P 10 12 33.0 -2.0**
OKC Ostrava-Krasne 23.89 111 AMS AMS 10 25 10.0
comp=Z,100nm,14.8s
MOA Molln 23.99 119 *e*P **P 10 12 39.1 +2.4**
comp=Z,6.8nm,1.2s
OJC Ojcow 24.26 109 *e*P **P 10 12 38.7 -0.5**
OJC Ojcow 24.26 109 P **P 10 12 38.7 -0.5**
OJC pmax pmax
comp=Z,20nm,1.5s
OJC Ojcow 24.26 109 P **P 10 12 38.7 -0.5**
OJC IAmb IAmb 10 12 43.4
comp=Z,20nm,1.5s
ABTA Abfaltersbach 24.27 123 *e*P **P 10 12 41.6 +2.2**
comp=Z,5.7nm,1.3s
KBA Koelnbreinsper 24.29 122 *e*P **P 10 12 44.3 +4.7**
comp=Z,6.4nm,1.1s
JAVC Velka Javorina 24.48 113 *e*P **P 10 12 42.3 +1.1**
CONA Conrad Observa 24.53 117 *e*P **P 10 12 42.1 +0.4**
comp=Z,7.5nm,0.9s
CTI Castel Tesino 24.56 125 P **P 10 12 42.2 +0.1**
CTI pmax pmax
comp=Z,20nm,1.4s
CTI Castel Tesino 24.56 125 P **P 10 12 42.2 +0.1**
CTI IAmb IAmb 10 12 47.4
comp=Z,20nm,1.4s
ZOU Zoufplan 24.60 123 P **P 10 12 42.4 -0.1**
ZOU IAmb IAmb 10 12 55.3
comp=Z,17nm,1.3s
CIMO Cimolais 24.62 124 P **P 10 12 43.1 +0.6**
MODS Modra-Piesok 24.71 115 *e*P **P 10 12 43.7 +0.4**
MODS pmax pmax
comp=Z,28nm,1.5s
MODS Modra-Piesok 24.71 115 *e*P **P 10 12 43.7 +0.4**
STAL STALIGIAL 24.76 123 P **P 10 12 43.8 +0.1**
STAL IAmb IAmb 10 12 53.6
comp=Z,15nm,1.3s
PRED Cave del Predi 24.91 122 P **P 10 12 45.8 +0.6**
PRED IAmb IAmb 10 12 54.1
comp=Z,22nm,1.5s
ARSA Arzberg 24.96 118 *e*P **P 10 12 46.4 +0.9**
comp=Z,4.7nm,1.0s
LANS Liptovska Anna 24.96 111 *e*P **P 10 12 47.0 +1.4**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 24.96 111 *e*P **P 10 12 47.0 +1.4**
NIE Niedzica 25.09 109 *e*P **P 10 12 46.1 -0.6**
TEOL Teolo 25.17 126 P **P 10 12 46.0 -1.3**
TEOL IAmb IAmb 10 12 49.5
comp=Z,10.0nm,0.8s
OBKA Obir 25.22 121 *e*P **P 10 12 48.6 +0.7**
comp=Z,5.3nm,1.2s
VYHS Vyhne 25.23 112 *e*P **P 10 12 48.0 0.0**
VYHS pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 25.23 112 *e*P **P 10 12 48.0 0.0**
SOKA Soboth 25.25 120 *e*P **P 10 12 48.6 +0.3**
comp=Z,7.4nm,1.2s
KLMR Klimovskoe 25.61 72 *e*P **P 10 12 49.9 -1.4**
KLMR pmax pmax
comp=Z,25nm,1.5s
KLMR Klimovskoe 25.61 72 *e*P **P 10 12 49.9 -1.4**
KLMR AMP 10 12 54.1
comp=Z,25nm,1.5s
KWP Kalwaria Pacla 25.91 106 P **P 10 12 55.5 +1.4**
KWP pmax pmax
comp=Z,50nm,1.2s
KWP Kalwaria Pacla 25.91 106 P **P 10 12 55.5 +1.4**
SCHQ Schefferville 26.03 271 P **P 10 12 55.2 +0.1**
comp=Z,12nm,0.9s,baz=36,slow=9.9,SNR=6.5
SCHQ Schefferville 26.03 271 P **P 10 12 56.0 +0.8**
SCHQ IAmb IAmb 10 12 57.3
comp=Z,15nm,1.1s
PSZ Piszkesteto 26.12 112 P **P 10 12 56.9 +0.8**
PSZ pmax pmax
comp=Z,33nm,1.5s
PSZ Piszkesteto 26.12 112 P **P 10 12 56.9 +0.8**
PSZ IAmb IAmb 10 13 02.0
comp=Z,33nm,1.5s
ESDC Sonseca Array 26.24 156 P **P 10 12 57.3 +0.1**
comp=Z,2.5nm,0.8s,baz=348,slow=9.2,SNR=12
ESDC Sonseca Array 26.24 156 P **P 10 12 55.8 -1.4**
KOLS Kolonicke sedl 26.27 108 *e*P **P 10 12 56.9 -0.5**
KOLS pmax pmax
comp=Z,19nm,1.3s
KOLS Kolonicke sedl 26.27 108 *e*P **P 10 12 56.9 -0.5**
LVV L'vov 26.32 104 *e*P **P 10 12 56.6 -1.2**
UZH Uzhgorod 26.52 108 *e*P **P 10 12 58.3 -1.3**
UZH *e* 10 13 02.8
OSSC Osservatorio P 26.64 129 P **P 10 13 03.1 +2.4**
MURB Monte Urbino 27.30 127 P **P 10 13 07.0 +0.2**
MURB IAmb IAmb 10 13 23.9
comp=Z,20nm,1.2s
AKASG Malin Array Be 27.85 98 P **P 10 13 11.4 -0.1**
comp=Z,0.6nm,0.3s,baz=324,slow=9.6,SNR=5.2
AKASG Malin Array Be 27.85 98*ce*P **P 10 13 12.6 +1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 27.85 98 P **P 10 13 10.8 -0.7**
AKBB Malin Array Si 27.85 98 P **P 10 13 10.8 -0.7**
AKBB pmax pmax
comp=Z,8.0nm,1.2s
AKBB Malin Array Si 27.85 98 P **P 10 13 10.8 -0.7**
OBN Obninsk 27.89 84⇑*e*P **P 10 13 10.2 -1.6**
OBN *e* 10 13 57.6
OBN *e*S **S 10 17 55.4 +0.5**
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,44nm,17.0s
BUR08 Bucovina Ar. S 28.50 106 P **P 10 13 18.5 +1.0**
BURAR Bucovina Array 28.53 106 ⇑P **P 10 13 19.2 +1.5**
BURAR Bucovina Array 28.53 106 P **P 10 13 18.0 +0.3**
BZS Buzias 28.68 113 ⇑P **P 10 13 19.6 +0.6**
GZR Gura Zlata 29.33 112 ⇑P **P 10 13 25.7 +0.9**
MDVR Moldovita 29.41 113 ⇑P **P 10 13 26.4 +0.8**
SORM Soroca 29.43 102 ⇑P **P 10 13 26.7 +1.1**
BIZ Bicaz 29.43 106 ⇑P **P 10 13 27.8 +2.2**
VOIR 30.21 109 ⇑P **P 10 13 34.4 +1.8**
PDG Podgorica 30.45 119 ⇓P **P 10 13 34.9 +0.2**
PLOR Plostina 30.53 107 ⇑P **P 10 13 37.1 +1.7**
MLR Muntele Rosu 30.53 108 P **P 10 13 36.3 +0.8**
comp=Z,2.7nm,0.9s,baz=324,slow=17,SNR=3.3
MLR Muntele Rosu 30.53 108 ⇑P **P 10 13 36.7 +1.2**
MLR Muntele Rosu 30.53 108 P **P 10 13 35.7 +0.2**
MLR IAmb IAmb 10 13 40.9
comp=Z,14nm,1.4s
VRI Vrincioaia 30.55 106 ⇑P **P 10 13 37.1 +1.5**
LPSR Galich'ya Gora 30.64 86 *e*P **P 10 13 35.4 -0.8**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
KIRV Kirov 30.99 69*ce*P **P 10 13 39.1 -0.1**
MATE Matera 31.07 124 ⇑P **P 10 13 41.1 +1.0**
VSR Storozhevoye 31.74 88 *e*P **P 10 13 45.1 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD Divnogorie 31.98 88 *e*P **P 10 13 48.3 +0.3**
VORD pmax pmax
comp=Z,20nm,0.6s
BELG Belogornoye 34.49 79 *i*P **P 10 14 08.9 -1.0**
AGG Agios Georgios 34.57 118 P **P 10 14 10.7 -0.1**
AGG pmax pmax
comp=Z,15nm,1.1s
AGG Agios Georgios 34.57 118 P **P 10 14 10.7 -0.1**
AGG IAmb IAmb 10 14 12.2
comp=Z,15nm,1.1s
ARU Arti 36.09 66*c i*P **P 10 14 23.3 -0.4**
ARU 10 15 42.7
ARU S **S 10 20 03.9 +1.3**
ARU SS **SnSn 10 22 28.1 +1.0**
ARU pmax pmax
comp=Z,12nm,2.3s
ARU Arti 36.09 66 P **P 10 14 23.6 -0.1**
NRIK Noril'sk 36.47 35*ce*P **P 10 14 28.2 +1.4**
NRIK pmax pmax
comp=Z,4.0nm,1.0s

MDUB Mudurnu 36.84 107 P **P 10 14 30.9 +0.6**
GOF Gofitskoye 38.12 91⇑*e*P **P 10 14 42.3 +1.3**
GOF pmax pmax
comp=Z,62nm,1.1s
BR131 Keskin Array S 38.48 105 *i*P **P 10 14 44.6 +0.3**
BR131 Keskin Array S 38.48 105 P **P 10 14 44.8 +0.5**
BRTR Keskin Array B 38.48 105 P **P 10 14 45.0 +0.7**
comp=Z,3.3nm,0.9s,baz=336,slow=5.8,SNR=14
BRTR Keskin Array B 38.48 105 P **P 10 14 45.0 +0.7**
BRTR Keskin Array B 38.48 105 P **P 10 14 45.3 +1.0**
KIV Kislovodsk 38.85 92 *e*P **P 10 14 48.4 +1.1**
KIV pmax pmax
comp=Z,26nm,1.1s
SHA1 Shidzhatmaz 39.01 93 *i*P **P 10 14 49.0 +0.2**
KBZ Khabaz 39.12 92 P **P 10 14 50.5 +1.1**
comp=Z,7.9nm,0.9s,baz=310,slow=9.8,SNR=9.8
KBZ LR LR 10 30 42.7
comp=Z,49nm,19.9s,baz=27,slow=36
KBZ Khabaz 39.12 92*ce*P **P 10 14 50.1 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
AKTO Aktyubinsk 40.30 73 P **P 10 14 58.8 -0.4**
comp=Z,3.5nm,1.0s,baz=298,slow=9.6,SNR=7.1
ABKAR Akbulak array 42.00 73 P **P 10 15 13.2 0.0**
ABKAR Akbulak array 42.00 73 P **P 10 15 12.4 -0.7**
TIXI Tiksi 42.05 15*ce*P **P 10 15 13.9 +0.6**
TIXI pmax pmax
comp=Z,75nm,1.3s
TIXI Tiksi 42.05 15 P **P 10 15 13.9 +0.6**
TOLK Toolik Lake Re 42.76 336 P **P 10 15 20.1 +1.0**
BMAR Burnt Mountain 42.91 333 P **P 10 15 21.2 +0.8**
BRVK Borovoye 43.14 62*ce*P **P 10 15 22.6 +0.2**
BRVK pmax pmax
comp=Z,14nm,2.5s
BRVK Borovoye 43.14 62 P **P 10 15 21.9 -0.5**
P53A Whipple 44.08 267 P **P 10 15 31.1 +1.0**
N49A Columbus Grove 44.10 271 P **P 10 15 29.9 -0.3**
O49A Covington 44.77 270 P **P 10 15 35.6 0.0**
Q51A Peebles 45.31 269 P **P 10 15 39.5 -0.4**
Q51A IAmb IAmb 10 15 41.7
comp=Z,12nm,1.0s
ILAR Eielson Array 45.70 332 P **P 10 15 43.5 +0.8**
comp=Z,3.4nm,1.0s,baz=25,slow=5.9,SNR=19
ILAR PcP **PcP 10 17 19.2 -1.1**
comp=Z,1.6nm,1.0s,baz=5.5,slow=2.8,SNR=7.7
ILAR Eielson Array 45.70 332 P **P 10 15 42.8 +0.2**
MDM Murphy Dome 45.79 333 P **P 10 15 45.0 +1.5**
MDM IAmb IAmb 10 15 47.2
comp=Z,9.6nm,1.1s
COLA College 45.79 333 P **P 10 15 44.3 +0.9**
COLA pmax pmax
comp=Z,15nm,1.3s
COLA College 45.79 333 P **P 10 15 44.3 +0.9**
P48A Milroy 45.84 271 P **P 10 15 44.5 +0.4**
P48A IAmb IAmb 10 15 45.6
comp=Z,9.4nm,1.1s
IMAR Indian Mountai 45.87 337 P **P 10 15 46.0 +2.0**
BCAR Beaver Creek A 46.12 329 P **P 10 15 47.2 +1.2**
WCI Wyandotte Cave 47.24 271 P **P 10 15 55.1 0.0**
WCI pmax pmax
comp=Z,15nm,1.0s
WCI Wyandotte Cave 47.24 271 P **P 10 15 55.1 0.0**
BILL Bilibino 47.56 358⇑*e*P **P 10 15 58.8 +1.6**
BILL *e* 10 17 28.4
BILL *e* 10 17 47.4
BILL pmax pmax
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 47.65 51 P **P 10 15 58.3 +0.3**
comp=Z,1.3nm,0.7s,baz=337,slow=9.7,SNR=7.3
ZALV Zalesovo Beam 47.65 51 P **P 10 15 57.4 -0.6**
USIN University of 48.05 272 P **P 10 16 01.5 +0.1**
KURK Kurchatov 48.12 58*ce*P **P 10 16 01.8 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 48.12 58 P **P 10 16 01.4 -0.3**
KURK IAmb IAmb 10 16 03.6
comp=Z,9.0nm,1.0s
PAULI Pauline 48.19 264 P **P 10 16 03.3 +0.8**
V51A Loudon 48.45 267 P **P 10 16 04.7 +0.3**
V51A IAmb IAmb 10 16 07.1
comp=Z,9.3nm,1.1s
U49A Red Boiling Sp 48.46 269 P **P 10 16 05.4 +0.9**
U49A IAmb IAmb 10 16 07.8
comp=Z,6.1nm,1.1s
SLM Saint Louis 48.60 274 P **P 10 16 06.6 +1.1**
SLM pmax pmax
comp=Z,15nm,0.5s
SLM Saint Louis 48.60 274 P **P 10 16 06.6 +1.1**
LAO LASA Array 48.60 293 P **P 10 16 07.3 +1.7**
LAO IAmb IAmb 10 16 25.7
comp=Z,10nm,1.4s
T47A Sharon Grove 48.63 270 P **P 10 16 06.5 +0.6**
CPCT Cooper Cave 48.82 267 P **P 10 16 07.7 +0.4**
CPCT IAmb IAmb 10 16 09.5
comp=Z,7.6nm,1.1s
EGMT Eagleton 48.88 297 P **P 10 16 09.1 +1.4**
HODGE Hodges 48.88 264 P **P 10 16 09.2 +1.4**
W50A Signal Mountai 49.37 268 P **P 10 16 12.7 +1.0**
W50A IAmb IAmb 10 16 14.1
comp=Z,9.4nm,1.0s
V48A Smith Brothers 49.56 269 P **P 10 16 13.6 +0.6**
V48A IAmb IAmb 10 16 19.5
comp=Z,16nm,1.4s
UTMT University of 49.93 272 P **P 10 16 16.8 +1.0**
Y52A Lilburn 49.97 265 P **P 10 16 15.8 -0.3**
Y52A IAmb IAmb 10 16 19.0
comp=Z,9.0nm,1.1s
GOGA Godfrey 50.10 265 P **P 10 16 17.3 +0.1**
GOGA pmax pmax
comp=Z,9.0nm,1.2s
GOGA Godfrey 50.10 265 P **P 10 16 17.2 +0.1**
GOGA IAmb IAmb 10 16 20.3
comp=Z,9.3nm,1.1s
GYA0B ALIBECK ARRAY 50.43 84 P **P 10 16 20.6 +1.0**
S39A Bolivar 50.71 276 P **P 10 16 21.0 -0.7**
RLMT Red Lodge 51.09 295 P **P 10 16 25.9 +1.1**
RLMT IAmb IAmb 10 16 33.2
comp=Z,9.1nm,1.4s
KK31 Karatay Array 51.29 70 P **P 10 16 26.9 +0.9**
KK31 pmax pmax
comp=Z,9.0nm,1.3s
KK31 Karatay Array 51.29 70 P **P 10 16 26.9 +0.9**
KK31 IAmb IAmb 10 16 30.5
comp=Z,8.9nm,1.2s
KKAR Karatay Array 51.29 70 P **P 10 16 26.9 +0.9**
KKAR pmax pmax
comp=Z,9.0nm,1.3s
KKAR Karatay Array 51.29 70 P **P 10 16 26.9 +0.9**
KKAR IAmb IAmb 10 16 30.5
comp=Z,8.9nm,1.2s
KKAR Karatay Array 51.29 70 P **P 10 16 26.5 +0.5**
YNE Yellowstone No 51.47 295 P **P 10 16 28.1 +0.4**
BOZ Bozeman (W) 51.61 297 P **P 10 16 29.3 +0.8**
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 51.61 297 P **P 10 16 29.3 +0.8**
BOZ IAmb IAmb 10 16 30.6
comp=Z,8.0nm,1.1s
U40A Yellville 51.63 275 P **P 10 16 28.1 -0.6**
YMP Mirror Lake Pl 51.76 295 P **P 10 16 31.0 +1.2**
DGZ Jazzator, Alta 52.09 53 *e*P **P 10 16 33.4 +1.3**
DGZ pmax pmax
comp=Z,7.0nm,1.1s
H17A Grant Village 52.21 295 P **P 10 16 35.6 +2.5**
YPP Pitchstone Pla 52.40 295 P **P 10 16 36.2 +1.6**
SEY Seymchan 52.50 6 *i*P **P 10 16 36.2 +1.5**
T35A Sooner Cattle 52.73 279 P **P 10 16 36.2 -0.6**
T35A IAmb IAmb 10 16 37.7
comp=Z,12nm,1.1s
MK31 Makanchi Array 52.74 58*ce*P **P 10 16 36.8 0.0**
MK31 Makanchi Array 52.74 58 P **P 10 16 36.4 -0.3**
MKAR Makanchi Array 52.74 58 P **P 10 16 36.9 +0.2**
comp=Z,2.2nm,0.9s,baz=324,slow=6.0,SNR=9.4
MKAR Makanchi Array 52.74 58 P **P 10 16 36.4 -0.3**
LOHW Long Hollow 52.88 295 P **P 10 16 38.9 +0.8**
FXWY Fox Creek 53.02 295 P **P 10 16 39.4 +0.2**
SNOW Snow King Moun 53.06 295 P **P 10 16 40.5 +1.1**
TOA0 Torodi Ar. Sit 53.13 156 P **P 10 16 38.8 -1.1**
TOA0 IAmb IAmb 10 16 40.0
comp=Z,6.5nm,1.1s
TORD Torodi Ar. Bea 53.13 156 P **P 10 16 39.4 -0.6**
comp=Z,3.9nm,1.0s,baz=337,slow=8.8,SNR=10
TORD Torodi Ar. Bea 53.13 156 P **P 10 16 38.2 -1.7**
BW06 Boulder Array 53.18 293 P **P 10 16 39.7 -0.6**
BW06 IAmb IAmb 10 16 41.8
comp=Z,7.4nm,1.1s
PD31 Pinedale Array 53.18 293 P **P 10 16 39.7 -0.6**
PD31 IAmb IAmb 10 16 41.3
comp=Z,6.1nm,1.1s
PDAR Pinedale Array 53.18 293 P **P 10 16 40.2 -0.1**
comp=Z,3.9nm,0.9s,baz=61,slow=7.0,SNR=22
PDAR Pinedale Array 53.18 293 P **P 10 16 39.6 -0.7**
REDW Red Top Meadow 53.18 295 P **P 10 16 40.3 0.0**
REDW IAmb IAmb 10 16 47.4
comp=Z,7.6nm,1.2s
AAK Ala-Archa 53.27 67*ce*P **P 10 16 42.0 +1.1**
AAK pmax pmax
comp=Z,31nm,1.3s
N23A Red Feather La 53.30 289 P **P 10 16 41.8 +0.4**
N23A IAmb IAmb 10 16 48.4
comp=Z,10nm,1.1s
BOOM Boomskoye usch 53.97 66 P **P 10 16 46.6 +0.6**
BOOM pmax pmax
comp=Z,11nm,1.4s
BOOM Boomskoye usch 53.97 66 P **P 10 16 46.6 +0.6**
BOOM IAmb IAmb 10 16 48.1
comp=Z,11nm,1.4s
BTK Batken 53.97 72 P **P 10 16 46.3 +0.4**
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 53.97 72 P **P 10 16 46.3 +0.4**
CHGR Chuyangaron 54.47 74 P **P 10 16 50.3 +0.6**
GAR Garm 54.66 73 P **P 10 16 51.5 +0.5**
KDJ Kajisay 54.76 65 P **P 10 16 52.3 +0.5**
KDJ pmax pmax
comp=Z,6.0nm,1.1s
KDJ Kajisay 54.76 65 P **P 10 16 52.3 +0.5**
KDJ IAmb IAmb 10 16 53.2
comp=Z,5.5nm,1.1s
HWUT Hardware Ranch 54.95 294 P **P 10 16 53.8 +0.6**
TCUT Toone Canyon 55.31 294 P **P 10 16 56.5 +0.6**
TARG Taragay, Kyrgy 55.34 65 P **P 10 16 56.6 +0.3**
TARG IAmb IAmb 10 16 58.0
comp=Z,8.8nm,1.2s
TLY Talaya 55.41 40 *i*P **P 10 16 56.8 +0.6**
TLY pmax pmax
comp=Z,3.0nm,1.0s
WMOK Wichita Mounta 55.54 279 P **P 10 16 57.6 +0.2**
WMOK pmax pmax
comp=Z,9.0nm,1.4s
WMOK Wichita Mounta 55.54 279 P **P 10 16 57.6 +0.2**
WMOK IAmb IAmb 10 17 02.8
comp=Z,9.4nm,1.4s
P17A Butcher Ranch, 56.45 292 P **P 10 17 04.1 +0.1**
PV22 Blue Mesa, Par 56.46 290 P **P 10 17 05.2 +1.1**
GCPR Guaynabo City 56.47 239 P **P 10 17 04.3 +0.3**
GCPR IAmb IAmb 10 17 07.0
comp=Z,6.2nm,0.9s
ZAK Zakamensk 56.47 41 *e*P **P 10 17 03.6 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
KSH Kashi 56.51 68 P **P 10 17 06.9 +2.6**
KSH pmax pmax
comp=Z,37nm,1.6s
SJG San Juan 56.67 239 LR LR 10 37 59.7
comp=Z,18nm,18.9s,baz=20,slow=32
TMUT Trail Mountain 56.78 292 P **P 10 17 07.3 +0.8**
WMQ Urumqi 57.24 56 *e*P **P 10 17 12.7 +3.3**
ANMO Albuquerque 58.59 286*ce*P **P 10 17 20.1 +1.0**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
R11A Troy Canyon, C 59.33 295 P **P 10 17 24.5 +0.3**
JCT Junction City 59.64 278 P **P 10 17 26.1 -0.2**
JCT pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 59.64 278 P **P 10 17 26.1 -0.2**
SONM Songino Array 59.66 40 P **P 10 17 27.0 +0.7**
comp=Z,1.4nm,1.0s,baz=337,slow=5.7,SNR=5.7
SONM Songino Array 59.66 40 P **P 10 17 27.0 +0.7**
SONM Songino Array 59.66 40 P **P 10 17 26.3 0.0**
KVN Kaiserville 59.69 298 P **P 10 17 26.4 -0.3**
KVN pmax pmax
comp=Z,7.0nm,1.4s
KVN Kaiserville 59.69 298 P **P 10 17 26.4 -0.3**
KVN IAmb IAmb 10 17 32.4
comp=Z,7.3nm,1.4s
U15A North Rim 59.69 291 P **P 10 17 27.4 +0.5**
U15A IAmb IAmb 10 17 27.9
comp=Z,4.4nm,1.0s
ULN Ulaanbaatar 59.81 40*ce*P **P 10 17 29.1 +1.7**
ULN pmax pmax
comp=Z,16nm,2.5s
ULN Ulaanbaatar 59.81 40 P **P 10 17 27.9 +0.5**
ULN IAmb IAmb 10 17 29.7
comp=Z,12nm,1.5s
GDL2 Guadalupe Moun 60.09 282 P **P 10 17 29.4 0.0**
WUAZ Wupatki 60.11 290 P **P 10 17 29.6 0.0**
NIL Nilore 60.46 73 P **P 10 17 31.1 -0.7**
NIL pmax pmax
comp=Z,14nm,1.0s
NIL Nilore 60.46 73 P **P 10 17 31.1 -0.7**
SHPR Sheep Range 60.76 294 P **P 10 17 34.7 +0.7**
SHPR IAmb IAmb 10 17 42.2
comp=Z,8.8nm,1.5s
MNTX Cornudas Mount 60.95 283 P **P 10 17 35.3 +0.1**
X16A Lo Mia Camp, P 61.09 290 P **P 10 17 36.8 +0.5**
X16A IAmb IAmb 10 17 38.5
comp=Z,4.9nm,1.1s
TX31 Lajitas Ar. Si 62.28 280 P **P 10 17 44.9 +0.6**
TX31 IAmb IAmb 10 17 46.7
comp=Z,4.7nm,1.0s
TX32 Lajitas Array 62.28 280 P **P 10 17 44.9 +0.6**
TXAR Lajitas Array 62.28 280 P **P 10 17 44.7 +0.4**
comp=Z,1.8nm,1.0s,baz=45,slow=3.7,SNR=11
TXAR Lajitas Array 62.28 280 P **P 10 17 44.8 +0.5**
TUC Tucson 62.66 288 P **P 10 17 48.2 +1.4**
TUC pmax pmax
comp=Z,7.0nm,1.5s
TUC Tucson 62.66 288 P **P 10 17 48.2 +1.4**
TUC IAmb IAmb 10 17 53.2
comp=Z,6.6nm,1.5s
GTA Gaotai 65.31 49 *e*P **P 10 18 05.1 +0.9**
GTA pP pP 10 18 08.6 +0.8
GTA sP sP 10 18 11.8 +2.6
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,230nm,6.0s
GTA LR LR
comp=N,210nm,19.6s
GTA LR LR
comp=E,250nm,17.5s
GTA LR LR
comp=Z,230nm,18.2s
HHC Hu-ho-hao-te 67.53 40 *e*P **P 10 18 20.6 +2.3**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,420nm,7.5s
ZAIG Zacatecas 67.57 276 P **P 10 18 20.8 +1.8**
ZAIG IAmb IAmb 10 18 23.2
comp=Z,5.8nm,1.1s
SJCC San Jacinto, C 67.61 244 *e*P **P 10 18 18.5 -0.5**
BRRC Barranca, Sant 69.60 242 *e*P **P 10 18 30.8 -0.6**
LZH Lanzhou 69.64 48 *e*P **P 10 18 32.5 +0.8**
LZH pP pP 10 18 35.8 +0.5
LZH sP sP 10 18 38.5 +1.8
LZH pmax pmax
comp=Z,18nm,1.1s
SPBC San Pablo de B 71.07 241 *e*P **P 10 18 41.7 +1.2**
CBOC Ciudad Bolivar 71.62 243 *e*P **P 10 18 44.9 +1.0**
CHIC Chingaza 71.89 241 *e*P **P 10 18 45.4 -0.4**
GUY2C Guyana, Caldas 71.96 242 *e*P **P 10 18 45.6 -0.7**
FLOC Florencia 75.41 241 *e*P **P 10 19 06.1 +0.1**
NJ2 Nanjing 77.75 37 *e*P **P 10 19 18.8 -0.3**
NJ2 pmax pmax
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 84.14 59 P **P 10 19 54.0 +0.6**
comp=Z,0.5nm,0.3s,baz=322,slow=5.6,SNR=8.0
CMAR Chiang Mai Arr 84.14 59*ce*P **P 10 19 53.5 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 84.14 59 P **P 10 19 53.2 -0.2**
ASAR Alice Springs 134.98 38 PKP **PKPdf 10 26 41.8 +0.7**
comp=Z,0.7nm,0.8s,baz=357,slow=3.0,SNR=5.5
ASAR Alice Springs 134.98 38 PKIKP **PKPdf 10 26 41.4 +0.3**
ASAR Alice Springs 134.98 38 **PKPdf 10 26 41.4 +0.3**

IDC **12** *10:09:49.3±1.3, 49°.16N×128°.97W, h0km, mb4.0/3, mb1 4.0/11, mb1mx3.7/54, mbtmp3.8/11, ML3.5/8, MS3.6/7, Ms1 3.6/7, ms1mx3.1/35, Error ellipse: s-maj=25.9km s-min=10.4km az=69.0*

NEIC **12** *10:09:50.5±2.7, 49°.20N±0°.05×128°.96W±0°.10, h10km±2km, mb3.9/38, Mwr3.7(OTT), Error ellipse: s-maj=11.1km s-min=6.9km az=244.0*

PGC **12** *10:09:50.3±5.9, 49°.11N×129°.05W, h10km, mb4.0, MLSn3.1/32, Mw3.7/32, 211km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*

ANF **12** *10:09:52.8±1.5, 49°.11N×128°.80W, h10km, Error ellipse: s-maj=16.2km s-min=7.8km az=144.0*

ISC 12 10:09:49.8±3.9, 49°.17N±0°.05×129°.03W±0°.06, h8km±26km, n226, σ1§43/255, mb4.0/6, MS3.7/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.22**	**182**	P	Pb	10 10 01.9	-11
KEMF				S	Sb	10 10 13.4	-15
BPBC	**Brooks Peninsu**	**1.28**	**39**	P	**Pn**	**10 10 12.9**	**-1.2**
BPBC	**Brooks Peninsu**	**1.28**	**39**		**Pn**	**10 10 12.9**	**-1.2**
EDB	**Eliza Dome**	**1.43**	**60**	Pn	**Pn**	**10 10 14.7**	**-1.3**
NC89	**ODP889**	**1.52**	**108**	Pn	**Pn**	**10 10 14.3**	**-2.8**
NC89	**ODP889**	**1.52**	**108**	Pn	**Pn**	**10 10 14.3**	**-2.8**
FHRB	**Fair Harbour**	**1.53**	**54**	Pn	**Pn**	**10 10 16.1**	**-1.2**
FHRB	**Fair Harbour**	**1.53**	**54**	Pn	**Pn**	**10 10 16.1**	**-1.2**
HOLB	**Holberg**	**1.59**	**21**	Pn	**Pn**	**10 10 16.5**	**-1.7**
HOLB				Sn	**Sn**	**10 10 36.5**	**-2.4**
HOLB	**Holberg**	**1.59**	**21**	Pn	**Pn**	**10 10 16.5**	**-1.7**
HOLB				Sn	**Sn**	**10 10 36.5**	**-2.4**
ETB	**Estevan Point**	**1.65**	**82**	Pn	**Pn**	**10 10 17.4**	**-1.5**
MAYB	**Maynard**	**1.73**	**43**	Pn	**Pn**	**10 10 19.2**	**-1.1**
MAYB	**Maynard**	**1.73**	**43**	Pn	**Pn**	**10 10 19.2**	**-1.1**
PHC	**Port Hardy**	**1.85**	**33**	Pn	**Pn**	**10 10 21.1**	**-0.8**
WOSB	**Woss**	**1.88**	**57**	Pn	**Pn**	**10 10 21.8**	**-0.5**
WOSB	**Woss**	**1.88**	**57**	Pn	**Pn**	**10 10 21.8**	**-0.5**
TLCB	**Telegraph Cove**	**1.98**	**45**	Pn	**Pn**	**10 10 22.9**	**-0.6**
TLCB	**Telegraph Cove**	**1.98**	**45**	Pn	**Pn**	**10 10 22.9**	**-0.6**
NCBC	**Barkley Canyon**	**2.03**	**110**	Sn	**Sn**	**10 10 46.9**	**-2.7**
NCBC	**Barkley Canyon**	**2.03**	**110**	Sn	**Sn**	**10 10 46.9**	**-2.7**
GDR	**Gold River**	**2.05**	**71**	Pn	**Pn**	**10 10 23.5**	**-1.0**
TOFB	**Tofino**	**2.05**	**89**	Pn	**Pn**	**10 10 22.6**	**-1.9**
TOFB				Sn	**Sn**	**10 10 48.9**	**-1.3**
TOFB	**Tofino**	**2.05**	**89**	Pn	**Pn**	**10 10 22.6**	**-1.9**
TOFB				Sn	**Sn**	**10 10 48.9**	**-1.3**
NCRB	**Newcastle Ridg**	**2.29**	**56**	Pn	**Pn**	**10 10 28.0**	**0.0**
NCRB	**Newcastle Ridg**	**2.29**	**56**	Pn	**Pn**	**10 10 28.0**	**0.0**
BTB	**Buttle Lake**	**2.31**	**81**	Pn	**Pn**	**10 10 27.3**	**-1.0**
SPLB	**Strathcona Par**	**2.32**	**70**	Pn	**Pn**	**10 10 27.7**	**-0.5**
SPLB	**Strathcona Par**	**2.32**	**70**	Pn	**Pn**	**10 10 27.7**	**-0.5**
OZB	**Mount Ozzard**	**2.33**	**94**	Pn	**Pn**	**10 10 26.1**	**-2.3**
OZB				Sn	**Sn**	**10 10 55.4**	**-2.0**
CBB	**Campbell River**	**2.54**	**69**	Pn	**Pn**	**10 10 31.1**	**-0.1**
BFSB	**Bamfield**	**2.58**	**96**	Pn	**Pn**	**10 10 29.3**	**-2.5**
BFSB				Sn	**Sn**	**10 10 59.2**	**-4.3**
B928	**Bamfield**	**2.59**	**96**	Pn	**Pn**	**10 10 29.1**	**-2.7**
B928				Sn	**Sn**	**10 11 01.3**	**-2.1**
B928	**Bamfield**	**2.59**	**96**	Pn	**Pn**	**10 10 29.1**	**-2.7**
B928				Sn	**Sn**	**10 11 01.3**	**-2.1**
B927	**Port Alberni**	**2.77**	**87**	Pn	**Pn**	**10 10 33.0**	**-0.8**
B927	**Port Alberni**	**2.77**	**87**	Pn	**Pn**	**10 10 33.5**	**-0.8**
MGB	**Mount Grey**	**2.86**	**92**	Pn	**Pn**	**10 10 33.9**	**-1.8**
MGB				Sn	**Sn**	**10 11 09.1**	**-1.2**
TXB	**Texada**	**3.04**	**78**	Pn	**Pn**	**10 10 37.8**	**-0.5**
BBB	**Bella Bella**	**3.08**	**11**	Pn	**Pn**	**10 10 38.3**	**-0.3**
	16nm,0.3s,baz=206,slow=14,SNR=87						
BBB				Sn	**Sn**	**10 11 15.5**	**-0.1**
	17nm,0.3s,baz=313,slow=19,SNR=8.2						
BBB	**Bella Bella**	**3.08**	**11**	Pn	**Pn**	**10 10 37.6**	**-1.0**
BBB	**Bella Bella**	**3.08**	**11**	Pn	**Pn**	**10 10 38.1**	**-0.5**
BBB				Sn	**Sn**	**10 11 15.0**	**-0.6**
GHNB	**Nanoose**	**3.14**	**86**	Pn	**Pn**	**10 10 39.3**	**-0.3**
GHNB				Sn	**Sn**	**10 11 17.7**	**+0.5**
GHNB	**Nanoose**	**3.14**	**86**	Pn	**Pn**	**10 10 39.3**	**-0.3**
GHNB				Sn	**Sn**	**10 11 17.7**	**+0.5**
B926	**Mesachie Lake**	**3.24**	**94**	Pn	**Pn**	**10 10 39.9**	**-1.0**
B926				Sn	**Sn**	**10 11 17.8**	**-1.9**
B926	**Mesachie Lake**	**3.24**	**94**	Pn	**Pn**	**10 10 39.9**	**-1.0**
B926				Sn	**Sn**	**10 11 17.8**	**-1.9**
NLLB	**Nanaimo Lost L**	**3.31**	**87**	Pn	**Pn**	**10 10 41.5**	**-0.3**
NLLB				Sn	**Sn**	**10 11 21.7**	**+0.5**
NLLB	**Nanaimo Lost L**	**3.31**	**87**	Pn	**Pn**	**10 10 41.5**	**-0.3**
NLLB				Sn	**Sn**	**10 11 21.7**	**+0.5**
SHB	**Sechelt**	**3.40**	**81**	Pn	**Pn**	**10 10 42.4**	**-0.7**
OBC	**Olympics--Boni**	**3.48**	**107**	Pn	**Pn**	**10 10 43.0**	**-1.2**
SOKB	**Sooke**	**3.62**	**100**	Pn	**Pn**	**10 10 43.8**	**-2.3**
SOKB				Sn	**Sn**	**10 11 26.7**	**-2.4**
SOKB	**Sooke**	**3.62**	**100**	Pn	**Pn**	**10 10 43.8**	**-2.3**
SOKB				Sn	**Sn**	**10 11 26.7**	**-2.4**
GOBB	**Galiano Island**	**3.63**	**91**	Pn	**Pn**	**10 10 45.9**	**-0.4**
GOBB	**Galiano Island**	**3.63**	**91**	Pn	**Pn**	**10 10 45.9**	**-0.4**
STW	**Striped Peak**	**3.69**	**104**	Pn	**Pn**	**10 10 46.5**	**-1.0**
B009	**North Saanich**	**3.71**	**96**	Pn	**Pn**	**10 10 46.5**	**-0.9**
B009				Sn	**Sn**	**10 11 30.8**	**-0.5**
B009	**North Saanich**	**3.71**	**96**	Pn	**Pn**	**10 10 46.5**	**-0.9**
B009				Sn	**Sn**	**10 11 30.8**	**-0.5**
B010	**North Saanich**	**3.71**	**96**	Pn	**Pn**	**10 10 45.9**	**-1.5**
B010				Sn	**Sn**	**10 11 30.4**	**-0.9**
B010	**North Saanich**	**3.71**	**96**	Pn	**Pn**	**10 10 45.9**	**-1.5**
B010				Sn	**Sn**	**10 11 30.4**	**-0.9**
PGC	**Sidney**	**3.71**	**96**	Pn	**Pn**	**10 10 45.8**	**-1.6**
PGC				Sn	**Sn**	**10 11 30.8**	**-0.5**
PGC	**Sidney**	**3.71**	**96**	Pn	**Pn**	**10 10 45.8**	**-1.6**
PGC				Sn	**Sn**	**10 11 32.7**	**+1.4**
PA02	**PA02 Ocean**	**3.72**	**96**	Sn	**Sn**	**10 11 29.9**	**-1.4**
PA02	**PA02 Ocean**	**3.72**	**96**	Sn	**Sn**	**10 11 29.9**	**-1.4**
PA12	**PA12 Sannich**	**3.72**	**96**	Pn	**Pn**	**10 10 45.8**	**-1.6**
PA12	**PA12 Sannich**	**3.72**	**96**	Pn	**Pn**	**10 10 45.8**	**-1.6**
B011	**North Saanich**	**3.72**	**96**	Pn	**Pn**	**10 10 45.9**	**-1.5**
B011				Sn	**Sn**	**10 11 29.9**	**-1.4**
B011	**North Saanich**	**3.72**	**96**	Pn	**Pn**	**10 10 45.9**	**-1.5**
B011				Sn	**Sn**	**10 11 29.9**	**-1.4**
PA04	**PA04 Cage**	**3.72**	**96**	Pn	**Pn**	**10 10 46.6**	**-0.9**
PA04	**PA04 Cage**	**3.72**	**96**	Pn	**Pn**	**10 10 46.6**	**-0.9**
PA03	**PA03 Flamable**	**3.72**	**96**	Pn	**Pn**	**10 10 46.7**	**-0.7**
PA03	**PA03 Flamable**	**3.72**	**96**	Pn	**Pn**	**10 10 46.7**	**-0.7**
BIB	**Bowen Island**	**3.75**	**84**	Pn	**Pn**	**10 10 47.5**	**-0.4**
OSD	**Olympics--Snow**	**3.79**	**109**	Pn	**Pn**	**10 10 47.7**	**-0.9**
WPB	**Watts Point**	**3.83**	**80**	Pn	**Pn**	**10 10 48.8**	**-0.2**
VGZ	**Gonzales**	**3.85**	**99**	Pn	**Pn**	**10 10 47.2**	**-2.0**
VGZ				Sn	**Sn**	**10 11 32.3**	**-2.2**
NLWA	**Neilton Lookou**	**3.88**	**115**	Pn	**Pn**	**10 10 48.0**	**-1.7**
NLWA				Sn	**Sn**	**10 11 32.3**	**-3.1**
SNB	**Saturna Island**	**3.88**	**94**	Pn	**Pn**	**10 10 49.2**	**-0.5**
SNB				Sn	**Sn**	**10 11 33.2**	**-2.2**
BUTB	**Butedale**	**3.92**	**5**	Pn	**Pn**	**10 10 49.0**	**-1.3**
BUTB				Sn	**Sn**	**10 11 34.2**	**-2.3**
WISH	**Wishkah**	**4.07**	**118**	Pn	**Pn**	**10 10 52.7**	**+0.4**
WISH	**Wishkah**	**4.07**	**118**	Pn	**Pn**	**10 10 52.7**	**+0.4**
WSLR	**Whistler**	**4.08**	**74**	Pn	**Pn**	**10 10 52.4**	**-0.1**
WSLR	**Whistler**	**4.08**	**74**	Pn	**Pn**	**10 10 52.4**	**-0.1**
MCW	**Mount Constitu**	**4.12**	**94**	Pn	**Pn**	**10 10 52.3**	**-0.7**
BLN	**Blyn Mountain**	**4.18**	**104**	Pn	**Pn**	**10 10 52.5**	**-1.4**
A04D	**Lummi Island**	**4.19**	**94**	P	**Pn**	**10 10 54.8**	**+0.9**
	baz=278						
A04D				S	**Sn**	**10 11 44.2**	**+1.1**
	baz=278						
BNKB	**Banks Island**	**4.21**	**353**	Pn	**Pn**	**10 10 52.4**	**-1.8**
BNKB				Sn	**Sn**	**10 11 40.2**	**-3.3**
HDW	**Hoodsport**	**4.26**	**109**	Pn	**Pn**	**10 10 54.1**	**-0.9**
D03D	**Eldon**	**4.28**	**110**	P	**Pn**	**10 10 54.4**	**-0.8**
	baz=294						
D03D				S	**Sn**	**10 11 43.5**	**-1.8**
	baz=294						
GNW	**Green Mountain**	**4.43**	**109**	Sn	**Sn**	**10 11 47.3**	**-1.8**
BNAB	**Bonilla**	**4.45**	**348**	Pn	**Pn**	**10 10 54.6**	**-2.8**
BNAB	**Bonilla**	**4.45**	**348**	Pn	**Pn**	**10 10 54.6**	**-2.8**
E03A	**Lebam**	**4.52**	**123**	Pn	**Pn**	**10 10 58.9**	**+0.5**
E03A				Sn	**Sn**	**10 11 49.0**	**-2.1**
VDB	**Vedder Mountai**	**4.55**	**89**	Pn	**Pn**	**10 10 58.3**	**-0.6**
B05A	**Bryant**	**4.68**	**99**	P	**Pn**	**10 10 59.9**	**-0.7**
	baz=283						
B05A				S	**Sn**	**10 11 55.3**	**+0.2**
	baz=283						
MBW	**Mount Baker**	**4.71**	**92**	Pn	**Pn**	**10 11 01.1**	**-0.1**
JCW	**Jim Creek**	**4.80**	**99**	Pn	**Pn**	**10 11 02.2**	**-0.1**
LLLB	**Lillooet**	**4.84**	**70**	Pn	**Pn**	**10 11 03.8**	**+0.8**
LLLB	**Lillooet**	**4.84**	**70**	Pn	**Pn**	**10 11 03.8**	**+0.8**
UBRB	**Upper Baezaeko**	**4.86**	**38**	Pn	**Pn**	**10 11 05.2**	**+1.9**
UBRB	**Upper Baezaeko**	**4.86**	**38**	Pn	**Pn**	**10 11 05.2**	**+1.9**
KITB	**Kitimat**	**4.92**	**3**	Pn	**Pn**	**10 11 03.7**	**-0.3**
HOPB	**Hope**	**4.99**	**85**	Pn	**Pn**	**10 11 05.0**	**+0.2**
HOPB	**Hope**	**4.99**	**85**	Pn	**Pn**	**10 11 05.0**	**+0.2**
RPW	**Rockport**	**5.02**	**95**	Pn	**Pn**	**10 11 04.8**	**-0.6**
B06A	**Marblemount**	**5.02**	**95**	Pn	**Pn**	**10 11 06.1**	**+0.8**
B06A	**Marblemount**	**5.02**	**95**	Pn	**Pn**	**10 11 06.5**	**+1.1**
D05A	**Enumclaw**	**5.11**	**110**	Pn	**Pn**	**10 11 06.2**	**-0.4**
D05A	**Enumclaw**	**5.11**	**110**	Pn	**Pn**	**10 11 06.0**	**-0.6**
D05A				Sn	**Sn**	**10 12 06.1**	**+0.4**
LON	**Longmire**	**5.42**	**114**	Pn	**Pn**	**10 11 11.0**	**+0.1**
LON				Sn	**Sn**	**10 12 12.6**	**-0.8**
F04A	**Amboy**	**5.52**	**123**	Pn	**Pn**	**10 11 13.3**	**+1.1**
LTY	**Liberty**	**5.90**	**106**		**Pn**	**10 11 17.9**	**+0.3**
COR	**Corvallis**	**6.03**	**137**	Pn	**Pn**	**10 11 19.6**	**+0.4**
PNT	**Penticton**	**6.17**	**85**	Pn	**Pn**	**10 11 21.1**	**0.0**
H04D	**Lebanon**	**6.34**	**135**	P	**Pn**	**10 11 24.4**	**+1.0**
	baz=319						
B08A	**Colville Reser**	**6.46**	**94**	Pn	**Pn**	**10 11 25.6**	**+0.4**
H04A	**Detroit Lake**	**6.48**	**131**		**Pn**	**10 11 25.8**	**+0.3**
E07A	**Sunnyside**	**6.70**	**109**	Pn	**Pn**	**10 11 28.7**	**+0.3**
I03D	**Drain, OR**	**6.73**	**142**	P	**Pn**	**10 11 28.5**	**-0.3**
	baz=326						
HAWA	**Hanford**	**6.97**	**110**	Pn	**Pn**	**10 11 32.9**	**+0.7**
I04A	**Tendick Farm,**	**7.05**	**137**	P	**Pn**	**10 11 33.5**	**+0.2**
	baz=322						
C09A	**Chrisman Ranch**	**7.28**	**97**	Pn	**Pn**	**10 11 36.5**	**+0.2**
K02D	**Willamette Mer**	**7.47**	**148**	P	**Pn**	**10 11 38.9**	**-0.2**
	baz=332						
J04D	**Umpqua Nationa**	**7.62**	**138**	P	**Pn**	**10 11 42.6**	**+1.3**
	baz=323						
HUMO	**Hull Mountain**	**7.81**	**145**	Pn	**Pn**	**10 11 45.4**	**+1.8**
G08A	**Pilot Rock**	**7.87**	**116**	Pn	**Pn**	**10 11 45.6**	**+0.9**
NEW	**Newport**	**7.93**	**92**	P	**Pn**	**10 11 45.5**	**+0.2**
	baz=281						
NEW	**Newport**	**7.93**	**92**		**Pn**	**10 11 45.7**	**+0.4**
L02E	**Cave Junction**	**7.97**	**150**	P	**Pn**	**10 11 46.0**	**+0.1**
	baz=333						
J05D	**Fort Rock, OR**	**7.99**	**135**	P	**Pn**	**10 11 48.3**	**+2.1**
	baz=320						
L04D	**Klamath Falls**	**8.39**	**143**	P	**Pn**	**10 11 52.7**	**+0.9**
	baz=328						
KRMB	**Red Mountain**	**8.45**	**153**	Pn	**Pn**	**10 11 52.6**	**+0.1**
K05A	**Summer Lake**	**8.58**	**136**	Pn	**Pn**	**10 11 55.7**	**+1.4**
YBH	**Yreka Blue Hor**	**8.66**	**147**	Pn	**Pn**	**10 11 56.8**	**+1.5**
	0.3nm,0.3s,baz=339,slow=12,SNR=31						
YBH	**Yreka Blue Hor**	**8.66**	**147**		**Pn**	**10 11 56.9**	**+1.6**
M02C	**Callahan**	**8.91**	**148**	P	**Pn**	**10 12 00.2**	**+1.4**
	baz=333,SNR=8.3						
M04C	**Macdoel**	**8.94**	**143**	P	**Pn**	**10 12 00.6**	**+1.3**
	baz=328,SNR=12						
KHMM	**Horse Mountain**	**9.10**	**154**	Pn	**Pn**	**10 12 01.3**	**-0.1**
DLBC	**Dease Lake**	**9.31**	**357**	Pn	**Pn**	**10 12 04.8**	**+0.6**
	0.2nm,0.3s,baz=179,slow=12,SNR=2.0						
DLBC				LR	LR	10 16 00.9	
	comp=Z,156nm,20.4s,baz=166,slow=40						
DLBC	**Dease Lake**	**9.31**	**357**	P	**Pn**	**10 12 05.2**	**+0.9**
N02D	**Trinity Center**	**9.33**	**149**	P	**Pn**	**10 12 06.0**	**+1.4**
	baz=333,SNR=6.7						
J08A	**Circle Bar Ran**	**9.33**	**125**	Pn	**Pn**	**10 12 06.6**	**+2.0**
MOD	**Modoc Plateau**	**9.49**	**137**	Pn	**Pn**	**10 12 08.6**	**+1.7**
WDC	**Whiskeytown Da**	**9.74**	**149**	Pn	**Pn**	**10 12 11.6**	**+1.5**
PLID	**Pearl Lake**	**9.77**	**110**	Pn	**Pn**	**10 12 11.4**	**+0.7**
JTMT	**Jette**	**9.90**	**93**	Pn	**Pn**	**10 12 12.6**	**+0.2**
WALA	**Waterton Lakes**	**9.92**	**85**	Pn	**Pn**	**10 12 11.9**	**-0.8**
O02D	**Mt. Diablo Mer**	**10.02**	**151**	P	**Pn**	**10 12 15.3**	**+1.2**
	baz=336						
KCPM	**Cahto Peak**	**10.24**	**156**	Pn	**Pn**	**10 12 16.9**	**-0.3**
O03E	**Paynes Creek**	**10.25**	**147**	P	**Pn**	**10 12 18.8**	**+1.7**
	baz=332						
MSO	**Missoula**	**10.38**	**97**	P	**Pn**	**10 12 18.3**	**-0.7**
	baz=288						
MSO	**Missoula**	**10.38**	**97**	Pn	**Pn**	**10 12 17.9**	**-1.1**
ORV	**Oroville**	**11.01**	**148**		**Pn**	**10 12 28.1**	**+0.6**
PAHR	**Pah Rah Range**	**11.69**	**140**	Pn	**Pn**	**10 12 38.5**	**+1.5**
AFDM	**Forest Hills D**	**11.74**	**148**	Pn	**Pn**	**10 12 37.1**	**-0.4**
MCMT	**McKenzie Canyo**	**11.87**	**105**	Pn	**Pn**	**10 12 39.7**	**+0.3**
ELK	**Elko**	**12.88**	**126**	Pn	**Pn**	**10 12 57.0**	**+3.7**
	0.1nm,0.3s,baz=354,slow=15,SNR=2.0						
NVAR	**Mina Array Bea**	**13.22**	**140**	Pn	**Pn**	**10 13 00.7**	**+2.8**
	0.3nm,0.3s,baz=317,slow=14,SNR=5.8						
NVAR	**Mina Array Bea**	**13.22**	**140**	Pn	**Pn**	**10 13 01.4**	**+3.5**
NV11	**Mina Array Sit**	**13.28**	**140**	Pn	**Pn**	**10 13 01.1**	**+2.4**
LHV	**Little Huntoon**	**13.29**	**141**		**Pn**	**10 12 57.4**	**-1.2**
TPH	**Tonopah**	**13.98**	**138**	Pn	**P**	**10 13 13.8**	**-2.6**
PD31	**Pinedale Array**	**14.96**	**108**	Pn	**Pn**	**10 13 22.3**	**+0.7**
PDAR	**Pinedale Array**	**14.96**	**108**	Pn	**Pn**	**10 13 24.2**	**+2.6**
	0.0nm,0.3s,baz=288,slow=9.0,SNR=3.7						
PDAR				LR	LR	10 18 48.8	
	comp=Z,142nm,20.4s,baz=296,slow=36						
PDAR	**Pinedale Array**	**14.96**	**108**		**Pn**	**10 13 22.1**	**+0.5**
PSUT	**Pine Spring**	**15.23**	**129**	P	**P**	**10 13 30.6**	**+0.3**
TPNV	**Topopah Spring**	**15.35**	**138**	P	**P**	**10 13 31.0**	**-0.5**
TPNV				IAmb	IAmb	10 13 40.6	
	comp=Z,8.4nm,1.1s						
LAO	**LASA Array**	**15.48**	**91**	P	**P**	**10 13 33.6**	**+0.8**
PRN	**Pahroc Range**	**15.52**	**134**	P	**P**	**10 13 33.4**	**0.0**
PRN				IAmb	IAmb	10 13 41.7	
	comp=Z,10nm,1.0s						
ISA	**Isabella, Lake**	**15.56**	**146**	P	**P**	**10 13 32.3**	**-1.5**
ISA				IAmb	IAmb	10 13 34.1	
	comp=Z,5.0nm,1.0s						
YKA	**Yellowknife Ar**	**15.56**	**26**	Pn	**Pn**	**10 13 27.2**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=221,slow=13,SNR=15						
MPMC	**Manual Prospec**	**15.59**	**143**	P	**Pn**	**10 13 30.1**	**+0.2**
	baz=331						
BCAR	**Beaver Creek A**	**15.59**	**338**	P	**Pn**	**10 13 28.8**	**-0.9**
SHOC	**Shoshone, Teco**	**16.22**	**140**	P	**P**	**10 13 41.1**	**0.0**
	baz=329						
CCUT	**Cedar City**	**16.23**	**130**	P	**P**	**10 13 43.8**	**+2.4**
P17A	**Butcher Ranch,**	**16.25**	**120**	P	**P**	**10 13 42.7**	**+1.1**
GSC	**Goldstone, Bar**	**16.52**	**142**	P	**P**	**10 13 44.5**	**0.0**
GSC				IAmb	IAmb	10 13 51.7	
	comp=Z,11nm,1.3s						
SRU	**San Rafael Swe**	**16.62**	**120**	P	**P**	**10 13 49.6**	**+3.9**
LCMT	**Little Creek M**	**16.71**	**131**	P	**P**	**10 13 45.6**	**-1.0**
TUQ	**Turquoise Moun**	**16.76**	**140**	P	**Pn**	**10 13 45.0**	**0.0**
	baz=329						
K22A	**Casper**	**16.93**	**104**	P	**P**	**10 13 48.7**	**-0.3**
O20A	**White River Ci**	**17.28**	**114**	P	**P**	**10 13 53.7**	**+0.7**
FFC	**Flin Flon**	**17.52**	**61**	P	**Pn**	**10 13 55.3**	**+1.1**
U15A	**North Rim**	**17.64**	**130**	P	**P**	**10 13 57.9**	**+0.8**
RSSD	**Black Hills**	**17.85**	**97**	P	**Pn**	**10 13 58.2**	**-0.4**
RND	**Reindeer**	**17.90**	**330**	P	**Pn**	**10 13 58.9**	**0.0**
RND				IAmb	IAmb	10 14 00.1	
	comp=Z,17nm,1.3s						
PV23	**Carpenter Ridg**	**17.93**	**119**	P	**P**	**10 14 03.1**	**+2.9**
PV23				IAmb	IAmb	10 14 12.6	
	comp=Z,14nm,1.0s						
PV22	**Blue Mesa, Par**	**18.00**	**119**	P	**P**	**10 14 04.5**	**+3.5**
PV19	**Morning Glory**	**18.04**	**119**	P	**P**	**10 14 03.4**	**+1.9**
PV19				IAmb	IAmb	10 14 10.5	
	comp=Z,13nm,1.0s						
PV17	**East Wray Mesa**	**18.08**	**119**	P	**P**	**10 14 03.6**	**+1.8**
ILAR	**Eielson Array**	**18.31**	**335**	P	**Pn**	**10 14 03.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=148,slow=10,SNR=10						
ILAR				LR	LR	10 20 15.8	
	comp=Z,133nm,19.1s,baz=156,slow=34						
ILAR	**Eielson Array**	**18.31**	**335**	P	**Pn**	**10 14 02.8**	**-1.0**
PV01	**Paradox Valley**	**18.40**	**119**	P	**P**	**10 14 06.5**	**+1.1**
PV01				IAmb	IAmb	10 14 15.5	
	comp=Z,11nm,1.3s						
WRH	**Wood River Hil**	**18.42**	**333**	P	**P**	**10 14 04.3**	**-0.9**
WRH				IAmb	IAmb	10 14 05.8	
	comp=Z,9.7nm,1.2s						
CCB	**Clear Creek Bu**	**18.47**	**334**	P	**P**	**10 14 04.8**	**-0.9**
CCB				IAmb	IAmb	10 14 06.4	
	comp=Z,15nm,1.2s						
COLA	**College**	**18.65**	**334**	P	**P**	**10 14 07.8**	**0.0**
COLA				IAmb	IAmb	10 14 21.4	
	comp=Z,6.4nm,1.1s						
MDM	**Murphy Dome**	**18.82**	**334**	P	**P**	**10 14 09.6**	**0.0**
MDM				IAmb	IAmb	10 14 13.0	
	comp=Z,12nm,1.2s						
MVCO	**Mesa Verde**	**19.08**	**121**	P	**Pn**	**10 14 15.5**	**+1.8**
	baz=315						
MVCO	**Mesa Verde**	**19.08**	**121**	P	**Pn**	**10 14 15.0**	**+1.3**
MVCO				IAmb	IAmb	10 14 22.9	
	comp=Z,19nm,1.4s						
E28A	**Huff**	**19.14**	**87**	P	**Pn**	**10 14 15.4**	**+1.3**
INK	**Inuvik**	**19.33**	**355**	LR	LR	10 21 58.7	
	comp=Z,138nm,20.5s,baz=119,slow=38						
W18A	**Petrified Fore**	**19.96**	**128**	P	**P**	**10 14 23.2**	**+0.7**
	baz=321						
W18A	**Petrified Fore**	**19.96**	**128**	P	**P**	**10 14 22.8**	**+0.3**
W18A				IAmb	IAmb	10 14 33.3	
	comp=Z,7.9nm,1.0s						
113A	**Mohawk Valley,**	**19.97**	**139**	P	**P**	**10 14 22.8**	**+0.5**
SDCO	**Great Sand Dun**	**20.45**	**115**	P	Pn	**10 14 30.6**	**+0.6**
IMAR	**Indian Mountai**	**21.19**	**332**	P	**P**	**10 14 34.1**	**-1.2**
ULM	**Lac du Bonnet**	**21.37**	**74**	P	**P**	**10 14 37.4**	**-0.1**
	comp=Z,16nm,0.8s,baz=282,slow=10,SNR=12						
ULM	**Lac du Bonnet**	**21.37**	**74**	P	**P**	**10 14 37.4**	**-0.1**
TUC	**Tucson**	**21.69**	**134**	P	**P**	**10 14 40.5**	**-0.6**
AGMN	**Agassiz Nation**	**21.80**	**80**	P	**P**	**10 14 42.8**	**+0.7**
	baz=285						
AGMN	**Agassiz Nation**	**21.80**	**80**	P	**P**	**10 14 42.1**	**+0.1**
ANMO	**Albuquerque**	**21.86**	**122**	P	**P**	**10 14 44.3**	**+1.3**
	comp=Z,0.1nm,0.8s,baz=325,slow=11,SNR=6.2						
ANMO	**Albuquerque**	**21.86**	**122**	P	**P**	**10 14 44.7**	**+1.7**
	baz=317						
ANMO	**Albuquerque**	**21.86**	**122**	P	**P**	**10 14 44.3**	**+1.3**
ANMO				IAmb	IAmb	10 14 49.9	
	comp=Z,5.3nm,1.4s						
121A	**Cookes Peak, D**	**22.99**	**128**	P	**P**	**10 14 54.7**	**-0.4**
121A				IAmb	IAmb	10 14 56.6	
	comp=Z,3.8nm,0.9s						
F36A	**Milaca**	**24.07**	**84**	P	**P**	**10 15 06.2**	**+0.8**
TUL1	**Leonard**	**27.60**	**106**	P	**P**	**10 15 35.4**	**-2.0**
TXAR	**Lajitas Array**	**27.67**	**126**	P	**P**	**10 15 37.9**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=317,slow=7.2,SNR=6.0						
TXAR	**Lajitas Array**	**27.67**	**126**	P	**P**	**10 15 38.5**	**+0.2**
TKL	**Tuckaleechee C**	**35.50**	**95**	LR	LR	10 31 06.8	
	comp=Z,113nm,20.9s,baz=334,slow=36						
SCHQ	**Schefferville**	**37.58**	**57**	LR	LR	10 32 54.8	
	comp=Z,228nm,18.2s,baz=293,slow=37						
PETK	**Petropavlovsk-**	**44.29**	**304**	P	**P**	**10 18 01.3**	**+1.6**
	comp=Z,2.9nm,0.8s,baz=76,slow=13,SNR=3.9						
PETK	**Petropavlovsk-**	**44.29**	**304**	P	**P**	**10 18 00.8**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**58.43**	**264**	T	T	11 22 41.8	
	baz=43,slow=74						
H11N3	**WAKE ISLAND Hy**	**58.43**	**264**	T	T	11 22 37.3	
	ba

baz=13,slow=74,SNR=1179
H03N3 Juan Fernandez 18.14 191 T T 10 50 39.1
baz=13,slow=74,SNR=1471
441A DeRidder 49.29 339 P **P** **10 36 21.6 -0.8**
TX32 Lajitas Array 52.55 328 P **P** **10 36 46.8 -0.3**
TX32 IAmb IAmb 10 37 05.2
comp=Z,1.1nm,1.1s
TXAR Lajitas Array 52.55 328 P **P** **10 36 46.6 -0.5**
comp=Z,0.2nm,0.4s,baz=151,slow=8.4,SNR=8.2
TXAR Lajitas Array 52.55 328 P **P** **10 36 46.7 -0.4**
TX31 Lajitas Ar. Si 52.56 328 P **P** **10 36 45.2 -1.9**
TX31 IAmb IAmb 10 37 05.1
comp=Z,0.8nm,0.5s
FLWY Flagg Ranch 67.75 333 P **P** **10 38 31.7 +0.7**
SNAA Sanae 69.70 161 P **P** **10 38 43.5 +0.9**
comp=Z,0.8nm,0.5s,baz=264,slow=9.3,SNR=8.7
SNAA Sanae 69.70 161 P **P** **10 38 43.9 +1.2**
SNAA IAmb IAmb 10 38 56.6
comp=Z,4.7nm,1.5s
TORD Torodi Ar. Bea 81.03 74 P **P** **10 39 46.9 -1.7**
H11N3 WAKE ISLAND Hyl 21.15 284 T T 12 59 01.2
baz=97,slow=74,SNR=2.2
H11N2 WAKE ISLAND Hyl 21.16 284 T T 12 58 51.8
baz=97,slow=74,SNR=3.0
H11N1 WAKE ISLAND Hyl 21.17 284 T T 12 59 04.3
baz=97,slow=74,SNR=2.1
H11S2 WAKE ISLAND Hyl 21.19 282 T T 12 59 10.1
baz=98,SNR=4.0
H11S1 WAKE ISLAND Hyl 21.20 282 T T 12 59 08.9
baz=98
H11S3 WAKE ISLAND Hyl 21.21 282 T T 12 59 11.9
baz=98
WRA Warramunga Arr 134.41 220 PKP **PKPdf** **10 46 52.0 +0.2**
comp=Z,0.3nm,0.8s,baz=138,slow=2.0,SNR=5.4
WRA Warramunga Arr 134.41 220 **PKPdf** **10 46 51.8 0.0**
ZALV Zalesovo Beam 138.60 18 PKP **PKPdf** **10 46 57.8 -0.7**
comp=Z,0.6nm,0.5s,baz=318,slow=1.9,SNR=2.1

MOS ***12*** *10:44:10.4±1.5,22°.81S×68°.07W,h120km,mb5.1/16, Error ellipse: s-maj=14.0km s-min=7.2km az=103.3*
NEIC ***12*** *10:44:11.0±2.5,22°.87S±0°.04×68°.06W±0°.07,h120km±4km, mb5.0/126,ML5.0(GUC),Error ellipse: s-maj=8.8km s-min=5.8km az=94.0*
VAO ***12*** *10:44:11.4±0.6,22°.78S×68°.13W,h127km±5km,mb5.2*
IDC ***12*** *10:44:11.9±0.6,22°.82S×68°.00W,h119km±4km,mb4.4/14, mb1 4.5/20,mb1mx4.4/30,mbtmp4.8/20,MS3.6/4, Ms1 3.6/4,ms1mx3.2/29,Error ellipse: s-maj=13.2km s-min=11.0km az=69.0*
SJA ***12*** *10:44:11.4±0.7,22°.91S×68°.28W,h142km±4km,ML4.8, MW4.6*
GUC ***12*** *10:44:12.0±0.8,22°.91S×68°.33W,h152km±6km,ML5.0*
GCMT ***12*** *10:44:18.0±0.3,22°.94S±0°.02×68°.21W±0°.02,h156km±2km, MW5.0/84,Moment Tensor Solution. s32,c35; s84,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.21±.12; $M_{\theta\theta}$0.61±.15; $M_{\phi\phi}$1.60±.17; $M_{r\theta}$1.48±.09; $M_{r\phi}$-2.39±.12; $M_{\theta\phi}$-2.04±.12; Best double couple: M_o3.82800×10^{16} NP1:ϕ_s135.00000°,δ25.00000°,λ-99.00000°. NP2: ϕ_s324.00000°,δ66.00000°,λ-86.00000°. Principal axes: T 4.4910, Plg21.0000°, Azm51.0000°; N -1.3270, Plg4.0000°, Azm143.0000°; P -3.1640, Plg69.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 10:44:11.8±0.6,22°.88S±0°.03×68°.17W±0°.04,h126km±5km, n578,σ1$38/636,mb4.9/83,9C-12D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.73**	**291**	P	**Pn**	**10 44 33.8**	**+1.3**
	2μm,0.3s,baz=96,slow=7.0						
LVC				S	**Sn**	**10 44 49.4**	**+1.4**
	5μm,0.3s,baz=163,slow=19,SNR=28						
LVC	**Limon Verde**	**0.73**	**291**	⇓*i*P	**Pn**	**10 44 33.8**	**+1.3**
LVC				*e*S	**Sn**	**10 44 49.1**	**+1.1**
LVC	**Limon Verde**	**0.73**	**291**		**Pn**	**10 44 33.8**	**+1.3**
LVC				Sn	**Sn**	**10 44 49.0**	**+1.1**
LVC	**Limon Verde**	**0.73**	**291**	*e*P	**Pn**	**10 44 33.8**	**+1.3**
LVC				*e*S	**Sn**	**10 44 49.9**	**+1.9**
LVC				IAML		10 44 51.8	
	comp=Z,6μm,0.3s						
PB15	**IPOC Station P**	**1.24**	**254**	⇑*i*P	**Pn**	**10 44 38.0**	**+0.9**
PB15				*e*S	**Sn**	**10 44 57.2**	**+1.0**
PB15	**IPOC Station P**	**1.24**	**254**		**Pn**	**10 44 38.1**	**+1.1**
PB15				Sn	**Sn**	**10 44 57.0**	**+0.8**
PB15	**IPOC Station P**	**1.24**	**254**	*e*P	**Pn**	**10 44 37.8**	**+0.8**
PB15				*e*S	**Sn**	**10 44 57.0**	**+0.8**
PB06	**IPOC Station P**	**1.30**	**277**	⇑*i*P	**Pn**	**10 44 38.5**	**+0.9**
PB06				*e*S	**Sn**	**10 44 58.0**	**+0.7**
PB06	**IPOC Station P**	**1.30**	**277**		**Pn**	**10 44 38.7**	**+1.0**
PB06				Sn	**Sn**	**10 44 57.7**	**+0.4**
PB06	**IPOC Station P**	**1.30**	**277**	*e*P	**Pn**	**10 44 38.6**	**+0.9**
PB06				*e*S	**Sn**	**10 44 58.5**	**+1.2**
PB06				IAML		10 45 04.0	
	comp=Z,17μm,0.5s						
PB09	**IPOC Station P**	**1.46**	**317**	*i*P	**Pn**	**10 44 41.0**	**+1.6**
PB09				*i*S	**Sn**	**10 45 02.6**	**+2.2**
PB09	**IPOC Station P**	**1.46**	**317**		**Pn**	**10 44 41.1**	**+1.6**
PB09				Sn	**Sn**	**10 45 02.2**	**+1.8**
PB09	**IPOC Station P**	**1.46**	**317**	*e*P	**Pn**	**10 44 40.9**	**+1.6**
PB09				*e*S	**Sn**	**10 45 03.4**	**+3.0**
PB09				IAML		10 45 05.1	
	comp=Z,6μm,0.4s						
PB03	**IPOC Station P**	**1.68**	**299**	⇓*i*P	**Pn**	**10 44 42.6**	**+0.7**
PB03				*i*S	**Sn**	**10 45 05.0**	**+0.2**
PB03				IAML		10 45 06.8	
	comp=N,23μm,0.4s						
PB03	**IPOC Station P**	**1.68**	**299**	*e*P	**Pn**	**10 44 42.6**	**+0.7**
PB03				*e*S	**Sn**	**10 45 05.5**	**+0.7**
PB03				IAML		10 45 07.6	
	comp=Z,13μm,0.2s						
PB05	**IPOC Station P**	**1.88**	**270**	⇑*i*P	**Pn**	**10 44 44.4**	**+0.2**
PB05				*i*S	**Sn**	**10 45 08.1**	**-0.8**
PB05				IAML		10 45 10.0	
	comp=N,12μm,0.7s						
PB05	**IPOC Station P**	**1.88**	**270**	*e*P	**Pn**	**10 44 44.4**	**+0.2**
PB05				*e*S	**Sn**	**10 45 08.9**	**0.0**
PB05				IAML		10 45 18.7	
	comp=Z,6μm,0.6s						
PB04	**IPOC Station P**	**1.91**	**286**	⇓*i*P	**Pn**	**10 44 45.1**	**+0.5**
PB04				*i*S	**Sn**	**10 45 09.6**	**-0.1**
PB04				IAML		10 45 12.0	
	comp=N,23μm,0.3s						
PB04	**IPOC Station P**	**1.91**	**286**		**Pn**	**10 44 45.1**	**+0.5**
PB04				Sn	**Sn**	**10 45 09.0**	**-0.7**
PB04	**IPOC Station P**	**1.91**	**286**	*e*P	Pn	10 44 38.0	-6.6
PB04				*e*P	**Pn**	**10 44 45.3**	**+0.7**
PB04				*e*S	**Sn**	**10 45 09.8**	**+0.1**
PB04				IAML		10 45 17.5	
	comp=Z,15μm,0.6s						
PB07	**IPOC Station P**	**1.96**	**305**	⇓*i*P	**Pn**	**10 44 45.9**	**+0.6**
PB07				*i*S	**Sn**	**10 45 11.1**	**+0.3**
PB07				IAML		10 45 12.5	
	comp=N,14μm,0.2s						
PB07	**IPOC Station P**	**1.96**	**305**	Pn	**Pn**	**10 44 45.4**	**+0.1**
PB07				Sn	**Sn**	**10 45 10.4**	**-0.3**
PB07	**IPOC Station P**	**1.96**	**305**	*e*P	**Pn**	**10 44 45.7**	**+0.5**
PB07				*e*S	**Sn**	**10 45 11.3**	**+0.5**
PB07				IAML		10 45 13.2	
	comp=Z,6μm,0.3s						
PB01	**IPOC Station P**	**2.20**	**326**	⇓*i*P	**Pn**	**10 44 48.7**	**+0.6**
PB01				*e*S	**Sn**	**10 45 16.6**	**+0.7**
PB01				IAML		10 45 19.6	
	comp=N,6μm,0.2s						
PB01	**IPOC Station P**	**2.20**	**326**		**Pn**	**10 44 48.7**	**+0.6**
PB01				Sn	**Sn**	**10 45 16.9**	**+0.9**
PB01	**IPOC Station P**	**2.20**	**326**	*e*P	**Pn**	**10 44 48.7**	**+0.6**
PB01				*e*S	**Sn**	**10 45 16.8**	**+0.9**
PB01				IAML		10 45 19.4	
	comp=Z,4μm,0.2s						
PB10	**IPOC Station P**	**2.28**	**253**	⇑*i*P	**Pn**	**10 44 48.9**	**-0.2**
PB10				*i*S	**Sn**	**10 45 15.8**	**-1.9**
PB10				IAML		10 45 22.4	
	comp=N,6μm,0.4s						
PB10	**IPOC Station P**	**2.28**	**253**		**Pn**	**10 44 49.2**	**+0.1**
PB10				Sn	**Sn**	**10 45 15.6**	**-2.1**
PB10	**IPOC Station P**	**2.28**	**253**	*e*P	**Pn**	**10 44 49.0**	**-0.2**
PB10				*e*S	**Sn**	**10 45 16.1**	**-1.6**
PB10				IAML		10 45 19.3	
	comp=Z,5μm,0.6s						

YJA	**Yavi**	**2.55**	**75**	*e*P	**Pn**	**10 44 56.2**	**+3.2**
HJA	**Humahuaca**	**2.56**	**98**	*e*P	**Pn**	**10 44 56.0**	**+3.0**
GO02	**Mina Guanaco**	**2.62**	**209**	*e*P	**Pn**	**10 44 54.0**	**+0.2**
GO02				*i*S	**Sn**	**10 45 25.9**	**0.0**
GO02	**Mina Guanaco**	**2.62**	**209**	Pn	**Pn**	**10 44 54.1**	**+0.4**
GO02				Sn	**Sn**	**10 45 25.5**	**-0.4**
PB14	**IPOC Station P**	**2.69**	**229**	⇑*i*P	**Pn**	**10 44 54.3**	**-0.3**
PB14				IAML		10 45 35.9	
	comp=E,2μm,0.5s						
PB14	**IPOC Station P**	**2.69**	**229**	Pn	**Pn**	**10 44 54.4**	**-0.3**
PB14				Sn	**Sn**	**10 45 24.9**	**-2.5**
PB14	**IPOC Station P**	**2.69**	**229**	*e*P	**Pn**	**10 44 54.2**	**-0.3**
PB14				*e*S	**Sn**	**10 45 26.6**	**-0.8**
PB14				IAML		10 45 29.6	
	comp=Z,4μm,0.6s						
PATCX	**Punta Patache**	**2.75**	**318**	⇓*i*P	**Pn**	**10 44 54.6**	**-0.6**
PATCX				*e*S	**Sn**	**10 45 27.4**	**-1.2**
PATCX				IAML		10 45 37.3	
	comp=N,3μm,0.4s						
PATCX	**Punta Patache**	**2.75**	**318**	Pn	**Pn**	**10 44 55.1**	**-0.1**
PATCX				Sn	**Sn**	**10 45 26.4**	**-2.2**
PATCX	**Punta Patache**	**2.75**	**318**	*e*P	**Pn**	**10 44 54.7**	**-0.5**
PB08	**IPOC Station P**	**2.87**	**341**	⇓*i*P	**Pn**	**10 44 58.3**	**+1.3**
PB08				*i*S	**Sn**	**10 45 33.0**	**+1.2**
PB08				IAML		10 45 36.3	
	comp=E,4μm,0.6s						
PB08	**IPOC Station P**	**2.87**	**341**		**Pn**	**10 44 58.5**	**+1.5**
PB08				Sn	**Sn**	**10 45 33.0**	**+1.2**
PB08	**IPOC Station P**	**2.87**	**341**	*e*P	**Pn**	**10 44 58.4**	**+1.3**
PB08				*e*S	**Sn**	**10 45 33.4**	**+1.6**
PB08				IAML		10 45 36.3	
	comp=Z,2μm,0.3s						
TA01	**Diego Aracena**	**2.96**	**321**	*e*P	**Pn**	**10 44 56.9**	**-1.0**
TA01				IAML		10 45 38.5	
	comp=N,2μm,0.3s						
TA01	**Diego Aracena**	**2.96**	**321**	Pn	**Pn**	**10 44 57.3**	**-0.6**
TA01				Sn	**Sn**	**10 45 30.2**	**-3.1**
SLA	**San Lorenzo**	**3.06**	**127**	⇓*i*P	**Pn**	**10 45 02.1**	**+3.0**
SLA	**San Lorenzo**	**3.06**	**127**	*e*P	**Pn**	**10 45 02.2**	**+3.0**
TA02	**Huaiquique**	**3.17**	**324**	*e*P	**Pn**	**10 44 59.7**	**-0.9**
TA02				*i*S	**Sn**	**10 45 35.5**	**-2.7**
TA02				IAML		10 45 47.7	
	comp=N,3μm,0.2s						
GO01	**Chusmiza**	**3.33**	**343**	⇓*i*P	**Pn**	**10 45 03.9**	**+0.8**
GO01				*i*S	**Sn**	**10 45 44.5**	**+1.8**
GO01	**Chusmiza**	**3.33**	**343**		**Pn**	**10 45 04.2**	**+1.0**
PB11	**IPOC Station P**	**3.40**	**336**	⇓*i*P	**Pn**	**10 45 03.0**	**-0.7**
PB11	**IPOC Station P**	**3.40**	**336**		**Pn**	**10 45 03.4**	**-0.3**
PB11					**Sn**	**10 45 41.9**	**-1.8**
PB11	**IPOC Station P**	**3.40**	**336**	*e*P	**Pn**	**10 45 03.3**	**-0.3**
PB11				*e*S	**Sn**	**10 45 43.8**	**+0.1**
PB11				IAML		10 45 46.9	
	comp=Z,2μm,0.5s						
PSGC	**Pisagua**	**3.74**	**330**	*e*P	**Pn**	**10 45 06.3**	**-1.8**
PSGCX	**Pisagua**	**3.74**	**330**	Pn	**Pn**	**10 45 06.4**	**-1.7**
FSA	**Cafayete**	**3.79**	**149**	*e*P	**Pn**	**10 45 11.1**	**+2.2**
AC01	**Pan de Azucar**	**3.94**	**214**	Pn	**Pn**	**10 45 09.1**	**-1.6**
AC01				Sn	**Sn**	**10 45 52.4**	**-3.9**
MNMC	**Minye Minye**	**3.96**	**340**	*e*P	**Pn**	**10 45 10.9**	**-0.3**
MNMC	**Minye Minye**	**3.96**	**340**		**Pn**	**10 45 11.1**	**-0.2**
MNMC				Sn	**Sn**	**10 45 57.0**	**-0.2**
AC02	**Maricunga**	**4.04**	**192**	Pn	**Pn**	**10 45 12.7**	**+0.3**
PB16	**IPOC Station P**	**4.69**	**344**		**Pn**	**10 45 21.6**	**+0.4**
PB16				Sn	**Sn**	**10 46 14.3**	**-0.8**
AP01	**Chacalluta**	**4.92**	**335**		**Pn**	**10 45 24.0**	**+0.1**
AP01				Sn	**Sn**	**10 46 15.7**	**-4.2**
GO03	**Copiap**	**5.06**	**201**	Pn	**Pn**	**10 45 23.3**	**-2.3**
VCA	**Vinchina**	**5.84**	**180**	*e*P	**Pn**	**10 45 36.5**	**+0.2**
VCA				IAML		10 46 46.5	
	comp=Z,179nm,0.3s						
AC04	**Llanos de Chal**	**5.92**	**206**		**Pn**	**10 45 32.8**	**-4.4**
CYA	**Choya**	**5.94**	**159**	*e*P	**Pn**	**10 45 38.0**	**+0.5**
AC05	**El Transito**	**6.23**	**197**		**Pn**	**10 45 38.8**	**-2.7**
LPAZ	**La Paz**	**6.55**	**0**	P	**Pn**	**10 45 47.5**	**+1.0**
	comp=Z,10nm,0.3s,baz=166,slow=7.5,SNR=138						
LPAZ				S	**Sn**	**10 46 51.9**	**-8.3**
	comp=Z,3.2nm,0.3s,baz=211,slow=5.9,SNR=1.7						
LPAZ	**La Paz**	**6.55**	**0**	*e*P	**Pn**	**10 45 46.9**	**+0.4**
ACLC	**CERRO LA CRUZ**	**6.61**	**171**	*e*P	**Pn**	**10 45 46.4**	**-0.4**
ACLC				*e*S	**Sn**	**10 47 01.0**	**+0.1**
ACLC				IAML		10 47 07.5	
	comp=Z,101nm,1.4s						
CO01	**Juntas del Tor**	**7.28**	**193**		**Pn**	**10 45 53.4**	**-2.3**
GO04	**Tololo Observa**	**7.64**	**197**		**Pn**	**10 45 56.3**	**-4.3**
CO03	**El Pedregal**	**8.24**	**195**		**Pn**	**10 46 04.6**	**-4.1**
CO02	**Combarbal**	**8.67**	**196**		Pn	10 46 09.2	-5.2
SIV	**San Ignacio**	**9.58**	**46**	P	**Pn**	**10 46 24.0**	**-2.6**
	comp=Z,52nm,0.3s,baz=238,slow=10,SNR=371						
SIV				S	**Sn**	**10 48 04.1**	**-8.5**
	comp=Z,13nm,0.3s,baz=135,slow=15,SNR=7.9						
VA03	**San Esteban**	**10.07**	**192**		**Pn**	**10 46 29.8**	**-3.5**
ROC1	**El Roble**	**10.37**	**193**		Pn	10 46 32.1	-5.3
CPUP	**Villa Florida**	**10.45**	**111**	P	**Pn**	**10 46 36.9**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=293,slow=12,SNR=42						
CPUP	**Villa Florida**	**10.45**	**111**	*e*P	**Pn**	**10 46 37.2**	**-1.0**
MT02	**Curacav**	**10.67**	**194**		Pn	10 46 35.1	-6.0
PTLB	**Pontes e Lacer**	**11.29**	**51**	*e*P	**Pn**	**10 46 46.5**	**-3.0**
AQDB	**Aquidauana**	**11.84**	**81**	*e*P	**Pn**	**10 46 55.5**	**-1.3**
BO02	**Sierra Bellavi**	**12.09**	**190**		**Pn**	**10 46 55.4**	**-4.7**
VILB	**Vilhena**	**12.44**	**39**	*e*P	**Pn**	**10 47 03.2**	**-1.5**
GO05	**Huala**	**12.53**	**194**	Pn	Pn	10 47 00.2	-5.5
ETMB	**Extrema**	**13.12**	**9**	*e*P	**Pn**	**10 47 10.4**	**-3.1**
NNA	**Nana**	**13.62**	**321**	P	**Pn**	**10 47 21.2**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=186,slow=18,SNR=3.6						
NNA				S	**Sn**	**10 49 48.3**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=190,slow=12,SNR=2.4						
NNA	**Nana**	**13.62**	**321**	*i*P	**Pn**	**10 47 20.5**	**+0.5**
NNA				pmax	pmax		
	comp=Z,58nm,1.0s						
NNA	**Nana**	**13.62**	**321**		**Pn**	**10 47 20.1**	**+0.1**
BI02	**San Fabin de**	**14.00**	**190**		**Pn**	**10 47 22.6**	**-2.1**
VA04	**Juan Fernndez**	**14.25**	**219**	Pn	**Pn**	**10 47 25.2**	**-2.6**
TRCB	**Terra Rica**	**14.33**	**93**	*e*P	**Pn**	**10 47 28.9**	**0.0**
BI03	**Tigo**	**14.54**	**196**	Pn	**Pn**	**10 47 29.8**	**-1.7**
SAML	**Samuel**	**14.65**	**20**	P	**Pn**	**10 47 30.4**	**-2.7**
SAML	**Samuel**	**14.65**	**20**		**Pn**	**10 47 30.4**	**-2.7**
SAML	**Samuel**	**14.65**	**20**	*e*P	**Pn**	**10 47 30.4**	**-2.7**
PTGB	**Pitanga**	**14.86**	**100**	*e*P	**Pn**	**10 47 36.0**	**+0.3**
CPSB	**Cacapava Do Su**	**15.15**	**123**	*e*P	**Pn**	**10 47 38.2**	**-1.0**
ITAB	**Concordia**	**15.17**	**110**	*e*P	**Pn**	**10 47 38.9**	**-0.6**
PLTB	**Pedras Altas**	**15.67**	**128**	*e*P	**Pn**	**10 47 44.2**	**-1.5**
CZSB	**Cruzeiro do Su**	**15.68**	**343**	*e*P	**Pn**	**10 47 44.0**	**-2.0**
PCMB	**Pacaembu**	**15.71**	**89**	*e*P	**Pn**	**10 47 45.7**	**-0.5**
LC01	**Cunco**	**16.28**	**190**	P	**Pn**	**10 47 51.5**	**-1.6**
CLDB	**Colider**	**16.80**	**47**	*e*P	**Pn**	**10 47 58.0**	**-1.7**
CNLB	**Canela**	**16.82**	**116**	*e*P	**Pn**	**10 47 58.4**	**-1.5**
ITRB	**Iturama**	**16.89**	**83**	*e*P	**P**	**10 48 00.3**	**-0.5**
ARAG	**Araguaiana, MT**	**17.00**	**68**	*e*P	**P**	**10 48 01.6**	**-0.4**
FRTB	**Fartura**	**17.12**	**95**	*e*P	**P**	**10 48 02.9**	**-0.4**
TIJ01	**Guaruva-PR**	**17.67**	**102**	*e*P	**P**	**10 48 09.6**	**+0.3**
PLCA	**Paso Flores**	**17.92**	**186**	P	**Pn**	**10 48 12.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=5.3,slow=12,SNR=30						
PLCA				PcP	**PcP**	**10 52 42.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=207,slow=1.0,SNR=3.0						
PLCA				LR	LR	10 56 41.8	
	comp=Z,132nm,19.1s,baz=1.0,slow=42						
PLCA	**Paso Flores**	**17.92**	**186**	P	**P**	**10 48 11.5**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,24nm,0.9s						
PLCA	**Paso Flores**	**17.92**	**186**	P	**P**	**10 48 11.4**	**-0.4**
PLCA				PcP	**PcP**	**10 52 43.4**	**+1.4**
PLCA	**Paso Flores**	**17.92**	**186**	*e*P	**P**	**10 48 12.3**	**+0.4**
BB19B	**Bebedouro**	**18.31**	**88**	*e*P	**P**	**10 48 16.1**	**-0.3**
ATAH	**Atahualpa**	**18.49**	**326**	P	**Pn**	**10 48 21.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=143,slow=4.1,SNR=8.7						
SPB	**Sao Paulo**	**19.07**	**96**	P	**P**	**10 48 24.6**	**0.0**
SPB	**Sao Paulo**	**19.07**	**96**	*e*P	**P**	**10 48 24.7**	**0.0**
PET01	**Itanhaem-SP**	**19.20**	**98**	*e*P	**P**	**10 48 25.7**	**-0.4**
IPMB	**Ipameri, GO**	**19.32**	**79**	*e*P	**P**	**10 48 26.7**	**-0.7**
VAO	**Valinhos**	**19.53**	**95**	*e*P	**P**	**10 48 28.8**	**-0.9**
LL01	**San Ignacio de**	**19.77**	**189**	P	**P**	**10 48 32.1**	**+0.1**
LL01				IAmb	IAmb	10 48 32.9	
	comp=Z,112nm,1.2s						
NPGB	**Novo Progresso**	**20.00**	**40**	*e*P	**P**	**10 48 32.2**	**-2.5**
BDFB	**Brasilia**	**20.33**	**73**	P	**P**	**10 48 37.4**	**-1.0**
	comp=Z,153nm,0.8s,baz=250,slow=12,SNR=163						
BDFB	**Brasilia**	**20.33**	**73**	P	**P**	**10 48 36.9**	**-1.5**
BDFB				pmax	pmax		
	comp=Z,132nm,0.8s						
BDFB	**Brasilia**	**20.33**	**73**	P	**P**	**10 48 36.9**	**-1.5**
PARB	**Paraibuna**	**20.75**	**96**	*e*P	**P**	**10 48 41.9**	**-0.9**
MACA	**Manacapuru-AM**	**20.90**	**21**	*e*P	**P**	**10 48 43.0**	**-1.3**

PEXB	**Peixe**	**21.74**	**64**	*e*P	**P**	**10 48 51.4**	**-1.9**
BSCB	**Bom Sucesso**	**21.78**	**90**	*e*P	**P**	**10 48 53.1**	**-0.8**
ESAR	**Angra dos Reis**	**21.85**	**95**	*e*P	**P**	**10 48 53.8**	**-0.6**
ITTB	**Itaituba**	**21.98**	**35**	*e*P	**P**	**10 48 53.4**	**-2.5**
MAN01	**Angra dos Reis**	**22.30**	**95**	*e*P	**P**	**10 48 58.1**	**-1.1**
VAS01	**Vassouras-RJ**	**22.84**	**93**	*e*P	**P**	**10 49 03.2**	**-1.1**
JANB	**Januaria**	**23.84**	**75**	*e*P	**P**	**10 49 11.9**	**-1.8**
SMTB	**Santa Maria do**	**24.16**	**58**	*e*P	**P**	**10 49 16.2**	**-0.4**
PRPB	**Parauapebas**	**24.27**	**50**	*e*P	**P**	**10 49 15.5**	**-2.0**
SDBA	**SAO DESIDERIO**	**24.46**	**69**	*e*P	**P**	**10 49 18.3**	**-0.9**
MALB	**Monte Alegre**	**24.88**	**35**	*e*P	**P**	**10 49 21.6**	**-1.4**
OTAV	**Otavalo**	**25.06**	**335**	*e*P	**P**	**10 49 30.5**	**+5.4**
OTAV	**Otavalo**	**25.06**	**335**	P	**P**	**10 49 23.9**	**-1.2**
OTAV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OTAV	**Otavalo**	**25.06**	**335**	P	**P**	**10 49 23.9**	**-1.2**
OTAV	**Otavalo**	**25.06**	**335**	*e*P	**P**	**10 49 22.9**	**-2.2**
FLOC	**Florencia**	**25.38**	**342**	*e*P	**P**	**10 49 28.4**	**+0.8**
MACC	**Macarena, Meta**	**25.48**	**347**	*e*P	**P**	**10 49 26.4**	**-2.1**
SJMB	**Sao Joao De Ma**	**25.55**	**86**	*e*P	**P**	**10 49 27.4**	**-1.7**
GCUF	**Volcan Galeras**	**25.57**	**338**	*e*P	**P**	**10 49 32.3**	**+2.5**
BSFB	**Barra de Sao F**	**25.83**	**86**	*e*P	**P**	**10 49 31.0**	**-0.6**
GARC	**Garzon, Huila**	**25.91**	**343**	*e*P	**P**	**10 49 33.8**	**+1.1**
RIB01	**Linhares ES**	**26.14**	**87**	*e*P	**P**	**10 49 33.8**	**-0.6**
BBAC	**Balboa, Cauca**	**26.28**	**339**	*e*P	**P**	**10 49 37.0**	**+1.1**
PCON	**Cinco Dias**	**26.30**	**341**	*e*P	**P**	**10 49 38.7**	**+2.2**
BETC	**Betania**	**26.37**	**343**	*e*P	**P**	**10 49 38.4**	**+1.8**
POPC	**Popayan, Colom**	**26.59**	**341**	*e*P	**P**	**10 49 40.3**	**+1.6**
NAN01	**Guarapari, ES**	**26.74**	**84**	*e*P	**P**	**10 49 38.8**	**-1.1**
PRAC	**Prado**	**27.23**	**345**	*e*P	**P**	**10 49 44.1**	**-0.2**
MCPB	**Macapa, AP**	**27.32**	**37**	*e*P	**P**	**10 49 44.0**	**-1.0**
ORTC	**Ortega, Tolima**	**27.50**	**345**	*e*P	**P**	**10 49 46.9**	**+0.2**
YOTC	**Yotoco, Valle**	**27.86**	**342**	*e*P	**P**	**10 49 51.5**	**+1.5**
CHIC	**Chingaza**	**27.87**	**348**	*e*P	**P**	**10 49 49.7**	**-0.7**
TOLC	**Tolima**	**28.17**	**345**	*e*P	**P**	**10 49 57.6**	**+4.7**
TMAB	**Tom-Au,PA,Br**	**28.19**	**47**	*e*P	**P**	**10 49 52.3**	**-0.4**
GDU01	**Guandu, BA**	**28.59**	**76**	*e*P	**P**	**10 49 54.0**	**-2.3**
PLMC	**San Jos del P**	**28.73**	**343**	*e*P	**P**	**10 49 56.9**	**-0.7**
GUY2C	**Guyana, Caldas**	**28.80**	**345**	*e*P	**P**	**10 49 57.9**	**-0.8**
SPBC	**San Pablo de B**	**28.93**	**348**	*e*P	**P**	**10 49 59.4**	**0.0**
RUSC	**La Rusia**	**28.99**	**350**	*e*P	**P**	**10 50 00.0**	**-0.4**
CBOC	**Ciudad Bolivar**	**29.58**	**344**	*e*P	**P**	**10 50 04.1**	**-1.1**
EFI	**East Falkland**	**29.79**	**167**	P	**P**	**10 50 06.1**	**-0.4**
EFI				pmax	pmax		
	comp=Z,78nm,1.3s						
EFI	**East Falkland**	**29.79**	**167**	P	**P**	**10 50 06.1**	**-0.4**
PTBC	**PUERTO BERRIO,**	**29.88**	**347**	*e*P	**P**	**10 50 04.9**	**-2.8**
ZARC	**Zaragoza, Cauc**	**30.88**	**347**	*e*P	**P**	**10 50 13.9**	**-2.6**
TOSP	**Speyside**	**34.78**	**13**	P	**P**	**10 50 49.8**	**-0.6**
GRGR	**Grenville**	**35.37**	**11**	P	**P**	**10 50 55.2**	**-0.4**
RCBR	**Riachuelo**	**35.43**	**66**	P	**P**	**10 50 55.7**	**-0.5**
RCBR				pmax	pmax		
	comp=Z,55nm,0.9s						
RCBR	**Riachuelo**	**35.43**	**66**	P	**P**	**10 50 55.7**	**-0.5**
RCBR	**Riachuelo**	**35.43**	**66**	*e*P	**P**	**10 50 55.5**	**-0.7**
MCLT	**Moule a Chique**	**37.04**	**12**	P	**P**	**10 51 08.5**	**-1.2**

baz=165,SNR=8.0
BG3 Lake Jocassee 59.23 346 P P 10 53 59.6 -0.2
V58A Windy Hill, Pi 59.26 350 P P 10 54 00.2 +0.2
baz=168
X51A Calhoun 59.29 344 P P 10 54 00.0 -0.2
V57A Coltrane Farms 59.47 349 P P 10 54 01.7 +0.3
baz=168
V56A Mocksville 59.52 348 P P 10 54 03.0 +1.2
baz=167,SNR=9.9
W52A Murphy 59.56 345 P P 10 54 01.8 -0.4
W52A IAmb IAmb 10 54 03.3
comp=Z,10nm,0.9s
U59A Littleton 59.61 351 P P 10 54 02.7 +0.4
baz=170
V55A Taylorsville 59.70 348 P P 10 54 03.7 +0.6
baz=166,SNR=7.7
V55A Taylorsville 59.70 348 P P 10 54 03.8 +0.8
U58A Oxford 59.76 350 P P 10 54 03.9 +0.5
baz=169
X48A Hartselle 59.77 342 P P 10 54 02.8 -0.8
X48A IAmb IAmb 10 54 04.3
comp=Z,14nm,0.8s
V54A Nebo 59.77 347 P P 10 54 03.6 0.0
baz=165,SNR=12
V53A Saluda 59.86 346 P P 10 54 04.2 0.0
V53A IAmb IAmb 10 54 05.4
comp=Z,8.3nm,0.8s
U57A Blanch 59.92 350 P P 10 54 05.1 +0.5
baz=168,SNR=6.4
NATX Nacogdoches 59.95 334 P P 10 54 06.4 +1.5
baz=152
NATX Nacogdoches 59.95 334 P P 10 54 05.3 +0.4
Y45A Yeager Farm, C 59.98 340 P P 10 54 05.3 +0.2
W50A Signal Mountai 60.00 344 P P 10 54 04.9 -0.3
W50A IAmb IAmb 10 54 06.2
comp=Z,18nm,0.9s
U56A King 60.02 349 P P 10 54 06.3 +1.0
baz=167
U56A King 60.02 349 P P 10 54 05.6 +0.3
U56A IAmb IAmb 10 54 07.5
comp=Z,20nm,1.1s
CPCT Cooper Cave 60.04 345 P P 10 54 05.3 -0.1
CPCT IAmb IAmb 10 54 06.4
comp=Z,14nm,0.9s
TKL Tuckaleechee C 60.06 345 P P 10 54 04.8 -0.8
TKL pmax pmax
comp=Z,17nm,0.8s
TKL Tuckaleechee C 60.06 345 P P 10 54 04.8 -0.8
TKL IAmb IAmb 10 54 06.3
comp=Z,17nm,0.8s
SWET Sewanee 60.18 343 P P 10 54 06.0 -0.4
T59A Double "B" Far 60.18 351 P P 10 54 06.8 +0.5
baz=170
T59A Double "B" Far 60.18 351 P P 10 54 06.1 -0.2
T59A IAmb IAmb 10 54 07.9
comp=Z,13nm,0.9s
V52A Sevierville 60.20 346 P P 10 54 06.1 -0.4
V52A IAmb IAmb 10 54 07.3
comp=Z,19nm,0.8s
T58A Grand View Acr 60.30 350 P P 10 54 07.7 +0.6
baz=169
U55A TA2, Sparta 60.30 348 P P 10 54 08.0 +0.8
baz=166
V51A Loudon 60.34 345 P P 10 54 06.7 -0.8
V51A IAmb IAmb 10 54 08.2
comp=Z,8.1nm,0.8s
T57A Hurt 60.46 350 P P 10 54 08.8 +0.6
baz=168
T57A Hurt 60.46 350 P P 10 54 08.3 +0.1
T57A IAmb IAmb 10 54 10.0
comp=Z,12nm,0.9s
U54A Nelsons Funny 60.47 347 P P 10 54 08.7 +0.4
baz=166,SNR=8.1
U54A Nelsons Funny 60.47 347 P P 10 54 08.2 -0.2
Z41A Richland Creek 60.56 336 P P 10 54 09.8 +0.9
Z41A IAmb IAmb 10 54 10.7
comp=Z,16nm,1.1s
PLAL Pickwick Lake 60.56 341 P P 10 54 07.4 -1.6
PLAL IAmb IAmb 10 54 09.3
comp=Z,12nm,1.1s
T56A Rocky Mt 60.62 349 P P 10 54 10.4 +1.0
baz=167,SNR=5.9
237A Washetta, Mont 60.64 333 P P 10 54 09.9 +0.4
237A IAmb IAmb 10 54 11.7
comp=Z,23nm,1.0s
SNAA Sanae 60.76 161 P P 10 54 10.3 +0.3
SNAA Sanae 60.76 161 *d i* P **P 10 54 10.0 0.0**
SNAA pmax pmax
comp=Z,27nm,1.0s
SNAA Sanae 60.76 161 P P 10 54 10.0 0.0
SNAA IAmb IAmb 10 54 11.5
comp=Z,20nm,0.9s
VWCC Virginia Weste 60.83 349 P P 10 54 11.7 +1.0
T55A Pulaski 60.84 348 P P 10 54 11.7 +0.8
baz=167,SNR=10.0
TZTN Tazewell 60.86 346 P P 10 54 10.7 -0.3
baz=164
BLA Blacksburg 60.87 349 P P 10 54 11.8 +0.8
baz=167
BLA Blacksburg 60.87 349 P P 10 54 11.5 +0.4
BLA pmax pmax
comp=Z,17nm,1.1s
BLA Blacksburg 60.87 349 P P 10 54 11.5 +0.4
BLA IAmb IAmb 10 54 13.9
comp=Z,17nm,1.1s
V48A Smith Brothers 60.91 343 P P 10 54 10.6 -0.8
V48A IAmb IAmb 10 54 12.1
comp=Z,16nm,0.8s
T54A Tazewell 60.94 348 P P 10 54 11.7 +0.2
baz=166
X43A Marvell 61.02 339 P P 10 54 12.6 +0.5
baz=156,SNR=5.3
X43A Marvell 61.02 339 P P 10 54 11.8 -0.3
T53A Wise 61.06 347 P P 10 54 12.3 -0.1
baz=165,SNR=5.4
W45A Hickory Valley 61.06 340 P P 10 54 11.3 -1.0
WLAR White Oak Lake 61.06 336 P P 10 54 13.4 +1.0
CLTN Cedars of Leba 61.11 343 P P 10 54 12.2 -0.5
CLTN IAmb IAmb 10 54 13.4
comp=Z,16nm,0.8s
JCT Junction City 61.13 329 P P 10 54 13.7 +0.8
baz=146
JCT Junction City 61.13 329 P P 10 54 13.1 +0.2
JCT pmax pmax
comp=Z,11nm,0.8s
JCT Junction City 61.13 329 P P 10 54 13.1 +0.2
JCT IAmb IAmb 10 54 14.8
comp=Z,11nm,0.8s
S57A Dark Hollow, R 61.16 350 P P 10 54 14.1 +1.1
baz=169
S57A Dark Hollow, R 61.16 350 P P 10 54 13.6 +0.6
S57A IAmb IAmb 10 54 14.9
comp=Z,18nm,1.1s
S56A Natural Bridge 61.18 350 P P 10 54 14.1 +1.0
baz=168
R58B Mineral 61.20 351 P P 10 54 14.0 +0.8
baz=170,SNR=5.2
R58B Mineral 61.20 351 P P 10 54 12.2 -1.0
R58B IAmb IAmb 10 54 15.1
comp=Z,16nm,1.0s
U49A Red Boiling Sp 61.37 344 P P 10 54 12.9 -1.4
S55A Lewisburg 61.43 349 P P 10 54 15.7 +0.9
baz=167,SNR=11
R58A Rapidan 61.55 351 P P 10 54 16.2 +0.7
baz=170
WVT Waverly 61.56 342 P P 10 54 14.9 -0.8
baz=159
WVT Waverly 61.56 342 P P 10 54 14.7 -1.0
WVT pmax pmax
comp=Z,20nm,0.9s
WVT Waverly 61.56 342 P P 10 54 14.7 -1.0
WVT IAmb IAmb 10 54 16.0
comp=Z,20nm,0.8s
S54A Dingess, Beckl 61.61 348 P P 10 54 16.2 +0.2
baz=166,SNR=5.8
S54A Dingess, Beckl 61.61 348 P P 10 54 15.6 -0.4
S54A IAmb IAmb 10 54 16.9
comp=Z,12nm,0.8s
T50A Nancy 61.61 345 P P 10 54 15.0 -1.0
T50A IAmb IAmb 10 54 16.5
comp=Z,9.1nm,0.7s
R57A Stanardsville 61.62 351 P P 10 54 17.3 +1.3
baz=169
S53A Williamson 61.65 347 P P 10 54 16.2 -0.1
baz=165
R55A Marlinton 61.86 349 P P 10 54 18.8 +1.1
baz=167
R55A Marlinton 61.86 349 P P 10 54 17.7 0.0
R55A IAmb IAmb 10 54 20.0
comp=Z,27nm,1.3s
R56A Bull Pasture M 61.86 350 P P 10 54 19.7 +1.9
baz=168
R54A Victor 61.92 349 P P 10 54 18.8 +0.8
baz=166,SNR=5.3
MIAR Mount Ida 62.00 336 P P 10 54 18.9 +0.3
baz=153
MIAR Mount Ida 62.00 336 P P 10 54 17.8 -0.9
MIAR pmax pmax
comp=Z,12nm,1.1s
MIAR Mount Ida 62.00 336 P P 10 54 17.8 -0.9
MIAR IAmb IAmb 10 54 19.9
comp=Z,12nm,1.1s
W41B Gary Mavity, V 62.09 338 P P 10 54 19.1 -0.1
baz=155
TXAR Lajitas Array 62.14 325 P P 10 54 20.7 +0.9
comp=Z,1.4nm,0.7s,baz=147,slow=8.7,SNR=18
TXAR Lajitas Array 62.14 325 P P 10 54 19.5 -0.3
TXAR Lajitas Array 62.14 325 P P 10 54 19.5 -0.3
TX31 Lajitas Ar. Si 62.15 325 P P 10 54 20.1 +0.2
TX32 Lajitas Array 62.15 325 P P 10 54 19.9 +0.1
T47A Sharon Grove 62.16 343 P P 10 54 19.2 -0.4
Q57A Strasburg 62.33 351 P P 10 54 21.7 +1.0
baz=169
Q56A Snyder Ridge, 62.45 350 P P 10 54 22.7 +1.2
baz=168,SNR=5.9
Q55A Buchannon 62.55 350 P P 10 54 23.4 +1.1
baz=168
T45A Paducah 62.63 342 P P 10 54 22.4 -0.3
P59A Jarrettsville 62.64 353 P P 10 54 24.0 +1.2
baz=171,SNR=5.0
W39A Magazine 62.66 337 P P 10 54 24.0 +1.0
baz=153,SNR=5.7
Q54A Coxs Mills 62.67 349 P P 10 54 23.7 +0.7
baz=167
Q53A Leroy 62.67 348 P P 10 54 23.8 +0.7
baz=166
P57A Homestead Farm 62.71 351 P P 10 54 24.4 +1.1
baz=170
ABTX Abilene, Hawle 62.85 330 P P 10 54 24.9 +0.5
baz=147,SNR=6.8
ABTX Abilene, Hawle 62.85 330 P P 10 54 24.1 -0.2
ABTX IAmb IAmb 10 54 25.8
comp=Z,12nm,1.1s
P56A Dayton Farm, R 62.85 351 P P 10 54 25.4 +1.2
baz=169
Q52A Bidwell 62.91 348 P P 10 54 24.5 -0.1
baz=165,SNR=5.0
P55A Reedsville 63.01 350 P P 10 54 26.0 +0.7
baz=168
WCI Wyandotte Cave 63.12 344 P P 10 54 25.0 -1.0
baz=161
MCWV Mont Chateau 63.16 350 P P 10 54 27.1 +0.9
baz=168
P54A Burton 63.21 349 P P 10 54 27.1 +0.5
baz=167,SNR=6.1
P53A Whipple 63.26 349 P P 10 54 27.1 +0.2
baz=166
U40A Yellville 63.36 338 P P 10 54 27.7 0.0
baz=154,SNR=5.8
P52A Corning 63.54 348 P P 10 54 28.4 -0.3
baz=166
P52A Corning 63.54 348 P P 10 54 27.6 -1.1
P52A IAmb IAmb 10 54 29.1
comp=Z,10nm,0.8s
O55A Ligonier 63.61 350 P P 10 54 30.0 +0.8
baz=168
HHAR Hobbs 63.68 337 P P 10 54 29.3 -0.5
O54A Avella 63.76 350 P P 10 54 30.9 +0.8
baz=167
N59A State Game Lan 63.86 354 P P 10 54 31.9 +1.1
baz=172
N57A Milroy 63.90 352 P P 10 54 31.3 +0.1
baz=170
O52A Adamsville 63.95 348 P P 10 54 31.0 -0.4
baz=166
O53A New Philadelph 63.97 349 P P 10 54 31.5 -0.1
baz=167
P49A Miami Univ. Ec 63.98 346 P P 10 54 31.3 -0.4
baz=163,SNR=5.1
P49A Miami Univ. Ec 63.98 346 P P 10 54 30.7 -1.0
P49A IAmb IAmb 10 54 31.8
comp=Z,16nm,0.9s
TUL1 Leonard 64.05 335 P P 10 54 32.5 +0.4
baz=152
FVM French Village 64.05 341 P P 10 54 31.6 -0.6
FVM pmax pmax
comp=Z,25nm,0.7s
FVM French Village 64.05 341 P P 10 54 31.6 -0.6
N55A Marion Center 64.12 351 P P 10 54 33.4 +0.8
baz=169,SNR=6.5
O51A Pataskala 64.13 348 P P 10 54 32.3 -0.3
baz=165,SNR=5.1
ACSO Alum Creek Sta 64.28 347 P P 10 54 33.6 0.0
baz=165
ACSO Alum Creek Sta 64.28 347 P P 10 54 33.2 -0.4
ACSO IAmb IAmb 10 54 34.4
comp=Z,17nm,0.8s
CCM Cathedral Cave 64.37 340 P P 10 54 34.1 -0.1
baz=156
OK025 Westminster Rd 64.37 334 P P 10 54 34.4 +0.1
OK025 IAmb IAmb 10 54 34.9
comp=Z,13nm,0.8s
N54A Moraine State 64.45 350 P P 10 54 35.7 +1.0
baz=168,SNR=5.0
N52A McGinn's Farm, 64.60 349 P P 10 54 36.0 +0.3
baz=166
QUOK Quay 64.63 335 P P 10 54 35.8 -0.2
QUOK IAmb IAmb 10 54 37.1
comp=Z,18nm,0.9s
M56A Emporium 64.70 352 P P 10 54 37.5 +1.1
baz=170
MNTX Cornudas Mount 64.91 325 P P 10 54 38.3 +0.4
baz=142,SNR=14
M54A Oil Creek Stat 64.94 350 P P 10 54 38.2 +0.3
baz=168
BINY Binghamton 65.15 354 P P 10 54 40.8 +1.6
baz=172
N49A Columbus Grove 65.19 347 P P 10 54 38.5 -1.0
N49A IAmb IAmb 10 54 40.1
comp=Z,23nm,0.8s
SFIN Lafayette 65.35 344 P P 10 54 39.3 -1.2
baz=161
MSTX Muleshoe 65.42 329 P P 10 54 41.9 +0.6
baz=145,SNR=13
MSTX Muleshoe 65.42 329 P P 10 54 40.8 -0.4
MSTX IAmb IAmb 10 54 43.1
comp=Z,24nm,1.0s
ERPA Erie 65.58 350 P P 10 54 42.6 +0.6
baz=168
L54A Sinclairville 65.60 351 P P 10 54 42.7 +0.6
baz=169
K59A Cooperstown 65.61 355 P P 10 54 43.2 +1.1
baz=173
AMTX Amarillo 65.66 330 P P 10 54 42.7 -0.1
baz=146
K58A Earlville 65.67 354 P P 10 54 43.2 +0.6
baz=172
J59A Piesco 66.27 355 P P 10 54 47.4 +1.0
baz=174,SNR=7.5
I58A Old Forge 66.53 355 P P 10 54 48.8 +0.8
baz=173
P38A Dawn 66.54 339 P P 10 54 47.3 -0.8
P38A IAmb IAmb 10 54 48.9
comp=Z,15nm,0.7s
I59A Olmsteadville 66.55 356 P P 10 54 48.8 +0.7
baz=174
I60A Shoreham 66.56 356 P P 10 54 48.5 +0.4
baz=175
I61A Oroboro, Fairl 66.58 357 P P 10 54 49.7 +1.4
baz=176
I57A Carthage 66.84 354 P P 10 54 50.6 +0.7
baz=172
121A Cookes Peak, D 66.84 324 P P 10 54 52.5 +2.1
baz=140,SNR=9.5
LBNH Lisbon 66.88 357 P P 10 54 51.9 +1.7
baz=176
H58A Gabriels 67.19 355 P P 10 54 53.0 +0.8
baz=174,SNR=5.8
H63A New Sharon 67.23 359 P P 10 54 53.9 +1.5
baz=178
QSPA South Pole Qui 67.32 180 P P 10 54 54.1 +1.1
comp=Z,25nm,0.5s,baz=328,slow=0.7,SNR=368
QSPA South Pole Qui 67.32 180 P P 10 54 53.7 +0.7
H57A Richville 67.33 354 P P 10 54 53.6 +0.6
baz=173,SNR=5.8
H59A Cadyville 67.38 356 P P 10 54 54.3 +0.9
baz=174
I51A Listowel 67.39 350 P P 10 54 54.0 +0.6
baz=167
LONY Lake Ozonia 67.42 355 P P 10 54 54.2 +0.6
baz=174
Y22D IRIS PASSCAL I 67.58 326 P P 10 54 57.0 +2.0
baz=141
Y22D IRIS PASSCAL I 67.58 326 P P 10 54 56.4 +1.3
Y22D IAmb IAmb 10 54 58.4
comp=Z,7.8nm,0.6s
G63A Kingsbury 67.67 359 P P 10 54 56.1 +0.9
baz=178
H53A Bobcaygeon 67.79 352 P P 10 54 56.3 +0.3
baz=170
G62A West of Eustis 67.80 358 P P 10 54 57.3 +1.3
baz=178,SNR=5.3
G64A Maxfield 67.80 360 P P 10 54 56.5 +0.5
baz=179
PKME Peaks-Kenny Pk 67.82 359 P P 10 54 56.9 +0.8
baz=179
G61A St-Isidore-de- 67.90 357 P P 10 54 57.9 +1.3
baz=177
G58A Ormstown 67.91 356 P P 10 54 57.3 +0.7
baz=174
G57A Newington 67.94 355 P P 10 54 57.6 +0.8
baz=173
ANMO Albuquerque 68.02 327 P P 10 54 59.6 +1.8
baz=142
ANMO Albuquerque 68.02 327 P P 10 54 58.6 +0.7
ANMO pmax pmax
comp=Z,12nm,0.9s
ANMO Albuquerque 68.02 327 P P 10 54 58.6 +0.7
ANMO IAmb IAmb 10 55 00.4
comp=Z,12nm,0.8s
CBKS Cedar Bluff 68.12 334 P P 10 54 59.3 +1.0
baz=149,SNR=6.7
LIC Lamto 68.12 73 *e* P **P 10 54 58.2 -0.5**
comp=Z,5.8nm,0.3s
TIC Toumodi 68.32 72 *e* P **P 10 54 59.3 -0.7**
TUC Tucson 68.34 322 P P 10 55 01.6 +1.8
baz=138
F64A Sherman 68.41 360 P P 10 55 00.6 +0.9
baz=180
KIC Kosan Boka 68.44 73 *e* P **P 10 54 59.8 -0.9**
comp=Z,2.2nm,0.3s
DBIC Dimbokro 68.48 73 P P 10 55 00.8 -0.1
comp=Z,33nm,1.0s,baz=222,slow=4.3,SNR=19
DBIC LR LR 11 24 27.2
comp=Z,42nm,18.8s,baz=219,slow=35
DBIC Dimbokro 68.48 73 P P 10 55 00.3 -0.6
DBIC pmax pmax
comp=Z,35nm,1.0s
DBIC Dimbokro 68.48 73 P P 10 55 00.3 -0.6
SCIA State Center 68.50 340 P P 10 55 00.6 +0.2
baz=155
G54A Lake Saint Pet 68.54 353 P P 10 55 01.0 +0.4
baz=170
JFWS Jewell Farm 68.55 343 P P 10 55 00.8 0.0
baz=158,SNR=6.8
T25A Trinidad 68.77 330 P P 10 55 03.8 +1.2
baz=144,SNR=5.9
T25A Trinidad 68.77 330 P P 10 55 03.4 +0.8
E58A La Victoria 69.07 356 P P 10 55 04.4 +0.5
baz=175
ALGO Algonquin Park 69.09 353 P P 10 55 04.2 +0.3
baz=170
E57A Chemin Saint G 69.17 356 P P 10 55 04.9 +0.4
baz=174
E62A Clayton Lake 69.18 359 P P 10 55 05.5 +1.0
baz=179
214A Organ Pipe Nat 69.25 320 P P 10 55 07.6 +2.2
baz=136,SNR=11
E56A St. Veronique 69.37 355 P P 10 55 05.6 -0.1
baz=173
KSCO Kaye Shedlock' 69.50 332 P P 10 55 08.4 +1.5
baz=146,SNR=5.4
KSCO Kaye Shedlock' 69.50 332 P P 10 55 08.2 +1.3
KSCO IAmb IAmb 10 55 09.0
comp=Z,17nm,0.8s
D62A Allapoint, All 69.63 359 P P 10 55 07.9 +0.6
baz=179
BGNE Belgrade 69.74 336 P P 10 55 08.9 +0.7
baz=151
BGNE Belgrade 69.74 336 P P 10 55 08.2 0.0
D58A Chemin du LacG 69.77 357 P P 10 55 08.9 +0.8
baz=175
SDCO Great Sand Dun 69.78 329 P P 10 55 10.6 +1.9
baz=143,SNR=22
SDCO Great Sand Dun 69.78 329 P P 10 55 09.4 +0.6
SDCO IAmb IAmb 10 55 11.3
comp=Z,17nm,1.2s
W18A Petrified Fore 69.86 325 P P 10 55 11.0 +1.8
baz=139
D55A Sainte-Anne-du 69.88 355 P P 10 55 09.1 +0.3
baz=173
S22A 4UR Ranch, Cre 70.41 328 P P 10 55 14.3 +1.6
baz=142
Q24A Divide 70.59 330 P P 10 55 15.4 +1.7
baz=144,SNR=6.7
Y14A Wickenburg 70.80 322 P P 10 55 16.4 +1.6
MVCO Mesa Verde 70.82 327 P P 10 55 17.0 +1.9
baz=141,SNR=7.0
MVCO Mesa Verde 70.82 327 P P 10 55 16.5 +1.4
MVCO IAmb IAmb 10 55 17.7
comp=Z,14nm,0.9s
WUAZ Wupatki 71.04 324 P P 10 55 18.9 +2.5
baz=138,SNR=8.4
ECSD EROS Data Cent 71.24 339 P P 10 55 17.5 +0.3
baz=152,SNR=6.7
SPMN Marine on St. 71.40 342 P P 10 55 17.9 -0.1
baz=156,SNR=6.3
ISCO Idaho Springs 71.48 330 P P 10 55 20.8 +1.7
baz=144,SNR=8.0
ISCO Idaho Springs 71.48 330 P P 10 55 20.0 +0.9
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 71.48 330 P P 10 55 20.0 +0.9
IKP In-Ko-Pah, Jac 71.72 319 P P 10 55 22.7 +2.3
baz=134
PV12 Saucer Basin, 71.83 327 P P 10 55 22.7 +1.6
BC3 Big Chuckawall 72.02 320 P P 10 55 24.1 +1.8
baz=135,SNR=7.9
LSQQ Lebel-sur-Quev 72.04 354 P P 10 55 21.7 -0.1
baz=171
MONP2 Monument Peak 72.08 319 P P 10 55 24.5 +1.8
baz=134
BAR Barrett 72.08 318 P P 10 55 23.7 +1.2
IRM Iron Mountain 72.19 320 P P 10 55 25.3 +2.2
baz=135,SNR=6.2
U15A North Rim 72.22 324 P P 10 55 25.3 +1.8
N23A Red Feather La 72.51 331 P P 10 55 27.0 +1.8
baz=144,SNR=6.3
BELC Belle Mtn. Jos 72.59 320 P P 10 55 27.7 +2.0
baz=134
TPFO Pinon Flats 72.59 319 P P 10 55 27.8 +2.2
baz=134
PFO Pinyon Flats O 72.59 319 P P 10 55 27.3 +1.7
baz=134
PFO Pinyon Flats O 72.59 319 *i* P **P 10 55 26.3 +0.6**
PFO pmax pmax
comp=Z,9.0nm,1.0s
GMRC Granite Mounta 72.94 321 P P 10 55 29.9 +2.2
baz=135,SNR=12
KOWA Kowa 72.94 66 P P 10 55 28.4 +0.4
KOWA IAmb IAmb 10 55 35.9
comp=Z,15nm,0.8s
O20A White River Ci 72.97 329 P P 10 55 29.8 +2.0
baz=142,SNR=14
MURC Murrieta 73.03 319 P P 10 55 30.3 +2.2
baz=133
HEC Hector,Ludlow 73.36 320 P P 10 55 32.6 +2.5
baz=134,SNR=5.2
Q16A Castle Valley 73.48 326 P P 10 55 33.0 +2.2
TUQ Turquoise Moun 73.55 321 P P 10 55 33.4 +2.2
baz=135
BFSC Mount Baldy Ra 73.75 319 P P 10 55 34.0 +1.5
baz=133
GSC Goldstone, Bar 73.97 320 P P 10 55 35.8 +2.2
baz=134
PASC Pasadena Art C 74.02 319 P P 10 55 35.2 +1.4
SHOC Shoshone, Teco 74.08 321 P P 10 55 35.9 +1.7
baz=134
K22A Casper 74.18 332 P P 10 55 36.3 +1.5
baz=144

RSSD	Black Hills	74.33	334		P		P		10 55 37.2	+1.5
	baz=146									
EDW2	Edwards Air Fo	74.39	319		P		P		10 55 37.7	+1.7
	baz=133									
LRMC	Laurel Mtn Rad	74.61	320		P		P		10 55 39.1	+1.7
	baz=133									
TPNV	Topopah Spring	74.80	322		P		P		10 55 41.0	+2.5
	baz=135,SNR=6.7									
FURC	Furnace Creek,	74.81	321		P		P		10 55 40.9	+2.5
	baz=134,SNR=9.3									
MPMC	Manual Prospec	74.89	320		P		P		10 55 40.5	+1.4
	baz=134,SNR=6.3									
SYO	Syowa Base	74.98	159	↑	*e*P		P		10 55 38.0	-0.9
AGMN	Agassiz Nation	75.07	341		P		P		10 55 39.7	+0.1
	baz=154									
ISA	Isabella, Lake	75.21	320		P		P		10 55 43.0	+2.2
	baz=133,SNR=9.0									
TCUT	Toone Canyon	75.26	328		P		P		10 55 42.7	+1.6
DUG	Dugway, Tooele	75.28	326		P		P		10 55 43.2	+2.1
	baz=138,SNR=8.2									
R11A	Troy Canyon, C	75.41	323		P		P		10 55 44.2	+2.2
	baz=136,SNR=12									
PKM	Mcpherson Peak	75.50	318		P		P		10 55 44.8	+2.2
	baz=132									
CWC	Cottonwood Cre	75.50	320		P		P		10 55 44.5	+1.9
	baz=133									
VNDA	Vanda	75.62	190		P		P		10 55 44.4	+2.0
	comp=Z,2.9nm,0.9s,baz=129,slow=5.2,SNR=16									
VNDA					LR		LR		11 27 30.5	
	comp=Z,36nm,18.9s,baz=314,slow=34									
VNDA	Vanda	75.62	190		P		P		10 55 43.7	+1.3
VNDA					pmax		pmax			
	comp=Z,4.0nm,1.0s									
VNDA	Vanda	75.62	190		P		P		10 55 43.7	+1.3
BW06	Boulder Array	75.64	330		P		P		10 55 44.3	+1.0
	baz=141									
PDAR	Pinedale Array	75.64	330		P		P		10 55 44.1	+0.8
	comp=Z,1.9nm,0.7s,baz=138,slow=7.7,SNR=17									
VES	Vestal, Richgr	75.69	319		P		P		10 55 45.4	+2.0
	baz=132,SNR=6.7									
MDND	Maddock	75.86	339		P		P		10 55 45.2	+1.1
	baz=150,SNR=12									
SMMC	Simmler	75.89	318		P		P		10 55 47.2	+2.5
	baz=132									
ULM	Lac du Bonnet	76.83	342		P		P		10 55 49.8	+0.3
	comp=Z,12nm,0.7s,baz=153,slow=6.1,SNR=19									
OMMB	Old Mammoth Mi	76.84	321		P		P		10 55 51.4	+1.1
NVAR	Mina Array Bea	76.99	322		P		P		10 55 52.2	+1.2
	comp=Z,2.3nm,0.8s,baz=146,slow=7.2,SNR=10									
TOA0	Torodi Ar. Sit	77.18	70		P		P		10 55 51.0	-1.3
TOA0					IAmb		IAmb		10 55 59.9	
	comp=Z,15nm,0.7s									
TORD	Torodi Ar. Bea	77.18	70		P		P		10 55 52.0	-0.3
	comp=Z,8.5nm,0.4s,baz=256,slow=5.4,SNR=78									
TORD	Torodi Ar. Bea	77.18	70		P		P		10 55 51.2	-1.0
KVN	Kaiserville	77.31	322		P		P		10 55 53.7	+1.0
KVN					pmax		pmax			
	comp=Z,11nm,1.0s									
KVN	Kaiserville	77.31	322		P		P		10 55 53.7	+1.0
LAO	LASA Array	77.32	334		P		P		10 55 53.6	+1.2
	baz=144									
RLMT	Red Lodge	77.34	332		P		P		10 55 54.4	+1.6
	baz=142									
WAKR	Walker	77.70	321		P		P		10 55 57.0	+2.1
DGMT	Dagmar	78.00	336		P		P		10 55 57.6	+1.4
	baz=146,SNR=5.8									
VCNR	Virginia City	78.35	322		P		P		10 56 00.2	+1.7
HLID	Hailey	78.57	328		P		P		10 56 01.9	+2.3
	baz=137,SNR=19									
BOZ	Bozeman (W)	78.77	331		P		P		10 56 01.9	+1.4
	baz=140,SNR=5.7									
TSUM	Tsumeb	78.99	106		P		P		10 56 03.3	+0.9
O03E	Paynes Creek	80.25	321		P		P		10 56 08.9	+0.3
	baz=131									
MSO	Missoula	80.75	330		P		P		10 56 12.6	+1.4
	baz=138									
J05D	Fort Rock, OR	81.92	324		P		P		10 56 19.0	+1.6
	baz=132,SNR=5.2									
BOSA	Boshof	82.20	118		P		P		10 56 19.7	+0.3
	comp=Z,5.8nm,0.9s,baz=276,slow=5.9,SNR=7.3									
BOSA	Boshof	82.20	118		P		P		10 56 19.8	+0.3
BOSA					pmax		pmax			
	comp=Z,15nm,1.2s									
BOSA	Boshof	82.20	118		P		P		10 56 19.8	+0.3
I05D	Terrebonne, OR	82.67	325		P		P		10 56 23.3	+2.0
	baz=132									
MAW	Mawson	82.82	163		P		P		10 56 22.5	+0.8
	comp=Z,9.8nm,0.6s,baz=223,slow=4.7,SNR=41									
MAW	Mawson	82.82	163		P		P		10 56 22.1	+0.4
MAW					pmax		pmax			
	comp=Z,3.0nm,0.8s									
MAW	Mawson	82.82	163		P		P		10 56 22.1	+0.4
HAWA	Hanford	83.13	327		P		P		10 56 24.9	+1.4
HAWA					IAmb		IAmb		10 56 25.4	
	comp=Z,22nm,1.4s									
ESDC	Sonseca Array	86.33	44		P		P		10 56 40.3	+0.5
	comp=Z,1.9nm,1.0s,baz=227,slow=2.5,SNR=5.7									
ESDC					LR		LR		11 34 23.6	
	comp=Z,38nm,18.1s,baz=10.0,slow=35									
ESDC	Sonseca Array	86.33	44		P		P		10 56 39.9	+0.1
CASY	Casey	91.12	179		P		P		10 57 02.6	+0.6
YKA	Yellowknife Ar	92.71	340		P		P		10 57 09.2	+0.1
	comp=Z,4.6nm,0.8s,baz=132,slow=4.4,SNR=7.9									
OBN	Obninsk	116.82	39	↑	*e*PKIKP		PKiKP		11 02 41.8	+0.8
OBN					*e*				11 03 18.0	
OBN					*e*				11 03 52.3	
OBN					pmax		pmax			
	comp=Z,3.0nm,0.8s									
SHA1	Shidzhatmaz	120.26	52		*i* PKIKP		PKPdf		11 02 48.3	-0.1
PRGR	Permogore	121.15	31		*e*PKIKP		PKiKP		11 02 49.5	+0.2
PRGR					pmax		pmax			
	comp=Z,11nm,1.1s									
BILL	Bilibino	124.05	338	↓	*e*PKIKP		PKPdf		11 02 52.6	-2.0
BILL					*e*				11 04 47.0	
BILL					pmax		pmax			
	comp=Z,7.0nm,1.6s									
ARU	Arti	128.89	35		*i* PKIKP		PKiKP		11 03 05.4	+0.6
ARU									11 05 14.7	
ARU					SS		SS		11 22 19.2	-2.2
ASAR	Alice Springs	129.00	206		PKP		PKiKP		11 03 06.3	0.0
	comp=Z,4.5nm,0.8s,baz=144,slow=1.9,SNR=26									
ASAR	Alice Springs	129.00	206		PKIKP		PKPdf		11 03 05.3	-0.3
ASAR	Alice Springs	129.00	206		PKPdf		PKiKP		11 03 05.3	-0.3
TIXI	Tiksi	130.24	353		*i* PKIKP		PKiKP		11 03 06.8	-0.3
TIXI					pmax		pmax			
	comp=Z,12nm,1.0s									
SEY	Seymchan	131.63	337		PKP		PKiKP		11 03 10.7	+0.5
	comp=Z,5.5nm,0.9s,baz=109,slow=3.7,SNR=6.9									
SEY	Seymchan	131.63	337		*i* PKIKP		PKiKP		11 03 10.0	-0.2
WRA	Warramunga Arr	132.10	209		PKP		PKPdf		11 03 11.8	+0.4
	comp=Z,3.5nm,0.7s,baz=154,slow=1.6,SNR=42									
WRA	Warramunga Arr	132.10	209		PKIKP		PKiKP		11 03 12.4	-0.2
WRA	Warramunga Arr	132.10	209		PKPdf		PKiKP		11 03 12.4	-0.2
PETK	Petropavlovsk-	134.07	323		PKP		PKiKP		11 03 15.4	0.0
	comp=Z,1.6nm,0.8s,baz=147,slow=2.9,SNR=5.2									
PETK	Petropavlovsk-	134.07	323		PKIKP		PKPdf		11 03 14.3	+0.2
PETK	Petropavlovsk-	134.07	323		PKPdf		PKPdf		11 03 14.3	+0.2
BRVK	Borovoye	136.45	36		*i* PKIKP		PKPdf		11 03 18.9	+0.4
KURK	Kurchatov	142.08	35		*i* PKIKP		PKPdf		11 03 29.5	+0.7
ZALV	Zalesovo Beam	142.89	26		PKP		PKPdf		11 03 28.4	-1.8
	comp=Z,6.4nm,0.9s,baz=297,slow=2.5,SNR=15									
ZALV	Zalesovo Beam	142.89	26		PKIKP		PKPdf		11 03 27.8	-2.4
ZALV	Zalesovo Beam	142.89	26		PKPdf		PKPdf		11 03 27.8	-2.4
AAK	Ala-Archa	143.32	49	*c*	*i* PKIKP		PKPdf		11 03 31.5	0.0
AAK					pmax		pmax			
	comp=Z,21nm,2.5s									
BOD	Bodaibo	145.06	358		*e*PKIKP		PKPbc		11 03 32.6	-0.9
BOD					pmax		pmax			
	comp=Z,30nm,0.9s									
MK31	Makanchi Array	146.32	38	*c*	*i* PKP2		PKPdf		11 03 36.7	+0.3
MKAR	Makanchi Array	146.32	38		PKPbc		PKPbc		11 03 37.4	-0.4
	comp=Z,5.8nm,0.8s,baz=314,slow=2.1,SNR=26									
MKAR	Makanchi Array	146.32	38		PKP2		PKPbc		11 03 37.2	-0.6
MKAR	Makanchi Array	146.32	38				PKPbc		11 03 37.2	-0.6
JKA	Kamikawa-asahi	147.03	317		PKPbc		PKPbc		11 03 40.2	+0.4
ASAJ	Asahikawa	147.03	317		PKPbc		PKPab		11 03 40.9	-0.7
	comp=Z,14nm,0.9s,baz=19,slow=5.0,SNR=4.7									
ASAJ	Asahikawa	147.03	317		PKP2		PKPbc		11 03 40.2	+0.3
ZEA	Zeya	147.04	343		*e*PKP2		PKPab		11 03 40.4	-1.0
ZEA					pmax		pmax			
	comp=Z,28nm,1.2s									
DGZ	Jazzator, Alta	147.07	30		*i* PKP2		PKPbc		11 03 39.0	-1.0
SIJI	Sorong	149.75	221		PKPbc		PKiKP		11 03 48.6	-0.2
	comp=Z,20nm,0.7s,baz=351,slow=11,SNR=5.9									
MOY	Mondy	150.06	14		*e*PKP2		PKiKP		11 03 49.2	+0.8
MOY					pmax		pmax			
	comp=Z,22nm,1.3s									
LEM	Lembang	150.19	172		PKPbc		PKiKP		11 03 49.9	0.0
	comp=Z,50nm,0.8s,baz=316,slow=21,SNR=7.6									
TLY	Talaya	150.56	10		PKPbc		PKiKP		11 03 49.2	-0.1
	comp=Z,2.2nm,0.6s,baz=289,slow=4.3,SNR=3.1									
TLY	Talaya	150.56	10		PKIKP		PKPbc		11 03 48.3	-0.3
TLY	Talaya	150.56	10		PKPbc		PKPbc		11 03 48.3	-0.3
WMQ	Urumqi	151.15	38	*e*	P		PKPdf		11 03 44.6	+0.2
WMQ					pmax		pmax			
	comp=Z,31nm,4.7s									
KAPI	Kappang	151.22	197		PKPbc		PKiKP		11 03 52.8	+1.0
	comp=Z,15nm,0.8s,baz=137,slow=5.3,SNR=4.6									
KAPI	Kappang	151.22	197		PKIKP		PKiKP		11 03 51.9	+0.1
KAPI	Kappang	151.22	197		PKPbc		PKiKP		11 03 51.9	+0.1
USRK	Ussuriysk Ar.	153.03	327		PKPbc		PKiKP		11 03 55.4	+0.8
	comp=Z,3.9nm,0.8s,baz=111,slow=2.4,SNR=7.2									
USRK	Ussuriysk Ar.	153.03	327		PKIKP		PKPbc		11 03 54.4	-0.1
USRK	Ussuriysk Ar.	153.03	327		PKPbc		PKPbc		11 03 54.4	-0.1
MJAR	Matsushiro Arr	153.45	307		PKP		PKPdf		11 03 48.7	+0.8
	comp=Z,0.3nm,0.5s,baz=99,slow=2.0,SNR=2.2									
MJAR					PKPbc		PKiKP		11 03 56.4	+0.6
	comp=Z,2.2nm,0.8s,baz=90,slow=2.2,SNR=8.4									
MJAR					PKPab		PKPab		11 04 09.5	+1.1
	comp=Z,4.3nm,1.1s,baz=92,slow=0.6,SNR=6.8									
MJAR	Matsushiro Arr	153.45	307		PKIKP		PKPdf		11 03 49.0	+1.1
MJAR									11 04 08.5	
MJAR	Matsushiro Arr	153.45	307				PKPdf		11 03 49.0	+1.1
MJAR							PKPbc		11 03 55.4	-0.2
MJAR							PKPab		11 04 08.4	+0.1
MAT	Matsushiro	153.45	307		PKP		PKPbc		11 03 55.6	-0.1
SONM	Songino Array	154.72	9		PKP		PKPdf		11 03 50.3	+0.8
	comp=Z,1.5nm,0.9s,baz=284,slow=0.6,SNR=6.1									
SONM					PKPab		PKPab		11 04 14.3	+0.8
	comp=Z,1.7nm,0.8s,baz=327,slow=3.4,SNR=4.6									
SONM	Songino Array	154.72	9		PKP2		PKPab		11 04 13.9	+0.5
SONM									12 03 49.8	
SONM									12 03 56.0	
SONM	Songino Array	154.72	9				PKPdf		11 03 49.8	+0.3
SONM					PKPbc		PKPbc		11 03 56.0	-2.2
SONM							PKPab		11 04 13.9	+0.5
KSRS	Korea Array	159.93	320		PKP		PKPdf		11 03 57.1	+1.0
	comp=Z,2.6nm,0.9s,baz=96,slow=1.3,SNR=7.5									
GTA	Gaotai	160.60	29	*e*	PKP		PKPdf		11 04 05.1	+8.0
GTA					pPKP		PKPab		11 04 38.8	-0.4
GTA					sPKP				11 04 50.6	
HHC	Hu-ho-hao-te	162.08	1	*e*	P		PKPdf		11 04 01.4	+2.9
NJ2	Nanjing	168.94	327	*e*	P		PKPdf		11 04 04.9	+0.6
NJ2					pmax		pmax			
	comp=Z,13nm,0.5s									

IDC ***12*** *10:53:15.3±2.6,56°.56S×147°.29E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/39, mbtmp4.0/4, Error ellipse: s-maj=160.1km s-min=40.0km az=84.0*
NEIC ***12*** *10:53:19.9±0.6,56°.4S±0°.1×145°.9E±0°.3, h10km±1km, mb4.3/10, Error ellipse: s-maj=26.0km s-min=21.1km az=72.0*

ISC 12 10:53:19.7±0.8,56°.4S±0°.1×145°.9E±0°.1,h10km,n31,
σ1ᵗ11/24,mb4.2/9,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	Macquarie Isla	7.67	81	Pn	Pn	10 55 11.4	+0.1
VNDA	Vanda	21.93	171		P	10 58 13.3	+0.5
STKA	Stephens Creek	24.71	351	P	P	10 58 41.8	+0.9
	1.9nm,0.7s,baz=150,slow=14,SNR=4.2						
STKA	Stephens Creek	24.71	351	P	P	10 58 42.5	+1.6
H01W1	Cape Leeuwin H	30.46	301	T	T	11 32 23.8	
	baz=143,slow=76,SNR=64						
H01W2	Cape Leeuwin H	30.47	301	T	T	11 32 24.0	
	baz=143,slow=76,SNR=80						
H01W3	Cape Leeuwin H	30.48	301	T	T	11 32 25.0	
	baz=143,slow=76,SNR=71						
ASAR	Alice Springs	33.87	340	P	P	11 00 02.8	+0.5
	1.8nm,0.9s,baz=164,slow=8.8,SNR=9.8						
ASAR				PcP	PcP	11 02 38.6	-2.4
	1.0nm,0.9s,baz=163,slow=3.1,SNR=5.3						
ASAR	Alice Springs	33.87	340		P	11 00 02.2	-0.2
WR0	Warramunga Arr	37.37	342	P	P	11 00 31.9	-0.5
WR0				IAmb	IAmb	11 00 41.7	
	comp=Z,5.5nm,1.3s						
WC3	Warramunga Arr	37.40	342	P	P	11 00 32.4	-0.3
WB2	Warramunga Arr	37.42	342	P	P	11 00 32.0	-0.9
WB2				IAmb	IAmb	11 00 32.9	
	comp=Z,4.6nm,0.8s						
WRA	Warramunga Arr	37.42	342	P	P	11 00 32.5	-0.3
	comp=Z,3.2nm,0.8s,baz=166,slow=7.6,SNR=36						
WRA				PcP	PcP	11 02 49.7	-1.7
	comp=Z,1.1nm,0.9s,baz=172,slow=2.9,SNR=4.6						
WRA	Warramunga Arr	37.42	342	P	P	11 00 32.4	-0.4
WRAB	Tennant Creek	37.43	342	P	P	11 00 32.8	-0.2
WRAB				IAmb	IAmb	11 00 33.0	
	comp=Z,3.7nm,0.6s						
WB0	Warramunga Arr	37.58	342	P	P	11 00 33.8	-0.4
WB0				IAmb	IAmb	11 00 45.8	
	comp=Z,6.5nm,1.3s						
KNRA	Kununurra	42.70	335	P	P	11 01 16.6	-0.1
SNAA	Sanae	50.34	192	P	P	11 02 17.0	+0.9
SNAA				IAmb	IAmb	11 02 17.9	
	comp=Z,6.0nm,1.3s						
FAKI	Fak Fak	54.44	343	P	P	11 02 47.9	+0.8
H08S2	Diego Garcia H	74.50	280	T	T	12 27 28.9	
	baz=147,slow=76,SNR=6.9						
H08S1	Diego Carcia H	74.51	280	T	T	12 27 27.8	
	baz=147,slow=76,SNR=8.4						
H08S3	Diego Garcia H	74.52	280	T	T	12 27 30.3	
	baz=147,slow=76,SNR=11						
H03S1	Juan Fernandez	82.38	144	T	T	12 36 36.2	
	baz=201,slow=74,SNR=10.0						
H03S2	Juan Fernandez	82.38	144	T	T	12 36 34.3	
	baz=201,slow=74,SNR=12						
H03S3	Juan Fernandez	82.40	144	T	T	12 36 38.4	
	baz=201,slow=74,SNR=11						
CMAR	Chiang Mai Arr	84.34	316	P	P	11 05 53.2	+1.4
	comp=Z,0.5nm,0.6s,baz=179,slow=4.5,SNR=2.3						
CMAR	Chiang Mai Arr	84.34	316	P	P	11 05 52.7	+1.0
FINES	FINESS Array B	149.52	305	PKPbc	PKPbc	11 13 06.7	-1.0
	comp=Z,2.4nm,0.9s,baz=108,slow=3.1,SNR=6.0						
FINES	FINESS Array B	149.52	305		PKPbc	11 13 06.4	-1.3
GERES	GERESS Array B	150.54	276	PKPbc	PKPbc	11 13 09.4	-1.3
	comp=Z,0.7nm,0.9s,baz=120,slow=3.5,SNR=4.3						
GERES	GERESS Array B	150.54	276		PKPbc	11 13 09.0	-1.7

IDC ***12*** *10:59:15.5±1.2,2°.16S×99°.43E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.0/63, mbtmp4.2/15, ML4.1/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/44, Error ellipse: s-maj=39.4km s-min=14.5km az=56.0*
NEIC ***12*** *10:59:17.8±1.5,2°.27S±0°.09×99°.28E±0°.09, h20km±3km, mb4.5/20, Error ellipse: s-maj=16.5km s-min=7.8km az=47.0*
DJA ***12*** *10:59:19.4±0.9,2°.5S×4°×9°.9E±°, h34km±19km, M4.2/16, mB5.3/2, mb4.2/5, MLv4.2/16, Mw(mB)4.7/2*

ISC 12 10:59:19.2±0.6,2°.24S±0°.06×99°.31E±0°.06,h30km,n85,
σ1ᵗ17/84,mb4.5/22,MS3.5/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	Saibi	0.94	346	P	Pb	10 59 36.2	-0.7
SISI				S	Sb	10 59 48.8	-0.2
KRJI	Kerinci	2.15	86	P	Pn	10 59 52.5	-0.7
KRJI				S	Sn	11 00 19.0	+0.1
PBSI	Pulau Batu	2.41	335	P	Pn	10 59 56.4	-0.2
PBSI				S	Sn	11 00 25.3	+0.3
SDSI	Sungai Dareh	2.48	58	P	Pn	10 59 57.6	0.0
SDSI				S	Sn	11 00 26.9	0.0
MNSI	Mandailing Nat	3.03	5	P	Pn	11 00 04.5	-0.6
MNSI				S	Sn	11 00 40.7	+0.3
MASI	Maura Aman, Be	3.06	107	P	Pn	11 00 04.8	-0.8
MASI				S	Sn	11 00 41.4	+0.2
BKNI	Bangkinang	3.08	34	P	Pn	11 00 05.8	0.0
BKNI	Bangkinang	3.08	34		Pn	11 00 06.5	+0.7
SBSI	Sibolga	3.79	354	P	Pn	11 00 12.2	-3.4
GSI	Gunungsitoli	3.93	334	P	Pn	11 00 17.0	-0.5
GSI	Gunungsitoli	3.93	334		Pn	11 00 17.1	-0.4
GSI				Sn	Sn	11 01 00.0	-2.6
MNAI	Manna	4.20	120	Pn	Pn	11 00 20.4	-0.9
MNAI				Sn	Sn	11 01 05.7	-3.7
LHSI	Lahat	4.49	111	P	Pn	11 00 26.2	+1.0
RPSI	Rantau Prapat	4.92	355		Pn	11 00 30.3	-0.8
RPSI	Rantau Prapat	4.92	355	Pn	Pn	11 00 29.5	-1.6
PSI	Prapat	5.02	356	Pn	Pn	11 00 30.3	-2.4
	2.8nm,0.3s,baz=181,slow=9.5,SNR=8.2						
MDSI	Maura Dua	5.34	115	P	Pn	11 00 37.5	+0.5
	0.2nm1μm17nm,0.8s						
LWLI	Liwa	5.48	120	P	Pn	11 00 38.8	-0.2
DSRI	Dabo	5.54	72	P	Pn	11 00 39.4	-0.4
	0.1nm19nm,0.4s						
KLSI		5.93	114	P	Pn	11 00 45.2	+0.2
	0.0nm12nm,1.6s						
MYKOM	Kota Tinggi	6.05	49		Pn	11 00 47.0	+0.3
IPM	Ipoh	6.89	14	Pn	Pn	11 00 59.0	+0.7
KULM	Kulim	7.60	10	Pn	Pn	11 01 07.8	-0.2
LEM	Lembang	9.45	119	Pn	Pn	11 01 32.5	-1.0
	5.4nm,0.3s,baz=319,slow=19,SNR=1.8						
SBUM	Sibu	13.72	70		Pn	11 02 32.7	+0.9
KKM	Kota Kinabalu	18.78	64	P	P	11 03 36.0	-0.4
KKM				IAmb	IAmb	11 03 37.3	
	comp=Z,20nm,0.8s						
SPSI	Sidrap Palu	20.50	95	P	P	11 03 55.1	+0.1
MYLDM	Lahad Datu	20.54	69	P	Pn	11 03 57.2	-0.6
MYLDM				IAmb	IAmb	11 04 05.4	
	comp=Z,18nm,0.9s						
CM31	Chiang Mai Arr	20.57	359	P	P	11 03 54.3	-1.5
CMAR	Chiang Mai Arr	20.57	359	P	P	11 03 55.0	-0.7
	comp=Z,1.8nm,0.7s,baz=187,slow=10,SNR=11						
CMAR	Chiang Mai Arr	20.57	359		P	11 03 55.4	-0.4
BNSI	Bone	20.87	96	P	P	11 03 53.8	-5.2
GTOI	Gorontalo	23.86	83	P	P	11 04 30.7	+0.4
H08S2	Diego Garcia H	27.25	258	T	T	11 33 30.4	
	baz=79,slow=75,SNR=702						
H08S3	Diego Garcia H	27.25	258	T	T	11 33 33.6	
	baz=79,slow=75,SNR=641						
H08S1	Diego Carcia H	27.26	258	T	T	11 33 34.5	
	baz=79,slow=75,SNR=678						
AAI	Ambon	28.88	94	P	P	11 05 13.7	-1.9
KNRA	Kununurra	31.94	116	P	P	11 05 41.3	-1.3
H01W3	Cape Leeuwin H	35.29	159	T	T	11 43 29.0	
	baz=334,slow=76,SNR=48						
H01W2	Cape Leeuwin H	35.30	159	T	T	11 43 30.6	
	baz=334,slow=76,SNR=50						
H01W1	Cape Leeuwin H	35.30	159	T	T	11 43 32.0	
	baz=334,slow=76,SNR=47						
LZH	Lanzhou	38.36	6	*e*P	P	11 06 38.7	+0.8
LZH				pP	pP	11 06 47.5	+1.1
LZH				sP	sP	11 06 52.0	+2.1
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
WB0	Warramunga Arr	38.45	119	P	P	11 06 38.6	-0.1
WRA	Warramunga Arr	38.47	120	P	P	11 06 38.6	-0.2
	comp=Z,3.1nm,0.7s,baz=304,slow=9.1,SNR=14						
WRA	Warramunga Arr	38.47	120	P	P	11 06 38.6	-0.2
WRAB	Tennant Creek	38.47	120	P	P	11 06 39.0	+0.1
WRAB				IAmb	IAmb	11 06 39.9	
	comp=Z,5.3nm,0.7s						
WB2	Warramunga Arr	38.48	120	P	P	11 06 38.8	-0.1
WB2				IAmb	IAmb	11 06 39.9	
	comp=Z,4.5nm,0.7s						
WR0	Warramunga Arr	38.65	120	P	P	11 06 40.4	+0.1
ASAR	Alice Springs	39.67	125	P	P	11 06 49.1	+0.2
	comp=Z,1.6nm,0.5s,baz=303,slow=8.1,SNR=9.5						
ASAR				LR	LR	11 24 59.6	
	comp=Z,121nm,19.0s,baz=302,slow=39						
ASAR	Alice Springs	39.67	125	P	P	11 06 48.6	-0.3
GTA	Gaotai	41.45	1	*e*P	P	11 07 04.3	+0.8
GTA				pP	pP	11 07 11.5	-0.5
GTA				sP	sP	11 07 14.7	-0.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC	Hu-ho-hao-te	44.32	13	*e*P	P	11 07 27.6	+0.9
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,540nm,7.6s						
WSAR	Wadi Sarin	47.02	305	LR	LR	11 27 22.1	

SOEI	Soe	4.31	124	P	P	11 01 47.2	+2.8
TTSI	Tana Toraja	4.33	349	P	P	11 01 48.3	+3.8
KBKI	Kotabaru	6.00	312	P	P	11 02 03.9	+4.3
	0.2nm54nm,0.5s						
JAGI	Jajag, Banyuwa	6.54	260	P	P	11 02 07.0	+2.1
MPSI	Mapaga	7.65	354	P	P	11 02 19.3	+3.2
UGM	Wanagama	10.06	266		P	11 02 39.2	-2.1
KNRA	Kununurra	11.49	137	P	P	11 02 57.5	+1.1
MTN	Manton Dam	11.68	119	P	P	11 02 59.3	+0.8
FITZ	Fitzroy Crossi	11.76	156	P	P	11 03 00.9	+1.7
	1.1nm,0.3s,baz=352,slow=-9.4,SNR=44						
FITZ	Fitzroy Crossi	11.76	156	P	P	11 03 01.2	+1.9
SBUM	Sibu	12.85	319	P	P	11 03 13.8	+2.8
KSM	Kuching	13.52	310	P	P	11 03 20.4	+2.3
KKM	Kota Kinabalu	14.00	341	P	P	11 03 26.3	+3.1
PSA00	Pilbara Seismi	14.19	183	P	P	11 03 26.2	+1.3
WB0	Warramunga Arr	18.18	134	P	P	11 04 05.5	+0.1
WB0				IAmb	IAmb	11 04 06.8	
	comp=Z,8.3nm,0.7s						
WRA	Warramunga Arr	18.26	135	P	P	11 04 05.8	-0.3
	comp=Z,1.8nm,0.3s,baz=313,slow=10,SNR=87						
WRA				ScP	ScP	11 10 55.6	-4.3
	comp=Z,0.0nm,0.3s,baz=323,slow=2.6,SNR=2.3						
WRA	Warramunga Arr	18.26	135	P	P	11 04 05.4	-0.7
WRAB	Tennant Creek	18.26	135	P	P	11 04 06.2	+0.1
WRAB				IAmb	IAmb	11 04 07.3	
	comp=Z,17nm,0.9s						
WB2	Warramunga Arr	18.27	135	P	P	11 04 06.0	-0.1
WR0	Warramunga Arr	18.41	134	P	P	11 04 07.6	+0.1
AS31	Alice Springs	20.64	143	P	P	11 04 27.8	+0.1
AS31				IAmb	IAmb	11 04 28.4	
	comp=Z,2.1nm,0.5s						
ASAR	Alice Springs	20.64	143	P	P	11 04 27.7	-0.1
	comp=Z,3.8nm,0.4s,baz=318,slow=8.3,SNR=68						
ASAR				ScP	ScP	11 11 01.2	-4.1
	comp=Z,1.2nm,0.6s,baz=342,slow=3.1,SNR=8.5						
ASAR	Alice Springs	20.64	143	P	P	11 04 27.4	-0.4
MORW	Morawa	22.06	191	P	P	11 04 41.1	+0.5
MORW				IAmb	IAmb	11 04 41.4	
	comp=Z,11nm,0.9s						
COEN	Coen	23.08	108	P	P	11 04 49.0	-0.9
COEN				IAmb	IAmb	11 04 50.7	
	comp=Z,7.1nm,1.3s						
FORT	Forrest	24.34	164	P	P	11 05 01.1	+0.2
GSI	Gunungsitoli	24.57	290	P	P	11 05 00.4	-2.7
BBOO	Buckleboo	29.12	153	P	P	11 05 42.9	-0.1
BBOO				IAmb	IAmb	11 05 51.7	
	comp=Z,28nm,1.4s						
YULB	Yu-li	30.54	1	P	P	11 05 56.2	+0.9
STKA	Stephens Creek	31.27	144	P	P	11 06 01.9	+0.2
	comp=Z,8.2nm,0.4s,baz=321,slow=8.8,SNR=29						
STKA	Stephens Creek	31.27	144	P	P	11 06 01.8	+0.2
JMZ	Minamidaito 2	34.51	17	P	P	11 06 30.3	+1.2
TOO	Toolangi	37.61	147	P	P	11 06 55.9	+1.1
TOO				IAmb	IAmb	11 07 13.6	
	comp=Z,23nm,1.5s						
CAN	Canberra	38.11	141	P	P	11 06 59.7	+0.8
CAN				IAmb	IAmb	11 07 08.4	
	comp=Z,15nm,1.2s						
JGF	Kuroka	45.50	19	P	P	11 07 56.1	-1.3
JGF				IAmb	IAmb	11 08 06.5	
	comp=Z,31nm,1.5s						
JSD	Sado	48.02	19	P	P	11 08 14.6	-1.7
JSD				IAmb	IAmb	11 08 31.2	
	comp=Z,18nm,1.2s						
SONM	Songino Array	56.35	349	P	P	11 09 15.3	-0.9
	comp=Z,1.8nm,0.5s,baz=161,slow=6.4,SNR=4.7						
SONM	Songino Array	56.35	349	P	P	11 09 15.4	-0.9
RPZ	Rata Peaks	56.93	138	P	P	11 09 20.3	0.0
URZ	Urewera	59.36	130	P	P	11 09 35.9	-1.0
URZ				IAmb	IAmb	11 09 49.6	
	comp=Z,18nm,1.2s						
MK31	Makanchi Array	63.74	332	P	P	11 10 04.7	-0.7
MKAR	Makanchi Array	63.74	332	P	P	11 10 04.8	-0.7
	comp=Z,3.7nm,0.6s,baz=139,slow=7.8,SNR=17						
PEA0B	Petropavlovsk-	67.90	23	P	P	11 10 30.6	-0.6
PEA0B				IAmb	IAmb	11 10 44.4	
	comp=Z,30nm,1.3s						
PETK	Petropavlovsk-	67.90	23	P	P	11 10 30.6	-0.7
	comp=Z,3.6nm,0.8s,baz=181,slow=1.3,SNR=8.9						
PETK	Petropavlovsk-	67.90	23	P	P	11 10 30.7	-0.5
ZAA0	Zalesovo Array	68.09	338	P	P	11 10 30.5	-1.8
ZALV	Zalesovo Beam	68.09	338	P	P	11 10 30.3	-2.0
	comp=Z,2.5nm,0.4s,baz=137,slow=4.8,SNR=9.5						
ZALV	Zalesovo Beam	68.09	338	P	P	11 10 30.5	-1.8
VNDA	Vanda	73.38	171	P	P	11 11 03.3	0.0
ABKAR	Akbulak array	77.16	324	P	P	11 11 23.4	-1.4
QSPA	South Pole Qui	82.66	180	P	P	11 11 52.1	-1.6
	comp=Z,0.9nm,1.0s,baz=270,slow=3.0,SNR=1.3						
QSPA	South Pole Qui	82.66	180	P	P	11 11 51.4	-2.3
TORD	Torodi Ar. Bea	119.77	281	PKP	PKPdf	11 18 15.3	-1.9
	comp=Z,0.2nm,0.3s,baz=66,slow=2.4,SNR=1.5						
TORD	Torodi Ar. Bea	119.77	281		PKPdf	11 18 15.1	-2.1
WVT	Waverly	141.28	38	PKPdf	PKPdf	11 18 55.6	-1.5

*IDC **12** 11:29:17.8±0.9, 57°.33N×33°.41W, h0km, mb3.6/12, mb1 3.8/12, mb1mx3.6/46, mbtmp3.6/12, MS3.2/7, Ms1 3.2/7, ms1mx3.0/38, Error ellipse: s-maj=31.7km s-min=17.8km az=9.0*

ISC 12 11:29:20.2±0.8, 57°.3N±0°.2×33°.4W±0°.1, h16km, n19, σ0.73/13, mb3.7/12, MS3.3/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	NORSAR Array B	22.80	62	LR	LR	11 41 44.8	
	comp=Z,21nm,19.6s,baz=245,slow=3						
HFS	Hagfors	24.19	63	LR	LR	11 41 54.7	
	comp=Z,34nm,20.3s,baz=265,slow=31						
ESDC	Sonseca Array	26.00	120	P	P	11 34 52.5	+0.3
	0.9nm,0.9s,baz=293,slow=6.8,SNR=3.4						
DAVOX	Davos/Dischmat	28.15	93	LR	LR	11 45 54.2	
	comp=Z,77nm,18.4s,baz=262,slow=35						
RES	Resolute Bay	28.51	331	LR	LR	11 46 19.6	
	comp=Z,89nm,20.2s,baz=234,slow=36						
AKASG	Malin Array	36.20	73	P	P	11 36 20.2	-1.5
	0.3nm,0.4s,baz=310,slow=8.2,SNR=1.8						
ULM	Lac du Bonnet	36.38	286	LR	LR	11 48 46.9	
	comp=Z,77nm,21.3s,baz=101,slow=32						
YKA	Yellowknife Ar	38.50	313	LR	LR	11 50 06.5	
	comp=Z,76nm,20.0s,baz=0.0,slow=32						
BRTR	Keskin Array B	45.73	83	P	P	11 37 41.5	+1.0
	0.8nm,0.8s,baz=331,slow=3.9,SNR=4.6						
BRTR				LR	LR	11 56 27.2	
	comp=Z,16nm,20.0s,baz=306,slow=36						
ILAR	Eielson Array	48.21	328	P	P	11 37 59.7	+0.4
	1.0nm,0.9s,baz=38,slow=6.9,SNR=7.1						
PDAR	Pinedale Array	48.40	287	P	P	11 38 01.1	-0.3
	0.5nm,0.5s,baz=86,slow=7.6,SNR=5.3						
AKTO	Aktyubinsk	50.40	56	P	P	11 38 17.2	+1.0
	1.9nm,1.0s,baz=315,slow=9.1,SNR=3.8						
TORD	Torodi Ar. Bea	51.52	134	P	P	11 38 24.9	-0.1
	0.6nm,0.8s,baz=333,slow=6.8,SNR=2.6						
BVAR	Borovoye Array	53.73	47	P	P	11 38 41.5	+0.4
	0.4nm,0.7s,baz=140,slow=7.5,SNR=2.2						
TXAR	Lajitas Array	55.30	271	P	P	11 38 52.8	0.0
	0.3nm,0.8s,baz=42,slow=7.2,SNR=1.5						
NVAR	Mina Array Bea	56.09	290	P	P	11 38 58.8	+0.2
	0.5nm,0.7s,baz=52,slow=5.8,SNR=2.8						
MKAR	Makanchi Array	63.32	44	P	P	11 39 47.7	-0.3
	0.3nm,0.6s,baz=324,slow=6.0,SNR=3.8						
SONM	Songino Array	70.01	28	P	P	11 40 30.6	-0.1
	0.8nm,0.6s,baz=330,slow=8.3,SNR=3.7						
ASAR	Alice Springs	145.13	21	PKPbc	PKPbc	11 48 55.4	-0.7
	2.0nm,0.9s,baz=352,slow=3.2,SNR=12						

WEL 12 11:40:09.0, 43°.S±1°×17°.2E±°, h10km±2km, M2.0/9, ML2.2/9, MLv2.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	Oxford	0.14	128	P	Pb	11 40 13.3	-0.5
MHCZ	Mount Hutt	0.37	218	P	Pb	11 40 18.1	+0.3
LTZ	Lake Taylor	0.54	32	P	Pb	11 40 20.8	+0.3
AMCZ	Amberley	0.56	84	P	Pb	11 40 21.5	+0.6
INZ	Inchbonnie	0.61	328	P	Pb	11 40 22.2	+0.5
WACZ	Wakanui South	0.70	183	P	Pb	11 40 24.1	+0.8
MQZ	McQueen's Vall	0.73	130	P	Pb	11 40 23.7	0.0
RPZ	Rata Peaks	0.77	232	P	Pn	11 40 25.3	-0.7
ARCZ	Arundel	0.88	216	P	Pn	11 40 27.1	-0.3
GVZ	Greta Valley S	0.88	72	P	Pn	11 40 27.0	-0.5
AKCZ	Akaroa Harbour	0.98	131	P	Pg	11 40 27.9	+0.1
OKCZ	Okains Bay	0.98	120	P	Pn	11 40 28.9	+0.1
KHZ	Kahutara	1.47	56	P	Pn	11 40 35.3	-0.1
DSZ	Denniston Nort	1.50	358	P	Pg	11 40 38.6	+0.9
ODZ	Otahua Downs	2.01	206	P	Pg	11 40 47.4	-0.2
RRRZ	Republican Roa	6.02	37	P	Pn	11 41 44.4	+6.2
ETAZ	East Tamaki Re	6.70	21	P	Pn	11 41 51.8	+4.4

*IDC **12** 11:45:21.3±2.5, 2°.22S×99°.44E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/45, mbtmp3.9/7, Error ellipse: s-maj=89.8km s-min=19.3km az=58.0*

*NEIC **12** 11:45:24.7±1.8, 2°.4S±0°.1×99°.28E±0°.10, h30km±4km, mb4.2/9, Error ellipse: s-maj=18.8km s-min=9.2km az=220.0*

ISC 12 11:45:25.0±0.9, 2°.3S±0°.1×99°.3E±0°.1, h32km, n36, σ0.94/28, mb4.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	3.10	33	Pn	Pn	11 46 13.0	+1.3
GSI	Gunungsitoli	3.97	334	Pn	Pn	11 46 22.3	-1.5
MNAI	Manna	4.16	120	Pn	Pn	11 46 26.2	-0.1
MYKOM	Kota Tinggi	6.06	48	Pn	Pn	11 46 52.0	-0.4
CISI	Cisompet, Garu	9.94	122	Pn	Pn	11 47 42.9	-2.8
KKM	Kota Kinabalu	18.77	64	P	P	11 49 41.0	-0.8
KKM				IAmb	IAmb	11 49 45.3	
	comp=Z,13nm,1.0s						
MYLDM	Lahad Datu	20.53	69	P	Pn	11 50 02.6	-0.6
MYLDM				IAmb	IAmb	11 50 11.8	
	comp=Z,10nm,1.1s						
CMAR	Chiang Mai Arr	20.61	359	P	P	11 50 02.0	+0.2
	comp=Z,0.5nm,0.5s,baz=191,slow=9.2,SNR=2.4						
H08S2	Diego Garcia H	27.26	258	T	T	12 19 37.2	
	baz=80,slow=75,SNR=354						
H08S3	Diego Garcia H	27.27	258	T	T	12 19 37.6	
	baz=80,slow=75,SNR=428						
H08S1	Diego Garcia H	27.28	258	T	T	12 19 41.1	
	baz=80,slow=75,SNR=320						
H01W3	Cape Leeuwin H	35.24	159	T	T	12 29 29.7	
	baz=334,slow=76,SNR=37						
H01W2	Cape Leeuwin H	35.25	159	T	T	12 29 34.5	
	baz=334,slow=76,SNR=40						
H01W1	Cape Leeuwin H	35.26	159	T	T	12 29 30.9	
	baz=334,slow=76,SNR=34						
WB0	Warramunga Arr	38.41	119	P	P	11 52 43.9	0.0
WB0				IAmb	IAmb	11 52 57.7	
	comp=Z,5.7nm,1.1s						
WRA	Warramunga Arr	38.43	120	P	P	11 52 44.4	+0.3
	comp=Z,1.2nm,0.7s,baz=304,slow=9.1,SNR=15						
WRA	Warramunga Arr	38.43	120	P	P	11 52 44.1	+0.1
WRAB	Tennant Creek	38.43	120	P	P	11 52 44.9	+0.8
WRAB				IAmb	IAmb	11 52 46.1	
	comp=Z,6.2nm,1.4s						
WB2	Warramunga Arr	38.44	120	P	P	11 52 44.3	+0.2
WR0	Warramunga Arr	38.61	120	P	P	11 52 45.9	+0.4
WR0				IAmb	IAmb	11 53 04.8	
	comp=Z,4.9nm,1.3s						
ASAR	Alice Springs	39.63	125	P	P	11 52 54.5	+0.5
	comp=Z,0.6nm,0.5s,baz=299,slow=7.4,SNR=13						
CHGR	Chuyangaron	49.33	329	P	P	11 54 13.6	+2.2
SONM	Songino Array	50.29	6	P	P	11 54 19.2	+0.6
	comp=Z,1.5nm,0.6s,baz=187,slow=8.8,SNR=7.1						
SONM	Songino Array	50.29	6	P	P	11 54 18.4	-0.1
MKAR	Makanchi Array	51.12	345	P	P	11 54 25.5	+0.7
	comp=Z,0.9nm,0.5s,baz=154,slow=8.1,SNR=13						
MKAR	Makanchi Array	51.12	345	P	P	11 54 25.0	+0.2
USRK	Ussuriysk Ar.	54.72	28	P	P	11 54 51.4	+0.2
	comp=Z,2.2nm,0.6s,baz=224,slow=8.1,SNR=6.0						
ZALV	Zalesovo Beam	57.32	350	P	P	11 55 10.2	+0.5
	comp=Z,1.3nm,0.4s,baz=177,slow=5.8,SNR=8.3						
ZALV	Zalesovo Beam	57.32	350	P	P	11 55 10.4	+0.7
ABKAR	Akbulak array	61.57	332	P	P	11 55 38.6	-0.6
MCMT	McKenzie Canyo	129.02	29		PKPpre	12 04 21.2	
ISA	Isabella, Lake	131.74	42		PKPdf	12 04 35.5	0.0
TX31	Lajitas Ar. Si	145.32	37	PKPdf	PKPdf	12 05 01.4	+0.9
TX32	Lajitas Array	145.32	37	PKPdf	PKPdf	12 05 00.9	+0.5
TXAR	Lajitas Array	145.32	37	PKPbc	PKPdf	12 05 01.2	+0.7
	comp=Z,1.2nm,0.7s,baz=297,slow=1.4,SNR=19						
TXAR	Lajitas Array	145.32	37	PKPdf	PKPdf	12 05 00.7	+0.2

*STR **12** 12:13:28.5±0.6, 44°.N±5°×°±°, h5km±5km, MLv2.4/9, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*ROM **12** 12:13:29.6±0.2, 43°.66N±0°.01×8°.06E±0°.01, h12km±2km, ML2.4/11, Error ellipse: s-maj=1.2km s-min=0.1km az=31.0*

*LDG **12** 12:13:29.5±0.1, 43°.62N×8°.07E, h7km, Md2.6/2, Ml2.5/15, Error ellipse: s-maj=1.4km s-min=1.2km az=48.0*

*GEN **12** 12:13:30.8, 43°.69N×8°.07E, h7km±2km, Ml2.1*

ISC 12 12:13:28.7±1.1, 43°.63N±0°.02×8°.11E±0°.02, h19km±3km, n63, σ0.78/104, 1C-3D, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMI	Imperia	0.32	331	P	Pg	12 13 36.0	+0.2
IMI				S	Sg	12 13 39.8	-0.9
IMI	Imperia	0.32	331	||P	Pg	12 13 36.0	+0.2
IMI				S	Sg	12 13 39.8	-0.9
IMI				AML	AML		
	comp=E,1395μm,0.6s						
IMI				AML	AML		
	comp=N,1002μm,0.1s						
MGRO	Montegrosso	0.47	333	P	Pg	12 13 38.6	+0.2
MGRO				S	Sg	12 13 44.2	-0.7
MGRO	Montegrosso	0.47	333	P	Pg	12 13 38.6	+0.2
MGRO				S	Sg	12 13 44.2	-0.7
MGRO				AML	AML		
	comp=E,319μm,0.1s						
MGRO				AML	AML		
	comp=N,317μm,0.4s						
MGRO				AML	AML		
	comp=E,318μm,0.1s						
MGRO				AML	AML		
	comp=N,318μm,0.4s						
RORO	Rocca Rossa	0.48	357	P	Pb	12 13 39.1	+0.5
RORO				S	Sg	12 13 44.9	-0.4
RORO	Rocca Rossa	0.48	357	P	Pb	12 13 39.0	+0.4
RORO				S	Sg	12 13 44.9	-0.4
RORO				AML	AML		
	comp=E,572μm,0.3s						
RORO				AML	AML		
	comp=N,560μm,0.1s						
MON	Monaco	0.50	282	Pg	Pb	12 13 39.7	+0.7
MON				Sg	Sb	12 13 47.0	+1.1
SAOF	Saorge	0.54	312	Pg	Pg	12 13 39.7	+0.2
SAOF				Sg	Sg	12 13 47.0	+0.2
SAOF	Saorge	0.54	312	P	Pg	12 13 39.8	+0.2
SAOF				S	Sg	12 13 46.7	-0.2
SAOF	Saorge	0.54	312	AML	AML		
	comp=N,1295μm,0.9s						
SAOF				AML	AML		
	comp=E,1006μm,1.3s						
SBF	Sospel	0.54	296	ePg	Pb	12 13 40.2	+0.6
SBF				eSg	Sg	12 13 46.7	-0.3
	comp=E,246nm,0.2s						
ESCA	l'Escarene	0.57	291	Pg	Pb	12 13 40.8	+0.8
ESCA				Sg	Sg	12 13 48.1	+0.3
FINB	Finale Ligure	0.57	16	||P	Pb	12 13 41.0	+0.9
FINB				S	Sb	12 13 48.3	+0.5
FINB				AML	AML		
	comp=N,231μm,0.2s						
FINB				AML	AML		
	comp=E,167μm,0.3s						
TURF	col de Turini	0.62	304	Pg	Pb	12 13 41.4	+0.4
TURF				Sg	Sg	12 13 49.1	-0.5
GBOS	Grotte di Boss	0.64	343	P	Pb	12 13 41.7	+0.4
GBOS				S	Sb	12 13 49.5	-0.4
GBOS	Grotte di Boss	0.64	343	P	Pb	12 13 41.8	+0.4
GBOS				S	Sb	12 13 49.5	-0.4
QLNO	Quiliano	0.72	14	P	Pg	12 13 43.4	+0.5
QLNO				S	Sg	12 13 52.7	+0.2
QLNO				AML	AML		
	comp=E,187μm,0.2s						
QLNO				AML	AML		
	comp=N,185μm,1.4s						
ENR	Entracque	0.78	321	P	Pb	12 13 44.1	+0.5
ENR				S	Sb	12 13 53.3	-0.5
ENR	Entracque	0.78	321	||P	Pb	12 13 44.1	+0.5
ENR				S	Sb	12 13 54.1	+0.2
ENR				AML	AML		
	comp=E,354μm,0.6s						
ENR				AML	AML		
	comp=N,459μm,0.1s						
STV	Sant Anna di V	0.84	318	P	Pb	12 13 45.2	+0.5
STV				S	Sb	12 13 55.2	-0.3
STV	Sant Anna di V	0.84	318	||P	Pb	12 13 45.2	+0.5
STV				S	Sb	12 13 55.1	-0.3
STV				AML	AML		
	comp=N,328μm,0.3s						
STV				AML	AML		
	comp=E,310μm,1.2s						
CALF	Calern	0.87	279	Pg	Pb	12 13 45.7	+0.4
ISO	Isola	0.94	306	Pg	Pb	12 13 47.1	+0.6
ISO				Sg	Sb	12 13 58.4	-0.2
PCP	Piancastagn	0.97	19	P	Pb	12 13 47.3	+0.4
PCP				S	Sg	12 14 00.3	-0.1
PCP				AML	AML		
	comp=N,92μm,1.5s						
PCP				AML	AML		
	comp=E,97μm,1.2s						
FRF	La Foret Royal	1.06	267	ePn	Pb	12 13 48.3	-0.2
FRF	La Foret Royal	1.06	267	ePg	Pb	12 13 48.9	+0.4
FRF				eSg	Sb	12 14 02.8	+0.8
	comp=E,26nm,0.2s						
DOI	San Damiano	1.07	325	P	Pb	12 13 49.0	+0.3
DOI				S	Sb	12 14 02.3	-0.1
DOI				AML	AML		
	comp=E,390μm,1.4s						
DOI				AML	AML		
	comp=N,403μm,0.3s						
PZZ	Stroppo	1.13	321	P	Pn	12 13 49.8	+0.2
PZZ				S	Sb	12 14 04.5	+0.4
PZZ				AML	AML		
	comp=E,254μm,0.2s						
PZZ				AML	AML		
	comp=N,338μm,0.5s						
LMR	La Mourre	1.20	256	ePn	Pn	12 13 50.2	-0.2
LMR	La Mourre	1.20	256	ePg	Pb	12 13 51.5	+0.7
LMR				eSn	Sb	12 14 04.0	-1.9
	comp=N,14nm,0.3s						
MSSA	Maissana	1.23	55	P	Pb	12 13 51.9	+0.5
PGF	Pioggiola	1.26	148	ePn	Pn	12 13 51.9	+0.4
PGF				eSn	Sb	12 14 08.1	+0.3
	comp=N,9.2nm,0.4s						
PGF	Pioggiola	1.26	148	Pg	Pn	12 13 51.8	+0.4
PGF				Sg	Sb	12 14 07.1	-0.7
PGF	Pioggiola	1.26	148	P	Pn	12 13 51.8	+0.4
GROG	Isola di Gorgo	1.31	98	P	Pb	12 13 52.9	+0.1
PLMA	Palmaria, Port	1.33	71	P	Pg	12 13 55.1	+0.6
BHR	Bricherasio	1.36	334	P	Pn	12 13 52.4	-0.2
OGDI	Digne	1.39	291	Pn	Pg	12 13 56.5	+0.9
OGAG	Argentiere	1.40	307	Pn	Pg	12 13 58.6	+2.8
MONC	Moncucco Torin	1.45	355	P	Pb	12 13 55.1	0.0
MBDF	Montbardon	1.46	319	ePn	Pn	12 13 54.8	+0.6
MBDF	Montbardon	1.46	319	ePg	Pg	12 13 56.8	-0.1
MBDF				eSn	Sn	12 14 12.8	0.0
MBDF				eSg	Sg	12 14 15.5	-0.5
	comp=N,44nm,0.4s						
BLAF	les Blancs	1.53	283	Pn	Pg	12 13 58.7	+0.5
RRL	Rocca Remolon	1.60	324	P	Pb	12 13 57.5	-0.3
ASEAF	Site Antares,	1.65	240	Pn	Pb	12 13 59.0	+0.8
ARTF	Artigues	1.67	269	Pn	Pb	12 13 58.6	-0.3
MLYF	Mely	1.73	283	Pg	Pg	12 14 02.3	+0.2
SMPL	Sampolo	1.76	150	Pn	Pb	12 13 59.8	-0.6
SMRF	Simiane la Rot	1.86	282	ePn	Pn	12 13 59.9	+0.3
SMRF	Simiane la Rot	1.86	282	ePg	Pb	12 14 03.8	+1.4
SMRF				eSn	Sn	12 14 22.1	-0.6
SMRF				eSg	Sg	12 14 28.2	-0.7
	comp=N,18nm,0.4s						
ORIF	Oris-en-Rattie	2.05	310	eP	Pb	12 14 04.7	-0.7
ORIF	Oris-en-Rattie	2.05	310	ePg	Pb	12 14 07.2	+1.8
ORIF				eSn	Sn	12 14 27.6	+0.2
ORIF				eSg	Sg	12 14 33.8	-1.1
	comp=N,20nm,0.5s						
ORIF	Oris-en-Rattie	2.05	310	P	Pb	12 14 04.7	-0.7
LPG	La Plagne	2.10	333	ePn	Pn	12 14 03.6	+0.4
LPG	La Plagne	2.10	333	ePg	Pg	12 14 08.8	-0.4
LPG				eSn	Sn	12 14 28.3	-0.6
LPG				eSg	Sg	12 14 35.7	-0.9
	comp=N,4.6nm,0.3s						
LPL	La Plagne	2.13	333	eP	Pb	12 14 06.2	-0.6
LPL	La Plagne	2.13	333	ePg	Pg	12 14 09.4	-0.2
LPL				eSn	Sn	12 14 28.9	-0.5
	comp=N,5.7nm,0.4s						
LPL				eSg	Sg	12 14 36.8	-0.5
	comp=N,4.5nm,0.4s						
VIVF	Saint-Julien-l	2.76	298	ePn	Pn	12 14 12.3	+0.4
VIVF	Saint-Julien-l	2.76	298	eP	Pn	12 14 14.9	+3.0
VIVF	Saint-Julien-l	2.76	298	ePg	Pg	12 14 20.3	-1.3
VIVF				eSn	Sn	12 14 43.3	-1.3
	comp=N,2.7nm,0.3s						
VIVF				eSg	Sg	12 14 55.5	-1.8
	comp=N,3.7nm,0.3s						
CABF	La Chapelle	3.31	335	ePn	Pn	12 14 20.1	+0.6
CABF				eSn	Sn	12 14 57.5	-0.8
	comp=N,0.8nm,0.3s						
HINF	Hinteralfeld	4.28	349	ePn	Pn	12 14 33.3	+0.5
HINF				eSn	Sn	12 15 20.6	-1.6
	comp=N,1.0nm,0.3s						
CDF	Champ du Feu	4.82	353	ePn	Pn	12 14 41.1	+0.8

*KRSC **12** 13:07:37.6±1.2, 55°.60N×161°.37E, h143km±12km, ML3.8*

*IDC **12** 13:07:38.7±3.9, 55°.88N×160°.96E, h137km±38km, mb3.2/4, mb1 3.5/4, mb1mx3.0/39, mbtmp3.6/4, Error ellipse: s-maj=151.1km s-min=23.7km az=140.0*

ISC 12 13:07:39.2±0.8, 55°.59N±0°.04×161°.32E±0°.05, h141km±6km, n44, σ1.05/69, mb3.3/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	Bezymyannyi-Gr	0.50	315	eP	Pn	13 07 59.6	0.0
BZGR				eS	Sn	13 08 15.9	+0.7
ZLN	Zelenaya	0.52	326	eP

PET	**Petropavlovsk**	**3.01**	**212**	*eP*	**Pn**	**13 08 26.9**	**+0.6**
PET				*eS*	**Sn**	**13 09 03.4**	**+0.8**
PETK	**Petropavlovsk-**	**3.27**	**222**	P	**Pn**	**13 08 30.2**	**+0.6**
	0.6nm,0.3s,baz=65,slow=15,SNR=12						
KRMR	**Karymshinskiy**	**3.34**	**215**	*eP*	**Pn**	**13 08 32.2**	**+1.7**
RUS	**Russkaya**	**3.57**	**209**	*eP*	**Pn**	**13 08 33.1**	**-0.4**
RUS				*eS*	**Sn**	**13 09 13.7**	**-1.9**
MTVR	**Mutnovka**	**3.62**	**212**	*eP*	**Pn**	**13 08 35.1**	**+0.8**
MTVR				*eS*	**Sn**	**13 09 17.0**	**0.0**
OSSR	**Ossora**	**3.79**	**14**	*eP*	**Pn**	**13 08 36.5**	**+0.2**
ASAK	**Asacha**	**3.79**	**214**	*eP*	**Pn**	**13 08 37.2**	**+0.7**
ASAK				*eS*	**Sn**	**13 09 21.3**	**+0.3**
KDTR	**Khodutka, Kamc**	**4.25**	**208**	*eP*	**Pn**	**13 08 40.9**	**-1.5**
KDTR				*eS*	**Sn**	**13 09 27.9**	**-3.6**
MJAR	**Matsushiro Arr**	**24.70**	**229**	P	**P**	**13 12 47.2**	**+0.2**
	1.5nm,0.8s,baz=38,slow=8.3,SNR=5.8						
ILAR	**Eielson Array**	**26.58**	**49**	P	**P**	**13 13 03.0**	**-0.7**
	0.3nm,0.6s,baz=264,slow=6.5,SNR=4.3						
ULM	**Lac du Bonnet**	**56.60**	**49**	P	**P**	**13 17 06.5**	**-0.3**
	0.9nm,0.4s,baz=291,slow=8.6,SNR=1.6						
TXAR	**Lajitas Array**	**69.03**	**69**	P	**P**	**13 18 30.1**	**+0.7**
	0.2nm,0.6s,baz=293,slow=6.1,SNR=4.6						

NEIC ***12*** *13:29:04.8±1.6,22°.33S±0°.07×68°.0W±0°.1,h190km±8km, Error ellipse: s-maj=19.9km s-min=10.0km az=91.0*
GUC ***12*** *13:29:05.0±0.7,22°.30S×67°.94W,h191km±5km,ML3.7*
SCB ***12*** *13:29:07.0±1.5,22°.37S×67°.76W,h159km±10km,ML3.7/5, Error ellipse: s-maj=5.1km s-min=3.6km az=0.0*
IDC ***12*** *13:29:13.9±9.2,21°.57S×67°.24W,h216km±61km,mb3.4/2, mb1 3.3/4,mb1mx3.1/22,mbtmp3.8/4, Error ellipse: s-maj=105.8km s-min=26.1km az=24.0*

ISC 12 13:29:04.4±0.9, 22°.32S±0°.04×67°.92W±0°.10, h187km±10km, n68, σ1°91/91, mb4.0/3, 18C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.96**	**252**	⇓*iP*		**Pn**	**Pn**	**13 29 32.8**	**-0.2**
LVC				*iS*		**Sn**	**Sn**	**13 29 53.8**	**-1.2**
LVC	**Limon Verde**	**0.96**	**252**	Pn		**Pn**	**Pn**	**13 29 32.8**	**-0.2**
PB09	**IPOC Station P**	**1.33**	**293**	⇑*iP*		**Pn**	**Pn**	**13 29 36.5**	**+0.8**
PB09				*iS*		**Sn**	**Sn**	**13 30 00.1**	**+0.2**
PB09	**IPOC Station P**	**1.33**	**293**			**Pn**	**Pn**	**13 29 36.3**	**+0.6**
PB09	**IPOC Station P**	**1.33**	**293**	P		**Pn**	**Pn**	**13 29 36.6**	**+0.9**
PB06	**IPOC Station P**	**1.57**	**256**	⇑*iP*		**Pn**	**Pn**	**13 29 38.2**	**+0.4**
PB06				*iS*		**Sn**	**Sn**	**13 30 03.9**	**+0.1**
PB06				IAML				13 30 06.3	
	comp=E,516nm,0.1s								
PB06	**IPOC Station P**	**1.57**	**256**			**Pn**	**Pn**	**13 29 38.3**	**+0.4**
PB06	**IPOC Station P**	**1.57**	**256**	P		**Pn**	**Pn**	**13 29 38.6**	**+0.7**
PB15	**IPOC Station P**	**1.68**	**238**	⇑*iP*		**Pn**	**Pn**	**13 29 39.6**	**+0.7**
PB15				*iS*		**Sn**	**Sn**	**13 30 06.2**	**+0.4**
PB15	**IPOC Station P**	**1.68**	**238**			**Pn**	**Pn**	**13 29 39.6**	**+0.7**
PB03	**IPOC Station P**	**1.72**	**279**	⇑*iP*		**Pn**	**Pn**	**13 29 39.9**	**+0.6**
PB03				*iS*		**Sn**	**Sn**	**13 30 06.2**	**-0.1**
PB03				IAML				13 30 08.2	
	comp=N,317nm,0.1s								
PB07	**IPOC Station P**	**1.92**	**288**	⇑*iP*		**Pn**	**Pn**	**13 29 42.1**	**+0.8**
PB07				*iS*		**Sn**	**Sn**	**13 30 09.5**	**-0.4**
PB07				IAML				13 30 10.4	
	comp=N,448nm,0.3s								
PB07	**IPOC Station P**	**1.92**	**288**			**Pn**	**Pn**	**13 29 41.8**	**+0.4**
PB01	**IPOC Station P**	**1.93**	**311**	⇑*iP*		**Pn**	**Pn**	**13 29 41.8**	**+0.4**
PB01				*iS*		**Sn**	**Sn**	**13 30 09.7**	**-0.4**
PB01				IAML				13 30 11.7	
	comp=N,460nm,0.2s								
PB01	**IPOC Station P**	**1.93**	**311**			**Pn**	**Pn**	**13 29 41.8**	**+0.4**
PB01	**IPOC Station P**	**1.93**	**311**	P		**Pn**	**Pn**	**13 29 41.9**	**+0.5**
PB01				S		**Sn**	**Sn**	**13 30 09.7**	**-0.4**
PB01				IAML				13 30 13.5	
	comp=N,353nm,0.2s								
PB04	**IPOC Station P**	**2.06**	**269**	⇑*iP*		**Pn**	**Pn**	**13 29 43.6**	**+0.7**
PB04				*iS*		**Sn**	**Sn**	**13 30 12.1**	**-0.5**
PB04				IAML				13 30 16.4	
	comp=N,290nm,0.1s								
PB04	**IPOC Station P**	**2.06**	**269**			**Pn**	**Pn**	**13 29 43.5**	**+0.7**
PB04	**IPOC Station P**	**2.06**	**269**	P		**Pn**	**Pn**	**13 29 43.9**	**+1.1**
PB02	**IPOC Station P**	**2.09**	**298**	⇑*iP*		**Pn**	**Pn**	**13 29 43.6**	**+0.5**
PB02				*iS*		**Sn**	**Sn**	**13 30 12.3**	**-0.8**
PB02	**IPOC Station P**	**2.09**	**298**	P		**Pn**	**Pn**	**13 29 43.7**	**+0.6**
PB02				S		**Sn**	**Sn**	**13 30 12.4**	**-0.6**
PB02				IAML				13 30 15.9	
	comp=N,509nm,0.3s								
PB05	**IPOC Station P**	**2.17**	**255**	⇑*iP*		**Pn**	**Pn**	**13 29 44.8**	**+0.8**
PB05				*iS*		**Sn**	**Sn**	**13 30 14.4**	**-0.4**
PB05				IAML				13 30 15.5	
	comp=N,176nm,0.2s								
YJA	**Yavi**	**2.24**	**87**	P		Pn	Pn	13 29 42.6	-2.4
YJA				S		Sn	Sn	13 30 10.2	-6.3
MOCB	**Mochara**	**2.38**	**64**	P		Pn	Pn	13 29 44.2	-2.4
MOCB				S		Sn	Sn	13 30 13.1	-6.3
PB08	**IPOC Station P**	**2.46**	**332**	⇑*iP*		**Pn**	**Pn**	**13 29 48.3**	**+0.8**
PB08				*iS*		**Sn**	**Sn**	**13 30 21.3**	**+0.4**
PB08				IAML				13 30 22.3	
	comp=E,178nm,0.2s								
PB08	**IPOC Station P**	**2.46**	**332**			**Pn**	**Pn**	**13 29 48.2**	**+0.8**
PB08	**IPOC Station P**	**2.46**	**332**	P		**Pn**	**Pn**	**13 29 48.7**	**+1.2**
PB08				S		**Sn**	**Sn**	**13 30 21.1**	**+0.2**
PB08				IAML				13 30 23.0	
	comp=E,141nm,0.6s								
PATCX	**Punta Patache**	**2.56**	**305**	⇑*iP*		**Pn**	**Pn**	**13 29 48.5**	**+0.2**
PATCX				*eS*		**Sn**	**Sn**	**13 30 21.4**	**-1.0**
PATCX	**Punta Patache**	**2.56**	**305**			**Pn**	**Pn**	**13 29 48.5**	**+0.2**
PB10	**IPOC Station P**	**2.70**	**243**	⇑*iP*		**Pn**	**Pn**	**13 29 50.6**	**+0.8**
PB10				*iS*		**Sn**	**Sn**	**13 30 24.8**	**-0.5**
PB10				IAML				13 30 27.6	
	comp=E,126nm,0.3s								
PB10	**IPOC Station P**	**2.70**	**243**	Pn		**Pn**	**Pn**	**13 29 50.5**	**+0.7**
PB10	**IPOC Station P**	**2.70**	**243**	P		**Pn**	**Pn**	**13 29 50.7**	**+0.8**
PB10				S		**Sn**	**Sn**	**13 30 23.9**	**-1.4**
PB10				IAML				13 30 27.8	
	comp=E,108nm,0.2s								
TA01	**Diego Aracena**	**2.73**	**309**	⇑*iP*		**Pn**	**Pn**	**13 29 50.2**	**-0.1**
TA01				*iS*		**Sn**	**Sn**	**13 30 25.0**	**-1.0**
TA01				IAML				13 30 27.4	
	comp=E,237nm,0.2s								
TA01	**Diego Aracena**	**2.73**	**309**	Pn		**Pn**	**Pn**	**13 29 49.9**	**-0.4**
GO01	**Chusmiza**	**2.90**	**336**	⇑*iP*		**Pn**	**Pn**	**13 29 53.2**	**+0.5**
GO01				*iS*		**Sn**	**Sn**	**13 30 30.1**	**-0.2**
GO01	**Chusmiza**	**2.90**	**336**			**Pn**	**Pn**	**13 29 52.8**	**+0.1**
PB11	**IPOC Station P**	**3.02**	**327**	⇑*iP*		**Pn**	**Pn**	**13 29 53.6**	**-0.3**
PB11				*iS*		**Sn**	**Sn**	**13 30 31.5**	**-0.9**
PB11	**IPOC Station P**	**3.02**	**327**			**Pn**	**Pn**	**13 29 53.6**	**-0.3**
PB11	**IPOC Station P**	**3.02**	**327**	P		**Pn**	**Pn**	**13 29 53.6**	**-0.3**
GO02	**Mina Guanaco**	**3.21**	**208**	⇑*iP*		**Pn**	**Pn**	**13 29 56.9**	**+0.5**
GO02				*iS*		**Sn**	**Sn**	**13 30 35.9**	**-1.0**
GO02	**Mina Guanaco**	**3.21**	**208**	Pn		**Pn**	**Pn**	**13 29 56.8**	**+0.5**
PB14	**IPOC Station P**	**3.23**	**224**	*eP*		**Pn**	**Pn**	**13 29 57.0**	**+0.5**
PB14				*iS*		**Sn**	**Sn**	**13 30 35.6**	**-1.6**
PB14				IAML				13 30 38.7	
	comp=E,63nm,0.4s								
PB14	**IPOC Station P**	**3.23**	**224**	Pn		**Pn**	**Pn**	**13 29 57.0**	**+0.5**
PSGC	**Pisagua**	**3.40**	**322**	⇑*iP*		**Pn**	**Pn**	**13 29 57.5**	**-0.9**
PSGC				*iS*		**Sn**	**Sn**	**13 30 39.1**	**-1.6**
PSGC				IAML				13 30 40.1	
	comp=N,144nm,0.5s								
PSGCX	**Pisagua**	**3.40**	**322**	Pn		**Pn**	**Pn**	**13 29 57.6**	**-0.9**
MNMC	**Minye Minye**	**3.54**	**333**	⇑*iP*		**Pn**	**Pn**	**13 30 00.7**	**+0.4**
MNMC				*iS*		**Sn**	**Sn**	**13 30 43.4**	**-0.6**
MNMC	**Minye Minye**	**3.54**	**333**			**Pn**	**Pn**	**13 30 00.5**	**+0.1**
MNMC	**Minye Minye**	**3.54**	**333**	P		**Pn**	**Pn**	**13 30 01.4**	**+1.1**
MNMC				S		**Sn**	**Sn**	**13 30 42.3**	**-1.7**
MNMC				IAML				13 30 49.4	
	comp=N,294nm,0.3s								
PB16	**IPOC Station P**	**4.24**	**339**	Pn		**Pn**	**Pn**	**13 30 10.0**	**+0.6**
AC01	**Pan de Azucar**	**4.52**	**212**	Pn		**Pn**	**Pn**	**13 30 12.0**	**-0.4**
AC02	**Maricunga**	**4.63**	**193**	Pn		**Pn**	**Pn**	**13 30 14.3**	**+0.2**
BBOJ	**La Paz, Jacaqu**	**5.33**	**357**	P		**Pn**	**Pn**	**13 30 24.6**	**+1.3**
BBOE	**La Paz, Chanca**	**5.48**	**359**	P		**Pn**	**Pn**	**13 30 26.0**	**+0.6**
GO03	**Copiap**	**5.65**	**201**	Pn		**Pn**	**Pn**	**13 30 25.8**	**-1.3**
BBOD	**La Paz, Gloria**	**5.69**	**353**	P		**Pn**	**Pn**	**13 30 29.3**	**+1.2**
LPAZ	**La Paz**	**6.01**	**358**	P		**Pn**	**Pn**	**13 30 33.3**	**+1.0**
	comp=N,0.4nm,0.3s,baz=152,slow=8.4,SNR=9.3								
LPAZ				S		**Sn**	**Sn**	**13 31 36.9**	**-4.5**
	baz=186,slow=14,SNR=1.1								
LPAZ	**La Paz**	**6.01**	**358**	Pn		**Pn**	**Pn**	**13 30 33.1**	**+0.9**
LPAZ	**La Paz**	**6.01**	**358**	P		**Pn**	**Pn**	**13 30 33.1**	**+0.9**
BBOB	**La Paz, Bander**	**6.15**	**358**	P		**Pn**	**Pn**	**13 30 34.9**	**+0.8**
AC04	**Llanos de Chal**	**6.51**	**205**	Pn		**Pn**	**Pn**	**13 30 35.6**	**-2.6**
AC05	**El Transito**	**6.83**	**198**	Pn		**Pn**	**Pn**	**13 30 40.6**	**-1.8**
GO04	**Tololo Observa**	**8.23**	**198**	Pn		**Pn**	**Pn**	**13 30 58.4**	**-2.6**
BDFB	**Brasilia**	**19.95**	**74**	P		**P**	**P**	**13 33 21.7**	**-0.8**
	comp=N,0.3nm,0.3s,baz=246,slow=12,SNR=4.6								
BDFB	**Brasilia**	**19.95**	**74**	P		**P**	**P**	**13 33 22.1**	**-0.4**
BDFB					IAml	IAml	IAml	13 33 23.1	
	comp=Z,7.5nm,1.5s								
PDAR	**Pinedale Array**	**75.28**	**330**	P		P		13 40 31.9	+4.9
	comp=Z,0.2nm,0.4s,baz=142,slow=8.0,SNR=2.1								
TOA0	**Torodi Ar. Sit**	**76.77**	**70**	P		**P**	**P**	**13 40 37.2**	**+1.4**
TOA0					IAml	IAml		13 40 51.3	
	comp=Z,7.4nm,1.1s								
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P		**P**	**P**	**13 40 37.2**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=255,slow=5.4,SNR=23								
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P		**P**	**P**	**13 40 36.8**	**+1.1**

DSN ***12*** *13:31:47.4±1.4,27°.55N×53°.27E,h10km,ML4.6/11, Error ellipse: s-maj=19.3km s-min=6.3km az=4.0*
IDC ***12*** *13:31:50.5±0.8,27°.14N×53°.55E,h0km,mb3.9/20, mb1 4.0/21,mb1mx3.9/58,mbtmp3.9/21,ML3.9/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/38,Error ellipse: s-maj=20.5km s-min=14.0km az=9.0*
THR ***12*** *13:31:50.4±0.4,26°.92N×53°.53E,h14km±8km,ML4.0*
NEIC ***12*** *13:31:52.0±1.3,27°.16N±0°.08×53°.6E±0°.1,h10km±1km, mb4.1/34,mb_Lg4.1(TEH),ML4.0(THR),Error ellipse: s-maj=15.6km s-min=14.0km az=258.0*
TEH ***12*** *13:31:51.1,27°.03N×53°.57E,h12km,ML4.1*
OMAN ***12*** *13:31:56.3,27°.19N×53°.65E,h32km,mb5.4/12,ml4.2/12*

ISC 12 13:31:50.6±1.3, 27°.03N±0°.04×53°.59E±0°.04, h2km±8km, n144, σ1°74/151, mb4.0/39, MS3.3/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.49**	**309**	*ePg*		**Pg**	**Pg**	**13 32 00.4**	**+0.5**
LMD1				*e*				13 32 15.8	
LAR1	**LAR**	**0.94**	**48**	*e*				13 32 37.5	
LAR1				*ePg*		**Pg**	**Pg**	**13 32 09.5**	**+0.8**
GHIR	**Ghir-Karzin**	**1.36**	**337**	*ePg*		**Pg**	**Pg**	**13 32 17.2**	**+0.6**
GHIR	**Ghir-Karzin**	**1.36**	**337**	*ePg*		**Pg**	**Pg**	**13 32 17.2**	**+0.6**
JHRM	**Jahrom**	**1.47**	**360**	*ePg*		**Pb**	**Pb**	**13 32 18.6**	**-0.1**
JHRM				*e*				13 32 43.0	
BNDS	**Bandar-Abbas**	**2.33**	**80**	*ePn*		**Pn**	**Pn**	**13 32 31.3**	**+1.2**
BNDS					IAML			13 33 07.3	
	comp=N,707nm,0.4s								
BNDS	**Bandar-Abbas**	**2.33**	**80**	*ePn*		**Pn**	**Pn**	**13 32 31.3**	**+1.2**
GENO	**Geno**	**2.33**	**80**	*ePn*		**Pn**	**Pn**	**13 32 31.3**	**+1.2**
GENO				*e*				13 33 22.6	
SHME	**Shamm**	**2.49**	**113**	*eP*		**Pn**	**Pn**	**13 32 33.8**	**+1.6**
	SNR=7.1								
SHME				S			**Sg**	**13 33 11.9**	**+1.3**
IBND	**Bandar-abas**	**2.66**	**80**	*ePn*		**Pn**	**Pn**	**13 32 36.2**	**+1.7**
BANOM	**Banah**	**2.67**	**114**	*iP*		**Pb**	**Pb**	**13 32 36.8**	**-2.4**
	SNR=33								
BANOM				S			**Sg**	**13 33 15.1**	**-1.3**
BANOM	**Banah**	**2.67**	**114**	P		**Pb**	**Pb**	**13 32 37.2**	**-2.0**
AHBU	**AHRAM**	**2.73**	**312**	*ePn*		**Pn**	**Pn**	**13 32 36.4**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.76**	**137**	*iP*		**Pb**	**Pb**	**13 32 40.5**	**-0.1**
	SNR=17								
NAZ	**Nazwa, Dubai**	**2.76**	**137**	P		**Pb**	**Pb**	**13 32 40.6**	**-0.1**
	SNR=17								
NAZ				S			**Sb**	**13 33 14.1**	**-0.9**
MSFE	**Esma-Masafi**	**2.85**	**125**	*iP*		**Pb**	**Pb**	**13 32 40.8**	**-1.4**
	SNR=6.4								
ASUD	**Al Ashush, Dub**	**2.86**	**146**	*iP*		**Pb**	**Pb**	**13 32 42.1**	**-0.3**
	SNR=18								
ASUD	**Al Ashush, Dub**	**2.86**	**146**	P		**Pb**	**Pb**	**13 32 42.2**	**-0.3**
	SNR=18								
ASUD				S			**Sb**	**13 33 16.8**	**-1.1**
FAQ	**Al Faqa, Dubai**	**2.91**	**141**	*iP*		**Pb**	**Pb**	**13 32 42.3**	**-0.9**
	SNR=10								
FAQ	**Al Faqa, Dubai**	**2.91**	**141**	P		**Pb**	**Pb**	**13 32 42.3**	**-0.9**
FAQ				S			**Sb**	**13 33 18.2**	**-1.0**
MDH	**Madha**	**2.98**	**125**	*iP*		**Pb**	**Pb**	**13 32 42.7**	**-1.8**
	SNR=7.7								
MDH	**Madha**	**2.98**	**125**	P		**Pb**	**Pb**	**13 32 42.5**	**-2.0**
	SNR=7.7								
UOSS	**Minazif**	**3.14**	**131**	*iP*		**Pb**	**Pb**	**13 32 44.4**	**-2.7**
	SNR=38								
UOSS	**Minazif**	**3.14**	**131**	P		**Pb**	**Pb**	**13 32 44.6**	**-2.5**
UOSS	**Minazif**	**3.14**	**131**			**Pb**	**Pb**	**13 32 44.0**	**-3.2**
HATD	**Hatta, Dubai**	**3.17**	**133**	*iP*		**Pb**	**Pb**	**13 32 45.4**	**-2.3**
	SNR=15								
HATD	**Hatta, Dubai**	**3.17**	**133**	P		**Pb**	**Pb**	**13 32 45.6**	**-2.2**
	SNR=15								
HATD				S			**Sb**	**13 33 24.4**	**-2.5**
ASHO	**Ashiyiah**	**3.23**	**136**	*iP*		**Pb**	**Pb**	**13 32 46.3**	**-2.4**
	SNR=54								
ASHO	**Ashiyiah**	**3.23**	**136**	P		**Pb**	**Pb**	**13 32 46.1**	**-2.6**
	SNR=158								
ASHO				S			**Sb**	**13 33 25.5**	**-3.0**
ALNE	**Al Ain**	**3.55**	**146**	*iP*		**Pb**	**Pb**	**13 32 50.7**	**-3.5**
	SNR=5.6								
NGRK	**Negar Kerman**	**3.80**	**46**	*ePn*		**Pn**	**Pn**	**13 32 51.6**	**+1.1**
NGRK				*e*				13 33 53.8	
SOHO	**SOHO**	**3.92**	**137**	*iP*		**Pn**	**Pn**	**13 32 55.3**	**+3.4**
	SNR=11								
SOHO	**SOHO**	**3.92**	**137**	P		**Pn**	**Pn**	**13 32 55.4**	**+3.5**
SOHO				S			**Sn**	**13 33 39.9**	**+1.4**
KRBR	**Kerman**	**4.05**	**43**	*ePn*		**Pn**	**Pn**	**13 32 56.2**	**+2.2**
KRBR	**Kerman**	**4.05**	**43**	*ePn*		**Pn**	**Pn**	**13 32 56.2**	**+2.2**
KLNJ	**Kolanjah**	**4.33**	**337**	*ePn*		**Pn**	**Pn**	**13 32 57.4**	**-0.4**
IMEH	**Mehriz**	**4.43**	**11**	*ePn*		**Pn**	**Pn**	**13 33 00.6**	**+1.5**
CHMN	**Cheshme madani**	**4.48**	**50**	*ePn*		**Pn**	**Pn**	**13 33 02.8**	**+3.0**
CHMN				*e*				13 34 04.5	
ARQ	**Araqi**	**4.54**	**144**	P		**Pn**	**Pn**	**13 33 04.0**	**+3.6**
	SNR=47								
ARQ				S			**Sn**	**13 33 56.8**	**+3.0**
KBAM	**BAM**	**4.78**	**63**	*ePn*		**Pn**	**Pn**	**13 33 05.8**	**+2.0**
HOQ	**Hoqain**	**4.81**	**135**	P		**Pn**	**Pn**	**13 33 08.0**	**+3.9**
	SNR=20								
HOQ				S			**Sn**	**13 34 02.2**	**+1.7**
IBAF	**Bafgh**	**4.86**	**20**	*ePn*		**Pn**	**Pn**	**13 33 05.7**	**+0.8**
ISAD	**Sadrabad**	**4.87**	**1**	*ePn*		**Pn**	**Pn**	**13 33 07.2**	**+2.1**
IRAM	**Ramesheh**	**4.88**	**348**	*ePn*		**Pn**	**Pn**	**13 33 06.7**	**+1.5**
ICHK	**Chekchek**	**5.24**	**8**	*ePn*		**Pn**	**Pn**	**13 33 11.1**	**+0.9**
BSY	**Bisya**	**5.38**	**142**	P		**Pn**	**Pn**	**13 33 15.6**	**+3.6**
	SNR=61								
BSY				S			**Sn**	**13 34 15.7**	**+1.1**
BIDO	**Bidbid**	**5.39**	**129**	P		**Pn**	**Pn**	**13 33 16.2**	**+4.1**
BIDO				S			**Sn**	**13 34 16.0**	**+1.2**
IGAR	**Gharneh**	**5.52**	**346**	*ePn*		**Pn**	**Pn**	**13 33 15.4**	**+1.4**
SMDO	**Samad**	**5.66**	**133**	P		**Pn**	**Pn**	**13 33 19.4**	**+3.6**
SMDO				S			**Sn**	**13 34 23.6**	**+2.1**
WSAR	**Wadi Sarin**	**5.93**	**128**	Pn		**Pn**	**Pn**	**13 33 22.4**	**+2.9**
	comp=N,3.2nm,0.3s,baz=317,slow=5.9,SNR=32								
WSAR						Sn	**Sn**	**13 34 27.0**	**-1.0**
	comp=N,4.7nm,0.3s,baz=129,slow=18,SNR=9.5								
WSAR						LR	LR	13 36 07.9	
	comp=N,225nm,21.9s,baz=326,slow=43								
WSAR	**Wadi Sarin**	**5.93**	**128**	P		**Pn**	**Pn**	**13 33 22.4**	**+2.9**
IPIR	**Pirpir**	**6.10**	**338**	*ePn*		**Pn**	**Pn**	**13 33 23.4**	**+1.3**
ANAR	**Anarak**	**6.14**	**1**	*ePn*		**Pn**	**Pn**	**13 33 22.7**	**+0.3**
JMDO	**Jabal Madar**	**6.20**	**138**	P		**Pn**	**Pn**	**13 33 27.0**	**+3.8**
WBK	**Wadi Bani Khal**	**6.58**	**131**	P		**Pn**	**Pn**	**13 33 31.2**	**+2.8**
WBK				S			**Sn**	**13 34 46.1**	**+2.0**
KRSH	**Karshahi**	**7.03**	**350**	*ePn*		**Pn**	**Pn**	**13 33 33.7**	**-1.0**
JLN	**Jalan Bani Buh**	**7.19**	**131**	P		**Pn**	**Pn**	**13 33 39.6**	**+2.9**
MHTO	**MHTO**	**7.23**	**145**	P		**Pn**	**Pn**	**13 33 40.7**	**+3.4**
DQM	**DQM**	**7.95**	**152**	P		**Pn**	**Pn**	**13 33 49.6**	**+2.4**
HSAM	**Samen**	**8.34**	**330**	*ePn*		**Pn**	**Pn**	**13 33 51.5**	**-1.4**
IANJ	**Anjilo**	**8.41**	**2**	*ePn*		**Pn**	**Pn**	**13 33 54.2**	**+0.4**
IKOM	**Komasi**	**8.84**	**325**	*ePn*		**Pn**	**Pn**	**13 33 57.2**	**-2.3**
WHFO	**Wadi Hawf**	**9.07**	**179**	P		**Pn**	**Pn**	**13 34 06.0**	**+3.3**
DMTO	**DMTO**	**9.36**	**172**	P		**Pn**	**Pn**	**13 34 08.7**	**+2.1**
IGLO	**Ghaloghah**	**9.44**	**1**	*ePn*		**Pn**	**Pn**	**13 34 10.4**	**+2.5**
ABTO	**Aybut**	**9.64**	**182**	P		**Pn**	**Pn**	**13 34 13.8**	**+3.3**
GEYT	**Alibeck**	**11.52**	**18**	LR		LR	LR	13 39 42.3	
	comp=N,222nm,19.6s,baz=145,slow=41								
GYAOB	**ALIBECK ARRAY**	**11.52**	**18**	Pn		**Pn**	**Pn**	**13 34 35.8**	**-0.3**
ASHT	**Ashkhabad**	**11.61**	**19**	Pn		**Pn**	**Pn**	**13 34 36.9**	**-0.3**
SOCY	**Socotra**	**14.77**	**178**	Pn		**Pn**	**Pn**	**13 35 18.0**	**-2.8**
KBL	**Kabul**	**15.23**	**57**	Pn		**Pn**	**Pn**	**13 35 28.0**	**+1.0**
KBL					IAmb	IAmb	IAmb	13 35 34.5	
	comp=Z,5.8nm,0.8s								
EIL	**Elat**	**16.62**	**283**	Pn		**P**	**P**	**13 35 47.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=3.2								
MMAI	**Mount Meron Ar**	**16.83**	**295**	Pn		**P**	**P**	**13 35 49.1**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=111,slow=12,SNR=4.0								
KOPT	**Kop Dagi**	**16.91**	**323**	P		**P**	**P**	**13 35 49.3**	**-1.5**
CHGR	**Chuyangaron**	**17.45**	**44**	P		**P**	**P**	**13 35 55.6**	**-1.0**
CHGR					IAmb	IAmb	IAmb	13 35 58.1	
	comp=Z,9.6nm,0.8s								
NIL	**Nilore**	**18.20**	**64**	P		**P**	**P**	**13 36 04.7**	**0.0**
NIL					IAmb	IAmb		13 36 16.3	
	comp=Z,12nm,1.1s								
GAR	**Garm**	**18.38**	**45**	P		**P**	**P**	**13 36 06.2**	**-0.8**
GAR					IAmb	IAmb		13 36 10.8	
	comp=Z,14nm,0.9s								
KBZ	**Khabaz**	**18.77**	**335**	P		**Pn**	**Pn**	**13 36 12.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=131,slow=12,SNR=4.2								
BTK	**Batken**	**19.32**	**43**	P		**P**	**P**	**13 36 16.4**	**-0.8**
BRTR	**Keskin Array B**	**20.87**	**312**	P		Pn		13 36 34.4	-2.1
	comp=Z,3.4nm,0.9s,baz=131,slow=12,SNR=13								
BRTR	**Keskin Array B**	**20.87**	**312**			**P**		**13 36 33.8**	**-0.3**
BR131	**Keskin Array S**	**20.87**	**312**			**P**		**13 36 34.0**	**0.0**
KK31	**Karatay Array**	**21.12**	**36**	P		**P**		**13 36 35.7**	**-1.0**
KKAR	**Karatay Array**	**21.12**	**36**	P		**P**		**13 36 35.5**	**-1.2**
ABKAR	**Akbulak array**	**22.73**	**11**	P		**P**		**13 36 53.2**	**-0.5**
ABKAR	**Akbulak array**	**22.73**	**11**	P		**P**		**13 36 53.4**	**-0.4**
AKTO	**Aktyubinsk**	**23.61**	**7**	P		**P**		**13 37 03.0**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=202,slow=6.8,SNR=6.4								
BOOM	**Boomskoye usch**	**23.88**	**44**	P		**P**		**13 37 04.6**	**-1.1**

BZMR				*eS*		**Sb**	**13 36 55.2**	**+2.0**
BZWR	**Bezymyannyi-We**	**1.66 288**		*eP*		**Pn**	**13 36 30.6**	**-0.5**
BZWR				*eS*		**Sn**	**13 36 53.3**	**+1.5**
TUMD	**Tumrok D**	**1.67 262**		*eP*		**Pb**	**13 36 30.9**	**-2.2**
SRKR	**Sorokina**	**1.68 316**		*eP*		**Pb**	**13 36 31.7**	**-1.5**
KLY	**Klyuchi**	**1.71 301**		*eP*		**Pn**	**13 36 29.8**	**-1.8**
KLY				*eS*		**Sn**	**13 36 51.8**	**-1.0**
KRSR	**Krestovskiy**	**1.71 297**		*eP*		**Pn**	**13 36 31.0**	**-0.7**
KRSR				*eS*		**Sn**	**13 36 53.7**	**+0.7**
KIRR	**Kirishev**	**1.74 287**		*eP*		**Pb**	**13 36 32.6**	**-1.7**
KIRR				*eS*		**Sb**	**13 36 57.0**	**+1.3**
KZV	**Kizimen**	**1.75 259**		*eP*		**Pb**	**13 36 31.9**	**-2.6**
KMNR	**Kamenistaya**	**1.75 280**		*eP*		**Pb**	**13 36 32.7**	**-1.9**
KMNR				*eS*		**Sb**	**13 36 58.1**	**+1.9**
TUMR	**Tumrok**	**1.81 265**		*eP*		**Pb**	**13 36 34.2**	**-1.2**
KOZ	**Kozyrevsk**	**2.02 288**		*eP*		**Pb**	**13 36 37.2**	**-1.8**
KOZ				*eS*		**Sb**	**13 37 05.8**	**+2.2**
ESO	**Esso**	**2.64 282**		*eP*		**Pn**	**13 36 45.4**	**+1.0**
KII	**Karymskiy**	**2.65 239**		*eP*		Pb	13 36 45.0	-4.9
SDLR	**Sedlovina**	**3.39 231**		*eP*		**Pn**	**13 36 55.3**	**+0.4**
KRER	**Koryakskii**	**3.43 233**		*eP*		**Pn**	**13 36 56.6**	**+1.1**
SMAR	**Somma**	**3.44 232**		*eP*		**Pn**	**13 36 56.1**	**+0.5**
KRX	**Arik**	**3.44 234**		*eP*		Pb	13 36 57.0	-6.3
UGLR	**Uglovaya**	**3.46 231**		*eP*		Pb	13 36 58.6	-5.1
AVH	**Avacha**	**3.46 232**		*eP*		**Pn**	**13 36 56.4**	**+0.6**
GNL	**Ganaly**	**3.59 242**		*eP*		**Pn**	**13 36 59.0**	**+1.4**
DALK	**Dalny**	**3.62 229**		*eP*		**Pn**	**13 36 58.3**	**+0.5**
PET	**Petropavlovsk**	**3.67 230**		*eP*		**Pn**	**13 36 59.2**	**+0.7**
OSSR	**Ossora**	**3.79 358**		*eP*		Pb	13 37 01.5	-7.6
KRMR	**Karymshinskiy**	**4.03 231**		*eP*		Pb	13 37 05.6	-7.6
PETK	**Petropavlovsk-**	**4.04 236**		P		**Pn**	**13 37 04.1**	**+0.4**
	0.5nm,0.3s,baz=65,slow=16,SNR=16							
PETK				LR		LR	13 38 59.6	
	comp=Z,94nm,18.6s,baz=110,slow=44							
GRL	**Gorelyy**	**4.25 229**		*eP*		Pb	13 37 10.6	-6.5
MTVR	**Mutnovka**	**4.25 227**		*eP*		**Pn**	**13 37 07.9**	**+1.2**
ASAK	**Asacha**	**4.44 228**		*eP*		**Pn**	**13 37 10.9**	**+1.6**
MA2	**Magadan**	**7.89 306**		LR		LR	13 41 03.0	
	comp=Z,42nm,21.2s,baz=100,slow=44							
SEY	**Seymchan**	**9.32 328**		LR		LR	13 40 50.9	
	comp=Z,58nm,21.1s,baz=182,slow=35							
ILAR	**Eielson Array**	**25.82 49**		P		**P**	**13 41 32.8**	**+0.4**
	0.2nm,0.7s,baz=273,slow=9.6,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**35.79 174**		T		T	14 22 05.8	
	baz=357,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**35.80 174**		T		T	14 22 02.5	
	baz=357,slow=76,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**35.81 174**		T		T	14 22 05.5	
	baz=357,slow=76,SNR=4.8							
NVAR	**Mina Array Bea**	**53.22 74**		P		P	13 45 23.2	+3.3
	0.2nm,0.4s,baz=309,slow=8.0,SNR=2.5							
TXAR	**Lajitas Array**	**68.02 70**		P		P	13 47 03.2	+2.4
	0.3nm,0.6s,baz=298,slow=4.3,SNR=7.0							
ASAR	**Alice Springs**	**82.72 207**		P		**P**	**13 48 25.1**	**0.0**
	0.3nm,0.7s,baz=19,slow=6.4,SNR=4.5							

*IDC **12** 13:44:37.9±1.2,30.°30N×141.°59E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.4/29,mbtmp3.4/5,ML2.2/1,Error ellipse: s-maj=66.0km s-min=24.5km az=100.0*
*NEIC **12** 13:44:41.1±1.2,30.°38N±0.°09×141.°7E±0.°1,h26km±7km, mb4.3/6,Error ellipse: s-maj=20.8km s-min=6.7km az=122.0*

ISC 12 13:44:42.0±1.0,30.°4N±0.°1×141.°6E±0.°1,h28km,n16, σ1§04/16,mb3.9/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**5.96**	**349**	Pn	**Pn**	**13 46 07.4**	**-0.8**
MJAR	**Matsushiro Arr**	**6.77**	**336**	Pn	**Pn**	**13 46 20.0**	**+0.5**
	0.1nm,0.3s,baz=160,slow=12,SNR=5.2						
MAJO	**Matsushiro**	**6.77**	**336**	Pn	**Pn**	**13 46 19.8**	**+0.3**
JMM	**Marumori**	**7.50**	**355**	Pn	**Pn**	**13 46 27.4**	**-2.1**
JSU	**Suzuyama**	**9.63**	**280**	Pn	**Pn**	**13 46 58.3**	**-0.5**
JMZ	**Minamidaito 2**	**10.22**	**246**	Pn	**Pn**	**13 47 07.4**	**+0.6**
JTM	**Tenmabayashi**	**10.40**	**358**	Pn	**Pn**	**13 47 09.2**	**0.0**
WB0	**Warramunga Arr**	**50.33**	**189**	P	**P**	**13 53 36.1**	**-0.3**
KURK	**Kurchatov**	**50.36**	**313**	P	**P**	**13 53 36.7**	**+0.4**
KURK				IAmb	IAmb	13 53 43.7	
	comp=Z,2.6nm,1.2s						
WRAB	**Tennant Creek**	**50.50**	**189**	P	**P**	**13 53 36.6**	**-1.1**
WR0	**Warramunga Arr**	**50.50**	**189**	P	**P**	**13 53 36.6**	**-1.1**
WR0				IAmb	IAmb	13 53 60.0	
	comp=Z,7.6nm,1.5s						
WB2	**Warramunga Arr**	**50.51**	**189**	P	**P**	**13 53 37.2**	**-0.6**
WRA	**Warramunga Arr**	**50.51**	**189**	P	**P**	**13 53 37.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=6.3,slow=7.7,SNR=9.2						
ASAR	**Alice Springs**	**54.24**	**189**	P	**P**	**13 54 04.9**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=3.1,slow=5.0,SNR=8.5						
ILAR	**Eielson Array**	**55.11**	**30**	P	**P**	**13 54 10.5**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=268,slow=7.2,SNR=2.1						
TXAR	**Lajitas Array**	**94.05**	**53**	P	**P**	**13 58 00.1**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=270,slow=3.8,SNR=3.6						

*IDC **12** 13:54:35.2±2.1,11.°59S×165.°31E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/25,mbtmp3.7/4,ML4.1/1,Error ellipse: s-maj=52.6km s-min=33.0km az=154.0*
*NEIC **12** 13:54:38.6±0.7,11.°6S±0.°1×165.°3E±0.°1,h19km±5km, mb4.2/8,Error ellipse: s-maj=21.9km s-min=10.8km az=220.0*

ISC 12 13:54:39.0±1.0,11.°7S±0.°1×165.°3E±0.°1,h24km,n14, σ1§26/14,mb4.0/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.20**	**153**	Pn	**Pn**	**13 55 41.9**	**+0.4**
HNR	**Honiara**	**5.68**	**293**	Pn	**Pn**	**13 56 01.4**	**-0.4**
	5.0nm,0.3s,baz=150,slow=19,SNR=2.5						
HNR				Sn	**Sn**	**13 57 07.3**	**+1.0**
	3.4nm,0.3s,baz=199,slow=22,SNR=1.7						
BKZ	**Black Stump Fm**	**29.14**	**162**	P	**P**	**14 00 39.0**	**+0.8**
WB0	**Warramunga Arr**	**30.73**	**251**	P	**P**	**14 00 54.0**	**+1.4**
WB0				IAmb	IAmb	14 00 57.1	
	comp=Z,2.9nm,0.7s						
WRAB	**Tennant Creek**	**30.80**	**251**	P	**P**	**14 00 53.4**	**+0.2**
WRAB				IAmb	IAmb	14 00 55.3	
	comp=Z,6.5nm,1.2s						
WB2	**Warramunga Arr**	**30.80**	**251**	P	**P**	**14 00 54.0**	**+0.8**
WRA	**Warramunga Arr**	**30.82**	**251**	P	**P**	**14 00 53.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=82,slow=8.8,SNR=8.0						
WRA	**Warramunga Arr**	**30.82**	**251**	IAmb	IAmb	14 00 55.0	
	comp=Z,0.2nm,0.8s						
ASAR	**Alice Springs**	**32.08**	**244**	P	**P**	**14 01 05.2**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=64,slow=10,SNR=2.0						
KNRA	**Kununurra**	**35.65**	**259**	P	**P**	**14 01 37.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**38.75**	**256**	P	**P**	**14 02 02.8**	**+1.0**
FITZ				IAmb	IAmb	14 02 03.5	
	comp=Z,4.7nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.71**	**236**	P	**P**	**14 03 19.0**	**-2.8**
MJAR	**Matsushiro Arr**	**54.31**	**333**	P	**P**	**14 04 03.8**	**+0.2**
ILAR	**Eielson Array**	**84.27**	**19**	P	**P**	**14 07 08.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=225,slow=6.1,SNR=4.9						

*IDC **12** 13:59:41.7±1.8,5.°71S×152.°51E,h0km,mb3.3/4, mb1 3.6/4,mb1mx3.4/26,mbtmp3.4/4,Error ellipse: s-maj=46.7km s-min=19.3km az=101.0*

ISC 12 13:59:47.2±1.6,5.°7S±0.°1×152.°4E±0.°3,h40km,n6,σ0§89/7, mb3.2/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.45**	**344**	Pn	**Pn**	**14 00 10.1**	**-0.9**
	162nm,0.3s,baz=169,slow=1.7,SNR=126						
KRVT				Sn	**Sn**	**14 00 29.8**	**+1.0**
	114nm,0.3s,baz=355,slow=22,SNR=10						
WRA	**Warramunga Arr**	**22.57**	**230**	P	**P**	**14 04 45.0**	**+0.7**
	0.2nm,0.5s,baz=54,slow=9.8,SNR=5.8						
ASAR	**Alice Springs**	**25.23**	**223**	P	**P**	**14 05 10.3**	**+0.6**
	0.3nm,0.5s,baz=56,slow=9.4,SNR=14						
FITZ	**Fitzroy Crossi**	**28.90**	**242**	P	**P**	**14 05 42.0**	**-0.6**
	1.1nm,0.7s,baz=62,slow=12,SNR=1.9						
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**14 12 09.0**	**+0.3**
	0.3nm,0.9s,baz=262,slow=4.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.22**	**286**	PKPbc	**PKiKP**	**14 19 35.8**	**-0.1**
	0.5nm,0.8s,baz=29,slow=3.3,SNR=2.0						

*IDC **12** 14:12:45.4±1.9,7.°13N×93.°11E,h0km,mb3.5/5,mb1 3.6/6, mb1mx3.4/40,mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=74.6km s-min=24.9km az=59.0*

ISC 12 14:12:49.6±1.5,7.°1N±0.°2×93.°1E±0.°3,h27km,n9,σ1§36/6, mb3.5/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.61**	**26**	Pn	**Pn**	**14 15 47.8**	**+0.4**
	0.1nm,0.3s,baz=218,slow=14,SNR=2.4						
H08S3	**Diego Garcia H**	**25.27**	**235**	T	T	14 45 07.2	
	baz=55,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**25.27**	**235**	T	T	14 44 59.8	
	baz=55,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**25.28**	**235**	T	T	14 45 10.3	
	baz=55,slow=75,SNR=6.7						
MKAR	**Makanchi Array**	**40.61**	**349**	P	**P**	**14 20 26.3**	**-0.8**
	0.4nm,0.6s,baz=161,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**47.17**	**353**	P	**P**	**14 21 18.7**	**-1.0**
	0.4nm,0.3s,baz=174,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**48.66**	**124**	P	**P**	**14 21 30.4**	**-1.3**
	0.5nm,0.9s,baz=305,slow=8.7,SNR=3.4						
ASAR	**Alice Springs**	**50.22**	**129**	P	**P**	**14 21 44.8**	**+1.1**
	0.3nm,0.7s,baz=292,slow=7.5,SNR=2.7						
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**	**14 24 17.0**	**+0.9**
	0.8nm,0.8s,baz=111,slow=10,SNR=3.8						

WEL 12 14:16:07.2,38.°S±4.°×17.°6E±.°,h244km±6km,M2.7/55, ML2.2/8,MLv2.7/55,Error ellipse: s-maj=0.0km s-min=0.0km az=108.6,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KATZ	**Kakaramea**	**0.74**	**186**	P	Pn	14 16 40.4	0.0
MRHZ	**Matea Rd**	**0.77**	**141**	P	Pn	14 16 39.8	-0.7
HIZ	**Hauiti**	**0.78**	**249**	P	Pn	14 16 41.2	+0.8
TWVZ	**Taurewa**	**0.88**	**198**	P	Pn	14 16 41.1	+0.1
TMVZ	**Te Maari**	**0.88**	**184**	P	Pn	14 16 41.2	+0.1
WTVZ	**West Tongariro**	**0.89**	**190**	P	Pn	14 16 41.1	0.0
ETVZ	**East Tongariro**	**0.90**	**184**	P	Pn	14 16 41.2	0.0
OTVZ	**Oturere**	**0.93**	**186**	P	Pn	14 16 41.6	+0.3
NGZ	**Ngauruhoe**	**0.95**	**189**	P	Pn	14 16 41.5	+0.1
RTZ	**Ruatahuna**	**1.01**	**112**	P	Pn	14 16 41.0	-0.7
MTHZ	**Maungataniwha**	**1.03**	**127**	P	Pn	14 16 41.4	-0.4
TUVZ	**Tukino**	**1.03**	**186**	P	Pn	14 16 42.0	+0.1
URZ	**Urewera**	**1.04**	**92**	P	Pn	14 16 40.8	-0.9
BKZ	**Black Stump Fm**	**1.08**	**150**	P	Pn	14 16 41.7	-0.4
WNVZ	**Wahianoa**	**1.10**	**188**	P	Pn	14 16 42.4	+0.1
PKVZ	**Pokaka**	**1.11**	**198**	P	Pn	14 16 42.3	+0.1
MOVZ	**Moawhango**	**1.17**	**181**	P	Pn	14 16 42.3	-0.3
NMHZ	**Ngamai**	**1.17**	**137**	P	Pn	14 16 43.4	+0.7
MTVZ	**Mangateitei**	**1.17**	**192**	P	Pn	14 16 42.9	+0.3
RAHZ	**Arahi**	**1.22**	**124**	P	Pn	14 16 43.2	+0.2
BHHZ	**Black Hill Sta**	**1.27**	**170**	P	Pn	14 16 43.1	-0.2
KWHZ	**Kaweka Forest**	**1.28**	**158**	P	Pn	14 16 43.9	+0.5
RAGZ	**Rawiri**	**1.30**	**102**	P	Pn	14 16 43.4	-0.2
SNGZ	**Shannon Statio**	**1.33**	**115**	P	Pn	14 16 38.0	-5.7
MWZ	**Matawai**	**1.37**	**95**	P	Pn	14 16 43.6	-0.4
ARHZ	**Aropaoanui**	**1.39**	**138**	P	Pn	14 16 44.6	+0.6
MCHZ	**McNeill Hill**	**1.40**	**150**	P	Pn	14 16 44.8	+0.7
KRHZ	**Kereru**	**1.47**	**162**	P	Pn	14 16 44.8	+0.1
RUGZ	**Raukumara Rang**	**1.51**	**80**	P	Pn	14 16 44.0	-1.2
RIGZ	**Rimuhau**	**1.62**	**107**	P	Pn	14 16 46.1	+0.2
TKGZ	**Te Karaka**	**1.63**	**98**	P	Pn	14 16 46.4	+0.5
HAZ	**Te Kaha**	**1.65**	**74**	P	Pn	14 16 45.4	-0.6
KNZ	**Kokohu**	**1.67**	**119**	P	Pn	14 16 46.4	+0.2
PNHZ	**Pukenui**	**1.70**	**169**	P	Pn	14 16 46.7	+0.2
TWGZ	**Tauwhareparae**	**1.73**	**89**	P	Pn	14 16 47.1	+0.3
KAHZ	**Kahutanaki**	**1.77**	**152**	P	Pn	14 16 47.8	+0.6
PRGZ	**Paritu Road**	**1.78**	**113**	P	Pn	14 16 47.6	+0.4
TSZ	**Takapari Road**	**1.82**	**176**	P	Pn	14 16 47.8	+0.3
PKGZ	**Pakihiroa**	**1.84**	**80**	P	Pn	14 16 46.8	-1.0
MHGZ	**Mahia Peninsul**	**1.89**	**120**	P	Pn	14 16 48.7	+0.6
WPHZ	**Waipukurau**	**1.89**	**165**	P	Pn	14 16 48.5	+0.3
CNGZ	**Carnagh Statio**	**1.92**	**98**	P	Pn	14 16 49.3	+1.0
PUZ	**Puketiti**	**1.95**	**86**	P	Pn	14 16 48.7	0.0
PXZ	**Pawanui**	**1.98**	**155**	P	Pn	14 16 49.2	+0.4
OHWZ	**Ohakea**	**2.00**	**190**	P	Pn	14 16 49.9	+0.8
DVHZ	**Dannevirke**	**2.08**	**172**	P	Pn	14 16 49.9	+0.1
WMGZ	**Waiomatatini S**	**2.11**	**79**	P	Pn	14 16 50.5	+0.3
PRHZ	**Porangahau**	**2.13**	**162**	P	Pn	14 16 50.7	+0.3
POWZ	**Post Office Ro**	**2.15**	**180**	P	Pn	14 16 50.7	+0.2
ANWZ	**Angora Road**	**2.28**	**167**	P	Pn	14 16 52.3	+0.6
PRWZ	**Pori Road**	**2.32**	**177**	P	Pn	14 16 52.9	+0.7
MRZ	**Mangatainoka R**	**2.42**	**184**	P	Pn	14 16 53.3	+0.2
BFZ	**Birch Farm**	**2.47**	**172**	P	Pn	14 16 53.8	+0.2
TIWZ	**Tintock**	**2.54**	**178**	P	Pn	14 16 54.7	+0.4
OGWZ	**Otaki Gorge**	**2.62**	**190**	P	Pn	14 16 55.7	+0.5
HOWZ	**Holdsworth Sta**	**2.66**	**184**	P	Pn	14 16 55.7	+0.1
KIW	**Kapiti Island**	**2.71**	**194**	P	Pn	14 16 56.4	+0.3
TMWZ	**Te Maipa**	**2.87**	**178**	P	Pn	14 16 58.2	+0.4
CAW	**Cannon Point**	**2.92**	**191**	P	Pn	14 16 58.8	+0.4
DUWZ	**D'Urville Isla**	**2.94**	**209**	P	Pn	14 16 59.1	+0.5
WEL	**Wellington**	**3.14**	**194**	P	Pn	14 17 01.3	+0.5
TCW	**Tory Channel**	**3.19**	**201**	P	Pn	14 17 02.0	+0.7
MSWZ	**Moikau Station**	**3.20**	**187**	P	Pn	14 17 01.4	-0.1
BHW	**Baring Head**	**3.24**	**192**	P	Pn	14 17 02.1	+0.2
TUWZ	**Tuamarina**	**3.49**	**203**	P	Pn	14 17 05.2	+0.5
NNZ	**Nelson**	**3.51**	**211**	P	Pn	14 17 06.0	+1.1
QRZ	**Quartz Range**	**3.61**	**223**	P	Pn	14 17 06.6	+0.5
BSWZ	**Blackbirch Sta**	**3.77**	**202**	P	Pn	14 17 08.9	+0.9
THZ	**Tophouse**	**4.16**	**211**	P	Pn	14 17 13.4	+0.8
KHZ	**Kahutara**	**4.51**	**202**	P	Pn	14 17 17.9	+1.1
DSZ	**Dennison Nort**	**4.65**	**220**	P	Pn	14 17 18.9	+0.4
GVZ	**Greta Valley S**	**5.17**	**203**	P	Pn	14 17 25.8	+1.0
LTZ	**Lake Taylor**	**5.27**	**209**	P	Pn	14 17 26.7	+0.6
AMCZ	**Amberley**	**5.48**	**205**	P	Pn	14 17 29.6	+1.0
INZ	**Inchbonnie**	**5.57**	**215**	P	Pn	14 17 31.0	+1.2
OXZ	**Oxford**	**5.83**	**208**	P	Pn	14 17 33.3	+0.3
OKCZ	**Okains Bay**	**5.86**	**200**	P	Pn	14 17 34.5	+1.1
MQZ	**McQueen's Vall**	**5.96**	**202**	P	Pn	14 17 34.7	+0.2
AKCZ	**Akaroa Harbour**	**6.04**	**200**	P	Pn	14 17 36.4	+0.8
MHCZ	**Mount Hutt**	**6.18**	**210**	P	Pn	14 17 38.3	+0.8
WACZ	**Wakanui South**	**6.43**	**206**	P	Pn	14 17 40.9	+0.4
ARCZ	**Arundel**	**6.68**	**210**	P	Pn	14 17 44.7	+0.9
ODZ	**Otahua Downs**	**7.81**	**208**	P	Pn	14 17 59.9	+1.9

*NEIC **12** 14:33:49.7±1.4,7.°50S±0.°07×129.°06E±0.°09,h135km±5km, mb4.0/7,Error ellipse: s-maj=13.0km s-min=9.4km az=108.0*
*IDC **12** 14:33:51.4±2.1,7.°37S×128.°78E,h132km±22km,mb3.5/5, mb1 3.6/8,mb1mx3.4/30,mbtmp4.0/8,Error ellipse: s-maj=19.4km s-min=17.1km az=59.0*

ISC 12 14:33:49.2±0.6,7.°54S±0.°06×129.°03E±0.°07,h131km,n32, σ1§91/34,mb3.8/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.29**	**101**	Pn	**Pn**	**14 34 26.0**	**-0.9**
SOEI	**Soe**	**5.20**	**245**	Pn	**Pn**	**14 35 06.1**	**+1.0**
FAKI	**Fak Fak**	**5.60**	**35**	Pn	**Pn**	**14 35 10.5**	**+0.1**
MTN	**Manton Dam**	**5.66**	**159**	Pn	**Pn**	**14 35 14.7**	**+3.4**
BATI	**Baumata**	**5.93**	**243**	P	**Pn**	**14 35 16.3**	**+1.5**
	9.8nm,0.3s,baz=136,slow=3.1,SNR=16						
BATI				S	**Sn**	**14 36 20.4**	**-1.3**
	18nm,0.3s,baz=85,slow=22,SNR=26						
SIJI	**Sorong**	**6.99**	**19**	P	**Pn**	**14 35 30.0**	**+0.8**
	1.6nm,0.3s,baz=66,slow=22,SNR=14						
SIJI				S	**Sn**	**14 36 45.0**	**-2.3**
	2.7nm,0.3s,baz=120,slow=23,SNR=6.4						
KNRA	**Kununurra**	**8.09**	**182**		**Pn**	**14 35 45.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**11.00**	**197**	P	**Pn**	**14 36 22.9**	**-0.1**
	0.8nm,0.3s,baz=22,slow=11,SNR=62						
FITZ				S	Sn	14 38 16.0	-8.4
	0.9nm,0.3s,baz=83,slow=20,SNR=3.2						
WB0	**Warramunga Arr**	**13.22**	**157**		**Pn**	**14 36 52.4**	**+0.3**
WRAB	**Tennant Creek**	**13.36**	**158**	Pn	**Pn**	**14 36 54.3**	**+0.5**
WRA	**Warramunga Arr**	**13.36**	**158**	P	**Pn**	**14 36 54.4**	**+0.6**
	1.7nm,0.3s,baz=344,slow=12,SNR=106						
WRA				S	**Sn**	**14 39 15.7**	**-5.8**
	2.6nm,0.3s,baz=330,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.36**	**158**	Pn	**Pn**	**14 36 52.8**	**-1.0**
WB2	**Warramunga Arr**	**13.37**	**158**		**Pn**	**14 36 54.1**	**+0.2**
WR0	**Warramunga Arr**	**13.45**	**157**		**Pn**	**14 36 55.2**	**+0.2**
COEN	**Coen**	**15.29**	**116**	P	**P**	**14 37 20.5**	**+0.4**
COEN				IAmb	IAmb	14 37 26.3	
	comp=Z,11nm,1.5s						
ASAR	**Alice Springs**	**16.70**	**164**	P	**Pn**	**14 37 39.2**	**+3.6**
	comp=Z,0.9nm,0.3s,baz=338,slow=9.9,SNR=44						
ASAR				S	**Sn**	**14 40 38.9**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=323,slow=18,SNR=6.6						
ASAR	**Alice Springs**	**16.70**	**164**	P	**Pn**	**14 37 36.4**	**+0.7**
CTA	**Charters Tower**	**20.84**	**129**	P	Pn	14 38 26.4	+1.8
	comp=Z,1.7nm,0.7s,baz=321,slow=12,SNR=1.8						
STKA	**Stephens Creek**	**26.90**	**156**	P	**P**	**14 39 22.4**	**+4.4**
	comp=Z,3.1nm,1.1s,baz=312,slow=5.4,SNR=4.6						
STKA	**Stephens Creek**	**26.90**	**156**	IAmb	IAmb	14 39 28.1	
	comp=Z,1.8nm,1.2s						
CM31	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**14 41 04.4**	**-1.7**
CM31				IAmb	IAmb	14 41 28.9	
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**14 41 05.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=126,slow=6.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**14 41 04.4**	**-1.7**
JSG	**Sagara**	**42.87**	**11**	P	**P**	**14 41 35.7**	**+1.1**
XAN	**Xi'an**	**45.53**	**336**	P	**P**	**14 41 55.8**	**-0.1**
XAN				IAmb	IAmb	14 42 18.4	
	comp=Z,8.1nm,1.3s						
MK31	**Makanchi Array**	**68.15**	**327**	P	**P**	**14 44 35.5**	**+0.3**
MK31				IAmb	IAmb	14 44 37.1	
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**14 44 35.8**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=116,slow=7.8,SNR=30						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**14 44 35.6**	**+0.4**
MAKZ	**Makanchi**	**68.33**	**327**	P	**P**	**14 44 36.3**	**-0.1**
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**14 44 56.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=140,slow=6.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**14 44 55.4**	**-1.0**
KKAR	**Karatay Array**	**73.11**	**319**	P	**P**	**14 45 05.9**	**+0.4**

NNC 12 14:35:01.3±7.7,37.°98N×72.°31E,h0km,mb3.5,mpv3.1, 2C-2D,Error ellipse: s-maj=60.1km s-min=44.9km az=167.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.94**	**19**	P	Pn	14 36 17.7	+0.8
	1.9nm,0.5s						
AAK				S	Sn	14 37 18.0	+3.2
	3.7nm,0.8s						
KK31	**Karatay Array**	**5.30**	**346**	⇓P	Pn	14 36 21.1	-0.6
	1.4nm,0.4s,baz=154,slow=11,SNR=47						
KK31				⇑S	Sn	14 37 23.7	+0.3
	2.5nm,0.3s,baz=164,slow=22,SNR=15						
TKM2	**Tokmak 2**	**5.53**	**26**	⇑P	Pn	14 36 24.5	-0.6
	0.9nm,0.7s						
TKM2				⇓S	Sn	14 37 29.0	-0.5
	1.6nm,1.1s						

*INET **12** 14:51:43.8,11.°43N×86.°20W,h108km,ML4.4*
*UCR **12** 14:51:45.1±1.9,11.°43N×86.°32W,h26km±7km,ML4.1, MW3.7*
*SNET **12** 14:51:48.3±1.2,12.°38N×85.°93W,h101km±51km,ML4.3*

ISC 12 14:51:45.4±1.5,11.°49N±0.°07×86.°21W±0.°08,h87km±19km, n39,σ0§68/57,1C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

TOLK				IAmb	IAmb	15 14 33.4
	comp=Z,6.6nm,1.2s					
DLBC	**Dease Lake**	**47.11**	**315**	P	**P**	**15 14 21.1 +2.6**
ILAR	**Eielson Array**	**48.30**	**328**	P	**P**	**15 14 27.8 +0.3**
	comp=Z,0.8nm,0.8s,baz=40,slow=5.5,SNR=11					
SKAG	**Skagway**	**48.39**	**318**	P	**P**	**15 14 29.7 +1.4**
PD31	**Pinedale Array**	**48.45**	**287**	P	**P**	**15 14 28.7 -0.6**
PD31				IAmb	IAmb	15 14 29.7
	comp=Z,5.0nm,1.5s					
PDAR	**Pinedale Array**	**48.45**	**287**	P	**P**	**15 14 28.5 -0.8**
	comp=Z,0.4nm,0.6s,baz=46,slow=6.4,SNR=3.4					
PDAR				LR	LR	15 32 38.2
	comp=Z,46nm,18.1s,baz=328,slow=33					
IMAR	**Indian Mountai**	**49.22**	**332**	P	**P**	**15 14 34.7 +0.1**
PAX	**Paxson**	**49.23**	**326**	P	**P**	**15 14 33.0 -1.8**
PAX				IAmb	IAmb	15 14 36.0
	comp=Z,5.2nm,0.9s					
BCYI	**Bear Canyon**	**49.33**	**291**	P	**P**	**15 14 36.6 +0.6**
AMTX	**Amarillo**	**49.99**	**274**	P	**P**	**15 14 40.9 -0.1**
TIXI	**Tiksi**	**50.79**	**7**	P	**P**	**15 14 46.2 -0.2**
TORD	**Torodi Ar. Bea**	**51.45**	**134**	P	**P**	**15 14 51.4 -0.6**
	comp=Z,0.5nm,0.7s,baz=336,slow=8.8,SNR=3.2					
TORD	**Torodi Ar. Bea**	**51.45**	**134**	IAmb	IAmb	15 14 56.1
	comp=Z,0.6nm,0.8s					
ABKAR	**Akbulak array**	**52.15**	**56**	P	**P**	**15 14 56.3 -0.6**
DBIC	**Dimbokro**	**55.15**	**145**	LR	LR	15 35 42.8
	comp=Z,47nm,19.5s,baz=57,slow=33					
TXAR	**Lajitas Array**	**55.32**	**271**	P	**P**	**15 15 21.1 +0.6**
	comp=Z,0.2nm,0.7s,baz=76,slow=3.8,SNR=2.3					
KVN	**Kaiserville**	**55.57**	**290**	P	**P**	**15 15 22.9 +0.6**
NVAR	**Mina Array Bea**	**56.15**	**290**	P	**P**	**15 15 27.1 +0.6**
MKAR	**Makanchi Array**	**63.37**	**44**	P	**P**	**15 16 15.1 -0.7**
	comp=Z,0.5nm,0.6s,baz=350,slow=6.2,SNR=4.2					
PEA0B	**Petropavlovsk-**	**69.64**	**353**	P	**P**	**15 16 56.5 +0.8**
PETK	**Petropavlovsk-**	**69.64**	**353**	P	**P**	**15 16 57.0 +1.3**
SONM	**Songino Array**	**70.08**	**28**	P	**P**	**15 16 58.4 -0.3**
	comp=Z,0.9nm,0.6s,baz=331,slow=4.9,SNR=4.6					
SONM	**Songino Array**	**70.08**	**28**	IAmb	IAmb	15 16 59.0
	comp=Z,1.1nm,0.8s					
WRA	**Warramunga Arr**	**141.65**	**19**	PKP	**PKPdf**	**15 25 16.9 -1.2**
	comp=Z,0.4nm,0.8s,baz=355,slow=2.6,SNR=1.8					
ASAR	**Alice Springs**	**145.21**	**21**	PKPbc	**PKPbc**	**15 25 23.1 -0.8**
	comp=Z,1.9nm,0.8s,baz=343,slow=2.6,SNR=18					
ASAR	**Alice Springs**	**145.21**	**21**		**PKPbc**	**15 25 22.8 -1.1**
QSPA	**South Pole Qui**	**147.14**	**180**	PKPbc	**PKPbc**	**15 25 28.4 -0.1**
	baz=166,slow=1.7					

SNET ***12*** *15:07:06.8±1.2, 14°.20N×91°.82W, h24km±151km, ML2.6*
GCG ***12*** *15:07:13.1±0.6, 14°.34N×91°.50W, h33km±5km, MD3.9*

ISC 12 15:07:07.0±4.4**, 14°.2N**±0°.2×**91°.9W**±0°.2**, h62**km±22**km, n11, σ0§82/12, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**0.44**	**53**	*eP*	**Pn**	**15 07 19.1**	**+0.5**
STG3	**Santiaguito 3,**	**0.64**	**33**	*eS*	**Sn**	**15 07 29.6**	**-1.4**
FUG	**Fuego 3**	**1.09**	**75**	*eP*	**Pn**	**15 07 26.4**	**-0.1**
HUEH	**Huehuetenango**	**1.22**	**20**	*eP*	**Pn**	**15 07 28.2**	**0.0**
HUEH				*eS*	**Sn**	**15 07 44.6**	**+0.6**
IXG	**Ixpaco**	**1.45**	**90**	*eP*	**Pn**	**15 07 31.7**	**+0.5**
NBG	**Las Nubes**	**1.59**	**75**	*eP*	**Pn**	**15 07 34.1**	**+0.9**
RTR	**El Retiro**	**2.23**	**97**	*eP*	**Pn**	**15 07 41.0**	**-0.8**
SBLS	**San Blas**	**2.26**	**98**	*eS*	**Sn**	**15 08 09.9**	**+0.7**
MTO3	**Montecristo**	**2.50**	**84**	*eP*	**Pn**	**15 07 44.7**	**-0.8**
MTO3				IAML		15 08 21.2	
	comp=Z,28nm,0.6s						
TACO	**Tacachico**	**2.51**	**94**	*eS*	**Sn**	**15 08 14.9**	**-0.1**
LFRS	**El Faro**	**2.84**	**101**	*eP*	**Pn**	**15 07 50.1**	**+0.1**

IDC ***12*** *15:23:50.8±2.7, 17°.75S×173°.67W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/35, mbtmp3.8/4, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/37, Error ellipse: s-maj=122.0km s-min=25.8km az=143.0*
NEIC ***12*** *15:23:55.1±1.0, 17°.73S±0°.10×173°.34W±0°.09, h47km±9km, mb4.3/8, Error ellipse: s-maj=14.3km s-min=12.9km az=156.0*

ISC 12 15:23:54.7±0.8**, 17°.69S**±0°.08×**173°.35W**±0°.10**, h39**km**, n26, σ1§33/16, mb4.3/6, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.53**	**114**	Pn	**Pn**	**15 24 47.2**	**+0.1**
AFI	**Afiamalu**	**4.05**	**22**	Pn	**Pn**	**15 24 55.7**	**+1.4**
	2.7nm,0.3s,baz=256,slow=4.2,SNR=9.1						
AFI				Sn	**Sn**	**15 25 39.3**	**-1.3**
	20nm,0.3s,baz=102,slow=12,SNR=6.3						
AFI				LR	LR	15 26 29.3	
	comp=Z,176nm,19.0s,baz=238,slow=38						
AFI	**Afiamalu**	**4.05**	**22**		**Pn**	**15 24 54.9**	**+0.6**
MSVF	**Nonsavu**	**8.20**	**268**	Pn	**Pn**	**15 25 52.4**	**+1.2**
PAE	**Paea**	**22.65**	**94**	*eT*	T	15 52 04.1	
	2.4nm,0.3s						
PPT2	**Papeete2**	**22.66**	**93**	*e*LR	LR	15 34 11.8	
	comp=Z,48nm,23.8s						
PPT2	**Papeete2**	**22.66**	**93**	*eT*	T	15 52 06.0	
	2.5nm,0.4s						
PPT	**Papeete**	**22.66**	**93**	LR	LR	15 36 16.3	
	comp=Z,43nm,18.9s,baz=248,slow=32						
TVO	**Taravao**	**22.95**	**94**	*eT*	T	15 52 23.3	
	0.9nm,0.3s						
TBI	**Tubuai**	**23.06**	**108**	*eT*	T	15 52 41.5	
	4.9nm,0.4s						
BKZ	**Black Stump Fm**	**23.15**	**200**	P	**P**	**15 28 58.3**	**+0.6**
BKZ				IAmb	IAmb	15 29 13.9	
	comp=Z,13nm,1.4s						
TAOE	**Nuku Hiva Isla**	**33.44**	**79**	*eT*	T	16 05 27.6	
	comp=Z,18nm,0.2s						
BBOO	**Buckleboo**	**47.74**	**242**	P	**P**	**15 32 26.0**	**-2.1**
WB0	**Warramunga Arr**	**49.37**	**259**	P	**P**	**15 32 40.3**	**-0.5**
WB0				IAmb	IAmb	15 32 59.0	
	comp=Z,3.6nm,1.1s						
WB2	**Warramunga Arr**	**49.39**	**259**	P	**P**	**15 32 40.6**	**-0.4**
WB2				IAmb	IAmb	15 33 07.2	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**49.41**	**259**	P	**P**	**15 32 41.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=98,slow=8.2,SNR=24						
AS31	**Alice Springs**	**49.48**	**254**	P	**P**	**15 32 40.0**	**-1.6**
ASAR	**Alice Springs**	**49.48**	**254**	P	**P**	**15 32 40.1**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=88,slow=8.6,SNR=41						
ASAR	**Alice Springs**	**49.48**	**254**	P	**P**	**15 32 39.9**	**-1.8**
QSPA	**South Pole Qui**	**72.37**	**180**	P	**P**	**15 35 18.7**	**+2.2**
CHGN	**Chignik**	**74.77**	**9**	P	**P**	**15 35 30.1**	**-0.3**
NVAR	**Mina Array Bea**	**76.00**	**42**	P	**P**	15 35 41.9	**+3.8**
	comp=Z,0.4nm,0.7s,baz=200,slow=7.7,SNR=3.5						
NVAR	**Mina Array Bea**	**76.00**	**42**	P	**P**	**15 35 38.0**	**-0.2**
H03S2	**Juan Fernandez**	**83.90**	**123**	T	T	17 09 20.6	
	baz=250,slow=75,SNR=4.2						
H03S1	**Juan Fernandez**	**83.92**	**123**	T	T	17 09 25.7	
	baz=250,slow=75,SNR=4.8						
H03S3	**Juan Fernandez**	**83.92**	**123**	T	T	17 09 39.0	
	baz=250,slow=75,SNR=4.0						

IDC ***12*** *15:25:33.6±4.5, 64°.55S×176°.47E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/19, mbtmp3.6/3, ML3.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=161.4km s-min=39.4km az=72.0*
NEIC ***12*** *15:25:34.0±0.8, 64°.3S±0°.1×177°.3E±0°.4, h10km±5km, mb4.4/7, Error ellipse: s-maj=22.1km s-min=19.0km az=94.0*

ISC 12 15:25:33.6±0.9**, 64°.36S**±0°.10×**177°.1E**±0°.2**, h10**km**, n32, σ1§41/14, mb4.2/5, MS3.5/6, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.03**	**194**	Pn	**Pn**	**15 28 49.3**	**-2.7**
	0.1nm,0.3s,baz=43,slow=18,SNR=18						
VNDA				LR	LR	15 32 57.4	
	comp=Z,188nm,18.1s,baz=10,slow=32						
VNDA	**Vanda**	**14.03**	**194**		**Pn**	**15 28 50.4**	**-1.6**
MQZ	**McQueen's Vall**	**20.85**	**351**	P	Pn	15 30 15.7	-1.9
MQZ				IAmb	IAmb	15 30 18.4	
	comp=Z,40nm,1.5s						
RPZ	**Rata Peaks**	**20.96**	**348**	LR	LR	15 36 53.7	
	comp=Z,157nm,18.3s,baz=186,slow=32						
FOZ	**Fox Glacier**	**21.27**	**345**	P	**P**	**15 30 18.9**	**-0.8**
FOZ				IAmb	IAmb	15 30 27.0	
	comp=Z,69nm,1.4s						
TUWZ	**Tuamarina**	**23.04**	**354**	P	**P**	**15 30 37.7**	**-1.0**
QSPA	**South Pole Qui**	**25.73**	**180**	LR	LR	15 39 49.8	
	comp=Z,82nm,19.5s,baz=44,slow=34						
QSPA	**South Pole Qui**	**25.73**	**180**	P	**P**	**15 31 06.4**	**+2.5**
QSPA				IAmb	IAmb	15 31 31.6	
	comp=Z,8.0nm,1.4s						
URZ	**Urewera**	**26.14**	**0**	LR	LR	15 39 44.0	
	comp=Z,89nm,20.4s,baz=212,slow=32						
MAW	**Mawson**	**40.24**	**213**	LR	LR	15 47 50.4	
	comp=Z,64nm,20.0s,baz=62,slow=34						
DZM	**Mont Dzumac**	**42.86**	**345**	*e*LR	LR	15 45 38.2	
	comp=Z,153nm,25.4s						
SNAA	**Sanae**	**44.23**	**180**	P	**P**	**15 33 43.4**	**+1.1**
SNAA				IAmb	IAmb	15 33 43.5	
	comp=Z,5.7nm,1.5s						
TBI	**Tubuai**	**46.50**	**44**	*eT*	T	16 23 38.9	
	comp=Z,8.5nm,0.3s						
H01W1	**Cape Leeuwin H**	**47.49**	**277**	T	T	16 25 08.2	
	baz=148,slow=76,SNR=8.8						
H01W2	**Cape Leeuwin H**	**47.50**	**277**	T	T	16 25 04.5	
	baz=148,slow=76,SNR=6.9						
H01W3	**Cape Leeuwin H**	**47.51**	**277**	T	T	16 25 10.3	
	baz=148,slow=76,SNR=6.8						
ASAR	**Alice Springs**	**49.42**	**304**	P	**P**	**15 34 24.4**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=152,slow=6.8,SNR=4.8						
ASAR	**Alice Springs**	**49.42**	**304**	P	**P**	**15 34 24.0**	**+0.5**
AS31	**Alice Springs**	**49.42**	**304**	P	**P**	**15 34 24.0**	**+0.5**
PPT2	**Papeete2**	**51.90**	**42**	*e*LR	LR	15 49 29.0	
	comp=Z,73nm,23.0s						
PPTF	**Pamatai, Papee**	**51.91**	**42**	P	**P**	**15 34 41.5**	**-0.7**
WRA	**Warramunga Arr**	**52.70**	**307**	P	**P**	**15 34 48.4**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=158,slow=6.6,SNR=4.8						
VAH	**Vaihoa**	**54.70**	**43**	*eT*	T	16 33 52.6	
	comp=Z,54nm,0.3s						
H03S2	**Juan Fernandez**	**65.71**	**118**	T	T	16 48 44.6	
	baz=207						
H03S1	**Juan Fernandez**	**65.72**	**118**	T	T	16 48 47.2	
	baz=207						
H03S3	**Juan Fernandez**	**65.73**	**118**	T	T	16 48 42.8	
	baz=207						
H03N3	**Juan Fernandez**	**66.05**	**117**	T	T	16 49 18.9	
	baz=220						
H03N2	**Juan Fernandez**	**66.06**	**117**	T	T	16 49 04.7	
	baz=220,SNR=6.2						
H03N1	**Juan Fernandez**	**66.07**	**117**	T	T	16 49 08.9	
	baz=220						
KBZ	**Khabaz**	**147.13**	**253**	PKPbc	**PKPbc**	**15 45 16.4**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=223,slow=2.4,SNR=4.2						
BRTR	**Keskin Array B**	**147.41**	**239**	PKPbc	**PKPbc**	**15 45 16.8**	**0.0**
	comp=Z,2.2nm,0.9s,baz=152,slow=5.6,SNR=9.0						
BRTR	**Keskin Array B**	**147.41**	**239**		**PKPbc**	**15 45 17.3**	**+0.5**

IDC ***12*** *15:28:58.0±6.6, 36°.30N×20°.06E, h0km, mb3.7/4, mb1 3.6/6, mb1mx3.4/41, mbtmp3.5/6, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/47, Error ellipse: s-maj=117.2km s-min=40.1km az=39.0*
ATH ***12*** *15:29:05.7, 37°.00N×20°.92E, h15km±1km, ML3.4/15, Error ellipse: s-maj=2.2km s-min=0.9km az=43.0*
THE ***12*** *15:29:06.8, 37°.04N×20°.88E, h0km±1km, ML3.3/11, Error ellipse: s-maj=2.3km s-min=0.6km az=229.0*

ISC 12 15:29:06.9±1.3**, 37°.06N**±0°.04×**20°.98E**±0°.03**, h13**km±8**km, n78, σ1§14/105, mb3.7/4, 3C-2D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.61**	**348**	P	**Pg**	**15 29 19.0**	**+0.1**
KRI1				S	**Sb**	**15 29 28.4**	**+0.4**
	12μm,0.4s						
PYL	**PYLOS**	**0.63**	**105**	P	**Pb**	**15 29 20.4**	**+0.6**
PYL				S	**Sn**	**15 29 30.8**	**-0.7**
PYL	**PYLOS**	**0.63**	**105**	P	**Pb**	**15 29 19.5**	**-0.3**
PYL				S	**Sb**	**15 29 28.9**	**+0.3**
ITM	**Ithomi**	**0.76**	**81**	P	**Pg**	**15 29 21.2**	**-0.5**
ITM				S	**Sb**	**15 29 33.2**	**+0.9**
ITM				AML	AML	15 29 41.5	
	comp=N,4511μm,0.4s						
ITM				AML	AML	15 29 48.4	
	comp=E,3592μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.85**	**343**	P	**Pg**	**15 29 22.9**	**-0.5**
VLMS				S	**Sb**	**15 29 35.2**	**+0.2**
VLMS				AML	AML	15 29 41.7	
	comp=E,14790μm,0.6s						
VLMS				AML	AML	15 29 44.4	
	comp=N,11392μm,0.3s						
VTN	**Vitineika**	**0.87**	**11**	P	**Pg**	**15 29 23.7**	**0.0**
VTN	**Vitineika**	**0.87**	**11**	P	**Pg**	**15 29 23.7**	**0.0**
VTN				S	**Sn**	**15 29 37.6**	**+0.3**
DRO	**Drossia**	**1.06**	**33**	P	**Pb**	**15 29 26.5**	**-0.7**
DRO				S	**Sn**	**15 29 44.0**	**+1.9**
DRO				AML	AML	15 29 47.9	
	comp=N,13388μm,0.4s						
DRO				AML	AML	15 29 48.5	
	comp=E,8781μm,0.7s						
RLS	**Riolos of Patr**	**1.06**	**21**	P	**Pb**	**15 29 26.7**	**-0.5**
RLS				S	**Sn**	**15 29 42.1**	**-0.1**
RLS				AML	AML	15 29 51.0	
	comp=E,3938μm,0.4s						
RLS				AML	AML	15 29 51.6	
	comp=N,4477μm,0.6s						
TRIP	**Tripoli**	**1.13**	**65**	P	**Pb**	**15 29 28.1**	**-0.3**
VLS	**Valsamata**	**1.16**	**344**	P	**Pb**	**15 29 27.9**	**-0.8**
VLS				S	**Sn**	**15 29 45.9**	**+1.4**
	comp=N,1μm,0.3s						
VLS	**Valsamata**	**1.16**	**344**	P	**Pb**	**15 29 27.9**	**-0.8**
VLS				S	**Sn**	**15 29 46.0**	**+1.5**
VLS				AML	AML	15 29 49.1	
	comp=N,2997μm,0.5s						
VLS				AML	AML	15 29 51.8	
	comp=E,2726μm,0.6s						
VLX	**Vlachokerasia**	**1.16**	**74**	P	**Pb**	**15 29 28.7**	**-0.1**
DMLN	**Damoulianata-K**	**1.27**	**338**	P	**Pn**	**15 29 30.4**	**0.0**
DMLN	**Damoulianata-K**	**1.27**	**338**	P	**Pn**	**15 29 30.6**	**+0.2**
DMLN				S	**Sg**	**15 29 48.2**	**+0.3**
KEF5	**Kardakata, Kep**	**1.28**	**342**	P	**Pn**	**15 29 30.1**	**-0.4**
KEF5				S	**Sg**	**15 29 50.1**	**+2.0**
GUR	**Goura**	**1.39**	**51**	P	**Pn**	**15 29 32.2**	**+0.1**
GUR				S	**Sg**	**15 29 53.1**	**+1.5**
FSK	**Fiskardo**	**1.43**	**347**	P	**Pn**	**15 29 32.9**	**+0.3**
FSK				S	**Sg**	**15 29 54.5**	**+1.4**
	comp=E,1μm,0.5s						
FSK	**Fiskardo**	**1.43**	**347**	P	**Pn**	**15 29 32.7**	**+0.1**
FSK				S	**Sg**	**15 29 54.5**	**+1.4**
FSK				AML	AML	15 30 01.4	
	comp=N,2049μm,0.5s						
FSK				AML	AML	15 30 05.6	
	comp=E,2694μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.49**	**37**	P	**Pg**	**15 29 35.5**	**-0.1**
TRIZ	**Trizonia**	**1.56**	**33**	P	**Pb**	**15 29 35.3**	**-0.4**
EVGI	**Lefkada island**	**1.58**	**351**	P	**Pb**	**15 29 36.2**	**+0.3**
EVGI				S	**Sg**	**15 29 57.7**	**+0.1**
SERG	**Sergoula**	**1.59**	**32**	P	**Pb**	**15 29 36.3**	**+0.1**
SERG				S	**Sg**	**15 29 59.0**	**+0.8**
	comp=E,985nm,0.8s						
SERG	**Sergoula**	**1.59**	**32**	P	**Pb**	**15 29 36.4**	**+0.1**
MGNA	**Meganis**	**1.60**	**355**	P	**Pg**	**15 29 37.1**	**-0.5**
MGNA				S	**Sg**	**15 29 58.4**	**0.0**
MGNA				AML	AML	15 30 12.7	
	comp=N,970μm,0.5s						
MGNA				AML	AML	15 30 17.1	
	comp=E,1096μm,1.1s						
VLI	**Veliai**	**1.60**	**102**	P	**Pg**	**15 29 37.2**	**-0.5**
VLI				S	**Sg**	**15 30 00.3**	**+1.8**
	comp=E,598nm,0.6s						
VLI	**Veliai**	**1.60**	**102**	P	**Pg**	**15 29 37.5**	**-0.2**
VLI				AML	AML	15 30 05.6	
	comp=N,1188μm,0.6s						
VLI				AML	AML	15 30 09.0	
	comp=E,1169μm,0.6s						
KALE	**Kalithea**	**1.61**	**34**	P	**Pb**	**15 29 36.3**	**-0.2**
THAL	**Thalero**	**1.65**	**53**	P	**Pb**	**15 29 37.1**	**-0.1**
THAL	**Thalero**	**1.65**	**53**	P	**Pb**	**15 29 37.6**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.66**	**352**	P	**Pb**	**15 29 37.4**	**0.0**
NYDR				S	**Sg**	**15 30 00.1**	**-0.3**
	comp=E,575nm,0.5s						
NYDR	**Nydri-Lefkada**	**1.66**	**352**	P	**Pb**	**15 29 37.9**	**+0.5**
NYDR				S	**Sg**	**15 30 00.2**	**-0.2**
LKD2	**Lefkada island**	**1.74**	**352**	P	**Pn**	**15 29 37.8**	**+0.9**
LKD2	**Lefkada island**	**1.74**	**352**	P	**Pb**	**15 29 38.1**	**-0.7**
LKD2				S	**Sg**	**15 30 02.7**	**-0.2**
LKD2				AML	AML	15 30 08.6	
	comp=E,2243μm,0.3s						
LKD2				AML	AML	15 30 12.3	
	comp=N,1896μm,0.6s						
KRND	**KRANIDI**	**1.76**	**79**	P	**Pb**	**15 29 39.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.78**	**352**	P	**Pn**	**15 29 38.4**	**+1.0**
TSLK	**Tsoukalades, L**	**1.78**	**352**	P	**Pb**	**15 29 39.2**	**-0.2**
TSLK				S	**Sg**	**15 30 04.1**	**0.0**
EPID	**Epidavros**	**1.79**	**71**	P	**Pb**	**15 29 39.9**	**+0.3**
EPID				S	**Sg**	**15 30 05.0**	**+0.5**
	comp=N,368nm,0.5s						
EPID	**Epidavros**	**1.79**	**71**	P	**Pb**	**15 29 39.8**	**+0.3**
KTHR	**Kythira**	**1.81**	**116**	P	**Pb**	**15 29 39.3**	**-0.6**
KTHR				S	**Sg**	**15 30 04.5**	**-0.7**
	comp=N,558nm,0.5s						
DSF	**Desfina**	**1.82**	**42**	P	**Pb**	**15 29 39.8**	**-0.3**
DSF				S	**Sg**	**15 30 04.9**	**-0.6**
	comp=N,442nm,0.7s						
DSF	**Desfina**	**1.82**	**42**	P	**Pb**	**15 29 40.0**	**-0.1**
DSF				S	**Sg**	**15 30 04.8**	**-0.6**
DSF				AML	AML	15 30 14.7	
	comp=E,712μm,0.7s						
DSF				AML	AML	15 30 19.7	
	comp=N,582μm,0.3s						
LOUT	**Loutraki**	**1.83**	**59**	P	**Pb**	**15 29 40.4**	**+0.1**
LOUT				AML	AML	15 30 25.6	
	comp=N,177μm,0.8s						
LOUT				AML	AML	15 30 30.1	
	comp=E,186μm,0.7s						
LTK	**Loutraki**	**1.84**	**58**	P	**Pb**	**15 29 40.0**	**-0.5**
LTK				S	**Sg**	**15 30 06.2**	**-0.1**
	comp=E,538nm,0.7s						
LTK	**Loutraki**	**1.84**	**58**	P	**Pb**	**15 29 40.7**	**+0.2**
EVR	**Evrytania**	**1.96**	**19**	P	**Pb**	**15 29 42.2**	**-0.4**
EVR				AML	AML	15 30 15.6	
	comp=N,1594μm,0.7s						
EVR				AML	AML	15 30 26.6	
	comp=E,1199μm,0.8s						
VIL2	**Platees**	**2.15**	**57**	P	**Pb**	**15 29 44.1**	**-1.5**
VILL	**Villia**	**2.15**	**59**	P	**Pn**	**15 29 43.5**	**+1.0**
VILL				S	**Sb**	**15 30 13.1**	**+0.7**
	comp=E,560nm,0.8s						
AGG	**Agios Georgios**	**2.23**	**28**	P	**Pb**	**15 29 46.7**	**-0.3**
AGG				AML	AML	15 30 21.8	
	comp=N,525μm,0.7s						
AGG				AML	AML	15 30 21.9	
	comp=E,649μm,0.6s						
LKR	**Lokris**	**2.25**	**45**	P	**Pb**	**15 29 46.3**	**-1.1**
ATAL	**Atalanti**	**2.29**	**44**	P	**Pb**	**15 29 47.0**	**-1.1**
ATAL				AML	AML	15 30 32.8	
	comp=N,734μm,1.0s						
ATAL				AML	AML	15 30 32.9	
	comp=E,496μm,1.0s						
ATHU	**Athens Univers**	**2.40**	**67**	P	**Pn**	**15 29 46.4**	**+0.4**
PTL	**Penteli**	**2.49**	**66**	P	**Pn**	**15 29 48.6**	**+1.4**
DION	**Dionisos Attik**	**2.55**	**66**	P	**Pn**	**15 29 49.8**	**+1.8**
THL	**Klokotos Trika**	**2.63**	**18**	P	**Pb**	**15 29 51.5**	**-2.3**
SERI	**Serifos**	**2.80**	**87**	P	**Pn**	**15 29 52.9**	**+1.4**
KEK	**Kerkira**	**2.80**	**341**	P	**Pn**	**15 29 53.4**	**+1.9**
NEO	**Neokhori**	**2.85**	**38**	P	**Pn**	**15 29 54.4**	**+2.3**
NEO				AML	AML	15 30 34.4	
	comp=N,525μm,0.4s						
NEO				AML	AML	15 30 51.5	
	comp=E,417μm,0.6s						
KARY	**Karystos**	**2.91**	**70**	P	**Pn**	**15 29 53.8**	**+0.9**
LIT	**Litokhoron**	**3.25**	**21**	P	**Pn**	**15 29 58.9**	**+1.2**
PAIG	**Paliouri**	**3.56**	**36**	P	**Pn**	**15 30 03.4**	**+1.6**
IDI	**Anoyia**	**3.62**	**118**	⇓P	Pn	15 29 57.8	-5.0
IDI	**Anoyia**	**3.62**	**118**	⇑S	**Sn**	**15 30 42.1**	**-3.4**
APE	**Apeiranthos**	**3.64**	**89**	P	**Pn**	**15 30 04.3**	**+1.3**
ANAF	**Anafi Island**	**3.91**	**99**	P	**Pn**	**15 30 08.7**	**+2.0**
TIP	**Timpagrande**	**3.94**	**304**	⇑P	**Pn**	**15 30 11.3**	**+4.1**
OHR	**Ohrid**	**4.04**	**358**	*i* Pn	**Pg**	**15 30 22.6**	**-1.7**
VAY	**Valandovo**	**4.43**	**16**	*i* Pn	**Pn**	**15 30 12.6**	**-1.2**
STIP	**Stip**	**4.72**	**11**	*i* Pn	**Pn**	**15 30 21.3**	**+3.6**
MATE	**Matera**	**4.89**	**318**	⇑P	**Pn**	**15 30 17.7**	**-2.4**
MATE	**Matera**	**4.89**	**318**	⇓S	**Sn**	**15 31 16.1**	**-0.6**
GERES	**GERESS Array B**	**12.92**	**338**	Pn	**Pn**	**15 32 10.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=155,slow=16,SNR=2.6						
AKASG	**Malin Array Be**	**14.86**	**21**	Pn	**P**	**15 32 40.4**	**-1.9**
	comp=E,0.8nm,0.3s,baz=208,slow=9.0,SNR=5.3						
FINES	**FINESS Array B**	**24.61**	**6**	P	**P**	**15 34 27.1**	**+0.5**
	comp=E,0.8nm,0.8s,baz=198,slow=8.7,SNR=4.6						
FINES				LR	LR	15 46 41.1	
	comp=E,25nm,19.1s,baz=202,slow=42						
ARCES	**ARCESS Array B**	**32.62**	**3**	P	**P**	**15 35 37.7**	**-0.3**
	comp=E,0.4nm,0.4s,baz=193,slow=8.7,SNR=7.3						
MKAR	**Makanchi Array**	**45.58**	**58**	P	**P**	**15 37 27.9**	**+1.3**
	comp=E,0.4nm,0.5s,baz=267,slow=7.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.17**	**47**	P	**P**	**15 37 32.6**	**+1.5**
	comp=E,0.6nm,0.5s,baz=280,slow=8.3,SNR=2.7						
PSI	**Prapat**	**78.69**	**95**	LR	LR	16 26 39.6	
	comp=E,56nm,18.1s,baz=90,slow=44						

IDC ***12*** *15:30:22.2±0.9, 52°.

comp=Z,307nm,19.0s,baz=82,slow=54
PETK Petropavlovsk- 1.95 298 PN **Pn** **15 30 56.4 -0.1**
PETK Petropavlovsk- 1.95 298 **Pn** **15 30 56.4 -0.1**
GNL Ganaly 2.16 314 *eP* **Pn** **15 31 00.7 +1.2**
GNL Ganaly 2.16 314 PN **Pn** **15 31 00.7 +1.2**
APC Apacha 2.19 290 *eP* **Pn** **15 31 01.2 +1.5**
APC *eS* **Sn** **15 31 28.3 +2.8**
APC Apacha 2.19 290 PN **Pn** **15 31 01.2 +1.5**
APC S **Sn** **15 31 28.3 +2.8**
PAU Pauzhetka 2.44 253 *eP* **Pn** **15 31 03.5 +0.2**
PAU Pauzhetka 2.44 253 PN **Pn** **15 31 03.5 +0.2**
KZV Kizimen 2.90 357 *eP* **Pn** **15 31 10.1 +0.4**
KZV Kizimen 2.90 357 PN **Pn** **15 31 10.1 +0.4**
TUMD Tumrok D 2.98 358 *eP* **Pn** **15 31 10.8 0.0**
TUMD *eS* **Sn** **15 31 45.0 -0.3**
TUMR Tumrok 3.07 356 PN **Pn** **15 31 10.8 -1.3**
TUMR S **Sn** **15 31 45.0 -2.6**
SKR Severo-Kuril's 3.17 243 *eP* **Pn** **15 31 13.1 -0.2**
SKR *eS* **Sn** **15 31 49.3 -0.6**
SKR Severo-Kuril's 3.17 243 *e*PN **Pn** **15 31 12.9 -0.4**
SKR *eS* **Sn** **15 31 49.0 -0.9**
SKR smax smax
comp=N,98nm,0.6s
SKR smax smax
comp=E,63nm,0.6s
KMNR Kamenistaya 3.54 357 *eP* **Pn** **15 31 20.6 +2.1**
KMNR Kamenistaya 3.54 357 PN **Pn** **15 31 20.6 +2.1**
BZGR Bezymyannyi-Gr 3.72 1 *eP* **Pn** **15 31 24.6 +3.6**
BZGR Bezymyannyi-Gr 3.72 1 PN **Pn** **15 31 24.6 +3.6**
KIRR Kirishev 3.74 358 *eP* **Pn** **15 31 23.1 +1.9**
KIRR Kirishev 3.74 358 PN **Pn** **15 31 23.1 +1.9**
BZWR Bezymyannyi-We 3.75 360 *eP* **Pn** **15 31 23.4 +2.1**
BZWR Bezymyannyi-We 3.75 360 PN **Pn** **15 31 23.4 +2.1**
KOZ Kozyrevsk 3.86 354 *eP* **Pn** **15 31 24.0 +1.2**
KOZ Kozyrevsk 3.86 354 PN **Pn** **15 31 24.0 +1.2**
ESO Esso 3.86 344 *eP* **Pn** **15 31 23.3 +0.5**
ESO Esso 3.86 344 PN **Pn** **15 31 23.3 +0.5**
CIRR Tsirk 3.90 2 *eP* **Pn** **15 31 24.1 +0.7**
CIRR Tsirk 3.90 2 PN **Pn** **15 31 24.1 +0.7**
KRSR Krestovskiy 4.00 0 *eP* **Pn** **15 31 27.4 +2.6**
KRSR Krestovskiy 4.00 0 PN **Pn** **15 31 27.4 +2.6**
KLY Klyuchi 4.09 1 *eP* **Pn** **15 31 28.7 +2.7**
KLY Klyuchi 4.09 1 PN **Pn** **15 31 28.7 +2.7**
SRDR Sredinnyy 4.13 354 *eP* **Pn** **15 31 27.7 +1.2**
SRDR Sredinnyy 4.13 354 PN **Pn** **15 31 27.7 +1.2**
KBTR Krutoberegovo 4.21 18 *eP* **Pn** **15 31 27.2 -0.3**
KBTR Krutoberegovo 4.21 18 PN **Pn** **15 31 27.2 -0.3**
BDR Baidarnaya 4.37 5 *eP* **Pn** **15 31 32.5 +2.7**
BDR Baidarnaya 4.37 5 PN **Pn** **15 31 32.5 +2.7**
BKI Bering 4.39 45 *eP* **Pn** **15 31 29.3 -0.7**
BKI *eS* **Sn** **15 32 17.5 -2.3**
BKI Bering 4.39 45 PN **Pn** **15 31 29.3 -0.7**
SMKR Semkarok 4.40 7 *eP* **Pn** **15 31 32.6 +2.4**
SMKR Semkarok 4.40 7 PN **Pn** **15 31 32.6 +2.4**
SRKR Sorokina 4.45 4 *eP* **Pn** **15 31 32.3 +1.4**
SRKR Sorokina 4.45 4 PN **Pn** **15 31 32.3 +1.4**
ADK Adak 14.00 82 P **P** **15 33 47.7 -1.4**
ADK Adak 14.00 82 Pn **P** **15 33 47.7 -1.4**
JKA Kamikawa-asahi 14.44 243 **Pn** **15 33 47.1 -0.5**
ASAJ Asahikawa 14.44 243 Pn **Pn** **15 33 47.1 -0.5**
comp=E,0.8nm,0.3s,baz=77,slow=12,SNR=9.6
ERM Erimo 15.60 236 P **Pn** **15 34 00.2 -2.8**
ERM pmax pmax
comp=Z,45nm,1.2s
ERM Erimo 15.60 236 Pn **Pn** **15 34 00.1 -2.8**
ERM IAmb IAmb 15 34 12.3
comp=Z,45nm,1.2s
BILL Bilibino 16.10 8⇑*e*P **Pn** **15 34 08.6 -0.7**
BILL *e*S **S** **15 37 14.5 -4.6**
BILL pmax pmax
comp=Z,3.0nm,0.4s
BILL MLR MLR
comp=Z,67nm,16.0s
YAK Yakutsk 19.22 313 P **P** **15 34 45.3 -1.4**
comp=Z,0.0nm,0.3s,baz=150,slow=1.6,SNR=2.8
YAK Yakutsk 19.22 313 *e*P **P** **15 34 45.2 -1.5**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK Yakutsk 19.22 313 IAmb IAmb 15 34 46.1
comp=Z,21nm,0.9s
JMM Marumori 19.93 232 P **P** **15 34 54.5 -0.1**
JMM IAmb IAmb 15 35 09.5
comp=Z,18nm,1.1s
USRK Ussuriysk Ar. 20.55 258 P **P** **15 35 00.1 -1.2**
comp=Z,1.3nm,0.8s,baz=39,slow=14,SNR=2.4
JSD Sado 21.06 236 P **P** **15 35 05.9 -1.0**
JSD IAmb IAmb 15 35 10.3
comp=Z,8.5nm,0.8s
MJAR Matsushiro Arr 22.24 234 P **P** **15 35 20.1 +0.5**
comp=Z,2.8nm,0.6s,baz=18,slow=12,SNR=13
MAJO Matsushiro 22.24 234 P **P** **15 35 18.1 -1.5**
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MAJO Matsushiro 22.24 234 P **P** **15 35 18.1 -1.5**
JGF Kuroka 23.41 234 P **P** **15 35 34.0 +2.3**
JGF IAmb IAmb 15 35 37.1
comp=Z,26nm,1.4s
TIXI Tiksi 23.99 336 *i* P **P** **15 35 33.3 -3.4**
TIXI Tiksi 23.99 336 P **P** **15 35 35.4 -1.3**
ILAR Eielson Array 29.24 44 P **P** **15 36 26.3 +2.2**
ILAR Eielson Array 29.24 44 P **P** **15 36 26.3 +2.2**
H11N2 WAKE ISLAND Hy 32.81 169 T T 16 12 42.7
baz=353,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 32.82 169 T T 16 12 46.7
baz=353,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 32.83 169 T T 16 12 48.7
baz=353,slow=76,SNR=36
ULN Ulaanbaatar 33.97 284 *i* P **P** **15 37 05.1 -0.9**
ULN pmax pmax
comp=Z,1.0nm,1.1s
H11S1 WAKE ISLAND Hy 33.99 170 T T 16 14 23.6
baz=350
H11S3 WAKE ISLAND Hy 34.01 170 T T 16 14 38.8
baz=350,SNR=6.4
H11S2 WAKE ISLAND Hy 34.01 170 T T 16 15 02.8
baz=350
TLY Talaya 34.30 292 *i* P **P** **15 37 08.4 -0.3**
TLY pmax pmax
comp=Z,4.0nm,1.1s
EUNU Eureka 42.73 14 P **P** **15 38 20.2 +1.2**
EUNU IAmb IAmb 15 38 23.9
comp=Z,5.7nm,0.7s
ZALV Zalesovo Beam 43.48 304 P **P** **15 38 23.5 -1.8**
comp=Z,0.4nm,0.4s,baz=54,slow=7.3,SNR=2.1
ZALV LR LR 15 57 17.9
comp=Z,30nm,20.0s,baz=71,slow=37
DGZ Jazzator, Alta 44.31 297 *i* P **P** **15 38 31.7 -0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 48.43 303 *ce*P **P** **15 39 03.7 -0.7**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 48.43 303 P **P** **15 39 02.6 -1.8**
MK31 Makanchi Array 48.79 297 P **P** **15 39 05.5 -1.7**
MK31 pmax pmax
comp=Z,3.0nm,1.4s
MK31 Makanchi Array 48.79 297 P **P** **15 39 05.5 -1.7**
MKAR Makanchi Array 48.79 297 P **P** **15 39 05.5 -1.5**
comp=Z,0.6nm,0.4s,baz=54,slow=6.7,SNR=10
MKAR Makanchi Array 48.79 297 *i* P **P** **15 39 05.6 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 51.18 309 *ce*P **P** **15 39 24.8 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,2.5s
BRVK Borovoye 51.18 309 P **P** **15 39 24.3 -0.9**
BRVK IAmb IAmb 15 39 25.0
comp=Z,3.1nm,0.6s
ARU Arti 54.23 318 *d i* P **P** **15 39 47.0 -0.7**
ARU 15 40 48.5
ARU 15 41 44.8
ARU S **S** **15 47 21.3 -0.9**
ARU SS **SS** **15 51 01.7 -1.8**
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARU Arti 54.23 318 P **P** **15 39 46.7 -1.0**
AAK Ala-Archa 55.71 297 *ce*P **P** **15 39 59.0 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.9s

NVAR Mina Array Bea 55.78 70 P **P** **15 40 03.0 +3.5**
comp=Z,0.2nm,0.5s,baz=286,slow=8.3,SNR=2.4
NVAR Mina Array Bea 55.78 70 P **P** **15 40 00.1 +0.6**
KK31 Karatay Array 57.55 300 P **P** **15 40 09.8 -1.9**
KK31 pmax pmax
comp=Z,2.0nm,1.2s
KK31 Karatay Array 57.55 300 P **P** **15 40 09.8 -1.9**
KKAR Karatay Array 57.55 300 P **P** **15 40 09.5 -2.3**
KKAR Karatay Array 57.55 300 P **P** **15 40 09.5 -2.3**
KKAR Karatay Array 57.55 300 P **P** **15 40 09.8 -2.0**
KKAR IAmb IAmb 15 40 10.3
comp=Z,1.6nm,1.2s
CMAR Chiang Mai Arr 58.28 259 P **P** **15 40 18.8 +1.7**
comp=Z,1.4nm,0.7s,baz=26,slow=7.1,SNR=11
ABKAR Akbulak array 58.57 311 P **P** **15 40 17.6 -1.2**
ABKAR IAmb IAmb 15 40 19.3
comp=Z,1.6nm,0.6s
FINES FINESS Array B 61.03 337 P **P** **15 40 36.2 +0.8**
comp=Z,2.5nm,0.5s,baz=38,slow=8.2,SNR=20
FINES FINESS Array B 61.03 337 P **P** **15 40 35.8 +0.4**
HNR Honiara 61.41 181 P **P** **15 40 39.0 +0.5**
HNR pmax pmax
comp=Z,26nm,1.3s
HNR Honiara 61.41 181 P **P** **15 40 39.0 +0.5**
OBN Obninsk 63.40 328⇑*e*P **P** **15 40 50.5 -0.8**
OBN *e* 15 43 09.5
OBN *e*S S 15 49 34.0 +13
OBN pmax pmax
comp=Z,4.0nm,0.4s
OBN MLR MLR
comp=Z,24nm,15.0s
KSCO Kaye Shedlock' 64.06 59 P **P** **15 40 58.1 +1.8**
NB2 NORSAR Subarra 64.45 344 P **P** **15 40 58.0 -0.3**
comp=Z,0.6nm,0.7s,baz=21,slow=6.9
NOA NORSAR Array B 64.45 344 P **P** **15 40 59.0 +0.7**
comp=Z,0.4nm,0.5s,baz=21,slow=6.9,SNR=4.4
NOA NORSAR Array B 64.45 344 P **P** **15 40 59.0 +0.7**
LENM Lemitar 65.25 66 P **P** **15 41 05.3 +1.2**
AMTX Amarillo 67.63 62 P **P** **15 41 20.9 +1.7**
G45A Suttons Bay 67.66 45 P **P** **15 41 21.1 +2.0**
AKASG Malin Array Be 69.50 329 P **P** **15 41 30.5 0.0**
comp=Z,1.7nm,0.4s,baz=31,slow=6.6,SNR=7.8
AKASG Malin Array Be 69.50 329 IAmb IAmb 15 41 31.4
comp=Z,0.9nm,0.8s
AKBB Malin Array Si 69.50 329 *ce*P **P** **15 41 31.1 +0.6**
AKBB Malin Array Si 69.50 329 P **P** **15 41 30.1 -0.4**
AKBB IAmb IAmb 15 41 31.0
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 70.72 67 P **P** **15 41 40.8 +2.4**
comp=Z,0.1nm,0.4s,baz=318,slow=3.9,SNR=1.6
J56A Wolcott 72.75 40 P **P** **15 41 52.5 +2.2**
MOQ Mont Orford 72.77 36 P **P** **15 41 51.8 +1.3**
KNRA Kununurra 73.03 212 P **P** **15 41 52.0 -0.1**
CLL Collm 73.26 339 *eP* **P** **15 41 54.0 +0.8**
CLL Collm 73.26 339 *eP* **P** **15 41 54.0 +0.8**
CLL Collm 73.26 339 *eP* **P** **15 41 54.0 +0.8**
BUR08 Bucovina Ar. S 73.47 330 P **P** **15 41 54.9 +0.5**
BURAR Bucovina Array 73.47 330 P **P** **15 41 55.3 +0.7**
MLR Muntele Rosu 75.13 329 P **P** **15 42 05.9 +1.5**
MLR Muntele Rosu 75.13 329 P **P** **15 42 05.9 +1.5**
WRA Warramunga Arr 75.41 205 P **P** **15 42 06.2 +0.3**
comp=Z,0.5nm,0.9s,baz=18,slow=6.2,SNR=2.6
GERES GERESS Array B 75.42 338 P **P** **15 42 06.6 +0.7**
comp=Z,0.3nm,0.4s,baz=48,slow=4.4,SNR=2.9
BRTR Keskin Array B 77.47 321 P **P** **15 42 17.8 +0.1**
BRTR Keskin Array B 77.47 321 P **P** **15 42 17.8 +0.1**
PRED Cave del Predi 77.71 337 P **P** **15 42 19.2 +0.3**
PRED IAmb IAmb 15 42 19.6
comp=Z,3.2nm,1.3s
ASAR Alice Springs 79.08 205 P **P** **15 42 27.7 +1.2**
comp=Z,0.3nm,0.7s,baz=15,slow=5.0,SNR=5.5
ESDC Sonseca Array 87.49 348 P **P** **15 43 10.9 +1.1**
comp=Z,0.4nm,0.8s,baz=0.8,slow=8.0,SNR=1.8
ESDC Sonseca Array 87.49 348 IAmb IAmb 15 43 17.0
comp=Z,6.6nm,1.4s

IDC 12 15:37:32.7±5.1, 56.75S×149.56E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.5/15, mbtmp3.3/3, Error ellipse: s-maj=495.0km s-min=29.4km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**21.30**	**173**	P	P	15 42 20.5	0.0
	0.6nm,0.8s,baz=315,slow=10.0,SNR=3.7						
H01W1	**Cape Leeuwin H**	**32.40**	**297**	T	T	16 16 54.4	
	baz=143,slow=75,SNR=45						
H01W2	**Cape Leeuwin H**	**32.40**	**297**	T	T	16 16 52.0	
	baz=143,slow=75,SNR=46						
H01W3	**Cape Leeuwin H**	**32.41**	**297**	T	T	16 16 54.6	
	baz=143,slow=75,SNR=44						
ASAR	**Alice Springs**	**34.97**	**334**	P	P	15 44 26.4	0.0
	0.3nm,0.8s,baz=160,slow=8.5,SNR=1.6						
WRA	**Warramunga Arr**	**38.46**	**337**	P	P	15 44 56.0	-0.2
	0.4nm,0.7s,baz=166,slow=7.3,SNR=6.5						
H08S2	**Diego Garcia H**	**76.55**	**277**	T	T	17 11 56.8	
	baz=147,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**76.56**	**277**	T	T	17 12 00.2	
	baz=147,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**76.57**	**277**	T	T	17 11 57.7	
	baz=147,slow=76,SNR=16						

*TAP **12** 15:53:00.9, 22.42N×120.31E, h25km, ML3.4, C*
*NEIC **12** 15:53:01.2±1.1, 22.43N±0.07×120.27E±0.06, h51km±12km, Error ellipse: s-maj=10.6km s-min=8.4km az=176.0*
ISC 12 15:53:00.2±0.7, 22.42N±0.02×120.27E±0.03, h24km, n99, σ1822/143, 9C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWP	**Hsiaoliuchiu**	**0.11**	**133**⇓	*i* P	**Pb**	**15 53 06.4**	**+1.6**
	baz=146						
TWP				*e*S	**Sb**	**15 53 11.5**	**+3.6**
	baz=146						
WLCH	**Liuqiu**	**0.12**	**127**⇓	*i* P	**Pb**	**15 53 06.5**	**+1.7**
	baz=140						
WLCH				S	**Sb**	**15 53 11.4**	**+3.4**
	baz=140						
KAU	**Kaohsiung**	**0.15**	**13**⇓	*e* P	**Pn**	**15 53 06.9**	**-0.1**
	baz=2.0						
KAU				*e*S	**Sb**	**15 53 12.2**	**+3.7**
	baz=2.0						
SSPT	**Xinbi**	**0.28**	**78**⇑	*i* P	**Pn**	**15 53 08.6**	**-0.2**
	baz=76						
SSPT				*e*S	**Sb**	**15 53 15.7**	**+4.3**
	baz=76						
SCZT	**Fangliau**	**0.33**	**99**⇑	*i* P	**Pn**	**15 53 09.2**	**-0.2**
	baz=100						
SCZT				*e*S	**Sn**	**15 53 15.8**	**+0.4**
	baz=100						
SNJT	**Kaohsiung City**	**0.33**	**10**	⇓P	**Pn**	**15 53 09.6**	**+0.1**
	baz=354						
SNJT				*e*S	**Sn**	**15 53 16.6**	**+1.0**
	baz=354						
SGLT	**Jiouru**	**0.36**	**34**⇑	*i* P	**Pn**	**15 53 10.5**	**+0.6**
	baz=18						
SGLT				*e*S	**Sn**	**15 53 18.5**	**+2.2**
	baz=18						
MASBT	**Mashibuluo**	**0.38**	**61**⇑	*i* P	**Pn**	**15 53 09.9**	**-0.3**
	baz=72						
MASBT				*e*S	**Sn**	**15 53 16.9**	**+0.1**
	baz=72						
TWM1	**Shoushan**	**0.42**	**19**	*i* P	**Pn**	**15 53 11.3**	**+0.5**
	baz=16						
TWM1				*e*S	**Sn**	**15 53 20.5**	**+2.6**
	baz=16						
TSMG	**Majia**	**0.44**	**51**⇑	*i* P	**Pn**	**15 53 10.8**	**-0.3**
	baz=61						
TSMG				*e*S	**Sn**	**15 53 18.4**	**0.0**
	baz=61						
SSD	**Sandimen**	**0.46**	**46**⇑	*i* P	**Pn**	**15 53 11.3**	**0.0**
	baz=56						
SSD				*e*S	**Sn**	**15 53 19.2**	**+0.4**
	baz=56						
SCST	**Cishan**	**0.50**	**24**	*e* P	**Pn**	**15 53 11.7**	**-0.2**
	baz=10.0						
SCST				*e*S	**Sn**	**15 53 20.5**	**+0.7**
	baz=10.0						
SLIU	**Shizi**	**0.53**	**113**	*e* P	**Pn**	**15 53 12.2**	**-0.1**
	baz=115						
SLIU				*e*S	**Sn**	**15 53 20.6**	**+0.2**
	baz=115						
EAST	**Anshuo**	**0.53**	**94**	*e* P	**Pn**	**15 53 12.7**	**+0.3**
	baz=95						
EAST				*e*S	**Sn**	**15 53 20.6**	**0.0**
	baz=95						
TAW	**Tawu**	**0.58**	**96**	*e* P	**Pn**	**15 53 13.0**	**+0.1**
	baz=97						
TAW				*e*S	**Sn**	**15 53 22.4**	**+0.7**
	baz=97						
HEN	**Hengchun**	**0.60**	**134**	*e* P	**Pn**	**15 53 13.2**	**0.0**
	baz=123						
HEN				*e*S	**Sn**	**15 53 23.4**	**+1.3**
	baz=123						
TAI1	**Yung-k'ang**	**0.61**	**356**	*e* P	**Pn**	**15 53 13.9**	**+0.5**
	baz=353						
TAI1				*e*S	**Sn**	**15 53 23.7**	**+1.2**
	baz=353						
ECL	**Taimali**	**0.65**	**75**⇑	*i* P	**Pn**	**15 53 14.1**	**+0.1**
	baz=74						
ECL				*e*S	**Sn**	**15 53 23.5**	**0.0**
	baz=74						
CHN3	**Shinhua**	**0.65**	**8**	*e* P	**Pn**	**15 53 15.1**	**+1.1**
	baz=4.0						
CHN3				*e*S	**Sn**	**15 53 24.7**	**+1.1**
	baz=4.0						
SLGT	**Liugui**	**0.66**	**31**	P	**Pn**	**15 53 14.1**	**-0.1**
	baz=29						
SLGT				*e*S	**Sn**	**15 53 25.1**	**+1.3**
	baz=29						
TWK1	**Hengchun**	**0.69**	**134**⇓	*i* P	**Pn**	**15 53 14.5**	**+0.1**
	baz=124						
TWK1				*e*S	**Sn**	**15 53 24.9**	**+0.5**
	baz=124						
TWKBT	**Hengchun**	**0.69**	**134**⇓	*i* P	**Pn**	**15 53 14.4**	**-0.1**
	baz=124						
TWKBT				*e*S	**Sn**	**15 53 23.9**	**-0.7**
	baz=124						
SGST	**Jiashian**	**0.71**	**24**⇑	*e* P	**Pb**	**15 53 14.0**	**0.0**
	baz=35						
SCLT	**Jiali**	**0.75**	**354**	*e* P	**Pb**	**15 53 15.3**	**+0.7**
	baz=351						
SCLT				*e*S	**Sn**	**15 53 27.5**	**+1.6**
	baz=351						
TSEB	**Hengchuen, Pin**	**0.78**	**132**	*e* P	**Pb**	**15 53 15.5**	**+0.4**
	baz=126						
CHN1	**Nanshi**	**0.79**	**17**	*e* P	**Pb**	**15 53 16.0**	**+0.6**
	baz=14						
SNST	**Tainan City**	**0.82**	**15**	*e* P	**Pb**	**15 53 16.4**	**+0.7**
	baz=12						
SNST				*e*S	**Sn**	**15 53 28.3**	**+0.7**
	baz=12						
TWG	**Pinlang**	**0.84**	**62**	*i* P	**Pn**	**15 53 17.1**	**+0.5**
	baz=67						
TWG				*e*S	**Sb**	**15 53 27.2**	**+0.3**
	baz=67						
TWG	**Pinlang**	**0.84**	**62**	Pn	**Pn**	**15 53 17.0**	**+0.5**
TWG				Sn	**Sn**	**15 53 28.3**	**+0.2**
TWGBT	**Beinan**	**0.84**	**62**⇑	*i* P	**Pn**	**15 53 17.1**	**+0.5**
	baz=67						
TWGBT				*e*S	**Sn**	**15 53 27.9**	**-0.3**
	baz=67						
STYT	**Tauyuan**	**0.86**	**31**	*i* P	**Pb**	**15 53 16.7**	**+0.2**
	baz=30						
STYT				*e*S	**Sn**	**15 53 30.0**	**+1.2**
	baz=30						
TWK	**Hsinying**	**0.86**	**13**	*e* P	**Pb**	**15 53 16.8**	**+0.3**
	baz=12						
TWK				*e*S	**Sn**	**15 53 28.9**	**+0.1**
	baz=12						
WTP	**Ta-pu**	**0.88**	**21**	P	**Pb**	**15 53 16.9**	**+0.1**
	baz=19						
WTP				*e*S	**Sn**	**15 53 29.6**	**+0.5**
	baz=19						
CHN8	**Yiju**	**0.92**	**356**	*e* P	**Pb**	**15 53 17.6**	**+0.2**
	baz=354						
CHN8				*e*S	**Sn**	**15 53 32.0**	**+1.9**
	baz=354						
LONT	**Longtian**	**0.93**	**59**	*e* P	**Pn**	**15 53 18.7**	**+1.0**
	baz=57						
LONT				*e*S	**Sn**	**15 53 31.7**	**+1.4**
	baz=57						
ICHU	**Yijhu**	**0.93**	**0**	*e* P	**Pb**	**15 53 18.3**	**+0.6**
	baz=358						
ICHU				*e*S	**Sn**	**15 53 30.9**	**+0.5**
	baz=358						
TPUB	**Ta-pu**	**0.93**	**21**	*e* P	**Pb**	**15 53 17.4**	**-0.3**
	baz=19						
TPUB				*e*S	**Sn**	**15 53 31.4**	**+1.0**
	baz=19						
TPUB	**Ta-pu**	**0.93**	**21**	Pn	**Pb**	**15 53 17.3**	**-0.4**
TPUB				Sn	**Sn**	**15 53 30.7**	**+0.2**
CHN4	**Tsaushan**	**0.97**	**18**	*e* P	**Pb**	**15 53 18.1**	**-0.2**
	baz=16						
CHN4				*e*S	**Sn**	**15 53 32.8**	**+1.5**
	baz=16						
WDGT	**Dungji**	**1.00**	**326**	*e* P	**Pn**	**15 53 18.3**	**-0.5**
	baz=323						
WDGT				*e*S	**Sb**	**15 53 33.0**	**+1.3**
	baz=323						
ELDTW	**Lidau**	**1.02**	**42**	*e* P	**Pn**	**15 53 19.3**	**+0.1**
	baz=40						
CHY	**Chiayi**	**1.08**	**7**	*e* P	**Pb**	**15 53 21.0**	**+0.8**
	baz=5.0						
CHY				*e*S	**Sn**	**15 53 35.6**	**+1.6**
	baz=5.0						
EDH	**Donghe**	**1.10**	**60**	*e* P	**Pb**	**15 53 20.9**	**+0.4**
	baz=75						
ALS	**Alishan**	**1.19**	**24**	*e* P	**Pn**	**15 53 21.4**	**-0.2**
	baz=23						
ALS				*e*S	**Sn**	**15 53 37.3**	**+0.2**
	baz=23						
FULB	**Fuli**	**1.22**	**51**	*e* P	**Pb**	**15 53 22.8**	**+0.2**
	baz=49						
FULB				*e*S	**Sb**	**15 53 41.4**	**+3.5**
	baz=49						
CHN5	**Tsauling**	**1.23**	**18**	*e* P	**Pn**	**15 53 21.8**	**-0.2**
	baz=1.0						
CHN5				*e*S	**Sb**	**15 53 39.1**	**+1.0**
	baz=1.0						
LAY	**Lan-yu**	**1.25**	**108**	*e* P	**Pn**	**15 53 22.4**	**+0.3**
	baz=108						
PHUB	**P'eng-hu**	**1.26**	**329**	*e* P	**Pn**	**15 53 20.8**	**-1.5**
	baz=327						
WTK	**Tuku**	**1.26**	**5**	*e* P	**Pn**	**15 53 22.1**	**-0.3**
	baz=2.0						
WDLH	**Douliu**	**1.28**	**11**	P	**Pn**	**15 53 22.4**	**-0.2**
	baz=8.0						
WGK	**Gukeng**	**1.28**	**12**	*e* P	**Pn**	**15 53 22.6**	**-0.1**
	baz=356						
PNG	**Penghu**	**1.31**	**330**	*e* P	**Pn**	**15 53 24.2**	**+1.1**
	baz=328						
TWF1	**Yuli**	**1.32**	**45**	*e* P	**Pn**	**15 53 23.7**	**+0.5**
	baz=45						
TWF1				*e*S	**Sb**	**15 53 40.6**	**-0.3**
	baz=45						
EYUL	**Yuli**	**1.33**	**46**	*e* P	**Pn**	**15 53 23.9**	**+0.6**
	baz=45						
EYUL				*e*S	**Sb**	**15 53 42.3**	**+1.1**
	baz=45						
YULB	**Yu-li**	**1.35**	**44**	*e* P	**Pn**	**15 53 24.1**	**+0.5**
	baz=55						
YULB	**Yu-li**	**1.35**	**44**	Pn	**Pn**	**15 53 23.7**	**+0.1**
YULB				Sn	**Sn**	**15 53 40.4**	**-0.3**
WHYT	**Xinyi Township**	**1.37**	**23**	*e* P	**Pn**	**15 53 23.9**	**0.0**
	baz=21						
EHY	**Hungye**	**1.45**	**42**	*e* P	**Pn**	**15 53 25.8**	**+0.9**
	baz=25						
WJS	**Zhushan**	**1.45**	**17**	*e* P	**Pn**	**15 53 25.7**	**+0.7**
	baz=2.0						
SSLB	**Suanglung**	**1.50**	**25**	*e* P	**Pn**	**15 53 25.5**	**-0.1**
	baz=23						
SSLB	**Suanglung**	**1.50**	**25**	Pn	**Pn**	**15 53 25.3**	**-0.3**
WNT	**Mingjian**	**1.50**	**15**	*e* P	**Pn**	**15 53 25.0**	**-0.5**
	baz=359						
HGSD	**Ruisui**	**1.50**	**45**	*e* P	**Pb**	**15 53 27.3**	**-0.1**
	baz=43						
VWDT	**VWDT**	**1.55**	**31**	*e* P	**Pn**	**15 53 26.7**	**+0.5**
	baz=29						
SMLT	**Sun Moon Lake**	**1.56**	**22**	*e* P	**Pn**	**15 53 26.7**	**+0.1**
	baz=20						
TYC	**Yuchr**	**1.57**	**20**	*e* P	**Pn**	**15 53 26.5**	**0.0**
	baz=19						
EGFH	**Guangfu**	**1.63**	**40**	*e* P	**Pn**	**15 53 28.3**	**+0.9**
	baz=39						
ESL	**Shilin**	**1.75**	**37**	*e* P	**Pn**	**15 53 29.9**	**+0.9**
	baz=20						
CHGB	**Renai**	**1.83**	**27**	*e* P	**Pn**	**15 53 30.9**	**+0.6**
	baz=12						
WHF	**Hehuan Shan**	**1.94**	**28**	*e* P	**Pn**	**15 53 32.6**	**+0.5**
	baz=27						

WHP	**Taichung City**	**1.95**	**18**	*eP*		**Pn**	**15 53 32.3**	**+0.5**
	baz=17							
TWQ1	**Liyutan**	**1.97**	**13**	*eP*		**Pn**	**15 53 32.7**	**+0.6**
	baz=12							
TDCB	**Techi**	**1.99**	**24**	*eP*		**Pn**	**15 53 33.0**	**+0.4**
	baz=23							
TWT	**Tachien**	**2.00**	**24**	*eP*		**Pn**	**15 53 33.3**	**+0.6**
	baz=23							
FUSS	**Fushou**	**2.02**	**26**	*eP*		**Pn**	**15 53 33.5**	**+0.4**
	baz=25							
ETLH	**Xiulin Townshi**	**2.09**	**32**	*eP*		**Pn**	**15 53 34.6**	**+0.7**
	baz=31							
NACB	**Ninganchiao**	**2.12**	**35**	*eP*		**Pn**	**15 53 34.8**	**+0.6**
	baz=34							
NACB	**Ninganchiao**	**2.12**	**35**	Pn		**Pn**	**15 53 34.7**	**+0.6**
NNSB	**Datong**	**2.24**	**27**	*eP*		**Pn**	**15 53 37.0**	**+1.1**
	baz=26							
NNSH	**Datong**	**2.24**	**27**	*eP*		**Pn**	**15 53 36.9**	**+1.0**
	baz=26							
NNS	**Nan Shan**	**2.25**	**27**	*eP*		**Pn**	**15 53 37.3**	**+1.3**
	baz=26							
NSTT	**Nanjuang**	**2.30**	**17**	*eP*		**Pn**	**15 53 36.3**	**-0.3**
	baz=16							
LIOB	**Emei**	**2.31**	**17**	*eP*		**Pn**	**15 53 37.2**	**+0.4**
	baz=16							
NDT	**Datong Townshi**	**2.45**	**27**	*eP*		**Pn**	**15 53 40.3**	**+1.6**
	baz=27							
NSK	**Sanguang**	**2.45**	**24**	*eP*		**Pn**	**15 53 40.3**	**+1.5**
	baz=23							
YHNB	**Yeheng**	**2.45**	**24**	*eP*		**Pn**	**15 53 40.4**	**+1.6**
	baz=24							
YHNB	**Yeheng**	**2.45**	**24**	Pn		**Pn**	**15 53 38.8**	**0.0**
ENTT	**Nioudou**	**2.50**	**28**	*eP*		**Pn**	**15 53 41.5**	**+2.0**
	baz=27							
TATO	**Taipei**	**2.77**	**23**	Pn		**Pn**	**15 53 43.5**	**+0.4**
HKPS	**Hong Kong Po S**	**5.68**	**270**	Pn		**Pn**	**15 54 23.4**	**+0.4**
JMZ	**Minamidaito 2**	**10.55**	**69**	Pn		**Pn**	**15 55 30.7**	**+0.7**
JNU	**Nakatsue**	**14.19**	**39**	Pn		**Pn**	**15 56 19.8**	**0.0**
DLV	**T Lat**	**15.33**	**229**	P		**P**	**15 56 38.5**	**+3.1**
DLV				IAmb		IAmb	15 57 15.9	
	comp=Z,72nm,1.7s							
MAJO	**Matsushiro**	**20.97**	**44**	P		**P**	**15 57 39.1**	**-2.4**
MAJO				IAmb		IAmb	15 57 45.4	
	comp=Z,46nm,1.9s							
MJAR	**Matsushiro Arr**	**20.97**	**44**	P		**P**	**15 57 38.4**	**-3.2**
IPM	**Ipoh**	**25.80**	**229**	P		**P**	**15 58 26.1**	**-3.4**
MYKOM	**Kota Tinggi**	**25.99**	**220**	P		**P**	**15 58 28.2**	**-3.1**
MYKOM				IAmb		IAmb	15 58 39.6	
	comp=Z,22nm,1.5s							
ULN	**Ulaanbaatar**	**27.51**	**341**	P		**P**	**15 58 43.0**	**-1.9**
LHMI	**Lhok Sumawe**	**28.30**	**236**	P		**P**	**15 58 49.7**	**-2.3**

IDC ***12*** *15:58:15.1±2.2,0.°11S×16.°63W,h0km,mb3.9/7,mb1 4.2/9, mb1mx3.8/52,mbtmp4.2/9,ML4.8/2,MS3.5/19,Ms1 3.5/19, ms1mx3.4/38,Error ellipse: s-maj=55.9km s-min=43.5km az=118.0*

NEIC ***12*** *15:58:16.9±1.8,0.°2S±0.°1×16.°52W±0.°09,h10km±1km, mb4.6/10,Error ellipse: s-maj=27.6km s-min=6.3km az=150.0*

ISC 12 15:58:18.3±1.1,0.°0S±0.°2×16.°4W±0.°1,h13km,n43, σ1ᵍ75/28,mb4.2/11,MS3.5/17,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.99**	**166**	T	T	16 09 14.3	
	baz=342,slow=74,SNR=62						
H10N3	**ASCENSION HYDR**	**8.00**	**166**	T	T	16 09 20.7	
	baz=342,slow=74,SNR=108						
H10N1	**ASCENSION HYDR**	**8.01**	**166**	T	T	16 09 16.2	
	baz=342,slow=74,SNR=130						
H10S3	**ASCENSION HYDR**	**9.04**	**169**	T	T	16 10 30.2	
	baz=345,slow=74,SNR=30						
H10S2	**ASCENSION HYDR**	**9.05**	**169**	T	T	16 10 39.1	
	baz=235,slow=74,SNR=26						
LIC	**Lamto**	**12.94**	**61**	*eP*	**Pn**	**16 01 24.4**	**+2.4**
	25nm,0.3s						
TIC	**Toumodi**	**13.14**	**60**	*eP*	**Pn**	**16 01 26.2**	**+1.3**
KIC	**Kosan Boka**	**13.25**	**61**	*eP*	**Pn**	**16 01 28.0**	**+1.7**
	12nm,0.4s						
DBIC	**Dimbokro**	**13.30**	**60**	Pn	**Pn**	**16 01 28.7**	**+1.7**
	7.1nm,0.3s,baz=232,slow=13,SNR=118						
DBIC				Sn	**Sn**	**16 03 51.8**	**-3.0**
	2.6nm,0.3s,baz=134,slow=16,SNR=3.5						
DBIC				LR	LR	16 05 47.8	
	comp=Z,204nm,21.6s,baz=218,slow=33						
DBIC	**Dimbokro**	**13.30**	**60**		**Pn**	**16 01 28.5**	**+1.5**
KOWA	**Kowa**	**18.93**	**40**	P	**P**	**16 02 40.0**	**+0.9**
	1.7nm,0.3s,baz=220,slow=11,SNR=50						
KOWA				LR	LR	16 09 50.4	
	comp=Z,187nm,18.4s,baz=163,slow=36						
KOWA	**Kowa**	**18.93**	**40**	P	**P**	**16 02 39.0**	**-0.1**
KOWA				IAmb	IAmb	16 02 41.0	
	comp=Z,26nm,0.8s						
RCBR	**Riachuelo**	**20.30**	**253**	LR	LR	16 08 05.7	
	comp=Z,125nm,20.1s,baz=66,slow=29						
TOA0	**Torodi Ar. Sit**	**22.20**	**53**	P	**P**	**16 03 15.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**22.20**	**53**	P	**P**	**16 03 15.8**	**+1.1**
	comp=Z,23nm,0.9s,baz=235,slow=10,SNR=35						
TORD				S	**S**	**16 07 18.5**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=230,slow=23,SNR=4.3						
TORD				LR	LR	16 11 15.8	
	comp=Z,179nm,19.7s,baz=215,slow=35						
TORD	**Torodi Ar. Bea**	**22.20**	**53**	P	**P**	**16 03 15.3**	**+0.6**
TSUM	**Tsumeb**	**38.40**	**122**	P	**P**	**16 05 39.9**	**0.0**
PAB	**San Pablo**	**40.89**	**14**	P	**P**	**16 06 01.6**	**+1.3**
PAB				IAmb	IAmb	16 06 11.5	
	comp=Z,16nm,1.2s						
ESDC	**Sonseca Array**	**41.11**	**15**	P	**P**	**16 06 03.6**	**+1.5**
	comp=Z,1.1nm,1.0s,baz=198,slow=8.5,SNR=4.1						
ESDC				LR	LR	16 22 28.4	
	comp=Z,60nm,20.7s,baz=130,slow=35						
ESDC	**Sonseca Array**	**41.11**	**15**	IAmb	IAmb	16 06 07.4	
	comp=Z,9.5nm,1.4s						
KEST	**Kesra**	**42.89**	**31**	LR	LR	16 25 16.4	
	comp=Z,113nm,19.9s,baz=298,slow=38						
DAVOX	**Davos/Dischmat**	**51.98**	**23**	P	**P**	**16 07 28.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=189,slow=19,SNR=4.1						
LPAZ	**La Paz**	**53.49**	**250**	LR	LR	16 29 07.5	
	comp=Z,46nm,18.9s,baz=158,slow=35						
GERES	**GERESS Array B**	**55.16**	**24**	P	**P**	**16 07 49.9**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=209,slow=6.9,SNR=10						
GERES				PP	**PP**	**16 09 49.5**	**-4.6**
	comp=Z,0.8nm,0.7s,baz=206,slow=11,SNR=3.9						
LVC	**Limon Verde**	**55.77**	**242**	LR	LR	16 28 43.0	
	comp=Z,31nm,21.9s,baz=166,slow=33						
ROSC	**El Rosal**	**58.05**	**276**	LR	LR	16 29 58.5	
	comp=Z,43nm,20.5s,baz=88,slow=33						
BRTR	**Keskin Array B**	**60.32**	**43**	P	**P**	**16 08 28.0**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=230,slow=9.6,SNR=4.7						
BRTR				LR	LR	16 37 02.2	
	comp=Z,27nm,18.7s,baz=202,slow=38						
NNA	**Nana**	**61.13**	**256**	LR	LR	16 33 20.1	
	comp=Z,57nm,18.6s,baz=58,slow=35						
ATAH	**Atahualpa**	**62.22**	**262**	LR	LR	16 34 01.6	
	comp=Z,62nm,18.1s,baz=102,slow=35						
PLCA	**Paso Flores**	**63.56**	**223**	LR	LR	16 34 59.7	
	comp=Z,23nm,18.2s,baz=153,slow=35						
AKASG	**Malin Array Be**	**63.61**	**30**	P	**P**	**16 08 49.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=229,slow=7.3,SNR=4.5						
AKASG				LR	LR	16 38 55.2	
	comp=Z,26nm,18.3s,baz=45,slow=38						
AKBB	**Malin Array Si**	**63.61**	**30**	P	**P**	**16 08 49.7**	**+0.8**
AKBB				IAmb	IAmb	16 09 01.1	
	comp=Z,4.0nm,1.1s						
NOA	**NORSAR Array B**	**64.47**	**14**	LR	LR	16 37 05.6	
	comp=Z,25nm,22.0s,baz=85,slow=36						
P60A	**Greenville**	**66.81**	**314**	P	**P**	**16 09 09.6**	**-0.3**
KBZ	**Khabaz**	**68.29**	**42**	P	**P**	**16 09 22.1**	**+3.0**
	comp=Z,3.0nm,1.0s,baz=312,slow=6.6,SNR=4.0						
KBZ				LR	LR	16 41 51.9	
	comp=Z,23nm,19.0s,baz=186,slow=38						
FINES	**FINESS Array B**	**69.26**	**20**	P	**P**	**16 09 23.4**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=212,slow=6.8,SNR=4.4						
FINES				LR	LR	16 38 55.8	
	comp=Z,30nm,19.5s,baz=18,slow=35						
FIA1	**FINESS Array S**	**69.26**	**20**	P	**P**	**16 09 24.5**	**-0.3**
FIA1				IAmb	IAmb	16 09 30.2	
	comp=Z,5.9nm,1.1s						
ARCES	**ARCESS Array B**	**74.84**	**14**	LR	LR	16 42 14.0	
	comp=Z,29nm,20.8s,baz=125,slow=35						
ABKAR	**Akbulak array**	**81.12**	**40**	P	**P**	**16 10 32.6**	**-0.8**
ZALV	**Zalesovo Beam**	**96.62**	**36**	LR	LR	16 59 32.3	
	comp=Z,30nm,18.4s,baz=74,slow=38						
ASAR	**Alice Springs**	**142.78**	**131**	PKhKP	PKPpre	16 17 47.7	
	comp=Z,0.6nm,0.8s,baz=221,slow=2.7,SNR=3.1						
WRA	**Warramunga Arr**	**145.15**	**126**	PKPbc	**PKPbc**	**16 17 55.1**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=242,slow=2.3,SNR=4.7						
WRA	**Warramunga Arr**	**145.15**	**126**		**PKPbc**	**16 17 53.5**	**-2.6**

NEIC ***12*** *16:03:25.8±0.9,37.°24N±0.°04×97.°98W±0.°03,h8km±5km, mb_Lg3.2/107,Error ellipse: s-maj=6.6km s-min=1.5km az=207.0*

ANF ***12*** *16:03:25.8±0.9,37.°24N×97.°97W,h5km,ML4.0/7,Error ellipse: s-maj=10.4km s-min=8.5km az=91.0*

ISC 12 16:03:26.0±0.9,37.°24N±0.°03×97.°97W±0.°03,h6km±5km, n91,σ0ᵍ41/64,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.01**	**186**		**Pg**	**16 03 26.8**	**-0.3**
KAN08				Sg	**Sg**	**16 03 27.6**	**-0.3**
KAN12	**Harper NE Stat**	**0.06**	**339**		**Pg**	**16 03 27.6**	**0.0**
KAN12				Sg	**Sg**	**16 03 29.0**	**+0.2**
KAN05	**Bluff City Nor**	**0.15**	**149**		**Pg**	**16 03 29.0**	**-0.1**
KAN05				Sg	**Sg**	**16 03 31.4**	**+0.3**
KAN10	**Anthony SW Sta**	**0.15**	**221**	Pg	**Pg**	**16 03 29.0**	**-0.1**
KAN10				Sg	**Sg**	**16 03 31.3**	**+0.1**
KAN09	**Caldwell North**	**0.30**	**110**	Pg	**Pg**	**16 03 31.7**	**-0.1**
KAN13	**South Haven SW**	**0.45**	**120**		**Pg**	**16 03 34.5**	**-0.3**
CROK	**Carrier**	**0.73**	**181**		**Pg**	**16 03 39.4**	**-0.6**
U32A	**Winter Ranch,**	**1.19**	**224**		**Pg**	**16 03 47.9**	**-0.9**
T35A	**Sooner Cattle**	**1.21**	**105**		**Pg**	**16 03 48.1**	**-1.1**
R32A	**Long Quarter,**	**1.32**	**334**		**Pn**	**16 03 50.2**	**-0.8**
QUOK	**Quay**	**1.47**	**136**	Pn	**Pn**	**16 03 52.5**	**-0.6**
OK029	**Liberty Lake**	**1.50**	**164**		**Pn**	**16 03 52.9**	**-0.5**
BCOK	**Bluff Creek, N**	**1.60**	**169**		**Pn**	**16 03 54.5**	**-0.4**
OK025	**Westminster Rd**	**1.73**	**163**		**Pn**	**16 03 57.0**	**+0.4**
OKCFA	**Oklahoma City**	**1.87**	**167**		**Pn**	**16 03 58.3**	**-0.2**
OKCFA				IAmb_Lg		16 04 29.4	
	comp=Z,117nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**1.88**	**167**		**Pn**	**16 03 58.5**	**-0.2**
CBKS	**Cedar Bluff**	**2.10**	**319**	P	**Pn**	**16 04 02.2**	**+0.4**
	baz=138						
CBKS				S	**Sn**	**16 04 28.7**	**+0.4**
	baz=138						
CBKS	**Cedar Bluff**	**2.10**	**319**		**Pn**	**16 04 01.9**	**+0.2**
CBKS				IAmb_Lg		16 04 33.0	
	comp=Z,80nm,0.9s						
KSU1	**Kansas State U**	**2.15**	**30**	P	**Pn**	**16 04 02.9**	**+0.6**
	baz=210						
KSU1				S	**Sn**	**16 04 29.6**	**+0.3**
	baz=210						
KSU1	**Kansas State U**	**2.15**	**30**	Pn	**Pn**	**16 04 02.4**	**0.0**
TUL1	**Leonard**	**2.20**	**126**	P	**Pn**	**16 04 04.0**	**+0.9**
	baz=308						
TUL1				S	**Sn**	**16 04 31.3**	**+0.8**
	baz=308						
TUL1	**Leonard**	**2.20**	**126**	Pn	**Pn**	**16 04 03.2**	**+0.2**
W35A	**Tecumseh**	**2.26**	**157**		**Pn**	**16 04 03.9**	**-0.1**
WMOK	**Wichita Mounta**	**2.58**	**195**	P	**Pn**	**16 04 08.5**	**+0.1**
	baz=14						
WMOK				S	**Sn**	**16 04 40.6**	**+0.5**
	baz=14						
WMOK	**Wichita Mounta**	**2.58**	**195**		**Pn**	**16 04 08.4**	**+0.1**
U38A	**Gravette**	**2.98**	**104**	Pn	**Pn**	**16 04 13.8**	**-0.1**
U38A				IAmb_Lg		16 05 06.4	
	comp=Z,62nm,0.9s						
HHAR	**Hobbs**	**3.37**	**105**		**Pn**	**16 04 19.1**	**-0.2**
HHAR				IAmb_Lg		16 05 18.2	
	comp=Z,42nm,0.7s						
X37A	**Clayton**	**3.38**	**141**		**Pn**	**16 04 19.6**	**+0.2**
N33A	**J Bar K, Exete**	**3.52**	**6**		**Pn**	**16 04 21.1**	**-0.1**
S39A	**Bolivar**	**3.73**	**82**		**Pn**	**16 04 24.4**	**+0.4**
S39A				IAmb_Lg		16 05 25.8	
	comp=Z,40nm,0.7s						
AMTX	**Amarillo**	**3.82**	**233**	P	**Pn**	**16 04 25.6**	**+0.2**
	baz=51						
AMTX				S	**Sn**	**16 05 11.6**	**+1.0**
	baz=51						
AMTX	**Amarillo**	**3.82**	**233**	IAmb_Lg		16 05 29.5	
	comp=Z,60nm,0.8s						
Z35A	**Perchaven, San**	**3.94**	**171**	IAmb_Lg		16 05 41.1	
	comp=Z,40nm,1.1s						
N35A	**Tabor**	**4.04**	**26**		**Pn**	**16 04 28.6**	**+0.2**
KSCO	**Kaye Shedlock'**	**4.08**	**297**	P	**Pn**	**16 04 29.2**	**+0.2**
	baz=114						
KSCO				S	**Sn**	**16 05 17.3**	**+0.2**
	baz=114						
KSCO	**Kaye Shedlock'**	**4.08**	**297**		**Pn**	**16 04 28.8**	**-0.2**
KSCO				IAmb_Lg		16 05 45.7	
	comp=Z,60nm,0.9s						
BGNE	**Belgrade**	**4.17**	**358**	P	**Pn**	**16 04 30.4**	**+0.2**
	baz=178						
BGNE	**Belgrade**	**4.17**	**358**		**Pn**	**16 04 30.1**	**0.0**
BGNE				IAmb_Lg		16 05 40.6	
	comp=Z,66nm,0.7s						
U40A	**Yellville**	**4.20**	**101**		**Pn**	**16 04 30.4**	**-0.1**
P38A	**Dawn**	**4.22**	**54**		**Pn**	**16 04 31.1**	**+0.2**
MIAR	**Mount Ida**	**4.46**	**126**	Pn	**Pn**	**16 04 34.6**	**+0.4**
MIAR				IAmb_Lg		16 05 49.5	
	comp=Z,56nm,0.8s						
MGMO	**Mountain Grove**	**4.55**	**89**	Pn	**Pn**	**16 04 35.6**	**+0.2**
MGMO				IAmb_Lg		16 05 49.7	
	comp=Z,49nm,0.8s						
R40A	**Maddies Statio**	**4.64**	**75**		**Pn**	**16 04 36.9**	**+0.4**
ABTX	**Abilene, Hawle**	**4.80**	**197**	Pn	**Pn**	**16 04 39.1**	**+0.2**
WHAR	**Wooly Hollow**	**4.99**	**111**	Pn	**Pn**	**16 04 41.7**	**+0.3**
WHAR				IAmb_Lg		16 06 13.3	
	comp=Z,63nm,0.9s						
X40A	**Basin Creek Fa**	**4.99**	**122**	IAmb_Lg		16 06 12.0	
	comp=Z,39nm,0.7s						
W41B	**Gary Mavity, V**	**5.06**	**112**	IAmb_Lg		16 06 05.1	
	comp=Z,45nm,1.0s						
N38A	**Joes South For**	**5.12**	**45**		**Pn**	**16 04 43.6**	**+0.4**
N38A				IAmb_Lg		16 06 08.9	
	comp=Z,60nm,0.8s						
T25A	**Trinidad**	**5.14**	**271**	Pn	**Pn**	**16 04 43.5**	**-0.3**
T25A				IAmb_Lg		16 06 10.2	
	comp=Z,40nm,0.8s						
UALR	**University of**	**5.18**	**117**	IAmb_Lg		16 06 16.9	
	comp=Z,38nm,1.0s						
P40A	**Paris**	**5.18**	**62**		**Pn**	**16 04 44.5**	**+0.4**
P40A				IAmb_Lg		16 06 12.5	
	comp=Z,29nm,0.8s						
WHTX	**Lake Whitney,**	**5.25**	**175**	Pn	**Pn**	**16 04 44.7**	**-0.3**
WLAR	**White Oak Lake**	**5.32**	**130**	IAmb_Lg		16 06 21.2	
	comp=Z,29nm,0.7s						
CCM	**Cathedral Cave**	**5.40**	**79**	Pn	**Pn**	**16 04 47.0**	**0.0**
K31A	**O'Neill**	**5.41**	**354**	Pn	**Pn**	**16 04 47.0**	**-0.2**
T42A	**Van Buren**	**5.50**	**90**		**Pn**	**16 04 48.6**	**+0.2**
237A	**Washetta, Mont**	**5.52**	**161**	IAmb_Lg		16 06 29.5	
	comp=Z,33nm,0.9s						
LCAR	**Lake Charles**	**5.60**	**100**	IAmb_Lg		16 06 24.6	
	comp=Z,24nm,0.9s						
Z41A	**Richland Creek**	**5.80**	**132**	IAmb_Lg		16 06 37.7	
	comp=Z,42nm,1.0s						
Q24A	**Divide**	**5.92**	**289**	IAmb_Lg		16 06 40.7	
	comp=Z,31nm,1.0s						
SCIA	**State Center**	**5.93**	**37**	IAmb_Lg		16 06 40.0	
	comp=Z,43nm,0.8s						
CCAR	**Cane Creek**	**6.04**	**121**	IAmb_Lg		16 06 44.1	
	comp=Z,37nm,1.0s						
PBMO	**Poplar Bluff**	**6.05**	**92**	IAmb_Lg		16 06 41.5	
	comp=Z,48nm,0.9s						
SLM	**Saint Louis**	**6.27**	**75**	IAmb_Lg		16 06 46.8	
	comp=Z,37nm,0.9s						
435B	**Jarrell**	**6.45**	**177**	IAmb_Lg		16 06 53.1	
	comp=Z,28nm,0.8s						
N41A	**Harden Midland**	**6.54**	**56**	IAmb_Lg		16 06 57.2	
	comp=Z,36nm,0.8s						
ECSD	**EROS Data Cent**	**6.57**	**9**	IAmb_Lg		16 06 59.6	
	comp=Z,22nm,1.1s						
K38A	**Parkersburg**	**6.72**	**35**	IAmb_Lg		16 07 11.6	
	comp=Z,36nm,0.9s						
JCT	**Junction City**	**6.91**	**193**	IAmb_Lg		16 07 23.1	
	comp=Z,26nm,0.8s						
S44A	**Carbondale**	**6.95**	**84**		**Pn**	**16 05 08.3**	**0.0**
S44A				IAmb_Lg		16 07 08.3	
	comp=Z,40nm,0.7s						
PHWY	**Pilot Hill**	**7.08**	**307**	IAmb_Lg		16 07 21.5	
	comp=Z,19nm,0.8s						
L40A	**Anamosa**	**7.09**	**45**	IAmb_Lg		16 07 26.7	
	comp=Z,34nm,0.8s						
SUSD	**Miller**	**7.24**	**354**	IAmb_Lg		16 07 30.7	
	comp=Z,22nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.25**	**74**	IAmb_Lg		16 07 25.5	
	comp=Z,33nm,0.9s						
W45A	**Hickory Valley**	**7.40**	**104**	IAmb_Lg		16 07 25.1	
	comp=Z,30nm,0.7s						
HDIL	**Hopedale**	**7.53**	**61**	Pn	**Pn**	**16 05 16.3**	**0.0**
HDIL				IAmb_Lg		16 07 34.5	
	comp=Z,35nm,0.8s						
I37A	**Lemond, Waseca**	**7.61**	**26**	IAmb_Lg		16 07 37.6	
	comp=Z,25nm,0.9s						
Y45A	**Yeager Farm, C**	**7.65**	**114**	IAmb_Lg		16 07 37.8	
	comp=Z,21nm,1.0s						
OLIL	**Olney**	**7.94**	**76**	IAmb_Lg		16 07 41.8	
	comp=Z,19nm,0.9s						
L42A	**Oliver, Polo**	**7.98**	**51**	Pn	**Pn**	**16 05 22.9**	**+0.4**
L42A				IAmb_Lg		16 07 39.3	
	comp=Z,34nm,0.8s						
JFWS	**Jewell Farm**	**8.19**	**44**	IAmb_Lg		16 07 54.5	
	comp=Z,29nm,0.7s						
WVT	**Waverly**	**8.22**	**95**	IAmb_Lg		16 08 01.9	
	comp=Z,9.8nm,0.8s						
MNTX	**Cornudas Mount**	**8.24**	**230**	Pn	**Pn**	**16 05 25.9**	**-0.3**
RSSD	**Black Hills**	**8.27**	**328**	IAmb_Lg		16 08 01.0	
	comp=Z,13nm,0.9s						
RWWY	**Rawlins**	**8.41**	**305**	IAmb_Lg		16 08 04.5	
	comp=Z,19nm,1.1s						
K22A	**Casper**	**8.51**	**312**	IAmb_Lg		16 08 08.1	
	comp=Z,30nm,1.1s						
PV02	**Paradox Valley**	**8.59**	**280**	IAmb_Lg		16 08 08.3	
	comp=Z,16nm,1.3s						
T47A	**Sharon Grove**	**8.68**	**88**	IAmb_Lg		16 08 00.4	
	comp=Z,23nm,1.1s						
I40A	**Norwalk**	**8.68**	**38**	IAmb_Lg		16 08 03.8	
	comp=Z,16nm,1.0s						
PV04	**Paradox Valley**	**8.73**	**281**	IAmb_Lg		16 08 15.4	
	comp=Z,21nm,0.9s						
P46A	**Rosedale**	**8.77**	**71**	IAmb_Lg		16 08 07.8	
	comp=Z,20nm,0.8s						

NEIC ***12*** *16:09:22.8±0.6,18.°0S±0.°2×178.°1W±0.°2,h557km±4km, mb4.2/20,Error ellipse: s-maj=28.1km s-min=22.1km az=128.0*

IDC ***12*** *16:09:25.2±9.8,17.°93S×178.°29W,h573km±96km,mb3.2/8, mb1 3.3/8,mb1mx3.0/44,mbtmp4.2/8,Error ellipse: s-maj=75.6km s-min=33.3km az=114.0*

ISC 12 16:09:25.6±1.0,18.°0S±0.°2×178.°2W±0.°2,h590km,n33, σ0ᵍ64/33,mb4.1/13,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.63**	**261**	P	**P**	**16 15 18.3**	**-0.6**
	4.3nm,0.9s,baz=91,slow=11,SNR=5.1						
CTAO	**Charters Tower**	**33.63**	**261**	P	**P**	**16 15 18.3**	**-0.6**
CTAO				IAmb	IAmb	16 15 20.0	
	comp=Z,5.3nm,0.8s						
COEN	**Coen**	**37.32**	**271**	P	**P**	**16 15 50.4**	**+1.1**
COEN				IAmb	IAmb	16 15 51.2	
	comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**16 16 01.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=98,slow=9.6,SNR=4.5						
STKA	**Stephens Creek**	**38.75**	**241**	IAmb	IAmb	16 16 02.1	
	comp=Z,0.4nm,0.7s						
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**16 16 38.8**	**+0.4**
WR0	**Warramunga Arr**	**44.62**	**260**	P	**P**	**16 16 47.0**	**0.0**
WR0				IAmb	IAmb	16 16 55.4	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**44.78**	**260**	P	**P**	**16 16 48.0**	**-0.3**
WB0				IAmb	IAmb	16 16 48.8	
	comp=Z,3.6nm,0.5s						
WB2	**Warramunga Arr**	**44.80**	**260**	P	**P**	**16 16 48.1**	**-0.3**
WB2				IAmb	IAmb	16 16 51.4	
	comp=Z,8.1nm,1.1s						
WRAB	**Tennant Creek**	**44.81**	**260**	P	**P**	**16 16 48.1**	**-0.4**
WRAB				IAmb	IAmb	16 16 51.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.81**	**260**	P	**P**	**16 16 48.2**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=96,slow=7.4,SNR=86						
WRA				PcP	**PcP**	**16 18 17.9**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=90,slow=3.7,SNR=4.7						
WRA	**Warramunga Arr**	**44.81**	**260**	P	**P**	**16 16 48.0**	**-0.5**
AS31	**Alice Springs**	**44.96**	**254**	P	**P**	**16 16 49.5**	**-0.1**
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**16 16 50.0**	**+0.3**
	comp=Z,7.4nm,0.6s,baz=87,slow=8.7,SNR=129						
ASAR				PcP	**PcP**	**16 18 18.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=102,slow=3.8,SNR=6.7						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**16 16 49.3**	**-0.3**
FORT	**Forrest**	**50.14**	**245**	P	**P**	**16 17 27.7**	**-0.4**
KNRA	**Kununurra**	**50.69**	**264**	P	**P**	**16 17 32.1**	**-0.1**
SIJI	**Sorong**	**52.47**	**283**	P	**P**	**16 17 45.0**	**-0.1**
	comp=Z,5.9nm,0.6s,baz=125,slow=10.0,SNR=4.5						
**FIT

CCCC				*e*S	Sn	16 17 04.7	-12	
CCCC				IAML		16 17 11.0		
	comp=E,27nm,0.4s							
CCCC				IAML		16 17 11.4		
	comp=N,41nm,0.6s							
MGV	**Manicaragua**	**5.80**	**294**	*e*P	Pn	16 17 03.6	-2.2	
MGV				*e*S	Sn	16 18 06.1	-6.3	
MGV				IAML		16 18 10.8		
	comp=N,28nm,0.6s							
MGV				IAML		16 18 11.2		
	comp=E,24nm,0.6s							

VAO ***12*** *16:23:04.5±3.7,31°.17S×71°.05W,h10km,mb4.4*
SJA ***12*** *16:23:11.3±0.7,30°.85S×71°.29W,h78km±4km,ML4.0, MW4.2*
IDC ***12*** *16:23:12.5±0.6,30°.82S×71°.04W,h77km±5km,mb3.8/10, mb1 3.9/14,mb1mx3.7/34,mbtmp4.1/14,Error ellipse: s-maj=22.4km s-min=14.4km az=97.0*
NEIC ***12*** *16:23:12.2±1.5,30°.80S±0°.04×71°.23W±0°.09,h77km±3km, mb4.4/15,ML4.4(GUC), Error ellipse: s-maj=11.6km s-min=5.3km az=97.0*
GUC ***12*** *16:23:13.1±0.7,30°.81S×71°.18W,h79km±3km,ML4.3*
ISC 12 16:23:11.7±0.5,30°.81S±0°.03×71°.34W±0°.04,h74km±4km, h74km:pP-P,n118,σ1§58/140,mb4.3/14,8C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.49**	**144**	⇑*i*P	**Pn**	**16 23 25.8**	**+0.9**
CO02				*i* S	**Sn**	**16 23 35.6**	**+0.9**
CO02	**Combarbal**	**0.49**	**144**		**Pn**	**16 23 25.8**	**+0.9**
CO02				Sn	**Sn**	**16 23 35.2**	**+0.5**
CO03	**El Pedregal**	**0.56**	**93**	⇑*i*P	**Pn**	**16 23 25.5**	**-0.1**
CO03				*i* S	**Sn**	**16 23 35.1**	**-0.7**
CO03				IAML		16 23 35.6	
	comp=N,31μm,0.3s						
CO03	**El Pedregal**	**0.56**	**93**		**Pn**	**16 23 25.5**	**-0.1**
CO03				Sn	**Sn**	**16 23 34.7**	**-1.0**
GO04	**Tololo Observa**	**0.79**	**37**	⇑*i*P	**Pn**	**16 23 28.5**	**+0.4**
GO04				*i* S	**Sn**	**16 23 41.2**	**+1.0**
GO04	**Tololo Observa**	**0.79**	**37**		**Pn**	**16 23 28.6**	**+0.4**
GO04				Sn	**Sn**	**16 23 40.1**	**-0.2**
CO01	**Juntas del Tor**	**1.36**	**53**	⇓*i*P	**Pn**	**16 23 35.4**	**+0.2**
CO01				*i* S	**Sn**	**16 23 52.2**	**-0.6**
CO01	**Juntas del Tor**	**1.36**	**53**	Pn	**Pn**	**16 23 35.4**	**+0.2**
CO01				Sn	**Sn**	**16 23 51.4**	**-1.4**
AROD	**Rodeo**	**1.73**	**69**	*e*P	**Pn**	**16 23 41.6**	**+1.4**
AROD				*e*S	**Sn**	**16 24 03.0**	**+1.3**
ACCO	**Cerro Coronel**	**1.97**	**84**	*e*P	**Pn**	**16 23 44.5**	**+1.1**
ACCO				*e*S	**Sn**	**16 24 09.7**	**+2.3**
ACCO				IAML		16 24 18.6	
	comp=Z,879nm,1.0s						
RTLS	**Leoncito**	**2.01**	**120**	*e*P	**Pn**	**16 23 45.2**	**+1.4**
RTLS				*e*S	**Sn**	**16 24 09.9**	**+1.6**
RTLS				IAML		16 24 11.6	
	comp=Z,2μm,0.4s						
ACDV	**Cuesta del Vie**	**2.02**	**72**	*e*P	**Pn**	**16 23 45.2**	**+1.3**
ACDV				*e*S	**Sn**	**16 24 11.3**	**+3.0**
ACDV				IAML		16 24 11.8	
	comp=Z,902nm,0.4s						
VA03	**San Esteban**	**2.06**	**161**	⇑*i*P	**Pn**	**16 23 45.5**	**+1.1**
VA03				*e*S	**Sn**	**16 24 10.5**	**+1.2**
VA03				IAML		16 24 13.9	
	comp=E,4μm,0.1s						
VA03	**San Esteban**	**2.06**	**161**	Pn	**Pn**	**16 23 45.4**	**+1.0**
AC05	**El Transito**	**2.17**	**26**	⇓*i*P	**Pn**	**16 23 47.0**	**+1.1**
AC05				*i* S	**Sn**	**16 24 12.9**	**+0.9**
AC05				IAML		16 24 13.6	
	comp=E,4μm,0.3s						
AC05	**El Transito**	**2.17**	**26**	Pn	**Pn**	**16 23 46.9**	**+1.0**
ROCH	**El Roble**	**2.18**	**173**	*e*P	**Pn**	**16 23 47.0**	**+0.9**
ROCH				IAML		16 24 30.5	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**2.18**	**173**		**Pn**	**16 23 47.0**	**+0.8**
ROC1	**El Roble**	**2.18**	**173**	*e*P	**Pn**	**16 23 46.9**	**+0.8**
ROC1				*e*S	**Sn**	**16 24 06.0**	**-6.3**
AUSP	**Uspallata**	**2.19**	**131**	*e*P	**Pn**	**16 23 47.9**	**+1.7**
AUSP				*e*S	**Sn**	**16 24 13.8**	**+1.3**
VA01	**Torpederas**	**2.23**	**187**	*e*P	**Pn**	**16 23 47.0**	**+0.5**
VA01				IAML		16 24 13.9	
	comp=N,1μm,0.1s						
VA01	**Torpederas**	**2.23**	**187**		**Pn**	**16 23 46.8**	**+0.3**
PEL	**Peldehue**	**2.40**	**167**	⇑*i*P	**Pn**	**16 23 49.9**	**+1.1**
PEL				IAML		16 24 33.6	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**2.40**	**167**		**Pn**	**16 23 49.9**	**+1.1**
PEL	**Peldehue**	**2.40**	**167**	*e*P	**Pn**	**16 23 50.0**	**+1.1**
PEL				*e*S	**Sn**	**16 24 17.6**	**+0.4**
MT02	**Curacav**	**2.45**	**176**	⇓*e*P	**Pn**	**16 23 50.0**	**+0.4**
MT02				IAML		16 24 34.5	
	comp=E,872nm,0.5s						
MT02	**Curacav**	**2.45**	**176**		**Pn**	**16 23 50.0**	**+0.4**
RTLL	**Cerro Villicun**	**2.51**	**103**	*e*P	**Pn**	**16 23 50.7**	**+0.3**
RTLL				*e*S	**Sn**	**16 24 20.2**	**+0.1**
RTLL				IAML		16 24 21.1	
	comp=Z,1μm,0.3s						
AC04	**Llanos de Chal**	**2.60**	**5**	⇑*e*P	**Pn**	**16 23 52.8**	**+1.2**
AC04	**Llanos de Chal**	**2.60**	**5**	Pn	**Pn**	**16 23 52.6**	**+1.0**
RTCV	**Cerro Valdivia**	**2.62**	**114**	*e*P	**Pn**	**16 23 52.8**	**+1.0**
RTCV				IAML		16 24 26.1	
	comp=Z,388nm,0.8s						
MT05	**Renca**	**2.63**	**169**	*e*P	**Pn**	**16 23 53.0**	**+1.0**
MT05				IAML		16 24 40.9	
	comp=E,2μm,0.5s						
MT05	**Renca**	**2.63**	**169**		**Pn**	**16 23 52.9**	**+0.9**
MT03	**Universidad Ad**	**2.77**	**166**	⇑*i*P	**Pn**	**16 23 55.2**	**+1.2**
MT03				*i* S	**Sn**	**16 24 27.1**	**+0.7**
MT03				IAML		16 24 33.5	
	comp=E,2μm,0.2s						
ASAL	**Salagasta**	**2.78**	**130**	*e*P	**Pn**	**16 23 56.2**	**+2.2**
ASAL				IAML		16 24 58.8	
	comp=Z,401nm,0.7s						
AGUA	**GUANDACOL**	**2.80**	**63**	*e*P	Pn	16 23 58.4	+4.1
AGUA				*e*S	**Sn**	**16 24 28.9**	**+1.8**
AGUA				IAML		16 24 31.9	
	comp=Z,805nm,0.2s						
ARCO	**CERRO ARCO**	**2.88**	**135**	*e*P	**Pn**	**16 23 57.9**	**+2.3**
ARCO				IAML		16 25 02.9	
	comp=Z,497nm,0.4s						
AAGR	**Agrelo**	**3.12**	**137**	*e*P	**Pn**	**16 23 55.8**	**-2.9**
AAGR				IAML		16 25 01.8	
	comp=Z,320nm,0.8s						
LMEL	**Las Melosas**	**3.18**	**163**	*e*P	**Pn**	**16 24 01.0**	**+1.5**
LMEL				*e*S	**Sn**	**16 24 37.9**	**+1.4**
LMEL				IAML		16 24 40.7	
	comp=N,2μm,0.2s						
GO03	**Copiap**	**3.34**	**17**		**Pn**	**16 24 02.4**	**+0.6**
GO03	**Copiap**	**3.34**	**17**	*e*P	**Pn**	**16 24 02.8**	**+1.1**
GO03				*e*S	**Sn**	**16 24 42.3**	**+1.9**
AVFE	**Valle Fertil**	**3.35**	**88**	*e*P	**Pn**	**16 24 01.6**	**-0.2**
AVIZ	**Vizcacheras**	**3.58**	**139**	*e*P	**Pn**	**16 24 06.6**	**+1.6**
BO02	**Sierra Bellavi**	**4.00**	**173**	Pn	**Pn**	**16 24 11.1**	**+0.4**
APLL	**PUNTA DE LOS L**	**4.17**	**86**	*e*P	**Pn**	**16 24 12.6**	**-0.3**
APLL				IAML		16 25 25.1	
	comp=Z,198nm,1.4s						
GO05	**Huala**	**4.22**	**187**	*e*P	**Pn**	**16 24 13.2**	**-0.4**
GO05				*i* S	**Sn**	**16 24 57.6**	**-4.1**
GO05	**Huala**	**4.22**	**187**		**Pn**	**16 24 13.1**	**-0.4**
GO05	**Huala**	**4.22**	**187**	*e*P	**Pn**	**16 24 13.3**	**-0.4**
GO05				*e*S	**Sn**	**16 24 58.1**	**-3.6**
AC02	**Maricunga**	**4.41**	**27**	*e*P	**Pn**	**16 24 17.2**	**+0.6**
AC02	**Maricunga**	**4.41**	**27**	Pn	**Pn**	**16 24 17.1**	**+0.4**
AC01	**Pan de Azucar**	**4.69**	**8**	Pn	**Pn**	**16 24 18.5**	**-1.5**
CYA	**Choya**	**5.37**	**65**	*e*P	**Pn**	**16 24 28.3**	**-1.0**
CYA				*e*S	**Sn**	**16 25 26.6**	**-3.2**
CYA				IAML		16 25 52.4	
	comp=Z,87nm,0.8s						
BI02	**San Fabin de**	**5.84**	**179**	Pn	**Pn**	**16 24 36.0**	**+0.2**
BI03	**Tigo**	**6.18**	**193**	Pn	**Pn**	**16 24 39.1**	**-1.3**
PB14	**IPOC Station P**	**6.21**	**8**	Pn	**Pn**	**16 24 38.5**	**-2.6**
H03N1	**Juan Fernandez**	**6.94**	**246**	T	T	16 31 49.5	
	baz=76,slow=72,SNR=588						
VA04	**Juan Fernndez**	**6.95**	**244**	Pn	**Pn**	**16 24 52.2**	**+1.4**
H03N3	**Juan Fernandez**	**6.95**	**246**	T	T	16 31 50.0	
	baz=76,slow=72,SNR=511						
H03N2	**Juan Fernandez**	**6.96**	**246**	T	T	16 31 51.3	
	baz=76,slow=72,SNR=492						
PB15	**IPOC Station P**	**7.75**	**13**	Pn	**Pn**	**16 25 00.3**	**-1.7**
LC01	**Cunco**	**8.08**	**183**	Pn	**Pn**	**16 25 06.3**	**-0.1**
LVC	**Limon Verde**	**8.45**	**15**	P	**Pn**	**16 25 08.7**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=144,slow=9.0,SNR=1.4						
LVC				S	**Sn**	**16 26 42.3**	**-3.4**
	comp=Z,1.6nm,0.3s,baz=221,slow=22,SNR=1.8						
PB09	**IPOC Station P**	**9.17**	**12**	Pn	**Pn**	**16 25 18.4**	**-3.0**
PB01	**IPOC Station P**	**9.87**	**10**	Pn	Pn	16 25 26.2	-4.6
PLCA	**Paso Flores**	**9.93**	**177**	P	**Pn**	**16 25 30.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=262,slow=15,SNR=1.7						
PB16	**IPOC Station P**	**12.53**	**8**	Pn	**Pn**	**16 26 07.8**	**+0.2**
CPUP	**Villa Florida**	**13.09**	**74**	P	**Pn**	**16 26 10.2**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=253,slow=12,SNR=5.2						
CPUP				S	**Sn**	**16 28 40.9**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=1.9						
LPAZ	**La Paz**	**14.75**	**12**	P	**Pn**	**16 26 37.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=12						
LPAZ	**La Paz**	**14.75**	**12**		**Pn**	**16 26 38.2**	**+1.2**
LPAZ	**La Paz**	**14.75**	**12**	*e*P	**Pn**	**16 26 38.0**	**+1.0**
SIV	**San Ignacio**	**17.48**	**35**	P	**Pn**	**16 27 09.3**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=220,slow=9.5,SNR=54						
PTGB	**Pitanga**	**18.10**	**75**	*e*P	**P**	**16 27 14.9**	**-2.8**
PTLB	**Pontes e Lacer**	**18.94**	**39**	*e*P	**P**	**16 27 26.5**	**-0.3**
PCMB	**Pacaembu**	**20.18**	**68**	*e*P	**P**	**16 27 39.2**	**-1.3**
GO09	**Cerro Castillo**	**20.46**	**182**	P	**P**	**16 27 43.4**	**+0.2**
VILB	**Vilhena**	**20.53**	**32**	*e*P	**P**	**16 27 43.8**	**-0.4**
FRTB	**Fartura**	**20.75**	**74**	*e*P	**P**	**16 27 44.8**	**-1.7**
ETMB	**Extrema**	**21.42**	**14**	*e*P	**P**	**16 27 56.6**	**+2.9**
ITRB	**Iturama**	**21.92**	**65**	*e*P	**P**	**16 27 57.2**	**-1.9**
SPB	**Sao Paulo**	**22.42**	**77**	*e*P	**P**	**16 28 00.9**	**-3.5**
VAO	**Valinhos**	**23.05**	**76**	*e*P	**P**	**16 28 09.4**	**-1.6**
IPMB	**Ipameri, GO**	**24.57**	**64**	*e*P	**P**	**16 28 23.4**	**-1.5**
BDFB	**Brasilia**	**26.14**	**60**	P	**P**	**16 28 37.7**	**-1.5**
	comp=Z,11nm,0.8s,baz=237,slow=7.2,SNR=16						
BDFB	**Brasilia**	**26.14**	**60**	P	**P**	**16 28 36.7**	**-2.5**
BDFB				IAmb	IAmb	16 28 38.6	
	comp=Z,11nm,0.8s						
SMTB	**Santa Maria do**	**31.10**	**50**	*e*P	**P**	**16 29 23.1**	**-0.2**
RCBR	**Riachuelo**	**41.51**	**61**	P	**P**	**16 30 50.1**	**-1.8**
TOSP	**Speyside**	**43.13**	**16**	P	**P**	**16 31 05.5**	**+0.5**
TEIG	**Tepich**	**53.29**	**340**	P	**P**	**16 32 24.2**	**+1.2**
	comp=Z,5.9nm,0.5s,baz=199,slow=3.4,SNR=8.6						
TEIG	**Tepich**	**53.29**	**340**	P	**P**	**16 32 24.3**	**+1.2**
SNAA	**Sanae**	**54.32**	**159**	P	**P**	**16 32 30.2**	**-0.1**
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**16 33 07.1**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=136,slow=1.4,SNR=10						
QSPA				pP	**pP**	**16 33 26.9**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=182,slow=2.0,SNR=4.3						
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**16 33 07.4**	**+1.0**
QSPA				IAmb	IAmb	16 33 08.0	
	comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**67.27**	**330**	P	**P**	**16 33 59.9**	**+1.3**
	comp=Z,3.6nm,1.1s,baz=163,slow=7.4,SNR=1.4						
VNDA	**Vanda**	**67.34**	**191**	P	**P**	**16 33 59.6**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=207,slow=9.9,SNR=2.9						
LCAR	**Lake Charles**	**69.08**	**343**	P	**P**	**16 34 10.0**	**+0.4**
LCAR				IAmb	IAmb	16 34 11.2	
	comp=Z,6.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**69.16**	**342**	P	**P**	**16 34 11.5**	**+1.4**
FCAR				IAmb	IAmb	16 34 20.1	
	comp=Z,5.4nm,1.3s						
U40A	**Yellville**	**69.80**	**342**	P	**P**	**16 34 15.1**	**+1.1**
R40A	**Maddies Statio**	**71.46**	**343**	P	**P**	**16 34 24.8**	**+0.7**
R40A				IAmb	IAmb	16 34 25.9	
	comp=Z,4.4nm,0.7s						
MAW	**Mawson**	**76.07**	**164**	P	**P**	**16 34 51.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=215,slow=7.7,SNR=6.1						
MAW				pP	**pP**	**16 35 11.4**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=231,slow=4.3,SNR=3.0						
ECSD	**EROS Data Cent**	**77.71**	**342**	P	**P**	**16 35 01.0**	**+0.8**
ECSD				IAmb	IAmb	16 35 01.7	
	comp=Z,3.4nm,0.8s						
PDAR	**Pinedale Array**	**81.20**	**333**	P	**P**	**16 35 20.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=142,slow=8.0,SNR=3.3						
NVAR	**Mina Array Bea**	**81.62**	**325**	P	**P**	**16 35 23.2**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.3,SNR=2.9						
ELK	**Elko**	**81.97**	**328**	P	**P**	**16 35 25.0**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=162,slow=2.0,SNR=4.0						
ELK	**Elko**	**81.97**	**328**	IAmb	IAmb	16 35 28.1	
	comp=Z,1.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.57**	**70**	P	**P**	**16 35 26.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=274,slow=6.3,SNR=8.5						
TORD				pP	**pP**	**16 35 46.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=232,slow=4.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**82.57**	**70**	IAmb	IAmb	16 35 30.6	
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**120.67**	**207**	PKP	**PKPdf**	**16 41 54.6**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=141,slow=2.0,SNR=4.4						
WRA	**Warramunga Arr**	**123.83**	**209**	PKP	**PKPdf**	**16 42 01.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=160,slow=1.7,SNR=15						
WRA				pPKP	**pPKPdf**	**16 42 23.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=160,slow=1.7,SNR=2.2						
H11S2	**WAKE ISLAND Hyl**	**26.36**	**271**	T	T	19 01 06.2	
	baz=115,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hyl**	**26.37**	**271**	T	T	19 01 05.1	
	baz=115,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hyl**	**26.37**	**271**	T	T	19 01 05.1	
	baz=115,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hyl**	**26.69**	**273**	T	T	19 01 30.6	
	baz=113						
H11N1	**WAKE ISLAND Hyl**	**26.70**	**273**	T	T	19 01 32.5	
	baz=113						
H11N2	**WAKE ISLAND Hyl**	**26.70**	**273**	T	T	19 01 39.2	
	baz=113						
ZALV	**Zalesovo Beam**	**151.19**	**30**	PKPbc	**PKiKP**	**16 42 56.3**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=305,slow=2.3,SNR=13						
ZALV				pPKPbc	**pPKPbc**	**16 43 18.0**	**+0.9**
	comp=Z,9.2nm,0.9s,baz=299,slow=3.1,SNR=11						
ZALV	**Zalesovo Beam**	**151.19**	**30**		**PKPbc**	**16 42 55.9**	**-0.2**
ZALV					**pPKPbc**	**16 43 17.6**	**+0.5**
MKAR	**Makanchi Array**	**154.15**	**44**	PKPbc	**PKPbc**	**16 43 02.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=264,slow=2.9,SNR=2.6						
MKAR				PKPab	**pPKPdf**	**16 43 16.8**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=302,slow=7.0,SNR=3.5						
MKAR				pPKPab	**sPKPbc**	**16 43 34.9**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=294,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**154.15**	**44**		**PKPab**	**16 43 16.3**	**-0.6**

ECX ***12*** *16:27:38.3±0.8,31°.84N×115°.01W,h20km±4km,MD2.8, ML3.0*
MEX ***12*** *16:27:39.9±0.6,31°.81N×115°.06W,h10km,MD3.7*
ISC 12 16:27:34.8±1.8,31°.85N±0°.03×115°.02W±0°.07,h7km±13km, n13,σ0§48/23,5C-1D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUVIX	**Guadalupe Vict**	**0.46**	**354**	⇑*e*P	**Pn**	**16 27 47.4**	**-0.5**
MBIG	**Mexicali**	**0.58**	**345**	*e*P	**Pn**	**16 27 50.0**	**+0.5**
MBIG				*e*S	**Sn**	**16 27 59.5**	**+0.1**
CPBX	**Cerro Prieto**	**0.62**	**337**	*e*P	**Pn**	**16 27 49.9**	**-0.3**
CPBX				⇑*e*		16 28 01.8	
CPBX				IAML		16 28 01.8	
	comp=N,3μm,0.1s						
SJX	**San Joaquin**	**0.80**	**264**	*e*P	**Pn**	**16 27 52.8**	**+0.2**
SJX				*e*S	**Sn**	**16 28 04.3**	**-0.5**
SJX				⇑*e*		16 28 05.2	
SJX				IAML		16 28 05.2	
	comp=N,562nm,0.1s						
SFX	**San Felipe**	**0.82**	**170**	*e*P	**Pn**	**16 27 52.3**	**-0.5**
SFX				*e*S	**Sb**	**16 28 03.5**	**+0.8**
SPIG	**San Pedro Mart**	**0.88**	**206**	*e*P	**Pn**	**16 27 54.3**	**+0.2**
SPIG				*e*S	**Sb**	**16 28 05.5**	**+0.6**
SPIG	**San Pedro Mart**	**0.88**	**206**	⇑*e*P	**Pn**	**16 27 54.2**	**+0.2**
SPIG				*e*S	**Sn**	**16 28 06.6**	**-0.7**
SPX	**San Pedro Mart**	**0.89**	**205**	*e*P	**Pb**	**16 27 53.2**	**+0.3**
SPX				*i* S	**Sb**	**16 28 04.6**	**-0.5**
SPX	**San Pedro Mart**	**0.89**	**205**	*e*P	**Pb**	**16 27 53.2**	**+0.3**
SPX				*e*S	**Sb**	**16 28 05.3**	**+0.2**
EMSC	**East Mesa**	**0.89**	**2**	*e*P	**Pn**	**16 27 54.3**	**+0.4**
RMX	**La Rumorosa**	**1.17**	**310**	*e*P	**Pg**	**16 27 57.0**	**-0.3**
RMX				*e*S	**Sg**	**16 28 12.5**	**0.0**
SQX	**San Quintin**	**1.46**	**210**	*e*P	**Pn**	**16 28 01.9**	**+0.2**
SQX				*e*S	**Sb**	**16 28 21.2**	**0.0**
SQX				⇓*e*		16 28 23.8	
SQX				IAML		16 28 23.8	
	comp=N,174nm,0.2s						
SQX				IAML		16 28 24.0	
	comp=E,144nm,0.3s						
SQX				⇑*e*		16 28 24.0	
TJIG	**Tijuana**	**1.52**	**293**	*e*P	**Pn**	**16 28 03.2**	**+0.6**
TJIG				*i* S	**Sn**	**16 28 21.9**	**-0.7**

IDC ***12*** *16:28:38.5±1.7,23°.57N×108°.61W,h0km,mb3.4/2, mb1 3.6/5,mb1mx3.5/37,mbtmp3.3/5,ML3.9/3,MS2.8/3, Ms1 2.8/3,ms1mx2.6/20,Error ellipse: s-maj=30.0km s-min=25.0km az=20.0*

NEIC ***12*** *16:28:40.8±2.6,23°.52N±0°.07×108°.66W±0°.04,h10km±1km, mb4.0/17,Md4.0/6(MEX),Error ellipse: s-maj=13.2km s-min=4.8km az=196.0*
MEX ***12*** *16:28:45.7±0.8,24°.18N×108°.76W,h16km,MD4.0*
ISC 12 16:28:40.0±0.9,23°.62N±0°.08×108°.67W±0°.04,h10km,n48, σ2§31/46,mb3.9/7,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.58**	**288**	P	**Pn**	**16 29 08.0**	**0.0**
	25nm,0.3s,baz=353,slow=2.7,SNR=27						
LPIG				LR	LR	16 29 25.9	
	comp=Z,120nm,20.9s,baz=91,slow=29						
LPIG				Sn	**Sn**	**16 29 27.4**	**-1.1**
	100nm,0.3s,baz=335,slow=8.0,SNR=7.0						
LPIG	**La Paz**	**1.58**	**288**	*e*P	**Pn**	**16 29 08.0**	**0.0**
LPIG				*i* S	**Sn**	**16 29 23.6**	**-4.9**
LPIG	**La Paz**	**1.58**	**288**		**Pn**	**16 29 08.0**	**0.0**
LPIG					**Sn**	**16 29 23.6**	**-4.9**
SSIG	**Sanalona**	**1.84**	**49**	*e*P	Pn	16 29 09.7	-1.9
TSIG	**Topolobambo**	**2.00**	**350**	*i* P	Pn	16 29 08.0	-5.9
MAIG	**Mazatlaan**	**2.11**	**101**	*i* P	**Pg**	**16 29 20.0**	**-0.4**
MAIG				*i* S	**Sg**	**16 29 48.1**	**+0.4**
MAIG	**Mazatlaan**	**2.11**	**101**		**Pg**	**16 29 20.0**	**-0.4**
MAIG					**Sb**	**16 29 44.4**	**-0.1**
SRIG	**Santa Rosalia**	**4.90**	**320**	Pn	**Pn**	**16 29 57.7**	**+3.9**
H06E1	**SOCORRO T-PHAS**	**5.25**	**204**	T	T	16 35 40.0	
	SNR=194						
ZAIG	**Zacatecas**	**5.68**	**97**	Pn	**Pn**	**16 30 05.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**7.24**	**37**	Pn	**Pn**	**16 30 26.9**	**+0.8**
TX32	**Lajitas Array**	**7.24**	**37**		**Pn**	**16 30 26.6**	**+0.5**
TXAR	**Lajitas Array**	**7.24**	**37**	Pn	**Pn**	**16 30 25.7**	**-0.4**
	0.3nm,0.3s,baz=208,slow=14,SNR=13						
TXAR				Pg	**Pb**	**16 30 42.8**	**-3.1**
	0.3nm,0.3s,baz=210,slow=17,SNR=6.3						
TXAR				Sn	**Sn**	**16 31 43.5**	**-4.9**
	0.3nm,0.3s,baz=216,slow=26,SNR=1.4						
TXAR				Lg	Lg	16 32 19.7	
	0.6nm,0.3s,baz=219,slow=31,SNR=6.2						
TXAR	**Lajitas Array**	**7.24**	**37**		**Pn**	**16 30 26.3**	**+0.3**
MNTX	**Cornudas Mount**	**8.56**	**19**	Pn	**Pn**	**16 30 44.8**	**+0.8**
121A	**Cookes Peak, D**	**8.91**	**5**	Pn	**Pn**	**16 30 49.9**	**+0.8**
833A	**Chaparral WMA,**	**9.57**	**59**	Pn	**Pn**	**16 30 57.8**	**-0.1**
ANMO	**Albuquerque**	**11.45**	**9**	Pn	**Pn**	**16 31 23.6**	**-0.2**
	0.0nm,0.3s,baz=187,slow=8.1,SNR=1.5						
ANMO				Lg	Lg	16 34 34.9	
	0.0nm,0.3s,baz=347,slow=18,SNR=1.4						
ANMO				LR	LR	16 36 06.8	
	comp=Z,6.6nm,20.9s,baz=190,slow=39						
CCUT	**Cedar City**	**14.46**	**345**	Pn	**P**	**16 32 09.9**	**-2.0**
PSUT	**Pine Spring**	**15.51**	**345**		**P**	**16 32 25.3**	**+1.8**
TPH	**Tonopah**	**16.16**	**335**	P	**P**	**16 32 34.1**	**+3.4**
ISCO	**Idaho Springs**	**16.34**	**8**		**P**	**16 32 34.3**	**+1.6**
O20A	**White River Ci**	**16.47**	**1**		**P**	**16 32 36.5**	**+2.3**
O20A				IAmb	IAmb	16 32 39.3	
	comp=Z,14nm,1.3s						
NVAR	**Mina Array Bea**	**16.90**	**333**	Pn	**P**	**16 32 40.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=2.0						
HWUT	**Hardware Ranch**	**18.10**	**353**		**P**	**16 32 56.7**	**+4.6**
HWUT				IAmb	IAmb	16 32 57.8	
	comp=Z,12nm,1.1s						
PDAR	**Pinedale Array**	**19.11**	**358**	P	**P**	**16 33 04.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=6.3						
PDAR	**Pinedale Array**	**19.11**	**358**		**Pn**	**16 33 06.5**	**+2.4**
LOHW	**Long Hollow**	**20

DBIC Dimbokro 29.48 14 P **P** 17 13 52.7 +0.4
DBIC IAmb IAmb 17 13 54.0
comp=Z,62nm,0.9s
MAN01 Angra dos Reis 29.61 262 *e*P **P** 17 13 54.8 +1.2
ESAR Angra dos Reis 30.03 262 *e*P **P** 17 13 58.4 +1.1
BSCB Bom Sucesso 30.57 266 *e*P **P** 17 14 03.2 +1.1
SUR Sutherland 30.69 116 P **P** 17 14 04.3 +1.1
comp=Z,159nm,0.7s,baz=283,slow=8.7,SNR=128
SUR Sutherland 30.69 116 P **P** 17 14 04.4 +1.1
PARB Paraibuna 31.09 261 *e*P **P** 17 14 08.2 +1.5
JANB Januaria 31.48 277 *e*P **P** 17 14 10.6 +0.4
VAO Valinhos 32.35 262 *e*P **P** 17 14 18.4 +0.5
PET01 Itanhaem-SP 32.53 259 *e*P **P** 17 14 19.9 +0.6
SPB Sao Paulo 32.73 261 *e*P **P** 17 14 21.5 +0.5
SDBA SAO DESIDERIO 32.91 282 *e*P **P** 17 14 22.7 -0.1
BB19B Bebedouro 34.03 265 *e*P **P** 17 14 34.0 +1.6
TIJ01 Guaruva-PR 34.05 257 *e*P **P** 17 14 34.2 +1.5
BOSA Boshof 34.07 109 P **P** 17 14 32.6 -0.2
comp=Z,28nm,0.7s,baz=279,slow=8.4,SNR=48
BOSA LR LR 17 25 52.3
comp=Z,1µm,21.0s,baz=272,slow=32
BOSA Boshof 34.07 109 P **P** 17 14 32.6 -0.2
BOSA IAmb IAmb 17 14 34.0
comp=Z,43nm,0.9s
IPMB Ipameri, GO 34.31 270 *e*P **P** 17 14 35.5 +0.6
LBTB Lobatse 34.40 102 P **P** 17 14 35.5 -0.2
comp=Z,14nm,0.7s,baz=269,slow=9.7,SNR=21
LBTB Lobatse 34.40 102 P **P** 17 14 35.1 -0.6
FRTB Fartura 34.70 261 *e*P **P** 17 14 39.4 +1.1
BDFB Brasilia 34.73 274 P **P** 17 14 37.6 -0.9
comp=Z,18nm,0.8s,baz=146,slow=6.1,SNR=20
BDFB LR LR 17 25 58.3
comp=Z,1µm,21.6s,baz=110,slow=32
BDFB Brasilia 34.73 274 P **P** 17 14 37.9 -0.7
BDFB pmax pmax
comp=Z,43nm,0.8s
BDFB Brasilia 34.73 274 P **P** 17 14 37.9 -0.7
BDFB IAmb IAmb 17 14 49.0
comp=Z,43nm,0.8s
CNLB Canela 35.69 250 *e*P **P** 17 14 48.6 +1.9
ITRB Iturama 35.95 267 *e*P **P** 17 14 50.8 +1.8
PEXB Peixe 36.12 280 *e*P **P** 17 14 50.6 +0.1
PCMB Pacaembu 36.47 263 *e*P **P** 17 14 53.8 +0.4
ROSB Rosrio 36.68 297 *e*P **P** 17 14 56.4 +1.1
SMTB Santa Maria do 36.74 285 *e*P **P** 17 14 56.0 +0.2
ITAB Concordia 36.80 254 *e*P **P** 17 14 58.1 +2.0
PTGB Pitanga 36.86 258 *e*P **P** 17 14 57.8 +1.0
KOWA Kowa 37.24 13 P **P** 17 15 00.5 +0.6
TOAO Torodi Ar. Sit 37.54 22 P **P** 17 15 03.0 +0.6
TORD Torodi Ar. Bea 37.54 22 P **P** 17 15 02.9 +0.5
comp=Z,191nm,0.8s,baz=197,slow=8.9,SNR=674
TORD S **S** 17 20 53.1 +1.7
comp=Z,2.4nm,1.2s,baz=298,slow=3.1,SNR=4.9
TORD LR LR 17 27 30.5
comp=Z,644nm,21.9s,baz=200,slow=32
TORD Torodi Ar. Bea 37.54 22 P **P** 17 15 03.2 +0.8
TRCB Terra Rica 37.57 261 *e*P **P** 17 15 05.0 +2.1
MATP Matopo 37.60 95 *i* P **P** 17 15 03.8 +0.6
MATP Matopo 37.60 95 *i* P **P** 17 15 03.8 +0.6
BLWY Bulawayo 37.75 95 *i* P **P** 17 15 04.8 +0.3
BLWY Bulawayo 37.75 95 *i* P **P** 17 15 04.8 +0.3
PLTB Pedras Altas 38.19 246 *e*P **P** 17 15 09.2 +1.2
ARAG Araguaiana, MT 38.22 273 *e*P **P** 17 15 08.8 +0.4
PRPB Parauapebas 39.91 288 *e*P **P** 17 15 23.7 +1.3
TMAB Tom-Au,PA,Br 40.29 294 *e*P **P** 17 15 26.4 +0.7
CPUP Villa Florida 41.48 255 P **P** 17 15 35.5 +0.2
comp=Z,16nm,0.9s,baz=98,slow=7.7,SNR=24
CPUP Villa Florida 41.48 255 P **P** 17 15 34.1 -1.2
CPUP Villa Florida 41.48 255 *e*P **P** 17 15 37.2 +1.9
CLDB Colider 43.42 278 *e*P **P** 17 15 50.2 -1.0
NPGB Novo Progresso 44.48 283 *e*P **P** 17 15 59.8 0.0
MCPB Macapa, AP 44.71 294 *e*P **P** 17 16 02.2 +0.6
PTLB Pontes e Lacer 45.08 270 *e*P **P** 17 16 05.4 +0.9
MALB Monte Alegre 45.85 290 *e*P **P** 17 16 11.1 +0.4
ITTB Itaituba 45.97 286 *e*P **P** 17 16 12.3 +0.7
MBAR Mbarara 46.69 69 *e*P **P** 17 16 19.7 +2.2
MBAR pmax pmax
comp=Z,12nm,1.3s
SIV San Ignacio 46.73 269 P **P** 17 16 18.0 +0.4
comp=Z,14nm,0.8s,baz=110,slow=9.7,SNR=40
VILB Vilhena 46.80 273 *e*P **P** 17 16 18.8 +0.7
MDP Montagnes des 48.21 299 P **P** 17 16 28.7 -0.5
comp=Z,21nm,1.0s,baz=128,slow=6.8,SNR=7.1
VNA1 Neumayer--Stat 48.55 178 P **P** 17 16 30.8 0.0
VNA2 Neumayer--Watz 48.84 178 P **P** 17 16 32.9 -0.3
baz=350,slow=8.3
VNA3 Neumayer Olymp 49.11 179 P **P** 17 16 34.3 -1.0
SNAA Sanae 49.80 176 P **P** 17 16 39.8 -0.8
SNAA Sanae 49.80 176 P **P** 17 16 39.9 -0.7
comp=Z,17nm,0.8s,baz=342,slow=8.0,SNR=67
SNAA Sanae 49.80 176 *ce*P **P** 17 16 39.8 -0.8
SNAA pmax pmax
comp=Z,83nm,1.9s
SNAA Sanae 49.80 176 P **P** 17 16 40.1 -0.5
SNAA IAmb IAmb 17 16 42.4
comp=Z,27nm,0.9s
NVL N'lazarevskaya 50.57 170 *e*P **P** 17 16 46.2 -0.1
NVL pmax pmax
comp=Z,33nm,0.7s
SAML Samuel 50.90 277 P **P** 17 16 50.9 +1.2
SAML pmax pmax
comp=Z,29nm,0.9s
SAML Samuel 50.90 277 P **P** 17 16 50.9 +1.2
SAML IAmb IAmb 17 17 00.9
comp=Z,29nm,0.9s
SAML Samuel 50.90 277 *e*P **P** 17 16 50.7 +1.0
MACA Manacapuru-AM 50.93 285 *e*P **P** 17 16 51.2 +1.3
KMBO Kilima Mbogo 52.15 73 LR LR 17 36 32.8
comp=Z,380nm,20.0s,baz=104,slow=33
CO01 Juntas del Tor 52.39 249 P **P** 17 17 00.3 -0.6
PLCA Paso Flores 52.40 235 P **P** 17 17 00.5 -0.1
comp=Z,13nm,1.1s,baz=86,slow=7.5,SNR=7.8
PLCA LR LR 17 35 33.8
comp=Z,440nm,20.8s,baz=98,slow=32
PLCA Paso Flores 52.40 235 P **P** 17 17 01.3 +0.7
PLCA pmax pmax
comp=Z,27nm,1.3s
PLCA Paso Flores 52.40 235 P **P** 17 17 01.3 +0.7
PLCA Paso Flores 52.40 235 *e*P **P** 17 17 02.4 +1.8
LVC Limon Verde 52.43 258 P **P** 17 17 01.5 0.0
comp=Z,5.8nm,0.9s,baz=133,slow=3.6,SNR=5.7
LVC Limon Verde 52.43 258 *e*P **P** 17 17 02.0 +0.5
GO02 Mina Guanaco 52.59 255 P **P** 17 17 01.8 -0.8
GO02 IAmb IAmb 17 17 05.2
comp=Z,36nm,0.9s
BO02 Sierra Bellavi 52.61 242 P **P** 17 17 01.2 -1.1
AC05 El Transito 52.67 250 P **P** 17 17 02.8 -0.1
LPAZ La Paz 53.18 266 P **P** 17 17 06.9 -0.4
comp=Z,2.6nm,0.7s,baz=83,slow=4.2,SNR=11
LPAZ LR LR 17 37 30.4
comp=Z,265nm,21.4s,baz=104,slow=34
LPAZ La Paz 53.18 266 P **P** 17 17 05.4 -2.0
LPAZ La Paz 53.18 266 *e*P **P** 17 17 06.4 -0.9
PB01 IPOC Station P 53.28 260 P **P** 17 17 06.2 -1.2
PB01 IAmb IAmb 17 17 09.4
comp=Z,37nm,1.2s
GO01 Chusmiza 53.32 261 P **P** 17 17 07.3 -0.8
AC01 Pan de Azucar 53.33 253 P **P** 17 17 07.5 -0.2
AC01 IAmb IAmb 17 17 16.2
comp=Z,65nm,1.1s
ETMB Extrema 53.39 274 *e*P **P** 17 17 08.8 +0.7
PB14 IPOC Station P 53.41 255 P **P** 17 17 07.9 -0.7
PB07 IPOC Station P 53.50 259 P **P** 17 17 07.5 -1.6
PB07 IAmb IAmb 17 17 11.5
comp=Z,47nm,1.0s
GO05 Hualа 53.54 242 P **P** 17 17 08.7 -0.4
PB04 IPOC Station P 53.61 258 P **P** 17 17 08.9 -1.1
PB11 IPOC Station P 53.72 261 P **P** 17 17 09.0 -1.7
PB11 IAmb IAmb 17 17 14.8
comp=Z,31nm,1.0s
MNMC Minye Minye 53.81 262 P **P** 17 17 09.7 -1.9
PB16 IPOC Station P 53.92 263 P **P** 17 17 10.6 -2.2
PSGCX Pisagua 54.19 261 P **P** 17 17 13.0 -1.1
SYO Syowa Base 56.09 160 ⇓ *i* P **P** 17 17 25.6 -1.3
SYO Syowa Base 56.09 160 ⇑ *i* pP **P** 17 17 27.6 +0.7
SYO Syowa Base 56.09 160 ⇓ *i* sP **P** 17 17 28.4 +1.5
BELA Belgrano 2 56.81 186 P **P** 17 17 31.4 -0.6
PBDV Barranco-do-Ve 59.21 4 *e*P **P** 17 17 51.4 +2.2
comp=Z,43nm,1.4s
PVAQ Vaqueiros 59.38 4 *e*P **P** 17 17 52.4 +2.0
comp=Z,73nm,1.2s
PVAQ Vaqueiros 59.38 4 *e*LR LR 17 36 50.4
comp=Z,392nm,20.0s
comp=Z,29nm,1.0s
CEY Cerknica 71.69 19 ⇓ *i* P **P** 17 19 10.6 +0.7
BLY Banja Luka 71.69 21 ⇓ *i* P **P** 17 19 10.3 +0.4
BBLS Lazići 71.71 23 ⇓ *i* P **P** 17 19 10.1 0.0
JAVS Javornik 71.72 19 *i* P **P** 17 19 10.8 +0.6
HAPS Han Pijesak,BI 71.73 23 *e*P **P** 17 19 10.0 -0.3
FETA Feichten 71.83 16 *e*P **P** 17 19 10.7 -0.1
comp=Z,24nm,1.0s,SNR=14
DAVA Damuels 71.86 15 *e*P **P** 17 19 11.0 -0.1
comp=Z,48nm,0.8s,SNR=20
DAVA *e*P **PP** 17 21 48.9 -2.2
comp=Z,11nm,1.0s
LJU Ljubljana 72.00 19 *e*P **P** 17 19 12.7 +1.0
LJU *e* 17 19 21.5
LJU *e*PP **PP** 17 21 51.5 -0.5
LJU Ljubljana 72.00 19 ⇓ *i* P **P** 17 19 12.7 +1.0
ZOU Zoufplan 72.01 18 IAmb IAmb 17 19 23.3
comp=Z,42nm,1.4s
RZN Rozhen 72.01 28 *e*P **P** 17 19 12.4 +0.3
ABTA Abfaltersbach 72.05 17 *i* P **P** 17 19 12.9 +0.8
comp=Z,18nm,0.9s,SNR=15
PRED Cave del Predi 72.07 18 IAmb IAmb 17 19 20.9
comp=Z,40nm,1.3s
CRES Cresnjev 72.09 20 ⇓ *i* P **P** 17 19 12.7 +0.5
ECH Echery 72.11 13 IAmb IAmb 17 19 13.6
comp=Z,28nm,1.1s
DIVS Divibare 72.12 24 ⇓ *i* P **P** 17 19 13.2 +0.6
SQTA Sankt Quirin 72.14 16 *i* P **P** 17 19 12.5 -0.2
comp=Z,24nm,1.0s,SNR=14
VTS Vitosha 72.15 26 *e*P **P** 17 19 13.8 +0.9
MOTA Moosalm 72.23 16 *e*P **P** 17 19 12.7 -0.5
comp=Z,17nm,1.0s,SNR=6.4
MYKA Terra Mystica 72.27 18 *e*P **P** 17 19 14.3 +0.9
comp=Z,27nm,1.7s,SNR=14
RETA Reutte 72.27 16 *i* P **P** 17 19 13.0 -0.4
comp=Z,12nm,0.9s
RETA *e*P **PP** 17 21 51.8 -2.6
comp=Z,6.1nm,1.1s
WTTA Wattenberg 72.29 17 *i* P **P** 17 19 13.6 0.0
comp=Z,35nm,1.1s,SNR=24
WTTA *e*P **PP** 17 21 52.9 -1.8
comp=Z,8.9nm,1.2s
GOLS Golise 72.31 20 *i* P **P** 17 19 14.9 +1.3
WATA Walderalm 72.34 17 *i* P **P** 17 19 13.6 -0.3
comp=Z,32nm,1.2s,SNR=12
WATA *e*P **PP** 17 21 52.7 -2.4
comp=Z,9.3nm,1.0s
OBKA Obir 72.42 19 *i* P **P** 17 19 15.2 +0.9
comp=Z,21nm,1.8s,SNR=7.2
BFO Black Forest 72.48 14 P **P** 17 19 14.7 +0.2
BFO pmax pmax
comp=Z,34nm,0.9s
BFO Black Forest 72.48 14 P **P** 17 19 14.7 +0.2
BFO IAmb IAmb 17 19 15.8
comp=Z,34nm,0.9s
KBA Koelnbreinsper 72.59 18 *e*P **P** 17 19 15.7 +0.3
comp=Z,11nm,0.6s,SNR=14
GROS Grobnik 72.67 19 *i* P **P** 17 19 16.7 +0.9
GROS *e* 17 19 25.7
SOKA Soboth 72.72 19 *e*P **P** 17 19 17.2 +1.1
comp=Z,37nm,1.2s,SNR=30
SOKA *e*P **PP** 17 21 57.8 -0.5
comp=Z,6.7nm,1.2s
FRGS Fruska Gora 72.97 23 ⇓ *i* P **P** 17 19 18.0 +0.5
BEHE Becsehely 73.08 20 ⇓ *i* P **P** 17 19 22.5 +4.4
WLF Walferdange 73.29 12 P **P** 17 19 20.1 +0.8
MDVR Moldovita 73.35 24 ⇑ P **P** 17 19 20.1 +0.2
ARSA Arzberg 73.38 19 *i* P **P** 17 19 20.9 +1.0
comp=Z,29nm,0.9s,SNR=28
DOU Dourbes 73.41 11 pP **pP** 17 19 22.2 -0.8
DOU PcP **PcP** 17 19 35.0 -1.1
MORH Mrgy, Hungar 73.47 22 ⇓ *i* P **P** 17 19 21.0 +0.6
MOA Molln 73.55 18 *i* P **P** 17 19 20.8 -0.1
comp=Z,28nm,1.1s,SNR=14
MOA *e*P **PP** 17 22 05.1 -0.2
comp=Z,4.4nm,0.8s
BMRD Maredsous 73.64 11 P **P** 17 19 20.7 -0.6
HERR Herculane 73.71 25 ⇑ P **P** 17 19 22.3 +0.5
SNF Seneffe 73.75 11 P **P** 17 19 22.6 +0.6
BGES Gesves 73.78 11 P **P** 17 19 22.3 +0.2
BCLA Clavier 73.85 11 P **P** 17 19 22.9 +0.3
BCLA PcP **PcP** 17 19 37.0 -1.0
BHOU Houvegnez 73.92 12 P **P** 17 19 23.9 +1.0
BZS Buzias 74.02 24 ⇓ P **P** 17 19 24.3 +0.6
UCC Uccle 74.05 11 P **P** 17 19 24.4 +0.7
BSTI Sart Tilman 74.06 11 P **P** 17 19 23.7 -0.1
CONA Conrad Observa 74.09 19 *i* P **P** 17 19 25.0 +0.8
comp=Z,28nm,1.2s,SNR=17
MONM Monmouth 74.11 6 *e*P **P** 17 19 24.4 +0.3
MONM IAmb IAmb 17 19 25.2
comp=Z,57nm,1.0s
MEM Membach 74.16 12 P **P** 17 19 25.2 +0.8
BTNL Ternell 74.16 12 P **P** 17 19 25.6 +1.1
GZR Gura Zlata 74.27 25 ⇑ P **P** 17 19 25.9 +0.7
GERES GERESS Array B 74.30 17 P **P** 17 19 25.4 +0.1
comp=Z,5.0nm,0.8s,baz=190,slow=4.9,SNR=45
GERES PP **PP** 17 22 09.7 -2.1
comp=Z,5.2nm,1.1s,baz=190,slow=6.8,SNR=5.1
GERES LR LR 17 52 12.2
comp=Z,414nm,18.1s,baz=244,slow=36
HUMR Humele 74.44 26 ⇑ P **P** 17 19 26.7 +0.5
KHC Kasperske Hory 74.52 17 *e*P **P** 17 19 26.4 -0.2
KHC *ex* x 17 19 34.2
KHC *ex* x 17 29 00.5
KHC AMS AMS 17 51 40.0
comp=Z,400nm,16.0s
KHC Kasperske Hory 74.52 17 *e*P **P** 17 19 26.4 -0.2
KHC *e* 17 19 34.2
KHC *e* 17 29 00.5
KHC MLR MLR
comp=Z,400nm,16.0s
SIRR Siria 74.59 23 ⇓ P **P** 17 19 27.4 +0.4
LOT Lotru 74.71 25 ⇑ P **P** 17 19 28.5 +0.7
ZST Bratislava 74.71 20 *e*P **P** 17 19 27.7 +0.1
ZST pmax pmax
comp=Z,98nm,1.4s
ZST Bratislava 74.71 20 *e*P **P** 17 19 27.7 +0.1
HLM1 Long Mynd 74.78 6 *e*P **P** 17 19 28.2 +0.2
HLM1 IAmb IAmb 17 19 29.2
comp=Z,52nm,1.0s
BR131 Keskin Array S 74.81 35 *i* P **P** 17 19 29.7 +1.1
BRTR Keskin Array B 74.81 35 P **P** 17 19 29.9 +1.3
comp=Z,11nm,1.0s,baz=197,slow=6.3,SNR=34
BRTR LR LR 17 52 03.1
comp=Z,57nm,20.4s,baz=224,slow=36
BRTR Keskin Array B 74.81 35 *ce*P **P** 17 19 29.8 +1.1
BRTR pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 74.81 35 P **P** 17 19 30.6 +2.0
MODS Modra-Piesok 74.92 20 *e*P **P** 17 19 28.6 -0.3
MODS *e* 17 19 37.7
MODS pmax pmax
comp=Z,35nm,1.3s
MODS Modra-Piesok 74.92 20 *e*P **P** 17 19 28.5 -0.3
MODS *e* 17 19 37.7
ARR Arges 74.98 26 ⇓ P **P** 17 19 29.5 +0.1
FOEL Foel Wylfa 75.12 5 *e*P **P** 17 19 30.2 +0.3
FOEL IAmb IAmb 17 19 31.2
comp=Z,43nm,0.8s
PBCC Pribram 75.14 17 *e*P **P** 17 19 29.8 -0.3
CWF Charnwood Fore 75.15 7 *e*P **P** 17 19 30.0 -0.1
TREC Trest 75.21 18 *e*P **P** 17 19 30.9 +0.4
TREC AMS AMS 17 52 50.0
comp=Z,500nm,18.6s
TREC Trest 75.21 18 *e*P **P** 17 19 30.9 +0.4
TREC MLR MLR
comp=Z,500nm,18.6s
VOIR 75.21 26 ⇓ P **P** 17 19 30.8 +0.1
NKC Novy Kostel 75.23 16 *e*P **P** 17 19 31.1 +0.4
NKC AMS AMS 17 52 10.0
comp=Z,400nm,18.1s
NKC Novy Kostel 75.23 16 *e*P **P** 17 19 31.1 +0.4
NKC MLR MLR
comp=Z,400nm,18.1s
KRUC Moravsky 75.26 19 *e*P **P** 17 19 30.9 +0.1
PSZ Piszkesteto 75.38 21 ⇑ P **P** 17 19 32.2 +0.6
WLF1 Llynfaes 75.42 5 *e*P **P** 17 19 31.8 +0.3
WLF1 IAmb IAmb 17 19 32.5
comp=Z,50nm,0.7s
JAVC Velka Javorina 75.47 20 *e*P **P** 17 19 32.9 +0.8
VYHS Vyhne 75.53 21 *e*P **P** 17 19 32.5 +0.1
VYHS *e* 17 19 41.9
VYHS pmax pmax
comp=Z,27nm,1.1s

VYHS	**Vyhne**	**75.53**	**21**	*e*P	**P**	**17 19 32.5 +0.1**
VYHS				*e*		17 19 41.9	
VRAC	**Vranov**	**75.54**	**19**	⇓P	**P**	**17 19 32.6 +0.1**
VRAC	**Vranov**	**75.54**	**19**	*e*P	**P**	**17 19 32.5 +0.1**
PRU	**Pruhonice**	**75.56**	**17**	*e*P	**P**	**17 19 32.5 0.0**
PRU				AMS	AMS	17 52 00.0	
	comp=Z,400nm,19.7s						
PRU	**Pruhonice**	**75.56**	**17**	*e*P	**P**	**17 19 32.5 0.0**
PRU				MLR	MLR		
	comp=Z,400nm,19.7s						
GOPC	**GO Pecny, Ondr**	**75.57**	**17**	*e*P	**P**	**17 19 33.1 +0.5**
GOPC				*ex*	x	17 19 41.3	
GOPC				AMS	AMS	17 52 00.0	
	comp=Z,300nm,17.8s						
GOPC	**GO Pecny, Ondr**	**75.57**	**17**	*e*P	**P**	**17 19 33.1 +0.5**
GOPC				*e*		17 19 41.3	
GOPC				MLR	MLR		
	comp=Z,300nm,17.8s						
ISR	**Istrita**	**75.57**	**27**	⇑P	**P**	**17 19 33.2 +0.5**
PRA	**Prague**	**75.61**	**17**	AMS	AMS	17 52 10.0	
	comp=Z,200nm,17.7s						
MLR	**Muntele Rosu**	**75.62**	**26**	⇑P	**P**	**17 19 33.2 0.0**
MLR	**Muntele Rosu**	**75.62**	**26**	IAmb	IAmb	17 19 34.4	
	comp=Z,26nm,0.7s						
MFTR	**Murfatlar**	**75.64**	**29**	⇑P	**P**	**17 19 33.8 +0.7**
CJR	**Cluj-Napoca**	**75.69**	**24**	⇑P	**P**	**17 19 33.4 0.0**
NEHR	**Nehoiu**	**75.71**	**27**	⇓P	**P**	**17 19 33.5 0.0**
TLBR	**Topalu**	**75.76**	**28**	⇑P	**P**	**17 19 34.2 +0.5**
LBWR	**Ladybower, Pea**	**75.77**	**6**	*e*P	**P**	**17 19 34.1 +0.5**
LBWR				IAmb	IAmb	17 19 35.0	
	comp=Z,41nm,0.9s						
DOPR	**Dopca**	**75.78**	**26**	⇓P	**P**	**17 19 34.3 +0.4**
HARR	**Harsova**	**75.82**	**28**	⇑P	**P**	**17 19 34.5 +0.5**
TIRR	**Tirgusor**	**75.85**	**29**	⇑P	**P**	**17 19 34.9 +0.6**
BISRR	**Bisoca**	**75.98**	**27**	⇑P	**P**	**17 19 35.2 +0.1**
OZUR		**76.05**	**26**	⇑P	**P**	**17 19 35.7 +0.3**
PVCC	**Panska Ves**	**76.06**	**17**	*e*P	**P**	**17 19 36.0 +0.7**
PVCC				AMS	AMS	17 52 30.0	
	comp=Z,300nm,18.9s						
PVCC	**Panska Ves**	**76.06**	**17**	*e*P	**P**	**17 19 36.0 +0.7**
PVCC				MLR	MLR		
	comp=Z,300nm,18.9s						
PLOR	**Plostina**	**76.20**	**27**	⇑P	**P**	**17 19 36.0 -0.4**
BRG	**Berggiesshubel**	**76.21**	**17**	*i* P	**P**	**17 19 36.1 -0.1**
	comp=Z,12nm,1.0s						
BRG				S	**S**	**17 29 21.0 +1.1**	
	comp=N,384nm,16.2s						
	comp=E,278nm,17.8s						
	comp=Z,384nm,16.2s						
BRG	**Berggiesshubel**	**76.21**	**17**	*i* P	**P**	**17 19 36.1 -0.1**
BRG				S	**S**	**17 29 21.0 +1.1**	
BRG				pmax	pmax		
	comp=Z,13nm,1.0s						
BRG				MLR	MLR		
	comp=N,384nm,16.2s						
BRG				MLR	MLR		
	comp=E,278nm,17.8s						
BRG				MLR	MLR		
	comp=Z,384nm,16.2s						
MORC	**Moravsky Berou**	**76.25**	**19**	⇑P	**P**	**17 19 35.7 -0.8**
MORC	**Moravsky Berou**	**76.25**	**19**	*e*P	**P**	**17 19 36.7 +0.2**
VRI	**Vrincioaia**	**76.25**	**27**	⇑P	**P**	**17 19 37.4 +0.8**
WIM	**Isle of Man**	**76.25**	**4**	*e*P	**P**	**17 19 36.8 +0.5**
KRLC	**Kraliky**	**76.28**	**19**	*e*P	**P**	**17 19 36.6 -0.1**
KRLC				*ex*	x	17 19 45.6	
KRLC				AMS	AMS	17 54 10.0	
	comp=Z,300nm,19.2s						
KRLC	**Kraliky**	**76.28**	**19**	*e*P	**P**	**17 19 36.6 -0.1**
KRLC				*e*		17 19 45.6	
KRLC				MLR	MLR		
	comp=Z,300nm,19.2s						
ARCR	**ARCALIA**	**76.29**	**25**	⇑P	**P**	**17 19 37.3 +0.5**
CFR	**Carcaliu**	**76.30**	**28**	⇑P	**P**	**17 19 37.2 +0.4**
LANS	**Liptovska Anna**	**76.30**	**21**	*e*P	**P**	**17 19 37.4 +0.6**
LANS				*e*		17 19 46.9	
LANS	**Liptovska Anna**	**76.30**	**21**	*e*P	**P**	**17 19 37.4 +0.6**
LANS				*e*		17 19 46.9	
ODBI	**Odobesti**	**76.30**	**27**	⇑P	**P**	**17 19 37.2 +0.4**
HPK	**Haverah Park**	**76.32**	**6**	*e*P	**P**	**17 19 37.2 +0.5**
CLL	**Collm**	**76.36**	**16**	⇓*i*P	**P**	**17 19 37.3 +0.3**
	comp=Z,34nm,1.9s						
CLL				*e*		17 19 51.0	
CLL				*e*(PP)		17 22 21.0	
CLL				*e*S	**S**	**17 29 18.0 -3.5**	
CLL				*e*PPS	PPS	17 30 12.0	
CLL				*e*SS	**SS**	**17 34 12.0 -4.6**	
CLL				*e*SSS	SSS	17 37 42.0	
CLL				*e*		17 38 54.0	
CLL				*e*SSSS		17 39 48.0	
CLL				Lm	MLR	17 52 00.0	
	comp=N,200nm,18.3s						
CLL				Lm	MLR	17 52 00.0	
	comp=E,200nm,21.2s						
CLL				Lm	MLR	17 52 00.0	
	comp=Z,300nm,18.3s						
CLL	**Collm**	**76.36**	**16**	⇓*i*P	**P**	**17 19 37.3 +0.3**
CLL				pmax	pmax		
	comp=Z,34nm,1.9s						
CLL				MLR	MLR		
	comp=Z,300nm,18.3s						
IOMK	**Kirk Michael**	**76.37**	**4**	*e*P	**P**	**17 19 37.8 +0.8**
IOMK				IAmb	IAmb	17 19 38.5	
	comp=Z,122nm,1.3s						
DPC	**Dobruska-Polom**	**76.39**	**18**	AMS	AMS	17 52 20.0	
	comp=Z,300nm,17.5s						
UPC	**Upice**	**76.44**	**18**	AMS	AMS	17 53 50.0	
	comp=Z,300nm,16.0s						
CHVC	**Chvalec**	**76.53**	**18**	*e*P	**P**	**17 19 38.2 +0.2**
CHVC				AMS	AMS	17 53 40.0	
	comp=Z,300nm,15.4s						
OSTC	**Ostas**	**76.55**	**18**	*e*P	**P**	**17 19 38.8 +0.7**
OSTC				*ex*	x	17 19 47.0	
OSTC				AMS	AMS	17 54 20.0	
	comp=Z,300nm,18.8s						
CRVS	**Cervenica-Dubn**	**76.76**	**22**	*e*P	**P**	**17 19 40.1 +0.7**
CRVS				*e*		17 19 48.3	
CRVS				pmax	pmax		
	comp=Z,52nm,1.2s						
CRVS	**Cervenica-Dubn**	**76.76**	**22**	*e*P	**P**	**17 19 40.1 +0.7**
CRVS				*e*		17 19 48.3	
NIE	**Niedzica**	**76.81**	**21**	*e*P	**P**	**17 19 40.5 +0.8**
NIE				*e*PcP	**PcP**	**17 19 50.9 0.0**
UZH	**Uzhgorod**	**76.82**	**23**	⇑*i*P	**P**	**17 19 39.8 +0.1**
UZH				*i*		17 19 48.8	
KSP	**Ksiaz**	**76.83**	**18**	*e*P	**P**	**17 19 40.0 +0.3**
KSP				*e*PcP	**pwP**	**17 19 49.1 +0.9**
BIZ	**Bicaz**	**76.86**	**26**	⇑P	**P**	**17 19 40.1 +0.1**
DIKM	**Dikmen**	**77.05**	**34**	⇑P	**P**	**17 19 42.7 +1.6**
BURAR	**Bucovina Array**	**77.06**	**25**	⇑P	**P**	**17 19 41.6 +0.4**
BURAR	**Bucovina Array**	**77.06**	**25**	P	**P**	**17 19 41.1 -0.1**
KOLS	**Kolonicke sedl**	**77.07**	**22**	*e*P	**P**	**17 19 40.2 -0.9**
KOLS				pmax	pmax		
	comp=Z,15nm,1.5s						
KOLS	**Kolonicke sedl**	**77.07**	**22**	*e*P	**P**	**17 19 40.2 -0.9**
CLGH	**Cloghs, Cushen**	**77.09**	**3**	*e*P	**P**	**17 19 40.8 -0.3**
CLGH				IAmb	IAmb	17 19 42.3	
	comp=Z,20nm,1.1s						
EDMD	**Edmundbyers**	**77.15**	**6**	*e*P	**P**	**17 19 42.1 +0.6**
EDMD				IAmb	IAmb	17 19 42.4	
	comp=Z,28nm,0.9s						
NEWG	**New Galloway**	**77.25**	**5**	*e*P	**P**	**17 19 42.1 +0.1**
NEWG				IAmb	IAmb	17 19 43.4	
	comp=Z,28nm,1.1s						
OJC	**Ojcow**	**77.34**	**20**	*e*P	**P**	**17 19 42.9 +0.3**
OJC				*e*PcP	**PcP**	**17 19 51.9 -1.2**
ESK	**Eskdalemuir**	**77.53**	**5**	*e*P	**P**	**17 19 43.9 +0.4**
ESK				IAmb	IAmb	17 19 45.0	
	comp=Z,31nm,1.0s						
ESK	**Eskdalemuir**	**77.53**	**5**	P	**P**	**17 19 44.1 +0.6**
ESK				pmax	pmax		
	comp=Z,31nm,1.0s						
ESK	**Eskdalemuir**	**77.53**	**5**	P	**P**	**17 19 44.1 +0.6**
ESK				IAmb	IAmb	17 19 45.2	
	comp=Z,31nm,0.9s						
RUE	**Ruedersdorf**	**77.63**	**16**	*e*P	**P**	**17 19 44.7 +0.6**
KWP	**Kalwaria Pacla**	**77.81**	**22**	*e*P	**P**	**17 19 45.9 +0.7**
KWP				*e*PcP	**PcP**	**17 19 54.9 -0.3**
PURM	**Purcari**	**78.11**	**28**	⇑P	**P**	**17 19 48.1 +1.2**
ESY	**Stoneypath**	**78.17**	**5**	*e*P	**P**	**17 19 47.6 +0.5**
LVV	**L'vov**	**78.44**	**23**	*e*P	**P**	**17 19 48.9 +0.2**
INVG	**Invergeldie, C**	**78.56**	**4**	*e*P	**P**	**17 19 49.5 +0.3**
INVG				IAmb	IAmb	17 19 50.5	
	comp=Z,21nm,0.9s						

KTUT	**Trabzon**	**79.03**	**37**	⇑P	**P**	**17 19 52.7 +0.5**
GKP	**Gorka Klasztor**	**79.25**	**17**	*e*P	**P**	**17 19 53.9 +0.8**
KPL	**Plockton**	**79.37**	**3**	*e*P	**P**	**17 19 53.9 +0.3**
KPL				IAmb	IAmb	17 19 55.0	
	comp=Z,34nm,0.9s						
KAC	**Achnashellach**	**79.55**	**4**	*e*P	**P**	**17 19 54.9 +0.2**
MUD	**Monsted U'grnd**	**80.31**	**12**	*i* P	**P**	**17 20 00.0 +1.3**
MUD				pmax	pmax		
	comp=Z,67nm,1.1s						
MUD	**Monsted U'grnd**	**80.31**	**12**	*i* P	**P**	**17 20 00.0 +1.3**
	comp=Z,67nm,1.1s						
MUD	**Monsted U'grnd**	**80.31**	**12**	*i* P	**P**	**17 20 00.1 +1.3**
MUD				IAmb	IAmb	17 20 01.0	
	comp=Z,67nm,1.1s						
VNDA	**Vanda**	**80.46**	**179**	P	**P**	**17 19 59.3 -0.2**
	comp=Z,9.1nm,0.8s,baz=218,slow=5.1,SNR=53						
VNDA				LR	LR	17 51 29.3	
	comp=Z,229nm,19.8s,baz=180,slow=33						
VNDA	**Vanda**	**80.46**	**179**	P	**P**	**17 19 60.0 +0.5**
VNDA				IAmb	IAmb	17 20 09.9	
	comp=Z,35nm,1.4s						
ASHO	**Ashiyiah**	**80.75**	**59**	*i* P	**P**	**17 20 02.7 +0.7**
	SNR=6.6						
SOC	**Sochi**	**80.75**	**35**	*e*P	**P**	**17 19 59.8 -1.6**
SOC				*e*		17 23 01.9	
SOC				*e*S	**S**	**17 30 07.7 -1.3**
SOC				*e*SS	**SS**	**17 35 26.4 +3.4**
SOC				*e*SSS	SSS	17 38 46.0	
SOC				pmax	pmax		
	comp=Z,20nm,1.0s						
SOHO	**SOHO**	**80.86**	**59**	*i* P	**P**	**17 20 03.4 +0.9**
	SNR=7.5						
HATD	**Hatta, Dubai**	**80.87**	**59**	*i* P	**P**	**17 20 03.6 +1.1**
	SNR=5.7						
UOSS	**Minazif**	**80.99**	**59**	P	**P**	**17 20 04.0 +0.8**
UOSS	**Minazif**	**80.99**	**59**	P	**P**	**17 20 03.7 +0.5**
UOSS				IAmb	IAmb	17 20 04.9	
	comp=Z,17nm,0.8s						
AKASG	**Malin Array Be**	**81.11**	**25**	P	**P**	**17 20 02.8 -0.3**
	comp=Z,7.8nm,0.7s,baz=222,slow=5.4,SNR=14						
AKASG				PP	**PP**	**17 23 08.6 -0.1**
	comp=Z,0.7nm,0.6s,baz=227,slow=7.3,SNR=5.2						
AKASG				LR	LR	17 57 22.9	
	comp=Z,71nm,18.0s,baz=240,slow=37						
AKASG	**Malin Array Be**	**81.11**	**25**	P	**P**	**17 20 03.2 +0.1**
AKASG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AKASG	**Malin Array Be**	**81.11**	**25**	P	**P**	**17 20 03.2 +0.1**
AKBB	**Malin Array Si**	**81.11**	**25**	*ce*P	**P**	**17 20 02.7 -0.4**
AKBB				pmax	pmax		
	comp=Z,12nm,0.8s						
AKBB	**Malin Array Si**	**81.11**	**25**	P	**P**	**17 20 03.1 -0.1**
SHME	**Shamm**	**81.48**	**58**	P	**P**	**17 20 06.5 +0.7**
BANOM	**Banah**	**81.55**	**58**	P	**P**	**17 20 06.7 +0.5**
SUW	**Suwalki**	**81.67**	**20**	*e*P	**P**	**17 20 06.3 +0.3**
SHA1	**Shidzhatmaz**	**82.46**	**37**	*i* P	**P**	**17 20 11.8 +1.0**
ZEI	**Tsey**	**82.55**	**38**	*e*P	**P**	**17 20 11.8 +0.6**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KBZ	**Khabaz**	**82.58**	**37**	P	**P**	**17 20 11.2 +0.2**
	comp=Z,6.0nm,1.0s,baz=296,slow=4.3,SNR=7.3						
KBZ	**Khabaz**	**82.58**	**37**	*ce*P	**P**	**17 20 12.1 +1.0**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**82.61**	**36**	P	**P**	**17 20 13.1 +1.7**
KIV	**Kislovodsk**	**82.61**	**36**	*e*P	**P**	**17 20 12.1 +0.7**
KIV				*e*S	**S**	**17 30 31.0 +2.6**
KIV				*e*SS	**SS**	**17 35 54.1 +3.2**
KIV				pmax	pmax		
	comp=Z,57nm,1.1s						
KIV				pmax	pmax		
	comp=Z,52nm,3.3s						
KIV				MLR	MLR		
	comp=Z,247nm,19.0s						
PBUR	**Paburge**	**83.00**	**18**	*e*P	**P**	**17 20 13.2 +0.3**
PABE	**Paberze**	**83.17**	**20**	*e*P	**P**	**17 20 14.0 +0.2**
KONO	**Kongsberg**	**83.40**	**11**	*ce*P	**P**	**17 20 17.0 +2.0**
KONO				pmax	pmax		
	comp=Z,27nm,1.7s						
GOF	**Gofitskoye**	**83.52**	**36**	⇑*e*P	**P**	**17 20 16.9 +1.0**
GOF				pmax	pmax		
	comp=Z,46nm,1.1s						
NACGM	**Naroch**	**83.58**	**21**	*e*	**P**	**17 20 15.0 -1.0**
IIGN	**Ignalina**	**83.76**	**21**	*e*P	**P**	**17 20 17.6 +0.7**
IDID	**Didziasalis**	**83.91**	**21**	*e*P	**P**	**17 20 18.9 +1.3**
ISAL	**Salakas**	**83.91**	**21**	*e*P	**P**	**17 20 17.6 -0.1**
IZAR	**Zarasai**	**84.10**	**21**	*e*P	**P**	**17 20 18.4 -0.2**
MAK	**Makhachkala**	**84.74**	**39**	*e*P	**P**	**17 20 18.7 -3.5**
MAK				*e*		17 30 39.7	
MAK				pmax	pmax		
	comp=Z,255nm,1.3s						
MAK				MLR	MLR		
	comp=Z,74nm,13.0s						
NB2	**NORSAR Subarra**	**84.99**	**11**	P	**P**	**17 20 23.9 +0.8**
	comp=Z,9.5nm,0.9s,baz=201,slow=5.3						
NOA	**NORSAR Array B**	**84.99**	**11**	P	**P**	**17 20 24.1 +1.0**
	comp=Z,6.5nm,0.9s,baz=201,slow=5.2,SNR=15						
NOA				LR	LR	17 59 54.6	
	comp=Z,198nm,18.2s,baz=205,slow=37						
NC303	**NORSAR Array S**	**85.19**	**11**	P	**P**	**17 20 24.5 +0.5**
VORD	**Divnogorie**	**85.59**	**30**	*e*P	**P**	**17 20 25.6 -0.6**
VORD				pmax	pmax		
	comp=Z,20nm,1.2s						
VSR	**Storozhevoye**	**85.71**	**29**	*e*P	**P**	**17 20 26.9 +0.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
D62A	**Allapoint, All**	**86.00**	**325**	P	**P**	**17 20 28.6 +0.2**
D62A				IAmb	IAmb	17 20 39.2	
	comp=Z,26nm,0.9s						
VSU	**Vasula**	**86.47**	**19**	*e*P	**P**	**17 20 30.5 +0.1**
LPSR	**Galich'ya Gora**	**86.56**	**28**	*e*P	**P**	**17 20 30.8 -0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRH	**Novokhopyorsk**	**86.88**	**30**	*e*P	**P**	**17 20 31.7 -0.9**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN	**Obninsk**	**87.36**	**25**	⇑*e*P	**P**	**17 20 37.3 +2.5**
OBN				*e*		17 23 57.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,233nm,17.0s						
MOS	**Moscow**	**88.22**	**25**	*e*P	**P**	**17 20 37.7 -1.2**
MOS				*e*		17 24 02.4	
FINES	**FINESS Array B**	**88.73**	**17**	P	**P**	**17 20 41.9 +0.7**
	comp=Z,3.3nm,0.6s,baz=186,slow=4.0,SNR=31						
FINES				LR	LR	18 01 11.5	
	comp=Z,483nm,19.5s,baz=226,slow=36						
FINES	**FINESS Array B**	**88.73**	**17**	P	**P**	**17 20 42.1 +0.9**
GEYT	**Alibeck**	**88.80**	**48**	P	**P**	**17 20 43.0 +0.8**
	comp=Z,1.4nm,0.6s,baz=239,slow=8.2,SNR=4.8						
GEYT				PP	**PP**	**17 24 06.8 -4.8**
	comp=Z,3.2nm,1.0s,baz=235,slow=22,SNR=3.7						
GEYT				LR	LR	17 59 55.1	
	comp=Z,138nm,18.8s,baz=215,slow=35						
SCHQ	**Schefferville**	**89.88**	**332**	LR	LR	17 53 55.1	
	comp=Z,488nm,21.1s,baz=118,slow=31						
BELG	**Belogornoye**	**90.47**	**32**	*i* P	**P**	**17 20 51.0 +1.5**
KLMR	**Klimovskoe**	**92.53**	**23**	*e*PP	PP	17 24 40.9 +0.3
KLMR				AMP		17 24 44.4	
	comp=Z,19nm,1.5s						
KIRV	**Kirov**	**94.96**	**27**	*ce*P	**P**	**17 21 11.1 +1.0**
PRGR	**Permogore**	**95.27**	**24**	*e*P	**P**	**17 21 11.8 +0.3**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARCES	**ARCESS Array B**	**95.29**	**12**	PP	**PP**	**17 25 00.6 -1.4**
	comp=Z,10nm,1.1s,baz=357,slow=6.1,SNR=7.7						
ARCES				LR	LR	18 03 34.0	
	comp=Z,181nm,20.7s,baz=265,slow=35						
ARU	**Arti**	**98.03**	**32**	*i* P	Pdif	17 21 25.4 +1.2
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**102.00**	**297**	PP	**PP**	**17 25 55.2 +0.7**
	comp=Z,0.3nm,0.9s,baz=106,slow=6.7,SNR=1.5						
ZALV	**Zalesovo Beam**	**111.50**	**39**	PP	**PP**	**17 27 03.6 +0.1**
	comp=Z,0.5nm,0.4s,baz=273,slow=7.9,SNR=2.0						
WMQ	**Urumqi**	**111.75**	**50**	*e*PKP	**PKiKP**	**17 26 23.1 0.0**
CMAR	**Chiang Mai Arr**	**115.53**	**79**	PKP	**PKPdf**	**17 26 30.0 -0.9**
	comp=Z,0.1nm,0.3s,baz=228,slow=3.5,SNR=1.6						
CMAR	**Chiang Mai Arr**	**115.53**	**79**	PKIKP	**PKPdf**	**17 26 30.0 -0.9**
NVAR	**Mina Array Bea**	**115.97**	**303**	PKKPbc	PKKPbc	17 37 01.7 -1.2
	comp=Z,0.2nm,0.4s,baz=232,slow=4.4,SNR=1.6						
GTA	**Gaotai**	**120.18**	**56**	*e*PKP	**PKiKP**	**17 26 41.6 +2.0**
STKI	**Sintang**	**120.68**	**104**	PKP	**PKiKP**	**17 26 43.0 +1.9**
INK	**Inuvik**	**121.94**	**338**	PKP	**PKPdf**	**17 26 40.7 -1.1**

	comp=Z,1.7nm,0.6s,baz=160,slow=1.3,SNR=4.6						
ASAR	**Alice Springs**	**123.58**	**142**	PKP	**PKPdf**	**17 26 45.9 -0.6**
	comp=Z,1.3nm,0.7s,baz=194,slow=2.0,SNR=21						
ASAR				PKKPbc	**PKKPbc**	**17 36 31.6 -2.8**
	comp=Z,0.5nm,1.0s,baz=53,slow=4.3,SNR=2.4						
SONM	**Songino Array**	**124.97**	**46**	PKP	**PKPdf**	**17 26 47.8 -0.6**
	comp=Z,1.5nm,1.0s,baz=206,slow=1.6,SNR=5.9						
WRA	**Warramunga Arr**	**126.71**	**139**	PKP	**PKPdf**	**17 26 51.8 -0.7**
	comp=Z,1.1nm,0.5s,baz=241,slow=2.1,SNR=17						
BCAR	**Beaver Creek A**	**127.21**	**334**		**PKiKP**	**17 26 52.7 +0.1**
ILAR	**Eielson Array**	**128.30**	**337**	PKP	**PKPdf**	**17 26 53.9 -0.2**
	comp=Z,2.3nm,0.8s,baz=329,slow=1.2,SNR=9.2						
HHC	**Hu-ho-hao-te**	**129.20**	**55**	*e*PKP	**PKiKP**	**17 26 57.8 +0.4**
BILL	**Bilibino**	**134.11**	**1**	⇓*e*PKIKP	**PKPdf**	**17 27 04.9 -0.1**
BILL				*e*		17 29 39.6	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NJ2	**Nanjing**	**135.39**	**66**	*e*PKP	**PKPdf**	**17 27 04.0 -4.4**
SEY	**Seymchan**	**137.88**	**11**	PKP	**PKPdf**	**17 27 11.8 -0.4**
	comp=Z,4.0nm,0.8s,baz=141,slow=6.5,SNR=5.2						
SEY	**Seymchan**	**137.88**	**11**	*i* PKIKP	**PKiKP**	**17 27 13.2 -0.9**
CN2	**Changchun**	**138.79**	**48**	*e*PKP	**PKPdf**	**17 27 11.6 -2.8**
KSRS	**Korea Array**	**142.25**	**57**	PKhKP	PKPpre	17 27 16.9	
	comp=Z,1.7nm,0.8s,baz=300,slow=4.1,SNR=4.4						
JNU	**Nakatsue**	**145.42**	**63**	PKPbc	**PKPbc**	**17 27 26.2 -0.4**
	comp=Z,11nm,1.0s,baz=326,slow=3.6,SNR=1.4						
PETK	**Petropavlovsk-**	**148.10**	**12**	PKPbc	**PKPbc**	**17 27 33.6 0.0**
	comp=Z,4.4nm,0.8s,baz=82,slow=5.5,SNR=5.4						
PET	**Petropavlovsk**	**148.35**	**11**	*c i*PKP2	**PKPbc**	**17 27 34.8 +0.6**
PET				pmax	pmax		
	comp=Z,327nm,1.7s						
ASAJ	**Asahikawa**	**149.63**	**38**	PKPbc	**PKPbc**	**17 27 36.1 -1.7**
	comp=Z,7.9nm,0.8s,baz=191,slow=33,SNR=1.9						
MAT	**Matsushiro**	**150.40**	**54**	PKP	**PKPdf**	**17 27 32.4 -2.3**
MJAR	**Matsushiro Arr**	**150.41**	**54**	PKPbc	**PKPbc**	**17 27 40.0 0.0**
	comp=Z,6.4nm,0.9s,baz=294,slow=1.9,SNR=15						
MJAR	**Matsushiro Arr**	**150.41**	**54**	PKIKP	**PKPbc**	**17 27 40.0 0.0**

IDC ***12*** *17:10:11.2±2.0, 55.37N×168.48E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/45, mbtmp3.5/5, ML2.2/1, MS3.8/2, Ms1 3.7/2, ms1mx2.7/47, Error ellipse: s-maj=70.6km s-min=23.8km az=172.0*

KRSC ***12*** *17:10:14.7±1.1, 54.80N×167.88E, h41km±24km, ML3.7*

ISC 12 17:10:14.5±1.3, 54.9N±0.2×168.4E±0.1, h35km, n20, σ1.9s66/15, mb3.6/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**3.43**	**295**	*e*P	**Pn**	**17 11 06.1 +0.8**
TUMD	**Tumrok D**	**4.60**	**277**	*e*P	**Pn**	**17 11 21.8 +0.3**
TUMR	**Tumrok**	**4.75**	**278**	*e*P	**Pn**	**17 11 24.6 +1.0**
SPN	**Mys Shipunski**	**5.24**	**254**	*e*P	**Pn**	**17 11 30.7 +0.5**
SPN				*e*S	**Sn**	**17 12 26.7 -2.6**
AVH	**Avacha**	**5.90**	**258**	*e*P	**Pn**	**17 11 40.2 +0.9**
KRX	**Arik**	**5.92**	**259**	*e*P	**Pn**	**17 11 40.7 +1.0**
MTVR	**Mutnovka**	**6.51**	**253**	*e*P	**Pn**	**17 11 49.0 +1.2**
MTVR				*e*S	**Sn**	**17 12 58.8 -2.1**
PETK	**Petropavlovsk-**	**6.54**	**259**	Pn	**Pn**	**17 11 49.3 +1.2**
	0.3nm,0.3s,baz=63,slow=18,SNR=9.0						
PETK				Sn	**Sn**	**17 13 02.2 +0.9**
	0.1nm,0.3s,baz=61,slow=15,SNR=2.1						
ILAR	**Eielson Array**	**24.04**	**48**	P	**P**	**17 15 22.4 -3.4**
	0.4nm,0.6s,baz=256,slow=9.2,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**35.10**	**182**	T	T	17 54 08.7	
	baz=1.2,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**35.12**	**182**	T	T	17 54 00.2	
	baz=1.2,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**35.12**	**182**	T	T	17 54 00.4	
	baz=1.2,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**36.32**	**183**	T	T	17 55 26.7	
	baz=1.1,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.34**	**183**	T	T	17 55 34.3	
	baz=1.1						
H11S2	**WAKE ISLAND Hy**	**36.34**	**183**	T	T	17 55 35.4	
	baz=1.1,slow=74						
KURBB	**Kurchatov Arra**	**50.94**	**305**	P	**P**	**17 19 12.9 +1.0**
	0.6nm,0.2s,baz=54,slow=7.4,SNR=8.5						
MKAR	**Makanchi Array**	**51.68**	**299**	P	**P**	**17 19 17.6 0.0**
	0.4nm,0.5s,baz=47,slow=6.4,SNR=5.3						
PFO	**Pinyon Flats O**	**55.03**	**80**	LR	LR	17 40 25.0	
	comp=Z,76nm,20.9s,baz=242,slow=33						
TXAR	**Lajitas Array**	**65.44**	**74**	P	**P**	**17 20 55.2 +1.5**
	0.3nm,0.7s,baz=291,slow=4.6,SNR=4.3						
**

DALK eS Sn 17 39 36.8 +0.9
GNL Ganaly 3.26 246 eP Pn 17 38 59.4 +1.3
PET Petropavlovsk 3.29 232 eP Pn 17 38 59.3 +0.9
PET eS Sn 17 39 36.6 -0.6
KRMR Karymshinskiy 3.66 233 eP Pn 17 39 06.1 +2.6
KRMR eS Sn 17 39 48.5 +2.3
PETK Petropavlovsk- 3.70 239 Pn Pn 17 39 04.7 +0.7
1.5nm,0.3s,baz=66,slow=18,SNR=43
PETK Sn Sn 17 39 49.7 +2.6
3.3nm,0.3s,baz=46,slow=15,SNR=12
RUS Russkaya 3.77 226 eP Pn 17 39 05.9 +0.9
RUS eS Sn 17 39 48.3 -0.6
GRL Gorelyy 3.87 230 eP Pn 17 39 08.6 +2.1
GRL eS Sn 17 39 54.0 +2.3
MTVR Mutnovka 3.87 229 eP Pn 17 39 08.6 +2.1
MTVR eS Sn 17 39 52.8 +1.1
APC Apacha 4.07 240 eP Pn 17 39 09.1 0.0
ASAK Asacha 4.07 230 eP Pn 17 39 11.4 +2.3
ASAK eS Sn 17 39 59.4 +3.0
KDTR Khodutka, Kamc 4.42 223 eP Pn 17 39 14.1 +0.2
KDTR eS Sn 17 40 02.2 -2.6
MJAR Matsushiro Arr 25.13 233 P P 17 43 31.4 -0.1
0.6nm,0.5s,baz=52,slow=7.2,SNR=6.9
MJAR LR LR 17 54 06.1
comp=Z,20nm,19.6s,baz=175,slow=38
ILAR Eielson Array 26.19 48 P P 17 43 39.8 -1.1
0.5nm,1.0s,baz=264,slow=8.7,SNR=3.5
FINES FINESS Array B 58.91 337 P P 17 48 04.1 -1.1
1.3nm,0.7s,baz=31,slow=8.9,SNR=7.5
WRA Warramunga Arr 78.65 207 P P 17 50 08.1 -0.3
0.3nm,0.8s,baz=4.2,slow=5.9,SNR=2.5
ASAR Alice Springs 82.32 207 P P 17 50 28.6 +0.5
0.1nm,0.5s,baz=18,slow=4.5,SNR=4.3

IDC **12** *17:44:36.9±1.4,36°.61N×140°.94E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.6/36, mbtmp3.8/9, ML3.1/2, MS4.2/3, Ms1 4.2/3, ms1mx3.0/59, Error ellipse: s-maj=36.6km s-min=20.8km az=82.0*
JMA **12** *17:44:39.2, 36°.69N×140°.64E, h8km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs=290.00000°, δ37.00000°, λ-122.00000°. NP2: ϕs=147.00000°, δ59.00000°, λ-69.00000°. Principal axes: T Plg12.0000°, Azm222.0000°; N Plg18.0000°, Azm316.0000°; P Plg68.0000°, Azm101.0000°;*
JMA Felt III J1.
NIED **12** *17:44:39.2, 36°.69N×140°.64E, h8km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-0.98; Mθθ 0.45; Mϕϕ 0.53; Mrθ 1.15; Mθϕ -1.58; Mϕr 0.33; Fault plane solution: Mo 2.16000×10^14 NP1: ϕs=280.00000°, δ69.00000°, λ-137.00000°. NP2: ϕs=172.00000°, δ51.00000°, λ-27.00000°.*

ISC 12 17:44:38.2±1.3, 36°.68N±0°.03×140°.71E±0°.06, h6km±8km, n30, σ0°93/31, mb3.8/7, MS4.1/3, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.13	240	↑P	Pg	17 44 41.4	+0.4
JHO				S	Sg	17 44 43.3	+0.4
JHYU	Hitachinakayam	0.35	197	↑P	Pb	17 44 46.2	-0.7
JHYU				S	Sb	17 44 51.4	-1.3
ONAJ	Iwakimizuishiy	0.43	9	↑P	Pb	17 44 47.5	-0.8
ONAJ				S	Sb	17 44 53.4	-1.7
JFFD	Fukushimafurud	0.43	344	↑P	Pg	17 44 47.0	+0.4
JFFD				S	Sg	17 44 52.4	+0.2
JYT	Yasato	0.61	223	↑P	Pg	17 44 50.3	+0.3
JYT				S	Sg	17 44 58.3	+0.3
JFK	Kawauchi	0.70	11	↑P	Pb	17 44 52.3	-0.6
JFK				S	Sb	17 45 01.9	-0.9
JSB	Shiboa	0.70	295	P	Pg	17 44 52.2	+0.5
JSB				S	Sg	17 45 00.9	+0.1
JFT	Otama	0.89	340	↑P	Pg	17 44 55.5	+0.1
JFT				eS	Sg	17 45 06.9	-0.1
JAG	Ashikaga	1.04	256	P	Pg	17 44 57.1	-1.2
JFY	Yanaizu	1.09	312	P	Pg	17 44 58.7	-0.4
JFY				eS	Sg	17 45 12.3	-0.9
MJAR	Matsushiro Arr	2.02	267	Pn	Pn	17 45 12.8	-0.1
	3.5nm,0.3s,baz=81,slow=13,SNR=130						
MJAR				Sn	Sn	17 45 38.3	-0.1
	3.1nm,0.3s,baz=108,slow=20,SNR=4.0						
MAT	Matsushiro	2.02	267	P	Pn	17 45 12.8	-0.1
MAT				S	Sn	17 45 38.5	0.0
ASAJ	Asahikawa	7.57	10	Pn	Pn	17 46 29.4	+0.3
	0.4nm,0.3s,baz=216,slow=14,SNR=9.0						
JCJ	Chichijima	9.63	172	LR	LR	17 50 32.9	
	comp=Z,66nm,18.1s,baz=106,slow=37						
YAK	Yakutsk	26.30	348	P	P	17 50 14.0	-0.2
	2.8nm,0.5s,baz=182,slow=0.7,SNR=4.4						
SONM	Songino Array	27.52	305	P	P	17 50 27.3	+1.7
	0.3nm,0.4s,baz=106,slow=11,SNR=2.3						
H11N2	WAKE ISLAND Hy	28.46	119	T	T	18 20 20.1	
	baz=312,slow=75,SNR=116						
H11N1	WAKE ISLAND Hy	28.46	119	T	T	18 20 18.4	
	baz=312,slow=75,SNR=112						
H11N3	WAKE ISLAND Hy	28.47	119	T	T	18 20 19.5	
	baz=312,slow=75,SNR=110						
H11S1	WAKE ISLAND Hy	29.15	121	T	T	18 21 05.4	
	baz=314,slow=76,SNR=590						
H11S3	WAKE ISLAND Hy	29.15	121	T	T	18 21 10.4	
	baz=314,slow=76,SNR=566						
H11S2	WAKE ISLAND Hy	29.16	121	T	T	18 21 06.3	
	baz=314,slow=76,SNR=310						
CMAR	Chiang Mai Arr	40.86	255	LR	LR	18 09 10.2	
	comp=Z,244nm,19.1s,baz=287,slow=36						
ZALV	Zalesovo Beam	41.74	313	P	P	17 52 29.6	+1.7
	0.9nm,0.5s,baz=91,slow=7.4,SNR=5.1						
NRIK	Noril'sk	43.36	336	P	P	17 52 40.3	-0.6
	2.2nm,0.6s,baz=104,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	43.83	302	P	P	17 52 47.5	+2.4
	0.5nm,0.8s,baz=81,slow=10,SNR=4.0						
WRA	Warramunga Arr	56.63	187	P	P	17 54 21.1	-1.1
	0.8nm,0.8s,baz=3.2,slow=7.6,SNR=5.4						
CTA	Charters Tower	56.70	174	LR	LR	18 17 57.2	
	comp=Z,266nm,19.5s,baz=168,slow=35						
ASAR	Alice Springs	60.36	187	P	P	17 54 47.8	-0.4
	0.3nm,0.9s,baz=0.7,slow=6.1,SNR=2.3						
DZM	Mont Dzumac	63.28	153	LR	LR	18 20 16.3	
	comp=Z,136nm,20.5s,baz=213,slow=34						

JSN **12** *18:03:51.8±6.2, 14°.94N×75°.53W, h0km±999km*
OSPL **12** *18:03:52.7±0.5, 19°.70N×74°.88W, h97km±5km, ML4.0*
SSNC **12** *18:03:53.1±1.3, 19°.85N×74°.32W, h12km±8km, MD3.8, ML3.8, MW3.8*

ISC 12 18:03:53.4±1.3, 20°.03N±0°.05×74°.48W±0°.03, h18km±3km, n15, σ1°44/25, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.27	58	eP	Pg	18 03 59.6	+0.1
MASC				eS	Sb	18 04 05.7	+1.9
MASC				IAML		18 04 06.1	
	comp=N,3μm,0.2s						
MASC				IAML		18 04 06.3	
	comp=E,4μm,0.2s						
GTBY	Guantanamo Bay	0.61	260	i P	Pn	18 04 06.1	-1.1
GTBY				eS	Sn	18 04 16.4	0.0
GTBY				IAML		18 04 22.3	
	comp=Z,7μm,0.8s						
GTMO	Guantanamo	0.63	274	eP	Pg	18 04 05.5	-0.4
GTMO				eS	Sg	18 04 14.2	-0.1
GTMO				IAML		18 04 16.1	
	comp=E,17μm,0.3s						
GTMO				IAML		18 04 16.3	
	comp=N,14μm,0.3s						
MOAC	Moa	0.77	324	eP	Pn	18 04 09.8	+0.4
MOAC				eS	Sn	18 04 21.8	+1.3
MOAC				IAML		18 04 28.6	
	comp=N,1μm,0.5s						
MOAC				IAML		18 04 28.8	
	comp=E,956nm,0.5s						
RCC	Rio Carpintero	1.15	268	eP	Pn	18 04 14.0	-0.6
RCC				eS	Sn	18 04 29.3	-0.6
RCC				IAML		18 04 30.5	
	comp=E,888nm,0.4s						
RCC				IAML		18 04 30.9	
	comp=N,1μm,0.3s						
LGNH	Logne	2.33	130	i P	Pn	18 04 29.9	-0.9
LGNH				eS	Sn	18 04 57.0	-2.0
LGNH				IAML		18 05 03.5	
	comp=Z,126nm,1.0s						
LMGC	Las Mercedes	2.38	271	eP	Pn	18 04 31.9	+0.4
LMGC				eS	Sn	18 05 00.6	+0.4
LMGC				IAML		18 05 04.1	
	comp=E,325nm,0.3s						
LMGC				IAML		18 05 05.2	
	comp=N,486nm,0.1s						
CMJ	Castle Mountai	2.60	224	i P	Pg	18 04 45.0	+1.5
STH	Stony Hill	2.94	229	i P	Pn	18 04 40.7	+1.3
HOJ	Hope	2.95	227	i P	Pb	18 04 46.1	+0.6
SDDR	Presa de Saban	3.18	109	i P	Pn	18 04 42.9	+0.2
SDDR				eS	Sn	18 05 20.0	-0.2
SDDR				IAML		18 05 47.3	
	comp=Z,316nm,0.5s						
CCCC	Cccc	3.29	291	eP	Pn	18 04 42.8	-1.3
CCCC				eS	Sn	18 05 18.5	-4.3
CCCC				IAML		18 05 22.6	
	comp=E,75nm,0.5s						
CCCC				IAML		18 05 23.9	
	comp=N,86nm,0.4s						
PCJ	Portland Cotta	3.41	229	i P	Pn	18 04 39.7	-6.1
MCJ	Malvern	3.69	236	i P	Pn	18 04 50.6	+0.9
MCJ				i S	Sn	18 05 30.6	-2.2
MGV	Manicaragua	5.54	293	eP	Pn	18 05 16.0	+1.0
MGV				eS	Sn	18 06 18.6	+0.3
MGV				IAML		18 06 23.2	
	comp=E,58nm,0.6s						
MGV				IAML		18 06 23.5	
	comp=N,77nm,0.7s						

IDC **12** *18:04:17.7±3.2, 32°.99N×141°.79E, h47km±25km, mb3.5/7, mb1 3.7/10, mb1mx3.4/67, mbtmp3.8/10, ML3.5/3, Error ellipse: s-maj=41.0km s-min=20.2km az=83.0*
JMA **12** *18:04:19.2±0.1, 33°.02N×141°.55E, h72km, M4.0*

ISC 12 18:04:18.9±2.0, 32°.97N±0°.07×141°.6E±0°.1, h54km±16km, n29, σ0°88/38, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.52	276	P	Pn	18 04 44.2	+0.4
JHCJ	Hachijojimakas	1.54	274	P	Pn	18 04 44.1	+0.1
JHCJ				eS	Sn	18 05 02.9	0.0
JHJ	Hachijo jima 2	1.55	276	P	Pn	18 04 44.3	+0.1
	217nm,0.3s,baz=70,slow=22,SNR=85						
JHJ				S	Sn	18 05 02.5	-0.8
	184nm,0.3s,baz=155,slow=22,SNR=12						
JAOM	Aogashimamukai	1.65	253	P	Pn	18 04 46.1	+0.6
JAOM				eS	Sn	18 05 05.7	+0.1
BSO1	Boso 1	1.76	342	P	Pn	18 04 47.6	+1.1
BSO1				eS	Sn	18 05 08.7	+1.2
JMKN	Mikurajimanish	1.93	299	P	Pn	18 04 49.8	+0.4
BSO3	Boso 3	2.05	333	P	Pn	18 04 51.6	+0.9
JIM2	Oshima 3	2.52	314	P	Pn	18 04 57.6	+0.2
JIM2				eS	Sn	18 05 25.9	-1.1
JIZS	Izushimoda	2.87	308	P	Pn	18 05 03.1	+0.9
JIZS				S	Sn	18 05 35.5	-0.1
JOD2	Odawara 2	3.11	318	P	Pn	18 05 05.8	+0.4
JOD2				eS	Sn	18 05 40.5	-0.8
TK02	Tokai 2	3.38	288	P	Pn	18 05 10.6	+1.7
JHU	Hanno	3.46	327	P	Pn	18 05 11.0	+0.7
JYN	Shimob	3.59	315	P	Pn	18 05 13.2	+1.1
JHO	Hitachi	3.73	347	P	Pn	18 05 13.8	-0.2
JRY	Ryogami san	3.78	324	P	Pn	18 05 15.4	+0.7
JRY				eS	Sn	18 05 58.1	+0.2
JAG	Ashikaga	3.88	333	S	Sn	18 06 00.2	-0.1
MJAR	Matsushiro Arr	4.54	323	P	Pn	18 05 25.5	+0.5
	0.8nm,0.3s,baz=244,slow=8.1,SNR=76						
MJAR				S	Sn	18 06 14.3	-2.2
	0.6nm,0.3s,baz=126,slow=14,SNR=4.3						
MAT	Matsushiro	4.54	323	P	Pn	18 05 26.5	+1.4
MAT				S	Sn	18 06 16.0	-0.5
JFT	Otama	4.66	347	P	Pn	18 05 26.9	+0.2
JCJ	Chichijima	5.88	175	S	Sn	18 06 40.0	-9.4
	25nm,0.3s,baz=302,slow=23,SNR=2.3						
JNU	Nakatsue	9.02	274	P	Pn	18 06 26.7	+0.1
	0.4nm,0.3s,baz=0.0,slow=9.1,SNR=1.6						
ASAJ	Asahikawa	11.15	4	P	Pn	18 06 53.2	-2.3
	0.5nm,0.3s,baz=198,slow=15,SNR=7.0						
ASAJ				S	Sn	18 08 47.1	-12
	0.2nm,0.3s,baz=29,slow=33,SNR=1.6						
SONM	Songino Array	30.36	310	P	P	18 10 26.1	+0.5
	0.7nm,0.8s,baz=116,slow=10,SNR=4.0						
ZALV	Zalesovo Beam	44.85	315	P	P	18 12 27.4	-0.1
	0.2nm,0.2s,baz=107,slow=5.0,SNR=3.7						
MKAR	Makanchi Array	46.52	305	P	P	18 12 40.7	-0.1
	1.1nm,0.7s,baz=86,slow=8.7,SNR=8.0						
WRA	Warramunga Arr	53.08	189	P	P	18 13 30.6	-0.2
	0.2nm,0.3s,baz=6.1,slow=7.6,SNR=6.8						
ASAR	Alice Springs	56.80	188	P	P	18 13 57.6	-0.1
	0.2nm,0.9s,baz=4.5,slow=6.5,SNR=1.7						
ARU	Arti	59.55	320	P	P	18 14 16.7	+0.2
	1.1nm,0.4s,baz=90,slow=7.1,SNR=8.9						
FINES	FINESS Array B	72.49	333	P	P	18 15 39.5	+0.1
	2.1nm,1.0s,baz=74,slow=8.1,SNR=5.0						

IDC **12** *18:06:44.6±0.8, 57°.16N×33°.30W, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.3/56, mbtmp3.5/7, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/45, Error ellipse: s-maj=20.7km s-min=16.0km az=24.0*

ISC 12 18:06:46.3±1.4, 57°.2N±0°.2×33°.3W±0°.2, h14km, n8, σ0°88/8, mb3.7/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	9.58	32	Pn	Pn	18 09 04.4	+0.8
	0.5nm,0.3s,baz=118,slow=8.5,SNR=2.0						
BORG				LR	LR	18 11 28.3	
	comp=Z,46nm,18.6s,baz=260,slow=30						
EKA	Eskdalemuir Ar	16.80	83	Pn	Pn	18 10 40.1	-0.7
	baz=288,slow=9.6,SNR=1.8						
AKASG	Malin Array Be	36.21	73	P	P	18 13 47.1	-1.1
	0.3nm,0.5s,baz=302,slow=8.6,SNR=1.6						
ILAR	Eielson Array	48.38	328	P	P	18 15 26.5	-0.6
	0.7nm,1.0s,baz=40,slow=7.3,SNR=4.4						
TORD	Torodi Ar. Bea	51.37	134	P	P	18 15 51.3	+0.9
	0.2nm,0.5s,baz=332,slow=8.1,SNR=1.9						
MKAR	Makanchi Array	63.43	44	P	P	18 17 15.5	+0.4
	0.3nm,0.5s,baz=347,slow=4.0,SNR=2.0						
SONM	Songino Array	70.16	28	P	P	18 17 58.5	+0.3
	0.5nm,0.6s,baz=356,slow=6.5,SNR=3.9						
ASAR	Alice Springs	145.29	21	PKPbc	PKPdf	18 26 23.2	-0.1
	0.9nm,0.8s,baz=350,slow=2.8,SNR=9.1						

IDC **12** *18:08:58.6±0.8, 51°.76N×175°.46W, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/75, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=28.4km s-min=17.9km az=160.0*
AEIC **12** *18:09:04.5±2.1, 51°.58N±0°.09×175°.27W±0°.05, h27km±6km, ML3.8, mb3.9/20(NEIC), Error ellipse: s-maj=13.8km s-min=4.0km az=172.0*
NEIC **12** *18:09:06.3±2.6, 51°.7N±0°.1×175°.31W±0°.05, h60km±5km, Error ellipse: s-maj=14.9km s-min=4.5km az=172.0*

ISC 12 18:09:03.6±0.7, 51°.53N±0°.09×175°.31W±0°.04, h35km, n72, σ1°59/70, mb3.9/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.70	318		Pn	18 09 17.9	+0.9
GSTR	Great Sitkin T	0.73	321	Pn	Pn	18 09 18.6	+1.0
GSTD	Great Sitkin T	0.74	316		Pn	18 09 18.6	+1.0
GSTD					Sn	18 09 29.2	+1.5
GSSP	Great Sitkin S	0.78	317		Pn	18 09 19.3	+1.1
GSSP					Sn	18 09 30.1	+1.4
ADAG	Mount Adagdak	0.93	300		Pn	18 09 21.7	+1.6
ADK	Adak	0.93	293	Pn	Pn	18 09 20.8	+0.7
ATKA	Atka Island	0.96	45	Pn	Pn	18 09 20.5	-0.1
ATKA	Atka Island	0.96	45		Sn	18 09 32.4	-0.7
KOFP	Korovin Flat P	1.06	45		Pn	18 09 22.5	+0.6
KOWE	Korovin West	1.06	37		Pn	18 09 22.9	+0.8
KOSE	Korovin Southe	1.13	43		Pn	18 09 24.1	+1.2
KOSE					Sn	18 09 38.5	+1.3
KIRH	Kanaga Island	1.17	289		Pn	18 09 24.9	+1.4
KIKV	Kanaga Island	1.21	288		Pn	18 09 25.3	+1.2
KIMD	Kanaga Island	1.23	282		Pn	18 09 25.3	+1.1
KICM	Kanaga Island	1.24	289		Pn	18 09 25.7	+1.3
TAPA	Tanaga Point A	1.59	281		Pn	18 09 30.8	+1.6
TAFP	Tanaga Falls P	1.71	284		Pn	18 09 32.6	+1.7
TASE	Tanaga Southea	1.73	281		Pn	18 09 33.1	+1.9
GALAA	Gareloi Lava P	2.17	278		Pn	18 09 39.5	+2.3
CERAA	Semis' Rag'd T	3.14	279		Pn	18 09 53.3	+2.8
CESW	Semis' Southwe	3.21	279		Pn	18 09 54.2	+2.6
AMKA	Amchitka	3.38	270	Pn	Pn	18 09 55.4	+1.7
LSPA	Little Sitkin	3.83	279		Pn	18 10 02.3	+2.3
LSNW	Little Sitkin	3.87	279		Pn	18 10 03.0	+2.5
NIKH	Nikolski High	4.22	67	Pn	Pn	18 10 08.0	+2.7
MAPS	Pakushin South	5.58	63		Pn	18 10 26.8	+2.8
OHAK	Old Harbor	14.01	57	Pn	Pn	18 12 18.0	-1.3
KDAK	Kodiak Island	14.52	56	Pn	Pn	18 12 26.5	+0.2
	0.2nm,0.3s,baz=310,slow=6.2,SNR=2.3						
KDAK				Sn	Sn	18 15 12.1	+6.3
	0.1nm,0.3s,baz=181,slow=19,SNR=1.5						
PETK	Petropavlovsk-	16.55	286	Pn	Pn	18 12 52.9	+0.2
	0.1nm,0.3s,baz=91,slow=14,SNR=5.8						
SKT	Skwentna	16.61	42	P	P	18 12 56.5	+0.9
SKT				IAmb	IAmb	18 13 11.5	
	comp=Z,10.0nm,1.4s						
SEW	Seward	16.77	49	P	P	18 12 57.2	-0.2
PPLA	Purkeypile	16.80	38	P	P	18 12 59.3	+1.4
PPLA				IAmb	IAmb	18 13 11.1	
	comp=Z,17nm,1.4s						
KTH	Kantishna Hill	17.64	38	P	P	18 13 08.6	+1.6
KTH				IAmb	IAmb	18 13 13.5	
	comp=Z,17nm,1.2s						
TRF	Thorofare Moun	17.83	38	P	P	18 13 10.8	+1.6
BPAW	Bear Paw Mtn.	17.91	36		P	18 13 11.6	+1.6
BPAW				IAmb	IAmb	18 13 26.1	
	comp=Z,12nm,1.4s						
RND	Reindeer	18.37	40	P	P	18 13 15.1	0.0
FID	Port Fidalgo	18.38	49		P	18 13 13.1	-2.0
DHY	Denali Highway	18.82	41	P	P	18 13 20.5	+0.3
DHY				IAmb	IAmb	18 13 27.4	
	comp=Z,9.8nm,1.4s						
KLU	Klutina	18.86	47	P	P	18 13 21.1	+0.6
KLU				IAmb	IAmb	18 13 27.7	
	comp=Z,16nm,1.5s						
M24K	Tolsona, Glenn	18.96	45	P	Pn	18 13 22.8	+0.4
WRH	Wood River Hil	19.18	37	P	P	18 13 23.4	-0.5
CCB	Clear Creek Bu	19.38	37	P	P	18 13 25.4	-0.6
MDM	Murphy Dome	19.38	36	P	P	18 13 25.4	-0.6
HDA	Harding Lake	19.59	38		P	18 13 28.3	0.0
HDA				IAmb	IAmb	18 13 30.4	
	comp=Z,14nm,1.4s						
IL31		19.78	37	P	P	18 13 30.7	+0.3
IL31				IAmb	IAmb	18 13 49.5	
	comp=Z,8.3nm,1.5s						
ILAR	Eielson Array	19.78	37	P	P	18 13 28.8	-1.6
	comp=Z,0.5nm,0.3s,baz=228,slow=8.7,SNR=32						
ILAR	Eielson Array	19.78	37	P	P	18 13 30.8	+0.4
RIDG	Independent Ri	20.13	41	P	P	18 13 34.2	-0.2
DOT	Dot Lake	20.42	42	P	P	18 13 37.0	-0.4
DOT				IAmb	IAmb	18 13 41.8	
	comp=Z,4.6nm,0.7s						
EGAK	Eagle	22.02	40	P	P	18 13 54.2	-0.3
EGAK				IAmb	IAmb	18 13 58.2	
	comp=Z,3.7nm,0.8s						
HYT	Haines Junctio	22.70	51	P	P	18 14 00.2	-1.8
H11N2	WAKE ISLAND Hy	34.68	210	T	T	18 52 40.5	
	baz=18,slow=76,SNR=72						
H11N3	WAKE ISLAND Hy	34.69	210	T	T	18 52 36.6	
	baz=18,slow=76,SNR=69						
H11N1	WAKE ISLAND Hy	34.70	210	T	T	18 52 38.0	
	baz=18,slow=76,SNR=64						
USRK	Ussuriysk Ar.	35.44	279	P	P	18 15 56.1	-0.1
	comp=Z,0.9nm,0.5s,baz=61,slow=9.2,SNR=4.7						
H11S1	WAKE ISLAND Hy	35.89	210	T	T	18 54 24.5	
	baz=19,slow=76,SNR=92						
H11S2	WAKE ISLAND Hy	35.90	210	T	T	18 54 34.7	
	baz=19,slow=76,SNR=79						
H11S3	WAKE ISLAND Hy	35.90	210	T	T	18 54 33.6	
	baz=19,slow=76,SNR=31						
NEW	Newport	36.77	72	P	P	18 16 07.9	+0.3
	comp=Z,1.2nm,0.4s,baz=274,slow=5.7,SNR=6.0						
PDAR	Pinedale Array	44.17	74	P	P	18 17 09.4	+0.4
	comp=Z,1.3nm,0.4s,baz=295,slow=4.9,SNR=1.4						
SONM	Songino Array	48.52	298	PcP	PcP	18 19 04.9	-3.6
	comp=Z,0.4nm,0.6s,baz=60,slow=3.5,SNR=2.6						
MKAR	Makanchi Array	61.63	310	P	P	18 19 15.9	-1.5
	comp=Z,0.2nm,0.3s,baz=38,slow=6.5,SNR=8.4						
BVAR	Borovoye Array	62.16	321	P	P	18 19 19.5	-1.3
	comp=Z,0.2nm,0.4s,baz=168,slow=7.6,SNR=7.0						
FINES	FINESS Array B	66.09	349	P	P	18 19 44.8	-1.6
	comp=Z,1.2nm,0.8s,baz=26,slow=7.7,SNR=2.1						
HFS	Hagfors	68.46	355	P	P	18 19 59.8	-1.6
	comp=Z,0.7nm,0.6s,baz=64,slow=6.6,SNR=4.3						
CMAR	Chiang Mai Arr	73.16	279	P	P	18 20 31.0	+0.3
	comp=Z,0.4nm,0.5s,baz=23,slow=7.3,SNR=5.2						
AKASG	Malin Array Be	76.04	344	P	P	18 20 45.6	-1.3
	comp=Z,0.2nm,0.3s,baz=25,slow=6.0,SNR=2.1						
WRA	Warramunga Arr	83.67	227	P	P	18 21 28.5	0.0
	comp=Z,0.3nm,0.5s,baz=32,slow=5.7,SNR=5.0						
ASAR	Alice Springs	87.11	225	P	P	18 21 46.3	+0.7
	comp=Z,0.6nm,0.8s,baz=38,slow=4.7,SNR=5.1						
TORD	Torodi Ar. Bea	115.54	3	PKP	PKiKP	18 27 41.0	-1.0
	comp=Z,0.3nm,0.6s,baz=5.5,slow=2.4,SNR=2.5						
MAW	Mawson	147.94	218	PKPbc	PKPbc	18 28 44.3	+0.8
	comp=Z,1.2nm,0.6s,baz=168,slow=5.0,SNR=7.0						
BOSA	Boshof	152.41	318	PKPbc	PKPbc	18 28 56.1	+0.3
	comp=Z,1.8nm,0.5s,baz=28,slow=3.5,SNR=10.0						

IDC **12** *18:13:44.6±1.2, 43°.74N×105°.38W, h0km, mb4.0/3, mb1 4.0/8, mb1mx3.7/54, mbtmp3.8/8, ML3.2/4, Error ellipse: s-maj=40.2km s-min=7.8km az=152.0*
NEIC **12** *18:13:46.6±0.8, 43°.78N±0°.06×105°.26W±0°.04, h0km±2km, ML3.3/37, Error ellipse: s-maj=10.5km s-min=3.1km az=340.0*

ISC 12 18:13:45.2±0.8, 43°.80N±0°.06×105°.24W±0°.08, h0km, n41, σ1°12/40, mb4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	69	Pg	Pb	18 14 04.7	+0.4
K22A	Casper	1.48	220		Pn	18 14 12.0	-1.2
PHWY	Pilot Hill	2.50	184	Pn	Pn	18 14 28.7	+1.3
PHWY				IAML		18 15 05.8	
	112nm,0.3s						
RWWY	Rawlins	2.56	215	Pn	Pn	18 14 28.7	+0.5
N23A

comp=E,22nm,1.2s
DLMT **Dillon** 5.48 289 Pn Pn 18 15 09.4 +1.3
LRM **Limekiln Ridge** 5.51 294 Pn Pn 18 15 10.1 +1.4
PV22 **Blue Mesa, Par** 5.90 208 Pn Pn 18 15 15.3 +1.3
P17A **Butcher Ranch,** 5.97 225 Pn 18 15 15.7 +0.7
SRU **San Rafael Swe** 6.14 222 Pn 18 15 17.2 -0.1
ECSD **EROS Data Cent** 6.25 88 Pn Pn 18 15 19.8 +1.1
TMUT **Trail Mountain** 6.34 227 Pn 18 15 21.4 +1.2
DUG **Dugway, Tooele** 6.69 240 Pn Pn 18 15 25.5 +0.7
JTMT **Jette** 7.45 305 Pn Pn 18 15 36.8 +1.6
WALA **Waterton Lakes** 7.97 314 Pn Pn 18 15 42.0 -0.3
ELK **Elko** 8.02 251 Pn Pn 18 15 43.7 +0.6
comp=E,0.8nm,0.3s,baz=40,slow=7.0,SNR=10
ELK Lg Lg 18 17 52.5
comp=E,0.1nm,0.3s,baz=186,slow=21,SNR=1.4
I10CA **LAC DU BONNET** 8.98 41 *i* 19 10 10.0
baz=224,slow=311,SNR=1.6
ULM **Lac du Bonnet** 9.08 41 Pn Pn 18 15 56.3 -1.1
comp=E,1.5nm,0.3s,baz=240,slow=11,SNR=17
ULM Pg 18 16 29.1
comp=E,1.1nm,0.3s,baz=229,slow=11,SNR=4.9
ULM Lg Lg 18 18 26.1
comp=E,0.9nm,0.3s,baz=323,slow=20,SNR=2.2
NVAR **Mina Array Bea** 11.21 246 Pn Pn 18 16 27.9 +1.0
comp=E,0.1nm,0.3s,baz=48,slow=12,SNR=3.9
TKL **Tuckaleechee C** 18.37 109 P P 18 18 01.7 +0.2
comp=E,0.2nm,0.3s,baz=165,slow=14,SNR=4.9
ARCES **ARCESS Array B** 61.35 18 P P 18 24 01.8 -0.4
comp=E,3.0nm,1.0s,baz=338,slow=7.1,SNR=5.0
AKASG **Malin Array Be** 77.89 28 P P 18 25 43.6 -0.9
comp=E,0.2nm,0.3s,baz=323,slow=5.4,SNR=2.4
MKAR **Makanchi Array** 89.54 355 P P 18 26 43.9 -0.4
comp=E,0.5nm,0.6s,baz=11,slow=4.5,SNR=4.3

IDC ***12*** *18:13:39.5±2.1,34.°94S×179.°61W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/38, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=46.4km s-min=36.0km az=56.0*
WEL ***12*** *18:14:26.4, 38.°S±41.°×17.°8E±.°, h50km±20km, M2.4/13, ML2.5/13, MLv2.4/13, Error ellipse: s-maj=0.1km s-min=0.0km az=176.5*
ISC 12 18:13:46.4±1.6, 35.°1S±0.°1×179.°8W±0.°2, h39km, n23, σ1§21/23, mb3.9/4, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	3.27	216	P	Pn	18 14 36.6	+1.5
PUZ	**Puketiti**	3.33	208	P	Pn	18 14 36.9	+0.9
RUGZ	**Raukumara Rang**	3.49	215	P	Pn	18 14 38.8	+0.5
CNGZ	**Carnagh Statio**	3.71	205	P	Pn	18 14 41.9	+0.8
MWZ	**Matawai**	3.86	213	P	Pn	18 14 43.4	+0.2
URZ	**Urewera**	4.00	218	Pn	Pn	18 14 44.8	-0.2
	2.2nm,0.3s,baz=247,slow=3.0,SNR=9.7						
URZ				Sn	Sn	18 15 28.8	-1.8
	3.9nm,0.3s,baz=57,slow=23,SNR=2.8						
URZ	**Urewera**	4.00	218	P	Pn	18 14 45.1	0.0
RAGZ	**Rawiri**	4.04	213	P	Pn	18 14 45.7	0.0
RIGZ	**Rimuhau**	4.07	208	P	Pn	18 14 45.9	-0.3
RTZ	**Ruatahuna**	4.34	216	P	Pn	18 14 49.6	-0.2
MTHZ	**Maungataniwha**	4.59	215	P	Pn	18 14 54.1	+0.8
KWHZ	**Kaweka Forest**	5.29	214	P	Pn	18 15 05.1	+2.8
TMVZ	**Te Maari**	5.37	221	P	Pn	18 15 11.8	+7.8
ETVZ	**East Tongariro**	5.38	221	P	Pn	18 15 06.3	+2.2
OTVZ	**Oturere**	5.42	221	P	Pn	18 15 04.8	0.0
OTVZ				P	Pn	18 15 06.5	+1.7
HIZ	**Hauiti**	5.46	230	P	Pn	18 15 11.2	+6.0
MOVZ	**Moawhango**	5.55	218	P	Pn	18 15 06.4	-0.2
LREZ	**Lake Rotokare**	6.33	225	P	Pn	18 15 18.0	+0.8
STKA	**Stephens Creek**	32.23	265	P	P	18 20 12.4	+1.4
	1.5nm,1.0s,baz=90,slow=9.1,SNR=1.0						
ASAR	**Alice Springs**	41.60	273	P	P	18 21 29.7	-1.0
	1.2nm,0.5s,baz=115,slow=7.5,SNR=19						
WRA	**Warramunga Arr**	43.02	278	P	P	18 21 41.8	-0.5
	1.9nm,0.5s,baz=119,slow=7.7,SNR=31						
QSPA	**South Pole Qui**	54.99	180	P	P	18 23 13.7	+0.2
	1.3nm,1.1s,baz=30,slow=5.2,SNR=2.2						
FINES	**FINESS Array B**	148.96	336	PKPbc	PKPbc	18 33 27.8	-1.4
	2.1nm,1.1s,baz=48,slow=2.1,SNR=4.2						

IDC ***12*** *18:16:17.0±1.3, 57.°36N×33.°30W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/48, mbtmp3.6/8, ML3.6/2, MS3.3/11, Ms1 3.3/11, ms1mx3.0/50, Error ellipse: s-maj=38.3km s-min=23.7km az=19.0*
ISC 12 18:16:19.3±1.1, 57.°4N±0.°2×33.°3W±0.°1, h16km, n18, σ0§43/9, mb3.7/6, MS3.2/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	9.39	33	Pn	Pn	18 18 33.7	0.0
	0.4nm,0.3s,baz=158,slow=13,SNR=1.8						
BORG				LR	LR	18 21 17.9	
	comp=Z,99nm,21.6s,baz=238,slow=32						
SFJD	**Kangerlussuaq**	12.54	327	LR	LR	18 23 13.4	
	comp=Z,110nm,20.4s,baz=160,slow=33						
EKA	**Eskdalemuir Ar**	16.77	84	Pn	Pn	18 20 13.2	+0.1
	baz=267,slow=13,SNR=3.3						
FRB	**Frobisher Bay**	18.27	305	LR	LR	18 26 30.0	
	comp=Z,106nm,19.0s,baz=159,slow=34						
SCHQ	**Schefferville**	18.76	277	LR	LR	18 26 54.6	
	comp=Z,100nm,20.4s,baz=94,slow=34						
NOA	**NORSAR Array B**	22.74	62	LR	LR	18 29 25.0	
	comp=Z,25nm,18.2s,baz=275,slow=35						
ESDC	**Sonseca Array**	25.97	120	LR	LR	18 28 46.3	
	comp=Z,51nm,21.0s,baz=195,slow=29						
ARCES	**ARCESS Array B**	27.69	40	LR	LR	18 31 37.2	
	comp=Z,49nm,19.4s,baz=150,slow=33						
SADO	**Sadowa**	30.82	266	LR	LR	18 33 19.0	
	comp=Z,86nm,21.8s,baz=110,slow=33						
AKASG	**Malin Array Be**	36.14	73	P	P	18 23 19.5	-0.7
	0.5nm,0.5s,baz=311,slow=8.5,SNR=2.0						
YKA	**Yellowknife Ar**	38.52	313	LR	LR	18 38 25.2	
	comp=Z,101nm,19.0s,baz=0.0,slow=34						
BRTR	**Keskin Array B**	45.68	83	P	P	18 24 39.7	+0.5
	0.7nm,0.8s,baz=324,slow=7.1,SNR=4.2						
ILAR	**Eielson Array**	48.20	328	P	P	18 24 58.5	+0.1
	0.9nm,0.9s,baz=32,slow=6.4,SNR=6.9						
PDAR	**Pinedale Array**	48.44	287	P	P	18 25 00.7	0.0
	0.5nm,0.6s,baz=72,slow=8.6,SNR=2.4						
PDAR				LR	LR	18 44 33.6	
	comp=Z,51nm,18.2s,baz=294,slow=35						
AKTO	**Aktyubinsk**	50.34	56	LR	LR	18 47 05.9	
	comp=Z,24nm,18.1s,baz=322,slow=37						
TORD	**Torodi Ar. Bea**	51.51	134	P	P	18 25 24.2	+0.1
	0.7nm,0.9s,baz=343,slow=7.5,SNR=3.3						
SONM	**Songino Array**	69.96	28	P	P	18 27 29.8	+0.2
	1.3nm,1.0s,baz=320,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	145.08	21	PKPbc	PKPdf	18 35 55.0	-0.5
	1.8nm,0.8s,baz=343,slow=2.7,SNR=16						

IDC ***12*** *18:41:20.8±0.9, 53.°38N×172.°17E, h0km, mb3.6/13, mb1 3.9/15, mb1mx3.7/41, mbtmp3.7/15, ML2.9/2, Error ellipse: s-maj=26.6km s-min=15.0km az=2.0*
NEIC ***12*** *18:41:24.5±2.5, 53.°4N±0.°1×172.°4E±0.°1, h20km±9km, mb4.5/15, ML3.9(AEIC), Error ellipse: s-maj=21.6km s-min=11.2km az=188.0*
AEIC ***12*** *18:41:31.1±1.6, 53.°67N±0.°08×173.°5E±0.°2, h25km±8km, Error ellipse: s-maj=18.5km s-min=11.7km az=95.0*
ISC 12 18:41:25.4±0.6, 53.°4N±0.°1×172.°28E±0.°05, h35km, n58, σ1§96/53, mb3.8/17, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	4.05	108		Pn	18 42 25.3	+0.5
LSNW					Sn	18 43 06.9	-4.0
LSSA	**Little Sitkin**	4.05	108		Pn	18 42 25.6	+0.7
LSPA	**Little Sitkin**	4.08	108		Pn	18 42 25.7	+0.3
CEAP	**Semis' Anvil P**	4.65	104		Pn	18 42 33.3	+0.2
CESW	**Semis' Southwe**	4.67	105		Pn	18 42 33.3	-0.1
AMKA	**Amchitka**	4.74	112		Pn	18 42 34.9	+0.5
AMKA					Sn	18 43 25.8	-2.2
TASE	**Tanaga Southea**	6.10	101		Pn	18 42 52.4	-0.6
TAFP	**Tanaga Falls P**	6.11	100		Pn	18 42 52.4	-0.8
KIMD	**Kanaga Island**	6.59	100		Pn	18 42 59.4	-0.4
ADK	**Adak**	6.88	98		Pn	18 43 02.7	-1.1
GSTD	**Great Sitkin T**	7.16	96		Pn	18 43 06.0	-1.6
GSMY	**Great Sitkin M**	7.21	96		Pn	18 43 07.1	-1.2
KOKL	**Mount Kliuchef**	8.25	92		Pn	18 43 22.2	-0.4
ATKA	**Atka Island**	8.28	93		Pn	18 43 21.8	-1.1
ATKA					Sn	18 44 50.0	-5.1
PEA0B	**Petropavlovsk-**	8.75	274	Pn	Pn	18 43 29.6	+0.2
PETK	**Petropavlovsk-**	8.75	274	Pn	Pn	18 43 28.9	-0.5
	1.4nm,0.3s,baz=98,slow=17,SNR=31						
PETK					Sn	Sn	18 45 02.5 -4.3
	1.1nm,0.3s,baz=96,slow=19,SNR=8.4						
SEY	**Seymchan**	14.15	320	Pn	Pn	18 44 41.2	-1.9
	0.0nm,0.3s,baz=68,slow=19,SNR=2.7						
OHAK	**Old Harbor**	19.84	65	P	Pn	18 45 53.9	-0.8
KDAK	**Kodiak Island**	20.20	63	P	P	18 45 57.4	+0.7
	6.0nm,0.8s,baz=240,slow=7.2,SNR=8.4						
KDAK	**Kodiak Island**	20.20	63	P	Pn	18 45 57.9	-0.9
KDAK					IAmb	IAmb	18 46 09.9
	comp=Z,44nm,1.4s						
PPLA	**Purkeypile**	20.77	49	P	P	18 46 01.7	-1.4
PPLA					IAmb	IAmb	18 46 11.0
	comp=Z,20nm,1.4s						
CNPM	**China Poot**	20.88	58	Pn	Pn	18 46 05.8	-1.0
CNPM					IAmb	IAmb	18 46 07.4
	comp=Z,26nm,0.8s						
IMAR	**Indian Mountai**	20.96	40		Pn	18 46 07.4	-0.3
BRLK	**Bradley Lake**	21.06	58	Pn	P	18 46 08.0	+1.8
SUA	**Susitna One**	21.23	53		P	18 46 10.7	+2.6
SUA					IAmb	IAmb	18 46 12.0
	comp=Z,16nm,1.0s						
TRF	**Thorofare Moun**	21.72	48		P	18 46 15.3	+2.0
SML	**Sawmill**	22.41	52	P	P	18 46 17.3	-3.4
SML					IAmb	IAmb	18 46 23.6
	comp=Z,22nm,1.2s						
ILAR	**Eielson Array**	23.42	45	P	P	18 46 31.5	+0.6
	comp=Z,1.5nm,0.9s,baz=252,slow=8.7,SNR=12						
YAK	**Yakutsk**	23.94	308	P	P	18 46 35.0	-0.8
	comp=Z,1.6nm,0.4s,baz=88,slow=3.6,SNR=2.4						
DOT	**Dot Lake**	24.51	48	P	P	18 46 41.5	+0.4
DOT					IAmb	IAmb	18 46 43.5
	comp=Z,4.9nm,0.8s						
BMAR	**Burnt Mountain**	24.86	39	P	P	18 46 47.2	+2.9
BCAR	**Beaver Creek A**	25.51	49	P	P	18 46 52.4	+2.1
CTGM	**Chitina Glacie**	25.78	54	P	P	18 46 56.3	+3.5
CTGM					IAmb	IAmb	18 46 59.5
	comp=Z,16nm,1.3s						
EGAK	**Eagle**	25.86	46	P	P	18 46 54.3	+1.1
HYT	**Haines Junctio**	27.65	54	P	P	18 47 15.4	+5.8
H11N2	**WAKE ISLAND Hy**	33.83	189	T	T	19 23 25.3	
	baz=5.9,slow=76,SNR=259						
H11N3	**WAKE ISLAND Hy**	33.84	189	T	T	19 23 26.2	
	baz=5.9,slow=76,SNR=304						
H11N1	**WAKE ISLAND Hy**	33.85	189	T	T	19 23 26.8	
	baz=5.9,slow=76,SNR=306						
H11S1	**WAKE ISLAND Hy**	35.08	189	T	T	19 25 09.0	
	baz=5.8,slow=76,SNR=452						
H11S3	**WAKE ISLAND Hy**	35.08	189	T	T	19 25 03.5	
	baz=5.8,slow=76,SNR=341						
H11S2	**WAKE ISLAND Hy**	35.08	189	T	T	19 25 03.6	
	baz=5.8,slow=76,SNR=252						
SONM	**Songino Array**	40.84	290	P	P	18 49 04.1	+0.5
	comp=Z,0.7nm,0.5s,baz=61,slow=8.4,SNR=7.8						
NVAR	**Mina Array Bea**	48.62	78	P	P	18 50 07.0	+1.2
	comp=Z,1.1nm,0.7s,baz=300,slow=7.8,SNR=7.7						
NVAR	**Mina Array Bea**	48.62	78	P	P	18 50 07.6	+1.8
PDAR	**Pinedale Array**	50.79	68	P	P	18 50 23.2	+1.0
	comp=Z,0.8nm,0.6s,baz=309,slow=4.4,SNR=7.5						
PDAR	**Pinedale Array**	50.79	68	P	P	18 50 22.9	+0.7
CCUT	**Cedar City**	52.10	76	P	P	18 50 33.6	+1.5
KURBB	**Kurchatov Arra**	53.60	308	P	P	18 50 42.6	-0.7
	comp=Z,0.5nm,0.8s,baz=50,slow=7.0,SNR=7.0						
PV13	**Radium Mtn., P**	54.30	72	P	P	18 50 50.2	+1.9
PV13					IAmb	IAmb	18 50 50.8
	comp=Z,5.1nm,0.7s						
MKAR	**Makanchi Array**	54.43	302	P	P	18 50 47.9	-0.9
	comp=Z,0.3nm,0.5s,baz=56,slow=6.0,SNR=4.3						
TXAR	**Lajitas Array**	63.62	76	P	P	18 51 53.8	+1.0
	comp=Z,0.5nm,0.5s,baz=310,slow=4.8,SNR=8.0						
TXAR	**Lajitas Array**	63.62	76	P	P	18 51 53.6	+0.8
NOA	**NORSAR Array B**	64.95	350	P	P	18 52 02.3	+1.4
	comp=Z,0.4nm,0.8s,baz=13,slow=7.0,SNR=1.7						
FCAR	**Ozark Folk Cen**	65.18	63	P	P	18 52 02.5	-0.3
AKASG	**Malin Array Be**	71.74	336	P	P	18 52 43.0	-0.5
	comp=Z,0.2nm,0.3s,baz=26,slow=6.8,SNR=1.2						
CLL	**Collm**	74.25	347	eP	P	18 53 01.0	+2.6
WRA	**Warramunga Arr**	80.03	216	P	P	18 53 31.5	+0.4
	comp=Z,0.4nm,0.9s,baz=23,slow=6.5,SNR=1.9						
ASAR	**Alice Springs**	83.62	215	P	P	18 53 51.2	+1.3
	comp=Z,0.1nm,0.5s,baz=20,slow=4.7,SNR=4.4						

IDC ***12*** *18:41:34.1±2.0, 1.°53N×98.°89E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.2/40, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=51.9km s-min=21.8km az=72.0*
DJA ***12*** *18:41:39.3±0.2, 2.°N±2.°×9.°9E±.°, h10km, M3.8/14, mb3.9/1, MLv3.8/14*
ISC 12 18:41:37.6±0.7, 1.°82N±0.°05×99.°24E±0.°06, h10km, n15, σ1§33/20, mb3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	1.02	342	Pg	Pg	18 41 57.0	-0.3
	6.5nm,0.3s,baz=180,slow=12,SNR=14						
PSI				Lg	Lg	18 42 08.7	
	18nm,0.3s,baz=0.2,slow=19,SNR=11						
MNSI	**Mandailing Nat**	1.08	161	P	Pb	18 41 58.7	+0.3
MNSI				S	Sn	18 42 14.0	+0.2
GSI	**Gunungsitoli**	1.74	253	P	Pn	18 42 08.5	+0.6
GSI				S	Sn	18 42 30.4	+0.2
TSI	**Tuntungan**	1.79	338	P	Pb	18 42 11.0	+0.4
BKNI	**Bangkinang**	2.34	130	P	Pb	18 42 19.5	-0.4
BKNI				S	Sn	18 42 46.7	+1.7
TPTI		2.50	305	P	Pn	18 42 20.0	+1.6
TPTI				S	Sb	18 42 53.6	+0.1
SISI	**Saibi**	3.13	183	P	Pn	18 42 29.2	+2.1
SDSI	**Sungai Dareh**	3.51	141	P	Pn	18 42 34.7	+2.5
SDSI				S	Sg	18 43 28.2	-2.2
MLSI	**Meulaboh, Aceh**	3.73	311	P	Pn	18 42 36.4	+1.1
KRJI	**Kerinci**	4.48	150	P	Pn	18 42 46.8	+1.1
DSRI	**Dabo**	5.81	113	P	Pn	18 43 04.0	+0.1
CMAR	**Chiang Mai Arr**	16.53	350	Pn	P	18 45 33.1	+0.7
	0.0nm,0.3s,baz=184,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	40.66	124	P	P	18 49 18.1	-0.4
	0.6nm,0.9s,baz=300,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	47.16	344	P	P	18 50 09.7	-0.7
	0.5nm,0.7s,baz=154,slow=9.1,SNR=3.6						
ZALV	**Zalesovo Beam**	53.29	349	P	P	18 50 54.5	-2.2
	0.3nm,0.3s,baz=150,slow=6.7,SNR=2.4						

KRSC ***12*** *18:49:11.0±0.9, 55.°08N×162.°80E, h34km±27km, ML3.8*
IDC ***12*** *18:49:15.3±4.2, 55.°19N×162.°61E, h63km±44km, mb3.2/3, mb1 3.4/4, mb1mx3.0/36, mbtmp3.4/4, ML2.1/1, Error ellipse: s-maj=61.1km s-min=26.7km az=141.0*
ISC 12 18:49:13.9±1.2, 55.°16N±0.°04×162.°74E±0.°04, h47km±16km, n40, σ1§10/50, mb3.4/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	1.05	2	eP	Pn	18 49 31.4	-0.8
KBG	**Krutoberegovo**	1.10	359	eP	Pn	18 49 32.1	-0.7
KBG				eS	Sn	18 49 48.4	+1.6
TUMD	**Tumrok D**	1.34	273	eP	Pn	18 49 34.6	-1.6
ZLN	**Zelenaya**	1.39	309	eP	Pn	18 49 36.5	-0.5
BZGR	**Bezymyannyi-Gr**	1.40	305	eP	Pn	18 49 36.4	-0.7
KZV	**Kizimen**	1.40	269	eP	Pn	18 49 35.6	-1.6
KZV				eS	Sn	18 49 54.1	-0.5
CIRR	**Tsirk**	1.48	311	eP	Pn	18 49 37.8	-0.4
LGNR	**Loginova**	1.48	309	eP	Pn	18 49 38.4	0.0
TUMR	**Tumrok**	1.49	276	eP	Pn	18 49 37.6	-0.7
BZMR	**Bezymyannaya**	1.49	302	eP	Pn	18 49 39.4	+1.0
BZWR	**Bezymyannyi-We**	1.51	303	eP	Pn	18 49 38.1	-0.5
KMNR	**Kamenistaya**	1.54	294	eP	Pn	18 49 39.3	+0.3
KIRR	**Kirishev**	1.57	301	eP	Pn	18 49 40.1	+0.6
SMKR	**Semkarok**	1.59	334	eP	Pn	18 49 39.4	-0.3
KRSR	**Krestovskiy**	1.62	312	eP	Pn	18 49 39.5	-0.6
KLY	**Klyuchi**	1.65	315	eP	Pn	18 49 38.9	-1.5
KLY				eS	Sn	18 50 01.9	+1.5
BDR	**Baidarnaya**	1.65	329	eP	Pn	18 49 41.3	+0.8
SRKR	**Sorokina**	1.74	330	eP	Pn	18 49 42.8	+1.1
BKI	**Bering**	1.85	87	eP	Pn	18 49 43.5	+0.3
BKI				eS	Sn	18 50 04.8	-0.6
KOZ	**Kozyrevsk**	1.86	300	eP	Pn	18 49 44.0	+0.8
SRDR	**Sredinnyy**	2.06	305	eP	Pn	18 49 46.7	+0.6
KII	**Karymskiy**	2.22	241	eP	Pn	18 49 47.5	-0.8
ESO	**Esso**	2.42	290	eP	Pn	18 49 50.0	-0.9
SPN	**Mys Shipunski**	2.61	219	eP	Pn	18 49 53.2	-0.4
SPN				eS	Sn	18 50 21.7	-2.3
SDLR	**Sedlovina**	2.95	232	eP	Pn	18 49 58.5	+0.2
KRX	**Arik**	3.00	235	eP	Pn	18 50 00.4	+1.3
UGLR	**Uglovaya**	3.02	231	eP	Pn	18 49 59.3	0.0
AVH	**Avacha**	3.02	233	eP	Pn	18 50 01.1	+1.8
GNL	**Ganaly**	3.16	244	eP	Pn	18 50 03.0	+1.8
DALK	**Dalny**	3.17	229	eP	Pn	18 50 00.9	-0.3
DALK				eS	Sn	18 50 37.4	-0.3
PET	**Petropavlovsk**	3.22	230	eP	Pn	18 50 03.2	+1.3
PET				eS	Sn	18 50 40.4	+1.4
KRMR	**Karymshinskiy**	3.58	231	eP	Pn	18 50 07.9	+1.0
PETK	**Petropavlovsk-**	3.61	237	P	Pn	18 50 07.2	-0.1
	0.8nm,0.3s,baz=68,slow=17,SNR=21						
PETK				S	Sn	18 50 49.9	+1.4
	0.9nm,0.3s,baz=84,slow=17,SNR=2.6						
RUS	**Russkaya**	3.71	224	eP	Pn	18 50 09.3	+0.7
RUS				eS	Sn	18 50 49.5	-1.4
GRL	**Gorelyy**	3.80	228	eP	Pn	18 50 11.6	+1.6
MTVR	**Mutnovka**	3.81	227	eP	Pn	18 50 11.3	+1.2
MTVR				eS	Sn	18 50 55.0	+1.4
ASAK	**Asacha**	4.00	228	eP	Pn	18 50 14.1	+1.4
MJAR	**Matsushiro Arr**	25.05	232	P	P	18 54 33.3	-0.3
	0.5nm,0.5s,baz=25,slow=7.4,SNR=5.1						
ILAR	**Eielson Array**	26.26	48	P	P	18 54 45.0	+0.8
	0.1nm,0.6s,baz=277,slow=7.9,SNR=2.5						
FINES	**FINESS Array B**	58.82	337	P	P	18 59 05.7	-1.1
	0.7nm,0.5s,baz=32,slow=8.2,SNR=5.4						

KRSC ***12*** *18:53:00.5±1.4, 55.°04N×162.°90E, h31km±25km, ML4.3*
MOS ***12*** *18:53:01.7±0.4, 55.°09N×162.°89E, h25km, mb4.0/1, Error ellipse: s-maj=7.3km s-min=5.1km az=84.5*
IDC ***12*** *18:53:05.3±4.1, 55.°25N×162.°31E, h52km±38km, mb3.3/6, mb1 3.6/7, mb1mx3.3/46, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=33.8km s-min=21.8km az=134.0*
ISC 12 18:53:01.2±0.8, 55.°15N±0.°04×162.°80E±0.°07, h17km, n89, σ1§43/113, mb3.5/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	1.06	1	eP	Pg	18 53 22.1	+0.4
KBTR	**Krutoberegovo**	1.06	1	PN	Pg	18 53 22.1	+0.4
KBG	**Krutoberegovo**	1.10	357	eP	Pg	18 53 22.9	+0.3
KBG	**Krutoberegovo**	1.10	357	PN	Pg	18 53 22.9	+0.3
TUMD	**Tumrok D**	1.38	273	eP	Pn	18 53 25.3	-0.4
ZLN	**Zelenaya**	1.43	308	eP	Pn	18 53 27.7	+1.3
ZLN	**Zelenaya**	1.43	308	PN	Pn	18 53 27.7	+1.3
BZGR	**Bezymyannyi-Gr**	1.43	304	eP	Pn	18 53 27.4	+0.9
BZGR	**Bezymyannyi-Gr**	1.43	304	PN	Pn	18 53 27.4	+0.9
KZV	**Kizimen**	1.44	269	eP	Pn	18 53 26.3	-0.3
KZV				eS	Sn	18 53 45.2	0.0
KZV	**Kizimen**	1.44	269	PN	Pn	18 53 26.3	-0.3
KZV				S	Sn	18 53 45.2	0.0
CIRR	**Tsirk**	1.51	310	eP	Pn	18 53 28.7	+1.1
CIRR	**Tsirk**	1.51	310	PN	Pn	18 53 28.7	+1.1
LGNR	**Loginova**	1.52	309	eP	Pn	18 53 29.2	+1.4
LGNR	**Loginova**	1.52	309	PN	Pn	18 53 29.2	+1.4
TUMR	**Tumrok**	1.53	276	eP	Pn	18 53 28.2	+0.4
TUMR				eS	Sn	18 53 47.5	+0.2
TUMR	**Tumrok**	1.53	276	PN	Pn	18 53 28.2	+0.4
TUMR				S	Sn	18 53 47.5	+0.2
BZMR	**Bezymyannaya**	1.53	302	eP	Pn	18 53 28.7	+0.8
BZMR	**Bezymyannaya**	1.53	302	PN	Pn	18 53 28.7	+0.8
BZWR	**Bezymyannyi-We**	1.54	303	eP	Pn	18 53 29.1	+1.1
BZWR	**Bezymyannyi-We**	1.54	303	PN	Pn	18 53 29.1	+1.1
KMNR	**Kamenistaya**	1.58	293	eP	Pn	18 53 29.4	+0.9
KMNR	**Kamenistaya**	1.58	293	PN	Pn	18 53 29.4	+0.9
KIRR	**Kirishev**	1.61	301	eP	Pn	18 53 30.5	+1.5
KIRR	**Kirishev**	1.61	301	PN	Pn	18 53 30.5	+1.5
SMKR	**Semkarok**	1.62	333	eP	Pb	18 53 30.8	+0.2
SMKR	**Semkarok**	1.62	333	PN	Pb	18 53 30.8	+0.2
KRSR	**Krestovskiy**	1.66	311	eP	Pn	18 53 30.3	+0.8
KRSR	**Krestovskiy**	1.66	311	PN	Pn	18 53 30.3	+0.8
BDR	**Baidarnaya**	1.68	328	eP	Pn	18 53 31.6	+1.8
BDR	**Baidarnaya**	1.68	328	PN	Pn	18 53 31.6	+1.8
KLY	**Klyuchi**	1.68	315	eP	Pn	18 53 29.7	-0.1
KLY	**Klyuch

1.3nm,0.4s,baz=32,slow=8.5,SNR=20
TXAR Lajitas Array 68.39 70 P **P** **19 04 02.9 +1.0**
0.1nm,0.6s,baz=293,slow=4.8,SNR=1.4
ASAR Alice Springs 82.31 207 P **P** **19 05 21.3 -0.3**
0.3nm,0.5s,baz=16,slow=5.4,SNR=7.8

NEIC ***12*** *19:03:54.7±1.9,5.°43S±0.°06×152.°16E±0.°08,h16km±1km, mb5.7/94,Mwb5.2/41,Error ellipse: s-maj=12.8km s-min=9.4km az=97.0*

NEIC ***12*** *19:03:54.8,5.°38S×152.°12E,h17km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.73; Mθθ-1.70; Mϕϕ-1.03; Mrθ5.38; Mθϕ-4.79; Mϕr0.70; Fault plane solution: M₀7.62000×10¹⁶ NP1:ϕs188.34000°, δ37.05000°, λ22.42000°. NP2:ϕs80.12000°, δ76.71000°, λ124.91000°. Principal axes: T 7.0007, Plg47.0000°, Azm26.0000°; N 1.1158, Plg34.0000°, Azm251.0000°; P -8.1165, Plg24.0000°, Azm144.0000°;*

MOS ***12*** *19:03:54.5±0.9,5.°31S×152.°14E,h25km,mb5.4/28, MS4.9/7 Error ellipse: s-maj=9.4km s-min=6.7km az=112.0*

IDC ***12*** *19:03:57.1±1.5,5.°43S×152.°10E,h31km±9km,mb5.0/31, mb1 5.1/33,mb1mx5.0/47,mbtmp5.2/33,ML3.8/2,MS4.7/37, Ms1 4.7/37,ms1mx4.6/45,Error ellipse: s-maj=12.6km s-min=9.2km az=104.0*

BJI ***12*** *19:03:57.1±0.0,5.°28S×152.°52E,h61km,mB5.5/40, mb5.2/56,Ms5.3/30,Ms7 5.0/31*

DJA ***12*** *19:03:59.1±0.3,5.°S±2.°×15.°2E±.°,h52km±4km,M5.2/59, mb5.2/59,mB5.6/19,MLv5.8/2,Mw(mB)5.1/19,Mwp4.9/2*

GCMT ***12*** *19:03:59.8±0.1,5.°59S±0.°01×152.°17E±0.°01,h24km, MW5.3/119,Moment Tensor Solution. s116,c198; s119,c215; Duration: 1ꝉ1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.99±.02; Mθθ-0.95±.01; Mϕϕ-0.03±.01; Mrθ0.69±.02; Mθϕ-0.30±.01; Mϕr0.02±.03; Best double couple: M₀1.22500×10¹⁷ NP1:ϕs245.00000°,δ29.00000°, λ75.00000°. NP2:ϕs82.00000°,δ62.00000°,λ98.00000°. Principal axes: T 1.2110, Plg72.0000°, Azm10.0000°; N 0.0300, Plg7.0000°, Azm258.0000°; P -1.2400, Plg17.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 19:03:58.4±0.7,5.°44S±0.°04×152.°14E±0.°04,h44km±6km, n529,σ1ꝉ29/510,mb5.3/130,MS4.8/62,21C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.13**	**354**	Pg		**Pn**	**19 04 17.6**	**-0.1**
	9μm,0.3s,baz=192,slow=4.4,SNR=4408							
KRVT				Lg		Lg	19 04 34.7	
	18μm,0.3s,baz=150,slow=14,SNR=9.6							
KRVT				LR		LR	19 04 34.7	
	comp=Z,23μm,19.1s,baz=64,slow=34							
RABL	**Rabaul**	**1.24**	**1**	Pn		**Pn**	**19 04 18.9**	**-0.4**
PMG	**Port Moresby**	**6.32**	**231**	Pn		**Pn**	**19 05 29.5**	**+0.5**
	30nm,0.3s,baz=43,slow=9.5,SNR=104							
PMG				Sn		**Sn**	**19 06 40.1**	**+0.1**
	61nm,0.3s,baz=139,slow=20,SNR=13							
PMG	**Port Moresby**	**6.32**	**231**	P		**Pn**	**19 05 29.9**	**+0.9**
PMG							19 06 40.7	
PMG	**Port Moresby**	**6.32**	**231**	Pn		**Pn**	**19 05 29.9**	**+0.9**
PMG				Sn		**Sn**	**19 06 40.7**	**+0.7**
HNR	**Honiara**	**8.70**	**118**	Pn		**Pn**	**19 06 02.3**	**+0.6**
	8.9nm,0.3s,baz=245,slow=6.0,SNR=25							
HNR				LR		LR	19 09 08.2	
	comp=Z,3μm,21.3s,baz=288,slow=36							
HNR	**Honiara**	**8.70**	**118**	P		**Pn**	**19 06 02.0**	**+0.3**
HNR	**Honiara**	**8.70**	**118**	Pn		**Pn**	**19 06 02.0**	**+0.3**
JAY	**Jayapura**	**11.77**	**284**	Pn		**Pn**	**19 06 45.6**	**+1.8**
	0.4nm,0.3s,baz=106,slow=12,SNR=1.7							
JAY				LR		LR	19 10 47.4	
	comp=Z,5μm,18.6s,baz=94,slow=35							
JAY	**Jayapura**	**11.77**	**284**	P		**Pn**	**19 06 46.1**	**+2.3**
	985nm37nm,1.2s							
COEN	**Coen**	**12.23**	**226**	P		**Pn**	**19 06 52.4**	**+2.4**
	baz=12,SNR=4.8							
COEN	**Coen**	**12.23**	**226**	Pn		**Pn**	**19 06 50.0**	**-0.1**
GENI	**Genyem**	**12.27**	**283**	P		**Pn**	**19 06 52.4**	**+1.8**
	4μm140nm,1.5s							
PATS	**Pohnpei**	**13.66**	**27**	P		**Pn**	**19 07 10.9**	**+1.3**
	baz=14,SNR=4.4							
PATS	**Pohnpei**	**13.66**	**27**	Pn		**Pn**	**19 07 08.6**	**-1.0**
MTSU	**Mount Surprise**	**14.75**	**211**	P		**Pn**	**19 07 24.6**	**+0.3**
	baz=15,SNR=7.9							
CTA	**Charters Tower**	**15.65**	**201**	Pn		**P**	**19 07 37.8**	**-1.7**
	1.3nm,0.3s,baz=22,slow=14,SNR=39							
CTA				LR		LR	19 13 13.6	
	comp=Z,4μm,19.7s,baz=24,slow=36							
CTAO	**Charters Tower**	**15.65**	**201**	P		**P**	**19 07 38.4**	**-1.1**
CTAO				pmax		pmax		
	comp=Z,59nm,0.9s							
CTAO	**Charters Tower**	**15.65**	**201**			**P**	**19 07 38.4**	**-1.1**
SRPI	**Serui, Papua**	**16.25**	**282**	P		**Pn**	**19 07 44.5**	**+0.8**
	comp=Z,1μmcomp=Z,81nm,1.2s							
BAKI	**Biak**	**16.55**	**284**	P		**P**	**19 07 51.6**	**+2.1**
	comp=Z,2μmcomp=Z,144nm,1.5s							
QIS	**Mount Isa**	**19.34**	**218**	P		**Pn**	**19 08 21.5**	**-0.1**
	baz=19,SNR=59							
EIDS	**Eidsvold**	**19.85**	**183**	P		**Pn**	**19 08 26.7**	**-0.8**
	baz=20,SNR=9.1							
EIDS	**Eidsvold**	**19.85**	**183**	P		**P**	**19 08 26.2**	**+0.5**
FAKI	**Fak Fak**	**19.99**	**276**	P		Pn	19 08 37.9	+8.5
GUMO	**Guam**	**20.23**	**339**	P		Pn	19 08 31.3	-0.9
	comp=Z,452nm,1.1s,baz=202,slow=5.6,SNR=9.4							
GUMO				LR		LR	19 16 42.8	
	comp=Z,663nm,19.2s,baz=172,slow=38							
GUMO	**Guam**	**20.23**	**339**	P		**P**	**19 08 27.6**	**-2.4**
GUMO				pmax		pmax		
	comp=Z,742nm,1.3s							
GUMO	**Guam**	**20.23**	**339**			**P**	**19 08 27.6**	**-2.4**
GUMO				IAmb		IAmb	19 08 33.5	
	comp=Z,742nm,1.2s							
KDU	**Kakadu**	**20.70**	**248**	P		**P**	**19 08 34.5**	**-0.6**
	baz=21,SNR=167							
SAUI	**Saumlaki**	**20.85**	**262**	P		Pn	19 08 46.0	+6.5
SAUI	**Saumlaki**	**20.85**	**262**	P		**P**	**19 08 35.8**	**-0.9**
SAUI				IAmb		IAmb	19 08 46.8	
	comp=Z,208nm,0.8s							
RMQ	**Roma**	**21.18**	**188**	P		**P**	**19 08 41.1**	**+1.0**
	baz=21,SNR=124							
SIJI	**Sorong**	**21.32**	**282**	P		**P**	**19 08 42.2**	**+0.4**
	comp=Z,64nm,1.1s,baz=74,slow=9.8,SNR=14							
DZM	**Mont Dzumac**	**21.57**	**141**	*eP*		**P**	**19 08 44.9**	**+0.5**
	comp=Z,187nm,1.1s							
DZM				*eS*		**S**	**19 12 38.6**	**-2.6**
	comp=Z,2μm,23.6s							
DZM				*e*LQ		LQ	19 13 07.4	
	comp=Z,4μm,26.4s							
DZM				*e*LR		LR	19 14 03.0	
	comp=Z,5μm,24.2s							
DZM	**Mont Dzumac**	**21.57**	**141**	P		**P**	**19 08 44.3**	**-0.1**
	comp=Z,23nm,0.7s,baz=314,slow=7.5,SNR=16							
DZM				LR		LR	19 16 25.9	
	comp=Z,3μm,19.3s,baz=316,slow=35							
DZM	**Mont Dzumac**	**21.57**	**141**	P		**P**	**19 08 44.5**	**+0.1**
MTN	**Manton Dam**	**21.99**	**249**	P		**P**	**19 08 50.2**	**+1.3**
	baz=22,SNR=51							
MTN	**Manton Dam**	**21.99**	**249**	P		**P**	**19 08 49.0**	**+0.1**
MTN				IAmb		IAmb	19 08 53.0	
	comp=Z,154nm,0.9s							
BNDI	**Bandanaira**	**22.17**	**271**	P		**P**	**19 08 55.9**	**+5.0**
QLP	**Quilpie**	**22.34**	**199**	P		**P**	**19 08 53.1**	**+0.5**
	baz=22,SNR=41							
WB0	**Warramunga Arr**	**22.39**	**229**	P		**P**	**19 08 53.6**	**+0.4**
WR0	**Warramunga Arr**	**22.39**	**228**	P		**P**	**19 08 53.1**	**-0.1**
WR0				IAmb		IAmb	19 09 02.6	
	comp=Z,213nm,1.4s							
WRAB	**Tennant Creek**	**22.52**	**229**	P		**P**	**19 08 54.3**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,79nm,0.9s							
WRAB	**Tennant Creek**	**22.52**	**229**	P		**P**	**19 08 54.3**	**-0.3**
WB2	**Warramunga Arr**	**22.52**	**229**	P		**P**	**19 08 54.2**	**-0.4**
	baz=23							
WB2	**Warramunga Arr**	**22.52**	**229**	P		**P**	**19 08 55.0**	**+0.4**
WB2				IAmb		IAmb	19 09 04.5	
	comp=Z,205nm,1.4s							
WRA	**Warramunga Arr**	**22.53**	**229**	P		**P**	**19 08 53.9**	**-0.8**
	comp=Z,42nm,0.7s,baz=54,slow=9.8,SNR=84							
WRA				PcP		**PcP**	**19 12 47.1**	**-0.4**
	comp=Z,9.4nm,0.9s,baz=64,slow=2.0,SNR=5.7							
WRA				S		**S**	**19 12 57.1**	**-2.0**
	comp=Z,20nm,1.1s,baz=55,slow=19,SNR=9.6							
WRA				ScP		**ScP**	**19 16 24.4**	**+2.6**
	comp=Z,4.5nm,1.1s,baz=56,slow=3.3,SNR=6.7							
WRA				LR		LR	19 18 00.7	
	comp=Z,2μm,20.5s,baz=60,slow=38							
WRA	**Warramunga Arr**	**22.53**	**229**	*ce*P		**P**	**19 08 54.5**	**-0.2**
WRA				pmax		pmax		
	comp=Z,43nm,0.6s							
WRA	**Warramunga Arr**	**22.53**	**229**	P		**P**	**19 08 56.9**	**+2.1**
MSAI	**Masohi**	**23.23**	**274**	P		P	19 09 16.1	+14
KNRA	**Kununurra**	**25.10**	**244**	P		**P**	**19 09 19.4**	**+0.2**
	baz=25,SNR=110							
KNRA	**Kununurra**	**25.10**	**244**	P		**P**	**19 09 20.1**	**+0.9**
AS31	**Alice Springs**	**25.24**	**222**	P		**P**	**19 09 20.6**	**+0.1**
ASAR	**Alice Springs**	**25.24**	**222**	P		**P**	**19 09 20.1**	**-0.3**
	comp=Z,70nm,0.7s,baz=57,slow=7.4,SNR=110							
ASAR				PcP		**PcP**	**19 12 53.8**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=49,slow=4.2,SNR=3.7							
ASAR				S		**S**	**19 13 41.1**	**-2.1**
	comp=Z,2.0nm,0.9s,baz=59,slow=16,SNR=3.3							
ASAR				ScP		**ScP**	**19 16 32.4**	**+3.3**
	comp=Z,2.3nm,0.9s,baz=40,slow=3.7,SNR=5.0							
ASAR				LR		LR	19 19 11.0	
	comp=Z,1μm,20.8s,baz=56,slow=36							
ASAR	**Alice Springs**	**25.24**	**222**	P		**P**	**19 09 20.7**	**+0.3**
ASAR	**Alice Springs**	**25.24**	**222**	P		**P**	**19 09 20.7**	**+0.3**
ASAR				PcP		**PcP**	**19 12 54.3**	**+1.1**
TNTI	**Ternate**	**25.50**	**283**	P		**P**	**19 09 23.7**	**+0.9**
	comp=Z,30nm,1.1s							
SANI	**Sanana**	**26.31**	**276**	P		**P**	**19 09 29.7**	**-0.5**
	comp=Z,58nm,1.3s							
CMSA	**Cobar Meteorol**	**26.66**	**192**	P		**P**	**19 09 33.7**	**+0.5**
	baz=27,SNR=20							
SOEI	**Soe**	**27.95**	**259**	P		**P**	**19 09 45.9**	**+0.8**
	comp=Z,125nm,1.5s							
SOEI	**Soe**	**27.95**	**259**	P		**P**	**19 09 46.0**	**+0.8**
SOEI				IAmb		IAmb	19 09 59.5	
	comp=Z,194nm,1.5s							
SGSI	**Sangihe**	**28.08**	**288**	P		**P**	**19 09 48.7**	**+2.6**
	comp=Z,36nm,0.9s							
STKA	**Stephens Creek**	**28.10**	**199**	P		**P**	**19 09 45.5**	**-0.6**
	comp=Z,10nm,0.7s,baz=359,slow=7.3,SNR=14							
STKA				LR		LR	19 21 15.8	
	comp=Z,2μm,19.1s,baz=11,slow=37							
STKA	**Stephens Creek**	**28.10**	**199**	P		**P**	**19 09 45.9**	**-0.2**
	baz=28,SNR=12							
STKA	**Stephens Creek**	**28.10**	**199**	P		**P**	**19 09 45.3**	**-0.8**
STKA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
STKA	**Stephens Creek**	**28.10**	**199**	P		**P**	**19 09 45.3**	**-0.8**
MSVF	**Nonsavu**	**28.12**	**118**	*i* P		**P**	**19 09 46.0**	**-0.5**
BATI	**Baumata**	**28.59**	**259**	P		**P**	**19 09 51.2**	**+0.5**
	comp=Z,93nm,0.7s,baz=173,slow=1.1,SNR=21							
BATI				LR		LR	19 23 44.9	
	comp=Z,3μm,19.2s,baz=99,slow=42							
BATI	**Baumata**	**28.59**	**259**	P		**P**	**19 09 51.9**	**+1.2**
	comp=Z,952nmcomp=Z,90nm,0.9s							
MATI	**Mati**	**28.61**	**295**	*eP*		**P**	**19 09 46.8**	**-4.0**
KMSI	**Cibinong**	**28.75**	**281**	P		**P**	**19 09 50.3**	**-1.7**
	comp=Z,1μmcomp=Z,52nm,0.7s							
FITZ	**Fitzroy Crossi**	**28.78**	**242**	P		**P**	**19 09 51.9**	**-0.4**
	comp=Z,60nm,1.1s,baz=72,slow=7.6,SNR=86							
FITZ	**Fitzroy Crossi**	**28.78**	**242**	P		**P**	**19 09 51.8**	**-0.4**
	baz=29,SNR=94							
FITZ	**Fitzroy Crossi**	**28.78**	**242**	P		**P**	**19 09 51.9**	**-0.4**
FITZ				IAmb		IAmb	19 10 07.4	
	comp=Z,100nm,1.4s							
DAV	**Davao City (W)**	**29.27**	**295**	LR		LR	19 21 18.5	
	comp=Z,2μm,18.0s,baz=101,slow=36							
LUWI	**Luwuk**	**29.64**	**277**	P		**P**	**19 09 58.5**	**-1.4**
KCP	**Kidapawan**	**29.69**	**294**	*i* P		**P**	**19 10 01.1**	**+0.6**
GTOI	**Gorontalo**	**29.71**	**281**	P		**P**	**19 10 02.5**	**+1.9**
	comp=Z,14nm,0.7s							
MMRI	**Maumere**	**29.84**	**262**	P		**P**	**19 10 01.6**	**-0.2**
	comp=Z,76nm,1.5s							
MMRI	**Maumere**	**29.84**	**262**	P		**P**	**19 10 01.3**	**-0.4**
MMRI				IAmb		IAmb	19 10 16.1	
	comp=Z,137nm,1.5s							
CAN	**Canberra**	**29.88**	**185**	P		**P**	**19 10 00.2**	**-1.7**
CAN				pmax		pmax		
	comp=Z,18nm,1.1s							
CAN	**Canberra**	**29.88**	**185**	P		**P**	**19 10 00.2**	**-1.7**
WRKA	**Warakurna**	**30.04**	**227**	P		**P**	**19 10 02.9**	**-0.6**
	baz=30,SNR=48							
BUKP	**Musuan**	**30.07**	**296**	*eP*		**P**	**19 10 06.1**	**+2.3**
EDFI	**Ende, Flores**	**30.39**	**262**	P		**P**	**19 10 05.3**	**-1.4**
	comp=Z,27nm,0.8s							
HTT	**Hallett**	**30.45**	**202**	P		**P**	**19 10 07.4**	**+0.5**
	baz=31,SNR=4.6							
BBOO	**Buckleboo**	**31.09**	**207**	P		**P**	**19 10 12.5**	**-0.1**
MSLP	**Maasin**	**31.27**	**300**	*eP*		P	19 10 05.0	-9.4
BASI	**Baing, Sumba**	**31.61**	**259**	P		**P**	**19 10 16.7**	**-0.7**
	comp=Z,2μmcomp=Z,154nm,1.1s							
WSI	**Waingapu**	**31.83**	**260**	P		**P**	**19 10 19.6**	**+0.3**
	comp=Z,377nm,1.2s							
SPSI	**Sidrap Palu**	**32.29**	**271**	P		**P**	**19 10 21.3**	**-2.1**
	comp=Z,7.6nm,1.0s							
TTSI	**Tana Toraja**	**32.31**	**273**	P		**P**	**19 10 26.7**	**+3.1**
	comp=Z,8.0nm,1.2s							
TOO	**Toolangi**	**32.55**	**190**	P		**P**	**19 10 24.3**	**-1.1**
TOO				pmax		pmax		
	comp=Z,39nm,1.5s							
TOO	**Toolangi**	**32.55**	**190**	P		**P**	**19 10 24.3**	**-1.1**
ARPS	**Mount Arapiles**	**32.58**	**195**	P		**P**	**19 10 26.3**	**+0.7**
	baz=33,SNR=12							
MPSI	**Mapaga**	**32.70**	**279**	P		**P**	**19 10 26.8**	**-0.2**
	comp=Z,24nm,1.0s							
FORT	**Forrest**	**33.88**	**219**	P		**P**	**19 10 37.6**	**+0.6**
	baz=34,SNR=6.0							
FORT	**Forrest**	**33.88**	**219**	P		**P**	**19 10 37.0**	**-0.1**
FORT				IAmb		IAmb	19 10 52.7	
	comp=Z,42nm,0.8s							
PSA00	**Pilbara Seismi**	**35.14**	**240**	P		**P**	**19 10 47.7**	**-0.4**
BOAC	**Boac**	**35.46**	**302**	*eP*		**P**	**19 10 51.8**	**+1.0**
LQP	**Lukban**	**36.04**	**303**	*eP*		**P**	**19 10 56.3**	**+0.2**
AFI	**Afiamalu**	**36.51**	**106**	LR		LR	19 22 58.0	
	comp=Z,653nm,21.5s,baz=284,slow=31							
TGY	**Tagaytay City**	**36.54**	**302**	P		**P**	**19 11 01.5**	**+1.3**
	comp=Z,79nm,0.3s,baz=138,slow=16,SNR=11							
BALP	**Baler**	**36.86**	**305**	*eP*		**P**	**19 11 02.5**	**-0.2**
RAO	**Raoul Island**	**36.91**	**133**	LR		LR	19 24 07.2	
	comp=Z,1μm,18.9s,baz=313,slow=33							
BBKI	**Bikar Baru**	**37.23**	**271**	P		P	19 11 17.5	+11
JAGI	**Jajag, Banyuwa**	**37.81**	**263**	P		**P**	**19 11 10.2**	**-0.8**
APYP	**Conner**	**38.28**	**308**	*eP*		**P**	**19 11 14.3**	**-0.5**
MEEK	**Meekatharra**	**38.30**	**233**	P		**P**	**19 11 14.5**	**-0.4**
	baz=38,SNR=83							
ABRA	**Dolores**	**38.59**	**307**	*eP*		**P**	**19 11 17.3**	**-0.1**
URZ	**Urewera**	**39.78**	**149**	LR		LR	19 26 12.1	
	comp=Z,2μm,19.2s,baz=346,slow=34							
PWJI	**Pagerwojo**	**40.13**	**264**	P		**P**	**19 11 29.9**	**-0.4**
	comp=Z,44nm,1.4s							
GIRL	**Giralia**	**40.38**	**241**	P		**P**	**19 11 32.0**	**-0.3**
	baz=40,SNR=4.7							
SBUM	**Sibu**	**40.63**	**280**	P		**P**	**19 11 35.0**	**+0.5**
KLBR	**Kellerberrin**	**41.39**	**227**	P		**P**	**19 11 39.9**	**-0.6**
	baz=42,SNR=7.3							
MORW	**Morawa**	**41.44**	**231**	P		**P**	**19 11 40.8**	**-0.2**
	baz=42,SNR=12							
MORW	**Morawa**	**41.44**	**231**	P		**P**	**19 11 41.1**	**+0.1**
RPZ	**Rata Peaks**	**41.61**	**159**	P		**P**	**19 11 42.7**	**+0.6**
	comp=Z,8.4nm,0.8s,baz=326,slow=1.5,SNR=4.2							
RPZ	**Rata Peaks**	**41.61**	**159**	P		**P**	**19 11 40.5**	**-1.6**
BLDU	**Ballidu**	**41.66**	**229**	P		**P**	**19 11 42.3**	**-0.5**
	baz=42,SNR=4.6							
SSLB	**Suanglung**	**42.06**	**315**	P		**P**	**19 11 45.6**	**-0.5**
SSLB				PcP		**PcP**	**19 13 40.3**	**-0.2**
MLZ	**Mavora Lakes**	**42.14**	**163**	P		**P**	**19 11 46.7**	**+0.2**
KSM	**Kuching**	**42.34**	**278**	P		**P**	**19 11 48.3**	**-0.3**
KSM	**Kuching**	**42.34**	**278**	P		**P**	**19 11 48.0**	**-0.5**
MUN	**Mundaring**	**42.72**	**227**	P		**P**	**19 11 51.5**	**+0.1**
	baz=43,SNR=5.2							
KPJI	**Karang Pucung**	**42.97**	**265**	P		**P**	**19 11 51.5**	**-2.1**
	comp=Z,57nm,1.2s							
JNU	**Nakatsue**	**43.33**	**334**	P		**P**	**19 11 55.5**	**-0.8**
	comp=Z,28nm,0.9s,baz=186,slow=2.4,SNR=6.6							
JNU				LR		LR	19 27 37.0	
	comp=Z,548nm,19.4s,baz=148,slow=33							
JNU	**Nakatsue**	**43.33**	**334**	P		**P**	**19 11 55.1**	**-1.1**
MJAR	**Matsushiro Arr**	**43.75**	**344**	P		**P**	**19 11 56.8**	**-2.8**
	comp=Z,4.4nm,1.1s,baz=165,slow=9.3,SNR=5.5							
MJAR				PcP		**PcP**	**19 13 46.0**	**+0.2**
	comp=Z,15nm,1.0s,baz=173,slow=3.7,SNR=12							
MJAR				ScP		**ScP**	**19 17 36.2**	**+2.1**
	comp=Z,4.5nm,1.1s,baz=167,slow=5.1,SNR=6.5							
MJAR				LR		LR	19 28 48.1	
	comp=Z,636nm,21.2s,baz=165,slow=34							
MAJO	**Matsushiro**	**43.75**	**344**	*i* P		**P**	**19 11 58.9**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
MAT	**Matsushiro**	**43.75**	**344**	P		**P**	**19 12 01.5**	**+1.9**
MAT				*e*S		**S**	**19 18 29.8**	**+2.8**
CISI	**Cisompet, Garu**	**44.08**	**265**	P		**P**	**19 12 02.3**	**-0.3**
CISI				IAmb		IAmb	19 12 19.3	
	comp=Z,117nm,1.3s							
QZH	**Quanzhou**	**44.46**	**314**	*eP*		**P**	**19 12 10.0**	**+4.6**
QZH				S		**S**	**19 18 41.1**	**+3.5**
CBJI	**Citeko**	**45.05**	**266**	P		**P**	**19 12 14.6**	**+4.3**
TJN	**Taejon**	**47.63**	**333**	*ce*P		**P**	**19 12 29.0**	**-1.2**
MDSI	**Maura Dua**	**47.78**	**269**	P		**P**	**19 12 31.3**	**-0.5**
	comp=Z,20nm,1.0s							
QIZ	**Qiongzhong**	**48.23**	**301**	P		**P**	**19 12 33.9**	**-1.2**
QIZ				S		**S**	**19 19 30.5**	**-1.4**
QIZ				pmax		pmax		
	comp=Z,16nm,1.8s							
QIZ				LR		LR		
	comp=Z,870nm,24.1s							
QIZ				LR		LR		
	comp=Z,1μm,23.5s							
KSRS	**Korea Array**	**48.27**	**334**	P		**P**	**19 12 34.0**	**-1.2**
	comp=Z,6.4nm,0.9s,baz=152,slow=8.6,SNR=10							
KSRS				PcP		**PcP**	**19 14 01.5**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=149,slow=5.1,SNR=4.9							
KSRS				LR		LR	19 29 10.0	
	comp=Z,313nm,21.7s,baz=178,slow=31							
KSRS	**Korea Array**	**48.27**	**334**	P		**P**	**19 12 34.0**	**-1.2**
MYKOM	**Kota Tinggi**	**48.76**	**277**	P		**P**	**19 12 40.0**	**+0.7**
NJ2	**Nanjing**	**48.93**	**322**	*eP*		**P**	**19 12 41.3**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
RAR	**Rarotonga**	**49.13**	**113**	LR		LR	19 31 20.7	
	comp=Z,295nm,18.3s,baz=282,slow=33							
SDSI	**Sungai Dareh**	**50.81**	**273**	P		**P**	**19 12 54.5**	**-0.4**
	comp=Z,23nm,1.1s							
IPM	**Ipoh**	**51.99**	**280**	P		**P**	**19 13 04.0**	**+0.2**
KULM	**Kulim**	**52.51**	**281**	P		**P**	**19 13 07.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.64**	**342**	P		**P**	**19 13 07.1**	**-0.9**
	comp=Z,4.5nm,0.8s,baz=177,slow=7.2,SNR=8.1							
USRK				LR		LR	19 32 10.8	
	comp=Z,324nm,22.0s,baz=150,slow=32							
USRK	**Ussuriysk Ar.**	**52.64**	**342**	P		**P**	**19 13 08.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**52.64**	**342**	P		**P**	**19 13 08.3**	**+0.3**
USA0B	**Ussuriysk Arra**	**52.64**	**342**	*i* P		**P**	**19 13 06.5**	**-1.5**
MNSI	**Mandailing Nat**	**52.85**	**275**	P		**P**	**19 13 10.0**	**-0.2**
	comp=Z,20nm,0.7s							
GYA	**Guiyang**	**54.26**	**308**	⇓P		**P**	**19 13 21.5**	**+1.1**
GYA				sP		sP	19 13 48.9	+10
GYA				pmax		pmax		
	comp=Z,25nm,1.2s							
CN2	**Changchun**	**54.61**	**336**	*eP*		**P**	**19 13 25.4**	**+2.9**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KIP	**Kipapa**	**55.67**	**60**	*ce*P		**P**	**19 13 30.6**	**+0.1**
KIP				pmax		pmax		
	comp=Z,136nm,1.7s							
SKR	**Severo-Kuril's**	**56.00**	**3**	*eP*		P	19 13 39.1	+6.8
SKR				*eS*		S	19 21 32.9	+16
SKR				pmax		pmax		
	comp=Z,200nm,6.5s							
SKR				MLR		MLR		
	comp=Z,400nm,21.0s							
SKR				MLR		MLR		
	comp=Z,500nm,18.0s							
BJI	**Beijing**	**56.06**	**327**	P		**P**	**19 13 32.8**	**-0.2**
BJI				S		**S**	**19 21 20.2**	**+1.6**
BJI				pmax		pmax		
	comp=Z,9.0nm,1.4s							
BJI				LR		LR		
	comp=Z,560nm,4.3s							
BJI				LR		LR		
	comp=Z,550nm,4.7s							
BJI				LR		LR		
	comp=Z,630nm,21.6s							
MLSI	**Meulaboh, Aceh**	**56.49**	**279**	P		**P**	**19 13 35.8**	**-0.8**
	comp=Z,106nm,1.2s							
XAN	**Xi'an**	**56.63**	**317**	P		**P**	**19 13 36.9**	**-0.4**
XAN				pP		pP	19 13 51.6	+1.7
XAN				pmax		pmax		
	comp=Z,35nm,1.1s							
XAN				pmax		pmax		
	comp=Z,570nm,5.1s							
KMI	**Kunming**	**56.80**	**305**	⇑P		**P**	**19 13 39.9**	**+1.1**
KMI				p

GTA sP sP 19 14 57.3 +0.8
GTA S **S** **19 23 25.5 +3.9**
GTA sS sS 19 23 47.5 +4.3
GTA pmax pmax
comp=Z,16nm,1.1s
GTA pmax pmax
comp=Z,190nm,6.9s
GTA LR LR
comp=Z,430nm,18.9s
GTA LR LR
comp=Z,630nm,19.3s
GTA LR LR
comp=Z,660nm,19.6s
SHL Shillong 66.06 301 P **P** **19 14 40.5 -0.9**
SHL pmax pmax
comp=Z,92nm,1.0s
SHL Shillong 66.06 301 P **P** **19 14 40.5 -0.9**
SHL lAmb lAmb 19 14 42.3
comp=Z,92nm,1.0s
ULN Ulaanbaatar 66.19 329*ce*P **P** **19 14 40.3 -1.4**
ULN pmax pmax
comp=Z,39nm,1.3s
SONM Songino Array 66.51 328 P **P** **19 14 44.1 +0.3**
comp=Z,16nm,0.9s,baz=138,slow=5.8,SNR=61
SONM LR LR 19 42 16.4
comp=Z,644nm,21.2s,baz=140,slow=35
SONM Songino Array 66.51 328 P **P** **19 14 44.2 +0.4**
SONM pmax pmax
comp=Z,34nm,1.3s
SONM Songino Array 66.51 328 P **P** **19 14 44.2 +0.4**
LSA Lhasa 68.06 305 P **P** **19 14 55.1 +0.8**
LSA pmax pmax
comp=Z,39nm,0.9s
LSA Lhasa 68.06 305 P **P** **19 14 55.1 +0.8**
LSA lAmb lAmb 19 14 56.1
comp=Z,39nm,0.9s
SEY Seymchan 68.18 0 *i* P **P** **19 14 53.7 -0.1**
YAK Yakutsk 69.47 349 *e*P **P** **19 15 01.0 -0.8**
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,0.9s
ZAK Zakamensk 69.69 329 *e*P **P** **19 15 02.8 -0.8**
ZAK pmax pmax
comp=Z,35nm,1.1s
TLY Talaya 70.30 330 *e*P **P** **19 15 07.5 +0.3**
TLY *e*S **S** **19 24 11.9 -4.2**
TLY pmax pmax
comp=Z,35nm,1.1s
TLY MLR MLR
comp=Z,1µm,16.0s
IRK Irkutsk 70.34 331 *e*P **P** **19 15 03.8 -3.6**
IRK pmax pmax
comp=Z,58nm,2.0s
MOY Mondy 71.62 329 *e*P **P** **19 15 15.1 -0.2**
MOY pmax pmax
comp=Z,43nm,1.9s
RKT Rikitea 72.16 112 *e*LR LR 19 37 30.5
comp=Z,955nm,29.5s
VNDA Vanda 72.22 178 P **P** **19 15 19.0 +0.7**
comp=Z,3.0nm,0.7s,baz=333,slow=6.2,SNR=19
VNDA LR LR 19 45 18.6
comp=Z,296nm,18.7s,baz=343,slow=34
VNDA Vanda 72.22 178 P **P** **19 15 19.1 +0.7**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 72.22 178 P **P** **19 15 19.1 +0.7**
BILL Bilibino 73.98 5*de*P **P** **19 15 29.7 +0.8**
BILL *e* 19 15 44.8
BILL *e* 19 18 14.0
BILL pmax pmax
comp=Z,33nm,2.5s
BILL MLR MLR
comp=Z,340nm,19.0s
SII Sitkinak Islan 75.63 27 P **P** **19 15 39.6 +0.9**
WMQ Urumqi 75.76 318 P **P** **19 15 40.6 +0.8**
WMQ PcP **PcP** **19 15 52.4 +0.1**
WMQ pP pP 19 15 54.8 +1.9
WMQ sP sP 19 16 00.5 +2.6
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,180nm,4.9s
WMQ LR LR
comp=Z,170nm,19.7s
WMQ LR LR
comp=Z,160nm,23.5s
WMQ LR LR
comp=Z,140nm,20.3s
HYB Hyderabad 76.08 289 *i* P **P** **19 15 40.0 -2.0**
OHAK Old Harbor 76.41 27 P **P** **19 15 43.4 +0.4**
OHAK lAmb lAmb 19 15 44.8
comp=Z,80nm,0.8s
KDAK Kodiak Island 77.04 27 P **P** **19 15 47.2 +0.6**
comp=Z,54nm,1.0s,baz=247,slow=4.2,SNR=17
KDAK LR LR 19 44 22.0
comp=Z,349nm,21.9s,baz=255,slow=32
KDAK Kodiak Island 77.04 27 P **P** **19 15 46.2 -0.4**
KDAK pmax pmax
comp=Z,100nm,1.1s
KDAK Kodiak Island 77.04 27 P **P** **19 15 46.2 -0.4**
KDAK lAmb lAmb 19 15 48.5
comp=Z,100nm,1.1s
SVW2 Sparrevohn 77.67 23 lAmb lAmb 19 15 52.8
comp=Z,93nm,1.0s
DGZ Jazzator, Alta 78.19 323*c i*P **P** **19 15 53.2 -0.2**
DGZ pmax pmax
comp=Z,24nm,1.0s
TIXI Tiksi 78.44 353 *i* P **P** **19 15 53.4 -0.7**
HOM Homer 78.47 26 P **P** **19 15 55.8 +1.3**
baz=238,SNR=6.4
TTA Tatalina 78.60 22 lAmb lAmb 19 15 57.5
comp=Z,89nm,1.0s
ZSN Zaisan 78.93 320 *e*P **P** **19 15 56.5 -0.9**
ZSN Zaisan 78.93 320 *e*P **P** **19 15 56.5 -0.9**
O22K Cooper Landing 79.72 25 P **P** **19 16 02.0 +0.7**
baz=239,SNR=21
SKT Skwentna 79.77 24 lAmb lAmb 19 16 01.9
comp=Z,35nm,1.0s
RDOG Red Dog Mine 79.77 16 lAmb lAmb 19 16 03.8
comp=Z,72nm,0.9s
SUA Susitna One 79.81 24 lAmb lAmb 19 16 03.3
comp=Z,97nm,0.7s
PPLA Purkeypile 80.01 23 lAmb lAmb 19 16 04.5
comp=Z,62nm,1.2s
RC01 Rabbit Creek A 80.03 25 P **P** **19 16 03.5 +0.5**
baz=239,SNR=27
MK31 Makanchi Array 80.37 319*ce*P **P** **19 16 04.9 -0.3**
MK31 Makanchi Array 80.37 319 P **P** **19 16 04.6 -0.6**
MKAR Makanchi Array 80.37 319 P **P** **19 16 05.1 -0.1**
comp=Z,16nm,0.9s,baz=108,slow=5.6,SNR=68
MKAR LR LR 19 50 07.9
comp=Z,468nm,21.0s,baz=88,slow=34
CUT Chulitna 80.49 23 P **P** **19 16 05.5 0.0**
baz=238,SNR=17
MAKZ Makanchi 80.58 319 P **P** **19 16 06.2 -0.1**
MAKZ pmax pmax
comp=Z,29nm,1.0s
MAKZ Makanchi 80.58 319 P **P** **19 16 06.2 -0.1**
GHO Glory Hole Cre 80.71 24 lAmb lAmb 19 16 08.3
comp=Z,97nm,0.9s
KNK Knik Glacier 80.72 25 lAmb lAmb 19 16 08.7
comp=Z,173nm,1.2s
TRF Thorofare Moun 81.04 23 lAmb lAmb 19 16 09.3
comp=Z,63nm,0.9s
BPAW Bear Paw Mtn. 81.12 22 lAmb lAmb 19 16 09.9
comp=Z,61nm,1.0s
IMAR Indian Mountai 81.20 20 P **P** **19 16 09.9 +0.7**
ZALV Zalesovo Beam 81.31 327 P **P** **19 16 09.1 -0.9**
comp=Z,21nm,1.0s,baz=104,slow=6.3,SNR=41
ZALV LR LR 19 51 28.5
comp=Z,439nm,20.5s,baz=92,slow=35
ZALV Zalesovo Beam 81.31 327 P **P** **19 16 09.4 -0.6**
ZALV Zalesovo Beam 81.31 327 P **P** **19 16 09.3 -0.6**
UZB Uzynbulak 81.52 315 *e*P **P** **19 16 11.5 -0.1**
comp=Z,18nm,1.2s
UZB Uzynbulak 81.52 315 *e*P **P** **19 16 11.5 -0.1**
UZB pmax pmax
comp=Z,18nm,1.2s
MCK McKinley 81.70 23 P **P** **19 16 11.7 -0.2**
baz=240,SNR=96
MLY Manley 81.71 21 P **P** **19 16 12.2 +0.3**
baz=238,SNR=94
KPKS Kokpek 81.84 315 *e*P **P** **19 16 13.0 -0.2**
comp=Z,20nm,1.3s
KPKS Kokpek 81.84 315 *e*P **P** **19 16 13.0 -0.2**
KPKS pmax pmax
comp=Z,20nm,1.3s
SATY Saty 81.93 315 *e*P **P** **19 16 13.8 0.0**
comp=Z,8.8nm,1.0s
SATY Saty 81.93 315 *e*P **P** **19 16 13.7 0.0**
SATY pmax pmax
comp=Z,9.0nm,1.0s
DHY Denali Highway 81.98 24 lAmb lAmb 19 16 15.3
comp=Z,99nm,1.0s
M24K Tolsona, Glenn 82.01 25 P **P** **19 16 14.9 +1.3**
baz=242,SNR=28
NEA2 Nenana 82.09 22 P **P** **19 16 13.6 -0.3**
baz=239,SNR=92
WRH Wood River Hil 82.39 22 lAmb lAmb 19 16 16.4
comp=Z,108nm,1.0s
TDK Taldyqorghan 82.44 317 *e*P **P** **19 16 15.9 -0.4**
comp=Z,29nm,0.9s
TDK Taldyqorghan 82.44 317 *e*P **P** **19 16 15.8 -0.4**
TDK pmax pmax
comp=Z,29nm,0.9s
N25K Chitina, Valde 82.45 26 P **P** **19 16 16.8 +0.8**
baz=244
MDM Murphy Dome 82.59 22 lAmb lAmb 19 16 17.4
comp=Z,76nm,1.3s
CCB Clear Creek Bu 82.59 22 lAmb lAmb 19 16 17.2
comp=Z,89nm,1.0s
TCOL CIGO, UAF Yank 82.68 22 P **P** **19 16 16.8 -0.1**
baz=240,SNR=21
COLA College 82.68 22*c i*P **P** **19 16 16.2 -0.7**
COLA pmax pmax
comp=Z,79nm,0.8s
PAX Paxson 82.70 24 lAmb lAmb 19 16 18.9
comp=Z,44nm,1.0s
HDA Harding Lake 82.80 22 P **P** **19 16 17.2 -0.4**
baz=241,SNR=27
KSH Kashi 82.85 311 P **P** **19 16 20.6 +2.0**
KSH pP sP 19 16 35.5 -1.3
KSH S **S** **19 26 35.7 +1.6**
KSH pmax pmax
comp=Z,46nm,1.4s
KSH pmax pmax
comp=Z,200nm,5.9s
KSH LR LR
comp=Z,180nm,6.8s
KSH LR LR
comp=Z,190nm,6.6s
KSH LR LR
comp=Z,180nm,4.1s
MDOK Medeo 82.92 315 *e*P **P** **19 16 19.0 +0.1**
MDOK Medeo 82.92 315 *e*P **P** **19 16 19.0 +0.1**
POKR Poker Plat Res 82.96 22 P **P** **19 16 18.3 -0.1**
baz=241,SNR=12
TNSS Tian-Shan 82.96 314 *e*P **P** **19 16 19.6 +0.2**
TNSS Tian-Shan 82.96 314 *e*P **P** **19 16 19.6 +0.2**
IL31 82.99 22 lAmb lAmb 19 16 19.1
comp=Z,68nm,0.8s
ILAR Eielson Array 82.99 22 P **P** **19 16 17.6 -1.1**
comp=Z,52nm,0.8s,baz=251,slow=5.2,SNR=326
ILAR LR LR 19 50 32.0
comp=Z,612nm,19.1s,baz=254,slow=34
ILAR Eielson Array 82.99 22 P **P** **19 16 18.2 -0.4**
ILAR Eielson Array 82.99 22 P **P** **19 16 18.2 -0.4**
AAA Alma-Ata 83.02 315 *e*P **P** **19 16 18.9 -0.5**
AAA Alma-Ata 83.02 315 *e*P **P** **19 16 18.8 -0.5**
COLD Coldfoot 83.07 19 P **P** **19 16 20.2 +1.2**
baz=238,SNR=27
COLD Coldfoot 83.07 19 lAmb lAmb 19 16 21.4
comp=Z,51nm,1.1s
BALM Baldy 83.19 26 lAmb lAmb 19 16 22.0
comp=Z,92nm,0.9s
KUU Kurty 83.60 315 *e*P **P** **19 16 22.2 -0.1**
comp=Z,75nm,1.4s
KUU Kurty 83.60 315 *e*P **P** **19 16 22.1 -0.1**
KUU pmax pmax
comp=Z,75nm,1.4s
SCRK Sand Creek 83.75 23 P **P** **19 16 23.1 +0.5**
baz=244,SNR=63
NIL Nilore 83.79 305 P **P** **19 16 23.2 -0.3**
NIL pmax pmax
comp=Z,71nm,1.0s
NIL Nilore 83.79 305 P **P** **19 16 23.2 -0.3**
NIL lAmb lAmb 19 16 24.5
comp=Z,71nm,1.0s
KURK Kurchatov 83.86 322*ce*P **P** **19 16 22.6 -0.8**
KURK pmax pmax
comp=Z,40nm,1.3s
TKM2 Tokmak 2 83.89 314 P **P** **19 16 24.1 0.0**
SNR=30
TOLK Toolik Lake Re 84.02 18 P **P** **19 16 25.0 +1.1**
baz=238,SNR=16
TOLK Toolik Lake Re 84.02 18 lAmb lAmb 19 16 26.1
comp=Z,36nm,0.8s
BCAR Beaver Creek A 84.26 25 P **P** **19 16 26.2 +1.0**
KBK Karagaybulak 84.30 314 P **P** **19 16 26.6 +0.6**
SNR=18
FYU Fort Yukon 84.45 21 P **P** **19 16 26.2 +0.2**
FYU lAmb lAmb 19 16 28.2
comp=Z,75nm,1.0s
CHMS Chumysh 84.52 314 P **P** **19 16 27.0 +0.1**
SNR=28
UCH Uchtor 84.52 313 P **P** **19 16 28.6 +1.1**
SNR=54
QSPA South Pole Qui 84.53 180 P **P** **19 16 27.2 +0.5**
K27K Chicken 84.53 24 P **P** **19 16 28.2 +1.7**
baz=246
AAK Ala-Archa 84.62 314 P **P** **19 16 27.9 +0.3**
SNR=19
AAK Ala-Archa 84.62 314*ce*P **P** **19 16 27.6 -0.1**
AAK pmax pmax
comp=Z,66nm,1.0s
SGDS Sogindy 84.70 314 *e*P **P** **19 16 27.8 -0.2**
comp=Z,20nm,1.3s
SGDS Sogindy 84.70 314 *e*P **P** **19 16 27.7 -0.2**
SGDS pmax pmax
comp=Z,20nm,1.3s
MAW Mawson 84.73 203 P **P** **19 16 27.9 +0.5**
comp=Z,3.8nm,0.8s,baz=94,slow=6.7,SNR=12
MAW LR LR 19 51 41.1
comp=Z,561nm,20.9s,baz=73,slow=34
MAW Mawson 84.73 203 P **P** **19 16 28.0 +0.5**
baz=85,SNR=7.7
BMAR Burnt Mountain 85.07 20 P **P** **19 16 30.6 +1.4**
AML Almayashu 85.10 313 P **P** **19 16 31.4 +1.1**
SNR=128
EKS2 Erkin-Say 85.15 314 P **P** **19 16 31.1 +0.9**
SNR=63
EGAK Eagle 85.20 23 lAmb lAmb 19 16 32.1
comp=Z,89nm,1.0s
BTLS Baital 85.45 316⇑ *i*P **P** **19 16 31.5 -0.1**
comp=Z,31nm,1.3s
BTLS Baital 85.45 316*c i*P **P** **19 16 31.4 -0.1**
BTLS pmax pmax
comp=Z,31nm,1.3s
DAWY Dawson 85.64 24 lAmb lAmb 19 16 35.5
comp=Z,105nm,1.2s
JIS Juneau Island 86.00 31 lAmb lAmb 19 16 36.8
comp=Z,45nm,0.9s
NRIK Noril'sk 86.35 341 P **P** **19 16 35.3 -0.1**
comp=Z,13nm,0.8s,baz=131,slow=5.0,SNR=18
NRIK LR LR 19 52 41.6
comp=Z,344nm,21.9s,baz=146,slow=34
NRIK Noril'sk 86.35 341*ce*P **P** **19 16 35.4 -0.1**
NRIK pmax pmax
comp=Z,24nm,1.0s
WHY Whitehorse 86.47 28 lAmb lAmb 19 16 39.1
comp=Z,81nm,1.0s
DZA Taraz 86.96 313 *e*P **P** **19 16 37.6 -1.4**
DZA Taraz 86.96 313 *e*P **P** **19 16 37.6 -1.4**
KKAR Karatay Array 87.59 314 P **P** **19 16 41.6 -0.5**
KKAR Karatay Array 87.59 314 P **P** **19 16 41.6 -0.5**
KKAR Karatay Array 87.59 314 lAmb lAmb 19 16 43.5
comp=Z,36nm,1.3s
IUG luzhnay 87.78 313⇑ *i*P **P** **19 16 43.0 -0.1**
comp=Z,34nm,2.1s
IUG luzhnay 87.78 313*c i*P **P** **19 16 43.0 -0.1**
IUG pmax pmax
comp=Z,34nm,2.1s
DLBC Dease Lake 88.26 31 P **P** **19 16 46.6 +1.6**
comp=Z,75nm,1.0s,baz=251,slow=5.1,SNR=48
DLBC LR LR 19 50 30.3
comp=Z,1µm,20.1s,baz=319,slow=32
J01E Myrtle Point 89.26 47 P **P** **19 16 51.8 +1.9**
baz=262
INK Inuvik 89.28 21 P **P** **19 16 48.5 -0.9**
comp=Z,36nm,1.1s,baz=236,slow=6.5,SNR=18
INK LR LR 19 57 18.1
comp=Z,398nm,18.0s,baz=234,slow=36
INK Inuvik 89.28 21 P **P** **19 16 48.7 -0.7**
INK pmax pmax
comp=Z,69nm,1.2s
INK Inuvik 89.28 21 P **P** **19 16 48.7 -0.7**
INK lAmb lAmb 19 16 51.1
comp=Z,69nm,1.2s
L02E Cave Junction 89.36 48 P **P** **19 16 52.2 +1.7**
baz=262
K02D Willamette Mer 89.39 47 P **P** **19 16 52.3 +1.7**
baz=262
BRVK Borovoye 89.42 323*ce*P **P** **19 16 49.6 -0.9**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
I02D Swisshome 89.46 46 P **P** **19 16 53.0 +2.2**
baz=262
O02D Mt. Diablo Mer 89.71 50 P **P** **19 16 53.6 +1.3**
baz=263
I03D Drain, OR 89.76 46 P **P** **19 16 53.9 +1.7**
baz=262,SNR=5.1
M02C Callahan 89.82 49 P **P** **19 16 54.8 +2.0**
baz=263,SNR=10.0
N02D Trinity Center 89.88 49 P **P** **19 16 54.9 +1.9**
baz=263
YBH Yreka Blue Hor 89.97 48 P **P** **19 16 54.7 +1.3**
comp=Z,18nm,1.1s,baz=177,slow=3.2,SNR=16
YBH LR LR 19 49 27.9
comp=Z,680nm,22.0s,baz=270,slow=30
H04D Lebanon 90.30 45 P **P** **19 16 56.5 +1.7**
baz=263,SNR=5.0
L04D Klamath Falls 90.33 48 P **P** **19 16 56.7 +1.5**
baz=263,SNR=7.6
I04A Tendick Farm, 90.44 46 P **P** **19 16 56.4 +0.9**
baz=263,SNR=10
D03D Eldon 90.44 42 P **P** **19 16 56.9 +1.5**
baz=262
O03E Paynes Creek 90.48 50 P **P** **19 16 56.9 +1.1**
baz=263
J04D Umpqua Nationa 90.59 47 P **P** **19 16 58.2 +1.8**
baz=263,SNR=15
M04C Macdoel 90.62 48 P **P** **19 16 58.5 +2.0**
baz=263,SNR=10
E04D Cinebar 90.67 43 P **P** **19 16 58.0 +1.6**
baz=263
A04D Lummi Island 90.85 41 P **P** **19 16 59.5 +2.3**
baz=263
B05A Bryant 91.20 42 P **P** **19 17 00.2 +1.4**
baz=263
J05D Fort Rock, OR 91.23 47 P **P** **19 17 01.2 +1.8**
baz=264,SNR=14
I05D Terrebonne, OR 91.27 46 P **P** **19 17 01.0 +1.6**
baz=264,SNR=8.8
F05D White Salmon 91.36 44 P **P** **19 17 01.3 +1.6**
baz=264
G05D Wamic, OR 91.39 45 P **P** **19 17 01.2 +1.4**
baz=264
K05A Summer Lake 91.42 47 P **P** **19 16 58.9 -1.4**
K05A lAmb lAmb 19 17 03.0
comp=Z,65nm,1.1s
PKM Mcpherson Peak 91.47 55 P **P** **19 17 02.5 +1.8**
baz=264
VES Vestal, Richgr 92.16 54 P **P** **19 17 04.6 +1.0**
baz=265
ISA Isabella, Lake 92.64 55 P **P** **19 17 07.5 +1.6**
baz=265,SNR=5.6
SYO Syowa Base 92.85 199‖ *ie*P **P** **19 17 04.0 -2.1**
SYO Syowa Base 92.85 199⇑ *ie*sP sP 19 17 17.0 -5.9
C36M Paulatuk 92.86 21 P **P** **19 17 06.3 +0.3**
baz=262
EDW2 Edwards Air Fo 92.96 55 P **P** **19 17 09.2 +1.8**
baz=266,SNR=9.3
NVAR Mina Array Bea 92.99 52 P **P** **19 17 09.2 +1.4**
comp=Z,12nm,0.9s,baz=256,slow=6.4,SNR=69
NVAR LR LR 19 54 56.7
comp=Z,671nm,18.5s,baz=269,slow=33
NVAR Mina Array Bea 92.99 52 P **P** **19 17 08.2 +0.5**
CWC Cottonwood Cre 93.02 54 P **P** **19 17 09.5 +1.7**
baz=266
BFSC Mount Baldy Ra 93.19 56 P **P** **19 17 10.2 +1.6**
baz=266
LRMC Laurel Mtn Rad 93.26 55 P **P** **19 17 11.2 +2.3**
baz=266
MPMC Manual Prospec 93.46 54 P **P** **19 17 11.6 +1.7**
baz=266,SNR=12
GSC Goldstone, Bar 93.97 55 P **P** **19 17 13.9 +1.8**
baz=266,SNR=5.8
FURC Furnace Creek, 94.00 54 P **P** **19 17 14.2 +2.2**
baz=266,SNR=6.4
MONP2 Monument Peak 94.12 57 P **P** **19 17 15.3 +2.2**
baz=266,SNR=5.6
PFO Pinyon Flats O 94.14 57 P **P** **19 17 14.8 +1.9**
comp=Z,5.8nm,0.8s,baz=268,slow=3.0,SNR=9.7
PFO Pinyon Flats O 94.14 57 P **P** **19 17 15.1 +2.1**
baz=266,SNR=5.7
PFO Pinyon Flats O 94.14 57⇓ *i*P **P** **19 17 13.9 +0.9**
PFO pmax pmax
comp=Z,14nm,1.0s
TPFO Pinon Flats 94.14 57 P **P** **19 17 14.9 +1.9**
baz=266,SNR=5.7
BMO Blue Mountains 94.19 45 P **P** **19 17 13.6 +0.7**
BMO pmax pmax
comp=Z,32nm,1.1s
BMO Blue Mountains 94.19 45 P **P** **19 17 13.6 +0.7**
BMO lAmb lAmb 19 17 15.0
comp=Z,32nm,1.1s
F10A Beach Ranch, E 94.31 44 lAmb lAmb 19 17 15.3
comp=Z,30nm,1.0s
HEC Hector,Ludlow 94.32 56 P **P** **19 17 15.6 +1.9**
baz=266
IKP In-Ko-Pah, Jac 94.37 58 P **P** **19 17 16.5 +2.5**
baz=266
NEW Newport 94.51 42 P **P** **19 17 14.9 +0.7**
comp=Z,16nm,1.0s,baz=239,slow=3.1,SNR=20
NEW LR LR 19 56 00.7
comp=Z,597nm,19.0s,baz=251,slow=33
NEW Newport 94.51 42 P **P** **19 17 15.2 +1.0**
baz=267
TPNV Topopah Spring 94.52 53 P **P** **19 17 16.1 +1.4**
baz=267,SNR=13
BELC Belle Mtn. Jos 94.55 56 P **P** **19 17 17.1 +2.3**
baz=267
SWSC Sam W. Stewart 94.65 57 P **P** **19 17 17.5 +2.4**
baz=267
GMRC Granite Mounta 94.87 56 P **P** **19 17 18.3 +2.0**
baz=267,SNR=7.2
BC3 Big Chuckawall 94.98 57 P **P** **19 17 18.8 +2.0**
baz=267,SNR=8.1
R11A Troy Canyon, C 95.12 52 P **P** **19 17 18.9 +1.5**
baz=267,SNR=15
IRM Iron Mountain 95.26 56 P **P** **19 17 20.3 +2.3**
baz=267,SNR=13
SVE Sverdlovsk 95.33 326 *e*P **P** **19 17 15.5 -2.2**
SVE pmax pmax
comp=Z,14nm,1.7s
SVE MLR MLR
comp=Z,729nm,21.0s
ELK Elko 95.50 50 P **P** **19 17 19.6 +0.5**
comp=Z,3.0nm,0.9s,baz=210,slow=3.7,SNR=8.7
ABKAR Akbulak array 95.51 319 P **P** **19 17 16.1 -2.6**
HLID Hailey 96.21 47 P **P** **19 17 23.5 +1.2**
baz=268
YKA Yellowknife Ar 96.29 28 P **P** **19 17 22.4 +0.5**
comp=Z,12nm,0.9s,baz=275,slow=4.5,SNR=21
YKA LR LR 19 54 59.6
comp=Z,583nm,21.9s,baz=0.0,slow=32
YKA Yellowknife Ar 96.29 28 *i* P **P** **19 17 22.7 +0.8**
YKA pmax pmax
comp=Z,12nm,0.9s
ARU Arti 96.47 326 P **P** **19 17 20.1 -2.8**
ARU 19 21 13.4
ARU S **SKSac** **19 27 52.0 -4.0**
ARU SS **SS** **19 35 09.1 -5.0**
ARU MLR MLR
comp=Z,869nm,21.0s
GEYT Alibeck 96.48 307 LR LR 20 03 12.6
comp=Z,324nm,20.5s,baz=35,slow=37
MSO Missoula 96.61 44 P **P** **19 17 26.8 +2.8**
baz=269
214A Organ Pipe Nat 97.13 59 P Pdif 19 17 29.4 +2.8
baz=268
PDAR Pinedale Array 99.76 48 PP PKiKP 19 21 47.4 -19
comp=Z,0.9nm,0.9s,baz=240,slow=5.0,SNR=4.0
PDAR LR LR 20 01 23.6
comp=Z,486nm,18.1s,baz=280,slow=34
SNAA Sanae 101.31 188 *i* P **Pdif** **19 17 45.5 +1.1**
SNAA pmax pmax

comp=Z,2.0nm,1.1s
TXAR Lajitas Array 105.01 61 Pdiff **Pdif 19 18 05.3 +3.5**
comp=Z,0.2nm,0.6s,baz=252,slow=4.6,SNR=2.9
TXAR PP **PP 19 22 22.6 -0.2**
comp=Z,0.7nm,1.0s,baz=278,slow=6.3,SNR=4.0
TXAR PKKPab **PKKPab 19 34 01.6 +0.1**
comp=Z,0.9nm,0.8s,baz=106,slow=6.7,SNR=6.6
ARCES ARCESS Array B 107.28 343 PKiKP **PKiKP 19 22 20.6 +1.1**
comp=Z,2.4nm,0.9s,baz=95,slow=1.9,SNR=5.3
FINES FINESS Array B 111.35 335 Pdiff **Pdif 19 18 28.1 -0.9**
comp=Z,0.8nm,0.7s,baz=80,slow=1.6,SNR=4.0
FINES PKiKP **PKiKP 19 22 27.3 +0.1**
comp=Z,2.9nm,1.0s,baz=124,slow=2.5,SNR=3.8
AKASG Malin Array Be 114.62 324 PKP **PKiKP 19 22 33.8 0.0**
comp=Z,1.9nm,0.7s,baz=61,slow=2.5,SNR=5.4
NB2 NORSAR Subarra117.28 340 PKPdf **PKPdf 19 22 38.4 -0.4**
comp=Z,7.0nm,1.7s,baz=44,slow=1.9
NOA NORSAR Array B 117.28 340 PKP **PKPdf 19 22 38.7 0.0**
comp=Z,1.4nm,0.8s,baz=46,slow=1.9,SNR=4.0
BOSA Boshof 118.72 233 PKP **PKPdf 19 22 41.2 -1.5**
comp=Z,3.0nm,0.9s,baz=165,slow=5.5,SNR=2.2
MATP Matopo 118.98 243 PKP **PKPdf 19 22 42.1 -1.2**
comp=Z,4.2nm,1.0s,baz=118,slow=3.4,SNR=8.8
KOLS Kolonicke sedl 119.44 324 *e*PKiKP **PKPdf 19 22 42.5 -0.7**
KOLS Kolonicke sedl 119.44 324 *e*PKP **PKPdf 19 22 42.5 -0.7**
LBTB Lobatse 119.88 237 PKP **PKPdf 19 22 44.6 -0.4**
comp=Z,3.1nm,0.9s,baz=105,slow=4.6,SNR=3.1
P52A Corning 120.58 47 P **PKPdf 19 22 45.4 -0.3**
baz=290
TKL Tuckaleechee C 120.60 52 PKP **PKPdf 19 22 45.7 -0.1**
comp=Z,2.8nm,0.8s,baz=292,slow=19,SNR=3.6
SADO Sadowa 120.64 40 PKP **PKPdf 19 22 45.1 -0.5**
comp=Z,7.0nm,0.9s,baz=343,slow=4.2,SNR=3.9
LSZ Lusaka 120.79 249 PKP **PKiKP 19 22 47.6 +0.6**
comp=Z,1.4nm,0.5s,baz=65,slow=4.3,SNR=4.3
ALGO Algonquin Park 120.81 39 P **PKiKP 19 22 46.1 +0.1**
baz=297
G54A Lake Saint Pet 121.03 39 P **PKiKP 19 22 47.2 +0.7**
baz=297
H53A Bobcaygeon 121.08 40 P **PKiKP 19 22 47.4 +0.8**
baz=296
N53A Lisbon 121.09 45 P **PKiKP 19 22 47.6 +0.8**
baz=292
P53A Whipple 121.17 47 P **PKiKP 19 22 47.5 +0.5**
baz=291
N54A Moraine State 121.62 45 P **PKiKP 19 22 48.2 +0.4**
baz=293
M54A Oil Creek Stat 121.64 44 P **PKiKP 19 22 48.1 +0.2**
baz=293
O54A Avella 121.64 46 P **PKiKP 19 22 48.7 +0.8**
baz=292
MORC Moravsky Berou 121.66 327 *e*PKP **PKiKP 19 22 48.2 +0.5**
Q54A Coxs Mills 121.75 47 P **PKiKP 19 22 48.1 0.0**
baz=291
P54A Burton 121.78 46 P **PKiKP 19 22 48.6 +0.4**
baz=292
D55A Sainte-Anne-du 121.86 37 P **PKiKP 19 22 48.1 0.0**
baz=300
KRLC Kraliky 121.89 328 *e*PKP **PKiKP 19 22 48.6 +0.5**
KRLC AMS AMS 20 16 10.0
comp=Z,400nm,22.5s
KRLC Kraliky 121.89 328 *e*PKIKP **PKiKP 19 22 48.6 +0.5**
KRLC MLR MLR
comp=Z,400nm,22.5s
OSTC Ostas 121.92 328 AMS AMS 20 15 40.0
comp=Z,400nm,21.4s
DPC Dobruska-Polom 121.98 328 *e*SP SP 19 34 08.8 -1.8
DPC AMS AMS 20 17 10.0
comp=Z,400nm,23.9s
CHVC Chvalec 121.98 329 AMS AMS 20 17 30.0
comp=Z,400nm,20.8s
UPC Upice 122.05 329 AMS AMS 20 17 10.0
comp=Z,400nm,19.2s
JAVC Velka Javorina 122.09 326 *e*PKP **PKiKP 19 22 50.2 +1.6**
L55A Hinsdale 122.20 43 P **PKPdf 19 22 48.9 +0.1**
baz=295
D56A ZEC Mazanza, M 122.27 36 P **PKiKP 19 22 49.2 +0.3**
baz=301
M55A Ridgway 122.27 44 P **PKiKP 19 22 49.5 +0.4**
baz=294
Q55A Buckhannon 122.30 47 P **PKiKP 19 22 49.9 +0.7**
baz=292
O55A Ligonier 122.39 45 P **PKiKP 19 22 50.1 +0.7**
baz=293
VRAC Vranov 122.43 327 *e*PKP **PKiKP 19 22 49.4 +0.2**
U55A TA2, Sparta 122.44 50 P **PKPdf 19 22 49.5 0.0**
baz=289
V55A Taylorsville 122.52 51 P **PKPdf 19 22 49.3 -0.3**
baz=289
R55A Marlinton 122.52 48 P **PKiKP 19 22 49.8 +0.1**
baz=291
MODS Modra-Piesok 122.57 326 *e*PKiKP **PKPdf 19 22 49.1 -0.2**
MODS Modra-Piesok 122.57 326 *e*PKP **PKPdf 19 22 49.1 -0.2**
X55A Gracelyn & Ava 122.62 52 P **PKiKP 19 22 50.5 +0.5**
baz=288
KMSC Kings Mountain 122.66 51 P **PKPdf 19 22 49.8 0.0**
baz=288
M56A Emporium 122.66 43 P **PKiKP 19 22 50.0 +0.1**
baz=295
BLA Blacksburg 122.68 49 P **PKiKP 19 22 50.5 +0.5**
baz=290
KRUC Moravsky 122.68 327 *e*PKP **PKiKP 19 22 49.8 +0.2**
PVCC Panska Ves 122.78 329 AMS AMS 20 20 50.0
comp=Z,300nm,18.2s
L56A Greenwood 122.81 42 P **PKiKP 19 22 50.3 +0.2**
baz=296
N56A West Decatur 122.82 44 P **PKiKP 19 22 50.8 +0.6**
baz=294
BRG Berggiesshubel 122.89 330 *e*PKP **PKiKP 19 22 50.3 +0.3**
comp=Z,17nm,1.6s
BRG Berggiesshubel 122.89 330 *e*PKIKP **PKiKP 19 22 50.3 +0.3**
BRG pmax pmax
comp=Z,17nm,1.7s
O56A Blue Knob Stat 122.89 45 P **PKPdf 19 22 49.6 -0.6**
baz=294
E57A Chemin Saint G 122.95 37 P **PKiKP 19 22 50.6 +0.3**
baz=301
P56A Dayton Farm, R 123.00 46 P **PKiKP 19 22 51.4 +0.8**
baz=293
TREC Trest 123.03 328 AMS AMS 20 16 00.0
comp=Z,600nm,20.0s
GOPC GO Pecny, Ondr 123.04 329 AMS AMS 20 18 20.0
comp=Z,500nm,23.1s
CLL Collm 123.08 331 *e*PKPdf **PKPdf 19 22 49.0 -1.1**
comp=Z,9.0nm,1.5s
CLL *i* pPKPdf **PKiKP 19 22 54.0 +3.7**
CLL *e* 19 23 00.0
CLL *e*PP **PP 19 24 27.0 -2.4**
CLL *e*PPP PPP 19 27 18.0
CLL *e*PS **PS 19 34 18.0 -8.5**
CLL *e*PPS PPS 19 35 49.0
CLL *e*SS SS 19 41 18.0 +7.5
CLL *e*SSS SSS 19 45 42.0
CLL *e* 19 47 06.0
CLL *e*SSSS 19 49 36.0
CLL Collm 123.08 331 *e*PKIKP **PKPdf 19 22 49.0 -1.1**
CLL *i* 19 22 54.0
CLL *e* 19 23 00.0
CLL *e* 19 24 27.0
CLL pmax pmax
comp=Z,9.0nm,1.5s
CLL MLR MLR
comp=Z,300nm,22.3s
X56A White Oak 123.09 52 P **PKiKP 19 22 52.6 +1.7**
baz=288
G57A Newington 123.11 38 P **PKiKP 19 22 51.0 +0.5**
baz=300
PRU Pruhonice 123.12 329 *e*SP SP 19 34 22.5 +1.9
PRU AMS AMS 20 18 30.0
comp=Z,400nm,19.5s
PRA Prague 123.13 329 AMS AMS 20 18 50.0
comp=Z,200nm,18.9s
IDI Anoyia 123.17 309 PKP **PKiKP 19 22 51.2 +0.1**
comp=Z,6.5nm,1.0s,baz=30,slow=16,SNR=2.7
SSPA Standing Stone 123.22 44 P **PKiKP 19 22 51.0 +0.1**
baz=294
I57A Carthage 123.24 40 P **PKPdf 19 22 50.6 -0.1**
baz=298
K57A Scipio Center 123.24 41 P **PKiKP 19 22 51.0 0.0**
baz=297
L57A Andrews Acres 123.35 42 P **PKiKP 19 22 51.6 +0.4**
baz=296
N57A Milroy 123.40 44 P **PKiKP 19 22 51.8 +0.5**
baz=295
M57A Sunshine Farm, 123.44 43 P **PKiKP 19 22 51.7 +0.3**
baz=295
Q57A Strasburg 123.48 46 P **PKiKP 19 22 51.8 +0.3**
baz=293
E58A La Victoria 123.49 36 P **PKiKP 19 22 51.5 +0.2**
baz=302
O57A Amberson 123.57 45 P **PKiKP 19 22 52.1 +0.4**
baz=294
LONY Lake Ozonia 123.59 39 P **PKiKP 19 22 51.9 +0.3**
baz=300
CONA Conrad Observa 123.61 326 *i* P **PKiKP 19 22 52.3 +0.7**
comp=Z,5.1nm,1.2s
G58A Ormstown 123.66 38 P **PKiKP 19 22 51.7 0.0**
baz=300
J58A Remsen 123.76 40 P **PKiKP 19 22 52.7 +0.7**
baz=298
U57A Blanch 123.76 49 P **PKiKP 19 22 52.4 +0.2**
baz=291
I58A Old Forge 123.80 40 P **PKiKP 19 22 52.0 -0.1**
baz=299
K58A Earlville 123.80 41 P **PKiKP 19 22 52.5 +0.4**
baz=298
BINY Binghamton 123.83 42 P **PKiKP 19 22 53.0 +0.8**
baz=297
N58A Sunbury 123.94 44 P **PKiKP 19 22 53.1 +0.7**
baz=296
H58A Gabriels 123.94 39 P **PKiKP 19 22 52.8 +0.5**
baz=300
NKC Nowy Kostel 124.03 330 AMS AMS 20 18 30.0
comp=Z,400nm,18.0s
O58A Lewisberry 124.10 44 P **PKiKP 19 22 53.1 +0.4**
baz=295
KHC Kasperske Hory 124.14 328 *e*PKP **PKiKP 19 22 52.5 -0.1**
KHC *ex* x 19 34 17.4
KHC AMS AMS 20 16 50.0
comp=Z,500nm,19.5s
KHC Kasperske Hory 124.14 328 *c i*PKIKP **PKPdf 19 22 51.5 -0.8**
KHC pmax pmax
comp=Z,20nm,1.3s
ARSA Arzberg 124.18 326 *e*P **PKPdf 19 22 51.8 -0.7**
comp=Z,3.3nm,1.4s
J59A Piesco 124.21 40 P **PKiKP 19 22 53.2 +0.3**
baz=299
GERES GERESS Array B 124.25 328 PKP **PKiKP 19 22 52.9 0.0**
comp=Z,2.7nm,0.7s,baz=75,slow=1.5,SNR=15
I59A Olmsteadville 124.44 39 P **PKiKP 19 22 53.7 +0.4**
baz=300
M59A Waymart 124.50 42 P **PKiKP 19 22 54.0 +0.5**
baz=297
MOA Molln 124.53 327 *e*P **PKPdf 19 22 53.1 0.0**
comp=Z,2.4nm,1.1s
SOKA Soboth 124.78 325 *e*P **PKPdf 19 22 53.3 -0.3**
comp=Z,9.1nm,1.5s
I60A Shoreham 124.78 39 P **PKiKP 19 22 54.8 +0.9**
baz=300
GCIS Gornji Cirnik 124.89 324 *i* PKPdf **PKiKP 19 22 54.0 -0.1**
CRES Cresnjev 125.01 324 *i* PKPdf **PKPdf 19 22 54.0 0.0**
N60A Cedar Hill Far 125.03 43 P **PKiKP 19 22 54.9 +0.3**
baz=297
F61A St Evariste 125.04 36 P **PKiKP 19 22 55.3 +0.9**
baz=304
O60A Telford 125.06 44 P **PKiKP 19 22 55.1 +0.5**
baz=296
E61A Lac Etchemin 125.07 35 P **PKiKP 19 22 55.3 +0.8**
baz=305
P60A Greenville 125.13 44 P **PKiKP 19 22 55.4 +0.6**
baz=296
M60A Port Jervis 125.14 42 P **PKPdf 19 22 53.6 -0.8**
baz=298
OBKA Obir 125.15 325 *e*P **PKPdf 19 22 54.4 0.0**
comp=Z,3.3nm,1.1s
H61A Lyndonville 125.27 38 P **PKiKP 19 22 56.4 +1.5**
baz=302
BOJS Bojanci 125.31 324 *e*PKPdf **PKiKP 19 22 55.1 +0.1**
K61A Williamstown 125.39 40 P **PKiKP 19 22 55.5 +0.3**
baz=300
I61A Oroboro, Fairl 125.41 38 P **PKiKP 19 22 56.8 +1.6**
baz=302
KBA Koelnbreinsper 125.49 326 *e*P **PKPdf 19 22 54.1 -1.0**
comp=Z,5.2nm,1.4s
J61A Chester 125.50 39 P **PKiKP 19 22 55.5 +0.1**
baz=301
D62A Allapoint, All 125.50 34 P **PKiKP 19 22 55.2 -0.1**
baz=306
F62A Pittston Farm, 125.68 35 P **PKiKP 19 22 56.3 +0.6**
baz=305
G62A Wst of Eustis 125.73 36 P **PKiKP 19 22 56.5 +0.7**
baz=304
L61B Northampton 125.87 40 P **PKiKP 19 22 57.2 +1.0**
baz=300
I62A Tamworth 125.98 38 P **PKiKP 19 22 56.8 +0.4**
baz=302
J62A Henniker 126.03 39 P **PKiKP 19 22 58.0 +1.6**
baz=301
ABTA Abfaltersbach 126.15 327 *e*P **PKPdf 19 22 56.4 +0.1**
comp=Z,9.8nm,1.2s
E63A Orow 126.24 34 P **PKPdf 19 22 56.6 +0.2**
baz=307
F63A Nahmakanta, Br 126.28 35 P **PKiKP 19 22 57.5 +0.6**
baz=306
WATA Walderalm 126.30 328 *e*P **PKPdf 19 22 56.6 -0.1**
comp=Z,13nm,1.5s,SNR=5.4
WTTA Wattenberg 126.31 327 *e*P **PKPdf 19 22 56.7 0.0**
comp=Z,18nm,1.3s,SNR=12
G63A Kingsbury 126.32 36 P **PKiKP 19 22 57.1 +0.1**
baz=305
J63A Strafford 126.45 38 P **PKiKP 19 22 58.6 +1.3**
baz=302
K63A Dunstable 126.48 39 P **PKiKP 19 22 58.2 +0.8**
baz=301
MOTA Moosalm 126.54 328 *e*P **PKPdf 19 22 56.9 -0.2**
comp=Z,15nm,1.7s
SQTA Sankt Quirin 126.56 328 *i* P **PKPdf 19 22 57.2 +0.1**
comp=Z,7.5nm,1.0s
F64A Sherman 126.61 34 P **PKiKP 19 22 58.0 +0.4**
baz=306
RETA Reutte 126.63 328 *e*P **PKPdf 19 22 56.4 -0.7**
comp=Z,9.6nm,1.6s
FETA Feichten 126.94 328 *e*P **PKiKP 19 22 58.6 +0.2**
comp=Z,9.8nm,1.3s
DAVA Damuels 127.22 328 *e*P **PKiKP 19 22 59.2 +0.2**
comp=Z,11nm,1.7s
KEST Kesra 134.41 316 PKP **PKiKP 19 23 13.5 -0.2**
comp=Z,4.4nm,1.1s,baz=14,slow=12,SNR=3.1
LPAZ La Paz 134.69 119 PKP **PKiKP 19 23 15.4 0.0**
comp=Z,2.7nm,0.9s,baz=292,slow=3.6,SNR=8.3
ESDC Sonseca Array 139.67 331 PKhKP PKPpre 19 23 13.3
comp=Z,2.0nm,1.0s,baz=44,slow=1.5,SNR=5.9
H07N1 FLORES T-PHASB 45.77 4 *e*PKP **PKPab 19 23 34.7 +1.3**
H07S1 FLORES T-PHASB 46.08 5 *e*PKP **PKPab 19 23 35.5 +0.9**
TOA0 Torodi Ar. Sit 149.87 287 **PKiKP 19 23 45.4 -0.4**
TORD Torodi Ar. Bea 149.87 287 PKPbc **PKPbc 19 23 44.5 -0.3**
comp=Z,54nm,1.0s,baz=76,slow=2.3,SNR=71
TORD Torodi Ar. Bea 149.87 287 PKPbc **PKPbc 19 23 45.3 +0.5**
PMPS Porto Santo 150.39 340 *e*PKPab **PKiKP 19 23 47.7 +1.1**
PMAR Madeira 150.99 341 *e*PKPab **PKiKP 19 23 48.7 +0.8**
PMOZ Porto Moniz, M 150.99 341 *e*PKPab **PKiKP 19 23 49.2 +1.4**
BDFB Brasilia 151.07 137 PKPbc **PKPbc 19 23 47.9 0.0**
comp=Z,6.2nm,1.0s,baz=225,slow=5.7,SNR=6.8
KOWA Kowa 154.87 293 PKPbc **PKiKP 19 23 56.9 +0.8**
comp=Z,2.5nm,0.4s,baz=9.2,slow=3.1,SNR=4.0
KOWA PKPab **PKPab 19 24 10.8 -0.6**
comp=Z,7.5nm,0.5s,baz=9.7,slow=3.2,SNR=5.8
KIC Kosan Boka 156.98 273 *e*PKP2 **PKPab 19 24 20.1 -0.5**
comp=Z,62nm,1.0s
DBIC Dimbokro 157.09 274 PKPab **PKPab 19 24 20.8 -0.2**
comp=Z,15nm,0.9s,baz=78,slow=5.1,SNR=8.9
TIC Toumodi 157.25 274 *e*PKP2 **PKPab 19 24 21.4 -0.4**
LIC Lamto 157.27 273 *e*PKP2 **PKPab 19 24 21.3 -0.5**
comp=Z,67nm,1.1s

IDC ***12*** *19:09:12.6±6.5, 5.43S× 152.38E, h34km±44km, mb3.6/4, mb1 3.9/5, mb1mx3.5/44, mbtmp3.9/5, ML2.0/1, Error ellipse: s-maj=76.0km s-min=19.2km az=120.0*
ISC 12 19:09:13.1±1.6, 5.5S±0.1×152.4E±0.2, h40km, n7, σ0s 55/8, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.22**	**342**	Pg	**Pn**	**19 09 33.9**	**+0.2**
	190nm,0.3s,baz=120,slow=5.2,SNR=16						
KRVT				Lg	Lg	19 09 52.1	
	186nm,0.3s,baz=180,slow=20,SNR=3.8						
PMG	**Port Moresby**	**6.51**	**233**	Pn	**Pn**	**19 10 46.5**	**+0.1**
	2.2nm,0.3s,baz=55,slow=12,SNR=1.0						
PMG				Sn	**Sn**	**19 11 58.8**	**-0.6**
	2.1nm,0.3s,baz=327,slow=21,SNR=1.6						
WRA	**Warramunga Arr**	**22.71**	**229**	P	**P**	**19 14 11.8**	**+0.1**
	2.2nm,0.8s,baz=51,slow=10,SNR=1.7						
ASAR Alice Springs 25.39 223 P **P 19 14 37.8 +0.8**
0.9nm,0.8s,baz=47,slow=9.7,SNR=1.0
FITZ Fitzroy Crossi 28.99 242 P **P 19 15 09.4 +0.1**
4.7nm,0.8s,baz=63,slow=9.0,SNR=1.5
ILAR Eielson Array 82.92 22 P **P 19 21 32.9 -0.6**
0.4nm,0.6s,baz=238,slow=5.7,SNR=6.0
TORD Torodi Ar. Bea 150.13 287 PKPbc **PKPbc 19 29 01.0 +0.2**
0.2nm,0.3s,baz=86,slow=2.2,SNR=1.6

NEIC ***12*** *19:11:32.1±2.4, 5.6S±0.1× 152.3E±0.2, h36km±15km, mb4.2/9, Error ellipse: s-maj=27.4km s-min=11.5km az=116.0*
IDC ***12*** *19:11:32.0±6.3, 5.46S× 152.28E, h35km±43km, mb3.8/4, mb1 4.1/5, mb1mx3.5/40, mbtmp4.1/5, ML2.0/1, Error ellipse: s-maj=80.1km s-min=17.7km az=119.0*
ISC 12 19:11:32.0±1.1, 5.61S±0.09×152.4E±0.2, h40km, n20, σ0s 82/21, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.35**	**343**	Pg	**Pn**	**19 11 54.0**	**-0.5**
	259nm,0.3s,baz=240,slow=20,SNR=73						
KRVT				Lg	Lg	19 12 11.0	
	430nm,0.3s,baz=288,slow=23,SNR=14						
RABL	**Rabaul**	**1.44**	**350**	Pn	**Pn**	**19 11 55.1**	**-0.4**
PMG	**Port Moresby**	**6.43**	**234**	Pn	**Pn**	**19 13 05.1**	**+0.8**
	2.1nm,0.3s,baz=38,slow=17,SNR=3.0						
PMG				Sn	**Sn**	**19 14 15.9**	**-0.6**
	1.4nm,0.3s,baz=114,slow=18,SNR=2.7						
PMG	**Port Moresby**	**6.43**	**234**		**Pn**	**19 13 03.1**	**-1.2**
CTAO	**Charters Tower**	**15.59**	**202**	P	**P**	**19 15 13.2**	**+0.5**
CTAO				IAmb	IAmb	19 15 30.8	
	comp=Z,13nm,1.5s						
EIDS	**Eidsvold**	**19.69**	**184**	P	**Pn**	**19 15 58.5**	**-1.1**
MTN	**Manton Dam**	**22.19**	**250**	P	**P**	**19 16 26.0**	**+1.0**
WB0	**Warramunga Arr**	**22.48**	**230**	P	**P**	**19 16 29.2**	**+1.0**
WB0				IAmb	IAmb	19 16 42.7	
	comp=Z,17nm,1.2s						
WRAB	**Tennant Creek**	**22.61**	**229**	P	**P**	**19 16 30.4**	**+0.9**
WRAB				IAmb	IAmb	19 16 37.8	
	comp=Z,8.6nm,0.9s						
WB2	**Warramunga Arr**	**22.62**	**229**	P	**P**	**19 16 30.3**	**+0.7**
WB2				IAmb	IAmb	19 16 37.7	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**22.63**	**229**	P	**P**	**19 16 29.5**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=53,slow=9.6,SNR=5.7						
WRA	**Warramunga Arr**	**22.63**	**229**	P	**P**	**19 16 28.5**	**-1.2**
AS31	**Alice Springs**	**25.30**	**223**	P	**P**	**19 16 54.0**	**-1.0**
ASAR	**Alice Springs**	**25.30**	**223**	P	**P**	**19 16 55.6**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=54,slow=8.7,SNR=9.2						
ASAR	**Alice Springs**	**25.30**	**223**	P	**P**	**19 16 55.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**28.94**	**242**	P	**P**	**19 17 28.1**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=67,slow=10,SNR=0.9						
FITZ	**Fitzroy Crossi**	**28.94**	**242**	P	**P**	**19 17 27.7**	**0.0**
ILAR	**Eielson Array**	**83.05**	**22**	P	**P**	**19 23 53.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=248,slow=5.5,SNR=10						
ILAR	**Eielson Array**	**83.05**	**22**	P	**P**	**19 23 53.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**150.18**	**287**	PKPbc	**PKPbc**	**19 31 19.6**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=94,slow=2.2,SNR=3.0						

ISK ***12*** *19:15:14.9, 36.06N×31.31E, h16km, ML3.1/34*
NIC ***12*** *19:15:16.7±0.0, 36.00N×31.51E, h24km±4km, Ml3.3/5*
DDA ***12*** *19:15:16.3, 36.11N×31.41E, h10km±1km, ML2.7*
ISC 12 19:15:16.5±1.2, 36.05N±0.03×31.40E±0.02, h24km±14km, n60, σ1s 17/75, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALAN	**Alanya-ANTALYA**	**0.72**	**45**	PG	**Pb**	**19 15 29.5**	**-0.9**
ALAN				SG	**Sb**	**19 15 39.9**	**-0.1**
GAZI	**Gazipasa**	**0.77**	**75**	PG	**Pb**	**19 15 30.9**	**-0.3**
GAZI	**Gazipasa**	**0.77**	**75**	*i* P	**Pb**	**19 15 30.9**	**-0.3**
GAZI				*i* S	**Sb**	**19 15 40.6**	**-0.6**
GAZI				IAML		19 15 42.0	
	comp=N,388nm,0.5s						
GAZI				IAML		19 15 42.0	
	comp=E,494nm,0.4s						
KEPZ	**Antalya-Kepez**	**0.87**	**11**	*i* P	**Pb**	**19 15 32.0**	**-1.0**
KEPZ				*i* S	**Sb**	**19 15 43.4**	**-0.9**
KEPZ				IAML		19 15 44.0	
	comp=N,287nm,0.2s						
KEPZ				IAML		19 15 45.0	
	comp=E,332nm,0.8s						
KEMT	**Kemer-ANTALYA**	**0.88**	**310**	PG	**Pb**	**19 15 31.9**	**-1.1**
AKUM	**Antalya-Kumluc**	**0.90**	**288**	*i* P	**Pb**	**19 15 33.2**	**-0.1**
AKUM				IAML		19 15 49.0	
	comp=E,300nm,0.5s						
AKUM				*i* S	**Sn**	**19 15 49.0**	**+3.3**
AKUM				IAML		19 15 51.0	
	comp=N,365nm,0.4s						
ANTB	**Antalya**	**1.04**	**325**	PG	**Pb**	**19 15 34.8**	**-1.0**
KORT	**Korkuteli**	**1.27**	**319**	PN	**Pn**	**19 15 38.5**	**-0.4**
AKMS	**Akamas**	**1.28**	**143**	P	**Pn**	**19 15 38.5**	**-0.3**
AKMS				S	**Sb**	**19 15 58.9**	**+3.0**
AKMS				AML	AML	19 16 01.5	
	comp=N,2.7nm,0.3s						
AKMS				AML	AML	19 16 01.5	
	comp=N,2.7nm,0.3s						
AKMS				AML	AML	19 16 05.2	
	comp=N,2.1nm,0.3s						
AKMS				AML	AML	19 16 05.2	
	comp=N,2.1nm,0.3s						
BOZY	**Bozyazi-Mersin**	**1.28**	**87**	PN	**Pn**	**19 15 38.8**	**0.0**
ALFC	**Alefka**	**1.32**	**132**	P	**Pn**	**19 15 38.1**	**-1.4**
ALFC				S	**Sn**	**19 15 54.5**	**-1.9**
ALFC				AML	AML	19 15 59.5	
	comp=N,2.2nm,0.3s						
ALFC				AML	AML	19 15 59.5	
	comp=N,2.2nm,0.3s						
ALFC				AML	AML	19 16 06.8	
	comp=N,2.0nm,0.4s						
ALFC				AML	AML	19 16 06.8	
	comp=N,2.0nm,0.4s						
ELL	**Elmali**	**1.39**	**301**	PN	**Pn**	**19 15 40.5**	**0.0**
ELL	**Elmali**	**1.39**	**301**	P	**Pb**	**19 15 41.3**	**-0.6**
ELL				S	**Sb**	**19 16 01.6**	**+2.3**
TEKE	**Tekeli-Mersin**	**1.39**	**86**	PN	**Pn**	**19 15 40.2**	**-0.2**
TEKE				SN	**Sb**	**19 15 58.9**	**-0.3**
SEYD	**Seydisehir-KON**	**1.40**	**14**	PN	**Pn**	**19 15 40.5**	**-0.2**
AKAS	**Kas**	**1.46**	**278**	PN	**Pn**	**19 15 41.1**	**-0.4**
AKAS	**Kas**	**1.46**	**278**	*i* P	**Pn**	**19 15 40.4**	**-1.1**
KSL	**Kastellorizon**	**1.47**	**275**	P	**Pn**	**19 15 40.5**	**-1.0**
KSL				S	**Sb**	**19 16 02.0**	**+0.5**
AKDN	**Akdeniz- Kıbrı**	**1.48**	**120**	PN	**Pn**	**19 15 41.5**	**-0.1**
BERE	**Bereket-Mersin**	**1.51**	**78**	PN	**Pn**	**19 15 42.2**	**+0.1**
LEF	**Lefka**	**1.53**	**127**	PN	**Pn**	**19 15 40.7**	**-1.6**
LEF	**Lefka**	**1.53**	**127**	*i* P	**Pn**	**19 15 40.9**	**-1.4**
LEF				IAML		19 16 01.0	
	comp=E,110nm,0.4s						
LEF				IAML		19 16 02.0	
	comp=N,88nm,0.3s						
BCK	**Bucak**	**1.56**	**336**	PN	**Pn**	**19 15 42.4**	**-0.3**
YORU	**Yoruktepe-Mers**	**1.63**	**86**	PN	**Pn**	**19 15 44.1**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.70**	**76**	PN	**Pn**	**19 15 45.4**	**+0.7**
AKK1	**Akkuyu-Mersin**	**1.74**	**86**	PN	**Pn**	**19 15 45.5**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.74**	**85**	*i* P	**Pn**	**19 15 45.9**	**+0.7**
AKK2	**Akkuyu-Mersin**	**1.75**	**86**	PN	**Pn**	**19 15 45.7**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.75**	**86**	PN	**Pn**	**19 15 45.6**	**+0.3**
SZAC	**Souni**	**1.77**	**136**	P	**Pb**	**19 15 47.8**	**-0.5**
SZAC				S	**Sb**	**19 16 14.7**	**+4.7**
SZAC				AML	AML	19 16 19.6	
	comp=N,1.0nm,0.6s						
SZAC				AML	AML	19 16 19.6	
	comp=N,1.0nm,0.6s						
SZAC				AML	AML	19 16 19.8	
	comp=N,1.5nm,0.7s						
SZAC				AML	AML	19 16 19.8	
	comp=N,1.5nm,0.7s						
TISA	**Tisan-Mersin**	**1.85**	**86**	PN	**Pn**	**19 15 47.2**	**+0.5**
IKL	**Isikli**	**1.86**	**83**	PN	**Pn**	**19 15 47.3**	**+0.4**
KRMN	**Karaman**	**1.88**	**53**	PN	**Pn**	**19 15 47.5**	**+0.3**
KARG	**Kargicak-Mersi**	**1.88**	**85**	PN	**Pn**	**19 15 47.8**	**+0.7**
KMER	**Konya-Meram**	**1.89**	**24**	*i* P	**Pn**	**19 15 48.4**	**+1.1**
KMER				*i* S	**Sn**	**19 16 11.6**	**+1.1**
KMER				IAML		19 16 13.0	
	comp=N,84nm,0.4s						
KMER				IAML		19 16 13.0	
	comp=E,71nm,0.4s						
GOLH	**Golhisar**	**1.90**	**309**	*i* P	**Pn**	**19 15 48.8**	**+1.4**
GOLH				*i* S	**Sb**	**19 16 12.6**	**-1.1**
GOLH				IAML		19 16 19.0	
	comp=N,76nm,0.6s						

ISP	**Isparta**	**1.91**	**339**	PN	**Pn**	**19 15 47.6**	**0.0**
FETY	**Fethiye**	**1.96**	**288**	PN	**Pn**	**19 15 47.8**	**-0.4**
FETY	**Fethiye**	**1.96**	**288**	*i* P	**Pn**	**19 15 47.6**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.96**	**327**	*i* P	**Pn**	**19 15 49.0**	**+0.6**
ASGA	**Asgata**	**1.97**	**129**	P	**Pn**	**19 15 48.9**	**+0.7**
ASGA				AML	AML	19 16 23.2	
	comp=N,0.8nm,0.4s						
BAGO	**Egridir - ISPA**	**2.00**	**346**	*i* P	**Pn**	**19 15 49.0**	**+0.1**
DOGA	**KÖNYA_Doganhis**	**2.07**	**6**	*i* P	**Pn**	**19 15 50.1**	**+0.3**
DOGA				IAML		19 16 19.0	
	comp=N,51nm,0.3s						
SILI	**Silifke-Mersin**	**2.07**	**80**	PN	**Pn**	**19 15 50.5**	**+0.8**
MVOU	**Mavrovouni**	**2.09**	**119**	P	**Pn**	**19 15 48.3**	**-1.7**
MVOU				S	**Sn**	**19 16 12.7**	**-2.6**
MVOU				AML	AML	19 16 25.6	
	comp=N,0.7nm,0.5s						
MVOU				AML	AML	19 16 25.6	
	comp=N,0.7nm,0.5s						
MVOU				AML	AML	19 16 26.7	
	comp=N,0.5nm,0.6s						
MVOU				AML	AML	19 16 26.7	
	comp=N,0.5nm,0.6s						
BASM	**Basmaki-Afyon**	**2.16**	**330**	PN	**Pn**	**19 15 51.6**	**+0.6**
KIZK	**Mersin**	**2.26**	**78**	PN	**Pn**	**19 15 52.8**	**+0.4**
LADK	**Ladik-KONYA**	**2.29**	**19**	PN	**Pn**	**19 15 53.1**	**+0.3**
EREN	**Erenkoy**	**2.31**	**102**	PN	**Pn**	**19 15 53.9**	**+0.9**
KDHN	**Kadinhani**	**2.54**	**13**	*i* P	**Pn**	**19 15 55.6**	**-0.7**
KDHN				*i* S	**Sn**	**19 16 25.5**	**-1.0**
OSC1	**CSNet OBS 1**	**2.54**	**182**	P	**Pn**	**19 15 55.9**	**-0.3**
OSC1				S	**Sn**	**19 16 25.2**	**-1.2**
YESY	**Yesilyurt**	**2.56**	**47**	PN	**Pn**	**19 15 57.1**	**+0.6**
MERS	**Mersin**	**2.65**	**71**	PN	**Pn**	**19 15 58.7**	**+0.9**
SULT	**Sultanhani-AKS**	**2.74**	**38**	PN	**Pn**	**19 15 59.9**	**+0.9**
CHBY	**Cihanbeyli**	**2.80**	**25**	PN	**Pn**	**19 16 00.5**	**+0.7**
KIZT	**Kizilcal**	**2.85**	**8**	PN	**Pn**	**19 16 00.9**	**+0.3**
OSC2	**CSNet OBS 4**	**3.05**	**166**	P	**Pn**	**19 16 03.2**	**+0.1**
KARA	**Karaisali**	**3.18**	**67**	PN	**Pn**	**19 16 06.0**	**+1.0**
KRTS	**Karatas**	**3.25**	**80**	PN	**Pn**	**19 16 07.4**	**+1.4**
CMRD	**Camardi-Nigde**	**3.30**	**60**	PN	**Pn**	**19 16 07.8**	**+1.0**

NEIC ***12*** *19:15:33.7±2.8, 43.°57N±0.°05×105.°2W±0.°1, h0km±2km, ML3.3/43, Error ellipse: s-maj=15.2km s-min=3.1km az=57.0*

IDC ***12*** *19:15:33.4±1.8, 43.°77N×105.°57W, h0km, mb4.2/2, mb1 4.1/4, mb1mx3.5/48, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=53.0km s-min=9.5km az=151.0*

ISC 12 19:15:33.1±0.9, 43.°58N±0.°05×105.°29W±0.°06, h0km, n38, σ1♀68/36, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.05**	**59**	Pg		**Pb**	**19 15 53.8**	**-0.6**
K22A	**Casper**	**1.30**	**225**			**Pg**	**19 15 57.4**	**-0.6**
PHWY	**Pilot Hill**	**2.29**	**183**			**Pn**	**19 16 14.0**	**+1.7**
RWWY	**Rawlins**	**2.37**	**217**	Pn		**Pn**	**19 16 14.4**	**+1.0**
RWWY				IAML			19 16 49.7	
	177nm,0.8s							
RWWY				IAML			19 16 52.7	
	129nm,0.5s							
N23A	**Red Feather La**	**2.73**	**190**	Pn		**Pn**	**19 16 20.3**	**+1.8**
N23A				IAML			19 17 02.4	
	comp=N,129nm,0.5s							
N23A				IAML			19 17 04.3	
	comp=E,113nm,0.5s							
LAO	**LASA Array**	**3.17**	**348**	Pn		**Pn**	**19 16 26.7**	**+2.3**
BW06	**Boulder Array**	**3.23**	**257**	Pn		**Pn**	**19 16 26.5**	**+1.2**
BW06				IAML			19 17 15.0	
	comp=E,58nm,0.5s							
BW06				IAML			19 17 16.9	
	comp=E,45nm,0.4s							
PD31	**Pinedale Array**	**3.23**	**257**			**Pn**	**19 16 26.3**	**+1.1**
PDAR	**Pinedale Array**	**3.23**	**257**	Pn		**Pn**	**19 16 25.9**	**+0.7**
	comp=E,4.1nm,0.3s,baz=74,slow=16,SNR=31							
PDAR				Lg		Lg	19 17 11.1	
	comp=E,19nm,0.3s,baz=69,slow=33,SNR=3.6							
PDAR	**Pinedale Array**	**3.23**	**257**	Pn		**Pn**	**19 16 27.3**	**+2.0**
RLMT	**Red Lodge**	**3.24**	**300**	Pn		**Pn**	**19 16 26.2**	**+0.8**
RLMT				IAML			19 17 24.3	
	comp=E,64nm,0.5s							
OGNE	**Ogallala**	**3.58**	**136**			**Pn**	**19 16 32.2**	**+2.3**
YNE	**Yellowstone No**	**3.67**	**294**	Pn		**Pn**	**19 16 32.1**	**+0.7**
YMP	**Mirror Lake Pl**	**3.69**	**290**	Pn		**Pn**	**19 16 33.1**	**+1.5**
ISCO	**Idaho Springs**	**3.79**	**184**			**Pn**	**19 16 35.1**	**+2.1**
GCMT	**Greycliff**	**3.82**	**307**	Pn		**Pn**	**19 16 34.9**	**+1.6**
LOHW	**Long Hollow**	**3.86**	**272**			**Pn**	**19 16 35.6**	**+1.7**
LOHW				IAML			19 17 34.2	
	comp=E,42nm,0.4s							
H17A	**Grant Village**	**3.90**	**284**			**Pn**	**19 16 36.9**	**+2.4**
H17A				IAML			19 18 15.4	
	comp=N,34nm,0.1s							
H17A				IAML			19 18 23.4	
	comp=E,34nm,0.1s							
YPP	**Pitchstone Pla**	**4.04**	**282**			**Pn**	**19 16 37.1**	**+0.6**
REDW	**Red Top Meadow**	**4.05**	**269**			**Pn**	**19 16 40.0**	**+3.4**
REDW				IAML			19 17 44.3	
	comp=E,41nm,0.5s							
O20A	**White River Ci**	**4.09**	**214**	Pn		**Pn**	**19 16 39.0**	**+1.9**
O20A				IAML			19 18 29.2	
	comp=N,32nm,2.1s							
O20A				IAML			19 19 16.8	
	comp=E,37nm,3.4s							
IMW	**Indian Meadow**	**4.11**	**276**			**Pn**	**19 16 39.7**	**+2.4**
IMW				IAML			19 17 47.5	
	comp=E,41nm,0.5s							
IMW				IAML			19 17 49.2	
	comp=E,28nm,0.5s							
TPAW	**Teton Pass**	**4.12**	**271**	Pn		**Pn**	**19 16 39.1**	**+1.6**
TPAW				IAML			19 17 55.1	
	comp=E,20nm,0.5s							
TPAW				IAML			19 17 56.6	
	comp=E,40nm,0.9s							
YHL	**Hebgen Lake**	**4.42**	**289**	Pn		**Pn**	**19 16 44.9**	**+3.2**
KSCO	**Kaye Sheddick'**	**4.99**	**155**	Pn		**Pn**	**19 16 49.6**	**+0.2**
HWUT	**Hardware Ranch**	**5.04**	**249**	Pn		**Pn**	**19 16 51.9**	**+1.8**
HWUT				IAML			19 18 31.2	
	comp=E,20nm,1.2s							
HWUT				IAML			19 18 41.7	
	comp=E,18nm,1.2s							
EGMT	**Eagleton**	**5.43**	**326**	Pn		**Pn**	**19 16 56.8**	**+1.5**
LRM	**Limekiln Ridge**	**5.57**	**296**			**Pn**	**19 16 57.3**	**-0.2**
PV11	**David Mesa, Pa**	**5.94**	**208**			**Pn**	**19 17 02.6**	**+0.2**
T25A	**Trinidad**	**6.47**	**174**	Pn		Pn	19 17 05.2	-4.7
DUG	**Dugway, Tooele**	**6.55**	**241**	Pn		**Pn**	**19 17 11.7**	**+0.8**
HLID	**Hailey**	**6.63**	**273**	Pn		**Pn**	**19 17 12.1**	**+0.2**
MVCO	**Mesa Verde**	**6.82**	**202**	Pn		**Pn**	**19 17 12.3**	**-2.3**
MSO	**Missoula**	**6.92**	**301**	Pn		**Pn**	**19 17 16.0**	**+0.2**
I10CA	**LAC DU BONNET**	**9.16**	**41**	*i*			20 12 30.0	
	baz=224,slow=310,SNR=4.4							
ULM	**Lac du Bonnet**	**9.27**	**41**	Pn		**Pn**	**19 17 46.1**	**-1.7**
	comp=E,1.2nm,0.3s,baz=227,slow=12,SNR=11							
ULM				Lg		Lg	19 20 21.8	
	comp=E,0.4nm,0.3s,baz=148,slow=19,SNR=3.7							
ARCES	**ARCESS Array B**	**61.57**	**18**	P		**P**	**19 25 51.5**	**-0.1**
	comp=E,4.9nm,1.1s,baz=334,slow=6.9,SNR=3.5							
FINES	**FINESS Array B**	**68.18**	**23**	P		**P**	**19 26 34.5**	**-0.3**
	comp=E,1.8nm,0.9s,baz=305,slow=7.5,SNR=3.5							

NEIC ***12*** *19:22:33.4±2.2, 5.°64S±0.°05×152.°4E±0.°1, h10km±2km, mb4.6/22, Error ellipse: s-maj=25.7km s-min=5.9km az=104.0*

IDC ***12*** *19:22:34.7±3.7, 5.°51S×152.°40E, h25km±21km, mb3.8/10, mb1 4.0/11, mb1mx3.8/46, mbtmp4.0/11, ML2.3/1, Error ellipse: s-maj=33.6km s-min=15.7km az=112.0*

ISC 12 19:22:36.9±0.9, 5.°59S±0.°08×152.°4E±0.°1, h40km, n41, σ1♀25/44, mb4.4/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.31**	**345**	Pg		**Pn**	**19 22 57.6**	**-1.1**
	749nm,0.3s,baz=145,slow=2.1,SNR=226							
KRVT				Lg		Lg	19 23 15.0	
	957nm,0.3s,baz=156,slow=20,SNR=17							
KRVT				LR		LR	19 23 31.7	
	comp=Z,658nm,21.9s,baz=331,slow=46							
RABL	**Rabaul**	**1.40**	**352**	Pn		**Pn**	**19 22 59.8**	**-0.2**
RABL						**Sn**	**19 23 19.6**	**+2.4**
PMG	**Port Moresby**	**6.40**	**233**	Pn		**Pn**	**19 24 09.7**	**+1.0**
	3.9nm,0.3s,baz=39,slow=10,SNR=8.7							
PMG				Sn		**Sn**	**19 25 21.1**	**+0.5**
	8.9nm,0.3s,baz=106,slow=22,SNR=11							
PMG	**Port Moresby**	**6.40**	**233**			**Pn**	**19 24 08.4**	**-0.3**
COEN	**Coen**	**12.29**	**227**	Pn		**Pn**	**19 25 30.0**	**+0.6**
MTN	**Manton Dam**	**22.14**	**250**	P		**P**	**19 27 29.6**	**+0.2**
MTN				IAmb		IAmb	19 27 34.1	
	comp=Z,18nm,1.3s							
WB0	**Warramunga Arr**	**22.45**	**230**	P		**P**	**19 27 33.3**	**+0.6**
WR0	**Warramunga Arr**	**22.46**	**229**	P		**P**	**19 27 33.5**	**+0.7**
WRAB	**Tennant Creek**	**22.59**	**229**	P		**P**	**19 27 32.0**	**-2.1**
WB2	**Warramunga Arr**	**22.59**	**229**	P		**P**	**19 27 33.7**	**-0.5**
WRA	**Warramunga Arr**	**22.60**	**229**	P		**P**	**19 27 34.1**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=53,slow=9.7,SNR=32							
WRA				PcP		**PcP**	**19 31 28.1**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=50,slow=2.3,SNR=2.3							
WRA	**Warramunga Arr**	**22.60**	**229**	P		**P**	**19 27 34.2**	**-0.1**
KNRA	**Kununurra**	**25.24**	**245**	P		**P**	**19 27 57.5**	**-1.8**
KNRA				IAmb		IAmb	19 28 03.8	
	comp=Z,22nm,1.1s							
AS31	**Alice Springs**	**25.28**	**223**	P		**P**	**19 27 59.8**	**+0.2**
ASAR	**Alice Springs**	**25.28**	**223**	P		**P**	**19 28 00.1**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=57,slow=9.1,SNR=56							
BATI	**Baumata**	**28.78**	**259**	P		**P**	**19 28 33.0**	**+1.7**
	comp=Z,5.6nm,0.5s,baz=100,slow=6.1,SNR=2.1							
FITZ	**Fitzroy Crossi**	**28.90**	**242**	P		**P**	**19 28 32.0**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=66,slow=7.9,SNR=11							
FITZ	**Fitzroy Crossi**	**28.90**	**242**	P		**P**	**19 28 32.3**	**0.0**
FITZ				IAmb		IAmb	19 28 40.7	
	comp=Z,11nm,1.4s							
CMAR	**Chiang Mai Arr**	**57.82**	**296**	P		**P**	**19 32 23.9**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=119,slow=5.6,SNR=4.9							
SONM	**Songino Array**	**66.75**	**328**	P		**P**	**19 33 24.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=146,slow=4.7,SNR=2.7							
SONM	**Songino Array**	**66.75**	**328**	P		**P**	**19 33 23.2**	**-1.0**
VNDA	**Vanda**	**72.07**	**178**	P		**P**	**19 33 55.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=23,slow=7.7,SNR=2.1							
OHAK	**Old Harbor**	**76.44**	**27**	P		**P**	**19 34 22.6**	**+0.5**
SVW2	**Sparrevohn**	**77.72**	**23**	P		**P**	**19 34 31.4**	**+2.1**
SVW2				IAmb		IAmb	19 34 49.7	
	comp=Z,15nm,1.4s							
CNPM	**China Poot**	**78.61**	**26**	P		**P**	**19 34 36.0**	**+1.7**
TTA	**Tatalina**	**78.66**	**21**	P		**P**	**19 34 36.3**	**+1.8**
TTA				IAmb		IAmb	19 34 37.0	
	comp=Z,4.6nm,0.9s							
MKAR	**Makanchi Array**	**80.63**	**319**	P		**P**	**19 34 44.6**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=112,slow=6.5,SNR=2.3							
MKAR	**Makanchi Array**	**80.63**	**319**	P		**P**	**19 34 44.0**	**-1.6**
ZALV	**Zalesovo Beam**	**81.56**	**326**	P		**P**	**19 34 49.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=116,slow=6.6,SNR=2.5							
M24K	**Tolsona, Glenn**	**82.05**	**25**	P		**P**	**19 34 54.9**	**+2.1**
CCB	**Clear Creek Bu**	**82.64**	**22**	P		**P**	**19 34 56.2**	**+0.5**
CCB				IAmb		IAmb	19 34 56.7	
	comp=Z,3.0nm,0.8s							
IL31		**83.05**	**22**	P		**P**	**19 34 57.8**	**0.0**
IL31				IAmb		IAmb	19 34 58.6	
	comp=Z,2.6nm,0.7s							
ILAR	**Eielson Array**	**83.05**	**22**	P		**P**	**19 34 58.0**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=245,slow=5.4,SNR=40							
ILAR	**Eielson Array**	**83.05**	**22**	P		**P**	**19 34 56.5**	**-1.3**
BALM	**Baldy**	**83.22**	**26**	P		**P**	**19 35 00.4**	**+1.4**
BALM				IAmb		IAmb	19 35 01.2	
	comp=Z,7.2nm,0.9s							
BARN	**Barnard Glacie**	**83.54**	**27**	P		**P**	**19 34 58.6**	**-2.1**
DOT	**Dot Lake**	**83.62**	**24**	P		**P**	**19 35 02.0**	**+1.1**
DOT				IAmb		IAmb	19 35 03.1	
	comp=Z,4.3nm,0.9s							
CTGM	**Chitina Glacie**	**83.64**	**27**	P		**P**	**19 35 02.1**	**+0.9**
BCAR	**Beaver Creek A**	**84.30**	**25**	P		**P**	**19 35 06.3**	**+1.9**
EGAK	**Eagle**	**85.25**	**23**	P		**P**	**19 35 11.0**	**+1.9**
EGAK				IAmb		IAmb	19 35 12.6	
	comp=Z,11nm,1.5s							
TORD	**Torodi Ar. Bea**	**150.12**	**287**	PKPbc		**PKPbc**	**19 42 23.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=88,slow=2.6,SNR=11							

NEIC ***12*** *19:28:50.9±1.9, 21.°85S±0.°06×177.°9W±0.°1, h369km±7km, mb4.2/36, Error ellipse: s-maj=15.7km s-min=8.1km az=79.0*

IDC ***12*** *19:28:52.5±2.8, 21.°84S×178.°02W, h377km±28km, mb3.8/17, mb1 4.0/19, mb1mx3.8/39, mbtmp4.6/19, Error ellipse: s-maj=19.1km s-min=14.6km az=175.0*

ISC 12 19:28:51.6±0.4, 21.°85S±0.°06×177.°91W±0.°08, h373km, n116, σ1♀26/119, mb4.2/35, 25C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.59**	**316**	Pn		**Pn**	**19 30 20.8**	**+2.0**
RAO	**Raoul Island**	**7.37**	**180**	P		**Pn**	**19 30 38.3**	**-0.4**
	43nm,0.3s,baz=76,slow=23,SNR=1.8							
RAO				S		**S**	**19 32 04.1**	**-2.1**
	112nm,0.3s,baz=270,slow=20,SNR=4.4							
RAO	**Raoul Island**	**7.37**	**180**			**Pn**	**19 30 38.2**	**-0.5**
NIUE	**Niue**	**7.97**	**71**	Pn		**Pn**	**19 30 46.9**	**+1.1**
AFI	**Afiamalu**	**9.81**	**37**	P		**Pn**	**19 31 04.0**	**-3.5**
	7.9nm,0.3s,baz=302,slow=2.3,SNR=9.6							
AFI				S		S	19 32 45.5	-14
	8.6nm,0.3s,baz=181,slow=21,SNR=7.3							
AFI	**Afiamalu**	**9.81**	**37**	Pn		**Pn**	**19 31 03.6**	**-3.9**
DZM	**Mont Dzumac**	**14.52**	**266**	P		**Pn**	**19 32 02.0**	**-0.4**
	0.6nm,0.3s,baz=135,slow=23,SNR=5.6							
SANVU	**Saraoutou**	**15.47**	**292**	P		**P**	**19 32 09.9**	**-0.5**
SANVU				IAmb		IAmb	19 32 21.2	
	comp=Z,15nm,0.9s							
URZ	**Urewera**	**16.91**	**194**	P		**P**	**19 32 26.3**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=278,slow=3.2,SNR=11							
URZ				S		**S**	**19 35 21.5**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=171,slow=19,SNR=1.7							
URZ	**Urewera**	**16.91**	**194**	P		**P**	**19 32 26.0**	**+0.4**
URZ				IAmb		IAmb	19 32 31.6	
	comp=Z,9.8nm,1.0s							
RPZ	**Rata Peaks**	**23.66**	**200**	P		**P**	**19 33 35.1**	**+4.2**
	comp=Z,4.5nm,0.6s,baz=92,slow=23,SNR=2.3							
ARMA	**Armidale**	**28.58**	**246**	P		**P**	**19 34 16.4**	**+1.3**
ARMA				IAmb		IAmb	19 34 18.5	
	comp=Z,13nm,1.1s							
EIDS	**Eidsvold**	**28.60**	**257**	P		**P**	**19 34 15.8**	**+0.7**
CAN	**Canberra**	**31.85**	**238**	P		**P**	**19 34 43.3**	**-0.1**
CAN				IAmb		IAmb	19 34 50.7	
	comp=Z,12nm,1.1s							
CTA	**Charters Tower**	**33.47**	**266**	P		**P**	**19 34 57.6**	**+0.1**
	comp=Z,4.3nm,0.4s,baz=92,slow=10,SNR=12							
CTAO	**Charters Tower**	**33.47**	**266**	P		**P**	**19 34 57.4**	**-0.1**
CTAO				IAmb		IAmb	19 34 59.3	
	comp=Z,5.4nm,0.8s							
KWAJ	**Kwajalein Atol**	**33.61**	**333**	P		**P**	**19 34 59.2**	**+0.5**
TOO	**Toolangi**	**35.19**	**235**	P		**P**	**19 35 12.4**	**+0.5**
TOO				IAmb		IAmb	19 35 23.5	
	comp=Z,8.6nm,1.0s							
PATS	**Pohnpei**	**36.83**	**318**	P		**P**	**19 35 26.7**	**+0.9**
PATS				IAmb		IAmb	19 35 35.6	
	comp=Z,15nm,0.8s							
STKA	**Stephens Creek**	**37.30**	**246**	P		**P**	**19 35 30.4**	**+0.8**
	comp=Z,8.1nm,0.7s,baz=92,slow=11,SNR=13							
STKA	**Stephens Creek**	**37.30**	**246**	P		**P**	**19 35 30.1**	**+0.5**
COEN	**Coen**	**37.77**	**275**	P		**P**	**19 35 34.5**	**+0.8**
BBOO	**Buckleboo**	**42.04**	**245**	P		**P**	**19 36 07.7**	**-0.5**
BBOO				IAmb		IAmb	19 36 20.9	
	comp=Z,11nm,0.9s							
AS31	**Alice Springs**	**44.31**	**258**	P		**P**	**19 36 26.1**	**-0.3**
ASAR	**Alice Springs**	**44.31**	**258**	P		**P**	**19 36 25.9**	**-0.5**
	comp=Z,7.1nm,0.6s,baz=97,slow=8.3,SNR=132							
ASAR				PcP		**PcP**	**19 38 03.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=104,slow=4.0,SNR=5.5							
ASAR	**Alice Springs**	**44.31**	**258**	P		**P**	**19 36 25.7**	**-0.7**
ASAR						**PcP**	**19 38 05.0**	**+1.8**
WR0	**Warramunga Arr**	**44.33**	**263**	P		**P**	**19 36 25.7**	**-0.8**
WB0	**Warramunga Arr**	**44.50**	**264**	P		**P**	**19 36 27.1**	**-0.8**
WB2	**Warramunga Arr**	**44.50**	**263**	P		**P**	**19 36 26.8**	**-1.1**
WB2				IAmb		IAmb	19 36 27.8	
	comp=Z,5.6nm,0.7s							
WRAB	**Tennant Creek**	**44.51**	**263**	P		**P**	**19 36 27.0**	**-0.9**
WRAB				IAmb		IAmb	19 36 28.2	
	comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**44.52**	**263**	P		**P**	**19 36 26.9**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=96,slow=7.6,SNR=75							
WRA	**Warramunga Arr**	**44.52**	**263**	P		**P**	**19 36 25.9**	**-2.0**
JAY	**Jayapura**	**44.56**	**290**	P		**P**	**19 36 27.8**	**-0.7**
	comp=Z,16nm,0.6s,baz=126,slow=5.2,SNR=11							
FORT	**Forrest**	**48.85**	**248**	P		**P**	**19 37 00.5**	**-0.5**
FORT				IAmb		IAmb	19 37 09.0	
	comp=Z,31nm,1.0s							
MTN	**Manton Dam**	**49.27**	**272**	P		**P**	**19 37 03.5**	**-0.9**
MTN				IAmb		IAmb	19 37 13.7	
	comp=Z,10nm,1.1s							
KNRA	**Kununurra**	**50.67**	**267**	P		**P**	**19 37 14.4**	**-0.3**
KNRA				IAmb		IAmb	19 37 15.7	
	comp=Z,15nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.95**	**263**	P		**P**	**19 37 31.3**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=62,slow=7.2,SNR=25							
FITZ	**Fitzroy Crossi**	**52.95**	**263**	P		**P**	**19 37 31.0**	**-0.4**
SIJI	**Sorong**	**53.67**	**286**	P		**P**	**19 37 35.8**	**-0.9**
	comp=Z,16nm,0.8s,baz=94,slow=8.3,SNR=6.5							
SOEI	**Soe**	**56.64**	**273**	P		**P**	**19 38 00.1**	**+2.3**
	comp=Z,44nm,1.1s							
SOEI	**Soe**	**56.64**	**273**	P		**P**	**19 37 58.4**	**+0.6**
BATI	**Baumata**	**57.05**	**272**	P		**P**	**19 38 00.7**	**+0.2**
	comp=Z,15nm,0.6s,baz=171,slow=1.9,SNR=8.5							
TNTI	**Ternate**	**57.89**	**285**	P		**P**	**19 38 06.1**	**-0.2**
	comp=Z,18nm,1.1s							
SANI	**Sanana**	**57.93**	**282**	P		**P**	**19 38 06.2**	**-0.4**
MORW	**Morawa**	**59.41**	**248**	P		**P**	**19 38 15.8**	**-0.7**
MORW				IAmb		IAmb	19 38 18.5	
	comp=Z,12nm,1.1s							
GIRL	**Giralia**	**62.28**	**255**	P		**P**	**19 38 37.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**66.47**	**270**	P		**P**	**19 39 01.0**	**-1.6**
QSPA	**South Pole Qui**	**68.23**	**180**	P		P	19 39 20.4	+7.5
JGF	**Kuroka**	**71.13**	**323**	P		**P**	**19 39 30.3**	**-0.4**
JGF				IAmb		IAmb	19 39 47.0	
	comp=Z,6.1nm,1.1s							
MJAR	**Matsushiro Arr**	**71.34**	**324**	P		**P**	**19 39 31.7**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=159,slow=5.9,SNR=16							
MJAR	**Matsushiro Arr**	**71.34**	**324**	P		**P**	**19 39 31.8**	**-0.1**
MAT	**Matsushiro**	**71.34**	**324**	P		**P**	**19 39 31.7**	**-0.2**
KSM	**Kuching**	**73.69**	**278**	P		**P**	**19 39 46.0**	**-0.1**
ASAJ	**Asahikawa**	**74.95**	**332**	P		**P**	**19 39 54.5**	**+2.0**
	comp=Z,9.9nm,0.8s,baz=143,slow=26,SNR=2.6							
USRK	**Ussuriysk Ar.**	**80.12**	**326**	P		**P**	**19 40 22.2**	**+1.3**
	comp=Z,3.3nm,0.6s,baz=116,slow=4.4,SNR=10							
USRK	**Ussuriysk Ar.**	**80.12**	**326**	P		**P**	**19 40 22.6**	**+1.7**
MAW	**Mawson**	**80.33**	**200**	P		**P**	**19 40 22.7**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=114,slow=7.7,SNR=3.8							
NVAR	**Mina Array Bea**	**81.94**	**43**	P		**P**	**19 40 32.5**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=223,slow=9.6,SNR=6.8							
SNAA	**Sanae**	**86.67**	**178**	P		P	19 40 58.7	+5.1
VNA3	**Neumayer Olymp**	**86.80**	**176**	P		P	19 40 59.7	+5.5
TXAR	**Lajitas Array**	**87.71**	**57**	P		**P**	**19 41 01.3**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=212,slow=12,SNR=4.1							
WRH	**Wood River Hil**	**89.09**	**12**	P		**P**	**19 41 04.5**	**-0.3**
HDA	**Harding Lake**	**89.27**	**13**	P		**P**	**19 41 05.0**	**-0.6**
CCB	**Clear Creek Bu**	**89.31**	**12**	P		**P**	**19 41 05.0**	**-0.8**
IMAR	**Indian Mountai**	**89.46**	**10**	P		**P**	**19 41 06.6**	**+0.1**
MDM	**Murphy Dome**	**89.50**	**12**	P		**P**	**19 41 05.8**	**-0.9**
MDM				IAmb		IAmb	19 41 08.5	
	comp=Z,7.6nm,0.9s							
IL31		**89.60**	**13**	P		**P**	**19 41 05.8**	**-1.3**
IL31				IAmb		IAmb	19 41 08.9	
	comp=Z,3.2nm,0.9s							
ILAR	**Eielson Array**	**89.60**	**13**	P		**P**	**19 41 06.4**	**-0.8**
	comp=Z,2.2nm,0.4s,baz=216,slow=5.3,SNR=50							
ILAR	**Eielson Array**	**89.60**	**13**	P		**P**	**19 41 06.5**	**-0.7**
PDAR	**Pinedale Array**	**89.88**	**43**	P		**P**	**19 41 10.6**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=219,slow=2.8,SNR=6.2							
CMAR	**Chiang Mai Arr**	**90.64**	**290**	P		**P**	**19 41 13.4**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=127,slow=2.6,SNR=7.0							
EGAK	**Eagle**	**90.88**	**15**	P		**P**	**19 41 13.6**	**+0.5**
E

TUMR				*e*S	**Sn**	19 31 52.1	+0.9		
TUMR	**Tumrok**	**1.51**	**277**	PN	**Pn**	19 31 31.5	-1.2		
TUMR				S	**Sn**	19 31 52.1	+0.9		
CIRR	**Tsirk**	**1.52**	**312**	*e*P	**Pn**	19 31 31.9	-0.9		
CIRR	**Tsirk**	**1.52**	**312**	PN	**Pn**	19 31 31.9	-0.9		
LGNR	**Loginova**	**1.52**	**310**	*e*P	**Pn**	19 31 32.5	-0.5		
LGNR	**Loginova**	**1.52**	**310**	PN	**Pn**	19 31 32.5	-0.5		
BZMR	**Bezymyannaya**	**1.53**	**303**	*e*P	**Pn**	19 31 32.2	-0.8		
BZMR	**Bezymyannaya**	**1.53**	**303**	PN	**Pn**	19 31 32.2	-0.8		
BZWR	**Bezymyannyi-We**	**1.54**	**304**	*e*P	**Pn**	19 31 32.3	-0.8		
BZWR	**Bezymyannyi-We**	**1.54**	**304**	PN	**Pn**	19 31 32.3	-0.8		
KMNR	**Kamenistaya**	**1.57**	**295**	*e*P	**Pn**	19 31 32.6	-0.9		
KMNR	**Kamenistaya**	**1.57**	**295**	PN	**Pn**	19 31 32.6	-0.9		
KIRR	**Kirishev**	**1.61**	**302**	*e*P	**Pn**	19 31 33.6	-0.5		
KIRR				*e*S	**Sn**	19 31 55.3	+1.6		
KIRR	**Kirishev**	**1.61**	**302**	PN	**Pn**	19 31 33.6	-0.5		
KIRR				S	**Sn**	19 31 55.3	+1.6		
SMKR	**Semkarok**	**1.64**	**334**	*e*P	**Pn**	19 31 34.2	-0.2		
SMKR	**Semkarok**	**1.64**	**334**	PN	**Pn**	19 31 34.2	-0.2		
KRSR	**Krestovskiy**	**1.66**	**312**	*e*P	**Pn**	19 31 33.6	-1.1		
KRSR	**Krestovskiy**	**1.66**	**312**	PN	**Pn**	19 31 33.6	-1.1		
KLY	**Klyuchi**	**1.69**	**316**	*e*P	**Pn**	19 31 33.1	-1.9		
KLY				*e*S	**Sn**	19 31 55.5	+0.1		
KLY	**Klyuchi**	**1.69**	**316**	PN	**Pn**	19 31 33.1	-1.9		
KLY				S	**Sn**	19 31 55.5	+0.1		
BDR	**Baidarnaya**	**1.69**	**330**	*e*P	**Pn**	19 31 34.6	-0.6		
BDR	**Baidarnaya**	**1.69**	**330**	PN	**Pn**	19 31 34.6	-0.6		
SRKR	**Sorokina**	**1.78**	**330**	*e*P	**Pn**	19 31 36.0	-0.3		
SRKR	**Sorokina**	**1.78**	**330**	PN	**Pn**	19 31 36.0	-0.3		
BKI	**Bering**	**1.84**	**86**	*e*P	**Pn**	19 31 37.5	+0.4		
BKI				*e*S	**Sn**	19 31 59.7	+0.5		
BKI	**Bering**	**1.84**	**86**	PN	**Pn**	19 31 37.5	+0.4		
BKI				S	**Sn**	19 31 59.7	+0.5		
KOZ	**Kozyrevsk**	**1.89**	**301**	*e*P	**Pn**	19 31 37.8	0.0		
KOZ	**Kozyrevsk**	**1.89**	**301**	PN	**Pn**	19 31 37.8	0.0		
SRDR	**Sredinnyy**	**2.10**	**306**	*e*P	**Pn**	19 31 40.5	-0.2		
SRDR	**Sredinnyy**	**2.10**	**306**	PN	**Pn**	19 31 40.5	-0.2		
KII	**Karymskiy**	**2.21**	**242**	*e*P	**Pn**	19 31 41.2	-1.1		
KII	**Karymskiy**	**2.21**	**242**	PN	**Pn**	19 31 41.2	-1.1		
ESO	**Esso**	**2.44**	**291**	*e*P	**Pn**	19 31 44.1	-1.3		
ESO	**Esso**	**2.44**	**291**	PN	**Pn**	19 31 44.1	-1.3		
SPN	**Mys Shipunski**	**2.59**	**220**	*e*P	**Pn**	19 31 44.9	-2.5		
SPN				*e*S	**Sn**	19 32 16.1	-1.5		
SPN	**Mys Shipunski**	**2.59**	**220**	PN	**Pn**	19 31 44.9	-2.5		
SPN				S	**Sn**	19 32 16.1	-1.5		
SDLR	**Sedlovina**	**2.93**	**233**	*e*P	**Pn**	19 31 51.9	-0.3		
SDLR	**Sedlovina**	**2.93**	**233**	PN	**Pn**	19 31 51.9	-0.3		
KRER	**Koryakskii**	**2.98**	**234**	*e*P	**Pn**	19 31 52.8	-0.1		
KRER	**Koryakskii**	**2.98**	**234**	PN	**Pn**	19 31 52.8	-0.1		
SMAR	**Somma**	**2.98**	**233**	*e*P	**Pn**	19 31 52.8	-0.1		
SMAR				*e*S	**Sn**	19 32 28.8	+1.3		
SMAR	**Somma**	**2.98**	**233**	PN	**Pn**	19 31 52.8	-0.1		
SMAR				S	**Sn**	19 32 28.8	+1.3		
KRX	**Arik**	**2.99**	**235**	*e*P	**Pn**	19 31 52.9	-0.1		
KRX	**Arik**	**2.99**	**235**	PN	**Pn**	19 31 52.9	-0.1		
UGLR	**Uglovaya**	**3.00**	**232**	*e*P	**Pn**	19 31 52.6	-0.6		
UGLR				*e*S	**Sn**	19 32 29.7	+1.8		
UGLR	**Uglovaya**	**3.00**	**232**	PN	**Pn**	19 31 52.6	-0.6		
UGLR				S	**Sn**	19 32 29.7	+1.8		
AVH	**Avacha**	**3.01**	**233**	*e*P	**Pn**	19 31 53.5	+0.3		
AVH				*e*S	**Sn**	19 32 29.9	+1.9		
AVH	**Avacha**	**3.01**	**233**	PN	**Pn**	19 31 53.5	+0.3		
AVH				S	**Sn**	19 32 29.9	+1.9		
KOK	**Koryaka**	**3.04**	**235**	*e*P	**Pn**	19 31 53.7	+0.1		
KOK	**Koryaka**	**3.04**	**235**	PN	**Pn**	19 31 53.7	+0.1		
DALK	**Dalny**	**3.16**	**230**	*e*P	**Pn**	19 31 54.9	-0.2		
DALK				*e*S	**Sn**	19 32 31.5	0.0		
DALK	**Dalny**	**3.16**	**230**	PN	**Pn**	19 31 54.9	-0.2		
DALK				S	**Sn**	19 32 31.5	0.0		
GNL	**Ganaly**	**3.16**	**245**	*e*P	**Pn**	19 31 55.3	0.0		
GNL	**Ganaly**	**3.16**	**245**	PN	**Pn**	19 31 55.3	0.0		
PET	**Petropavlovsk**	**3.21**	**231**	*e*P	**Pn**	19 31 55.7	0.0		
PET				*e*S	**Sn**	19 32 33.7	+1.0		
PET	**Petropavlovsk**	**3.21**	**231**	*i* PN	**Pn**	19 31 55.8	0.0		
PET				*i* S	**Sn**	19 32 33.1	+0.4		
PET	**Petropavlovsk**	**3.21**	**231**		**Pn**	19 31 55.6	-0.2		
KRMR	**Karymshinskiy**	**3.57**	**232**	*e*P	**Pn**	19 32 01.9	+1.1		
KRMR	**Karymshinskiy**	**3.57**	**232**	PN	**Pn**	19 32 01.9	+1.1		
PEA0B	**Petropavlovsk-**	**3.60**	**238**	*c i* PN	**Pn**	19 32 01.2	0.0		
PEA0B	**Petropavlovsk-**	**3.60**	**238**		**Pn**	19 32 00.9	-0.2		
PETK	**Petropavlovsk-**	**3.60**	**238**		**Pn**	19 32 00.8	-0.4		
	9.3nm,0.3s,baz=72,slow=18,SNR=56								
PETK				Sn	**Sn**	19 32 44.3	+1.9		
	12nm,0.3s,baz=47,slow=19,SNR=1.6								
PETK	**Petropavlovsk-**	**3.60**	**238**	Pn	**Pn**	19 32 01.2	0.0		
RUS	**Russkaya**	**3.69**	**225**	*e*P	**Pn**	19 32 01.4	-1.0		
RUS				*e*S	**Sn**	19 32 44.2	-0.4		
RUS	**Russkaya**	**3.69**	**225**	PN	**Pn**	19 32 01.4	-1.0		
RUS				S	**Sn**	19 32 44.2	-0.4		
GRL	**Gorelyy**	**3.79**	**229**	*e*P	**Pn**	19 32 05.1	+1.2		
GRL	**Gorelyy**	**3.79**	**229**	PN	**Pn**	19 32 05.1	+1.2		
MTVR	**Mutnovka**	**3.79**	**228**	*e*P	**Pn**	19 32 04.1	+0.2		
MTVR				*e*S	**Sn**	19 32 48.4	+1.1		
MTVR	**Mutnovka**	**3.79**	**228**	PN	**Pn**	19 32 04.1	+0.2		
MTVR				S	**Sn**	19 32 48.4	+1.1		
APC	**Apacha**	**3.97**	**239**	*e*P	**Pn**	19 32 06.8	+0.5		
APC	**Apacha**	**3.97**	**239**	PN	**Pn**	19 32 06.8	+0.5		
ASAK	**Asacha**	**3.98**	**228**	*e*P	**Pn**	19 32 07.2	+0.7		
ASAK				*e*S	**Sn**	19 32 54.0	+2.1		
ASAK	**Asacha**	**3.98**	**228**	PN	**Pn**	19 32 07.2	+0.7		
ASAK				S	**Sn**	19 32 54.0	+2.1		
OSSR	**Ossora**	**4.14**	**2**	*e*P	**Pn**	19 32 07.7	-0.9		
OSSR	**Ossora**	**4.14**	**2**	PN	**Pn**	19 32 07.7	-0.9		
PALN	**Palana**	**4.26**	**340**	*e*P	**Pn**	19 32 11.3	+1.1		
PALN	**Palana**	**4.26**	**340**	PN	**Pn**	19 32 11.3	+1.1		
KDTR	**Khodutka, Kamc**	**4.34**	**222**	*e*P	**Pn**	19 32 10.9	-0.4		
KDTR				*e*S	**Sn**	19 32 59.6	-1.0		
KDTR	**Khodutka, Kamc**	**4.34**	**222**	PN	**Pn**	19 32 10.9	-0.4		
KDTR				S	**Sn**	19 32 59.6	-1.0		
PAU	**Pauzhetka**	**5.11**	**227**	*e*P	**Pn**	19 32 23.7	+1.8		
PAU	**Pauzhetka**	**5.11**	**227**	PN	**Pn**	19 32 23.7	+1.8		
TILK	**Tilichiki**	**5.64**	**17**	*e*P	**Pn**	19 32 31.0	+1.9		
TILK	**Tilichiki**	**5.64**	**17**	PN	**Pn**	19 32 31.0	+1.9		
SKR	**Severo-Kuril's**	**5.99**	**225**	*e*P	**Pn**	19 32 36.5	+2.5		
SKR	**Severo-Kuril's**	**5.99**	**225**	*e*PN	**Pn**	19 32 35.2	+1.2		
MA2	**Magadan**	**7.87**	**305**	LR	LR	19 36 26.2			
	comp=Z,1μm,18.4s,baz=152,slow=42								
SEY	**Seymchan**	**9.47**	**330**	LR	LR	19 37 27.2			
	comp=Z,1μm,18.8s,baz=165,slow=42								
AMKA	**Amchitka**	**10.59**	**104**	Pn	**Pn**	19 33 35.9	-1.1		
ADK	**Adak**	**12.65**	**96**	PN	**Pn**	19 34 04.1	-0.9		
ADK	**Adak**	**12.65**	**96**	Pn	**Pn**	19 34 04.1	-0.9		
BILL	**Bilibino**	**13.07**	**6**	*e*PN	**P**	19 34 15.1	-4.6		
BILL				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,372nm,15.0s								
ASAJ	**Asahikawa**	**17.02**	**238**	P	**P**	19 35 04.5	+0.8		
	comp=Z,0.6nm,0.3s,baz=43,slow=14,SNR=5.0								
UNV	**Unalaska Valle**	**17.84**	**81**		**Pn**	19 35 11.8	-0.5		
ERM	**Erimo**	**18.36**	**233**	P	**P**	19 35 16.4	-2.0		
ERM				pmax	pmax				
	comp=Z,46nm,1.3s								
ERM	**Erimo**	**18.36**	**233**	P	**P**	19 35 16.4	-2.0		
ERM				IAmb	IAmb	19 35 19.9			
	comp=Z,46nm,1.2s								
YAK	**Yakutsk**	**18.41**	**305**	*e*P	**Pn**	19 35 23.0	+3.7		
YAK				pmax	pmax				
	comp=Z,9.0nm,1.1s								
YAK				pmax	pmax				
	comp=N,6.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.5s								
JTM	**Tenmabayashi**	**20.29**	**234**	P	**P**	19 35 38.1	-1.4		
TIXI	**Tiksi**	**21.96**	**332**	*i* P	**P**	19 35 58.6	+1.4		
TIXI	**Tiksi**	**21.96**	**332**	P	**P**	19 35 56.3	-0.9		
TTA	**Tatalina**	**22.25**	**53**	P	**P**	19 36 01.1	+0.6		
TTA				pmax	pmax				
	comp=Z,6.0nm,1.2s								
TTA	**Tatalina**	**22.25**	**53**	P	**P**	19 36 01.1	+0.6		
JMM	**Marumori**	**22.79**	**230**	P	**P**	19 36 06.3	0.0		
JMM				IAmb	IAmb	19 36 20.1			
	comp=Z,23nm,1.3s								
IMAR	**Indian Mountai**	**23.45**	**45**	P	**P**	19 36 13.2	+0.6		
JSD	**Sado**	**23.79**	**234**	P	**P**	19 36 14.9	-1.2		
JSD				IAmb	IAmb	19 36 33.0			
	comp=Z,24nm,1.5s								
PPLA	**Purkeypile**	**24.00**	**53**	P	**P**	19 36 18.9	+0.9		
PPLA				IAmb	IAmb	19 36 33.2			
	comp=Z,22nm,1.4s								
OHAK	**Old Harbor**	**24.24**	**67**	P	**P**	19 36 20.1	0.0		
OHAK				IAmb	IAmb	19 36 22.8			
	comp=Z,20nm,1.3s								
KDAK	**Kodiak Island**	**24.48**	**65**	P	**P**	19 36 22.1	-0.1		
	comp=Z,5.0nm,0.5s,baz=314,slow=9.2,SNR=8.7								
KDAK	**Kodiak Island**	**24.48**	**65**	P	**P**	19 36 20.6	-1.6		
KDAK				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KDAK	**Kodiak Island**	**24.48**	**65**	P	**P**	19 36 20.6	-1.6		
KDAK				IAmb	IAmb	19 36 25.2			
	comp=Z,7.2nm,0.6s								
BPAW	**Bear Paw Mtn.**	**24.52**	**50**	P	**P**	19 36 22.6	+0.1		
KTH	**Kantishna Hill**	**24.55**	**51**	P	**P**	19 36 23.8	+0.8		
SUA	**Susitna One**	**24.78**	**56**	P	**P**	19 36 26.8	+1.7		
CNPM	**China Poot**	**24.82**	**61**	P	**P**	19 36 25.6	+0.3		
TRF	**Thorofare Moun**	**24.84**	**51**	P	**P**	19 36 26.6	+0.9		
TRF				IAmb	IAmb	19 36 39.6			
	comp=Z,26nm,1.4s								
BRLK	**Bradley Lake**	**24.95**	**60**	P	**P**	19 36 25.0	-1.6		
COLD	**Coldfoot**	**24.99**	**42**	P	**P**	19 36 27.8	+1.0		
MAJO	**Matsushiro**	**25.04**	**232**	P	**P**	19 36 28.2	+0.7		
MAJO				pmax	pmax				
	comp=Z,9.0nm,0.6s								
MAJO	**Matsushiro**	**25.04**	**232**	P	**P**	19 36 28.2	+0.7		
MAJO				IAmb	IAmb	19 36 29.6			
	comp=Z,9.4nm,0.6s								
MAT	**Matsushiro**	**25.04**	**232**	P	**P**	19 36 27.9	+0.4		
MJAR	**Matsushiro Arr**	**25.04**	**232**	P	**P**	19 36 28.1	+0.6		
	comp=Z,3.9nm,0.5s,baz=69,slow=8.0,SNR=30								
MJAR	**Matsushiro Arr**	**25.04**	**232**	P	**P**	19 36 28.0	+0.6		
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MJAR	**Matsushiro Arr**	**25.04**	**232**	P	**P**	19 36 28.0	+0.6		
TOLK	**Toolik Lake Re**	**25.40**	**39**	P	**P**	19 36 32.2	+1.7		
TOLK				IAmb	IAmb	19 36 47.9			
	comp=Z,8.7nm,0.7s								
RND	**Reindeer**	**25.49**	**51**	P	**P**	19 36 31.2	-0.2		
RND				pmax	pmax				
	comp=Z,9.0nm,1.2s								
RND	**Reindeer**	**25.49**	**51**	P	**P**	19 36 31.2	-0.2		
SEW	**Seward**	**25.61**	**59**	P	**P**	19 36 31.2	-1.2		
WRH	**Wood River Hil**	**25.77**	**49**	P	**P**	19 36 34.1	+0.3		
WRH				IAmb	IAmb	19 36 36.2			
	comp=Z,6.4nm,0.8s								
CCB	**Clear Creek Bu**	**25.89**	**49**	P	**P**	19 36 35.9	+1.0		
CCB				IAmb	IAmb	19 36 50.8			
	comp=Z,14nm,1.4s								
DHY	**Denali Highway**	**26.18**	**52**	P	**P**	19 36 38.1	+0.3		
IL31		**26.28**	**48**	P	**P**	19 36 38.9	+0.5		
ILAR	**Eielson Array**	**26.28**	**48**	P	**P**	19 36 38.7	+0.2		
	comp=Z,1.6nm,0.7s,baz=270,slow=8.6,SNR=18								
ILAR	**Eielson Array**	**26.28**	**48**	P	**P**	19 36 37.9	-0.6		
ILAR	**Eielson Array**	**26.28**	**48**	P	**P**	19 36 37.9	-0.6		
M24K	**Tolsona, Glenn**	**26.85**	**54**	P	**P**	19 36 44.9	+1.2		
BMAR	**Burnt Mountain**	**27.18**	**42**	P	**P**	19 36 47.5	+1.0		
RIDG	**Independent Ri**	**27.25**	**50**	P	**P**	19 36 45.7	-1.6		
BCAR	**Beaver Creek A**	**28.71**	**51**	P	**P**	19 37 00.8	+0.6		
EGAK	**Eagle**	**28.72**	**48**	P	**P**	19 37 00.5	+0.2		
BARN	**Barnard Glacie**	**29.17**	**55**	P	**P**	19 37 05.4	+0.9		
BARN				IAmb	IAmb	19 37 23.1			
	comp=Z,11nm,1.2s								
CTGM	**Chitina Glacie**	**29.35**	**56**	P	**P**	19 37 06.6	+0.5		
CTGM				IAmb	IAmb	19 37 23.8			
	comp=Z,13nm,1.3s								
INK	**Inuvik**	**31.30**	**40**	P	**P**	19 37 23.4	+0.5		
	comp=Z,1.8nm,0.7s,baz=310,slow=13,SNR=1.5								
TLY	**Talaya**	**34.50**	**289**	LR	LR	19 52 33.9			
	comp=Z,462nm,20.1s,baz=82,slow=38								
TLY	**Talaya**	**34.50**	**289**	*i* P	**P**	19 37 54.2	+3.0		
TLY				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**34.99**	**282**	P	**P**	19 37 56.4	+0.8		
	comp=Z,0.5nm,0.5s,baz=59,slow=7.3,SNR=4.0								
SONM				PcP	**PcP**	19 40 27.1	+0.4		
	comp=Z,0.3nm,0.5s,baz=81,slow=2.7,SNR=4.0								
SONM	**Songino Array**	**34.99**	**282**	P	**P**	19 37 55.2	-0.4		
SONM					**PcP**	19 40 27.2	+0.4		
H11N2	**WAKE ISLAND Hy**	**35.47**	**173**	T	T	20 15 42.0			
	baz=356,slow=76,SNR=31								
H11N3	**WAKE ISLAND Hy**	**35.48**	**173**	T	T	20 15 37.8			
	baz=356,slow=76,SNR=30								
H11N1	**WAKE ISLAND Hy**	**35.49**	**173**	T	T	20 15 33.2			
	baz=356,slow=76,SNR=32								
YKA	**Yellowknife Ar**	**40.61**	**45**	P	**P**	19 38 43.9	+1.4		
	comp=Z,1.3nm,0.6s,baz=306,slow=8.0,SNR=2.8								
DGZ	**Jazzator, Alta**	**44.19**	**296**	*i* P	**P**	19 39 15.3	+3.2		
DGZ				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KURK	**Kurchatov**	**48.00**	**302**	P	**P**	19 39 39.6	-2.1		
KURK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**48.00**	**302**	P	**P**	19 39 39.6	-2.1		
KURK				IAmb	IAmb	19 39 41.6			
	comp=Z,3.3nm,0.7s								
MK31	**Makanchi Array**	**48.69**	**296**	*i* P	**P**	19 39 50.6	+3.4		
MKAR	**Makanchi Array**	**48.69**	**296**	P	**P**	19 39 45.0	-2.2		
	comp=Z,1.0nm,0.7s,baz=60,slow=8.4,SNR=4.6								
MKAR	**Makanchi Array**	**48.69**	**296**	P	**P**	19 39 45.0	-2.2		
MAKZ	**Makanchi**	**48.85**	**296**	P	**P**	19 39 46.3	-2.1		
MAKZ				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MAKZ	**Makanchi**	**48.85**	**296**	P	**P**	19 39 46.3	-2.1		
MAKZ				IAmb	IAmb	19 39 56.2			
	comp=Z,3.2nm,1.0s								
BRVK	**Borovoye**	**50.38**	**308**	*i* P	**P**	19 40 03.7	+3.8		
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**51.84**	**342**	P	**P**	19 40 09.8	-0.8		
	comp=Z,3.6nm,0.8s,baz=29,slow=9.4,SNR=3.1								
ARU	**Arti**	**52.96**	**318**	*c i* P	**P**	19 40 17.1	-2.0		
ARU				S	**S**	19 47 42.2	-2.5		
ARU				SS	**SS**	19 51 18.7	-4.7		
ARU				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NVAR	**Mina Array Bea**	**53.61**	**73**	P	**P**	19 40 26.4	+2.0		
	comp=Z,0.2nm,0.5s,baz=300,slow=7.2,SNR=2.6								
PDAR	**Pinedale Array**	**55.19**	**64**	P	**P**	19 40 37.2	+1.4		
	comp=Z,0.3nm,0.6s,baz=322,slow=5.7,SNR=2.5								
AAK	**Ala-Archa**	**55.58**	**297**	*i* P	**P**	19 40 39.7	+1.2		
AAK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KKAR	**Karatay Array**	**57.26**	**300**	P	**P**	19 40 48.4	-1.9		
KKAR	**Karatay Array**	**57.26**	**300**	P	**P**	19 40 48.4	-1.9		
ABKAR	**Akbulak array**	**57.66**	**311**	P	**P**	19 40 51.9	-1.1		
ABKAR				IAmb	IAmb	19 41 00.0			
	comp=Z,1.6nm,0.6s								
ABKAR	**Akbulak array**	**57.66**	**311**	P	**P**	19 40 51.6	-1.4		
FINES	**FINESS Array B**	**58.87**	**337**	P	**P**	19 41 00.1	-1.1		
	comp=Z,4.5nm,0.5s,baz=32,slow=8.6,SNR=49								
FINES				LR	LR	20 11 49.8			
	comp=Z,259nm,19.3s,baz=73,slow=42								
FINES	**FINESS Array B**	**58.87**	**337**	P	**P**	19 41 00.4	-0.8		
CMAR	**Chiang Mai Arr**	**60.12**	**259**	P	**P**	19 41 10.0	-0.5		
	comp=Z,0.6nm,0.6s,baz=22,slow=7.1,SNR=4.8								
CMAR				PcP	**PcP**	19 41 56.2	+0.4		
	comp=Z,0.3nm,0.6s,baz=14,slow=4.4,SNR=4.3								
GAR	**Garm**	**60.40**	**296**	P	**P**	19 41 10.4	-1.9		
OBN	**Obninsk**	**61.63**	**328**	*e* P	**P**	19 41 24.5	+4.3		
OBN				*e*		19 43 36.6			
OBN				pmax	pmax				
	comp=Z,3.0nm,0.9s								
OBN				MLR	MLR				
	comp=Z,483nm,22.0s								
NB2	**NORSAR Subarra**	**62.01**	**345**	P	**P**	19 41 21.3	-1.4		
	comp=Z,0.5nm,0.6s,baz=19,slow=6.9								
NOA	**NORSAR Array B**	**62.01**	**345**	P	**P**	19 41 21.6	-1.1		
	comp=Z,0.6nm,0.6s,baz=2.7,slow=6.4,SNR=3.5								
SCHQ	**Schefferville**	**63.11**	**30**	LR	LR	20 10 22.4			
	comp=Z,450nm,21.9s,baz=308,slow=38								
AKASG	**Malin Array Be**	**67.66**	**330**	P	**P**	19 41 57.8	-1.8		
	comp=Z,0.7nm,0.3s,baz=27,slow=6.9,SNR=5.0								
TX31	**Lajitas Ar. Si**	**68.42**	**70**	P	**P**	19 42 05.0	+0.1		
TX31				IAmb	IAmb	19 42 07.8			
	comp=Z,4.6nm,1.1s								
TX32	**Lajitas Array**	**68.42**	**70**	P	**P**	19 42 05.9	+1.1		
TXAR	**Lajitas Array**	**68.42**	**70**	P	**P**	19 42 05.8	+0.9		
	comp=Z,0.7nm,0.5s,baz=296,slow=5.2,SNR=18								
TXAR	**Lajitas Array**	**68.42**	**70**	P	**P**	19 42 05.3	+0.5		
TXAR	**Lajitas Array**	**68.42**	**70**	P	**P**	19 42 05.3	+0.5		
KBZ	**Khabaz**	**69.12**	**318**	P	**P**	19 42 08.9	+0.2		
	comp=Z,2.6nm,0.9s,baz=10,slow=4.8,SNR=4.0								
CLL	**Collm**	**70.99**	**340**	*e*P	**P**	19 42 22.0	+1.9		
CLL	**Collm**	**70.99**	**340**	*e*P	**P**	19 42 23.0	+2.9		
BUR08	**Bucovina Ar. S**	**71.56**	**331**	P	**P**	19 42 23.1	-0.7		
BUR08				IAmb	IAmb	19 42 24.2			
	comp=Z,4.8nm,1.4s								
BURAR	**Bucovina Array**	**71.58**	**331**	P	**P**	19 42 22.2	-1.7		
GERES	**GERESS Array B**	**73.20**	**339**	P	**P**	19 42 33.3	-0.2		
	comp=Z,0.4nm,0.6s,baz=38,slow=6.8,SNR=4.4								
GERES	**GERESS Array B**	**73.20**	**339**	P	**P**	19 42 32.1	-1.4		
GERES	**GERESS Array B**	**73.20**	**339**	P	**P**	19 42 32.1	-1.4		
MLR	**Muntele Rosu**	**73.31**	**330**	P	**P**	19 42 33.7	-0.6		
MLR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MLR	**Muntele Rosu**	**73.31**	**330**	P	**P**	19 42 33.7	-0.6		
MLR				IAmb	IAmb	19 42 35.8			
	comp=Z,2.8nm,0.6s								
BRTR	**Keskin Array B**	**76.02**	**322**	P	**P**	19 42 49.8	-0.3		
	comp=Z,1.2nm,0.6s,baz=66,slow=2.4,SNR=8.1								
ASAR	**Alice Springs**	**82.27**	**207**	P	**P**	19 43 24.4	+0.4		
	comp=Z,0.8nm,0.5s,baz=16,slow=4.2,SNR=2.9								
ESDC	**Sonseca Array**	**84.89**	**350**	P	**P**	19 43 38.5	+0.9		
	comp=Z,1.4nm,0.9s,baz=356,slow=4.2,SNR=6.3								
KEST	**Kesra**	**86.68**	**339**	LR	LR	20 27 13.9			
	comp=Z,167nm,20.4s,baz=287,slow=39								

SKHL ***12*** *19:31:55.8±0.4, 44.30N×147.10E, h76km±3km, mb4.1/3*
JMA ***12*** *19:31:56.8±0.3, 43.91N×147.25E, h66km, M3.0*

ISC 12 19:31:54.3±2.0, 44.1N±0.1×147.5E±0.1, h50km, n15, σ1§27/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.15**	**270**	*e*P		**Pn**		**19 32 13.3**	**-0.6**
YUK						AMB	AMB	19 32 16.6	
	80nm,0.4s								
YUK						AMB	AMB	19 32 16.6	
	56nm,0.4s								
YUK						AMB	AMB	19 32 16.6	
	155nm,0.4s								
YUK				*i* S		**Sn**		**19 32 26.5**	**-2.0**
YUK						A	A	19 32 30.0	
	539nm,0.2s								
YU

baz=22,SNR=42
MTN Manton Dam 22.02 249 P **P** 19 39 14.4 -0.5
QLP Quilpie 22.38 199 P **P** 19 39 20.0 +1.3
baz=23,SNR=5.3
WB0 Warramunga Arr 22.42 229 P **P** 19 39 19.2 -0.1
WR0 Warramunga Arr 22.42 228 P **P** 19 39 19.6 +0.2
WRAB Tennant Creek 22.55 229 P **P** 19 39 20.3 -0.4
WRAB pmax pmax
comp=Z,30nm,0.9s
WRAB Tennant Creek 22.55 229 P **P** 19 39 20.3 -0.4
WB2 Warramunga Arr 22.55 229 P **P** 19 39 22.0 +1.2
baz=23
WB2 Warramunga Arr 22.55 229 P **P** 19 39 20.9 +0.2
WB2 IAmb IAmb 19 39 28.7
comp=Z,81nm,1.4s
WRA Warramunga Arr 22.56 229 P **P** 19 39 20.3 -0.5
comp=Z,12nm,0.6s,baz=53,slow=9.9,SNR=84
WRA PcP **PcP** 19 43 13.0 -0.3
comp=Z,2.0nm,0.7s,baz=50,slow=2.3,SNR=5.4
WRA S **S** 19 43 23.1 -2.3
comp=Z,8.2nm,1.1s,baz=57,slow=20,SNR=10
WRA Warramunga Arr 22.56 229 P **P** 19 39 20.9 +0.1
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 22.56 229 P **P** 19 39 20.9 +0.1
KNRA Kununurra 25.13 244 P **P** 19 39 45.3 +0.1
baz=25,SNR=76
KNRA Kununurra 25.13 244 P **P** 19 39 45.5 +0.3
AS31 Alice Springs 25.27 222 P **P** 19 39 46.9 +0.4
ASAR Alice Springs 25.27 222 P **P** 19 39 46.4 -0.1
comp=Z,15nm,0.6s,baz=57,slow=9.4,SNR=66
ASAR PcP **PcP** 19 43 18.8 -0.3
comp=Z,1.5nm,0.7s,baz=57,slow=3.4,SNR=3.8
ASAR S **S** 19 44 04.5 -4.9
comp=Z,0.4nm,0.7s,baz=32,slow=20,SNR=1.9
ASAR ScP **ScP** 19 46 57.4 +2.6
comp=Z,0.8nm,0.9s,baz=55,slow=3.5,SNR=3.6
ASAR Alice Springs 25.27 222 P **P** 19 39 47.7 +1.2
ASAR Alice Springs 25.27 222 P **P** 19 39 47.7 +1.2
TNTI Ternate 25.50 283 P **P** 19 39 47.0 -1.6
comp=Z,13nm,1.4s
CMSA Cobar Meteorol 26.70 192 P **P** 19 40 00.9 +1.6
baz=27,SNR=30
SOEI Soe 27.97 259 P **P** 19 40 11.0 0.0
SOEI IAmb IAmb 19 40 29.9
comp=Z,36nm,1.1s
STKA Stephens Creek 28.13 199 P **P** 19 40 11.2 -0.9
comp=Z,6.1nm,0.8s,baz=24,slow=12,SNR=7.8
STKA Stephens Creek 28.13 199 P **P** 19 40 11.9 -0.2
baz=28,SNR=5.0
STKA Stephens Creek 28.13 199 P **P** 19 40 11.8 -0.3
STKA pmax pmax
comp=Z,6.0nm,1.5s
STKA Stephens Creek 28.13 199 P **P** 19 40 11.8 -0.3
BATI Baumata 28.61 259 P **P** 19 40 16.5 -0.2
comp=Z,22nm,0.4s,baz=82,slow=4.3,SNR=15
BATI Baumata 28.61 259 P **P** 19 40 17.1 +0.4
comp=Z,3μmcomp=Z,27nm,1.2s
FITZ Fitzroy Crossi 28.80 242 P **P** 19 40 16.8 -1.4
comp=Z,5.7nm,0.6s,baz=58,slow=6.9,SNR=30
FITZ Fitzroy Crossi 28.80 242 P **P** 19 40 17.4 -0.9
baz=29,SNR=9.3
FITZ Fitzroy Crossi 28.80 242 P **P** 19 40 18.0 -0.2
MMRI Maumere 29.86 262 P **P** 19 40 26.6 -1.1
MMRI IAmb IAmb 19 40 45.8
comp=Z,16nm,0.7s
WRKA Warakurna 30.08 227 P **P** 19 40 29.0 -0.5
baz=30,SNR=17
EDFI Ende, Flores 30.40 262 P **P** 19 40 33.0 +0.4
BBOO Buckleboo 31.13 207 P **P** 19 40 38.4 -0.3
BBOO IAmb IAmb 19 40 46.8
comp=Z,43nm,1.5s
FORT Forrest 33.91 219 P **P** 19 41 02.8 -0.3
FORT IAmb IAmb 19 41 15.4
comp=Z,26nm,0.8s
MEEK Meekatharra 38.33 233 P **P** 19 41 40.5 -0.4
baz=38,SNR=72
MORW Morawa 41.47 231 P **P** 19 42 08.1 +1.2
baz=42,SNR=9.9
MJAR Matsushiro Arr 43.72 344 P **P** 19 42 25.1 0.0
comp=Z,2.2nm,1.1s,baz=171,slow=7.4,SNR=3.6
MJAR PcP **PcP** 19 44 11.7 +0.2
comp=Z,2.3nm,0.6s,baz=165,slow=3.6,SNR=11
KSRS Korea Array 48.25 334 PcP **PcP** 19 44 27.5 +0.2
comp=Z,0.8nm,0.8s,baz=151,slow=2.8,SNR=4.1
NJ2 Nanjing 48.91 322 *e*P **P** 19 43 07.3 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 52.61 342 P **P** 19 43 33.1 -0.4
comp=Z,1.6nm,0.7s,baz=128,slow=4.6,SNR=4.1
GYA Guiyang 54.25 308 *e*P **P** 19 43 49.0 +2.9
GYA pmax pmax
comp=Z,7.0nm,1.2s
GSI Gunungsitoli 54.91 275 P **P** 19 43 49.2 -1.8
GSI IAmb IAmb 19 44 07.1
comp=Z,40nm,1.3s
XAN Xi'an 56.62 317 P **P** 19 44 02.4 -0.5
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN pmax pmax
comp=Z,310nm,4.9s
XAN Xi'an 56.62 317 P **P** 19 44 01.6 -1.3
XAN pmax pmax
comp=Z,23nm,1.5s
XAN Xi'an 56.62 317 P **P** 19 44 01.6 -1.3
XAN IAmb IAmb 19 44 03.4
comp=Z,23nm,1.5s
KMI Kunming 56.79 305 ⇓P **P** 19 44 05.6 +1.1
KMI sP sP 19 44 25.6 +2.6
KMI pmax pmax
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 57.55 296 P **P** 19 44 09.5 -0.2
comp=Z,2.5nm,0.7s,baz=120,slow=5.2,SNR=7.2
CMAR Chiang Mai Arr 57.55 296 *i* P **P** 19 44 10.5 +0.8
CMAR pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 58.48 4 P **P** 19 44 16.0 +0.5
comp=Z,2.7nm,0.7s,baz=147,slow=4.5,SNR=7.5
CD2 Chengdu 58.64 311 P **P** 19 44 18.1 +0.9
HHC Hu-ho-hao-te 59.16 325 *e*P **P** 19 44 22.2 +1.5
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,320nm,7.9s
LZH Lanzhou 61.21 316 *e*P **P** 19 44 35.6 +0.7
LZH pP pP 19 44 47.8 -0.2
LZH sP sP 19 44 53.4 +0.2
LZH pmax pmax
comp=Z,22nm,1.1s
GTA Gaotai 65.66 318 *e*P **P** 19 45 04.7 +0.5
GTA pP pP 19 45 17.4 0.0
GTA sP sP 19 45 22.0 -0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,340nm,7.6s
GTA LR LR
comp=Z,270nm,18.9s
GTA LR LR
comp=Z,400nm,19.6s
ULN Ulaanbaatar 66.17 329 *i* P **P** 19 45 06.7 -0.6
ULN pmax pmax
comp=Z,12nm,1.3s
SONM Songino Array 66.49 328 P **P** 19 45 09.4 +0.1
comp=Z,2.3nm,0.5s,baz=141,slow=5.5,SNR=29
SONM Songino Array 66.49 328 P **P** 19 45 09.5 +0.1
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 66.49 328 P **P** 19 45 09.5 +0.1
LSA Lhasa 68.05 305 P **P** 19 45 19.5 -0.5
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 68.05 305 P **P** 19 45 19.5 -0.5
LSA IAmb IAmb 19 45 22.0
comp=Z,7.7nm,0.7s
YAK Yakutsk 69.44 349 *i* P **P** 19 45 28.9 +1.5
YAK pmax pmax
comp=Z,39nm,2.7s
ZAK Zakamensk 69.67 329 *e*P **P** 19 45 28.4 -0.8
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TLY Talaya 70.28 330 *i* P **P** 19 45 33.4 +0.6
TLY pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 72.25 178 P **P** 19 45 44.3 0.0
comp=Z,1.1nm,0.7s,baz=341,slow=5.4,SNR=9.7

BILL Bilibino 73.95 5 ⇑ *e*P **P** 19 45 55.1 +0.7
BILL pmax pmax
comp=Z,11nm,1.3s
WMQ Urumqi 75.75 318 *e*P **P** 19 46 06.7 +1.3
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.3s
WMQ LR LR
comp=Z,170nm,20.1s
KDAK Kodiak Island 77.00 27 P **P** 19 46 12.1 0.0
comp=Z,7.3nm,0.7s,baz=302,slow=6.6,SNR=6.1
KDAK Kodiak Island 77.00 27 P **P** 19 46 11.9 -0.2
KDAK pmax pmax
comp=Z,46nm,1.4s
KDAK Kodiak Island 77.00 27 P **P** 19 46 11.9 -0.2
KDAK IAmb IAmb 19 46 14.3
comp=Z,46nm,1.4s
SVW2 Sparrevohn 77.63 23 P **P** 19 46 16.8 +1.2
SVW2 IAmb IAmb 19 46 19.4
comp=Z,16nm,0.6s
DGZ Jazzator, Alta 78.17 323 *i* P **P** 19 46 18.8 -0.3
DGZ pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 78.41 353 *i* P **P** 19 46 20.1 +0.5
CNPM China Poot 78.54 26 P **P** 19 46 21.4 +0.7
TTA Tatalina 78.56 22 P **P** 19 46 21.8 +1.0
TTA pmax pmax
comp=Z,21nm,1.0s
TTA Tatalina 78.56 22 P **P** 19 46 21.8 +1.0
TTA IAmb IAmb 19 46 23.3
comp=Z,22nm,1.0s
BRLK Bradley Lake 78.81 26 P **P** 19 46 22.5 +0.3
ZSN Zaisan 78.92 320 *e*P **P** 19 46 21.9 -1.1
ZSN Zaisan 78.92 320 *e*P **P** 19 46 21.9 -1.1
SEW Seward 79.61 26 P **P** 19 46 26.8 +0.3
O22K Cooper Landing 79.68 25 P **P** 19 46 27.5 +0.6
baz=239,SNR=7.0
SKT Skwentna 79.73 24 P **P** 19 46 25.9 -1.3
RDOG Red Dog Mine 79.73 16 P **P** 19 46 27.4 +0.4
RDOG IAmb IAmb 19 46 29.2
comp=Z,15nm,0.6s
SUA Susitna One 79.77 24 P **P** 19 46 27.1 -0.4
SUA IAmb IAmb 19 46 29.4
comp=Z,28nm,0.8s
PPLA Purkeypile 79.97 23 P **P** 19 46 28.6 +0.1
RC01 Rabbit Creek A 79.99 25 P **P** 19 46 28.8 +0.2
baz=239,SNR=9.2
MKAR Makanchi Array 80.36 319 P **P** 19 46 30.4 -0.5
comp=Z,2.0nm,0.6s,baz=96,slow=6.9,SNR=14
MKAR Makanchi Array 80.36 319 P **P** 19 46 30.2 -0.6
MKAR Makanchi Array 80.36 319 P **P** 19 46 30.2 -0.6
CUT Chulitna 80.46 23 P **P** 19 46 30.8 -0.1
baz=238
GHO Glory Hole Cre 80.68 24 P **P** 19 46 32.1 -0.2
GHO IAmb IAmb 19 46 34.1
comp=Z,23nm,0.8s
KNK Knik Glacier 80.69 25 P **P** 19 46 32.7 +0.4
KTH Kantishna Hill 80.81 22 IAmb IAmb 19 46 34.1
comp=Z,21nm,0.7s
TRF Thorofare Moun 81.00 23 IAmb IAmb 19 46 37.4
comp=Z,12nm,0.6s
BPAW Bear Paw Mtn. 81.08 22 IAmb IAmb 19 46 35.7
comp=Z,17nm,1.2s
IMAR Indian Mountai 81.17 20 P **P** 19 46 35.2 +0.4
ZALV Zalesovo Beam 81.30 327 P **P** 19 46 33.7 -2.0
comp=Z,2.7nm,0.7s,baz=110,slow=5.8,SNR=11
ZALV Zalesovo Beam 81.30 327 P **P** 19 46 34.4 -1.3
ZALV Zalesovo Beam 81.30 327 P **P** 19 46 34.4 -1.3
SCM Sheep Creek Mo 81.37 25 P **P** 19 46 36.6 +0.6
SCM pmax pmax
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 81.37 25 P **P** 19 46 36.6 +0.6
SCM IAmb IAmb 19 46 38.3
comp=Z,17nm,0.8s
UZB Uzynbulak 81.50 315 *e*P **P** 19 46 35.7 -1.6
UZB Uzynbulak 81.50 315 *e*P **P** 19 46 35.6 -1.6
RND Reindeer 81.53 23 IAmb IAmb 19 46 38.1
comp=Z,24nm,0.7s
MCK McKinley 81.67 23 P **P** 19 46 37.0 -0.5
baz=240,SNR=27
MLY Manley 81.68 21 P **P** 19 46 37.8 +0.3
baz=238,SNR=28
BWN Browne 81.69 22 P **P** 19 46 37.7 +0.1
KLU Klutina 81.80 25 IAmb IAmb 19 46 41.3
comp=Z,27nm,0.9s
KPKS Kokpek 81.83 315 *e*P **P** 19 46 37.1 -1.8
KPKS Kokpek 81.83 315 *e*P **P** 19 46 37.0 -1.8
SATY Saty 81.92 315 *e*P **P** 19 46 38.5 -0.9
SATY Saty 81.92 315 *e*P **P** 19 46 38.5 -0.9
DHY Denali Highway 81.95 24 IAmb IAmb 19 46 41.2
comp=Z,22nm,0.9s
M24K Tolsona, Glenn 81.97 25 P **P** 19 46 40.2 +1.0
baz=242,SNR=7.7
NEA2 Nenana 82.06 22 P **P** 19 46 39.1 -0.4
baz=239,SNR=19
WRH Wood River Hil 82.36 22 IAmb IAmb 19 46 42.2
comp=Z,30nm,1.2s
N25K Chitina, Valde 82.41 26 P **P** 19 46 42.4 +0.9
baz=244
TDK Taldyqorghan 82.43 317 *e*P **P** 19 46 40.7 -1.2
TDK Taldyqorghan 82.43 317 *e*P **P** 19 46 40.6 -1.3
MDM Murphy Dome 82.55 22 IAmb IAmb 19 46 42.5
comp=Z,21nm,1.4s
CCB Clear Creek Bu 82.55 22 IAmb IAmb 19 46 43.0
comp=Z,18nm,0.9s
TCOL CIGO, UAF Yank 82.64 22 P **P** 19 46 42.0 -0.5
baz=240
PAX Paxson 82.67 24 P **P** 19 46 43.1 +0.3
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX Paxson 82.67 24 P **P** 19 46 43.0 +0.3
GLB Gilahina Butte 82.68 26 IAmb IAmb 19 46 45.2
comp=Z,27nm,0.9s
HDA Harding Lake 82.76 22 P **P** 19 46 42.5 -0.7
baz=241,SNR=11
KSH Kashi 82.84 311 P **P** 19 46 46.2 +1.9
KSH pmax pmax
comp=Z,16nm,1.4s
MDOK Medeo 82.91 315 *e*P **P** 19 46 43.5 -1.1
MDOK Medeo 82.91 315 *e*P **P** 19 46 43.5 -1.1
POKR Poker Flat Res 82.92 22 P **P** 19 46 42.9 -1.1
baz=241,SNR=6.8
TNSS Tian-Shan 82.95 314 *e*P **P** 19 46 44.0 -1.2
TNSS Tian-Shan 82.95 314 *e*P **P** 19 46 43.9 -1.2
IL31 82.96 22 IAmb IAmb 19 46 44.8
comp=Z,17nm,0.7s
ILAR Eielson Array 82.96 22 P **P** 19 46 43.0 -1.2
comp=Z,13nm,0.7s,baz=246,slow=5.2,SNR=189
ILAR Eielson Array 82.96 22 P **P** 19 46 43.4 -0.7
ILAR Eielson Array 82.96 22 P **P** 19 46 43.4 -0.7
MCARA McCarthy VSAT 83.00 26 P **P** 19 46 45.1 +0.7
MCARA IAmb IAmb 19 46 47.0
comp=Z,30nm,1.0s
COLD Coldfoot 83.04 19 P **P** 19 46 45.3 +0.8
baz=238,SNR=6.9
BALM Baldy 83.15 26 IAmb IAmb 19 46 47.3
comp=Z,17nm,0.7s
BOOM Boomskoye usch 83.54 314 P **P** 19 46 47.1 -0.8
BOOM pmax pmax
comp=Z,15nm,1.3s
BOOM Boomskoye usch 83.54 314 P **P** 19 46 47.1 -0.8
BOOM IAmb IAmb 19 46 54.8
comp=Z,15nm,1.3s
KUU Kurty 83.58 315 *e*P **P** 19 46 45.4 -2.5
KUU Kurty 83.58 315 *e*P **P** 19 46 45.3 -2.5
SCRK Sand Creek 83.71 23 P **P** 19 46 48.4 +0.1
baz=244
PCA Pinnacle 83.73 28 P **P** 19 46 49.1 +0.7
NIL Nilore 83.78 305 P **P** 19 46 48.9 -0.3
NIL pmax pmax
comp=Z,13nm,0.7s
NIL Nilore 83.78 305 P **P** 19 46 48.9 -0.3
NIL IAmb IAmb 19 46 50.8
comp=Z,13nm,0.7s
KURK Kurchatov 83.84 322 *i* P **P** 19 46 48.2 -0.8
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 83.84 322 P **P** 19 46 47.9 -1.1
TOLK Toolik Lake Re 83.99 18 P **P** 19 46 50.3 +0.9
baz=238,SNR=5.1
TOLK Toolik Lake Re 83.99 18 P **P** 19 46 50.1 +0.6
TOLK IAmb IAmb 19 46 51.4
comp=Z,8.7nm,0.7s
BCAR Beaver Creek A 84.22 25 P **P** 19 46 51.6 +0.9

K27K Chicken 84.50 24 P **P** 19 46 53.4 +1.4
baz=246
QSPA South Pole Qui 84.56 180 P **P** 19 46 52.2 -0.3
AAK Ala-Archa 84.61 314 *e*P **P** 19 46 53.9 +0.6
AAK pmax pmax
comp=Z,15nm,1.0s
SGDS Sogindy 84.69 314 *e*P **P** 19 46 51.8 -1.8
SGDS Sogindy 84.69 314 *e*P **P** 19 46 51.7 -1.8
MAW Mawson 84.77 203 P **P** 19 46 53.6 +0.2
comp=Z,1.6nm,0.6s,baz=84,slow=10,SNR=6.7
MAW Mawson 84.77 203 P **P** 19 46 53.1 -0.3
MAW pmax pmax
comp=Z,1.0nm,1.2s
MAW Mawson 84.77 203 P **P** 19 46 53.1 -0.3
EGAK Eagle 85.17 23 IAmb IAmb 19 46 57.9
comp=Z,12nm,0.8s
BTLS Baital 85.44 316 *e*P **P** 19 46 55.1 -2.2
BTLS Baital 85.44 316 *e*P **P** 19 46 55.0 -2.2
DAWY Dawson 85.60 24 IAmb IAmb 19 47 00.0
comp=Z,13nm,0.9s
NRIK Noril'sk 86.32 341 P **P** 19 47 00.1 -1.0
comp=Z,3.1nm,0.5s,baz=117,slow=6.7,SNR=4.0
NRIK Noril'sk 86.32 341 *i* P **P** 19 47 00.4 -0.6
NRIK pmax pmax
comp=Z,3.0nm,0.6s
DZA Taraz 86.95 313 *e*P **P** 19 47 03.8 -0.9
DZA Taraz 86.95 313 *e*P **P** 19 47 03.8 -0.9
IUG Iuzhnay 87.77 313 *e*P **P** 19 47 07.4 -1.5
IUG Iuzhnay 87.77 313 *e*P **P** 19 47 07.3 -1.5
DLBC Dease Lake 88.23 31 P **P** 19 47 10.9 +0.3
comp=Z,16nm,1.1s,baz=256,slow=6.9
INK Inuvik 89.25 21 P **P** 19 47 14.7 -0.3
comp=Z,6.9nm,0.9s,baz=274,slow=5.1,SNR=9.1
INK Inuvik 89.25 21 P **P** 19 47 14.2 -0.8
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 89.25 21 P **P** 19 47 14.2 -0.8
INK IAmb IAmb 19 47 16.3
comp=Z,14nm,1.2s
BRVK Borovoye 89.40 323 *i* P **P** 19 47 17.5 +1.4
BRVK pmax pmax
comp=Z,16nm,4.1s
M02C Callahan 89.79 49 P **P** 19 47 20.1 +1.8
baz=263
J04D Umpqua Nationa 90.56 47 P **P** 19 47 24.1 +2.0
baz=263
J05D Fort Rock, OR 91.20 47 P **P** 19 47 26.6 +1.7
baz=264
SYO Syowa Base 92.89 199 ⇑ *e*P **P** 19 47 30.0 -2.0
NVAR Mina Array Bea 92.96 52 P **P** 19 47 34.5 +1.2
comp=Z,2.6nm,0.7s,baz=256,slow=5.9,SNR=18
NVAR Mina Array Bea 92.96 52 P **P** 19 47 34.2 +0.9
CWC Cottonwood Cre 92.99 54 P **P** 19 47 34.9 +1.5
baz=266
MONP2 Monument Peak 94.09 57 P **P** 19 47 40.2 +1.6
baz=266
NEW Newport 94.48 42 P **P** 19 47 41.1 +1.4
baz=267
TPNV Topopah Spring 94.49 53 P **P** 19 47 41.4 +1.2
baz=267
R11A Troy Canyon, C 95.09 52 P **P** 19 47 45.0 +1.9
baz=267
IRM Iron Mountain 95.23 56 P **P** 19 47 46.2 +2.6
baz=267
HLID Hailey 96.18 47 P **P** 19 47 49.0 +1.2
baz=268
YKA Yellowknife Ar 96.26 28 P **P** 19 47 47.0 -0.5
comp=Z,2.0nm,0.7s,baz=279,slow=4.6,SNR=5.6
YKA Yellowknife Ar 96.26 28 *i* P **P** 19 47 48.2 +0.7
YKA pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 96.45 326 *d i* P **P** 19 47 46.8 -1.7
ARU 19 51 42.3
ARU S **SKSac** 19 58 19.2 -2.3
ARU SS **SS** 20 05 38.7 -0.8
ARU pmax pmax
comp=Z,4.0nm,1.5s
BOZ Bozeman (W) 98.18 45 P Pdif 19 47 59.0 +2.2
baz=271
PDAR Pinedale Array 99.73 48 P **Pdif** 19 48 04.5 +0.6
comp=Z,1.0nm,0.7s,baz=214,slow=2.8,SNR=7.6
SNAA Sanae 101.34 188 *i* P **Pdif** 19 48 11.5 +1.2
SNAA pmax pmax
comp=Z,2.0nm,1.2s
ARCES ARCESS Array B 107.25 343 PKiKP **PKiKP** 19 52 44.5 -0.7
comp=Z,4.1nm,1.0s,baz=116,slow=2.1,SNR=4.8
FINES FINESS Array B 111.33 335 Pdiff **Pdif** 19 48 54.4 -0.4
comp=Z,2.4nm,1.0s,baz=73,slow=5.1,SNR=3.4
GERES GERESS Array B 124.22 328 PKP **PKPdf** 19 53 18.2 -0.1
comp=Z,0.6nm,0.4s,baz=68,slow=1.9,SNR=12
LPAZ La Paz 134.70 119 PKP **PKiKP** 19 53 41.1 0.0
comp=Z,0.5nm,0.5s,baz=273,slow=5.0,SNR=2.3
ESDC Sonseca Array 139.65 331 PKP **PKPdf** 19 53 47.1 -0.5
comp=Z,0.7nm,0.8s,baz=54,slow=2.5,SNR=2.1
SVB Belmont 146.16 74 **PKPab** 19 54 01.8 +0.4
TOSP Speyside 147.15 78 PKPab **PKPab** 19 54 05.3 +0.1
TOA0 Torodi Ar. Sit 149.87 287 **PKPbc** 19 54 09.8 -0.7
TORD Torodi Ar. Bea 149.87 287 PKPbc **PKPbc** 19 54 10.1 -0.5
comp=Z,12nm,0.8s,baz=54,slow=2.6,SNR=46
TORD PKPab **PKPab** 19 54 15.7 -0.5
comp=Z,5.2nm,0.4s,baz=70,slow=3.6,SNR=14
TORD Torodi Ar. Bea 149.87 287 **PKPbc** 19 54 10.4 -0.2
BDFB Brasilia 151.09 137 PKPab **PKPab** 19 54 19.0 -2.2
comp=Z,1.2nm,0.5s,baz=183,slow=1.6,SNR=3.7
DBIC Dimbokro 157.10 274 PKPab **PKPab** 19 54 45.4 -1.4
comp=Z,3.3nm,0.6s,baz=88,slow=6.6,SNR=4.1

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*IDC **12** 19:38:03.5±2.4,55°.39N×162°.48E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.2/59, mbtmp3.5/3, ML2.3/1, Error ellipse: s-maj=73.2km s-min=26.5km az=138.0*
*KRSC **12** 19:38:04.6±1.2,55°.03N×162°.85E, h18km±27km, ML4.2*
ISC 12 19:38:05.2±2.2,55°.16N±0°.05×162°.75E±0°.08, h11km±13km, n42, σ1°24/59, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	SC
KBTR	**Krutoberegovo**	**1.05**	**2**	*e*P		**19 38 26.3**	**+0.4**
KBTR				*e*S		**19 38 42.0**	**+1.4**
KBG	**Krutoberegovo**	**1.10**	**359**	*e*P		**19 38 27.1**	**+0.6**
KBG				*e*S		**19 38 43.0**	**+1.3**
TUMD	**Tumrok D**	**1.35**	**273**	*e*P		**19 38 29.9**	**-0.1**
TUMD				*e*S		**19 38 48.7**	**+0.2**
ZLN	**Zelenaya**	**1.40**	**309**	*e*P		**19 38 31.9**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.40**	**305**	*e*P		**19 38 31.8**	**+0.3**
BZGR				*e*S		**19 38 51.6**	**+1.2**
KZV	**Kizimen**	**1.41**	**269**	*e*P		**19 38 30.7**	**-0.3**
KZV				*e*S		**19 38 49.5**	**-0.1**
CIRR	**Tsirk**	**1.48**	**311**	*e*P		**19 38 33.2**	**+0.3**
LGNR	**Loginova**	**1.49**	**309**	*e*P		**19 38 33.6**	**-0.2**
TUMR	**Tumrok**	**1.50**	**276**	*e*P		**19 38 32.9**	**-0.2**
TUMR				*e*S		**19 38 52.4**	**-0.9**
BZMR	**Bezymyannaya**	**1.50**	**302**	*e*P		**19 38 33.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.51**	**303**	*e*P		**19 38 33.6**	**+0.2**
KMNR	**Kamenistaya**	**1.55**	**294**	*e*P		**19 38 34.1**	**+0.1**
KIRR	**Kirishev**	**1.58**	**301**	*e*P		**19 38 34.6**	**+0.1**
SMKR	**Semkarok**	**1.60**	**334**	*e*P		**19 38 35.0**	**+0.2**
KRSR	**Krestovskiy**	**1.63**	**312**	*e*P		**19 38 34.7**	**-0.6**
KLY	**Klyuchi**	**1.66**	**315**	*e*P		**19 38 34.0**	**-0.2**
BDR	**Baidarnaya**	**1.66**	**329**	*e*P		**19 38 36.4**	**+0.6**
SRKR	**Sorokina**	**1.74**	**330**	*e*P		**19 38 37.5**	**+0.3**
KOZ	**Kozyrevsk**	**1.86**	**300**	*e*P		**19 38 39.4**	**+0.1**
KOZ				*e*S		**19 39 04.7**	**-0.3**
SRDR	**Sredinnyy**	**2.07**	**305**	*e*P		**19 38 42.2**	**-0.6**
KII	**Karymskiy**	**2.22**	**241**	*e*P		**19 38 42.2**	**+0.1**
ESO	**Esso**	**2.42**	**290**	*e*P		**19 38 45.6**	**+0.8**
SPN	**Mys Shipunski**	**2.61**	**219**	*e*P		**19 38 46.0**	**-1.4**
SPN				*e*S		**19 39 16.0**	**-3.1**
NLC	**Nalytchevo**	**2.82**	**226**	*e*P		**19 38 51.8**	**+1.6**
NLC				*e*S		**19 39 24.4**	**+0.2**
KRX	**Arik**	**3.00**	**235**	*e*P		**19 38 53.2**	**+0.3**
KRX				*e*S		**19 39 28.5**	**-0.4**
UGLR	**Uglovaya**	**3.02**	**231**	*e*P		**19 38 54.3**	**+1.2**
UGLR				*e*S		**19 39 30.7**	**+1.4**
AVH	**Avacha**	**3.02**	**233**	*e*P		**19 38 53.7**	**+0.6**
AVH				*e*S		**19 39 29.4**	**+0.1**
KOK	**Koryaka**	**3.05**	**234**	*e*P		**19 38 54.4**	**+0.9**
GNL	**Ganaly**	**3.17**	**244**	*e*P		**19 38 56.2**	**+1.1**
DALK	**Dalny**	**3.17**	**229**	*e*P		**19 38 55.5**	**+0.5**
DALK				*e*S		**19 39 32.6**	**-0.2**
PET	**Petropavlovsk**	**3.22**	**230**	*e*P		**19 38 56.9**	**+1.2**
PET				*e*S		**19 39 35.0**	**+0.9**
KRMR	**Karymshinskiy**	**3.59**	**231**	*e*P		**19 39 03.5**	**+2.8**
KRMR				*e*S		**19 39 45.4**	**+2.4**

PETK	**Petropavlovsk-**	**3.61**	**237**	Pn		**Pn**	**19 39 01.0**	**-0.1**
	1.3nm,0.3s,baz=66,slow=19,SNR=20							
PETK				Sn		**Sn**	**19 39 44.6**	**+0.9**
	3.1nm,0.3s,baz=61,slow=22,SNR=6.5							
RUS	**Russkaya**	**3.71**	**224**	*eP*		**Pn**	**19 39 03.2**	**+0.8**
RUS				*eS*		**Sn**	**19 39 45.1**	**-1.0**
GRL	**Gorelyy**	**3.81**	**229**	*eP*		**Pn**	**19 39 06.6**	**+2.7**
GRL				*eS*		**Sn**	**19 39 51.2**	**+2.6**
MTVR	**Mutnovka**	**3.81**	**227**	*eP*		**Pn**	**19 39 05.4**	**+1.5**
MTVR				*eS*		**Sn**	**19 39 50.3**	**+1.6**
ASAK	**Asacha**	**4.00**	**228**	*eP*		**Pn**	**19 39 08.3**	**+1.8**
ASAK				*eS*		**Sn**	**19 39 56.7**	**+3.3**
ILAR	**Eielson Array**	**26.26**	**48**	P		**P**	**19 43 39.6**	**-0.4**
	0.4nm,0.8s,baz=264,slow=9.0,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**35.51**	**173**	T		T	20 22 23.8	
	baz=357							
H11N3	**WAKE ISLAND Hy**	**35.52**	**173**	T		T	20 22 29.6	
	baz=357							
H11N1	**WAKE ISLAND Hy**	**35.53**	**173**	T		T	20 22 33.1	
	baz=357							
FINES	**FINESS Array B**	**58.83**	**337**	P		**P**	**19 48 01.1**	**-2.0**
	1.2nm,0.5s,baz=38,slow=9.5,SNR=7.0							

DJA 12 19:38:18.3±0.2, 1°N±1°×10°0E±°, h10km, M3.8/12, mB4.7/1, mb4.0/2, MLv3.6/12, Mw(mB)4.0/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.24**	**173**	P	Pg	19 38 22.1	-1.2
MNSI				Pg	Pg	19 38 22.4	-0.9
MNSI				S	Sg	19 38 25.6	-1.1
MNSI				Sg	Sg	19 38 25.7	-1.0
BKNI	**Bangkinang**	**1.65**	**115**	P	Pb	19 38 48.2	-0.6
BKNI				S	Sb	19 39 09.9	+0.2
GSI	**Gunungsitoli**	**1.99**	**278**	P	Pn	19 38 52.8	+0.7
GSI				S	Sb	19 39 19.4	-0.1
SISI	**Saibi**	**2.40**	**191**	P	Pn	19 38 57.9	+0.3
SDSI	**Sungai Dareh**	**2.71**	**136**	P	Pn	19 39 03.1	+1.1
SDSI				S	Sb	19 39 41.4	+1.0
TPTI		**3.24**	**313**	P	Pn	19 39 08.9	-0.3
KRJI	**Kerinci**	**3.65**	**148**	P	Pn	19 39 16.6	+1.6
DSRI	**Dabo**	**5.25**	**107**	P	Pn	19 39 35.9	-1.0
	0.1nm764nm7.2nm,0.8s						
LHSI	**Lahat**	**6.26**	**141**	P	Pn	19 39 49.0	-1.7

MOS ***12*** *19:41:50.2±0.8, 5°.38S×152°.05E, h33km, mb5.0/16, Error ellipse: s-maj=9.9km s-min=7.9km az=105.4*

IDC ***12*** *19:41:50.7±1.7, 5°.46S×152°.11E, h25km±10km, mb4.7/32, mb1 4.8/35, mb1mx4.6/51, mbtmp4.8/35, ML3.7/3, MS4.5/29, Ms1 4.5/29, ms1mx4.5/35, Error ellipse: s-maj=13.1km s-min=9.3km az=103.0*

BJI ***12*** *19:41:51.5±0.0, 5°.34S×152°.13E, h45km, mB5.4/29, mb4.9/41, Ms5.2/12, Ms7 4.8/11*

NEIC ***12*** *19:41:52.0±1.1, 5°.43S±0°.06×152°.09E±0°.02, h35km±1km, mb5.3/72, Error ellipse: s-maj=10.4km s-min=3.5km az=193.0*

DJA ***12*** *19:41:54.1±0.5, 5°.5±3°×15°2E±°, h48km±5km, M5.0/31, mb5.0/31, mB5.2/7, MLv5.4/2, Mw(mB)4.7/7*

GCMT ***12*** *19:41:54.4±0.2, 5°.61S±0°.01×152°.24E±0°.02, h23km, MW5.2/106, Moment Tensor Solution. s71,c115; s106,c173; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.34±.22; Mθθ-5.09±.14; Mϕϕ-0.25±.14; Mrθ4.52±.21; Mθϕ-2.09±.10; Mϕr 0.47±.23; Best double couple: M0 7.22200×10^16^ NP1:ϕ239.00000°, δ27.00000°, λ72.00000°. NP2:ϕ79.00000°, δ65.00000°, λ99.00000°. Principal axes: T 7.0390, Plg69.0000°, Azm7.0000°; N 0.3660, Plg8.0000°, Azm255.0000°; P -7.4060, Plg19.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 19:41:53.2±0.3, 5°.45S±0°.05×152°.11E±0°.06, h45km, n296, σ0°93/296, mb5.0/90, MS4.5/36, 10C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.14**	**356**	Pg	**Pn**	**19 42 11.9**	**-1.0**
	7µm,0.3s,baz=138,slow=1.4,SNR=2112						
KRVT				Lg	Lg	19 42 28.3	
	6µm,0.3s,baz=199,slow=23,SNR=7.1						
KRVT				LR	LR	19 42 39.5	
	comp=Z,22µm,18.7s,baz=287,slow=43						
RABL	**Rabaul**	**1.26**	**3**	Pn	**Pn**	**19 42 13.9**	**-0.5**
PMG	**Port Moresby**	**6.28**	**231**	Pn	**Pn**	**19 43 23.4**	**0.0**
	25nm,0.3s,baz=59,slow=7.1,SNR=74						
PMG				Sn	**Sn**	**19 44 33.8**	**-0.2**
	18nm,0.3s,baz=117,slow=18,SNR=3.0						
PMG	**Port Moresby**	**6.28**	**231**	P	**Pn**	**19 43 24.2**	**+0.8**
PMG	**Port Moresby**	**6.28**	**231**	Pn	**Pn**	**19 43 24.2**	**+0.8**
HNR	**Honiara**	**8.72**	**117**	Pn	**Pn**	**19 43 56.3**	**-0.5**
	5.9nm,0.3s,baz=226,slow=6.8,SNR=2.9						
HNR				LR	LR	19 47 01.3	
	comp=Z,3µm,21.0s,baz=282,slow=36						
HNR	**Honiara**	**8.72**	**117**	P	**Pn**	**19 43 57.5**	**+0.6**
HNR	**Honiara**	**8.72**	**117**		**Pn**	**19 43 57.5**	**+0.6**
COEN	**Coen**	**12.20**	**226**	P	**Pn**	**19 44 45.6**	**+1.1**
	baz=12,SNR=6.2						
COEN	**Coen**	**12.20**	**226**	Pn	**Pn**	**19 44 45.5**	**+1.0**
PATS	**Pohnpei**	**13.69**	**27**	P	**Pn**	**19 45 04.2**	**-0.7**
	baz=14,SNR=3.6						
MTSU	**Mount Surprise**	**14.72**	**210**	P	**Pn**	**19 45 18.4**	**-0.4**
	baz=15,SNR=29						
CTA	**Charters Tower**	**15.62**	**201**	Pn	**Pn**	**19 45 31.1**	**+0.6**
	0.2nm,0.3s,baz=23,slow=16,SNR=9.0						
CTA				LR	LR	19 51 06.2	
	comp=Z,2µm,19.0s,baz=18,slow=36						
CTAO	**Charters Tower**	**15.62**	**201**	P	**Pn**	**19 45 31.7**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,25nm,0.8s						
CTAO	**Charters Tower**	**15.62**	**201**		**Pn**	**19 45 31.7**	**+1.2**
QIS	**Mount Isa**	**19.31**	**218**	P	**Pn**	**19 46 15.6**	**-0.5**
	baz=19,SNR=17						
EIDS	**Eidsvold**	**19.83**	**183**	P	**P**	**19 46 20.6**	**+0.3**
	baz=20,SNR=19						
EIDS	**Eidsvold**	**19.83**	**183**	P	**P**	**19 46 20.2**	**-0.1**
FAKI	**Fak Fak**	**19.96**	**276**	P	**P**	**19 46 22.0**	**+0.1**
	comp=Z,30nm,0.8s						
KDU	**Kakadu**	**20.67**	**248**	P	**P**	**19 46 28.8**	**-0.7**
	baz=21,SNR=133						
RMQ	**Roma**	**21.16**	**188**	P	**P**	**19 46 35.2**	**+0.5**
	baz=21,SNR=28						
SIJI	**Sorong**	**21.30**	**282**	P	**P**	**19 46 37.3**	**+0.9**
	comp=Z,9.3nm,0.5s,baz=14,slow=20,SNR=9.4						
DZM	**Mont Dzumac**	**21.57**	**141**	*eP*	**P**	**19 46 38.8**	**-0.5**
	comp=Z,86nm,1.2s						
DZM				*e*LQ	LQ	19 50 54.2	
	comp=Z,3µm,26.9s						
DZM				*e*LR	LR	19 51 49.0	
	comp=Z,4µm,25.7s						
DZM	**Mont Dzumac**	**21.57**	**141**	P	**P**	**19 46 38.3**	**-1.0**
	comp=Z,22nm,0.8s,baz=221,slow=5.5,SNR=15						
DZM				LR	LR	19 54 18.9	
	comp=Z,2µm,19.4s,baz=315,slow=35						
DZM	**Mont Dzumac**	**21.57**	**141**		**P**	**19 46 38.1**	**-1.2**
MTN	**Manton Dam**	**21.96**	**249**	P	**P**	**19 46 44.3**	**+0.9**
	baz=22,SNR=96						
MTN	**Manton Dam**	**21.96**	**249**		**P**	**19 46 44.5**	**+1.1**
MTN				IAmb	IAmb	19 46 51.2	
	comp=Z,44nm,0.7s						
QLP	**Quilpie**	**22.32**	**199**	P	**P**	**19 46 47.8**	**+0.6**
	baz=22,SNR=19						
WB0	**Warramunga Arr**	**22.35**	**229**		**P**	**19 46 46.9**	**-0.7**
WR0	**Warramunga Arr**	**22.36**	**228**		**P**	**19 46 47.8**	**+0.1**
WC3	**Warramunga Arr**	**22.48**	**229**	P	**P**	**19 46 48.1**	**-0.9**
	baz=23						
WRAB	**Tennant Creek**	**22.48**	**229**	P	**P**	**19 46 47.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,35nm,0.7s						
WRAB	**Tennant Creek**	**22.48**	**229**	P	**P**	**19 46 47.7**	**-1.3**
WRAB				IAmb	IAmb	19 47 03.9	
	comp=Z,35nm,0.7s						
WB2	**Warramunga Arr**	**22.49**	**229**		**P**	**19 46 48.7**	**-0.4**
WB2				IAmb	IAmb	19 46 56.5	
	comp=Z,60nm,1.1s						
WRA	**Warramunga Arr**	**22.50**	**229**	P	**P**	**19 46 48.1**	**-1.0**
	comp=Z,16nm,0.5s,baz=54,slow=9.8,SNR=52						
WRA				PcP	**PcP**	**19 50 42.5**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=38,slow=1.9,SNR=5.0						
WRA				S	**S**	**19 50 51.9**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=53,slow=17,SNR=9.1						
WRA				ScP	**ScP**	**19 54 19.2**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=52,slow=2.6,SNR=5.2						
WRA				LR	LR	19 55 53.2	
	comp=Z,1µm,19.6s,baz=65,slow=38						
WRA	**Warramunga Arr**	**22.50**	**229**	*ce*P	**P**	**19 46 48.7**	**-0.5**
WRA				pmax	pmax		
	comp=Z,17nm,0.5s						
WRA	**Warramunga Arr**	**22.50**	**229**	P	**P**	**19 46 47.6**	**-1.6**
KNRA	**Kununurra**	**25.07**	**244**	P	**P**	**19 47 13.6**	**-0.1**
	baz=25,SNR=111						
KNRA	**Kununurra**	**25.07**	**244**	P	**P**	**19 47 13.9**	**+0.1**
AS31	**Alice Springs**	**25.20**	**222**	P	**P**	**19 47 14.8**	**-0.1**
ASAR	**Alice Springs**	**25.20**	**222**	P	**P**	**19 47 14.3**	**-0.6**
	comp=Z,48nm,0.8s,baz=58,slow=8.9,SNR=89						
ASAR				PcP	**PcP**	**19 50 48.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=42,slow=3.1,SNR=2.9						
ASAR				ScP	**ScP**	**19 54 26.8**	**+3.1**
	comp=Z,0.9nm,0.6s,baz=38,slow=2.6,SNR=4.5						
ASAR				LR	LR	19 58 45.9	
	comp=Z,1µm,18.7s,baz=52,slow=40						
ASAR	**Alice Springs**	**25.20**	**222**	P	**P**	**19 47 13.8**	**-1.1**
ASAR	**Alice Springs**	**25.20**	**222**	P	**P**	**19 47 13.8**	**-1.1**
TNTI	**Ternate**	**25.47**	**283**	P	P	19 47 28.1	+11
SANI	**Sanana**	**26.28**	**276**	P	**P**	**19 47 25.9**	**+1.2**
	comp=Z,22nm,1.0s						
CMSA	**Cobar Meteorol**	**26.64**	**192**	P	**P**	**19 47 27.0**	**-0.8**
	baz=27,SNR=21						
SOEI	**Soe**	**27.92**	**260**	P	P	19 47 49.5	+10
SOEI	**Soe**	**27.92**	**260**	P	**P**	**19 47 39.8**	**+0.2**
SOEI				IAmb	IAmb	19 47 58.6	
	comp=Z,46nm,1.1s						
STKA	**Stephens Creek**	**28.07**	**199**	P	**P**	**19 47 39.4**	**-1.3**
	comp=Z,12nm,0.8s,baz=342,slow=8.5,SNR=13						
STKA				LR	LR	19 59 18.0	
	comp=Z,1µm,18.5s,baz=17,slow=37						
STKA	**Stephens Creek**	**28.07**	**199**	P	**P**	**19 47 40.0**	**-0.7**
	baz=28,SNR=5.4						
STKA	**Stephens Creek**	**28.07**	**199**	P	**P**	**19 47 39.9**	**-0.7**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**28.07**	**199**	P	**P**	**19 47 39.9**	**-0.7**
BATI	**Baumata**	**28.56**	**259**	P	**P**	**19 47 45.9**	**+0.6**
	comp=Z,23nm,0.4s,baz=152,slow=1.7,SNR=14						
BATI				LR	LR	20 01 18.6	
	comp=Z,2µm,21.9s,baz=92,slow=41						
BATI	**Baumata**	**28.56**	**259**	P	**P**	**19 47 46.6**	**+1.3**
	comp=Z,35nm,0.7s						
KMSI	**Cibinong**	**28.72**	**281**	P	P	19 47 56.1	+9.5
FITZ	**Fitzroy Crossi**	**28.74**	**242**	P	**P**	**19 47 45.9**	**-0.9**
	comp=Z,18nm,0.7s,baz=63,slow=7.6,SNR=29						
FITZ				LR	LR	20 00 21.8	
	comp=Z,486nm,20.4s,baz=62,slow=39						
FITZ	**Fitzroy Crossi**	**28.74**	**242**	P	**P**	**19 47 46.2**	**-0.6**
	baz=29,SNR=44						
FITZ	**Fitzroy Crossi**	**28.74**	**242**	P	**P**	**19 47 46.2**	**-0.6**
DAV	**Davao City (W)**	**29.25**	**295**	LR	LR	19 59 13.7	
	comp=Z,1µm,18.5s,baz=106,slow=36						
MMRI	**Maumere**	**29.81**	**262**	P	**P**	**19 47 55.3**	**-1.0**
MMRI				IAmb	IAmb	19 48 11.5	
	comp=Z,46nm,1.1s						
WRKA	**Warakurna**	**30.01**	**227**	P	**P**	**19 47 57.1**	**-0.9**
	baz=30,SNR=24						
EDFI	**Ende, Flores**	**30.35**	**262**	P	**P**	**19 48 00.2**	**-1.0**
	comp=Z,13nm,1.0s						
HTT	**Hallett**	**30.42**	**202**	P	**P**	**19 48 01.6**	**+0.1**
	baz=30,SNR=3.5						
KAPI	**Kappang**	**32.22**	**269**	LR	LR	20 03 44.7	
	comp=Z,346nm,20.8s,baz=95,slow=41						
ARPS	**Mount Arapiles**	**32.56**	**195**	P	**P**	**19 48 20.3**	**+0.1**
	baz=33,SNR=5.6						
TGY	**Tagaytay City**	**36.52**	**302**	P	**P**	**19 48 55.5**	**+0.7**
	comp=Z,75nm,0.3s,baz=157,slow=2.0,SNR=3.9						
RAO	**Raoul Island**	**36.92**	**133**	LR	LR	20 01 30.2	
	comp=Z,885nm,19.0s,baz=352,slow=32						
MEEK	**Meekatharra**	**38.26**	**233**	P	**P**	**19 49 08.7**	**-0.7**
	baz=38,SNR=78						
URZ	**Urewera**	**39.78**	**149**	LR	LR	20 03 55.6	
	comp=Z,957nm,19.3s,baz=358,slow=33						
GIRL	**Giralia**	**40.35**	**241**	P	**P**	**19 49 28.7**	**+1.9**
	baz=40,SNR=4.3						
MORW	**Morawa**	**41.40**	**231**	P	**P**	**19 49 36.2**	**+0.8**
	baz=42,SNR=14						
RPZ	**Rata Peaks**	**41.60**	**159**	P	**P**	**19 49 36.2**	**-0.7**
	comp=Z,12nm,1.0s,baz=112,slow=7.4,SNR=4.9						
RPZ				LR	LR	20 04 34.0	
	comp=Z,2µm,21.8s,baz=320,slow=33						
JNU	**Nakatsue**	**43.33**	**334**	P	**P**	**19 49 50.5**	**-0.6**
	comp=Z,14nm,0.8s,baz=146,slow=6.4,SNR=4.5						
JNU				LR	LR	20 05 40.8	
	comp=Z,434nm,18.0s,baz=110,slow=33						
JNU	**Nakatsue**	**43.33**	**334**	P	**P**	**19 49 51.2**	**+0.1**
JNU				IAmb	IAmb	19 50 08.9	
	comp=Z,120nm,1.5s						
MJAR	**Matsushiro Arr**	**43.76**	**344**	P	**P**	**19 49 54.7**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=166,slow=8.5,SNR=12						
MJAR				PcP	**PcP**	**19 51 40.7**	**0.0**
	comp=Z,4.5nm,0.8s,baz=156,slow=4.5,SNR=8.2						
MJAR				LR	LR	20 06 54.1	
	comp=Z,347nm,20.6s,baz=175,slow=34						
MAT	**Matsushiro**	**43.76**	**344**	P	**P**	**19 49 55.9**	**+1.5**
LEM	**Lembang**	**44.24**	**266**	P	**P**	**19 49 58.2**	**-0.7**
	comp=Z,14nm,0.7s,baz=36,slow=8.9,SNR=4.4						
QIZ	**Qiongzhong**	**48.21**	**301**	P	**P**	**19 50 28.3**	**-1.5**
QIZ				S	**S**	**19 57 26.0**	**-0.4**
QIZ				LR	LR		
	comp=Z,650nm,4.8s						
QIZ				LR	LR		
	comp=Z,500nm,13.9s						
KSRS	**Korea Array**	**48.28**	**334**	P	**P**	**19 50 29.9**	**0.0**
	comp=Z,2.4nm,0.9s,baz=156,slow=7.5,SNR=4.3						
KSRS				LR	LR	20 06 55.0	
	comp=Z,219nm,21.7s,baz=175,slow=31						
NJ2	**Nanjing**	**48.92**	**322**	*eP*	**P**	**19 50 37.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,28nm,1.2s						
SDSI	**Sungai Dareh**	**50.78**	**273**	P	**P**	**19 50 49.5**	**0.0**
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.65**	**342**	P	**P**	**19 51 02.4**	**-0.4**
	comp=Z,6.0nm,0.8s,baz=149,slow=6.7,SNR=9.4						
USRK				LR	LR	20 10 06.5	
	comp=Z,216nm,21.8s,baz=163,slow=32						
YSS	**Yuzh-Sakhalins**	**52.83**	**352**	*eP*	**P**	**19 51 04.5**	**+0.3**
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
ENH	**Enshi**	**54.10**	**314**	P	**P**	**19 51 13.4**	**-0.5**
ENH				IAmb	IAmb	19 51 16.0	
	comp=Z,19nm,1.0s						
GYA	**Guiyang**	**54.25**	**308**	*eP*	**P**	**19 51 16.6**	**+1.5**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GSI	**Gunungsitoli**	**54.87**	**275**	P	**P**	**19 51 19.5**	**-0.3**
GSI				IAmb	IAmb	19 51 22.2	
	comp=Z,12nm,0.7s						
XAN	**Xi'an**	**56.62**	**317**	P	**P**	**19 51 31.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN				pmax	pmax		
	comp=Z,350nm,7.3s						
KMI	**Kunming**	**56.78**	**305**	P	**P**	**19 51 34.6**	**+1.1**
KMI				pP	sP	19 51 51.0	-0.7
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
CM31	**Chiang Mai Arr**	**57.53**	**296**	P	**P**	**19 51 38.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.53**	**296**	P	**P**	**19 51 39.0**	**+0.3**
	comp=Z,4.7nm,0.7s,baz=128,slow=5.7,SNR=58						
CMAR				PcP	**PcP**	**19 52 32.4**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=125,slow=3.2,SNR=4.4						
CMAR				LR	LR	20 15 58.2	
	comp=Z,125nm,20.0s,baz=130,slow=36						
CMAR	**Chiang Mai Arr**	**57.53**	**296**	*i* P	**P**	**19 51 39.0**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.53**	**296**	P	**P**	**19 51 39.0**	**+0.3**
CHTO	**Chiang Mai**	**57.65**	**296**	P	**P**	**19 51 38.8**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHTO	**Chiang Mai**	**57.65**	**296**	P	**P**	**19 51 38.8**	**-0.7**
PPT2	**Papeete2**	**58.19**	**107**	*e*LR	LR	20 08 56.0	
	comp=Z,217nm,22.2s						
PETK	**Petropavlovsk-**	**58.53**	**4**	LR	LR	20 12 59.4	
	comp=Z,373nm,21.2s,baz=193,slow=32						
CD2	**Chengdu**	**58.64**	**311**	P	**P**	**19 51 46.2**	**-0.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,1µm,20.6s						
TBI	**Tubuai**	**58.92**	**114**	*e*LR	LR	20 09 12.6	
	comp=Z,604nm,32.0s						
HHC	**Hu-ho-hao-te**	**59.18**	**325**	*e*P	**P**	**19 51 51.9**	**+2.0**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,330nm,7.0s						
HHC				LR	LR		
	comp=Z,540nm,20.5s						
HHC				LR	LR		
	comp=Z,720nm,15.7s						
HHC				LR	LR		
	comp=Z,730nm,19.7s						
LZH	**Lanzhou**	**61.22**	**316**	*e*P	**P**	**19 52 03.3**	**-0.7**
LZH				pP	pP	19 52 16.3	-1.0
LZH				sP	sP	19 52 23.2	+0.6
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
GTA	**Gaotai**	**65.67**	**318**	*e*P	**P**	**19 52 33.6**	**+0.3**
GTA				pP	pP	19 52 46.0	-0.8
GTA				sP	sP	19 52 51.1	-1.0
GTA				S	**S**	**20 01 15.6**	**-0.6**
GTA				sS	sS	20 01 40.4	+1.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,200nm,7.3s						
GTA				LR	LR		
	comp=Z,330nm,20.4s						
GTA				LR	LR		
	comp=Z,330nm,20.0s						
SHL	**Shillong**	**66.05**	**301**	P	**P**	**19 52 35.6**	**-0.5**
SHL				pmax	pmax		
	comp=Z,29nm,0.9s						
SHL	**Shillong**	**66.05**	**301**	P	**P**	**19 52 35.6**	**-0.5**
SHL				IAmb	IAmb	19 52 37.2	
	comp=Z,29nm,0.9s						
ULN	**Ulaanbaatar**	**66.19**	**329**	*ce*P	**P**	**19 52 36.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**66.19**	**329**	P	**P**	**19 52 35.9**	**-0.6**
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**19 52 38.0**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=140,slow=4.5,SNR=25						
SONM				LR	LR	20 20 12.0	
	comp=Z,357nm,21.4s,baz=144,slow=35						
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**19 52 38.4**	**-0.2**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**19 52 38.4**	**-0.2**
LSA	**Lhasa**	**68.04**	**305**	P	**P**	**19 52 49.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,77nm,0.7s						
LSA	**Lhasa**	**68.04**	**305**	P	**P**	**19 52 48.0**	**-1.0**
LSA				pmax	pmax		
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**68.04**	**305**	P	**P**	**19 52 48.0**	**-1.0**
LSA				IAmb	IAmb	19 52 51.0	
	comp=Z,14nm,0.7s						
SEY	**Seymchan**	**68.19**	**0**	P	**P**	**19 52 48.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=217,slow=20,SNR=2.4						
SEY	**Seymchan**	**68.19**	**0**	*i* P	**P**	**19 52 48.1**	**-0.6**
YAK	**Yakutsk**	**69.48**	**349**	*i* P	**P**	**19 52 56.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZAK	**Zakamensk**	**69.69**	**329**	*e*P	**P**	**19 52 57.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,12nm,0.9s						
TLY	**Talaya**	**70.30**	**330**	P	**P**	**19 53 02.2**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=53,slow=15,SNR=2.2						
TLY	**Talaya**	**70.30**	**330**	*i* P	**P**	**19 53 01.9**	**-0.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s						
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**19 53 12.9**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=326,slow=6.8,SNR=22						
VNDA				LR	LR	20 23 01.9	
	comp=Z,215nm,18.8s,baz=350,slow=34						
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**19 53 12.9**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**19 53 12.9**	**-0.2**
BILL	**Bilibino**	**74.00**	**5**	*i* P	**P**	**19 53 24.2**	**+0.4**
BILL				*e*		19 53 39.1	
BILL				*e*		19 56 04.9	
BILL				*i* S	**SKiKP**	**20 02 45.4**	**-3.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,228nm,19.0s						
SII	**Sitkinak Islan**	**75.66**	**27**	P	**P**	**19 53 32.6**	**-1.0**
WMQ	**Urumqi**	**75.75**	**318**	*e*P	**P**	**19 53 34.9**	**+0.4**
WMQ				pP	pP	19 53 49.1	+1.3
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.5s						
WMQ				LR	LR		
	comp=Z,230nm,16.9s						
WMQ				LR	LR		
	comp=Z,170nm,17.9s						
OHAK	**Old Harbor**	**76.44**	**27**	P	**P**	**19 53 37.6**	**-0.4**
OHAK				IAmb	IAmb	19 53 38.9	
	comp=Z,23nm,0.7s						
KDAK	**Kodiak Island**	**77.07**	**27**	P	**P**	**19 53 41.7**	**+0.1**
	comp=Z,19nm,1.0s,baz=159,slow=11,SNR=6.9						
KDAK	**Kodiak Island**	**77.07**	**27**	P	**P**	**19 53 41.6**	**+0.1**
KDAK				pmax	pmax		
	comp=Z,49nm,1.2s						
KDAK	**Kodiak Island**	**77.07**	**27**	P	**P**	**19 53 41.5**	**+0.1**
KDAK				IAmb	IAmb	19 53 44.1	
	comp=Z,49nm,1.2s						
SVW2	**Sparrevohn**	**77.69**	**23**	P	**P**	**19 53 45.6**	**+0.6**
SVW2				IAmb	IAmb	19

comp=Z,49nm,0.9s
BPAW Bear Paw Mtn. 81.15 22 P **P** 19 54 02.8 -1.0
BPAW IAmb IAmb 19 54 04.4
comp=Z,14nm,0.8s
IMAR Indian Mountai 81.23 20 P **P** 19 54 04.2 +0.1
FID Port Fidalgo 81.27 26 P **P** 19 54 04.2 -0.2
FID IAmb IAmb 19 54 06.3
comp=Z,57nm,1.0s
ZALV Zalesovo Beam 81.31 327 P **P** 19 54 03.4 -1.4
comp=Z,2.9nm,0.5s,baz=110,slow=5.2,SNR=18
ZALV LR LR 20 29 43.6
comp=Z,257nm,20.1s,baz=98,slow=35
ZALV Zalesovo Beam 81.31 327 P **P** 19 54 03.1 -1.7
SCM Sheep Creek Mo 81.43 25 P **P** 19 54 05.4 0.0
SCM pmax pmax
comp=Z,55nm,1.0s
SCM Sheep Creek Mo 81.43 25 P **P** 19 54 05.4 0.0
SCM IAmb IAmb 19 54 07.9
comp=Z,55nm,1.0s
UZB Uzynbulak 81.51 315 *eP* **P** 19 54 04.8 -1.6
UZB Uzynbulak 81.51 315 *eP* **P** 19 54 04.7 -1.6
RND Reindeer 81.59 23 P **P** 19 54 04.9 -1.3
RND pmax pmax
comp=Z,56nm,0.9s
RND Reindeer 81.59 23 P **P** 19 54 04.9 -1.3
MCK McKinley 81.73 23 P **P** 19 54 05.8 -1.0
baz=240,SNR=50
MLY Manley 81.74 21 P **P** 19 54 06.5 -0.4
baz=238,SNR=36
BWN Browne 81.75 22 P **P** 19 54 07.1 +0.2
KPKS Kokpek 81.83 315 *eP* **P** 19 54 07.2 -0.8
KPKS Kokpek 81.83 315 *eP* **P** 19 54 07.1 -0.8
KLU Klutina 81.86 25 P **P** 19 54 07.8 +0.2
SATY Saty 81.92 315 *eP* **P** 19 54 07.0 -1.4
SATY Saty 81.92 315 *eP* **P** 19 54 07.0 -1.4
DHY Denali Highway 82.01 24 P **P** 19 54 08.4 -0.1
DHY IAmb IAmb 19 54 09.9
comp=Z,31nm,0.9s
M24K Tolsona, Glenn 82.04 25 P **P** 19 54 09.0 +0.5
baz=242,SNR=12
M24K Tolsona, Glenn 82.04 25 P **P** 19 54 09.1 +0.5
NEA2 Nenana 82.12 22 P **P** 19 54 07.7 -1.1
baz=239,SNR=35
WRH Wood River Hil 82.42 22 P **P** 19 54 09.6 -0.8
WRH IAmb IAmb 19 54 11.4
comp=Z,36nm,1.0s
N25K Chitina, Valde 82.48 26 P **P** 19 54 11.4 +0.5
baz=244
MDM Murphy Dome 82.61 22 P **P** 19 54 10.5 -0.9
MDM IAmb IAmb 19 54 12.5
comp=Z,23nm,1.3s
CCB Clear Creek Bu 82.61 22 P **P** 19 54 10.2 -1.2
CCB IAmb IAmb 19 54 11.7
comp=Z,26nm,0.9s
TCOL CIGO, UAF Yank 82.71 22 P **P** 19 54 11.3 -0.6
baz=240,SNR=8.4
COLA College 82.71 22 *i* P **P** 19 54 11.1 -0.8
COLA pmax pmax
comp=Z,44nm,0.9s
GLB Gilahina Butte 82.74 26 P **P** 19 54 12.3 +0.1
GLB IAmb IAmb 19 54 14.0
comp=Z,40nm,0.9s
CRQM Cirque 82.75 27 P **P** 19 54 13.0 +0.6
VRDI Verde Repeater 82.81 26 P **P** 19 54 13.0 +0.2
VRDI IAmb IAmb 19 54 14.4
comp=Z,35nm,0.9s
HDA Harding Lake 82.82 22 P **P** 19 54 11.4 -1.1
baz=241,SNR=9.2
KSH Kashi 82.84 311 P **P** 19 54 15.5 +2.2
KSH S **S** 20 04 31.3 +2.6
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,100nm,4.0s
KSH LR LR
comp=Z,120nm,4.7s
KSH LR LR
comp=Z,160nm,6.2s
KSH LR LR
comp=Z,100nm,4.8s
MDOK Medeo 82.91 315 *i* P **P** 19 54 12.5 -1.2
MDOK Medeo 82.91 315 *i* P **P** 19 54 12.4 -1.2
TNSS Tian-Shan 82.95 314 *eP* **P** 19 54 13.7 -0.5
TNSS Tian-Shan 82.95 314 *eP* **P** 19 54 13.6 -0.5
POKR Poker Plat Res 82.98 22 P **P** 19 54 12.6 -0.7
baz=241,SNR=5.4
IL31 83.02 22 P **P** 19 54 12.2 -1.3
IL31 IAmb IAmb 19 54 13.6
comp=Z,24nm,0.8s
ILAR Eielson Array 83.02 22 P **P** 19 54 11.9 -1.6
comp=Z,20nm,0.8s,baz=249,slow=5.2,SNR=143
ILAR LR LR 20 28 37.3
comp=Z,320nm,19.1s,baz=255,slow=34
ILAR Eielson Array 83.02 22 P **P** 19 54 12.0 -1.6
ILAR Eielson Array 83.02 22 P **P** 19 54 12.0 -1.6
MCARA McCarthy VSAT 83.06 26 P **P** 19 54 13.8 0.0
COLD Coldfoot 83.10 19 P **P** 19 54 14.5 +0.6
baz=238,SNR=8.4
COLD Coldfoot 83.10 19 P **P** 19 54 13.5 -0.4
BALM Baldy 83.22 27 P **P** 19 54 14.9 +0.1
BALM IAmb IAmb 19 54 16.6
comp=Z,37nm,0.9s
RIDG Independent Ri 83.33 24 P **P** 19 54 15.0 -0.3
RIDG IAmb IAmb 19 54 19.4
comp=Z,30nm,1.0s
BARN Barnard Glacie 83.53 27 P **P** 19 54 16.9 +0.4
KUU Kurty 83.59 315 *eP* **P** 19 54 15.4 -1.5
KUU Kurty 83.59 315 *eP* **P** 19 54 15.4 -1.5
DOT Dot Lake 83.60 24 P **P** 19 54 16.4 -0.2
CTGM Chitina Glacie 83.64 27 P **P** 19 54 17.2 +0.2
NIL Nilore 83.78 305 P **P** 19 54 18.2 0.0
NIL pmax pmax
comp=Z,22nm,0.9s
NIL Nilore 83.78 305 P **P** 19 54 18.2 0.0
NIL IAmb IAmb 19 54 19.5
comp=Z,22nm,0.9s
SCRK Sand Creek 83.78 23 P **P** 19 54 17.5 -0.1
baz=244
KURK Kurchatov 83.86 322 *ceP* **P** 19 54 17.4 -0.7
KURK pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 83.86 322 P **P** 19 54 17.5 -0.6
TKM2 Tokmak 2 83.89 314 P **P** 19 54 18.5 -0.3
SNR=8.6
TOLK Toolik Lake Re 84.05 18 P **P** 19 54 18.9 0.0
baz=238,SNR=8.1
TOLK Toolik Lake Re 84.05 18 P **P** 19 54 19.4 +0.6
TOLK IAmb IAmb 19 54 20.1
comp=Z,15nm,0.9s
CHMS Chumysh 84.51 314 P **P** 19 54 22.0 +0.3
SNR=6.5
QSPA South Pole Qui 84.51 180 P **P** 19 54 21.0 -0.3
UCH Uchtor 84.51 313 P **P** 19 54 23.2 +1.0
SNR=14
K27K Chicken 84.56 24 P **P** 19 54 22.5 +1.1
baz=246
AAK Ala-Archa 84.61 314 P **P** 19 54 22.9 +0.5
SNR=7.6
AAK Ala-Archa 84.61 314 *ceP* **P** 19 54 22.7 +0.3
AAK pmax pmax
comp=Z,29nm,1.3s
SGDS Sogindy 84.69 314 *eP* **P** 19 54 21.5 -1.2
SGDS Sogindy 84.69 314 *eP* **P** 19 54 21.4 -1.2
MAW Mawson 84.70 203 P **P** 19 54 22.0 -0.1
comp=Z,2.8nm,0.8s,baz=106,slow=4.0,SNR=8.1
MAW LR LR 20 29 02.1
comp=Z,400nm,21.4s,baz=64,slow=33
MAW Mawson 84.70 203 P **P** 19 54 22.2 +0.1
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 84.70 203 P **P** 19 54 22.2 +0.1
AML Almayashu 85.09 313 P **P** 19 54 25.6 +0.5
SNR=30
BMAR Burnt Mountain 85.09 20 P **P** 19 54 24.4 +0.3
EKS2 Erkin-Say 85.14 314 P **P** 19 54 25.2 +0.2
SNR=17
HYT Haines Junctio 85.33 28 P **P** 19 54 26.8 +1.3
BTLS Baital 85.44 316 *eP* **P** 19 54 25.1 -1.2
BTLS Baital 85.44 316 *eP* **P** 19 54 25.1 -1.2
DAWY Dawson 85.66 24 P **P** 19 54 27.9 +0.9
DAWY IAmb IAmb 19 54 30.0
comp=Z,33nm,1.2s
NRIK Noril'sk 86.36 341 P **P** 19 54 28.9 -1.3
comp=Z,7.3nm,0.7s,baz=98,slow=4.5,SNR=11
NRIK LR LR 20 32 51.4
comp=Z,195nm,20.7s,baz=187,slow=35
NRIK Noril'sk 86.36 341 *ceP* **P** 19 54 30.9 +0.7
NRIK pmax pmax
comp=Z,10.0nm,0.9s
DZA Taraz 86.95 313 *eP* **P** 19 54 33.5 -0.3
DZA Taraz 86.95 313 *eP* **P** 19 54 33.5 -0.3
KKAR Karatay Array 87.58 314 P **P** 19 54 36.3 -0.5
KKAR Karatay Array 87.58 314 P **P** 19 54 36.3 -0.5
IUG Iuzhnay 87.77 313 *eP* **P** 19 54 36.8 -1.1
IUG Iuzhnay 87.77 313 *eP* **P** 19 54 36.7 -1.1
DLBC Dease Lake 88.29 31 P **P** 19 54 41.2 +1.2
comp=Z,25nm,1.0s,baz=266,slow=3.9,SNR=22
INK Inuvik 89.31 21 P **P** 19 54 44.1 -0.2
comp=Z,13nm,1.0s,baz=225,slow=6.2,SNR=8.2
BRVK Borovoye 89.42 323 *ceP* **P** 19 54 44.7 -0.5
BRVK pmax pmax
comp=Z,4.0nm,1.0s
M02C Callahan 89.85 49 P **P** 19 54 50.1 +2.4
baz=263
YBH Yreka Blue Hor 90.00 48 P **P** 19 54 48.9 +0.5
comp=Z,6.0nm,1.0s,baz=228,slow=3.9,SNR=6.8
H04D Lebanon 90.33 45 P **P** 19 54 50.4 +0.7
baz=263
I04A Tendick Farm, 90.48 46 P **P** 19 54 51.2 +0.7
baz=263
J04D Umpqua Nationa 90.63 47 P **P** 19 54 52.9 +1.5
baz=263
J05D Fort Rock, OR 91.27 47 P **P** 19 54 55.8 +1.5
baz=264
I05D Terrebonne, OR 91.31 46 P **P** 19 54 55.4 +1.1
baz=264
SYO Syowa Base 92.83 199 *i* *eP* pP 19 55 13.3 -0.6
EDW2 Edwards Air Fo 93.00 55 P **P** 19 55 03.9 +1.5
baz=266
NVAR Mina Array Bea 93.03 52 P **P** 19 55 02.8 +0.1
comp=Z,4.7nm,0.9s,baz=257,slow=6.5,SNR=16
NVAR LR LR 20 32 33.9
comp=Z,358nm,18.9s,baz=270,slow=33
CWC Cottonwood Cre 93.05 54 P **P** 19 55 03.4 +0.7
baz=266
MPMC Manual Prospec 93.50 54 P **P** 19 55 06.2 +1.4
baz=266
MONP2 Monument Peak 94.16 57 P **P** 19 55 09.9 +1.9
baz=266
PFO Pinyon Flats O 94.17 57 P **P** 19 55 09.2 +1.3
comp=Z,2.4nm,0.8s,baz=283,slow=3.4,SNR=3.6
PFO Pinyon Flats O 94.17 57 P **P** 19 55 09.5 +1.6
baz=266
PFO Pinyon Flats O 94.17 57 P **P** 19 55 09.2 +1.3
PFO pmax pmax
comp=Z,7.0nm,1.2s
PFO Pinyon Flats O 94.17 57 IAmb IAmb 19 55 10.8
comp=Z,6.8nm,1.1s
NEW Newport 94.54 42 P **P** 19 55 09.8 +0.7
comp=Z,7.8nm,1.2s,baz=224,slow=3.7,SNR=6.2
NEW Newport 94.54 42 P **P** 19 55 09.8 +0.7
baz=267
TPNV Topopah Spring 94.55 53 P **P** 19 55 10.5 +0.9
baz=267
GMRC Granite Mounta 94.91 56 P **P** 19 55 12.8 +1.5
baz=267
R11A Troy Canyon, C 95.16 52 P **P** 19 55 13.5 +1.1
baz=267
IRM Iron Mountain 95.30 56 P **P** 19 55 14.9 +1.9
baz=267
HLID Hailey 96.24 47 P **P** 19 55 18.3 +1.1
baz=268
YKA Yellowknife Ar 96.32 28 P **P** 19 55 17.4 +0.5
comp=Z,4.3nm,0.9s,baz=278,slow=4.6,SNR=8.3
YKA LR LR 20 35 23.7
comp=Z,300nm,20.0s,baz=0.0,slow=33
YKA Yellowknife Ar 96.32 28 *i* P **P** 19 55 17.7 +0.9
YKA pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 96.47 326 P **P** 19 55 18.2 +0.5
ARU 19 59 13.7
ARU S S 20 05 50.6 -44
ARU SS **SS** 20 13 10.4 +1.6
BOZ Bozeman (W) 98.25 45 P Pdif 19 55 27.4 +1.2
baz=271
PDAR Pinedale Array 99.80 48 P **Pdif** 19 55 32.5 -0.8
comp=Z,1.8nm,0.9s,baz=263,slow=2.4,SNR=10.0
PDAR LR LR 20 39 55.2
comp=Z,266nm,18.1s,baz=286,slow=35
TXAR Lajitas Array 105.05 61 PKKPab PKKPab 20 11 58.6 +2.4
comp=Z,0.1nm,0.7s,baz=110,slow=5.3,SNR=4.4
ARCES ARCESS Array B 107.29 343 PKiKP **PKiKP** **20 00 14.0 -0.3**
comp=Z,2.9nm,0.9s,baz=90,slow=2.9,SNR=2.5
FINES FINESS Array B 111.36 335 Pdiff **Pdif** **19 56 23.4 -0.5**
comp=Z,2.2nm,1.1s,baz=67,slow=5.0,SNR=4.9
FINES PKiKP **PKiKP** **20 00 22.9 +0.8**
comp=Z,2.0nm,1.0s,baz=93,slow=2.9,SNR=4.7
CLL Collm 123.08 331 *e* PKPdf **PKPdf** **20 00 44.0 -0.9**
CLL Collm 123.08 331 *e* PKiKP **PKPdf** **20 00 43.0 -1.9**
H58A Gabriels 123.98 39 P **PKiKP** **20 00 47.4 +0.2**
baz=300
KHC Kasperske Hory 124.14 328 *c i* PKiKP **PKPdf** **20 00 46.2 -0.9**
KHC pmax pmax
comp=Z,17nm,2.5s
GERES GERESS Array B 124.24 328 PKP **PKPdf** **20 00 47.1 -0.2**
comp=Z,1.3nm,0.7s,baz=56,slow=2.4,SNR=13
GERES GERESS Array B 124.24 328 PKiKP **PKiKP** **20 00 47.6 -0.1**
GERES GERESS Array B 124.24 328 **PKiKP** **20 00 47.6 -0.1**
WATA Walderalm 126.29 328 *eP* **PKPdf** **20 00 49.6 -1.8**
comp=Z,1.9nm,0.6s
WTTA Wattenberg 126.31 327 *eP* **PKPdf** **20 00 50.0 -1.5**
comp=Z,1.4nm,0.5s
MOTA Moosalm 126.54 328 *eP* **PKPdf** **20 00 49.8 -2.1**
comp=Z,1.8nm,0.6s
SQTA Sank Quirin 126.56 328 *eP* **PKiKP** **20 00 52.2 -0.2**
comp=Z,3.1nm,1.0s
DAVA Damuels 127.22 328 *eP* **PKPdf** **20 00 53.1 -0.1**
comp=Z,9.7nm,1.6s
LPAZ La Paz 134.71 119 PKP **PKiKP** **20 01 10.7 +0.5**
comp=Z,0.8nm,0.6s,baz=180,slow=1.0,SNR=4.4
TORD Torodi Ar. Bea 149.84 287 PKPbc **PKPbc** **20 01 39.0 -0.6**
comp=Z,13nm,0.9s,baz=89,slow=2.4,SNR=62
TORD Torodi Ar. Bea 149.84 287 PKPbc **PKPbc** **20 01 39.3 -0.2**
BDFB Brasilia 151.08 137 PKPbc **PKiKP** **20 01 43.5 +0.3**
comp=Z,0.9nm,0.4s,baz=270,slow=2.0,SNR=2.1
KIC Kosan Boka 156.95 273 *e* PKP2 **PKPab** **20 02 15.2 0.0**
comp=Z,34nm,1.0s
DBIC Dimbokro 157.06 274 PKPab **PKPab** **20 02 15.4 -0.3**
comp=Z,6.0nm,0.7s,baz=83,slow=3.4,SNR=5.5
TIC Toumodi 157.22 274 *e* PKP2 **PKPab** **20 02 16.3 -0.1**
LIC Lamto 157.24 273 *e* PKP2 **PKPab** **20 02 14.5 -2.0**
comp=Z,3.7nm,0.5s

*IDC **12** 19:50:39.8±5.8, 55°.39N×162°.54E, h0km, mb3.8/2, mb1 3.7/3, mb1mx3.2/59, mbtmp3.6/3, ML2.3/1, Error ellipse: s-maj=162.2km s-min=29.1km az=119.0*
*KRSC **12** 19:50:42.6±2.7, 55°.09N×162°.79E, h30km±32km, ML3.8*
ISC 12 19:50:42.2±0.9, 55°.12N±0°.05×162°.87E±0°.05, h17km, n45, σ1s50/49, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KBTR	**Krutoberegovo**	**1.09**	**358**	*eP*		**Pn**	**19 51 02.7**	**0.0**
KBG	**Krutoberegovo**	**1.14**	**355**	*eP*		**Pn**	**19 51 03.6**	**+0.3**
TUMD	**Tumrok D**	**1.42**	**274**	*eP*		**Pn**	**19 51 06.1**	**-1.1**
ZLN	**Zelenaya**	**1.48**	**308**	*eP*		**Pn**	**19 51 08.5**	**+0.4**
KZV	**Kizimen**	**1.48**	**271**	*eP*		**Pn**	**19 51 07.2**	**-1.0**
KZV				*eS*		**Sn**	**19 51 27.7**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.49**	**305**	*eP*		**Pn**	**19 51 08.3**	**+0.1**
CIRR	**Tsirk**	**1.56**	**311**	*eP*		**Pn**	**19 51 10.0**	**+0.7**
LGNR	**Loginova**	**1.57**	**309**	*eP*		**Pn**	**19 51 09.8**	**+0.3**
TUMR	**Tumrok**	**1.57**	**277**	*eP*		**Pn**	**19 51 09.4**	**0.0**
TUMR				*eS*		**Sn**	**19 51 29.4**	**0.0**
BZMR	**Bezymyannaya**	**1.58**	**302**	*eP*		**Pn**	**19 51 09.5**	**0.0**
BZWR	**Bezymyannyi-We**	**1.59**	**303**	*eP*		**Pn**	**19 51 09.7**	**0.0**
KMNR	**Kamenistaya**	**1.63**	**294**	*eP*		**Pn**	**19 51 10.8**	**+0.6**
KIRR	**Kirishev**	**1.66**	**301**	*eP*		**Pn**	**19 51 11.8**	**+1.1**
SMKR	**Semkarok**	**1.67**	**332**	*eP*		**Pn**	**19 51 11.5**	**+0.9**
KRSR	**Krestovskiy**	**1.71**	**311**	*eP*		**Pn**	**19 51 11.2**	**0.0**
BDR	**Baidarnaya**	**1.73**	**328**	*eP*		**Pn**	**19 51 12.9**	**+1.4**
KLY	**Klyuchi**	**1.73**	**315**	*eP*		**Pn**	**19 51 10.8**	**-0.7**
BKI	**Bering**	**1.78**	**86**	*eP*		**Pb**	**19 51 15.1**	**+0.8**
BKI				*eS*		**Sb**	**19 51 36.2**	**-0.1**
SRKR	**Sorokina**	**1.81**	**329**	*eP*		**Pn**	**19 51 13.5**	**+0.9**
KOZ	**Kozyrevsk**	**1.95**	**300**	*eP*		**Pn**	**19 51 15.7**	**+1.3**
SRDR	**Sredinnyy**	**2.15**	**305**	*eP*		**Pn**	**19 51 18.4**	**+1.1**
KII	**Karymskiy**	**2.27**	**243**	*eP*		**Pn**	**19 51 19.0**	**+0.1**
ESO	**Esso**	**2.51**	**291**	*eP*		**Pn**	**19 51 21.7**	**-0.4**
SPN	**Mys Shipunski**	**2.63**	**221**	*eP*		**Pn**	**19 51 21.4**	**-2.4**
SPN				*eS*		**Sn**	**19 51 49.4**	**-5.8**
NLC	**Nalytchevo**	**2.85**	**228**	*eS*		**Sn**	**19 52 00.7**	**+0.1**
SDLR	**Sedlovina**	**2.98**	**233**	*eP*		**Pn**	**19 51 29.4**	**+0.7**
KRER	**Koryakskii**	**3.03**	**235**	*eP*		**Pn**	**19 51 31.3**	**+1.9**
SMAR	**Somma**	**3.03**	**234**	*eP*		**Pn**	**19 51 31.5**	**+2.0**
SMAR				*eS*		**Sn**	**19 52 05.4**	**0.0**
KRX	**Arik**	**3.04**	**236**	*eP*		**Pn**	**19 51 30.5**	**+0.9**
UGLR	**Uglovaya**	**3.05**	**233**	*eP*		**Pn**	**19 51 30.6**	**+0.9**
AVH	**Avacha**	**3.06**	**234**	*eP*		**Pn**	**19 51 31.1**	**+1.4**
GNL	**Ganaly**	**3.22**	**246**	*eP*		**Pn**	**19 51 33.4**	**+1.5**
PET	**Petropavlovsk**	**3.25**	**232**	*eP*		**Pn**	**19 51 33.0**	**+0.7**
KRMR	**Karymshinskiy**	**3.62**	**233**	*eP*		**Pn**	**19 51 39.7**	**+2.3**
PETK	**Petropavlovsk-**	**3.65**	**239**	Pn		**Pn**	**19 51 37.7**	**-0.2**
	1.3nm,0.3s,baz=68,slow=17,SNR=23							
PETK					Sn	**Sn**	**19 52 21.9**	**+1.5**
	1.2nm,0.3s,baz=78,slow=21,SNR=1.8							
RUS	**Russkaya**	**3.73**	**226**	*eP*		**Pn**	**19 51 40.8**	**+1.9**
GRL	**Gorelyy**	**3.83**	**230**	*eP*		**Pn**	**19 51 43.0**	**+2.6**
MTVR	**Mutnovka**	**3.83**	**228**	*eP*		**Pn**	**19 51 42.6**	**+2.1**
MTVR				*eS*		**Sn**	**19 52 27.6**	**+2.4**
ASAK	**Asacha**	**4.03**	**229**	*eP*		**Pn**	**19 51 45.1**	**+2.0**
KDTR	**Khodutka, Kamc**	**4.38**	**223**	*eP*		**Pn**	**19 51 48.8**	**+1.0**
MJAR	**Matsushiro Arr**	**25.09**	**232**	P		**P**	**19 56 05.8**	**+0.2**
	1.1nm,0.7s,baz=22,slow=11,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**35.46**	**173**	T		T	20 35 02.2	
	baz=355,slow=76,SNR=8.7							
H11N3	**WAKE ISLAND Hy**	**35.48**	**173**	T		T	20 35 10.9	
	baz=355,slow=76,SNR=7.8							
H11N1	**WAKE ISLAND Hy**	**35.48**	**173**	T		T	20 35 08.3	
	baz=355,slow=76,SNR=8.8							
FINES	**FINESS Array B**	**58.89**	**337**	P		**P**	**20 00 37.6**	**-1.9**
	0.8nm,0.6s,baz=37,slow=8.2,SNR=5.4							

IDC 12 19:53:26.3±3.6, 5°.50S×151°.96E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/41, mbtmp3.5/3, Error ellipse: s-maj=105.3km s-min=12.6km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KRVT	**Keravat (AS076**	**1.19**	**3**	Pg		Pb	19 53 49.5	-0.2
	69nm,0.3s,baz=149,slow=6.6,SNR=9.8							
KRVT					Lg	Lg	19 54 04.8	
	72nm,0.3s,baz=296,slow=21,SNR=6.9							
WRA	**Warramunga Arr**	**22.36**	**228**	P		P	19 58 26.4	+0.3
	0.2nm,0.6s,baz=52,slow=9.9,SNR=4.6							
ASAR	**Alice Springs**	**25.07**	**222**	P		P	19 58 52.7	0.0
	0.4nm,0.6s,baz=56,slow=8.8,SNR=4.1							
FITZ	**Fitzroy Crossi**	**28.59**	**242**	P		P	19 59 24.6	+0.1
	2.2nm,1.0s,baz=60,slow=8.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**149.72**	**287**	PKPbc		PKPbc	20 13 18.2	-1.0
	0.3nm,0.7s,baz=73,slow=3.4,SNR=1.2							

IDC 12 19:53:27.8±9.8, 8°.15N×93°.17E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/50, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=207.5km s-min=68.2km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMAR	**Chiang Mai Arr**	**11.68**	**28**	Pn		Pn	19 56 14.6	-1.3
	0.1nm,0.3s,baz=222,slow=13,SNR=1.9							
H08S3	**Diego Garcia H**	**25.90**	**233**	T		T	20 25 49.4	
	baz=54,slow=75,SNR=5.6							
H08S2	**Diego Garcia H**	**25.91**	**233**	T		T	20 25 43.1	
	baz=54,slow=75,SNR=10.0							
H08S1	**Diego Carcia H**	**25.92**	**233**	T		T	20 25 43.3	
	baz=54,slow=75,SNR=7.0							
MKAR	**Makanchi Array**	**39.62**	**348**	P		P	20 01 01.7	+0.6
	1.1nm,0.7s,baz=170,slow=7.8,SNR=11							
ZALV	**Zalesovo Beam**	**46.17**	**353**	P		P	20 01 54.1	+0.1
	0.7nm,0.6s,baz=180,slow=8.2,SNR=4.3							
FINES	**FINESS Array B**	**72.02**	**332**	P		P	20 04 52.8	-0.5
	0.9nm,0.8s,baz=111,slow=7.6,SNR=5.6							

*IDC **12** 19:54:20.1±1.7, 5°.73S×152°.67E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.6/4, Error ellipse: s-maj=42.6km s-min=21.1km az=104.0*
ISC 12 19:54:26.2±1.8, 5°.6S±0°.2×152°.4E±0°.3, h40km, n6, σ0s36/6, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KRVT	**Keravat (AS076**	**1.34**	**342**	Pg		**Pn**	**19 54 48.4**	**-0.1**
	186nm,0.3s,baz=170,slow=6.1,SNR=16							
WRA	**Warramunga Arr**	**22.66**	**229**	P		**P**	**19 59 24.5**	**+0.3**
	0.6nm,0.5s,baz=53,slow=9.8,SNR=8.3							
ASAR	**Alice Springs**	**25.33**	**223**	P		**P**	**19 59 49.0**	**-0.5**
	0.8nm,0.8s,baz=59,slow=9.0,SNR=6.4							
FITZ	**Fitzroy Crossi**	**28.97**	**242**	P		**P**	**20 00 22.3**	**+0.1**
	0.6nm,0.4s,baz=56,slow=9.8,SNR=1.3							
ILAR	**Eielson Array**	**83.02**	**22**	P		**P**	**20 06 47.2**	**+0.1**
	0.2nm,0.5s,baz=238,slow=5.5,SNR=7.0							
TORD	**Torodi Ar. Bea**	**150.20**	**287**	PKPbc		**PKiKP**	**20 14 14.8**	**0.0**
	0.2nm,0.5s,baz=76,slow=3.2,SNR=1.8							

*MOS **12** 19:54:44.8±0.9, 5°.32S×151°.98E, h33km, mb4.8/14, Error ellipse: s-maj=11.8km s-min=9.1km az=94.6*
*IDC **12** 19:54:45.9±1.8, 5°.43S×152°.14E, h32km±12km, mb4.4/22, mb1 4.6/23, mb1mx4.4/40, mbtmp4.6/23, ML2.8/1, MS4.0/6, Ms1 4.0/6, ms1mx3.5/35, Error ellipse: s-maj=18.4km s-min=10.6km az=109.0*
*BJI **12** 19:54:45.9±0.0, 5°.43S×152°.41E, h64km, mB5.4/25, mb4.7/34, Ms5.3/6, Ms7 5.0/4*
*NEIC **12** 19:54:46.6±1.5, 5°.41S±0°.07×152°.1E±0°.1, h35km±1km, mb5.2/61, Error ellipse: s-maj=22.2km s-min=11.0km az=108.0*
*DJA **12** 19:54:50.3±0.5, 5°.3S×15°.2E±°, h65km±6km, M5.0/19, mb4.7/19, mB4.7/1, MLv5.2/2, Mw(mB)3.9/1*
ISC 12 19:54:50.6±1.6, 5°.49S±0°.07×152°.01E±0°.08, h74km±14km, n209, σ0s88/216, mb4.8/74, 5C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KRVT	**Keravat (AS076**	**1.18**	**1**	Pg		Pn	19 55 06.3	-5.3
	2µm,0.3s,baz=163,slow=4.8,SNR=110							
KRVT					Lg	Lg	19 55 22.9	
	2µm,0.3s,baz=124,slow=22,SNR=21							
KRVT					LR	LR	19 55 32.5	
	comp=Z,3µm,18.9s,baz=96,slow=42							
RABL	**Rabaul**	**1.30**	**7**	Pn		Pn	19 55 08.0	-5.3
PMG	**Port Moresby**	**6.18**	**231**	Pn		**Pn**	**19 56 18.4**	**-1.0**
	12nm,0.3s,baz=42,slow=9.4,SNR=38							
PMG					Sn	**Sn**	**19 57 28.3**	**-0.4**
	16nm,0.3s,baz=139,slow=20,SNR=3.7							
PMG					LR	LR	19 58 49.7	
	comp=Z,886nm,18.2s,baz=34,slow=38							
PMG	**Port Moresby**	**6.18**	**231**	*c*	*iP*	**Pn**	**19 56 19.3**	**-0.1**
PMG	**Port Moresby**	**6.18**	**231**	Pn		**Pn**	**19 56 19.2**	**-0.1**
CTA	**Charters Tower**	**15.55**	**201**	Pn		**P**	**19 58 27.6**	**-0.9**
	0.4nm,0.3s,baz=34,slow=13,SNR=12							
CTA					LR	LR	20 03 43.1	
	comp=Z,397nm,18.4s,baz=60,slow=34							
EIDS	**Eidsvold**	**19.78**	**182**	P		**P**	**19 59 15.0**	**0.0**
SIJI	**Sorong**	**21.21**	**282**	P		**P**	**19 59 33.1**	**+2.5**
	4.2nm,0.4s,baz=112,slow=15,SNR=4.1							
DZM	**Mont Dzumac**	**21.60**	**141**	P		**P**	**19 59 33.0**	**-1.7**
	7.4nm,0.7s,baz=2.4,slow=13,SNR=5.5							
DZM					LR	LR	20 07 25.2	
	comp=Z,388nm,18.5s,baz=301,slow=35							
DZM	**Mont Dzumac**	**21.60**	**141**	P		**P**	**19 59 32.7**	**-2.0**
MTN	**Manton Dam**	**21.85**	**249**	P		**P**	**19 59 39.1**	**+1.7**
MTN					IAmb	IAmb	19 59 40.7	
	comp=Z,29nm,0.6s							
WB0	**Warramunga Arr**	**22.25**	**229**	P		**P**	**19 59 41.6**	**-0.1**
WR0	**Warramunga Arr**	**22.26**	**228**	P		**P**	**19 59 41.9**	**+0.1**
WRAB	**Tennant Creek**	**22.39**	**229**	P		**P**	**19 59 44.8**	**+1.7**
WRAB					pmax	pmax		
	comp=Z,28nm,0.7s							
WRAB	**Tennant Creek**	**22.39**	**229**	P		**P**	**19 59 44.8**	**+1.7**
WRAB					IAmb	IAmb	19 59 46.2	
	comp=Z,28nm,0.7s							
WB2	**Warramunga Arr**	**22.39**	**229**	P		**P**	**19 59 43.0**	**-0.2**
WRA	**Warramunga Arr**	**22.40**	**229**	P		**P**	**19 59 42.9**	**-0.4**
	comp=Z,16nm,0.6s,baz=53,slow=9.7,SNR=21							

WRA 20 03 37.1
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 22.40 229 P **P** **19 59 41.4 -1.9**
WRA **PcP** **20 03 37.1 +1.2**
KNRA Kununurra 24.96 244 P **P** **20 00 08.4 +0.9**
AS31 Alice Springs 25.11 222 P **P** **20 00 09.1 +0.3**
ASAR Alice Springs 25.11 222 P **P** **20 00 09.0 +0.2**
comp=Z,19nm,0.7s,baz=53,slow=9.3,SNR=69
ASAR PcP **PcP** **20 03 42.5 +0.9**
comp=Z,1.2nm,0.7s,baz=46,slow=3.2,SNR=4.5
ASAR Alice Springs 25.11 222 P **P** **20 00 08.2 -0.6**
ASAR 20 03 42.6
ASAR Alice Springs 25.11 222 P **P** **20 00 08.2 -0.6**
ASAR **PcP** **20 03 42.6 +0.9**
SANI Sanana 26.19 277 P **P** **20 00 18.0 -0.6**
comp=Z,11nm,0.7s
SOEI Soe 27.82 260 P **P** **20 00 32.5 -0.9**
comp=Z,27nm,0.8s
SOEI Soe 27.82 260 P **P** **20 00 34.0 +0.6**
STKA Stephens Creek 28.00 199 P **P** **20 00 34.3 -0.4**
comp=Z,5.2nm,0.8s,baz=28,slow=13,SNR=10
STKA LR LR 20 11 55.6
comp=Z,234nm,18.6s,baz=354,slow=37
STKA Stephens Creek 28.00 199 P **P** **20 00 34.7 0.0**
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 28.00 199 P **P** **20 00 34.7 0.0**
BATI Baumata 28.46 259 P **P** **20 00 40.2 +1.2**
comp=Z,28nm,0.5s,baz=114,slow=2.7,SNR=12
BATI Baumata 28.46 259 P **P** **20 00 38.2 -0.8**
comp=Z,27nm,0.8s
FITZ Fitzroy Crossi 28.64 242 P **P** **20 00 40.4 -0.1**
comp=Z,5.9nm,0.5s,baz=70,slow=7.5,SNR=34
FITZ Fitzroy Crossi 28.64 242 P **P** **20 00 40.7 +0.2**
EDFI Ende, Flores 30.25 262 P **P** **20 00 54.6 -0.4**
comp=Z,8.8nm,0.8s
FORT Forrest 33.76 219 P **P** **20 01 25.3 -0.1**
FORT IAmb IAmb 20 01 30.9
comp=Z,22nm,0.9s
RPZ Rata Peaks 41.60 159 LR LR 20 18 22.7
comp=Z,245nm,18.7s,baz=333,slow=34
MJAR Matsushiro Arr 43.77 344 P **P** **20 02 49.6 +0.6**
comp=Z,0.8nm,0.8s,baz=174,slow=8.6,SNR=1.9
MJAR PcP **PcP** **20 04 34.7 +0.1**
comp=Z,2.4nm,0.7s,baz=162,slow=4.1,SNR=12
MJAR LR LR 20 19 45.4
comp=Z,201nm,19.9s,baz=165,slow=34
MJAR Matsushiro Arr 43.77 344 P **P** **20 02 48.2 -0.8**
MJAR pmax pmax
comp=Z,2.0nm,1.1s
MJAR Matsushiro Arr 43.77 344 P **P** **20 02 48.2 -0.8**
ERMI Erimo 47.97 351 *i* P **P** **20 03 21.7 -0.2**
ERM pmax pmax
comp=Z,30nm,1.1s
NJ2 Nanjing 48.89 322 *e*P **P** **20 03 30.1 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 52.65 342 P **P** **20 03 57.4 +0.1**
comp=Z,1.4nm,0.7s,baz=139,slow=6.7,SNR=4.8
USRK Ussuriysk Ar. 52.65 342 P **P** **20 03 55.9 -1.4**
USRK Ussuriysk Ar. 52.65 342 P **P** **20 03 55.9 -1.4**
XAN Xi'an 56.59 317 P **P** **20 04 25.1 -1.0**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,630nm,5.7s
KMI Kunming 56.73 305 ⇑P **P** **20 04 27.4 0.0**
KMI pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 57.46 296 P **P** **20 04 33.3 +0.8**
comp=Z,2.7nm,0.7s,baz=124,slow=5.9,SNR=5.1
CMAR PcP **PcP** **20 05 26.4 +0.8**
comp=Z,0.9nm,0.6s,baz=120,slow=1.3,SNR=4.5
CMAR Chiang Mai Arr 57.46 296 *i* P **P** **20 04 32.0 -0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 58.58 4 P **P** **20 04 38.9 -0.7**
comp=Z,1.5nm,0.5s,baz=163,slow=7.6,SNR=4.6
PETK PcP **PcP** **20 05 29.2 0.0**
comp=Z,6.1nm,0.9s,baz=118,slow=3.9,SNR=3.7
HHC Hu-ho-hao-te 59.16 325 *e*P **P** **20 04 44.5 +0.5**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,300nm,7.4s
LZH Lanzhou 61.18 316 *e*P **P** **20 04 58.4 +0.4**
LZH pP pP 20 05 11.2 -6.2
LZH pmax pmax
comp=Z,13nm,1.1s
GTA Gaotai 65.63 318 ⇑P **P** **20 05 27.5 +0.2**
GTA S **S** **20 14 06.7 -0.9**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,200nm,7.1s
GTA LR LR
comp=Z,250nm,17.5s
GTA LR LR
comp=Z,220nm,17.5s
SHL Shillong 65.98 301 P **P** **20 05 30.2 +0.3**
SHL pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 65.98 301 P **P** **20 05 30.2 +0.3**
SHL IAmb IAmb 20 05 31.1
comp=Z,21nm,1.0s
ULN Ulaanbaatar 66.17 329 *i* P **P** **20 05 30.0 -0.6**
ULN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 66.49 328 P **P** **20 05 32.6 -0.1**
comp=Z,2.2nm,0.5s,baz=141,slow=5.3,SNR=16
SONM Songino Array 66.49 328 P **P** **20 05 32.1 -0.6**
SONM pmax pmax
comp=Z,8.0nm,1.4s
SONM Songino Array 66.49 328 P **P** **20 05 32.1 -0.6**
LSA Lhasa 67.98 305 P **P** **20 05 43.4 +0.5**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 67.98 305 P **P** **20 05 43.4 +0.5**
LSA IAmb IAmb 20 05 44.4
comp=Z,9.2nm,0.8s
SEY Seymchan 68.23 0 *i* P **P** **20 05 43.6 +0.5**
ZAK Zakamensk 69.68 329 *e*P P 20 05 47.4 -5.1
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 70.28 330 *i* P **P** **20 05 54.9 -1.2**
TLY pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 72.17 178 P **P** **20 06 07.4 +0.4**
comp=Z,1.9nm,0.8s,baz=324,slow=5.2,SNR=7.6
BILL Bilibino 74.05 6⇑ *e*P **P** **20 06 19.7 +1.5**
BILL *i* 20 06 38.9
BILL *e* 20 09 07.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,316nm,19.0s
WMQ Urumqi 75.72 318 *e*P **P** **20 06 29.4 +1.0**
WMQ pP PcP 20 06 43.2 +2.3
WMQ sP pP 20 06 49.7 +1.3
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,68nm,5.7s
SVW2 Sparrevohn 77.77 23 P **P** **20 06 40.1 +0.6**
SVW2 IAmb IAmb 20 06 41.0
comp=Z,18nm,0.9s
DGZ Jazzator, Alta 78.16 323 *i* P **P** **20 06 41.5 -0.7**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
HOM Homer 78.57 26 P **P** **20 06 44.0 0.0**
baz=238
CNPM China Poot 78.68 26 P **P** **20 06 44.8 +0.2**
TTA Tatalina 78.70 22 P **P** **20 06 45.2 +0.5**
TTA pmax pmax
comp=Z,15nm,0.8s
TTA Tatalina 78.70 22 P **P** **20 06 45.2 +0.5**
TTA IAmb IAmb 20 06 45.8
comp=Z,15nm,0.8s
BRLK Bradley Lake 78.95 26 P **P** **20 06 45.9 -0.2**
BRLK IAmb IAmb 20 06 46.1
comp=Z,39nm,1.0s
SEW Seward 79.75 26 P **P** **20 06 50.4 +0.1**
O22K Cooper Landing 79.82 25 P **P** **20 06 50.6 -0.2**
baz=239

SKT Skwentna 79.87 24 P **P** **20 06 49.8 -1.2**
SUA Susitna One 79.91 24 P **P** **20 06 50.5 -0.9**
RC01 Rabbit Creek A 80.13 25 P **P** **20 06 52.3 -0.1**
baz=239
MKAR Makanchi Array 80.33 319 P **P** **20 06 53.4 -0.5**
comp=Z,3.4nm,0.8s,baz=110,slow=5.3,SNR=18
MKAR Makanchi Array 80.33 319 *i* P **P** **20 06 53.9 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 80.33 319 P **P** **20 06 52.5 -1.4**
CUT Chulitna 80.59 24 P **P** **20 06 54.1 -0.8**
baz=238
Q23K Middleton Isla 80.80 27 P **P** **20 06 55.6 -0.3**
baz=242
GHO Glory Hole Cre 80.81 24 P **P** **20 06 56.0 -0.2**
GHO IAmb IAmb 20 07 04.5
comp=Z,34nm,1.2s
KNK Knik Glacier 80.83 25 P **P** **20 06 56.3 +0.1**
KNK IAmb IAmb 20 06 57.0
comp=Z,50nm,1.4s
KTH Kantishna Hill 80.95 22 P **P** **20 06 56.0 -0.9**
KTH IAmb IAmb 20 06 56.5
comp=Z,16nm,0.7s
SML Sawmill 81.08 25 P **P** **20 06 57.5 -0.1**
TRF Thorofare Moun 81.14 23 P **P** **20 06 56.9 -1.0**
TRF IAmb IAmb 20 06 59.4
comp=Z,12nm,0.6s
GLI Glacier Island 81.15 26 P **P** **20 06 57.8 -0.1**
BPAW Bear Paw Mtn. 81.22 22 P **P** **20 06 57.4 -0.8**
BPAW IAmb IAmb 20 06 58.1
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 81.29 327 P **P** **20 06 58.0 -0.7**
comp=Z,1.8nm,0.4s,baz=111,slow=5.7,SNR=11
ZALV Zalesovo Beam 81.29 327 P **P** **20 06 57.6 -1.2**
IMAR Indian Mountai 81.30 20 P **P** **20 06 58.9 +0.3**
FID Port Fidalgo 81.35 26 P **P** **20 06 58.9 -0.1**
UZB Uzynbulak 81.47 315 *e*P **P** **20 06 59.0 -1.3**
UZB Uzynbulak 81.47 315 *e*P **P** **20 06 58.9 -1.3**
SCM Sheep Creek Mo 81.50 25 P **P** **20 06 59.9 +0.1**
SCM pmax pmax
comp=Z,28nm,0.9s
SCM Sheep Creek Mo 81.50 25 P **P** **20 06 59.9 +0.1**
SCM IAmb IAmb 20 07 00.7
comp=Z,28nm,0.9s
RND Reindeer 81.67 23 P **P** **20 06 59.8 -0.9**
RND pmax pmax
comp=Z,31nm,0.8s
RND Reindeer 81.67 23 P **P** **20 06 59.8 -0.9**
KPKS Kokpek 81.79 315 *e*P **P** **20 07 00.2 -1.7**
KPKS Kokpek 81.79 315 *e*P **P** **20 07 00.1 -1.7**
MCK McKinley 81.80 23 P **P** **20 07 00.2 -1.1**
baz=240
MLY Manley 81.81 21 P **P** **20 07 01.0 -0.3**
baz=238
BWN Browne 81.83 22 P **P** **20 07 00.6 -0.8**
BWN IAmb IAmb 20 07 01.8
comp=Z,22nm,0.7s
SATY Saty 81.88 315 *e*P **P** **20 07 01.4 -0.9**
SATY Saty 81.88 315 *e*P **P** **20 07 01.4 -0.9**
KLU Klutina 81.94 25 P **P** **20 07 02.5 +0.4**
KLU IAmb IAmb 20 07 03.8
comp=Z,30nm,0.8s
DHY Denali Highway 82.08 24 P **P** **20 07 02.8 -0.1**
DHY IAmb IAmb 20 07 10.8
comp=Z,15nm,0.9s
M24K Tolsona, Glenn 82.11 25 P **P** **20 07 03.4 +0.4**
baz=242
M24K Tolsona, Glenn 82.11 25 P **P** **20 07 03.8 +0.7**
NEA2 Nenana 82.19 22 P **P** **20 07 01.9 -1.4**
baz=239
WRH Wood River Hil 82.49 22 P **P** **20 07 03.8 -1.1**
WRH IAmb IAmb 20 07 04.6
comp=Z,21nm,1.0s
N25K Chitina, Valde 82.55 26 P **P** **20 07 05.6 +0.2**
baz=244
MDM Murphy Dome 82.69 22 P **P** **20 07 04.7 -1.2**
MDM IAmb IAmb 20 07 05.6
comp=Z,12nm,1.2s
CCB Clear Creek Bu 82.69 22 P **P** **20 07 04.9 -1.0**
CCB IAmb IAmb 20 07 05.4
comp=Z,17nm,0.8s
COLA College 82.78 22 *i* P **P** **20 07 04.9 -1.4**
COLA pmax pmax
comp=Z,27nm,0.8s
KSH Kashi 82.79 311 P **P** **20 07 06.4 -0.7**
KSH S **S** **20 17 17.1 -2.7**
KSH pmax pmax
comp=Z,230nm,5.7s
KSH LR LR
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,190nm,5.7s
KSH LR LR
comp=Z,160nm,5.7s
PAX Paxson 82.80 24 P **P** **20 07 05.8 -0.9**
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX Paxson 82.80 24 P **P** **20 07 05.8 -0.9**
GLB Gilahina Butte 82.82 26 P **P** **20 07 06.5 -0.2**
GLB IAmb IAmb 20 07 07.7
comp=Z,28nm,0.9s
CRQM Cirque 82.83 27 P **P** **20 07 06.7 -0.2**
MDOK Medeo 82.87 315 *e*P **P** **20 07 07.0 -0.5**
MDOK Medeo 82.87 315 *e*P **P** **20 07 07.0 -0.5**
VRDI Verde Repeater 82.89 26 P **P** **20 07 07.5 +0.2**
VRDI IAmb IAmb 20 07 08.1
comp=Z,25nm,0.9s
HDA Harding Lake 82.90 23 P **P** **20 07 05.9 -1.1**
baz=241
TNSS Tian-Shan 82.91 314 *e*P **P** **20 07 07.6 -0.5**
TNSS Tian-Shan 82.91 314 *e*P **P** **20 07 07.5 -0.5**
TGL Tana Glacier 82.96 27 P **P** **20 07 08.0 +0.5**
TGL IAmb IAmb 20 07 08.6
comp=Z,24nm,0.9s
POKR Poker Plat Res 83.06 22 P **P** **20 07 06.3 -1.5**
baz=241
IL31 83.09 22 P **P** **20 07 06.9 -1.0**
IL31 IAmb IAmb 20 07 07.3
comp=Z,16nm,0.7s
ILAR Eielson Array 83.09 22 P **P** **20 07 06.3 -1.7**
comp=Z,14nm,0.7s,baz=249,slow=5.4,SNR=108
ILAR Eielson Array 83.09 22 P **P** **20 07 06.8 -1.2**
ILAR Eielson Array 83.09 22 P **P** **20 07 06.8 -1.2**
ISLE Juniper Island 83.12 27 P **P** **20 07 08.7 +0.3**
ISLE IAmb IAmb 20 07 09.2
comp=Z,26nm,0.9s
MCARA McCarthy VSAT 83.14 26 P **P** **20 07 08.8 +0.5**
MCARA IAmb IAmb 20 07 09.9
comp=Z,25nm,1.0s
COLD Coldfoot 83.17 19 P **P** **20 07 08.8 +0.5**
baz=238
COLD Coldfoot 83.17 19 P **P** **20 07 07.7 -0.7**
BALM Baldy 83.30 27 P **P** **20 07 09.6 +0.3**
RIDG Independent Ri 83.40 24 P **P** **20 07 09.5 -0.1**
RIDG IAmb IAmb 20 07 10.3
comp=Z,27nm,1.2s
KUU Kurty 83.55 315 *e*P **P** **20 07 09.6 -1.3**
KUU Kurty 83.55 315 *e*P **P** **20 07 09.5 -1.3**
BARN Barnard Glacie 83.61 27 P **P** **20 07 11.4 +0.5**
DOT Dot Lake 83.68 24 P **P** **20 07 10.8 -0.2**
DOT IAmb IAmb 20 07 11.7
comp=Z,27nm,0.8s
CTGM Chitina Glacie 83.72 27 P **P** **20 07 12.0 +0.6**
NIL Nilore 83.72 305 P **P** **20 07 12.7 +0.8**
NIL pmax pmax
comp=Z,13nm,0.8s
NIL Nilore 83.72 305 P **P** **20 07 12.7 +0.8**
NIL IAmb IAmb 20 07 13.3
comp=Z,13nm,0.8s
KURK Kurchatov 83.83 322 *i* P **P** **20 07 11.5 -0.5**
KURK pmax pmax
comp=Z,5.0nm,0.9s
SCRK Sand Creek 83.85 24 P **P** **20 07 12.0 0.0**
baz=244
TOLK Toolik Lake Re 84.12 18 P **P** **20 07 13.7 +0.4**
baz=238
BCAR Beaver Creek A 84.36 25 P **P** **20 07 15.1 +0.5**
QSPA South Pole Qui 84.47 180 P **P** **20 07 15.6 +0.4**
AAK Ala-Archa 84.57 314*d* *i*P **P** **20 07 16.8 +0.6**
AAK pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 84.63 203 P **P** **20 07 16.7 +1.0**
comp=Z,1.2nm,0.6s,baz=116,slow=8.2,SNR=8.8
MAW Mawson 84.63 203 P **P** **20 07 16.3 +0.5**
MAW pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 84.63 203 P **P** **20 07 16.3 +0.5**
K27K Chicken 84.64 24 P **P** **20 07 16.5 +0.7**
baz=246
SGDS Sogindy 84.65 314 *e*P **P** **20 07 15.9 -0.6**
SGDS Sogindy 84.65 314 *e*P **P** **20 07 15.9 -0.6**
BMAR Burnt Mountain 85.17 20 P **P** **20 07 19.4 +0.9**
EGAK Eagle 85.30 23 P **P** **20 07 19.4 +0.2**
EGAK IAmb IAmb 20 07 20.4
comp=Z,17nm,0.9s
BTLS Baital 85.41 316 *e*P **P** **20 07 19.9 -0.2**
BTLS Baital 85.41 316 *e*P **P** **20 07 19.9 -0.2**
HYT Haines Junctio 85.41 28 P **P** **20 07 21.1 +1.1**
NRIK Noril'sk 86.36 341 P **P** **20 07 23.4 -0.9**
comp=Z,5.6nm,0.7s,baz=112,slow=3.0,SNR=7.9
NRIK Noril'sk 86.36 341 *i* P **P** **20 07 24.6 +0.3**
NRIK pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 87.53 314 P **P** **20 07 30.6 -0.1**
KKAR Karatay Array 87.53 314 P **P** **20 07 30.6 -0.1**
IUG Iuzhnay 87.72 313 *e*P **P** **20 07 29.9 -1.9**
IUG Iuzhnay 87.72 313 *e*P **P** **20 07 29.8 -1.9**
BRVK Borovoye 89.39 323 *i* P **P** **20 07 39.0 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,2.7s
I03D Drain, OR 89.89 46 P **P** **20 07 42.0 +0.3**
baz=262
M02C Callahan 89.95 49 P **P** **20 07 44.3 +2.1**
baz=263
YBH Yreka Blue Hor 90.10 48 P **P** **20 07 42.0 -0.8**
comp=Z,2.7nm,1.0s,baz=198,slow=3.2,SNR=4.2
H04D Lebanon 90.43 45 P **P** **20 07 45.0 +0.8**
baz=263
J04D Umpqua Nationa 90.72 47 P **P** **20 07 46.0 +0.1**
baz=263
J05D Fort Rock, OR 91.36 47 P **P** **20 07 49.6 +0.8**
baz=264
I05D Terrebonne, OR 91.40 46 P **P** **20 07 49.2 +0.4**
baz=264
SYO Syowa Base 92.76 199 *eX* **P** **20 07 52.4 -2.0**
SYO Syowa Base 92.76 199 *epP* pP 20 08 07.0 -6.3
NVAR Mina Array Bea 93.13 52 P **P** **20 07 57.9 +0.8**
comp=Z,2.6nm,0.7s,baz=256,slow=6.1,SNR=15
CWC Cottonwood Cre 93.15 54 P **P** **20 07 57.9 +0.7**
baz=266
MPMC Manual Prospec 93.60 54 P **P** **20 08 00.1 +0.8**
baz=266
FURC Furnace Creek, 94.13 54 P **P** **20 08 02.6 +1.1**
baz=266
MONP2 Monument Peak 94.26 57 P **P** **20 08 03.8 +1.3**
baz=266
NEW Newport 94.64 42 P **P** **20 08 03.1 -0.5**
comp=Z,3.0nm,0.9s,baz=290,slow=6.5,SNR=4.0
NEW Newport 94.64 42 P **P** **20 08 03.6 0.0**
baz=267
TPNV Topopah Spring 94.65 53 P **P** **20 08 04.8 +0.7**
baz=267
GMRC Granite Mounta 95.01 56 P **P** **20 08 06.7 +0.9**
baz=267
R11A Troy Canyon, C 95.25 52 P **P** **20 08 07.5 +0.6**
baz=267
HLID Hailey 96.34 47 P **P** **20 08 11.4 -0.3**
baz=268
YKA Yellowknife Ar 96.40 28 P **P** **20 08 11.4 +0.2**
comp=Z,2.7nm,0.9s,baz=274,slow=4.5,SNR=5.0
YKA Yellowknife Ar 96.40 28 *i* P **P** **20 08 11.5 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 99.89 48 P **Pdif** **20 08 26.6 -1.1**
comp=Z,0.7nm,0.8s,baz=224,slow=2.3,SNR=6.3
ARCES ARCESS Array B 107.30 343 PKiKP **PKiKP** **20 13 08.1 0.0**
comp=Z,1.1nm,0.8s,baz=50,slow=1.5,SNR=1.5
VYHS Vyhne 121.61 325 *e*PKiKP **PKiKP** **20 13 37.1 +0.9**
VYHS Vyhne 121.61 325 *e*PKP **PKiKP** **20 13 37.1 +0.9**
CLL Collm 123.07 331 *e*PKPdf **PKiKP** **20 13 42.0 +3.1**
CLL Lm MLR 20 56 00.0
comp=Z,200nm,21.2s
CLL Collm 123.07 331 *e*PKIKP **PKPdf** **20 13 38.0 -0.7**
CLL *e* 20 13 53.0
GERES GERESS Array B 124.23 328 PKP **PKPdf** **20 13 41.3 +0.1**
comp=Z,0.8nm,0.7s,baz=100,slow=1.5,SNR=7.1
GERES GERESS Array B 124.23 328 PKiKP **PKPdf** **20 13 41.5 +0.3**
GERES GERESS Array B 124.23 328 PKPdf **PKPdf** **20 13 41.5 +0.3**
LPAZ La Paz 134.78 119 PKP **PKPdf** **20 14 03.0 +0.2**
comp=Z,1.0nm,0.8s,baz=309,slow=2.8,SNR=4.7
CPUP Villa Florida 137.46 139 PKP **PKPdf** **20 14 06.5 -0.2**
comp=Z,1.1nm,0.7s,baz=189,slow=11,SNR=3.2
TOA0 Torodi Ar. Sit 149.76 287 PKPbc **PKPbc** **20 14 33.5 +0.3**
TORD Torodi Ar. Bea 149.76 287 PKPbc **PKPbc** **20 14 32.8 -0.4**
comp=Z,7.1nm,0.7s,baz=69,slow=3.1,SNR=35
TORD PKPab **PKPab** **20 14 38.8 +0.1**
comp=Z,5.7nm,0.6s,baz=79,slow=3.7,SNR=12
TORD Torodi Ar. Bea 149.76 287 PKPbc **PKPbc** **20 14 33.7 +0.5**
DBIC Dimbokro 156.97 274 PKPab **PKPab** **20 15 09.9 +0.6**
comp=Z,2.7nm,0.7s,baz=86,slow=3.3,SNR=4.1

NEIC ***12*** *20:16:03.7±0.6,34°.03N±0°.01×116°.32W±0°.01,h18km±1km, Error ellipse: s-maj=1.7km s-min=1.6km az=177.0*
ANF ***12*** *20:16:03.3±0.2,34°.02N×116°.32W,h17km±1km,MLJ.2/31, Error ellipse: s-maj=1.2km s-min=1.1km az=51.0*
PAS ***12*** *20:16:04.3±0.8,34°.033N±0°.006×116°.32W±0°.01, h10km±3km,MLJ.3/139,Error ellipse: s-maj=1.3km s-min=0.9km az=84.0*
SCEDC ***12*** *20:16:04.3,34°.03N×116°.32W,h10km,MLJ.3,MLJ.3*
ISC 12 20:16:04.0±0.8,34°.01N±0°.01×116°.31W±0°.01,h17km±5km, n126,σ0°71/194,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLAC	**Blackrock camp**	**0.08**	**311**		**Pg**	**20 16 08.4**	**+0.8**
EW2	**E Wide Canyon**	**0.11**	**227**		**Pg**	**20 16 07.2**	**-0.6**
EW2					**Sg**	**20 16 09.1**	**-1.1**
DEVC	**Devers**	**0.23**	**251**		**Pg**	**20 16 09.3**	**-0.1**
DEVC					**Sg**	**20 16 13.2**	**+0.1**
TPC	**Twentynine Pal**	**0.24**	**67**		**Pg**	**20 16 08.8**	**-0.7**
BELC	**Belle Mtn. Jos**	**0.26**	**93**	P	**Pg**	**20 16 09.5**	**-0.4**
	baz=277,SNR=468						
BELC				S	**Sg**	**20 16 13.6**	**-0.5**
	baz=277						
BELC	**Belle Mtn. Jos**	**0.26**	**93**		**Pg**	**20 16 09.7**	**-0.3**
BELC					**Sg**	**20 16 13.7**	**-0.3**
GTM	**Goat Mountain**	**0.28**	**353**		**Pg**	**20 16 09.3**	**-0.9**
GTM					**Sg**	**20 16 13.2**	**-1.4**
RMR	**Rimrock**	**0.29**	**312**		**Pg**	**20 16 09.9**	**-0.6**
PMD	**Palm Desert**	**0.37**	**188**		**Pg**	**20 16 11.4**	**-0.3**
PMD					**Sb**	**20 16 17.3**	**-0.3**
PFO	**Pinyon Flats O**	**0.42**	**197**	P	**Pg**	**20 16 12.3**	**-0.3**
	baz=16,SNR=159						
PFO				S	**Sg**	**20 16 18.4**	**-0.1**
	baz=16						
PFO	**Pinyon Flats O**	**0.42**	**197**		**Pg**	**20 16 12.4**	**-0.3**
PFO					**Sg**	**20 16 18.4**	**-0.1**
XPFO	**Pion Flat**	**0.42**	**196**		**Pg**	**20 16 12.4**	**-0.3**
XPFO					**Sg**	**20 16 18.3**	**-0.1**
CTCC	**Cactus City**	**0.45**	**143**		**Pg**	**20 16 13.3**	**+0.2**
CTCC					**Sg**	**20 16 19.7**	**+0.5**
GVDA	**Garner Valley**	**0.46**	**221**		**Pg**	**20 16 13.0**	**-0.3**
GVDA					**Sg**	**20 16 19.5**	**-0.1**
CTW	**Cottonwood Mou**	**0.50**	**132**		**Pg**	**20 16 14.3**	**+0.3**
CTW					**Sg**	**20 16 21.2**	**+0.4**
DNR	**Dunn Ranch,Anz**	**0.52**	**211**		**Pg**	**20 16 14.4**	**-0.1**
DNR					**Sg**	**20 16 21.4**	**0.0**
SNDA	**J Saunders Pla**	**0.52**	**209**		**Pg**	**20 16 14.5**	**0.0**
SNDA					**Sb**	**20 16 21.9**	**-0.2**
SIL	**Silver Peak**	**0.54**	**308**		**Pg**	**20 16 14.3**	**-0.5**
BBRC	**Big Bear Solar**	**0.56**	**296**	P	**Pg**	**20 16 14.7**	**-0.6**
	baz=114,SNR=17						
BBRC				S	**Sg**	**20 16 22.2**	**-0.7**
	baz=114						
BBRC	**Big Bear Solar**	**0.56**	**296**		**Pg**	**20 16 14.8**	**-0.6**
BBRC					**Sg**	**20 16 22.1**	**-0.7**
BBSC	**Beaumont Base**	**0.56**	**261**		**Pg**	**20 16 15.0**	**-0.2**
BBSC					**Sg**	**20 16 22.4**	**-0.4**
CRY	**Cary Ranch**	**0.57**	**218**		**Pg**	**20 16 15.2**	**-0.2**
CRY					**Sg**	**20 16 23.0**	**-0.1**
FRD	**Ford Ranch, An**	**0.57**	**205**		**Pg**	**20 16 15.3**	**-0.1**
FRD					**Sg**	**20 16 23.0**	**-0.1**
FRD	**Ford Ranch, An**	**0.57**	**205**		**Pg**	**20 16 15.2**	**-0.1**
FRD					**Sg**	**20 16 23.0**	**-0.1**
BZNA	**Buzz No.'s Pla**	**0.60**	**210**		**Pg**	**20 16 15.8**	**-0.1**
BZNA					**Sg**	**20 16 23.9**	**-0.1**
POB	**Polly Butte**	**0.60**	**237**		**Pg**	**20 16 15.7**	**-0.3**

POB				Sg		20 16 23.8 -0.3
HAY	**Hayfield**	**0.61**	**120**	**Pb**		**20 16 16.7 +0.5**
HAY				Sb		20 16 25.2 +0.8
BTL	**Butler Peak**	**0.62**	**293**	**Pg**		**20 16 16.0 -0.4**
HMTC	**Hemet**	**0.65**	**242**	**Pg**		**20 16 16.4 -0.4**
HMTC				Sg		20 16 25.1 -0.5
SVD	**Seven Oaks Dam**	**0.66**	**278**	**Pg**		**20 16 16.4 -0.6**
SVD				Sg		20 16 25.6 -0.2
CFT	**Crafton Hills**	**0.66**	**272**	**Pg**		**20 16 16.6 -0.5**
DGR	**Domenigoni Val**	**0.68**	**238**	**Pg**		**20 16 17.1 -0.4**
DGR				Sg		20 16 26.1 -0.5
PEC	**Perris**	**0.71**	**260**	**Pg**		**20 16 17.4 -0.6**
PEC				Sg		20 16 26.2 -1.4
BACC	**Bachelor Mtn.**	**0.73**	**237**	**Pg**		**20 16 17.8 -0.5**
BACC				Sg		20 16 27.6 -0.3
BORC	**Borrego Spring**	**0.75**	**187**	**Pg**		**20 16 18.5 -0.2**
BORC				Sg		20 16 28.6 0.0
HLNC	**Highland**	**0.76**	**278**	**Pg**		**20 16 18.3 -0.6**
SALN	**Salton City**	**0.78**	**159**	**Pb**		**20 16 19.4 +0.3**
SALN				Sb		20 16 30.0 +0.6
BC3	**Big Chuckawall**	**0.80**	**116**	P	**Pg**	**20 16 19.8 +0.1**
	baz=298,SNR=509					
BC3				S	**Sb**	**20 16 30.7 +0.6**
	baz=298					
BC3	**Big Chuckawall**	**0.80**	**116**		**Pg**	**20 16 19.8 +0.1**
BC3					Sg	20 16 30.4 +0.1
PLM	**Palomar**	**0.80**	**215**		**Pg**	**20 16 19.5 -0.2**
PLM					Sg	20 16 30.2 -0.1
CFSC	**Central Fire S**	**0.81**	**277**		**Pg**	**20 16 19.4 -0.5**
HEC	**Hector,Ludlow**	**0.81**	**359**	P	**Pg**	**20 16 18.9 -1.1**
	baz=179,SNR=196					
HEC				S	**Sg**	**20 16 30.3 -0.5**
	baz=179					
HEC	**Hector,Ludlow**	**0.81**	**359**		**Pg**	**20 16 18.9 -1.1**
HEC					Sg	20 16 29.4 -1.4
SLH	**Sleepy Hollow**	**0.82**	**177**		**Pg**	**20 16 20.0 0.0**
FRK	**Frink**	**0.83**	**137**		**Pg**	**20 16 19.7 -0.4**
MURC	**Murrieta**	**0.84**	**241**	P	**Pg**	**20 16 19.7 -0.8**
	baz=59,SNR=36					
MURC				S	**Sg**	**20 16 30.9 -0.7**
	baz=59					
MURC	**Murrieta**	**0.84**	**241**		**Pg**	**20 16 19.9 -0.6**
MURC					Sb	20 16 31.5 +0.3
RSBC	**Riverside Bore**	**0.84**	**268**		**Pg**	**20 16 19.6 -0.9**
RSBC					Sg	20 16 31.1 -0.5
RSBC	**Riverside Bore**	**0.84**	**268**		**Pg**	**20 16 19.6 -0.9**
RSBC					Sg	20 16 30.7 -0.9
MATG	**Mataguay Scout**	**0.86**	**199**		**Pg**	**20 16 20.5 -0.2**
MATG					Sb	20 16 33.1 +1.4
RVR	**Riverside**	**0.88**	**269**		**Pg**	**20 16 20.2 -0.9**
RVR					Sg	20 16 31.9 -0.9
SME	**Santa Rosa Min**	**0.89**	**258**		**Pg**	**20 16 20.2 -1.0**
SME					Sg	20 16 31.8 -1.2
GMRC	**Granite Mounta**	**0.94**	**35**	P	**Pb**	**20 16 21.1 -0.8**
	baz=216					
GMRC				S	**Sb**	**20 16 33.5 -0.6**
	baz=216					
GMRC	**Granite Mounta**	**0.94**	**35**		**Pb**	**20 16 21.4 -0.5**
IRM	**Iron Mountain**	**0.98**	**81**	P	**Pb**	**20 16 22.1 -0.4**
	baz=263,SNR=292					
IRM				S	**Sb**	**20 16 35.4 +0.2**
	baz=263					
IRM	**Iron Mountain**	**0.98**	**81**		**Pb**	**20 16 22.2 -0.4**
ERRC	**Elmore Ranch**	**0.98**	**155**		**Pn**	**20 16 23.8 +0.8**
DANC	**Danby, Needles**	**0.99**	**51**		**Pb**	**20 16 22.6 -0.1**
ELS	**Elsinore Mount**	**1.00**	**249**		**Pb**	**20 16 22.4 -0.5**
ELS					Sb	20 16 35.1 -0.6
VTV	**Victorville**	**1.00**	**303**		**Pb**	**20 16 22.5 -0.5**
VTV					Sb	20 16 35.3 -0.6
SS2	**San Sevaine**	**1.00**	**281**		**Pb**	**20 16 22.8 -0.1**
RRX	**Edison Barstow**	**1.03**	**327**	P	**Pb**	**20 16 23.1 -0.2**
	baz=146,SNR=6.8					
RRX				S	**Sb**	**20 16 36.5 -0.1**
	baz=146					
RRX	**Edison Barstow**	**1.03**	**327**		**Pb**	**20 16 23.1 -0.2**
MLSC	**Mira Loma**	**1.04**	**270**		**Pb**	**20 16 23.0 -0.5**
MLSC					Sb	20 16 36.9 +0.1
ADO	**Adelanto Recei**	**1.07**	**300**		**Pb**	**20 16 24.1 0.0**
ALV	**Alvord Mountai**	**1.08**	**346**		**Pb**	**20 16 23.6 -0.6**
CBKC	**Canebrake**	**1.11**	**177**		**Pb**	**20 16 24.2 -0.6**
MONP2	**Monument Peak**	**1.12**	**185**	P	**Pb**	**20 16 24.8 -0.3**
	baz=4.4,SNR=66					
MONP2				S	**Sb**	**20 16 40.0 +0.6**
	baz=4.4					
MONP2	**Monument Peak**	**1.12**	**185**		**Pb**	**20 16 24.9 -0.2**
HWB	**Hans Werner Br**	**1.12**	**209**		**Pb**	**20 16 24.6 -0.3**
HWB					Sb	20 16 39.1 -0.2
CHNC	**Chino**	**1.14**	**270**		**Pb**	**20 16 25.0 -0.2**
BFSC	**Mount Baldy Ra**	**1.14**	**282**	P	**Pb**	**20 16 24.8 -0.4**
	baz=100,SNR=122					
BFSC				S	**Sb**	**20 16 39.7 -0.1**
	baz=100					
BFSC	**Mount Baldy Ra**	**1.14**	**282**		**Pb**	**20 16 24.9 -0.4**
DSCC	**Desert Studies**	**1.14**	**9**		**Pb**	**20 16 24.6 -0.7**
DPP	**Dos Picos Cty**	**1.14**	**208**		**Pb**	**20 16 25.0 -0.2**
GORC	**Green Oak Ranc**	**1.15**	**222**		**Pb**	**20 16 24.9 -0.4**
SWSC	**Sam W. Stewart**	**1.15**	**158**	P	**Pb**	**20 16 24.2 -1.2**
	baz=338,SNR=30					
SWSC				S	**Sb**	**20 16 39.1 -0.9**
	baz=338					
SWSC	**Sam W. Stewart**	**1.15**	**158**		**Pb**	**20 16 24.2 -1.2**
CRR	**Carrizo Plain**	**1.16**	**166**		**Pn**	**20 16 24.6 -0.8**
SSK	**Sunset Peak**	**1.16**	**280**		**Pb**	**20 16 25.4 -0.4**
PSRC	**Puddingstone R**	**1.24**	**274**		**Pn**	**20 16 26.6 0.0**
PEM	**Pine Mountain**	**1.30**	**277**		**Pn**	**20 16 27.6 +0.3**
109C	**Camp Elliot, M**	**1.30**	**211**	Pb	**Pn**	**20 16 27.6 +0.3**
	baz=30,SNR=20					
109C				S	**Sb**	**20 16 44.4 0.0**
	baz=30					
109C	**Camp Elliot, M**	**1.30**	**211**		**Pn**	**20 16 27.7 +0.3**
HYS	**Haystack Butte**	**1.34**	**310**		**Pn**	**20 16 28.4 +0.4**
GSC	**Goldstone, Bar**	**1.35**	**343**	Pb	**Pn**	**20 16 27.7 -0.4**
	baz=162,SNR=58					
GSC				Sb	**Sn**	**20 16 46.1 +0.4**
	baz=162					
GSC	**Goldstone, Bar**	**1.35**	**343**	Pn	**Pn**	**20 16 28.9 +0.8**
BAR	**Barrett**	**1.36**	**193**	Pn	**Pn**	**20 16 28.2 0.0**
IKP	**In-Ko-Pah, Jac**	**1.37**	**173**	P	**Pn**	**20 16 27.9 -0.5**
	baz=353,SNR=20					
IKP				Sb	**Sg**	**20 16 47.7 -0.7**
	baz=353					
IKP	**In-Ko-Pah, Jac**	**1.37**	**173**		**Pn**	**20 16 27.9 -0.5**
SDRC	**San Diego Road**	**1.38**	**203**		**Pn**	**20 16 28.7 +0.2**
YUH	**Yuha Desert**	**1.40**	**166**		**Pn**	**20 16 28.1 -0.7**
SBB	**Saddle Back Bu**	**1.42**	**299**		**Pn**	**20 16 29.3 +0.2**
JNH	**Juniper Hills**	**1.43**	**288**		**Pn**	**20 16 29.9 +0.7**
TUQ	**Turquoise Moun**	**1.45**	**13**	Pg	**Pb**	**20 16 31.0 +0.3**
	baz=193					
TUQ				Sb	**Sb**	**20 16 49.8 +0.8**
	baz=193					
CHFC	**Chilao Flat St**	**1.46**	**283**		**Pb**	**20 16 30.7 -0.1**
MWC	**Mount Wilson**	**1.46**	**279**		**Pn**	**20 16 30.3 +0.5**
LRRC	**Littlerock Res**	**1.51**	**290**		**Pb**	**20 16 31.7 +0.2**
PASC	**Pasadena Art C**	**1.56**	**276**		**Pn**	**20 16 31.8 +0.9**
GLA	**Glamis**	**1.57**	**127**	Pn	**Pn**	**20 16 30.7 -0.4**
	baz=309					
GLA				Pg	**Pg**	**20 16 33.7 -0.5**
	baz=309,SNR=20					
GLA				Sg	**Sg**	**20 16 54.8 +0.2**
	baz=309					
NEE2	**Needles Airpor**	**1.59**	**61**	Pg	**Pb**	**20 16 33.3 +0.3**
	baz=243					
NEE2				Sb	**Sb**	**20 16 53.7 +1.0**
	baz=243					
EDW2	**Edwards Air Fo**	**1.64**	**302**	P	**Pn**	**20 16 31.6 -0.4**
	baz=121,SNR=78					
EDW2				Sb	**Sb**	**20 16 54.5 +0.4**
	baz=121					
EDW2	**Edwards Air Fo**	**1.64**	**302**		**Pn**	**20 16 32.1 0.0**
FMP	**Fort Macarthur**	**1.68**	**260**	Sb	**Sb**	**20 16 55.7 +0.5**
	baz=78					
DECC	**Green Verdugo**	**1.69**	**279**	Pb	**Pb**	**20 16 34.7 0.0**
	baz=97,SNR=12					
DECC				Sb	**Sb**	**20 16 57.1 +1.4**
	baz=97					
LRMC	**Laurel Mtn Rad**	**1.85**	**323**	Sb	**Sb**	**20 17 02.1 +1.8**
	baz=142					
CIS	**Catalina Islan**	**1.86**	**251**	Sb	**Sb**	**20 17 00.8 +0.4**
	baz=70					
OSI	**Osito Audit: C**	**2.08**	**287**	Pb	**Pb**	**20 16 41.8 +0.4**
	baz=106,SNR=16					
MPMC	**Manual Prospec**	**2.26**	**335**	Pn	**Pn**	**20 16 40.4 -0.3**
	baz=154,SNR=15					
MPMC				Pg	**Pb**	**20 16 45.2 +0.8**
	baz=154					
MPMC				Sb	**Sb**	**20 17 14.0 +1.9**
	baz=154					
ARVC	**Arvin**	**2.35**	**299**	Pn	**Pn**	**20 16 42.3 +0.4**
	baz=117,SNR=17					
ARVC				Pg	**Pb**	**20 16 46.9 +0.9**
	baz=117					
ARVC				Sb	**Sb**	**20 17 17.5 +2.7**
	baz=117					
ISA	**Isabella, Lake**	**2.42**	**313**	Pg	**Pb**	**20 16 48.0 +0.8**
	baz=132,SNR=23					
ISA				Sb	**Sb**	**20 17 19.1 +2.3**
	baz=132					
SHPR	**Sheep Range**	**2.66**	**20**	Pn	**Pn**	**20 16 46.5 +0.3**
Y14A	**Wickenburg**	**2.75**	**91**	Pn	**Pn**	**20 16 47.6 +0.2**
TPNV	**Topopah Spring**	**2.93**	**1**	Pn	**Pn**	**20 16 50.6 +0.7**
	baz=181,SNR=6.1					
TPNV				Pg	**Pb**	**20 16 58.0 +2.2**
	baz=181					
TPNV	**Topopah Spring**	**2.93**	**1**		**Pn**	**20 16 50.6 +0.7**
PKM	**Mcpherson Peak**	**3.02**	**288**	Pn	**Pn**	**20 16 51.8 +0.6**
	baz=106					
PKM				Pg	**Pb**	**20 16 59.6 +2.1**
	baz=106,SNR=9.6					
214A	**Organ Pipe Nat**	**3.59**	**124**	P	**Pn**	**20 16 58.2 -0.7**
	baz=306					
214A	**Organ Pipe Nat**	**3.59**	**124**		**Pn**	**20 16 58.3 -0.6**
LCMT	**Little Creek M**	**3.90**	**39**		**Pn**	**20 17 03.5 +0.3**
X16A	**Lo Mia Camp, P**	**4.06**	**83**	Pn	**Pn**	**20 17 05.6 +0.2**
KNB	**Kanab**	**4.13**	**43**		**Pn**	**20 17 07.2 +0.7**
R11A	**Troy Canyon, C**	**4.37**	**8**	Pg	**Pg**	**20 17 25.1 -2.5**
	baz=188					
R11A	**Troy Canyon, C**	**4.37**	**8**		**Pn**	**20 17 10.4 +0.7**
PSUT	**Pine Spring**	**4.93**	**23**	Pn	**Pn**	**20 17 18.8 +1.4**
TUC	**Tucson**	**4.94**	**109**	P	**Pn**	**20 17 16.9 -0.5**
	baz=292					
TUC	**Tucson**	**4.94**	**109**	Pn	**Pn**	**20 17 16.7 -0.8**

IDC 12 20:37:45.9±2.1, 6°95S×154°56E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, Error ellipse: s-maj=80.3km s-min=28.6km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.49**	**235**	P	P	20 42 56.6	-0.9
	0.5nm,0.6s,baz=56,slow=9.2,SNR=9.9						
WRA				PcP	PcP	20 46 43.3	-0.5
	0.2nm,0.6s,baz=58,slow=3.2,SNR=1.4						
ASAR	**Alice Springs**	**25.88**	**228**	P	P	20 43 20.9	+1.2
	0.3nm,0.7s,baz=60,slow=9.7,SNR=3.3						
SONM	**Songino Array**	**69.06**	**327**	P	P	20 48 54.3	+0.5
	0.4nm,0.5s,baz=146,slow=5.0,SNR=3.9						
MKAR	**Makanchi Array**	**83.08**	**319**	P	P	20 50 13.3	-0.3
	0.5nm,0.6s,baz=113,slow=4.5,SNR=5.8						
ILAR	**Eielson Array**	**83.49**	**22**	P	P	20 50 15.1	-0.1
	0.2nm,0.6s,baz=229,slow=5.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**152.60**	**285**	PKPbc	PKPbc	20 57 45.4	-0.2
	0.4nm,0.8s,baz=73,slow=2.8,SNR=2.1						

ISK 12 20:39:40.7, 38°00N×41°29E, h2km, ML2.1/10
DDA 12 20:39:41.5, 38°01N×41°33E, h7km±4km, ML1.8
ATA 12 20:39:42.8±0.9, 38°16N×41°48E, h42km±3km, ML1.8, MW5.1

ISC 12 20:39:41.5±0.9, 38°03N±0°03×41°35E±0°02, h8km±7km, n25, σ1°78/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTMN	**Batman**	**0.15**	**205**	*i* P	**Pg**	**20 39 43.7**	**-1.0**
BTMN				*i* S	**Sg**	**20 39 47.4**	**+0.5**
BTMN				IAML		20 39 50.0	
	comp=E,749nm,0.6s						
SVAN	**Silvan-Diyarba**	**0.17**	**316**	PG	**Pg**	**20 39 44.5**	**-0.5**
SVAN				SG	**Sg**	**20 39 48.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**0.17**	**316**	*i* P	**Pg**	**20 39 44.8**	**-0.3**
SVAN				*i* S	**Sg**	**20 39 48.5**	**+1.0**
SVAN				IAML		20 39 49.0	
	comp=E,160nm,0.2s						
SVAN				IAML		20 39 49.0	
	comp=N,327nm,0.2s						
SRTM	**Siirt_Merkez**	**0.45**	**95**	*i* P	**Pg**	**20 39 49.7**	**-0.6**
SRTM				*i* S	**Sb**	**20 39 58.6**	**-0.1**
SRTM				IAML		20 40 07.0	
	comp=E,114nm,0.5s						
MUSM	**Mu-Merkez**	**0.71**	**10**	*e*P	**Pb**	**20 39 55.6**	**-0.5**
MUSM				*e*S	**Sg**	**20 40 04.9**	**+0.6**
MUSM				IAML		20 40 09.5	
	comp=Z,23nm,0.9s						
MUSM	**Mu-Merkez**	**0.71**	**10**	*i* P	**Pg**	**20 39 55.4**	**+0.3**
MUSM				*i* S	**Sb**	**20 40 05.7**	**-0.4**
MUSM				IAML		20 40 08.0	
	comp=N,25nm,0.3s						
BLIS	**Bitlis-Merkez**	**0.71**	**57**	*e*P	**Pg**	**20 39 55.6**	**+0.4**
BLIS				*e*S	**Sb**	**20 40 05.5**	**-0.9**
BLIS				IAML		20 40 13.5	
	comp=Z,23nm,0.7s						
GURO	**Guroymak-BITLI**	**0.75**	**46**	PG	**Pb**	**20 39 56.5**	**-0.4**
GURO				SG	**Sn**	**20 40 08.9**	**-1.3**
HANI	**Diyarbakir_Han**	**0.84**	**298**	*i* P	**Pg**	**20 39 57.5**	**-0.1**
HANI				*i* S	**Sb**	**20 40 10.4**	**+0.4**
HANI				IAML		20 40 14.0	
	comp=N,33nm,0.4s						
MAZI	**Mazidag**	**0.91**	**232**	PG	**Pg**	**20 39 58.1**	**-0.9**
DIYA	**Diyarbakir**	**0.98**	**264**	*i* P	**Pg**	**20 40 00.1**	**-0.1**
DIYA				*i* S	**Sb**	**20 40 15.0**	**+1.2**
DIYA				IAML		20 40 17.0	
	comp=E,46nm,0.2s						
DIYA				IAML		20 40 17.0	
	comp=N,78nm,0.2s						
SIRN	**Sirnak**	**1.00**	**122**	*i* P	**Pb**	**20 40 01.6**	**+0.5**
SIRN				*i* S	**Sb**	**20 40 15.1**	**+0.8**
SIRN				IAML		20 40 17.0	
	comp=N,26nm,0.4s						
SIRN				IAML		20 40 20.0	
	comp=E,42nm,0.4s						
SIRT	**Sirnak**	**1.01**	**121**	PG	**Pn**	**20 40 01.9**	**-0.2**
BNGB	**Bingl**	**1.10**	**331**	PN	**Pg**	**20 40 02.3**	**-0.2**
BNGB				SN	**Sn**	**20 40 18.5**	**-0.2**
VRTB	**Varto-Mus**	**1.13**	**4**	PN	**Pn**	**20 40 04.1**	**+0.3**
AKDM	**Akdamar-Van**	**1.32**	**76**	PN	**Pg**	**20 40 07.8**	**+1.0**
GEVA	**Gevas**	**1.38**	**78**	*e*P	**Pn**	**20 40 06.6**	**-0.5**
GEVA				*e*S	**Sb**	**20 40 24.6**	**-0.8**
GEVA				IAML		20 40 31.5	
	comp=Z,18nm,0.7s						
GEVA	**Gevas**	**1.38**	**78**	*i* P	**Pn**	**20 40 06.7**	**-0.5**
GEVA				*i* S	**Sn**	**20 40 28.0**	**+2.3**
YEDI	**Yedisu-Bingol**	**1.54**	**336**	PN	**Pb**	**20 40 10.2**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.65**	**283**	PN	**Pn**	**20 40 11.2**	**+0.3**
PTK	**Pertek**	**1.76**	**300**	PN	**Pn**	**20 40 12.8**	**+0.3**
TNCL	**Tunceli-Merkez**	**1.79**	**308**	*e*P	**Pn**	**20 40 13.0**	**+0.3**
TNCL				*e*S	**Sg**	**20 40 38.6**	**-0.3**
TNCL				IAML		20 40 58.0	
	comp=Z,7.6nm,0.9s						
EATA	**Eleskirt**	**2.04**	**26**	*e*P	**Pn**	**20 40 16.1**	**-0.3**
EATA				*e*S	**Sn**	**20 40 40.3**	**-1.9**
EATA				IAML		20 40 49.2	
	comp=E,1.4nm,0.5s						
HOMI	**Horasan**	**2.06**	**12**	*e*P	**Pn**	**20 40 17.2**	**+0.6**
URFA	**Urfa**	**2.09**	**254**	PN	**Pn**	**20 40 17.3**	**+0.4**

IDC 12 20:48:09.8±1.6, 11°85S×166°44E, h117km±9km, mb3.4/7, mb1 3.6/8, mb1mx3.4/42, mbtmp3.8/8, Error ellipse: s-maj=31.8km s-min=25.6km az=107.0
NEIC 12 20:48:11.0±1.6, 12°05S±0°1×166°4E±0°2, h122km±11km, mb4.2/8, Error ellipse: s-maj=24.3km s-min=19.7km az=58.0.

ISC 12 20:48:07.8±0.8, 11°85S±0°1×166°35E±0°10, h100km, n22, σ1°53/23, mb4.0/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.69**	**167**	Pn	**Pn**	**20 49 03.8**	**+0.9**
HNR	**Honiara**	**6.73**	**290**	S	**Sn**	**20 51 00.7**	**+1.5**
	22nm,0.3s,baz=212,slow=11,SNR=1.3						
DZM	**Mont Dzumac**	**10.19**	**179**	P	**Pn**	**20 50 33.2**	**+2.0**
	0.3nm,0.3s,baz=314,slow=18,SNR=1.1						
EIDS	**Eidsvold**	**19.74**	**225**	P	**Pn**	**20 52 32.8**	**+0.7**
AFI	**Afiamalu**	**21.43**	**98**	P	**P**	**20 52 48.5**	**+0.4**
ARMA	**Armidale**	**22.99**	**214**	P	**P**	**20 53 01.1**	**-3.0**
ARMA				IAmb	IAmb	20 53 12.1	
	comp=Z,8.0nm,1.1s						
BKZ	**Black Stump Fm**	**28.68**	**163**	P	**P**	**20 53 55.2**	**-0.2**
BKZ				IAmb	IAmb	20 54 00.1	
	comp=Z,8.8nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**30.13**	**1**	T	T	21 25 04.7	
	baz=181						
H11S3	**WAKE ISLAND Hy**	**30.13**	**1**	T	T	21 25 02.5	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**30.14**	**1**	T	T	21 25 05.5	
	baz=181						
WB0	**Warramunga Arr**	**31.70**	**252**	P	**P**	**20 54 23.3**	**+1.0**
WB0				IAmb	IAmb	20 54 40.9	
	comp=Z,3.4nm,1.1s						
TOO	**Toolangi**	**31.72**	**213**	P	**P**	**20 54 21.2**	**-1.1**
TOO				IAmb	IAmb	20 54 28.6	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**31.77**	**251**	P	**P**	**20 54 23.6**	**+0.7**
WRA	**Warramunga Arr**	**31.78**	**251**	P	**P**	**20 54 23.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=78,slow=9.3,SNR=6.3						
WRA				pP	**pwP**	**20 54 50.0**	**-3.2**
	comp=Z,0.4nm,0.7s,baz=82,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**32.98**	**245**	P	**P**	**20 54 34.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=71,slow=9.4,SNR=14						
ASAR				pP	**pwP**	**20 55 00.5**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=68,slow=9.4,SNR=2.6						
ASAR				PcP	**PcP**	**20 57 15.1**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=66,slow=2.8,SNR=2.4						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	P	**P**	**20 55 32.0**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=72,slow=9.9,SNR=6.4						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	P	**P**	**20 55 32.4**	**+1.3**
FORT	**Forrest**	**40.09**	**236**	P	**P**	**20 55 32.8**	**-0.9**
VNDA	**Vanda**	**65.73**	**181**	P	**P**	**20 58 41.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=1.4,slow=9.7,SNR=2.1						
CMAR	**Chiang Mai Arr**	**72.97**	**294**	P	**P**	**20 59 29.0**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=144,slow=5.0,SNR=4.2						
CMAR				pP	**pwP**	**20 59 56.7**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=134,slow=4.6,SNR=2.9						
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**21 00 26.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=241,slow=4.1,SNR=1.4						
MKAR	**Makanchi Array**	**94.49**	**317**	P	**P**	**21 01 17.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=90,slow=6.1,SNR=2.9						

IDC 12 20:55:05.5±1.9, 43°49N×105°43W, h0km, mb1 3.4/3, mb1mx3.2/61, mbtmp3.1/3, ML2.1/2, Error ellipse: s-maj=49.3km s-min=11.1km az=154.0
NEIC 12 20:55:07.6±1.7, 43°72N±0°04×105°26W±0°07, h0km±2km, ML3.1/15, Error ellipse: s-maj=9.4km s-min=5.8km az=129.0

ISC 12 20:55:06.4±1.0, 43°56N±0°07×105°10W±0°08, h0km, n15, σ1°35/14, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.95**	**54**		**Pb**	**20 55 25.9**	**0.0**
K22A	**Casper**	**1.38**	**229**	Pn	**Pb**	**20 55 33.4**	**+0.2**
K22A				IAML		20 55 57.0	
	comp=N,278nm,1.1s						
K22A				IAML		20 56 00.7	
	comp=E,281nm,0.8s						
PHWY	**Pilot Hill**	**2.27**	**187**	Pn	**Pb**	**20 55 49.2**	**+0.8**
PHWY				IAML		20 56 28.8	
	comp=E,85nm,0.9s						
RWWY	**Rawlins**	**2.43**	**220**		**Pb**	**20 55 50.0**	**-1.1**
RWWY				IAML		20 56 27.4	
	comp=E,138nm,1.0s						
N23A	**Red Feather La**	**2.74**	**194**	Pn	**Pb**	**20 55 56.1**	**-0.2**
N23A				IAML		20 56 34.9	
	comp=N,80nm,1.0s						
N23A				IAML		20 56 52.4	
	comp=E,78nm,1.0s						
PD31	**Pinedale Array**	**3.35**	**258**		**Pn**	**20 56 00.8**	**+0.5**
PDAR	**Pinedale Array**	**3.35**	**258**	Pn	**Pn**	**20 56 00.2**	**0.0**
	comp=E,2.9nm,0.3s,baz=72,slow=16,SNR=21						
PDAR				Lg	Lg	20 56 41.8	
	comp=E,1.6nm,0.3s,baz=77,slow=31,SNR=9.3						
PDAR	**Pinedale Array**	**3.35**	**258**	Pn	**Pn**	**20 56 00.9**	**+0.6**
RLMT	**Red Lodge**	**3.37**	**299**		**Pn**	**20 55 58.9**	**-1.6**
RLMT				IAML		20 56 51.7	
	comp=E,54nm,1.1s						
RLMT				IAML		20 56 55.7	
	comp=E,77nm,1.1s						
LOHW	**Long Hollow**	**4.00**	**273**	Pn	**Pn**	**20 56 11.2**	**+2.1**
LOHW				IAML		20 57 28.1	
	comp=E,22nm,1.2s						
O20A	**White River Ci**	**4.15**	**215**	Pn	**Pn**	**20 56 12.0**	**+0.9**
PV02	**Paradox Valley**	**6.01**	**208**		**Pg**	**20 57 02.2**	**+0.6**
I10CA	**LAC DU BONNET**	**9.09**	**40**	*i*		21 49 00.0	
	baz=223,slow=310,SNR=1.5						
ULM	**Lac du Bonnet**	**9.20**	**40**	Pn	**Pn**	**20 57 19.6**	**-0.6**
	comp=E,0.2nm,0.3s,baz=236,slow=10,SNR=3.2						
ULM				Pg		20 57 50.5	
	comp=E,0.2nm,0.3s,baz=232,slow=14,SNR=4.3						
ULM				Lg	Lg	20 59 50.0	
	comp=E,0.1nm,0.3s,baz=127,slow=23,SNR=5.7						
NVAR	**Mina Array Bea**	**11.21**	**247**	Pn	**Pn**	**20 57 45.0**	**-3.0**
	comp=E,0.0nm,0.3s,baz=64,slow=10,SNR=1.3						

IDC 12 20:56:22.6±1.7, 37°22N×144°80E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.4/72, mbtmp3.7/5, ML2.9/3, Error ellipse: s-maj=37.4km s-min=29.4km az=107.0
JMA 12 20:56:28.0±0.2, 37°43N×144°47E, h55km, M3.7

**ISC 12 20:56:26.9±1.3, 37°40N±0°07×144°65E±0°08, h35km, n22

ISC 12 20:58:00.3±1.0,5°38S±0.05×152°12E±0.06,h41km±9km, n166,σ1°03/168,mb5.0/67,3C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.07**	**355**	Pg	**Pn**	**20 58 19.3**	**+0.5**
	4μm,0.3s,baz=144,slow=1.2,SNR=1126						
KRVT				Lg	Lg	20 58 36.2	
	3μm,0.3s,baz=89,slow=18,SNR=7.1						
RABL	**Rabaul**	**1.18**	**2**		**Pn**	**20 58 21.3**	**+1.0**
PMG	**Port Moresby**	**6.34**	**231**	Pn	**Pn**	**20 59 32.1**	**+0.8**
	15nm,0.3s,baz=44,slow=8.9,SNR=34						
PMG				Sn	**Sn**	**21 00 42.5**	**0.0**
	26nm,0.3s,baz=45,slow=16,SNR=3.7						
PMG	**Port Moresby**	**6.34**	**231**	*c iP*	**Pn**	**20 59 33.1**	**+1.8**
PMG	**Port Moresby**	**6.34**	**231**		**Pn**	**20 59 31.9**	**+0.6**
HNR	**Honiara**	**8.75**	**118**	Pn	**Pn**	**21 00 04.9**	**+0.5**
	3.1nm,0.3s,baz=214,slow=2.9,SNR=4.8						
HNR				LR	LR	21 02 48.0	
	comp=Z,213nm,19.1s,baz=280,slow=33						
CTA	**Charters Tower**	**15.70**	**201**	Pn	**P**	**21 01 40.6**	**-1.5**
	0.5nm,0.3s,baz=29,slow=12,SNR=17						
BAKI	**Biak**	**16.51**	**284**	P	**Pn**	**21 01 48.1**	**-1.0**
	30nm,1.3s						
QIS	**Mount Isa**	**19.38**	**218**	P	**Pn**	**21 02 23.7**	**-0.5**
	baz=20,SNR=13						
EIDS	**Eidsvold**	**19.91**	**183**	P	**P**	**21 02 28.6**	**+0.1**
	baz=20,SNR=8.2						
EIDS	**Eidsvold**	**19.91**	**183**	P	**P**	**21 02 28.2**	**-0.3**
GUMO	**Guam**	**20.17**	**339**	LR	LR	21 10 35.7	
	comp=Z,102nm,18.3s,baz=166,slow=38						
KDU	**Kakadu**	**20.70**	**248**	P	**P**	**21 02 36.7**	**-0.5**
	baz=21,SNR=68						
RMQ	**Roma**	**21.24**	**188**	P	**P**	**21 02 43.4**	**+0.5**
	baz=22,SNR=38						
SIJI	**Sorong**	**21.29**	**281**	P	**P**	**21 02 43.7**	**0.0**
	9.2nm,0.6s,baz=90,slow=6.1,SNR=4.2						
DZM	**Mont Dzumac**	**21.62**	**141**	*eP*	**P**	**21 02 46.8**	**-0.5**
	66nm,1.4s						
DZM				*e*LR	LR	21 08 04.8	
	comp=Z,396nm,23.0s						
DZM	**Mont Dzumac**	**21.62**	**141**	P	**P**	**21 02 46.8**	**-0.5**
	13nm,0.7s,baz=331,slow=21,SNR=6.9						
DZM	**Mont Dzumac**	**21.62**	**141**	P	**P**	**21 02 47.2**	**0.0**
MTN	**Manton Dam**	**21.99**	**249**	P	**P**	**21 02 53.2**	**+2.1**
	baz=22,SNR=9.0						
MTN	**Manton Dam**	**21.99**	**249**		**P**	**21 02 51.9**	**+0.8**
MTN				IAmb	IAmb	21 02 53.9	
	comp=Z,40nm,0.5s						
WB0	**Warramunga Arr**	**22.41**	**229**		**P**	**21 02 54.9**	**-0.8**
WR0	**Warramunga Arr**	**22.42**	**228**		**P**	**21 02 56.2**	**+0.5**
WRAB	**Tennant Creek**	**22.54**	**228**	P	**P**	**21 02 56.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,24nm,0.6s						
WRAB	**Tennant Creek**	**22.54**	**228**	P	**P**	**21 02 56.5**	**-0.5**
WB2	**Warramunga Arr**	**22.55**	**228**	P	**P**	**21 02 59.3**	**+2.2**
	baz=23						
WB2	**Warramunga Arr**	**22.55**	**228**		**P**	**21 02 56.3**	**-0.8**
WRA	**Warramunga Arr**	**22.55**	**228**	P	**P**	**21 02 55.9**	**-1.3**
	comp=Z,6.7nm,0.6s,baz=50,slow=10,SNR=39						
WRA				PcP	**PcP**	**21 06 50.2**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=48,slow=1.9,SNR=5.8						
WRA				ScP	**ScP**	**21 10 26.7**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=49,slow=2.9,SNR=5.5						
WRA	**Warramunga Arr**	**22.55**	**228**	*i* P	**P**	**21 02 55.9**	**-1.3**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**22.55**	**228**	P	**P**	**21 02 57.8**	**+0.6**
WRA					**PcP**	**21 06 49.9**	**+0.1**
KNRA	**Kununurra**	**25.11**	**244**	P	**P**	**21 03 21.6**	**0.0**
	baz=25,SNR=85						
KNRA	**Kununurra**	**25.11**	**244**	P	**P**	**21 03 21.7**	**+0.2**
AS31	**Alice Springs**	**25.27**	**222**	P	**P**	**21 03 23.0**	**0.0**
ASAR	**Alice Springs**	**25.27**	**222**	P	**P**	**21 03 22.6**	**-0.4**
	comp=Z,8.5nm,0.5s,baz=56,slow=8.9,SNR=86						
ASAR				PcP	**PcP**	**21 06 56.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=43,slow=3.0,SNR=3.2						
ASAR				ScP	**ScP**	**21 10 33.1**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=42,slow=4.3,SNR=4.0						
ASAR	**Alice Springs**	**25.27**	**222**	P	**P**	**21 03 23.6**	**+0.6**
ASAR	**Alice Springs**	**25.27**	**222**	P	**P**	**21 03 23.6**	**+0.6**
CMSA	**Cobar Meteorol**	**26.71**	**192**	P	**P**	**21 03 36.7**	**+0.8**
	baz=27,SNR=9.9						
SOEI	**Soe**	**27.94**	**259**	P	**P**	**21 03 47.2**	**-0.1**
STKA	**Stephens Creek**	**28.15**	**199**	P	**P**	**21 03 48.0**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=34,slow=14,SNR=2.5						
STKA	**Stephens Creek**	**28.15**	**199**	P	**P**	**21 03 47.6**	**-1.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**28.15**	**199**	P	**P**	**21 03 47.5**	**-1.2**
MSVF	**Nonsavu**	**28.17**	**118**	*i* P	**P**	**21 03 49.4**	**+0.2**
BATI	**Baumata**	**28.59**	**259**	P	**P**	**21 03 53.0**	**+0.1**
	comp=Z,23nm,0.4s,baz=77,slow=2.7,SNR=11						
BATI	**Baumata**	**28.59**	**259**	P	**P**	**21 03 53.3**	**+0.4**
	comp=Z,23nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.79**	**242**	P	**P**	**21 03 53.2**	**-1.4**
	comp=Z,9.6nm,0.6s,baz=73,slow=7.2,SNR=38						
FITZ	**Fitzroy Crossi**	**28.79**	**242**	P	**P**	**21 03 54.1**	**-0.6**
	baz=29,SNR=43						
FITZ	**Fitzroy Crossi**	**28.79**	**242**	P	**P**	**21 03 54.0**	**-0.6**
FITZ				IAmb	IAmb	21 04 02.6	
	comp=Z,15nm,0.6s						
WRKA	**Warakurna**	**30.07**	**227**	P	**P**	**21 04 05.2**	**-0.8**
	baz=30,SNR=15						
MEEK	**Meekatharra**	**38.31**	**233**	P	**P**	**21 05 16.8**	**-0.6**
	baz=39,SNR=75						
MORW	**Morawa**	**41.46**	**231**	P	**P**	**21 05 46.6**	**+3.2**
	baz=42,SNR=4.4						
MJAR	**Matsushiro Arr**	**43.69**	**344**	PcP	**PcP**	**21 07 48.0**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=158,slow=4.2,SNR=11						
NJ2	**Nanjing**	**48.87**	**322**	*eP*	**P**	**21 06 44.4**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
RAR	**Rarotonga**	**49.17**	**113**	LR	LR	21 26 59.9	
	comp=Z,79nm,19.5s,baz=171,slow=35						
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P	**P**	**21 07 09.7**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=91,slow=15,SNR=4.2						
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P	**P**	**21 07 09.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P	**P**	**21 07 09.2**	**-0.6**
XAN	**Xi'an**	**56.57**	**317**	P	**P**	**21 07 38.9**	**-0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,310nm,4.9s						
KMI	**Kunming**	**56.75**	**305**	⇓P	**P**	**21 07 42.1**	**+1.3**
KMI				pP	pP	21 07 47.7	-5.3
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.51**	**296**	P	**P**	**21 07 46.6**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=125,slow=6.0,SNR=26						
CMAR				PcP	**PcP**	**21 08 39.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=94,slow=2.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	**57.51**	**296**	P	**P**	**21 07 43.9**	**-2.1**
CMAR					**PcP**	**21 08 40.0**	**+0.7**
CHTO	**Chiang Mai**	**57.62**	**296**	P	**P**	**21 07 44.1**	**-2.7**
CHTO				pmax	pmax		
	comp=Z,12nm,1.5s						
CHTO	**Chiang Mai**	**57.62**	**296**	P	**P**	**21 07 44.1**	**-2.7**
PETK	**Petropavlovsk-**	**58.45**	**4**	P	**P**	**21 07 51.9**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=169,slow=6.0,SNR=4.3						
CD2	**Chengdu**	**58.60**	**311**	*eP*	**P**	**21 07 54.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**59.12**	**325**	*eP*	**P**	**21 07 58.9**	**+1.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,250nm,8.1s						
LZH	**Lanzhou**	**61.17**	**316**	*eP*	**P**	**21 08 12.0**	**+0.8**
LZH				pP	sP	21 08 25.8	-2.3
LZH				sP	pP	21 08 30.8	+7.5
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA	**Gaotai**	**65.62**	**318**	⇑P	**P**	**21 08 40.8**	**+0.3**
GTA				pP	pP	21 08 53.4	+0.6
GTA				sP	sP	21 08 58.4	+0.9
GTA				S	**S**	**21 17 26.4**	**+3.0**
GTA				sS	sS	21 17 51.3	+7.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,360nm,7.5s						
GTA				LR	LR		
	comp=N,210nm,16.7s						
GTA				LR	LR		
	comp=E,230nm,16.7s						
GTA				LR	LR		
	comp=Z,230nm,17.5s						
SHL	**Shillong**	**66.01**	**301**	P	**P**	**21 08 43.3**	**-0.1**
SHL				pmax	pmax		
	comp=Z,21nm,1.0s						
SHL	**Shillong**	**66.01**	**301**	P	**P**	**21 08 43.3**	**-0.1**
SHL				IAmb	IAmb	21 08 44.3	
	comp=Z,21nm,1.0s						
ULN	**Ulaanbaatar**	**66.13**	**329**	*i* P	**P**	**21 08 44.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,19nm,3.5s						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**21 08 46.1**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=138,slow=5.4,SNR=18						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**21 08 45.6**	**-0.1**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**21 08 45.6**	**-0.1**
LSA	**Lhasa**	**68.00**	**305**	P	**P**	**21 08 56.2**	**-0.1**
LSA	**Lhasa**	**68.00**	**305**	P	**P**	**21 08 54.4**	**-1.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	**Lhasa**	**68.00**	**305**	P	**P**	**21 08 54.4**	**-1.9**
LSA				IAmb	IAmb	21 08 57.6	
	comp=Z,8.5nm,0.7s						
ZAK	**Zakamensk**	**69.63**	**329**	*eP*	**P**	**21 09 04.8**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**72.28**	**178**	P	**P**	**21 09 21.2**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=353,slow=7.2,SNR=2.7						
BILL	**Bilibino**	**73.92**	**5**	⇓*eP*	**P**	**21 09 31.3**	**+0.5**
BILL				*e*		21 09 47.2	
BILL				*e*		21 12 21.3	
BILL				*e*S	**SKSac**	**21 19 31.4**	**-3.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,165nm,17.0s						
WMQ	**Urumqi**	**75.70**	**318**	*eP*	**P**	**21 09 43.3**	**+1.5**
OHAK	**Old Harbor**	**76.37**	**27**	P	**P**	**21 09 44.8**	**-0.3**
KDAK	**Kodiak Island**	**76.99**	**27**	P	**P**	**21 09 48.0**	**-0.6**
KDAK				pmax	pmax		
	comp=Z,53nm,1.4s						
KDAK	**Kodiak Island**	**76.99**	**27**	P	**P**	**21 09 48.0**	**-0.6**
SVW2	**Sparrevohn**	**77.62**	**23**	P	**P**	**21 09 53.4**	**+1.3**
SVW2				IAmb	IAmb	21 09 55.5	
	comp=Z,16nm,0.7s						
DGZ	**Jazzator, Alta**	**78.13**	**323**	*i* P	**P**	**21 09 54.8**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TTA	**Tatalina**	**78.55**	**22**	P	**P**	**21 09 58.3**	**+1.0**
TTA				pmax	pmax		
	comp=Z,15nm,0.7s						
TTA	**Tatalina**	**78.55**	**22**	P	**P**	**21 09 58.3**	**+1.0**
TTA				IAmb	IAmb	21 09 59.0	
	comp=Z,15nm,0.7s						
BRLK	**Bradley Lake**	**78.80**	**26**	P	**P**	**21 09 59.1**	**+0.4**
SEW	**Seward**	**79.60**	**26**	P	**P**	**21 10 03.7**	**+0.7**
SEW				IAmb	IAmb	21 10 05.0	
	comp=Z,28nm,0.8s						
RDOG	**Red Dog Mine**	**79.72**	**16**	P	**P**	**21 10 03.8**	**+0.3**
RDOG				IAmb	IAmb	21 10 05.7	
	comp=Z,15nm,0.8s						
SKT	**Skwentna**	**79.72**	**24**	P	**P**	**21 10 02.9**	**-0.8**
SKT				IAmb	IAmb	21 10 06.2	
	comp=Z,14nm,1.2s						
PPLA	**Purkeypile**	**79.96**	**23**	P	**P**	**21 10 05.0**	**-0.1**
PPLA				IAmb	IAmb	21 10 11.4	
	comp=Z,18nm,1.3s						
MKAR	**Makanchi Array**	**80.31**	**319**	P	**P**	**21 10 06.8**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=104,slow=5.8,SNR=6.5						
GHO	**Glory Hole Cre**	**80.66**	**24**	P	**P**	**21 10 08.8**	**-0.1**
GHO				IAmb	IAmb	21 10 09.8	
	comp=Z,19nm,0.8s						
KNK	**Knik Glacier**	**80.68**	**25**	P	**P**	**21 10 09.2**	**+0.4**
KNK				IAmb	IAmb	21 10 10.7	
	comp=Z,29nm,1.1s						
KTH	**Kantishna Hill**	**80.80**	**22**	IAmb	IAmb	21 10 09.7	
	comp=Z,24nm,1.0s						
TRF	**Thorofare Moun**	**80.99**	**23**	IAmb	IAmb	21 10 12.7	
	comp=Z,12nm,0.6s						
IMAR	**Indian Mountai**	**81.15**	**20**	P	**P**	**21 10 11.9**	**+0.6**
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**21 10 10.8**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=115,slow=6.3,SNR=7.5						
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**21 10 10.6**	**-1.5**
SCM	**Sheep Creek Mo**	**81.36**	**25**	P	**P**	**21 10 13.2**	**+0.7**
SCM				pmax	pmax		
	comp=Z,22nm,0.7s						
SCM	**Sheep Creek Mo**	**81.36**	**25**	P	**P**	**21 10 13.2**	**+0.7**
SCM				IAmb	IAmb	21 10 14.3	
	comp=Z,22nm,0.7s						
RND	**Reindeer**	**81.52**	**23**	P	**P**	**21 10 13.6**	**+0.2**
RND				pmax	pmax		
	comp=Z,26nm,0.8s						
RND	**Reindeer**	**81.52**	**23**	P	**P**	**21 10 13.6**	**+0.2**
BWN	**Browne**	**81.68**	**22**	P	**P**	**21 10 14.5**	**+0.5**
BWN				IAmb	IAmb	21 10 15.0	
	comp=Z,20nm,0.7s						
DHY	**Denali Highway**	**81.94**	**24**	P	**P**	**21 10 15.9**	**+0.3**
DHY				IAmb	IAmb	21 10 16.8	
	comp=Z,14nm,0.8s						
WRH	**Wood River Hil**	**82.35**	**22**	IAmb	IAmb	21 10 17.8	
	comp=Z,18nm,1.0s						
KDJ	**Kajisay**	**82.52**	**314**	P	**P**	**21 10 17.9**	**-1.3**
KDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KDJ	**Kajisay**	**82.52**	**314**	P	**P**	**21 10 17.9**	**-1.3**
MDM	**Murphy Dome**	**82.54**	**22**	IAmb	IAmb	21 10 19.4	
	comp=Z,20nm,1.5s						
CCB	**Clear Creek Bu**	**82.54**	**22**	IAmb	IAmb	21 10 18.6	
	comp=Z,16nm,0.8s						
COLA	**College**	**82.64**	**22**	P	**P**	**21 10 18.8**	**-0.2**
COLA				pmax	pmax		
	comp=Z,27nm,0.7s						
COLA	**College**	**82.64**	**22**	P	**P**	**21 10 18.8**	**-0.2**
VRDI	**Verde Repeater**	**82.73**	**26**	IAmb	IAmb	21 10 20.9	
	comp=Z,17nm,0.8s						
IL31		**82.95**	**22**	IAmb	IAmb	21 10 20.5	
	comp=Z,16nm,0.7s						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**21 10 19.6**	**-1.1**
	comp=Z,14nm,0.7s,baz=247,slow=5.5,SNR=188						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**21 10 19.7**	**-1.0**
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**21 10 19.7**	**-1.0**
COLD	**Coldfoot**	**83.02**	**19**	P	**P**	**21 10 21.9**	**+0.9**
RIDG	**Independent Ri**	**83.25**	**24**	IAmb	IAmb	21 10 23.5	
	comp=Z,24nm,1.2s						
MENT	**Mentasta**	**83.36**	**24**	IAmb	IAmb	21 10 24.4	
	comp=Z,9.6nm,0.8s						
NIL	**Nilore**	**83.74**	**305**	P	**P**	**21 10 23.1**	**-2.4**
NIL				pmax	pmax		
	comp=Z,13nm,0.7s						
NIL	**Nilore**	**83.74**	**305**	P	**P**	**21 10 23.1**	**-2.4**
NIL				IAmb	IAmb	21 10 26.4	
	comp=Z,13nm,0.7s						
KURK	**Kurchatov**	**83.80**	**322**	*i* P	**P**	**21 10 25.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,19nm,3.6s						
KURK	**Kurchatov**	**83.80**	**322**	P	**P**	**21 10 24.7**	**-0.6**
KURBB	**Kurchatov Arra**	**83.83**	**322**	P	**P**	**21 10 24.4**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=114,slow=4.4,SNR=6.8						
TKM2	**Tokmak 2**	**83.84**	**314**	P	**P**	**21 10 26.0**	**0.0**
	SNR=7.0						
TOLK	**Toolik Lake Re**	**83.97**	**18**	P	**P**	**21 10 26.8**	**+0.9**
TOLK				IAmb	IAmb	21 10 27.5	
	comp=Z,10nm,0.7s						
BCAR	**Beaver Creek A**	**84.21**	**25**	P	**P**	**21 10 28.4**	**+1.1**
FYU	**Fort Yukon**	**84.40**	**21**	P	**P**	**21 10 27.6**	**-0.5**
FYU				IAmb	IAmb	21 10 29.3	
	comp=Z,12nm,0.6s						
UCH	**Uchtor**	**84.47**	**313**	P	**P**	**21 10 30.4**	**+0.8**
	SNR=7.5						
AAK	**Ala-Archa**	**84.57**	**314**	*i* P	**P**	**21 10 29.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,11nm,0.9s						
USP	**Ospenovka**	**84.70**	**314**	P	**P**	**21 10 30.4**	**+0.2**
	SNR=10						
BMAR	**Burnt Mountain**	**85.02**	**20**	P	**P**	**21 10 32.5**	**+1.2**
AML	**Almayashu**	**85.04**	**313**	P	**P**	**21 10 32.9**	**+0.5**
	SNR=13						
EKS2	**Erkin-Say**	**85.09**	**314**	P	**P**	**21 10 32.9**	**+0.6**
	SNR=6.6						
EGAK	**Eagle**	**85.15**	**23**	P	**P**	**21 10 32.8**	**+0.9**
EGAK				IAmb	IAmb	21 10 33.6	
	comp=Z,12nm,0.8s						
HYT	**Haines Junctio**	**85.26**	**28**	P	**P**	**21 10 34.4**	**+1.7**
DAWY	**Dawson**	**85.59**	**24**	P	**P**	**21 10 35.3**	**+1.2**
DAWY				IAmb	IAmb	21 10 36.3	
	comp=Z,30nm,1.5s						
NRIK	**Noril'sk**	**86.29**	**341**	P	**P**	**21 10 36.8**	**-0.6**
	comp=Z,4.8nm,0.6s,baz=156,slow=2.5,SNR=5.8						
NRIK	**Noril'sk**	**86.29**	**341**	*i* P	**P**	**21 10 36.5**	**-0.9**
NRIK				pmax	pmax		
	comp=Z,23nm,2.2s						
KKAR	**Karatay Array**	**87.53**	**314**	P	**P**	**21 10 43.6**	**-0.5**
KKAR	**Karatay Array**	**87.53**	**314**	P	**P**	**21 10 43.6**	**-0.5**
INK	**Inuvik**	**89.23**	**21**	P	**P**	**21 10 50.6**	**-0.9**
	comp=Z,5.6nm,1.0s,baz=285,slow=5.8,SNR=7.0						
INK	**Inuvik**	**89.23**	**21**	P	**P**	**21 10 50.6**	**-0.9**
INK				pmax	pmax		
	comp=Z,13nm,1.5s						
INK	**Inuvik**	**89.23**	**21**	P	**P**	**21 10 50.6**	**-0.9**
INK				IAmb	IAmb	21 10 55.2	
	comp=Z,13nm,1.4s						
BRVK	**Borovoye**	**89.36**	**323**	*i* P	**P**	**21 10 52.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
PINE	**Pine Mountain**	**91.47**	**46**	P	**P**	**21 11 02.8**	**0.0**
PINE				IAmb	IAmb	21 11 05.3	
	comp=Z,10.0nm,0.9s						
NVAR	**Mina Array Bea**	**92.97**	**52**	P	**P**	**21 11 10.7**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=252,slow=6.9,SNR=17						
NVAR	**Mina Array Bea**	**92.97**	**52**	P	**P**	**21 11 09.0**	**-0.9**
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**21 11 24.6**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=286,slow=4.4,SNR=3.6						
ARU	**Arti**	**96.41**	**326**	*i* P	**P**	**21 11 24.9**	**0.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PDAR	**Pinedale Array**	**99.74**	**48**	P	**Pdif**	**21 11 40.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=245,slow=3.1,SNR=6.1						
ARCES	**ARCESS Array B**	**107.22**	**343**	PKiKP	**PKiKP**	**21 16 20.8**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=84,slow=2.8,SNR=3.8						
FINES	**FINESS Array B**	**111.29**	**335**	Pdiff	**Pdif**	**21 12 29.5**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=65,slow=7.8,SNR=3.7						
FINES				PKiKP	**PKiKP**	**21 16 30.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=96,slow=1.4,SNR=3.5						
BRG	**Berggiesshubel**	**122.83**	**330**	*e*PKiKP	**PKiKP**	**21 16 53.6**	**+1.4**
	comp=Z,1.3nm,0.5s						
BRG	**Berggiesshubel**	**122.83**	**330**	*e*PKiKP	**PKiKP**	**21 16 53.6**	**+1.4**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**123.02**	**331**	*e*PKPdf	**PKPdf**	**21 16 51.0**	**-1.4**
CLL	**Collm**	**123.02**	**331**	*e*PKiKP	**PKPdf**	**21 16 51.0**	**-1.4**
GERES	**GERESS Array B**	**124.18**	**328**	PKP	**PKPdf**	**21 16 54.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=81,slow=1.7,SNR=9.8						
EKA	**Eskdalemuir Ar**	**126.38**	**343**	PKP	**PKPdf**	**21 16 58.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=25,slow=3.3,SNR=7.3						
LPAZ	**La Paz**	**134.74**	**119**	PKiKP	**PKPdf**	**21 17 16.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=221,slow=3.0,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**149.83**	**287**		**PKPbc**	**21 17 46.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.83**	**287**	PKPbc	**PKPbc**	**21 17 46.6**	**-0.5**
	comp=Z,9.1nm,0.8s,baz=73,slow=2.4,SNR=51						
TORD				PKPab	**PKPab**	**21 17 52.7**	**+0.1**
	comp=Z,6.2nm,0.5s,baz=77,slow=3.5,SNR=14						
TORD	**Torodi Ar. Bea**	**149.83**	**287**		**PKPbc**	**21 17 46.8**	**-0.3**
KOWA	**Kowa**	**154.83**	**293**	PKPbc	**PKPbc**	**21 17 58.1**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=40,slow=2.0,SNR=13						
KOWA				PKPab	**PKPab**	**21 18 13.0**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=23,slow=3.8,SNR=11						
DBIC	**Dimbokro**	**157.06**	**274**	PKPab	**PKPab**	**21 18 22.9**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=66,slow=5.3,SNR=4.2						

IDC 12 20:59:10.7±1.6,5°60S×152°52E,h0km,mb4.2/3, mb1 4.5/3,mb1mx3.7/47,mbtmp4.2/3,Error ellipse: s-maj=42.3km s-min=17.0km az=86.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.38**	**339**	Pg	Pb	20 59 37.4	+0.1
	678nm,0.3s,baz=178,slow=1.5,SNR=7.8						
KRVT				Lg	Lg	20 59 54.7	
	448nm,0.3s,baz=54,slow=19,SNR=0.8						
WRA	**Warramunga Arr**	**22.71**	**229**	P	P	21 04 13.9	-0.4
	3.7nm,0.7s,baz=51,slow=9.6,SNR=1.0						
ASAR	**Alice Springs**	**25.37**	**223**	P	P	21 04 40.1	+0.3
	3.3nm,0.7s,baz=54,slow=9.1,SNR=1.3						
ILAR	**Eielson Array**	**83.01**	**22**	P	P	21 11 37.1	-0.4
	2.0nm,0.6s,baz=245,slow=5.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.28**	**287**	PKPbc	PKPbc	21 19 04.3	-0.7
	1.9nm,0.8s,baz=74,slow=4.0,SNR=1.8						

BJI ***12*** *20:59:07.0±0.0,35°.78N×21°.14E,h14km,mB5.4/18, mb4.7/27,Ms5.4/1,Ms7 5.2/1*

IDC ***12*** *20:59:09.2±0.5,35°.61N×21°.64E,h0km,m

ITM	Ithomi	1.64	11	P	Pn	20 59 41.7	+1.1		
ITM				S	Sb	21 00 04.9	+0.7		
ITM				AML	AML	21 00 16.8			
	comp=E,8570µm,0.7s								
ITM				AML	AML	21 00 20.0			
	comp=N,8192µm,0.4s								
ITM	Ithomi	1.64	11	eP	Pb	20 59 42.7	-1.2		
ITM	Ithomi	1.64	11		Pn	20 59 41.4	+0.8		
KNDR	Palaiochora Ch	1.77	100	eP	Pn	20 59 41.8	-0.6		
RODP	Rodopos	1.80	90	P	Pn	20 59 43.3	+0.5		
RODP				S	Sn	21 00 05.3	+0.9		
RODP	Rodopos	1.80	90	eP	Pn	20 59 43.4	+0.6		
VLX	Vlachokerasia	1.92	20	P	Pn	20 59 46.0	+1.4		
VLX	Vlachokerasia	1.92	20	P	Pn	20 59 45.9	+1.4		
IMMV	Iera Moni Meta	1.98	92	P	Pn	20 59 45.2	-0.1		
IMMV				S	Sn	21 00 09.3	+0.3		
	comp=N,6µm,0.7s								
IMMV	Iera Moni Meta	1.98	92	P	Pn	20 59 45.3	-0.1		
IMMV				S	Sn	21 00 11.0	+2.0		
IMMV				AML	AML	21 00 27.4			
	comp=E,12458µm,1.0s								
IMMV				AML	AML	21 00 35.1			
	comp=N,12358µm,0.6s								
IMMV	Iera Moni Meta	1.98	92	eP	Pn	20 59 45.4	+0.1		
CHAN	Chania	2.03	91	P	Pn	20 59 46.2	+0.2		
CHAN				S	Sn	21 00 11.6	+1.5		
	comp=N,2µm,0.6s								
TRIP	Tripoli	2.04	16	P	Pn	20 59 47.7	+1.5		
TRIP				S	Sb	21 00 14.9	-0.9		
VAM	Vamos	2.17	93	P	Pn	20 59 47.6	-0.2		
VAM				S	Sn	21 00 15.1	+1.6		
VAM	Vamos	2.17	93	P	Pn	20 59 47.3	-0.5		
VAM				S	Sn	21 00 14.1	+0.6		
VAM				AML	AML	21 00 28.3			
	comp=N,8174µm,0.6s								
VAM				AML	AML	21 00 49.1			
	comp=E,9421µm,0.9s								
KRI1	kERI	2.17	344	P	Pn	20 59 48.6	+0.7		
GVD	Gavdhos	2.20	109	P	Pn	20 59 47.5	-0.8		
GVD				S	Sn	21 00 13.9	-0.4		
	comp=E,5µm,0.4s								
GVD	Gavdhos	2.20	109	P	Pn	20 59 47.3	-1.0		
GVD				AML	AML	21 00 17.1			
	comp=N,10652µm,0.4s								
GVD				AML	AML	21 00 17.8			
	comp=E,7471µm,0.3s								
GVD	Gavdhos	2.20	109	eP	Pn	20 59 47.7	-0.6		
GVDS	Gavdos	2.20	108	P	Pn	20 59 47.1	-1.2		
GVDS				S	Sn	21 00 13.7	-0.6		
	comp=E,3µm,0.7s								
GVDS	Gavdos	2.20	108	eP	Pn	20 59 47.2	-1.1		
KRND	KRANIDI	2.23	35	P	Pn	20 59 49.4	+0.8		
KRND	KRANIDI	2.23	35	P	Pn	20 59 49.4	+0.8		
KRND				AML	AML	21 00 18.1			
	comp=N,6458µm,0.3s								
KRND				AML	AML	21 00 21.5			
	comp=E,4355µm,0.5s								
DRO	Drossia	2.39	3	P	Pn	20 59 52.6	+1.7		
DRO	Drossia	2.39	3	P	Pn	20 59 52.6	+1.7		
DRO				AML	AML	21 00 44.2			
	comp=N,5407µm,0.6s								
DRO				AML	AML	21 00 47.6			
	comp=E,4659µm,0.4s								
EPID	Epidavros	2.40	31	P	Pn	20 59 51.6	+0.5		
EPID	Epidavros	2.40	31	P	Pn	20 59 51.9	+0.8		
VLMS	Volimes, Zakyn	2.42	343	P	Pn	20 59 52.0	+0.7		
VLMS				AML	AML	21 00 25.0			
	comp=E,5389µm,0.3s								
VLMS				AML	AML	21 00 26.9			
	comp=N,6810µm,0.2s								
PRNS	Prines Rethymn	2.42	94	P	Pn	20 59 50.2	-1.1		
PRNS				S	Sn	21 00 18.3	-1.3		
GUR	Goura	2.45	15	P	Pn	20 59 53.7	+1.9		
GUR	Goura	2.45	15	P	Pn	20 59 53.9	+2.1		
GUR				AML	AML	21 00 27.6			
	comp=E,8439µm,0.7s								
GUR				AML	AML	21 00 31.2			
	comp=N,6477µm,0.5s								
RLS	Riolos of Patr	2.49	358	P	Pn	20 59 54.4	+2.2		
RLS	Riolos of Patr	2.49	358	P	Pn	20 59 54.5	+2.2		
MHLO	Agia Marina, M	2.57	63	P	Pn	20 59 52.9	-0.4		
THAL	Thalero	2.62	20	P	Pn	20 59 55.4	+1.3		
LOUT	Loutraki	2.67	25	P	Pn	20 59 55.4	+0.6		
LTK	Loutraki	2.70	24	P	Pn	20 59 56.2	+1.0		
VLS	Valsamata	2.72	344	P	Pn	20 59 56.2	+0.8		
VLS				S	Sn	21 00 29.1	+2.0		
	comp=N,2µm,0.2s								
VLS	Valsamata	2.72	344	P	Pn	20 59 56.4	+1.0		
VLS				AML	AML	21 00 31.3			
	comp=E,3591µm,0.2s								
VLS				AML	AML	21 00 32.1			
	comp=N,2555µm,0.2s								
SIVA	Sivas	2.72	101	P	Pn	20 59 55.2	-0.2		
SIVA	Sivas	2.72	101	P	Pn	20 59 55.3	-0.2		
SIVA				AML	AML	21 00 35.5			
	comp=E,7193µm,0.5s								
SIVA				AML	AML	21 00 37.5			
	comp=N,6022µm,0.5s								
ALIK	Aliki, Aigiali	2.73	9	P	Pn	20 59 58.0	+2.5		
IDI	Anoyia	2.74	95	Pn	Pn	20 59 55.4	-0.4		
	comp=N,35nm,0.3s,baz=260,slow=12,SNR=384								
IDI				Sn	Sn	21 00 27.3	-0.4		
	comp=N,113nm,0.3s,baz=252,slow=20,SNR=6.1								
IDI				LR	LR	21 01 24.3			
	comp=N,1µm,19.4s,baz=280,slow=51								
IDI	Anoyia	2.74	95	P	Pn	20 59 55.7	-0.1		
IDI	Anoyia	2.74	95	P	Pn	20 59 55.4	-0.4		
IDI				AML	AML	21 00 32.1			
	comp=E,4684µm,0.3s								
IDI				AML	AML	21 00 36.5			
	comp=N,2791µm,0.4s								
IDI	Anoyia	2.74	95	⇑P	Pn	20 59 55.5	-0.4		
IDI	Anoyia	2.74	95	eP	Pn	20 59 55.5	-0.4		
TRIZ	Trizonia	2.83	8	P	Pn	20 59 59.0	+2.1		
DMLN	Damoulianata-K	2.83	341	P	Pn	20 59 57.7	+0.7		
DMLN				S	Sn	21 00 31.9	+2.0		
	comp=N,3µm,0.4s								
KALE	Kalithea	2.86	9	P	Pn	20 59 59.7	+2.3		
SERG	Sergoula	2.87	8	P	Pn	21 00 00.5	+2.9		
KSTL	Kastelli Herak	2.89	94	P	Pn	21 00 01.0	+3.3		
VLY	Voula,Athens	2.91	38	P	Pn	20 59 57.9	-0.1		
DSF	Desfina	2.95	15	P	Pn	20 59 59.4	+0.8		
VSK1	VASILIKIADES	2.95	345	P	Pn	20 59 59.8	+1.2		
VSK1				S	Sn	21 00 35.4	+2.7		
ATH	Athens Observa	2.96	35	P	Pn	20 59 59.0	+0.2		
AST1	Astakos	2.99	353	P	Pn	21 00 01.4	+2.2		
ATHU	Athens Univers	2.99	36	P	Pn	20 59 59.0	-0.2		
FSK	Fiskardo	3.00	345	P	Pn	21 00 00.2	+1.0		
FSK				S	Sn	21 00 36.3	+2.4		
	comp=N,650nm,0.2s								
FSK	Fiskardo	3.00	345	P	Pn	21 00 00.1	+0.9		
FSK				AML	AML	21 00 38.2			
	comp=N,1143µm,0.3s								
FSK				AML	AML	21 00 42.7			
	comp=E,1822µm,0.2s								
PTL	Penteli	3.10	36	P	Pn	21 00 00.7	0.0		
EVGI	Lefkada island	3.13	347	P	Pn	21 00 02.5	+1.4		
DION	Dionisos Attik	3.15	37	P	Pn	21 00 01.5	+0.1		
THR9	Santorini-Faro	3.19	75	P	Pn	21 00 01.4	-0.5		
THR5	Thira Island,	3.19	73	P	Pn	21 00 01.4	-0.6		
SAP3	Santorini-Thir	3.20	73	P	Pn	21 00 01.4	-0.6		
NYDR	Nydri-Lefkada	3.21	348	P	Pn	21 00 03.9	+1.7		
SAP1	Santorini-Akro	3.22	75	P	Pn	21 00 01.8	-0.5		
THR6	Thira Island,	3.22	75	P	Pn	21 00 01.6	-0.7		
SNT5	Nea Kammeni, S	3.23	74	P	Pn	21 00 01.9	-0.5		
THR3	Thira Island,	3.23	74	P	Pn	21 00 01.9	-0.6		
LAST	Lasithi	3.23	96	P	Pn	21 00 02.8	+0.2		
LAST				S	Sn	21 00 40.1	+0.1		
	comp=E,600nm,0.6s								
LAST	Lasithi	3.23	96	P	Pn	21 00 02.9	+0.2		
IOSP	Ios island	3.24	68	P	Pn	21 00 01.8	-0.8		
CMBO	Columbo, Santo	3.25	73	P	Pn	21 00 02.1	-0.7		
SNT1	Gialos, Santor	3.26	74	P	Pn	21 00 02.1	-0.7		
SANT	Santorini	3.27	75	P	Pn	21 00 02.2	-0.8		
SANT	Santorini	3.27	75	⇑P	Pn	21 00 02.3	-0.8		
SANT	Santorini	3.27	75	eP	Pn	21 00 02.3	-0.8		
SANT	Santorini	3.27	75	Pn	Pn	21 00 02.0	-1.0		
THR8	Santorini-Mono	3.29	74	P	Pn	21 00 02.6	-0.7		
LKD2	Lefkada island	3.30	348	P	Pn	21 00 03.2	-0.2		
NPS	Neapolis	3.33	94	P	Pn	21 00 04.1	+0.3		
NPS				AML	AML	21 00 46.4			
	comp=N,2197µm,0.6s								
NPS				AML	AML	21 00 48.3			
	comp=E,2501µm,0.5s								
TSLK	Tsoukalades, L	3.33	348	P	Pn	21 00 05.8	+2.0		
ATAL	Atalanti	3.33	20	P	Pn	21 00 04.4	+0.5		
AGG	Agios Georgios	3.51	10	P	Pn	21 00 08.5	+2.2		
AGG	Agios Georgios	3.51	10	eP	Pn	21 00 07.9	+1.6		
AGG	Agios Georgios	3.51	10	P	Pn	21 00 08.1	+1.8		
AGG	Agios Georgios	3.51	10		Pn	21 00 08.1	+1.8		
APE	Apeiranthos	3.55	64	⇑P	Pn	21 00 06.0	-0.9		
APE	Apeiranthos	3.55	64	eP	Pn	21 00 06.1	-0.8		
APE	Apeiranthos	3.55	64	i P	Pn	21 00 05.3	-1.6		
ZKR	Zakros	3.84	95	P	Pn	21 00 11.1	+0.2		
ZKR	Zakros	3.84	95	eP	Pn	21 00 10.9	0.0		
NEO	Neokhori	3.96	19	P	Pn	21 00 12.7	+0.1		
THL	Klokotos Trika	4.01	5	P	Pn	21 00 14.9	+1.7		
XOR	Xorichti	4.01	18	P	Pn	21 00 13.6	+0.4		
AOS	Alonnisos	4.05	27	eP	Pn	21 00 13.7	0.0		
IGT	Igoumenitsa	4.08	347	P	Pn	21 00 14.4	+0.3		
IGT	Igoumenitsa	4.08	347	eP	Pn	21 00 14.5	+0.3		
IGT				eSn	Sn	21 01 00.0	-0.6		
JAN	Janina	4.12	352	P	Pn	21 00 16.3	+1.5		
KEK	Kerkira	4.37	342	P	Pn	21 00 18.2	+0.1		
SRN	Sarande	4.48	345	P	Pn	21 00 19.9	+0.3		
KARP	Karpathos	4.57	89	eP	Pn	21 00 21.1	+0.1		
KARP	Karpathos	4.57	89	Pn	Pn	21 00 19.2	-1.8		
CHOS	Chios island	4.58	51	eP	Pn	21 00 20.2	-0.8		
LIT	Litokhoron	4.59	9	P	Pn	21 00 22.0	+0.8		
LIT	Litokhoron	4.59	9		Pn	21 00 21.9	+0.8		
LIT				Sn	Sn	21 01 12.5	-0.8		
PENT	Pentalofos	4.63	356	P	Pn	21 00 24.1	+2.2		
NIS1	Nisyros Isl.	4.67	76	eP	Pn	21 00 21.9	-0.4		
KZN	Kozani	4.74	2	P	Pn	21 00 24.6	+1.4		
NEST	Nestorio	4.86	355	P	Pn	21 00 27.2	+2.3		
BODT	Bodrum	4.88	71	eP	Pn	21 00 24.8	-0.4		
URLA	Izmir	4.91	54	eP	Pn	21 00 24.9	-0.7		
SIGR	SIGRI	5.00	42	eP	Pn	21 00 25.9	-0.8		
DAT	Datca	5.01	75	eP	Pn	21 00 26.6	-0.5		
SLUM	Salum	5.08	142	P	Pn	21 00 27.0	-0.9		
	baz=149								
SLUM				AMP		21 01 00.0			
	baz=149								
SLUM				S	Sn	21 01 15.1	-10		
	baz=149								
SCTE	Santa Cesarea	5.12	332	Pn	Pn	21 00 27.9	-0.5		
SCTE				Sn	Sn	21 01 23.6	-2.6		
HORT	Hortiatis	5.17	13	eP	Pn	21 00 29.8	+0.6		
TIP	Timpagrande	5.25	315	⇓P	Pn	21 00 30.0	-0.3		
TIP	Timpagrande	5.25	315	Pn	Pn	21 00 29.9	-0.3		
CEL	Celeste	5.27	302		Pn	21 00 30.4	-0.1		
MLSB	Milas	5.31	69	eP	Pn	21 00 30.4	-0.7		
ARG	Arkhangelos	5.38	81	eP	Pn	21 00 31.3	-0.7		
DKL	Dikili	5.52	49	eP	Pn	21 00 33.5	-0.4		
TURN	Turunc	5.55	75	eP	Pn	21 00 34.4	+0.1		
BOZC	Bozcaada	5.56	39	eP	Pn	21 00 34.5	0.0		
OHR	Ohrid	5.57	354	i Pn	Pn	21 00 35.4	+0.8		
AYDB	Zeytinkoy-Aydi	5.62	63	eP	Pn	21 00 35.3	-0.1		
YER	Yerkesik	5.65	72	eP	Pn	21 00 36.0	+0.2		
SRS	Serrai	5.77	16	ePn	Pn	21 00 37.9	+0.5		
VAY	Valandovo	5.80	8	ePn	Pn	21 00 38.6	+0.8		
VAY				eSn	Sn	21 01 41.2	-1.9		
VAY	Valandovo	5.80	8	i Pn	Pn	21 00 38.0	+0.2		
TIR	Tirane	5.92	348	ePn	Pn	21 00 39.3	-0.1		
TIR				eSn	Sn	21 01 43.4	-2.7		
TIR	Tirane	5.92	348	⇑P	Pn	21 00 39.5	0.0		
TIR	Tirane	5.92	348	P	Pn	21 00 39.5	0.0		
TIR	Tirane	5.92	348	Pn	Pn	21 00 39.5	0.0		
TAR1	Taranto	5.99	327	⇓iP	Pn	21 00 39.9	-0.4		
TAR1				S	Sn	21 01 43.7	-3.9		
CGL1	Ceglie Messapi	6.01	329	⇓iP	Pn	21 00 39.8	-0.9		
CGL1				S	Sn	21 01 43.0	-5.3		
RAFF	Raffo Rosso	6.03	288		Pn	21 00 40.9	0.0		
VAE	Valguarnera	6.06	290	Pn	Pn	21 00 41.5	+0.1		
	comp=E,8.2nm,0.3s,baz=173,slow=3.6,SNR=33								
VAE				Sn	Sn	21 01 44.1	-5.4		
	comp=E,28nm,0.3s,baz=36,slow=15,SNR=5.6								
STIP	Stip	6.14	4	i Pn	Pn	21 00 43.5	+1.1		
MMB	Musomiste	6.25	15	i P	Pn	21 00 43.8	-0.2		
MMB				S	Sn	21 01 48.5	-5.7		
MATC	Matruh	6.34	130	P	Pn	21 00 43.2	-2.0		
	baz=134								
MATC				AMP		21 01 00.0			
	baz=134								
MATE	Matera	6.35	324	⇑P	Pn	21 00 44.7	-0.6		
ALN	Alexandroupoli	6.39	32	P	Pn	21 00 45.5	-0.4		
ALN	Alexandroupoli	6.39	32		Pn	21 00 45.5	-0.4		
SKO	Skopje	6.40	359	ePn	Pn	21 00 45.9	-0.1		
SKO				eSn	Sn	21 01 54.6	-3.2		
SKO	Skopje	6.40	359	i Pn	Pn	21 00 46.2	+0.2		
KKB	Krupnik	6.41	10	iP	Pn	21 00 46.3	+0.2		
KKB				S	Sn	21 01 54.3	-3.7		
SG1	Sgolgore (BA)	6.51	325	eP	Pn	21 00 47.0	-0.6		
SG1				S	Sn	21 01 56.2	-4.5		
AKAS	Kas	6.57	82	Pn	Pn	21 00 46.5	-2.0		
RZN	Rozhen	6.60	21	i P	Pn	21 00 49.3	+0.4		
ULC	Ulcinj	6.64	345	⇓iPn	Pn	21 00 47.9	-1.4		
ULC				i Sn	Sn	21 01 55.9	-7.8		
BAI	Bari	6.64	328	⇓iP	Pn	21 00 48.3	-1.0		
BAI				S	Sn	21 01 59.6	-4.1		
KDZ	Kurdzhali	6.79	25	i P	Pn	21 00 50.6	-0.7		
DRME	Dracevica, Mon	6.86	345	⇓iPn	Pn	21 00 51.0	-1.3		
DRME				i Sn	Sn	21 02 01.3	-8.0		
DRME	Dracevica, Mon	6.86	345	⇓iPn	Pn	21 00 51.1	-1.3		
ELL	Elmali	6.86	78	P	Pn	21 00 51.9	-0.6		
ELL	Elmali	6.86	78		Pn	21 00 51.9	-0.6		
BOSS	Bosilegrad	6.96	6	ePn	Pn	21 00 53.9	+0.2		
BOSS				eSn	Sn	21 02 08.1	-3.5		
PLD	Plovdiv	6.98	20	ePn	Pn	21 00 54.5	+0.6		
CLTB	Caltabellotta	7.00	289		Pn	21 00 55.8	+1.4		
CORL	Corleone	7.02	292		Pn	21 00 56.0	+1.4		
BUM	Brajici-Budva	7.04	344	⇓iPn	Pn	21 00 53.1	-1.7		
BUM				i Sn	Sn	21 02 05.4	-8.2		
PDG	Podgorica	7.08	346	ePn	Pn	21 00 54.2	-1.2		
PDG				eSn	Sn	21 02 10.8	-3.8		
PDG	Podgorica	7.08	346	⇓P	Pn	21 00 54.4	-1.0		
PDG	Podgorica	7.08	346	⇓iPn	Pn	21 00 53.9	-1.4		
PDG	Podgorica	7.08	346	Pn	Pn	21 00 54.0	-1.4		
TTG	Podgorica	7.08	346	⇓iPn	Pn	21 00 54.0	-1.4		
TTG				i Sn	Sn	21 02 06.6	-8.0		
SWA2		7.12	151	P	Pn	21 00 54.0	-1.8		
	baz=157								
SWA2				AMP		21 02 00.0			
	baz=157								
SWA2				S	Sn	21 02 06.3	-9.2		
	baz=157								
PVY	Plav	7.13	350	⇑iPn	Pn	21 00 54.9	-1.2		
PVY				i Sn	Sn	21 02 07.9	-8.0		
VTS	Vitosha	7.16	10	i P	Pn	21 00 57.0	+0.4		
VTS				S	Sn	21 02 11.1	-5.7		
DIM	Dimitrovgrad	7.18	24	i P	Pn	21 00 57.1	+0.4		
CEME	Cevo	7.27	344	⇓iPn	Pn	21 00 56.2	-1.7		
CEME				i Sn	Sn	21 02 10.8	-8.4		
HCY	Herceg Novi	7.27	342	⇑iPn	Pn	21 00 55.7	-2.2		
HCY				i Sn	Sn	21 02 10.9	-8.4		
HCY	Herceg Novi	7.27	342	ePn	Pn	21 00 55.8	-2.2		
IVA	Berane	7.41	351	ePn	Pn	21 00 58.6	-1.3		
IVA				i Sn	Sn	21 02 14.5	-8.3		
KOME	Kolasin	7.44	348	⇑iPn	Pn	21 00 59.0	-1.4		
KOME				i Sn	Sn	21 02 15.3	-8.4		
NKME	Niksic	7.47	345	⇑iPn	Pn	21 00 59.2	-1.5		
NKME				i Sn	Sn	21 02 15.7	-8.5		
NKY	Niksic	7.50	345	⇑iPn	Pn	21 00 59.8	-1.5		
NKY				i Sn	Sn	21 02 16.7	-8.5		
ISP	Isparta	7.55	70	P	Pn	21 01 00.7	-1.2		
ISP	Isparta	7.55	70		Pn	21 01 00.7	-1.2		
SELS	Selova	7.65	358	ePn	Pn	21 01 01.8	-1.4		
SELS				eSn	Sn	21 02 24.3	-4.4		
SGRT	San Giovanni R	7.67	325		Pn	21 01 02.3	-1.2		
BRY	Bratogost	7.69	343	⇓iPn	Pn	21 01 01.6	-2.3		
BRY				i Sn	Sn	21 02 20.9	-8.8		
BRY	Bratogost	7.69	343	ePn	Pn	21 01 01.5	-2.3		
PAOL	Paolisi	7.74	317	Pn	Pn	21 01 04.3	-0.2		
ZAPS	Zavoj	7.74	6	ePn	Pn	21 01 05.5	+1.0		
SJES	Sjenica	7.78	351	ePn	Pn	21 01 04.5	-1.1		
SJES				eSn	Sn	21 02 28.7	-3.3		
UPM	Unac-Piva	7.90	346	⇓iPn	Pn	21 01 05.2	-1.5		
UPM				i Sn	Sn	21 02 26.1	-8.8		
UPM	Unac-Piva	7.90	346	ePn	Pn	21 01 05.3	-1.5		
PLE	Pljevlja	7.93	348	⇓iPn	Pn	21 01 05.7	-1.4		
PLE				i Sn	Sn	21 02 27.0	-8.7		
IVAS	Ivanjica	8.07	353	ePn	Pn	21 01 07.0	-2.0		
IVAS				eSn	Sn	21 02 34.7	-4.4		
RUDO	Rudo	8.22	349	ePn	Pn	21 01 09.5	-1.4		
GRUS	Gruza	8.34	356	ePn	Pn	21 01 11.2	-1.4		
BBLS	Lazići	8.45	349	ePn	Pn	21 01 12.1	-2.1		
BBLS				eSn	Sn	21 02 42.5	-5.9		
BBLS	Lazići	8.45	349	⇓iPn	Pn	21 01 12.2	-2.0		
ORH	Orhaniye	8.54	49	P	Pn	21 01 13.7	-1.6		
DIVS	Divibare	8.61	352	ePn	Pn	21 01 14.3	-2.1		
DIVS	Divibare	8.61	352	⇓iPn	Pn	21 01 14.2	-2.1		
DIVS	Divibare	8.61	352	Pn	Pn	21 01 14.3	-2.1		
TRUS	Trudelj	8.69	355	ePn	Pn	21 01 15.6	-1.8		
HAPS	Han Pijesak,Bl	8.74	348	ePn	Pn	21 01 15.7	-2.5		
HAPS	Han Pijesak,Bl	8.74	348	ePn	Pn	21 01 15.3	-2.9		
PUNG	Punghina	8.77	7	⇓P	Pn	21 01 18.2	-0.3		
INTR	Introdacqua	8.78	319	Pn	Pn	21 01 19.3	+0.6		
RAZG	Razgrad	8.86	24	⇓P	Pn	21 01 19.8	+0.1		
PRD	Provadia	8.87	29	i P	Pn	21 01 19.4	-0.4		
TEKS	Tekeris	9.11	351	ePn	Pn	21 01 20.9	-2.2		
TEKS	Tekeris	9.11	351	⇓iPn	Pn	21 01 20.9	-2.2		
SRE	Strehaia	9.17	7	⇑P	Pn	21 01 24.4	+0.4		
MDVR	Moldovita	9.21	1	⇑P	Pn	21 01 22.9	-1.7		
AQU	L'Aquila	9.28	319	P	Pn	21 01 25.2	-0.4		
AQU	L'Aquila	9.28	319	ePn	Pn	21 01 26.5	+0.9		
AQU	L'Aquila	9.28	319		Pn	21 01 25.2	-0.4		
HERR	Herculane	9.33	4	⇓P	Pn	21 01 25.1	-1.0		
HUMR	Humele	9.33	15	⇑P	Pn	21 01 26.0	-0.2		
HNAT	Natroun	9.66	125	P	Pn	21 01 28.5	-2.4		
	baz=128								
FRGS	Fruska Gora	9.67	353	ePn	Pn	21 01 28.2	-2.7		
FRGS	Fruska Gora	9.67	353	⇓iPn	Pn	21 01 28.2	-2.7		
HMYD	Mayshtein	9.69	124	P	Pn	21 01 28.1	-3.0		
	baz=126								
BLY	Banja Luka	9.76	341	ePn	Pn	21 01 30.0	-2.1		
BLY	Banja Luka	9.76	341	ePn	Pn	21 01 29.7	-2.4		
NRCA	Norcia	9.77	321		Pn	21 01 33.3	+1.0		
SULR		9.79	20	⇓P	Pn	21 01 31.8	-0.6		
GZR	Gura Zlata	9.86	5	⇓P	Pn	21 01 32.8	-0.7		
KEST	Kesra	9.94	275	Pn	Pn	21 01 34.1	-0.5		
	comp=E,0.5nm,0.3s,baz=73,slow=6.0,SNR=14								
KEST				Sn	Sn	21 03 18.8	-6.2		
	comp=E,0.9nm,0.3s,baz=62,slow=22,SNR=2.8								
LOT	Lotru	10.02	9	⇓P	Pn	21 01 35.9	+0.2		
BZS	Buzias	10.04	0	ePn	Pn	21 01 33.3	-2.6		
BZS	Buzias	10.04	0	⇑P	Pn	21 01 34.6	-1.3		
ARR	Arges	10.07	13	⇓P	Pn	21 01 35.5	-0.9		
MFTR	Murfatlar	10.09	29	⇑P	Pn	21 01 35.6	-1.0		
VOIR		10.21	14	⇑P	Pn	21 01 38.7	+0.3		
TLBR	Topalu	10.25	27	⇓P	Pn	21 01 38.2	-0.6		
HSAF	As Saff	10.31	122	P	Pn	21 01 36.2	-3.5		
	baz=124								
KOT	Kottamia	10.32	120	P	Pn	21 01 36.2	-3.6		
	baz=122								
TIRR	Tirgusor	10.32	29	⇑P	Pn	21 01 38.7	-1.0		
HARR	Harsova	10.34	26	⇑P	Pn	21 01 39.0	-0.9		
DEV	Deva	10.36	5	⇓P	Pn	21 01 40.4	+0.2		
MURB	Monte Urbino	10.38	320		Pn	21 01 42.1	+1.5		
VSL	Villasalto	10.43	296	Pn	Pn	21 01 41.0	-0.3		
GLL	Jalalah	10.44	122	P	Pn	21 01 37.6	-3.9		
	baz=124								
BR131	Keskin Array S	10.44	63	i P	Pn	21 01 42.3	+0.

ZOU Zoufplan 12.74 332 Pn 21 02 11.0 -1.9
CIMO Cimolais 12.74 330 Pn 21 02 12.2 -0.7
CTI Castel Tesino 12.87 327 P Pn 21 02 13.6 -1.1
CTI Castel Tesino 12.87 327 Pn 21 02 13.6 -1.1
KBA Koelnbreinsper 13.04 334 *e*Pn **Pn 21 02 15.2 -1.9**
comp=E,6.7nm,0.7s,SNR=11
CONA Conrad Observa 13.06 343 *e*Pn **Pn 21 02 15.0 -2.2**
comp=E,1.2nm,0.4s
SALO Salr 13.06 324 Pn 21 02 16.3 -1.0
UZH Uzhgorod 13.07 2 *e*P **Pn 21 02 18.7 +1.4**
ABTA Abfaltersbach 13.07 331 *e*Pn **Pn 21 02 15.5 -1.9**
comp=E,1.1nm,0.2s,SNR=6.2
VYHS Vyhne 13.07 352 *e*P **Pn 21 02 14.9 -2.5**
VYHS *e* 21 04 32.1
VYHS Vyhne 13.07 352 *e*PN **Pn 21 02 14.9 -2.5**
VYHS Vyhne 13.07 352 *e*SN Sn 21 04 32.1 -9.4
MODS Modra-Piesok 13.18 347 *e*P **Pn 21 02 16.4 -2.5**
MODS Modra-Piesok 13.18 347 *e*PN **Pn 21 02 16.4 -2.5**
ASF Jabal al Asfar 13.19 100 Pn **Pn 21 02 16.5 -2.6**
comp=E,0.6nm,0.3s,baz=280,slow=6.6,SNR=3.9
ASF Sn Sn 21 04 34.3 -10
comp=E,1.5nm,0.3s,baz=288,slow=20,SNR=3.3
KOLS Kolonicke sedl 13.37 2 *e*P **Pn 21 02 20.4 -1.0**
KOLS Kolonicke sedl 13.37 2 *e*PN **Pn 21 02 20.3 -1.1**
MOA Molln 13.42 338 *i* Pn **Pn 21 02 19.9 -2.1**
comp=E,10.0nm,0.3s,SNR=9.4
JAVC Velka Javorina 13.59 349 *e*PN **Pn 21 02 24.8 +0.3**
WTTA Wattenberg 13.84 331 *e*Pn **Pn 21 02 27.5 -0.5**
comp=E,2.0nm,0.3s
NIE Niedzica 13.88 357 *e*P **Pn 21 02 27.7 -0.7**
WATA Walderalm 13.92 331 *e*Pn **Pn 21 02 28.5 -0.6**
comp=E,2.4nm,0.2s
FUORN Ofenpass-Fuorn 13.93 326 Pn 21 02 29.1 -0.1
SQTA Sankt Quirin 13.98 330 *e*Pn **Pn 21 02 27.9 -1.9**
comp=E,3.1nm,0.4s
KRUC Moravsky 14.01 346 *e*P **P 21 02 38.4 +0.8**
FETA Feichten 14.02 328 *e*Pn **Pn 21 02 29.0 -1.5**
comp=E,0.4nm,0.2s
FETA *e*Sn Sn 21 04 56.3 -8.6
comp=E,2.7nm,0.5s
KWP Kalwaria Pacla 14.08 3 *e*P **P 21 02 41.2 +2.8**
MOTA Moosalm 14.12 330 *e*Pn **Pn 21 02 31.5 -0.3**
comp=E,1.7nm,0.3s
MOTA *e*Sn **Sn 21 04 59.6 -7.7**
comp=E,6.2nm,0.6s
VRAC Vranov 14.21 347 Pn **Pn 21 02 30.4 -2.5**
comp=E,0.2nm,0.3s,baz=183,slow=13,SNR=2.9
VRAC LR LR 21 08 29.4
comp=E,208nm,20.1s,baz=164,slow=40
VRAC Vranov 14.21 347 *e*P **P 21 02 41.0 +1.2**
DAVOX Davos/Dischmat 14.22 326 Pn **Pn 21 02 33.4 +0.2**
comp=E,0.6nm,0.3s,baz=154,slow=20,SNR=14
DAVOX Sn Sn 21 04 58.3 -11
comp=E,0.3nm,0.3s,baz=135,slow=20,SNR=1.9
RETA Reutte 14.38 329 *e*Pn **Pn 21 02 35.0 -0.2**
comp=E,0.9nm,0.3s
RETA *e*Sn **Sn 21 05 06.2 -7.1**
comp=E,6.7nm,0.5s
GEC2 GERESS Array S 14.48 339 Pn **Pn 21 02 34.4 -2.2**
GERES GERESS Array B 14.48 339 Pn **Pn 21 02 33.5 -3.0**
comp=E,1.1nm,0.3s,baz=156,slow=14,SNR=31
GERES Sn Sn 21 05 05.0 -11
comp=E,0.6nm,0.3s,baz=154,slow=21,SNR=4.1
GERES GERESS Array B 14.48 339 Pn 21 02 35.2 -1.4
MORC Moravsky Berou 14.50 350 *e*P **P 21 02 44.3 +1.2**
DAVA Damuels 14.60 327 *e*Pn **Pn 21 02 37.8 -0.6**
comp=E,0.5nm,0.2s
OJC Ojcow 14.70 356 *e*P **P 21 02 48.0 +2.8**
BNI Bardonecchia 14.76 314 P **Pn 21 02 39.5 -1.0**
BNI Bardonecchia 14.76 314 Pn 21 02 39.5 -1.0
KHC Kasperske Hory 14.77 339 *e*P **Pn 21 02 38.6 -1.9**
KHC *ex* x 21 02 47.3
KHC *ex* x 21 05 14.0
KHC AMS AMS 21 09 30.0
comp=E,300nm,15.2s
KHC Kasperske Hory 14.77 339 *e*P **Pn 21 02 38.6 -1.9**
KHC *e* 21 05 14.0
KHC MLR MLR
comp=Z,300nm,15.2s
KHC Kasperske Hory 14.77 339 Pn **Pn 21 02 38.4 -2.1**
KRLC Kraliky 14.91 348 *e*P **Pn 21 02 41.3 -1.1**
KRLC *ex* x 21 02 48.8
KRLC Kraliky 14.91 348 *e*P **Pn 21 02 41.3 -1.1**
PBCC Pribram 15.15 341 *e*P **P 21 02 51.1 +0.8**
GOPC GO Pecny, Ondr 15.17 343 *e*P **P 21 02 48.8 -1.6**
GOPC AMS AMS 21 09 40.0
comp=Z,200nm,17.5s
GOPC GO Pecny, Ondr 15.17 343 *e*P **P 21 02 48.8 -1.6**
GOPC MLR MLR
comp=Z,200nm,17.5s
DPC Dobruska-Polom 15.26 347 *e*P **P 21 02 51.9 +0.4**
DPC AMS AMS 21 09 40.0
comp=Z,200nm,11.8s
DPC Dobruska-Polom 15.26 347 *e*P **P 21 02 51.9 +0.4**
DPC MLR MLR
comp=Z,200nm,11.8s
KTUT Trabzon 15.29 64 ⇑P **Pn 21 02 46.3 -1.0**
PRU Pruhonice 15.29 343 *e*P **Pn 21 02 44.7 -2.7**
PRU *ex* x 21 02 52.8
PRU AMS AMS 21 09 00.0
comp=Z,200nm,13.8s
PRU Pruhonice 15.29 343 *e*P **Pn 21 02 44.7 -2.7**
PRU MLR MLR
comp=Z,200nm,13.8s
PRA Prague 15.40 342 AMS AMS 21 09 10.0
comp=Z,100nm,11.9s
UPC Upice 15.47 347 AMS AMS 21 09 50.0
comp=Z,200nm,9.5s
OSTC Ostas 15.47 347 *e*P **Pn 21 02 48.3 -1.5**
OSTC *ex* x 21 02 55.5
OSTC AMS AMS 21 10 00.0
comp=Z,200nm,9.5s
CHVC Chvalec 15.54 347 *e*P **P 21 02 54.7 +0.2**
KSP Ksiaz 15.74 348 *e*P **Pn 21 02 53.6 +0.5**
BFO Black Forest 16.07 327 P **Pn 21 02 56.3 -1.2**
BFO pmax pmax
comp=Z,19nm,1.5s
BFO Black Forest 16.07 327 Pn 21 02 56.2 -1.2
NKC Novy Kostel 16.09 338 *e*P **P 21 03 01.6 +1.0**
NKC AMS AMS 21 10 20.0
comp=Z,300nm,14.2s
NKC Novy Kostel 16.09 338 *e*P **P 21 03 01.6 +1.0**
NKC MLR MLR
comp=Z,300nm,14.2s
AKASG Malin Array Be 16.12 18 Pn **Pn 21 02 54.7 -3.3**
comp=Z,2.0nm,0.3s,baz=212,slow=10,SNR=10
AKASG Malin Array Be 16.12 18*ce*P **Pn 21 02 54.7 -3.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 16.12 18*ce*P **Pn 21 02 53.8 -4.2**
AKBB Malin Array Si 16.12 18 Pn 21 02 57.4 -0.5
BRG Berggiesshubel 16.26 343 *e*P **Pn 21 02 59.1 -0.7**
comp=Z,6.3nm,1.3s
BRG *e* 21 03 05.5
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 16.26 343 *e*P **Pn 21 02 59.1 -0.7**
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG pmax pmax
comp=Z,3.0nm,0.9s
BEL Belsk 16.27 358 *e*P **P 21 03 03.4 +0.7**
CLL Collm 16.90 341 *e*P **Pn 21 03 06.0 -1.8**
CLL *i* pP **P 21 03 10.9 +1.3**
comp=Z,34nm,1.7s
CLL Lm MLR 21 09 00.0
comp=N,200nm,20.7s
CLL Lm MLR 21 09 00.0
comp=E,400nm,18.2s
CLL Lm MLR 21 09 00.0
comp=Z,200nm,19.9s
CLL Collm 16.90 341 *e*P **Pn 21 03 06.0 -1.8**
ARTV Artvin 16.92 65 Pn 21 03 07.7 -0.8
WLF Walferdange 18.03 326 P **P 21 03 25.3 +3.2**
SHA1 Shidzhatmaz 18.15 57 *i* P **Pn 21 03 22.1 -1.6**
KIV Kislovodsk 18.25 56 *i* P **P 21 03 23.6 -1.1**
SNR=8.0
KIV Kislovodsk 18.25 56 *e*P **P 21 03 22.8 -1.9**
KIV pmax pmax
comp=Z,67nm,1.1s
KIV MLR MLR
comp=Z,152nm,14.0s
KIV Kislovodsk 18.25 56 P **P 21 03 24.0 -0.7**
KVAR Kislovodsk Arr 18.25 56 P **P 21 03 24.5 -0.2**
baz=271,slow=22,SNR=4.2
KVAR LR LR 21 11 48.4
comp=Z,92nm,18.8s,baz=140,slow=42
KBZ Khabaz 18.32 57 P **P 21 03 25.1 -0.2**
comp=Z,1.2nm,0.3s,baz=266,slow=7.4,SNR=30
KBZ LR LR 21 12 25.6
comp=Z,84nm,19.6s,baz=265,slow=44
KBZ Khabaz 18.32 57*ce*P **P 21 03 23.8 -1.4**
KBZ pmax pmax
comp=Z,24nm,0.9s
SUW Suwalki 18.48 3 *e*P **P 21 03 27.0 0.0**
BHOU Houvegnez 18.59 327 P **Pn 21 03 29.9 +1.1**
ZEI Tsey 18.74 61 *e*P **P 21 03 28.0 -2.2**
ZEI pmax pmax
comp=Z,15nm,1.2s
MEM Membach 18.78 328 P **Pn 21 03 32.9 +1.9**
RCHB Rochefort 18.80 326 P **Pn 21 03 32.6 +1.4**
GOF Gofitskoye 18.89 53⇓*e*P **P 21 03 31.5 -0.1**
BGES Gesves 19.03 326 P **Pn 21 03 35.5 +1.6**
DOU Dourbes 19.05 325 P **Pn 21 03 34.7 +0.5**
BEBN Eben Emael 19.06 328 P **Pn 21 03 36.8 +2.4**
BMRD Maredsous 19.11 326 P **Pn 21 03 36.9 +1.9**
SNF Seneffe 19.48 325 P **Pn 21 03 39.7 +0.3**
NACGM Naroch 19.68 9 *e* **P 21 03 37.0 -3.1**
PABE Paberze 20.01 4 *e*P **P 21 03 43.8 +0.1**
VORD Divnogorie 20.02 34 *e*P **Pn 21 03 44.9 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s
IIGN Ignalina 20.05 8 *e*P **P 21 03 43.5 -0.6**
BSD Bornholm Skovb 20.08 349 *i* P **P 21 03 43.5 -1.0**
BSD pmax pmax
comp=Z,26nm,0.5s
BSD Bornholm Skovb 20.08 349 *i* P **P 21 03 43.5 -1.0**
comp=Z,26nm,0.5s
BSD Bornholm Skovb 20.08 349 *i* P **P 21 03 43.5 -1.0**
BSD IAmb IAmb 21 03 44.2
comp=Z,26nm,0.5s
VSR Storozhevoye 20.13 34 *e*P **P 21 03 44.1 -1.0**
VSR *e*S **S 21 07 24.1 -5.0**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR smax smax
comp=E,180nm,3.6s
ISAL Salakas 20.25 8 *e*P **P 21 03 44.4 -1.9**
IZAR Zarasai 20.44 8 *e*P **P 21 03 46.0 -2.4**
PBUR Paburge 20.46 1 *e*P **P 21 03 47.9 -0.8**
ESBB Sonseca Array 20.60 289 P **P 21 03 51.1 +0.8**
ESDC Sonseca Array 20.60 289 P **P 21 03 51.2 +0.8**
comp=E,16nm,0.8s,baz=87,slow=11,SNR=73
ESDC Sonseca Array 20.60 289 P **P 21 03 51.1 +0.8**
PAB San Pablo 20.89 289 P **P 21 03 54.8 +1.3**
PAB pmax pmax
comp=Z,16nm,0.8s
PAB San Pablo 20.89 289 P **P 21 03 54.8 +1.3**
LPSR Galich'ya Gora 21.02 31 *e*P **P 21 03 52.8 -1.9**
LPSR *e*S **S 21 07 38.2 -8.5**
LPSR pmax pmax
comp=Z,40nm,0.4s
LPSR smax smax
comp=E,80nm,1.7s
COP Copenhagen 21.07 346 *i* P **P 21 03 54.9 -0.3**
COP IAmb IAmb 21 03 56.2
comp=Z,28nm,0.6s
VRH Novokhopyorsk 21.32 37 *e*P **P 21 03 56.4 -1.5**
VRH *e*S **S 21 07 46.0 -6.7**
VRH pmax pmax
comp=Z,50nm,0.6s
VRH smax smax
comp=N,340nm,3.2s
MDT Midelt 21.79 270 P **P 21 04 04.2 +0.9**
comp=N,3.2nm,0.8s,baz=81,slow=20,SNR=5.9
MDT LR LR 21 14 06.6
comp=N,148nm,19.6s,baz=94,slow=41
OBN Obninsk 22.13 23 P **P 21 04 04.8 -1.7**
comp=N,5.0nm,0.3s,baz=294,slow=10.0,SNR=8.6
OBN S **S 21 08 00.1 -8.1**
comp=N,2.9nm,0.5s,baz=198,slow=19,SNR=2.3
OBN LR LR 21 13 16.1
comp=N,18nm,21.0s,baz=175,slow=38
OBN Obninsk 22.13 23*ce*P **P 21 04 03.6 -2.9**
OBN pmax pmax
comp=Z,27nm,1.0s
OBN Obninsk 22.13 23 P **P 21 04 05.3 -1.2**
PBRG Braganca 22.89 294 *e*P **P 21 04 15.1 +0.3**
comp=Z,31nm,1.4s
MOS Moscow 22.98 24 *e*P **P 21 04 12.3 -3.3**
MOS *e* 21 04 35.7
MOS *e*S **S 21 08 16.0 -7.4**
MOS pmax pmax
comp=Z,58nm,0.8s
MVO Moncorvo 23.04 293 *e*P **P 21 04 16.3 -0.1**
comp=Z,34nm,1.7s
VSU Vasula 23.16 7 *e*P **P 21 04 16.5 -0.9**
VSU Vasula 23.16 7 *i* P **P 21 04 17.5 +0.1**
VSU pmax pmax
comp=Z,108nm,2.0s
MTE Manteigas 23.38 291 *e*P **P 21 04 22.0 +2.2**
comp=Z,33nm,1.8s
PVIS Viseu 23.66 291 *e*P **P 21 04 22.3 -0.2**
comp=Z,47nm,1.5s
PCVE Castro Verde 23.80 284 *e*P **P 21 04 24.9 +1.1**
comp=Z,46nm,1.9s
PCAB Cabril 23.83 294 *e*P **P 21 04 24.0 -0.1**
comp=Z,34nm,1.3s
BELG Belogornoye 24.99 40 *i* P **P 21 04 32.7 -1.8**
HFS Hagfors 25.11 351 P **P 21 04 34.5 -1.0**
comp=Z,11nm,0.4s,baz=163,slow=11,SNR=70
KONO Kongsberg 25.33 346 *e*P **P 21 04 38.0 +0.5**
OSL Oslo 25.38 347 *e*P **P 21 04 38.3 +0.4**
BLS5 Blasjo 25.83 342 *e*P **P 21 04 44.0 +1.9**
NC602 NORSAR Array S 26.00 349 P **P 21 04 43.8 +0.3**
NC602 IAmb IAmb 21 04 55.4
comp=Z,44nm,1.3s
NC602 NORSAR Array S 26.00 349 *e*P **P 21 04 44.4 +0.8**
EKA Eskdalemuir Ar 26.05 327 P **P 21 04 44.2 +0.1**
comp=Z,22nm,0.7s,baz=127,slow=9.4,SNR=70
FINES FINESS Array B 26.06 5 P **P 21 04 44.0 -0.1**
comp=Z,12nm,0.8s,baz=161,slow=12,SNR=19
FINES LR LR 21 15 18.0
comp=Z,111nm,19.8s,baz=192,slow=37
FINES FINESS Array B 26.06 5 P **P 21 04 44.0 -0.1**
FIA1 FINESS Array S 26.06 5 P **P 21 04 43.7 -0.3**
FIA1 IAmb IAmb 21 04 56.8
comp=Z,18nm,0.9s
ESK Eskdalemuir 26.06 327 P **P 21 04 43.9 -0.3**
ESK pmax pmax
comp=Z,32nm,0.9s
ESK Eskdalemuir 26.06 327 P **P 21 04 43.9 -0.3**
ESK IAmb IAmb 21 04 46.8
comp=Z,32nm,0.9s
NAO01 NORSAR Array S 26.21 348 P **P 21 04 45.3 -0.1**
NAO01 IAmb IAmb 21 04 48.5
comp=Z,32nm,1.1s
NC405 NORSAR Array S 26.33 349 P **P 21 04 46.2 -0.4**
NC405 IAmb IAmb 21 05 03.5
comp=Z,25nm,1.0s
NB201 NORSAR Array S 26.33 349 P **P 21 04 46.5 -0.1**
NB201 IAmb IAmb 21 04 56.7
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 26.34 349 P **P 21 04 46.3 -0.4**
comp=Z,9.1nm,1.2s,baz=159,slow=9.3
NB2 NORSAR Subarra 26.34 349 P **P 21 04 46.3 -0.4**
baz=159,slow=9.3
NOA NORSAR Array B 26.34 349 P **P 21 04 46.2 -0.4**
comp=Z,1.8nm,0.6s,baz=161,slow=10,SNR=19
NOA LR LR 21 15 39.7
comp=Z,62nm,19.7s,baz=200,slow=38
NBO00 NORSAR Array S 26.40 348 IAmb IAmb 21 04 49.3
comp=Z,17nm,0.7s
SKAR Skarslia 26.54 345 *e*P **P 21 04 50.2 +1.7**
NC204 NORSAR Array S 26.63 348 P **P 21 04 50.1 +0.8**
BER Bergen 26.95 342 *e*P **P 21 04 52.2 +0.1**
HYA Hoyanger 27.43 344 *e*P **P 21 04 59.7 +3.3**
DOMB Dombas 27.64 347 *e*P **P 21 04 59.3 +0.9**
KLMR Klimovskoe 27.80 19 P **P 21 04 58.5 -1.2**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 27.80 19 P **P 21 04 58.6 -1.2**
KLMR AMP 21 05 05.8
comp=Z,7.0nm,0.8s
TORD Torodi Ar. Bea 28.61 224 P **P 21 05 07.6 +0.1**
comp=Z,3.2nm,0.8s,baz=36,slow=9.6,SNR=20
TORD Torodi Ar. Bea 28.61 224 P **P 21 05 07.3 -0.1**
GEYT Alibeck 29.28 74 P **P 21 05 11.9 -1.3**
comp=Z,2.0nm,0.5s,baz=260,slow=8.6,SNR=5.8
KIRV Kirov 29.45 30 P **P 21 05 12.2 -2.2**
comp=Z,10nm,0.6s,baz=176,slow=3.7,SNR=5.5
NSS Namsos 29.57 352 *e*P **P 21 05 15.8 +0.4**
AKTO Aktyubinsk 30.18 49 P **P 21 05 19.6 -1.4**
comp=Z,1.6nm,0.4s,baz=222,slow=6.8,SNR=8.0
PRGR Permogore 30.21 23 *e*P **P 21 05 18.1 -3.0**
PRGR *e**SP **pP 21 05 30.2 +0.3**
PRGR pmax pmax
comp=Z,12nm,0.6s
MOR8 Moi Rana 30.93 354 *e*P **P 21 05 28.9 +1.5**
KOWA Kowa 31.09 234 P **P 21 05 30.1 +0.7**
comp=Z,0.8nm,0.3s,baz=46,slow=12,SNR=2.1
KOWA LR LR 21 18 20.9
comp=Z,146nm,18.8s,baz=114,slow=37
ABKAR Akbulak array 31.12 52 P **P 21 05 27.2 -2.0**
ABKAR Akbulak array 31.12 52 P **P 21 05 28.0 -1.3**
ABKAR IAmb IAmb 21 05 42.9
comp=Z,3.9nm,1.1s
UOSS Minazif 31.60 100 P **P 21 05 30.8 -3.1**
ASHO Ashiyiah 31.61 100 P **P 21 05 31.7 -2.2**
FAUS Fauske 32.06 355 *e*P **P 21 05 37.7 +0.3**
ARU Arti 32.53 38*di* P **P 21 05 39.7 -1.9**
ARU 21 06 42.4
ARU S **S 21 10 55.0 +0.7**
ARU SS **SnSn 21 12 52.1 +2.6**
ARU pmax pmax
comp=Z,13nm,1.7s
ARU Arti 32.53 38 P **P 21 05 40.3 -1.3**
ARU IAmb IAmb 21 05 55.5
comp=Z,8.8nm,1.1s
STEI Steigen 32.61 356 *e*P **P 21 05 42.6 +0.4**
SVE Sverdlovsk 33.74 39 *e*P **P 21 05 50.8 -1.3**
ARCES ARCESS Array B 34.09 2 P **P 21 05 53.8 -1.3**
comp=Z,3.4nm,0.5s,baz=184,slow=10,SNR=29
WSAR Wadi Sarin 34.36 101 P **P 21 05 57.8 -0.2**
comp=Z,2.0nm,0.8s,baz=276,slow=17,SNR=2.1
KEV Kevo 34.38 3 P **P 21 05 57.8 +0.3**
KEV pmax pmax
comp=Z,14nm,0.8s
KEV Kevo 34.38 3 P **P 21 05 57.8 +0.3**
HAMF Hammerfest 35.16 1 *e*P **P 21 06 04.8 +0.6**
SOCY Socotra 37.42 120 P **P 21 06 22.8 -1.4**
SOCY IAmb IAmb 21 06 35.1
comp=Z,7.3nm,0.9s
DBIC Dimbokro 37.61 226 P **P 21 06 25.6 -0.1**
comp=Z,5.3nm,0.7s,baz=18,slow=8.8,SNR=8.8
DBIC Dimbokro 37.61 226 P **P 21 06 25.8 +0.1**
DBIC IAmb IAmb 21 06 26.3
comp=Z,8.1nm,0.8s
CHGR Chuyangaron 37.76 71 P **P 21 06 26.4 -0.6**
KK31 Karatay Array 38.16 63 P **P 21 06 29.6 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KK31 Karatay Array 38.16 63 P **P 21 06 29.6 -0.6**
KK31 IAmb IAmb 21 06 30.2
comp=Z,6.8nm,0.6s
KKAR Karatay Array 38.16 63 P **P 21 06 28.9 -1.3**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 38.16 63 P **P 21 06 29.9 -0.3**
KKAR IAmb IAmb 21 06 30.2
comp=Z,6.8nm,0.6s
KKAR Karatay Array 38.16 63 P **P 21 06 28.9 -1.3**
BRVK Borovoye 38.16 47*ce*P **P 21 06 29.0 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 38.16 47 P **P 21 06 28.4 -1.7**
GAR Garm 38.59 70 P **P 21 06 34.1 +0.1**
BTK Batken 38.78 68 P **P 21 06 35.0 -0.6**
BTK pmax pmax
comp=Z,12nm,1.3s
BTK Batken 38.78 68 P **P 21 06 35.0 -0.6**
BTK IAmb IAmb 21 06 36.4
comp=Z,12nm,1.3s
AAK Ala-Archa 41.12 64 *i* P **P 21 06 54.0 -1.1**
SNR=7.7
AAK Ala-Archa 41.12 64*ce*P **P 21 06 54.6 -0.4**
AAK pmax pmax
comp=Z,16nm,1.0s
NIL Nilore 42.20 77 P **P 21 07 03.8 0.0**
NIL pmax pmax
comp=Z,18nm,1.1s
NIL Nilore 42.20 77 P **P 21 07 03.8 0.0**
NIL IAmb IAmb 21 07 05.0
comp=Z,18nm,1.1s
SPA0 Spitsbergen Ar 42.77 358 *e*P **P 21 07 08.5 +0.6**
SPITS Spitsbergen Ar 42.77 358 P **P 21 07 08.3 +0.4**
comp=Z,1.8nm,0.4s,baz=157,slow=11,SNR=12
KURBB Kurchatov Arra 43.17 51 P **P 21 07 09.9 -1.4**
comp=Z,2.8nm,0.4s,baz=278,slow=8.7,SNR=14
KURK Kurchatov 43.22 51*ce*P **P 21 07 10.3 -1.5**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KBS Kingsbay 43.65 357 *e*P **P 21 07 16.0 +1.1**
MAKZ Makanchi 45.80 56 P **P 21 07 31.7 -0.8**
MAKZ pmax pmax
comp=Z,13nm,0.7s
MAKZ Makanchi 45.80 56 P **P 21 07 31.7 -0.8**
MK31 Makanchi Array 46.01 56*ce*P **P 21 07 33.0 -1.2**
MK31 Makanchi Array 46.01 56 P **P 21 07 33.4 -0.8**
MKAR Makanchi Array 46.01 56 P **P 21 07 33.2 -1.0**
comp=Z,25nm,0.5s,baz=269,slow=7.6,SNR=275
MKAR S **S 21 14 12.7 -4.2**
comp=Z,0.9nm,0.8s,baz=271,slow=12,SNR=4.5
MKAR Makanchi Array 46.01 56 P **P 21 07 33.4 -0.8**
ZAA0 Zalesovo Array 46.86 46 P **P 21 07 39.1 -1.5**
ZAA0 IAmb IAmb 21 07 39.7
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 46.86 46 P **P 21 07 39.0 -1.6**
comp=Z,7.5nm,0.3s,baz=266,slow=9.4,SNR=36
NRIK Noril'sk 48.77 26 P **P 21 07 54.7 -0.6**
comp=Z,2.2nm,0.4s,baz=227,slow=5.8,SNR=4.9
NRIK Noril'sk 48.77 26 *i* P **P 21 07 54.4 -0.9**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
DGZ Jazzator, Alta 48.95 52 *i* P **P 21 07 55.7 -1.4**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 50.34 59 *e*P **P 21 08 08.7 +1.0**
LSZ Lusaka 50.95 172 P **P 21 08 13.4 +0.9**
comp=Z,0.8nm,0.5s,baz=4.9,slow=5.9,SNR=1.7
GTA Gaotai 60.35 61 ⇑P **P 21 09 19.4 -0.6**
GTA pP pP 21 09 29.4 +0.2
GTA sP sP 21 09 33.3 +0.3
GTA S **S 21 17 27.5 -4.9**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,190nm,7.1s
SCHQ Schefferville 60.95 319 P **P 21 09 23.9 +0.4**
comp=Z,2.7nm,0.4s,baz=38,slow=12,SNR=2.0
SONM Songino Array 61.49 50 P **P 21 09 26.7 -0.8**
comp=Z,3.0nm,0.9s,baz=283,slow=8.7,SNR=7.1
ULN Ulaanbaatar 61.89 50 *i* P **P 21 09 29.4 -0.9**
ULN pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 63.93 176 P **P 21 09 44.5 +0.7**
comp=Z,3.9nm,1.0s,baz=13,slow=7.3,SNR=2.4
LZH Lanzhou 64.65 63 *e*P **P 21 09 48.3 -0.4**
LZH pP pP 21 09 55.2 -2.9
LZH sP sP 21 09 58.9 -2.9
LZH pmax pmax
comp=Z,13nm,1.2s
YAK Yakutsk 66.98 29 P **P 21 10 02.8 -0.2**
comp=Z,3.5nm,0.3s,baz=355,slow=1.0,SNR=2.3
YAK Yakutsk 66.98 29 *e*P **P 21 10 02.3 -0.7**
YAK pmax pmax
comp=Z,15nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.5s
CD2 Chengdu 66.98 68 *e*P **P 21 10 04.0 +0.3**
HHC Hu-ho-hao-te 67.84 55 *e*P **P 21 10 09.9 +0.8**
HHC pmax pmax
comp=E,11nm,0.9s
HHC pmax pmax
comp=E,210nm,7.6s
CMAR Chiang Mai Arr 69.44 82 P **P 21 10 18.6 -0.6**
comp=E,1.5nm,0.7s,baz=302,slow=7.1,SNR=12
SEY Seymchan 74.27 21 *i* P **P 21 10 47.3 -0.2**
YKA Yellowknife Ar 76.12 341 P **P 21 10 59.4 +1.3**
comp=E,1.2nm,0.8s,baz=48,slow=5.9,SNR=2.0
NJ2 Nanjing 77.42 60 *e*P **P 21 11 04.2 -1.8**
NJ2 pmax pmax
comp=E,10.0nm,0.6s
PSI Prapat 78.11 95 P **P 21 11 10.2 0.0**

comp=E,4.4nm,0.8s,baz=360,slow=19,SNR=3.0
RPSI Rantau Prapat 78.17 95 P **P** **21 11 10.2 -0.2**
USRK Ussuriysk Ar. 78.61 43 P **P** **21 11 11.9 -0.5**
comp=E,2.1nm,0.7s,baz=299,slow=4.3,SNR=6.1
ILAR Eielson Array 79.58 355 P **P** **21 11 18.2 +0.9**
comp=E,1.4nm,1.0s,baz=350,slow=3.5,SNR=1.4
KSRS Korea Array 80.34 51 P **P** **21 11 22.4 +0.4**
comp=E,1.4nm,0.4s,baz=306,slow=4.4,SNR=6.9
MJAR Matsushiro Arr 87.21 46 P **P** **21 11 57.2 +0.1**
comp=E,0.9nm,0.7s,baz=319,slow=4.7,SNR=4.0
NVAR Mina Array Bea 97.53 329 LR LR 21 59 11.6
comp=E,154nm,20.2s,baz=42,slow=37
WRA Warramunga Arr 119.56 94 PKP **PKiKP** **21 18 01.7 +0.9**
comp=E,0.5nm,1.0s,baz=314,slow=2.0,SNR=2.6
ASAR Alice Springs 121.03 98 PKP **PKiKP** **21 18 04.3 +0.7**
comp=E,0.4nm,0.7s,baz=275,slow=2.5,SNR=4.4

IDC 12 21:02:11.6±3.0, 5°.56S×152°.54E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/43, mbtmp3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/14, Error ellipse: s-maj=69.8km s-min=16.3km az=84.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.34**	**337**	Pg	Pb	21 02 37.8	+0.1
	144nm,0.3s,baz=180,slow=20,SNR=13						
KRVT				Lg	Lg	21 02 54.9	
	186nm,0.3s,baz=214,slow=21,SNR=6.0						
WRA	**Warramunga Arr**	**22.76**	**229**	P	P	21 07 16.0	+0.3
	0.7nm,0.7s,baz=50,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**25.42**	**223**	P	P	21 07 41.5	+0.2
	0.3nm,0.5s,baz=59,slow=9.5,SNR=2.3						
RAO	**Raoul Island**	**36.53**	**134**	LR	LR	21 21 28.2	
	comp=Z,187nm,19.2s,baz=142,slow=32						
TORD	**Torodi Ar. Bea**	**150.29**	**287**	PKPbc	PKPbc	21 22 04.4	-1.6
	0.4nm,0.9s,baz=94,slow=2.4,SNR=1.4						

*VIE **12** 21:17:35.5±0.9, 46°.45N×16°.70E, h12km, mb1.2/1, ml1.6/3, Error ellipse: s-maj=6.4km s-min=4.3km az=97.0 32 km ENE of Varazdin*
*BUD **12** 21:17:35.3, 46°.40N×16°.70E, h10km±2km, ML1.3/1*
*LJU **12** 21:17:35.9, 46°.34N×16°.68E, h15km, ML1.4*
KRSZO 12 21:17:35.7±1.0, 46°.38N×16°.70E, h16km±9km, ML1.3, 3D, Error ellipse: s-maj=9.4km s-min=5.6km az=165.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOGS	**Kog**	**0.32**	**283**	⇓*i* Pg	Pg	21 17 42.5	0.0
KOGS				⇓*e* Sg	Sb	21 17 47.9	-0.1
KOGS	**Kog**	**0.32**	**283**	⇓*i* Pg	Pg	21 17 42.5	0.0
KOGS				*e* Sg	Sb	21 17 47.9	-0.1
	comp=Z,21nm,0.2s						
KOGS	**Kog**	**0.32**	**283**	Pg	Pg	21 17 42.5	0.0
KOGS				*e* Lg	Lg	21 17 47.9	
GOLS	**Golise**	**0.83**	**244**	*e* Pg	Pg	21 17 51.9	0.0
GOLS	**Golise**	**0.83**	**244**	*e* Pg	Pg	21 17 51.9	0.0
GOLS	**Golise**	**0.83**	**244**	*e* Pg	Pg	21 17 51.9	0.0
GROS	**Grobnik**	**0.83**	**276**	*i* Pg	Pb	21 17 51.9	0.0
GROS				*e* Sg	Sn	21 18 04.5	-0.4
GROS	**Grobnik**	**0.83**	**276**	*i* Pg	Pb	21 17 51.9	0.0
GROS				*i*		21 17 55.1	
GROS				*e* Sg	Sn	21 18 04.5	-0.4
GROS				*i*		21 18 10.7	
GROS	**Grobnik**	**0.83**	**276**	Pn	Pb	21 17 51.9	0.0
GROS				*e* Lg	Lg	21 18 04.5	
DOBS	**Dobrina**	**0.88**	**256**	*i* Pg	Pb	21 17 52.6	-0.1
DOBS				*e* Sg	Sn	21 18 05.3	-0.7
DOBS	**Dobrina**	**0.88**	**256**	*i* Pg	Pb	21 17 52.6	-0.1
DOBS				*e* Sg	Sg	21 18 05.3	+0.7
	comp=Z,6.0nm,0.1s						
DOBS	**Dobrina**	**0.88**	**256**	Pg	Pb	21 17 52.6	-0.1
DOBS				*e* Lg	Lg	21 18 05.3	
GCIS	**Gornji Cirnik**	**0.90**	**236**	*i* Pg	Pg	21 17 53.2	-0.1
GCIS	**Gornji Cirnik**	**0.90**	**236**	*i* Pg	Pg	21 17 53.1	-0.1
GCIS	**Gornji Cirnik**	**0.90**	**236**	Pg	Pg	21 17 53.1	-0.1
TIH	**Tihany**	**0.97**	**57**	*e*P*	Pn	21 17 55.6	+0.9
TIH				*e*S*	Sb	21 18 06.9	+0.1
TIH	**Tihany**	**0.97**	**57**	*e*Pb	Pn	21 17 55.6	+0.9
TIH				*e*Sb	Sb	21 18 06.9	+0.1
CRES	**Cresnjev**	**1.03**	**238**	*e*Pn	Pb	21 17 55.1	0.0
CRES	**Cresnjev**	**1.03**	**238**	*e*Pg	Pb	21 17 55.1	-0.1
CRES	**Cresnjev**	**1.03**	**238**	*e*Pn	Pb	21 17 55.1	-0.1
LEGS	**Legarje**	**1.05**	**247**	*i* Pn	Pn	21 17 55.8	0.0
LEGS	**Legarje**	**1.05**	**247**	*i* Pg	Pn	21 17 55.8	0.0
LEGS	**Legarje**	**1.05**	**247**	Pg	Pn	21 17 55.8	0.0
PERS	**Pernice**	**1.12**	**284**	*i* Pn	Pb	21 17 56.8	0.0
PERS	**Pernice**	**1.12**	**284**	*i* Pg	Pb	21 17 56.8	-0.1
PERS	**Pernice**	**1.12**	**284**	Pg	Pb	21 17 56.8	-0.1
EGYH	**Egyhazaskeszo**	**1.13**	**22**	*e*Sn	Sg	21 18 12.2	0.0
SOKA	**Soboth**	**1.19**	**285**	Pn	Pn	21 17 57.2	-0.6
SOKA				Sn	Sn	21 18 13.5	-0.2
SOKA	**Soboth**	**1.19**	**285**	Pg	Pn	21 17 57.2	-0.7
	comp=Z,0.4nm,0.3s						
SOKA				Sg	Sn	21 18 13.5	-0.2
	comp=Z,1.2nm,0.2s						
SOKA	**Soboth**	**1.19**	**285**	Pn	Pn	21 17 57.1	-0.7
SOKA				Sn	Sn	21 18 13.5	-0.2
ARSA	**Arzberg**	**1.19**	**318**	Pn	Pn	21 17 56.5	-1.3
ARSA				Sn	Sn	21 18 13.7	+0.1
ARSA	**Arzberg**	**1.19**	**318**	Pg	Pn	21 17 56.5	-1.3
	comp=Z,0.2nm,0.2s						
ARSA				Sg	Sn	21 18 13.7	+0.1
	comp=Z,1.7nm,0.3s						
ARSA	**Arzberg**	**1.19**	**318**	Pn	Pn	21 17 56.5	-1.3
ARSA				Sn	Sn	21 18 13.7	+0.1
PDKS	**Podkum**	**1.22**	**256**	*e*Pn	Pb	21 17 58.6	+0.1
PDKS	**Podkum**	**1.22**	**256**	*e*Pg	Pb	21 17 58.6	+0.1
PDKS	**Podkum**	**1.22**	**256**	*e*Pg	Pb	21 17 58.6	+0.1
MORH	**Mrgy, Hungar**	**1.36**	**96**	*e*Sn	Sg	21 18 18.9	-0.6
MORH	**Mrgy, Hungar**	**1.36**	**96**	*e*Sg	Sg	21 18 18.9	-0.6
VNDS	**Vrh nad Dolski**	**1.42**	**260**	*i* Pn	Pg	21 18 02.4	-0.6
VNDS	**Vrh nad Dolski**	**1.42**	**260**	*i* Pg	Pb	21 18 02.4	+0.6
	comp=Z,2.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**1.42**	**260**	Pg	Pb	21 18 02.4	+0.6
OBKA	**Obir**	**1.49**	**276**	Pn	Pn	21 18 01.8	-0.2
OBKA				Sn	Sg	21 18 24.5	+0.6
OBKA	**Obir**	**1.49**	**276**	Pn	Pn	21 18 01.8	-0.2
	comp=Z,0.2nm,0.2s						
OBKA				Sg	Sg	21 18 24.5	+0.6
	comp=Z,2.7nm,0.3s						
OBKA	**Obir**	**1.49**	**276**	Pn	Pn	21 18 01.8	-0.2
OBKA				Lg	Lg	21 18 24.5	

*VIE **12** 21:18:11.9±0.7, 46°.47N×16°.74E, h13km±10km, mb1.6/2, ml1.9/3, Error ellipse: s-maj=5.3km s-min=3.4km az=105.0 36 km ENE of Varazdin*
*BUD **12** 21:18:12.5, 46°.39N×16°.74E, h10km±2km, ML1.8/1*
*LJU **12** 21:18:13.2, 46°.36N×16°.72E, h15km, ML1.8*
KRSZO 12 21:18:12.6±1.2, 46°.39N×16°.75E, h14km±12km, ML1.8, Error ellipse: s-maj=8.0km s-min=3.7km az=154.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOGS	**Kog**	**0.35**	**280**	*i* Pg	Pg	21 18 20.0	+0.3
KOGS				*i* Sg	Sb	21 18 25.4	-0.6
KOGS	**Kog**	**0.35**	**280**	*i* Pg	Pg	21 18 20.0	+0.3
KOGS				*i* Sg	Sb	21 18 25.4	-0.6
	comp=Z,25nm,0.1s						
KOGS	**Kog**	**0.35**	**280**	Pg	Pg	21 18 20.0	+0.3
KOGS				Lg	Lg	21 18 25.4	
KOGS	**Kog**	**0.35**	**280**	Pg	Pg	21 18 20.0	+0.3
KOGS				Pg	Pb	21 18 20.2	-0.4
KOGS				Sb	Sb	21 18 25.4	-0.6
KOGS				Sg	Sg	21 18 25.4	+0.9
GOLS	**Golise**	**0.87**	**245**	*i* Pg	Pg	21 18 29.4	0.0
GOLS				*i* Sg	Sn	21 18 42.7	-0.2
GOLS	**Golise**	**0.87**	**245**	*i* Pg	Pb	21 18 29.4	0.0
GOLS				*i* Sg	Sn	21 18 42.7	-0.2
	comp=Z,27nm,0.1s						
GOLS	**Golise**	**0.87**	**245**	Pg	Pb	21 18 29.4	0.0
GOLS				Lg	Lg	21 18 42.7	
GOLS	**Golise**	**0.87**	**245**	Pn	Pg	21 18 29.4	0.0
GOLS				Pb	Pb	21 18 29.4	0.0
GOLS				Sn	Sn	21 18 42.7	-0.2
GOLS				Sb	Sb	21 18 42.7	+1.8
DOBS	**Dobrina**	**0.92**	**255**	*i* Pg	Pb	21 18 30.2	-0.1
DOBS	**Dobrina**	**0.92**	**255**	*i* Pg	Pb	21 18 30.2	-0.1
	comp=Z,17nm,0.1s						
DOBS	**Dobrina**	**0.92**	**255**	Pg	Pb	21 18 30.2	-0.1
DOBS	**Dobrina**	**0.92**	**255**	Pn	Pb	21 18 30.2	-0.1
DOBS				Pn	Pb	21 18 30.2	-0.1
GCIS	**Gornji Cirnik**	**0.94**	**237**	*i* P*	Pb	21 18 30.5	-0.1
GCIS	**Gornji Cirnik**	**0.94**	**237**	*i* Pg	Pb	21 18 30.4	-0.2
	comp=Z,14nm,0.2s						
GCIS	**Gornji Cirnik**	**0.94**	**237**	Pg	Pb	21 18 30.4	-0.2
GCIS	**Gornji Cirnik**	**0.94**	**237**	Pn	Pb	21 18 30.4	-0.2
GCIS				Pb	Pg	21 18 30.5	-0.2
TIH	**Tihany**	**0.94**	**57**	*e*P*	Pb	21 18 29.9	-0.7
TIH				*e*S*	Sn	21 18 44.7	+0.1
TIH	**Tihany**	**0.94**	**57**	*e*Pn	Pb	21 18 29.9	-0.7
TIH				*e*Lg	Lg	21 18 44.7	
TIH	**Tihany**	**0.94**	**57**	Pg	Pb	21 18 29.9	-0.7
TIH				Sn	Sn	21 18 44.7	+0.1
LEGS	**Legarje**	**1.09**	**247**	*i* Pn	Pb	21 18 33.2	0.0
LEGS	**Legarje**	**1.09**	**247**	*i* Pg	Pb	21 18 33.2	0.0
LEGS	**Legarje**	**1.09**	**247**	Pn	Pb	21 18 33.2	0.0
LEGS	**Legarje**	**1.09**	**247**	Pb	Pb	21 18 33.2	0.0
LEGS				Pb	Pb	21 18 33.2	0.0
EGYH	**Egyhazaskeszo**	**1.10**	**21**	*e*Pg	Pg	21 18 34.1	+0.3
EGYH				*e*Lg	Lg	21 18 49.7	
PERS	**Pernice**	**1.15**	**283**	*i* Pn	Pb	21 18 34.0	-0.3
PERS	**Pernice**	**1.15**	**283**	*i* Pg	Pb	21 18 34.0	-0.4
PERS	**Pernice**	**1.15**	**283**	Pn	Pb	21 18 34.0	-0.4
PERS	**Pernice**	**1.15**	**283**	Pb	Pb	21 18 34.0	-0.4
PERS				Pn	Pb	21 18 34.0	-0.4
ARSA	**Arzberg**	**1.21**	**316**	*e*Pn	Pn	21 18 35.0	-0.1
ARSA				*e*Sn	Sn	21 18 51.1	-0.1
ARSA	**Arzberg**	**1.21**	**316**	Pg	Pn	21 18 33.9	-1.1
	comp=Z,0.6nm,0.2s						
ARSA				Sg	Sn	21 18 51.1	-0.1
	comp=Z,3.5nm,0.3s						
ARSA	**Arzberg**	**1.21**	**316**	*e*Pn	Pn	21 18 35.0	0.0
ARSA				*e*Sn	Sn	21 18 51.1	-0.1
ARSA	**Arzberg**	**1.21**	**316**	Pg	Pn	21 18 35.0	-0.1
ARSA				Lg	Lg	21 18 51.1	
SOKA	**Soboth**	**1.22**	**284**	Pn	Pn	21 18 34.8	-0.5
SOKA				Sn	Sb	21 18 50.9	-0.2
SOKA	**Soboth**	**1.22**	**284**	*e*Pg	Pn	21 18 34.9	-0.5
	comp=Z,0.7nm,0.2s						
SOKA				*e*Sg	Sb	21 18 50.9	-0.2
	comp=Z,2.1nm,0.2s						
SOKA	**Soboth**	**1.22**	**284**	Pn	Pn	21 18 34.9	-0.5
SOKA				Sn	Sb	21 18 50.9	-0.3
SOKA	**Soboth**	**1.22**	**284**	Pg	Pn	21 18 34.8	-0.5
SOKA				Lg	Lg	21 18 50.9	
PDKS	**Podkum**	**1.26**	**256**	*i* Pn	Pg	21 18 36.5	-0.3
PDKS	**Podkum**	**1.26**	**256**	*i* Pg	Pg	21 18 36.5	-0.3
	comp=Z,5.0nm,0.1s						
PDKS	**Podkum**	**1.26**	**256**	Pg	Pg	21 18 36.5	-0.3
PDKS	**Podkum**	**1.26**	**256**	Pb	Pg	21 18 36.5	-0.3
PDKS				Pn	Pb	21 18 52.6	+0.4
SOP	**Sopron**	**1.30**	**354**	*e*Sn	Sb	21 18 52.6	-0.8
SOP	**Sopron**	**1.30**	**354**	Lg	Lg	21 18 52.6	
SOP	**Sopron**	**1.30**	**354**	*e*Sn	Sb	21 18 52.6	-0.8
MORH	**Mrgy, Hungar**	**1.32**	**97**	*e*Sn	Sg	21 18 57.0	+1.8
MORH	**Mrgy, Hungar**	**1.32**	**97**	*e*Lg	Lg	21 18 57.0	
MORH	**Mrgy, Hungar**	**1.32**	**97**	Lg	Lg	21 18 57.0	
CSKK	**Cskako**	**1.42**	**46**	*e*Pn	Pb	21 18 38.8	-0.1
CSKK				*e*Sn	Sg	21 18 59.7	+1.3
CSKK	**Cskako**	**1.42**	**46**	Pg	Pb	21 18 38.8	-0.1
CSKK				Lg	Lg	21 18 59.7	
CSKK	**Cskako**	**1.42**	**46**	*e*Pn	Pb	21 18 38.8	0.0
CSKK				*e*Lg	Lg	21 18 59.7	
VNDS	**Vrh nad Dolski**	**1.45**	**259**	*i* Pn	Pb	21 18 39.8	+0.4
VNDS	**Vrh nad Dolski**	**1.45**	**259**	*i* Pg	Pb	21 18 39.8	+0.4
	comp=Z,5.0nm,0.2s						
VNDS	**Vrh nad Dolski**	**1.45**	**259**	Pg	Pb	21 18 39.8	+0.4
VNDS	**Vrh nad Dolski**	**1.45**	**259**	Pg	Pb	21 18 39.8	+0.4
VNDS				Pg	Pb	21 18 39.8	+0.4
OBKA	**Obir**	**1.53**	**275**	Pn	Pb	21 18 41.0	+0.3
OBKA				Sn	Sg	21 19 01.6	-0.1
OBKA	**Obir**	**1.53**	**275**	Pg	Pb	21 18 41.0	+0.3
	comp=Z,0.6nm,0.1s						
OBKA				Sg	Sg	21 19 01.6	-0.1
	comp=Z,5.1nm,0.3s						
OBKA	**Obir**	**1.53**	**275**	Pg	Pb	21 18 41.0	+0.3
OBKA				Lg	Lg	21 19 01.6	
OBKA	**Obir**	**1.53**	**275**	Pg	Pb	21 18 41.0	+0.3
OBKA				Sg	Sg	21 19 01.6	-0.1

WEL 12 21:20:39.8, 44°S±1°×17°1E±°, h5km±3km, M2.1/8, mB4.8/1, ML2.1/7, MLv2.1/8, Mw(mB)4.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=123.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCSZ	**Gaunt Creek Bo**	**0.32**	**320**	P	Pb	21 20 47.8	-0.2
RPZ	**Rata Peaks**	**0.36**	**115**	P	Pb	21 20 48.4	-0.2
WVZ	**Waitaha Valley**	**0.50**	**11**	P	Pb	21 20 50.8	-0.2
ARCZ	**Arundel**	**0.56**	**133**	P	Pb	21 20 52.1	-0.1
FOZ	**Fox Glacier**	**0.58**	**273**	P	Pb	21 20 52.7	+0.3
MHCZ	**Mount Hutt**	**0.70**	**88**	P	Pb	21 20 54.9	+0.4
LBZ	**Lake Benmore**	**0.88**	**200**	P	Pb	21 20 57.6	+0.1
WACZ	**Wakanui South**	**0.97**	**113**	P	Pn	21 21 00.2	+0.2
OXZ	**Oxford**	**1.07**	**78**	P	Pn	21 21 01.7	+0.3
JCZ	**Jackson Bay**	**1.42**	**248**	P	Pg	21 21 08.0	+1.1
LTZ	**Lake Taylor**	**1.45**	**58**	P	Pg	21 21 09.0	+1.5
ODZ	**Otahua Downs**	**1.48**	**179**	P	Pb	21 21 07.6	-0.2
BFZ	**Birch Farm**	**5.08**	**57**	P	Pn	21 21 55.0	-1.6
ANWZ	**Angora Road**	**5.36**	**57**	P	Pn	21 22 01.1	+0.8

*REY **12** 21:23:13.7, 64°.67N×17°.53W, h9km*
*IDC **12** 21:23:15.7±0.6, 64°.64N×17°.40W, h0km, mb4.1/22, mb1 4.3/27, mb1mx4.2/41, mbtmp4.1/27, ML2.6/2, MS3.5/18, Ms1 3.5/18, ms1mx3.3/51, Error ellipse: s-maj=16.3km s-min=11.0km az=25.0*
*MOS **12** 21:23:15.1±1.2, 64°.63N×17°.58W, h10km, mb4.8/29, Error ellipse: s-maj=10.0km s-min=6.8km az=104.1*
*NEIC **12** 21:23:16.1±1.2, 64°.58N±0°.09×17°.8W±0°.1, h8km±4km, mb4.8/36, Error ellipse: s-maj=12.4km s-min=7.8km az=185.0*
ISC 12 21:23:15.4±0.7, 64°.62N±0°.03×17°.65W±0°.02, h3km±4km, n310, σ1?47/296, mb4.5/84, MS3.6/25, 21C-12D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.07**	**319**	P	**Pg**	**21 23 15.9**	**-1.0**
	baz=275						
IDYN	**Dyngjuhals**	**0.21**	**35**	P	**Pg**	**21 23 17.6**	**-1.9**
	baz=30						
IDJK	**Dyngjujokull**	**0.21**	**123**	P	**Pg**	**21 23 17.9**	**-1.7**
	baz=142						
IGRF	**Grimsfjall**	**0.27**	**142**	P	**Pg**	**21 23 20.2**	**-0.4**
	baz=156						
ISKR	**Skrokkalda**	**0.33**	**260**	P	**Pg**	**21 23 20.9**	**-0.8**
	baz=254						
IHUS	**Husbondi**	**0.33**	**181**	P	**Pg**	**21 23 20.7**	**-1.0**
	baz=188						
IJOK	**Jokulheimar**	**0.40**	**220**	P	**Pg**	**21 23 22.4**	**-0.7**
	baz=221						
IVOT	**Vottur**	**0.40**	**150**	P	**Pg**	**21 23 21.3**	**-1.9**
	baz=159						
IIEY	**Innrieyrar**	**0.57**	**202**	P	**Pg**	**21 23 25.1**	**-1.2**
	baz=204						
IKRE	**Kreppuhraun**	**0.57**	**73**	P	Pg	21 23 23.3	-3.0
	baz=76						
IASK	**Askja**	**0.61**	**44**	P	Pg	21 23 24.0	-3.1
	baz=44						
IASK				S	**Sg**	**21 23 32.0**	**-3.0**
	baz=44						
IMKO	**Mokollar**	**0.67**	**57**	P	Pg	21 23 23.8	-4.4
	baz=58						
IMKO				S	**Sg**	**21 23 33.7**	**-3.1**
	baz=58						
IKAL	**Kalfafell**	**0.68**	**182**	P	**Pg**	**21 23 26.4**	**-2.0**
	baz=185						
IKSK	**Karasker**	**0.69**	**132**	P	Pg	21 23 25.1	-3.5
	baz=137						
IVAT	**Vatnsfell**	**0.70**	**232**	P	**Pg**	**21 23 27.8**	**-1.1**
	baz=232						
ISVA	**Svartarkot**	**0.74**	**13**	P	Pg	21 23 25.5	-4.1
	baz=9.8						
IVSH	**V-Sauoahnukur**	**0.84**	**76**	P	Pg	21 23 26.6	-5.0
	baz=79						
IVSH				S	**Sg**	**21 23 38.5**	**-4.1**
	baz=79						
IHVE	**Hveravellir**	**0.86**	**288**	P	**Pg**	**21 23 29.9**	**-2.0**
	baz=284						
IADA	**Aoalbol**	**0.97**	**65**	P	Pg	21 23 28.6	-5.4
	baz=66						
ISNB	**Snabyli**	**0.99**	**206**	P	**Pg**	**21 23 32.6**	**-1.7**
	baz=208						
ISLY	**Slysaalda**	**1.03**	**219**	P	**Pg**	**21 23 32.9**	**-2.2**
	baz=220						
IMEL	**Melhnausar**	**1.04**	**23**	P	Pb	21 23 30.2	-5.9
	baz=22						
IFED	**Fedgar**	**1.07**	**237**	P	**Pg**	**21 23 34.0**	**-1.9**
	baz=237						
IREN	**Reynihlio**	**1.08**	**17**	P	Pb	21 23 30.9	-5.8
	baz=15						
IRJU	**Rjupnafell**	**1.10**	**205**	P	**Pg**	**21 23 34.3**	**-2.2**
	baz=206						
IMJO	**Mjoaskard**	**1.12**	**233**	P	**Pg**	**21 23 35.3**	**-1.6**
	baz=233						
IKVO	**Krokottuvotn**	**1.15**	**16**	P	Pb	21 23 32.0	-5.9
	baz=14						
IHAU	**Haukadalur**	**1.20**	**238**	P	**Pb**	**21 23 37.3**	**-1.6**
	baz=238						
IGRS	**Grimsstaoir**	**1.21**	**32**	P	Pn	21 23 32.9	-6.3
	baz=31						
ISKI	**Skildingahlsh**	**1.28**	**11**	P	Pn	21 23 34.4	-5.9
	baz=9.8						
IGHA	**Grjothals**	**1.30**	**18**	P	Pn	21 23 34.5	-6.0
	baz=17						
IGRA	**Granastaoir**	**1.30**	**1**	P	Pn	21 23 35.0	-5.6
	baz=359						
IALF	**Alftagrof**	**1.32**	**212**	P	**Pn**	**21 23 38.2**	**-2.5**
	baz=212						
IESK	**Eystri-Skogar**	**1.36**	**217**	P	**Pn**	**21 23 38.6**	**-2.6**
	baz=217						
ISAU	**Saurbar**	**1.36**	**244**	P	**Pn**	**21 23 38.6**	**-2.7**
	baz=243						
IHLA	**Hella**	**1.37**	**347**	P	Pn	21 23 36.5	-4.9
	baz=345						
IMID	**Miomork**	**1.38**	**226**	P	**Pn**	**21 23 40.3**	**-1.2**
	baz=227						
IHED	**Heoinshofoi**	**1.47**	**5**	P	Pn	21 23 37.7	-5.2
	baz=3.7						
IBRE	**Brettingsstaoi**	**1.51**	**356**	P	Pn	21 23 38.5	-4.9
	baz=354						
IGIL	**Gilhagi**	**1.56**	**20**	P	Pn	21 23 39.4	-4.6
	baz=19						
BORG	**Borgarnes**	**1.59**	**276**	Pn	**Pn**	**21 23 42.6**	**-1.8**
	15nm,0.3s,baz=102,slow=7.5,SNR=68						
BORG				Sn	**Sg**	**21 24 09.0**	**+2.6**
	25nm,0.3s,baz=31,slow=20,SNR=8.7						
BORG	**Borgarnes**	**1.59**	**276**		**Pn**	**21 23 43.1**	**-1.3**
BORG					**Sn**	**21 24 03.6**	**-1.8**
ISOL	**Solvholt**	**1.60**	**246**	P	**Pn**	**21 23 42.8**	**-1.7**
	baz=245						
IKRO	**Krokur**	**1.60**	**252**	P	**Pn**	**21 23 42.8**	**-1.8**
	baz=252						
ISIG	**Siglufjorour**	**1.61**	**341**	P	Pn	21 23 40.2	-4.5
	baz=339						
IHEI	**Heioarbar**	**1.61**	**256**	P	**Pn**	**21 23 43.3**	**-1.5**
	baz=255						
IBJA	**Bjarnastaoir**	**1.73**	**249**	P	**Pn**	**21 23 45.2**	**-1.2**
	baz=248						
ISAN	**Sandskeio**	**1.80**	**253**	P	**Pn**	**21 23 46.5**	**-0.8**
	baz=253						
IHRN	**Hraun**	**1.82**	**326**	P	**Pn**	**21 23 43.9**	**-3.7**
	baz=324						
IKUD	**Kuludalsa**	**1.86**	**263**	P	**Pn**	**21 23 46.6**	**-1.5**
	baz=262						
IKAS	**Kald??rsel**	**1.93**	**254**	P	**Pn**	**21 23 48.2**	**-0.9**
	baz=253						
JMIC	**Jan Mayen**	**7.26**	**24**	Pn	**Pn**	**21 25 02.3**	**0.0**
	baz=163,slow=14,SNR=2.6						
JMIC				LR	LR	21 26 57.1	
	comp=Z,124nm,20.5s,baz=264,slow=31						
DBG	**Daneborg**	**9.78**	**356**	*i* P	Pn	21 25 42.2	+5.5
SUMG	**Summit**	**10.95**	**326**	P	**Pn**	**21 25 51.1**	**-2.0**
SUMG	**Summit**	**10.95**	**326**	Pn	**Pn**	**21 25 51.1**	**-2.0**
SUMG	**Summit**	**10.95**	**326**	IAmb	IAmb	21 26 17.5	
	comp=Z,31nm,0.9s						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**21 26 03.8**	**-0.3**
	baz=331,slow=13,SNR=28						
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**21 26 03.8**	**-0.2**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**21 26 03.8**	**-0.2**
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P	**Pn**	**21 26 13.6**	**+3.5**
DAG				pmax	pmax		
	comp=Z,84nm,1.8s						
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P	**Pn**	**21 26 13.6**	**+3.5**
	comp=Z,84nm,1.8s						
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P	**Pn**	**21 26 13.6**	**+3.5**
DAG				IAmb	IAmb	21 26 16.7	
	comp=Z,84nm,1.8s						
NRS	**Narsarsuaq**	**13.07**	**267**	P	**Pn**	**21 26 18.5**	**-3.3**
NRS	**Narsarsuaq**	**13.07**	**267**	Pn	**Pn**	**21 26 18.4**	**-3.3**
NC204	**NORSAR Array S**	**13.29**	**92**	Pn	**Pn**	**21 26 21.8**

comp=E,163nm,9.3s
comp=Z,170nm,13.3s
BRG Berggiesshubel 21.45 115 i P P 21 28 04.2 -0.4
BRG S Sn 21 32 08.0 -2.5
BRG pmax pmax
comp=Z,55nm,1.4s
BRG MLR MLR
comp=N,185nm,11.0s
BRG MLR MLR
comp=E,163nm,9.3s
BRG MLR MLR
comp=Z,170nm,13.3s
BFO Black Forest 21.47 127 P P 21 28 02.2 -2.6
BFO pmax pmax
comp=Z,23nm,1.2s
BFO Black Forest 21.47 127 P P 21 28 02.2 -2.6
VSU Vasula 21.63 86 eP P 21 28 05.1 -1.3
VSU Vasula 21.63 86 i P P 21 28 07.6 +1.2
VSU pmax pmax
comp=Z,98nm,1.0s
FRB Frobisher Bay 21.71 291 LR LR 21 36 03.9
comp=Z,221nm,19.2s,baz=45,slow=35
PABE Paberze 22.27 94 eP P 21 28 13.8 +0.5
PRU Pruhonice 22.39 115 eP P 21 28 15.0 +0.4
PRU eS S 21 32 25.7 +4.8
PRU AMS AMS 21 41 20.0
comp=Z,200nm,13.3s
PRU Pruhonice 22.39 115 eP P 21 28 15.0 +0.4
PRU MLR MLR
comp=Z,200nm,13.3s
KSP Ksiaz 22.41 112 eP P 21 28 14.8 0.0
KSP epP pP 21 28 17.4 +1.4
CHVC Chvalec 22.51 112 eP P 21 28 15.8 -0.1
GOPC GO Pecny, Ondr 22.54 115 eP P 21 28 16.6 +0.3
GOPC eS S 21 32 28.4 +4.5
GOPC AMS AMS 21 40 20.0
comp=Z,200nm,10.0s
GOPC GO Pecny, Ondr 22.54 115 eP P 21 28 16.6 +0.3
GOPC MLR MLR
comp=Z,200nm,10.0s
UPC Upice 22.55 113 eP P 21 28 17.8 +1.4
UPC eS Sn 21 32 37.3 +0.4
UPC Upice 22.55 113 eP P 21 28 17.8 +1.4
OSTC Ostas 22.60 112 eP P 21 28 16.6 -0.3
KHC Kasperske Hory 22.71 118 eP P 21 28 18.0 -0.1
KHC eS S 21 32 30.0 +3.0
KHC AMS AMS 21 40 20.0
comp=Z,200nm,11.7s
KHC Kasperske Hory 22.71 118 eP P 21 28 18.0 -0.1
KHC eS S 21 32 30.0 +3.0
KHC MLR MLR
comp=Z,200nm,11.7s
KHC Kasperske Hory 22.71 118 P P 21 28 16.4 -1.6
DPC Dobruska-Polom 22.80 113 eP P 21 28 19.4 +0.3
DPC AMS AMS 21 39 40.0
comp=Z,100nm,15.0s
DPC Dobruska-Polom 22.80 113 eP P 21 28 19.4 +0.3
DPC MLR MLR
comp=Z,100nm,15.0s
DAVA Damuels 22.91 126 eP P 21 28 22.8 +2.6
comp=Z,14nm,1.2s
SUW Suwalki 22.94 98 eP P 21 28 19.9 -0.5
SUW Suwalki 22.94 98 P P 21 28 19.8 -0.6
SUW pmax pmax
comp=Z,40nm,1.2s
SUW Suwalki 22.94 98 P P 21 28 19.8 -0.6
SUW IAmb IAmb 21 28 29.9
comp=Z,40nm,1.2s
GEC2 GERESS Array S 22.99 118 P P 21 28 20.5 -0.6
GEC2 IAmb IAmb 21 28 30.7
comp=Z,53nm,1.6s
GERES GERESS Array B 22.99 118 P P 21 28 21.6 +0.5
comp=Z,3.1nm,0.9s,baz=322,slow=8.5,SNR=15
GERES GERESS Array B 22.99 118 P P 21 28 20.6 -0.5
GERES GERESS Array B 22.99 118 P P 21 28 20.6 -0.5
RETA Reutte 23.04 124 eP P 21 28 24.0 +2.3
comp=Z,8.2nm,1.2s
IZAR Zarasai 23.09 92 eP P 21 28 20.9 -1.1
ISAL Salakas 23.15 92 eP P 21 28 22.6 0.0
KRLC Kraliky 23.20 112 eP P 21 28 23.3 +0.1
KRLC AMS AMS 21 40 30.0
comp=Z,100nm,12.7s
KRLC Kraliky 23.20 112 eP P 21 28 23.3 +0.1
KRLC MLR MLR
comp=Z,100nm,12.7s
MOTA Moosalm 23.29 124 eP P 21 28 26.1 +1.9
comp=Z,25nm,2.4s
TREC Trest 23.31 115 AMS AMS 21 39 30.0
comp=Z,200nm,13.9s
DAVOX Davos/Dischmat 23.34 127 P P 21 28 24.6 -0.2
comp=Z,5.1nm,0.9s,baz=315,slow=13,SNR=6.7
DAVOX LR LR 21 36 37.4
comp=Z,96nm,21.8s,baz=64,slow=34
IIGN Ignalina 23.34 93 eP P 21 28 24.6 +0.1
TUE Stuetta 23.43 128 P P 21 28 24.8 -0.9
FETA Feichten 23.43 125 eP P 21 28 27.9 +2.2
comp=Z,6.8nm,1.1s
SQTA Sankt Quirin 23.43 124 eP P 21 28 26.5 +0.8
comp=Z,11nm,1.1s
WATA Walderalm 23.46 123 eP P 21 28 27.4 +1.4
comp=Z,11nm,1.3s,SNR=9.1
BEL Belsk 23.49 105 eP P 21 28 26.8 +0.8
WTTA Wattenberg 23.55 123 eP P 21 28 28.6 +1.8
comp=Z,14nm,1.4s,SNR=5.4
IDID Didziasalis 23.59 92 eP P 21 28 27.0 0.0
FUORN Ofenpass-Fuorn 23.61 126 P P 21 28 25.4 -2.2
EUNU Eureka 23.69 336 P P 21 28 27.0 -0.8
EUNU IAmb IAmb 21 28 37.6
comp=Z,31nm,1.2s
VRAC Vranov 23.73 114 P P 21 28 28.9 +0.4
comp=Z,3.1nm,1.0s,baz=329,slow=12,SNR=13
VRAC LR LR 21 37 48.8
comp=Z,115nm,21.2s,baz=326,slow=37
VRAC Vranov 23.73 114 ⇑P P 21 28 29.8 +1.3
VRAC Vranov 23.73 114 eP P 21 28 29.0 +0.5
MORC Moravsky Berou 23.74 112 eP P 21 28 28.8 +0.2
MORC Moravsky Berou 23.74 112 P P 21 28 29.0 +0.4
MORC pmax pmax
comp=Z,73nm,1.8s
MORC Moravsky Berou 23.74 112 P P 21 28 29.0 +0.4
MORC IAmb IAmb 21 28 32.1
comp=Z,73nm,1.8s
KRUC Moravsky 23.85 114 eP P 21 28 29.8 +0.2
NACGM Naroch 23.88 93 e P 21 28 28.0 -1.8
MOA Molln 24.02 119 eP P 21 28 31.3 0.0
comp=Z,9.3nm,1.5s
ABTA Abfaltersbach 24.30 123 eP P 21 28 34.6 +0.7
comp=Z,9.2nm,1.4s
OJC Ojcow 24.31 108 eP P 21 28 34.8 +0.9
OJC Ojcow 24.31 108 P P 21 28 34.2 +0.4
OJC pmax pmax
comp=Z,33nm,1.7s
OJC Ojcow 24.31 108 P P 21 28 34.2 +0.4
OJC IAmb IAmb 21 28 49.9
comp=Z,33nm,1.7s
KBA Koelnbreinsper 24.32 121 eP P 21 28 35.6 +1.4
comp=Z,9.0nm,1.6s
JAVC Velka Javorina 24.52 113 eP P 21 28 37.5 +1.6
CONA Conrad Observa 24.57 117 eP P 21 28 36.5 +0.1
comp=Z,5.8nm,1.0s,SNR=6.1
CTI Castel Tesino 24.59 125 P P 21 28 36.7 +0.1
CTI pmax pmax
comp=Z,24nm,1.2s
CTI Castel Tesino 24.59 125 P P 21 28 36.7 +0.1
CTI IAmb IAmb 21 28 42.0
comp=Z,24nm,1.2s
MICGM Minsk 24.62 93 e P 21 28 39.0 +2.3
MNK Minsk 24.62 93 eP P 21 28 39.0 +2.3
ZOU Zoufplan 24.63 123 P P 21 28 37.1 0.0
CIMO Cimolais 24.65 124 P P 21 28 37.3 +0.3
SMOL Smolenice 24.70 114 eP P 21 28 38.2 +0.8
SMOL pmax pmax
comp=Z,127nm,3.2s
SMOL Smolenice 24.70 114 eP P 21 28 38.2 +0.8
MODS Modra-Piesok 24.75 114 eP P 21 28 39.1 +1.1
MODS pmax pmax
comp=Z,39nm,1.6s
MODS Modra-Piesok 24.75 114 eP P 21 28 39.1 +1.1
MYKA Terra Mystica 24.81 121 eP P 21 28 39.7 +1.2
comp=Z,7.2nm,1.1s
PRED Cave del Predi 24.94 122 P P 21 28 40.0 +0.3
PRED IAmb IAmb 21 28 48.6
comp=Z,32nm,1.5s
LANS Liptovska Anna 25.01 110 eP P 21 28 41.3 +1.1
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 25.01 110 eP P 21 28 41.3 +1.1
NIE Niedzica 25.13 109 eP P 21 28 41.2 -0.2
OBKA Obir 25.25 120 eP P 21 28 43.6 +1.1
comp=Z,7.5nm,1.5s
VYHS Vyhne 25.27 112 eP P 21 28 42.9 +0.3
VYHS pmax pmax
comp=Z,40nm,1.9s
VYHS Vyhne 25.27 112 eP P 21 28 42.9 +0.3
SOKA Soboth 25.29 120 eP P 21 28 43.0 +0.1
comp=Z,10nm,1.4s
SRO Srobarova 25.61 114 eP P 21 28 46.8 +1.1
SRO Srobarova 25.61 114 eP P 21 28 46.8 +1.1
KLMR Klimovskoe 25.68 72 eP P 21 28 44.4 -1.7
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR Klimovskoe 25.68 72 eP P 21 28 44.4 -1.7
KLMR AMP 21 28 48.6
comp=Z,33nm,1.4s
KWP Kalwaria Pacla 25.96 106 eP P 21 28 49.7 +0.9
SCHQ Schefferville 25.98 271 P P 21 28 50.9 +1.9
comp=Z,5.2nm,0.8s,baz=26,slow=7.8,SNR=4.3
SCHQ LR LR 21 37 57.6
comp=Z,149nm,19.2s,baz=78,slow=34
SCHQ Schefferville 25.98 271 P P 21 28 48.7 -0.3
SCHQ IAmb IAmb 21 29 00.1
comp=Z,20nm,1.3s
CRVS Cervenica-Dubn 26.01 108 eP P 21 28 51.1 +1.8
CRVS pmax pmax
comp=Z,54nm,1.8s
CRVS Cervenica-Dubn 26.01 108 eP P 21 28 51.1 +1.8
PSZ Piszkesteto 26.16 112 ⇓P P 21 28 52.1 +1.3
PSZ Piszkesteto 26.16 112 P P 21 28 51.1 +0.3
PSZ pmax pmax
comp=Z,78nm,1.8s
PSZ Piszkesteto 26.16 112 P P 21 28 51.1 +0.3
ESDC Sonseca Array 26.24 156 P P 21 28 52.5 +1.0
comp=Z,2.6nm,0.9s,baz=347,slow=9.3,SNR=9.7
ESDC Sonseca Array 26.24 156 P P 21 28 51.3 -0.2
KOLS Kolonicke sedl 26.32 107 eP P 21 28 51.4 -0.7
KOLS pmax pmax
comp=Z,34nm,1.6s
KOLS Kolonicke sedl 26.32 107 eP P 21 28 51.4 -0.7
LVV L'vov 26.36 104 eP P 21 28 54.1 +1.6
RES Resolute Bay 26.47 324 LR LR 21 39 40.6
comp=Z,40nm,21.9s,baz=312,slow=37
UZH Uzhgorod 26.57 108 eP P 21 28 53.6 -0.7
UZH i 21 28 55.3
UZH i 21 28 58.9
PRGR Permogore 27.70 67 eP P 21 29 05.5 +1.1
PRGR pmax pmax
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 27.90 97 P P 21 29 04.9 -1.4
comp=Z,1.8nm,0.8s,baz=322,slow=9.7,SNR=11
AKASG LR LR 21 40 16.7
comp=Z,70nm,21.5s,baz=285,slow=37
AKASG Malin Array Be 27.90 97ceP P 21 29 04.9 -1.4
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 27.90 97ceP P 21 29 05.6 -0.6
AKBB Malin Array Si 27.90 97 P P 21 29 06.9 +0.7
AKBB IAmb IAmb 21 29 08.7
comp=Z,18nm,1.6s
OBN Obninsk 27.95 84 P P 21 29 06.6 0.0
comp=Z,1.9nm,0.5s,baz=289,slow=18,SNR=6.7
OBN Obninsk 27.95 84ceP P 21 29 06.1 -0.5
OBN pmax pmax
comp=Z,39nm,1.7s
OBN Obninsk 27.95 84 P P 21 29 07.3 +0.7
OBN IAmb IAmb 21 29 09.2
comp=Z,25nm,1.2s
MOS Moscow 27.99 82 eP P 21 29 07.2 +0.2
MOS e 21 29 52.0
BUR08 Bucovina Ar. S 28.54 106 P P 21 29 12.6 +0.4
BURAR Bucovina Array 28.57 106 P P 21 29 12.7 +0.3
CJR Cluj-Napoca 28.63 109 ⇑P P 21 29 13.4 +0.6
BZS Buzias 28.72 112 ⇑P P 21 29 14.5 +0.9
GZR Gura Zlata 29.37 111 ⇑P P 21 29 20.6 +1.2
BIZ Bicaz 29.48 106 ⇑P P 21 29 21.9 +1.5
HERR Herculane 29.65 112 ⇓P P 21 29 22.9 +1.0
DOPR Dopca 29.96 108 ⇓P P 21 29 26.2 +1.6
VOIR 30.25 109 ⇓P P 21 29 28.2 +0.9
PDG Podgorica 30.49 119 ⇓P P 21 29 28.8 -0.4
PLOR Plostina 30.58 106 ⇑P P 21 29 31.6 +1.5
MLR Muntele Rosu 30.58 108 ⇓P P 21 29 31.1 +0.9
MLR Muntele Rosu 30.58 108 P P 21 29 30.5 +0.3
MLR pmax pmax
comp=Z,36nm,1.9s
MLR Muntele Rosu 30.58 108 P P 21 29 30.5 +0.3
MLR IAmb IAmb 21 29 35.3
comp=Z,36nm,1.9s
VRI Vrincioaia 30.59 106 ⇓P P 21 29 31.9 +1.7
MILM Milestii Mici 30.63 103 ⇑P P 21 29 31.2 +0.7
LPSR Galich'ya Gora 30.70 86 eP P 21 29 29.7 -1.3
LPSR pmax pmax
comp=Z,6.0nm,1.0s
NEHR Nehoiu 30.77 107 ⇑P P 21 29 33.0 +1.2
BISRR Bisoca 30.84 107 ⇓P P 21 29 34.5 +2.0
KIRV Kirov 31.06 69 LR LR 21 41 53.9
comp=Z,108nm,20.5s,baz=298,slow=36
KIRV Kirov 31.06 69ceP P 21 29 32.7 -1.4
MATE Matera 31.10 124 ⇓P P 21 29 35.2 +0.5
CFR Carcaliu 31.73 105 ⇓P P 21 29 41.9 +1.7
VSR Storozhevoye 31.80 87 eP P 21 29 41.6 +0.9
VSR pmax pmax
comp=Z,20nm,1.3s
VRH Novokhopyorsk 32.91 85 eP P 21 29 49.4 -1.0
VRH pmax pmax
comp=Z,20nm,1.5s
BELG Belogornoye 34.56 79 i P P 21 30 03.4 -1.4
ARU Arti 36.16 66 LR LR 21 44 30.3
comp=Z,174nm,21.4s,baz=316,slow=35
ARU Arti 36.16 66d iP P 21 30 17.8 -0.7
ARU 21 31 35.9
ARU S S 21 36 01.3 +2.7
ARU SS SnSn 21 38 25.4 +2.2
ARU pmax pmax
comp=Z,13nm,1.6s
NRIK Noril'sk 36.53 35 P P 21 30 22.7 +1.1
comp=Z,3.6nm,0.9s,baz=320,slow=4.4,SNR=5.4
NRIK Noril'sk 36.53 35ceP P 21 30 20.0 -1.6
NRIK pmax pmax
comp=Z,5.0nm,1.1s
SVE Sverdlovsk 36.69 64 eP P 21 30 22.5 -0.6
SVE pmax pmax
comp=Z,12nm,1.5s
GOF Gofitskoye 38.18 91⇑eP P 21 30 38.6 +2.8
GOF pmax pmax
comp=Z,64nm,1.1s
BRTR Keskin Array B 38.53 105 P P 21 30 39.5 +0.6
comp=Z,1.6nm,0.8s,baz=287,slow=6.3,SNR=7.6
BRTR LR LR 21 46 51.7
comp=Z,32nm,19.9s,baz=310,slow=37
BRTR Keskin Array B 38.53 105 P P 21 30 39.3 +0.3
KIV Kislovodsk 38.90 92 eP P 21 30 42.6 +0.6
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,149nm,16.0s
SHA1 Shidzhatmaz 39.07 92 i P P 21 30 44.0 +0.4
KBZ Khabaz 39.18 92 P P 21 30 45.1 +1.0
comp=Z,4.6nm,0.9s,baz=304,slow=12,SNR=5.4
KBZ LR LR 21 47 15.8
comp=Z,93nm,21.0s,baz=350,slow=37
KBZ Khabaz 39.18 92 i P P 21 30 44.2 0.0
KBZ pmax pmax
comp=Z,10.0nm,1.3s
YKA Yellowknife Ar 39.20 313 P P 21 30 44.6 +0.5
comp=Z,2.1nm,0.9s,baz=49,slow=8.6,SNR=4.4
YKA LR LR 21 46 22.9
comp=Z,180nm,19.6s,baz=0.0,slow=35
AKTO Aktyubinsk 40.36 73 LR LR 21 47 31.3
comp=Z,149nm,20.3s,baz=320,slow=36
GROC Groznyy 40.85 90 eP P 21 30 57.1 -1.0
GROC e 21 32 54.6
GROC eS S 21 37 07.0 -2.6
GROC pmax pmax
comp=Z,30nm,1.4s
ABKAR Akbulak array 42.06 73 P P 21 31 07.5 -0.5
TIXI Tiksi 42.09 15ceP P 21 31 09.8 +1.9
TIXI pmax pmax
comp=Z,112nm,1.7s
BRVK Borovoye 43.21 62ceP P 21 31 16.3 -0.9
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 43.21 62 P P 21 31 18.0 +0.8
MARD Mardin 43.56 100 P P 21 31 20.8 +0.3
ILAR Eielson Array 45.70 332 P P 21 31 38.5 +1.5
comp=Z,2.7nm,1.1s,baz=29,slow=5.3,SNR=15
ILAR PcP PcP 21 33 15.6 +0.8
comp=Z,1.2nm,0.9s,baz=333,slow=2.6,SNR=6.4
ILAR LR LR 21 52 35.4
comp=Z,66nm,18.2s,baz=348,slow=38
ILAR Eielson Array 45.70 332 P P 21 31 37.5 +0.5
ILAR 21 33 15.4
ILAR Eielson Array 45.70 332 P P 21 31 37.5 +0.5
ILAR PcP 21 33 15.4 +0.6
BILL Bilibino 47.59 358 i P P 21 31 50.9 -0.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
ZAA0 Zalesovo Array 47.71 51 P P 21 31 52.4 -0.5
ZALV Zalesovo Beam 47.71 51 P P 21 31 52.3 -0.6
comp=Z,1.2nm,0.7s,baz=330,slow=5.3,SNR=7.0
ZALV Zalesovo Beam 47.71 51 i P P 21 31 53.0 +0.1
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 47.71 51 P P 21 31 52.6 -0.3
KURK Kurchatov 48.19 58ceP P 21 31 56.7 +0.1
KURK pmax pmax
comp=Z,19nm,1.7s
KURK Kurchatov 48.19 58 P P 21 31 56.5 -0.1
KURK IAmb IAmb 21 32 01.7
comp=Z,9.8nm,1.0s
GEYT Alibeck 50.49 83 P P 21 32 14.9 +0.4
comp=Z,2.1nm,0.7s,baz=305,slow=8.6,SNR=5.7
GEYT Alibeck 50.49 83 P P 21 32 15.1 +0.6
KKAR Karatay Array 51.35 70 P P 21 32 21.5 +0.7
KKAR Karatay Array 51.35 70 P P 21 32 21.5 +0.7
DGZ Jazzator, Alta 52.16 53 i P P 21 32 26.8 -0.1
DGZ pmax pmax
comp=Z,22nm,2.0s
SEY Seymchan 52.54 6 i P P 21 32 29.3 0.0
MK31 Makanchi Array 52.80 58 i P P 21 32 32.0 +0.4
MKAR Makanchi Array 52.80 58 P P 21 32 30.3 -1.3
comp=Z,2.6nm,1.0s,baz=324,slow=7.1,SNR=7.2
MKAR Makanchi Array 52.80 58 P P 21 32 30.9 -0.7
MKAR Makanchi Array 52.80 58 P P 21 32 30.9 -0.7
TORD Torodi Ar. Bea 53.12 156 P P 21 32 33.7 -0.5
comp=Z,3.0nm,1.1s,baz=338,slow=7.9,SNR=9.3
TORD Torodi Ar. Bea 53.12 156 P P 21 32 33.9 -0.3
PDAR Pinedale Array 53.14 293 P P 21 32 34.9 +0.5
comp=Z,3.1nm,0.8s,baz=46,slow=6.4,SNR=14
PDAR Pinedale Array 53.14 293 P P 21 32 33.7 -0.6
AAK Ala-Archa 53.34 67ceP P 21 32 36.7 +1.0
AAK pmax pmax
comp=Z,82nm,2.5s
BTK Batken 54.03 71 P P 21 32 41.4 +0.6
BTK pmax pmax
comp=Z,23nm,1.2s
BTK Batken 54.03 71 P P 21 32 41.4 +0.6
CHGR Chuyangaron 54.54 74 P P 21 32 45.0 +0.5
GAR Garm 54.72 73 P P 21 32 46.4 +0.6
MOY Mondy 54.74 42 eP P 21 32 47.6 +1.8
MOY pmax pmax
comp=Z,41nm,1.7s
TLY Talaya 55.48 40 LR LR 21 57 54.7
comp=Z,50nm,19.9s,baz=342,slow=38
ZAK Zakamensk 56.54 41 eP P 21 32 58.6 -0.1
ZAK pmax pmax
comp=Z,6.0nm,1.2s
WMQ Urumqi 57.31 56 eP P 21 33 07.8 +3.6
WMQ pP sP 21 33 09.8 +3.7
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,79nm,4.1s
ANMO Albuquerque 58.54 286 i P P 21 33 11.7 -1.4
ANMO pmax pmax
comp=Z,1.0nm,0.9s
DBIC Dimbokro 58.56 165 P P 21 33 13.0 -0.2
comp=Z,6.7nm,0.9s,baz=62,slow=15,SNR=3.0
DBIC Dimbokro 58.56 165 P P 21 33 13.0 -0.2
TIC Toumodi 58.57 165 eP P 21 33 13.0 -0.2
KIC Kosan Boka 58.88 165 eP P 21 33 14.9 -0.5
comp=Z,41nm,1.4s
LIC Lamto 58.98 165 eP P 21 33 15.6 -0.5
comp=Z,50nm,1.1s
SONM Songino Array 59.72 40 P P 21 33 20.6 -0.5
comp=Z,2.0nm,1.0s,baz=330,slow=5.1,SNR=9.7
SONM Songino Array 59.72 40 P P 21 33 21.6 +0.5
SONM pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 59.72 40 P P 21 33 21.6 +0.5
ULN Ulaanbaatar 59.87 40ceP P 21 33 22.1 0.0
ULN pmax pmax
comp=Z,26nm,2.5s
ULN Ulaanbaatar 59.87 40 P P 21 33 22.6 +0.5
ULN IAmb IAmb 21 33 26.2
comp=Z,12nm,1.3s
NVAR Mina Array Bea 60.27 297 P P 21 33 27.4 +2.4
comp=Z,0.6nm,0.8s,baz=64,slow=6.3,SNR=2.0
NIL Nilore 60.52 73 P P 21 33 26.6 0.0
NIL pmax pmax
comp=Z,18nm,1.1s
NIL Nilore 60.52 73 P P 21 33 26.6 0.0
TXAR Lajitas Array 62.23 280 P P 21 33 39.7 +1.4
comp=Z,0.9nm,0.8s,baz=49,slow=4.0,SNR=6.8
TXAR Lajitas Array 62.23 280 P P 21 33 38.1 -0.2
GTA Gaotai 65.38 49 eP P 21 33 59.2 +0.2
GTA pP sP 21 34 04.0 +3.2
GTA sP pP 21 34 06.2 +5.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,230nm,6.4s
GTA LR LR
comp=N,240nm,16.7s
GTA LR LR
comp=E,240nm,16.4s
GTA LR LR
comp=Z,190nm,16.4s
HHC Hu-ho-hao-te 67.59 39 eP P 21 34 15.2 +2.1
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,250nm,6.6s
LZH Lanzhou 69.71 47 eP P 21 34 29.6 +3.2
LZH pP sP 21 34 33.5 +5.2
LZH sP pP 21 34 35.6 +7.8
LZH pmax pmax
comp=Z,14nm,1.0s
NJ2 Nanjing 77.81 37 eP P 21 35 13.0 -0.8
NJ2 pmax pmax
comp=Z,14nm,0.6s
GYA Guiyang 79.51 49 eP P 21 35 25.2 +1.8
GYA pmax pmax
comp=Z,11nm,2.2s
CMAR Chiang Mai Arr 84.21 59 P P 21 35 47.0 -1.1
comp=Z,1.0nm,0.8s,baz=318,slow=6.1,SNR=8.1
CMAR Chiang Mai Arr 84.21 59ceP P 21 35 47.0 -1.1
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 84.21 59 P P 21 35 47.4 -0.7
ASAR Alice Springs 135.04 38 PKP PKPdf 21 42 35.8 +0.2
comp=Z,0.4nm,0.8s,baz=352,slow=2.1,SNR=4.5
ASAR Alice Springs 135.04 38 PKPdf 21 42 36.0 +0.3
SNAA Sanae 136.40 173c iPKIKP PKPdf 21 42 36.9 +0.2
SNAA pmax pmax
comp=Z,7.0nm,2.5s

IDC 12 21:30:25.7±1.7, 5.°52S×152.°71E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.4/4, Error ellipse: s-maj=36.3km s-min=15.8km az=79.0

ISC 12 21:30:31.9±1.7, **5.°5S**±0.°2×**152.°5E**±0.°3, **h40km, n6,** σ**0.s76**/6, **mb3.3**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.24	336	Pg	Pn	21 30 52.9	+0.1
	101nm,0.3s,baz=145,slow=2.3,SNR=107						
KRVT				Lg	Lg	21 31 09.6	
	159nm,0.3s,baz=38,slow=20,SNR=26						
WRA	Warramunga Arr	22.82	229	P	P	21 35 31.1	-0.5
	0.2nm,0.3s,baz=53,slow=9.9,SNR=1.8						
ASAR	Alice Springs	25.49	223	P	P	21 35 57.3	+0.6
	0.5nm,0.8s,baz=54,slow=9.5,SNR=2.7						
FITZ	Fitzroy Crossi	29.12	242	P	P	21 36 29.5	+0.3
	1.5nm,0.8s,baz=61,slow=10,SNR=1.9						

ILAR Eielson Array 82.86 22 P P 21 42 52.1 +0.2
0.3nm,0.7s,baz=230,slow=5.5,SNR=2.1
TORD Torodi Ar. Bea 150.25 287 PKPbc PKPbc 21 50 18.8 -1.0
0.6nm,1.1s,baz=95,slow=1.6,SNR=2.0

*IDC **12** 21:38:15.8±1.5,5.°61S×152.°40E,h0km,mb3.5/4,*
mb1 3.8/4,mb1mx3.4/37,mbtmp3.6/4, Error ellipse:
s-maj=38.5km s-min=14.3km az=92.0
ISC 12 21:38:21.5±1.7,5.°5S±0.°2×152.°3E±0.°3, h40km, n7,σ0§61/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.22**	**347**	Pg		**Pn**		**21 38 42.2**	**+0.1**
	401nm,0.3s,baz=155,slow=2.5,SNR=82								
KRVT				Lg		Lg		21 38 59.2	
	251nm,0.3s,baz=197,slow=19,SNR=15								
PMG	**Port Moresby**	**6.40**	**232**	Sn		**Sn**		**21 41 05.7**	**+0.4**
	2.1nm,0.3s,baz=246,slow=20,SNR=2.0								
WRA	**Warramunga Arr**	**22.61**	**229**	P		**P**		**21 43 19.6**	**+0.6**
	0.5nm,0.4s,baz=51,slow=10,SNR=9.3								
ASAR	**Alice Springs**	**25.30**	**223**	P		**P**		**21 43 44.2**	**-0.4**
	0.5nm,0.8s,baz=59,slow=9.1,SNR=4.5								
FITZ	**Fitzroy Crossi**	**28.88**	**242**	P		**P**		**21 44 15.9**	**-0.8**
	0.6nm,0.5s,baz=52,slow=7.4,SNR=1.2								
ILAR	**Eielson Array**	**83.00**	**22**	P		**P**		**21 50 42.5**	**+0.3**
	0.6nm,0.7s,baz=247,slow=4.9,SNR=6.7								
TORD	**Torodi Ar. Bea**	**150.04**	**287**	PKPbc		**PKPbc**		**21 58 09.0**	**+0.1**
	0.3nm,0.5s,baz=90,slow=2.6,SNR=7.5								

*KRNET **12** 21:43:03.6±0.1,42.°68N×73.°18E,h20km,mb2.1*
*NNC **12** 21:43:04.3±0.7,42.°71N×73.°20E,h11km±4km,mb2.9,*
mpv2.8, Error ellipse: s-maj=8.7km s-min=4.0km az=156.0
*SOME **12** 21:43:04.2,42.°67N×73.°20E,h10km*
ISC 12 21:43:04.2±0.9,42.°64N±0.°03×73.°21E±0.°02,h12km±6km, n28,σ0§80/50,24C,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.11**	**8**	*e*P		**Pg**		**21 43 07.2**	**-0.1**
	baz=25								
MRKS				*e*S		**Sg**		**21 43 09.1**	**-0.4**
	baz=25								
MRKS	**Merke**	**0.11**	**8**	*e*P		**Pg**		**21 43 07.2**	**-0.1**
	130nm,0.1s								
MRKS				*e*S		**Sg**		**21 43 09.1**	**-0.4**
	284nm,0.1s								
MRKS	**Merke**	**0.11**	**8**	P		**Pg**		**21 43 07.2**	**-0.1**
	130nm,0.1s								
MRKS				S		**Sg**		**21 43 09.1**	**-0.4**
	284nm,0.1s								
EKS2	**Erkin-Say**	**0.42**	**87**	⇑*i*P		**Pg**		**21 43 12.4**	**-0.2**
	baz=92								
EKS2				⇑*i*S		**Sg**		**21 43 18.7**	**+0.5**
	baz=92								
MNAS	**Manas**	**0.54**	**254**	⇑*i*P		**Pg**		**21 43 13.9**	**-0.9**
	baz=50								
MNAS				⇑*i*S		**Sg**		**21 43 21.5**	**-0.5**
	baz=50								
AML	**Almayashu**	**0.62**	**144**	⇑*i*P		**Pg**		**21 43 16.3**	**-0.1**
	baz=45								
AML				⇑*i*S		**Sg**		**21 43 25.4**	**+0.7**
	baz=45								
AAK	**Ala-Archa**	**0.95**	**90**	⇑*i*P		**Pg**		**21 43 21.8**	**-0.7**
	baz=92								
AAK				⇑*i*S		**Sg**		**21 43 34.9**	**-0.1**
	baz=92								
UCH	**Uchtor**	**1.05**	**113**	⇑*i*P		**Pg**		**21 43 23.8**	**-0.7**
	baz=14								
UCH				⇑*i*S		**Sg**		**21 43 38.4**	**+0.1**
	baz=14								
FRU1	**Bishkek**	**1.06**	**80**	⇑*i*P		**Pg**		**21 43 23.5**	**-1.2**
	baz=82								
FRU1				⇑*i*S		**Sg**		**21 43 38.0**	**-0.5**
	baz=82								
ARLS	**Aral**	**1.14**	**133**	⇑*i*P		**Pb**		**21 43 25.3**	**-0.6**
	baz=33								
ARLS				⇑*i*S		**Sb**		**21 43 40.9**	**+0.2**
	baz=33								
USP	**Ospenovka**	**1.14**	**56**	⇑*i*P		**Pb**		**21 43 24.6**	**-1.2**
	baz=58								
USP				⇑*i*S		**Sb**		**21 43 39.9**	**-0.7**
	baz=58								
CHMS	**Chumysh**	**1.19**	**72**	⇑*i*P		**Pb**		**21 43 25.6**	**-1.1**
	baz=74								
CHMS				⇑*i*S		**Sb**		**21 43 41.8**	**-0.3**
	baz=74								
KBK	**Karagaybulak**	**1.28**	**89**	⇑*i*P		**Pn**		**21 43 27.6**	**-0.5**
	baz=90								
KBK				⇑*i*S		**Sb**		**21 43 45.0**	**+0.1**
	baz=90								
SGDS	**Sogindy**	**1.32**	**52**	P		**Pn**		**21 43 28.4**	**-0.2**
	1.4nm,0.1s								
SGDS				S		**Sb**		**21 43 45.5**	**-0.4**
	9.5nm,0.1s								
TKM2	**Tokmak 2**	**1.78**	**80**	⇑*i*P		**Pn**		**21 43 36.0**	**+1.0**
	baz=81								
TKM2				⇑*i*S		**Sb**		**21 43 59.4**	**+0.1**
	baz=81								
BOOM	**Boomskoye usch**	**2.02**	**93**	⇑*i*P		**Pn**		**21 43 39.3**	**+1.0**
	baz=94								
BOOM				⇑*i*S		**Sb**		**21 44 05.4**	**-0.8**
	baz=94								
KST	**Kastek**	**2.07**	**78**	*e*P		**Pb**		**21 43 42.6**	**+0.9**
	1.2nm,0.1s								
KST				*e*S		**Sg**		**21 44 09.3**	**-1.3**
	3.9nm,0.3s								
KST	**Kastek**	**2.07**	**78**	Pg		**Pb**		**21 43 42.6**	**+0.9**
	1.2nm,0.1s								
KST				Lg		Lg		21 44 09.3	
	3.9nm,0.3s								
KRBS	**Karabastau**	**2.09**	**59**	*e*P		**Pb**		**21 43 42.2**	**+0.1**
	2.0nm,0.4s								
KRBS				*e*S		**Sb**		**21 44 08.9**	**+0.8**
	3.3nm,0.2s								
KRBS	**Karabastau**	**2.09**	**59**	Pg		**Pb**		**21 43 42.2**	**+0.1**
	2.0nm,0.4s								
KRBS				Lg		Lg		21 44 08.9	
	3.3nm,0.2s								
IUG	**Iuzhnay**	**2.40**	**259**	*e*P		**Pb**		**21 43 48.4**	**+1.0**
	1.7nm,0.3s								
IUG				*e*S		**Sg**		**21 44 20.0**	**-1.5**
	6.7nm,0.4s								
IUG	**Iuzhnay**	**2.40**	**259**	Pg		**Pb**		**21 43 48.2**	**+0.7**
	2.3nm,0.1s								
IUG				Lg		Lg		21 44 20.0	
	6.7nm,0.4s								
BTLS	**Baital**	**2.48**	**14**	*e*P		**Pb**		**21 43 48.7**	**+0.1**
	0.8nm,0.2s								
BTLS				*e*S		**Sb**		**21 44 19.9**	**+0.8**
	3.9nm,0.1s								
BTLS	**Baital**	**2.48**	**14**	Pg		**Pb**		**21 43 48.7**	**+0.1**
	0.8nm,0.2s								
BTLS				Lg		Lg		21 44 19.9	
	3.9nm,0.1s								
KUU	**Kurty**	**2.61**	**60**	*e*P		**Pb**		**21 43 51.2**	**+0.3**
	0.9nm,0.2s								
KUU				*e*S		**Sb**		**21 44 24.4**	**+1.6**
	4.3nm,0.4s								
KUU	**Kurty**	**2.61**	**60**	Pg		**Pb**		**21 43 51.2**	**+0.3**
	0.9nm,0.2s								
KUU				Lg		Lg		21 44 24.4	
	4.3nm,0.4s								
KTBS	**Karatobe**	**2.76**	**66**	*e*P		**Pb**		**21 43 54.3**	**+0.9**
	0.5nm,0.3s								
KTBS				*e*S		**Sb**		**21 44 29.4**	**+2.2**
	4.7nm,0.4s								
KTBS	**Karatobe**	**2.76**	**66**	Pg		**Pb**		**21 43 54.3**	**+0.9**
	0.5nm,0.3s								
KTBS				Lg		Lg		21 44 29.4	
	4.7nm,0.4s								

*IDC **12** 21:43:12.4±1.0,28.°60N×94.°58E,h0km,mb3.6/7,*
mb1 3.8/8,mb1mx3.4/55,mbtmp3.6/8,ML4.1/1, Error
ellipse: s-maj=49.7km s-min=17.2km az=64.0
*NDI **12** 21:43:14.2±3.6,28.°69N×94.°56E,h10km,ML3.8*
ISC 12 21:43:14.3±1.8,28.°64N±0.°06×94.°48E±0.°05,h15km±11km, n17,σ1§20/24,mb3.7/6,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**1.23**	**162**	*e*P		**Pg**		**21 43 37.4**	**-0.6**
DIBR				*i* x		x		21 43 38.7	
DIBR				*e*S		**Sn**		**21 43 55.2**	**+1.9**
DIBR				*e*S		**Sg**		**21 43 56.0**	**+1.9**
DIBR				IAML				21 43 56.1	
	comp=E,2μm,0.2s								
DIBR				IAML				21 43 58.7	
	comp=N,5μm,0.3s								
ZIRO	**ZIRO**	**1.24**	**207**	*e*P		**Pn**		**21 43 37.1**	**-0.3**
ZIRO				*e*S		**Sg**		**21 43 56.0**	**+1.4**
ZIRO				IAML				21 43 59.6	
	comp=N,4μm,0.5s								
LKP	**Lekhapani**	**1.78**	**137**	*e*P		**Pn**		**21 43 44.6**	**0.0**
LKP				*e*S		**Sb**		**21 44 07.9**	**-0.8**
LKP				IAML				21 44 10.4	
	comp=N,541nm,0.2s								
LKP				IAML				21 44 12.7	
	comp=E,728nm,0.3s								
JORH	**JORHAT**	**1.90**	**186**	*e*P		**Pb**		**21 43 49.2**	**+0.4**
JORH				*e*S		**Sg**		**21 44 15.5**	**0.0**
JORH				IAML				21 44 17.7	
	comp=N,3μm,0.4s								
JORH				IAML				21 44 18.2	
	comp=E,2μm,0.3s								
TEZP	**TEZPUR**	**2.51**	**217**	*e*P		**Pn**		**21 43 55.5**	**+0.8**
TEZP				*e*S		**Sb**		**21 44 29.2**	**-0.6**
TAWA	**Tawang**	**2.53**	**246**	*e*P		**Pb**		**21 43 59.1**	**-0.7**
TAWA				*i* x		x		21 44 03.0	
TAWA				*ex*		**Sg**		**21 44 35.4**	**-0.5**
TAWA				IAML				21 44 38.6	
	comp=N,3μm,0.4s								
TAWA				IAML				21 44 39.2	
	comp=E,3μm,0.3s								
KOHI	**KOHIMA**	**2.93**	**187**	IAML				21 44 48.2	
	comp=Z,209nm,0.8s								
KOHI				IAML				21 44 55.9	
	comp=E,433nm,0.3s								
KOHI				IAML				21 44 58.9	
	comp=N,570nm,0.6s								
SHL	**Shillong**	**3.84**	**218**	*e*P		**Pn**		**21 44 12.7**	**-0.4**
SHL				*e*S		**Sn**		**21 44 57.7**	**-0.4**
SHL				IAML				21 45 01.4	
	comp=N,62nm,0.2s								
GTK	**Tadong**	**5.36**	**257**	*e*P		**Pn**		**21 44 36.1**	**+2.0**
GTK				IAML				21 46 12.5	
	comp=E,42nm,0.4s								
CMAR	**Chiang Mai Arr**	**10.93**	**157**	Pn		**Pn**		**21 45 49.2**	**-1.1**
	comp=E,0.4nm,0.3s,baz=334,slow=16,SNR=3.4								
MKAR	**Makanchi Array**	**20.48**	**336**	P		**P**		**21 47 52.3**	**+0.6**
	comp=E,0.7nm,0.5s,baz=144,slow=11,SNR=12								
SONM	**Songino Array**	**21.28**	**23**	P		**P**		**21 47 58.8**	**-1.6**
	comp=E,0.3nm,0.4s,baz=196,slow=14,SNR=4.5								
KURBB	**Kurchatov Arra**	**25.05**	**336**	P		**P**		**21 48 38.8**	**+0.9**
	comp=E,0.7nm,0.6s,baz=146,slow=10.0,SNR=8.5								
ZALV	**Zalesovo Beam**	**26.26**	**347**	P		**P**		**21 48 51.5**	**+2.6**
	comp=E,1.0nm,0.7s,baz=153,slow=9.7,SNR=5.0								
WRA	**Warramunga Arr**	**61.76**	**137**	P		**P**		**21 53 32.3**	**-0.3**
	comp=E,0.5nm,0.6s,baz=326,slow=7.9,SNR=8.9								
ASAR	**Alice Springs**	**64.39**	**140**	P		**P**		**21 53 50.1**	**+0.1**
	comp=E,0.9nm,0.5s,baz=322,slow=6.6,SNR=17								
TORD	**Torodi Ar. Bea**	**86.21**	**283**	P		**P**		**21 55 55.6**	**-0.2**
	comp=E,0.7nm,0.8s,baz=47,slow=5.1,SNR=3.2								

*NEIC **12** 21:50:02±1.5,5.°46S±0.°06×152.°1E±0.°1,h32km±6km,*
mb4.7/25, Error ellipse: s-maj=20.6km s-min=2.3km
az=113.0
*IDC **12** 21:50:03.2±1.9,5.°45S×152.°15E,h33km±13km,mb4.2/16,*
mb1 4.4/17,mb1mx4.2/41,mbtmp4.4/17,ML2.7/1,MS3.9/20,
Ms1 3.9/20,ms1mx3.7/36, Error ellipse: s-maj=21.1km
s-min=12.1km az=108.0
*DJA **12** 21:50:06.9±0.4,5.°5S×6.°6×15.°2E±.°,h97km±7km,M4.8/8,*
mb4.5/8,mB5.1/5,MLv5.1/2,Mw(mB)4.5/5
ISC 12 21:50:03.9±0.5,5.°46S±0.°05×152.°13E±0.°08,h45km,n79, σ1§19/77,mb4.6/31,MS3.9/21,2C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.15**	**355**	Pg		**Pn**		**21 50 24.0**	**+0.4**
	2μm,0.3s,baz=154,slow=1.3,SNR=292								
KRVT				Lg		Lg		21 50 41.7	
	3μm,0.3s,baz=14,slow=22,SNR=9.3								
RABL	**Rabaul**	**1.26**	**1**			**Pn**		**21 50 23.3**	**-1.9**
RABL						**Sn**		**21 50 39.0**	**-2.0**
PMG	**Port Moresby**	**6.30**	**231**	Pn		**Pn**		**21 51 36.3**	**+2.0**
	11nm,0.3s,baz=39,slow=8.5,SNR=28								
PMG						Sn		**21 52 46.6**	**+1.6**
	37nm,0.3s,baz=134,slow=20,SNR=15								
PMG	**Port Moresby**	**6.30**	**231**	Pn		**Pn**		**21 51 31.6**	**-2.7**
PMG						Sn		**21 52 42.8**	**-2.2**
CTA	**Charters Tower**	**15.62**	**201**	Pn		**P**		**21 53 44.4**	**-0.3**
	0.4nm,0.3s,baz=25,slow=13,SNR=8.6								
EIDS	**Eidsvold**	**19.82**	**183**	P		**P**		**21 54 30.0**	**-0.9**
DZM	**Mont Dzumac**	**21.55**	**141**	*e*P		**P**		**21 54 51.0**	**+1.3**
	46nm,1.2s								
DZM				*e*S		**S**		**21 58 43.9**	**-2.5**
	201nm,22.8s								
DZM				*e*LR		LR		22 00 10.3	
	comp=Z,720nm,26.0s								
DZM	**Mont Dzumac**	**21.55**	**141**	P		**P**		**21 54 50.4**	**+0.7**
	11nm,0.9s,baz=302,slow=19,SNR=3.3								
DZM				LR		LR		22 02 39.7	
	comp=Z,431nm,18.1s,baz=203,slow=35								
DZM	**Mont Dzumac**	**21.55**	**141**	P		**P**		**21 54 48.0**	**-1.8**
DZM				IAmb		IAmb		21 54 52.2	
	comp=Z,22nm,1.1s								
MTN	**Manton Dam**	**21.98**	**249**	P		**P**		**21 54 52.3**	**-2.0**
MTN				IAmb		IAmb		21 54 58.9	
	comp=Z,18nm,0.7s								
WB0	**Warramunga Arr**	**22.36**	**229**	P		**P**		**21 54 57.5**	**-0.9**
WB0				IAmb		IAmb		21 55 06.9	
	comp=Z,22nm,1.1s								
WR0	**Warramunga Arr**	**22.37**	**228**	P		**P**		**21 54 58.2**	**-0.2**
WB2	**Warramunga Arr**	**22.50**	**229**	P		**P**		**21 54 58.0**	**-1.9**
WB2				IAmb		IAmb		21 55 08.3	
	comp=Z,14nm,0.6s								
WRA	**Warramunga Arr**	**22.51**	**229**	P		**P**		**21 55 00.1**	**+0.1**
	comp=Z,8.1nm,0.5s,baz=55,slow=9.9,SNR=63								
WRA				PcP		**PcP**		**21 58 54.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=45,slow=2.0,SNR=3.0								
WRA				S		**S**		**21 59 02.7**	**-1.5**
	comp=Z,1.7nm,1.0s,baz=47,slow=18,SNR=5.5								
WRA				LR		LR		22 04 05.5	
	comp=Z,262nm,20.3s,baz=70,slow=37								
WRA	**Warramunga Arr**	**22.51**	**229**	P		**P**		**21 54 57.2**	**-2.8**
KNRA	**Kununurra**	**25.08**	**244**	P		**P**		**21 55 23.0**	**-1.6**
AS31	**Alice Springs**	**25.21**	**222**	P		**P**		**21 55 23.8**	**-1.9**
ASAR	**Alice Springs**	**25.21**	**222**	P		**P**		**21 55 26.2**	**+0.5**
	comp=Z,11nm,0.8s,baz=55,slow=8.9,SNR=59								
ASAR				PcP		**PcP**		**21 58 58.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=46,slow=4.0,SNR=1.5								
ASAR				LR		LR		22 06 07.9	
	comp=Z,181nm,18.3s,baz=27,slow=38								
ASAR	**Alice Springs**	**25.21**	**222**	P		**P**		**21 55 23.7**	**-2.0**
STKA	**Stephens Creek**	**28.07**	**199**	P		**P**		**21 55 51.3**	**0.0**
	comp=Z,2.2nm,0.7s,baz=15,slow=13,SNR=3.8								
STKA				LR		LR		22 06 50.9	
	comp=Z,234nm,19.1s,baz=18,slow=36								
BATI	**Baumata**	**28.58**	**259**	P		**P**		**21 55 57.1**	**+1.0**
	comp=Z,11nm,0.4s,baz=150,slow=3.7,SNR=3.6								
BATI				LR		LR		22 09 39.4	
	comp=Z,555nm,19.2s,baz=78,slow=41								
FITZ	**Fitzroy Crossi**	**28.76**	**242**	P		**P**		**21 55 57.9**	**+0.3**
	comp=Z,6.4nm,0.6s,baz=54,slow=7.2,SNR=27								
FITZ				LR		LR		22 09 25.7	
	comp=Z,105nm,18.8s,baz=58,slow=40								
FITZ	**Fitzroy Crossi**	**28.76**	**242**	P		**P**		**21 55 56.1**	**-1.5**
KAPI	**Kappang**	**32.24**	**269**	LR		LR		22 12 51.5	
	comp=Z,94nm,18.9s,baz=82,slow=42								
MJAR	**Matsushiro Arr**	**43.77**	**344**	PcP		**PcP**		**21 59 52.4**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=154,slow=4.3,SNR=5.5								
MJAR				LR		LR		22 14 54.1	
	comp=Z,88nm,21.3s,baz=200,slow=34								
MJAR	**Matsushiro Arr**	**43.77**	**344**	P		**P**		**21 58 05.6**	**+0.4**
NJ2	**Nanjing**	**48.94**	**322**	*e*P		**P**		**21 58 46.2**	**+0.3**
NJ2				pmax		pmax			
	comp=Z,17nm,0.7s								
KMI	**Kunming**	**56.81**	**305**	⇑P		**P**		**21 59 47.1**	**+2.7**
KMI				pmax		pmax			
	comp=Z,5.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**57.56**	**296**	P		**P**		**21 59 50.7**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=121,slow=6.0,SNR=13								
CMAR	**Chiang Mai Arr**	**57.56**	**296**	P		**P**		**21 59 47.9**	**-1.7**
PPT	**Papeete**	**58.16**	**107**	LR		LR		22 23 04.8	
	comp=Z,32nm,18.0s,baz=210,slow=34								
PPT2	**Papeete2**	**58.16**	**107**	*e*LR		LR		22 17 05.0	
	comp=Z,78nm,23.8s								

PETK Petropavlovsk- 58.54 4 P P 21 59 56.3 +0.5
comp=Z,5.8nm,1.0s,baz=165,slow=7.6,SNR=2.3
PETK LR LR 22 21 10.5
comp=Z,77nm,20.3s,baz=190,slow=32
PETK Petropavlovsk- 58.54 4 P P 21 59 55.7 0.0
HHC Hu-ho-hao-te 59.20 325 *e*P P 22 00 00.8 +0.1
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,200nm,7.1s
GTA Gaotai 65.69 318 *e*P P 22 00 44.4 +0.3
GTA pP pP 22 00 55.7 -1.5
GTA sP sP 22 01 01.0 -1.3
GTA pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 66.53 328 P P 22 00 50.4 +1.0
comp=Z,0.9nm,0.5s,baz=153,slow=4.9,SNR=7.7
SONM Songino Array 66.53 328 P P 22 00 48.7 -0.6
LSA Lhasa 68.06 305 P P 22 00 58.5 -1.3
VNDA Vanda 72.20 178 P P 22 01 25.0 +1.3
comp=Z,0.7nm,0.7s,baz=334,slow=5.8,SNR=9.7
WMQ Urumqi 75.78 318 *e*P P 22 01 46.2 +0.9
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,93nm,5.7s
CNPM China Poot 78.60 26 P P 22 02 01.2 +0.5
MKAR Makanchi Array 80.39 319 P P 22 02 11.2 +0.5
comp=Z,1.0nm,0.7s,baz=97,slow=6.8,SNR=7.4
MKAR Makanchi Array 80.39 319 P P 22 02 10.5 -0.3
TRF Thorofare Moun 81.06 23 P P 22 02 14.2 0.0
TRF IAmb IAmb 22 02 17.7
comp=Z,6.0nm,0.8s
IMAR Indian Mountai 81.23 20 P P 22 02 15.2 +0.4
ZALV Zalesovo Beam 81.33 327 P P 22 02 15.3 -0.3
comp=Z,1.3nm,0.5s,baz=116,slow=6.7,SNR=6.5
ZALV LR LR 22 37 34.4
comp=Z,56nm,20.9s,baz=72,slow=35
ZALV Zalesovo Beam 81.33 327 P P 22 02 15.2 -0.4
RND Reindeer 81.59 23 P P 22 02 17.2 +0.3
DHY Denali Highway 82.01 24 P P 22 02 19.2 0.0
DHY IAmb IAmb 22 02 22.2
comp=Z,8.2nm,0.8s
WRH Wood River Hil 82.42 22 P P 22 02 20.6 -0.5
WRH IAmb IAmb 22 02 22.1
comp=Z,6.7nm,0.9s
CCB Clear Creek Bu 82.61 22 P P 22 02 21.9 -0.2
CCB IAmb IAmb 22 02 22.4
comp=Z,5.6nm,0.8s
GLB Gilahina Butte 82.74 26 P P 22 02 23.2 +0.3
GLB IAmb IAmb 22 02 24.8
comp=Z,8.0nm,0.9s
IL31 83.02 22 P P 22 02 24.3 +0.1
IL31 IAmb IAmb 22 02 24.8
comp=Z,5.3nm,0.7s
ILAR Eielson Array 83.02 22 P P 22 02 23.9 -0.4
comp=Z,5.5nm,0.6s,baz=246,slow=5.4,SNR=85
ILAR LR LR 22 37 08.2
comp=Z,74nm,19.0s,baz=266,slow=34
ILAR Eielson Array 83.02 22 P P 22 02 24.2 0.0
BARN Barnard Glacie 83.53 27 P P 22 02 27.4 +0.2
DOT Dot Lake 83.60 24 P P 22 02 27.6 +0.4
DOT IAmb IAmb 22 02 29.2
comp=Z,7.9nm,0.8s
BCAR Beaver Creek A 84.28 25 P P 22 02 31.2 +0.4
MAW Mawson 84.71 203 P P 22 02 33.9 +1.2
comp=Z,0.8nm,0.5s,baz=24,slow=12,SNR=2.0
MAW LR LR 22 37 14.7
comp=Z,110nm,20.3s,baz=59,slow=33
BMAR Burnt Mountain 85.09 20 P P 22 02 35.4 +0.6
EGAK Eagle 85.23 23 P P 22 02 36.2 +0.8
EGAK IAmb IAmb 22 02 40.0
comp=Z,5.2nm,0.7s
HYT Haines Junctio 85.33 28 P P 22 02 35.3 -0.9
DAWY Dawson 85.66 24 P P 22 02 38.3 +0.6
KKAR Karatay Array 87.60 314 P P 22 02 47.4 -0.2
YBH Yreka Blue Hor 89.99 48 LR LR 22 34 36.4
comp=Z,90nm,21.6s,baz=260,slow=30
SYO Syowa Base 92.83 199 ⇑*e*pP pP 22 03 19.0 -5.0
NVAR Mina Array Bea 93.02 52 P P 22 03 15.1 +1.8
comp=Z,0.7nm,0.7s,baz=252,slow=5.4,SNR=6.2
NVAR LR LR 22 40 54.1
comp=Z,71nm,18.5s,baz=269,slow=33
NVAR Mina Array Bea 93.02 52 P P 22 03 13.0 -0.3
PFO Pinyon Flats O 94.16 57 LR LR 22 38 14.9
comp=Z,52nm,18.9s,baz=254,slow=31
NEW Newport 94.53 42 LR LR 22 42 06.7
comp=Z,96nm,18.0s,baz=263,slow=33
ELK Elko 95.52 50 LR LR 22 42 27.9
comp=Z,62nm,18.4s,baz=251,slow=33
YKA Yellowknife Ar 96.32 28 LR LR 22 43 23.9
comp=Z,81nm,19.7s,baz=0.0,slow=33
PDAR Pinedale Array 99.78 48 P Pdif 22 03 45.0 +1.1
comp=Z,0.2nm,0.4s,baz=231,slow=4.3,SNR=1.7
PDAR LR LR 22 51 24.6
comp=Z,65nm,18.0s,baz=304,slow=37
GERES GERESS Array B 124.26 328 PKP PKPdf 22 08 57.3 -0.8
comp=Z,0.2nm,0.5s,baz=48,slow=2.0,SNR=6.7
TORD Torodi Ar. Bea 149.87 287 PKPbc PKPbc 22 09 51.0 +0.7
comp=Z,2.2nm,0.7s,baz=92,slow=2.8,SNR=28
TORD Torodi Ar. Bea 149.87 287 PKPbc 22 09 49.8 -0.5
DBIC Dimbokro 157.09 274 PKPab PKPab 22 10 26.8 +0.3
comp=Z,7.2nm,1.1s,baz=69,slow=8.6,SNR=1.5
DBIC Dimbokro 157.09 274 PKPab 22 10 24.8 -1.6

DJA 12 22:10:12.0±1.3,2.°N±6.°×12.°3E±.°, h14km±8km, M3.8/7, mb4.0/3,MLv3.8/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.89**	**189**	P		Pb		22 10 28.6	-0.6
GTOI				S		Sg		22 10 38.4	-2.5
KMSI	**Cibinong**	**1.25**	**139**	P		Pg		22 10 36.0	-0.2
KMSI				S		Sb		22 10 51.3	-0.2
LUWI	**Luwuk**	**2.57**	**188**	P		Pb		22 10 56.1	-1.9
LUWI				S		Sb		22 11 30.0	+0.5
SGSI	**Sangihe**	**3.21**	**48**	P		Pg		22 11 26.6	+13
MPSI	**Mapaga**	**3.46**	**250**	P		Pn		22 11 04.5	-1.0
TTSI	**Tana Toraja**	**5.63**	**216**	P		Pn		22 11 33.7	-1.6
	0.1nm28nm,0.7s								
SPSI	**Sidrap Palu**	**6.41**	**212**	P		Pn		22 11 45.8	-0.3

*VAO **12** 22:17:49.1±0.4,21.°86S×68.°59W,h121km±4km,mb4.8*
*NEIC **12** 22:17:49.5±0.6,21.°95S±0.°05×68.°54W±0.°07,h128km±5km,*
*Error ellipse: s-maj=9.9km s-min=6.8km az=

comp=N,6µm,0.3s
PB01 IPOC Station P 1.30 313 Pn 22 18 15.3 +0.3
PB01 Sn **Sn** 22 18 33.9 -0.3
PB07 IPOC Station P 1.33 279 ⇑*i* P **Pn** 22 18 15.8 +0.4
PB07 *i* S **Sn** 22 18 34.6 -0.3
PB07 IAML 22 18 35.8
comp=N,6µm,0.4s
PB07 IPOC Station P 1.33 279 Pn 22 18 15.0 -0.3
PB02 IPOC Station P 1.46 295 ⇑*i* P **Pn** 22 18 17.2 +0.4
PB02 *i* S **Sn** 22 18 36.8 -0.6
PB15 IPOC Station P 1.56 216 ⇑*i* P **Pn** 22 18 18.8 +0.8
PB15 *i* S **Sn** 22 18 40.7 +1.2
PB15 IPOC Station P 1.56 216 Pn 22 18 18.5 +0.5
PB04 IPOC Station P 1.60 256 ⇑*i* P **Pn** 22 18 18.7 +0.2
PB04 *i* S **Sn** 22 18 39.9 -0.5
PB04 IAML 22 18 42.4
comp=E,3µm,0.2s
PB04 IPOC Station P 1.60 256 Pn **Pn** 22 18 18.1 -0.4
PB08 IPOC Station P 1.91 340 ⇓*i* P **Pn** 22 18 24.0 +1.6
PB08 *i* S **Sn** 22 18 48.3 +1.1
PB08 IAML 22 18 51.3
comp=E,3µm,0.7s
PB08 IPOC Station P 1.91 340 Pn 22 18 22.3 -0.1
PATCX Punta Patache 1.92 305 ⇑*i* P **Pn** 22 18 22.3 0.0
PATCX *i* S **Sn** 22 18 46.7 -0.5
PATCX IAML 22 18 49.8
comp=N,5µm,0.2s
PATCX Punta Patache 1.92 305 Pn Pn 22 18 22.0 -0.3
TA01 Diego Aracena 2.10 310 *e*P **Pn** 22 18 24.5 +0.1
TA01 *i* S **Sn** 22 18 50.3 -0.8
TA01 Diego Aracena 2.10 310 Pn Pn 22 18 24.1 -0.3
TA02 Huaiquique 2.27 317 *e*P **Pn** 22 18 26.8 +0.2
TA02 *e*S **Sn** 22 18 54.2 -0.7
TA02 IAML 22 19 00.5
comp=N,3µm,0.3s
GO01 Chusmiza 2.37 343 *e*P **Pn** 22 18 29.4 +1.2
GO01 *e*S **Sn** 22 18 59.0 +1.3
GO01 Chusmiza 2.37 343 Pn 22 18 29.0 +0.7
PB11 IPOC Station P 2.44 333 ⇑*i* P **Pn** 22 18 29.2 +0.3
PB11 *i* S **Sn** 22 18 58.9 0.0
PB11 IPOC Station P 2.44 333 Pn Pn 22 18 28.6 -0.3
PB10 IPOC Station P 2.47 231 *e*P **Pn** 22 18 29.2 +0.1
PB10 *i* S **Sn** 22 18 57.5 -2.0
PB10 IPOC Station P 2.47 231 Pn Pn 22 18 28.5 -0.6
PSGC Pisagua 2.80 326 ⇑*i* P **Pn** 22 18 32.4 -1.1
PSGC *i* S **Sn** 22 19 03.1 -4.1
PSGC IAML 22 19 10.4
comp=N,799nm,0.2s
PSGCX Pisagua 2.80 326 Pn Pn 22 18 32.4 -1.1
MNMC Minye Minye 2.99 339 ⇓*i* P **Pn** 22 18 36.7 +0.6
MNMC *i* S **Sn** 22 19 12.5 +0.5
MNMC Minye Minye 2.99 339 Pn 22 18 36.0 -0.1
PB14 IPOC Station P 3.20 213 *e*P **Pn** 22 18 38.9 0.0
PB14 *i* S **Sn** 22 19 09.1 -7.8
PB14 IAML 22 19 25.8
comp=E,439nm,0.2s
PB14 IPOC Station P 3.20 213 Pn Pn 22 18 38.6 -0.3
GO02 Mina Guanaco 3.36 198 *e*P **Pn** 22 18 40.7 -0.3
GO02 Mina Guanaco 3.36 198 Pn Pn 22 18 41.0 0.0
PB16 IPOC Station P 3.72 345 ⇑*i* P **Pn** 22 18 47.2 +1.1
PB16 IPOC Station P 3.72 345 Pn Pn 22 18 45.5 -0.5
AC01 Pan de Azucar 4.61 204 Pn Pn 22 18 56.0 -1.4
AC02 Maricunga 4.90 187 Pn Pn 22 19 01.7 -0.1
LPAZ La Paz 5.64 3 P **Pn 22 19 14.0 +2.2**
comp=E,1.7nm,0.3s,baz=183,slow=4.1,SNR=46
LPAZ S Sn 22 20 06.3 -9.4
comp=E,1.0nm,0.3s,baz=164,slow=1.9,SNR=6.7
LPAZ La Paz 5.64 3 Pn Pn 22 19 11.5 -0.3
GO03 Copiap 5.85 196 Pn 22 19 12.2 -1.8
AC05 El Transito 7.05 193 Pn Pn 22 19 28.2 -2.2
CO01 Juntas del Tor 8.13 190 Pn Pn 22 19 43.9 -1.1
SIV San Ignacio 9.17 51 P **Pn 22 19 56.4 -2.6**
comp=E,13nm,0.3s,baz=245,slow=10,SNR=196
SIV S **Sn** 22 21 33.1 -7.4
comp=E,1.9nm,0.3s,baz=154,slow=20,SNR=3.2
PTLB Pontes e Lacer 10.95 55 *e*P **Pn 22 20 21.7 -1.3**
CPUP Villa Florida 11.07 115 P **Pn 22 20 23.1 -1.4**
comp=E,0.2nm,0.3s,baz=289,slow=12,SNR=5.7
CPUP LR LR 22 25 07.5
comp=E,51nm,20.2s,baz=8.0,slow=40
CPUP Villa Florida 11.07 115 *e*P **Pn 22 20 25.2 +0.7**
VILB Vilhena 11.93 43 *e*P **Pn 22 20 35.1 -0.8**
BO02 Sierra Bellavi 12.96 188 Pn **Pn 22 20 48.7 -0.6**
SAML Samuel 13.89 22 Pn **Pn 22 21 02.0 +0.5**
SAML Samuel 13.89 22 *e*P **Pn 22 21 00.5 -0.9**
TRCB Terra Rica 14.68 96 *e*P **P 22 21 12.9 -1.5**
CZSB Cruzeiro do Su 14.71 343 *e*P **Pn 22 21 09.4 -2.5**
PTGB Pitanga 15.32 104 *e*P **P 22 21 21.1 -0.6**
ITAB Concordia 15.77 113 *e*P **P 22 21 26.0 -0.4**
PCMB Pacaembu 15.99 92 *e*P **P 22 21 30.4 +1.4**
CLDB Colider 16.39 50 *e*P **Pn 22 21 33.0 +0.2**
PLTB Pedras Altas 16.47 130 *e*P **P 22 21 34.6 +0.4**
ARAG Araguaiana, MT 16.94 71 *e*P **Pn 22 21 40.2 +0.7**
ITRB Iturama 17.08 66 *e*P **Pn 22 21 42.2 +1.0**
CNLB Canela 17.49 118 *e*P **P 22 21 45.5 0.0**
TIJ01 Guaruva-PR 18.15 104 *e*P **Pn 22 21 54.1 0.0**
BB19B Bebedouro 18.58 91 *e*P **P 22 21 58.0 +0.5**
PLCA Paso Flores 18.81 185 P **Pn 22 22 00.9 -0.9**
comp=E,0.5nm,0.3s,baz=2.8,slow=9.5,SNR=9.5
PLCA Paso Flores 18.81 185 P **P 22 21 59.5 -0.4**
PLCA IAmb IAmb 22 22 06.5
comp=Z,8.5nm,1.0s
SNDB Serra Nova Dou 19.17 62 *e*P **P 22 22 04.0 0.0**
IPMB Ipameri, GO 19.45 82 *e*P **P 22 22 07.2 +0.2**
SPB Sao Paulo 19.47 99 P **P 22 22 07.7 +0.6**
SPB IAmb IAmb 22 22 08.3
comp=Z,17nm,0.7s
SPB Sao Paulo 19.47 99 *e*P **P 22 22 07.7 +0.6**
NPGB Novo Progresso 19.49 42 *e*P **P 22 22 06.3 -1.1**
PET01 Itanhaem-SP 19.64 101 *e*P **P 22 22 09.4 +0.5**
VAO Valinhos 19.90 97 *e*P **P 22 22 12.0 +0.1**
MACA Manacapuru-AM 20.15 23 *e*P **P 22 22 13.9 -0.6**
BDFB Brasilia 20.35 76 P **P 22 22 16.2 -0.6**
comp=Z,9.6nm,0.5s,baz=235,slow=9.4,SNR=18
BDFB Brasilia 20.35 76 P 22 22 16.4 -0.4
BDFB IAmb IAmb 22 22 20.4
comp=Z,9.6nm,0.6s
LL01 San Ignacio de 20.64 188 P 22 22 18.7 -0.8
LL01 IAmb IAmb 22 22 23.5
comp=Z,23nm,1.0s
PARB Paraibuna 21.14 98 *e*P **P 22 22 24.7 -0.4**
ITTB Itaituba 21.40 37 *e*P **P 22 22 27.0 -0.9**
PEXB Peixe 21.61 66 *e*P **P 22 22 29.3 -0.8**
BSCB Bom Sucesso 22.07 92 *e*P **P 22 22 35.5 +0.4**
VAS01 Vassouras-RJ 23.19 96 *e*P **P 22 22 46.6 +0.6**
JANB Januaria 23.90 77 *e*P **P 22 22 51.7 -0.7**
PRPB Parauapebas 23.90 52 *e*P **P 22 22 51.6 -0.9**
SMTB Santa Maria do 23.93 60 *e*P **P 22 22 52.8 +0.1**
MALB Monte Alegre 24.29 37 *e*P **P 22 22 56.3 +0.3**
SDBA SAO DESIDERIO 24.40 71 *e*P **P 22 22 57.1 +0.1**
SJMB Sao Joao De Ma 25.78 88 *e*P **P 22 23 09.8 +0.3**
BSFB Barra de Sao F 26.07 88 *e*P **P 22 23 12.4 +0.3**
RIB01 Linhares ES 26.39 89 *e*P **P 22 23 15.3 +0.3**
MCPB Macapa, AP 26.77 39 *e*P **P 22 23 18.3 0.0**
NAN01 Guarapari, ES 26.95 86 *e*P **P 22 23 20.1 +0.1**
TMAB Tom-Au,PA,Br 27.77 48 *e*P **P 22 23 27.7 +0.3**
GDU01 Guandu, BA 28.66 78 *e*P **P 22 23 35.2 -0.1**
MDP Montagnes des 31.03 32 P **P 22 23 56.5 +0.3**
comp=Z,4.3nm,0.6s,baz=211,slow=7.7,SNR=5.7
RCBR Riachuelo 35.33 68 P **P 22 24 34.2 +0.6**
comp=Z,16nm,0.8s,baz=237,slow=10,SNR=6.4
RCBR Riachuelo 35.33 68 P P 22 24 33.3 -0.3
APG El Apazote 42.58 328 P P 22 25 36.9 +2.7
comp=Z,2.8nm,0.6s,baz=152,slow=9.3,SNR=5.9
VNA3 Neumayer Olymp 59.52 161 P P 22 27 41.9 +2.0
VNA2 Neumayer--Watz 60.10 161 P P 22 27 45.4 +1.7
baz=280,slow=8.0
WVT Waverly 60.59 342 P P 22 27 46.6 -0.9
WVT IAmb IAmb 22 27 48.5
comp=Z,5.8nm,1.1s
S51A Beattyville 60.95 346 P P 22 27 49.0 -0.9
S51A IAmb IAmb 22 28 03.0
comp=Z,5.8nm,0.8s
TXAR Lajitas Array 61.23 325 P P 22 27 53.7 +1.6
comp=Z,0.4nm,0.6s,baz=152,slow=9.2,SNR=6.9
TXAR Lajitas Array 61.23 325 P P 22 27 50.7 -1.4
SNAA Sanae 61.73 161 P P 22 27 56.4 +1.5
SNAA Sanae 61.73 161 P P 22 27 56.1 +1.3
comp=Z,1.4nm,0.6s,baz=282,slow=5.3,SNR=22
SNAA Sanae 61.73 161 P P 22 27 54.8 -0.1
ANMO Albuquerque 67.09 327 P P 22 28 33.0 +2.5
comp=Z,0.2nm,0.8s,baz=159,slow=7.0,SNR=10.0
DBIC Dimbokro 68.47 73 P P 22 28 40.1 +0.8
comp=Z,9.1nm,0.7s,baz=222,slow=6.1,SNR=14
DBIC Dimbokro 68.47 73 P P 22 28 38.6 -0.6
PFO Pinyon Flats O 71.71 319 P P 22 29 01.3 +2.6
comp=Z,0.4nm,0.5s,baz=83,slow=1.9,SNR=4.7
PFO Pinyon Flats O 71.71 319 P P 22 28 57.4 -1.4
PFO IAmb IAmb 22 29 02.6
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 74.70 330 P P 22 29 17.9 +1.7
comp=Z,0.5nm,0.5s,baz=143,slow=7.6,SNR=6.5
PDAR pP **pP** 22 29 45.2 -2.4
comp=Z,0.3nm,0.4s,baz=128,slow=10.0,SNR=2.7
PDAR Pinedale Array 74.70 330 P P 22 29 15.0 -1.3
ELK Elko 76.02 325 P P 22 29 26.4 +2.5
comp=Z,2.0nm,0.9s,baz=173,slow=6.3,SNR=6.5
ELK Elko 76.02 325 P P 22 29 22.6 -1.4
NVAR Mina Array Bea 76.09 322 P P 22 29 26.9 +2.6
comp=Z,1.6nm,0.9s,baz=152,slow=6.1,SNR=11
NVAR Mina Array Bea 76.09 322 P P 22 29 22.9 -1.4
VNDA Vanda 76.48 190 P P 22 29 28.8 +3.0
comp=Z,0.7nm,0.9s,baz=181,slow=5.9,SNR=4.1
TORD Torodi Ar. Bea 77.12 70 P P 22 29 31.0 +0.6
comp=Z,7.8nm,0.6s,baz=253,slow=5.5,SNR=60
BOSA Boshof 82.88 118 P P 22 30 02.1 +0.7
comp=Z,2.7nm,0.9s,baz=300,slow=14,SNR=2.3
BOSA Boshof 82.88 118 P P 22 30 00.5 -0.8
YKA Yellowknife Ar 91.74 340 P P 22 30 44.5 +1.4
comp=Z,1.8nm,0.6s,baz=125,slow=4.9,SNR=5.7
ASAR Alice Springs 129.70 207 PKP PKiKP 22 36 46.5 +0.3
comp=Z,0.9nm,0.8s,baz=160,slow=2.9,SNR=7.1
ASAR Alice Springs 129.70 207 PKPdf PKPdf 22 36 43.7 -1.6
WRA Warramunga Arr 132.77 210 PKP PKiKP 22 36 53.0 +0.6
comp=Z,0.8nm,0.7s,baz=150,slow=1.7,SNR=4.6
WRA Warramunga Arr 132.77 210 PKPdf PKPdf 22 36 49.5 -1.7
ZALV Zalesovo Beam 142.18 26 PKP PKiKP 22 37 08.9 -1.5
comp=Z,0.3nm,0.2s,baz=316,slow=4.0,SNR=4.1
ZALV Zalesovo Beam 142.18 26 PKPdf PKPdf 22 37 07.0 -0.4
MKAR Makanchi Array 145.75 37 PKPbc PKPab 22 37 15.6 +0.5
comp=Z,1.0nm,0.8s,baz=342,slow=2.3,SNR=6.9
MKAR Makanchi Array 145.75 37 PKPdf PKPdf 22 37 13.2 -0.7

IDC ***12*** *22:25:58.6±1.4,5˚.54S×152˚.59E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/30,mbtmp3.8/4,Error ellipse: s-maj=32.6km s-min=14.9km az=86.0*
ISC 12 22:26:04.8±1.6,5˚.5S±0˚.2×152˚.4E±0˚.2,h40km,n7,σ0s91/7, mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.20**	**343**	Pg		**Pn**		**22 26 25.1**	**-0.1**
	210nm,0.3s,baz=173,slow=1.8,SNR=88								
KRVT				Lg		Lg		22 26 41.5	
	143nm,0.3s,baz=26,slow=18,SNR=9.3								
PMG	**Port Moresby**	**6.50**	**233**	Sn		**Sn**		**22 28 50.5**	**-0.3**
	10nm,0.3s,baz=67,slow=14,SNR=7.7								
WRA	**Warramunga Arr**	**22.70**	**229**	P		**P**		**22 31 02.0**	**-1.3**
	0.8nm,0.6s,baz=53,slow=9.8,SNR=12								
ASAR	**Alice Springs**	**25.38**	**223**	P		**P**		**22 31 29.5**	**+0.9**
	1.3nm,0.8s,baz=54,slow=9.7,SNR=11								
FITZ	**Fitzroy Crossi**	**28.98**	**242**	P		**P**		**22 32 01.6**	**+0.8**
	0.8nm,0.5s,baz=61,slow=11,SNR=1.1								
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**		**22 38 25.0**	**-0.2**
	0.8nm,0.6s,baz=251,slow=5.5,SNR=13								
TORD	**Torodi Ar. Bea**	**150.11**	**287**	PKPbc		**PKPbc**		**22 45 52.0**	**-0.4**
	0.3nm,0.5s,baz=92,slow=2.5,SNR=5.5								

IDC ***12*** *22:31:52.0±1.6,5˚.58S×152˚.56E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/27,mbtmp3.6/4,Error ellipse: s-maj=36.1km s-min=15.1km az=87.0*
ISC 12 22:31:58.3±1.7,5˚.5S±0˚.2×152˚.3E±0˚.2,h40km,n7,σ0s76/7, mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.17**	**345**	Pg		**Pn**		**22 32 18.5**	**+0.3**
	164nm,0.3s,baz=191,slow=1.2,SNR=86								
KRVT				Lg		Lg		22 32 35.6	
	109nm,0.3s,baz=11,slow=22,SNR=11								
PMG	**Port Moresby**	**6.46**	**232**	Sn		**Sn**		**22 34 43.6**	**+0.2**
	1.9nm,0.3s,baz=98,slow=19,SNR=4.8								
WRA	**Warramunga Arr**	**22.66**	**229**	P		**P**		**22 36 56.6**	**+0.2**
	0.5nm,0.4s,baz=55,slow=10,SNR=10								
ASAR	**Alice Springs**	**25.36**	**223**	P		**P**		**22 37 22.6**	**+0.8**
	0.3nm,0.5s,baz=58,slow=9.0,SNR=2.5								
FITZ	**Fitzroy Crossi**	**28.93**	**242**	P		**P**		**22 37 52.9**	**-1.1**
	1.0nm,0.6s,baz=78,slow=10,SNR=1.8								
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**		**22 44 18.8**	**+0.1**
	0.5nm,0.7s,baz=246,slow=6.3,SNR=6.0								
TORD	**Torodi Ar. Bea**	**150.05**	**287**	PKPbc		**PKPbc**		**22 51 45.2**	**-0.5**
	0.7nm,1.0s,baz=71,slow=4.0,SNR=2.4								

MOS ***12*** *23:05:36.7±1.4,56˚.83N×118˚.10E,h10km,mb4.0/2,Error ellipse: s-maj=12.0km s-min=8.7km az=68.8*
MOS Felt (III) at Chara, (II-III) at Novaya Chara.
IDC ***12*** *23:05:38.4±2.5,57˚.03N×117˚.75E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.3/34,mbtmp3.5/6,ML3.4/3,MS3.3/2, Ms1 3.3/2,ms1mx2.5/41,Error ellipse: s-maj=51.1km s-min=32.2km az=147.0*
BYKL ***12*** *23:05:38.5±0.2,56˚.85N×118˚.15E,h10km±3km,FELT I=V MSK at Novaya Chara, IV at Chara*
ISC 12 23:05:37.1±0.5,56.79N±0˚.03×118˚.43E±0˚.02,h10km,n63, σ2s29/84,mb3.7/5,2C-3D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.14**	**323**	⇓*i* Pg		**Pg**		**23 05 40.9**	**+0.5**
CRS				*e*Sg		**Sg**		**23 05 42.8**	**0.0**
CRS	**Chara**	**0.14**	**323**	⇓*i* PG		**Pg**		**23 05 40.9**	**+0.5**
CRS				*e*S		**Sg**		**23 05 42.7**	**0.0**
NLYR	**Nelyaty**	**1.54**	**260**	⇓*i* Pg		**Pn**		**23 06 03.0**	**-1.6**
NLYR				*e*Pb		**Pb**		**23 06 04.5**	**-1.1**
NLYR				max				23 06 14.2	
	470nm,0.5s								
NLYR				*e*Sg		**Sn**		**23 06 21.2**	**-3.4**
NLYR				*e*				23 06 24.3	
NLYR				max				23 06 24.7	
	8µm,0.8s								
NLYR	**Nelyaty**	**1.54**	**260**	*e*PG		**Pn**		**23 06 03.3**	**-1.3**
NLYR				*e*				23 06 20.2	
NLYR				pmax		pmax			
	comp=Z,520nm,0.5s								
NLYR				smax		smax			
	comp=E,8µm,1.0s								
YKLR	**Yuktali**	**1.79**	**95**	*e*Pg		**Pg**		**23 06 13.4**	**+2.0**
YKLR				*e*Sg		**Sg**		**23 06 39.4**	**+4.8**
YKLR				*e*				23 06 44.0	
TUP	**Tupik**	**2.52**	**159**	*e*Pn		**Pb**		**23 06 20.8**	**-1.6**
TUP				*e*				23 06 22.4	
TUP				*e*Pg		**Pg**		**23 06 25.5**	**+0.2**
TUP				Pmax				23 06 30.7	
	comp=E,116nm,0.5s								
TUP				*e*Sg		**Sg**		**23 06 58.8**	**+0.9**
TUP				Smax				23 06 59.6	
	comp=E,971nm,0.4s								
TUP				*e*				23 07 08.0	
TUP	**Tupik**	**2.52**	**159**	*e*PN		**Pb**		**23 06 20.7**	**-1.6**
TUP				*e*				23 06 24.8	
TUP				*e*S		**Sb**		**23 06 52.1**	**-1.3**
TUP				*e*				23 06 58.0	
TUP				pmax		pmax			
	comp=Z,114nm,0.4s								
TUP				smax		smax			
	comp=E,987nm,0.7s								
BOD	**Bodaibo**	**2.62**	**295**	*e*Pn		**Pn**		**23 06 18.9**	**-0.5**
BOD				⇑*i* Pg		**Pb**		**23 06 21.8**	**-2.2**
BOD				Pmax				23 06 22.2	
	comp=E,486nm,0.2s								
BOD				*e*Sn		**Sn**		**23 06 49.3**	**-1.8**
BOD				*e*Sg		**Sb**		**23 06 53.8**	**-2.4**
BOD				Smax				23 06 54.2	
	comp=E,2µm,0.6s								
BOD	**Bodaibo**	**2.62**	**295**	⇑*e*PN		**Pn**		**23 06 18.4**	**-1.0**
BOD				*i*				23 06 21.9	
BOD				*e*				23 06 53.4	
BOD				pmax		pmax			
	comp=Z,487nm,0.2s								
BOD				smax		smax			
	comp=N,2µm,0.6s								
SVKR	**Severomuysk**	**2.79**	**258**	*e*Pn		**Pn**		**23 06 22.8**	**+1.0**
SVKR				*e*Pg		**Pb**		**23 06 25.9**	**-1.0**
SVKR				Pmax				23 06 31.1	
	comp=N,277nm,0.5s								
SVKR				*e*Sg		**Sb**		**23 06 59.8**	**-1.3**
SVKR				Smax				23 07 05.1	
	comp=N,2µm,0.5s								
UKT	**Uakit**	**2.98**	**246**	*i*		**Pn**		**23 06 24.5**	**-0.1**
UKT				*e*				23 06 29.2	
UKT				max				23 06 29.6	
	comp=N,136nm,0.6s								
UKT				*i* Sg		**Sb**		**23 07 06.1**	**-0.8**
UKT				Smax				23 07 08.0	
	comp=N,831nm,0.4s								
UKT	**Uakit**	**2.98**	**246**	*e*PN		**Pn**		**23 06 24.4**	**-0.1**
UKT				*e*				23 06 29.1	
UKT				*e*				23 07 05.8	
UKT				pmax		pmax			
	comp=Z,128nm,0.5s								
UKT				smax		smax			
	comp=N,840nm,0.5s								
CLNS	**Chul'man**	**3.55**	**86**	*e*Pn		**Pb**		**23 06 37.1**	**-2.9**
CLNS				*e*Pg		**Pg**		**23 06 45.9**	**+0.8**
CLNS				*e*Sn		**Sb**		**23 07 21.3**	**-1.9**
CLNS				*e*Sg		**Sg**		**23 07 33.4**	**+2.3**
IENR	**Iengra**	**3.61**	**96**	*e*		**Sb**		**23 07 23.6**	**-1.1**
IENR				*e*Sg		**Sg**		**23 07 34.0**	**+1.2**
YOA	**Uoyan**	**3.78**	**263**	*e*Pn		**Pn**		**23 06 34.9**	**-0.5**
YOA				*e*Pg		**Pb**		**23 06 44.4**	**+0.6**
YOA				Pmax				23 06 58.0	
	comp=N,229nm,0.6s								
YOA				*e*Sg		**Sb**		**23 07 31.7**	**+2.1**
YOA				Smax				23 07 54.9	
	comp=N,4µm,1.3s								
VTM	**Vitim**	**4.09**	**313**	*e*PN		**Pn**		**23 06 40.0**	**+0.4**
VTM				*e*				23 06 51.0	
VTM				*e*				23 07 42.7	
VTMR	**Vitim**	**4.10**	**313**	*e*Pn		**Pn**		**23 06 39.8**	**+0.1**
VTMR				*e*Pg		**Pb**		**23 06 49.9**	**+0.6**
VTMR				*e*				23 07 17.6	
VTMR				*e*Sg		**Sb**		**23 07 40.4**	**+1.6**
KMO	**Kumora**	**4.12**	**260**	*e*Pn		**Pn**		**23 06 38.9**	**-1.2**
KMO				*e*Pg		**Pb**		**23 06 49.6**	**-0.1**
KMO				*e*				23 06 54.9	
KMO				max				23 06 58.7	
	comp=N,66nm,0.4s								
KMO				*e*Sg		**Sb**		**23 07 41.8**	**+2.3**
KMO				Smax				23 07 43.5	
	comp=N,718nm,0.9s								
KMO	**Kumora**	**4.12**	**260**	*e*PN		**Pn**		**23 06 38.8**	**-1.3**
KMO				*e*				23 06 48.8	
KMO				*e*S		**Sn**		**23 07 25.1**	**-3.2**
KMO				*e*				23 07 40.1	
KMO				pmax		pmax			
	comp=Z,48nm,0.5s								
KMO				smax		smax			
	comp=N,722nm,0.9s								
YLYR	**Ulyunkhan**	**4.52**	**248**	*e*Pn		**Pn**		**23 06 45.7**	**+0.1**
YLYR				*e*Pg		**Pb**		**23 06 57.6**	**+1.1**
YLYR				Pmax				23 06 58.6	
	comp=N,35nm,0.7s								
YLYR				*e*Sg		**Sb**		**23 07 54.6**	**+3.6**
YLYR				Smax				23 07 56.1	
	comp=N,418nm,0.9s								
YLYR				*e*				23 07 59.0	
YLYR	**Ulyunkhan**	**4.52**	**248**	*e*PN		**Pn**		**23 06 45.9**	**+0.3**
YLYR				*e*				23 06 57.7	
YLYR				*e*				23 07 54.2	
YLYR				smax		smax			
	comp=N,419nm,0.9s								
NIZ	**Nizh Angarsk**	**5.06**	**262**	*e*Pn		**Pn**		**23 06 53.8**	**+0.9**
NIZ				*e*Pg		**Pb**		**23 07 07.2**	**+1.6**
NIZ				Pmax				23 07 22.2	
	comp=N,14nm,0.2s								
NIZ				*e*Sg		**Sb**		**23 08 10.0**	**+3.7**
NIZ				Smax				23 08 14.7	
	comp=N,429nm,0.9s								
NIZ	**Nizh Angarsk**	**5.06**	**262**	*e*PN		**Pn**		**23 06 53.8**	**+0.9**
NIZ				*e*				23 07 07.0	
NIZ				*e*S		**Sn**		**23 07 49.8**	**-1.5**
NIZ				*e*				23 08 10.0	
NIZ				pmax		pmax			
	comp=Z,164nm,2.0s								
NIZ				smax		smax			
	comp=N,435nm,1.2s								
SYVR	**Suvo**	**5.75**	**241**	*e*Pn		**Pn**		**23 07 01.9**	**-0.6**
SYVR				*e*				23 07 11.0	
SYVR				*e*Pg		**Pb**		**23 07 19.4**	**+2.0**
SYVR				Pmax				23 07 25.8	
	comp=N,19nm,0.8s								
SYVR				*e*Sn		**Sn**		**23 08 07.3**	**-1.2**
SYVR				*e*Sg		**Sb**		**23 08 33.1**	**+6.7**
SYVR				Smax				23 08 42.3	
	comp=N,219nm,1.0s								
SYVR	**Suvo**	**5.75**	**241**	*e*PN		**Pn**		**23 07 02.4**	**-0.1**
SYVR				*e*				23 07 19.2	
ZEA	**Zeya**	**5.89**	**117**	*e*PN		Pn		**23 07 10.5**	**+6.1**
ZEA								23 07 30.4	
ZEA				*e*S		**Sn**		**23 08 15.0**	**+3.1**
ZEA				*e*				23 08 47.0	
ZEA				pmax		pmax			
	comp=N,10.0nm,0.1s								
ZEA				pmax		pmax			
	comp=E,10.0nm,0.1s								
ZEA				pmax		pmax			
	comp=Z,10.0nm,0.2s								
ZEA				pmax		pmax			
	comp=E,30nm,0.6s								
ZEA				pmax		pmax			
	comp=N,20nm,0.4s								
ZEA				pmax		pmax			
	comp=Z,30nm,0.4s								
ZEA				smax		smax			
	comp=N,30nm,0.6s								
ZEA				smax		smax			
	comp=E,20nm,0.6s								
ZEA				smax		smax			
	comp=N,50nm,0.8s								
MXMB	**Maximikha**	**6.59**	**242**	*e*		Pb		23 07 24.1	-7.6
MXMB				*e*Sg		**Sb**		**23 08 58.3**	**+7.8**
OGRR	**Ongureny**	**6.95**	**248**	*e*Pn		**Pn**		**23 07 20.3**	**+1.4**
OGRR				*e*				23 07 32.9	
OGRR				*e*				23 07 44.3	
OGRR				max				23 07 59.3	
	comp=N,9.0nm,1.5s								
OGRR				*e*				23 08 36.0	
OGRR				*e*Sg		Sg		23 09 10.0	-10
OGRR				Smax				23 09 23.9	
	comp=N,88nm,1.3s								
OGRR	**Ongureny**	**6.95**	**248**	*e*PN		**Pn**		**23 07 19.8**	**+0.9**
OGRR				*e*				23 07 41.2	
OGRR				*e*				23 09 07.9	
OGRR				pmax		pmax			
	comp=Z,5.0nm,0.5s								
OGRR				smax		smax			
	comp=E,87nm,2.1s								
KELR	**Kotokel**	**7.22**	**240**	*e*		**Pb**		**23 07 37.8**	**-4.5**
KELR				*e*				23 07 44.7	
KELR				*e*Sg		Sg		23 09 18.7	-10
KELR				*e*				23 09 27.2	
YAK	**Yakutsk**	**7.78**	**43**	Sn		**Sn**		**23 08 55.5**	**-2.7**
	comp=E,0.1nm,0.3s,baz=186,slow=19,SNR=1.2								
YAK				Lg

HRMR				*e*			23 07 47.8		
HRMR				*e*			23 08 05.9		
HRMR				max			23 08 13.0		
	comp=Z,18nm,0.7s								
HRMR				*e*			23 09 41.6		
HRMR				*e*Sg		Sg	23 09 59.0	-10	
HRMR				Smax			23 10 14.0		
	comp=Z,389nm,0.9s								
BGT	**Bolshoye Golou**	**8.95**	**243**	*e*			23 09 48.8		
BGT				*e*Sg		Sg	23 10 12.7	-11	
BGT				Smax			23 10 36.0		
	comp=Z,36nm,0.1s								
LSTR	**Listvyanka**	**9.34**	**244**	*e*			23 09 58.8		
LSTR				Sg		Sn	23 10 23.8	+47	
LSTR				Smax			23 10 34.8		
	comp=Z,52nm,1.7s								
IVK	**Ivanovka**	**9.59**	**245**	*e*			23 10 14.5		
IVK				*e*Sg		Sn	23 10 30.9	+48	
IVK				Smax			23 10 38.4		
	comp=Z,36nm,0.8s								
TLY	**Talaya**	**10.04**	**246**	Lg		Lg	23 10 44.6		
	comp=Z,0.0nm,0.3s,baz=156,slow=19,SNR=2.8								
TLY	**Talaya**	**10.04**	**246**	*i* P		**Pn**	**23 08 00.9**	**-0.4**	
TLY				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ARS	**Arshan**	**10.53**	**249**	*e*Pn		**Pn**	**23 08 10.8**	**+2.8**	
ARS				*e*			23 08 19.2		
ARS				max			23 08 43.2		
	comp=Z,2.0nm,0.1s								
ARS				*e*Sg		Sn	23 10 59.9	+54	
ARS				Smax			23 11 07.2		
	comp=Z,150nm,1.0s								
ARS				*e*			23 11 15.8		
ZAK	**Zakamensk**	**11.04**	**241**	Sg			23 11 17.7		
ZAK				*e*			23 11 25.9		
ZAK				max			23 11 29.1		
	comp=Z,36nm,1.7s								
MOY	**Mondy**	**11.41**	**251**	*e*			23 10 57.2		
MOY				*e*Sg			23 11 28.3		
MOY				Smax			23 11 34.0		
	comp=Z,71nm,1.9s								
ORL	**Orlik**	**11.58**	**256**	*e*Pn		**Pn**	**23 08 23.9**	**+1.5**	
ORL				*e*			23 08 49.8		
ORL				max			23 09 48.7		
	comp=Z,4.0nm,1.0s								
ORL				*e*			23 10 43.0		
ORL				*e*			23 11 22.2		
ORL				*e*Sg			23 11 32.1		
ORL				Smax			23 11 37.7		
	comp=Z,67nm,2.1s								
ORL				*e*			23 11 38.7		
ORL				*e*			23 11 46.4		
SONM	**Songino Array**	**11.58**	**224**	Pn		**Pn**	**23 08 22.6**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=1.9								
SONM				Lg		Lg	23 11 36.9		
	comp=Z,0.5nm,0.3s,baz=22,slow=31,SNR=3.7								
TDJR	**Todzha**	**13.65**	**261**	*e*Sg		S	23 12 35.7	+51	
TDJR				*e*			23 12 40.9		
KNGR	**Kungurtug, Tuv**	**13.82**	**252**	*e*			23 11 39.5		
KNGR				*e*Sg		S	23 12 41.8	+53	
KNGR				*e*			23 12 48.0		
ARDR	**Aradan**	**15.02**	**264**	*e*			23 12 21.1		
ARDR				Sg			23 13 18.3		
TIXI	**Tiksi**	**15.55**	**12**	*i* P		**Pn**	**23 09 16.8**	**+0.7**	
TIXI				pmax		pmax			
	comp=Z,28nm,1.0s								
NRIK	**Noril'sk**	**18.52**	**325**	P		**P**	**23 09 49.0**	**-4.2**	
	comp=Z,0.9nm,0.3s,baz=119,slow=10,SNR=6.5								
NRIK	**Noril'sk**	**18.52**	**325**	*i* P		**P**	**23 09 50.1**	**-3.1**	
NRIK				pmax		pmax			
	comp=Z,12nm,1.2s								
ZALV	**Zalesovo Beam**	**19.20**	**276**	P		**P**	**23 10 00.6**	**-0.1**	
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=2.7								
GTA	**Gaotai**	**21.25**	**223**	*e*P		**P**	**23 10 25.4**	**+2.1**	
GTA				pP		sP	23 10 32.2	+4.2	
GTA				sP		pP	23 10 35.2	+8.7	
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KURK	**Kurchatov**	**24.04**	**272**	*i* P		**P**	**23 10 52.5**	**+0.5**	
BRVK	**Borovoye**	**27.46**	**283**	*i* P		**P**	**23 11 22.1**	**-0.8**	
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.9s								
JHJ	**Hachijo jima 2**	**27.85**	**139**	LR		LR	23 21 44.0		
	comp=Z,53nm,20.6s,baz=302,slow=34								
ARCES	**ARCESS Array B**	**39.49**	**326**	LR		LR	23 33 04.9		
	comp=Z,44nm,18.0s,baz=100,slow=42								
ILAR	**Eielson Array**	**42.68**	**39**	P		**P**	**23 13 36.7**	**+3.2**	
	comp=Z,0.2nm,0.6s,baz=291,slow=5.2,SNR=2.3								
FINES	**FINESS Array B**	**43.83**	**316**	P		**P**	**23 13 42.4**	**-0.3**	
	comp=Z,2.3nm,1.0s,baz=60,slow=9.8,SNR=8.7								
FINES	**FINESS Array B**	**43.83**	**316**	*i* P		**P**	**23 13 42.7**	**0.0**	
FINES				pmax		pmax			
	comp=Z,2.0nm,1.0s								
AKASG	**Malin Array Be**	**49.52**	**303**	P		**P**	**23 14 26.5**	**-0.9**	
	comp=Z,0.3nm,0.4s,baz=40,slow=8.9,SNR=2.4								

KRNET ***12*** *23:13:01.8±0.1,41°.44N×72°.37E,h18km,mb2.1*
NNC ***12*** *23:13:01.3±1.2,41°.36N×72°.43E,h0km,mpv3.2,Error ellipse: s-maj=11.1km s-min=3.7km az=159.0*
SOME ***12*** *23:13:01.7,41°.48N×72°.37E,h5km*
ISC 12 23:13:01.0±1.3,41°.41N±0°.05×72°.40E±0°.03,h12km±14km, n16,σ1§13/30,18C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAS	**Manas**	**1.08**	**4**	⇑*i*	P	**Pn**	**23 13 21.8**	**-0.3**
	baz=6.0							
MNAS				⇑*i*	S	**Sg**	**23 13 35.9**	**-0.1**
	baz=6.0							
AML	**Almayashu**	**1.21**	**53**	⇑*i*	P	**Pb**	**23 13 24.3**	**+0.3**
	baz=55							
AML				⇑*i*	S	**Sg**	**23 13 40.9**	**+0.9**
	baz=55							
MRKS	**Merke**	**1.47**	**24**	*e*	P	**Pg**	**23 13 29.6**	**+0.4**
	0.9nm,0.1s							
MRKS				*e*	S	**Sg**	**23 13 49.0**	**+0.7**
	3.4nm,0.3s							
MRKS	**Merke**	**1.47**	**24**	P		**Pg**	**23 13 29.3**	**0.0**
	2.9nm,0.2s							
MRKS				S		**Sg**	**23 13 49.8**	**+1.4**
	3.4nm,0.3s							
ARLS	**Aral**	**1.51**	**72**	⇑*i*	P	**Pb**	**23 13 30.0**	**+1.0**
	baz=73							
ARLS				⇑*i*	S	**Sg**	**23 13 50.4**	**+0.8**
	baz=73							
EKS2	**Erkin-Say**	**1.62**	**39**	⇑*e*	P	**Pb**	**23 13 31.1**	**+0.2**
	baz=40							
EKS2				⇑*i*	S	**Sg**	**23 13 53.1**	**0.0**
	baz=40							
UCH	**Uchtor**	**1.78**	**62**	⇑*i*	P	**Pb**	**23 13 34.8**	**+1.0**
	baz=63							
UCH				⇑*i*	S	**Sg**	**23 13 58.7**	**+0.4**
	baz=63							
BTK	**Batken**	**1.81**	**222**	⇑*i*	P	**Pb**	**23 13 35.2**	**+1.2**
	baz=21							
BTK				⇑*i*	S	**Sg**	**23 13 59.2**	**+0.2**
	baz=21							
IUG	**Iuzhnay**	**1.92**	**293**	*e*P		**Pb**	**23 13 36.7**	**+0.7**
	7.1nm,0.2s							
IUG				*e*S		**Sg**	**23 14 01.8**	**-0.9**
	22nm,0.3s							
IUG	**Iuzhnay**	**1.92**	**293**	Pg		**Pg**	**23 13 37.0**	**-0.8**
	16nm,0.1s							
IUG				Lg		Lg	23 14 03.6	
	22nm,0.3s							
AAK	**Ala-Archa**	**1.99**	**51**	⇑*i*	P	**Pb**	**23 13 37.7**	**+0.6**
	baz=52							
AAK				⇑*i*	S	**Sb**	**23 14 03.7**	**+1.8**
	baz=52							
KBK	**Karagaybulak**	**2.27**	**56**	⇑*i*	P	**Pb**	**23 13 42.0**	**0.0**
	baz=57							
KBK				⇑*i*	S	**Sb**	**23 14 11.1**	**+1.0**
	baz=57							
USP	**Ospenovka**	**2.42**	**39**	⇓*i*	P	**Pb**	**23 13 43.8**	**-0.7**
	baz=40							
USP				⇓*i*	S	**Sb**	**23 14 14.1**	**-0.3**
	baz=40							
BOOM	**Boomskoye usch**	**2.85**	**67**	⇑*i*	P	**Pb**	**23 13 49.9**	**-2.0**
	baz=67							
BOOM				⇑*i*	S	**Sb**	**23 14 24.7**	**-2.1**
	baz=67							
KRBS	**Karabastau**	**3.33**	**46**	*e*P		**Pg**	**23 14 03.1**	**-1.6**
	0.7nm,0.3s							
KRBS				*e*S		**Sg**	**23 14 46.9**	**-1.0**
	1.2nm,0.4s							
KRBS	**Karabastau**	**3.33**	**46**	Pg		**Pb**	**23 14 02.3**	**+2.4**
	0.7nm,0.3s							
KRBS				Lg		Lg	23 14 46.9	
	1.2nm,0.4s							

IDC ***12*** *23:15:34.5±5.7,21°.59S×68°.45W,h0km,mb3.5/1, mb1 3.5/2,mb1mx3.4/17,mbtmp3.4/2,ML3.2/1,Error ellipse: s-maj=167.9km s-min=55.3km az=70.0*
GUC ***12*** *23:15:50.9±0.7,20°.46S×68°.85W,h104km±3km,ML3.4*
ISC 12 23:15:50.2±1.0,20°.48S±0°.03×68°.97W±0°.08,h112km±8km, n22,σ0§86/41,9C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.38**	**332**	⇑*i*	P	**Pn**	**23 16 06.6**	**-0.5**
PB08				*i*	S	**Sn**	**23 16 19.0**	**-0.7**
PB08				IAML			23 16 20.2	
	comp=E,3μm,0.2s							
PB01	**IPOC Station P**	**0.74**	**221**	⇑*i*	P	**Pn**	**23 16 09.3**	**+0.1**
PB01				*i*	S	**Sn**	**23 16 24.2**	**+0.7**
PB01				IAML			23 16 26.6	
	comp=N,1μm,0.2s							
GO01	**Chusmiza**	**0.84**	**345**	⇑*i*	P	**Pn**	**23 16 10.1**	**-0.4**
GO01				*i*	S	**Sn**	**23 16 25.6**	**-0.2**
GO01				IAML			23 16 29.7	
	comp=N,2μm,0.2s							
PB11	**IPOC Station P**	**0.97**	**318**	⇑*i*	P	**Pn**	**23 16 11.3**	**-0.1**
PB11				*i*	S	**Sn**	**23 16 27.6**	**+0.2**
PB11				IAML			23 16 30.4	
	comp=N,1μm,0.2s							
TA02	**Huaiquique**	**1.11**	**281**	*e*P		**Pn**	**23 16 13.2**	**+0.5**
TA02				*i*	S	**Sn**	**23 16 30.4**	**+0.7**
TA01	**Diego Aracena**	**1.14**	**266**	⇑*i*	P	**Pn**	**23 16 13.1**	**+0.1**
TA01				*i*	S	**Sn**	**23 16 31.1**	**+0.8**
TA01				IAML			23 16 32.2	
	comp=E,448nm,0.6s							
PATCX	**Punta Patache**	**1.16**	**253**	⇑*e*	P	**Pn**	**23 16 14.0**	**+0.6**
PATCX				*i*	S	**Sn**	**23 16 31.8**	**+0.9**
PATCX				IAML			23 16 37.0	
	comp=E,621nm,0.2s							
PB02	**IPOC Station P**	**1.21**	**226**	*e*P		**Pn**	**23 16 14.2**	**+0.4**
PB02				*i*	S	**Sn**	**23 16 33.0**	**+1.2**
PB02				IAML			23 16 36.0	
	comp=E,2μm,0.5s							
PB09	**IPOC Station P**	**1.33**	**191**	⇑*i*	P	**Pn**	**23 16 15.9**	**+0.6**
PB09				*i*	S	**Sn**	**23 16 35.6**	**+1.1**
PB09				IAML			23 16 38.3	
	comp=E,358nm,0.6s							
PSGC	**Pisagua**	**1.40**	**309**	⇑*i*	P	**Pn**	**23 16 15.9**	**-0.1**
PSGC				*i*	S	**Sn**	**23 16 36.0**	**+0.3**
PSGC				IAML			23 16 38.0	
	comp=N,366nm,0.6s							
MNMC	**Minye Minye**	**1.47**	**336**	⇓*i*	P	**Pn**	**23 16 17.7**	**+0.6**
MNMC				*i*	S	**Sn**	**23 16 38.4**	**+1.0**
MNMC				IAML			23 16 39.9	
	comp=N,1μm,0.2s							
PB07	**IPOC Station P**	**1.51**	**215**	*e*P		**Pn**	**23 16 17.7**	**+0.3**
PB07				*i*	S	**Sn**	**23 16 38.7**	**+0.6**
PB07				IAML			23 16 40.0	
	comp=E,448nm,0.5s							
PB03	**IPOC Station P**	**1.73**	**205**	*e*P		**Pn**	**23 16 20.8**	**+0.8**
PB03				*i*	S	**Sn**	**23 16 43.2**	**+0.5**
PB03				IAML			23 16 45.1	
	comp=E,329nm,0.2s							
LVC	**Limon Verde**	**2.12**	**179**	*e*P		**Pn**	**23 16 26.1**	**+1.0**
LVC				*i*	S	**Sn**	**23 16 52.8**	**+1.0**
PB04	**IPOC Station P**	**2.15**	**211**	*e*P		**Pn**	**23 16 25.8**	**+0.5**
PB04				*i*	S	**Sn**	**23 16 51.8**	**-0.4**
PB04				IAML			23 17 00.4	
	comp=E,178nm,0.2s							
PB16	**IPOC Station P**	**2.19**	**346**	⇑*i*	P	**Pn**	**23 16 27.2**	**+0.8**
PB16				*i*	S	**Sn**	**23 16 55.2**	**+1.3**
PB06	**IPOC Station P**	**2.29**	**194**	*e*P		**Pn**	**23 16 28.2**	**+1.2**
PB06				*i*	S	**Sn**	**23 16 55.1**	**-0.2**
PB06				IAML			23 17 00.1	
	comp=N,142nm,0.4s							
PB05	**IPOC Station P**	**2.63**	**206**	*e*P		**Pn**	**23 16 31.7**	**+0.3**
PB05				*i*	S	**Sn**	**23 17 01.3**	**-1.9**
PB05				IAML			23 17 13.1	
	comp=E,139nm,0.6s							
PB15	**IPOC Station P**	**2.75**	**190**	*e*P		**Pn**	**23 16 34.1**	**+0.9**
PB15				*i*	S	**Sn**	**23 17 06.7**	**+0.3**
LPAZ	**La Paz**	**4.25**	**11**	Pn		**Pn**	**23 16 55.2**	**+1.7**
	comp=E,0.4nm,0.3s,baz=187,slow=4.0,SNR=19							
TORD	**Tordi Ar. Bea**	**77.06**	**71**	P		**P**	**23 27 29.6**	**-2.0**
	comp=E,0.3nm,0.7s,baz=251,slow=5.2,SNR=6.1							
MKAR	**Makanchi Array**	**144.84**	**35**	PKPbc		**PKPab**	**23 35 13.7**	**+0.4**
	comp=E,0.5nm,1.0s,baz=311,slow=4.3,SNR=1.8							

IDC ***12*** *23:26:59.5±0.4,31°.55S×76°.77E,h0km,mb4.4/26, mb1 4.5/26,mb1mx4.4/41,mbtmp4.4/26,MS4.6/22, Ms1 4.6/22,ms1mx4.6/23,Error ellipse: s-maj=14.8km s-min=12.8km az=171.0*
NEIC ***12*** *23:27:01.0±1.4,31°.61S±0°.09×76°.7E±0°.1,h10km±1km, mb4.9/52,Error ellipse: s-maj=16.7km s-min=14.9km az=265.0*
GCMT ***12*** *23:27:02.0±0.1,31°.75S±0°.01×76°.68E±0°.01,h12km, MW5.3/145,Moment Tensor Solution. s100,c148; s145,c277; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=0.29±.01; Mθθ=0.48±.01; Mφφ=0.77±.01; Mrθ=0.15±.04; Mθφ=-0.86±.01; Mφr=0.01±.04; Best double couple: Mo=1.08000×10^17 NP1:ϕs=198.00000°,δ=80.00000°, λ=-7.00000°. NP2:ϕs=289.00000°,δ=83.00000°, λ=-170.00000°. Principal axes: T 1.2120, Plg2.0000°, Azm63.0000°; N -0.2650, Plg77.0000°, Azm323.0000°; P -0.9470, Plg12.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 23:27:01.2±0.3,31°.62S±0°.07×76°.77E±0°.07,h10km,n134, σ1§13/105,mb4.8/50,MS4.7/27,6C-10D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**6.19**	**174**	Pn		**Pn**	**23 28 32.2**	**-0.4**
PAF	**Port-aux-Franc**	**18.38**	**194**	P		**Pn**	**23 31 15.2**	**-0.8**
RER	**Riviere de l'E**	**21.49**	**294**	P		**P**	**23 31 49.4**	**-0.8**
H08S2	**Diego Garcia H**	**24.19**	**350**	T		T	23 57 21.3	
	baz=171,slow=76,SNR=1195							
H08S1	**Diego Carcia H**	**24.19**	**350**	T		T	23 57 22.1	
	baz=171,slow=76,SNR=1270							
H08S3	**Diego Garcia H**	**24.21**	**350**	T		T	23 57 24.5	
	baz=171,slow=76,SNR=1712							
ABPO	**Ambohimpanom**	**29.40**	**288**	P		**P**	**23 33 04.8**	**-0.3**
ABPO				IAmb		IAmb	23 33 06.1	
	comp=Z,19nm,1.4s							
OPO	**Ambohidratompo**	**29.67**	**289**	P		**P**	**23 33 07.5**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=106,slow=6.4,SNR=3.9							
H01W2	**Cape Leeuwin H**	**31.30**	**106**	T		T	00 06 09.8	
	baz=265,slow=74,SNR=249							
H01W3	**Cape Leeuwin H**	**31.36**	**106**	T		T	00 06 17.4	
	baz=265,slow=74,SNR=215							
H01W1	**Cape Leeuwin H**	**31.32**	**106**	T		T	00 06 11.0	
	baz=265,slow=74,SNR=219							
MORW	**Morawa**	**33.87**	**96**	P		**P**	**23 33 43.4**	**-0.7**
MORW				IAmb		IAmb	23 33 46.7	
	comp=Z,27nm,1.2s							
NWAO	**Narrogin (SRO)**	**34.09**	**103**	P		**P**	**23 33 46.1**	**+0.1**
	comp=Z,12nm,1.0s,baz=209,slow=13,SNR=2.6							
NWAO				LR		LR	23 45 18.1	
	comp=Z,717nm,19.2s,baz=134,slow=32							
NWAO	**Narrogin (SRO)**	**34.09**	**103**	IAmb		IAmb	23 33 57.8	
	comp=Z,22nm,1.4s							
MAW	**Mawson**	**36.94**	**189**	P		**P**	**23 34 11.1**	**+1.1**
	comp=Z,3.5nm,1.1s,baz=13,slow=13,SNR=3.8							
MAW				LR		LR	23 46 41.5	
	comp=Z,582nm,18.1s,baz=27,slow=32							
RPSI	**Rantau Prapat**	**40.11**	**36**	P		**P**	**23 34 36.9**	**-0.2**
RPSI	**Rantau Prapat**	**40.11**	**36**	P		**P**	**23 34 35.7**	**-1.5**
PSI	**Prapat**	**40.20**	**36**	P		**P**	**23 34 35.7**	**-2.4**
	comp=Z,3.1nm,0.4s,baz=181,slow=17,SNR=2.1							
IPM	**Ipoh**	**42.70**	**37**	P		**P**	**23 34 58.1**	**-0.4**
SYO	**Syowa Base**	**42.98**	**199**	⇓*e*	P	**P**	**23 35 01.0**	**+0.9**
KULM	**Kulim**	**43.20**	**36**	P		**P**	**23 35 01.9**	**-0.7**
KULM				IAmb		IAmb	23 35 05.5	
	comp=Z,20nm,1.1s							
BOSA	**Boshof**	**44.33**	**260**	P		**P**	**23 35 12.1**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=125,slow=9.4,SNR=4.1							
BOSA				LR		LR	23 49 34.5	
	comp=Z,1μm,21.6s,baz=110,slow=31							
MATP	**Matopo**	**44.47**	**272**	P		**P**	**23 35 12.4**	**-0.6**
	comp=Z,7.3nm,1.2s,baz=113,slow=7.4,SNR=5.8							
MATP	**Matopo**	**44.47**	**272**	*i* P		**P**	**23 35 12.0**	**-0.9**
MATP	**Matopo**	**44.47**	**272**	*i* P		**P**	**23 35 12.0**	**-0.9**
BLWY	**Bulawayo**	**44.50**	**273**	*i* P		**P**	**23 35 11.6**	**-1.6**
BLWY	**Bulawayo**	**44.50**	**273**	*i* P		**P**	**23 35 11.6**	**-1.6**
LBTB	**Lobatse**	**45.19**	**265**	P		**P**	**23 35 19.2**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=119,slow=10,SNR=3.4							
LBTB	**Lobatse**	**45.19**	**265**	P		**P**	**23 35 16.7**	**-1.9**
LBTB				IAmb		IAmb	23 35 27.6	
	comp=Z,16nm,1.2s							
KSM	**Kuching**	**45.77**	**50**	P		**P**	**23 35 21.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**45.99**	**85**	LR		LR	23 52 55.2	
	comp=Z,1μm,18.7s,baz=269,slow=34							
FITZ	**Fitzroy Crossi**	**45.99**	**85**	P		**P**	**23 35 24.8**	**-0.1**
SUR	**Sutherland**	**46.98**	**254**	P		**P**	**23 35 33.1**	**+0.3**
	comp=Z,9.5nm,0.8s,baz=116,slow=4.6,SNR=5.1							
SUR	**Sutherland**	**46.98**	**254**	P		**P**	**23 35 32.3**	**-0.5**
LSZ	**Lusaka**	**47.05**	**279**	P		**P**	**23 35 33.5**	**+0.1**
SBUM	**Sibu**	**47.77**	**52**	P		**P**	**23 35 39.4**	**+0.7**
SBUM				IAmb		IAmb	23 35 40.9	
	comp=Z,14nm,1.0s							
KMBO	**Kilima Mbogo**	**48.07**	**301**	P		**P**	**23 35 42.0**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=123,slow=8.4,SNR=9.0							
KMBO				LR		LR	23 51 43.7	
	comp=Z,247nm,19.8s,baz=112,slow=31							
KMBO	**Kilima Mbogo**	**48.07**	**301**	P		**P**	**23 35 41.6**	**+0.1**
KMBO				IAmb		IAmb	23 35 54.3	
	comp=Z,15nm,1.2s							
BATI	**Baumata**	**48.27**	**74**	LR		LR	23 55 22.1	
	comp=Z,758nm,18.6s,baz=284,slow=35							
HYB	**Hyderabad**	**48.79**	**2**	*i* P		**P**	**23 35 49.0**	**+2.5**
ASAR	**Alice Springs**	**50.75**	**96**	P		**P**	**23 36 01.4**	**-0.2**
	comp=Z,9.0nm,0.9s,baz=244,slow=6.8,SNR=51							
AS31	**Alice Springs**	**50.75**	**96**	P		**P**	**23 36 01.8**	**+0.1**
WRA	**Warramunga Arr**	**52.61**	**92**	P		**P**	**23 36 15.2**	**-0.3**
	comp=Z,6.0nm,0.9s,baz=248,slow=7.6,SNR=23							
WRA				LR		LR	23 56 33.1	
	comp=Z,3μm,19.9s,baz=250,slow=34							
WRA	**Warramunga Arr**	**52.61**	**92**	P		**P**	**23 36 15.2**	**-0.3**
WB2	**Warramunga Arr**	**52.62**	**92**	P		**P**	**23 36 15.8**	**+0.2**
WB2				IAmb		IAmb	23 36 18.1	
	comp=Z,26nm,1.4s							
WB0	**Warramunga Arr**	**52.73**	**92**	P		**P**	**23 36 16.5**	**+0.1**
WB0				IAmb		IAmb	23 36 18.8	
	comp=Z,20nm,1.2s							
WR0	**Warramunga Arr**	**52.77**	**92**	IAmb		IAmb	23 36 19.2	
	comp=Z,19nm,1.2s							
CMAR	**Chiang Mai Arr**	**54.15**	**26**	P		**P**	**23 36 27.4**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=214,slow=6.4,SNR=6.2							
CMAR				LR		LR	23 56 44.1	
	comp=Z,436nm,18.9s,baz=230,slow=33							
CMAR	**Chiang Mai Arr**	**54.15**	**26**	P		**P**	**23 36 29.9**	**+0.2**
SNAA	**Sanae**	**57.07**	**202**	P		**P**	**23 36 46.3**	**-0.8**
SNAA	**Sanae**	**57.07**	**202**	P		**P**	**23 36 46.8**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=124,slow=8.7,SNR=18							
SNAA	**Sanae**	**57.07**	**202**	P		**P**	**23 36 46.6**	**-0.5**
VNDA	**Vanda**	**58.32**	**165**	P		**P**	**23 36 56.6**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=284,slow=6.8,SNR=5.8							
VNDA				LR		LR	23 59 22.0	
	comp=Z,2μm,19.1s,baz=268,slow=33							
VNDA	**Vanda**	**58.32**	**165**	P		**P**	**23 36 57.1**	**+1.3**
QSPA	**South Pole Qui**	**58.52**	**180**	P		**P**	**23 36 57.6**	**0.0**
	comp=Z,5.1nm,0.8s,baz=273,slow=1.6,SNR=20							
QSPA	**South Pole Qui**	**58.52**	**180**	P		**P**	**23 36 58.1**	**+0.6**
VNA2	**Neumayer--Watz**	**58.58**	**203**	P		**P**	**23 36 58.2**	**+0.5**
	baz=80,slow=6.2							
SHL	**Shillong**	**58.67**	**16**	P		**P**	**23 36 59.7**	**+0.7**
SHL				IAmb		IAmb	23 37 12.9	
	comp=Z,15nm,1.1s							
VNA1	**Neumayer--Stat**	**58.90**	**203**	P		**P**	**23 37 02.7**	**+2.8**
VNA3	**Neumayer Olymp**	**59.28**	**202**	P		**P**	**23 37 02.0**	**-0.5**
SIJI	**Sorong**	**59.79**	**70**	P		**P**	**23 37 07.0**	**+0.2**
	comp=Z,15nm,0.8s,baz=324,slow=17,SNR=2.9							
CTA	**Charters Tower**	**62.67**	**98**	P		**P**	**23 37 26.2**	**-0.2**
	comp=Z,7.4nm,1.1s,baz=256,slow=8.4,SNR=3.8							
NIL	**Nilore**	**65.01**	**357**	P		**P**	**23 37 43.9**	**+2.5**
KBL	**Kabul**	**66.21**	**353**	P		**P**	**23 37 49.6**	**+0.3**
KBL				IAmb		IAmb	23 37 57.6	
	comp=Z,8.8nm,0.8s							
GAR	**Garm**	**70.52**	**355**	IAmb		IAmb	23 38 23.8	
	comp=Z,16nm,1.0s							
GEYT	**Alibeck**	**71.35**	**345**	LR		LR	00 06 36.1	
	comp=Z,292nm,18.1s,baz=170,slow=33							
BTK	**Batken**	**71.53**	**355**	IAmb		IAmb	23 38 30.7	
	comp=Z,9.5nm,0.9s							
XAN	**Xi'an**	**72.00**	**28**	P		**P**	**23 38 25.1**	**0.0**
XAN				pP		pwP	23 38 36.5	+5.4
XAN				pmax		pmax		
	comp=Z,11nm,1.1s							
XAN				pmax		pmax		
	comp=Z,370nm,7.0s							
XAN	**Xi'an**	**72.00**	**28**	P		**P**	**23 38 25.3**	**+0.2**
XAN				IAmb		IAmb	23 38 37.5	
	comp=Z,11nm,0.9s							
OXZ	**Oxford**	**72.57**	**130**	P		**P**	**23 38 27.6**	**-1.0**
OXZ				IAmb		IAmb	23 38 29.2	
	comp=Z,7

comp=Z,116nm,1.7s
LIC Lamto 86.28 280 *e*P **P 23 39 43.4 -0.3**
comp=Z,1.0nm,0.2s
DBIC Dimbokro 86.38 280 P **P 23 39 42.5 -1.6**
DBIC LR LR 00 15 43.7
comp=Z,620nm,19.1s,baz=109,slow=34
DBIC Dimbokro 86.38 280 IAmb IAmb 23 39 46.7
comp=Z,32nm,1.4s
TIC Toumodi 86.50 280 *e*P **P 23 39 46.8 +2.0**
AGG Agios Georgios 86.60 321 P **P 23 39 43.3 -1.4**
AGG IAmb IAmb 23 39 52.6
comp=Z,14nm,1.2s
LIT Litokhoron 87.29 321 P **P 23 39 47.9 -0.1**
LIT IAmb IAmb 23 39 56.4
comp=Z,12nm,0.9s
TIRR Tirgusor 87.61 328 ⇓P **P 23 39 49.6 +0.3**
HARR Harsova 88.01 327 ⇑P **P 23 39 50.6 -0.7**
CFR Carcaliu 88.29 328 ⇑P **P 23 39 52.7 +0.1**
MJAR Matsuhiro Arr 88.91 45 P **P 23 39 55.3 -0.5**
comp=Z,1.0nm,0.3s,baz=220,slow=9.3,SNR=2.1
MJAR LR LR 00 17 31.3
comp=Z,131nm,20.0s,baz=200,slow=34
ISR Istrita 88.97 327 ⇑P **P 23 39 58.7 +2.8**
NEHR Nehoiu 89.32 327 ⇓P P 23 40 03.6 +6.1
MILM Milestii Mici 89.33 329 ⇓P P 23 40 04.0 +6.6
VRI Vrincioaia 89.45 328 ⇓P **P 23 39 58.5 +0.4**
PLOR Plostina 89.48 328 ⇓P **P 23 39 59.0 +0.8**
MLR Muntele Rosu 89.53 327 ⇓P **P 23 39 58.5 -0.1**
VOIR 89.91 326 ⇓P P 23 40 05.0 +4.7
OZUR 90.06 327 ⇑P P 23 40 08.6 +7.6
USRK Ussuriysk Ar. 90.72 36 LR LR 00 21 36.6
comp=Z,299nm,18.1s,baz=208,slow=36
HERR Herculane 90.77 325 ⇑P **P 23 40 03.9 -0.3**
MDVR Moldovita 91.05 324 ⇓P P 23 39 57.0 -8.6
BZS Buzias 91.69 325 ⇓P **P 23 40 08.4 -0.1**
AKASG Malin Array Be 92.09 332 P **P 23 40 09.3 -0.9**
comp=Z,1.4nm,0.6s,baz=132,slow=4.1,SNR=6.7
AKASG LR LR 00 19 44.5
comp=Z,216nm,21.4s,baz=125,slow=34
KEST Kesra 92.11 311 LR LR 00 19 41.8
comp=Z,351nm,20.4s,baz=337,slow=34
KOLS Kolonicke sedl 93.76 327 *e*P P 23 40 23.4 +5.4
CRVS Cervenica-Dubn 94.11 327 *e*P **P 23 40 23.7 +4.1**
VYHS Vyhne 95.07 326 *e*P **P 23 40 28.4 +4.4**
KLMR Klimovskoe 97.04 343 *e*P **P 23 40 31.8 -0.8**
KLMR AMP 23 40 41.5
comp=Z,13nm,1.5s
TBI Tubuai 109.68 135 *e*LR LR 00 18 05.0
comp=Z,455nm,29.0s
PPT2 Papeete2 113.89 131 *e*LR LR 00 20 01.3
comp=Z,606nm,28.2s
TAOE Nuku Hiva Isla 126.46 132 *e*LR LR 00 25 42.2
comp=Z,250nm,24.3s
ILAR Eielson Array 137.39 26 PKP **PKPdf 23 46 22.4 -1.7**
comp=Z,0.5nm,0.9s,baz=308,slow=4.4,SNR=3.7
YKA Yellowknife Ar 148.26 10 PKPbc **PKPbc 23 46 46.3 -0.4**
comp=Z,3.7nm,0.7s,baz=334,slow=3.7,SNR=7.0
NVAR Mina Array Bea 165.92 57 PKPab **PKPab 23 48 06.5 -0.1**
comp=Z,0.8nm,0.8s,baz=270,slow=5.0,SNR=5.1
PDAR Pinedale Array 167.79 23 PKP **PKPdf 23 47 07.7 -0.2**
comp=Z,0.4nm,0.7s,baz=308,slow=4.4,SNR=2.7
PDAR PKPab **PKPab 23 48 13.7 -0.8**
comp=Z,0.2nm,0.5s,baz=29,slow=2.1,SNR=1.5
TXAR Lajitas Array 177.69 171 PKP **PKPdf 23 47 13.5 +1.2**
comp=Z,0.4nm,0.9s,baz=108,slow=2.0,SNR=1.8

*IDC **12** 23:37:08.3±5.0,5°.52S×152°.33E, h26km±28km, mb3.8/6, mb1 4.0/7, mb1mx3.8/34, mbtmp4.0/7, ML2.3/1, Error ellipse: s-maj=51.5km s-min=16.6km az=116.0*
*NEIC **12** 23:37:10.5±1.7,5°.56S±0°.07×152°.2E±0°.2, h36km±10km, mb4.6/24, Error ellipse: s-maj=26.9km s-min=2.1km az=110.0*
ISC 12 23:37:11.7±1.3,5°.5S±0°.1×152°.1E±0°.2, h45km, n41, σ1s33/42, mb4.4/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.22**	**356**	Pg	**Pn**	**23 37 31.0**	**-1.3**
	542nm,0.3s,baz=171,slow=5.0,SNR=206						
KRVT				Lg	Lg	23 37 48.8	
	883nm,0.3s,baz=199,slow=23,SNR=42						
RABL	**Rabaul**	**1.33**	**2**		**Pn**	**23 37 32.7**	**-1.2**
RABL				Sn	**Sn**	**23 37 52.6**	**+2.1**
PMG	**Port Moresby**	**6.24**	**232**	Pn	**Pn**	**23 38 39.9**	**-1.3**
	4.2nm,0.3s,baz=45,slow=16,SNR=2.8						
PMG				Sn	**Sn**	**23 39 55.4**	**+4.1**
	2.3nm,0.3s,baz=108,slow=15,SNR=4.1						
PMG	**Port Moresby**	**6.24**	**232**		**Pn**	**23 38 40.4**	**-0.9**
PMG					**Sn**	**23 39 48.2**	**-3.1**
WC3	**Warramunga Arr**	**22.43**	**229**	P	**P**	**23 42 07.6**	**+0.7**
WB2	**Warramunga Arr**	**22.44**	**229**	P	**P**	**23 42 06.1**	**-0.9**
WRA	**Warramunga Arr**	**22.45**	**229**	P	**P**	**23 42 07.6**	**+0.5**
	1.4nm,0.4s,baz=54,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**22.45**	**229**	P	**P**	**23 42 06.6**	**-0.5**
KNRA	**Kununurra**	**25.04**	**244**	P	**P**	**23 42 31.9**	**+0.1**
KNRA				IAmb	IAmb	23 42 37.5	
	comp=Z,22nm,0.8s						
ASAR	**Alice Springs**	**25.15**	**222**	P	**P**	**23 42 33.6**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=56,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**25.15**	**222**	P	**P**	**23 42 36.2**	**+3.3**
FITZ	**Fitzroy Crossi**	**28.71**	**242**	P	**P**	**23 43 05.3**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=60,slow=9.0,SNR=11						
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**23 47 56.9**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=129,slow=3.7,SNR=3.1						
SONM	**Songino Array**	**66.58**	**328**	IAmb	IAmb	23 47 59.3	
	comp=Z,0.8nm,0.9s						
CNPM	**China Poot**	**78.67**	**26**	P	**P**	**23 49 09.3**	**+0.4**
TTA	**Tatalina**	**78.70**	**22**	P	**P**	**23 49 09.5**	**+0.4**
TTA				IAmb	IAmb	23 49 10.3	
	comp=Z,2.0nm,0.7s						
BRLK	**Bradley Lake**	**78.94**	**26**	P	**P**	**23 49 10.3**	**-0.1**
SEW	**Seward**	**79.74**	**26**	P	**P**	**23 49 13.9**	**-0.8**
SEW				IAmb	IAmb	23 49 26.1	
	comp=Z,10.0nm,1.0s						
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**23 49 18.4**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=92,slow=4.6,SNR=4.5						
MAKZ	**Makanchi**	**80.63**	**319**	P	**P**	**23 49 19.7**	**-0.2**
KTH	**Kantishna Hill**	**80.95**	**22**	P	**P**	**23 49 20.3**	**-1.0**
KTH				IAmb	IAmb	23 49 38.1	
	comp=Z,3.7nm,1.1s						
SML	**Sawmill**	**81.07**	**24**	P	**P**	**23 49 21.7**	**-0.2**
TRF	**Thorofare Moun**	**81.13**	**23**	P	**P**	**23 49 21.5**	**-0.8**
TRF				IAmb	IAmb	23 49 23.9	
	comp=Z,9.5nm,1.1s						
GLI	**Glacier Island**	**81.14**	**26**	P	**P**	**23 49 20.1**	**-2.1**
BPAW	**Bear Paw Mtn.**	**81.22**	**22**	P	**P**	**23 49 21.9**	**-0.7**
IMAR	**Indian Mountai**	**81.30**	**20**	P	**P**	**23 49 23.1**	**+0.2**
RND	**Reindeer**	**81.66**	**23**	P	**P**	**23 49 23.8**	**-1.2**
RND				IAmb	IAmb	23 49 25.3	
	comp=Z,4.2nm,0.8s						
CCB	**Clear Creek Bu**	**82.69**	**22**	P	**P**	**23 49 29.6**	**-0.7**
CCB				IAmb	IAmb	23 49 29.8	
	comp=Z,3.2nm,0.8s						
IL31		**83.09**	**22**	IAmb	IAmb	23 49 31.7	
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**23 49 31.1**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=247,slow=5.4,SNR=26						
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**23 49 31.0**	**-1.4**
IL18	**Eielson Array**	**83.13**	**22**	P	**P**	**23 49 31.1**	**-1.5**
RIDG	**Independent Ri**	**83.40**	**24**	P	**P**	**23 49 34.2**	**+0.2**
RIDG				IAmb	IAmb	23 49 45.3	
	comp=Z,7.3nm,1.2s						
BARN	**Barnard Glacie**	**83.60**	**27**	P	**P**	**23 49 36.1**	**+0.8**
BARN				IAmb	IAmb	23 49 36.7	
	comp=Z,4.6nm,0.8s						
DOT	**Dot Lake**	**83.67**	**24**	P	**P**	**23 49 34.6**	**-0.8**
CTGM	**Chitina Glacie**	**83.71**	**27**	P	**P**	**23 49 36.2**	**+0.5**
BCAR	**Beaver Creek A**	**84.36**	**25**	P	**P**	**23 49 39.2**	**+0.2**
BMAR	**Burnt Mountain**	**85.17**	**20**	P	**P**	**23 49 43.1**	**+0.1**
EGAK	**Eagle**	**85.30**	**23**	P	**P**	**23 49 44.5**	**+0.9**
EGAK				IAmb	IAmb	23 49 53.6	
	comp=Z,3.8nm,1.1s						
HYT	**Haines Junctio**	**85.40**	**28**	P	**P**	**23 49 44.9**	**+0.6**
HYT				IAmb	IAmb	23 49 45.9	
	comp=Z,6.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**149.87**	**287**	PKPbc	**PKPbc**	**23 56 57.3**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=101,slow=3.1,SNR=10						

*MOS **12** 23:39:19.6±0.8,5°.18S×152°.02E, h33km, mb4.7/11, Error ellipse: s-maj=12.9km s-min=9.8km az=112.0*
*IDC **12** 23:39:19.6±2.7,5°.45S×152°.25E, h30km±16km, mb4.3/14, mb1 4.5/15, mb1mx4.2/34, mbtmp4.5/15, ML2.5/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/33, Error ellipse: s-maj=28.1km s-min=13.4km az=119.0*
*NEIC **12** 23:39:20.8±1.8,5°.40S±0°.08×152°.3E±0°.1, h35km±2km, mb5.0/69, Error ellipse: s-maj=21.0km s-min=9.9km az=115.0*
*BJI **12** 23:39:20.0±0.0,5°.30S×152°.10E, h48km, mB5.2/17, mb4.8/25, Ms5.2/9, Ms7 5.0/9*
*DJA **12** 23:39:23.6±0.5,5°.5S±3°×15°.2E±°, h48km±6km, M4.8/10, mb4.6/10, mB5.2/3, MLv5.0/2, Mw(mB)4.6/3, Mwp5.6/1*
ISC 12 23:39:21.9±0.5,5°.35S±0°.05×152°.16E±0°.08, h45km, n177, σ1s09/180, mb4.8/70, 1C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.04**	**352**	Pg	**Pn**	**23 39 41.2**	**+1.1**
	2µm,0.3s,baz=166,slow=2.2,SNR=37						
KRVT				Lg	Lg	23 39 57.8	
	2µm,0.3s,baz=168,slow=13,SNR=7.6						
RABL	**Rabaul**	**1.15**	**0**		**Pn**	**23 39 42.3**	**+0.7**
PMG	**Port Moresby**	**6.39**	**231**	Pn	**Pn**	**23 40 53.6**	**0.0**
	6.4nm,0.3s,baz=38,slow=19,SNR=5.2						
PMG				Sn	**Sn**	**23 42 04.5**	**-0.9**
	21nm,0.3s,baz=132,slow=21,SNR=9.2						
PMG				LR	LR	23 42 33.9	
	comp=Z,88nm,21.0s,baz=30,slow=30						
PMG	**Port Moresby**	**6.39**	**231**	*i* P	**Pn**	**23 40 54.4**	**+0.8**
PMG	**Port Moresby**	**6.39**	**231**	Pn	**Pn**	**23 40 54.8**	**+1.2**
PMG				Sn	**Sn**	**23 42 07.6**	**+2.2**
HNR	**Honiara**	**8.72**	**118**	LR	LR	23 44 30.1	
	comp=Z,531nm,21.3s,baz=268,slow=36						
COEN	**Coen**	**12.31**	**225**	Pn	**Pn**	**23 42 14.3**	**-0.3**
PATS	**Pohnpei**	**13.57**	**27**	Pn	**Pn**	**23 42 31.2**	**-0.6**
EIDS	**Eidsvold**	**19.94**	**183**	P	**P**	**23 43 49.5**	**-0.6**
FAKI	**Fak Fak**	**20.01**	**276**	P	**P**	**23 43 51.4**	**+0.4**
	6.5nm,0.7s						
GUMO	**Guam**	**20.16**	**339**	LR	LR	23 50 35.6	
	comp=Z,241nm,21.3s,baz=180,slow=33						
DZM	**Mont Dzumac**	**21.62**	**142**	*e*S	**S**	**23 48 05.7**	**0.0**
	256nm,24.4s						
DZM				*e*LR	LR	23 49 30.2	
	comp=Z,806nm,25.7s						
DZM	**Mont Dzumac**	**21.62**	**142**	LR	LR	23 51 47.4	
	comp=Z,412nm,19.8s,baz=226,slow=35						
MTN	**Manton Dam**	**22.05**	**249**	P	**P**	**23 44 13.3**	**+0.3**
MTN				IAmb	IAmb	23 44 16.5	
	comp=Z,21nm,0.7s						
MTN					**PcP**	**23 48 12.3**	**+2.3**
WB0	**Warramunga Arr**	**22.46**	**229**	P	**P**	**23 44 16.8**	**-0.7**
WR0	**Warramunga Arr**	**22.47**	**228**	P	**P**	**23 44 17.6**	**+0.1**
WRAB	**Tennant Creek**	**22.59**	**229**	P	**P**	**23 44 17.2**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,31nm,1.0s						
WRAB	**Tennant Creek**	**22.59**	**229**	P	**P**	**23 44 17.2**	**-1.7**
WRAB				IAmb	IAmb	23 44 26.3	
	comp=Z,32nm,0.9s						
WB2	**Warramunga Arr**	**22.60**	**228**	P	**P**	**23 44 18.0**	**-0.9**
WB2					**S**	**23 48 22.7**	**-1.0**
WRA	**Warramunga Arr**	**22.61**	**229**	P	**P**	**23 44 17.4**	**-1.6**
	comp=Z,4.4nm,0.4s,baz=52,slow=9.9,SNR=19						
WRA				PcP	**PcP**	**23 48 10.9**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=55,slow=2.3,SNR=5.4						
WRA				S	**S**	**23 48 20.8**	**-3.1**
	comp=Z,4.1nm,1.2s,baz=58,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**22.61**	**229**	*i* P	**P**	**23 44 19.7**	**+0.7**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
WRA	**Warramunga Arr**	**22.61**	**229**		**P**	**23 44 18.8**	**-0.3**
KNRA	**Kununurra**	**25.16**	**244**	P	**P**	**23 44 43.1**	**-0.1**
KNRA				IAmb	IAmb	23 44 47.6	
	comp=Z,56nm,0.8s						
AS31	**Alice Springs**	**25.32**	**222**	P	**P**	**23 44 44.7**	**0.0**
ASAR	**Alice Springs**	**25.32**	**222**	P	**P**	**23 44 43.4**	**-1.3**
	comp=Z,6.4nm,0.8s,baz=58,slow=9.0,SNR=24						
ASAR				ScP	**ScP**	**23 51 55.2**	**+2.6**
	comp=Z,0.7nm,0.9s,baz=47,slow=2.8,SNR=3.1						
ASAR	**Alice Springs**	**25.32**	**222**	P	**P**	**23 44 45.0**	**+0.3**
LHI	**Lord Howe Isla**	**26.83**	**167**	P	**P**	**23 44 59.3**	**+1.2**
LHI				IAmb	IAmb	23 44 59.3	
	comp=Z,52nm,1.0s						
BATI	**Baumata**	**28.64**	**259**	P	**P**	**23 45 14.8**	**+0.3**
	comp=Z,12nm,0.3s,baz=0.0,slow=2.0,SNR=3.9						
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P	**P**	**23 45 15.0**	**-1.2**
	comp=Z,4.4nm,0.5s,baz=66,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P	**P**	**23 45 15.9**	**-0.4**
BBOO	**Buckleboo**	**31.18**	**207**	P	**P**	**23 45 35.3**	**-1.6**
BBOO				IAmb	IAmb	23 45 53.9	
	comp=Z,19nm,1.1s						
FORT	**Forrest**	**33.97**	**219**	P	**P**	**23 46 01.0**	**-0.2**
FORT				IAmb	IAmb	23 46 02.5	
	comp=Z,30nm,1.1s						
MORW	**Morawa**	**41.51**	**231**	P	**P**	**23 47 07.2**	**+2.3**
QIZ	**Qiongzhong**	**48.20**	**301**	P	**P**	**23 47 57.0**	**-1.4**
QIZ				S	**S**	**23 54 52.5**	**-2.4**
QIZ				LR	LR		
	comp=Z,490nm,6.2s						
QIZ				LR	LR		
	comp=Z,740nm,17.0s						
QIZ				LR	LR		
	comp=Z,440nm,13.4s						
NJ2	**Nanjing**	**48.87**	**322**	*e*P	**P**	**23 48 02.8**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI	**Kunming**	**56.77**	**305**	⇑P	P	23 48 55.0	-7.0
KMI				pP	pP	23 49 03.2	-11
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.54**	**296**	P	**P**	**23 49 08.2**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=123,slow=5.3,SNR=9.5						
PPT2	**Papeete2**	**58.17**	**107**	*e*LR	LR	00 06 22.3	
	comp=Z,79nm,22.8s						
CD2	**Chengdu**	**58.61**	**311**	*e*P	**P**	**23 49 14.2**	**-0.5**
CD2				LR	LR		
	comp=Z,730nm,12.8s						
HHC	**Hu-ho-hao-te**	**59.12**	**325**	*e*P	**P**	**23 49 19.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,7.9s						
HHC				LR	LR		
	comp=Z,430nm,15.0s						
HHC				LR	LR		
	comp=Z,380nm,15.2s						
HHC				LR	LR		
	comp=Z,550nm,15.7s						
LZH	**Lanzhou**	**61.18**	**316**	*e*P	**P**	**23 49 36.1**	**+3.7**
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
HIA	**Hailar**	**61.27**	**336**	*i* P	**P**	**23 49 30.3**	**-2.3**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA	**Gaotai**	**65.63**	**318**	*e*P	**P**	**23 50 02.2**	**+0.5**
GTA				pP	pP	23 50 13.3	-1.3
GTA				sP	sP	23 50 18.8	-1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**66.13**	**329**	*i* P	**P**	**23 50 05.2**	**+0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**23 50 07.1**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=134,slow=6.3,SNR=11						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**23 50 06.8**	**0.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**23 50 06.8**	**0.0**
YAK	**Yakutsk**	**69.38**	**349**	*i* P	**P**	**23 50 25.6**	**+0.9**
YAK				pmax	pmax		
	comp=Z,117nm,2.4s						
ZAK	**Zakamensk**	**69.63**	**329**	*e*P	**P**	**23 50 25.4**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY	**Talaya**	**70.23**	**330**	*e*P	**P**	**23 50 32.3**	**+2.1**
TLY				pmax	pmax		
	comp=Z,15nm,0.7s						
TLY				MLR	MLR		
	comp=Z,585nm,16.0s						
BILL	**Bilibino**	**73.89**	**5**	*i* P	**P**	**23 50 52.2**	**+0.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ	**Urumqi**	**75.71**	**318**	*e*P	**P**	**23 51 04.2**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,92nm,5.1s						
WMQ	**Urumqi**	**75.71**	**318**	P	**P**	**23 51 03.1**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,12nm,0.4s						
WMQ	**Urumqi**	**75.71**	**318**	P	**P**	**23 51 03.1**	**+0.2**
OHAK	**Old Harbor**	**76.32**	**27**	P	**P**	**23 51 05.1**	**-0.8**
OHAK				IAmb	IAmb	23 51 24.2	
	comp=Z,9.2nm,0.8s						
DGZ	**Jazzator, Alta**	**78.14**	**323**	*i* P	**P**	**23 51 15.6**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HOM	**Homer**	**78.38**	**26**	P	**P**	**23 51 18.3**	**+0.9**
	baz=238						
CNPM	**China Poot**	**78.48**	**26**	P	**P**	**23 51 18.9**	**+0.9**
TTA	**Tatalina**	**78.51**	**22**	P	**P**	**23 51 19.1**	**+0.9**
TTA				pmax	pmax		
	comp=Z,13nm,0.9s						
TTA	**Tatalina**	**78.51**	**22**	P	**P**	**23 51 19.1**	**+0.9**
TTA				IAmb	IAmb	23 51 20.2	
	comp=Z,13nm,0.9s						
BRLK	**Bradley Lake**	**78.76**	**26**	P	**P**	**23 51 19.8**	**+0.3**
BRLK				IAmb	IAmb	23 51 20.9	
	comp=Z,21nm,0.9s						
ZSN	**Zaisan**	**78.88**	**320**	*e*P	**P**	**23 51 20.1**	**-0.4**
ZSN	**Zaisan**	**78.88**	**320**	*e*P	**P**	**23 51 20.1**	**-0.4**
SEW	**Seward**	**79.55**	**26**	P	**P**	**23 51 23.6**	**-0.3**
RC01	**Rabbit Creek A**	**79.93**	**25**	P	**P**	**23 51 26.2**	**+0.2**
	baz=239						
MK31	**Makanchi Array**	**80.32**	**319**	P	**P**	**23 51 24.8**	**-3.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**80.32**	**319**	P	**P**	**23 51 24.8**	**-3.5**
MKAR	**Makanchi Array**	**80.32**	**319**	P	**P**	**23 51 28.0**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=110,slow=6.6,SNR=13						
MKAR	**Makanchi Array**	**80.32**	**319**	P	**P**	**23 51 28.5**	**+0.1**
MKAR	**Makanchi Array**	**80.32**	**319**	P	**P**	**23 51 28.5**	**+0.1**
CUT	**Chulitna**	**80.40**	**23**	P	**P**	**23 51 28.5**	**+0.1**
	baz=238						
MAKZ	**Makanchi**	**80.53**	**319**	P	**P**	**23 51 28.2**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAKZ	**Makanchi**	**80.53**	**319**	P	**P**	**23 51 28.2**	**-1.3**
GHO	**Glory Hole Cre**	**80.62**	**24**	P	**P**	**23 51 29.5**	**-0.2**
GHO				IAmb	IAmb	23 51 37.5	
	comp=Z,16nm,1.0s						
KNK	**Knik Glacier**	**80.63**	**25**	P	**P**	**23 51 29.4**	**-0.2**
KNK				IAmb	IAmb	23 51 30.9	
	comp=Z,32nm,1.2s						
KTH	**Kantishna Hill**	**80.76**	**22**	P	**P**	**23 51 30.2**	**-0.1**
KTH				IAmb	IAmb	23 51 31.4	
	comp=Z,17nm,1.0s						
SML	**Sawmill**	**80.88**	**24**	P	**P**	**23 51 31.2**	**+0.1**
TRF	**Thorofare Moun**	**80.94**	**23**	P	**P**	**23 51 31.4**	**-0.1**
TRF				IAmb	IAmb	23 51 32.0	
	comp=Z,14nm,1.0s						
BPAW	**Bear Paw Mtn.**	**81.03**	**22**	P	**P**	**23 51 31.8**	**0.0**
BPAW				IAmb	IAmb	23 51 32.5	
	comp=Z,10nm,1.0s						
IMAR	**Indian Mountai**	**81.11**	**20**	P	**P**	**23 51 32.6**	**+0.5**
FID	**Port Fidalgo**	**81.16**	**26**	P	**P**	**23 51 32.2**	**-0.3**
ZAA0	**Zalesovo Array**	**81.25**	**327**	P	**P**	**23 51 31.4**	**-1.7**
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**23 51 32.3**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=114,slow=6.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**23 51 31.6**	**-1.6**
SCM	**Sheep Creek Mo**	**81.31**	**25**	P	**P**	**23 51 33.2**	**-0.2**
SCM				pmax	pmax		
	comp=Z,31nm,1.1s						
SCM	**Sheep Creek Mo**	**81.31**	**25**	P	**P**	**23 51 33.2**	**-0.2**
UZB	**Uzynbulak**	**81.47**	**315**	*e*P	**P**	**23 51 33.3**	**-1.5**
UZB	**Uzynbulak**	**81.47**	**315**	*e*P	**P**	**23 51 33.2**	**-1.5**
RND	**Reindeer**	**81.47**	**23**	P	**P**	**23 51 34.3**	**+0.1**
RND				pmax	pmax		
	comp=Z,23nm,0.9s						
RND	**Reindeer**	**81.47**	**23**	P	**P**	**23 51 34.3**	**+0.1**
RND				IAmb	IAmb	23 51 35.0	
	comp=Z,23nm,0.9s						
MCK	**McKinley**	**81.61**	**23**	P	**P**	**23 51 34.7**	**-0.1**
	baz=239						
MLY	**Manley**	**81.62**	**21**	P	**P**	**23 51 35.2**	**+0.3**
	baz=238						
BWN	**Browne**	**81.63**	**22**	P	**P**	**23 51 34.9**	**0.0**
KLU	**Klutina**	**81.74**	**25**	P	**P**	**23 51 36.4**	**+0.7**
KPKS	**Kokpek**	**81.80**	**315**	*e*P	**P**	**23 51 35.2**	**-1.2**
KPKS	**Kokpek**	**81.80**	**315**	*e*P	**P**	**23 51 35.2**	**-1.2**
SATY	**Saty**	**81.89**	**315**	*e*P	**P**	**23 51 35.9**	**-1.0**
SATY	**Saty**	**81.89**	**315**	*e*P	**P**	**23 51 35.9**	**-1.0**
DHY	**Denali Highway**	**81.89**	**24**	P	**P**	**23 51 36.9**	**+0.4**
DHY				IAmb	IAmb	23 51 38.0	
	comp=Z,13nm,1.0s						
M24K	**Tolsona, Glenn**	**81.92**	**25**	P	**P**	**23 51 37.5**	**+0.9**
	baz=242						
M24K	**Tolsona, Glenn**	**81.92**	**25**	P	**P**	**23 51 37.4**	**+0.9**
NEA2	**Nenana**	**82.00**	**22**	P	**P**	**23 51 36.7**	**-0.2**
	baz=239						
WRH	**Wood River Hil**	**82.30**	**22**	P	**P**	**23 51 38.3**	**-0.1**
WRH				IAmb	IAmb	23 51 39.1	
	comp=Z,19nm,1.0s						
N25K	**Chitina, Valde**	**82.36**	**26**	P	**P**	**23 51 40.0**	**+1.1**
	baz=244						
CCB	**Clear Creek Bu**	**82.50**	**22**	IAmb	IAmb	23 51 39.8	
	comp=Z,14nm,0.9s						
KDJ	**Kajisay**	**82.53**	**314**	P	**P**	**23 51 39.6**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KDJ	**Kajisay**	**82.53**	**314**	P	**P**	**23 51 39.6**	**-0.8**
KDJ				IAmb	IAmb	23 51 41.7	
	comp=Z,9.0nm,0.9s						
TCOL	**CIGO, UAF Yank**	**82.59**	**22**	P	**P**	**23 51 40.1**	**+0.2**
	baz=240						
PAX	**Paxson**	**82.61**	**24**	P	**P**	**23 51 40.7**	**+0.5**
PAX				pmax	pmax		
	comp=Z,6.0nm,1.1s						
**PA

KUU	Kurty	83.55	315	*e*P		P		23 51 44.0	-1.4
SCRK	Sand Creek	83.66	23	P		P		23 51 46.2	+0.6
	baz=244								
NIL	Nilore	83.76	305	P		P		23 51 46.7	0.0
NIL				pmax		pmax			
	comp=Z,12nm,1.0s								
NIL	Nilore	83.76	305	P		P		23 51 46.7	0.0
NIL				IAmb		IAmb		23 51 47.9	
	comp=Z,12nm,0.9s								
KURK	Kurchatov	83.81	322	*i* P		P		23 51 46.1	-0.4
KURK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
TOLK	Toolik Lake Re	83.93	18	P		P		23 51 47.7	+0.8
	baz=238								
TOLK	Toolik Lake Re	83.93	18	P		P		23 51 47.6	+0.8
TOLK				IAmb		IAmb		23 51 50.7	
	comp=Z,7.2nm,1.1s								
BCAR	Beaver Creek A	84.17	25	P		P		23 51 48.8	+0.7
FYU	Fort Yukon	84.35	21	P		P		23 51 49.0	+0.1
FYU				IAmb		IAmb		23 51 50.9	
	comp=Z,16nm,1.0s								
K27K	Chicken	84.44	24	P		P		23 51 50.5	+1.0
	baz=246								
AAK	Ala-Archa	84.58	314	*i* P		P		23 51 50.2	-0.7
AAK				pmax		pmax			
	comp=Z,12nm,1.0s								
MAW	Mawson	84.82	203	P		P		23 51 51.1	-0.2
	comp=Z,0.8nm,0.7s,baz=132,slow=14,SNR=1.8								
MAW				LR		LR		00 26 31.5	
	comp=Z,115nm,20.5s,baz=60,slow=33								
BMAR	Burnt Mountain	84.98	20	P		P		23 51 53.0	+0.9
HYT	Haines Junctio	85.21	28	P		P		23 51 54.3	+0.7
BTLS	Baital	85.41	316	*e*P		P		23 51 53.1	-1.6
BTLS	Baital	85.41	316	*e*P		P		23 51 53.1	-1.6
NRIK	Noril'sk	86.27	341	P		P		23 51 58.4	-0.1
	comp=Z,2.5nm,0.8s,baz=108,slow=5.8,SNR=4.6								
WHY	Whitehorse	86.38	28	P		P		23 51 59.6	+0.3
WHY				IAmb		IAmb		23 52 01.8	
	comp=Z,15nm,1.1s								
KK31	Karatay Array	87.54	314	P		P		23 52 05.2	-0.1
KK31				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KK31	Karatay Array	87.54	314	P		P		23 52 05.2	-0.1
KKAR	Karatay Array	87.54	314	P		P		23 52 05.2	-0.1
KKAR				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KKAR	Karatay Array	87.54	314	P		P		23 52 05.4	+0.1
KKAR	Karatay Array	87.54	314	P		P		23 52 05.2	-0.1
IUG	luzhnay	87.74	313	*e*P		P		23 52 05.2	-1.1
IUG	luzhnay	87.74	313	*e*P		P		23 52 05.2	-1.1
INK	Inuvik	89.19	21	P		P		23 52 12.3	-0.1
INK				pmax		pmax			
	comp=Z,12nm,1.2s								
INK	Inuvik	89.19	21	P		P		23 52 12.3	-0.1
INK				IAmb		IAmb		23 52 13.8	
	comp=Z,12nm,1.1s								
BRVK	Borovoye	89.37	323	P		P		23 52 12.8	-0.8
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
BRVK	Borovoye	89.37	323	P		P		23 52 12.8	-0.8
J05D	Fort Rock, OR	91.15	47	P		P		23 52 23.9	+1.5
	baz=264								
I05D	Terrebonne, OR	91.19	46	P		P		23 52 23.5	+1.1
	baz=264								
PINE	Pine Mountain	91.42	46	P		P		23 52 23.5	-0.2
PINE				IAmb		IAmb		23 52 26.0	
	comp=Z,9.4nm,1.1s								
HAWA	Hanford	92.66	44	P		P		23 52 28.3	-0.8
NVAR	Mina Array Bea	92.92	52	P		P		23 52 30.6	-0.2
	comp=Z,1.7nm,0.8s,baz=256,slow=6.2,SNR=8.3								
NVAR	Mina Array Bea	92.92	52	P		P		23 52 27.4	-3.3
SYO	Syowa Base	92.94	199	‖*e*PcP		PcP		23 52 31.0	+0.5
G08A	Pilot Rock	92.97	45	P		P		23 52 30.1	-0.6
G08A				IAmb		IAmb		23 52 36.2	
	comp=Z,2.7nm,1.1s								
NV11	Mina Array Sit	93.03	52	P		P		23 52 31.5	+0.3
YKA	Yellowknife Ar	96.20	28	P		P		23 52 44.4	-0.5
	comp=Z,1.4nm,0.8s,baz=275,slow=3.5,SNR=4.1								
ARU	Arti	96.42	326	*d* P		P		23 52 45.2	-0.8
ARU								23 56 38.1	
ARU				S		SKSac		00 03 17.0	-2.0
ARU				pmax		pmax			
	comp=Z,3.0nm,1.1s								
PDAR	Pinedale Array	99.68	48	P		Pdif		23 53 01.7	+0.3
	comp=Z,0.4nm,0.8s,baz=228,slow=4.7,SNR=2.8								
GERES	GERESS Array B	124.18	328	PKP		PKPdf		23 58 15.5	-0.4
	comp=Z,0.2nm,0.3s,baz=49,slow=3.0,SNR=2.6								
TORD	Torodi Ar. Bea	149.87	287	PKPbc		PKPbc		23 59 07.7	-0.5
	comp=Z,4.7nm,0.8s,baz=31,slow=2.0,SNR=17								
BDFB	Brasilia	151.12	137	PKPbc		PKPbc		23 59 10.7	-0.7
	comp=Z,2.2nm,0.8s,baz=155,slow=7.0,SNR=2.5								

NEIC ***12*** *23:41:48.8± 1.5, 5.°45S× 0.°06× 152.°4E± 0.°1, h35km± 2km, mb4.4/34, Error ellipse: s-maj=19.4km s-min=10.2km az=93.0*

IDC ***12*** *23:41:48.1± 5.9, 5.°36S× 152.°42E, h34km± 36km, mb3.7/6, mb1 3.9/6, mb1mx3.6/33, mbtmp3.9/6, Error ellipse: s-maj=67.4km s-min=21.4km az=114.0*

ISC 12 23:41:48.9±0.6, 5.°46S±0.°06× 152.°45E±0.°10, h40km, n64, σ1°21/54, mb4.2/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KRVT	Keravat (AS076	1.22	340	Pg	Pn	23	42	09.2	-0.3
	325nm,0.3s,baz=121,slow=5.9,SNR=1.6								
KRVT				Lg	Lg	23	42	24.9	
	380nm,0.3s,baz=315,slow=21,SNR=2.0								
RABL	Rabaul	1.29	347	Pn	Pn	23	42	10.5	0.0
RABL				Sn	Sn	23	42	28.1	+1.4
PMG	Port Moresby	6.55	233	Sn	Sn	23	44	33.9	-2.2
	17nm,0.3s,baz=318,slow=17,SNR=5.6								
PMG	Port Moresby	6.55	233	Pn	Pn	23	43	24.7	+2.0
PATS	Pohnpei	13.55	26	Pn	Pn	23	44	58.6	0.0
SANVU	Saraoutou	17.56	126		P	23	45	51.9	+0.4
EIDS	Eidsvold	19.84	257	P	P	23	46	17.0	+0.6
MTN	Manton Dam	22.27	249	P	P	23	46	42.4	-0.4
WB0	Warramunga Arr	22.60	229	P	P	23	46	44.9	-1.4
WB0				IAmb	IAmb	23	46	51.0	
	comp=Z,7.4nm,1.1s								
WRAB	Tennant Creek	22.73	229	P	P	23	46	47.5	-0.2
WB2	Warramunga Arr	22.74	229	P	P	23	46	47.5	-0.2
WRA	Warramunga Arr	22.75	229	P	P	23	46	47.6	-0.2
	comp=Z,1.0nm,0.4s,baz=52,slow=9.8,SNR=2.9								
WRA	Warramunga Arr	22.75	229	IAmb	IAmb	23	46	50.9	
	comp=Z,0.1nm,0.8s								
KNRA	Kununurra	25.37	245	P	P	23	47	12.8	+0.3
KNRA				IAmb	IAmb	23	47	20.6	
	comp=Z,7.3nm,0.7s								
AS31	Alice Springs	25.43	223	P	P	23	47	12.9	-0.2
ASAR	Alice Springs	25.43	223	P	P	23	47	13.4	+0.3
	comp=Z,1.5nm,0.7s,baz=52,slow=8.9,SNR=3.7								
FITZ	Fitzroy Crossi	29.04	242	P	P	23	47	46.1	+0.7
	comp=Z,1.7nm,0.5s,baz=66,slow=12,SNR=1.5								
FITZ	Fitzroy Crossi	29.04	242	IAmb	IAmb	23	47	47.9	
	comp=Z,4.4nm,1.1s								
MBWA	Marble Bar	35.34	241	P	P	23	48	40.8	+0.1
QRZ	Quartz Range	39.54	156	P	P	23	49	18.2	+2.2
QRZ	Quartz Range	39.54	156	P	P	23	49	18.4	+2.4
DSZ	Denniston Nort	40.04	157	P	P	23	49	28.9	+8.7
DUWZ	D'Urville Isla	40.11	154	P	P	23	49	13.1	-7.6
THZ	Tophouse	40.49	156	P	P	23	49	23.4	-0.4
THZ				IAmb	IAmb	23	49	38.7	
	comp=Z,12nm,1.1s								
KIW	Kapiti Island	40.59	154	P	P	23	49	16.1	-8.6
OGWZ	Otaki Gorge	40.67	153	P	P	23	49	17.5	-7.8
MRZ	Mangatainoka R	40.73	153	P	P	23	49	19.7	-6.2
PRWZ	Pori Road	40.82	152	P	P	23	49	23.0	-3.7
BSWZ	Blackbrick Sta	40.84	155	P	P	23	49	27.4	+0.6
CAW	Cannon Point	40.85	154	P	P	23	49	18.3	-8.5
HOWZ	Holdsworth Sta	40.89	153	P	P	23	49	20.0	-7.2
TIWZ	Tintock	40.96	153	P	P	23	49	22.5	-5.3
ANWZ	Angora Road	40.98	152	P	P	23	49	26.9	-1.1
BFZ	Birch Farm	41.05	152	P	P	23	49	25.1	-3.4
TMWZ	Te Maipa	41.22	153	P	P	23	49	23.8	-6.2
KHZ	Kahutara	41.29	156	P	P	23	49	28.8	-1.6
KHZ				IAmb	IAmb	23	49	29.5	
	comp=Z,13nm,1.0s								
SONM	Songino Array	66.70	328	P	P	23	52	35.1	-0.8
	comp=Z,0.9nm,1.1s,baz=134,slow=6.2,SNR=2.5								
CNPM	China Poot	78.46	26	P	P	23	53	46.5	+1.0
TTA	Tatalina	78.51	21	P	P	23	53	47.2	+1.4
SKT	Skwentna	79.67	23	P	P	23	53	53.5	+1.4
PPLA	Purkeypile	79.92	23	P	P	23	53	53.8	+0.3
PPLA				IAmb	IAmb	23	53	59.2	
	comp=Z,3.1nm,1.0s								
MKAR	Makanchi Array	80.59	319	P	P	23	53	56.7	-0.7
	comp=Z,0.3nm,0.7s,baz=120,slow=8.5,SNR=2.3								
KTH	Kantishna Hill	80.76	22	P	P	23	53	57.8	-0.2
KTH				IAmb	IAmb	23	53	58.2	
	comp=Z,2.7nm,0.9s								
SML	Sawmill	80.87	24	P	P	23	53	59.2	+0.7
TRF	Thorofare Moun	80.94	23	P	P	23	53	58.3	-0.7
TRF				IAmb	IAmb	23	54	00.1	
	comp=Z,2.7nm,1.0s								
BPAW	Bear Paw Mtn.	81.03	22	P	P	23	53	59.2	-0.1
IMAR	Indian Mountai	81.12	20	P	P	23	54	00.6	+0.9
SCM	Sheep Creek Mo	81.30	25	P	P	23	54	01.8	+0.9
RND	Reindeer	81.47	23	P	P	23	54	01.8	+0.1
KLU	Klutina	81.72	25	P	P	23	54	03.8	+0.6
KLU				IAmb	IAmb	23	54	10.2	
	comp=Z,7.0nm,1.0s								
CCB	Clear Creek Bu	82.50	22	P	P	23	54	06.9	-0.1
GLB	Gilahina Butte	82.61	26	P	P	23	54	08.3	+0.6
GLB				IAmb	IAmb	23	54	09.9	
	comp=Z,8.3nm,1.0s								
IL31		82.90	22	P	P	23	54	09.0	-0.1
IL31				IAmb	IAmb	23	54	09.2	
	comp=Z,2.9nm,0.8s								
ILAR	Eielson Array	82.90	22	P	P	23	54	08.8	-0.4
	comp=Z,1.2nm,0.6s,baz=248,slow=5.5,SNR=9.1								
BALM	Baldy	83.07	26	P	P	23	54	10.7	+0.5
RIDG	Independent Ri	83.20	23	P	P	23	54	11.5	+0.7
RIDG				IAmb	IAmb	23	54	29.4	
	comp=Z,4.0nm,1.1s								
BARN	Barnard Glacie	83.39	27	P	P	23	54	13.0	+1.1
DOT	Dot Lake	83.47	24	P	P	23	54	13.3	+1.1
DOT				IAmb	IAmb	23	54	13.8	
	comp=Z,3.5nm,0.9s								
CTGM	Chitina Glacie	83.50	27	P	P	23	54	14.2	+1.8
CTGM				IAmb	IAmb	23	54	29.3	
	comp=Z,8.1nm,1.0s								
A21K	Barrow	83.53	15	P	P	23	54	13.8	+1.6
BMAR	Burnt Mountain	84.99	20	P	P	23	54	20.5	+0.8
EGAK	Eagle	85.10	23	P	P	23	54	21.4	+1.1
EGAK				IAmb	IAmb	23	54	40.6	
	comp=Z,1.4nm,1.1s								
HYT	Haines Junctio	85.18	28	P	P	23	54	21.2	+0.3
HYT				IAmb	IAmb	23	54	23.2	
	comp=Z,2.5nm,0.8s								
TORD	Torodi Ar. Bea	150.17	287	PKPbc	PKPbc	00	01	35.7	-0.9
	comp=Z,0.3nm,0.3s,baz=96,slow=2.8,SNR=2.4								

IDC ***13*** *00:13:49.4± 1.1, 37.°48N× 118.°80W, h0km, mb1 3.4/5, mb1mx3.3/35, mbtmp3.1/5, ML3.1/5, Error ellipse: s-maj=12.2km s-min=7.6km az=95.0*

NEIC ***13*** *00:13:50.4± 1.6, 37.°48N± 0.°04× 118.°78W± 0.°02, h3km± 7km, Error ellipse: s-maj=5.2km s-min=2.4km az=167.0*

NEIC ***13*** *00:13:50, 37.°48N× 118.°78W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=2.30; Mθθ=0.70; Mϕϕ 3.00; Mrθ=-0.57; Mrϕ=1.02; Mθϕ=-1.19; Fault plane solution: M0 3.19000×10^14 NP1:ϕ1=6.78000°, δ59.22000°, λ=-62.72000°. NP2:ϕ2=141.56000°, δ40.22000°, λ=-127.58000°. Principal axes: T 3.4470, Plg10.0000°, Azm78.0000°; N -0.6001, Plg23.0000°, Azm172.0000°; P -2.8469, Plg64.0000°, Azm325.0000°.*

NCEDC ***13*** *00:13:50.0± 2.3, 37.°48N± 0.°03× 118.°78W± 0.°04, h8km± 1km, Mwr3.6/2 Error ellipse: s-maj=5.1km s-min=3.9km az=111.0*

ISC 13 00:13:49.8±0.8, 37.°50N±0.°02× 118.°76W±0.°02, h14km±6km, n107, σ1°60/119, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WMD		0.12	123		Pg	00	13	52.7	-0.4
MDRNC	Doe Ridge	0.15	337		Pg	00	13	53.9	+0.2
OMMB	Old Mammoth Mi	0.22	300	Pg	Pg	00	13	54.6	-0.2
OMMB				Sg	Sg	00	13	57.5	-0.8
MTUM	Tungsten Hills	0.22	133		Pg	00	13	54.5	-0.3
MRDM	Red Cones	0.25	292		Pg	00	13	55.3	-0.1
BENR	Benton	0.26	36		Pb	00	13	55.9	-0.6
MDPB	Devils Postpil	0.28	297		Pg	00	13	55.8	0.0
MDPB				Sg	Sg	00	13	59.5	-0.5
MDCM	Deadman Creek	0.30	313		Pg	00	13	56.3	+0.1
MGNR	McGee Canyon	0.31	10		Pb	00	13	57.2	-0.2
MLNR	Milner Canyon	0.35	75		Pb	00	13	57.4	-0.4
BCKR	Birch Creek	0.37	58		Pb	00	13	58.0	-0.2
POCCA	Poleta Canyon	0.41	110		Pb	00	13	58.3	-0.7
ANTCA	Antelope Range	0.44	21		Pb	00	13	59.2	-0.3
KCC	Kaiser Creek	0.48	248		Pg	00	13	58.8	-0.4
KCC	Kaiser Creek	0.48	248		Sg	00	14	05.0	-0.7
LHV	Little Huntoon	0.77	15		Pb	00	14	05.5	+0.5
LHV				Sg	Sb	00	14	16.4	+1.0
HELL	Mitchell Peak,	0.85	194		Pg	00	14	05.3	-0.9
NVAR	Mina Array Bea	0.99	21	Pg	Pn	00	14	09.4	-0.2
	83nm,0.3s,baz=203,slow=18,SNR=486								
NVAR				Lg	Lg	00	14	22.7	
	208nm,0.3s,baz=121,slow=15,SNR=15								
NVAR	Mina Array Bea	0.99	21		Pg	00	14	08.8	-0.2
NVAR				Sg	Sn	00	14	23.6	+0.2
NV11	Mina Array Sit	1.04	27		Pn	00	14	10.3	+0.2
NV11				Sg	Sn	00	14	24.8	+0.1
WAKR	Walker	1.13	332		Pg	00	14	12.0	+0.3
RYN	Ryan	1.14	10		Pg	00	14	12.2	+0.5
CGO	Cerro Gordo	1.22	141		Sn	00	14	29.6	+0.3
TMO	Tin Mountain	1.29	122		Pg	00	14	14.2	-0.5
TPH	Tonopah	1.35	64		Pg	00	14	15.8	0.0
CMB	Columbia Colle	1.39	293	Pn	Pn	00	14	15.1	+0.2
CMB				Sn	Sn	00	14	33.4	+0.3
YERR	Yerington	1.53	346		Pg	00	14	18.8	-0.3
KVN	Kaiserville	1.63	18		Pb	00	14	20.0	+0.3
PNTR	Pine Nut	1.71	338		Pb	00	14	21.7	+0.5
ISA	Isabella, Lake	1.85	173	Pn	Pb	00	14	22.8	-0.7
RUBR	Rubicon Trail	1.89	325		Pb	00	14	24.3	0.0
VCNR	Virginia City	1.92	339		Pb	00	14	24.4	-0.3
CMPM	Mikes Peak	2.04	267		Pn	00	14	25.9	+2.2
PACP	Pacheco Peak	2.07	257		Pb	00	14	26.6	-0.6
PMPB	Monarch Peak	2.08	232	Pn	Pn	00	14	25.8	+1.5
TPNV	Topopah Spring	2.08	105	Pn	Pb	00	14	25.9	-1.5
LRV	Little Rabbit	2.10	240		Pb	00	14	26.9	-0.8
PKD	Bear Valley Ra	2.11	223		Pn	00	14	26.4	+1.7
PAGB	Antelope Grade	2.13	214	Pn	Pn	00	14	26.6	+1.6
HFEM	San Felipe	2.17	257		Pb	00	14	28.0	-0.8
BLRM	Lewis Ranch	2.17	248		Pb	00	14	28.5	-0.4
GHS	Gilroy Hot Spr	2.18	260		Pb	00	14	28.1	-0.9
TRAM	Private Proper	2.19	214		Pn	00	14	27.7	+1.9
TCHL	Shandon	2.24	217		Pn	00	14	28.8	+2.3
PAHR	Pah Rah Range	2.25	348	Pn	Pb	00	14	29.0	-1.4
AFDM	Forest Hills D	2.26	310		Pn	00	14	29.0	+2.3
SAO	San Andreas Ge	2.27	252		Pn	00	14	29.3	+2.5
SAO	San Andreas Ge	2.27	252	Pn	Pn	00	14	28.7	+1.8
SCZ	Santa Cruz	2.30	248		Pn	00	14	29.4	+2.2
MHC	Mount Hamilton	2.30	267		Pb	00	14	30.2	-0.8
BJCM	Johnson Can.	2.31	246		Pn	00	14	29.4	+2.0
TSCN	Private Proper	2.33	214		Pn	00	14	30.2	+2.5
WENL	Wente Vineyard	2.38	274		Pb	00	14	31.3	-1.2
BSMM	Soledad Missio	2.41	243		Pn	00	14	31.1	+2.2
HCOM	Corn Cob Canyo	2.43	256		Pn	00	14	31.1	+2.1
HAST	Hastings Reser	2.50	244		Pn	00	14	32.1	+2.1
BDM	Black Diamond	2.50	281		Pb	00	14	33.4	-1.1
RAMR	Ramage Ranch	2.52	223		Pn	00	14	32.3	+2.0
PAPM	Alder Peak	2.62	234		Pn	00	14	33.4	+1.6
R11A	Troy Canyon, C	2.65	70		Pn	00	14	33.8	+1.5
GSC	Goldstone, Bar	2.71	144	Pn	Pn	00	14	34.4	+1.5
OSI	Osito Audit: C	2.88	179		Pb	00	14	43.3	+2.3
PRN	Pahroc Range	2.96	91		Pn	00	14	38.2	+1.8
PRN				Pg	Pg	00	14	45.7	-0.8
ORV	Oroville	2.97	315	Pn	Pn	00	14	39.3	+2.9
SHPR	Sheep Range	3.05	108		Pn	00	14	39.8	+2.0
MCCM	Marconi Confer	3.32	282		Pb	00	14	46.2	-2.2
MWC	Mount Wilson	3.32	170		Pg	00	14	54.2	+0.7
PASC	Pasadena Art C	3.36	172		Pg	00	14	52.3	-1.8
GDXM	Geysers	3.43	294		Pn	00	14	44.7	+1.8
PSUT	Pine Spring	4.01	74		Pn	00	14	53.0	+1.9
ELK	Elko	4.24	39	Pn	Pn	00	14	55.6	+1.4
	1.2nm,0.3s,baz=254,slow=13,SNR=25								
ELK				Pg	Pb	00	15	05.4	+1.1
	3.0nm,0.3s,baz=242,slow=12,SNR=13								
ELK				Lg	Lg	00	16	03.5	
	17nm,0.3s,baz=123,slow=9.8,SNR=19								
ELK	Elko	4.24	39	Pn	Pn	00	14	56.5	+2.3
CCUT	Cedar City	4.29	88		Pn	00	14	56.2	+1.3
CCUT				Pg	Pg	00	15	10.4	-1.7
PFO	Pinyon Flats O	4.31	154	Pn	Pn	00	14	57.4	+2.3
	0.3nm,0.3s,baz=12,slow=5.6,SNR=2.7								
PFO				Pg	Pb	00	15	08.7	+3.2
	1.1nm,0.3s,baz=324,slow=12,SNR=17								
PFO				Lg	Lg	00	16	04.9	
	1.9nm,0.3s,baz=121,slow=23,SNR=2.2								
PFO	Pinyon Flats O	4.31	154		Pn	00	14	56.7	+1.7
LCMT	Little Creek M	4.43	95		Pn	00	14	57.9	+1.2
MOD	Modoc Plateau	4.55	345		Pn	00	15	00.5	+2.2
MOD				Pg	Pg	00	15	15.0	-1.9
KNB	Kanab	4.76	94		Pn	00	15	02.4	+1.0
KNB				Pg	Pg	00	15	18.5	-2.6
BAR	Barrett	5.11	160		Pn	00	15	06.2	+0.2
PKCU	Pink Cliffs	5.13	89	Pg	Pg	00	15	26.9	-1.2
YBH	Yreka Blue Hor	5.21	325	Pn	Pn	00	15	09.7	+2.4
	0.3nm,0.3s,baz=140,slow=11,SNR=9.2								
YBH				Lg	Lg	00	16	34.4	
	0.4nm,0.3s,baz=123,slow=22,SNR=4.4								
MVU	Marysvale	5.27	77	Pg	Pg	00	15	29.3	-1.4
U15A	North Rim	5.29	100		Pn	00	15	10.6	+1.9
U15A				Pg	Pg	00	15	29.6	-1.6
DUG	Dugway, Tooele	5.37	58	Pg	Pg	00	15	31.3	-1.3
K05A	Summer Lake	5.46	343	Pn	Pn	00	15	12.8	+1.9
BGU	Big Grassy Mou	5.61	51	Pg	Pg	00	15	34.6	-2.6
SPUT	South Promonto	6.19	50	Pg	Pg	00	15	47.4	-0.9
MFID	Camas Ranch	6.32	20	Pg	Pg	00	15	49.5	-1.1
PINE	Pine Mountain	6.50	346	Pn	Pn	00	15	27.8	+2.7
SRU	San Rafael Swe	6.68	74		Pn	00	15	27.9	+0.3
SRU				Pg	Pg	00	15	56.9	-0.7
HLID	Hailey	6.90	27		Pb	00	15	55.2	+5.7
HWUT	Hardware Ranch	6.91	51		Pg	00	16	00.7	-1.3
PV10	Paradox Valley	7.74	81	Pg	Pg	00	16	15.8	-2.0
PV20	West Nyswonger	7.79	81	Pg	Pg	00	16	14.9	-4.0
PV21	Cone Mtn., Par	7.80	79	Pg	Pg	00	16	18.3	-0.7
PV18	Skein Mesa, Pa	7.83	82	Pg	Pg	00	16	16.2	-3.5
ECR	Eagle Creek	7.91	43	Pg	Pg	00	16	19.4	-1.9
BCYI	Bear Canyon	7.92	29	Pg	Pg	00	16	19.9	-1.4
PV02	Paradox Valley	7.96	82	Pn	Pn	00	15	46.1	+0.8
PV07	Paradox Valley	8.05	80	Pn	Pn	00	15	47.1	+0.7
PV01	Paradox Valley	8.09	82		Pn	00	15	48.2	+1.7
PV15	Paradox Valley	8.17	81	Pn	Pn	00	15	49.6	+1.5
MVCO	Mesa Verde	8.18	89	Pn	Pn	00	15	49.7	+1.4
TUC	Tucson	8.35	126	Pn	Pn	00	15	52.4	+1.9
PDAR	Pinedale Array	8.79	50	Pn	Pn	00	16	02.5	+5.9
	0.0nm,0.3s,baz=226,slow=14,SNR=5.3								
PDAR	Pinedale Array	8.79	50		Pn	00	16	01.2	+4.6
TXAR	Lajitas Array	15.00	118	Pn	P	00	17	24.8	-2.1
	0.0nm,0.3s,baz=299,slow=11,SNR=1.9								

NEIC ***13*** *00:20:54.6, 37.°48N× 118.°79W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=1.71; Mθθ=0.97; Mϕϕ 2.68; Mrθ=0.47; Mrϕ=-0.86; Mθϕ=0.64; Fault plane solution: M0 2.63000×10^14 NP1:ϕ

HLID	Hailey	6.91	27			Pg		00 23 05.9	-1.7
BCYI	Bear Canyon	7.93	29			Pg		00 23 25.6	-1.5
PDAR	Pinedale Array	8.80	50	Pn		Pn		00 23 08.3	+5.7
	0.1nm,0.3s,baz=257,slow=7.3,SNR=3.9								
PDAR	Pinedale Array	8.80	50			Pn		00 23 01.2	-1.4
TXAR	Lajitas Array	14.97	118	Pn		P		00 24 32.8	+0.3
	0.0nm,0.3s,baz=303,slow=8.5,SNR=2.7								
ULM	Lac du Bonnet	20.75	45	LR		LR		00 35 12.7	
	comp=Z,78nm,21.6s,baz=357,slow=41								
ILAR	Eielson Array	32.00	338	P		P		00 27 23.9	+2.6
	0.5nm,0.8s,baz=153,slow=7.1,SNR=4.6								

KRNET ***13*** *00:24:17.2±0.1, 43.64N×76.66E, h19km, mb2.1*
NNC ***13*** *00:24:17.4±0.4, 43.56N×76.58E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=3.7km s-min=1.9km az=53.0*
SOME ***13*** *00:24:18.7, 43.65N×76.60E, h10km*

ISC 13 00:24:17.9±0.8, 43.60N±0.03×76.59E±0.02, h12km±6km, n24, σ1§82/46, 15C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTBS	**Karatobe**	**0.13**	**31**	⇑*i*P	**Pg**	**00 24 21.4**	**+0.2**
KTBS	baz=14			⇑*e*S	**Sg**	**00 24 23.4**	**-0.1**
KTBS	**Karatobe**	**0.13**	**31**	⇑*i*P	**Pg**	**00 24 21.4**	**+0.2**
KTBS	8.8nm,0.1s 66nm,0.2s			*e*S	**Sg**	**00 24 23.4**	**-0.1**
KTBS	**Karatobe**	**0.13**	**31**	P	**Pg**	**00 24 21.4**	**+0.2**
KTBS	8.8nm,0.1s 66nm,0.2s			S	**Sg**	**00 24 23.5**	**-0.1**
KUU	**Kurty**	**0.34**	**328**	*e*P	**Pb**	**00 24 24.9**	**-1.1**
KUU	baz=18 baz=18			*e*S	**Sg**	**00 24 29.2**	**-0.3**
KUU	**Kurty** 0.3nm,0.1s	**0.34**	**328**	*e*P	**Pb**	**00 24 24.9**	**-1.1**
KUU	13nm,0.1s			*e*S	**Sg**	**00 24 29.2**	**-0.3**
KUU	**Kurty** 0.2nm,0.1s	**0.34**	**328**	P	**Pb**	**00 24 24.9**	**-1.1**
KUU	13nm,0.1s			S	**Sg**	**00 24 29.2**	**-0.3**
KNDC	**Almaty** 4.7nm,0.4s	**0.47**	**145**	⇓P	**Pg**	**00 24 26.1**	**-1.1**
KNDC	5.5nm,0.5s			⇑S	**Sg**	**00 24 32.4**	**-1.0**
KRBS	**Karabastau** baz=75	**0.67**	**278**	*e*P	**Pb**	**00 24 31.0**	**-0.6**
KRBS	baz=75			*e*S	**Sg**	**00 24 39.8**	**0.0**
KRBS	**Karabastau** 0.9nm,0.1s	**0.67**	**278**	*e*P	**Pb**	**00 24 31.0**	**-0.6**
KRBS	5.2nm,0.1s			*e*S	**Sg**	**00 24 39.8**	**0.0**
KRBS	**Karabastau** 0.9nm,0.1s	**0.67**	**278**	P	**Pb**	**00 24 31.0**	**-0.6**
KRBS	5.2nm,0.1s			S	**Sg**	**00 24 39.8**	**0.0**
TKM2	**Tokmak 2** baz=28	**1.00**	**227**	⇑*i*P	**Pb**	**00 24 37.4**	**+0.2**
TKM2	baz=28			⇑*i*S	**Sb**	**00 24 51.2**	**+0.8**
ARXS	**Arharly** 3.7nm,0.1s	**1.08**	**55**	*e*P	**Pb**	**00 24 38.0**	**-0.6**
ARXS	2.4nm,0.2s			*e*S	**Sb**	**00 24 51.8**	**-0.9**
ARXS	**Arharly** 3.7nm,0.1s	**1.08**	**55**	P	**Pb**	**00 24 38.0**	**-0.6**
ARXS	2.4nm,0.2s			S	**Sb**	**00 24 51.8**	**-0.9**
ANVS	**Anan'yevo** baz=39	**1.14**	**136**	⇑*i*P	**Pb**	**00 24 38.1**	**-1.5**
ANVS	baz=39			⇑*i*S	**Sg**	**00 24 52.6**	**-2.0**
BOOM	**Boomskoye usch** baz=5.0	**1.21**	**203**	⇑*i*P	**Pn**	**00 24 40.7**	**-0.1**
BOOM	baz=5.0			⇑*i*S	**Sb**	**00 24 57.3**	**+0.8**
SATY	**Saty** 0.6nm,0.1s	**1.43**	**112**	*e*P	**Pg**	**00 24 45.5**	**+0.1**
SATY	4.2nm,0.2s			*e*S	**Sg**	**00 25 04.5**	**+0.5**
SATY	**Saty** 0.6nm,0.1s	**1.43**	**112**	P	**Pg**	**00 24 45.5**	**+0.1**
SATY	4.2nm,0.2s			S	**Sg**	**00 25 04.5**	**+0.5**
SGDS	**Sogindy** 1.8nm,0.2s	**1.44**	**265**	P	**Pg**	**00 24 44.9**	**-0.5**
SGDS	2.3nm,0.3s			S	**Sg**	**00 25 03.5**	**-0.6**
KDJ	**Kajisay** baz=65	**1.53**	**163**	⇑*i*P	**Pn**	**00 24 45.6**	**+0.3**
KDJ	baz=65			⇑*i*S	**Sn**	**00 25 05.8**	**+0.6**
UZB	**Uzynbulak** 0.9nm,0.2s	**1.83**	**104**	*e*P	**Pb**	**00 24 51.8**	**+0.5**
UZB	2.1nm,0.1s			*e*S	**Sg**	**00 25 15.4**	**-1.3**
UZB	**Uzynbulak** 0.9nm,0.2s	**1.83**	**104**	P	**Pb**	**00 24 51.8**	**+0.5**
UZB	2.1nm,0.1s			S	**Sg**	**00 25 15.4**	**-1.3**
UCH	**Uchtor** baz=29	**2.05**	**229**	⇑*i*P	**Pb**	**00 24 54.7**	**-0.7**
UCH	baz=29			⇑*i*S	**Sn**	**00 25 20.2**	**+1.8**
PDGK	**Podgornoye** 2.8nm,1.2s	**2.13**	**96**	⇑Pg	**Pn**	**00 24 54.3**	**+0.9**
PDGK	2.9nm,1.0s			⇓Lg	Lg	00 25 25.2	
KTMS	**Ketmen** 0.5nm,0.3s	**2.74**	**92**	Pg	**Pb**	**00 25 07.9**	**+1.0**
KTMS	1.0nm,0.5s			Lg	Lg	00 25 43.0	

KRSC ***13*** *00:33:04.1±1.6, 55.01N×162.89E, h14km±36km, ML4.6*
MOS ***13*** *00:33:08.3±0.9, 55.15N×162.62E, h63km, mb4.2/4, Error ellipse: s-maj=7.9km s-min=5.2km az=89.4*
IDC ***13*** *00:33:11.7±2.9, 55.26N×162.43E, h70km±30km, mb3.3/13, mb1 3.6/14, mb1mx3.5/33, mbtmp3.6/14, ML2.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/27, Error ellipse: s-maj=26.0km s-min=16.5km az=162.0*

ISC 13 00:33:09.3±1.1, 55.14N±0.04×162.73E±0.06, h52km±10km, n93, σ1§23/118, mb3.6/16, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.07**	**3**	*e*P	**Pn**	**00 33 26.6**	**-1.4**
KBTR				*e*S	**Sn**	**00 33 42.1**	**+0.2**
KBTR	**Krutoberegovo**	**1.07**	**3**	PN	**Pn**	**00 33 26.6**	**-1.4**
KBTR				S	**Sn**	**00 33 42.1**	**+0.2**
KBG	**Krutoberegovo**	**1.12**	**359**	*e*P	**Pn**	**00 33 27.3**	**-1.3**
KBG				*e*S	**Sn**	**00 33 44.0**	**+1.1**
KBG	**Krutoberegovo**	**1.12**	**359**	PN	**Pn**	**00 33 27.3**	**-1.3**
KBG				S	**Sn**	**00 33 44.0**	**+1.1**
KZV	**Kizimen**	**1.40**	**270**	*e*P	**Pn**	**00 33 30.5**	**-2.1**
KZV				*e*S	**Sn**	**00 33 48.8**	**-1.2**
KZV	**Kizimen**	**1.40**	**270**	PN	**Pn**	**00 33 30.5**	**-2.1**
KZV				S	**Sn**	**00 33 48.8**	**-1.2**
ZLN	**Zelenaya**	**1.40**	**310**	*e*P	**Pn**	**00 33 31.9**	**-0.7**
ZLN	**Zelenaya**	**1.40**	**310**	PN	**Pn**	**00 33 31.9**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.40**	**306**	*e*P	**Pn**	**00 33 31.8**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.40**	**306**	PN	**Pn**	**00 33 31.8**	**-0.8**
TUMR	**Tumrok**	**1.48**	**277**	*e*P	**Pn**	**00 33 32.7**	**-1.0**
TUMR	**Tumrok**	**1.48**	**277**	PN	**Pn**	**00 33 32.7**	**-1.0**
CIRR	**Tsirk**	**1.49**	**312**	*e*P	**Pn**	**00 33 33.2**	**-0.6**
CIRR	**Tsirk**	**1.49**	**312**	PN	**Pn**	**00 33 33.2**	**-0.6**
LGNR	**Loginova**	**1.49**	**310**	*e*P	**Pn**	**00 33 33.6**	**-0.4**
LGNR	**Loginova**	**1.49**	**310**	PN	**Pn**	**00 33 33.6**	**-0.4**
BZMR	**Bezymyannaya**	**1.50**	**303**	*e*P	**Pn**	**00 33 33.9**	**-0.1**
BZMR	**Bezymyannaya**	**1.50**	**303**	PN	**Pn**	**00 33 33.9**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.51**	**304**	*e*P	**Pn**	**00 33 33.6**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.51**	**304**	PN	**Pn**	**00 33 33.6**	**-0.6**
KMNR	**Kamenistaya**	**1.55**	**295**	*e*P	**Pn**	**00 33 34.7**	**+0.1**
KMNR	**Kamenistaya**	**1.55**	**295**	PN	**Pn**	**00 33 34.7**	**+0.1**
KIRR	**Kirishev**	**1.58**	**302**	*e*P	**Pn**	**00 33 34.9**	**-0.2**
KIRR	**Kirishev**	**1.58**	**302**	PN	**Pn**	**00 33 34.9**	**-0.2**
SMKR	**Semkarok**	**1.61**	**334**	*e*P	**Pn**	**00 33 34.6**	**-0.8**
SMKR	**Semkarok**	**1.61**	**334**	PN	**Pn**	**00 33 34.6**	**-0.8**
KRSR	**Krestovskiy**	**1.63**	**312**	*e*P	**Pn**	**00 33 34.5**	**-1.2**
KRSR	**Krestovskiy**	**1.63**	**312**	PN	**Pn**	**00 33 34.5**	**-1.2**
KLY	**Klyuchi**	**1.66**	**316**	*e*P	**Pn**	**00 33 34.8**	**-1.2**
KLY				*e*S	**Sn**	**00 33 56.7**	**+0.6**
KLY	**Klyuchi**	**1.66**	**316**	PN	**Pn**	**00 33 34.8**	**-1.2**
KLY				S	**Sn**	**00 33 56.7**	**+0.6**
BDR	**Baidarnaya**	**1.67**	**330**	*e*P	**Pn**	**00 33 35.8**	**-0.4**
BDR	**Baidarnaya**	**1.67**	**330**	PN	**Pn**	**00 33 35.8**	**-0.4**
SRKR	**Sorokina**	**1.75**	**331**	*e*P	**Pn**	**00 33 36.8**	**-0.5**
SRKR	**Sorokina**	**1.75**	**331**	PN	**Pn**	**00 33 36.8**	**-0.5**
KOZ	**Kozyrevsk**	**1.86**	**301**	*e*P	**Pn**	**00 33 39.1**	**+0.3**
KOZ				*e*S	**Sn**	**00 34 05.9**	**+4.8**
KOZ	**Kozyrevsk**	**1.86**	**301**	PN	**Pn**	**00 33 39.1**	**+0.3**
SRDR	**Sredinnyy**	**2.07**	**306**	*e*P	**Pn**	**00 33 41.8**	**+0.1**
SRDR	**Sredinnyy**	**2.07**	**306**	PN	**Pn**	**00 33 41.8**	**+0.1**
KII	**Karymskiy**	**2.21**	**241**	*e*P	**Pn**	**00 33 42.1**	**-1.4**
KII				*e*S	**Sn**	**00 34 10.7**	**+1.1**
KII	**Karymskiy**	**2.21**	**241**	PN	**Pn**	**00 33 42.1**	**-1.4**
KII				S	**Sn**	**00 34 10.7**	**+1.1**
ESO	**Esso**	**2.42**	**291**	*e*P	**Pn**	**00 33 46.0**	**-0.4**
ESO	**Esso**	**2.42**	**291**	PN	**Pn**	**00 33 46.0**	**-0.4**
NLC	**Nalytchevo**	**2.80**	**227**	*e*S	**Sn**	**00 34 23.4**	**-0.7**
KRER	**Koryakskii**	**2.97**	**233**	*e*S	**Sn**	**00 34 29.7**	**+1.1**
SMAR	**Somma**	**2.98**	**232**	*e*S	**Sn**	**00 34 29.5**	**+0.8**
KRX	**Arik**	**2.98**	**235**	*e*P	**Pn**	**00 33 54.1**	**-0.2**
KRX	**Arik**	**2.98**	**235**	PN	**Pn**	**00 33 54.1**	**-0.2**
UGLR	**Uglovaya**	**3.00**	**231**	*e*P	**Pn**	**00 33 53.6**	**-0.8**
UGLR				*e*S	**Sn**	**00 34 30.5**	**+1.3**
UGLR	**Uglovaya**	**3.00**	**231**	PN	**Pn**	**00 33 53.6**	**-0.8**
UGLR				S	**Sn**	**00 34 30.5**	**+1.3**
AVH	**Avacha**	**3.00**	**233**	*e*P	**Pn**	**00 33 53.8**	**-0.6**
AVH				*e*S	**Sn**	**00 34 31.3**	**+2.1**
AVH	**Avacha**	**3.00**	**233**	PN	**Pn**	**00 33 53.8**	**-0.6**
AVH				S	**Sn**	**00 34 31.3**	**+2.1**
KOK	**Koryaka**	**3.03**	**234**	*e*P	**Pn**	**00 33 54.7**	**-0.2**
KOK	**Koryaka**	**3.03**	**234**	PN	**Pn**	**00 33 54.7**	**-0.2**
DALK	**Dalny**	**3.15**	**230**	*e*P	**Pn**	**00 33 55.6**	**-0.8**
DALK				*e*S	**Sn**	**00 34 33.0**	**+0.3**
DALK	**Dalny**	**3.15**	**230**	PN	**Pn**	**00 33 55.6**	**-0.8**
DALK				S	**Sn**	**00 34 33.0**	**+0.3**
PET	**Petropavlovsk**	**3.20**	**230**	*e*S	**Sn**	**00 34 33.7**	**-0.2**
PET	**Petropavlovsk**	**3.20**	**230**	*e*PN	**Pn**	**00 33 56.9**	**-0.2**
PET				*e*S	**Sn**	**00 34 34.1**	**+0.2**
PET				pmax	pmax		
	comp=Z,161nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,870nm,0.7s						
KRMR	**Karymshinskiy**	**3.57**	**231**	*e*P	**Pn**	**00 34 03.4**	**+1.3**
KRMR				*e*S	**Sn**	**00 34 45.3**	**+2.4**
KRMR	**Karymshinskiy**	**3.57**	**231**	PN	**Pn**	**00 34 03.4**	**+1.3**
KRMR				S	**Sn**	**00 34 45.3**	**+2.4**
PEA0B	**Petropavlovsk-**	**3.59**	**238**	*e*PN	**Pn**	**00 34 02.0**	**-0.4**
PETK	**Petropavlovsk-**	**3.59**	**238**	P	**Pn**	**00 34 01.9**	**-0.5**
	comp=E,3.6nm,0.3s,baz=69,slow=15,SNR=48						
PETK				S	**Sn**	**00 34 46.1**	**+2.6**
	comp=E,5.1nm,0.3s,baz=81,slow=18,SNR=2.7						
PETK				LR	LR	00 35 44.0	
	comp=E,158nm,19.2s,baz=232,slow=43						
RUS	**Russkaya**	**3.69**	**224**	*e*P	**Pn**	**00 34 02.2**	**-1.5**
RUS				*e*S	**Sn**	**00 34 44.5**	**-1.4**
RUS	**Russkaya**	**3.69**	**224**	PN	**Pn**	**00 34 02.2**	**-1.5**
RUS				S	**Sn**	**00 34 44.5**	**-1.4**
GRL	**Gorelyy**	**3.78**	**229**	*e*P	**Pn**	**00 34 05.4**	**+0.2**
GRL				*e*S	**Sn**	**00 34 50.5**	**+2.0**
GRL	**Gorelyy**	**3.78**	**229**	PN	**Pn**	**00 34 05.4**	**+0.2**
GRL				S	**Sn**	**00 34 50.5**	**+2.0**
MTVR	**Mutnovka**	**3.79**	**227**	*e*P	**Pn**	**00 34 04.9**	**-0.3**
MTVR				*e*S	**Sn**	**00 34 47.8**	**-0.8**
MTVR	**Mutnovka**	**3.79**	**227**	PN	**Pn**	**00 34 04.9**	**-0.3**
MTVR				S	**Sn**	**00 34 47.8**	**-0.8**
APC	**Apacha**	**3.96**	**238**	*e*P	**Pn**	**00 34 10.1**	**+2.6**
APC	**Apacha**	**3.96**	**238**	PN	**Pn**	**00 34 10.1**	**+2.6**
ASAK	**Asacha**	**3.98**	**228**	*e*P	**Pn**	**00 34 07.9**	**+0.1**
ASAK				*e*S	**Sn**	**00 34 55.1**	**+1.9**
ASAK	**Asacha**	**3.98**	**228**	PN	**Pn**	**00 34 07.9**	**+0.1**
ASAK				S	**Sn**	**00 34 55.1**	**+1.9**
MA2	**Magadan**	**7.84**	**309**	LR	LR	00 38 16.8	
	comp=E,198nm,19.3s,baz=191,slow=40						
BILL	**Bilibino**	**13.05**	**6**	*i* PN	**Pn**	**00 36 13.3**	**+1.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**21.93**	**332**	*i* P	**P**	**00 37 57.9**	**0.0**
TIXI				pmax	pmax		
	comp=Z,61nm,1.1s						
MJAR	**Matsushiro Arr**	**25.03**	**232**	P	**P**	**00 38 27.8**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=6.4,slow=10,SNR=5.7						
ILAR	**Eielson Array**	**26.28**	**48**	P	**P**	**00 38 39.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=267,slow=8.5,SNR=14						
HIA	**Hailar**	**26.65**	**275**	*i* P	**P**	**00 38 40.4**	**-2.5**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**34.58**	**282**	*i* P	**P**	**00 39 51.6**	**-1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**34.97**	**282**	P	**P**	**00 39 54.4**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=72,slow=9.5,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**35.49**	**173**	T	T	01 17 24.9	
	baz=355,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**35.51**	**173**	T	T	01 17 28.0	
	baz=355,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**35.51**	**173**	T	T	01 17 29.5	
	baz=355,slow=76,SNR=13						
DGZ	**Jazzator, Alta**	**44.17**	**296**	*e*P	**P**	**00 41 12.0**	**-0.7**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**48.67**	**296**	P	**P**	**00 41 46.0**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=65,slow=5.8,SNR=2.8						
NVAR	**Mina Array Bea**	**53.62**	**73**	P	**P**	**00 42 27.5**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=183,slow=27,SNR=2.7						
PDAR	**Pinedale Array**	**55.20**	**64**	P	**P**	**00 42 38.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=327,slow=45,SNR=2.4						
FINES	**FINESS Array B**	**58.84**	**337**	P	**P**	**00 43 01.4**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=33,slow=7.8,SNR=24						
NOA	**NORSAR Array B**	**61.99**	**345**	P	**P**	**00 43 23.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=20,slow=6.5,SNR=2.3						
AKASG	**Malin Array Be**	**67.63**	**330**	P	**P**	**00 43 58.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=6.9,SNR=2.7						
TXAR	**Lajitas Array**	**68.44**	**70**	P	**P**	**00 44 07.0**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=308,slow=3.9,SNR=5.0						
GERES	**GERESS Array B**	**73.17**	**339**	P	**P**	**00 44 33.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=33,slow=8.1,SNR=2.4						
BRTR	**Keskin Array B**	**76.00**	**322**	P	**P**	**00 44 50.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=272,slow=32,SNR=4.9						
ASAR	**Alice Springs**	**82.28**	**206**	P	**P**	**00 45 25.1**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=18,slow=6.2,SNR=3.1						

IDC ***13*** *00:37:22.4±1.7, 7.71N×94.31E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/29, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=71.8km s-min=23.5km az=59.0*
NEIC ***13*** *00:37:26.2±1.9, 7.61N×0.09×94.5E±0.1, h35km±2km, mb4.3/15, Error ellipse: s-maj=20.9km s-min=11.0km az=231.0*

ISC 13 00:37:25.1±0.8, 7.66N±0.08×94.6E±0.1, h24km, n37, σ1§36/31, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.91**	**225**	*e*P	**Pn**	**00 37 42.4**	**0.0**
LHMI	**Lhok Sumawe**	**3.38**	**136**	Pn	**Pn**	**00 38 17.8**	**+1.5**
PBA	**Port Blair**	**4.36**	**336**	Pn	Pn	00 38 30.8	+1.0
SRIT	**Nakonsritamara**	**5.07**	**79**	Pn	**Pn**	**00 38 40.7**	**+1.1**
KULM	**Kulim**	**6.48**	**111**	Pn	**Pn**	**00 39 00.5**	**+1.5**
IPM	**Ipoh**	**7.15**	**116**	Pn	**Pn**	**00 39 09.4**	**+1.1**
MYKOM	**Kota Tinggi**	**10.93**	**122**	Pn	**Pn**	**00 39 59.8**	**-0.3**
CM31	**Chiang Mai Arr**	**11.54**	**21**	Pn	**Pn**	**00 40 10.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**11.54**	**21**	Pn	**Pn**	**00 40 08.0**	**-0.5**
	0.3nm,0.3s,baz=211,slow=15,SNR=1.2						
MYLDM	**Lahad Datu**	**23.90**	**94**	P	**P**	**00 42 36.3**	**-1.0**
MYLDM				IAmb	IAmb	00 42 37.4	
	comp=Z,12nm,1.0s						
H08S3	**Diego Garcia H**	**26.75**	**236**	T	T	01 09 40.1	
	baz=54,slow=75,SNR=46						
H08S2	**Diego Garcia H**	**26.75**	**236**	T	T	01 09 44.5	
	baz=54,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**26.77**	**236**	T	T	01 09 43.4	
	baz=54,slow=75,SNR=9.6						
KNMB	**Chin-men Tao**	**28.25**	**51**	P	**P**	**00 43 16.2**	**-0.4**
KNMB				IAmb	IAmb	00 43 17.9	
	comp=Z,41nm,0.9s						
TPUB	**Ta-pu**	**29.45**	**55**	P	P	00 43 23.3	-4.0
NACB	**Ninganchiao**	**30.64**	**55**	P	**P**	**00 43 37.1**	**-0.6**
NACB				IAmb	IAmb	00 43 51.9	
	comp=Z,18nm,0.8s						
GIRL	**Giralia**	**35.75**	**148**	P	**P**	**00 44 21.2**	**-1.1**
MBWA	**Marble Bar**	**37.83**	**140**	P	**P**	**00 44 36.9**	**-3.1**
FITZ	**Fitzroy Crossi**	**39.95**	**130**	P	**P**	**00 44 56.3**	**-1.5**
MK31	**Makanchi Array**	**40.39**	**347**	P	**P**	**00 45 01.0**	**-0.2**
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**00 45 01.6**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=166,slow=7.5,SNR=12						
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**00 45 01.4**	**+0.2**
MAKZ	**Makanchi**	**40.48**	**347**	P	**P**	**00 45 01.9**	**0.0**
MAKZ				IAmb	IAmb	00 45 02.5	
	comp=Z,1.7nm,0.8s						
JSU	**Suzuyama**	**40.99**	**50**	P	**P**	**00 45 06.0**	**-0.4**
KURK	**Kurchatov**	**44.92**	**346**	P	**P**	**00 45 38.1**	**+0.3**
KURK				IAmb	IAmb	00 45 38.9	
	comp=Z,1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**46.82**	**352**	P	**P**	**00 45 54.0**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=163,slow=4.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**46.82**	**352**	P	**P**	**00 45 54.0**	**+1.2**
WB0	**Warramunga Arr**	**47.74**	**125**	P	**P**	**00 46 01.2**	**+0.7**
WB0				IAmb	IAmb	00 46 20.9	
	comp=Z,2.4nm,1.1s						
WRA	**Warramunga Arr**	**47.79**	**126**	P	**P**	**00 46 02.1**	**+1.2**
	comp=Z,0.3nm,1.0s,baz=305,slow=8.8,SNR=1.8						
WRA	**Warramunga Arr**	**47.79**	**126**	P	P	00 45 56.1	-4.8
WRAB	**Tennant Creek**	**47.79**	**126**	P	**P**	**00 46 01.0**	**+0.1**
WB2	**Warramunga Arr**	**47.80**	**126**	P	**P**	**00 46 00.6**	**-0.4**
WB2				IAmb	IAmb	00 46 12.5	
	comp=Z,1.4nm,0.8s						
BRVK	**Borovoye**	**49.39**	**341**	P	**P**	**00 46 12.2**	**-0.5**
BRVK				IAmb	IAmb	00 46 13.3	
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**49.45**	**130**	P	**P**	**00 46 18.2**	**+4.6**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.7,SNR=2.0						
ABKAR	**Akbulak array**	**50.62**	**331**	P	**P**	**00 46 22.1**	**0.0**
ABKAR	**Akbulak array**	**50.62**	**331**	P	**P**	**00 46 22.2**	**+0.1**
ABKAR				IAmb	IAmb	00 46 23.7	
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**73.10**	**332**	P	**P**	**00 48 52.6**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=94,slow=5.7,SNR=7.8						

NEIC ***13*** *00:53:41.1±2.2, 32.99N±0.05×109.36W±0.02, h0km±2km, ML3.1/56, Error ellipse: s-maj=9.0km s-min=3.4km az=176.0*
IDC ***13*** *00:54:03.0±1.5, 33.41N×107.96W, h0km, mb1 3.1/2, mb1mx3.0/44, mbtmp2.6/2, ML3.3/2, Error ellipse: s-maj=17.3km s-min=12.7km az=57.0*

ISC 13 00:53:40.2±0.8, 33.21N±0.04×109.41W±0.03, h0km, n45, σ1§82/41, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**1.47**	**233**	Pn	**Pn**	**00 54 07.3**	**-0.7**
TUC				Sg	**Sg**	**00 54 26.3**	**-1.2**
121A	**Cookes Peak, D**	**1.52**	**116**		**Pn**	**00 54 07.4**	**-1.5**
121A				Sg	**Sg**	**00 54 29.2**	**0.0**
121A				IAML		00 54 32.3	
	comp=E,166nm,1.1s						
W18A	**Petrified Fore**	**1.92**	**352**	Pn	**Pg**	**00 54 18.1**	**+1.1**
W18A				IAML		00 55 01.3	
	comp=N,67nm,1.2s						
X16A	**Lo Mia Camp, P**	**2.08**	**306**	Pn	**Pb**	**00 54 19.8**	**+0.9**
LENM	**Lemitar**	**2.24**	**64**		**Pn**	**00 54 19.9**	**+1.2**
LENM				Sn	**Sn**	**00 54 47.6**	**+0.4**
Y22D	**IRIS PASSCAL I**	**2.24**	**67**		**Pb**	**00 54 20.6**	**-1.1**
Y22D				IAML		00 54 58.9	
	comp=E,142nm,1.0s						
Y22D				IAML		00 55 28.1	
	comp=N,155nm,1.0s						
BNM	**Barren Site**	**2.50**	**67**	Pn	**Pb**	**00 54 25.0**	**-1.1**
WUAZ	**Wupatki**	**2.82**	**325**		**Pg**	**00 54 35.7**	**+1.5**
WUAZ				IAML		00 55 17.5	
	comp=N,37nm,0.9s						
WUAZ				IAML		00 55 48.7	
	comp=N,40nm,0.9s						
ANMO	**Albuquerque**	**3.00**	**54**	Pg	**Pg**	**00 54 37.3**	**-0.3**
	comp=N,0.0nm,0.3s,baz=237,slow=15,SNR=22						
ANMO				Lg	Lg	00 55 08.7	
	comp=N,0.0nm,0.3s,baz=224,slow=9.1,SNR=4.5						
ANMO	**Albuquerque**	**3.00**	**54**	Pn	**Pn**	**00 54 30.1**	**+0.9**
Y14A	**Wickenburg**	**3.09**	**285**		**Pg**	**00 54 41.2**	**+1.7**
Y14A				IAML		00 55 26.6	
	comp=E,31nm,0.7s						
Y14A				IAML		00 55 28.2	
	comp=N,26nm,1.0s						
214A	**Organ Pipe Nat**	**3.14**	**247**		**Pn**	**00 54 28.9**	**-2.0**
214A				Pg	**Pg**	**00 54 41.9**	**+1.5**
214A				IAML		00 55 26.6	
	comp=E,26nm,0.9s						
113A	**Mohawk Valley,**	**3.69**	**264**	Pn	**Pn**	**00 54 39.7**	**+1.2**
MNTX	**Cornudas Mount**	**3.72**	**113**	Pn	**Pn**	**00 54 38.5**	**-0.5**
U15A	**North Rim**	**3.99**	**324**	Pg	**Pg**	**00 54 57.2**	**+0.5**
U15A				IAML		00 55 54.7	
	comp=N,13nm,1.0s						
U15A				IAML		00 56 04.8	
	comp=E,15nm,1.1s						
MVCO	**Mesa

*NNC **13** 01:25:11.0±1.1, 44°.55N×83°.99E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=9.8km s-min=4.3km az=124.0*
*SOME **13** 01:25:10.3, 44°.62N×83°.90E, h5km*
*BJI **13** 01:25:10.0±0.0, 44°.52N×84°.08E, h8km, ML3.6/7*

ISC 13 01:25:11.5±0.9, **44°.50N**±0.05×**83°.85E**±0.04, **h10km, n41, σ2s51/59, 6C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.54**	**335**	⇑Pn	**Pn**	**01 25 53.8**	**+1.0**
	26nm,0.6s,baz=148,slow=14,SNR=7.8						
MK31				⇓Lg	Lg	01 26 31.9	
	48nm,0.3s,baz=149,slow=28,SNR=24						
MAKZ	**Makanchi**	**2.65**	**331**	⇓Pn	**Pn**	**01 25 55.7**	**+1.4**
	14nm,0.5s						
MAKZ				⇑Lg	Lg	01 26 35.6	
	121nm,0.6s						
KTMS	**Ketmen**	**2.74**	**249**	*e*P	**Pg**	**01 26 01.9**	**-2.1**
	62nm,0.2s						
KTMS				*e*S	**Sg**	**01 26 39.1**	**-0.4**
	304nm,0.5s						
KTMS	**Ketmen**	**2.74**	**249**	Pg	**Pg**	**01 26 01.9**	**-2.1**
	62nm,0.2s						
KTMS				Lg	Lg	01 26 39.1	
	304nm,0.5s						
WMQ	**Urumqi**	**2.85**	**103**	*e*Pn	**Pn**	**01 25 58.2**	**+1.1**
WMQ				Sn	**Sn**	**01 26 33.0**	**+1.6**
WMQ				smax	smax		
	comp=N,130nm,0.9s						
WMQ				smax	smax		
	comp=E,110nm,0.7s						
DJR	**Jarkent**	**2.92**	**268**	*e*P	**Pg**	**01 26 06.5**	**-0.9**
	71nm,0.4s						
DJR				*e*S	**Sg**	**01 26 46.8**	**+1.7**
	138nm,0.4s						
DJR	**Jarkent**	**2.92**	**268**	Pg	**Pg**	**01 26 06.5**	**-0.9**
	71nm,0.4s						
DJR				Lg	Lg	01 26 47.2	
	138nm,0.4s						
ZSN	**Zaisan**	**3.03**	**13**	*e*P	**Pb**	**01 26 04.5**	**-1.0**
	65nm,0.3s						
ZSN				*e*S	**Sb**	**01 26 43.2**	**+0.7**
	294nm,0.6s						
PDGK	**Podgornoye**	**3.36**	**251**	Pg	**Pb**	**01 26 12.8**	**+1.5**
	14nm,0.6s						
PDGK				Lg	Lg	01 26 57.3	
	113nm,0.5s						
PDGK	**Podgornoye**	**3.36**	**251**	⇑Pg	**Pg**	**01 26 14.1**	**-1.8**
	19nm,0.5s						
PDGK				⇓Lg	Lg	01 27 01.3	
	204nm,0.7s						
UZB	**Uzynbulak**	**3.75**	**250**	*e*P	**Pg**	**01 26 21.9**	**-1.4**
	28nm,0.3s						
UZB				*e*S	**Sg**	**01 27 12.9**	**+1.0**
	77nm,0.4s						
UZB	**Uzynbulak**	**3.75**	**250**	Pg	**Pg**	**01 26 21.9**	**-1.4**
	28nm,0.3s						
UZB				Lg	Lg	01 27 10.6	
	77nm,0.4s						
KPKS	**Kokpek**	**3.87**	**256**	*e*P	**Pb**	**01 26 20.9**	**+0.9**
	156nm,0.4s						
KPKS				*e*S	**Sg**	**01 27 11.4**	**-4.4**
	269nm,0.7s						
TDK	**Taldyqorghan**	**3.91**	**279**	*e*P	**Pb**	**01 26 22.9**	**+2.4**
	94nm,0.4s						
TDK				*e*S	**Sg**	**01 27 15.8**	**-1.3**
	332nm,0.5s						
TDK	**Taldyqorghan**	**3.91**	**279**	Pg	**Pg**	**01 26 26.2**	**-0.3**
	94nm,0.4s						
TDK				Lg	Lg	01 27 20.2	
	332nm,0.5s						
ZHN	**Zhinishke**	**4.14**	**253**	*e*P	**Pg**	**01 26 27.8**	**-3.0**
	56nm,0.3s						
ZHN				*e*S	**Sg**	**01 27 22.8**	**-1.6**
	45nm,0.3s						
ZHN	**Zhinishke**	**4.14**	**253**	Pg	**Pg**	**01 26 27.8**	**-3.0**
	56nm,0.3s						
ZHN				Lg	Lg	01 27 22.8	
	45nm,0.3s						
SATY	**Saty**	**4.20**	**252**	*e*P	**Pg**	**01 26 28.3**	**-3.6**
	10.0nm,0.2s						
SATY				*e*S	**Sg**	**01 27 24.0**	**-2.4**
	131nm,0.3s						
SATY	**Saty**	**4.20**	**252**	Pg	**Pg**	**01 26 28.3**	**-3.6**
	10.0nm,0.2s						
SATY				Lg	Lg	01 27 24.6	
	131nm,0.3s						
KURS	**Kuram**	**4.22**	**258**	*e*P	**Pg**	**01 26 31.8**	**-0.6**
	18nm,0.6s						
KURS				*e*S	**Sg**	**01 27 30.1**	**+2.9**
	73nm,0.8s						
KURS	**Kuram**	**4.22**	**258**	Pg	**Pg**	**01 26 31.8**	**-0.6**
	18nm,0.6s						
KURS				Lg	Lg	01 27 30.1	
	73nm,0.8s						
ARXS	**Arharly**	**4.33**	**268**	*e*P	**Pg**	**01 26 31.5**	**-3.0**
	44nm,0.4s						
ARXS				*e*S	**Sg**	**01 27 29.7**	**-0.9**
	59nm,0.4s						
MDOK	**Medeo**	**5.10**	**257**	*e*P	**Pg**	**01 26 46.7**	**-2.5**
	12nm,0.4s						
MDOK				*e*S	**Sg**	**01 27 55.5**	**+0.2**
	83nm,0.6s						
MDOK	**Medeo**	**5.10**	**257**	Pg	**Pg**	**01 26 46.7**	**-2.5**
	12nm,0.4s						
MDOK				Lg	Lg	01 27 55.5	
	83nm,0.6s						
TNSS	**Tian-Shan**	**5.21**	**256**	*e*P	**Pg**	**01 26 48.6**	**-2.7**
	15nm,0.5s						
TNSS				*e*S	**Sg**	**01 27 58.6**	**-0.2**
	19nm,0.4s						
TNSS	**Tian-Shan**	**5.21**	**256**	Pg	**Pg**	**01 26 48.6**	**-2.7**
	15nm,0.5s						
TNSS				Lg	Lg	01 27 58.6	
	19nm,0.4s						
KTBS	**Karatobe**	**5.22**	**264**	*e*P	**Pg**	**01 26 48.0**	**-3.5**
	15nm,0.4s						
KTBS				*e*S	**Sg**	**01 27 57.8**	**-1.4**
	50nm,0.7s						
KTBS	**Karatobe**	**5.22**	**264**	Pg	**Pg**	**01 26 48.0**	**-3.5**
	15nm,0.4s						
KTBS				Lg	Lg	01 27 57.8	
	50nm,0.7s						
KUU	**Kurty**	**5.44**	**266**	*e*P	**Pb**	**01 26 50.7**	**+4.2**
	6.9nm,0.4s						
KUU				*e*S	**Sg**	**01 28 02.4**	**-3.6**
	32nm,0.5s						
MTBS	**Maitube**	**5.54**	**258**	*e*P	**Pg**	**01 26 54.5**	**-3.2**
	6.1nm,0.3s						
MTBS				*e*S	**Sg**	**01 28 08.9**	**-0.6**
	35nm,0.3s						
MTBS	**Maitube**	**5.54**	**258**	Pg	**Pg**	**01 26 54.5**	**-3.2**
	6.1nm,0.3s						
MTBS				Lg	Lg	01 28 08.9	
	35nm,0.3s						
KST	**Kastek**	**5.90**	**258**	*e*P	**Pg**	**01 27 00.3**	**-4.1**
	23nm,0.6s						
KST				*e*S	**Sg**	**01 28 19.1**	**-1.6**
	32nm,0.7s						
KST	**Kastek**	**5.90**	**258**	Pg	**Pg**	**01 27 00.3**	**-4.1**
	23nm,0.6s						
KST				Lg	Lg	01 28 19.1	
	32nm,0.7s						
KRBS	**Karabastau**	**5.95**	**265**	*e*P	**Pb**	**01 26 59.5**	**+4.2**
	4.0nm,0.5s						
KRBS				*e*S	**Sg**	**01 28 17.6**	**-4.7**
	18nm,0.3s						
SGDS	**Sogindy**	**6.74**	**264**	Pg	**Pg**	**01 27 19.0**	**-1.5**
	4.1nm,0.4s						
SGDS				Lg	Lg	01 28 50.7	
	12nm,0.5s						
BTLS	**Baital**	**7.00**	**278**	Pg	**Pg**	**01 27 21.5**	**-4.0**
	2.9nm,0.4s						
BTLS				Lg	Lg	01 28 56.4	
	4.4nm,0.7s						
KURBB	**Kurchatov Arra**	**7.10**	**331**	⇑Pn	**Pn**	**01 26 55.0**	**-0.4**
	1.4nm,0.3s						
KURBB				⇓Sn	**Sn**	**01 28 17.9**	**+1.9**
	18nm,0.6s						
KURBB				⇑Lg	Lg	01 28 55.6	
	111nm,0.7s						
KURK	**Kurchatov**	**7.15**	**332**	⇓Pn	**Pn**	**01 26 56.5**	**+0.5**
	3.7nm,1.0s						
KURK				⇑Sn	**Sn**	**01 28 17.9**	**+0.7**
	5.9nm,0.6s						
KURK				⇓Lg	Lg	01 28 57.3	
	46nm,0.6s						
MRKS	**Merke**	**7.91**	**261**	Pg	**Pg**	**01 27 38.7**	**-4.2**
	4.4nm,0.5s						
MRKS				Lg	Lg	01 29 24.6	
	5.1nm,1.2s						
BRZS	**Berezniki**	**9.37**	**310**	Pg	Pn	01 28 03.8	+37
	4.6nm,0.5s						
BRZS				Lg	Lg	01 30 08.0	
	16nm,0.8s						
IUG	**Iuzhnay**	**10.35**	**262**	Pg	Pn	01 28 21.3	+41
	4.6nm,0.4s						
IUG				Lg	Lg	01 30 40.3	
	9.8nm,0.7s						

*IDC **13** 01:29:26.5±2.0, 21°.42S×179°.66W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/26, mbtmp4.2/4, Error ellipse: s-maj=167.0km s-min=32.2km az=159.0*
*NEIC **13** 01:30:25.1±1.1, 23°.0S×179°.81E±0°.06, h592km±11km, mb4.1/13, Error ellipse: s-maj=37.9km s-min=8.6km az=181.0*

ISC 13 01:30:25.3±1.0, **22°.8S**×0°.2×**179°.8E**±0°.1, **h600km, n21, σ0s87/21, mb4.1/10, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.29**	**342**	P	**P**	**01 32 00.8**	**+0.1**
NIUE	**Niue**	**10.33**	**71**	P	**P**	**01 32 47.0**	**-0.3**
EIDS	**Eidsvold**	**26.28**	**259**	P	**P**	**01 35 15.8**	**+0.9**
EIDS				IAmb	IAmb	01 35 29.4	
	comp=Z,8.3nm,1.3s						
STKA	**Stephens Creek**	**34.94**	**247**	P	**P**	**01 36 28.0**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=66,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**34.94**	**247**	P	**P**	**01 36 28.1**	**-0.5**
AS31	**Alice Springs**	**42.00**	**259**	P	**P**	**01 37 26.3**	**+0.5**
ASAR	**Alice Springs**	**42.00**	**259**	P	**P**	**01 37 26.2**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=99,slow=7.2,SNR=26						
ASAR	**Alice Springs**	**42.00**	**259**	P	**P**	**01 37 25.9**	**+0.1**
WR0	**Warramunga Arr**	**42.08**	**265**	P	**P**	**01 37 27.2**	**+0.8**
WR0				IAmb	IAmb	01 37 47.0	
	comp=Z,4.0nm,1.1s						
WB0	**Warramunga Arr**	**42.26**	**265**	P	**P**	**01 37 28.3**	**+0.5**
WB0				IAmb	IAmb	01 37 29.0	
	comp=Z,5.3nm,0.7s						
WB2	**Warramunga Arr**	**42.26**	**265**	P	**P**	**01 37 28.4**	**+0.6**
WB2				IAmb	IAmb	01 37 28.9	
	comp=Z,4.8nm,0.6s						
WRA	**Warramunga Arr**	**42.27**	**265**	P	**P**	**01 37 28.3**	**+0.5**
	comp=Z,3.2nm,0.4s,baz=93,slow=8.4,SNR=55						
WRA	**Warramunga Arr**	**42.27**	**265**	P	**P**	**01 37 28.4**	**+0.6**
FORT	**Forrest**	**46.49**	**249**	P	**P**	**01 37 58.9**	**-1.2**
KNRA	**Kununurra**	**48.48**	**269**	P	**P**	**01 38 16.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**50.70**	**265**	P	**P**	**01 38 32.9**	**+1.6**
PSA00	**Pilbara Seismi**	**55.15**	**259**	P	**P**	**01 39 02.9**	**+0.1**
PSA00				IAmb	IAmb	01 39 08.8	
	comp=Z,27nm,1.4s						
MORW	**Morawa**	**57.05**	**249**	P	**P**	**01 39 15.4**	**-0.4**
MORW				IAmb	IAmb	01 39 34.1	
	comp=Z,13nm,1.1s						
YULB	**Yu-li**	**73.06**	**305**	P	**P**	**01 40 54.6**	**-1.3**
TXAR	**Lajitas Array**	**90.04**	**58**	P	**P**	**01 42 23.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=216,slow=6.2,SNR=4.8						
TXAR	**Lajitas Array**	**90.04**	**58**	P	**P**	**01 42 23.5**	**+1.0**

*KRSC **13** 01:30:53.9±1.3, 55°.01N×162°.90E, h19km±31km, ML4.2*
*IDC **13** 01:30:54.4±2.3, 55°.56N×162°.12E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=59.4km s-min=25.7km az=137.0*

ISC 13 01:30:51.0±3.2, **54°.82N**±0°.06×**163°.03E**±0°.07, **h15**km±23km, **n41, σ1s51/58, mb3.5/3, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.39**	**355**	*e*P	**Pn**	**01 31 16.1**	**+0.2**
KBTR				*e*S	**Sn**	**01 31 31.8**	**-2.2**
KBG	**Krutoberegovo**	**1.45**	**353**	*e*P	**Pn**	**01 31 16.4**	**-0.2**
KBG				*e*S	**Sn**	**01 31 33.6**	**-1.7**
TUMD	**Tumrok D**	**1.56**	**285**	*e*P	**Pb**	**01 31 19.8**	**+0.2**
TUMD				*e*S	**Sn**	**01 31 38.6**	**+0.3**
KZV	**Kizimen**	**1.60**	**282**	*e*P	**Pn**	**01 31 20.3**	**+1.3**
KZV				*e*S	**Sn**	**01 31 39.2**	**-0.3**
TUMR	**Tumrok**	**1.72**	**287**	*e*P	**Pb**	**01 31 22.5**	**+0.1**
TUMR				*e*S	**Sn**	**01 31 43.0**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.74**	**311**	*e*P	**Pn**	**01 31 21.7**	**+0.9**
ZLN	**Zelenaya**	**1.74**	**314**	*e*P	**Pn**	**01 31 21.8**	**+0.9**
BZMR	**Bezymyannaya**	**1.83**	**309**	*e*P	**Pn**	**01 31 23.8**	**+1.8**
BZMR				*e*S	**Sn**	**01 31 46.0**	**+1.0**
CIRR	**Tsirk**	**1.83**	**316**	*e*P	**Pn**	**01 31 22.9**	**+0.8**
LGNR	**Loginova**	**1.84**	**314**	*e*P	**Pn**	**01 31 23.3**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.84**	**309**	*e*P	**Pn**	**01 31 23.4**	**+1.1**
KMNR	**Kamenistaya**	**1.85**	**301**	*e*P	**Pn**	**01 31 23.3**	**+1.0**
KMNR				*e*S	**Sn**	**01 31 44.9**	**-0.6**
KIRR	**Kirishev**	**1.91**	**308**	*e*P	**Pn**	**01 31 24.7**	**+1.6**
SMKR	**Semkarok**	**1.97**	**334**	*e*P	**Pn**	**01 31 25.0**	**+1.0**
KRSR	**Krestovskiy**	**1.98**	**316**	*e*P	**Pn**	**01 31 24.4**	**+0.3**
KLY	**Klyuchi**	**2.01**	**319**	*e*P	**Pn**	**01 31 24.4**	**0.0**
KLY				*e*S	**Sn**	**01 31 45.9**	**-3.4**
BDR	**Baidarnaya**	**2.03**	**330**	*e*P	**Pn**	**01 31 25.9**	**+1.1**
SRKR	**Sorokina**	**2.12**	**331**	*e*P	**Pn**	**01 31 26.8**	**+0.9**
KII	**Karymskiy**	**2.24**	**251**	*e*P	**Pb**	**01 31 31.8**	**+0.7**
KII				*e*S	**Sb**	**01 31 59.2**	**+0.6**
SRDR	**Sredinnyy**	**2.41**	**310**	*e*P	**Pn**	**01 31 31.8**	**+1.9**
SPN	**Mys Shipunski**	**2.48**	**227**	*e*P	**Pb**	**01 31 36.0**	**+0.8**
SPN				*e*S	**Sb**	**01 32 05.1**	**-0.4**
NLC	**Nalytchevo**	**2.73**	**234**	*e*P	**Pb**	**01 31 40.7**	**+1.1**
NLC				*e*S	**Sb**	**01 32 13.9**	**+1.1**
SMAR	**Somma**	**2.94**	**240**	*e*S	**Sb**	**01 32 19.3**	**+0.2**
UGLR	**Uglovaya**	**2.96**	**239**	*e*P	**Pb**	**01 31 43.9**	**+0.4**
UGLR				*e*S	**Sb**	**01 32 19.7**	**+0.1**
KRX	**Arik**	**2.97**	**242**	*e*P	**Pb**	**01 31 43.5**	**-0.2**
KRX				*e*S	**Sb**	**01 32 19.3**	**-0.5**
AVH	**Avacha**	**2.97**	**240**	*e*P	**Pb**	**01 31 43.9**	**+0.2**
AVH				*e*S	**Sb**	**01 32 19.8**	**0.0**
DALK	**Dalny**	**3.10**	**236**	*e*P	**Pb**	**01 31 45.6**	**-0.2**
DALK				*e*S	**Sb**	**01 32 22.6**	**-0.8**
PET	**Petropavlovsk**	**3.15**	**237**	*e*P	**Pb**	**01 31 46.5**	**-0.2**
PET				*e*S	**Sb**	**01 32 24.4**	**-0.5**
GNL	**Ganaly**	**3.19**	**251**	*e*P	**Pb**	**01 31 45.9**	**-1.6**
KRMR	**Karymshinskiy**	**3.52**	**237**	*e*S	**Sb**	**01 32 33.8**	**-1.8**
PETK	**Petropavlovsk-**	**3.59**	**244**	Pn	**Pb**	**01 31 51.6**	**-2.5**
	2.2nm,0.3s,baz=58,slow=17,SNR=33						
PETK				Sn	**Sb**	**01 32 33.8**	**-3.6**
	2.4nm,0.3s,baz=97,slow=20,SNR=4.6						
RUS	**Russkaya**	**3.60**	**230**	*e*P	**Pb**	**01 31 51.2**	**-3.1**
RUS				*e*S	**Sb**	**01 32 34.2**	**-3.6**
MTVR	**Mutnovka**	**3.72**	**233**	*e*P	**Pb**	**01 31 55.0**	**-1.4**
MTVR				*e*S	**Sb**	**01 32 40.0**	**-1.3**
GRL	**Gorelyy**	**3.72**	**234**	*e*P	**Pb**	**01 31 55.8**	**-0.7**
GRL				*e*S	**Sb**	**01 32 40.4**	**-1.1**
ASAK	**Asacha**	**3.91**	**233**	*e*S	**Sb**	**01 32 45.2**	**-1.7**
ILAR	**Eielson Array**	**26.36**	**48**	P	**P**	**01 36 30.5**	**+4.3**
	0.2nm,0.6s,baz=279,slow=7.2,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**35.16**	**174**	T	T	02 15 16.1	
	baz=355,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**35.17**	**174**	T	T	02 15 14.3	
	baz=355,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**35.17**	**174**	T	T	02 15 14.5	
	baz=355,slow=76,SNR=7.6						
MKAR	**Makanchi Array**	**48.96**	**296**	P	**P**	**01 39 35.2**	**-1.3**
	0.4nm,0.7s,baz=48,slow=8.6,SNR=2.8						
FINES	**FINESS Array B**	**59.20**	**338**	P	**P**	**01 40 50.9**	**+0.1**
	1.8nm,0.7s,baz=36,slow=9.4,SNR=11						

*IDC **13** 01:36:42.9±5.5, 38°.21S×77°.83E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/28, mbtmp4.0/5, MS3.9/12, Ms1 3.8/12, ms1mx3.5/38, Error ellipse: s-maj=157.0km s-min=39.2km az=39.0*
*NEIC **13** 01:36:46.2±2.5, 38°.0S×78°.2E±0°.2, h10km±2km, mb4.5/7, Error ellipse: s-maj=36.4km s-min=7.0km az=211.0*

ISC 13 01:36:45.9±1.2, **38°.0S**×0°.3×**78°.2E**±0°.1, **h10km, n33, σ1s22/17, mb4.3/8, MS3.9/12, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.56**	**291**		**Pg**	**01 36 57.0**	**+0.3**
H01W2	**Cape Leeuwin H**	**28.94**	**95**	T	T	02 13 01.1	
	baz=254,slow=75,SNR=47						
H01W3	**Cape Leeuwin H**	**28.95**	**95**	T	T	02 13 03.3	
	baz=254,slow=75,SNR=49						
H01W1	**Cape Leeuwin H**	**28.96**	**95**	T	T	02 13 04.1	
	baz=254,slow=75,SNR=50						
H08S2	**Diego Garcia H**	**30.66**	**349**	T	T	02 14 16.1	
	baz=170,slow=76,SNR=106						
H08S1	**Diego Garcia H**	**30.67**	**349**	T	T	02 14 16.3	
	baz=170,slow=76,SNR=87						
H08S3	**Diego Garcia H**	**30.68**	**349**	T	T	02 14 16.4	
	baz=170,slow=76,SNR=234						
MAW	**Mawson**	**30.88**	**191**	LR	LR	01 53 24.2	
	comp=Z,125nm,18.4s,baz=58,slow=33						
NWAO	**Narrogin (SRO)**	**32.01**	**93**	P	**P**	**01 43 11.0**	**-1.4**
BOSA	**Boshof**	**44.73**	**266**	LR	LR	02 00 23.7	
	comp=Z,74nm,18.3s,baz=80,slow=32						
PSI	**Prapat**	**44.90**	**30**	LR	LR	01 59 24.4	
	comp=Z,211nm,20.0s,baz=253,slow=30						
FITZ	**Fitzroy Crossi**	**45.75**	**78**	LR	LR	01 59 54.9	
	comp=Z,91nm,19.9s,baz=242,slow=30						
ASAR	**Alice Springs**	**49.22**	**90**	P	**P**	**01 45 35.3**	**+0.7**
	1.2nm,1.0s,baz=237,slow=7.1,SNR=5.7						
ASAR				LR	LR	02 04 34.6	
	comp=Z,141nm,18.3s,baz=144,slow=34						
ASAR	**Alice Springs**	**49.22**	**90**	P	**P**	**01 45 36.2**	**+1.6**
WRA	**Warramunga Arr**	**51.52**	**86**	P	**P**	**01 45 52.9**	**+0.8**
	2.4nm,0.9s,baz=237,slow=7.1,SNR=8.7						
WRA				LR	LR	02 05 12.3	
	comp=Z,78nm,19.9s,baz=170,slow=33						
WRA	**Warramunga Arr**	**51.52**	**86**	P	**P**	**01 45 52.4**	**+0.4**
WB2	**Warramunga Arr**	**51.53**	**86**	P	**P**	**01 45 52.4**	**+0.4**
WB2				IAmb	IAmb	01 45 58.2	
	comp=Z,5.6nm,1.1s						
WB0	**Warramunga Arr**	**51.66**	**86**	P	**P**	**01 45 54.2**	**+1.2**
WB0				IAmb	IAmb	01 45 58.8	
	comp=Z,5.4nm,0.9s						
VNDA	**Vanda**	**51.87**	**164**	LR	LR	02 05 38.7	
	comp=Z,79nm,21.0s,baz=284,slow=34						
CMAR	**Chiang Mai Arr**	**59.44**	**23**	P	**P**	**01 46 49.5**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=222,slow=8.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**59.44**	**23**	P	**P**	**01 46 49.8**	**+1.0**
PMG	**Port Moresby**	**67.68**	**84**	LR	LR	02 17 30.9	
	comp=Z,111nm,18.8s,baz=230,slow=36						
BKZ	**Black Stump Fm**	**72.70**	**126**	P	**P**	**01 48 14.2**	**+0.1**
BKZ				IAmb	IAmb	01 48 15.4	
	comp=Z,9.0nm,1.3s						
DZM	**Mont Dzumac**	**75.41**	**107**	LR	LR	02 17 49.5	
	comp=Z,58nm,18.6s,baz=224,slow=33						
HNR	**Honiara**	**77.76**	**92**	LR	LR	02 20 15.0	
	comp=Z,58nm,18.2s,baz=88,slow=34						
KK31	**Karatay Array**	**81.03**	**354**	P	**P**	**01 48 59.0**	**-1.6**
KKAR	**Karatay Array**	**81.03**	**354**	P	**P**	**01 48 58.6**	**-2.0**
MKAR	**Makanchi Array**	**84.50**	**3**	P	**P**	**01 49 17.5**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=166,slow=6.2,SNR=7.3						
MKAR	**Makanchi Array**	**84.50**	**3**	P	**P**	**01 49 17.9**	**-0.6**
JCJ	**Chichijima**	**88.20**	**53**	LR	LR	02 31 17.6	
	comp=Z,81nm,18.2s,baz=108,slow=37						
DBIC	**Dimbokro**	**88.64**	**279**	LR	LR	02 27 21.9	
	comp=Z,50nm,18.2s,baz=106,slow=34						
SONM	**Songino Array**	**89.08**	**19**	P	**P**	**01 49 42.6**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=207,slow=8.1,SNR=2.5						
SONM	**Songino Array**	**89.08**	**19**	P	**P**	**01 49 42.2**	**+1.3**

*IDC **13** 01:53:41.3±1.3, 57°.81S×25°.12W, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=64.5km s-min=29.7km az=89.0*
*NEIC **13** 01:53:48.4±1.8, 57°.9S±0°.1×25°.1W±0°.3, h49km±7km, mb4.2/7, Error ellipse: s-maj=21.0km s-min=15.4km az=90.0*

ISC 13 01:53:47.2±0.8, **57°.9S**±0°.1×**25°.0W**±0°.1, **h40km, n19, σ0s88/19, mb3.8/5, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.60**	**155**	Pn	**Pn**	**01 57 37.1**	**+0.6**
PMSA	**Palmer Station**	**19.67**	**233**	P	**Pn**	**01 58 16.1**	**+2.1**
PMSA				IAmb	IAmb	01 58 30.5	
	comp=Z,12nm,0.7s						
BELA	**Belgrano 2**	**20.36**	**186**	P	**P**	**01 58 17.7**	**-2.1**
QSPA	**South Pole Qui**	**32.38**	**180**	P	**P**	**02 00 12.2**	**-0.5**
PLCA	**Paso Flores**	**33.49**	**281**	P	**P**	**02 00 22.2**	**-0.2**
PLCA				IAmb	IAmb	02 00 28.1	
	comp=Z,8.0nm,1.5s						
MAW	**Mawson**	**37.99**	**142**	P	**P**	**02 01 00.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=247,slow=8.9,SNR=1.9						
MAW	**Mawson**	**37.99**	**142**	P	**P**	**02 01 01.6**	**+1.1**
AC05	**El Transito**	**42.63**	**293**		**P**	**02 01 39.1**	**-0.4**
VNDA	**Vanda**	**44.80**	**182**	P	**P**	**02 01 56.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=191,slow=6.0,SNR=6.9						
VNDA	**Vanda**	**44.80**	**182**	P	**P**	**02 01 56.1**	**-0.1**
VNDA				IAmb	IAmb	02 01 57.9	
	comp=Z,1.8nm,1.2s						
TOA0	**Torodi Ar. Sit**	**74.10**	**27**	P	**P**	**02 05 19.2**	**+0.3**
TOA0				IAmb	IAmb	02 05 21.6	
	comp=Z,4.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**74.10**	**27**	P	**P**	**02 05 18.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=199,slow=6.6,SNR=8.7						
TORD	**Torodi Ar. Bea**	**74.10**	**27**	P	**P**	**02 05 19.3**	**+0.4**
HYT	**Haines Junctio**	**146.81**	**304**	PKPdf	**PKPbc**	**02 13 23.2**	**-0.4**
BCAR	**Beaver Creek A**	**149.54**	**307**	PKPdf	**PKPdf**	**02 13 25.6**	**-0.5**
IL31		**152.19**	**309**	PKPbc	**PKiKP**	**02 13 37.4**	**+0.5**
ILAR	**Eielson Array**	**152.19**	**309**	PKPbc	**PKiKP**	**02 13 37.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=145,slow=2.2,SNR=8.5						
WRH	**Wood River Hil**	**152.63**	**308**	PKPbc	**PKiKP**	**02 13 38.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**153.78**

WB2					IAmb	IAmb	02 01 01.5		
	comp=Z,12nm,0.7s								
WR0	**Warramunga Arr**	**15.78**	**145**		P	**P**	**02 01 00.5**	**-1.2**
AS31	**Alice Springs**	**18.57**	**154**		P	**P**	**02 01 28.4**	**+0.8**
AS31					IAmb	IAmb	02 01 29.9		
	comp=Z,6.1nm,0.4s								
ASAR	**Alice Springs**	**18.57**	**154**		P	**P**	**02 01 28.7**	**+1.1**
	comp=Z,3.0nm,0.3s,baz=329,slow=7.6,SNR=111								
ASAR					S	**S**	**02 04 31.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=332,slow=17,SNR=5.4								
ASAR	**Alice Springs**	**18.57**	**154**		P	**P**	**02 01 28.0**	**+0.4**
GIRL	**Giralia**	**18.71**	**213**		P	**P**	**02 01 31.4**	**+2.6**
COEN	**Coen**	**19.05**	**113**		P	**P**	**02 01 31.5**	**-0.6**
COEN					IAmb	IAmb	02 01 49.6		
	comp=Z,6.9nm,1.0s								
BBOO	**Buckleboo**	**27.59**	**160**		P	**P**	**02 02 49.0**	**+1.1**
STKA	**Stephens Creek**	**29.11**	**150**		P	**P**	**02 03 02.5**	**+1.2**
	comp=Z,7.2nm,0.7s,baz=322,slow=9.3,SNR=12								
STKA	**Stephens Creek**	**29.11**	**150**		P	**P**	**02 03 02.3**	**+1.0**
ARMA	**Armidale**	**34.06**	**136**		P	**P**	**02 03 45.5**	**+1.9**
ARMA					IAmb	IAmb	02 03 47.9		
	comp=Z,6.9nm,0.8s								
TOO	**Toolangi**	**35.59**	**152**		P	**P**	**02 03 58.7**	**+2.5**
TOO					IAmb	IAmb	02 04 10.9		
	comp=Z,18nm,1.4s								
CAN	**Canberra**	**35.70**	**145**		P	**P**	**02 04 00.2**	**+3.0**
CAN					IAmb	IAmb	02 04 11.8		
	comp=Z,22nm,1.3s								
KSRS	**Korea Array**	**44.34**	**3**		P	**P**	**02 05 06.1**	**0.0**
	comp=Z,2.1nm,0.6s,baz=172,slow=9.6,SNR=3.2								
MJAR	**Matsushiro Arr**	**45.07**	**15**		P	**P**	**02 05 10.3**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=198,slow=8.2,SNR=2.5								
USRK	**Ussuriysk Ar.**	**51.38**	**6**		P	**P**	**02 05 58.4**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=179,slow=6.1,SNR=6.3								
USRK	**Ussuriysk Ar.**	**51.38**	**6**		P	**P**	**02 05 58.5**	**-0.1**
RPZ	**Rata Peaks**	**54.26**	**140**		P	**P**	**02 06 20.8**	**+1.6**
RPZ					IAmb	IAmb	02 06 21.2		
	comp=Z,7.0nm,0.6s								
KHZ	**Kahutara**	**55.29**	**138**		P	**P**	**02 06 27.4**	**+0.9**
URZ	**Urewera**	**56.22**	**132**		P	**P**	**02 06 33.4**	**+0.4**
URZ					IAmb	IAmb	02 06 36.8		
	comp=Z,12nm,1.1s								
SONM	**Songino Array**	**57.08**	**345**		P	**P**	**02 06 39.1**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=159,slow=8.6,SNR=5.1								
SONM	**Songino Array**	**57.08**	**345**		P	**P**	**02 06 39.1**	**+0.3**
MIDW	**Midway**	**65.61**	**55**		P	**P**	**02 07 34.7**	**-0.2**
MK31	**Makanchi Array**	**65.68**	**329**		P	**P**	**02 07 35.6**	**+0.7**
MKAR	**Makanchi Array**	**65.68**	**329**		P	**P**	**02 07 35.5**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=128,slow=7.9,SNR=20								
MKAR	**Makanchi Array**	**65.68**	**329**		P	**P**	**02 07 34.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**65.99**	**21**		P	**P**	**02 07 37.6**	**+0.9**
PETK	**Petropavlovsk-**	**65.99**	**21**		P	**P**	**02 07 37.5**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=261,slow=1.6,SNR=7.5								
PETK	**Petropavlovsk-**	**65.99**	**21**		P	**P**	**02 07 37.3**	**+0.6**
BOOM	**Boomskoye usch**	**66.53**	**322**		P	**P**	**02 07 40.3**	**-0.3**
ZALV	**Zalesovo Beam**	**69.55**	**336**		P	**P**	**02 07 57.9**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=142,slow=5.2,SNR=6.0								
ZALV	**Zalesovo Beam**	**69.55**	**336**		P	**P**	**02 07 57.8**	**-0.6**
ZALV					PcP	**PcP**	**02 08 17.0**	**-0.1**
KURK	**Kurchatov**	**70.09**	**331**		P	**P**	**02 08 02.0**	**+0.4**
VNDA	**Vanda**	**73.03**	**172**		P	**P**	**02 08 19.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=316,slow=8.5,SNR=4.1								
TIXI	**Tiksi**	**78.57**	**1**		P	**P**	**02 08 48.8**	**-0.2**
TIXI					IAmb	IAmb	02 08 53.2		
	comp=Z,37nm,1.1s								
ABKAR	**Akbulak array**	**79.56**	**323**		P	**P**	**02 08 54.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**124.04**	**281**	PKPpre	PKPpre		02 15 37.5		
ESBB	**Sonseca Array**	**124.06**	**314**			**PKiKP**	**02 15 43.2**	**+1.5**
GOGA	**Godfrey**	**142.74**	**41**			**PKPdf**	**02 16 13.8**	**-2.5**
AC02	**Maricunga**	**143.61**	**158**	PKPbc	PKPbc	**PKPdf**	**02 16 19.4**	**+0.7**
AC01	**Pan de Azucar**	**143.66**	**156**	PKPbc	PKPbc	**PKPdf**	**02 16 18.6**	**+0.4**

*KRSC **13** 02:17:57.9±1.6,55˚.01N×163˚.00E, h38km±32km, ML4.9*
*MOS **13** 02:18:01.3±0.7,55˚.12N×162˚.68E, h58km, mb4.6/14, Error ellipse: s-maj=7.1km s-min=4.5km az=84.4*
*IDC **13** 02:18:04.8±2.7,55˚.27N×162˚.35E, h69km±26km, mb3.6/16, mb1 3.9/17, mb1mx3.7/39, mbtmp3.9/17, MS3.6/17, Ms1 3.6/17, ms1mx3.4/34, Error ellipse: s-maj=20.2km s-min=15.5km az=146.0*
*NEIC **13** 02:18:11.9±2.0,55˚.6N±0˚.1×160˚.6E±0˚.2, h81km±9km, mb4.4/31, Error ellipse: s-maj=20.3km s-min=13.3km az=138.0*

ISC 13 02:18:02.2±0.8, 55˚.09N±0˚.03×162˚.77E±0˚.05, h56km±7km, n185, σ1§31/206, mb4.4/43, MS3.6/15, 8C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KBTR	**Krutoberegovo**	**1.12**	**1**	*eP*		**Pn**	**02**	**18 20.0**	**-1.7**
KBTR	**Krutoberegovo**	**1.12**	**1**	PN		**Pn**	**02**	**18 20.0**	**-1.7**
KBG	**Krutoberegovo**	**1.17**	**358**	*eP*		**Pn**	**02**	**18 20.9**	**-1.4**
KBG				*eS*		**Sn**	**02**	**18 38.2**	**+1.0**
KBG	**Krutoberegovo**	**1.17**	**358**	PN		**Pn**	**02**	**18 20.9**	**-1.4**
KBG				S		**Sn**	**02**	**18 38.2**	**+1.0**
TUMD	**Tumrok D**	**1.37**	**276**	*eP*		**Pn**	**02**	**18 23.9**	**-1.1**
TUMD				*eS*		**Sn**	**02**	**18 41.7**	**-0.3**
KZV	**Kizimen**	**1.42**	**272**	*eP*		**Pn**	**02**	**18 24.0**	**-1.9**
KZV				*eS*		**Sn**	**02**	**18 41.9**	**-1.7**
KZV	**Kizimen**	**1.42**	**272**	PN		**Pn**	**02**	**18 24.0**	**-1.9**
KZV				S		**Sn**	**02**	**18 41.9**	**-1.7**
ZLN	**Zelenaya**	**1.45**	**311**	*eP*		**Pn**	**02**	**18 25.8**	**-0.4**
ZLN	**Zelenaya**	**1.45**	**311**	PN		**Pn**	**02**	**18 25.8**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**1.46**	**307**	*eP*		**Pn**	**02**	**18 25.3**	**-1.0**
BZGR				*eS*		**Sn**	**02**	**18 45.1**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.46**	**307**	PN		**Pn**	**02**	**18 25.3**	**-1.0**
BZGR				S		**Sn**	**02**	**18 45.1**	**+0.8**
TUMR	**Tumrok**	**1.52**	**278**	*eP*		**Pn**	**02**	**18 26.1**	**-1.0**
TUMR				*eS*		**Sn**	**02**	**18 46.4**	**+0.6**
TUMR	**Tumrok**	**1.52**	**278**	PN		**Pn**	**02**	**18 26.1**	**-1.0**
TUMR				S		**Sn**	**02**	**18 46.4**	**+0.6**
CIRR	**Tsirk**	**1.54**	**313**	*eP*		**Pn**	**02**	**18 26.9**	**-0.6**
CIRR	**Tsirk**	**1.54**	**313**	PN		**Pn**	**02**	**18 26.9**	**-0.6**
LGNR	**Loginova**	**1.55**	**311**	*eP*		**Pn**	**02**	**18 27.1**	**-0.5**
LGNR	**Loginova**	**1.55**	**311**	PN		**Pn**	**02**	**18 27.1**	**-0.5**
BZMR	**Bezymyannaya**	**1.55**	**304**	*eP*		**Pn**	**02**	**18 26.7**	**-0.9**
BZMR	**Bezymyannaya**	**1.55**	**304**	PN		**Pn**	**02**	**18 26.7**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.56**	**305**	*eP*		**Pn**	**02**	**18 26.7**	**-1.1**
BZWR	**Bezymyannyi-We**	**1.56**	**305**	PN		**Pn**	**02**	**18 26.7**	**-1.1**
KMNR	**Kamenistaya**	**1.59**	**296**	*eP*		**Pn**	**02**	**18 27.5**	**-0.6**
KMNR	**Kamenistaya**	**1.59**	**296**	PN		**Pn**	**02**	**18 27.5**	**-0.6**
KIRR	**Kirishev**	**1.63**	**303**	*eP*		**Pn**	**02**	**18 28.2**	**-0.5**
KIRR				*eS*		**Sn**	**02**	**18 50.8**	**+2.2**
KIRR	**Kirishev**	**1.63**	**303**	PN		**Pn**	**02**	**18 28.2**	**-0.5**
KIRR				S		**Sn**	**02**	**18 50.8**	**+2.2**
SMKR	**Semkarok**	**1.67**	**334**	*eP*		**Pn**	**02**	**18 28.7**	**-0.4**
SMKR				*eS*		**Sn**	**02**	**18 51.6**	**+2.2**
SMKR	**Semkarok**	**1.67**	**334**	PN		**Pn**	**02**	**18 28.7**	**-0.4**
SMKR				S		**Sn**	**02**	**18 51.6**	**+2.2**
KRSR	**Krestovskiy**	**1.69**	**313**	*eP*		**Pn**	**02**	**18 28.4**	**-1.0**
KRSR	**Krestovskiy**	**1.69**	**313**	PN		**Pn**	**02**	**18 28.4**	**-1.0**
KLY	**Klyuchi**	**1.72**	**317**	*eP*		**Pn**	**02**	**18 27.8**	**-1.9**
KLY				*eS*		**Sn**	**02**	**18 49.4**	**-1.0**
KLY	**Klyuchi**	**1.72**	**317**	PN		**Pn**	**02**	**18 27.8**	**-1.9**
KLY				S		**Sn**	**02**	**18 49.4**	**-1.0**
BDR	**Baidarnaya**	**1.73**	**330**	*eP*		**Pn**	**02**	**18 29.5**	**-0.4**
BDR	**Baidarnaya**	**1.73**	**330**	PN		**Pn**	**02**	**18 29.5**	**-0.4**
SRKR	**Sorokina**	**1.81**	**331**	*eP*		**Pn**	**02**	**18 30.7**	**-0.3**
SRKR	**Sorokina**	**1.81**	**331**	PN		**Pn**	**02**	**18 30.7**	**-0.3**
KOZ	**Kozyrevsk**	**1.91**	**302**	*eP*		**Pn**	**02**	**18 32.9**	**+0.5**
KOZ				*eS*		**Sn**	**02**	**18 57.5**	**+2.2**
KOZ	**Kozyrevsk**	**1.91**	**302**	PN		**Pn**	**02**	**18 32.9**	**+0.5**
KOZ				S		**Sn**	**02**	**18 57.5**	**+2.2**
SRDR	**Sredinnyy**	**2.12**	**307**	*eP*		**Pn**	**02**	**18 35.3**	**0.0**
SRDR	**Sredinnyy**	**2.12**	**307**	PN		**Pn**	**02**	**18 35.3**	**0.0**
KII	**Karymskiy**	**2.20**	**243**	*eP*		**Pn**	**02**	**18 35.2**	**-1.2**
KII				*eS*		**Sn**	**02**	**19 03.3**	**+0.8**
KII	**Karymskiy**	**2.20**	**243**	PN		**Pn**	**02**	**18 35.2**	**-1.2**
KII				S		**Sn**	**02**	**19 03.3**	**+0.8**
ESO	**Esso**	**2.46**	**292**	*eP*		**Pn**	**02**	**18 39.1**	**-0.8**
ESO	**Esso**	**2.46**	**292**	PN		**Pn**	**02**	**18 39.1**	**-0.8**
SPN	**Mys Shipunski**	**2.57**	**220**	*eP*		**Pn**	**02**	**18 38.4**	**-2.9**
SPN				*eS*		**Sn**	**02**	**19 08.0**	**-3.3**
SPN	**Mys Shipunski**	**2.57**	**220**	PN		**Pn**	**02**	**18 38.4**	**-2.9**
SPN				S		**Sn**	**02**	**19 08.0**	**-3.3**
NLC	**Nalytchevo**	**2.79**	**228**	*eP*		**Pn**	**02**	**18 44.3**	**+0.1**
NLC				*eS*		**Sn**	**02**	**19 17.8**	**+1.2**
NLC	**Nalytchevo**	**2.79**	**228**	PN		**Pn**	**02**	**18 44.3**	**+0.1**
NLC				S		**Sn**	**02**	**19 17.8**	**+1.2**
KRER	**Koryakskii**	**2.96**	**235**	*eP*		Pn	02	18 48.2	+1.3
KRER				*eS*		**Sn**	**02**	**19 23.6**	**+2.3**
KRER	**Koryakskii**	**2.96**	**235**	PN		Pn	02	18 48.2	+1.3
KRER				S		**Sn**	**02**	**19 23.6**	**+2.3**
SMAR	**Somma**	**2.96**	**234**	*eP*		**Pn**	**02**	**18 47.9**	**+1.0**
SMAR				*eS*		**Sn**	**02**	**19 23.0**	**+1.6**
SMAR	**Somma**	**2.96**	**234**	PN		**Pn**	**02**	**18 47.9**	**+1.0**
SMAR				S		**Sn**	**02**	**19 23.0**	**+1.6**
KRX	**Arik**	**2.98**	**236**	*eP*		**Pn**	**02**	**18 47.8**	**+0.8**
KRX				*eS*		**Sn**	**02**	**19 23.2**	**+1.6**
KRX	**Arik**	**2.98**	**236**	PN		**Pn**	**02**	**18 47.8**	**+0.8**
KRX				S		**Sn**	**02**	**19 23.2**	**+1.6**
UGLR	**Uglovaya**	**2.99**	**233**	*eP*		**Pn**	**02**	**18 47.5**	**+0.3**
UGLR				*eS*		**Sn**	**02**	**19 24.3**	**+2.5**
UGLR	**Uglovaya**	**2.99**	**233**	PN		**Pn**	**02**	**18 47.5**	**+0.3**
UGLR				S		**Sn**	**02**	**19 24.3**	**+2.5**
AVH	**Avacha**	**2.99**	**234**	*eP*		**Pn**	**02**	**18 47.0**	**-0.2**
AVH				*eS*		**Sn**	**02**	**19 23.8**	**+1.9**
AVH	**Avacha**	**2.99**	**234**	PN		**Pn**	**02**	**18 47.0**	**-0.2**
AVH				S		**Sn**	**02**	**19 23.8**	**+1.9**
KOK	**Koryaka**	**3.02**	**235**	*i* P		Pn	02	18 49.4	+1.8
KOK	**Koryaka**	**3.02**	**235**	PN		Pn	02	18 49.4	+1.8
DALK	**Dalny**	**3.14**	**231**	*eP*		**Pn**	**02**	**18 48.8**	**-0.3**
DALK				*eS*		**Sn**	**02**	**19 25.8**	**+0.5**
DALK	**Dalny**	**3.14**	**231**	PN		**Pn**	**02**	**18 48.8**	**-0.3**
DALK				S		**Sn**	**02**	**19 25.8**	**+0.5**
GNL	**Ganaly**	**3.15**	**246**	*eP*		**Pn**	**02**	**18 49.4**	**0.0**
GNL	**Ganaly**	**3.15**	**246**	PN		**Pn**	**02**	**18 49.4**	**0.0**
PET	**Petropavlovsk**	**3.19**	**231**	*eP*		**Pn**	**02**	**18 49.6**	**-0.2**
PET				*eS*		**Sn**	**02**	**19 27.4**	**+0.9**
PET	**Petropavlovsk**	**3.19**	**231**	*ePN*		**Pn**	**02**	**18 50.3**	**+0.5**
PET				*eS*		**Sn**	**02**	**19 27.4**	**+0.9**
PET				pmax		pmax			
	comp=Z,338nm,0.6s								
PET				smax		smax			
	comp=N,2μm,0.7s								
PET				smax		smax			
	comp=E,1μm,0.6s								
PET				MLR		MLR			
	comp=Z,900nm,15.0s								
PET	**Petropavlovsk**	**3.19**	**231**			**Pn**	**02**	**18 50.1**	**+0.3**
PET				Sn		**Sn**	**02**	**19 27.2**	**+0.6**
KRMR	**Karymshinskiy**	**3.56**	**232**	*eP*		**Pn**	**02**	**18 55.5**	**+0.7**
KRMR				*eS*		**Sn**	**02**	**19 37.9**	**+2.4**
KRMR	**Karymshinskiy**	**3.56**	**232**	PN		**Pn**	**02**	**18 55.5**	**+0.7**
KRMR				S		**Sn**	**02**	**19 37.9**	**+2.4**
PEA0B	**Petropavlovsk-**	**3.59**	**238**	PN		**Pn**	**02**	**18 56.6**	**+1.3**
PEA0B							02	19 38.1	
PEA0B	**Petropavlovsk-**	**3.59**	**238**	Pn		**Pn**	**02**	**18 56.5**	**+1.3**
PEA0B				Sn		**Sn**	**02**	**19 38.1**	**+1.8**
PETK	**Petropavlovsk-**	**3.59**	**238**	P		**Pn**	**02**	**18 54.9**	**-0.4**
	comp=Z,6.5nm,0.3s,baz=71,slow=17,SNR=56								
PETK				S		**Sn**	**02**	**19 38.8**	**+2.4**
	comp=Z,12nm,0.3s,baz=94,slow=20,SNR=3.6								
PETK				LR		LR	02	20 27.7	
	comp=Z,446nm,18.4s,baz=52,slow=41								
PETK	**Petropavlovsk-**	**3.59**	**238**	PN		**Pn**	**02**	**18 55.4**	**+0.2**
PETK	**Petropavlovsk-**	**3.59**	**238**	Pn		**Pn**	**02**	**18 55.4**	**+0.2**
RUS	**Russkaya**	**3.67**	**225**	*eP*		**Pn**	**02**	**18 55.4**	**-1.0**
RUS				*eS*		**Sn**	**02**	**19 38.0**	**-0.3**
RUS	**Russkaya**	**3.67**	**225**	PN		**Pn**	**02**	**18 55.4**	**-1.0**
RUS				S		**Sn**	**02**	**19 38.0**	**-0.3**
GRL	**Gorelyy**	**3.77**	**230**	*eP*		Pn	02	18 59.1	+1.2
GRL				*eS*		**Sn**	**02**	**19 44.1**	**+3.1**
GRL	**Gorelyy**	**3.77**	**230**	PN		Pn	02	18 59.1	+1.2
GRL				S		**Sn**	**02**	**19 44.1**	**+3.1**
MTVR	**Mutnovka**	**3.77**	**228**	*eP*		**Pn**	**02**	**18 58.2**	**+0.3**
MTVR				*eS*		**Sn**	**02**	**19 42.9**	**+1.9**
MTVR	**Mutnovka**	**3.77**	**228**	PN		**Pn**	**02**	**18 58.2**	**+0.3**
MTVR				S		**Sn**	**02**	**19 42.9**	**+1.9**
APC	**Apacha**	**3.96**	**239**	*eP*		**Pn**	**02**	**19 01.5**	**+1.2**
APC	**Apacha**	**3.96**	**239**	PN		**Pn**	**02**	**19 01.5**	**+1.2**
ASAK	**Asacha**	**3.96**	**229**	*eP*		**Pn**	**02**	**19 01.5**	**+1.0**
ASAK				*eS*		**Sn**	**02**	**19 49.6**	**+3.9**
ASAK	**Asacha**	**3.96**	**229**	PN		**Pn**	**02**	**19 01.5**	**+1.0**
ASAK				S		**Sn**	**02**	**19 49.6**	**+3.9**
KDTR	**Khodutka, Kamc**	**4.32**	**222**	*eP*		**Pn**	**02**	**19 05.1**	**-0.2**
KDTR				*eS*		**Sn**	**02**	**19 53.8**	**-0.5**
KDTR	**Khodutka, Kamc**	**4.32**	**222**	PN		**Pn**	**02**	**19 05.1**	**-0.2**
KDTR				S		**Sn**	**02**	**19 53.8**	**-0.5**
MA2	**Magadan**	**7.89**	**310**	LR		LR	02	23 10.8	
	comp=Z,359nm,20.9s,baz=130,slow=40								
SEY	**Seymchan**	**9.50**	**330**	LR		LR	02	24 11.7	
	comp=Z,454nm,20.1s,baz=146,slow=30								
BILL	**Bilibino**	**13.10**	**6**	*i* PN		**Pn**	**02**	**21 06.1**	**+0.9**
BILL				pmax		pmax			
	comp=Z,14nm,1.1s								
BILL				MLR		MLR			
	comp=Z,213nm,15.0s								
YSS	**Yuzh-Sakhalins**	**14.96**	**245**	*eP*		**Pn**	**02**	**21 27.1**	**-2.9**
YSS				MLR		MLR			
	comp=Z,800nm,12.0s								
ERM	**Erimo**	**18.34**	**233**	P		**Pn**	**02**	**22 12.5**	**+0.1**
ERM				pmax		pmax			
	comp=Z,60nm,1.5s								
ERM	**Erimo**	**18.34**	**233**	P		**Pn**	**02**	**22 12.5**	**+0.1**
YAK	**Yakutsk**	**18.44**	**306**	*i* P		**Pn**	**02**	**22 11.8**	**-1.5**
YAK				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CHGN	**Chignik**	**21.72**	**71**	P		pP	02	23 08.8	+9.3
TIXI	**Tiksi**	**21.99**	**332**	*ceP*		**P**	**02**	**22 52.2**	**+1.1**
TIXI				pmax		pmax			
	comp=Z,95nm,1.0s								
TIXI	**Tiksi**	**21.99**	**332**	P		**P**	**02**	**22 50.1**	**-1.0**
USRK	**Ussuriysk Ar.**	**22.53**	**254**	LR		LR	02	31 15.7	
	comp=Z,105nm,18.1s,baz=61,slow=35								
IMAR	**Indian Mountai**	**23.47**	**45**	P		pP	02	23 19.8	+1.6
JSD	**Sado**	**23.78**	**234**	P		**P**	**02**	**23 10.3**	**+0.9**
JSD				IAmb		IAmb	02	23 11.3	
	comp=Z,15nm,0.7s								
KDAK	**Kodiak Island**	**24.49**	**65**	LR		LR	02	32 39.6	
	comp=Z,66nm,20.1s,baz=241,slow=36								
BPAW	**Bear Paw Mtn.**	**24.53**	**50**	P		pP	02	23 31.7	+3.0
BPAW				IAmb		IAmb	02	23 33.5	
	comp=Z,14nm,1.4s								
COLD	**Coldfoot**	**25.01**	**42**	P		**pP**	**02**	**23 34.2**	**+1.4**
COLD				IAmb		IAmb	02	23 35.9	
	comp=Z,11nm,1.0s								
MAJO	**Matsushiro**	**25.02**	**232**	*i* P		**P**	**02**	**23 20.3**	**-0.5**
MAJO				pmax		pmax			
	comp=Z,15nm,0.9s								
MAJO	**Matsushiro**	**25.02**	**232**	P		**P**	**02**	**23 21.5**	**+0.7**
MAJO				IAmb		IAmb	02	23 23.2	
	comp=Z,21nm,0.9s								
MAT	**Matsushiro**	**25.02**	**232**	P		**P**	**02**	**23 21.1**	**+0.3**
MJAR	**Matsushiro Arr**	**25.02**	**232**	P		**P**	**02**	**23 20.2**	**-0.6**
	comp=Z,12nm,0.9s,baz=26,slow=8.9,SNR=18								
MJAR				LR		LR	02	33 34.1	
	comp=Z,98nm,21.0s,baz=120,slow=37								
MJAR	**Matsushiro Arr**	**25.02**	**232**	P		**P**	**02**	**23 21.9**	**+1.1**
RND	**Reindeer**	**25.51**	**51**	P		**pP**	**02**	**23 38.8**	**+1.3**
RND				IAmb		IAmb	02	23 40.0	
	comp=Z,11nm,1.0s								
WRH	**Wood River Hil**	**25.79**	**49**	P		**pP**	**02**	**23 40.9**	**+0.9**
WRH				IAmb		IAmb	02	23 43.3	
	comp=Z,20nm,1.2s								
COLA	**College**	**25.88**	**48**	*i* P		**P**	**02**	**23 28.3**	**+0.1**
COLA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CCB	**Clear Creek Bu**	**25.91**	**48**	P		**pP**	**02**	**23 42.1**	**+1.0**
CCB				IAmb		IAmb	02	23 44.2	
	comp=Z,13nm,1.2s								
JGF	**Kuroka**	**26.19**	**232**	P		**P**	**02**	**23 34.5**	**+3.1**
JGF				IAmb		IAmb	02	23 46.0	
	comp=Z,32nm,1.4s								
IL31		**26.30**	**48**	P		pP	02	23 44.0	-0.6
ILAR	**Eielson Array**	**26.30**	**48**	P		**P**	**02**	**23 32.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=297,slow=5.8,SNR=9.8								
ILAR				LR		LR	02	33 53.1	
	comp=Z,61nm,18.4s,baz=256,slow=36								
ILAR	**Eielson Array**	**26.30**	**48**	P		pP	02	23 45.0	+0.4
BCAR	**Beaver Creek A**	**28.72**	**51**	P		pP	02	24 07.8	+1.4
BARN	**Barnard Glacie**	**29.19**	**55**	P		pP	02	24 13.8	+3.1
KSRS	**Korea Array**	**29.43**	**248**	LR		LR	02	35 21.7	
	comp=Z,70nm,18.2s,baz=90,slow=35								
BCPM	**Bancas Point**	**30.44**	**57**	P		pP	02	24 23.1	+1.4
JTU	**Tsushima**	**30.91**	**242**	P		**P**	**02**	**24 13.1**	**-0.2**
NRIK	**Noril'sk**	**35.21**	**323**	LR		LR	02	40 16.5	
	comp=Z,159nm,18.1s,baz=18,slow=38								
H11N2	**WAKE ISLAND Hy**	**35.44**	**173**	T		T	03	02 22.0	
	baz=355,slow=76,SNR=26								
H11N3	**WAKE ISLAND Hy**	**35.45**	**173**	T		T	03	02 24.1	
	baz=355,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hy**	**35.45**	**173**	T		T	03	02 23.4	
	baz=355,slow=76,SNR=39								
HHC	**Hu-ho-hao-te**	**36.26**	**269**	*eP*		**P**	**02**	**24 58.2**	**-1.7**
HHC				pmax		pmax			
	comp=Z,26nm,1.0s								
HHC				pmax		pmax			
	comp=Z,230nm,3.9s								
NJ2	**Nanjing**	**38.39**	**252**	*eP*		**P**	**02**	**25 17.0**	**-0.9**
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
ZALV	**Zalesovo Beam**	**43.04**	**302**	LR		LR	02	45 19.2	
	comp=Z,92nm,19.2s,baz=62,slow=38								
DGZ	**Jazzator, Alta**	**44.21**	**296**	*i* P		**P**	**02**	**26 03.8**	**-1.8**
DGZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
WMQ	**Urumqi**	**47.80**	**289**	*eP*		**P**	**02**	**26 33.2**	**-0.6**
KURK	**Kurchatov**	**48.02**	**302**	*ceP*		**P**	**02**	**26 34.8**	**-0.5**
KURK				pmax		pmax			
	comp=Z,5.0nm,1.3s								
KURK	**Kurchatov**	**48.02**	**302**	P		**P**	**02**	**26 33.6**	**-1.6**
MKAR	**Makanchi Array**	**48.71**	**296**	P		**P**	**02**	**26 38.8**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=15,slow=5.0,SNR=2.1								
MKAR				LR		LR	02	48 28.3	
	comp=Z,184nm,18.5s,baz=41,slow=38								
MKAR	**Makanchi Array**	**48.71**	**296**	P		**P**	**02**	**26 37.8**	**-2.9**
BRVK	**Borovoye**	**50.41**	**309**	*ceP*		**P**	**02**	**26 53.1**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.3s								
BRVK	**Borovoye**	**50.41**	**309**	P		**P**	**02**	**26 52.8**	**-0.7**
BRVK				IAmb		IAmb	02	26 53.9	
	comp=Z,4.9nm,1.1s								
ARCES	**ARCESS Array B**	**51.87**	**342**	P		**P**	**02**	**27 04.6**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=107,slow=29,SNR=1.9								
ARCES				LR		LR	02	51 35.1	
	comp=Z,33nm,19.3s,baz=280,slow=39								
ARU	**Arti**	**52.99**	**318**	*d iP*		**P**	**02**	**27 12.0**	**-0.7**
ARU							02	28 15.7	
ARU							02	29 09.4	
ARU				S		**S**	**02**	**34 37.4**	**-0.3**
ARU				pmax	

LPAZ La Paz 3.25 103 P Pn 02 32 36.5 +1.8
comp=N,20nm,0.3s,baz=310,slow=10,SNR=601
LPAZ S Sn 02 33 14.4 +0.5
comp=N,4.6nm,0.3s,baz=232,slow=25,SNR=4.3
LPAZ La Paz 3.25 103 *i* P **Pn 02 32 37.2 +2.5**
LPAZ La Paz 3.25 103 Pn **Pn 02 32 37.2 +2.5**
LPAZ Sn **Sn 02 33 16.5 +2.6**
PB16 IPOC Station P 3.32 147⇓ *e*P **Pn 02 32 36.8 +1.3**
PB16 *e*S **Sn 02 33 16.9 +1.5**
PB16 IAML 02 33 20.9
comp=E,237nm,0.3s
PB16 IPOC Station P 3.32 147 Pn 02 32 37.1 +1.6
PB16 Sn **Sn 02 33 16.6 +1.1**
MNMC Minye Minye 3.96 154⇓ *i*P **Pn 02 32 43.9 +0.3**
MNMC *i* S **Sn 02 33 28.9 -1.2**
MNMC Minye Minye 3.96 154 Pn 02 32 44.0 +0.3
MNMC Sn **Sn 02 33 28.7 -1.3**
PSGC Pisagua 4.21 163 *e*P **Pn 02 32 45.5 -1.2**
PSGC *e*S **Sn 02 33 31.4 -4.1**
PSGCX Pisagua 4.21 163 Pn **Pn 02 32 45.8 -0.9**
PSGCX Sn **Sn 02 33 31.4 -4.2**
PB11 IPOC Station P 4.51 158 *e*P **Pn 02 32 49.7 -1.1**
PB11 *e*S **Sn 02 33 40.1 -2.7**
PB11 IPOC Station P 4.51 158 Pn **Pn 02 32 49.9 -0.9**
PB11 Sn **Sn 02 33 39.2 -3.6**
GO01 Chusmiza 4.61 153⇓ *i*P **Pn 02 32 53.2 +0.9**
GO01 *e*S **Sn 02 33 46.2 +0.5**
GO01 Chusmiza 4.61 153 Pn **Pn 02 32 53.4 +1.1**
GO01 Sn **Sn 02 33 46.2 +0.5**
PB08 IPOC Station P 5.05 155 Pn 02 32 58.1 +0.1
PB08 Sn **Sn 02 33 53.0 -2.9**
TA01 Diego Aracena 5.12 167 Pn **Pn 02 32 57.4 -1.3**
PATCX Punta Patache 5.38 167 Pn **Pn 02 33 00.8 -1.4**
PB01 IPOC Station P 5.76 162 Pn 02 33 06.0 -1.3
PB07 IPOC Station P 6.31 167 Pn **Pn 02 33 13.4 -1.3**
NNA Nana 6.35 303 P **Pn 02 33 15.1 0.0**
comp=E,13nm,0.3s,baz=136,slow=12,SNR=16
NNA S **Sn 02 34 21.6 -5.0**
comp=E,12nm,0.3s,baz=29,slow=19,SNR=11
NNA Nana 6.35 303 Pn **Pn 02 33 15.0 -0.2**
PB09 IPOC Station P 6.54 162 Pn **Pn 02 33 17.6 -0.2**
PB04 IPOC Station P 6.85 170 Pn **Pn 02 33 20.3 -1.6**
PB06 IPOC Station P 7.33 166 Pn **Pn 02 33 26.4 -2.0**
LVC Limon Verde 7.41 162 P **Pn 02 33 28.8 -0.9**
comp=E,29nm,0.3s,baz=325,slow=8.2,SNR=254
LVC S **Sn 02 34 46.9 -5.7**
comp=E,7.1nm,0.3s,baz=84,slow=23,SNR=19
LVC LR LR 02 36 25.7
comp=E,33nm,20.6s,baz=234,slow=37
LVC Limon Verde 7.41 162 Pn **Pn 02 33 28.9 -0.7**
ETMB Extrema 7.64 42 *e*P **Pn 02 33 31.0 -1.5**
ETMB *e*S **Sn 02 34 55.7 -2.0**
PB15 IPOC Station P 7.83 167 Pn **Pn 02 33 33.8 -1.4**
CZSB Cruzeiro do Su 7.88 351 *e*P **Pn 02 33 32.9 -2.8**
PB10 IPOC Station P 7.96 174 Pn **Pn 02 33 35.0 -1.7**
PB14 IPOC Station P 9.07 174 Pn **Pn 02 33 49.6 -2.3**
GO02 Mina Guanaco 9.71 170 Pn **Pn 02 33 58.8 -1.6**
SIV San Ignacio 9.98 94 P **Pn 02 34 01.9 -1.8**
comp=E,4.0nm,0.3s,baz=284,slow=9.9,SNR=98
SAML Samuel 10.39 52 Pn 02 34 07.4 -1.8
SAML Samuel 10.39 52 *e*P **Pn 02 34 07.2 -2.0**
SAML *e*S **Sn 02 36 01.3 -2.8**
AC01 Pan de Azucar 10.57 176 Pn **Pn 02 34 09.0 -2.5**
VILB Vilhena 11.19 78 *e*P **Pn 02 34 17.4 -2.4**
AC02 Maricunga 11.43 170 Pn **Pn 02 34 22.5 -0.8**
PTLB Pontes e Lacer 11.85 91 *e*P **Pn 02 34 27.2 -1.2**
GO03 Copiap 12.03 175 Pn **Pn 02 34 30.9 +0.1**
AC04 Llanos de Chal 12.59 176 Pn **Pn 02 34 46.1 -1.9**
AC05 El Transito 13.26 176 Pn **Pn 02 34 46.8 0.0**
CO03 El Pedregal 15.23 178 P **Pn 02 35 11.3 -0.2**
AQDB Aquidauana 15.73 110 *e*P **Pn 02 35 17.9 +0.1**
CLDB Colider 15.91 75 *e*P **Pn 02 35 19.2 -0.8**
PTLC Puerto Leguiza 15.98 348 *e*P **Pn 02 35 15.1 -5.7**
MACA Manacapuru-AM 16.23 42 *e*P **Pn 02 35 22.0 -1.9**
MACA *e*S **S 02 38 23.6 -1.6**
PUAC Puerto Asis, P 16.79 342 *e*P **Pn 02 35 33.5 +2.8**
CPUP Villa Florida 16.96 131 P **P 02 35 31.8 -0.5**
comp=E,0.1nm,0.3s,baz=319,slow=14,SNR=2.8
CPUP Villa Florida 16.96 131 P **P 02 35 32.7 +0.5**
CPUP Villa Florida 16.96 131 *e*P **Pn 02 35 32.9 +0.2**
OTAV Otavalo 17.16 336 *e*P **Pn 02 35 39.3 +3.7**
OTAV Otavalo 17.16 336 P **Pn 02 35 38.3 +2.7**
OTAV Otavalo 17.16 336 *e*P **P 02 35 34.4 -0.6**
MT02 Curacav 17.63 179 P **P 02 35 41.2 +1.6**
GCUF Volcan Galeras 17.67 340 *e*P **Pn 02 35 44.7 +3.0**
NPGB Novo Progresso 17.87 64 *e*P **Pn 02 35 42.3 -1.3**
GARC Garzon, Huila 18.08 347 *e*P **Pn 02 35 46.2 -0.2**
BBAC Balboa, Cauca 18.39 341 *e*P **Pn 02 35 49.6 -0.4**
PCON Cinco Dias 18.44 344 *e*P **Pn 02 35 53.2 +2.3**
ARAG Araguaiana, MT 18.89 93 *e*P **P 02 35 53.7 +0.2**
ITTB Itaituba 19.02 56 *e*P **P 02 35 54.5 -0.4**
TRCB Terra Rica 19.14 115 *e*P **P 02 35 56.5 +0.2**
ORTC Ortega, Tolima 19.71 349 *e*P **Pn 02 36 03.3 -1.9**
SNDB Serra Nova Dou 19.87 82 *e*P **P 02 36 04.7 +0.6**
YOTC Yotoco, Valle 20.02 346 *e*P **Pn 02 36 07.3 -1.7**
PCMB Pacaembu 20.03 111 *e*P **P 02 36 06.2 +0.5**
PTGB Pitanga 20.31 120 *e*P **P 02 36 09.3 +0.4**
ROSC El Rosal 20.47 352 P **Pn** 02 36 14.1 -0.4
ITRB Iturama 20.49 105 *e*P **P 02 36 10.6 -0.2**
PLMC San Jos del P 20.89 346 *e*P **P 02 36 15.5 +0.4**
GUY2C Guyana, Caldas 21.01 349 *e*P **P 02 36 18.3 +1.5**
SPBC San Pablo de B 21.23 353 *e*P **P 02 36 16.1 -2.7**
ITAB Concordia 21.36 126 *e*P **P 02 36 20.3 +0.3**
RUSC La Rusia 21.37 355⇑ *e*P **P 02 36 22.9 +2.2**
MALB Monte Alegre 21.72 53 *e*P **P 02 36 23.4 -0.4**
CBOC Ciudad Bolivar 21.76 348 *e*P **P 02 36 25.4 +0.9**
FRTB Fartura 22.00 114 *e*P **P 02 36 26.3 -0.5**
CPSB Cacapava Do Su 22.15 135 *e*P **P 02 36 29.8 +1.7**
BB19B Bebedouro 22.41 108 *e*P **P 02 36 31.0 +0.1**
BDFB Brasilia 22.55 93 P **P 02 36 30.8 -1.6**
comp=E,1.6nm,0.4s,baz=234,slow=9.5,SNR=5.4
BDFB Brasilia 22.55 93 P **P 02 36 31.3 -1.0**
PEXB Peixe 22.71 84 *e*P **P 02 36 33.4 -0.4**
PAMC Pamplona, Colo 22.78 357 *e*P **P 02 36 34.4 -0.5**
PLTB Pedras Altas 22.90 138 *e*P **P 02 36 36.6 +1.2**
ZARC Zaragoza, Cauc 23.15 351 *e*P **P 02 36 36.9 -0.9**
PRB Parauapebas 23.16 69 *e*P **P 02 36 36.7 -1.1**
CNLB Canela 23.38 129 *e*P **P 02 36 40.4 +0.5**
SPB Sao Paulo 23.95 113 *e*P **P 02 36 45.1 +0.1**
SMTB Santa Maria do 24.21 77 *e*P **P 02 36 47.7 +0.2**
VAO Valinhos 24.22 112 *e*P **P 02 36 48.1 +0.4**
PET01 Itanhaem-SP 24.28 115 *e*P **P 02 36 48.9 +0.9**
SDV Santo Domingo 24.30 2 P **P 02 36 47.8 -0.7**
comp=E,6.8nm,0.4s,baz=277,slow=20,SNR=7.1
SDV Santo Domingo 24.30 2 *e*P **P 02 36 48.1 -0.3**
MCPB Macapa, AP 24.36 54 *e*P **P 02 36 49.5 +0.6**
PLCA Paso Flores 25.10 178 *e*P **P 02 36 57.0 +1.7**
PLCA *e*S **S 02 41 12.9 +3.4**
SDBA SAO DESIDERIO 25.92 86 *e*P **P 02 37 02.2 -0.8**
JANB Januaria 26.15 93 *e*P **P 02 37 04.3 -0.8**
TOSP Speyside 28.78 23 P **P 02 37 28.2 -0.2**
TOSP IAmb IAmb 02 37 42.6
comp=E,25nm,1.3s
SJMB Sao Joao De Ma 29.05 101 *e*P **P 02 37 30.5 -0.4**
GRGR Grenville 29.16 20 P **P 02 37 31.8 0.0**
GRGR IAmb IAmb 02 37 49.7
comp=E,30nm,1.2s
GDU01 Guandu, BA 30.86 91 *e*P **P 02 37 46.0 -0.8**
NBMO Morrinhos-CE 33.20 72 *e*P **P 02 38 07.5 +0.2**
ICMP Isla Caja de M 33.58 8 P **P 02 38 09.8 -0.7**
MLPR Magueyes Islan 33.59 8 P **P 02 38 09.3 -1.2**
CRPR Cabo Rojo, PR 33.62 7 P **P 02 38 09.7 -1.1**
CRPR IAmb IAmb 02 38 22.8
comp=E,39nm,1.2s
OBIP Obispado Ponce 33.72 8 P **P 02 38 10.6 -1.1**
OBIP IAmb IAmb 02 38 15.1
comp=E,20nm,1.1s
MPR Mayaguez 33.82 7 P **P 02 38 11.9 -0.6**
MPR IAmb IAmb 02 38 29.0
comp=E,37nm,1.4s
MTP Monte Pirata 33.94 10 P **P 02 38 11.6 -2.0**
MTP IAmb IAmb 02 38 18.4
comp=E,12nm,0.8s
AOPR Arecibo Observ 34.00 8 P **P 02 38 12.8 -1.4**
CBYP Canovanas 34.06 9 P **P 02 38 13.1 -1.6**
CBYP IAmb IAmb 02 38 13.5
comp=E,18nm,0.7s
GCPR Guaynabo City 34.06 9 P **P 02 38 13.1 -1.5**
GCPR IAmb IAmb 02 38 14.4
comp=E,15nm,1.2s
CUPR Culebra, Puert 34.19 10 P **P 02 38 13.8 -2.0**

TEIG Tepich 39.23 335 P **P 02 39 00.1 +1.7**
TEIG IAmb IAmb 02 39 17.6
comp=E,19nm,1.4s
061Z Ochoppi 42.19 347 P **P 02 39 24.3 +1.7**
060A Indiantown 43.22 348 P **P 02 39 32.4 +1.5**
456A Hilliard 47.13 348 P **P 02 40 04.5 +2.8**
157A Early Branch 48.83 349 P **P 02 40 16.0 +1.2**
baz=168
RGRS Roger Stewart 48.91 350 P **P 02 40 16.8 +1.4**
CSU Charleston Sou 48.97 350 P **P 02 40 17.1 +1.3**
NHSC New Hope 49.10 350 P **P 02 40 17.7 +0.8**
baz=169
NHSC New Hope 49.10 350 P **P 02 40 18.3 +1.5**
Z58A St. Stephen 49.27 351 P **P 02 40 19.7 +1.6**
baz=169
250A Grady 49.36 343 P **P 02 40 19.4 +0.5**
250A IAmb IAmb 02 40 20.0
comp=E,8.1nm,0.8s
Z57A Bowman 49.38 350 P **P 02 40 19.9 +1.0**
baz=168
Z56A Williston 49.52 349 P **P 02 40 20.8 +0.7**
baz=168
152A Waverly Hall 49.61 345 P **P 02 40 21.6 +0.8**
GOGA Godfrey 50.03 347 P **P 02 40 25.2 +1.3**
baz=165
Y57A Sumter 50.03 350 P **P 02 40 24.5 +0.6**
baz=169,SNR=6.0
Y57A Sumter 50.03 350 P **P 02 40 25.2 +1.3**
X59A McDuffie Farm, 50.31 352 P **P 02 40 26.1 +0.1**
baz=171
X58A Rowland 50.40 352 P **P 02 40 27.0 +0.4**
baz=170
X58A Rowland 50.40 352 P **P 02 40 26.9 +0.3**
X58A IAmb IAmb 02 40 27.7
comp=E,8.4nm,0.6s
JSC Jenkinsville 50.44 349 P **P 02 40 27.9 +0.9**
JSC IAmb IAmb 02 40 28.1
comp=E,5.8nm,0.6s
LRAL Lakeview Retre 50.56 343 P **P 02 40 28.2 +0.3**
baz=161
HODGE Hodges 50.57 348 P **P 02 40 29.1 +1.2**
HODGE IAmb IAmb 02 40 29.6
comp=E,8.0nm,0.8s
X56A White Oak 50.60 350 P **P 02 40 28.9 +0.8**
baz=168
BIRD Birdtown, Kers 50.66 350 P **P 02 40 29.4 +0.9**
BIRD IAmb IAmb 02 40 30.1
comp=E,18nm,0.7s
X55A Gracelyn & Ava 50.69 349 P **P 02 40 29.7 +1.0**
baz=167,SNR=5.8
W58A Raeford 50.84 352 P **P 02 40 30.4 +0.5**
baz=170,SNR=6.6
CNNC Cliffs of the 50.89 353 P **P 02 40 31.3 +1.1**
baz=172
X54A Belton 50.90 348 P **P 02 40 31.2 +0.8**
baz=166,SNR=5.8
Z47A Carrollton 51.02 342 P **P 02 40 31.6 +0.2**
Z47A IAmb IAmb 02 40 32.2
comp=E,7.0nm,0.7s
PAULI Pauline 51.06 349 P **P 02 40 32.7 +1.1**
PAULI IAmb IAmb 02 40 33.3
comp=E,16nm,0.8s
W57A Gilead 51.08 351 P **P 02 40 32.1 +0.4**
baz=170
W57A Gilead 51.08 351 P **P 02 40 32.3 +0.6**
W57A IAmb IAmb 02 40 32.6
comp=E,12nm,0.8s
W56A Indian Trail 51.16 350 P **P 02 40 33.0 +0.7**
baz=169
Y49A Blount Mountai 51.17 344 P **P 02 40 32.5 0.0**
KMSC Kings Mountain 51.29 350 P **P 02 40 34.0 +0.7**
baz=168,SNR=7.3
KMSC Kings Mountain 51.29 350 P **P 02 40 34.2 +1.0**
KMSC IAmb IAmb 02 40 35.0
comp=E,15nm,0.8s
V61A Roper 51.30 355 P **P 02 40 34.2 +0.9**
baz=174
V60A Jim Taylor Roa 51.34 354 P **P 02 40 34.1 +0.5**
baz=173
W54A Cherokee Point 51.39 349 P **P 02 40 34.7 +0.7**
baz=167,SNR=6.0
V59A Middlesex 51.45 353 P **P 02 40 34.8 +0.4**
baz=172
V58A Windy Hill, Pi 51.59 352 P **P 02 40 35.8 +0.3**
baz=171
V58A Windy Hill, Pi 51.59 352 P **P 02 40 35.8 +0.3**
V58A IAmb IAmb 02 40 36.6
comp=E,17nm,1.4s
V57A Coltrane Farms 51.77 351 P **P 02 40 36.8 0.0**
baz=170
V56A Mocksville 51.80 351 P **P 02 40 38.0 +0.9**
baz=169,SNR=9.8
V55A Taylorsville 51.96 350 P **P 02 40 39.2 +1.0**
baz=168,SNR=7.7
V55A Taylorsville 51.96 350 P **P 02 40 39.6 +1.4**
V55A IAmb IAmb 02 40 40.2
comp=E,17nm,0.7s
V54A Nebo 52.02 349 P **P 02 40 39.6 +0.9**
baz=167,SNR=6.8
U58A Oxford 52.10 353 P **P 02 40 40.3 +1.0**
baz=171
U57A Blanch 52.24 352 P **P 02 40 40.8 +0.4**
baz=170
U56A King 52.31 351 P **P 02 40 41.7 +0.9**
baz=169,SNR=5.8
U56A King 52.31 351 IAmb IAmb 02 40 42.4
comp=E,13nm,0.5s
V52A Sevierville 52.40 348 IAmb IAmb 02 40 43.2
comp=E,15nm,1.0s
T59A Double "B" Far 52.56 354 P **P 02 40 42.8 +0.2**
baz=173
U55A TA2, Sparta 52.57 350 P **P 02 40 43.5 +0.7**
baz=168,SNR=6.8
T58A Grand View Acr 52.65 353 P **P 02 40 43.6 +0.3**
baz=172
U54A Nelsons Funny 52.72 349 P **P 02 40 44.5 +0.6**
baz=168
U54A Nelsons Funny 52.72 349 P **P 02 40 44.8 +0.8**
U54A IAmb IAmb 02 40 45.4
comp=E,16nm,0.8s
T57A Hurt 52.79 352 P **P 02 40 45.8 +1.4**
baz=171
T57A Hurt 52.79 352 IAmb IAmb 02 40 46.5
comp=E,9.2nm,0.8s
T56A Rocky Mt 52.93 351 P **P 02 40 46.4 +1.0**
baz=170,SNR=5.1
TZTN Tazewell 53.07 348 P **P 02 40 47.0 +0.6**
baz=166
T55A Pulaski 53.13 351 P **P 02 40 48.0 +1.1**
baz=169,SNR=15
BLA Blacksburg 53.16 351 P **P 02 40 48.3 +1.1**
baz=169
T54A Tazewell 53.20 350 P **P 02 40 48.3 +0.8**
baz=168
T53A Wise 53.30 349 P **P 02 40 48.6 +0.4**
baz=167
JCT Junction City 53.30 329 P **P 02 40 48.3 -0.1**
baz=145
WHTX Lake Whitney, 53.46 332 P **P 02 40 49.5 +0.1**
baz=148
S57A Dark Hollow, R 53.50 353 P **P 02 40 50.8 +1.3**
baz=171
S57A Dark Hollow, R 53.50 353 IAmb IAmb 02 40 51.4
comp=E,8.3nm,0.7s
S55A Lewisburg 53.73 351 P **P 02 40 52.4 +1.2**
baz=169,SNR=18
S54A Dingess, Beckl 53.88 350 P **P 02 40 53.0 +0.7**
baz=168,SNR=9.2
S54A Dingess, Beckl 53.88 350 P **P 02 40 53.2 +0.9**
S53A Williamson 53.90 349 P **P 02 40 53.2 +0.7**
baz=167
R57A Stanardsville 53.98 353 P **P 02 40 54.0 +1.0**
baz=172
R55A Marlinton 54.17 352 P **P 02 40 55.7 +1.2**
baz=170
W41B Gary Mavity, V 54.18 339 P **P 02 40 55.2 +0.7**
baz=155
R54A Victor 54.20 351 P **P 02 40 55.4 +0.7**
baz=169,SNR=8.2
Q61A Milford 54.27 356 P **P 02 40 56.6 +1.5**
baz=175
TXAR Lajitas Array 54.41 325 P **P 02 40 57.1 +0.6**
comp=Z,0.9nm,0.7s,baz=149,slow=5.8,SNR=6.3
TXAR Lajitas Array 54.41 325 P **P 02 40 57.5 +1.0**
R53A Hurricane 54.50 350 P **P 02 40 57.7 +0.9**
baz=168
Q57A Strasburg 54.70 353 P **P 02 40 59.2 +1.0**
baz=172
W39A Magazine 54.75 338 P **P 02 40 59.6 +1.0**
baz=154
Q56A Snyder Ridge, 54.79 353 P **P 02 40 59.9 +1.0**
baz=171
Q55A Buckhannon 54.87 352 P **P 02 41 00.6 +1.1**
baz=170,SNR=5.7
Q53A Leroy 54.95 350 P **P 02 41 00.6 +0.6**
baz=168,SNR=9.0
Q54A Coxs Mills 54.96 351 P **P 02 41 00.6 +0.5**
baz=169,SNR=6.5
Q54A Coxs Mills 54.96 351 IAmb IAmb 02 41 01.4
comp=Z,15nm,0.7s
PBMO Poplar Bluff 55.05 341 IAmb IAmb 02 41 01.4
comp=Z,6.3nm,0.6s
WCI Wyandotte Cave 55.29 346 P **P 02 41 02.9 +0.4**
baz=163
P55A Reedsville 55.34 352 P **P 02 41 03.7 +0.9**
baz=170
U40A Yellville 55.46 339 P **P 02 41 04.0 +0.2**
baz=155
MCWV Mont Chateau 55.48 352 P **P 02 41 04.8 +1.0**
baz=170
MCWV Mont Chateau 55.48 352 IAmb IAmb 02 41 05.7
comp=Z,7.6nm,0.7s
P54A Burton 55.52 352 P **P 02 41 04.9 +0.8**
baz=170,SNR=8.3
P53A Whipple 55.54 351 P **P 02 41 04.8 +0.6**
baz=168,SNR=8.8
S44A Carbondale 55.56 343 P **P 02 41 04.8 +0.4**
O59A Robesonia 55.75 356 P **P 02 41 07.0 +1.2**
baz=174
P52A Corning 55.80 350 P **P 02 41 06.5 +0.4**
baz=168
P52A Corning 55.80 350 P **P 02 41 06.6 +0.4**
P52A IAmb IAmb 02 41 07.0
comp=Z,11nm,0.8s
O56A Blue Knob Stat 55.93 353 P **P 02 41 08.0 +1.0**
baz=172
O55A Ligonier 55.96 353 P **P 02 41 08.0 +0.8**
baz=171
O54A Avella 56.07 352 P **P 02 41 08.8 +0.8**
baz=170
O54A Avella 56.07 352 IAmb IAmb 02 41 10.9
comp=Z,8.7nm,0.7s
FVM French Village 56.17 342 IAmb IAmb 02 41 09.8
comp=Z,5.9nm,0.8s
O52A Adamsville 56.23 350 P **P 02 41 09.2 +0.1**
baz=168
O53A New Philadelph 56.26 351 P **P 02 41 10.1 +0.8**
baz=169
O53A New Philadelph 56.26 351 P **P 02 41 10.2 +0.9**
O53A IAmb IAmb 02 41 10.6
comp=Z,12nm,0.7s
O51A Pataskala 56.38 350 P **P 02 41 10.7 +0.5**
baz=167
CCM Cathedral Cave 56.48 341 P **P 02 41 11.3 +0.3**
baz=157
CCM Cathedral Cave 56.48 341 P **P 02 41 11.0 +0.1**
N55A Marion Center 56.48 353 P **P 02 41 11.6 +0.7**
baz=171
ACSO Alum Creek Sta 56.53 349 P **P 02 41 11.9 +0.6**
baz=167
N56A West Decatur 56.54 354 P **P 02 41 11.9 +0.5**
baz=172
OK029 Liberty Lake 56.71 335 P **P 02 41 13.3 +0.7**
OK029 IAmb IAmb 02 41 13.8
comp=Z,9.2nm,0.9s
N53A Lisbon 56.75 351 P **P 02 41 13.7 +0.9**
baz=169
N54A Moraine State 56.79 352 P **P 02 41 14.2 +1.2**
baz=170
S39A Bolivar 56.83 339 P **P 02 41 13.5 +0.1**
S39A IAmb IAmb 02 41 13.9
comp=Z,4.3nm,0.6s
M57A Sunshine Farm, 56.85 355 P **P 02 41 14.5 +1.0**
baz=174
M56A Emporium 57.09 354 P **P 02 41 15.7 +0.5**
baz=172
M56A Emporium 57.09 354 P **P 02 41 15.8 +0.5**
M56A IAmb IAmb 02 41 32.2
comp=Z,21nm,1.4s
M55A Ridgway 57.14 353 P **P 02 41 16.2 +0.7**
baz=172
M54A Oil Creek Stat 57.28 353 P **P 02 41 17.1 +0.5**
baz=171
M53A WI Miller and 57.35 352 P **P 02 41 17.4 +0.4**
baz=170,SNR=5.2
L58A Harry Jones Me 57.45 356 P **P 02 41 18.5 +0.7**
baz=175
M52A Chesterland 57.55 351 P **P 02 41 19.0 +0.6**
baz=169
M52A Chesterland 57.55 351 P **P 02 41 18.9 +0.5**
L56A Greenwood 57.68 355 P **P 02 41 19.6 +0.2**
baz=173
HRV Adam Dziewonsk 57.77 360 P **P 02 41 20.5 +0.5**
baz=180
L53A Girard 57.80 352 P **P 02 41 20.7 +0.5**
baz=170
L55A Hinsdale 57.81 354 P **P 02 41 20.8 +0.5**
baz=172
ERPA Erie 57.92 352 P **P 02 41 21.8 +0.7**
baz=170
ERPA Erie 57.92 352 P **P 02 41 22.1 +1.1**
K58A Earlville 58.16 356 P **P 02 41 22.9 +0.2**
baz=175
K56A Middlesex 58.22 355 P **P 02 41 23.5 +0.4**
baz=173
J59A Piesco 58.80 357 P **P 02 41 27.3 +0.2**
J59A IAmb IAmb 02 41 29.3
comp=Z,7.1nm,1.1s
I58A Old Forge 59.04 357 P **P 02 41 29.0 +0.2**
baz=176
I51A Listowel 59.72 352 P **P 02 41 33.8 +0.4**
baz=169
H57A Richville 59.84 357 P **P 02 41 34.4 +0.3**
baz=176
H63A New Sharon 59.94 1 P **P 02 41 35.4 +0.6**
baz=182
DELO Deloro Mine 60.05 355 P **P 02 41 35.8 +0.2**
DELO IAmb IAmb 02 41 36.2
comp=Z,3.8nm,0.7s
ANMO Albuquerque 60.24 327 P **P 02 41 38.7 +1.3**
G62A West of Eustis 60.49 1 P **P 02 41 39.4 +0.8**
baz=181
G62A West of Eustis 60.49 1 P **P 02 41 39.5 +0.8**
G62A IAmb IAmb 02 41 39.8
comp=Z,6.0nm,0.9s
PKME Peaks-Kenny Pk 60.56 2 P **P 02 41 39.4 +0.4**
PKME IAmb IAmb 02 41 57.4
comp=Z,19nm,1.2s
JFWS Jewell Farm 60.70 344 P **P 02 41 39.8 -0.2**
baz=159
G54A Lake Saint Pet 60.96 355 P **P 02 41 41.6 -0.2**
baz=173
I42A Draeger Farm, 61.28 346 P **P 02 41 44.2 +0.2**
I42A IAmb IAmb 02 41 47.2
comp=Z,6.7nm,0.9s
ALGO Algonquin Park 61.51 355 P **P 02 41 45.6 +0.2**
baz=173
E58A La Victoria 61.66 359 P **P 02 41 46.5 0.0**
baz=178
E57A Chemin Saint G 61.73 358 P **P 02 41 46.9 -0.1**
baz=177
E56A St. Veronique 61.89 357 P **P 02 41 48.2 +0.1**
baz=176
E62A Clayton Lake 61.91 1 P **P 02 41 48.7 +0.6**
E62A IAmb IAmb 02 42 02.5
comp=Z,15nm,1.4s
SDCO Great Sand Dun 61.94 330 P **P 02 41 50.0 +1.1**
baz=142
SDCO Great Sand Dun 61.94 330 P 02 41 50.5 +1.6
D58A Chemin du LacG 62.37 359 P **P 02 41 51.3 0.0**
baz=178
D62A Allapoint, All 62.38 2 P **P 02 41 51.5 +0.2**
baz=183
D56A ZEC Mazanza, M 62.38 357 P **P 02 41 51.3 0.0**
baz=176
D55A Sainte-Anne-du 62.39 357 P **P 02 41 51.1 -0.2**
baz=176
S22A 4UR Ranch, Cre 62.59 329 P **P 02 41 54.4 +1.1**
baz=141
Q24A Divide 62.74 331 P **P 02 41 55.7 +1.5**
baz=143
MVCO Mesa Verde 63.03 327 P **P 02 41 57.6 +1.5**
baz=140
VLDQ Val d'Or 63.61 355 P **P 02 42 00.1 +0.8**

VLDQ					IAmb	IAmb	02 42 12.1	
	comp=Z,9.7nm,1.1s							
ISCO	**Idaho Springs**	**63.62**	**331**		P	**P**	**02 42 01.0**	**+1.0**
	baz=143							
GLA	**Glamis**	**63.67**	**320**		P	**P**	**02 42 01.0**	**+0.8**
	baz=133							
F36A	**Milaca**	**64.32**	**343**		P	**P**	**02 42 04.6**	**+0.6**
LSQQ	**Lebel-sur-Quev**	**64.51**	**356**		P	**P**	**02 42 08.6**	**+3.3**
	baz=174							
O20A	**White River Ci**	**65.14**	**330**		P	**P**	**02 42 10.9**	**+1.2**
	baz=141							
DRLN	**Deer Lake**	**65.69**	**10**		P	**P**	**02 42 12.6**	**-0.2**
RSSD	**Black Hills**	**66.43**	**335**		P	**P**	**02 42 19.0**	**+1.0**
	baz=146							
B35A	**Bob, Littlefor**	**66.66**	**344**		P	**P**	**02 42 19.4**	**+0.4**
B35A					IAmb	IAmb	02 42 34.5	
	comp=Z,11nm,1.4s							
AGMN	**Agassiz Nation**	**67.20**	**343**		P	**P**	**02 42 22.9**	**+0.5**
	baz=154							
AGMN	**Agassiz Nation**	**67.20**	**343**		P	**P**	**02 42 23.0**	**+0.5**
FURC	**Furnace Creek,**	**67.20**	**321**		P	**P**	**02 42 23.5**	**+0.7**
	baz=132							
MPMC	**Manual Prospec**	**67.31**	**321**		P	**P**	**02 42 24.5**	**+0.8**
	baz=131							
DUG	**Dugway, Tooele**	**67.51**	**327**		P	**P**	**02 42 26.6**	**+1.8**
	baz=137							
PDAR	**Pinedale Array**	**67.79**	**331**		P	**P**	**02 42 27.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=123,slow=7.3,SNR=4.9							
PDAR	**Pinedale Array**	**67.79**	**331**		P	**P**	**02 42 27.9**	**+1.2**
SNAA	**Sanae**	**68.64**	**162**		P	**P**	**02 42 32.9**	**+1.6**
ULM	**Lac du Bonnet**	**68.97**	**343**		P	**P**	**02 42 33.4**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=150,slow=5.5,SNR=8.8							
ULM	**Lac du Bonnet**	**68.97**	**343**		P	**P**	**02 42 33.6**	**+0.2**
RLMT	**Red Lodge**	**69.47**	**332**		P	**P**	**02 42 37.9**	**+1.0**
	baz=141							
DGMT	**Dagmar**	**70.10**	**337**		P	**P**	**02 42 41.9**	**+1.4**
	baz=146							
BOZ	**Bozeman (W)**	**70.91**	**331**		P	**P**	**02 42 47.4**	**+1.7**
	baz=139							
MFID	**Camas Ranch**	**71.38**	**327**			**P**	**02 42 50.4**	**+1.9**
MSO	**Missoula**	**72.90**	**331**		P	**P**	**02 42 58.5**	**+1.1**
	baz=137							
E04D	**Cinebar**	**77.03**	**327**		P	**P**	**02 43 23.1**	**+2.1**
	baz=130							
TOA0	**Torodi Ar. Sit**	**77.74**	**73**		P	**P**	**02 43 26.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.74**	**73**		P	**P**	**02 43 24.8**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=269,slow=4.6,SNR=24							
TORD	**Torodi Ar. Bea**	**77.74**	**73**		P	**P**	**02 43 24.6**	**-1.0**
YKA	**Yellowknife Ar**	**84.82**	**341**		P	**P**	**02 44 02.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=58,slow=26,SNR=3.5							
SUMG	**Summit**	**90.60**	**9**	P		**P**	**02 44 31.3**	**+1.4**
SUMG						IAmb	IAmb	02 44 32.0
	comp=Z,6.7nm,0.8s							
SUMG	**Summit**	**90.60**	**9**	*i* P		**P**	**02 44 30.0**	**+0.1**
	comp=Z,18nm,0.8s							
SUMG	**Summit**	**90.60**	**9**	*i* P		**P**	**02 44 30.0**	**+0.1**
SUMG						IAmb	IAmb	02 44 32.3
	comp=Z,18nm,0.8s							
NOA	**NORSAR Array B**	**99.95**	**29**		LR	LR	03 26 23.9	
	comp=Z,6.9nm,19.3s,baz=80,slow=33							
ASAR	**Alice Springs**	**133.82**	**213**		PKP	**PKPdf**	**02 50 45.8**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=113,slow=37,SNR=2.0							
ASAR	**Alice Springs**	**133.82**	**213**			**PKPdf**	**02 50 44.6**	**-0.2**
WRA	**Warramunga Arr**	**136.57**	**217**		PKP	**PKPdf**	**02 50 50.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=161,slow=1.4,SNR=6.8							
WRA	**Warramunga Arr**	**136.57**	**217**			**PKPdf**	**02 50 48.9**	**-1.1**
ZALV	**Zalesovo Beam**	**137.43**	**21**		PKP	**PKiKP**	**02 50 51.7**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=305,slow=5.1,SNR=1.2							
ZALV	**Zalesovo Beam**	**137.43**	**21**			**PKPdf**	**02 50 51.3**	**+0.9**
SONM	**Songino Array**	**147.76**	**3**		PKPbc	**PKiKP**	**02 51 13.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=341,slow=2.3,SNR=5.5							
SONM	**Songino Array**	**147.76**	**3**			**PKiKP**	**02 51 14.0**	**0.0**

ECX ***13*** *02:34:56.2±0.8,30.°65N×114.°23W,h4km±7km, MD2.7, ML2.8*
MEX ***13*** *02:34:58.1±0.5,30.°86N×114.°24W,h5km±, MD3.8*
ISC 13 02:34:53.2±2.3,30.°6N±0.°1×114.°20W±0.°07,h10km,n8,
σ0°73/12,1C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.71**	**308**	*eP*		**Pb**	**02 35 08.4**	**+0.8**
SFX				*eS*		**Sb**	**02 35 17.2**	**-0.1**
SFX				IAML			02 35 18.7	
	comp=E,420nm,0.2s							
SFX				*e*			02 35 18.7	
PIX	**Pinacate**	**1.15**	**34**	*eP*		**Pg**	**02 35 15.2**	**0.0**
SPX	**San Pedro Mart**	**1.17**	**292**	*eP*		**Pg**	**02 35 15.4**	**-0.3**
SPX				*eS*		**Sg**	**02 35 29.6**	**-1.3**
SPX	**San Pedro Mart**	**1.17**	**292**	*eP*		**Pg**	**02 35 15.7**	**0.0**
SPX				IAML			02 35 32.2	
	comp=N,214nm,0.4s							
SPX				*e*			02 35 32.2	
SPX				⇓*e*			02 35 32.2	
SPIG	**San Pedro Mart**	**1.17**	**292**	*eP*		**Pg**	**02 35 16.9**	**+1.1**
SPIG				*eS*		**Sg**	**02 35 30.6**	**-0.4**
SPIG	**San Pedro Mart**	**1.17**	**292**	*eP*		**Pg**	**02 35 16.5**	**+0.7**
SQX	**San Quintin**	**1.44**	**269**	*eP*		**Pn**	**02 35 19.1**	**-0.3**
SQX				*i* S		**Sn**	**02 35 37.9**	**-0.5**
TJIG	**Tijuana**	**2.79**	**311**	⇑*eP*		**Pn**	**02 35 37.9**	**0.0**

KRNET ***13*** *02:54:37.9±0.1,40.°15N×77.°45E,mb2.6*
SOME ***13*** *02:54:39.0,40.°42N×76.°90E,h10km*
ISC 13 02:54:34.7±3.1,40.°3N±0.°1×77.°00E±0.°06,h10km,n13,
σ0°87/26,8C-2D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.85**	**4**	⇓*iP*		**Pg**	**02 55 10.8**	**+0.6**
	baz=54							
KDJ				⇓*iS*		**Sg**	**02 55 34.9**	**+0.7**
	baz=54							
BOOM	**Boomskoye usch**	**2.34**	**340**	⇑*iP*		**Pg**	**02 55 19.4**	**-0.2**
	baz=35							
BOOM				⇑*iS*		**Sg**	**02 55 49.7**	**-0.4**
	baz=35							
ARLS	**Aral**	**2.57**	**309**	⇑*eP*		**Pg**	**02 55 23.3**	**-0.6**
	baz=7.0							
ARLS				⇑*iS*		**Sg**	**02 55 57.4**	**+0.2**
	baz=7.0							
UCH	**Uchtor**	**2.70**	**317**	⇑*eP*		**Pg**	**02 55 26.0**	**-0.5**
	baz=14							
UCH				⇑*iS*		**Sg**	**02 56 00.8**	**-0.7**
	baz=14							
TNSS	**Tian-Shan**	**2.75**	**359**	*eP*		**Pg**	**02 55 27.9**	**+0.5**
	3.1nm,0.2s							
TNSS				*eS*		**Sg**	**02 56 03.0**	**-0.1**
	5.4nm,0.4s							
TKM2	**Tokmak 2**	**2.84**	**339**	⇑*iP*		**Pb**	**02 55 26.2**	**+0.6**
	baz=34							
TKM2				⇑*iS*		**Sb**	**02 56 01.9**	**+1.4**
	baz=34							
KST	**Kastek**	**2.87**	**345**	*eP*		**Pg**	**02 55 30.1**	**+0.5**
	1.9nm,0.3s							
KST				*eS*		**Sg**	**02 56 06.7**	**-0.1**
	3.0nm,0.3s							
MDOK	**Medeo**	**2.88**	**1**	*eP*		**Pg**	**02 55 29.5**	**-0.3**
	2.8nm,0.2s							
MDOK				*eS*		**Sg**	**02 56 05.9**	**-1.2**
	8.1nm,0.5s							
DGS	**Degeres**	**3.10**	**343**	*eP*		**Pg**	**02 55 33.7**	**-0.3**
	4.2nm,0.4s							
DGS				*eS*		**Sg**	**02 56 12.7**	**-1.4**
	2.5nm,0.3s							
UZB	**Uzynbulak**	**3.23**	**27**	*eP*		**Pg**	**02 55 36.2**	**-0.5**
UZB				*eS*		**Sg**	**02 56 17.0**	**-1.6**
KPKS	**Kokpek**	**3.42**	**21**	*eP*		**Pg**	**02 55 40.1**	**0.0**
	2.5nm,0.3s							
KPKS				*eS*		**Sg**	**02 56 23.9**	**-0.5**
	6.3nm,0.2s							
KTBS	**Karatobe**	**3.43**	**356**	*eP*		**Pg**	**02 55 40.1**	**-0.4**
	0.9nm,0.5s							
KTBS				*eS*		**Sg**	**02 56 23.9**	**-1.1**
	7.1nm,0.3s							
KRBS	**Karabastau**	**3.55**	**344**	*eP*		**Pg**	**02 55 41.7**	**-1.0**
	0.9nm,0.4s							
KRBS				*eS*		**Sg**	**02 56 26.9**	**-1.8**
	1.2nm,0.4s							

IDC ***13*** *03:21:22.4±0.5,32.°30S×111.°39W,h0km,mb4.5/16, mb1 4.5/17,mb1mx4.4/29,mbtmp4.4/17,ML3.7/1,MS4.3/25, Ms1 4.3/25,ms1mx4.2/32,Error ellipse: s-maj=19.3km s-min=15.0km az=127.0*
MOS ***13*** *03:21:23.2±1.2,32.°52S×111.°33W,h10km,mb5.1/19, Error ellipse: s-maj=16.6km s-min=9.6km az=74.0*
NEIC ***13*** *03:21:24.5±1.8,32.°56S±0.°10×111.°3W±0.°1,h10km±1km, mb5.0/143,Error ellipse: s-maj=21.0km s-min=15.5km az=289.0*
BJI ***13*** *03:21:25.0±0.0,32.°50S×111.°30W,h10km,mB5.7/7, Ms5.0/1*
GCMT ***13*** *03:21:26.5±0.3,32.°58S±0.°02×111.°39W±0.°02,h17km±1km, MW5.0/105,Moment Tensor Solution. s27,c27; s105,c149; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.06±.12; Mθθ-2.81±.11; Mϕϕ2.75±.12; Mrθ-2.24±.42; Mrϕ-1.15±.09; Mθϕ0.19±.29; Best double couple: Mo3.65300×10^16^ NP1:ϕs30.00000°,δ59.00000°, λ-10.00000°. NP2:ϕs124.00000°,δ82.00000°, λ-149.00000°. Principal axes: T 3.1470, Plg15.0000°, Azm253.0000°; N 1.0100, Plg58.0000°, Azm138.0000°; P -4.1590, Plg27.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 03:21:25.6±0.7,32.°49S±0.°07×111.°27W±0.°07,h15km±3km,
h16km:pP-P,n461,σ1s21/409,mb5.0/87,MS4.3/28,
13C-19D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.61**	**18**	Pn		**Pn**	**03 22 46.8**	**-1.6**
	2.3nm,0.3s,baz=159,slow=7.1,SNR=1.1							
RPN				LR		LR	03 24 25.9	
	comp=Z,1μm,19.8s,baz=198,slow=34							
RPN	**Rapa Nui**	**5.61**	**18**	P		**Pn**	**03 22 51.5**	**+3.1**
RPN	**Rapa Nui**	**5.61**	**18**	Pn		**Pn**	**03 22 51.5**	**+3.1**
RKT	**Rikitea**	**22.91**	**288**	*e*LR		LR	03 31 44.7	
	comp=Z,913nm,28.0s							
H03S2	**Juan Fernandez**	**27.05**	**102**	T		T	03 55 36.3	
	baz=262,slow=75,SNR=1030							
H03S3	**Juan Fernandez**	**27.07**	**102**	T		T	03 55 35.1	
	baz=262,slow=75,SNR=614							
H03S1	**Juan Fernandez**	**27.07**	**102**	T		T	03 55 36.5	
	baz=262,slow=75,SNR=572							
H03N2	**Juan Fernandez**	**27.09**	**101**	T		T	03 55 33.3	
	baz=267,slow=74,SNR=2291							
H03N3	**Juan Fernandez**	**27.10**	**101**	T		T	03 55 37.0	
	baz=267,slow=74,SNR=2521							
H03N1	**Juan Fernandez**	**27.11**	**101**	T		T	03 55 34.3	
	baz=267,slow=74,SNR=1970							
GO05	**Huala**	**32.66**	**105**			**P**	**03 27 57.9**	**+0.7**
GO05					IAmb	IAmb	03 28 04.4	
	comp=Z,43nm,1.4s							
BI02	**San Fabin de**	**33.03**	**109**	P		**P**	**03 27 59.7**	**-0.7**
BI02					IAmb	IAmb	03 28 02.2	
	comp=Z,34nm,1.6s							
PLCA	**Paso Flores**	**33.46**	**116**	P		**P**	**03 28 04.7**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=265,slow=9.2,SNR=8.3							
PLCA				LR		LR	03 38 12.7	
	comp=Z,415nm,19.0s,baz=276,slow=30							
PLCA	**Paso Flores**	**33.46**	**116**	P		**P**	**03 28 04.9**	**+0.8**
PLCA				pmax		pmax		
	comp=Z,12nm,1.4s							
PLCA	**Paso Flores**	**33.46**	**116**	P		**P**	**03 28 04.9**	**+0.8**
GO04	**Tololo Observa**	**34.50**	**97**	P		**P**	**03 28 14.5**	**+1.0**
TBI	**Tubuai**	**34.80**	**275**	*e*LR		LR	03 37 21.7	
	comp=Z,496nm,27.2s,baz=108							
TBI	**Tubuai**	**34.80**	**275**	*e*T		T	04 04 31.0	
	comp=Z,7.3nm,0.3s							
AC04	**Llanos de Chal**	**34.81**	**94**	P		**P**	**03 28 14.9**	**-0.9**
AC04					IAmb	IAmb	03 29 05.4	
	comp=Z,35nm,1.4s							
CO01	**Juntas del Tor**	**35.14**	**97**	P		**P**	**03 28 17.4**	**-1.6**
CO01					IAmb	IAmb	03 28 47.6	
	comp=Z,35nm,1.8s							
AC05	**El Transito**	**35.30**	**95**	P		**P**	**03 28 20.8**	**+0.5**
GO03	**Copiap**	**35.70**	**93**	P		**P**	**03 28 24.7**	**+1.1**
MEH	**Mehetia**	**36.14**	**285**	*e*T		T	04 06 22.6	
	comp=Z,22nm,0.2s							
AC02	**Maricunga**	**36.87**	**92**	P		**P**	**03 28 34.5**	**+0.4**
AC02					IAmb	IAmb	03 29 22.3	
	comp=Z,45nm,1.9s							
TVO	**Taravao**	**37.16**	**284**	*e*T		T	04 07 35.2	
	comp=Z,1.8nm,0.2s							
TIAR	**Tiarei**	**37.35**	**284**	*e*T		T	04 07 49.8	
	comp=Z,4.2nm,0.3s							
PPT2	**Papeete2**	**37.52**	**284**	*e*S		**S**	**03 34 25.2**	**-2.7**
	comp=Z,54nm,23.2s							
PPT2				*e*LR		LR	03 38 31.9	
	comp=Z,864nm,24.5s,baz=126							
PPT	**Papeete**	**37.53**	**284**	LR		LR	03 39 23.9	
	comp=Z,485nm,20.2s,baz=94,slow=29							
NNA	**Nana**	**37.59**	**65**	P		**P**	**03 28 39.0**	**-0.8**
	comp=Z,12nm,0.9s,baz=204,slow=4.9,SNR=4.7							
NNA				LR		LR	03 39 57.7	
	comp=Z,533nm,20.5s,baz=230,slow=30							
NNA	**Nana**	**37.59**	**65**	P		**P**	**03 28 40.4**	**+0.6**
NNA				pmax		pmax		
	comp=Z,47nm,1.3s							
NNA	**Nana**	**37.59**	**65**	P		**P**	**03 28 40.4**	**+0.6**
NNA					IAmb	IAmb	03 28 41.2	
	comp=Z,46nm,1.2s							
PATCX	**Punta Patache**	**38.33**	**83**	P		**P**	**03 28 46.2**	**+0.2**
LVC	**Limon Verde**	**38.61**	**86**	LR		LR	03 40 38.3	
	comp=Z,457nm,18.4s,baz=240,slow=30							
LVC	**Limon Verde**	**38.61**	**86**	P		**P**	**03 28 50.3**	**+1.6**
LVC				pmax		pmax		
	comp=Z,33nm,1.4s							
LVC	**Limon Verde**	**38.61**	**86**	P		**P**	**03 28 50.3**	**+1.6**
LVC					IAmb	IAmb	03 28 50.8	
	comp=Z,33nm,1.4s							
LVC	**Limon Verde**	**38.61**	**86**	*e*P		**P**	**03 28 48.1**	**-0.7**
PB09	**IPOC Station P**	**38.67**	**85**	P		**P**	**03 28 50.1**	**+1.1**
PB09					IAmb	IAmb	03 28 58.1	
	comp=Z,30nm,0.9s							
PB01	**IPOC Station P**	**38.78**	**84**	P		**P**	**03 28 50.3**	**+0.4**
PB08	**IPOC Station P**	**39.47**	**82**	P		**P**	**03 28 54.8**	**-1.1**
MNMC	**Minye Minye**	**39.56**	**81**	P		**P**	**03 28 56.3**	**-0.3**
MNMC					IAmb	IAmb	03 29 51.4	
	comp=Z,14nm,0.4s							
ATAH	**Atahualpa**	**39.62**	**58**	LR		LR	03 41 30.2	
	comp=Z,306nm,19.3s,baz=229,slow=30							
LPAZ	**La Paz**	**42.16**	**78**	P		**P**	**03 29 18.7**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=257,slow=6.0,SNR=16							
LPAZ				LR		LR	03 43 13.2	
	comp=Z,272nm,18.0s,baz=234,slow=31							
LPAZ	**La Paz**	**42.16**	**78**	P		**P**	**03 29 19.0**	**+0.5**
LPAZ				pmax		pmax		
	comp=Z,7.0nm,1.0s							
LPAZ	**La Paz**	**42.16**	**78**	P		**P**	**03 29 19.0**	**+0.5**
LPAZ	**La Paz**	**42.16**	**78**	*e*P		**P**	**03 29 17.3**	**-1.1**
PMSA	**Palmer Station**	**43.20**	**153**	*e*P		**P**	**03 29 27.4**	**+1.9**
CZSB	**Cruzeiro do Su**	**43.42**	**64**	*e*P		**P**	**03 29 28.7**	**+0.7**
RAR	**Rarotonga**	**44.38**	**272**	LR		LR	03 42 37.8	
	comp=Z,636nm,22.0s,baz=86,slow=29							
OTAV	**Otavalo**	**44.93**	**50**	*e*P		**P**	**03 29 41.0**	**+0.5**
OTAV	**Otavalo**	**44.93**	**50**	P		**P**	**03 29 41.7**	**+1.1**
OTAV				pmax		pmax		
	comp=Z,20nm,1.4s							
OTAV	**Otavalo**	**44.93**	**50**	P		**P**	**03 29 41.7**	**+1.1**
OTAV					IAmb	IAmb	03 29 58.0	
	comp=Z,20nm,1.4s							
OTAV	**Otavalo**	**44.93**	**50**	*e*P		**P**	**03 29 40.7**	**+0.1**
CPUP	**Villa Florida**	**46.98**	**97**	LR		LR	03 46 42.8	
	comp=Z,305nm,18.1s,baz=257,slow=32							
CPUP	**Villa Florida**	**46.98**	**97**	*e*P		**P**	**03 29 56.1**	**-0.1**
ETMB	**Extrema**	**47.24**	**72**	*e*P		**P**	**03 29 57.7**	**-0.6**
PTLC	**Puerto Leguiza**	**47.31**	**54**	*e*P		**P**	**03 29 57.8**	**-1.1**
FLOC	**Florencia**	**47.77**	**52**	*e*P		**P**	**03 30 03.2**	**+0.8**
SIV	**San Ignacio**	**48.19**	**82**	P		**P**	**03 30 05.3**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=251,slow=8.8,SNR=24							
PLTB	**Pedras Altas**	**48.31**	**105**	*e*P		**P**	**03 30 05.9**	**-0.6**
CPSB	**Cacapava Do Su**	**48.85**	**104**	*e*P		**P**	**03 30 10.4**	**-0.2**
YOTC	**Yotoco, Valle**	**49.13**	**49**	*e*P		**P**	**03 30 13.1**	**+0.1**
ORTC	**Ortega, Tolima**	**49.78**	**50**	*e*P		**P**	**03 30 20.2**	**+2.4**
PTLB	**Pontes e Lacer**	**50.08**	**83**	*e*P		**P**	**03 30 20.0**	**-0.1**
SAML	**Samuel**	**50.18**	**73**	P		**P**	**03 30 19.5**	**-1.4**
SAML				pmax		pmax		
	comp=Z,6.0nm,0.9s							
SAML	**Samuel**	**50.18**	**73**	P		**P**	**03 30 19.5**	**-1.4**
TOLC	**Tolima**	**50.24**	**50**	*e*P		**P**	**03 30 22.8**	**+1.1**
VILB	**Vilhena**	**50.45**	**80**	*e*P		**P**	**03 30 23.0**	**0.0**
AQDB	**Aquidauana**	**50.66**	**91**	*e*P		**P**	**03 30 24.9**	**+0.4**
GUY2C	**Guyana, Caldas**	**50.70**	**49**	*e*P		**P**	**03 30 25.4**	**0.0**
CBOC	**Ciudad Bolivar**	**50.78**	**48**	*e*P		**P**	**03 30 25.5**	**-0.1**
ROSC	**El Rosal**	**51.08**	**50**	P		**P**	**03 30 29.8**	**+1.7**
	comp=Z,23nm,1.0s,baz=206,slow=5.4,SNR=12							
ROSC				LR		LR	03 48 37.2	
	comp=Z,363nm,18.6s,baz=229,slow=32							
ROSC	**El Rosal**	**51.08**	**50**	P		**P**	**03 30 29.8**	**+1.7**
TLIG	**Tlapa**	**51.24**	**16**	P		**P**	**03 30 30.0**	**+1.2**
TLIG					IAmb	IAmb	03 30 39.5	
	comp=Z,46nm,1.7s							
ESPN	**Las Esperanzas**	**51.38**	**35**	P		**P**	**03 30 30.1**	**+0.3**
ESPN					IAmb	IAmb	03 30 31.7	
	comp=Z,19nm,1.2s							
PTGB	**Pitanga**	**51.99**	**97**	*e*P		**P**	**03 30 34.7**	**+0.2**
PCMB	**Pacaembu**	**53.92**	**94**	*e*P		**P**	**03 30 49.0**	**+0.2**
FRTB	**Fartura**	**54.63**	**97**	*e*P		**P**	**03 30 53.8**	**-0.2**
CLDB	**Colider**	**55.20**	**80**	*e*P		**P**	**03 30 56.4**	**-1.7**
ITRB	**Iturama**	**55.51**	**93**	*e*P		**P**	**03 30 59.9**	**-0.4**
ZAIG	**Zacatecas**	**55.58**	**10**	P		**P**	**03 31 01.4**	**+0.6**
ZAIG					IAmb	IAmb	03 31 12.2	
	comp=Z,38nm,2.0s							
MACA	**Manacapuru-AM**	**55.59**	**69**	*e*P		**P**	**03 30 59.8**	**-1.1**
ARAG	**Araguaiana, MT**	**56.12**	**88**	*e*P		**P**	**03 31 04.7**	**0.0**
PET01	**Itanhaem-SP**	**56.16**	**99**	*e*P		**P**	**03 31 05.0**	**+0.1**
LPIG	**La Paz**	**56.29**	**1**	LR		LR	03 49 14.3	
	comp=Z,267nm,18.8s,baz=169,slow=30							
SPB	**Sao Paulo**	**56.32**	**98**	*e*P		**P**	**03 31 06.5**	**+0.5**
BB19B	**Bebedouro**	**56.46**	**95**	*e*P		**P**	**03 31 07.5**	**+0.4**
SDV	**Santo Domingo**	**56.52**	**50**	P		**P**	**03 31 06.3**	**-1.4**
	comp=Z,4.4nm,0.5s,baz=225,slow=10,SNR=5.8							
SDV	**Santo Domingo**	**56.52**	**50**	P		**P**	**03 31 06.9**	**-0.8**
SDV					IAmb	IAmb	03 31 12.8	
	comp=Z,13nm,1.0s							
SDV	**Santo Domingo**	**56.52**	**50**	*e*P		**P**	**03 31 07.2**	**-0.5**
SDV				*e*pP		**pP**	**03 31 10.4**	**-1.3**
VAO	**Valinhos**	**56.95**	**98**	*e*P		**P**	**03 31 10.5**	**-0.1**
NPGB	**Novo Progresso**	**57.64**	**77**	*e*P		**P**	**03 31 14.1**	**-1.4**
NPGB				*e*pP		**pP**	**03 31 18.0**	**-1.4**
QSPA	**South Pole Qui**	**57.70**	**180**	P		**P**	**03 31 16.9**	**+1.6**
	comp=Z,9.0nm,1.1s,baz=114,slow=4.6,SNR=8.8							
QSPA	**South Pole Qui**	**57.70**	**180**	P		**P**	**03 31 16.6**	**+1.2**
VNDA	**Vanda**	**57.87**	**195**	P		**P**	**03 31 18.2**	**+2.0**
	comp=Z,4.5nm,1.2s,baz=83,slow=7.5,SNR=9.0							
VNDA				LR		LR	03 51 44.4	
	comp=Z,459nm,18.0s,baz=88,slow=31							
VNDA	**Vanda**	**57.87**	**195**	P		**P**	**03 31 17.6**	**+1.4**
VNDA				pmax		pmax		
	comp=Z,8.0nm,1.3s							
VNDA	**Vanda**	**57.87**	**195**	P		**P**	**03 31 17.6**	**+1.4**
PARB	**Paraibuna**	**57.93**	**99**	*e*P		**P**	**03 31 17.0**	**-0.5**
IPMB	**Ipameri, GO**	**58.10**	**92**	*e*P		**P**	**03 31 18.7**	**-0.1**
SNDB	**Serra Nova Dou**	**58.40**	**84**	*e*P		**P**	**03 31 20.5**	**-0.3**
ITTB	**Itaituba**	**58.85**	**74**	*e*P		**P**	**03 31 22.7**	**-1.2**
ESAR	**Angra dos Reis**	**59.05**	**99**	*e*P		**P**	**03 31 25.8**	**+0.6**
BDFB	**Brasilia**	**59.36**	**90**	P		**P**	**03 31 27.9**	**+0.2**
	comp=Z,14nm,1.1s,baz=213,slow=5.7,SNR=10.0							
BDFB				LR		LR	03 54 38.1	
	comp=Z,267nm,19.2s,baz=316,slow=34							
BDFB	**Brasilia**	**59.36**	**90**	P		**P**	**03 31 27.4**	**-0.2**
BDFB				pmax		pmax		
	comp=Z,19nm,1.1s							
BDFB	**Brasilia**	**59.36**	**90**	P		**P**	**03 31 27.4**	**-0.2**
BDFB					IAmb	IAmb	03 31 28.4	
	comp=Z,19nm,1.1s							
MAN01	**Angra dos Reis**	**59.52**	**99**	*e*P		**P**	**03 31 27.9**	**-0.7**
MAN01				*e*pP		**pP**	**03 31 31.1**	**-1.5**
BSCB	**Bom Sucesso**	**59.64**	**97**	*e*P		**P**	**03 31 29.4**	**-0.1**
RPZ	**Rata Peaks**	**60.07**	**235**	LR		LR	03 52 22.2	
	comp=Z,218nm,19.0s,baz=103,slow=31							
PEXB	**Peixe**	**60.85**	**86**	*e*P		**P**	**03 31 37.9**	**+0.1**
HSIG		**61.18**	**0**	P		**P**	**03 31 39.2**	**-0.3**
HSIG					IAmb	IAmb	03 31 52.5	
	comp=Z,9.2nm,1.1s							
PCRV	**Puerto La Cruz**	**61.48**	**55**	P		**P**	**03 31 41.0**	**-1.0**
	comp=Z,11nm,0.8s,baz=240,slow=4.6,SNR=5.0							
MALB	**Monte Alegre**	**61.50**	**73**	*e*P		**P**	**03 31 42.0**	**-0.1**
MALB				*e*pP		**sP**	**03 31 45.2**	**-2.4**
PLCV	**Puerto La Cruz**	**61.51**	**55**	P		**P**	**03 31 41.0**	**-1.1**
TX31	**Lajitas Ar. Si**	**61.91**	**8**	P		**P**	**03 31 44.7**	**+0.1**
TX32	**Lajit

MSTX	Muleshoe	66.59	8	P		P		03 32 14.5	-0.7
	baz=188								
NPH	North Pit	66.61	314	P		P		03 32 17.9	+2.3
UWB	Uwekahuna B	66.62	314	P		P		03 32 18.2	+2.5
UWE	Uwekahuna	66.62	314	P		P		03 32 16.1	+0.3
BFSC	Mount Baldy Ra	66.65	354	P		P		03 32 16.1	+0.5
	baz=174								
GMRC	Granite Mounta	67.05	356	P		P		03 32 18.7	+0.5
	baz=176								
HEC	Hector,Ludlow	67.14	355	P		P		03 32 19.6	+1.0
	baz=175								
ANMO	Albuquerque	67.24	4	P		P		03 32 19.5	0.0
	baz=184								
ANMO	Albuquerque	67.24	4	P		P		03 32 18.8	-0.6
ANMO				pmax		pmax			
	comp=Z,13nm,1.7s								
ANMO	Albuquerque	67.24	4	P		P		03 32 18.8	-0.6
ANMO				IAmb		IAmb		03 32 28.0	
	comp=Z,12nm,1.6s								
GDU01	Guandu, BA	67.42	92	*e*P		P		03 32 21.1	+0.2
PKM	Mcpherson Peak	67.51	352	P		P		03 32 22.9	+1.8
	baz=172								
AMTX	Amarillo	67.62	9	P		P		03 32 21.7	-0.1
	baz=189								
GSC	Goldstone, Bar	67.64	355	P		P		03 32 22.8	+1.0
	baz=175								
GSC	Goldstone, Bar	67.64	355	P		P		03 32 22.4	+0.6
GSC				pmax		pmax			
	comp=Z,26nm,1.5s								
GSC	Goldstone, Bar	67.64	355	P		P		03 32 22.4	+0.6
GSC				IAmb		IAmb		03 32 32.8	
	comp=Z,26nm,1.5s								
WUAZ	Wupatki	67.66	360	P		P		03 32 23.1	+1.1
	baz=180								
TUQ	Turquoise Moun	67.72	356	P		P		03 32 23.5	+1.1
	baz=176								
LRMC	Laurel Mtn Rad	67.88	354	P		P		03 32 24.3	+0.9
	baz=174								
ISA	Isabella, Lake	68.14	354	P		P		03 32 27.9	+2.9
	baz=174								
ISA	Isabella, Lake	68.14	354	P		P		03 32 27.8	+2.9
ISA				pmax		pmax			
	comp=Z,29nm,1.7s								
ISA	Isabella, Lake	68.14	354	P		P		03 32 27.8	+2.9
ISA				IAmb		IAmb		03 32 35.1	
	comp=Z,29nm,1.7s								
SHOC	Shoshone, Teco	68.20	356	P		P		03 32 26.9	+1.7
	baz=176								
MPMC	Manual Prospec	68.44	355	P		P		03 32 27.6	+0.6
	baz=174								
U15A	North Rim	68.57	359	P		P		03 32 28.1	+0.3
SHPR	Sheep Range	68.74	357	P		P		03 32 29.4	+0.6
SHPR				IAmb		IAmb		03 32 39.9	
	comp=Z,30nm,1.7s								
FURC	Furnace Creek,	68.80	355	P		P		03 32 29.5	+0.6
	baz=175								
X40A	Basin Creek Fa	68.84	16	P		P		03 32 30.0	+0.7
	baz=197								
CWC	Cottonwood Cre	68.87	354	P		P		03 32 29.3	-0.3
	baz=174								
BCOK	Bluff Creek, N	68.99	12	P		P		03 32 30.0	-0.2
LRAL	Lakeview Retre	69.08	22	P		P		03 32 30.6	-0.2
	baz=202								
ROSB	Rosrio	69.23	80	*e*P		P		03 32 32.7	+0.5
TPNV	Topopah Spring	69.24	356	P		P		03 32 32.6	+0.7
	baz=176								
TPNV	Topopah Spring	69.24	356	P		P		03 32 32.8	+0.9
TPNV				pmax		pmax			
	comp=Z,18nm,1.4s								
TPNV	Topopah Spring	69.24	356	P		P		03 32 32.8	+0.9
TPNV				IAmb		IAmb		03 32 42.5	
	comp=Z,18nm,1.4s								
W39A	Magazine	69.31	15	P		P		03 32 33.7	+1.6
	baz=196								
MVCO	Mesa Verde	69.39	2	P		P		03 32 33.1	+0.2
	baz=182								
NVL	N'lazarevskaya	69.42	163	*e*P		P		03 32 37.0	+4.5
NVL				pmax		pmax			
	comp=Z,34nm,1.3s								
T25A	Trinidad	69.57	6	P		P		03 32 32.4	-1.6
	baz=186								
T25A	Trinidad	69.57	6	IAmb		IAmb		03 32 43.7	
	comp=Z,14nm,1.4s								
TUL1	Leonard	69.58	13	P		P		03 32 33.2	-0.6
	baz=194								
TUL1	Leonard	69.58	13	IAmb		IAmb		03 32 40.0	
	comp=Z,12nm,1.1s								
PKCU	Pink Cliffs	69.58	359	P		P		03 32 35.3	+1.1
PRN	Pahroc Range	69.63	357	IAmb		IAmb		03 32 43.7	
	comp=Z,17nm,1.6s								
W41B	Gary Mavity, V	69.64	17	P		P		03 32 32.9	-1.2
	baz=197								
SZCU	Shurtz Canyon	69.75	358	P		P		03 32 36.2	+1.1
S22A	4UR Ranch, Cre	70.00	4	P		P		03 32 36.9	+0.1
	baz=184								
S22A	4UR Ranch, Cre	70.00	4	IAmb		IAmb		03 32 46.4	
	comp=Z,20nm,1.6s								
SDCO	Great Sand Dun	70.09	5	P		P		03 32 36.6	-0.7
	baz=185								
SDCO	Great Sand Dun	70.09	5	P		P		03 32 37.1	-0.2
HHAR	Hobbs	70.31	15	P		P		03 32 37.8	-0.6
HHAR				IAmb		IAmb		03 32 47.5	
	comp=Z,25nm,1.6s								
PV02	Paradox Valley	70.38	2	P		P		03 32 41.3	+2.4
TPH	Tonopah	70.43	355	P		P		03 32 39.5	+0.3
TPH				pmax		pmax			
	comp=Z,170nm,1.7s								
TPH	Tonopah	70.43	355	P		P		03 32 39.5	+0.3
PV16	Nyswonger Mesa	70.48	2	P		P		03 32 39.8	+0.3
PV15	Paradox Valley	70.52	2	IAmb		IAmb		03 32 45.6	
	comp=Z,11nm,0.9s								
PV04	Paradox Valley	70.56	2	IAmb		IAmb		03 32 45.9	
	comp=Z,12nm,0.9s								
GOGA	Godfrey	70.59	24	P		P		03 32 38.4	-1.6
	baz=205								
R11A	Troy Canyon, C	70.60	356	P		P		03 32 40.9	+0.7
	baz=176								
R11A	Troy Canyon, C	70.60	356	P		P		03 32 40.4	+0.2
R11A				IAmb		IAmb		03 32 50.7	
	comp=Z,15nm,1.4s								
U40A	Yellville	70.63	16	P		P		03 32 40.0	-0.2
	baz=196								
MSU	Marysvale	70.65	359	P		P		03 32 40.3	-0.3
MSU	Marysvale	70.65	359	P		P		03 32 40.3	-0.3
LHV	Little Huntoon	70.70	354	IAmb		IAmb		03 32 57.2	
	comp=Z,19nm,1.2s								
PV22	Blue Mesa, Par	70.70	2	P		P		03 32 41.6	+0.7
PSUT	Pine Spring	70.71	358	P		P		03 32 41.5	+0.5
Y52A	Lilburn	70.80	24	IAmb		IAmb		03 32 50.7	
	comp=Z,26nm,1.6s								
NV11	Mina Array Sit	70.86	354	IAmb		IAmb		03 32 48.5	
	comp=Z,13nm,0.9s								
NVAR	Mina Array Bea	70.86	354	P		P		03 32 42.9	+1.0
	comp=Z,3.4nm,0.8s,baz=182,slow=7.6,SNR=14								
NVAR				LR		LR		03 57 23.6	
	comp=Z,380nm,19.3s,baz=163,slow=31								
NVAR	Mina Array Bea	70.86	354	P		P		03 32 42.7	+0.8
SWET	Sewanee	71.43	22	P		P		03 32 44.2	-1.0
KVN	Kaiserville	71.47	354	IAmb		IAmb		03 32 52.1	
	comp=Z,15nm,0.9s								
R32A	Long Quarter,	71.52	10	IAmb		IAmb		03 32 51.6	
	comp=Z,15nm,0.9s								
P17A	Butcher Ranch,	71.61	0	P		P		03 32 45.5	-0.9
PBMO	Poplar Bluff	71.62	18	P		P		03 32 45.3	-0.9
PBMO				IAmb		IAmb		03 32 51.1	
	comp=Z,17nm,1.4s								
AFDM	Forest Hills D	71.65	352	IAmb		IAmb		03 32 56.1	
	comp=Z,31nm,1.7s								
CBKS	Cedar Bluff	71.75	9	P		P		03 32 47.9	+0.8
	baz=190								
S39A	Bolivar	71.80	15	IAmb		IAmb		03 32 52.9	
	comp=Z,22nm,1.9s								
Z58A	St. Stephen	71.88	27	P		P		03 32 49.3	+1.5
	baz=206								
ISCO	Idaho Springs	72.12	5	P		P		03 32 50.1	+0.5
	baz=185								
ISCO	Idaho Springs	72.12	5	IAmb		IAmb		03 33 02.6	
	comp=Z,19nm,1.6s								
X55A	Gracelyn & Ava	72.20	25	P		P		03 32 50.3	+0.5
	baz=206								
PAHR	Pah Rah Range	72.23	353	IAmb		IAmb		03 33 03.5	
	comp=Z,16nm,1.5s								
DZM	Mont Dzumac	72.25	255	*e*LR		LR		03 54 57.2	
	comp=Z,421nm,26.7s								
O20A	White River Ci	72.32	2	P		P		03 32 51.3	+0.7
	baz=183								
DUG	Dugway, Tooele	72.34	359	P		P		03 32 51.2	+0.5
	baz=179								
X56A	White Oak	72.44	26	P		P		03 32 49.7	-1.5
	baz=206								
W54A	Cherokee Point	72.56	25	P		P		03 32 51.2	-0.7
	baz=205								
T47A	Sharon Grove	72.72	20	IAmb		IAmb		03 32 57.9	
	comp=Z,9.4nm,0.9s								
JLU	Jordanelle	72.73	360	P		P		03 32 52.9	-0.2
S44A	Carbondale	72.78	18	IAmb		IAmb		03 32 58.9	
	comp=Z,12nm,0.8s								
V53A	Saluda	72.87	24	IAmb		IAmb		03 32 59.3	
	comp=Z,10nm,1.1s								
KMSC	Kings Mountain	72.91	25	P		P		03 32 53.9	-0.1
	baz=206								
N23A	Red Feather La	73.19	4	P		P		03 32 56.2	+0.3
TZTN	Tazewell	73.41	23	P		P		03 32 56.5	-0.4
	baz=204								
WDC	Whiskeytown Da	73.45	351	IAmb		IAmb		03 33 02.7	
	comp=Z,11nm,0.9s								
W58A	Raeford	73.59	27	P		P		03 32 58.3	+0.3
	baz=208								
PHWY	Pilot Hill	73.63	5	IAmb		IAmb		03 33 07.9	
	comp=Z,26nm,1.8s								
Q44A	Meyer Farm, Va	73.98	18	P		P		03 33 00.3	+0.1
Q44A				IAmb		IAmb		03 33 06.2	
	comp=Z,18nm,0.9s								
V57A	Coltrane Farms	74.15	26	P		P		03 33 02.0	+0.7
	baz=207								
U55A	TA2, Sparta	74.23	25	P		P		03 33 01.3	-0.6
	baz=206								
M02C	Callahan	74.29	351	P		P		03 33 02.4	+0.3
	baz=170								
MOD	Modoc Plateau	74.50	353	P		P		03 33 03.6	+0.2
MOD				IAmb		IAmb		03 33 16.6	
	comp=Z,27nm,1.4s								
M04C	Macdoel	74.55	352	P		P		03 33 04.5	+0.9
	baz=171								
T54A	Tazewell	74.55	24	P		P		03 33 03.1	-0.5
	baz=206								
YBH	Yreka Blue Hor	74.61	351	LR		LR		03 58 39.6	
	comp=Z,346nm,19.1s,baz=168,slow=30								
V59A	Middlesex	74.63	27	P		P		03 33 03.9	-0.1
	baz=208								
K22A	Casper	74.91	4	P		P		03 33 05.4	-0.3
	baz=184								
K22A	Casper	74.91	4	IAmb		IAmb		03 33 17.0	
	comp=Z,23nm,1.4s								
BW06	Boulder Array	74.91	1	P		P		03 33 05.0	-0.8
	baz=182								
PDAR	Pinedale Array	74.91	1	P		P		03 33 03.3	-2.5
	comp=Z,2.2nm,0.9s,baz=163,slow=5.7,SNR=13								
PDAR				LR		LR		04 01 43.3	
	comp=Z,114nm,20.4s,baz=160,slow=32								
PDAR	Pinedale Array	74.91	1	P		P		03 33 04.4	-1.5
V60A	Jim Taylor Roa	75.01	28	P		P		03 33 06.5	+0.3
	baz=205								
U58A	Oxford	75.06	27	P		P		03 33 06.6	+0.1
	baz=208								
BLA	Blacksburg	75.09	25	P		P		03 33 06.0	-0.7
	baz=206								
U59A	Littleton	75.31	27	P		P		03 33 07.7	-0.3
	baz=209								
REDW	Red Top Meadow	75.49	0	P		P		03 33 08.4	-0.7
REDW				IAmb		IAmb		03 33 16.1	
	comp=Z,20nm,1.6s								
T58A	Grand View Acr	75.55	27	P		P		03 33 08.2	-1.1
	baz=208								
SNOW	Snow King Moun	75.59	0	IAmb		IAmb		03 33 18.8	
	comp=Z,26nm,1.6s								
TPAW	Teton Pass	75.62	0	IAmb		IAmb		03 33 15.5	
	comp=Z,9.3nm,0.9s								
U60A	Pendleton	75.67	28	P		P		03 33 09.7	-0.3
	baz=209								
K02D	Willamette Mer	75.68	351	P		P		03 33 09.6	-0.5
	baz=169								
HLID	Hailey	75.74	358	P		P		03 33 10.8	+0.3
	baz=177								
HLID	Hailey	75.74	358	IAmb		IAmb		03 33 16.9	
	comp=Z,13nm,1.1s								
J08A	Circle Bar Ran	75.77	355	P		P		03 33 11.0	+0.4
J05D	Fort Rock, OR	75.96	353	P		P		03 33 11.8	+0.1
	baz=171								
Q52A	Bidwell	76.03	23	P		P		03 33 12.5	+0.4
	baz=205								
FLWY	Flagg Ranch	76.21	0	IAmb		IAmb		03 33 19.1	
	comp=Z,10nm,0.9s								
BCYI	Bear Canyon	76.46	358	P		P		03 33 15.1	+0.5
RSSD	Black Hills	76.53	5	P		P		03 33 14.2	-0.9
RSSD				pmax		pmax			
	comp=Z,7.0nm,1.0s								
RSSD	Black Hills	76.53	5	P		P		03 33 14.2	-0.9
SYO	Syowa Base	76.54	170	⇓/P		P		03 33 13.0	-1.7
SYO	Syowa Base	76.54	170	⇓*e*P		P		03 33 14.2	-0.5
I04A	Tendick Farm,	76.60	352	P		P		03 33 14.8	-0.4
	baz=170								
P52A	Corning	76.68	23	P		P		03 33 15.7	0.0
	baz=205								
P52A	Corning	76.68	23	IAmb		IAmb		03 33 24.7	
	comp=Z,24nm,1.2s								
R57A	Stanardsville	76.74	26	P		P		03 33 15.6	-0.5
	baz=208								
MCMT	McKenzie Canyo	76.97	359	P		P		03 33 17.6	0.0
I05D	Terrebonne, OR	77.02	353	P		P		03 33 17.4	-0.2
	baz=171								
ECSD	ERO1 Data Cent	77.03	11	P		P		03 33 17.3	-0.4
	baz=193								
BMO	Blue Mountains	77.17	356	IAmb		IAmb		03 33 24.6	
	comp=Z,13nm,1.4s								
P54A	Burton	77.21	24	P		P		03 33 19.3	+0.5
	baz=206								
O52A	Adamsville	77.22	23	P		P		03 33 18.5	-0.2
	baz=205								
RLMT	Red Lodge	77.27	1	P		P		03 33 18.4	-0.8
	baz=182								
P55A	Reedsville	77.35	24	P		P		03 33 19.2	-0.3
	baz=207								
H04D	Lebanon	77.36	352	P		P		03 33 22.3	+2.9
	baz=170								
MCWV	Mont Chateau	77.48	24	P		P		03 33 22.4	+2.2
	baz=207								
BOZ	Bozeman (W)	77.72	360	P		P		03 33 21.1	-0.5
	baz=180								
I37A	Lemond, Waseca	77.87	13	P		P		03 33 21.8	-0.5
I37A				IAmb		IAmb		03 33 28.5	
	comp=Z,16nm,0.9s								
G05D	Wamic, OR	77.91	353	P		P		03 33 23.3	+0.8
	baz=171								
P57A	Homestead Farm	77.98	26	P		P		03 33 23.1	+0.1
	baz=208								
N53A	Lisbon	78.17	23	P		P		03 33 24.8	+0.8
	baz=206								
N54A	Moraine State	78.59	24	P		P		03 33 26.5	+0.1
	baz=206								
O57A	Amberson	78.75	26	P		P		03 33 27.6	+0.3
	baz=208								
HRY	Holter Researc	78.84	360	P		P		03 33 28.5	+0.7
MSO	Missoula	78.99	358	P		P		03 33 28.7	+0.1
	baz=178								
N56A	West Decatur	79.14	25	P		P		03 33 30.3	+0.9
	baz=208								
SPMN	Marine on St.	79.15	13	P		P		03 33 32.3	+3.0
	baz=196								
E04D	Cinebar	79.34	352	P		P		03 33 29.8	-0.6
	baz=170								
ERPA	Erie	79.62	23	P		P		03 33 34.6	+2.6
	baz=206								
F36A	Milaca	79.63	13	P		P		03 33 31.8	-0.2
F36A				IAmb		IAmb		03 33 38.0	
	comp=Z,18nm,0.9s								
M56A	Emporium	79.68	25	P		P		03 33 32.8	+0.5
	baz=208								
N59A	State Game Lan	80.06	27	P		P		03 33 34.3	-0.2
	baz=210								
MAW	Mawson	80.11	178	P		P		03 33 34.2	-0.2
	comp=Z,7.3nm,0.9s,baz=189,slow=6.9,SNR=12								
MAW				LR		LR		04 06 15.5	
	comp=Z,220nm,18.9s,baz=226,slow=34								
MAW	Mawson	80.11	178	P		P		03 33 33.8	-0.6
MAW				pmax		pmax			
	comp=Z,4.0nm,1.2s								
MAW	Mawson	80.11	178	P		P		03 33 33.8	-0.6
EGMT	Eagleton	80.16	1	P		P		03 33 35.6	+0.8
	baz=181								
L55A	Hinsdale	80.21	24	P		P		03 33 35.5	+0.3
	baz=208								
D03D	Eldon	80.37	352	P		P		03 33 36.7	+0.8
	baz=170								
L56A	Greenwood	80.47	25	P		P		03 33 35.1	-1.6
	baz=208								
NEW	Newport	80.56	356	P		P		03 33 37.4	+0.4
	baz=175								
NEW	Newport	80.56	356	P		P		03 33 36.7	-0.3
NEW				pmax		pmax			
	comp=Z,23nm,1.4s								
NEW	Newport	80.56	356	P		P		03 33 36.7	-0.3
NEW				IAmb		IAmb		03 33 46.7	
	comp=Z,23nm,1.4s								
AGMN	Agassiz Nation	81.60	10	P		P		03 33 41.8	-0.6
	baz=193								
J60A	Lant Hill Farm	82.95	27	P		P		03 33 49.9	+0.2
	baz=211								
I59A	Olmsteadville	83.25	26	P		P		03 33 50.8	-0.4
	baz=211								
H57A	Richville	83.28	25	P		P		03 33 51.3	+0.1
	baz=210								
ULM	Lac du Bonnet	83.50	10	P		P		03 33 51.4	-0.9
	comp=Z,2.8nm,0.9s,baz=296,slow=10,SNR=2.6								
ULM				LR		LR		04 07 07.6	
	comp=Z,99nm,18.6s,baz=174,slow=33								
ULM	Lac du Bonnet	83.50	10	P		P		03 33 51.4	-0.9
ULM				pmax		pmax			
	comp=Z,60nm,2.0s								
ULM	Lac du Bonnet	83.50	10	IAmb		IAmb		03 34 01.0	
	comp=Z,60nm,1.9s								
I60A	Shoreham	83.52	27	P		P		03 33 51.7	-0.8
	baz=211								
J62A	Henniker	83.56	28	P		P		03 33 53.0	+0.2
	baz=213								
H58A	Gabriels	83.67	26	P		P		03 33 53.1	-0.2
	baz=211								
LONY	Lake Ozonia	83.70	25	P		P		03 33 53.3	-0.2
	baz=210								
LONY	Lake Ozonia	83.70	25	P		P		03 33 53.4	-0.2
J63A	Strafford	83.90	28	P		P		03 33 55.1	+0.6
	baz=213								
G57A	Newington	83.97	25	P		P		03 33 55.1	+0.3
	baz=210								
I61A	Oroboro, Fairl	84.00	27	P		P		03 33 55.6	+0.6
	baz=212								
H59A	Cadyville	84.05	26	P		P		03 33 55.2	0.0
	baz=211								
I62A	Tamworth	84.30	28	P		P		03 33 56.7	+0.1
	baz=213								
G58A	Ormstown	84.35	25	P		P		03 33 56.6	-0.2
	baz=211								
H60A	Morristown	84.35	27	P		P		03 33 56.7	-0.1
	baz=212								
H62A	Milan	84.95	28	P		P		03 34 00.4	+0.5
	baz=213								
I64A	Boothbay	85.02	29	P		P		03 34 01.7	+1.5
	baz=214								
E56A	St. Veronique	85.20	24	P		P		03 34 01.2	+0.2
	baz=210								
D55A	Sainte-Anne-du	85.46	24	P		P		03 34 01.7	-0.6
	baz=210								
E58A	La Victoria	85.68	25	P		P		03 34 03.4	0.0
	baz=211								
D56A	ZEC Mazanza, M	85.73	24	P		P		03 34 03.3	-0.4
	baz=210								
STKA	Stephens Creek	86.03	235	P		P		03 34 06.0	+0.2
	comp=Z,4.2nm,0.7s,baz=133,slow=2.3,SNR=5.7								
STKA	Stephens Creek	86.03	235	P		P		03 34 06.0	+0.2
STKA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
STKA	Stephens Creek	86.03	235	IAmb		IAmb		03 34 10.2	
	comp=Z,2.1nm,1.0s								
CTAO	Charters Tower	89.37	247	P		P		03 34 22.2	+0.2
CTAO				pmax		pmax			
	comp=Z,18nm,0.5s								
CTAO	Charters Tower	89.37	247	P		P		03 34 22.2	+0.2
YKA	Yellowknife Ar	94.69	358	LR		LR		04 12 23.6	
	comp=Z,273nm,19.3s,baz=0.0,slow=32								
SCHQ	Schefferville	94.99	24	LR		LR		04 12 22.5	
	comp=Z,51nm,21.4s,baz=22,slow=32								
ASAR	Alice Springs	96.43	237	P		P		03 34 53.5	-1.0
	comp=Z,0.9nm,0.8s,baz=138,slow=4.5,SNR=6.2								
ASAR				LR		LR		04 13 49.0	
	comp=Z,88nm,19.1s,baz=126,slow=33								
ASAR	Alice Springs	96.43	237	P		P		03 34 53.2	-1.4
ASAR	Alice Springs	96.43	237	P		P		03 34 53.2	-1.4
WRA	Warramunga Arr	98.46	240	P		P		03 35 01.7	-2.1
	comp=Z,0.5nm,0.8s,baz=139,slow=4.1,SNR=3.6								
WRA				LR		LR		04 16 31.8	
	comp=Z,114nm,18.0s,baz=200,slow=34								
TORD	Torodi Ar. Bea	116.23	91	PKP		PKPdf		03 40 07.3	-1.6
	comp=Z,1.1nm,0.8s,baz=305,slow=2.5,SNR=5.9								
TORD	Torodi Ar. Bea	116.23	91			PKPdf		03 40 06.8	-2.1
FETA	Feichten	134.13	54	*e*P		PKiKP		03 40 46.1	+2.4
	comp=Z,5.6nm,1.1s								
RETA	Reutte	134.18	53	*e*P		PKiKP		03 40 46.4	+2.7
	comp=Z,5.0nm,1.4s								
MOTA	Moosalm	134.40	54	*e*P		PKPdf		03 40 42.1	-0.8
	comp=Z,4.8nm,1.0s								
SQTA	Sankt Quirin	134.47	54	*e*P		PKiKP		03 40 45.9	+1.6
	comp=Z,3.8nm,1.0s								
WTTA	Wattenberg	134.76	54	*e*P		PKiKP		03 40 47.8	+2.7
	comp=Z,4.3nm,0.8s								
CN2	Changchun	134.79	301	*e*PKP		PKPdf		03 40 39.8	-3.7
ABTA	Abfaltersbach	135.34	54	*e*P		PKiKP		03 40 48.5	+2.4
	comp=Z,2.8nm,1.1s								
CLL	Collm	135.63	48	*e*PKiKP		PKPdf		03 40 43.0	-1.8
KHC	Kasperske Hory	136.08	51	*e*PKP		PKPdf		03 40 44.5	-1.3
KHC	Kasperske Hory	136.08	51	*e*PKiKP		PKPdf		03 40 44.5	-1.3
MYKA	Terra Mystica	136.11	55	*e*P		PKiKP		03 40 48.3	+0.7
	comp=Z,2.9nm,1.0s								
BRG	Berggiesshubel	136.25	48	*e*PKP		PKPdf		03 40 43.8	-2.2
	comp=Z,0.7nm,0.5s								
BRG	Berggiesshubel	136.25	48	*e*PKiKP		PKPdf		03 40 43.8	-2.2
BRG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
CONA	Conrad Observa	137.62	53	*e*P		PKPdf		03 40 47.6	-1.2
	comp=Z,3.2nm,1.5s								
NJ2	Nanjing	137.94	283	*e*PKP		PKPdf		03 40 50.1	+0.4
FINES	FINESS Array B	140.13	31	PKP		PKPdf		03 40 52.8	0.0
	comp=Z,1.4nm,0.8s,baz=186,slow=34,SNR=1.7								
FINES	FINESS Array B	140.13	31	PKiKP		PKPdf		03 40 52.6	-0.2
FINES

CFR	**Carcaliu**	**146.29**	**56**	⇓PKP2	**PKPdf**	**03 41 04.5**	**+0.4**
MILM	**Milestii Mici**	**146.47**	**53**	⇑P	**PKPdf**	**03 41 04.8**	**+0.4**
XAN	**Xi'an**	**146.51**	**284**	PKPbc	**PKiKP**	**03 41 10.3**	**+1.0**
XAN				AMB	AMB		
	comp=Z,350nm,6.5s						
GYA	**Guiyang**	**146.56**	**270**	*e*P	**PKiKP**	**03 41 11.3**	**+1.5**
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
TIRR	**Tirgusor**	**146.57**	**57**	⇓P	**PKPbc**	**03 41 05.8**	**-0.4**
TIRR	**Tirgusor**	**146.57**	**57**	⇓PKP2	**PKPbc**	**03 41 05.8**	**-0.4**
JURR	**Jurilovca**	**146.86**	**57**	⇓P	**PKiKP**	**03 41 12.8**	**+3.2**
SONM	**Songino Array**	**147.76**	**309**	PKPbc	**PKPdf**	**03 41 06.9**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=165,slow=0.9,SNR=13						
SONM	**Songino Array**	**147.76**	**309**	PKIKP	**PKPdf**	**03 41 07.0**	**+0.3**
SONM	**Songino Array**	**147.76**	**309**	PKPdf	**PKPdf**	**03 41 07.0**	**+0.3**
ELL	**Elmali**	**147.92**	**71**	PKP2	**PKPbc**	**03 41 10.5**	**+0.1**
ELL	**Elmali**	**147.92**	**71**		**PKPbc**	**03 41 10.5**	**+0.1**
OBN	**Obninsk**	**148.06**	**35**	*e*PKIKP	**PKPdf**	**03 41 07.9**	**+1.2**
OBN				*i*		03 41 13.3	
OBN				*e*		03 44 36.8	
OBN				*e*		03 47 59.4	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN				pmax	pmax		
	comp=Z,17nm,0.8s						
CMAR	**Chiang Mai Arr**	**149.48**	**250**	PKPbc	**PKPbc**	**03 41 12.8**	**-1.9**
	comp=Z,2.6nm,0.4s,baz=179,slow=1.8,SNR=8.6						
CMAR	**Chiang Mai Arr**	**149.48**	**250**	PKP2	**PKPbc**	**03 41 13.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**149.48**	**250**	PKPbc	**PKPbc**	**03 41 13.4**	**-1.3**
LPSR	**Galich'ya Gora**	**150.57**	**38**	*e*PKIKP	**PKPbc**	**03 41 14.4**	**-1.9**
LPSR				*e*		03 41 19.8	
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRTR	**Keskin Array B**	**150.88**	**66**	PKPbc	**PKPbc**	**03 41 15.7**	**-2.0**
	comp=Z,7.5nm,1.1s,baz=204,slow=2.7,SNR=21						
BRTR	**Keskin Array B**	**150.88**	**66**	PKIKP	**PKPbc**	**03 41 15.4**	**-2.3**
BRTR	**Keskin Array B**	**150.88**	**66**	PKPbc	**PKPbc**	**03 41 15.3**	**-2.3**
VSR	**Storozhevoye**	**151.40**	**40**	*e*PKIKP	**PKPbc**	**03 41 16.4**	**-1.9**
VSR				*e*		03 41 21.6	
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DIKM	**Dikmen**	**151.92**	**61**	⇑P	**PKiKP**	**03 41 23.4**	**+3.2**
GTA	**Gaotai**	**153.99**	**294**	*e*PKPbc	**PKPbc**	**03 41 24.0**	**-0.7**
GTA				PKPab	**sPKPab**	**03 41 50.0**	**+6.3**
ZALV	**Zalesovo Beam**	**155.67**	**337**	PKP	**PKPdf**	**03 41 16.3**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=309,slow=40,SNR=1.2						
ZALV				PKPab	**PKPab**	**03 41 42.8**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=17,slow=1.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**155.67**	**337**	PKP2	**PKPab**	**03 41 44.0**	**-0.5**
ZALV						04 41 15.8	
ZALV	**Zalesovo Beam**	**155.67**	**337**	PKPdf	**PKPdf**	**03 41 15.8**	**-2.4**
ZALV					**PKPab**	**03 41 44.0**	**-0.5**
WMQ	**Urumqi**	**161.33**	**313**	*e*PKP	**PKPdf**	**03 41 25.6**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,100nm,4.3s						
WMQ				LR	LR		
	comp=Z,180nm,26.9s						
ABKAR	**Akbulak array**	**162.01**	**19**		**PKPdf**	**03 41 25.9**	**0.0**
MKAR	**Makanchi Array**	**162.35**	**328**	PKP	**PKPdf**	**03 41 24.1**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=70,slow=18,SNR=2.6						
MKAR				PKPab	**PKPab**	**03 42 13.4**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=29,slow=3.0,SNR=4.5						
MKAR	**Makanchi Array**	**162.35**	**328**	PKP2	**PKPab**	**03 42 13.3**	**-0.5**
MKAR						04 41 23.6	
MKAR	**Makanchi Array**	**162.35**	**328**	PKPdf	**PKPdf**	**03 41 23.6**	**-2.8**
MKAR					**PKPab**	**03 42 13.2**	**-0.5**
KSH	**Kashi**	**170.86**	**322**	PKP	**PKPdf**	**03 41 34.5**	**+1.2**

*JMA **13** 03:24:28.2±0.1, 34°.84N×134°.93E, h418km, M3.6*
*IDC **13** 03:24:30.1±1.2, 34°.81N×135°.03E, h401km±12km, mb2.9/6, mb1 3.1/10, mb1mx2.9/38, mbtmp3.7/10, Error ellipse: s-maj=22.6km s-min=19.0km az=99.0*

ISC 13 03:24:29.8±0.9, **34°.8N**±0°.1×**135°.06E**±0°.08, **h400**km, **n19,** σ1§**12**/20, **mb3.1**/6, **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.58**	**29**	P	**Pn**	**03 25 20.4**	**+0.7**
JTNC	**Tanabenakahech**	**1.06**	**154**	P	**Pn**	**03 25 21.9**	**+0.7**
JAI	**Aioi**	**1.10**	**207**	P	**Pn**	**03 25 21.7**	**+0.3**
JMN	**Monobe**	**1.43**	**223**	P	**Pn**	**03 25 23.2**	**+0.4**
JNY	**Yasuok**	**2.37**	**75**	P	**Pn**	**03 25 29.6**	**+1.3**
JYN	**Shimob**	**2.95**	**75**	P	**Pn**	**03 25 33.8**	**+1.2**
MAT	**Matsushiro**	**3.11**	**55**	P	**Pn**	**03 25 35.1**	**+1.2**
MJAR	**Matsushiro Arr**	**3.11**	**55**	P	**Pn**	**03 25 35.2**	**+1.3**
	0.3nm,0.3s,baz=231,slow=7.5,SNR=35						
JNU	**Nakatsue**	**3.85**	**246**	P	**Pn**	**03 25 40.2**	**-0.3**
	3.0nm,0.3s,baz=27,slow=4.3,SNR=19						
JYT	**Yasato**	**4.43**	**69**	P	**Pn**	**03 25 46.8**	**+0.8**
JHO	**Hitachi**	**4.84**	**66**	P	**Pn**	**03 25 49.8**	**-0.4**
JHO				*e*S	**S**	**03 26 52.3**	**-3.2**
KSRS	**Korea Array**	**6.36**	**297**	P	**Pn**	**03 26 05.9**	**-0.4**
	0.8nm,0.3s,baz=116,slow=12,SNR=9.6						
USRK	**Ussuriysk Ar.**	**9.71**	**347**	P	**Pn**	**03 26 44.3**	**+0.1**
	baz=160,slow=10,SNR=12						
MKAR	**Makanchi Array**	**41.00**	**304**	P	**P**	**03 31 37.2**	**+1.4**
	0.4nm,0.7s,baz=92,slow=8.7,SNR=2.6						
ILAR	**Eielson Array**	**54.13**	**31**	P	**P**	**03 33 14.7**	**-0.2**
	0.2nm,0.4s,baz=246,slow=5.8,SNR=6.9						
WRA	**Warramunga Arr**	**54.42**	**181**	P	**P**	**03 33 18.0**	**+0.5**
	0.2nm,0.7s,baz=0.5,slow=7.7,SNR=5.3						
ARCES	**ARCESS Array B**	**64.24**	**338**	P	**P**	**03 34 22.7**	**-0.6**
	4.0nm,0.9s,baz=58,slow=10,SNR=4.6						
FINES	**FINESS Array B**	**68.33**	**331**	P	**P**	**03 34 48.8**	**-0.2**
	1.2nm,0.8s,baz=57,slow=7.0,SNR=7.8						
NOA	**NORSAR Array B**	**74.17**	**335**	P	**P**	**03 35 23.4**	**-0.1**
	0.4nm,0.6s,baz=64,slow=18,SNR=2.6						

IDC 13 03:29:27.5±5.4, **32°.84S**×**111°.30W**, **h0**km, **mb3.6**/3, **mb1 4.1**/3, **mb1mx3.7**/25, **mbtmp3.6**/3, **Error ellipse: s-maj=281.5km s-min=71.6km az=67.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**27.01**	**101**	T	T	04 03 28.8	
	baz=262,slow=75,SNR=46						
H03S3	**Juan Fernandez**	**27.02**	**101**	T	T	04 03 28.5	
	baz=262,slow=75,SNR=51						
H03S1	**Juan Fernandez**	**27.02**	**101**	T	T	04 03 30.9	
	baz=262,slow=75,SNR=52						
H03N2	**Juan Fernandez**	**27.05**	**100**	T	T	04 03 25.9	
	baz=267,slow=74,SNR=53						
H03N3	**Juan Fernandez**	**27.06**	**100**	T	T	04 03 27.2	
	baz=267,slow=74,SNR=43						
H03N1	**Juan Fernandez**	**27.07**	**100**	T	T	04 03 27.4	
	baz=267,slow=74,SNR=50						
TXAR	**Lajitas Array**	**62.26**	**8**	P	P	03 39 51.7	+0.4
	0.3nm,0.9s,baz=180,slow=4.2,SNR=4.1						
NVAR	**Mina Array Bea**	**71.21**	**354**	P	P	03 40 49.0	+0.6
	0.8nm,0.8s,baz=165,slow=7.5,SNR=7.1						
PDAR	**Pinedale Array**	**75.26**	**1**	P	P	03 41 10.9	-1.3
	0.6nm,1.0s,baz=150,slow=6.3,SNR=3.7						
BRTR	**Keskin Array B**	**151.05**	**66**	PKPbc	PKPbc	03 49 22.4	-0.1
	0.6nm,0.5s,baz=243,slow=5.4,SNR=4.6						

*IDC **13** 03:59:54.6±4.6, 5°.49S×147°.52E, h202km±47km, mb3.4/3, mb1 3.5/5, mb1mx3.2/31, mbtmp3.9/5, Error ellipse: s-maj=78.0km s-min=27.2km az=134.0*

ISC 13 03:59:51.4±1.4, **5°.3S**±0°.1×**147°.4E**±0°.3, **h170**km, **n6,** σ1§**68**/7, **mb3.6**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.09**	**183**	P	**Pn**	**04 00 55.6**	**+2.2**
	3.7nm,0.3s,baz=344,slow=7.8,SNR=3.4						
PMG				S	**Sn**	**04 01 39.5**	**-2.5**
	7.8nm,0.3s,baz=15,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	**19.32**	**220**	P	**P**	**04 04 03.7**	**-0.1**
	1.2nm,0.3s,baz=48,slow=12,SNR=55						
ASAR	**Alice Springs**	**22.41**	**214**	P	**P**	**04 04 36.4**	**+0.1**
	1.5nm,0.7s,baz=48,slow=8.6,SNR=17						
FITZ	**Fitzroy Crossi**	**24.77**	**237**	P	**P**	**04 04 57.5**	**-0.1**
	4.2nm,0.4s,baz=50,slow=11,SNR=34						
ILAR	**Eielson Array**	**84.69**	**23**	P	**P**	**04 12 05.3**	**-0.5**
	0.3nm,0.8s,baz=242,slow=5.6,SNR=2.0						
TORD	**Torodi Ar. Bea**	**145.28**	**285**	PKPbc	**PKPdf**	**04 19 09.5**	**-0.5**
	0.4nm,0.4s,baz=104,slow=2.9,SNR=9.2						

IDC 13 04:17:31.9±1.9, **2°.40N**×**128°.00E**, **h0**km, **mb3.4**/3, **mb1 3.7**/4, **mb1mx3.5**/38, **mbtmp3.6**/4, **ML4.1**/1, **1D, Error ellipse: s-maj=89.8km s-min=26.2km az=62.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.60**	**135**	Pn	Pn	04 18 42.3	-0.6
	9.4nm,0.3s,baz=130,slow=17,SNR=12						
SIJI				Sn	Sn	04 19 27.8	-9.3
KCP	**Kidapawan**	**5.42**	**328**	⇓*e*P	Pb	04 19 06.8	-0.9
KCP				*i* S	Sb	04 20 19.2	+5.9
WRA	**Warramunga Arr**	**23.06**	**165**	P	P	04 22 39.5	+0.3
	0.8nm,0.6s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.54**	**168**	P	P	04 23 11.4	-0.2
	0.3nm,0.5s,baz=358,slow=8.3,SNR=7.0						
MKAR	**Makanchi Array**	**59.37**	**325**	P	P	04 27 36.2	+0.1
	0.3nm,0.6s,baz=125,slow=7.6,SNR=2.4						

*IDC **13** 04:24:10.9±8.2, 16°.70S×172°.48W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/35, mbtmp4.0/3, Error ellipse: s-maj=355.2km s-min=38.6km az=140.0*
*NEIC **13** 04:24:25.8±1.2, 15°.33S±0°.04×173°.9W±0°.1, h55km±10km, mb4.4/6, Error ellipse: s-maj=18.7km s-min=6.1km az=89.0*

ISC 13 04:24:25.0±0.9, **15°.3S**±0°.1×**173°.9W**±0°.1, **h50**km, **n14,** σ1§**14**/15, **mb4.3**/6, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.42**	**57**	Pn	**Pn**	**04 25 04.1**	**+1.8**
AFI				Sn	**Sn**	**04 25 28.5**	**-2.2**
NIUE	**Niue**	**5.34**	**136**	Pn	**Pn**	**04 25 43.0**	**+0.7**
WB0	**Warramunga Arr**	**49.40**	**257**	P	**P**	**04 33 10.3**	**+0.1**
WB0				IAmb	IAmb	04 33 24.4	
	comp=Z,7.5nm,1.3s						
WC3	**Warramunga Arr**	**49.41**	**257**	P	**P**	**04 33 09.9**	**-0.4**
WB2	**Warramunga Arr**	**49.43**	**257**	P	**P**	**04 33 09.7**	**-0.7**
WB2				IAmb	IAmb	04 33 10.3	
	comp=Z,4.2nm,1.0s						
WRA	**Warramunga Arr**	**49.44**	**257**	P	**P**	**04 33 10.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=97,slow=8.2,SNR=14						
WRA	**Warramunga Arr**	**49.44**	**257**	P	**P**	**04 33 10.2**	**-0.4**
AS31	**Alice Springs**	**49.73**	**252**	P	**P**	**04 33 13.4**	**+0.7**
ASAR	**Alice Springs**	**49.73**	**252**	P	**P**	**04 33 12.2**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=85,slow=8.0,SNR=36						
ASAR	**Alice Springs**	**49.73**	**252**	P	**P**	**04 33 12.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**57.80**	**258**	P	**P**	**04 34 10.0**	**-1.7**
QSPA	**South Pole Qui**	**74.79**	**180**	P	**P**	**04 35 59.9**	**+0.1**
QSPA				IAmb	IAmb	04 36 00.9	
	comp=Z,2.5nm,1.0s						
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**04 36 40.4**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=198,slow=5.7,SNR=4.3						
IMAR	**Indian Mountai**	**82.39**	**8**	P	**P**	**04 36 42.2**	**+1.0**

*NEIC **13** 04:36:09.3±2.2, 37°.14N±0°.03×71°.8E±0°.1, h202km±7km, mb4.0/7, Error ellipse: s-maj=13.1km s-min=3.1km az=74.0*
*IDC **13** 04:36:11.9±8.0, 37°.03N×71°.95E, h246km±91km, mb3.2/2, mb1 3.2/5, mb1mx2.8/49, mbtmp3.8/5, Error ellipse: s-maj=51.1km s-min=41.6km az=102.0*
*NNC **13** 04:36:12.5±7.1, 37°.58N×70°.46E, h0km, mb4.3, mpv3.7, Error ellipse: s-maj=69.9km s-min=49.5km az=114.0*

ISC 13 04:36:08.7±0.8, **37°.16N**±0°.05×**71°.91E**±0°.08, **h200**km, **n26,** σ1§**50**/32, **mb3.9**/6, **2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.23**	**326**	Pn	**Pn**	**04 36 50.6**	**+0.9**
GAR				Sn	**Sn**	**04 37 20.3**	**-1.4**
CHGR	**Chuyangaron**	**2.64**	**305**	Pn	**Pn**	**04 36 54.7**	**+0.5**
CHGR				Sn	**Sn**	**04 37 27.6**	**-2.2**
BTK	**Batken**	**3.02**	**344**	Pn	**Pn**	**04 37 00.5**	**+1.9**
BTK				Sn	**Sn**	**04 37 38.0**	**+0.2**
KBL	**Kabul**	**3.50**	**223**	Pn	**Pn**	**04 37 05.2**	**+0.7**
KBL				Sn	**Sn**	**04 37 47.2**	**-1.0**
NIL	**Nilore**	**3.67**	**162**	Pn	**Pn**	**04 37 07.2**	**+0.7**
NIL				Sn	**Sn**	**04 37 51.3**	**-0.5**
KK31	**Karatay Array**	**6.03**	**350**	⇓P	**Pn**	**04 37 36.8**	**+0.5**
	3.1nm,0.3s,baz=177,slow=14,SNR=49						
KK31				⇑S	**Sn**	**04 38 41.1**	**-4.6**
	13nm,0.4s,baz=182,slow=26,SNR=9.3						
KK31	**Karatay Array**	**6.03**	**350**	Pn	**Pn**	**04 37 37.0**	**+0.7**
KKAR	**Karatay Array**	**6.03**	**350**	Pn	**Pn**	**04 37 38.4**	**+2.1**
HRA	**Herat**	**8.32**	**253**	Pn	**Pn**	**04 38 06.9**	**+0.5**
MKAR	**Makanchi Array**	**12.33**	**35**	P	**P**	**04 39 00.3**	**-1.6**
	0.1nm,0.3s,baz=194,slow=10.0,SNR=1.8						
AB31	**Akbulak array**	**14.88**	**328**	⇓P	**P**	**04 39 31.6**	**+1.5**
	2.1nm,0.4s,baz=138,slow=13,SNR=63						
AB31				⇑S	S	04 42 07.3	-7.2
	1.0nm,0.5s						
ABKAR	**Akbulak array**	**14.88**	**328**	P	**P**	**04 39 32.2**	**+2.1**
AKTO	**Aktyubinsk**	**16.59**	**327**	P	**Pn**	**04 39 50.8**	**+0.8**
	1.2nm,0.3s,baz=131,slow=10,SNR=14						
AKTO				S	**S**	**04 42 50.8**	**-1.3**
	0.1nm,0.3s,baz=166,slow=3.1,SNR=2.8						
AKTO	**Aktyubinsk**	**16.59**	**327**	⇓P	**Pn**	**04 39 50.7**	**+0.8**
	3.7nm,0.4s						
ZAA0	**Zalesovo Array**	**19.02**	**24**	P	**P**	**04 40 16.4**	**+1.1**
ZAA0				IAmb	IAmb	04 40 16.8	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**19.02**	**24**	P	**P**	**04 40 16.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=205,slow=10,SNR=7.4						
ZALV	**Zalesovo Beam**	**19.02**	**24**	P	**Pn**	**04 40 16.5**	**-1.9**
ARCES	**ARCESS Array B**	**40.82**	**337**	P	**P**	**04 43 31.1**	**+0.9**
	comp=Z,3.9nm,1.0s,baz=113,slow=8.0,SNR=1.5						
FUORN	**Ofenpass-Fuorn**	**45.79**	**302**	P	P	04 44 06.9	-3.6
FUORN				IAmb	IAmb	04 44 20.3	
	comp=Z,5.6nm,1.2s						
TOA0	**Torodi Ar. Sit**	**66.46**	**269**	P	**P**	**04 46 35.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**66.46**	**269**	P	**P**	**04 46 35.3**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=50,slow=6.7,SNR=6.0						
TOLK	**Toolik Lake Re**	**70.10**	**15**	P	**P**	**04 46 59.5**	**+0.7**
TOLK				IAmb	IAmb	04 47 11.8	
	comp=Z,6.1nm,1.2s						
IMAR	**Indian Mountai**	**71.32**	**18**	P	**P**	**04 47 06.4**	**+0.3**
INK	**Inuvik**	**73.14**	**10**	P	**P**	**04 47 18.1**	**+1.3**
INK				IAmb	IAmb	04 47 36.6	
	comp=Z,8.2nm,1.3s						
PPLA	**Purkeypile**	**74.23**	**19**	P	**P**	**04 47 23.8**	**+0.4**
RIDG	**Independent Ri**	**75.29**	**16**	P	**P**	**04 47 29.1**	**-0.3**
RIDG				IAmb	IAmb	04 47 39.7	
	comp=Z,3.3nm,1.2s						

*HVO **13** 04:43:51.1±1.0, 19°.16N±0°.02×155°.60W±0°.02, h5km±8km, ML4.0/41, Error ellipse: s-maj=2.7km s-min=2.1km az=181.0*

NEIC 13 04:43:49.5±1.1, **19°.14N**±0°.08×**155°.60W**±0°.07, **h27**km±10km, **Error ellipse: s-maj=14.1km s-min=6.1km az=214.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.10**	**352**		Pb	04 43 54.8	0.0
AIN	**Ainahou**	**0.27**	**31**	Pg	Pb	04 43 56.3	-0.2
HLP	**Hilina Pali**	**0.32**	**61**		Pn	04 43 57.9	-0.6
HLP					Sb	04 44 02.5	+0.3
MWH	**Moku'aweowe**	**0.34**	**1**	Pg	Pb	04 43 57.3	-0.5
MWH					Sb	04 44 02.1	-1.3
SDHHI	**Sand Hill**	**0.38**	**50**	Pg	Pb	04 43 58.4	+0.3
SDHHI				Sg	Sb	04 44 03.9	0.0
WRMHI	**West Rim**	**0.39**	**47**	Pg	Pb	04 43 58.4	+0.3
WRMHI				Sg	Sb	04 44 04.4	+0.4
MLOA	**Mauna Loa Obse**	**0.39**	**3**	Pg	Pb	04 43 58.1	-0.4
RIM	**Rim**	**0.40**	**51**	Pg	Pb	04 43 58.7	+0.3
RIM				Sg	Sb	04 44 04.3	0.0
UWE	**Uwekahuna**	**0.40**	**46**	Pg	Pb	04 43 58.7	+0.3
UWE				Sg	Sb	04 44 04.6	+0.2
MLH	**Mauna Loa**	**0.40**	**30**	Pg	Pb	04 43 58.9	+0.3
MLH				Sg	Sb	04 44 04.9	+0.3
NPH	**North Pit**	**0.40**	**48**	Pg	Pb	04 43 58.6	+0.2
NPH				Sg	Sb	04 44 04.2	-0.3
KKO	**Keanakako`i**	**0.41**	**51**	Pg	Pb	04 43 58.9	+0.4
KKO				Sg	Sb	04 44 04.4	-0.1
OBL	**Observatory Le**	**0.41**	**47**	Pg	Pb	04 43 58.8	+0.4
OBL				Sg	Sb	04 44 04.5	+0.1
UWB	**Uwekahuna B**	**0.41**	**47**	Pg	Pb	04 43 58.7	+0.1
UWB				Sg	Sb	04 44 04.4	-0.3
BYL	**Byron's Ledge**	**0.42**	**50**	Pg	Pb	04 43 59.0	+0.3
BYL				Sg	Sb	04 44 04.7	-0.1
SBLHI	**Steaming Bluff**	**0.42**	**48**	Pg	Pb	04 43 59.0	+0.3
SBLHI				Sg	Sb	04 44 04.3	-0.6
HATHI	**Halema'uma'u T**	**0.42**	**49**	Pg	Pb	04 43 59.1	+0.3
HATHI				Sg	Sb	04 44 04.7	-0.3
PUH	**Pauahi**	**0.43**	**58**	Pg	Pb	04 43 59.1	+0.3
PUH				Sg	Sb	04 44 04.9	-0.2
HMH	**Humu'ula Sheep**	**0.47**	**14**	Pg	Pb	04 44 00.2	+0.5
HMH				Sg	Sb	04 44 06.9	+0.4
STCH	**Steam Cracks**	**0.51**	**62**	Pg	Pb	04 44 00.1	0.0
KHLU	**Kahalu`u**	**0.53**	**328**	Pg	Pb	04 44 00.6	+0.2
NPOC	**North of Pu'u**	**0.53**	**62**	Pg	Pb	04 44 00.6	+0.2
NPOC				Sg	Sb	04 44 07.3	-0.4
JCUZ	**Jacuzzi**	**0.53**	**63**	Pg	Pb	04 44 00.0	-0.1
JCUZ				Sg	Sb	04 44 07.4	-0.4
HUH	**Hualalai**	**0.58**	**338**	Pg	Pn	04 44 02.1	-0.2
POHA	**Pohakuloa**	**0.61**	**6**	Pg	Pb	04 44 02.0	+0.1
POHA				Sg	Sb	04 44 10.8	+0.4
KKH	**Kailua Kona**	**0.65**	**322**	Pg	Pb	04 44 02.4	+0.1
HLK	**Haleakala**	**1.72**	**339**		Pn	04 44 17.3	-0.6
HON	**Honolulu**	**3.13**	**314**	Pn	Pn	04 44 36.7	-0.4
KIP	**Kipapa**	**3.21**	**315**	Pn	Pn	04 44 37.4	-0.8
OPA	**Opana**	**3.39**	**319**	Pn	Pb	04 44 45.6	-3.4

*IDC **13** 04:58:22.8±1.2, 5°.19N×82°.73W, h0km, mb4.1/9, mb1 4.4/12, mb1mx4.2/27, mbtmp4.2/12, ML3.4/2, MS4.0/19, Ms1 4.0/19, ms1mx3.9/38, Error ellipse: s-maj=33.4km s-min=18.7km az=36.0*
*UCR **13** 04:58:24.6±1.8, 5°.19N×82°.63W, h35km±67km, MW4.7, mb4.6(NEIC)*
*NEIC **13** 04:58:24.9±2.5, 5°.16N±0°.04×82°.69W±0°.08, h10km±1km, mb4.6/128, Error ellipse: s-maj=14.2km s-min=6.7km az=268.0*
*UPA **13** 04:58:24.8±3.8, 5°.47N×82°.70W, h0km±30km, MW4.6*
*INET **13** 04:58:27.5, 5°.78N×81°.81W, h8km, ML4.7*
*GCMT **13** 04:58:28.9±0.2, 5°.22N±0°.01×82°.64W±0°.01, h21km±1km, MW5.0/105, Moment Tensor Solution. s46,c60; s105,c171; Duration: 0 Moment source: Mo 10¹⁶Nm; Mrr0.03±.13; Mθθ-0.10±.10; Mϕϕ0.06±.12; Mrθ1.30±.20; Mrϕ4.43±.10; Mθϕ0.36±.20; Best double couple: Mo4.62900×10¹⁶ NP1:ϕs359.00000°, δ74.00000°, λ176.00000°. NP2:ϕs90.00000°, δ86.00000°, λ16.00000°. Principal axes: T 4.7110, Plg14.0000°, Azm316.0000°; N -0.1630, Plg73.0000°, Azm103.0000°; P -4.5480, Plg9.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 04:58:24.8±0.5, **5°.22N**±0°.05×**82°.64W**±0°.05, **h12**km, **n265,** σ1§**99**/229, **mb4.5**/57, **MS4.0**/12, **8C-2D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**2.75**	**40**	*e*P	**Pn**	**04 59 05.8**	**-3.0**
CACAO				*e*S	**Sn**	**04 59 37.7**	**-4.3**
GMAL	**Guarumal, Vera**	**2.89**	**29**	*e*P	**Pn**	**04 59 08.0**	**-2.7**
GMAL				*e*S	**Sn**	**04 59 41.5**	**-3.9**
MARI3	**Mariato, Verag**	**2.92**	**34**	*e*P	**Pn**	**04 59 08.8**	**-2.3**
TOSI3	**Tonosi**	**3.08**	**45**	*e*P	**Pn**	**04 59 10.0**	**-3.3**
STIA3	**Santiago, Vera**	**3.31**	**30**	⇑*e*S	**Sn**	**04 59 52.9**	**-2.8**
CDITO	**Canoas**	**3.34**	**356**	⇑*i*P	**Pn**	**04 59 13.9**	**-3.0**
CDITO				*e*S	**Sn**	**04 59 51.4**	**-5.2**
PTJ1	**Puerto Jimnez**	**3.36**	**349**	*e*P	**Pn**	**04 59 14.7**	**-2.5**
PTJ1				*e*S	**Sn**	**04 59 54.8**	**-2.3**
PTJ1	**Puerto Jimnez**	**3.36**	**349**	*e*P	**Pn**	**04 59 14.8**	**-2.5**
PTJ1				*e*S	**Sn**	**04 59 56.3**	**-0.8**
AZU	**Azuero**	**3.47**	**42**	*e*P	**Pn**	**04 59 17.0**	**-1.7**
AZU	**Azuero**	**3.47**	**42**	*e*P	**Pn**	**04 59 16.4**	**-2.4**
BCO2	**Palmira**	**3.48**	**2**	⇑*e*P	**Pn**	**04 59 16.7**	**-2.3**
BCO2				*e*S	**Sn**	**04 59 54.8**	**-5.5**
BRU2	**Volcan**	**3.55**	**359**	⇑*i*P	**Pn**	**04 59 17.4**	**-2.6**
BRU2				*e*S	**Sn**	**04 59 59.3**	**-2.7**
BRU2	**Volcan**	**3.55**	**359**	*e*P	**Pn**	**04 59 17.7**	**-2.3**
BRU2				*e*S	**Sn**	**04 59 59.7**	**-2.3**
RIOS	**Rincon, Osa

CPAS1	Pasto	6.65	127	eP		Pn	05 00 02.1	-0.6
MARP	Paez Belalcaza	7.07	109	eP		Pn	05 00 09.0	+0.5
ESPN	Las Esperanzas	7.12	347	eP		Pn	05 00 06.5	-2.4
ESPN	Las Esperanzas	7.12	347	Pn		Pn	05 00 07.3	-1.7
ACON	Acoyapa	7.16	340	eP		Pn	05 00 07.1	-2.3
ACON	Acoyapa	7.16	340	Pn		Pn	05 00 08.0	-1.4
LCBC	Los crdobas,	7.20	59	eP		Pn	05 00 14.4	+4.5
GUY2C	Guyana, Caldas	7.24	90	eP		Pn	05 00 11.5	+0.5
ANIL	Santa Ana	7.25	95	eP		Pn	05 00 11.8	+0.9
TOLC	Tolima	7.32	95	eP		Pn	05 00 11.6	-0.3
ORTC	Ortega, Tolima	7.48	100	eP		Pn	05 00 14.9	+0.9
UREC	San Jos de Ur	7.50	70	eP		Pn	05 00 15.6	+1.5
MOTC	Monteria, Cord	7.77	63	eP		Pn	05 00 22.0	+4.2
MONA	Monteria	7.77	63	eP		Pn	05 00 19.7	+1.8
MONA				eS		Sn	05 01 42.5	-3.5
ZARC	Zaragoza, Cauc	8.06	73	eP		Pn	05 00 22.3	+0.6
ROSC	El Rosal	8.29	92	Pn		Pn	05 00 29.0	+3.6
	12nm,0.3s,baz=72,slow=5.1,SNR=17							
ROSC				Sn		Sn	05 02 00.3	+1.0
	baz=189,slow=21,SNR=1.4							
ROSC				LR		LR	05 03 27.0	
	comp=Z,397nm,20.1s,baz=75,slow=36							
ROSC	El Rosal	8.29	92	Pn		Pn	05 00 28.8	+3.4
MATN	Matagalpa	8.32	337	Pn		Pn	05 00 24.2	-1.3
CRIN	San Cristobal	8.62	330	Pn		Pn	05 00 29.2	-0.3
SJCC	San Jacinto, C	8.73	57	$\parallel$iP		Pn	05 00 32.2	+1.1
SJCC				eS		Sn	05 02 09.3	-0.3
VILC	Villavicencio,	8.98	97	eP		Pn	05 00 37.6	+3.0
BRRC	Barranca, Sant	9.07	78	eP		Pn	05 00 39.2	+3.5
MACC	Macarena, Meta	9.29	109	eP		Pn	05 00 41.0	+2.3
OCAC	Ocana	9.73	72	eP		Pn	05 00 47.3	+2.4
TGUH	Tegucigalpa,Un	9.90	333	Pn		Pn	05 00 48.1	+0.9
SNET	Serv Nac Est T	10.63	323	Pn		Pn	05 00 60.0	+2.8
MTO3	Montecristo	11.27	325	Pn		Pn	05 01 08.9	+2.9
ESQI	Esquipulas	11.39	325	Pn		Pn	05 01 11.3	+3.7
APG	El Apazote	12.40	322	Pn		Pn	05 01 25.5	+4.0
	1.8nm,0.3s,baz=213,slow=3.9,SNR=14							
APG				LR		LR	05 04 19.1	
	comp=Z,91nm,19.1s,baz=124,slow=29							
SDV	Santo Domingo	12.46	72	Pn		Pn	05 01 23.7	+1.4
	0.6nm,0.3s,baz=240,slow=11,SNR=9.5							
SDV				LR		LR	05 06 01.2	
	comp=Z,552nm,19.4s,baz=238,slow=36							
SDV	Santo Domingo	12.46	72	Pn		Pn	05 01 24.0	+1.8
SDV	Santo Domingo	12.46	72	eP		Pn	05 01 24.1	+1.8
RTAL	Retalhuleu	12.84	317	Pn		Pn	05 01 31.6	+4.2
ATAH	Atahualpa	12.98	161	LR		LR	05 06 04.4	
	comp=Z,2μm,19.9s,baz=336,slow=36							
HUEH	Huehuetenango	13.29	320	Pn		Pn	05 01 37.7	+4.0
PETF	Flores	13.61	329	Pn		Pn	05 01 42.1	+4.3
CCIG	Comitan	14.41	320	P		P	05 01 55.4	-0.5
TEIG	Tepich	15.89	340	LR		LR	05 07 46.9	
	comp=Z,793nm,19.2s,baz=167,slow=36							
CZSB	Cruzeiro do Su	16.24	142	eP		Pn	05 02 11.7	-1.3
SDDR	Presa de Saban	17.60	38	P		P	05 02 32.8	+1.7
BANI	BANI	17.76	41	P		P	05 02 34.5	+1.6
NNA	Nana	18.04	161	LR		LR	05 08 57.9	
	comp=Z,444nm,19.4s,baz=318,slow=35							
PCRV	Puerto La Cruz	18.50	73	P		Pn	05 02 43.6	+2.3
	0.4nm,0.3s,baz=240,slow=14,SNR=5.4							
PCRV				LR		LR	05 11 42.6	
	comp=Z,306nm,20.6s,slow=43							
CRPR	Cabo Rojo, PR	19.80	49	P		Pn	05 02 58.1	+1.3
CRPR				IAmb		IAmb	05 03 02.9	
	comp=Z,40nm,1.1s							
MLPR	Magueyes Islan	19.82	49	P		Pn	05 02 58.1	+1.0
MLPR				IAmb		IAmb	05 03 00.8	
	comp=Z,30nm,0.8s							
TLIG	Tlapa	19.83	310	P		Pn	05 03 01.1	+3.8
TLIG				IAmb		IAmb	05 03 15.6	
	comp=Z,21nm,0.5s							
ICMP	Isla Caja de M	20.16	50	P		Pn	05 03 01.8	+0.6
OBIP	Obispado Ponce	20.20	50	P		Pn	05 03 02.1	+0.6
OBIP				IAmb		IAmb	05 03 14.5	
	comp=Z,46nm,1.2s							
AOPR	Arecibo Observ	20.27	49	P		P	05 03 01.1	+0.6
SJG	San Juan	20.59	50	P		P	05 03 03.7	-0.2
	comp=Z,18nm,0.7s,baz=255,slow=4.2,SNR=8.4							
SJG				LR		LR	05 09 36.0	
	comp=Z,229nm,21.0s,baz=230,slow=33							
SJG	San Juan	20.59	50	P		P	05 03 04.9	+1.0
SJG				IAmb		IAmb	05 03 15.6	
	comp=Z,30nm,0.8s							
PDPR	Patillas Dam,	20.63	51	P		P	05 03 05.1	+0.8
PDPR				IAmb		IAmb	05 03 07.7	
	comp=Z,19nm,1.0s							
GCPR	Guaynabo City	20.75	50	P		P	05 03 06.6	+0.9
GCPR				IAmb		IAmb	05 03 08.1	
	comp=Z,30nm,0.9s							
HUMP	Col San Antoni	20.84	51	P		P	05 03 07.9	+1.4
HUMP				IAmb		IAmb	05 03 15.6	
	comp=Z,32nm,0.8s							
ETMB	Extrema	22.16	132	eP		P	05 03 19.7	-1.1
MACA	Manacapuru-AM	23.46	110	eP		P	05 03 35.1	+0.6
SAML	Samuel	23.96	126	P		P	05 03 37.7	-1.6
SAML				IAmb		IAmb	05 03 43.3	
	comp=Z,15nm,0.9s							
SAML	Samuel	23.96	126	eP		P	05 03 37.5	-1.8
LPAZ	La Paz	25.74	146	P		P	05 03 56.5	+0.3
	comp=Z,0.6nm,0.7s,baz=317,slow=11,SNR=4.7							
LPAZ				LR		LR	05 15 12.6	
	comp=Z,942nm,20.3s,baz=306,slow=39							
LPAZ	La Paz	25.74	146	P		P	05 03 56.3	+0.2
LPAZ	La Paz	25.74	146	eP		P	05 03 54.3	-1.8
PB16	IPOC Station P	26.75	151	P		P	05 04 04.9	-0.4
344A	Westbrook Farm	27.18	345	P		P	05 04 09.7	+1.3
MNMC	Minye Minye	27.39	152	P		P	05 04 14.5	+3.8
146A	Union	27.93	348	P		P	05 04 16.1	+1.0
833A	Chaparral WMA,	27.95	327	P		P	05 04 15.3	+0.1
833A				IAmb		IAmb	05 04 21.1	
	comp=Z,11nm,1.1s							
LRAL	Lakeview Retre	27.97	352	P		P	05 04 15.3	-0.1
LRAL				IAmb		IAmb	05 04 17.7	
	comp=Z,9.6nm,0.8s							
GO01	Chusmiza	28.05	152	P		P	05 04 22.4	+5.6
GO01				IAmb		IAmb	05 04 29.4	
	comp=Z,14nm,1.4s							
Z47A	Carrollton	28.30	350	P		P	05 04 18.3	0.0
ITTB	Itaituba	28.51	109	eP		P	05 04 19.5	-1.0
VILB	Vilhena	28.69	129	eP		P	05 04 21.9	-0.1
Y49A	Blount Mountai	28.71	353	P		P	05 04 22.7	+0.7
HODGE	Hodges	28.87	1	P		P	05 04 23.7	+0.3
HODGE				IAmb		IAmb	05 04 28.4	
	comp=Z,6.5nm,0.8s							
435B	Jarrell	29.06	333	P		P	05 04 26.0	+0.8
435B				IAmb		IAmb	05 04 29.3	
	comp=Z,6.8nm,0.9s							
MALB	Monte Alegre	29.20	103	eP		P	05 04 26.9	+0.3
Y45A	Yeager Farm, C	29.22	348	P		P	05 04 27.1	+0.6
FPAL	Fort Paine	29.31	355	P		P	05 04 25.9	-1.5
FPAL				IAmb		IAmb	05 04 30.1	
	comp=Z,10nm,1.1s							
X48A	Hartselle	29.37	353	P		P	05 04 27.8	-0.1
NPGB	Novo Progresso	29.83	114	eP		P	05 04 32.1	-0.1
JCT	Junction City	29.88	329	P		P	05 04 33.5	+1.0
W57A	Gilead	29.89	4	P		P	05 04 33.8	+1.4
PLAL	Pickwick Lake	30.04	351	P		P	05 04 34.6	+0.8
PLAL				IAmb		IAmb	05 04 36.1	
	comp=Z,7.0nm,1.1s							
W45A	Hickory Valley	30.40	349	P		P	05 04 36.7	-0.3
V58A	Windy Hill, Pi	30.60	6	P		P	05 04 39.0	+0.3
V58A				IAmb		IAmb	05 04 45.7	
	comp=Z,8.1nm,0.9s							
V48A	Smith Brothers	30.62	353	P		P	05 04 38.8	-0.1
H06E1	SOCORRO T-PHAS	30.71	298	T		T	05 36 50.2	
	SNR=36							
H06S1	SOCORRO T	30.72	298	T		T	05 36 47.6	
	SNR=6.1							
LVC	Limon Verde	30.75	155	eP		P	05 04 37.9	-2.7
CLTN	Cedars of Leba	30.91	354	P		P	05 04 41.4	-0.1
CLTN				IAmb		IAmb	05 04 43.4	
	comp=Z,7.0nm,1.1s							
PTLB	Pontes e Lacer	31.04	132	eP		P	05 04 41.9	-0.9
WVT	Waverly	31.13	352	P		P	05 04 42.4	-1.1
WVT				IAmb		IAmb	05 04 43.9	
	comp=Z,8.5nm,0.7s							
CLDB	Colider	31.14	121	eP		P	05 04 43.2	-0.5
TXAR	Lajitas Airway	31.16	323	LR		LR	05 17 20.7	
	comp=Z,135nm,18.9s,baz=0.0,slow=37							
WHAR	Wooly Hollow	31.22	345	IAmb		IAmb	05 04 45.5	
	comp=Z,7.9nm,0.8s							
U49A	Red Boiling Sp	31.28	355	IAmb		IAmb	05 04 46.8	
	comp=Z,6.1nm,1.0s							
FCAR	Ozark Folk Cen	31.75	345	IAmb		IAmb	05 04 49.5	
	comp=Z,5.9nm,0.9s							
T47A	Sharon Grove	31.88	353	IAmb		IAmb	05 04 51.6	
	comp=Z,7.9nm,0.9s							
U40A	Yellville	32.38	344	IAmb		IAmb	05 04 56.8	
	comp=Z,3.8nm,0.7s							
S44A	Carbondale	32.88	350	IAmb		IAmb	05 05 00.2	
	comp=Z,9.4nm,0.8s							
U38A	Gravette	32.89	342	P		P	05 04 58.4	-0.6
U38A				IAmb		IAmb	05 04 59.5	
	comp=Z,5.2nm,1.0s							
WMOK	Wichita Mounta	32.95	335	IAmb		IAmb	05 05 01.1	
	comp=Z,4.7nm,0.9s							
MGMO	Mountain Grove	32.98	346	IAmb		IAmb	05 05 00.7	
	comp=Z,8.2nm,0.8s							
R49A	Shelbyville	33.00	356	IAmb		IAmb	05 05 08.8	
	comp=Z,11nm,0.9s							
FVM	French Village	33.38	349	IAmb		IAmb	05 05 06.1	
	comp=Z,7.6nm,0.9s							
CCM	Cathedral Cave	33.61	348	P		P	05 05 04.6	-0.5
OLIL	Olney	33.73	352	P		P	05 05 05.8	-0.3
S39A	Bolivar	33.76	345	IAmb		IAmb	05 05 07.2	
	comp=Z,5.8nm,0.8s							
R40A	Maddies Statio	34.07	346	IAmb		IAmb	05 05 11.1	
	comp=Z,4.9nm,0.8s							
U32A	Winter Ranch,	34.46	336	P		P	05 05 12.5	-0.1
P40A	Paris	35.20	347	IAmb		IAmb	05 05 19.9	
	comp=Z,9.5nm,1.0s							
121A	Cookes Peak, D	35.91	322	IAmb		IAmb	05 05 29.6	
	comp=Z,7.3nm,0.9s							
R32A	Long Quarter,	36.14	338	IAmb		IAmb	05 05 29.2	
	comp=Z,12nm,0.9s							
BNM	Barren Site	36.38	325	P		P	05 05 31.7	+2.2
AQDB	Aquidauana	36.77	135	eP		P	05 05 31.7	-0.9
ANMO	Albuquerque	36.87	326	P		P	05 05 34.9	+1.3
ARAG	Araguaiana, MT	36.93	125	eP		P	05 05 32.5	-1.5
TUC	Tucson	37.66	319	P		P	05 05 40.6	+0.4
K38A	Parkersburg	38.34	348	IAmb		IAmb	05 05 45.7	
	comp=Z,9.3nm,0.7s							
H03N2	Juan Fernandez	38.61	175	T		T	05 46 55.0	
	baz=354,slow=76,SNR=12							
H03N1	Juan Fernandez	38.61	175	T		T	05 46 58.1	
	baz=354,slow=76,SNR=13							
H03N3	Juan Fernandez	38.62	175	T		T	05 46 56.9	
	baz=354,slow=76,SNR=15							
214A	Organ Pipe Nat	38.79	317	P		P	05 05 50.1	+0.5
CPUP	Villa Florida	39.81	143	LR		LR	05 23 30.2	
	comp=Z,228nm,20.7s,baz=327,slow=38							
BDFB	Brasilia	40.06	122	LR		LR	05 21 51.4	
	comp=Z,308nm,20.5s,baz=303,slow=35							
Y14A	Wickenburg	40.13	319	P		P	05 06 02.1	+1.4
PV15	Paradox Valley	40.48	328	IAmb		IAmb	05 06 07.6	
	comp=Z,7.4nm,1.0s							
PV13	Radium Mtn., P	40.52	328	IAmb		IAmb	05 06 07.6	
	comp=Z,9.0nm,0.9s							
PV12	Saucer Basin,	40.63	328	IAmb		IAmb	05 06 08.5	
	comp=Z,8.9nm,0.8s							
PV11	David Mesa, Pa	40.66	328	IAmb		IAmb	05 06 17.1	
	comp=Z,14nm,1.2s							
PV17	East Wray Mesa	40.69	328	IAmb		IAmb	05 06 08.5	
	comp=Z,5.5nm,0.7s							
SPMN	Marine on St.	40.83	349	P		P	05 06 05.3	-1.0
SPMN				IAmb		IAmb	05 06 06.9	
	comp=Z,6.9nm,0.9s							
W13A	Hualapai Mount	41.42	320	P		P	05 06 13.3	+1.7
PTGB	Pitanga	42.08	136	eP		P	05 06 14.4	-2.6
RWWY	Rawlins	42.42	333	IAmb		IAmb	05 06 22.3	
	comp=Z,8.2nm,1.1s							
MVU	Marysvale	42.64	325	P		P	05 06 24.0	+2.4
RSSD	Black Hills	43.07	337	P		P	05 06 26.1	+1.1
RSSD				IAmb		IAmb	05 06 28.0	
	comp=Z,5.3nm,0.8s							
SHPR	Sheep Range	43.11	321	P		P	05 06 26.9	+1.6
PDAR	Pinedale Array	44.35	332	P		P	05 06 35.6	+0.3
	comp=Z,1.4nm,0.9s,baz=132,slow=9.7,SNR=9.4							
PDAR				LR		LR	05 26 28.3	
	comp=Z,134nm,19.2s,baz=142,slow=38							
PDAR	Pinedale Array	44.35	332	P		P	05 06 36.0	+0.7
HWUT	Hardware Ranch	44.48	329	IAmb		IAmb	05 06 38.8	
	comp=Z,6.0nm,0.8s							
REDW	Red Top Meadow	45.42	331	P		P	05 06 43.6	-0.3
REDW				IAmb		IAmb	05 06 54.5	
	comp=Z,12nm,1.2s							
SNOW	Snow King Moun	45.45	331	IAmb		IAmb	05 06 54.8	
	comp=Z,9.1nm,1.2s							
TPAW	Teton Pass	45.57	331	P		P	05 06 45.6	+0.5
TPAW				IAmb		IAmb	05 06 57.3	
	comp=Z,6.6nm,1.2s							
ELK	Elko	45.88	325	IAmb		IAmb	05 06 50.3	
	comp=Z,3.8nm,0.9s							
LAO	LASA Array	46.06	338	IAmb		IAmb	05 06 55.2	
	comp=Z,12nm,1.2s							
NV11	Mina Array Sit	46.17	321	IAmb		IAmb	05 06 53.0	
	comp=Z,4.2nm,0.9s							
OMMB	Old Mammoth Mi	46.23	319	P		P	05 06 51.6	+1.2
OMMB				IAmb		IAmb	05 06 53.6	
	comp=Z,5.0nm,1.0s							
ULM	Lac du Bonnet	46.24	348	P		P	05 06 48.7	-1.2
	comp=Z,3.7nm,0.9s,baz=153,slow=6.7,SNR=5.5							
ULM	Lac du Bonnet	46.24	348	IAmb		IAmb	05 06 55.2	
	comp=Z,10nm,1.2s							
NVAR	Mina Array Bea	46.26	321	P		P	05 06 50.6	+0.1
	comp=Z,3.9nm,0.7s,baz=135,slow=7.4,SNR=30							
NVAR				LR		LR	05 26 29.0	
	comp=Z,262nm,18.5s,baz=138,slow=37							
NVAR	Mina Array Bea	46.26	321	P		P	05 06 51.9	+1.3
LHV	Little Huntoon	46.28	320	IAmb		IAmb	05 06 59.6	
	comp=Z,6.7nm,1.0s							
MDPB	Devils Postpil	46.29	319	P		P	05 06 52.5	+1.7
MDPB				IAmb		IAmb	05 06 54.5	
	comp=Z,9.1nm,1.0s							
WAKR	Walker	47.02	320	IAmb		IAmb	05 06 59.8	
	comp=Z,3.9nm,0.8s							
BOZ	Bozeman (W)	47.47	332	IAmb		IAmb	05 07 13.1	
	comp=Z,7.9nm,1.3s							
RCBR	Riachuelo	47.94	103	LR		LR	05 26 50.7	
	comp=Z,183nm,19.0s,baz=274,slow=36							
ORV	Oroville	48.94	320	P		P	05 07 11.9	+0.8
ORV				IAmb		IAmb	05 07 14.9	
	comp=Z,6.3nm,1.1s							
YBH	Yreka Blue Hor	50.92	322	LR		LR	05 29 24.9	
	comp=Z,249nm,18.4s,baz=150,slow=37							
NEW	Newport	51.99	331	LR		LR	05 30 29.2	
	comp=Z,151nm,20.1s,baz=132,slow=37							
YKA	Yellowknife Ar	61.82	344	P		P	05 08 44.0	+0.6
	comp=Z,2.5nm,0.8s,baz=127,slow=8.1,SNR=5.4							
PMSA	Palmer Station	71.16	172	LR		LR	05 34 43.1	
	comp=Z,240nm,20.8s,baz=118,slow=31							
BCAR	Beaver Creek A	71.76	336	P		P	05 09 47.9	+1.0
ILAR	Eielson Array	74.51	336	P		P	05 10 02.4	-0.7
	comp=Z,1.1nm,0.8s,baz=110,slow=3.9,SNR=9.9							
ILAR	Eielson Array	74.51	336	P		P	05 10 02.8	-0.3
ESDC	Sonseca Array	77.97	51	P		P	05 10 24.9	+1.5
	comp=Z,1.5nm,0.9s,baz=282,slow=5.4,SNR=5.9							
ESDC	Sonseca Array	77.97	51	P		P	05 10 25.9	+2.6
TORD	Torodi Ar. Bea	83.33	77	P		P	05 10 51.8	-0.7
	comp=Z,0.6nm,0.5s,baz=298,slow=6.8,SNR=9.2							
TORD	Torodi Ar. Bea	83.33	77	P		P	05 10 52.3	-0.1
NOA	NORSAR Array B	87.34	29	LR		LR	05 47 16.3	
	comp=Z,36nm,20.5s,baz=80,slow=34							
H11N3	WAKE ISLAND Hyl	107.31	292	T		T	07 12 43.8	
	baz=78,slow=75,SNR=13							
H11N2	WAKE ISLAND Hyl	107.32	292	T		T	07 12 43.3	
	baz=78,slow=75,SNR=13							
H11N1	WAKE ISLAND Hyl	107.33	292	T		T	07 12 43.9	
	baz=78,slow=75,SNR=13							
H11S2	WAKE ISLAND Hyl	107.75	291	T		T	07 13 10.8	
	baz=77,slow=75,SNR=98							
H11S1	WAKE ISLAND Hyl	107.75	291	T		T	07 13 11.3	
	baz=77,slow=75,SNR=91							
H11S3	WAKE ISLAND Hyl	107.77	291	T		T	07 13 11.6	
	baz=77,slow=75,SNR=23							
LZH	Lanzhou	138.47	352	ePKP		PKPdf	05 17 45.9	-5.3
LZH				sPKP			05 17 57.8	
ASAR	Alice Springs	140.33	239	PKP		PKPdf	05 17 53.4	-1.3
	comp=Z,0.3nm,0.9s,baz=112,slow=3.3,SNR=1.8							
ASAR	Alice Springs	140.33	239			PKPdf	05 17 53.3	-1.5
WRA	Warramunga Arr	141.18	245	PKP		PKPdf	05 17 55.4	-1.0
	comp=Z,0.5nm,0.7s,baz=102,slow=2.4,SNR=3.0							
WRA	Warramunga Arr	141.18	245	PKPdf		PKPdf	05 17 54.3	-2.1

IDC ***13*** *05:13:41.1±0.4, 46°.28S×166°.25E, h0km, mb4.8/18, mb1 4.9/20, mb1mx4.8/40, mbtmp4.9/20, ML4.9/2, MS5.3/15, Ms1 5.3/15, ms1mx5.1/20, Error ellipse: s-maj=16.8km s-min=13.3km az=62.0*

WEL ***13*** *05:13:41.6±1.5, 46°.5S×9°.9×16°.6E±°, h10km±6km, M6.2/22, mB6.3/7, ML6.5/22, MLv6.3/22, Mw(mB)6.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=178.4*

BJI ***13*** *05:13:43.1±0.0, 46°.40S×165°.95E, h18km, mB5.9/10, mb5.4/20, Ms5.6/18, Ms7 5.3/21*

NEIC ***13*** *05:13:44.9, 46°.14S×165°.99E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.85; $M_{\theta\theta}$1.44; $M_{\phi\phi}$-4.29; $M_{r\theta}$1.13; $M_{\theta\phi}$0.19; $M_{\phi r}$-2.14; Fault plane solution: $M_0$4.50000×10^{17} NP1:ϕ_s158.23000°, δ64.20000°, λ66.39000°. NP2:ϕ_s23.36000°, δ34.42000°, λ129.65000°. Principal axes: T 3.8937, Plg63.0000°, Azm30.0000°; N 1.0295, Plg21.0000°, Azm169.0000°; P -4.9232, Plg16.0000°, Azm265.0000°;*

NEIC ***13*** *05:13:44.1±1.5, 46°.21S±0°.08×165°.96E±0°.08, h20km±1km, mb5.4/71, Ms_20 5.7/676, Mwb5.7/33, Mww5.8, ML6.2(WEL), Mwc5.7(GCMT) Error ellipse: s-maj=14.4km s-min=8.3km az=165.0*

MOS ***13*** *05:13:44.7±1.2, 46°.26S×165°.96E, h28km, mb5.5/24, MS5.4/22, Error ellipse: s-maj=17.1km s-min=9.2km az=112.9*

NEIC ***13*** *05:13:49, 46°.09S×165°.82E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.48; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-3.90; $M_{r\theta}$1.65; $M_{\theta\phi}$0.36; $M_{\phi r}$-3.33; Fault plane solution: $M_0$5.26000×10^{17} NP1:ϕ_s12.00000°, δ25.00000°, λ119.00000°. NP2:ϕ_s160.00000°, δ68.00000°, λ77.00000°. Principal axes: T 5.1863, Plg65.0000°, Azm48.0000°; N 0.1482, Plg12.0000°, Azm165.0000°; P -5.3345, Plg22.0000°, Azm260.0000°;*

GCMT ***13*** *05:13:50.1±0.1, 46°.10S±0°.01×165°.74E±0°.01, h23km, MW5.8/155, Moment Tensor Solution. s143,c294; s155,c446; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}3.32±.04; $M_{\theta\theta}$0.42±.03; $M_{\phi\phi}$-3.73±.03; $M_{r\theta}$1.45±.06; $M_{\theta\phi}$0.34±.02; $M_{\phi r}$-3.58±.08; Best double couple: $M_0$5.24900×10^{17} NP1:ϕ_s10.00000°, δ23.00000°, λ116.00000°. NP2:ϕ_s162.00000°, δ69.00000°, λ79.00000°. Principal axes: T 5.1320, Plg64.0000°, Azm55.0000°; N 0.2410, Plg10.0000°, Azm166.0000°; P -5.3660, Plg23.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *05:13:50, 46°.20S×166°.11E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.46; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-3.81; $M_{r\theta}$-0.16; $M_{\theta\phi}$0.76; $M_{\phi r}$-6.13; Fault plane solution: $M_0$7.17000×10^{17} NP1:ϕ_s338.00000°, δ16.00000°, λ68.00000°. NP2:ϕ_s180.00000°, δ75.00000°, λ96.00000°. Principal axes: T 6.9880, Plg60.0000°, Azm99.0000°; N 0.3578, Plg6.0000°, Azm358.0000°; P -7.3458, Plg29.0000°, Azm265.0000°;*

ISC 13 05:13:45.1±0.6, 46°.24S±0°.04×166°.08E±0°.04, h24km±3km, n1030, σ1°.936/746, mb5.4/78, MS5.7/383, 23C-28D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.43	80	P	Pb	05 13 54.2	+0.2
PYZ				S	Sn	05 14 01.7	-1.2
PYZ	Puysegur Point	0.43	80	Pg	Pb	05 13 54.2	+0.2
PYZ				Sg	Sb	05 14 00.8	+0.8
DCZ	Deep Cove	1.08	44	P	Pn	05 14 03.3	-1.4
DCZ	Deep Cove	1.08	44		Pn	05 14 03.3	-1.4
DCZ					Sb	05 14 18.4	-0.4
WHZ	Wether Hill Ro	1.35	76	P	Pn	05 14 08.5	0.0
WHZ				S	Sb	05 14 26.7	+0.3
WHZ	Wether Hill Ro	1.35	76	Pn	Pn	05 14 08.7	+0.2
WHZ				Sn	Sb	05 14 27.2	+0.8
APZ	The Paps	1.45	115	P	Pn	05 14 09.2	-0.6
MLZ	Mavora Lakes	1.68	59	P	Pb	05 14 14.4	-0.9
MLZ				S	Sb	05 14 38.6	+2.7
MLZ	Mavora Lakes	1.68	59	Pn	Pn	05 14 13.7	+0.7
MSZ	Milford Sound	2.04	40	P	Pn	05 14 18.0	+0.1
SYZ	Scrubby Hill	2.14	99	P	Pn	05 14 19.5	+0.2
TUZ	Tuapeka	2.49	85	P	Pn	05 14 24.9	+0.8
WKZ	Wanaka	2.50	57	P	Pn	05 14 26.4	+2.0
WKZ	Wanaka	2.50	57	Pn	Pn	05 14 25.5	+1.1
JCZ	Jackson Bay	2.89	42	P	Pn	05 14 30.0	+0.2
HHSZ	Highcliff Hill	3.17	85	P

VRZ	Vera Road	9.56	45	P		Pn	05 16 03.2	+2.0			
MTVZ	Mangateitei	9.72	49	P		Pn	05 16 08.4	+4.9			
PNHZ	Pukenui	9.73	53	P		Pn	05 16 05.1	+1.5			
PRHZ	Porangahau	9.74	56	P		Pn	05 16 05.0	+1.3			
WPHZ	Waipukurau	9.77	54	P		Pn	05 16 06.5	+2.5			
WNVZ	Wahianoa	9.83	49	P		Pn	05 16 07.2	+2.1			
MOVZ	Moawhango	9.85	50	P		Pn	05 16 08.4	+3.1			
FWVZ	Far West T-bar	9.86	48	P		Pn	05 16 09.2	+3.7			
TUVZ	Tukino	9.90	49	P		Pn	05 16 07.8	+1.8			
TWVZ	Taurewa	9.94	47	P		Pn	05 16 08.9	+2.4			
NGZ	Ngauruhoe	9.95	48	P		Pn	05 16 08.1	+1.5			
BHHZ	Black Hill Sta	9.96	51	P		Pn	05 16 06.8	+0.1			
WTVZ	West Tongariro	9.98	48	P		Pn	05 16 08.7	+1.6			
OTVZ	Oturere	9.99	48	P		Pn	05 16 08.0	+0.8			
KRHZ	Kereru	10.02	52	P		Pn	05 16 08.5	+1.0			
KRVZ	Karewarewa	10.03	48	P		Pn	05 16 11.2	+3.5			
PXZ	Pawanui	10.03	56	P		Pn	05 16 07.8	+0.2			
ETVZ	East Tongariro	10.03	48	P		Pn	05 16 11.4	+3.6			
TMVZ	Te Maari	10.04	48	P		Pn	05 16 11.6	+3.7			
HIZ	Hauiti	10.09	43	P		Pn	05 16 09.0	+0.6			
KATZ	Kakaramea	10.14	48	P		Pn	05 16 13.0	+3.7			
KAHZ	Kahuranaki	10.20	55	P		Pn	05 16 09.7	-0.3			
KWHZ	Kaweka Forest	10.20	52	P		Pn	05 16 10.2	+0.2			
RITZ	Rihia Road	10.23	48	P		Pn	05 16 15.7	+5.3			
RATZ	Rangitukua	10.26	48	P		Pn	05 16 13.9	+3.0			
MCHZ	McNeill Hill	10.34	53	P		Pn	05 16 13.7	+1.9			
WATZ	Wairara	10.37	47	P		Pn	05 16 16.1	+3.8			
CKHZ	Cape Kidnapper	10.40	55	P		Pn	05 16 13.3	+0.6			
BKZ	Black Stump Fm	10.42	51	P		Pn	05 16 14.9	+1.9			
BKZ	Black Stump Fm	10.42	51	Pn		Pn	05 16 12.9	-0.2			
TLZ	Tolley Road	10.56	45	P		Pn	05 16 16.0	+1.1			
KUTZ	Kaahu Road	10.58	46	P		Pn	05 16 19.7	+4.5			
ARHZ	Aropaoanui	10.63	53	P		Pn	05 16 19.0	+3.1			
NMHZ	Naumai	10.64	52	P		Pn	05 16 17.1	+1.0			
MTHZ	Maungataniwha	10.84	51	P		Pn	05 16 20.3	+1.6			
AWAZ	Awhitu Peninsu	11.18	38	P		Pn	05 16 23.3	0.0			
MHGZ	Mahia Peninsul	11.22	55	P		Pn	05 16 24.5	+0.6			
WTAZ	Waiatarua	11.26	37	P		Pn	05 16 24.6	0.0			
ETAZ	East Tamaki Re	11.39	39	P		Pn	05 16 27.3	+1.0			
URZ	Urewera	11.41	50	Pn		Pn	05 16 25.7	-0.9			
	7.1nm,0.3s,baz=221,slow=8.8,SNR=20										
URZ				Sn		Sn	05 18 29.6	-3.6			
	28nm,0.3s,baz=105,slow=23,SNR=8.3										
URZ	Urewera	11.41	50	Pn		Pn	05 16 25.5	-1.1			
MBAZ	Motutapu North	11.54	38	P		Pn	05 16 28.1	-0.1			
OUZ	Omahuta	12.39	38	Pn		Pn	05 16 38.8	-1.2			
MXZ	Matakaoa Point	12.57	51	Pn		Pn	05 16 40.8	-1.5			
TAU	Tasmania Unive	13.78	277	P		Pn	05 16 55.0	-3.8			
TAU	Tasmania Unive	13.78	277	Pn		Pn	05 16 55.0	-3.8			
MOO	Moorlands	14.04	279	P		Pn	05 17 00.0	-2.4			
	baz=14,SNR=4.4										
CNB	Canberra Magne	16.68	305	P		Pn	05 17 36.0	-1.3			
	baz=17,SNR=14										
RIV	Riverview	16.82	312	P		Pn	05 17 38.1	-0.9			
	baz=17,SNR=6.4										
CAN	Canberra	16.88	304	P		Pn	05 17 38.1	-1.8			
	baz=17										
CAN	Canberra	16.88	304	P		Pn	05 17 37.5	-2.3			
CAN				pmax		pmax					
	comp=Z,38nm,0.8s										
CAN	Canberra	16.88	304	Pn		Pn	05 17 37.5	-2.3			
MGCD	Mangrove Creek	17.34	313	P		Pn	05 17 45.1	-0.4			
	baz=17,SNR=11										
TOO	Toolangi	17.57	292	P		Pn	05 17 48.0	-0.2			
	baz=18,SNR=39										
TOO	Toolangi	17.57	292	P		Pn	05 17 47.8	-0.5			
TOO				pmax		pmax					
	comp=Z,165nm,1.1s										
TOO	Toolangi	17.57	292	P		Pn	05 17 47.8	-0.5			
YNG	Young	17.96	305	P		Pn	05 17 53.2	0.0			
	baz=18,SNR=8.8										
ARMA	Armidale	19.39	320			P	05 18 07.6	-1.9			
ARPS	Mount Arapiles	20.40	289	P		Pn	05 18 22.1	-0.3			
	baz=20,SNR=6.5										
RAO	Raoul Island	21.09	42	LR		LR	05 26 24.7				
	comp=Z,20µm,21.4s,baz=202,slow=36										
CMSA	Cobar Meteorol	21.53	306	P		P	05 18 33.8	+1.4			
	baz=22,SNR=7.8										
STKA	Stephens Creek	23.69	299	P		P	05 18 57.4	+2.4			
	comp=Z,8.4nm,1.1s,baz=137,slow=12,SNR=4.8										
STKA				LR		LR	05 27 26.9				
	comp=Z,7µm,18.3s,baz=135,slow=35										
STKA	Stephens Creek	23.69	299	P		P	05 18 56.4	+1.5			
	baz=24,SNR=10										
STKA	Stephens Creek	23.69	299	P		P	05 18 54.9	0.0			
STKA				pmax		pmax					
	comp=Z,25nm,1.5s										
STKA				MLR		MLR					
	comp=Z,2µm,19.0s										
STKA	Stephens Creek	23.69	299	P		P	05 18 54.9	0.0			
EIDS	Eidsvold	24.04	325	P		P	05 18 58.0	-0.3			
EIDS				IAmb		IAmb	05 19 16.5				
	comp=Z,116nm,1.2s										
RMQ	Roma	24.05	319	P		P	05 18 47.6	-11			
	baz=24,SNR=4.0										
DZM	Mont Dzumac	24.11	1	*e*P		P	05 18 57.1	-2.0			
	comp=Z,599nm,1.4s										
DZM				*e*S		S	05 23 10.2	-5.3			
	comp=Z,4µm,27.4s										
DZM				*e*LR		LR	05 24 43.7				
	comp=Z,5µm,20.9s										
DZM				*e*LR		LR	05 24 48.3				
	comp=Z,5µm,21.9s										
DZM	Mont Dzumac	24.11	1	P		P	05 19 00.9	+1.8			
	comp=Z,66nm,0.8s,baz=185,slow=9.2,SNR=24										
DZM				LR		LR	05 26 49.4				
	comp=Z,5µm,19.7s,baz=180,slow=33										
DZM	Mont Dzumac	24.11	1	P		P	05 18 59.1	+0.1			
HTT	Hallett	24.33	292	P		P	05 19 02.3	+1.3			
	baz=24,SNR=9.3										
BBOO	Buckleboo	26.58	290	P		P	05 19 23.2	+1.9			
	baz=26,SNR=6.1										
BBOO	Buckleboo	26.58	290	P		P	05 19 20.2	-1.1			
BBOO				IAmb		IAmb	05 19 33.2				
	comp=Z,85nm,1.1s										
MSVF	Nonsavu	30.11	23	*i* P		P	05 19 56.2	+3.2			
MSVF				pmax		pmax					
	comp=Z,36nm,1.4s										
MSVF				MLR		MLR					
	comp=Z,14µm,16.0s										
MSVF	Nonsavu	30.11	23	IAMs_20		IAMs_20	05 30 14.8				
	comp=Z,15µm,19.0s										
SANVU	Saraoutou	30.72	2	P		P	05 19 58.1	-0.1			
VNDA	Vanda	31.43	182	P		P	05 20 03.6	-0.3			
	comp=Z,1.8nm,0.8s,baz=339,slow=5.9,SNR=10.0										
VNDA				LR		LR	05 30 30.3				
	comp=Z,8µm,19.9s,baz=22,slow=32										
VNDA	Vanda	31.43	182	P		P	05 20 04.0	+0.1			
FORT	Forrest	33.16	284	P		P	05 20 16.6	-3.0			
FORT				IAMs_20		IAMs_20	05 33 19.6				
	comp=Z,13µm,19.0s										
QIS	Mount Isa	33.54	311	P		P	05 20 23.8	+0.8			
	baz=34,SNR=8.3										
AS31	Alice Springs	34.31	300	P		P	05 20 28.6	-1.2			
ASAR	Alice Springs	34.31	300	P		P	05 20 31.2	+1.5			
	comp=Z,8.8nm,0.7s,baz=133,slow=8.4,SNR=20										
ASAR				PcP		PcP	05 23 05.2	-0.4			
	comp=Z,5.6nm,0.8s,baz=135,slow=2.8,SNR=5.3										
ASAR				LR		LR	05 34 21.4				
	comp=Z,8µm,18.4s,baz=142,slow=36										
ASAR	Alice Springs	34.31	300	P		P	05 20 29.3	-0.4			
ASAR	Alice Springs	34.31	300	P		P	05 20 29.3	-0.4			
WR0	Warramunga Arr	36.80	305	P		P	05 20 50.1	-1.0			
WRKA	Warakurna	36.81	292	P		P	05 20 51.2	0.0			
	baz=37,SNR=43										
WB2	Warramunga Arr	36.92	305	P		P	05 20 51.1	-1.0			
WB2				IAmb		IAmb	05 21 17.0				
	comp=Z,31nm,0.9s										
WRA	Warramunga Arr	36.93	305	P		P	05 20 51.4	-0.8			
	comp=Z,7.4nm,0.7s,baz=140,slow=7.8,SNR=43										
WRA				PcP		PcP	05 23 12.6	-0.7			
	comp=Z,4.5nm,0.8s,baz=139,slow=2.8,SNR=4.9										
WRA				LR		LR	05 35 20.8				
	comp=Z,7µm,19.2s,baz=155,slow=35										
WRA	Warramunga Arr	36.93	305	P		P	05 20 50.8	-1.4			
WRAB	Tennant Creek	36.93	305	*ce*P		P	05 20 51.8	-0.4			
WRAB				pmax		pmax					
	comp=Z,41nm,1.3s										
WRAB				MLR		MLR					
	comp=Z,7µm,16.0s										
WRAB	Tennant Creek	36.93	305	P		P	05 20 51.4	-0.8			
WRAB				IAmb		IAmb	05 21 18.5				
	comp=Z,40nm,1.1s										
WB0	Warramunga Arr	37.04	305	P		P	05 20 52.2	-0.9			
HNR	Honiara	37.05	350	P		P	05 20 52.6	-0.6			
HNR				pmax		pmax					
	comp=Z,224nm,1.0s										
HNR	Honiara	37.05	350	P		P	05 20 52.6	-0.6			
HNR	Honiara	37.05	350	IAMs_20		IAMs_20	05 34 09.8				
	comp=Z,10µm,19.0s										
AFI	Afiamalu	37.23	37	P		P	05 20 53.9	-0.9			
AFI				pmax		pmax					
	comp=Z,118nm,1.4s										
AFI				MLR		MLR					
	comp=Z,3µm,19.0s										
AFI	Afiamalu	37.23	37	P		P	05 20 53.9	-0.9			
AFI				IAmb		IAmb	05 20 57.3				
	comp=Z,118nm,1.4s										
RAR	Rarotonga	37.35	60	LR		LR	05 34 24.9				
	comp=Z,6µm,21.3s,baz=216,slow=33										
KLBR	Kellerberrin	39.72	274	P		P	05 21 16.0	+0.4			
	baz=40,SNR=8.2										
PMG	Port Moresby	40.12	330	P		P	05 21 19.2	+0.2			
	comp=Z,41nm,0.9s,baz=127,slow=4.4,SNR=13										
PMG	Port Moresby	40.12	330	P		P	05 21 18.7	-0.2			
PMG				pmax		pmax					
	comp=Z,76nm,1.1s										
PMG	Port Moresby	40.12	330	P		P	05 21 18.7	-0.2			
PMG				IAmb		IAmb	05 21 24.9				
	comp=Z,76nm,1.1s										
H01W1	Cape Leeuwin H	40.38	267	T		T	06 04 06.2				
	baz=122,slow=75,SNR=3737										
H01W2	Cape Leeuwin H	40.39	267	T		T	06 04 07.1				
	baz=122,slow=75,SNR=3821										
H01W3	Cape Leeuwin H	40.39	267	T		T	06 04 07.6				
	baz=122,slow=75,SNR=3644										
MEEK	Meekatharra	42.18	281	P		P	05 21 36.1	+0.2			
	baz=42,SNR=4.3										
TBI	Tubuai	42.36	73	*e*P		P	05 21 38.3	+1.0			
	comp=Z,198nm,1.0s										
TBI				*e*S		S	05 28 00.9	+3.8			
	comp=Z,3µm,29.8s										
TBI				*e*LQ		LQ	05 31 32.6				
	comp=Z,2µm,28.5s										
TBI				*e*LR		LR	05 33 16.8				
	comp=Z,6µm,30.5s,baz=219										
MORW	Morawa	42.42	276	P		P	05 21 37.9	+0.1			
KNRA	Kununurra	43.53	302	P		P	05 21 46.6	-0.3			
	baz=44,SNR=6.7										
KNRA	Kununurra	43.53	302	P		P	05 21 46.1	-0.7			
KNRA				IAmb		IAmb	05 21 56.8				
	comp=Z,49nm,1.0s										
KNRA				IAMs_20		IAMs_20	05 39 44.4				
	comp=Z,8µm,20.0s										
FITZ	Fitzroy Crossi	43.55	296	P		P	05 21 46.4	-0.7			
	comp=Z,5.4nm,0.7s,baz=152,slow=7.8,SNR=19										
FITZ				PcP		PcP	05 23 34.0	-0.6			
	comp=Z,14nm,0.8s,baz=155,slow=5.8,SNR=5.5										
FITZ	Fitzroy Crossi	43.55	296	P		P	05 21 46.8	-0.3			
	baz=44,SNR=19										
FITZ	Fitzroy Crossi	43.55	296	P		P	05 21 46.5	-0.7			
RABL	Rabaul	43.60	340	P		P	05 21 46.4	-1.1			
QSPA	South Pole Qui	43.88	180	P		P	05 21 49.9	+0.5			
	comp=Z,25nm,1.0s,baz=21,slow=3.2,SNR=51										
QSPA	South Pole Qui	43.88	180	P		P	05 21 50.2	+0.8			
QSPA				IAmb		IAmb	05 21 59.6				
	comp=Z,77nm,1.4s										
MTN	Manton Dam	44.45	307	P		P	05 21 54.6	+0.3			
	baz=44,SNR=7.9										
MTN	Manton Dam	44.45	307	P		P	05 21 52.7	-1.6			
MTN				IAmb		IAmb	05 22 11.2				
	comp=Z,56nm,0.7s										
MTN				IAMs_20		IAMs_20	05 39 56.9				
	comp=Z,9µm,20.0s										
PSAD2	Pilbara Seismi	44.65	287	IAMs_20		IAMs_20	05 39 41.1				
	comp=Z,9µm,20.0s										
PSAC2	Pilbara Seismi	44.73	287	IAMs_20		IAMs_20	05 39 42.2				
	comp=Z,9µm,20.0s										
PSAC3	Pilbara Seismi	44.74	287	IAMs_20		IAMs_20	05 39 51.4				
	comp=Z,7µm,19.0s										
PSAB3	Pilbara Seismi	44.74	287	IAMs_20		IAMs_20	05 39 50.5				
	comp=Z,8µm,19.0s										
PSAA3	Pilbara Seismi	44.75	287	IAMs_20		IAMs_20	05 39 43.7				
	comp=Z,8µm,20.0s										
PSAD3	Pilbara Seismi	44.76	287	IAMs_20		IAMs_20	05 39 51.8				
	comp=Z,7µm,19.0s										
PSA00	Pilbara Seismi	44.76	287	P		P	05 21 55.8	-1.0			
PSA00				IAmb		IAmb	05 22 19.0				
	comp=Z,42nm,1.1s										
PSA00				IAMs_20		IAMs_20	05 39 51.9				
	comp=Z,8µm,19.0s										
PSA00	Pilbara Seismi	44.76	287	P		P	05 21 55.0	-1.7			
PSA00				IAmb		IAmb	05 22 15.4				
	comp=Z,23nm,1.1s										
PSAB2	Pilbara Seismi	44.76	287	IAMs_20		IAMs_20	05 39 53.0				
	comp=Z,8µm,19.0s										
PSAA1	Pilbara Seismi	44.77	287	IAMs_20		IAMs_20	05 39 45.0				
	comp=Z,8µm,20.0s										
PSAA2	Pilbara Seismi	44.77	287	IAMs_20		IAMs_20	05 39 52.1				
	comp=Z,8µm,19.0s										
PSAB1	Pilbara Seismi	44.78	287	IAMs_20		IAMs_20	05 39 53.4				
	comp=Z,8µm,19.0s										
PSAC1	Pilbara Seismi	44.81	287	IAMs_20		IAMs_20	05 39 53.3				
	comp=Z,8µm,19.0s										
PSAD1	Pilbara Seismi	44.85	287	IAMs_20		IAMs_20	05 39 45.4				
	comp=Z,8µm,20.0s										
MBWA	Marble Bar	45.13	288	IAMs_20		IAMs_20	05 39 32.6				
	comp=Z,8µm,20.0s										
PPT2	Papeete2	46.40	67	*e*P		P	05 22 10.2	+0.4			
	comp=Z,71nm,1.2s										
PPT2				*e*S		S	05 28 58.8	+2.6			
	comp=Z,3µm,28.8s										
PPT2				*e*LQ		LQ	05 33 16.0				
	comp=Z,3µm,28.2s										
PPT2				*e*LR		LR	05 35 06.4				
	comp=Z,9µm,30.5s,baz=219										
PPT	Papeete	46.41	67	LR		LR	05 40 25.4				
	comp=Z,3µm,18.2s,baz=220,slow=35										
TIAR	Tiarei	46.57	67	*e*P		P	05 22 11.6	+0.5			
	comp=Z,21nm,1.0s										
KNTN	Kanton	47.44	31	P		P	05 22 17.2	-0.6			
TARA	Tarawa	47.78	9	P		P	05 22 19.9	-0.5			
GIRL	Giralia	47.80	281	P		P	05 22 21.4	+0.8			
	baz=48,SNR=3.1										
GIRL	Giralia	47.80	281	P		P	05 22 20.3	-0.3			
GIRL				IAMs_20		IAMs_20	05 42 07.4				
	comp=Z,6µm,18.0s										
SAUI	Saumlaki	48.40	311	IAMs_20		IAMs_20	05 42 26.7				
	comp=Z,9µm,19.0s										
JAY	Jayapura	48.86	325	P		P	05 22 32.4	+3.5			
	comp=Z,27nm,1.1s,baz=175,slow=11,SNR=4.0										
PMOR	Pomariorio Ree	49.40	66	*e*P		P	05 22 33.9	+1.0			
	comp=Z,135nm,1.2s										
SOEI	Soe	50.87	302	P		P	05 22 42.4	-1.9			
SOEI				IAMs_20		IAMs_20	05 45 28.9				
	comp=Z,7µm,18.0s										
FAKI	Fak Fak	52.25	315	P		P	05 22 52.3	-2.1			
RKT	Rikitea	52.36	85	*e*S		S	05 30 22.4	+2.9			
	comp=Z,3µm,30.5s										
RKT				*e*LQ		LQ	05 35 47.0				
	comp=Z,2µm,26.8s										
RKT				*e*LR		LR	05 37 57.8				
	comp=Z,7µm,24.0s										
MAW	Mawson	52.83	208	P		P	05 22 58.3	+0.2			
	comp=Z,6.0nm,0.9s,baz=126,slow=7.7,SNR=13										
MAW				LR		LR	05 43 14.7				
	comp=Z,6µm,20.4s,baz=110,slow=34										
MAW	Mawson	52.83	208	P		P	05 22 58.7	+0.7			
	baz=53,SNR=8.9										
MAW	Mawson	52.83	208	P		P	05 22 58.2	+0.2			
MAW				pmax		pmax					
	comp=Z,7.0nm,1.1s										
MAW	Mawson	52.83	208	P		P	05 22 58.2	+0.2			
MMRI	Maumere	52.96	301	P		P	05 22 58.5	-1.2			
MMRI				IAmb		IAmb	05 23 21.6				
	comp=Z,38nm,0.8s										
SIJI	Sorong	54.51	315	P		P	05 23 12.3	+1.3			
	comp=Z,14nm,0.7s,baz=99,slow=3.6,SNR=11										
TWSI	Taliwang, Sumb	56.15	296	P		P	05 23 25.1	+2.2			
	comp=Z,42nm,0.8s										
KAPI	Kappang	57.32	301	P		P	05 23 32.1	+1.0			
	comp=Z,8.0nm,0.6s,baz=195,slow=5.0,SNR=5.6										
KAPI	Kappang	57.32	301	P		P	05 23 30.6	-0.5			
KAPI				pmax		pmax					
	comp=Z,102nm,1.4s										
KAPI				MLR		MLR					
	comp=Z,3µm,18.0s										
KAPI	Kappang	57.32	301	P		P	05 23 30.6	-0.5			
XMAS	Kiritimati	57.85	45	P		P	05 23 34.5	-0.4			
TNTI	Ternate	57.87	312	P		P	05 23 34.0	-1.0			
TNTI				IAmb		IAmb	05 23 50.1				
	comp=Z,20nm,0.5s										
SPSI	Sidrap Palu	58.15	302	P		P	05 23 37.7	+0.7			
	comp=Z,882nmcomp=Z,35nm,0.9s										
SYO	Syowa Base	58.47	200	*i* P		P	05 23 37.3	-1.2			
SYO	Syowa Base	58.47	200	*i* pP		pP	05 23 42.4	-3.5			
LUWI	Luwuk	58.80	307	P		P	05 23 40.5	-1.1			
LUWI				IAmb		IAmb	05 23 52.3				
	comp=Z,40nm,1.1s										
TTSI	Tana Toraja	58.86	303	P		P	05 23 43.6	+1.7			
	comp=Z,2µmcomp=Z,31nm,0.9s										
TAOE	Nuku Hiva Isla	58.98	68	P		P	05 23 41.5	-1.4			
TAOE				IAmb		IAmb	05 23 59.2				
	comp=Z,42nm,1.0s										
GTOI	Gorontalo	60.06	308	P		P	05 24 00.8	+11			
BBKI	Banjar Baru	61.51	298	P		P	05 24 02.4	+2.2			
	comp=Z,50nm,1.0s										
MPSI	Mapaga	61.55	305	P		P	05 24 01.2	+0.8			
	comp=Z,1µmcomp=Z,46nm,1.1s										
NVL	N'lazarevskaya	61.83	189	*i* P		P	05 24 01.6	+0.1			
NVL				*i* S		S	05 32 18.6	-4.4			
NVL				pmax		pmax					
	comp=Z,61nm,1.2s										
NVL				MLR		MLR					
	comp=Z,4µm,14.0s										
SNAA	Sanae	62.13	184	*c i* P		P	05 24 04.0	+0.4			
SNAA				pmax		pmax					
	comp=Z,92nm,1.1s										
SNAA				MLR		MLR					
	comp=Z,2µm,13.0s										
SNAA	Sanae	62.13	184	P		P	05 24 03.4	-0.2			
SNAA				IAMs_20		IAMs_20	05 48 26.3				
	comp=Z,4µm,20.0s										
PMSA	Palmer Station	62.62	158	IAMs_20		IAMs_20	05 48 20.0				
	comp=Z,4µm,18.0s										
LEM	Lembang	63.54	289	P		P	05 24 15.1	+1.2			
	comp=Z,40nm,0.8s,baz=154,slow=6.9,SNR=4.3										
MYLDM	Lahad Datu	66.31	307	P		P	05 24 30.7	-1.0			
MYLDM				IAmb		IAmb	05 24 55.9				
	comp=Z,37nm,0.9s										
KLSI		67.04	288	P		P	05 24 47.0	+11			
RPN	Rapa Nui	67.36	106	IAMs_20		IAMs_20	05 51 40.0				
	comp=Z,5µm,18.0s										
MDSI	Maura Dua	67.55	288	P		P	05 24 49.0	+9.4			
SBUM	Sibu	67.77	299	P		P	05 24 39.6	-1.4			
SBUM				IAmb		IAmb	05 24 52.1				
	comp=Z,16nm,0.9s										
SBUM	Sibu	67.77	299	P		P	05 24 40.0	-0.9			
KSM	Kuching	68.17	297	P		P	05 24 42.6	-0.9			
KSM				IAmb		IAmb	05 24 54.3				
	comp=Z,26nm,0.9s										
KSM	Kuching	68.17	297	P		P	05 24 44.0	+0.5			
KKM	Kota Kinabalu	68.31	305	P		P	05 24 43.3	-1.1			
KKM				IAmb		IAmb	05 25 08.3				
	comp=Z,28nm,1.0s										
LHSI	Lahat	68.47	288	P		P	05 24 58.0	+13			
POHA	Pohakuloa	74.31	37	IAMs_20		IAMs_20	05 54 44.3				
	comp=Z,3µm,21.0s										
MNSI	Mandailing Nat	74.53	288	P		P	05 25 30.8	+8.9			
KIP	Kipapa	74.79	34	*i* P		P	05 25 24.0	+0.8			
KIP				pmax		pmax					
	comp=Z,50nm,1.3s										
KIP				MLR		MLR					
	comp=Z,1µm,19.0s										
EFI	East Falkland	75.33	153	*i* P		P	05 25 25.3	-0.7			
EFI				pmax		pmax					
	comp=Z,68nm,1.2s										
GSI	Gunungsitoli	76.23	287	P		P	05 25 43

CHTO Chiang Mai 88.59 299 P **P** **05 26 36.2 +0.2**
CHTO IAmb IAmb 05 26 38.5
comp=Z,10nm,0.9s
CO01 Juntas del Tor 88.70 134 P **P** **05 26 37.2 +0.3**
CO01 IAmb IAmb 05 27 05.0
comp=Z,38nm,1.4s
NJ2 Nanjing 88.85 321 *e*P **P** **05 26 38.1 +1.2**
NJ2 pmax pmax
comp=Z,18nm,0.5s
JTM Tennabayashi 89.48 341 P **P** **05 26 40.8 +1.1**
AC05 El Transito 89.54 133 P **P** **05 26 41.1 +0.4**
AC05 IAmb IAmb 05 26 55.1
comp=Z,38nm,1.1s
WHN Wuhan 89.61 317 P **P** **05 26 42.3 +1.8**
WHN pP **sP** **05 26 50.8 -0.1**
WHN S **S** **05 37 34.4 +4.4**
WHN LR LR
comp=Z,2µm,18.4s
KSRS Korea Array 90.09 331 P **P** **05 26 44.2 +1.7**
comp=Z,1.2nm,0.4s,baz=296,slow=33,SNR=3.0
KSRS LR LR 06 06 22.7
comp=Z,281nm,18.2s,baz=162,slow=35
GYA Guiyang 90.14 309 *e*P **P** **05 26 45.1 +1.8**
GYA pP sP 05 26 55.5 +1.8
GYA PP **PP** **05 30 16.8 -0.5**
GYA S **S** **05 37 36.8 +1.4**
GYA SS **SS** **05 43 32.8 -2.5**
GYA pmax pmax
comp=Z,10.0nm,1.4s
GYA LR LR
comp=Z,1µm,22.1s
KS19 Wonju Array Si 90.16 331 P **P** **05 26 43.1 +0.2**
FOMA Nahampoana Res 90.23 232 IAMs_20 IAMs_20 06 02 07.3
comp=Z,2µm,18.0s
GO03 Copiap 90.57 132 P **P** **05 26 45.9 +0.4**
GO03 IAmb IAmb 05 26 59.3
comp=Z,26nm,0.9s
GO03 IAMs_20 IAMs_20 06 00 06.4
comp=Z,2µm,18.0s
KMI Kunming 91.24 306 ⇑P **P** **05 26 51.0 +2.5**
KMI pP pP 05 26 56.0 -0.2
KMI sP sP 05 26 59.1 +0.1
KMI SKS **SKSac** **05 37 23.0 +3.6**
KMI SS **SS** **05 43 55.5 +4.0**
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=Z,610nm,20.9s
KMI LR LR
comp=Z,940nm,20.4s
KMI LR LR
comp=Z,1µm,24.9s
AC01 Pan de Azucar 91.56 131 P **P** **05 26 49.0 -1.0**
AC01 IAmb IAmb 05 27 14.7
comp=Z,23nm,1.1s
AC01 IAMs_20 IAMs_20 06 00 48.6
comp=Z,2µm,18.0s
GO02 Mina Guanaco 92.88 131 P **P** **05 26 56.2 -0.3**
VLA Vladivostok 94.01 336 *i* P **P** **05 27 01.9 +1.3**
VLA pmax pmax
comp=Z,21nm,0.9s
VLA MLR MLR
comp=Z,513nm,18.0s
ABPO Ambohimpanom 94.80 236 IAMs_20 IAMs_20 06 02 27.5
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 95.04 344 *e*P **P** **05 27 07.2 +2.0**
YSS *e*S **S** **05 38 18.1 +0.2**
YSS *e*SSS SSS 05 48 30.8
YSS MLR MLR
comp=Z,1µm,17.0s
YSS MLR MLR
comp=N,600nm,18.0s
YSS MLR MLR
comp=E,600nm,15.0s
XAN Xi'an 95.08 316 P **P** **05 27 10.0 +4.2**
XAN pmax pmax
comp=E,8.0nm,1.1s
CD2 Chengdu 95.22 310 *e*P **P** **05 27 07.3 +0.8**
CD2 S **S** **05 38 19.9 -0.4**
CD2 SS **SS** **05 44 50.5 +2.6**
CD2 pmax pmax
comp=E,430nm,8.4s
CD2 LR LR
comp=E,890nm,13.1s
CD2 LR LR
comp=E,1µm,14.8s
CD2 LR LR
comp=E,1µm,18.2s
TA01 Diego Aracena 96.30 128 IAMs_20 IAMs_20 06 01 22.7
comp=Z,2µm,20.0s
CN2 Changchun 96.61 332 *e*P **P** **05 27 16.9 +4.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BJI Beijing 96.79 324 P **P** **05 27 18.0 +4.7**
BJI S **S** **05 38 40.8 +7.5**
BJI pmax pmax
comp=Z,6.0nm,2.2s
BJI LR LR
comp=Z,640nm,6.1s
BJI LR LR
comp=Z,750nm,13.9s
BJI LR LR
comp=Z,270nm,25.6s
SKR Severo-Kuril's 96.93 354 *e*P **P** **05 27 14.1 +0.4**
SKR *e*S **S** **05 38 28.6 -5.4**
SKR pmax pmax
comp=Z,300nm,6.6s
SKR pmax pmax
comp=Z,300nm,5.7s
SKR MLR MLR
comp=Z,700nm,18.0s
PSGCX Pisagua 97.12 128 IAMs_20 IAMs_20 06 02 02.4
comp=Z,2µm,19.0s
PB08 IPOC Station P 97.21 129 IAMs_20 IAMs_20 06 01 42.5
comp=Z,2µm,19.0s
PB11 IPOC Station P 97.24 128 IAMs_20 IAMs_20 06 01 50.6
comp=Z,2µm,20.0s
BOSA Boshof 97.47 214 LR LR 06 04 06.5
comp=Z,1µm,21.0s,baz=166,slow=31
GO01 Chusmiza 97.57 129 IAMs_20 IAMs_20 06 02 03.2
comp=Z,2µm,20.0s
CPUP Villa Florida 97.75 142 P **P** **05 27 17.8 -0.5**
comp=Z,1.3nm,0.9s,baz=231,slow=7.7,SNR=3.6
CPUP LR LR 06 05 46.3
comp=Z,1µm,20.0s,baz=208,slow=32
CPUP Villa Florida 97.75 142 P Pdif 05 27 18.6 +0.3
PB16 IPOC Station P 98.48 128 IAMs_20 IAMs_20 06 03 24.4
comp=Z,2µm,19.0s
PET Petropavlovsk 99.09 355 *i* P **Pdif** **05 27 24.8 +1.5**
PET pmax pmax
comp=Z,101nm,1.1s
PET MLR MLR
comp=Z,1µm,6.0s
LZH Lanzhou 99.22 313 *e*P **Pdif** **05 27 25.8 +1.2**
LZH pmax pmax
comp=Z,14nm,1.3s
PETK Petropavlovsk- 99.23 355 LR LR 06 06 40.5
comp=Z,676nm,20.6s,baz=167,slow=32
NNA Nana 99.24 118 *i* P **Pdif** **05 27 22.6 -2.6**
NNA pmax pmax
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 99.41 321 *e*P **Pdif** **05 27 24.6 -0.7**
HHC S **S** **05 38 50.8 -5.1**
HHC sS sS 05 39 08.6 -0.1
HHC SS **SS** **05 45 44.8 -2.1**
HHC pmax pmax
comp=Z,28nm,1.3s
HHC LR LR
comp=Z,630nm,19.2s
HHC LR LR
comp=Z,610nm,19.7s
HHC LR LR
comp=Z,730nm,18.3s
SFX San Felipe 104.86 61 IAMs_20 IAMs_20 06 18 42.7
comp=Z,2µm,19.0s
PAGB Antelope Grade 105.06 54 IAMs_20 IAMs_20 06 14 01.6
comp=Z,2µm,20.0s
PMPB Monarch Peak 105.10 53 IAMs_20 IAMs_20 06 06 59.7
comp=Z,2µm,18.0s
PASC Pasadena Art C 105.11 56 IAMs_20 IAMs_20 06 11 06.2
comp=Z,2µm,18.0s
OSI Osito Audit: C 105.12 56 IAMs_20 IAMs_20 06 09 54.4
comp=Z,2µm,20.0s
RMX La Rumorosa 105.23 59 IAMs_20 IAMs_20 06 12 56.3
comp=Z,2µm,18.0s
CPBX Cerro Prieto 105.56 59 IAMs_20 IAMs_20 06 21 35.2
comp=Z,2µm,19.0s
TLIG Tlapa 106.12 81 IAMs_20 IAMs_20 06 09 29.1
comp=Z,2µm,18.0s
CHGN Chignik 106.43 20 IAMs_20 IAMs_20 06 07 21.1
comp=Z,2µm,21.0s
CMB Columbia Colle 106.64 52 IAMs_20 IAMs_20 06 15 26.4
comp=Z,2µm,19.0s
GSC Goldstone, Bar 106.72 56 IAMs_20 IAMs_20 06 17 20.6
comp=Z,2µm,18.0s
113A Mohawk Valley, 106.73 60 IAMs_20 IAMs_20 06 11 01.2
comp=Z,2µm,19.0s
214A Organ Pipe Nat 106.74 61 IAMs_20 IAMs_20 06 09 21.6
comp=Z,2µm,18.0s
UNM Universidad Na 106.92 80 IAMs_20 IAMs_20 06 11 12.2
comp=Z,2µm,18.0s
AFDM Forest Hills D 106.98 51 IAMs_20 IAMs_20 06 09 03.3
comp=Z,2µm,20.0s
MDPB Devils Postpil 107.08 53 IAMs_20 IAMs_20 06 09 00.0
comp=Z,2µm,20.0s
OMMB Old Mammoth Mi 107.11 53 IAMs_20 IAMs_20 06 09 00.8
comp=Z,2µm,20.0s
ORV Oroville 107.13 50 IAMs_20 IAMs_20 06 09 18.3
comp=Z,2µm,21.0s
RUBR Rubicon Trail 107.50 52 IAMs_20 IAMs_20 06 16 28.0
comp=Z,2µm,19.0s
WAKR Walker 107.50 52 IAMs_20 IAMs_20 06 08 48.1
comp=Z,2µm,22.0s
KBO Bosley Butte 107.64 47 IAMs_20 IAMs_20 06 06 28.4
comp=Z,2µm,18.0s
LHV Little Huntoon 107.84 53 IAMs_20 IAMs_20 06 09 33.1
comp=Z,2µm,20.0s
YERR Yerington 107.95 52 IAMs_20 IAMs_20 06 17 52.0
comp=Z,2µm,18.0s
YBH Yreka Blue Hor 108.07 48 IAMs_20 IAMs_20 06 14 56.8
comp=Z,2µm,20.0s
NVAR Mina Array Bea 108.08 53 PKKPbc PKKPbc 05 43 27.5 +5.3
comp=Z,0.2nm,0.3s,baz=84,slow=3.0,SNR=4.5
RYN Ryan 108.09 53 IAMs_20 IAMs_20 06 08 56.9
comp=Z,2µm,20.0s
NV11 Mina Array Sit 108.16 53 IAMs_20 IAMs_20 06 08 34.6
comp=Z,2µm,18.0s
TUC Tucson 108.22 62 IAMs_20 IAMs_20 06 10 00.9
comp=Z,2µm,20.0s
W13A Hualapai Mount 108.28 58 IAMs_20 IAMs_20 06 12 19.1
comp=Z,2µm,20.0s
SHPR Sheep Range 108.51 56 IAMs_20 IAMs_20 06 18 52.1
comp=Z,2µm,18.0s
KVN Kaiserville 108.63 53 IAMs_20 IAMs_20 06 09 12.8
comp=Z,2µm,22.0s
RTAL Retalhuleu 108.77 88 IAMs_20 IAMs_20 06 07 30.3
comp=Z,2µm,20.0s
TSUM Tsumeb 108.89 211 IAMs_20 IAMs_20 06 09 40.2
comp=Z,2µm,22.0s
PRN Pahoc Range 109.20 56 IAMs_20 IAMs_20 06 18 43.3
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 109.27 60 IAMs_20 IAMs_20 06 12 31.4
comp=Z,2µm,20.0s
MOD Modoc Plateau 109.45 49 IAMs_20 IAMs_20 06 10 45.4
comp=Z,2µm,21.0s
SNET Serv Nac Est T 109.90 91 IAMs_20 IAMs_20 06 13 44.2
comp=Z,2µm,18.0s
WUAZ Wupatki 110.06 59 IAMs_20 IAMs_20 06 10 22.3
comp=Z,2µm,20.0s
U15A North Rim 110.13 58 IAMs_20 IAMs_20 06 13 38.2
comp=Z,2µm,18.0s
121A Cookes Peak, D 110.23 64 IAMs_20 IAMs_20 06 11 30.2
comp=Z,2µm,19.0s
MTO3 Montecristo 110.30 90 IAMs_20 IAMs_20 06 08 44.0
comp=Z,2µm,21.0s
JTS Las Juntas de 110.48 97 IAMs_20 IAMs_20 06 09 34.2
comp=Z,2µm,20.0s
EPT El Paso 110.52 65 IAMs_20 IAMs_20 06 10 08.0
comp=Z,2µm,20.0s
TXAR Lajitas Array 110.71 69 PKKPbc PKKPbc 05 43 18.4 +5.1
comp=Z,0.7nm,0.9s,baz=93,slow=6.3,SNR=6.3
W18A Petrified Fore 110.77 61 IAMs_20 IAMs_20 06 13 21.3
comp=Z,2µm,19.0s
HDC Heredia 110.85 97 IAMs_20 IAMs_20 06 08 51.4
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 111.80 63 IAMs_20 IAMs_20 06 12 28.6
comp=Z,2µm,19.0s
DUG Dugway, Tooele 112.38 55 IAMs_20 IAMs_20 06 18 37.3
comp=Z,2µm,18.0s
ANMO Albuquerque 112.66 63 IAMs_20 IAMs_20 06 12 55.5
comp=Z,2µm,19.0s
833A Chaparral WMA, 112.84 72 IAMs_20 IAMs_20 06 13 23.6
comp=Z,2µm,19.0s
MVCO Mesa Verde 112.91 60 IAMs_20 IAMs_20 06 12 02.9
comp=Z,1µm,19.0s
TTA Tatalina 112.94 18 IAMs_20 IAMs_20 06 13 55.9
comp=Z,2µm,21.0s
BMO Blue Mountains 113.07 49 IAMs_20 IAMs_20 06 13 25.2
comp=Z,2µm,20.0s
SKT Skwentna 113.11 20 IAMs_20 IAMs_20 06 20 56.9
comp=Z,2µm,20.0s
TNA Tin City 113.28 11 IAMs_20 IAMs_20 06 20 21.5
comp=Z,2µm,20.0s
WMQ Urumqi 113.30 309 *e*PKP **PKiKP** **05 32 20.8 +0.6**
WMQ AMB AMB
comp=Z,110nm,4.3s
WMQ LR LR
comp=Z,280nm,19.5s
WMQ LR LR
comp=Z,260nm,24.7s
GLI Glacier Island 113.31 23 IAMs_20 IAMs_20 06 15 37.2
comp=Z,2µm,20.0s
PV18 Skein Mesa, Pa 113.35 59 IAMs_20 IAMs_20 06 12 15.4
comp=Z,2µm,21.0s
FID Port Fidalgo 113.37 23 IAMs_20 IAMs_20 06 15 37.5
comp=Z,2µm,20.0s
KNK Knik Glacier 113.40 22 IAMs_20 IAMs_20 06 16 29.5
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 113.40 24 IAMs_20 IAMs_20 06 15 34.8
comp=Z,2µm,20.0s
GHO Glory Hole Cre 113.58 22 IAMs_20 IAMs_20 06 12 06.3
comp=Z,2µm,20.0s
HLID Hailey 113.74 51 IAMs_20 IAMs_20 06 24 11.1
comp=Z,2µm,18.0s
PPLA Purkeypile 113.75 19 IAMs_20 IAMs_20 06 12 17.7
comp=Z,2µm,22.0s
SML Sawmill 113.76 22 IAMs_20 IAMs_20 06 16 31.1
comp=Z,2µm,20.0s
SIT Sitka 113.92 31 IAMs_20 IAMs_20 06 17 22.3
comp=Z,2µm,20.0s
BILL Bilibino 113.96 0 *i* PKIKP **PKiKP** **05 32 23.5 +2.9**
BILL pmax pmax
comp=Z,6.0nm,1.3s
SOCY Socotra 113.97 263 IAMs_20 IAMs_20 06 11 43.7
comp=Z,2µm,19.0s
JCT Junction City 113.98 70 IAMs_20 IAMs_20 06 14 32.8
comp=Z,2µm,18.0s
HWUT Hardware Ranch 114.02 54 IAMs_20 IAMs_20 06 19 32.8
comp=Z,2µm,18.0s
SCM Sheep Creek Mo 114.05 22 IAMs_20 IAMs_20 06 11 17.6
comp=Z,2µm,20.0s
KLU Klutina 114.14 23 IAMs_20 IAMs_20 06 16 14.1
comp=Z,2µm,20.0s
735A Kenedy 114.24 73 IAMs_20 IAMs_20 06 14 38.7
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 114.27 60 IAMs_20 IAMs_20 06 12 37.7
comp=Z,2µm,20.0s
CRQM Cirque 114.31 25 IAMs_20 IAMs_20 06 17 42.2
comp=Z,2µm,19.0s
MSTX Muleshoe 114.33 66 IAMs_20 IAMs_20 06 12 19.8
comp=Z,2µm,21.0s
TGL Tana Glacier 114.40 25 IAMs_20 IAMs_20 06 13 10.3
comp=Z,2µm,20.0s
YAH Yahtse 114.41 26 IAMs_20 IAMs_20 06 21 35.3
comp=Z,2µm,19.0s
ISLE Juniper Island 114.42 25 IAMs_20 IAMs_20 06 11 59.9
comp=Z,2µm,21.0s
C09A Chrisman Ranch 114.57 46 IAMs_20 IAMs_20 06 14 07.6
comp=Z,3µm,21.0s
VRDI Verde Repeater 114.61 24 IAMs_20 IAMs_20 06 15 58.6
comp=Z,2µm,20.0s
PCA Pinnacle 114.65 26 IAMs_20 IAMs_20 06 15 47.9
comp=Z,2µm,20.0s
BALM Baldy 114.77 25 IAMs_20 IAMs_20 06 12 32.0
comp=Z,2µm,21.0s
MCARA McCarthy VSAT 114.85 24 IAMs_20 IAMs_20 06 16 36.2
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 114.90 239 IAMs_20 IAMs_20 06 12 59.8
comp=Z,2µm,18.0s
O20A White River Ci 114.97 57 IAMs_20 IAMs_20 06 16 55.2
comp=Z,2µm,19.0s
BARN Barnard Glacie 114.99 25 IAMs_20 IAMs_20 06 12 27.8
comp=Z,2µm,22.0s
CTGM Chitina Glacie 115.01 25 IAMs_20 IAMs_20 06 12 28.4
comp=Z,3µm,22.0s
AHID Auburn Hatcher 115.04 54 IAMs_20 IAMs_20 06 21 05.7
comp=Z,2µm,18.0s
TEIG Tepich 115.04 86 IAMs_20 IAMs_20 06 12 56.3
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 115.06 19 IAMs_20 IAMs_20 06 22 22.4
comp=Z,2µm,20.0s
DHY Denali Highway 115.07 21 IAMs_20 IAMs_20 06 28 11.7
comp=Z,1µm,18.0s
BESE Bessie Mountai 115.24 30 IAMs_20 IAMs_20 06 16 56.1
comp=Z,2µm,19.0s
T25A Trinidad 115.35 62 IAMs_20 IAMs_20 06 13 17.5
comp=Z,2µm,20.0s
PAX Paxson 115.47 22 IAMs_20 IAMs_20 06 17 01.5
comp=Z,2µm,20.0s
REDW Red Top Meadow 115.56 53 IAMs_20 IAMs_20 06 21 31.6
comp=Z,2µm,18.0s
AMTX Amarillo 115.61 66 IAMs_20 IAMs_20 06 19 59.6
comp=Z,2µm,18.0s
435B Jarrell 115.63 72 IAMs_20 IAMs_20 06 15 04.5
comp=Z,2µm,19.0s
SNOW Snow King Moun 115.68 53 IAMs_20 IAMs_20 06 22 17.7
comp=Z,2µm,18.0s
SKAG Skagway 115.74 29 IAMs_20 IAMs_20 06 17 12.1
comp=Z,2µm,19.0s
IMW Indian Meadow 115.86 53 IAMs_20 IAMs_20 06 21 24.4
comp=Z,1µm,18.0s
LOHW Long Hollow 115.86 53 IAMs_20 IAMs_20 06 21 44.5
comp=Z,1µm,18.0s
BW06 Boulder Array 115.91 55 IAMs_20 IAMs_20 06 18 04.7
comp=Z,2µm,18.0s
PDAR Pinedale Array 115.91 55 PKP **PKPdf** **05 32 24.5 -1.0**
comp=Z,0.4nm,0.8s,baz=191,slow=1.5,SNR=3.6
PDAR PP **PP** **05 33 28.6 -1.6**
comp=Z,0.4nm,0.7s,baz=248,slow=6.2,SNR=4.3
MENT Mentasta 115.92 23 IAMs_20 IAMs_20 06 17 19.2
comp=Z,2µm,20.0s
Q24A Divide 116.06 60 IAMs_20 IAMs_20 06 17 13.2
comp=Z,2µm,19.0s
HYT Haines Junctio 116.07 27 IAMs_20 IAMs_20 06 16 52.7
comp=Z,2µm,20.0s
FLWY Flagg Ranch 116.11 53 IAMs_20 IAMs_20 06 24 37.0
comp=Z,2µm,18.0s
HKT Hockley 116.26 73 IAMs_20 IAMs_20 06 16 51.3
comp=Z,2µm,18.0s
CCB Clear Creek Bu 116.28 20 **PKPdf** **05 32 23.8 -1.3**
HDA Harding Lake 116.29 21 **PKPdf** **05 32 24.1 -1.1**
HDA IAMs_20 IAMs_20 06 17 58.8
comp=Z,2µm,20.0s
ISCO Idaho Springs 116.31 59 IAMs_20 IAMs_20 06 13 55.8
comp=Z,2µm,20.0s
H17A Grant Village 116.38 53 IAMs_20 IAMs_20 06 14 05.1
comp=Z,2µm,21.0s
DOT Dot Lake 116.40 22 IAMs_20 IAMs_20 06 17 27.8
comp=Z,2µm,20.0s
MDM Murphy Dome 116.43 20 IAMs_20 IAMs_20 06 17 39.6
comp=Z,2µm,20.0s
WHTX Lake Whitney, 116.49 71 IAMs_20 IAMs_20 06 17 02.2
comp=Z,2µm,18.0s
JTMT Jette 116.55 48 IAMs_20 IAMs_20 06 16 07.4
comp=Z,2µm,19.0s
BOZ Bozeman (W) 116.57 51 IAMs_20 IAMs_20 06 21 45.1
comp=Z,1µm,19.0s
LKWY Lake 116.58 53 IAMs_20 IAMs_20 06 22 59.5
comp=Z,2µm,18.0s
IL31 116.60 21 PKPdf **PKPdf** **05 32 25.6 -0.1**
ILAR Eielson Array 116.60 21 PKP **PKPdf** **05 32 25.1 -0.7**
comp=Z,2.6nm,0.8s,baz=295,slow=3.4,SNR=18
ILAR PKKPbc **PKKPbc** **05 42 52.8 -1.2**
comp=Z,1.2nm,0.7s,baz=356,slow=3.2,SNR=13
ILAR Eielson Array 116.60 21 PKPdf **PKPdf** **05 32 25.4 -0.4**
WHY Whitehorse 116.79 28 IAMs_20 IAMs_20 06 20 45.1
comp=Z,2µm,18.0s
N23A Red Feather La 116.81 58 IAMs_20 IAMs_20 06 13 58.8
comp=Z,2µm,21.0s
DGZ Jazzator, Alta 117.31 314 *i* PKIKP **PKiKP** **05 32 29.3 +1.5**
WMOK Wichita Mounta 117.36 67 PKIKP **PKPdf** **05 32 28.1 -0.2**
WMOK Wichita Mounta 117.36 67 PKPdf **PKPdf** **05 32 28.1 -0.2**
WMOK Wichita Mounta 117.36 67 IAMs_20 IAMs_20 06 16 14.2
comp=Z,2µm,20.0s
RLMT Red Lodge 117.56 53 IAMs_20 IAMs_20 06 22 29.4
comp=Z,1µm,19.0s
K22A Casper 117.57 56 IAMs_20 IAMs_20 06 19 02.8
comp=Z,2µm,19.0s
237A Washetta, Mont 117.58 72 IAMs_20 IAMs_20 06 18 26.0
comp=Z,2µm,18.0s
UZB Uzynbulak 117.68 304 *e*PKP **PKPdf** **05 32 28.4 -0.4**
UZB Uzynbulak 117.68 304 *e*PKIKP **PKPdf** **05 32 28.4 -0.4**
DAWY Dawson 118.00 24 **PKPdf** **05 32 28.6 0.0**
DAWY IAMs_20 IAMs_20 06 16 39.5
comp=Z,2µm,20.0s
KPKS Kokpek 118.07 304 *e*PKP **PKPdf** **05 32 28.5 -0.9**
KPKS Kokpek 118.07 304 *e*PKIKP **PKPdf** **05 32 28.5 -0.9**
EGAK Eagle 118.07 23 **PKPdf** **05 32 28.4 -0.2**
EGAK IAMs_20 IAMs_20 06 13 53.1
comp=Z,2µm,21.0s
MK31 Makanchi Array 118.13 309 *c* PKIKP **PKPdf** **05 32 26.7 -2.6**
MKAR Makanchi Array 118.13 309 PKP **PKPdf** **05 32 27.8 -1.5**
comp=Z,2.5nm,0.8s,baz=111,slow=3.1,SNR=8.0
MKAR PKKPbc **PKKPab** **05 42 52.6 +3.5**
comp=Z,0.7nm,0.8s,baz=302,slow=5.6,SNR=3.9
MKAR Makanchi Array 118.13 309 **PKPdf** **05 32 28.6 -0.8**
NATX Nacogdoches 118.18 73 IAMs_20 IAMs_20 06 21 05.1
comp=Z,2µm,18.0s
MAKZ Makanchi 118.31 309 PKIKP **PKPdf** **05 32 27.7 -2.0**
MAKZ Makanchi 118.31 309 PKPdf **PKPdf** **05 32 27.7 -2.0**
FYU Fort Yukon 118.47 20 IAMs_20 IAMs_20 06 17 34.3
comp=Z,2µm,20.0s
Z38A Mt. Pleasant 118.90 71 IAMs_20 IAMs_20 06 17 45.2
comp=Z,2µm,19.0s
MBAR Mbarara 119.08 234 *i* PKIKP **PKiKP** **05 32 34.8 +2.3**
EGMT Eagleton 119.10 50 IAMs_20 IAMs_20 06 16 52.8
comp=Z,2µm,21.0s
SDV Santo Domingo 119.14 109 IAMs_20 IAMs_20 06 15 21.1
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 119.22 17 IAMs_20 IAMs_20 06 15 21.9
comp=Z,2µm,22.0s
CBKS Cedar Bluff 119.27 63 IAMs_20 IAMs_20 06 17 17.5
comp=Z,2µm,19.0s
R32A Long Quarter, 119.68 64 PKPdf **PKPdf** **05 32 31.3 -1.3**
R32A IAMs_20 IAMs_20 06 17 23.2
comp=Z,1µm,20.0s
KUU Kurty 119.68 304 *e*PKP **PKPdf** **05 32 31.2 -1.2**
KUU Kurty 119.68 304 *e*PKIKP **PKPdf** **05 32 31.1 -1.3**
AAK Ala-Archa 120.00 302 *c* PKIKP **PKiKP** **05 32 34.0 +0.7**
AAK pmax pmax
comp=Z,16nm,1.3s
TUL1 Leonard 120.01 68 IAMs_20 IAMs_20 06 15 10.2
comp=Z,2µm,21.0s
LAO LASA Array 120.20 53 IAMs_20 IAMs_20 06 25 52.2
comp=Z,1µm,18.0s
A21K Barrow 120.25 13 IAMs_20 IAMs_20 06 22 05.8
comp=Z,2µm,20.0s
Z41A Richland Creek 120.34 72 IAMs_20 IAMs_20 06 20 42.3
comp=Z,2µm,19.0s
GAR Garm 120.37 296 **PKPdf** **05 32 34.1 0.0**
SGDS Sogindy 120.41 302 *e*PKP **PKPdf** **05 32 33.9 -0.1**
SGDS Sogindy 120.41 302 *e*PKIKP **PKPdf** **05 32 33.8 -0.1**
EPYK Eagle Plains 120.49 23 IAMs_20 IAMs_20 06 21 21.0
comp=Z,1µm,19.0s
TIXI Tiksi 120.52 347 *i* PKIKP **PKPdf** **05 32 30.5 -2.6**
MIAR Mount Ida 120.62 71 IAMs_20 IAMs_20 06 16 40.5
comp=Z,1µm,20.0s
BTK Batken 120.69 297 PKIKP **PKPdf** **05 32 34.0 -0.6**
BTK Batken 120.69 297 **PKPdf** **05 32 34.0 -0.6**
CHGR Chuyangaron 120.89 295 IAMs_20 IAMs_20 06 30 30.9
comp=Z,1µm,20.0s
143A Socs Landing, 120.93 74 IAMs_20 IAMs_20 06 22 56.9
comp=Z,1µm,18.0s
ATD Arta Tunnel 121.05 253 IAMs_20 IAMs_20 06 18 02.8
comp=Z,2µm,19.0s
X40A Basin Creek Fa 121.07 71 IAMs_20 IAMs_20 06 19 55.5
comp=Z,2µm,18.0s
ZALV Zalesovo Beam 121.22 317 PKP **PKPdf** **05 32 34.0 -1.0**
comp=Z,0.6nm,0.4s,baz=310,slow=40,SNR=2.5
ZALV Zalesovo Beam 121.22 317 PKIKP **PKPdf** **05 32 34.0 -1.0**
ZALV Zalesovo Beam 121.22 317 **PKPdf** **05 32 34.4 -0.6**
U38A Gravette 121.23 68 **PKPdf** **05 32 35.4 -0.2**
KSU1 Kansas State U 121.40 65 **PKPdf** **05 32 34.6 -1.2**
KSU1 Kansas State U 121.40 65 IAMs_20 IAMs_20 06 23 49.8
comp=Z,2µm,18.0s
UALR University of 121.56 71 IAMs_20 IAMs_20 06 20 11.6
comp=Z,2µm,19.0s
BTLS Baital 121.68 304 *e*PKP **PKPdf** **05 32 35.6 -0.6**
BTLS Baital 121.68 304 *e*PKIKP **PKPdf** **05 32 35.6 -0.6**
BGNE Belgrade 121.80 62 IAMs_20 IAMs_20 06 17 02.2
comp=Z,2µm,21.0s

N33A J Bar K, Exete 121.83 63 IAMs_20 IAMs_20 06 19 04.2
comp=Z,1µm,20.0s
W41B Gary Mavity, V 121.86 71 **PKiKP** 05 32 37.2 +0.2
W41B IAMs_20 IAMs_20 06 17 18.6
comp=Z,2µm,22.0s
WHAR Wooly Hollow 121.91 71 **PKPdf** 05 32 35.6 -1.3
U40A Yellville 122.17 69 **PKPdf** 05 32 35.7 -1.8
U40A IAMs_20 IAMs_20 06 17 15.7
comp=Z,2µm,20.0s
DAMY Dhamar 122.21 257 IAMs_20 IAMs_20 06 16 01.7
comp=Z,1µm,19.0s
DGMT Dagmar 122.36 52 **PKiKP** 05 32 37.6 0.0
X43A Marvell 122.37 72 IAMs_20 IAMs_20 06 19 28.1
comp=Z,1µm,20.0s
IUG luzhnay 122.39 299 *e*PKP **PKPdf** 05 32 37.6 -0.3
IUG luzhnay 122.39 299 *e*PKIKP **PKPdf** 05 32 37.5 -0.3
KURK Kurchatov 122.42 311 *c i*PKIKP **PKPdf** 05 32 37.2 -0.2
KURK pmax pmax
comp=Z,17nm,1.7s
KURK Kurchatov 122.42 311 **PKPdf** 05 32 36.8 -0.6
KK31 Karatay Array 122.65 300 PKIKP **PKPdf** 05 32 37.5 -0.7
KK31 Karatay Array 122.65 300 **PKPdf** 05 32 37.5 -0.7
KKAR Karatay Array 122.65 300 PKIKP **PKPdf** 05 32 37.5 -0.7
KKAR Karatay Array 122.65 300 PKPdf **PKPdf** 05 32 37.5 -0.7
KKAR Karatay Array 122.65 300 **PKPdf** 05 32 37.5 -0.7
S39A Bolivar 122.66 68 **PKPdf** 05 32 36.8 -1.5
S39A IAMs_20 IAMs_20 06 22 07.4
comp=Z,2µm,19.0s
INK Inuvik 122.74 23 PKIKP **PKPdf** 05 32 37.4 0.0
INK Inuvik 122.74 23 **PKPdf** 05 32 37.4 0.0
INK IAMs_20 IAMs_20 06 16 26.7
comp=Z,2µm,21.0s
Y45A Yeager Farm, C 122.87 74 IAMs_20 IAMs_20 06 21 07.4
comp=Z,2µm,18.0s
MGMO Mountain Grove 123.02 69 **PKPdf** 05 32 38.7 -0.4
SUSD Miller 123.05 58 IAMs_20 IAMs_20 06 17 40.2
comp=Z,2µm,20.0s
L34A Svendsen Farm, 123.20 62 IAMs_20 IAMs_20 06 24 40.4
comp=Z,1µm,18.0s
E28A Huff 123.24 55 PKPdf **PKPdf** 05 32 37.9 -1.3
E28A IAMs_20 IAMs_20 06 19 01.0
comp=Z,2µm,20.0s
MET Memphis--Engin 123.36 72 IAMs_20 IAMs_20 06 20 43.2
comp=Z,2µm,19.0s
451A Vernon 123.47 79 IAMs_20 IAMs_20 06 21 00.4
comp=Z,1µm,19.0s
R40A Maddies Statio 123.68 68 **PKPdf** 05 32 39.8 -0.5
R40A IAMs_20 IAMs_20 06 17 46.5
comp=Z,2µm,22.0s
T42A Van Buren 123.71 70 IAMs_20 IAMs_20 06 17 30.5
comp=Z,2µm,21.0s
W45A Hickory Valley 123.87 73 IAMs_20 IAMs_20 06 21 10.8
comp=Z,2µm,19.0s
ECSD EROS Data Cent 124.05 60 **PKPdf** 05 32 39.5 -1.4
ECSD EROS Data Cent 124.05 60 IAMs_20 IAMs_20 06 24 32.8
comp=Z,2µm,18.0s
CCM Cathedral Cave 124.21 69 IAMs_20 IAMs_20 06 18 48.5
comp=Z,2µm,20.0s
PVMO Portageville 124.27 71 IAMs_20 IAMs_20 06 19 02.2
comp=Z,2µm,21.0s
PARMO Parma 124.38 71 IAMs_20 IAMs_20 06 20 56.1
comp=Z,2µm,20.0s
P40A Paris 124.53 67 **PKPdf** 05 32 41.3 -0.5
SCIA State Center 125.12 64 **PKPdf** 05 32 41.8 -1.1
SCIA IAMs_20 IAMs_20 06 24 36.3
comp=Z,1µm,18.0s
BRZS Berezniki 125.20 308 *e*PKP **PKPdf** 05 32 41.9 -1.0
BRZS Berezniki 125.20 308 *e*PKIKP **PKPdf** 05 32 41.8 -1.0
S44A Carbondale 125.29 70 IAMs_20 IAMs_20 06 22 54.3
comp=Z,1µm,18.0s
YKA Yellowknife Ar 125.30 34 PKP **PKPdf** 05 32 40.9 -1.7
comp=Z,2.8nm,0.8s,baz=285,slow=1.8,SNR=5.5
T45A Paducah 125.31 71 IAMs_20 IAMs_20 06 21 34.7
comp=Z,2µm,21.0s
WVT Waverly 125.34 72 IAMs_20 IAMs_20 06 25 10.6
comp=Z,2µm,18.0s
F33A 5 Mile Ranch, 125.40 58 **PKPdf** 05 32 43.0 -0.2
F33A IAMs_20 IAMs_20 06 31 53.1
comp=Z,2µm,18.0s
TIGA Tifton 125.44 80 IAMs_20 IAMs_20 06 25 11.6
comp=Z,1µm,18.0s
D32A Dogwood Acres, 125.66 57 IAMs_20 IAMs_20 06 32 36.1
comp=Z,1µm,18.0s
V48A Smith Brothers 125.78 73 IAMs_20 IAMs_20 06 21 54.4
comp=Z,1µm,19.0s
K38A Parkersburg 125.80 63 **PKPdf** 05 32 42.9 -1.2
456A Hilliard 126.08 81 IAMs_20 IAMs_20 06 21 44.7
comp=Z,2µm,20.0s
I37A Lemond, Waseca 126.15 61 IAMs_20 IAMs_20 06 19 46.5
comp=Z,2µm,21.0s
P43A Skaggs, Pawnee 126.21 68 IAMs_20 IAMs_20 06 19 37.4
comp=Z,2µm,21.0s
T47A Sharon Grove 126.31 72 IAMs_20 IAMs_20 06 18 26.2
comp=Z,1µm,21.0s
X51A Calhoun 126.42 76 IAMs_20 IAMs_20 06 24 14.4
comp=Z,1µm,18.0s
L40A Anamosa 126.45 65 IAMs_20 IAMs_20 06 25 27.6
comp=Z,1µm,19.0s
W50A Signal Mountai 126.48 75 IAMs_20 IAMs_20 06 27 11.0
comp=Z,1µm,18.0s
USIN University of 126.48 71 IAMs_20 IAMs_20 06 23 13.9
comp=Z,2µm,18.0s
255A Hazlehurst 126.49 80 IAMs_20 IAMs_20 06 22 06.5
comp=Z,1µm,19.0s
Y52A Lilburn 126.55 77 IAMs_20 IAMs_20 06 24 38.9
comp=Z,1µm,19.0s
GOGA Godfrey 126.69 78 IAMs_20 IAMs_20 06 28 33.6
comp=Z,1µm,18.0s
HDIL Hopedale 126.86 67 PKPdf **PKPdf** 05 32 46.2 -0.1
FFC Flin Flon 126.88 46 PKIKP **PKPdf** 05 32 45.6 -0.2
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 126.88 46 **PKPdf** 05 32 45.6 -0.2
FFC Flin Flon 126.88 46 IAMs_20 IAMs_20 06 27 21.3
comp=Z,1µm,19.0s
U49A Red Boiling Sp 126.91 73 **PKPdf** 05 32 46.3 -0.2
U49A IAMs_20 IAMs_20 06 27 18.4
comp=Z,1µm,18.0s
AGMN Agassiz Nation 126.94 56 IAMs_20 IAMs_20 06 24 42.7
comp=Z,2µm,19.0s
F36A Milaca 127.05 59 **PKPdf** 05 32 45.5 -0.9
F36A IAMs_20 IAMs_20 06 23 31.1
comp=Z,2µm,18.0s
SPMN Marine on St. 127.15 60 PKPdf **PKPdf** 05 32 45.7 -0.9
O44A Mansfield 127.17 68 IAMs_20 IAMs_20 06 24 55.8
comp=Z,2µm,18.0s
GRGR Grenville 127.36 114 IAMs_20 IAMs_20 06 22 51.9
comp=Z,1µm,19.0s
V51A Loudon 127.47 75 **PKPdf** 05 32 47.1 -0.5
V51A IAMs_20 IAMs_20 06 21 09.1
comp=Z,1µm,22.0s
257A Skidaway Islan 127.51 81 IAMs_20 IAMs_20 06 22 39.5
comp=Z,1µm,19.0s
JFWS Jewell Farm 127.52 64 PKIKP **PKPdf** 05 32 46.2 -1.2
JFWS Jewell Farm 127.52 64 **PKPdf** 05 32 46.2 -1.2
JFWS Jewell Farm 127.52 64 IAMs_20 IAMs_20 06 23 21.7
comp=Z,2µm,20.0s
WCI Wyandotte Cave 127.53 71 PKIKP **PKPdf** 05 32 46.5 -1.1
WCI Wyandotte Cave 127.53 71 **PKPdf** 05 32 46.5 -1.1
WCI IAMs_20 IAMs_20 06 22 53.6
comp=Z,1µm,20.0s
GEYT Alibeck 127.58 288 PKP **PKiKP** 05 32 48.4 0.0
comp=Z,22nm,1.3s,baz=139,slow=2.9,SNR=5.7
P46A Rosedale 127.69 69 **PKPdf** 05 32 47.3 -0.6
TKL Tuckaleechee C 127.77 75 IAMs_20 IAMs_20 06 28 10.2
comp=Z,1µm,18.0s
I40A Norwalk 127.80 63 **PKPdf** 05 32 47.5 -0.5
I40A IAMs_20 IAMs_20 06 22 12.1
comp=Z,1µm,20.0s
T50A Nancy 127.82 73 IAMs_20 IAMs_20 06 25 57.5
comp=Z,2µm,18.0s
BLO Bloomington 127.90 70 PKIKP **PKPdf** 05 32 47.9 -0.4
BLO Bloomington 127.90 70 **PKPdf** 05 32 47.9 -0.4
BLO IAMs_20 IAMs_20 06 20 01.7
comp=Z,2µm,22.0s
ULM Lac du Bonnet 127.91 54 PKP **PKPdf** 05 32 46.9 -1.0
comp=Z,3.7nm,0.7s,baz=248,slow=3.3,SNR=7.0
ULM Lac du Bonnet 127.91 54 PKPdf **PKPdf** 05 32 47.1 -0.8
ULM IAMs_20 IAMs_20 06 28 44.2
comp=Z,2µm,18.0s
HODGE Hodges 127.98 78 IAMs_20 IAMs_20 06 28 01.9
comp=Z,1µm,18.0s
V52A Sevierville 128.00 75 **PKPdf** 05 32 48.4 -0.2
V52A IAMs_20 IAMs_20 06 26 48.1
comp=Z,1µm,19.0s
BRVK Borovoye 128.05 310 *c i*PKIKP **PKPdf** 05 32 47.4 -0.7
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK Borovoye 128.05 310 **PKPdf** 05 32 48.2 +0.1
Z56A Williston 128.06 79 IAMs_20 IAMs_20 06 22 19.2
comp=Z,1µm,20.0s
B35A Bob, Littlefor 128.20 57 IAMs_20 IAMs_20 06 25 22.2
comp=Z,1µm,19.0s
R49A Shelbyville 128.30 72 **PKPdf** 05 32 48.2 -0.9
R49A IAMs_20 IAMs_20 06 23 20.1
comp=Z,1µm,20.0s
TZTN Tazewell 128.42 74 IAMs_20 IAMs_20 06 26 07.3
comp=Z,1µm,18.0s
V53A Saluda 128.42 76 **PKiKP** 05 32 49.9 -0.2
NRIK Noril'sk 128.61 334 PKP **PKPdf** 05 32 48.8 +0.1
comp=Z,3.5nm,0.6s,baz=81,slow=1.3,SNR=7.8
NRIK Noril'sk 128.61 334 *c i*PKIKP **PKiKP** 05 32 50.4 +1.1
JSC Jenkinsville 128.69 78 PKIKP **PKPdf** 05 32 49.7 -0.2
JSC Jenkinsville 128.69 78 **PKPdf** 05 32 49.7 -0.2
NHSC New Hope 128.75 80 IAMs_20 IAMs_20 06 34 06.4
comp=Z,1µm,18.0s
G40A Rib Lake 128.76 62 **PKPdf** 05 32 49.5 -0.2
G40A IAMs_20 IAMs_20 06 21 20.3
comp=Z,1µm,20.0s
P48A Milroy 128.77 70 **PKPdf** 05 32 50.1 +0.1
P48A IAMs_20 IAMs_20 06 27 49.3
comp=Z,2µm,18.0s
I42A Draeger Farm, 128.85 64 **PKPdf** 05 32 49.7 -0.2
S51A Beattyville 128.99 73 **PKPdf** 05 32 50.0 -0.4
S51A IAMs_20 IAMs_20 06 28 22.4
comp=Z,2µm,18.0s
KMSC Kings Mountain 129.13 77 IAMs_20 IAMs_20 06 35 14.2
comp=Z,1µm,18.0s
Y57A Sumter 129.13 79 IAMs_20 IAMs_20 06 24 48.3
comp=Z,1µm,19.0s
P49A Miami Univ. Ec 129.27 71 **PKPdf** 05 32 50.5 -0.4
P49A IAMs_20 IAMs_20 06 26 33.1
comp=Z,2µm,18.0s
N47A Urbana 129.34 69 **PKPdf** 05 32 51.1 +0.2
L46A Eue Claire 129.55 67 IAMs_20 IAMs_20 06 23 02.6
comp=Z,2µm,19.0s
U54A Nelsons Funny 129.56 76 IAMs_20 IAMs_20 06 34 52.7
comp=Z,1µm,18.0s
V55A Taylorsville 129.60 77 IAMs_20 IAMs_20 06 33 44.8
comp=Z,1µm,18.0s
COWI Conover 129.82 61 **PKPdf** 05 32 51.0 -0.7
COWI IAMs_20 IAMs_20 06 24 16.3
comp=Z,1µm,20.0s
H43A Windswept, Lux 129.86 64 IAMs_20 IAMs_20 06 23 25.6
comp=Z,2µm,20.0s
O49A Covington 129.87 70 IAMs_20 IAMs_20 06 27 20.3
comp=Z,1µm,19.0s
Q51A Peeles 129.90 72 IAMs_20 IAMs_20 06 24 18.4
comp=Z,2µm,19.0s
W57A Gilead 130.04 78 IAMs_20 IAMs_20 06 27 24.4
comp=Z,1µm,19.0s
Y59A Loris 130.15 80 IAMs_20 IAMs_20 06 23 45.4
comp=Z,1µm,20.0s
X58A Rowland 130.15 79 IAMs_20 IAMs_20 06 25 41.4
comp=Z,2µm,19.0s
F42A Maple Grove Fa 130.26 62 IAMs_20 IAMs_20 06 22 04.2
comp=Z,1µm,21.0s
P51A Williamsport 130.33 72 IAMs_20 IAMs_20 06 24 20.8
comp=Z,1µm,20.0s
N49A Columbus Grove 130.35 69 **PKPdf** 05 32 53.3 +0.4
SABA Saba 130.39 108 IAMs_20 IAMs_20 06 23 06.5
comp=Z,1µm,20.0s
U56A King 130.44 77 **PKPdf** 05 32 52.8 -0.5
U56A IAMs_20 IAMs_20 06 24 30.8
comp=Z,1µm,21.0s
R53A Hurricane 130.46 73 IAMs_20 IAMs_20 06 28 54.2
comp=Z,1µm,18.0s
S54A Dingess, Beckl 130.60 74 IAMs_20 IAMs_20 06 28 19.0
comp=Z,1µm,18.0s
Y60A Bolivia 130.61 80 IAMs_20 IAMs_20 06 31 04.5
comp=Z,983nm,18.0s
ACSO Alum Creek Sta 130.77 71 IAMs_20 IAMs_20 06 29 02.4
comp=Z,2µm,18.0s
SMRT St. Maarten 130.81 108 IAMs_20 IAMs_20 06 31 23.7
comp=Z,1µm,19.0s
BLA Blacksburg 130.88 76 PKIKP **PKiKP** 05 32 54.8 -0.2
BLA MLR MLR
comp=Z,2µm,18.0s
BLA Blacksburg 130.88 76 **PKiKP** 05 32 54.8 -0.2
V58A Windy Hill, Pi 130.99 78 IAMs_20 IAMs_20 06 30 10.6
comp=Z,1µm,18.0s
P52A Corning 131.02 72 IAMs_20 IAMs_20 06 24 42.1
comp=Z,2µm,20.0s
J47A Sunmer 131.10 66 IAMs_20 IAMs_20 06 24 17.8
comp=Z,2µm,19.0s
E43A Lee Tree Farm 131.25 62 IAMs_20 IAMs_20 06 24 30.4
comp=Z,2µm,19.0s
P53A Whipple 131.44 72 IAMs_20 IAMs_20 06 25 08.1
comp=Z,2µm,20.0s
G45A Suttons Bay 131.45 64 IAMs_20 IAMs_20 06 30 08.8
comp=Z,2µm,18.0s
CNNC Cliffs of the 131.52 79 IAMs_20 IAMs_20 06 26 10.6
comp=Z,1µm,19.0s
N51A Ashland 131.52 70 IAMs_20 IAMs_20 06 25 46.2
comp=Z,1µm,20.0s
Q54A Coxs Mills 131.54 73 IAMs_20 IAMs_20 06 25 06.0
comp=Z,1µm,19.0s
T57A Hurt 131.55 76 IAMs_20 IAMs_20 06 28 13.4
comp=Z,1µm,18.0s
O53A New Philadelph 131.94 72 IAMs_20 IAMs_20 06 34 21.5
comp=Z,2µm,18.0s
ABKAR Akbulak array 132.09 302 **PKPdf** 05 32 56.1 +0.2
ABKAR Akbulak array 132.09 302 PKPdf **PKPdf** 05 32 55.9 0.0
S57A Dark Hollow, R 132.16 76 IAMs_20 IAMs_20 06 25 22.4
comp=Z,1µm,19.0s
V60A Jim Taylor Roa 132.24 79 IAMs_20 IAMs_20 06 27 50.6
comp=Z,1µm,19.0s
O54A Avella 132.46 72 IAMs_20 IAMs_20 06 25 27.2
comp=Z,2µm,20.0s
M52A Chesterland 132.50 70 IAMs_20 IAMs_20 06 27 19.0
comp=Z,2µm,19.0s
Q56A Snyder Ridge, 132.67 74 IAMs_20 IAMs_20 06 27 25.9
comp=Z,2µm,19.0s
T59A Double "B" Far 132.69 77 IAMs_20 IAMs_20 06 23 22.5
comp=Z,1µm,20.0s
V61A Roper 132.72 79 IAMs_20 IAMs_20 06 28 06.3
comp=Z,1µm,19.0s
M53A WI Miller and 132.89 71 IAMs_20 IAMs_20 06 25 59.5
comp=Z,1µm,20.0s
E46A Sault Ste Mari 132.90 63 IAMs_20 IAMs_20 06 30 22.2
comp=Z,1µm,19.0s
R58B Mineral 132.99 76 IAMs_20 IAMs_20 06 29 02.4
comp=Z,1µm,19.0s
U61A Possum Corner 133.10 79 IAMs_20 IAMs_20 06 24 23.4
comp=Z,1µm,21.0s
N54A Moraine State 133.11 71 IAMs_20 IAMs_20 06 28 36.2
comp=Z,1µm,18.0s
T60A Surry 133.33 78 IAMs_20 IAMs_20 06 27 25.5
comp=Z,1µm,20.0s
P57A Homestead Farm 133.68 74 IAMs_20 IAMs_20 06 26 22.6
comp=Z,1µm,19.0s
O56A Blue Knob Stat 133.71 73 IAMs_20 IAMs_20 06 26 40.1
comp=Z,2µm,20.0s
SSPA Standing Stone 134.34 73 IAMs_20 IAMs_20 06 26 38.9
comp=Z,2µm,20.0s
M56A Emporium 134.55 72 IAMs_20 IAMs_20 06 27 20.5
comp=Z,1µm,20.0s
Q60A Greensboro 134.89 76 IAMs_20 IAMs_20 06 25 55.8
comp=Z,1µm,20.0s
PAGS Pennsylvania G 134.91 74 IAMs_20 IAMs_20 06 26 59.2
comp=Z,1µm,20.0s
M57A Sunshine Farm, 135.18 72 IAMs_20 IAMs_20 06 26 53.1
comp=Z,2µm,20.0s
N58A Sunbury 135.21 73 IAMs_20 IAMs_20 06 36 38.1
comp=Z,1µm,18.0s
L56A Greenwood 135.27 71 IAMs_20 IAMs_20 06 27 42.5
comp=Z,2µm,20.0s
P60A Greenville 135.44 75 IAMs_20 IAMs_20 06 31 20.1
comp=Z,1µm,18.0s
PSUB Penn St. - Bra 135.62 75 IAMs_20 IAMs_20 06 27 13.8
comp=Z,1µm,20.0s
ARU Arti 135.62 311 *i* PKIKP **PKiKP** 05 33 03.8 -0.1
ARU 05 35 41.0
N59A State Game Lan 135.88 74 IAMs_20 IAMs_20 06 27 47.8
comp=Z,2µm,19.0s
P61A Hammonton 135.94 76 IAMs_20 IAMs_20 06 31 36.3
comp=Z,1µm,18.0s
J56A Wolcott 136.25 70 IAMs_20 IAMs_20 06 25 08.4
comp=Z,2µm,22.0s
RES Resolute Bay 136.30 22 IAMs_20 IAMs_20 06 33 53.9
comp=Z,2µm,20.0s
K58A Earlville 136.82 71 IAMs_20 IAMs_20 06 32 40.4
comp=Z,1µm,18.0s
J57A Williamstown 136.88 70 IAMs_20 IAMs_20 06 25 49.9
comp=Z,2µm,21.0s
MAK Makhachkala 137.10 289 *e*P **Pdif** 05 30 12.1 -0.5
MAK *i* 05 33 05.0
MAK *e* 05 35 47.0
MAK *e* 05 40 13.9
MAK pmax pmax
comp=Z,473nm,1.6s
PAL Palisades 137.16 75 IAMs_20 IAMs_20 06 39 55.4
comp=Z,1µm,18.0s
J58A Remsen 137.32 71 IAMs_20 IAMs_20 06 30 32.6
comp=Z,1µm,19.0s
VLDQ Val d'Or 137.87 63 IAMs_20 IAMs_20 06 32 18.5
comp=Z,2µm,18.0s
J59A Piesco 137.88 71 IAMs_20 IAMs_20 06 26 10.4
comp=Z,2µm,22.0s
GEVA Gevas 137.90 280 IAMs_20 IAMs_20 06 34 30.6
comp=Z,994nm,18.0s
YLE Yale 137.96 75 IAMs_20 IAMs_20 06 33 11.8
comp=Z,1µm,18.0s
TRY Troy 138.11 72 IAMs_20 IAMs_20 06 33 21.7
comp=Z,2µm,18.0s
EUNU Eureka 138.18 14 IAMs_20 IAMs_20 06 35 07.4
comp=Z,1µm,21.0s
LONY Lake Ozonia 138.32 69 IAMs_20 IAMs_20 06 26 39.9
comp=Z,2µm,21.0s
QUA2 Belchertown 138.78 74 IAMs_20 IAMs_20 06 27 34.6
comp=Z,2µm,22.0s
VT1 Waterbury 139.39 71 IAMs_20 IAMs_20 06 27 15.3
comp=Z,2µm,22.0s
LIC Lamto 139.40 194 *e*PKIKP PKPpre 05 33 01.8
comp=Z,18nm,0.9s
ZEI Tsey 139.41 287 *i* PKHKP PKPpre 05 33 01.9
ZEI pmax pmax
comp=Z,4.0nm,0.9s
HRV Adam Dziewonsk 139.41 74 IAMs_20 IAMs_20 06 30 04.8
comp=Z,2µm,20.0s
KIC Kosan Boka 139.48 194 *e*PKIKP PKPpre 05 33 02.2
comp=Z,14nm,0.9s
BCX Boston College 139.59 74 IAMs_20 IAMs_20 06 32 22.6
comp=Z,2µm,20.0s
M65A Busby, Falmout 139.61 76 IAMs_20 IAMs_20 06 38 43.1
comp=Z,1µm,19.0s
DBIC Dimbokro 139.80 194 PKhKP PKPpre 05 33 01.2
comp=Z,3.5nm,0.8s,baz=184,slow=6.9,SNR=4.2
TIC Toumodi 139.81 194 *e*PKIKP PKPpre 05 33 02.1
KOPT Kop Dagi 140.47 281 IAMs_20 IAMs_20 06 42 06.4
comp=Z,663nm,18.0s
KBZ Khabaz 140.47 288 PKhKP PKPpre 05 33 07.9
comp=Z,0.9nm,0.3s,baz=216,slow=8.9,SNR=2.3
KBZ Khabaz 140.47 288 *c i*PKIKP **PKiKP** 05 33 13.3 -0.8
KBZ pmax pmax
comp=Z,8.0nm,1.2s
BELG Belogornoye 140.49 302 *i* PKIKP **PKPdf** 05 33 11.3 0.0
H62A Milan 140.53 71 IAMs_20 IAMs_20 06 29 19.2
comp=Z,2µm,19.0s
SHA1 Shidzhatmaz 140.63 287 *e*PKIKP **PKiKP** 05 33 14.5 -0.3
PTK Pertek 140.69 279 *e*P **PKPdf** 05 33 12.6 +0.1
KIV Kislovodsk 140.70 288 *i* PKIKP **PKiKP** 05 33 14.2 -0.6
KIV pmax pmax
comp=Z,33nm,1.0s
KIV MLR MLR
comp=Z,1µm,24.0s
KIRV Kirov 140.93 312 *c i*PKIKP **PKPdf** 05 33 11.9 0.0
GAZ Gaziantep 141.35 275 IAMs_20 IAMs_20 06 30 42.1
comp=Z,1µm,19.0s
ARPR Arapgir-MALATY 141.51 279 *e*P **PKPdf** 05 33 14.5 +0.6
WVL Waterville 141.52 72 IAMs_20 IAMs_20 06 30 22.2
comp=Z,2µm,20.0s
TAHT Tahtakopru-Hat 141.66 273 *e*P **PKPdf** 05 33 13.9 -0.1
SOC Sochi 142.52 286 *e*PKIKP **PKPdf** 05 33 14.8 -0.5
SOC *e* 05 36 23.9
SOC *e*PPP PPP 05 39 31.9
SOC *e*SS SS 05 55 00.0 +1.3
SOC *e*SSS SSS 06 00 22.6
SOC MLR MLR
comp=Z,657nm,20.0s
EREN Erenkoy 142.62 271 *e*P **PKPdf** 05 33 15.1 -0.6
SVSK Karacayir 142.81 279 *e*P **PKPdf** 05 33 11.8 -4.1
F64A Sherman 142.86 70 IAMs_20 IAMs_20 06 29 20.6
comp=Z,2µm,21.0s
E63A Oxbow 143.01 69 IAMs_20 IAMs_20 06 31 00.4
comp=Z,2µm,20.0s
PRGR Permogore 143.18 317 *e*PKHKP PKPpre 05 33 11.5
PRGR pmax pmax
comp=Z,8.0nm,0.6s
IKL Isikli 143.32 272 *e*P **PKPdf** 05 33 16.9 -0.1
TEKE Tekeli-Mersin 143.67 271 *e*P PKPab 05 33 12.2 -2.1
BERE Bereket-Mersin 143.70 271 *e*P PKPab 05 33 15.0 +0.4
VRH Novokhopyorsk 143.71 299 *e*PKIKP PKPbc 05 33 14.8 0.0
VRH pmax pmax
comp=Z,20nm,0.7s
KVT Kavak 143.97 280 *e*P PKPab 05 33 15.5 +0.1
YESY Yesilyurt 144.05 274 *e*P **PKPab** 05 33 15.9 0.0
GAZI Gazipasa 144.27 271 *e*P **PKPab** 05 33 16.2 -0.5
SULT Sultanhani-AKS 144.41 274 *e*P PKPbc 05 33 17.4 -0.1
TORD Torodi Ar. Bea 144.47 207 PKP **PKPab** 05 33 17.3 -0.6
comp=Z,16nm,0.7s,baz=165,slow=1.7,SNR=88
TOC7 Torodi Ar. Sit 144.49 207 IAMs_20 IAMs_20 06 35 39.5
comp=Z,2µm,19.0s
NOR Nord 144.50 1⇑ *i*PKIKP **PKPab** 05 33 15.8 -0.4
NOR pmax pmax
comp=Z,160nm,1.8s
NOR Nord 144.50 1⇑ *i*P **PKPab** 05 33 15.8 -0.4
comp=Z,157nm,1.8s
NOR Nord 144.50 1⇑ *i*P **PKPab** 05 33 15.8 -0.4
NOR IAmb IAmb 05 33 17.7
comp=Z,157nm,1.8s
ANN Anapa 144.50 287 *e*PKIKP **PKPab** 05 33 17.0 -0.2
ANN *e* 05 33 20.2
ANN pmax pmax
comp=Z,83nm,1.1s
ANN MLR MLR
comp=Z,491nm,20.0s
ANN MLR MLR
comp=N,285nm,18.0s
CORM Corum 144.55 278 *e*P PKPbc 05 33 18.1 +0.2
YAYX Yaylak 144.56 276 *e*P **PKPab** 05 33 15.9 -1.8
SERE Serefiikochisa 144.73 275 *e*P **PKPab** 05 33 17.9 -0.5
DIKM Dikmen 144.75 281 ||P PKPbc 05 33 18.7 +0.3
BATG Bathurst New B 144.82 69 **PKPab** 05 33 18.3 0.0
SNOP Sinop 144.94 281 *e*P **PKPab** 05 33 18.8 -0.1
BR131 Keskin Array S 145.03 277 PKIKP **PKPab** 05 33 19.7 +0.1
BR131 Keskin Array S 145.03 277 **PKPab** 05 33 19.6 +0.1
BRTR Keskin Array B 145.03 277 PKPbc **PKPbc** 05 33 19.2 -0.3
comp=N,34nm,0.8s,baz=142,slow=4.7,SNR=105
BRTR Keskin Array B 145.03 277 PKIKP **PKPbc** 05 33 18.8 -0.7
BRTR Keskin Array B 145.03 277 **PKPbc** 05 33 18.8 -0.7
VORD Divnogorie 145.14 298 *e*PKIKP **PKPbc** 05 33 19.0 -0.2
VORD pmax pmax
comp=Z,30nm,0.6s
LMN Caledonia Moun 145.18 72 IAMs_20 IAMs_20 06 32 31.2
comp=Z,1µm,21.0s
SEYD Seydisehir-KON 145.19 272 *e*P **PKPbc** 05 33 19.4 -0.6
LADK Ladik-KONYA 145.21 274 *e*P **PKPbc** 05 33 19.6 -0.5
VSR Storozhevoye 145.27 298 *e*PKIKP **PKPbc** 05 33 19.6 -0.1
VSR pmax pmax
comp=Z,80nm,0.8s
AFSR Afar-Bala (An 145.30 276 *e*P **PKPab** 05 33 20.4 -0.1
CANT Cankiri 145.43 278 *e*P **PKPdf** 05 33 20.1 -0.5
ILGA Ilgaz 145.56 279 **PKPdf** 05 33 20.9 -0.1
ANTO Ankara 145.68 276 PKP2 **PKPdf** 05 33 21.0 -0.1
ANTO Ankara 145.68 276 **PKPdf** 05 33 21.0 -0.1
LPSR Galich'ya Gora 145.71 300 *e*PKP2 **PKPbc** 05 33 20.8 -0.2
LPSR pmax pmax
comp=Z,110nm,0.8s
BZK Bozkurt 145.74 280 ||P **PKPab** 05 33 22.1 +0.3
BZK Bozkurt 145.74 280 *e*P **PKPab** 05 33 21.7 -0.1
KBS Kingsbay 145.80 351 *c i*PKP2 **PKPbc** 05 33 20.8 +0.2
KBS pmax pmax
comp=Z,33nm,1.3s
KBS Kingsbay 145.80 351 ⇑ *i*P **PKPab** 05 33 20.9 -0.2
KBS IAmb IAmb 05 33 22.5
comp=Z,406nm,1.7s
KIZT Kizilcal 145.86 274 *e*P **PKPdf** 05 33 20.6 -0.9
KORT Korkueli 146.02 270 *e*P **PKPbc** 05 33 22.9 +0.2
SCHQ Schefferville 146.03 56 PKPbc **PKPdf** 05 33 20.9 -0.1
comp=Z,31nm,0.6s,baz=285,slow=2.6,SNR=48
SCHQ Schefferville 146.03 56 **PKPdf** 05 33 21.3 +0.2
KLMR Klimovskoe 146.12 315 *e*PKIKP **PKPdf** 05 33 20.5 -0.5
KLMR pmax pmax
comp=Z,190nm,1.5s
KLMR Klimovskoe 146.12 315 *e*PKPdf **PKPdf** 05 33 20.5 -0.5
KLMR AMP 05 33 26.2
comp=Z,190nm,1.5s

KLMR LR LR 06 36 24.2
AKAS Kas 146.15 269 *e*P **PKPbc 05 33 22.7 -0.4**
ELL Elmali 146.20 270 *e*P **PKPab 05 33 23.6 -0.4**
ISP Isparta 146.31 272 *e*P **PKPdf 05 33 22.5 +0.3**
ISP Isparta 146.31 272 PKP2 **PKPdf 05 33 22.1 -0.2**
ISP Isparta 146.31 272 **PKPdf 05 33 22.1 -0.2**
AUSIV SIVRIHISAR 146.35 275 *e*P **PKPbc 05 33 23.7 +0.1**
SVRH Sivrihisar-ESK 146.37 275 *e*P **PKPbc 05 33 23.6 0.0**
KURC Kurucasile-Bar 146.55 280 *e*P **PKPbc 05 33 23.2 -0.7**
SHUT Suhut-Afyon 146.63 273 *e*P **PKPdf 05 33 22.9 +0.1**
CIFT Cifteler, Eski 146.65 275 *e*P **PKPbc 05 33 24.1 -0.3**
YUVA Yuva-Kibriscik 146.67 277 *e*P **PKPdf 05 33 23.3 +0.5**
MOS Moscow 146.91 306 *i* PKIKP **PKPdf 05 33 22.1 -0.4**
MOS pmax pmax
comp=Z,43nm,0.8s
HSPB Hornsund (broa 146.94 348 *e*PKP **PKPbc 05 33 23.3 -0.7**
MDUB Mudurnu 147.04 276 *e*P **PKPbc 05 33 24.9 -0.6**
MDUB Mudurnu 147.04 276 **PKPbc 05 33 25.2 -0.3**
DALY Dalyan (Mula) 147.11 269 *e*P **PKPbc 05 33 25.4 -0.2**
GBN Guysborough 147.22 74 **PKPbc 05 33 25.0 -0.6**
SRCK Saricakaya, Es 147.25 275 *e*P **PKPbc 05 33 25.6 -0.4**
KOWA Kowa 147.28 198 **PKPbc 05 33 26.1 -0.6**
BORA Eskisehir 147.30 275 *e*P **PKPdf 05 33 22.1 -1.7**
TURN Turunc 147.37 268 *e*P **PKPbc 05 33 27.1 +0.7**
OBN Obninsk 147.45 305 *i* PKP2 **PKPbc 05 33 25.1 -0.9**
OBN *i* 05 36 55.7
OBN *i* 05 40 33.0
OBN *e* 05 49 41.2
OBN *i* SS SS 05 55 51.6 -2.9
OBN pmax pmax
comp=Z,56nm,1.0s
KARP Karpathos 147.49 266 P **PKPbc 05 33 26.7 -0.1**
KARP Karpathos 147.49 266 *e*P **PKPbc 05 33 26.9 +0.1**
KARP Karpathos 147.49 266 **PKPbc 05 33 25.8 -1.0**
KARP IAMs_20 IAMs_20 06 52 44.5
comp=Z,918nm,19.0s
YER Yerkesik 147.52 269 *e*P **PKPbc 05 33 26.5 -0.4**
AUBOZ BOZOYUK 147.60 275 *e*P **PKPbc 05 33 26.6 -0.4**
APA Apatity 147.71 328 *i* PKIKP **PKPdf 05 33 24.0 +0.5**
APA *i* 05 33 38.7
APA pmax pmax
comp=Z,20nm,0.8s
APA pmax pmax
comp=Z,22nm,0.8s
SAUV Serdivan-Sakar 147.76 276 *e*P **PKPbc 05 33 26.8 -0.5**
TVSB Tavsanli 147.80 274 *e*P **PKPdf 05 33 24.1 -0.6**
ZKR Zakros 147.91 264 *e*P **PKPbc 05 33 27.9 0.0**
KULA Kula-Manisa 147.93 272 P **PKPbc 05 33 28.3 +0.3**
KULA Kula-Manisa 147.93 272 *e*P **PKPbc 05 33 28.6 +0.6**
SIMA Simav-Kutahya 147.96 273 *e*P **PKPbc 05 33 27.5 -0.6**
ADVT Abdulvahap 148.03 276 *e*P **PKPbc 05 33 27.7 -0.4**
BODT Bodrum 148.16 268 P **PKPbc 05 33 27.7 -0.8**
BODT Bodrum 148.16 268 *e*P **PKPbc 05 33 27.4 -1.1**
AYDB Zeytinkoy-Aydi 148.19 270 *e*P **PKPdf 05 33 24.7 -0.7**
HRT Hereke 148.25 276 *e*P **PKPbc 05 33 27.9 -0.8**
SILT Sile 148.40 277 *e*P **PKPdf 05 33 25.6 +0.2**
NPS Neapolis 148.41 264 P **PKPbc 05 33 29.6 +0.4**
LAST Lasithi 148.45 264 P **PKPbc 05 33 29.6 +0.2**
ARMT Armutlu 148.69 275 *e*P **PKPbc 05 33 29.2 -0.6**
KAVV Kandilli-Istan 148.76 276 *e*P **PKPbc 05 33 29.3 -0.6**
ISK Istanbul-Kandi 148.77 276 P **PKPbc 05 33 29.5 -0.5**
ISK Istanbul-Kandi 148.77 276 *e*P **PKPbc 05 33 29.4 -0.5**
SMG Samos 148.81 269 P **PKPbc 05 33 29.9 -0.3**
SIVA Sivas 148.83 263 P **PKPbc 05 33 30.6 +0.3**
KLYT Kilyos 148.85 277 *e*P **PKPbc 05 33 29.5 -0.6**
IDI Anoyia 148.92 263 P **PKPbc 05 33 30.5 -0.2**
IDI Anoyia 148.92 263 ||P **PKiKP 05 33 31.5 -0.4**
IDI Anoyia 148.92 263 *e*P **PKPbc 05 33 30.4 -0.2**
IDI Anoyia 148.92 263 **PKPbc 05 33 29.8 -0.8**
BALB Balikesir 148.98 273 *e*P **PKPdf 05 33 24.5 -1.9**
AMGA Amorgos Island 149.03 267 P **PKPdf 05 33 28.2 +1.5**
KEV Kevo 149.03 334 PKIKP **PKPbc 05 33 27.9 -1.8**
KEV MLR MLR
comp=Z,800nm,22.0s
KEV Kevo 149.03 334 **PKPbc 05 33 27.9 -1.8**
SANT Santorini 149.10 266 **PKPbc 05 33 29.6 -1.4**
CTKS Kestanelik-??a 149.22 276 *e*P **PKPbc 05 33 30.5 -0.5**
GVD Gavdhos 149.23 262 P **PKPbc 05 33 30.9 -0.4**
GVD Gavdhos 149.23 262 *e*P **PKPbc 05 33 30.9 -0.4**
GVDS Gavdos 149.23 262 P **PKPbc 05 33 31.1 -0.2**
GVDS Gavdos 149.23 262 *e*P **PKPbc 05 33 30.5 -0.8**
URLA Izmir 149.29 270 *e*P **PKPbc 05 33 31.2 -0.2**
DAG Danmarks Havn 149.30 2 *i* PKIKP **PKPdf 05 33 24.1 -1.8**
DAG pmax pmax
comp=Z,77nm,1.5s
DAG Danmarks Havn 149.30 2 *i* P **PKPdf 05 33 24.1 -1.8**
comp=Z,77nm,1.5s
DAG Danmarks Havn 149.30 2 *i* P **PKPdf 05 33 24.1 -1.8**
DAG IAmb IAmb 05 33 30.9
comp=Z,77nm,1.5s
IOSP Ios island 149.39 266 P **PKPbc 05 33 30.7 -1.0**
DKL Dikili 149.40 271 *e*P **PKPbc 05 33 31.1 -0.5**
APE Apeiranthos 149.40 267 P **PKPbc 05 33 30.2 -1.5**
VAM Vamos 149.46 263 P **PKPbc 05 33 32.2 +0.3**
CTYL Yalikoy Yolu 149.46 276 *e*P **PKPbc 05 33 31.1 -0.6**
MRMT Marmara Adasi 149.59 274 *e*P **PKPbc 05 33 31.3 -0.8**
ARCES ARCESS Array B 149.60 334 PKPbc **PKPbc 05 33 31.2 0.0**
comp=Z,38nm,0.7s,baz=74,slow=3.7,SNR=93
IMMV Iera Moni Meta 149.64 263 P **PKPbc 05 33 32.5 +0.2**
CHOS Chios island 149.67 270 *e*P **PKPbc 05 33 32.1 -0.3**
KRBG Karabiga-Canak 149.71 274 *e*P **PKPbc 05 33 32.0 -0.3**
MAR4 Marsite Statio 149.87 275 *e*P **PKiKP 05 33 33.4 -0.3**
MHLO Agia Marina, M 149.99 265 P **PKPbc 05 33 32.6 -0.5**
EZN Ezine 150.14 272 P **PKPbc 05 33 33.2 -0.1**
SERI Serifos 150.17 266 P **PKPbc 05 33 32.5 -1.1**
JURR Jurilovca 150.23 283 ||P **PKPab 05 33 38.5 -1.2**
GELI Tayfur-Gelibol 150.28 273 *e*P **PKPbc 05 33 33.4 -0.3**
ANKY Antikythira Is 150.32 263 P **PKPbc 05 33 34.2 +0.3**
BOZC Bozcaada 150.33 272 *e*P **PKPbc 05 33 33.6 -0.2**
PSN Preselentsi 150.35 280 *e*P **PKPbc 05 33 33.9 +0.2**
ERIK Erikli-Kesan 150.36 274 *e*P **PKPbc 05 33 33.6 -0.3**
TLCR 150.40 284 ||P **PKPbc 05 33 34.0 +0.2**
TLCR 150.40 284 ||PKIKP **PKPbc 05 33 34.0 +0.2**
ILULI Ilulissat 150.45 26 PKIKP **PKPbc 05 33 32.4 -0.7**
ILULI Ilulissat 150.45 26 **PKPbc 05 33 32.4 -0.7**
ILULI IAMs_20 IAMs_20 06 45 21.0
comp=Z,1μm,19.0s
ILULI Ilulissat 150.45 26 *i* P **PKPbc 05 33 32.7 -0.4**
comp=Z,68nm,1.1s
ILULI Ilulissat 150.45 26 *i* P **PKPbc 05 33 32.8 -0.4**
ILULI IAmb IAmb 05 33 35.6
comp=Z,68nm,1.1s
TIRR Tirgusor 150.45 282 ||P **PKPbc 05 33 33.6 -0.3**
TIRR Tirgusor 150.45 282 ||PKIKP **PKPbc 05 33 33.6 -0.3**
TIRR Tirgusor 150.45 282 **PKPbc 05 33 33.9 0.0**
TIRR IAMs_20 IAMs_20 06 51 45.6
comp=Z,1μm,21.0s
TIRR Tirgusor 150.45 282 *e*P **PKiKP 05 33 34.9 +0.2**
GADA Gvkgeada 150.59 273 P **PKPbc 05 33 33.8 -0.6**
GADA Gvkgeada 150.59 273 *e*P **PKPbc 05 33 33.8 -0.6**
ENEZ Enez 150.64 274 P **PKPbc 05 33 34.0 -0.5**
ENEZ Enez 150.64 274 *e*P **PKPbc 05 33 34.2 -0.3**
KTHA Kythira Island 150.69 263 P **PKPbc 05 33 34.7 -0.1**
KTHA Kythira Island 150.69 263 *e*P **PKPbc 05 33 34.8 -0.1**
PRD Provadia 150.72 279 *e*P **PKPbc 05 33 34.2 -0.4**
KTHR Kythira 150.74 263 P **PKPbc 05 33 34.8 -0.1**
ALN Alexandroupoli 150.78 274 P **PKPbc 05 33 34.1 -0.8**
ALN Alexandroupoli 150.78 274 *e*P **PKPbc 05 33 34.1 -0.8**
ALN Alexandroupoli 150.78 274 PKIKP **PKPbc 05 33 33.5 -1.4**
ALN Alexandroupoli 150.78 274 **PKPbc 05 33 33.5 -1.4**
HARR Harsova 150.85 282 ||P **PKiKP 05 33 35.5 0.0**
HARR Harsova 150.85 282 ||PKIKP **PKiKP 05 33 35.5 0.0**
CFR Carcaliu 150.86 283 ||P **PKiKP 05 33 35.2 -0.3**
CFR Carcaliu 150.86 283 ||PKIKP **PKiKP 05 33 35.2 -0.3**
LIA Limnos Island 150.96 272 P **PKPbc 05 33 34.8 -0.5**
SMTH Samothraki Isl 150.96 273 P **PKPbc 05 33 34.7 -0.6**
PTL Penteli 151.03 267 P **PKPbc 05 33 34.9 -0.7**
RDO Rodhopi 151.23 274 P **PKPbc 05 33 35.2 -0.7**
SUMG Summit 151.25 15 PKIKP **PKPbc 05 33 35.1 -0.4**
SUMG Summit 151.25 15 **PKPbc 05 33 35.1 -0.4**
SUMG Summit 151.25 15 *i* P **PKPbc 05 33 35.6 +0.1**
comp=Z,236nm,1.4s
SUMG Summit 151.25 15 *i* P **PKPbc 05 33 35.6 +0.1**
SUMG IAmb IAmb 05 33 39.0
comp=Z,237nm,1.4s
AKASG Malin Array Be 151.36 295 PKP **PKPdf 05 33 28.5 -1.3**
comp=Z,0.8nm,0.5s,baz=67,slow=36,SNR=2.7
AKASG PKPbc **PKPbc 05 33 35.5 -0.4**
comp=Z,31nm,0.7s,baz=80,slow=2.4,SNR=28
VILL Villia 151.47 267 P **PKPbc 05 33 35.3 -1.3**
KDZ Kurdzhali 151.51 275 *e*P **PKPdf 05 33 28.4 -2.0**

AOS Alonnisos 151.54 269 P **PKPdf 05 33 28.4 -2.1**
LOUT Loutraki 151.62 266 P **PKPbc 05 33 35.8 -1.1**
LTK Loutraki 151.64 266 P **PKPbc 05 33 35.8 -1.2**
DBG Daneborg 151.71 4 *i* P **PKPbc 05 33 35.6 -0.4**
DBG IAmb IAmb 05 33 38.5
comp=Z,52nm,1.2s
SFJD Kangerlussuaq 151.73 30 *i* PKIKP **PKPbc 05 33 35.5 -0.7**
SFJD Kangerlussuaq 151.73 30 **PKPbc 05 33 35.6 -0.6**
SFJD Kangerlussuaq 151.73 30 *i* P **PKPbc 05 33 35.5 -0.7**
SFJD Kangerlussuaq 151.73 30 *i* P **PKPbc 05 33 35.5 -0.7**
VLX Vlachokerasia 151.73 265 P **PKPbc 05 33 37.2 -0.1**
TRIP Tripoli 151.88 265 P **PKiKP 05 33 37.9 -0.1**
ISR Istrita 151.92 283 ||P **PKiKP 05 33 37.8 0.0**
ISR Istrita 151.92 283 ||PKIKP **PKiKP 05 33 37.8 0.0**
BISRR Bisoca 151.93 283 ||P **PKiKP 05 33 38.3 +0.5**
PYL PYLOS 151.93 263 P **PKPbc 05 33 36.8 -0.9**
ITM Ithomi 151.95 264 *e*P **PKPdf 05 33 29.7 -1.5**
ITM Ithomi 151.95 264 **PKPbc 05 33 36.9 -0.8**
SULR 151.98 282 ||P **PKiKP 05 33 37.9 +0.1**
VRI Vrincioaia 152.00 284 ||P **PKPbc 05 33 37.6 0.0**
VRI Vrincioaia 152.00 284 ||PKIKP **PKPbc 05 33 37.6 0.0**
GUR Goura 152.03 266 P **PKPbc 05 33 37.6 -0.4**
PLOR Plostina 152.05 284 ||P **PKPbc 05 33 37.7 0.0**
PLOR Plostina 152.05 284 ||PKIKP **PKPbc 05 33 37.7 0.0**
NEO Neokhori 152.06 269 P **PKPbc 05 33 37.3 -0.6**
XOR Xorichti 152.11 269 P **PKPbc 05 33 37.4 -0.6**
DSF Desfina 152.13 267 P **PKPbc 05 33 37.1 -1.1**
KALE Kalithea 152.39 267 P **PKPbc 05 33 38.4 -0.3**
TRIZ Trizonia 152.43 266 P **PKPbc 05 33 38.5 -0.2**
MLR Muntele Rosu 152.43 283 ||P **PKiKP 05 33 38.8 -0.1**
MLR Muntele Rosu 152.43 283 ||PKIKP **PKiKP 05 33 38.8 -0.1**
MICGM Minsk 152.44 303 *e* **PKPbc 05 33 38.0 -0.2**
MICGM LRM MLR 06 44 26.0
MNK Minsk 152.44 303 *e*PKIKP **PKPbc 05 33 38.0 -0.2**
SERG Sergoula 152.46 266 P **PKPbc 05 33 38.6 -0.2**
FIA1 FINESS Array S 152.48 318 **PKPbc 05 33 36.8 -1.3**
FINES FINESS Array B 152.48 318 PKPbc **PKiKP 05 33 38.2 -0.1**
comp=Z,11nm,0.7s,baz=90,slow=4.0,SNR=28
FINES PKPab **sPKPbc 05 33 49.1 +0.4**
comp=Z,26nm,0.9s,baz=73,slow=3.8,SNR=12
FINES FINESS Array B 152.48 318 PKIKP **PKPab 05 33 46.6 -1.9**
FINES FINESS Array B 152.48 318 **PKPbc 05 33 37.5 -0.6**
FINES **PKPab 05 33 46.6 -1.9**
NUUK Nuuk 152.54 36 *i* P **PKiKP 05 33 38.4 +0.1**
NUUK IAmb IAmb 05 33 41.0
comp=Z,33nm,0.9s
AGG Agios Georgios 152.55 268 P **PKPbc 05 33 38.4 -0.6**
AGG Agios Georgios 152.55 268 PKIKP **PKPbc 05 33 37.6 -1.5**
AGG Agios Georgios 152.55 268 **PKPbc 05 33 37.6 -1.5**
MMB Musomiste 152.66 274 *e*P **PKPbc 05 33 38.0 -1.2**
MAKR Makrakomi, Fth 152.69 268 P **PKPbc 05 33 39.2 -0.1**
BIZ Bicaz 152.69 286 ||P **PKiKP 05 33 39.7 +0.5**
LIT Litokhoron 152.91 270 PKIKP **PKPbc 05 33 39.1 -0.7**
LIT Litokhoron 152.91 270 **PKPbc 05 33 39.1 -0.7**
DOPR Dopca 152.93 284 ||P **PKiKP 05 33 40.2 +0.3**
THL Klokotos Trika 153.01 269 P **PKPdf 05 33 30.9 -1.7**
VOIR 153.02 283 ||P **PKPbc 05 33 39.9 0.0**
VOIR 153.02 283 ||PKIKP **PKPbc 05 33 39.9 0.0**
NACGM Naroch 153.07 304 *e* **PKPbc 05 33 39.0 -0.6**
VTS Vitosha 153.38 276 *e*P **PKiKP 05 33 41.9 +0.9**
BURAR Burgavina Array 153.43 287 PKPdf **PKPdf 05 33 33.6 +0.4**
FSK Fiskardo 153.51 265 P **PKPdf 05 33 31.9 -1.5**
ICESG Greenland Ices 153.69 21 *i* P **PKPbc 05 33 40.1 -0.9**
GZR Gura Zlata 154.55 282 ||P **PKPab 05 33 57.9 -0.1**
GZR Gura Zlata 154.55 282 ||PKP2 **PKPab 05 33 57.9 -0.1**
LVV L'vov 154.55 292 *e*PKIKP **PKiKP 05 33 44.2 +1.2**
SUW Suwalki 155.21 302 *e*PKPab **PKPab 05 34 00.2 -0.1**
SUW Suwalki 155.21 302 PKP2 **PKPab 05 34 00.3 -0.1**
SUW Suwalki 155.21 302 **PKPab 05 34 00.3 -0.1**
KWP Kalwaria Pacla 155.38 291 *e*PKPdf **PKPdf 05 33 37.3 +1.6**
KWP Kalwaria Pacla 155.38 291 IAMs_20 IAMs_20 06 54 09.9
comp=Z,1μm,21.0s
KOLS Kolonicke sedl 155.58 290 *e*PKP2 **PKPab 05 34 02.2 0.0**
PDG Podgorica 156.07 273 IAMs_20 IAMs_20 06 51 34.4
comp=Z,966nm,21.0s
DIVS Divibare 156.10 277 PKPdf **PKPdf 05 33 37.3 +0.4**
TIP Timpagrande 156.48 264 IAMs_20 IAMs_20 07 00 05.5
comp=Z,1μm,22.0s
CEL Celeste 156.63 261 IAMs_20 IAMs_20 06 47 59.6
comp=Z,908nm,18.0s
NIE Niedzica 156.93 290 *e*PKPdf **PKPdf 05 33 41.8 +4.0**
NIE *e*PKPab **PKPab 05 34 08.6 +0.6**
NIE *e*SKKSac SKKSac 05 44 35.1 +1.0
OJC Ojcow 157.31 292 *e*PKPab **PKPab 05 34 09.9 +0.3**
MORC Moravsky Berou 158.74 291 IAMs_20 IAMs_20 06 53 48.7
comp=Z,1μm,21.0s
NB2 NORSAR Subarra 159.18 324 PKP **PKPab 05 34 16.1 -1.3**
comp=Z,24nm,1.7s,baz=56,slow=4.4
NB2 NORSAR Subarra 159.18 324 PKP **PKPab 05 34 16.1 -1.3**
baz=56,slow=4.4
NOA NORSAR Array B 159.18 324 PKP **PKPdf 05 33 39.1 -1.0**
comp=Z,0.3nm,0.6s,baz=56,slow=21,SNR=1.8
NOA PKPab **PKPab 05 34 15.8 -1.6**
comp=Z,1.7nm,0.7s,baz=57,slow=4.4,SNR=6.4
KRLC Kraliky 159.24 292 AMS AMS 07 01 30.0
comp=Z,800nm,19.6s
DPC Dobruska-Polom 159.54 293 AMS AMS 07 07 20.0
comp=Z,800nm,17.0s
KSP Ksiaz 159.55 294 *e*PKPab **PKPab 05 34 19.5 +0.2**
OSTC Ostas 159.61 293 AMS AMS 07 08 10.0
comp=Z,900nm,16.2s
KEST Kesra 159.61 247 PKPab **PKPab 05 34 21.6 +1.6**
comp=Z,16nm,0.9s,baz=186,slow=1.3,SNR=8.0
CHVC Chvalec 159.71 293 *e*PKPAB **PKPab 05 34 21.8 +1.8**
CHVC AMS AMS 07 06 10.0
comp=Z,600nm,15.4s
BOJS Bojanci 159.72 279 *e*PKPdf **PKPdf 05 33 38.4 -2.8**
BOJS *e* 05 48 23.5
UPC Upice 159.74 293 *e*PP PP 05 38 06.1 +3.6
UPC AMS AMS 06 57 00.0
comp=Z,900nm,18.4s
ARSA Arzberg 159.85 284 *e*P **PKPdf 05 33 42.1 +0.7**
comp=Z,2.0nm,0.7s
ARSA *e*P **PKPab 05 34 20.1 -0.6**
comp=Z,5.0nm,0.8s
PDKS Podkum 160.01 280 *e*PKPdf **PKPdf 05 33 39.6 -2.0**
PDKS *e*PKPab **PKPab 05 34 20.2 -1.3**
PERS Pernice 160.03 282 *e*PKPdf **PKPdf 05 33 39.6 -2.0**
TREC Trest 160.06 290 AMS AMS 07 02 50.0
comp=Z,900nm,15.9s
SOKA Soboth 160.09 282 *e*P **PKPdf 05 33 45.3 +3.6**
comp=Z,6.5nm,1.2s
SOKA *e*P **PKPab 05 34 22.2 +0.3**
comp=Z,7.5nm,0.9s
OBKA Obir 160.39 281 *e*P **PKPdf 05 33 45.8 +3.8**
comp=Z,4.2nm,1.1s
OBKA *e*P **PKPab 05 34 25.2 +2.0**
comp=Z,7.7nm,1.6s
GOPC GO Pecny, Ondr 160.53 291 AMS AMS 07 02 40.0
comp=Z,1μm,18.2s
PVCC Panska Ves 160.66 293 AMS AMS 07 01 50.0
comp=Z,900nm,18.1s
PRU Pruhonice 160.68 292 *e*PKPDF **PKPdf 05 33 41.8 -0.3**
PRU *e*PKPAB **PKPab 05 34 24.6 +0.4**
PRU *e*PP PP 05 38 17.9 +10
PRU AMS AMS 07 02 20.0
comp=Z,1μm,19.3s
PRU Pruhonice 160.68 292 *e*PKIKP **PKPdf 05 33 41.8 -0.3**
PRU *e* 05 34 24.6
PRU MLR MLR
comp=Z,1μm,19.3s
PRA Prague 160.75 292 AMS AMS 07 00 40.0
comp=Z,500nm,17.4s
MYKA Terra Mystica 161.03 281 *e*P **PKPdf 05 33 42.1 -0.6**
comp=Z,2.3nm,0.8s
MYKA *e*P **PKPab 05 34 24.7 -1.2**
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 161.04 294 *e*PKP **PKPdf 05 33 42.8 +0.3**
comp=Z,5.2nm,1.0s
BRG Berggiesshubel 161.04 294 *e*PKIKP **PKPdf 05 33 42.8 +0.3**
BRG 05 38 18.0
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,19nm,1.4s
GEC2 GERESS Array S 161.21 288 PKPab **PKPab 05 34 27.0 +0.3**
GERES GERESS Array B 161.21 288 PKP **PKPdf 05 33 41.3 -1.6**
comp=Z,0.3nm,0.4s,baz=211,slow=36,SNR=1.5
GERES PKPab **PKPab 05 34 26.1 -0.6**
comp=Z,1.7nm,0.7s,baz=90,slow=2.7,SNR=8.6
GERES GERESS Array B 161.21 288 **PKPdf 05 33 41.7 -1.1**
GERES PKPab **PKPab 05 34 26.1 -0.6**
KBA Koelnbreinsper 161.30 282 *e*P **PKPdf 05 33 47.2 +4.0**
comp=Z,4.3nm,1.2s
KBA *e*P **PKPab 05 34 27.3 +0.1**
comp=Z,9.6nm,1.3s
KHC Kasperske Hory 161.30 289 *e*PKPDF **PKPdf 05 33 41.9 -1.0**
KHC *e*PKPAB **PKPab 05 34 27.7 +0.7**
KHC *e*PP **PP 05 38 14.3 +3.3**
KHC AMS AMS 07 01 20.0
comp=Z,1μm,17.8s
KHC Kasperske Hory 161.30 289 *e*PKIKP **PKPdf 05 33 41.9 -1.0**
KHC *e* 05 38 14.3
KHC MLR MLR
comp=Z,1μm,17.8s
CLL Collm 161.60 296 *e*PKPdf **PKPdf 05 33 41.0 -2.0**
CLL *e*PKPab **pPKPab 05 34 35.0 -0.9**
CLL *e*PP **PP 05 38 20.0 +7.6**
CLL *e*SKSdf **SKSdf 05 40 46.0 -0.1**
CLL *e*PPP PPP 05 41 58.0
CLL *e*SKKSac **SKKSac 05 44 54.0 -4.3**
CLL *e*PSKS 05 48 30.0
CLL *e*PPS PPS 05 51 39.0
CLL *e* 05 53 36.0
CLL *e*SS **SS 05 58 28.0 -0.4**
CLL *e*SSS SSS 06 04 36.0
CLL *e*PSSrev 06 06 06.0
CLL *e* 06 07 30.0
CLL *e* 06 08 00.0
CLL *e*SSSS 06 09 00.0
CLL *e* 06 11 36.0
CLL Lm MLR 07 01 00.0
comp=N,600nm,19.0s
CLL Lm MLR 07 01 00.0
comp=E,800nm,18.9s
CLL Lm MLR 07 01 00.0
comp=Z,1μm,19.2s
CLL Collm 161.60 296 *e*PKIKP **PKPdf 05 33 41.0 -2.0**
CLL *e* 05 38 20.0
CLL MLR MLR
comp=Z,1μm,19.2s
ABTA Abfaltersbach 161.82 281 *e*P **PKPdf 05 33 43.4 -0.2**
comp=Z,2.4nm,0.6s
ABTA *e*P **PKPab 05 34 29.4 0.0**
comp=Z,2.5nm,0.7s
NKC Novy Kostel 162.03 292 AMS AMS 06 53 50.0
comp=Z,1μm,22.1s
WTTA Wattenberg 162.47 283 *e*P **PKPdf 05 33 43.4 -1.0**
comp=Z,4.2nm,0.8s
WTTA *e*P **PKPab 05 34 34.4 +2.0**
comp=Z,5.1nm,0.7s
WATA Walderalm 162.52 283 *e*P **PKPdf 05 33 44.5 +0.2**
comp=Z,1.9nm,0.5s
WATA *e*P **PKPab 05 34 32.8 +0.2**
comp=Z,2.5nm,0.5s
SQTA Sankt Quirin 162.76 282 *e*P **PKPdf 05 33 45.2 +0.7**
comp=Z,0.8nm,0.3s
SQTA *e*P **PKPab 05 34 33.0 -0.6**
comp=Z,4.7nm,1.0s
MOTA Moosalm 162.84 283 *e*P **PKPdf 05 33 47.3 +2.6**
comp=Z,5.7nm,1.0s
MOTA *e*P **PKPab 05 34 33.3 -0.7**
comp=Z,2.8nm,0.5s
FETA Feichten 163.06 282 *e*P **PKPdf 05 33 44.9 0.0**
comp=Z,3.8nm,0.9s
FETA *e*P **PKPab 05 34 33.8 -1.2**
comp=Z,7.9nm,1.3s
RETA Reutte 163.09 283 *e*P **PKPdf 05 33 45.2 +0.4**
comp=Z,1.2nm,0.5s
RETA *e*P **PKPab 05 34 34.7 -0.3**
comp=Z,1.3nm,0.4s
DAVA Damuels 163.67 282 *e*P **PKPab 05 34 37.7 0.0**
comp=Z,6.7nm,0.9s
ESDC Sonseca Array 170.19 232 PKP **PKPdf 05 33 49.4 -1.1**
comp=Z,1.3nm,0.8s,baz=327,slow=1.7,SNR=6.6
ESDC PKPab **PKPab 05 35 06.9 +0.4**
comp=Z,2.9nm,1.0s,baz=129,slow=4.9,SNR=6.0
ESDC Sonseca Array 170.19 232 **PKPdf 05 33 50.1 -0.3**
ESDC **PKPab 05 35 06.8 +0.4**
MORF Marmelete 170.24 206 *e*PKPdf **PKPdf 05 33 50.7 +0.1**
MORF *e*SS SS 05 59 59.5 +4.5
MORF AMS AMS 06 55 01.8
comp=Z,2μm,21.7s
LIS Lisbon 171.69 207 *e*PKPdf **PKPdf 05 33 51.5 +0.3**
LIS AMS AMS 06 52 21.1
comp=E,3μm,22.6s

IDC ***13*** *05:26:29.7±1.3, 46.41S×165.97E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=55.0km s-min=27.7km az=171.0*
WEL ***13*** *05:26:33.6±1.2, 46.5S×7.1×16.6E±1.1, h12km, M4.2/12, ML4.4/12, MLv4.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=62.2*

ISC 13 05:26:32.0±0.8, 46.27S±0.07×166.03E±0.06, h13km, n65, σ1§50/63, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PYZ	**Puysegur Point**	**0.46**	**77**	P	**Pn**	**05 26 43.6**	**-0.8**
PYZ				S	**Sb**	**05 26 50.9**	**+2.1**
PYZ	**Puysegur Point**	**0.46**	**77**	Pn	**Pn**	**05 26 43.6**	**-0.8**
DCZ	**Deep Cove**	**1.12**	**45**	P	**Pb**	**05 26 52.4**	**-0.9**
DCZ				S	**Sb**	**05 27 05.9**	**-1.9**
DCZ	**Deep Cove**	**1.12**	**45**		**Pb**	**05 26 52.3**	**-1.0**
WHZ	**Wether Hill Ro**	**1.39**	**75**	P	**Pb**	**05 26 57.8**	**0.0**
WHZ				S	**Sg**	**05 27 17.6**	**+0.9**
WHZ	**Wether Hill Ro**	**1.39**	**75**	Pn	**Pn**	**05 26 57.7**	**+0.6**
APZ	**The Paps**	**1.46**	**113**	P	**Pn**	**05 26 58.9**	**+0.7**
APZ				S	**Sn**	**05 27 17.3**	**+0.1**
MLZ	**Mavora Lakes**	**1.72**	**59**	P	**Pb**	**05 27 03.6**	**+0.1**
MLZ	**Mavora Lakes**	**1.72**	**59**	Pn	**Pb**	**05 27 03.5**	**+0.1**
MSZ	**Milford Sound**	**2.08**	**41**	P	**Pn**	**05 27 07.2**	**+0.6**
SYZ	**Scrubby Hill**	**2.17**	**98**	P	**Pn**	**05 27 09.1**	**+1.3**
TUZ	**Tuapeka**	**2.52**	**84**	P	**Pn**	**05 27 14.6**	**+2.0**
WKZ	**Wanaka**	**2.55**	**57**	P	**Pb**	**05 27 15.6**	**-2.0**
WKZ	**Wanaka**	**2.55**	**57**		**Pn**	**05 27 15.2**	**+2.1**
JCZ	**Jackson Bay**	**2.94**	**43**	P	**Pn**	**05 27 21.0**	**+2.5**
HHSZ	**Highcliff Hill**	**3.20**	**85**	P	**Pn**	**05 27 21.6**	**-0.4**
ODZ	**Otahua Downs**	**3.46**	**71**	P	**Pn**	**05 27 25.9**	**+0.4**
ODZ	**Otahua Downs**	**3.46**	**71**		**Pn**	**05 27 24.3**	**-1.3**
LBZ	**Lake Benmore**	**3.48**	**59**	P	**Pn**	**05 27 26.9**	**+1.0**
LBZ	**Lake Benmore**	**3.48**	**59**	Pn	**Pn**	**05 27 27.1**	**+1.2**
FOZ	**Fox Glacier**	**3.84**	**46**	P	**Pn**	**05 27 33.5**	**+2.8**
FOZ	**Fox Glacier**	**3.84**	**46**		**Pn**	**05 27 34.9**	**+4.1**
GCSZ	**Gaunt Creek Bo**	**4.25**	**48**	P	**Pn**	**05 27 36.9**	**+0.5**
ARCZ	**Arundel**	**4.32**	**59**	P	**Pn**	**05 27 37.6**	**+0.1**
RPZ	**Rata Peaks**	**4.38**	**56**	Pn	**Pn**	**05 27 38.0**	**-0.3**
RPZ	5.1nm,0.3s,baz=230,slow=2.8,SNR=11			Sn	**Sn**	**05 28 28.4**	**-0.9**
RPZ	12nm,0.3s,baz=147,slow=20,SNR=7.7 **Rata Peaks**	**4.38**	**56**	P	**Pn**	**05 27 38.5**	**+0.2**
RPZ	**Rata Peaks**	**4.38**	**56**	Pn	**Pn**	**05 27 38.4**	**+0.1**
WVZ	**Waitaha Valley**	**4.63**	**48**	P	**Pn**	**05 27 43.1**	**+1.4**
OXZ	**Oxford**	**5.19**	**58**	P	**Pn**	**05 27 49.0**	**-0.4**
OXZ	**Oxford**	**5.19**	**58**	Pn	**Pn**	**05 27 48.4**	**-1.0**
INZ	**Inchbonnie**	**5.25**	**49**	P	**Pn**	**05 27 50.5**	**+0.3**
MQZ	**McQueen's Vall**	**5.35**	**64**	Pn	**Pn**	**05 27 48.4**	**-3.1**
LTZ	**Lake Taylor**	**5.66**	**54**	P	**Pn**	**05 27 57.6**	**+1.7**
LTZ	**Lake Taylor**	**5.66**	**54**		**Pn**	**05 27 55.2**	**-0.7**
LTZ				IAmb	IAmb	05 28 13.8	
DSZ	comp=Z,28nm,1.1s **Denniston Nort**	**6.15**	**45**	P	**Pn**	**05 28 02.5**	**0.0**
KHZ	**Kahutara**	**6.62**	**57**	P	**Pn**	**05 28 09.2**	**+0.2**
KHZ	**Kahutara**	**6.62**	**57**		**Pn**	**05 28 08.8**	**-0.2**
THZ	**Tophouse**	**6.70**	**50**	Pn	**Pn**	**05 28 08.1**	**-2.0**
THZ				IAmb	IAmb	05 28 18.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H01W1	Cape Leeuwin H	40.34	267	T	T	06 16 56.3	
	baz=121,slow=75,SNR=98						
H01W2	Cape Leeuwin H	40.35	267	T	T	06 16 54.2	
	baz=121,slow=75,SNR=91						
H01W3	Cape Leeuwin H	40.36	267	T	T	06 16 57.5	
	baz=121,slow=75,SNR=84						
H08S2	Diego Garcia H	86.97	262	T	T	07 15 10.4	
	baz=135,slow=76,SNR=14						
H08S1	Diego Carcia H	86.99	262	T	T	07 15 07.0	
	baz=135,slow=76,SNR=7.4						
H08S3	Diego Garcia H	86.99	262	T	T	07 15 12.3	
	baz=135,slow=76,SNR=14						
TORD	Torodi Ar. Bea	144.43	207	PKP	PKPbc	05 46 07.2	+0.5
	comp=Z,0.9nm,0.7s,baz=154,slow=2.2,SNR=5.8						
BRTR	Keskin Array B	145.00	277	PKP	PKPdf	05 46 08.6	-0.2
	comp=Z,1.4nm,0.7s,baz=180,slow=3.7,SNR=4.8						
SPITS	Spitsbergen Ar	145.92	349	PKPbc	PKPbc	05 46 09.7	-0.1
	comp=Z,7.6nm,1.0s,baz=15,slow=4.3,SNR=5.8						
SCHQ	Schefferville	146.08	56	PKPbc	PKPdf	05 46 10.2	+0.4
	comp=Z,3.4nm,0.6s,baz=166,slow=14,SNR=2.8						
ARCES	ARCESS Array B	149.61	334	PKPbc	PKPbc	05 46 20.4	+0.5
	comp=Z,2.6nm,0.7s,baz=88,slow=4.0,SNR=7.8						
AKASG	Malin Array Be	151.34	295	PKPbc	PKPbc	05 46 22.9	-1.6
	comp=Z,1.4nm,0.5s,baz=78,slow=2.5,SNR=8.5						
AKASG				PKPab	PKPab	05 46 31.8	-0.9
	comp=Z,0.9nm,0.5s,baz=74,slow=2.5,SNR=4.9						
MLR	Muntele Rosu	152.40	283	PKPbc	PKPbc	05 46 27.3	0.0
	comp=Z,1.2nm,0.7s,baz=186,slow=11,SNR=3.6						
FINES	FINESS Array B	152.48	318	PKPbc	PKiKP	05 46 27.0	0.0
	comp=Z,0.8nm,0.6s,baz=201,slow=26,SNR=3.3						

ATH 13 05:32:06.7,38°.30N×20°.43E,h13^{km}±2^{km},ML1.0/1,Error ellipse: s-maj=2.7km s-min=1.0km az=244.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF5	Kardakata, Kep	0.04	130	P	Pg	05 32 08.9	-0.1
KEF5				S	Sg	05 32 10.5	-0.2
KEF4	Livadi, Kephal	0.04	190	P	Pg	05 32 09.1	0.0
KEF4				S	Sg	05 32 10.9	+0.2
DMLN	Damoulianata-K	0.08	218	P	Pg	05 32 09.3	-0.1
DMLN				S	Sg	05 32 11.3	-0.1
VLS	Valsamata	0.17	135	P	Pg	05 32 10.6	-0.1
VLS				S	Sg	05 32 13.7	+0.2
VLS				AML	AML	05 32 14.0	
	comp=E,165μm,0.1s						
VLS				AML	AML	05 32 14.2	
	comp=N,108μm,0.1s						
FSK	Fiskardo	0.19	32	P	Pg	05 32 10.8	-0.1
FSK				S	Sg	05 32 14.0	+0.1
EVGI	Lefkada island	0.36	29	P	Pg	05 32 14.0	-0.1
EVGI				S	Sg	05 32 19.6	+0.6

IDC 13 06:02:37.7±3.1,8°.24S×119°.73E,h163^{km}±26^{km},mb3.3/4, mb1 3.3/7,mb1mx3.1/38,mbtmp3.7/7,Error ellipse: s-maj=52.1km s-min=22.6km az=55.0

ISC 13 06:02:36.2±1.3,**8°.3S**±0°.2×**119°.5E**±0°.2,**h150**^{km},**n7**, σ**1^{s}41**/9,**mb3.7**/3,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	4.49	115	P	Pn	06 03 44.0	+1.1
	5.3nm,0.3s,baz=236,slow=3.6,SNR=1.9						
BATI				S	Sn	06 04 33.5	-1.2
	6.8nm,0.3s,baz=328,slow=13,SNR=1.5						
FITZ	Fitzroy Crossi	11.38	149	P	Pn	06 05 14.4	0.0
	0.2nm,0.3s,baz=328,slow=10.0,SNR=12						
WRA	Warramunga Arr	18.40	130	P	P	06 06 39.9	-0.1
	0.2nm,0.3s,baz=301,slow=12,SNR=16						
ASAR	Alice Springs	20.54	140	P	P	06 07 03.3	+0.2
	0.6nm,0.3s,baz=313,slow=9.6,SNR=19						
ASAR				ScP	ScP	06 14 28.2	-2.9
	0.2nm,0.5s,baz=336,slow=2.0,SNR=2.1						
STKA	Stephens Creek	31.14	142	P	P	06 08 41.4	+0.5
	1.3nm,0.4s,baz=298,slow=9.1,SNR=3.6						
MKAR	Makanchi Array	64.11	332	P	P	06 12 54.3	-0.1
	0.5nm,0.5s,baz=142,slow=7.3,SNR=4.1						
VNDA	Vanda	72.56	171	P	P	06 13 47.0	+0.6
	0.4nm,0.9s,baz=340,slow=8.5,SNR=5.0						

WEL 13 06:04:09.7±1.2,**46°S**±6°×**16°6E**±°,**h12**^{km},**M3.5**/11,**ML3.7**/11,**MLv3.5**/11,**Error ellipse: s-maj=0.0km s-min=0.0km az=63.7,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.41	74	P	Pb	06 04 19.2	+0.3
PYZ				S	Sb	06 04 25.7	+0.6
DCZ	Deep Cove	1.10	42	P	Pb	06 04 28.0	-2.5
DCZ				S	Sb	06 04 42.5	-2.3
WHZ	Wether Hill Ro	1.34	74	P	Pn	06 04 33.4	-0.8
WHZ				S	Sn	06 04 51.9	0.0
APZ	The Paps	1.41	114	P	Pn	06 04 34.2	-0.9
APZ				S	Sn	06 04 52.7	-1.0
MLZ	Mavora Lakes	1.68	58	P	Pn	06 04 39.3	+0.4
MLZ				S	Sg	06 05 02.9	-0.7
MSZ	Milford Sound	2.06	39	P	Pn	06 04 43.8	-0.1
SYZ	Scrubby Hill	2.11	98	P	Pn	06 04 44.9	+0.2
SYZ				S	Sn	06 05 11.5	+0.6
TUZ	Tuapeka	2.47	84	P	Pn	06 04 50.2	+0.5
WKZ	Wanaka	2.51	56	P	Pb	06 04 52.5	-2.1
JCZ	Jackson Bay	2.91	42	P	Pn	06 04 56.5	+0.6
ODZ	Otahua Downs	3.41	70	P	Pn	06 05 01.5	-1.2
LBZ	Lake Benmore	3.44	58	P	Pn	06 05 03.2	+0.1
FOZ	Fox Glacier	3.81	45	P	Pn	06 05 08.6	+0.5
GCSZ	Gaunt Creek Bo	4.22	47	P	Pn	06 05 14.5	+0.7
RPZ	Rata Peaks	4.35	56	P	Pn	06 05 14.7	-0.9
WVZ	Waitaha Valley	4.60	47	P	Pn	06 05 19.9	+0.9
INZ	Inchbonnie	5.22	49	P	Pn	06 05 28.9	+1.4
LTZ	Lake Taylor	5.63	54	P	Pn	06 05 33.6	+0.5
DSZ	Denniston Nort	6.12	44	P	Pn	06 05 40.5	+0.6
THZ	Tophouse	6.66	50	P	Pn	06 05 48.3	+0.9
QRZ	Quartz Range	7.17	43	P	Pn	06 05 53.6	-0.8
TUWZ	Tuamarina	7.46	52	P	Pn	06 05 56.5	-1.7

IDC 13 06:23:35.2±0.8,46°.11S×165°.99E,h0^{km},mb4.1/5, mb1 4.3/7,mb1mx4.0/39,mbtmp4.2/7,ML4.1/2,MS4.0/6, Ms1 3.9/6,ms1mx3.6/24,Error ellipse: s-maj=25.7km s-min=22.4km az=8.0

NEIC 13 06:23:37.2±1.6,46°.29S±0°.07×165°.94E±0°.07,h10^{km}±1^{km}, Error ellipse: s-maj=14.1km s-min=4.1km az=148.0

WEL 13 06:23:39.2±1.3,46°S±7°×16°6E±°,h12^{km},M5.0/31, ML5.1/9,MLv5.0/31,Error ellipse: s-maj=0.0km s-min=0.0km az=72.0

ISC 13 06:23:39.9±0.9,**46°.25S**±0°.06×**166°.03E**±0°.06,**h30**^{km}±6^{km},**n105**,σ**1^{s}23**/115,**mb4.4**/10,**MS3.9**/6,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.46	80	P	Pb	06 23 48.6	-1.1
PYZ				S	Sb	06 23 55.6	-0.7
PYZ	Puysegur Point	0.46	80		Pb	06 23 48.6	-1.1
PYZ				Sg	Sb	06 23 54.8	-1.5
DCZ	Deep Cove	1.11	45	P	Pn	06 23 57.3	-2.0
DCZ				S	Sn	06 24 11.2	-2.5
DCZ	Deep Cove	1.11	45		Pn	06 23 58.0	-1.4
WHZ	Wether Hill Ro	1.38	76	P	Pn	06 24 02.9	-0.2
WHZ				S	Sn	06 24 19.6	-0.8
WHZ	Wether Hill Ro	1.38	76		Pn	06 24 02.9	-0.2
WHZ				Sn	Sn	06 24 21.8	+1.4
APZ	The Paps	1.47	114	P	Pn	06 24 03.6	-0.8
APZ				S	Sn	06 24 21.5	-1.1
MLZ	Mavora Lakes	1.71	60	P	Pn	06 24 08.5	+0.9
MLZ	Mavora Lakes	1.71	60		Pn	06 24 08.8	+1.2
MLZ				Sn	Sn	06 24 29.4	+0.9
MSZ	Milford Sound	2.07	41	P	Pn	06 24 12.7	+0.2
SYZ	Scrubby Hill	2.17	99	P	Pn	06 24 13.8	-0.1
TUZ	Tuapeka	2.52	85	P	Pn	06 24 19.3	+0.5
WKZ	Wanaka	2.54	57	P	Pn	06 24 20.7	+1.7
WKZ	Wanaka	2.54	57	Pn	Pn	06 24 20.5	+1.5
JCZ	Jackson Bay	2.92	43	P	Pn	06 24 25.1	+0.7
HHSZ	Highcliff Hill	3.20	85	P	Pn	06 24 28.3	+0.2
ODZ	Otahua Downs	3.45	71	P	Pn	06 24 30.7	-0.9
ODZ	Otahua Downs	3.45	71	Pn	Pn	06 24 30.9	-0.7
LBZ	Lake Benmore	3.47	59	P	Pn	06 24 31.6	-0.3
LBZ	Lake Benmore	3.47	59	Pn	Pn	06 24 32.1	+0.3
FOZ	Fox Glacier	3.82	46	P	Pn	06 24 37.0	+0.3
FOZ	Fox Glacier	3.82	46		Pn	06 24 38.1	+1.4
GCSZ	Gaunt Creek Bo	4.24	48	P	Pn	06 24 43.0	+0.7
RPZ	Rata Peaks	4.37	56	Pn	Pn	06 24 43.4	-0.9
	15nm,0.3s,baz=278,slow=4.7,SNR=49						
RPZ				Sn	Sn	06 25 33.7	-0.5
	50nm,0.3s,baz=22,slow=16,SNR=7.5						
RPZ	Rata Peaks	4.37	56	P	Pn	06 24 43.4	-0.9
RPZ	Rata Peaks	4.37	56	Pn	Pn	06 24 43.8	-0.5
WVZ	Waitaha Valley	4.62	48	P	Pn	06 24 48.4	+0.8
WACZ	Wakanui South	4.71	63	P	Pn	06 24 48.1	-0.8
MHCZ	Mount Hutt	4.78	57	P	Pn	06 24 49.5	-0.4
OXZ	Oxford	5.18	58	P	Pn	06 24 55.9	+0.6
OXZ	Oxford	5.18	58	Pn	Pn	06 24 55.6	+0.3
INZ	Inchbonnie	5.24	50	P	Pn	06 24 55.7	-0.4
MQZ	McQueen's Vall	5.34	64	P	Pn	06 24 56.7	-0.9
MQZ	McQueen's Vall	5.34	64	Pn	Pn	06 24 58.0	+0.5
AKCZ	Akaroa Harbour	5.42	66	P	Pn	06 24 58.5	-0.2
OKCZ	Okains Bay	5.59	66	P	Pn	06 25 01.8	+0.8
AMCZ	Amberley	5.63	59	P	Pn	06 25 03.1	+1.6
LTZ	Lake Taylor	5.65	54	P	Pn	06 25 00.9	-0.9
LTZ	Lake Taylor	5.65	54	Pn	Pn	06 25 02.4	+0.6
GVZ	Greta Valley S	5.98	59	P	Pn	06 25 07.7	+1.4
DSZ	Denniston Nort	6.13	45	P	Pn	06 25 07.6	-0.9
KHZ	Kahutara	6.61	57	P	Pn	06 25 15.9	+1.0
KHZ	Kahutara	6.61	57	Pn	Pn	06 25 15.8	+0.9
KHZ				Sn	Sn	06 26 31.4	+2.3
THZ	Tophouse	6.68	50	P	Pn	06 25 16.5	+0.5
THZ	Tophouse	6.68	50		Pn	06 25 16.6	+0.5
THZ				Sn	Sn	06 26 32.6	+1.4
QRZ	Quartz Range	7.19	43	P	Pn	06 25 23.2	+0.3
QRZ	Quartz Range	7.19	43		Pn	06 25 24.4	+1.5
QRZ				Sn	Sn	06 26 45.2	+1.7
BSWZ	Blackbirch Sta	7.25	54	P	Pn	06 25 26.4	+2.6
BSWZ	Blackbirch Sta	7.25	54		Pn	06 25 24.8	+1.1
BSWZ				Sn	Sn	06 26 46.2	+1.2
NNZ	Nelson	7.32	49	P	Pn	06 25 26.9	+2.1
NNZ	Nelson	7.32	49		Pn	06 25 26.3	+1.6
NNZ				Sn	Sn	06 26 48.8	+2.0
CMWZ	Cape Campbell	7.42	56	Pn	Pn	06 25 27.0	+0.9
CMWZ				Sn	Sn	06 26 51.3	+2.1
TUWZ	Tuamarina	7.48	53	P	Pn	06 25 29.1	+2.2
TUWZ	Tuamarina	7.48	53	Pn	Pn	06 25 27.9	+1.1
DUWZ	D'Urville Isla	7.91	49	P	Pn	06 25 34.5	+1.8
BHW	Baring Head	8.02	56	P	Pn	06 25 36.8	+2.6
BHW	Baring Head	8.02	56	Pn	Pn	06 25 35.0	+0.8
PLWZ	Palliser	8.14	58	P	Pn	06 25 38.0	+2.1
PLWZ	Palliser	8.14	58	Pn	Pn	06 25 36.9	+0.9
MSWZ	Moikau Station	8.23	57	P	Pn	06 25 38.1	+0.9
MSWZ	Moikau Station	8.23	57	Pn	Pn	06 25 38.0	+0.9
CAW	Cannon Point	8.32	55	P	Pn	06 25 38.8	+0.3
KIW	Kapiti Island	8.40	53	P	Pn	06 25 41.9	+2.4
OGWZ	Otaki Gorge	8.57	54	P	Pn	06 25 42.9	+1.0
TMWZ	Te Maipa	8.80	58	P	Pn	06 25 45.9	+0.8
BFZ	Birch Farm	9.28	57	Pn	Pn	06 25 51.2	-0.4
HIZ	Hauiti	10.11	43		Pn	06 26 03.4	+0.3
BKZ	Black Stump Fm	10.45	51		Pn	06 26 08.1	+0.4
URZ	Urewera	11.44	50	Pn	Pn	06 26 19.6	-1.6
	1.0nm,0.3s,baz=233,slow=5.5,SNR=5.2						
URZ				Sn	Sn	06 28 24.1	-3.8
	1.0nm,0.3s,baz=108,slow=16,SNR=3.4						
URZ	Urewera	11.44	50		Pn	06 26 20.2	-1.0
OUZ	Omahuta	12.41	30	Pn	Pn	06 26 34.5	0.0
MXZ	Matakaoa Point	12.60	51	Pn	Pn	06 26 36.0	-0.9
TAU	Tasmania Unive	13.75	277	Pn	Pn	06 26 48.9	-3.8
TOO	Toolangi	17.54	292	Pn	Pn	06 27 42.3	+0.2
TOO				IAmb	IAmb	06 28 10.9	
	comp=Z,38nm,1.2s						
STKA	Stephens Creek	23.67	299	P	P	06 28 48.2	-0.5
	comp=Z,0.7nm,0.6s,baz=141,slow=14,SNR=0.9						
STKA				LR	LR	06 36 34.5	
	comp=Z,424nm,18.1s,baz=163,slow=33						
MSVF	Nonsavu	30.14	23	P	P	06 29 49.0	+1.8
MSVF				IAmb	IAmb	06 29 53.7	
	comp=Z,17nm,1.3s						
AS31	Alice Springs	34.29	300	P	P	06 30 22.9	-0.7
ASAR	Alice Springs	34.29	300	P	P	06 30 22.8	-0.7
	comp=Z,1.9nm,0.7s,baz=130,slow=8.4,SNR=26						
ASAR				PcP	PcP	06 32 59.0	-0.3
	comp=Z,0.7nm,0.8s,baz=128,slow=4.0,SNR=3.6						
ASAR				LR	LR	06 44 13.3	
	comp=Z,220nm,18.5s,baz=158,slow=36						
ASAR	Alice Springs	34.29	300		P	06 30 22.2	-1.3
WB2	Warramunga Arr	36.90	305	P	P	06 30 46.0	0.0
WB2				IAmb	IAmb	06 30 46.1	
	comp=Z,3.8nm,0.6s						
WRA	Warramunga Arr	36.91	305	P	P	06 30 45.0	-1.0
	comp=Z,2.8nm,0.6s,baz=139,slow=8.0,SNR=47						
WRA				PcP	PcP	06 33 06.3	-0.8
	comp=Z,0.8nm,1.0s,baz=170,slow=5.1,SNR=3.0						
WRA				LR	LR	06 45 11.4	
	comp=Z,188nm,19.2s,baz=115,slow=35						
WRA	Warramunga Arr	36.91	305	P	P	06 30 45.2	-0.8
WRAB	Tennant Creek	36.91	305	P	P	06 30 45.8	-0.2
WRAB				IAmb	IAmb	06 30 46.1	
	comp=Z,4.3nm,0.7s						
WB0	Warramunga Arr	37.02	305	P	P	06 30 46.4	-0.5
H01W1	Cape Leeuwin H	40.34	267	T	T	07 13 55.0	
	baz=122,slow=75						
H01W2	Cape Leeuwin H	40.35	267	T	T	07 13 52.6	
	baz=122,slow=75						
H01W3	Cape Leeuwin H	40.36	267	T	T	07 13 59.3	
	baz=122,slow=75						
FITZ	Fitzroy Crossi	43.53	297	LR	LR	06 49 05.2	
	comp=Z,77nm,20.9s,baz=152,slow=35						
QSPA	South Pole Qui	43.87	180	P	P	06 31 44.7	+1.5
	comp=Z,3.4nm,0.8s,baz=17,slow=1.6,SNR=14						
QSPA	South Pole Qui	43.87	180	P	P	06 31 42.9	-0.3
QSPA				IAmb	IAmb	06 31 45.8	
	comp=Z,3.9nm,0.9s						
MTN	Manton Dam	44.43	307	P	P	06 31 48.3	+0.2
PPT	Papeete	46.45	67	LR	LR	06 47 51.3	
	comp=Z,125nm,19.8s,baz=234,slow=31						
MAW	Mawson	52.80	208	LR	LR	06 52 42.8	
	comp=Z,284nm,20.3s,baz=76,slow=33						
SNAA	Sanae	62.12	184	P	P	06 33 57.5	0.0
H08S2	Diego Garcia H	86.98	262	T	T	08 12 13.3	
	baz=136,slow=76						
H08S1	Diego Carcia H	86.99	262	T	T	08 12 20.1	
	baz=136,slow=76						
H08S3	Diego Garcia H	87.00	262	T	T	08 12 13.3	
	baz=136,slow=76						
CMAR	Chiang Mai Arr	88.29	299	P	P	06 36 28.4	-0.1
	comp=Z,1.0nm,0.3s,baz=142,slow=3.1,SNR=4.5						
NJ2	Nanjing	88.84	321	*e*P	P	06 36 33.4	+2.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	Xi'an	95.07	316	P	P	06 36 57.9	-1.7
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,430nm,5.2s						
TORD	Torodi Ar. Bea	144.45	207	PKP	PKPab	06 43 11.8	+0.2
	comp=Z,1.5nm,0.6s,baz=166,slow=1.4,SNR=12						
BRTR	Keskin Array B	145.00	277	PKP	PKPab	06 43 13.6	+0.3
	comp=Z,3.8nm,0.8s,baz=150,slow=4.4,SNR=14						
ARCES	ARCESS Array B	149.59	334	PKPbc	PKPbc	06 43 24.1	-0.9
	comp=Z,2.7nm,0.7s,baz=48,slow=3.6,SNR=9.9						
ARCES				PKPab	PKPab	06 43 29.4	-0.8
	comp=Z,5.8nm,0.9s,baz=106,slow=3.9,SNR=8.6						
AKASG	Malin Array Be	151.33	295	PKPbc	PKPbc	06 43 29.6	-0.1
	comp=Z,0.7nm,0.4s,baz=83,slow=2.5,SNR=9.0						
AKASG				PKPab	PKPab	06 43 36.9	-1.1
	comp=Z,4.1nm,0.7s,baz=78,slow=2.4,SNR=10.0						
FINES	FINESS Array B	152.47	318	PKPbc	PKPbc	06 43 31.4	-0.5
	comp=Z,0.8nm,0.5s,baz=108,slow=2.4,SNR=4.2						
FINES				PKPab	sPKPdf	06 43 40.5	+2.4
	comp=Z,1.0nm,0.5s,baz=101,slow=5.8,SNR=1.8						

IDC 13 06:33:35.4±0.9,0°.72S×134°.02E,h0^{km},mb4.1/7, mb1 4.3/10,mb1mx4.1/42,mbtmp4.1/10,ML4.2/3,Error ellipse: s-maj=30.4km s-min=16.9km az=66.0

NEIC 13 06:33:38.0±1.8,0°.72S±0°.08×134°.0E±0°.1,h24^{km}±6^{km}, mb4.2/11,Error ellipse: s-maj=16.6km s-min=9.5km az=57.0

DJA 13 06:33:38.7±0.9,1°S±6°×13°4E±°,h17^{km}±4^{km},M4.3/6, MLv4.3/6

ISC 13 06:33:39.8±0.7,**0°.78S**±0°.07×**133°.99E**±0°.05,**h35**^{km},**n37**, σ**1^{s}89**/41,**mb4.1**/8,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	2.16	101	P	Pn	06 34 14.1	+0.8
SRPI	Serui, Papua	2.50	116	P	Pn	06 34 20.9	+2.9
SIJI	Sorong	2.72	268	Pn	Pn	06 34 21.4	+0.4
	24nm,0.3s,baz=85,slow=23,SNR=30						
SIJI				Sn	Sn	06 34 51.4	-1.4
	16nm,0.3s,baz=40,slow=9.6,SNR=4.0						
SIJI				Lg	Lg	06 34 59.1	
	15nm,0.3s,baz=304,slow=14,SNR=8.3						
FAKI	Fak Fak	2.75	219	P	Pn	06 34 23.2	+1.8
FAKI				S	Sn	06 34 54.8	+1.4
FAKI	Fak Fak	2.75	219		Pn	06 34 22.8	+1.4
FAKI				Sn	Sn	06 34 55.0	+1.6
SAUI	Saumlaki	7.64	200	Pn	Pn	06 35 27.9	-0.8
LUWI	Luwuk	11.22	269	Pn	Pn	06 36 14.6	-3.1
MTN	Manton Dam	12.32	193		Pn	06 36 32.7	-0.1
MMRI	Maumere	14.07	236	Pn	Pn	06 36 54.7	-1.9
MPSI	Mapaga	14.13	274	P	P	06 37 11.8	+7.1
KNRA	Kununurra	15.68	199	Pn	Pn	06 37 16.9	-1.3
KRVT	Keravat (AS076	18.36	101	S	Sn	06 41 09.4	-6.6
	7.6nm,0.3s,baz=119,slow=19,SNR=3.6						
WB0	Warramunga Arr	18.88	179	P	P	06 37 57.6	+0.4
WRAB	Tennant Creek	19.04	179	P	P	06 37 59.2	+0.2
WRAB				IAmb	IAmb	06 38 01.4	
	comp=Z,6.6nm,0.5s						
WB2	Warramunga Arr	19.05	179	P	P	06 37 59.8	+0.6
WRA	Warramunga Arr	19.05	179	P	P	06 37 59.1	0.0
	comp=Z,2.7nm,0.3s,baz=358,slow=11,SNR=213						
WRA				S	Sn	06 41 27.2	-5.4
	comp=Z,0.1nm,0.3s,baz=356,slow=23,SNR=3.8						
WRA	Warramunga Arr	19.05	179	P	P	06 37 58.2	-0.9
FITZ	Fitzroy Crossi	19.07	205	P	P	06 37 59.6	+0.3
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=2.7						
FITZ				S	Sn	06 41 20.9	-12
	comp=Z,0.1nm,0.3s,baz=117,slow=11,SNR=5.9						
FITZ	Fitzroy Crossi	19.07	205	P	P	06 37 59.2	-0.1
FITZ				IAmb	IAmb	06 38 10.0	
	comp=Z,15nm,1.4s						
WR0	Warramunga Arr	19.07	178	P	P	06 37 59.7	+0.4
WR0				IAmb	IAmb	06 38 01.2	
	comp=Z,8.8nm,0.5s						
CTA	Charters Tower	22.64	149	P	P	06 38 40.0	+2.1
	comp=Z,6.3nm,0.7s,baz=324,slow=10,SNR=13						
CTAO	Charters Tower	22.64	149	P	P	06 38 37.5	-0.4
CTAO				IAmb	IAmb	06 38 42.2	
	comp=Z,7.2nm,0.8s						
AS31	Alice Springs	22.75	180	P	P	06 38 39.9	+0.8
AS31				IAmb	IAmb	06 38 42.2	
	comp=Z,2.7nm,0.4s						
ASAR	Alice Springs	22.75	180	P	P	06 38 39.5	+0.3
	comp=Z,3.2nm,0.4s,baz=7.7,slow=11,SNR=73						
ASAR				S	S	06 42 47.8	+2.0
	comp=Z,0.7nm,0.8s,baz=5.2,slow=22,SNR=4.0						
ASAR	Alice Springs	22.75	180	P	P	06 38 38.8	-0.4
STKA	Stephens Creek	31.76	168	P	P	06 40 01.0	+0.3
	comp=Z,3.2nm,0.9s,baz=323,slow=10,SNR=3.4						
STKA	Stephens Creek	31.76	168	P	P	06 40 00.5	-0.2
CMAR	Chiang Mai Arr	39.39	301	P	P	06 41 07.5	+1.0
	comp=Z,1.2nm,0.3s,baz=127,slow=7.1,SNR=6.5						
MKAR	Makanchi Array	65.42	324	P	P	06 44 19.7	+0.7
	comp=Z,1.4nm,0.7s,baz=114,slow=8.1,SNR=11						
MKAR	Makanchi Array	65.42	324	P	P	06 44 18.9	-0.1
VNDA	Vanda	78.14	174	P	P	06 45 36.7	+1.8
	comp=Z,1.4nm,0.8s,baz=320,slow=6.7,SNR=7.5						
VNDA	Vanda	78.14	174	P	P	06 45 37.5	+2.6
VNDA				IAmb	IAmb	06 45 45.6	
	comp=Z,3.0nm,1.4s						
ABKAR	Akbulak array	80.22	320	P	P	06 45 47.0	+0.3
ILAR	Eielson Array	86.06	25	P	P	06 46 16.6	0.0
	comp=Z,0.4nm,0.6s,baz=246,slow=4.8,SNR=6.2						
ILAR	Eielson Array	86.06	25	P	P	06 46 16.5	-0.2
LPAZ	La Paz	152.36	129	PKPbc	PKiKP	06 53 35.5	+1.4
	comp=Z,1.0nm,0.6s,baz=40,slow=7.1,SNR=7.4						
LPAZ	La Paz	152.36	129		PKPbc	06 53 32.7	-1.2

IDC 13 06:47:25.4±2.1,6°.07S×149°.31E,h57^{km}±21^{km},mb3.3/4, mb1 3.6/5,mb1mx3.4/29,mbtmp3.7/5,ML2.1/1,Error ellipse: s-maj=52.9km s-min=9.8km az=136.0

ISC 13 06:47:25.1±1.3,**6°.0S**±0°.3×**149°.3E**±0°.3,**h58**^{km},**n6**,σ**1^{s}04**/9,**mb3.2**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.20	59	P	Pn	06 48 11.8	-1.2
	33nm,0.3s,baz=29,slow=1.1,SNR=5.4						
KRVT				S	Sn	06 48 51.9	+1.9
	8.3nm,0.3s,baz=150,slow=20,SNR=2.2						
PMG	Port Moresby	3.99	212	P	Pn	06 48 24.5	+0.6
	10nm,0.3s,baz=14,slow=6.3,SNR=11						
PMG				S	Sn	06 49 08.7	-0.7
	16nm,0.3s,baz=130,slow=23,SNR=8.7						
WRA	Warramunga Arr	20.08	225	P	P	06 51 54.4	+0.4
	1.4nm,0.4s,baz=51,slow=11,SNR=21						
WRA				PcP	PcP	06 56 07.5	-0.3
	0.3nm,0.7s,baz=45,slow=2.2,SNR=2.6						
ASAR	Alice Springs	22.98	219	P	P	06 52 24.8	-0.2
	0.3nm,0.4s,baz=50,slow=8.9,SNR=8.2						
FITZ	Fitzroy Crossi	26.03	240	P	P	06 52 53.5	+0.4
	1.1nm,0.4s,baz=45,slow=8.4,SNR=11						
VNDA	Vanda	71.80	177	P	P	06 58 40.8	-0.2
	0.2nm,0.6s,baz=317,slow=7.1,SNR=1.4						

IDC 13 07:09:49.9±5.2,**5°.53S**×**152°.34E**,**h50**^{km}±46^{km},**mb3.1**/4,**mb1 3.4**/4,**mb1mx3.2**/28,**mbtmp3.4**/4,**MS3.3**/1,**Ms1 3.3**/1,**ms1mx2.7**/16,**Error ellipse: s-maj=61.8km s-min=21.4km az=113.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.25	346	P	Pn	07 10 10.3	-0.8
	117nm,0.3s,baz=167,slow=2.2,SNR=92						
KRVT				S	Sn	07 10 27.1	+0.3
	131nm,0.3s,baz=30,slow=20,SNR=5.1						
WRA	Warramunga Arr	22.62	229	P	P	07 14 46.1	-0.6
	0.2nm,0.4s,baz=52,slow=9.7,SNR=2.2						
WRA				LR	LR	07 24 59.2	
	comp=Z,79nm,19.0s,baz=185,slow=40						
ASAR	Alice Springs	25.30	223	P	P	07 15 12.7	+0.8
	0.1nm,0.4s,baz=56,slow=8.3,SNR=2.2						
FITZ	Fitzroy Crossi	28.91	242	P	P	07 15 44.3	0.0
	0.5nm,0.4s,baz=21,slow=8.6,SNR=1.4						
ILAR	Eielson Array	83.00	22	P	P	07 22 09.3	-0.1
	0.4nm,0.9s,baz=250,slow=5.8,SNR=4.2						

NEIC 13 07:11:58.2±2.7,5°.74S±0°.09×146°.1E±0°.1,h99^{km}±7^{km}, mb4.0/14,Error ellipse: s-maj=21.7km s-min=13.0km az=81.0

IDC 13 07:11:59.9±2.3,5°.90S×146°.08E,h106^{km}±22^{km},mb3.7/9, mb1 3.8/11,mb1mx3.7/26,mbtmp4.0/11,Error ellipse: s-maj=25.1km s-min=13.4km az=104.0

ISC 13 07:11:58.7±0.6,**5°.81S**±0°.06×**146°.1E**±0°.1,**h100**^{km},**n39**,σ**1^{s}49**/43,**mb4.1**/11,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.74	163	P	Pn	07 12 55.5	+1.2
	25nm,0.3s,baz=43,slow=5.5,SNR=30						
PMG				S	Sn	07 13 36.0	-1.5
	23nm,0.3s,baz=158,slow=19,SNR=5.7						
PMG	Port Moresby	3.74	163		Pn	07 12 55.6	+1.2
PMG				Sn	Sn	07 13 37.4	-0.1
CTA	Charters Tower	14.20	179	P	P	07 15 20.9	+1.3
	2.0nm,0.3s,baz=359,slow=14,SNR=30						
CTAO	Charters Tower	14.20	179	P	P	07 15 19.8	+0.3
MTN	Manton Dam	16.29	244	P	P	07 15 43.7	+0.9
MTN				IAmb	IAmb	07 15 51.4	
	comp=Z,22nm,1.4s						
WB0	Warramunga Arr	17.92	218	P	P	07 16 00.6	-0.2
WR0	Warramunga Arr	17.97	217	P	P	07 16 00.8	-0.6
WR0				IAmb	IAmb	07 16 21.2	
	comp=Z,4.2nm,0.8s						
WRAB	Tennant Creek	18.07	218	P	P	07 16 00.3	-2.1
WRAB				IAmb	IAmb	07 16 28.7	
	comp=Z,8.5nm,1.0s						
WB2	Warramunga Arr	18.08	218		Pn	07 16 03.5	0.0
WB2				IAmb	IAmb	07 16 27.1	
	comp=Z,5.3nm,0.9s						
WRA	Warramunga Arr	18.08	218	P	P	07 16 02.5	-0.1
	comp=Z,0.3nm,0.3s,baz=44,slow=11,SNR=12						
WRA				S	S	07 19 20.4	-4.4
	comp=Z,0.0nm,0.3s,baz=30,slow=20,SNR=3.1						
WRA	Warramunga Arr	18.08	218	P	Pn	07 16 03.5	0.0
AS31	Alice Springs	21.26	212	P	P	07 16 36.3	-0.7
ASAR	Alice Springs	21.26	212	P	P	07 16 38.0	+1.0
	comp=Z,1.6nm,0.7s,baz=52,slow=8.1,SNR=16						

ASAR S **S** **07 20 25.3 -2.5**
comp=Z,0.6nm,0.8s,baz=27,slow=21,SNR=3.2
ASAR Alice Springs 21.26 212 P **P** **07 16 35.4 -1.7**
FITZ Fitzroy Crossi 23.37 237 P **P** **07 16 59.0 +0.4**
comp=Z,3.7nm,0.9s,baz=90,slow=7.5,SNR=6.3
FITZ Fitzroy Crossi 23.37 237 P **P** **07 16 58.2 -0.4**
FITZ IAmb IAmb 07 17 00.9
comp=Z,3.7nm,0.8s
KWAJ Kwajalein Atol 25.94 56 P **P** **07 17 17.1 -4.8**
STKA Stephens Creek 26.27 189 P **P** **07 17 26.1 +1.4**
comp=Z,2.8nm,0.7s,baz=342,slow=6.9,SNR=4.7
STKA Stephens Creek 26.27 189 P **P** **07 17 24.9 +0.2**
BBOO Buckleboo 28.43 198 P **P** **07 17 43.3 -0.8**
BBOO IAmb IAmb 07 17 47.3
comp=Z,10nm,1.1s
YULB Yu-li 37.77 321 P **P** **07 19 05.0 -0.3**
USRK Ussuriysk Ar. 51.37 347 P **P** **07 20 54.2 +1.2**
comp=Z,1.9nm,0.6s,baz=173,slow=8.7,SNR=5.3
CMAR Chiang Mai Arr 52.33 299 P **P** **07 21 02.1 +1.5**
comp=Z,1.9nm,0.5s,baz=123,slow=6.0,SNR=7.3
CMAR Chiang Mai Arr 52.33 299 P **P** **07 21 00.9 +0.2**
VNDA Vanda 72.16 176 P **P** **07 23 13.4 +1.4**
comp=Z,0.3nm,0.7s,baz=324,slow=7.5,SNR=1.8
MKAR Makanchi Array 76.75 321 P **P** **07 23 39.7 +0.5**
comp=Z,0.5nm,0.6s,baz=134,slow=5.3,SNR=4.0
MKAR Makanchi Array 76.75 321 P **P** **07 23 37.3 -1.9**
IMAR Indian Mountai 83.65 21 P **P** **07 24 17.1 +1.3**
QSPA South Pole Qui 84.16 180 P **P** **07 24 19.6 +1.0**
QSPA IAmb IAmb 07 24 20.1
comp=Z,2.3nm,0.8s
NRIK Noril'sk 84.80 342 P **P** **07 24 20.8 -0.8**
comp=Z,2.4nm,0.5s,baz=123,slow=6.4,SNR=3.0
IL31 85.68 23 P **P** **07 24 25.4 -0.5**
ILAR Eielson Array 85.68 23 P **P** **07 24 25.4 -0.7**
comp=Z,2.5nm,0.7s,baz=250,slow=5.0,SNR=34
ILAR Eielson Array 85.68 23 P **P** **07 24 25.5 -0.5**
PLCA Paso Flores 122.80 147 PKP **PKiKP** **07 30 44.5 +0.8**
comp=Z,1.4nm,0.8s,baz=286,slow=5.1,SNR=6.2
PLCA Paso Flores 122.80 147 **PKiKP** **07 30 45.3 +1.6**
TORD Torodi Ar. Bea 144.12 284 PKP **PKPdf** **07 31 23.3 -0.5**
comp=Z,2.9nm,0.6s,baz=70,slow=3.8,SNR=18
TORD Torodi Ar. Bea 144.12 284 **PKPdf** **07 31 22.9 -0.9**
DBIC Dimbokro 151.06 273 PKPbc **PKiKP** **07 31 42.8 +1.1**
comp=Z,7.9nm,0.7s,baz=76,slow=1.5,SNR=12
DBIC Dimbokro 151.06 273 **PKiKP** **07 31 42.1 +0.4**

WEL 13 07:32:18.5±1.1,46°S±6°×16°6E±°,h12km,M3.5/9, ML3.7/12,MLv3.5/9,Error ellipse: s-maj=0.0km s-min=0.0km az=55.3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.31**	**74**	P	Pb	07 32 26.3	+0.4
PYZ				S	Sb	07 32 32.1	+1.1
DCZ	**Deep Cove**	**1.01**	**39**	P	Pb	07 32 35.1	-2.7
DCZ				S	Sg	07 32 49.0	-2.0
WHZ	**Wether Hill Ro**	**1.23**	**74**	P	Pn	07 32 40.6	-1.0
WHZ				S	Sg	07 32 58.2	0.0
APZ	**The Paps**	**1.33**	**116**	P	Pn	07 32 41.4	-1.5
APZ				S	Sb	07 32 59.5	-1.0
MLZ	**Mavora Lakes**	**1.58**	**57**	P	Pn	07 32 46.7	+0.4
MSZ	**Milford Sound**	**1.97**	**37**	P	Pn	07 32 50.9	-0.7
SYZ	**Scrubby Hill**	**2.02**	**99**	P	Pn	07 32 51.8	-0.5
SYZ				S	Sn	07 33 18.3	+0.9
TUZ	**Tuapeka**	**2.37**	**84**	P	Pn	07 32 57.3	+0.2
TUZ				S	Sn	07 33 27.7	+1.6
WKZ	**Wanaka**	**2.41**	**55**	P	Pn	07 32 59.5	+1.7
JCZ	**Jackson Bay**	**2.82**	**40**	P	Pn	07 33 03.9	+0.5
ODZ	**Otahua Downs**	**3.31**	**70**	P	Pn	07 33 08.6	-1.5
LBZ	**Lake Benmore**	**3.34**	**57**	P	Pn	07 33 10.3	-0.3
FOZ	**Fox Glacier**	**3.72**	**44**	P	Pn	07 33 17.2	+1.5
GCSZ	**Gaunt Creek Bo**	**4.13**	**46**	P	Pn	07 33 22.7	+1.4
RPZ	**Rata Peaks**	**4.25**	**55**	P	Pn	07 33 22.1	-0.9
WVZ	**Waitaha Valley**	**4.51**	**47**	P	Pn	07 33 27.7	+1.1
LTZ	**Lake Taylor**	**5.53**	**53**	P	Pn	07 33 41.1	+0.5

IDC 13 07:32:31.8±1.1,29°09N×106°59E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.7/48,mbtmp3.8/6,ML4.3/1,Error ellipse: s-maj=61.5km s-min=20.7km az=61.0
BJI 13 07:32:36.8±0.0,27°09N×103°34E,h10km,ML3.2/6
ISC 13 07:32:33.4±0.9,27°18N±0°04×103°14E±0°06,h10km,n10, σ1§24/13,mb4.0/5,2C,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.08**	**190**	⇑Pg	**Pg**	**07 33 13.4**	**0.0**
KMI				Sg	**Sb**	**07 33 37.8**	**+0.4**
GYA	**Guiyang**	**3.23**	**102**	⇑Pn	**Pn**	**07 33 25.5**	**+1.1**
GYA				Pg	**Pg**	**07 33 35.6**	**+0.2**
GYA				Sn	**Sn**	**07 34 02.3**	**-0.7**
GYA				Sg	**Sb**	**07 34 10.8**	**+0.3**
GYA				smax	smax		
	comp=N,73nm,1.0s						
GYA				smax	smax		
	comp=E,89nm,0.8s						
CD2	**Chengdu**	**3.75**	**8**	Pg	**Pg**	**07 33 46.0**	**+0.6**
CD2				Sg	**Sg**	**07 34 32.9**	**-1.1**
CD2				smax	smax		
	comp=N,200nm,0.7s						
CD2				smax	smax		
	comp=E,320nm,0.9s						
CMAR	**Chiang Mai Arr**	**9.51**	**205**	Pn	Pn	07 35 34.4	+44
	0.6nm,0.3s,baz=74,slow=42,SNR=2.5						
WMQ	**Urumqi**	**20.77**	**327**	*eP*	Pn	07 37 17.8	+0.9
MKAR	**Makanchi Array**	**25.56**	**325**	P	**P**	**07 38 04.5**	**+2.0**
	0.3nm,0.6s,baz=140,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**55.75**	**144**	P	**P**	**07 42 09.7**	**-0.9**
	1.0nm,0.4s,baz=334,slow=8.5,SNR=28						
ASAR	**Alice Springs**	**58.64**	**147**	P	**P**	**07 42 30.7**	**-0.3**
	0.6nm,0.7s,baz=326,slow=6.8,SNR=8.6						
FINES	**FINESS Array B**	**60.37**	**327**	P	**P**	**07 42 42.9**	**+0.4**
	1.0nm,0.7s,baz=95,slow=12,SNR=1.6						
ARCES	**ARCESS Array B**	**60.50**	**337**	P	**P**	**07 42 40.7**	**-2.5**
	0.9nm,0.7s,baz=96,slow=8.3,SNR=1.0						

WEL 13 07:45:20.0±1.2,46°S±7°×16°6E±°,h12km,M3.8/11, ML3.9/11,MLv3.8/11,Error ellipse: s-maj=0.0km s-min=0.0km az=56.5,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.45**	**81**	P	Pb	07 45 30.4	+0.5
PYZ				S	Sb	07 45 37.8	+1.3
DCZ	**Deep Cove**	**1.09**	**46**	P	Pb	07 45 39.2	-1.7
DCZ				S	Sb	07 45 54.0	-1.1
WHZ	**Wether Hill Ro**	**1.37**	**76**	P	Pn	07 45 44.6	-0.4
WHZ				S	Sn	07 46 02.3	-0.7
APZ	**The Paps**	**1.47**	**115**	P	Pn	07 45 45.4	-0.9
APZ				S	Sn	07 46 04.5	-1.0
MLZ	**Mavora Lakes**	**1.69**	**60**	P	Pb	07 45 50.3	-0.8
MSZ	**Milford Sound**	**2.05**	**41**	P	Pn	07 45 54.0	-0.3
SYZ	**Scrubby Hill**	**2.16**	**99**	P	Pn	07 45 55.8	0.0
TUZ	**Tuapeka**	**2.51**	**85**	P	Pn	07 46 00.7	+0.1
TUZ				S	Sn	07 46 33.1	+1.9
WKZ	**Wanaka**	**2.52**	**57**	P	Pn	07 46 02.5	+1.7
JCZ	**Jackson Bay**	**2.91**	**43**	P	Pn	07 46 06.9	+0.8
HHSZ	**Highcliff Hill**	**3.19**	**85**	P	Pn	07 46 09.3	-0.7
ODZ	**Otahua Downs**	**3.44**	**71**	P	Pn	07 46 12.6	-0.8
LBZ	**Lake Benmore**	**3.46**	**59**	P	Pn	07 46 13.7	0.0
FOZ	**Fox Glacier**	**3.81**	**46**	P	Pn	07 46 18.8	+0.4
RPZ	**Rata Peaks**	**4.36**	**56**	P	Pn	07 46 25.4	-0.7
WVZ	**Waitaha Valley**	**4.61**	**48**	P	Pn	07 46 29.5	+0.1
INZ	**Inchbonnie**	**5.22**	**50**	P	Pn	07 46 37.4	-0.5
LTZ	**Lake Taylor**	**5.64**	**54**	P	Pn	07 46 43.1	-0.5
DSZ	**Dennistoun Nort**	**6.12**	**45**	P	Pn	07 46 49.7	-0.5
THZ	**Tophouse**	**6.67**	**50**	P	Pn	07 46 58.5	+0.7
QRZ	**Quartz Range**	**7.17**	**43**	P	Pn	07 47 04.5	-0.2

IDC 13 08:23:41.0±1.1,22°09S×179°58W,h592km±12km, mb3.7/22,mb1 3.9/24,mb1mx3.8/42,mbtmp4.7/24,Error ellipse: s-maj=12.1km s-min=9.1km az=154.0
NEIC 13 08:23:40.9±1.9,22°04S±0°10×179°15W±0°1,h594km±6km, mb4.6/102,Error ellipse: s-maj=15.2km s-min=13.9km az=120.0
ISC 13 08:23:40.8±0.3,22°13S±0°05×179°41W±0°06,h600km, n238,σ1§44/252,mb4.5/68,22C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.99**	**331**	P	**P**	**08 25 13.4**	**-0.4**
MSVF				S	**S**	**08 26 29.7**	**+0.2**
RAO	**Raoul Island**	**7.21**	**170**	P	**P**	**08 25 31.8**	**-0.8**
	108nm,0.3s,baz=29,slow=23,SNR=9.1						
RAO				S	**S**	**08 27 02.2**	**-2.1**
	21nm,0.3s,baz=73,slow=19,SNR=1.4						
RAO	**Raoul Island**	**7.21**	**170**	P	**P**	**08 25 32.2**	**-0.4**
NIUE	**Niue**	**9.39**	**73**		**P**	**08 25 53.3**	**-0.3**
AFI	**Afiamalu**	**10.94**	**43**		**P**	**08 26 05.5**	**-3.5**
AFI					**S**	**08 28 04.0**	**-6.7**
DZM	**Mont Dzumac**	**13.11**	**268**	P	**P**	**08 26 29.8**	**-1.1**
	1.2nm,0.3s,baz=182,slow=7.8,SNR=12						
DZM	**Mont Dzumac**	**13.11**	**268**	P	**P**	**08 26 29.9**	**-0.9**
SANVU	**Saraoutou**	**14.31**	**295**	P	**P**	**08 26 40.9**	**-1.7**
OUZ	**Omahuta**	**14.40**	**204**	P	**P**	**08 26 42.7**	**-0.6**
MXZ	**Matakaoa Point**	**15.50**	**187**	P	**P**	**08 26 52.3**	**-1.0**
HAZ	**Te Kaha**	**15.76**	**188**	P	**S**	**08 29 29.6**	**-4.9**
PUZ	**Puketiti**	**16.01**	**187**	P	**S**	**08 29 35.8**	**-3.1**
TWGZ	**Tauwhareparae**	**16.15**	**187**	P	**S**	**08 29 36.6**	**-4.5**
URZ	**Urewera**	**16.35**	**190**	P	**P**	**08 26 59.8**	**-1.3**
	5.6nm,0.3s,baz=274,slow=3.6,SNR=16						
URZ				S	**S**	**08 29 38.0**	**-6.2**
	1.9nm,0.3s,baz=221,slow=22,SNR=12						
URZ	**Urewera**	**16.35**	**190**	P	**S**	**08 29 41.1**	**-3.1**
URZ	**Urewera**	**16.35**	**190**	P	**P**	**08 26 59.8**	**-1.3**
URZ				IAmb	IAmb	08 27 01.9	
	comp=Z,22nm,0.8s						
MWZ	**Matawai**	**16.36**	**189**	P	**S**	**08 29 42.2**	**-2.3**
CNGZ	**Carnagh Statio**	**16.42**	**187**	P	**S**	**08 29 38.9**	**-6.6**
RIGZ	**Rimuhau**	**16.70**	**188**	P	**S**	**08 29 48.1**	**-1.9**
HIZ	**Hauiti**	**17.05**	**195**	P	**P**	**08 27 10.4**	**+2.9**
BKZ	**Black Stump Fm**	**17.34**	**191**	P	**P**	**08 27 09.4**	**-0.8**
BKZ				IAmb	IAmb	08 27 16.7	
	comp=Z,8.9nm,0.6s						
MCHZ	**McNeill Hill**	**17.57**	**190**	P	**S**	**08 30 02.7**	**-1.5**
KWHZ	**Kaweka Forest**	**17.60**	**191**	P	**S**	**08 30 03.4**	**-1.3**
BHHZ	**Black Hill Sta**	**17.73**	**192**	P	**S**	**08 30 04.2**	**-2.6**
KRHZ	**Kereru**	**17.82**	**191**	P	**S**	**08 30 06.1**	**-2.1**
MSWZ	**Moikau Station**	**19.74**	**192**	P	**P**	**08 27 33.2**	**+1.2**
QRZ	**Quartz Range**	**19.84**	**198**	P	**P**	**08 27 34.2**	**+1.3**
QRZ				IAmb	IAmb	08 27 42.4	
	comp=Z,23nm,1.0s						
NNZ	**Nelson**	**19.98**	**196**	P	**P**	**08 27 36.5**	**+2.4**
NNZ				IAmb	IAmb	08 27 39.4	
	comp=Z,20nm,0.9s						
THZ	**Tophouse**	**20.61**	**197**	P	**P**	**08 27 40.7**	**+0.9**
THZ				IAmb	IAmb	08 27 45.6	
	comp=Z,11nm,0.8s						
KHZ	**Kahutara**	**21.07**	**195**	P	**P**	**08 27 43.4**	**-0.4**
KHZ				IAmb	IAmb	08 27 45.9	
	comp=Z,17nm,1.1s						
LTZ	**Lake Taylor**	**21.73**	**197**	P	**P**	**08 27 49.3**	**-0.5**
LTZ				IAmb	IAmb	08 27 52.2	
	comp=Z,16nm,0.7s						
OXZ	**Oxford**	**22.30**	**197**	P	**P**	**08 27 53.8**	**-1.0**
OXZ				IAmb	IAmb	08 27 54.9	
	comp=Z,12nm,0.9s						
MQZ	**McQueen's Vall**	**22.50**	**195**	P	**P**	**08 27 57.0**	**+0.4**
RPZ	**Rata Peaks**	**22.93**	**198**	P	**P**	**08 27 59.5**	**-1.0**
	comp=Z,7.4nm,0.7s,baz=349,slow=10,SNR=1.9						
RPZ	**Rata Peaks**	**22.93**	**198**	P	**P**	**08 28 00.1**	**-0.3**
FOZ	**Fox Glacier**	**23.14**	**200**	P	**P**	**08 28 02.5**	**+0.2**
FOZ				IAmb	IAmb	08 28 05.2	
	comp=Z,19nm,0.9s						
LBZ	**Lake Benmore**	**23.80**	**199**	P	**P**	**08 28 08.5**	**+0.3**
WHZ	**Wether Hill Ro**	**25.85**	**201**	P	**P**	**08 28 27.9**	**+1.8**
EIDS	**Eidsvold**	**27.17**	**257**	P	**P**	**08 28 38.2**	**+0.1**
EIDS				IAmb	IAmb	08 28 39.7	
	comp=Z,14nm,0.6s						
ARMA	**Armidale**	**27.19**	**246**	P	**P**	**08 28 38.1**	**-0.3**
CTA	**Charters Tower**	**32.05**	**267**	P	**P**	**08 29 20.6**	**+0.4**
	comp=Z,22nm,0.4s,baz=91,slow=11,SNR=81						
CTA				PcP	**PcP**	**08 31 51.5**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=58,slow=7.5,SNR=2.6						
CTAO	**Charters Tower**	**32.05**	**267**	P	**P**	**08 29 20.4**	**+0.2**
TOO	**Toolangi**	**33.88**	**235**	P	**P**	**08 29 35.7**	**+0.4**
PMG	**Port Moresby**	**34.48**	**286**	P	**P**	**08 29 39.8**	**-0.7**
	comp=Z,22nm,0.8s,baz=276,slow=13,SNR=5.9						
PMG	**Port Moresby**	**34.48**	**286**	P	**P**	**08 29 40.6**	**+0.1**
STKA	**Stephens Creek**	**35.91**	**246**	P	**P**	**08 29 52.9**	**+0.7**
	comp=Z,13nm,0.5s,baz=92,slow=12,SNR=42						
STKA	**Stephens Creek**	**35.91**	**246**	P	**P**	**08 29 53.3**	**+1.2**
COEN	**Coen**	**36.41**	**276**	P	**P**	**08 29 57.5**	**+1.0**
COEN				IAmb	IAmb	08 29 58.2	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**42.88**	**259**	P	**P**	**08 30 48.3**	**+0.2**
ASAR	**Alice Springs**	**42.88**	**259**	P	**P**	**08 30 48.2**	**+0.1**
	comp=Z,33nm,0.8s,baz=96,slow=8.4,SNR=236						
ASAR				ScP	**ScP**	**08 35 21.7**	**+2.1**
	comp=Z,1.5nm,0.9s,baz=107,slow=3.8,SNR=7.4						
ASAR				S	**S**	**08 36 27.5**	**-3.2**
	comp=Z,4.1nm,1.0s,baz=96,slow=15,SNR=19						
ASAR	**Alice Springs**	**42.88**	**259**		**P**	**08 30 47.7**	**-0.4**
WR0	**Warramunga Arr**	**42.91**	**264**	P	**P**	**08 30 47.7**	**-0.6**
WR0				IAmb	IAmb	08 30 48.8	
	comp=Z,23nm,1.2s						
WB0	**Warramunga Arr**	**43.08**	**264**		**P**	**08 30 49.1**	**-0.6**
WB2	**Warramunga Arr**	**43.08**	**264**	P	**P**	**08 30 49.0**	**-0.7**
WB2				IAmb	IAmb	08 30 50.3	
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**43.09**	**264**	P	**P**	**08 30 49.2**	**-0.5**
WRAB				IAmb	IAmb	08 30 50.2	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**43.09**	**264**	P	**P**	**08 30 49.2**	**-0.6**
	comp=Z,9.0nm,0.4s,baz=95,slow=7.8,SNR=358						
WRA				ScP	**ScP**	**08 35 23.4**	**+2.9**
	comp=Z,3.4nm,1.0s,baz=98,slow=4.0,SNR=10						
WRA				S	**S**	**08 36 31.5**	**-2.3**
	comp=Z,1.8nm,1.1s,baz=94,slow=12,SNR=4.8						
FORT	**Forrest**	**47.45**	**248**	P	**P**	**08 31 23.0**	**+0.2**
MTN	**Manton Dam**	**47.89**	**273**	P	**P**	**08 31 25.6**	**-0.5**
MTN				IAmb	IAmb	08 31 26.4	
	comp=Z,13nm,0.6s						
KNRA	**Kununurra**	**49.26**	**268**	P	**P**	**08 31 36.0**	**-0.3**
KNRA				IAmb	IAmb	08 31 37.4	
	comp=Z,25nm,1.0s						
FITZ	**Fitzroy Crossi**	**51.53**	**264**	P	**P**	**08 31 50.7**	**-2.0**
FITZ				IAmb	IAmb	08 31 54.3	
	comp=Z,28nm,1.4s						
SOEI	**Soe**	**55.26**	**273**	P	**P**	**08 32 18.4**	**-0.8**
SOEI				IAmb	IAmb	08 32 26.4	
	comp=Z,30nm,0.7s						
PSA00	**Pilbara Seismi**	**56.03**	**258**	P	**P**	**08 32 23.6**	**-0.7**
VNDA	**Vanda**	**56.18**	**185**	P	**P**	**08 32 26.6**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=360,slow=6.6,SNR=18						
QSPA	**South Pole Qui**	**67.94**	**180**	P	**P**	**08 33 43.1**	**+2.4**
MJAR	**Matsushiro Ar**	**70.76**	**325**	P	**P**	**08 33 57.0**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=152,slow=5.8,SNR=6.0						
MJAR	**Matsushiro Arr**	**70.76**	**325**	P	**P**	**08 33 57.1**	**-0.7**
MAT	**Matsushiro**	**70.76**	**325**	P	**P**	**08 33 58.3**	**+0.5**
AMKA	**Amchitka**	**73.20**	**359**	P	**P**	**08 34 11.4**	**0.0**
ADK	**Adak**	**73.73**	**2**	P	**P**	**08 34 14.8**	**+0.4**
ATKA	**Atka Island**	**74.16**	**3**	P	**P**	**08 34 16.6**	**-0.2**
ASAJ	**Asahikawa**	**74.55**	**333**	P	**P**	**08 34 21.0**	**+1.7**
	comp=Z,8.0nm,1.0s,baz=170,slow=11,SNR=1.5						
UNV	**Unalaska Valle**	**76.48**	**8**	P	**P**	**08 34 29.8**	**+0.1**
AKUT	**Akutan**	**76.86**	**8**	P	**P**	**08 34 31.5**	**-0.2**
PEA0B	**Petropavlovsk-**	**77.52**	**346**	P	**P**	**08 34 35.3**	**-0.1**
PETK	**Petropavlovsk-**	**77.52**	**346**	P	**P**	**08 34 35.7**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=119,slow=5.4,SNR=23						
PETK	**Petropavlovsk-**	**77.52**	**346**	P	**P**	**08 34 36.3**	**+0.9**
BELA	**Belgrano 2**	**78.11**	**173**	P	**P**	**08 34 40.0**	**+1.7**
USRK	**Ussuriysk Ar.**	**79.58**	**327**	P	**P**	**08 34 47.7**	**+1.2**
	comp=Z,5.5nm,1.0s,baz=90,slow=8.6,SNR=5.3						
USRK	**Ussuriysk Ar.**	**79.58**	**327**	P	**P**	**08 34 47.9**	**+1.4**
MAW	**Mawson**	**79.59**	**200**	P	**P**	**08 34 47.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=164,slow=3.5,SNR=6.2						
NJ2	**Nanjing**	**79.92**	**311**	*eP*	**P**	**08 34 50.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ESJX	**Sierra Juarez**	**81.12**	**50**	P	**P**	**08 34 55.7**	**+0.6**
PFO	**Pinyon Flats O**	**81.64**	**49**	P	**P**	**08 34 59.0**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=263,slow=3.6,SNR=4.9						
AFDM	**Forest Hills D**	**81.73**	**42**	P	**P**	**08 34 58.0**	**+0.2**
WDC	**Whiskeytown Da**	**81.77**	**40**	P	**P**	**08 34 58.7**	**+0.7**
WDC				IAmb	IAmb	08 35 01.2	
	comp=Z,16nm,1.2s						
ORV	**Oroville**	**81.77**	**41**	P	**P**	**08 34 58.2**	**+0.3**
MDPB	**Devils Postpil**	**82.15**	**44**	P	**P**	**08 35 00.8**	**+0.5**
OMMB	**Old Mammoth Mi**	**82.19**	**44**	P	**P**	**08 35 01.3**	**+0.7**
YBH	**Yreka Blue Hor**	**82.38**	**39**	P	**P**	**08 35 03.2**	**+2.1**
	comp=Z,6.3nm,0.8s,baz=201,slow=2.7,SNR=20						
YBH	**Yreka Blue Hor**	**82.38**	**39**	P	**P**	**08 35 02.6**	**+1.5**
WAKR	**Walker**	**82.43**	**43**	P	**P**	**08 35 02.6**	**+1.0**
WAKR				IAmb	IAmb	08 35 04.7	
	comp=Z,12nm,0.9s						
PNTR	**Pine Nut**	**82.67**	**43**	P	**P**	**08 35 04.3**	**+1.5**
PNTR				IAmb	IAmb	08 35 05.8	
	comp=Z,21nm,0.8s						
VCNR	**Virginia City**	**82.76**	**43**	P	**P**	**08 35 04.5**	**+1.2**
HUMO	**Hull Mountain**	**82.79**	**38**	P	**P**	**08 35 05.0**	**+2.0**
HUMO				IAmb	IAmb	08 35 07.3	
	comp=Z,18nm,1.3s						
CN2	**Changchun**	**82.80**	**323**	*eP*	**P**	**08 35 03.9**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YERR	**Yerington**	**82.84**	**43**	P	**P**	**08 35 04.0**	**+0.3**
YERR				IAmb	IAmb	08 35 06.3	
	comp=Z,10nm,0.7s						
NVAR	**Mina Array Bea**	**83.11**	**44**	P	**P**	**08 35 06.3**	**+1.3**
	comp=Z,5.3nm,0.9s,baz=224,slow=9.0,SNR=31						
PAHR	**Pah Rah Range**	**83.17**	**42**	P	**P**	**08 35 06.9**	**+1.7**
NV11	**Mina Array Sit**	**83.21**	**44**	P	**P**	**08 35 07.3**	**+1.8**
KVN	**Kaiserville**	**83.60**	**43**	P	**P**	**08 35 08.6**	**+1.2**
TPH	**Tonopah**	**83.61**	**45**	P	**P**	**08 35 06.7**	**-0.7**
MOD	**Modoc Plateau**	**83.91**	**40**	P	**P**	**08 35 09.8**	**+0.9**
K05A	**Summer Lake**	**84.06**	**39**	P	**P**	**08 35 11.7**	**+2.2**
K05A				IAmb	IAmb	08 35 12.9	
	comp=Z,19nm,1.1s						
PRN	**Pahroc Range**	**84.67**	**46**	P	**P**	**08 35 13.5**	**+0.9**
PINE	**Pine Mountain**	**84.68**	**38**	P	**P**	**08 35 12.6**	**0.0**
PINE				IAmb	IAmb	08 35 15.9	
	comp=Z,38nm,1.4s						
I07A	**Izee**	**85.68**	**39**	P	**P**	**08 35 19.1**	**+1.9**
I07A				IAmb	IAmb	08 35 20.4	
	comp=Z,11nm,1.1s						
J08A	**Circle Bar Ran**	**85.86**	**40**	P	**P**	**08 35 17.2**	**-0.9**
J08A				IAmb	IAmb	08 35 21.1	
	comp=Z,17nm,1.3s						
LON	**Longmire**	**86.01**	**36**	P	**P**	**08 35 19.5**	**+0.8**
U15A	**North Rim**	**86.03**	**48**	P	**P**	**08 35 21.7**	**+2.4**
U15A				IAmb	IAmb	08 35 22.6	
	comp=Z,8.5nm,0.8s						
ELK	**Elko**	**86.37**	**43**	P	**P**	**08 35 20.9**	**+0.1**
SNAA	**Sanae**	**86.42**	**179**	P	**P**	**08 35 19.4**	**-0.9**
G08A	**Pilot Rock**	**86.71**	**38**	P	**P**	**08 35 20.8**	**-1.3**
G08A				IAmb	IAmb	08 35 25.0	
	comp=Z,14nm,1.1s						
GLI	**Glacier Island**	**86.76**	**15**	P	**P**	**08 35 21.5**	**-0.3**
LTY	**Liberty**	**86.94**	**36**	P	**P**	**08 35 24.5**	**+1.5**
LTY				IAmb	IAmb	08 35 25.5	
	comp=Z,7.2nm,0.9s						
HAWA	**Hanford**	**87.04**	**37**	P	**P**	**08 35 24.3**	**+0.8**
HAWA				IAmb	IAmb	08 35 26.5	
	comp=Z,12nm,0.9s						
MFID	**Camas Ranch**	**87.48**	**41**	P	**P**	**08 35 26.8**	**+1.0**
MFID				IAmb	IAmb	08 35 28.6	
	comp=Z,9.4nm,0.9s						
SCM	**Sheep Creek Mo**	**87.53**	**15**	P	**P**	**08 35 26.1**	**+0.6**
SEY	**Seymchan**	**87.67**	**348**	P	**P**	**08 35 26.7**	**+0.7**
	comp=Z,8.2nm,0.9s,baz=164,slow=4.6,SNR=6.5						
D08A	**Wollman Farm,**	**87.77**	**37**	P	**P**	**08 35 27.8**	**+0.9**
D08A				IAmb	IAmb	08 35 29.8	
	comp=Z,11nm,0.8s						
E09A	**Wood Farm, Sta**	**87.89**	**37**	P	**P**	**08 35 27.8**	**+0.3**
E09A				IAmb	IAmb	08 35 30.0	
	comp=Z,8.1nm,0.9s						
Q16A	**Castle Valley**	**88.07**	**46**	P	**P**	**08 35 30.8**	**+2.1**
F10A	**Beach Ranch, E**	**88.09**	**38**	P	**P**	**08 35 30.0**	**+1.5**
F10A				IAmb	IAmb	08 35 30.8	
	comp=Z,14nm,0.9s						
TMUT	**Trail Mountain**	**88.23**	**46**	P	**P**	**08 35 30.6**	**+1.0**
PLID	**Pearl Lake**	**88.31**	**39**	P	**P**	**08 35 31.4**	**+1.7**
PLID				IAmb	IAmb	08 35 32.2	
	comp=Z,18nm,1.4s						
B08A	**Colville Reser**	**88.32**	**35**	P	**P**	**08 35 29.6**	**+0.1**
B08A				IAmb	IAmb	08 35 31.6	
	comp=Z,7.5nm,0.8s						
TRF	**Thorofare Moun**	**88.32**	**13**	P	**P**	**08 35 29.4**	**+

comp=Z,0.8nm,0.5s,baz=15,slow=3.8
NOA NORSAR Array B 140.42 352 PKhKP PKPpre 08 41 56.3
comp=Z,0.9nm,0.6s,baz=16,slow=4.7,SNR=6.1
NOA PKP **PKiKP 08 42 04.0 -0.9**
comp=Z,0.3nm,0.5s,baz=13,slow=4.1,SNR=4.3
AKASG Malin Array Be 143.76 329 PKP PKPbc 08 42 06.9 -0.6
comp=Z,5.2nm,0.3s,baz=42,slow=4.4,SNR=37
AKASG Malin Array Be 143.76 329 PKPbc 08 42 07.1 -0.4
AKBB Malin Array Si 143.76 329 PKPab 08 42 07.5 -0.2
SUW Suwalki 143.86 337 *e*PKP **PKPdf 08 42 08.5 +0.1**
SUW Suwalki 143.86 337 PKPab 08 42 07.8 -0.1
BZK Bozkurt 145.77 313 ⇑P **PKPab 08 42 15.1 -0.6**
ILGA Ilgaz 146.34 312 **PKiKP 08 42 17.0 -0.9**
BEL Belsk 146.48 337 *e*PKP **PKiKP 08 42 16.8 -0.7**
BRTR Keskin Array B 146.91 310 PKPbc **PKPbc 08 42 17.1 -0.1**
comp=Z,2.6nm,0.7s,baz=139,slow=4.0,SNR=10
BRTR Keskin Array B 146.91 310 **PKPbc 08 42 17.3 +0.1**
KWP Kalwaria Pacla 147.47 333 *e*PKP **PKiKP 08 42 19.2 -0.5**
KWP Kalwaria Pacla 147.47 333 **PKPbc 08 42 18.3 +0.2**
BUR08 Bucovina Ar. S 147.78 328 **PKiKP 08 42 20.3 -0.2**
BURAR Bucovina Array 147.79 328 ⇑P **PKiKP 08 42 21.1 +0.5**
BURAR Bucovina Array 147.79 328 **PKiKP 08 42 20.0 -0.5**
BIZ Bicaz 147.80 326 ⇑P **PKiKP 08 42 20.6 +0.1**
TIRR Tirgusor 148.07 321 ⇑P **PKiKP 08 42 20.8 -0.2**
OJC Ojcow 148.16 336 *e*PKP **PKiKP 08 42 20.8 -0.4**
VRI Vrincioaia 148.17 324 ⇑P **PKiKP 08 42 20.9 -0.4**
HARR Harsova 148.21 322 ⇑P **PKiKP 08 42 21.1 -0.3**
MANR Mangalia 148.33 320 ⇑P **PKiKP 08 42 22.1 +0.5**
OZUR 148.52 325 ⇑P **PKiKP 08 42 22.4 +0.4**
NIE Niedzica 148.62 335 *e*PKP **PKiKP 08 42 22.9 +0.8**
DOPR Dopca 148.81 326 ⇑P **PKiKP 08 42 22.9 +0.3**
KSP Ksiaz 148.82 341 *e*PKP **PKiKP 08 42 22.7 +0.3**
MLR Muntele Rosu 148.83 324 ⇑P **PKiKP 08 42 22.6 -0.2**
MLR Muntele Rosu 148.83 324 **PKiKP 08 42 22.5 -0.3**
LEF Lefka 148.98 302 ⇑P **PKiKP 08 42 23.0 -0.2**
OSTC Ostas 149.10 340⇑ *e*PKP **PKiKP 08 42 23.4 +0.3**
CHVC Chvalec 149.12 341⇑ *e*PKP **PKiKP 08 42 23.4 +0.3**
LANS Liptovska Anna 149.16 336 *e*PKP **PKiKP 08 42 24.6 +1.4**
DPC Dobruska-Polom 149.25 340⇑ *e*PKP **PKiKP 08 42 23.9 +0.5**
CLL Collm 149.32 345 *i* PKPab **PKPab 08 42 30.4 +0.5**
comp=Z,11nm,0.7s
CLL Collm 149.32 345 **PKiKP 08 42 23.6 +0.2**
CLL Collm 149.32 345 *i* PKPbc **PKiKP 08 42 23.7 +0.3**
comp=Z,26nm,0.9s
CLL Collm 149.32 345 *i* PKiKP **PKiKP 08 42 25.5 +2.1**
KRLC Kraliky 149.34 339⇑ *e*PKP **PKiKP 08 42 23.9 +0.3**
MORC Moravsky Berou 149.34 338 ⇑P **PKiKP 08 42 24.0 +0.4**
MORC Moravsky Berou 149.34 338 *e*PKP **PKiKP 08 42 24.0 +0.4**
MORC Moravsky Berou 149.34 338 **PKiKP 08 42 23.6 0.0**
VOIR 149.34 325 ⇑P **PKiKP 08 42 23.7 -0.1**
BRG Berggiesshubel 149.47 343 *i* **PKPab 08 42 31.4 +0.9**
comp=Z,13nm,1.2s
BRG Berggiesshubel 149.47 343 *i* PKP **PKiKP 08 42 24.1 +0.3**
comp=Z,22nm,0.8s
ARR Arges 149.61 325 ⇑P **PKiKP 08 42 25.7 +1.3**
VYHS Vyhne 149.93 335 *e*PKP **PKiKP 08 42 25.5 +0.7**
VRAC Vranov 150.06 339 *e*PKP **PKiKP 08 42 24.7 -0.4**
JAVC Velka Javorina 150.07 337 *e*PKP **PKiKP 08 42 26.9 +1.7**
GOPC GO Pecny, Ondr 150.10 341⇑ *e*PKP **PKiKP 08 42 25.3 +0.2**
PRU Pruhonice 150.10 342⇑ *e*PKP **PKiKP 08 42 25.5 +0.4**
PRU *e*PKPAB **PKPab 08 42 34.5 +1.3**
KRUC Moravsky 150.34 339 *e*PKP **PKiKP 08 42 26.2 +0.6**
NKC Novy Kostel 150.44 344⇑ *e*PKP **PKiKP 08 42 26.2 +0.4**
MODS Modra-Piesok 150.62 337 *e*PKP **PKiKP 08 42 26.5 +0.2**
KHC Kasperske Hory 151.15 342⇑ *e*PKP **PKiKP 08 42 27.6 +0.2**
KHC *e*PKPAB **PKPab 08 42 38.8 +1.1**
KHC Kasperske Hory 151.15 342 **PKiKP 08 42 27.4 0.0**
KHC PKPab **PKPab 08 42 38.7 +1.1**
MEM Membach 151.26 353 PKiKP **PKiKP 08 42 27.8 +0.4**
BTNL Ternell 151.27 353 PKiKP **PKiKP 08 42 27.9 +0.4**
BTNL PKPab **PKPab 08 42 38.5 +0.3**
GEC2 GERESS Array S 151.37 342 PKPdf **PKPdf 08 42 18.1 -2.8**
GEC2 **PKiKP 08 42 28.3 +0.4**
GEC2 PKPab **PKPab 08 42 39.1 +0.3**
GERES GERESS Array B 151.37 342 PKPbc **PKiKP 08 42 28.4 +0.4**
comp=Z,2.2nm,0.4s,baz=49,slow=2.6,SNR=14
GERES PKPab **PKPab 08 42 38.7 0.0**
comp=Z,1.0nm,0.5s,baz=46,slow=2.8,SNR=4.1
GERES GERESS Array B 151.37 342 **PKiKP 08 42 27.7 -0.2**
BMRD Maredsous 151.69 354 PKiKP **PKiKP 08 42 29.2 +0.8**
DIVS Divibare 152.85 328 **PKPbc 08 42 30.0 -1.0**
DIVS PKPab **PKPab 08 42 42.3 -2.9**
FUORN Ofenpass-Fuorn 154.34 344 PKPdf **PKPdf 08 42 22.5 -2.9**
FUORN **PKPab 08 42 53.2 +1.5**
ESDC Sonseca Array 162.09 11 PKPab **PKPab 08 43 25.7 +0.4**
comp=Z,0.6nm,0.7s,baz=333,slow=5.1,SNR=5.9
ESDC Sonseca Array 162.09 11 **PKPab 08 43 25.6 +0.3**
TORD Torodi Ar. Bea 171.00 187 PKP **PKPdf 08 42 41.4 -0.5**
comp=Z,1.0nm,0.8s,baz=319,slow=0.4,SNR=4.4
TORD PKPab **PKPab 08 44 05.3 +0.2**
comp=Z,0.9nm,0.8s,baz=171,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 171.00 187 **PKPdf 08 42 42.4 +0.5**
TORD **PKPab 08 44 06.7 +1.6**

NEIC ***13*** *08:29:39.7±2.5, 14°.62N±0°.06×92°.59W±0°.05, h73km±6km, Error ellipse: s-maj=9.8km s-min=5.8km az=210.0*
IDC ***13*** *08:29:40.1±0.5, 14°.73N×92°.35W, h71km±4km, mb3.9/18, mb1 4.2/19, mb1mx4.0/42, mbtmp4.3/19, MS3.5/9, Ms1 3.4/9, ms1mx3.2/36, Error ellipse: s-maj=15.9km s-min=8.6km az=64.0*
MEX ***13*** *08:29:40.2±1.2, 14°.61N×92°.55W, h75km±15km, MD4.6*
INET ***13*** *08:29:41.2, 14°.60N×92°.47W, h15km, ML4.4*
SNET ***13*** *08:29:42.1±1.1, 14°.53N×92°.44W, h49km±17km, ML4.8*
GCG ***13*** *08:29:42.9±0.6, 14°.59N×92°.43W, h62km±15km, MD4.8*
UCR ***13*** *08:29:43.0±1.4, 14°.58N×92°.39W, h50km±19km, ML4.4, mb4.7(NEIC)*

ISC 13 08:29:40.2±0.4, 14°.67N±0°.04×92°.54W±0°.03, h73km±3km, h73km:pP-P,n360,σ1s34/429,mb4.6/71,4C-1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
THIG		**0.35**	**48**	*e*P	**Pn**	**08 29 51.0**	**-1.1**
THIG				*i* S	**Sn**	**08 30 00.7**	**-0.1**
THIG		**0.35**	**48**		**Pn**	**08 29 51.0**	**-1.1**
THIG					**Sn**	**08 30 00.6**	**-0.1**
RTAL	**Retalhuleu**	**0.83**	**100**	⇑*i*P	**Pn**	**08 29 56.6**	**-0.1**
RTAL				*e*S	**Sn**	**08 30 06.8**	**-2.3**
RTAL	**Retalhuleu**	**0.83**	**100**		**Pn**	**08 29 56.8**	**0.0**
RTAL				Sn	**Sn**	**08 30 09.8**	**+0.7**
STG3	**Santiaguito 3,**	**0.94**	**87**	*e*S	**Sn**	**08 30 12.9**	**+1.2**
ERG	**Entre ros, C**	**0.96**	**104**	*e*P	**Pn**	**08 29 59.2**	**+0.8**
HUEH	**Huehuetenango**	**1.19**	**57**	⇑*i*P	**Pn**	**08 30 03.2**	**+1.8**
HUEH				*e*S	**Sn**	**08 30 20.4**	**+3.0**
HUEH				IAML		08 30 25.5	
comp=Z,43μm,0.6s							
HUEH	**Huehuetenango**	**1.19**	**57**		**Pn**	**08 30 02.7**	**+1.3**
HUEH				Sn	**Sn**	**08 30 19.5**	**+2.1**
PCIG		**1.22**	**328**	*e*P	**Pn**	**08 30 01.0**	**-0.7**
PCIG				*e*S	**Sn**	**08 30 16.4**	**-1.3**
PCIG		**1.22**	**328**		**Pn**	**08 30 01.0**	**-0.7**
PCIG					**Sn**	**08 30 16.4**	**-1.3**
CCIG	**Comitan**	**1.65**	**13**	*e*P	**Pn**	**08 30 09.8**	**+2.3**
CCIG				*i* S	**Sn**	**08 30 36.0**	**+8.0**
CCIG	**Comitan**	**1.65**	**13**		**Pn**	**08 30 09.1**	**+1.7**
CCIG				Sn	**Sn**	**08 30 30.1**	**+2.1**
FUG	**Fuego 3**	**1.66**	**97**	*e*P	**Pn**	**08 30 08.8**	**+1.3**
PCG	**Pacaya**	**1.89**	**98**	*e*P	**Pn**	**08 30 12.5**	**+1.9**
APG	**El Apazote**	**2.03**	**80**	P	**Pn**	**08 30 13.6**	**+1.0**
comp=Z,155nm,0.3s,baz=293,slow=9.5,SNR=914							
APG				LR	LR	08 30 38.9	
comp=Z,346nm,20.3s,baz=296,slow=32							
APG				S	**Sn**	**08 30 40.9**	**+3.7**
comp=Z,323nm,0.3s,baz=188,slow=8.6,SNR=8.4							
IXG	**Ixpaco**	**2.09**	**103**	*e*P	**Pn**	**08 30 14.7**	**+1.5**
NBG	**Las Nubes**	**2.12**	**92**	*e*P	**Pn**	**08 30 16.3**	**+2.5**
NBG				*e*S	**Sn**	**08 30 46.0**	**+6.5**
TGBT	**Tuxtla Gutierr**	**2.16**	**346**	*e*P	**Pn**	**08 30 14.8**	**+0.8**
TGBT	**Tuxtla Gutierr**	**2.16**	**346**		**Pn**	**08 30 15.8**	**+1.8**
TGIG		**2.17**	**345**	*e*P	**Pn**	**08 30 14.0**	**-0.3**
TGIG				*e*S	**Sn**	**08 30 40.0**	**-0.3**
TGIG		**2.17**	**345**		**Pn**	**08 30 14.2**	**-0.1**
MRL	**Marmol**	**2.79**	**81**	μ*e*P	**Pn**	**08 30 24.9**	**+2.2**
RTR	**El Retiro**	**2.91**	**105**	*e*P	**Pn**	**08 30 25.5**	**+1.2**
RTR	**El Retiro**	**2.91**	**105**	*e*P	**Pn**	**08 30 25.5**	**+1.2**
SBLS	**San Blas**	**2.94**	**106**	*e*P	**Pn**	**08 30 25.8**	**+0.9**
SBLS	**San Blas**	**2.94**	**106**	*e*P	**Pn**	**08 30 25.8**	**+0.9**
SNJE	**San Jose**	**2.95**	**105**	*e*P	**Pn**	**08 30 25.6**	**+0.6**
SNJE	**San Jose**	**2.95**	**105**	*e*P	**Pn**	**08 30 25.6**	**+0.6**
MTO3	**Montecristo**	**3.09**	**95**	⇑*i*P	**Pn**	**08 30 27.6**	**+0.7**
MTO3	**Montecristo**	**3.09**	**95**	⇑*i*P	**Pn**	**08 30 27.6**	**+0.7**
MTO3	**Montecristo**	**3.09**	**95**		**Pn**	**08 30 27.5**	**+0.7**
ESQI	**Esquipulas**	**3.10**	**92**	*e*P	**Pn**	**08 30 27.7**	**+0.9**
ESQI	**Esquipulas**	**3.10**	**92**	Pn	**Pn**	**08 30 28.0**	**+1.2**
TACO	**Tacachico**	**3.16**	**102**	*e*P	**Pn**	**08 30 27.9**	**+0.3**
TACO				IAML		08 31 14.0	
comp=Z,386nm,0.6s							
TACO	**Tacachico**	**3.16**	**102**	*e*P	**Pn**	**08 30 27.9**	**+0.3**
TACO				IAML		08 31 14.0	
comp=Z,386nm,0.6s							
BOQS	**Boqueron**	**3.29**	**106**	*e*P	**Pn**	**08 30 29.6**	**0.0**
BOQS				*e*S	**Sn**	**08 31 09.0**	**+1.2**
BOQS	**Boqueron**	**3.29**	**106**	*e*P	**Pn**	**08 30 29.6**	**0.0**
BOQS				*e*S	**Sn**	**08 31 09.0**	**+1.2**
CMIG	**Matias Romero**	**3.30**	**317**	*e*P	**Pn**	**08 30 29.5**	**0.0**
CMIG				*e*S	**Sn**	**08 31 07.0**	**-0.7**
CMIG	**Matias Romero**	**3.30**	**317**		**Pn**	**08 30 29.5**	**0.0**
UEES	**Universidad Ev**	**3.34**	**106**	*e*P	**Pn**	**08 30 31.1**	**+1.0**
UEES				*e*S	**Sn**	**08 31 09.3**	**+0.6**
UEES				IAML		08 31 16.7	
comp=Z,2μm,0.5s							
UEES	**Universidad Ev**	**3.34**	**106**	*e*P	**Pn**	**08 30 31.1**	**+1.0**
UEES				*e*S	**Sn**	**08 31 09.3**	**+0.6**
UEES				IAML		08 31 16.7	
comp=Z,2μm,0.5s							
SNET	**Serv Nac Est T**	**3.35**	**107**	*e*P	**Pn**	**08 30 31.1**	**+0.8**
SNET				*e*S	**Sn**	**08 31 09.0**	**0.0**
SNET				IAML		08 31 15.8	
comp=Z,2μm,0.2s							
SNET	**Serv Nac Est T**	**3.35**	**107**	*e*P	**Pn**	**08 30 31.1**	**+0.8**
SNET				*e*S	**Sn**	**08 31 09.0**	**0.0**
SNET				IAML		08 31 15.8	
comp=Z,2μm,0.2s							
SNET	**Serv Nac Est T**	**3.35**	**107**		**Pn**	**08 30 31.3**	**+1.0**
OPAM	**Oficina de Pla**	**3.38**	**106**	*e*P	**Pn**	**08 30 31.6**	**+1.0**
OPAM	**Oficina de Pla**	**3.38**	**106**	*e*P	**Pn**	**08 30 31.6**	**+1.0**
PETF	**Flores**	**3.41**	**49**		**Pn**	**08 30 32.6**	**+1.7**
PETF				Sn	**Sn**	**08 31 12.0**	**+1.6**
LFU	**La Fuente**	**3.44**	**105**	*e*P	**Pn**	**08 30 32.2**	**+0.6**
LFU	**La Fuente**	**3.44**	**105**	*e*P	**Pn**	**08 30 32.2**	**+0.6**
LBRS	**Las Brisas**	**3.51**	**105**	*e*P	**Pn**	**08 30 33.6**	**+1.1**
LBRS	**Las Brisas**	**3.51**	**105**	*e*P	**Pn**	**08 30 33.6**	**+1.1**
LFRS	**El Faro**	**3.53**	**107**	*e*P	**Pn**	**08 30 33.5**	**+0.8**
LFRS	**El Faro**	**3.53**	**107**	*e*P	**Pn**	**08 30 33.5**	**+0.8**
HUIG	**Huatulco**	**3.62**	**288**	*i* P	**Pn**	**08 30 32.4**	**-1.5**
HUIG				*i* S	**Sn**	**08 31 14.7**	**-0.6**
HUIG	**Huatulco**	**3.62**	**288**		**Pn**	**08 30 31.8**	**-2.0**
PAVA	**Las Pavas**	**3.62**	**105**	*e*P	**Pn**	**08 30 34.6**	**+0.7**
PAVA	**Las Pavas**	**3.62**	**105**	*e*P	**Pn**	**08 30 34.6**	**+0.7**
COEG	**Centro de Oper**	**3.70**	**106**	*e*P	**Pn**	**08 30 35.9**	**+0.9**
COEG				IAML		08 31 32.1	
comp=Z,2μm,0.6s							
COEG	**Centro de Oper**	**3.70**	**106**	*e*P	**Pn**	**08 30 35.9**	**+0.9**
COEG				IAML		08 31 32.1	
comp=Z,2μm,0.6s							
TUIG	**Tuzandepetl**	**3.80**	**332**	*e*P	**Pn**	**08 30 36.5**	**+0.1**
TUIG				*i* S	**Sn**	**08 31 19.6**	**-0.3**
COEB	**Comit de Eme**	**4.06**	**106**	*e*P	**Pn**	**08 30 41.1**	**+1.1**
COEB				IAML		08 31 37.5	
comp=Z,825nm,0.5s							
COEB	**Comit de Eme**	**4.06**	**106**	*e*P	**Pn**	**08 30 41.1**	**+1.1**
COEB				IAML		08 31 37.5	
comp=Z,825nm,0.5s							
ALJI	**Alcalda de J**	**4.08**	**109**	*e*P	**Pn**	**08 30 40.6**	**+0.5**
ALJI				*e*S	**Sn**	**08 31 25.2**	**-1.3**
ALJI				IAML		08 31 32.4	
comp=Z,951nm,0.5s							
ALJI	**Alcalda de J**	**4.08**	**109**	*e*P	**Pn**	**08 30 40.6**	**+0.5**
ALJI				*e*S	**Sn**	**08 31 25.2**	**-1.3**
ALJI				IAML		08 31 32.4	
comp=Z,951nm,0.5s							
LCY	**Lacayo**	**4.30**	**106**	*e*P	**Pn**	**08 30 44.5**	**+1.2**
LCY	**Lacayo**	**4.30**	**106**	*e*P	**Pn**	**08 30 44.5**	**+1.2**
BLLM	**Bellamira**	**4.35**	**106**	*e*P	**Pn**	**08 30 45.2**	**+1.3**
BLLM	**Bellamira**	**4.35**	**106**	*e*P	**Pn**	**08 30 45.2**	**+1.3**
JUCU	**Jucuarįn**	**4.39**	**108**	*e*P	**Pn**	**08 30 45.4**	**+0.8**
JUCU	**Jucuarįn**	**4.39**	**108**	*e*P	**Pn**	**08 30 45.4**	**+0.8**
PEIG	**Puerto Escondi**	**4.64**	**287**	*e*P	**Pn**	**08 30 46.4**	**-1.4**
PEIG				*e*P	**Pn**	**08 30 46.4**	**-1.4**
PEIG				*e*S	**Sn**	**08 31 39.2**	**-1.3**
VHO	**Vista Hermosa**	**4.69**	**301**	*e*P	**Pn**	**08 30 50.1**	**+1.4**
VHO				*e*S	**Sn**	**08 31 48.2**	**+6.3**
LCND	**La Caada**	**4.71**	**106**	*e*P	**Pn**	**08 30 50.2**	**+1.5**
LCND				IAML		08 31 48.5	
comp=Z,853nm,0.3s							
LCND	**La Caada**	**4.71**	**106**	*e*P	**Pn**	**08 30 50.2**	**+1.5**
LCND				IAML		08 31 48.5	
comp=Z,853nm,0.3s							
CNCH	**Conchagua**	**4.77**	**106**	*e*P	**Pn**	**08 30 50.0**	**+0.3**
CNCH				IAML		08 31 53.5	
comp=Z,3μm,0.4s							
CNCH	**Conchagua**	**4.77**	**106**	*e*P	**Pn**	**08 30 50.0**	**+0.3**
CNCH				IAML		08 31 53.5	
comp=Z,3μm,0.4s							
TGUH	**Tegucigalpa,Un**	**5.14**	**96**	*e*P	**Pn**	**08 30 55.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**5.14**	**96**	*e*P	**Pn**	**08 30 55.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**5.14**	**96**		**Pn**	**08 30 53.9**	**-0.8**
YOIG	**Yosondua**	**5.29**	**295**	*e*P	**Pn**	**08 30 57.9**	**+0.9**
YOIG				*e*S	**Sn**	**08 31 54.5**	**-2.2**
TOIG	**Toxpalan**	**5.52**	**309**	*e*P	**Pn**	**08 31 01.1**	**+1.2**
TOIG				*e*S	**Sn**	**08 32 03.7**	**+1.5**
TXIG	**Tlaxiaco**	**5.65**	**298**	*e*P	**Pn**	**08 31 02.7**	**+0.8**
TXIG				*i* S	**Sn**	**08 32 05.5**	**0.0**
PNIG	**Pinotepa**	**5.65**	**288**	*e*P	**Pn**	**08 31 01.6**	**-0.1**
PNIG	**Pinotepa**	**5.65**	**288**		**Pn**	**08 31 01.6**	**-0.1**
CRIN	**San Cristobal**	**5.68**	**109**		**Pn**	**08 31 03.6**	**+1.5**
TPIG	**Tehuac#an**	**5.94**	**310**	*e*P	**Pn**	**08 32 13.2**	**+1.5**
TPIG				*e*S	**Sn**	**08 32 13.2**	**+0.7**
TPIG	**Tehuac#an**	**5.94**	**310**		**Pn**	**08 31 07.2**	**+1.5**
HLIG	**Huajuapan de L**	**5.95**	**303**	*e*P	**Pn**	**08 31 07.7**	**+1.7**
HLIG				*e*S	**Sn**	**08 32 13.0**	**+0.1**
TLIG	**Tlapa**	**6.47**	**297**	*e*P	**Pn**	**08 31 14.8**	**+1.8**
TLIG				*i* S	**Sn**	**08 32 27.8**	**+2.4**
TLIG	**Tlapa**	**6.47**	**297**	Pn	**Pn**	**08 31 14.3**	**+1.4**
MATN	**Matagalpa**	**6.65**	**104**		**Pn**	**08 31 15.9**	**+0.5**
TEIG	**Tepich**	**6.86**	**36**	P	**Pn**	**08 31 18.0**	**-0.1**
comp=Z,169nm,0.3s,baz=231,slow=1.6,SNR=467							
TEIG				S	**Sn**	**08 32 32.0**	**-2.8**
comp=Z,138nm,0.3s,baz=42,slow=21,SNR=15							
TEIG				LR	LR	08 34 35.5	
comp=Z,386nm,21.3s,baz=226,slow=44							
TEIG	**Tepich**	**6.86**	**36**	*e*P	**Pn**	**08 31 17.7**	**-0.4**
TEIG				*e*S	**Sn**	**08 32 31.9**	**-2.9**
TEIG	**Tepich**	**6.86**	**36**	Pn	**Pn**	**08 31 18.1**	**-0.1**
PPM	**Popocatepetl**	**7.29**	**308**	*e*P	**Pn**	**08 31 28.4**	**+4.0**
PPM				*e*S	**Sn**	**08 32 49.0**	**+3.1**
MEIG	**Mezcala**	**7.53**	**296**	*e*P	**Pn**	**08 31 27.0**	**-0.4**
MEIG				*e*S	**Sn**	**08 32 55.2**	**+3.9**
ACON	**Acoyapa**	**7.65**	**110**	Pn	**Pn**	**08 31 30.7**	**+1.7**
CAIG	**El Cayaco**	**7.80**	**289**	*e*P	**Pn**	**08 31 31.3**	**+0.2**
CAIG				*e*S	**Sn**	**08 33 00.3**	**+2.3**
CAIG	**El Cayaco**	**7.80**	**289**		**Pn**	**08 31 31.3**	**+0.2**
ORTG	**Ortega, Santa**	**8.13**	**121**	*e*P	**Pn**	**08 31 38.2**	**+2.6**
PLVR	**Palo Verde**	**8.23**	**121**	*e*P	**Pn**	**08 31 39.9**	**+2.9**
ARIG	**Puente Sto Nin**	**8.31**	**297**	*e*P	**Pn**	**08 31 40.0**	**+2.0**
ARIG				*e*S	**Sn**	**08 33 13.5**	**+3.2**
ARIG	**Puente Sto Nin**	**8.31**	**297**		**Pn**	**08 31 40.0**	**+2.0**
ESPN	**Las Esperanzas**	**8.38**	**106**		**Pn**	**08 31 39.8**	**+0.8**
JTS	**Las Juntas de**	**8.59**	**120**	P	**Pn**	**08 31 43.6**	**+1.8**
comp=Z,4.8nm,0.3s,baz=26,slow=15,SNR=43							
JTS				S	**Sn**	**08 33 18.0**	**+0.8**
baz=236,slow=23,SNR=0.9							
JTS	**Las Juntas de**	**8.59**	**120**	Pn	**Pn**	**08 31 42.8**	**+1.0**
ARE1	**Arenal 1**	**8.70**	**118**	*e*P	**Pn**	**08 31 46.2**	**+2.8**
CEDE	**Laguna Cedeo**	**8.70**	**118**	*e*P	**Pn**	**08 31 46.1**	**+2.7**
COVE	**Coope Vega, Sa**	**8.86**	**115**	*e*P	**Pn**	**08 31 47.8**	**+2.4**
LAFE	**Finca La Fe, P**	**8.88**	**122**	*e*P	**Pn**	**08 31 48.3**	**+2.5**
ZIIG	**Zihuatanejo**	**9.06**	**290**	*e*P	**Pn**	**08 31 49.3**	**+1.1**
ZIIG	**Zihuatanejo**	**9.06**	**290**		**Pn**	**08 31 49.3**	**+1.1**
HDC	**Heredia**	**9.45**	**118**		**Pn**	**08 31 53.7**	**0.0**
MOIG	**Morelia**	**9.65**	**302**	Pn	**Pn**	**08 31 56.4**	**-0.1**
LCR2	**La Lucha 2**	**9.67**	**119**	*e*P	**Pn**	**08 31 59.2**	**+2.4**
CVTR	**Volcan Turrial**	**9.74**	**117**	*e*P	**Pn**	**08 32 00.3**	**+2.4**
PEZE	**Perez Zeledon,**	**10.13**	**120**	*e*P	**Pn**	**08 32 05.3**	**+2.3**
EDPN	**Palmar Norte**	**10.54**	**122**	*e*P	**Pn**	**08 32 12.0**	**+3.5**
BRU2	**Volcan**	**11.27**	**120**	*e*P	**Pn**	**08 32 22.9**	**+4.4**
FSCY	**Frank Sound, G**	**11.80**	**65**	Pn	**Pn**	**08 32 25.8**	**+0.2**
LCCY	**Blossom Villag**	**12.90**	**66**	Pn	**Pn**	**08 32 38.9**	**-1.6**
CBCY	**The Bluff, Cay**	**13.21**	**66**	Pn	**Pn**	**08 32 45.4**	**+0.7**
BCIP	**Isla Barro Col**	**13.57**	**112**	Pn	**Pn**	**08 32 48.6**	**-1.0**
833A	**Chaparral WMA,**	**15.00**	**336**	Pn	**Pn**	**08 33 07.7**	**-0.4**
833A				IAmb	IAmb	08 33 30.8	
comp=Z,29nm,0.7s							
HKT	**Hockley**	**15.51**	**349**		**P**	**08 33 16.5**	**-1.0**
061Z	**Ochoppi**	**15.58**	**43**		**Pn**	**08 33 15.1**	**-0.4**
342A	**Flagon Creek P**	**16.63**	**1**	P	**P**	**08 33 29.5**	**-0.4**
342A				IAmb	IAmb	08 33 49.2	
comp=Z,40nm,0.9s							
435B	**Jarrell**	**16.70**	**345**	P	**P**	**08 33 31.2**	**+0.6**
435B				IAmb	IAmb	08 33 49.1	
comp=Z,68nm,1.3s							
060A	**Indiantown**	**16.74**	**41**	Pn	**Pn**	**08 33 29.8**	**-0.2**
344A	**Westbrook Farm**	**16.79**	**5**	P	**P**	**08 33 31.5**	**-0.1**
344A				IAmb	IAmb	08 33 33.7	
comp=Z,86nm,1.2s							
346A	**Big Creek Wild**	**16.88**	**9**	P	**P**	**08 33 32.4**	**-0.3**
346A				IAmb	IAmb	08 34 00.2	
comp=Z,35nm,0.8s							
JCT	**Junction City**	**17.10**	**338**	P	**P**	**08 33 35.9**	**+0.8**
NATX	**Nacogdoches**	**17.12**	**354**	P	**Pn**	**08 33 34.8**	**+0.1**
NATX				IAmb	IAmb	08 33 38.1	
comp=Z,66nm,1.2s							
BRAL	**Brewton**	**17.18**	**16**	P	**P**	**08 33 36.6**	**+0.7**
656A	**Willston**	**17.30**	**31**	P	**P**	**08 33 37.4**	**0.0**
656A				IAmb	IAmb	08 33 43.2	
comp=Z,61nm,0.8s							
VBMS	**Vicksburg**	**17.57**	**6**	P	**P**	**08 33 41.7**	**+1.5**
WHTX	**Lake Whitney,**	**17.82**	**346**	P	**Pn**	**08 33 44.3**	**+1.0**
TXAR	**Lajitas Array**	**17.85**	**327**	P	**Pn**	**08 33 45.8**	**+1.9**
comp=Z,0.3nm,0.3s,baz=147,slow=10,SNR=41							
TXAR				LR	LR	08 41 24.0	
comp=Z,35nm,19.7s,baz=0.0,slow=39							
TXAR	**Lajitas Array**	**17.85**	**327**		**Pn**	**08 33 46.4**	**+2.6**
TX31	**Lajitas Ar. Si**	**17.86**	**327**		**Pn**	**08 33 45.9**	**+2.1**
TX31				IAmb	IAmb	08 33 50.0	
comp=Z,82nm,1.1s							
TX32	**Lajitas Array**	**17.86**	**327**	P	**Pn**	**08 33 45.9**	**+2.1**
143A	**Socs Landing,**	**17.98**	**3**	P	**Pn**	**08 33 45.7**	**+0.5**
143A				IAmb	IAmb	08 34 04.2	
comp=Z,51nm,0.8s							
352A	**Blakely**	**18.13**	**21**	P	**Pn**	**08 33 47.1**	**+0.2**
250A	**Grady**	**18.16**	**17**	P	**Pn**	**08 33 47.6**	**+0.3**
250A				IAmb	IAmb	08 33 50.6	
comp=Z,64nm,0.9s							
146A	**Union**	**18.17**	**9**	P	**Pn**	**08 33 48.9**	**+1.4**
146A				IAmb	IAmb	08 34 06.9	
comp=Z,51nm,0.9s							
Z41A	**Richland Creek**	**18.51**	**359**	P	**Pn**	**08 33 53.0**	**+1.4**
Z41A				IAmb	IAmb	08 33 56.1	
comp=Z,54nm,0.8s							
TIGA	**Tifton**	**18.60**	**25**	P	**Pn**	**08 33 53.4**	**+0.8**
TIGA				IAmb	IAmb	08 33 58.7	
comp=Z,33nm,0.7s							
Z38A	**Mt. Pleasant**	**18.64**	**354**	P	**Pn**	**08 33 53.7**	**+0.6**
Z38A				IAmb	IAmb	08 33 57.2	
comp=Z,29nm,0.8s							
Z47A	**Carrollton**	**18.89**	**12**	P	**Pn**	**08 33 56.6**	**+0.5**
Z47A				I

V53A					IAmb	IAmb	08 34 55.9		
	comp=Z,47nm,1.1s								
KMSC	**Kings Mountain**	**22.74**	**24**	P	**P**	**P**	**08 34 35.4**	**-0.9**	
KMSC					IAmb	IAmb	08 34 55.4		
	comp=Z,31nm,1.1s								
S39A	**Bolivar**	**22.94**	**358**	P	**P**		**08 34 36.8**	**-1.5**	
BNM	**Barren Site**	**23.21**	**329**	P	**P**		**08 34 41.7**	**+0.5**	
TZTN	**Tazewell**	**23.22**	**19**	P	**P**		**08 34 39.6**	**-1.4**	
TZTN					IAmb	IAmb	08 34 59.6		
	comp=Z,53nm,1.2s								
T50A	**Nancy**	**23.29**	**16**	P	**P**		**08 34 39.6**	**-2.1**	
V55A	**Taylorsville**	**23.41**	**24**	P	**P**		**08 34 42.2**	**-0.6**	
ANMO	**Albuquerque**	**23.77**	**331**	P	**P**		**08 34 47.3**	**+1.1**	
	comp=Z,0.3nm,0.9s,baz=137,slow=12,SNR=16								
ANMO					pP	**pP**		**08 35 03.2**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=150,slow=12,SNR=11								
ANMO	**Albuquerque**	**23.77**	**331**	P	**P**		**08 34 45.1**	**-1.1**	
U54A	**Nelsons Funny**	**23.77**	**22**	P	**P**		**08 34 44.9**	**-1.2**	
WCI	**Wyandotte Cave**	**24.11**	**12**	P	**P**		**08 34 48.0**	**-1.1**	
WCI					IAmb	IAmb	08 35 08.2		
	comp=Z,30nm,0.8s								
TUC	**Tucson**	**24.19**	**320**	P	**P**		**08 34 50.3**	**+0.4**	
V58A	**Windy Hill, Pi**	**24.24**	**27**	P	**P**		**08 34 49.5**	**-0.7**	
V58A					IAmb	IAmb	08 34 50.6		
	comp=Z,27nm,0.8s								
R32A	**Long Quarter,**	**24.28**	**348**	P	**P**		**08 34 51.4**	**+0.7**	
R50A	**Paris**	**24.62**	**16**	P	**P**		**08 34 52.3**	**-1.3**	
P40A	**Paris**	**24.77**	**1**	P	**P**		**08 34 54.4**	**-0.6**	
P38A	**Dawn**	**24.88**	**358**	P	**P**		**08 34 56.3**	**+0.3**	
P38A					IAmb	IAmb	08 35 13.5		
	comp=Z,17nm,0.6s								
BLO	**Bloomington**	**24.98**	**11**	P	**P**		**08 34 55.6**	**-1.3**	
BLO					IAmb	IAmb	08 34 58.4		
	comp=Z,16nm,0.8s								
P48A	**Milroy**	**25.48**	**13**	P	**P**		**08 35 00.2**	**-1.3**	
P48A					IAmb	IAmb	08 35 20.0		
	comp=Z,18nm,0.7s								
Q51A	**Peebles**	**25.58**	**17**	P	**P**		**08 35 00.8**	**-1.6**	
Q51A					IAmb	IAmb	08 35 02.4		
	comp=Z,22nm,0.7s								
SDCO	**Great Sand Dun**	**25.70**	**336**	P	**P**		**08 35 04.8**	**+0.9**	
ATAH	**Atahualpa**	**25.81**	**146**	P	**P**		**08 35 06.2**	**+1.1**	
	comp=Z,13nm,0.8s,baz=336,slow=4.5,SNR=7.1								
T59A	**Double "B" Far**	**25.91**	**28**	P	**P**		**08 35 04.7**	**-0.8**	
T59A					IAmb	IAmb	08 35 05.4		
	comp=Z,20nm,0.9s								
R55A	**Marlinton**	**25.96**	**23**	P	**P**		**08 35 05.4**	**-0.5**	
SFIN	**Lafayette**	**26.05**	**9**	P	**P**		**08 35 06.0**	**-0.7**	
P51A	**Williamsport**	**26.08**	**17**	P	**P**		**08 35 05.9**	**-1.1**	
P51A					IAmb	IAmb	08 35 09.6		
	comp=Z,18nm,0.8s								
S22A	**4UR Ranch, Cre**	**26.25**	**334**	P	**P**		**08 35 09.3**	**+0.5**	
O49A	**Covington**	**26.42**	**14**	P	**P**		**08 35 08.4**	**-1.5**	
O49A					IAmb	IAmb	08 35 28.2		
	comp=Z,20nm,1.1s								
P52A	**Corning**	**26.49**	**18**	P	**P**		**08 35 10.3**	**-0.3**	
MVCO	**Mesa Verde**	**26.57**	**331**	P	**P**		**08 35 11.7**	**0.0**	
MVCO					IAmb	IAmb	08 35 31.1		
	comp=Z,36nm,1.0s								
Q56A	**Snyder Ridge,**	**26.98**	**23**	P	**P**		**08 35 14.3**	**-0.7**	
Q56A					IAmb	IAmb	08 35 34.9		
	comp=Z,28nm,1.5s								
O52A	**Adamsville**	**27.03**	**18**	P	**P**		**08 35 14.5**	**-1.0**	
O52A					IAmb	IAmb	08 35 34.4		
	comp=Z,30nm,1.1s								
PV13	**Radium Mtn., P**	**27.48**	**331**	P	**P**		**08 35 20.8**	**+1.0**	
PV03	**Paradox Valley**	**27.57**	**331**	P	**P**		**08 35 21.4**	**+0.8**	
PV18	**Skein Mesa, Pa**	**27.59**	**331**	P	**P**		**08 35 20.9**	**+0.1**	
PV04	**Paradox Valley**	**27.71**	**332**	P	**P**		**08 35 22.8**	**+1.0**	
PV22	**Blue Mesa, Par**	**27.77**	**332**	P	**P**		**08 35 23.1**	**+0.7**	
PV22					IAmb	IAmb	08 35 42.9		
	comp=Z,20nm,0.9s								
CZSB	**Cruzeiro do Su**	**29.70**	**137**	*eP*	**P**		**08 35 42.0**	**+2.5**	
L56A	**Greenwood**	**30.28**	**22**	P	**P**		**08 35 43.0**	**-1.4**	
L56A					IAmb	IAmb	08 36 07.7		
	comp=Z,17nm,1.4s								
BRNJ	**Basking Ridge**	**30.29**	**28**	P	**P**		**08 35 43.7**	**-0.7**	
BRNJ					IAmb	IAmb	08 35 44.2		
	comp=Z,13nm,0.7s								
SPMN	**Marine on St.**	**30.46**	**360**	P	**P**		**08 35 45.4**	**-0.4**	
SPMN					IAmb	IAmb	08 36 03.8		
	comp=Z,9.4nm,0.7s								
MMNY	**Mt. Morris Dam**	**30.67**	**21**	P	**P**		**08 35 47.4**	**-0.3**	
MMNY					IAmb	IAmb	08 35 58.7		
	comp=Z,16nm,1.3s								
PAL	**Palisades**	**30.84**	**28**	P	**P**		**08 35 47.9**	**-1.4**	
PAL					IAmb	IAmb	08 35 48.7		
	comp=Z,12nm,0.8s								
BINY	**Binghamton**	**30.93**	**24**	P	**P**		**08 35 49.0**	**-1.1**	
BINY					IAmb	IAmb	08 35 49.7		
	comp=Z,11nm,0.7s								
L59A	**Walton**	**31.31**	**25**	P	**P**		**08 35 52.1**	**-1.4**	
L59A					IAmb	IAmb	08 35 54.4		
	comp=Z,11nm,0.7s								
J56A	**Wolcott**	**31.52**	**22**	P	**P**		**08 35 54.0**	**-1.3**	
K58A	**Earlville**	**31.55**	**24**	P	**P**		**08 35 54.1**	**-1.4**	
PDAR	**Pinedale Array**	**31.60**	**336**	P	**P**		**08 35 57.8**	**+1.5**	
	comp=Z,0.5nm,0.8s,baz=154,slow=8.6,SNR=3.5								
PDAR					pP	**pP**		**08 36 13.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=158,slow=9.0,SNR=4.8								
PDAR					PcP	**PcP**		**08 38 47.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=142,slow=4.6,SNR=2.8								
KSCT	**Kent School, K**	**31.61**	**28**	P	**P**		**08 35 55.1**	**-0.9**	
KSCT					IAmb	IAmb	08 35 55.5		
	comp=Z,11nm,0.7s								
BGU	**Big Grassy Mou**	**31.66**	**330**	P	**P**		**08 35 58.0**	**+1.3**	
SADO	**Sadowa**	**32.09**	**18**	P	**P**		**08 35 58.4**	**-1.8**	
	comp=Z,2.9nm,0.5s,baz=212,slow=8.4,SNR=4.1								
J58A	**Remsen**	**32.19**	**24**	P	**P**		**08 36 00.0**	**-1.1**	
J58A					IAmb	IAmb	08 36 00.2		
	comp=Z,9.2nm,0.7s								
TRY	**Troy**	**32.34**	**26**	P	**P**		**08 36 02.0**	**-0.4**	
TRY					IAmb	IAmb	08 36 04.9		
	comp=Z,9.6nm,1.0s								
DELO	**Deloro Mine**	**32.34**	**20**	P	**P**		**08 36 01.0**	**-1.4**	
DELO					IAmb	IAmb	08 36 01.5		
	comp=Z,9.7nm,0.7s								
REDW	**Red Top Meadow**	**32.62**	**335**	P	**P**		**08 36 06.2**	**+1.0**	
SNOW	**Snow King Moun**	**32.66**	**335**	P	**P**		**08 36 06.4**	**+0.8**	
TPAW	**Teton Pass**	**32.77**	**335**	P	**P**		**08 36 07.3**	**+0.7**	
TPAW					IAmb	IAmb	08 36 25.6		
	comp=Z,16nm,1.1s								
NVAR	**Mina Array Bea**	**32.83**	**321**	P	**P**		**08 36 09.2**	**+2.1**	
	comp=Z,2.4nm,0.6s,baz=132,slow=8.1,SNR=14								
NVAR					pP	**pP**		**08 36 25.8**	**+1.4**
	comp=Z,8.4nm,0.9s,baz=135,slow=8.9,SNR=12								
NVAR					PcP	**PcP**		**08 38 51.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=104,slow=3.8,SNR=4.0								
NVAR					LR	LR		08 49 09.0	
	comp=Z,95nm,20.4s,baz=142,slow=36								
ULM	**Lac du Bonnet**	**35.59**	**356**	LR	LR		08 55 25.5		
	comp=Z,54nm,18.3s,baz=174,slow=44								
ETMB	**Extrema**	**35.68**	**131**	*eP*	**P**		**08 36 31.8**	**+0.1**	
J08A	**Circle Bar Ran**	**36.20**	**327**	P	**P**		**08 36 37.8**	**+1.8**	
PLID	**Pearl Lake**	**36.24**	**332**	P	**P**		**08 36 36.4**	**-0.1**	
BMO	**Blue Mountains**	**36.68**	**330**	P	**P**		**08 36 40.1**	**0.0**	
SAML	**Samuel**	**37.39**	**127**	P	**P**		**08 36 45.4**	**-0.9**	
SAML					IAmb	IAmb	08 36 46.5		
	comp=Z,10nm,0.9s								
SAML	**Samuel**	**37.39**	**127**	*eS*	**S**		**08 42 29.6**	**+0.3**	
F10A	**Beach Ranch, E**	**37.48**	**331**	P	**P**		**08 36 47.5**	**+0.7**	
YBH	**Yreka Blue Hor**	**37.52**	**322**	P	**P**		**08 36 47.0**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=187,slow=8.1,SNR=1.5								
YBH	**Yreka Blue Hor**	**37.52**	**322**	P	**P**		**08 36 47.4**	**+0.2**	
E09A	**Wood Farm, Sta**	**38.30**	**331**	P	**P**		**08 36 53.5**	**-0.1**	
E09A					IAmb	IAmb	08 37 12.0		
	comp=Z,6.8nm,1.0s								
LPAZ	**La Paz**	**39.08**	**141**	P	**P**		**08 37 00.9**	**-0.2**	
	comp=Z,3.0nm,0.7s,baz=338,slow=5.0,SNR=17								
LPAZ					pP	**pP**		**08 37 18.4**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=334,slow=5.9,SNR=4.5								
LPAZ	**La Paz**	**39.08**	**141**	*eP*	**P**		**08 37 00.8**	**-0.4**	
NEW	**Newport**	**39.17**	**334**	P	**P**		**08 37 00.3**	**-0.6**	
	comp=Z,1.6nm,0.7s,baz=135,slow=8.8,SNR=3.7								
C09A	**Chrisman Ranch**	**39.32**	**332**	P	**P**		**08 37 02.7**	**+0.6**	
C09A					IAmb	IAmb	08 37 04.2		
	comp=Z,8.4nm,0.8s								
PB16	**IPOC Station P**	**39.88**	**145**	P	**P**		**08 37 07.9**	**+0.1**	
PB16					IAmb	IAmb	08 37 10.0		
	comp=Z,9.4nm,1.0s								
LON	**Longmire**	**40.25**	**329**	P	**P**		**08 37 09.7**	**-0.2**	
MNMC	**Minye Minye**	**40.48**	**145**	P	**P**		**08 37 11.0**	**-1.3**	
FFC	**Flin Flon**	**40.64**	**352**	P	**P**		**08 37 11.7**	**-1.3**	
PB11	**IPOC Station P**	**40.96**	**146**	P	**P**		**08 37 15.1**	**-1.0**	
ITTB	**Itaituba**	**41.09**	**115**	*eP*	**P**		**08 37 16.8**	**-0.3**	
ITTB					epP	**pP**	**08 37 34.4**	**-0.7**	
GO01	**Chusmiza**	**41.13**	**145**	P	**P**		**08 37 16.6**	**-1.3**	
GO01					IAmb	IAmb	08 37 20.3		
	comp=Z,9.7nm,0.8s								
MALB	**Monte Alegre**	**41.29**	**110**	*eP*	**P**		**08 37 18.2**	**-0.6**	
PB08	**IPOC Station P**	**41.54**	**146**	P	**P**		**08 37 20.6**	**-0.5**	
PB08					IAmb	IAmb	08 37 42.1		
	comp=Z,6.6nm,0.8s								
VILB	**Vilhena**	**42.17**	**129**	*eP*	**P**		**08 37 25.8**	**-0.2**	
VILB					epP	**pP**	**08 37 43.7**	**-0.2**	
NPGB	**Novo Progresso**	**42.72**	**118**	*eP*	**P**		**08 37 28.7**	**-1.7**	
NPGB					epP	**pP**	**08 37 49.5**	**+1.1**	
MCPB	**Macapa, AP**	**42.73**	**107**	*eP*	**P**		**08 37 30.9**	**+0.3**	
MCPB					epP	**pP**	**08 37 49.7**	**+1.2**	
LVC	**Limon Verde**	**43.69**	**148**	P	**P**		**08 37 38.2**	**-0.3**	
	comp=Z,4.5nm,0.7s,baz=336,slow=5.6,SNR=4.3								
LVC	**Limon Verde**	**43.69**	**148**	P	**P**		**08 37 37.4**	**-1.1**	
LVC	**Limon Verde**	**43.69**	**148**	*eP*	**P**		**08 37 39.4**	**+0.9**	
LVC					epP	**pP**	**08 37 56.8**	**+0.3**	
PTLB	**Pontes e Lacer**	**44.56**	**131**	*eP*	**P**		**08 37 44.6**	**-0.5**	
PTLB					epP	**pP**	**08 38 02.6**	**-0.6**	
SCHQ	**Schefferville**	**44.78**	**21**	P	**P**		**08 37 43.7**	**-2.8**	
	comp=Z,2.5nm,0.6s,baz=253,slow=5.7,SNR=6.7								
SCHQ					pP	**pP**		**08 38 02.4**	**-2.2**
	comp=Z,5.9nm,0.8s,baz=188,slow=6.7,SNR=4.1								
SCHQ					LR	LR		08 57 04.9	
	comp=Z,155nm,21.1s,baz=206,slow=37								
SCHQ	**Schefferville**	**44.78**	**21**	P	**P**		**08 37 44.2**	**-2.2**	
SCHQ					IAmb	IAmb	08 38 04.2		
	comp=Z,11nm,1.1s								
AC01	**Pan de Azucar**	**45.84**	**152**	P	**P**		**08 37 54.7**	**-0.5**	
TMAB	**Tom-Au,PA,Br**	**47.15**	**107**	*eP*	**P**		**08 38 05.2**	**-0.4**	
TMAB					epP	**pP**	**08 38 24.0**	**+0.1**	
AC05	**El Transito**	**48.31**	**154**	P	**P**		**08 38 14.4**	**-0.1**	
AC05					IAmb	IAmb	08 38 16.3		
	comp=Z,10nm,0.8s								
SNDB	**Serra Nova Dou**	**48.68**	**121**	*eP*	**P**		**08 38 18.3**	**+0.9**	
SNDB					epP	**pP**	**08 38 35.3**	**-0.4**	
CO02	**Combarbal**	**50.09**	**156**	P	**P**		**08 38 28.5**	**+0.5**	
YKA	**Yellowknife Ar**	**50.26**	**347**	P	**P**		**08 38 28.3**	**-0.5**	
	comp=Z,3.5nm,0.8s,baz=154,slow=8.8,SNR=8.6								
YKA					pP	**pP**		**08 38 45.4**	**-1.7**
	comp=Z,4.3nm,0.9s,baz=145,slow=7.0,SNR=4.2								
YKA					LR	LR		09 02 15.5	
	comp=Z,33nm,20.8s,baz=0.0,slow=39								
AQDB	**Aquidauana**	**50.30**	**133**	*eP*	**P**		**08 38 29.1**	**-0.5**	
AQDB					epP	**pP**	**08 38 47.4**	**-0.7**	
ARAG	**Araguaiana, MT**	**50.30**	**125**	*eP*	**P**		**08 38 29.5**	**-0.3**	
SMTB	**Santa Maria do**	**50.33**	**115**	*eP*	**P**		**08 38 30.8**	**+0.8**	
ROSB	**Rosrio**	**51.03**	**106**	*eP*	**P**		**08 38 35.5**	**+0.2**	
DLBC	**Dease Lake**	**51.83**	**336**	P	**P**		**08 38 42.0**	**+1.3**	
GO05	**Huala**	**53.14**	**159**	P	**P**		**08 38 51.0**	**+0.4**	
CPUP	**Villa Florida**	**53.23**	**140**	P	**P**		**08 38 50.0**	**-1.4**	
	comp=Z,1.7nm,0.9s,baz=337,slow=8.6,SNR=4.1								
CPUP					LR	LR		08 59 47.0	
	comp=Z,34nm,19.9s,baz=309,slow=34								
CPUP	**Villa Florida**	**53.23**	**140**	*eP*	**P**		**08 38 52.2**	**+0.8**	
BDFB	**Brasilia**	**53.32**	**123**	P	**P**		**08 38 51.7**	**-0.7**	
	comp=Z,6.4nm,0.8s,baz=240,slow=3.5,SNR=8.5								
BDFB	**Brasilia**	**53.32**	**123**	P	**P**		**08 38 52.5**	**+0.2**	
BDFB					IAmb	IAmb	08 38 54.8		
	comp=Z,7.2nm,0.9s								
ITRB	**Iturama**	**53.74**	**128**	*eP*	**P**		**08 38 56.2**	**+0.9**	
SDBA	**SAO DESIDERIO**	**54.31**	**117**	*eP*	**P**		**08 39 00.3**	**+0.7**	
IPMB	**Ipameri, GO**	**54.43**	**125**	*eP*	**P**		**08 39 00.3**	**-0.1**	
IPMB					epP	**pP**	**08 39 19.0**	**0.0**	
PTGB	**Pitanga**	**55.60**	**134**	*eP*	**P**		**08 39 10.2**	**+1.4**	
BB19B	**Bebedouro**	**55.93**	**128**	*eP*	**P**		**08 39 10.9**	**-0.3**	
BB19B					epP	**pP**	**08 39 29.3**	**-0.5**	
JANB	**Januaria**	**56.09**	**120**	*eP*	**P**		**08 39 13.1**	**+0.8**	
FRTB	**Fartura**	**56.52**	**131**	*eP*	**P**		**08 39 14.8**	**-0.5**	
LC01	**Cunco**	**56.68**	**161**	P	**P**		**08 39 16.2**	**+0.1**	
SPB	**Sao Paulo**	**58.23**	**130**	*eP*	**P**		**08 39 28.1**	**+0.9**	
SPB					epP	**pP**	**08 39 45.9**	**-0.2**	
VAO	**Valinhos**	**58.23**	**129**	*eP*	**P**		**08 39 27.0**	**-0.4**	
VAO					epP	**pP**	**08 39 45.6**	**-0.6**	
PLCA	**Paso Flores**	**58.77**	**161**	P	**P**		**08 39 30.8**	**0.0**	
	comp=Z,7.0nm,1.0s,baz=326,slow=7.6,SNR=11								
PLCA					pP	**pP**		**08 39 48.1**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=313,slow=12,SNR=3.2								
PLCA	**Paso Flores**	**58.77**	**161**	P	**P**		**08 39 30.5**	**-0.3**	
PLCA	**Paso Flores**	**58.77**	**161**	*eP*	**P**		**08 39 31.5**	**+0.7**	
PLCA					epP	**pP**	**08 39 51.6**	**+2.0**	
BSCB	**Bom Sucesso**	**58.79**	**126**	*eP*	**P**		**08 39 31.5**	**+0.3**	
BSCB					epP	**pP**	**08 39 50.0**	**-0.1**	
DAWY	**Dawson**	**58.87**	**338**	P	**P**		**08 39 31.6**	**+0.4**	
DAWY					IAmb	IAmb	08 39 32.4		
	comp=Z,3.6nm,0.8s								
BCAR	**Beaver Creek A**	**59.22**	**336**	P	**P**		**08 39 34.2**	**+0.6**	
PLTB	**Pedras Altas**	**59.37**	**142**	*eP*	**P**		**08 39 34.3**	**-0.7**	
PLTB					epP	**pP**	**08 39 54.1**	**+0.2**	
GDU01	**Guandu, BA**	**59.52**	**116**	*eP*	**P**		**08 39 37.1**	**+0.8**	
INK	**Inuvik**	**59.65**	**344**	P	**P**		**08 39 36.6**	**+0.2**	
EGAK	**Eagle**	**59.90**	**338**	P	**P**		**08 39 38.5**	**+0.3**	
EGAK					IAmb	IAmb	08 39 39.5		
	comp=Z,10nm,1.1s								
ESAR	**Angra dos Reis**	**60.16**	**128**	*eP*	**P**		**08 39 41.3**	**+0.8**	
ESAR					epP	**pP**	**08 39 59.6**	**+0.2**	
DOT	**Dot Lake**	**60.40**	**336**	P	**P**		**08 39 42.4**	**+0.7**	
DOT					IAmb	IAmb	08 39 44.0		
	comp=Z,5.3nm,0.8s								
MAN01	**Angra dos Reis**	**60.44**	**127**	*eP*	**P**		**08 39 43.4**	**+0.9**	
MAN01					epP	**pP**	**08 40 02.1**	**+0.6**	
SJMB	**Sao Joao De Ma**	**60.48**	**122**	*eP*	**P**		**08 39 43.4**	**+0.5**	
VAS01	**Vassouras-RJ**	**60.52**	**126**	*eP*	**P**		**08 39 43.6**	**+0.5**	
VAS01					epP	**pP**	**08 40 02.3**	**+0.2**	
RIDG	**Independent Ri**	**60.75**	**336**	P	**P**		**08 39 45.9**	**+1.8**	
BSFB	**Barra de Sao F**	**60.82**	**122**	*eP*	**P**		**08 39 45.5**	**+0.3**	
BSFB					epP	**pP**	**08 40 04.1**	**0.0**	
NAN01	**Guarapari, ES**	**60.94**	**120**	*eP*	**P**		**08 39 46.5**	**+0.4**	
NAN01					epP	**pP**	**08 40 05.2**	**+0.3**	
RIB01	**Linhares ES**	**61.43**	**122**	*eP*	**P**		**08 39 49.4**	**+0.1**	
RIB01					epP	**pP**	**08 40 07.4**	**-0.9**	
HDA	**Harding Lake**	**61.88**	**336**	P	**P**		**08 39 52.8**	**+1.2**	
HDA					IAmb	IAmb	08 39 52.9		
	comp=Z,8.7nm,1.0s								
ILAR	**Eielson Array**	**62.02**	**337**	P	**P**		**08 39 53.1**	**+0.5**	
	comp=Z,4.7nm,0.8s,baz=127,slow=4.7,SNR=36								
ILAR					pP	**pP**	**08 40 11.4**	**-0.2**	
	comp=Z,4.5nm,0.9s,baz=133,slow=4.1,SNR=9.3								
PPT	**Papeete**	**64.73**	**242**	LR	LR		09 00 16.9		
	comp=Z,88nm,21.7s,baz=8.5,slow=28								
ESDC	**Sonseca Array**	**79.71**	**52**	P	**P**		**08 41 37.3**	**-3.0**	
	comp=Z,1.0nm,0.8s,baz=280,slow=6.0,SNR=4.1								
TORD	**Torodi Ar. Bea**	**90.73**	**76**	P	**P**		**08 42 33.6**	**-2.2**	
	comp=Z,0.2nm,0.4s,baz=273,slow=5.9,SNR=1.4								
TORD					LR	LR		09 23 59.3	
	comp=Z,19nm,18.8s,baz=135,slow=36								
KURBB	**Kurchatov Arra**	**114.52**	**6**	PKiKP	**PKiKP**		**08 48 11.2**	**-0.7**	
	comp=Z,0.3nm,0.4s,baz=356,slow=1.5,SNR=4.7								
SONM	**Songino Array**	**115.52**	**346**	PKP	**PKiKP**		**08 48 13.5**	**-0.6**	
	comp=Z,0.4nm,0.5s,baz=26,slow=3.7,SNR=2.0								
MKAR	**Makanchi Array**	**118.65**	**4**	PKP	**PKPdf**		**08 48 19.6**	**-0.4**	
	comp=Z,0.3nm,0.5s,baz=18,slow=4.9,SNR=2.8								
MAW	**Mawson**	**124.73**	**169**	PKP	**PKPdf**		**08 48 30.4**	**-0.5**	
	comp=Z,0.6nm,0.5s,baz=264,slow=7.3,SNR=1.9								
STKA	**Stephens Creek**	**127.93**	**241**	PKP	**PKPdf**		**08 48 37.6**	**-0.5**	
	comp=Z,2.3nm,0.7s,baz=85,slow=2.6,SNR=5.4								
STKA					pPKP	**pPKPdf**	**08 48 58.8**	**-0.2**	
	comp=Z,4.1nm,0.7s,baz=84,slow=1.7,SNR=4.4								
WRA	**Warramunga Arr**	**135.05**	**256**	PKhKP	PKPpre		08 48 45.5		
	comp=Z,0.4nm,0.8s,baz=110,slow=1.3,SNR=8.0								
WRA					PKP	**PKPdf**	**08 48 52.1**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=86,slow=2.0,SNR=14								
WRA					pPKP	pPKPdf	08 49 12.3	-0.5	
	comp=Z,1.8nm,0.7s,baz=90,slow=2.5,SNR=7.9								
ASAR	**Alice Springs**	**135.39**	**251**	PKhKP	PKPpre		08 48 45.7		
	comp=Z,0.4nm,0.7s,baz=107,slow=1.8,SNR=6.7								
ASAR					PKP	**PKPdf**	**08 48 52.4**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=85,slow=1.8,SNR=9.6								
ASAR					pPKP	pPKPdf	08 49 12.4	-1.0	
	comp=Z,1.3nm,0.7s,baz=82,slow=2.0,SNR=6.3								
FITZ	**Fitzroy Crossi**	**143.26**	**259**	PKP	PKPbc		08 49 04.9	+0.8	
	comp=Z,2.2nm,0.5s,baz=181,slow=2.1,SNR=11								
CMAR	**Chiang Mai Arr**	**145.19**	**341**	PKPbc	**PKPbc**		**08 49 09.4**	**-0.5**	
	comp=Z,4.3nm,0.7s,baz=340,slow=3.5,SNR=20								
CMAR					pPKPbc	pPKPab	08 49 29.5	-0.9	
	comp=Z,5.2nm,0.7s,baz=338,slow=3.2,SNR=4.7								

WEL 13 08:50:41.4±1.3, 46°S±7'×16°6E±', h12km, M3.2/7, ML3.3/8, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km

az=111.6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PYZ	**Puysegur Point**	**0.32**	**75**	P	Pb		08 50 49.3	+0.3
PYZ				S	Sb		08 50 54.1	+0.1
DCZ	**Deep Cove**	**1.01**	**39**	P	Pb		08 50 58.1	-2.6
DCZ				S	Sg		08 51 12.6	-1.4
WHZ	**Wether Hill Ro**	**1.24**	**74**	P	Pn		08 51 03.5	-1.0
WHZ				S	Sn		08 51 21.0	-0.1
APZ	**The Paps**	**1.34**	**116**	P	Pn		08 51 04.4	-1.5
MLZ	**Mavora Lakes**	**1.58**	**57**	P	Pn		08 51 09.6	+0.3
MLZ				S	Sb		08 51 31.1	+0.6
MSZ	**Milford Sound**	**1.97**	**38**	P	Pn		08 51 15.3	+0.7
SYZ	**Scrubby Hill**	**2.02**	**99**	P	Pn		08 51 14.6	-0.7
TUZ	**Tuapeka**	**2.38**	**84**	P	Pn		08 51 20.0	-0.1
WKZ	**Wanaka**	**2.41**	**55**	P	Pb		08 51 22.9	-1.8
JCZ	**Jackson Bay**	**2.82**	**40**	P	Pn		08 51 27.5	+1.2
ODZ	**Otahua Downs**	**3.31**	**70**	P	Pn		08 51 31.6	-1.4
LBZ	**Lake Benmore**	**3.35**	**58**	P	Pn		08 51 33.5	0.0
FOZ	**Fox Glacier**	**3.72**	**44**	P	Pn		08 51 41.1	+2.5
RPZ	**Rata Peaks**	**4.25**	**55**	P	Pn		08 51 44.8	-1.2
LTZ	**Lake Taylor**	**5.53**	**53**	P	Pn		08 52 04.1	+0.6
DSZ	**Denniston Nort**	**6.03**	**44**	P	Pn		08 52 10.7	+0.4

CNRM ***13*** *08:51:29.4±0.8, 36°99N×13°35W, h0km, Error ellipse: s-maj=12.1km s-min=5.4km az=150.0*
MDD ***13*** *08:51:33.3±0.7, 37°03N×13°39W, h30km, mb5.0/35, Error ellipse: s-maj=10.7km s-min=6.1km az=133.0, PRXIMO*
IDC ***13*** *08:51:33.5±2.3, 36°83N×12°88W, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.5/45, mbtmp3.9/4, ML4.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/50, Error ellipse: s-maj=55.4km s-min=34.4km az=85.0*
IGIL ***13*** *08:51:35.9, 37°00N×13°23W, h31km, ML4.3*
LDG ***13*** *08:51:35.7±0.3, 37°17N×13°18W, h10km, Ml4.1/8, Error ellipse: s-maj=6.2km s-min=4.5km az=57.0*
INMG ***13*** *08:51:37.6±2.3, 37°03N×13°25W

PCBR A A 08 53 50.8
comp=N,65nm,0.3s
PCBR eLQ LQ 08 56 37.1
EMIN Mina Concepcio 4.84 83 P **Pn 08 52 50.8 +2.5**
comp=N,5.4nm,0.1s,SNR=54
EMIN S **Sn 08 53 44.7 +0.3**
comp=N,52nm,0.2s,SNR=7.0
PVIS Viseu 5.08 46 P **Pn 08 52 54.4 +2.8**
PVIS S **Sn 08 53 52.1 +1.7**
comp=N,46nm,0.3s
PVIS Viseu 5.08 46 *e*Pn **Pn 08 52 54.4 +2.8**
PVIS *e*Sn **Sn 08 53 52.1 +1.7**
PVIS A A 08 53 56.5
comp=N,91nm,0.3s
MTE Manteigas 5.09 51 P **Pn 08 52 55.0 +3.2**
MTE S **Sn 08 53 53.8 +3.0**
comp=N,52nm,0.4s
MTE Manteigas 5.09 51 *e*Pn **Pn 08 52 55.0 +3.2**
MTE *e*Sn **Sn 08 53 53.8 +3.0**
MTE A A 08 53 59.4
comp=N,104nm,0.4s
MTE eLQ LQ 08 56 39.9
PMPST Porto Santo, M 5.14 216 *e*Pn Pn 08 52 40.4 -12
PMPST *e*Sn Sn 08 53 27.0 -25
PMPST A A 08 53 30.6
comp=N,132nm,0.4s
PMPST eLQ LQ 08 57 12.3
PMPS Porto Santo 5.16 216 P Pn 08 52 40.4 -12
PMPS S Sn 08 53 27.0 -25
comp=N,66nm,0.4s
PMPS Porto Santo 5.16 216 *e*Pn Pn 08 52 40.6 -12
PMPS *e*Sn Sn 08 53 27.1 -25
PMPS A A 08 53 33.1
comp=N,62nm,0.3s
ESPR Espera 5.52 92 ⇓P **Pn 08 52 59.8 +2.2**
comp=N,38nm,0.3s,SNR=18
ESPR S **Sn 08 54 02.1 +1.1**
comp=N,154nm,0.3s
PVRL Vila Real 5.55 43 P **Pn 08 53 00.8 +2.6**
PVRL S **Sn 08 54 04.5 +2.4**
comp=N,28nm,0.3s
PVRL Vila Real 5.55 43 *e*Pn **Pn 08 53 00.8 +2.6**
PVRL *e*Sn **Sn 08 54 04.5 +2.4**
PVRL A A 08 54 08.6
comp=N,56nm,0.3s
PCAB Cabril 5.71 38 P **Pn 08 53 03.1 +2.9**
PCAB S **Sn 08 54 06.5 +0.7**
comp=N,19nm,0.4s
PCAB Cabril 5.71 38 *e*Pn **Pn 08 53 03.1 +2.9**
PCAB *e*Sn **Sn 08 54 06.5 +0.7**
PCAB A A 08 54 19.2
comp=N,37nm,0.4s
PMAR Madeira 5.71 218 P Pn 08 52 47.4 -13
PMAR S Sn 08 53 41.9 -24
comp=N,61nm,0.4s
PMAR Madeira 5.71 218 P Pn 08 52 47.8 -13
PMAR Madeira 5.71 218 *e*Pn Pn 08 52 47.4 -13
PMAR *e*Sn Sn 08 53 41.9 -24
PMAR A A 08 53 46.4
comp=N,121nm,0.4s
EZAM Zamans 5.75 32 ⇑P **Pn 08 53 03.2 +2.4**
comp=N,20nm,0.3s,SNR=18
EZAM S **Sn 08 54 06.6 -0.3**
comp=N,75nm,0.4s,SNR=7.9
FUL Funchal 5.76 218 S Sn 08 53 43.3 -24
FUL Funchal 5.76 218 *e*Sn Sn 08 53 43.3 -24
PMOZ Porto Moniz, M 5.78 221 P Pn 08 52 49.1 -12
comp=N,142nm,0.4s,SNR=7.9
PMOZ S Sn 08 53 44.7 -23
comp=N,573nm,0.4s,SNR=7.9
PMOZ Porto Moniz, M 5.78 221 P Pn 08 52 49.3 -12
PMOZ Porto Moniz, M 5.78 221 *e*Pn Pn 08 52 49.2 -12
PMOZ *e*Sn Sn 08 53 45.3 -22
PMOZ A A 08 53 49.1
comp=N,388nm,0.5s
PMOZ eLQ LQ 08 58 10.4
PGAV Gavieira, Arco 5.79 35 P **Pn 08 53 04.0 +2.6**
PGAV S **Sn 08 54 07.8 -0.1**
comp=N,54nm,0.5s
PGAV Gavieira, Arco 5.79 35 *e*Pn **Pn 08 53 04.0 +2.6**
PGAV *e*Sn **Sn 08 54 07.8 -0.1**
PGAV A A 08 54 17.3
comp=N,54nm,0.5s
ELOB Lobios 5.81 37 P **Pn 08 53 03.7 +2.0**
comp=N,17nm,0.3s,SNR=34
ELOB S **Sn 08 54 10.5 +2.0**
comp=N,31nm,0.2s,SNR=6.2
ECAB El Cabril 5.85 80 P **Pn 08 53 04.8 +2.5**
comp=N,36nm,0.4s,SNR=89
ECAB S **Sn 08 54 09.8 +0.4**
comp=N,36nm,0.6s
MVO Moncorvo 5.87 47 P **Pn 08 53 05.3 +2.8**
comp=N,43nm,0.2s,SNR=58
MVO S **Sn 08 54 11.2 +1.3**
comp=N,61nm,0.3s,SNR=7.5
MVO Moncorvo 5.87 47 *e*Pn **Pn 08 53 05.3 +2.8**
MVO *e*Sn **Sn 08 54 10.7 +0.8**
MVO A A 08 54 15.9
comp=N,77nm,0.3s
EPLA Plasencia 5.89 60 P **Pn 08 53 05.8 +3.0**
comp=N,22nm,0.2s,SNR=34
EPLA S **Sn 08 54 12.6 +2.4**
comp=N,123nm,0.5s,SNR=6.0
AVE Averroes 5.91 131 *e*S Sn 08 54 00.9 -10
HORN Hornachuelos 5.96 83 P **Pn 08 53 05.4 +1.7**
CEU Ceuta 6.09 101 P **Pn 08 53 07.5 +2.1**
CEU S **Sn 08 54 16.5 +1.4**
CEU Ceuta 6.09 101 *e*P **Pn 08 53 07.5 +2.1**
CEU *e*S **Sn 08 54 16.5 +1.4**
ZHG ZHG 6.29 126 P Pn 08 53 05.1 -3.2
EMAZ Mazaricos 6.33 26 P **Pn 08 53 10.9 +2.1**
comp=N,15nm,0.2s,SNR=7.9
EMAZ S **Sn 08 54 18.4 -2.7**
comp=N,29nm,0.3s,SNR=7.9
PBRG Braganca 6.45 44 P **Pn 08 53 13.1 +2.6**
PBRG S **Sn 08 54 25.3 +1.2**
comp=N,11nm,0.3s
PBRG Braganca 6.45 44 *e*Pn **Pn 08 53 13.1 +2.6**
PBRG *e*Sn **Sn 08 54 25.3 +1.2**
PBRG A A 08 54 27.4
comp=N,22nm,0.3s
EADA Adamuz 6.52 80 P **Pn 08 53 13.7 +2.3**
comp=N,13nm,0.2s,SNR=40
EADA S **Sn 08 54 25.3 -0.6**
comp=N,35nm,0.2s,SNR=5.6
EAGO Agolada(Pontev 6.54 32 P **Pn 08 53 13.4 +1.7**
comp=N,6.4nm,0.1s,SNR=7.9
EAGO S **Sn 08 54 25.4 -1.0**
comp=N,0.2nm,0.1s,SNR=7.9
ECAL Calabor 6.55 43 P **Pn 08 53 14.6 +2.8**
comp=N,32nm,0.2s,SNR=56
ECAL S **Sn 08 54 27.6 +1.1**
comp=N,72nm,0.3s,SNR=9.6
EGOR Sierra Gorda, 6.89 89 P **Pn 08 53 19.0 +2.4**
comp=N,8.3nm,0.4s,SNR=7.9
EGOR S **Sn 08 54 35.3 +0.3**
comp=N,24nm,0.5s,SNR=7.9
PAB San Pablo 6.95 69 P **Pn 08 53 19.7 +2.3**
SNR=7.9
PAB S **Sn 08 54 37.7 +1.1**
comp=N,10nm,0.3s,SNR=7.9
IFR Ifrane 7.27 119 *e*P **Pn 08 53 19.7 -2.2**
IFR *e*S Sn 08 54 34.8 -10
ESDC Sonseca Array 7.27 68 Pn **Pn 08 53 24.0 +2.2**
comp=N,5.5nm,0.3s,baz=255,slow=13,SNR=88
ESDC Sn **Sn 08 54 42.9 -1.6**
comp=N,4.6nm,0.3s,baz=257,slow=23,SNR=15
ESDC Sonseca Array 7.27 68 P **Pn 08 53 23.7 +1.9**
comp=N,21nm,0.3s,baz=255,slow=13,SNR=62
ESDC S **Sn 08 54 44.5 0.0**
comp=N,37nm,0.5s,baz=254,slow=23,SNR=7.0
ELGU Los Guajares, 7.29 91 P **Pn 08 53 25.7 +3.7**
comp=N,3.8nm,0.2s,SNR=7.9
ELGU S **Sn 08 54 46.4 +1.4**
comp=N,29nm,0.3s,SNR=7.9
OUK Oukaimeden 7.30 145 P Pn 08 53 18.3 -4.1
EPON Pontenova 7.37 34 P **Pn 08 53 25.0 +1.9**
comp=N,10nm,0.3s,SNR=23
EPON S **Sn 08 54 45.0 -1.8**
comp=N,9.3nm,0.2s,SNR=7.5
EQUE Quentar 7.41 88 P **Pn 08 53 27.1 +3.4**
comp=N,6.0nm,0.3s,SNR=13
EQUE S **Sn 08 54 49.0 +1.1**
comp=N,14nm,0.5s,SNR=5.4
EQES Quesada 7.69 83 P **Pn 08 53 29.4 +1.8**
comp=N,2.7nm,0.1s,SNR=12
EQES S **Sn 08 54 55.5 +0.6**
comp=N,20nm,0.4s,SNR=7.9
AKLM AKL 7.72 109 P **Pn 08 53 28.0 +0.1**
EBER Berja 7.88 90 P **Pn 08 53 33.8 +3.6**
comp=N,5.6nm,0.4s,SNR=5.9
EBER S **Sn 08 54 58.4 -1.1**
comp=N,31nm,0.7s,SNR=7.9
MD31 MD31 7.89 122 P **Pn 08 53 28.4 -1.9**
MDT Midelt 8.03 122 P Pn 08 53 29.5 -2.6
comp=N,1.3nm,0.3s,baz=272,slow=6.9,SNR=11
MDT Sn Sn 08 54 54.8 -8.3
comp=N,8.3nm,0.3s,baz=187,slow=23,SNR=17
MDT LR LR 08 56 44.2
comp=N,20nm,18.9s,baz=356,slow=39
MDT Midelt 8.03 122 P **Pn 08 53 30.4 -1.7**
OUZM OUZ 8.08 140 P Pn 08 53 29.4 -3.5
SESP Santiago Espad 8.12 81 P **Pn 08 53 37.1 +3.7**
comp=N,7.8nm,0.3s,SNR=4.0
SESP S **Sn 08 55 05.7 +0.4**
comp=N,4.8nm,0.1s,SNR=7.9
SESP Santiago Espad 8.12 81 P **Pn 08 53 36.2 +2.7**
EARI Arriondas 8.30 41 P **Pn 08 53 38.9 +3.1**
comp=N,2.8nm,0.2s,SNR=26
EARI S **Sn 08 55 11.5 +1.9**
comp=N,8.9nm,0.3s,SNR=4.7
CFUE Fuerteventura 8.69 187 S Sn 08 54 54.3 -25
comp=N,30nm,0.7s,SNR=7.9
TZRR Tazzarine 8.81 135 P **Pn 08 53 40.8 -2.1**
ETOB Tobarra 8.94 78 P **Pn 08 53 46.4 +1.8**
comp=N,6.8nm,0.3s,SNR=12
ETOB S **Sn 08 55 25.5 +0.2**
comp=N,16nm,0.6s,SNR=9.0
ETOR Torete 9.02 64 P **Pn 08 53 48.6 +2.9**
comp=N,92nm,0.5s,SNR=56
ETOR S **Sn 08 55 25.8 -1.6**
comp=N,54nm,0.5s,SNR=7.9
ELAN Lanestosa 9.25 47 P **Pn 08 53 53.3 +4.5**
comp=N,1.4nm,0.1s,SNR=11
ELAN S **Sn 08 55 32.9 0.0**
comp=N,15nm,0.3s,SNR=5.1
ZGR Zagora 9.30 138 P Pn 08 53 46.2 -3.3
TDRA Tendrara 9.74 113 P **Pn 08 53 55.0 -0.7**
EMOS Mosqueruela 10.04 69 P **Pn 08 54 04.0 +4.2**
comp=N,7.8nm,0.4s,SNR=9.8
EMOS S **Sn 08 55 52.0 -0.7**
comp=N,13nm,0.7s,SNR=5.9
EORO Oroz-Betelu 10.38 54 P **Pn 08 54 07.8 +3.5**
comp=N,18nm,0.4s,SNR=23
EORO S **Sn 08 55 59.5 -1.1**
comp=N,13nm,0.4s,SNR=5.8
EALK Alkurruntz 10.41 52 P **Pn 08 54 08.9 +4.1**
comp=N,12nm,0.4s,SNR=12
EALK S **Sn 08 56 01.3 -0.2**
comp=N,14nm,0.4s,SNR=5.0
SJPF Ste Jean 10.54 53 *e*Pn **Pn 08 54 09.7 +3.3**
SJPF *e*Sn **Sn 08 56 03.5 -1.0**
comp=N,23nm,0.4s
SJPF Ste Jean 10.54 53 P **Pn 08 54 09.7 +3.3**
SJPF S **Sn 08 56 03.5 -1.0**
comp=N,12nm,0.4s
ERTA Horta de San J 10.79 66 P **Pn 08 54 13.6 +3.7**
comp=N,3.2nm,0.3s,SNR=7.9
ERTA S **Sn 08 56 11.2 +0.6**
comp=N,3.8nm,0.3s,SNR=7.9
ATE Arette 10.86 54 P **Pn 08 54 15.1 +4.2**
comp=N,17nm,0.4s,SNR=7.9
ATE S **Sn 08 56 13.0 +0.5**
comp=N,6.5nm,0.3s,SNR=7.9
ETSF Etsaut 10.87 55 *e*Pn **Pn 08 54 15.0 +4.0**
ETSF *e*Sn **Sn 08 56 10.7 -2.0**
comp=N,6.7nm,0.3s
ETSF Etsaut 10.87 55 P **Pn 08 54 15.0 +4.0**
ETSF S **Sn 08 56 10.7 -2.0**
comp=N,3.3nm,0.3s
ECHI Chisagues Biel 11.27 58 P **Pn 08 54 20.8 +4.3**
comp=N,10nm,0.2s,SNR=7.9
ECHI S **Sn 08 56 23.4 +0.8**
comp=N,1.3nm,0.1s,SNR=7.9
EPOB Poblet 11.43 65 P **Pn 08 54 21.9 +3.1**
comp=N,2.2nm,0.2s,SNR=6.9
EPOB S **Sn 08 56 25.7 -0.9**
comp=N,1.7nm,0.5s
EPF Esparros 11.52 56 *e*Pn **Pn 08 54 24.3 +4.4**
EPF *e*Sn **Sn 08 56 26.9 -1.7**
comp=N,12nm,0.5s
EPF Esparros 11.52 56 P **Pn 08 54 24.3 +4.4**
EPF S **Sn 08 56 26.9 -1.7**
comp=N,5.8nm,0.5s
CSOR Sort 11.80 60 P **Pn 08 54 27.6 +3.8**
comp=N,7.7nm,0.5s,SNR=12
CSOR S **Sn 08 56 35.0 -0.6**
comp=N,4.1nm,0.3s,SNR=4.0
CLLI Llivia 12.42 61 P **Pn 08 54 36.2 +3.9**
comp=N,4.9nm,0.5s,SNR=7.9
CLLI S **Sn 08 56 50.6 -0.2**
comp=N,3.7nm,0.3s,SNR=7.9
CFON Fontmartina 12.53 65 P **Pn 08 54 37.5 +3.8**
comp=N,5.0nm,0.2s,SNR=10
CFON S **Sn 08 56 52.5 -0.8**
comp=N,7.3nm,0.5s
LFF La Frestale 12.69 49 *e*Pn **Pn 08 54 38.7 +2.8**
LFF La Frestale 12.69 49 P **Pn 08 54 38.7 +2.8**
QUIF Quistinic 12.72 31 *e*Pn **Pn 08 54 37.2 +1.0**
QUIF *e*Sn **Sn 08 56 53.8 -4.0**
comp=N,4.1nm,0.3s
QUIF Quistinic 12.72 31 P **Pn 08 54 37.2 +1.0**
QUIF S **Sn 08 56 53.8 -4.0**
comp=N,2.0nm,0.3s
MTLF Montolieu 12.90 57 *e*Pn **Pn 08 54 40.9 +2.2**
MTLF *e*Sn **Sn 08 56 58.3 -4.0**
comp=N,2.4nm,0.4s
MTLF Montolieu 12.90 57 P **Pn 08 54 40.9 +2.2**
MTLF S **Sn 08 56 58.3 -4.0**
comp=N,1.2nm,0.4s
ROSF Rostrenen 13.02 29 *e*Pn **Pn 08 54 41.5 +1.2**
ROSF *e*Sn **Sn 08 57 00.4 -4.7**
comp=N,4.0nm,0.5s
ROSF Rostrenen 13.02 29 P **Pn 08 54 41.5 +1.2**
ROSF S **Sn 08 57 00.4 -4.7**
comp=N,2.0nm,0.5s
MFF Saint Martin d 13.18 41 *e*Pn **Pn 08 54 44.8 +2.3**
MFF Saint Martin d 13.18 41 P **Pn 08 54 44.8 +2.3**
SGMF Saint Gilles 13.24 31 *e*Pn **Pn 08 54 45.7 +2.4**
SGMF Saint Gilles 13.24 31 P **Pn 08 54 45.7 +2.4**
RJF Les Rejaudoux 13.35 49 *e*Pn **Pn 08 54 47.1 +2.2**
RJF *e*Sn **Sn 08 57 10.8 -2.5**
comp=N,2.7nm,0.2s
RJF Les Rejaudoux 13.35 49 P **Pn 08 54 47.1 +2.2**
RJF S **Sn 08 57 10.8 -2.5**
comp=N,1.4nm,0.2s
CAF Calviac 13.49 51 *e*Pn **Pn 08 54 48.7 +1.8**
CAF Calviac 13.49 51 P **Pn 08 54 48.7 +1.8**
GRR Gorron 14.07 34 *e*Pn **Pn 08 54 55.9 +1.2**
GRR Gorron 14.07 34 P **Pn 08 54 55.9 +1.2**
TCF Toulx Ste Croi 14.29 46 *e*Pn **Pn 08 54 59.8 +2.0**
TCF *e*Sn **Sn 08 57 33.3 -3.0**
comp=N,3.5nm,0.4s
TCF Toulx Ste Croi 14.29 46 P **Pn 08 54 59.8 +2.0**
TCF S **Sn 08 57 33.3 -3.0**
comp=N,1.8nm,0.4s
FLN La Foliniere 14.52 34 *e*Pn **Pn 08 55 02.4 +1.6**
FLN La Foliniere 14.52 34 P **Pn 08 55 02.4 +1.6**
VIVF Saint-Julien-l 15.12 55 *e*Pn **Pn 08 55 12.0 +3.0**
VIVF Saint-Julien-l 15.12 55 P **Pn 08 55 12.0 +3.0**
AVF Avril sur Loir 15.23 46 *e*Pn **Pn 08 55 12.5 +2.1**
AVF Avril sur Loir 15.23 46 P **Pn 08 55 12.5 +2.1**
SMF Signal de Mont 15.44 48 *e*Pn **Pn 08 55 15.2 +2.1**
SMF Signal de Mont 15.44 48 P **Pn 08 55 15.2 +2.1**
SSF Saint Saulge 15.46 46 *e*Pn **Pn 08 55 15.7 +2.2**
SSF Saint Saulge 15.46 46 P **Pn 08 55 15.7 +2.2**
LOR Lormes 15.78 46 *e*Pn **Pn 08 55 19.9 +2.3**
LOR Lormes 15.78 46 P **Pn 08 55 19.9 +2.3**
CABF La Chapelle 16.77 50 *e*Pn **P 08 55 33.3 +0.7**
CABF La Chapelle 16.77 50 P **P 08 55 33.3 +0.7**
DAVOX Davos/Dischmat 19.22 53 LR LR 09 04 39.5
comp=N,68nm,18.4s,baz=271,slow=40
TORD Torodi Ar. Bea 27.30 148 P **P 08 57 17.4 -2.8**
comp=N,0.3nm,0.6s,baz=335,slow=9.7,SNR=2.7
FINES FINESS Array B 34.13 32 P P 08 58 25.1 +5.0
comp=N,2.2nm,0.9s,baz=201,slow=7.4,SNR=2.8
WRA Warramunga Arr 146.54 68 PKPbc **PKPdf 09 11 16.4 +0.5**
comp=N,0.4nm,1.0s,baz=311,slow=2.9,SNR=2.3
ASAR Alice Springs 148.38 74 PKPbc **PKPdf 09 11 21.4 +2.5**
comp=N,0.3nm,0.8s,baz=311,slow=2.4,SNR=4.2

IDC ***13*** *08:58:18.6±2.1,36°.69N×98°.03W,h0km,mb1 3.6/3, mb1mx3.4/38,mbtmp3.3/3,ML2.6/2,Error ellipse: s-maj=29.7km s-min=13.5km az=103.0*
TUL ***13*** *08:58:19.5±1.8,36°.65N±0°.02×97°.92W±0°.07,h5km±2km, ML3.1,Error ellipse: s-maj=9.5km s-min=3.1km az=83.0*
NEIC ***13*** *08:58:19.2±1.6,36°.61N±0°.02×97°.94W±0°.04,h5km±7km, Error ellipse: s-maj=5.3km s-min=2.2km az=104.0*
ISC 13 08:58:19.4±0.9,36°.64N±0°.02×97°.93W±0°.04,h13km±8km, n50,σ1s09/55,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CROK	**Carrier**	**0.14**	**197**			**Pg**	**08 58 23.0**	**+0.1**
CROK				Sg		**Sg**	**08 58 25.1**	**-0.3**
KAN05	**Bluff City Nor**	**0.47**	**6**			**Pg**	**08 58 28.8**	**+0.1**
KAN05				Sg		**Sg**	**08 58 35.3**	**+0.4**
KAN10	**Anthony SW Sta**	**0.50**	**345**	Pg		**Pg**	**08 58 29.4**	**+0.2**
KAN10				Sg		**Sg**	**08 58 36.5**	**+0.6**
KAN13	**South Haven SW**	**0.52**	**44**			**Pg**	**08 58 29.4**	**-0.1**
KAN13				Sg		**Sg**	**08 58 36.4**	**-0.1**
KAN09	**Caldwell North**	**0.55**	**27**			**Pg**	**08 58 30.1**	**-0.1**
KAN09				Sg		**Sg**	**08 58 37.5**	**-0.1**
KAN08	**Anthony NE Sta**	**0.58**	**357**			**Pg**	**08 58 30.9**	**+0.1**
KAN08				Sg		**Sg**	**08 58 39.1**	**+0.6**
KAN12	**Harper NE Stat**	**0.66**	**355**			**Pg**	**08 58 32.1**	**0.0**
KAN12				Sg		**Sg**	**08 58 41.3**	**+0.5**
U32A	**Winter Ranch,**	**0.90**	**253**			**Pb**	**08 58 37.0**	**0.0**
OK029	**Liberty Lake**	**0.93**	**155**			**Pg**	**08 58 37.0**	**-0.3**
BCOK	**Bluff Creek, N**	**1.02**	**165**			**Pb**	**08 58 38.6**	**-0.3**
QUOK	**Quay**	**1.09**	**115**			**Pb**	**08 58 39.8**	**-0.3**
OK025	**Westminster Rd**	**1.16**	**155**			**Pb**	**08 58 41.2**	**-0.1**
T35A	**Sooner Cattle**	**1.17**	**76**			**Pn**	**08 58 41.2**	**-0.3**
OKCFA	**Oklahoma City**	**1.28**	**162**			**Pn**	**08 58 43.1**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.30**	**162**			**Pn**	**08 58 43.4**	**+0.1**
FNO	**Franklin**	**1.45**	**163**			**Pn**	**08 58 46.3**	**+1.0**
R32A	**Long Quarter,**	**1.88**	**341**	Pn		**Pb**	**08 58 54.0**	**+0.4**
WMOK	**Wichita Mounta**	**2.02**	**200**			**Pn**	**08 58 54.6**	**+1.4**
CBKS	**Cedar Bluff**	**2.60**	**327**	Pn		**Pb**	**08 59 04.5**	**-1.4**
KSU1	**Kansas State U**	**2.67**	**23**	Pn		**Pn**	**08 59 03.7**	**+1.6**
X37A	**Clayton**	**2.92**	**134**			**Pn**	**08 59 07.2**	**+1.6**
Z35A	**Perchaven, San**	**3.35**	**170**	Pn		**Pn**	**08 59 13.2**	**+1.7**
W39A	**Magazine**	**3.66**	**112**	Pn		**Pn**	**08 59 18.2**	**+2.5**
S39A	**Bolivar**	**3.83**	**73**			**Pn**	**08 59 18.5**	**+0.5**
U40A	**Yellville**	**4.10**	**92**			**Pn**	**08 59 22.7**	**+0.9**
MIAR	**Mount Ida**	**4.12**	**119**	Pn		**Pn**	**08 59 24.2**	**+2.1**
Z38A	**Mt. Pleasant**	**4.15**	**144**	Pn		**Pn**	**08 59 21.9**	**-0.5**
ABTX	**Abilene, Hawle**	**4.25**	**200**	Pn		**Pn**	**08 59 22.8**	**-1.1**
MGMO	**Mountain Grove**	**4.57**	**82**	Pn		**Pn**	**08 59 29.7**	**+1.5**
P38A	**Dawn**	**4.57**	**48**	Pn		**Pn**	**08 59 29.7**	**+1.5**
N35A	**Tabor**	**4.58**	**22**	Pn		**Pn**	**08 59 29.8**	**+1.5**
WHTX	**Lake Whitney,**	**4.66**	**175**	Pn		**Pn**	**08 59 30.9**	**+1.5**
BGNE	**Belgrade**	**4.76**	**358**	Pn		**Pn**	**08 59 31.9**	**+1.0**
WHAR	**Wooly Hollow**	**4.77**	**105**	Pn		**Pn**	**08 59 31.9**	**+0.9**
MSTX	**Muleshoe**	**4.77**	**237**	Pn		**Pn**	**08 59 29.9**	**-1.2**
R40A	**Maddies Statio**	**4.79**	**68**			**Pn**	**08 59 32.3**	**+1.0**
W41B	**Gary Mavity, V**	**4.84**	**106**	Pn		Pn	08 59 38.6	+6.7
UALR	**University of**	**4.91**	**111**	Pn		**Pn**	**08 59 33.5**	**+0.5**
FVM	**French Village**	**6.13**	**75**	Pn		**Pn**	**08 59 48.1**	**-1.6**
SDCO	**Great Sand Dun**	**6.14**	**283**	Pn		**Pn**	**08 59 48.0**	**-2.1**
Q24A	**Divide**	**6.17**	**294**	Pn		**Pn**	**08 59 50.1**	**-0.4**
JCT	**Junction City**	**6.34**	**195**	Pn		**Pn**	**08 59 54.0**	**+1.3**
SCIA	**State Center**	**6.40**	**33**	Pn		**Pn**	**08 59 53.7**	**+0.3**
L40A	**Anamosa**	**7.50**	**42**			**Pn**	**09 00 09.0**	**+0.5**
TXAR	**Lajitas Array**	**8.73**	**215**	Pn		**Pn**	**09 00 25.0**	**-0.5**
	0.1nm,0.3s,baz=31,slow=11,SNR=1.9							
TXAR				Pg		Pg	09 00 54.6	-12
	0.2nm,0.3s,baz=40,slow=15,SNR=2.6							
TXAR				Lg		Lg	09 02 47.6	
	0.3nm,0.3s,baz=37,slow=24,SNR=2.3							
TXAR	**Lajitas Array**	**8.73**	**215**			**Pn**	**09 00 25.4**	**-0.1**
PD31	**Pinedale Array**	**10.84**	**308**	Pn		**Pn**	**09 00 54.7**	**+0.3**
PDAR	**Pinedale Array**	**10.84**	**308**	Pn		**Pn**	**09 00 54.8**	**+0.3**
	0.3nm,0.3s,baz=118,slow=15,SNR=6.5							
PDAR				Lg		Lg	09 03 55.7	
	0.2nm,0.3s,baz=104,slow=34,SNR=2.6							
PDAR	**Pinedale Array**	**10.84**	**308**			**Pn**	**09 00 51.4**	**-3.1**
ULM	**Lac du Bonnet**	**13.68**	**6**	Pn		Pn	09 01 28.0	-5.0
	0.2nm,0.3s,baz=188,slow=14,SNR=2.3							
ULM				Sn		Sn	09 03 54.0	-11
	0.2nm,0.3s,baz=294,slow=16,SNR=1.7							
ULM				Lg		Lg	09 05 18.2	
	0.1nm,0.3s,baz=90,slow=20,SNR=1.3							

BGS ***13*** *09:16:48.6±2.5,64°.64N×17°.44W,h5km,mb4.6(NEIC)*
REY ***13*** *09:16:48.3,64°.67N×17°.44W,h2km*
MOS ***13*** *09:16:48.7±1.2,64°.58N×17°.52W,h10km,mb4.7/48,Error ellipse: s-maj=10.0km s-min=6.4km az=103.0*
IDC ***13*** *09:16:48.6±0.5,64°.62N×17°.62W,h0km,mb4.2/24, mb1 4.3/29,mb1mx4.2/59,mbtmp4.2/29,ML2.8/3,MS3.1/3, Ms1 3.1/3,ms1mx2.7/48,Error ellipse: s-maj=15.3km s-min=8.3km az=11.0*
NEIC ***13*** *09:16:50.1±1.8,64°.64N±0°.08×17°.4W±0°.1,h10km±1km, mb4.6/117,Error ellipse: s-maj=12.8km s-min=8.7km az=179.0*
DNK ***13*** *09:17:14.3±3.7,65°.72N×18°.77W,h154km±162km,mb4.6*
ISC 13 09:16:50.0±0.3,64°.68N±0°.02×17°.46W±0°.02,h10km,n343, σ1s78/335,mb4.5/118,MS3.6/4,16C-11D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.12**	**20**	P		**Pg**	**09 16 51.4**	**-1.6**
	baz=15							
IVON	**Vonarskard**	**0.12**	**268**	P		**Pg**	**09 16 51.2**	**-1.8**
	baz=273							
IDJK	**Dyngjujokull**	**0.20**	**150**	P		**Pg**	**09 16 52.3**	**-2.0**
	baz=151							
IGRF	**Grimsfjall**	**0.28**	**163**	P		**Pg**	**09 16 53.9**	**-1.9**
	baz=164							
IHUS	**Husbondi**	**0.39**	**192**	P		**Pg**	**09 16 55.9**	**-1.9**
	baz=194							
ISKR	**Skrokkalda**	**0.41**	**254**	P		**Pg**	**09 16 56.2**	**-2.0**
	baz=256							
IVOT	**Vottur**	**0.43**	**163**	P		**Pg**	**09 16 56.3**	**-2.0**
	baz=164							
IKRE	**Kreppuhraun**	**0.48**	**77**	P		**Pg**	**09 16 57.0**	**-2.2**
	baz=75							
IKRE				S		**Sg**	**09 17 03.8**	**-1.7**
	baz=75							
IJOK	**Jokulheimar**	**0.49**	**222**	P		**Pg**	**09 16 57.3**	**-2.2**
	baz=224							
IASK	**Askja**	**0.51**	**43**	P		**Pg**	**09 16 57.8**	**-2.2**
	baz=41							
IASK				S		**Sg**	**09 17 05.3**	**-1.4**
	baz=41							
IMKO	**Mokollar**	**0.57**	**57**	P		**Pg**	**09 16 58.8**	**-2.2**
	baz=56							
IMKO				S		**Sg**	**09 17 07.3**	**-1.1**
	baz=56							
IIEY	**Innrieyrar**	**0.65**	**206**	P		**Pg**	**09 17 00.1**	**-2.5**
	baz=208							
ISVA	**Svartarkot**	**0.67**	**8**	P		**Pg**	**09 17 00.6**	**-2.3**
	baz=6.7							
ISVA				S		**Sg**	**09 17 10.1**	**-1.5**
	baz=6.7							
IKSK	**Karasker**	**0.67**	**140**	P		**Pg**	**09 16 59.8**	**-3.2**
	baz=140							
IKSK				S		**Sg**	**09 17 09.2**	**-2.6**
	baz=140							
IKAL	**Kalfafell**	**0.74**	**188**	P		**Pg**	**09 17 01.6**	**-2.6**
	baz=188							
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P		**Pg**	**09 17 01.7**	**-2.9**
	baz=78							
IVSH				S		**Sg**	**09 17 12.0**	**-2.4**
	baz=78							
IVAT	**Vatnsfell**	**0.80**	**233**	P		**Pg**	**09 17 03.0**	**-2.4**
	baz=234							
IVAT				S		**Sg**	**09 17 12.9**	**-2.9**
	baz=234							
IADA	**Aoalbol**	**0.88**	**66**	P		**Pg**	**09 17 03.6**	**-3.2**
	baz=65							
IADA				S		**Sg**	**09 17 16.0**	**-2.3**
	baz=65							
IHVE	**Hveravellir**	**0.92**	**283**	P		**Pg**	**09 17 04.4**	**-3.3**
	baz=284							
IHVE				S		**Sg**	**09 17 17.2**	**-2.5**
	baz=284							
IMEL	**Melhnausar**	**0.96**	**20**	P		**Pg**	**09 17 05.3**	**-3.1**
	baz=20							
IMEL				S		**Sg**	**09 17 19.7**	**-1.2**
	baz=20							

IREN Reynihlio 1.00 13 P Pg 09 17 06.0 -3.2
baz=13
IKVO Krokottuvotn 1.07 13 P Pg 09 17 07.1 -3.4
baz=12
ISNB Snabyli 1.07 209 P Pg 09 17 07.3 -3.3
baz=210
IGRS Grimsstaoir 1.12 30 P Pb 09 17 08.0 -3.4
baz=29
IGRS S Sb 09 17 23.9 -2.1
baz=29
ISLY Slysaalda 1.12 221 P Pg 09 17 08.2 -3.3
baz=222
IFED Fedgar 1.17 237 P Pb 09 17 09.0 -3.2
baz=238
IRJU Rjupnafell 1.19 207 P Pb 09 17 09.3 -3.3
baz=208
ISKI Skildingahlsh 1.21 9 P Pn 09 17 09.5 -3.4
baz=8.0
ISKI S Sb 09 17 26.4 -2.2
baz=8.0
IGHA Grjothals 1.22 16 P Pn 09 17 09.4 -3.7
baz=15
IMJO Mjoaskard 1.22 233 P Pb 09 17 09.9 -3.2
baz=234
IGRA Granastaoir 1.25 358 P Pn 09 17 09.9 -3.5
baz=358
IGRA S Sb 09 17 27.4 -2.2
baz=358
IHAU Haukadalur 1.30 238 P Pn 09 17 11.1 -3.1
baz=239
IHVO Lagu-Hvolar 1.31 208 P Pn 09 17 11.4 -2.9
baz=209
IDIM Dimmadalss 1.31 10 P Pn 09 17 11.0 -3.3
baz=9.1
IHED Heoinshofoi 1.41 3 P Pn 09 17 12.5 -3.1
baz=2.2
IHED S Sn 09 17 31.9 -2.4
baz=2.2
IALF Alftagrof 1.41 213 P Pn 09 17 12.8 -2.8
baz=214
IESK Eystri-Skogar 1.45 218 P Pn 09 17 13.5 -2.7
baz=218
ISAU Saurbar 1.46 243 P Pn 09 17 13.7 -2.6
baz=244
IBRE Brettingsstaoi 1.46 353 P Pn 09 17 13.5 -2.8
baz=353
IGIL Gilhagi 1.48 18 P Pn 09 17 13.5 -3.1
baz=17
ISIG Siglufjorour 1.58 338 P Pn 09 17 15.3 -2.7
baz=338
BORG Borgarnes 1.66 274 Pg Pn 09 17 16.3 -2.7
30nm,0.3s,baz=118,slow=10,SNR=117
BORG Lg Lg 09 17 39.0
13nm,0.3s,baz=289,slow=20,SNR=5.9
BORG Borgarnes 1.66 274 P Pn 09 17 16.4 -2.7
BORG 09 17 41.2
BORG Borgarnes 1.66 274 Pn 09 17 16.4 -2.7
BORG Sn Sb 09 17 41.2 -0.4
IKRO Krokur 1.69 252 P Pn 09 17 17.2 -2.3
baz=252
ISOL Solvholt 1.69 245 P Pn 09 17 17.6 -2.0
baz=246
IHEI Heioarbar 1.71 255 P Pn 09 17 17.3 -2.4
baz=256
IHRN Hraun 1.82 323 P Pn 09 17 18.8 -2.5
baz=324
IKUD Kuludalsa 1.94 261 P Pn 09 17 21.2 -1.7
baz=262
IKAS Kald??rsel 2.02 253 P Pn 09 17 22.8 -1.3
baz=253
JMIC Jan Mayen 7.18 24 Pn Pn 09 18 35.3 +0.6
baz=168,slow=13,SNR=2.3
LEWI Lewis, Hebride 8.28 137 *e*P Pn 09 18 48.3 -1.7
KAC Achnashellach 9.29 135 *e*P Pn 09 19 02.6 -1.2
KPL Plockton 9.32 137 *e*P Pn 09 19 02.7 -1.4
DBG Daneborg 9.72 356 *i*P Pn 09 19 17.3 +7.6
DBG IAmb IAmb 09 19 19.5
comp=Z,4.7nm,0.9s
INVG Invergeldie, C 10.56 135 *e*P Pn 09 19 19.3 -1.9
EAB Aberfoyle 10.68 137 *e*P Pn 09 19 22.2 -0.6
SUMG Summit 10.94 325 *i*P Pn 09 19 31.5 +4.8
SUMG Summit 10.94 325 Pn Pn 09 19 27.4 +0.7
SUMG Sn Sn 09 21 30.6 +1.5
SUMG Summit 10.94 325 *i*P Pn 09 19 31.5 +4.8
SUMG Summit 10.94 325 *i*P Pn 09 19 31.5 +4.8
PGBU Glenifferbraes 10.96 138 *e*P Pn 09 19 26.0 -0.6
NEWG New Galloway 11.63 139 *e*P Pn 09 19 35.3 -0.5
EKA Eskdalemuir Ar 11.76 136 Pn Pn 09 19 37.7 +0.2
baz=322,slow=13,SNR=14
ESK Eskdalemuir 11.76 136 *e*P Pn 09 19 37.4 -0.1
ESK Eskdalemuir 11.76 136 P Pn 09 19 37.5 -0.1
ESK Eskdalemuir 11.76 136 Pn Pn 09 19 37.5 -0.1
DAG Danmarks Havn 12.16 359 *i*P Pn 09 19 47.1 +4.2
DAG pmax pmax
comp=Z,22nm,1.2s
DAG Danmarks Havn 12.16 359 *i*P Pn 09 19 47.1 +4.2
comp=Z,22nm,1.2s
DAG Danmarks Havn 12.16 359 *i*P Pn 09 19 47.1 +4.2
DAG IAmb IAmb 09 19 50.7
comp=Z,22nm,1.2s
NC204 NORSAR Array S 13.21 92 Pn Pn 09 19 55.1 -2.3
NOA NORSAR Array B 13.52 92 Pn Pn 09 19 59.2 -2.4
comp=Z,0.0nm,0.3s,baz=298,slow=13,SNR=4.1
SFJD Kangerlussuaq 13.68 295 LR LR 09 24 53.7
comp=Z,148nm,18.8s,baz=90,slow=36
NUUK Nuuk 14.70 284 *i*P P 09 20 25.0 +1.2
NUUK IAmb IAmb 09 20 27.4
comp=Z,20nm,1.0s
HFS Hagfors 15.03 93 LR LR 09 26 21.9
comp=Z,47nm,19.0s,baz=297,slow=38
NOR Nord 17.02 0 *i*P P 09 20 51.0 +1.6
NOR pmax pmax
comp=Z,59nm,1.5s
NOR Nord 17.02 0 *i*P P 09 20 51.0 +1.6
comp=Z,59nm,1.5s
NOR Nord 17.02 0 *i*P P 09 20 51.0 +1.6
NOR IAmb IAmb 09 20 56.3
comp=Z,59nm,1.5s
ARCES ARCESS Array B 17.10 55 P P 09 20 50.0 -0.4
baz=257,slow=12,SNR=1.7
ARCES LR LR 09 25 59.3
comp=Z,66nm,20.5s,baz=355,slow=32
ARCES ARCESS Array B 17.10 55 P P 09 20 50.0 -0.4
KEV Kevo 17.60 54 P Pn 09 20 53.9 -1.0
KEV pmax pmax
comp=Z,22nm,1.0s
KEV Kevo 17.60 54 Pn Pn 09 20 53.9 -1.0
BMRD Maredsous 18.56 130 P Pn 09 21 11.3 +4.5
FINES FINESS Array B 19.69 79 P P 09 21 19.8 +1.0
comp=Z,0.2nm,0.3s,baz=328,slow=9.8,SNR=8.7
FINES FINESS Array B 19.69 79 P P 09 21 19.3 +0.5
APA Apatity 20.31 59⇓ *i*P Pn 09 21 29.7 +2.1
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,200nm,12.0s
LVZ Lovozero 20.68 58⇓ *e*P Pn 09 21 32.4 +0.5
LVZ pmax pmax
comp=Z,67nm,1.8s
CLL Collm 20.70 116 *i*P P 09 21 30.6 +0.7
comp=Z,28nm,1.3s
CLL *i* 09 21 38.5
CLL *e*S Sn 09 25 24.0 -1.5
CLL Lm MLR 09 28 00.0
comp=Z,100nm,22.0s
CLL Collm 20.70 116 *i*P P 09 21 30.6 +0.7
CLL pmax pmax
comp=Z,28nm,1.3s
CLL Collm 20.70 116 P P 09 21 29.0 -0.9
CLL IAmb IAmb 09 21 34.0
comp=Z,23nm,1.2s
ECH Echery 21.15 129 P P 09 21 33.4 -1.5
ECH pmax pmax
comp=Z,14nm,1.0s
ECH Echery 21.15 129 P P 09 21 33.4 -1.5
GRA1 Grafenberg Arr 21.33 121 P P 09 21 36.7 -0.1
GRA1 IAmb IAmb 09 21 50.6
comp=Z,27nm,1.1s
GRF Grafenberg Arr 21.33 121 P P 09 21 36.7 -0.1
GRF pmax pmax
comp=Z,27nm,1.1s
NKC Novy Kostel 21.34 118 *e*P P 09 21 39.2 +2.3
NKC Novy Kostel 21.34 118 *e*P P 09 21 39.2 +2.3
BRG Berggiesshubel 21.40 115 *i*P P 09 21 38.1 +0.6
comp=Z,26nm,1.1s
BRG *e* 09 21 51.8
comp=Z,47nm,1.7s
BRG Berggiesshubel 21.40 115 *i*P P 09 21 38.2 +0.6
BRG pmax pmax
comp=Z,26nm,1.1s
BRG pmax pmax
comp=Z,47nm,1.7s
BFO Black Forest 21.45 127 P P 09 21 37.5 -0.6
BFO pmax pmax
comp=Z,14nm,1.0s
BFO Black Forest 21.45 127 P P 09 21 37.5 -0.6
VSU Vasula 21.55 86 *e*P P 09 21 38.2 -0.8
VSU Vasula 21.55 86⇑ *e*P P 09 21 38.9 -0.1
VSU pmax pmax
comp=Z,73nm,0.9s
PABE Paberze 22.20 95 *e*P P 09 21 45.1 -0.9
PRU Pruhonice 22.34 116 *e*S S 09 25 57.5 +4.6
KSP Ksiaz 22.35 112 *e*P P 09 21 48.1 +0.3
CHVC Chvalec 22.46 113 *e*P P 09 21 51.5 +2.6
GOPC GO Pecny, Ondr 22.50 116 *e*S S 09 25 59.9 +4.1
OSTC Ostas 22.55 113 *e*P P 09 21 51.8 +2.0
KHC Kasperske Hory 22.67 118 *e*P P 09 21 52.2 +1.1
KHC AMS AMS 09 33 50.0
comp=Z,200nm,12.6s
KHC Kasperske Hory 22.67 118 *de*P P 09 21 52.8 +1.7
KHC pmax pmax
comp=Z,25nm,1.0s
KHC Kasperske Hory 22.67 118 P P 09 21 50.3 -0.8
DPC Dobruska-Polom 22.75 113 *e*P P 09 21 53.7 +1.7
DPC *e*S S 09 26 07.5 +7.0
DPC Dobruska-Polom 22.75 113 *e*P P 09 21 53.7 +1.7
SUW Suwalki 22.87 98 P P 09 21 51.4 -1.8
SUW pmax pmax
comp=Z,34nm,1.0s
SUW Suwalki 22.87 98 P P 09 21 51.4 -1.8
SUW IAmb IAmb 09 21 56.0
comp=Z,34nm,1.0s
DAVA Damuels 22.88 126 *e*P P 09 21 55.4 +1.9
comp=Z,6.4nm,0.7s
GEC2 GERESS Array S 22.95 119 P P 09 21 52.6 -1.5
GEC2 IAmb IAmb 09 22 04.3
comp=Z,23nm,1.3s
GERES GERESS Array B 22.95 119 P P 09 21 54.7 +0.6
comp=Z,2.5nm,0.9s,baz=320,slow=12,SNR=10
GERES GERESS Array B 22.95 119 P P 09 21 53.1 -1.1
RETA Reutte 23.01 125 *e*P P 09 21 56.2 +1.4
comp=Z,9.0nm,1.1s
IZAR Zarasai 23.01 92 *e*P P 09 21 54.3 -0.4
ISAL Salakas 23.08 93 *e*P P 09 21 54.6 -0.7
MOTA Moosalm 23.25 125 *e*P P 09 21 58.2 +0.8
comp=Z,5.6nm,1.0s
IIGN Ignalina 23.27 93 *e*P P 09 21 56.0 -1.3
DAVOX Davos/Dischmat 23.31 127 P P 09 21 57.7 -0.3
comp=Z,1.5nm,0.3s,baz=326,slow=10,SNR=4.6
SQTA Sankt Quirin 23.40 125 *e*P P 09 21 56.9 -1.8
comp=Z,6.9nm,1.0s
FETA Feichten 23.40 126 *e*P P 09 22 04.1 +5.3
comp=Z,7.9nm,1.2s
TUE Stuetta 23.40 128 P P 09 21 59.2 +0.3
WATA Walderalm 23.43 124 *e*P P 09 21 58.8 -0.3
comp=Z,4.7nm,0.5s
IDID Didziasalis 23.51 92 *e*P P 09 21 58.4 -1.3
WTTA Wattenberg 23.51 124 *e*P P 09 22 01.6 +1.6
comp=Z,14nm,1.2s
FUORN Ofenpass-Fuorn 23.58 127 P P 09 21 59.6 -1.1
EUNU Eureka 23.66 336 P P 09 22 00.4 -0.7
EUNU IAmb IAmb 09 22 04.2
comp=Z,30nm,1.4s
VRAC Vranov 23.69 114 P P 09 22 02.8 +1.3
comp=Z,1.6nm,0.4s,baz=326,slow=9.8,SNR=5.4
VRAC Vranov 23.69 114 *e*P P 09 22 02.3 +0.8
MORC Moravsky Berou 23.69 112 *e*P P 09 22 02.2 +0.7
MORC Moravsky Berou 23.69 112 P P 09 22 02.0 +0.5
MORC pmax pmax
comp=Z,22nm,1.5s
MORC Moravsky Berou 23.69 112 P P 09 22 02.0 +0.5
MORC IAmb IAmb 09 22 05.8
comp=Z,22nm,1.5s
BNI Bardonecchia 23.80 134 P P 09 22 02.9 +0.2
BNI pmax pmax
comp=Z,19nm,1.3s
BNI Bardonecchia 23.80 134 P P 09 22 02.9 +0.2
BNI IAmb IAmb 09 22 26.8
comp=Z,19nm,1.3s
NACGM Naroch 23.80 93 *e* P 09 22 01.0 -1.5
KRUC Moravsky 23.81 115 *e*P P 09 22 02.8 +0.2
MOA Molln 23.98 119 *e*P P 09 22 11.1 +6.8
comp=Z,1.9nm,0.7s
OJC Ojcow 24.25 109 *e*P P 09 22 07.0 +0.2
OJC Ojcow 24.25 109 P P 09 22 06.0 -0.8
OJC pmax pmax
comp=Z,24nm,1.5s
OJC Ojcow 24.25 109 P P 09 22 06.0 -0.8
OJC IAmb IAmb 09 22 22.9
comp=Z,24nm,1.5s
ABTA Abfaltersbach 24.27 123 *e*P P 09 22 06.4 -0.6
comp=Z,2.1nm,0.7s
KBA Koelnbreinsper 24.29 122 *e*P P 09 22 08.0 +0.7
comp=Z,6.0nm,1.4s
JAVC Velka Javorina 24.47 113 *e*P P 09 22 10.7 +1.8
CONA Conrad Observa 24.52 117 *e*P P 09 22 10.0 +0.6
comp=Z,7.4nm,1.1s
MICGM Minsk 24.55 93 *e* P 09 22 12.0 +2.6
MNK Minsk 24.55 93 *e*P P 09 22 12.0 +2.6
CTI Castel Tesino 24.56 125 P P 09 22 09.7 -0.1
CTI pmax pmax
comp=Z,8.0nm,0.9s
CTI Castel Tesino 24.56 125 P P 09 22 09.7 -0.1
ZOU Zoufplan 24.60 123 P P 09 22 10.1 -0.1
ZOU IAmb IAmb 09 22 23.4
comp=Z,14nm,1.3s
CIMO Cimolais 24.61 124 P P 09 22 10.2 +0.1
MODS Modra-Piesok 24.71 115 *e*P P 09 22 13.2 +2.2
MODS Modra-Piesok 24.71 115 *e*P P 09 22 13.2 +2.2
MYKA Terra Mystica 24.78 122 *e*P P 09 22 13.8 +2.1
comp=Z,5.1nm,0.9s
PRED Cave del Predi 24.91 122 P P 09 22 10.2 -2.6
PRED IAmb IAmb 09 22 22.9
comp=Z,16nm,1.4s
ARSA Arzberg 24.95 118 *e*P P 09 22 12.0 -1.2
comp=Z,9.0nm,1.1s
NIE Niedzica 25.08 109 *e*P P 09 22 14.5 +0.2
OBKA Obir 25.21 121 *e*P P 09 22 17.1 +1.4
comp=Z,3.8nm,1.1s
VYHS Vyhne 25.22 112 *e*P P 09 22 16.5 +0.9
VYHS Vyhne 25.22 112 *e*P P 09 22 16.5 +0.9
SOKA Soboth 25.25 120 *e*P P 09 22 13.9 -2.1
comp=Z,2.5nm,0.6s
KLMR Klimovskoe 25.59 72 *e*P P 09 22 17.5 -1.2
KLMR pmax pmax
comp=Z,26nm,1.4s
KLMR Klimovskoe 25.59 72 AMP 09 22 21.7
comp=Z,26nm,1.4s
KLMR Klimovskoe 25.59 72 *e*P P 09 22 17.6 -1.2
KWP Kalwaria Pacla 25.90 106 *e*P P 09 22 21.2 -0.5
SCHQ Schefferville 26.05 271 P P 09 22 22.0 -1.1
comp=Z,6.2nm,0.6s,baz=7.9,slow=16,SNR=3.9
SCHQ Schefferville 26.05 271 IAmb IAmb 09 22 25.9
comp=Z,15nm,1.1s
PSZ Piszkesteto 26.11 112 P P 09 22 23.4 -0.3
PSZ pmax pmax
comp=Z,28nm,1.4s
PSZ Piszkesteto 26.11 112 P P 09 22 23.4 -0.3
PSZ IAmb IAmb 09 22 30.2
comp=Z,28nm,1.4s
ESDC Sonseca Array 26.26 156 P P 09 22 25.2 +0.1
comp=Z,3.1nm,0.9s,baz=350,slow=9.6,SNR=13
ESDC Sonseca Array 26.26 156 P P 09 22 24.1 -1.0
LVV L'vov 26.30 104 *e*P P 09 22 26.5 +1.1
UZH Uzhgorod 26.51 108 *e*P P 09 22 28.0 +0.8
UZH *e* 09 22 34.7
AKASG Malin Array Be 27.83 98 P P 09 22 38.7 -0.3
comp=Z,1.4nm,0.6s,baz=323,slow=9.7,SNR=7.6
AKASG Malin Array Be 27.83 98 *ce*P P 09 22 41.7 +2.7
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 27.83 98 IAmb IAmb 09 22 43.9
comp=Z,2.2nm,1.3s
AKBB Malin Array Si 27.83 98⇑ *e*P P 09 22 38.9 -0.1
OBN Obninsk 27.87 84⇓ *e*P P 09 22 40.1 +0.8
OBN pmax pmax
comp=Z,16nm,1.3s
BURAR Bucovina Array 28.51 106 P P 09 22 44.1 -1.2
DIVS Divibare 29.30 116 P P 09 22 50.1 -2.3
MLR Muntele Rosu 30.52 108 P P 09 23 04.9 +1.7
comp=Z,4.3nm,1.1s,baz=326,slow=7.3,SNR=5.4
MLR Muntele Rosu 30.52 108 P P 09 23 03.3 +0.1
MLR IAmb IAmb 09 23 09.1
comp=Z,9.2nm,1.2s
LPSR Galich'ya Gora 30.61 86 *e*P P 09 23 04.2 +0.5
LPSR pmax pmax
comp=Z,6.0nm,0.6s
KIRV Kirov 30.96 69⇑ *e*P P 09 23 07.0 +0.3
VSR Storozhevoye 31.72 88 *e*P P 09 23 13.5 +0.1
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 31.95 88 *e*P P 09 23 16.0 +0.5
VORD pmax pmax
comp=Z,5.0nm,0.6s
BELG Belogornoye 34.47 79 *ce*P P 09 23 37.7 +0.3
AGG Agios Georgios 34.56 118 P P 09 23 36.7 -1.7
AGG pmax pmax
comp=Z,15nm,1.1s
AGG Agios Georgios 34.56 118 P P 09 23 36.7 -1.7
AGG IAmb IAmb 09 23 40.3
comp=Z,14nm,1.1s
ARU Arti 36.06 66 P P 09 23 52.0 +0.9
comp=Z,2.3nm,0.2s,baz=319,slow=20,SNR=1.0
ARU Arti 36.06 66 *d*P P 09 23 51.8 +0.7
ARU S S 09 29 33.6 +3.8
ARU SS SnSn 09 31 55.0 +0.9
ARU pmax pmax
comp=Z,24nm,2.7s
ARU Arti 36.06 66 P P 09 23 51.0 -0.1
NRIK Noril'sk 36.44 35 P P 09 23 54.9 +0.7
comp=Z,3.3nm,0.8s,baz=285,slow=5.4,SNR=4.3
NRIK Noril'sk 36.44 35 *de*P P 09 23 54.9 +0.7
NRIK pmax pmax
comp=Z,16nm,1.7s
C36M Paulatuk 36.83 325 P P 09 23 58.2 +0.7
ILGA Ilgaz 37.39 104 P P 09 24 02.7 -0.1
GOF Gofitskoye 38.10 91⇑ *e*P P 09 24 10.5 +1.9
BR131 Keskin Array S 38.47 105⇓ *e*P P 09 24 13.1 +1.2
BR131 Keskin Array S 38.47 105 P P 09 24 11.6 -0.3
BRTR Keskin Array B 38.47 105 P P 09 24 12.3 +0.4
comp=Z,2.9nm,0.8s,baz=324,slow=6.1,SNR=10
BRTR Keskin Array B 38.47 105 P P 09 24 13.2 +1.3
BRTR Keskin Array B 38.47 105 P P 09 24 13.2 +1.3
KIV Kislovodsk 38.83 92 *e*P P 09 24 16.6 +1.8
KIV pmax pmax
comp=Z,21nm,0.9s
KIV MLR MLR
comp=Z,76nm,16.0s
KBZ Khabaz 39.10 92 P P 09 24 18.8 +1.9
comp=Z,5.5nm,0.9s,baz=307,slow=11,SNR=6.3
YKA Yellowknife Ar 39.22 313 P P 09 24 17.7 0.0
comp=Z,3.0nm,1.1s,baz=27,slow=9.1,SNR=3.6
YKA Yellowknife Ar 39.22 313 *ce*P P 09 24 18.7 +1.0
YKA pmax pmax
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 40.27 73 P P 09 24 26.5 -0.2
comp=Z,1.8nm,0.8s,baz=342,slow=8.5,SNR=5.6
ZEI Tsey 40.29 92 *e*P P 09 24 24.4 -2.8
ZEI pmax pmax
comp=Z,5.0nm,1.1s
MAK Makhachkala 41.70 89 *e*P P 09 24 39.2 +0.7
ABKAR Akbulak array 41.97 73 P P 09 24 41.1 +0.5
ABKAR Akbulak array 41.97 73 P P 09 24 40.9 +0.2
TIXI Tiksi 42.02 15⇑ *e*P P 09 24 42.8 +2.1
TIXI pmax pmax
comp=Z,96nm,1.7s
TOLK Toolik Lake Re 42.74 336 P P 09 24 47.5 +0.7
TOLK IAmb IAmb 09 24 50.1
comp=Z,25nm,1.2s
BMAR Burnt Mountain 42.89 333 P P 09 24 49.0 +1.0
BRVK Borovoye 43.11 62 *de*P P 09 24 50.6 +0.7
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 43.11 62 P P 09 24 50.0 +0.2
AGMN Agassiz Nation 43.13 287 P P 09 24 50.3 +0.2
BVAR Borovoye Array 43.18 62 P P 09 24 51.3 +0.9
comp=Z,2.3nm,0.9s,baz=186,slow=12,SNR=10
O52A Adamsville 43.77 268 P P 09 24 56.5 +1.1
P53A Whipple 44.10 267 IAmb IAmb 09 25 02.3
comp=Z,14nm,1.1s
N49A Columbus Grove 44.12 271 P P 09 24 59.7 +1.6
O49A Covington 44.79 270 P P 09 25 05.0 +1.5
F33A 5 Mile Ranch, 45.27 285 IAmb IAmb 09 25 11.2
comp=Z,12nm,1.3s
ILAR Eielson Array 45.68 332 P P 09 25 11.8 +1.5
comp=Z,4.0nm,1.1s,baz=26,slow=5.6,SNR=9.8
ILAR PcP PcP 09 26 48.5 +0.5
comp=Z,1.9nm,1.0s,baz=358,slow=3.5,SNR=4.9
ILAR Eielson Array 45.68 332 P P 09 25 10.5 +0.3
COLA College 45.78 333⇑ *e*P P 09 25 13.1 +2.1
COLA pmax pmax
comp=Z,44nm,3.1s
IMAR Indian Mountai 45.85 337 P P 09 25 12.8 +1.2
P48A Milroy 45.86 271 P P 09 25 12.8 +0.8
DGMT Dagmar 46.36 293 P P 09 25 17.3 +1.4
R50A Paris 46.37 269 P P 09 25 15.3 -0.7
R50A IAmb IAmb 09 25 18.1
comp=Z,9.4nm,1.2s
WCI Wyandotte Cave 47.26 271 P P 09 25 23.6 +0.7
WCI pmax pmax
comp=Z,12nm,1.1s
WCI Wyandotte Cave 47.26 271 P P 09 25 23.6 +0.7
P43A Skaggs, Pawnee 47.47 275 P P 09 25 24.3 -0.2
BILL Bilibino 47.54 358 *i*P P 09 25 26.0 +1.2
BILL *i* 09 26 55.2
BILL *i* 09 27 16.8
BILL pmax pmax
comp=Z,10.0nm,1.1s
ZAA0 Zalesovo Array 47.61 51 P P 09 25 26.6 +1.1
ZALV Zalesovo Beam 47.61 51 P P 09 25 26.1 +0.6
comp=Z,0.7nm,0.3s,baz=326,slow=13,SNR=4.2
ZALV PcP PcP 09 26 55.8 +0.9
comp=Z,1.0nm,0.8s,baz=348,slow=2.1,SNR=1.4
ZALV Zalesovo Beam 47.61 51 P P 09 25 24.9 -0.6
KURK Kurchatov 48.09 58 *de*P P 09 25 29.6 +0.3
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 48.09 58 P P 09 25 29.6 +0.3
KURK IAmb IAmb 09 25 30.8
comp=Z,7.2nm,0.9s
KURBB Kurchatov Arra 48.14 58 P P 09 25 29.9 +0.3
comp=Z,6.0nm,1.0s,baz=324,slow=7.5,SNR=21
T47A Sharon Grove 48.65 270 P P 09 25 34.4 +0.7
EGMT Eagleton 48.88 297 P P 09 25 36.2 +0.7
HODGE Hodges 48.91 264 IAmb IAmb 09 25 39.5
comp=Z,9.4nm,1.1s
YAK Yakutsk 51.26 19⇑ *e*P P 09 25 54.2 +1.1
YAK pmax pmax
comp=Z,7.0nm,0.8s
YNE Yellowstone No 51.48 295 P P 09 25 54.1 -1.3
BOZ Bozeman (W) 51.62 297 P P 09 25 57.6 +1.3
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ Bozeman (W) 51.62 297 P P 09 25 57.6 +1.3
BOZ IAmb IAmb 09 26 03.5
comp=Z,13nm,1.3s
U40A Yellville 51.65 275 P P 09 25 56.0 -0.5
YMP Mirror Lake Pl 51.76 295 P P 09 25 56.9 -0.7
DGZ Jazzator, Alta 52.06 53⇓ *e*P P 09 26 01.0 +1.4
DGZ pmax pmax
comp=Z,7.0nm,1.3s
H17A Grant Village 52.22 295 P P 09 25 59.8 -1.1
H17A IAmb IAmb 09 26 05.2
comp=Z,7.4nm,1.1s
WHAR Wooly Hollow 52.31 274 P P 09 26 01.4 0.0
YPP Pitchstone Pla 52.41 295 P P 09 26 03.9 +1.5
MAKZ Makanchi 52.58 59 P P 09 26 02.3 -1.0
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
MAKZ Makanchi 52.58 59 P P 09 26 02.3 -1.0
MK31 Makanchi Array 52.71 58⇑ *e*P P 09 26 05.0 +0.8
MK31 Makanchi Array 52.71 58 P P 09 26 03.8 -0.5
MKAR Makanchi Array 52.71 58 P P 09 26 05.0 +0.7
comp=Z,2.1nm,0.9s,baz=335,slow=5.4,SNR=13
MKAR Makanchi Array 52.71 58 *ce*P P 09 26 05.0 +0.7
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.71 58 P P 09 26 04.3 +0.1
PHWY Pilot Hill 52.77 289 P P 09 26 04.6 -0.5
PHWY IAmb IAmb 09 26 08.0
comp=Z,5.8nm,1.1s
LOHW Long Hollow 52.88 295 P P 09 26 05.2 -0.6
SNOW Snow King Moun 53.07 295 P P 09 26 06.6 -0.7
SNOW IAmb IAmb 09 26 11.0
comp=Z,9.2nm,1.2s

TPAW	**Teton Pass**	**53.12**	**295**	P	**P**	**09 26 07.2**	**-0.5**
TPAW				IAmb	IAmb	09 26 11.4		
	comp=Z,9.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**09 26 07.4**	**-0.3**
	comp=Z,3.8nm,1.1s,baz=338,slow=7.3,SNR=11							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**09 26 07.0**	**-0.7**
BW06	**Boulder Array**	**53.19**	**293**	P	**P**	**09 26 07.8**	**-0.2**
BW06				IAmb	IAmb	09 26 09.4		
	comp=Z,9.6nm,1.1s							
PD31	**Pinedale Array**	**53.19**	**293**	P	**P**	**09 26 08.1**	**0.0**
PD31				IAmb	IAmb	09 26 09.4		
	comp=Z,8.8nm,1.1s							
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**09 26 08.3**	**+0.3**
	comp=Z,4.3nm,1.0s,baz=60,slow=7.0,SNR=22							
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**09 26 07.8**	**-0.3**
REDW	**Red Top Meadow**	**53.19**	**295**	IAmb	IAmb	09 26 11.3		
	comp=Z,5.5nm,1.1s							
AAK	**Ala-Archa**	**53.24**	**67** *d i*	P	**P**	**09 26 10.0**	**+1.6**
AAK				pmax	pmax			
	comp=Z,16nm,1.1s							
N23A	**Red Feather La**	**53.31**	**289**	IAmb	IAmb	09 26 13.1		
	comp=Z,8.2nm,1.0s							
PLID	**Pearl Lake**	**53.70**	**300**	IAmb	IAmb	09 26 16.2		
	comp=Z,10nm,1.4s							
BMO	**Blue Mountains**	**54.39**	**300**	P	**P**	**09 26 16.3**	**-0.4**
BMO				pmax	pmax			
	comp=Z,5.0nm,1.4s							
BMO	**Blue Mountains**	**54.39**	**300**	P	**P**	**09 26 16.3**	**-0.4**
GAR	**Garm**	**54.63**	**73**	P	**P**	**09 26 19.7**	**+1.1**
MOY	**Mondy**	**54.64**	**42** *eP*		**P**	**09 26 20.6**	**+2.2**
MOY				pmax	pmax			
	comp=Z,26nm,2.9s							
O20A	**White River Ci**	**54.89**	**290**	IAmb	IAmb	09 26 22.6		
	comp=Z,10.0nm,1.2s							
HWUT	**Hardware Ranch**	**54.96**	**294**	P	**P**	**09 26 21.8**	**+0.8**
HWUT				IAmb	IAmb	09 26 27.7		
	comp=Z,12nm,1.2s							
RDMU	**Red Mountain**	**55.05**	**292**	P	**P**	**09 26 22.8**	**+1.1**
TARG	**Taragay, Kyrgy**	**55.31**	**65**	P	**P**	**09 26 24.8**	**+1.0**
TARG				IAmb	IAmb	09 26 26.2		
	comp=Z,7.0nm,1.0s							
WMOK	**Wichita Mounta**	**55.56**	**279**	IAmb	IAmb	09 26 28.8		
	comp=Z,8.1nm,1.3s							
ZAK	**Zakamensk**	**56.44**	**41** *eP*		**P**	**09 26 31.9**	**+0.5**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
P17A	**Butcher Ranch,**	**56.45**	**292**	P	**P**	**09 26 32.8**	**+1.0**
PV21	**Cone Mtn., Par**	**56.53**	**290**	IAmb	IAmb	09 26 38.1		
	comp=Z,8.3nm,1.1s							
PV14	**Lion Creek, Pa**	**56.71**	**290**	IAmb	IAmb	09 26 35.3		
	comp=Z,9.0nm,1.0s							
PV16	**Nyswonger Mesa**	**56.72**	**290**	IAmb	IAmb	09 26 35.7		
	comp=Z,7.2nm,1.2s							
PV01	**Paradox Valley**	**56.73**	**289**	IAmb	IAmb	09 26 35.9		
	comp=Z,11nm,1.2s							
PV03	**Paradox Valley**	**56.74**	**290**	IAmb	IAmb	09 26 35.7		
	comp=Z,7.7nm,1.1s							
PV17	**East Wray Mesa**	**56.76**	**290**	IAmb	IAmb	09 26 39.9		
	comp=Z,12nm,1.2s							
PV18	**Skein Mesa, Pa**	**56.77**	**290**	IAmb	IAmb	09 26 36.0		
	comp=Z,9.5nm,1.1s							
WMQ	**Urumqi**	**57.21**	**56** *eP*		**P**	**09 26 40.0**	**+3.1**
DBIC	**Dimbokro**	**58.60**	**165**	P	**P**	**09 26 46.9**	**+0.1**
	comp=Z,7.0nm,1.0s,baz=336,slow=4.5,SNR=3.4							
DBIC	**Dimbokro**	**58.60**	**165**	P	**P**	**09 26 46.9**	**+0.1**
DBIC				pmax	pmax			
	comp=Z,14nm,1.2s							
DBIC	**Dimbokro**	**58.60**	**165**	IAmb	IAmb	09 26 48.6		
	comp=Z,14nm,1.2s							
ANMO	**Albuquerque**	**58.60**	**286**⇑ *eP*		**P**	**09 26 48.7**	**+1.8**
ANMO				pmax	pmax			
	comp=Z,6.0nm,2.5s							
ANMO	**Albuquerque**	**58.60**	**286**	P	**P**	**09 26 46.9**	**0.0**
TIC	**Toumodi**	**58.60**	**165** *eP*		**P**	**09 26 46.4**	**-0.5**
PKCU	**Pink Cliffs**	**58.83**	**292**	P	**P**	**09 26 47.1**	**-1.5**
KIC	**Kosan Boka**	**58.92**	**165** *eP*		**P**	**09 26 48.8**	**-0.2**
	comp=Z,66nm,1.5s							
SZCU	**Shurtz Canyon**	**59.00**	**293**	P	**P**	**09 26 50.4**	**+0.7**
LIC	**Lamto**	**59.02**	**166** *eP*		**P**	**09 26 46.9**	**-2.8**
	comp=Z,10nm,0.5s							
R11A	**Troy Canyon, C**	**59.33**	**295**	P	**P**	**09 26 52.3**	**+0.3**
R11A				IAmb	IAmb	09 26 58.5		
	comp=Z,5.3nm,1.2s							
BNM	**Barren Site**	**59.36**	**285**	P	**P**	**09 26 51.7**	**-0.5**
KNB	**Kanab**	**59.40**	**292**	P	**P**	**09 26 52.0**	**-0.4**
KNB				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KNB	**Kanab**	**59.40**	**292**	P	**P**	**09 26 52.0**	**-0.4**
LCMT	**Little Creek M**	**59.57**	**293**	P	**P**	**09 26 53.9**	**+0.3**
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**09 26 51.3**	**-2.4**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.5s							
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**09 26 51.3**	**-2.4**
JCT	**Junction City**	**59.66**	**278**	P	**P**	**09 26 54.5**	**+0.4**
JCT				pmax	pmax			
	comp=Z,9.0nm,1.0s							
JCT	**Junction City**	**59.66**	**278**	P	**P**	**09 26 54.5**	**+0.4**
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**09 26 54.3**	**-0.1**
KVN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**09 26 54.3**	**-0.1**
KVN				IAmb	IAmb	09 26 56.5		
	comp=Z,3.9nm,1.1s							
U15A	**North Rim**	**59.70**	**291**	IAmb	IAmb	09 26 56.6		
	comp=Z,4.8nm,1.0s							
ULN	**Ulaanbaatar**	**59.78**	**40**⇑ *eP*		**P**	**09 26 52.6**	**-2.2**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.4s							
PRN	**Pahroc Range**	**59.94**	**294**	P	**P**	**09 26 56.5**	**+0.4**
PRN				IAmb	IAmb	09 27 05.1		
	comp=Z,5.2nm,1.3s							
WUAZ	**Wupatki**	**60.12**	**290**	P	**P**	**09 26 57.0**	**-0.4**
YERR	**Yerington**	**60.18**	**298**	P	**P**	**09 26 58.1**	**+0.3**
YERR				IAmb	IAmb	09 27 00.4		
	comp=Z,8.6nm,1.2s							
NVAR	**Mina Array Bea**	**60.31**	**297**	P	**P**	**09 26 57.8**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=52,slow=5.0,SNR=4.4							
NIL	**Nilore**	**60.43**	**74**	P	**P**	**09 27 01.0**	**+1.6**
NIL				pmax	pmax			
	comp=Z,15nm,1.1s							
NIL	**Nilore**	**60.43**	**74**	P	**P**	**09 27 01.0**	**+1.6**
SHPR	**Sheep Range**	**60.77**	**294**	P	**P**	**09 27 02.1**	**+0.3**
SHPR				IAmb	IAmb	09 27 08.6		
	comp=Z,7.6nm,1.3s							
MNTX	**Cornudas Mount**	**60.96**	**283**	P	**P**	**09 27 03.8**	**+0.8**
TX32	**Lajitas Array**	**62.30**	**280**	P	**P**	**09 27 13.1**	**+0.9**
TX32				IAmb	IAmb	09 27 15.4		
	comp=Z,3.7nm,1.1s							
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**09 27 13.1**	**+1.0**
	comp=Z,2.3nm,1.0s,baz=58,slow=4.7,SNR=7.1							
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**09 27 12.4**	**+0.2**
PEA0B	**Petropavlovsk-**	**62.49**	**3**⇑ *eP*		**P**	**09 27 12.7**	**-0.2**
TUC	**Tucson**	**62.67**	**288**	P	**P**	**09 27 16.2**	**+1.6**
TUC				pmax	pmax			
	comp=Z,5.0nm,1.2s							
TUC	**Tucson**	**62.67**	**288**	P	**P**	**09 27 16.1**	**+1.6**
TUC				IAmb	IAmb	09 27 21.4		
	comp=Z,4.8nm,1.2s							
113A	**Mohawk Valley,**	**63.48**	**291**	IAmb	IAmb	09 27 22.0		
	comp=Z,9.1nm,1.5s							
GTA	**Gaotai**	**65.28**	**49** *eP*		**P**	**09 27 27.5**	**-4.2**
GTA				pP	pP	09 27 32.9	-2.5	
GTA				sP	sP	09 27 36.0	-0.8	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**67.49**	**40** *eP*		**P**	**09 27 47.4**	**+1.6**
HHC				pmax	pmax			
	comp=Z,19nm,1.0s							
HHC				pmax	pmax			
	comp=Z,310nm,6.4s							
TLIG	**Tlapa**	**70.47**	**270**	P	**P**	**09 28 06.2**	**+1.6**
TLIG				IAmb	IAmb	09 28 07.7		
	comp=Z,9.8nm,1.2s							
NJ2	**Nanjing**	**77.72**	**37** *eP*		**P**	**09 28 47.5**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**09 29 21.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=324,slow=6.8,SNR=6.1							
CMAR	**Chiang Mai Arr**	**84.11**	**59** *ceP*		**P**	**09 29 21.8**	**+0.9**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKPdf**	**09 36 09.0**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=311,slow=2.1,SNR=4.3							

NNC ***13*** *09:17:04.6±1.1,51°.82N×75°.54E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=20.5km s-min=7.1km az=27.0, Suspected Mining explosion.*
IDC ***13*** *09:17:08.4±1.0,51°.55N×75°.44E,h0km,mb1 3.0/5, mb1mx2.9/65,mbtmp3.0/5,ML2.6/5, Error ellipse: s-maj=25.7km s-min=8.2km az=27.0*

ISC 13 09:17:01.5±1.0, 52°.33N±0°.09×75°.88E±0°.06, h0km, n10, σ1§25/11, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.35**	**132**	⇑Pg	**Pb**	**09 17 45.4**	**+0.7**
	2.5nm,0.5s						
KURK				⇑Lg	Lg	09 18 13.9	
	16nm,0.6s						
KURBB	**Kurchatov Arra**	**2.38**	**135**	Pn	**Pb**	**09 17 45.5**	**+0.4**
	0.7nm,0.3s,baz=292,slow=18,SNR=46						
KURBB				Lg	Lg	09 18 15.6	
	0.5nm,0.3s,baz=295,slow=27,SNR=5.7						
KURBB	**Kurchatov Arra**	**2.38**	**135**	⇑Pg	**Pg**	**09 17 45.6**	**+0.4**
	5.2nm,0.6s,baz=300,slow=14						
KURBB				⇓Lg	Lg	09 18 15.4	
	44nm,0.6s,baz=307,slow=31						
BVAR	**Borovoye Array**	**3.41**	**284**	Pn	**Pb**	**09 18 02.3**	**-0.4**
	0.7nm,0.3s,baz=151,slow=19,SNR=2.6						
BVAR				Sn	**Sb**	**09 18 44.9**	**+0.2**
	0.7nm,0.3s,baz=138,slow=27,SNR=1.8						
BVAR				Lg	Lg	09 18 53.9	
	3.3nm,0.3s,baz=137,slow=30,SNR=14						
BRVK	**Borovoye**	**3.48**	**284**	⇑Pg	**Pg**	**09 18 07.8**	**-0.3**
	5.1nm,0.7s						
BRVK				⇑Lg	Lg	09 18 52.3	
	21nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.62**	**70** *i*			09 51 40.0	
	baz=252,slow=321,SNR=1.0						
ZALV	**Zalesovo Beam**	**5.62**	**70**	Pn	**Pb**	**09 18 40.3**	**0.0**
	0.7nm,0.3s,baz=257,slow=13,SNR=8.2						
MK31	**Makanchi Array**	**6.93**	**141**	⇑Sn	**Sn**	**09 20 02.1**	**-1.7**
	0.5nm,0.5s,baz=319,slow=18,SNR=4.6						
MK31				⇓Lg	Lg	09 20 34.6	
	2.0nm,0.5s,baz=317,slow=25,SNR=6.4						
MKAR	**Makanchi Array**	**6.93**	**141**	Pn	**Pn**	**09 18 45.0**	**+0.8**
	0.1nm,0.3s,baz=312,slow=13,SNR=4.5						
MKAR				Sn	**Sn**	**09 20 01.1**	**-2.6**
	0.1nm,0.3s,baz=319,slow=19,SNR=1.4						
MKAR				Lg	Lg	09 20 34.1	
	0.3nm,0.3s,baz=320,slow=27,SNR=8.2						
AKTO	**Aktyubinsk**	**11.32**	**267**	Pn	**Pn**	**09 19 45.4**	**+1.0**
	0.2nm,0.3s,baz=90,slow=12,SNR=3.7						

NEIC ***13*** *09:20:12.5±1.5,59°.00N±0°.03×152°.13W±0°.07,h81km±7km, Error ellipse: s-maj=5.6km s-min=4.4km az=128.0*
AEIC ***13*** *09:20:13.7±1.2,58°.99N±0°.04×152°.15W±0°.07,h67km±7km, ML3.5, Error ellipse: s-maj=5.8km s-min=4.5km az=140.0*
ANF ***13*** *09:20:14.8±0.7,59°.17N×152°.00W,h83km±7km,ML3.9/7, Error ellipse: s-maj=6.5km s-min=4.7km az=39.0*

ISC 13 09:20:12.0±1.2, 59°.02N±0°.04×152°.13W±0°.04, h85km±8km, n159, σ1§18/184, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNPM	**China Poot**	**0.69**	**41**		**Pn**	**09 20 28.3**	**+0.4**
CNPM					**Sn**	**09 20 39.0**	**-0.8**
HOM	**Homer**	**0.69**	**21**	P	**Pn**	**09 20 28.3**	**+0.4**
	baz=207,SNR=16						
HOM				S	**Sn**	**09 20 39.7**	**-0.1**
	baz=207						
HOM	**Homer**	**0.69**	**21**		**Pn**	**09 20 28.3**	**+0.4**
HOM					**Sn**	**09 20 39.5**	**-0.3**
AU22	**Augustine Moun**	**0.72**	**300**		**Pn**	**09 20 28.3**	**+0.1**
AU22					**Sn**	**09 20 39.5**	**-0.9**
AUQ	**Augustine Qik'**	**0.74**	**298**		**Pn**	**09 20 28.6**	**+0.1**
AUQ					**Sn**	**09 20 40.1**	**-0.8**
AUCH	**Augustine Cone**	**0.76**	**298**		**Pn**	**09 20 28.7**	**0.0**
AUL	**Augustine Lava**	**0.77**	**299**		**Pn**	**09 20 28.8**	**+0.1**
AUL					**Sn**	**09 20 41.1**	**0.0**
OPT	**Oil Point**	**0.85**	**319**		**Pn**	**09 20 29.9**	**+0.2**
BRLK	**Bradley Lake**	**0.98**	**40**		**Pn**	**09 20 31.4**	**+0.2**
BRLK	**Bradley Lake**	**0.98**	**40**		**Sn**	**09 20 44.5**	**-1.0**
BRSE	**Bradley Lake S**	**1.02**	**44**		**Pn**	**09 20 32.0**	**+0.4**
BRSE					**Sn**	**09 20 45.4**	**-0.8**
ILS	**Iliamna Low So**	**1.06**	**333**		**Pn**	**09 20 32.1**	**0.0**
ILIM	**Iliamna**	**1.15**	**339**		**Pn**	**09 20 33.2**	**+0.1**
KAPH	**Katmai Pasha**	**1.23**	**251**		**Pn**	**09 20 34.0**	**-0.1**
KAPH					**Sn**	**09 20 49.7**	**-1.1**
KDAK	**Kodiak Island**	**1.26**	**191**		**Pn**	**09 20 34.5**	**+0.1**
KDAK					**Sn**	**09 20 50.8**	**-0.5**
RDWB	**Redoubt West**	**1.52**	**347**		**Pn**	**09 20 38.1**	**+0.2**
RDWB					**Sn**	**09 20 56.9**	**-0.6**
KAHC	**Katmai Hardscr**	**1.54**	**257**		**Pn**	**09 20 37.9**	**-0.3**
NCT	**North Crescent**	**1.60**	**346**		**Pn**	**09 20 39.2**	**+0.4**
NCT					**Sn**	**09 20 59.0**	**-0.2**
DFR	**Drift River**	**1.61**	**350**		**Pn**	**09 20 39.3**	**+0.4**
KAKN	**Katmai Knife C**	**1.69**	**246**		**Pn**	**09 20 40.0**	**0.0**
SEW	**Seward**	**1.75**	**50**		**Pn**	**09 20 41.1**	**+0.5**
KVTA	**Katmai Vly 10**	**1.77**	**250**		**Pn**	**09 20 41.2**	**+0.2**
SLKM	**Skilak Lake**	**1.78**	**32**		**Pn**	**09 20 41.5**	**+0.4**
KABU	**Katmai Buttres**	**1.81**	**247**		**Pn**	**09 20 42.2**	**+0.6**
CAPN	**Captain Cook N**	**1.82**	**15**	P	**Pn**	**09 20 43.7**	**+2.1**
	baz=199						
CAPN	**Captain Cook N**	**1.82**	**15**		**Pn**	**09 20 43.8**	**+2.1**
OHAK	**Old Harbor**	**1.90**	**199**		**Pn**	**09 20 42.6**	**-0.1**
OHAK					**Sn**	**09 21 04.5**	**-1.5**
O22K	**Cooper Landing**	**1.91**	**39**	P	**Pn**	**09 20 43.4**	**+0.7**
	baz=222,SNR=11						
O22K				S	**Sn**	**09 21 05.9**	**-0.2**
	baz=222						
O22K	**Cooper Landing**	**1.91**	**39**		**Pn**	**09 20 43.3**	**+0.7**
CAHL	**Cahill**	**1.92**	**241**		**Pn**	**09 20 43.3**	**+0.2**
KELA	**Mount Kelaz**	**1.97**	**254**		**Pn**	**09 20 43.6**	**-0.1**
SPCR	**Spurr Chakacha**	**2.19**	**359**		**Pn**	**09 20 47.4**	**+0.8**
SPCN	**Chakachatna No**	**2.22**	**359**		**Pn**	**09 20 47.9**	**+1.0**
SPBG	**Spurr Blockage**	**2.25**	**357**		**Pn**	**09 20 48.3**	**+0.9**
SPCG	**Spurr Capps Gl**	**2.28**	**1**		**Pn**	**09 20 48.9**	**+1.0**
SPNN	**North Nagishla**	**2.38**	**353**		**Pn**	**09 20 50.0**	**+0.8**
RC01	**Rabbit Creek A**	**2.40**	**29**	P	**Pn**	**09 20 50.3**	**+1.0**
	baz=213,SNR=20						
RC01				S	**Sn**	**09 21 17.0**	**-0.9**
	baz=213						
RC01	**Rabbit Creek A**	**2.40**	**29**		**Pn**	**09 20 50.1**	**+0.8**
SUA	**Susitna One**	**2.55**	**15**		**Pn**	**09 20 52.2**	**+0.8**
PWL	**Port Wells**	**2.66**	**44**		**Pn**	**09 20 53.5**	**+0.8**
SVW2	**Sparrevohn**	**2.71**	**322**		**Pn**	**09 20 53.5**	**0.0**
SKY	**Skwentna**	**2.99**	**5**		**Pn**	**09 20 57.9**	**+0.7**
Q23K	**Middleton Isla**	**3.00**	**80**	P	**Pn**	**09 20 58.3**	**+0.9**
	baz=265						
Q23K				S	**Sn**	**09 21 32.2**	**0.0**
	baz=265						
Q23K	**Middleton Isla**	**3.00**	**80**		**Pn**	**09 20 58.2**	**+0.9**
MID	**Middleton Isla**	**3.00**	**80**		**Pn**	**09 20 58.2**	**+0.9**
KNK	**Knik Glacier**	**3.02**	**36**		**Pn**	**09 20 58.4**	**+0.7**
GLI	**Glacier Island**	**3.15**	**51**		**Pn**	**09 20 59.4**	**+0.1**
HIN	**Hinchinbrook I**	**3.17**	**62**		**Sn**	**09 21 35.4**	**-1.0**
HIN	**Hinchinbrook I**	**3.17**	**62**		**Pn**	**09 21 00.8**	**+1.1**
GHO	**Glory Hole Cre**	**3.19**	**29**		**Pn**	**09 21 00.8**	**+0.8**
FID	**Port Fidalgo**	**3.34**	**56**		**Pn**	**09 21 01.9**	**0.0**
SML	**Sawmill**	**3.37**	**32**		**Pn**	**09 21 03.1**	**+0.6**
CUT	**Chulitna**	**3.52**	**14**	P	**Pn**	**09 21 05.4**	**+1.0**
	baz=197						
CUT				S	**Sn**	**09 21 44.6**	**-0.3**
	baz=197						
CUT	**Chulitna**	**3.52**	**14**		**Pn**	**09 21 05.3**	**+1.0**
EYAK	**Cordova Ski Ar**	**3.57**	**62**		**Pn**	**09 21 05.9**	**+0.9**
EYAK	**Cordova Ski Ar**	**3.57**	**62**		**Sn**	**09 21 43.6**	**-2.5**
SCM	**Sheep Creek Mo**	**3.69**	**38**		**Pn**	**09 21 07.9**	**+1.1**
DIV	**Divide**	**3.83**	**54**		**Pn**	**09 21 09.5**	**+1.0**
PPLA	**Purkeypile**	**3.89**	**360**		**Pn**	**09 21 10.6**	**+1.0**
KLU	**Klutina**	**3.97**	**49**		**Pn**	**09 21 11.5**	**+1.0**
RAGM	**Ragged Mountai**	**4.02**	**67**	Pn	**Pn**	**09 21 12.8**	**+1.6**
GOAT	**Goat Mountain**	**4.05**	**64**		**Pn**	**09 21 12.9**	**+1.2**
WAT6	**Susitna Watana**	**4.17**	**29**		**Pn**	**09 21 14.1**	**+0.8**
HMT	**Hamilton**	**4.20**	**68**		**Sn**	**09 22 00.2**	**-1.3**
WAT1	**Susitna Watana**	**4.21**	**23**		**Pn**	**09 21 14.5**	**+0.8**
BMRM	**Bremner River**	**4.25**	**59**		**Pn**	**09 21 15.2**	**+0.8**
M24K	**Tolsona, Glenn**	**4.27**	**41**	P	**Pn**	**09 21 15.7**	**+1.1**
	baz=227						
M24K				S	**Sn**	**09 22 02.5**	**-0.7**
	baz=227						
M24K	**Tolsona, Glenn**	**4.27**	**41**		**Pn**	**09 21 16.0**	**+1.4**
WAT2	**Susitna Watana**	**4.32**	**22**		**Pn**	**09 21 16.2**	**+0.8**
CHGN	**Chignik**	**4.34**	**234**	Pn	**Pn**	**09 21 16.4**	**+1.0**
TT01	**Tatalina**	**4.34**	**336**		**Pn**	**09 21 15.9**	**+0.4**
TTA	**Tatalina**	**4.36**	**336**		**Pn**	**09 21 15.9**	**+0.1**
PS11	**TAPS Pump St11**	**4.50**	**44**		**Pn**	**09 21 19.5**	**+1.8**
TRF	**Thorofare Moun**	**4.54**	**11**		**Pn**	**09 21 19.0**	**+0.7**
N25K	**Chitina, Valde**	**4.56**	**52**	P	**Pn**	**09 21 19.6**	**+1.1**
	baz=239						
N25K				S	**Sn**	**09 22 09.0**	**-1.2**
	baz=239						
N25K	**Chitina, Valde**	**4.56**	**52**		**Pn**	**09 21 19.6**	**+1.1**
KTH	**Kantishna Hill**	**4.59**	**7**		**Pn**	**09 21 19.6**	**+0.7**
BGLC	**Bering Glacier**	**4.63**	**72**		**Pn**	**09 21 21.7**	**+2.3**
DHY	**Denali Highway**	**4.68**	**28**		**Pn**	**09 21 21.2**	**+0.9**
RND	**Reindeer**	**4.68**	**18**		**Pn**	**09 21 20.8**	**+0.6**
KHIT	**Khitrov Hills**	**4.72**	**69**		**Pn**	**09 21 21.6**	**+0.9**
GLB	**Gilahina Butte**	**4.81**	**56**		**Pn**	**09 21 22.6**	**+0.7**
CRQM	**Cirque**	**4.85**	**65**		**Sn**	**09 22 17.2**	**-0.4**
CRQM	**Cirque**	**4.85**	**65**		**Pn**	**09 21 23.9**	**+1.3**
VRDI	**Verde Repeater**	**4.87**	**59**		**Pn**	**09 21 23.7**	**+0.8**
VRDI	**Verde Repeater**	**4.87**	**59**		**Sn**	**09 22 15.6**	**-2.5**
KULT	**Kultieth River**	**4.93**	**71**		**Pn**	**09 21 25.0**	**+1.4**
MCK	**McKinley**	**4.97**	**17**	P	**Pn**	**09 21 24.9**	**+0.8**
	baz=200,SNR=24						
MCK				S	**Sn**	**09 22 19.1**	**-1.2**
	baz=200						
MCK	**McKinley**	**4.97**	**17**		**Pn**	**09 21 24.9**	**+0.8**
TGL	**Tana Glacier**	**5.00**	**66**		**Sn**	**09 22 19.6**	**-1.4**
TGL	**Tana Glacier**	**5.00**	**66**		**Pn**	**09 21 25.9**	**+1.4**
BARK	**Barkley Ridge**	**5.07**	**70**		**Pn**	**09 21 27.0**	**+1.4**
PAX	**Paxson**	**5.12**	**36**		**Pn**	**09 21 27.4**	**+1.2**
MCARA	**McCarthy VSAT**	**5.12**	**59**		**Pn**	**09 21 27.1**	**+0.9**
MCARA	**McCarthy VSAT**	**5.12**	**59**		**Sn**	**09 22 22.5**	**-1.4**
BPAW	**Bear Paw Mtn.**	**5.13**	**6**		**Pn**	**09 21 26.5**	**+0.2**
ISLE	**Juniper Island**	**5.19**	**68**		**Sn**	**09 22 24.6**	**-1.2**
ISLE	**Juniper Island**	**5.19**	**68**		**Pn**	**09 21 28.5**	**+1.3**
KIAG	**Kiagna River**	**5.27**	**65**		**Pn**	**09 21 29.3**	**+1.0**
MESA	**MESA**	**5.30**	**73**	Pn	**Pn**	**09 21 31.0**	**+2.3**
PTPK	**Patty Peak**	**5.30**	**62**		**Pn**	**09 21 30.1**	**+1.4**
BALM	**Baldy**	**5.31**	**63**		**Sn**	**09 22 25.0**	**-3.5**
BALM	**Baldy**	**5.31**	**63**		**Pn**	**09 21 29.8**	**+1.1**
BWN	**Browne**	**5.33**	**13**		**Pn**	**09 21 30.0**	**+1.1**
YAH	**Yahtse**	**5.43**	**71**		**Pn**	**09 21 32.0**	**+1.5**
GRNC	**Granite Creek**	**5.50**	**67**		**Pn**	**09 21 32.9**	**+1.4**
RKAV	**Rock Avalanche**	**5.62**	**72**		**Pn**	**09 21 34.8**	**+1.8**
BARN	**Barnard Glacie**	**5.63**	**64**		**Sn**	**09 22 34.9**	**-1.7**
BARN	**Barnard Glacie**	**5.63**	**64**		**Pn**	**09 21 34.6**	**+1.4**
MENT	**Mentasta**	**5.68**	**43**		**Pn**	**09 21 35.5**	**+1.9**
CHX	**Chaix Hills**	**5.70**	**75**		**Pn**	**09 21 36.1**	**+2.0**
TABL	**Table Mountain**	**5.74**	**71**		**Pn**	**09 21 36.6**	**+1.9**
TABL	**Table Mountain**	**5.74**	**71**		**Sn**	**09 22 38.3**	**-0.9**
CTGM	**Chitina Glacie**	**5.76**	**66**		**Sn**	**09 22 37.6**	**-2.1**
CTGM	**Chitina Glacie**	**5.76**	**66**		**Pn**	**09 21 36.6**	**+1.7**
NEA2	**Nenana**	**5.78**	**13**	P	**Pn**	**09 21 35.1**	**0.0**
	baz=197,SNR=16						
NEA2				S	**Sn**	**09 22 38.2**	**-1.7**
	baz=197						
NEA2	**Nenana**	**5.78**	**13**		**Pn**	**09 21 34.9**	**-0.2**
WRH	**Wood River Hil**	**5.80**	**18**		**Pn**	**09 21 35.2**	**-0.1**
LOGN	**Logan Glacier**	**5.88**	**67**		**Pn**	**09 21 37.9**	**+1.3**
RIDG	**Independent Ri**	**5.89**	**33**		**Pn**	**09 21 37.3**	**+0.7**
HDA	**Harding Lake**	**5.94**	**22**	P	**Pn**	**09 21 37.5**	**+0.3**
	baz=208,SNR=12						
HDA				S	**Sn**	**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MLSI	**Meulaboh, Aceh**	**1.99**	**6**	P	**Pn**	**09 23 38.0**	**-0.6**
TSI	**Tuntungan**	**2.68**	**63**	P	**Pn**	**09 23 47.8**	**-0.2**
RPSI	**Rantau Prapat**	**2.77**	**81**	Pn	**Pn**	**09 23 50.3**	**+0.9**
RPSI	**Rantau Prapat**	**2.77**	**81**		**Pn**	**09 23 50.7**	**+1.4**
PSI	**Prapat**	**2.79**	**79**	Pn	**Pn**	**09 23 50.7**	**+1.0**
	6.6nm,0.3s,baz=180,slow=23,SNR=22						
PSI				LR	LR	09 24 46.9	
	comp=Z,862nm,19.9s,baz=98,slow=36						
LHMI	**Lhok Sumawe**	**3.04**	**15**	P	**Pn**	**09 23 53.8**	**+0.9**
LHMI	**Lhok Sumawe**	**3.04**	**15**	Pn	**Pn**	**09 23 53.6**	**+0.7**
MNSI	**Mandailing Nat**	**3.70**	**113**	P	**Pn**	**09 24 02.3**	**+0.2**
IPM	**Ipoh**	**5.31**	**65**	Pn	**Pn**	**09 24 24.6**	**+0.3**
KULM	**Kulim**	**5.37**	**56**	Pn	**Pn**	**09 24 24.5**	**-0.6**
SDSI	**Sungai Dareh**	**6.14**	**121**	P	Pn	09 24 30.8	-4.8
LHSI	**Lahat**	**9.52**	**130**	P	Pn	09 25 17.0	-5.0
MDSI	**Maura Dua**	**10.44**	**130**	P	**Pn**	**09 25 33.9**	**-0.8**
KLSI		**10.99**	**129**	P	Pn	09 25 51.8	+10
CMAR	**Chiang Mai Arr**	**16.31**	**9**	Pn	**Pn**	**09 26 54.7**	**+0.7**
	0.4nm,0.3s,baz=200,slow=11,SNR=28						
CMAR				LR	LR	09 33 45.6	
	comp=Z,158nm,19.2s,baz=237,slow=39						
CHTO	**Chiang Mai**	**16.66**	**9**		**Pn**	**09 26 59.4**	**+1.0**
KKM	**Kota Kinabalu**	**20.33**	**79**	P	**P**	**09 27 41.1**	**-0.1**
SLVN	**Son La**	**20.39**	**21**	P	**P**	**09 27 40.7**	**-1.0**
SHL	**Shillong**	**23.53**	**350**	*e*x	**P**	**09 28 12.3**	**-2.8**
SHL	**Shillong**	**23.53**	**350**	*e*P	**P**	**09 28 12.8**	**-2.2**
SHL	**Shillong**	**23.53**	**350**	P	**P**	**09 28 12.9**	**-2.2**
SHL				IAmb	IAmb	09 28 16.0	
	comp=Z,32nm,0.7s						
BOK	**Bokaro**	**23.60**	**336**	*i* x	**P**	**09 28 16.8**	**+1.2**
KAPI	**Kappang**	**24.64**	**107**	P	**P**	**09 28 26.3**	**+1.0**
	comp=Z,4.5nm,0.3s,baz=285,slow=9.4,SNR=5.3						
KAPI	**Kappang**	**24.64**	**107**	P	**P**	**09 28 25.8**	**+0.4**
KAPI				IAmb	IAmb	09 28 27.3	
	comp=Z,24nm,1.1s						
ZIRO	**ZIRO**	**25.21**	**355**	*e*x	**P**	**09 28 27.3**	**-3.3**
ZIRO				IAmb	IAmb	09 28 30.3	
	comp=Z,11nm,0.6s						
H08S2	**Diego Garcia H**	**25.60**	**247**	T	T	09 55 07.0	
	baz=68,slow=75,SNR=3054						
H08S3	**Diego Garcia H**	**25.61**	**247**	T	T	09 55 02.4	
	baz=68,slow=75,SNR=2772						
H08S1	**Diego Carcia H**	**25.62**	**247**	T	T	09 55 06.6	
	baz=68,slow=75,SNR=1042						
GYA	**Guiyang**	**26.07**	**22**	⇑P	**P**	**09 28 39.6**	**+1.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
SOEI	**Soe**	**30.42**	**114**	P	**P**	**09 29 16.7**	**-0.6**
YULB	**Yu-li**	**32.13**	**47**	P	**P**	**09 29 32.0**	**-0.2**
XAN	**Xi'an**	**33.77**	**19**	P	**P**	**09 29 44.8**	**-1.6**
XAN				pmax	pmax		
	comp=Z,20nm,0.8s						
XAN				pmax	pmax		
	comp=Z,390nm,4.9s						
XAN	**Xi'an**	**33.77**	**19**	P	**P**	**09 29 45.4**	**-1.0**
XAN				IAmb	IAmb	09 29 46.0	
	comp=Z,15nm,0.9s						
NJ2	**Nanjing**	**36.51**	**33**	*e*P	**P**	**09 30 10.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GTA	**Gaotai**	**37.11**	**5**	⇑P	**P**	**09 30 14.8**	**-0.4**
GTA				pP	pP	09 30 23.3	+0.6
GTA				sP	sP	09 30 27.1	+1.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,220nm,6.2s						
GTA				LR	LR		
	comp=N,180nm,17.8s						
GTA				LR	LR		
	comp=E,160nm,18.2s						
GTA				LR	LR		
	comp=Z,140nm,16.4s						
NIL	**Nilore**	**37.87**	**328**	P	**P**	**09 30 21.1**	**-0.5**
NIL				IAmb	IAmb	09 30 22.8	
	comp=Z,12nm,0.7s						
H01W3	**Cape Leeuwin H**	**40.62**	**157**	T	T	10 13 58.0	
	baz=333,slow=76,SNR=382						
H01W2	**Cape Leeuwin H**	**40.63**	**157**	T	T	10 13 58.5	
	baz=333,slow=76,SNR=374						
H01W1	**Cape Leeuwin H**	**40.64**	**157**	T	T	10 13 59.3	
	baz=333,slow=76,SNR=333						
HHC	**Hu-ho-hao-te**	**40.84**	**18**	*e*P	**P**	**09 30 47.0**	**+0.6**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,4.2s						
BJI	**Beijing**	**41.74**	**23**	P	**P**	**09 30 54.6**	**+1.0**
BJI				pmax	pmax		
	comp=Z,26nm,0.6s						
WMQ	**Urumqi**	**42.05**	**351**	*e*P	**P**	**09 30 58.1**	**+1.9**
WMQ				pP	sP	09 31 07.5	+0.9
WMQ				sP	pP	09 31 10.8	+7.2
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,84nm,5.3s						
TARG	**Taragay, Kyrgy**	**42.62**	**340**	IAmb	IAmb	09 31 04.0	
	comp=Z,9.9nm,0.9s						
KDJ	**Kajisay**	**43.19**	**339**	P	**P**	**09 31 06.5**	**+0.9**
KDJ				IAmb	IAmb	09 31 09.9	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**43.47**	**122**	P	**P**	**09 31 08.4**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=302,slow=9.1,SNR=20						
WRA				PcP	**PcP**	**09 32 56.6**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=302,slow=3.8,SNR=3.7						
WRA				LR	LR	09 49 49.2	
	comp=Z,66nm,20.2s,baz=190,slow=37						
WRA	**Warramunga Arr**	**43.47**	**122**	IAmb	IAmb	09 31 10.0	
	comp=Z,0.2nm,1.1s						
GAR	**Garm**	**43.51**	**330**	P	**P**	**09 31 08.6**	**+0.4**
GAR				IAmb	IAmb	09 31 10.1	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**43.64**	**122**	P	**P**	**09 31 10.1**	**+0.7**
CHGR	**Chuyangaron**	**43.83**	**329**	P	**P**	**09 31 10.7**	**0.0**
BOOM	**Boomskoye usch**	**43.95**	**338**	P	**P**	**09 31 12.1**	**+0.3**
BTK	**Batken**	**44.09**	**332**	P	**P**	**09 31 13.7**	**+0.9**
BTK				IAmb	IAmb	09 31 17.2	
	comp=Z,9.8nm,0.9s						
JAY	**Jayapura**	**44.77**	**96**	LR	LR	09 55 20.3	
	comp=Z,81nm,19.3s,baz=260,slow=43						
ASAR	**Alice Springs**	**44.85**	**127**	P	**P**	**09 31 19.9**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=300,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**09 33 01.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=299,slow=3.6,SNR=4.8						
KSRS	**Korea Array**	**45.56**	**36**	LR	LR	09 51 23.0	
	comp=Z,98nm,19.8s,baz=190,slow=37						
MK31	**Makanchi Array**	**45.97**	**347**	P	**P**	**09 31 27.5**	**-0.1**
MK31				IAmb	IAmb	09 31 28.8	
	comp=Z,9.4nm,0.7s						
MKAR	**Makanchi Array**	**45.97**	**347**	P	**P**	**09 31 27.9**	**+0.4**
	comp=Z,15nm,0.7s,baz=162,slow=7.8,SNR=97						
MKAR	**Makanchi Array**	**45.97**	**347**	P	**P**	**09 31 27.2**	**-0.3**
MAKZ	**Makanchi**	**46.05**	**346**	P	**P**	**09 31 27.5**	**-0.7**
SONM	**Songino Array**	**46.24**	**10**	P	**P**	**09 31 30.0**	**+0.2**
	comp=Z,3.7nm,0.5s,baz=193,slow=8.7,SNR=18						
SONM				PcP	**PcP**	**09 33 06.4**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=207,slow=2.9,SNR=4.0						
SONM	**Songino Array**	**46.24**	**10**	P	**P**	**09 31 28.9**	**-0.9**
KKAR	**Karatay Array**	**46.65**	**334**	P	**P**	**09 31 32.4**	**-0.5**
GEYT	**Alibeck**	**49.74**	**320**	P	**P**	**09 31 57.3**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=153,slow=8.3,SNR=4.2						
GEYT	**Alibeck**	**49.74**	**320**	IAmb	IAmb	09 32 06.2	
	comp=Z,2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**50.44**	**345**	P	**P**	**09 32 02.4**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=165,slow=6.9,SNR=6.5						
KURK	**Kurchatov**	**50.50**	**346**	P	**P**	**09 32 02.5**	**+0.1**
KURK				IAmb	IAmb	09 32 05.2	
	comp=Z,7.8nm,1.0s						
ZAA0	**Zalesovo Array**	**52.35**	**352**	P	**P**	**09 32 16.3**	**+0.1**
ZALV	**Zalesovo Beam**	**52.35**	**352**	P	**P**	**09 32 16.5**	**+0.3**
	comp=Z,13nm,0.5s,baz=179,slow=6.8,SNR=49						
ZALV	**Zalesovo Beam**	**52.35**	**352**	P	**P**	**09 32 15.6**	**-0.7**
BRVK	**Borovoye**	**54.97**	**341**	P	**P**	**09 32 35.6**	**+0.1**
BRVK				IAmb	IAmb	09 32 36.3	
	comp=Z,6.0nm,0.6s						
ABKAR	**Akbulak array**	**56.09**	**332**	P	**P**	**09 32 43.4**	**-0.2**
ABKAR				IAmb	IAmb	09 32 45.1	
	comp=Z,5.4nm,1.1s						
ABKAR	**Akbulak array**	**56.09**	**332**	P	**P**	**09 32 43.6**	**+0.1**
AKTO	**Aktyubinsk**	**57.81**	**332**	P	**P**	**09 32 55.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=104,slow=8.3,SNR=1.6						
ARU	**Arti**	**61.81**	**337**	P	**P**	**09 33 22.4**	**-0.7**
	comp=Z,3.8nm,0.2s,baz=197,slow=11,SNR=3.1						
ARU				LR	LR	10 03 21.8	
	comp=Z,39nm,18.1s,baz=142,slow=39						
ARU	**Arti**	**61.81**	**337**	IAmb	IAmb	09 33 24.0	
	comp=Z,5.2nm,0.9s						
KIRV	**Kirov**	**66.92**	**335**	LR	LR	10 07 40.0	
	comp=Z,20nm,18.5s,baz=124,slow=40						
NRIK	**Noril'sk**	**67.20**	**357**	P	**P**	**09 33 57.0**	**-1.2**
	comp=Z,6.2nm,0.9s,baz=136,slow=7.2,SNR=3.6						
BRTR	**Keskin Array B**	**67.64**	**312**	P	**P**	**09 34 00.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=60,slow=8.5,SNR=3.6						
BRTR	**Keskin Array B**	**67.64**	**312**		pP	09 34 14.1	+4.7
AKASG	**Malin Array Be**	**73.79**	**322**	P	**P**	**09 34 38.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=90,slow=4.8,SNR=4.3						
AKASG	**Malin Array Be**	**73.79**	**322**	IAmb	IAmb	09 34 39.2	
	comp=Z,0.8nm,0.7s						
BURAR	**Bucovina Array**	**75.55**	**319**	P	**P**	**09 34 50.1**	**+0.9**
BUR08	**Bucovina Ar. S**	**75.57**	**319**	P	**P**	**09 34 49.7**	**+0.4**
PYZ	**Puysegur Point**	**78.26**	**138**	P	**P**	**09 35 03.6**	**-0.7**
FINES	**FINESS Array B**	**78.58**	**333**	P	**P**	**09 35 06.1**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=103,slow=8.4,SNR=7.8						
ARCES	**ARCESS Array B**	**81.19**	**340**	P	**P**	**09 35 20.4**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=93,slow=4.6,SNR=17						
NOA	**NORSAR Array B**	**85.58**	**331**	P	**P**	**09 35 43.1**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=87,slow=5.9,SNR=3.3						
ILAR	**Eielson Array**	**99.11**	**23**	P	**Pdif**	**09 36 47.2**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=316,slow=2.5,SNR=5.1						
TXAR	**Lajitas Array**	**143.27**	**30**	PKP	PKPbc	09 42 38.0	+1.5
	comp=Z,0.4nm,0.8s,baz=318,slow=1.2,SNR=2.5						

REY ***13*** *09:26:46.8, 64.°63N×17.°35W, h0km*
IDC ***13*** *09:26:49.0±0.6, 64.°57N×17.°61W, h0km, mb3.9/15, mb1 4.1/18, mb1mx3.9/47, mbtmp3.9/18, ML2.7/2, MS3.6/31, Ms1 3.6/31, ms1mx3.5/46, Error ellipse: s-maj=22.3km s-min=9.2km az=12.0*
NEIC ***13*** *09:26:48.4±2.5, 64.°4N±0.°1×17.°6W±0.°1, h10km±1km, mb4.3/11, Error ellipse: s-maj=24.0km s-min=6.6km az=191.0*
ISC 13 09:26:48.5±0.5**, 64.°63N**±0.°02×**17.°38W**±0.°02**, h10km, n110, σ2.°12**/91**, mb3.9**/21**, MS3.6**/37**, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.14**	**154**	P	**Pg**	**09 26 50.5**	**-1.3**
	baz=158						
IDYN	**Dyngjuhals**	**0.16**	**2**	P	**Pg**	**09 26 51.0**	**-1.1**
	baz=358						
IVON	**Vonarskard**	**0.17**	**284**	P	**Pg**	**09 26 51.3**	**-0.9**
	baz=286						
IGRF	**Grimsfjall**	**0.23**	**168**	P	**Pg**	**09 26 52.0**	**-1.4**
	baz=171						
IGRF				S	**Sg**	**09 26 55.8**	**-0.8**
	baz=171						
IVOT	**Vottur**	**0.37**	**167**	P	**Pg**	**09 26 54.5**	**-1.4**
	baz=168						
ISKR	**Skrokkalda**	**0.44**	**261**	P	**Pb**	**09 26 56.2**	**-2.1**
	baz=262						
IKRE	**Kreppuhraun**	**0.46**	**70**	P	**Pg**	**09 26 55.9**	**-1.5**
	baz=69						
IKRE				S	**Sb**	**09 27 03.4**	**-2.1**
	baz=69						
IJOK	**Jokulheimar**	**0.48**	**229**	P	**Pg**	**09 26 56.2**	**-1.7**
	baz=231						
IJOK				S	**Sb**	**09 27 06.2**	**-0.1**
	baz=231						
IASK	**Askja**	**0.53**	**36**	P	**Pg**	**09 26 57.1**	**-1.7**
	baz=35						
IMKO	**Mokollar**	**0.56**	**52**	P	**Pg**	**09 26 57.9**	**-1.5**
	baz=50						
IKSK	**Karasker**	**0.62**	**140**	P	**Pg**	**09 26 58.0**	**-2.4**
	baz=140						
IKSK				S	**Sg**	**09 27 07.6**	**-1.0**
	baz=140						
IIEY	**Innrieyrar**	**0.63**	**211**	P	**Pg**	**09 26 58.6**	**-2.0**
	baz=213						
IIEY				S	**Sb**	**09 27 08.8**	**-1.7**
	baz=213						
IKAL	**Kalfafell**	**0.70**	**191**	P	**Pg**	**09 26 59.9**	**-2.1**
	baz=192						
IKAL				S	**Sb**	**09 27 11.1**	**-1.4**
	baz=192						
ISVA	**Svartarkot**	**0.71**	**4**	P	**Pg**	**09 27 00.1**	**-2.1**
	baz=3.3						
ISVA				S	**Sb**	**09 27 10.9**	**-1.9**
	baz=3.3						
IVSH	**V-Sauoahnukur**	**0.73**	**75**	P	**Pg**	**09 27 00.5**	**-2.1**
	baz=75						
IVAT	**Vatnsfell**	**0.80**	**237**	P	**Pg**	**09 27 01.8**	**-2.2**
	baz=238						
IADA	**Aoalbol**	**0.86**	**63**	P	**Pg**	**09 27 02.6**	**-2.5**
	baz=62						
IADA				S	**Sg**	**09 27 14.9**	**-1.4**
	baz=62						
IHVE	**Hveravellir**	**0.97**	**285**	P	**Pg**	**09 27 04.7**	**-2.4**
	baz=286						
IMEL	**Melhnausar**	**0.99**	**18**	P	**Pg**	**09 27 05.1**	**-2.5**
	baz=17						
IREN	**Reynihlio**	**1.04**	**11**	P	**Pg**	**09 27 05.9**	**-2.5**
	baz=10						
ISNB	**Snabyli**	**1.05**	**212**	P	**Pg**	**09 27 06.3**	**-2.4**
	baz=213						
IKVO	**Krokottuvotn**	**1.11**	**11**	P	**Pb**	**09 27 06.8**	**-2.9**
	baz=10						
ISLY	**Slysaalda**	**1.11**	**224**	P	**Pg**	**09 27 07.2**	**-2.6**
	baz=225						
IGRS	**Grimsstaoir**	**1.14**	**27**	P	**Pb**	**09 27 07.7**	**-2.6**
	baz=26						
IGRS				S	**Sn**	**09 27 24.7**	**-1.5**
	baz=26						
IRJU	**Rjupnafell**	**1.17**	**210**	P	**Pb**	**09 27 07.9**	**-2.8**
	baz=210						
IFED	**Fedgar**	**1.18**	**240**	P	**Pb**	**09 27 08.1**	**-2.8**
	baz=240						
IMJO	**Mjoaskard**	**1.22**	**236**	P	**Pb**	**09 27 08.9**	**-2.8**
	baz=237						
IMJO				S	**Sn**	**09 27 26.1**	**-2.1**
	baz=237						
ISKI	**Skildingahlsh**	**1.25**	**7**	P	**Pn**	**09 27 09.1**	**-3.0**
	baz=6.1						
ISKI				S	**Sn**	**09 27 27.4**	**-1.5**
	baz=6.1						
IGHA	**Grjothals**	**1.25**	**14**	P	**Pn**	**09 27 09.8**	**-2.3**
	baz=13						
IHVO	**Lagu-Hvolar**	**1.28**	**211**	P	**Pn**	**09 27 10.2**	**-2.3**
	baz=212						
IGRA	**Granastaoir**	**1.29**	**356**	P	**Pn**	**09 27 09.8**	**-2.8**
	baz=356						
IGRA				S	**Sg**	**09 27 29.1**	**-0.9**
	baz=356						
IHAU	**Haukadalur**	**1.31**	**241**	P	**Pn**	**09 27 10.2**	**-2.6**
	baz=241						
IDIM	**Dimmadalss**	**1.35**	**8**	P	**Pn**	**09 27 10.8**	**-2.6**
	baz=7.3						
IHLA	**Hella**	**1.38**	**343**	P	**Pn**	**09 27 11.8**	**-2.0**
	baz=342						
IALF	**Alftagrof**	**1.39**	**215**	P	**Pn**	**09 27 11.9**	**-2.1**
	baz=216						
IHED	**Heoinshofoi**	**1.46**	**1**	P	**Pn**	**09 27 13.1**	**-1.7**
	baz=0.7						
IBRE	**Brettingsstaoi**	**1.51**	**352**	P	**Pn**	**09 27 13.9**	**-1.7**
	baz=351						
IGIL	**Gilhagi**	**1.51**	**16**	P	**Pn**	**09 27 13.0**	**-2.6**
	baz=16						
ISIG	**Siglufjorour**	**1.64**	**338**	P	**Pn**	**09 27 15.6**	**-1.7**
	baz=337						
BORG	**Borgarnes**	**1.70**	**276**	Pg	**Pn**	**09 27 16.6**	**-1.5**
	23nm,0.3s,baz=96,slow=10,SNR=120						
BORG				Lg	Lg	09 27 40.4	
	10nm,0.3s,baz=190,slow=20,SNR=7.9						
BORG				LR	LR	09 28 04.6	
	comp=Z,1μm,19.1s,baz=106,slow=47						
BORG	**Borgarnes**	**1.70**	**276**		**Pn**	**09 27 16.8**	**-1.4**
BORG				Sn	**Sb**	**09 27 39.1**	**-2.1**
ISOL	**Solvholt**	**1.71**	**247**	P	**Pn**	**09 27 16.7**	**-1.5**
	baz=248						
IHRN	**Hraun**	**1.88**	**323**	P	**Pn**	**09 27 19.0**	**-1.5**
	baz=323						
JMIC	**Jan Mayen**	**7.20**	**24**	LR	LR	09 30 54.4	
	comp=Z,219nm,20.0s,baz=256,slow=34						
EKB10	**Eskdalemuir Ar**	**11.67**	**136**	Pn	**Pn**	**09 29 33.5**	**-1.3**
EKB	**Eskdalemuir**	**11.69**	**136**	Pn	**Pn**	**09 29 33.3**	**-1.8**
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**	**09 29 35.9**	**+0.6**
	baz=325,slow=13,SNR=14						
ESK	**Eskdalemuir**	**11.70**	**136**	Pn	**Pn**	**09 29 33.9**	**-1.4**
NC204	**NORSAR Array S**	**13.18**	**92**	Pn	**Pn**	**09 29 54.7**	**-0.7**
NOA	**NORSAR Array B**	**13.48**	**92**	Pn	**Pn**	**09 29 59.7**	**+0.1**
	0.0nm,0.3s,baz=300,slow=13,SNR=4.4						
NOA				LR	LR	09 35 10.3	
	comp=Z,199nm,20.3s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.73**	**295**	LR	LR	09 34 58.7	
	comp=Z,486nm,19.5s,baz=84,slow=36						
HFS	**Hagfors**	**14.99**	**93**	LR	LR	09 36 06.7	
	comp=Z,217nm,19.6s,baz=284,slow=37						
SPA0	**Spitsbergen Ar**	**16.88**	**23**		**P**	**09 30 49.1**	**+2.6**
SPA0				IAmb	IAmb	09 30 56.1	
	comp=Z,40nm,1.4s						
SPITS	**Spitsbergen Ar**	**16.88**	**23**	LR	LR	09 36 23.4	
	comp=Z,59nm,21.5s,baz=270,slow=34						
ARCES	**ARCESS Array B**	**17.10**	**55**	LR	LR	09 36 11.0	
	comp=Z,182nm,21.8s,baz=285,slow=33						
FINES	**FINESS Array B**	**19.66**	**79**	P	**Pn**	**09 31 19.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=331,slow=11,SNR=3.2						
FINES				LR	LR	09 38 40.3	
	comp=Z,118nm,21.2s,baz=330,slow=36						
FINES	**FINESS Array B**	**19.66**	**79**	P	**Pn**	**09 31 18.4**	**-0.1**
CLL	**Collm**	**20.64**	**116**	*i* P	Pn	09 31 29.6	-0.6
CLL				*i*		09 31 36.3	
	comp=Z,34nm,1.8s						
CLL				*e*(S)	Sn	09 35 30.0	+7.3
CLL				Lm	MLR	09 40 00.0	
	comp=N,200nm,18.0s						
CLL				Lm	MLR	09 40 00.0	
	comp=E,100nm,19.5s						
CLL	**Collm**	**20.64**	**116**	P	**P**	**09 31 24.6**	**-3.3**
NKC	**Novy Kostel**	**21.29**	**118**	*e*P	P	09 31 41.6	+6.7
NKC				AMS	AMS	09 40 30.0	
	comp=E,300nm,17.8s						
BRG	**Berggiesshubel**	**21.35**	**115**	*e*P	**P**	**09 31 39.5**	**+4.0**
	comp=E,93nm,2.4s						
BFO	**Black Forest**	**21.39**	**127**	P	**P**	**09 31 34.9**	**-1.1**
BFO				IAmb	IAmb	09 31 46.4	
	comp=Z,9.7nm,1.1s						
FRB	**Frobisher Bay**	**21.81**	**291**	LR	LR	09 39 49.2	
	comp=Z,238nm,19.4s,baz=30,slow=36						
PVCC	**Panska Ves**	**21.87**	**115**	AMS	AMS	09 41 10.0	
	comp=Z,300nm,19.2s						
PRA	**Prague**	**22.18**	**116**	AMS	AMS	09 41 30.0	
	comp=Z,100nm,17.4s						
PRU	**Pruhonice**	**22.29**	**116**	AMS	AMS	09 41 40.0	
	comp=Z,300nm,16.0s						
CHVC	**Chvalec**	**22.41**	**113**	*e*P	**P**	**09 31 51.9**	**+5.0**
CHVC				AMS	AMS	09 41 10.0	
	comp=Z,300nm,16.2s						
GOPC	**GO Pecny, Ondr**	**22.44**	**116**	*e*P	P	09 31 54.9	+7.6
GOPC				AMS	AMS	09 41 40.0	
	comp=Z,300nm,16.8s						
UPC	**Upice**	**22.45**	**113**	AMS	AMS	09 41 10.0	
	comp=Z,300nm,15.4s						
OSTC	**Ostas**	**22.50**	**113**	AMS	AMS	09 41 10.0	
	comp=Z,200nm,18.6s						
KHC	**Kasperske Hory**	**22.61**	**119**	*e*P	**P**	**09 31 52.4**	**+3.3**
KHC				AMS	AMS	09 41 00.0	
	comp=Z,200nm,16.4s						
KHC	**Kasperske Hory**	**22.61**	**119**	P	**P**	**09 31 47.4**	**-1.7**
DPC	**Dobruska-Polom**	**22.70**	**113**	AMS	AMS	09 41 10.0	
	comp=Z,300nm,19.2s						
GERES	**GERESS Array B**	**22.89**	**119**	P	**P**	**09 31 54.6**	**+2.5**
	comp=Z,1.0nm,0.7s,baz=316,slow=9.3,SNR=4.6						
GERES				LR	LR	09 41 09.9	
	comp=Z,236nm,21.1s,baz=257,slow=38						
KRLC	**Kraliky**	**23.10**	**113**	AMS	AMS	09 41 40.0	
	comp=Z,200nm,20.7s						
TREC	**Trest**	**23.21**	**116**	AMS	AMS	09 42 30.0	
	comp=Z,200nm,15.1s						
DAVOX	**Davos/Dischmat**	**23.26**	**127**	LR	LR	09 41 56.8	
	comp=Z,244nm,18.4s,baz=306,slow=39						
VRAC	**Vranov**	**23.63**	**114**	P	**P**	**09 32 01.1**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=293,slow=13,SNR=5.5						
VRAC				LR	LR	09 42 23.9	
	comp=Z,246nm,18.4s,baz=327,slow=40						
EUNU	**Eureka**	**23.72**	**336**	P	**P**	**09 32 02.7**	**+2.5**
OJC	**Ojcow**	**24.20**	**109**	P	**P**	**09 32 02.5**	**-2.4**
OJC				IAmb	IAmb	09 32 08.9	
	comp=Z,20nm,1.5s						
ZOU	**Zoufplan**	**24.54**	**123**	P	**P**	**09 32 05.9**	**-2.3**
ZOU				IAmb	IAmb	09 32 20.0	
	comp=Z,8.9nm,1.3s						
PRED	**Cave del Predi**	**24.85**	**122**	P	**P**	**09 32 08.6**	**-2.3**
PRED				IAmb	IAmb	09 32 26.9	
	comp=Z,4.9nm,1.1s						
SCHQ	**Schefferville**	**26.09**	**272**	P	**P**	**09 32 22.4**	**+0.4**
	comp=Z,7.5nm,0.7s,baz=36,slow=8.1,SNR=7.1						
SCHQ				LR	LR	09 41 41.8	
	comp=Z,112nm,18.4s,baz=57,slow=34						
ESDC	**Sonseca Array**	**26.20**	**156**	P	**P**	**09 32 25.3**	**+2.2**
	comp=Z,1.6nm,0.9s,baz=352,slow=8.0,SNR=5.8						
ESDC				LR	LR	09 42 32.6	
	comp=Z,106nm,18.2s,baz=345,slow=36						
RES	**Resolute Bay**	**26.52**	**324**	LR	LR	09 43 17.3	
	comp=Z,154nm,18.5s,baz=308,slow=37						
AKASG	**Malin Array Be**	**27.79**	**98**	P	**P**	**09 32 41.2**	**+4.1**
	comp=Z,0.5nm,0.4s,baz=322,slow=9.8,SNR=2.4						
AKASG				LR	LR	09 43 34.3	
	comp=Z,135nm,22.0s,baz=330,slow=36						
OBN	**Obninsk**	**27.84**	**84**	LR	LR	09 44 18.8	
	comp=Z,15nm,20.8s,baz=0.0,slow=38						
KEST	**Kesra**	**33.10**	**138**	LR	LR	09 46 51.2	
	comp=Z,92nm,18.9s,baz=254,slow=36						
NRIK	**Noril'sk**	**36.46**	**35**	LR	LR	09 49 36.4	
	comp=Z,41nm,18.9s,baz=24,slow=37						
BRTR	**Keskin Array B**	**38.42**	**105**	P	P	09 34 13.4	+3.4
	comp=Z,0.3nm,0.4s,baz=258,slow=30,SNR=5.7						
BRTR				LR	LR	09 52 35.4	
	comp=Z,26nm,18.2s,baz=296,slow=40						
KBZ	**Khabaz**	**39.06**	**93**	P	P	09 34 19.0	+3.9
	comp=Z,2.1nm,0.6s,baz=331,slow=7.9,SNR=4.1						
KBZ				LR	LR	09 50 34.4	
	comp=Z,161nm,22.0s,baz=327,slow=36						
YKA	**Yellowknife Ar**	**39.27**	**313**	LR	LR	09 50 17.9	
	comp=Z,114nm,21.2s,baz=0.0,slow=36						
ULM	**Lac du Bonnet**	**41.66**	**289**	LR	LR	09 51 07.8	
	comp=Z,68nm,21.1s,baz=25,slow=35						
ILAR	**Eielson Array**	**45.74**	**333**	P	P	09 35 12.4	+3.2
	comp=Z,1.3nm,1.0s,baz=22,slow=4.4,SNR=5.7						
ILAR				LR	LR	09 56 38.5	
	comp=Z,73nm,18.2s,baz=70,slow=39						
BCAR	**Beaver Creek A**	**46.16**	**329**	P	**P**	**09 35 14.0**	**+1.4**
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**09 35 27.1**	**-0.7**
KURBB	**Kurchatov Arra**	**48.13**	**58**	P	**P**	**09 35 30.0**	**+1.9**
	comp=Z,1.6nm,0.3s,baz=309,slow=5.9,SNR=8.9						
GEYT	**Alibeck**	**50.38**	**84**	LR	LR	09 57 56.8	
	comp=Z,52nm,21.4s,baz=170,slow=37						
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**09 36 05.0**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=324,slow=6.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**53.09**	**157**	P	**P**	**09 36 07.4**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=343,slow=9.4,SNR=4.7						
TORD				LR	LR	10 00 04.6	
	comp=Z,36nm,18.2s,baz=350,slow=38						
BW06	**Boulder Array**	**53.24**	**293**	P	**P**	**09 36 07.2**	**+0.2**
BW06				IAmb	IAmb	09 36 11.5	
	comp=Z,4.6nm,1.0s						
PDAR	**Pinedale Array**	**53.24**	**293**	P	**P**	**09 36 08.2**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=57,slow=6.1,SNR=23						
PDAR				LR	LR	09 58 45.1	
	comp=Z,148nm,20.6s,baz=24,slow=36						
PDAR	**Pinedale Array**	**53.24**	**293**	P	**P**	**09 36 06.1**	**-0.9**
MA2	**Magadan**	**55.79**	**7**	LR	LR	10 00 30.3	
	comp=Z,39nm,18.2s,baz=130,slow=36						
SONM	**Songino Array**	**59.63**	**40**	P	**P**	**09 36 54.5**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=349,slow=4.6,SNR=2.7						
SONM	**Songino Array**	**59.63**	**40**	IAmb	IAmb	09 36 57.5	
	comp=Z,1.5nm,1.2s						
NVAR	**Mina Array Bea**	**60.36**	**297**	P	**P**	**09 36 59.8**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=65,slow=5.1,SNR=2.0						
NVAR				LR	LR	10 02 46.8	
	comp=Z,195nm,19.6s,baz=25,slow=36						
TXAR	**Lajitas Array**	**62.34**	**280**	P	**P**	**09 37 13.1**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=76,slow=5.3,SNR=4.2						
TXAR				LR	LR	10 03 43.4	
	comp=Z,137nm,18.9s,baz=0.0,slow=36						
KSRS	**Korea Array**	**74.66**	**28**	LR	LR	10 13 18.5	
	comp=Z,18nm,18.0s,baz=200,slow=37						
LSZ	**Lusaka**	**86.86**	**136**	LR	LR	10 19 38.0	
	comp=Z,35nm,20.1s,baz=16,slow=36						

WEL 13 09:34:18.1±1.2**, 32°S**±23°×**17°9E**±3°0**, h459km**±58km**, M3.9**/12**, mB4.4**/6**, MLv4.2**/12**, Mw(mB)3.5**/6**, Error ellipse: s-maj=0.0km s-min=0.0km az=59.2, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**4.94**	**219**	P	P	09 35 43.8	+1.6
WCZ	**Waipu Caves**	**5.37**	**228**	P	P	09 35 45.9	-0.5

WMGZ	Waiomatatini S	5.41 187	P	P	09 35 47.8 +1.1
HAZ	Te Kaha	5.44 193	P	P	09 35 45.4 -1.7
HAZ			S	S	09 36 59.6 -0.1
PKGZ	Pakihiroa	5.52 190	P	P	09 35 48.8 +0.9
RUGZ	Raukumara Rang	5.67 193	P	P	09 35 49.2 -0.2
RUGZ			S	S	09 37 03.1 -1.0
PUZ	Puketiti	5.68 188	P	P	09 35 48.4 -1.1
PUZ			S	S	09 37 03.0 -1.1
TWGZ	Tauwhareparae	5.82 190	P	P	09 35 51.0 +0.2
TWGZ			S	S	09 37 10.7 +3.9
MWZ	Matawai	6.05 193	P	P	09 35 53.1 -0.1
MWZ			S	S	09 37 13.2 +2.2
URZ	Urewera	6.07 196	P	P	09 35 52.3 -1.0
URZ			S	S	09 37 10.5 -0.7
CNGZ	Carnagh Statio	6.09 188	P	P	09 35 53.7 +0.1
TKGZ	Te Karaka	6.10 191	P	P	09 35 54.1 +0.5
TKGZ			S	S	09 37 11.7 -0.1
MUGZ	Murupara	6.36 198	P	P	09 35 56.6 +0.3
RIGZ	Rimuhau	6.37 191	P	P	09 35 56.8 +0.4

NEIC ***13*** *09:40:30.2±1.9, 21°.3S±0°.1×178°.5W±0°.1, h535km±7km, mb4.7/41, Error ellipse: s-maj=17.5km s-min=15.2km az=103.0*

IDC ***13*** *09:40:31.6±2.1, 21°.28S×178°.49W, h546km±22km, mb3.8/17, mb1 3.9/19, mb1mx3.7/39, mbtmp4.7/19, Error ellipse: s-maj=17.8km s-min=12.4km az=59.0*

ISC 13 09:40:30.8±0.5, 21°.22S±0°.06×178°.51W±0°.08, h550km, n161, σ1§49/164, mb4.7/38, 19C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.75 316		P	P	09 41 57.0	-1.8
RAO	Raoul Island	8.01 176		P	P	09 42 29.6	+1.1
	75nm,0.3s,baz=72,slow=12,SNR=5.0						
RAO				S	S	09 44 04.3	-0.8
	48nm,0.3s,baz=112,slow=22,SNR=1.7						
RAO	Raoul Island	8.01 176		P	P	09 42 29.2	+0.7
NIUE	Niue	8.34 77		P	P	09 42 30.6	-1.3
AFI	Afiamalu	9.70 42		P	P	09 42 44.3	-1.6
DZM	Mont Dzumac	14.02 264		P	P	09 43 31.7	+1.4
	1.9nm,0.3s,baz=97,slow=20,SNR=2.8						
DZM	Mont Dzumac	14.02 264		P	P	09 43 30.3	0.0
SANVU	Saraoutou	14.73 291		P	P	09 43 37.3	-0.3
OUZ	Omahuta	15.57 205		P	P	09 43 47.1	+1.2
MXZ	Matakaoa Point	16.52 199		P	P	09 43 55.1	+0.1
TGRZ	Turanga	17.06 194		P	P	09 44 03.0	+3.1
KARZ	Kaharoa	17.34 194		P	P	09 44 05.8	+3.3
MWZ	Matawai	17.39 190		P	P	09 44 02.9	-0.1
URZ	Urewera	17.40 192		P	P	09 44 01.6	-1.3
	2.7nm,0.3s,baz=23,slow=2.9,SNR=17						
URZ				S	S	09 46 48.5	-7.3
	0.4nm,0.3s,baz=162,slow=8.5,SNR=2.5						
URZ	Urewera	17.40 192		P	P	09 44 01.2	-1.7
URZ				IAmb	IAmb	09 44 08.5	
	comp=Z,33nm,1.2s						
TKGZ	Te Karaka	17.44 190		P	P	09 44 04.2	+0.9
RRRZ	Republican Roa	17.59 193		P	P	09 44 06.6	+1.9
MUGZ	Murupara	17.67 192		P	P	09 44 05.7	+0.2
HRRZ	Handcock Road	17.69 194		P	P	09 44 06.9	+1.2
RIGZ	Rimuhau	17.72 190		P	P	09 44 05.5	-0.5
PRRZ	Plateau Road	17.77 193		P	P	09 44 06.8	+0.4
TLZ	Tolley Road	17.81 195		P	P	09 44 10.0	+3.2
WPRZ	Whakapapatarin	17.84 194		P	P	09 44 08.3	+1.2
SNGZ	Shannon Statio	17.86 191		P	P	09 44 07.4	+0.1
KUTZ	Kaahu Road	17.89 195		P	P	09 44 09.2	+1.7
RAHZ	Arahi	18.04 191		P	P	09 44 09.6	+0.7
KNZ	Kokohu	18.04 190		P	P	09 44 09.6	+0.7
MRHZ	Matea Rd	18.09 193		P	P	09 44 09.1	-0.2
HIZ	Hauiti	18.16 197		P	P	09 44 13.5	+3.5
HIZ	Hauiti	18.16 197		P	P	09 44 11.8	+1.9
HIZ				IAmb	IAmb	09 44 25.3	
	comp=Z,22nm,0.8s						
HATZ	Hinemaiaia	18.21 194		P	P	09 44 10.3	-0.2
NMHZ	Naumai	18.27 192		P	P	09 44 10.9	-0.1
BKZ	Black Stump Fm	18.39 192		P	P	09 44 10.9	-1.3
BKZ	Black Stump Fm	18.39 192		P	P	09 44 10.6	-1.5
BKZ				IAmb	IAmb	09 44 22.3	
	comp=Z,13nm,0.7s						
TMVZ	Te Maari	18.51 194		P	P	09 44 14.0	+0.6
ETVZ	East Tongariro	18.53 194		P	P	09 44 14.1	+0.6
TWVZ	Taurewa	18.53 195		P	P	09 44 14.2	+0.7
WTVZ	West Tongariro	18.54 195		P	P	09 44 14.5	+0.9
OTVZ	Oturere	18.57 194		P	P	09 44 13.5	-0.4
NGZ	Ngauruhoe	18.59 194		P	P	09 44 15.5	+1.4
MCHZ	McNeill Hill	18.62 192		P	P	09 44 15.1	+1.0
KWHZ	Kaweka Forest	18.66 192		P	P	09 44 15.0	+0.4
TUVZ	Tukino	18.67 194		P	P	09 44 15.7	+0.9
WAHZ	Wahianoa	18.74 194		P	P	09 44 17.0	+1.5
VRZ	Vera Road	18.76 196		P	P	09 44 18.1	+2.7
BHHZ	Black Hill Sta	18.79 193		P	P	09 44 14.3	-1.5
KRHZ	Kereru	18.88 192		P	P	09 44 16.5	-0.1
KAHZ	Kahuranaki	18.93 191		P	P	09 44 17.6	+0.6
NEZ	North Egmont	19.07 198		P	P	09 44 22.7	+4.3
PXZ	Pawanui	19.16 191		P	P	09 44 19.7	+0.6
PNHZ	Pukenui	19.17 192		P	P	09 44 19.7	+0.5
TSZ	Takapari Road	19.36 193		P	P	09 44 21.4	+0.5
ANWZ	Angora Road	19.65 191		P	P	09 44 24.0	+0.6
BFZ	Birch Farm	19.91 192		P	P	09 44 25.3	-0.5
BFZ	Birch Farm	19.91 192		P	P	09 44 25.3	-0.5
MSWZ	Moikau Station	20.81 193		P	P	09 44 33.1	-0.9
PLWZ	Palliser	20.96 193		P	P	09 44 34.6	-0.8
QRZ	Quartz Range	20.97 199		P	P	09 44 35.3	-0.1
NNZ	Nelson	21.09 197		P	P	09 44 36.8	+0.3
NNZ				IAmb	IAmb	09 44 43.2	
	comp=Z,22nm,1.0s						
BSWZ	Blackbirch Sta	21.42 196		P	P	09 44 39.9	+0.4
THZ	Tophouse	21.72 198		P	P	09 44 42.3	0.0
THZ				IAmb	IAmb	09 44 47.1	
	comp=Z,25nm,1.3s						
KHZ	Kahutara	22.16 196		P	P	09 44 45.6	-0.6
KHZ				IAmb	IAmb	09 44 59.1	
	comp=Z,10nm,0.8s						
LTZ	Lake Taylor	22.84 198		P	P	09 44 51.5	-0.8
LTZ				IAmb	IAmb	09 45 05.1	
	comp=Z,15nm,0.7s						
OXZ	Oxford	23.41 198		P	P	09 44 56.5	-0.7
OXZ				IAmb	IAmb	09 45 07.0	
	comp=Z,9.9nm,0.5s						
MQZ	McQueen's Vall	23.60 196		P	P	09 44 58.1	-0.8
MQZ				IAmb	IAmb	09 44 58.8	
	comp=Z,30nm,1.3s						
RPZ	Rata Peaks	24.05 199		P	P	09 45 02.1	-0.9
	comp=Z,5.4nm,0.5s,baz=360,slow=5.2,SNR=7.4						
RPZ	Rata Peaks	24.05 199		P	P	09 45 02.3	-0.7
RPZ				IAmb	IAmb	09 45 07.6	
	comp=Z,34nm,1.5s						
FOZ	Fox Glacier	24.28 201		P	P	09 45 05.4	+0.5
FOZ				IAmb	IAmb	09 45 18.8	
	comp=Z,23nm,1.1s						
LBZ	Lake Benmore	24.93 199		P	P	09 45 10.1	-0.6
EIDS	Eidsvold	28.20 256		P	P	09 45 40.5	+0.7
EIDS				IAmb	IAmb	09 45 41.9	
	comp=Z,25nm,1.2s						
ARMA	Armidale	28.33 245		P	P	09 45 42.0	+1.1
ARMA				IAmb	IAmb	09 45 44.0	
	comp=Z,16nm,1.1s						
CTA	Charters Tower	32.95 266		P	P	09 46 21.6	+1.0
	comp=Z,17nm,0.4s,baz=92,slow=12,SNR=13						
CTAO	Charters Tower	32.95 266		P	P	09 46 21.3	+0.7
TOO	Toolangi	35.09 234		P	P	09 46 38.7	+0.3
TOO				IAmb	IAmb	09 46 56.0	
	comp=Z,27nm,1.4s						
STKA	Stephens Creek	37.05 245		P	P	09 46 55.7	+1.1
	comp=Z,6.2nm,0.5s,baz=79,slow=11,SNR=17						
STKA	Stephens Creek	37.05 245		P	P	09 46 55.3	+0.7
COEN	Coen	37.16 275		P	P	09 46 56.5	+0.8
BBOO	Buckleboo	41.80 244		P	P	09 47 33.0	+0.2
JAY	Jayapura	43.83 290		P	P	09 47 50.2	+1.4
	comp=Z,22nm,0.5s,baz=143,slow=3.4,SNR=20						
WR0	Warramunga Arr	43.85 263		P	P	09 47 49.2	+0.3
AS31	Alice Springs	43.90 258		P	P	09 47 49.6	+0.3
ASAR	Alice Springs	43.90 258		P	P	09 47 50.1	+0.9
	comp=Z,18nm,0.5s,baz=92,slow=7.8,SNR=362						
ASAR				PcP	PcP	09 49 24.1	+0.9
	comp=Z,3.4nm,0.7s,baz=105,slow=3.9,SNR=7.0						
ASAR				S	S	09 53 37.6	-3.5
	comp=Z,1.9nm,0.9s,baz=94,slow=15,SNR=11						
ASAR	Alice Springs	43.90 258		P	P	09 47 49.4	+0.1
WB0	Warramunga Arr	44.02 263		P	P	09 47 50.4	+0.1
WB2	Warramunga Arr	44.02 263		P	P	09 47 50.5	+0.2
WB2				IAmb	IAmb	09 47 51.6	
	comp=Z,28nm,1.0s						
WRAB	Tennant Creek	44.03 263		P	P	09 47 50.5	+0.1
WRAB				IAmb	IAmb	09 47 51.0	
	comp=Z,17nm,0.8s						
WRA	Warramunga Arr	44.04 263		P	P	09 47 50.5	+0.1
	comp=Z,7.3nm,0.3s,baz=97,slow=7.2,SNR=358						
WRA				PcP	PcP	09 49 25.0	+1.2
	comp=Z,0.8nm,0.5s,baz=91,slow=3.3,SNR=2.9						
WRA				S	S	09 53 38.6	-4.5
	comp=Z,1.1nm,0.9s,baz=104,slow=18,SNR=5.4						
WRA	Warramunga Arr	44.04 263		P	P	09 47 50.1	-0.3
FORT	Forrest	48.58 247		P	P	09 48 24.5	-0.1
FORT				IAmb	IAmb	09 48 25.7	
	comp=Z,27nm,0.7s						
MTN	Manton Dam	48.70 271		P	P	09 48 25.4	-0.3
MTN				IAmb	IAmb	09 48 26.7	
	comp=Z,20nm,0.6s						
KNRA	Kununurra	50.14 267		P	P	09 48 35.8	-0.5
KNRA				IAmb	IAmb	09 48 37.5	
	comp=Z,17nm,0.6s						
FAKI	Fak Fak	51.21 284		P	P	09 48 42.8	-1.3
FITZ	Fitzroy Crossi	52.47 263		P	P	09 48 54.0	+0.9
	comp=Z,6.6nm,0.4s,baz=79,slow=5.4,SNR=44						
FITZ	Fitzroy Crossi	52.47 263		P	P	09 48 52.8	-0.3
SIJI	Sorong	52.97 286		P	P	09 48 58.0	+1.3
	comp=Z,49nm,0.6s,baz=84,slow=6.1,SNR=23						
BATI	Baumata	56.47 272		P	P	09 49 23.3	+2.0
	comp=Z,24nm,0.4s,baz=243,slow=1.6,SNR=4.8						
PSA00	Pilbara Seismi	57.05 257		P	P	09 49 24.5	-0.6
PSA00				IAmb	IAmb	09 49 26.4	
	comp=Z,25nm,0.9s						
VNDA	Vanda	57.15 185		P	P	09 49 27.4	+2.6
	comp=Z,0.6nm,0.5s,baz=14,slow=7.2,SNR=12						
NWAO	Narrogin (SRO)	57.62 244		P	P	09 49 28.4	-0.5
MORW	Morawa	59.12 248		P	P	09 49 39.3	+0.3
GIRL	Giralia	61.90 255		P	P	09 49 57.6	+0.1
QSPA	South Pole Qui	68.85 180		P	P	09 50 42.3	+2.0
QSPA				IAmb	IAmb	09 50 43.3	
	comp=Z,17nm,1.2s						
MJAR	Matsushiro Arr	70.51 324		P	P	09 50 51.2	+0.7
	comp=Z,2.8nm,0.6s,baz=101,slow=11,SNR=5.9						
MJAR	Matsushiro Arr	70.51 324		IAmb	IAmb	09 50 59.6	
	comp=Z,5.0nm,1.3s						
PETK	Petropavlovsk-	76.85 346		P	P	09 51 27.8	+1.8
	comp=Z,1.8nm,0.6s,baz=192,slow=0.9,SNR=11						
KSRS	Korea Array	77.11 319		P	P	09 51 29.2	+1.4
	comp=Z,1.4nm,0.7s,baz=133,slow=6.1,SNR=2.4						
USRK	Ussuriysk Ar.	79.30 326		P	P	09 51 41.7	+2.3
	comp=Z,4.3nm,0.7s,baz=130,slow=3.8,SNR=15						
NJ2	Nanjing	79.98 310		*eP*	P	09 51 41.0	-2.3
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
MAW	Mawson	80.73 200		P	P	09 51 47.6	+1.0
	comp=Z,1.8nm,0.7s,baz=156,slow=2.5,SNR=9.0						
MDJ	Mudanjiang	80.84 325		P	P	09 51 50.3	+2.8
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,360nm,3.8s						
SYO	Syowa Base	85.92 193	↓	*e*P	P	09 52 11.4	-1.0
SYO	Syowa Base	85.92 193	↓	*e*PcP	P	09 52 12.2	-0.2
ILAR	Eielson Array	89.12 13		P	P	09 52 28.4	+1.2
	comp=Z,0.5nm,0.6s,baz=215,slow=5.2,SNR=11						
HHC	Hu-ho-hao-te	89.52 315		*e*P	P	09 52 23.9	-5.9
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				pmax	pmax		
	comp=Z,320nm,6.6s						
CMAR	Chiang Mai Arr	89.91 290		P	P	09 52 34.6	+2.6
	comp=Z,3.4nm,0.7s,baz=133,slow=3.5,SNR=20						
CMAR	Chiang Mai Arr	89.91 290		P	P	09 52 33.8	+1.7
CD2	Chengdu	90.78 303		*e*P	P	09 52 32.4	-3.4
LZH	Lanzhou	92.83 308		*e*P	P	09 52 44.3	-1.0
LZH				pP	pwP	09 54 57.3	+7.9
LZH				sP	sP	09 55 52.3	+12
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
U32A	Winter Ranch,	94.32 53		P	P	09 52 57.0	+5.1
MKAR	Makanchi Array	111.35 313		PKiKP	PKiKP	09 58 02.3	-0.2
	comp=Z,0.4nm,0.5s,baz=81,slow=0.8,SNR=1.9						
ARU	Arti	125.52 325		PKP	PKiKP	09 58 29.9	+0.1
	comp=Z,2.7nm,0.2s,baz=340,slow=8.6,SNR=3.7						
ARCES	ARCESS Array B	129.54 349		PKP	PKiKP	09 58 37.4	-0.1
	comp=Z,1.1nm,0.4s,baz=12,slow=1.4,SNR=18						
FINES	FINESS Array B	136.33 343		PKP	PKPdf	09 58 48.8	-0.8
	comp=Z,0.6nm,0.3s,baz=14,slow=2.3,SNR=6.1						
NB2	NORSAR Subarra	139.64 353		PKP	PKPdf	09 58 49.0	-6.7
	comp=Z,0.4nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	139.64 353		PKhKP	PKPpre	09 58 50.7	
	comp=Z,0.4nm,0.5s,baz=8.5,slow=4.0,SNR=4.3						
AKASG	Malin Array Be	143.41 330		PKP	PKPdf	09 59 01.6	-1.1
	comp=Z,8.7nm,0.4s,baz=42,slow=4.3,SNR=45						
AKASG	Malin Array Be	143.41 330			PKPbc	09 59 01.2	-0.1
BZK	Bozkurt	145.75 315	↑	P	PKPbc	09 59 08.8	+0.1
ILGA	Ilgaz	146.34 313			PKPab	09 59 12.7	-0.4
BR131	Keskin Array S	146.96 311			PKiKP	09 59 13.2	-0.9
BRTR	Keskin Array B	146.96 311		PKPbc	PKPbc	09 59 12.2	-0.1
	comp=Z,2.8nm,0.6s,baz=145,slow=4.2,SNR=12						
BRTR	Keskin Array B	146.96 311			PKiKP	09 59 12.8	-1.4
TLCR		147.21 323	↑	P	PKPbc	09 59 11.5	-1.0
BURAR	Bucovina Array	147.45 330	↓	P	PKiKP	09 59 14.7	-0.1
BURAR	Bucovina Array	147.45 330			PKiKP	09 59 14.7	-0.1
BIZ	Bicaz	147.50 328	↑	P	PKPab	09 59 15.5	-1.7
VRI	Vrincioaia	147.90 326	↑	P	PKiKP	09 59 15.2	-0.5
HARR	Harsova	148.01 323	↑	P	PKiKP	09 59 16.1	+0.2
OSTC	Ostas	148.51 342	↑	*e*PKP	PKiKP	09 59 17.6	+0.8
DOPR	Dopca	148.52 327	↑	P	PKiKP	09 59 17.5	+0.5
MLR	Muntele Rosu	148.56 326	↑	P	PKiKP	09 59 17.4	+0.2
MLR	Muntele Rosu	148.56 326			PKPbc	09 59 16.1	0.0
CLL	Collm	148.65 346	↓	*i* PKPbc	PKiKP	09 59 17.4	+0.4
	comp=Z,7.0nm,0.6s						
CLL				*e*PKPab	PKPab	09 59 23.0	+1.2
	comp=Z,4.0nm,0.5s						
DPC	Dobruska-Polom	148.66 342	↑	*e*PKP	PKiKP	09 59 17.6	+0.4
KRLC	Kraliky	148.77 341	↑	*e*PKP	PKiKP	09 59 17.9	+0.5
MORC	Moravsky Berou	148.79 340	↓	P	PKPab	09 59 23.8	+1.3
BRG	Berggiesshubel	148.83 345		*e*PKP	PKiKP	09 59 17.6	+0.2
	comp=Z,2.8nm,0.8s						
VOIR		149.06 327	↑	P	PKiKP	09 59 18.6	+0.4
ARR	Arges	149.32 327	↑	P	PKiKP	09 59 20.0	+1.2
VYHS	Vyhne	149.44 337		*e*PKP	PKiKP	09 59 19.5	+0.7
PRU	Pruhonice	149.49 343	↑	*e*PKP	PKiKP	09 59 19.4	+0.6
GOPC	GO Pecny, Ondr	149.49 343	↑	*e*PKP	PKiKP	09 59 19.6	+0.7
SIRR	Siria	150.08 331	↑	P	PKPbc	09 59 19.4	-0.3
MODS	Modra-Piesok	150.09 339		*e*PKP	PKiKP	09 59 20.6	+0.4
GZR	Gura Zlata	150.22 329	↑	P	PKiKP	09 59 21.2	+0.6
KHC	Kasperske Hory	150.53 344	↑	*e*PKP	PKiKP	09 59 22.1	+1.0
BZS	Buzias	150.60 331	↑	P	PKiKP	09 59 21.4	+0.1
GERES	GERESS Array B	150.76 343		PKPbc	PKiKP	09 59 22.6	+0.9
	comp=Z,2.0nm,0.6s,baz=42,slow=2.2,SNR=11						
GERES	GERESS Array B	150.76 343			PKiKP	09 59 22.3	+0.7
HERR	Herculane	150.77 329	↑	P	PKiKP	09 59 21.6	0.0
TORD	Torodi Ar. Bea	171.97 181		PKP	PKPdf	09 59 36.4	-1.0
	comp=Z,0.5nm,0.7s,baz=277,slow=0.9,SNR=3.0						
TORD				PKPab	PKPab	10 01 04.3	+0.4
	comp=Z,2.0nm,1.2s,baz=167,slow=5.5,SNR=3.9						

IDC 13 09:53:19.1±3.0, 53°.62N×87°.86E, h0km, mb1 3.0/2, mb1mx2.9/50, mbtmp3.0/2, ML2.8/2, 1C-4D, Error ellipse: s-maj=26.3km s-min=15.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.83 281		*i*		10 06 10.0	
	baz=95,slow=314,SNR=2.0						
ZAA0	Zalesovo Array	1.83 281		↓P	Pb	09 53 52.6	-0.8
	0.7nm,0.5s						
ZAA0				↑S	Sg	09 54 17.4	-0.4
	2.0nm,0.4s						
ZALV	Zalesovo Beam	1.83 281		Pg	Pn	09 53 52.3	+0.6
	2.5nm,0.3s,baz=101,slow=15,SNR=19						
ZALV				Lg	Lg	09 54 16.4	
	4.3nm,0.3s,baz=103,slow=26,SNR=24						
KURBB	Kurchatov Arra	6.48 246		Pn	Pn	09 54 56.5	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=6.1						
KURBB				Lg	Lg	09 56 45.1	
	0.2nm,0.3s,baz=64,slow=32,SNR=9.3						
MK31	Makanchi Array	7.71 210		↓Pn	Pn	09 55 14.0	+1.5
	0.3nm,0.5s,baz=28,slow=13,SNR=11						
MK31				↓Sn	Sn	09 56 43.1	+2.6
	1.3nm,0.9s,baz=33,slow=22,SNR=4.1						
MK31				↓Lg	Lg	09 57 28.6	
	1.7nm,0.7s,baz=18,slow=31,SNR=4.4						
MKAR	Makanchi Array	7.71 210		Pn	Pn	09 55 13.7	+1.1
	0.2nm,0.3s,baz=28,slow=13,SNR=7.8						
MKAR				Sn	Sn	09 56 40.0	-0.6
	0.1nm,0.3s,baz=28,slow=19,SNR=5.1						
MKAR				Lg	Lg	09 57 23.1	
	0.1nm,0.3s,baz=33,slow=30,SNR=2.8						

IDC 13 10:01:08.7±10.0, 7°.39N×93°.41E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.6/4, MS3.3/2, Ms1 3.4/2, ms1mx2.7/45, Error ellipse: s-maj=541.8km s-min=24.6km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	12.25 26		LR	LR	10 08 53.8	
	comp=Z,87nm,18.4s,baz=218,slow=38						
H08S3	Diego Garcia H	25.65 235		T	T	10 33 33.1	
	baz=55,slow=75,SNR=23						
H08S2	Diego Garcia H	25.65 235		T	T	10 33 31.4	
	baz=55,slow=75,SNR=24						
H08S1	Diego Carcia H	25.67 235		T	T	10 33 34.5	
	baz=55,slow=75,SNR=4.5						
MKAR	Makanchi Array	40.41 348		P	P	10 08 48.4	-0.2
	1.0nm,0.6s,baz=161,slow=7.6,SNR=8.9						
ZALV	Zalesovo Beam	46.95 353		P	P	10 09 41.0	0.0
	0.5nm,0.3s,baz=179,slow=6.6,SNR=3.1						
WRA	Warramunga Arr	48.58 125		P	P	10 09 54.1	-0.1
	0.4nm,0.6s,baz=308,slow=8.3,SNR=5.0						
ASAR	Alice Springs	50.17 129		P	P	10 10 06.3	-0.1
	0.3nm,0.6s,baz=299,slow=7.5,SNR=5.4						
FINES	FINESS Array B	72.80 332		LR	LR	10 45 52.6	
	comp=Z,25nm,21.3s,baz=83,slow=37						

IDC 13 10:05:30.3±2.4, 3°.19N×64°.06E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.3/43, mbtmp3.7/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/44, Error ellipse: s-maj=69.9km s-min=55.8km az=41.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	Alibeck	35.00 352		LR	LR	10 26 54.5	
	comp=Z,45nm,18.1s,baz=55,slow=37						
CMAR	Chiang Mai Arr	37.36 63		P	P	10 12 44.9	-0.1
	1.0nm,0.3s,baz=252,slow=8.4,SNR=4.1						
CMAR				LR	LR	10 27 33.3	
	comp=Z,56nm,18.9s,baz=232,slow=35						
KBZ	Khabaz	44.51 338		LR	LR	10 33 10.5	
	comp=Z,37nm,18.9s,baz=150,slow=37						
BRTR	Keskin Array B	45.63 327		LR	LR	10 33 08.5	
	comp=Z,27nm,18.9s,baz=125,slow=36						
MKAR	Makanchi Array	46.23 17		LR	LR	10 33 31.7	
	comp=Z,54nm,18.3s,baz=175,slow=36						
ZALV	Zalesovo Beam	53.38 15		LR	LR	10 36 16.7	
	comp=Z,40nm,20.9s,baz=230,slow=35						
SONM	Songino Array	57.45 33		LR	LR	10 40 17.4	
	comp=Z,73nm,18.0s,baz=212,slow=36						
TORD	Torodi Ar. Bea	62.37 283		LR	LR	10 44 24.9	
	comp=Z,23nm,18.4s,baz=185,slow=37						
NRIK	Noril'sk	67.87 9		LR	LR	10 47 49.4	
	comp=Z,27nm,18.8s,baz=200,slow=37						
WRA	Warramunga Arr	72.65 112		P	P	10 17 00.2	-0.2
	0.4nm,0.8s,baz=286,slow=5.4,SNR=3.0						
ASAR	Alice Springs	72.94 116		P	P	10 17 02.5	+0.3
	0.6nm,0.8s,baz=287,slow=6.0,SNR=4.7						
TXAR	Lajitas Array	145.58 341		PKPbc	PKPdf	10 25 10.7	-0.8
	0.3nm,0.7s,baz=2.3,slow=2.3,SNR=3.6						

MAN 13 10:13:23.8, 10°.33N×125°.10E, h6km, mb4.2, ML3.0, MS2.7, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	0.31 231		*e*P	Pb	10 13 31.1	-0.7
MSLP				*e*S	Sb	10 13 38.9	+1.8
OCLP	Ormoc	0.86 326		*e*P	Pg	10 13 40.0	-0.4
OCLP				*e*S	Sn	10 13 58.4	+2.9
LLP	Lapu-Lapu	1.12 269		*e*P	Pg	10 13 44.9	-0.4
LLP				*e*S	Sn	10 14 01.4	-0.4
BESP	Borongan	1.30 15		*e*P	Pn	10 13 47.3	-1.3
BESP				*e*S	Sn	10 14 07.3	+1.0
TBP	Tagbilaran	1.38 243		*e*P	Pn	10 13 49.5	0.0
BUKP	Musuan	2.44 181		*e*P	Pn	10 14 03.6	-0.6
BUKP				*e*S	Sb	10 14 37.5	-1.0
CNOP	Candoni, Negro	2.48 259		*e*P	Pn	10 14 04.8	0.0
CNOP				*e*S	Sn	10 14 36.9	+1.6
OTRP	Odiongan	3.63 304		*e*P	Pn	10 14 21.2	+0.6

NEIC ***13*** *10:20:24.8±1.5, 5°.39S±0°.05×152

HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,5.3s						
LZH	**Lanzhou**	**61.30**	**316**	*eP*	**P**	**10 30 37.6**	**-0.1**
LZH				pP	sP	10 30 56.6	+1.2
LZH				sP	PcP	10 31 05.5	-14
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
GTA	**Gaotai**	**65.75**	**318**	*eP*	**P**	**10 31 08.1**	**+1.1**
GTA				pP	pP	10 31 19.9	+0.1
GTA				sP	sP	10 31 25.3	+0.5
SONM	**Songino Array**	**66.57**	**328**	P	**P**	**10 31 12.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=156,slow=3.1,SNR=6.2						
WMQ	**Urumqi**	**75.83**	**318**	*eP*	**P**	**10 32 08.3**	**+0.2**
MK31	**Makanchi Array**	**80.44**	**319**	P	**P**	**10 32 30.3**	**-3.2**
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**10 32 33.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=110,slow=5.3,SNR=7.9						
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**10 32 31.8**	**-1.8**
ZALV	**Zalesovo Beam**	**81.38**	**326**	P	**P**	**10 32 38.0**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=119,slow=4.9,SNR=4.9						
ZALV				LR	LR	11 08 27.6	
	comp=Z,25nm,20.6s,baz=70,slow=35						
ZALV	**Zalesovo Beam**	**81.38**	**326**	P	**P**	**10 32 37.1**	**-1.1**
IL31		**82.98**	**22**	P	**P**	**10 32 44.1**	**-2.2**
IL31				IAmb	IAmb	10 32 47.3	
	comp=Z,5.4nm,0.8s						
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**10 32 46.4**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=246,slow=5.5,SNR=36						
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**10 32 45.0**	**-1.5**
RIDG	**Independent Ri**	**83.28**	**24**	P	**P**	**10 32 46.4**	**-1.7**
TABL	**Table Mountain**	**83.47**	**27**	P	**P**	**10 32 48.7**	**-0.6**
BARN	**Barnard Glacie**	**83.48**	**27**	P	**P**	**10 32 48.3**	**-1.1**
DOT	**Dot Lake**	**83.56**	**24**	P	**P**	**10 32 48.6**	**-0.9**
DOT				IAmb	IAmb	10 32 51.8	
	comp=Z,10nm,1.0s						
CTGM	**Chitina Glacie**	**83.59**	**27**	P	**P**	**10 32 48.6**	**-1.3**
TOLK	**Toolik Lake Re**	**84.01**	**18**	P	**P**	**10 32 49.8**	**-2.0**
TOLK				IAmb	IAmb	10 33 09.0	
	comp=Z,8.5nm,1.4s						
BCAR	**Beaver Creek A**	**84.24**	**25**	P	**P**	**10 32 50.8**	**-2.2**
EGAK	**Eagle**	**85.18**	**23**	P	**P**	**10 32 56.4**	**-1.2**
EGAK				IAmb	IAmb	10 33 01.4	
	comp=Z,13nm,1.4s						
HYT	**Haines Junctio**	**85.28**	**28**	P	**P**	**10 32 57.1**	**-1.3**
DAWY	**Dawson**	**85.62**	**24**	P	**P**	**10 32 58.6**	**-1.3**
DAWY				IAmb	IAmb	10 33 03.6	
	comp=Z,6.9nm,1.2s						
KKAR	**Karatay Array**	**87.66**	**314**	P	**P**	**10 33 10.0**	**-0.3**
CHGR	**Chuyangaron**	**87.97**	**309**	P	P	10 33 06.5	-5.5
CHGR				IAmb	IAmb	10 33 22.9	
	comp=Z,5.1nm,0.8s						
NVAR	**Mina Array Bea**	**92.94**	**52**	P	**P**	**10 33 37.8**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=222,slow=3.6,SNR=6.7						
NVAR				LR	LR	11 08 06.4	
	comp=Z,49nm,20.4s,baz=246,slow=31						
RPN	**Rapa Nui**	**95.01**	**118**	LR	LR	11 11 32.5	
	comp=Z,336nm,19.1s,baz=285,slow=32						
PDAR	**Pinedale Array**	**99.71**	**48**	P	**Pdif**	**10 34 06.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=246,slow=4.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**149.96**	**287**	PKPbc	**PKPbc**	**10 40 12.9**	**0.0**
	comp=Z,3.8nm,0.9s,baz=54,slow=2.4,SNR=12						
TORD	**Torodi Ar. Bea**	**149.96**	**287**		**PKPbc**	**10 40 13.1**	**+0.1**

ATA ***13*** *10:22:46.6±0.7, 39.°09N×37.°57E, h0km±32km, ML2.0, MW3.6*
ISK ***13*** *10:22:46.6, 39.°01N×37.°31E, h4km, ML2.2/11, Suspected Mining explosion.*
ISC 13 10:22:46.0±0.9, 39.°03N±0.°04×37.°39E±0.°03, h0km, n19, σ0s63/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.46**	**171**	PG	**Pg**	**10 22 55.9**	**+1.1**
DARE				SG	**Sb**	**10 23 03.1**	**-1.4**
ARPR	**Arapgir-MALATY**	**0.74**	**84**	PG	**Pb**	**10 23 02.5**	**+0.6**
KEMA	**Kemaliye**	**0.89**	**74**	*eP*	**Pg**	**10 23 02.1**	**-1.0**
KEMA				*eS*	**Sg**	**10 23 13.7**	**-1.0**
KEMA				IAML		10 23 18.9	
	comp=Z,8.9nm,0.5s						
SVSK	**Karacayir**	**0.94**	**341**	PG	**Pb**	**10 23 05.3**	**+0.1**
SARI	**SarD1z-Kayseri**	**0.98**	**231**	PG	**Pg**	**10 23 04.9**	**+0.1**
ILIC	**ilic-Erzincan**	**1.01**	**65**	PG	**Pn**	**10 23 07.9**	**+0.3**
MALT	**Malatya**	**1.08**	**131**	PN	**Pn**	**10 23 08.7**	**+0.2**
BNN	**Bunyan**	**1.22**	**262**	PN	**Pg**	**10 23 08.9**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.37**	**358**	PN	**Pb**	**10 23 13.4**	**+0.8**
TOKT	**Tokat**	**1.45**	**334**	PN	**Pn**	**10 23 13.9**	**+0.3**
KMRS	**Kahramanmaras**	**1.56**	**194**	PN	**Pn**	**10 23 15.3**	**+0.1**
PTK	**Pertek**	**1.57**	**94**	PN	**Pb**	**10 23 16.3**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.63**	**113**	PN	**Pg**	**10 23 17.8**	**+0.5**
TNCL	**Tunceli-Merkez**	**1.68**	**86**	*eP*	**Pn**	**10 23 16.6**	**-0.2**
TNCL				*eS*	**Sb**	**10 23 40.1**	**+0.5**
TNCL				IAML		10 23 55.1	
	comp=Z,23nm,0.9s						
YOZ	**Yozgat**	**1.72**	**292**	PN	**Pn**	**10 23 17.3**	**-0.1**
KELT	**Kelkit**	**1.83**	**51**	*eP*	**Pn**	**10 23 18.8**	**-0.2**
KELT				*eS*	**Sg**	**10 23 45.4**	**+0.7**
KELT				IAML		10 23 47.7	
	comp=Z,12nm,0.7s						
URFA	**Urfa**	**1.94**	**144**	PN	**Pb**	**10 23 21.8**	**-0.6**
KOZT	**Kozan**	**1.97**	**219**	PN	**Pn**	**10 23 20.8**	**+0.1**
CMRD	**Camardi-Nigde**	**2.33**	**235**	PN	**Pn**	**10 23 26.0**	**+0.3**

IDC ***13*** *10:23:51.2±1.4, 5.°55S×152.°33E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/31, mbtmp3.8/6, ML1.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/35, Error ellipse: s-maj=39.8km s-min=16.4km az=108.0*
ISC 13 10:23:56.5±1.4, 5.°58S±0.°09×152.°3E±0.°2, h40km, n9, σ1s63/11, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.30**	**347**	Pn	**Pn**	**10 24 18.1**	**-0.1**
	351nm,0.3s,baz=156,slow=1.4,SNR=34						
KRVT				Sn	**Sn**	**10 24 35.1**	**+0.7**
	277nm,0.3s,baz=181,slow=23,SNR=9.1						
PMG	**Port Moresby**	**6.38**	**233**	Pn	**Pn**	**10 25 26.3**	**-1.7**
	1.4nm,0.3s,baz=194,slow=22,SNR=1.7						
PMG				Sn	**Sn**	**10 26 42.0**	**+2.4**
	1.1nm,0.3s,baz=17,slow=21,SNR=3.1						
WRA	**Warramunga Arr**	**22.58**	**229**	P	**P**	**10 28 54.4**	**+0.7**
	0.9nm,0.7s,baz=53,slow=10.0,SNR=5.7						
WRA				PcP	**PcP**	**10 32 48.7**	**+2.6**
	0.2nm,0.7s,baz=34,slow=1.9,SNR=1.7						
ASAR	**Alice Springs**	**25.26**	**223**	P	**P**	**10 29 20.4**	**+1.3**
	1.2nm,0.7s,baz=51,slow=9.6,SNR=7.7						
FITZ	**Fitzroy Crossi**	**28.88**	**242**	P	**P**	**10 29 50.4**	**-1.2**
	1.3nm,0.7s,baz=51,slow=8.6,SNR=2.0						
PPT	**Papeete**	**57.94**	**107**	LR	LR	10 55 12.2	
	comp=Z,41nm,18.6s,baz=22,slow=32						
SONM	**Songino Array**	**66.73**	**328**	P	**P**	**10 34 42.4**	**-1.4**
	0.6nm,0.8s,baz=107,slow=9.7,SNR=2.3						
ILAR	**Eielson Array**	**83.06**	**22**	P	**P**	**10 36 17.6**	**0.0**
	1.0nm,0.6s,baz=247,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**150.09**	**287**	PKPbc	**PKiKP**	**10 43 44.5**	**-0.3**
	0.5nm,0.7s,baz=81,slow=2.8,SNR=2.5						

BEO ***13*** *10:27:48.2±1.5, 41.°98N×19.°60E, h0km, ML2.0/2*
BUC 13 10:27:41.3±0.3, 45.°82N×21.°70E, h5km±2km, ml2.0/7, 17C-3D, Error ellipse: s-maj=3.4km s-min=1.6km az=79.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZS	**Buzias**	**0.21**	**196**	↑P	Pg	10 27 45.1	-0.3
BZS	**Buzias**	**0.21**	**196**	↑P	Pg	10 27 45.1	-0.3
SIRR	**Siria**	**0.45**	**357**	↓P	Pg	10 27 49.9	-0.1
SIRR				↑S	Sg	10 27 56.5	+0.5
SIRR	**Siria**	**0.45**	**357**	↓P	Pg	10 27 49.9	-0.1
SIRR				↑S	Sg	10 27 56.5	+0.5
GZR	**Gura Zlata**	**0.87**	**119**	↑P	Pg	10 27 57.2	-0.7
GZR				↑S	Sb	10 28 10.6	-0.3
GZR	**Gura Zlata**	**0.87**	**119**	↑P	Pg	10 27 57.2	-0.7
MDVR	**Moldovita**	**1.04**	**179**	↑P	Pg	10 28 01.3	+0.2
MDVR				↓S	Sb	10 28 15.8	+0.2
MDVR	**Moldovita**	**1.04**	**179**	↑P	Pg	10 28 01.3	+0.2
HERR	**Herculane**	**1.06**	**151**	↑P	Pb	10 28 02.0	-0.2
HERR				↑S	Sb	10 28 16.6	+0.2
HERR	**Herculane**	**1.06**	**151**	↑P	Pb	10 28 02.0	-0.2
LOT	**Lotru**	**1.50**	**104**	↑P	Pb	10 28 09.8	+0.1
LOT				↑S	Sg	10 28 30.1	+0.6
LOT	**Lotru**	**1.50**	**104**	↑P	Pb	10 28 09.8	+0.1
ZAGS	**Zajecar**	**2.04**	**169**	*ePn*	Pg	10 28 33.0	+13
GRUS	**Gruza**	**2.05**	**200**	*ePn*	Pg	10 28 22.1	+1.5
GRUS				*eSn*	Sg	10 28 50.9	+3.7
DIVS	**Divibare**	**2.10**	**216**	*ePn*	Pg	10 28 25.7	+4.1
BOVS	**Bovan**	**2.18**	**180**	*ePn*	Pg	10 28 27.8	+4.7
VOIR		**2.38**	**98**	↑S	Sn	10 28 50.9	+0.2
VOIR		**2.38**	**98**	↑S	Sn	10 28 50.9	+0.2
ZAPS	**Zavoj**	**2.63**	**165**	*ePn*	Pg	10 28 31.1	-0.6
ZAPS				*eSn*	Sb	10 29 03.5	+2.0

ATA ***13*** *10:43:41.3±0.8, 39.°89N×40.°70E, h2km±13km, ML1.8, MW4.2*
DDA ***13*** *10:43:44.8, 40.°04N×40.°62E, h6km±3km, ML1.1*
ISC 13 10:43:39.0±2.6, 39.°7N±0.°1×40.°81E±0.°08, h10km, n7, σ1s25/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMRE	**Erzurum,Aziziy**	**0.32**	**24**	*eP*	**Pb**	**10 43 46.9**	**0.0**
EMRE				IAML		10 43 58.5	
	comp=Z,67nm,0.4s						
EMRE	**Erzurum,Aziziy**	**0.32**	**24**	*iP*	**Pn**	**10 43 48.6**	**-1.4**
EMRE				*iS*	**Sb**	**10 43 54.7**	**+2.5**
KOPT	**Kop Dagi**	**0.36**	**319**	*eP*	**Pg**	**10 43 46.6**	**+0.3**
KOPT				*eS*	**Sg**	**10 43 50.1**	**-1.1**
KOPT				IAML		10 43 51.2	
	comp=Z,82nm,0.3s						
KOPT	**Kop Dagi**	**0.36**	**319**	*iP*	**Pg**	**10 43 46.8**	**+0.4**
KOPT				IAML		10 43 50.0	
	comp=E,103nm,0.2s						
KOPT				*iS*	**Sg**	**10 43 50.3**	**-1.0**
KOPT				IAML		10 43 51.0	
	comp=N,99nm,0.6s						
KRIK	**Erzurum-spir**	**0.60**	**9**	*eP*	**Pb**	**10 43 51.9**	**+0.1**
KRIK				IAML		10 44 02.3	
	comp=Z,331nm,0.1s						
KRIK	**Erzurum-spir**	**0.60**	**9**	*iP*	**Pn**	**10 43 52.7**	**-1.2**
KELT	**Kelkit**	**1.26**	**289**	*iP*	**Pg**	**10 44 03.9**	**+0.7**
KELT				IAML		10 44 13.0	
	comp=E,5.1nm,1.5s						
KELT				IAML		10 44 16.0	
	comp=N,3.9nm,1.2s						
KELT				*iS*	**Sg**	**10 44 20.1**	**+0.5**

IDC ***13*** *11:01:10.3±1.4, 2.°49N×127.°61E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/48, mbtmp4.0/5, Error ellipse: s-maj=88.0km s-min=22.8km az=70.0*
ISC 13 11:01:19.3±1.0, 2.°2N±0.°1×127.°1E±0.°4, h63km, n9, σ1s59/14, mb4.1/4, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**4.08**	**341**	*eP*	**Pn**	**11 02 18.9**	**-0.4**
DDMP				*eS*	**Sn**	**11 03 03.3**	**-2.5**
SKMP	**Bagumbayan, Su**	**4.95**	**330**	*eP*	**Pn**	**11 02 31.6**	**+0.5**
SKMP				*eS*	**Sn**	**11 03 24.8**	**-2.3**
KCP	**Kidapawan**	**5.14**	**338**	↓*iP*	**Pn**	**11 02 37.2**	**+3.3**
BUKP	**Musuan**	**5.96**	**341**	*eP*	**Pn**	**11 02 46.1**	**+1.1**
BUKP				*eS*	**Sn**	**11 03 53.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**20.24**	**184**	P	**P**	**11 05 50.4**	**+0.8**
	1.5nm,0.6s,baz=24,slow=10,SNR=7.6						
WRA	**Warramunga Arr**	**23.16**	**162**	P	**P**	**11 06 19.9**	**-0.7**
	3.7nm,0.5s,baz=343,slow=11,SNR=95						
WRA				PcP	**PcP**	**11 10 06.7**	**-0.7**
	0.2nm,0.4s,baz=335,slow=2.1,SNR=4.8						
ASAR	**Alice Springs**	**26.58**	**166**	P	**P**	**11 06 51.4**	**-0.4**
	1.1nm,0.5s,baz=347,slow=7.5,SNR=36						
ASAR				PcP	**PcP**	**11 10 14.3**	**-0.6**
	0.5nm,0.6s,baz=346,slow=2.3,SNR=8.7						
STKA	**Stephens Creek**	**36.62**	**159**	P	**P**	**11 08 19.2**	**-0.4**
	4.2nm,0.8s,baz=0.2,slow=8.2,SNR=5.3						
MKAR	**Makanchi Array**	**58.97**	**326**	P	**P**	**11 11 12.9**	**+0.5**
	0.7nm,0.4s,baz=124,slow=7.6,SNR=5.8						

ATA ***13*** *11:01:47.2±0.8, 38.°63N×43.°21E, h14km±7km, ML2.1, MW4.1*
ISK ***13*** *11:01:47.5, 38.°65N×43.°19E, h5km, ML2.3/8*
DDA ***13*** *11:01:48.7, 38.°58N×43.°17E, h7km±3km, ML2.0*
ISC 13 11:01:48.3±0.9, 38.°62N±0.°03×43.°18E±0.°03, h13km±7km, n21, σ0s95/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**99**	PG	**Pg**	**11 01 52.7**	**+0.4**
VANB				SG	**Sg**	**11 01 56.0**	**+0.9**
TVAN	**Van**	**0.20**	**118**	*eP*	**Pg**	**11 01 52.3**	**-0.6**
TVAN				*eS*	**Sg**	**11 01 55.9**	**-0.2**
TVAN				IAML		11 01 57.2	
	comp=Z,614nm,0.3s						
TVAN	**Van**	**0.20**	**118**	*iP*	**Pg**	**11 01 52.6**	**-0.3**
TVAN				IAML		11 01 56.0	
	comp=E,1μm,0.2s						
TVAN				IAML		11 01 56.0	
	comp=N,2μm,0.3s						
TVAN				*iS*	**Sg**	**11 01 56.3**	**+0.2**
GEVA	**Gevas**	**0.32**	**197**	*eP*	**Pg**	**11 01 54.7**	**-0.3**
GEVA				*eS*	**Sb**	**11 02 00.7**	**-0.6**
GEVA				IAML		11 02 02.4	
	comp=Z,192nm,0.3s						
GEVA	**Gevas**	**0.32**	**197**	*iP*	**Pg**	**11 01 54.9**	**-0.2**
GEVA				IAML		11 02 01.0	
	comp=N,174nm,0.5s						
GEVA				*iS*	**Sb**	**11 02 01.7**	**+0.4**
GEVA				IAML		11 02 04.0	
	comp=E,222nm,0.5s						
AKDM	**Akdamar-Van**	**0.33**	**208**	PG	**Pg**	**11 01 55.2**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.40**	**298**	*iP*	**Pb**	**11 01 57.2**	**-0.2**
ADCV				*iS*	**Sb**	**11 02 04.0**	**+0.4**
ADCV				IAML		11 02 05.0	
	comp=N,172nm,0.4s						
ADCV				IAML		11 02 08.0	
	comp=E,171nm,0.7s						
VMUR	**Van-Muradiye**	**0.48**	**40**	*iP*	**Pb**	**11 01 58.4**	**-0.3**
VMUR				*iS*	**Sb**	**11 02 06.4**	**+0.6**
VMUR				IAML		11 02 07.0	
	comp=N,448nm,0.3s						
VMUR				IAML		11 02 07.0	
	comp=E,403nm,0.8s						
MLAZ	**Malazgirt-MUS**	**0.71**	**317**	PG	**Pb**	**11 02 01.9**	**-0.9**
CLDR	**Caldiran**	**0.78**	**48**	PG	**Pg**	**11 02 01.8**	**-1.6**
BLIS	**Bitlis-Merkez**	**0.86**	**256**	*eP*	**Pg**	**11 02 04.6**	**-0.4**
BLIS				IAML		11 02 18.1	
	comp=Z,44nm,0.3s						
BLIS	**Bitlis-Merkez**	**0.86**	**256**	*iP*	**Pb**	**11 02 04.8**	**-0.4**
BLIS				*iS*	**Sg**	**11 02 16.0**	**-0.3**
BLIS				IAML		11 02 17.0	
	comp=N,81nm,0.3s						
BLIS				IAML		11 02 18.0	
	comp=E,58nm,0.4s						
BASK	**Baskale_VAN**	**0.86**	**131**	*eP*	**Pg**	**11 02 03.3**	**-1.8**
BASK				*eS*	**Sb**	**11 02 17.6**	**+0.7**
BASK				IAML		11 02 22.9	
	comp=Z,23nm,0.5s						
BASK	**Baskale_VAN**	**0.86**	**131**	*iP*	**Pg**	**11 02 03.8**	**-1.2**
BASK				*iS*	**Sb**	**11 02 17.9**	**+1.1**
BASK				IAML		11 02 18.0	
	comp=N,43nm,0.4s						
BASK				IAML		11 02 21.0	
	comp=E,38nm,0.2s						
GURO	**Guroymak-BITLI**	**0.90**	**266**	PG	**Pg**	**11 02 05.1**	**-0.7**
AGRB	**Hanur-Agry**	**0.96**	**351**	PG	**Pb**	**11 02 06.2**	**-0.8**
MUSM	**Mu-Merkez**	**1.31**	**275**	*iP*	**Pg**	**11 02 12.8**	**-0.8**
EATA	**Eleskirt**	**1.35**	**337**	*eP*	**Pg**	**11 02 13.6**	**-0.7**
EATA				*eS*	**Sn**	**11 02 33.6**	**+2.4**
EATA				IAML		11 02 35.2	
	comp=Z,8.9nm,0.4s						
EATA	**Eleskirt**	**1.35**	**337**	*iP*	**Pg**	**11 02 14.1**	**-0.3**
EATA				*iS*	**Sn**	**11 02 32.8**	**+1.6**
EATA				IAML		11 02 35.0	
	comp=N,44nm,0.5s						
EATA				IAML		11 02 35.0	
	comp=E,22nm,0.4s						
SVAN	**Silvan-Diyarba**	**1.63**	**254**	PN	**Pb**	**11 02 17.9**	**-0.4**
BNGB	**Bingl**	**1.99**	**281**	PN	**Pb**	**11 02 23.0**	**-1.5**

IDC 13 11:07:11.1±2.8, 6.°65S×129.°60E, h145km±39km, mb3.3/1, mb1 3.0/5, mb1mx2.9/40, mbtmp3.4/5, Error ellipse: s-maj=64.0km s-min=21.0km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.97**	**16**	P	Pn	11 08 37.5	+0.1
	0.4nm,0.3s,baz=287,slow=23,SNR=8.7						
FITZ	**Fitzroy Crossi**	**12.02**	**198**	P	Pn	11 09 58.3	+0.5
	0.1nm,0.3s,baz=33,slow=14,SNR=7.6						
FITZ				S	Sn	11 12 02.5	-8.1
	0.1nm,0.3s,baz=180,slow=15,SNR=1.2						
WRA	**Warramunga Arr**	**14.00**	**161**	P	Pn	11 10 22.4	-0.7
	0.2nm,0.3s,baz=339,slow=13,SNR=8.4						
WRA				S	Sn	11 12 48.3	-10
	0.3nm,0.3s,baz=334,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**17.42**	**167**	P	Pn	11 11 05.0	-0.3
	0.1nm,0.3s,baz=354,slow=13,SNR=7.3						
MKAR	**Makanchi Array**	**67.71**	**327**	P	P	11 17 52.6	-0.2
	0.5nm,0.5s,baz=110,slow=7.8,SNR=3.5						

IDC ***13*** *11:08:12.6±7.1, 17.°25S×168.°77E, h254km±54km, mb3.3/5, mb1 3.4/6, mb1mx3.1/35, mbtmp3.9/6, Error ellipse: s-maj=72.8km s-min=47.3km az=17.0*
ISC 13 11:08:12.5±2.9, 17.°2S±0.°1×168.°7E±0.°4, h250km, n6, σ1s33/9, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.29**	**204**	P	**Pn**	**11 09 33.3**	**+1.3**
	0.6nm,0.3s,baz=352,slow=19,SNR=16						
DZM				S	**S**	**11 10 33.7**	**-1.7**
	0.8nm,0.3s,baz=86,slow=20,SNR=1.7						
CTA	**Charters Tower**	**21.50**	**259**	P	**P**	**11 12 42.5**	**+0.4**
	1.0nm,0.3s,baz=75,slow=9.2,SNR=1.7						
STKA	**Stephens Creek**	**28.58**	**234**	P	**P**	**11 13 46.4**	**+0.7**
	0.9nm,0.5s,baz=60,slow=8.2,SNR=3.2						
WRA	**Warramunga Arr**	**32.69**	**260**	P	**P**	**11 14 20.4**	**-1.5**
	0.2nm,0.4s,baz=86,slow=9.2,SNR=2.4						
WRA				PcP	**PcP**	**11 17 00.2**	**-1.2**
	0.2nm,0.6s,baz=84,slow=3.6,SNR=1.6						
ASAR	**Alice Springs**	**33.21**	**253**	P	**P**	**11 14 26.0**	**-0.4**
	2.7nm,0.4s,baz=80,slow=9.2,SNR=64						
ASAR				PcP	**PcP**	**11 17 01.6**	**-1.2**
	0.2nm,0.6s,baz=90,slow=3.7,SNR=1.8						
FITZ	**Fitzroy Crossi**	**41.01**	**262**	P	**P**	**11 15 32.0**	**+0.2**
	1.2nm,0.4s,baz=81,slow=9.4,SNR=9.4						

NEIC ***13*** *11:10:09.3±3.1, 34.°71S±0.°04×71.°9W±0.°1, h39km±25km, Error ellipse: s-maj=13.5km s-min=2.2km az=117.0*
GUC ***13*** *11:10:09.1±0.6, 34.°73S×71.°89W, h41km±2km, ML4.0*
ISC 13 11:10:09.2±1.0, 34.°74S±0.°04×71.°90W±0.°07, h41km±14km, n35, σ1s30/45, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.27**	**185**	↓*iP*	**Pn**	**11 10 16.9**	**-0.3**
GO05				*eS*	**Sn**	**11 10 22.8**	**-0.1**
GO05	**Huala**	**0.27**	**185**	Pn	**Pn**	**11 10 17.4**	**+0.1**
BO02	**Sierra Bellavi**	**0.92**	**94**	↓*iP*	**Pn**	**11 10 25.1**	**-0.6**
BO02				*iS*	**Sn**	**11 10 36.5**	**-1.4**
BO02	**Sierra Bellavi**	**0.92**	**94**		**Pn**	**11 10 25.4**	**-0.3**
MT02	**Curacav**	**1.60**	**23**	↑*iP*	**Pn**	**11 10 35.4**	**+0.3**
MT02				*iS*	**Sn**	**11 10 55.0**	**+0.5**
MT02				IAML		11 10 59.6	
	comp=N,1μm,0.2s						
MT02	**Curacav**	**1.60**	**23**		**Pn**	**11 10 35.3**	**+0.3**
MT05	**Renca**	**1.65**	**36**	*eP*	**Pn**	**11 10 36.6**	**+0.8**
MT05				*iS*	**Sn**	**11 10 56.5**	**+0.7**
MT05				IAML		11 11 01.9	
	comp=E,3μm,0.2s						
MT05	**Renca**	**1.65**	**36**		**Pn**	**11 10 36.6**	**+0.8**
LMEL	**Las Melosas**	**1.66**	**58**	↓*iP*	**Pn**	**11 10 36.5**	**+0.5**
LMEL				*iS*	**Sn**	**11 10 57.1**	**+0.9**
LMEL				IAML		11 11 01.6	
	comp=N,5μm,0.3s						
MT03	**Universidad Ad**	**1.69**	**43**	*eP*	**Pn**	**11 10 36.7**	**+0.3**
MT03				*iS*	**Sn**	**11 10 57.5**	**+0.6**
MT03				IAML		11 11 01.0	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**1.72**	**7**	*eP*	**Pn**	**11 10 37.1**	**+0.5**
VA01	**Torpederas**	**1.72**	**7**		**Pn**	**11 10 37.1**	**+0.5**
ROC1	**El Roble**	**1.91**	**23**		**Pn**	**11 10 40.1**	**+0.7**
ROCH	**El Roble**	**1.91**	**23**	*eP*	**Pn**	**11 10 40.3**	**+0.9**
ROCH				*iS*	**Sn**	**11 11 03.1**	**+0.8**
ROCH				IAML		11 11 15.2	
	comp=N,2μm,0.3s						
BI02	**San Fabin de**	**1.99**	**165**	*eP*	**Pn**	**11 10 40.9**	**+0.5**
BI02				*iS*	**Sn**	**11 11 05.3**	**+1.1**
BI02	**San Fabin de**	**1.99**	**165**	Pn	**Pn**	**11 10 40.9**	**+0.5**
VA03	**San Esteban**	**2.27**	**30**	*eP*	**Pn**	**11 10 45.0**	**+0.7**
VA03				*iS*	**Sn**	**11 11 15.9**	**+4.9**
VA03				IAML		11 11 19.0	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**2.27**	**30**	Pn	**Pn**	**11 10 45.0**	**+0.7**
BI03	**Tigo**	**2.29**

PSZ				Pg	Pg	11 22 25.0	+0.3	
PSZ				Lg	Lg	11 22 31.8		
PSZ				eSg	Sg	11 22 31.8	+1.5	
VYHS	**Vyhne**	**0.71**	**282**	ePg	Pg	11 22 30.1	+0.3	
VYHS				eSg	Sg	11 22 37.7	-1.3	
VYHS	**Vyhne**	**0.71**	**282**	Pg	Pg	11 22 30.1	+0.3	
VYHS				ePg	Pg	11 22 30.1	+0.3	
VYHS				Lg	Lg	11 22 37.7		
VYHS				eLg	Lg	11 22 37.7		
VYHS	**Vyhne**	**0.71**	**282**	ePG	Pg	11 22 30.1	+0.3	
VYHS				eSG	Sg	11 22 37.7	-1.3	
LANS	**Liptovska Anna**	**0.84**	**341**	eSg	Sb	11 22 45.0	-0.7	
LANS	**Liptovska Anna**	**0.84**	**341**	Lg	Lg	11 22 45.0		
LANS				eLg	Lg	11 22 45.0		
LANS	**Liptovska Anna**	**0.84**	**341**	eSG	Sb	11 22 45.0	-0.7	
LANS				eLG	Lg	11 22 58.2		
CRVS	**Cervenica-Dubn**	**1.19**	**62**	ePn	Pb	11 22 39.6	-0.1	
CRVS	**Cervenica-Dubn**	**1.19**	**62**	Pn	Pb	11 22 39.6	-0.1	
CRVS				ePn	Pb	11 22 39.6	-0.1	
CRVS	**Cervenica-Dubn**	**1.19**	**62**	ePG	Pb	11 22 39.5	-0.2	

*JMA **13** 11:28:57.6±0.3, 45°.73N×143°.55E, h318km, M2.7*
*SKHL **13** 11:28:57.7±0.9, 45°.71N×143°.57E, h316km±2km, mb4.0/4, msh4.5/3*

ISC 13 11:28:58.9±1.4, **45°.69N**±0°.08×**143°.5E**±0°.1, **h300km, n17, σ1°01/22, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.99**	**223**	P	**Pn**	**11 29 40.1**	**+0.9**
JWK2	**Keihoku**	**1.22**	**253**	P	**Pn**	**11 29 41.0**	**+0.7**
JWK2				eS	**S**	**11 30 14.9**	**+1.6**
YSS	**Yuzh-Sakhalins**	**1.38**	**337**	eP	**Pn**	**11 29 40.4**	**-0.7**
YSS				AMB	AMB	11 29 42.1	
	50nm,0.3s						
YSS				eS	**S**	**11 30 13.9**	**-0.9**
YSS				A	A	11 30 16.2	
	50nm,1.0s						
JMP	**Maruseppu**	**1.69**	**185**	P	**Pn**	**11 29 44.4**	**+1.0**
JTKR	**Abashiri--Toko**	**1.74**	**171**	P	**Pn**	**11 29 45.1**	**+1.4**
JKK2	**Kamakawa 2**	**1.90**	**198**	P	**Pn**	**11 29 46.3**	**+1.4**
JAR	**Ashorobuto**	**2.40**	**176**	P	**Pn**	**11 29 50.4**	**+1.4**
NMR	**Nemuro--Hokkai**	**2.79**	**145**	eS	**S**	**11 30 34.7**	**-0.9**
NMR				A	A	11 30 35.6	
	20nm,0.3s						
NMR				A	A	11 30 35.6	
	20nm,0.3s						
NEM2	**Nemuro 2**	**2.81**	**145**	eS	**S**	**11 30 35.6**	**-0.1**
JAK	**Akkeshi**	**2.81**	**163**	P	**Pn**	**11 29 52.8**	**0.0**
JAK				eS	**S**	**11 30 36.7**	**+0.8**
AKK	**Akkeshi**	**2.83**	**160**	eP	**Pn**	**11 29 52.9**	**-0.1**
AKK				eS	**S**	**11 30 35.8**	**-0.4**
AKK				A	A	11 30 37.7	
	30nm,0.3s						
AKK				A	A	11 30 37.7	
	60nm,0.3s						
JCH	**Churui**	**3.08**	**183**	P	**Pn**	**11 29 55.0**	**-0.4**
JCH				eS	**S**	**11 30 39.3**	**-1.3**
JEW	**Eniwo**	**3.22**	**209**	P	**Pn**	**11 29 58.1**	**+1.2**
JNBK	**Urakawa-nobuka**	**3.46**	**190**	P	**Pn**	**11 29 59.2**	**-0.1**
JKB	**Kayabe**	**4.21**	**206**	P	**Pn**	**11 30 07.0**	**-0.4**
JOSM	**Okushiri--Mats**	**4.65**	**221**	P	**Pn**	**11 30 11.6**	**-0.8**
JOT	**Ohata**	**4.67**	**204**	P	**Pn**	**11 30 11.4**	**-1.2**

*KRNET **13** 11:29:24.9±0.1, 40°.40N×72°.75E, h20km, mb2.7*
*SOME **13** 11:29:25.1, 40°.47N×72°.67E, h5km*

ISC 13 11:29:24.4±1.8, **40°.42N**±0°.07×**72°.75E**±0°.05, **h1**km±19km, **n10, σ1°14/19, 11C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.52**	**257**	⇑*i*P	**Pg**	**11 29 53.2**	**-0.4**
	baz=57						
BTK				⇑*i*S	**Sg**	**11 30 14.2**	**+0.9**
	baz=57						
AML	**Almayashu**	**1.85**	**22**	⇓*i*P	**Pg**	**11 29 59.9**	**0.0**
	baz=22						
AML				⇓*i*S	**Sg**	**11 30 25.6**	**+1.7**
	baz=22						
ARLS	**Aral**	**1.86**	**39**	⇑eP	**Pb**	**11 29 59.5**	**+0.2**
	baz=39						
ARLS				⇑*i*S	**Sg**	**11 30 25.0**	**+0.7**
	baz=39						
MNAS	**Manas**	**2.07**	**355**	⇑*i*P	**Pb**	**11 30 02.9**	**0.0**
	baz=55						
MNAS				⇑*i*S	**Sg**	**11 30 30.1**	**-0.9**
	baz=55						
UCH	**Uchtor**	**2.24**	**36**	⇑*i*P	**Pb**	**11 30 05.3**	**-0.6**
	baz=36						
UCH				⇑*i*S	**Sb**	**11 30 35.3**	**+1.0**
	baz=36						
MRKS	**Merke**	**2.35**	**9**	eP	**Pg**	**11 30 08.6**	**-0.8**
	6.3nm,0.5s						
MRKS				eS	**Sg**	**11 30 39.7**	**-0.2**
	10nm,0.4s						
EKS2	**Erkin-Say**	**2.37**	**19**	⇓*i*P	**Pb**	**11 30 07.5**	**-0.4**
	baz=19						
EKS2				⇓*i*S	**Sb**	**11 30 38.3**	**+0.6**
	baz=19						
AAK	**Ala-Archa**	**2.57**	**30**	⇑*i*P	**Pb**	**11 30 09.8**	**-1.6**
	baz=30						
AAK				⇑*i*S	**Sb**	**11 30 42.8**	**-0.8**
	baz=30						
IUG	**Iuzhnay**	**2.68**	**311**	eP	**Pb**	**11 30 13.5**	**+0.3**
	2.2nm,0.2s						
IUG				eS	**Sg**	**11 30 48.1**	**-2.3**
	10nm,0.5s						
KK31	**Karatay Array**	**3.16**	**329**	⇓Pg	**Pg**	**11 30 26.6**	**+1.7**
	0.2nm,0.3s,baz=147,slow=16						
KK31				⇑Lg	Lg	11 31 00.6	
	1.4nm,0.5s,baz=149,slow=29,SNR=6.6						

*ROM **13** 11:37:56.9±0.2, 43°.010N±0°.010×14°.09E±0°.01, h12km, ML2.5/1, Error ellipse: s-maj=1.3km s-min=0.9km az=230.0*

ISC 13 11:37:56.5±1.3, **43°.00N**±0°.03×**14°.05E**±0°.02, **h2**km±12km, **n39, σ0°50/46, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMA	**Gualdo di Mace**	**0.10**	**307**	P	Pg	11 38 07.8	+9.2
OFFI	**Offida**	**0.27**	**256**	P	**Pb**	**11 38 03.9**	**-0.3**
CADA	**Capodarco di F**	**0.28**	**313**	P	**Pb**	**11 38 03.4**	**-1.0**
TERO	**Teramo**	**0.50**	**221**	P	**Pg**	**11 38 07.1**	**+1.0**
TERO				S	**Sb**	**11 38 15.3**	**-0.5**
TERO				AML	AML		
	comp=N,178μm,0.4s						
TERO				AML	AML		
	comp=E,233μm,0.3s						
TERO				AML	AML		
	comp=N,179μm,0.4s						
VCEL	**Villa Celiera**	**0.62**	**194**	P	**Pb**	**11 38 09.8**	**-0.5**
VCEL				AML	AML		
	comp=E,370μm,0.6s						
VCEL				AML	AML		
	comp=E,324μm,0.8s						
VCEL				AML	AML		
	comp=N,323μm,1.4s						
VCEL				AML	AML		
	comp=N,376μm,0.7s						
VCEL				AML	AML		
	comp=E,380μm,0.4s						
AOI	**Ancona**	**0.64**	**329**	P	**Pb**	**11 38 09.9**	**-0.5**
SMA1	**SAN MARTINO**	**0.64**	**235**	P	**Pg**	**11 38 09.0**	**+0.2**
SMA1				S	**Sb**	**11 38 19.2**	**-0.7**
SMA1				AML	AML		
	comp=E,430μm,0.4s						
SMA1				AML	AML		
	comp=N,506μm,0.5s						
SMA1				AML	AML		
	comp=E,429μm,0.4s						
SMA1				AML	AML		
	comp=N,507μm,0.5s						
CAMP	**Campotosto**	**0.66**	**225**	P	**Pg**	**11 38 09.5**	**+0.3**
CAMP				S	**Sb**	**11 38 20.4**	**-0.1**
CAMP				AML	AML		
	comp=E,178μm,0.5s						
CAMP				AML	AML		
	comp=N,230μm,0.4s						
CAMP				AML	AML		
	comp=E,177μm,0.5s						
CAMP				AML	AML		
	comp=N,229μm,0.4s						
FDMO	**Fiordimonte**	**0.70**	**273**	P	**Pg**	**11 38 10.2**	**+0.1**
FDMO				S	**Sb**	**11 38 22.1**	**+0.4**
FDMO				AML	AML		
	comp=N,336μm,0.2s						
FDMO				AML	AML		
	comp=E,316μm,0.2s						
NRCA	**Norcia**	**0.71**	**257**	AML	AML		
	comp=N,460μm,0.4s						
NRCA				AML	AML		
	comp=E,604μm,0.2s						
CING	**Cingoli**	**0.73**	**301**	P	**Pg**	**11 38 10.8**	**+0.3**
CING				S	**Sb**	**11 38 22.4**	**+0.1**
CING				AML	AML		
	comp=N,276μm,0.3s						
CING				AML	AML		
	comp=E,326μm,0.4s						
CING				AML	AML		
	comp=N,277μm,0.3s						
RM33	**Pellescritta (**	**0.79**	**232**	P	**Pg**	**11 38 11.9**	**+0.3**
RM33				AML	AML		
	comp=E,369μm,1.3s						
RM33				AML	AML		
	comp=N,296μm,0.3s						
RM33				AML	AML		
	comp=E,368μm,1.3s						
RM33				AML	AML		
	comp=N,297μm,0.3s						
CESI	**CESI - Serrava**	**0.84**	**271**	P	**Pg**	**11 38 12.6**	**0.0**
CESI				AML	AML		
	comp=N,190μm,1.1s						
CESI				AML	AML		
	comp=E,88μm,0.3s						
LNSS	**Leonessa**	**0.84**	**242**	P	**Pg**	**11 38 12.2**	**-0.4**
LNSS				AML	AML		
	comp=N,1970μm,0.3s						
LNSS				AML	AML		
	comp=N,1965μm,0.3s						
LNSS				AML	AML		
	comp=E,1310μm,0.4s						
SNTG	**Esanatoglia**	**0.85**	**288**	P	**Pg**	**11 38 12.7**	**-0.1**
SNTG				S	**Sb**	**11 38 26.0**	**+0.2**
SNTG				AML	AML		
	comp=E,242μm,0.4s						
SNTG				AML	AML		
	comp=N,342μm,1.2s						
SNTG				AML	AML		
	comp=N,342μm,1.2s						
SNTG				AML	AML		
	comp=E,242μm,0.4s						
ARVD	**Arcevia**	**0.95**	**302**	P	**Pg**	**11 38 14.8**	**+0.1**
ARVD				AML	AML		
	comp=N,131μm,1.3s						
ARVD				AML	AML		
	comp=E,211μm,0.2s						
INTR	**Introdacqua**	**0.99**	**186**	P	**Pg**	**11 38 15.6**	**+0.1**
INTR				AML	AML		
	comp=N,426μm,0.8s						
INTR				AML	AML		
	comp=N,425μm,0.8s						
INTR				AML	AML		
	comp=E,360μm,1.1s						
ASSB	**Assisi San Ben**	**1.02**	**273**	P	**Pg**	**11 38 15.6**	**-0.4**
ASSB				AML	AML		
	comp=E,282μm,1.5s						
ASSB				AML	AML		
	comp=N,248μm,0.4s						
SSFR	**Montelago di S**	**1.02**	**296**	P	**Pg**	**11 38 16.2**	**+0.1**
SSFR				AML	AML		
	comp=E,674μm,1.5s						
SSFR				AML	AML		
	comp=N,574μm,1.6s						
SSFR				AML	AML		
	comp=N,512μm,0.2s						
SSFR				AML	AML		
	comp=E,674μm,1.5s						
SSFR				AML	AML		
	comp=E,556μm,1.5s						
ARRO	**Arrone**	**1.03**	**246**	AML	AML		
	comp=N,234μm,0.4s						
ARRO				AML	AML		
	comp=E,204μm,0.6s						
MOMA	**Monte Martano**	**1.10**	**260**	P	**Pg**	**11 38 17.4**	**-0.3**
MOMA				AML	AML		
	comp=E,174μm,0.4s						
MOMA				AML	AML		
	comp=N,204μm,1.2s						
FRES	**Fresagrandinar**	**1.13**	**156**	P	**Pg**	**11 38 17.9**	**-0.2**
ATFO	**Monte Foce - G**	**1.14**	**289**	P	**Pg**	**11 38 18.4**	**0.0**
ATFO				AML	AML		
	comp=E,348μm,0.3s						
ATFO				AML	AML		
	comp=N,304μm,0.3s						
MURB	**Monte Urbino**	**1.15**	**284**	P	**Pg**	**11 38 18.2**	**-0.2**
MURB				AML	AML		
	comp=E,958μm,1.5s						
MURB				AML	AML		
	comp=N,646μm,0.3s						
MURB				AML	AML		
	comp=N,646μm,0.3s						
MURB				AML	AML		
	comp=E,954μm,1.5s						
VVLD	**Villa Vallelon**	**1.17**	**196**	P	**Pn**	**11 38 19.9**	**-0.1**
PIEI	**Pieia**	**1.23**	**296**	P	**Pg**	**11 38 19.6**	**-0.5**
PIEI				AML	AML		
	comp=E,232μm,0.3s						
PIEI				AML	AML		
	comp=E,232μm,0.3s						
PIEI				AML	AML		
	comp=N,148μm,0.3s						
NARO	**Abbazia di Nar**	**1.23**	**300**	P	**Pg**	**11 38 19.9**	**-0.2**
NARO				AML	AML		
	comp=E,124μm,0.9s						
NARO				AML	AML		
	comp=N,96μm,1.1s						
NARO				AML	AML		
	comp=N,96μm,1.1s						
DUGI	**Dugi Otok**	**1.23**	**36**	ePg	**Pn**	**11 38 20.8**	**0.0**
DUGI				Sg	**Sn**	**11 38 38.5**	**+0.5**
ATTE	**AVT- Monte Tez**	**1.26**	**280**	P	**Pn**	**11 38 21.6**	**+0.4**
ATTE				AML	AML		
	comp=E,104μm,1.6s						
ATTE				AML	AML		
	comp=E,104μm,1.6s						
ATTE				AML	AML		
	comp=N,79μm,1.3s						
CERT	**Cerreto**	**1.31**	**217**	AML	AML		
	comp=E,138μm,0.5s						
CERT				AML	AML		
	comp=N,69μm,0.3s						
CERT				AML	AML		
	comp=N,68μm,0.3s						
PARC	**Parchiule**	**1.47**	**297**	P	**Pb**	**11 38 24.6**	**0.0**
PARC				AML	AML		
	comp=N,89μm,0.5s						
PARC				AML	AML		
	comp=E,75μm,0.9s						
PARC				AML	AML		
	comp=N,89μm,0.5s						
MORI	**Morici**	**1.49**	**54**	ePn	**Pg**	**11 38 26.1**	**+1.1**
MORI				Sg	**Sg**	**11 38 45.2**	**+0.9**
VAGA	**Valle Agricola**	**1.59**	**175**	AML	AML		
	comp=E,47μm,0.4s						
VAGA				AML	AML		
	comp=N,78μm,0.7s						
NVLJ	**Novalja**	**1.67**	**21**	ePn	**Pg**	**11 38 28.3**	**-0.3**
NVLJ				Sn	**Sg**	**11 38 50.2**	**-0.1**
MSAG	**Monte S. Angel**	**1.89**	**132**	P	**Pn**	**11 38 30.0**	**+0.2**
MSAG				AML	AML		
	comp=N,352μm,0.3s						
MSAG				AML	AML		
	comp=E,142μm,0.6s						
UDBI	**Udbina**	**1.97**	**39**	ePn	**Pn**	**11 38 31.2**	**+0.3**
UDBI				Sn	**Sn**	**11 38 56.5**	**+0.3**
KIJV	**Kijevo**	**1.99**	**59**	ePn	**Pb**	**11 38 32.6**	**-0.8**
KIJV				Sn	**Sb**	**11 38 58.4**	**-0.2**
MAKA	**Makarska**	**2.19**	**81**	Sg	**Sn**	**11 39 02.4**	**+0.8**
RICI	**Ricice**	**2.31**	**77**	ePn	**Pb**	**11 38 37.9**	**-1.0**
RICI				Sn	**Sb**	**11 39 06.9**	**-0.9**

TRN 13 11:40:34.5, 15°.50N×61°.10W, h118km, MD4.2, 1C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLPL	**La Plaine**	**0.23**	**221**	eP	Pn	11 40 52.5	+1.4
DLPL				eS	Sn	11 41 04.6	+1.1
DSLB	**Salisbury**	**0.32**	**258**	⇓*i*P	Pn	11 40 53.1	+1.7
DSLB				eS	Sn	11 41 05.8	+1.8
MDN	**Morne-Daniel**	**0.34**	**237**	eP	Pn	11 40 53.0	+1.6
MDN				eS	Sn	11 41 06.2	+2.0
DPMT	**Pointe Michel**	**0.36**	**228**	eP	Pn	11 40 53.4	+1.9
DPMT				eS	Sn	11 41 06.0	+1.6
MAGL	**Barre de l'ile**	**0.48**	**338**	eP	Pn	11 40 53.9	+1.7
MAGL				eS	Sn	11 41 06.8	+1.3
TDBA	**Terre de Bas,**	**0.62**	**303**	*i* P	Pn	11 40 54.6	+1.5
TDBA				eS	Sn	11 41 08.2	+1.1
TBG	**Guadaloupe-3**	**0.63**	**303**	eP	Pn	11 40 54.5	+1.3
TBG				eS	Sn	11 41 08.3	+1.0
SVN	**Savane Anatole**	**0.66**	**186**	eP	Pn	11 40 55.0	+1.5
BAMF	**Morne Balai**	**0.69**	**184**	eP	Pn	11 40 55.1	+1.4
CXM	**Morne La Croix**	**0.69**	**186**	eP	Pn	11 40 55.3	+1.5
PCM	**Pelee Case Pet**	**0.69**	**189**	eP	Pn	11 40 55.0	+1.3
GBMF	**Grand Be**	**0.71**	**185**	eP	Pn	11 40 55.2	+1.4
PML	**Morne Lenard**	**0.72**	**187**	eP	Pn	11 40 55.6	+1.6
CBE	**Ff, Capester**	**0.75**	**319**	eP	Pn	11 40 55.5	+1.4
CBE				eS	Sn	11 41 09.8	+0.8
ILAM	**Ilet Lapin Mar**	**0.76**	**164**	eP	Pn	11 40 55.6	+1.4
ILAM				eS	Sn	11 41 10.0	+1.0
FDF	**Fort de France**	**0.77**	**184**	⇓*i*P	Pn	11 40 55.7	+1.3
FDF				eS	Sn	11 41 10.6	+1.3
ZAM	**Aeronautique**	**0.93**	**176**	eP	Pn	11 40 56.7	+1.0
LPMF	**Morne Lapointe**	**0.93**	**172**	eP	Pn	11 40 56.7	+0.9
MVM	**Montagne Vaucl**	**0.96**	**168**	eP	Pn	11 40 57.5	+1.3
TRMF	**Trois Ilets**	**0.96**	**177**	eP	Pn	11 40 57.4	+1.3
BIM	**Bigot**	**0.98**	**179**	eP	Pn	11 40 57.8	+1.5
BIM				eS	Sn	11 41 14.2	+1.5
ABD	**La Joyeuse, An**	**1.04**	**339**	eP	Pn	11 40 58.3	+1.6
ABD				eS	Sn	11 41 14.6	+0.9
MPOM	**Morne Pois Mar**	**1.08**	**168**	eP	Pn	11 40 58.6	+1.4
MPOM				eS	Sn	11 41 15.2	+0.8
SLBI	**Saint Lucia, B**	**1.48**	**175**	⇑*i*P	Pn	11 41 02.7	+1.1
SLBI				eS	Sn	11 41 22.6	+0.4
SLW	**Petit Monier**	**1.48**	**174**	eP	Pn	11 41 04.1	+2.4
SLW				eS	Sn	11 41 25.0	+2.6
SLAC	**Saint Lucia, A**	**1.61**	**173**	eP	Pn	11 41 05.1	+1.9
SLAC				eS	Sn	11 41 26.0	+1.0
SLPA	**Patience**	**1.65**	**174**	eP	Pn	11 41 06.2	+2.6
SLPA				eS	Sn	11 41 28.7	+2.9
ANBD	**Bethesda, Anti**	**1.67**	**337**	eP	Pn	11 41 05.0	+1.2
ANBD				eS	Sn	11 41 26.5	+0.4
SLB	**Belfond**	**1.67**	**178**	eP	Pn	11 41 04.0	0.0
SLB				eS	Sn	11 41 26.4	+0.1
SLDE	**Delcer**	**1.69**	**179**	eP	Pn	11 41 05.5	+1.3
SLDE				eS	Sn	11 41 29.1	+2.4
MCLT	**Moule a Chique**	**1.79**	**175**	eP	Pn	11 41 06.5	+1.1
MCLT				eS	Sn	11 41 29.4	+0.5
SFAN	**Fancy Village**	**2.11**	**182**	eS	Sn	11 41 37.0	+1.1
SVV	**Soufriere Volc**	**2.18**	**183**	eP	Pn	11 41 11.5	+1.3
SVV				eS	Sn	11 41 38.5	+1.1
BHS	**Barnard House**	**2.19**	**181**	eS	Sn	11 41 38.0	+0.2
SVCV	**St. Vincent, C**	**2.22**	**181**	eP	Pn	11 41 11.6	+0.9
SVCV				eS	Sn	11 41 38.7	+0.2
SVB	**Belmont**	**2.22**	**184**	*i* P	Pn	11 41 11.9	+1.1
SVB				eS	Sn	11 41 38.7	+0.1
ANWB	**Willy Bob**	**2.25**	**343**	eP	Pn	11 41 11.7	+0.6
ANWB				eS	Sn	11 41 39.3	+0.2
SKI	**Saint Kitts**	**2.41**	**319**	eP	Pn	11 41 14.1	+1.0
SEUS	**St. Eustatius**	**2.68**	**318**	eP	Pn	11 41 18.5	+1.9
SEUS				eS	Sn	11 41 50.4	+1.4
BCHC	**Barbados, Cave**	**2.75**	**149**	eP	Pn	11 41 19.9	+2.4
BCHC				eS	Sn	11 41 50.8	+0.2
BBSP	**Saint Philip**	**2.87**	**146**	eP	Pn	11 41 19.8	+0.7
BBSP				eS	Sn	11 41 54.4	+1.1
SABA	**Saba**	**2.94**	**316**	eP	Pn	11 41 21.2	+1.2
SABA				eS	Sn	11 41 55.2	+0.1
GCMP	**Grenada, Carri**	**3.02**	**186**	eP	Pn	11 41 21.8	+0.8
GCMP				eS	Sn	11 41 57.3	+0.5
SMRT	**St. Maarten**	**3.16**	**323**	eP	Pn	11 41 23.2	+0.3
SMRT				eS	Sn	11 42 00.7	+0.4
GRSS	**Sisters**	**3.23**	**189**	eP	Pn	11 41 24.4	+0.6
GRSS				eS	Sn	11 42 02.1	+0.4
GRHS	**Sauteurs**	**3.30**	**189**	eP	Pn	11 41 25.9	+1.1
GRGR	**Grenville**	**3.40**	**189**	eP	Pn	11 41 27.2	+1.1
GRGR				eS	Sn	11 42 06.8	+0.9
CDVI	**St. Croix**	**4.17**	**303**	eP	Pn	11 41 38.2	+1.9
TOSP	**Speyside**	**4.22**	**173**	eP	Pn	11 41 38.4	+1.5
TOSP	**Speyside**	**4.22**	**173**	eS	Sn	11 42 24.3	-1.1
TPR	**Prospect**	**4.30**	**176**	eP	Pn	11 41 39.6	+1.5
TPR	**Prospect**	**4.30**	**176**	eS	Sn	11 42 26.0	-1.5
TRN	**Trinidad (W)**	**4.84**	**184**	eP	Pn	11 41 46.8	+1.5
TRN	**Trinidad (W)**	**4.84**	**184**	eS	Sn	11 42 38.9	-1.4
SJG	**San Juan**	**5.49**	**299**	eP	Pn	11 41 54.8	+0.8
AOPR	**Arecibo Observ**	**6.11**	**298**	eP	Pn	11 42 03.5	+1.0
AOPR	**Arecibo Observ**	**6.11**	**298**	eS	Sn	11 43 09.8	-1.3
SDDR	**Presa de Saban**	**10.33**	**291**	eP	Pn	11 42 59.8	+0.2
SDDR	**Presa de Saban**	**10.33**	**291**	eS	Sn	11 44 46.8	-6.8

*IDC **13** 11:49:23.4±1.7, 0°.96N×97°.06E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/66, mbtmp3.6/8, ML3.7/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/42, Error ellipse: s-maj=50.7km s-min=21.3km az=59.0*
*DJA **13** 11:49:25.3±1.9, 1°.N±5°×9°.7E±1°.0, h17km±10km, M4.0/6, mB6.3/1, mb4.4/1, MLv3.8/6, Mw(mB)6.0/1*

ISC 13 11:49:27.1±1.1, **1°.11N**±0°.07×**97°.01E**±0°.08, **h25**km, **n23, σ1°66/20, mb3.8/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.59**	**71**	P	**Pb**	**11 49 38.6**	**-0.4**
GSI				S	**Sb**	**11 49 46.9**	**-0.1**
GSI	**Gunungsitoli**	**0.59**	**71**	P	**Pb**	**11 49 38.7**	**-0.3**
GSI				S	**Sb**	**11 49 47.1**	**+0.1**
PBSI	**Pulau Batu**	**1.71**	**132**	P	**Pn**	**11 49 55.1**	**-0.3**
TPTI		**2.15**	**4**	P	**Pn**	**11 50 00.3**	**-1.1**
TPTI		**2.15**	**4**	P	**Pn**	**11 49 59.0**	**-2.4**
PSI	**Prapat**	**2.54**	**49**	Pn	**Pn**	**11 50 06.3**	**-0.6**
	2.2nm,0.3s,baz=198,slow=12,SNR=8.1						
MNSI	**Mandailing Nat**	**2.58**	**97**	P	**Pn**	**11 50 06.7**	**-0.7**
MNSI	**Mandailing Nat**	**2.58**	**97**	P	**Pn**	**11 50 06.4**	**-1.0**
BKNI	**Bangkinang**	**4.10**	**101**	P	**Pb**	**11 50 42.1**	**+3.4**
SDSI	**Sungai Dareh**	**4.86**	**115**	P	**Pn**	**11 50 35.4**	**-3.3**
KSI	**Kapahiang**	**7.31**	**130**	P	**Pn**	**11 51 09.8**	**-2.7**
CMAR	**Chiang Mai Arr**	**17.35**	**6**	Pn	**P**	**11 53 28.7**	**-0.2**
	0.4nm,0.3s,baz=184,slow=12,SNR=6.0						
H08S2	**Diego Garcia H**	**25.96**	**250**	T	T	12 21 58.7	
	baz=70,slow=75,SNR=631						
H08S3	**Diego Garcia H**	**25.96**	**250**	T	T	12 21 54.2	
	baz=70,slow=75,SNR=921						
H08S1	**Diego Carcia H**	**25.97**	**250**	T	T	12 21 56.5	
	baz=70,slow=75,SNR=328						
DAV	**Davao City (W)**	**29.09**	**77**	LR	LR	12 10 20.9	
	comp=Z,67nm,19.0s,baz=152,slow=43						
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**11 57 17.0**	**-0.9**
	0.4nm,0.7s,baz=299,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**43.49**	**127**	P	**P**	**11 57 27.7**	**-1.1**
	0.3nm,0.8s,baz=302,slow=7.7,SNR=5.1						
KSRS	**Korea Array**	**46.03**	**35**	LR	LR	12 19 12.5	
	comp=Z,60nm,18.1s,baz=220,slow=39						
SONM	**Songino Array**	**47.25**	**9**	P	**P**	**11 57 59.0**	**+0.6**
	0.5nm,0.6s,baz=187,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**47.29**	**346**	P	**P**	**11 57 59.6**	**+1.1**
	0.8nm,0.8s,baz=152,slow=7.9,SNR=5.3						
KURBB	**Kurchatov Arra**	**51.77**	**345**	P	**P**	**11 58 34.4**	**+1.8**
	0.6nm,0

BER 13 11:52:17.5±1.6, 76°99'N×15°30'E, h23km±13km, ML1.0, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.10**	**348**	*e*	Pn	11 52 36.2	-1.3
BRBA				*e*S	Sb	11 52 50.5	-1.2
BRBB	**Barentsburg B**	**1.14**	**348**	*e*Pg	Pn	11 52 36.7	-1.3
BRBB				*e*S	Sb	11 52 49.8	-3.0
SPA0	**Spitsbergen Ar**	**1.22**	**10**	*e*P	Pn	11 52 37.6	-1.5
SPA0				*e*Pg	Pb	11 52 39.7	-0.2
SPA0				*e*S	Sn	11 52 52.0	-2.9
SPA0				IAML		11 53 01.4	
	comp=Z,4.3nm,0.6s						
KBS	**Kingsbay**	**2.07**	**342**	*e*Sg	Sb	11 53 19.5	-0.1

IDC ***13*** *11:56:39.5±0.9, 36°24'N×11°45'E, h0km, mb3.7/5, mb1 3.8/12, mb1mx3.6/52, mbtmp3.7/12, ML3.7/7, MS3.2/10, Ms1 3.2/10, ms1mx2.8/52, Error ellipse: s-maj=26.4km s-min=13.6km az=148.0*

ROM ***13*** *11:56:40.5±0.6, 36°21'N±0°02'×11°31'E±0°02', h25km±5km, ML3.7/17, Error ellipse: s-maj=2.3km s-min=0.6km az=38.0*

LDG ***13*** *11:56:42.7±0.1, 36°25'N×11°15'E, h10km, Ml3.3/5, Error ellipse: s-maj=3.4km s-min=2.3km az=176.0*

TUN ***13*** *11:56:43.6, 36°29'N×11°24'E, h30km±2km, MD4.0*

ISC 13 11:56:42.8±1.6, 36°27'N±0°05'×11°35'E±0°04', h31km±14km, n64, σ2°53/71, mb3.7/5, MS3.2/6, 1C-1D, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPDG	**Lampedusa Capo**	**1.28**	**126**	P	**Pn**	**11 57 03.4**	**-1.2**
LPDG				S	**Sn**	**11 57 20.4**	**-0.3**
LPDG				AML	AML		
	comp=N,9475μm,1.0s						
LPDG				AML	AML		
	comp=E,12100μm,0.6s						
KCHT	**Kechabta**	**1.41**	**307**	*i* P	**Pn**	**11 57 06.4**	**+0.1**
TROT	**Trozza**	**1.59**	**244**	*i* P	**Pn**	**11 57 08.9**	**+0.1**
KEST	**Kesra**	**1.71**	**252**	Pn	**Pb**	**11 57 12.2**	**-1.4**
	comp=E,51nm,0.3s,baz=44,slow=6.1,SNR=79						
KEST				Sn	**Sb**	**11 57 35.4**	**+0.6**
	comp=E,156nm,0.3s,baz=36,slow=21,SNR=26						
KEST				LR	LR	11 57 39.4	
	comp=E,166nm,19.6s,baz=36,slow=34						
KRIT	**Krib**	**1.84**	**273**	*i* P	**Pn**	**11 57 13.0**	**+0.7**
MMGO	**Monte Magaggia**	**1.90**	**43**	P	**Pn**	**11 57 12.0**	**-1.1**
TAMR	**Tamra**	**1.96**	**294**	*i* P	**Pn**	**11 57 13.7**	**-0.2**
TAMR	**Tamra**	**1.96**	**294**	⇓P	**Pn**	**11 57 13.3**	**-0.5**
TAMR	**Tamra**	**1.96**	**294**	AML	AML		
	comp=N,1955μm,0.6s						
TAMR				AML	AML		
	comp=E,1815μm,0.7s						
BLIT	**Baltah**	**1.98**	**284**	*i* P	**Pn**	**11 57 14.2**	**0.0**
CRJA	**Costa Raja**	**2.02**	**40**	P	**Pn**	**11 57 14.3**	**-0.4**
CORL	**Corleone**	**2.25**	**43**	P	**Pn**	**11 57 17.6**	**-0.4**
CORL				AML	AML		
	comp=N,452μm,0.8s						
CORL				AML	AML		
	comp=E,468μm,0.6s						
THTN	**Thala**	**2.27**	**253**	*i* P	**Pn**	**11 57 20.4**	**+2.1**
CLTA	**Licata**	**2.28**	**66**	P	**Pn**	**11 57 18.4**	**+0.2**
CLTA				AML	AML		
	comp=E,569μm,1.5s						
CLTA				AML	AML		
	comp=N,859μm,1.0s						
GHAT	**Ghardimaou**	**2.47**	**276**	*i* P	**Pn**	**11 57 21.9**	**+1.0**
RAFF	**Raffo Rosso**	**2.60**	**68**	⇑P	**Pn**	**11 57 22.6**	**-0.1**
RAFF				S	**Sn**	**11 57 54.5**	**+1.3**
RAFF				AML	AML		
	comp=N,444μm,0.8s						
RAFF				AML	AML		
	comp=E,472μm,0.4s						
PETRA	**Petralia Sopra**	**2.71**	**54**	P	**Pn**	**11 57 25.0**	**+0.7**
PETRA				AML	AML		
	comp=E,264μm,1.3s						
PETRA				AML	AML		
	comp=N,284μm,0.5s						
VAE	**Valguarnera**	**2.73**	**63**	Pn	**Pn**	**11 57 23.8**	**-0.8**
	comp=N,29nm,0.3s,baz=31,slow=4.8,SNR=5.4						
VAE				Sn	**Sn**	**11 57 57.3**	**+0.7**
	comp=N,7.2nm,0.3s,baz=223,slow=1.7,SNR=2.6						
HMDC	**Modica**	**2.84**	**75**	P	**Pn**	**11 57 25.1**	**-1.0**
HMDC				S	**Sn**	**11 57 57.4**	**-1.9**
GALF	**Gagliano Caste**	**2.95**	**60**	P	**Pn**	**11 57 28.2**	**+0.6**
GALF				AML	AML		
	comp=N,400μm,0.9s						
GALF				AML	AML		
	comp=E,332μm,0.6s						
MEU	**Monte Lauro**	**3.00**	**73**	P	**Pn**	**11 57 26.6**	**-1.6**
MEU				S	**Sn**	**11 58 01.9**	**-1.1**
MEU				AML	AML		
	comp=N,1400μm,0.4s						
MEU				AML	AML		
	comp=E,714μm,0.4s						
HLNI	**Lentini**	**3.02**	**68**	P	**Pn**	**11 57 28.1**	**-0.4**
HLNI				AML	AML		
	comp=E,249μm,1.0s						
HLNI				AML	AML		
	comp=N,510μm,0.4s						
HAVL	**Avola**	**3.11**	**76**	P	**Pn**	**11 57 28.5**	**-1.3**
HAVL				AML	AML		
	comp=N,352μm,0.3s						
HAVL				AML	AML		
	comp=E,429μm,0.4s						
SSY	**Sortino**	**3.12**	**73**	P	**Pn**	**11 57 29.5**	**-0.3**
HCRL	**Carlentini**	**3.12**	**70**	P	**Pn**	**11 57 29.3**	**-0.6**
HCRL				S	**Sn**	**11 58 05.2**	**-0.9**
HCRL				AML	AML		
	comp=E,376μm,0.6s						
HCRL				AML	AML		
	comp=N,442μm,0.6s						
MSFR	**San Fratello**	**3.13**	**55**	P	**Pn**	**11 57 31.1**	**+1.1**
MSFR				AML	AML		
	comp=N,202μm,0.7s						
MSFR				AML	AML		
	comp=E,139μm,1.4s						
MNO	**Monte Soro**	**3.15**	**57**	P	**Pn**	**11 57 31.9**	**+1.5**
MNO				AML	AML		
	comp=N,808μm,0.8s						
MNO				AML	AML		
	comp=E,651μm,0.6s						
CGL	**Cagliari Serpe**	**3.49**	**333**	P	**Pn**	**11 57 35.0**	**0.0**
CGL				S	**Sn**	**11 58 13.1**	**-2.1**
VSL	**Villasalto**	**3.58**	**335**	P	**Pn**	**11 57 36.3**	**+0.2**
VSL				S	**Sn**	**11 58 15.3**	**-1.9**
VSL				AML	AML		
	comp=E,196μm,0.5s						
VSL				AML	AML		
	comp=N,185μm,0.7s						
MCSR	**Castroreale**	**3.59**	**59**	P	**Pn**	**11 57 36.7**	**+0.3**
MCSR				AML	AML		
	comp=N,248μm,1.0s						
MCSR				AML	AML		
	comp=E,280μm,0.4s						
TATN	**Tataouine**	**3.75**	**191**	*i* P	**Pn**	**11 57 34.6**	**-3.9**
TATN	**Tataouine**	**3.75**	**191**	P	**Pn**	**11 57 34.1**	**-4.4**
TATN	**Tataouine**	**3.75**	**191**	AML	AML		
	comp=E,1760μm,0.6s						
TATN				AML	AML		
	comp=N,1450μm,0.7s						
DGI	**Dorgali Grotta**	**4.26**	**342**	P	**Pn**	**11 57 45.8**	**+0.2**
T0702	**Acquaformosa (**	**5.08**	**46**	P	**Pn**	**11 57 57.0**	**+0.1**
PGF	**Pioggiola**	**6.53**	**345**	*e*Pn	**Pn**	**11 58 18.2**	**+1.5**
PGF				*e*Sn	**Sn**	**11 59 26.5**	**-3.6**
	comp=N,5.3nm,0.5s						
LMR	**La Mourre**	**7.97**	**334**	*e*Pn	**Pn**	**11 58 35.9**	**-0.6**
LMR				*e*Sn	**Sn**	**12 00 00.2**	**-5.3**
	comp=N,0.8nm,0.2s						
FRF	**La Foret Royal**	**8.12**	**335**	*e*Pn	**Pn**	**11 58 37.9**	**-0.6**
FRF				*e*Sn	**Sn**	**12 00 03.9**	**-5.4**
SBF	**Sospel**	**8.15**	**340**	*e*Pn	**Pn**	**11 58 38.5**	**-0.5**
SBF				*e*Sn	**Sn**	**12 00 04.8**	**-5.2**
	comp=N,2.8nm,0.3s						
SMRF	**Simiane la Rot**	**8.87**	**332**	*e*P	Pn	11 58 53.8	+5.0
MBDF	**Montbardon**	**9.13**	**339**	*e*Pn	**Pn**	**11 58 51.5**	**-1.0**
MBDF	**Montbardon**	**9.13**	**339**	*e*P	**Pn**	**11 58 57.2**	**+4.7**
ORIF	**Oris-en-Rattie**	**9.58**	**336**	*e*P	**Pn**	**11 59 03.0**	**+4.4**
LPG	**La Plagne**	**9.85**	**341**	*e*P	Pn	11 59 07.4	+5.0
LPL	**La Plagne**	**9.87**	**341**	*e*P	**Pn**	**11 59 07.0**	**+4.3**
MTLF	**Montolieu**	**9.95**	**318**	*e*Pn	**Pn**	**11 59 01.6**	**-2.0**
MTLF	**Montolieu**	**9.95**	**318**	*e*P	**Pn**	**11 59 08.1**	**+4.5**
MTLF				*e*Sn	**Sn**	**12 00 46.4**	**-7.8**
DAVOX	**Davos/Dischmat**	**10.56**	**354**	Pn	**Pn**	**11 59 14.3**	**+2.3**
	comp=N,0.4nm,0.3s,baz=169,slow=11,SNR=6.7						
DAVOX				LR	LR	12 03 20.7	
	comp=N,68nm,21.6s,baz=259,slow=38						
IDI	**Anoyia**	**11.04**	**91**	Pn	**Pn**	**11 59 18.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=287,slow=14,SNR=1.5						
IDI				Sn	**Sn**	**12 01 13.6**	**-7.5**
	comp=N,0.3nm,0.3s,baz=321,slow=22,SNR=2.0						
ESDC	**Sonseca Array**	**12.55**	**290**	Pn	**Pn**	**11 59 42.0**	**+2.8**
	comp=N,0.1nm,0.3s,baz=98,slow=13,SNR=5.4						
ESDC				LR	LR	12 04 27.4	
	comp=N,67nm,19.3s,baz=110,slow=37						
MDT	**Midelt**	**13.60**	**260**	Pn	**Pn**	**11 59 54.5**	**+0.9**
	comp=N,0.2nm,0.3s,baz=63,slow=9.0,SNR=2.8						
MDT				LR	LR	12 05 55.8	
	comp=N,137nm,18.7s,baz=63,slow=41						
MLR	**Muntele Rosu**	**14.36**	**46**	Pn	**Pn**	**12 00 03.7**	**-0.2**
	comp=N,0.2nm,0.3s,baz=234,slow=19,SNR=1.5						
MLR				LR	LR	12 06 35.9	
	comp=N,47nm,19.6s,baz=71,slow=42						
CLL	**Collm**	**15.08**	**4**	*e*PP	**P**	**12 00 24.0**	**+5.6**
AKASG	**Malin Array Be**	**19.32**	**36**	P	**Pn**	**12 01 07.2**	**+0.7**
	comp=N,0.5nm,0.3s,baz=233,slow=10,SNR=5.1						
EIL	**Elat**	**20.84**	**102**	LR	LR	12 10 01.8	
	comp=N,24nm,20.5s,baz=282,slow=39						
HFS	**Hagfors**	**23.93**	**3**	LR	LR	12 11 26.1	
	comp=N,28nm,18.3s,baz=214,slow=37						
TORD	**Torodi Ar. Bea**	**24.61**	**203**	P	**P**	**12 02 01.3**	**+1.0**
	comp=N,1.8nm,0.8s,baz=22,slow=9.9,SNR=9.2						
TORD				PcP	**PcP**	**12 05 39.2**	**+1.5**
	comp=N,0.2nm,0.5s,baz=52,slow=2.2,SNR=1.4						
NOA	**NORSAR Array B**	**24.79**	**360**	P	**P**	**12 02 02.5**	**+0.9**
	comp=N,0.5nm,0.7s,baz=184,slow=7.5,SNR=5.5						
NOA				LR	LR	12 12 30.8	
	comp=N,22nm,18.7s,baz=205,slow=38						
FINES	**FINESS Array B**	**26.86**	**16**	P	**P**	**12 02 20.1**	**-0.1**
	comp=N,0.9nm,0.6s,baz=198,slow=8.5,SNR=1.8						
KURBB	**Kurchatov Arra**	**49.18**	**51**	P	**P**	**12 05 28.7**	**+1.0**
	comp=N,0.5nm,0.7s,baz=291,slow=8.8,SNR=5.3						
MKAR	**Makanchi Array**	**52.46**	**55**	P	**P**	**12 05 53.9**	**+1.3**
	comp=N,1.6nm,0.6s,baz=281,slow=6.5,SNR=16						
YKA	**Yellowknife Ar**	**72.46**	**337**	LR	LR	12 39 16.4	
	comp=N,37nm,18.2s,baz=0.0,slow=35						
ROSC	**El Rosal**	**83.67**	**271**	LR	LR	12 46 01.6	
	comp=N,39nm,18.6s,baz=186,slow=35						
TXAR	**Lajitas Array**	**90.65**	**308**	LR	LR	12 50 11.9	
	comp=N,31nm,18.1s,baz=0.0,slow=35						

NEIC ***13*** *11:57:18.4±2.1, 3°56S±0°07'×135°43E±0°06, h33km±4km, mb4.6/31, Error ellipse: s-maj=10.0km s-min=8.3km az=199.0*

DJA ***13*** *11:57:18.5±0.2, 3°S±3'×13°5E±', h10km, M4.9/8, mB5.3/6, mb4.8/8, MLv5.0/8, Mw(mB)4.7/6, Mwp6.0/1*

IDC ***13*** *11:57:20.8±1.7, 3°46S×135°42E, h45km±17km, mb4.1/15, mb1 4.3/21, mb1mx4.2/33, mbtmp4.4/21, ML4.8/5, MS3.5/11, Ms1 3.5/11, ms1mx3.1/43, Error ellipse: s-maj=14.8km s-min=11.8km az=72.0*

ISC 13 11:57:17.2±0.4, 3°62S±0°05×135°40E±0°05, h22km, n92, σ1°95/97, mb4.6/29, MS3.6/5, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.93**	**26**	P	**Pn**	**11 57 47.9**	**-0.9**
BAKI	**Biak**	**2.52**	**16**	P	**Pn**	**11 57 56.7**	**-0.1**
FAKI	**Fak Fak**	**3.22**	**283**	P	**Pn**	**11 58 09.3**	**+2.8**
FAKI	**Fak Fak**	**3.22**	**282**	Pn	**Pn**	**11 58 09.1**	**+2.6**
GENI	**Genyem**	**4.87**	**78**	P	**Pn**	**11 58 33.2**	**+4.0**
SIJI	**Sorong**	**4.95**	**303**	P	**Pn**	**11 58 31.6**	**+1.3**
	62nm,0.3s,baz=283,slow=23,SNR=136						
SIJI				S	**Sn**	**11 59 24.6**	**-2.4**
	176nm,0.3s,baz=194,slow=23,SNR=19						
SIJI				LR	LR	12 01 11.6	
	comp=Z,383nm,18.3s,baz=196,slow=47						
JAY	**Jayapura**	**5.41**	**78**	P	**Pn**	**11 58 39.0**	**+2.3**
	11nm,0.3s,baz=233,slow=11,SNR=31						
JAY				S	**Sn**	**11 59 39.5**	**+1.0**
	1.8nm,0.3s,baz=123,slow=23,SNR=0.9						
JAY	**Jayapura**	**5.41**	**78**	P	**Pn**	**11 58 37.2**	**+0.5**
	0.1nm20nm,0.6s						
AAI	**Ambon**	**7.19**	**269**	P	**Pn**	**11 59 03.7**	**+2.6**
	0.4nm2μm78nm,0.5s						
NLAI	**Namlea**	**8.29**	**272**	P	**Pn**	**11 59 18.6**	**+2.4**
	932nm22nm,0.4s						
TNTI	**Ternate**	**9.14**	**298**	Pn	**Pn**	**11 59 28.6**	**+0.8**
SANI	**Sanana**	**9.53**	**279**	P	**Pn**	**11 59 34.8**	**+1.6**
	26nm,0.6s						
MTN	**Manton Dam**	**10.09**	**204**	Pn	**Pn**	**11 59 44.4**	**+3.6**
MTN				Sn	**Sn**	**12 01 33.5**	**+0.1**
SOEI	**Soe**	**12.62**	**241**	P	**Pn**	**12 00 20.3**	**+4.7**
	82nm,0.9s						
SOEI	**Soe**	**12.62**	**241**		**Pn**	**12 00 16.6**	**+0.9**
COEN	**Coen**	**12.82**	**144**	Pn	**Pn**	**12 00 18.7**	**+0.3**
PMG	**Port Moresby**	**13.02**	**117**	P	**Pn**	**12 00 24.3**	**+3.3**
	3.7nm,0.3s,baz=357,slow=1.7,SNR=12						
PMG				S	**Sn**	**12 02 40.9**	**-4.4**
	1.3nm,0.3s,baz=200,slow=21,SNR=3.4						
PMG				LR	LR	12 07 16.6	
	comp=Z,176nm,18.2s,baz=335,slow=46						
PMG	**Port Moresby**	**13.02**	**117**	Pn	**Pn**	**12 00 23.0**	**+2.0**
GTOI	**Gorontalo**	**13.08**	**289**	P	**P**	**12 00 30.9**	**-1.0**
BATI	**Baumata**	**13.35**	**240**	P	**Pn**	**12 00 28.8**	**+3.2**
	7.6nm,0.3s,baz=274,slow=11,SNR=4.5						
BATI				LR	LR	12 06 52.2	
	comp=Z,204nm,18.3s,baz=266,slow=42						
BATI	**Baumata**	**13.35**	**240**	P	**P**	**12 00 35.1**	**+0.1**
KNRA	**Kununurra**	**13.64**	**208**		**Pn**	**12 00 31.1**	**+1.7**
EDFI	**Ende, Flores**	**14.54**	**249**	P	**P**	**12 00 51.0**	**+2.7**
WB0	**Warramunga Arr**	**16.08**	**183**	Pn	**Pn**	**12 01 01.4**	**-0.6**
WB0				IAmb	IAmb	12 01 09.9	
	comp=Z,36nm,0.8s						
WRAB	**Tennant Creek**	**16.25**	**184**		**Pn**	**12 01 03.6**	**-0.6**
WRAB				IAmb	IAmb	12 01 26.9	
	comp=Z,50nm,0.8s						
WB2	**Warramunga Arr**	**16.25**	**184**	Pn	**Pn**	**12 01 03.9**	**-0.4**
WB2				IAmb	IAmb	12 01 27.1	
	comp=Z,52nm,0.9s						
WRA	**Warramunga Arr**	**16.25**	**184**	P	**Pn**	**12 01 03.9**	**-0.4**
	comp=Z,2.8nm,0.3s,baz=5.8,slow=13,SNR=106						
WRA				S	**Sn**	**12 03 58.9**	**-5.3**
	comp=Z,1.8nm,0.3s,baz=5.1,slow=23,SNR=7.0						
WRA				LR	LR	12 07 53.6	
	comp=Z,285nm,18.6s,baz=0.0,slow=38						
WRA	**Warramunga Arr**	**16.25**	**184**		**Pn**	**12 01 02.7**	**-1.6**
WR0	**Warramunga Arr**	**16.26**	**183**	Pn	**Pn**	**12 01 03.7**	**-0.6**
WR0				IAmb	IAmb	12 01 11.9	
	comp=Z,33nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.27**	**213**	P	**P**	**12 01 18.7**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=38,slow=10,SNR=135						
FITZ				S	**Sn**	**12 04 20.1**	**-8.7**
	comp=Z,3.9nm,0.3s,baz=198,slow=15,SNR=10						
FITZ				LR	LR	12 09 00.1	
	comp=Z,102nm,21.0s,baz=27,slow=40						
FITZ	**Fitzroy Crossi**	**17.27**	**213**		**P**	**12 01 18.4**	**-0.1**
CTA	**Charters Tower**	**19.49**	**148**	P	**Pn**	**12 01 46.4**	**+2.1**
	comp=Z,1.4nm,0.3s,baz=324,slow=12,SNR=26						
CTAO	**Charters Tower**	**19.49**	**148**		**P**	**12 01 43.3**	**+0.3**
CTAO				IAmb	IAmb	12 01 49.0	
	comp=Z,12nm,0.6s						
GUMO	**Guam**	**19.51**	**29**	LR	LR	12 10 16.2	
	comp=Z,22nm,18.3s,baz=204,slow=40						
AS31	**Alice Springs**	**19.98**	**184**	P	**Pn**	**12 01 52.2**	**+2.1**
AS31				IAmb	IAmb	12 02 04.0	
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**19.98**	**184**	P	**Pn**	**12 01 51.9**	**+1.8**
	comp=Z,31nm,0.7s,baz=8.5,slow=12,SNR=419						
ASAR				S	**S**	**12 05 27.9**	**-4.2**
	comp=Z,6.6nm,0.9s,baz=8.0,slow=27,SNR=5.5						
ASAR				LR	LR	12 10 09.0	
	comp=Z,274nm,21.3s,baz=358,slow=38						
PSA00	**Pilbara Seismi**	**23.38**	**219**	P	**P**	**12 02 25.1**	**+0.6**
PSA00				IAmb	IAmb	12 02 45.2	
	comp=Z,18nm,0.9s						
FORT	**Forrest**	**27.89**	**194**	P	**P**	**12 03 05.4**	**-0.1**
STKA	**Stephens Creek**	**28.70**	**169**	P	**P**	**12 03 13.9**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=341,slow=8.9,SNR=11						
STKA				LR	LR	12 16 00.1	
	comp=Z,161nm,19.3s,baz=19,slow=39						
STKA	**Stephens Creek**	**28.70**	**169**	P	**P**	**12 03 12.6**	**-0.2**
BBOO	**Buckleboo**	**29.04**	**179**	P	**P**	**12 03 15.0**	**-0.9**
JNU	**Nakatsue**	**36.79**	**354**	P	**P**	**12 04 22.6**	**-0.9**
TARA	**Tarawa**	**37.83**	**83**	P	**P**	**12 04 31.0**	**-1.6**
JWT	**Wachi**	**38.70**	**0**	P	**P**	**12 04 38.8**	**-0.8**
NJ2	**Nanjing**	**38.81**	**337**	*e*P	**P**	**12 04 41.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**40.04**	**4**	P	**P**	**12 04 49.2**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=181,slow=7.8,SNR=4.9						
MJAR				LR	LR	12 17 58.4	
	comp=Z,42nm,21.7s,baz=105,slow=31						
KSRS	**Korea Array**	**41.45**	**351**	P	**P**	**12 05 02.0**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=163,slow=6.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.08**	**303**	P	**P**	**12 05 08.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=123,slow=6.6,SNR=7.2						
XAN	**Xi'an**	**45.02**	**328**	P	**P**	**12 05 32.6**	**+1.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,580nm,6.0s						
BJI	**Beijing**	**46.90**	**340**	P	**P**	**12 05 45.6**	**-0.4**
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
USA0B	**Ussuriysk Arra**	**47.70**	**357**	P	**P**	**12 05 51.4**	**-0.8**
USA0B				IAmb	IAmb	12 06 14.0	
	comp=Z,10.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**47.70**	**357**	P	**P**	**12 05 51.6**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=177,slow=7.4,SNR=7.6						
LZH	**Lanzhou**	**49.30**	**326**	*e*P	**P**	**12 06 07.0**	**+2.1**
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.33**	**336**	*e*P	**P**	**12 06 05.1**	**+0.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,350nm,6.2s						
BKZ	**Black Stump Fm**	**51.38**	**139**	P	**P**	**12 06 19.9**	**-0.6**
BKZ				IAmb	IAmb	12 06 26.4	
	comp=Z,17nm,1.4s						
GTA	**Gaotai**	**53.91**	**326**	⇑P	**P**	**12 06 39.8**	**+0.6**
GTA				S	**S**	**12 14 10.5**	**-3.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,7.5s						
GTA				LR	LR		
	comp=N,190nm,17.4s						
GTA				LR	LR		
	comp=E,180nm,16.0s						
GTA				LR	LR		
	comp=Z,230nm,15.6s						
SONM	**Songino Array**	**57.20**	**337**	P	**P**	**12 07 03.1**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=155,slow=7.7,SNR=12						
SONM	**Songino Array**	**57.20**	**337**	P	**P**	**12 07 01.4**	**-1.4**
PETK	**Petropavlovsk-**	**59.56**	**15**	P	**P**	**12 07 18.9**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=174,slow=5.0,SNR=5.8						
WMQ	**Urumqi**	**63.71**	**323**	*e*P	**P**	**12 07 48.4**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.1s						
MK31	**Makanchi Array**	**68.53**	**324**	P	**P**	**12 08 17.1**	**-1.0**
MKAR	**Makanchi Array**	**68.53**	**324**	P	**P**	**12 08 18.3**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=111,slow=8.2,SNR=18						
ADK	**Adak**	**68.57**	**30**	P	**P**	**12 08 17.3**	**-0.9**
MAKZ	**Makanchi**	**68.72**	**324**	P	**P**	**12 08 18.7**	**-0.6**
MAKZ				IAmb	IAmb	12 08 20.6	
	comp=Z,12nm,1.4s						
ATKA	**Atka Island**	**70.00**	**30**	P	**P**	**12 08 26.2**	**-0.8**
ZAA0	**Zalesovo Array**	**71.09**	**331**	P	**P**	**12 08 32.6**	**-1.1**
ZAA0				IAmb	IAmb	12 08 33.2	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**71.09**	**331**	P	**P**	**12 08 32.9**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=121,slow=5.3,SNR=11						
ZALV	**Zalesovo Beam**	**71.09**	**331**	P	**P**	**12 08 32.6**	**-1.1**
KURK	**Kurchatov**	**72.59**	**326**	P	**P**	**12 08 42.9**	**+0.1**
KURK				IAmb	IAmb	12 08 56.5	
	comp=Z,4.4nm,1.1s						
KURBB	**Kurchatov Arra**	**72.60**	**326**	P	**P**	**12 08 42.5**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=119,slow=4.9,SNR=22						
KK31	**Karatay Array**	**74.48**	**317**	P	**P**	**12 08 53.0**	**-1.1**
KKAR	**Karatay Array**	**74.48**	**317**	P	**P**	**12 08 53.2**	**-0.9**
KKAR	**Karatay Array**	**74.48**	**317**	P	**P**	**12 08 53.6**	**-0.5**
VNDA	**Vanda**	**75.19**	**174**	P	**P**	**12 08 58.6**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=312,slow=4.7,SNR=3.8						
VNDA				LR	LR	12 40 29.4	
	comp=Z,81nm,19.6s,baz=330,slow=34						
MAW	**Mawson**	**80.05**	**202**	P	**P**	**12 09 27.0**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=71,slow=5.3,SNR=6.7						
MAW	**Mawson**	**80.05**	**202**	IAmb	IAmb	12 09 27.2	
	comp=Z,0.5nm,0.8s						
GEYT	**Alibeck**	**82.22**	**309**	P	**P**	**12 09 38.1**	**+1.1**
	comp=Z,1.6nm,0.4s,baz=64,slow=10,SNR=4.2						
GEYT	**Alibeck**	**82.22**	**309**	IAmb	IAmb	12 09 40.2	
	comp=Z,4.5nm,1.1s						
ABKAR	**Akbulak array**	**83.29**	**320**	P	**P**	**12 09 41.2**	**-1.0**
ABKAR	**Akbulak array**	**83.29**	**320**	P	**P**	**12 09 41.0**	**-1.3**
IMAR	**Indian Mountai**	**85.60**	**23**	P	**P**	**12 09 53.1**	**-0.5**
CCB	**Clear Creek Bu**	**87.62**	**25**	P	**P**	**12 10 02.4**	**-1.1**
CCB				IAmb	IAmb	12 10 02.8	
	comp=Z,5.0nm,0.6s						
IL31		**88.03**	**25**	P	**P**	**12 10 03.4**	**-2.1**
IL31	

OK029	**Liberty Lake**	**0.05**	**25**		**Pg**		**12 24 56.6**	**+0.1**
OK029				Sg	**Sg**		**12 24 58.2**	**+0.5**
BCOK	**Bluff Creek, N**	**0.14**	**228**		**Pg**		**12 24 56.6**	**-1.2**
BCOK				Sg	**Sg**		**12 24 58.6**	**-1.2**
OK009	**Oakdale Elemen**	**0.17**	**164**		**Pg**		**12 24 58.1**	**-0.3**
OK025	**Westminster Rd**	**0.20**	**145**		**Pg**		**12 24 58.8**	**-0.2**
OK025				Sg	**Sg**		**12 25 02.1**	**+0.4**
OK005	**Luther M Schoo**	**0.25**	**112**	Pg	**Pg**		**12 25 00.0**	**+0.1**
OKCFA	**Oklahoma City**	**0.34**	**176**		**Pg**		**12 25 00.7**	**-0.7**
OKCFA				Sg	**Sg**		**12 25 05.6**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.35**	**174**		**Pg**		**12 25 01.0**	**-0.6**
OKCSW				Sg	**Sg**		**12 25 06.3**	**+0.1**
FNO	**Franklin**	**0.50**	**172**		**Pg**		**12 25 04.1**	**-0.4**
FNO				Sg	**Sb**		**12 25 11.3**	**-2.0**
QUOK	**Quay**	**0.76**	**56**		**Pb**		**12 25 09.2**	**-1.1**
QUOK				Sg	**Sb**		**12 25 20.3**	**-0.5**
CROK	**Carrier**	**0.86**	**332**		**Pg**		**12 25 10.6**	**-0.7**
KAN13	**South Haven SW**	**1.26**	**0**	Pn	**Pb**		**12 25 18.6**	**-0.3**
KAN14	**Manchester OK**	**1.27**	**342**	Pn	**Pg**		**12 25 17.9**	**-1.2**
TUL1	**Leonard**	**1.38**	**83**	P	**Pn**		**12 25 19.7**	**-0.8**
	baz=264							
TUL1				S	**Sn**		**12 25 39.1**	**0.0**
	baz=264							
TUL1	**Leonard**	**1.38**	**83**	Pn	**Pn**		**12 25 19.6**	**-1.0**
U32A	**Winter Ranch,**	**1.38**	**297**	Pn	**Pn**		**12 25 19.3**	**-1.3**
KAN09	**Caldwell North**	**1.39**	**355**	Pn	**Pn**		**12 25 20.1**	**-0.5**
T35A	**Sooner Cattle**	**1.40**	**34**	Pn	**Pn**		**12 25 20.5**	**-0.4**
KAN10	**Anthony SW Sta**	**1.46**	**340**	Pn	**Pn**		**12 25 20.7**	**-0.9**
WMOK	**Wichita Mounta**	**1.47**	**227**	P	**Pn**		**12 25 20.5**	**-1.3**
	baz=46							
WMOK				S	**Sb**		**12 25 39.5**	**-1.9**
	baz=46							
WMOK	**Wichita Mounta**	**1.47**	**227**		**Pn**		**12 25 20.4**	**-1.3**
KAN08	**Anthony NE Sta**	**1.52**	**345**	Pn	**Pn**		**12 25 22.1**	**-0.4**
KAN12	**Harper NE Stat**	**1.60**	**345**		**Pn**		**12 25 23.5**	**0.0**
X37A	**Clayton**	**2.08**	**123**		**Pn**		**12 25 30.3**	**+0.2**
Z35A	**Perchaven, San**	**2.42**	**175**		**Pn**		**12 25 35.2**	**+0.4**
U38A	**Gravette**	**2.60**	**74**		**Pn**		**12 25 37.5**	**+0.2**
R32A	**Long Quarter,**	**2.84**	**340**		**Pn**		**12 25 41.6**	**+0.9**
HHAR	**Hobbs**	**2.92**	**79**		**Pn**		**12 25 41.9**	**+0.1**
W39A	**Magazine**	**3.07**	**99**	P	**Pn**		**12 25 43.9**	**+0.2**
	baz=282							
W39A				S	**Sn**		**12 26 21.1**	**+0.4**
	baz=282							
W39A	**Magazine**	**3.07**	**99**		**Pn**		**12 25 43.9**	**+0.2**
Z38A	**Mt. Pleasant**	**3.23**	**140**	Pn	**Pn**		**12 25 45.5**	**-0.4**
KSU1	**Kansas State U**	**3.42**	**11**	P	**Pn**		**12 25 48.7**	**+0.2**
	baz=192							
KSU1				S	**Sn**		**12 26 29.0**	**-0.2**
	baz=192							
KSU1	**Kansas State U**	**3.42**	**11**		**Pn**		**12 25 48.7**	**+0.2**
MIAR	**Mount Ida**	**3.42**	**109**	P	**Pn**		**12 25 49.7**	**+1.2**
	baz=292							
MIAR				S	**Sn**		**12 26 30.5**	**+1.2**
	baz=292							
MIAR	**Mount Ida**	**3.42**	**109**		**Pn**		**12 25 49.5**	**+0.9**
AMTX	**Amarillo**	**3.54**	**257**	P	**Pn**		**12 25 51.0**	**+0.6**
	baz=74							
AMTX				S	**Sn**		**12 26 32.2**	**-0.3**
	baz=74							
AMTX	**Amarillo**	**3.54**	**257**	Pn	**Pn**		**12 25 50.5**	**+0.2**
CBKS	**Cedar Bluff**	**3.55**	**330**	P	**Pn**		**12 25 50.7**	**+0.3**
	baz=149							
CBKS				S	**Sn**		**12 26 34.0**	**+1.4**
	baz=149							
CBKS	**Cedar Bluff**	**3.55**	**330**	Pn	**Pn**		**12 25 51.0**	**+0.6**
ABTX	**Abilene, Hawle**	**3.60**	**210**	P	**Pn**		**12 25 50.1**	**-1.0**
	baz=29							
ABTX	**Abilene, Hawle**	**3.60**	**210**	Pn	**Pn**		**12 25 50.3**	**-0.8**
WHTX	**Lake Whitney,**	**3.75**	**180**		**Pn**		**12 25 52.8**	**-0.3**
S39A	**Bolivar**	**3.86**	**59**		**Pn**		**12 25 54.8**	**+0.1**
237A	**Washetta, Mont**	**3.99**	**159**		**Pn**		**12 25 55.9**	**-0.5**
X40A	**Basin Creek Fa**	**4.01**	**107**		**Pn**		**12 25 56.8**	**+0.1**
WHAR	**Wooly Hollow**	**4.26**	**95**		**Pn**		**12 26 00.2**	**+0.1**
W41B	**Gary Mavity, V**	**4.31**	**96**		**Pn**		**12 26 01.1**	**+0.3**
UALR	**University of**	**4.32**	**102**	Pn	**Pn**		**12 26 01.0**	**+0.2**
FCAR	**Ozark Folk Cen**	**4.36**	**87**		**Pn**		**12 26 01.8**	**+0.4**
MGMO	**Mountain Grove**	**4.43**	**70**		**Pn**		**12 26 03.0**	**+0.6**
MSTX	**Muleshoe**	**4.70**	**249**		**Pn**		**12 26 06.0**	**-0.3**
R40A	**Maddies Statio**	**4.88**	**57**		**Pn**		**12 26 08.6**	**-0.1**
435B	**Jarrell**	**4.96**	**181**	Pn	**Pn**		**12 26 09.3**	**-0.4**
P38A	**Dawn**	**4.98**	**38**		**Pn**		**12 26 09.9**	**-0.1**
N33A	**J Bar K, Exete**	**4.98**	**0**	Pn	**Pn**		**12 26 09.6**	**-0.4**
LCAR	**Lake Charles**	**5.14**	**85**	Pn	**Pn**		**12 26 11.9**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.23**	**310**	Pn	**Pn**		**12 26 12.1**	**-1.5**
N35A	**Tabor**	**5.30**	**15**		**Pn**		**12 26 13.9**	**-0.5**
T42A	**Van Buren**	**5.31**	**74**		**Pn**		**12 26 14.6**	**+0.1**
CCM	**Cathedral Cave**	**5.50**	**63**	Pn	**Pn**		**12 26 17.5**	**+0.3**
CCM					Pb	12 26 17.7	-13	
JCT	**Junction City**	**5.61**	**201**		**Pn**		**12 26 17.7**	**-1.0**
BGNE	**Belgrade**	**5.67**	**355**	Pn	**Pn**		**12 26 19.6**	**+0.1**
P40A	**Paris**	**5.73**	**47**	Pn	**Pn**		**12 26 20.4**	**+0.1**
CPRX	**Cap Rock**	**5.94**	**245**		**Pn**		**12 26 22.6**	**-0.7**
N38A	**Joes South For**	**6.04**	**32**		**Pn**		**12 26 24.0**	**-0.6**
FVM	**French Village**	**6.08**	**66**	Pn	**Pn**		**12 26 24.9**	**-0.3**
L34A	**Svendsen Farm,**	**6.27**	**8**	Pn	**Pn**		**12 26 28.1**	**+0.4**
SDCO	**Great Sand Dun**	**6.74**	**290**	Pn	**Pn**		**12 26 34.6**	**+0.1**
ANMO	**Albuquerque**	**7.38**	**266**	Pn	Pn	12 26 49.7	+6.5	
	0.0nm,0.3s,baz=95,slow=11,SNR=1.8							
ANMO				Pg	**Pb**		**12 27 07.6**	**+4.3**
	0.0nm,0.3s,baz=91,slow=16,SNR=7.5							
ANMO				Lg	Lg	12 28 45.1		
	0.1nm,0.3s,baz=349,slow=18,SNR=4.2							
P43A	**Skaggs, Pawnee**	**7.41**	**56**	Pn	**Pn**		**12 26 43.4**	**0.0**
Q44A	**Meyer Farm, Va**	**7.44**	**62**	Pn	**Pn**		**12 26 44.6**	**+0.8**
833A	**Chaparral WMA,**	**7.58**	**193**	Pn	**Pn**		**12 26 46.2**	**+0.4**
ISCO	**Idaho Springs**	**7.60**	**305**		**Pn**		**12 26 46.1**	**-0.2**
BNM	**Barren Site**	**7.68**	**261**	Pn	**Pn**		**12 26 47.1**	**-0.3**
PLAL	**Pickwick Lake**	**7.72**	**93**	Pn	**Pn**		**12 26 47.5**	**-0.2**
MNTX	**Cornudas Mount**	**7.72**	**241**		**Pn**		**12 26 47.8**	**+0.1**
K38A	**Parkersburg**	**7.80**	**27**	Pn	**Pn**		**12 26 48.4**	**-0.2**
L40A	**Anamosa**	**7.97**	**36**	Pn	**Pn**		**12 26 50.2**	**-0.8**
ECSD	**EROS Data Cent**	**8.00**	**5**		**Pn**		**12 26 50.9**	**-0.6**
HDIL	**Hopedale**	**8.04**	**51**		**Pn**		**12 26 51.1**	**-0.9**
TX31	**Lajitas Ar. Si**	**8.26**	**221**		**Pn**		**12 26 55.7**	**+0.6**
TXAR	**Lajitas Array**	**8.26**	**221**	Pn	**Pn**		**12 26 53.4**	**-1.8**
	0.2nm,0.3s,baz=42,slow=12,SNR=2.3							
TXAR				Lg	Lg	12 29 09.3		
	3.6nm,0.3s,baz=42,slow=30,SNR=9.0							
PHWY	**Pilot Hill**	**8.35**	**314**		**Pn**		**12 26 55.9**	**-0.7**
TKL	**Tuckaleechee C**	**11.15**	**86**	Lg	Lg	12 30 39.7		
	0.6nm,0.3s,baz=353,slow=23,SNR=6.1							
PDAR	**Pinedale Array**	**11.69**	**310**	Pn	**Pn**		**12 27 41.8**	**-0.4**
	0.1nm,0.3s,baz=122,slow=16,SNR=3.4							
PDAR				Pg		12 28 26.4		
	0.2nm,0.3s,baz=120,slow=17,SNR=3.7							
PDAR				Lg	Lg	12 31 00.7		
	0.3nm,0.3s,baz=123,slow=25,SNR=5.8							
ULM	**Lac du Bonnet**	**14.54**	**4**	Pn	Pn	12 28 15.7	-5.2	
	0.3nm,0.3s,baz=177,slow=15,SNR=1.8							
ULM				Lg	Lg	12 32 27.6		
	0.1nm,0.3s,baz=100,slow=19,SNR=6.8							
ILAR	**Eielson Array**	**41.20**	**330**	P	**P**		**12 32 41.5**	**+1.7**
	0.2nm,0.7s,baz=100,slow=7.7,SNR=2.0							

ATA 13 12:45:02.1±0.3, 40°06'N×40°76'E, h101km±7km, ML2.2, MW4.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMRE	**Erzurum,Aziziy**	**0.17**	**100**	*e*P	Pn	12 45 17.4	+0.8
EMRE				IAML		12 45 37.6	
	comp=Z,89nm,0.8s						
KOPT	**Kop Dagi**	**0.21**	**258**	*e*P	Pn	12 45 17.6	+0.8
KOPT				IAML		12 45 32.9	
	comp=Z,26nm,0.8s						
KRIK	**Erzurum-spir**	**0.30**	**24**	*e*P	Pn	12 45 17.9	+0.7
KRIK				*e*S	Sn	12 45 30.2	+1.9

WEL 13 12:59:37.5±1.4, 46°S±11°×16°6'E±°, h12km, M3.7/8, ML3.8/8, MLv3.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=7.3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.57**	**72**	P	Pb	12 59 49.5	+0.1
PYZ				S	Sb	12 59 57.7	+0.2
WHZ	**Wether Hill Ro**	**1.49**	**73**	P	Pn	13 00 03.5	-0.6
WHZ				S	Sn	13 00 22.1	-1.4
MLZ	**Mavora Lakes**	**1.83**	**58**	P	Pn	13 00 09.5	+0.7
MLZ				S	Sb	13 00 33.6	-0.2
MSZ	**Milford Sound**	**2.19**	**41**	P	Pn	13 00 12.6	-1.1
SYZ	**Scrubby Hill**	**2.25**	**96**	P	Pn	13 00 14.8	+0.4
SYZ				S	Sn	13 00 43.4	+1.4
TUZ	**Tuapeka**	**2.62**	**83**	P	Pn	13 00 19.3	-0.3
TUZ				S	Sn	13 00 52.3	+1.0
WKZ	**Wanaka**	**2.66**	**56**	P	Pn	13 00 20.7	+0.4
JCZ	**Jackson Bay**	**3.05**	**43**	P	Pn	13 00 26.1	+0.5
ODZ	**Otahua Downs**	**3.57**	**70**	P	Pn	13 00 31.5	-1.1
LBZ	**Lake Benmore**	**3.60**	**59**	P	Pn	13 00 33.0	-0.1
FOZ	**Fox Glacier**	**3.95**	**46**	P	Pn	13 00 37.8	-0.1
GCSZ	**Gaunt Creek Bo**	**4.37**	**48**	P	Pn	13 00 44.3	+0.7
RPZ	**Rata Peaks**	**4.50**	**56**	P	Pn	13 00 44.5	-0.9
WVZ	**Waitaha Valley**	**4.75**	**48**	P	Pn	13 00 48.5	-0.4
OXZ	**Oxford**	**5.30**	**58**	P	Pn	13 00 56.0	-0.5
INZ	**Inchbonnie**	**5.37**	**50**	P	Pn	13 00 56.5	-0.9
LTZ	**Lake Taylor**	**5.78**	**54**	P	Pn	13 01 02.6	-0.4
DSZ	**Denniston Nort**	**6.26**	**45**	P	Pn	13 01 08.6	-1.1

*AEIC **13** 13:00:12.2±2.4, 59°.28N±0°.05×135°.6W±0°.1, h14km±5km, Error ellipse: s-maj=8.9km s-min=5.5km az=48.0*
*NEIC **13** 13:00:12.7±3.4, 59°.29N±0°.05×135°.4W±0°.1, h8km±8km, Error ellipse: s-maj=9.0km s-min=5.1km az=47.0*
*PGC **13** 13:00:13.7±0.0, 59°.28N×135°.60W, h5km, ML2.9/4, 28km Wnw of Haines, Ak Southeastern Alaska*

ISC 13 13:00:12.7±1.0, 59°.28N±0°.03×135°.59W±0°.02, h7km±9km, n54, σ1s20/84, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**0.23**	**36**		**Pg**	**13 00 17.9**	**+0.8**
SKAG					**Sg**	**13 00 20.7**	**+0.5**
PLBC	**Pleasant Camp**	**0.44**	**294**	P	**Pg**	**13 00 21.5**	**+0.3**
PLBC				S	**Sg**	**13 00 21.4**	**+0.2**
PLBC	**Pleasant Camp**	**0.44**	**294**		**Pg**	**13 00 21.4**	**+0.3**
PLBC					**Sg**	**13 00 26.9**	**0.0**
BESE	**Bessie Mountai**	**0.80**	**151**	P	**Pg**	**13 00 28.1**	**+0.2**
BESE				S	**Sg**	**13 00 38.5**	**+0.2**
BESE	**Bessie Mountai**	**0.80**	**151**		**Pg**	**13 00 28.2**	**+0.2**
JIS	**Juneau Island**	**1.19**	**148**		**Pb**	**13 00 34.9**	**-0.5**
WHY	**Whitehorse**	**1.43**	**14**	P	**Pb**	**13 00 39.6**	**-0.1**
WHY				S	**Sn**	**13 00 58.2**	**-0.1**
WHY	**Whitehorse**	**1.43**	**14**		**Pb**	**13 00 39.6**	**-0.1**
WHY					**Sn**	**13 00 58.1**	**-0.1**
YUK7	**Dusty Glacier**	**1.80**	**315**	Pn	**Pn**	**13 00 45.0**	**+0.7**
YUK7				Sn	**Sn**	**13 01 07.8**	**+0.4**
YUK7	**Dusty Glacier**	**1.80**	**315**		**Pb**	**13 00 45.4**	**-0.7**
HYT	**Haines Junctio**	**1.82**	**329**	Pn	**Pb**	**13 00 45.5**	**-0.9**
HYT				Sg	**Sb**	**13 01 09.5**	**0.0**
HYT	**Haines Junctio**	**1.82**	**329**		**Pb**	**13 00 45.6**	**-0.8**
PNL	**Peninsula**	**1.98**	**283**	Pn	**Pn**	**13 00 47.7**	**+1.1**
PNL					**Pg**	**13 01 49.1**	**0.0**
PNL				Sn	**Sn**	**13 01 12.6**	**+0.9**
PNL				Sg	**Sg**	**13 01 15.4**	**-1.0**
PNL	**Peninsula**	**1.98**	**283**		**Pb**	**13 00 48.2**	**-0.8**
BCPM	**Bancas Point**	**2.17**	**290**		**Pb**	**13 00 51.2**	**-0.9**
YUK6	**Outpost Mounta**	**2.17**	**321**	Pn	**Pn**	**13 00 50.2**	**+0.7**
YUK6				Pg	**Pb**	**13 00 52.1**	**-0.3**
YUK6	**Outpost Mounta**	**2.17**	**321**		**Pb**	**13 00 51.9**	**-0.5**
YUK5	**Granite Creek**	**2.18**	**330**	Pn	**Pn**	**13 00 50.3**	**+0.9**
YUK5				Pg	**Pb**	**13 00 52.3**	**-0.1**
YUK5				Sg	**Sg**	**13 01 21.0**	**-1.6**
YUK5	**Granite Creek**	**2.18**	**330**		**Pb**	**13 00 51.3**	**-1.1**
PCA	**Pinnacle**	**2.51**	**291**	Pn	**Pn**	**13 00 54.8**	**+0.9**
PCA				Pg	**Pb**	**13 00 58.6**	**+0.6**
PCA				Sg	**Sb**	**13 01 30.8**	**+1.8**
PCA	**Pinnacle**	**2.51**	**291**		**Pn**	**13 00 54.8**	**+0.9**
YUK4	**Talbot Arm**	**2.57**	**325**	Pn	**Pn**	**13 00 56.3**	**+1.4**
YUK4				Pg	**Pb**	**13 01 00.1**	**+0.9**
SAMH	**Samovar Hills**	**2.77**	**290**	Pg	**Pb**	**13 01 02.3**	**-0.2**
DLBC	**Dease Lake**	**3.01**	**104**	Pn	**Pn**	**13 01 01.3**	**+0.6**
DLBC				Pg	**Pb**	**13 01 07.5**	**+1.0**
DLBC				Sn	**Sn**	**13 01 37.4**	**+0.3**
DLBC				Sg	**Sg**	**13 01 47.0**	**-2.3**
DLBC	**Dease Lake**	**3.01**	**104**		**Pn**	**13 00 59.1**	**-1.6**
TABL	**Table Mountain**	**3.04**	**295**	Pn	**Pn**	**13 01 02.1**	**+0.9**
TABL	**Table Mountain**	**3.04**	**295**	Pn	**Pn**	**13 01 00.4**	**-0.8**
LOGN	**Logan Glacier**	**3.13**	**302**	Pn	**Pn**	**13 01 03.4**	**+1.0**
LOGN				Pg	**Pb**	**13 01 09.1**	**+0.4**
YAH	**Yahtse**	**3.29**	**292**	Pn	**Pn**	**13 01 03.7**	**-1.1**
CTGM	**Chitina Glacie**	**3.34**	**303**	Pn	**Pn**	**13 01 06.2**	**+0.9**
CTGM				Pg	**Pb**	**13 01 12.5**	**+0.4**
CTGM	**Chitina Glacie**	**3.34**	**303**	Pn	Pn	**13 01 04.5**	**-0.8**
MESA	**MESA**	**3.35**	**288**	Pn	**Pn**	**13 01 06.3**	**+0.8**
MESA	**MESA**	**3.35**	**288**	Pn	Pn	**13 01 04.9**	**-0.6**
WRAK	**Wrangell Islan**	**3.35**	**147**	Pn	**Pn**	**13 01 05.4**	**+0.1**
GRNC	**Granite Creek**	**3.42**	**295**	Pn	**Pn**	**13 01 08.0**	**+0.8**
YUK3	**Moose Creek**	**3.47**	**318**	Pn	**Pn**	**13 01 08.0**	**+0.8**
YUK3				Pg	**Pb**	**13 01 14.8**	**+0.3**
BARN	**Barnard Glacie**	**3.52**	**303**	Pn	**Pn**	**13 01 05.8**	**-2.1**
BARN					**Pb**	**13 01 16.7**	**+1.3**
YUK2	**White River**	**3.62**	**316**	Pn	**Pn**	**13 01 10.0**	**+0.9**
YUK2				Pg	**Pb**	**13 01 18.3**	**+1.4**
ISLE	**Juniper Island**	**3.65**	**294**	Pn	**Pn**	**13 01 10.4**	**+0.8**
YUK1	**Sand Pete Hill**	**3.77**	**322**	Sg	**Sg**	**13 02 09.9**	**-3.7**
BALM	**Baldy**	**3.81**	**300**	Pn	**Pn**	**13 01 12.8**	**+1.1**
BALM				Pg	**Pb**	**13 01 20.7**	**+0.5**
BALM	**Baldy**	**3.81**	**300**	Pn	**Pn**	**13 01 10.2**	**-1.6**
BALM				Pg	**Pb**	**13 01 20.2**	**0.0**
PTPK	**Patty Peak**	**3.93**	**302**	Pn	**Pn**	**13 01 14.4**	**+0.9**
PTPK				Pg	**Pb**	**13 01 23.6**	**+1.3**
BVCY	**Beaver Creek**	**4.07**	**323**	Pg	**Pb**	**13 01 26.5**	**+1.9**
BVCY				Sg	**Sg**	**13 02 21.0**	**-2.1**
CRQM	**Cirque**	**4.07**	**295**	Pn	**Pn**	**13 01 16.6**	**+1.2**
VRDI	**Verde Repeater**	**4.38**	**300**	Pn	**Pn**	**13 01 18.7**	**-1.0**
HMT	**Hamilton**	**4.51**	**287**	Pn	**Pn**	**13 01 20.3**	**-1.0**
GLB	**Gilahina Butte**	**4.62**	**301**	Pn	**Pn**	**13 01 22.4**	**-0.5**
DAWY	**Dawson**	**5.13**	**341**	Pn	**Pn**	**13 01 30.7**	**+0.8**
DAWY				Sg	**Sg**	**13 02 52.1**	**-5.2**
DAWY	**Dawson**	**5.13**	**341**		**Pn**	**13 01 30.7**	**+0.8**
MID	**Middleton Isla**	**5.50**	**276**	Pn	**Pn**	**13 01 33.7**	**-1.2**
Q23K	**Middleton Isla**	**5.51**	**276**	Pn	**Pn**	**13 01 33.8**	**-1.2**
KLU	**Klutina**	**5.58**	**298**	Pn	**Pn**	**13 01 37.0**	**+0.9**
EGAK	**Eagle**	**6.11**	**337**	Pn	**Pn**	**13 01 44.9**	**+1.7**

*IDC **13** 13:04:36.1±0.9, 34°.24N×78°.68E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.8/49, mbtmp3.8/13, ML3.6/3, MS2.8/1, Ms1 3.0/1, ms1mx2.4/41, Error ellipse: s-maj=32.1km s-min=16.4km az=55.0*
*BJI **13** 13:04:36.4±0.0, 34°.20N×78°.74E, h8km, ML3.9/3*

ISC 13 13:04:38.7±0.8, 34°.45N±0°.09×79°.1E±0°.1, h10km, n18, σ1s87/18, mb3.9/10, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**6.01**	**266**	P	**Pn**	**13 06 10.9**	**+3.1**
THW	**Thamme Wali**	**6.37**	**257**	P	**Pn**	**13 06 15.6**	**+2.9**
WMQ	**Urumqi**	**11.48**	**33**	*e*P	Pn	13 07 30.4	+7.7
MKAR	**Makanchi Array**	**12.56**	**10**	Pn	**Pn**	**13 07 39.2**	**+1.7**
	0.4nm,0.3s,baz=188,slow=13,SNR=18						
MKAR				Sn	**Sn**	**13 09 56.4**	**-1.1**
	0.1nm,0.3s,baz=186,slow=21,SNR=3.4						
KURBB	**Kurchatov Arra**	**16.17**	**359**	Pn	**Pn**	**13 08 26.9**	**+1.0**
	0.1nm,0.3s,baz=186,slow=11,SNR=13						
BVAR	**Borovoye Array**	**19.59**	**344**	P	**P**	**13 09 07.4**	**+0.6**
	0.4nm,0.3s,baz=165,slow=29,SNR=9.9						
ZALV	**Zalesovo Beam**	**19.91**	**10**	P	**P**	**13 09 11.3**	**+1.1**
	1.5nm,0.6s,baz=200,slow=9.6,SNR=7.5						
WSAR	**Wadi Sarin**	**21.10**	**243**	P	**P**	**13 09 21.7**	**-1.7**
	7.7nm,0.9s,baz=100,slow=11,SNR=4.8						
AKTO	**Aktyubinsk**	**22.19**	**322**	P	**P**	**13 09 34.2**	**-0.7**
	4.8nm,0.6s,baz=113,slow=11,SNR=19						
CMAR	**Chiang Mai Arr**	**23.77**	**127**	P	**P**	**13 09 50.9**	**-0.6**
	1.9nm,0.7s,baz=314,slow=9.8,SNR=20						
CMAR				LR	LR	13 19 35.6	
	comp=Z,25nm,21.0s,baz=175,slow=38						
FINES	**FINESS Array B**	**42.90**	**326**	P	**P**	**13 12 35.5**	**-1.5**
	1.9nm,0.6s,baz=109,slow=8.9,SNR=7.6						
ARCES	**ARCESS Array B**	**45.61**	**337**	P	**P**	**13 12 58.2**	**-0.5**
	3.0nm,0.9s,baz=103,slow=12,SNR=4.7						
NB2	**NORSAR Subarra**	**49.97**	**324**	P	**P**	**13 13 32.0**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**49.97**	**324**	P	**P**	**13 13 31.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=90,slow=7.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**72.39**	**274**	P	**P**	**13 16 01.4**	**-4.0**
	comp=Z,1.5nm,0.8s,baz=35,slow=7.6,SNR=6.0						
ILAR	**Eielson Array**	**74.77**	**19**	P	**P**	**13 16 19.1**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=328,slow=4.7,SNR=2.0						
WRA	**Warramunga Arr**	**75.37**	**127**	P	**P**	**13 16 23.2**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=314,slow=6.7,SNR=3.5						
ASAR	**Alice Springs**	**77.75**	**130**	P	**P**	**13 16 37.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=317,slow=6.4,SNR=4.3						

*ISN **13** 13:12:32.7±0.9, 33°.71N×45°.57E, h1km±3km, ML3.0*
*TEH **13** 13:12:33.8, 33°.71N×45°.69E, h8km, ML3.2*

ISC 13 13:12:34.9±0.9, 33°.74N±0°.04×45°.62E±0°.04, h13km, n20, σ1s27/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.68**	**158**	*e*Pg	**Pg**	**13 12 47.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**13 12 56.0**	**-1.1**
IGHG	**Ghaleghazi**	**0.98**	**53**	*e*Pg	**Pg**	**13 12 52.7**	**-1.1**
IGHG				*e*		13 13 12.3	
BHD	**Baghdad**	**1.14**	**246**	*e*Pg	**Pb**	**13 12 55.0**	**-1.4**
BHD				*e*Sg	**Sb**	**13 13 11.0**	**-0.1**
BHD				AML	AML	13 13 18.7	
	comp=E,1μm,0.7s						
IDHR	**Dehrash**	**1.15**	**33**	*e*Pg	**Pb**	**13 12 55.7**	**-1.0**
IDHR				*e*		13 13 16.6	
IVIS	**Veis**	**1.28**	**52**	*e*Pg	**Pn**	**13 12 57.9**	**-0.7**
IVIS				*e*Sg	**Sb**	**13 13 16.6**	**+1.2**
IVIS				*e*		13 13 19.0	
KER	**Kermanshah**	**1.41**	**62**	*e*Pg	**Pn**	**13 13 00.7**	**+0.3**
ILIN	**Lien**	**1.61**	**43**	*e*		13 13 28.3	
ILIN				*e*Pg	**Pn**	**13 13 04.3**	**+1.0**
IKOM	**Komasi**	**1.63**	**74**	*e*		13 13 32.6	
IKOM				*e*Pg	**Pn**	**13 13 04.5**	**+1.1**
DHL1	**Dehloran**	**1.75**	**127**	*e*Pg	**Pn**	**13 13 06.2**	**+1.3**
IKFM	**Kafar-mosalman**	**1.87**	**96**	*e*		13 13 40.9	
IKFM				*e*Pg	**Pn**	**13 13 08.5**	**+2.0**
IBZA	**Bozab**	**1.99**	**68**	*e*		13 13 13.4	
IBZA				*e*Pg	**Pn**	**13 13 09.3**	**+0.8**
IDOB	**Doab**	**2.13**	**88**	*e*Pn	**Pn**	**13 13 11.7**	**+1.4**
IKMR	**Kamar-syah**	**2.31**	**95**	*e*Pn	**Pn**	**13 13 12.7**	**+0.1**
IKMR				*e*		13 13 53.4	
IALM	**Almabolaq**	**2.38**	**61**	*e*Pn	**Pn**	**13 13 15.6**	**+1.7**
HSAM	**Samen**	**2.52**	**78**	*e*Pn	**Pn**	**13 13 16.0**	**+0.2**
HSRG	**Sareghieh**	**2.66**	**55**	*e*Pn	**Pn**	**13 13 16.9**	**+1.2**
HSRG				*e*		13 14 02.8	
NSR	**Nassriya**	**2.76**	**171**	*e*Pn	**Pn**	**13 13 20.0**	**+1.2**
NSR				*e*Sn	**Sn**	**13 13 54.0**	**+2.0**
MSL	**Mosul**	**3.36**	**323**	*e*Pn	**Pn**	**13 13 28.0**	**+1.0**
MSL				*e*Sn

BAYC	**CANAKKALE_Bayr**	**1.79**	**336**	*i*	P	**Pn**	**13 19 25.4**	**-0.3**
BAYC				*i*	S	**Sb**	**13 19 50.6**	**+0.4**
GDZ	**Gediz**	**1.85**	**57**	*i*	P	**Pb**	**13 19 28.1**	**-0.6**
GDZ				*i*	S	**Sg**	**13 19 53.8**	**-0.3**
APE	**Apeiranthos**	**1.86**	**237**		P	**Pb**	**13 19 28.7**	**-0.1**
APE	**Apeiranthos**	**1.86**	**237**		PN	**Pn**	**13 19 26.6**	**-0.1**
FETY	**Fethiye**	**1.94**	**139**		P	**Pn**	**13 19 28.7**	**+0.9**
EZN	**Ezine**	**1.94**	**333**		P	**Pn**	**13 19 28.7**	**+0.9**
EZN					S	**Sb**	**13 19 54.9**	**+0.4**
	comp=N,465nm,0.8s							
EZN	**Ezine**	**1.94**	**333**		PN	**Pn**	**13 19 27.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.95**	**5**		PN	**Pn**	**13 19 27.9**	**+0.1**
ARG	**Arkhangelos**	**1.95**	**165**		P	**Pn**	**13 19 31.0**	**+0.7**
TVSB	**Tavsanli**	**2.05**	**48**		PN	**Pn**	**13 19 29.9**	**+0.6**
BOZC	**Bozcaada**	**2.06**	**328**		PN	**Pn**	**13 19 29.4**	**0.0**
ANAF	**Anafi Island**	**2.21**	**219**		P	**Pb**	**13 19 33.6**	**-1.2**
ORLT	**Orhaneli**	**2.23**	**29**		PN	**Pn**	**13 19 32.1**	**+0.3**
EDC	**Edincik**	**2.26**	**7**		PN	**Pn**	**13 19 32.7**	**+0.6**
LPK	**Lapseki**	**2.34**	**346**		PN	**Pn**	**13 19 33.3**	**+0.1**
THR5	**Thira Island,**	**2.40**	**226**		P	**Pb**	**13 19 38.9**	**+1.0**
ULDT	**Uludag**	**2.41**	**32**	*i*	P	**Pb**	**13 19 38.7**	**+0.5**
ULDT				*i*	S	**Sg**	**13 20 10.8**	**-1.3**
GELI	**Tayfur-Gelibol**	**2.42**	**341**		PN	**Pn**	**13 19 34.9**	**+0.5**
SHUT	**Suhut-Afyon**	**2.45**	**78**		PN	**Pn**	**13 19 35.8**	**+0.9**
MRMT	**Marmara Adasi**	**2.50**	**2**		PN	**Pn**	**13 19 36.4**	**+0.9**
LIA	**Limnos Island**	**2.54**	**316**		P	**Pn**	**13 19 36.3**	**+0.4**
IGD	**Bursa**	**2.54**	**31**	*i*	P	**Pb**	**13 19 40.9**	**+0.6**
IGD				*i*	S	**Sg**	**13 20 14.8**	**-1.3**
KSL	**Kastellorizon**	**2.57**	**139**		P	**Pn**	**13 19 36.7**	**+0.3**
KSL	**Kastellorizon**	**2.57**	**139**		P	**Pn**	**13 19 38.7**	**+2.3**
RKY	**Sarkoy-Tekirda**	**2.59**	**355**		PN	**Pn**	**13 19 37.2**	**+0.5**
MAR6	**Marsite Statio**	**2.60**	**356**		PN	**Pn**	**13 19 37.4**	**+0.5**
MAR3	**Marsite Statio**	**2.64**	**357**		PN	**Pn**	**13 19 37.7**	**+0.3**
ERIK	**Erikli-Kesan**	**2.67**	**344**		PN	**Pn**	**13 19 38.2**	**+0.4**
GEMT	**Gemlik**	**2.68**	**29**		PN	**Pn**	**13 19 39.1**	**+1.2**
ARMT	**Armutlu**	**2.68**	**23**		PN	**Pn**	**13 19 38.2**	**+0.3**
MAR4	**Marsite Statio**	**2.69**	**357**		PN	**Pn**	**13 19 38.3**	**+0.2**
CAVI	**Cavuskoy**	**2.79**	**40**		PN	**Pn**	**13 19 39.9**	**+0.5**
ENEZ	**Enez**	**2.83**	**339**		PN	**Pn**	**13 19 39.8**	**-0.1**
ADVT	**Abdulvahap**	**2.91**	**36**		PN	**Pn**	**13 19 41.5**	**+0.4**
ALN	**Alexandroupoli**	**3.00**	**339**		P	**Pn**	**13 19 42.6**	**+0.3**
ALN	**Alexandroupoli**	**3.00**	**339**		PN	**Pn**	**13 19 42.8**	**+0.5**
AOS	**Alonnisos**	**3.02**	**292**		P	**Pn**	**13 19 43.9**	**+1.4**
AOS	**Alonnisos**	**3.02**	**292**		PN	**Pn**	**13 19 42.8**	**+0.3**
SRCK	**Saricakaya, Es**	**3.12**	**51**		PN	**Pn**	**13 19 43.9**	**0.0**
HRT	**Hereke**	**3.20**	**31**		PN	**Pn**	**13 19 45.7**	**+0.6**
KAVV	**Kandilli-Istan**	**3.20**	**22**		PN	**Pn**	**13 19 45.6**	**+0.6**
ISK	**Istanbul-Kandi**	**3.20**	**22**		PN	**Pn**	**13 19 45.5**	**+0.5**
GULT	**Gulveren**	**3.31**	**44**		PN	**Pn**	**13 19 47.7**	**+1.1**
KLYT	**Kilyos**	**3.37**	**20**		PN	**Pn**	**13 19 48.2**	**+0.9**
RDO	**Rodhopi**	**3.39**	**334**		PN	**Pn**	**13 19 48.1**	**+0.4**
SILT	**Sile**	**3.47**	**28**		PN	**Pn**	**13 19 50.2**	**+1.4**
KDZ	**Kurdzhali**	**3.88**	**336**	*eP*		**Pn**	**13 19 55.1**	**+0.6**
RZN	**Rozhen**	**4.17**	**330**	*eP*		**Pn**	**13 20 00.1**	**+1.6**

*ISN **13** 13:23:21.8±0.9,33°.65N×45°.59E,h0km±4km,ML3.1*
*TEH **13** 13:23:23.1,33°.69N×45°.71E,h8km,ML3.3*
ISC 13 13:23:23.7±0.9,33°.66N±0°.03×45°.65E±0°.04,h13km,n24,
σ1§37/29,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.60**	**157**	*e*Pg	**Pg**	**13 23 35.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**13 23 43.0**	**-0.4**
IBDR				AML	AML	13 23 51.8	
	comp=N,302nm,0.6s						
IBDR				AML	AML	13 23 51.9	
	comp=E,374nm,0.4s						
IGHG	**Ghaleghazi**	**1.01**	**49**	*e*Pg	**Pb**	**13 23 42.3**	**-1.0**
IGHG				*e*		13 24 10.8	
BHD	**Baghdad**	**1.13**	**250**	*e*Pg	**Pb**	**13 23 44.0**	**-1.1**
BHD				*e*Sg	**Sg**	**13 24 00.0**	**-0.2**
BHD				AML	AML	13 24 08.1	
	comp=E,2μm,0.4s						
IDHR	**Dehrash**	**1.20**	**30**	*e*Pg	**Pn**	**13 23 45.1**	**-1.3**
IDHR				*e*		13 24 06.0	
KCHF	**Cheshme Sefid,**	**1.31**	**62**	*e*Pg	**Pn**	**13 23 47.5**	**-0.4**
IVIS	**Veis**	**1.32**	**49**	*e*Pg	**Pb**	**13 23 48.0**	**-0.4**
IVIS				*e*Sg	**Sg**	**13 24 06.1**	**-0.1**
IVIS				*e*		13 24 09.4	
KER	**Kermanshah**	**1.43**	**59**	*e*Pg	**Pg**	**13 23 50.9**	**-0.3**
IKOM	**Komasi**	**1.63**	**71**	*e*Pg	**Pb**	**13 23 53.3**	**-0.4**
IKOM				*e*		13 24 22.6	
ILIN	**Lien**	**1.66**	**41**	*e*Pg	**Pb**	**13 23 53.6**	**-0.7**
ILIN				*e*		13 24 17.7	
DHL1	**Dehloran**	**1.68**	**125**	*e*Pg	**Pb**	**13 23 54.7**	**+0.1**
IKFM	**Kafar-mosalman**	**1.84**	**94**	*e*Pg	**Pb**	**13 23 57.3**	**+0.1**
IBZA	**Bozab**	**2.00**	**66**	*e*Pg	**Pb**	**13 23 58.9**	**-1.3**
IBZA				*e*		13 24 33.1	
IDOB	**Doab**	**2.11**	**86**	*e*Pn	**Pb**	**13 24 00.1**	**-1.9**
IKMR	**Kamar-syah**	**2.29**	**93**	*e*Pn	**Pb**	**13 24 02.9**	**-1.9**
IKMR				*e*		13 24 41.8	
IALM	**Almabolaq**	**2.40**	**60**	*e*Pn	**Pn**	**13 24 04.5**	**+1.5**
IALM				*e*		13 24 41.1	
HSAM	**Samen**	**2.52**	**77**	*e*		13 24 38.2	
HSAM				*e*Pn	**Pn**	**13 24 05.7**	**+1.1**
BMDN	**Meydan**	**2.65**	**89**	*e*		13 24 54.8	
BMDN				*e*Pn	**Pn**	**13 24 07.8**	**+1.5**
NSR	**Nassriya**	**2.68**	**171**	*e*Pn	**Pn**	**13 24 08.0**	**+1.5**
NSR				*e*Sn	**Sb**	**13 24 42.0**	**-2.3**
HSRG	**Sareghieh**	**2.68**	**53**	*e*		13 24 51.8	
HSRG				*e*Pn	**Pn**	**13 24 08.3**	**+1.4**
HAGD	**Aghdareh**	**3.11**	**67**	*e*Pn	**Pn**	**13 24 14.5**	**+1.7**
MSL	**Mosul**	**3.43**	**323**	*e*Pn	**Pn**	**13 24 18.0**	**+1.1**
MSL				*e*Sn	**Sn**	**13 25 00.0**	**+2.5**
MSL				AML	AML	13 25 16.9	
	comp=N,76nm,0.8s						
MSL				AML	AML	13 25 23.1	
	comp=E,82nm,0.9s						
IPIR	**Pirpir**	**4.50**	**101**	*e*Pn	**Pn**	**13 24 33.9**	**+2.0**
IKLH	**Kolahrood**	**4.97**	**92**	*e*Pn	**Pn**	**13 24 40.3**	**+2.0**
KRSH	**Karshahi**	**5.41**	**85**	*e*Pn	**Pn**	**13 24 45.4**	**+1.2**

*NEIC **13** 13:24:02.6±1.2,37°.58S±0°.04×78°.19E±0°.07,h10km±1km,*
mb4.7/17,Error ellipse: s-maj=10.6km s-min=6.7km
az=118.0
*IDC **13** 13:24:03.3±0.9,37°.09S×78°.42E,h0km,mb4.2/11,*
mb1 4.2/11,mb1mx4.0/33,mbtmp4.2/11,MS3.8/16,
Ms1 3.8/16,ms1mx3.6/39,Error ellipse: s-maj=26.4km
s-min=23.6km az=80.0
ISC 13 13:24:03.3±0.5,37°.4S±0°.1×78°.2E±0°.1,h10km,n48,
σ1§53/31,mb4.4/17,MS3.9/16,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.60**	**230**		**Pg**	**13 24 13.2**	**-1.8**
CRZF	**Crozet Islands**	**21.46**	**237**	P	**P**	**13 28 49.4**	**-2.3**
H01W2	**Cape Leeuwin H**	**29.06**	**96**	T	T	14 00 21.4	
	baz=254,slow=75,SNR=126						
H01W3	**Cape Leeuwin H**	**29.06**	**96**	T	T	14 00 22.7	
	baz=254,slow=75,SNR=139						
H01W1	**Cape Leeuwin H**	**29.07**	**96**	T	T	14 00 22.9	
	baz=254,slow=75,SNR=126						
H08S2	**Diego Garcia H**	**30.07**	**349**	T	T	14 01 31.4	
	baz=171,slow=76,SNR=393						
H08S1	**Diego Garcia H**	**30.07**	**349**	T	T	14 01 33.2	
	baz=171,slow=76,SNR=217						
H08S3	**Diego Garcia H**	**30.09**	**349**	T	T	14 01 32.9	
	baz=171,slow=76,SNR=499						
MAW	**Mawson**	**31.45**	**191**	LR	LR	13 40 31.9	
	comp=Z,181nm,20.1s,baz=56,slow=31						
NWAO	**Narrogin (SRO)**	**32.10**	**94**	P	**P**	**13 30 30.1**	**-0.6**
	6.3nm,0.8s,baz=315,slow=7.1,SNR=3.2						
BOSA	**Boshof**	**44.72**	**265**	LR	LR	13 46 45.6	
	comp=Z,67nm,20.7s,baz=158,slow=30						
FITZ	**Fitzroy Crossi**	**45.69**	**78**	LR	LR	13 48 39.2	
	comp=Z,105nm,20.6s,baz=252,slow=32						
BATI	**Baumata**	**49.02**	**68**	LR	LR	13 52 53.1	
	comp=Z,222nm,18.4s,baz=235,slow=36						
ASAR	**Alice Springs**	**49.28**	**90**	P	**P**	**13 32 52.5**	**-0.1**
	4.8nm,1.2s,baz=231,slow=7.4,SNR=6.2						
ASAR				LR	LR	13 51 05.4	
	comp=Z,167nm,19.5s,baz=234,slow=33						
ASAR	**Alice Springs**	**49.28**	**90**	P	**P**	**13 32 51.6**	**-0.9**
AS31	**Alice Springs**	**49.28**	**90**	P	**P**	**13 32 52.4**	**-0.1**
KAPI	**Kappang**	**49.78**	**60**	LR	LR	13 49 54.7	
	comp=Z,59nm,20.1s,baz=238,slow=31						
WRA	**Warramunga Arr**	**51.54**	**87**	P	**P**	**13 33 09.3**	**-0.4**
	5.2nm,1.1s,baz=240,slow=7.3,SNR=6.3						
WRA				LR	LR	13 52 39.6	
	comp=Z,128nm,19.8s,baz=240,slow=34						
WRA	**Warramunga Arr**	**51.54**	**87**	P	**P**	**13 33 08.4**	**-1.2**
WB2	**Warramunga Arr**	**51.55**	**87**	P	**P**	**13 33 09.3**	**-0.4**
WRAB	**Tennant Creek**	**51.55**	**87**	P	**P**	**13 33 08.8**	**-0.9**
STKA	**Stephens Creek**	**51.63**	**104**	P	**P**	**13 33 10.4**	**+0.3**
	4.2nm,0.8s,baz=285,slow=10,SNR=3.5						
STKA				LR	LR	13 51 13.7	
	comp=Z,133nm,19.9s,baz=209,slow=32						
STKA	**Stephens Creek**	**51.63**	**104**	P	**P**	**13 33 08.5**	**-1.6**
WB0	**Warramunga Arr**	**51.68**	**86**	P	**P**	**13 33 09.8**	**-0.8**
WB0				IAmb	IAmb	13 33 19.0	
	comp=Z,8.2nm,1.1s						
SNAA	**Sanae**	**52.17**	**203**	P	**P**	**13 33 18.0**	**+4.3**
	comp=Z,2.0nm,1.0s,baz=103,slow=5.7,SNR=4.8						
VNDA	**Vanda**	**52.45**	**164**	LR	LR	13 53 06.3	
	comp=Z,124nm,19.9s,baz=275,slow=33						
QSPA	**South Pole Qui**	**52.75**	**180**	P	**P**	**13 33 22.6**	**+4.4**
	comp=Z,1.1nm,0.8s,baz=278,slow=4.5,SNR=5.2						
QSPA	**South Pole Qui**	**52.75**	**180**	P	**P**	**13 33 17.1**	**-1.0**
QSPA				IAmb	IAmb	13 33 39.8	
	comp=Z,16nm,1.6s						
CMAR	**Chiang Mai Arr**	**58.92**	**23**	P	**P**	**13 34 03.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=218,slow=5.7,SNR=1.9						
DAV	**Davao City (W)**	**62.57**	**55**	LR	LR	13 59 34.0	
	comp=Z,28nm,18.9s,baz=42,slow=34						
LSA	**Lhasa**	**67.86**	**12**	P	**P**	**13 35 01.0**	**-1.2**
LSA				IAmb	IAmb	13 35 07.4	
	comp=Z,8.9nm,1.3s						
MQZ	**McQueen's Vall**	**68.21**	**129**	P	**P**	**13 35 02.1**	**-1.8**
KRVT	**Keravat (AS076**	**74.59**	**84**	LR	LR	14 07 14.1	
	comp=Z,57nm,18.0s,baz=190,slow=35						
XAN	**Xi'an**	**76.64**	**26**	P	**P**	**13 35 54.5**	**+0.4**
GEYT	**Alibeck**	**77.22**	**344**	P	**P**	**13 35 58.4**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=99,slow=7.7,SNR=1.9						
KK31	**Karatay Array**	**80.44**	**354**	P	**P**	**13 36 14.9**	**+0.1**
KK31				IAmb	IAmb	13 36 20.4	
	comp=Z,8.3nm,1.1s						
KKAR	**Karatay Array**	**80.44**	**354**	P	**P**	**13 36 15.1**	**+0.3**
KKAR	**Karatay Array**	**80.44**	**354**	P	**P**	**13 36 14.8**	**0.0**
KKAR				IAmb	IAmb	13 36 20.4	
	comp=Z,8.3nm,1.1s						
MK31	**Makanchi Array**	**83.91**	**3**	P	**P**	**13 36 33.2**	**+0.2**
MKAR	**Makanchi Array**	**83.91**	**3**	P	**P**	**13 36 31.6**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=153,slow=7.4,SNR=6.9						
MKAR				LR	LR	14 11 17.5	
	comp=Z,61nm,20.9s,baz=176,slow=34						
MAKZ	**Makanchi**	**83.91**	**3**	P	**P**	**13 36 33.9**	**+0.9**
MAKZ				IAmb	IAmb	13 36 37.4	
	comp=Z,5.1nm,1.4s						
KOPT	**Kop Dagi**	**84.45**	**332**	P	**P**	**13 36 35.5**	**-0.7**
KOPT				IAmb	IAmb	13 36 43.3	
	comp=Z,7.0nm,0.9s						
BRTR	**Keskin Array B**	**86.97**	**327**	P	**P**	**13 36 48.6**	**0.0**
	comp=Z,1.5nm,1.0s,baz=182,slow=5.5,SNR=1.9						
BRTR	**Keskin Array B**	**86.97**	**327**	P	**P**	**13 36 49.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**87.42**	**289**	LR	LR	14 14 24.9	
	comp=Z,84nm,18.1s,baz=125,slow=34						
DBIC	**Dimbokro**	**88.48**	**280**	LR	LR	14 13 00.7	
	comp=Z,52nm,19.1s,baz=110,slow=33						
SONM	**Songino Array**	**88.53**	**19**	P	**P**	**13 36 55.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=190,slow=6.9,SNR=2.2						
SONM				LR	LR	14 14 21.9	
	comp=Z,37nm,19.1s,baz=184,slow=34						
ZALV	**Zalesovo Beam**	**91.17**	**4**	LR	LR	14 16 08.3	
	comp=Z,39nm,20.6s,baz=238,slow=34						

*IDC **13** 13:26:30.1±1.6,19°.91S×133°.94E,h0km,mb1 3.7/3,*
mb1mx3.4/21,mbtmp3.6/3,ML3.4/3,Error ellipse:
s-maj=9.5km s-min=3.0km az=96.0
*AUST **13** 13:26:30.9±0.2,19°.82S×134°.03E,h14km±1km,Error*
ellipse: s-maj=2.6km s-min=1.7km az=26.0
ISC 13 13:26:30.2±0.8,19°.81S±0°.06×133°.93E±0°.05,h12km,n14,
σ1§89/21,Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.41**	**108**	Pg	**Pg**	**13 26 37.5**	**-0.9**
	21nm,0.3s,baz=274,slow=30,SNR=838						
WRA				Lg	Lg	13 26 41.8	
	61nm,0.3s,baz=276,slow=30,SNR=9.7						
WB2	**Warramunga Arr**	**0.42**	**108**	P	**Pg**	**13 26 38.0**	**-0.6**
	baz=0.3						
WB2				S	**Sg**	**13 26 42.3**	**-1.9**
	baz=0.3						
ASAR	**Alice Springs**	**3.83**	**180**	Pn	**Pn**	**13 27 31.0**	**+1.9**
	1.7nm,0.3s,baz=8.0,slow=14,SNR=99						
ASAR				Sn	**Sn**	**13 28 15.2**	**+1.1**
	3.0nm,0.3s,baz=0.6,slow=29,SNR=4.3						
ASAR				Lg	Lg	13 28 28.4	
	11nm,0.3s,baz=4.0,slow=31,SNR=5.9						
QIS	**Mount Isa**	**5.39**	**99**	P	**Pn**	**13 27 51.9**	**+1.4**
	baz=5.3						
QIS				S	**Sn**	**13 28 51.0**	**-1.5**
	baz=5.3						
KNRA	**Kununurra**	**6.41**	**309**	P	**Pn**	**13 28 06.2**	**+1.7**
	baz=6.5						
KDU	**Kakadu**	**7.22**	**349**	P	**Pn**	**13 28 17.5**	**+1.8**
	baz=7.3,SNR=10						
KDU				S	**Sn**	**13 29 36.8**	**-0.8**
	baz=7.3						
WRKA	**Warakurna**	**7.36**	**224**	P	**Pn**	**13 28 18.5**	**+0.9**
	baz=7.4						
MTN	**Manton Dam**	**7.43**	**338**	P	**Pn**	**13 28 20.0**	**+1.5**
	baz=7.5						
MTN				S	**Sn**	**13 29 41.8**	**-1.0**
	baz=7.5						
FITZ	**Fitzroy Crossi**	**8.02**	**281**	Pn	**Pn**	**13 28 28.9**	**+2.2**
	0.5nm,0.3s,baz=103,slow=9.6,SNR=47						
FITZ				Sn	**Sn**	**13 29 53.7**	**-3.7**
	1.7nm,0.3s,baz=166,slow=8.3,SNR=11						
FITZ				Lg	Lg	13 30 45.4	
	2.6nm,0.3s,baz=142,slow=19,SNR=6.8						
FITZ	**Fitzroy Crossi**	**8.02**	**281**	P	**Pn**	**13 28 28.2**	**+1.6**
	baz=8.1,SNR=4.7						
FITZ				S	**Sn**	**13 29 53.5**	**-3.9**
	baz=8.1						
OOD	**Oodnadatta**	**8.11**	**169**	P	**Pn**	**13 28 28.6**	**+0.9**
	baz=8.1						
MULG	**Mulgathing**	**10.43**	**179**	P	**Pn**	**13 29 00.7**	**+1.1**
	baz=10						
FORT	**Forrest**	**12.14**	**205**	P	**Pn**	**13 29 22.0**	**-1.0**
	baz=12						
STKA	**Stephens Creek**	**13.85**	**152**	Pn	**Pn**	**13 29 46.7**	**+0.3**
	0.1nm,0.3s,baz=312,slow=14,SNR=1.6						

*MOS **13** 13:26:53.7±0.9,60°.84N×165°.47E,h8km,mb4.4/1,Error*
ellipse: s-maj=36.2km s-min=14.3km az=83.5
*KRSC **13** 13:26:53.4±0.9,60°.86N×165°.54E,h6km±28km,ML4.8,*
FELT [IV] at Tilichiki; [III] at Khailino; [II] at Vivenka.
*IDC **13** 13:26:54.1±1.2,60°.58N×165°.56E,h0km,mb3.5/6,*
mb1 3.8/6,mb1mx3.6/29,mbtmp3.5/6,MS2.7/1,Ms1 2.7/1,
ms1mx2.3/33,Error ellipse: s-maj=39.9km s-min=26.6km
az=154.0
ISC 13 13:26:56.2±0.7,60°.81N±0°.05×165°.64E±0°.06,h15km,n17,
σ1§36/22,mb3.5/6,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.45**	**145**	*e*P	**Pg**	**13 27 04.2**	**-0.8**
TILK				*e*S	**Sb**	**13 27 11.4**	**-0.7**
TILK	**Tilichiki**	**0.45**	**145**	PN	**Pg**	**13 27 04.2**	**-0.8**
TILK				S	**Sb**	**13 27 11.4**	**-0.7**
KMSK	**Kamenskaya**	**1.68**	**9**	*e*P	**Pn**	**13 27 23.8**	**-1.2**
KMSK				*e*S	**Sn**	**13 27 44.9**	**-1.4**
KMSK	**Kamenskaya**	**1.68**	**9**	PN	**Pn**	**13 27 23.8**	**-1.2**
KMSK				S	**Sn**	**13 27 44.9**	**-1.4**
OSSR	**Ossora**	**2.03**	**221**	*e*P	**Pn**	**13 27 29.8**	**0.0**
OSSR				*e*S	**Sb**	**13 27 56.0**	**-1.7**
OSSR	**Ossora**	**2.03**	**221**	PN	**Pn**	**13 27 29.8**	**0.0**
OSSR				S	**Sb**	**13 27 56.0**	**-1.7**
PALN	**Palana**	**3.33**	**241**	*e*P	**Pn**	**13 27 47.7**	**0.0**
PALN	**Palana**	**3.33**	**241**	PN	**Pn**	**13 27 47.7**	**0.0**
PETK	**Petropavlovsk-**	**8.85**	**213**	LR	LR	13 32 25.8	
	comp=Z,40nm,18.3s,baz=25,slow=38						
ILAR	**Eielson Array**	**21.64**	**59**	P	**P**	**13 31 48.0**	**+2.5**
	1.4nm,0.6s,baz=272,slow=8.8,SNR=20						
MKAR	**Makanchi Array**	**47.75**	**293**	P	**P**	**13 35 31.9**	**-0.3**
	0.2nm,0.4s,baz=38,slow=6.0,SNR=2.1						
PDAR	**Pinedale Array**	**51.51**	**70**	P	**P**	**13 36 01.2**	**+0.1**
	0.4nm,0.6s,baz=308,slow=4.9,SNR=4.9						
NB2	**NORSAR Subarra**	**56.89**	**345**	P	**P**	**13 36 42.5**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=359,slow=7.9						
NOA	**NORSAR Array B**	**56.89**	**345**	P	**P**	**13 36 42.3**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=15,slow=7.2,SNR=4.0						
WRA	**Warramunga Arr**	**84.35**	**209**	P	**P**	**13 39 27.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=14,slow=5.3,SNR=2.1						
ASAR	**Alice Springs**	**88.03**	**209**	P	**P**	**13 39 45.0**	**-0.4**
	comp=Z,0.1nm,0.7s,baz=17,slow=4.4,SNR=1.6						
ASAR	**Alice Springs**	**88.03**	**209**	P	**P**	**13 39 45.0**	**-0.4**

*NEIC **13** 13:45:58.1±1.3,21°.0N±0°.1×122°.1E±0°.2,h181km±8km,*
mb4.1/26,Error ellipse: s-maj=24.9km s-min=13.6km
az=75.0
*TAP **13** 13:45:59.7,21°.18N×122°.13E,h196km,ML4.6,D*
*IDC **13** 13:45:59.2±5.3,21°.00N×122°.09E,h196km±53km,*
mb3.5/18,mb1 3.6/19,mb1mx3.4/45,mbtmp4.0/19,Error
ellipse: s-maj=19.5km s-min=9.4km az=74.0
*MAN **13** 13:46:01.3,21°.06N×121°.81E,h157km,mb4.7,ML3.6,*
MS3.5
*JMA **13** 13:46:01.7±0.4,21°.15N×122°.07E,h149km,M3.1*
ISC 13 13:45:59.5±0.6,21°.12N±0°.03×122°.08E±0°.05,h195km±5km,
n175,σ1§76/277,mb4.0/30,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.68**	**189**	*e*P	**Pn**	**13 46 25.2**	**-1.6**
BBP				*e*S	**Sn**	**13 46 44.5**	**-3.4**
LAY	**Lan-yu**	**1.04**	**332**	*i* P	**Pn**	**13 46 28.6**	**-0.3**
	baz=328						
LAY				S	**Sn**	**13 46 51.4**	**-0.7**
	baz=328						
TSEB	**Hengchuen, Pin**	**1.34**	**306**	P	**Pn**	**13 46 32.8**	**+1.5**
	baz=297						
TSEB				S	**Sn**	**13 46 56.7**	**+0.6**
	baz=297						
TWKBT	**Hengchun**	**1.43**	**305**	*e*P	**Pn**	**13 46 32.9**	**+0.8**
	baz=300						
TWKBT				*e*S	**Sn**	**13 46 57.3**	**-0.2**
	baz=300						
TWK1	**Hengchun**	**1.44**	**305**	P	**Pn**	**13 46 33.0**	**+0.8**
	baz=299						
TWK1				S	**Sn**	**13 46 57.0**	**-0.6**
	baz=299						
HEN	**Hengchun**	**1.53**	**306**	*e*P	**Pn**	**13 46 33.9**	**+1.0**
	baz=295						
HEN				*e*S	**Sn**	**13 47 00.1**	**+1.2**
	baz=295						
SLIU	**Shizi**	**1.62**	**313**	P	**Pn**	**13 46 33.9**	**+0.1**
	baz=316						
SLIU				*e*S	**Sn**	**13 46 59.4**	**-1.1**
	baz=316						
LDUT	**Ludao**	**1.65**	**340**	*e*P	**Pn**	**13 46 34.4**	**+0.3**
	baz=342						
LDUT				*e*S	**Sn**	**13 47 00.2**	**-0.9**
	baz=342						
TAW	**Tawu**	**1.65**	**319**	P	**Pn**	**13 46 33.8**	**-0.3**
	baz=316						
TAW				S	**Sn**	**13 46 58.7**	**-2.4**
	baz=316						
EAST	**Anshuo**	**1.70**	**318**	*e*P	**Pn**	**13 46 34.8**	**+0.1**
	baz=311						
EAST				*e*S	**Sn**	**13 46 59.4**	**-2.6**
	baz=311						
ECL	**Taimali**	**1.81**	**325**	*e*P	**Pn**	**13 46 34.9**	**-0.7**
	baz=318						
ECL				*e*S	**Sn**	**13 47 00.8**	**-2.9**
	baz=318						
SCZT	**Fangliau**	**1.84**	**313**	*e*P	**Pn**	**13 46 36.3**	**+0.3**
	baz=315						
SCZT				*e*S	**Sn**	**13 47 02.6**	**-1.8**
	baz=315						
TTN	**Taitung**	**1.84**	**332**	*e*P	**Pn**	**13 46 37.0**	**+1.1**
	baz=322						
TTN				*e*S	**Sn**	**13 47 05.3**	**+0.8**
	baz=322						
TWGBT	**Beinan**	**1.93**	**332**	*e*P	**Pn**	**13 46 36.3**	**-0.5**
	baz=323						
TWGBT				*e*S	**Sn**	**13 47 03.7**	**-2.3**
	baz=323						
TWG	**Pinlang**	**1.94**	**331**	*e*P	**Pn**	**13 46 36.4**	**-0.6**
	baz=323						
TWG				*e*S	**Sn**	**13 47 03.1**	**-3.0**
	baz=323						
TWG	**Pinlang**	**1.94**	**331**	Pn	**Pn**	**13 46 36.2**	**-0.7**
SSPT	**Xinbi**	**1.95**	**314**	*e

HGSD eS Sn 13 47 16.5 +0.6
baz=349
EHY Hungye 2.48 344 eP Pn 13 46 42.8 0.0
baz=335
EHY S Sn 13 47 14.6 -2.2
baz=335
CHN1 Nanshi 2.51 325 P Pn 13 46 43.3 +0.1
baz=323
CHN1 S Sn 13 47 15.2 -2.1
baz=323
CHN3 Shinhua 2.51 321 P Pn 13 46 44.8 +1.6
baz=325
CHN3 S Sn 13 47 18.2 +0.9
baz=325
WTP Ta-pu 2.52 328 eP Pn 13 46 43.2 0.0
baz=320
WTP eS Sn 13 47 15.7 -1.8
baz=320
SNST Tainan City 2.55 325 eP Pn 13 46 43.8 +0.2
baz=323
SNST eS Sn 13 47 15.9 -2.3
baz=323
TPUB Ta-pu 2.55 329 P Pn 13 46 43.6 -0.1
baz=321
TPUB eS Sn 13 47 15.7 -2.5
baz=321
TPUB Ta-pu 2.55 329 Pn Pn 13 46 43.4 -0.2
TAI1 Yung-k'ang 2.57 318 eP Pn 13 46 44.2 +0.4
baz=322
TAI1 eS Sn 13 47 16.9 -1.5
baz=322
TWK Hsinying 2.60 326 P Pn 13 46 43.9 -0.3
baz=324
TWK S Sn 13 47 16.7 -2.5
baz=324
EGFH Guangfu 2.61 347 P Pn 13 46 44.5 +0.2
baz=337
EGFH eS Sn 13 47 17.7 -1.7
baz=337
ALS Alishan 2.66 334 P Pn 13 46 45.0 -0.1
baz=325
ALS S Sn 13 47 19.0 -1.8
baz=325
ESL Shilin 2.75 348 eP Pn 13 46 46.1 +0.2
baz=340
ESL S Sn 13 47 20.2 -2.1
baz=340
VWDT VWDT 2.76 342 eP Pn 13 46 46.9 +0.9
baz=342
VWDT eS Sn 13 47 19.8 -2.7
baz=342
ICHU Yijhu 2.79 324 P Pn 13 46 46.1 -0.1
baz=322
ICHU S Sn 13 47 20.1 -2.9
baz=322
CHN5 Tsauling 2.79 333 P Pn 13 46 46.3 -0.1
baz=331
CHN5 S Sn 13 47 20.8 -2.4
baz=331
WHYT Xinyi Township 2.81 336 *i* P Pn 13 46 46.5 -0.1
baz=335
WHYT *i* S Sn 13 47 21.4 -2.1
baz=335
CHN8 Yiju 2.81 322 *i* P Pn 13 46 46.7 +0.1
baz=327
CHN8 *i* S Sn 13 47 21.6 -1.9
baz=327
CHY Chiayi 2.82 327 P Pn 13 46 46.6 -0.1
baz=326
CHY eS Sn 13 47 21.9 -1.8
baz=326
SSLB Suanglung 2.85 339 eP Pn 13 46 47.0 -0.2
baz=330
SSLB eS Sn 13 47 22.1 -2.4
baz=330
SSLB Suanglung 2.85 339 Pn Pn 13 46 46.8 -0.3
SGCP Mt. Cagua 2.86 181 eP Pn 13 46 46.9 -0.3
SGCP eS Sn 13 47 22.6 -1.9
WLGB Puzi 2.87 325 eP Pn 13 46 46.1 -1.1
baz=323
WLGB S Sn 13 47 21.0 -3.7
baz=323
WGK Gukeng 2.92 332 eP Pn 13 46 47.3 -0.5
baz=330
WGK eS Sn 13 47 23.8 -1.9
baz=330
WDLH Douliu 2.93 331 eP Pn 13 46 47.5 -0.5
baz=329
WDLH eS Sn 13 47 23.3 -2.7
baz=329
SMLT Sun Moon Lake 2.96 339 eP Pn 13 46 48.3 -0.2
baz=331
SMLT eS Sn 13 47 25.5 -1.4
baz=331
WJS Zhushan 2.97 335 P Pn 13 46 48.8 +0.4
baz=334
WJS eS Sn 13 47 24.4 -2.4
baz=334
TWD Chiawan 2.98 352 eP Pn 13 46 50.0 +1.4
baz=357
TWD eS Sn 13 47 26.0 -1.2
baz=357
TYC Yuchr 3.00 338 eP Pn 13 46 49.1 +0.3
baz=330
TYC eS Sn 13 47 24.8 -2.6
baz=330
WTK Tuku 3.00 329 eP Pn 13 46 48.4 -0.4
baz=332
WTK eS Sn 13 47 25.4 -2.0
baz=332
WNT Mingjian 3.04 335 P Pn 13 46 49.6 +0.4
baz=334
WNT eS Sn 13 47 26.2 -2.1
baz=334
WSF Szhu 3.04 326 eP Pn 13 46 48.5 -0.8
baz=324
WSF S Sn 13 47 25.4 -2.9
baz=324
CHGB Renai 3.05 344 P Pn 13 46 50.4 +0.8
baz=335
CHGB eS Sn 13 47 27.7 -1.2
baz=335
NACB Ninganchiao 3.08 352 eP Pn 13 46 49.6 -0.1
baz=356
NACB eS Sn 13 47 25.6 -3.6
baz=356
NACB Ninganchiao 3.08 352 Pn Pn 13 46 49.6 -0.1
WDGT Dungji 3.09 314 P Pn 13 46 49.6 -0.3
baz=312
WDGT S Sn 13 47 26.6 -2.9
baz=312
WHF Hehuan Shan 3.11 346 P Pn 13 46 51.3 +0.7
baz=349
WHF eS Sn 13 47 27.7 -2.8
baz=349
ETLH Xiulin Townshi 3.12 350 eP Pn 13 46 49.8 -0.6
baz=355
ETLH eS Sn 13 47 27.5 -2.8
baz=355
WMLT Mailiao 3.18 328 eS Sn 13 47 30.4 -0.8
baz=326
RLNB Erlin 3.19 330 eP Pn 13 46 50.9 -0.1
baz=332
RLNB eS Sn 13 47 29.1 -2.4
baz=332
FUSS Fushou 3.21 346 P Pn 13 46 52.7 +1.1
baz=348
FUSS eS Sn 13 47 32.4 -0.1
baz=348
TDCB Techi 3.23 345 P Pn 13 46 52.9 +1.2
baz=337
TDCB eS Sn 13 47 31.0 -1.8
baz=337
WCHH Zhanghua 3.27 335 eP Pn 13 46 52.1 +0.1
baz=333
WCHH eS Sn 13 47 31.2 -2.0
baz=333
TCU Taichung 3.28 337 P Pn 13 46 53.0 +0.8
baz=336
TCU eS Sn 13 47 29.1 -4.5
baz=336
ENA Nanau 3.31 355 eP Pn 13 46 52.3 -0.2
baz=354
ENA eS Sn 13 47 31.4 -2.8
baz=354
WHP Taichung City 3.31 342 P Pn 13 46 53.0 +0.3
baz=340
WHP eS Sn 13 47 33.0 -1.5
baz=340
PHUB P'eng-hu 3.33 316 eP Pn 13 46 52.4 -0.3
baz=320
PHUB eS Sn 13 47 31.0 -3.5
baz=320
APYP Conner 3.33 194 eP Pn 13 46 52.4 -0.5
APYP eS Sn 13 47 31.9 -2.7
NNSB Datong 3.36 349 eP Pn 13 46 52.9 -0.3
baz=353
NNSB eS Sn 13 47 32.8 -2.7
baz=353
NNSH Datong 3.36 349 eP Pn 13 46 54.6 +1.4
baz=353
NNSH eS Sn 13 47 33.7 -1.7
baz=353
NNS Nan Shan 3.37 349 eP Pn 13 46 54.2 +0.8
baz=353
NNS eS Sn 13 47 33.9 -1.8
baz=353
PNG Penghu 3.38 317 eP Pn 13 46 52.9 -0.4
baz=315
PNG eS Sn 13 47 32.0 -3.6
baz=315
TWQ1 Liyutan 3.43 340 P Pn 13 46 54.2 +0.2
baz=338
TWQ1 eS Sn 13 47 34.3 -2.6
baz=338
WDJ Dajia District 3.48 338 eS Sn 13 47 36.6 -1.2
baz=346
TWC Suao 3.48 357 eS Sn 13 47 34.1 -3.9
baz=2.0
NSY Sanyi 3.50 340 eS Sn 13 47 35.7 -2.8
baz=339
NDT Datong Townshi 3.51 352 eP Pn 13 46 55.4 +0.5
baz=350
NDT eS Sn 13 47 36.6 -1.9
baz=350
ENTT Nioudou 3.54 352 eP Pn 13 46 55.2 -0.1
baz=351
ENTT eS Sn 13 47 36.5 -2.8
baz=351
PTSB Yuanli 3.55 339 eS Sn 13 47 36.3 -3.2
baz=346
IRIF Iriomote-Funau 3.55 25 P Pn 13 46 56.6 +1.2
JKRS Kuro-shima 3.58 30 P Pn 13 46 57.3 +1.5
YHNB Yeheng 3.59 350 eP Pn 13 46 57.2 +1.1
baz=354
YHNB eS Sn 13 47 37.8 -2.8
baz=354
YHNB Yeheng 3.59 350 Pn 13 46 57.1 +1.0
NMLH Miaoli 3.60 341 eP Pn 13 46 56.6 +0.4
baz=340
NMLH eS Sn 13 47 38.4 -2.3
baz=340
NSK Sanguang 3.60 350 P Pn 13 46 57.2 +1.0
baz=354
NSK eS Sn 13 47 37.6 -3.2
baz=354
TWE Neicheng 3.61 354 eP Pn 13 46 56.2 0.0
baz=358
TWE eS Sn 13 47 38.0 -2.7
baz=358
NSTT Nanjuang 3.64 344 eP Pn 13 46 57.0 +0.5
baz=343
NSTT eS Sn 13 47 36.5 -4.9
baz=343
LIOB Emei 3.65 345 eP Pn 13 46 56.6 -0.1
baz=343
LIOB eS Sn 13 47 36.5 -5.2
baz=343
ABRA Dolores 3.68 201 eP Pn 13 46 57.0 -0.1
ABRA eS Sn 13 47 40.4 -2.0
JIJ Ishigaki jima 3.75 30 P Pn 13 46 58.8 +0.8
TIPB Shuangxi 3.84 357 eP Pn 13 46 59.3 +0.1
baz=2.0
JISG Ishakijimahi 4.02 30 P Pn 13 47 02.1 +0.8
CAUP Cauayan 4.16 183 eP Pn 13 47 04.6 +1.6
VWUC VWUC 4.55 328 eP Pn 13 47 07.0 -1.0
baz=327
VWUC eS Sn 13 47 57.7 -4.3
baz=327
PTMZ Houxiangcun 4.76 326 eP Pn 13 47 09.7 -0.9
baz=324
PTMZ eS Sn 13 48 03.5 -3.2
baz=324
PTTC Pingtan 4.85 335 eP Pn 13 47 11.3 -0.5
baz=333
PTTC eS Sn 13 48 03.9 -4.9
baz=333
ZPLA Ao Xicun 4.88 306 eP Pn 13 47 12.2 0.0
baz=304
ZPLA eS Sn 13 48 04.9 -4.6
baz=304
SMPP San Manuel, Pa 5.11 195 eP Pn 13 47 15.2 -0.1
SMPP eS Sn 13 48 12.8 -2.2
AXDP Jialang 5.34 316 eP Pn 13 47 18.6 +0.6
baz=314
AXDP eS Sn 13 48 15.3 -4.7
baz=314
MATB Ma-tsu 5.38 339 eP Pn 13 47 17.3 -1.3
baz=343
MATB eS Sn 13 48 16.9 -4.2
baz=343
MHZQ Yeshan 5.69 331 eP Pn 13 47 22.5 -0.1
baz=330
MHZQ eS Sn 13 48 25.2 -3.1
baz=330
LYJJ Jianjiangzhen 5.81 339 eP Pn 13 47 23.7 -0.5
baz=338
LYJJ eS Sn 13 48 25.4 -5.7
baz=338
XPSS Dashiqiu 6.04 344 eP Pn 13 47 26.2 -0.9
baz=343
XPSS eS Sn 13 48 30.8 -5.6
baz=343
KSRS Korea Array 17.05 16 P Pn 13 49 46.3 -0.2
0.5nm,0.3s,baz=198,slow=11,SNR=7.1
CMAR Chiang Mai Arr 21.93 267 P P 13 50 35.9 -1.6
0.5nm,0.4s,baz=204,slow=28,SNR=1.3
USRK Ussuriysk Ar. 24.45 17 P P 13 51 01.2 +0.9
1.7nm,0.7s,baz=198,slow=11,SNR=4.0
ASAJ Asahikawa 28.57 32 P P 13 51 37.3 +0.2
3.7nm,0.8s,baz=241,slow=5.1,SNR=1.6
SONM Songino Array 29.51 338 P P 13 51 46.3 +0.8
0.6nm,0.4s,baz=146,slow=10,SNR=4.0
SONM Songino Array 29.51 338 IAmb IAmb 13 51 47.1
comp=Z,1.1nm,1.0s
KNRA Kununurra 37.15 169 P P 13 52 50.3 -1.4
FITZ Fitzroy Crossi 39.13 175 P P 13 53 06.5 -1.6
comp=Z,1.2nm,0.4s,baz=8.1,slow=7.0,SNR=14
FITZ Fitzroy Crossi 39.13 175 P P 13 53 06.6 -1.6
FITZ IAmb IAmb 13 53 07.7
comp=Z,6.4nm,1.2s
MK31 Makanchi Array 41.13 318 P P 13 53 26.2 +1.7
MK31 IAmb IAmb 13 53 26.8
comp=Z,3.2nm,0.8s
MKAR Makanchi Array 41.13 318 P P 13 53 25.7 +1.2
comp=Z,3.9nm,0.6s,baz=111,slow=9.5,SNR=36
MKAR Makanchi Array 41.13 318 P P 13 53 26.1 +1.6
MAKZ Makanchi 41.34 318 P P 13 53 27.9 +1.8
MAKZ IAmb IAmb 13 53 28.6
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 41.99 32 P P 13 53 31.7 +0.4
comp=Z,5.5nm,1.1s,baz=231,slow=11,SNR=1.3
WB0 Warramunga Arr 42.38 163 P P 13 53 33.5 -1.3
WRA Warramunga Arr 42.53 163 P P 13 53 34.1 -2.0
comp=Z,1.1nm,0.6s,baz=345,slow=8.9,SNR=11
WRA Warramunga Arr 42.53 163 P P 13 53 34.0 -2.0
WB2 Warramunga Arr 42.54 163 P P 13 53 34.3 -1.7
WB2 IAmb IAmb 13 53 46.1
comp=Z,6.9nm,1.4s
WR0 Warramunga Arr 42.61 163 P P 13 53 35.0 -1.6
WR0 IAmb IAmb 13 53 50.5
comp=Z,12nm,1.4s
ZAA0 Zalesovo Array 43.27 329 P P 13 53 42.5 +0.9
ZALV Zalesovo Beam 43.27 329 P P 13 53 41.8 +0.2
comp=Z,1.1nm,0.4s,baz=120,slow=8.5,SNR=8.2
ZALV Zalesovo Beam 43.27 329 P P 13 53 42.4 +0.8
KURK Kurchatov 44.98 322 P P 13 53 56.1 +1.0
KURK IAmb IAmb 13 53 57.0
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 44.99 322 P P 13 53 56.1 +0.8
comp=Z,1.9nm,0.5s,baz=115,slow=7.7,SNR=11
AS31 Alice Springs 45.98 165 P P 13 54 01.5 -1.9
ASAR Alice Springs 45.98 165 P P 13 54 02.5 -0.8
comp=Z,0.4nm,0.3s,baz=343,slow=7.3,SNR=27
ASAR Alice Springs 45.98 165 P P 13 54 03.2 -0.2
KKAR Karatay Array 48.02 309 P P 13 54 20.5 +1.6
TIXI Tiksi 50.70 3 P P 13 54 39.6 +0.9
NRIK Noril'sk 52.56 345 P P 13 54 51.9 -0.6
comp=Z,2.2nm,0.6s,baz=162,slow=6.4,SNR=3.7
STKA Stephens Creek 55.91 160 P P 13 55 17.1 -0.1
comp=Z,2.2nm,0.6s,baz=343,slow=8.6,SNR=4.8
STKA Stephens Creek 55.91 160 P P 13 55 17.2 0.0
ABKAR Akbulak array 56.19 316 P P 13 55 20.2 +1.3
IMAR Indian Mountai 68.56 26 P P 13 56 42.4 +1.6
PPLA Purkeypile 69.50 29 P P 13 56 48.0 +1.2
TOLK Toolik Lake Re 69.93 23 P P 13 56 50.8 +1.6
TOLK IAmb IAmb 13 56 52.7
comp=Z,2.8nm,0.9s
KTH Kantishna Hill 69.99 28 P P 13 56 51.6 +1.9
KTH IAmb IAmb 13 57 13.4
comp=Z,8.1nm,1.3s
SUA Susitna One 70.35 31 P P 13 56 53.0 +1.1
MDM Murphy Dome 70.96 27 P P 13 56 57.3 +1.8
WRH Wood River Hil 71.10 27 P P 13 56 58.4 +2.1
ILAR Eielson Array 71.56 27 P P 13 56 58.6 -0.3
comp=Z,0.2nm,0.4s,baz=258,slow=5.1,SNR=4.9
ILAR Eielson Array 71.56 27 P P 13 56 59.4 +0.4
ARCES ARCESS Array B 72.68 339 P P 13 57 06.0 +0.4
comp=Z,3.0nm,0.8s,baz=66,slow=9.6,SNR=4.6
EGAK Eagle 73.95 26 P P 13 57 14.5 +1.4
EGAK IAmb IAmb 13 57 30.8
comp=Z,6.3nm,1.4s
FINES FINESS Array B 74.50 330 P P 13 57 16.6 +0.3
comp=Z,2.8nm,0.8s,baz=44,slow=6.8,SNR=6.7
FINES FINESS Array B 74.50 330 P P 13 57 16.9 +0.7
DAWY Dawson 74.89 27 P P 13 57 19.5 +1.0
DAWY IAmb IAmb 13 57 32.4
comp=Z,8.7nm,1.5s
CTGM Chitina Glacie 74.91 30 P P 13 57 19.9 +1.1
EPYK Eagle Plains 75.25 24 P P 13 57 21.6 +1.0
EPYK IAmb IAmb 13 57 24.5
comp=Z,8.9nm,1.2s
AKASG Malin Array Be 75.71 319 P P 13 57 22.9 -0.5
comp=Z,0.4nm,0.4s,baz=58,slow=4.4,SNR=1.7
AKASG Malin Array Be 75.71 319 P P 13 57 23.4 +0.1
AKBB Malin Array Si 75.71 319 P P 13 57 23.4 0.0
AKBB IAmb IAmb 13 57 23.8
comp=Z,2.4nm,0.9s
BUR08 Bucovina Ar. S 79.15 317 P P 13 57 42.8 +0.1
BUR08 IAmb IAmb 13 57 50.8
comp=Z,3.7nm,1.4s
NOA NORSAR Array B 81.31 333 P P 13 57 53.6 -0.3
comp=Z,0.2nm,0.7s,baz=62,slow=5.0,SNR=3.1

IDC ***13*** *13:55:00.3±1.1,4.7°N×95.5°E,h0km,mb4.0/10, mb1 4.1/12,mb1mx3.9/58,mbtmp4.0/12,ML4.0/1,MS3.4/3, Ms1 3.5/3,ms1mx2.9/39,Error ellipse: s-maj=44.9km s-min=13.0km az=46.0*
NEIC ***13*** *13:55:05.5±1.4,5.08°N±0.08°×95.94°E±0.08,h41km±9km, mb4.3/8,Error ellipse: s-maj=14.4km s-min=7.9km az=138.0*
DJA ***13*** *13:55:08.4±1.5,5°N±5°×9.6°E±1.3,h10km,M4.5/10, mB5.9/1,mb4.7/2,MLv4.4/10,Mw(mB)5.5/1*

ISC 13 13:55:05.7±0.6,5.10N±0.07°×95.84E±0.08,h29km,n42,
σ1s71/42,mb4.0/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**1.00**	**146**	P	**Pn**	**13 55 20.7**	**-3.1**
MLSI				S	**Sn**	**13 55 32.7**	**-4.3**
LHMI	**Lhok Sumawe**	**1.11**	**83**	P	**Pb**	**13 55 25.0**	**-1.3**
LHMI	**Lhok Sumawe**	**1.11**	**83**	Pn	**Pb**	**13 55 25.2**	**-1.1**
TPTI		**2.27**	**144**	P	**Pn**	**13 55 42.5**	**+1.3**
TSI	**Tuntungan**	**3.15**	**120**	P	**Pn**	**13 55 52.6**	**-0.8**
PSI	**Prapat**	**3.83**	**126**	Pn	**Pn**	**13 56 04.2**	**+1.3**
	11nm,0.3s,baz=338,slow=0.2,SNR=18						
PSI				Sn	**Sn**	**13 56 51.9**	**+4.8**
	10.0nm,0.3s,baz=5.9,slow=3.9,SNR=2.2						
PSI				Lg	Lg	13 57 03.9	
	9.4nm,0.3s,baz=12,slow=11,SNR=3.6						
RPSI	**Rantau Prapat**	**3.90**	**128**		**Pn**	**13 56 04.2**	**+0.5**
RPSI					**Sn**	**13 56 51.9**	**+3.4**
GSI	**Gunungsitoli**	**4.15**	**155**	P	**Pn**	**13 56 07.4**	**+0.2**
GSI	**Gunungsitoli**	**4.15**	**155**	Pn	**Pn**	**13 56 06.7**	**-0.5**
KULM	**Kulim**	**4.80**	**88**		**Pn**	**13 56 16.1**	**0.0**
IPM	**Ipoh**	**5.21**	**97**		**Pn**	**13 56 21.0**	**-0.7**
MNSI	**Mandailing Nat**	**5.68**	**139**	P	**Pn**	**13 56 30.5**	**+2.3**
	0.3nm60nm,0.5s						
BKNI	**Bangkinang**	**7.04**	**132**	P	**Pn**	**13 56 46.5**	**-0.3**
MYKOM	**Kota Tinggi**	**8.65**	**112**	Pn	**Pn**	**13 57 08.2**	**-0.8**
MDSI	**Maura Dua**	**12.65**	**139**	P	**Pn**	**13 58 05.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**13.62**	**13**	Pn	**P**	**13 58 21.9**	**-3.7**
	baz=191,slow=14,SNR=1.3						
CMAR				LR	LR	14 04 21.3	
	comp=Z,86nm,18.6s,baz=266,slow=40						
H08S2	**Diego Garcia H**	**26.51**	**242**	T	T	14 27 36.4	
	baz=61,slow=75,SNR=58						
H08S3	**Diego Garcia H**	**26.51**	**242**	T	T	14 27 43.7	
	baz=61,slow=75,SNR=98						
H08S1	**Diego Carcia H**	**26.53**	**242**	T	T	14 27 37.6	
	baz=61,slow=75,SNR=6.6						
FITZ	**Fitzroy Crossi**	**37.36**	**129**	P	**P**	**14 02 14.4**	**-1.7**
	2.0nm,0.6s,baz=327,slow=4.9,SNR=12						
FITZ	**Fitzroy Crossi**	**37.36**	**129**	P	**P**	**14 02 15.0**	**-1.1**
MKAR	**Makanchi Array**	**43.15**	**346**	P	**P**	**14 03 04.8**	**+1.0**
	1.0nm,0.9s,baz=170,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**43.15**	**346**	P	**P**	**14 03 04.6**	**+0.8**
SONM	**Songino Array**	**43.53**	**10**	P	**P**	**14 03 09.2**	**+2.4**
	0.9nm,0.6s,baz=189,slow=8.4,SNR=4.3						
SONM	**Songino Array**	**43.53**	**10**	P	**P**	**14 03 07.6**	**+0.7**
KKAR	**Karatay Array**	**43.98**	**333**	P	**P**	**14 03 12.0**	**+1.6**
WRA	**Warramunga Arr**	**45.30**	**125**	P	**P**	**14 03 20.9**	**-0.5**
	1.5nm,0.5s,baz=302,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	**45.30**	**125**	P	**P**	**14 03 21.4**	**+0.1**
WB2	**Warramunga Arr**	**45.31**	**125**	P	**P**	**14 03 21.1**	**-0.3**
AS31	**Alice Springs**	**46.86**	**129**	P	**P**	**14 03 33.6**	**0.0**
AS31				IAmb	IAmb	14 03 37.6	
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**46.86**	**129**	P	**P**	**14 03 33.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=301,slow=7.8,SNR=4.1						
ASAR				LR	LR	14 23 51.4	
	comp=Z,41nm,19.8s,baz=360,slow=37						
ASAR	**Alice Springs**	**46.86**	**129**	P	**P**	**14 03 33.6**	**0.0**
GEYT	**Alibeck**	**47.38**	**319**	P	**P**	**14 03 37.5**	**0.0**
	comp=Z,4.3nm,0.9s,baz=151,slow=10,SNR=5.5						
GEYT	**Alibeck**	**47.38**	**319**	P	**P**	**14 03 39.3**	**+1.8**
ZALV	**Zalesovo Beam**	**49.52**	**351**	P	**P**	**14 03 52.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=168,slow=8.7,SNR=1.9						
ABKAR	**Akbulak array**	**53.46**	**331**	P	**P**	**14 04 24.0**	**+0.8**
ABKAR	**Akbulak array**	**53.46**	**331**	P	**P**	**14 04 23.6**	**+0.4**
ABKAR				IAmb	IAmb	14 04 46.4	
	comp=Z,4.1nm,1.3s						
BRTR	**Keskin Array B**	**65.51**	**311**	P	**P**	**14 05 45.9**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=116,slow=5.7,SNR=5.1						
BRTR	**Keskin Array B**	**65.51**	**311**	P	**P**	**14 05 46.2**	**-0.5**
LIT	**Litokhoron**	**74.00**	**310**	P	**P**	**14 06 38.4**	**-0.5**
LIT				IAmb	IAmb	14 06 47.1	
	comp=Z,2.9nm,0.8s						
FINES	**FINESS Array B**	**75.93**	**332**	P	**P**	**14 06 49.3**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=104,slow=5.9,SNR=1.3						
ARCES	**ARCESS Array B**	**78.43**	**340**	P	**P**	**14 07 03.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=69,slow=6.6,SNR=4.4						
ARCES				LR	LR	14 44 17.4	
	comp=Z,37nm,21.2s,baz=60,slow=38						

IDC ***13*** *13:57:07.9±4.8,11.60S×162.01E,h35km±36km,mb3.7/7, mb1 3.9/10,mb1mx3.7/42,mbtmp3.9/10,ML4.0/3,MS3.1/4, Ms1 3.1/4,ms1mx2.8/31,Error ellipse: s-maj=35.0km s-min=24.2km az=70.0*
NEIC ***13*** *13:57:07.4±0.6,11.58S±0.1°×162.1E±0.1,h34km±4km, mb4.1/6,Error ellipse: s-maj=22.2km s-min=11.2km az=47.0*

ISC 13 13:57:07.6±0.8,11.58S±0.10°×162.1E±0.1,h39km,n31,
σ1s46/26,mb3.9/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.98**	**315**	Pn	**Pn**	**13 57 51.8**	**-0.7**
	26nm,0.3s,baz=153,slow=5.8,SNR=14						
HNR				Sn	**Sn**	**13 58 24.1**	**-2.9**
	88nm,0.3s,baz=173,slow=15,SNR=9.5						
HNR				LR	LR	13 58 59.1	
	comp=Z,168nm,21.8s,baz=119,slow=38						
HNR	**Honiara**	**2.98**	**315**		**Pn**	**13 57 51.3**	**-1.1**
HNR					**Sn**	**13 58 25.0**	**-2.0**
SANVU	**Saraoutou**	**6.30**	**128**		**Pn**	**13 58 38.0**	**-0.1**

DZM	**Mont Dzumac**	**11.24**	**159**	Pn		**Pn**	**13 59 46.6**	**+0.7**
	1.1nm,0.3s,baz=360,slow=9.2,SNR=23							
DZM				Sn		**Sn**	**14 01 45.7**	**-4.6**
	0.2nm,0.3s,baz=244,slow=24,SNR=1.3							
DZM				LR		LR	14 03 16.9	
	comp=Z,165nm,21.1s,baz=0.5,slow=33							
DZM	**Mont Dzumac**	**11.24**	**159**			**Pn**	**13 59 46.8**	**+0.9**
CTA	**Charters Tower**	**17.40**	**239**	P		**P**	**14 01 09.1**	**+0.6**
	0.2nm,0.3s,baz=77,slow=19,SNR=2.1							
STKA	**Stephens Creek**	**27.65**	**220**	LR		LR	14 13 32.4	
	comp=Z,33nm,19.0s,baz=22,slow=36							
WB2	**Warramunga Arr**	**27.91**	**249**	P		**P**	**14 02 53.4**	**-0.9**
WB2				IAmb		IAmb	14 02 55.6	
	comp=Z,5.4nm,1.2s							
WRA	**Warramunga Arr**	**27.92**	**249**	P		**P**	**14 02 54.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=77,slow=9.4,SNR=6.4							
WRA	**Warramunga Arr**	**27.92**	**249**	P		**P**	**14 02 53.4**	**-1.0**
AS31	**Alice Springs**	**29.34**	**242**	P		**P**	**14 03 07.4**	**+0.4**
AS31				IAmb		IAmb	14 03 34.2	
	comp=Z,1.4nm,0.5s							
ASAR	**Alice Springs**	**29.34**	**242**	P		**P**	**14 03 06.7**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=73,slow=9.8,SNR=13							
ASAR	**Alice Springs**	**29.34**	**242**	P		**P**	**14 03 07.5**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**30.23**	**9**	T		T	14 34 07.9	
	baz=188,slow=76,SNR=6.5							
H11S3	**WAKE ISLAND Hy**	**30.23**	**9**	T		T	14 34 08.4	
	baz=188,slow=76,SNR=5.2							
H11S1	**WAKE ISLAND Hy**	**30.24**	**9**	T		T	14 34 09.1	
	baz=188,slow=76,SNR=7.2							
H11N1	**WAKE ISLAND Hy**	**31.45**	**9**	T		T	14 35 42.1	
	baz=188,slow=76,SNR=5.8							
H11N3	**WAKE ISLAND Hy**	**31.46**	**9**	T		T	14 35 39.1	
	baz=188,slow=76,SNR=6.8							
H11N2	**WAKE ISLAND Hy**	**31.47**	**9**	T		T	14 35 43.9	
	baz=188,slow=76,SNR=6.8							
KNRA	**Kununurra**	**32.60**	**259**	P		**P**	**14 03 35.8**	**0.0**
FITZ	**Fitzroy Crossi**	**35.76**	**255**	P		**P**	**14 04 02.9**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=86,slow=2.8,SNR=2.1							
KSRS	**Korea Array**	**58.35**	**328**	LR		LR	14 30 58.5	
	comp=Z,17nm,18.4s,baz=150,slow=35							
CMAR	**Chiang Mai Arr**	**69.04**	**295**	P		**P**	**14 08 11.9**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=144,slow=7.8,SNR=3.0							
SONM	**Songino Array**	**77.00**	**325**	P		**P**	**14 08 58.0**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=106,slow=4.7,SNR=2.6							
SONM	**Songino Array**	**77.00**	**325**	P		**P**	**14 08 56.7**	**+0.1**
QSPA	**South Pole Qui**	**78.43**	**180**	P		**P**	**14 09 05.2**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=282,slow=0.7,SNR=5.7							
QSPA	**South Pole Qui**	**78.43**	**180**	P		**P**	**14 09 05.2**	**+0.9**
QSPA				IAmb		IAmb	14 09 09.5	
	comp=Z,2.1nm,1.1s							
MKAR	**Makanchi Array**	**91.46**	**317**	P		**P**	**14 10 10.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=104,slow=6.1,SNR=2.0							
MKAR	**Makanchi Array**	**91.46**	**317**	P		**P**	**14 10 10.0**	**0.0**
AKASG	**Malin Array Be**	**125.28**	**325**	PKP		**PKPdf**	**14 16 03.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=48,slow=2.8,SNR=1.7							
AKASG	**Malin Array Be**	**125.28**	**325**			**PKPdf**	**14 16 04.7**	**+0.5**

IDC ***13*** *14:12:46.6±61.0, 21.°31S×179.°58E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=1095.0km s-min=162.0km az=83.0*
NEIC ***13*** *14:13:19.2±2.6, 23.°2S±0.°2×177.°9W±0.°4, h532km±31km, mb4.2/9, Error ellipse: s-maj=49.5km s-min=23.3km az=107.0*
ISC 13 14:13:18.6±1.0, 23.°1S±0.°2×178.°1W±0.°1, h500km, n15, σ1 9 70/15, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.13**	**179**	P	**P**	**14 14 58.0**	**+2.0**
NIUE	**Niue**	**8.58**	**64**	P	**P**	**14 15 20.9**	**-0.2**
QRZ	**Quartz Range**	**19.38**	**202**	P	**P**	**14 17 09.1**	**-2.2**
NNZ	**Nelson**	**19.45**	**200**	P	**P**	**14 17 08.0**	**-4.0**
CTAO	**Charters Tower**	**33.27**	**268**	P	**P**	**14 19 14.0**	**-0.1**
CTAO				IAmb	IAmb	14 19 19.8	
	comp=Z,9.0nm,1.2s						
STKA	**Stephens Creek**	**36.68**	**247**	P	**P**	**14 19 44.2**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=104,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**36.68**	**247**	P	**P**	**14 19 43.1**	**+0.7**
ASAR	**Alice Springs**	**43.93**	**259**	P	**P**	**14 20 40.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=96,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**43.93**	**259**	P	**P**	**14 20 40.3**	**-0.5**
WB0	**Warramunga Arr**	**44.24**	**265**	P	**P**	**14 20 41.6**	**-1.5**
WRA	**Warramunga Arr**	**44.25**	**265**	P	**P**	**14 20 42.0**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=98,slow=8.0,SNR=4.2						
WRA	**Warramunga Arr**	**44.25**	**265**	P	**P**	**14 20 41.9**	**-1.3**
FORT	**Forrest**	**48.26**	**249**	P	**P**	**14 21 14.4**	**+0.8**
FORT				IAmb	IAmb	14 21 21.7	
	comp=Z,30nm,1.1s						
KNRA	**Kununurra**	**50.48**	**268**	P	**P**	**14 21 30.4**	**+0.2**
KNRA				IAmb	IAmb	14 21 39.0	
	comp=Z,9.7nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.67**	**264**	P	**P**	**14 21 45.9**	**-0.2**
FITZ				IAmb	IAmb	14 21 53.9	
	comp=Z,7.5nm,1.5s						

TEH ***13*** *14:40:02.8, 33.°77N×45.°66E, h16km, ML2.7*
ISN ***13*** *14:40:03.1±0.4, 33.°72N×45.°64E, h7km±2km, ML2.6*
ISC 13 14:40:03.2±1.0, 33.°78N±0.°04×45.°64E±0.°05, h10km, n10, σ0 9 82/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.71**	**160**	*e*Pg	**Pg**	**14 40 16.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**14 40 25.0**	**-1.2**
IBDR				AML	AML	14 40 27.1	
	comp=N,79nm,0.4s						
IGHG	**Ghaleghazi**	**0.95**	**54**	*e*Pg	**Pg**	**14 40 20.9**	**-0.6**
IGHG				*e*		14 40 21.9	
IDHR	**Dehrash**	**1.11**	**34**	*e*Pg	**Pg**	**14 40 23.6**	**-0.9**
IDHR				*e*		14 40 43.6	
BHD	**Baghdad**	**1.17**	**244**	*e*Pg	**Pb**	**14 40 25.0**	**-0.4**
BHD				*e*Sg	**Sg**	**14 40 41.0**	**+0.3**
BHD				AML	AML	14 40 46.6	
	comp=E,487nm,0.4s						
KER	**Kermanshah**	**1.38**	**64**	*e*Pg	**Pb**	**14 40 29.2**	**0.0**
KER				*e*		14 40 30.0	
ILIN	**Lien**	**1.58**	**44**	*e*Pg	**Pb**	**14 40 32.4**	**-0.2**
ILIN				*e*		14 40 56.0	
IKOM	**Komasi**	**1.61**	**75**	*e*Pg	**Pn**	**14 40 32.4**	**+0.6**
IKOM				*e*		14 40 35.6	
IKOM				*e*Sg	**Sg**	**14 40 55.2**	**+0.3**
IKFM	**Kafar-mosalman**	**1.86**	**97**	*e*Pg	**Pb**	**14 40 37.1**	**-0.2**
IKFM				*e*		14 40 41.1	
IBZA	**Bozab**	**1.97**	**69**	*e*Pn	**Pn**	**14 40 37.3**	**+0.4**
IBZA				*e*		14 40 41.4	
NSR	**Nassriya**	**2.79**	**171**	*e*Pn	**Pn**	**14 40 49.0**	**+1.1**
NSR				*e*Sn	**Sn**	**14 41 23.0**	**+1.3**

IDC 13 14:40:10.5±2.6, 30.°65N×141.°63E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/33, mbtmp3.5/5, ML2.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/39, Error ellipse: s-maj=122.1km s-min=23.1km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.54**	**335**	Pn	Pn	14 41 49.2	+1.3
	0.1nm,0.3s,baz=160,slow=14,SNR=6.7						
KSRS	**Korea Array**	**13.23**	**305**	LR	LR	14 48 19.0	
	comp=Z,44nm,19.0s,baz=100,slow=37						
MKAR	**Makanchi Array**	**47.90**	**307**	P	P	14 48 50.4	0.0
	0.3nm,0.5s,baz=95,slow=8.1,SNR=3.3						
WRA	**Warramunga Arr**	**50.79**	**189**	P	P	14 49 12.5	-0.1
	0.5nm,0.5s,baz=6.9,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**54.51**	**189**	P	P	14 49 40.3	+0.1
	0.2nm,0.4s,baz=2.9,slow=5.3,SNR=12						
FINES	**FINESS Array B**	**74.56**	**333**	P	P	14 51 50.1	-0.7
	0.5nm,0.4s,baz=61,slow=9.0,SNR=4.6						

NAO ***13*** *14:42:00.5±6.3, 74.°58N×8.°49E, ML3.6*
BER ***13*** *14:42:03.3±1.6, 74.°57N×8.°54E, h17km±14km, ML1.9, ML3.3(NAO), Confirmed Earthquake*
IEPN ***13*** *14:42:06.0, 74.°56N×9.°85E, h15km*
ISC 13 14:41:56.8±1.4, 74.°50N±0.°07×7.°99E±0.°08, h10km, n17, σ2 9 70/25, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**3.87**	**20**	Pn	**Pn**	**14 42 58.6**	**+2.4**
BRBA	**Barentsburg A**	**3.87**	**20**	Pn	**Pn**	**14 42 58.6**	**+2.4**
BRBB	**Barentsburg B**	**3.90**	**19**	Pn	**Pn**	**14 42 59.1**	**+2.5**
BRBB				Sn	**Sn**	**14 43 42.0**	**-0.5**
BRBB	**Barentsburg B**	**3.90**	**19**	Pn	**Pn**	**14 42 59.1**	**+2.5**
BRBB				Sn	**Sn**	**14 43 42.0**	**-0.5**
SPA0	**Spitsbergen Ar**	**4.19**	**24**	Pn	**Pn**	**14 43 03.4**	**+2.8**
	baz=205,slow=14						
SPA0	**Spitsbergen Ar**	**4.19**	**24**	⇑*i*P	**Pn**	**14 43 03.5**	**+2.8**
SPA0				*e*S	**Sn**	**14 43 46.0**	**-3.6**
SPA0	**Spitsbergen Ar**	**4.19**	**24**	Pn	**Pn**	**14 43 03.4**	**+2.8**
	baz=205,slow=14						
SPA0				IAML		14 43 47.2	
	comp=Z,3.6nm,0.8s						
KBS	**Kingsbay**	**4.54**	**10**	Pn	**Pn**	**14 43 07.6**	**+2.1**
KBS	**Kingsbay**	**4.54**	**10**	*e*P	**Pn**	**14 43 07.5**	**+2.1**
KBS				*e*S	**Sn**	**14 43 56.2**	**-1.9**
KBS	**Kingsbay**	**4.54**	**10**	*e*P	**Pn**	**14 43 07.8**	**+2.3**
KBS				*e*S	**Sn**	**14 43 55.2**	**-3.0**
KBS				IAML		14 44 30.5	
	comp=Z,5.1nm,0.7s						
HOPEN	**Hopen**	**4.72**	**57**	Pn	**Pn**	**14 43 09.2**	**+1.3**
HOPEN	**Hopen**	**4.72**	**57**	*e*P	**Pn**	**14 43 09.1**	**+1.3**
HOPEN				*i*S	Sn	14 43 55.7	-6.8
HOPEN	**Hopen**	**4.72**	**57**	*e*P	**Pn**	**14 43 09.5**	**+1.7**
HOPEN				*e*S	**Sn**	**14 43 57.9**	**-4.7**
HOPEN				IAML		14 44 18.9	
	comp=Z,8.2nm,0.9s						
ARA0	**ARCESS Array S**	**7.33**	**124**	Pn	**Pn**	**14 43 47.1**	**+3.3**
ARA0				Sn	**Sn**	**14 45 04.3**	**-2.6**
	baz=319,slow=22						
ARA0	**ARCESS Array S**	**7.33**	**124**	Pn	**Pn**	**14 43 47.1**	**+3.3**
ARA0				Sn	**Sn**	**14 45 04.3**	**-2.6**
	baz=319,slow=22						
DBG	**Daneborg**	**7.56**	**282**	*e*S	**Sn**	**14 45 10.9**	**-1.6**
ZFI2	**Zemlya Franca-**	**10.29**	**35**	P	**Pn**	**14 44 26.8**	**+2.7**

ISN ***13*** *14:43:00.9±0.8, 33.°70N×45.°66E, h10km±4km, ML2.6*
TEH ***13*** *14:43:01.4, 33.°73N×45.°62E, h12km, ML3.1*
ISC 13 14:43:01.4±1.0, 33.°72N±0.°04×45.°60E±0.°05, h13km, n22, σ1 9 36/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**155**	*e*Pg	**Pg**	**14 43 13.7**	**-0.6**
IBDR				*e*Sg	**Sg**	**14 43 22.0**	**-1.1**
IBDR				AML	AML	14 43 36.7	
	comp=N,104nm,0.4s						
IBDR				AML	AML	14 43 37.6	
	comp=E,112nm,0.5s						
IGHG	**Ghaleghazi**	**1.01**	**52**	*e*Pg	**Pg**	**14 43 20.3**	**-0.6**
IGHG				*e*		14 43 21.5	
BHD	**Baghdad**	**1.11**	**247**	*e*Pg	**Pn**	**14 43 23.0**	**+0.3**
BHD				*e*Sg	**Sn**	**14 43 39.0**	**+1.2**
BHD				AML	AML	14 43 46.4	
	comp=E,983nm,0.4s						
IDHR	**Dehrash**	**1.18**	**33**	*e*Pg	**Pb**	**14 43 23.4**	**-0.4**
IDHR				*e*		14 43 44.2	
IVIS	**Veis**	**1.31**	**52**	*e*Pg	**Pg**	**14 43 26.3**	**-0.4**
IVIS				*e*Sg	**Sg**	**14 43 44.5**	**+0.7**
IVIS				*e*		14 43 47.6	
KCHF	**Cheshme Sefid,**	**1.32**	**65**	*e*Pg	**Pg**	**14 43 26.1**	**-0.7**
KCHF				*e*		14 43 47.3	
KER	**Kermanshah**	**1.44**	**62**	*e*Pg	**Pb**	**14 43 28.0**	**-0.1**
ILIN	**Lien**	**1.65**	**43**	*e*Pg	**Pg**	**14 43 32.0**	**-1.1**
ILIN				*e*		14 43 55.9	
IKOM	**Komasi**	**1.65**	**73**	*e*Pg	**Pg**	**14 43 31.9**	**-1.2**
IKOM				*e*		14 44 00.2	
IKFM	**Kafar-mosalman**	**1.88**	**95**	*e*Pn	**Pb**	**14 43 35.3**	**-0.3**
IKFM				*e*		14 44 08.5	
IBZA	**Bozab**	**2.02**	**68**	*e*Pn	**Pb**	**14 43 37.4**	**-0.8**
IBZA				*e*		14 44 08.4	
IDOB	**Doab**	**2.15**	**87**	*e*Pn	**Pb**	**14 43 38.6**	**-1.7**
IKMR	**Kamar-syah**	**2.33**	**94**	*e*Pn	**Pb**	**14 43 41.0**	**-2.2**
IKMR				*e*		14 44 21.0	
IALM	**Almabolaq**	**2.41**	**61**	*e*Pn	**Pb**	**14 43 43.1**	**-1.7**
HSAM	**Samen**	**2.54**	**78**	*e*Pn	**Pn**	**14 43 44.3**	**+1.7**
HSAM				*e*		14 44 16.4	
HSRG	**Sareghieh**	**2.69**	**55**	*e*Pn	**Pb**	**14 43 47.0**	**-2.5**
HSRG				*e*		14 44 30.1	
BMDN	**Meydan**	**2.69**	**90**	*e*Pn	**Pn**	**14 43 45.8**	**+1.3**
BMDN				*e*		14 44 33.0	
NSR	**Nassriya**	**2.74**	**170**	*e*Pn	**Pn**	**14 43 46.0**	**+1.0**
NSR				*e*Sn	**Sn**	**14 44 20.0**	**+2.1**
HAGD	**Aghdareh**	**3.13**	**68**	*e*Pn	**Pn**	**14 43 51.4**	**+0.7**
HAGD				*e*		14 44 32.3	
QABG	**Abgarm-Qazvin**	**3.83**	**58**	*e*Pn	**Pn**	**14 44 01.8**	**+1.4**
IKLH	**Kolahrood**	**5.01**	**93**	*e*Pn	**Pn**	**14 44 18.6**	**+2.1**
KRSH	**Karshahi**	**5.44**	**86**	*e*Pn	**Pn**	**14 44 23.4**	**+1.0**

TEH ***13*** *14:44:32.5, 33.°70N×45.°49E, h12km, ML3.0*
ISN ***13*** *14:44:34.1±0.4, 33.°72N×45.°64E, h7km±2km, ML2.1*
ISC 13 14:44:34.2±1.0, 33.°68N±0.°04×45.°63E±0.°05, h13km, n18, σ1 9 23/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.62**	**156**	*e*Pg	**Pb**	**14 44 47.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**14 44 56.0**	**+0.5**
IBDR				AML	AML	14 45 08.2	
	comp=N,70nm,0.5s						
IBDR				AML	AML	14 45 16.0	
	comp=E,76nm,0.8s						
IGHG	**Ghaleghazi**	**1.01**	**50**	*e*Pg	**Pb**	**14 44 53.5**	**-0.2**
IGHG				*e*		14 44 54.3	
BHD	**Baghdad**	**1.12**	**249**	*e*Pg	**Pg**	**14 44 56.0**	**+0.2**
BHD				*e*Sg	**Sn**	**14 45 12.0**	**+1.1**
BHD				AML	AML	14 45 20.1	
	comp=E,59nm,0.8s						
IDHR	**Dehrash**	**1.19**	**32**	*e*Pg	**Pn**	**14 44 56.0**	**-0.8**
IDHR				*e*		14 45 16.1	
KCHF	**Cheshme Sefid,**	**1.31**	**63**	*e*Pg	**Pb**	**14 44 58.8**	**0.0**
KCHF				*e*		14 45 23.8	
IVIS	**Veis**	**1.32**	**50**	*e*Pg	**Pb**	**14 44 58.8**	**-0.1**
IVIS				*e*		14 45 19.6	
KER	**Kermanshah**	**1.43**	**60**	*e*Pg	**Pg**	**14 45 01.6**	**-0.1**
IKOM	**Komasi**	**1.64**	**72**	*e*		14 45 08.1	
IKOM				*e*Pg	**Pg**	**14 45 05.3**	**-0.4**
ILIN	**Lien**	**1.66**	**41**	*e*		14 45 28.7	
ILIN				*e*Pg	**Pb**	**14 45 04.7**	**0.0**
IKFM	**Kafar-mosalman**	**1.86**	**94**	*e*		14 45 41.3	
IKFM				*e*Pg	**Pg**	**14 45 08.3**	**-0.5**
IBZA	**Bozab**	**2.01**	**66**	*e*Pn	**Pb**	**14 45 10.4**	**-0.4**
IBZA				*e*		14 45 13.7	
IDOB	**Doab**	**2.13**	**86**	*e*Pn	**Pb**	**14 45 11.5**	**-1.2**
IKMR	**Kamar-syah**	**2.30**	**93**	*e*Pn	**Pb**	**14 45 15.5**	**0.0**
IKMR				*e*		14 45 18.1	
IALM	**Almabolaq**	**2.41**	**60**	*e*Pn	**Pb**	**14 45 16.2**	**-1.4**
HSAM	**Samen**	**2.53**	**77**	*e*Pn	**Pn**	**14 45 17.2**	**+2.0**
BMDN	**Meydan**	**2.67**	**89**	*e*Pn	**Pn**	**14 45 19.1**	**+2.1**
BMDN						14 46 05.9	
HSRG	**Sareghieh**	**2.69**	**54**	*e*Pn	**Pb**	**14 45 20.0**	**-2.3**
HSRG				*e*		14 46 03.2	
NSR	**Nassriya**	**2.70**	**171**	*e*Pn	**Pb**	**14 45 20.0**	**-2.3**
NSR				*e*Sn	**Sb**	**14 45 54.0**	**-1.3**

NEIC ***13*** *14:50:46.9±1.6, 3.°3S±0.°1×138.°51E±0.°08, h68km±7km, mb4.5/18, Error ellipse: s-maj=15.0km s-min=11.0km az=169.0*
IDC ***13*** *14:50:47.0±1.5, 3.°35S×138.°63E, h70km±16km, mb3.9/7, mb1 4.1/15, mb1mx3.9/38, mbtmp4.4/15, MS2.9/2, Ms1 2.9/2, ms1mx2.6/34, Error ellipse: s-maj=17.4km s-min=12.2km az=147.0*
DJA ***13*** *14:50:47.0±0.3, 3.°S±4.°×13.°9E±.°, h74km±9km, M4.5/7, mb4.5/7, mB5.4/1, MLv4.5/6, Mw(mB)4.8/1*
ISC 13 14:50:47.3±0.5, 3.°42S±0.°06×138.°54E±0.°05, h71km, n54, σ1 9 29/59, mb4.0/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.82**	**63**	P	**Pn**	**14 51 16.7**	**+0.2**
GENI				S	**Sn**	**14 51 36.8**	**-1.9**
JAY	**Jayapura**	**2.34**	**67**	P	**Pn**	**14 51 23.2**	**-0.3**
	70nm,0.3s,baz=251,slow=16,SNR=165						
JAY				S	**Sn**	**14 51 48.8**	**-2.5**
	102nm,0.3s,baz=53,slow=20,SNR=13						
JAY				LR	LR	14 52 32.7	
	comp=Z,276nm,19.1s,baz=282,slow=48						
JAY	**Jayapura**	**2.34**	**67**	P	**Pn**	**14 51 23.3**	**-0.3**
JAY				S	**Sn**	**14 51 49.3**	**-2.0**
SRPI	**Serui, Papua**	**2.77**	**304**	P	**Pn**	**14 51 29.0**	**-0.3**
SRPI				S	**Sn**	**14 51 58.7**	**-3.0**
BAKI	**Biak**	**3.29**	**312**	P	**Pn**	**14 51 35.6**	**-0.8**
FAKI	**Fak Fak**	**6.30**	**274**	Pn	**Pn**	**14 52 16.5**	**-1.1**
SIJI	**Sorong**	**7.70**	**289**	P	**Pn**	**14 52 36.2**	**-0.5**
	2.9nm,0.3s,baz=107,slow=19,SNR=9.9						
SAUI	**Saumlaki**	**8.51**	**238**	Pn	**Pn**	**14 52 45.0**	**-2.9**
PMG	**Port Moresby**	**10.42**	**125**	P	**Pn**	**14 53 14.0**	**+0.1**
	0.7nm,0.3s,baz=297,slow=11,SNR=2.0						
PMG				LR	LR	14 57 04.8	
	comp=Z,60nm,21.7s,baz=96,slow=36						
PMG	**Port Moresby**	**10.42**	**125**		**Pn**	**14 53 14.6**	**+0.6**
COEN	**Coen**	**11.43**	**157**	Pn	**Pn**	**14 53 29.1**	**+1.4**
MTN	**Manton Dam**	**11.89**	**218**	Pn	**Pn**	**14 53 33.6**	**-0.4**
SANI	**Sanana**	**12.61**	**276**	P	**Pn**	**14 53 43.1**	**-0.8**
	4.9nm,0.7s						
SOEI	**Soe**	**15.51**	**245**	P	**Pn**	**14 54 21.6**	**-0.4**
SOEI	**Soe**	**15.51**	**245**	Pn	**Pn**	**14 54 20.3**	**-1.8**
SOEI				IAmb	IAmb	14 54 37.2	
	comp=Z,32nm,0.7s						
KNRA	**Kununurra**	**15.53**	**218**	Pn	**Pn**	**14 54 21.6**	**-0.5**
KNRA				IAmb	IAmb	14 54 27.5	
	comp=Z,34nm,0.9s						
BATI	**Baumata**	**16.23**	**245**	P	**P**	**14 54 33.4**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=132,slow=5.1,SNR=6.9						
BATI	**Baumata**	**16.23**	**245**	P	**P**	**14 54 34.8**	**+1.9**
WB0	**Warramunga Arr**	**16.75**	**194**	Pn	**Pn**	**14 54 36.2**	**-1.3**
WB0				IAmb	IAmb	14 54 41.8	
	comp=Z,15nm,0.6s						
WR0	**Warramunga Arr**	**16.90**	**193**	Pn	**Pn**	**14 54 37.8**	**-1.5**
WR0				IAmb	IAmb	14 54 48.9	
	comp=Z,24nm,1.0s						
WRAB	**Tennant Creek**	**16.92**	**194**	P	**Pn**	**14 54 39.2**	**-0.4**
WRAB				IAmb	IAmb	14 54 42.0	
	comp=Z,28nm,0.6s						
WB2	**Warramunga Arr**	**16.93**	**194**	P	**Pn**	**14 54 38.8**	**-0.9**
WRA	**Warramunga Arr**	**16.93**	**194**	P	**Pn**	**14 54 38.8**	**-0.9**
	comp=Z,5.7nm,0.3s,baz=17,slow=12,SNR=112						
WRA				S	Sn	14 57 35.0	-12
	comp=Z,0.5nm,0.3s,baz=7.7,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**16.93**	**194**	P	**Pn**	**14 54 37.7**	**-2.0**
CTA	**Charters Tower**	**18.20**	**156**	P	**Pn**	**14 54 56.8**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=328,slow=12,SNR=4.1						
KAPI	**Kappang**	**18.81**	**265**	P	**Pn**	**14 55 03.3**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=39,slow=19,SNR=5.3						
KAPI	**Kappang**	**18.81**	**265**	P	**P**	**14 55 00.7**	**-0.7**
KAPI				IAmb	IAmb	14 55 04.7	
	comp=Z,8.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.30**	**220**	P	**P**	**14 55 07.2**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=39,slow=9.2,SNR=83						
FITZ				S	S	14 58 31.2	-10
	comp=Z,1.4nm,0.3s,baz=188,slow=11,SNR=8.1						
FITZ	**Fitzroy Crossi**	**19.30**	**220**		**P**	**14 55 07.2**	**+0.5**
AS31	**Alice Springs**	**20.62**	**192**	P	**P**	**14 55 21.8**	**+0.7**
AS31				IAmb	IAmb	14 55 23.5	
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**20.62**	**192**	P	**P**	**14 55 21.8**	**+0.7**
	comp=Z,28nm,0.5s,baz=20,slow=11,SNR=436						
ASAR				S	**S**	**14 59 04.6**	**-3.1**
	comp=Z,3.5nm,0.8s,baz=11,slow=27,SNR=7.6						
ASAR	**Alice Springs**	**20.62**	**192**	P	**P**	**14 55 21.4**	**+0.4**
PSA00	**Pilbara Seismi**	**25.61**	**224**	P	**P**	**14 56 10.3**	**+0.2**
PSA00				IAmb	IAmb	14 56 12.5	
	comp=Z,13nm,0.6s						
STKA	**Stephens Creek**	**28.45**	**175**	P	**P**	**14 56 35.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=349,slow=6.6,SNR=8.8						
STKA	**Stephens Creek**	**28.45**	**175**	P	**P**	**14 56 36.2**	**+0.6**
FORT	**Forrest**	**28.96**	**199**	P	**P**	**14 56 39.8**	**-0.3**
BBOO	**Buckleboo**	**29.33**	**184**	P	**P**	**14 56 43.9**	**+0.5**
MORW	**Morawa**	**33.28**	**218**	P	**P**	**14 57 18.0**	**-0.2**
NJ2	**Nanjing**	**39.93**	**334**	*e*P	**P**	**14 58 16.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**55.54**	**324**	*e*P	**P**	**15 00 18.4**	**+2.9**
GTA				pP	pP	15 00 26.6	-7.2
GTA				sP	sP	15 00 30.4	-11
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ	**Urumqi**	**65.46**	**322**	*e*P	**P**	**15 01 24.4**	**+1.4**
MKAR	**Makanchi Array**	**70.25**	**323**	P	**P**	**15 01 53.2**	**+0.3**
	comp=Z,0.8n

H03N2 Juan Fernandez 8.94 226 Pn **Pn** 15 04 48.2 +1.4
baz=116,slow=18,SNR=11
H03N2 Sn **Sn** 15 06 26.2 +0.3
H03N2 T T 15 14 22.5
baz=52,slow=72,SNR=257
H03N3 Juan Fernandez 8.94 225 Pn **Pn** 15 04 49.0 +2.1
baz=116,slow=18,SNR=34
H03N3 Sn **Sn** 15 06 25.8 -0.3
H03N3 T T 15 14 24.9
baz=52,slow=72,SNR=277
H03S3 Juan Fernandez 9.18 224 Pn **Pn** 15 04 51.0 +0.9
baz=33,slow=19,SNR=64
H03S3 Sn **Sn** 15 06 28.8 -3.0
H03S3 T T 15 14 38.2
baz=47,slow=76,SNR=5.5
H03S1 Juan Fernandez 9.19 224 Pn **Pn** 15 04 50.9 +0.7
baz=33,slow=19,SNR=40
H03S1 Sn **Sn** 15 06 28.4 -3.6
H03S1 T T 15 14 40.1
baz=47,slow=76,SNR=7.3
H03S2 Juan Fernandez 9.20 224 Pn **Pn** 15 04 51.6 +1.3
baz=33,slow=19,SNR=41
H03S2 Sn **Sn** 15 06 28.8 -3.4
H03S2 T T 15 14 36.8
baz=47,slow=76,SNR=6.3
TORD Torodi Ar. Bea 81.38 70 P **P** **15 14 51.1 -1.3**
comp=N,0.4nm,0.7s,baz=255,slow=5.7,SNR=2.1
H11S2 WAKE ISLAND Hyl 26.25 274 T T 17 41 04.2
baz=111,slow=75,SNR=5.5
H11S1 WAKE ISLAND Hyl 26.26 274 T T 17 41 05.3
baz=111,slow=75,SNR=5.2
H11S3 WAKE ISLAND Hyl 26.27 274 T T 17 41 05.1
baz=111,slow=75,SNR=6.4
ZALV Zalesovo Beam 148.17 27 PKPbc **PKPab** **15 22 22.5 -1.0**
comp=N,2.4nm,0.6s,baz=298,slow=3.8,SNR=12
MKAR Makanchi Array 151.59 40 PKPbc **PKiKP** **15 22 30.7 +1.1**
comp=N,0.9nm,0.6s,baz=329,slow=2.4,SNR=8.5

RSNC 13 15:14:12.9±1.0, 4.72N×76.17W, h90$^{km}_{\pm 3km}$, ML3.2, Mw3.5,2C-7D, Fault plane solution: NP1:ϕ_s18.00000°, δ16.00000°,λ121.00000°., Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLMC	**San Jos del P**	**0.22**	**327**	⇑*i*	P	15 14 25.4	-0.8
PLMC				*e*	S	15 14 36.1	+0.1
YOTC	**Yotoco, Valle**	**0.75**	**194**	⇑*i*	P	15 14 29.0	-1.1
YOTC				*e*	S	15 14 42.7	-0.2
YOTC				*i*		15 14 43.9	
	comp=Z,1μm,0.3s						
ANIL	**Santa Ana**	**0.79**	**107**	*i*	P	15 14 30.0	-0.7
ANIL				*e*	S	15 14 43.4	-0.6
ANIL				*i*		15 14 49.3	
	comp=Z,163nm,0.3s						
RREF	**El Recreo**	**0.83**	**78**	⇓*e*	P	15 14 27.5	-4.0
RREF				*e*	S	15 14 42.4	-2.9
RREF				*i*		15 14 43.5	
	comp=Z,462nm,0.6s						
TOLC	**Tolima**	**0.85**	**99**	⇓*e*	P	15 14 31.0	-0.3
TOLC				*e*	S	15 14 44.4	-0.7
TOLC				*i*		15 14 50.9	
	comp=Z,1μm,0.4s						
GUY2C	**Guyana, Caldas**	**0.94**	**58**	⇓*i*	P	15 14 32.6	+0.1
GUY2C				*e*	S	15 14 47.7	+0.6
GUY2C				*i*		15 14 50.2	
	comp=Z,344nm,0.6s						
CIBA1	**Ibague, SGC**	**0.97**	**106**	*e*	P	15 14 32.0	-0.5
CBOC	**Ciudad Bolivar**	**1.15**	**8**	⇓*e*	P	15 14 34.0	-0.6
CBOC				*e*	S	15 14 50.5	-0.3
CBOC				*i*		15 14 60.0	
	comp=Z,196nm,0.6s						
PIZC	**Pizarro, Choco**	**1.22**	**282**	*e*	P	15 14 34.6	-0.5
PIZC				*e*	S	15 14 51.5	-0.4
PIZC				*i*		15 15 01.4	
	comp=Z,556nm,0.4s						
ORTC	**Ortega, Tolima**	**1.22**	**131**	⇓*e*	P	15 14 34.7	-0.6
ORTC				*e*	S	15 14 52.1	0.0
ORTC				*i*		15 14 53.5	
	comp=Z,656nm,0.1s						
MALC	**Bahia Malaga**	**1.36**	**239**	*e*	P	15 14 36.4	-0.6
MALC				*e*	S	15 14 55.5	+0.4
MALC				*i*		15 14 59.3	
	comp=Z,365nm,0.3s						
PRAC	**Prado**	**1.62**	**128**	⇓*i*	P	15 14 40.2	-0.1
PRAC				*e*	S	15 15 00.4	-0.6
PRAC				*i*		15 15 04.1	
	comp=Z,221nm,0.5s						
MARP	**Paez Belalcaza**	**1.88**	**174**	*e*	P	15 14 43.2	-0.6
MARP				*e*	S	15 15 06.8	-0.5
MARP				*i*		15 15 09.8	
	comp=Z,66nm,0.4s						
SOLC	**Bahia Solano**	**1.94**	**320**	*e*	P	15 14 43.6	-0.7
SOLC				*e*	S	15 15 07.6	-0.8
SOLC				*i*		15 15 14.5	
	comp=Z,60nm,0.3s						
BETC	**Betania**	**2.15**	**160**	*e*	P	15 14 46.3	-0.9
BETC				*e*	S	15 15 12.8	-0.5
POPC	**Popayan, Colom**	**2.23**	**193**	*e*	P	15 14 46.8	-1.5
POPC				*e*	S	15 15 13.2	-2.1
POPC				*i*		15 15 19.5	
	comp=Z,134nm,0.4s						
SPBC	**San Pablo de B**	**2.28**	**66**	*e*	P	15 14 49.6	+0.6
SPBC				*e*	S	15 15 15.8	-0.7
SPBC				*i*		15 15 21.3	
	comp=Z,38nm,0.6s						
DBBC	**Dabeiba**	**2.28**	**359**	*e*	P	15 14 48.9	-0.1
DBBC				*e*	S	15 15 15.7	-0.9
DBBC				*i*		15 15 22.4	
	comp=Z,214nm,0.6s						
PCON	**Cinco Dias**	**2.39**	**186**	*e*	P	15 14 50.6	-0.2
PCON				*e*	S	15 15 19.9	+0.2
PCON				*i*		15 15 23.9	
	comp=Z,107nm,0.3s						
CHIC	**Chingaza**	**2.43**	**92**	⇓*e*	P	15 14 53.0	+1.8
CHIC				*e*	S	15 15 23.9	+3.5
CHIC				*i*		15 15 28.1	
	comp=Z,36nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.48**	**43**	*e*	P	15 14 51.9	+0.3
PTBC				*e*	S	15 15 20.7	-0.5
PTBC				*i*		15 15 23.7	
	comp=Z,100nm,0.7s						
VILC	**Villavicencio,**	**2.54**	**104**	*e*	P	15 14 53.7	+1.4
VILC				*e*	S	15 15 25.8	+3.2
VILC				*i*		15 15 28.7	
	comp=Z,189nm,0.5s						
GARC	**Garzon, Huila**	**2.60**	**165**	*e*	P	15 14 52.4	-1.0
GARC				*e*	S	15 15 22.0	-2.4
GARC				*i*		15 15 24.3	
	comp=Z,197nm,0.2s						
SOTA	**Rioblanco**	**2.61**	**190**	*e*	P	15 14 53.3	-0.3
SOTA				*e*	S	15 15 25.8	+1.0
GR1C	**Gorgona, Isla**	**2.63**	**230**	*e*	P	15 14 50.7	-2.8
GR1C				*e*	S	15 15 20.0	-4.6
BBAC	**Balboa, Cauca**	**2.89**	**202**	*e*	P	15 14 56.3	-0.9
BBAC				*e*	S	15 15 31.2	0.0
BBAC				*i*		15 15 39.9	
	comp=Z,105nm,0.3s						
PTAC	**Punta Ardita,**	**2.91**	**326**	*e*	P	15 14 56.0	-1.3
PTAC				*e*	S	15 15 26.5	-5.0
ZARC	**Zaragoza, Cauc**	**3.04**	**25**	*e*	P	15 14 59.3	+0.2
ZARC				*e*	S	15 15 34.0	-0.7
ZARC				*i*		15 15 42.3	
	comp=Z,48nm,0.3s						
UREC	**San Jos de Ur**	**3.08**	**12**	*e*	P	15 14 59.8	+0.3
FLOC	**Florencia**	**3.16**	**171**	*e*	P	15 14 59.5	-1.1
RUSC	**La Rusia**	**3.28**	**69**	*e*	P	15 15 04.5	+1.8
RUSC				*e*	S	15 15 42.5	+1.4
BRRC	**Barranca, Sant**	**3.40**	**46**	*e*	P	15 15 03.7	-0.2
BRRC				*e*	S	15 15 43.3	0.0
BRRC				*i*		15 15 50.6	
	comp=Z,37nm,0.4s						
MACC	**Macarena, Meta**	**3.45**	**138**	*e*	P	15 15 03.6	-0.9
MACC				*e*	S	15 15 42.1	-2.4
MACC				*i*		15 15 49.6	
	comp=Z,65nm,0.3s						
BARC	**Barichara**	**3.50**	**58**	*e*	P	15 15 06.6	+1.1
BARC				*e*	S	15 15 48.3	+2.2
BARC				*i*		15 15 52.3	
	comp=Z,90nm,0.4s						
GCUF	**Volcan Galeras**	**3.67**	**199**	*e*	P	15 15 06.9	-1.0
GCUF				*e*	S	15 15 45.1	-5.3
GCUF				*i*		15 15 55.0	
	comp=Z,30nm,0.6s						

MOTC Monteria, Cord 4.06 7 *e*P Pn 15 15 11.8 -1.1
MOTC *e*S Sn 15 15 58.3 -1.0
GUVC San Jose del G 4.14 121 *e*P Pn 15 15 13.2 -0.6
GUVC *e*S Sn 15 15 60.0 -1.3
GUVC *i* 15 16 01.6
comp=Z,105nm,0.3s
PAMC Pamplona, Colo 4.32 53 *e*P Pn 15 15 18.1 +1.3
PAMC *e*S Sn 15 16 07.4 +1.2
PAMC *i* 15 16 10.8
comp=Z,25nm,0.3s
OCAC Ocana 4.50 39 *e*P Pn 15 15 18.8 -0.1
OCAC *e*S Sn 15 16 09.5 -0.6
OCAC *i* 15 16 13.7
comp=Z,57nm,0.8s
SMLC San Martn de 4.56 27 *e*P Pn 15 15 18.2 -1.4
OTAV Otavalo 5.00 207 *e*P Pn 15 15 23.3 -2.7

VAO ***13*** *15:14:19.1±0.5, 15°.28S×73°.41W, h10^{km}, mb5.6*
MOS ***13*** *15:14:26.7±0.9, 14°.96S×73°.46W, h89^{km}, mb5.4/33, Error ellipse: s-maj=9.7km s-min=5.6km az=110.8*
ARE ***13*** *15:14:27±2.0, 15°.25S±0°.05×73°.53W±0°.07, h95$^{km}_{\pm 3km}$, ML5.6, mb5.4/487(NEIC), Mwb5.4/17(NEIC), Error ellipse: s-maj=11.4km s-min=4.7km az=55.0*
NEIC ***13*** *15:14:27.2±2.0, 15°.26S±0°.06×73°.49W±0°.08, h95$^{km}_{\pm 3km}$, Error ellipse: s-maj=12.0km s-min=7.9km az=54.0*
NEIC ***13*** *15:14:27.5, 15°.20S×73°.44W, h113^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.57; $M_{\theta\theta}$=0.19; $M_{\phi\phi}$=1.39; $M_{r\theta}$=0.71; $M_{\theta\phi}$=-0.65; $M_{\phi r}$=-0.38; Fault plane solution: M_0=1.81000×10^{17} NP1:ϕ_s320.79000°, δ57.68000°,λ-107.75000°. NP2:ϕ_s171.70000°, δ36.40000°,λ-64.27000°. Principal axes: T 1.7904, Plg11.0000°, Azm63.0000°; N 0.0387, Plg15.0000°, Azm331.0000°; P -1.8290, Plg71.0000°, Azm189.0000°;*
LIM ***13*** *15:14:27.0, 15°.25S×73°.53W, h95^{km}, MWB5.4(NEIC), MWB5.4(NEIC), MWB5.4(NEIC)*
GUC ***13*** *15:14:28.3±0.6, 15°.87S×73°.75W, h124$^{km}_{\pm 5km}$, MW5.4*
IDC ***13*** *15:14:28.8±0.3, 15°.21S×73°.35W, h101$^{km}_{\pm 2km}$, mb4.9/35, mb1 5.0/37,mb1mx5.0/42,mbtmp5.2/37,MS4.1/16, Ms1 4.1/16,ms1mx4.0/29,Error ellipse: s-maj=10.5km s-min=7.7km az=60.0*
GCMT ***13*** *15:14:31.0±0.1, 15°.30S±0°.01×73°.55W±0°.01, h107^{km}, MW5.4/127, Moment Tensor Solution. s120,c178; s127,c231; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.28±.02; $M_{\theta\theta}$=0.42±.02; $M_{\phi\phi}$=1.70±.03; $M_{r\theta}$=0.58±.01; $M_{\theta\phi}$=0.31±.02; $M_{\phi r}$=0.01±.02; Best double couple: M_0=1.66200×10^{17} NP1:ϕ_s197.00000°,δ50.00000°, λ-53.00000°. NP2:ϕ_s327.00000°,δ52.00000°, λ-125.00000°. Principal axes: T 1.7450, Plg1.0000°, Azm82.0000°; N -0.1700, Plg27.0000°, Azm351.0000°; P -1.5790, Plg63.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 15:14:27.1±0.3, 15°.31S±0°.04×73°.42W±0°.05, h91$^{km}_{\pm 2km}$, h92^{km}:pP-P,n1358,σ1°12/1470, mb5.4/303, 10C-22D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**4.24**	**136**		**Pn**	**15 15 30.2**	**+0.8**
PB12	**IPOC Station P**	**4.42**	**138**	⇓*i*	P	15 15 31.6	-0.4
PB12				*i*	S	15 16 19.7	-2.8
PB12	**IPOC Station P**	**4.42**	**138**		**Pn**	15 15 31.7	-0.3
NNA	**Nana**	**4.68**	**314**	P	**Pn**	**15 15 33.8**	**-1.7**
	49nm,0.3s,baz=137,slow=13,SNR=31						
NNA				S	**Sn**	**15 16 27.1**	**-1.7**
	222nm,0.3s,baz=162,slow=14,SNR=7.7						
NNA				LR	LR	15 17 37.7	
	comp=Z,5μm,20.7s,baz=177,slow=40						
NNA	**Nana**	**4.68**	**314**	*ce*P	**Pn**	**15 15 32.4**	**-3.1**
NNA				pmax	pmax		
	comp=Z,521nm,0.8s						
NNA	**Nana**	**4.68**	**314**	Pn	**Pn**	**15 15 32.7**	**-2.8**
NNA					**Sn**	15 16 25.2	-3.5
PB16	**IPOC Station P**	**4.81**	**129**	⇓*i*	P	15 15 39.1	+1.4
PB16				*i*	S	15 15 38.9	+1.2
PB16	**IPOC Station P**	**4.81**	**129**		**Pn**	15 15 38.9	+1.2
LPAZ	**La Paz**	**5.19**	**102**	P	**Pn**	**15 15 45.8**	**+3.0**
	comp=Z,39nm,0.3s,baz=293,slow=12,SNR=524						
LPAZ				LR	LR	15 17 46.2	
	comp=Z,5μm,20.9s,baz=304,slow=38						
LPAZ	**La Paz**	**5.19**	**102**	⇑*i*	P	**15 15 45.9**	**+3.0**
MNMC	**Mine Minye**	**5.28**	**137**		**Pn**	15 15 43.3	-0.4
PSGC	**Pisagua**	**5.30**	**144**	⇓*i*	P	15 15 42.6	-1.4
PSGC				*e*	**Sn**	15 16 38.5	-5.3
PSGCX	**Pisagua**	**5.30**	**144**		**Pn**	**15 15 43.0**	**-1.0**
PB11	**IPOC Station P**	**5.70**	**141**	*e*P	**Pn**	15 15 48.1	-1.4
PB11	**IPOC Station P**	**5.70**	**141**		**Pn**	15 15 48.7	-0.8
GO01	**Chusmiza**	**5.92**	**138**		**Pn**	15 15 52.6	-0.2
TA01	**Diego Aracena**	**6.07**	**150**	*e*P	**Pn**	15 15 53.1	-1.2
TA01				*i*	S	15 16 54.8	-7.6
TA01	**Diego Aracena**	**6.07**	**150**		**Pn**	**15 15 53.1**	**-1.2**
PB08	**IPOC Station P**	**6.30**	**140**		**Pn**	**15 15 57.1**	**-0.7**
PATCX	**Punta Patache**	**6.30**	**151**		**Pn**	15 15 56.1	-1.5
PB01	**IPOC Station P**	**6.82**	**147**		**Pn**	15 16 03.3	-1.4
PB07	**IPOC Station P**	**7.21**	**153**		**Pn**	15 16 08.5	-1.5
PB09	**IPOC Station P**	**7.58**	**149**		**Pn**	15 16 14.4	-0.6
PB04	**IPOC Station P**	**7.65**	**157**	Pn	**Pn**	15 16 13.8	-2.2
PB06	**IPOC Station P**	**8.21**	**154**		**Pn**	15 16 21.7	-2.0
LVC	**Limon Verde**	**8.43**	**150**	P	**Pn**	15 16 26.5	-0.2
	comp=Z,52nm,0.3s,baz=342,slow=8.9,SNR=398						
LVC				S	**Sn**	**15 17 57.4**	**-3.0**
	comp=Z,28nm,0.3s,baz=112,slow=23,SNR=6.1						
PB10	**IPOC Station P**	**8.60**	**162**	Pn	**Pn**	**15 16 26.5**	**-2.3**
PB15	**IPOC Station P**	**8.70**	**155**		**Pn**	15 16 28.6	-1.8
ATAH	**Atahualpa**	**9.47**	**328**	P	**Pn**	**15 16 45.0**	**+4.0**
	comp=Z,3.0nm,0.3s,baz=143,slow=11,SNR=41						
PB14	**IPOC Station P**	**9.70**	**163**	Pn	**Pn**	15 16 41.3	-2.7
GO02	**Mina Guanaco**	**10.44**	**160**	Pn	**Pn**	15 16 53.1	-1.1
AC01	**Pan de Azucar**	**11.11**	**167**	Pn	**Pn**	15 17 00.5	-2.4
SAML	**Samuel**	**11.84**	**59**	P	**Pn**	15 17 08.9	-3.9
SAML	**Samuel**	**11.84**	**59**	Pn	**Pn**	15 17 08.9	-3.9
SAML	**Samuel**	**11.84**	**59**	*e*P	**Pn**	15 17 08.7	-4.1
SIV	**San Ignacio**	**11.92**	**95**	P	**Pn**	**15 17 11.3**	**-2.7**
	comp=Z,26nm,0.3s,baz=284,slow=11,SNR=491						
SIV				LR	LR	15 22 41.3	
	comp=Z,3μm,20.5s,baz=290,slow=42						
AC02	**Maricunga**	**12.15**	**161**	Pn	**Pn**	**15 17 17.1**	**-0.3**
GO03	**Copiap**	**12.58**	**167**	Pn	**Pn**	15 17 20.5	-2.3
VILB	**Vilhena**	**13.04**	**81**	*e*P	**Pn**	15 17 25.9	-3.0
AC05	**El Transito**	**13.78**	**168**		**Pn**	15 17 39.4	+0.8
PTLB	**Pontes e Lacer**	**13.78**	**92**	*e*P	**Pn**	15 17 35.6	-2.9
CO01	**Juntas del Tor**	**14.92**	**169**		**Pn**	15 17 54.9	+1.4
GO04	**Tololo Observa**	**14.99**	**171**		**Pn**	15 17 55.0	+0.6
GO04				IAmb	IAmb	15 18 00.7	
	comp=Z,359nm,1.0s						
CO03	**El Pedregal**	**15.66**	**171**		**Pn**	**15 18 02.9**	**+0.2**
CO02	**Combarbal**	**15.98**	**172**		**Pn**	15 18 07.1	+0.4
CO02				IAmb	IAmb	15 18 11.6	
	comp=Z,238nm,0.8s						
OTAV	**Otavalo**	**16.23**	**342**	*e*P	**Pn**	**15 18 09.6**	**-0.6**
OTAV	**Otavalo**	**16.23**	**342**	P	**P**	**15 18 11.2**	**-0.4**
OTAV				pmax	pmax		
	comp=Z,36nm,1.2s						
OTAV	**Otavalo**	**16.23**	**342**	P	**P**	**15 18 11.2**	**-0.4**
GCUF	**Volcan Galeras**	**16.88**	**346**	*e*P	**P**	**15 18 20.2**	**+1.3**
FLOC	**Florencia**	**16.93**	**352**	*e*P	**P**	**15 18 18.9**	**0.0**
MACC	**Macarena, Meta**	**17.34**	**359**	*e*P	**Pn**	**15 18 21.3**	**-2.2**
MACA	**Manacapuru-AM**	**17.41**	**47**	*e*P	**P**	**15 18 21.6**	**-2.7**
GARC	**Garzon, Huila**	**17.50**	**353**	*e*P	**Pn**	**15 18 26.2**	**+0.6**
VA03	**San Esteban**	**17.57**	**172**		**Pn**	**15 18 26.7**	**+0.4**
VA03				IAmb	IAmb	15 18 36.7	
	comp=Z,295nm,1.4s						
BBAC	**Balboa, Cauca**	**17.63**	**347**	*e*P	**Pn**	**15 18 26.9**	**-0.2**
AQDB	**Aquidauana**	**17.63**	**110**	*e*P	**P**	**15 18 25.9**	**-0.7**
VA01	**Torpederas**	**17.71**	**175**	P	**P**	**15 18 25.8**	**-1.6**
ROC1	**El Roble**	**17.73**	**173**	P	**P**	**15 18 27.9**	**+0.1**
PCON	**Cinco Dias**	**17.77**	**350**	*e*P	**Pn**	**15 18 31.6**	**+2.4**
PEL	**Peldehue**	**17.93**	**173**	P	**Pn**	**15 18 30.8**	**+0.3**
PEL				pmax	pmax		
	comp=Z,403nm,1.3s						
PEL	**Peldehue**	**17.93**	**173**	P	**Pn**	**15 18 30.8**	**+0.3**
PEL				IAmb	IAmb	15 18 34.2	
	comp=Z,403nm,1.3s						
BETC	**Betania**	**17.98**	**353**	*e*P	**Pn**	**15 18 32.2**	**+1.0**
MT02	**Curacav**	**17.99**	**174**	P	**P**	**15 18 31.4**	**+0.9**
POPC	**Popayan, Colom**	**18.02**	**349**	*e*P	**Pn**	**15 18 31.6**	**-0.4**
MT05	**Renca**	**18.17**	**173**	P	**Pn**	**15 18 33.9**	**+0.5**
MT05				IAmb	IAmb	15 18 35.7	
	comp=Z,244nm,1.1s						
MARP	**Paez Belalcaza**	**18.21**	**352**	*e*P	**Pn**	**15 18 33.9**	**-0.3**
CPUP	**Villa Florida**	**18.59**	**129**	P	**P**	**15 18 37.3**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=307,slow=11,SNR=32						
CPUP				S	**S**	**15 22 05.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=251,slow=8.4,SNR=1.2						
CPUP	**Villa Florida**	**18.59**	**129**	P	**P**	**15 18 37.5**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,87nm,1.0s						
CPUP	**Villa Florida**	**18.59**	**129**	P	**P**	**15 18 37.5**	**+0.3**
H03N1	**Juan Fernandez**	**18.73**	**194**	T	T	15 37 17.4	
	baz=17,slow=74,SNR=2433						
H03N2	**Juan Fernandez**	**18.73**	**194**	T	T	15 37 16.9	
	baz=17,slow=74,SNR=1606						
H03N3	**Juan Fernandez**	**18.74**	**194**	T	T	15 37 16.2	
	baz=17,slow=74,SNR=1667						
GR1C	**Gorgona, Isla**	**18.79**	**345**	*e*P	**Pn**	**15 18 39.6**	**-1.3**
VA04	**Juan Fernndez**	**18.90**	**194**	P	**P**	**15 18 40.5**	**0.0**
VA04				IAmb	IAmb	15 18 49.8	
	comp=Z,178nm,0.8s						
PRAC	**Prado**	**18.95**	**355**	*e*P	**Pn**	**15 18 42.2**	**-0.7**
H03S3	**Juan Fernandez**	**19.09**	**194**	P	**Pn**	**15 18 47.2**	**+3.2**
	baz=2.0,slow=24,SNR=14						
H03S2	**Juan Fernandez**	**19.11**	**194**	P	**Pn**	**15 18 49.4**	**+5.2**
	baz=2.0,slow=24,SNR=17						
H03S1	**Juan Fernandez**	**19.11**	**194**	P	**Pn**	**15 18 49.2**	**+4.9**
	baz=2.0,slow=24,SNR=10						
ORTC	**Ortega, Tolima**	**19.18**	**354**	*e*P	**P**	**15 18 42.6**	**-1.1**
VILC	**Villavicencio,**	**19.30**	**359**	*e*P	**Pn**	**15 18 46.1**	**-0.9**
YOTC	**Yotoco, Valle**	**19.38**	**351**	*e*P	**Pn**	**15 18 48.7**	**+0.7**
NPGB	**Novo Progresso**	**19.52**	**67**	*e*P	**P**	**15 18 46.4**	**-1.0**
BO02	**Sierra Bellavi**	**19.55**	**173**	P	**Pn**	**15 18 49.4**	**-0.3**
BO02				IAmb	IAmb	15 18 53.9	
	comp=Z,157nm,0.9s						
BO02					**PcP**	**15 23 05.7**	**+1.2**
GO05	**Huala**	**19.67**	**176**	P	**P**	**15 18 50.2**	**+1.3**
GO05				IAmb	IAmb	15 18 52.0	
	comp=Z,131nm,0.9s						
ANIL	**Santa Ana**	**19.77**	**354**	*e*P	**Pn**	**15 18 54.6**	**+1.9**
CHIC	**Chingaza**	**19.81**	**359**	*e*P	**P**	**15 18 50.6**	**-0.4**
TOLC	**Tolima**	**19.85**	**354**	*e*P	**Pn**	**15 18 55.7**	**+2.0**
ROSC	**El Rosal**	**20.04**	**357**	P	**Pn**	**15 18 56.6**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=186,slow=4.1,SNR=16						
ROSC	**El Rosal**	**20.04**	**357**	P	**P**	**15 18 53.0**	**-0.4**
RREF	**El Recreo**	**20.17**	**354**	*e*P	**P**	**15 18 53.5**	**-1.5**
PLMC	**San Jos del P**	**20.28**	**352**	*e*P	**P**	**15 18 55.5**	**-0.1**
GUY2C	**Guyana, Caldas**	**20.49**	**354**	*e*P	Pn	15 19 00.1	-1.2
ITTB	**Itaituba**	**20.52**	**60**	*e*P	**P**	**15 18 57.8**	**-0.4**
ARAG	**Araguaiana, MT**	**20.83**	**94**	*e*P	**P**	**15 19 00.8**	**-0.8**
SPBC	**San Pablo de B**	**20.83**	**358**	*e*P	**P**	**15 19 02.5**	**+0.9**
TRCB	**Terra Rica**	**21.00**	**114**	*e*P	**P**	**15 19 04.2**	**+0.8**
RUSC	**La Rusia**	**21.07**	**1**	*e*P	**P**	**15 19 05.8**	**+1.2**
CBOC	**Ciudad Bolivar**	**21.19**	**353**	*e*P	**P**	**15 19 07.5**	**+2.0**
BI02	**San Fabin de**	**21.36**	**175**	P	**P**	**15 19 08.3**	**+1.2**
BI03	**Tigo**	**21.45**	**179**	P	**P**	**15 19 09.4**	**+1.4**
PTBC	**PUERTO BERRIO,**	**21.73**	**357**	*e*P	**P**	**15 19 09.9**	**-1.3**
SOLC	**Bahia Solano**	**21.76**	**349**	*e*P	**P**	15 19 18.9	+7.5
BARC	**Barichara**	**21.76**	**1**	*e*P	**P**	**15 19 10.9**	**-0.8**
PCMB	**Pacaembu**	**21.92**	**110**	*e*P	**P**	**15 19 13.0**	**-0.1**
PTGB	**Pitanga**	**22.12**	**118**	*e*P	**P**	**15 19 15.7**	**+0.4**
BRRC	**Barranca, Sant**	**22.27**	**359**	*e*P	**P**	**15 19 13.9**	**-3.0**
DBBC	**Dabeiba**	**22.35**	**353**	*e*P	**P**	**15 19 19.3**	**+1.5**
ITRB	**Iturama**	**22.42**	**105**	*e*P	**P**	**15 19 17.5**	**-1.0**
PAMC	**Pamplona, Colo**	**22.51**	**2**	*e*P	**P**	**15 19 18.7**	**-1.2**
ZARC	**Zaragoza, Cauc**	**22.70**	**356**	*e*P	**P**	**15 19 19.9**	**-1.4**
UREC	**San Jos de Ur**	**23.00**	**355**	*e*P	**P**	**15 19 25.7**	**+1.3**
ITAB	**Concordia**	**23.08**	**124**	*e*P	**P**	**15 19 24.8**	**-0.2**
MALB	**Monte Alegre**	**23.15**	**57**	*e*P	**P**	**15 19 25.9**	**+0.1**
LC01	**Cunco**	**23.54**	**177**	P	**P**	**15 19 29.6**	**+0.4**
FRTB	**Fartura**	**23.87**	**113**	*e*P	**P**	**15 19 32.6**	**+0.3**
SMLC	**San Martn de**	**23.96**	**358**	*e*P	**P**	**15 19 31.3**	**-1.8**
MOTC	**Monteria, Cord**	**24.03**	**355**	*e*P	**P**	**15 19 34.4**	**+0.7**
CAPC	**Capurgana**	**24.10**	**350**	*e*P	**P**	**15 19 33.5**	**-0.9**
LCBC	**Los crdobas,**	**24.18**	**353**	*e*P	**P**	**15 19 37.4**	**+2.3**
SDV	**Santo Domingo**	**24.20**	**7**	P	**P**	**15 19 34.7**	**-0.7**
	comp=Z,20nm,0.8s,baz=199,slow=9.1,SNR=9.1						
SDV				LR	LR	15 31 22.3	
	comp=Z,459nm,19.4s,baz=170,slow=42						
SDV	**Santo Domingo**	**24.20**	**7**	*e*P	**P**	**15 19 35.2**	**-0.2**
SDV	**Santo Domingo**	**24.20**	**7**	P	**P**	**15 19 34.8**	**-0.7**
SDV	**Santo Domingo**	**24.20**	**7**	*e*P	**P**	**15 19 36.1**	**+0.7**
IPMB	**Ipameri, GO**	**24.30**	**100**	*e*P	**P**	**15 19 36.2**	**-0.1**
BB19B	**Bebedouro**	**24.32**	**107**	*e*P	**P**	**15 19 37.0**	**+0.6**
PLTB	**Pedras Altas**	**24.39**	**136**	*e*P	**P**	**15 19 36.9**	**-0.1**
BDFB	**Brasilia**	**24.49**	**94**	P	**P**	**15 19 38.0**	**-0.1**
	comp=Z,32nm,0.7s,baz=262,slow=12,SNR=20						
BDFB				LR	LR	15 30 52.7

RCBR pmax pmax
comp=Z,48nm,1.0s
RCBR Riachuelo 38.01 80 P **P** **15 21 36.4 -0.3**
RCBR lAmb lAmb 15 21 39.6
comp=Z,48nm,1.0s
RCBR Riachuelo 38.01 80 *e*P **P** **15 21 36.2 -0.5**
TEIG Tepich 38.21 337 P **P** **15 21 36.6 -1.6**
TEIG lAmb lAmb 15 22 04.5
comp=Z,70nm,1.1s
EFI East Falkland 38.31 165⇓ *e*P **P** **15 21 36.6 -2.0**
EFI pmax pmax
comp=Z,149nm,1.4s
USHA Ushuaia 39.63 175 P **P** **15 21 51.2 +1.5**
comp=Z,68nm,0.8s,baz=348,slow=3.3,SNR=6.4
TLIG Tlapa 41.01 322 P **P** **15 22 01.7 +0.1**
ZAIG Zacatecas 47.39 322 P **P** **15 22 52.0 -0.8**
ZAIG lAmb lAmb 15 23 21.1
comp=Z,57nm,1.4s
TIGA Tifton 47.49 348 P **P** **15 22 52.4 -0.6**
baz=167
352A Blakely 47.81 347 P **P** **15 22 55.2 -0.3**
352A lAmb lAmb 15 22 56.1
comp=Z,59nm,1.2s
BRAL Brewton 48.03 344 P **P** **15 22 57.0 -0.2**
baz=162
158A Hollywood 48.21 352 P **P** **15 22 58.8 +0.3**
baz=171
157A Early Branch 48.26 351 P **P** **15 22 59.1 +0.3**
baz=170
HOPE Hope Point 48.33 152 P **P** **15 23 01.3 +2.1**
HOPE pmax pmax
comp=Z,146nm,1.1s
HOPE Hope Point 48.33 152 P **P** **15 23 01.3 +2.1**
154A Montrose 48.54 349 P **P** **15 23 00.5 -0.5**
NHSC New Hope 48.57 352 P **P** **15 23 01.7 +0.4**
baz=171
NHSC New Hope 48.57 352 P **P** **15 23 00.8 -0.4**
Z59A Georgetown, SC 48.60 353 P **P** **15 23 01.5 +0.1**
baz=172
250A Grady 48.60 345 P **P** **15 23 00.5 -1.1**
250A lAmb lAmb 15 23 02.1
comp=Z,91nm,1.4s
Z58A St. Stephen 48.75 353 P **P** **15 23 02.8 +0.2**
baz=172
Z57A Bowman 48.83 352 P **P** **15 23 02.9 -0.3**
baz=171
152A Waverly Hall 48.91 347 P **P** **15 23 02.4 -1.5**
152A lAmb lAmb 15 23 04.3
comp=Z,45nm,1.0s
Z56A Williston 48.95 351 P **P** **15 23 03.9 -0.3**
baz=170
Z56A Williston 48.95 351 P **P** **15 23 03.0 -1.2**
Y60A Bolivia 49.25 355 P **P** **15 23 06.3 -0.1**
baz=174
Y59A Loris 49.30 354 P **P** **15 23 06.5 -0.2**
baz=173
Y58A Scranton 49.30 353 P **P** **15 23 05.7 -1.1**
baz=172
GOGA Godfrey 49.38 349 P **P** **15 23 06.6 -0.8**
baz=167,SNR=8.1
GOGA Godfrey 49.38 349 P **P** **15 23 06.1 -1.4**
GOGA pmax pmax
comp=Z,89nm,1.5s
GOGA Godfrey 49.38 349 P **P** **15 23 06.1 -1.4**
GOGA lAmb lAmb 15 23 34.0
comp=Z,89nm,1.4s
Y56A Pelion 49.40 351 P **P** **15 23 07.2 -0.3**
baz=170
Y57A Sumter 49.49 352 P **P** **15 23 08.1 -0.2**
baz=171
Y57A Sumter 49.49 352 P **P** **15 23 08.3 0.0**
Y57A **pP** **15 23 31.4 -0.3**
Z51A Franklin 49.63 347 P **P** **15 23 08.2 -1.2**
Z51A lAmb lAmb 15 23 09.9
comp=Z,46nm,1.1s
Z51A pP **pP** **15 23 32.5 -0.4**
LRAL Lakeview Retre 49.79 345 P **P** **15 23 09.6 -0.9**
baz=163,SNR=12
LRAL Lakeview Retre 49.79 345 P **P** **15 23 09.4 -1.2**
LRAL lAmb lAmb 15 23 11.0
comp=Z,46nm,1.1s
LRAL pP **pP** **15 23 34.0 0.0**
PMSA Palmer Station 49.83 175 P **P** **15 23 12.5 +2.0**
comp=Z,85nm,1.1s,baz=359,slow=5.6,SNR=20
PMSA Palmer Station 49.83 175 P **P** **15 23 12.4 +2.0**
PMSA Palmer Station 49.83 175 *e*P **P** **15 23 12.6 +2.0**
X59A McDuffie Farm, 49.85 354 P **P** **15 23 10.7 -0.3**
baz=174
JSC Jenkinsville 49.87 352 P **P** **15 23 10.3 -0.9**
JSC pmax pmax
comp=Z,59nm,1.5s
JSC Jenkinsville 49.87 352 P **P** **15 23 10.3 -0.9**
JSC lAmb lAmb 15 23 38.1
comp=Z,59nm,1.5s
X57A Johnson Farm, 49.90 353 P **P** **15 23 11.1 -0.2**
baz=172
X58A Rowland 49.90 354 P **P** **15 23 11.1 -0.2**
baz=173
HKT Hockley 49.91 334*d i*P **P** **15 23 11.6 +0.1**
HKT pmax pmax
comp=Z,14nm,1.1s
HKT Hockley 49.91 334 P **P** **15 23 10.4 -1.1**
Y52A Lilburn 49.94 348 P **P** **15 23 10.3 -1.4**
Y52A pP **pP** **15 23 34.0 -1.2**
Y52A lAmb lAmb 15 23 38.1
comp=Z,68nm,1.4s
146A Union 49.97 343 P **P** **15 23 10.7 -1.2**
HODGE Hodges 49.98 350 P **P** **15 23 11.6 -0.3**
HODGE lAmb lAmb 15 23 38.0
comp=Z,37nm,1.1s
VBMS Vicksburg 50.01 341 P **P** **15 23 11.8 -0.5**
baz=158
VBMS Vicksburg 50.01 341 P **P** **15 23 11.2 -1.1**
VBMS lAmb lAmb 15 23 13.0
comp=Z,83nm,1.3s
X56A White Oak 50.05 352 P **P** **15 23 12.1 -0.4**
baz=170,SNR=6.3
X55A Gracelyn & Ava 50.11 351 P **P** **15 23 12.6 -0.4**
baz=170,SNR=8.1
BIRD Birdtown, Kers 50.12 352 P **P** **15 23 12.9 -0.1**
BIRD pP **pP** **15 23 37.0 +0.4**
BIRD lAmb lAmb 15 23 39.5
comp=Z,58nm,0.9s
833A Chaparral WMA, 50.13 330 P **P** **15 23 13.3 +0.1**
baz=147
833A Chaparral WMA, 50.13 330 P **P** **15 23 13.9 +0.6**
833A pP **pP** **15 23 37.8 +1.0**
Z47A Carrollton 50.22 344 P **P** **15 23 11.9 -1.9**
W60A Pink Hill 50.25 355 P **P** **15 23 14.1 +0.2**
baz=175
X54A Belton 50.30 350 P **P** **15 23 14.0 -0.4**
baz=169,SNR=6.6
W61A Ground Anchor 50.32 356 P **P** **15 23 14.0 -0.5**
baz=176
W58A Raeford 50.35 354 P **P** **15 23 14.5 -0.2**
baz=173,SNR=5.9
W59A Clinton 50.42 355 P **P** **15 23 15.0 -0.3**
baz=174
Y49A Blount Mountai 50.43 346 P **P** **15 23 13.7 -1.7**
Y49A pP **pP** **15 23 40.2 +1.2**
CNNC Cliffs of the 50.45 355 P **P** **15 23 15.4 0.0**
baz=174
PAULI Pauline 50.48 351 P **P** **15 23 15.5 -0.3**
PAULI pP **pP** **15 23 39.1 -0.1**
W57A Gilead 50.57 353 P **P** **15 23 15.9 -0.5**
baz=172,SNR=5.8
W57A Gilead 50.57 353 P **P** **15 23 15.8 -0.6**
W56A Indian Trail 50.62 352 P **P** **15 23 16.4 -0.4**
baz=171
KMSC Kings Mountain 50.73 352 P **P** **15 23 17.3 -0.3**
baz=170,SNR=7.5
KMSC Kings Mountain 50.73 352 P **P** **15 23 16.7 -0.9**
KMSC pP **pP** **15 23 39.4 -1.8**
KMSC lAmb lAmb 15 23 44.0
comp=Z,56nm,1.1s
X51A Calhoun 50.77 348 P **P** **15 23 17.3 -0.7**
X51A pP **pP** **15 23 43.0 +1.5**
W54A Cherokee Point 50.80 351 P **P** **15 23 17.9 -0.3**
baz=169,SNR=6.2
BG3 Lake Jocassee 50.83 350 P **P** **15 23 18.2 -0.2**
BG3 pP **pP** **15 23 42.3 +0.3**
BG3 lAmb lAmb 15 23 45.5
comp=Z,51nm,1.4s
V61A Roper 50.91 357 P **P** **15 23 18.8 -0.1**
baz=176
FPAL Fort Paine 50.91 347 P **P** **15 23 18.1 -0.9**
FPAL pP **pP** **15 23 41.1 -1.5**
V60A Jim Taylor Roa 50.92 356 P **P** **15 23 19.0 0.0**
baz=175
V59A Middlesex 51.00 355 P **P** **15 23 19.4 -0.2**
baz=174
NATX Nacogdoches 51.04 337 P **P** **15 23 19.0 -1.1**
baz=153
W52A Murphy 51.10 349 P **P** **15 23 19.5 -1.0**
W52A pP **pP** **15 23 42.7 -1.4**
W52A lAmb lAmb 15 23 47.2
comp=Z,67nm,1.2s
V58A Windy Hill, Pi 51.11 354 P **P** **15 23 20.0 -0.4**
baz=173
V58A Windy Hill, Pi 51.11 354 P **P** **15 23 19.0 -1.5**
V58A lAmb lAmb 15 23 46.7
comp=Z,34nm,1.2s
X48A Hartselle 51.15 346 P **P** **15 23 19.8 -1.0**
X48A pP **pP** **15 23 42.9 -1.5**
Y45A Yeager Farm, C 51.26 343 P **P** **15 23 21.5 0.0**
Y45A lAmb lAmb 15 23 23.0
comp=Z,55nm,0.9s
Y45A pP **pP** **15 23 44.8 -0.4**
V57A Coltrane Farms 51.27 353 P **P** **15 23 21.1 -0.6**
baz=172
V56A Mocksville 51.28 353 P **P** **15 23 21.6 -0.1**
baz=171,SNR=9.2
435B Jarrell 51.38 333 P **P** **15 23 22.3 -0.3**
baz=150
435B Jarrell 51.38 333 P **P** **15 23 22.3 -0.3**
V55A Taylorsville 51.41 352 P **P** **15 23 22.5 -0.2**
baz=170,SNR=7.4
V55A Taylorsville 51.41 352 P **P** **15 23 22.8 +0.1**
V55A pP **pP** **15 23 44.4 -2.0**
U61A Possum Corner 51.44 357 P **P** **15 23 23.0 +0.1**
baz=176
V54A Nebo 51.44 351 P **P** **15 23 22.6 -0.4**
baz=170,SNR=12
V53A Saluda 51.47 350 P **P** **15 23 22.3 -0.9**
V53A lAmb lAmb 15 23 49.9
comp=Z,49nm,1.1s
W50A Signal Mountai 51.48 348 P **P** **15 23 22.4 -0.9**
W50A pP **pP** **15 23 46.3 -0.6**
W50A lAmb lAmb 15 23 49.7
comp=Z,69nm,1.1s
U59A Littleton 51.54 355 P **P** **15 23 23.6 -0.1**
baz=175
U59A Littleton 51.54 355 P **P** **15 23 23.2 -0.5**
CPCT Cooper Cave 51.56 348 P **P** **15 23 22.1 -1.7**
CPCT lAmb lAmb 15 23 49.7
comp=Z,35nm,1.1s
U60A Pendleton 51.62 356 P **P** **15 23 24.4 +0.2**
baz=175
TKL Tuckaleechee C 51.63 349 P **P** **15 23 23.6 -0.8**
TKL pmax pmax
comp=Z,86nm,1.3s
TKL Tuckaleechee C 51.63 349 P **P** **15 23 23.6 -0.8**
SWET Sewanee 51.63 347 P **P** **15 23 22.9 -1.6**
SWET lAmb lAmb 15 23 24.4
comp=Z,50nm,1.0s
U58A Oxford 51.65 355 P **P** **15 23 24.0 -0.4**
baz=174
237A Washetta, Mont 51.70 336 P **P** **15 23 24.1 -0.9**
237A lAmb lAmb 15 23 51.9
comp=Z,48nm,1.0s
Z41A Richland Creek 51.72 339 P **P** **15 23 25.1 +0.1**
baz=156,SNR=6.6
Z41A Richland Creek 51.72 339 P **P** **15 23 24.7 -0.3**
Z41A pP **pP** **15 23 46.7 -2.0**
U57A Blanch 51.76 354 P **P** **15 23 24.7 -0.6**
baz=173
V52A Sevierville 51.77 349 P **P** **15 23 24.4 -1.0**
V52A pP **pP** **15 23 47.2 -1.8**
U56A King 51.79 353 P **P** **15 23 25.4 -0.2**
baz=172,SNR=6.1
U56A King 51.79 353 P **P** **15 23 24.2 -1.3**
PLAL Pickwick Lake 51.91 345 P **P** **15 23 24.4 -2.1**
PLAL lAmb lAmb 15 23 26.1
comp=Z,43nm,1.1s
CCAR Cane Creek 51.98 341 P **P** **15 23 26.6 -0.4**
U55A TA2, Sparta 52.03 352 P **P** **15 23 27.0 -0.4**
baz=171
JCT Junction City 52.13 331 P **P** **15 23 28.0 -0.2**
baz=147,SNR=5.8
JCT Junction City 52.13 331 P **P** **15 23 27.7 -0.5**
JCT pmax pmax
comp=Z,28nm,1.1s
JCT Junction City 52.13 331 P **P** **15 23 27.7 -0.5**
T59A Double "B" Far 52.14 356 P **P** **15 23 28.1 0.0**
baz=175,SNR=9.3
T59A Double "B" Far 52.14 356 P **P** **15 23 27.4 -0.7**
T59A lAmb lAmb 15 23 29.2
comp=Z,42nm,1.0s
U54A Nelsons Funny 52.15 351 P **P** **15 23 27.7 -0.6**
baz=170,SNR=6.1
U54A Nelsons Funny 52.15 351 P **P** **15 23 27.4 -0.9**
U54A pP **pP** **15 23 50.0 -1.9**
U54A lAmb lAmb 15 23 54.5
comp=Z,42nm,0.9s
T58A Grand View Acr 52.19 355 P **P** **15 23 28.2 -0.3**
baz=174,SNR=6.3
WLAR White Oak Lake 52.21 339 P **P** **15 23 28.9 +0.2**
T60A Surry 52.26 357 P **P** **15 23 29.1 +0.2**
baz=176
X43A Marvell 52.26 342 P **P** **15 23 28.6 -0.4**
baz=159
X43A Marvell 52.26 342 P **P** **15 23 27.4 -1.6**
T57A Hurt 52.31 354 P **P** **15 23 28.9 -0.5**
baz=173,SNR=7.4
T57A Hurt 52.31 354 P **P** **15 23 29.1 -0.3**
T57A lAmb lAmb 15 23 56.6
comp=Z,43nm,1.1s
V48A Smith Brothers 52.33 346 P **P** **15 23 27.9 -1.7**
W45A Hickory Valley 52.37 344 P **P** **15 23 28.7 -1.1**
WHTX Lake Whitney, 52.37 334 P **P** **15 23 29.9 0.0**
baz=150
WHTX Lake Whitney, 52.37 334 P **P** **15 23 28.6 -1.4**
T56A Rocky Mt 52.42 353 P **P** **15 23 30.0 -0.2**
baz=172
TZTN Tazewell 52.45 350 P **P** **15 23 29.4 -1.0**
baz=168,SNR=5.9
TZTN Tazewell 52.45 350 P **P** **15 23 29.8 -0.6**
TZTN lAmb lAmb 15 23 57.0
comp=Z,74nm,1.3s
Z38A Mt. Pleasant 52.50 337 P **P** **15 23 30.2 -0.7**
Z38A pP **pP** **15 23 55.0 +0.4**
Z38A lAmb lAmb 15 23 57.7
comp=Z,49nm,1.1s
CLTN Cedars of Leba 52.56 347 P **P** **15 23 30.1 -1.1**
CLTN pP **pP** **15 23 54.6 -0.3**
CLTN lAmb lAmb 15 23 56.6
comp=Z,30nm,1.1s
T55A Pulaski 52.60 353 P **P** **15 23 31.6 0.0**
baz=171,SNR=8.6
VWCC Virginia Weste 52.63 353 P **P** **15 23 30.8 -1.0**
T54A Tazewell 52.65 352 P **P** **15 23 31.2 -0.8**
baz=170,SNR=6.5
BLA Blacksburg 52.65 353 P **P** **15 23 31.8 -0.2**
baz=172
BLA Blacksburg 52.65 353 P **P** **15 23 31.6 -0.3**
BLA pmax pmax
comp=Z,46nm,1.2s
BLA Blacksburg 52.65 353 P **P** **15 23 31.6 -0.3**
BLA lAmb lAmb 15 24 00.4
comp=Z,46nm,1.1s
T53A Wise 52.71 351 P **P** **15 23 31.4 -1.0**
baz=169,SNR=7.4
RCRC Randolf Colleg 52.74 354 P **P** **15 23 31.9 -0.7**
S61A Accomac 52.75 358 P **P** **15 23 33.3 +0.7**
baz=177
S58A Poland Farm, P 52.82 355 P **P** **15 23 33.0 0.0**
baz=174,SNR=5.3
S58A Poland Farm, P 52.82 355 P **P** **15 23 32.8 -0.3**
S58A lAmb lAmb 15 23 33.6
comp=Z,19nm,0.7s
S60A Water View 52.82 357 P **P** **15 23 33.3 +0.2**
baz=176
U49A Red Boiling Sp 52.84 348 P **P** **15 23 31.8 -1.5**
X40A Basin Creek Fa 52.85 340 P **P** **15 23 33.0 -0.4**
baz=156
X40A Basin Creek Fa 52.85 340 P **P** **15 23 33.1 -0.4**
S59A Mechanicsville 52.91 356 P **P** **15 23 33.8 0.0**
baz=175
WVT Waverly 52.94 345 P **P** **15 23 32.4 -1.7**
baz=163
WVT Waverly 52.94 345 P **P** **15 23 32.0 -2.1**
WVT pmax pmax
comp=Z,68nm,1.3s
WVT Waverly 52.94 345 P **P** **15 23 32.0 -2.1**
WVT lAmb lAmb 15 23 59.6
comp=Z,68nm,1.2s
UALR University of 52.95 340 P **P** **15 23 32.6 -1.5**
UALR lAmb lAmb 15 23 34.8
comp=Z,56nm,0.9s
S56A Natural Bridge 53.02 354 P **P** **15 23 34.3 -0.3**
baz=173
S57A Dark Hollow, R 53.04 355 P **P** **15 23 34.6 -0.2**
baz=173,SNR=6.3
S57A Dark Hollow, R 53.04 355 P **P** **15 23 34.2 -0.6**
S57A lAmb lAmb 15 24 01.4
comp=Z,48nm,1.3s
TXAR Lajitas Array 53.13 327 P **P** **15 23 35.6 -0.1**
comp=Z,5.8nm,0.7s,baz=144,slow=8.7,SNR=36
TXAR pP **pP** **15 23 59.8 +0.3**
comp=Z,7.0nm,0.8s,baz=150,slow=8.1,SNR=4.4
TXAR Lajitas Array 53.13 327 P **P** **15 23 34.6 -1.1**
TX31 Lajitas Ar. Si 53.13 327 P **P** **15 23 35.3 -0.4**
TX31 lAmb lAmb 15 24 02.0
comp=Z,79nm,1.2s
TX32 Lajitas Array 53.13 327 P **P** **15 23 35.0 -0.7**
T50A Nancy 53.15 349 P **P** **15 23 34.1 -1.5**
T50A lAmb lAmb 15 24 01.1
comp=Z,52nm,1.1s
R58B Mineral 53.15 356 P **P** **15 23 35.9 +0.3**
baz=175,SNR=7.0
R58B Mineral 53.15 356 P **P** **15 23 35.4 -0.2**
R58B lAmb lAmb 15 23 37.0
comp=Z,64nm,1.4s
MIAR Mount Ida 53.15 339 P **P** **15 23 35.4 -0.3**
baz=156,SNR=24
MIAR Mount Ida 53.15 339 P **P** **15 23 35.1 -0.6**
MIAR pmax pmax
comp=Z,59nm,1.2s
MIAR Mount Ida 53.15 339 P **P** **15 23 35.0 -0.6**
MIAR lAmb lAmb 15 23 36.6
comp=Z,59nm,1.1s
S55A Lewisburg 53.21 353 P **P** **15 23 35.9 -0.2**
baz=172,SNR=9.6
LPIG La Paz 53.22 317 P **P** **15 23 36.0 -0.3**
comp=Z,46nm,0.3s,baz=264,slow=4.1,SNR=5.1
W41B Gary Mavity, V 53.29 341 P **P** **15 23 36.1 -0.5**
baz=157,SNR=23
W41B Gary Mavity, V 53.29 341 P **P** **15 23 35.8 -0.8**
W41B lAmb lAmb 15 23 37.2
comp=Z,50nm,1.1s
R59A King George, V 53.34 356 P **P** **15 23 37.4 +0.5**
baz=176
S53A Williamson 53.34 351 P **P** **15 23 36.0 -1.0**
baz=170
S54A Dingess, Beckl 53.34 352 P **P** **15 23 36.3 -0.7**
baz=170,SNR=5.3
S54A Dingess, Beckl 53.34 352 P **P** **15 23 36.5 -0.5**
CBN Corbin Frederi 53.36 356 P **P** **15 23 37.3 +0.3**
baz=175
CBN Corbin Frederi 53.36 356 P **P** **15 23 37.0 0.0**
R60A Leonardtown, M 53.37 357 P **P** **15 23 37.6 +0.5**
baz=176
R61A Willards 53.38 358 P **P** **15 23 37.7 +0.4**
baz=178
WHAR Wooly Hollow 53.41 341 P **P** **15 23 37.1 -0.4**
WHAR lAmb lAmb 15 23 38.1
comp=Z,64nm,1.0s
Z35A Perchaven, San 53.45 335 P **P** **15 23 37.8 -0.1**
R58A Rapidan 53.49 356 P **P** **15 23 38.2 +0.2**
baz=174,SNR=9.7
S51A Beattyville 53.52 350 P **P** **15 23 37.3 -1.0**
S51A **pP** **15 24 00.3 -1.8**
S51A lAmb lAmb 15 24 04.0
comp=Z,43nm,1.1s
R57A Stanardsville 53.53 355 P **P** **15 23 38.4 +0.1**
baz=174,SNR=7.7
T47A Sharon Grove 53.59 346 P **P** **15 23 37.6 -1.2**
T47A **pP** **15 24 02.1 -0.4**
R54A Victor 53.67 353 P **P** **15 23 39.0 -0.4**
baz=171
R56A Bull Pasture M 53.72 354 P **P** **15 23 40.0 +0.1**
baz=173
LCAR Lake Charles 53.78 342 P **P** **15 23 39.3 -0.9**
LCAR lAmb lAmb 15 23 40.3
comp=Z,35nm,0.9s
LCAR **pP** **15 24 03.4 -0.5**
W39A Magazine 53.81 339 P **P** **15 23 40.6 +0.2**
baz=156,SNR=22
W39A Magazine 53.81 339 P **P** **15 23 40.4 -0.1**
W39A lAmb lAmb 15 23 42.0
comp=Z,73nm,1.1s
W39A pP **pP** **15 24 05.8 +1.5**
X37A Clayton 53.83 338 P **P** **15 23 40.2 -0.4**
X37A pP **pP** **15 24 04.1 -0.4**
ABTX Abilene, Hawle 53.86 333 P **P** **15 23 41.0 0.0**
baz=148,SNR=14
ABTX Abilene, Hawle 53.86 333 P **P** **15 23 40.5 -0.4**
ABTX **pP** **15 24 06.7 +2.0**
FCAR Ozark Folk Cen 53.91 341 P **P** **15 23 39.4 -1.8**
FCAR lAmb lAmb 15 23 41.3
comp=Z,33nm,0.9s
FCAR pP **pP** **15 24 03.8 -1.0**
R53A Hurricane 53.95 352 P **P** **15 23 40.6 -0.8**
baz=170
R53A Hurricane 53.95 352 P **P** **15 23 40.7 -0.7**
R53A lAmb lAmb 15 24 08.1
comp=Z,26nm,0.9s
Q59A Harwood 53.97 357 P **P** **15 23 41.9 +0.4**
baz=176
Q60A Greensboro 54.07 358 P **P** **15 23 42.4 +0.2**
baz=177
Q58A Fox Den Farm, 54.11 356 P **P** **15 23 42.8 +0.3**
baz=175,SNR=11
PBMO Poplar Bluff 54.23 343 P **P** **15 23 42.6 -0.9**
PBMO pP **pP** **15 24 06.9 -0.4**
Q57A Strasburg 54.26 355 P **P** **15 23 44.2 +0.5**
baz=174,SNR=12
R50A Paris 54.28 349 P **P** **15 23 42.5 -1.3**
R50A pP **pP** **15 24 07.3 -0.3**
Q56A Snyder Ridge, 54.33 354 P **P** **15 23 44.3 +0.2**
baz=173,SNR=7.6
Q56A Snyder Ridge, 54.33 354 P **P** **15 23 44.4 +0.2**
Q56A lAmb lAmb 15 24 11.3
comp=Z,56nm,1.1s
Q55A Buckhannon 54.37 354 P **P** **15 23 44.7 +0.2**
baz=172
Q53A Leroy 54.41 352 P **P** **15 23 44.0 -0.7**
baz=170,SNR=8.1
R49A Shelbyville 54.44 349 P **P** **15 23 43.8 -1.2**
R49A **pP** **15 24 07.2 -1.6**
Q54A Coxs Mills 54.45 353 P **P** **15 23 44.2 -0.8**
baz=171,SNR=6.7
Q54A Coxs Mills 54.45 353 P **P** **15 23 44.4 -0.7**
Q54A lAmb lAmb 15 24 11.8
comp=Z,31nm,0.9s
SDMD Soldier's Deli 54.52 357 P **P** **15 23 45.7 +0.1**
U40A Yellville 54.57 341 P **P** **15 23 45.2 -0.7**
baz=157,SNR=40
U40A Yellville 54.57 341 P **P** **15 23 45.1 -0.9**
WCI Wyandotte Cave 54.60 348 P **P** **15 23 45.0 -1.1**
baz=165
WCI Wyandotte Cave 54.60 348 P **P** **15 23 44.7 -1.5**
WCI *PP **pP** **15 24 08.5 -1.5**
WCI Wyandotte Cave 54.60 348 P **P** **15 23 44.7 -1.5**
WCI pP **pP** **15 24 08.5 -1.5**
Q52A Bidwell 54.61 352 P **P** **15 23 45.3 -0.9**
baz=170
P58A Pank, Wackersv 54.63 356 P **P** **15 23 46.6 +0.3**
baz=175,SNR=7.5
USIN University of 54.65 346 P **P** **15 23 45.3 -1.2**
T42A Van Buren 54.66 343 P **P** **15 23 44.9 -1.6**
T42A lAmb lAmb 15 23 46.2
comp=Z,27nm,0.9s
P57A Homestead Farm 54.67 356 P **P** **15 23 47.1 +0.5**
baz=175
P57A Homestead Farm 54.67 356 P **P** **15 23 45.4 -1.3**
P57A lAmb lAmb 15 24 14.1
comp=Z,49nm,1.4s
P59A Jarrettsville 54.70 357 P **P** **15 23 47.4 +0.6**
baz=176
P56A Dayton Farm, R 54.76 355 P **P** **15 23 47.6 +0.3**
baz=174,SNR=5.2
S44A Carbondale 54.78 345 P **P** **15 23 46.2 -1.3**
S44A pP **pP** **15 24 09.2 -2.1**
Q51A Peebles 54.84 351 P **P** **15 23 46.5 -1.3**
Q51A pP **pP** **15 24 09.1 -2.6**

Q51A IAmb IAmb 15 24 13.4
comp=Z,46nm,1.2s
HHAR Hobbs 54.85 340 P **P** **15 23 47.1 -0.9**
HHAR IAmb IAmb 15 23 48.7
comp=Z,58nm,1.0s
HHAR pP **pP** **15 24 10.8 -1.1**
P55A Reedsville 54.85 354 P **P** **15 23 47.9 -0.1**
baz=172
P60A Greenville 54.87 358 P **P** **15 23 47.9 -0.2**
baz=177
W35A Tecumseh 54.90 337 P **P** **15 23 47.3 -1.1**
PSUB Penn St. - Bra 54.98 358 P **P** **15 23 48.0 -0.8**
WUPA West Chester U 54.99 358 P **P** **15 23 48.1 -0.8**
WUPA **pP** **15 24 11.6 -1.0**
MCWV Mont Chateau 55.01 354 P **P** **15 23 48.1 -1.0**
baz=172
MCWV Mont Chateau 55.01 354 P **P** **15 23 47.7 -1.3**
MCWV IAmb IAmb 15 24 15.6
comp=Z,45nm,1.5s
P53A Whipple 55.01 352 P **P** **15 23 48.2 -0.9**
baz=171,SNR=5.8
P53A Whipple 55.01 352 P **P** **15 23 48.6 -0.5**
P54A Burton 55.02 353 P **P** **15 23 48.6 -0.6**
baz=172,SNR=7.9
MVL Millersville 55.09 357 P **P** **15 23 49.4 -0.2**
MVL IAmb IAmb 15 23 51.0
comp=Z,31nm,1.0s
MGMO Mountain Grove 55.12 342 P **P** **15 23 48.3 -1.7**
O61A Allentown 55.12 359 P **P** **15 23 49.6 -0.2**
baz=179
U38A Gravette 55.15 339 P **P** **15 23 49.1 -1.0**
U38A IAmb IAmb 15 23 50.8
comp=Z,41nm,1.1s
TUL1 Leonard 55.16 338 P **P** **15 23 49.9 -0.4**
baz=154,SNR=7.7
TUL1 Leonard 55.16 338 P **P** **15 23 49.9 -0.4**
TUL1 **pP** **15 24 12.1 -2.1**
FNO Franklin 55.19 336 P **P** **15 23 49.8 -0.7**
O58A Lewisberry 55.24 357 P **P** **15 23 51.1 +0.4**
baz=176,SNR=5.5
P51A Williamsport 55.24 351 P **P** **15 23 49.5 -1.2**
baz=169
P51A Williamsport 55.24 351 P **P** **15 23 49.5 -1.2**
P51A **pP** **15 24 12.7 -1.7**
P51A IAmb IAmb 15 24 16.9
comp=Z,55nm,1.1s
P52A Corning 55.26 352 P **P** **15 23 49.7 -1.2**
baz=170
P52A Corning 55.26 352 P **P** **15 23 49.1 -1.7**
P52A IAmb IAmb 15 24 17.2
comp=Z,47nm,1.1s
WMOK Wichita Mounta 55.30 335 P **P** **15 23 50.5 -0.8**
baz=150
WMOK Wichita Mounta 55.30 335 P **P** **15 23 50.5 -0.8**
WMOK **pP** **15 24 16.3 +1.1**
PAGS Pennsylvania G 55.33 357 P **P** **15 23 51.5 +0.2**
FVM French Village 55.36 344 P **P** **15 23 50.5 -1.2**
FVM pmax pmax
comp=Z,42nm,0.9s
FVM French Village 55.36 344 P **P** **15 23 50.5 -1.2**
FVM IAmb IAmb 15 23 51.9
comp=Z,42nm,0.8s
O60A Telford 55.37 358 P **P** **15 23 51.8 +0.2**
baz=178
O57A Amberson 55.37 356 P **P** **15 23 52.0 +0.4**
baz=175,SNR=12
OLIL Olney 55.49 346 P **P** **15 23 51.1 -1.3**
OLIL **pP** **15 24 13.9 -2.4**
O56A Blue Knob Stat 55.49 355 P **P** **15 23 52.7 +0.1**
baz=174,SNR=7.4
O56A Blue Knob Stat 55.49 355 P **P** **15 23 51.5 -1.0**
O56A IAmb IAmb 15 24 19.7
comp=Z,64nm,1.3s
O55A Ligonier 55.50 355 P **P** **15 23 52.6 0.0**
baz=173
BLO Bloomington 55.56 348 P **P** **15 23 51.3 -1.7**
BLO pmax pmax
comp=Z,100nm,1.2s
BLO Bloomington 55.56 348 P **P** **15 23 51.3 -1.7**
P49A Miami Univ. Ec 55.56 349 P **P** **15 23 51.3 -1.8**
baz=167
P49A Miami Univ. Ec 55.56 349 P **P** **15 23 50.7 -2.4**
P49A **pP** **15 24 15.7 -1.2**
O54A Avella 55.58 354 P **P** **15 23 51.3 -1.9**
baz=172
P48A Milroy 55.62 349 P **P** **15 23 51.4 -2.1**
P48A **pP** **15 24 14.9 -2.5**
P48A IAmb IAmb 15 24 19.2
comp=Z,63nm,1.2s
CCM Cathedral Cave 55.66 343 P **P** **15 23 52.7 -1.1**
baz=159
CCM Cathedral Cave 55.66 343 P **P** **15 23 52.2 -1.5**
CCM pmax pmax
comp=Z,83nm,1.4s
CCM Cathedral Cave 55.66 343 P **P** **15 23 52.1 -1.5**
CCM IAmb IAmb 15 24 20.1
comp=Z,83nm,1.4s
OK029 Liberty Lake 55.69 336 P **P** **15 23 52.7 -1.4**
O52A Adamsville 55.69 352 P **P** **15 23 52.8 -1.1**
baz=170
O52A Adamsville 55.69 352 P **P** **15 23 52.4 -1.6**
O52A IAmb IAmb 15 24 20.5
comp=Z,80nm,1.4s
QUOK Quay 55.73 337 P **P** **15 23 53.3 -1.1**
O53A New Philadelph 55.74 353 P **P** **15 23 53.5 -0.9**
baz=171
GDL2 Guadalupe Moun 55.77 328 P **P** **15 23 53.9 -0.9**
N61A South Mountain 55.78 359 P **P** **15 23 54.4 -0.1**
baz=179
SSPA Standing Stone 55.81 356 P **P** **15 23 54.7 0.0**
baz=175
SSPA Standing Stone 55.81 356 P **P** **15 23 54.4 -0.4**
O51A Pataskala 55.83 351 P **P** **15 23 53.8 -1.1**
baz=169
Q44A Meyer Farm, Va 55.87 345 P **P** **15 23 53.6 -1.6**
Q44A pP **pP** **15 24 18.3 -0.8**
MNTX Cornudas Mount 55.90 327 P **P** **15 23 54.8 -0.9**
baz=142,SNR=24
MNTX Cornudas Mount 55.90 327 P **P** **15 23 54.3 -1.4**
N57A Milroy 55.91 356 P **P** **15 23 55.4 -0.1**
baz=175,SNR=8.1
N60A Cedar Hill Far 55.91 358 P **P** **15 23 54.8 -0.7**
baz=178
S39A Bolivar 55.94 341 P **P** **15 23 54.1 -1.6**
S39A pP **pP** **15 24 18.0 -1.6**
N58A Sunbury 55.94 357 P **P** **15 23 55.9 +0.2**
baz=176,SNR=13
N58A Sunbury 55.94 357 P **P** **15 23 55.3 -0.4**
N58A IAmb IAmb 15 23 57.1
comp=Z,37nm,0.8s
ACSO Alum Creek Sta 55.96 351 P **P** **15 23 54.5 -1.4**
baz=169,SNR=6.6
ACSO Alum Creek Sta 55.96 351 P **P** **15 23 54.7 -1.2**
N59A State Game Lan 55.98 358 P **P** **15 23 55.9 -0.1**
baz=177,SNR=5.2
N59A State Game Lan 55.98 358 P **P** **15 23 55.6 -0.4**
PAL Palisades 56.03 360 P **P** **15 23 55.9 -0.4**
baz=180
N55A Marion Center 56.04 355 P **P** **15 23 56.4 0.0**
baz=174,SNR=9.1
N56A West Decatur 56.12 356 P **P** **15 23 57.0 0.0**
baz=174,SNR=7.2
P46A Rosedale 56.13 347 P **P** **15 23 55.6 -1.4**
O49A Covington 56.13 350 P **P** **15 23 55.6 -1.5**
O49A **pP** **15 24 19.3 -1.8**
O49A IAmb IAmb 15 24 23.2
comp=Z,75nm,1.2s
TRNY Table Rock, Ra 56.17 359 P **P** **15 23 56.5 -0.9**
R40A Maddies Statio 56.17 342 P **P** **15 23 56.0 -1.4**
R40A IAmb IAmb 15 23 56.9
comp=Z,27nm,0.8s
R40A pP **pP** **15 24 20.9 -0.3**
CPRX Cap Rock 56.18 329 P **P** **15 23 58.0 +0.2**
WSPT Westport, CT 56.19 0 P **P** **15 23 55.9 -1.5**
WSPT IAmb IAmb 15 23 58.3
comp=Z,50nm,1.2s
N53A Lisbon 56.25 353 P **P** **15 23 57.1 -0.8**
baz=171
N53A Lisbon 56.25 353 P **P** **15 23 56.2 -1.8**
N53A IAmb IAmb 15 24 20.6
comp=Z,24nm,0.9s
N54A Moraine State 56.31 354 P **P** **15 23 58.0 -0.4**
baz=172,SNR=5.4
N54A Moraine State 56.31 354 P **P** **15 23 57.8 -0.6**
N54A IAmb IAmb 15 23 59.3
comp=Z,34nm,1.2s
N54A pP **pP** **15 24 23.3 +1.1**
T35A Sooner Cattle 56.32 338 P **P** **15 23 58.3 -0.2**
M61A Granite Spring 56.33 360 P **P** **15 23 58.0 -0.5**
baz=180
YLE Yale 56.34 0 P **P** **15 23 58.0 -0.5**
YLE IAmb IAmb 15 23 59.6
comp=Z,39nm,0.7s
M60A Port Jervis 56.36 359 P **P** **15 23 58.5 -0.1**
baz=179
M63A Gales Ferry 56.44 1 P **P** **15 23 59.2 0.0**
baz=182
M57A Sunshine Farm, 56.46 357 P **P** **15 23 59.9 +0.5**
baz=176,SNR=12
M57A Sunshine Farm, 56.46 357 P **P** **15 23 59.6 +0.2**
M57A IAmb IAmb 15 24 00.4
comp=Z,32nm,0.7s
M58A Price's Panora 56.46 357 P **P** **15 23 59.8 +0.3**
baz=176,SNR=13
M62A Hamden 56.46 0 P **P** **15 23 59.4 +0.1**
baz=181,SNR=6.3
CROK Carrier 56.51 336 P **P** **15 23 59.2 -0.7**
CROK pP **pP** **15 24 24.6 +0.7**
N51A Ashland 56.55 352 P **P** **15 23 58.6 -1.4**
baz=170
N51A Ashland 56.55 352 P **P** **15 23 58.7 -1.3**
N51A IAmb IAmb 15 24 26.3
comp=Z,52nm,1.2s
M59A Waymart 56.59 358 P **P** **15 24 00.5 +0.1**
baz=178,SNR=10
M64A Tiverton 56.61 2 P **P** **15 24 00.3 -0.1**
baz=183
KSPA Keystone Colle 56.62 358 P **P** **15 24 00.7 +0.2**
AMTX Amarillo 56.67 332 P **P** **15 24 00.4 -0.8**
baz=147
M56A Emporium 56.67 356 P **P** **15 24 00.8 -0.1**
baz=174,SNR=6.5
M56A Emporium 56.67 356 P **P** **15 24 00.6 -0.3**
M56A pP **pP** **15 24 24.7 -0.1**
M56A IAmb IAmb 15 24 29.7
comp=Z,81nm,1.4s
P43A Skaggs, Pawnee 56.69 345 P **P** **15 23 59.3 -1.8**
P43A **pP** **15 24 23.5 -1.5**
U32A Winter Ranch, 56.80 335 P **P** **15 24 00.9 -1.1**
U32A **pP** **15 24 26.5 +0.5**
M54A Oil Creek Stat 56.82 354 P **P** **15 24 01.4 -0.6**
baz=173,SNR=7.2
M54A Oil Creek Stat 56.82 354 P **P** **15 24 01.4 -0.6**
M54A IAmb IAmb 15 24 02.5
comp=Z,47nm,1.2s
N49A Columbus Grove 56.83 350 P **P** **15 23 59.4 -2.6**
N49A pP **pP** **15 24 24.6 -1.4**
SFIN Lafayette 56.84 348 P **P** **15 23 60.0 -2.1**
baz=164,SNR=7.6
SFIN Lafayette 56.84 348 P **P** **15 23 59.7 -2.4**
SFIN pP **pP** **15 24 24.4 -1.6**
SFIN IAmb IAmb 15 24 27.6
comp=Z,48nm,1.0s
M53A WI Miller and 56.85 353 P **P** **15 24 01.2 -1.0**
baz=172
L63A North Scituate 56.91 2 P **P** **15 24 02.5 0.0**
baz=182
O44A Masfield 56.92 346 P **P** **15 24 00.9 -1.8**
M51A Elyria 56.93 352 P **P** **15 24 01.3 -1.4**
baz=170
BRYW Bryant College 56.96 2 P **P** **15 24 03.0 0.0**
L64A Middleborough 57.00 2 P **P** **15 24 02.8 -0.4**
baz=183
L60A Shokan 57.01 359 P **P** **15 24 03.6 +0.3**
baz=179,SNR=7.3
M52A Chesterland 57.03 353 P **P** **15 24 04.8 +1.3**
baz=171
N47A Urbana 57.05 349 P **P** **15 24 01.5 -2.1**
N47A pP **pP** **15 24 26.0 -1.5**
HSIG 57.07 321 P **P** **15 24 01.5 -2.5**
L57A Andrews Acres 57.11 357 P **P** **15 24 04.2 +0.2**
baz=176,SNR=9.0
L58A Harry Jones Me 57.11 358 P **P** **15 24 04.3 +0.3**
baz=177,SNR=16
M50A Fremont 57.12 351 P **P** **15 24 02.5 -1.6**
L61A Hillsdale 1, H 57.21 360 P **P** **15 24 04.6 -0.1**
baz=180
L59A Walton 57.23 359 P **P** **15 24 05.1 +0.2**
baz=178,SNR=15
L59A Walton 57.23 359 P **P** **15 24 04.5 -0.4**
L59A IAmb IAmb 15 24 06.2
comp=Z,52nm,0.9s
P40A Paris 57.26 343 P **P** **15 24 03.5 -1.5**
P40A IAmb IAmb 15 24 05.0
comp=Z,34nm,0.8s
BINY Binghamton 57.27 358 P **P** **15 24 05.4 +0.3**
baz=177,SNR=11
BINY Binghamton 57.27 358 P **P** **15 24 05.0 -0.1**
BINY IAmb IAmb 15 24 06.5
comp=Z,57nm,1.1s
L56A Greenwood 57.28 356 P **P** **15 24 05.2 -0.1**
baz=175,SNR=9.8
L56A Greenwood 57.28 356 P **P** **15 24 04.8 -0.4**
L56A IAmb IAmb 15 24 06.2
comp=Z,42nm,1.0s
L53A Girard 57.32 354 P **P** **15 24 04.7 -0.8**
baz=172
L55A Hinsdale 57.39 356 P **P** **15 24 05.9 -0.1**
baz=174,SNR=9.6
WES Weston 57.44 2 P **P** **15 24 05.2 -1.0**
WES pmax pmax
comp=Z,25nm,1.1s
WES Weston 57.44 2 P **P** **15 24 05.2 -1.0**
ERPA Erie 57.46 354 P **P** **15 24 05.7 -0.7**
baz=172
ERPA Erie 57.46 354 P **P** **15 24 04.3 -2.1**
L61B Northampton 57.47 1 P **P** **15 24 06.0 -0.5**
baz=181,SNR=5.8
HDIL Hopedale 57.50 346 P **P** **15 24 05.0 -1.8**
baz=162
HDIL Hopedale 57.50 346 P **P** **15 24 05.3 -1.5**
L54A Sinclairville 57.51 355 P **P** **15 24 06.5 -0.3**
baz=173,SNR=5.1
HRV Adam Dziewonsk 57.55 2 P **P** **15 24 07.0 -0.1**
baz=182
HRV Adam Dziewonsk 57.55 2 P **P** **15 24 07.0 -0.1**
HRV pmax pmax
comp=Z,42nm,1.0s
HRV Adam Dziewonsk 57.55 2 P **P** **15 24 07.0 -0.1**
HRV IAmb IAmb 15 24 08.2
comp=Z,42nm,1.0s
WVNY West Valley, N 57.62 355 P **P** **15 24 07.3 -0.3**
K60A Five Rivers En 57.64 360 P **P** **15 24 07.8 +0.1**
baz=180
K61A Williamstown 57.69 0 P **P** **15 24 08.1 +0.1**
baz=180
K62A Royalston 57.69 1 P **P** **15 24 07.9 -0.2**
baz=181
K62A Royalston 57.69 1 P **P** **15 24 07.7 -0.3**
K62A IAmb IAmb 15 24 35.9
comp=Z,41nm,1.5s
K63A Dunstable 57.73 2 P **P** **15 24 08.2 -0.1**
baz=182
TRY Troy 57.75 360 P **P** **15 24 08.7 +0.3**
TRY IAmb IAmb 15 24 09.8
comp=Z,44nm,1.0s
P38A Dawn 57.78 342 P **P** **15 24 07.6 -1.2**
P38A pP **pP** **15 24 30.7 -1.9**
P38A IAmb IAmb 15 24 34.4
comp=Z,54nm,1.4s
K59A Cooperstown 57.81 359 P **P** **15 24 08.9 0.0**
baz=178,SNR=13
K58A Earlville 57.82 358 P **P** **15 24 09.0 0.0**
baz=178,SNR=10
K58A Earlville 57.82 358 P **P** **15 24 08.2 -0.8**
K58A IAmb IAmb 15 24 10.2
comp=Z,43nm,1.0s
K57A Scipio Center 57.82 357 P **P** **15 24 08.8 -0.1**
baz=176,SNR=5.6
121A Cookes Peak, D 57.83 326 P **P** **15 24 10.1 +0.7**
baz=140,SNR=18
121A Cookes Peak, D 57.83 326 P **P** **15 24 10.0 +0.5**
121A IAmb IAmb 15 24 38.7
comp=Z,48nm,1.1s
K56A Middlesex 57.83 357 P **P** **15 24 08.9 -0.2**
baz=176
K54A Basiliko Farm, 57.83 355 P **P** **15 24 08.9 -0.2**
baz=174,SNR=5.7
L48A N Adams 57.86 350 P **P** **15 24 07.7 -1.6**
L48A pP **pP** **15 24 31.2 -2.0**
MMNY Mt. Morris Dam 57.90 356 P **P** **15 24 09.3 -0.2**
MMNY IAmb IAmb 15 24 09.8
comp=Z,34nm,0.7s
MMNY pP **pP** **15 24 32.5 -0.9**
M44A Midewin, Midew 58.01 347 P **P** **15 24 08.1 -2.2**
M44A **pP** **15 24 32.2 -2.1**
M44A IAmb IAmb 15 24 35.8
comp=Z,80nm,1.4s
N41A Harden Midland 58.03 344 P **P** **15 24 09.0 -1.5**
N41A **pP** **15 24 33.9 -0.5**
AAM Ann Arbor 58.09 351 P **P** **15 24 09.4 -1.4**
baz=168
AAM Ann Arbor 58.09 351 P **P** **15 24 08.4 -2.4**
AAM pmax pmax
comp=Z,67nm,1.4s
AAM Ann Arbor 58.09 351 P **P** **15 24 08.4 -2.4**
AAM IAmb IAmb 15 24 36.3
comp=Z,67nm,1.4s
L46A Eue Claire 58.26 349 P **P** **15 24 09.7 -2.3**
L46A pP **pP** **15 24 35.2 -0.9**
J60A Lant Hill Farm 58.26 0 P **P** **15 24 12.2 +0.2**
baz=180,SNR=6.1
J62A Henniker 58.26 1 P **P** **15 24 12.2 +0.2**
baz=182
KSU1 Kansas State U 58.30 339 P **P** **15 24 11.6 -0.8**
baz=154
KSU1 Kansas State U 58.30 339 P **P** **15 24 11.5 -1.0**
KSU1 IAmb IAmb 15 24 12.8
comp=Z,37nm,1.1s
J63A Strafford 58.34 2 P **P** **15 24 12.3 -0.2**
baz=183
HQIL Hanson Quary C 58.36 347 P **P** **15 24 11.1 -1.7**
HQIL pP **pP** **15 24 34.8 -2.0**
MEDO Medina 58.37 356 P **P** **15 24 11.9 -0.9**
MEDO IAmb IAmb 15 24 39.3
comp=Z,40nm,1.2s
J61A Chester 58.37 1 P **P** **15 24 13.1 +0.3**
baz=181
J56A Wolcott 58.38 357 P **P** **15 24 12.2 -0.6**
baz=176,SNR=6.0
J56A Wolcott 58.38 357 P **P** **15 24 12.6 -0.2**
ACCN Adirondack Com 58.40 360 P **P** **15 24 12.0 -1.0**
ACCN IAmb IAmb 15 24 14.4
comp=Z,28nm,1.1s
J58A Remsen 58.40 358 P **P** **15 24 12.9 -0.1**
baz=178
J58A Remsen 58.40 358 P **P** **15 24 12.0 -1.0**
K50A Casco 58.41 352 P **P** **15 24 10.3 -2.8**
BNM Barren Site 58.47 328 P **P** **15 24 13.1 -0.9**
R32A Long Quarter, 58.47 337 P **P** **15 24 12.6 -1.1**
J57A Williamstown 58.47 358 P **P** **15 24 13.1 -0.4**
baz=177,SNR=6.3
J57A Williamstown 58.47 358 P **P** **15 24 13.1 -0.4**
J57A IAmb IAmb 15 24 14.3
comp=Z,37nm,0.9s
J54A Appleton 58.49 356 P **P** **15 24 13.0 -0.5**
baz=174
J59A Piesco 58.49 359 P **P** **15 24 13.5 -0.2**
baz=179,SNR=11
J59A Piesco 58.49 359 P **P** **15 24 13.3 -0.3**
J59A IAmb IAmb 15 24 14.9
comp=Z,30nm,0.9s
FFD Franklin Falls 58.51 2 P **P** **15 24 13.8 +0.1**
FFD IAmb IAmb 15 24 14.9
comp=Z,25nm,0.8s
Y22D IRIS PASSCAL I 58.56 328 P **P** **15 24 13.6 -0.9**
baz=141
LENM Lemitar 58.66 328 P **P** **15 24 15.2 0.0**
I58A Old Forge 58.72 359 P **P** **15 24 15.1 -0.1**
baz=178,SNR=7.4
HNH Hanover 58.73 1 P **P** **15 24 14.9 -0.4**
HNH IAmb IAmb 15 24 43.6
comp=Z,47nm,1.5s
L44A Lake County Fo 58.74 347 P **P** **15 24 13.3 -2.0**
baz=164
L44A Lake County Fo 58.74 347 P **P** **15 24 13.4 -2.0**
N38A Joes South For 58.77 342 P **P** **15 24 14.2 -1.4**
N38A IAmb IAmb 15 24 15.6
comp=Z,43nm,0.9s
I59A Olmsteadville 58.81 360 P **P** **15 24 15.8 -0.1**
baz=180
I60A Shoreham 58.86 0 P **P** **15 24 16.2 0.0**
baz=180,SNR=5.8
I62A Tamworth 58.92 2 P **P** **15 24 16.6 0.0**
baz=182
I62A Tamworth 58.92 2 P **P** **15 24 16.5 0.0**
I62A IAmb IAmb 15 24 17.3
comp=Z,41nm,1.5s
I61A Oroboro, Fairl 58.96 1 P **P** **15 24 17.3 +0.4**
baz=181,SNR=7.5
L42A Oliver, Polo 58.96 346 P **P** **15 24 15.3 -1.6**
L42A IAmb IAmb 15 24 42.0
comp=Z,45nm,1.1s
I57A Carthage 58.99 358 P **P** **15 24 16.8 -0.3**
baz=178
NCB Newcomb 58.99 359 P **P** **15 24 17.2 +0.1**
ANMO Albuquerque 59.00 329 P **P** **15 24 17.8 +0.2**
baz=142
ANMO Albuquerque 59.00 329 *eP* **P** **15 24 17.7 +0.1**
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 59.00 329 P **P** **15 24 17.0 -0.7**
I64A Boothbay 59.04 3 P **P** **15 24 17.6 +0.2**
baz=184
PECO Prince Edward 59.04 357 P **P** **15 24 16.6 -0.8**
I63A Otisfield 59.12 2 P **P** **15 24 18.5 +0.5**
baz=183
J47A Sunmer 59.19 350 P **P** **15 24 17.1 -1.3**
J47A **pP** **15 24 42.8 +0.3**
CBKS Cedar Bluff 59.20 336 P **P** **15 24 18.5 -0.2**
baz=150
CBKS Cedar Bluff 59.20 336 P **P** **15 24 19.0 +0.3**
CBKS *PP **pP** **15 24 43.9 +1.0**
CBKS Cedar Bluff 59.20 336 P **P** **15 24 19.0 +0.3**
CBKS **pP** **15 24 43.9 +1.0**
I51A Listowel 59.23 354 P **P** **15 24 17.6 -1.2**
baz=172
LBNH Lisbon 59.27 1 P **P** **15 24 19.4 +0.3**
baz=182,SNR=5.0
LBNH Lisbon 59.27 1 P **P** **15 24 19.6 +0.6**
LBNH pmax pmax
comp=Z,39nm,1.3s
LBNH Lisbon 59.27 1 P **P** **15 24 19.6 +0.6**
LBNH IAmb IAmb 15 24 20.6
comp=Z,39nm,1.3s
K43A Burlington 59.33 347 P **P** **15 24 17.6 -1.8**
K43A **pP** **15 24 43.0 -0.6**
TUC Tucson 59.34 323 P **P** **15 24 20.0 +0.2**
baz=137
TUC Tucson 59.34 323 P **P** **15 24 19.2 -0.7**
TUC *PP **pP** **15 24 45.0 +1.0**
TUC Tucson 59.34 323 P **P** **15 24 19.2 -0.7**
TUC **pP** **15 24 45.0 +1.0**
L40A Anamosa 59.40 345 P **P** **15 24 18.3 -1.6**
L40A **pP** **15 24 43.3 -0.7**
H58A Gabriels 59.44 359 P **P** **15 24 19.8 -0.4**
baz=179,SNR=7.2
H57A Richville 59.51 358 P **P** **15 24 20.2 -0.4**
baz=178,SNR=10.0
N35A Tabor 59.56 341 P **P** **15 24 20.2 -0.9**
H61A Lyndonville 59.57 1 P **P** **15 24 21.4 +0.4**
baz=182
H60A Morristown 59.58 1 P **P** **15 24 21.4 +0.3**
baz=181
H62A Milan 59.63 2 P **P** **15 24 21.8 +0.3**
baz=183
LONY Lake Ozonia 59.65 359 P **P** **15 24 21.3 -0.3**
baz=179,SNR=7.2
LONY Lake Ozonia 59.65 359 P **P** **15 24 21.5 -0.1**
LONY IAmb IAmb 15 24 22.7
comp=Z,45nm,1.5s
DELO Deloro Mine 59.66 357 P **P** **15 24 20.9 -0.7**
DELO IAmb IAmb 15 24 22.2
comp=Z,35nm,0.8s
H59A Cadyville 59.66 360 P **P** **15 24 21.6 -0.1**
baz=180,SNR=7.1
WVL Waterville 59.68 3 P **P** **15 24 21.6 -0.1**
WVL IAmb IAmb 15 24 23.3
comp=Z,30nm,1.3s
H63A New Sharon 59.76 3 P **P** **15 24 23.0 +0.7**
baz=184
H53A Bobcaygeon 59.78 356 P **P** **15 24 21.6 -0.8**
baz=174,SNR=8.0
T25A Trinidad 59.78 332 P **P** **15 24 23.1 +0.2**
baz=145,SNR=19
T25A Trinidad 59.78 332 P **P** **15 24 22.9 0.0**

H64A Troy 59.78 3 P P 15 24 22.8 +0.3
baz=185,SNR=6.9
SCIA State Center 59.79 343 P P 15 24 21.5 -1.1
baz=158,SNR=5.0
SCIA State Center 59.79 343 P P 15 24 21.1 -1.5
SCIA IAmb IAmb 15 24 22.6
comp=Z,31nm,0.9s
FRNY Flat Rock 59.85 360 P P 15 24 22.9 -0.1
FRNY IAmb IAmb 15 24 24.1
comp=Z,42nm,1.1s
H65A Eastbrook 59.90 4 P P 15 24 23.6 +0.3
baz=186
JFWS Jewell Farm 59.96 346 P P 15 24 22.5 -1.3
baz=161
JFWS Jewell Farm 59.96 346 P P 15 24 22.6 -1.2
JFWS pmax pmax
comp=Z,30nm,0.9s
JFWS Jewell Farm 59.96 346 P P 15 24 22.6 -1.2
JFWS IAmb IAmb 15 24 49.4
comp=Z,30nm,0.9s
EMMW East Machias 59.97 5 P P 15 24 23.7 -0.1
EMMW IAmb IAmb 15 24 25.2
comp=Z,47nm,1.2s
SADO Sadowa 60.01 355 P P 15 24 22.9 -1.2
SADO IAmb IAmb 15 24 23.6
comp=Z,23nm,0.8s
N33A J Bar K, Exete 60.05 339 P P 15 24 23.3 -1.2
H66A Whiting 60.06 5 P P 15 24 24.9 +0.5
baz=187,SNR=5.7
G59A Clarenceville 60.10 0 P P 15 24 24.8 +0.2
baz=180
G60A Masonville 60.12 1 P P 15 24 24.8 0.0
baz=181,SNR=5.3
G57A Newington 60.14 359 P P 15 24 24.7 -0.2
baz=178,SNR=6.2
PLVO Plevna 60.15 357 P P 15 24 24.3 -0.7
PLVO IAmb IAmb 15 24 25.2
comp=Z,21nm,0.9s
PLVO pP pP 15 24 49.7 +0.6
G58A Ormstown 60.17 359 P P 15 24 25.0 -0.1
baz=179,SNR=5.3
G63A Kingsbury 60.23 3 P P 15 24 26.0 +0.4
baz=184,SNR=7.9
214A Organ Pipe Nat 60.28 322 P P 15 24 26.9 +0.7
baz=135,SNR=9.0
214A Organ Pipe Nat 60.28 322 P P 15 24 26.2 -0.1
214A pP 15 24 51.4 +1.0
214A IAmb IAmb 15 24 54.3
comp=Z,36nm,1.1s
G62A West of Eustis 60.29 2 P P 15 24 26.6 +0.6
baz=183,SNR=18
G62A West of Eustis 60.29 2 P P 15 24 26.4 +0.4
G61A St-Isidore-de- 60.32 2 P P 15 24 26.8 +0.6
baz=182,SNR=14
HAL Halifax 60.32 8 P P 15 24 25.1 -1.1
HAL pmax pmax
comp=Z,59nm,1.1s
HAL Halifax 60.32 8 P P 15 24 25.1 -1.1
K38A Parkersburg 60.35 344 P P 15 24 24.6 -1.8
PKME Peaks-Kenny Pk 60.40 3 P P 15 24 27.0 +0.3
baz=185,SNR=6.3
PKME Peaks-Kenny Pk 60.40 3 P P 15 24 26.4 -0.3
PKME IAmb IAmb 15 24 27.6
comp=Z,24nm,0.8s
G64A Maxfield 60.42 4 P P 15 24 27.1 +0.2
baz=185,SNR=9.1
GGN Saint George 60.43 5 P P 15 24 27.4 +0.5
GGN IAmb IAmb 15 24 28.6
comp=Z,71nm,1.4s
G65A Princeton 60.45 5 P P 15 24 27.5 +0.4
baz=186,SNR=9.8
G65A Princeton 60.45 5 P P 15 24 26.9 -0.1
G65A IAmb IAmb 15 24 28.1
comp=Z,36nm,0.8s
KSCO Kaye Shedlock' 60.54 334 P P 15 24 28.3 +0.3
baz=147
G54A Lake Saint Pet 60.56 356 P P 15 24 27.2 -0.6
baz=175,SNR=9.5
I42A Draeger Farm, 60.59 347 P P 15 24 26.4 -1.6
I42A IAmb IAmb 15 24 27.6
comp=Z,29nm,1.0s
I42A pP 15 24 52.0 -0.2
SDCO Great Sand Dun 60.77 331 P P 15 24 30.2 +0.3
baz=144,SNR=75
SDCO Great Sand Dun 60.77 331 P P 15 24 29.8 0.0
SDCO pP pP 15 24 54.6 +0.6
L34A Svendsen Farm, 60.80 341 P P 15 24 28.4 -1.1
F57A Harrington 60.84 359 P P 15 24 29.1 -0.6
baz=179
W18A Petrified Fore 60.84 326 P P 15 24 30.7 +0.5
baz=139,SNR=20
W18A Petrified Fore 60.84 326 P P 15 24 30.4 +0.1
F63A Nahmakanta, Br 60.85 3 P P 15 24 30.2 +0.4
baz=185
F63A Nahmakanta, Br 60.85 3 P P 15 24 29.5 -0.3
BGNE Belgrade 60.89 339 P P 15 24 29.8 -0.4
baz=153
BGNE Belgrade 60.89 339 P P 15 24 29.0 -1.2
H43A Windswept, Lux 60.91 348 P P 15 24 28.3 -1.9
H43A pP 15 24 53.8 -0.6
H43A IAmb IAmb 15 24 56.6
comp=Z,44nm,0.8s
I40A Norwalk 60.97 346 P P 15 24 28.9 -1.8
I40A pP 15 24 54.5 -0.4
I40A IAmb IAmb 15 24 56.5
comp=Z,64nm,1.2s
F60A Warwick 61.00 1 P P 15 24 30.5 -0.3
baz=182,SNR=7.7
F61A St Evariste 61.03 2 P P 15 24 30.7 -0.2
baz=183
F64A Sherman 61.05 4 P P 15 24 31.5 +0.4
baz=186,SNR=11
F64A Sherman 61.05 4 P P 15 24 31.6 +0.4
F64A IAmb IAmb 15 24 32.7
comp=Z,49nm,1.0s
F64A pP 15 24 55.3 0.0
ALGO Algonquin Park 61.12 356 P P 15 24 30.7 -0.9
baz=175,SNR=20
X16A Lo Mia Camp, P 61.26 324 P P 15 24 32.8 -0.2
X16A IAmb IAmb 15 25 00.5
comp=Z,48nm,1.4s
SPX San Pedro Mart 61.28 319 P P 15 24 31.9 -1.5
LMN Caledonia Moun 61.37 7 P P 15 24 32.6 -0.6
LMN IAmb IAmb 15 25 00.3
comp=Z,63nm,1.1s
E58A La Victoria 61.39 0 P P 15 24 33.1 -0.3
baz=180,SNR=6.1
S22A 4UR Ranch, Cre 61.40 330 P P 15 24 34.4 +0.3
baz=143,SNR=18
S22A 4UR Ranch, Cre 61.40 330 P P 15 24 33.0 -1.1
S22A IAmb IAmb 15 25 02.0
comp=Z,39nm,1.5s
E60A Ste Agathe de 61.41 2 P P 15 24 33.1 -0.4
baz=182
113A Mohawk Valley, 61.42 322 P P 15 24 33.0 -0.9
E57A Chemin Saint G 61.43 359 P P 15 24 33.4 -0.3
baz=179,SNR=6.9
E61A Lac Etchemin 61.51 2 P P 15 24 34.6 +0.4
baz=183,SNR=9.8
E55A Montcerf-Lytto 61.52 358 P P 15 24 34.0 -0.3
baz=177
E56A St. Veronique 61.58 359 P P 15 24 34.3 -0.4
baz=178,SNR=12
Q24A Divide 61.60 332 P P 15 24 35.4 0.0
baz=145,SNR=8.9
Q24A Divide 61.60 332 P P 15 24 34.9 -0.5
Q24A pP pP 15 24 59.7 0.0
Q24A IAmb IAmb 15 25 03.1
comp=Z,52nm,1.2s
E63A Oxbow 61.60 4 P P 15 24 35.1 +0.3
baz=186,SNR=7.0
E63A Oxbow 61.60 4 P P 15 24 35.0 +0.2
E63A IAmb IAmb 15 25 03.8
comp=Z,31nm,1.1s
E64A Bridgewater 61.64 4 P P 15 24 35.4 +0.3
baz=186,SNR=5.2
E62A Clayton Lake 61.74 3 P P 15 24 36.2 +0.5
baz=184,SNR=14
E62A Clayton Lake 61.74 3 P P 15 24 35.5 -0.3
E62A IAmb IAmb 15 24 37.0
comp=Z,32nm,0.7s
I37A Lemond, Waseca 61.79 344 P P 15 24 35.1 -1.0
I37A IAmb IAmb 15 24 35.8
comp=Z,28nm,0.8s
MVCO Mesa Verde 61.80 329 P P 15 24 36.9 +0.2
baz=141,SNR=11

MVCO Mesa Verde 61.80 329 P P 15 24 35.6 -1.1
MVCO IAmb IAmb 15 24 38.3
comp=Z,50nm,1.4s
Y14A Wickenburg 61.80 323 P P 15 24 36.2 -0.3
Y14A pP 15 25 01.3 +0.5
Y14A IAmb IAmb 15 25 03.9
comp=Z,52nm,1.4s
D60A Saint Jean D'O 61.97 2 P P 15 24 37.6 +0.3
baz=183
WUAZ Wupatki 62.03 325 P P 15 24 38.8 +0.6
baz=138,SNR=22
WUAZ Wupatki 62.03 325 P P 15 24 38.5 +0.3
WUAZ pP 15 25 04.1 +1.7
WUAZ IAmb IAmb 15 25 08.3
comp=Z,52nm,1.1s
D55A Sainte-Anne-du 62.06 358 P P 15 24 37.4 -0.5
baz=178,SNR=12
D56A ZEC Mazanza, M 62.08 359 P P 15 24 37.5 -0.5
baz=179,SNR=6.2
D58A Chemin du LacG 62.11 0 P P 15 24 38.1 -0.2
baz=181,SNR=15
E46A Sault Ste Mari 62.16 351 P P 15 24 36.7 -1.9
E46A IAmb IAmb 15 25 04.9
comp=Z,63nm,1.2s
K31A O'Neill 62.18 339 P P 15 24 38.6 -0.2
K31A pP pP 15 25 02.6 -0.4
G40A Rib Lake 62.18 347 P P 15 24 37.7 -1.1
G40A pP pP 15 25 02.2 -0.8
F42A Maple Grove Fa 62.22 348 P P 15 24 36.1 -2.8
F42A IAmb IAmb 15 25 04.8
comp=Z,43nm,1.1s
D62A Allapoint, All 62.22 3 P P 15 24 39.4 +0.4
baz=185,SNR=14
D62A Allapoint, All 62.22 3 P P 15 24 38.9 -0.1
D63A Stockholm 62.24 4 P P 15 24 39.6 +0.6
baz=186,SNR=8.3
D61A St Aubert, Com 62.29 2 P P 15 24 39.9 +0.6
baz=184
ECSD EROS Data Cent 62.47 341 P P 15 24 39.9 -0.9
baz=155,SNR=30
ECSD EROS Data Cent 62.47 341 P P 15 24 39.9 -0.9
ECSD IAmb IAmb 15 24 41.4
comp=Z,97nm,1.4s
ECSD pP pP 15 25 05.3 +0.3
ISCO Idaho Springs 62.49 332 P P 15 24 41.5 +0.1
baz=145,SNR=15
ISCO Idaho Springs 62.49 332 P P 15 24 40.6 -0.8
ISCO pP pP 15 25 07.3 +1.6
ISCO IAmb IAmb 15 25 09.2
comp=Z,37nm,1.4s
PV01 Paradox Valley 62.56 329 P P 15 24 41.8 +0.1
PV01 IAmb IAmb 15 24 43.6
comp=Z,46nm,1.3s
E43A Lone Tree Farm 62.60 349 P P 15 24 39.8 -1.7
E43A pP pP 15 25 04.5 -1.4
E43A IAmb IAmb 15 25 07.9
comp=Z,32nm,1.0s
BATG Bathurst New B 62.64 6 P P 15 24 42.1 +0.3
BATG IAmb IAmb 15 24 43.1
comp=Z,44nm,0.9s
PV15 Paradox Valley 62.67 329 P P 15 24 42.6 +0.1
PV15 IAmb IAmb 15 24 44.5
comp=Z,52nm,1.0s
PV15 pP pP 15 25 07.5 +0.6
PV02 Paradox Valley 62.70 329 P P 15 24 42.0 -0.7
PV02 IAmb IAmb 15 24 44.4
comp=Z,41nm,1.3s
PV02 pP pP 15 25 05.7 -1.3
PV13 Radium Mtn., P 62.70 329 P P 15 24 42.1 -0.5
PV13 IAmb IAmb 15 24 44.3
comp=Z,37nm,1.2s
COWI Conover 62.75 348 P P 15 24 40.7 -1.8
COWI IAmb IAmb 15 25 08.6
comp=Z,43nm,1.3s
SPMN Marine on St. 62.76 345 P P 15 24 41.7 -0.9
baz=159,SNR=7.2
SPMN Marine on St. 62.76 345 P P 15 24 41.0 -1.6
SPMN pP pP 15 25 07.4 +0.5
IKP In-Ko-Pah, Jac 62.77 320 P P 15 24 43.8 +0.7
baz=133
PV05 Paradox Valley 62.77 329 P P 15 24 43.1 0.0
PV05 IAmb IAmb 15 24 44.6
comp=Z,41nm,1.4s
SWSC Sam W. Stewart 62.78 320 P P 15 24 43.8 +0.8
baz=133
PV03 Paradox Valley 62.79 329 P P 15 24 43.0 -0.2
PV03 IAmb IAmb 15 25 10.2
comp=Z,42nm,1.4s
PV18 Skein Mesa, Pa 62.81 329 P P 15 24 42.7 -0.6
PV18 pP pP 15 25 08.9 +1.2
PV12 Saucer Basin, 62.81 329 P P 15 24 41.9 -1.5
PV07 Paradox Valley 62.83 329 P P 15 24 42.4 -1.1
PV11 David Mesa, Pa 62.83 329 P P 15 24 41.2 -2.3
PV17 East Wray Mesa 62.86 329 P P 15 24 43.5 -0.2
PV16 Nyswonger Mesa 62.86 329 P P 15 24 42.4 -1.3
PV19 Morning Glory 62.90 329 P P 15 24 42.3 -1.6
PV20 West Nyswonger 62.91 329 P P 15 24 42.2 -1.8
PV04 Paradox Valley 62.92 329 P P 15 24 41.9 -2.2
PV22 Blue Mesa, Par 62.98 329 P P 15 24 43.6 -0.9
PV10 Paradox Valley 62.98 329 P P 15 24 41.8 -2.7
PV23 Carpenter Ridg 63.02 329 P P 15 24 44.1 -0.7
BC3 Big Chuckawall 63.05 321 P P 15 24 45.6 +0.7
baz=134
PV21 Cone Mtn., Par 63.09 329 P P 15 24 44.2 -1.1
MONP2 Monument Peak 63.13 320 P P 15 24 46.1 +0.5
baz=132
W13A Hualapai Mount 63.14 323 P P 15 24 45.9 +0.3
W13A pP pP 15 25 09.8 -0.2
BAR Barrett 63.14 320 P P 15 24 46.0 +0.6
BAR pP pP 15 25 10.4 +0.6
BAR IAmb IAmb 15 25 13.8
comp=Z,48nm,1.3s
MBO M'Bour 63.14 65 P P 15 24 44.7 -1.0
U15A North Rim 63.20 325 P P 15 24 46.0 -0.1
U15A pP pP 15 25 11.9 +1.4
IRM Iron Mountain 63.22 322 P P 15 24 46.7 +0.8
baz=134,SNR=9.1
VLDQ Val d'Or 63.23 357 P P 15 24 44.9 -0.7
VLDQ IAmb IAmb 15 24 46.0
comp=Z,24nm,0.7s
N23A Red Feather La 63.53 333 P P 15 24 48.5 +0.3
baz=145,SNR=13
N23A Red Feather La 63.53 333 P P 15 24 47.6 -0.6
F36A Milaca 63.54 344 P P 15 24 46.5 -1.3
F36A pP pP 15 25 12.2 +0.1
109C Camp Elliot, M 63.55 320 P P 15 24 48.0 -0.1
baz=132
109C Camp Elliot, M 63.55 320 P P 15 24 46.2 -1.9
D41A Chassel 63.55 348 P P 15 24 46.6 -1.2
D41A IAmb IAmb 15 25 14.9
comp=Z,56nm,1.1s
BELC Belle Mtn. Jos 63.62 321 P P 15 24 49.5 +0.7
baz=133
TPFO Pinon Flats 63.63 321 P P 15 24 49.8 +1.0
baz=133,SNR=6.6
XPFO Pion Flat 63.63 321 P P 15 24 49.0 +0.2
PFO Pinyon Flats O 63.64 321 P P 15 24 49.8 +1.0
comp=Z,6.6nm,0.8s,baz=127,slow=3.7,SNR=10
PFO pP pP 15 25 15.9 +2.6
comp=Z,18nm,1.1s,baz=132,slow=5.6,SNR=8.9
PFO Pinyon Flats O 63.64 321 P P 15 24 49.8 +1.0
baz=133,SNR=6.2
PFO Pinyon Flats O 63.64 321 *d iP P 15 24 49.4 +0.6
PFO pmax pmax
comp=Z,20nm,0.9s
PFO Pinyon Flats O 63.64 321 P P 15 24 49.6 +0.7
PFO pP pP 15 25 13.8 +0.6
PHWY Pilot Hill 63.65 334 P P 15 24 48.1 -0.9
PHWY pP pP 15 25 15.1 +1.7
E38A The Farm, Brul 63.75 346 P P 15 24 47.8 -1.4
E38A IAmb IAmb 15 24 49.2
comp=Z,35nm,1.1s
SUSD Miller 63.85 340 P P 15 24 49.2 -0.7
baz=152
SUSD Miller 63.85 340 P P 15 24 48.9 -0.9
SUSD IAmb IAmb 15 24 50.4
comp=Z,56nm,0.9s
KNB Kanab 63.92 326 P P 15 24 51.6 +0.9
KNB pmax pmax
comp=Z,68nm,1.2s
KNB Kanab 63.92 326 P P 15 24 51.5 +0.9
GMRC Granite Mounta 63.96 322 P P 15 24 51.7 +0.8
baz=134,SNR=6.9
PKCU Pink Cliffs 63.96 326 P P 15 24 52.4 +1.2

O20A White River Ci 63.97 331 P P 15 24 51.3 +0.3
baz=142,SNR=5.5
O20A White River Ci 63.97 331 P P 15 24 51.1 +0.1
O20A IAmb IAmb 15 24 52.7
comp=Z,51nm,1.2s
MURC Murrieta 64.08 320 P P 15 24 52.2 +0.6
baz=132
LCMT Little Creek M 64.15 325 P P 15 24 53.0 +0.9
LSQQ Lebel-sur-Quev 64.15 357 P P 15 24 51.4 -0.4
baz=176
F33A 5 Mile Ranch, 64.28 342 P P 15 24 51.0 -1.6
F33A IAmb IAmb 15 24 52.6
comp=Z,47nm,0.8s
F33A pP pP 15 25 17.3 +0.3
SRU San Rafael Swe 64.28 329 P P 15 24 53.1 +0.1
SRU *PP pP 15 25 19.6 +2.1
SRU pmax pmax
comp=Z,40nm,1.1s
SRU San Rafael Swe 64.28 329 P P 15 24 53.1 +0.1
SRU pP pP 15 25 19.6 +2.1
MTPU Mount Pierson 64.33 327 P P 15 24 53.4 -0.2
HEC Hector,Ludlow 64.39 322 P P 15 24 54.6 +1.0
baz=133
Q16A Castle Valley 64.46 328 P P 15 24 53.8 -0.5
SZCU Shurtz Canyon 64.49 326 P P 15 24 55.3 +0.8
SCI2 San Clemente I 64.52 319 P P 15 24 53.9 -0.6
baz=131
TUQ Turquoise Moun 64.56 322 P P 15 24 55.3 +0.5
baz=134
CCUT Cedar City 64.61 326 P P 15 24 56.0 +0.8
P17A Butcher Ranch, 64.67 329 P P 15 24 55.5 0.0
P17A pP pP 15 25 21.5 +1.6
MSU Marysvale 64.68 327 P P 15 24 56.1 +0.4
MSU Marysvale 64.68 327 P P 15 24 56.1 +0.4
MVU Marysvale 64.69 327 P P 15 24 55.8 0.0
CIS Catalina Islan 64.72 319 P P 15 24 57.0 +1.2
baz=131
RWWY Rawlins 64.73 333 P P 15 24 54.8 -1.2
RWWY IAmb IAmb 15 25 24.0
comp=Z,49nm,1.2s
TMUT Trail Mountain 64.77 328 P P 15 24 56.1 -0.2
BFSC Mount Baldy Ra 64.80 320 P P 15 24 56.7 +0.3
baz=132
RRX Edison Barstow 64.82 321 P P 15 24 57.5 +1.1
baz=133
FMP Fort Macarthur 64.84 319 P P 15 24 57.7 +1.2
baz=131
SHPR Sheep Range 64.86 324 P P 15 24 57.4 +0.5
MATQ Matagami 64.89 357 P P 15 24 55.7 -0.7
baz=176,SNR=11
TCRU Three Creeks R 64.89 327 P P 15 24 57.9 +0.8
CHGQ Chibougamau 64.94 359 P P 15 24 56.3 -0.5
baz=179,SNR=7.6
RDMU Red Mountain 64.94 330 P P 15 24 56.7 -0.6
GSC Goldstone, Bar 64.99 322 P P 15 24 58.5 +0.9
baz=133,SNR=5.2
GSC Goldstone, Bar 64.99 322 P P 15 24 58.2 +0.6
GSC pmax pmax
comp=Z,35nm,1.5s
GSC Goldstone, Bar 64.99 322 P P 15 24 58.2 +0.6
EYMN Ely 65.00 347 P P 15 24 56.2 -1.1
baz=161,SNR=23
EYMN Ely 65.00 347 P P 15 24 55.7 -1.6
EYMN IAmb IAmb 15 25 24.2
comp=Z,64nm,1.1s
SHOC Shoshone, Teco 65.09 322 P P 15 24 59.2 +1.1
baz=134
K22A Casper 65.21 334 P P 15 24 59.1 +0.1
baz=145,SNR=15
K22A Casper 65.21 334 P P 15 24 58.7 -0.3
K22A IAmb IAmb 15 25 00.4
comp=Z,39nm,1.1s
DECC Green Verdugo 65.22 320 P P 15 24 59.5 +0.5
baz=131
TAOE Nuku Hiva Isla 65.36 267 eLR LR 15 44 46.4
comp=Z,1um,28.4s
RSSD Black Hills 65.41 336 P P 15 25 00.5 +0.3
baz=147
RSSD Black Hills 65.41 336 P P 15 25 00.0 -0.3
RSSD pmax pmax
comp=Z,44nm,1.3s
RSSD Black Hills 65.41 336 P P 15 25 00.0 -0.3
RSSD IAmb IAmb 15 25 01.9
comp=Z,44nm,1.3s
EDW2 Edwards Air Fo 65.43 321 P P 15 25 00.9 +0.5
baz=132,SNR=6.3
PRN Pahroc Range 65.44 324 P P 15 25 01.1 +0.6
BELA Belgrano 2 65.45 172 P P 15 25 00.2 +0.3
PSUT Pine Spring 65.59 326 P P 15 25 01.4 -0.1
LRMC Laurel Mtn Rad 65.64 321 P P 15 25 02.5 +0.7
baz=132,SNR=5.1
D32A Dogwood Acres, 65.67 343 P P 15 25 00.8 -0.7
NLU North Lily Min 65.70 328 P P 15 25 01.5 -0.7
TPNV Topopah Spring 65.80 323 P P 15 25 04.0 +1.1
baz=134,SNR=14
TPNV Topopah Spring 65.80 323 P P 15 25 02.9 0.0
TPNV pmax pmax
comp=Z,18nm,1.0s
TPNV Topopah Spring 65.80 323 P P 15 25 02.9 0.0
DRLN Deer Lake 65.81 11 P P 15 25 02.3 -0.1
FURC Furnace Creek, 65.82 323 P P 15 25 03.9 +1.2
baz=133,SNR=8.4
JLU Jordanelle 65.88 329 P P 15 25 03.3 -0.1
B35A Bob, Littlefor 65.91 345 P P 15 25 01.8 -1.3
B35A IAmb IAmb 15 25 03.3
comp=Z,50nm,0.9s
MPMC Manual Prospec 65.92 322 P P 15 25 04.1 +0.4
baz=133,SNR=8.9
CTU Camp Tracy 66.09 329 P P 15 25 04.7 0.0
ISA Isabella, Lake 66.24 321 P P 15 25 06.5 +0.9
baz=132,SNR=7.1
ISA Isabella, Lake 66.24 321 P P 15 25 05.7 +0.1
ISA pmax pmax
comp=Z,30nm,1.5s
ISA Isabella, Lake 66.24 321 P P 15 25 05.7 +0.1
TCUT Toone Canyon 66.25 329 P P 15 25 06.4 +0.6
DUG Dugway, Tooele 66.26 328 P P 15 25 06.6 +0.9
baz=138,SNR=51
DUG Dugway, Tooele 66.26 328 P P 15 25 06.3 +0.6
DUG pmax pmax
comp=Z,69nm,1.1s
DUG Dugway, Tooele 66.26 328 P P 15 25 06.3 +0.6
DUG IAmb IAmb 15 25 08.0
comp=Z,69nm,1.1s
E28A Huff 66.31 340 P P 15 25 05.5 -0.3
R11A Troy Canyon, C 66.40 325 P P 15 25 08.0 +1.3
baz=135,SNR=27
R11A Troy Canyon, C 66.40 325 P P 15 25 07.2 +0.5
AGMN Agassiz Nation 66.40 344 P P 15 25 05.8 -0.5
baz=156,SNR=38
AGMN Agassiz Nation 66.40 344 P P 15 25 05.5 -0.8
AGMN IAmb IAmb 15 25 06.9
comp=Z,62nm,0.8s
CWC Cottonwood Cre 66.52 322 P P 15 25 08.5 +0.9
baz=132
PKM Mcpherson Peak 66.56 320 P P 15 25 08.7 +0.9
baz=130
BW06 Boulder Array 66.65 332 P P 15 25 07.9 -0.3
baz=142,SNR=19
BW06 Boulder Array 66.65 332 P P 15 25 07.2 -1.0
PD31 Pinedale Array 66.65 332 P P 15 25 07.1 -1.2
PDAR Pinedale Array 66.65 332 P P 15 25 07.3 -0.9
comp=Z,3.0nm,0.6s,baz=151,slow=6.4,SNR=30
PDAR pP pP 15 25 34.6 +1.7
comp=Z,3.8nm,0.9s,baz=237,slow=6.7,SNR=2.5
PDAR LR LR 15 57 15.0
comp=Z,80nm,18.7s,baz=140,slow=38
PDAR Pinedale Array 66.65 332 P P 15 25 07.2 -1.1
HWUT Hardware Ranch 66.70 330 P P 15 25 08.2 -0.4
HWUT IAmb IAmb 15 25 09.8
comp=Z,37nm,1.0s
SPUT South Promonto 66.91 329 P P 15 25 09.4 -0.5
BGU Big Grassy Mou 66.91 328 P P 15 25 09.8 -0.1
SMMC Simmler 66.95 320 P P 15 25 11.4 +1.4
baz=130
MDND Maddock 67.08 341 P P 15 25 11.0 +0.4
baz=152,SNR=12
MDND Maddock 67.08 341 P P 15 25 10.6 -0.1
TPH Tonopah 67.14 324 P P 15 25 10.6 -0.8
TPH pmax pmax
comp=Z,47nm,0.9s
TPH Tonopah 67.14 324 P P 15 25 10.6 -0.8
AHID Auburn Hatcher 67.36 331 P P 15 25 11.6 -1.2
AHID IAmb IAmb 15 25 13.9
comp=Z,36nm,1.0s

AHID pP PcP 15 25 38.6 -1.1
HVU Hansel Valley 67.42 329 P P 15 25 12.5 -0.6
HVU pmax pmax
comp=Z,44nm,0.9s
HVU Hansel Valley 67.42 329 P P 15 25 12.5 -0.6
REDW Red Top Meadow 67.70 331 P P 15 25 15.0 +0.1
REDW IAmb IAmb 15 25 16.6
comp=Z,65nm,1.5s
ECR Eagle Creek 67.71 331 P P 15 25 14.5 -0.5
SNOW Snow King Moun 67.74 332 P P 15 25 14.4 -0.8
MLAC Mammoth, Mammo 67.77 322 P P 15 25 16.7 +1.2
baz=132
LOHW Long Hollow 67.78 332 P P 15 25 15.4 0.0
TPAW Teton Pass 67.85 331 P P 15 25 15.8 -0.1
OMMB Old Mammoth Mi 67.86 322 P P 15 25 16.5 +0.4
NV11 Mina Array Sit 67.91 323 P P 15 25 17.1 +0.9
MDPB Devils Postpil 67.92 322 P P 15 25 16.2 -0.2
ELK Elko 67.92 327 P P 15 25 16.2 -0.2
ELK pmax pmax
comp=Z,15nm,0.9s
ELK Elko 67.92 327 P P 15 25 16.2 -0.2
LHV Little Huntoon 67.99 323 P P 15 25 17.2 +0.7
NVAR Mina Array Bea 68.00 323 P P 15 25 18.1 +1.2
comp=Z,2.9nm,0.8s,baz=145,slow=6.5,SNR=24
NVAR pP PcP 15 25 42.6 +0.1
comp=Z,6.4nm,0.9s,baz=145,slow=7.1,SNR=8.4
NVAR Mina Array Bea 68.00 323 P P 15 25 16.6 -0.3
IMW Indian Meadow 68.16 332 P P 15 25 17.8 0.0
IMW IAmb IAmb 15 25 19.4
comp=Z,77nm,1.4s
FLWY Flagg Ranch 68.19 332 P P 15 25 18.3 +0.4
FLWY IAmb IAmb 15 25 19.9
comp=Z,73nm,0.9s
ULM Lac du Bonnet 68.20 345 P P 15 25 16.8 -0.8
comp=Z,35nm,0.6s,baz=158,slow=6.0,SNR=90
ULM pP pP 15 25 42.8 +0.6
comp=Z,26nm,0.9s,baz=153,slow=5.4,SNR=5.4
ULM LR LR 15 58 07.6
comp=Z,83nm,19.4s,baz=155,slow=38
ULM Lac du Bonnet 68.20 345 P P 15 25 16.3 -1.3
ULM IAmb IAmb 15 25 17.3
comp=Z,48nm,0.7s
ULM PcP 15 25 41.1 -1.6
RYN Ryan 68.26 323 P P 15 25 19.2 +0.8
KVN Kaiserville 68.30 324 P P 15 25 19.3 +0.6
KVN pmax pmax
comp=Z,22nm,1.3s
KVN Kaiserville 68.30 324 P P 15 25 19.3 +0.6
RLMT Red Lodge 68.38 334 P P 15 25 19.4 +0.4
baz=143,SNR=26
RLMT Red Lodge 68.38 334 P P 15 25 18.6 -0.5
RLMT IAmb IAmb 15 25 20.7
comp=Z,52nm,1.1s
H17A Grant Village 68.38 332 P P 15 25 20.1 +0.9
baz=141,SNR=6.6
H17A Grant Village 68.38 332 P P 15 25 19.8 +0.6
YPP Pitchstone Pla 68.39 332 P P 15 25 18.6 -0.7
LAO LASA Array 68.40 336 P P 15 25 19.2 +0.2
baz=146,SNR=9.9
LAO LASA Array 68.40 336 P P 15 25 18.5 -0.5
LAO IAmb IAmb 15 25 20.5
comp=Z,48nm,1.0s
LKWY Lake 68.43 332 P P 15 25 20.8 +1.3
LKWY pmax pmax
comp=Z,45nm,1.0s
LKWY Lake 68.43 332 P P 15 25 20.8 +1.3
LKWY IAmb IAmb 15 25 22.2
comp=Z,44nm,1.0s
YMP Mirror Lake Pl 68.46 333 P P 15 25 19.8 0.0
YUF Upper Falls 68.60 332 P P 15 25 18.7 -1.8
YNE Yellowstone No 68.61 333 P P 15 25 20.7 +0.1
YNR Norris Junctio 68.68 332 P P 15 25 21.9 +0.9
WAKR Walker 68.71 323 P P 15 25 22.2 +1.0
YMR Madison River 68.77 332 P P 15 25 21.5 0.0
YHH Holmes Hill 68.81 332 P P 15 25 22.5 +0.6
YERR Yerington 68.91 323 P P 15 25 23.7 +1.1
YERR IAmb IAmb 15 25 52.7
comp=Z,59nm,1.5s
CMB Columbia Colle 68.96 322 P P 15 25 23.2 +0.6
CMB pmax pmax
comp=Z,16nm,1.5s
CMB Columbia Colle 68.96 322 P P 15 25 23.2 +0.6
YHL Hebgen Lake 69.01 332 P P 15 25 24.4 +1.3
GCMT Greycliff 69.08 334 P P 15 25 23.5 +0.1
QLMT Earthquake Lak 69.10 332 P P 15 25 24.3 +0.7
DGMT Dagmar 69.15 339 P P 15 25 24.3 +0.8
baz=148,SNR=12
DGMT Dagmar 69.15 339 P P 15 25 23.3 -0.2
PNTR Pine Nut 69.19 323 P P 15 25 25.6 +1.4
VCNR Virginia City 69.36 323 P P 15 25 24.8 -0.5
PAHR Pah Rah Range 69.48 324 P P 15 25 26.6 +0.7
PAHR IAmb IAmb 15 25 28.5
comp=Z,63nm,1.2s
SNAA Sanae 69.49 161 P P 15 25 26.5 +1.1
comp=Z,78nm,0.8s,baz=278,slow=6.5,SNR=646
SNAA Sanae 69.49 161 *d i* P P 15 25 26.4 +0.9
SNAA pmax pmax
comp=Z,220nm,1.7s
SNAA Sanae 69.49 161 P P 15 25 26.1 +0.6
HLID Hailey 69.55 329 P P 15 25 27.1 +0.8
baz=138,SNR=29
HLID Hailey 69.55 329 P P 15 25 27.0 +0.7
BCYI Bear Canyon 69.62 331 P P 15 25 27.5 +0.6
MCMT McKenzie Canyo 69.75 331 P P 15 25 26.6 -1.0
BOZ Bozeman (W) 69.78 332 P P 15 25 27.8 +0.1
baz=141,SNR=18
BOZ Bozeman (W) 69.78 332 P P 15 25 27.1 -0.6
BOZ pmax pmax
comp=Z,42nm,1.3s
BOZ Bozeman (W) 69.78 332 P P 15 25 27.1 -0.6
AFDM Forest Hills D 69.90 322 P P 15 25 28.6 +0.2
DLMT Dillon 70.04 332 P P 15 25 29.5 +0.2
SCHQ Schefferville 70.08 4 P P 15 25 28.9 -0.3
comp=Z,41nm,0.9s,baz=178,slow=4.2,SNR=19
SCHQ LR LR 15 57 51.1
comp=Z,66nm,20.1s,baz=187,slow=37
SCHQ Schefferville 70.08 4 P P 15 25 27.8 -1.4
SCHQ IAmb IAmb 15 25 30.0
comp=Z,60nm,1.1s
MFID Camas Ranch 70.15 329 P P 15 25 30.8 +0.9
MFID IAmb IAmb 15 25 32.2
comp=Z,91nm,1.0s
LRM Limekiln Ridge 70.33 332 P P 15 25 30.0 -1.1
ORV Oroville 70.61 322 P P 15 25 33.4 +0.7
ORV pmax pmax
comp=Z,68nm,1.3s
ORV Oroville 70.61 322 P P 15 25 33.4 +0.7
ORV IAmb IAmb 15 25 35.2
comp=Z,68nm,1.3s
HRY Holter Researc 70.73 333 P P 15 25 33.9 +0.5
EGMT Eagleton 70.89 335 P P 15 25 34.2 0.0
baz=143,SNR=13
EGMT Eagleton 70.89 335 P P 15 25 34.0 -0.2
EGMT IAmb IAmb 15 25 35.7
comp=Z,63nm,1.1s
LIC Lamto 71.03 78 *eP* P 15 25 34.6 -1.2
comp=Z,117nm,1.2s
TIC Toumodi 71.17 77 *eP* P 15 25 35.6 -1.1
O03E Paynes Creek 71.26 323 P P 15 25 36.4 -0.4
baz=130,SNR=5.1
DBIC Dimbokro 71.34 77 P P 15 25 36.9 -0.7
comp=Z,31nm,0.8s,baz=235,slow=6.7,SNR=25
DBIC LR LR 15 56 32.6
comp=Z,212nm,19.1s,baz=230,slow=35
DBIC Dimbokro 71.34 77 P P 15 25 37.0 -0.7
DBIC pmax pmax
comp=Z,53nm,1.0s
DBIC Dimbokro 71.34 77 P P 15 25 37.0 -0.7
DBIC IAmb IAmb 15 25 40.9
comp=Z,53nm,1.0s
KIC Kosan Boka 71.35 78 *eP* P 15 25 36.7 -1.0
comp=Z,118nm,1.0s
PLID Pearl Lake 71.45 330 P P 15 25 38.0 +0.1
MOD Modoc Plateau 71.47 325 P P 15 25 38.2 +0.2
MOD IAmb IAmb 15 25 40.2
comp=Z,45nm,1.1s
J08A Circle Bar Ran 71.47 327 P P 15 25 37.7 -0.2
TBI Tubuai 71.50 250 *eS* S 15 34 49.9 -0.4
comp=Z,377nm,25.0s
TBI Tubuai 71.50 250 *eLR* LR 15 47 39.4
comp=Z,483nm,34.5s
MSO Missoula 71.76 332 P P 15 25 40.5 +0.9
baz=139,SNR=13
MSO Missoula 71.76 332 P P 15 25 40.0 +0.3

MSO IAmb IAmb 15 25 41.9
comp=Z,50nm,1.2s
O02D Mt. Diablo Mer 71.77 322 P P 15 25 39.4 -0.3
baz=130
WDC Whiskeytown Da 71.88 323 P P 15 25 39.3 -1.0
WDC pmax pmax
comp=Z,6.0nm,0.9s
WDC Whiskeytown Da 71.88 323 P P 15 25 39.3 -1.0
BMO Blue Mountains 71.92 329 P P 15 25 40.3 -0.3
BMO pmax pmax
comp=Z,22nm,0.9s
BMO Blue Mountains 71.92 329 P P 15 25 40.3 -0.3
N02D Trinity Center 72.23 323 P P 15 25 42.4 -0.1
baz=130
M04C Macdoel 72.25 324 P P 15 25 43.2 +0.5
baz=131,SNR=9.8
K05A Summer Lake 72.34 325 P P 15 25 44.6 +1.3
I07A Izee 72.51 327 P P 15 25 45.6 +1.5
I07A IAmb IAmb 15 26 13.5
comp=Z,54nm,1.2s
M02C Callahan 72.58 323 P P 15 25 44.6 0.0
baz=130,SNR=5.2
PPT2 Papeete2 72.60 256 *eS* S 15 35 01.6 -1.7
comp=Z,419nm,27.2s
PPT2 Papeete2 72.60 256 *eLR* LR 15 48 05.9
comp=Z,446nm,27.5s
JTMT Jette 72.61 332 P P 15 25 45.1 +0.5
F10A Beach Ranch, E 72.68 330 P P 15 25 45.8 +0.7
F10A IAmb IAmb 15 25 49.1
comp=Z,43nm,1.1s
YBH Yreka Blue Hor 72.72 324 P P 15 25 44.7 -0.7
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 72.72 324 P P 15 25 44.7 -0.7
K04D Chiloquin, OR 72.75 325 P P 15 25 46.6 +0.9
baz=131
L04D Klamath Falls 72.80 324 P P 15 25 46.1 +0.1
baz=130,SNR=5.1
J05D Fort Rock, OR 72.90 326 P P 15 25 47.5 +1.0
baz=132,SNR=11
PINE Pine Mountain 73.08 326 P P 15 25 48.5 +0.9
PINE IAmb IAmb 15 25 50.2
comp=Z,43nm,1.0s
J04D Umpqua Nationa 73.35 325 P P 15 25 50.4 +1.1
baz=131
WALA Waterton Lakes 73.43 334 P P 15 25 49.3 -0.1
L02E Cave Junction 73.50 323 P P 15 25 51.0 +1.1
baz=129
I05D Terrebonne, OR 73.66 326 P P 15 25 52.1 +1.2
baz=132,SNR=8.1
FFC Flin Flon 73.86 343 P P 15 25 51.0 -0.7
FFC pmax pmax
comp=Z,27nm,1.0s
FFC Flin Flon 73.86 343 P P 15 25 51.0 -0.7
K02D Willamette Mer 73.88 324 P P 15 25 53.3 +1.1
baz=130,SNR=7.8
I04A Tendick Farm, 73.88 325 P P 15 25 52.5 +0.3
baz=131,SNR=6.8
F07A Phinny Hill Vi 73.97 328 P P 15 25 54.0 +1.5
NVL N'lazarevskaya 74.10 160 *eP* P 15 25 52.6 -0.4
NVL pmax pmax
comp=Z,98nm,1.0s
HAWA Hanford 74.12 329 P P 15 25 54.0 +0.7
HAWA IAmb IAmb 15 25 55.7
comp=Z,42nm,0.9s
G05D Wamic, OR 74.25 327 P P 15 25 55.9 +1.7
baz=132
D08A Wollman Farm, 74.28 330 P P 15 25 53.5 -0.8
NEW Newport 74.28 331 P P 15 25 55.7 +1.3
baz=136
I03D Drain, OR 74.34 325 P P 15 25 56.0 +1.3
baz=130
E07A Sunnyside 74.39 329 P P 15 25 56.1 +1.1
E07A IAmb IAmb 15 25 57.6
comp=Z,58nm,1.1s
C09A Chrisman Ranch 74.49 330 P P 15 25 56.5 +1.0
C09A IAmb IAmb 15 25 57.9
comp=Z,73nm,1.4s
KOWA Kowa 74.72 70 P P 15 25 57.4 -0.2
comp=Z,40nm,0.7s,baz=247,slow=5.7,SNR=98
KOWA Kowa 74.72 70 P P 15 25 57.1 -0.5
KOWA IAmb IAmb 15 25 58.4
comp=Z,51nm,0.8s
QSPA South Pole Qui 74.85 180 P P 15 25 58.7 +1.2
comp=Z,66nm,0.9s,baz=144,slow=2.1,SNR=10.0
QSPA South Pole Qui 74.85 180 P P 15 25 58.6 +1.0
QSPA IAmb IAmb 15 25 59.9
comp=Z,85nm,0.9s
I02D Swisshome 74.88 325 P P 15 25 59.2 +1.4
baz=130
LTY Liberty 75.28 329 P P 15 26 00.2 0.0
F04A Amboy 75.29 327 P P 15 25 60.0 -0.2
F04A IAmb IAmb 15 26 02.1
comp=Z,72nm,1.0s
B08A Colville Reser 75.38 330 P P 15 26 01.4 +0.7
LON Longmire 75.51 328 P P 15 26 00.9 -0.6
LON pmax pmax
comp=Z,16nm,1.0s
LON Longmire 75.51 328 P P 15 26 00.9 -0.6
FCC Fort Churchill 75.72 349 P P 15 26 02.4 +0.1
FCC pmax pmax
comp=Z,91nm,1.3s
FCC Fort Churchill 75.72 349 P P 15 26 02.4 +0.1
FCC IAmb IAmb 15 26 03.3
comp=Z,91nm,1.3s
E04D Cinebar 75.78 327 P P 15 26 04.4 +1.5
baz=131
D05A Enumclaw 75.90 328 P P 15 26 03.9 +0.3
D05A IAmb IAmb 15 26 05.5
comp=Z,82nm,0.9s
D04E Lakebay 76.29 328 P P 15 26 07.1 +1.4
baz=131
B06A Marblemount 76.54 329 P P 15 26 07.8 +0.7
B06A IAmb IAmb 15 26 08.6
comp=Z,42nm,0.8s
B05A Bryant 76.67 329 P P 15 26 08.3 +0.4
baz=132,SNR=5.3
D03D Eldon 76.69 328 P P 15 26 08.9 +0.8
baz=131
NLWA Neilton Lookou 77.00 327 P P 15 26 11.0 +1.1
NLWA IAmb IAmb 15 26 12.6
comp=Z,85nm,1.1s
A04D Lummi Island 77.27 329 P P 15 26 12.5 +1.2
baz=132
TTIG Tnine Tigouga, 77.33 53 P P 15 26 14.0 +1.8
SNR=11
OUK Oukaimeden 78.06 53 P P 15 26 18.0 +1.5
SNR=8.6
OUZM OUZ 78.79 54 P P 15 26 22.0 +1.7
SNR=7.1
TOA0 Torodi Ar. Sit 79.50 73 P P 15 26 23.4 -0.9
TOA0 IAmb IAmb 15 26 27.7
comp=Z,70nm,1.0s
TORD Torodi Ar. Bea 79.50 73 P P 15 26 23.9 -0.4
comp=Z,42nm,0.9s,baz=264,slow=4.7,SNR=143
TORD LR LR 16 03 06.0
comp=Z,111nm,18.1s,baz=245,slow=37
TORD Torodi Ar. Bea 79.50 73 P P 15 26 23.6 -0.8
TZRR Tazzarine 79.66 54 P P 15 26 27.0 +1.9
SNR=9.3
MORF Marmelete 80.23 47 *eP* P 15 26 27.1 -0.9
MORF AMb AMB 15 26 32.5
comp=Z,142nm,1.9s
MORF Marmelete 80.23 47 *eP* P 15 26 27.0 -0.9
MORF Marmelete 80.23 47 *eP* P 15 26 29.9 +2.0
comp=Z,149nm,1.6s
PTEO Sao Teotonio 80.29 47 *eP* P 15 26 29.9 +1.8
comp=Z,184nm,1.7s
PNCL Nicolau / Gran 80.69 46 *eP* P 15 26 30.9 +0.7
comp=Z,81nm,1.8s
PCVE Castro Verde 80.81 47 *eP* P 15 26 32.1 +1.2
comp=Z,74nm,1.5s
NUUK Nuuk 80.98 9 *i* P P 15 26 31.7 +0.5
NUUK IAmb IAmb 15 26 32.5
comp=Z,58nm,1.1s
PBEJ Beja 81.12 47 *eP* P 15 26 33.9 +1.4
comp=Z,54nm,1.9s
MDT Midelt 81.25 53 P P 15 26 34.0 +0.5
comp=Z,7.2nm,0.9s,baz=255,slow=4.7,SNR=12
MDT pP pP 15 27 00.0 +1.0
comp=Z,9.7nm,1.0s,baz=272,slow=7.4,SNR=5.9
MDT Midelt 81.25 53 P P 15 26 34.7 +1.2
SNR=8.8
PMTG Montargil 81.35 46 *eP* P 15 26 34.7 +1.0
comp=Z,54nm,1.4s
VNDA Vanda 82.16 190 P P 15 26 39.5 +2.2

comp=Z,26nm,0.9s,baz=132,slow=4.8,SNR=118
VNDA LR LR 15 58 31.4
comp=Z,126nm,21.7s,baz=118,slow=32
VNDA Vanda 82.16 190 P P 15 26 38.8 +1.5
VNDA IAmb IAmb 15 26 40.2
comp=Z,38nm,1.0s
PCBR Castelo Branco 82.22 45 *eP* P 15 26 32.2 -6.1
comp=Z,34nm,1.5s
MTE Manteigas 82.43 45 *eLR* LR 15 59 00.2
comp=Z,169nm,18.0s
PCAB Cabril 82.71 43 *eP* P 15 26 41.7 +0.9
comp=Z,113nm,1.6s
PVRL Vila Real 82.71 44 *eP* P 15 26 42.2 +1.3
comp=Z,102nm,1.7s
MVO Moncorvo 83.12 44 *eP* P 15 26 44.1 +1.1
comp=Z,80nm,1.8s
PBRG Braganca 83.61 44 *eP* P 15 26 46.2 +0.7
comp=Z,101nm,1.7s
PBRG *i* LQ LQ 15 27 13.5
SYO Syowa Base 83.75 161 ⇑ *i* P P 15 26 45.1 -0.6
SYO Syowa Base 83.75 161 ⇓ *i* PcP P 15 26 46.6 +0.9
SYO Syowa Base 83.75 161 ⇑ *i* pP pP 15 27 09.0 -1.9
SFJD Kangerlussuaq 83.78 9 P P 15 26 45.0 -0.7
SFJD pmax pmax
comp=Z,32nm,1.1s
SFJD Kangerlussuaq 83.78 9 P P 15 26 45.0 -0.7
SFJD Kangerlussuaq 83.78 9 *i* P P 15 26 44.8 -0.8
comp=Z,1.8nm,1.1s
SFJD Kangerlussuaq 83.78 9 *i* P P 15 26 44.8 -0.8
SFJD IAmb IAmb 15 26 46.1
comp=Z,1.8nm,1.1s
YKA Yellowknife Ar 83.98 342 P P 15 26 46.5 -0.3
comp=Z,52nm,1.0s,baz=132,slow=5.2,SNR=88
YKA pP pP 15 27 13.3 +1.1
comp=Z,51nm,0.9s,baz=133,slow=5.3,SNR=10
YKA LR LR 16 09 37.7
comp=Z,78nm,18.1s,baz=0.0,slow=39
PAB San Pablo 84.25 47 P P 15 26 49.5 +0.6
PAB pmax pmax
comp=Z,72nm,0.9s
PAB San Pablo 84.25 47 P P 15 26 49.5 +0.6
ESDC Sonseca Array 84.58 47 P P 15 26 51.4 +0.9
comp=Z,34nm,0.9s,baz=254,slow=5.3,SNR=100
ESDC pP pP 15 27 17.7 +1.8
comp=Z,34nm,1.0s,baz=250,slow=5.7,SNR=11
ESDC LR LR 16 01 44.2
comp=Z,166nm,20.9s,baz=255,slow=34
ESDC Sonseca Array 84.58 47 P P 15 26 49.9 -0.6
ESBB Sonseca Array 84.58 47 P P 15 26 51.1 +0.7
ESBB IAmb IAmb 15 26 52.6
comp=Z,49nm,1.0s
ISOG Isortoq, Green 84.68 14 *i* P P 15 26 50.3 0.0
ISOG IAmb IAmb 15 26 50.8
comp=Z,52nm,0.8s
ANGG Ammassalik, Gr 85.05 14 P P 15 26 52.0 -0.1
ANGG IAmb IAmb 15 26 52.8
comp=Z,35nm,0.8s
ANGG Ammassalik, Gr 85.05 14 *i* P P 15 26 51.5 -0.6
ANGG IAmb IAmb 15 26 52.5
comp=Z,39nm,0.9s
ILULI Ilulissat 85.78 8 *i* P P 15 26 55.1 -0.6
ILULI pmax pmax
comp=Z,61nm,1.0s
ILULI Ilulissat 85.78 8 P P 15 26 55.0 -0.7
ILULI IAmb IAmb 15 26 56.3
comp=Z,61nm,1.0s
ILULI Ilulissat 85.78 8 *i* P P 15 26 55.1 -0.6
comp=Z,61nm,1.0s
ILULI Ilulissat 85.78 8 *i* P P 15 26 55.1 -0.6
ILULI IAmb IAmb 15 26 56.0
comp=Z,61nm,1.0s
TSUM Tsumeb 86.00 109 P P 15 26 58.3 +0.1
TSUM IAmb IAmb 15 27 00.6
comp=Z,33nm,0.8s
WRAK Wrangell Islan 86.64 332 P P 15 27 00.6 +0.4
WRAK IAmb IAmb 15 27 02.0
comp=Z,68nm,1.1s
DLBC Dease Lake 86.78 334 P P 15 27 01.6 +0.6
DLBC IAmb IAmb 15 27 29.5
comp=Z,38nm,1.0s
ICESG Greenland Ices 87.53 12 ⇓ *i* P P 15 27 04.6 -0.1
ICESG IAmb IAmb 15 27 05.0
comp=Z,57nm,1.0s
JIS Juneau Island 88.58 332 P P 15 27 09.5 +0.1
JIS IAmb IAmb 15 27 11.0
comp=Z,25nm,0.9s
BESE Bessie Mountai 88.95 333 P P 15 27 11.9 +0.7
SKAG Skagway 89.63 333 P P 15 27 15.2 +1.0
WHY Whitehorse 90.07 334 P P 15 27 16.9 +0.4
BOSA Boshof 90.17 120 P P 15 27 18.1 +0.2
comp=Z,8.8nm,0.9s,baz=278,slow=9.0,SNR=6.9
BOSA LR LR 16 03 31.6
comp=Z,122nm,21.4s,baz=261,slow=33
BOSA Boshof 90.17 120 P P 15 27 17.4 -0.5
SUMG Summit 90.68 10 ⇓ *i* P P 15 27 20.4 +0.9
SUMG *i* 15 27 47.0
SUMG pmax pmax
comp=Z,240nm,0.7s
SUMG Summit 90.68 10 P P 15 27 19.4 0.0
SUMG Summit 90.68 10 ⇓ *i* P P 15 27 20.4 +0.9
comp=Z,244nm,0.7s
SUMG *i* 15 27 47.0
SUMG Summit 90.68 10 ⇓ *i* P P 15 27 20.4 +0.9
SUMG IAmb IAmb 15 27 21.2
comp=Z,245nm,0.7s
SUMG *i* 15 27 47.1
MAW Mawson 91.43 165 P P 15 27 23.7 +1.0
comp=Z,27nm,1.0s,baz=219,slow=6.3,SNR=48
MAW LR LR 16 10 23.5
comp=Z,67nm,18.1s,baz=239,slow=37
MAW Mawson 91.43 165 P P 15 27 23.2 +0.5
LBTB Lobatse 91.54 116 P P 15 27 25.1 +0.8
LBTB pmax pmax
comp=Z,35nm,1.2s
LBTB Lobatse 91.54 116 P P 15 27 25.1 +0.8
LBTB IAmb IAmb 15 27 26.3
comp=Z,35nm,1.1s
EKA Eskdalemuir Ar 91.67 33 P P 15 27 23.2 -0.7
comp=Z,5.6nm,0.8s,baz=257,slow=3.3,SNR=7.1
EKA pP pP 15 27 50.1 +0.6
comp=Z,4.3nm,0.8s,baz=238,slow=4.7,SNR=4.2
KEST Kesra 93.08 54 P P 15 27 30.6 -0.4
comp=Z,6.4nm,0.9s,baz=196,slow=5.0,SNR=5.7
ISLE Juniper Island 93.26 333 P P 15 27 30.3 -1.0
DAWY Dawson 93.60 336 P P 15 27 32.2 -0.5
DAWY IAmb IAmb 15 27 33.6
comp=Z,20nm,1.1s
DAWY pP pP 15 27 58.8 +0.3
INK Inuvik 93.71 341 P P 15 27 32.8 -0.3
comp=Z,19nm,0.8s,baz=102,slow=6.3,SNR=20
INK pP pP 15 27 59.1 +0.4
comp=Z,17nm,1.0s,baz=105,slow=4.8,SNR=6.3
INK Inuvik 93.71 341 P P 15 27 32.3 -0.7
INK pP pP 15 27 59.5 +0.8
EPYK Eagle Plains 93.74 339 P P 15 27 33.6 +0.3
baz=120
EPYK Eagle Plains 93.74 339 P P 15 27 32.9 -0.4
EPYK IAmb IAmb 15 27 34.2
comp=Z,23nm,1.4s
MCARA McCarthy VSAT 93.90 333 P P 15 27 33.8 -0.3
BMRD Maredsous 94.28 39 P P 15 27 35.9 -0.2
comp=Z,20nm,1.7s
EGAK Eagle 94.61 337 P P 15 27 36.8 -0.4
EGAK IAmb IAmb 15 28 04.6
comp=Z,34nm,1.4s
MEM Membach 95.13 39 P P 15 27 39.8 -0.1
ECH Echery 95.13 41 P P 15 27 39.9 -0.2
ECH pmax pmax
comp=Z,26nm,1.4s
ECH Echery 95.13 41 P P 15 27 39.9 -0.2
ECH IAmb IAmb 15 27 41.2
comp=Z,26nm,1.4s
KLU Klutina 95.22 333 P P 15 27 39.8 -0.4
KLU IAmb IAmb 15 27 40.3
comp=Z,14nm,0.8s
URZ Urewera 95.24 228 P P 15 27 41.9 +1.0
comp=Z,8.7nm,0.8s,baz=37,slow=23,SNR=6.6
DOT Dot Lake 95.28 335 P P 15 27 40.0 -0.4
DOT IAmb IAmb 15 28 08.6
comp=Z,14nm,1.0s
SCRK Sand Creek 95.38 335 P P 15 27 40.9 -0.1
baz=114
M24K Tolsona, Glenn 95.56 333 P P 15 27 41.9 +0.1
baz=112
PAX Paxson 95.59 334 P P 15 27 40.9 -1.1
PAX pmax pmax

comp=Z,11nm,1.0s
PAX Paxson 95.59 334 P P 15 27 40.9 -1.1
PAX IAmb IAmb 15 28 09.8
comp=Z,11nm,1.0s
RIDG Independent Ri 95.64 335 P P 15 27 41.2 -0.8
RIDG IAmb IAmb 15 28 10.4
comp=Z,16nm,1.0s
TUE Stuetta 96.06 44 P P 15 27 44.7 +0.1
TUE IAmb IAmb 15 27 48.3
comp=Z,14nm,1.0s
DAVA Damuels 96.64 43 *e*P **P 15 27 47.5 +0.4**
comp=Z,17nm,1.1s
DAVA *e*P **pP 15 28 14.9 +1.9**
comp=Z,27nm,1.1s
FUORN Ofenpass-Fuorn 96.71 44 P P 15 27 47.2 -0.4
FUORN IAmb IAmb 15 28 15.4
comp=Z,12nm,1.1s
HDA Harding Lake 96.75 335 P P 15 27 47.1 +0.1
baz=111
HDA Harding Lake 96.75 335 P P 15 27 46.3 -0.8
HDA IAmb IAmb 15 28 15.3
comp=Z,9,4nm,1.1s
LSZ Lusaka 96.82 108 P P 15 27 48.9 +0.2
LSZ pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 96.82 108 P P 15 27 48.9 +0.2
IL31 96.85 336 P P 15 27 45.9 -1.5
ILAR Eielson Array 96.85 336 P P 15 27 46.5 -1.0
comp=Z,2.1nm,0.8s,baz=150,slow=3.0,SNR=20
ILAR pP **pP 15 28 13.3 +0.1**
comp=Z,2.4nm,0.8s,baz=145,slow=2.8,SNR=7.3
ILAR Eielson Array 96.85 336 P P 15 27 45.5 -2.0
FYU Fort Yukon 96.89 337 P P 15 27 46.8 -0.8
FETA Feichten 97.13 43 *e*P Pdif 15 27 49.8 +0.4
comp=Z,9.8nm,1.0s
FETA *e*P pP 15 28 16.7 +1.5
comp=Z,22nm,1.6s
CCB Clear Creek Bu 97.18 335 P P 15 27 48.2 -0.7
POKR Poker Plat Res 97.19 336 P Pdif 15 27 49.2 +0.1
baz=111
WRH Wood River Hil 97.23 335 P P 15 27 48.0 -1.1
WRH IAmb IAmb 15 28 17.3
comp=Z,23nm,1.5s
RETA Reutte 97.27 43 *e*P Pdif 15 27 50.3 +0.4
comp=Z,7.0nm,0.7s
RETA *i* P pP 15 28 17.5 +1.8
comp=Z,22nm,1.3s
COLA College 97.28 336 *e*P **P 15 27 48.6 -0.7**
COLA pmax pmax
comp=Z,21nm,1.3s
COLA College 97.28 336 P P 15 27 47.3 -2.0
COLA **pP 15 28 14.6 -0.5**
TCOL CIGO, UAF Yank 97.28 336 P Pdif 15 27 49.4 -0.1
baz=110
DAG Danmarks Havn 97.30 11 *i* P **P 15 27 48.6 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 97.30 11 *i* P **P 15 27 48.6 -0.6**
comp=Z,6.4nm,0.9s
DAG Danmarks Havn 97.30 11 *i* P **P 15 27 48.6 -0.6**
DAG IAmb IAmb 15 27 50.5
comp=Z,6.4nm,0.9s
MCK McKinley 97.33 334 P Pdif 15 27 49.4 -0.4
baz=110
MOTA Moosalm 97.45 43 *e*P Pdif 15 27 51.2 +0.3
comp=Z,13nm,1.0s,SNR=6.8
MOTA *e*P pP 15 28 18.3 +1.6
comp=Z,25nm,1.3s
MDM Murphy Dome 97.46 336 P P 15 27 49.1 -1.2
MDM pP **pP 15 28 15.7 -0.4**
CUT Chulitna 97.46 333 P Pdif 15 27 50.1 -0.2
baz=109
SQTA Sankt Quirin 97.49 43 *e*P Pdif 15 27 51.5 +0.5
comp=Z,25nm,1.0s,SNR=8.1
SQTA *i* P pP 15 28 18.7 +1.9
comp=Z,36nm,1.2s
CTI Castel Tesino 97.50 44 P P 15 27 50.4 -0.6
CTI pmax pmax
comp=Z,18nm,1.2s
CTI Castel Tesino 97.50 44 P P 15 27 50.4 -0.6
CTI IAmb IAmb 15 27 53.0
comp=Z,18nm,1.2s
NEA2 Nenana 97.67 335 P Pdif 15 27 51.0 -0.3
baz=109
BWN Browne 97.69 335 P P 15 27 50.2 -1.1
WATA Walderalm 97.76 43 *e*P Pdif 15 27 52.6 +0.4
comp=Z,30nm,1.8s,SNR=6.0
WATA *i* P pP 15 28 19.8 +1.7
comp=Z,23nm,1.2s
WTTA Wattenberg 97.79 43 *e*P Pdif 15 27 52.4 0.0
comp=Z,19nm,0.9s,SNR=8.3
WTTA *e*P pP 15 28 20.1 +2.0
comp=Z,36nm,1.2s
ABTA Abfaltersbach 98.25 44 *e*P Pdif 15 27 54.9 +0.5
comp=Z,11nm,1.1s,SNR=5.3
ABTA *e*P pP 15 28 22.0 +1.9
comp=Z,26nm,1.2s
STAL STALIGIAL 98.27 44 P P 15 27 53.1 -1.2
STAL IAmb IAmb 15 28 22.3
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 98.30 334 P P 15 27 53.1 -0.9
BPAW IAmb IAmb 15 28 22.0
comp=Z,14nm,1.1s
MLY Manley 98.49 335 P P 15 27 54.2 -0.7
baz=108
ZOU Zoufplan 98.51 44 P Pdif 15 27 55.5 -0.2
ZOU IAmb IAmb 15 28 23.2
comp=Z,15nm,1.1s
KBA Koelnbreinsper 98.88 44 *e*P Pdif 15 27 57.4 +0.1
comp=Z,6.4nm,0.9s
KBA *e*P pP 15 28 24.5 +1.4
comp=Z,5.8nm,0.9s
PRED Cave del Predi 98.88 44 P P 15 27 56.2 -1.0
PRED IAmb IAmb 15 27 59.5
comp=Z,11nm,1.3s
COLD Coldfoot 98.96 337 P Pdif 15 27 57.0 +0.1
baz=108
COLD Coldfoot 98.96 337 Pdif 15 27 57.2 +0.3
COLD IAmb IAmb 15 28 24.4
comp=Z,11nm,1.2s
MYKA Terra Mystica 98.98 44 *e*P Pdif 15 27 58.0 +0.4
comp=Z,9.6nm,0.8s
MYKA *e*P pP 15 28 25.2 +1.8
comp=Z,7.7nm,1.0s
NKC Novy Kostel 99.00 40 *e*PDIFF **Pdif 15 27 58.5 +1.0**
NKC *e*SKS **SKSac 15 38 30.1 +2.7**
NKC Novy Kostel 99.00 40 *e*P **Pdif 15 27 58.5 +1.0**
NKC *e* 15 38 30.1
TOLK Toolik Lake Re 99.18 339 P **Pdif 15 27 57.7 -0.2**
baz=108
KHC Kasperske Hory 99.48 42 *e*PDIFF **Pdif 15 27 59.9 +0.2**
KHC *e*pP **pP 15 28 25.5 -0.1**
KHC *e*SKS **SKSac 15 38 32.5 +2.7**
KHC Kasperske Hory 99.48 42 *e*P **Pdif 15 27 59.9 +0.2**
KHC *e* 15 28 25.5
KHC *e* 15 38 32.5
KHC Kasperske Hory 99.48 42 Pdif **Pdif 15 27 59.5 -0.1**
GEC2 GERESS Array S 99.50 42 Pdif **Pdif 15 27 59.9 +0.1**
GEC2 IAmb IAmb 15 28 27.6
comp=Z,8.0nm,1.0s
GERES GERESS Array B 99.50 42 P **Pdif 15 28 00.1 +0.2**
comp=Z,2.9nm,0.8s,baz=240,slow=4.3,SNR=21
GERES pP **pP 15 28 26.8 +1.0**
comp=Z,3.5nm,0.9s,baz=250,slow=2.7,SNR=8.0
GERES GERESS Array B 99.50 42 Pdif **Pdif 15 27 59.0 -0.9**
OBKA Obir 99.56 44 *e*P **Pdif 15 28 00.8 +0.6**
comp=Z,6.2nm,0.9s
OBKA *i* P **pP 15 28 27.9 +1.8**
comp=Z,11nm,1.1s
CLL Collm 99.58 39 *i* Pdif **Pdif 15 28 00.3 +0.3**
CLL *i* pPdif **pP 15 28 27.5 +2.0**
CLL *i* sPdif **sP 15 28 35.5 -0.1**
CLL *e*SKSac **SKSac 15 38 36.0 +5.9**
CLL *e*Sdif **S 15 39 27.0 +1.8**
CLL *e*(sSdiff) 15 40 15.0
CLL *e*SP **SP 15 40 53.0 +0.1**
CLL *e*PPS PPS 15 41 48.0
CLL *e* 15 45 18.0
CLL *e*SS **SS 15 46 21.0 +2.7**
CLL *e* 15 47 30.0
CLL *e*SSS SSS 15 50 00.0
CLL *e*SSSS 15 50 54.0
CLL *e*SSSS 15 53 06.0
CLL Lm MLR 16 11 00.0
comp=Z,100nm,19.9s
CLL Collm 99.58 39 *i* P **Pdif 15 28 00.3 +0.3**
CLL *i* 15 28 27.5
CLL *e* 15 38 36.0
CLL *e*S **S 15 39 27.0 +1.8**
MOA Molln 99.65 43 *e*P **Pdif 15 28 00.6 +0.1**
comp=Z,6.0nm,0.8s
MOA *e*P **pP 15 28 28.2 +1.8**
comp=Z,8.3nm,1.1s
SOKA Soboth 99.92 44 *e*P **Pdif 15 28 00.6 -1.2**
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 100.07 40 *i* P **Pdif 15 28 01.8 -0.4**
comp=Z,15nm,1.3s
BRG *i* 15 28 29.3
comp=Z,12nm,1.1s
BRG Berggiesshubel 100.07 40 *i* P **Pdif 15 28 01.8 -0.4**
BRG *i* 15 28 29.3
BRG pmax pmax
comp=Z,15nm,1.3s
BRG pmax pmax
comp=Z,12nm,1.1s
PRU Pruhonice 100.27 41 *e*SKS 15 38 35.9
ARSA Arzberg 100.37 44 *e*P **Pdif 15 28 04.0 +0.3**
comp=Z,5.0nm,1.2s
NOR Nord 100.47 7 *e*P **Pdif 15 28 02.4 -0.9**
NOR Nord 100.47 7 *i* P **Pdif 15 28 02.4 -0.9**
NOR Nord 100.47 7 *e*P **Pdif 15 28 02.5 -0.9**
NOA NORSAR Array B 100.68 30 P **Pdif 15 28 05.1 +0.4**
comp=Z,2.3nm,1.1s,baz=253,slow=4.3,SNR=5.7
NOA pP pP 15 28 32.0 +1.6
comp=Z,0.3nm,0.7s,baz=256,slow=4.4,SNR=3.0
CONA Conrad Observa 100.72 43 P **Pdif 15 28 04.4 -0.9**
comp=Z,8.2nm,1.6s
CONA *e*P pP 15 28 33.1 +1.8
comp=Z,6.8nm,1.2s
TREC Trest 100.74 42 *e*PDIFF **Pdif 15 28 06.3 +1.0**
TREC Trest 100.74 42 *e*P **Pdif 15 28 06.3 +1.0**
CHVC Chvalec 101.33 41 *e*PDIFF **Pdif 15 28 08.9 +1.0**
CHVC *e*SKS 15 28 35.9
OSTC Ostas 101.43 41 *e*PDIFF **Pdif 15 28 09.8 +1.5**
OSTC *ex* x 15 28 36.6
DPC Dobruska-Polom 101.46 41 *e*PDIFF **Pdif 15 28 09.8 +1.3**
DPC *ep*P pP 15 28 36.5 +2.3
DPC Dobruska-Polom 101.46 41 *e*P **Pdif 15 28 09.8 +1.3**
KSP Ksiaz 101.53 40 *e*Pdif **Pdif 15 28 09.7 +1.0**
KSP *ep*P pP 15 28 36.8 +2.4
MODS Modra-Piesok 101.73 43 *e*P **Pdif 15 28 09.1 -0.6**
MODS Modra-Piesok 101.73 43 *e*PDIFF **Pdif 15 28 09.1 -0.6**
VYHS Vyhne 102.78 43 *e*P **Pdif 15 28 15.0 +0.7**
VYHS Vyhne 102.78 43 *e*PDIFF **Pdif 15 28 15.0 +0.7**
BURAR Bucovina Array 106.93 44 Pdif **Pdif 15 28 33.9 +0.9**
FINES FINESS Array B 107.85 30 PKKPbc PKKPbc 15 43 58.0 -1.2
comp=Z,1.7nm,0.8s,baz=76,slow=2.4,SNR=4.8
AKASG Malin Array Be 109.68 41 PKKPbc PKKPbc 15 44 04.0 +11
comp=Z,0.4nm,0.4s,baz=74,slow=4.4,SNR=6.3
DZM Mont Dzumac 110.57 239 *e*LR LR 16 05 45.7
comp=Z,602nm,31.1s
BR131 Keskin Array S 112.67 53 *c* PKiKP **PKiKP 15 32 53.8 +0.3**
BRTR Keskin Array B 112.67 53 PKiKP **PKiKP 15 32 53.8 +0.3**
comp=Z,2.8nm,0.9s,baz=210,slow=4.0,SNR=9.1
BRTR PKKPbc **PKKPab 15 43 52.0 +2.3**
comp=Z,0.8nm,0.7s,baz=160,slow=3.9,SNR=5.2
BRTR Keskin Array B 112.67 53 PKiKP 15 32 52.8 -0.7
EIL Elat 113.20 64 PKiKP **PKiKP 15 32 55.0 +0.5**
comp=Z,1.6nm,0.4s,baz=336,slow=10,SNR=4.0
MMAI Mount Meron Ar 113.82 60 PKiKP **PKiKP 15 32 56.6 +0.9**
comp=Z,3.2nm,0.7s,baz=264,slow=3.4,SNR=5.5
OBN Obninsk 113.84 36 *i* PKiKP **PKiKP 15 32 55.2 +0.3**
OBN pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 114.39 30 *e*PKiKP PKPdf 15 32 55.5 -0.3
KLMR *e* 15 43 34.3
KLMR pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 114.39 30 *e*PKPdf PKPdf 15 32 55.5 -0.3
KLMR AMP 15 32 57.8
comp=Z,22nm,1.4s
KLMR *e*PKKPbc **PKKPbc 15 43 34.3 -3.4**
KLMR *e* 15 44 17.7
ASF Jabal al Asfar 115.04 61 PKP **PKiKP 15 32 59.0 +0.9**
comp=Z,6.3nm,0.9s,baz=120,slow=2.1,SNR=11
ASF pPKP **sPKiKP 15 33 27.6 -6.7**
comp=Z,2.9nm,0.8s,baz=308,slow=2.4,SNR=3.1
ASF Jabal al Asfar 115.04 61 *i* PKiKP **PKiKP 15 32 59.0 +0.9**
BILL Bilibino 115.23 339 *i* PKiKP **PKiKP 15 32 55.5 -1.8**
BILL pmax pmax
comp=Z,4.0nm,0.9s
PRGR Permogore 117.02 28 *e*PKiKP **PKPdf 15 33 00.2 -0.7**
PRGR pmax pmax
comp=Z,12nm,0.9s
SOC Sochi 117.11 49 *i* PKiKP **PKPdf 15 33 01.1 -0.5**
SOC *e* 15 34 15.3
SOC *e*PPP PPP 15 36 43.3
SOC *e*PS **PKKPdf 15 43 50.1 -4.7**
SOC *e*SS SS 15 50 17.7 +2.7
SOC *e*SSS SSS 15 54 32.3
SOC pmax pmax
comp=Z,17nm,0.8s
KOPT Kop Dagi 117.94 53 PKiKP 15 33 03.8 0.0
MARD Mardin 118.28 56 PKPdf **PKPdf 15 33 03.6 -0.7**
ARTV Artvin 118.94 51 PKPdf **PKiKP 15 33 05.7 +0.1**
KIV Kislovodsk 119.22 48 *i* PKiKP **PKiKP 15 33 06.1 +0.2**
KIV pmax pmax
comp=Z,23nm,1.0s
KBZ Khabaz 119.40 48 PKP **PKiKP 15 33 06.8 +0.7**
comp=Z,14nm,0.8s,baz=194,slow=2.3,SNR=30
KBZ pPKP **pPKPdf 15 33 33.5 +0.8**
comp=Z,12nm,0.9s,baz=224,slow=0.9,SNR=6.2
KBZ PKKPbc **PKKPab 15 43 20.6 +0.9**
comp=Z,0.9nm,0.4s,baz=161,slow=3.3,SNR=4.5
KBZ Khabaz 119.40 48 *d* PKiKP **PKiKP 15 33 06.6 +0.5**
KIRV Kirov 119.84 30 *d* PKiKP **PKiKP 15 33 06.8 +0.4**
GEVA Gevas 120.03 54 PKPdf **PKiKP 15 33 07.9 +0.2**
ZEI Tsey 120.24 49 *i* PKiKP **PKiKP 15 33 07.8 -0.3**
ZEI pmax pmax
comp=Z,10.0nm,1.2s
STKA Stephens Creek 122.31 215 PKP **PKiKP 15 33 12.7 +0.4**
comp=Z,5.7nm,0.7s,baz=325,slow=2.2,SNR=10
STKA pPKP **pPKPdf 15 33 39.1 +0.1**
comp=Z,2.7nm,0.6s,baz=158,slow=2.4,SNR=2.9
STKA Stephens Creek 122.31 215 PKiKP 15 33 12.1 -0.2
H11N3 WAKE ISLAND Hyl 122.54 284 T T 17 46 22.5
baz=96,slow=74,SNR=6.9
H11N2 WAKE ISLAND Hyl 122.56 284 T T 17 46 14.2
baz=96,slow=74,SNR=10
H11N1 WAKE ISLAND Hyl 122.56 284 T T 17 46 55.2
baz=96,SNR=2.6
H11S2 WAKE ISLAND Hyl 122.60 282 T T 17 47 42.0
baz=92,slow=75,SNR=5.8
H11S1 WAKE ISLAND Hyl 122.61 282 T T 17 47 48.6
baz=92
H11S3 WAKE ISLAND Hyl 122.62 282 T T 17 47 59.0
baz=92,slow=75,SNR=5.5
SEY Seymchan 122.75 337 PKP **PKiKP 15 33 12.5 +0.4**
comp=Z,7.3nm,0.6s,baz=112,slow=3.1,SNR=18
MAK Makhachkala 122.83 49 *e*P **Pdif 15 29 42.9 -0.7**
MAK *i* 15 33 12.2
MAK *e* 15 34 55.5
MAK pmax pmax
comp=Z,144nm,1.4s
NRIK Noril'sk 124.68 8 PKP **PKPdf 15 33 14.4 -1.0**
comp=Z,4.0nm,0.7s,baz=27,slow=3.4,SNR=9.1
NRIK PKKPbc **PKKPbc 15 42 59.8 -0.1**
comp=Z,1.0nm,0.6s,baz=86,slow=4.1,SNR=4.1
NRIK Noril'sk 124.68 8 *i* PKiKP **PKiKP 15 33 16.2 +0.4**
PETK Petropavlovsk- 125.06 325 PKP **PKiKP 15 33 17.2 +0.2**
comp=Z,4.7nm,0.7s,baz=121,slow=5.7,SNR=7.5
PETK Petropavlovsk- 125.06 325 PKiKP 15 33 17.1 +0.1
ARU Arti 125.22 30 PKP **PKiKP 15 33 17.6 +0.4**
comp=Z,4.5nm,0.7s,baz=317,slow=2.7,SNR=19
ARU pPKP **pPKPdf 15 33 44.3 +0.9**
comp=Z,1.7nm,0.6s,baz=337,slow=6.1,SNR=3.5
ARU Arti 125.22 30 *i* PKiKP **PKiKP 15 33 17.3 +0.1**
ARU 15 35 10.6
ARU 15 40 21.2
ARU SS SS 15 51 50.6 -6.7
ARU Arti 125.22 30 PKPdf **PKPdf 15 33 16.7 -0.1**
CTA Charters Tower 127.48 229 PKP **PKiKP 15 33 23.1 +0.3**
comp=Z,7.9nm,0.8s,baz=222,slow=1.5,SNR=9.0
CTAO Charters Tower 127.48 229 PKiKP **PKPdf 15 33 22.2 -0.1**
CTAO Charters Tower 127.48 229 PKPdf **PKPdf 15 33 22.2 -0.1**
AKTO Aktyubinsk 127.60 37 PKP **PKiKP 15 33 22.6 +0.4**
comp=Z,13nm,0.8s,baz=302,slow=2.3,SNR=23
AKTO pPKP **pPKPdf 15 33 49.5 +1.3**
comp=Z,10nm,0.9s,baz=312,slow=1.2,SNR=6.2
AB31 Akbulak array 129.22 38 *i* PKiKP **PKiKP 15 33 25.7 +0.3**
ABKAR Akbulak array 129.22 38 PKiKP 15 33 25.2 -0.2
ABKAR pPKPdf **pPKPdf 15 33 49.8 -1.5**
ABKAR Akbulak array 129.22 38 PKPdf **PKiKP 15 33 25.4 0.0**
YAK Yakutsk 130.53 346 PKP **PKiKP 15 33 26.9 -0.7**
comp=Z,9.4nm,0.8s,baz=6.7,slow=1.4,SNR=9.8
YAK pPKP **pPKPdf 15 33 54.6 +1.2**
comp=Z,1.8nm,0.3s,baz=15,slow=7.3,SNR=1.4
YAK Yakutsk 130.53 346 *e*PKIKP **PKPdf 15 33 26.7 0.0**
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK Yakutsk 130.53 346 PKPdf **PKPdf 15 33 26.4 -0.4**
GEYT Alibeck 131.81 53 PKP **PKiKP 15 33 30.6 -0.5**
comp=N,1.7nm,0.7s,baz=228,slow=5.6,SNR=7.9
GEYT pPKP **pPKPdf 15 33 57.7 +0.9**
comp=N,4.6nm,1.1s,baz=220,slow=14,SNR=3.1
GEYT Alibeck 131.81 53 PKiKP 15 33 30.7 -0.4
UOSS Minazif 131.97 70 PKPdf 15 33 30.7 0.0
BRVK Borovoye 132.73 29 *d* PKIKP **PKiKP 15 33 32.2 -0.2**
BRVK pmax pmax
comp=Z,28nm,1.7s
BRVK Borovoye 132.73 29 PKPdf **PKiKP 15 33 32.5 +0.1**
BRVK pPKPdf **pPKPdf 15 34 00.6 +2.8**
BVAR Borovoye Array 132.81 29 PKP **PKiKP 15 33 32.2 -0.3**
comp=Z,5.8nm,1.0s,baz=170,slow=18,SNR=27
BVAR pPKP **pPKPdf 15 33 59.3 +1.3**
comp=Z,7.7nm,1.0s,baz=160,slow=20,SNR=5.5
PMG Port Moresby 132.89 241 PKP **PKiKP 15 33 33.8 -0.1**
comp=Z,11nm,1.0s,baz=68,slow=5.0,SNR=4.2
PMG Port Moresby 132.89 241 *c* PKIKP **PKiKP 15 33 34.2 +0.4**
PMG pmax pmax
comp=Z,19nm,1.3s
AS31 Alice Springs 132.95 215 PKPdf **PKPdf 15 33 31.9 -0.7**
ASAR Alice Springs 132.95 215 PKhKP PKPpre 15 33 13.6
comp=Z,0.6nm,0.8s,baz=135,slow=2.3,SNR=6.3
ASAR PKP **PKPdf 15 33 32.6 -0.1**
comp=Z,7.3nm,0.8s,baz=130,slow=1.9,SNR=44
ASAR pPKP pPKPdf 15 33 59.6 +0.1
comp=Z,3.2nm,0.6s,baz=129,slow=1.7,SNR=4.1
ASAR sPKP 15 34 09.7
comp=Z,14nm,0.9s,baz=146,slow=2.3,SNR=12
ASAR PKP **PKKPdf 15 43 23.3 -0.4**
comp=Z,0.8nm,0.9s,baz=328,slow=1.8,SNR=7.5
ASAR Alice Springs 132.95 215 PKPdf **PKPdf 15 33 31.8 -0.9**
WSAR Wadi Sarin 134.22 72 PKP **PKPdf 15 33 34.7 -0.2**
comp=Z,9.9nm,0.7s,baz=224,slow=1.6,SNR=10
WR0 Warramunga Arr 135.46 219 PKPdf **PKPdf 15 33 37.4 0.0**
WRA Warramunga Arr 135.59 219 PKhKP PKPpre 15 33 25.2
comp=Z,1.1nm,0.7s,baz=124,slow=3.0,SNR=11
WRA PKP **PKPdf 15 33 37.9 +0.2**
comp=Z,19nm,0.8s,baz=150,slow=1.4,SNR=75
WRA pPKP pPKPdf 15 34 05.1 +0.6
comp=Z,9.6nm,0.6s,baz=136,slow=2.0,SNR=6.4
WRA sPKP 15 34 15.8
comp=Z,21nm,0.8s,baz=146,slow=1.5,SNR=12
WRAB Tennant Creek 135.59 219 *d* PKIKP **PKPdf 15 33 38.0 +0.3**
WRAB pmax pmax
comp=Z,25nm,0.8s
WB0 Warramunga Arr 135.69 219 PKPdf **PKPdf 15 33 37.7 -0.1**
YSS Yuzh-Sakhalins 136.44 324 *e*PKIKP **PKiKP 15 33 39.5 -0.6**
YSS *e* 15 34 05.3
YSS pmax pmax
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 137.85 19 PKhKP PKPpre 15 33 28.8
comp=Z,2.1nm,0.8s,baz=348,slow=6.5,SNR=8.2
ZALV PKP **PKPdf 15 33 41.4 +0.7**
comp=Z,53nm,0.7s,baz=316,slow=2.0,SNR=24
ZALV pPKP pPKPdf 15 34 07.2 +0.1
comp=Z,44nm,0.9s,baz=300,slow=3.3,SNR=6.5
ZALV sPKP 15 34 20.3
comp=Z,30nm,1.0s,baz=298,slow=3.2,SNR=4.3
ZALV Zalesovo Beam 137.85 19 PKPdf 15 33 41.3 +0.5
ZALV **pPKPdf 15 34 06.3 -0.9**
ASAJ Asahikawa 138.09 321 PKP **PKPdf 15 33 41.6 +0.2**
comp=Z,11nm,0.9s,baz=292,slow=13,SNR=4.5
KURK Kurchatov 138.10 27 *d* PKIKP **PKPdf 15 33 41.8 +0.5**
KURK Kurchatov 138.10 27 PKPdf **PKPdf 15 33 41.4 +0.1**
KURK **pPKPdf 15 34 06.7 -1.2**
KURBB Kurchatov Arra 138.13 27 PKhKP PKPpre 15 33 30.9
comp=Z,0.6nm,0.7s,baz=314,slow=3.4,SNR=5.4
KURBB PKP **PKPdf 15 33 42.0 +0.7**
comp=Z,15nm,0.9s,baz=310,slow=2.7,SNR=17
KURBB pPKP pPKPdf 15 34 07.2 -0.7
comp=Z,12nm,0.9s,baz=315,slow=2.2,SNR=7.9
KURBB sPKP 15 34 19.9
comp=Z,7.3nm,1.0s,baz=308,slow=2.4,SNR=5.8
KURBB PP **PP 15 36 34.1 +3.8**
comp=Z,1.1nm,1.0s,baz=321,slow=5.1,SNR=4.7
KURBB Kurchatov Arra 138.13 27 PKIKP **PKPdf 15 33 41.6 +0.2**
ZEA Zeya 138.36 342 *e*PKIKP **PKPdf 15 33 42.0 +0.3**
ZEA pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 138.58 41 PKIKP **PKPdf 15 33 43.0 +0.5**
KK31 Karatay Array 138.58 41 PKPdf **PKPdf 15 33 43.0 +0.5**
KKAR Karatay Array 138.58 41 PKIKP **PKPdf 15 33 42.7 +0.2**
KKAR Karatay Array 138.58 41 PKPdf **PKPdf 15 33 42.7 +0.2**
BTK Batken 140.28 45 PKIKP **PKPdf 15 33 45.3 -0.5**
BTK Batken 140.28 45 PKPdf **PKPdf 15 33 45.3 -0.5**
GAR Garm 140.42 46 PKPpre 15 33 38.8
GAR PKPdf **PKPdf 15 33 47.0 +1.0**
PSA00 Pilbara Seismi 141.11 200 PKPdf **PKPdf 15 33 48.0 +0.3**
AAK Ala-Archa 141.29 39 *d* PKIKP **PKiKP 15 33 49.0 -1.4**
FITZ Fitzroy Crossi 141.86 210 PKPpre 15 33 42.6
KNRA Kununurra 142.21 216 PKPpre 15 33 44.7
MAKZ Makanchi 142.50 28 PKHKP PKPpre 15 33 44.5
MAKZ Makanchi 142.50 28 PKPpre 15 33 44.5
MK31 Makanchi Array 142.65 28 PKHKP PKPpre 15 33 44.9
MK31 Makanchi Array 142.65 28 PKPpre 15 33 44.9
MKAR Makanchi Array 142.65 28 PKhKP PKPpre 15 33 45.3
comp=Z,4.5nm,0.7s,baz=340,slow=3.2,SNR=37
MKAR Makanchi Array 142.65 28 PKHKP PKPpre 15 33 45.1
MKAR Makanchi Array 142.65 28 PKPpre 15 33 45.0
IRK Irkutsk 143.11 2 *e*PKIKP **PKPdf 15 33 50.6 +0.3**
IRK pmax pmax
comp=Z,51nm,1.7s
KDJ Kajisay 143.20 38 PKIKP **PKPdf 15 33 49.6 -1.4**
KDJ Kajisay 143.20 38 PKPdf **PKPdf 15 33 49.6 -1.4**
MOY Mondy 143.45 6 *e*PKIKP PKPbc 15 33 49.0 +0.5
MOY *e* 15 34 16.4
MOY pmax pmax
comp=Z,51nm,1.7s
TLY Talaya 143.64 3 *d* PKIKP PKPbc 15 33 49.4 +0.5
TLY pmax pmax
comp=Z,108nm,1.0s
PDGK Podgornoye 143.74 34 PKIKP PKPbc 15 33 49.5 -0.1
KSH Kashi 143.97 42 PKP **PKPdf 15 33 51.4 -1.0**
KSH pPKP pPKPdf 15 34 17.9 -1.2
KSH PP **PP 15 37 09.8 +3.1**
KSH AMB AMB
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,120nm,4.8s
KSH LR LR
comp=Z,110nm,7.4s
KSH LR LR
comp=Z,140nm,5.3s
USA0B Ussuriysk Arra 144.01 328 PKIKP PKPbc 15 33 50.3 +0.1
USA0B Ussuriysk Arra 144.01 328 PKPdf PKPbc 15 33 50.3 0.0
USRK Ussuriysk Ar. 144.01 328 PKP PKPbc 15 33 50.5 +0.3
comp=Z,6.1nm,0.6s,baz=41,slow=4.7,SNR=20
USRK pPKP pPKPdf 15 34 19.1 +0.2
comp=Z,9.1nm,0.9s,baz=9.9,slow=2.3,SNR=4.6
USRK sPKP 15 34 29.6
comp=Z,22nm,1.0s,baz=59,slow=2.2,SNR=6.2
USRK Ussuriysk Ar. 144.01 328 PKIKP **PKPdf 15 33 50.9 -1.2**
USRK Ussuriysk Ar. 144.01 328 PKPdf 15 33 50.9 -1.2
BHUJ Bhuj 144.34 71 *e*P **PKPdf 15 33 53.6 +0.3**
BHUJ IAmb IAmb 15 33 54.4
comp=Z,132nm,0.3s
HIA Hailar 144.46 345 PKIKP **PKPab 15 33 50.9 -0.4**
HIA Hailar 144.46 345 PKPab 15 33 50.9 -0.4
MJAR Matsushiro Arr 144.81 313 PKP PKPbc 15 33 52.5 -0.5
comp=Z,49nm,0.9s,baz=106,slow=1.6,SNR=58
MJAR pPKP pPKPdf 15 34 20.4 -0.2
comp=Z,13nm,0.8s,baz=110,slow=2.3,SNR=4.3
MAJO Matsushiro 144.81 313 PKIKP PKPbc 15 33 52.7 -0.3
MAJO Matsushiro 144.81 313 PKPdf PKPbc 15 33 52.7 -0.3
MAT Matsushiro 144.81 313 PKP **PKPab 15 33 52.4 -0.6**
NIL Nilore 144.81 53 PKIKP **PKPab 15 33 52.8 -0.3**
NIL Nilore 144.81 53 PKPab 15 33 52.8 -0.3
MDJ Mudanjiang 144.88 331 PKP **PKPab 15 33 52.3 -0.6**
MDJ AMB AMB

	comp=Z,700nm,4.1s								
MDJ	**Mudanjiang**	**144.88**	**331**			**PKPab**	**15 33 51.6**	**-1.3**
ZAK	**Zakamensk**	**144.91**	**4**	*e*	PKIKP	**PKPdf**	**15 33 53.8**	**+0.1**
ZAK				*e*			15 34 20.9	
ZAK					pmax	pmax		
	comp=Z,104nm,1.3s							
ZAK					pmax	pmax		
	comp=Z,73nm,1.3s							
JGF	**Kuroka**	**145.86**	**312**			**PKPdf**	**15 33 54.9**	**-0.7**
INU	**Inuyama**	**146.22**	**312**			**PKPdf**	**15 33 56.2**	**0.0**
SAUI	**Saumlaki**	**146.30**	**228**			**PKPdf**	**15 33 56.0**	**-1.0**
WMQ	**Urumqi**	**147.34**	**26**	*e*	PKPbc	**PKPdf**	**15 33 57.6**	**-0.3**
WMQ					pPKP	pPKPbc	15 34 27.0	0.0
WMQ					AMB	AMB		
	comp=Z,310nm,4.7s							
WMQ					LR	LR		
	comp=Z,52nm,23.7s							
WMQ					LR	LR		
	comp=Z,86nm,27.3s							
CN2	**Changchun**	**147.36**	**334**	*e*	PKPbc	**PKPdf**	**15 33 52.9**	**-5.0**
ULN	**Ulaanbaatar**	**147.53**	**359**		PKIKP	**PKPdf**	**15 33 58.9**	**+0.7**
ULN	**Ulaanbaatar**	**147.53**	**359**		PKPdf	**PKPdf**	**15 33 58.9**	**+0.7**
SONM	**Songino Array**	**147.56**	**0**		PKPbc	**PKiKP**	**15 34 01.8**	**-1.2**
	comp=Z,85nm,0.8s,baz=307,slow=0.5,SNR=133							
SONM					pPKPbc	**pPKPab**	**15 34 29.1**	**-0.3**
	comp=Z,54nm,0.9s,baz=339,slow=2.5,SNR=8.2							
SONM	**Songino Array**	**147.56**	**0**		PKPdf	**PKPdf**	**15 33 58.0**	**-0.3**
DHRM	**DHARAMSHALA**	**147.72**	**53**	*e*	P	**PKPbc**	**15 34 00.6**	**-1.4**
DHRM					IAmb	IAmb	15 34 05.5	
	comp=Z,82nm,0.7s							
GOA	**Goa**	**148.44**	**85**	*e*	P	**PKPbc**	**15 34 02.1**	**-1.9**
GOA					IAmb	IAmb	15 34 05.5	
	comp=Z,40nm,1.0s							
POO	**Poona**	**148.55**	**79**	*e*	P	**PKPbc**	**15 34 02.7**	**-1.6**
POO					IAmb	IAmb	15 34 06.0	
	comp=Z,44nm,0.7s							
FAKI	**Fak Fak**	**148.80**	**237**		PKPdf	**PKPdf**	**15 34 02.3**	**+1.2**
FAKI					PKPab	**PKiKP**	**15 34 06.4**	**0.0**
JMN	**Monobe**	**149.27**	**312**			**PKPdf**	**15 34 02.5**	**+1.1**
BATI	**Baumata**	**149.52**	**215**		P	**PKPbc**	**15 34 04.5**	**-2.4**
SOEI	**Soe**	**149.55**	**216**		P	**PKPdf**	**15 34 03.4**	**+0.9**
SOEI	**Soe**	**149.55**	**216**		PKPdf	**PKPdf**	**15 34 02.1**	**-0.4**
KS19	**Wonju Array Si**	**150.94**	**324**			**PKPdf**	**15 34 02.8**	**-1.0**
KSRS	**Korea Array**	**150.94**	**323**		PKP	**PKPdf**	**15 34 03.8**	**0.0**
	comp=Z,9.9nm,0.9s,baz=29,slow=1.5,SNR=17							
KSRS					PKPbc	**PKiKP**	**15 34 10.5**	**+0.4**
	comp=Z,37nm,0.9s,baz=9.1,slow=1.6,SNR=39							
KSRS					pPKPbc	**pPKPbc**	**15 34 37.5**	**+1.5**
	comp=Z,17nm,0.8s,baz=336,slow=2.9,SNR=4.9							
KSAR	**Wonju Array Be**	**150.97**	**323**		PKIKP	**PKPdf**	**15 34 04.5**	**+0.7**
KSAR	**Wonju Array Be**	**150.97**	**323**			**PKPdf**	**15 34 04.5**	**+0.7**
MSAI	**Masohi**	**151.14**	**232**		P	**PKPbc**	**15 34 10.6**	**-0.1**
BHPL	**Bhopal**	**151.41**	**69**	*e*	P	**PKPdf**	**15 34 06.2**	**+1.2**
BHPL					IAmb	IAmb	15 34 20.8	
	comp=Z,21nm,1.0s							
MMRI	**Maumere**	**151.60**	**214**		P	**PKPdf**	**15 34 01.3**	**-4.2**
MMRI	**Maumere**	**151.60**	**214**		PKPdf	**PKPdf**	**15 34 04.3**	**-1.2**
MMRI					PKPbc	**PKPbc**	**15 34 11.1**	**-0.7**
JNU	**Nakatsue**	**151.73**	**313**		PKPbc	**PKiKP**	**15 34 11.5**	**-0.5**
	comp=Z,43nm,0.9s,baz=37,slow=4.7,SNR=7.6							
JNU					pPKPbc	**pPKPbc**	**15 34 38.6**	**+0.5**
	comp=Z,27nm,0.9s,baz=89,slow=2.6,SNR=3.4							
JNU	**Nakatsue**	**151.73**	**313**			**PKPbc**	**15 34 11.0**	**-0.6**
EDFI	**Ende, Flores**	**151.79**	**213**		P	**PKPdf**	**15 34 03.7**	**-2.2**
TJN	**Taejon**	**152.00**	**322**	*c i*	PKIKP	**PKiKP**	**15 34 12.6**	**+0.2**
NLAI	**Namlea**	**152.57**	**229**		P	**PKPdf**	**15 34 03.9**	**-3.1**
HYB	**Hyderabad**	**153.04**	**82**	*i*	PKP	**PKPdf**	**15 34 08.0**	**+0.5**
HYB				*e*			15 34 15.0	
HYB				*e*			15 34 26.5	
HYB					ePKP	**sPKPbc**	**15 34 49.0**	**-2.1**
PLAI	**Plampang**	**153.58**	**206**		P	**PKPab**	**15 34 26.3**	**-2.5**
BJI	**Beijing**	**153.97**	**343**		pmax	pmax	15 34 16.4	
HHC	**Hu-ho-hao-te**	**154.18**	**351**		ePKPbc	**PKPdf**	**15 34 10.3**	**+1.7**
HHC					pPKP	PKPab	15 34 31.3	+0.5
SANI	**Sanana**	**154.19**	**230**		P	**PKPdf**	**15 34 05.1**	**-4.2**
BTO	**Baotou**	**154.62**	**354**		ePKPbc	**PKPdf**	**15 34 09.8**	**+0.6**
TNTI	**Ternate**	**154.90**	**237**		P	**PKPab**	**15 34 32.0**	**-2.6**
KDI	**Kendari**	**155.13**	**221**		P	PKPdf	15 33 59.3	-11
GTA	**Gaotai**	**155.26**	**13**	⇑	PKP	**PKPdf**	**15 34 11.8**	**+1.6**
GTA					pPKP	pPKPdf	15 34 37.9	+1.2
GTA					sPKP		15 34 48.3	
GTA					PP	**PP**	**15 38 15.8**	**+4.8**
GTA					SS	SS	15 57 51.8	+4.1
GTA					AMB	AMB		
	comp=Z,160nm,9.1s							
GTA					LR	LR		
	comp=Z,120nm,19.3s							
GTA					LR	LR		
	comp=Z,180nm,17.1s							
GTA					LR	LR		
	comp=Z,160nm,17.8s							
TTSI	**Tana Toraja**	**157.54**	**217**		P	**PKPdf**	**15 34 15.4**	**+1.7**
LZH	**Lanzhou**	**159.16**	**6**		pmax	pmax		
	comp=Z,18nm,1.0s							
LZH					pmax	pmax		
	comp=Z,22nm,1.0s							
LSA	**Lhasa**	**159.83**	**42**		PKP	**PKPdf**	**15 34 17.9**	**+1.3**
LSA	**Lhasa**	**159.83**	**42**		PKIKP	**PKPdf**	**15 34 16.0**	**-0.6**
LSA	**Lhasa**	**159.83**	**42**			**PKPdf**	**15 34 16.0**	**-0.6**
NJ2	**Nanjing**	**159.92**	**328**		ePKP	**PKPdf**	**15 34 15.6**	**-0.4**
XAN	**Xi'an**	**161.23**	**354**		PKP	**PKPdf**	**15 34 18.0**	**+0.5**
XAN	**Xi'an**	**161.23**	**354**		PKIKP	**PKPdf**	**15 34 17.2**	**-0.3**
XAN	**Xi'an**	**161.23**	**354**			**PKPdf**	**15 34 17.2**	**-0.3**
SHL	**Shillong**	**162.88**	**51**	*e*	P	**PKPdf**	**15 34 19.4**	**-0.1**
SHL					IAmb	IAmb	15 34 21.4	
	comp=Z,8.4nm,1.3s							
SHL	**Shillong**	**162.88**	**51**		PKIKP	**PKPdf**	**15 34 19.1**	**-0.5**
SHL	**Shillong**	**162.88**	**51**			**PKPdf**	**15 34 19.1**	**-0.5**
WHN	**Wuhan**	**163.24**	**336**		PKPbc	PKPab	15 34 59.6	-11
WHN					sPKP		15 35 37.3	
CD2	**Chengdu**	**164.25**	**9**		PKP	**PKPdf**	**15 34 21.4**	**+0.9**
CD2					pPKP	pPKPdf	15 34 50.3	+3.3
ENH	**Enshi**	**164.87**	**350**			**PKPdf**	**15 34 21.2**	**+0.2**
RPSI	**Rantau Prapat**	**165.37**	**148**			**PKPdf**	**15 34 21.5**	**-0.4**
PSI	**Prapat**	**165.46**	**148**		PKIKP	**PKPdf**	**15 34 21.5**	**-0.7**
KSM	**Kuching**	**165.77**	**195**			**PKPdf**	**15 34 22.4**	**+0.2**
PBA	**Port Blair**	**166.06**	**103**	*e*	P	PKPdf	15 34 22.5	+0.1
PBA					IAmb	IAmb	15 34 23.9	
	comp=Z,51nm,1.0s							
SBUM	**Sibu**	**166.07**	**204**			**PKPdf**	**15 34 21.7**	**-0.8**
KKM	**Kota Kinabalu**	**166.80**	**227**			**PKPdf**	**15 34 23.0**	**-0.2**
KULM	**Kulim**	**168.47**	**149**			**PKPdf**	**15 34 23.8**	**-0.4**
GYA	**Guiyang**	**168.90**	**360**	*e*	PKP	**PKPdf**	**15 34 24.9**	**+0.6**
GYA					pPKP	pPKPdf	15 34 52.6	+1.4
GYA					PKPab	**PKPab**	**15 35 35.0**	**-0.3**
GYA					PP	**PP**	**15 39 23.6**	**+0.2**
CHTO	**Chiang Mai**	**171.91**	**63**		PKIKP	**PKPdf**	**15 34 25.5**	**-0.5**
CHTO	**Chiang Mai**	**171.91**	**63**			**PKPdf**	**15 34 25.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**172.05**	**66**		PKP	**PKPdf**	**15 34 26.3**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=287,slow=1.8,SNR=24							
CMAR					pPKP	**pPKPdf**	**15 34 53.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=339,slow=34,SNR=1.3							
CMAR					PKPab	**PKPab**	**15 35 49.9**	**+0.2**
	comp=Z,5.4nm,0.9s,baz=294,slow=6.1,SNR=15							
CMAR					pPKPab	**pPKPab**	**15 36 17.9**	**+2.6**
	comp=Z,1.8nm,0.5s,baz=287,slow=5.0,SNR=4.9							
CMAR					PP	**PP**	**15 39 43.1**	**+2.1**
	comp=Z,0.8nm,0.9s,baz=302,slow=7.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**172.05**	**66**			**PKPab**	**15 35 50.1**	**+0.4**

*IDC **13** 15:16:25.9±7.7,20°.33S×178°.41W,h568km±75km, mb3.6/7, mb1 3.7/8, mb1mx3.3/36, mbtmp4.6/8, Error ellipse: s-maj=61.3km s-min=23.0km az=56.0*

*NEIC **13** 15:16:28±1.1,20°.5S±0°.1×178°.3W±0°.1, h613km±12km, mb4.5/25, Error ellipse: s-maj=21.0km s-min=8.8km az=222.0*

ISC 13 15:16:28.0±0.7,20°.4S±0°.1×178°.4W±0°.1,h600km,n55, σ1§64/58,mb4.4/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.03**	**46**	P	**P**	**15 18 38.0**	**+0.6**
AFI				S	**S**	**15 20 21.9**	**-1.5**
DZM	**Mont Dzumac**	**14.21**	**260**	P	**P**	**15 19 30.8**	**+1.7**
	0.9nm,0.3s,baz=112,slow=23,SNR=8.6						
OUZ	**Omahuta**	**16.39**	**204**	P	**P**	**15 19 51.8**	**+3.0**
OUZ				IAmb	IAmb	15 19 52.7	
	comp=Z,19nm,0.7s						
KUZ	**Kuaotunu**	**17.12**	**196**	P	**P**	**15 19 57.3**	**+1.9**
WIAZ	**Waiheke Island**	**17.32**	**198**	P	**P**	**15 19 59.6**	**+2.3**
MBAZ	**Motutapu North**	**17.37**	**198**	P	**P**	**15 20 00.9**	**+3.2**
HAZ	**Te Kaha**	**17.65**	**190**	P	**P**	**15 20 00.3**	**0.0**
AWAZ	**Awhitu Peninsu**	**17.72**	**198**	P	**P**	**15 20 03.1**	**+2.2**
MWZ	**Matawai**	**18.26**	**190**	P	**P**	**15 20 05.3**	**-0.6**
URZ	**Urewera**	**18.26**	**191**	P	**P**	**15 20 03.8**	**-2.0**
	comp=Z,2.7nm,0.3s,baz=337,slow=1.1,SNR=3.7						
URZ	**Urewera**	**18.26**	**191**	P	**P**	**15 20 04.6**	**-1.2**
URZ	**Urewera**	**18.26**	**191**	P	**P**	**15 20 03.5**	**-2.4**
URZ				IAmb	IAmb	15 20 06.0	
	comp=Z,11nm,0.7s						
TLZ	**Tolley Road**	**18.66**	**195**	P	**P**	**15 20 05.4**	**-4.2**
BKZ	**Black Stump Fm**	**19.25**	**192**	P	**P**	**15 20 12.3**	**-2.7**
BKZ				IAmb	IAmb	15 20 37.8	
	comp=Z,15nm,1.4s						
OTVZ	**Oturere**	**19.43**	**194**	P	**P**	**15 20 16.8**	**+0.2**
VRZ	**Vera Road**	**19.61**	**196**	P	**P**	**15 20 22.1**	**+4.0**
BHHZ	**Black Hill Sta**	**19.65**	**193**	P	**P**	**15 20 16.8**	**-1.8**
TSZ	**Takapari Road**	**20.22**	**193**	P	**P**	**15 20 23.3**	**-0.3**
BFZ	**Birch Farm**	**20.77**	**191**	P	**P**	**15 20 25.9**	**-2.6**
BHW	**Baring Head**	**21.75**	**194**	P	**P**	**15 20 35.4**	**-1.9**
QRZ	**Quartz Range**	**21.82**	**199**	P	**P**	**15 20 37.6**	**-0.3**
PLWZ	**Palliser**	**21.82**	**193**	P	**P**	**15 20 37.0**	**-0.9**
NNZ	**Nelson**	**21.94**	**197**	P	**P**	**15 20 37.8**	**-1.1**
KHZ	**Kahutara**	**23.02**	**195**	P	**P**	**15 20 46.8**	**-1.7**
LTZ	**Lake Taylor**	**23.69**	**197**	P	**P**	**15 20 53.0**	**-1.6**
MLZ	**Mavora Lakes**	**27.31**	**201**	P	**P**	**15 21 23.1**	**-3.2**
CTA	**Charters Tower**	**33.10**	**264**	P	**P**	**15 22 16.2**	**0.0**
	comp=Z,4.3nm,0.4s,baz=94,slow=11,SNR=6.0						
CTAO	**Charters Tower**	**33.10**	**264**	P	**P**	**15 22 16.6**	**+0.3**
CTAO				IAmb	IAmb	15 22 26.6	
	comp=Z,15nm,1.4s						
PMG	**Port Moresby**	**34.91**	**283**	P	**P**	**15 22 31.5**	**+0.1**
	comp=Z,11nm,0.9s,baz=45,slow=5.4,SNR=5.3						
PMG	**Port Moresby**	**34.91**	**283**	P	**P**	**15 22 31.8**	**+0.3**
PMG				IAmb	IAmb	15 22 32.5	
	comp=Z,10nm,0.8s						
COEN	**Coen**	**37.17**	**274**	P	**P**	**15 22 50.4**	**+0.4**
STKA	**Stephens Creek**	**37.49**	**244**	P	**P**	**15 22 52.5**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=95,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**37.49**	**244**	P	**P**	**15 22 52.1**	**-0.2**
BBOO	**Buckleboo**	**42.25**	**243**	P	**P**	**15 23 30.4**	**+0.1**
BBOO				IAmb	IAmb	15 23 34.9	
	comp=Z,21nm,1.2s						
JAY	**Jayapura**	**43.61**	**289**	P	**P**	**15 23 41.0**	**-0.1**
	comp=Z,14nm,0.6s,baz=136,slow=3.1,SNR=9.9						
WR0	**Warramunga Arr**	**44.03**	**262**	P	**P**	**15 23 43.6**	**-0.7**
AS31	**Alice Springs**	**44.16**	**257**	P	**P**	**15 23 44.4**	**-0.8**
ASAR	**Alice Springs**	**44.16**	**257**	P	**P**	**15 23 45.0**	**-0.2**
	comp=Z,7.2nm,0.7s,baz=90,slow=7.5,SNR=190						
ASAR				PcP	**PcP**	**15 25 16.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=102,slow=4.2,SNR=6.1						
ASAR				S	**S**	**15 29 32.6**	**-3.5**
	comp=Z,0.3nm,0.6s,baz=93,slow=17,SNR=4.1						
ASAR	**Alice Springs**	**44.16**	**257**	P	**P**	**15 23 44.7**	**-0.6**
ASAR					**PcP**	**15 25 15.8**	**-0.9**
WB0	**Warramunga Arr**	**44.20**	**262**	P	**P**	**15 23 44.9**	**-0.7**
WB0				IAmb	IAmb	15 23 45.4	
	comp=Z,9.9nm,0.5s						
WB2	**Warramunga Arr**	**44.21**	**262**	P	**P**	**15 23 44.9**	**-0.8**
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**15 23 45.1**	**-0.6**
	comp=Z,4.2nm,0.4s,baz=97,slow=7.8,SNR=96						
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**15 23 45.1**	**-0.6**
MTN	**Manton Dam**	**48.76**	**271**	P	**P**	**15 24 19.1**	**-0.8**
MTN				IAmb	IAmb	15 24 20.0	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**50.26**	**266**	P	**P**	**15 24 30.3**	**-0.6**
KNRA				IAmb	IAmb	15 24 39.9	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.65**	**262**	P	**P**	**15 24 47.9**	**-0.1**
SOEI	**Soe**	**56.09**	**272**	P	**P**	**15 25 12.0**	**-0.3**
SOEI				IAmb	IAmb	15 25 14.6	
	comp=Z,17nm,0.9s						
VNDA	**Vanda**	**58.02**	**185**	P	**P**	**15 25 26.1**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=16,slow=7.4,SNR=1.1						
SSLB	**Suanglung**	**73.55**	**304**	P	**P**	**15 27 00.3**	**-1.2**
SSLB				IAmb	IAmb	15 27 13.1	
	comp=Z,24nm,1.2s						
CCB	**Clear Creek Bu**	**87.96**	**13**	P	**P**	**15 28 15.0**	**+0.4**
CCB				IAmb	IAmb	15 28 17.4	
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**15 28 25.4**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=125,slow=3.4,SNR=6.3						
ARCES	**ARCESS Array B**	**128.70**	**349**	PKP	**PKPdf**	**15 34 27.1**	**-0.2**
	comp=Z,4.4nm,1.0s,baz=109,slow=6.6,SNR=3.9						
AKASG	**Malin Array Be**	**142.69**	**331**	PKhKP	PKPpre	15 34 50.5	
	comp=Z,1.2nm,0.4s,baz=42,slow=4.1,SNR=8.0						
MMAI	**Mount Meron Ar**	**147.39**	**300**	PKPbc	**PKPbc**	**15 35 06.2**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=82,slow=6.8,SNR=4.5						
CLL	**Collm**	**147.82**	**346**	*i* PKPbc	**PKPbc**	**15 35 06.8**	**+0.5**
	comp=Z,5.0nm,0.8s						

*NEIC **13** 15:40:13.5±0.4,31°.89S±0°.09×178°.6W±0°.2, h42km±9km, mb4.6/12, Error ellipse: s-maj=27.0km s-min=10.8km az=105.0*

*IDC **13** 15:40:14.3±1.8,31°.68S×178°.50W, h48km±19km, mb4.0/8, mb1 4.2/10, mb1mx4.0/38, mbtmp4.3/10, ML4.4/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=22.8km s-min=14.5km az=109.0*

ISC 13 15:40:12.4±0.8,31°.94S±0°.06×178°.1W±0°.1,h50km,n75, σ2§01/85,mb4.3/12,MS3.6/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.67**	**4**	P	**Pn**	**15 40 53.3**	**+0.3**
GLKZ				S	**Sn**	**15 41 21.4**	**-2.8**
RAO	**Raoul Island**	**2.68**	**4**	P	**Pn**	**15 40 53.8**	**+0.6**
	130nm,0.3s,baz=132,slow=14,SNR=8.6						
RAO				S	**Sn**	**15 41 21.4**	**-3.0**
	267nm,0.3s,baz=192,slow=20,SNR=8.1						
RAO	**Raoul Island**	**2.68**	**4**		**Pn**	**15 40 54.3**	**+1.1**
RAO				Sn	**Sn**	**15 41 21.9**	**-2.5**
RIZ	**Raoul Island**	**2.69**	**3**	P	**Pn**	**15 40 53.1**	**-0.2**
RIZ				S	**Sn**	**15 41 22.4**	**-2.2**
MXZ	**Matakaoa Point**	**6.33**	**207**	P	**Pn**	**15 41 43.3**	**+0.1**
MXZ				S	**Sn**	**15 42 53.6**	**-0.6**
MXZ	**Matakaoa Point**	**6.33**	**207**	Pn	**Pn**	**15 41 43.0**	**-0.2**
WMGZ	**Waiomatatini S**	**6.52**	**205**	P	**Pn**	**15 41 48.7**	**+2.9**
WMGZ				S	**Sn**	**15 42 58.5**	**-0.3**
PKGZ	**Pakihiroa**	**6.71**	**207**	P	**Pn**	**15 41 48.0**	**-0.4**
PKGZ				S	**Sn**	**15 43 03.3**	**-0.2**
HAZ	**Te Kaha**	**6.71**	**209**	P	**Pn**	**15 41 47.9**	**-0.4**
HAZ				S	**Sn**	**15 43 04.5**	**+1.0**
PUZ	**Puketiti**	**6.80**	**205**	P	**Pn**	**15 41 48.3**	**-1.3**
PUZ				S	**Sn**	**15 43 03.6**	**-2.2**
RUGZ	**Raukumara Rang**	**6.93**	**209**	P	**Pn**	**15 41 51.2**	**-0.3**
RUGZ				S	**Sn**	**15 43 09.2**	**-0.1**
TWGZ	**Tauwhareparae**	**7.00**	**206**	P	**Pn**	**15 41 53.8**	**+1.5**
TWGZ				S	**Sn**	**15 43 10.0**	**-0.6**
CNGZ	**Carnagh Statio**	**7.19**	**204**	P	**Pn**	**15 41 53.5**	**-1.4**
TKGZ	**Te Karaka**	**7.28**	**206**	P	**Pn**	**15 41 56.9**	**+0.8**
TKGZ				S	**Sn**	**15 43 16.0**	**-1.4**
MWZ	**Matawai**	**7.31**	**208**	P	**Pn**	**15 41 54.3**	**-2.3**
MWZ				S	**Sn**	**15 43 16.6**	**-1.6**
URZ	**Urewera**	**7.42**	**210**	P	**Pn**	**15 41 58.9**	**+0.9**
	3.8nm,0.3s,baz=279,slow=2.7,SNR=23						
URZ				S	**Sn**	**15 43 19.9**	**-0.9**
	4.7nm,0.3s,baz=195,slow=19,SNR=7.0						
URZ	**Urewera**	**7.42**	**210**	P	**Pn**	**15 41 55.3**	**-2.7**
URZ				S	**Sn**	**15 43 19.9**	**-0.9**
URZ	**Urewera**	**7.42**	**210**		**Pn**	**15 41 57.5**	**+1.5**
RIGZ	**Rimuhau**	**7.54**	**205**	P	**Pn**	**15 42 00.5**	**+0.7**
RIGZ				S	**Sn**	**15 43 21.9**	**-2.1**
OUZ	**Omahuta**	**7.65**	**242**		**Pn**	**15 42 03.9**	**+2.7**
KNZ	**Kokohu**	**7.86**	**205**	P	**Pn**	**15 42 00.5**	**-3.5**
KNZ				S	**Sn**	**15 43 28.3**	**-3.3**
BKZ	**Black Stump Fm**	**8.44**	**210**	P	**Pn**	**15 42 09.0**	**-3.1**
BKZ				S	**Sn**	**15 43 42.3**	**-3.7**
BKZ	**Black Stump Fm**	**8.44**	**210**		**Pn**	**15 42 10.5**	**-1.7**
RATZ	**Rangitukua**	**8.52**	**214**	P	**Pn**	**15 42 13.7**	**+0.5**
MCHZ	**McNeill Hill**	**8.59**	**208**	P	**Pn**	**15 42 13.8**	**-0.4**
MCHZ				S	**Sn**	**15 43 46.5**	**-3.2**
CKHZ	**Cape Kidnapper**	**8.63**	**206**	P	**Pn**	**15 42 13.0**	**-1.7**
CKHZ				S	**Sn**	**15 43 46.6**	**-4.1**
HIZ	**Hauiti**	**8.72**	**219**	P	**Pn**	**15 42 18.9**	**+3.0**
HIZ	**Hauiti**	**8.72**	**219**	Pn	**Pn**	**15 42 17.7**	**+1.8**
OTVZ	**Oturere**	**8.81**	**213**	P	**Pn**	**15 42 16.9**	**-0.4**
BHHZ	**Black Hill Sta**	**8.89**	**211**	P	**Pn**	**15 42 17.3**	**-1.0**
BHHZ				S	**Sn**	**15 43 52.8**	**-4.4**
KRHZ	**Kereru**	**8.89**	**209**	P	**Pn**	**15 42 14.5**	**-3.8**
KRHZ				S	**Sn**	**15 43 52.5**	**-4.6**
PXZ	**Pawanui**	**9.04**	**205**	P	**Pn**	**15 42 18.8**	**-1.5**
PXZ				S	**Sn**	**15 43 56.6**	**-4.0**
VRZ	**Vera Road**	**9.22**	**217**	P	**Pn**	**15 42 23.3**	**+0.5**
BFZ	**Birch Farm**	**9.84**	**206**	Pn	**Pn**	**15 42 27.8**	**-3.4**
THZ	**Tophouse**	**12.15**	**214**	Pn	**Pn**	**15 43 02.0**	**-0.8**
KHZ	**Kahutara**	**12.39**	**210**	Pn	Pn	15 43 00.6	-5.3
DZM	**Mont Dzumac**	**16.89**	**302**	LR	LR	15 49 10.4	
	comp=Z,127nm,20.2s,baz=244,slow=32						
HNR	**Honiara**	**30.25**	**313**	LR	LR	15 55 56.1	
	comp=Z,101nm,18.1s,baz=53,slow=32						
CTA	**Charters Tower**	**33.98**	**282**	P	**P**	**15 46 51.9**	**+0.5**
	4.8nm,0.5s,baz=104,slow=11,SNR=21						
CTAO	**Charters Tower**	**33.98**	**282**	P	**P**	**15 46 50.9**	**-0.5**
CTAO				IAmb	IAmb	15 46 53.7	
	comp=Z,6.4nm,0.7s						
STKA	**Stephens Creek**	**34.06**	**259**	P	**P**	**15 46 52.2**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=86,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**34.06**	**259**	P	**P**	**15 46 51.5**	**-0.6**
AS31	**Alice Springs**	**42.95**	**269**	P	**P**	**15 48 05.5**	**-1.2**
AS31				IAmb	IAmb	15 48 06.7	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**15 48 05.7**	**-1.1**
	comp=Z,3.9nm,0.5s,baz=106,slow=7.2,SNR=120						
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**15 48 05.3**	**-1.4**
WR0	**Warramunga Arr**	**43.90**	**274**	P	**P**	**15 48 13.2**	**-1.2**
WR0				IAmb	IAmb	15 48 14.5	
	comp=Z,15nm,1.3s						
WB2	**Warramunga Arr**	**44.07**	**274**	P	**P**	**15 48 14.6**	**-1.1**
WB2				IAmb	IAmb	15 48 15.3	
	comp=Z,12nm,0.5s						
WRA	**Warramunga Arr**	**44.08**	**274**	P	**P**	**15 48 14.7**	**-1.1**
	comp=Z,7.5nm,0.5s,baz=114,slow=7.8,SNR=137						
WRA	**Warramunga Arr**	**44.08**	**274**	P	**P**	**15 48 14.5**	**-1.3**
WB0	**Warramunga Arr**	**44.11**	**274**	P	**P**	**15 48 14.8**	**-1.2**
WB0				IAmb	IAmb	15 48 15.6	
	comp=Z,13nm,0.6s						
VNDA	**Vanda**	**46.56**	**186**	P	P	15 48 40.0	+5.3
	comp=Z,0.7nm,0.7s,baz=344,slow=7.5,SNR=2.2						
MTN	**Manton Dam**	**50.14**	**280**	P	**P**	**15 49 02.1**	**-1.0**
KNRA	**Kununurra**	**50.74**	**276**	P	**P**	**15 49 06.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.27**	**271**	P	**P**	**15 49 17.7**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=112,slow=2.6,SNR=14						
FITZ	**Fitzroy Crossi**	**52.27**	**271**	P	**P**	**15 49 18.0**	**-1.0**
FITZ				IAmb	IAmb	15 49 20.5	
	comp=Z,2.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**53.78**	**250**	LR	LR	16 10 39.5	
	comp=Z,66nm,18.9s,baz=152,slow=34						
QSPA	**South Pole Qui**	**58.17**	**180**	P	**P**	**15 50 05.5**	**+4.4**
	comp=Z,1.3nm,0.5s,baz=48,slow=5.1,SNR=5.3						
QSPA	**South Pole Qui**	**58.17**	**180**	P	**

YUK				S	**Sn**	15 44 51.6	-4.4
YUK				pmax	pmax		
	comp=Z,66nm,0.4s						
YUK				pmax	pmax		
	comp=N,37nm,0.3s						
YUK				pmax	pmax		
	comp=E,36nm,0.5s						
JNU	**Nakatsue**	**9.00 253**		LR	LR	15 47 17.7	
	comp=E,458nm,18.6s,baz=76,slow=40						
USRK	**Ussuriysk Ar.**	**10.59 322**		P	**Pn**	**15 43 52.1**	**+4.7**
	baz=144,slow=16,SNR=6.0						
USRK	**Ussuriysk Ar.**	**10.59 322**		P	**Pn**	**15 43 46.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**10.59 322**			**Pn**	**15 43 46.8**	**-0.6**
KSRS	**Korea Array**	**10.66 281**		P	**Pn**	**15 43 51.7**	**+3.3**
	comp=E,0.2nm,0.3s,baz=93,slow=14,SNR=4.4						
KSRS				LR	LR	15 47 32.9	
	comp=E,204nm,21.6s,baz=80,slow=35						
YSS	**Yuzh-Sakhalins**	**10.79**	**6**	*eP*	**Pn**	**15 43 46.0**	**-4.0**
MDJ	**Mudanjiang**	**12.14 317**		P	Pn	15 44 14.6	+6.0
MDJ				pmax	pmax		
	comp=Z,14nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,520nm,5.1s						
NJ2	**Nanjing**	**18.90 264**		*eP*	**P**	**15 45 34.0**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZEA	**Zeya**	**20.01 335**		*eP*	**P**	**15 45 46.8**	**-1.1**
PETK	**Petropavlovsk-**	**20.50**	**29**	LR	LR	15 54 14.8	
	comp=Z,44nm,21.3s,baz=183,slow=38						
HHC	**Hu-ho-hao-te**	**23.53 290**		*eP*	**P**	**15 46 24.1**	**-1.4**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,4.1s						
YAK	**Yakutsk**	**26.81 348**		P	**P**	**15 46 55.2**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=53,slow=1.7,SNR=3.2						
YAK	**Yakutsk**	**26.81 348**	⇑	*eP*	**P**	**15 46 56.5**	**+1.5**
YAK				pmax	pmax		
	comp=Z,39nm,2.5s						
YAK	**Yakutsk**	**26.81 348**		P	**P**	**15 46 54.7**	**-0.4**
YAK				IAmb	IAmb	15 47 08.3	
	comp=Z,7.8nm,0.6s						
ENH	**Enshi**	**27.05 267**		P	**P**	**15 46 56.4**	**-1.3**
ULN	**Ulaanbaatar**	**27.64 306**	⇓	*eP*	**P**	**15 47 05.1**	**+2.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
H11N2	**WAKE ISLAND Hy**	**27.94 119**		T	T	16 16 22.8	
	baz=312,slow=75,SNR=80						
H11N1	**WAKE ISLAND Hy**	**27.94 119**		T	T	16 16 28.0	
	baz=312,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy**	**27.95 119**		T	T	16 16 29.9	
	baz=312,slow=75,SNR=79						
SONM	**Songino Array**	**28.06 305**		P	**P**	**15 47 06.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=117,slow=9.8,SNR=5.4						
SONM				LR	LR	15 58 32.5	
	comp=Z,76nm,18.5s,baz=126,slow=37						
SONM	**Songino Array**	**28.06 305**		P	**P**	**15 47 05.9**	**-0.7**
H11S1	**WAKE ISLAND Hy**	**28.62 121**		T	T	16 17 17.7	
	baz=314,slow=76,SNR=298						
H11S3	**WAKE ISLAND Hy**	**28.62 121**		T	T	16 17 18.6	
	baz=314,slow=76,SNR=182						
H11S2	**WAKE ISLAND Hy**	**28.63 121**		T	T	16 17 19.5	
	baz=314,slow=76,SNR=184						
LZH	**Lanzhou**	**30.00 281**		*eP*	**P**	**15 47 23.1**	**-0.9**
LZH				pP	pP	15 47 29.4	-2.6
LZH				sP	sP	15 47 33.4	-1.9
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
GTA	**Gaotai**	**32.60 288**		*eP*	**P**	**15 47 47.5**	**+0.7**
GTA				pP	pP	15 47 52.1	-2.8
GTA				sP	sP	15 47 54.5	-3.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,6.4s						
GTA				LR	LR		
	comp=N,170nm,17.1s						
GTA				LR	LR		
	comp=E,130nm,15.6s						
GTA				LR	LR		
	comp=Z,120nm,15.6s						
SIJI	**Sorong**	**38.03 196**		P	**P**	**15 48 33.5**	**-0.1**
	comp=Z,9.1nm,0.7s,baz=103,slow=7.0,SNR=5.4						
WMQ	**Urumqi**	**41.01 298**		*eP*	**P**	**15 49 00.8**	**+2.5**
WMQ				pP	pP	15 49 04.3	-2.1
WMQ				sP	sP	15 49 09.4	-0.3
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,90nm,4.7s						
CMAR	**Chiang Mai Ar**	**41.08 256**		P	**P**	**15 48 59.9**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=52,slow=5.8,SNR=1.9						
ZAA0	**Zalesovo Array**	**42.30 313**		P	**P**	**15 49 08.4**	**-0.2**
ZALV	**Zalesovo Beam**	**42.30 313**		P	**P**	**15 49 08.9**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=98,slow=7.4,SNR=13						
ZALV				PcP	**PcP**	**15 51 00.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=64,slow=3.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.30 313**		P	**P**	**15 49 08.3**	**-0.2**
ZALV					**PcP**	**15 51 01.2**	**-0.6**
NRIK	**Noril'sk**	**43.91 336**	⇓	*eP*	**P**	**15 49 22.5**	**+1.2**
NRIK				pmax	pmax		
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**44.37 303**		*ceP*	**P**	**15 49 26.4**	**+1.0**
MK31	**Makanchi Array**	**44.37 303**		P	**P**	**15 49 25.8**	**+0.4**
MKAR	**Makanchi Array**	**44.37 303**		P	**P**	**15 49 25.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=82,slow=11,SNR=10						
MKAR				PcP	**PcP**	**15 51 09.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=90,slow=1.6,SNR=2.8						
MKAR	**Makanchi Array**	**44.37 303**		P	**P**	**15 49 25.3**	**-0.1**
MAKZ	**Makanchi**	**44.58 303**		P	**P**	**15 49 26.7**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**44.58 303**		P	**P**	**15 49 26.7**	**-0.4**
KURK	**Kurchatov**	**46.26 309**		*deP*	**P**	**15 49 40.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**46.26 309**		P	**P**	**15 49 40.1**	**-0.2**
KURK				IAmb	IAmb	15 49 41.7	
	comp=Z,9.8nm,1.0s						
SKT	**Skwentna**	**48.25**	**36**	P	**P**	**15 49 57.0**	**+1.4**
SOEI	**Soe**	**48.42 202**		P	**P**	**15 49 56.9**	**-0.7**
KDJ	**Kajisay**	**48.91 298**		P	**P**	**15 50 02.2**	**+1.0**
KDJ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KDJ	**Kajisay**	**48.91 298**		P	**P**	**15 50 02.2**	**+1.0**
KDJ				IAmb	IAmb	15 50 02.7	
	comp=Z,7.4nm,1.3s						
BATI	**Baumata**	**49.03 203**		P	**P**	**15 50 00.8**	**-1.3**
	comp=Z,19nm,0.6s,baz=35,slow=5.6,SNR=6.3						
MTN	**Manton Dam**	**49.71 193**		P	**P**	**15 50 07.5**	**+0.2**
MTN				IAmb	IAmb	15 50 08.0	
	comp=Z,8.9nm,0.8s						
MDM	**Murphy Dome**	**49.72**	**32**	P	**P**	**15 50 09.4**	**+2.6**
MDM				IAmb	IAmb	15 50 22.2	
	comp=Z,9.9nm,1.0s						
ILAR	**Eielson Array**	**50.29**	**32**	P	**P**	**15 50 13.3**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=253,slow=4.7,SNR=8.3						
ILAR	**Eielson Array**	**50.29**	**32**		**P**	**15 50 13.2**	**+2.0**
AAK	**Ala-Archa**	**50.68 299**	⇑	*eP*	**P**	**15 50 15.9**	**+1.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**51.01 313**		*deP*	**P**	**15 50 17.2**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
KK31	**Karatay Array**	**53.34 301**		P	**P**	**15 50 34.5**	**+0.2**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KK31	**Karatay Array**	**53.34 301**			**P**	**15 50 34.5**	**+0.2**
KK31				IAmb	IAmb	15 50 36.2	
	comp=Z,6.7nm,1.2s						
KKAR	**Karatay Array**	**53.34 301**		P	**P**	**15 50 34.7**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KKAR	**Karatay Array**	**53.34 301**		P	**P**	**15 50 34.6**	**+0.4**
KKAR				IAmb	IAmb	15 50 36.2	
	comp=Z,6.7nm,1.2s						
KKAR	**Karatay Array**	**53.34 301**		P	**P**	**15 50 34.5**	**+0.2**
CHGR	**Chuyangaron**	**55.82 296**		P	**P**	**15 50 51.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**55.98 198**		P	**P**	**15 50 54.1**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=38,slow=8.2,SNR=5.8						
FITZ	**Fitzroy Crossi**	**55.98 198**		P	**P**	**15 50 53.9**	**+0.3**
FITZ				IAmb	IAmb	15 51 04.5	
	comp=Z,5.7nm,1.2s						
WB0	**Warramunga Arr**	**56.05 188**		P	**P**	**15 50 53.8**	**-0.2**
WB0				IAmb	IAmb	15 50 55.4	
	comp=Z,5.0nm,1.0s						
WRAB	**Tennant Creek**	**56.22 188**	⇓	*eP*	**P**	**15 50 55.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,13nm,2.5s						
WR0	**Warramunga Arr**	**56.23 187**		P	**P**	**15 50 55.0**	**-0.3**
WR0				IAmb	IAmb	15 51 01.0	
	comp=Z,5.0nm,1.0s						
WB2	**Warramunga Arr**	**56.23 188**		P	**P**	**15 50 54.9**	**-0.4**
WB2				IAmb	IAmb	15 51 04.8	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**56.23 188**		P	**P**	**15 50 55.0**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=3.8,slow=7.4,SNR=24						
WRA	**Warramunga Arr**	**56.23 188**		P	**P**	**15 50 54.8**	**-0.6**
ARU	**Arti**	**56.82 319**	*c*	*iP*	**P**	**15 50 59.2**	**+0.1**
ARU						15 53 01.0	
ARU				S	**S**	**15 58 51.8**	**+1.3**
ARU				SS	**SS**	**16 02 35.1**	**-3.1**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**56.82 319**		P	**P**	**15 50 59.4**	**+0.3**
ARU				IAmb	IAmb	15 51 00.8	
	comp=Z,12nm,1.1s						
ABKAR	**Akbulak array**	**58.29 310**		P	**P**	**15 51 09.5**	**-0.1**
ABKAR				IAmb	IAmb	15 51 10.5	
	comp=Z,3.9nm,0.8s						
AS31	**Alice Springs**	**59.96 188**		P	**P**	**15 51 21.9**	**+0.5**
ASAR	**Alice Springs**	**59.96 188**		P	**P**	**15 51 21.2**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=13,slow=6.8,SNR=20						
KIRV	**Kirov**	**60.76 323**		*deP*	**P**	**15 51 27.1**	**+0.7**
FINES	**FINESS Array B**	**69.42 332**		P	**P**	**15 52 21.8**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=54,slow=10,SNR=10.0						
FINES	**FINESS Array B**	**69.42 332**		*i* P	**P**	**15 52 23.7**	**+1.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**69.42 332**		P	**P**	**15 52 22.0**	**-0.6**
KBZ	**Khabaz**	**71.26 311**		P	**P**	**15 52 35.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=87,slow=4.2,SNR=6.0						
KBZ	**Khabaz**	**71.26 311**	⇓	*eP*	**P**	**15 52 35.0**	**+0.8**
KVAR	**Kislovodsk Arr**	**71.26 311**		LR	LR	16 25 27.4	
	comp=Z,49nm,18.9s,baz=58,slow=37						
KIV	**Kislovodsk**	**71.27 311**		*eP*	**P**	**15 52 35.2**	**+0.8**
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
NC405	**NORSAR Array S**	**74.63 337**		P	**P**	**15 52 54.6**	**+0.7**
AKASG	**Malin Array Be**	**74.80 322**		P	**P**	**15 52 55.0**	**0.0**
	comp=Z,2.2nm,0.5s,baz=46,slow=6.0,SNR=10						
AKASG	**Malin Array Be**	**74.80 322**		P	**P**	**15 52 55.0**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**74.80 322**		P	**P**	**15 52 55.0**	**0.0**
AKBB	**Malin Array Si**	**74.80 322**	⇓	*eP*	**P**	**15 52 55.2**	**+0.2**
AKBB	**Malin Array Si**	**74.80 322**		P	**P**	**15 52 55.0**	**0.0**
NC204	**NORSAR Array S**	**74.80 338**		P	**P**	**15 52 55.9**	**+1.0**
NB2	**NORSAR Subarra**	**74.84 337**		P	**P**	**15 52 55.4**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.84 337**		P	**P**	**15 52 55.8**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=40,slow=5.8,SNR=12						
NVAR	**Mina Array Bea**	**75.65**	**53**	P	**P**	**15 53 02.1**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=294,slow=6.8,SNR=1.8						
NVAR	**Mina Array Bea**	**75.65**	**53**	P	**P**	**15 52 60.0**	**-0.5**
PDAR	**Pinedale Array**	**78.39**	**45**	P	**P**	**15 53 17.7**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=289,slow=8.5,SNR=1.7						
PDAR	**Pinedale Array**	**78.39**	**45**	P	**P**	**15 53 17.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**78.80 322**		P	**P**	**15 53 18.6**	**+0.8**
BURAR	**Bucovina Array**	**78.81 322**		P	**P**	**15 53 18.3**	**+0.5**
BRTR	**Keskin Array B**	**79.22 312**		P	**P**	**15 53 20.6**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=90,slow=3.0,SNR=6.5						
BRTR	**Keskin Array B**	**79.22 312**		P	**P**	**15 53 20.5**	**+0.2**
URZ	**Urewera**	**81.24 152**		LR	LR	16 24 16.8	
	comp=Z,74nm,20.4s,baz=30,slow=32						
CLL	**Collm**	**81.69 330**		*eP*	**P**	**15 53 33.0**	**-0.1**
	comp=Z,5.0nm,0.9s						
CLL				*e*(pP)	**sP**	**15 53 46.0**	**+1.1**
CLL	**Collm**	**81.69 330**		*eP*	**P**	**15 53 33.0**	**-0.1**
CLL				*e*		15 53 46.0	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**83.28 328**		P	**P**	**15 53 42.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=28,slow=6.0,SNR=5.1						
GERES	**GERESS Array B**	**83.28 328**		P	**P**	**15 53 42.0**	**+0.3**
LIT	**Litokhoron**	**85.40 318**		P	**P**	**15 53 52.5**	**0.0**
LIT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LIT	**Litokhoron**	**85.40 318**		P	**P**	**15 53 52.5**	**0.0**
LIT				IAmb	IAmb	15 53 53.2	
	comp=Z,5.6nm,0.8s						
PDG	**Podgorica**	**85.45 321**		P	**P**	**15 53 52.9**	**+0.3**
H03N2	**Juan Fernandez**	**147.15**	**97**	T	T	18 45 41.3	
	baz=291,slow=76,SNR=29						
H03N3	**Juan Fernandez**	**147.16**	**97**	T	T	18 45 39.4	
	baz=291,slow=76,SNR=30						
H03N1	**Juan Fernandez**	**147.17**	**97**	T	T	18 45 41.6	
	baz=291,slow=76,SNR=26						
SIV	**San Ignacio**	**151.77**	**50**	PKPbc	**PKiKP**	**16 01 11.1**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=7.7,slow=2.0,SNR=7.1						

IDC 13 15:53:53.0±4.0, 30.49N×141.07E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/34, mbtmp3.4/5, ML2.5/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/33, Error ellipse: s-maj=163.8km s-min=23.6km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.49**	**339**	Pn	Pn	15 55 30.2	+0.5
	0.1nm,0.3s,baz=157,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**47.60**	**307**	P	P	16 02 31.1	+0.5
	0.3nm,0.6s,baz=97,slow=7.8,SNR=2.9						
KURBB	**Kurchatov Arra**	**50.00**	**312**	P	P	16 02 47.7	-1.2
	0.2nm,0.4s,baz=90,slow=7.4,SNR=2.0						
WRA	**Warramunga Arr**	**50.56**	**188**	P	P	16 02 53.5	+0.1
	0.5nm,0.5s,baz=7.7,slow=7.7,SNR=6.9						
ASAR	**Alice Springs**	**54.28**	**188**	P	P	16 03 20.8	-0.2
	0.2nm,0.7s,baz=4.5,slow=6.7,SNR=8.9						
DZM	**Mont Dzumac**	**57.67**	**152**	LR	LR	16 23 33.8	
	comp=Z,195nm,20.0s,baz=140,slow=31						

*RSNC **13** 15:56:21.0±1.3, 6.29N×74.07W, h23km±3km, ML3.3, Mw3.3*
*IDC **13** 15:56:22.3±0.9, 5.74N×73.40W, h105km±8km, mb3.6/2, mb1 3.8/3, mb1mx3.2/27, mbtmp3.9/3, Error ellipse: s-maj=32.7km s-min=9.5km az=131.0*

ISC 13 15:56:20.6±1.0, 6.29N±0.02×74.06W±0.03, h45km±11km, n37, σ1°63/56, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTBC	**PUERTO BERRIO,**	**0.47**	**302**	⇓ *iP*	Pn	15 56 30.0	-1.2
PTBC				*eS*	**Sn**	**15 56 37.1**	**-1.6**
PTBC				*i*		15 56 37.6	
	comp=Z,5μm,0.1s						
SPBC	**San Pablo de B**	**0.64**	**181**	⇑ *iP*	**Pn**	**15 56 32.5**	**-0.9**
SPBC				*eS*	**Sn**	**15 56 41.0**	**-1.6**
SPBC				*i*		15 56 42.8	
	comp=Z,3μm,0.2s						
BRRC	**Barranca, Sant**	**0.88**	**23**	⇑ *iP*	**Pn**	**15 56 36.8**	**+0.2**
BRRC				*eS*	**Sn**	**15 56 49.4**	**+1.1**
BRRC				*i*		15 56 51.3	
	comp=Z,566nm,0.4s						
BARC	**Barichara**	**0.92**	**71**	*eP*	**Pn**	**15 56 38.2**	**+0.9**
BARC				*eS*	**Sn**	**15 56 50.7**	**+1.2**
RUSC	**La Rusia**	**1.05**	**112**	⇓ *iP*	**Pn**	**15 56 39.9**	**+0.6**
RUSC				*eS*	**Sn**	**15 56 54.0**	**+1.0**
RUSC				*i*		15 56 55.3	
	comp=Z,485nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.43**	**326**	*eP*	**Pn**	**15 56 43.5**	**-0.7**
ZARC				*eS*	**Sn**	**15 57 01.3**	**-0.5**
ZARC				*i*		15 57 01.9	
	comp=Z,533nm,0.3s						
ROSC	**El Rosal**	**1.47**	**190**	P	**Pn**	**15 56 45.9**	**+0.9**
	comp=Z,22nm,0.3s,baz=29,slow=3.4,SNR=48						
ROSC				S	**Sn**	**15 57 05.0**	**+1.8**
	comp=Z,132nm,0.3s,baz=357,slow=23,SNR=12						
GUY2C	**Guyana, Caldas**	**1.68**	**231**	⇓ *eP*	**Pn**	**15 56 48.5**	**+0.5**
GUY2C				*eS*	**Sn**	**15 57 08.2**	**-0.4**
GUY2C				*i*		15 57 13.1	
	comp=Z,358nm,0.5s						
CHIC	**Chingaza**	**1.68**	**169**	*eP*	**Pn**	**15 56 49.0**	**+1.1**
CHIC				*eS*	**Sn**	**15 57 09.9**	**+1.3**
CHIC				*i*		15 57 13.3	
	comp=Z,94nm,0.5s						
PAMC	**Pamplona, Colo**	**1.70**	**52**	*eP*	**Pn**	**15 56 49.6**	**+1.4**
PAMC				*eS*	**Sn**	**15 57 11.9**	**+2.9**
PAMC				*i*		15 57 14.0	
	comp=Z,325nm,0.2s						
RREF	**El Recreo**	**1.89**	**223**	*eP*	Pn	15 56 47.6	-3.3
CBOC	**Ciudad Bolivar**	**1.99**	**258**	*eP*	**Pn**	**15 56 53.0**	**+1.1**
CBOC				*eS*	**Sn**	**15 57 17.5**	**+1.7**
CBOC				*i*		15 57 20.0	
	comp=Z,98nm,0.2s						
UREC	**San Jos de Ur**	**2.06**	**315**	*eP*	**Pn**	**15 56 53.7**	**+0.9**
UREC				*eS*	**Sn**	**15 57 18.8**	**+1.5**
UREC				*i*		15 57 22.1	
	comp=Z,350nm,0.3s						
OCAC	**Ocana**	**2.07**	**21**	*eP*	**Pn**	**15 56 53.2**	**+0.2**
OCAC				*eS*	**Sn**	**15 57 19.2**	**+1.6**
OCAC				*i*		15 57 33.2	
	comp=Z,248nm,0.3s						
TOLC	**Tolima**	**2.11**	**217**	*eP*	**Pn**	**15 56 54.7**	**+1.0**
TOLC				*eS*	**Sn**	**15 57 19.2**	**+0.3**
TOLC				*i*		15 57 23.3	
	comp=Z,668nm,0.5s						
VILC	**Villavicencio,**	**2.20**	**171**	*eP*	**Pn**	**15 56 56.0**	**+1.3**
ANIL	**Santa Ana**	**2.24**	**217**	*eP*	**Pn**	**15 56 56.5**	**+1.1**
ANIL				*eS*	**Sn**	**15 57 23.1**	**+1.1**
ANIL				*i*		15 57 27.7	
	comp=Z,73nm,0.3s						
DBBC	**Dabeiba**	**2.26**	**289**	*eP*	**Pn**	**15 56 58.1**	**+2.6**
SMLC	**San Martn de**	**2.49**	**360**	*eP*	**Pn**	**15 56 57.5**	**-1.2**
PLMC	**San Jos del P**	**2.61**	**238**	*eP*	**Pn**	**15 57 02.3**	**+1.9**
PLMC				*eS*	**Sn**	**15 57 35.9**	**+5.0**
PLMC				*i*		15 57 41.2	
	comp=Z,52nm,0.3s						
ORTC	**Ortega, Tolima**	**2.65**	**207**	*eP*	**Pn**	**15 57 01.7**	**+0.8**
ORTC				*eS*	**Sn**	**15 57 33.1**	**+1.3**
ORTC				*i*		15 57 36.1	
	comp=Z,147nm,0.4s						
PRAC	**Prado**	**2.69**	**198**	*eP*	**Pn**	**15 57 02.2**	**+0.7**
PRAC				*eS*	**Sn**	**15 57 34.1**	**+1.2**
PRAC				*i*		15 57 37.1	
	comp=Z,141nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.83**	**137**	*eP*	**Pn**	**15 57 03.5**	**+0.2**
MOTC	**Monteria, Cord**	**2.94**	**327**	*eP*	**Pn**	**15 57 05.8**	**+1.0**
MOTC				*eS*	**Sn**	**15 57 41.3**	**+2.4**
MOTC				*i*		15 57 52.3	
	comp=Z,44nm,0.6s						
LCBC	**Los crdobas,**	**3.43**	**318**	*eP*	**Pn**	**15 57 12.0**	**+0.5**
SJCC	**San Jacinto, C**	**3.75**	**343**	*eP*	**Pn**	**15 57 17.3**	**+1.3**
SJCC				*eS*	**Sn**	**15 57 59.6**	**+0.7**
SJCC				*i*		15 58 03.5	
	comp=Z,76nm,0.2s						
CAPC	**Capurgana**	**4.01**	**306**	*eP*	**Pn**	**15 57 18.7**	**-0.8**
MACC	**Macarena, Meta**	**4.13**	**177**	*eP*	**Pn**	**15 57 22.2**	**+1.1**
SDV	**Santo Domingo**	**4.26**	**53**	P	**Pn**	**15 57 25.8**	**+2.7**
	comp=Z,2.9nm,0.3s,baz=243,slow=6.8,SNR=2.6						
SDV				S	**Sn**	**15 58 11.9**	**+0.1**
	comp=Z,9.5nm,0.3s,baz=73,slow=9.0,SNR=10						
SDV	**Santo Domingo**	**4.26**	**53**	*eP*	**Pn**	**15 57 23.1**	**0.0**
PCON	**Cinco Dias**	**4.58**	**211**	*eP*	**Pn**	**15 57 29.9**	**+2.0**
SMRC	**Santa Marta, M**	**4.84**	**358**	*eP*	**Pn**	**15 57 33.8**	**+2.8**
SMRC				*eS*	**Sn**	**15 58 27.5**	**+1.7**
SMRC				*i*		15 58 41.8	
	comp=Z,17nm,0.3s						
FLOC	**Florencia**	**4.94**	**199**	*eP*	**Pn**	**15 57 32.6**	**+0.2**
LPAZ	**La Paz**	**23.19**	**165**	P	P	16 01 13.2	-11
	comp=Z,1.4nm,0.6s,baz=14,slow=7.6,SNR=4.2						
YKA	**Yellowknife Ar**	**63.44**	**340**	P	**P**	**16 06 45.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=128,slow=7.2,SNR=7.8						
ASAR	**Alice Springs**	**148.05**	**234**	PKPbc	**PKPbc**	**16 15 57.9**	**-4.2**
	comp=Z,0.8nm,1.1s,baz=108,slow=3.0,SNR=2.8						
WRA	**Warramunga Arr**	**149.27**	**241**	PKPbc	**PKPdf**	**16 16 00.0**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=108,slow=2.4,SNR=1.4						

IDC 13 16:00:13.8±2.3, 7.38N×93.89E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/45, mbtmp3.4/5, ML3.9/1, Error ellipse: s-maj=88.2km s-min=25.4km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.06**	**24**	Pn	Pn	16 03 07.1	0.0
	0.2nm,0.3s,baz=208,slow=14,SNR=3.2						
H08S3	**Diego Garcia H**	**26.04**	**236**	T	T	16 32 44.9	
	baz=56,slow=74,SNR=10						
H08S2	**Diego Garcia H**	**26.04**	**235**	T	T	16 32 42.8	
	baz=56,slow=74,SNR=6.8						
H08S1	**Diego Carcia H**	**26.06**	**235**	T	T	16 32 50.1	
	baz=56						
MKAR	**Makanchi Array**	**40.51**	**348**	P	P	16 07 54.1	-0.5
	0.3nm,0.6s,baz=154,slow=8.7,SNR=2.7						
KURBB	**Kurchatov Arra**	**44.96**	**346**	P	P	16 08 30.8	+0.1
	0.4nm,0.5s,baz=175,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**48.18**	**125**	P	P	16 08 57.3	+0.9
	0.3nm,

	comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**48.64**	**261**	P		**P**	**16 21 33.6**	**-1.0**
WB2				IAmb		IAmb	16 21 34.6	
	comp=Z,16nm,1.4s							
WRA	**Warramunga Arr**	**48.65**	**261**	P		**P**	**16 21 33.5**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=97,slow=8.8,SNR=30							
WRA				PcP		**PcP**	**16 23 01.5**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=95,slow=3.3,SNR=1.3							
WRA	**Warramunga Arr**	**48.65**	**261**	P		**P**	**16 21 33.6**	**-1.2**
FORT	**Forrest**	**53.14**	**246**	P		**P**	**16 22 08.5**	**+0.1**
MTN	**Manton Dam**	**53.20**	**269**	P		**P**	**16 22 08.2**	**-0.8**
MTN				IAmb		IAmb	16 22 20.8	
	comp=Z,8.5nm,0.9s							
KNRA	**Kununurra**	**54.72**	**265**	P		**P**	**16 22 20.6**	**+0.6**
VNDA	**Vanda**	**58.66**	**186**	P		**P**	**16 22 48.2**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=346,slow=6.0,SNR=6.0							
SOEI	**Soe**	**60.53**	**270**	P		**P**	**16 22 59.2**	**-2.1**
TNTI	**Ternate**	**61.30**	**282**	P		**P**	**16 23 06.8**	**+0.4**
MMRI	**Maumere**	**62.78**	**271**	P		**P**	**16 23 14.9**	**-1.4**
QSPA	**South Pole Qui**	**69.93**	**180**	P		**P**	**16 24 02.6**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=324,slow=2.1,SNR=5.9							
MJAR	**Matsushiro Arr**	**72.39**	**321**	P		**P**	**16 24 17.8**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=141,slow=7.1,SNR=3.8							
PETK	**Petropavlovsk-**	**77.04**	**343**	P		**P**	**16 24 44.2**	**+1.2**
	comp=Z,5.5nm,0.9s,baz=133,slow=8.1,SNR=5.3							
NVAR	**Mina Array Bea**	**78.03**	**41**	P		**P**	**16 24 50.3**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=226,slow=9.4,SNR=7.5							
NJ2	**Nanjing**	**82.81**	**308**	*e*P		**P**	**16 25 13.1**	**-1.7**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
TXAR	**Lajitas Array**	**83.49**	**56**	P		**P**	**16 25 19.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=241,slow=1.9,SNR=1.6							
TXAR				LR		LR	16 56 59.5	
	comp=Z,30nm,18.2s,baz=0.0,slow=32							
ANMO	**Albuquerque**	**84.06**	**50**	P		**P**	**16 25 21.9**	**+0.4**
	comp=Z,0.1nm,0.7s,baz=245,slow=6.2,SNR=4.5							
PLCA	**Paso Flores**	**86.56**	**132**	LR		LR	17 00 31.6	
	comp=Z,66nm,18.3s,baz=157,slow=33							
ILAR	**Eielson Array**	**87.12**	**11**	P		**P**	**16 25 35.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=235,slow=5.6,SNR=4.8							
CMAR	**Chiang Mai Arr**	**93.82**	**288**	P		**P**	**16 26 10.4**	**+2.3**
	comp=Z,0.8nm,0.5s,baz=106,slow=2.9,SNR=7.8							
LZH	**Lanzhou**	**95.79**	**306**	*e*P		**P**	**16 26 16.3**	**-0.7**
LZH				pP		sP	16 26 20.3	+0.7
LZH				sP		pwP	16 26 22.4	-2.4
LZH				pmax		pmax		
	comp=Z,16nm,1.1s							
LPAZ	**La Paz**	**98.44**	**111**	LR		LR	17 04 36.1	
	comp=Z,53nm,18.1s,baz=200,slow=32							
MKAR	**Makanchi Array**	**113.89**	**313**	PKiKP		**PKiKP**	**16 31 29.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=201,slow=1.2,SNR=3.4							
MKAR	**Makanchi Array**	**113.89**	**313**			**PKiKP**	**16 31 26.1**	**-3.2**
AKASG	**Malin Array Be**	**144.53**	**335**	PKP		PKPbc	16 32 25.8	+0.4
	comp=Z,2.5nm,0.6s,baz=33,slow=4.0,SNR=12							
AKASG	**Malin Array Be**	**144.53**	**335**			**PKPab**	**16 32 25.4**	**+0.3**
BURAR	**Bucovina Array**	**148.58**	**335**	⇑P		**PKiKP**	**16 32 39.6**	**+0.6**
BRG	**Berggiesshubel**	**148.74**	**351**	*e*PKP		**PKiKP**	**16 32 38.8**	**-0.3**
	comp=Z,3.6nm,1.0s							
VRI	**Vrincioaia**	**149.33**	**331**	⇓P		**PKiKP**	**16 32 40.5**	**0.0**
BRTR	**Keskin Array B**	**149.50**	**316**	PKPbc		**PKPbc**	**16 32 40.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=147,slow=2.9,SNR=6.1							
BRTR	**Keskin Array B**	**149.50**	**316**			**PKPdf**	**16 32 32.1**	**-3.5**
MLR	**Muntele Rosu**	**149.97**	**332**	PKPbc		**PKPbc**	**16 32 41.2**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=82,slow=2.0,SNR=7.5							
MLR	**Muntele Rosu**	**149.97**	**332**			**PKPdf**	**16 32 37.4**	**+1.2**
VOIR		**150.40**	**333**	⇓P		**PKiKP**	**16 32 43.9**	**+1.1**
KHC	**Kasperske Hory**	**150.49**	**350**	*e*PKP		**PKPbc**	**16 32 40.0**	**-2.1**
ARR	**Arges**	**150.63**	**333**	⇓P		**PKiKP**	**16 32 44.8**	**+1.5**
GERES	**GERESS Array B**	**150.75**	**350**	PKPbc		**PKiKP**	**16 32 43.6**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=14,slow=1.7,SNR=5.7							
GERES	**GERESS Array B**	**150.75**	**350**			**PKPdf**	**16 32 33.3**	**-3.9**

IDC ***13*** *16:13:16.6±1.0, 60.°19S×47.°16W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/28, mbtmp4.0/5, ML4.0/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/17, Error ellipse: s-maj=35.2km s-min=25.6km az=87.0*

NEIC ***13*** *16:13:17.5±0.5, 60.°1S±0.°1×47.°5W±0.°2, h10km±1km, mb4.3/7, Error ellipse: s-maj=23.2km s-min=15.3km az=311.0*

ISC 13 16:13:17.7±0.6, 60.°08S±0.°09×47.°5W±0.°1, h10km, n25, σ0s98/19, mb4.1/6, MS3.1/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**8.32**	**51**	Pn		**Pn**	**16 15 17.9**	**-0.3**
PMSA	**Palmer Station**	**9.00**	**231**	Pn		**Pn**	**16 15 28.5**	**+1.1**
	1.6nm,0.3s,baz=27,slow=11,SNR=16							
PMSA	**Palmer Station**	**9.00**	**231**			**Pn**	**16 15 26.8**	**-0.6**
EFI	**East Falkland**	**10.30**	**320**	Pn		**Pn**	**16 15 43.6**	**-1.6**
BELA	**Belgrano 2**	**18.37**	**171**			**P**	**16 17 31.7**	**-0.4**
SNAA	**Sanae**	**20.98**	**142**	P		Pn	16 18 03.0	-0.3
	3.7nm,0.9s,baz=285,slow=13,SNR=16							
SNAA				LR		LR	16 24 14.8	
	comp=Z,53nm,21.4s,baz=21,slow=32							
SNAA	**Sanae**	**20.98**	**142**	P		**P**	**16 18 00.2**	**-0.5**
PLCA	**Paso Flores**	**24.09**	**313**	P		**P**	**16 18 35.5**	**+2.4**
	1.3nm,0.7s,baz=148,slow=9.5,SNR=3.5							
PLCA				LR		LR	16 27 38.8	
	comp=Z,55nm,18.0s,baz=162,slow=36							
PLCA	**Paso Flores**	**24.09**	**313**	P		**P**	**16 18 32.8**	**-0.4**
BI02	**San Fabin de**	**27.96**	**316**	P		**P**	**16 19 08.1**	**-0.1**
BI02				IAmb		IAmb	16 19 34.6	
	comp=Z,12nm,1.4s							
QSPA	**South Pole Qui**	**30.16**	**180**	P		**P**	**16 19 27.0**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=170,slow=4.6,SNR=12							
QSPA	**South Pole Qui**	**30.16**	**180**	P		**P**	**16 19 28.0**	**+0.4**
QSPA				IAmb		IAmb	16 19 29.2	
	comp=Z,3.0nm,0.8s							
CPUP	**Villa Florida**	**34.41**	**344**	P		**P**	**16 20 06.1**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=162,slow=3.2,SNR=1.8							
MAW	**Mawson**	**42.91**	**148**	LR		LR	16 38 17.9	
	comp=Z,90nm,18.1s,baz=66,slow=35							
SAML	**Samuel**	**52.37**	**340**	P		**P**	**16 22 29.8**	**0.0**
SAML				IAmb		IAmb	16 22 33.4	
	comp=Z,2.8nm,0.8s							
H10N3	**ASCENSION HYDR**	**57.73**	**40**	T		T	17 26 16.9	
	baz=196,slow=74,SNR=4.2							
H10N1	**ASCENSION HYDR**	**57.73**	**40**	T		T	17 26 26.3	
	baz=196							
H10N2	**ASCENSION HYDR**	**57.74**	**40**	T		T	17 26 29.5	
	baz=196,slow=74,SNR=1.9							
TORD	**Torodi Ar. Bea**	**82.89**	**48**	P		**P**	**16 25 43.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=207,slow=5.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**82.89**	**48**	P		**P**	**16 25 42.6**	**+0.4**
ILAR	**Eielson Array**	**144.78**	**313**	PKP		**PKPdf**	**16 32 53.3**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=162,slow=2.4,SNR=22							
ILAR	**Eielson Array**	**144.78**	**313**			PKPbc	16 32 52.6	+0.5
BVAR	**Borovoye Array**	**146.21**	**74**	PKPbc		**PKPbc**	**16 32 56.7**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=217,slow=19,SNR=8.9							
MKAR	**Makanchi Array**	**148.10**	**92**	PKPbc		**PKPbc**	**16 33 01.4**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=219,slow=1.7,SNR=10							
MKAR	**Makanchi Array**	**148.10**	**92**			**PKPdf**	**16 33 00.1**	**+0.8**

REY ***13*** *16:15:00.1, 64.°62N×17.°35W, h10km*

IDC ***13*** *16:15:01.1±0.5, 64.°57N×17.°52W, h0km, mb4.0/20, mb1 4.2/23, mb1mx3.9/63, mbtmp4.0/23, ML3.4/3, MS3.5/19, Ms1 3.5/19, ms1mx3.2/50, Error ellipse: s-maj=18.5km s-min=8.4km az=16.0*

NEIC ***13*** *16:15:01.4±1.8, 64.°56N±0.°03×17.°8W±0.°2, h10km±1km, mb4.5/71, Error ellipse: s-maj=13.2km s-min=5.0km az=78.0*

MOS ***13*** *16:15:01.2±0.9, 64.°63N×17.°33W, h10km, mb4.6/28, Error ellipse: s-maj=13.3km s-min=8.4km az=118.4*

ISC 13 16:15:02.1±0.4, 64.°58N±0.°03×17.°39W±0.°03, h9km, n263, σ1s52/226, mb4.4/82, MS3.3/23, 10C-10D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDJK	**Dyngjujokull**	**0.10**	**138**	P		**Pg**	**16 15 03.1**	**-1.5**
	baz=157							
IGRF	**Grimsfjall**	**0.18**	**163**	P		**Pg**	**16 15 04.6**	**-1.3**
	baz=170							
IVON	**Vonarskard**	**0.18**	**301**	P		**Pg**	**16 15 04.1**	**-1.8**
	baz=287							
IDYN	**Dyngjuhals**	**0.21**	**3**	P		Pg	16 15 03.6	-2.9
	baz=358							
IHUS	**Husbondi**	**0.31**	**202**	P		**Pg**	**16 15 06.9**	**-1.3**
	baz=202							
IVOT	**Vottur**	**0.32**	**164**	P		**Pg**	**16 15 07.1**	**-1.3**
	baz=168							
ISKR	**Skrokkalda**	**0.43**	**268**	P		**Pg**	**16 15 08.4**	**-2.1**
	baz=263							
IJOK	**Jokulheimar**	**0.45**	**234**	P		**Pg**	**16 15 08.9**	**-1.9**
	baz=231							
IJOK				S		**Sg**	**16 15 16.3**	**-0.4**
	baz=231							
IKRE	**Kreppuhraun**	**0.48**	**64**	P		Pg	16 15 08.5	-2.9
	baz=68							
IASK	**Askja**	**0.57**	**33**	P		Pg	16 15 09.7	-3.5
	baz=34							
IKSK	**Karasker**	**0.58**	**136**	P		**Pg**	**16 15 10.6**	**-2.6**
	baz=140							
IIEY	**Innrieyrar**	**0.58**	**214**	P		**Pg**	**16 15 11.2**	**-2.1**
	baz=213							
IIEY				S		**Sg**	**16 15 20.7**	**-0.2**
	baz=213							
IMKO	**Mokollar**	**0.60**	**48**	P		Pg	16 15 10.5	-3.2
	baz=50							
IMKO				S		**Sg**	**16 15 18.9**	**-2.8**
	baz=50							
IKAL	**Kalfafell**	**0.65**	**192**	P		**Pg**	**16 15 12.4**	**-2.1**
	baz=192							
IKAL				S		**Sg**	**16 15 23.0**	**+0.1**
	baz=192							
IVSH	**V-Sauoahnukur**	**0.75**	**71**	P		Pg	16 15 13.1	-3.4
	baz=74							
ISVA	**Svartarkot**	**0.76**	**4**	P		Pg	16 15 12.9	-3.9
	baz=3.2							
IVAT	**Vatnsfell**	**0.77**	**240**	P		**Pg**	**16 15 14.3**	**-2.6**
	baz=238							
IADA	**Aoalbol**	**0.89**	**59**	P		Pg	16 15 15.2	-4.0
	baz=62							
IADA				S		**Sg**	**16 15 27.2**	**-3.6**
	baz=62							
IHVE	**Hveravellir**	**0.98**	**288**	P		Pg	16 15 17.1	-3.8
	baz=286							
IMEL	**Melhnausar**	**1.04**	**17**	P		Pg	16 15 17.4	-4.7
	baz=17							
ISLY	**Slysaalda**	**1.07**	**226**	P		**Pg**	**16 15 19.7**	**-2.9**
	baz=225							
IREN	**Reynihlio**	**1.09**	**11**	P		Pg	16 15 18.3	-4.7
	baz=10							
IRJU	**Rjupnafell**	**1.12**	**211**	P		**Pg**	**16 15 20.9**	**-2.6**
	baz=210							
IFED	**Fedgar**	**1.15**	**242**	P		Pg	16 15 20.8	-3.3
	baz=241							
IKVO	**Krokottuvotn**	**1.16**	**10**	P		Pb	16 15 19.3	-5.0
	baz=10.0							
IMJO	**Mjoaskard**	**1.19**	**238**	P		Pb	16 15 21.2	-3.6
	baz=237							
IGRS	**Grimsstaoir**	**1.19**	**26**	P		Pn	16 15 20.1	-4.8
	baz=26							
IHVO	**Lagu-Hvolar**	**1.24**	**212**	P		**Pb**	**16 15 23.0**	**-2.6**
	baz=212							
IHAU	**Haukadalur**	**1.28**	**243**	P		Pn	16 15 22.8	-3.2
	baz=241							
ISKI	**Skildingahlsh**	**1.31**	**7**	P		Pn	16 15 21.6	-4.9
	baz=6.0							
IALF	**Alftagrof**	**1.35**	**217**	P		**Pn**	**16 15 24.2**	**-2.8**
	baz=216							
IESK	**Eystri-Skogar**	**1.39**	**222**	P		**Pn**	**16 15 24.8**	**-2.8**
	baz=221							
IDIM	**Dimmadalss**	**1.40**	**8**	P		Pn	16 15 23.5	-4.3
	baz=7.2							
IMID	**Miomork**	**1.43**	**231**	P		**Pn**	**16 15 25.6**	**-2.6**
	baz=230							
ISAU	**Saurbar**	**1.45**	**247**	P		Pn	16 15 25.1	-3.2
	baz=246							
IHED	**Heoinshofoi**	**1.51**	**1**	P		Pn	16 15 24.9	-4.4
	baz=0.6							
IBRE	**Brettingsstaoi**	**1.57**	**352**	P		Pn	16 15 25.9	-4.2
	baz=351							
IGIL	**Gilhagi**	**1.57**	**16**	P		Pn	16 15 25.6	-4.4
	baz=16							
ISIG	**Siglufjorour**	**1.69**	**338**	P		Pn	16 15 27.8	-3.8
	baz=337							
IKRO	**Krokur**	**1.69**	**255**	P		**Pn**	**16 15 29.1**	**-2.7**
	baz=254							
BORG	**Borgarnes**	**1.70**	**278**	Pg		Pn	16 15 29.0	-2.9
	56nm,0.3s,baz=102,slow=8.2,SNR=168							
BORG				Lg		Lg	16 15 51.3	
	25nm,0.3s,baz=232,slow=24,SNR=9.4							
BORG	**Borgarnes**	**1.70**	**278**	P		Pn	16 15 29.0	-2.9
BORG	**Borgarnes**	**1.70**	**278**	Pn		Pn	16 15 28.3	-3.6
IHEI	**Heidarbar**	**1.71**	**259**	P		**Pn**	**16 15 29.9**	**-2.2**
	baz=258							
IBJA	**Bjarnastaoir**	**1.82**	**251**	P		**Pn**	**16 15 31.4**	**-2.1**
	baz=250							
ISAN	**Sandskeio**	**1.90**	**256**	P		**Pn**	**16 15 32.5**	**-2.0**
	baz=255							
IHRN	**Hraun**	**1.92**	**325**	P		Pn	16 15 31.4	-3.5
	baz=323							
IKUD	**Kuludalsa**	**1.96**	**264**	P		**Pn**	**16 15 33.2**	**-2.2**
	baz=263							
IVOS	**Vogsosar**	**2.02**	**251**	P		**Pn**	**16 15 34.9**	**-1.4**
	baz=250							
IKAS	**Kald??rsel**	**2.02**	**256**	P		**Pn**	**16 15 34.5**	**-1.7**
	baz=255							
IKRI	**Krysuvik**	**2.17**	**253**	P		**Pn**	**16 15 37.0**	**-1.3**
	baz=252							
JMIC	**Jan Mayen**	**7.25**	**24**	LR		LR	16 19 09.2	
	comp=Z,173nm,18.2s,baz=237,slow=34							
EKA	**Eskdalemuir Ar**	**11.66**	**136**	Pn		**Pn**	**16 17 47.2**	**-1.3**
	baz=328,slow=13,SNR=13							
ESK	**Eskdalemuir**	**11.66**	**136**	P		**Pn**	**16 17 49.2**	**+0.8**
ESK	**Eskdalemuir**	**11.66**	**136**	Pn		**Pn**	**16 17 49.2**	**+0.8**
NC204	**NORSAR Array S**	**13.18**	**92**	Pn		Pn	16 18 04.5	-4.7
NOA	**NORSAR Array B**	**13.48**	**92**	Pn		Pn	16 18 10.1	-3.2
	0.0nm,0.3s,baz=299,slow=13,SNR=4.7							
SFJD	**Kangerlussuaq**	**13.75**	**295**	LR		LR	16 23 08.6	
	comp=Z,196nm,19.9s,baz=96,slow=36							
HFS	**Hagfors**	**14.99**	**93**	Pn		**Pn**	**16 18 31.2**	**-2.7**
	0.1nm,0.3s,baz=272,slow=11,SNR=1.8							
HFS				LR		LR	16 24 09.9	
	comp=Z,146nm,20.7s,baz=307,slow=36							
MEM	**Membach**	**18.62**	**128**	P		**P**	**16 19 20.1**	**+0.5**
FINES	**FINESS Array B**	**19.68**	**79**	P		**P**	**16 19 31.2**	**+0.3**
	0.1nm,0.3s,baz=324,slow=9.4,SNR=6.3							
FINES				LR		LR	16 27 09.3	
	comp=Z,76nm,20.6s,baz=293,slow=37							
CLL	**Collm**	**20.62**	**116**	⇓*i*P		**P**	**16 19 42.1**	**+0.8**
	comp=Z,26nm,1.4s							
CLL				*i*			16 19 53.9	
CLL				*e*PPP		PPP	16 20 06.0	
CLL	**Collm**	**20.62**	**116**	P		**P**	**16 19 42.5**	**+1.2**
CLL				pmax		pmax		
	comp=Z,31nm,1.5s							
CLL	**Collm**	**20.62**	**116**	P		**P**	**16 19 42.5**	**+1.2**
CLL				IAmb		IAmb	16 19 43.5	
	comp=Z,31nm,1.5s							
LVZ	**Lovozero**	**20.70**	**58**	⇑*e*P		**P**	**16 19 38.4**	**-3.7**
LVZ				pmax		pmax		
	comp=Z,11nm,0.9s							
ECH	**Echery**	**21.06**	**129**	P		**P**	**16 19 47.5**	**+1.3**
ECH				pmax		pmax		
	comp=Z,15nm,1.1s							
ECH	**Echery**	**21.06**	**129**	P		**P**	**16 19 47.5**	**+1.3**
NKC	**Novy Kostel**	**21.27**	**118**	*e*P		**P**	**16 19 52.8**	**+4.5**
NKC				AMS		AMS	16 27 30.0	
	comp=Z,100nm,17.7s							
NKC	**Novy Kostel**	**21.27**	**118**	*e*P		**P**	**16 19 52.8**	**+4.5**
NKC				MLR		MLR		
	comp=Z,100nm,17.7s							
STU	**Stuttgart**	**21.28**	**125**	P		**P**	**16 19 49.9**	**+1.4**
STU				pmax		pmax		
	comp=Z,57nm,1.4s							
STU	**Stuttgart**	**21.28**	**125**	P		**P**	**16 19 49.9**	**+1.4**
BRG	**Berggiesshubel**	**21.33**	**115**	*i* P		**P**	**16 19 49.9**	**+0.8**
	comp=Z,20nm,1.2s							
BRG	**Berggiesshubel**	**21.33**	**115**	*i* P		**P**	**16 19 49.8**	**+0.8**
BRG				pmax		pmax		
	comp=Z,20nm,1.2s							
BFO	**Black Forest**	**21.36**	**127**	P		**P**	**16 19 50.9**	**+1.6**
BFO				pmax		pmax		
	comp=Z,16nm,1.0s							
BFO	**Black Forest**	**21.36**	**127**	P		**P**	**16 19 50.9**	**+1.6**
BFO				IAmb		IAmb	16 19 52.0	
	comp=Z,16nm,1.0s							
VSU	**Vasula**	**21.53**	**86**	*de*P		**P**	**16 19 50.6**	**-0.4**
VSU				pmax		pmax		
	comp=Z,25nm,0.9s							
FRB	**Frobisher Bay**	**21.82**	**291**	LR		LR	16 27 37.8	
	comp=Z,89nm,20.7s,baz=331,slow=35							
PRU	**Pruhonice**	**22.27**	**116**	*e*S		**S**	**16 24 10.4**	**+6.6**
PRU				AMS		AMS	16 28 00.0	
	comp=Z,100nm,14.9s							
KSP	**Ksiaz**	**22.29**	**112**	*e*P		**P**	**16 20 00.1**	**+0.9**
CHVC	**Chvalec**	**22.39**	**113**	*e*P		**P**	**16 20 02.9**	**+2.5**
GOPC	**GO Pecny, Ondr**	**22.42**	**116**	*e*P		**P**	**16 20 01.6**	**+0.9**
GOPC				*e*S		Sn	16 24 16.9	-2.3
GOPC	**GO Pecny, Ondr**	**22.42**	**116**	*e*P		**P**	**16 20 01.6**	**+0.9**
UPC	**Upice**	**22.44**	**113**	*e*S		Sn	16 24 16.5	-3.0
UPC				AMS		AMS	16 28 20.0	
	comp=Z,100nm,21.6s							
OSTC	**Ostas**	**22.48**	**113**	*e*P		**P**	**16 20 02.7**	**+1.4**
OSTC				*e*S		Sn	16 24 18.7	-1.8
OSTC				AMS		AMS	16 27 50.0	
	comp=Z,100nm,20.9s							
KHC	**Kasperske Hory**	**22.59**	**118**	*e*P		**P**	**16 20 03.3**	**+0.7**
KHC				*e*S		Sn	16 24 19.4	-3.9
KHC				AMS		AMS	16 28 10.0	
	comp=Z,100nm,18.4s							
KHC	**Kasperske Hory**	**22.59**	**118**	*de*P		**P**	**16 20 03.0**	**+0.4**
KHC				pmax		pmax		
	comp=Z,13nm,1.0s							
KHC	**Kasperske Hory**	**22.59**	**118**	P		**P**	**16 20 02.9**	**+0.3**
DPC	**Dobruska-Polom**	**22.68**	**113**	*e*P		**P**	**16 20 04.3**	**+0.8**
DPC				AMS		AMS	16 29 30.0	
	comp=Z,100nm,17.9s							
DPC	**Dobruska-Polom**	**22.68**	**113**	*e*P		**P**	**16 20 04.3**	**+0.8**
DPC				MLR		MLR		
	comp=Z,100nm,17.9s							
DAVA	**Damuels**	**22.79**	**126**	*e*P		**P**	**16 20 05.9**	**+1.1**
	comp=Z,11nm,1.7s							
SUW	**Suwalki**	**22.82**	**98**	*e*P		**P**	**16 20 05.3**	**+0.4**
SUW	**Suwalki**	**22.82**	**98**	P		**P**	**16 20 05.5**	**+0.6**
SUW				pmax		pmax		
	comp=Z,31nm,1.2s							
SUW	**Suwalki**	**22.82**	**98**	P		**P**	**16 20 05.5**	**+0.6**
SUW				IAmb		IAmb	16 20 20.9	
	comp=Z,31nm,1.2s							
SSB	**Saint Sauveur**	**22.85**	**137**			**P**	**16 20 05.6**	**+0.3**
SSB	**Saint Sauveur**	**22.85**	**137**	P		**P**	**16 20 04.7**	**-0.6**
SSB				IAmb		IAmb	16 20 14.8	
	comp=Z,10nm,1.1s							
GEC2	**GERESS Array S**	**22.87**	**119**	P		**P**	**16 20 06.6**	**+1.0**
GEC2				IAmb		IAmb	16 20 08.4	
	comp=Z,19nm,1.4s							
GERES	**GERESS Array B**	**22.87**	**119**	P		**P**	**16 20 06.7**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=331,slow=7.6,SNR=13							
GERES				LR		LR	16 29 34.1	
	comp=Z,162nm,21.4s,baz=276,slow=38							
RETA	**Reutte**	**22.93**	**125**	*e*P		**P**	**16 20 07.4**	**+1.3**
	comp=Z,11nm,1.2s							
MOTA	**Moosalm**	**23.17**	**124**	*e*P		**P**	**16 20 10.2**	**+1.4**
	comp=Z,12nm,1.4s							
TREC	**Trest**	**23.19**	**116**	*e*P		**P**	**16 20 10.1**	**+1.3**
TREC	**Trest**	**23.19**	**116**	*e*P		**P**	**16 20 10.1**	**+1.3**
DAVOX	**Davos/Dischmat**	**23.23**	**127**	P		**P**	**16 20 10.9**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=327,slow=12,SNR=4.5							
DAVOX				LR		LR	16 29 11.8	
	comp=Z,59nm,19.5s,baz=89,slow=37							
FETA	**Feichten**	**23.32**	**125**	P		**P**	**16 20 11.4**	**+1.2**
	comp=Z,15nm,1.3s							
SQTA	**Sankt Quirin**	**23.32**	**124**	*e*P		**P**	**16 20 11.7**	**+1.5**
	comp=Z,17nm,1.3s							
WATA	**Walderalm**	**23.35**	**124**	*e*P		**P**	**16 20 11.9**	**+1.4**
	comp=Z,17nm,1.6s							
WTTA	**Wattenberg**	**23.43**	**124**	*e*P		**P**	**16 20 12.8**	**+1.4**
	comp=Z,16nm,1.5s							
VRAC	**Vranov**	**23.61**	**114**	P		**P**	**16 20 13.5**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=328,slow=10,SNR=7.1							
VRAC	**Vranov**	**23.61**	**114**	*e*P		**P**	**16 20 13.9**	**+0.9**
MORC	**Moravsky Berou**	**23.62**	**112**	*e*P		**P**	**16 20 13.1**	**0.0**
MORC	**Moravsky Berou**	**23.62**	**112**	P		**P**	**16 20 13.2**	**+0.1**
MORC				pmax		pmax		
	comp=Z,8.0nm,1.3s							
MORC	**Moravsky Berou**	**23.62**	**112**	P		**P**	**16 20 13.2**	**+0.1**
KRUC	**Moravsky**	**23.73**	**115**	*e*P		**P**	**16 20 14.6**	**+0.4**
NACGM	**Naroch**	**23.77**	**93**	*e*		**P**	**16 20 15.0**	**+0.6**
EUNU	**Eureka**	**23.77**	**336**	P		**P**	**16 20 16.3**	**+2.0**
EUNU				IAmb		IAmb	16 20 18.6	
	comp=Z,14nm,0.8s							
OJC	**Ojcow**	**24.19**	**109**	*e*P		**P**	**16 20 18.8**	**+0.4**
JAVC	**Velka Javorina**	**24.40**	**113**	*e*P		**P**	**16 20 22.4**	**+1.9**
CONA	**Conrad

IDI	**Anoyia**	**38.74**	**118**	P		**P**		**16 22 25.6**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=336,slow=10,SNR=5.0								
KIV	**Kislovodsk**	**38.79**	**92**	*e*P		**P**		**16 22 26.0**	**-0.7**
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
KIV				MLR		MLR			
	comp=Z,88nm,16.0s								
KVAR	**Kislovodsk Arr**	**38.80**	**92**	LR		LR		16 38 31.5	
	comp=Z,48nm,21.0s,baz=303,slow=36								
KBZ	**Khabaz**	**39.06**	**92**	P		**P**		**16 22 31.2**	**+2.4**
	comp=Z,1.9nm,0.8s,baz=279,slow=5.3,SNR=4.0								
KBZ				LR		LR		16 39 10.1	
	comp=Z,50nm,21.3s,baz=336,slow=37								
KBZ	**Khabaz**	**39.06**	**92**	*de*P		**P**		**16 22 30.6**	**+1.7**
KBZ				pmax		pmax			
	comp=Z,4.0nm,1.0s								
YKA	**Yellowknife Ar**	**39.31**	**313**	P		**P**		**16 22 31.4**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=40,slow=9.1,SNR=6.0								
KOPT	**Kop Dagi**	**41.06**	**98**	P		**P**		**16 22 44.5**	**-1.4**
KOPT				IAmb		IAmb		16 22 57.1	
	comp=Z,8.1nm,1.1s								
ABKAR	**Akbulak array**	**41.97**	**73**	P		**P**		**16 22 53.4**	**+0.6**
GAZ	**Gaziantep**	**42.06**	**104**	P		**P**		**16 22 52.9**	**-0.9**
TIXI	**Tiksi**	**42.10**	**15**⇓	*e*P		**P**		**16 22 55.0**	**+1.3**
TOLK	**Toolik Lake Re**	**42.85**	**336**	P		**P**		**16 23 02.5**	**+2.7**
TOLK				IAmb		IAmb		16 23 07.5	
	comp=Z,11nm,1.0s								
BMAR	**Burnt Mountain**	**43.00**	**333**	P		**P**		**16 22 59.8**	**-1.2**
BRVK	**Borovoye**	**43.13**	**62**⇓	*e*P		**P**		**16 23 02.8**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
BRVK	**Borovoye**	**43.13**	**62**	P		**P**		**16 23 02.9**	**+0.7**
BVAR	**Borovoye Array**	**43.20**	**62**	P		**P**		**16 23 03.7**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=234,slow=12,SNR=7.4								
MARD	**Mardin**	**43.45**	**100**	P		**P**		**16 23 06.2**	**+1.1**
MARD				IAmb		IAmb		16 23 08.4	
	comp=Z,12nm,1.1s								
GEVA	**Gevas**	**43.58**	**97**	P		**P**		**16 23 05.7**	**-0.6**
GEVA				IAmb		IAmb		16 23 11.8	
	comp=Z,6.9nm,1.1s								
N49A	**Columbus Grove**	**44.15**	**271**	P		**P**		**16 23 09.9**	**-0.7**
N49A				IAmb		IAmb		16 23 14.0	
	comp=Z,11nm,0.9s								
DAWY	**Dawson**	**44.80**	**328**	P		**P**		**16 23 14.7**	**-0.9**
DAWY				IAmb		IAmb		16 23 18.9	
	comp=Z,16nm,1.4s								
ILAR	**Eielson Array**	**45.79**	**333**	P		**P**		**16 23 24.9**	**+1.5**
	comp=Z,4.0nm,1.2s,baz=24,slow=6.9,SNR=14								
ILAR				PcP		**PcP**		**16 25 00.9**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=305,slow=2.5,SNR=6.2								
ILAR				LR		LR		16 44 29.2	
	comp=Z,38nm,18.2s,baz=4.5,slow=39								
ILAR	**Eielson Array**	**45.79**	**333**	P		**P**		**16 23 23.7**	**+0.4**
ILAR	**Eielson Array**	**45.79**	**333**	P		**P**		**16 23 23.7**	**+0.4**
MDM	**Murphy Dome**	**45.88**	**333**	P		**P**		**16 23 26.6**	**+2.5**
COLA	**College**	**45.88**	**333**⇓	*e*P		**P**		**16 23 23.5**	**-0.5**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
COLA	**College**	**45.88**	**333**	P		**P**		**16 23 22.9**	**-1.2**
IMAR	**Indian Mountai**	**45.96**	**337**	P		**P**		**16 23 26.7**	**+2.0**
BILL	**Bilibino**	**47.64**	**358**	*i* P		**P**		**16 23 37.4**	**-0.4**
BILL				*i*				16 25 09.1	
BILL				pmax		pmax			
	comp=Z,7.0nm,1.4s								
ZAA0	**Zalesovo Array**	**47.65**	**51**	P		**P**		**16 23 37.9**	**-0.2**
ZAA0				IAmb		IAmb		16 23 42.2	
	comp=Z,3.8nm,1.1s								
ZALV	**Zalesovo Beam**	**47.65**	**51**	P		**P**		**16 23 37.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=0.0,slow=3.3,SNR=2.3								
ZALV	**Zalesovo Beam**	**47.65**	**51**	P		**P**		**16 23 37.8**	**-0.2**
ZALV	**Zalesovo Beam**	**47.65**	**51**	P		**P**		**16 23 37.8**	**-0.2**
KURK	**Kurchatov**	**48.12**	**58**⇑	*e*P		**P**		**16 23 42.1**	**+0.5**
KURK				pmax		pmax			
	comp=Z,8.0nm,1.7s								
KURK	**Kurchatov**	**48.12**	**58**	P		**P**		**16 23 42.2**	**+0.5**
KURK				IAmb		IAmb		16 23 47.4	
	comp=Z,6.2nm,1.2s								
T47A	**Sharon Grove**	**48.69**	**271**	P		**P**		**16 23 48.2**	**+2.0**
EGMT	**Eagleton**	**48.96**	**297**	P		**P**		**16 23 49.7**	**+1.4**
GEYT	**Alibeck**	**50.39**	**84**	P		**P**		**16 23 60.0**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=339,slow=3.6,SNR=1.5								
SVW2	**Sparrevohn**	**50.79**	**335**	P		**P**		**16 24 04.5**	**+2.5**
HRY	**Holter Researc**	**50.84**	**298**	P		**P**		**16 24 04.8**	**+2.1**
KK31	**Karatay Array**	**51.26**	**70**	P		**P**		**16 24 06.8**	**+1.1**
KK31				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KK31	**Karatay Array**	**51.26**	**70**	P		**P**		**16 24 06.8**	**+1.1**
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**		**16 24 07.0**	**+1.2**
KKAR				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**		**16 24 07.0**	**+1.2**
YNE	**Yellowstone No**	**51.55**	**295**	P		**P**		**16 24 09.8**	**+1.6**
BOZ	**Bozeman (W)**	**51.69**	**297**	P		**P**		**16 24 10.4**	**+1.3**
BOZ				pmax		pmax			
	comp=Z,11nm,1.3s								
BOZ	**Bozeman (W)**	**51.69**	**297**	P		**P**		**16 24 10.4**	**+1.3**
BOZ				IAmb		IAmb		16 24 12.9	
	comp=Z,11nm,1.2s								
DGZ	**Jazzator, Alta**	**52.10**	**53**⇑	*e*P		**P**		**16 24 13.6**	**+1.5**
DGZ				pmax		pmax			
	comp=Z,2.0nm,1.1s								
H17A	**Grant Village**	**52.29**	**295**	P		**P**		**16 24 14.6**	**+0.9**
H17A				IAmb		IAmb		16 24 20.2	
	comp=Z,4.8nm,1.0s								
YPP	**Pitchstone Pla**	**52.48**	**295**	P		**P**		**16 24 17.5**	**+2.3**
MK31	**Makanchi Array**	**52.73**	**58**⇑	*e*P		**P**		**16 24 14.7**	**-2.0**
MK31	**Makanchi Array**	**52.73**	**58**	P		**P**		**16 24 14.3**	**-2.4**
MKAR	**Makanchi Array**	**52.73**	**58**	P		**P**		**16 24 15.6**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=326,slow=5.1,SNR=3.8								
MKAR	**Makanchi Array**	**52.73**	**58**	*i* P		**P**		**16 24 18.1**	**+1.4**
MKAR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
T35A	**Sooner Cattle**	**52.79**	**279**	P		P		16 24 13.2	-4.0
T35A				IAmb		IAmb		16 24 15.0	
	comp=Z,6.1nm,0.8s								
MCMT	**McKenzie Canyo**	**52.80**	**297**	P		P		16 24 14.6	-2.9
TOA0	**Torodi Ar. Sit**	**53.04**	**157**	P		**P**		**16 24 18.8**	**-0.4**
TOA0				IAmb		IAmb		16 24 44.4	
	comp=Z,4.6nm,1.1s								
TORD	**Torodi Ar. Bea**	**53.04**	**157**	P		**P**		**16 24 19.2**	**0.0**
	comp=Z,4.5nm,1.1s,baz=337,slow=5.0,SNR=9.0								
TORD	**Torodi Ar. Bea**	**53.04**	**157**	P		**P**		**16 24 19.1**	**-0.1**
KAN13	**South Haven SW**	**53.12**	**280**	P		**P**		**16 24 21.0**	**+1.4**
KAN08	**Anthony NE Sta**	**53.15**	**280**	P		**P**		**16 24 19.4**	**-0.4**
AAK	**Ala-Archa**	**53.25**	**67**⇑	*e*P		**P**		**16 24 22.7**	**+2.0**
AAK				pmax		pmax			
	comp=Z,18nm,1.7s								
BW06	**Boulder Array**	**53.26**	**293**	P		**P**		**16 24 21.0**	**+0.2**
BW06				IAmb		IAmb		16 24 23.0	
	comp=Z,4.5nm,0.8s								
PD31	**Pinedale Array**	**53.26**	**293**	P		**P**		**16 24 21.7**	**+0.8**
PD31				IAmb		IAmb		16 24 23.0	
	comp=Z,4.2nm,0.8s								
PDAR	**Pinedale Array**	**53.26**	**293**	P		**P**		**16 24 20.6**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=65,slow=6.7,SNR=13								
PDAR				LR		LR		16 47 31.3	
	comp=Z,50nm,20.3s,baz=354,slow=37								
PDAR	**Pinedale Array**	**53.26**	**293**	P		**P**		**16 24 20.5**	**-0.4**
QUOK	**Quay**	**53.50**	**278**	P		**P**		**16 24 19.8**	**-2.6**
BTK	**Batken**	**53.94**	**72**	P		**P**		**16 24 26.7**	**+1.0**
BTK				pmax		pmax			
	comp=Z,11nm,1.2s								
BTK	**Batken**	**53.94**	**72**	P		**P**		**16 24 26.7**	**+1.0**
CHGR	**Chuyangaron**	**54.44**	**74**	P		**P**		**16 24 30.4**	**+1.0**
GAR	**Garm**	**54.63**	**73**	P		**P**		**16 24 32.2**	**+1.4**
HWUT	**Hardware Ranch**	**55.03**	**294**	P		**P**		**16 24 32.2**	**-1.5**
HWUT				IAmb		IAmb		16 24 37.3	
	comp=Z,6.6nm,0.9s								
RDMU	**Red Mountain**	**55.12**	**292**	P		**P**		**16 24 31.9**	**-2.5**
HRA	**Herat**	**55.16**	**82**	P		**P**		**16 24 34.7**	**-0.1**
S22A	**4UR Ranch, Cre**	**56.41**	**288**	P		**P**		**16 24 41.9**	**-2.0**
SRU	**San Rafael Swe**	**56.74**	**292**	P		**P**		**16 24 46.2**	**+0.2**
SRU				pmax		pmax			
	comp=Z,4.0nm,0.8s								
SRU	**San Rafael Swe**	**56.74**	**292**	P		**P**		**16 24 46.2**	**+0.2**
PV02	**Paradox Valley**	**56.80**	**290**	P		**P**		**16 24 47.4**	**+0.9**
PV02				IAmb		IAmb		16 24 49.4	
	comp=Z,6.6nm,0.9s								
PV03	**Paradox Valley**	**56.80**	**290**	P		**P**		**16 24 46.5**	**0.0**
PV03				IAmb		IAmb		16 24 50.6	
	comp=Z,3.8nm,0.9s								
PV18	**Skein Mesa, Pa**	**56.83**	**290**	P		**P**		**16 24 47.4**	**+0.7**
PV18				IAmb		IAmb		16 24 52.7	
	comp=Z,7.1nm,0.9s								
PV13	**Radium Mtn., P**	**56.87**	**290**	P		**P**		**16 24 47.9**	**+0.9**
ELK	**Elko**	**57.20**	**296**	P		**P**		**16 24 50.6**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=343,slow=7.1,SNR=3.1								
MSU	**Marysvale**	**57.92**	**293**	P		**P**		**16 24 56.4**	**+2.0**
MSU	**Marysvale**	**57.92**	**293**	P		**P**		**16 24 56.4**	**+2.0**
MVU	**Marysvale**	**57.94**	**293**	P		**P**		**16 24 56.0**	**+1.5**
MTPU	**Mount Pierson**	**58.33**	**292**	P		**P**		**16 24 59.4**	**+2.0**
R11A	**Troy Canyon, C**	**59.40**	**295**	P		**P**		**16 25 06.6**	**+1.9**
R11A				IAmb		IAmb		16 25 09.0	
	comp=Z,2.8nm,1.1s								
KNB	**Kanab**	**59.47**	**292**	P		**P**		**16 25 06.1**	**+1.0**
KNB				pmax		pmax			
	comp=Z,7.0nm,1.3s								
KNB	**Kanab**	**59.47**	**292**	P		**P**		**16 25 06.1**	**+1.0**
LENM	**Lemitar**	**59.55**	**286**	P		**P**		**16 25 08.1**	**+2.4**
JCT	**Junction City**	**59.70**	**278**	P		**P**		**16 25 07.4**	**+0.7**
JCT				pmax		pmax			
	comp=Z,7.0nm,1.0s								
JCT	**Junction City**	**59.70**	**278**	P		**P**		**16 25 07.4**	**+0.7**
JCT				IAmb		IAmb		16 25 10.7	
	comp=Z,6.9nm,1.0s								
ULN	**Ulaanbaatar**	**59.83**	**40**⇑	*e*P		**P**		**16 25 07.9**	**+0.4**
ULN				pmax		pmax			
	comp=Z,2.0nm,1.1s								
WUAZ	**Wupatki**	**60.18**	**290**	P		**P**		**16 25 11.0**	**+1.0**
WUAZ				IAmb		IAmb		16 25 15.6	
	comp=Z,8.4nm,1.3s								
NVAR	**Mina Array Bea**	**60.38**	**297**	LR		LR		16 51 39.0	
	comp=Z,85nm,20.8s,baz=16,slow=36								
MNTX	**Cornudas Mount**	**61.02**	**283**	P		**P**		**16 25 17.3**	**+1.7**
MNTX				IAmb		IAmb		16 25 19.4	
	comp=Z,7.7nm,1.4s								
TXAR	**Lajitas Array**	**62.35**	**280**	P		**P**		**16 25 25.9**	**+1.2**
	comp=Z,1.8nm,1.0s,baz=9.3,slow=6.7,SNR=4.4								
GTA	**Gaotai**	**65.32**	**49**	*e*P		P		16 25 34.8	-9.4
GTA				pP		pP		16 25 39.3	-8.4
GTA				pmax		pmax			
	comp=Z,3.0nm,1.3s								
HHC	**Hu-ho-hao-te**	**67.55**	**40**	*e*P		**P**		**16 25 56.9**	**-1.5**
HHC				pmax		pmax			
	comp=Z,22nm,1.4s								
HHC				pmax		pmax			
	comp=Z,190nm,7.0s								
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P		**P**		**16 27 33.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=320,slow=7.2,SNR=4.4								
CPUP	**Villa Florida**	**95.79**	**215**	LR		LR		17 09 40.3	
	comp=Z,82nm,18.8s,baz=213,slow=34								
BOSA	**Boshof**	**98.66**	**143**	LR		LR		17 16 29.7	
	comp=Z,43nm,18.6s,baz=120,slow=37								

*PGC **13** 16:16:38.1±0.3, 48.°91N×129.°54W, h10km, MLSn3.1/29, Mw3.7/29, 250km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **13** 16:16:42.2±2.5, 49.°20N×129.°13W, h0km, mb4.1/1, mb1 3.7/6, mb1mx3.3/63, mbtmp3.5/6, ML3.5/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/41, Error ellipse: s-maj=45.7km s-min=13.7km az=75.0*

ISC 13 16:16:37.9±0.9, 48.°91N±0.°04×129.°47W±0.°06, h10km, n82, σ1s78/100, MS3.4/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**0.99**	**165**	Pn	**Pg**	**16 16 55.1**	**-1.7**
KEMF				P	**Pb**	**16 16 55.7**	**-1.2**
KEMF				S	**Sg**	**16 17 07.3**	**-2.4**
NC27	**ODP1027**	**1.62**	**134**	Sn	**Sn**	**16 17 23.8**	**-2.9**
NC89	**ODP889**	**1.75**	**97**	Pn	**Pn**	**16 17 07.6**	**-0.4**
EDB	**Eliza Dome**	**1.81**	**57**	Pn	**Pn**	**16 17 07.9**	**-1.3**
EDB				Sn	**Sn**	**16 17 28.9**	**-3.3**
FHRB	**Fair Harbour**	**1.92**	**52**	Pn	**Pn**	**16 17 09.3**	**-1.2**
HOLB	**Holberg**	**1.94**	**26**	Pn	**Pn**	**16 17 09.7**	**-1.2**
HOLB				Sn	**Sn**	**16 17 31.3**	**-4.0**
ETB	**Estevan Point**	**1.98**	**75**	Pn	**Pn**	**16 17 11.0**	**-0.4**
MAYB	**Maynard**	**2.11**	**44**	Pn	**Pn**	**16 17 12.5**	**-0.9**
PHC	**Port Hardy**	**2.23**	**35**	Pn	**Pn**	**16 17 14.2**	**-0.7**
PHC				Sn	**Sn**	**16 17 38.9**	**-3.6**
NCBC	**Barkley Canyon**	**2.24**	**101**	Sn	**Sn**	**16 17 41.2**	**-1.2**
WOSB	**Woss**	**2.27**	**55**	Pn	**Pn**	**16 17 14.8**	**-0.6**
TOFB	**Tofino**	**2.36**	**83**	Pn	**Pn**	**16 17 16.0**	**-0.6**
TOFB				Sn	**Sn**	**16 17 43.1**	**-2.5**
TLCB	**Telegraph Cove**	**2.37**	**45**	Pn	**Pn**	**16 17 16.3**	**-0.4**
TLCB				Sn	**Sn**	**16 17 42.5**	**-3.3**
GDR	**Gold River**	**2.41**	**67**	Pn	**Pn**	**16 17 16.7**	**-0.6**
B012	**Ucluelet**	**2.59**	**88**	Sn	**Sn**	**16 17 48.6**	**-2.7**
OZB	**Mount Ozzard**	**2.62**	**87**	Pn	**Pn**	**16 17 19.6**	**-0.6**
OZB				Sn	**Sn**	**16 17 49.5**	**-2.7**
BTB	**Buttle Lake**	**2.65**	**76**	Pn	**Pn**	**16 17 20.5**	**-0.3**
BTB				Sn	**Sn**	**16 17 50.8**	**-2.3**
NCRB	**Newcastle Ridg**	**2.68**	**55**	Pn	**Pn**	**16 17 21.4**	**+0.3**
SPLB	**Strathcona Par**	**2.68**	**67**	Pn	**Pn**	**16 17 21.1**	**0.0**
SPLB				Sn	**Sn**	**16 17 52.6**	**-1.0**
BFSB	**Bamfield**	**2.86**	**90**	Pn	**Pn**	**16 17 23.9**	**+0.3**
BFSB				Sn	**Sn**	**16 17 54.8**	**-3.2**
B928	**Bamfield**	**2.86**	**90**	Pn	**Pn**	**16 17 23.7**	**+0.2**
B928				Sn	**Sn**	**16 17 54.8**	**-3.1**
CBB	**Campbell River**	**2.91**	**66**	Pn	**Pn**	**16 17 24.4**	**+0.2**
CBB				Sn	**Sn**	**16 17 57.7**	**-1.4**
B927	**Port Alberni**	**3.08**	**82**	Pn	**Pn**	**16 17 26.8**	**+0.4**
MGB	**Mount Grey**	**3.15**	**87**	Pn	**Pn**	**16 17 27.8**	**+0.1**
MGB				Sn	**Sn**	**16 18 02.2**	**-3.2**
OCP	**Olym-Cheeka Pk**	**3.27**	**99**	Pn	**Pn**	**16 17 29.6**	**+0.3**
TXB	**Texada**	**3.39**	**75**	Pn	**Pn**	**16 17 30.9**	**+0.1**
BBB	**Bella Bella**	**3.39**	**14**	Pn	**Pn**	**16 17 31.1**	**+0.3**
	9.2nm,0.3s,baz=206,slow=6.6,SNR=126						
BBB				Sn	**Sn**	**16 18 07.7**	**-3.4**
	10nm,0.3s,baz=327,slow=18,SNR=6.5						
BBB	**Bella Bella**	**3.39**	**14**	Pn	**Pn**	**16 17 30.6**	**-0.2**
BBB				Sn	**Sn**	**16 18 07.4**	**-3.7**
B926	**Mesachie Lake**	**3.53**	**89**	Pn	**Pn**	**16 17 32.8**	**+0.1**
B926				Sn	**Sn**	**16 18 11.3**	**-3.0**
NLLB	**Nanaimo Lost L**	**3.62**	**83**	Pn	**Pn**	**16 17 34.8**	**+0.8**
NLLB				Sn	**Sn**	**16 18 16.6**	**-0.1**
OBC	**Olympics--Boni**	**3.69**	**102**	Pn	**Pn**	**16 17 35.7**	**+0.6**
SHB	**Sechelt**	**3.73**	**77**	Pn	**Pn**	**16 17 36.0**	**+0.4**
SOKB	**Sooke**	**3.88**	**95**	Sn	**Sn**	**16 18 20.1**	**-3.0**
GOBB	**Galiano Island**	**3.93**	**87**	Pn	**Pn**	**16 17 39.2**	**+1.0**
B010	**North Saanich**	**3.99**	**91**	Pn	**Pn**	**16 17 39.7**	**+0.7**
PGC	**Sidney**	**3.99**	**91**	Pn	**Pn**	**16 17 39.9**	**+0.9**
PGC				Sn	**Sn**	**16 18 24.5**	**-1.2**
PA02	**PA02 Ocean**	**3.99**	**91**	Pn	**Pn**	**16 17 39.5**	**+0.5**
PA12	**PA12 Sannich**	**3.99**	**91**	Pn	**Pn**	**16 17 39.6**	**+0.6**
B011	**North Saanich**	**3.99**	**91**	Pn	**Pn**	**16 17 39.1**	**+0.1**
B011				Sn	**Sn**	**16 18 24.4**	**-1.4**
OSD	**Olympics--Snow**	**4.00**	**104**	Pn	**Pn**	**16 17 40.6**	**+1.2**
BIB	**Bowen Island**	**4.08**	**81**	Pn	**Pn**	**16 17 40.9**	**+0.7**
VGZ	**Gonzales**	**4.10**	**95**	Pn	**Pn**	**16 17 40.7**	**+0.1**
VGZ				Sn	**Sn**	**16 18 26.1**	**-2.5**
SNB	**Saturna Island**	**4.16**	**89**	Sn	**Sn**	**16 18 30.7**	**+0.6**
WPB	**Watts Point**	**4.17**	**77**	Pn	**Pn**	**16 17 42.1**	**+0.7**
BUTB	**Butedale**	**4.21**	**8**	Pn	**Pn**	**16 17 42.0**	**-0.1**
BUTB				Sn	**Sn**	**16 18 27.0**	**-4.4**
WISH	**Wishkah**	**4.22**	**113**	Pn	**Pn**	**16 17 43.8**	**+1.6**
MCW	**Mount Constitu**	**4.39**	**90**	Pn	**Pn**	**16 17 46.1**	**+1.5**
BLN	**Blyn Mountain**	**4.42**	**99**	Pn	**Pn**	**16 17 46.3**	**+1.4**
WSLR	**Whistler**	**4.44**	**72**	Pn	**Pn**	**16 17 46.2**	**+0.9**
BNKB	**Banks Island**	**4.44**	**357**	Pn	**Pn**	**16 17 45.5**	**+0.2**
HDW	**Hoodsport**	**4.47**	**104**	Pn	**Pn**	**16 17 47.7**	**+2.1**
VDB	**Vedder Mountai**	**4.86**	**86**	Pn	**Pn**	**16 17 52.2**	**+1.3**
CMW	**Cultus Mountai**	**4.90**	**93**	Pn	**Pn**	**16 17 52.9**	**+1.3**
GRNB	**Grenville Isla**	**4.96**	**357**	Pn	**Pn**	**16 17 52.9**	**+0.6**
MBW	**Mount Baker**	**5.00**	**89**	Pn	**Pn**	**16 17 54.2**	**+1.1**
JCW	**Jim Creek**	**5.06**	**95**	Pn	**Pn**	**16 17 55.5**	**+1.8**
KITB	**Kitimat**	**5.20**	**5**	Pn	**Pn**	**16 17 56.9**	**+1.7**
LLLB	**Lillooet**	**5.21**	**68**	Pn	**Pn**	**16 17 57.4**	**+1.7**
LLLB				Sn	**Sn**	**16 18 55.0**	**-0.9**
UBRB	**Upper Baezaeko**	**5.25**	**38**	Pn	**Pn**	**16 17 57.6**	**+1.2**
RPW	**Rockport**	**5.29**	**92**	Pn	**Pn**	**16 17 58.2**	**+1.2**
B06A	**Marblemount**	**5.30**	**91**	Pn	**Pn**	**16 17 58.8**	**+1.8**
HOPB	**Hope**	**5.30**	**82**	Pn	**Pn**	**16 17 58.6**	**+1.5**
LON	**Longmire**	**5.59**	**110**	Pn	**Pn**	**16 18 03.1**	**+2.0**
LON				Sn	**Sn**	**16 19 04.6**	**-0.8**
LTY	**Liberty**	**6.12**	**102**	Pn	**Pn**	**16 18 10.6**	**+2.2**
LTY				Sn	**Sn**	**16 19 19.6**	**+1.0**
FSB	**Fort Saint Jam**	**6.43**	**28**	Pn	**Pn**	**16 18 13.7**	**+1.1**
MNB	**Mounoet Dainar**	**7.79**	**61**	Pn	**Pn**	**16 18 32.3**	**+0.8**
NEW	**Newport**	**8.21**	**90**	LR	LR	16 21 49.2	
	comp=Z,89nm,21.9s,baz=252,slow=38						
BMBC	**Bull Mountain**	**8.43**	**29**	Pn	**Pn**	**16 18 41.1**	**+1.0**
BMBC				Sn	**Sn**	**16 20 15.1**	**-0.1**
YBH	**Yreka Blue Hor**	**8.61**	**144**	Pn	Pn	16 18 50.4	+7.9
	0.1nm,0.3s,baz=324,slow=10,SNR=7.2						
NBC5	**NorthernBC 5**	**9.54**	**23**	Pn	**Pn**	**16 18 58.2**	**+3.0**
DLBC	**Dease Lake**	**9.55**	**358**	LR	LR	16 22 31.5	
	comp=Z,128nm,19.6s,baz=126,slow=38						
EDM	**Edmonton**	**11.02**	**61**	Pn	**Pn**	**16 19 17.3**	**+1.9**
NVAR	**Mina Array Bea**	**13.21**	**138**	Pn	**P**	**16 19 55.9**	**+0.1**
	0.0nm,0.3s,baz=313,slow=11,SNR=2.8						
PDAR	**Pinedale Array**	**15.16**	**106**	Pn	**P**	**16 20 17.2**	**0.0**
	0.1nm,0.3s,baz=312,slow=13,SNR=2.7						
PDAR				LR	LR	16 25 52.2	
	comp=Z,60nm,21.9s,baz=310,slow=37						
YKA	**Yellowknife Ar**	**15.92**	**26**	Pn	**Pn**	**16 20 22.1**	**+0.4**
	0.2nm,0.3s,baz=213,slow=12,SNR=7.1						
ILAR	**Eielson Array**	**18.42**	**336**	P	**Pn**	**16 20 56.5**	**+3.5**
	0.0nm,0.3s,baz=147,slow=12,SNR=1.9						
ULM	**Lac du Bonnet**	**21.72**	**74**	P	**P**	**16 21 33.4**	**+4.4**
	7.0nm,0.8s,baz=277,slow=10.0,SNR=10						
ULM				LR	LR	16 29 32.3	
	comp=Z,53nm,18.7s,baz=1.0,slow=36						
H11N2	**WAKE ISLAND Hy**	**58.12**	**264**	T	T	17 29 34.3	
	baz=43,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**58.12**	**264**	T	T	17 29 34.5	
	baz=43,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**58.13**	**264**	T	T	17 29 35.7	
	baz=43,slow=76,SNR=6.8						
SJG	**San Juan**	**59.07**	**98**	LR	LR	16 53 03.2	
	comp=Z,28nm,18.4s,baz=130,slow=37						
BDFB	**Brasília**	**96.14**	**107**	LR	LR	17 17 13.7	
	comp=Z,39nm,18.8s,baz=143,slow=38						

*NEIC **13** 16:17:53.7±2.7, 23.°27S×0.°03×68.°42W±0.°09, h119km±5km, Error ellipse: s-maj=11.7km s-min=4.2km az=95.0*

*SJA **13** 16:17:53.6±0.5, 23.°27S×68.°51W, h128km±3km, ML4.3, MW4.1*

*GUC **13** 16:17:54.7±0.7, 23.°29S×68.°56W, h130km±4km, ML4.3*

*VAO **13** 16:17:54.5±0.8, 23.°15S×68.°45W, h122km±5km, mb4.7*

*IDC **13** 16:17:55.0±0.5, 23.°09S×68.°33W, h116km±4km, mb4.0/7, mb1 4.0/10, mb1mx3.8/35, mbtmp4.3/10, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=16.6km s-min=13.3km az=18.0*

ISC 13 16:17:54.1±0.5, 23.°27S±0.°03×68.°44W±0.°05, h119km±5km, n114, σ1s38/157, mb4.3/8, 9C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.79**	**327**	P	**Pn**	**16 18 15.0**	**+0.5**
	415nm,0.3s,baz=160,slow=7.4,SNR=9360						
LVC				S	**Sn**	**16 18 30.0**	**+0.1**
	1μm,0.3s,baz=128,slow=0.3,SNR=27						
LVC	**Limon Verde

PB08	**IPOC Station P**	**3.19**	**348**			**Pn**	**16 18 43.6**	**+0.3**
PB08	**IPOC Station P**	**3.19**	**348**	*e*P		**Pn**	**16 18 44.0**	**+0.8**
PB08				*e*S		**Sn**	**16 19 19.6**	**-1.4**
AC01	**Pan de Azucar**	**3.47**	**214**	⇑*i* P		**Pn**	**16 18 45.9**	**-0.8**
AC01				*i* S		**Sn**	**16 19 25.4**	**-1.9**
AC01	**Pan de Azucar**	**3.47**	**214**			**Pn**	**16 18 45.2**	**-1.4**
AC02	**Maricunga**	**3.60**	**190**			**Pn**	**16 18 49.7**	**+0.8**
GO01	**Chusmiza**	**3.65**	**349**			**Pn**	**16 18 49.5**	**0.0**
PB11	**IPOC Station P**	**3.67**	**342**	Pn		**Pn**	**16 18 48.1**	**-1.4**
PSGCX	**Pisagua**	**3.98**	**336**	Pn		**Pn**	**16 18 51.1**	**-2.4**
MNMC	**Minye Minye**	**4.26**	**345**			**Pn**	**16 18 55.8**	**-1.6**
GO03	**Copiap**	**4.60**	**200**			**Pn**	**16 18 59.9**	**-1.9**
GO03	**Copiap**	**4.60**	**200**	*e*P		**Pn**	**16 19 00.6**	**-1.2**
GO03				*e*S		**Sn**	**16 19 53.1**	**-1.2**
PB12	**IPOC Station P**	**4.96**	**339**			**Pn**	**16 19 04.2**	**-2.4**
PB16	**IPOC Station P**	**5.01**	**348**	Pn		**Pn**	**16 19 07.7**	**-0.1**
AC04	**Llanos de Chal**	**5.46**	**205**	Pn		**Pn**	**16 19 10.0**	**-3.2**
AC05	**El Transito**	**5.78**	**196**	Pn		**Pn**	**16 19 15.7**	**-2.0**
CO01	**Juntas del Tor**	**6.84**	**192**	Pn		**Pn**	**16 19 30.3**	**-1.9**
LPAZ	**La Paz**	**6.95**	**2**	P		**Pn**	**16 19 35.3**	**+1.3**
	comp=E,1.6nm,0.3s,baz=214,slow=4.9,SNR=31							
LPAZ				LR		LR	16 22 42.2	
	comp=E,54nm,20.5s,baz=75,slow=42							
LPAZ	**La Paz**	**6.95**	**2**	*e*P		**Pn**	**16 19 33.3**	**-0.7**
LPAZ	**La Paz**	**6.95**	**2**	*e*P		**Pn**	**16 19 36.1**	**+2.0**
GO04	**Tololo Observa**	**7.19**	**197**	Pn		**Pn**	**16 19 33.5**	**-3.4**
CO03	**El Pedregal**	**7.80**	**194**	Pn		**Pn**	**16 19 41.4**	**-3.6**
CO02	**Combarbal**	**8.22**	**196**	Pn		**Pn**	**16 19 46.5**	**-4.2**
SIV	**San Ignacio**	**10.03**	**45**	P		**Pn**	**16 20 11.6**	**-3.5**
	comp=E,6.9nm,0.3s,baz=239,slow=11,SNR=80							
SIV				S		**Sn**	**16 21 59.8**	**-6.1**
	comp=E,1.1nm,0.3s,baz=132,slow=19,SNR=7.2							
CPUP	**Villa Florida**	**10.54**	**109**	P		**Pn**	**16 20 22.5**	**+0.6**
	comp=E,0.2nm,0.3s,baz=293,slow=10,SNR=6.3							
CPUP	**Villa Florida**	**10.54**	**109**	Pn		**Pn**	**16 20 22.1**	**+0.1**
AQDB	**Aquidauana**	**12.15**	**79**	*e*P		**Pn**	**16 20 42.9**	**-0.5**
VILB	**Vilhena**	**12.90**	**39**	*e*P		**Pn**	**16 20 52.7**	**-0.5**
PTGB	**Pitanga**	**15.04**	**99**	*e*P		**Pn**	**16 21 21.2**	**+0.7**
SAML	**Samuel**	**15.11**	**20**	P		**Pn**	**16 21 18.5**	**-2.9**
SAML	**Samuel**	**15.11**	**20**	*e*P		**Pn**	**16 21 19.5**	**-1.9**
PCMB	**Pacaembu**	**15.97**	**87**	*e*P		**P**	**16 21 33.4**	**+0.1**
ITRB	**Iturama**	**17.20**	**82**	*e*P		**Pn**	**16 21 47.6**	**+0.5**
CLDB	**Colider**	**17.25**	**46**	*e*P		**P**	**16 21 46.1**	**-1.3**
FRTB	**Fartura**	**17.34**	**94**	*e*P		**P**	**16 21 48.7**	**+0.2**
ARAG	**Araguaiana, MT**	**17.38**	**67**	*e*P		**Pn**	**16 21 49.4**	**+0.1**
PLCA	**Paso Flores**	**17.50**	**185**	P		**Pn**	**16 21 51.8**	**+1.1**
	comp=E,0.2nm,0.3s,baz=352,slow=5.8,SNR=5.8							
PLCA	**Paso Flores**	**17.50**	**185**	P		**P**	**16 21 50.1**	**0.0**
PLCA				IAmb		IAmb	16 21 58.8	
	comp=Z,7.0nm,1.0s							
BB19B	**Bebedouro**	**18.57**	**87**	*e*P		**P**	**16 22 02.8**	**+0.8**
IPMB	**Ipameri, GO**	**19.64**	**78**	*e*P		**P**	**16 22 13.6**	**-0.1**
VAO	**Valinhos**	**19.75**	**93**	*e*P		**P**	**16 22 14.2**	**-0.6**
NPGB	**Novo Progresso**	**20.46**	**40**	*e*P		**P**	**16 22 20.5**	**-1.9**
BDFB	**Brasilia**	**20.69**	**72**	P		**P**	**16 22 24.8**	**-0.2**
	comp=Z,16nm,0.5s,baz=252,slow=12,SNR=25							
BDFB	**Brasilia**	**20.69**	**72**	P		**P**	**16 22 24.5**	**-0.4**
PEXB	**Peixe**	**22.14**	**63**	*e*P		**P**	**16 22 39.2**	**-1.1**
ITTB	**Itaituba**	**22.45**	**35**	*e*P		**P**	**16 22 41.4**	**-2.0**
JANB	**Januaria**	**24.18**	**75**	*e*P		**P**	**16 22 58.9**	**-0.8**
SMTB	**Santa Maria do**	**24.58**	**58**	*e*P		**P**	**16 23 03.7**	**+0.5**
PRPB	**Parauapebas**	**24.71**	**49**	*e*P		**P**	**16 23 04.5**	**+0.1**
SDBA	**SAO DESIDERIO**	**24.83**	**68**	*e*P		**P**	**16 23 05.7**	**+0.1**
MALB	**Monte Alegre**	**25.34**	**35**	*e*P		**P**	**16 23 09.7**	**-0.4**
BSFB	**Barra de Sao F**	**26.11**	**85**	*e*P		**P**	**16 23 17.0**	**0.0**
MCPB	**Macapa, AP**	**27.79**	**37**	*e*P		**P**	**16 23 32.0**	**-0.1**
GDU01	**Guandu, BA**	**28.93**	**76**	*e*P		**P**	**16 23 42.0**	**-0.2**
SNAA	**Sanae**	**60.47**	**161**	P		**P**	**16 27 52.3**	**+1.3**
SNAA				IAmb		IAmb	16 27 53.1	
	comp=Z,9.9nm,1.4s							
ANMO	**Albuquerque**	**68.21**	**327**	P		**P**	**16 28 43.5**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=171,slow=4.4,SNR=4.4							
ANMO	**Albuquerque**	**68.21**	**327**	P		**P**	**16 28 43.0**	**+0.9**
ANMO				IAmb		IAmb	16 28 45.3	
	comp=Z,2.3nm,0.8s							
DBIC	**Dimbokro**	**68.83**	**73**	P		**P**	**16 28 47.4**	**+1.3**
	comp=Z,2.7nm,0.5s,baz=205,slow=7.3,SNR=5.8							
DBIC	**Dimbokro**	**68.83**	**73**	P		**P**	**16 28 46.0**	**-0.1**
VNDA	**Vanda**	**75.19**	**190**	P		**P**	**16 29 25.5**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=99,slow=4.3,SNR=4.8							
PDAR	**Pinedale Array**	**75.86**	**330**	P		**P**	**16 29 29.0**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=129,slow=6.3,SNR=2.6							
PDAR	**Pinedale Array**	**75.86**	**330**	P		**P**	**16 29 27.6**	**0.0**
ULM	**Lac du Bonnet**	**77.13**	**342**	P		**P**	**16 29 34.9**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=150,slow=6.4,SNR=5.7							
ULM				LR		LR	17 07 05.9	
	comp=Z,69nm,18.1s,baz=305,slow=38							
ULM	**Lac du Bonnet**	**77.13**	**342**	P		**P**	**16 29 34.7**	**+0.5**
ULM				IAmb		IAmb	16 29 44.9	
	comp=Z,6.3nm,1.4s							
TORD	**Torodi Ar. Bea**	**77.55**	**70**	P		**P**	**16 29 38.0**	**+0.6**
	comp=Z,4.6nm,0.5s,baz=256,slow=5.2,SNR=37							
TORD				pP		**pP**	**16 30 07.7**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=253,slow=5.3,SNR=2.2							
TORD	**Torodi Ar. Bea**	**77.55**	**70**	P		**P**	**16 29 36.9**	**-0.5**
MAW	**Mawson**	**82.52**	**163**	P		**P**	**16 30 04.9**	**+1.8**
	comp=Z,4.6nm,0.6s,baz=222,slow=4.9,SNR=21							
MAW	**Mawson**	**82.52**	**163**	P		**P**	**16 30 04.2**	**+1.1**
ASAR	**Alice Springs**	**128.54**	**206**	PKP		**PKiKP**	**16 36 49.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=135,slow=1.8,SNR=17							
ASAR				pPKP		**pPKPdf**	**16 37 20.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=123,slow=2.2,SNR=3.4							
WRA	**Warramunga Arr**	**131.64**	**209**	PKP		**PKiKP**	**16 36 54.6**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=160,slow=1.7,SNR=14							
WRA				pPKP		**pPKPdf**	**16 37 27.8**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=151,slow=1.9,SNR=2.2							
WRA	**Warramunga Arr**	**131.64**	**209**			**PKiKP**	**16 36 54.5**	**-0.2**
ZALV	**Zalesovo Beam**	**143.35**	**26**	PKP		**PKPdf**	**16 37 13.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=290,slow=4.3,SNR=2.3							
ZALV	**Zalesovo Beam**	**143.35**	**26**			**PKPdf**	**16 37 13.3**	**-0.8**
MKAR	**Makanchi Array**	**146.78**	**38**	PKPbc		**PKPdf**	**16 37 20.9**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=313,slow=3.0,SNR=16							
MKAR				pPKPbc		**pPKPdf**	**16 37 53.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=343,slow=4.9,SNR=3.1							
MKAR	**Makanchi Array**	**146.78**	**38**			**PKPbc**	**16 37 21.9**	**-0.3**

*NNC **13** 16:24:23.3±5.9, 41.°99N×84.°14E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=43.2km s-min=24.4km az=151.0*
*SOME **13** 16:24:25.2, 42.°50N×84.°32E, h10km*
ISC 13 16:24:23.6±3.7, **42.°3N**±0.°1×**84.°2E**±0.°1, **h10**km, **n12, σ1s31/17, 3C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.60**	**288**	Pg	**Pg**	**16 25 31.4**	**-1.1**
	2.0nm,0.2s						
PDGK				Lg	Lg	16 26 18.8	
	7.1nm,0.7s						
PDGK	**Podgornoye**	**3.60**	**288**	⇓Pg	**Pb**	**16 25 27.3**	**-0.1**
	3.0nm,0.6s						
PDGK				⇑Lg	Lg	16 26 16.2	
	14nm,0.7s						
DJR	**Jarkent**	**3.79**	**304**	*e*P	**Pg**	**16 25 35.1**	**-1.1**
	4.6nm,0.8s						
DJR				*e*S	**Sg**	**16 26 25.2**	**0.0**
	4.0nm,0.7s						
DJR	**Jarkent**	**3.79**	**304**	Pg	**Pg**	**16 25 35.1**	**-1.1**
	4.6nm,0.8s						
DJR				Lg	Lg	16 26 25.2	
	4.0nm,0.7s						
UZB	**Uzunbulak**	**3.89**	**284**	*e*P	**Pg**	**16 25 37.6**	**-0.6**
	2.4nm,0.6s						
UZB				*e*S	**Sg**	**16 26 29.8**	**+1.1**
	10nm,0.8s						
UZB	**Uzunbulak**	**3.89**	**284**	Pg	**Pg**	**16 25 37.6**	**-0.6**
	2.4nm,0.6s						
UZB				Lg	Lg	16 26 29.7	
	10nm,0.6s						
UZB				Lg	Lg	16 26 29.8	
	10nm,0.8s						
SATY	**Saty**	**4.33**	**282**	*e*P	**Pg**	**16 25 46.5**	**+0.1**
	3.9nm,0.3s						
SATY				*e*S	**Sg**	**16 26 45.0**	**+2.5**
	9.3nm,0.7s						
SATY	**Saty**	**4.33**	**282**	Pg	**Pg**	**16 25 46.5**	**+0.1**
	3.9nm,0.3s						
SATY				Lg	Lg	16 26 45.0	
	9.3nm,0.7s						
SATY				Lg	Lg	16 26 45.0	
	9.4nm,0.6s						
MK31	**Makanchi Array**	**4.67**	**344**	⇓Pg	**Pg**	**16 25 54.1**	**+1.0**
	0.9nm,0.6s,baz=165,slow=16,SNR=4.7						
MK31				⇑Lg	Lg	16 27 06.4	
	1.6nm,0.5s,baz=169,slow=28,SNR=3.7						
MAKZ	**Makanchi**	**4.76**	**341**	⇓Pg	**Pg**	**16 25 53.8**	**-0.9**
	2.7nm,1.4s						
MAKZ				⇑Lg	Lg	16 27 08.4	
	2.2nm,0.7s						
ARXS	**Arharly**	**5.01**	**294**	*e*P	**Pg**	**16 25 57.5**	**-2.2**
	3.0nm,0.7s						
ARXS				*e*S	**Sg**	**16 27 04.0**	**-0.6**
KTBS	**Karatobe**	**5.68**	**287**	*e*P	**Pg**	**16 26 11.2**	**-1.1**
	1.3nm,0.7s						
KTBS				*e*S	**Sg**	**16 27 27.8**	**+2.0**
	6.3nm,0.6s						

*IDC **13** 16:41:07.3±2.6, 22.°84N×11.°19W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/40, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=81.7km s-min=30.0km az=80.0*
ISC 13 16:41:07.2±1.7, **22.°8N**±0.°2×**11.°5W**±0.°3, **h10**km, **n8, σ1s24/10, mb3.5/3, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**10.88**	**138**	Pn	**Pn**	**16 43 45.1**	**+2.0**
	1.0nm,0.3s,baz=323,slow=10,SNR=14						
KOWA				Sn	**Sn**	**16 45 45.5**	**+0.5**
	0.5nm,0.3s,baz=211,slow=16,SNR=3.9						
TORD	**Torodi Ar. Bea**	**15.79**	**125**	Pn	**Pn**	**16 44 49.5**	**-0.3**
	0.1nm,0.3s,baz=316,slow=13,SNR=2.7						
TORD				Sn	**Sn**	**16 47 43.0**	**-1.9**
	0.1nm,0.3s,baz=315,slow=18,SNR=2.3						
DBIC	**Dimbokro**	**17.26**	**157**	P	**Pn**	**16 45 07.4**	**-1.1**
	0.5nm,0.3s,baz=327,slow=15,SNR=6.0						
GERES	**GERESS Array B**	**32.77**	**31**	P	**P**	**16 47 40.2**	**-0.3**
	0.1nm,0.4s,baz=216,slow=11,SNR=4.7						
FINES	**FINESS Array B**	**46.42**	**24**	P	**P**	**16 49 33.8**	**0.0**
	2.0nm,1.0s,baz=226,slow=7.7,SNR=3.4						
MKAR	**Makanchi Array**	**76.23**	**45**	P	**P**	**16 52 56.6**	**+0.6**
	0.3nm,0.8s,baz=266,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**148.10**	**91**	PKPbc	**PKPbc**	**17 00 54.6**	**+0.7**
	0.6nm,0.8s,baz=299,slow=2.7,SNR=4.9						
ASAR	**Alice Springs**	**148.24**	**98**	PKPbc	**PKiKP**	**17 00 55.1**	**-0.9**
	0.8nm,0.8s,baz=296,slow=1.9,SNR=8.6						

*PRE **13** 17:02:50.7±1.2, 26.°41S×27.°61E, h2km, ML2.6*
*EAF **13** 17:02:51.9±2.6, 25.°61S×25.°21E, h0km, 22km, MD4.0*
*BUL **13** 17:02:53.6±1.4, 25.°47S×25.°30E, h0km, 14km, MD4.0*
ISC 13 17:02:50.7±0.9, **26.°39S**±0.°04×**27.°58E**±0.°03, **h9**km±5km, **n17, σ1s80/34, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.05**	**37**	*e*P	**Pg**	**17 02 52.5**	**-0.3**
KLOF				*e*S	**Sg**	**17 02 53.2**	**-1.1**
KLOF				AML	AML	17 02 59.2	
	comp=Z,4μm,0.3s						
WDLM	**Western Deep L**	**0.14**	**256**	*e*P	**Pg**	**17 02 54.5**	**+0.6**
WDLM				*e*S	**Sg**	**17 02 56.6**	**+0.4**
WDLM				AML	AML	17 03 01.0	
	comp=Z,2μm,0.3s						
PRYS	**Parys**	**0.57**	**200**	*e*P	**Pg**	**17 03 01.9**	**+0.2**
PRYS				*e*S	**Sb**	**17 03 09.9**	**-1.3**
PRYS				AML	AML	17 03 20.8	
	comp=Z,70nm,0.2s						
ERPM	**east rand prop**	**0.60**	**86**	*e*P	**Pg**	**17 03 02.4**	**+0.1**
ERPM				*e*S	**Sg**	**17 03 09.8**	**-0.4**
ERPM				AML	AML	17 03 20.4	
	comp=Z,136nm,0.2s						
SWZ	**Schweizer**	**2.16**	**248**	*e*P	**Pb**	**17 03 29.3**	**-0.6**
SWZ				*e*S	**Sb**	**17 03 56.2**	**-0.7**
SWZ				AML	AML	17 04 00.3	
	comp=Z,223nm,0.5s						
LBTB	**Lobatse**	**2.25**	**307**	*e*P	**Pn**	**17 03 30.1**	**+2.0**
LBTB				*e*S	**Sn**	**17 03 58.5**	**+2.3**
LBTB				AML	AML	17 04 03.8	
	comp=N,174nm,0.4s						
BOSA	**Boshof**	**3.02**	**222**	*e*P	**Pn**	**17 03 39.8**	**+0.9**
BOSA				*e*S	**Sn**	**17 04 15.7**	**+0.4**
BOSA				AML	AML	17 04 26.7	
	comp=Z,31nm,0.2s						
POGA	**Pongola**	**3.81**	**105**	*e*P	**Pn**	**17 03 51.5**	**+2.0**
POGA				*e*S	**Sn**	**17 04 34.3**	**-0.2**
POGA				AML	AML	17 04 51.9	
	comp=Z,50nm,0.4s						
MOPA	**Mopani**	**4.50**	**51**	*e*P	**Pn**	**17 03 60.0**	**+1.0**
MOPA				*e*S	**Sn**	**17 04 50.6**	**-0.8**
MOPA				AML	AML	17 05 15.5	
	comp=Z,12nm,0.9s						
UPI	**Upington**	**5.96**	**249**	*e*P	**Pn**	**17 04 20.4**	**+1.3**
UPI				*e*S	**Sn**	**17 05 27.0**	**-0.6**
UPI				AML	AML	17 05 28.7	
	comp=Z,3.0nm,0.4s						
MATP	**Matopo**	**6.00**	**8**	*i* P	**Pn**	**17 04 22.3**	**+2.5**
MATP				*i* S	**Sn**	**17 05 26.6**	**-2.0**
MATP	**Matopo**	**6.00**	**8**	*i* P	**Pn**	**17 04 22.3**	**+2.5**
MATP				*i* S	**Sn**	**17 05 26.6**	**-2.0**
BLWY	**Bulawayo**	**6.29**	**9**	*i* P	**Pn**	**17 04 25.2**	**+1.3**
BLWY				*i* S	**Sn**	**17 05 33.3**	**-2.7**
BLWY	**Bulawayo**	**6.29**	**9**	*i* P	**Pn**	**17 04 25.2**	**+1.3**
BLWY				*i* S	**Sn**	**17 05 33.3**	**-2.7**
GRAN	**Grantham**	**7.55**	**217**	*e*P	**Pn**	**17 04 42.6**	**+1.6**
GRAN				*e*S	**Sn**	**17 06 04.6**	**-2.1**
GRAN				AML	AML	17 06 14.2	
	comp=Z,3.8nm,0.4s						
CVNA	**Calvinia**	**8.52**	**232**	*e*P	**Pn**	**17 04 56.1**	**+1.7**
CVNA				*e*S	**Sn**	**17 06 27.8**	**-2.9**
CVNA				AML	AML	17 06 47.9	
	comp=Z,5.4nm,0.7s						
KOMG	**Komaggas**	**9.54**	**247**	*e*P	**Pn**	**17 05 10.1**	**+1.9**
KOMG				*e*S	**Sn**	**17 06 51.8**	**-3.7**
KOMG				AML	AML	17 07 20.6	
	comp=Z,3.4nm,0.6s						

*IDC **13** 17:21:16.5±0.7, 7.°67N×94.°46E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/36, mbtmp4.1/14, MS3.8/28, Ms1 3.8/28, ms1mx3.8/37, Error ellipse: s-maj=33.6km s-min=16.4km az=57.0*
*NEIC **13** 17:21:18.2±1.8, 7.°39N±0.°10×94.°3E±0.°1, h23km±5km, mb4.7/22, Error ellipse: s-maj=19.0km s-min=11.9km az=59.0*
*GCMT **13** 17:21:21.2±0.4, 7.°51N±0.°02×94.°43E±0.°02, h17km±2km, MW4.7/79, Moment Tensor Solution. s7,c7; s79,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.09; $M_{\theta\theta}$-1.23±.07; $M_{\phi\phi}$ 1.51±.08; $M_{r\theta}$-0.43±.22; $M_{\theta\phi}$0.42±.07; $M_{r\phi}$-0.77±.25; Best double couple: $M_0$1.64800×10^{16} NP1:ϕ_s141.00000°, δ61.00000°, λ179.00000°. NP2: ϕ_s232.00000°, δ89.00000°, λ29.00000°. Principal axes: T 1.8930, Plg21.0000°, Azm101.0000°; N -0.4980, Plg61.0000°, Azm234.0000°; P -1.4020, Plg19.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **13** 17:21:25.1±0.9, 8.°N±8.°×9.°5E±1.°1, h135km±38km, M4.4/9, mB4.5/2, mb4.3/5, MLv4.4/9, Mw(mB)3.7/2*
ISC 13 17:21:16.9±0.5, **7.°39N**±0.°07×**94.°23E**±0.°09, **h10**km, **n84, σ1s41/62, mb4.4/24, MS3.9/28, 1C-1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.16**	**150**	P	Pg	17 22 04.6	+6.3
LHMI	**Lhok Sumawe**	**3.45**	**128**	P	**Pn**	**17 22 12.0**	**+1.3**
LHMI	**Lhok Sumawe**	**3.45**	**128**		**Pn**	**17 22 09.2**	**-1.6**
MLSI	**Meulaboh, Aceh**	**3.78**	**145**	P	**Pb**	**17 22 22.3**	**-1.5**
TPTI		**5.04**	**144**	P	Pn	17 22 36.8	+4.2
TSI	**Tuntungan**	**5.79**	**132**	P	**Pn**	**17 22 44.4**	**+1.5**
	0.6nm66nm,0.8s						
PSI	**Prapat**	**6.53**	**134**	Pn	**Pn**	**17 22 56.2**	**+3.0**
	baz=13,slow=18,SNR=1.7						
PSI				LR	LR	17 25 48.2	
	comp=Z,1μm,18.8s,baz=281,slow=41						
RPSI	**Rantau Prapat**	**6.60**	**135**	Pn	**Pn**	**17 22 52.3**	**-1.7**
KULM	**Kulim**	**6.71**	**108**	Pn	**Pn**	**17 22 53.7**	**-2.0**
IPM	**Ipoh**	**7.35**	**113**	Pn	**Pn**	**17 23 02.7**	**-1.7**
MNSI	**Mandailing Nat**	**8.45**	**141**	P	Pn	17 23 29.4	+10
SDSI	**Sungai Dareh**	**10.95**	**139**	P	Pn	17 24 05.2	+11
CMAR	**Chiang Mai Arr**	**11.92**	**22**	Pn	**Pn**	**17 24 08.7**	**+1.6**
	0.5nm,0.3s,baz=215,slow=14,SNR=15						
CMAR				LR	LR	17 28 42.0	
	comp=Z,608nm,18.4s,baz=254,slow=38						
CMAR	**Chiang Mai Arr**	**11.92**	**22**	Pn	**Pn**	**17 24 07.8**	**+0.7**
CHTO	**Chiang Mai**	**12.25**	**22**	Pn	**Pn**	**17 24 12.8**	**+1.2**
SLVN	**Son La**	**16.73**	**33**		**P**	**17 25 17.7**	**+3.9**
KSM	**Kuching**	**17.07**	**109**	P	**P**	**17 25 18.2**	**+0.6**
KSM				IAmb	IAmb	17 25 29.2	
	comp=Z,74nm,1.5s						
SBUM	**Sibu**	**18.58**	**104**	P	**Pn**	**17 25 35.6**	**+1.1**
KMI	**Kunming**	**19.42**	**24**	⇓P	**Pn**	**17 25 48.6**	**+3.7**
KMI				pmax	pmax		
	comp=Z,15nm,1.1s						
GYA	**Guiyang**	**22.36**	**30**	⇑P	P	17 26 23.1	+7.7
GYA				pmax	pmax		
	comp=Z,11nm,1.8s						
GYA				LR	LR		
	comp=N,690nm,13.0s						
GYA				LR	LR		
	comp=E,1μm,15.5s						
GYA				LR	LR		
	comp=Z,540nm,14.8s						
LSA	**Lhasa**	**22.39**	**353**	P	**P**	**17 26 16.2**	**+0.2**
LSA				IAmb	IAmb	17 26 23.1	
	comp=Z,16nm,0.9s						
MYLDM	**Lahad Datu**	**24.22**	**94**	P	**P**	**17 26 33.6**	**-0.6**
MYLDM				IAmb	IAmb	17 26 48.7	
	comp=Z,49nm,1.4s						
H08S3	**Diego Garcia H**	**26.32**	**236**	T	T	17 53 33.1	
	baz=55,slow=75,SNR=102						
H08S2	**Diego Garcia H**	**26.32**	**236**	T	T	17 53 31.8	
	baz=55,slow=75,SNR=120						
H08S1	**Diego Garcia H**	**26.33**	**236**	T	T	17 53 34.5	
	baz=55,slow=75,SNR=72						
TGY	**Tagaytay City**	**27.06**	**73**	LR	LR	17 36 14.6	
	comp=Z,286nm,20.6s,baz=85,slow=34						
KAPI	**Kappang**	**28.29**	**115**	LR	LR	17 38 35.7	
	comp=Z,199nm,20.5s,baz=288,slow=37						
XAN	**Xi'an**	**29.80**	**25**	P	P	17 27 33.1	+9.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,310nm,5.4s						
GTA	**Gaotai**	**32.28**	**8**	*e*P	**P**	**17 27 46.6**	**+0.6**
GTA				pP	sP	17 27 58.4	+8.8
GTA				sP	pP	17 28 02.9	+14
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,6.7s						
GTA				LR	LR		
	comp=N,240nm,13.8s						
GTA				LR	LR		
	comp=E,330nm,13.1s						
GTA				LR	LR		
	comp=Z,240nm,15.3s						
NIL	**Nilore**	**32.55**	**326**	P	**P**	**17 27 47.9**	**-0.5**
GAR	**Garm**	**38.14**	**329**	P	**P**	**17 28 35.2**	**-1.3**
CHGR	**Chuyangaron**	**38.48**	**328**	P	**P**	**17 28 38.6**	**-0.8**
BTK	**Batken**	**38.70**	**331**	P	**P**	**17 28 41.4**	**+0.2**
BTK				IAmb	IAmb	17 29 02.7	
	comp=Z,11nm,1.1s						
MK31	**Makanchi Array**	**40.58**	**347**	P	**P**	**17 28 55.2**	**-1.5**
MKAR	**Makanchi Array**	**40.58**	**347**	P	**P**	**17 28 55.6**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=168,slow=7.9,SNR=30						
MKAR				LR	LR	17 49 02.9	
	comp=Z,85nm,20.3s,baz=164,slow=41						
MKAR	**Makanchi Array**	**40.58**	**347**	P	**P**	**17 28 55.0**	**-1.7**
MAKZ	**Makanchi**	**40.66**	**347**	P	**P**	**17 28 55.6**	**-1.8**
KKAR	**Karatay Array**	**41.23**	**333**	P	**P**	**17 29 01.9**	**-0.3**
SONM	**Songino Array**	**41.62**	**12**	P	**P**	**17 29 03.5**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=182,slow=6.7,SNR=4.9						
SONM				LR	LR	17 48 20.5	
	comp=Z,139nm,19.5s,baz=184,slow=39						
SONM	**Songino Array**	**41.62**	**12**	P	**P**	**17 29 02.4**	**-2.9**
KSRS	**Korea Array**	**42.77**	**41**	LR	LR	17 49 01.3	
	comp=Z,88nm,18.4s,baz=232,slow=39						
GEYT	**Alibeck**	**44.62**	**318**	P	**P**	**17 29 31.5**	**+1.8**
	comp=Z,6.8nm,0.7s,baz=140,slow=9.4,SNR=8.4						
GEYT				LR	LR	17 51 24.7	
	comp=Z,158nm,18.4s,baz=110,slow=41						
GEYT	**Alibeck**	**44.62**	**318**	P	**P**	**17 29 29.7**	**0.0**
GYA0B	**ALIBECK ARRA

ESDC	**Sonseca Array**	**91.60**	**310**	LR	LR	18 18 57.3	
	comp=Z,31nm,20.1s,baz=135,slow=38						
IMAR	**Indian Mountai**	**92.05**	**22**	P	**P**	**17 34 24.6**	**-1.4**
PLCA	**Paso Flores**	**144.12**	**200**	PKP	**PKiKP**	**17 40 56.2**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=90,slow=5.1,SNR=4.6						
PLCA	**Paso Flores**	**144.12**	**200**		**PKPdf**	**17 40 52.9**	**-0.6**
CPUP	**Villa Florida**	**147.03**	**232**	PKPbc	**PKiKP**	**17 41 03.9**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=37,slow=5.1,SNR=4.1						
CPUP	**Villa Florida**	**147.03**	**232**		**PKPdf**	**17 40 57.6**	**-1.2**

*IDC **13** 17:28:22.1±1.6, 7.26N×93.96E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/33, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=67.3km s-min=20.3km az=57.0*
*NEIC **13** 17:28:26.6±2.5, 7.2N±0.1×94.09E±0.04, h37km±11km, mb4.0/7, Error ellipse: s-maj=17.9km s-min=2.0km az=199.0*

ISC 13 17:28:25.1±1.0, 7.24N±0.10×94.1E±0.1, h21km, n29, σ1s05/26, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.49**	**125**	Pn	**Pn**	**17 29 18.8**	**+0.6**
SRIT	**Nakonsritamara**	**5.64**	**76**	Pn	**Pn**	**17 29 49.0**	**+1.2**
PSI	**Prapat**	**6.54**	**132**	Pn	**Pn**	**17 30 02.1**	**+1.9**
	0.8nm,0.3s,baz=10,slow=20,SNR=6.8						
RPSI	**Rantau Prapat**	**6.61**	**133**		**Pn**	**17 30 00.4**	**-0.7**
RPSI	**Rantau Prapat**	**6.61**	**133**		**Pn**	**17 30 02.1**	**+1.0**
KULM	**Kulim**	**6.82**	**106**		**Pn**	**17 30 03.0**	**-1.0**
IPM	**Ipoh**	**7.44**	**111**		**Pn**	**17 30 11.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**12.12**	**23**	Pn	**Pn**	**17 31 17.2**	**+0.6**
	0.4nm,0.3s,baz=213,slow=14,SNR=4.3						
CMAR	**Chiang Mai Arr**	**12.12**	**23**		**Pn**	**17 31 17.1**	**+0.4**
LSA	**Lhasa**	**22.51**	**353**	P	**P**	**17 33 25.0**	**+0.9**
LSA				IAmb	IAmb	17 33 31.8	
	comp=Z,3.3nm,0.9s						
H08S3	**Diego Garcia H**	**26.10**	**236**	T	T	18 00 34.9	
	baz=56,slow=75,SNR=7.1						
H08S2	**Diego Garcia H**	**26.10**	**236**	T		18 00 40.7	
	baz=56,slow=75,SNR=6.6						
H08S1	**Diego Carcia H**	**26.12**	**236**	T		18 00 38.3	
	baz=56,slow=75,SNR=5.3						
MK31	**Makanchi Array**	**40.69**	**348**	P	**P**	**17 36 03.5**	**-0.6**
MKAR	**Makanchi Array**	**40.69**	**348**	P	**P**	**17 36 03.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=168,slow=7.9,SNR=8.3						
MKAR	**Makanchi Array**	**40.69**	**348**	P	**P**	**17 36 03.2**	**-0.9**
MAKZ	**Makanchi**	**40.77**	**347**	P	**P**	**17 36 04.1**	**-0.6**
MAKZ				IAmb	IAmb	17 36 10.6	
	comp=Z,3.8nm,1.3s						
KURK	**Kurchatov**	**45.21**	**346**	P	**P**	**17 36 38.9**	**-1.7**
ZALV	**Zalesovo Beam**	**47.17**	**353**	P	**P**	**17 36 55.8**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=165,slow=6.2,SNR=6.2						
ZALV	**Zalesovo Beam**	**47.17**	**353**	P	**P**	**17 36 55.5**	**-0.4**
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**17 37 03.7**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=306,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**17 37 02.8**	**+0.2**
WB2	**Warramunga Arr**	**47.96**	**125**	P	**P**	**17 37 00.3**	**-2.3**
WB2				IAmb	IAmb	17 37 14.0	
	comp=Z,2.2nm,0.9s						
ASAR	**Alice Springs**	**49.57**	**129**	P	**P**	**17 37 15.8**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=304,slow=7.5,SNR=1.7						
ASAR	**Alice Springs**	**49.57**	**129**	P	**P**	**17 37 15.1**	**+0.1**
TIXI	**Tiksi**	**67.87**	**11**	P	**P**	**17 39 20.8**	**-0.6**
FINES	**FINESS Array B**	**73.24**	**332**	P	**P**	**17 39 54.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=70,slow=9.0,SNR=2.2						
FINES	**FINESS Array B**	**73.24**	**332**	P	**P**	**17 39 54.1**	**-0.3**
NOA	**NORSAR Array B**	**80.25**	**331**	P	**P**	**17 40 35.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=92,slow=5.6,SNR=2.0						

IDC 13 17:42:10.4±2.5, 6.72S×129.66E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.3/27, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=148.8km s-min=33.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.90**	**161**	Pn	Pn	17 45 29.2	+0.3
	0.2nm,0.3s,baz=344,slow=12,SNR=9.0						
WRA				Sn	Sn	17 47 49.3	-15
	0.4nm,0.3s,baz=331,slow=25,SNR=12						
ASAR	**Alice Springs**	**17.33**	**167**	P	Pn	17 46 13.8	-0.2
	0.1nm,0.3s,baz=344,slow=10,SNR=12						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	17 53 10.4	0.0
	0.2nm,0.5s,baz=141,slow=4.8,SNR=2.5						

*IDC **13** 17:48:00.7±2.9, 32.26S×177.85W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/20, mbtmp3.8/3, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=72.4km s-min=44.6km az=127.0*
*NEIC **13** 17:48:02.6±0.7, 32.5S±0.2×177.7W±0.5, h25km±15km, mb4.4/3, Error ellipse: s-maj=65.5km s-min=8.3km az=114.0*

ISC 13 17:48:00.6±2.0, 32.5S±0.2×177.7W±0.4, h10km, n11, σ0s68/12, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.17**	**215**	Pn	**Pn**	**17 49 46.4**	**+0.9**
	0.9nm,0.3s,baz=355,slow=3.7,SNR=5.5						
URZ				Sn	**Sn**	**17 51 06.1**	**-0.9**
	3.9nm,0.3s,baz=228,slow=22,SNR=6.4						
URZ	**Urewera**	**7.17**	**215**		**Pn**	**17 49 45.7**	**+0.3**
BKZ	**Black Stump Fm**	**8.18**	**214**	Pn	Pn	17 49 55.2	-4.3
ASAR	**Alice Springs**	**43.30**	**269**	P	**P**	**17 56 03.8**	**+1.0**
	0.6nm,0.7s,baz=108,slow=7.6,SNR=14						
ASAR				LR	LR	18 11 43.9	
	comp=Z,34nm,18.4s,baz=144,slow=33						
ASAR	**Alice Springs**	**43.30**	**269**	P	**P**	**17 56 03.0**	**+0.2**
WB2	**Warramunga Arr**	**44.46**	**274**	P	**P**	**17 56 11.5**	**-0.6**
WB2				IAmb	IAmb	17 56 33.9	
	comp=Z,6.7nm,1.2s						
WRA	**Warramunga Arr**	**44.47**	**274**	P	**P**	**17 56 12.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=112,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**44.47**	**274**	P	**P**	**17 56 11.8**	**-0.4**
WB0	**Warramunga Arr**	**44.51**	**274**	P	**P**	**17 56 12.3**	**-0.2**
WB0				IAmb	IAmb	17 56 31.7	
	comp=Z,8.3nm,1.4s						
FINES	**FINESS Array B**	**147.17**	**339**	PKPbc	**PKPbc**	**18 07 43.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=56,slow=4.8,SNR=9.6						
FINES	**FINESS Array B**	**147.17**	**339**	PKPdf	**PKPdf**	**18 07 40.1**	**-0.8**
FINES					**sPKPbc**	**18 07 44.4**	**-0.1**

*NEIC **13** 18:27:51.6±0.8, 51.79N±0.06×178.64E±0.1, h97km±5km, Error ellipse: s-maj=12.5km s-min=5.5km az=57.0*

AEIC 13 18:27:52.0±0.7, 51.80N±0.06×178.64E±0.10, h94km±4km, mb4.3/6(NEIC), Error ellipse: s-maj=9.3km s-min=7.4km az=50.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.14**	**341**		Pn	18 28 05.5	+0.1
LSPA	**Little Sitkin**	**0.16**	**345**		Pn	18 28 05.5	+0.2
LSPA					Sn	18 28 15.6	+0.3
LSNW	**Little Sitkin**	**0.19**	**336**		Pn	18 28 05.5	0.0
LSNW					Sn	18 28 16.1	+0.6
CESW	**Semis' Southwe**	**0.58**	**80**		Pn	18 28 07.6	-0.2
AMKA	**Amchitka**	**0.59**	**135**		Pn	18 28 07.9	+0.1
AMKA	**Amchitka**	**0.59**	**135**		Sn	18 28 19.9	+0.2
CEAP	**Semis' Anvil P**	**0.61**	**70**		Pn	18 28 08.2	+0.1
CERAA	**Semis' Rag'd T**	**0.66**	**80**		Pn	18 28 08.3	-0.1
CERAA					Sn	18 28 21.4	+0.6
TASE	**Tanaga Southea**	**2.06**	**88**		Pn	18 28 25.2	0.0
TAFP	**Tanaga Falls P**	**2.10**	**86**		Pn	18 28 25.3	-0.3
TAFP					Sn	18 28 51.0	-0.2
KIMD	**Kanaga Island**	**2.56**	**89**		Pn	18 28 31.4	-0.2
ADK	**Adak**	**2.90**	**87**		Pn	18 28 35.7	-0.5
GSMY	**Great Sitkin M**	**3.29**	**84**		Pn	18 28 41.1	-0.4
ATKA	**Atka Island**	**4.45**	**82**		Pn	18 28 55.8	-1.2
OHAK	**Old Harbor**	**17.10**	**60**	Pn	Pn	18 31 43.2	-1.7
OHAK				IAmb	IAmb	18 32 03.3	
	comp=Z,51nm,1.4s						
KDAK	**Kodiak Island**	**17.55**	**59**	P	P	18 31 48.9	-1.1
CNPM	**China Poot**	**18.53**	**54**	P	P	18 31 59.9	-1.0
CNPM				IAmb	IAmb	18 32 24.1	
	comp=Z,23nm,1.4s						
BRLK	**Bradley Lake**	**18.76**	**53**	P	P	18 32 01.6	-1.7
SUA	**Susitna One**	**19.23**	**48**	P	P	18 32 08.5	-0.1
SUA				IAmb	IAmb	18 32 10.3	
	comp=Z,26nm,1.5s						
IMAR	**Indian Mountai**	**19.88**	**34**	Pn	Pn	18 32 17.9	+0.1
TRF	**Thorofare Moun**	**20.07**	**43**	P	P	18 32 17.8	+0.1
TRF				IAmb	IAmb	18 32 19.6	
	comp=Z,12nm,1.4s						

IDC 13 18:29:48.7±1.8, 0.75N×122.45E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=135.9km s-min=26.4km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.99**	**171**	P	Pn	18 34 12.8	+0.2
	0.1nm,0.3s,baz=2.6,slow=10,SNR=1.9						
WRA	**Warramunga Arr**	**23.64**	**151**	P	P	18 35 01.3	-0.5
	1.3nm,0.7s,baz=326,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.70**	**156**	P	P	18 35 30.0	+0.1
	0.2nm,0.5s,baz=332,slow=8.0,SNR=7.8						
MKAR	**Makanchi Array**	**57.69**	**328**	P	P	18 39 41.1	0.0
	0.1nm,0.3s,baz=130,slow=7.2,SNR=1.7						

IDC 13 18:37:09.9±425.0, 56.92N×0.67E, h0km, Error ellipse: s-maj=168.6km s-min=54.0km az=27.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**11.27**	**130**	*i*		19 42 10.0	
	baz=320,slow=324,SNR=1.7						
I37NO	**I37NO**	**14.57**	**26**	*i*		20 13 20.0	
	baz=222,slow=325,SNR=1.1						
I48TN	**KESRA INFRASON**	**21.92**	**161**	*i*		20 51 50.0	
	baz=355,slow=309,SNR=0.5						

*UCR **13** 18:48:22.0±1.6, 8.46N×83.10W, h2km, MW3.6*
*UPA **13** 18:48:22.0±0.9, 8.48N×83.05W, h7km±5km, MW3.9*

ISC 13 18:48:21.1±1.3, 8.39N±0.06×83.10W±0.03, h25km±8km, n20, σ0s97/32, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.25**	**307**	*e*P	**Pb**	**18 48 27.6**	**+0.3**
PTJ1				*e*S	**Sb**	**18 48 32.4**	**+0.9**
CDITO	**Canoas**	**0.29**	**51**	*i*P	**Pb**	**18 48 27.9**	**-0.1**
CDITO				*e*S	**Sb**	**18 48 29.6**	**-3.1**
CDITO	**Canoas**	**0.29**	**51**	*e*P	**Pb**	**18 48 27.8**	**-0.1**
CDITO				*e*S	**Sb**	**18 48 33.0**	**+0.4**
EDSV	**San Vito**	**0.45**	**17**	*e*P	**Pb**	**18 48 30.9**	**+0.4**
EDSV				*e*S	**Sb**	**18 48 38.6**	**+1.7**
RIOS	**Rincon, Osa**	**0.51**	**307**	*e*P	**Pb**	**18 48 31.4**	**-0.1**
RIOS	**Rincon, Osa**	**0.51**	**307**	*e*P	**Pb**	**18 48 31.4**	**-0.1**
BRU2	**Volcan**	**0.57**	**45**	*i*P	**Pb**	**18 48 33.0**	**+0.3**
BRU2				*e*S	**Sb**	**18 48 39.9**	**-0.6**
BRU2	**Volcan**	**0.57**	**45**	*e*P	**Pb**	**18 48 32.9**	**+0.3**
BRU2				*e*S	**Sb**	**18 48 41.7**	**+1.2**
BCO2	**Palmira**	**0.66**	**60**	*i*P	**Pn**	**18 48 34.4**	**-0.6**
BCO2				*e*S	**Sb**	**18 48 43.3**	**+0.5**
EDPN	**Palmar Norte**	**0.67**	**328**	*e*P	**Pb**	**18 48 33.6**	**-0.6**
EDPN				*e*S	**Sb**	**18 48 43.7**	**+0.7**
DRK0	**Durika**	**0.88**	**351**	*e*P	**Pn**	**18 48 37.8**	**-0.4**
DRK0				*e*S	**Sb**	**18 48 50.4**	**+1.1**
DRK0	**Durika**	**0.88**	**351**	*e*P	**Pn**	**18 48 37.7**	**-0.4**
CHGR2	**Aguacate**	**1.09**	**60**	*i*P	**Pb**	**18 48 41.0**	**-0.3**
CHGR2				*e*S	**Sn**	**18 48 55.4**	**+0.1**
CDM	**Cerro de Muert**	**1.33**	**331**	*e*P	**Pb**	**18 48 45.4**	**-0.3**
RIMA	**Rio Macho**	**1.56**	**331**	*e*P	**Pn**	**18 48 48.5**	**+0.9**
LCR2	**La Lucha 2**	**1.61**	**327**	*e*P	**Pb**	**18 48 50.5**	**+0.2**
HDC	**Heredia**	**1.89**	**328**	*e*P	**Pb**	**18 48 54.8**	**-0.2**
HDC				*e*S	**Sb**	**18 49 17.5**	**-0.8**
GMAL	**Guarumal, Vera**	**1.95**	**108**	*e*P	**Pn**	**18 48 53.0**	**+0.3**
GMAL				*e*S	**Sb**	**18 49 20.2**	**+0.3**
JACO	**JACO, Garabito**	**1.99**	**310**	*e*P	**Pb**	**18 48 57.0**	**+0.3**
JTS	**Las Juntas de**	**2.63**	**316**	*e*S	**Sb**	**18 49 37.1**	**-2.3**

*MOS **13** 19:00:15.8±1.2, 64.74N×17.35W, h6km, mb4.9/29, Error ellipse: s-maj=9.4km s-min=6.1km az=117.9*
*REY **13** 19:00:15.5, 64.67N×17.45W, h3km*
*IDC **13** 19:00:16.2±0.5, 64.63N×17.54W, h0km, mb4.2/23, mb1 4.3/28, mb1mx4.1/58, mbtmp4.2/28, ML2.8/3, MS3.7/32, Ms1 3.7/32, ms1mx3.6/45, Error ellipse: s-maj=15.6km s-min=11.2km az=23.0*
*NEIC **13** 19:00:17.5±1.6, 64.65N±0.08×17.5W±0.1, h10km±1km, mb4.7/170, Error ellipse: s-maj=13.5km s-min=10.1km az=182.0*
*GCMT **13** 19:00:22.5±0.4, 64.51N±0.03×16.71W±0.09, h20km±1km, MW4.8/89, Moment Tensor Solution. s16,c18; s89,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.01±. 15; Mθθ 1.36±.09; Mϕϕ 0.65±.08; Mrθ -0.14±.14; Mϕθ -0.52±.05; Mϕr-0.72±.17; Best double couple: Mo1.93000×10^16 NP1:ϕs314.00000°, δ43.00000°, λ-112.00000°. NP2: ϕs314.00000°, δ50.00000°, λ-70.00000°. Principal axes: T 1.6480, Plg4.0000°, Azm30.0000°; N 0.5660, Plg15.0000°, Azm121.0000°; P -2.2120, Plg75.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 19:00:17.5±0.3, 64.70N±0.02×17.53W±0.02, h10km, n501, σ1s97/503, mb4.6/148, MS3.9/42, 22C-18D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.10**	**257**	P	**Pg**	**19 00 18.3**	**-1.9**
	baz=271						
IDYN	**Dyngjuhals**	**0.12**	**36**	P	**Pg**	**19 00 18.4**	**-2.1**
	baz=16						
IDJK	**Dyngjujokull**	**0.23**	**147**	P	**Pg**	**19 00 19.6**	**-2.7**
	baz=151						
IGRF	**Grimsfjall**	**0.31**	**159**	P	**Pg**	**19 00 20.9**	**-2.9**
	baz=164						
ISKR	**Skrokkalda**	**0.39**	**250**	P	**Pg**	**19 00 23.2**	**-2.1**
	baz=255						
IHUS	**Husbondi**	**0.41**	**188**	P	**Pg**	**19 00 22.9**	**-2.6**
	baz=194						
IVOT	**Vottur**	**0.45**	**161**	P	**Pg**	**19 00 23.6**	**-2.8**
	baz=164						
IJOK	**Jokulheimar**	**0.49**	**219**	P	**Pg**	**19 00 24.3**	**-2.7**
	baz=224						
IKRE	**Kreppuhraun**	**0.50**	**79**	P	**Pg**	**19 00 24.1**	**-3.2**
	baz=76						
IASK	**Askja**	**0.52**	**46**	P	**Pg**	**19 00 24.9**	**-2.8**
	baz=41						
IMKO	**Mokollar**	**0.58**	**60**	P	**Pg**	**19 00 25.9**	**-3.0**
	baz=56						
IMKO				S	**Sg**	**19 00 34.6**	**-1.9**
	baz=56						
ISVA	**Svartarkot**	**0.65**	**10**	P	**Pg**	**19 00 27.6**	**-2.6**
	baz=6.9						
ISVA				S	**Sg**	**19 00 37.3**	**-1.5**
	baz=6.9						
IIEY	**Innrieyrar**	**0.66**	**203**	P	**Pg**	**19 00 27.0**	**-3.2**
	baz=207						
IKSK	**Karasker**	**0.71**	**139**	P	**Pg**	**19 00 26.9**	**-4.2**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**185**	P	**Pg**	**19 00 28.6**	**-3.4**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.78**	**81**	P	**Pg**	**19 00 28.7**	**-3.9**
	baz=79						
IVSH				S	**Sg**	**19 00 39.4**	**-3.4**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**230**	P	**Pg**	**19 00 29.9**	**-2.9**
	baz=233						
IHVE	**Hveravellir**	**0.89**	**282**	P	**Pg**	**19 00 31.5**	**-3.2**
	baz=283						
IADA	**Aoalbol**	**0.90**	**68**	P	**Pg**	**19 00 30.7**	**-4.1**
	baz=66						
IMEL	**Melhausar**	**0.95**	**22**	P	**Pg**	**19 00 32.3**	**-3.5**
	baz=20						
IREN	**Reynihlio**	**0.99**	**15**	P	**Pg**	**19 00 33.1**	**-3.5**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**15**	P	**Pg**	**19 00 34.1**	**-3.7**
	baz=13						
ISNB	**Snabyli**	**1.08**	**207**	S	**Sg**	**19 00 48.5**	**-3.7**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**31**	P	**Pb**	**19 00 35.0**	**-3.9**
	baz=29						
IGRS				S	**Sg**	**19 00 51.4**	**-2.1**
	baz=29						
ISLY	**Slysaalda**	**1.12**	**219**	P	**Pb**	**19 00 35.2**	**-3.7**
	baz=221						
IFED	**Fedgar**	**1.16**	**235**	P	**Pb**	**19 00 36.2**	**-3.4**
	baz=237						
IRJU	**Rjupnafell**	**1.19**	**205**	P	**Pb**	**19 00 36.4**	**-3.8**
	baz=208						
ISKI	**Skildingahlsh**	**1.20**	**10**	P	**Pb**	**19 00 36.5**	**-3.8**
	baz=8.2						
IGHA	**Grjothals**	**1.21**	**17**	P	**Pn**	**19 00 36.5**	**-4.0**
	baz=15						
IMJO	**Mjoaskard**	**1.21**	**232**	P	**Pb**	**19 00 36.9**	**-3.6**
	baz=234						
IGRA	**Granastaoir**	**1.23**	**359**	P	**Pn**	**19 00 37.0**	**-3.7**
	baz=358						
IGRA				S	**Sb**	**19 00 54.5**	**-2.2**
	baz=358						
IDIM	**Dimmadalss**	**1.29**	**11**	P	**Pn**	**19 00 38.0**	**-3.6**
	baz=9.3						
IHLA	**Hella**	**1.30**	**344**	P	**Pn**	**19 00 38.8**	**-3.0**
	baz=343						
IHED	**Heoinshofoi**	**1.39**	**4**	P	**Pn**	**19 00 39.6**	**-3.4**
	baz=2.3						
IALF	**Alftagrof**	**1.41**	**212**	P	**Pn**	**19 00 40.4**	**-2.8**
	baz=214						
IBRE	**Brettingsstaoi**	**1.44**	**354**	P	**Pn**	**19 00 40.6**	**-3.0**
	baz=353						
ISAU	**Saurbar**	**1.44**	**242**	P	**Pn**	**19 00 41.2**	**-2.4**
	baz=244						
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**	**19 00 41.0**	**-2.7**
	baz=218						
IGIL	**Gilhagi**	**1.47**	**19**	P	**Pn**	**19 00 40.6**	**-3.5**
	baz=18						
ISIG	**Siglufjorour**	**1.55**	**339**	P	**Pn**	**19 00 42.4**	**-2.8**
	baz=338						
BORG	**Borgarnes**	**1.63**	**274**	Pn	**Pn**	**19 00 43.0**	**-3.3**
	60nm,0.3s,baz=98,slow=10,SNR=174						
BORG				Sn	**Sb**	**19 01 07.8**	**-0.4**
	11nm,0.3s,baz=95,slow=18,SNR=6.2						
BORG	**Borgarnes**	**1.63**	**274**	Pn	**Pn**	**19 00 43.2**	**-3.1**
IKRO	**Krokur**	**1.67**	**251**	P	**Pn**	**19 00 44.6**	**-2.2**
	baz=252						
ISOL	**Solvholt**	**1.68**	**244**	P	**Pn**	**19 00 45.0**	**-1.8**
	baz=246						
IHEI	**Heioarbar**	**1.68**	**254**	P	**Pn**	**19 00 44.5**	**-2.5**
	baz=256						
IHRN	**Hraun**	**1.79**	**324**	P	**Pn**	**19 00 45.8**	**-2.6**
	baz=323						
IBJA	**Bjarnastaoir**	**1.81**	**247**	P	**Pn**	**19 00 46.8**	**-1.9**
	baz=248						
ISAN	**Sandskeio**	**1.87**	**252**	P	**Pn**	**19 00 47.5**	**-2.0**
	baz=253						
IKUD	**Kuludalsa**	**1.92**	**261**	P	**Pn**	**19 00 48.8**	**-1.4**
	baz=262						
IKAS	**Kald??rsel**	**2.00**	**252**	P	**Pn**	**19 00 49.5**	**-1.8**
	baz=253						
IVOS	**Vogsosar**	**2.01**	**247**	P	**Pn**	**19 00 48.8**	**-2.6**
	baz=248						
JMIC	**Jan Mayen**	**7.17**	**24**	Pn	**Pn**	**19 02 02.6**	**+0.4**
	baz=235,slow=4.0,SNR=3.4						
JMIC				LR	LR	19 04 25.0	
	comp=Z,671nm,19.3s,baz=285,slow=34						
DBG	**Daneborg**	**9.70**	**356**	*i* P	Pn	19 02 44.7	+7.8
ICESG	**Greenland Ices**	**9.71**	**307**	*i* P	**Pn**	**19 02 41.8**	**+4.5**
SUMG	**Summit**	**10.91**	**325**	*i* P	**Pn**	**19 02 57.0**	**+3.2**
SUMG	**Summit**	**10.91**	**325**	Pn	**Pn**	**19 02 53.7**	**-0.1**
SUMG	**Summit**	**10.91**	**325**	*i* P	**Pn**	**19 02 57.0**	**+3.2**
SUMG	**Summit**	**10.91**	**325**	*i* P	**Pn**	**19 02 57.0**	**+3.2**
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**19 03 03.4**	**-2.1**
	baz=322,slow=13,SNR=23						
ESK	**Eskdalemuir**	**11.79**	**136**	P	**Pn**	**19 03 06.4**	**+0.9**
ESK	**Eskdalemuir**	**11.79**	**136**	Pn	**Pn**	**19 03 06.4**	**+0.9**
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**19 03 13.0**	**+2.8**
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**19 03 13.0**	**+2.8**
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**19 03 13.0**	**+2.8**
NC204	**NORSAR Array S**	**13.24**	**92**	Pn	**Pn**	**19 03 22.1**	**-3.3**
NBO00	**NORSAR Array S**	**13.36**	**93**	Pn	**Pn**	**19 03 23.6**	**-3.5**
NB2	**NORSAR Subarra**	**13.55**	**92**	Pn	**Pn**	**19 03 26.5**	**-3.1**
	comp=Z,62nm,2.5s,baz=298,slow=14						
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	**Pn**	**19 03 26.4**	**-3.1**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=6.4						
NOA				LR	LR	19 09 36.7	
	comp=Z,118nm,18.5s,baz=295,slow=41						
SFJD	**Kangerlussuaq**	**13.64**	**295**	LR	LR	19 08 23.1	
	comp=Z,1µm,19.2s,baz=84,slow=36						
NUUK	**Nuuk**	**14.67**	**284**	*e*P	**P**	**19 03 51.9**	**+0.9**
HFS	**Hagfors**	**15.06**	**93**	Pn	**Pn**	**19 03 49.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=303,slow=6.0,SNR=1.9						
HSPB	**Hornsund (broa**	**16.05**	**27**	*e*P	**P**	**19 04 07.1**	**+0.8**
KBS	**Kingsbay**	**16.62**	**19**	*e*P	**Pn**	**19 04 09.0**	**-1.1**
KBS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**16.84**	**23**	LR	LR	19 08 36.0	
	comp=Z,126nm,21.8s,baz=180,slow=30						
NOR	**Nord**	**17.00**	**0**	*i* P	**P**	**19 04 18.0**	**+1.2**
NOR				pmax	pmax		
	comp=Z,220nm,2.0s						
NOR	**Nord**	**17.00**	**0**	*i* P	**P**	**19 04 18.0**	**+1.2**
	comp=Z,216nm,2.0s						
NOR	**Nord**	**17.00**	**0**	*i* P	**P**	**19 04 18.0**	**+1.2**
NOR				IAmb	IAmb	19 04 25.0	
	comp=Z,217nm,2.0s						
ARCES	**ARCESS Array B**	**17.11**	**55**	P	**P**	**19 04 19.6

VSU Vasula 21.58 86 *e*P P 19 05 05.4 -1.5
VSU Vasula 21.58 86⇑*e*P P 19 05 05.1 -1.8
VSU pmax pmax
comp=Z,55nm,1.1s
FRB Frobisher Bay 21.73 291 LR LR 19 13 05.9
comp=Z,435nm,21.9s,baz=42,slow=35
PVCC Panska Ves 21.95 115 AMS AMS 19 17 50.0
comp=Z,400nm,8.9s
PABE Paberze 22.23 95 *e*P P 19 05 15.1 +1.2
PRA Prague 22.27 116 *e*P P 19 05 17.0 +2.7
PRA AMS AMS 19 18 20.0
comp=Z,200nm,11.2s
PRA Prague 22.27 116 *e*P P 19 05 17.0 +2.7
PRA MLR MLR
comp=Z,200nm,11.2s
PRU Pruhonice 22.37 116 *e*P P 19 05 16.6 +1.1
PRU *e*S S 19 09 26.4 +5.3
PRU AMS AMS 19 17 20.0
comp=Z,400nm,10.5s
PRU Pruhonice 22.37 116 *e*P P 19 05 16.6 +1.1
PRU MLR MLR
comp=Z,400nm,10.5s
KSP Ksiaz 22.39 112 *e*P P 19 05 15.5 -0.1
CHVC Chvalec 22.49 113 *e*P P 19 05 17.2 +0.4
GOPC GO Pecny, Ondr 22.53 116 *e*P P 19 05 16.2 -1.0
GOPC *e*S S 19 09 30.1 +6.1
GOPC AMS AMS 19 18 20.0
comp=Z,500nm,10.4s
GOPC GO Pecny, Ondr 22.53 116 *e*P P 19 05 16.2 -1.0
GOPC MLR MLR
comp=Z,500nm,10.4s
UPC Upice 22.54 113 *e*S S 19 09 29.3 +5.2
UPC AMS AMS 19 18 50.0
comp=Z,300nm,12.1s
OSTC Ostas 22.58 113 *e*P P 19 05 18.5 +0.8
OSTC AMS AMS 19 19 10.0
comp=Z,300nm,8.1s
KHC Kasperske Hory 22.70 118 *e*P P 19 05 17.7 -1.3
KHC *e*S S 19 09 31.9 +4.7
KHC AMS AMS 19 17 20.0
comp=Z,500nm,9.9s
KHC Kasperske Hory 22.70 118 *e*P P 19 05 17.7 -1.3
KHC MLR MLR
comp=Z,500nm,9.9s
KHC Kasperske Hory 22.70 118 P P 19 05 19.0 0.0
DPC Dobruska-Polom 22.78 113 *e*P P 19 05 20.1 +0.2
DPC *e*S S 19 09 36.1 +7.4
DPC AMS AMS 19 19 10.0
comp=Z,300nm,8.1s
DPC Dobruska-Polom 22.78 113 *e*P P 19 05 20.1 +0.2
DPC MLR MLR
comp=Z,300nm,8.1s
SUW Suwalki 22.90 98 *e*P P 19 05 21.2 +0.1
SUW Suwalki 22.90 98 P P 19 05 19.9 -1.1
SUW pmax pmax
comp=Z,53nm,1.2s
SUW Suwalki 22.90 98 P P 19 05 19.9 -1.1
DAVA Damuels 22.91 126 *e*P P 19 05 23.5 +2.1
comp=Z,19nm,1.1s
SSB Saint Sauveur 22.98 137 P P 19 05 23.8 +1.8
SSB pmax pmax
comp=Z,18nm,1.2s
SSB Saint Sauveur 22.98 137 P P 19 05 23.8 +1.8
GEC2 GERESS Array S 22.98 119 P P 19 05 22.5 +0.5
GEC2 IAmb IAmb 19 05 26.3
comp=Z,25nm,1.3s
GERES GERESS Array B 22.98 119 P P 19 05 22.4 +0.3
comp=Z,2.5nm,0.9s,baz=319,slow=7.1,SNR=14
GERES GERESS Array B 22.98 119 P P 19 05 21.6 -0.5
GERES GERESS Array B 22.98 119 P P 19 05 21.6 -0.5
IZAR Zarasai 23.04 92 *e*P P 19 05 22.5 0.0
RETA Reutte 23.05 125 *e*P P 19 05 25.1 +2.4
comp=Z,16nm,1.3s
ISAL Salakas 23.11 93 *e*P P 19 05 24.3 +1.2
KRLC Kraliky 23.18 113 *e*P P 19 05 22.8 -1.2
KRLC AMS AMS 19 17 50.0
comp=Z,300nm,13.8s
KRLC Kraliky 23.18 113 *e*P P 19 05 22.8 -1.2
KRLC MLR MLR
comp=Z,300nm,13.8s
MOTA Moosalm 23.29 124 *e*P P 19 05 27.9 +2.6
comp=Z,25nm,1.5s
IIGN Ignalina 23.29 93 *e*P P 19 05 25.1 +0.1
TREC Trest 23.30 116 *e*P P 19 05 25.5 +0.3
TREC *e*S S 19 09 46.0 +8.6
TREC AMS AMS 19 18 50.0
comp=Z,400nm,12.5s
TREC Trest 23.30 116 *e*P P 19 05 25.5 +0.3
TREC MLR MLR
comp=Z,400nm,12.5s
DAVOX Davos/Dischmat 23.35 127 P P 19 05 26.7 +0.8
comp=Z,5.4nm,0.9s,baz=322,slow=14,SNR=2.8
DAVOX LR LR 19 15 41.6
comp=Z,182nm,18.8s,baz=327,slow=40
SQTA Sankt Quirin 23.43 124 *e*P P 19 05 28.0 +1.3
comp=Z,25nm,1.5s
FETA Feichten 23.43 125 *e*P P 19 05 29.5 +2.8
comp=Z,19nm,1.2s
BEL Belsk 23.46 105 *e*P P 19 05 28.5 +1.7
WATA Walderalm 23.46 124 *e*P P 19 05 28.3 +1.3
comp=Z,20nm,1.8s
IDID Didziasalis 23.54 92 *e*P P 19 05 28.1 +0.6
WTTA Wattenberg 23.55 124 *e*P P 19 05 29.5 +1.6
comp=Z,24nm,1.6s
FUORN Ofenpass-Fuorn 23.62 127 P P 19 05 25.8 -2.8
FUORN IAmb IAmb 19 05 54.6
comp=Z,25nm,1.4s
EUNU Eureka 23.64 336 P P 19 05 29.7 +1.3
EUNU IAmb IAmb 19 05 33.0
comp=Z,16nm,1.0s
VRAC Vranov 23.72 114 P P 19 05 29.7 +0.3
comp=Z,2.9nm,0.8s,baz=325,slow=11,SNR=14
VRAC LR LR 19 16 15.4
comp=Z,101nm,18.3s,baz=330,slow=40
VRAC Vranov 23.72 114⇓*i*P P 19 05 31.3 +2.0
VRAC *e*S S 19 09 54.8 +11
MORC Moravsky Berou 23.72 112⇓*i*P P 19 05 30.9 +1.5
MORC *e*S S 19 09 52.2 +8.0
MORC Moravsky Berou 23.72 112 P P 19 05 28.7 -0.7
MORC pmax pmax
comp=Z,21nm,1.5s
MORC Moravsky Berou 23.72 112 P P 19 05 28.6 -0.7
NACGM Naroch 23.83 93 *e* P 19 05 30.0 -0.3
KRUC Moravsky 23.84 115⇓*i*P P 19 05 32.1 +1.6
KRUC *e*S S 19 09 56.9 +11
MOA Molln 24.02 119 *e*P P 19 05 34.4 +2.2
comp=Z,13nm,1.9s
OJC Ojcow 24.28 109 *e*P P 19 05 35.1 +0.5
OJC Ojcow 24.28 109 P P 19 05 33.0 -1.6
OJC pmax pmax
comp=Z,17nm,1.3s
OJC Ojcow 24.28 109 P P 19 05 33.0 -1.6
ABTA Abfaltersbach 24.30 123 *e*P P 19 05 38.0 +3.1
comp=Z,14nm,1.5s
KBA Koelnbreinsper 24.32 122 P P 19 05 36.9 +1.7
comp=Z,8.9nm,1.2s
JAVC Velka Javorina 24.50 113⇓*i*P P 19 05 39.4 +2.7
CONA Conrad Observa 24.55 117 *e*P P 19 05 37.2 -0.1
comp=Z,9.3nm,1.0s
MICGM Minsk 24.57 93 *e* P 19 05 38.0 +0.8
MNK Minsk 24.57 93 *e*P P 19 05 38.0 +0.8
CTI Castel Tesino 24.59 125 P P 19 05 37.2 -0.4
CTI pmax pmax
comp=Z,14nm,1.0s
CTI Castel Tesino 24.59 125 P P 19 05 37.2 -0.4
CTI IAmb IAmb 19 05 42.1
comp=Z,14nm,1.0s
ZOU Zoufplan 24.63 123 P P 19 05 37.4 -0.6
ZOU IAmb IAmb 19 05 51.0
comp=Z,21nm,1.4s
CIMO Cimolais 24.65 124 P P 19 05 37.3 -0.7
SMOL Smolenice 24.68 114 *e*P P 19 05 40.1 +1.8
SMOL Smolenice 24.68 114 *e*P P 19 05 40.1 +1.8
MODS Modra-Piesok 24.74 115 *e*P P 19 05 39.0 +0.2
MODS pmax pmax
comp=Z,73nm,1.8s
MODS Modra-Piesok 24.74 115 *e*P P 19 05 39.0 +0.2
PRED Cave del Predi 24.94 122 P P 19 05 41.0 +0.3
PRED IAmb IAmb 19 05 47.1
comp=Z,34nm,1.5s
LANS Liptovska Anna 24.99 111 *e*P P 19 05 42.4 +1.4
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 24.99 111 *e*P P 19 05 42.4 +1.4

ARSA Arzberg 24.99 118 *e*P P 19 05 41.8 +0.8
comp=Z,9.0nm,1.3s
NIE Niedzica 25.11 109 *e*P P 19 05 41.7 -0.4
VYHS Vyhne 25.26 112 *e*P P 19 05 43.4 -0.1
VYHS pmax pmax
comp=Z,57nm,1.8s
VYHS Vyhne 25.26 112 *e*P P 19 05 43.4 -0.1
KLMR Klimovskoe 25.61 72 *e*P P 19 05 45.3 -1.2
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 25.61 72 *e*P P 19 05 45.3 -1.2
KLMR AMP 19 05 49.6
comp=Z,25nm,1.4s
KWP Kalwaria Pacla 25.93 106 *e*P P 19 05 50.3 +0.7
KWP Kalwaria Pacla 25.93 106 P P 19 05 49.6 0.0
KWP pmax pmax
comp=Z,36nm,1.1s
KWP Kalwaria Pacla 25.93 106 P P 19 05 49.6 0.0
CRVS Cervenica-Dubn 25.99 109 *e*P P 19 05 51.3 +1.2
CRVS Cervenica-Dubn 25.99 109 *e*P P 19 05 51.3 +1.2
SCHQ Schefferville 26.03 271 P P 19 05 50.5 +0.1
comp=Z,12nm,0.9s,baz=42,slow=8.7,SNR=5.0
SCHQ LR LR 19 15 00.6
comp=Z,225nm,21.9s,baz=144,slow=34
SCHQ Schefferville 26.03 271 P P 19 05 48.6 -1.7
SCHQ IAmb IAmb 19 05 59.6
comp=Z,15nm,0.9s
PSZ Piszkesteto 26.14 112 P P 19 05 49.6 -2.0
PSZ pmax pmax
comp=Z,39nm,1.5s
PSZ Piszkesteto 26.14 112 P P 19 05 49.6 -2.0
PSZ IAmb IAmb 19 05 58.8
comp=Z,39nm,1.5s
ESDC Sonseca Array 26.29 156 P P 19 05 52.7 -0.2
comp=Z,2.6nm,0.9s,baz=350,slow=10.0,SNR=9.1
ESDC LR LR 19 16 19.1
comp=Z,76nm,19.0s,baz=350,slow=37
ESDC Sonseca Array 26.29 156 P P 19 05 49.4 -3.5
KOLS Kolonicke sedl 26.30 108 *e*P P 19 05 52.4 -0.5
KOLS pmax pmax
comp=Z,24nm,1.4s
KOLS Kolonicke sedl 26.30 108 *e*P P 19 05 52.4 -0.5
LVV L'vov 26.33 104 *e*P P 19 05 53.1 -0.1
LVV *e* 19 06 43.1
LVV *e*S S 19 10 23.1 -2.7
LVV *e*SS SnSn 19 11 37.3 +12
LVV pmax pmax
comp=Z,70nm,1.4s
LVV MLR MLR
comp=N,200nm,13.0s
LVV MLR MLR
comp=E,300nm,13.0s
LVV MLR MLR
comp=Z,200nm,12.0s
UZH Uzhgorod 26.54 108 *e*P P 19 05 55.4 +0.4
UZH *e*S S 19 10 28.0 -1.0
UZH pmax pmax
comp=Z,6.0nm,1.0s
PRGR Permogore 27.62 67 *e*P P 19 05 59.2 -5.5
PRGR pmax pmax
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 27.86 98 P P 19 06 06.1 -0.7
comp=Z,0.7nm,0.6s,baz=324,slow=9.7,SNR=8.6
AKASG LR LR 19 17 49.2
comp=Z,54nm,19.5s,baz=325,slow=38
AKASG Malin Array Be 27.86 98 *i*P P 19 06 08.5 +1.6
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 27.86 98⇓*e*P P 19 06 06.6 -0.3
AKBB Malin Array Si 27.86 98 P P 19 06 05.9 -0.9
OBN Obninsk 27.89 84 P P 19 06 06.5 -0.5
comp=Z,2.5nm,0.5s,baz=291,slow=14,SNR=1.7
OBN LR LR 19 17 40.3
comp=Z,42nm,19.2s,baz=335,slow=37
OBN Obninsk 27.89 84⇓*e*P P 19 06 04.9 -2.2
OBN *e* 19 06 53.1
OBN *i*S S 19 10 49.6 -0.6
OBN *e*SS SnSn 19 12 09.2 +6.0
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,165nm,19.0s
OBN Obninsk 27.89 84 P P 19 06 06.2 -0.9
MOS Moscow 27.93 82 *e*P P 19 06 15.3 +7.9
BUR08 Bucovina Ar. S 28.52 106 P P 19 06 11.1 -1.8
BURAR Bucovina Array 28.55 106 ⇑P P 19 06 15.4 +2.2
BURAR Bucovina Array 28.55 106 ⇑P P 19 06 15.4 +2.2
BURAR Bucovina Array 28.55 106 P P 19 06 12.1 -1.0
GZR Gura Zlata 29.35 112 ⇑P P 19 06 21.1 +0.8
GZR Gura Zlata 29.35 112 ⇑P P 19 06 21.1 +0.8
BIZ Bicaz 29.45 106 ⇓P P 19 06 21.5 +0.4
PLOR Plostina 30.55 107 ⇓P P 19 06 31.6 +0.8
PLOR Plostina 30.55 107 ⇓P P 19 06 31.6 +0.8
MLR Muntele Rosu 30.55 108 P P 19 06 29.5 -1.5
MLR pmax pmax
comp=Z,12nm,1.3s
MLR Muntele Rosu 30.55 108 P P 19 06 29.5 -1.5
MLR IAmb IAmb 19 06 46.8
comp=Z,12nm,1.3s
VRI Vrincioaia 30.57 106 ⇓P P 19 06 33.2 +2.2
VRI Vrincioaia 30.57 106 ⇓P P 19 06 33.2 +2.2
LPSR Galich'ya Gora 30.64 86 *e*P P 19 06 30.7 -0.8
LPSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR MLR MLR
comp=Z,230nm,14.0s
NEHR Nehoiu 30.75 107 ⇓P P 19 06 36.8 +4.2
KIRV Kirov 30.98 69 P P 19 06 34.2 -0.2
comp=Z,4.7nm,0.5s,baz=297,slow=18,SNR=1.7
KIRV Kirov 30.98 69⇓*e*P P 19 06 32.0 -2.4
CFR Carcaliu 31.71 106 ⇑P P 19 06 42.2 +1.2
CFR Carcaliu 31.71 106 ⇑P P 19 06 42.2 +1.2
VSR Storozhevoye 31.74 88 *e*P P 19 06 41.8 +0.6
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=Z,240nm,13.0s
VORD Divnogorie 31.98 88 *e*P P 19 06 42.2 -1.1
VORD pmax pmax
comp=Z,10.0nm,1.8s
TIRR Tirgusor 32.41 106 ⇑P P 19 06 47.2 +0.1
TIRR Tirgusor 32.41 106 ⇑P P 19 06 47.2 +0.1
TIRR Tirgusor 32.41 106 P P 19 06 45.2 -1.9
VRH Novokhopyorsk 32.85 85 *e*P P 19 06 49.6 -1.3
VRH pmax pmax
comp=Z,10.0nm,1.4s
VRH MLR MLR
comp=Z,190nm,11.0s
MDT Midelt 32.89 160 P P 19 06 51.6 0.0
comp=Z,7.3nm,1.1s,baz=355,slow=13,SNR=5.0
KNT Kendrikon 32.96 116 P P 19 06 43.4 -8.6
KEK Kerkira 33.05 121 P P 19 06 54.0 +1.2
NVR Nevrokopi 33.17 115 P P 19 06 55.3 +1.4
KEST Kesra 33.19 138 LR LR 19 19 52.9
comp=Z,160nm,19.6s,baz=328,slow=36
SRS Serrai 33.27 115 P P 19 06 54.5 -0.2
F64A Sherman 33.32 260 P P 19 06 55.1 +0.1
SOH Sokhos 33.43 116 P P 19 06 58.1 +1.9
HORT Hortiatis 33.52 116 P P 19 06 59.5 +2.5
LIT Litokhoron 33.72 117 P P 19 06 57.3 -1.3
LIT pmax pmax
comp=Z,4.0nm,1.0s
LIT Litokhoron 33.72 117 P P 19 06 57.3 -1.3
KAVA Kavala 33.73 114 P P 19 07 00.9 +2.2
RDO Rodhopi 34.01 113 P P 19 06 53.5 -7.6
THAS Thassos island 34.15 114 P P 19 07 04.6 +2.3
ALN Alexandroupoli 34.42 112 P P 19 06 58.6 -6.1
ALN Alexandroupoli 34.42 112 P P 19 07 04.3 -0.4
ALN pmax pmax
comp=Z,23nm,1.5s
ALN Alexandroupoli 34.42 112 P P 19 07 04.3 -0.4
ALN IAmb IAmb 19 07 09.8
comp=Z,23nm,1.5s
BELG Belogornoye 34.49 79*ce*P P 19 07 04.6 -0.6
MAKR Makrakomi, Fth 34.53 119 P P 19 07 07.6 +1.9
AGG Agios Georgios 34.59 118 P P 19 07 05.8 -0.5
AGG Agios Georgios 34.59 118 P P 19 07 06.4 +0.1
AGG pmax pmax
comp=Z,14nm,1.0s
AGG Agios Georgios 34.59 118 P P 19 07 06.4 +0.1
AGG IAmb IAmb 19 07 10.3
comp=Z,14nm,1.0s
XOR Xorichti 34.62 117 P P 19 07 05.2 -1.3
GADA Gvkgeada 34.97 113 P P 19 07 11.3 +1.9

AOS Alonnisos 35.06 116 P P 19 07 09.8 -0.4
TRIZ Trizonia 35.07 119 P P 19 07 13.5 +3.2
GUR Goura 35.55 119 P P 19 07 15.9 +1.3
ANN Anapa 35.93 97 *e*P P 19 07 19.4 +1.8
ANN *e*S S 19 13 00.7 +5.2
ANN pmax pmax
comp=Z,12nm,0.8s
ANN MLR MLR
comp=Z,172nm,15.0s
ARU Arti 36.08 66*d i*P P 19 07 20.3 +1.5
ARU 19 08 41.4
ARU S S 19 13 01.7 +4.1
ARU pmax pmax
comp=Z,22nm,1.7s
ARU MLR MLR
comp=Z,349nm,24.0s
ARU Arti 36.08 66 P P 19 07 19.1 +0.3
NRIK Noril'sk 36.44 35 P P 19 07 22.8 +1.0
comp=Z,5.2nm,0.9s,baz=315,slow=6.3,SNR=6.0
NRIK LR LR 19 23 08.6
comp=Z,63nm,21.6s,baz=13,slow=38
NRIK Noril'sk 36.44 35⇓*e*P P 19 07 22.1 +0.3
NRIK pmax pmax
comp=Z,21nm,1.5s
SVE Sverdlovsk 36.61 64 *e*P P 19 07 24.2 +0.8
BLCB Balcova 36.97 113 P P 19 07 28.7 +2.1
ILGA Ilgaz 37.42 104 P P 19 07 29.3 -1.4
SOC Sochi 37.88 96 *e*P P 19 07 34.7 +0.4
SOC *e* 19 08 59.3
SOC *e*S S 19 13 27.2 +1.9
SOC *e*SS SnSn 19 16 01.2 -4.7
SOC *e*SSS SSS 19 16 27.4
SOC MLR MLR
comp=Z,64nm,11.0s
GOF Gofitskoye 38.13 91⇑*e*P P 19 07 38.3 +2.0
GOF pmax pmax
comp=Z,47nm,0.7s
BR131 Keskin Array S 38.50 105⇑*e*P P 19 07 40.2 +0.5
BR131 Keskin Array S 38.50 105 P P 19 07 40.3 +0.6
BRTR Keskin Array B 38.50 105 P P 19 07 39.7 0.0
comp=Z,3.3nm,0.8s,baz=322,slow=6.1,SNR=13
BRTR LR LR 19 26 26.1
comp=Z,36nm,18.4s,baz=318,slow=41
BRTR Keskin Array B 38.50 105 P P 19 07 40.0 +0.3
IDI Anoyia 38.85 118 P P 19 07 41.4 -1.2
KIV Kislovodsk 38.86 92 *e*P P 19 07 43.5 +0.9
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,262nm,16.0s
KIV Kislovodsk 38.86 92 P P 19 07 42.5 -0.1
KBZ Khabaz 39.13 92 P P 19 07 46.2 +1.5
comp=Z,7.2nm,1.1s,baz=308,slow=11,SNR=9.4
KBZ LR LR 19 24 30.0
comp=Z,69nm,20.3s,baz=325,slow=37
KBZ Khabaz 39.13 92*ce*P P 19 07 45.8 +1.1
KBZ pmax pmax
comp=Z,38nm,3.1s
YKA Yellowknife Ar 39.18 313 LR LR 19 23 34.5
comp=Z,196nm,20.4s,baz=0.0,slow=36
E46A Sault Ste Mari 39.76 276 P P 19 07 52.1 +2.2
E46A IAmb IAmb 19 07 58.5
comp=Z,13nm,0.9s
ZEI Tsey 40.32 92 *e*P P 19 07 54.0 -0.9
ZEI pmax pmax
comp=Z,7.0nm,1.2s
FFC Flin Flon 40.57 297 P P 19 07 57.2 +0.6
FFC pmax pmax
comp=Z,17nm,1.5s
FFC Flin Flon 40.57 297 P P 19 07 57.2 +0.6
FFC IAmb IAmb 19 08 07.0
comp=Z,17nm,1.4s
ARTV Artvin 40.79 96 P P 19 07 57.8 -1.0
GROC Groznyy 40.80 90 *e*P P 19 07 56.0 -2.6
GROC pmax pmax
comp=Z,29nm,1.2s
KOPT Kop Dagi 41.14 98 P P 19 07 58.1 -3.7
ULM Lac du Bonnet 41.58 289 LR LR 19 23 47.5
comp=Z,134nm,21.8s,baz=56,slow=34
M54A Oil Creek Stat 41.67 267 P P 19 08 05.9 +0.1
M54A IAmb IAmb 19 08 18.7
comp=Z,19nm,1.2s
MAK Makhachkala 41.73 89 *e*P P 19 07 57.5 -8.7
ABKAR Akbulak array 41.99 73 P P 19 08 05.9 -2.5
ABKAR Akbulak array 41.99 73 P P 19 08 04.9 -3.4
TIXI Tiksi 42.01 15⇓*e*P P 19 08 06.6 -1.6
TIXI Tiksi 42.01 15 P P 19 08 08.9 +0.7
GAZ Gaziantep 42.15 104 P P 19 08 09.6 -0.2
GAZ IAmb IAmb 19 08 15.1
comp=Z,18nm,1.3s
TOLK Toolik Lake Re 42.72 336 P P 19 08 14.1 0.0
TOLK IAmb IAmb 19 08 18.4
comp=Z,14nm,1.1s
BRVK Borovoye 43.13 62⇓*e*P P 19 08 17.7 +0.2
BRVK pmax pmax
comp=Z,27nm,2.5s
BRVK Borovoye 43.13 62 P P 19 08 17.5 0.0
G40A Rib Lake 43.14 280 P P 19 08 18.0 +0.3
MARD Mardin 43.53 100 P P 19 08 20.3 -0.8
MARD IAmb IAmb 19 08 28.7
comp=Z,20nm,1.2s
GEVA Gevas 43.66 97 P P 19 08 21.5 -0.7
I42A Draeger Farm, 43.70 277 P P 19 08 22.0 -0.2
FYU Fort Yukon 43.74 333 P P 19 08 24.4 +2.1
P53A Whipple 44.08 267 P P 19 08 25.6 +0.3
P53A IAmb IAmb 19 08 28.3
comp=Z,19nm,1.0s
N49A Columbus Grove 44.09 271 P P 19 08 26.5 +1.1
HQIL Hanson Quary C 44.95 275 P P 19 08 32.6 +0.3
T57A Hurt 45.25 263 P P 19 08 33.9 -0.8
T57A IAmb IAmb 19 08 40.2
comp=Z,9.2nm,1.1s
Q51A Peebles 45.30 269 P P 19 08 35.0 -0.1
Q51A IAmb IAmb 19 08 42.6
comp=Z,9.3nm,0.9s
P49A Miami Univ. Ec 45.47 270 P P 19 08 35.6 -0.8
P49A IAmb IAmb 19 08 39.4
comp=Z,18nm,1.2s
L42A Oliver, Polo 45.55 276 P P 19 08 36.3 -0.7
L42A IAmb IAmb 19 08 40.1
comp=Z,7.3nm,0.8s
ILAR Eielson Array 45.65 332 P P 19 08 39.4 +1.8
comp=Z,8.4nm,1.3s,baz=23,slow=6.2,SNR=8.2
ILAR PcP PcP 19 10 16.0 +0.6
comp=Z,1.6nm,0.9s,baz=4.3,slow=3.7,SNR=5.0
ILAR LR LR 19 29 38.6
comp=Z,87nm,19.2s,baz=31,slow=39
ILAR Eielson Array 45.65 332 P P 19 08 38.2 +0.6
MDM Murphy Dome 45.75 333 P P 19 08 39.6 +1.3
COLA College 45.75 333⇓*e*P P 19 08 40.8 +2.5
COLA pmax pmax
comp=Z,9.0nm,1.0s
SFIN Lafayette 45.79 273 P P 19 08 38.1 -0.8
IMAR Indian Mountai 45.83 337 P P 19 08 39.4 +0.5
CCB Clear Creek Bu 45.95 333 P P 19 08 40.2 +0.4
HDA Harding Lake 45.99 332 P P 19 08 40.6 +0.3
HDA IAmb IAmb 19 08 43.3
comp=Z,9.3nm,1.2s
BPAW Bear Paw Mtn. 47.05 334 P P 19 08 50.5 +1.9
BPAW IAmb IAmb 19 08 51.6
comp=Z,14nm,1.4s
ZAA0 Zalesovo Array 47.62 51 P P 19 08 53.1 -0.1
ZALV Zalesovo Beam 47.62 51 P P 19 08 52.9 -0.2
comp=Z,1.4nm,0.8s,baz=327,slow=7.8,SNR=7.8
ZALV PcP PcP 19 10 23.1 +0.6
comp=Z,1.1nm,0.8s,baz=340,slow=3.8,SNR=3.1
ZALV LR LR 19 30 51.9
comp=Z,50nm,19.4s,baz=323,slow=38
ZALV Zalesovo Beam 47.62 51 *i*P P 19 08 53.2 +0.1
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 47.62 51 P P 19 08 52.8 -0.3
KMSC Kings Mountain 47.71 264 P P 19 08 54.4 +0.4
USIN University of 48.04 272 P P 19 08 56.3 -0.3
KURK Kurchatov 48.11 58⇑*e*P P 19 08 57.1 +0.2
KURK pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 48.11 58 P P 19 08 56.1 -0.8
KURK IAmb IAmb 19 09 02.1
comp=Z,9.9nm,1.0s
U49A Red Boiling Sp 48.45 269 P P 19 09 00.5 +0.7
U49A IAmb IAmb 19 09 07.6
comp=Z,9.4nm,1.1s
LAO LASA Array 48.57 293 P P 19 09 00.1 -0.5

LAO IAmb IAmb 19 09 07.0
comp=Z,8.5nm,0.8s
T47A Sharon Grove 48.62 270 P P 19 09 01.4 +0.4
EGMT Eagleton 48.85 297 P P 19 09 04.2 +1.4
W52A Murphy 48.86 266 P P 19 09 04.2 +1.2
HODGE Hodges 48.88 264 P P 19 09 04.6 +1.5
HODGE IAmb IAmb 19 09 11.2
comp=Z,14nm,1.3s
CLTN Cedars of Leba 49.05 269 P P 19 09 04.9 +0.6
CLTN IAmb IAmb 19 09 12.2
comp=Z,7.0nm,1.0s
W50A Signal Mountai 49.37 268 P P 19 09 07.6 +0.8
V48A Smith Brothers 49.56 269 P P 19 09 08.3 0.0
T42A Van Buren 50.30 274 P P 19 09 12.9 -1.0
T42A IAmb IAmb 19 09 15.8
comp=Z,9.1nm,1.4s
GEYT Alibeck 50.43 84 P P 19 09 15.1 +0.2
comp=Z,1.5nm,0.8s,baz=297,slow=6.3,SNR=4.9
GEYT LR LR 19 33 10.9
comp=Z,90nm,19.1s,baz=215,slow=39
GEYT Alibeck 50.43 84 P P 19 09 14.2 -0.7
GYA0B ALIBECK ARRAY 50.43 84 P P 19 09 14.5 -0.4
GYB1 ALIBECK ARRAY 50.45 84 P P 19 09 15.2 +0.1
S39A Bolivar 50.70 276 P P 19 09 16.5 -0.4
S39A IAmb IAmb 19 09 23.2
comp=Z,6.3nm,0.9s
RLMT Red Lodge 51.06 295 P P 19 09 20.6 +0.8
LCAR Lake Charles 51.14 273 P P 19 09 20.4 +0.2
KK09 Karatay Array 51.26 70 P P 19 09 21.0 0.0
KK08 Karatay Array 51.27 70 P P 19 09 21.2 +0.1
KK04 Karatay Array 51.27 70 P P 19 09 21.2 +0.1
KK05 Karatay Array 51.27 70 P P 19 09 21.2 0.0
KK01 Karatay Array 51.27 70 P P 19 09 20.9 -0.3
KK03 Karatay Array 51.27 70 P P 19 09 21.4 +0.3
KK02 Karatay Array 51.28 70 P P 19 09 21.2 0.0
KK31 Karatay Array 51.28 70 P P 19 09 20.8 -0.4
KK31 pmax pmax
comp=Z,12nm,1.4s
KK31 Karatay Array 51.28 70 P P 19 09 20.8 -0.4
KK31 IAmb IAmb 19 09 25.0
comp=Z,12nm,1.4s
KKAR Karatay Array 51.28 70 P P 19 09 21.5 +0.3
KKAR pmax pmax
comp=Z,12nm,1.4s
KKAR Karatay Array 51.28 70 P P 19 09 21.5 +0.3
KKAR IAmb IAmb 19 09 25.0
comp=Z,12nm,1.4s
KKAR Karatay Array 51.28 70 P P 19 09 21.4 +0.2
KK07 Karatay Array 51.28 70 P P 19 09 21.2 0.0
KK06 Karatay Array 51.29 70 P P 19 09 21.4 +0.1
YNE Yellowstone No 51.45 295 P P 19 09 21.3 -1.4
BOZ Bozeman (W) 51.58 297 P P 19 09 21.3 -2.3
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ Bozeman (W) 51.58 297 P P 19 09 21.3 -2.3
BOZ IAmb IAmb 19 09 30.1
comp=Z,20nm,1.3s
U40A Yellville 51.62 275 P P 19 09 21.9 -2.0
U40A IAmb IAmb 19 09 30.2
comp=Z,6.5nm,0.9s
YMP Mirror Lake Pl 51.73 295 P P 19 09 25.0 +0.1
YHL Hebgen Lake 52.04 296 P P 19 09 28.3 +1.1
K22A Casper 52.04 291 P P 19 09 27.3 +0.2
K22A IAmb IAmb 19 09 34.5
comp=Z,13nm,1.3s
DGZ Jazzator, Alta 52.07 53 i eP P 19 09 28.6 +1.4
DGZ pmax pmax
comp=Z,33nm,3.3s
QLMT Earthquake Lak 52.15 296 P P 19 09 28.0 +0.1
YPP Pitchstone Pla 52.38 295 P P 19 09 30.9 +1.2
FLWY Flagg Ranch 52.49 295 P P 19 09 32.2 +1.7
FLWY IAmb IAmb 19 09 43.3
comp=Z,7.4nm,1.0s
MAKZ Makanchi 52.59 59 P P 19 09 31.2 +0.2
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 52.59 59 P P 19 09 31.2 +0.2
MCMT McKenzie Canyo 52.70 297 P P 19 09 30.7 -1.3
MK31 Makanchi Array 52.72 58 i eP P 19 09 30.2 -1.7
MK31 Makanchi Array 52.72 58 P P 19 09 28.7 -3.2
MKAR Makanchi Array 52.72 58 P P 19 09 31.9 0.0
comp=Z,3.0nm,1.1s,baz=266,slow=4.6,SNR=10
MKAR LR LR 19 32 13.6
comp=Z,64nm,19.6s,baz=322,slow=36
MKAR Makanchi Array 52.72 58 i P P 19 09 32.4 +0.5
MKAR pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 52.72 58 P P 19 09 29.7 -2.2
PHWY Pilot Hill 52.74 289 P P 19 09 32.0 -0.5
PHWY IAmb IAmb 19 09 33.3
comp=Z,17nm,1.4s
IMW Indian Meadow 52.74 295 P P 19 09 31.9 -0.6
LOHW Long Hollow 52.85 295 P P 19 09 33.2 +0.1
TPAW Teton Pass 53.09 295 P P 19 09 35.4 +0.4
TPAW IAmb IAmb 19 09 40.9
comp=Z,7.9nm,1.2s
RWWY Rawlins 53.12 291 P P 19 09 34.4 -0.9
RWWY IAmb IAmb 19 09 51.0
comp=Z,18nm,1.4s
BW06 Boulder Array 53.15 293 P P 19 09 35.0 -0.4
BW06 IAmb IAmb 19 09 40.8
comp=Z,22nm,1.4s
PD31 Pinedale Array 53.15 293 P P 19 09 35.5 +0.1
PD31 IAmb IAmb 19 09 40.9
comp=Z,15nm,1.3s
PDAR Pinedale Array 53.15 293 P P 19 09 35.3 -0.1
comp=Z,5.9nm,1.0s,baz=51,slow=5.9,SNR=24
PDAR LR LR 19 32 27.0
comp=Z,110nm,19.8s,baz=30,slow=36
REDW Red Top Meadow 53.16 295 P P 19 09 36.2 +0.8
REDW IAmb IAmb 19 09 42.0
comp=Z,7.3nm,1.0s
TORD Torodi Ar. Bea 53.17 156 P P 19 09 34.3 -1.2
comp=Z,3.3nm,1.0s,baz=349,slow=7.8,SNR=8.9
TORD Torodi Ar. Bea 53.17 156 P P 19 09 34.5 -1.0
AAK Ala-Archa 53.26 67 i eP P 19 09 37.2 +1.1
AAK pmax pmax
comp=Z,28nm,1.4s
N23A Red Feather La 53.28 289 P P 19 09 36.9 +0.5
BCYI Bear Canyon 53.35 297 P P 19 09 36.7 -0.1
PLID Pearl Lake 53.67 300 P P 19 09 39.2 0.0
PLID IAmb IAmb 19 09 44.8
comp=Z,15nm,1.5s
AHID Auburn Hatcher 53.76 294 P P 19 09 39.7 -0.1
AHID IAmb IAmb 19 09 48.2
comp=Z,11nm,1.4s
BTK Batken 53.96 72 P P 19 09 40.9 -0.3
BTK pmax pmax
comp=Z,33nm,1.3s
BTK Batken 53.96 72 P P 19 09 40.9 -0.3
ISCO Idaho Springs 54.07 288 P P 19 09 42.5 +0.2
ISCO pmax pmax
comp=Z,4.0nm,1.2s
ISCO Idaho Springs 54.07 288 P P 19 09 42.5 +0.2
HLID Hailey 54.37 297 P P 19 09 45.2 +1.0
CHGR Chuyangaron 54.47 74 P P 19 09 44.4 -0.5
MOY Mondy 54.65 42 eP P 19 09 52.2 +6.2
MOY pmax pmax
comp=Z,73nm,2.9s
GAR Garm 54.65 73 P P 19 09 47.2 +1.0
O20A White River Ci 54.86 290 P P 19 09 48.6 +0.8
O20A IAmb IAmb 19 09 55.0
comp=Z,12nm,1.2s
HWUT Hardware Ranch 54.93 294 P P 19 09 49.0 +0.7
HWUT IAmb IAmb 19 09 54.4
comp=Z,15nm,1.1s
RDMU Red Mountain 55.02 292 P P 19 09 48.5 -0.5
HRA Herat 55.20 82 P P 19 09 48.2 -2.2
HRA IAmb IAmb 19 10 04.2
comp=Z,9.2nm,1.5s
TCUT Toone Canyon 55.28 293 P P 19 09 50.3 -0.7
SDCO Great Sand Dun 55.77 287 P P 19 09 55.9 +1.3
T25A Trinidad 55.84 285 P P 19 09 55.1 +0.1
T25A IAmb IAmb 19 10 01.3
comp=Z,11nm,1.4s
BGU Big Grassy Mou 56.08 295 P P 19 09 57.8 +1.2
S22A 4UR Ranch, Cre 56.32 288 P P 19 09 59.5 +1.0
P17A Butcher Ranch, 56.42 292 P P 19 09 59.8 +0.8
PV22 Blue Mesa, Par 56.44 290 P P 19 09 59.4 +0.2
ZAK Zakamensk 56.45 41 eP P 19 09 58.0 -1.0
ZAK pmax pmax
comp=Z,9.0nm,1.5s
PV21 Cone Mtn., Par 56.49 290 P P 19 09 59.9 +0.3
PV21 IAmb IAmb 19 10 07.3
comp=Z,7.2nm,0.9s
PV04 Paradox Valley 56.61 290 P P 19 10 01.2 +0.8
PV04 IAmb IAmb 19 10 07.4
comp=Z,9.5nm,1.1s
DUG Dugway, Tooele 56.62 294 P P 19 10 02.1 +1.6
DUG pmax pmax
comp=Z,7.0nm,1.3s
DUG Dugway, Tooele 56.62 294 P P 19 10 02.1 +1.6
DUG IAmb IAmb 19 10 11.0
comp=Z,6.8nm,1.2s
AMTX Amarillo 56.63 282 P P 19 10 00.5 0.0
SRU San Rafael Swe 56.65 292 P P 19 10 01.4 +0.7
SRU pmax pmax
comp=Z,6.0nm,1.0s
SRU San Rafael Swe 56.65 292 P P 19 10 01.4 +0.7
PV14 Lion Creek, Pa 56.67 290 P P 19 10 01.5 +0.5
PV14 IAmb IAmb 19 10 07.8
comp=Z,6.5nm,0.8s
PV11 David Mesa, Pa 56.68 290 P P 19 10 00.8 -0.1
PV20 West Nyswonger 56.68 290 P P 19 10 00.3 -0.6
PV16 Nyswonger Mesa 56.68 290 P P 19 10 00.0 -1.0
PV16 IAmb IAmb 19 10 12.1
comp=Z,11nm,1.3s
PV01 Paradox Valley 56.70 289 P P 19 10 00.9 -0.2
PV01 IAmb IAmb 19 10 13.3
comp=Z,6.8nm,0.8s
PV02 Paradox Valley 56.70 290 P P 19 10 02.2 +1.1
PV02 IAmb IAmb 19 10 03.9
comp=Z,9.4nm,1.0s
PV03 Paradox Valley 56.70 290 P P 19 10 01.8 +0.7
PV03 IAmb IAmb 19 10 07.1
comp=Z,12nm,1.3s
PV17 East Wray Mesa 56.73 290 P P 19 10 02.4 +1.1
PV18 Skein Mesa, Pa 56.74 290 P P 19 10 01.4 0.0
PV18 IAmb IAmb 19 10 04.0
comp=Z,10.0nm,1.0s
TMUT Trail Mountain 56.76 292 P P 19 10 02.5 +0.9
PV13 Radium Mtn., P 56.78 290 P P 19 10 02.1 +0.4
PV05 Paradox Valley 56.96 290 P P 19 10 02.3 -0.7
PV05 IAmb IAmb 19 10 09.8
comp=Z,12nm,0.9s
ELK Elko 57.09 296 P P 19 10 04.2 +0.3
ELK pmax pmax
comp=Z,6.0nm,1.4s
ELK Elko 57.09 296 P P 19 10 04.2 +0.3
MVCO Mesa Verde 57.46 289 P P 19 10 06.2 -0.3
MVCO IAmb IAmb 19 10 16.8
comp=Z,5.9nm,1.1s
MSU Marysvale 57.82 293 P P 19 10 10.2 +1.2
MSU Marysvale 57.82 293 P P 19 10 10.2 +1.2
MVU Marysvale 57.84 293 P P 19 10 10.8 +1.6
TCRU Three Creeks R 57.84 293 P P 19 10 10.7 +1.5
KBL Kabul 57.94 76 P P 19 10 08.4 -1.5
KBL pmax pmax
comp=Z,7.0nm,1.3s
KBL Kabul 57.94 76 P P 19 10 08.3 -1.5
PSUT Pine Spring 58.46 294 P P 19 10 13.7 +0.1
ANMO Albuquerque 58.57 286 i eP P 19 10 15.5 +1.2
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO Albuquerque 58.57 286 P P 19 10 14.4 +0.1
ANMO IAmb IAmb 19 10 21.1
comp=Z,7.4nm,1.5s
DBIC Dimbokro 58.62 165 P P 19 10 14.2 -0.3
comp=Z,6.1nm,1.0s,baz=39,slow=7.9,SNR=3.2
DBIC LR LR 19 33 45.8
comp=Z,30nm,22.0s,baz=354,slow=34
DBIC Dimbokro 58.62 165 P P 19 10 14.0 -0.5
CCUT Cedar City 59.12 293 P P 19 10 18.7 +0.6
R11A Troy Canyon, C 59.30 295 P P 19 10 20.4 +1.1
R11A IAmb IAmb 19 10 26.9
comp=Z,9.0nm,1.3s
BNM Barren Site 59.33 285 P P 19 10 19.5 -0.1
KNB Kanab 59.37 292 P P 19 10 20.6 +0.8
KNB pmax pmax
comp=Z,16nm,1.4s
KNB Kanab 59.37 292 P P 19 10 20.6 +0.8
LENM Lemitar 59.46 286 P P 19 10 21.2 +0.8
LCMT Little Creek M 59.54 292 P P 19 10 19.8 -1.1
PAHR Pah Rah Range 59.57 299 P P 19 10 20.7 -0.4
PAHR IAmb IAmb 19 10 31.7
comp=Z,7.7nm,1.4s
SONM Songino Array 59.63 40 P P 19 10 21.6 +0.3
comp=Z,1.4nm,0.8s,baz=316,slow=6.7,SNR=3.6
SONM LR LR 19 38 40.7
comp=Z,86nm,18.4s,baz=324,slow=39
SONM Songino Array 59.63 40 P P 19 10 21.6 +0.3
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 59.63 40 P P 19 10 21.6 +0.3
JCT Junction City 59.63 277 P P 19 10 22.3 +0.8
JCT pmax pmax
comp=Z,15nm,1.1s
JCT Junction City 59.63 277 P P 19 10 22.3 +0.8
KVN Kaiserville 59.66 298 P P 19 10 21.8 0.0
KVN pmax pmax
comp=Z,6.0nm,1.3s
KVN Kaiserville 59.66 298 P P 19 10 21.8 0.0
KVN IAmb IAmb 19 10 33.9
comp=Z,5.6nm,1.3s
U15A North Rim 59.66 291 P P 19 10 22.3 +0.4
ULN Ulaanbaatar 59.78 40 i eP P 19 10 23.3 +0.9
ULN pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 59.78 40 P P 19 10 23.1 +0.7
ULN IAmb IAmb 19 10 28.7
comp=Z,6.8nm,1.1s
PRN Pahroc Range 59.91 294 P P 19 10 23.6 +0.2
PRN IAmb IAmb 19 10 31.6
comp=Z,8.6nm,1.3s
WUAZ Wupatki 60.09 290 P P 19 10 25.1 +0.4
NV11 Mina Array Sit 60.22 297 P P 19 10 26.0 +0.5
NV11 IAmb IAmb 19 10 31.7
comp=Z,7.6nm,1.4s
NVAR Mina Array Bea 60.28 297 P P 19 10 26.4 +0.4
comp=Z,0.4nm,0.5s,baz=64,slow=6.1,SNR=4.8
NVAR LR LR 19 36 35.0
comp=Z,188nm,21.0s,baz=30,slow=36
NVAR Mina Array Bea 60.28 297 P P 19 10 26.2 +0.2
NIL Nilore 60.45 73 P P 19 10 26.8 -0.3
NIL pmax pmax
comp=Z,28nm,1.3s
NIL Nilore 60.45 73 P P 19 10 26.8 -0.3
SHPR Sheep Range 60.74 294 P P 19 10 30.7 +1.5
SHPR IAmb IAmb 19 10 39.8
comp=Z,8.1nm,1.3s
X16A Lo Mia Camp, P 61.07 290 P P 19 10 32.9 +1.5
X16A IAmb IAmb 19 10 38.1
comp=Z,13nm,1.4s
TX31 Lajitas Ar. Si 62.27 280 P P 19 10 39.3 -0.1
TX32 Lajitas Array 62.27 280 P P 19 10 39.6 +0.1
TXAR Lajitas Array 62.27 280 P P 19 10 39.8 +0.3
comp=Z,1.8nm,0.9s,baz=39,slow=4.8,SNR=9.2
TXAR LR LR 19 36 49.1
comp=Z,234nm,21.4s,baz=0.0,slow=35
TXAR Lajitas Array 62.27 280 P P 19 10 39.9 +0.4
TXAR Lajitas Array 62.27 280 P P 19 10 39.9 +0.4
TUC Tucson 62.64 288 P P 19 10 43.2 +1.3
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 62.64 288 P P 19 10 43.2 +1.3
TUC IAmb IAmb 19 10 47.9
comp=Z,7.5nm,1.3s
GTA Gaotai 65.29 49 ⇑P P 19 11 01.3 +2.0
GTA pP sP 19 11 05.8 +1.4
GTA sP pP 19 11 08.3 +5.3
GTA S S **19 19 50.6 +7.9**
GTA Gaotai 65.29 49 SS SS 19 24 09.6 +15
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,260nm,7.3s
GTA LR LR
comp=N,120nm,18.5s
GTA LR LR
comp=E,190nm,16.7s
GTA LR LR
comp=Z,210nm,15.6s
ROSC El Rosal 71.93 241 LR LR 19 39 54.5
comp=Z,31nm,21.3s,baz=121,slow=33
CD2 Chengdu 74.35 50 P P 19 11 53.5 -1.6
CD2 pmax pmax
comp=Z,10.0nm,0.8s
KSRS Korea Array 74.63 28 LR LR 19 49 49.1
comp=Z,49nm,18.0s,baz=344,slow=40
ENH Enshi 76.76 45 P P 19 12 08.5 -0.3
CHTO Chiang Mai 83.80 59 P P 19 12 46.6 -0.3
CHTO pmax pmax
comp=Z,7.0nm,1.5s
CHTO Chiang Mai 83.80 59 P P 19 12 46.6 -0.3
CHTO IAmb IAmb 19 13 00.5
comp=Z,7.2nm,1.4s
CMAR Chiang Mai Arr 84.13 59 P P 19 12 48.5 -0.1
comp=Z,0.7nm,0.4s,baz=315,slow=5.9,SNR=9.5
CMAR LR LR 19 53 01.3
comp=Z,50nm,19.5s,baz=282,slow=38
CMAR Chiang Mai Arr 84.13 59 P P 19 12 47.2 -1.3
CPUP Villa Florida 95.86 215 LR LR 19 52 37.7
comp=Z,46nm,19.9s,baz=211,slow=33
BOSA Boshof 98.79 143 LR LR 20 00 07.5
comp=Z,58nm,18.3s,baz=37,slow=36
WRA Warramunga Arr 131.51 36 PKP PKPdf 19 19 30.4 +0.5
comp=Z,1.2nm,1.1s,baz=323,slow=2.6,SNR=4.2
ASAR Alice Springs 134.95 38 PKP PKPdf 19 19 36.1 -0.2
comp=Z,1.1nm,1.0s,baz=11,slow=1.9,SNR=5.1
ASAR Alice Springs 134.95 38 PKPdf 19 19 36.0 -0.3
STKA Stephens Creek 144.70 32 PKP PKPab 19 19 51.9 -0.6
comp=Z,2.6nm,0.8s,baz=337,slow=5.0,SNR=4.3
STKA Stephens Creek 144.70 32 PKIKP PKPab 19 19 52.6 +0.1
STKA Stephens Creek 144.70 32 PKPab 19 19 52.6 +0.1

*IDC **13** 19:04:23.5±1.2, 71°.62N×134°.57W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.6/54, mbtmp3.8/7, ML3.9/3, MS2.4/1, Ms1 2.4/1, ms1mx2.1/42, Error ellipse: s-maj=31.7km s-min=20.9km az=92.0*
*PGC **13** 19:04:28.5±3.7, 71°.47N×134°.75W, h35km, ML3.9/1, ML3.5, 336km west of Sachs Harbour, Nt Beaufort Sea*
ISC 13 19:04:23.0±0.8, 71°.38N±0°.06×134°.37W±0°.07, h10km, n31, σ2.283/40, mb3.8/4, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
INK	**Inuvik**	**3.10**	**174**	Pn	**Pn**		**19 05 15.8**	**+4.0**
	80nm,0.3s,baz=354,slow=13,SNR=1767							
INK				Sn	**Sn**		**19 05 51.5**	**+2.7**
	37nm,0.3s,baz=264,slow=21,SNR=15							
INK				LR	LR		19 06 30.4	
	comp=Z,56nm,20.2s,baz=319,slow=38							
INK	**Inuvik**	**3.10**	**174**	P	**Pn**		**19 05 15.6**	**+3.8**
INK				Sn	**Sn**		**19 05 50.7**	**+1.9**
DHRN	**Dharma Camp**	**6.84**	**122**	Pn	**Pn**		**19 06 07.7**	**+4.6**
DHRN				Sn	**Sn**		**19 07 19.3**	**-1.6**
DAWY	**Dawson**	**7.59**	**197**	Pn	**Pn**		**19 06 15.2**	**+1.7**
DAWY				Sn	**Sn**		**19 07 35.6**	**-3.7**
KUKN	**Kugluktuk,NWT**	**7.60**	**109**	Pn	**Pn**		**19 06 16.4**	**+2.9**
KUKN				Sn	**Sn**		**19 07 37.2**	**-2.4**
ILAR	**Eielson Array**	**8.10**	**221**	Pn	**Pn**		**19 06 22.0**	**+1.6**
	0.6nm,0.3s,baz=27,slow=14,SNR=40							
ILAR				Sn	**Sn**		**19 07 49.5**	**-2.4**
	0.3nm,0.3s,baz=25,slow=24,SNR=7.6							
DOT	**Dot Lake**	**8.59**	**210**	Pn	**Pn**		**19 06 29.5**	**+2.3**
BVCY	**Beaver Creek**	**9.35**	**199**	Pn	**Pn**		**19 06 39.3**	**+1.7**
BVCY				Sn	**Sn**		**19 08 16.9**	**-5.8**
YUK1	**Sand Pete Hill**	**9.57**	**198**	Pn	**Pn**		**19 06 41.5**	**+0.8**
YUK1				Sn	Sn		19 08 20.8	-7.4
YUK3	**Moose Creek**	**9.94**	**197**	Pn	**Pn**		**19 06 46.7**	**+1.0**
YUK3				Sn	Sn		19 08 30.2	-7.0
YUK2	**White River**	**9.96**	**198**	Pn	**Pn**		**19 06 47.2**	**+1.2**
YUK2				Sn	**Sn**		**19 08 32.3**	**-5.5**
YUK4	**Talbot Arm**	**10.22**	**192**	Pn	**Pn**		**19 06 49.9**	**+0.3**
YUK5	**Granite Creek**	**10.38**	**189**	Pn	**Pn**		**19 06 53.2**	**+1.4**
YUK5				Sn	**Sn**		**19 08 42.8**	**-5.3**
YUK6	**Outpost Mounta**	**10.60**	**191**	Pn	**Pn**		**19 06 57.1**	**+2.2**
HYT	**Haines Junctio**	**10.67**	**188**	Pn	**Pn**		**19 06 58.6**	**+2.8**
PTPK	**Patty Peak**	**10.72**	**202**	Pn	**Pn**		**19 06 59.0**	**+2.4**
WHY	**Whitehorse**	**10.77**	**181**	Pn	**Pn**		**19 06 59.3**	**+2.3**
BALM	**Baldy**	**10.86**	**201**	Pn	**Pn**		**19 07 00.5**	**+2.3**
KIAG	**Kiagna River**	**10.97**	**201**	Pn	**Pn**		**19 07 02.4**	**+2.6**
YUK7	**Dusty Glacier**	**11.00**	**190**	Pn	**Pn**		**19 07 02.8**	**+2.5**
YKA	**Yellowknife Ar**	**11.73**	**129**	Pn	**Pn**		**19 07 12.2**	**+2.2**
	0.4nm,0.3s,baz=322,slow=12,SNR=18							
YKA				Sn	Sn		19 09 12.6	-8.3
	1.4nm,0.3s,baz=343,slow=9.5,SNR=7.5							
RES	**Resolute Bay**	**11.81**	**56**	Pn	**Pn**		**19 07 08.1**	**-3.0**
RES				Sn	Sn		19 09 08.1	-14
NBC2	**NorthernBC 2**	**12.60**	**151**	Pn	**Pn**		**19 07 24.5**	**+2.5**
DLBC	**Dease Lake**	**13.12**	**170**	Pn	**Pn**		**19 07 32.2**	**+3.1**
	0.9nm,0.3s,baz=0.0,slow=13,SNR=9.2							
DLBC	**Dease Lake**	**13.12**	**170**	Pn	**Pn**		**19 07 31.7**	**+2.6**
NBC6	**NorthernBC 6**	**13.92**	**151**	Pn	**Pn**		**19 07 41.6**	**+1.7**
NBC5	**NorthernBC 5**	**14.74**	**155**	Pn	**Pn**		**19 07 52.5**	**+1.2**
ARCES	**ARCESS Array B**	**38.70**	**11**	P	**P**		**19 11 45.9**	**-0.4**
	2.4nm,1.0s,baz=342,slow=8.5,SNR=1.0							
FINES	**FINESS Array B**	**46.76**	**13**	P	**P**		**19 12 51.2**	**-0.4**
	0.8nm,0.7s,baz=357,slow=7.6,SNR=5.3							
EKA	**Eskdalemuir Ar**	**48.99**	**35**	P	**P**		**19 13 09.7**	**+0.7**
	0.3nm,0.3s,baz=335,slow=6.9,SNR=5.2							
SONM	**Songino Array**	**53.55**	**313**	P	**P**		**19 13 45.3**	**+1.8**
	1.1nm,1.2s,baz=14,slow=6.4,SNR=4.0							

*ATA **13** 19:20:52.8±0.6, 40°.03N×40°.08E, h7km±24km, ML1.8, MW3.1*
*ISK **13** 19:20:53.2, 40°.00N×40°.20E, h10km, ML2.0/9*
*DDA **13** 19:20:53.8, 40°.01N×40°.11E, h7km±2km, ML1.6*
ISC 13 19:20:53.4±1.0, 40°.00N±0°.03×40°.12E±0°.02, h11km±8km, n26, σ0.961/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BAYB	**BAYBURT**	**0.28**	**23**	*eP*	**Pg**		**19 20 58.8**	**-0.3**
BAYB				*eS*	**Sg**		**19 21 03.6**	**+0.5**
BAYB				IAML			19 21 04.5	
	comp=Z,61nm,0.2s							
BAYB	**BAYBURT**	**0.28**	**23**	*i P*	**Pg**		**19 20 59.6**	**+0.4**
BAYB				*i S*	**Sg**		**19 21 03.5**	**+0.5**
BAYB				IAML			19 21 04.0	
	comp=E,200nm,0.3s							
KOPT	**Kop Dagi**	**0.29**	**87**	*i S*	**Sb**		**19 21 05.5**	**-0.3**
KOPT	**Kop Dagi**	**0.29**	**87**	*i P*	**Pg**		**19 20 59.7**	**+0.3**
KOPT				*i S*	**Sb**		**19 21 04.9**	**-0.9**
KOPT				IAML			19 21 07.0	
	comp=N,221nm,0.6s							
KOPT				IAML			19 21 08.0	
	comp=E,152nm,0.3s							
BAYT	**Aydıntepe-Bayb**	**0.39**	**2**	PG	**Pb**		**19 21 01.8**	**-0.7**
BAYT				SG	**Sb**		**19 21 07.6**	**-0.9**
EUZM	**Uzumlu**	**0.44**	**228**	*eP*	**Pg**		**19 21 01.6**	**-0.5**
EUZM				IAML			19 21 14.6	
	comp=Z,6.8nm,0.3s							
EUZM	**Uzumlu**	**0.44**	**228**	*i P*	**Pb**		**19 21 03.0**	**-0.2**
EUZM				*i S*	**Sb**		**19 21 09.6**	**-0.3**
ERZN	**Erzincan**	**0.52**	**216**	PG	**Pb**		**19 21 04.3**	**-0.3**
ERZN				SG	**Sb**		**19 21 12.6**	**+0.5**
YEDI	**Yedisu-Bingol**	**0.65**	**150**	PG	**Pg**		**19 21 05.9**	**-0.2**
EMRE	**Erzurum,Aziziy**	**0.66**	**87**	*i P*	**Pg**		**19 21 04.4**	**-1.8**
EMRE				*i S*	**Sn**		**19 21 21.0**	**+1.6**
EMRE				IAML			19 21 24.0	
	comp=N,26nm,0.4s							
EMRE				IAML			19 21 24.0	
	comp=E,31nm,0.5s							
KELT	**Kelkit**	**0.68**	**283**	*i P*	**Pb**		**19 21 07.5**	**+0.2**
KELT				*i S*	**Sb**		**19 21 16.6**	**-0.2**
KELT				IAML			19 21 18.0	
	comp=N,20nm,0.2s							
KRIK	**Erzurum-spir**	**0.70**	**61**	*eP*	**Pb**		**19 21 07.5**	**-0.2**
KRIK				*eS*	**Sb**		**19 21 18.0**	**+0.5**
KRIK				IAML			19 21 22.1	
	comp=Z,574nm,0.3s							
KRIK	**Erzurum-spir**	**0.70**	**61**	*i P*	**Pb**		**19 21 07.6**	**-0.2**
KRIK				*i S*	**Sb**		**19 21 17.2**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.99**	**207**	*i P*	**Pb**		**19 21 12.8**	**+0.1**
TNCL				*i S*	**Sg**		**19 21 25.3**	**-0.2**
KTUT	**Trabzon**	**1.02**	**345**	PG	**Pn**		**19 21 13.4**	**-0.2**
CHOM	**Cayeli-Rize**	**1.20**	**24**	PN	**Pn**		**19 21 16.3**	**+0.2**
CHOM				SN	**Sn**		**19 21 32.6**	**+0.2**
PTK	**Pertek**	**1.25**	**207**	PN	**Pn**		**19 21 17.6**	**+0.7**
ESPY	**Espiye-Giresun**	**1.40**	**311**	PN	**Pg**		**19 21 20.3**	**0.0**
KEMA	**Kemaliye**	**1.46**	**240**	*eP*	**Pb**		**19 21 20.3**	**-0.3**
KEMA	**Kemaliye**	**1.46**	**240**	*i P*	**Pn**		**19 21 20.0**	**+0.2**
KEMA				*i S*	**Sg**		**19 21 39.7**	**-0.5**
SUSE	**Susehri**	**1.48**	**279**	*i P*	**Pg**		**19 21 21.7**	**-0.2**
SUSE				*i S*	**Sn**		**19 21 39.9**	**+0.2**
DBAD	**Bademkaya**	**1.57**	**49**	*i P*	**Pn**		**19 21 22.1**	**+0.8**
DBAD				*i S*	**Sn**		**19 21 41.5**	**-0.2**
DBAD				IAML			19 21 57.0	
	comp=N,5.0nm,0.6s							

ARPR	Arapgir-MALATY	1.65	237	PN	Pb	19 21 23.4	-0.5
ARTV	Artvin	1.81	49	*i* P	Pg	19 21 27.6	-0.6
ARTV				*i* S	Sn	19 21 48.6	+0.7
BCA	Borcka	1.84	38	PN	Pn	19 21 25.6	+0.7
BATM	Batumi	2.00	36	PN	Pn	19 21 27.4	+0.3

SJA ***13*** *19:22:47.4±0.6,23°.77S×70°.06W,h71*$^{km}_{\pm 3}$*, ML4.0, MW3.8*

GUC ***13*** *19:22:48.9±0.8,23°.76S×70°.06W,h70*$^{km}_{\pm 5}$*, ML3.9*

ISC 13 19:22:49.0±1.1,23°.76S±0'.02×70°.07W±0'.04,h26$^{km}_{\pm 13}$**, n28,σ1°18/53,10C-1D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.51**	**298**	⇓*iP*	**Pn**	**19 23 01.6**	**+0.9**
PB10				*i* S	**Sn**	**19 23 10.9**	**+2.4**
PB10	**IPOC Station P**	**0.51**	**298**	*eP*	**Pn**	**19 23 01.4**	**+0.8**
PB10				*eS*	**Sn**	**19 23 11.4**	**+2.9**
PB15	**IPOC Station P**	**0.77**	**45**	⇑*iP*	**Pn**	**19 23 04.6**	**+0.1**
PB15				*i* S	**Sb**	**19 23 16.3**	**+2.1**
PB15	**IPOC Station P**	**0.77**	**45**	*eP*	**Pn**	**19 23 04.6**	**+0.1**
PB15				*eS*	**Sb**	**19 23 17.0**	**+2.8**
PB15				IAML		19 23 18.3	
	comp=Z,18μm,0.1s						
PB05	**IPOC Station P**	**0.91**	**352**	⇑*iP*	**Pb**	**19 23 06.3**	**0.0**
PB05				*i* S	**Sn**	**19 23 19.2**	**+0.6**
PB05	**IPOC Station P**	**0.91**	**352**	*eP*	**Pb**	**19 23 06.2**	**-0.1**
PB05				*eS*	**Sn**	**19 23 20.3**	**+1.7**
PB14	**IPOC Station P**	**0.92**	**200**	⇑*iP*	**Pb**	**19 23 06.3**	**-0.2**
PB14				*i* S	**Sn**	**19 23 20.1**	**+1.0**
PB14	**IPOC Station P**	**0.92**	**200**	*eP*	**Pb**	**19 23 06.2**	**-0.3**
PB14				*eP*		19 23 06.2	
PB14				*eS*	**Sn**	**19 23 20.2**	**+1.1**
PB14				IAML		19 23 20.3	
	comp=Z,2μm,0.3s						
PB06	**IPOC Station P**	**1.14**	**24**	⇑*iP*	**Pn**	**19 23 09.5**	**0.0**
PB06				*i* S	**Sn**	**19 23 24.8**	**+0.4**
PB06				IAML		19 23 25.6	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	**1.14**	**24**	*eP*	**Pn**	**19 23 09.4**	**-0.1**
PB06				*eS*	**Sn**	**19 23 25.0**	**+0.6**
PB06				IAML		19 23 27.3	
	comp=Z,2μm,0.1s						
PB04	**IPOC Station P**	**1.42**	**357**	⇑*iP*	**Pb**	**19 23 13.2**	**-1.8**
PB04				*i* S	**Sb**	**19 23 31.5**	**-1.2**
PB04				IAML		19 23 38.0	
	comp=E,3μm,0.2s						
PB04	**IPOC Station P**	**1.42**	**357**	*eP*	**Pb**	**19 23 13.3**	**-1.7**
PB04				*eS*	**Sb**	**19 23 32.2**	**-0.5**
PB04				IAML		19 23 37.0	
	comp=Z,2μm,0.1s						
GO02	**Mina Guanaco**	**1.46**	**163**	*eP*	**Pn**	**19 23 14.6**	**+0.5**
GO02				*eS*	**Sn**	**19 23 33.9**	**+1.4**
PB03	**IPOC Station P**	**1.73**	**10**	⇑*iP*	**Pn**	**19 23 17.1**	**-0.5**
PB03				*i* S	**Sn**	**19 23 38.7**	**-0.1**
PB03				IAML		19 23 43.5	
	comp=N,1μm,0.3s						
PB03	**IPOC Station P**	**1.73**	**10**	*eP*	**Pn**	**19 23 17.1**	**-0.5**
PB03				*eS*	**Sn**	**19 23 39.0**	**+0.2**
PB03				IAML		19 23 43.7	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**2.03**	**5**	⇑*iP*	**Pn**	**19 23 21.2**	**-0.5**
PB07				*i* S	**Sn**	**19 23 46.4**	**+0.1**
PB07				IAML		19 23 53.5	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**2.03**	**5**	*eP*	**Pn**	**19 23 21.1**	**-0.6**
PB07				*eS*	**Sb**	**19 23 51.1**	**+0.9**
PB07				IAML		19 23 53.6	
	comp=Z,985nm,0.3s						
PB09	**IPOC Station P**	**2.10**	**21**	⇑*iP*	**Pn**	**19 23 23.3**	**+0.7**
PB09				*i* S	**Sn**	**19 23 48.5**	**+0.6**
PB09				IAML		19 23 57.3	
	comp=E,648nm,0.6s						
PB09	**IPOC Station P**	**2.10**	**21**	*eP*	**Pn**	**19 23 23.3**	**+0.7**
PB09				*eS*	**Sn**	**19 23 49.9**	**+2.0**
PB09				IAML		19 23 58.2	
	comp=Z,560nm,0.5s						
AC01	**Pan de Azucar**	**2.43**	**191**	*eP*	**Pn**	**19 23 25.5**	**-1.6**
AC01				IAML		19 24 02.8	
	comp=N,894nm,0.5s						
PB02	**IPOC Station P**	**2.43**	**4**	⇑*iP*	**Pn**	**19 23 26.3**	**-0.8**
PB02				*i* S	**Sn**	**19 23 56.0**	**-0.2**
PB02	**IPOC Station P**	**2.43**	**4**	*eP*	**Pn**	**19 23 26.4**	**-0.8**
PB02				*eS*	**Sb**	**19 24 02.1**	**+0.3**
PB02				IAML		19 24 16.5	
	comp=Z,847nm,0.3s						
PB01	**IPOC Station P**	**2.75**	**11**	⇑*iP*	**Pn**	**19 23 31.1**	**-0.4**
PB01				*eS*	**Sn**	**19 24 03.9**	**-0.2**
PB01				IAML		19 24 22.7	
	comp=E,609nm,0.2s						
PB01	**IPOC Station P**	**2.75**	**11**	*eP*	**Pn**	**19 23 31.2**	**-0.4**
PB01				*eS*	**Sb**	**19 24 11.0**	**0.0**
PB01				IAML		19 24 22.1	
	comp=Z,259nm,0.2s						
PATCX	**Punta Patache**	**2.92**	**358**	*eP*	**Pn**	**19 23 32.2**	**-1.8**
PATCX				*eS*	**Sb**	**19 24 16.6**	**+0.7**
TA01	**Diego Aracena**	**3.18**	**358**	*eP*	**Pn**	**19 23 35.2**	**-2.2**
TA01				IAML		19 24 30.1	
	comp=E,289nm,0.6s						
PB08	**IPOC Station P**	**3.70**	**13**	*eP*	**Pn**	**19 23 44.3**	**-0.6**
GO03	**Copiap**	**3.82**	**182**	*eP*	**Pn**	**19 23 46.0**	**-0.3**
GO03				*eS*	**Sb**	**19 24 39.5**	**-2.2**

WEL 13 19:29:58.9±1.3,46°S±7°×16°6E±°,h12^{km}**,M3.7/9,ML3.8/9, MLv3.7/9,Error ellipse: s-maj=0.0km s-min=0.0km az=69.1,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.28**	**53**	P	Pb	19 30 05.8	0.0
PYZ				S	Sb	19 30 11.7	+1.2
WHZ	**Wether Hill Ro**	**1.19**	**69**	P	Pn	19 30 20.1	-1.2
WHZ				S	Sb	19 30 36.3	-0.4
APZ	**The Paps**	**1.23**	**114**	P	Pn	19 30 20.7	-1.2
APZ				S	Sg	19 30 39.9	+1.3
MLZ	**Mavora Lakes**	**1.57**	**52**	P	Pn	19 30 26.3	-0.2
SYZ	**Scrubby Hill**	**1.93**	**97**	P	Pn	19 30 31.5	0.0
MSZ	**Milford Sound**	**1.99**	**34**	P	Pn	19 30 33.1	+0.8
TUZ	**Tuapeka**	**2.31**	**82**	P	Pn	19 30 36.5	-0.2
TUZ				S	Sn	19 31 04.4	-0.5
WKZ	**Wanaka**	**2.40**	**52**	P	Pn	19 30 39.4	+1.4
JCZ	**Jackson Bay**	**2.84**	**38**	P	Pn	19 30 43.8	-0.3
ODZ	**Otahua Downs**	**3.27**	**68**	P	Pn	19 30 48.2	-1.7
LBZ	**Lake Benmore**	**3.33**	**56**	P	Pn	19 30 50.8	+0.1
FOZ	**Fox Glacier**	**3.73**	**42**	P	Pn	19 30 56.6	+0.5
GCSZ	**Gaunt Creek Bo**	**4.13**	**45**	P	Pn	19 31 02.3	+0.6
RPZ	**Rata Peaks**	**4.24**	**53**	P	Pn	19 31 01.6	-1.6
DSZ	**Denniston Nort**	**6.04**	**42**	P	Pn	19 31 26.5	-1.5
QRZ	**Quartz Range**	**7.10**	**41**	P	Pn	19 31 41.9	-0.6

NNC ***13*** *20:11:09.0±2.0,36°.65N×71°.35E,h0*^{km}*, mb4.9,mpv5.5, Error ellipse: s-maj=19.3km s-min=12.5km az=168.0*

IDC ***13*** *20:11:18.4±2.8,36°.51N×71°.45E,h158*$^{km}_{\pm 26}$*, mb3.9/25, mb1 4.0/30,mb1mx3.9/50,mbtmp4.4/30,MS2.6/1, Ms1 2.6/1,ms1mx2.2/44,Error ellipse: s-maj=13.9km s-min=9.7km az=10.0*

MOS ***13*** *20:11:20.4±0.9,36°.75N×71°.47E,h182*^{km}*, mb4.6/26,Error ellipse: s-maj=5.9km s-min=3.6km az=93.9*

NEIC ***13*** *20:11:21.9±2.3,36°.72N±0'.04×71°.33E±0'.08,h185*$^{km}_{\pm 6}$*km, mb4.5/64,Error ellipse: s-maj=10.1km s-min=3.0km az=63.0*

BJI ***13*** *20:11:22.2±0.0,36°.87N×71°.61E,h168*^{km}*,mB4.8/15, mb4.3/18*

ISC 13 20:11:20.4±0.4,36°.69N±0'.04×71°.39E±0'.04,h172$^{km}_{\pm 4}$**km, h173**^{km}**:pP-P,n367,σ1°60/398,mb4.4/85,47C-43D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.46**	**340**	Pn	**Pn**	**20 12 03.4**	**+1.0**
CHGR	**Chuyangaron**	**2.65**	**319**	Pn	**Pn**	**20 12 05.4**	**+0.9**
KBL	**Kabul**	**2.87**	**223**	PN	**Pn**	**20 12 08.6**	**+1.2**
KBL	**Kabul**	**2.87**	**223**		**Pn**	**20 12 08.6**	**+1.2**
CEP	**Cherat**	**2.89**	**171**	P	**Pn**	**20 12 09.2**	**+1.7**
NIL	**Nilore**	**3.39**	**153**	PN	**Pn**	**20 12 15.9**	**+2.3**
NIL	**Nilore**	**3.39**	**153**	Pn	**Pn**	**20 12 15.9**	**+2.3**
BTK	**Batken**	**3.40**	**353**	PN	**Pn**	**20 12 15.3**	**+1.6**
BTK	**Batken**	**3.40**	**353**	Pn	**Pn**	**20 12 15.3**	**+1.6**
THW	**Thamme Wali**	**3.89**	**176**	P	**Pn**	**20 12 21.3**	**+1.3**
KSH	**Kashi**	**4.59**	**51**	P	**Pn**	**20 12 25.3**	**-3.6**
KSH				S	Sn	20 13 11.9	-11
KSH				smax	smax		
	comp=N,3μm,0.7s						
KSH				smax	smax		
	comp=E,3μm,0.5s						
SARP	**Sargodha**	**4.87**	**167**	P	**Pn**	**20 12 32.8**	**+0.2**
TAS	**Tashkent**	**4.91**	**341**	PN	**Pn**	**20 12 33.6**	**+0.6**
TAS	**Tashkent**	**4.91**	**341**	Pn	**Pn**	**20 12 33.6**	**+0.6**
IUG	**Iuzhnay**	**5.55**	**349**	⇓*iP*	**Pn**	**20 12 42.4**	**+0.8**
IUG				*eS*	**Sn**	**20 13 42.0**	**-3.3**
IUG	**Iuzhnay**	**5.55**	**349**	*di* PN	**Pn**	**20 12 42.3**	**+0.8**
AML	**Almayashu**	**5.72**	**17**	P	**Pn**	**20 12 44.1**	**+0.1**
	SNR=1361						
CHM	**Chimkent**	**5.79**	**347**	*eS*	**Sn**	**20 13 47.8**	**-2.9**
DHRM	**DHARAMSHALA**	**6.00**	**136**	*eP*	**Pn**	**20 12 48.3**	**+0.7**
DHRM				*eS*	**Sn**	**20 13 54.1**	**-1.9**
DHRM				IAML		20 14 19.9	
	comp=E,528nm,0.3s						
DHRM				IAML		20 14 20.8	
	comp=N,504nm,0.6s						
UCH	**Uchtor**	**6.04**	**23**	P	**Pn**	**20 12 48.3**	**+0.1**
	SNR=318						
DZA	**Taraz**	**6.20**	**360**	⇓*iP*	**Pn**	**20 12 50.5**	**+0.6**
DZA				*eS*	**Sn**	**20 13 56.5**	**-3.9**
DZA	**Taraz**	**6.20**	**360**	*di* PN	**Pn**	**20 12 50.5**	**+0.6**
EKS2	**Erkin-Say**	**6.25**	**16**	P	**Pn**	**20 12 50.9**	**+0.3**
	SNR=198						
AAK	**Ala-Archa**	**6.41**	**21**	P	**Pn**	**20 12 53.2**	**+0.4**
	SNR=290						
AAK	**Ala-Archa**	**6.41**	**21**	*di* PN	**Pn**	**20 12 52.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,226nm,0.5s						
KK31	**Karatay Array**	**6.45**	**354**	⇓P	Pn	20 12 46.4	-6.8
	comp=Z,127nm,0.3s,baz=188,slow=19,SNR=1640						
KK31				S	**Sn**	**20 14 02.1**	**-4.1**
	comp=Z,167nm,0.5s,baz=184,slow=19,SNR=25						
KK31	**Karatay Array**	**6.45**	**354**	PN	**Pn**	**20 12 53.5**	**+0.4**
KK31	**Karatay Array**	**6.45**	**354**		**Pn**	**20 12 53.5**	**+0.4**
KKAR	**Karatay Array**	**6.45**	**354**	PN	**Pn**	**20 12 53.3**	**+0.1**
KKAR	**Karatay Array**	**6.45**	**354**	Pn	**Pn**	**20 12 53.3**	**+0.1**
BRLS	**Borolday**	**6.45**	**350**	*eP*	**Pn**	**20 12 50.3**	**-2.9**
BRLS				*eS*	Sn	20 13 55.6	-11
BRLS	**Borolday**	**6.45**	**350**	*e*PN	**Pn**	**20 12 50.3**	**-2.9**
KBK	**Karagaybulak**	**6.56**	**24**	P	**Pn**	**20 12 55.3**	**+0.4**
	SNR=116						
FRU1	**Bishkek**	**6.61**	**21**	PN	**Pn**	**20 12 56.1**	**+0.8**
FRU1	**Bishkek**	**6.61**	**21**		**Pn**	**20 12 56.1**	**+0.8**
ULHL	**Ulahol**	**6.70**	**33**	P	**Pn**	**20 12 56.5**	**-0.2**
	SNR=12						
BOOM	**Boomskoye usch**	**6.78**	**30**	PN	**Pn**	**20 12 57.6**	**-0.1**
BOOM	**Boomskoye usch**	**6.78**	**30**		**Pn**	**20 12 57.6**	**-0.1**
CHMS	**Chumysh**	**6.81**	**21**	P	**Pn**	**20 12 58.2**	**+0.2**
	SNR=67						
TKM2	**Tokmak 2**	**7.02**	**26**	P	**Pn**	**20 13 00.9**	**0.0**
	SNR=114						
KDJ	**Kajisay**	**7.04**	**38**	PN	**Pn**	**20 13 00.9**	**-0.3**
KDJ	**Kajisay**	**7.04**	**38**	Pn	**Pn**	**20 13 00.9**	**-0.3**
SGDS	**Sogindy**	**7.20**	**19**	⇓*iP*	**Pn**	**20 13 02.5**	**-0.7**
SGDS				*eS*	**Sn**	**20 14 21.9**	**-2.3**
SGDS	**Sogindy**	**7.20**	**19**	*di* PN	**Pn**	**20 13 02.4**	**-0.7**
SGDS				*eS*	**Sn**	**20 14 21.9**	**-2.3**
SMLA	**Simla**	**7.33**	**137**	*eP*	**Pn**	**20 13 05.0**	**+0.1**
SMLA				*eS*	**Sn**	**20 14 23.5**	**-3.8**
SMLA				IAML		20 14 27.2	
	comp=E,558nm,0.3s						
SMLA				IAML		20 14 28.3	
	comp=N,680nm,0.4s						
MTBS	**Maitube**	**7.51**	**29**	⇓*iP*	**Pn**	**20 13 07.4**	**+0.2**
MTBS	**Maitube**	**7.51**	**29**	⇓*i*PN	**Pn**	**20 13 07.4**	**+0.2**
TNSS	**Tian-Shan**	**7.65**	**32**	⇓*iP*	**Pn**	**20 13 09.0**	**-0.3**
TNSS	**Tian-Shan**	**7.65**	**32**	*di* PN	**Pn**	**20 13 09.0**	**-0.3**
AAA	**Alma-Ata**	**7.77**	**31**	⇓*eP*	**Pn**	**20 13 11.2**	**+0.5**
AAA	**Alma-Ata**	**7.77**	**31**	*de*PN	**Pn**	**20 13 11.2**	**+0.5**
MDOK	**Medeo**	**7.79**	**32**	*eP*	**Pn**	**20 13 11.0**	**0.0**
MDOK	**Medeo**	**7.79**	**32**	*e*PN	**Pn**	**20 13 11.0**	**0.0**
HRA	**Herat**	**7.80**	**256**	Pn	**Pn**	**20 13 11.6**	**+0.2**
KUU	**Kurty**	**8.13**	**26**	⇓*eP*	**Pn**	**20 13 14.2**	**-1.2**
KUU	**Kurty**	**8.13**	**26**	*de*PN	**Pn**	**20 13 14.1**	**-1.2**
SATY	**Saty**	**8.34**	**38**	⇓*iP*	**Pn**	**20 13 17.5**	**-0.8**
	comp=N,48nm,1.2s						
SATY	**Saty**	**8.34**	**38**	*di* PN	**Pn**	**20 13 17.5**	**-0.8**
SATY				pmax	pmax		
	comp=Z,48nm,1.2s						
BTLS	**Baital**	**8.59**	**13**	⇓*iP*	**Pn**	**20 13 20.7**	**-0.6**
	comp=Z,12nm,0.3s						
BTLS				*eS*	**Sn**	**20 14 53.0**	**-4.2**
BTLS	**Baital**	**8.59**	**13**	*di* PN	**Pn**	**20 13 20.7**	**-0.6**
BTLS				pmax	pmax		
	comp=Z,12nm,0.3s						
UZB	**Uzynbulak**	**8.71**	**40**	⇓*eP*	**Pn**	**20 13 22.2**	**-1.0**
	comp=Z,21nm,0.3s						
UZB	**Uzynbulak**	**8.71**	**40**	*de*PN	**Pn**	**20 13 22.2**	**-1.0**
UZB				pmax	pmax		
	comp=Z,21nm,0.3s						
KPKS	**Kokpek**	**8.78**	**37**	⇓*iP*	**Pn**	**20 13 23.6**	**-0.4**
	comp=E,68nm,0.6s						
KPKS	**Kokpek**	**8.78**	**37**	*di* PN	**Pn**	**20 13 23.6**	**-0.4**
KPKS				pmax	pmax		
	comp=Z,68nm,0.6s						
PDGK	**Podgornoye**	**9.09**	**41**	⇑P	**Pn**	**20 13 23.9**	**-4.2**
	comp=Z,49nm,0.7s						
PDGK				⇑S	**Sn**	**20 15 07.1**	**-2.2**
	comp=Z,26nm,0.8s						
KUDL	**Kundal**	**9.54**	**152**	*eP*	**Pn**	**20 13 33.0**	**-1.1**
KUDL				*eS*	**Sn**	**20 15 12.0**	**-8.2**
SONA	**Sohna**	**9.68**	**149**	*ex*	x	20 13 27.4	
SONA				IAML		20 14 29.8	
	comp=E,34nm,0.7s						
SONA				*eS*	**Sn**	**20 15 16.2**	**-7.5**
TDK	**Taldyqorghan**	**9.86**	**30**	*eP*	**Pn**	**20 13 36.9**	**-1.3**
TDK	**Taldyqorghan**	**9.86**	**30**	*eP*	**Pn**	**20 13 36.8**	**-1.3**
GEYT	**Alibeck**	**10.65**	**281**	P	**Pn**	**20 13 46.5**	**-2.0**
	comp=E,1.7nm,0.3s,baz=121,slow=10,SNR=27						
GEYT				S	**Sn**	**20 15 41.3**	**-5.5**
	comp=E,6.0nm,0.3s,baz=110,slow=13,SNR=5.2						
GYA0B	**ALIBECK ARRAY**	**10.65**	**281**	⇑P	Pn	20 13 43.3	-5.2
GYA0B				⇑S	**Sn**	**20 15 43.4**	**-3.3**
GYA0B	**ALIBECK ARRAY**	**10.65**	**281**	Pn	**Pn**	**20 13 46.6**	**-2.0**
MAKZ	**Makanchi**	**12.82**	**35**	⇓P	**Pn**	**20 14 15.2**	**-1.3**
	comp=E,9.0nm,0.4s						
MAKZ	**Makanchi**	**12.82**	**35**	P	**Pn**	**20 14 15.2**	**-1.3**
MAKZ	**Makanchi**	**12.82**	**35**		**Pn**	**20 14 15.2**	**-1.3**
MK31	**Makanchi Array**	**12.96**	**35**	⇑P	**Pn**	**20 14 17.0**	**-1.2**
	comp=E,7.1nm,0.5s,baz=219,slow=14,SNR=162						
MK31	**Makanchi Array**	**12.96**	**35**	*di* P	**Pn**	**20 14 16.8**	**-1.4**
MK31	**Makanchi Array**	**12.96**	**35**	P	**Pn**	**20 14 16.9**	**-1.2**
MKAR	**Makanchi Array**	**12.96**	**35**	P	**Pn**	**20 14 16.7**	**-1.5**
	comp=E,2.3nm,0.3s,baz=224,slow=18,SNR=90						
MKAR	**Makanchi Array**	**12.96**	**35**	*i* P	**Pn**	**20 14 16.7**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MKAR	**Makanchi Array**	**12.96**	**35**		**Pn**	**20 14 15.8**	**-2.4**
BHPL	**Bhopal**	**14.38**	**157**	*eP*	**Pn**	**20 14 37.2**	**+1.0**
ZSN	**Zaisan**	**14.67**	**39**	*eP*	**Pn**	**20 14 39.1**	**-0.5**
ZSN	**Zaisan**	**14.67**	**39**	*eP*	**Pn**	**20 14 39.1**	**-0.5**
KURBB	**Kurchatov Arra**	**14.85**	**18**	P	**Pn**	**20 14 39.8**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=206,slow=11,SNR=37						
KURBB				S	**S**	**20 17 28.2**	**-1.9**
	baz=180,slow=22,SNR=1.8						
KURBB	**Kurchatov Arra**	**14.85**	**18**	⇓P	**Pn**	**20 14 39.4**	**-2.3**
	comp=Z,17nm,0.5s						
KURK	**Kurchatov**	**14.96**	**18**	⇑P	**Pn**	**20 14 40.6**	**-2.4**
	comp=Z,48nm,1.4s						
KURK	**Kurchatov**	**14.96**	**18**	*de*P	**Pn**	**20 14 40.8**	**-2.3**
KURK				pmax	pmax		
	comp=Z,42nm,1.3s						
KURK	**Kurchatov**	**14.96**	**18**	Pn	**Pn**	**20 14 40.6**	**-2.4**
AB31	**Akbulak array**	**15.08**	**330**	⇑P	**Pn**	**20 14 44.0**	**-0.6**
	comp=Z,8.5nm,0.4s,baz=141,slow=11,SNR=466						
AB31				⇓S	**Sn**	**20 17 30.4**	**-2.2**
	comp=Z,11nm,0.5s,baz=132,slow=28,SNR=6.7						
ABKAR	**Akbulak array**	**15.08**	**330**	Pn	**Pn**	**20 14 43.1**	**-1.5**
JBP	**Jabalpur**	**15.38**	**149**	⇑*ix*	x	20 16 39.1	
JBP				*ex*	x	20 17 28.5	
BVAR	**Borovoye Array**	**16.35**	**358**	P	**P**	**20 14 59.6**	**-0.2**
BVAR				S	**S**	**20 17 57.8**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=2.1						
BRVK	**Borovoye**	**16.39**	**358**	⇓P	**P**	**20 14 59.7**	**-0.5**
	comp=Z,10.0nm,0.5s						
BRVK				⇓S	**Sn**	**20 18 03.0**	**-0.9**
	comp=Z,22nm,1.2s						
BRVK	**Borovoye**	**16.39**	**358**	*de*P	**P**	**20 14 59.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,23nm,1.0s						
BRVK	**Borovoye**	**16.39**	**358**		**P**	**20 15 00.1**	**-0.1**
BRVK				IAmb	IAmb	20 15 02.5	
	comp=Z,30nm,1.1s						
AKTO	**Aktyubinsk**	**16.78**	**329**	P	**Pn**	**20 15 05.9**	**+0.6**
	comp=Z,4.2nm,0.3s,baz=140,slow=10.0,SNR=44						
AKTO				S	**S**	**20 18 03.0**	**-7.4**
	comp=Z,0.3nm,0.3s,baz=342,slow=20,SNR=2.1						
AKTO				LR	LR	20 22 45.5	
	comp=Z,20nm,20.4s,baz=167,slow=40						
AKTO	**Aktyubinsk**	**16.78**	**329**	⇓P	**Pn**	**20 15 05.5**	**+0.2**
	comp=Z,47nm,1.1s						
AKTO				⇑S	**Sn**	**20 18 13.8**	**+0.6**
	comp=Z,22nm,0.8s						
GTK	**Tadong**	**17.31**	**118**	*eP*	**Pn**	**20 15 12.5**	**+0.6**
GTK				IAmb	IAmb	20 15 17.4	
	comp=Z,10nm,0.4s						
WSAR	**Wadi Sarin**	**17.35**	**223**	P	**P**	**20 15 12.3**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=76,slow=10.0,SNR=11						
WSAR				S	**S**	**20 18 21.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=292,slow=19,SNR=1.7						
DGZ	**Jazzator, Alta**	**17.44**	**37**	*di* P	**Pn**	**20 15 12.7**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,37nm,1.2s						
UOSS	**Minazif**	**17.50**	**232**	P	**P**	**20 15 13.1**	**+0.5**
UOSS				IAmb	IAmb	20 15 17.1	
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**17.93**	**107**	P	**Pn**	**20 15 20.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LSA	**Lhasa**	**17.93**	**107**	Pn	**Pn**	**20 15 20.9**	**+1.3**
ZAA0	**Zalesovo Array**	**19.62**	**24**	⇓P	**Pn**	**20 15 36.8**	**-1.8**
	comp=Z,2.3nm,0.6s						
ZAA0	**Zalesovo Array**	**19.62**	**24**	P	**P**	**20 15 35.7**	**+0.3**
ZAA0				IAmb	IAmb	20 15 40.9	
	comp=Z,19nm,0.9s						
ZALV	**Zalesovo Beam**	**19.62**	**24**	P	**P**	**20 15 35.7**	**+0.3**
	comp=Z,6.7nm,0.3s,baz=213,slow=10,SNR=104						
HYB	**Hyderabad**	**20.21**	**160**	*i* P	**P**	**20 15 43.0**	**+0.9**
GROC	**Groznyy**	**20.63**	**296**	*eP*	**P**	**20 15 46.3**	**0.0**
GROC				*e**PP	**pP**	**20 16 19.4**	**+3.1**
GROC				*eS*	**S**	**20 19 27.5**	**+0.2**
GROC				pmax	pmax		
	comp=Z,117nm,1.2s						
SHL	**Shillong**	**20.70**	**117**	P	**P**	**20 15 48.4**	**+0.9**
SHL				pmax	pmax		
	comp=Z,53nm,1.2s						
SHL	**Shillong**	**20.70**	**117**	P	**P**	**20 15 48.4**	**+0.9**
SVE	**Sverdlovsk**	**21.40**	**344**	*eP*	**P**	**20 15 55.0**	**+0.6**
SVE				*eS*	**S**	**20 19 43.9**	**+2.9**
SVE				pmax	pmax		
	comp=Z,18nm,1.5s						
ARU	**Arti**	**21.56**	**340**	P	**P**	**20 15 56.9**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=152,slow=9.8,SNR=17						
ARU	**Arti**	**21.56**	**340**	*ci* P	**P**	**20 15 56.4**	**+0.3**
ARU						20 16 31.5	
ARU				S	**S**	**20 19 45.4**	**+1.8**
ARU				pmax	pmax		
	comp=Z,30nm,1.2s						
ARU	**Arti**	**21.56**	**340**	P	**P**	**20 15 56.4**	**+0.3**
ARU				IAmb	IAmb	20 15 59.0	
	comp=Z,24nm,1.1s						
ZEI	**Tsey**	**21.95**	**295**	*eP*	**P**	**20 15 59.1**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,20nm,1.3s						
GTA	**Gaotai**	**22.51**	**74**	*eP*	**P**	**20 16 07.9**	**+2.1**
GTA				pP	pP	20 16 44.4	+6.3
GTA				sP	PP	20 17 05.0	+4.3
GTA				S	**S**	**20 20 03.6**	**+3.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,76nm,7.3s						
GTA				LR	LR		
	comp=Z,250nm,16.0s						
GTA				LR	LR		
	comp=Z,160nm,16.0s						
GTA				LR	LR		
	comp=Z,220nm,16.0s						
KBZ	**Khabaz**	**22.80**	**297**	P	**P**	**20 16 08.5**	**+0.

AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 33.08 309 P P 20 17 40.3 +0.8
AKBB Malin Array Si 33.08 309 *ce*P **P 20 17 40.0 +0.5**
AKBB Malin Array Si 33.08 309 P P 20 17 40.1 +0.6
AKBB IAmb IAmb 20 17 41.1
comp=Z,12nm,1.0s
TIRR Tirgusor 33.25 297 ⇑P **P 20 17 42.2 +1.1**
TIRR Tirgusor 33.25 297 P P 20 17 42.6 +1.5
TIRR pmax pmax
comp=Z,11nm,1.2s
TIRR Tirgusor 33.25 297 P P 20 17 42.6 +1.5
TIRR IAmb IAmb 20 18 11.8
comp=Z,11nm,1.2s
MFTR Murfatlar 33.25 297 ⇑P **P 20 17 42.7 +1.6**
SORM Soroca 33.36 304 ⇑P **P 20 17 42.6 +0.6**
AKAS Kas 33.42 282 P P 20 17 43.7 +0.8
CFR Carcaliu 33.43 298 ⇑P **P 20 17 43.8 +1.2**
HARR Harsova 33.58 298 ⇑P **P 20 17 46.0 +2.0**
VARL Varlezi 33.63 300 ⇑P **P 20 17 46.3 +1.9**
NRIK Noril'sk 33.89 10 P P 20 17 47.0 +0.7
comp=Z,4.0nm,0.5s,baz=209,slow=6.5,SNR=5.5
NRIK Noril'sk 33.89 10⇓ *e*P **P 20 17 47.9 +1.6**
NRIK pmax pmax
comp=Z,14nm,1.3s
ODBI Odobesti 34.18 299 ⇑P **P 20 17 52.2 +3.1**
VRI Vrincioaia 34.41 300 ⇑P **P 20 17 53.7 +2.5**
BISRR Bisoca 34.43 299 ⇑P **P 20 17 54.1 +2.7**
PLOR Plostina 34.47 300 ⇑P **P 20 17 53.8 +2.1**
RAZG Razgrad 34.66 296 ⇑P **P 20 17 55.2 +1.9**
NEHR Nehoiu 34.72 299 ⇓P **P 20 17 56.9 +3.1**
PRAR RASCA 34.76 302 ⇑P **P 20 17 55.3 +1.1**
BIZ Bicaz 34.84 302 ⇑P **P 20 17 56.4 +1.6**
MLR Muntele Rosu 34.97 299 ⇑P **P 20 17 58.9 +2.8**
MLR Muntele Rosu 34.97 299 P P 20 17 58.6 +2.5
MLR pmax pmax
comp=Z,37nm,1.0s
MLR Muntele Rosu 34.97 299 P P 20 17 58.6 +2.5
DOPR Dopca 35.34 300 ⇑P **P 20 18 01.2 +2.1**
BURAR Bucovina Array 35.45 303 ⇑P **P 20 18 01.8 +1.7**
BURAR Bucovina Array 35.45 303 P P 20 18 01.4 +1.3
BUR08 Bucovina Ar. S 35.46 303 P P 20 18 01.7 +1.4
BUR08 IAmb IAmb 20 18 02.7
comp=Z,9.1nm,1.0s
VOIR 35.60 299 ⇑P **P 20 18 02.9 +1.5**
HUMR Humele 35.70 297 ⇑P **P 20 18 03.4 +1.2**
ARR Arges 35.90 299 ⇑P **P 20 18 05.6 +1.7**
ARCR ARCALIA 36.04 302 ⇓P **P 20 18 07.8 +2.7**
LVV L'vov 36.30 306 *e*P **P 20 18 08.3 +1.0**
LOT Lotru 36.50 299 ⇓P **P 20 18 10.9 +1.9**
KWP Kalwaria Pacla 37.16 306 P P 20 18 15.8 +1.3
KWP pmax pmax
comp=Z,17nm,0.8s
KWP Kalwaria Pacla 37.16 306 P P 20 18 15.8 +1.3
GZR Gura Zlata 37.20 299 ⇑P **P 20 18 16.2 +1.2**
UZH Uzhgorod 37.42 304 *e*P **P 20 18 18.0 +1.4**
KOLS Kolonicke sedl 37.43 305 *e*P **P 20 18 17.1 +0.3**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 37.43 305 *e*P **P 20 18 17.1 +0.3**
FIA1 FINESS Array S 37.51 326 P P 20 18 18.1 +0.9
FIA1 IAmb IAmb 20 18 18.4
comp=Z,13nm,0.9s
FINES FINESS Array B 37.51 326 P P 20 18 18.1 +0.8
comp=Z,5.0nm,0.4s,baz=123,slow=9.4,SNR=83
FINES FINESS Array B 37.51 326 P P 20 18 17.8 +0.6
BZS Buzias 38.00 299 ⇑P **P 20 18 23.3 +1.7**
MDVR Moldovita 38.00 298 ⇑P **P 20 18 23.1 +1.4**
AGG Agios Georgios 38.44 289 P P 20 18 24.5 -0.9
AGG pmax pmax
comp=Z,2.0nm,0.8s
AGG Agios Georgios 38.44 289 P P 20 18 24.5 -0.9
PSZ Piszkesteto 39.03 303 P P 20 18 30.1 -0.2
PSZ pmax pmax
comp=Z,9.0nm,1.1s
PSZ Piszkesteto 39.03 303 P P 20 18 30.1 -0.2
PSZ IAmb IAmb 20 18 33.0
comp=Z,9.0nm,1.1s
OJC Ojcow 39.05 307 P P 20 18 30.4 +0.1
OJC pmax pmax
comp=Z,22nm,1.1s
OJC Ojcow 39.05 307 P P 20 18 30.4 +0.1
OJC IAmb IAmb 20 18 32.3
comp=Z,22nm,1.1s
LANS Liptovska Anna 39.27 305 *e*P **P 20 18 34.4 +2.2**
LANS pmax pmax
comp=Z,2.0nm,0.6s
LANS Liptovska Anna 39.27 305 *e*P **P 20 18 34.4 +2.2**
DIVS Divibare 39.30 297 P P 20 18 33.2 +0.6
VYHS Vyhne 39.72 304 *e*P **P 20 18 37.3 +1.5**
VYHS pmax pmax
comp=Z,16nm,1.6s
VYHS Vyhne 39.72 304 *e*P **P 20 18 37.3 +1.5**
JAVC Velka Javorina 40.47 305 *e*P **P 20 18 44.3 +2.2**
MORC Moravsky Berou 40.51 306 ⇑P **P 20 18 43.8 +1.4**
MORC Moravsky Berou 40.51 306 *e*P **P 20 18 43.8 +1.4**
MORC Moravsky Berou 40.51 306 P P 20 18 43.7 +1.4
MORC pmax pmax
comp=Z,15nm,1.1s
MORC Moravsky Berou 40.51 306 P P 20 18 43.7 +1.4
MORC IAmb IAmb 20 18 44.9
comp=Z,15nm,1.1s
SMOL Smolenice 40.65 304 *e*P **P 20 18 45.0 +1.5**
SMOL Smolenice 40.65 304 *e*P **P 20 18 45.0 +1.5**
MODS Modra-Piesok 40.76 304 *e*P **P 20 18 44.9 +0.5**
MODS pmax pmax
comp=Z,13nm,1.3s
MODS Modra-Piesok 40.76 304 *e*P **P 20 18 44.9 +0.5**
KRLC Kraliky 40.99 307 *e*P **P 20 18 47.6 +1.3**
KRLC Kraliky 40.99 307 *e*P **P 20 18 47.6 +1.3**
ARCES ARCESS Array B 41.09 337 P P 20 18 47.6 +0.8
comp=Z,4.9nm,0.6s,baz=115,slow=8.1,SNR=46
VRAC Vranov 41.15 306 ⇑P **P 20 18 49.3 +1.8**
VRAC Vranov 41.15 306 *e*P **P 20 18 49.3 +1.8**
DPC Dobruska-Polom 41.27 307 *e*P **P 20 18 50.3 +1.7**
DPC Dobruska-Polom 41.27 307 *e*P **P 20 18 50.3 +1.7**
KRUC Moravsky 41.29 305 *e*P **P 20 18 50.2 +1.5**
OSTC Ostas 41.33 308 *e*P **P 20 18 50.6 +1.6**
CHVC Chvalec 41.43 308 *e*P **P 20 18 51.1 +1.2**
CONA Conrad Observa 41.74 304 *e*P **P 20 18 54.0 +1.6**
comp=Z,17nm,0.9s,SNR=7.6
TREC Trest 41.87 306 *e*P **P 20 18 55.1 +1.6**
TREC Trest 41.87 306 *e*P **P 20 18 55.1 +1.6**
ARSA Arzberg 42.04 303 *e*P **P 20 18 56.0 +1.1**
comp=Z,7.8nm,1.2s
BSD Bornholm Skovb 42.11 314 *i*P **P 20 18 55.1 -0.1**
BSD pmax pmax
comp=Z,4.0nm,0.4s
BSD Bornholm Skovb 42.11 314 *i*P **P 20 18 55.1 -0.1**
comp=Z,4.2nm,0.4s
BSD Bornholm Skovb 42.11 314 *i*P **P 20 18 55.2 -0.1**
BSD IAmb IAmb 20 18 56.0
comp=Z,4.2nm,0.4s
HAMF Hammerfest 42.17 338 *e*P **P 20 18 56.6 +1.1**
GOPC GO Pecny, Ondr 42.28 307 *e*P **P 20 18 58.4 +1.6**
GOPC GO Pecny, Ondr 42.28 307 *e*P **P 20 18 58.4 +1.6**
PERS Pernice 42.39 302 *i*P **P 20 18 59.0 +1.3**
PRU Pruhonice 42.44 307 *e*P **P 20 18 59.7 +1.7**
PRU Pruhonice 42.44 307 *e*P **P 20 18 59.7 +1.7**
SOKA Soboth 42.44 302 *e*P **P 20 18 59.7 +1.5**
comp=Z,9.4nm,0.6s,SNR=7.0
TIP Timpagrande 42.62 291 P P 20 19 00.5 +0.9
BRG Berggiesshubel 42.76 308⇑ *i*P **P 20 19 01.7 +1.1**
comp=Z,15nm,0.9s
BRG Berggiesshubel 42.76 308⇑ *i*P **P 20 19 01.7 +1.1**
BRG pmax pmax
comp=Z,15nm,0.9s
MOA Molln 42.82 304 *e*P **P 20 19 02.2 +1.1**
comp=Z,10nm,0.9s
MOZS Mozjanca 42.90 301 *i*P **P 20 19 03.2 +1.4**
GERES GERESS Array B 43.08 305 P P 20 19 04.3 +1.0
comp=Z,0.4nm,0.4s,baz=82,slow=9.6,SNR=9.6
GERES GERESS Array B 43.08 305 P P 20 19 04.0 +0.7
KHC Kasperske Hory 43.13 306 *e*P **P 20 19 04.9 +1.3**
KHC Kasperske Hory 43.13 306⇓ *e*P **P 20 19 05.0 +1.3**
KHC pmax pmax
comp=Z,20nm,1.3s
KHC Kasperske Hory 43.13 306 P P 20 19 04.4 +0.8
TRO Tromso 43.23 336 *e*P **P 20 19 04.5 +0.5**
CLL Collm 43.32 309 *i*P **P 20 19 05.8 +0.7**
comp=Z,9.0nm,1.0s
CLL *ep*P **pP 20 19 46.0 +2.6**
CLL Collm 43.32 309 *i*P **P 20 19 05.8 +0.7**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 43.32 309 P P 20 19 05.7 +0.6
CLL IAmb IAmb 20 19 07.0
comp=Z,9.4nm,1.0s
CADS Cadrg 43.39 301 *i*P **P 20 19 06.6 +0.9**
N2ST Straumen 43.66 332 *e*P **P 20 19 08.6 +1.1**
N2IH Innhavet 43.71 333 *e*P **P 20 19 08.8 +0.9**
FAUS Fauske 43.79 332 *e*P **P 20 19 09.3 +0.8**
MORB Moi Rana 43.81 331 *e*P **P 20 19 09.0 +0.2**
N2TV Tvmvik 43.90 333 *e*P **P 20 19 10.3 +0.9**
STEI Steigen 43.95 333 *e*P **P 20 19 10.7 +0.9**
NC405 NORSAR Array S 44.19 323 P P 20 19 11.9 +0.1
NC602 NORSAR Array S 44.24 322 P P 20 19 11.2 -1.0
NC602 NORSAR Array S 44.24 322 *e*P **P 20 19 12.2 0.0**
CIMO Cimolais 44.27 302 P P 20 19 11.2 -1.5
CIMO IAmb IAmb 20 19 14.3
comp=Z,18nm,1.0s
NC303 NORSAR Array S 44.37 323 P P 20 19 13.4 +0.1
NB201 NORSAR Array S 44.39 323 P P 20 19 13.5 +0.1
NB201 IAmb IAmb 20 19 14.8
comp=Z,20nm,0.8s
KONS Konsvik 44.40 331 *e*P **P 20 19 14.2 +0.8**
NB2 NORSAR Subarra 44.42 323 P P 20 19 13.6 -0.2
comp=Z,6.5nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.42 323 P P 20 19 13.6 -0.2
baz=97,slow=7.9
NOA NORSAR Array B 44.42 323 P P 20 19 14.1 +0.3
comp=Z,6.8nm,0.5s,baz=96,slow=7.7,SNR=83
N2VI Vinje 44.43 334 *e*P **P 20 19 15.0 +1.4**
NSS Namsos 44.51 328 *e*P **P 20 19 14.8 +0.6**
KSRS Korea Array 44.52 71 P P 20 19 13.7 -1.1
comp=Z,0.8nm,0.5s,baz=273,slow=6.7,SNR=4.1
NAO01 NORSAR Array S 44.57 323 P P 20 19 14.4 -0.4
LOF Lofoten 44.62 333 *e*P **P 20 19 15.5 +0.4**
NBO00 NORSAR Array S 44.63 323 P P 20 19 15.1 -0.3
WTTA Wattenberg 44.66 303 *e*P **P 20 19 16.4 +0.4**
comp=Z,19nm,1.3s
NC204 NORSAR Array S 44.66 323 P P 20 19 15.7 +0.1
WATA Walderalm 44.69 303 *e*P **P 20 19 16.3 +0.1**
comp=Z,9.2nm,1.0s
SQTA Sankt Quirin 44.95 303 *i*P **P 20 19 18.5 +0.2**
comp=Z,2.9nm,0.4s
MOTA Moosalm 45.01 303 *e*P **P 20 19 18.5 -0.2**
comp=Z,11nm,1.1s
N2RO R st 45.01 332 *e*P **P 20 19 18.1 0.0**
KONO Kongsberg 45.14 321 *ce*P **P 20 19 20.5 +1.1**
KONO pmax pmax
comp=Z,19nm,2.5s
KONO Kongsberg 45.14 321 *e*P **P 20 19 20.0 +0.6**
BJO1 Bjornoya 45.19 343 *e*P **P 20 19 20.2 +0.7**
RETA Reutte 45.21 304 *e*P **P 20 19 20.2 0.0**
comp=Z,2.0nm,0.5s
FETA Feichten 45.31 303 *i*P **P 20 19 21.1 0.0**
comp=Z,3.9nm,0.5s
TIXI Tiksi 45.48 22⇓ *e*P **P 20 19 22.5 +0.6**
TIXI pmax pmax
comp=Z,60nm,2.5s
TIXI Tiksi 45.48 22 P P 20 19 22.0 +0.1
TIXI IAmb IAmb 20 19 22.7
comp=Z,18nm,0.8s
DOMB Dombas 45.53 324 *e*P **P 20 19 23.0 +0.6**
HOMB Homborsund 45.69 319 *e*P **P 20 19 24.2 +0.6**
HOMB Homborsund 45.69 319 *i*P **P 20 19 24.2 +0.6**
HOMB IAmb IAmb 20 19 24.8
comp=Z,2.6nm,0.3s
SKAR Skarslia 45.82 322 *e*P **P 20 19 26.0 +1.2**
DAVA Damuels 45.84 303 *e*P **P 20 19 25.8 +0.6**
comp=Z,17nm,0.5s,SNR=6.8
AKN Aaknes 46.51 324 *e*P **P 20 19 31.0 +1.0**
BLS5 Blasjo 46.74 321 *e*P **P 20 19 33.1 +1.2**
BER Bergen 47.29 322 *e*P **P 20 19 36.5 +0.4**
ASK Askoy 47.36 322 *e*P **P 20 19 37.3 +0.7**
KMY Karmoy 47.37 320 *e*P **P 20 19 37.9 +1.2**
SPA0 Spitsbergen Ar 47.38 347 *e*P **P 20 19 37.7 +1.0**
SENIN Lac Senin/Sane 47.75 303 P P 20 19 40.6 +0.4
WLF Walferdange 47.86 307 P P 20 19 42.0 +1.3
WLF pmax pmax
comp=Z,23nm,1.0s
WLF Walferdange 47.86 307 P P 20 19 42.0 +1.3
WLF IAmb IAmb 20 19 43.3
comp=Z,23nm,1.0s
KEST Kesra 49.28 289 P P 20 19 53.0 +1.2
comp=Z,5.1nm,0.9s,baz=73,slow=0.8,SNR=13
KEST Kesra 49.28 289 P P 20 19 52.7 +0.9
KEST IAmb IAmb 20 19 54.7
comp=Z,24nm,1.5s
KKM Kota Kinabalu 51.00 116 P P 20 20 05.2 +0.2
KKM IAmb IAmb 20 20 07.8
comp=Z,23nm,1.2s
MBAR Mbarara 52.87 235 *ce*P **P 20 20 20.0 +1.1**
MBAR pmax pmax
comp=Z,7.0nm,1.7s
MBAR Mbarara 52.87 235 P P 20 20 18.9 0.0
NOR Nord 53.68 349 *i*P **P 20 20 24.3 +0.6**
NOR Nord 53.68 349 *i*P **P 20 20 24.3 +0.6**
NOR Nord 53.68 349 *i*P **P 20 20 24.3 +0.6**
ERM Erimo 54.26 61⇓ *e*P **P 20 20 26.2 -2.2**
ERM pmax pmax
comp=Z,47nm,1.0s
DAG Danmarks Havn 54.64 344 *i*P **P 20 20 31.5 +0.9**
DAG Danmarks Havn 54.64 344 *i*P **P 20 20 31.5 +0.9**
DAG Danmarks Havn 54.64 344 *i*P **P 20 20 31.6 +0.9**
DBG Daneborg 55.51 341 *i*P **P 20 20 38.4 +1.5**
DBG IAmb IAmb 20 20 38.9
comp=Z,2.7nm,0.6s
ESDC Sonseca Array 57.65 298 P P 20 20 53.2 +0.5
comp=Z,13nm,1.2s,baz=58,slow=6.9,SNR=46
ESDC Sonseca Array 57.65 298 P P 20 20 52.9 +0.2
SUMG Summit 60.99 341 *i*P **P 20 21 16.8 +1.4**
SUMG pmax pmax
comp=Z,23nm,0.6s
SUMG Summit 60.99 341 P P 20 21 16.5 +1.0
SUMG Summit 60.99 341 *i*P **P 20 21 16.8 +1.4**
comp=Z,23nm,0.6s
SUMG Summit 60.99 341 *i*P **P 20 21 16.8 +1.4**
SUMG IAmb IAmb 20 21 17.5
comp=Z,23nm,0.6s
TNTI Ternate 62.76 111 P P 20 21 30.5 +2.9
TNTI Ternate 62.76 111 P P 20 21 29.5 +1.9
ICESG Greenland Ices 63.16 338 *i*P **P 20 21 30.8 +1.0**
TOA0 Torodi Ar. Sit 66.04 269 P P 20 21 47.0 -1.9
TOA0 IAmb IAmb 20 21 48.5
comp=Z,6.5nm,0.8s
TORD Torodi Ar. Bea 66.04 269 P P 20 21 47.1 -1.8
comp=Z,3.5nm,0.4s,baz=48,slow=6.0,SNR=110
TORD Torodi Ar. Bea 66.04 269 P P 20 21 46.6 -2.3
KOWA Kowa 69.87 273 P P 20 22 11.7 -1.1
KOWA IAmb IAmb 20 22 12.7
comp=Z,12nm,1.2s
BMAR Burnt Mountain 72.69 14 P P 20 22 29.4 +0.4
C36M Paulatuk 73.66 6 P P 20 22 34.5 -0.1
INK Inuvik 73.67 9 P P 20 22 35.1 +0.5
comp=Z,3.7nm,0.7s,baz=308,slow=6.2,SNR=11
INK Inuvik 73.67 9 P P 20 22 35.0 +0.4
INK IAmb IAmb 20 22 35.7
comp=Z,6.0nm,0.9s
PSA00 Pilbara Seismi 73.81 134 P P 20 22 35.2 -0.8
PSA00 IAmb IAmb 20 22 58.2
comp=Z,20nm,1.4s
MDM Murphy Dome 74.05 16 P P 20 22 36.8 -0.1
BPAW Bear Paw Mtn. 74.12 18 P P 20 22 36.8 -0.5
BPAW IAmb IAmb 20 22 38.8
comp=Z,8.2nm,1.2s
COLA College 74.21 16 P P 20 22 38.0 +0.2
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 74.21 16 P P 20 22 38.0 +0.2
COLA IAmb IAmb 20 22 38.5
comp=Z,9.5nm,0.8s
ILAR Eielson Array 74.51 16 P P 20 22 39.2 -0.4
comp=Z,2.0nm,1.0s,baz=314,slow=4.6,SNR=12
ILAR Eielson Array 74.51 16 P P 20 22 38.7 -0.9
ILAR *p* **pP 20 23 22.7 +0.3**
KTH Kantishna Hill 74.59 18 P P 20 22 39.6 -0.6
KTH IAmb IAmb 20 22 41.1
comp=Z,10nm,1.1s
DBIC Dimbokro 75.02 267 P P 20 22 42.0 -1.3
comp=Z,1.8nm,0.5s,baz=37,slow=8.2,SNR=7.8
DBIC Dimbokro 75.02 267 P P 20 22 41.0 -2.4
DBIC IAmb IAmb 20 23 02.6
comp=Z,16nm,1.2s
BCAR Beaver Creek A 77.10 15 P P 20 22 55.1 +0.8
BCAR **pP 20 23 40.2 +2.9**
BOSA Boshof 78.09 220 P P 20 22 59.6 -0.7
comp=Z,3.7nm,1.1s,baz=348,slow=5.1,SNR=5.7
BOSA Boshof 78.09 220 P P 20 22 59.2 -1.1
BOSA IAmb IAmb 20 23 14.9
comp=Z,19nm,1.4s
YKA Yellowknife Ar 81.05 3 P P 20 23 16.0 +0.3
comp=Z,2.0nm,0.5s,baz=359,slow=5.1,SNR=21
YKA Yellowknife Ar 81.05 3 P P 20 23 16.0 +0.3
WRA Warramunga Arr 81.82 122 P P 20 23 19.1 -1.3
comp=Z,2.3nm,0.4s,baz=324,slow=4.9,SNR=94
WRA Warramunga Arr 81.82 122 P P 20 23 18.7 -1.7
WRAB Tennant Creek 81.82 122⇑ *e*P **P 20 23 19.0 -1.4**
WRAB pmax pmax
comp=Z,8.0nm,1.5s
WB2 Warramunga Arr 81.83 122 P P 20 23 18.6 -1.8
WB2 IAmb IAmb 20 23 20.6
comp=Z,6.9nm,1.1s
WR0 Warramunga Arr 81.97 122 P P 20 23 19.8 -1.4
AS31 Alice Springs 84.10 125 P P 20 23 30.2 -1.8
ASAR Alice Springs 84.10 125 P P 20 23 30.9 -1.2
comp=Z,2.4nm,0.6s,baz=310,slow=4.9,SNR=59
ASAR Alice Springs 84.10 125 P P 20 23 30.2 -1.8
FFC Flin Flon 88.78 356 P P 20 23 54.4 +0.1
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 88.78 356 P P 20 23 54.4 +0.1
FFC IAmb IAmb 20 23 55.7
comp=Z,5.7nm,0.9s
ULM Lac du Bonnet 92.71 352 P P 20 24 12.3 -0.4
comp=Z,2.1nm,0.7s,baz=8,slow=7.1,SNR=3.2
ULM Lac du Bonnet 92.71 352 P P 20 24 11.4 -1.3
ULM IAmb IAmb 20 24 13.2
comp=Z,7.0nm,1.2s
PLCA Paso Flores 150.19 250 PKPbc **PKPbc 20 30 50.2 -0.6**
comp=Z,1.6nm,0.6s,baz=124,slow=3.6,SNR=5.2
PLCA Paso Flores 150.19 250 PKPbc 20 30 50.5 -0.3

BJI 13 20:14:56.9±0.0, **27.71N**×**119.94E, h4**km, **mb4.0**/1, **ML4.5**/11, **1C, Near coast of southeastern China**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**3.01**	**204**	Pn	Pn	20 15 45.0	-0.4
QZH				Pg	Pb	20 15 51.5	+0.4
QZH				Sg	Sb	20 16 28.8	+0.6
QZH				smax	smax		
	comp=N,720nm,0.9s						
QZH				smax	smax		
	comp=E,1μm,0.8s						
NJ2	**Nanjing**	**4.43**	**348**	⇑Pn	Pn	20 16 03.6	-1.3
NJ2				Sn	Sn	20 16 56.1	-0.8
NJ2				Sg	Sg	20 17 17.3	-1.9
NJ2				smax	smax		
	comp=N,610nm,0.9s						
NJ2				smax	smax		
	comp=E,350nm,0.5s						
WHN	**Wuhan**	**5.65**	**301**	Pn	Pn	20 16 23.8	+2.2
WHN				Sn	Sn	20 17 23.8	-3.1
WMQ	**Urumqi**	**30.47**	**310**	*e*P	P	20 21 11.8	+1.0

JMA ***13*** *20:25:27.7*±*0.1, 40.92N*×*142.30E, h49*km±*3km, M4.1*
JMA Felt II J1.
NIED ***13*** *20:25:27.7, 40.92N*×*142.30E, h49km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{15}*Nm; Mrr-0.94; Mθθ0.94; Mφφ0.00; Mrθ0.15; Mθφ-0.28; Mrφ0.23; Fault plane solution: M*$_0$*1.02000×10*^{15} *NP1: φs271.00000°, δ50.00000°, λ-110.00000°. NP2: φs121.00000°, δ44.00000°, λ-68.00000°.*
IDC ***13*** *20:25:28.2*±*0.8, 40.86N*×*142.18E, h60*km±*6km, mb3.5/13, mb1 3.7/15, mb1mx3.6/48, mbtmp3.8/15, MS4.0/1, Ms1 4.0/1, ms1mx2.7/40 Error ellipse: s-maj=18.0km s-min=14.7km az=82.0*
NEIC ***13*** *20:25:28.1*±*1.8, 40.90N*±*0.05*×*142.4E*±*0.1, h70km*±*6km, mb4.1/8, Error ellipse: s-maj=12.9km s-min=7.8km az=91.0*

ISC 13 20:25:28.0±0.6, **40.90N**±0.03×**142.25E**±0.04, **h62**km±5km, **n68**, σ1^{s}**16**/**79**, **mb3.9**/**18**, **4C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.67**	**279**	⇓P	Pn	20 25 41.5	-0.6
JARK				S	Sn	20 25 51.3	-1.0
JANG	**Nango**	**0.77**	**227**	⇑P	Pn	20 25 43.0	-0.2
JANG				S	Sn	20 25 54.0	-0.4
JAHD	**Aomorihigashid**	**0.78**	**298**	⇓P	Pn	20 25 42.7	-0.6
JKEN	**Kujiedanarisaw**	**0.81**	**211**	⇑P	Pn	20 25 43.1	-0.6
JKEN				S	Sn	20 25 54.8	-0.4
JTM	**Tenmabayashi**	**0.90**	**263**	⇓P	Pn	20 25 44.6	-0.3
JTM				S	Sn	20 25 57.0	-0.3
JOT	**Ohata**	**1.02**	**298**	⇓P	Pn	20 25 45.9	-0.5
JOT				*e*S	Sn	20 25 59.6	-0.5
ERM	**Erimo**	**1.30**	**31**		Pn	20 25 50.3	+0.1
JEM	**Erimo**	**1.30**	**31**	P	Pn	20 25 49.9	-0.2
JEM				S	Sn	20 26 06.8	+0.1
JKB	**Kayabe**	**1.34**	**318**	⇓P	Pn	20 25 50.4	-0.2
JKB				S	Sn	20 26 06.8	-0.7
JAH	**Hinai**	**1.42**	**240**	P	Pn	20 25 52.2	+0.5
JAH				S	Sn	20 26 10.0	+0.6
JNBK	**Urakawa-nobuka**	**1.43**	**15**	⇑P	Pn	20 25 52.2	+0.4
JSR	**Shiriuchi**	**1.51**	**295**	⇓P	Pn	20 25 53.1	+0.2
JSR				S	Sn	20 26 12.1	+0.4
JOM	**Ohasama**	**1.60**	**207**	⇑P	Pn	20 25 54.5	+0.3
JOM				S	Sn	20 26 14.4	+0.5
JIW	**Iwasaki**	**1.73**	**260**	P	Pn	20 25 56.2	+0.3
JIAM	**Iburiatsuma**	**1.73**	**352**	P	Pn	20 25 57.3	+1.4
JIAM				S	Sn	20 26 20.2	+3.2
JOMM	**Oshimamatsumae**	**1.80**	**291**	P	Pn	20 25 57.3	+0.5
JOMM				*e*S	Sn	20 26 19.7	+1.1
JNB	**Noboribetsu**	**1.81**	**330**	P	Pn	20 25 56.3	-0.6
JNB				*e*S	Sn	20 26 18.2	-0.5
JCH	**Churui**	**1.90**	**26**	P	Pn	20 25 58.3	+0.1
JCH				*e*S	Sn	20 26 21.6	+0.5
JEW	**Eniwo**	**2.02**	**343**		Pn	20 26 01.0	+1.2
ASAJ	**Asahikawa**	**3.22**	**5**	P	Pn	20 26 16.5	+0.3
	10nm,0.3s,baz=214,slow=11,SNR=121						
ASAJ				S	Sn	20 26 53.4	+0.1
	8.4nm,0.3s,baz=37,slow=28,SNR=3.8						
JKA	**Kamikawa-asahi**	**3.22**	**5**	Pn	Pn	20 26 16.2	0.0
JMM	**Marumori**	**3.24**	**201**		Pn	20 26 16.4	0.0
JYT	**Yasato**	**4.94**	**200**	Pn	Pn	20 26 39.3	-0.4
MAJO	**Matsushiro**	**5.38**	**217**		Pn	20 26 47.6	+1.9
MAT	**Matsushiro**	**5.38**	**217**	P	Pn	20 26 47.9	+2.2
MAT				*e*S	Sn	20 27 49.7	+3.4
MJAR	**Matsushiro Arr**	**5.38**	**217**	P	Pn	20 26 48.6	+2.5
	0.7nm,0.3s,baz=28,slow=14,SNR=29						
MJAR	**Matsushiro Arr**	**5.38**	**217**		Pn	20 26 48.6	+2.9
JHJ	**Hachijo jima 2**	**8.02**	**195**	LR	LR	20 30 28.3	
	comp=Z,1μm,21.2s,baz=114,slow=38						
USRK	**Ussurijsk Ar.**	**8.26**	**297**	P	Pn	20 27 25.5	+0.5
	baz=102,slow=16,SNR=5.3						
KSRS	**Korea Array**	**11.64**	**257**	P	Pn	20 28 14.7	+3.5
	0.2nm,0.3s,baz=52,slow=16,SNR=1.1						
SONM	**Songino Array**	**26.37**	**297**	P	P	20 30 59.2	+0.8
	0.4nm,0.6s,baz=94,slow=7.2,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**29.79**	**128**	T	T	21 02 59.8	
	baz=320,slow=75,SNR=256						
H11N1	**WAKE ISLAND Hy**	**29.80**	**128**	T	T	21 03 08.7	
	baz=320,slow=75,SNR=203						
H11N3	**WAKE ISLAND Hy**	**29.81**	**128**	T	T	21 03 04.1	
	baz=320,slow=75,SNR=148						
H11S1	**WAKE ISLAND Hy**	**30.62**	**130**	T	T	21 04 11.1	
	baz=322,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**30.62**	**130**	T	T	21 04 08.8	
	baz=322,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**30.64**	**130**	T	T	21 04 09.5	
	baz=322,slow=76,SNR=62						
ZAA0	**Zalesovo Array**	**39.88**	**309**	P	P	20 32 53.6	-1.9
ZAA0				IAmb	IAmb	20 32 56.5	
	comp=Z,1.9nm,0.6s						
ZALV	**Zalesovo Beam**	**39.88**	**309**	P	P	20 32 55.7	+0.2
	comp=Z,1.9nm,0.5s,baz=99,slow=7.9,SNR=11						
ZALV				pP	pP	20 33 10.6	-0.2
	comp=Z,0.6nm,0.5s,baz=99,slow=9.0,SNR=2.2						
ZALV	**Zalesovo Beam**	**39.88**	**309**	P	P	20 32 54.7	-0.8
MK31	**Makanchi Array**	**42.72**	**299**	P	P	20 33 18.7	-0.2
MK31				IAmb	IAmb	20 33 19.6	
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**42.72**	**299**	P	P	20 33 18.9	+0.1
	comp=Z,1.3nm,0.5s,baz=86,slow=10,SNR=29						

MKAR				pP		**pP**	**20 33 34.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=84,slow=11,SNR=4.0								
MKAR	**Makanchi Array**	**42.72**	**299**	P		**P**	**20 33 18.7**	**-0.2**
MAKZ	**Makanchi**	**42.92**	**299**	P		**P**	**20 33 20.8**	**+0.2**
MAKZ				IAml		IAmb	20 33 34.1	
	comp=Z,3.1nm,1.2s								
ILAR	**Eielson Array**	**45.91**	**34**	P		**P**	**20 33 44.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=264,slow=5.5,SNR=4.6								
INK	**Inuvik**	**50.66**	**29**	P		**P**	**20 34 21.6**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=281,slow=6.7,SNR=5.7								
KK31	**Karatay Array**	**51.82**	**298**	P		**P**	**20 34 27.3**	**-2.4**
KKAR	**Karatay Array**	**51.82**	**298**	P		**P**	**20 34 28.1**	**-1.6**
ABKAR	**Akbulak array**	**55.99**	**308**	P		**P**	**20 34 59.4**	**-0.5**
ABKAR				IAmb		IAmb	20 35 27.5	
	comp=Z,2.1nm,1.1s								
ABKAR	**Akbulak array**	**55.99**	**308**	P		**P**	**20 34 59.8**	**-0.1**
WRA	**Warramunga Arr**	**60.98**	**189**	P		**P**	**20 35 34.5**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=5.1,slow=6.8,SNR=18								
WRA				pP		**pP**	**20 35 51.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=4.7,slow=7.0,SNR=2.3								
WRA	**Warramunga Arr**	**60.98**	**189**	P		**P**	**20 35 34.5**	**-0.4**
ASAR	**Alice Springs**	**64.71**	**188**	P		**P**	**20 35 59.7**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=4.1,slow=7.2,SNR=11								
ASAR	**Alice Springs**	**64.71**	**188**	P		**P**	**20 35 59.3**	**-0.3**
FINES	**FINESS Array B**	**65.71**	**332**	P		**P**	**20 36 05.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=47,slow=7.8,SNR=23								
FINES	**FINESS Array B**	**65.71**	**332**	P		**P**	**20 36 05.7**	**+0.1**
NB2	**NORSAR Subarra**	**70.87**	**337**	P		**P**	**20 36 37.7**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=36,slow=6.2								
NOA	**NORSAR Array B**	**70.87**	**337**	P		**P**	**20 36 38.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=37,slow=6.1,SNR=5.4								
NOA				pP		**pP**	**20 36 54.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=40,slow=6.0,SNR=3.2								
AKASG	**Malin Array Be**	**71.64**	**322**	P		**P**	**20 36 43.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=4.1,SNR=1.4								
NVAR	**Mina Array Bea**	**72.18**	**54**	P		**P**	**20 36 48.0**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=337,slow=5.9,SNR=2.1								
PDAR	**Pinedale Array**	**74.51**	**47**	P		**P**	**20 37 01.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=336,slow=2.0,SNR=2.0								
PDAR				pP		**pwP**	**20 37 17.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=266,slow=2.4,SNR=3.0								
TOO	**Toolangi**	**78.16**	**177**	P		**P**	**20 37 18.2**	**-2.1**
TOO				IAmb		IAmb	20 37 19.2	
	comp=Z,26nm,1.4s								
GERES	**GERESS Array B**	**79.77**	**328**	P		**P**	**20 37 29.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=6.5,slow=4.3,SNR=1.7								
GERES	**GERESS Array B**	**79.77**	**328**	P		**P**	**20 37 29.9**	**+0.5**
QUOK	**Quay**	**86.16**	**44**	P		**P**	**20 37 59.6**	**-2.9**
H03N2	**Juan Fernandez**	**146.59**	**91**	T		T	23 30 03.0	
	baz=300,slow=76,SNR=5.0								
H03N3	**Juan Fernandez**	**146.61**	**91**	T		T	23 30 02.2	
	baz=300,slow=76,SNR=5.7								
H03N1	**Juan Fernandez**	**146.61**	**91**	T		T	23 30 02.7	
	baz=300,slow=76,SNR=6.0								

ECX ***13*** *20:30:32.7±0.8,30.57N×114.11W,h4km,ML2.8*
ANF ***13*** *20:30:47.5±0.9,31.46N×114.07W,h3km±4km,ML2.6/5*

ISC 13 20:30:26.4±2.7,30.2N±0.2×114.03W±0.08,h10km,n11,
σ0.9s0/12,1C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFX	**San Felipe**	**1.11**	**321**	*e*P		**Pn**	**20 30 47.1**	**-0.9**
PIX	**Pinacate**	**1.46**	**19**	*e*P		**Pn**	**20 30 52.4**	**-0.4**
SPX	**San Pedro Mart**	**1.50**	**305**	*e*P		**Pb**	**20 30 54.2**	**-0.4**
SPX				⇓*e*			20 31 21.4	
SPX						IAML	20 31 21.4	
	comp=N,104nm,0.4s							
SPIG	**San Pedro Mart**	**1.51**	**305**	*e*P		**Pg**	**20 30 54.9**	**-0.5**
SQX	**San Quintin**	**1.64**	**284**	*e*P		**Pg**	**20 30 59.3**	**+1.4**
	comp=Z,113nm,0.8s							
SQX				⇓*e*			20 31 25.6	
SQX						IAML	20 31 25.6	
	comp=E,180nm,0.6s							
SQX				⇑*e*			20 31 26.9	
SQX						IAML	20 31 26.9	
	comp=N,290nm,0.6s							
214A	**Organ Pipe Nat**	**2.05**	**30**	S		**Sn**	**20 31 26.7**	**0.0**
	baz=246							
GLA	**Glamis**	**2.94**	**347**	P		**Pb**	**20 31 18.5**	**-0.5**
	baz=158							
IKP	**In-Ko-Pah, Jac**	**3.04**	**325**	Pb		**Pg**	**20 31 26.1**	**+1.5**
	baz=124,SNR=13							
IKP				S		**Sn**	**20 31 51.2**	**+0.2**
	baz=124							
MONP2	**Monument Peak**	**3.39**	**324**	Pb		**Pg**	**20 31 31.8**	**+0.4**
	baz=125,SNR=12							
TUC	**Tucson**	**3.50**	**52**	Pb		Pg	20 31 40.3	+6.9
	baz=254							
TUC				Sb		**Sg**	**20 32 18.9**	**+0.2**
	baz=254							
PFO	**Pinyon Flats O**	**4.00**	**329**	Pg		**Pg**	**20 31 44.1**	**+1.1**
	baz=136							

NEIC ***13*** *21:04:34.5±1.8,43.73N±0.05×105.20W±0.03,h0km±2km,*
ML3.2/61,Error ellipse: s-maj=9.6km s-min=3.2km
az=340.0
IDC ***13*** *21:04:35.5±1.5,44.16N×105.80W,h0km,mb3.5/1,*
mb1 3.7/4,mb1mx3.4/39,mbtmp3.4/4,ML2.6/2,Error
ellipse: s-maj=53.8km s-min=9.3km az=145.0

ISC 13 21:04:33.5±1.0,43.79N±0.05×105.19W±0.08,h0km,n51,
σ1.5s1/50,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**68**	Pg		**Pn**	**21 04 51.9**	**-1.6**
K22A	**Casper**	**1.50**	**221**			**Pn**	**21 05 00.5**	**-1.3**
K22A				IAML			21 05 25.5	
	comp=E,321nm,0.4s							
PHWY	**Pilot Hill**	**2.50**	**185**	Pn		**Pn**	**21 05 16.2**	**+0.6**
RWWY	**Rawlins**	**2.57**	**216**			**Pn**	**21 05 16.4**	**-0.2**
RWWY				IAML			21 05 52.5	
	comp=E,166nm,0.7s							
N23A	**Red Feather La**	**2.95**	**191**			**Pn**	**21 05 23.3**	**+1.5**
N23A				IAML			21 06 07.2	
	comp=N,84nm,0.6s							
N23A				IAML			21 06 19.7	
	comp=E,74nm,0.7s							
LAO	**LASA Array**	**2.99**	**346**	Pn		**Pb**	**21 05 24.5**	**-3.1**
RLMT	**Red Lodge**	**3.21**	**296**	Pn		**Pn**	**21 05 26.1**	**+0.8**
RLMT				IAML			21 06 17.5	
	comp=E,53nm,0.4s							
RLMT				IAML			21 06 17.8	
	comp=E,50nm,0.3s							
BW06	**Boulder Array**	**3.35**	**254**	Pn		**Pn**	**21 05 27.1**	**-0.2**
PD31	**Pinedale Array**	**3.35**	**254**	Pn		**Pn**	**21 05 27.1**	**-0.1**
PDAR	**Pinedale Array**	**3.35**	**254**	Pn		**Pn**	**21 05 28.0**	**+0.7**
	comp=E,5.0nm,0.3s,baz=71,slow=16,SNR=33							
PDAR				Lg		Lg	21 06 11.8	
	comp=E,6.0nm,0.3s,baz=62,slow=32,SNR=2.5							
PDAR	**Pinedale Array**	**3.35**	**254**	Pn		**Pn**	**21 05 28.1**	**+0.8**
YNE	**Yellowstone No**	**3.66**	**291**	Pn		**Pn**	**21 05 32.3**	**+0.7**
YMP	**Mirror Lake Pl**	**3.69**	**287**	Pn		**Pn**	**21 05 32.9**	**+0.8**
GCMT	**Greycliff**	**3.76**	**304**	Pn		**Pn**	**21 05 34.1**	**+1.2**
LKWY	**Lake**	**3.83**	**283**	Pn		**Pn**	**21 05 37.3**	**+3.5**
LKWY				IAML			21 06 01.8	
	comp=E,54nm,0.6s							
LKWY				IAML			21 06 12.5	
	comp=E,36nm,0.8s							
H17A	**Grant Village**	**3.93**	**281**	Pn		**Pn**	**21 05 37.0**	**+1.8**
H17A				IAML			21 06 35.9	
	comp=E,24nm,0.1s							
H17A				IAML			21 06 40.0	
	comp=N,30nm,0.4s							
LOHW	**Long Hollow**	**3.93**	**269**	Pn		**Pn**	**21 05 36.7**	**+1.4**
FLWY	**Flagg Ranch**	**3.99**	**276**	Pn		**Pn**	**21 05 36.7**	**+0.6**
FLWY				IAML			21 06 46.2	
	comp=N,29nm,1.1s							
FLWY				IAML			21 06 46.7	
	comp=N,33nm,1.2s							
ISCO	**Idaho Springs**	**4.00**	**185**			**Pn**	**21 05 37.7**	**+1.4**
YPP	**Pitchstone Pla**	**4.08**	**279**	Pn		**Pn**	**21 05 38.2**	**+0.8**
IMW	**Indian Meadow**	**4.16**	**273**	Pn		**Pn**	**21 05 40.2**	**+1.7**
IMW				IAML			21 06 50.0	
	comp=N,22nm,0.8s							
IMW				IAML			21 06 59.1	
	comp=N,32nm,0.6s							
YHH	**Holmes Hill**	**4.18**	**286**	Pn		**Pn**	**21 05 39.5**	**+0.7**
TPAW	**Teton Pass**	**4.19**	**268**			**Pn**	**21 05 40.1**	**+1.2**
TPAW				IAML			21 06 56.1	
	comp=N,42nm,1.0s							
TPAW				IAML			21 06 58.7	
	comp=N,28nm,1.1s							
E28A	**Huff**	**4.23**	**47**			**Pn**	**21 05 41.6**	**+2.5**
YHL	**Hebgen Lake**	**4.43**	**286**			**Pn**	**21 05 42.2**	**0.0**
AHID	**Auburn Hatcher**	**4.43**	**259**			**Pn**	**21 05 43.4**	**+1.3**
AHID				IAML			21 06 56.0	
	comp=N,31nm,1.2s							
ECR	**Eagle Creek**	**4.56**	**263**			**Pn**	**21 05 46.4**	**+2.5**
RDMU	**Red Mountain**	**4.58**	**227**			**Pn**	**21 05 44.8**	**+0.7**
DGMT	**Dagmar**	**4.73**	**8**	Pn		**Pn**	**21 05 49.3**	**+3.2**
Q24A	**Divide**	**4.82**	**180**	Pn		**Pn**	**21 05 48.7**	**+1.1**
BOZ	**Bozeman (W)**	**4.93**	**294**	Pn		**Pn**	**21 05 49.7**	**+0.8**
BOZ				IAML			21 07 11.0	
	comp=N,12nm,1.6s							
BOZ				IAML			21 07 21.4	
	comp=N,14nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.15**	**157**	Pn		**Pn**	**21 05 52.7**	**+0.7**
HWUT	**Hardware Ranch**	**5.18**	**247**			**Pn**	**21 05 53.0**	**+0.6**
EGMT	**Eagleton**	**5.30**	**325**	Pn		**Pn**	**21 05 54.5**	**+0.6**
TCUT	**Toone Canyon**	**5.32**	**242**			**Pn**	**21 05 53.2**	**-1.2**
DLMT	**Dillon**	**5.52**	**289**	Pn		**Pn**	**21 05 58.6**	**+1.6**
HRY	**Holter Researc**	**5.52**	**304**	Pn		**Pn**	**21 05 58.0**	**+1.0**
LRM	**Limekiln Ridge**	**5.55**	**294**			**Pn**	**21 05 58.6**	**+1.1**
MCMT	**McKenzie Canyo**	**5.59**	**283**			**Pn**	**21 06 01.3**	**+3.2**
SPUT	**South Promonto**	**5.91**	**248**			**Pn**	**21 06 03.9**	**+1.5**
PV21	**Cone Mtn., Par**	**5.95**	**210**	Pn		**Pn**	**21 06 04.8**	**+1.7**
PV15	**Paradox Valley**	**5.98**	**206**	Pn		**Pn**	**21 06 04.9**	**+1.4**
PV23	**Carpenter Ridg**	**6.06**	**210**			**Pn**	**21 06 03.3**	**-1.3**
PV04	**Paradox Valley**	**6.08**	**209**	Pn		**Pn**	**21 06 04.9**	**+0.2**
SRU	**San Rafael Swe**	**6.16**	**222**			**Pn**	**21 06 05.6**	**-0.2**
PV13	**Radium Mtn., P**	**6.26**	**207**			**Pn**	**21 06 06.2**	**-1.0**
I10CA	**LAC DU BONNET**	**8.96**	**41**	*i*			22 02 50.0	
	baz=223,slow=322,SNR=3.0							
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn		**Pn**	**21 06 46.1**	**+0.6**
	comp=N,0.7nm,0.3s,baz=240,slow=12,SNR=6.0							
ULM				Lg		Lg	21 09 13.8	
	comp=N,0.3nm,0.3s,baz=139,slow=19,SNR=2.1							
ULM	**Lac du Bonnet**	**9.06**	**41**			**Pn**	**21 06 46.4**	**+0.9**
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn		**Pn**	**21 07 17.6**	**+2.0**
	comp=N,0.1nm,0.3s,baz=60,slow=12,SNR=3.5							
MKAR	**Makanchi Array**	**89.56**	**355**	P		**P**	**21 17 33.6**	**+1.0**
	comp=N,0.2nm,0.6s,baz=1.9,slow=4.3,SNR=1.8							

BJI ***13*** *21:24:54.0±0.0,40.80N×141.93E,h70km,mB5.0/36,*
mb4.8/54,Ms4.7/11,Ms7 4.4/9
NEIC ***13*** *21:24:58.8±1.6,40.97N±0.05×141.73E±0.07,h71km±5km,*
mb4.7/122,Error ellipse: s-maj=9.4km s-min=5.8km
az=132.0
MOS ***13*** *21:24:58.7±1.0,41.05N×141.70E,h87km,mb4.4/15,Error*
ellipse: s-maj=6.4km s-min=5.1km az=87.1
NIED ***13*** *21:24:59.8,41.00N×141.74E,h81km,MW4.4,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;
M_{rr}0.90; $M_{\theta\theta}$2.56; $M_{\phi\phi}$-3.46; $M_{r\theta}$1.03; $M_{\theta\phi}$-1.47; $M_{\phi r}$-1.72;
Fault plane solution: M_o3.95000×10¹⁵ NP1:
ϕ_s152.00000°,δ82.00000°,λ33.00000°. NP2:ϕ_s56.00000°,
δ57.00000°,λ170.00000°.
JMA ***13*** *21:24:59.7±0.1,41.00N×141.74E,h81km±1km,M4.4*
Broadband fault plane solution: P waves. NP1:
ϕ_s44.00000°,δ48.00000°,λ166.00000°. NP2:
ϕ_s143.00000°,δ79.00000°,λ43.00000°. Principal axes: T
Plg37.0000°, Azm13.0000°; N Plg46.0000°,
Azm155.0000°; P Plg20.0000°, Azm267.0000°;
JMA Felt III J1.
IDC ***13*** *21:24:59.6±0.6,41.01N×141.68E,h80km±6km,mb4.0/23,*
mb1 4.2/29,mb1mx4.2/35,mbtmp4.4/29,MS3.3/10,
Ms1 3.3/10,ms1mx3.0/53 Error ellipse: s-maj=12.8km
s-min=10.7km az=144.0

ISC 13 21:24:59.1±0.5,40.99N±0.03×141.80E±0.03,h80km±4km,
n327,σ1.9s30/359,mb4.6/110,23C-19D,Near east coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.33**	**273**	⇑P		**Pn**	**21 25 15.2**	**+0.7**
JARK				S		**Sn**	**21 25 21.0**	**+0.3**
JAHD	**Aomorihigashid**	**0.44**	**309**	P		**Pn**	**21 25 13.1**	**+0.7**
JAHD				S		**Sn**	**21 25 22.6**	**+0.5**
JTM	**Tenmabayashi**	**0.59**	**250**	⇑P		**Pn**	**21 25 13.9**	**+0.3**
JTM				S		**Sn**	**21 25 24.4**	**0.0**
JTM	**Tenmabayashi**	**0.59**	**250**			**Pn**	**21 25 13.9**	**+0.3**
JTM				Sn		**Sn**	**21 25 24.2**	**-0.2**
JANG	**Nango**	**0.65**	**199**	⇑P		**Pn**	**21 25 14.6**	**+0.3**
JANG				S		**Sn**	**21 25 25.5**	**0.0**
JOT	**Ohata**	**0.69**	**305**	⇓P		**Pn**	**21 25 14.8**	**+0.2**
JOT				S		**Sn**	**21 25 26.0**	**-0.1**
JKB	**Kayabe**	**1.07**	**328**	⇓P		**Pn**	**21 25 19.3**	**+0.4**
JKB				S		**Sn**	**21 25 33.8**	**+0.1**
JSR	**Shiriuchi**	**1.17**	**298**	⇓P		**Pn**	**21 25 20.3**	**+0.1**
JSR				S		**Sn**	**21 25 35.5**	**-0.6**
JAH	**Hinai**	**1.19**	**228**	⇑P		**Pn**	**21 25 21.3**	**+0.8**
JAH				*e*S		**Sn**	**21 25 37.5**	**+1.0**
JIW	**Iwasaki**	**1.42**	**254**	P		**Pn**	**21 25 23.8**	**+0.4**
JIW				*e*S		**Sn**	**21 25 42.6**	**+1.0**
ERM	**Erimo**	**1.45**	**44**	P		**Pn**	**21 25 25.2**	**+1.5**
ERM							21 25 43.2	
ERM	**Erimo**	**1.45**	**44**	Pn		**Pn**	**21 25 25.2**	**+1.5**
ERM				Sn		**Sn**	**21 25 43.2**	**+0.9**
JEM	**Erimo**	**1.45**	**44**	P		**Pn**	**21 25 25.2**	**+1.5**
JEM				S		**Sn**	**21 25 42.9**	**+0.6**
JOMM	**Oshimamatsumae**	**1.45**	**292**	⇓P		**Pn**	**21 25 23.5**	**-0.3**
JOMM				S		**Sn**	**21 25 41.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**1.48**	**29**	⇑P		**Pn**	**21 25 25.4**	**+1.3**
JNBK				S		**Sn**	**21 25 45.8**	**+2.9**
JYM2	**Yakumo 2**	**1.56**	**317**	⇓P		**Pn**	**21 25 25.8**	**+0.7**
JYM2				S		**Sn**	**21 25 45.2**	**+0.4**
JOM	**Ohasama**	**1.56**	**194**	⇑P		**Pn**	**21 25 26.1**	**+0.8**
JOM				*e*S		**Sn**	**21 25 45.8**	**+0.8**
JNB	**Noboribetsu**	**1.58**	**339**	⇑P		**Pn**	**21 25 25.6**	**+0.1**
JNB				S		**Sn**	**21 25 45.0**	**-0.5**
JIAM	**Iburiatsuma**	**1.64**	**3**	⇑P		**Pn**	**21 25 27.7**	**+1.5**
JIAM				*e*S		**Sn**	**21 25 49.0**	**+2.4**
JEW	**Eniwo**	**1.87**	**352**	⇑P		**Pn**	**21 25 30.1**	**+0.9**
JEW				*e*S		**Sn**	**21 25 52.8**	**+0.7**
JEW	**Eniwo**	**1.87**	**352**			**Pn**	**21 25 30.1**	**+0.9**
JEW				Sn		**Sn**	**21 25 52.0**	**-0.1**
ASAJ	**Asahikawa**	**3.18**	**10**	P		**Pn**	**21 25 47.9**	**+1.0**
	151nm,0.3s,baz=237,slow=10,SNR=476							
ASAJ				S		**Sn**	**21 26 23.2**	**-0.5**
	22nm,0.3s,baz=162,slow=20,SNR=1.6							
JKA	**Kamikawa-asahi**	**3.18**	**10**	Pn		**Pn**	**21 25 47.8**	**+0.9**
JMM	**Marumori**	**3.21**	**194**	Pn		**Pn**	**21 25 47.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**3.77**	**50**	*e*P		**Pn**	**21 25 54.0**	**-0.8**
NMR				*i* S		**Sn**	**21 26 34.0**	**-4.0**
GLVR	**Golovnino**	**3.89**	**44**	*e*P		**Pn**	**21 25 57.0**	**+0.5**
GLVR				*i* S		**Sn**	**21 26 39.1**	**-1.9**
GLVR					pmax	pmax		
	comp=Z,299nm,0.4s							
GLVR					pmax	pmax		
	comp=E,142nm,0.3s							
GLVR					pmax	pmax		
	comp=N,114nm,0.1s							
GLVR					smax	smax		
	comp=N,4μm,0.3s							
GLVR					smax	smax		
	comp=E,2μm,0.3s							
JSD	**Sado**	**4.02**	**224**	Pn		**Pn**	**21 25 59.9**	**+1.6**
GRPR	**Tuman**	**4.20**	**43**	*e*P		**Pn**	**21 26 00.9**	**+0.2**
GRPR				*i* S		**Sn**	**21 26 45.8**	**-2.7**
GRPR					pmax	pmax		
	comp=Z,252nm,0.4s							
GRPR					pmax	pmax		
	comp=N,139nm,0.2s							
GRPR					pmax	pmax		
	comp=E,114nm,0.3s							
GRPR					smax	smax		
	comp=N,3μm,0.4s							
GRPR					smax	smax		
	comp=E,5μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.28**	**43**	*d* iP		**Pn**	**21 26 02.2**	**+0.5**
YUK				*i* S		**Sn**	**21 26 47.7**	**-2.7**
YUK					pmax	pmax		
	comp=N,260μm,0.4s							
YUK					pmax	pmax		
	comp=Z,355μm,0.4s							
YUK					pmax	pmax		
	comp=E,137μm,0.1s							
YUK					smax	smax		
	comp=N,4μm,0.5s							
YUK					smax	smax		
	comp=E,7μm,0.5s							
JYT	**Yasato**	**4.92**	**195**			**Pn**	**21 26 09.3**	**-1.2**
MAJO	**Matsushiro**	**5.25**	**213**	*c* iP		**Pn**	**21 26 16.9**	**+1.7**
MAJO	**Matsushiro**	**5.25**	**213**	Pn		**Pn**	**21 26 16.9**	**+1.7**
MAT	**Matsushiro**	**5.25**	**213**	P		**Pn**	**21 26 16.9**	**+1.8**
MAT				S		**Sn**	**21 27 16.6**	**+2.3**
MJAR	**Matsushiro Arr**	**5.25**	**213**	P		**Pn**	**21 26 17.1**	**+1.9**
	comp=E,2.4nm,0.3s,baz=20,slow=15,SNR=84							
MJAR				LR		LR	21 28 23.3	
	comp=E,184nm,21.3s,baz=105,slow=39							
MJAR	**Matsushiro Arr**	**5.25**	**213**			**Pn**	**21 26 16.4**	**+1.3**
TEY	**Ternei**	**5.55**	**318**	‖*e*P		**Pn**	**21 26 20.2**	**+1.0**
TEY				*e*			21 27 20.3	
TEY					pmax	pmax		
	comp=Z,30nm,0.6s							
YSS	**Yuzh-Sakhalins**	**6.00**	**6**	⇑*e*P		**Pn**	**21 26 26.5**	**+1.2**
YSS				*e*S		**Sn**	**21 27 34.9**	**+2.4**
YSS					pmax	pmax		
	comp=Z,200nm,1.0s							
YSS					MLR	MLR		
	comp=Z,500nm,18.0s							
YSS	**Yuzh-Sakhalins**	**6.00**	**6**	Pn		**Pn**	**21 26 26.2**	**+0.9**
KUR	**Kuril'sk**	**6.14**	**44**	*c* iP		**Pn**	**21 26 29.4**	**+2.2**
KUR				*i* S		**Sn**	**21 27 34.7**	**-1.2**
KUR					pmax	pmax		
	comp=Z,149nm,0.5s							
KUR					pmax	pmax		
	comp=E,57nm,0.3s							
KUR					pmax	pmax		
	comp=N,49nm,0.4s							
KUR					smax	smax		
	comp=E,569nm,0.5s							
KUR					smax	smax		
	comp=N,308nm,0.4s							
JGF	**Kuroka**	**6.41**	**214**			**Pn**	**21 26 32.5**	**+1.5**
INU	**Inuyama**	**6.77**	**215**			**Pn**	**21 26 37.8**	**+1.9**
JWT	**Wachi**	**7.61**	**224**	Pn		**Pn**	**21 26 49.8**	**+2.6**
VLA	**Vladivostok**	**7.68**	**289**	‖*e*P		**Pn**	**21 26 49.6**	**+1.5**
USA0B	**Ussuriysk Arra**	**7.92**	**297**	*d* iP		**Pn**	**21 26 52.8**	**+1.4**
USA0B	**Ussuriysk Arra**	**7.92**	**297**			**Pn**	**21 26 51.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**7.92**	**297**	P		**Pn**	**21 26 52.4**	**+1.0**
	baz=98,slow=13,SNR=59							
USRK				LR		LR	21 29 27.5	
	comp=N,116nm,20.2s,baz=111,slow=34							
USRK	**Ussuriysk Ar.**	**7.92**	**297**			**Pn**	**21 26 52.1**	**+0.7**
JHJ	**Hachijo jima 2**	**8.02**	**192**	P		**Pn**	**21 26 50.0**	**-2.9**
	comp=N,102nm,0.3s,baz=84,slow=18,SNR=7.3							
JHJ				S		Sn	21 28 12.3	-10
	comp=N,29nm,0.3s,baz=47,slow=19,SNR=1.4							
JHJ2	**Mitsune**	**8.02**	**192**	Pn		**Pn**	**21 26 49.9**	**-3.0**
JHS	**Saijyo**	**9.09**	**232**	Pn		**Pn**	**21 27 08.7**	**+1.1**
MDJ	**Mudanjiang**	**9.67**	**296**	P		**Pn**	**21 27 17.0**	**+1.7**
MDJ				sP			21 27 34.5	
MDJ					pmax	pmax		
	comp=N,17nm,1.0s							
MDJ					pmax	pmax		
	comp=N,230nm,4.7s							
MDJ	**Mudanjiang**	**9.67**	**296**	Pn		**Pn**	**21 27 17.1**	**+1.7**
KSRS	**Korea Array**	**11.33**	**256**	P		**Pn**	**21 27 39.5**	**+1.6**
	comp=N,1.3nm,0.3s,baz=63,slow=14,SNR=17							
KSRS				LR		LR	21 31 31.7	
	comp=N,92nm,20.3s,baz=85,slow=35							
KSAR	**Wonju Array Be**	**11.36**	**256**	P		**Pn**	**21 27 39.0**	**+0.6**
KSAR	**Wonju Array Be**	**11.36**	**256**			**Pn**	**21 27 39.0**	**+0.6**
JNU	**Nakatsue**	**11.73**	**231**	P		**Pn**	**21 27 44.0**	**+0.5**
	comp=N,0.4nm,0.3s,baz=61,slow=19,SNR=4.9							
JNU	**Nakatsue**	**11.73**	**231**	Pn		**Pn**	**21 27 43.6**	**+0.1**
PEA0B	**Petropavlovsk-**	**16.21**	**36**	P		**Pn**	**21 28 41.1**	**-0.8**
PEA0B				pmax		pmax		
	comp=Z,30nm,1.1s							
PEA0B	**Petropavlovsk-**	**16.21**	**36**	Pn		**Pn**	**21 28 41.1**	**-0.8**
PETK	**Petropavlovsk-**	**16.21**	**36**	P		**Pn**	**21 28 41.3**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=226,slow=9.1,SNR=9.1							
PETK				LR		LR	21 35 25.7	
	comp=Z,74nm,19.3s,baz=234,slow=38							
PETK	**Petropavlovsk-**	**16.21**	**36**	Pn		**Pn**	**21 28 41.1**	**-0.8**
HIA	**Hailar**	**17.58**	**305**	*d*eP		**P**	**21 28 56.8**	**-1.9**
HIA				pmax		pmax		
	comp=Z,11nm,0.9s							
HIA	**Hailar**	**17.58**	**305**	Pn		**P**	**21 28 56.4**	**-2.3**
MA2	**Magadan**	**19.44**	**14**	⇑*e*P		**P**	**21 29 19.6**	**+0.7**
MA2

H11N1 **WAKE ISLAND Hy** 30.12 127 T T 22 02 06.1
baz=318,slow=75,SNR=155
H11N3 **WAKE ISLAND Hy** 30.13 127 T T 22 02 06.7
baz=318,slow=75,SNR=138
H11S1 **WAKE ISLAND Hy** 30.94 129 T T 22 03 46.8
baz=322,slow=76,SNR=75
H11S3 **WAKE ISLAND Hy** 30.94 129 T T 22 03 42.0
baz=322,slow=76,SNR=47
H11S2 **WAKE ISLAND Hy** 30.96 129 T T 22 03 42.9
baz=322,slow=76,SNR=45
TIXI Tiksi 31.41 352 *e* P P 21 31 11.1 -1.0
TIXI pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 31.41 352 P P 21 31 11.4 -0.7
ATKA Atka Island 31.78 54 P P 21 31 15.6 0.0
ATKA IAmb IAmb 21 31 33.2
comp=Z,19nm,1.0s
GTA Gaotai 31.89 281 *e* P P 21 31 15.6 -1.3
GTA pP pP 21 31 32.3 -3.2
GTA sP sP 21 31 39.5 -5.2
GTA S S 21 36 22.1 +0.1
GTA sS sS 21 36 49.5 -4.3
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA pmax pmax
comp=Z,100nm,7.5s
GTA LR LR
comp=Z,120nm,14.9s
GTA LR LR
comp=Z,140nm,15.6s
GTA LR LR
comp=Z,170nm,14.9s
CD2 Chengdu 32.17 264 *e* P P 21 31 18.3 -1.1
SLVN Son La 37.51 250 P P 21 32 05.4 0.0
SLVN IAmb IAmb 21 32 06.7
comp=Z,8.8nm,0.7s
DGZ Jazzator, Alta 38.44 302 *de* P P 21 32 13.6 +0.6
DGZ pmax pmax
comp=Z,19nm,0.8s
WMQ Urumqi 39.45 293 *e* P P 21 32 22.1 +0.6
WMQ pP pP 21 32 39.0 -1.6
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,91nm,4.7s
WMQ LR LR
comp=Z,310nm,13.7s
WMQ LR LR
comp=Z,170nm,11.7s
WMQ Urumqi 39.45 293 P P 21 32 21.2 -0.3
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ Urumqi 39.45 293 P P 21 32 21.2 -0.3
ZAA0 Zalesovo Array 39.57 309 P P 21 32 21.6 -0.5
ZAA0 IAmb IAmb 21 32 24.2
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 39.57 309 P P 21 32 21.9 -0.3
comp=Z,8.3nm,0.4s,baz=93,slow=8.2,SNR=39
ZALV PcP PcP 21 34 26.3 -1.7
comp=Z,0.7nm,0.3s,baz=78,slow=4.6,SNR=1.9
ZALV ScP ScP 21 38 07.7 -1.8
comp=Z,0.5nm,0.4s,baz=81,slow=1.9,SNR=3.8
ZALV Zalesovo Beam 39.57 309 P P 21 32 21.8 -0.4
NRIK Noril'sk 39.84 333 P P 21 32 25.1 +0.9
comp=Z,2.5nm,0.5s,baz=109,slow=10,SNR=3.1
DLV T Lat 41.11 235 P P 21 32 35.8 +0.2
DLV IAmb IAmb 21 32 40.6
comp=Z,15nm,0.8s
SVW2 Sparrevohn 42.25 40 P P 21 32 45.7 +1.6
LSA Lhasa 42.29 271 P P 21 32 45.8 +0.3
LSA Lhasa 42.29 271 P P 21 32 45.7 +0.3
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 42.29 271 P P 21 32 45.7 +0.3
MK31 Makanchi Array 42.38 299 *d* P P 21 32 44.8 -0.7
MK31 Makanchi Array 42.38 299 P P 21 32 45.0 -0.4
MKAR Makanchi Array 42.38 299 P P 21 32 45.2 -0.3
comp=Z,19nm,0.6s,baz=84,slow=10.0,SNR=134
MKAR ScP ScP 21 38 19.0 -1.7
comp=Z,0.5nm,0.8s,baz=74,slow=5.1,SNR=3.4
MKAR S S 21 38 59.4 -1.4
comp=Z,0.7nm,0.9s,baz=79,slow=16,SNR=6.0
MKAR Makanchi Array 42.38 299 P P 21 32 45.1 -0.4
MAKZ Makanchi 42.59 299 P P 21 32 46.9 -0.2
MAKZ pmax pmax
comp=Z,28nm,0.9s
MAKZ Makanchi 42.59 299 P P 21 32 46.9 -0.2
CHTO Chiang Mai 42.68 252 P P 21 32 48.2 +0.1
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 42.68 252 P P 21 32 48.2 +0.1
CHTO IAmb IAmb 21 32 50.5
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 42.91 251 P P 21 32 50.4 +0.4
CM31 IAmb IAmb 21 32 51.2
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 42.91 251 P P 21 32 50.5 +0.4
comp=Z,3.9nm,0.6s,baz=43,slow=7.8,SNR=36
CMAR LR LR 21 51 06.6
comp=Z,65nm,20.4s,baz=202,slow=37
IMAR Indian Mountai 43.13 33 P P 21 32 52.6 +1.4
OHAK Old Harbor 43.71 45 P P 21 32 56.3 +0.4
OHAK IAmb IAmb 21 33 08.1
comp=Z,14nm,1.1s
PPLA Purkeypile 43.80 37 P P 21 32 58.7 +1.9
PPLA IAmb IAmb 21 33 04.7
comp=Z,7.7nm,0.8s
KURK Kurchatov 43.82 305 *d* P P 21 32 56.1 -0.8
KURK pmax pmax
comp=Z,24nm,0.7s
KURK Kurchatov 43.82 305 P P 21 32 56.3 -0.7
SHL Shillong 43.88 265 P P 21 32 57.3 -0.7
SHL pmax pmax
comp=Z,19nm,0.8s
SHL Shillong 43.88 265 P P 21 32 57.3 -0.7
KDAK Kodiak Island 44.02 45 P P 21 32 59.3 +0.9
KDAK pmax pmax
comp=Z,16nm,0.9s
KDAK Kodiak Island 44.02 45 P P 21 32 59.3 +0.9
KDAK IAmb IAmb 21 32 59.6
comp=Z,16nm,0.9s
SKT Skwentna 44.15 39 P P 21 33 00.3 +0.9
BPAW Bear Paw Mtn. 44.29 35 P P 21 33 02.0 +1.4
KTH Kantishna Hill 44.34 36 P P 21 33 02.6 +1.5
KTH IAmb IAmb 21 33 03.8
comp=Z,15nm,0.9s
CNPM China Poot 44.51 42 P P 21 33 03.4 +1.1
SUA Susitna One 44.56 39 P P 21 33 04.0 +1.1
SUA IAmb IAmb 21 33 06.3
comp=Z,8.3nm,0.8s
COLD Coldfoot 44.58 31 P P 21 33 03.8 +1.0
COLD IAmb IAmb 21 33 05.1
comp=Z,12nm,1.3s
TRF Thorofare Moun 44.63 36 P P 21 33 04.5 +1.0
TRF IAmb IAmb 21 33 20.7
comp=Z,8.2nm,1.1s
BRLK Bradley Lake 44.66 42 P P 21 33 04.3 +0.7
BRLK IAmb IAmb 21 33 14.9
comp=Z,20nm,1.2s
TOLK Toolik Lake Re 44.84 29 P P 21 33 05.9 +0.9
BWN Browne 44.96 35 P P 21 33 08.0 +2.1
RND Reindeer 45.28 36 P P 21 33 09.0 +0.5
RND IAmb IAmb 21 33 10.2
comp=Z,6.0nm,0.7s
MDM Murphy Dome 45.44 34 P P 21 33 11.3 +1.6
WRH Wood River Hil 45.54 35 P P 21 33 11.7 +1.3
WRH IAmb IAmb 21 33 21.4
comp=Z,12nm,1.3s
COLA College 45.61 34 *de* P P 21 33 11.6 +0.7
COLA pmax pmax
comp=Z,8.0nm,1.0s
CCB Clear Creek Bu 45.65 35 P P 21 33 11.9 +0.7
DHY Denali Highway 45.98 37 P P 21 33 15.1 +1.0
DHY IAmb IAmb 21 33 15.9
comp=Z,6.0nm,0.7s
IL31 46.03 34 P P 21 33 15.2 +1.0
IL31 IAmb IAmb 21 33 16.0
comp=Z,7.0nm,0.6s
ILAR Eielson Array 46.03 34 P P 21 33 15.2 +0.9
comp=Z,4.6nm,0.6s,baz=266,slow=5.7,SNR=54
ILAR Eielson Array 46.03 34 P P 21 33 15.4 +1.1
ILAR Eielson Array 46.03 34 P P 21 33 15.4 +1.1
BMAR Burnt Mountain 46.75 31 P P 21 33 21.9 +1.9
RIDG Independent Ri 47.03 36 P P 21 33 22.6 +0.4
RIDG IAmb IAmb 21 33 33.9
comp=Z,8.2nm,1.1s
DOT Dot Lake 47.39 36 P P 21 33 25.6 +0.6
DOT IAmb IAmb 21 33 26.3
comp=Z,3.4nm,0.6s
BOOM Boomskoye usch 48.03 295 P P 21 33 30.5 +0.1
BOOM pmax pmax
comp=Z,16nm,0.7s
BOOM Boomskoye usch 48.03 295 P P 21 33 30.5 +0.1
VRDI Verde Repeater 48.07 39 P P 21 33 31.6 +1.1
VRDI IAmb IAmb 21 33 32.5
comp=Z,9.7nm,1.0s
TKM2 Tokmak 2 48.11 295 P P 21 33 31.3 +0.3
SNR=40
MCARA McCarthy VSAT 48.25 39 P P 21 33 32.6 +1.0
MCARA IAmb IAmb 21 33 34.3
comp=Z,6.5nm,0.7s
BRVK Borovoye 48.25 310 *d i* P P 21 33 31.2 -0.5
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 48.25 310 P P 21 33 31.7 -0.1
BRVK IAmb IAmb 21 33 37.7
comp=Z,6.7nm,0.5s
CRQM Cirque 48.32 39 P P 21 33 33.8 +1.5
CRQM IAmb IAmb 21 33 48.6
comp=Z,14nm,1.1s
EGAK Eagle 48.46 34 P P 21 33 34.0 +0.9
EGAK IAmb IAmb 21 33 39.8
comp=Z,8.2nm,1.0s
BCAR Beaver Creek A 48.49 36 P P 21 33 35.1 +1.6
BALM Baldy 48.64 39 P P 21 33 36.1 +1.3
BALM IAmb IAmb 21 33 50.9
comp=Z,7.3nm,1.1s
KBK Karagaybulak 48.65 295 P P 21 33 37.6 +2.5
SNR=5.5
CHMS Chumysh 48.65 296 P P 21 33 36.8 +1.8
SNR=5.9
ISLE Juniper Island 48.73 40 P P 21 33 36.7 +1.2
FRU1 Bishkek 48.81 296 P P 21 33 37.7 +1.4
FRU1 pmax pmax
comp=Z,25nm,0.5s
FRU1 Bishkek 48.81 296 P P 21 33 37.7 +1.4
BARN Barnard Glacie 48.96 39 P P 21 33 38.9 +1.6
BARN IAmb IAmb 21 33 55.3
comp=Z,7.4nm,1.1s
AAK Ala-Archa 48.97 296 P P 21 33 39.8 +2.3
SNR=11
AAK Ala-Archa 48.97 296 ⍐ *e* P P 21 33 37.3 -0.3
AAK pmax pmax
comp=Z,35nm,0.8s
MESA MESA 49.02 40 P P 21 33 38.8 +1.1
CTGM Chitina Glacie 49.14 39 P P 21 33 40.0 +1.4
CTGM IAmb IAmb 21 33 43.8
comp=Z,9.3nm,1.0s
KSH Kashi 49.16 291 P P 21 33 43.8 +4.7
KSH S S 21 40 43.8 +5.2
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,36nm,3.2s
KSH LR LR
comp=Z,130nm,4.3s
KSH LR LR
comp=Z,130nm,4.0s
EKS2 Erkin-Say 49.45 296 P P 21 33 40.8 -0.4
SNR=20
AML Almayashu 49.71 295 P P 21 33 46.2 +2.7
SNR=8.4
INK Inuvik 50.75 29 LR LR 21 56 54.0
comp=Z,30nm,18.4s,baz=101,slow=38
INK Inuvik 50.75 29 P P 21 33 52.0 +1.5
INK pmax pmax
comp=Z,12nm,0.5s
INK Inuvik 50.75 29 P P 21 33 52.0 +1.5
HYT Haines Junctio 50.98 38 P P 21 33 54.7 +2.2
KULM Kulim 51.13 237 P P 21 33 54.3 +0.3
KK31 Karatay Array 51.48 298 P P 21 33 55.4 -1.0
KK31 pmax pmax
comp=Z,11nm,0.7s
KK31 Karatay Array 51.48 298 P P 21 33 55.4 -1.0
KKAR Karatay Array 51.48 298 P P 21 33 55.5 -0.9
KKAR Karatay Array 51.48 298 P P 21 33 55.5 -0.9
WHY Whitehorse 52.26 38 P P 21 34 03.6 +1.6
WHY IAmb IAmb 21 34 05.8
comp=Z,4.3nm,0.9s
SVE Sverdlovsk 52.43 317 *e* P P 21 34 03.6 +0.5
SVE pmax pmax
comp=Z,12nm,0.6s
BTK Batken 52.54 294 P P 21 34 03.7 -0.6
BTK pmax pmax
comp=Z,6.0nm,0.6s
BTK Batken 52.54 294 P P 21 34 03.7 -0.6
BTK IAmb IAmb 21 34 10.1
comp=Z,5.9nm,0.6s
HNR Honiara 52.89 157 P P 21 34 06.7 -0.3
HNR pmax pmax
comp=Z,63nm,0.4s
HNR Honiara 52.89 157 P P 21 34 06.7 -0.3
GAR Garm 53.35 293 P P 21 34 09.8 -0.6
ARU Arti 53.64 317 *d i* P P 21 34 11.7 -0.4
ARU 21 35 15.7
ARU 21 36 09.4
ARU S S 21 41 41.4 +2.0
ARU SS SS 21 45 23.2 +2.9
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 53.64 317 P P 21 34 11.9 -0.2
ARU IAmb IAmb 21 34 12.7
comp=Z,8.0nm,0.7s
C36M Paulatuk 53.73 26 P P 21 34 13.5 +1.0
NIL Nilore 53.75 286 P P 21 34 13.6 +0.4
NIL pmax pmax
comp=Z,32nm,0.8s
NIL Nilore 53.75 286 P P 21 34 13.6 +0.4
CHGR Chuyangaron 54.31 293 P P 21 34 16.6 -0.7
ABKAR Akbulak array 55.67 308 P P 21 34 26.6 -0.3
ABKAR Akbulak array 55.67 308 P P 21 34 26.5 -0.3
GSI Gunungsitoli 56.14 237 P P 21 34 30.9 +0.2
EUNU Eureka 56.24 9 P P 21 34 31.0 +0.4
EUNU IAmb IAmb 21 34 37.3
comp=Z,8.0nm,1.1s
KBL Kabul 56.35 289 P P 21 34 31.3 -1.0
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 56.35 289 P P 21 34 31.2 -1.0
KBL IAmb IAmb 21 34 35.3
comp=Z,7.1nm,0.8s
KIRV Kirov 57.31 322 *de* P P 21 34 38.0 -0.3
KNRA Kununurra 57.66 195 P P 21 34 41.5 +0.3
KNRA IAmb IAmb 21 34 50.3
comp=Z,5.7nm,1.1s
RES Resolute Bay 58.70 15 P P 21 34 48.0 +0.2
RES pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 58.70 15 P P 21 34 48.0 +0.2
YKA Yellowknife Ar 60.26 31 P P 21 34 59.4 +0.8
comp=Z,1.6nm,0.6s,baz=311,slow=6.7,SNR=7.4
YKA LR LR 22 06 03.1
comp=Z,29nm,18.1s,baz=0.0,slow=41
YKA Yellowknife Ar 60.26 31 *ce* P P 21 34 59.5 +0.8
YKA pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 60.41 339 P P 21 35 00.0 +0.3
comp=Z,6.5nm,1.0s,baz=43,slow=7.3,SNR=6.9
FITZ Fitzroy Crossi 60.67 198 P P 21 35 02.6 +0.7
WB0 Warramunga Arr 60.84 188 P P 21 35 02.8 -0.3
WB2 Warramunga Arr 61.01 188 P P 21 35 04.4 +0.1
WRA Warramunga Arr 61.01 188 P P 21 35 03.8 -0.5
comp=Z,0.9nm,0.7s,baz=6.0,slow=7.0,SNR=7.8
WRA pP pP 21 35 23.8 -0.8
comp=Z,1.4nm,0.6s,baz=5.5,slow=7.2,SNR=7.5
WRA Warramunga Arr 61.01 188 *i* P P 21 35 04.8 +0.5
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 61.01 188 P P 21 35 04.0 -0.3
HRA Herat 61.26 292 P P 21 35 05.8 -0.4
DAG Danmarks Havn 61.87 355 *i* P P 21 35 09.0 -0.3
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 61.87 355 *i* P P 21 35 09.0 -0.3
comp=Z,5.2nm,0.8s
DAG Danmarks Havn 61.87 355 *i* P P 21 35 09.0 -0.3
DAG IAmb IAmb 21 35 10.0
comp=Z,5.2nm,0.8s
GYA2 ALIBECK ARRAY 62.23 297 P P 21 35 11.8 -0.7
GEYT Alibeck 62.23 297 P P 21 35 12.0 -0.5
comp=Z,3.3nm,0.7s,baz=20,slow=4.7,SNR=6.7
GEYT Alibeck 62.23 297 P P 21 35 11.8 -0.7
ASAR Alice Springs 64.74 188 P P 21 35 29.9 +0.9
comp=Z,0.6nm,0.6s,baz=13,slow=6.7,SNR=9.6
ASAR pP pP 21 35 49.1 -0.3
comp=Z,2.0nm,0.8s,baz=5.8,slow=5.5,SNR=9.2
ASAR Alice Springs 64.74 188 P P 21 35 29.3 +0.4
OBN Obninsk 65.13 322 ⍐ *e* P P 21 35 31.1 0.0
OBN eS S 21 44 10.1 +2.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 65.47 332 P P 21 35 33.0 -0.2
FIA1 IAmb IAmb 21 35 37.4
comp=Z,6.0nm,0.8s
FINES FINESS Array B 65.47 332 P P 21 35 32.8 -0.5
comp=Z,4.0nm,0.6s,baz=43,slow=8.4,SNR=33
FINES LR LR 22 07 01.0
comp=Z,137nm,18.5s,baz=70,slow=38
FINES FINESS Array B 65.47 332 P P 21 35 33.1 -0.2
FINES FINESS Array B 65.47 332 P P 21 35 33.1 -0.2
SUMG Summit 66.73 0 *i* P P 21 35 42.7 +1.0
SUMG pmax pmax
comp=Z,26nm,0.6s
SUMG Summit 66.73 0 P P 21 35 42.6 +0.9
SUMG IAmb IAmb 21 35 43.5
comp=Z,12nm,0.9s
SUMG Summit 66.73 0 *i* P P 21 35 42.7 +1.0
comp=Z,26nm,0.6s
SUMG Summit 66.73 0 *i* P P 21 35 42.8 +1.0
SUMG IAmb IAmb 21 35 43.3
comp=Z,26nm,0.6s
YBH Yreka Blue Hor 67.72 54 P P 21 35 49.9 +1.8
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 67.72 54 P P 21 35 49.9 +1.8
ZEI Tsey 68.55 308 *e* P P 21 35 51.7 -1.7
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 68.57 310 *e* P P 21 35 54.3 +0.9
KIV pmax pmax
comp=Z,37nm,1.0s
KIV MLR MLR
comp=Z,191nm,17.0s
KIV Kislovodsk 68.57 310 P P 21 35 54.0 +0.6
KIV IAmb IAmb 21 35 55.3
comp=Z,10nm,0.7s
KBZ Khabaz 68.58 310 P P 21 35 53.7 +0.5
comp=Z,4.6nm,0.7s,baz=30,slow=8.1,SNR=21
KBZ Khabaz 68.58 310 *c i* P P 21 35 53.9 +0.6
KBZ pmax pmax
comp=Z,3.0nm,0.6s
BMO Blue Mountains 69.05 48 P P 21 35 57.9 +1.5
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 69.05 48 P P 21 35 57.9 +1.5
FFC Flin Flon 70.23 34 P P 21 36 03.9 +0.6
FFC Flin Flon 70.23 34 P P 21 36 03.9 +0.6
FFC IAmb IAmb 21 36 05.2
comp=Z,8.9nm,1.1s
ICESG Greenland Ices 70.23 1 *i* P P 21 36 03.6 +0.1
ICESG IAmb IAmb 21 36 04.8
comp=Z,8.8nm,0.7s
BANOM Banah 70.27 287 P P 21 36 03.8 -0.2
SHME Shamm 70.31 288 P P 21 36 02.0 -2.2
NC405 NORSAR Array S 70.46 337 P P 21 36 04.4 -0.1
NC405 IAmb IAmb 21 36 21.7
comp=Z,6.2nm,0.9s
NB2 NORSAR Subarra 70.66 337 P P 21 36 05.7 -0.2
comp=Z,1.6nm,0.6s,baz=37,slow=6.5
NOA NORSAR Array B 70.66 337 P P 21 36 05.8 0.0
comp=Z,1.2nm,0.6s,baz=38,slow=6.2,SNR=11
ARTV Artvin 70.69 308 P P 21 36 06.0 -0.6
ARTV IAmb IAmb 21 36 07.8
comp=Z,4.1nm,0.6s
MSFE Esma-Masafi 70.71 287 P P 21 36 06.3 -0.5
HRY Holter Researc 70.90 44 P P 21 36 08.6 +1.0
UOSS Minazif 70.92 287 P P 21 36 07.3 -0.7
UOSS Minazif 70.92 287 P P 21 36 07.9 -0.1
UOSS IAmb IAmb 21 36 08.3
comp=Z,5.3nm,0.6s
HATD Hatta, Dubai 71.05 287 P P 21 36 08.8 +0.1
LRM Limekiln Ridge 71.13 45 P P 21 36 10.4 +1.1
DLMT Dillon 71.35 46 P P 21 36 11.8 +1.4
DLMT IAmb IAmb 21 36 12.6
comp=Z,7.6nm,0.7s
AKASG Malin Array Be 71.37 322 P P 21 36 09.5 -0.7
comp=Z,1.7nm,0.5s,baz=45,slow=6.0,SNR=7.2
AKASG Malin Array Be 71.37 322 P P 21 36 10.3 0.0
AKBB Malin Array Si 71.37 322 ⍐ *e* P P 21 36 10.0 -0.2
YERR Yerington 71.49 54 P P 21 36 12.9 +1.5
YERR IAmb IAmb 21 36 13.4
comp=Z,5.7nm,0.7s
BOZ Bozeman (W) 71.72 45 P P 21 36 13.6 +0.9
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 71.72 45 P P 21 36 13.6 +0.9
BOZ IAmb IAmb 21 36 14.7
comp=Z,8.8nm,0.8s
KVN Kaiserville 72.15 54 P P 21 36 16.8 +1.4
KVN pmax pmax
comp=Z,5.0nm,0.6s
KVN Kaiserville 72.15 54 P P 21 36 16.8 +1.4
KVN IAmb IAmb 21 36 17.8
comp=Z,4.8nm,0.6s
LHV Little Huntoon 72.39 55 P P 21 36 18.3 +1.7
LHV IAmb IAmb 21 36 19.8
comp=Z,6.5nm,0.9s
NVAR Mina Array Bea 72.41 54 P P 21 36 18.8 +1.8
comp=Z,2.2nm,0.7s,baz=288,slow=6.5,SNR=15
NVAR pP pP 21 36 39.7 +2.2
comp=Z,0.5nm,0.6s,baz=304,slow=6.4,SNR=2.5
YHL Hebgen Lake 72.44 46 P P 21 36 18.3 +1.1
NV11 Mina Array Sit 72.50 54 P P 21 36 18.8 +1.4
ELK Elko 72.80 51 P P 21 36 19.9 +0.6
ELK pmax pmax
comp=Z,2.0nm,1.2s
ELK Elko 72.80 51 P P 21 36 19.9 +0.6
RLMT Red Lodge 73.29 44 P P 21 36 23.3 +1.2
BORG Borgarnes 73.77 353 P P 21 36 25.7 +1.5
BORG pmax pmax
comp=Z,10.0nm,1.1s
BORG Borgarnes 73.77 353 P P 21 36 25.7 +1.5
BORG IAmb IAmb 21 36 42.1
comp=Z,9.9nm,1.1s
MARD Mardin 73.80 305 P P 21 36 25.3 +0.2
R11A Troy Canyon, C 74.11 53 P P 21 36 28.2 +1.2
TPNV Topopah Spring 74.61 54 P P 21 36 31.2 +1.4
TPNV pmax pmax
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 74.61 54 P P 21 36 31.2 +1.4
PD31 Pinedale Array 74.70 46 P P 21 36 31.0 +0.6
PDAR Pinedale Array 74.70 46 P P 21 36 31.3 +0.9
comp=Z,1.6nm,0.6s,baz=272,slow=2.2,SNR=18
PDAR Pinedale Array 74.70 46 P P 21 36 31.0 +0.6
BUR08 Bucovina Ar. S 75.39 321 P P 21 36 34.3 +0.2
BURAR Bucovina Array 75.41 321 P P 21 36 34.5 +0.4
ULM Lac du Bonnet 76.05 34 P P 21 36 37.7 +0.1
comp=Z,2.1nm,0.6s,baz=322,slow=5.9,SNR=3.6
RDMU Red Mountain 76.17 48 P P 21 36 40.0 +1.2
BR131 Keskin Array S 76.47 311 P P 21 36 40.3 -0.1
BR131 pmax pmax
comp=Z,1.0nm,0.8s
BR131 Keskin Array S 76.47 311 P P 21 36 40.2 -0.1
BRTR Keskin Array B 76.47 311 P P 21 36 40.5 +0.1
comp=Z,1.1nm,0.6s,baz=96,slow=4.5,SNR=4.4
BRTR Keskin Array B 76.47 311 *ce* P P 21 36 40.7 +0.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 76.57 319 P P 21 36 41.7 +0.8
MLR pmax pmax
comp=Z,2.0nm,1.1s
MLR Muntele Rosu 76.57 319 P P 21 36 41.7 +0.8
SRU San Rafael Swe 76.61 50 P P 21 36 42.4 +1.2
SRU pmax pmax
comp=Z,5.0nm,1.1s
SRU San Rafael Swe 76.61 50 P P 21 36 42.4 +1.2
U15A North Rim 77.35 53 P P 21 36 46.8 +1.2
CLL Collm 77.82 330 *e* P P 21 36 51.0 +3.4
CLL Lm MLR 22 14 00.0
comp=Z,100nm,18.3s
CLL Collm 77.82 330 *e* P P 21 36 51.0 +3.4
PV17 East Wray Mesa 78.07 49 P P 21 36 50.8 +1.4
PV17 IAmb IAmb 21 36 51.6
comp=Z,6.6nm,0.7s
B35A Bob, Littlefor 78.40 34 P P 21 36 51.1 +0.2

B35A IAmb IAmb 21 36 51.6
comp=Z,5.7nm,0.6s
KHC Kasperske Hory 79.33 328 *e*P **P 21 36 54.0 -2.0**
KHC Kasperske Hory 79.33 328 *e*P **P 21 36 54.0 -2.0**
GERES GERESS Array B 79.51 328 P **P 21 36 57.2 +0.1**
comp=Z,0.7nm,0.6s,baz=35,slow=5.4,SNR=5.3
GERES GERESS Array B 79.51 328 P **P 21 36 57.4 +0.3**
GERES GERESS Array B 79.51 328 P **P 21 36 57.4 +0.3**
ANMO Albuquerque 81.83 50⇓*e*P **P 21 37 11.5 +1.7**
ANMO pmax pmax
comp=Z,3.0nm,1.5s
FUORN Ofenpass-Fuorn 82.68 329 P **P 21 37 15.5 +1.4**
FUORN IAmb IAmb 21 37 19.3
comp=Z,5.0nm,0.8s
VLDQ Val d'Or 84.72 25 P **P 21 37 23.6 -0.5**
VLDQ IAmb IAmb 21 37 24.1
comp=Z,7.4nm,0.9s
ITM Ithomi 84.72 316 P **P 21 37 23.8 -0.6**
TIP Timpagrande 85.80 320 P **P 21 37 31.1 +1.4**
T35A Sooner Cattle 85.87 43 P **P 21 37 32.2 +2.1**
T35A IAmb IAmb 21 37 34.4
comp=Z,7.4nm,0.9s
TXAR Lajitas Array 87.48 53 P **P 21 37 39.7 +1.5**
comp=Z,0.6nm,0.8s,baz=327,slow=6.5,SNR=3.0
TXAR Lajitas Array 87.48 53 P **P 21 37 39.4 +1.2**
D62A Allapoint, All 88.12 21 P **P 21 37 41.2 +0.4**
D62A IAmb IAmb 21 37 50.4
comp=Z,5.7nm,1.0s
M54A Oil Creek Stat 89.69 30 P **P 21 37 48.8 +0.5**
NNA Nana 135.51 61⇑*i*PKIKP **PKPdf 21 44 07.1 -3.4**
NNA pmax pmax
comp=Z,48nm,2.5s
H03N2 Juan Fernandez 146.94 90 T T 00 29 38.4
baz=300,slow=77,SNR=65
H03N3 Juan Fernandez 146.95 90 T T 00 29 39.3
baz=300,slow=77,SNR=90
H03N1 Juan Fernandez 146.95 90 T T 00 29 39.7
baz=300,slow=77,SNR=52

SOME **13** *21:43:12.2, 40.85N×79.82E, h10km, MS3.7*
IDC **13** *21:43:12.1±0.7, 40.66N×79.90E, h0km, mb3.9/12, mb1 4.0/18, mb1mx3.8/62, mbtmp3.9/18, ML3.5/6, MS3.4/13, Ms1 3.5/13, ms1mx3.2/52, Error ellipse: s-maj=17.2km s-min=12.3km az=71.0*
BJI **13** *21:43:13.1±0.0, 40.79N×79.98E, h7km, mB4.5/6, mb4.3/17, ML4.4/10, Ms3.9/7, Ms7 3.7/6*
NEIC **13** *21:43:14.5±2.6, 40.77N±0.07×80.05E±0.08, h15km±4km, mb4.4/24, Error ellipse: s-maj=10.1km s-min=9.1km az=193.0*
KRNET **13** *21:43:14.6±0.1, 40.93N×79.83E, h11km, mb3.8*
NNC **13** *21:43:16.3±1.2, 40.98N×79.87E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=8.6km s-min=6.7km az=174.0*
ISC 13 21:43:13.5±1.4,**40.96N**±0.04×**80.02E**±0.03,**h4**km±9km, **n158,**σ**2**ϟ**41**/192,**mb4.4**/21,**MS3.4**/10,**29C-14D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**2.31**	**342**		*e*P		**Pb**	**21 43 57.1**	**+1.4**
	383nm,0.4s								
UZB					*e*S		**Sg**	**21 44 29.4**	**+1.7**
	2μm,0.6s								
UZB	**Uzynbulak**	**2.31**	**342**		Pg		**Pb**	**21 43 57.1**	**+1.4**
	383nm,0.4s								
UZB					Lg		Lg	21 44 29.4	
	2μm,0.6s								
PDGK	**Podgornoye**	**2.40**	**351**		Pg		**Pb**	**21 43 58.4**	**+1.1**
	118nm,0.5s								
PDGK					Lg		Lg	21 44 31.8	
	1μm,0.7s								
PDGK	**Podgornoye**	**2.40**	**351**	⇑Pn			**Pb**	**21 43 58.3**	**+1.0**
	270nm,0.6s								
PDGK				⇓Lg			Lg	21 44 30.9	
	2μm,0.6s								
SATY	**Saty**	**2.42**	**331**		*e*P		**Pb**	**21 43 58.4**	**+0.8**
	90nm,0.8s								
SATY					*e*S		**Sg**	**21 44 32.1**	**+1.0**
	6μm,0.6s								
SATY	**Saty**	**2.42**	**331**		Pg		**Pb**	**21 43 58.4**	**+0.8**
	415nm,0.6s								
SATY					Lg		Lg	21 44 31.6	
	6μm,0.6s								
KDJ	**Kajisay**	**2.43**	**300**	⇑	*e*P		**Pb**	**21 43 57.5**	**-0.3**
	baz=2.0								
KDJ				⇑	*e*S		**Sg**	**21 44 30.4**	**-1.1**
	baz=2.0								
KDJ	**Kajisay**	**2.43**	**300**				**Pb**	**21 43 57.5**	**-0.3**
ZHN	**Zhinishke**	**2.50**	**332**		*e*P		**Pb**	**21 43 59.5**	**+0.5**
	143nm,0.2s								
ZHN					*e*S		**Sg**	**21 44 35.7**	**+1.9**
	3μm,0.7s								
ZHN	**Zhinishke**	**2.50**	**332**		Pg		**Pb**	**21 43 59.7**	**+0.7**
	143nm,0.2s								
ZHN					Lg		Lg	21 44 34.2	
	3μm,0.7s								
ANVS	**Anan'yevo**	**2.53**	**317**	⇓	*i*P		**Pb**	**21 43 59.2**	**-0.3**
	baz=20								
ANVS				⇓	*i*S		**Sg**	**21 44 34.6**	**-0.1**
	baz=20								
KPKS	**Kokpek**	**2.69**	**339**		*e*P		**Pb**	**21 44 04.4**	**+2.2**
	2μm,0.5s								
KPKS					*e*S		**Sg**	**21 44 41.9**	**+1.9**
	5μm,0.7s								
KURS	**Kuram**	**2.88**	**332**		*e*P		**Pb**	**21 44 08.1**	**+2.7**
	250nm,0.6s								
KURS					*e*S		**Sg**	**21 44 47.7**	**+1.9**
	2μm,0.7s								
KURS	**Kuram**	**2.88**	**332**		Pg		**Pb**	**21 44 08.1**	**+2.7**
	250nm,0.6s								
KURS					Lg		Lg	21 44 47.7	
	2μm,0.7s								
TNSS	**Tian-Shan**	**3.09**	**313**		*e*P		**Pb**	**21 44 10.9**	**+1.7**
	273nm,0.6s								
TNSS					*e*S		**Sg**	**21 44 53.0**	**+0.2**
	657nm,0.9s								
TNSS	**Tian-Shan**	**3.09**	**313**		Pg		**Pb**	**21 44 10.9**	**+1.7**
	273nm,0.6s								
TNSS					Lg		Lg	21 44 53.0	
	657nm,0.9s								
ULHL	**Ulahol**	**3.11**	**296**	⇑	*i*P		**Pn**	**21 44 06.2**	**+2.8**
	baz=97								
ULHL				⇑	*i*S		**Sb**	**21 44 47.0**	**-0.7**
	baz=97								
ULHL	**Ulahol**	**3.11**	**296**		P		**Pn**	**21 44 06.8**	**+3.4**
	SNR=74								
MDOK	**Medeo**	**3.12**	**316**		*e*P		**Pb**	**21 44 11.1**	**+1.6**
	160nm,0.4s								
MDOK					*e*S		**Sg**	**21 44 53.4**	**-0.2**
	1μm,0.7s								
MDOK	**Medeo**	**3.12**	**316**		Pg		**Pb**	**21 44 11.1**	**+1.6**
	160nm,0.4s								
MDOK					Lg		Lg	21 44 53.4	
	1μm,0.7s								
KOTS	**Kotyrbulak**	**3.14**	**317**		*e*P		**Pb**	**21 44 11.9**	**+2.0**
	476nm,0.7s								
KOTS					*e*S		**Sg**	**21 44 54.4**	**+0.2**
	1μm,0.6s								
KOTS	**Kotyrbulak**	**3.14**	**317**		Pg		**Pb**	**21 44 11.9**	**+2.0**
	476nm,0.7s								
KOTS					Lg		Lg	21 44 54.4	
	1μm,0.6s								
KNDC	**Almaty**	**3.20**	**316**	⇓	Pn		**Pb**	**21 44 09.0**	**-1.9**
	248nm,0.6s								
KNDC				⇓	Lg		Lg	21 44 55.5	
	2μm,0.7s								
AAA	**Alma-Ata**	**3.22**	**315**		*e*P		**Pb**	**21 44 13.6**	**+2.3**
	200nm,0.4s								
AAA					*e*S		**Sg**	**21 44 57.3**	**+0.4**
	101nm,0.8s								
AAA	**Alma-Ata**	**3.22**	**315**		Pg		**Pb**	**21 44 13.6**	**+2.3**
	200nm,0.4s								
AAA					Lg		Lg	21 44 57.3	
	101nm,0.8s								
MNBS	**Baschi**	**3.34**	**340**		*e*P		**Pb**	**21 44 15.7**	**+2.5**
	250nm,0.6s								
MNBS					*e*S		**Sg**	**21 45 01.0**	**+0.3**
	1μm,0.5s								
MNBS	**Baschi**	**3.34**	**340**		Pg		**Pb**	**21 44 15.7**	**+2.5**
	250nm,0.6s								
MNBS					Lg		Lg	21 45 01.0	
	1μm,0.5s								
DJR	**Jarkent**	**3.37**	**357**		*e*P		**Pb**	**21 44 15.0**	**+1.2**
	110nm,0.5s								
DJR					*e*S		**Sg**	**21 45 00.5**	**-1.4**
	557nm,0.5s								
DJR	**Jarkent**	**3.37**	**357**		Pg		**Pb**	**21 44 15.0**	**+1.2**
	110nm,0.5s								
DJR					Lg		Lg	21 45 00.5	
	557nm,0.5s								
BOOM	**Boomskoye usch**	**3.41**	**298**	⇑	*i*P		**Pn**	**21 44 10.3**	**+2.7**
	baz=99								
BOOM				⇑	*i*S		**Sb**	**21 44 54.6**	**-1.9**
	baz=99								
BOOM	**Boomskoye usch**	**3.41**	**298**				**Pn**	**21 44 10.2**	**+2.7**
KSH	**Kashi**	**3.41**	**246**		Pg		**Pg**	**21 44 19.3**	**+0.4**
KSH					Sg		**Sg**	**21 45 11.0**	**+7.9**
KSH					smax	smax			
	comp=N,240nm,1.0s								
KSH					smax	smax			
	comp=E,330nm,1.0s								
MTBS	**Maitube**	**3.44**	**310**		*e*P		**Pb**	**21 44 16.0**	**+1.0**
	54nm,0.5s								
MTBS					*e*S		**Sg**	**21 45 01.6**	**-2.4**
	167nm,0.6s								
MTBS	**Maitube**	**3.44**	**310**		Pg		**Pb**	**21 44 16.0**	**+1.0**
	54nm,0.5s								
MTBS					Lg		Lg	21 45 01.6	
	167nm,0.6s								
ARXS	**Arharly**	**3.63**	**334**		*e*P		**Pb**	**21 44 20.7**	**+2.5**
	365nm,0.6s								
ARXS					*e*S		**Sg**	**21 45 09.6**	**-0.4**
	1μm,0.6s								
ARXS	**Arharly**	**3.63**	**334**		Pg		**Pb**	**21 44 20.7**	**+2.5**
	365nm,0.6s								
ARXS					Lg		Lg	21 45 09.6	
	1μm,0.6s								
KST	**Kastek**	**3.67**	**306**		*e*P		**Pb**	**21 44 19.4**	**+0.5**
	94nm,0.5s								
KST					*e*S		**Sg**	**21 45 07.6**	**-3.7**
	810nm,0.8s								
KST	**Kastek**	**3.67**	**306**		Pg		**Pb**	**21 44 19.4**	**+0.5**
	94nm,0.5s								
KST					Lg		Lg	21 45 07.6	
	810nm,0.8s								
KTBS	**Karatobe**	**3.70**	**319**		*e*P		**Pb**	**21 44 21.6**	**+2.3**
	147nm,0.6s								
KTBS					*e*S		**Sg**	**21 45 11.1**	**-1.1**
	696nm,0.7s								
KTBS	**Karatobe**	**3.70**	**319**		Pg		**Pb**	**21 44 21.6**	**+2.3**
	147nm,0.6s								
KTBS					Lg		Lg	21 45 11.1	
	696nm,0.7s								
TKM2	**Tokmak 2**	**3.83**	**302**	⇑	*i*P		**Pn**	**21 44 16.6**	**+3.2**
	baz=4.0								
TKM2				⇑	*i*S		**Sb**	**21 45 05.3**	**-3.3**
	baz=4.0								
TKM2	**Tokmak 2**	**3.83**	**302**		P		**Pn**	**21 44 16.6**	**+3.2**
	SNR=18								
DGS	**Degeres**	**3.90**	**307**		*e*P		**Pb**	**21 44 22.8**	**0.0**
	113nm,0.6s								
DGS					*e*S		**Sb**	**21 45 13.5**	**+3.2**
	407nm,0.7s								
DGS	**Degeres**	**3.90**	**307**		Pg		**Pb**	**21 44 22.8**	**0.0**
	113nm,0.6s								
DGS					Lg		Lg	21 45 13.5	
	407nm,0.7s								
KUU	**Kurty**	**4.00**	**318**		*e*P		**Pb**	**21 44 26.4**	**+1.9**
	77nm,0.8s								
KUU					*e*S		**Sg**	**21 45 19.4**	**-2.5**
	635nm,0.4s								
KUU	**Kurty**	**4.00**	**318**		Pg		**Pb**	**21 44 26.4**	**+1.9**
	77nm,0.8s								
KUU					Lg		Lg	21 45 19.4	
	635nm,0.4s								
KBK	**Karagaybulak**	**4.15**	**296**	⇓	*i*P		**Pn**	**21 44 20.6**	**+2.9**
	baz=97								
KBK				⇓	*i*S		**Sb**	**21 45 11.9**	**-5.8**
	baz=97								
KBK	**Karagaybulak**	**4.15**	**296**		P		**Pn**	**21 44 21.4**	**+3.7**
	SNR=8.5								
TDK	**Taldyqorghan**	**4.21**	**344**		*e*P		**Pb**	**21 44 32.1**	**+4.0**
	465nm,0.5s								
TDK					*e*S		**Sg**	**21 45 29.4**	**+0.7**
	2μm,0.6s								
TDK	**Taldyqorghan**	**4.21**	**344**		Pg		**Pb**	**21 44 32.1**	**+4.0**
	465nm,0.5s								
TDK					Lg		Lg	21 45 29.4	
	2μm,0.6s								
KRBS	**Karabastau**	**4.22**	**312**		*e*P		**Pb**	**21 44 30.9**	**+2.6**
	101nm,0.6s								
KRBS					*e*S		**Sg**	**21 45 27.0**	**-2.1**
	646nm,1.1s								
KRBS	**Karabastau**	**4.22**	**312**		Pg		**Pb**	**21 44 30.9**	**+2.6**
	101nm,0.6s								
KRBS					Lg		Lg	21 45 27.0	
	646nm,1.1s								
UCH	**Uchtor**	**4.32**	**289**	⇓	*i*P		**Pn**	**21 44 22.5**	**+2.2**
	baz=90								
UCH				⇓	*i*S		**Sn**	**21 45 15.3**	**+4.0**
	baz=90								
UCH	**Uchtor**	**4.32**	**289**		P		**Pn**	**21 44 22.7**	**+2.4**
	SNR=6.7								
ARLS	**Aral**	**4.38**	**284**	⇑	*i*P		**Pn**	**21 44 22.4**	**+1.6**
	baz=85								
ARLS				⇑	*i*S		**Sn**	**21 45 15.7**	**+3.4**
	baz=85								
CHMS	**Chumysh**	**4.42**	**299**	⇑	*i*P		**Pn**	**21 44 24.4**	**+3.1**
	baz=0.0								
CHMS				⇑	*i*S		**Sb**	**21 45 18.5**	**-6.8**
	baz=0.0								
CHMS	**Chumysh**	**4.42**	**299**		P		**Pg**	**21 44 36.4**	**-1.8**
	SNR=20								
FRU1	**Bishkek**	**4.43**	**296**	⇑	*i*P		**Pn**	**21 44 24.5**	**+3.1**
	baz=98								
FRU1				⇑	*i*S		**Sn**	**21 45 18.4**	**+5.0**
	baz=98								
FRU1	**Bishkek**	**4.43**	**296**				**Pn**	**21 44 24.0**	**+2.6**
AAK	**Ala-Archa**	**4.46**	**294**	⇑	*i*P		**Pn**	**21 44 24.7**	**+2.8**
	baz=95								
AAK				⇑	*i*S		**Sn**	**21 45 18.9**	**+4.6**
	baz=95								
AAK	**Ala-Archa**	**4.46**	**294**		P		**Pn**	**21 44 25.3**	**+3.4**
	SNR=5.3								
SGDS	**Sogindy**	**4.71**	**304**		Pg		**Pb**	**21 44 39.1**	**+2.4**
	124nm,0.7s								
SGDS					Lg		Lg	21 45 41.3	
	176nm,0.9s								
AML	**Almayashu**	**4.89**	**286**	⇑	*i*P		**Pn**	**21 44 30.1**	**+2.0**
	baz=87								
AML				⇑	*i*S		**Sn**	**21 45 28.5**	**+3.3**
	baz=87								
AML	**Almayashu**	**4.89**	**286**		P		**Pg**	**21 44 44.2**	**-2.9**
	SNR=26								
EKS2	**Erkin-Say**	**4.96**	**292**	⇑	*i*P		**Pn**	**21 44 31.4**	**+2.5**
	baz=93								
EKS2				⇑	*i*S		**Sn**	**21 45 30.7**	**+4.0**
	baz=93								
EKS2	**Erkin-Say**	**4.96**	**292**		P		**Pg**	**21 44 45.6**	**-2.9**
	SNR=16								
MRKS	**Merke**	**5.38**	**292**		*e*P		**Pb**	**21 44 52.1**	**+4.1**
	36nm,0.6s								
MRKS					*e*S		**Sg**	**21 46 03.3**	**-2.8**
	42nm,0.8s								
MRKS	**Merke**	**5.38**	**292**		Pg		**Pb**	**21 44 52.1**	**+4.1**
	36nm,0.6s								
MRKS					Lg		Lg	21 46 03.3	
	42nm,0.8s								
OHH	**Osh**	**5.51**	**268**	⇓	*i*P		**Pn**	**21 44 37.2**	**+0.9**
	baz=68								
OHH				⇓	*i*S		**Sn**	**21 45 40.1**	**-0.1**
	baz=68								
MNAS	**Manas**	**5.83**	**288**	⇑	*i*P		**Pn**	**21 44 43.1**	**+2.4**
	baz=88								
MNAS				⇑	*i*S		**Sn**	**21 45 50.4**	**+2.4**
	baz=88								
BTLS	**Baital**	**5.98**	**315**		*e*P		**Pb**	**21 45 02.4**	**+4.2**
	19nm,0.8s								
BTLS					*e*S		**Sg**	**21 46 21.4**	**-4.1**
	25nm,0.8s								
BTLS	**Baital**	**5.98**	**315**		Pg		**Pb**	**21 45 02.4**	**+4.2**
	19nm,0.8s								
BTLS					Lg		Lg	21 46 21.4	
	25nm,0.8s								
MAKZ	**Makanchi**	**6.01**	**13**	⇑	Pn		**Pn**	**21 44 47.0**	**+3.8**
	23nm,1.0s								
MAKZ				⇓	Sn		**Sn**	**21 45 55.6**	**+3.1**
	40nm,0.5s								
MAKZ	**Makanchi**	**6.01**	**13**		Pn		**Pn**	**21 44 46.6**	**+3.4**
MAKZ					Sn		**Sn**	**21 45 55.8**	**+3.3**
MK31	**Makanchi Array**	**6.06**	**15**		Pn		**Pn**	**21 44 47.5**	**+3.7**
	8.0nm,0.5s,baz=199,slow=13,SNR=252								
MK31				⇑	Sn		**Sn**	**21 45 56.6**	**+3.0**
	68nm,0.6s,baz=155,slow=31,SNR=7.1								
MK31	**Makanchi Array**	**6.06**	**15**				**Pn**	**21 44 46.3**	**+2.5**
MK31					Sn		**Sn**	**21 45 55.9**	**+2.4**
MKAR	**Makanchi Array**	**6.06**	**15**		Pn		**Pn**	**21 44 48.1**	**+4.3**
	2.7nm,0.3s,baz=199,slow=13,SNR=184								
MKAR					Sn		**Sn**	**21 45 57.2**	**+3.7**
	40nm,0.3s,baz=187,slow=26,SNR=23								
MKAR					Lg		Lg	21 46 32.3	
	9.6nm,0.3s,baz=197,slow=28,SNR=4.1								
MKAR	**Makanchi Array**	**6.06**	**15**		Pn		**Pn**	**21 44 46.9**	**+3.1**
WMQ	**Urumqi**	**6.36**	**61**	*e*	Pn		**Pn**	**21 44 49.9**	**+1.9**
WMQ					Sn		**Sn**	**21 46 03.1**	**+2.0**
WMQ					smax	smax			
	comp=N,83nm,0.7s								
WMQ					smax	smax			
	comp=E,130nm,1.1s								
WMQ					LR	LR			
	comp=N,270nm,13.3s								
WMQ					LR	LR			
	comp=E,290nm,6.1s								
WMQ					LR	LR			
	comp=Z,170nm,11.3s								
WMQ	**Urumqi**	**6.36**	**61**				**Pn**	**21 44 49.9**	**+1.9**
BTK	**Batken**	**7.07**	**266**		Pn		**Pn**	**21 44 59.2**	**+1.5**
ZSN	**Zaisan**	**7.36**	**27**		Pg		Pb	21 45 27.4	+5.6
	16nm,0.5s								
ZSN					Lg		Lg	21 47 05.1	
	138nm,0.8s								
KK31	**Karatay Array**	**7.39**	**290**	⇑	Pg		Pg	21 45 29.7	-5.4
	14nm,0.9s,baz=102,slow=14,SNR=36								
KK31				⇑	Lg		Lg	21 47 09.9	
	60nm,1.1s,baz=104,slow=28,SNR=4.3								
KK31	**Karatay Array**	**7.39**	**290**				**Pn**	**21 45 04.6**	**+2.5**
KKAR	**Karatay Array**	**7.39**	**290**				**Pn**	**21 45 05.7**	**+3.6**
GAR	**Garm**	**7.70**	**258**		Pn		**Pn**	**21 45 07.4**	**+1.0**
TAS	**Tashkent**	**8.10**	**276**		Pn		**Pn**	**21 45 13.1**	**+1.2**
CHGR	**Chuyangaron**	**8.67**	**258**		Pn		**Pn**	**21 45 20.1**	**+0.5**
NIL	**Nilore**	**9.07**	**219**		Pn		**Pn**	**21 45 24.8**	**-0.3**
CEP	**Cherat**	**9.61**	**225**		P		**Pn**	**21 45 34.3**	**+1.7**
CEP					S		Sn	21 47 12.0	-9.0
KURBB	**Kurchatov Arra**	**9.72**	**354**		Pn		**Pn**	**21 45 37.9**	**+4.0**
	0.2nm,0.3s,baz=185,slow=12,SNR=43								
KURBB					Sn		**Sn**	**21 47 28.0**	**+4.5**
	0.3nm,0.3s,baz=186,slow=32,SNR=4.9								
KURBB					Lg		Lg	21 48 24.3	
	0.9nm,0.3s,baz=172,slow=28,SNR=6.5								
KURBB	**Kurchatov Arra**	**9.72**	**354**	⇑	Pn		**Pn**	**21 45 37.2**	**+3.2**
	8.4nm,0.9s								
KURBB				⇓	Lg		Lg	21 48 24.2	
	224nm,1.1s								
KURK	**Kurchatov**	**9.81**	**355**	⇑	Pn		**Pn**	**21 45 38.4**	**+3.2**
	9.3nm,0.7s								
KURK				⇓	Lg		Lg	21 48 25.0	
	82nm,0.7s								
KURK	**Kurchatov**	**9.81**	**355**		Pn		**Pn**	**21 45 38.3**	**+3.2**
SMLA	**Simla**	**10.08**	**194**		*e*P		**Pn**	**21 45 37.2**	**-1.7**
SMLA					*e*S		Sn	21 47 21.2	-11
SMLA					IAML			21 47 27.6	
	comp=N,24nm,0.2s								
SMLA					IAML			21 47 27.6	
	comp=E,19nm,0.2s								
THW	**Thamme Wali**	**10.50**	**222**		P		**Pn**	**21 45 44.2**	**-0.5**
ZAA0	**Zalesovo Array**	**13.39**	**12**		Pn		**Pn**	**21 46 25.2**	**+1.1**
ZALV	**Zalesovo Beam**	**13.39**	**12**		Pn		**Pn**	**21 46 25.4**	**+1.3**
	comp=E,0.4nm,0.3s,baz=194,slow=12,SNR=14								
ZALV					Sn		**Sn**	**21 48 50.6**	**-2.6**
	comp=E,1.1nm,0.3s,baz=176,slow=20,SNR=7.2								
ZALV					Lg		Lg	21 50 29.4	
	baz=199,slow=27,SNR=2.0								
ZALV					LR		LR	21 52 02.0	
	comp=E,135nm,21.2s,baz=184,slow=39								
ZALV	**Zalesovo Beam**	**13.39**	**12**		Pn		**Pn**	**21 46 25.0**	**+0.9**
BVAR	**Borovoye Array**	**13.72**	**335**		Pn		**Pn**	**21 46 29.3**	**+0.6**
	comp=E,1.3nm,0.3s,baz=170,slow=12,SNR=28								
BVAR					Lg		Lg	21 50 30.2	
	comp=E,0.7nm,0.3s,baz=204,slow=32,SNR=6.0								
BRVK	**Borovoye**	**13.79**	**335**		Pn		**Pn**	**21 46 29.9**	**+0.4**
LSA	**Lhasa**	**14.43**	**138**		Pn		Pn	21 46 34.5	-4.4
GTA	**Gaotai**	**15.21**	**89**	*e*	P		**Pn**	**21 46 46.5**	**-2.6**
GTA					pP		P	21 46 55.6	+1.3
GTA					sP		pP	21 46 59.8	+4.0
GTA					S		**Sn**	**21 49 32.6**	**-5.5**
GTA					pmax	pmax			
	comp=E,3.0nm,0.9s								
GTA					pmax	pmax			
	comp=E,140nm,7.5s								
GTA					LR	LR			
	comp=E,190nm,16.0s								
GTA					LR	LR			
	comp=E,190nm,16.4s								
GTA					LR	LR			
	comp=E,220nm,13.8s								
HRA	**Herat**	**15.52**	**251**				**Pn**	**21 46 53.3**	**+0.1**
ABKAR	**Akbulak array**	**16.38**	**307**				**Pn**	**21 47 05.2**	**+1.1**
ABKAR	**Akbulak array**	**16.38**	**307**				**Pn**	**21 47 04.6**	**+0.5**
GEYT	**Alibeck**	**17.18**	**267**		P		**Pn**	**21 47 12.7**	**-1.6**
	comp=E,0.1nm,0.3s,baz=42,slow=14,SNR=1.1								
GEYT	**Alibeck**	**17.18**	**267**				**Pn**	**21 47 15.1**	**+0.8**
AKTO	**Aktyubinsk**	**17.99**	**309**		P		**Pn**	**21 47 25.1**	**+0.7**
	comp=E,0.1nm,0.3s,baz=104,slow=12,SNR=3.6								
AKTO					Lg		Lg	21 52 44.3	
	comp=E,0.1nm,0.3s,baz=9.0,slow=19,SNR=2.4								
AKTO					LR		LR	21 54 44.3	
	comp=E,183nm,19.8s,baz=109,slow=38								
SHL	**Shillong**	**18.25**	**144**		Pn		Pn	21 47 23.6	-4.1
TLY	**Talaya**	**19.44**	**49**		LR		LR	21 56 04.7	
	comp=E,84nm,19.3s,baz=228,slow=39								
SONM	**Songino Array**	**20.00**	**61**		P		**P**	**21 47 48.9**	**+1.9**
	comp=E,15nm,0.9s,baz=258,slow=10,SNR=83								
SONM					LR		LR	21 55 18.2	
	comp=E,36nm,18.3s,baz=236,slow=36								
SONM	**Songino Array**	**20.00**	**61**				**P**	**21 47 47.6**	**+0.6**
ULN	**Ulaanbaatar**	**20.44**	**61**				**P**	**21 47 50.9**	**-1.0**
ULN					IAmb		IAmb	21 47 57.1	
	comp=Z,8.1nm,0.7s								
ARU	**Arti**	**20.84**	**325**		P		**P**	**21 47 56.5**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=133,slow=6.3,SNR=25								
ARU					Lg		Lg	21 54 09.6	
	comp=Z,0.6nm,0.5s,baz=173,slow=22,SNR=3.5								
ARU					LR		LR	21 56 22.9	
	comp=Z,243nm,18.2s,baz=78,slow=38								
ARU	**Arti**	**20.84**

ARCES	**ARCESS Array B**	**40.01**	**334**	P	**P**	**21 50 49.5**	**+0.6**	
	comp=Z,1.5nm,0.5s,baz=94,slow=7.8,SNR=17							
ITM	**Ithomi**	**44.55**	**285**	P	**P**	**21 51 25.9**	**-0.4**	
ITM				IAmb	IAmb	21 51 30.4		
	comp=Z,7.5nm,0.9s							
NB2	**NORSAR Subarra**	**45.27**	**320**	P	P	21 51 38.4	+6.6	
	comp=Z,0.5nm,0.7s,baz=85,slow=7.9							
NOA	**NORSAR Array B**	**45.27**	**320**	P	**P**	**21 51 31.6**	**-0.1**	
	comp=Z,0.2nm,0.6s,baz=84,slow=7.9,SNR=2.2							
GERES	**GERESS Array B**	**46.27**	**303**	P	**P**	**21 51 39.6**	**-0.3**	
	comp=Z,0.1nm,0.4s,baz=58,slow=9.3,SNR=1.8							
IMAR	**Indian Mountai**	**65.63**	**21**	P	**P**	**21 53 58.0**	**-0.1**	
BPAW	**Bear Paw Mtn.**	**67.83**	**22**	P	**P**	**21 54 12.7**	**+0.4**	
BPAW				IAmb	IAmb	21 54 18.3		
	comp=Z,4.9nm,1.4s							
MDM	**Murphy Dome**	**67.90**	**20**	P	**P**	**21 54 12.9**	**+0.2**	
MDM				IAmb	IAmb	21 54 17.7		
	comp=Z,3.3nm,1.3s							
KTH	**Kantishna Hill**	**68.27**	**22**	P	**P**	**21 54 15.9**	**+0.8**	
ILAR	**Eielson Array**	**68.39**	**20**	P	**P**	**21 54 16.3**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=330,slow=5.2,SNR=2.9							
ILAR	**Eielson Array**	**68.39**	**20**	P	**P**	**21 54 15.9**	**+0.1**	
PPLA	**Purkeypile**	**68.41**	**23**	P	**P**	**21 54 16.6**	**+0.5**	
PPLA				IAmb	IAmb	21 54 29.2		
	comp=Z,4.8nm,1.1s							
KNRA	**Kununurra**	**72.20**	**130**	P	**P**	**21 54 38.3**	**-1.3**	
FITZ	**Fitzroy Crossi**	**72.41**	**135**	P	**P**	**21 54 40.1**	**-0.8**	
TOA0	**Torodi Ar. Sit**	**72.73**	**273**	P	**P**	**21 54 41.2**	**-1.8**	
TOA0				IAmb	IAmb	21 54 42.0		
	comp=Z,3.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**72.73**	**273**	P	**P**	**21 54 41.3**	**-1.7**	
	comp=Z,1.4nm,0.6s,baz=38,slow=4.6,SNR=13							
TORD	**Torodi Ar. Bea**	**72.73**	**273**	P	**P**	**21 54 41.3**	**-1.7**	
KOWA	**Kowa**	**76.19**	**277**	P	**P**	**21 55 01.9**	**-1.3**	
WRA	**Warramunga Arr**	**78.81**	**129**	P	**P**	**21 55 16.6**	**-1.0**	
	comp=Z,1.4nm,0.9s,baz=329,slow=5.3,SNR=8.9							
WB2	**Warramunga Arr**	**78.81**	**129**	P	**P**	**21 55 16.3**	**-1.3**	
WB2				IAmb	IAmb	21 55 17.1		
	comp=Z,6.2nm,1.2s							
ASAR	**Alice Springs**	**81.45**	**131**	P	**P**	**21 55 30.8**	**-1.0**	
	comp=Z,1.4nm,0.8s,baz=322,slow=5.3,SNR=16							
ASAR	**Alice Springs**	**81.45**	**131**	P	**P**	**21 55 30.7**	**-1.1**	
DBIC	**Dimbokro**	**81.80**	**272**	P	**P**	**21 55 32.6**	**-1.3**	
HNR	**Honiara**	**88.61**	**104**	LR	LR	22 36 14.7		
	comp=Z,128nm,21.2s,baz=296,slow=36							

PRU 13 21:46:10.6±0.0, 50.15N×19.12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**81**	*e*Pg	Pg	21 46 18.6	-0.5
OJC				*e*Sg	Sg	21 46 24.3	-0.4
LANS	**Liptovska Anna**	**1.03**	**167**	*e*PG	Pg	21 46 30.0	-0.2
LANS				*e*SG	Sg	21 46 44.3	+0.8
LANS				*e*LG	Lg	21 46 49.3	
NIE	**Niedzica**	**1.06**	**133**	*e*Pg	Pg	21 46 30.2	-0.7
NIE				*e*Sg	Sg	21 46 45.2	+0.6
MORC	**Moravsky Berou**	**1.08**	**250**	*e*PG	Pg	21 46 31.7	+0.3
MORC				*e*SG	Sb	21 46 47.0	0.0
KRLC	**Kraliky**	**1.51**	**268**	*e*PG	Pn	21 46 37.8	-1.1
KRLC				*e*SG	Sb	21 46 59.1	0.0
	comp=Z,12nm,0.3s						
VYHS	**Vyhne**	**1.67**	**187**	*e*PN	Pn	21 46 40.2	-0.9
VYHS				*e*SN	Sn	21 47 02.0	-1.2
DPC	**Dobruska-Polom**	**1.81**	**277**	*e*PG	Pb	21 46 44.1	-0.5
DPC				*e*SG	Sb	21 47 07.7	-0.1
	comp=Z,9.7nm,0.4s						
VRAC	**Vranov**	**1.84**	**244**	*e*PN	Pn	21 46 43.3	-0.2
VRAC				*e*SG	Sb	21 47 08.9	+0.1
OSTC	**Ostas**	**1.90**	**283**	*e*PG	Pn	21 46 45.2	+0.9
KSP	**Ksiaz**	**1.93**	**292**	*e*Pg	Pg	21 46 48.0	+0.3
KSP				*e*Sg	Sg	21 47 14.1	+1.4
CHVC	**Chvalec**	**2.01**	**284**	*e*PG	Pb	21 46 47.0	-1.0
UPC	**Upice**	**2.02**	**281**	*e*SG	Sg	21 47 16.6	+1.0
KRUC	**Moravsky**	**2.08**	**239**	*e*PN	Pb	21 46 48.8	-0.4
KRUC				*e*SG	Sb	21 47 16.0	+0.4
PRU	**Pruhonice**	**2.95**	**269**	*e*SG	Sg	21 47 43.2	-2.3
BRG	**Berggiesshubel**	**3.38**	**284**	SG	Sg	21 48 01.6	+2.4
	2.8nm,0.4s						
KHC	**Kasperske Hory**	**3.74**	**256**	*e*SG	Sg	21 48 10.3	-0.5
	comp=Z,3.6nm,0.6s						

*NEIC **13** 21:49:05.7±0.9, 37.5S×0.2×78.1E×0.1, h10km±2km, mb4.5/9, Error ellipse: s-maj=35.8km s-min=6.6km az=150.0*

*IDC **13** 21:49:07.2±3.5, 36.60S×78.63E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/40, mbtmp3.6/5, MS4.0/6, Ms1 4.0/6, ms1mx3.5/33, Error ellipse: s-maj=109.8km s-min=37.9km az=30.0*

ISC 13 21:49:04.8±1.0, 37.6S×0.2×78.0E±0.2, h10km, n29, σ0.9 f9/17, mb4.1/9, MS4.0/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.36**	**242**		**Pn**	**21 49 15.8**	**-0.3**
H01W2	**Cape Leeuwin H**	**29.18**	**96**	T	T	22 25 19.9	
	baz=254,slow=74,SNR=49						
H01W3	**Cape Leeuwin H**	**29.18**	**96**	T	T	22 25 18.9	
	baz=254,slow=74,SNR=43						
H01W1	**Cape Leeuwin H**	**29.19**	**96**	T	T	22 25 21.8	
	baz=254						
H08S2	**Diego Garcia H**	**30.26**	**349**	T	T	22 26 31.4	
	baz=171,slow=76,SNR=78						
H08S1	**Diego Garcia H**	**30.26**	**349**	T	T	22 26 32.6	
	baz=171,slow=76,SNR=89						
H08S3	**Diego Garcia H**	**30.28**	**349**	T	T	22 26 32.9	
	baz=171,slow=76,SNR=145						
MAW	**Mawson**	**31.21**	**191**	LR	LR	22 05 52.6	
	comp=Z,215nm,18.8s,baz=56,slow=31						
BOSA	**Boshof**	**44.56**	**266**	LR	LR	22 11 34.9	
	comp=Z,104nm,21.5s,baz=106,slow=30						
ASAR	**Alice Springs**	**49.42**	**90**	P	**P**	**21 57 55.5**	**+0.5**
	0.4nm,0.9s,baz=238,slow=6.5,SNR=2.1						
ASAR	**Alice Springs**	**49.42**	**90**	P	**P**	**21 57 55.3**	**+0.3**
SBUM	**Sibu**	**50.96**	**46**	P	**P**	**21 58 07.3**	**+0.7**
SBUM				IAmb	IAmb	21 58 17.0	
	comp=Z,8.5nm,1.4s						
WRA	**Warramunga Arr**	**51.70**	**87**	P	**P**	**21 58 11.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=236,slow=7.9,SNR=3.8						
WRA	**Warramunga Arr**	**51.70**	**87**	P	**P**	**21 58 12.2**	**-0.1**
WB0	**Warramunga Arr**	**51.83**	**86**	P	**P**	**21 58 13.1**	**-0.1**
VNDA	**Vanda**	**52.28**	**164**	LR	LR	22 18 39.6	
	comp=Z,140nm,18.9s,baz=304,slow=33						
QSPA	**South Pole Qui**	**52.53**	**180**	LR	LR	22 18 44.6	
	comp=Z,367nm,19.0s,baz=305,slow=33						
CMAR	**Chiang Mai Arr**	**59.18**	**23**	P	P	21 59 01.7	-4.2
	comp=Z,0.2nm,0.3s,baz=195,slow=6.5,SNR=1.7						
CMAR	**Chiang Mai Arr**	**59.18**	**23**	P	**P**	**21 59 04.7**	**-1.2**
LSA	**Lhasa**	**68.11**	**12**	P	**P**	**22 00 05.4**	**+0.2**
LSA				IAmb	IAmb	22 00 06.6	
	comp=Z,6.8nm,1.4s						
KBL	**Kabul**	**72.28**	**352**	P	**P**	**22 00 30.4**	**0.0**
BTK	**Batken**	**77.59**	**354**	P	**P**	**22 01 01.5**	**+0.7**
BTK				IAmb	IAmb	22 01 12.7	
	comp=Z,7.4nm,1.4s						
KK31	**Karatay Array**	**80.64**	**354**	P	**P**	**22 01 18.3**	**+0.9**
KK31				IAmb	IAmb	22 01 25.9	
	comp=Z,6.3nm,1.2s						
KKAR	**Karatay Array**	**80.64**	**354**	P	**P**	**22 01 17.6**	**+0.2**
MK31	**Makanchi Array**	**84.13**	**3**	P	**P**	**22 01 35.0**	**-0.6**
MKAR	**Makanchi Array**	**84.13**	**3**	P	**P**	**22 01 34.5**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=178,slow=6.8,SNR=3.4						
MKAR				LR	LR	22 36 19.9	
	comp=Z,97nm,20.5s,baz=130,slow=34						
MKAR	**Makanchi Array**	**84.13**	**3**	P	**P**	**22 01 34.3**	**-1.3**
BRTR	**Keskin Array B**	**87.08**	**327**	P	**P**	**22 01 51.8**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=160,slow=4.6,SNR=1.9						
ZALV	**Zalesovo Beam**	**91.40**	**4**	LR	LR	22 41 02.2	
	comp=Z,43nm,20.2s,baz=103,slow=34						

IDC 13 22:02:33.1±3.5, 6.61S×127.46E, h419km±40km, mb2.6/1, mb1 2.9/4, mb1mx2.7/39, mbtmp3.7/4, Error ellipse: s-maj=63.4km s-min=16.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.56**	**189**	P	P	22 05 07.6	+0.1
	0.1nm,0.3s,baz=14,slow=8.3,SNR=1.6						
FITZ				S	S	22 07 16.3	+1.2
	0.0nm,0.3s,baz=185,slow=16,SNR=1.1						
WRA	**Warramunga Arr**	**14.84**	**154**	P	P	22 05 43.1	-0.3
	0.6nm,0.3s,baz=332,slow=11,SNR=19						
WRA				S	S	22 08 18.4	-2.4
	0.1nm,0.3s,baz=331,slow=20,SNR=3.5						
ASAR	**Alice Springs**	**18.06**	**161**	P	P	22 06 17.9	+0.2
	0.4nm,0.3s,baz=334,slow=8.7,SNR=17						
ASAR				S	S	22 09 23.6	+0.9
	0.1nm,0.3s,baz=341,slow=28,SNR=2.2						
MKAR	**Makanchi Array**	**66.54**	**328**	P	P	22 12 39.9	0.0
	0.2nm,0.4s,baz=116,slow=7.4,SNR=5.3						

*BJI **13** 22:05:35.4±0.0, 6.98S×130.06E, h164km, mB5.1/38, mb4.7/49*

*MOS **13** 22:05:38.3±0.9, 6.67S×129.62E, h156km, mb5.0/33, Error ellipse: s-maj=9.3km s-min=5.4km az=118.3*

*KLM **13** 22:05:38.0, 6.78S×129.76E, h128km, mb5.3*

*NEIC **13** 22:05:39.6±1.3, 6.67S±0.06×129.70E±0.06, h155km±4km, mb5.3/110, Error ellipse: s-maj=8.7km s-min=7.8km az=53.0*

*IDC **13** 22:05:40.0±1.1, 6.68S×129.75E, h157km±10km, mb4.5/27, mb1 4.6/32, mb1mx4.5/39, mbtmp5.0/32, MS3.9/11, Ms1 3.9/11, ms1mx3.6/29, Error ellipse: s-maj=9.9km s-min=6.9km az=63.0*

*DJA **13** 22:05:40.1±0.2, 7.2S×13.0E, h150km±3km, M5.2/72, mb5.2/72, mB5.6/54, MLv5.7/14, Mw(mB)5.1/54, Mwp5.3/16*

*GCMT **13** 22:05:41.6±0.1, 6.70S±0.01×129.78E±0.01, h166km, MW5.3/146, Moment Tensor Solution. s113,c162; s146,c257; Duration: 1†1 Moment tensor: Scale 10^17 Nm; Mrr-0.24±.02; Mθθ-0.03±.02; Mφφ0.26±.02; Mrθ0.01±.01; Mrφ0.40±.02; Mθφ1.02±.01; Best double couple: M=1.12300×10^17 NP1:φ=73.00000°, δ=21.00000°, λ=-20.00000°. NP2:φ=182.00000°, δ=83.00000°, λ=-110.00000°. Principal axes: T 1.1550, Plg35.0000°, Azm289.0000°; N -0.0640, Plg20.0000°, Azm184.0000°; P -1.0910, Plg48.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 22:05:38.6±0.2, 6.69S±0.03×129.77E±0.03, h146km, h146km:pP-P, n532, σ1948/560, mb5.1/134, 31C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.99**	**130**	P	**Pn**	**22 06 16.3**	**+3.0**
SAUI	**Saumlaki**	**1.99**	**130**		**Pn**	**22 06 16.3**	**+3.0**
SAUI				Sn	**Sn**	**22 06 43.4**	**+3.3**
BNDI	**Bandanaira**	**2.15**	**4**	P	**Pn**	**22 06 19.3**	**+4.0**
MSAI	**Masohi**	**3.42**	**346**	P	**Pn**	**22 06 34.9**	**+3.6**
NLAI	**Namlea**	**4.34**	**322**	P	**Pn**	**22 06 47.9**	**+4.7**
FAKI	**Fak Fak**	**4.49**	**34**	P	**Pn**	**22 06 45.6**	**+0.5**
FAKI	**Fak Fak**	**4.49**	**34**	Pn	**Pn**	**22 06 45.2**	**+0.1**
FAKI				Sn	**Sn**	**22 07 35.1**	**-1.8**
SANI	**Sanana**	**5.95**	**321**	P	**Pn**	**22 07 07.6**	**+2.9**
	1.4nm10μm5μm219nm,1.1s						
SIJI	**Sorong**	**5.97**	**15**	P	**Pn**	**22 07 05.1**	**+0.2**
	42nm,0.3s,baz=46,slow=18,SNR=94						
SIJI				S	**Sn**	**22 08 09.1**	**-3.2**
	67nm,0.3s,baz=245,slow=21,SNR=15						
SOEI	**Soe**	**6.24**	**240**	P	**Pn**	**22 07 10.0**	**+1.4**
	37nm17μm23μm3μm,0.6s						
SOEI	**Soe**	**6.24**	**240**	Pn	**Pn**	**22 07 09.8**	**+1.1**
MTN	**Manton Dam**	**6.26**	**168**	P	**Pn**	**22 07 08.4**	**-0.3**
	baz=6.3,SNR=188						
MTN	**Manton Dam**	**6.26**	**168**	Pn	**Pn**	**22 07 08.3**	**-0.5**
KDU	**Kakadu**	**6.53**	**156**	P	**Pn**	**22 07 12.0**	**-0.3**
	baz=6.6,SNR=1000						
KDU				S	**Sn**	**22 08 20.2**	**-5.5**
	baz=6.6						
BATI	**Baumata**	**6.98**	**240**	P	**Pn**	**22 07 19.3**	**+0.9**
	475nm,0.3s,baz=68,slow=1.4,SNR=181						
BATI				S	**Sn**	**22 08 34.1**	**-2.5**
	1μm,0.3s,baz=250,slow=21,SNR=25						
BATI	**Baumata**	**6.98**	**240**	P	**Pn**	**22 07 19.1**	**+0.7**
	20nm6μm19μm1μm,0.6s						
KDI	**Kendari**	**7.62**	**290**	P	Pn	22 07 42.8	+16
MMRI	**Maumere**	**7.71**	**255**	P	**Pn**	**22 07 29.4**	**+1.2**
	3.6nm5μm9μm717nm,0.8s						
MMRI	**Maumere**	**7.71**	**255**	Pn	**Pn**	**22 07 28.9**	**+0.7**
TNTI	**Ternate**	**7.79**	**342**	P	**Pn**	**22 07 31.6**	**+2.4**
	0.4nm2μm123nm,0.8s						
TNTI	**Ternate**	**7.79**	**342**	Pn	**Pn**	**22 07 30.4**	**+1.2**
SRPI	**Serui, Papua**	**8.03**	**54**	P	**Pn**	**22 07 33.6**	**+1.1**
	272nm,0.4s						
EDFI	**Ende, Flores**	**8.27**	**255**	P	**Pn**	**22 07 36.8**	**+1.1**
	0.9nm2μm2μm164nm,0.8s						
BAKI	**Biak**	**8.35**	**49**	P	**Pn**	**22 07 39.6**	**+2.9**
	4.1nm13μm1μm,1.0s						
LUWI	**Luwuk**	**8.96**	**308**	P	**Pn**	**22 07 48.2**	**+3.4**
	8μm263nm,1.6s						
LUWI	**Luwuk**	**8.96**	**308**	Pn	**Pn**	**22 07 48.0**	**+3.2**
KNRA	**Kununurra**	**8.99**	**186**	P	**Pn**	**22 07 43.6**	**-1.6**
	baz=9.0,SNR=398						
KNRA	**Kununurra**	**8.99**	**186**	Pn	**Pn**	**22 07 43.6**	**-1.6**
KMSI	**Cibinong**	**9.24**	**321**	P	**Pn**	**22 07 52.6**	**+4.0**
	4μm281nm,1.4s						
BKSI	**Bulukumba**	**9.69**	**278**	P	**Pn**	**22 07 56.5**	**+1.9**
	2μm3μm136nm,1.1s						
GTOI	**Gorontalo**	**9.92**	**317**	P	Pn	22 08 03.6	+5.9
	2μm43nm,0.5s						
KAPI	**Kappang**	**10.11**	**279**	P	**Pn**	**22 08 01.7**	**+1.6**
	2.6nm,0.3s,baz=105,slow=8.7,SNR=28						
KAPI				LR	LR	22 11 51.5	
	comp=Z,543nm,18.5s,baz=108,slow=37						
KAPI	**Kappang**	**10.11**	**279**	Pn	**Pn**	**22 08 01.2**	**+1.1**
SPSI	**Sidrap Palu**	**10.32**	**285**	P	**Pn**	**22 08 05.3**	**+2.3**
	3μm4μm259nm,1.3s						
TTSI	**Tana Toraja**	**10.55**	**290**	P	**Pn**	**22 08 10.1**	**+4.0**
	3μm85nm,1.3s						
GENI	**Genyem**	**11.13**	**69**	P	**Pn**	**22 08 15.9**	**+2.2**
	3μm3μm162nm,1.0s						
SGSI	**Sangihe**	**11.14**	**338**	P	**Pn**	**22 08 15.9**	**+2.1**
	4μm140nm,0.5s						
JAY	**Jayapura**	**11.66**	**70**	P	**Pn**	**22 08 22.7**	**+2.0**
	5.3nm,0.3s,baz=213,slow=13,SNR=13						
JAY				S	**Sn**	**22 10 25.2**	**-4.3**
	2.1nm,0.3s,baz=30,slow=21,SNR=1.2						
JAY	**Jayapura**	**11.66**	**70**	P	**Pn**	**22 08 22.4**	**+1.7**
	652nm48nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.04**	**199**	P	**Pn**	**22 08 22.4**	**-3.1**
	17nm,0.3s,baz=30,slow=11,SNR=112						
FITZ				S	Sn	22 10 26.8	-12
	231nm,0.3s,baz=98,slow=14,SNR=9.2						
FITZ	**Fitzroy Crossi**	**12.04**	**199**	P	**Pn**	**22 08 22.4**	**-3.1**
	baz=12,SNR=300						
FITZ	**Fitzroy Crossi**	**12.04**	**199**	Pn	**Pn**	**22 08 22.6**	**-2.8**
MPSI	**Mapaga**	**12.07**	**305**	P	**Pn**	**22 08 29.7**	**+3.7**
	4μm4μm122nm,2.2s						
PLAI	**Plampang**	**12.07**	**259**	P	**Pn**	**22 08 23.9**	**-2.1**
	5μm240nm,0.5s						
TWSI	**Taliwang, Sumb**	**12.93**	**260**	P	**Pn**	**22 08 35.0**	**-2.2**
	55nm,0.9s						
WB0	**Warramunga Arr**	**13.76**	**161**	Pn	**Pn**	**22 08 44.2**	**-3.5**
WRAB	**Tennant Creek**	**13.90**	**162**	*d* iP	**Pn**	**22 08 46.6**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,170nm,1.3s						
WRA	**Warramunga Arr**	**13.90**	**162**	P	**Pn**	**22 08 46.4**	**-3.1**
	comp=Z,11nm,0.3s,baz=343,slow=13,SNR=198						
WRA				S	Sn	22 11 12.2	-11
	comp=Z,212nm,0.3s,baz=345,slow=22,SNR=14						
WRA				LR	LR	22 15 00.9	
	comp=Z,1μm,20.1s,baz=335,slow=40						
WRA	**Warramunga Arr**	**13.90**	**162**	*i* P	**Pn**	**22 08 46.0**	**-3.5**
WRA				pmax	pmax		
	comp=Z,72nm,0.6s						
WB2	**Warramunga Arr**	**13.91**	**162**	Pn	**Pn**	**22 08 46.3**	**-3.3**
BKB	**Balikpapan**	**13.93**	**292**	P	**P**	**22 08 55.8**	**+2.6**
	comp=Z,5μmcomp=Z,9μmcomp=Z,528nm,1.6s						
BKB	**Balikpapan**	**13.93**	**292**	P	**P**	**22 08 53.7**	**+0.5**
KBKI	**Kotabaru**	**13.96**	**283**	P	**Pn**	**22 08 52.6**	**+2.3**
	comp=Z,2μmcomp=Z,2μmcomp=Z,146nm,1.1s						
SMKI	**Samarinda**	**13.98**	**296**	P	**P**	**22 08 55.3**	**+1.4**
	comp=Z,4μmcomp=Z,8μmcomp=Z,377nm,1.7s						
COEN	**Coen**	**15.03**	**120**	P	**Pn**	**22 09 02.1**	**-1.6**
	baz=15,SNR=23						
COEN	**Coen**	**15.03**	**120**		**Pn**	**22 09 02.8**	**-0.9**
COEN				IAmb	IAmb	22 09 08.2	
	comp=Z,173nm,0.9s						
BBKI	**Banjar Baru**	**15.21**	**281**	P	**P**	**22 09 08.9**	**+1.4**
	comp=Z,9μmcomp=Z,910nm,1.4s						
ABJI	**Asem Bagus**	**15.45**	**265**	P	Pn	**22 09 10.5**	**+1.6**
	comp=Z,184nm,1.2s						
JAGI	**Jajag, Banyuwa**	**15.58**	**262**	P	**Pn**	**22 09 10.4**	**-0.1**
	comp=Z,4μmcomp=Z,144nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.58**	**262**	Pn	**Pn**	**22 09 08.6**	**-1.9**
JAGI				IAmb	IAmb	22 09 13.3	
	comp=Z,272nm,1.4s						
KMMI	**Kalianget**	**15.70**	**268**	P	**P**	**22 09 15.3**	**+2.4**
	comp=Z,3μmcomp=Z,189nm,1.2s						
MTKI	**Muara Teweh, K**	**15.90**	**290**	P	**P**	**22 09 16.8**	**+1.7**
	comp=Z,3μmcomp=Z,3μmcomp=Z,126nm,1.4s						
BLJI	**Banyuglugur**	**16.08**	**265**	P	**Pn**	**22 09 17.5**	**+0.8**
	comp=Z,5μmcomp=Z,506nm,0.9s						
MYLDM	**Lahad Datu**	**16.30**	**316**	P	**Pn**	**22 09 20.6**	**+1.3**
MYLDM				IAmb	IAmb	22 10 17.6	
	comp=Z,189nm,1.1s						
QIS	**Mount Isa**	**16.76**	**146**	P	**P**	**22 09 24.7**	**0.0**
	baz=17,SNR=98						
BWJI	**Bawean**	**17.03**	**272**	P	**Pn**	**22 09 33.2**	**+5.0**
GRJI	**Gresik**	**17.17**	**268**	P	**Pn**	**22 09 31.4**	**+1.5**
	comp=Z,3μmcomp=Z,300nm,1.3s						
AS31	**Alice Springs**	**17.34**	**167**		**P**	**22 09 31.4**	**+0.4**
AS31				IAmb	IAmb	22 10 29.6	
	comp=Z,68nm,0.5s						
ASAR	**Alice Springs**	**17.34**	**167**	P	**P**	**22 09 30.7**	**-0.3**
	comp=Z,9.6nm,0.3s,baz=352,slow=11,SNR=500						
ASAR				S	**S**	**22 12 35.3**	**-9.1**
	comp=Z,40nm,0.3s,baz=345,slow=26,SNR=6.4						
ASAR				LR	LR	22 16 54.8	
	comp=Z,666nm,21.6s,baz=342,slow=39						
ASAR	**Alice Springs**	**17.34**	**167**	P	**P**	**22 09 31.4**	**+0.4**
ASAR	**Alice Springs**	**17.34**	**167**	P	**P**	**22 09 31.4**	**+0.4**
PMG	**Port Moresby**	**17.43**	**100**	P	**P**	**22 09 32.9**	**+0.9**
	comp=Z,6.5nm,0.3s,baz=297,slow=7.5,SNR=99						
PMG				S	**S**	**22 12 40.4**	**-5.8**
	comp=Z,3.4nm,0.3s,baz=166,slow=22,SNR=1.9						
PMG	**Port Moresby**	**17.43**	**100**	*d* iP	**Pn**	**22 09 35.4**	**+2.5**
PMG				pmax	pmax		
	comp=Z,787nm,1.7s						
PMG	**Port Moresby**	**17.43**	**100**	P	**Pn**	**22 09 33.8**	**+0.9**
SPMM	**Sapulut**	**17.45**	**310**	P	**Pn**	**22 09 36.0**	**+2.7**
PSA00	**Pilbara Seismi**	**17.64**	**212**		**P**	**22 09 33.6**	**-0.6**
PSA00	**Pilbara Seismi**	**17.64**	**212**		**P**	**22 09 34.0**	**-0.3**
PSA00				IAmb	IAmb	22 09 51.7	
	comp=Z,215nm,0.7s						
PWJI	**Pagerwojo**	**17.87**	**265**	P	**P**	**22 09 37.6**	**+0.8**
	comp=Z,83nm,0.8s						
MANU	**Manus Island**	**18.14**	**76**	P	**Pn**	**22 09 42.6**	**+1.2**
MANU				IAmb	IAmb	22 09 44.6	
	comp=Z,230nm,1.1s						
MTSU	**Mount Surprise**	**18.18**	**130**	P	**P**	**22 09 41.5**	**+1.3**
	baz=18,SNR=50						
WRKA	**Warakurna**	**18.30**	**184**	P	**P**	**22 09 42.1**	**+0.6**
	baz=18,SNR=224						
PBKI	**Pangkalan Bun**	**18.47**	**282**	P	**P**	**22 09 45.0**	**+1.6**
	comp=Z,9μmcomp=Z,804nm,1.4s						
KKM	**Kota Kinabalu**	**18.52**	**313**	P	**P**	**22 09 44.1**	**0.0**
WOJI	**Wonogiri, Jawa**	**18.73**	**265**	P	**P**	**22 09 47.3**	**+1.1**
	comp=Z,157nm,1.2s						
UGM	**Wanagama**	**19.13**	**265**	P	**P**	**22 09 48.8**	**-1.9**
SMRI	**Semarang**	**19.20**	**268**	P	**Pn**	**22 09 54.3**	**+0.5**
	comp=Z,175nm,1.4s						
SMRI	**Semarang**	**19.20**	**268**	P	**P**	**22 09 51.2**	**-0.1**
SMRI				IAmb	IAmb	22 10 26.8	
	comp=Z,117nm,0.8s						
SBUM	**Sibu**	**19.73**	**297**	P	**P**	**22 09 58.6**	**+1.5**
SBUM	**Sibu**	**19.73**	**297**	P	**P**	**22 09 59.0**	**+1.9**
KPJI	**Karang Pucung**	**20.69**	**267**	P	**P**	**22 10 06.3**	**-1.1**
	comp=Z,102nm,1.1s						
CTA	**Charters Tower**	**20.82**	**131**	P	**P**	**22 10 10.2**	**+1.6**
	comp=Z,90nm,1.0s,baz=308,slow=12,SNR=43						
CTA				S	**S**	**22 13 52.8**	**-0.2**
	comp=Z,14nm,0.7s,baz=258,slow=22,SNR=1.6						
CTAO	**Charters Tower**	**20.82**	**131**	P	**P**	**22 10 09.8**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,286nm,1.3s						
CTAO	**Charters Tower**	**20.82**	**131**	P	**P**	**22 10 09.8**	**+1.1**
KSM	**Kuching**	**21.05**	**292**	P	**P**	**22 10 10.5**	**-0.7**
KSM				IAmb	IAmb	22 10 47.6	
	comp=Z,165nm,1.2s						
KSM	**Kuching**	**21.05**	**292**	P	**P**	**22 10 11.0**	**-0.2**
CMJI	**Cimerak**	**21.18**	**266**	P	**P**	**22 10 13.3**	**+0.7**
	comp=Z,3μmcomp=Z,151nm,1.2s						
GIRL	**Giralia**	**21.82**	**222**	P	**P**	**22 10 19.8**	**+0.5**
	baz=22,SNR=8.3						
GIRL	**Giralia**	**21.82**	**222**	P	**P**	**22 10 19.1**	**-0.2**
LEM	**Lembang**	**22.00**	**268**	LR	LR	22 20 39.6	
	comp=Z,453nm,19.6s,baz=82,slow=41						
TPI	**Tanjungpandan**	**22.38**	**279**	P	**P**	**22 10 23.6**	**-1.5**
	comp=Z,3μmcomp=Z,80nm,0.5s						
RABL	**Rabaul**	**22.43**	**85**	P	**P**	**22 10 25.4**	**-0.1**

SDSI Sungai Dareh 28.84 280 P **P** **22 11 23.2 -0.3**
comp=Z,2µmcomp=Z,90nm,1.2s
CMSA Cobar Meteorol 28.86 151 P **P** **22 11 24.1 +0.7**
baz=29,SNR=83
BKNI Bangkinang 29.50 283 P **P** **22 11 31.8 +2.4**
comp=Z,147nm,0.9s
BKNI Bangkinang 29.50 283 P **P** **22 11 29.8 +0.4**
HNR Honiara 30.00 97 P **P** **22 11 33.2 -0.5**
comp=Z,65nm,0.3s,baz=191,slow=4.7,SNR=13
HNR Honiara 30.00 97 P **P** **22 11 33.8 +0.1**
HNR pmax pmax
comp=Z,126nm,0.9s
HNR Honiara 30.00 97 P **P** **22 11 33.8 +0.1**
IPM Ipoh 30.76 290 P **P** **22 11 38.3 -2.2**
IPM Ipoh 30.76 290 P **P** **22 11 42.0 +1.5**
MNSI Mandailing Nat 31.03 283 P **P** **22 11 42.1 -0.7**
comp=Z,2µmcomp=Z,106nm,1.0s
ARMA Armidale 31.28 142 P **P** **22 11 46.3 +1.3**
baz=31,SNR=13
ARMA Armidale 31.28 142 P **P** **22 11 45.0 0.0**
KULM Kulim 31.41 292 P **P** **22 11 44.9 -1.2**
KULM IAmb IAmb 22 11 49.0
comp=Z,124nm,1.5s
KULM Kulim 31.41 292 P **P** **22 11 46.0 -0.1**
ARPS Mount Arapiles 31.91 161 P **P** **22 11 51.4 +1.2**
baz=32,SNR=56
RPSI Rantau Prapat 32.17 286 P **P** **22 11 51.0 -1.9**
RPSI IAmb IAmb 22 11 55.2
comp=Z,98nm,1.3s
PSI Prapat 32.20 286 P **P** **22 11 51.7 -1.6**
comp=Z,27nm,0.9s,baz=182,slow=4.0,SNR=19
QIZ Qiongzhong 32.23 323 P **P** **22 11 53.6 +0.4**
QIZ S **S** **22 16 57.6 +1.8**
QIZ LR LR
comp=Z,250nm,8.6s
QIZ LR LR
comp=Z,350nm,13.3s
QIZ LR LR
comp=Z,260nm,13.9s
YNG Young 32.42 150 P **P** **22 11 56.0 +1.2**
baz=32,SNR=10.0
UBPT Khong Chiam 32.50 312 P **P** **22 11 54.3 -1.3**
UBPT IAmb IAmb 22 11 56.0
comp=Z,85nm,1.4s
MGCD Mangrove Creek 33.00 146 P **P** **22 12 01.8 +2.0**
baz=33,SNR=8.4
GSI Gunungsitoli 33.10 283 P **P** **22 12 02.4 +1.5**
GSI Gunungsitoli 33.10 283 P **P** **22 11 58.8 -2.1**
CAN Canberra 33.54 151 P **P** **22 12 05.0 +0.5**
CAN pmax pmax
comp=Z,99nm,0.9s
CAN Canberra 33.54 151 P **P** **22 12 05.0 +0.5**
CNB Canberra Magne 33.71 150 P **P** **22 12 07.3 +1.3**
baz=34,SNR=9.2
TOO Toolangi 33.91 157 P **P** **22 12 09.7 +2.0**
baz=34,SNR=4.8
TOO Toolangi 33.91 157 P **P** **22 12 08.8 +1.1**
TOO pmax pmax
comp=Z,126nm,1.6s
TOO Toolangi 33.91 157 P **P** **22 12 08.8 +1.1**
TOO IAmb IAmb 22 12 10.7
comp=Z,126nm,1.6s
LHMI Lhok Sumawe 34.84 289 P **P** **22 12 14.4 -1.5**
JCJ Chichijima 35.67 19 P **P** **22 12 22.7 -0.1**
comp=Z,115nm,0.5s,baz=303,slow=21,SNR=2.3
JCJ Chichijima 35.67 19 P **P** **22 12 22.1 -0.8**
SLVN Son La 37.68 318 P **P** **22 12 39.9 -0.1**
SANVU Saraoutou 37.70 107 P **P** **22 12 41.0 +0.8**
DZM Mont Dzumac 38.54 117 *eP* **P** **22 12 47.5 +0.2**
comp=Z,139nm,1.3s
DZM Mont Dzumac 38.54 117 *e*LR LR 22 23 25.2
comp=Z,637nm,27.0s
DZM Mont Dzumac 38.54 117 P **P** **22 12 48.2 +0.9**
comp=Z,23nm,0.6s,baz=252,slow=9.5,SNR=18
DZM Mont Dzumac 38.54 117 P **P** **22 12 48.1 +0.8**
DZM IAmb IAmb 22 12 48.9
comp=Z,49nm,1.0s
MOO Moorlands 38.80 159 P **P** **22 12 51.0 +1.9**
baz=39,SNR=6.6
CM31 Chiang Mai Arr 39.36 310 P **P** **22 12 53.5 -0.5**
CM31 IAmb IAmb 22 12 55.5
comp=Z,64nm,1.2s
CMAR Chiang Mai Arr 39.36 310 P **P** **22 12 54.0 0.0**
comp=Z,15nm,0.9s,baz=140,slow=7.1,SNR=95
CMAR ScP **ScP** **22 18 33.9 -1.0**
comp=Z,0.9nm,0.5s,baz=150,slow=3.8,SNR=6.4
CMAR LR LR 22 29 43.1
comp=Z,87nm,20.1s,baz=120,slow=37
CMAR Chiang Mai Arr 39.36 310 P **P** **22 12 53.6 -0.4**
CHTO Chiang Mai 39.57 310 P **P** **22 12 55.4 -0.4**
CHTO pmax pmax
comp=Z,51nm,1.1s
CHTO Chiang Mai 39.57 310 P **P** **22 12 55.4 -0.4**
CHTO IAmb IAmb 22 12 57.1
comp=Z,51nm,1.1s
GYA Guiyang 39.85 327 ⇓P **P** **22 12 58.3 +0.2**
GYA pP pwP 22 13 37.6 +2.8
GYA pmax pmax
comp=Z,13nm,1.7s
WHN Wuhan 39.86 339 P **P** **22 12 58.5 +0.5**
KMI Kunming 41.13 321 ⇑P **P** **22 13 08.9 +0.1**
KMI pmax pmax
comp=Z,16nm,1.0s
ENH Enshi 41.58 333 P **P** **22 13 11.3 -0.9**
JWT Wachi 42.08 7 P **P** **22 13 16.6 +0.5**
INU Inuyama 42.37 9 P **P** **22 13 18.5 +0.2**
INU IAmb IAmb 22 13 54.6
comp=Z,114nm,1.7s
TJN Taejon 42.90 357 ⇑*eP* **P** **22 13 23.7 +1.1**
MAJO Matsushiro 43.72 10 ⇑*eP* **P** **22 13 28.8 -0.5**
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 43.72 10 P **P** **22 13 28.6 -0.8**
MAJO IAmb IAmb 22 13 58.1
comp=Z,185nm,2.0s
MAT Matsushiro 43.72 10 P **P** **22 13 28.1 -1.2**
MJAR Matsushiro Arr 43.72 10 P **P** **22 13 28.1 -1.3**
comp=Z,8.4nm,0.9s,baz=188,slow=9.4,SNR=8.7
MJAR Matsushiro Arr 43.72 10 P **P** **22 13 28.5 -0.8**
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 43.72 10 P **P** **22 13 28.5 -0.8**
JYT Yasato 43.80 12 P **P** **22 13 29.2 -0.6**
JYT IAmb IAmb 22 14 22.1
comp=Z,175nm,1.5s
TARA Tarawa 43.80 81 P **P** **22 13 30.6 +0.2**
TARA IAmb IAmb 22 13 42.7
comp=Z,58nm,0.6s
KSRS Korea Array 43.95 358 P **P** **22 13 30.9 -0.1**
comp=Z,1.4nm,0.5s,baz=177,slow=9.1,SNR=4.6
CD2 Chengdu 44.92 328 *eP* **P** **22 13 38.8 -0.2**
CD2 S **S** **22 20 06.6 +0.5**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,460nm,6.2s
XAN Xi'an 45.06 335 P **P** **22 13 39.0 -1.0**
XAN pmax pmax
comp=Z,19nm,1.1s
XAN pmax pmax
comp=Z,230nm,5.2s
XAN Xi'an 45.06 335 P **P** **22 13 39.4 -0.6**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN Xi'an 45.06 335 P **P** **22 13 39.4 -0.6**
JMM Marumori 45.50 12 P **P** **22 13 43.8 +0.5**
KOHI KOHIMA 47.31 314 *eP* **P** **22 13 56.5 -1.4**
KOHI *eP* **P** **22 13 56.5 -1.4**
KOHI IAmb IAmb 22 13 59.3
comp=Z,32nm,0.5s
BJT Baijiatuau 48.14 346 P **P** **22 14 03.8 -0.1**
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 48.14 346 P **P** **22 14 03.8 -0.1**
BJI Beijing 48.16 346 P **P** **22 14 03.9 -0.1**
BJI pmax pmax
comp=Z,8.0nm,0.8s
MSVF Nonsavu 48.31 108 ⇑*iP* **P** **22 14 07.6 +1.9**
MSVF pmax pmax
comp=Z,36nm,1.0s
MSVF Nonsavu 48.31 108 P **P** **22 14 06.7 +1.0**
MSVF IAmb IAmb 22 14 07.9
comp=Z,54nm,1.1s
ZIRO ZIRO 48.61 316 *eP* **P** **22 14 07.2 -0.7**
TEZP TEZPUR 48.79 314 *eP* **P** **22 14 06.6 -2.5**

SHL Shillong 48.82 313 *eP* **P** **22 14 08.8 -0.8**
SHL Shillong 48.82 313 P **P** **22 14 08.1 -1.5**
SHL pmax pmax
comp=Z,44nm,1.4s
SHL Shillong 48.82 313 P **P** **22 14 08.1 -1.5**
FUNA Funafuti 49.00 95 P **P** **22 14 11.5 +0.7**
LZH Lanzhou 49.02 332 *eP* **P** **22 14 11.3 +0.4**
LZH pP pwP 22 14 47.4 -1.2
LZH sP sP 22 15 03.3 +4.8
LZH ScP **ScP** **22 19 13.9 -0.3**
LZH pmax pmax
comp=Z,19nm,1.2s
OUZ Omahuta 49.22 132 P **P** **22 14 13.9 +1.6**
OUZ IAmb IAmb 22 14 15.6
comp=Z,46nm,1.2s
HHC Hu-ho-hao-te 50.18 342 *eP* **P** **22 14 19.9 +0.4**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,230nm,4.9s
USA0B Ussuriysk Arra 50.69 2 P **P** **22 14 23.3 +0.2**
USA0B pmax pmax
comp=Z,23nm,1.3s
USA0B Ussuriysk Arra 50.69 2 P **P** **22 14 23.3 +0.2**
USRK Ussuriysk Ar. 50.69 2 P **P** **22 14 23.3 +0.2**
comp=Z,3.5nm,0.4s,baz=184,slow=7.6,SNR=23
USRK Ussuriysk Ar. 50.69 2 P **P** **22 14 23.0 -0.1**
FOZ Fox Glacier 50.77 143 P **P** **22 14 24.2 +0.5**
FOZ IAmb IAmb 22 14 25.8
comp=Z,49nm,1.0s
BWNR Bhubaneshwar 50.86 303 *eP* **P** **22 14 22.9 -1.9**
PALK Pallekele 50.87 285 P **P** **22 14 23.3 -1.8**
PALK pmax pmax
comp=Z,76nm,1.6s
PALK Pallekele 50.87 285 P **P** **22 14 23.3 -1.8**
PALK IAmb IAmb 22 14 28.2
comp=Z,76nm,1.6s
QRZ Quartz Range 51.04 139 P **P** **22 14 27.0 +1.1**
QRZ IAmb IAmb 22 14 28.6
comp=Z,83nm,1.0s
WHZ Wether Hill Ro 51.09 146 P **P** **22 14 26.5 +0.4**
WHZ IAmb IAmb 22 14 27.7
comp=Z,74nm,1.0s
LBZ Lake Benmore 51.47 144 P **P** **22 14 29.3 +0.2**
LBZ IAmb IAmb 22 14 30.8
comp=Z,61nm,0.9s
RPZ Rata Peaks 51.62 142 P **P** **22 14 31.1 +1.0**
comp=Z,72nm,0.9s,baz=281,slow=1.9,SNR=18
RPZ Rata Peaks 51.62 142 P **P** **22 14 31.2 +1.0**
THZ Tophouse 51.75 139 P **P** **22 14 31.8 +0.6**
LSA Lhasa 51.82 316 P **P** **22 14 32.9 +0.5**
LSA pmax pmax
comp=Z,80nm,1.7s
LSA Lhasa 51.82 316 P **P** **22 14 32.1 -0.3**
LSA Lhasa 51.82 316 P **P** **22 14 32.1 -0.3**
LSA pmax pmax
comp=Z,70nm,1.7s
LSA Lhasa 51.82 316 P **P** **22 14 32.1 -0.3**
LSA IAmb IAmb 22 14 34.4
comp=Z,70nm,1.7s
ASAJ Asahikawa 51.88 12 P **P** **22 14 32.3 +0.4**
comp=Z,5.9nm,0.5s,baz=219,slow=9.4,SNR=6.1
JKA Kamikawa-asahi 51.88 12 P **P** **22 14 32.0 0.0**
JKA IAmb IAmb 22 15 06.7
comp=Z,61nm,1.6s
TWVZ Taurewa 52.20 135 P **P** **22 14 32.2 -2.4**
TUWZ Tuamarina 52.27 139 P **P** **22 14 35.2 +0.2**
WTVZ West Tongariro 52.32 135 P **P** **22 14 38.1 +2.5**
NGZ Ngauruhoe 52.36 135 P **P** **22 14 37.4 +1.6**
TMVZ Te Maari 52.40 135 P **P** **22 14 37.3 +1.1**
ETVZ East Tongariro 52.41 135 P P 22 14 30.8 -5.4
KHZ Kahutara 52.49 140 P **P** **22 14 36.9 +0.4**
KHZ IAmb IAmb 22 14 37.9
comp=Z,60nm,1.0s
MRHZ Matea Rd 52.78 135 P P 22 14 25.8 -13
BHHZ Black Hill Sta 52.81 135 P **P** **22 14 39.7 +0.5**
BKZ Black Stump Fm 52.98 135 P **P** **22 14 41.0 +0.7**
BKZ Black Stump Fm 52.98 135 P **P** **22 14 40.2 -0.1**
BKZ IAmb IAmb 22 14 41.6
comp=Z,41nm,1.0s
URZ Urewera 53.04 134 P **P** **22 14 40.6 -0.1**
comp=Z,6.5nm,0.3s,baz=240,slow=3.4,SNR=12
URZ Urewera 53.04 134 P **P** **22 14 40.8 +0.1**
URZ Urewera 53.04 134 P **P** **22 14 40.3 -0.4**
MTHZ Maungataniwha 53.09 134 P **P** **22 14 42.0 +0.9**
KRHZ Kereru 53.09 135 P **P** **22 14 41.6 +0.5**
MCHZ McNeill Hill 53.24 135 P **P** **22 14 43.4 +1.3**
HAZ Te Kaha 53.33 133 P **P** **22 14 43.1 +0.3**
RUGZ Raukumara Rang 53.34 133 P **P** **22 14 42.6 -0.4**
MWZ Matawai 53.37 133 P **P** **22 14 43.8 +0.6**
KAHZ Kahuranaki 53.51 135 P **P** **22 14 44.9 +0.7**
GTA Gaotai 53.59 331 ⇑P **P** **22 14 44.9 +0.1**
GTA pP pwP 22 15 23.8 +0.8
GTA sP sP 22 15 41.3 +8.5
GTA ScP **ScP** **22 19 31.4 -2.4**
GTA S **S** **22 22 04.1 -3.0**
GTA sS sS 22 23 11.6 +7.2
GTA ScS **ScS** **22 24 17.5 -2.3**
GTA SS **SKiKP** **22 25 45.8 +1.1**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA pmax pmax
comp=Z,290nm,7.8s
GTA LR LR
comp=Z,140nm,18.2s
GTA LR LR
comp=Z,190nm,15.6s
GTA LR LR
comp=Z,210nm,16.4s
TWGZ Tauwhareparae 53.64 133 P **P** **22 14 46.9 +1.7**
MHGZ Mahia Peninsul 53.97 134 P **P** **22 14 48.3 +0.7**
HYB Hyderabad 55.97 296 *i*P **P** **22 15 01.0 -1.2**
HYB *e* 22 15 36.5
NGP Nagpur 56.94 300 *eP* **P** **22 15 07.4 -1.6**
AFI Afiamalu 57.84 102 P **P** **22 15 16.0 +0.5**
AFI pmax pmax
comp=Z,143nm,1.2s
AFI Afiamalu 57.84 102 P **P** **22 15 16.0 +0.5**
ULN Ulaanbaatar 57.90 342 *ceP* **P** **22 15 16.2 +0.8**
ULN pmax pmax
comp=Z,38nm,1.9s
ULN Ulaanbaatar 57.90 342 P **P** **22 15 15.6 +0.2**
SONM Songino Array 58.08 342 P **P** **22 15 17.7 +1.1**
comp=Z,2.4nm,0.4s,baz=168,slow=7.1,SNR=25
SONM PKP2bc 22 45 08.8
comp=Z,1.2nm,1.1s,baz=316,slow=2.6,SNR=3.6
SONM Songino Array 58.08 342 P **P** **22 15 16.7 +0.1**
ZEA Zeya 60.23 358 *eP* **P** **22 15 32.1 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
POO Poona 60.56 296 *ex* P 22 15 30.0 -4.1
ZAK Zakamensk 61.30 341 *eP* **P** **22 15 38.7 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
SMLA Simla 62.76 310 *eP* **P** **22 15 48.3 -0.2**
SMLA IAmb IAmb 22 15 51.6
comp=Z,32nm,0.7s
WMQ Urumqi 63.01 327 P **P** **22 15 50.4 +0.3**
WMQ pP pwP 22 16 30.8 +1.7
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.3s
MOY Mondy 63.15 340 *eP* **P** **22 15 52.1 +1.2**
MOY pmax pmax
comp=Z,35nm,1.6s
DHRM DHARAMSHALA 63.92 311 *eP* **P** **22 15 55.7 -0.9**
DHRM IAmb IAmb 22 15 57.6
comp=Z,52nm,0.7s
PEA0B Petropavlovsk- 64.10 18 ⇑*eP* **P** **22 15 55.3 -1.6**
PEA0B Petropavlovsk- 64.10 18 P **P** **22 15 57.3 +0.4**
PETK Petropavlovsk- 64.10 18 P **P** **22 15 57.8 +0.8**
comp=Z,8.3nm,0.6s,baz=169,slow=4.1,SNR=16
PETK PcP **pP** **22 16 30.5 -0.2**
comp=Z,4.9nm,0.5s,baz=203,slow=1.5,SNR=7.3
PETK LR LR 22 42 42.9
comp=Z,28nm,19.9s,baz=194,slow=35
PETK Petropavlovsk- 64.10 18 P **P** **22 15 57.6 +0.7**
NIL Nilore 66.84 311 P **P** **22 16 14.6 -0.4**
NIL pmax pmax
comp=Z,18nm,0.5s
NIL Nilore 66.84 311 P **P** **22 16 14.6 -0.4**
NIL IAmb IAmb 22 16 16.2
comp=Z,18nm,0.5s

DGZ Jazzator, Alta 67.12 332 *ciP* **P** **22 16 17.1 +0.5**
DGZ pmax pmax
comp=Z,26nm,1.2s
UZB Uzunbulak 67.60 322 ⇑*iP* **P** **22 16 19.6 -0.1**
comp=Z,21nm,1.9s
UZB Uzunbulak 67.60 322 *ciP* **P** **22 16 19.6 -0.1**
UZB pmax pmax
comp=Z,21nm,1.9s
KSH Kashi 67.64 318 P **P** **22 16 20.6 +0.6**
KSH S **S** **22 25 03.8 -1.9**
KSH pmax pmax
comp=Z,11nm,0.6s
KSH LR LR
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,82nm,5.4s
KSH LR LR
comp=Z,140nm,6.0s
MK31 Makanchi Array 67.84 327 *ciP* **P** **22 16 21.1 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.3s
MK31 Makanchi Array 67.84 327 P **P** **22 16 21.0 -0.1**
MK31 IAmb IAmb 22 16 22.8
comp=Z,55nm,1.6s
MKAR Makanchi Array 67.84 327 P **P** **22 16 21.3 +0.3**
comp=Z,11nm,0.3s,baz=118,slow=7.6,SNR=290
MKAR Makanchi Array 67.84 327 P **P** **22 16 20.7 -0.3**
SATY Saty 67.92 322 ⇑*iP* **P** **22 16 21.9 +0.1**
comp=Z,28nm,1.8s
SATY Saty 67.92 322 *ciP* **P** **22 16 21.8 +0.1**
SATY pmax pmax
comp=Z,28nm,1.8s
KPKS Kokpek 67.98 322 ⇑*iP* **P** **22 16 22.0 -0.1**
comp=Z,42nm,1.6s
KPKS Kokpek 67.98 322 *ciP* **P** **22 16 21.9 -0.1**
KPKS pmax pmax
comp=Z,42nm,1.6s
MAKZ Makanchi 68.02 327 P **P** **22 16 22.0 -0.2**
MAKZ pmax pmax
comp=Z,85nm,1.8s
MAKZ Makanchi 68.02 327 P **P** **22 16 22.0 -0.2**
MAKZ IAmb IAmb 22 16 23.7
comp=Z,85nm,1.8s
MA2 Magadan 68.14 11 ⇓*eP* **P** **22 16 25.1 +2.5**
MA2 pmax pmax
comp=Z,37nm,1.2s
KDJ Kajisay 68.19 320 P **P** **22 16 23.5 0.0**
KDJ Kajisay 68.19 320 P **P** **22 16 23.5 0.0**
YAK Yakutsk 68.52 360 *eP* **P** **22 16 24.1 -0.7**
YAK *e* 22 16 45.2
YAK *eS* **S** **22 25 10.9 -4.0**
YAK *e* 22 25 55.9
YAK *eSS* **SS** **22 29 36.1 -5.9**
YAK pmax pmax
comp=Z,38nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,455nm,3.9s
YAK pmax pmax
comp=E,136nm,3.7s
YAK smax smax
comp=E,608nm,3.0s
YAK smax smax
comp=N,326nm,2.8s
YAK Yakutsk 68.52 360 P **P** **22 16 24.7 -0.1**
YAK IAmb IAmb 22 16 25.8
comp=Z,36nm,0.5s
TNSS Tian-Shan 68.81 321 *eP* **P** **22 16 27.7 0.0**
TNSS Tian-Shan 68.81 321 *eP* **P** **22 16 27.6 0.0**
MDOK Medeo 68.82 321 *eP* **P** **22 16 26.4 -0.9**
MDOK Medeo 68.82 321 *eP* **P** **22 16 26.4 -0.9**
TDK Taldyqorghan 69.00 324 *eP* **P** **22 16 28.2 0.0**
comp=Z,92nm,2.3s
TDK Taldyqorghan 69.00 324 *eP* **P** **22 16 28.2 0.0**
TDK pmax pmax
comp=Z,92nm,2.3s
BOOM Boomskoye usch 69.16 320 P **P** **22 16 29.9 +0.4**
BOOM pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 69.16 320 P **P** **22 16 29.9 +0.4**
TKM2 Tokmak 2 69.60 321 P **P** **22 16 32.7 +0.4**
SNR=12
KUU Kurty 69.64 322 ⇑*iP* **P** **22 16 32.3 0.0**
comp=Z,69nm,1.5s
KUU Kurty 69.64 322 *ciP* **P** **22 16 32.2 0.0**
KUU pmax pmax
comp=Z,69nm,1.5s
KBK Karagaybulak 69.88 320 P **P** **22 16 35.2 +1.3**
SNR=8.2
UCH Uchtor 69.94 319 P **P** **22 16 35.2 +0.5**
SNR=13
FRU1 Bishkek 70.16 320 P **P** **22 16 35.4 -0.1**
FRU1 pmax pmax
comp=Z,16nm,1.3s
FRU1 Bishkek 70.16 320 P **P** **22 16 35.4 -0.1**
AAK Ala-Archa 70.16 320 P **P** **22 16 36.4 +0.8**
SNR=9.5
AAK Ala-Archa 70.16 320 *i*P **P** **22 16 36.0 +0.4**
SNR=14
AAK Ala-Archa 70.16 320 *ciP* **P** **22 16 36.1 +0.5**
AAK *i* *PP **pP** **22 17 11.8 +1.9**
AAK pmax pmax
comp=Z,65nm,1.4s
KBL Kabul 70.39 310 P **P** **22 16 37.1 -0.2**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 70.39 310 P **P** **22 16 37.1 -0.2**
AML Almayashu 70.43 319 P **P** **22 16 38.2 +0.7**
SNR=16
SGDS Sogindy 70.48 321 *eP* **P** **22 16 36.5 -0.9**
comp=Z,33nm,2.3s
SGDS Sogindy 70.48 321 *eP* **P** **22 16 36.5 -0.9**
SGDS pmax pmax
comp=Z,33nm,2.3s
EKS2 Erkin-Say 70.63 320 P **P** **22 16 38.7 +0.2**
SNR=13
ZAA0 Zalesovo Array 71.20 334 P **P** **22 16 41.0 -0.4**
ZAA0 IAmb IAmb 22 16 42.1
comp=Z,58nm,1.4s
ZALV Zalesovo Beam 71.20 334 P **P** **22 16 41.3 -0.1**
comp=Z,10nm,0.4s,baz=139,slow=5.4,SNR=67
ZALV Zalesovo Beam 71.20 334 P **P** **22 16 40.9 -0.5**
GAR Garm 71.29 315 P **P** **22 16 42.2 -0.3**
GAR IAmb IAmb 22 16 45.3
comp=Z,35nm,1.1s
BTK Batken 71.40 316 P **P** **22 16 42.6 -0.5**
BTK pmax pmax
comp=Z,74nm,2.0s
BTK Batken 71.40 316 P **P** **22 16 42.6 -0.5**
BTK IAmb IAmb 22 16 44.8
comp=Z,74nm,2.0s
SEY Seymchan 71.54 11 ⇑*iP* **P** **22 16 44.5 +1.2**
BTLS Baital 71.64 322 ⇑*iP* **P** **22 16 44.0 -0.4**
comp=Z,19nm,1.8s
BTLS Baital 71.64 322 *ciP* **P** **22 16 43.9 -0.4**
BTLS pmax pmax
comp=Z,19nm,1.8s
CHGR Chuyangaron 71.96 314 P **P** **22 16 45.6 -0.8**
CHGR IAmb IAmb 22 16 47.8
comp=Z,71nm,1.3s
KURK Kurchatov 72.13 329 *ciP* **P** **22 16 47.1 +0.1**
KURK pmax pmax
comp=Z,58nm,1.2s
KURK Kurchatov 72.13 329 P **P** **22 16 47.2 +0.1**
KURK IAmb IAmb 22 16 48.5
comp=Z,48nm,1.1s
VNDA Vanda 72.78 173 P **P** **22 16 50.6 +0.1**
comp=Z,8.0nm,0.8s,baz=319,slow=6.9,SNR=84
VNDA LR LR 22 48 14.6
comp=Z,113nm,19.7s,baz=322,slow=35
VNDA Vanda 72.78 173 P **P** **22 16 50.6 +0.1**
IUG luzhnay 72.85 318 *eP* **P** **22 16 51.4 -0.4**
comp=Z,16nm,1.2s
IUG luzhnay 72.85 318 *eP* **P** **22 16 51.3 -0.4**
IUG pmax pmax
comp=Z,16nm,1.2s
KK31 Karatay Array 72.96 319 P **P** **22 16 51.7 -0.5**
KK31 pmax pmax
comp=Z,28nm,1.5s
KK31 Karatay Array 72.96 319 P **P** **22 16 51.7 -0.5**
KKAR Karatay Array 72.96 319 P **P** **22 16 51.3 -0.9**
KKAR Karatay Array 72.96 319 P **P** **22 16 51.3 -0.9**

ADK	**Adak**	**74.04**	**31**	P		**P**	**22 16 58.2**	**0.0**
ADK				pmax		pmax			
	comp=Z,49nm,1.2s								
ADK	**Adak**	**74.04**	**31**	P		**P**	**22 16 58.2**	**0.0**
ADK				IAmb		IAmb	22 18 03.5		
	comp=Z,49nm,1.2s								
BRZS	**Berezniki**	**74.93**	**326**	*eP*		**P**	**22 17 03.2**	**-0.4**
BRZS	**Berezniki**	**74.93**	**326**	*eP*		**P**	**22 17 03.1**	**-0.4**
WBK	**Wadi Bani Khal**	**75.07**	**295**	P		**P**	**22 17 06.1**	**+1.2**
	SNR=5.1								
MAW	**Mawson**	**75.16**	**201**	P		**P**	**22 17 04.7**	**+0.3**
	comp=Z,10nm,0.7s,baz=72,slow=7.5,SNR=25								
MAW				LR		LR	22 48 48.2		
	comp=Z,75nm,18.4s,baz=64,slow=34								
MAW	**Mawson**	**75.16**	**201**	P		**P**	**22 17 05.1**	**+0.6**
	baz=75,SNR=16								
MAW	**Mawson**	**75.16**	**201**	P		**P**	**22 17 05.0**	**+0.6**
MAW				pmax		pmax			
	comp=Z,4.0nm,1.0s								
MAW	**Mawson**	**75.16**	**201**	P		**P**	**22 17 05.0**	**+0.6**
ATKA	**Atka Island**	**75.50**	**32**	P		**P**	**22 17 06.8**	**+0.2**
ATKA				IAmb		IAmb	22 17 55.1		
	comp=Z,37nm,1.0s								
WSAR	**Wadi Sarin**	**75.53**	**296**	P		**P**	**22 17 08.9**	**+1.4**
	SNR=7.1								
HRA	**Herat**	**75.58**	**308**	P		**P**	**22 17 07.7**	**-0.1**
MHTO	**MHTO**	**75.60**	**294**	P		**P**	**22 17 08.9**	**+1.0**
	SNR=9.9								
DQM	**DQM**	**75.76**	**292**	P		**P**	**22 17 10.1**	**+1.2**
	SNR=7.4								
JMDO	**Jabal Madar**	**75.79**	**295**	P		**P**	**22 17 10.2**	**+1.2**
	SNR=5.6								
SMDO	**Samad**	**76.00**	**296**	P		**P**	**22 17 12.0**	**+1.7**
	SNR=6.3								
BIDO	**Bidbid**	**76.04**	**296**	P		**P**	**22 17 12.0**	**+1.7**
	SNR=19								
KIP	**Kipapa**	**76.07**	**66**⇑	*eP*		**P**	**22 17 10.1**	**-0.5**
KIP				pmax		pmax			
	comp=Z,532nm,4.3s								
BSY	**Bisya**	**76.69**	**295**	P		**P**	**22 17 15.6**	**+1.5**
	SNR=6.8								
HOQ	**Hoqain**	**76.78**	**296**	P		**P**	**22 17 16.2**	**+1.6**
	SNR=16								
SHAO	**Shalim**	**77.14**	**290**	P		**P**	**22 17 17.1**	**+0.4**
ARQ	**Araqi**	**77.43**	**296**	P		**P**	**22 17 20.0**	**+1.7**
	SNR=7.3								
SOHO	**SOHO**	**77.60**	**296**	*i* P		**P**	**22 17 18.7**	**-0.4**
	SNR=20								
SOCY	**Socotra**	**77.63**	**284**	P		**P**	**22 17 18.1**	**-1.4**
SOCY				IAmb		IAmb	22 17 21.2		
	comp=Z,85nm,1.4s								
BRVK	**Borovoye**	**77.75**	**328**	*c iP*		**P**	**22 17 19.2**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,21nm,0.8s								
BRVK	**Borovoye**	**77.75**	**328**	P		**P**	**22 17 19.3**	**-0.1**
MDH	**Madha**	**78.08**	**298**	*i* P		**P**	**22 17 20.7**	**-1.0**
	SNR=6.0								
UOSS	**Minazif**	**78.08**	**297**	*i* P		**P**	**22 17 20.9**	**-0.9**
	SNR=11								
UOSS	**Minazif**	**78.08**	**297**	P		**P**	**22 17 21.1**	**-0.6**
UOSS				IAmb		IAmb	22 17 24.5		
	comp=Z,54nm,1.4s								
HATD	**Hatta, Dubai**	**78.12**	**297**	*i* P		**P**	**22 17 21.6**	**-0.3**
	SNR=10								
HATD	**Hatta, Dubai**	**78.12**	**297**	P		**P**	**22 17 24.1**	**+2.1**
	SNR=7.5								
TIXI	**Tiksi**	**78.18**	**360**⇑	*eP*		**P**	**22 17 20.6**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,128nm,2.5s								
TIXI	**Tiksi**	**78.18**	**360**	P		**P**	**22 17 20.7**	**-0.6**
TIXI				IAmb		IAmb	22 17 21.7		
	comp=Z,34nm,0.6s								
MSFE	**Esma-Masafi**	**78.21**	**298**	*i* P		**P**	**22 17 22.8**	**+0.2**
	SNR=14								
BANOM	**Banah**	**78.22**	**298**	*i* P		**P**	**22 17 22.3**	**-0.3**
	SNR=12								
BANOM	**Banah**	**78.22**	**298**	P		**P**	**22 17 24.8**	**+2.3**
	SNR=7.1								
ALNE	**Al Ain**	**78.28**	**296**	*i* P		**P**	**22 17 23.0**	**+0.1**
	SNR=5.7								
RBK	**Rabkut**	**78.36**	**289**	P		**P**	**22 17 24.2**	**+0.7**
	SNR=11								
SHME	**Shamm**	**78.39**	**298**	*i* P		**P**	**22 17 23.7**	**+0.2**
	SNR=7.8								
NAZ	**Nazwa, Dubai**	**78.57**	**297**	*i* P		**P**	**22 17 24.6**	**+0.1**
	SNR=5.8								
FAQ	**Al Faqa, Dubai**	**78.58**	**297**	*i* P		**P**	**22 17 24.4**	**-0.1**
	SNR=24								
ASUD	**Al Ashush, Dub**	**78.78**	**297**	*i* P		**P**	**22 17 25.4**	**-0.2**
	SNR=22								
WHFO	**Wadi Hawf**	**78.85**	**290**	P		**P**	**22 17 27.0**	**+0.8**
	SNR=12								
BILL	**Bilibino**	**78.86**	**13**	*i* P		**P**	**22 17 26.9**	**+1.8**
BILL				pmax		pmax			
	comp=Z,8.0nm,1.5s								
PPT2	**Papeete2**	**79.13**	**107**	*e*S		**S**	**22 27 15.2**	**-0.6**
	comp=Z,886nm,35.0s								
PPT2	**Papeete2**	**79.13**	**107**	*e*LR		LR	22 42 15.3		
	comp=Z,124nm,26.2s								
ABTO	**Aybut**	**79.19**	**289**	P		**P**	**22 17 28.9**	**+0.9**
	SNR=14								
GEYT	**Alibeck**	**79.84**	**310**	P		**P**	**22 17 31.3**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=156,slow=4.0,SNR=14								
GEYT	**Alibeck**	**79.84**	**310**	P		**P**	**22 17 30.9**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**79.84**	**310**	P		**P**	**22 17 31.0**	**-0.1**
OPO	**Ambohidratompo**	**80.89**	**252**	P		**P**	**22 17 37.4**	**+0.1**
	comp=Z,10nm,0.8s,baz=66,slow=2.3,SNR=9.6								
NRIK	**Noril'sk**	**81.20**	**346**	P		**P**	**22 17 37.4**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=87,slow=4.8,SNR=6.9								
NRIK	**Noril'sk**	**81.20**	**346**⇓	*eP*		**P**	**22 17 38.6**	**+1.0**
NRIK				pmax		pmax			
	comp=Z,24nm,1.5s								
ABKAR	**Akbulak array**	**82.12**	**322**	P		**P**	**22 17 42.4**	**-0.6**
ABKAR	**Akbulak array**	**82.12**	**322**	P		**P**	**22 17 42.3**	**-0.6**
ABKAR				IAmb		IAmb	22 17 45.2		
	comp=Z,11nm,0.7s								
QSPA	**South Pole Qui**	**83.29**	**180**	P		**P**	**22 17 48.2**	**-0.6**
	comp=Z,7.1nm,0.5s,baz=303,slow=0.7,SNR=58								
QSPA	**South Pole Qui**	**83.29**	**180**	P		**P**	**22 17 48.0**	**-0.8**
SYO	**Syowa Base**	**83.87**	**201**⇑	*eP*		**P**	**22 17 50.0**	**-1.5**
SYO	**Syowa Base**	**83.87**	**201**⇓	*e*PcP		**P**	**22 17 54.0**	**+2.5**
SVE	**Sverdlovsk**	**84.38**	**329**	*de*P		**P**	**22 17 54.6**	**+0.3**
SVE				pmax		pmax			
	comp=Z,57nm,1.4s								
ARU	**Arti**	**85.32**	**328**	*c iP*		**P**	**22 17 58.7**	**-0.3**
ARU				*PP		**pP**	**22 18 35.8**	**+0.9**
ARU							22 21 14.5		
ARU				PPP		PPP	22 23 12.2		
ARU				S		S	22 28 08.7	-8.6	
ARU				*SS		**sS**	**22 29 16.9**	**-1.4**	
ARU				pmax		pmax			
	comp=Z,31nm,1.3s								
ARU	**Arti**	**85.32**	**328**	P		**P**	**22 17 58.3**	**-0.7**
DAMY	**Dhamar**	**87.22**	**285**	P		**P**	**22 18 09.3**	**-0.3**
DAMY				IAmb		IAmb	22 18 12.3		
	comp=Z,60nm,1.4s								
ATD	**Arta Tunnel**	**88.32**	**282**	P		**P**	**22 18 14.5**	**0.0**
ATD				IAmb		IAmb	22 18 17.1		
	comp=Z,24nm,1.2s								
MAK	**Makhachkala**	**88.88**	**313**	*eP*		**P**	**22 18 14.6**	**-1.8**
MAK				*e*PP		**pP**	**22 18 51.4**	**-1.3**
MAK				*e*SP		**sP**	**22 19 07.9**	**+0.1**
MAK				*e*			22 21 42.3		
MAK				*e*PPP		PPP	22 23 41.5		
MAK				*e*			22 28 28.8		
MAK				*e*SS		SS	22 34 39.1	-8.8	
MAK				pmax		pmax			
	comp=Z,41nm,0.4s								
MAK				MLR		MLR			
	comp=Z,55nm,16.0s								
GROC	**Groznyy**	**90.15**	**313**	*eP*		**P**	**22 18 18.8**	**-3.6**
GROC				*e*PP		**pP**	**22 18 58.1**	**-0.6**
GROC				*e*			22 21 56.6		
GROC				*e*S		**SKSac**	**22 28 35.0**	**-4.9**
GROC				pmax		pmax			
	comp=Z,32nm,1.4s								
KIRV	**Kirov**	**90.65**	**329**⇑	*eP*		**P**	**22 18 23.2**	**-1.1**
ZEI	**Tsey**	**91.47**	**313**	*eP*		**P**	**22 18 27.7**	**-1.1**
ZEI				pmax		pmax			
	comp=Z,10.0nm,1.3s								
KBZ	**Khabaz**	**92.32**	**314**	P		**P**	**22 18 30.5**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=120,slow=1.6,SNR=4.6								
KBZ	**Khabaz**	**92.32**	**314**⇑	*eP*		**P**	**22 18 31.9**	**-0.5**
KBZ				pmax		pmax			
	comp=Z,7.0nm,1.6s								
KMBO	**Kilima Mbogo**	**92.37**	**269**	P		**P**	**22 18 35.2**	**+1.5**
	comp=Z,4.8nm,1.1s,baz=46,slow=6.5,SNR=7.4								
KMBO	**Kilima Mbogo**	**92.37**	**269**	*i* P		**P**	**22 18 35.7**	**+2.0**
KMBO				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KMBO	**Kilima Mbogo**	**92.37**	**269**	P		**P**	**22 18 33.6**	**0.0**
ARTV	**Artvin**	**92.73**	**311**	P		**P**	**22 18 34.5**	**-0.2**
ILAR	**Eielson Array**	**93.16**	**25**	P		**P**	**22 18 34.4**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=266,slow=5.2,SNR=12								
ILAR	**Eielson Array**	**93.16**	**25**	P		**P**	**22 18 33.5**	**-2.4**
KOPT	**Kop Dagi**	**93.69**	**310**	P		**P**	**22 18 40.0**	**+0.8**
KOPT				IAmb		IAmb	22 18 41.9		
	comp=Z,27nm,1.6s								
BCAR	**Beaver Creek A**	**95.20**	**27**	P		**P**	**22 18 45.0**	**-0.3**
SNAA	**Sanae**	**95.91**	**194**⇑	*eP*		**P**	**22 18 48.6**	**+0.1**
SNAA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
SNAA	**Sanae**	**95.91**	**194**	P		**P**	**22 18 48.5**	**+0.1**
SNAA				IAmb		IAmb	22 19 45.5		
	comp=Z,7.7nm,1.1s								
DAWY	**Dawson**	**96.33**	**26**	P		**P**	**22 18 50.3**	**-0.2**
DAWY				IAmb		IAmb	22 18 52.0		
	comp=Z,28nm,1.6s								
OBN	**Obninsk**	**97.27**	**325**	*eP*		**P**	**22 18 55.6**	**+0.9**
OBN				*e*			22 22 53.0		
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
APA	**Apatity**	**98.57**	**337**⇓	*i* P		P	22 18 55.9	-4.4	
APA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
APA				MLR		MLR			
	comp=Z,200nm,16.0s								
INK	**Inuvik**	**98.66**	**22**	P		**P**	**22 18 59.6**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=266,slow=5.5,SNR=4.1								
INK	**Inuvik**	**98.66**	**22**	P		**P**	**22 18 59.9**	**-0.8**
INK				pmax		pmax			
	comp=Z,10.0nm,1.3s								
INK	**Inuvik**	**98.66**	**22**	P		**P**	**22 18 59.9**	**-0.8**
INK				IAmb		IAmb	22 21 02.9		
	comp=Z,9.8nm,1.3s								
BRTR	**Keskin Array B**	**98.94**	**309**	LR		LR	23 12 11.0		
	comp=Z,14nm,18.4s,baz=120,slow=40								
ARCES	**ARCESS Array B**	**101.21**	**340**	P		**Pdif**	**22 19 10.5**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=90,slow=5.9,SNR=5.1								
FINES	**FINESS Array B**	**102.38**	**331**	P		**Pdif**	**22 19 16.7**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=83,slow=5.7,SNR=3.7								
FINES				PKiKP		**PKiKP**	**22 23 38.6**	**+0.3**	
	comp=Z,2.1nm,0.9s,baz=87,slow=4.0,SNR=3.7								
YKA	**Yellowknife Ar**	**107.57**	**26**	PKiKP		**PKiKP**	**22 23 47.5**	**-0.2**	
	comp=Z,0.7nm,0.5s,baz=302,slow=1.5,SNR=5.5								
NVAR	**Mina Array Bea**	**111.28**	**51**	PKiKP		**PKiKP**	**22 23 56.4**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=252,slow=2.8,SNR=4.2								
GERES	**GERESS Array B**	**112.04**	**320**	PKiKP		**PKiKP**	**22 23 56.2**	**-0.6**	
	comp=Z,0.9nm,0.5s,baz=72,slow=1.7,SNR=9.9								
REDW	**Red Top Meadow**	**115.75**	**45**			**PKPdf**	**22 24 04.4**	**+0.1**	
SNOW	**Snow King Moun**	**115.80**	**45**			**PKPdf**	**22 24 05.1**	**+0.7**	
LOHW	**Long Hollow**	**115.86**	**45**			**PKPdf**	**22 24 04.7**	**+0.2**	
U15A	**North Rim**	**116.34**	**53**	PKPdf		**PKPdf**	**22 24 06.7**	**+1.0**	
PD31	**Pinedale Array**	**116.83**	**45**			**PKPdf**	**22 24 06.0**	**-0.4**	
PDAR	**Pinedale Array**	**116.83**	**45**	PKP		**PKPdf**	**22 24 06.4**	**0.0**	
	comp=Z,1.3nm,0.6s,baz=221,slow=0.8,SNR=14								
PDAR	**Pinedale Array**	**116.83**	**45**	PKPdf		**PKPdf**	**22 24 06.0**	**-0.4**	
SRU	**San Rafael Swe**	**117.11**	**49**	PKiKP		**PKPdf**	**22 24 07.0**	**+0.1**	
SRU	**San Rafael Swe**	**117.11**	**49**			**PKPdf**	**22 24 07.0**	**+0.1**	
WUAZ	**Wupatki**	**117.26**	**53**			**PKPdf**	**22 24 07.6**	**+0.3**	
PV17	**East Wray Mesa**	**118.50**	**50**			**PKPdf**	**22 24 10.1**	**+0.4**	
RSSD	**Black Hills**	**120.18**	**42**	PKiKP		**PKPdf**	**22 24 12.0**	**-0.7**	
RSSD	**Black Hills**	**120.18**	**42**	PKPdf		**PKPdf**	**22 24 12.0**	**-0.7**	
SDCO	**Great Sand Dun**	**121.27**	**50**	PKPdf		**PKPdf**	**22 24 15.7**	**+0.5**	
ANMO	**Albuquerque**	**121.30**	**53**⇓	*i* PKiKP		**PKPdf**	**22 24 15.5**	**+0.3**	
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ANMO	**Albuquerque**	**121.30**	**53**	PKPdf		**PKPdf**	**22 24 15.2**	**0.0**	
BNM	**Barren Site**	**121.37**	**54**			**PKPdf**	**22 24 15.5**	**+0.1**	
T25A	**Trinidad**	**122.28**	**50**	PKPdf		**PKPdf**	**22 24 17.3**	**+0.3**	
ULM	**Lac du Bonnet**	**122.31**	**33**	PKP		**PKPdf**	**22 24 15.6**	**-0.7**	
	comp=Z,3.7nm,0.5s,baz=277,slow=1.2,SNR=11								
ULM	**Lac du Bonnet**	**122.31**	**33**			**PKPdf**	**22 24 15.2**	**-1.1**	
MNTX	**Cormudas Mount**	**122.97**	**56**	PKPdf		**PKPdf**	**22 24 18.8**	**+0.5**	
TX31	**Lajitas Ar. Si**	**124.96**	**59**			**PKPdf**	**22 24 21.9**	**-0.3**	
TX32	**Lajitas Array**	**124.96**	**59**			**PKPdf**	**22 24 22.2**	**0.0**	
TXAR	**Lajitas Array**	**124.96**	**59**	PKP		**PKPdf**	**22 24 22.7**	**+0.5**	
	comp=Z,1.6nm,0.8s,baz=196,slow=1.4,SNR=9.9								
TXAR	**Lajitas Array**	**124.96**	**59**			**PKPdf**	**22 24 21.6**	**-0.6**	
ECSD	**EROS Data Cent**	**125.19**	**40**	PKPdf		**PKPdf**	**22 24 21.1**	**-1.0**	
F36A	**Milaca**	**126.01**	**36**			**PKPdf**	**22 24 23.8**	**+0.2**	
ESDC	**Sonseca Array**	**127.12**	**316**	PKP		**PKPdf**	**22 24 26.7**	**+0.7**	
	comp=Z,1.7nm,1.2s,baz=90,slow=3.8,SNR=2.3								
COWI	**Conover**	**128.38**	**34**			**PKPdf**	**22 24 27.9**	**-0.2**	
TOA0	**Torodi Ar. Sit**	**128.53**	**281**	PKPdf		**PKPdf**	**22 24 28.7**	**-0.5**	
TORD	**Torodi Ar. Bea**	**128.53**	**281**	PKP		**PKPdf**	**22 24 29.2**	**0.0**	
	comp=Z,3.2nm,0.7s,baz=69,slow=1.7,SNR=20								
TORD				SKPbc		SKiKP	22 27 32.7	-20	
	comp=Z,2.4nm,0.9s,baz=71,slow=2.7,SNR=6.5								
TORD	**Torodi Ar. Bea**	**128.53**	**281**	PKPdf		**PKPdf**	**22 24 28.8**	**-0.4**	
P38A	**Dawn**	**129.18**	**43**	PKPdf		**PKPdf**	**22 24 29.0**	**-0.8**	
PLCA	**Paso Flores**	**129.25**	**160**	PKP		**PKPdf**	**22 24 30.8**	**+0.7**	
	comp=Z,4.5nm,1.0s,baz=353,slow=1.4,SNR=7.5								
PLCA	**Paso Flores**	**129.25**	**160**			**PKPdf**	**22 24 30.4**	**+0.3**	
PLCA	**Paso Flores**	**129.25**	**160**	*eP*		**PKiKP**	**22 24 33.1**	**+2.3**	
U38A	**Gravette**	**130.02**	**47**	PKPdf		**PKPdf**	**22 24 31.8**	**+0.2**	
SCHQ	**Schefferville**	**130.17**	**12**	SKPbc		**SKPab**	**22 27 38.3**	**-2.4**	
	comp=Z,5.9nm,1.0s,baz=26,slow=3.0,SNR=4.9								
S39A	**Bolivar**	**130.23**	**45**			**PKPdf**	**22 24 31.5**	**-0.4**	
CCM	**Cathedral Cave**	**131.50**	**44**	PKiKP		**PKPdf**	**22 24 34.0**	**-0.3**	
CCM	**Cathedral Cave**	**131.50**	**44**	PKPdf		**PKPdf**	**22 24 34.0**	**-0.3**	
P46A	**Rosedale**	**133.34**	**40**			**PKPdf**	**22 24 38.3**	**+0.6**	
BLO	**Bloomington**	**134.03**	**40**	PKiKP		**PKPdf**	**22 24 39.8**	**+0.8**	
BLO	**Bloomington**	**134.03**	**40**			**PKPdf**	**22 24 39.8**	**+0.8**	
DBIC	**Dimbokro**	**134.95**	**273**	PKhKP		PKPpre	22 24 30.8		
	comp=Z,6.0nm,1.0s,baz=94,slow=4.0,SNR=3.0								
DBIC				PKP		**PKPdf**	**22 24 40.7**	**-0.7**	
	comp=Z,6.3nm,0.8s,baz=82,slow=3.0,SNR=6.3								
DBIC				SKPbc		**SKPbc**	**22 27 55.1**	**-3.5**	
	comp=Z,8.3nm,0.7s,baz=114,slow=1.6,SNR=7.8								
DBIC	**Dimbokro**	**134.95**	**273**	PKiKP		**PKPdf**	**22 24 41.1**	**-0.3**	
DBIC	**Dimbokro**	**134.95**	**273**			**PKPdf**	**22 24 41.1**	**-0.3**	
T50A	**Nancy**	**136.36**	**41**	PKPdf		**PKPdf**	**22 24 44.2**	**+0.8**	
LRAL	**Lakeview Retre**	**136.98**	**47**			**PKPdf**	**22 24 44.5**	**-0.2**	
W50A	**Signal Mountai**	**137.06**	**44**			**PKPdf**	**22 24 45.6**	**+0.7**	
M55A	**Ridgway**	**137.06**	**32**			**PKPdf**	**22 24 44.6**	**-0.1**	
MATN	**Matagalpa**	**144.31**	**77**			**PKPab**	**22 24 57.4**	**+0.6**	
PB15	**IPOC Station P**	**144.83**	**148**			PKPbc	22 24 59.8	+1.1	
ACON	**Acoyapa**	**145.14**	**79**			**PKPbc**	**22 25 00.2**	**+0.5**	
PB06	**IPOC Station P**	**145.19**	**148**			**PKPbc**	**22 25 00.5**	**+0.7**	
JTS	**Las Juntas de**	**145.48**	**82**	*eP*		**PKPdf**	**22 25 00.8**	**+0.3**	
JTS	**Las Juntas de**	**145.48**	**82**	PKP2		**PKPdf**	**22 25 01.4**	**+0.9**	
JTS	**Las Juntas de**	**145.48**	**82**			**PKPdf**	**22 25 01.4**	**+0.9**	
LVC	**Limon Verde**	**145.62**	**148**	PKP2		**PKPbc**	**22 25 02.2**	**+0.8**	
LVC	**Limon Verde**	**145.62**	**148**			**PKPbc**	**22 25 02.1**	**+0.8**	
LVC	**Limon Verde**	**145.62**	**148**	*eP*		**PKPab**	**22 25 02.7**	**+0.9**	
PB07	**IPOC Station P**	**145.81**	**146**			**PKPdf**	**22 25 01.7**	**+0.6**	
PB09	**IPOC Station P**	**146.10**	**147**			**PKPbc**	**22 25 03.1**	**+0.5**	
CPUP	**Villa Florida**	**146.46**	**168**	PKPbc		**PKPdf**	**22 25 03.6**	**+1.8**	
	comp=Z,27nm,0.8s,baz=194,slow=1.9,SNR=47								
CPUP				SKPbc		**SKPbc**	**22 28 27.0**	**-1.7**	
	comp=Z,4.1nm,0.8s,baz=175,slow=1.1,SNR=4.8								
CPUP	**Villa Florida**	**146.46**	**168**			**PKPdf**	**22 25 03.0**	**+1.2**	
TA01	**Diego Aracena**	**146.56**	**145**			**PKPdf**	**22 25 03.9**	**+1.8**	
PB01	**IPOC Station P**	**146.58**	**146**			**PKPdf**	**22 25 03.9**	**+1.6**	
PSGCX	**Pisagua**	**147.35**	**144**			**PKPdf**	**22 25 05.7**	**+2.1**	
PB08	**IPOC Station P**	**147.48**	**145**			**PKPdf**	**22 25 05.3**	**+1.2**	
PB08				PKPab		**PKPbc**	**22 25 08.0**	**+1.1**	
PB11	**IPOC Station P**	**147.50**	**144**			**PKPdf**	**22 25 03.2**	**-0.7**	
NNA	**Nana**	**147.68**	**125**	*c iP*KP2		**PKPbc**	**22 25 08.4**	**+1.3**	
NNA				pmax		pmax			
	comp=Z,60nm,1.3s								
GO01	**Chusmiza**	**147.84**	**145**			**PKPdf**	**22 25 05.6**	**+0.8**	
GO01						**PKPbc**	**22 25 08.7**	**+0.7**	
MNMC	**Minye Minye**	**148.03**	**144**			**PKPdf**	**22 25 04.9**	**0.0**	
MNMC						**PKPbc**	**22 25 08.9**	**+0.7**	
PB16	**IPOC Station P**	**148.69**	**143**	PKPdf		**PKPdf**	**22 25 06.8**	**+0.4**	
PB16						**PKPbc**	**22 25 11.3**	**+1.0**	
BCIP	**Isla Barro Col**	**150.58**	**83**	*eP*		**PKPbc**	**22 25 14.8**	**+0.5**	
LPAZ	**La Paz**	**151.10**	**142**	PKP		**PKPdf**	**22 25 11.4**	**+1.1**	
	comp=Z,5.3nm,1.1s,baz=260,slow=2.8,SNR=11								
LPAZ				PKPbc		**PKPbc**	**22 25 17.0**	**+0.8**	
	comp=Z,12nm,0.4s,baz=288,slow=1.1,SNR=59								
LPAZ	**La Paz**	**151.10**	**142**	*eP*		**PKPbc**	**22 25 16.9**	**+0.6**	
LPAZ	**La Paz**	**151.10**	**142**	PKiKP		**PKPdf**	**22 25 09.8**	**-0.5**	
LPAZ	**La Paz**	**151.10**	**142**	PKPdf		**PKPdf**	**22 25 09.8**	**-0.5**	
LPAZ						**PKPbc**	**22 25 16.8**	**+0.6**	
OTAV	**Otavalo**	**151.12**	**102**	*eP*		**PKPbc**	**22 25 15.8**	**-0.4**	
OTAV	**Otavalo**	**151.12**	**102**	PKiKP		**PKPdf**	**22 25 10.0**	**-0.2**	
OTAV	**Otavalo**	**151.12**	**102**	PKPdf		**PKPdf**	**22 25 10.0**	**-0.2**	
BBAC	**Balboa, Cauca**	**152.67**	**99**	*eP*		**PKPbc**	**22 25 18.9**	**-0.5**	
PUAC	**Puerto Asis, P**	**153.03**	**102**	*eP*		**PKPdf**	**22 25 15.3**	**+2.8**	
POPC	**Popayan, Colom**	**153.32**	**98**	*eP*		**PKPbc**	**22 25 20.0**	**-0.9**	
ITRB	**Iturama**	**153.77**	**180**	*eP*		**PKPdf**	**22 25 17.7**	**+4.3**	
YOTC	**Yotoco, Valle**	**153.86**	**95**	*eP*		**PKPbc**	**22 25 19.4**	**-2.4**	
FLOC	**Florencia**	**154.15**	**100**	*eP*		**PKPab**	**22 25 37.1**	**+0.5**	
SAML	**Samuel**	**159.80**	**140**	PKP2		**PKPab**	**22 26 00.2**	**-0.5**	
SAML							23 25 21.3		
SAML	**Samuel**	**159.80**	**140**	PKPdf		**PKPdf**	**22 25 21.2**	**0.0**	
SAML				PKPab		**PKPab**	**22 26 00.2**	**-0.5**	
SAML	**Samuel**	**159.80**	**140**	*eP*		**PKPdf**	**22 25 21.8**	**+0.5**	
RCBR	**Riachuelo**	**161.05**	**229**	*eP*		**PKPdf**	**22 25 27.7**	**+5.0**	
NBMO	**Morrinhos-CE**	**165.78**	**226**	*eP*		**PKPdf**	**22 25 32.5**	**+5.4**	

IDC ***13*** *22:22:01.3±1.0, 0°.75S×124°.20E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/25, mbtmp3.6/4, Error ellipse: s-maj=134.2km s-min=22.9km az=65.0*
DJA ***13*** *22:22:04.6±0.3, 0°.5S±4°×12°.5E±°, h10km, M4.1/11, mb4.2/2, MLv4.0/11*

ISC 13 22:22:06.6±0.9, 0°.30S±0°.07×125°.27E±0°.06, h35km, n13, σ1°.58/14, mb3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.55**	**304**	P		**Pn**	**22 22 30.1**	**-1.6**
SANI	**Sanana**	**1.88**	**157**	P		**Pn**	**22 22 35.5**	**-0.8**
TNTI	**Ternate**	**2.36**	**63**	P		**Pn**	**22 22 44.0**	**+1.2**
LUWI	**Luwuk**	**2.60**	**254**	P		**Pn**	**22 22 48.6**	**+2.5**
NLAI	**Namlea**	**3.45**	**148**	P		**Pn**	**22 22 58.5**	**+0.7**
MPSI	**Mapaga**	**5.40**	**277**	P		**Pn**	**22 23 26.2**	**+1.5**
	0.1nm14nm,0.7s							
TTSI	**Tana Toraja**	**6.09**	**243**	P		**Pn**	**22 23 33.9**	**-0.2**

CNCH	**Conchagua**	**2.32**	**9**	*e*P	Pb	23 03 21.1	+1.3
CNCH				*e*S	Sn	23 03 42.9	+0.9
LCND	**La Caada**	**2.35**	**8**	IAML		23 03 47.1	
	comp=Z,296nm,0.3s						
LCND	**La Caada**	**2.35**	**8**	*e*P	Pb	23 03 20.2	+0.1
LCND				*e*S	Sn	23 03 41.9	-0.5
LCND				IAML		23 03 47.1	
	comp=Z,296nm,0.3s						
TECA	**Tecapa**	**2.52**	**354**	*e*P	Pn	23 03 19.6	+2.3
COEB	**Comit de Eme**	**2.53**	**353**	*e*P	Pn	23 03 19.1	+1.8
COEB	**Comit de Eme**	**2.53**	**353**	*e*P	Sn	23 03 19.1	+1.8
COEB				*e*S	Sn	23 03 39.2	-7.9
GBS3	**Finca Las Img**	**2.73**	**94**⇑	*e*P	Pn	23 03 19.8	-0.1
LAPC	**Finca la Perla**	**2.75**	**94**⇑	*e*P	Pn	23 03 20.0	-0.2
GUAI	**GUAI**	**2.76**	**104**	*e*P	Pn	23 03 20.2	-0.1
LFRS	**El Faro**	**2.76**	**343**	*e*P	Pn	23 03 22.0	+1.5
LFRS	**El Faro**	**2.76**	**343**	*e*P	Pn	23 03 22.0	+1.5
LFRS				*e*S	Sn	23 03 44.6	-8.1
BUEV	**Buena Vista**	**2.77**	**93**	*e*P	Pn	23 03 20.6	0.0
GB1A	**Borinquen Arri**	**2.78**	**93**	*e*P	Pn	23 03 20.9	+0.2
PAVA	**Las Pavas**	**2.81**	**346**	*e*P	Pn	23 03 19.5	-1.7
PAVA				IAML		23 03 42.1	
	comp=Z,664nm,0.3s						
PAVA	**Las Pavas**	**2.81**	**346**	*e*P	Pn	23 03 19.5	-1.7
PAVA				*e*S	Sn	23 03 41.0	-13
PAVA				IAML		23 03 42.1	
	comp=Z,664nm,0.3s						
GPS2	**Hotel Rincn d**	**2.83**	**94**	*e*P	Pn	23 03 21.4	+0.1
BUAI	**Buenos Aires**	**2.84**	**92**	*e*P	Pn	23 03 22.3	+0.8
LBRS	**Las Brisas**	**2.87**	**344**	*e*P	Pn	23 03 20.7	-1.2
LBRS	**Las Brisas**	**2.87**	**344**	*e*P	Pn	23 03 20.7	-1.2
PLVR	**Palo Verde**	**2.89**	**102**	*e*P	Pn	23 03 22.4	+0.1
LFU	**La Fuente**	**2.90**	**343**	*e*P	Pn	23 03 21.7	-0.6
LFU	**La Fuente**	**2.90**	**343**	*e*P	Pn	23 03 21.7	-0.6
LIM1	**Limonal**	**2.93**	**95**	*e*P	Pn	23 03 23.0	+0.2
HORNC	**Hornillas**	**3.00**	**95**	*e*P	Pn	23 03 23.9	+0.1
CUI	**Cuipilapa**	**3.02**	**96**	*e*P	Pn	23 03 24.3	+0.3
ACAL	**Aguas Claras**	**3.15**	**96**	*e*P	Pn	23 03 26.1	+0.3
CEVE	**Cerro Verde**	**3.15**	**334**	IAML		23 04 49.6	
	comp=Z,194nm,0.3s						
CEVE	**Cerro Verde**	**3.15**	**334**	IAML		23 04 49.6	
	comp=Z,194nm,0.3s						
SBLS	**San Blas**	**3.16**	**335**	*e*P	Pn	23 03 25.9	-0.2
SBLS	**San Blas**	**3.16**	**335**	*e*P	Pn	23 03 25.9	-0.2
TACO	**Tacachico**	**3.18**	**340**	*e*P	Pn	23 03 21.4	-4.8
TACO				*e*S	Sn	23 03 43.9	-19
SNJE	**San Jose**	**3.18**	**335**	*e*P	Pn	23 03 25.8	-0.5
SNJE	**San Jose**	**3.18**	**335**	*e*P	Pn	23 03 25.8	-0.5
JTS	**Las Juntas de**	**3.29**	**102**	*e*P	Pn	23 03 28.8	+1.2
FAME	**Alcaldia de Sa**	**3.35**	**329**	*e*P	Pn	23 03 30.3	+1.8
MTO3	**Montecristo**	**3.58**	**342**	*e*P	Pn	23 03 18.6	-13
MTO3				*e*S	Sn	23 03 38.9	-34
MTO3				IAML		23 03 41.2	
	comp=Z,159nm,0.2s						
ESQI	**Esquipulas**	**3.73**	**343**	*e*P	Pn	23 03 18.2	-16
ESQI				*e*S	Sn	23 03 37.0	-40
MRL	**Marmol**	**4.33**	**341**⇓	*i*P	Pn	23 03 21.8	-20

*IDC **13** 23:04:13.2±0.8, 10°.77N×125°.91E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/40, mbtmp3.9/10, Error ellipse: s-maj=44.7km s-min=16.2km az=68.0*
*MAN **13** 23:04:24.9, 10°.52N×125°.60E, h98km, mb4.5, ML3.3, MS3.1*
ISC 13 23:04:25.8±1.0, 10°.59N±0°.05×125°.59E±0°.07, h99km±8km, n20, σ1§23/27, mb3.8/10, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.85**	**238**	*e*P	**Pn**	**23 04 44.7**	**+0.1**
MSLP				*e*S	**Sn**	**23 04 58.8**	**+0.1**
GLSP	**General Luna,**	**0.96**	**147**	*e*P	**Pn**	**23 04 44.6**	**-1.1**
LLP	**Lapu-Lapu**	**1.62**	**260**⇑	*e*P	**Pn**	**23 04 54.3**	**+0.8**
LLP				*e*S	**Sn**	**23 05 14.7**	**+0.1**
TBP	**Tagbilaran**	**1.92**	**242**⇓	*e*P	**Pn**	**23 04 58.9**	**+1.5**
CNP	**Catarman**	**2.11**	**335**	*e*P	**Pn**	**23 05 00.7**	**+0.9**
CNP				*e*S	**Sn**	**23 05 26.5**	**+0.8**
CGP	**Cagayan de Oro**	**2.30**	**203**	*e*P	**Pn**	**23 05 05.2**	**+2.9**
CGP				*e*S	**Sn**	**23 05 29.8**	**-0.4**
BUKP	**Musuan**	**2.75**	**191**	*e*P	**Pn**	**23 05 07.2**	**-1.0**
BUKP				*e*S	**Sn**	**23 05 42.4**	**+1.6**
GUIM	**Jordan**	**2.95**	**271**	*e*P	**Pn**	**23 05 10.4**	**-0.5**
GUIM				*e*S	**Sn**	**23 05 42.8**	**-2.7**
CNOP	**Candoni, Negro**	**3.00**	**256**	*e*P	**Pn**	**23 05 11.2**	**-0.4**
CNOP				*e*S	**Sn**	**23 05 44.9**	**-1.9**
KCP	**Kidapawan**	**3.59**	**188**⇓	*e*P	Pn	23 05 34.5	+15
CMAR	**Chiang Mai Arr**	**26.93**	**290**	P	**P**	**23 09 59.5**	**+1.5**
	0.7nm,0.4s,baz=97,slow=8.1,SNR=7.3						
FITZ	**Fitzroy Crossi**	**28.51**	**180**	P	**P**	**23 10 12.3**	**+0.3**
	0.4nm,0.3s,baz=5.9,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**31.54**	**164**	P	**P**	**23 10 37.5**	**-1.3**
	0.6nm,0.5s,baz=347,slow=9.5,SNR=7.9						
ASAR	**Alice Springs**	**35.01**	**167**	P	**P**	**23 11 08.6**	**-0.4**
	0.7nm,0.3s,baz=359,slow=7.7,SNR=15						
STKA	**Stephens Creek**	**44.92**	**161**	P	**P**	**23 12 30.9**	**+0.1**
	2.1nm,0.5s,baz=329,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**51.37**	**323**	P	**P**	**23 13 20.5**	**+0.2**
	0.7nm,0.3s,baz=123,slow=7.7,SNR=18						
MKAR				PcP	**PcP**	**23 14 33.5**	**-0.3**
	0.4nm,0.5s,baz=118,slow=3.3,SNR=5.4						
ILAR	**Eielson Array**	**79.44**	**26**	P	**P**	**23 16 21.3**	**+0.3**
	0.2nm,0.5s,baz=260,slow=5.4,SNR=1.9						
ARCES	**ARCESS Array B**	**83.66**	**340**	P	**P**	**23 16 42.6**	**-0.5**
	2.2nm,0.8s,baz=77,slow=7.0,SNR=7.1						
FINES	**FINESS Array B**	**85.29**	**332**	P	**P**	**23 16 50.5**	**-0.9**
	0.4nm,0.4s,baz=83,slow=4.4,SNR=13						
VNDA	**Vanda**	**90.33**	**173**	P	**P**	**23 17 15.6**	**+0.5**
	0.7nm,0.9s,baz=325,slow=7.3,SNR=2.5						

*ANF **13** 23:11:23.8±1.0, 29°.81N×114°.11W, h1km±10km, mb1.3/9/11, Error ellipse: s-maj=12.2km s-min=7.8km az=22.0*
*IDC **13** 23:11:31.0±2.5, 29°.91N×114°.27W, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.5/43, mbtmp3.3/6, ML3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/30, Error ellipse: s-maj=39.8km s-min=13.3km az=30.0*
*MEX **13** 23:11:34.9±0.7, 31°.00N×114°.10W, h10km, MD3.9*
*ECX **13** 23:11:34.7±0.9, 30°.75N×114°.23W, h20km±21km, MD3.3, ML3.5*
ISC 13 23:11:34.3±1.1, 30°.49N±0°.08×114°.29W±0°.04, h20km±5km, n36, σ3§10/37, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.73**	**319**	*e*P	**Pb**	**23 11 46.6**	**-1.7**
SFX				*e*S	**Sb**	**23 11 55.4**	**-2.5**
SPX	**San Pedro Mart**	**1.15**	**299**	*i*P	**Pn**	**23 11 53.5**	**-2.1**
SPX				*i*S	**Sb**	**23 12 07.7**	**-2.7**
SPX	**San Pedro Mart**	**1.15**	**299**	*e*P	**Pn**	**23 11 53.5**	**-2.1**
SPX				IAML		23 12 29.3	
	comp=N,512nm,0.5s						
SPX			⇑*e*			23 12 29.3	
SPIG	**San Pedro Mart**	**1.16**	**299**	*e*P	**Pn**	**23 11 54.5**	**-1.1**
SPIG				*i*S	**Sn**	**23 12 08.5**	**-2.5**
SPIG	**San Pedro Mart**	**1.16**	**299**	*e*P	**Pn**	**23 11 54.5**	**-1.1**
PIX	**Pinacate**	**1.28**	**33**	*e*P	Pn	23 11 52.1	-5.0
PIX				*e*S	**Sn**	**23 12 07.0**	**-6.7**
SQX	**San Quintin**	**1.37**	**274**	*e*P	**Pn**	**23 11 58.8**	**+0.4**
SQX				IAML		23 12 21.8	
	comp=E,921nm,0.5s						
SQX			⇓*e*			23 12 21.8	
VTX	**Valle De La Tr**	**1.57**	**305**	*e*P	**Pn**	**23 11 59.0**	**-2.1**
SJX	**San Joaquin**	**1.91**	**312**	*e*P	**Pn**	**23 12 06.0**	**+0.3**
214A	**Organ Pipe Nat**	**1.93**	**41**	P	**Pn**	**23 12 05.0**	**-1.1**
	baz=208,SNR=206						
214A				S	**Sb**	**23 12 35.9**	**+3.3**
	baz=208						
MBIG	**Mexicali**	**2.06**	**338**	*i*P	Pn	23 12 00.5	-7.3
MBIG				*i*S	Sn	23 12 20.6	-12
CPBX	**Cerro Prieto**	**2.11**	**336**	IAML		23 13 10.1	
	comp=N,1µm,1.0s						
CPBX			⇓*e*			23 13 10.1	
GLA	**Glamis**	**2.59**	**350**	Pg	Pb	23 12 27.4	+7.2
	baz=169,SNR=12						
IKP	**In-Ko-Pah, Jac**	**2.66**	**325**	Pb	**Pb**	**23 12 24.9**	**+3.6**
	baz=148,SNR=24						
SWSC	**Sam W. Stewart**	**2.77**	**333**	Pb	**Pb**	**23 12 26.8**	**+3.7**
	baz=155,SNR=35						
MONP2	**Monument Peak**	**3.01**	**323**	P	**Pn**	**23 12 21.2**	**+0.2**
	baz=147						
HSIG		**3.25**	**116**	*i*S	**Sn**	**23 13 02.9**	**+0.6**
109C	**Camp Elliot, M**	**3.39**	**316**	Pb	**Pb**	**23 12 35.7**	**+2.0**
	baz=140						
TUC	**Tucson**	**3.50**	**58**	P	**Pn**	**23 12 23.6**	**-4.1**
	baz=230						
TUC				Sb	**Sb**	**23 13 19.2**	**+1.4**
	baz=230						
TUC	**Tucson**	**3.50**	**58**	*i*P	**Pn**	**23 12 24.1**	**-3.6**
TUC				*i*S	**Sn**	**23 13 00.9**	**-7.7**
TPFO	**Pinon Flats**	**3.61**	**330**	Pb	**Pb**	**23 12 39.7**	**+2.1**
	baz=152,SNR=9.7						
PFO	**Pinyon Flats O**	**3.62**	**330**	Pn	**Pb**	**23 12 36.6**	**-1.1**
	comp=N,1.1nm,0.3s,baz=147,slow=14,SNR=12						
PFO				LR	LR	23 14 18.9	
	comp=N,340nm,19.6s,baz=221,slow=41						
PFO	**Pinyon Flats O**	**3.62**	**330**	Pb	**Pb**	**23 12 39.6**	**+1.9**
	baz=152,SNR=10						
MURC	**Murrieta**	**3.96**	**322**	Pb	**Pb**	**23 12 46.3**	**+2.8**
	baz=144,SNR=7.1						
BFSC	**Mount Baldy Ra**	**4.70**	**324**	Sb	Sb	23 14 07.0	+15
	baz=145						
CGIG		**5.45**	**90**	*e*P	**Pn**	**23 12 51.9**	**-2.7**
CGIG				*i*S	**Sn**	**23 13 51.8**	**-5.1**
WUAZ	**Wupatki**	**5.58**	**25**	P	**Pn**	**23 12 56.1**	**-0.2**
	baz=203,SNR=9.3						
121A	**Cookes Peak, D**	**5.92**	**68**	P	**Pn**	**23 12 58.6**	**-2.4**
	baz=245						
W18A	**Petrified Fore**	**6.00**	**39**	P	**Pn**	**23 12 59.9**	**-2.2**
	baz=216,SNR=25						
ANMO	**Albuquerque**	**7.95**	**54**	Pn	**Pn**	**23 13 31.0**	**+2.1**
	comp=N,0.0nm,0.3s,baz=228,slow=10,SNR=2.8						
ANMO				Lg	Lg	23 15 56.1	
	comp=N,0.0nm,0.3s,baz=308,slow=20,SNR=1.9						
NVAR	**Mina Array Bea**	**8.58**	**338**	Pn	Pn	23 13 44.5	+6.8
	comp=N,0.1nm,0.3s,baz=159,slow=13,SNR=2.4						
TXAR	**Lajitas Array**	**9.29**	**94**	Pn	**Pn**	**23 13 47.1**	**-0.1**
	comp=N,0.3nm,0.3s,baz=271,slow=12,SNR=14						
PDAR	**Pinedale Array**	**12.82**	**16**	Pn	**P**	**23 14 45.6**	**-0.9**
	comp=N,0.1nm,0.3s,baz=198,slow=16,SNR=1.4						
YBH	**Yreka Blue Hor**	**13.11**	**331**	LR	LR	23 19 58.3	
	comp=N,60nm,20.7s,baz=292,slow=37						
ULM	**Lac du Bonnet**	**24.09**	**30**	P	**P**	**23 16 53.7**	**+5.3**
	comp=N,1.8nm,0.8s,baz=210,slow=8.2,SNR=3.5						
ILAR	**Eielson Array**	**39.84**	**339**	P	**P**	**23 19 08.6**	**+2.5**
	comp=N,0.4nm,0.7s,baz=151,slow=7.4,SNR=4.6						

*HEL **13** 23:50:02.5±0.1, 67°.83N×20°.21E, h0km, ML1.7, ML1.8(UPP), Explosion*
UPP 13 23:50:02.0±0.1, 67°.83N×20°.20E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	23 50 04.9	+0.2
KUA				S	Sg	23 50 07.0	+0.5
KUA	**Kurravaara**	**0.14**	**22**	*i*P	Pg	23 50 04.9	+0.2
KUA				*i*S	Sg	23 50 07.0	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 50 06.5	+0.2
RATU	**Laukkuluspa**	**0.23**	**270**	*i*P	Pg	23 50 06.5	+0.2
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 50 09.7	+0.1
KOVU	**Salmi**	**0.40**	**358**	*i*P	Pg	23 50 09.7	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 50 15.4	-0.3
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 50 15.1	-0.5
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 50 16.7	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	*i*P	Pg	23 50 16.7	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 50 16.9	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	23 50 16.9	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	23 50 25.1	0.0
KIF				MSG		23 50 40.6	
	comp=Z,8.5nm,0.2s						
KIF				*e*SB	Sb	23 50 41.2	-0.5
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 50 27.3	-1.2
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 50 27.3	-1.2
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 50 29.2	-0.9
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 50 29.2	-0.9
HARU	**Harads**	**1.70**	**169**	P	Pn	23 50 32.8	0.0
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	23 50 32.8	0.0
KALU	**Kalix**	**2.34**	**146**	*e*PB	Pn	23 50 42.6	+1.1
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	23 50 43.7	+1.4
TOF				MSG		23 51 11.7	
	comp=Z,2.5nm,0.2s						
TOF				*e*SG	Sb	23 51 16.4	+0.6
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	23 50 45.1	-1.7
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 50 46.8	+2.0
RNF				*e*SG	Sb	23 51 21.0	0.0
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	23 50 45.8	+0.7
MSF	**Maaselka**	**3.98**	**115**	*e*PG	Pb	23 51 14.2	+1.2
	baz=300						

UPP 13 23:50:10.5±0.1, 67°.83N×20°.21E, h0km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**21**	P	Pg	23 50 13.3	+0.2
KUA				S	Sg	23 50 15.3	+0.5
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 50 15.2	+0.2
KOVU	**Salmi**	**0.39**	**357**	P	Pg	23 50 18.1	0.0
KOVU				S	Sg	23 50 23.6	+0.4
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 50 23.8	-0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*S	Pg	23 50 23.8	-0.3
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 50 25.2	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 50 25.4	-0.3
PAJU	**Pajala**	**1.38**	**125**	P	Pg	23 50 35.6	-1.4

*HEL **13** 23:53:30.5, 67°.83N×20°.14E, h0km, ML1.9, Explosion*
UPP 13 23:53:30.7±0.5, 67°.84N×20°.19E, h3km±6km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**25**	P	Pg	23 53 33.2	-0.1
KUA				S	Sg	23 53 35.0	0.0
KUA	**Kurravaara**	**0.13**	**25**	*i*P	Pg	23 53 33.2	-0.1
KUA				*i*S	Sg	23 53 35.0	0.0
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	23 53 35.0	-0.1
RATU	**Laukkuluspa**	**0.23**	**267**	*i*P	Pg	23 53 35.0	-0.1
KOVU	**Salmi**	**0.39**	**358**	P	Pg	23 53 38.0	-0.2
KOVU	**Salmi**	**0.39**	**358**	*i*P	Pg	23 53 38.0	-0.2
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	23 53 43.8	-0.5
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	23 53 43.8	-0.6
LANU				*e*S	Sg	23 53 53.6	+0.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 53 44.2	-0.5
DUNU	**Dundret**	**0.73**	**168**	*i*P	Pg	23 53 44.2	-0.5
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 53 45.2	-0.5
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	23 53 45.2	-0.5
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	23 53 45.4	-0.5
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	23 53 45.4	-0.5
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PN	Pn	23 53 54.7	+0.4
KIF				MSG		23 54 08.1	
	comp=Z,12nm,0.2s						
KIF				*e*SB	Sg	23 54 09.3	+0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pn	23 53 54.3	0.0
PAJU	**Pajala**	**1.39**	**125**	P	Pn	23 53 55.8	-1.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	23 53 55.8	-1.2
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 53 57.7	-0.8
	baz=331						
ERTU				*e*SB	Sn	23 54 17.8	-0.8
STEI	**Steigen**	**1.88**	**275**	*e*P	Pb	23 54 04.6	-1.0
FAUS	**Fauske**	**1.93**	**259**	*e*P	Pn	23 54 04.8	+0.4
KALU	**Kalix**	**2.35**	**146**	*e*P	Pn	23 54 11.1	+1.0
	baz=333						
KALU				*e*SB	Sb	23 54 42.2	-0.6
TOF	**Tornio**	**2.40**	**135**	*e*PB	Pn	23 54 12.2	+1.4
	baz=315						
TOF				MSG		23 54 41.8	
	comp=Z,4.0nm,0.2s						
TOF				*e*SG	Sb	23 54 44.6	+0.2
SGF	**Sodankyl**	**2.46**	**96**	*e*PG	Pb	23 54 14.4	-1.0
SGF				*e*SG	Sb	23 54 46.8	+0.8
LOF	**Lofoten**	**2.52**	**280**	*e*P	Pb	23 54 15.5	-1.0
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 54 15.2	+2.0
RNF				*e*SB	Sb	23 54 48.5	-1.0

UPP 13 23:53:59.3±0.4, 67°.85N×20°.19E, h0km±2km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**28**	P	Pg	23 54 01.8	+0.2
KUA				S	Sg	23 54 03.7	+0.5
RATU	**Laukkuluspa**	**0.23**	**264**	P	Pg	23 54 03.8	+0.2
KOVU	**Salmi**	**0.38**	**359**	P	Pg	23 54 06.6	+0.1
KOVU				S	Sg	23 54 11.9	+0.5
PAJU	**Pajala**	**1.40**	**125**	P	Pn	23 54 25.6	-0.5
PAJU				S	Sg	23 54 43.3	-0.9

*MOS **14** 00:24:00.6±0.9, 49°.20N×157°.56E, h23km, mb4.1/1, Error ellipse: s-maj=44.2km s-min=4.9km az=84.4*
*KRSC **14** 00:24:15.2±1.9, 50°.39N×157°.23E, h45km±24km, ML4.4*
ISC 14 00:24:14.1±3.8, 50°.1N±0°.2×157°.22E±0°.09, h35km, n44, σ1§70/52, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.90**	**309**	*e*P	**Pn**	**00 24 30.1**	**0.0**
SKR				*e*S	**Sn**	**00 24 40.5**	**-1.3**
SKR	**Severo-Kuril's**	**0.90**	**309**⇑	*i*PN	**Pn**	**00 24 30.2**	**+0.1**
SKR				pmax	pmax		
	comp=Z,734nm,0.5s						
ASAK	**Asacha**	**2.30**	**11**	*e*P	**Pn**	**00 24 49.9**	**+0.4**
ASAK	**Asacha**	**2.30**	**11**	PN	**Pn**	**00 24 49.9**	**+0.4**
MTVR	**Mutnovka**	**2.43**	**14**	*e*P	**Pn**	**00 24 51.6**	**+0.2**
MTVR				*e*S	**Sn**	**00 25 17.3**	**-2.7**
MTVR	**Mutnovka**	**2.43**	**14**	PN	**Pn**	**00 24 51.6**	**+0.2**
RUS	**Russkaya**	**2.45**	**19**	*e*P	**Pn**	**00 24 50.9**	**-0.5**
RUS				*e*S	**Sn**	**00 25 16.7**	**-3.4**
RUS	**Russkaya**	**2.45**	**19**	PN	**Pn**	**00 24 50.9**	**-0.5**
GRL	**Gorelyy**	**2.48**	**12**	*e*P	**Pn**	**00 24 52.8**	**+0.7**
GRL				*e*S	**Sn**	**00 25 19.4**	**-1.8**
GRL	**Gorelyy**	**2.48**	**12**	PN	**Pn**	**00 24 52.8**	**+0.7**
KRMR	**Karymshinskiy**	**2.76**	**12**	*e*P	**Pn**	**00 24 57.9**	**+2.1**
KRMR				*e*S	**Sn**	**00 25 28.8**	**+0.9**
KRMR	**Karymshinskiy**	**2.76**	**12**	PN	**Pn**	**00 24 57.9**	**+2.1**
PET	**Petropavlovsk**	**3.03**	**17**	*e*P	**Pn**	**00 24 59.9**	**+0.4**
PET				*e*S	**Sn**	**00 25 32.8**	**-1.8**
PET	**Petropavlovsk**	**3.03**	**17**	*e*PN	**Pn**	**00 25 00.1**	**+0.6**
DALK	**Dalny**	**3.06**	**18**	*e*P	**Pn**	**00 25 00.2**	**+0.3**
DALK				*e*S	**Sn**	**00 25 33.3**	**-1.9**
DALK	**Dalny**	**3.06**	**18**	PN	**Pn**	**00 25 00.2**	**+0.3**
UGLR	**Uglovaya**	**3.24**	**17**	*e*P	**Pn**	**00 25 04.5**	**+2.0**
UGLR	**Uglovaya**	**3.24**	**17**	PN	**Pn**	**00 25 04.5**	**+2.0**
AVH	**Avacha**	**3.28**	**16**	*e*P	**Pn**	**00 25 04.5**	**+1.5**
AVH	**Avacha**	**3.28**	**16**	PN	**Pn**	**00 25 04.5**	**+1.5**
KOK	**Koryaka**	**3.29**	**15**	*e*P	**Pn**	**00 25 05.0**	**+1.9**
KOK	**Koryaka**	**3.29**	**15**	PN	**Pn**	**00 25 05.0**	**+1.9**
SMAR	**Somma**	**3.29**	**17**	*e*P	**Pn**	**00 25 05.5**	**+2.3**
SMAR	**Somma**	**3.29**	**17**	PN	**Pn**	**00 25 05.5**	**+2.3**
KRER	**Koryakskii**	**3.32**	**16**	*e*P	**Pn**	**00 25 05.0**	**+1.4**
KRER	**Koryakskii**	**3.32**	**16**	PN	**Pn**	**00 25 05.0**	**+1.4**
NLC	**Nalytchevo**	**3.32**	**23**	*e*P	**Pn**	**00 25 02.8**	**-0.7**
NLC	**Nalytchevo**	**3.32**	**23**	PN	**Pn**	**00 25 02.8**	**-0.7**
KRX	**Arik**	**3.35**	**15**	*e*P	**Pn**	**00 25 05.5**	**+1.4**
KRX				*e*S	**Sn**	**00 25 42.5**	**-0.2**
KRX	**Arik**	**3.35**	**15**	PN	**Pn**	**00 25 05.5**	**+1.4**
GNL	**Ganaly**	**3.60**	**7**	*e*P	**Pn**	**00 25 08.7**	**+1.3**
GNL	**Ganaly**	**3.60**	**7**	PN	**Pn**	**00 25 08.7**	**+1.3**
KII	**Karymskiy**	**4.15**	**19**	*e*P	**Pn**	**00 25 17.6**	**+2.7**
KII	**Karymskiy**	**4.15**	**19**	PN	**Pn**	**00 25 17.6**	**+2.7**
KZV	**Kizimen**	**5.33**	**19**	*e*P	**Pn**	**00 25 32.8**	**+1.6**
KZV	**Kizimen**	**5.33**	**19**	PN	**Pn**	**00 25 32.8**	**+1.6**
TUMR	**Tumrok**	**5.46**	**18**	*e*P	**Pn**	**00 25 34.9**	**+2.0**
TUMR	**Tumrok**	**5.46**	**18**	PN	**Pn**	**00 25 34.9**	**+2.0**
SRDR	**Sredinnyy**	**6.38**	**13**	*e*P	**Pn**	**00 25 49.0**	**+3.5**
SRDR	**Sredinnyy**	**6.38**	**13**	PN	**Pn**	**00 25 49.0**	**+3.5**
SRKR	**Sorokina**	**6.95**	**18**	*e*P	**Pn**	**00 25

BSD				IAML			00 32 46.9
	comp=Z,1.8nm,0.3s						
MOA	**Molln**	**3.89**	**199**	*e*Pn	**Pn**		**00 31 47.8 +0.5**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sg**		**00 32 51.7 +0.5**
	comp=Z,7.2nm,0.3s						
ARSA	**Arzberg**	**4.31**	**186**	*e*Pn	**Pn**		**00 31 54.5 +1.4**
	comp=Z,0.5nm,0.2s						
ARSA				*e*Sg	**Sg**		**00 33 02.3 -2.4**
	comp=Z,4.5nm,0.4s						
LUNU	**Lund**	**4.41**	**340**	P	**Pn**		**00 31 53.9 -0.4**
LUNU				S	**Sn**		**00 32 44.3 -1.9**
COP	**Copenhagen**	**4.71**	**333**	*i*	**Pg**		**00 32 19.6 +3.3**
BLEU	**Blekinge**	**4.78**	**358**	P	**Pn**		**00 31 59.9 +0.5**
BLEU				S	**Sn**		**00 32 53.5 -1.9**
KBA	**Koelnbreinsper**	**4.83**	**203**	*e*Pn	**Pn**		**00 31 58.8 -1.4**
	comp=Z,0.1nm,0.1s						
KBA				*e*Sg	**Sg**		**00 33 19.1 -2.1**
	comp=Z,4.3nm,0.5s						
BJUU	**Bjuv**	**4.91**	**339**	P	**Pn**		**00 32 00.7 -0.5**
BJUU				S	**Sn**		**00 32 55.7 -2.8**
DEL	**Delary**	**5.12**	**346**	P	**Pn**		**00 32 03.9 -0.2**
WTTA	**Wattenberg**	**5.20**	**216**	*e*Pn	**Pn**		**00 32 04.8 -0.5**
	comp=Z,0.4nm,0.2s						
WTTA				*e*Sg	**Sg**		**00 33 32.2 -0.9**
	comp=Z,3.2nm,0.3s						
VIKU	**Vikbolandet**	**6.99**	**2**	P	**Pn**		**00 32 30.4 +0.7**
VIKU	**Vikbolandet**	**6.99**	**2**	P	**Pn**		**00 32 30.4 +0.7**

IDC ***14*** *00:32:13.2±2.2,6°30S×147°74E,h44km±20km,mb4.4/23, mb1 4.5/26,mb1mx4.4/31,mbtmp4.6/26,ML4.5/3,MS3.4/17, Ms1 3.4/17,ms1mx3.3/37,Error ellipse: s-maj=17.1km s-min=11.2km az=77.0*

BJI ***14*** *00:32:14.5±0.0,6°40S×147°60E,h64km,mB5.2/21, mb4.9/22,Ms5.0/2,Ms7 4.7/2*

NEIC ***14*** *00:32:15.1±1.6,6°34S±0°07×147°62E±0°08,h63km±6km, mb4.7/52,Error ellipse: s-maj=12.6km s-min=9.2km az=118.0*

DJA ***14*** *00:32:18.5±0.4,7°S±3°×14°8E±°,h74km±6km,M4.8/22, mb4.8/22,mB5.2/7,MLv5.0/3,Mw(mB)4.6/7*

ISC 14 00:32:15.4±0.3,**6°41S**±0°04×**147°62E**±0°06,**h63**km,**n163,** σ1ϕ**40**/159,**mb4.7**/**48,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.01**	**189**	P	**Pn**	**00 33 01.5**	**+0.7**
	60nm,0.3s,baz=15,slow=6.1,SNR=57						
PMG				S	**Sn**	**00 33 36.4**	**+0.7**
	171nm,0.3s,baz=44,slow=23,SNR=8.4						
PMG	**Port Moresby**	**3.01**	**189**		**Pn**	**00 33 00.9**	**+0.1**
PMG				Sn	**Sn**	**00 33 37.0**	**+1.3**
RABL	**Rabaul**	**5.04**	**64**		**Pn**	**00 33 27.7**	**-0.8**
JAY	**Jayapura**	**7.90**	**299**	P	**Pn**	**00 34 10.0**	**+2.3**
	6.1nm,0.3s,baz=88,slow=8.4,SNR=15						
JAY				LR	LR	00 36 48.0	
	comp=Z,174nm,20.2s,baz=155,slow=34						
JAY	**Jayapura**	**7.90**	**299**	P	**Pn**	**00 34 11.1**	**+3.4**
	0.1nm28nm,0.9s						
GENI	**Genyem**	**8.34**	**297**	P	Pn	00 34 18.8	+5.2
	96nm,0.6s						
COEN	**Coen**	**8.68**	**210**	P	**Pn**	**00 34 17.2**	**-1.2**
	baz=8.5,SNR=4.8						
COEN				S	**Sn**	**00 35 52.6**	**-2.2**
	baz=8.5						
COEN	**Coen**	**8.68**	**210**	Pn	**Pn**	**00 34 17.2**	**-1.2**
MTSU	**Mount Surprise**	**12.09**	**195**	P	**Pn**	**00 35 05.9**	**+0.9**
	baz=12,SNR=44						
HNR	**Honiara**	**12.58**	**105**	LR	LR	00 38 07.1	
	comp=Z,40nm,21.4s,baz=260,slow=28						
HNR	**Honiara**	**12.58**	**105**	Pn	**Pn**	**00 35 12.3**	**+0.6**
CTA	**Charters Tower**	**13.66**	**185**	P	**Pn**	**00 35 27.9**	**+1.6**
	0.7nm,0.3s,baz=9.1,slow=14,SNR=10						
CTAO	**Charters Tower**	**13.66**	**185**		**Pn**	**00 35 27.7**	**+1.3**
FAKI	**Fak Fak**	**15.70**	**282**	P	**P**	**00 35 55.3**	**-0.4**
QIS	**Mount Isa**	**16.07**	**208**	P	**P**	**00 35 59.2**	**-0.6**
	baz=16,SNR=7.0						
SAUI	**Saumlaki**	**16.26**	**263**	Pn	**Pn**	**00 35 59.6**	**-0.4**
SIJI	**Sorong**	**17.21**	**288**	P	**Pn**	**00 36 11.1**	**-0.7**
	2.5nm,0.3s,baz=62,slow=18,SNR=6.2						
MTN	**Manton Dam**	**17.46**	**247**		**Pn**	**00 36 14.9**	**+0.1**
WB0	**Warramunga Arr**	**18.48**	**223**	P	**P**	**00 36 27.0**	**+0.6**
WB2	**Warramunga Arr**	**18.63**	**223**	P	**P**	**00 36 28.7**	**+0.7**
	baz=18						
WB2	**Warramunga Arr**	**18.63**	**223**	P	**P**	**00 36 28.7**	**+0.7**
WRA	**Warramunga Arr**	**18.64**	**223**	P	**P**	**00 36 28.6**	**+0.5**
	2.3nm,0.3s,baz=52,slow=10,SNR=49						
WRA				S	**S**	**00 39 47.7**	**-9.5**
	0.3nm,0.3s,baz=48,slow=22,SNR=3.0						
WRA				PcP	**PcP**	**00 40 55.6**	**+0.8**
	0.1nm,0.3s,baz=23,slow=1.7,SNR=5.5						
WRA				LR	LR	00 44 15.1	
	comp=Z,69nm,21.8s,baz=130,slow=38						
WRA	**Warramunga Arr**	**18.64**	**223**	P	**P**	**00 36 27.4**	**-0.8**
MSAI	**Masohi**	**18.86**	**278**	P	**Pn**	**00 36 33.1**	**+1.2**
	26nm,0.6s						
EIDS	**Eidsvold**	**19.14**	**170**	P	**Pn**	**00 36 35.0**	**-0.1**
	baz=19,SNR=10.0						
EIDS	**Eidsvold**	**19.14**	**170**		**Pn**	**00 36 34.9**	**-0.3**
EIDS				IAmb	IAmb	00 36 36.5	
	comp=Z,24nm,0.7s						
RMQ	**Roma**	**20.00**	**177**	P	Pn	00 36 44.9	-0.3
	baz=20,SNR=30						
GUMO	**Guam**	**20.05**	**352**	LR	LR	00 44 34.5	
	comp=Z,126nm,18.3s,baz=128,slow=37						
GUMO	**Guam**	**20.05**	**352**	P	**P**	**00 36 42.8**	**-0.8**
GUMO				IAmb	IAmb	00 36 45.0	
	comp=Z,54nm,0.8s						
QLP	**Quilpie**	**20.32**	**189**	P	**P**	**00 36 48.0**	**+1.6**
	baz=20,SNR=17						
KNRA	**Kununurra**	**20.65**	**242**	P	**P**	**00 36 50.2**	**+0.1**
	baz=20,SNR=6.7						
KNRA	**Kununurra**	**20.65**	**242**	P	**P**	**00 36 49.9**	**-0.2**
KNRA				IAmb	IAmb	00 36 57.7	
	comp=Z,14nm,0.6s						
NLAI	**Namlea**	**20.68**	**278**	P	Pn	00 36 52.0	-1.4
	comp=Z,33nm,0.6s						
TNTI	**Ternate**	**21.43**	**289**	P	**P**	**00 36 58.3**	**-0.2**
TNTI				IAmb	IAmb	00 37 11.3	
	comp=Z,39nm,1.2s						
AS31	**Alice Springs**	**21.64**	**216**	P	**P**	**00 37 01.5**	**+0.8**
ASAR	**Alice Springs**	**21.64**	**216**	P	**P**	**00 37 01.8**	**+1.1**
	comp=Z,24nm,0.6s,baz=53,slow=8.8,SNR=213						
ASAR				S	**S**	**00 40 55.4**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=31,slow=24,SNR=8.1						
ASAR				LR	LR	00 45 05.8	
	comp=Z,172nm,20.0s,baz=42,slow=35						
ASAR	**Alice Springs**	**21.64**	**216**	P	**P**	**00 37 01.3**	**+0.6**
SANI	**Sanana**	**21.99**	**280**	P	**P**	**00 37 03.9**	**-0.6**
	comp=Z,55nm,0.9s						
SOEI	**Soe**	**23.35**	**260**	P	**P**	**00 37 20.3**	**+1.6**
	comp=Z,50nm,0.8s						
SOEI	**Soe**	**23.35**	**260**	P	**P**	**00 37 17.1**	**-1.6**
SOEI				IAmb	IAmb	00 37 31.1	
	comp=Z,31nm,0.7s						
DZM	**Mont Dzumac**	**23.94**	**132**	P	**P**	**00 37 23.5**	**-0.5**
	comp=Z,8.3nm,0.7s,baz=275,slow=8.1,SNR=6.7						
DZM	**Mont Dzumac**	**23.94**	**132**	P	**P**	**00 37 23.7**	**-0.3**
DZM				IAmb	IAmb	00 37 28.7	
	comp=Z,18nm,1.0s						
BATI	**Baumata**	**23.99**	**259**	P	**P**	**00 37 27.3**	**+2.8**
	comp=Z,81nm,0.8s,baz=132,slow=2.1,SNR=19						
BATI	**Baumata**	**23.99**	**259**	P	**P**	**00 37 27.2**	**+2.7**
	comp=Z,52nm,1.0s						
ARMA	**Armidale**	**24.18**	**172**	P	**P**	**00 37 26.9**	**+0.8**
	baz=24,SNR=12						
ARMA	**Armidale**	**24.18**	**172**	P	**P**	**00 37 26.6**	**+0.5**
ARMA				IAmb	IAmb	00 37 30.0	
	comp=Z,17nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.38**	**240**	P	**P**	**00 37 29.2**	**+1.3**
	comp=Z,16nm,0.5s,baz=61,slow=7.9,SNR=60						
FITZ				LR	LR	00 47 10.9	
	comp=Z,111nm,18.1s,baz=63,slow=37						
FITZ	**Fitzroy Crossi**	**24.38**	**240**	P	**P**	**00 37 28.8**	**+0.9**
	baz=24,SNR=32						
FITZ	**Fitzroy Crossi**	**24.38**	**240**	P	**P**	**00 37 28.6**	**+0.6**
FITZ				IAmb	IAmb	00 37 35.5	
	comp=Z,20nm,0.7s						
CMSA	**Cobar Meteorol**	**25.07**	**184**	P	**P**	**00 37 35.9**	**+1.9**
	baz=25,SNR=17						
MMRI	**Maumere**	**25.25**	**263**	P	**P**	**00 37 35.7**	**-0.3**
LUWI	**Luwuk**	**25.35**	**281**	P	**P**	**00 37 38.2**	**+1.4**
	comp=Z,196nm,1.1s						
LUWI	**Luwuk**	**25.35**	**281**	P	**P**	**00 37 36.8**	**0.0**
DAV	**Davao City (W)**	**25.74**	**301**	LR	LR	00 48 09.2	
	comp=Z,38nm,20.0s,baz=126,slow=37						
EDFI	**Ende, Flores**	**25.80**	**263**	P	**P**	**00 37 40.4**	**-0.6**
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**25.96**	**192**	P	**P**	**00 37 42.5**	**+0.4**
	comp=Z,8.8nm,0.4s,baz=354,slow=8.5,SNR=30						
STKA				LR	LR	00 47 28.0	
	comp=Z,216nm,19.1s,baz=18,slow=35						
STKA	**Stephens Creek**	**25.96**	**192**	P	**P**	**00 37 42.7**	**+0.6**
	baz=26,SNR=25						
STKA	**Stephens Creek**	**25.96**	**192**	P	**P**	**00 37 42.4**	**+0.2**
WRKA	**Warakurna**	**26.18**	**223**	P	**P**	**00 37 44.7**	**+0.5**
	baz=26,SNR=63						
MGCD	**Mangrove Creek**	**26.86**	**174**	P	**P**	**00 37 52.0**	**+1.7**
	baz=27,SNR=9.4						
KAPI	**Kappang**	**27.76**	**271**	P	**P**	**00 37 59.0**	**+0.5**
	comp=Z,9.9nm,0.2s,baz=137,slow=18,SNR=4.3						
KAPI	**Kappang**	**27.76**	**271**	P	**P**	**00 37 57.7**	**-0.8**
HTT	**Hallett**	**28.07**	**196**	P	**P**	**00 38 01.9**	**+0.8**
	baz=28,SNR=11						
BBOO	**Buckleboo**	**28.39**	**201**	P	**P**	**00 38 04.3**	**+0.4**
	baz=28,SNR=7.7						
BBOO	**Buckleboo**	**28.39**	**201**	P	**P**	**00 38 04.1**	**+0.2**
BBOO				IAmb	IAmb	00 38 20.6	
	comp=Z,17nm,0.9s						
MPSI	**Mapaga**	**28.46**	**283**	P	**P**	**00 38 04.8**	**0.0**
CAN	**Canberra**	**28.80**	**178**	P	**P**	**00 38 08.5**	**+0.9**
CAN				IAmb	IAmb	00 38 24.6	
	comp=Z,21nm,1.1s						
ARPS	**Mount Arapiles**	**30.68**	**189**	P	**P**	**00 38 25.5**	**+1.4**
	baz=31,SNR=5.3						
PSA00	**Pilbara Seismi**	**30.79**	**238**	P	**P**	**00 38 26.1**	**+0.7**
PSA00				IAmb	IAmb	00 38 27.0	
	comp=Z,7.0nm,0.7s						
MEEK	**Meekatharra**	**34.16**	**231**	P	**P**	**00 38 56.0**	**+1.2**
	baz=34,SNR=18						
KMBL	**Kambalda**	**34.59**	**221**	P	**P**	**00 38 59.1**	**+0.6**
	baz=34,SNR=5.8						
SBUM	**Sibu**	**36.42**	**283**	P	**P**	**00 39 16.0**	**+1.7**
MORW	**Morawa**	**37.36**	**229**	P	**P**	**00 39 23.3**	**+1.2**
	baz=37,SNR=5.7						
KLBR	**Kellerberrin**	**37.50**	**224**	P	**P**	**00 39 24.1**	**+0.8**
	baz=37,SNR=8.7						
KSM	**Kuching**	**38.06**	**281**	P	**P**	**00 39 28.2**	**0.0**
KSM				IAmb	IAmb	00 39 30.2	
	comp=Z,14nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.64**	**223**	P	**P**	**00 39 32.7**	**-0.2**
	comp=Z,4.6nm,0.6s,baz=23,slow=6.0,SNR=3.5						
NWAO				LR	LR	00 55 55.4	
	comp=Z,109nm,20.5s,baz=250,slow=37						
NWAO	**Narrogin (SRO)**	**38.64**	**223**	P	**P**	**00 39 32.8**	**-0.2**
NWAO				IAmb	IAmb	00 39 34.9	
	comp=Z,6.8nm,0.8s						
LEM	**Lembang**	**39.73**	**267**	P	**P**	**00 39 42.5**	**+0.1**
	comp=Z,15nm,0.3s,baz=210,slow=21,SNR=3.8						
RPZ	**Rata Peaks**	**42.48**	**155**	P	**P**	**00 40 05.3**	**+0.9**
RPZ				IAmb	IAmb	00 40 20.1	
	comp=Z,25nm,1.2s						
MJAR	**Matsushiro Arr**	**43.62**	**349**	P	**P**	**00 40 11.9**	**-1.8**
	comp=Z,4.0nm,0.7s,baz=173,slow=7.6,SNR=5.4						
MJAR				LR	LR	00 56 52.5	
	comp=Z,22nm,18.8s,baz=150,slow=34						
MJAR	**Matsushiro Arr**	**43.62**	**349**	P	**P**	**00 40 12.2**	**-1.5**
MAT	**Matsushiro**	**43.63**	**349**	P	**P**	**00 40 13.0**	**-0.7**
BKNI	**Bangkinang**	**46.96**	**276**	P	**P**	**00 40 41.0**	**+0.5**
NJ2	**Nanjing**	**47.06**	**326**	*e*P	**P**	**00 40 43.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	**Korea Array**	**47.35**	**339**	P	**P**	**00 40 42.0**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=156,slow=8.2,SNR=5.6						
KSRS				LR	LR	00 57 32.1	
	comp=Z,54nm,21.3s,baz=164,slow=32						
IPM	**Ipoh**	**47.75**	**282**	P	**P**	**00 40 47.2**	**+0.5**
IPM	**Ipoh**	**47.75**	**282**	P	**P**	**00 40 48.0**	**+1.3**
KULM	**Kulim**	**48.30**	**283**	P	**P**	**00 40 51.4**	**+0.5**
KULM	**Kulim**	**48.30**	**283**	P	**P**	**00 40 52.0**	**+1.1**
RPSI	**Rantau Prapat**	**49.45**	**279**	P	**P**	**00 41 00.0**	**+0.3**
PSI	**Prapat**	**49.47**	**279**	P	**P**	**00 41 01.0**	**+1.0**
	comp=Z,10.0nm,0.4s,baz=212,slow=6.3,SNR=7.5						
GSI	**Gunungsitoli**	**50.53**	**277**	P	**P**	**00 41 08.1**	**+0.1**
USA0B	**Ussuriysk Arra**	**52.31**	**346**	P	**P**	**00 41 20.5**	**-0.1**
USA0B				IAmb	IAmb	00 41 23.6	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**52.31**	**346**	P	**P**	**00 41 20.5**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=174,slow=7.9,SNR=9.7						
USRK				LR	LR	01 01 27.8	
	comp=Z,30nm,20.5s,baz=122,slow=34						
CMAR	**Chiang Mai Arr**	**53.98**	**298**	P	**P**	**00 41 33.9**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=125,slow=5.5,SNR=8.9						
CMAR	**Chiang Mai Arr**	**53.98**	**298**	P	**P**	**00 41 34.1**	**+0.6**
XAN	**Xi'an**	**54.38**	**320**	P	**P**	**00 41 34.6**	**-1.6**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,200nm,6.2s						
XAN	**Xi'an**	**54.38**	**320**	P	**P**	**00 41 35.3**	**-0.8**
XAN				IAmb	IAmb	00 41 36.0	
	comp=Z,6.2nm,0.9s						
HHC	**Hu-ho-hao-te**	**57.50**	**328**	*e*P	**P**	**00 42 01.5**	**+3.1**
HHC				pmax	pmax		
	comp=Z,36nm,0.9s						
HHC				pmax	pmax		
	comp=Z,170nm,5.2s						
PEA0B	**Petropavlovsk-**	**59.90**	**7**	P	**P**	**00 42 14.9**	**+0.2**
PETK	**Petropavlovsk-**	**59.90**	**7**	P	**P**	**00 42 15.0**	**+0.3**
	comp=Z,9.8nm,0.6s,baz=164,slow=6.2,SNR=12						
PETK				LR	LR	01 03 56.5	
	comp=Z,41nm,21.9s,baz=144,slow=32						
PETK	**Petropavlovsk-**	**59.90**	**7**	P	**P**	**00 42 14.9**	**+0.3**
HIA	**Hailar**	**60.55**	**339**	P	**P**	**00 42 19.1**	**-0.1**
GTA	**Gaotai**	**63.45**	**320**	*e*P	**P**	**00 42 41.9**	**+2.9**
GTA				pP	pP	00 42 54.5	-2.1
GTA				sP	sP	00 42 59.3	-4.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**64.76**	**331**	P	**P**	**00 42 47.3**	**-0.2**
ULN				IAmb	IAmb	00 42 47.8	
	comp=Z,5.5nm,0.7s						
SONM	**Songino Array**	**65.06**	**331**	P	**P**	**00 42 49.4**	**0.0**
	comp=Z,2.5nm,0.6s,baz=149,slow=7.3,SNR=12						
SONM				LR	LR	01 10 43.5	
	comp=Z,55nm,21.8s,baz=136,slow=36						
SONM	**Songino Array**	**65.06**	**331**	P	**P**	**00 42 49.2**	**-0.1**
PALK	**Pallekele**	**68.12**	**280**	P	**P**	**00 43 10.1**	**+0.6**
PALK				IAmb	IAmb	00 43 11.6	
	comp=Z,13nm,0.8s						
VNDA	**Vanda**	**71.47**	**177**	P	**P**	**00 43 30.3**	**+1.5**
	comp=Z,1.8nm,0.6s,baz=332,slow=6.5,SNR=29						
VNDA				LR	LR	01 14 05.6	
	comp=Z,94nm,18.2s,baz=299,slow=35						
VNDA	**Vanda**	**71.47**	**177**	P	**P**	**00 43 30.1**	**+1.3**
WMQ	**Urumqi**	**73.50**	**319**	*e*P	**P**	**00 43 42.8**	**+1.2**
WMQ				sP	sP	00 44 07.5	+0.7
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,73nm,4.5s						
MK31	**Makanchi Array**	**78.20**	**320**	P	**P**	**00 44 07.5**	**-0.8**
MKAR	**Makanchi Array**	**78.20**	**320**	P	**P**	**00 44 07.4**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=97,slow=8.5,SNR=17						
MKAR	**Makanchi Array**	**78.20**	**320**	P	**P**	**00 44 07.2**	**-1.1**
MAKZ	**Makanchi**	**78.40**	**320**	P	**P**	**00 44 08.5**	**-0.9**
MAKZ				IAmb	IAmb	00 44 08.9	
	comp=Z,3.1nm,0.6s						
ZAA0	**Zalesovo Array**	**79.68**	**328**	P	**P**	**00 44 14.3**	**-1.8**
ZALV	**Zalesovo Beam**	**79.68**	**328**	P	**P**	**00 44 14.2**	**-1.9**
	comp=Z,3.2nm,0.5s,baz=110,slow=6.0,SNR=18						
NIL	**Nilore**	**80.66**	**306**	P	**P**	**00 44 21.1**	**-0.8**
NIL				IAmb	IAmb	00 44 24.7	
	comp=Z,7.0nm,0.6s						
BOOM	**Boomskoye usch**	**81.00**	**315**	P	**P**	**00 44 23.2**	**-0.5**
BOOM				IAmb	IAmb	00 44 26.9	
	comp=Z,9.2nm,1.0s						
MAW	**Mawson**	**82.11**	**203**	P	**P**	**00 44 27.6**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=130,slow=7.9,SNR=2.5						
MAW	**Mawson**	**82.11**	**203**	P	**P**	**00 44 29.1**	**+0.3**
PPLA	**Purkeypile**	**82.66**	**24**	P	**P**	**00 44 31.9**	**-0.1**
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**00 44 37.1**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=309,slow=1.0,SNR=25						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**00 44 37.0**	**+0.4**
IMAR	**Indian Mountai**	**83.65**	**21**	P	**P**	**00 44 35.6**	**-1.3**
KK31	**Karatay Array**	**85.01**	**314**	P	**P**	**00 44 42.9**	**-1.4**
KK31				IAmb	IAmb	00 44 44.4	
	comp=Z,3.4nm,0.9s						
KKAR	**Karatay Array**	**85.01**	**314**	P	**P**	**00 44 42.9**	**-1.3**
CHGR	**Chuyangaron**	**85.02**	**310**	P	**P**	**00 44 43.5**	**-1.1**
CHGR				IAmb	IAmb	00 44 43.8	
	comp=Z,11nm,1.3s						
IL31		**85.61**	**23**	P	**P**	**00 44 44.3**	**-2.4**
ILAR	**Eielson Array**	**85.61**	**23**	P	**P**	**00 44 44.0**	**-2.8**
	comp=Z,1.8nm,0.6s,baz=252,slow=5.0,SNR=19						
NRIK	**Noril'sk**	**85.85**	**342**	P	**P**	**00 44 46.8**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=135,slow=5.4,SNR=2.5						
EGAK	**Eagle**	**87.89**	**24**	P	**P**	**00 44 57.1**	**-0.7**
HYT	**Haines Junctio**	**88.26**	**28**	P	**P**	**00 44 59.8**	**0.0**
HYT				IAmb	IAmb	00 45 02.5	
	comp=Z,4.6nm,1.2s						
ABKAR	**Akbulak array**	**93.28**	**319**	P	**P**	**00 45 21.2**	**-2.1**
ABKAR	**Akbulak array**	**93.28**	**319**	P	**P**	**00 45 21.5**	**-1.8**
ABKAR				IAmb	IAmb	00 45 21.9	
	comp=Z,1.8nm,0.8s						
GEYT	**Alibeck**	**93.50**	**308**	LR	LR	01 32 26.9	
	comp=Z,20nm,18.7s,baz=20,slow=39						
AKTO	**Aktyubinsk**	**94.63**	**320**	LR	LR	01 30 54.8	
	comp=Z,16nm,18.2s,baz=90,slow=37						
SOCY	**Socotra**	**94.86**	**282**	P	**P**	**00 45 30.6**	**-0.8**
NVAR	**Mina Array Bea**	**97.13**	**52**	P	Pdif	00 45 41.5	-0.1
	comp=Z,0.3nm,0.6s,baz=270,slow=5.4,SNR=2.6						
VYHS	**Vyhne**	**119.79**	**323**	*e*PKP	**PKiKP**	**00 50 58.9**	**+0.2**
PLCA	**Paso Flores**	**121.45**	**147**	PKP	**PKiKP**	**00 51 03.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=261,slow=3.9,SNR=5.4						
CLL	**Collm**	**121.63**	**328**	*e*PKiKP	**PKiKP**	**00 51 02.0**	**-0.2**
	comp=Z,5.0nm,0.9s						
CONA	**Conrad Observa**	**121.81**	**324**	*e*P	**PKPdf**	**00 51 02.0**	**-0.7**
	comp=Z,0.5nm,0.3s						
GERES	**GERESS Array B**	**122.59**	**326**	PKP	**PKPdf**	**00 51 03.1**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=72,slow=2.2,SNR=11						
GERES	**GERESS Array B**	**122.59**	**326**	PKPdf	**PKPdf**	**00 51 03.3**	**-0.8**
ABTA	**Abfaltersbach**	**124.38**	**324**	*e*P	**PKPdf**	**00 51 05.2**	**-2.4**
	comp=Z,1.9nm,0.7s						
WTTA	**Wattenberg**	**124.61**	**325**	*e*P	**PKPdf**	**00 51 07.3**	**-0.8**
	comp=Z,1.4nm,0.2s						
MOTA	**Moosalm**	**124.86**	**325**	*e*P	**PKPdf**	**00 51 07.0**	**-1.6**
	comp=Z,5.1nm,0.8s						
SQTA	**Sankt Quirin**	**124.87**	**325**	*e*P	**PKPdf**	**00 51 05.8**	**-2.8**
	comp=Z,0.9nm,0.3s						
FETA	**Feichten**	**125.26**	**325**	*e*P	**PKPdf**	**00 51 08.9**	**-0.5**
	comp=Z,2.9nm,0.8s						
DAVA	**Damuels**	**125.58**	**326**	*e*P	**PKPdf**	**00 51 09.1**	**-0.9**
	comp=Z,1.6nm,0.6s						
KEST	**Kesra**	**131.91**	**313**	PKP	**PKiKP**	**00 51 23.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=102,slow=4.3,SNR=4.3						
LPAZ	**La Paz**	**138.05**	**123**	PKhKP	PKPpre	00 51 29.3	
	comp=Z,1.1nm,0.6s,baz=326,slow=3.6,SNR=4.0						
LPAZ	**La Paz**	**138.05**	**123**		**PKPdf**	**00 51 33.3**	**-1.7**
ROSC	**El Rosal**	**138.25**	**90**	PKP	**PKPdf**	**00 51 32.5**	**-2.6**
	comp=Z,5.4nm,0.5s,baz=164,slow=18,SNR=2.8						
ROSC	**El Rosal**	**138.25**	**90**		**PKPdf**	**00 51 34.0**	**-1.1**
CPUP	**Villa Florida**	**139.44**	**144**	PKP	**PKiKP**	**00 51 37.5**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=292,slow=1.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.78**	**284**	PKPbc	**PKPab**	**00 51 48.5**	**-0.4**
	comp=Z,20nm,0.6s,baz=71,slow=3.7,SNR=173						
KIC	**Kosan Boka**	**152.53**	**271**	*e*PKP1	**PKiKP**	**00 52 06.0**	**-0.1**
	comp=Z,28nm,0.9s						
DBIC	**Dimbokro**	**152.65**	**272**	PKPbc	**PKiKP**	**00 52 06.8**	**+0.5**
	comp=Z,11nm,0.8s,baz=119,slow=1.8,SNR=13						
LIC	**Lamto**	**152.81**	**271**	*e*PKP1	**PKiKP**	**00 52 06.4**	**-0.2**
	comp=Z,43nm,0.7s						
TIC	**Toumodi**	**152.81**	**272**	*e*PKP1	**PKiKP**	**00 52 06.8**	**+0.1**
BDFB	**Brasilia**	**153.18**	**145**	PKPbc	**PKiKP**	**00 52 07.7**	**+0.2**
	comp=Z,9.7nm,0.7s,baz=190,slow=3.3,SNR=13						

IDC ***14*** *00:34:57.5±2.1,31°34S×76°49E,h0km,mb3.9/5, mb1 3.9/5,mb1mx3.6/36,mbtmp3.9/5,Error ellipse: s-maj=76.2km s-min=42.9km az=19.0*

NEIC ***14*** *00:34:58.4±0.8,31°49S±0°05×76°6E±

SHL	**Shillong**	**58.60**	**16**	P	**P**	00 45 33.0	+1.0
VNA2	**Neumayer--Watz**	**58.64**	**203**	P	**P**	00 45 31.3	-0.3
	baz=96,slow=7.7						
VNA1	**Neumayer--Stat**	**58.95**	**203**	P	**P**	00 45 33.7	0.0
VNA3	**Neumayer Olymp**	**59.34**	**202**	P	**P**	00 45 36.6	+0.2
LSA	**Lhasa**	**62.42**	**14**	P	**P**	00 45 58.3	0.0
LSA				IAmb	IAmb	00 46 12.0	
	comp=Z,7.3nm,1.1s						
KBL	**Kabul**	**66.08**	**353**	P	**P**	00 46 22.4	+0.5
KBL				IAmb	IAmb	00 46 23.6	
	comp=Z,3.8nm,0.8s						
CHGR	**Chuyangaron**	**70.14**	**354**	P	**P**	00 46 46.5	-0.7
GAR	**Garm**	**70.39**	**355**	P	**P**	00 46 48.3	-0.5
GAR				IAmb	IAmb	00 46 49.3	
	comp=Z,6.6nm,1.0s						
BTK	**Batken**	**71.40**	**355**	P	**P**	00 46 53.2	-1.6
BTK				IAmb	IAmb	00 46 56.8	
	comp=Z,8.6nm,1.1s						
XAN	**Xi'an**	**71.96**	**28**	P	**P**	00 46 57.8	-0.5
XAN				IAmb	IAmb	00 46 59.8	
	comp=Z,6.5nm,0.8s						
KK31	**Karatay Array**	**74.45**	**355**	P	**P**	00 47 13.7	+0.9
KK31				IAmb	IAmb	00 47 15.1	
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**74.45**	**355**	P	**P**	00 47 13.3	+0.5
WMQ	**Urumqi**	**75.64**	**8**	P	**P**	00 47 20.3	+0.6
GAZ	**Gaziantep**	**77.61**	**329**	P	**P**	00 47 32.0	+1.0
GAZ				IAmb	IAmb	00 47 33.5	
	comp=Z,12nm,1.4s						
CSS	**Mathiatis**	**77.63**	**325**	P	**P**	00 47 31.6	+0.5
CSS				IAmb	IAmb	00 47 33.2	
	comp=Z,8.7nm,0.9s						
MK31	**Makanchi Array**	**78.10**	**4**	P	**P**	00 47 32.7	-0.7
MKAR	**Makanchi Array**	**78.10**	**4**	P	**P**	00 47 32.9	-0.5
	comp=Z,3.1nm,0.9s,baz=183,slow=6.1,SNR=9.7						
MKAR	**Makanchi Array**	**78.10**	**4**	P	**P**	00 47 32.5	-0.9
KBZ	**Khabaz**	**80.97**	**336**	P	**P**	00 47 49.9	+0.8
	comp=Z,1.9nm,1.1s,baz=225,slow=8.6,SNR=3.7						
BRTR	**Keskin Array B**	**81.31**	**328**	P	**P**	00 47 51.8	+0.6
	comp=Z,1.7nm,0.8s,baz=110,slow=7.1,SNR=6.4						
BRTR	**Keskin Array B**	**81.31**	**328**	P	**P**	00 47 51.4	+0.2
ABKAR	**Akbulak array**	**81.76**	**349**	P	**P**	00 47 52.6	-0.5
ABKAR	**Akbulak array**	**81.76**	**349**	P	**P**	00 47 52.5	-0.6
ABKAR				IAmb	IAmb	00 47 54.3	
	comp=Z,2.9nm,1.1s						
KURK	**Kurchatov**	**81.88**	**1**	P	**P**	00 47 53.8	+0.1
ILGA	**Ilgaz**	**82.35**	**329**	P	**P**	00 47 56.1	-0.6
ILGA				IAmb	IAmb	00 47 58.3	
	comp=Z,16nm,1.5s						
SONM	**Songino Array**	**83.39**	**20**	P	**P**	00 48 02.1	+0.3
	comp=Z,1.8nm,0.9s,baz=176,slow=5.4,SNR=6.1						
SONM	**Songino Array**	**83.39**	**20**	P	**P**	00 48 01.7	-0.2
TORD	**Torodi Ar. Bea**	**84.31**	**289**	P	**P**	00 48 07.2	0.0
	comp=Z,1.5nm,0.8s,baz=107,slow=3.6,SNR=7.9						
TORD	**Torodi Ar. Bea**	**84.31**	**289**	P	**P**	00 48 06.5	-0.6
BRVK	**Borovoye**	**84.38**	**356**	P	**P**	00 48 06.7	+0.1
BRVK				IAmb	IAmb	00 48 08.0	
	comp=Z,8.1nm,1.2s						
ZAA0	**Zalesovo Array**	**85.39**	**5**	P	**P**	00 48 11.4	-0.3
ZAA0				IAmb	IAmb	00 48 12.5	
	comp=Z,9.1nm,1.0s						
ZALV	**Zalesovo Beam**	**85.39**	**5**	P	**P**	00 48 11.6	-0.1
	comp=Z,6.4nm,0.9s,baz=199,slow=4.1,SNR=16						
ZALV	**Zalesovo Beam**	**85.39**	**5**	P	**P**	00 48 11.1	-0.6
ALN	**Alexandroupoli**	**85.85**	**324**	P	**P**	00 48 14.1	-0.2
ALN				IAmb	IAmb	00 48 15.9	
	comp=Z,8.5nm,1.1s						
AGG	**Agios Georgios**	**86.42**	**321**	P	**P**	00 48 16.8	-0.4
AGG				IAmb	IAmb	00 48 17.9	
	comp=Z,9.2nm,1.2s						
LIT	**Litokhoron**	**87.11**	**322**	P	**P**	00 48 19.8	-0.8
MLR	**Muntele Rosu**	**89.35**	**327**		**P**	00 48 31.8	+0.7
AKASG	**Malin Array Be**	**91.92**	**332**	P	**P**	00 48 42.8	0.0
	comp=Z,0.3nm,0.2s,baz=134,slow=3.5,SNR=6.1						
YKA	**Yellowknife Ar**	**148.16**	**10**	PKPbc	**PKPbc**	00 55 19.0	-0.9
	comp=Z,3.6nm,0.8s,baz=336,slow=3.4,SNR=11						
NVAR	**Mina Array Bea**	**165.97**	**56**	PKPab	**PKPab**	00 56 39.3	-0.9
	comp=Z,0.5nm,0.7s,baz=269,slow=5.4,SNR=4.8						

TAP ***14*** *00:39:04.6,24.66N×122.27E,h8km,ML3.8,C*
JMA ***14*** *00:39:06.0,24.61N×122.21E,h33km±4km,M3.3*
ISC 14 00:39:04.2±1.0,**24.63N**±0.02×**122.33E**±0.01,**h6**km±9km,
n112,s0e74/216,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.42**	**301**	*eP*		**Pg**	**Sg**	**00 39 11.3**	**-1.1**
	baz=300								
EGS				*i* S		**Sg**	**Sg**	**00 39 17.8**	**-0.1**
	baz=300								
TWC	**Suao**	**0.44**	**267**	*i* P		**Pg**	**Pg**	**00 39 12.2**	**-0.5**
	baz=261								
TWC				S		**Sg**	**Sg**	**00 39 19.1**	**+0.7**
	baz=261								
TWB1	**Santiao Chiao**	**0.49**	**321**	*i* P		**Pg**	**Pg**	**00 39 14.0**	**+0.3**
	baz=323								
TWB1				S		**Sg**	**Sg**	**00 39 20.5**	**+0.5**
	baz=323								
NTC	**Toucheng**	**0.51**	**296**	P		**Pg**	**Pg**	**00 39 13.9**	**-0.1**
	baz=294								
NTC				S		**Sg**	**Sg**	**00 39 21.7**	**+1.1**
	baz=294								
ENAH	**Nanao**	**0.51**	**249**	P		**Pg**	**Pg**	**00 39 13.7**	**-0.3**
	baz=256								
ENAH				S		**Sg**	**Sg**	**00 39 21.9**	**+1.3**
	baz=256								
ILA	**Ilan**	**0.55**	**284**	*e*P		**Pg**	**Pg**	**00 39 14.5**	**-0.3**
	baz=270								
ILA				S		**Sg**	**Sg**	**00 39 23.0**	**+1.1**
	baz=270								
TIPB	**Shuangxi**	**0.57**	**307**	*i* P		**Pg**	**Pg**	**00 39 15.4**	**+0.1**
	baz=298								
TIPB				*e*S		**Sg**	**Sg**	**00 39 21.5**	**-1.1**
	baz=298								
ENA	**Nanau**	**0.57**	**249**	*e*P		**Pg**	**Pg**	**00 39 14.8**	**-0.4**
	baz=253								
ENA				S		**Sg**	**Sg**	**00 39 23.2**	**+0.4**
	baz=253								
JYNG	**Yonagunijimaku**	**0.59**	**108**	P		**Pn**	**Pn**	**00 39 19.1**	**0.0**
JYNG				S		**Sn**	**Sn**	**00 39 28.4**	**-0.6**
TWE	**Neicheng**	**0.61**	**279**	P		**Pg**	**Pg**	**00 39 15.4**	**-0.5**
	baz=275								
TWE				S		**Sg**	**Sg**	**00 39 24.3**	**+0.4**
	baz=275								
YOJ	**Yonaguni jima**	**0.64**	**105**	*e*P		**Pn**	**Pn**	**00 39 20.3**	**+0.5**
	baz=107								
YOJ				*e*S		**Sn**	**Sn**	**00 39 31.5**	**+1.2**
	baz=107								
YOJ	**Yonaguni jima**	**0.64**	**105**	P		**Pn**	**Pn**	**00 39 19.8**	**0.0**
YOJ				S		**Sn**	**Sn**	**00 39 30.2**	**-0.1**
NWF	**Wu-fen Shan**	**0.66**	**311**	*e*P		**Pb**	**Pb**	**00 39 18.8**	**+0.6**
	baz=301								
NWF				*e*S		**Sb**	**Sb**	**00 39 27.1**	**-0.6**
	baz=301								
WFSB	**Wu-fen Shan**	**0.66**	**311**	*e*P		**Pb**	**Pb**	**00 39 17.8**	**-0.4**
	baz=301								
WFSB				*e*S		**Sb**	**Sb**	**00 39 26.8**	**-0.9**
	baz=301								
ENTT	**Nioudou**	**0.69**	**271**	*i* P		**Pg**	**Pg**	**00 39 17.2**	**-0.4**
	baz=267								
ENTT				S		**Sg**	**Sg**	**00 39 27.4**	**+0.8**
	baz=267								
NDT	**Datong Townshi**	**0.74**	**268**	*i* P		**Pg**	**Pg**	**00 39 18.4**	**-0.1**
	baz=264								
NDT				S		**Sg**	**Sg**	**00 39 28.4**	**+0.2**
	baz=264								
TWA	**Mucha**	**0.76**	**297**	*e*P		**Pg**	**Pg**	**00 39 19.0**	**+0.1**
	baz=285								
TWA				S		**Sg**	**Sg**	**00 39 28.1**	**-0.7**
	baz=285								
NACB	**Ninganchiao**	**0.81**	**236**	*i* P		**Pg**	**Pg**	**00 39 19.6**	**-0.2**
	baz=231								
NACB				*e*S		**Sb**	**Sb**	**00 39 32.2**	**+0.4**
	baz=231								
NWRT	**Kuosheng**	**0.83**	**313**	*e*P		**Pb**	**Pb**	**00 39 20.6**	**-0.4**
	baz=313								
NWRT				*e*S		**Sb**	**Sb**	**00 39 32.4**	**-0.1**
	baz=313								
TAP1	**Taipei**	**0.84**	**299**	*e*P		**Pn**	**Pn**	**00 39 22.9**	**+0.4**
	baz=289								
TAP1				*e*S		**Sg**	**Sg**	**00 39 31.2**	**0.0**
	baz=289								
TATO	**Taipei**	**0.84**	**294**	P		**Pb**	**Pb**	**00 39 20.8**	**-0.4**
	baz=285								
TATO				*e*S		**Sg**	**Sg**	**00 39 31.2**	**-0.1**
	baz=285								
TAP	**Taipei**	**0.85**	**299**	*e*P		**Pn**	**Pn**	**00 39 22.6**	**-0.1**
	baz=289								
TAP				S		**Sg**	**Sg**	**00 39 31.6**	**0.0**
	baz=289								
YM01	**YM01**	**0.86**	**307**	*e*P		**Pb**	**Pb**	**00 39 21.4**	**-0.1**
	baz=294								
YM01				*e*S		**Sb**	**Sb**	**00 39 33.1**	**-0.2**
	baz=294								
TWD	**Chiawan**	**0.86**	**231**	P		**Pb**	**Pb**	**00 39 21.4**	**-0.2**
	baz=235								
TWD				*e*S		**Sb**	**Sb**	**00 39 33.0**	**-0.4**
	baz=235								
YHNB	**Yeheng**	**0.87**	**273**	*i* P		**Pg**	**Pg**	**00 39 20.8**	**-0.1**
	baz=270								
YHNB				*e*S		**Sg**	**Sg**	**00 39 31.8**	**-0.4**
	baz=270								
YM11	**YM11**	**0.87**	**308**	P		**Pn**	**Pn**	**00 39 22.5**	**-0.5**
	baz=307								
YM11				*e*S		**Sb**	**Sb**	**00 39 33.8**	**+0.1**
	baz=307								
YM08	**YM08**	**0.87**	**310**	P		**Pb**	**Pb**	**00 39 21.6**	**-0.2**
	baz=309								
YM08				*e*S		**Sb**	**Sb**	**00 39 33.6**	**-0.1**
	baz=309								
YM10	**YM10**	**0.87**	**307**	*e*P		**Pb**	**Pb**	**00 39 21.7**	**-0.1**
	baz=306								
YM10				*e*S		**Sb**	**Sb**	**00 39 33.7**	**0.0**
	baz=306								
YM05	**YM05**	**0.87**	**308**	P		**Pb**	**Pb**	**00 39 21.8**	**-0.1**
	baz=307								
YM05				*e*S		**Sb**	**Sb**	**00 39 33.7**	**0.0**
	baz=307								
ETLH	**Xiulin Townshi**	**0.88**	**242**	*e*P		**Pg**	**Pg**	**00 39 20.7**	**-0.5**
	baz=248								
ETLH				*e*S		**Sg**	**Sg**	**00 39 33.1**	**+0.5**
	baz=248								
NSK	**Sanguang**	**0.89**	**273**	P		**Pg**	**Pg**	**00 39 20.8**	**-0.4**
	baz=270								
NSK				*e*S		**Sg**	**Sg**	**00 39 32.0**	**-0.7**
	baz=270								
NNSB	**Datong**	**0.89**	**257**	*i* P		**Pg**	**Pg**	**00 39 20.6**	**-0.6**
	baz=253								
NNSB				*e*S		**Sg**	**Sg**	**00 39 33.4**	**+0.6**
	baz=253								
NNSH	**Datong**	**0.89**	**257**	P		**Pg**	**Pg**	**00 39 20.8**	**-0.4**
	baz=253								
NNSH				*e*S		**Sg**	**Sg**	**00 39 32.4**	**-0.4**
	baz=253								
YM04	**YM04**	**0.89**	**306**	*e*P		**Pb**	**Pb**	**00 39 22.0**	**-0.1**
	baz=305								
YM04				*e*S		**Sb**	**Sb**	**00 39 34.5**	**+0.3**
	baz=305								
NNS	**Nan Shan**	**0.89**	**258**	P		**Pb**	**Pb**	**00 39 22.0**	**-0.2**
	baz=254								
NNS				S		**Sg**	**Sg**	**00 39 33.0**	**0.0**
	baz=254								
YM03	**YM03**	**0.90**	**307**	*e*P		**Pg**	**Pg**	**00 39 21.8**	**+0.3**
	baz=306								
YM03				*e*S		**Sb**	**Sb**	**00 39 34.2**	**-0.4**
	baz=306								
ANP	**Anpu**	**0.92**	**307**	*e*P		**Pb**	**Pb**	**00 39 23.1**	**+0.4**
	baz=306								
ANP				*e*S		**Sg**	**Sg**	**00 39 33.7**	**-0.1**
	baz=306								
TWY	**Chenhua**	**0.92**	**314**	*e*P		**Pb**	**Pb**	**00 39 22.9**	**+0.3**
	baz=314								
TWY				*e*S		**Sb**	**Sb**	**00 39 35.2**	**+0.1**
	baz=314								
HWA	**Hwalien**	**0.93**	**226**	*e*S		**Sn**	**Sn**	**00 39 38.1**	**+0.7**
	baz=231								
NSM	**Shimen**	**0.94**	**314**	*e*P		**Pb**	**Pb**	**00 39 23.1**	**+0.2**
	baz=314								
NSM				*e*S		**Sb**	**Sb**	**00 39 35.5**	**0.0**
	baz=314								
TWS1	**Kuangyinshan**	**0.95**	**300**	*e*P		**Pb**	**Pb**	**00 39 23.5**	**+0.4**
	baz=288								
TWS1				*e*S		**Sb**	**Sb**	**00 39 35.4**	**-0.5**
	baz=288								
NTST	**Danshui**	**0.96**	**304**	P		**Pn**	**Pn**	**00 39 24.1**	**-0.1**
	baz=294								
NTST				S		**Sb**	**Sb**	**00 39 36.6**	**+0.4**
	baz=294								
PCYT	**Pengchaiyu**	**1.02**	**347**	*e*P		**Pb**	**Pb**	**00 39 24.1**	**-0.2**
	baz=350								
PCYT				*e*S		**Sn**	**Sn**	**00 39 39.3**	**-0.4**
	baz=350								
FUSS	**Fushou**	**1.06**	**249**	P		**Pg**	**Pg**	**00 39 24.5**	**-0.1**
	baz=254								
FUSS				*e*S		**Sg**	**Sg**	**00 39 38.2**	**-0.1**
	baz=254								
WHF	**Hehuan Shan**	**1.08**	**244**	P		**Pg**	**Pg**	**00 39 24.6**	**-0.5**
	baz=239								
WHF				S		**Sg**	**Sg**	**00 39 38.4**	**-0.8**
	baz=239								
NCU	**National Centr**	**1.09**	**288**	P		**Pg**	**Pg**	**00 39 25.0**	**-0.2**
	baz=286								
NCU				*i* S		**Sn**	**Sn**	**00 39 40.8**	**-0.6**
	baz=286								
NCUH	**Zhongli**	**1.09**	**288**	*e*P		**Pn**	**Pn**	**00 39 26.1**	**0.0**
	baz=285								
NCUH				*e*S		**Sn**	**Sn**	**00 39 41.7**	**+0.2**
	baz=285								
TWT	**Tachien**	**1.12**	**251**	P		**Pb**	**Pb**	**00 39 26.1**	**0.0**
	baz=247								
TWT				S		**Sg**	**Sg**	**00 39 40.4**	**+0.2**
	baz=247								
TDCB	**Techi**	**1.13**	**251**	*e*P		**Pg**	**Pg**	**00 39 25.4**	**-0.6**
	baz=247								
TDCB				*e*S		**Sg**	**Sg**	**00 39 39.8**	**-0.9**
	baz=247								
ESL	**Shilin**	**1.15**	**225**	P		**Pn**	**Pn**	**00 39 27.0**	**+0.1**
	baz=208								
ESL				S		**Sn**	**Sn**	**00 39 44.3**	**+1.3**
	baz=208								
LIOB	**Emei**	**1.20**	**271**	*e*P		**Pn**	**Pn**	**00 39 27.6**	**+0.1**
	baz=259								
LIOB				*e*S		**Sn**	**Sn**	**00 39 44.7**	**+0.7**
	baz=259								
CHGB	**Renai**	**1.20**	**242**	P		**Pg**	**Pg**	**00 39 27.3**	**0.0**
	baz=238								
CHGB				S		**Sn**	**Sn**	**00 39 44.3**	**-0.1**
	baz=238								
NSTT	**Nanjuang**	**1.21**	**270**	*e*P		**Pn**	**Pn**	**00 39 27.7**	**+0.1**
	baz=258								
NSTT				*e*S		**Sn**	**Sn**	**00 39 44.7**	**+0.4**
	baz=258								
SBCB	**Hsinchu**	**1.23**	**278**	*e*P		**Pn**	**Pn**	**00 39 28.6**	**+0.7**
	baz=267								
SBCB				*e*S		**Sn**	**Sn**	**00 39 45.7**	**+0.8**
	baz=267								
HSN	**Hsinchu**	**1.25**	**278**	*e*P		**Pn**	**Pn**	**00 39 26.8**	**-1.4**
	baz=277								
HSN				S		**Sg**	**Sg**	**00 39 44.4**	**0.0**
	baz=277								
OWD	**Renai**	**1.25**	**238**	*e*P		**Pg**	**Pg**	**00 39 28.0**	**-0.2**
	baz=243								
OWD				*e*S		**Sn**	**Sn**	**00 39 45.8**	**+0.2**
	baz=243								
EGFH	**Guangfu**	**1.26**	**221**	*e*P		**Pg**	**Pg**	**00 39 29.7**	**+1.2**
	baz=198								
EGFH				*e*S		**Sn**	**Sn**	**00 39 46.5**	**+0.9**
	baz=198								
IRIF	**Iriomote-Funau**	**1.31**	**103**	P		**Pg**	**Pg**	**00 39 29.7**	**+0.4**
IRIF				*e*S		**Sn**	**Sn**	**00 39 47.8**	**+1.0**
WHP	**Taichung City**	**1.31**	**255**	*e*P		**Pn**	**Pn**	**00 39 28.8**	**-0.3**
	baz=251								
WHP				*e*S		**Sb**	**Sb**	**00 39 45.5**	**-0.8**
	baz=251								
VWDT	**VWDT**	**1.39**	**231**	*e*P		**Pg**	**Pg**	**00 39 31.3**	**+0.4**
	baz=234								
VWDT				*e*S		**Sg**	**Sg**	**00 39 50.9**	**+1.9**
	baz=234								
HGSD	**Ruisui**	**1.40**	**216**	*e*P		**Pn**	**Pn**	**00 39 29.7**	**-0.6**
	baz=196								
HGSD				*e*S		**Sg**	**Sg**	**00 39 49.7**	**+0.3**
	baz=196								
NMLH	**Miaoli**	**1.40**	**267**	*e*P		**Pg**	**Pg**	**00 39 31.8**	**+0.6**
	baz=255								
NMLH				*e*S		**Sg**	**Sg**	**00 39 51.5**	**+2.1**
	baz=255								
NSY	**Sanyi**	**1.45**	**262**	*e*P		**Pg**	**Pg**	**00 39 33.3**	**+1.3**
	baz=258								
NSY				*e*S		**Sg**	**Sg**	**00 39 51.5**	**+0.8**
	baz=258								
TWQ1	**Liyutan**	**1.45**	**259**	*e*P		**Pg**	**Pg**	**00 39 32.8**	**+0.9**
	baz=256								
TWQ1				*e*S		**Sb**	**Sb**	**00 39 50.4**	**+0.2**
	baz=256								
EHY	**Hungye**	**1.45**	**220**	P		**Pn**	**Pn**	**00 39 30.4**	**-0.5**
	baz=214								
EHY				S		**Sg**	**Sg**	**00 39 51.5**	**+0.7**
	baz=214								
HATJ	**Hateruma jima**	**1.46**	**113**	P		**Pb**	**Pb**	**00 39 31.9**	**+0.1**
HATJ				S		**Sg**	**Sg**	**00 39 52.2**	**+1.0**
PTSB	**Yuanli**	**1.49**	**263**	*e*P		**Pg**	**Pg**	**00 39 34.6**	**+1.8**
	baz=260								
PTSB				*e*S		**Sg**	**Sg**	**00 39 52.1**	**-0.1**
	baz=260								
SMLT	**Sun Moon Lake**	**1.50**	**241**	*e*P		**Pb**	**Pb**	**00 39 32.7**	**+0.1**
	baz=244								
SMLT				*e*S		**Sg**	**Sg**	**00 39 53.5**	**+0.9**
	baz=244								
SSLB	**Suanglung**	**1.51**	**237**	*e*P		**Pn**	**Pn**	**00 39 32.1**	**+0.3**
	baz=240								
SSLB				*e*S		**Sg**	**Sg**	**00 39 53.3**	**+0.5**
	baz=240								
TYC	**Yuchr**	**1.53**	**242**	*e*P		**Pb**	**Pb**	**00 39 33.1**	**+0.2**
	baz=238								
TYC				*e*S		**Sb**	**Sb**	**00 39 52.7**	**+0.2**
	baz=238								
YULB	**Yu-li**	**1.55**	**218**	*e*P		**Pn**	**Pn**	**00 39 31.3**	**-1.1**
	baz=212								
YULB				*e*S		**Sn**	**Sn**	**00 39 52.4**	**-0.4**
	baz=212								
WDJ	**Dajia District**	**1.56**	**260**	*e*P		**Pb**	**Pb**	**00 39 33.7**	**+0.2**
	baz=257								
WDJ				*e*S		**Sg**	**Sg**	**00 39 54.5**	**0.0**
	baz=257								
EYUL	**Yuli**	**1.58**	**216**	*e*P		**Pn**	**Pn**	**00 39 32.8**	**+0.1**
	baz=197								
EYUL				*e*S		**Sg**	**Sg**	**00 39 54.8**	**-0.1**
	baz=197								
JKRS	**Kuro-shima**	**1.58**	**104**	P		**Pg**	**Pg**	**00 39 34.1**	**-0.4**
JKRS				S		**Sg**	**Sg**	**00 39 54.6**	**-0.4**
TWF1	**Yuli**	**1.58**	**217**	*e*P		**Pg**	**Pg**	**00 39 34.6**	**0.0**
	baz=198								
TWF1				*e*S		**Sb**	**Sb**	**00 39 54.4**	**+0.2**
	baz=198								
WHYT	**Xinyi Township**	**1.64**	**236**	*e*P		**Pb**	**Pb**	**00 39 34.3**	**-0.5**
	baz=239								
WHYT				*e*S		**Sg**	**Sg**	**00 39 57.2**	**+0.3**
	baz=239								
WJS	**Zhushan**	**1.67**	**241**	*e*P		**Pg**	**Pg**	**00 39 37.0**	**+0.8**
	baz=224								
WJS				*e*S		**Sg**	**Sg**	**00 40 00.5**	**+2.6**
	baz=224								
JIJ	**Ishigaki jima**	**1.67**	**99**	P		**Pb**	**Pb**	**00 39 35.0**	**-0.4**
JIJ				S		**Sb**	**Sb**	**00 39 56.4**	**-0.3**
WNT	**Mingjian**	**1.68**	**244**	*e*P		**Pg**	**Pg**	**00 39 37.0**	**+0.6**
	baz=249								
WNT				*e*S		**Sg**	**Sg**	**00 40 01.0**	**+2.8**
	baz=249								
FULB	**Fuli**	**1.71**	**214**	*e*P		**Pn**	**Pn**	**00 39 34.2**	**-0.4**
	baz=194								
FULB				*e*S		**Sn**	**Sn**	**00 39 56.2**	**-0.6**
	baz=194								
CHKT	**Chengkung**	**1.76**	**210**	*e*S		**Sn**	**Sn**	**00 39 56.3**	**-1.6**
	baz=190								
ALS	**Alishan**	**1.79**	**232**	*e*P		**Pb**	**Pb**	**00 39 37.5**	**0.0**
	baz=235								
ALS				*e*S		**Sg**	**Sg**	**00 40 02.9**	**+1.3**
	baz=235								
JISG	**Ishigakijimahi**	**1.80**	**91**	P		**Pb**	**Pb**	**00 39 37.2**	**-0.4**
JISG				*e*S		**Sb**	**Sb**	**00 40 01.0**	**+0.5**
CHN5	**Tsauling**	**1.83**	**236**	*e*P		**Pg**	**Pg**	**00 39 39.6**	**+0.4**
	baz=212								
CHN5				*e*S		**Sg**	**Sg**	**00 40 04.3**	**+1.3**
	baz=212								
WGK	**Gukeng**	**1.87**	**240**	*e*S		**Sg**	**Sg**	**00 40 04.5**	**+0.2**
	baz=215								
ELDTW	**Lidau**	**1.87**	**220**	*e*P		**Pb**	**Pb**	**00 39 38.0**	**-0.9**
	baz=201								
ELDTW				*e*S		**Sn**	**Sn**	**00 40 00.5**	**-0.3**
	baz=201								
WDLH	**Douliu**	**1.89**	**241**	*e*P		**Pg**	**Pg**	**00 39 40.4**	**0.0**
	baz=222								
WDLH				*e*S		**Sg**	**Sg**	**00 40 06.1**	**+1.2**
	baz=222								
EDH	**Donghe**	**1.90**	**210**	*e*P		**Pn**	**Pn**	**00 39 36.8**	**-0.4**
	baz=191								
EDH				*e*S		**Sn**	**Sn**	**00 40 01.1**	**-0.2**
	baz=191								
WTK	**Tuku**	**2.01**	**242**	*e*P		**Pb**	**Pb**	**00 39 40.5**	**-0.6**
	baz=257								
WTK				*e*S		**Sg**	**Sg**	**00 40 08.4**	**-0.4**
	baz=257								
CHN2	**Minshiung**	**2.02**	**238**	*e*S		**Sg**	**Sg**	**00 40 10.3**	**+1.2**
	baz=233								
CHN4	**Tsaushan**	**2.04**	**232**	*e*P		**Pb**	**Pb**	**00 39 41.3**	**-0.3**
	baz=209								
CHN4				*e*S		**Sb**	**Sb**	**00 40 07.9**	**+0.7**
	baz=209								
LONT	**Longtian**	**2.04**	**213**	*e*P		**Pn**	**Pn**	**00 39 38.7**	**-0.3**
	baz=208								
LONT				*e*S		**Sn**	**Sn**	**00 40 03.8**	**-1.0**
	baz=208								
TPUB	**Ta-pu**	**2.04**	**230**	*e*P		**Pb**	**Pb**	**00 39 40.7**	**-1.1**
	baz=207								
TPUB				*e*S		**Sb**	**Sb**	**00 40 07.5**	**+0.1**
	baz=207								
STYT	**Tauyuan**	**2.05**	**225**	*e*P		**Pn**	**Pn**	**00

baz=201
WHN Wuhan 9.21 312 ⇑P Pn 00 41 24.4 +6.9

*DJA **14** 00:50:21.5±0.3,9˚S±4˚×11˚1E±˚, h106km±6km, M4.5/18, mB5.2/3, mb4.8/5, MLv4.3/18, Mw(mB)4.6/3*
*IDC **14** 00:50:24.0±2.2,8˚35S×111˚42E, h130km±21km, mb3.7/6, mb1 3.8/8, mb1mx3.4/48, mbtmp4.1/8, MS3.6/1, Ms1 3.6/1, ms1mx2.7/38, Error ellipse: s-maj=29.6km s-min=14.2km az=42.0*
*NEIC **14** 00:50:23.0±2.8, 8˚59S±0˚09×111˚34E±0˚07, h124km±9km, mb4.4/12, Error ellipse: s-maj=14.5km s-min=9.0km az=207.0*
ISC 14 00:50:22.7±0.7,**8˚54S**±0˚06×**111˚37E**±0˚04,**h121**km±7km, **n49**,σ1s**23**/61,**mb4.1**/9,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.67**	**40**	P		**Pn**		**00 50 42.6**	**+0.6**
PWJI				S		**Sn**		**00 50 57.2**	**+0.7**
WOJI	**Wonogiri, Jawa**	**0.82**	**328**	P		**Pn**		**00 50 43.9**	**+0.7**
UGM	**Wanagama**	**1.04**	**307**	P		**Pn**		**00 50 45.6**	**+0.3**
UGM				S		**Sn**		**00 51 02.1**	**-0.3**
UGM	**Wanagama**	**1.04**	**307**			**Pn**		**00 50 46.1**	**+0.9**
UGM				Sn		**Sn**		**00 51 01.4**	**-1.0**
YOGI	**Yogyakarta**	**1.28**	**304**	P		**Pn**		**00 50 47.5**	**-0.3**
YOGI				S		**Sn**		**00 51 05.9**	**-0.9**
SMRI	**Semarang**	**1.74**	**328**	P		**Pn**		**00 50 54.4**	**+1.3**
SMRI				S		**Sn**		**00 51 18.1**	**+1.9**
SMRI	**Semarang**	**1.74**	**328**	Pn		**Pn**		**00 50 54.6**	**+1.6**
SMRI				Sn		**Sn**		**00 51 17.3**	**+1.0**
TBJI	**Tambak Boyo**	**1.77**	**16**	P		**Pn**		**00 50 54.8**	**+1.3**
TBJI				S		**Sn**		**00 51 18.3**	**+1.3**
GRJI	**Gresik**	**1.95**	**34**	P		**Pn**		**00 50 57.2**	**+1.5**
GRJI				S		**Sn**		**00 51 19.9**	**-1.0**
BLJI	**Banyuglugur**	**2.34**	**71**	P		**Pn**		**00 51 01.7**	**+1.2**
KPJI	**Karang Pucung**	**2.69**	**296**	P		**Pn**		**00 51 05.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.76**	**89**	P		**Pn**		**00 51 06.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.76**	**89**			**Pn**		**00 51 06.6**	**+0.8**
JAGI				Sn		**Sn**		**00 51 37.5**	**-1.7**
ABJI	**Asem Bagus**	**2.93**	**76**	P		**Pn**		**00 51 09.7**	**+1.5**
CMJI	**Cimerak**	**2.98**	**284**	P		**Pn**		**00 51 08.7**	**-0.1**
CISI	**Cisompet, Garu**	**3.65**	**285**	P		**Pn**		**00 51 17.1**	**-0.6**
CISI	**Cisompet, Garu**	**3.65**	**285**	Pn		**Pn**		**00 51 17.9**	**+0.2**
LEM	**Lembang**	**4.08**	**294**	P		**Pn**		**00 51 24.5**	**+0.9**
	5.9nm,0.3s,baz=137,slow=11,SNR=4.6								
LEM				S		**Sn**		**00 52 12.7**	**+1.9**
	8.3nm,0.3s,baz=209,slow=23,SNR=4.1								
CNJI	**Cibinong**	**4.37**	**286**	P		**Pn**		**00 51 27.4**	**+0.2**
CNJI				S		**Sn**		**00 52 16.2**	**-1.1**
SKJI	**Sukabumi**	**5.00**	**287**	P		**Pn**		**00 51 36.0**	**+0.3**
	1.0nm3µm127nm,0.9s								
TWSI	**Taliwang, Sumb**	**5.46**	**93**	P		**Pn**		**00 51 41.7**	**-0.2**
	0.2nm963nm23nm,0.5s								
TWSI				S		**Sn**		**00 52 41.4**	**-2.2**
	0.2nm963nm23nm,0.5s								
CGJI	**Cibinong**	**5.94**	**288**	P		**Pn**		**00 51 47.9**	**-0.5**
	1.5nm7µm298nm,0.5s								
XMIS	**Christmas Isla**	**5.96**	**251**	Pn		**Pn**		**00 51 47.8**	**-0.9**
LWLI	**Liwa**	**8.05**	**295**	P		**Pn**		**00 52 17.9**	**+0.8**
	119nm,0.5s								
MNAI	**Manna**	**9.33**	**296**	Pn		**Pn**		**00 52 34.1**	**-0.1**
EDFI	**Ende, Flores**	**10.21**	**92**	P		**Pn**		**00 52 44.9**	**-1.3**
GIRL	**Giralia**	**14.29**	**169**	Pn		**Pn**		**00 53 40.8**	**+1.2**
PSA00	**Pilbara Seismi**	**15.32**	**149**	Pn		**Pn**		**00 53 51.5**	**-1.1**
PSA00				IAmb		IAmb		00 53 57.1	
	comp=Z,11nm,0.4s								
FITZ	**Fitzroy Crossi**	**16.82**	**126**	P		**P**		**00 54 11.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=320,slow=10,SNR=12								
FITZ				S		Sn		00 57 03.4	-15
	comp=Z,0.2nm,0.3s,baz=169,slow=16,SNR=1.5								
FITZ	**Fitzroy Crossi**	**16.82**	**126**	P		**P**		**00 54 11.7**	**+0.6**
GSI	**Gunungsitoli**	**16.87**	**305**	Pn		**Pn**		**00 54 07.1**	**-4.6**
GSI				IAmb		IAmb		00 54 08.1	
	comp=Z,54nm,1.4s								
KNRA	**Kununurra**	**18.42**	**114**	P		**Pn**		**00 54 30.0**	**-0.3**
KNRA				IAmb		IAmb		00 54 30.7	
	comp=Z,10nm,0.5s								
MTN	**Manton Dam**	**19.89**	**104**	P		**P**		**00 54 46.0**	**+1.3**
MTN				IAmb		IAmb		00 54 46.8	
	comp=Z,8.3nm,0.5s								
WRA	**Warramunga Arr**	**24.95**	**119**	P		**P**		**00 55 35.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=297,slow=11,SNR=10								
WRA	**Warramunga Arr**	**24.95**	**119**	P		**P**		**00 55 36.3**	**+1.3**
WB2	**Warramunga Arr**	**24.96**	**119**	P		**P**		**00 55 36.0**	**+0.8**
WB2				IAmb		IAmb		00 55 55.5	
	comp=Z,8.2nm,1.4s								
ASAR	**Alice Springs**	**26.30**	**128**	P		**P**		**00 55 48.8**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=305,slow=9.3,SNR=7.0								
ASAR				PcP		**PcP**		**00 59 11.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=347,slow=1.2,SNR=5.2								
CMAR	**Chiang Mai Arr**	**29.49**	**335**	P		**P**		**00 56 14.3**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=176,slow=8.4,SNR=5.5								
STKA	**Stephens Creek**	**36.43**	**134**	P		**P**		**00 57 17.5**	**+1.6**
SHL	**Shillong**	**38.84**	**331**	P		**P**		**00 57 34.8**	**-1.6**
HNR	**Honiara**	**47.96**	**95**	LR		LR		01 20 11.8	
	comp=Z,66nm,21.1s,baz=296,slow=37								
SONM	**Songino Array**	**56.30**	**356**	P		**P**		**00 59 50.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=174,slow=9.1,SNR=5.1								
MKAR	**Makanchi Array**	**60.87**	**338**	P		**P**		**01 00 21.6**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=155,slow=6.4,SNR=5.5								
BOSA	**Boshof**	**82.57**	**242**	P		**P**		**01 02 33.7**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=142,slow=5.3,SNR=7.4								
BOSA	**Boshof**	**82.57**	**242**	P		**P**		**01 02 33.7**	**+0.8**
LBTB	**Lobatse**	**82.63**	**246**	P		**P**		**01 02 34.3**	**+1.1**
LBTB				IAmb		IAmb		01 02 52.9	
	comp=Z,12nm,1.5s								
SNAA	**Sanae**	**89.33**	**197**	P		**P**		**01 03 06.5**	**+1.3**
SNAA				IAmb		IAmb		01 03 12.0	
	comp=Z,4.4nm,1.3s								
CPUP	**Villa Florida**	**143.64**	**197**	PKP		**PKPdf**		**01 09 43.5**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=179,slow=7.1,SNR=4.5								
LPAZ	**La Paz**	**155.33**	**181**	PKPab		**PKPab**		**01 10 29.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=219,slow=6.5,SNR=2.1								

*MOS **14** 00:54:25.8±0.8,36˚52N×70˚95E, h191km, mb4.8/50, Error ellipse: s-maj=6.0km s-min=3.9km az=111.0*
*BJI **14** 00:54:26.6±0.0,36˚63N×70˚98E, h188km, mB4.9/25, mb4.7/33*
*IDC **14** 00:54:27.6±0.7,36˚42N×70˚91E, h197km±6km, mb4.2/34, mb1 4.2/38, mb1mx4.1/52, mbtmp4.7/38, MS3.2/3, Ms1 3.3/3, ms1mx2.7/42, Error ellipse: s-maj=9.3km s-min=7.4km az=20.0*
*NEIC **14** 00:54:27.3±1.6,36˚53N±0˚05×70˚87E±0˚08, h190km±4km, mb4.6/110, Error ellipse: s-maj=9.4km s-min=7.5km az=89.0*
*NNC **14** 00:54:28.1±1.9,36˚80N×70˚78E, h183km±19km, mb4.1, mpv5.4, Error ellipse: s-maj=16.8km s-min=11.3km az=168.0*
ISC 14 00:54:26.6±0.3,**36˚50N**±0˚03×**70˚90E**±0˚03,**h187**km±2km, **h186**km:**pP-P**,**n526**,σ1s**39**/580,**mb4.6**/144,**50C-18D**,
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.47**	**218**	Pn		**Pn**		**00 55 10.1**	**+0.5**
KBL				sPg				00 55 42.1	
KBL	**Kabul**	**2.47**	**218**	PN		**Pn**		**00 55 10.1**	**+0.5**
KBL								00 55 42.4	
KBL	**Kabul**	**2.47**	**218**	Pn		**Pn**		**00 55 10.1**	**+0.5**
KBL				Sn		**Sn**		**00 55 42.4**	**-0.6**
GAR	**Garm**	**2.54**	**350**	Pn		**Pn**		**00 55 10.0**	**-0.2**
GAR				Sn		**Sn**		**00 55 41.9**	**-2.4**
CHGR	**Chuyangaron**	**2.56**	**328**	Pn		**Pn**		**00 55 10.1**	**-0.3**
CEP	**Cherat**	**2.80**	**162**	P		**Pn**		**00 55 14.3**	**+1.0**
NIL	**Nilore**	**3.44**	**145**	Pn		**Pn**		**00 55 22.3**	**+1.3**
NIL				sPn		**sPn**		**00 55 59.5**	**+0.7**
NIL	**Nilore**	**3.44**	**145**	PN		**Pn**		**00 55 22.3**	**+1.3**
NIL	**Nilore**	**3.44**	**145**	Pn		**Pn**		**00 55 22.3**	**+1.3**
BTK	**Batken**	**3.55**	**359**	PN		**Pn**		**00 55 22.7**	**+0.4**
BTK	**Batken**	**3.55**	**359**	Pn		**Pn**		**00 55 22.7**	**+0.4**
THW	**Thamme Wali**	**3.76**	**169**	⇓P		**Pn**		**00 55 25.9**	**+0.9**
SARP	**Sargodha**	**4.80**	**162**	⇓P		**Pn**		**00 55 38.2**	**+0.1**
TAS	**Tashkent**	**4.98**	**346**	PN		**Pn**		**00 55 40.3**	**0.0**
TAS	**Tashkent**	**4.98**	**346**	Pn		**Pn**		**00 55 40.3**	**0.0**
KSH	**Kashi**	**5.01**	**52**	P		**Pn**		**00 55 36.8**	**-4.1**
KSH				S		Sn		00 56 29.3	-10
KSH				pmax		pmax			
	comp=Z,710nm,0.4s								
AML	**Almayashu**	**6.02**	**20**	P		**Pn**		**00 55 53.7**	**-0.6**
	SNR=2222								
DHRM	**DHARAMSHALA**	**6.16**	**132**	*e*P		**Pn**		**00 55 56.3**	**+0.3**
DHRM				*e*S		**Sn**		**00 57 04.0**	**-2.5**
DHRM				IAML				00 57 06.1	
	comp=N,4µm,0.4s								
DHRM				IAML				00 57 06.5	
	comp=E,3µm,0.7s								
UCH	**Uchtor**	**6.37**	**25**	P		**Pn**		**00 55 58.4**	**-0.4**
	SNR=288								
EKS2	**Erkin-Say**	**6.54**	**19**	P		**Pn**		**00 56 00.4**	**-0.4**
	SNR=409								
KK31	**Karatay Array**	**6.60**	**358**	⇓P		**Pn**		**00 56 00.7**	**-0.8**
	comp=E,100nm,0.4s,baz=184,slow=14,SNR=2032								
KK31				⇑S		**Sn**		**00 57 11.2**	**-5.3**
	comp=E,678nm,0.8s,baz=185,slow=20,SNR=16								
KK31	**Karatay Array**	**6.60**	**358**	PN		**Pn**		**00 56 00.6**	**-0.8**
KK31	**Karatay Array**	**6.60**	**358**	Pn		**Pn**		**00 56 00.6**	**-0.8**
KKAR	**Karatay Array**	**6.60**	**358**	PN		**Pn**		**00 56 00.7**	**-0.8**
KKAR	**Karatay Array**	**6.60**	**358**	Pn		**Pn**		**00 56 00.7**	**-0.8**
KKAR	**Karatay Array**	**6.60**	**358**	Pn		**Pn**		**00 56 00.3**	**-1.1**
AAK	**Ala-Archa**	**6.73**	**23**	P		**Pn**		**00 56 02.9**	**-0.3**
	SNR=354								
AAK	**Ala-Archa**	**6.73**	**23**	*i* P		**Pn**		**00 56 02.7**	**-0.6**
	SNR=26								
AAK	**Ala-Archa**	**6.73**	**23**	⇓P		**Pn**		**00 56 02.8**	**-0.5**
	comp=E,95nm,0.3s								
AAK				⇑S		**Sn**		**00 57 14.4**	**-5.2**
	comp=E,500nm,1.1s								
AAK	**Ala-Archa**	**6.73**	**23**	*d i* PN		**Pn**		**00 56 02.7**	**-0.5**
AAK				pmax		pmax			
	comp=Z,1µm,1.7s								
KBK	**Karagaybulak**	**6.89**	**26**	P		**Pn**		**00 56 05.3**	**-0.2**
	SNR=156								
FRU1	**Bishkek**	**6.93**	**23**	PN		**Pn**		**00 56 05.9**	**+0.1**
FRU1	**Bishkek**	**6.93**	**23**			**Pn**		**00 56 05.9**	**+0.1**
ULHL	**Ulahol**	**7.07**	**34**	P		**Pn**		**00 56 07.2**	**-0.7**
	SNR=39								
CHMS	**Chumysh**	**7.13**	**23**	P		**Pn**		**00 56 07.8**	**-0.7**
	SNR=152								
BOOM	**Boomskoye usch**	**7.14**	**32**	PN		**Pn**		**00 56 08.0**	**-0.6**
BOOM	**Boomskoye usch**	**7.14**	**32**	Pn		**Pn**		**00 56 08.0**	**-0.6**
USP	**Ospenovka**	**7.30**	**21**	P		**Pn**		**00 56 09.3**	**-1.3**
	SNR=704								
TKM2	**Tokmak 2**	**7.36**	**28**	P		**Pn**		**00 56 10.8**	**-0.8**
	SNR=356								
TKM2	**Tokmak 2**	**7.36**	**28**	⇓P		**Pn**		**00 56 11.0**	**-0.6**
	comp=Z,200nm,0.7s								
TKM2				⇑S		**Sn**		**00 57 31.1**	**-3.7**
	comp=Z,144nm,0.8s								
HRA	**Herat**	**7.37**	**256**	Pn		**Pn**		**00 56 11.8**	**0.0**
KDJ	**Kajisay**	**7.43**	**39**	PN		**Pn**		**00 56 12.0**	**-0.6**
KDJ	**Kajisay**	**7.43**	**39**	Pn		**Pn**		**00 56 11.9**	**-0.6**
SMLA	**Simla**	**7.48**	**134**	*i* P		**Pn**		**00 56 12.2**	**-0.8**
SMLA				*e*P				00 56 12.4	
SMLA				*e*S		**Sn**		**00 57 32.5**	**-4.8**
SMLA				*e*S				00 57 33.3	
SMLA				IAML				00 57 37.4	
	comp=E,1µm,0.2s								
SMLA				IAML				00 57 37.6	
	comp=N,953nm,0.4s								
KNDC	**Almaty**	**8.17**	**33**	⇑P		**Pn**		**00 56 22.2**	**+0.1**
	comp=N,121nm,0.5s								
PDGK	**Podgornoye**	**9.48**	**41**	⇓P		**Pn**		**00 56 37.7**	**-1.7**
	comp=N,8.8nm,0.8s								
PDGK				⇓S		**Sn**		**00 58 22.2**	**-3.0**
	comp=N,66nm,1.3s								
KUDL	**Kundal**	**9.58**	**149**	*e*S		Sn		00 58 18.7	-8.8
SONA	**Sohna**	**9.75**	**146**	*e*P		**Pn**		**00 56 41.7**	**-1.0**
SONA				*e*S		**Sn**		**00 58 22.8**	**-8.6**
SONA				IAML				00 58 25.0	
	comp=Z,142nm,0.9s								
SONA				IAML				00 58 26.2	
	comp=N,153nm,0.4s								
SONA				IAML				00 58 27.2	
	comp=E,209nm,0.6s								
ASHT	**Ashkhabad**	**10.08**	**282**	P		**Pn**		**00 56 45.7**	**-1.4**
ASHT	**Ashkhabad**	**10.08**	**282**	Pn		**Pn**		**00 56 45.7**	**-1.4**
GEYT	**Alibeck**	**10.29**	**282**	P		**Pn**		**00 56 47.9**	**-2.0**
	comp=E,8.4nm,0.3s,baz=113,slow=8.8,SNR=65								
GEYT				S		**Sn**		**00 58 39.7**	**-4.8**
	comp=E,6.8nm,0.3s,baz=100,slow=15,SNR=2.8								
GEYT	**Alibeck**	**10.29**	**282**	Pn		**Pn**		**00 56 47.3**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**	⇑P		**Pn**		**00 56 47.3**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**	Pn		**Pn**		**00 56 47.5**	**-2.3**
MAKZ	**Makanchi**	**13.20**	**35**	⇑P		**Pn**		**00 57 25.3**	**-1.6**
	comp=E,14nm,0.5s								
MAKZ	**Makanchi**	**13.20**	**35**	P		**Pn**		**00 57 25.3**	**-1.6**
MAKZ	**Makanchi**	**13.20**	**35**	Pn		**Pn**		**00 57 25.3**	**-1.6**
MK31	**Makanchi Array**	**13.34**	**36**	P		**Pn**		**00 57 27.4**	**-1.2**
	comp=E,3.7nm,0.5s,baz=222,slow=12,SNR=119								
MK31	**Makanchi Array**	**13.34**	**36**	*c i* P		**Pn**		**00 57 27.9**	**-0.7**
MK31	**Makanchi Array**	**13.34**	**36**			**Pn**		**00 57 27.0**	**-1.7**
MKAR	**Makanchi Array**	**13.34**	**36**	P		**Pn**		**00 57 28.1**	**-0.6**
	comp=E,1.5nm,0.3s,baz=216,slow=13,SNR=38								
MKAR				S		**Sn**		**00 59 56.7**	**-0.4**
	baz=248,slow=15,SNR=1.7								
MKAR	**Makanchi Array**	**13.34**	**36**	Pn		**Pn**		**00 57 27.5**	**-1.1**
BHPL	**Bhopal**	**14.37**	**155**	*e*P		**P**		**00 57 45.8**	**+2.3**
BHPL				*e*S		Sn		01 00 10.9	-11
WMQ	**Urumqi**	**14.76**	**55**	*e*P		**P**		**00 57 47.1**	**-0.6**
WMQ				pmax		pmax			
	comp=E,14nm,0.9s								
WMQ				pmax		pmax			
	comp=E,76nm,4.7s								
WMQ	**Urumqi**	**14.76**	**55**	P		**Pn**		**00 57 45.9**	**-0.5**
WMQ	**Urumqi**	**14.76**	**55**	Pn		**Pn**		**00 57 45.9**	**-0.5**
AB31	**Akbulak array**	**15.04**	**331**	P		**Pn**		**00 57 48.4**	**-1.3**
	comp=E,34nm,0.6s,baz=147,slow=12,SNR=656								
AB31				⇑S		**Sn**		**01 00 29.9**	**-7.8**
	comp=E,10nm,0.5s,baz=157,slow=22,SNR=10								
ABKAR	**Akbulak array**	**15.04**	**331**	Pn		**Pn**		**00 57 47.9**	**-1.8**
ABKAR	**Akbulak array**	**15.04**	**331**			**Pn**		**00 57 47.6**	**-2.1**
KURBB	**Kurchatov Arra**	**15.15**	**19**	P		**Pn**		**00 57 48.5**	**-2.5**
	comp=E,0.5nm,0.3s,baz=215,slow=8.2,SNR=27								
KURBB				S		**Sn**		**01 00 38.2**	**-1.9**
	baz=213,slow=19,SNR=4.4								
KURBB	**Kurchatov Arra**	**15.15**	**19**	⇑P		**Pn**		**00 57 48.1**	**-2.8**
	comp=E,5.3nm,0.4s								
KURBB				⇑S		**Sn**		**01 00 36.4**	**-3.7**
	comp=E,46nm,1.0s								
KURK	**Kurchatov**	**15.26**	**19**	*ce*P		**Pn**		**00 57 50.3**	**-2.0**
KURK				pmax		pmax			
	comp=Z,16nm,1.0s								
KURK	**Kurchatov**	**15.26**	**19**	Pn		**Pn**		**00 57 49.7**	**-2.6**
KURK				IAmb		IAmb		00 57 54.4	
	comp=Z,13nm,0.8s								
JBP	**Jabalpur**	**15.44**	**147**	⇑ *e*P		**P**		**00 57 57.0**	**+1.8**
JBP				*ex*		x		01 00 38.0	
BANOM	**Banah**	**16.32**	**234**	*i* P		**P**		**00 58 05.4**	**+0.4**
	SNR=12								
BANOM	**Banah**	**16.32**	**234**	P		**P**		**00 58 05.4**	**+0.4**
	SNR=12								
BANOM				S		**S**		**01 01 01.4**	**-4.6**
SHME	**Shamm**	**16.34**	**235**	*i* P		**P**		**00 58 05.6**	**+0.4**
	SNR=5.9								
BVAR	**Borovoye Array**	**16.53**	**359**	P		**P**		**00 58 06.9**	**-0.1**
	comp=Z,8.8nm,0.3s,baz=179,slow=24,SNR=24								
BVAR				S		**S**		**01 01 09.2**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=198,slow=29,SNR=7.1								
BRVK	**Borovoye**	**16.56**	**359**	P		**P**		**00 58 07.2**	**-0.2**
BRVK	**Borovoye**	**16.56**	**359**	*d* P		**P**		**00 58 06.9**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,51nm,1.3s								
BRVK	**Borovoye**	**16.56**	**359**	P		**P**		**00 58 06.5**	**-0.8**
AKTO	**Aktyubinsk**	**16.74**	**330**	P		**Pn**		**00 58 10.5**	**+0.3**
	comp=Z,8.8nm,0.3s,baz=140,slow=9.4,SNR=109								
AKTO				S		**S**		**01 01 12.8**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=327,slow=16,SNR=5.5								
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P		**P**		**00 58 09.4**	**+0.1**
	comp=Z,46nm,0.8s								
AKTO				⇓S		**S**		**01 01 10.9**	**-3.4**
	comp=Z,74nm,1.2s								
MDH	**Madha**	**16.76**	**232**	*i* P		**P**		**00 58 08.7**	**-1.1**
	SNR=12								
MDH	**Madha**	**16.76**	**232**	Pn		**Pn**		**00 58 10.9**	**+0.2**
	SNR=5.2								
MSFE	**Esma-Masafi**	**16.81**	**233**	*i* P		**P**		**00 58 10.1**	**-0.2**
	SNR=15								
WSAR	**WadiSarin**	**16.95**	**222**	P		**Pn**		**00 58 12.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=80,slow=9.0,SNR=13								
UOSS	**Minazif**	**17.07**	**232**	*i* P		**P**		**00 58 13.6**	**+0.4**
	SNR=17								
UOSS	**Minazif**	**17.07**	**232**	Pn		**Pn**		**00 58 14.5**	**+0.1**
UOSS	**Minazif**	**17.07**	**232**	P		**P**		**00 58 12.1**	**-1.1**
UOSS				IAmb		IAmb		00 58 17.5	
	comp=Z,34nm,0.7s								
HATD	**Hatta, Dubai**	**17.20**	**232**	*i* P		**Pn**		**00 58 16.0**	**0.0**
	SNR=20								
HATD	**Hatta, Dubai**	**17.20**	**232**	Pn		**Pn**		**00 58 16.0**	**0.0**
	SNR=20								
WBK	**Wadi Bani Khal**	**17.28**	**220**	P		**P**		**00 58 10.8**	**-4.8**
NAZ	**Nazwa, Dubai**	**17.39**	**233**	*i* P		**Pn**		**00 58 17.8**	**-0.4**
	SNR=7.2								
NAZ	**Nazwa, Dubai**	**17.39**	**233**	Pn		**Pn**		**00 58 18.8**	**+0.6**
	SNR=5.3								
JLN	**Jalan Bani Buh**	**17.44**	**218**	P		**P**		**00 58 12.1**	**-5.2**
FAQ	**Al Faqa, Dubai**	**17.60**	**233**	P		**P**		**00 58 19.4**	**+0.4**
DGZ	**Jazzator, Alta**	**17.83**	**37**	*de*P		**Pn**		**00 58 22.5**	**-0.8**
ASUD	**Al Ashush, Dub**	**17.86**	**233**	*i* P		**P**		**00 58 22.3**	**+0.5**
	SNR=17								
ASUD	**Al Ashush, Dub**	**17.86**	**233**	Pn		**Pn**		**00 58 23.2**	**-0.5**
	SNR=7.5								
JMDO	**Jabal Madar**	**17.93**	**222**	P		**P**		**00 58 19.8**	**-2.9**
ALNE	**Al Ain**	**18.00**	**231**	*i* P		**P**		**00 58 24.3**	**+0.9**
	SNR=16								
ARQ	**Araqi**	**18.07**	**227**	P		**P**		**00 58 24.0**	**-0.1**
BOK	**Bokaro**	**18.09**	**130**	*ex*		**P**		**00 58 25.7**	**+1.3**
BOK				*e*P		**P**		**00 58 25.7**	**+1.3**
BOK				*e*S		S		01 01 28.5	-13
BOK				IAML				01 01 50.7	
	comp=E,33nm,0.8s								
BOK				IAML				01 02 18.3	
	comp=N,48nm,1.1s								
AJN	**Ajban**	**18.12**	**233**	*i* P		**P**		**00 58 25.5**	**+0.8**
	SNR=7.2								
AJN	**Ajban**	**18.12**	**233**	P		**P**		**00 58 25.7**	**+1.1**
	SNR=6.7								
BSY	**Bisya**	**18.13**	**225**	P		**P**		**00 58 23.4**	**-1.4**
	SNR=5.3								
LSA	**Lhasa**	**18.26**	**106**	P		**P**		**00 58 26.9**	**+0.3**
LSA				pmax		pmax			
	comp=Z,46nm,0.6s								
LSA	**Lhasa**	**18.26**	**106**	P		**P**		**00 58 26.9**	**+0.3**
MAK	**Makhachkala**	**19.08**	**297**	*e*P		**P**		**00 58 32.6**	**-2.3**
MAK				*e*S		**S**		**01 01 59.9**	**-1.3**
MAK				pmax		pmax			
	comp=Z,139nm,1.2s								
MAK				MLR		MLR			
	comp=Z,253nm,14.0s								
MHTO	**MHTO**	**19.14**	**220**	P		**P**		**00 58 31.8**	**-3.9**
ZAA0	**Zalesovo Array**	**19.95**	**25**	⇑P		**P**		**00 58 43.4**	**-0.7**
	comp=Z,1.7nm,0.4s								
ZAA0	**Zalesovo Array**	**19.95**	**25**	P		**P**		**00 58 43.2**	**-0.9**
ZAA0				IAmb		IAmb		00 58 51.4	
	comp=Z,18nm,0.8s								
ZALV	**Zalesovo Beam**	**19.95**	**25**	P		**P**		**00 58 44.1**	**0.0**
	comp=Z,16nm,0.4s,baz=217,slow=10,SNR=112								
ZALV				sP		**sP**		**00 59 43.2**	**+2.4**
	comp=Z,11nm,0.5s,baz=223,slow=10,SNR=2.3								
ZALV				S		**S**		**01 02 14.4**	**-3.6**
	comp=Z,1.6nm,0.5s,baz=211,slow=17,SNR=1.5								
ZALV	**Zalesovo Beam**	**19.95**	**25**	P		**P**		**00 58 43.5**	**-0.5**
HYB	**Hyderabad**	**20.18**	**158**	*i* P		**P**		**00 58 48.0**	**+1.0**
HYB				*e*S		**S**		**01 02 23.0**	**-0.3**
GROC	**Groznyy**	**20.36**	**297**	*e*P		**P**		**00 58 49.2**	**+0.6**

SONM Songino Array 28.40 55 P **P** **01 00 04.5 +0.8**
SOCY Socotra 28.60 216 P **P** **01 00 04.1 -1.5**
MMAI Mount Meron Ar 29.27 274 P **P** **01 00 12.8 +1.4**
comp=Z,0.4nm,0.4s,baz=68,slow=4.6,SNR=5.6
MMAI PcP **PcP** **01 03 14.0 +0.6**
comp=Z,0.7nm,0.4s,baz=52,slow=8.7,SNR=6.4
MMAI ScP **ScP** **01 06 36.0 -1.3**
comp=Z,0.7nm,0.5s,baz=101,slow=3.0,SNR=3.7
BR131 Keskin Array S 29.36 288 P **P** **01 00 12.7 +0.5**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 29.36 288 P **P** **01 00 12.7 +0.5**
BRTR Keskin Array B 29.36 288 P **P** **01 00 13.3 +1.1**
comp=Z,1.0nm,0.4s,baz=101,slow=8.5,SNR=5.5
BRTR pP **pP** **01 00 53.3 +2.7**
comp=Z,1.8nm,0.7s,baz=126,slow=6.3,SNR=3.0
BRTR Keskin Array B 29.36 288 P **P** **01 00 12.8 +0.7**
MOS Moscow 29.61 321 *e*P **P** **01 00 11.7 -2.3**
MOS *e* 01 00 53.4
MOS *e* 01 01 13.8
MOS pmax pmax
comp=Z,56nm,1.2s
MOS pmax pmax
comp=Z,100nm,1.4s
PRGR Permogore 29.74 336 *e*P **P** **01 00 13.3 -1.7**
PRGR pmax pmax
comp=Z,21nm,0.6s
OBN Obninsk 29.88 319 P **P** **01 00 17.4 +1.0**
comp=Z,11nm,0.4s,baz=311,slow=2.6,SNR=15
OBN LR LR 01 14 49.7
comp=Z,14nm,21.7s,baz=190,slow=41
OBN Obninsk 29.88 319*c i*P **P** **01 00 16.9 +0.5**
OBN *e**PP **pP** **01 00 58.7 +3.7**
OBN *e**SP **sP** **01 01 14.3 -2.4**
OBN *e* 01 01 20.8
OBN *i* S **S** **01 05 00.2 +0.8**
OBN pmax pmax
comp=Z,58nm,1.0s
OBN Obninsk 29.88 319 P **P** **01 00 17.2 +0.8**
CHTO Chiang Mai 30.29 118 P **P** **01 00 20.9 +0.4**
CHTO pmax pmax
comp=Z,7.0nm,0.5s
CHTO Chiang Mai 30.29 118 P **P** **01 00 20.9 +0.4**
CHTO lAmb lAmb 01 00 22.9
comp=Z,7.3nm,0.5s
PALK Pallekele 30.44 161 P **P** **01 00 22.9 +1.1**
PALK pmax pmax
comp=Z,7.0nm,0.8s
PALK Pallekele 30.44 161 P **P** **01 00 22.9 +1.1**
PALK lAmb lAmb 01 00 23.8
comp=Z,6.9nm,0.8s
CMAR Chiang Mai Arr 30.53 119 P **P** **01 00 23.4 +0.9**
comp=Z,5.0nm,0.6s,baz=300,slow=8.5,SNR=19
CMAR PcP **PcP** **01 03 15.5 -1.3**
comp=Z,0.8nm,0.4s,baz=308,slow=4.4,SNR=4.1
CMAR Chiang Mai Arr 30.53 119*ce*P **P** **01 00 23.3 +0.8**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 30.53 119 P **P** **01 00 23.1 +0.6**
XAN Xi'an 31.01 83 P **P** **01 00 27.1 +0.4**
XAN pmax pmax
comp=Z,13nm,0.8s
XAN pmax pmax
comp=Z,150nm,6.0s
XAN Xi'an 31.01 83 P **P** **01 00 27.1 +0.4**
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN Xi'an 31.01 83 P **P** **01 00 27.1 +0.4**
XAN lAmb lAmb 01 00 28.2
comp=Z,8.0nm,0.6s
KLMR Klimovskoe 31.44 331 *e*P **P** **01 00 29.3 -0.7**
KLMR pmax pmax
comp=Z,15nm,0.6s
KLMR Klimovskoe 31.44 331 *e*P **P** **01 00 29.3 -0.7**
KLMR AMP 01 00 31.2
comp=Z,15nm,0.6s
HHC Hu-ho-hao-te 31.84 70 *e*P **P** **01 00 34.6 +0.7**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.9s
PURM Purcari 31.99 301 ⇓P **P** **01 00 37.8 +2.8**
ELL Elmali 32.72 283 P **P** **01 00 42.3 +0.6**
ELL pmax pmax
comp=Z,67nm,0.6s
ELL Elmali 32.72 283 P **P** **01 00 42.3 +0.6**
MILM Milestii Mici 32.74 302 ⇑P **P** **01 00 42.6 +1.1**
AKASG Malin Array Be 32.88 309 P **P** **01 00 43.3 +0.6**
comp=Z,21nm,0.4s,baz=81,slow=6.9,SNR=86
AKASG pP **pP** **01 01 23.4 +2.0**
comp=Z,1.3nm,0.5s,baz=85,slow=7.8,SNR=1.1
AKASG Malin Array Be 32.88 309 P **P** **01 00 42.6 -0.1**
AKBB Malin Array Si 32.88 309*ce*P **P** **01 00 43.0 +0.3**
AKBB Malin Array Si 32.88 309 P **P** **01 00 43.0 +0.3**
MFTR Murfatlar 32.98 297 ⇑P **P** **01 00 45.0 +1.4**
SORM Soroca 33.13 304 ⇑P **P** **01 00 45.7 +0.8**
CFR Carcaliu 33.17 299 ⇑P **P** **01 00 45.9 +0.7**
VARL Varlezi 33.37 300 ⇓P **P** **01 00 48.7 +1.7**
MANT Manisa 33.44 286 P **P** **01 00 48.0 0.0**
NRIK Noril'sk 34.14 10 P **P** **01 00 55.0 +1.7**
comp=Z,15nm,0.7s,baz=193,slow=5.6,SNR=20
NRIK Noril'sk 34.14 10*d i*P **P** **01 00 54.9 +1.6**
NRIK pmax pmax
comp=Z,21nm,0.8s
VRI Vrincioaia 34.16 300 ⇑P **P** **01 00 55.8 +2.0**
BISRR Bisoca 34.17 299 ⇑P **P** **01 00 56.0 +2.0**
PLOR Plostina 34.21 300 ⇑P **P** **01 00 56.2 +1.9**
MICGM Minsk 34.44 315 *e* **P** **01 00 56.0 -0.1**
MNK Minsk 34.44 315 *e*P **P** **01 00 56.0 -0.1**
PRAR RASCA 34.52 303 ⇑P **P** **01 00 58.1 +1.2**
BIZ Bicaz 34.60 302 ⇑P **P** **01 00 59.4 +1.8**
MLR Muntele Rosu 34.71 299 ⇓P **P** **01 01 00.5 +1.8**
DOPR Dopca 35.09 300 ⇑P **P** **01 01 03.0 +1.1**
NACGM Naroch 35.16 316 *e* **P** **01 01 02.0 -0.2**
KARP Karpathos 35.16 282 P **P** **01 01 02.8 +0.2**
BURAR Bucovina Array 35.22 303 ⇑P **P** **01 01 04.4 +1.4**
BURAR Bucovina Array 35.22 303 P **P** **01 01 03.7 +0.7**
BUR08 Bucovina Ar. S 35.23 303 P **P** **01 01 04.0 +0.9**
BUR08 lAmb lAmb 01 01 05.1
comp=Z,9.0nm,1.1s
IDID Didziasalis 35.27 316 *e*P **P** **01 01 04.8 +1.5**
VOIR 35.34 299 ⇑P **P** **01 01 05.2 +1.1**
ATD Arta Tunnel 35.46 233 P **P** **01 01 07.7 +2.4**
comp=Z,2.3nm,0.3s,baz=333,slow=3.5,SNR=4.6
ATD Arta Tunnel 35.46 233 P **P** **01 01 06.8 +1.5**
ATD lAmb lAmb 01 01 12.6
comp=Z,8.6nm,1.0s
IIGN Ignalina 35.57 316 *e*P **P** **01 01 07.2 +1.4**
ARR Arges 35.63 299 ⇑P **P** **01 01 07.8 +1.2**
IZAR Zarasai 35.65 317 *e*P **P** **01 01 07.6 +1.2**
ISAL Salakas 35.67 317 *e*P **P** **01 01 08.0 +1.4**
ARCR ARCALIA 35.80 302 ⇑P **P** **01 01 09.7 +1.9**
LVV L'vov 36.09 307 *e*P **P** **01 01 11.0 +0.7**
VSU Vasula 36.13 322 *e*P **P** **01 01 11.1 +0.7**
VSU Vasula 36.13 322*ce*P **P** **01 01 10.6 +0.1**
VSU pmax pmax
comp=Z,105nm,0.8s
LOT Lotru 36.24 299 ⇑P **P** **01 01 13.0 +1.3**
CJR Cluj-Napoca 36.32 301 ⇑P **P** **01 01 14.2 +1.9**
WHN Wuhan 36.47 86 ⇓P **P** **01 01 15.3 +1.6**
PABE Paberze 36.86 316 *e*P **P** **01 01 17.8 +1.2**
GZR Gura Zlata 36.94 299 ⇑P **P** **01 01 17.8 +0.2**
KWP Kalwaria Pacla 36.94 306 *e*P **P** **01 01 18.3 +0.7**
KWP *e*pP **pP** **01 01 59.2 +2.2**
KWP Kalwaria Pacla 36.94 306 P **P** **01 01 18.7 +1.2**
KWP pmax pmax
comp=Z,28nm,0.8s
KWP Kalwaria Pacla 36.94 306 P **P** **01 01 18.7 +1.2**
IDI Anoyia 37.02 282 P **P** **01 01 18.1 -0.3**
comp=Z,3.5nm,0.5s,baz=121,slow=11,SNR=13
IDI Anoyia 37.02 282 ⇑P **P** **01 01 18.1 -0.3**
IDI Anoyia 37.02 282 P **P** **01 01 17.9 -0.5**
IDI lAmb lAmb 01 01 19.8
comp=Z,8.6nm,0.9s
SUW Suwalki 37.05 314 *e*P **P** **01 01 18.9 +0.6**
SUW Suwalki 37.05 314 P **P** **01 01 18.7 +0.3**
SUW pmax pmax
comp=Z,29nm,0.7s
SUW Suwalki 37.05 314 P **P** **01 01 18.7 +0.3**
UZH Uzhgorod 37.19 305 *e*P **P** **01 01 20.5 +0.9**
KOLS Kolonicke sedl 37.21 305 *e*P **P** **01 01 20.0 +0.2**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 37.21 305 *e*P **P** **01 01 20.0 +0.2**

LVZ Lovozero 37.43 338 P **P** **01 01 22.0 +0.6**
LVZ pmax pmax
comp=Z,20nm,0.7s
LVZ Lovozero 37.43 338 P **P** **01 01 22.0 +0.6**
FIA1 FINESS Array S 37.44 326 P **P** **01 01 22.1 +0.7**
FINES FINESS Array B 37.44 326 P **P** **01 01 22.2 +0.8**
comp=Z,13nm,0.3s,baz=122,slow=9.3,SNR=282
FINES FINESS Array B 37.44 326 P **P** **01 01 22.0 +0.6**
MDVR Moldovita 37.74 298 ⇑P **P** **01 01 25.0 +0.7**
BZS Buzias 37.74 300 ⇓P **P** **01 01 25.5 +1.2**
PBUR Paburge 38.09 317 *e*P **P** **01 01 28.0 +1.0**
AGG Agios Georgios 38.12 289 P **P** **01 01 27.8 +0.2**
AGG pmax pmax
comp=Z,8.0nm,1.1s
AGG Agios Georgios 38.12 289 P **P** **01 01 27.8 +0.2**
SLIT Slitere, Latvi 38.20 319 *e*P **P** **01 01 28.0 +0.1**
BEL Belsk 38.27 310 *e*P **P** **01 01 29.9 +1.3**
NIE Niedzica 38.51 306 *e*P **P** **01 01 32.2 +1.6**
PSZ Piszkesteto 38.80 303 P **P** **01 01 34.0 +0.8**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 38.80 303 P **P** **01 01 34.0 +0.8**
OJC Ojcow 38.84 307 *e*P **P** **01 01 34.0 +0.6**
OJC *e*pP **pP** **01 02 15.8 +2.6**
OJC Ojcow 38.84 307 P **P** **01 01 33.8 +0.5**
OJC pmax pmax
comp=Z,15nm,0.7s
OJC Ojcow 38.84 307 P **P** **01 01 33.8 +0.5**
OJC lAmb lAmb 01 01 35.1
comp=Z,15nm,0.7s
ITM Ithomi 38.85 286 P **P** **01 01 33.3 -0.3**
DIVS Divibare 39.03 297 P **P** **01 01 35.3 +0.1**
VYHS Vyhne 39.49 304 *e*P **P** **01 01 40.2 +1.4**
VYHS pmax pmax
comp=Z,13nm,1.6s
VYHS Vyhne 39.49 304 *e*P **P** **01 01 40.2 +1.4**
NJ2 Nanjing 39.55 82 *e*P **P** **01 01 40.3 +0.8**
NJ2 pmax pmax
comp=Z,18nm,0.5s
PDG Podgorica 39.80 295 ⇑P **P** **01 01 41.1 -0.3**
PDG Podgorica 39.80 295 P **P** **01 01 41.6 +0.2**
JAVC Velka Javorina 40.25 305 *e*P **P** **01 01 47.3 +2.2**
MORC Moravsky Berou 40.30 306 ⇑P **P** **01 01 46.6 +1.2**
MORC Moravsky Berou 40.30 306 *e*P **P** **01 01 46.7 +1.2**
MORC Moravsky Berou 40.30 306 P **P** **01 01 46.1 +0.7**
MORC pmax pmax
comp=Z,7.0nm,0.7s
MORC Moravsky Berou 40.30 306 P **P** **01 01 46.1 +0.7**
MORC lAmb lAmb 01 01 48.2
comp=Z,7.1nm,0.7s
SMOL Smolenice 40.42 305 *e*P **P** **01 01 47.7 +1.2**
SMOL pmax pmax
comp=Z,2.0nm,0.6s
SMOL Smolenice 40.42 305 *e*P **P** **01 01 47.7 +1.2**
GKP Gorka Klasztor 40.51 312 *e*P **P** **01 01 47.6 +0.6**
MODS Modra-Piesok 40.53 304 *e*P **P** **01 01 47.8 +0.4**
MODS Modra-Piesok 40.53 304 *e*P **P** **01 01 47.8 +0.4**
KEV Kevo 40.77 338 P **P** **01 01 49.5 +0.6**
KEV pmax pmax
comp=Z,20nm,0.9s
KEV Kevo 40.77 338 P **P** **01 01 49.5 +0.6**
KEV lAmb lAmb 01 01 50.6
comp=Z,20nm,0.9s
KRLC Kraliky 40.78 307 *e*P **P** **01 01 50.7 +1.3**
KRLC *ex* x 01 01 57.9
KRLC Kraliky 40.78 307 *e*P **P** **01 01 50.7 +1.3**
VRAC Vranov 40.93 306 ⇑P **P** **01 01 51.6 +1.0**
VRAC Vranov 40.93 306 *e*P **P** **01 01 52.1 +1.5**
DPC Dobruska-Polom 41.06 307 *e*P **P** **01 01 53.6 +1.9**
DPC Dobruska-Polom 41.06 307 *e*P **P** **01 01 53.6 +1.9**
KSP Ksiaz 41.07 308 *e*P **P** **01 01 52.0 +0.3**
KRUC Moravsky 41.08 305 *e*P **P** **01 01 53.1 +1.3**
ARCES ARCESS Array B 41.11 338 P **P** **01 01 52.8 +1.0**
comp=Z,13nm,0.4s,baz=113,slow=7.9,SNR=205
OSTC Ostas 41.13 308 *e*P **P** **01 01 53.7 +1.5**
CHVC Chvalec 41.23 308 *e*P **P** **01 01 54.4 +1.4**
CHVC *ex* x 01 02 04.4
UPC Upice 41.26 308 *e*P **P** **01 01 54.6 +1.4**
UPC Upice 41.26 308 *e*P **P** **01 01 54.6 +1.4**
CONA Conrad Observa 41.51 304 *e*P **P** **01 01 56.3 +0.9**
comp=Z,4.9nm,0.7s
ARSA Arzberg 41.80 303 *e*P **P** **01 01 59.1 +1.4**
comp=Z,5.0nm,1.4s
BSD Bornholm Skovb 41.95 315 *i*P **P** **01 01 58.7 0.0**
BSD pmax pmax
comp=Z,6.0nm,0.3s
BSD Bornholm Skovb 41.95 315 *i*P **P** **01 01 58.7 0.0**
comp=Z,5.8nm,0.3s
BSD Bornholm Skovb 41.95 315 *i*P **P** **01 01 58.0 -0.7**
BSD *i*P pP 01 01 58.8 -40
BSD lAmb lAmb 01 02 00.1
comp=Z,5.8nm,0.3s
GOPC GO Pecny, Ondr 42.07 307 *e*P **P** **01 02 01.4 +1.5**
GOPC GO Pecny, Ondr 42.07 307 *e*P **P** **01 02 01.4 +1.5**
PVCC Panska Ves 42.18 308 *e*P **P** **01 02 02.4 +1.7**
PVCC Panska Ves 42.18 308 *e*P **P** **01 02 02.4 +1.7**
HAMF Hammerfest 42.19 339 *e*P **P** **01 02 01.9 +1.4**
SOKA Soboth 42.20 302 *e*P **P** **01 02 02.2 +1.2**
comp=Z,7.6nm,0.6s
IPM Ipoh 42.20 132 P **P** **01 02 01.6 +0.3**
IPM lAmb lAmb 01 02 02.2
comp=Z,13nm,0.5s
PRU Pruhonice 42.23 307 *e*P **P** **01 02 02.6 +1.5**
PRU Pruhonice 42.23 307 *e*P **P** **01 02 02.6 +1.5**
TIP Timpagrande 42.31 291 ⇑P **P** **01 02 01.9 -0.1**
TIP Timpagrande 42.31 291 P **P** **01 02 02.3 +0.3**
PSI Prapat 42.34 136 P **P** **01 02 02.3 -0.2**
comp=Z,11nm,0.5s,baz=348,slow=11,SNR=6.1
RPSI Rantau Prapat 42.43 136 P **P** **01 02 02.2 -0.9**
RPSI lAmb lAmb 01 02 04.2
comp=Z,10nm,0.6s
SGRT San Giovanni R 42.49 295 P **P** **01 02 03.6 +0.2**
SGRT lAmb lAmb 01 02 07.1
comp=Z,27nm,1.1s
OBKA Obir 42.55 302 *e*P **P** **01 02 05.3 +1.4**
comp=Z,2.1nm,0.4s
BRG Berggiesshubel 42.56 308 *e*P **P** **01 02 05.1 +1.4**
comp=Z,16nm,0.6s
BRG Berggiesshubel 42.56 308 *e*P **P** **01 02 05.1 +1.4**
BRG pmax pmax
comp=Z,16nm,0.6s
MOA Molln 42.59 304 *e*P **P** **01 02 05.0 +1.0**
comp=Z,2.1nm,0.4s
GSI Gunungsitoli 42.85 139 P **P** **01 02 07.7 +1.2**
RGN Rugen 42.86 314 P **P** **01 02 07.4 +1.4**
GEC2 GERESS Array S 42.86 305 P **P** **01 02 06.6 +0.2**
GERES GERESS Array B 42.86 305 P **P** **01 02 07.2 +0.9**
comp=Z,1.0nm,0.4s,baz=67,slow=8.0,SNR=17
GERES PP **PP** **01 03 48.5 -1.0**
comp=Z,1.6nm,0.9s,baz=90,slow=8.0,SNR=5.3
GERES GERESS Array B 42.86 305 P **P** **01 02 06.8 +0.4**
KHC Kasperske Hory 42.92 306 *e*P **P** **01 02 07.9 +1.2**
KHC Kasperske Hory 42.92 306 *e*P **P** **01 02 07.9 +1.2**
KHC Kasperske Hory 42.92 306 P **P** **01 02 07.6 +0.9**
CLL Collm 43.13 309 *e*P **P** **01 02 08.0 -0.3**
comp=Z,12nm,1.0s
CLL *e* 01 02 33.0
CLL *e*PP **PP** **01 03 53.0 +0.8**
CLL *e*PPP PPP 01 04 42.0
CLL *e*S **S** **01 08 24.0 +3.9**
CLL *e* 01 10 33.0
CLL Collm 43.13 309 *e*P **P** **01 02 08.0 -0.3**
CLL *e*S **S** **01 08 24.0 +3.9**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 43.13 309 P **P** **01 02 08.6 +0.3**
PRED Cave del Predi 43.23 302 P **P** **01 02 10.1 +0.8**
TRO Tromso 43.23 336 *e*P **P** **01 02 09.3 +0.5**
KBA Koelnbreinsper 43.30 303 *i*P **P** **01 02 10.8 +0.8**
comp=Z,3.2nm,0.4s,SNR=6.5
NKC Novy Kostel 43.55 307 *e*P **P** **01 02 12.3 +0.5**
NKC Novy Kostel 43.55 307 *e*P **P** **01 02 12.3 +0.5**
ZOU Zoufplan 43.62 302 P **P** **01 02 13.1 +0.6**
N2ST Straumen 43.64 333 *e*P **P** **01 02 13.0 +0.9**
N2IH Innhavet 43.69 333 *e*P **P** **01 02 13.5 +0.9**
FAUS Fauske 43.76 333 *e*P **P** **01 02 14.0 +0.9**
MOR8 Moi Rana 43.77 331 *e*P **P** **01 02 13.1 -0.2**
STAL STALIGIAL 43.84 302 P **P** **01 02 14.5 +0.3**
STAL lAmb lAmb 01 02 14.6
comp=Z,18nm,1.2s
N2TV TVrnvik 43.88 333 *e*P **P** **01 02 14.8 +0.8**
ABTA Abfaltersbach 43.91 302 *e*P **P** **01 02 15.3 +0.5**
STEI Steigen 43.94 333 *e*P **P** **01 02 15.5 +1.0**

NBB08 Skaug oppvekst 44.01 332 *e*P **P** **01 02 16.2 +1.1**
NBB28 Valnes 44.02 332 *e*P **P** **01 02 16.2 +1.0**
CIMO Cimolais 44.02 302 P **P** **01 02 16.1 +0.5**
NC405 NORSAR Array S 44.09 323 P **P** **01 02 16.3 +0.4**
NBB17 Glomfjord BÝr 44.12 332 *e*P **P** **01 02 17.0 +1.1**
NBB30 Finnes 44.24 332 *e*P **P** **01 02 17.7 +0.7**
NC303 NORSAR Array S 44.27 323 P **P** **01 02 17.9 +0.6**
NB2 NORSAR Subarra 44.33 323 P **P** **01 02 17.9 +0.1**
comp=Z,20nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.33 323 P **P** **01 02 17.9 +0.1**
baz=97,slow=7.9
NOA NORSAR Array B 44.33 323 P **P** **01 02 17.9 +0.1**
comp=Z,30nm,0.7s,baz=97,slow=7.7,SNR=159
MNSI Mandailing Nat 44.36 137 P **P** **01 02 20.0 +1.5**
comp=Z,42nm,0.6s
KONS Konsvik 44.37 331 *e*P **P** **01 02 18.6 +0.7**
NBB40 Tonnes 44.42 331 *e*P **P** **01 02 19.4 +1.1**
N2VI Vinje 44.42 334 *e*P **P** **01 02 19.2 +0.9**
WTTA Wattenberg 44.43 303 *i*P **P** **01 02 19.1 +0.1**
comp=Z,5.6nm,0.4s,SNR=11
WATA Walderalm 44.46 303 *i*P **P** **01 02 18.8 -0.3**
comp=Z,2.3nm,0.4s,SNR=4.2
NAO01 NORSAR Array S 44.47 323 *e*P **P** **01 02 19.0 +0.1**
OSL Oslo 44.48 321 *e*P **P** **01 02 19.5 +0.6**
VAE Valguarnera 44.54 289 P **P** **01 02 22.2 +2.4**
comp=Z,4.7nm,0.8s,baz=82,slow=9.2,SNR=3.5
CTI Castel Tesino 44.61 302 P **P** **01 02 20.6 +0.3**
CTI pmax pmax
comp=Z,8.0nm,0.5s
CTI Castel Tesino 44.61 302 P **P** **01 02 20.6 +0.3**
CTI lAmb lAmb 01 02 21.8
comp=Z,8.2nm,0.5s
RAFF Raffo Rosso 44.65 289 P **P** **01 02 22.0 +1.3**
RAFF lAmb lAmb 01 02 22.8
comp=Z,16nm,0.9s
TEOL Teolo 44.71 301 P **P** **01 02 21.8 +0.8**
SQTA Sankt Quirin 44.72 303 *i*P **P** **01 02 20.9 -0.3**
comp=Z,6.3nm,0.5s,SNR=9.3
MOTA Moosalm 44.77 303 *i*P **P** **01 02 21.0 -0.7**
SNR=6.7
N2VA Vr¸y 44.80 333 *e*P **P** **01 02 21.1 -0.2**
KSRS Korea Array 44.96 71 P **P** **01 02 24.4 +1.4**
comp=Z,0.8nm,0.3s,baz=277,slow=6.6,SNR=2.2
RETA Reutte 44.98 304 *e*P **P** **01 02 22.9 -0.3**
comp=Z,1.9nm,0.4s
TBLU Trondheim 45.01 326 *e*P **P** **01 02 23.7 +0.6**
KONO Kongsberg 45.03 321 P **P** **01 02 23.7 +0.4**
KONO pmax pmax
comp=Z,24nm,0.6s
KONO Kongsberg 45.03 321 P **P** **01 02 23.7 +0.4**
KONO Kongsberg 45.03 321 *e*P **P** **01 02 24.0 +0.7**
FETA Feichten 45.08 303 *e*P **P** **01 02 23.6 -0.5**
comp=Z,4.6nm,0.4s
GOET G??ttrup 45.17 317 *i*P **P** **01 02 26.3 +1.9**
comp=Z,8.7nm,0.3s
GOET G??ttrup 45.17 317 *i*P **P** **01 02 26.3 +1.9**
GOET lAmb lAmb 01 02 27.3
comp=Z,8.7nm,0.3s
MUD Monsted U'grnd 45.21 316 *i*P **P** **01 02 26.3 +1.6**
MUD pmax pmax
comp=Z,3.0nm,0.4s
MUD Monsted U'grnd 45.21 316 *i*P **P** **01 02 26.3 +1.6**
comp=Z,3.3nm,0.4s
MUD Monsted U'grnd 45.21 316 *i*P **P** **01 02 26.3 +1.6**
MUD lAmb lAmb 01 02 27.0
comp=Z,3.3nm,0.4s
BJO1 Bjornoya 45.24 343 *e*P **P** **01 02 25.8 +1.1**
DOMB Dombas 45.44 324 *e*P **P** **01 02 27.1 +0.6**
FUORN Ofenpass-Fuorn 45.46 303 P **P** **01 02 27.7 +0.6**
FUORN lAmb lAmb 01 02 32.1
comp=Z,5.4nm,0.5s
HOMB Homborsund 45.56 319 *i*P **P** **01 02 28.0 +0.6**
HOMB *i*P pP 01 02 28.3 -40
HOMB lAmb lAmb 01 02 29.1
comp=Z,7.5nm,0.4s
DAVA Damuels 45.60 304 *i*P **P** **01 02 28.1 -0.1**
comp=Z,19nm,0.4s,SNR=29
SKAR Skarsla 45.73 322 *e*P **P** **01 02 30.0 +1.2**
TIXI Tiksi 45.80 22⇑*e*P **P** **01 02 29.4 +0.3**
TIXI Tiksi 45.80 22 P **P** **01 02 29.5 +0.3**
TUE Stuetta 46.11 303 P **P** **01 02 32.5 +0.3**
MOL Molde 46.19 325 *e*P **P** **01 02 32.9 +0.6**
SNART Snartemo 46.25 319 *e*P **P** **01 02 33.8 +1.0**
SNART Snartemo 46.25 319 *i*P **P** **01 02 34.1 +1.3**
SNART lAmb lAmb 01 02 35.1
comp=Z,7.2nm,0.4s
AKN Aaknes 46.42 324 *e*P **P** **01 02 35.2 +1.0**
ODD1 Odda 46.54 321 *e*P **P** **01 02 36.3 +1.1**
BLS5 Blasjo 46.63 321 *e*P **P** **01 02 37.0 +1.2**
HYA Hoyanger 46.77 323 *e*P **P** **01 02 38.5 +1.6**
BER Bergen 47.19 322 *e*P **P** **01 02 41.2 +1.1**
ASK Askoy 47.26 322 *e*P **P** **01 02 41.4 +0.8**
FOO Floro 47.33 324 *e*P **P** **01 02 42.1 +0.9**
SPA0 Spitsbergen Ar 47.47 347 P **P** **01 02 43.2 +1.1**
SPA0 lAmb lAmb 01 02 44.2
comp=Z,25nm,1.0s
SPA0 Spitsbergen Ar 47.47 347 *e*P **P** **01 02 43.9 +1.8**
SENIN Lac Senin/Sane 47.52 303 P **P** **01 02 43.2 +0.1**
WLF Walferdange 47.66 307 P **P** **01 02 45.5 +1.6**
WLF pmax pmax
comp=Z,10.0nm,0.8s
WLF Walferdange 47.66 307 P **P** **01 02 45.5 +1.6**
WLF lAmb lAmb 01 02 46.8
comp=Z,10.0nm,0.8s
KBS Kingsbay 48.59 347⇑*e*P **P** **01 02 51.3 +0.7**
KBS pmax pmax
comp=Z,4.1nm,1.4s
KBS Kingsbay 48.59 347 P **P** **01 02 51.6 +1.0**
KBS lAmb lAmb 01 02 52.9
comp=Z,14nm,0.8s
KBS Kingsbay 48.59 347 *e*P **P** **01 02 52.5 +1.9**
KMBO Kilima Mbogo 48.77 227 P **P** **01 02 55.1 +2.1**
comp=Z,6.2nm,0.5s,baz=32,slow=11,SNR=25
KMBO Kilima Mbogo 48.77 227 *i*P **P** **01 02 54.7 +1.6**
SNR=8.1
KMBO Kilima Mbogo 48.77 227 P **P** **01 02 54.3 +1.2**
KMBO pmax pmax
comp=Z,9.0nm,0.7s
KMBO Kilima Mbogo 48.77 227 P **P** **01 02 54.3 +1.2**
KMBO lAmb lAmb 01 02 55.5
comp=Z,8.9nm,0.7s
KEST Kesra 48.96 288 P **P** **01 02 55.3 +1.2**
comp=Z,3.5nm,0.5s,baz=58,slow=3.9,SNR=16
KEST Kesra 48.96 288 P **P** **01 02 55.3 +1.2**
SSB Saint Sauveur 49.64 302 P **P** **01 02 59.2 +0.1**
SSB pmax pmax
comp=Z,8.0nm,0.4s
SSB Saint Sauveur 49.64 302 P **P** **01 02 59.2 +0.1**
SSB lAmb lAmb 01 03 00.8
comp=Z,8.1nm,0.4s
LRW Lerwick 50.44 322 *e*P **P** **01 03 05.5 +0.7**
LRW lAmb lAmb 01 03 06.2
comp=Z,27nm,0.8s
CLF Chambon-Foret 50.51 306 P **P** **01 03 06.5 +1.0**
KKM Kota Kinabalu 51.29 115 P **P** **01 03 12.6 +0.7**
KKM lAmb lAmb 01 03 13.6
comp=Z,7.7nm,0.5s
EDMD Edmundbyers 51.65 315 *e*P **P** **01 03 14.3 +0.3**
EDMD lAmb lAmb 01 03 15.9
comp=Z,86nm,1.3s
MCD Coleburn Disti 51.87 319 *e*P **P** **01 03 16.2 +0.8**
WOL Wolverton 51.95 311 *e*P **P** **01 03 17.3 +1.1**
SWN1 Swindon 52.26 311 *e*P **P** **01 03 19.9 +1.5**
ESK Eskdalemuir 52.26 316 P **P** **01 03 18.1 -0.3**
ESK pmax pmax
comp=Z,14nm,1.0s
ESK Eskdalemuir 52.26 316 P **P** **01 03 18.1 -0.3**
ESK lAmb lAmb 01 03 20.0
comp=Z,14nm,0.9s
KESW Keswick, Cumbr 52.35 315 *e*P **P** **01 03 19.9 +0.8**
MBAR Mbarara 52.44 234*c i*P **P** **01 03 21.1 +0.6**
MBAR pmax pmax
comp=Z,13nm,0.9s
MONM Monmouth 52.79 312 *e*P **P** **01 03 22.2 -0.1**
MCH1 Michaelchurch 52.87 312 *e*P **P** **01 03 23.6 +0.7**
MCH1 lAmb lAmb 01 03 24.4
comp=Z,26nm,0.9s
PGBU Glenifferbraes 52.87 317 *e*P **P** **01 03 23.0 +0.2**
NEWG New Galloway 52.87 316 *e*P **P** **01 03 23.8 +0.9**
NEWG lAmb lAmb 01 03 24.9
comp=Z,34nm,1.0s
KAC Achnashellach 52.96 319 *e*P **P** **01 03 23.9 +0.4**
LLW Llanuwchllyn 53.06 313 *e*P **P** **01 03 24.8 +0.5**
KPL Plockton 53.18 319 *e*P **P** **01 03 25.6 +0.5**

KPL IAmb IAmb 01 03 27.0
comp=Z,25nm,1.2s
LAWE Loch Awe, Argy 53.27 317 *e*P **P 01 03 26.4 +0.6**
LAWE IAmb IAmb 01 03 26.7
comp=Z,35nm,1.2s
NOR Nord 53.78 350 *i* P **P 01 03 30.0 +0.8**
NOR pmax pmax
comp=Z,9.0nm,1.2s
NOR Nord 53.78 350 *i* P **P 01 03 30.0 +0.8**
comp=Z,9.0nm,1.2s
NOR Nord 53.78 350 *i* P **P 01 03 30.0 +0.8**
NOR IAmb IAmb 01 03 30.9
comp=Z,9.0nm,1.2s
DSB Dublin 54.55 314 P **P 01 03 35.5 +0.4**
DSB IAmb IAmb 01 03 35.7
comp=Z,12nm,0.8s
DAG Danmarks Havn 54.70 344 *i* P **P 01 03 36.0 +0.1**
DAG pmax pmax
comp=Z,20nm,0.9s
DAG Danmarks Havn 54.70 344 *i* P **P 01 03 36.0 +0.1**
comp=Z,20nm,0.9s
DAG Danmarks Havn 54.70 344 *i* P **P 01 03 36.0 +0.1**
DAG *i* P **P 01 03 36.0 +0.1**
DAG IAmb IAmb 01 03 37.4
comp=Z,20nm,0.9s
DBG Daneborg 55.55 341 *i* P **P 01 03 43.3 +1.4**
ESBB Sonseca Array 57.38 298 P **P 01 03 55.6 +0.1**
ESBB IAmb IAmb 01 04 08.0
comp=Z,8.6nm,1.1s
ESDC Sonseca Array 57.38 298 P **P 01 03 54.6 -0.9**
comp=Z,3.0nm,0.8s,baz=53,slow=7.4,SNR=22
ESDC Sonseca Array 57.38 298 P **P 01 03 55.2 -0.3**
BILL Bilibino 58.64 26 *e*P **P 01 04 04.6 +0.9**
BILL *PP **pP 01 04 49.0 +1.6**
BILL *e* 01 04 56.4
BILL *SP **sP 01 05 11.0 +2.8**
BILL pmax pmax
comp=Z,20nm,1.4s
OPO Ambohidratompo 59.18 206 P **P 01 04 08.5 +0.3**
comp=Z,6.3nm,0.9s,baz=345,slow=6.2,SNR=4.5
ABPO Ambohimpanom 59.58 206 P **P 01 04 11.6 +0.7**
ABPO pmax pmax
comp=Z,6.0nm,0.8s
ABPO Ambohimpanom 59.58 206 P **P 01 04 11.6 +0.7**
ABPO IAmb IAmb 01 04 13.0
comp=Z,6.1nm,0.8s
SUMG Summit 61.03 341 P **P 01 04 21.7 +1.3**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 61.03 341 P **P 01 04 21.7 +1.3**
SUMG IAmb IAmb 01 04 22.7
comp=Z,12nm,0.9s
SUMG Summit 61.03 341 *i* P **P 01 04 20.1 -0.3**
comp=Z,43nm,1.1s
SUMG Summit 61.03 341 *i* P **P 01 04 20.2 -0.3**
SUMG IAmb IAmb 01 04 22.0
comp=Z,43nm,1.1s
EUNU Eureka 63.00 356 P **P 01 04 34.5 +1.5**
EUNU IAmb IAmb 01 04 35.3
comp=Z,9.6nm,1.1s
TNTI Ternate 63.06 111 P **P 01 04 34.9 +0.6**
ICESG Greenland Ices 63.18 338 *i* P **P 01 04 35.9 +1.2**
ICESG IAmb IAmb 01 04 37.0
comp=Z,9.2nm,0.9s
LSZ Lusaka 65.40 226 P **P 01 04 49.5 0.0**
LSZ pmax pmax
comp=Z,12nm,0.8s
LSZ Lusaka 65.40 226 P **P 01 04 49.5 0.0**
LSZ IAmb IAmb 01 04 50.8
comp=Z,12nm,0.8s
TOA0 Torodi Ar. Sit 65.64 269 P **P 01 04 49.3 -1.7**
TOA0 IAmb IAmb 01 04 50.2
comp=Z,10.0nm,0.9s
TORD Torodi Ar. Bea 65.64 269 P **P 01 04 49.5 -1.6**
comp=Z,5.3nm,0.4s,baz=50,slow=6.3,SNR=76
TORD Torodi Ar. Bea 65.64 269 P **P 01 04 49.0 -2.0**
BLWY Bulawayo 69.06 223 *i* P **P 01 05 12.5 +0.1**
BLWY Bulawayo 69.06 223 *i* P **P 01 05 12.5 +0.1**
MATP Matopo 69.36 223 *i* P **P 01 05 14.6 +0.4**
MATP Matopo 69.36 223 *i* P **P 01 05 14.6 +0.4**
KOWA Kowa 69.49 273 P **P 01 05 13.8 -1.3**
KOWA IAmb IAmb 01 05 15.6
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 70.94 15 P **P 01 05 23.9 +0.8**
TOLK IAmb IAmb 01 05 24.8
comp=Z,19nm,0.9s
COLD Coldfoot 71.99 16 P **P 01 05 30.0 +0.6**
COLD IAmb IAmb 01 05 31.0
comp=Z,8.2nm,0.8s
IMAR Indian Mountai 72.19 18 P **P 01 05 30.2 -0.4**
BMAR Burnt Mountain 72.96 14 P **P 01 05 36.1 +1.0**
MBWA Marble Bar 73.59 133 P **P 01 05 39.5 +0.2**
INK Inuvik 73.92 9 P **P 01 05 41.6 +1.0**
comp=Z,7.6nm,0.7s,baz=321,slow=5.0,SNR=28
INK Inuvik 73.92 9 P **P 01 05 41.3 +0.7**
INK IAmb IAmb 01 05 42.4
comp=Z,11nm,0.8s
MDM Murphy Dome 74.34 16 P **P 01 05 44.2 +0.9**
MDM IAmb IAmb 01 05 44.7
comp=Z,17nm,1.1s
BPAW Bear Paw Mtn. 74.42 18 P **P 01 05 44.1 +0.4**
BPAW IAmb IAmb 01 05 44.7
comp=Z,11nm,1.1s
COLA College 74.50 16 P **P 01 05 44.2 +0.2**
COLA pmax pmax
comp=Z,19nm,1.1s
COLA College 74.50 16 P **P 01 05 44.2 +0.2**
COLA IAmb IAmb 01 05 45.5
comp=Z,19nm,1.1s
DBIC Dimbokro 74.62 267 P **P 01 05 44.4 -1.2**
comp=Z,1.9nm,0.4s,baz=30,slow=7.7,SNR=9.1
DBIC Dimbokro 74.62 267 P **P 01 05 44.4 -1.2**
DBIC pmax pmax
comp=Z,6.0nm,1.1s
DBIC Dimbokro 74.62 267 P **P 01 05 44.4 -1.2**
LBTB Lobatse 74.62 222 P **P 01 05 46.0 +0.5**
LBTB pmax pmax
comp=Z,18nm,1.0s
LBTB Lobatse 74.62 222 P **P 01 05 46.0 +0.5**
LBTB IAmb IAmb 01 05 47.7
comp=Z,18nm,1.0s
CCB Clear Creek Bu 74.70 16 P **P 01 05 45.1 -0.1**
KIC Kosan Boka 74.70 267 *e*P **P 01 05 44.9 -1.2**
comp=Z,8.7nm,0.6s
TIC Toumodi 74.76 267 *e*P **P 01 05 45.1 -1.4**
IL31 74.80 16 P **P 01 05 45.7 -0.1**
IL31 IAmb IAmb 01 05 46.6
comp=Z,9.6nm,1.1s
ILAR Eielson Array 74.80 16 P **P 01 05 45.6 -0.2**
comp=Z,3.8nm,0.9s,baz=313,slow=4.7,SNR=27
ILAR pP **pP 01 06 32.0 +0.3**
comp=Z,1.3nm,0.9s,baz=315,slow=5.1,SNR=3.2
ILAR LR LR 01 46 51.0
comp=Z,38nm,19.1s,baz=58,slow=42
ILAR Eielson Array 74.80 16 P **P 01 05 45.4 -0.5**
IL18 Eielson Array 74.83 16 P **P 01 05 46.0 -0.1**
TSUM Tsumeb 74.85 232 P **P 01 05 46.1 -0.8**
TSUM IAmb IAmb 01 05 48.1
comp=Z,18nm,1.1s
KTH Kantishna Hill 74.89 18 P **P 01 05 46.6 +0.2**
KTH IAmb IAmb 01 05 47.6
comp=Z,24nm,1.1s
FITZ Fitzroy Crossi 74.96 126 P **P 01 05 47.1 -0.3**
FITZ IAmb IAmb 01 05 48.2
comp=Z,7.9nm,1.1s
MTN Manton Dam 74.97 119 P **P 01 05 46.3 -1.3**
MTN IAmb IAmb 01 05 47.6
comp=Z,7.5nm,1.1s
LIC Lamto 75.01 267 *e*P **P 01 05 46.5 -1.4**
comp=Z,8.6nm,0.3s
KNRA Kununurra 75.30 123 P **P 01 05 49.3 0.0**
KNRA IAmb IAmb 01 05 50.7
comp=Z,15nm,0.8s
JAY Jayapura 75.40 104 P **P 01 05 50.6 +0.5**
comp=Z,16nm,1.0s,baz=340,slow=8.0,SNR=2.4
SKT Skwentna 76.04 19 P **P 01 05 52.9 -0.1**
SKT IAmb IAmb 01 05 53.6
comp=Z,18nm,1.1s
DAWY Dawson 76.94 13 P **P 01 05 58.3 +0.3**
DAWY IAmb IAmb 01 05 58.8
comp=Z,12nm,1.1s
M24K Tolsona, Glenn 77.27 17 P **P 01 06 00.6 +0.7**
BCAR Beaver Creek A 77.38 15 P **P 01 06 01.2 +0.7**
BOSA Boshof 77.69 220 P **P 01 06 02.8 +0.1**
comp=Z,7.8nm,0.4s,baz=15,slow=3.9,SNR=49
BOSA Boshof 77.69 220 P **P 01 06 02.6 -0.1**
BOSA IAmb IAmb 01 06 03.7
comp=Z,24nm,1.1s
MORW Morawa 77.80 141 P **P 01 06 03.3 +0.1**
BALM Baldy 79.08 16 P **P 01 06 10.9 +0.9**
HYT Haines Junctio 80.27 14 P **P 01 06 17.3 +1.0**
YKA Yellowknife Ar 81.25 3 P **P 01 06 21.1 -0.2**
comp=Z,5.4nm,0.3s,baz=358,slow=5.1,SNR=103
YKA pP **pP 01 07 08.9 +1.1**
comp=Z,1.5nm,0.6s,baz=354,slow=6.1,SNR=2.9
WB0 Warramunga Arr 81.98 122 P **P 01 06 24.5 -1.3**
WB0 IAmb IAmb 01 06 24.8
comp=Z,5.6nm,0.8s
WRA Warramunga Arr 82.06 122 P **P 01 06 24.9 -1.2**
comp=Z,7.1nm,0.3s,baz=325,slow=5.0,SNR=226
WRA Warramunga Arr 82.06 122 P **P 01 06 25.0 -1.2**
WB2 Warramunga Arr 82.07 122 P **P 01 06 25.2 -1.1**
SUR Sutherland 83.00 221 P **P 01 06 31.0 0.0**
SUR IAmb IAmb 01 06 36.2
comp=Z,14nm,1.0s
AS31 Alice Springs 84.32 125 P **P 01 06 36.6 -1.1**
ASAR Alice Springs 84.32 125 P **P 01 06 36.5 -1.2**
comp=Z,5.4nm,0.6s,baz=312,slow=4.9,SNR=59
ASAR Alice Springs 84.32 125 P **P 01 06 36.7 -1.0**
ASAR Alice Springs 84.32 125 P **P 01 06 36.7 -1.0**
FORT Forrest 85.73 134 P **P 01 06 43.9 -0.6**
FFC Flin Flon 88.93 356 P **P 01 07 00.1 +0.5**
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC Flin Flon 88.93 356 P **P 01 07 00.1 +0.5**
FFC IAmb IAmb 01 07 01.0
comp=Z,8.8nm,1.0s
CTAO Charters Tower 90.62 115 P **P 01 07 07.0 -1.0**
CTAO pmax pmax
comp=Z,9.0nm,0.6s
CTAO Charters Tower 90.62 115 P **P 01 07 07.0 -1.0**
ULM Lac du Bonnet 92.83 352 P **P 01 07 15.9 -1.8**
comp=Z,6.3nm,1.1s,baz=22,slow=5.5,SNR=4.8
ULM Lac du Bonnet 92.83 352 P **P 01 07 16.0 -1.8**
STKA Stephens Creek 94.86 126 P **P 01 07 26.2 -1.0**
comp=Z,2.0nm,0.9s,baz=322,slow=5.1,SNR=2.9
STKA Stephens Creek 94.86 126 P **P 01 07 26.6 -0.6**
STKA pmax pmax
comp=Z,1.0nm,1.2s
STKA Stephens Creek 94.86 126 P **P 01 07 26.6 -0.6**
SNAA Sanae 119.37 200 PKiKP **PKPdf 01 12 51.2 -1.4**
VNA2 Neumayer--Watz 120.37 202 PKiKP **PKPdf 01 12 53.8 -0.7**
VNA1 Neumayer--Stat 120.52 202 PKiKP **PKPdf 01 12 54.3 -0.4**
VNA3 Neumayer Olymp 121.18 202 PKiKP **PKPdf 01 12 55.1 -0.9**
ROSC El Rosal 127.58 314 PKP **PKPdf 01 13 09.6 -1.0**
comp=Z,3.5nm,0.4s,baz=126,slow=19,SNR=2.2
ROSC El Rosal 127.58 314 **PKPdf 01 13 09.9 -0.6**
CPUP Villa Florida 135.13 268 PKP **PKPdf 01 13 22.6 -1.3**
comp=Z,2.8nm,0.9s,baz=100,slow=1.1,SNR=6.0
CPUP Villa Florida 135.13 268 PKIKP **PKPdf 01 13 23.2 -0.7**
CPUP Villa Florida 135.13 268 **PKPdf 01 13 23.2 -0.7**
LPAZ La Paz 138.53 289 PKP **PKPdf 01 13 30.7 -0.6**
comp=Z,1.3nm,0.8s,baz=59,slow=4.0,SNR=5.3
PPT Papeete 139.67 73 PKP **PKPdf 01 13 31.1 -1.4**
comp=Z,14nm,0.5s,baz=125,slow=15,SNR=2.2
PLCA Paso Flores 149.75 250 PKPbc **PKPbc 01 13 53.6 -0.6**
comp=Z,9.5nm,1.0s,baz=110,slow=1.9,SNR=9.1
PLCA Paso Flores 149.75 250 **PKPbc 01 13 54.5 +0.3**

*NEIC **14** 01:08:12.6±1.4, 26.12S±0.08×178.7W±0.1, h348km±5km, mb4.5/49, Error ellipse: s-maj=13.7km s-min=10.5km az=115.0*
*IDC **14** 01:08:12.6±1.3, 26.02S×178.73W, h343km±12km, mb3.9/14, mb1 4.2/16, mb1mx4.1/22, mbtmp4.6/16, Error ellipse: s-maj=14.7km s-min=12.7km az=167.0*

ISC 14 01:08:11.5±0.5, 26.27S±0.05×178.70W±0.06, h342km±4km, n157, σ2.218/186, mb4.5/39, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**3.04**	**167**	P		**Pn**	**01 09 15.0**	**+4.4**
RIZ				S		**S**	**01 09 52.7**	**-5.4**
RAO	**Raoul Island**	**3.05**	**167**	P		**Pn**	**01 09 14.8**	**+4.2**
	304nm,0.3s,baz=85,slow=7.1,SNR=16							
RAO				S		**S**	**01 09 59.0**	**+0.8**
	480nm,0.3s,baz=84,slow=21,SNR=9.3							
RAO	**Raoul Island**	**3.05**	**167**	P		**Pn**	**01 09 14.5**	**+3.8**
RAO				S		**S**	**01 09 56.1**	**-2.2**
RAO	**Raoul Island**	**3.05**	**167**			**Pn**	**01 09 14.2**	**+3.5**
RAO						**S**	**01 10 03.0**	**+4.8**
GLKZ	**Green Lake**	**3.06**	**167**	P		**Pn**	**01 09 14.7**	**+4.0**
GLKZ				S		**S**	**01 10 00.0**	**+1.6**
MSVF	**Nonsavu**	**9.02**	**340**	Pn		**Pn**	**01 10 17.4**	**-0.5**
NIUE	**Niue**	**10.81**	**50**	Pn		**Pn**	**01 10 38.2**	**-1.0**
NIUE				S		**S**	**01 12 38.5**	**-2.1**
OUZ	**Omahuta**	**11.11**	**215**	P		**P**	**01 10 47.2**	**+3.7**
OUZ	**Omahuta**	**11.11**	**215**			**P**	**01 10 45.4**	**+1.9**
GRZ	**Great Barrier**	**11.13**	**205**	P		**P**	**01 10 46.7**	**+3.0**
WCZ	**Waipu Caves**	**11.33**	**210**	P		**P**	**01 10 48.4**	**+2.5**
KUZ	**Kuaotunu**	**11.47**	**203**	P		**P**	**01 10 50.6**	**+3.1**
MXZ	**Matakaoa Point**	**11.54**	**192**	P		**Pn**	**01 10 44.0**	**-3.8**
MXZ				S		**S**	**01 12 48.4**	**-8.3**
WMGZ	**Waiomatatini S**	**11.77**	**191**	P		**Pn**	**01 10 47.8**	**-2.7**
WMGZ				S		**S**	**01 12 57.9**	**-3.9**
HAZ	**Te Kaha**	**11.83**	**194**	P		**Pn**	**01 10 49.0**	**-2.2**
HAZ				S		**S**	**01 12 59.3**	**-3.8**
PKKZ	**Pakihiroa**	**11.90**	**192**	P		**P**	**01 10 52.4**	**+0.1**
TOZ	**Tahuroa Road**	**12.44**	**202**	P		**Pn**	**01 10 58.3**	**-0.1**
URZ	**Urewera**	**12.46**	**195**	P		**P**	**01 10 57.8**	**-0.6**
	14nm,0.3s,baz=3.9,slow=3.9,SNR=46							
URZ				S		**S**	**01 13 11.6**	**-5.0**
	12nm,0.3s,baz=58,slow=23,SNR=20							
URZ	**Urewera**	**12.46**	**195**	P		**P**	**01 10 57.5**	**-1.0**
URZ				S		**S**	**01 13 12.0**	**-4.5**
URZ	**Urewera**	**12.46**	**195**			**P**	**01 10 58.0**	**-0.5**
RAGZ	**Rawiri**	**12.62**	**194**	P		**Pn**	**01 11 00.6**	**-0.1**
RAGZ				S		**S**	**01 13 15.7**	**-4.2**
RRRZ	**Republican Roa**	**12.69**	**197**	P		**Pn**	**01 11 01.8**	**+0.3**
MUGZ	**Murupara**	**12.76**	**196**	P		**Pn**	**01 11 02.7**	**+0.5**
RTZ	**Ruatahuna**	**12.84**	**195**	P		**P**	**01 11 01.8**	**-0.9**
PRPZ	**Plateau Road**	**12.88**	**198**	P		**Pn**	**01 11 09.3**	**+0.3**
SNGZ	**Shannon Statio**	**12.91**	**194**	P		**P**	**01 11 00.2**	**-3.3**
SNGZ				S		**S**	**01 13 20.8**	**-5.0**
MTHZ	**Maungataniwha**	**13.09**	**196**	P		**P**	**01 11 04.7**	**-0.8**
MTHZ				S		**S**	**01 13 24.7**	**-4.8**
RAHZ	**Arahi**	**13.10**	**195**	P		**P**	**01 11 01.8**	**-3.8**
RAHZ				S		**S**	**01 13 25.5**	**-4.1**
WHHZ	**Waihua**	**13.22**	**194**	P		**P**	**01 11 03.9**	**-3.0**
WHHZ				S		**S**	**01 13 28.6**	**-3.4**
NMHZ	**Naumai**	**13.34**	**195**	P		**P**	**01 11 05.7**	**-2.5**
NMHZ				S		**S**	**01 13 31.6**	**-3.0**
HIZ	**Hauiti**	**13.36**	**202**			**Pn**	**01 11 10.3**	**+0.9**
ARHZ	**Aropaoanui**	**13.45**	**195**	P		**P**	**01 11 05.8**	**-3.6**
BKZ	**Black Stump Fm**	**13.48**	**196**	P		**P**	**01 11 07.2**	**-2.5**
BKZ	**Black Stump Fm**	**13.48**	**196**			**P**	**01 11 08.3**	**-1.4**
MCHZ	**McNeill Hill**	**13.69**	**195**	P		**P**	**01 11 10.3**	**-1.8**
CKHZ	**Cape Kidnapper**	**13.81**	**194**	P		**P**	**01 11 09.9**	**-3.4**
WNVZ	**Wahianoa**	**13.87**	**199**	P		**P**	**01 11 11.5**	**-2.7**
BHHZ	**Black Hill Sta**	**13.89**	**197**	P		**P**	**01 11 10.6**	**-3.7**
MOVZ	**Moawhango**	**13.90**	**198**	P		**P**	**01 11 12.3**	**-2.1**
AFI	**Afiamalu**	**13.90**	**29**	P		**P**	**01 11 12.4**	**-2.4**
KRHZ	**Kereru**	**13.96**	**196**	P		**P**	**01 11 10.9**	**-4.1**
KAHZ	**Kahuranaki**	**13.98**	**194**	P		**P**	**01 11 12.6**	**-2.7**
DZM	**Mont Dzumac**	**14.19**	**284**	P		**Pn**	**01 11 21.6**	**+2.2**
	10nm,0.3s,baz=96,slow=13,SNR=76							
DZM	**Mont Dzumac**	**14.19**	**284**	P		**Pn**	**01 11 18.0**	**-1.4**
PXZ	**Pawanui**	**14.21**	**194**	P		**P**	**01 11 16.6**	**-1.1**
PNHZ	**Pukenui**	**14.26**	**196**	P		**P**	**01 11 14.5**	**-3.8**
WPHZ	**Waipukurau**	**14.34**	**195**	P		**P**	**01 11 19.4**	**+0.2**
TSZ	**Takapari Road**	**14.45**	**197**	P		**P**	**01 11 16.8**	**-3.6**
DVHZ	**Dannevirke**	**14.63**	**196**	P		**P**	**01 11 19.4**	**-2.9**
ANWZ	**Angora Road**	**14.71**	**195**	P		**P**	**01 11 22.7**	**-0.5**
PRWZ	**Pori Road**	**14.92**	**196**	P		**P**	**01 11 22.0**	**-3.5**
BFZ	**Birch Farm**	**14.97**	**195**	P		**P**	**01 11 21.6**	**-4.5**
MRZ	**Mangatainoka R**	**15.12**	**197**	P		**P**	**01 11 25.4**	**-2.2**
HOWZ	**Holdsworth Sta**	**15.36**	**197**	P		**P**	**01 11 26.4**	**-3.9**
MSWZ	**Moikau Station**	**15.91**	**197**	P		**P**	**01 11 36.1**	**-0.2**
THZ	**Tophouse**	**16.93**	**202**	P		**P**	**01 11 46.5**	**-0.9**
THZ				S		**S**	**01 14 47.2**	**+0.8**
RAR	**Rarotonga**	**18.04**	**78**	P		**P**	**01 12 00.5**	**+1.1**
	1.8nm,0.3s,baz=262,slow=5.0,SNR=6.6							
RAR	**Rarotonga**	**18.04**	**78**	P		**P**	**01 12 00.5**	**+1.1**
RAR					IAmb	IAmb	01 12 02.3	
	comp=Z,20nm,0.7s							
LTZ	**Lake Taylor**	**18.05**	**202**	P		**P**	**01 12 02.0**	**+2.6**
LTZ					IAmb	IAmb	01 12 07.9	
	comp=Z,28nm,1.0s							
MQZ	**McQueen's Vall**	**18.76**	**200**	P		**P**	**01 12 07.3**	**+0.5**
MQZ					IAmb	IAmb	01 12 16.3	
	comp=Z,40nm,1.1s							
RPZ	**Rata Peaks**	**19.29**	**203**	P		**P**	**01 12 09.9**	**-2.6**
	comp=Z,8.2nm,0.3s,baz=11,slow=4.2,SNR=20							
RPZ				S		**S**	**01 15 33.1**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=41,slow=12,SNR=2.3							
RPZ	**Rata Peaks**	**19.29**	**203**	P		**P**	**01 12 13.8**	**+1.3**
RPZ					IAmb	IAmb	01 12 18.2	
	comp=Z,24nm,0.6s							
RPZ						**S**	**01 15 32.9**	**+1.2**
FOZ	**Fox Glacier**	**19.59**	**206**	P		**P**	**01 12 14.8**	**-0.8**
LHI	**Lord Howe Isla**	**20.15**	**250**	P		**P**	**01 12 23.0**	**+1.6**
MLZ	**Mavora Lakes**	**21.79**	**206**	P		**P**	**01 12 37.5**	**+1.2**
MLZ					IAmb	IAmb	01 12 39.8	
	comp=Z,19nm,1.1s							
WHZ	**Wether Hill Ro**	**22.30**	**205**	P		**P**	**01 12 41.6**	**+0.7**
WHZ					IAmb	IAmb	01 12 41.7	
	comp=Z,55nm,1.2s							
ARMA	**Armidale**	**26.40**	**254**	P		**P**	**01 13 18.3**	**+0.2**
ARMA					IAmb	IAmb	01 13 22.1	
	comp=Z,16nm,0.7s							
EIDS	**Eidsvold**	**27.19**	**265**	P		**P**	**01 13 25.6**	**+0.6**
CAN	**Canberra**	**29.07**	**244**	P		**P**	**01 13 43.2**	**+1.6**
CAN					IAmb	IAmb	01 14 01.2	
	comp=Z,26nm,1.1s							
TOO	**Toolangi**	**32.24**	**241**	P		**P**	**01 14 10.4**	**+1.3**
TOO					IAmb	IAmb	01 14 12.4	
	comp=Z,23nm,0.8s							
CTA	**Charters Tower**	**32.73**	**273**	P		**P**	**01 14 15.2**	**+1.6**
	comp=Z,74nm,0.5s,baz=101,slow=10,SNR=25							
CTAO	**Charters Tower**	**32.73**	**273**	P		**P**	**01 14 13.9**	**+0.3**
STKA	**Stephens Creek**	**35.01**	**251**	P		**P**	**01 14 34.3**	**+1.4**
	comp=Z,12nm,0.4s,baz=97,slow=12,SNR=60							
STKA					PcP	**PcP**	**01 16 58.1**	**+1.7**
	comp=Z,2.9nm,0.5s,baz=90,slow=3.6,SNR=3.1							
STKA	**Stephens Creek**	**35.01**	**251**			**P**	**01 14 33.8**	**+0.9**
STKA						**PcP**	**01 16 56.7**	**+0.3**
PMG	**Port Moresby**	**36.41**	**291**			**P**	**01 14 44.7**	**-0.1**
COEN	**Coen**	**37.70**	**281**	P		**P**	**01 14 55.2**	**-0.3**
COEN					IAmb	IAmb	01 14 58.6	
	comp=Z,27nm,0.6s							
BBOO	**Buckleboo**	**39.66**	**250**			**P**	**01 15 11.8**	**+0.2**
BBOO					IAmb	IAmb	01 15 12.6	
	comp=Z,27nm,0.9s							
BBOO					PcP	**PcP**	**01 17 11.1**	**+0.3**
AS31	**Alice Springs**	**42.86**	**263**	P		**P**	**01 15 38.0**	**+0.4**
ASAR	**Alice Springs**	**42.86**	**263**	P		**P**	**01 15 37.8**	**+0.2**
	comp=Z,15nm,0.6s,baz=106,slow=8.1,SNR=134							
ASAR					PcP	**sP**	**01 17 21.8**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=118,slow=3.6,SNR=2.5							
ASAR					ScP	**ScP**	**01 20 39.9**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=110,slow=3.6,SNR=4.4							
ASAR					S	**S**	**01 21 29.1**	**-6.9**
	comp=Z,0.2nm,0.3s,baz=102,slow=16,SNR=2.3							
WR0	**Warramunga Arr**	**43.28**	**268**	P		**P**	**01 15 40.7**	**-0.2**
WR0					IAmb	IAmb	01 15 42.2	
	comp=Z,24nm,0.9s							
WB2	**Warramunga Arr**	**43.46**	**268**	P		**P**	**01 15 42.2**	**-0.1**
WB2					IAmb	IAmb	01 15 43.6	
	comp=Z,36nm,0.9s							
WRA	**Warramunga Arr**	**43.47**	**268**	P		**P**	**01 15 42.0**	**-0.3**
	comp=Z,12nm,0.3s,baz=103,slow=7.6,SNR=235							
WRA					PcP	**PcP**	**01 17 24.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=108,slow=3.3,SNR=5.1							
WRA					ScP	**ScP**	**01 20 42.7**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=103,slow=3.6,SNR=4.8							
WRA					S	**S**	**01 21 39.4**	**-5.4**
	comp=Z,1.4nm,1.1s,baz=96,slow=14,SNR=3.0							
WRA	**Warramunga Arr**	**43.47**	**268**	P		**P**	**01 15 42.2**	**-0.2**
WRA						**PcP**	**01 17 22.8**	**-0.9**
WB0	**Warramunga Arr**	**43.47**	**268**	P		**P**	**01 15 42.3**	**-0.1**
WB0					IAmb	IAmb	01 15 43.6	
	comp=Z,31nm,0.9s							
FORT	**Forrest**	**46.64**	**252**	P		**P**	**01 16 06.7**	**-0.1**
MTN	**Manton Dam**	**48.84**	**276**	P		**P**	**01 16 22.4**	**-1.5**
MTN					IAmb	IAmb	01 16 26.6	
	comp=Z,17nm,0.7s							
KNRA	**Kununurra**	**49.89**	**271**	P		**P**	**01 16 31.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.85**	**267**	P		**P**	**01 16 46.5**	**+0.3**
FITZ					IAmb	IAmb	01 16 48.1	
	comp=Z,20nm,0.6s							
VNDA	**Vanda**	**52.13**	**185**	P		**P**	**01 16 50.4**	**+3.1**
	comp=Z,3.4nm,0.5s,baz=4,slow=8.2,SNR=54							
VNDA	**Vanda**	**52.13**	**185**	P		**P**	**01 16 49.8**	**+2.5**
PSA00	**Pilbara Seismi**	**55.92**	**261**	P		**P**	**01 17 14.9**	**-0.5**
PSA00					IAmb	IAmb	01 17 16.1	
	comp=Z,12nm,0.7s							
SOEI	**Soe**	**56.24**	**276**	P		**P**	**01 17 17.8**	**0.0**
	comp=Z,63nm,0.8s							
SOEI	**Soe**	**56.24**	**276**	P		**P**	**01 17 17.7**	**0.0**
MORW	**Morawa**	**57.20**	**251**	P		**P**	**01 17 24.0**	**-0.1**
SANI	**Sanana**	**58.24**	**285**	P		**P**	**01 17 30.0**	**-1.5**
	comp=Z,28nm,0.8s							
EDFI	**Ende, Flores**	**58.97**	**276**	P		**P**	**01 17 36.3**	**-0.3**
	comp=Z,14nm,0.9s							
BKSI	**Bulukumba**	**61.86**	**278**	P		**P**	**01 17 55.1**	**-0.8**
	comp=Z,46nm,0.8s							
GTOI	**Gorontalo**	**62.16**	**286**	P		**P**	**01 17 57.2**	**-0.6**
	comp=Z,12nm,0.6s							
PLAI	**Plampang**	**62.44**	**274**	P		**P**	**01 17 59.5**	**-0.2**
QSPA	**South Pole Qui**	**63.82**	**180**	P		**P**	**01 18 10.0**	**+2.0**
MJAR	**Matsushiro Arr**	**74.51**	**325**	P		**P**	**01 19 12.0**	**-1.3**
	comp=Z,4.6nm,0.7s,baz=157,slow=5.7,SNR=6.6							
MJAR	**Matsushiro Arr**	**74.51**	**325**	P		**P**	**01 19 13.0**	**-0.3**
MAW	**Mawson**	**75.95**	**200**	P		**P**	**01 19 22.7**	**+1.7**
	comp=Z,8.8nm,0.5s,baz=138,slow=5.5,SNR=38							
MAW	**Mawson**	**75.95**	**200**	P		**P**	**01 19 22.9**	**+2.0**
KSRS	**Korea Array**	**80.81**	**320**	P		**P**	**01 19 48.5**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=136,slow=5.6,SNR=5.5							
PETK	**Petropavlovsk-**	**81.67**	**346**	P		**P**	**01 19 52.2**	**+0.3**
	comp=Z,5.4nm,1.0s,baz=116,slow=3.4,SNR=2.5							
SNAA	**Sanae**	**82.28**	**179**	P		**P**	**01 19 55.2**	**+0.1**
VNA3	**Neumayer Olymp**	**82.45**	**176**	P		**P**	**01 19 56.4**	**+0.6**
VNA2	**Neumayer--Watz**	**82.88**	**177**	P		**P**	**01 19 59.0**	**+1.0**
	baz=180,slow=5.3							
VNA1	**Neumayer--Stat**	**83.11**	**177**	P		**P**	**01 20 00.5**	**+1.4**
USRK	**Ussuriysk Ar.**	**83.39**	**327**	P		**P**	**01 20 00.9**	**0.0**
	comp=Z,2.9nm,0.6s,baz=150,slow=4.5,SNR=5.1							
USRK	**Ussuriysk Ar.**	**83.39**	**327**	P		**P**	**01 20 01.1**	**+0.3**
CMB	**Columbia Colle**	**84.13**	**42**	P		**P**	**01 20 05.1**	**+0.3**
GLA	**Glamis**	**84.66**	**49**	P		**P**	**01 20 07.8**	**+0.2**

GEYT	**Alibeck**	**131.15**	**298**	SKPbc	**SKPab**	**01 29 37.0**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=31,slow=3.4,SNR=6.7						
ARCES	**ARCESS Array B**	**134.44**	**348**	PKhKP	PKPpre	01 26 41.6	
	comp=Z,4.4nm,0.9s,baz=47,slow=3.2,SNR=2.2						
ARCES				PKP	**PKiKP**	**01 26 49.3**	**-0.6**
	comp=Z,3.8nm,1.0s,baz=8.5,slow=1.8,SNR=5.9						
ARCES				SKPbc	**SKPbc**	**01 29 45.2**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=33,slow=3.5,SNR=6.3						
FINES	**FINESS Array B**	**141.06**	**341**	PKhKP	PKPpre	01 26 54.9	
	comp=Z,0.6nm,0.5s,baz=40,slow=4.1,SNR=7.2						
FINES				SKPbc	**SKPbc**	**01 30 04.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=50,slow=2.2,SNR=3.6						
KBZ	**Khabaz**	**142.19**	**308**	SKPbc	**SKPbc**	**01 30 07.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=85,slow=4.6,SNR=3.9						
ARTV	**Artvin**	**143.43**	**304**		**PKPdf**	**01 27 04.7**	**-1.2**
NC303	**NORSAR Array S**	**144.39**	**352**		PKPbc	01 27 05.9	-0.2
NC405	**NORSAR Array S**	**144.46**	**351**		PKPbc	01 27 06.0	-0.3
NB2	**NORSAR Subarra**	**144.59**	**352**	PKP	PKPbc	01 27 05.8	-0.9
	comp=Z,1.3nm,0.4s,baz=13,slow=3.1						
NOA	**NORSAR Array B**	**144.59**	**352**	PKP	PKPbc	01 27 05.9	-0.8
	comp=Z,4.5nm,0.8s,baz=15,slow=2.6,SNR=21						
MARD	**Mardin**	**144.91**	**298**		**PKPdf**	**01 27 08.2**	**-0.3**
HFS	**Hagfors**	**145.09**	**349**	PKP	**PKPdf**	**01 27 07.5**	**-0.4**
	comp=Z,3.0nm,0.4s,baz=352,slow=2.2,SNR=29						
AKASG	**Malin Array Be**	**147.59**	**326**	PKPbc	**PKPbc**	**01 27 13.7**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=50,slow=4.4,SNR=2.9						
AKASG	**Malin Array Be**	**147.59**	**326**	PKPdf	**PKPdf**	**01 27 12.7**	**+0.3**
BRTR	**Keskin Array B**	**149.92**	**305**	PKPbc	**PKiKP**	**01 27 22.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=173,slow=2.3,SNR=4.5						
BRTR	**Keskin Array B**	**149.92**	**305**		**PKiKP**	**01 27 22.1**	**-0.6**
BURAR	**Bucovina Array**	**151.58**	**325**		**PKiKP**	**01 27 25.9**	**+0.1**
MLR	**Muntele Rosu**	**152.50**	**321**	PKPbc	**PKiKP**	**01 27 29.2**	**+1.4**
	baz=349,slow=5.2						
MLR	**Muntele Rosu**	**152.50**	**321**		**PKiKP**	**01 27 27.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**166.94**	**182**	PKP	**PKPdf**	**01 27 37.1**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=188,slow=1.4,SNR=2.9						
TORD				PKPab	**PKPab**	**01 28 43.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=152,slow=3.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**166.94**	**182**		**PKPdf**	**01 27 37.2**	**0.0**
TORD					**PKPab**	**01 28 43.7**	**+1.0**

*DNK **14** 01:09:57.7±3.0, 63.34N×16.08W, h15km, mb4.9*
*IDC **14** 01:10:10.0±0.6, 64.63N×17.54W, h0km, mb4.1/19, mb1 4.3/24, mb1mx4.1/42, mbtmp4.1/24, ML3.3/5, MS3.4/7, Ms1 3.4/7, ms1mx2.9/44, Error ellipse: s-maj=16.9km s-min=10.6km az=19.0*
*REY **14** 01:10:09.6, 64.67N×17.44W, h1km*
*MOS **14** 01:10:11.5±1.0, 64.73N×17.07W, h6km, mb4.7/31, Error ellipse: s-maj=10.7km s-min=7.1km az=111.0*
*NEIC **14** 01:10:12.2±0.5, 64.7N±0.1×17.6W±0.2, h7km±4km, mb4.7/82, Error ellipse: s-maj=19.7km s-min=9.9km az=184.0*
ISC 14 01:10:11.4±0.5, 64.69N±0.02×17.46W±0.02, h8km±3km, n296, σ1s77/293, mb4.5/96, 41C-8D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.11**	**21**	P	**Pg**	**01 10 12.8**	**-1.2**
	baz=14						
IVON	**Vonarskard**	**0.13**	**264**	S	**Sg**	**01 10 16.0**	**-0.3**
	baz=270						
IGRF	**Grimsfjall**	**0.29**	**163**	P	**Pg**	**01 10 15.7**	**-1.6**
	baz=164						
IHUS	**Husbondi**	**0.40**	**192**	P	**Pg**	**01 10 17.4**	**-1.9**
	baz=194						
ISKR	**Skrokkalda**	**0.42**	**253**	P	**Pg**	**01 10 17.9**	**-1.7**
	baz=255						
IVOT	**Vottur**	**0.43**	**164**	P	**Pg**	**01 10 17.9**	**-2.0**
	baz=165						
IKRE	**Kreppuhraun**	**0.47**	**78**	P	**Pg**	**01 10 18.5**	**-2.0**
	baz=76						
IKRE				S	**Sg**	**01 10 25.9**	**-0.8**
	baz=76						
IJOK	**Jokulheimar**	**0.50**	**222**	P	**Pg**	**01 10 19.2**	**-1.9**
	baz=224						
IASK	**Askja**	**0.50**	**43**	P	**Pg**	**01 10 19.8**	**-1.4**
	baz=41						
IASK				S	**Sg**	**01 10 27.9**	**+0.1**
	baz=41						
IMKO	**Mokollar**	**0.56**	**58**	P	**Pg**	**01 10 20.2**	**-2.0**
	baz=56						
IMKO				S	**Sg**	**01 10 29.4**	**-0.2**
	baz=56						
ISVA	**Svartarkot**	**0.66**	**7**	P	**Pg**	**01 10 22.1**	**-2.0**
	baz=6.6						
ISVA				S	**Sg**	**01 10 32.1**	**-0.6**
	baz=6.6						
IIEY	**Innrieyrar**	**0.66**	**206**	P	**Pg**	**01 10 21.6**	**-2.5**
	baz=208						
IKSK	**Karasker**	**0.68**	**141**	P	**Pg**	**01 10 21.8**	**-2.7**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**188**	P	**Pg**	**01 10 23.4**	**-2.4**
	baz=189						
IKAL				S	**Sg**	**01 10 33.3**	**-2.2**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.75**	**80**	P	**Pg**	**01 10 23.1**	**-2.8**
	baz=79						
IVSH				S	**Sg**	**01 10 34.1**	**-1.6**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**232**	P	**Pg**	**01 10 24.7**	**-2.2**
	baz=233						
IVAT				S	**Sg**	**01 10 36.1**	**-1.4**
	baz=233						
IADA	**Aoalbol**	**0.87**	**67**	P	**Pg**	**01 10 25.4**	**-2.7**
	baz=66						
IADA				S	**Sg**	**01 10 37.9**	**-1.6**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**282**	P	**Pg**	**01 10 26.1**	**-3.0**
	baz=283						
IHVE				S	**Sg**	**01 10 39.5**	**-1.6**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**01 10 26.7**	**-2.9**
	baz=20						
IREN	**Reynihlio**	**0.99**	**13**	P	**Pg**	**01 10 27.5**	**-2.9**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**13**	P	**Pg**	**01 10 28.6**	**-3.2**
	baz=12						
ISNB	**Snabyli**	**1.08**	**209**	P	**Pg**	**01 10 29.2**	**-3.0**
	baz=210						
IGRS	**Grimsstaoir**	**1.11**	**30**	P	**Pg**	**01 10 29.5**	**-3.2**
	baz=29						
IGRS				S	**Sg**	**01 10 45.9**	**-1.1**
	baz=29						
ISLY	**Slysaalda**	**1.13**	**221**	P	**Pg**	**01 10 29.9**	**-3.2**
	baz=222						
IFED	**Fedgar**	**1.18**	**237**	P	**Pg**	**01 10 31.0**	**-3.0**
	baz=238						
IRJU	**Rjupnafell**	**1.20**	**207**	P	**Pb**	**01 10 31.2**	**-3.1**
	baz=208						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pb**	**01 10 31.0**	**-3.4**
	baz=8.0						
ISKI				S	**Sg**	**01 10 48.3**	**-1.7**
	baz=8.0						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pb**	**01 10 31.6**	**-3.4**
	baz=357						
IGRA				S	**Sb**	**01 10 49.2**	**-1.9**
	baz=357						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**01 10 32.5**	**-3.4**
	baz=9.1						
IHAU	**Haukadalur**	**1.31**	**238**	P	**Pn**	**01 10 33.2**	**-2.8**
	baz=238						
IHLA	**Hella**	**1.32**	**343**	P	**Pn**	**01 10 33.1**	**-3.1**
	baz=343						
IHLA				S	**Sb**	**01 10 51.2**	**-2.3**
	baz=343						
IHED	**Heoinshofoi**	**1.40**	**2**	P	**Pn**	**01 10 34.3**	**-2.9**
	baz=2.1						
IHED				S	**Sb**	**01 10 53.8**	**-2.0**
	baz=2.1						
IALF	**Alftagrof**	**1.42**	**213**	P	**Pn**	**01 10 34.8**	**-2.7**
	baz=214						
IESK	**Eystri-Skogar**	**1.46**	**218**	P	**Pn**	**01 10 35.4**	**-2.7**
	baz=218						
ISAU	**Saurbar**	**1.47**	**243**	P	**Pn**	**01 10 35.0**	**-3.1**
	baz=244						
IGIL	**Gilhagi**	**1.47**	**18**	P	**Pn**	**01 10 35.2**	**-2.9**
	baz=17						
IMID	**Miomork**	**1.48**	**227**	P	**Pn**	**01 10 36.2**	**-2.1**
	baz=228						
ISIG	**Siglufjorour**	**1.57**	**338**	P	**Pn**	**01 10 36.8**	**-2.8**
	baz=338						
BORG	**Borgarnes**	**1.66**	**274**	Pn	**Pn**	**01 10 37.9**	**-2.9**
	31nm,0.3s,baz=96,slow=11,SNR=75						
BORG				Sn	**Sn**	**01 11 01.1**	**-1.2**
	18nm,0.3s,baz=294,slow=20,SNR=10						

BORG	**Borgarnes**	**1.66**	**274**	P		**Pn**	**01 10 37.9**	**-2.9**
BORG							01 11 03.1	
BORG	**Borgarnes**	**1.66**	**274**	Pn		**Pn**	**01 10 37.9**	**-2.9**
BORG						**Sb**	**01 11 03.1**	**-0.2**
ISOL	**Solvholt**	**1.70**	**245**	P		**Pn**	**01 10 38.8**	**-2.5**
	baz=246							
IHEI	**Heioarbar**	**1.71**	**255**	P		**Pn**	**01 10 39.0**	**-2.5**
	baz=256							
IHRN	**Hraun**	**1.81**	**323**	P		**Pn**	**01 10 40.5**	**-2.4**
	baz=323							
IBJA	**Bjarnastaoir**	**1.83**	**248**	P		**Pn**	**01 10 41.2**	**-2.0**
	baz=248							
ISAN	**Sandskeio**	**1.90**	**252**	P		**Pn**	**01 10 42.3**	**-1.7**
	baz=253							
IKAS	**Kald??rsel**	**2.02**	**253**	P		**Pn**	**01 10 44.5**	**-1.3**
	baz=253							
JMIC	**Jan Mayen**	**7.17**	**24**	Pn		**Pn**	**01 11 56.1**	**-0.2**
	baz=235,slow=2.0,SNR=5.8							
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	01 12 54.0	+5.7
SUMG				pmax		pmax		
	comp=Z,26nm,1.1s							
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	01 12 54.0	+5.7
	comp=Z,26nm,1.1s							
SUMG	**Summit**	**10.93**	**325**	*i* P		Pn	01 12 54.0	+5.7
SUMG				IAmb		IAmb	01 12 55.4	
	comp=Z,26nm,1.1s							
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**	**01 12 57.6**	**-1.7**
	baz=327,slow=13,SNR=11							
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P		**Pn**	**01 13 09.0**	**+4.5**
DAG				pmax		pmax		
	comp=Z,29nm,1.4s							
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P		**Pn**	**01 13 09.0**	**+4.5**
	comp=Z,29nm,1.4s							
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P		**Pn**	**01 13 09.0**	**+4.5**
DAG				IAmb		IAmb	01 13 13.2	
	comp=Z,29nm,1.4s							
NOA	**NORSAR Array B**	**13.52**	**92**	Pn		**Pn**	**01 13 21.0**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.5							
NOR	**Nord**	**17.01**	**0**	*i* P		**P**	**01 14 11.6**	**+0.6**
NOR				pmax		pmax		
	comp=Z,150nm,2.1s							
NOR	**Nord**	**17.01**	**0**	*i* P		**P**	**01 14 11.6**	**+0.6**
	comp=Z,151nm,2.1s							
NOR	**Nord**	**17.01**	**0**	*i* P		**P**	**01 14 11.7**	**+0.6**
NOR				IAmb		IAmb	01 14 13.6	
	comp=Z,152nm,2.1s							
ARCES	**ARCESS Array B**	**17.09**	**55**	P		**Pn**	**01 14 10.7**	**+0.3**
	baz=278,slow=12,SNR=4.6							
FINES	**FINESS Array B**	**19.68**	**79**	P		**P**	**01 14 40.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=328,slow=6.8,SNR=7.2							
FINES	**FINESS Array B**	**19.68**	**79**	P		**P**	**01 14 40.0**	**-0.6**
CLF	**Chambon-Foret**	**19.80**	**138**	P		**Pn**	**01 14 43.4**	**0.0**
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**01 14 52.3**	**+0.6**
	comp=Z,27nm,1.3s							
CLL				*i*			01 15 01.6	
CLL				*e*PP		**PnPn**	**01 15 10.0**	**+0.7**
CLL				Lm		MLR	01 22 00.0	
	comp=Z,100nm,18.8s							
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**01 14 52.3**	**+0.6**
CLL				pmax		pmax		
	comp=Z,27nm,1.3s							
CLL	**Collm**	**20.70**	**116**			Pn	01 14 53.0	-1.1
GKP	**Gorka Klasztor**	**20.91**	**107**	*e*P		Pn	01 14 57.4	+1.0
ECH	**Echery**	**21.15**	**129**	P		**P**	**01 14 58.0**	**+1.4**
ECH				pmax		pmax		
	comp=Z,14nm,1.0s							
ECH	**Echery**	**21.15**	**129**			**P**	**01 14 58.0**	**+1.4**
GRA1	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**01 15 00.0**	**+1.5**
GRA1				IAmb		IAmb	01 15 12.6	
	comp=Z,30nm,1.1s							
GRF	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**01 15 00.0**	**+1.5**
GRF				pmax		pmax		
	comp=Z,30nm,1.1s							
NKC	**Novy Kostel**	**21.34**	**118**	*e*P		**P**	**01 15 02.1**	**+3.4**
NKC	**Novy Kostel**	**21.34**	**118**	*e*P		**P**	**01 15 02.1**	**+3.4**
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P		**P**	**01 15 00.1**	**+0.8**
	comp=Z,33nm,1.2s							
BRG				S		Sn	01 19 04.0	-0.4
	comp=N,110nm,10.4s							
	comp=E,122nm,10.6s							
	comp=Z,110nm,10.4s							
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P		**P**	**01 15 00.1**	**+0.8**
BRG				S		Sn	01 19 04.0	-0.4
BRG				pmax		pmax		
	comp=Z,33nm,1.2s							
BRG				MLR		MLR		
	comp=N,110nm,10.4s							
BRG				MLR		MLR		
	comp=E,122nm,10.6s							
BRG				MLR		MLR		
	comp=Z,110nm,10.4s							
BFO	**Black Forest**	**21.45**	**127**	P		**P**	**01 15 01.3**	**+1.5**
BFO				pmax		pmax		
	comp=Z,14nm,1.0s							
BFO	**Black Forest**	**21.45**	**127**			**P**	**01 15 01.3**	**+1.5**
VSU	**Vasula**	**21.55**	**86**	*e*P		**P**	**01 15 01.5**	**+0.8**
VSU	**Vasula**	**21.55**	**86**	*c i*P		**P**	**01 15 01.0**	**+0.3**
VSU				pmax		pmax		
	comp=Z,67nm,0.9s							
PABE	**Paberze**	**22.20**	**95**	*e*P		**P**	**01 15 08.7**	**+1.0**
PRU	**Pruhonice**	**22.34**	**116**	*e*P		**P**	**01 15 09.2**	**-0.2**
PRU				*ex*		x	01 15 18.5	
PRU	**Pruhonice**	**22.34**	**116**	*e*P		**P**	**01 15 09.2**	**-0.2**
KSP	**Ksiaz**	**22.36**	**112**	*e*P		**P**	**01 15 10.4**	**+0.9**
CHVC	**Chvalec**	**22.46**	**113**	*e*P		**P**	**01 15 13.0**	**+2.3**
CHVC				*ex*		x	01 15 23.7	
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P		**P**	**01 15 12.3**	**+1.2**
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P		**P**	**01 15 12.3**	**+1.2**
UPC	**Upice**	**22.51**	**113**	*e*P		**P**	**01 15 12.8**	**+1.7**
UPC	**Upice**	**22.51**	**113**	*e*P		**P**	**01 15 12.8**	**+1.7**
OSTC	**Ostas**	**22.55**	**113**	*e*P		**P**	**01 15 13.5**	**+1.9**
KHC	**Kasperske Hory**	**22.67**	**119**	*e*P		**P**	**01 15 13.6**	**+0.7**
KHC				*ep*P		**sP**	**01 15 19.3**	**+2.5**
KHC	**Kasperske Hory**	**22.67**	**119**	*de*P		**P**	**01 15 14.5**	**+1.6**
KHC				pmax		pmax		
	comp=Z,30nm,1.3s							
KHC	**Kasperske Hory**	**22.67**	**119**			**P**	**01 15 14.2**	**+1.3**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P		**P**	**01 15 14.9**	**+1.1**
DPC				*ex*		x	01 15 22.2	
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P		**P**	**01 15 14.9**	**+1.1**
DPC				*e*			01 15 22.2	
SUW	**Suwalki**	**22.87**	**98**	*e*P		**P**	**01 15 14.6**	**-0.3**
SUW	**Suwalki**	**22.87**	**98**	P		**P**	**01 15 15.2**	**+0.3**
SUW				pmax		pmax		
	comp=Z,36nm,1.1s							
SUW	**Suwalki**	**22.87**	**98**	P		**P**	**01 15 15.2**	**+0.3**
SUW				IAmb		IAmb	01 15 19.0	
	comp=Z,36nm,1.1s							
DAVA	**Damuels**	**22.88**	**126**	*e*P		**P**	**01 15 16.7**	**+1.5**
	comp=Z,9.4nm,1.1s							
GEC2	**GERESS Array S**	**22.95**	**119**			**P**	**01 15 17.3**	**+1.4**
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**01 15 15.7**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=325,slow=6.8,SNR=20							
GERES				LR		LR	01 24 21.3	
	comp=Z,67nm,18.7s,baz=264,slow=37							
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**01 15 16.7**	**+0.7**
RETA	**Reutte**	**23.02**	**125**	*e*P		**P**	**01 15 17.3**	**+0.7**
	comp=Z,6.7nm,1.1s							
ISAL	**Salakas**	**23.08**	**93**	*e*P		**P**	**01 15 19.0**	**+2.0**
KRLC	**Kraliky**	**23.15**	**113**	*e*P		**P**	**01 15 18.5**	**+0.6**
KRLC	**Kraliky**	**23.15**	**113**	*e*P		**P**	**01 15 18.5**	**+0.6**
MOTA	**Moosalm**	**23.26**	**125**	*e*P		**P**	**01 15 21.6**	**+2.4**
	comp=Z,23nm,1.5s							
IIGN	**Ignalina**	**23.26**	**93**	*e*P		**P**	**01 15 20.3**	**+1.4**
TREC	**Trest**	**23.27**	**116**	*e*P		**P**	**01 15 20.1**	**+1.0**
TREC				*ex*		x	01 15 28.1	
TREC	**Trest**	**23.27**	**116**	*e*P		**P**	**01 15 20.1**	**+1.0**
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P		**P**	**01 15 19.4**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=325,slow=13,SNR=4.7							
SQTA	**Sankt Quirin**	**23.40**	**125**	*e*P		**P**	**01 15 21.7**	**+1.1**
	comp=Z,8.3nm,1.1s							
FETA	**Feichten**	**23.40**	**126**	*e*P		**P**	**01 15 25.0**	**+4.4**
	comp=Z,7.7nm,1.2s							
TUE	**Stuetta**	**23.41**	**128**			**P**	**01 15 22.1**	**+1.4**
WATA	**Walderalm**	**23.43**	**124**	*e*P		**P**	**01 15 21.7**	**+0.8**
	comp=Z,9.6nm,1.1s							
IDID	**Didziasalis**	**23.51**	**92**	*e*P		**P**	**01 15 21.8**	**+0.4**
WTTA	**Wattenberg**	**23.52**	**124**	*e*P		**P**	**01 15 22.5**	**+0.7**
	comp=Z,13nm,1.3s							
EUNU	**Eureka**	**23.66**	**336**	P		**P**	**01 15 23.5**	**+0.8**
EUNU				IAmb		IAmb	01 15 33.4	
	comp=Z,20nm,1.2s							
VRAC	**Vranov**	**23.69**	**114**	P		**P**	**01 15 23.7**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=322,slow=13,SNR=5.5							
VRAC				LR		LR	01 24 05.3	

	comp=Z,63nm,20.1s,baz=310,slow=35							
VRAC	**Vranov**	**23.69**	**114**	*e*P		**P**	**01 15 24.2**	**+1.0**
MORC	**Moravsky Berou**	**23.69**	**112**	*e*P		**P**	**01 15 24.1**	**+0.8**
MORC	**Moravsky Berou**	**23.69**	**112**	P		**P**	**01 15 24.8**	**+1.5**
MORC				pmax		pmax		
	comp=Z,24nm,1.5s							
MORC	**Moravsky Berou**	**23.69**	**112**			**P**	**01 15 24.8**	**+1.5**
MORC				IAmb		IAmb	01 15 27.7	
	comp=Z,24nm,1.5s							
NACGM	**Naroch**	**23.80**	**93**	*e*		**P**	**01 15 25.0**	**+0.7**
KRUC	**Moravsky**	**23.81**	**115**	*e*P		**P**	**01 15 24.9**	**+0.5**
OJC	**Ojcow**	**24.25**	**109**	*e*P		**P**	**01 15 28.4**	**-0.2**
ABTA	**Abfaltersbach**	**24.27**	**123**	*e*P		**P**	**01 15 29.9**	**+1.1**
	comp=Z,7.9nm,1.2s							
KBA	**Koelnbreinsper**	**24.29**	**122**	*e*P		**P**	**01 15 32.9**	**+3.8**
	comp=Z,7.2nm,1.4s							
CONA	**Conrad Observa**	**24.52**	**117**	*e*P		**P**	**01 15 32.2**	**+1.1**
	comp=Z,7.1nm,1.0s							
MICGM	**Minsk**	**24.55**	**93**	*e*		**P**	**01 15 30.0**	**-1.2**
MNK	**Minsk**	**24.55**	**93**	*e*P		**P**	**01 15 30.0**	**-1.2**
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**01 15 32.7**	**+1.1**
CTI				pmax		pmax		
	comp=Z,15nm,1.2s							
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**01 15 32.7**	**+1.1**
CIMO	**Cimolais**	**24.62**	**124**	P		**P**	**01 15 33.4**	**+1.4**
CIMO				IAmb		IAmb	01 15 44.3	
	comp=Z,41nm,2.0s							
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P		**P**	**01 15 34.1**	**+1.4**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P		**P**	**01 15 34.1**	**+1.4**
MYKA	**Terra Mystica**	**24.78**	**122**	*e*P		**P**	**01 15 38.1**	**+4.6**
	comp=Z,8.6nm,1.1s							
PRED	**Cave del Predi**	**24.91**	**122**	P		**P**	**01 15 35.9**	**+1.3**
PRED				IAmb		IAmb	01 15 40.1	
	comp=Z,14nm,1.2s							
ARSA	**Arzberg**	**24.96**	**118**	*e*P		**P**	**01 15 36.4**	**+1.4**
	comp=Z,4.1nm,0.8s							
NIE	**Niedzica**	**25.08**	**109**	*e*P		**P**	**01 15 37.1**	**+1.1**
OBKA	**Obir**	**25.21**	**121**	*e*P		**P**	**01 15 39.0**	**+1.6**
	comp=Z,7.3nm,1.1s							
VYHS	**Vyhne**	**25.23**	**112**	*e*P		**P**	**01 15 38.6**	**+1.2**
VYHS				pmax		pmax		
	comp=Z,18nm,1.4s							
VYHS	**Vyhne**	**25.23**	**112**	*e*P		**P**	**01 15 38.6**	**+1.2**
SOKA	**Soboth**	**25.25**	**120**	*e*P		**P**	**01 15 39.1**	**+1.4**
	comp=Z,8.2nm,1.5s							
KLMR	**Klimovskoe**	**25.58**	**72**	*e*P		**P**	**01 15 40.3**	**-0.1**
KLMR				*e*			01 19 11.2	
KLMR				pmax		pmax		
	comp=Z,25nm,1.2s							
KLMR	**Klimovskoe**	**25.58**	**72**	*e*P		**P**	**01 15 40.3**	**-0.1**
KLMR				AMP			01 15 43.6	
	comp=Z,25nm,1.2s							
KLMR				*e*PcP		**PcP**	**01 19 11.3**	**+0.3**
KWP	**Kalwaria Pacla**	**25.90**	**106**	*e*P		**P**	**01 15 44.6**	**+1.1**
PSZ	**Piszkesteto**	**26.11**	**112**	P		**P**	**01 15 46.5**	**+1.0**
PSZ				pmax		pmax		
	comp=Z,12nm,1.1s							
PSZ	**Piszkesteto**	**26.11**	**112**	P		**P**	**01 15 46.5**	**+1.0**
KOLS	**Kolonicke sedl**	**26.26**	**108**	*e*P		**P**	**01 15 47.2**	**+0.4**
KOLS				pmax		pmax		
	comp=Z,14nm,1.3s							
KOLS	**Kolonicke sedl**	**26.26**	**108**	*e*P		**P**	**01 15 47.2**	**+0.4**
ESDC	**Sonseca Array**	**26.27**	**156**	P		**P**	**01 15 47.4**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=348,slow=8.4,SNR=14							
ESDC	**Sonseca Array**	**26.27**	**156**	P		**P**	**01 15 48.1**	**+1.2**
LVV	**L'vov**	**26.30**	**104**	*e*P		**P**	**01 15 48.0**	**+0.9**
UZH	**Uzhgorod**	**26.51**	**108**	*e*P		**P**	**01 15 49.7**	**+0.7**
PRGR	**Permogore**	**27.60**	**67**	*e*P		**P**	**01 15 58.7**	**+0.1**
PRGR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
AKASG	**Malin Array Be**	**27.83**	**98**	P		**P**	**01 16 00.5**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=326,slow=9.6,SNR=6.3							
AKASG	**Malin Array Be**	**27.83**	**98**	*i* P		**P**	**01 16 01.0**	**+0.2**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKBB	**Malin Array Si**	**27.83**	**98**	*e*P		**P**	**01 16 00.9**	**+0.1**
OBN	**Obninsk**	**27.86**	**84**	P		**P**	**01 16 00.9**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=320,slow=20,SNR=4.6							
OBN	**Obninsk**	**27.86**	**84**	*c i*P		**P**	**01 16 01.9**	**+0.9**
OBN				*PP		**pP**	**01 16 04.0**	**+0.1**
OBN				*SP		**sP**	**01 16 06.0**	**+1.0**
OBN				pmax		pmax		
	comp=Z,24nm,1.3s							
OBN	**Obninsk**	**27.86**	**84**	P		**P**

BCA	**Borcka**	**40.41**	**96**	⇑P	**P**	**01 17 51.1**	**+1.4**
ARTV	**Artvin**	**40.76**	**96**	P	**P**	**01 17 54.0**	**+1.2**
M54A	**Oil Creek Stat**	**41.70**	**267**	P	**P**	**01 18 01.1**	**+0.8**
ABKAR	**Akbulak array**	**41.97**	**73**	P	**P**	**01 18 03.4**	**+1.1**
ABKAR	**Akbulak array**	**41.97**	**73**	P	**P**	**01 18 03.5**	**+1.1**
TIXI	**Tiksi**	**42.01**	**15**	⇑*e*P	**P**	**01 18 05.1**	**+2.7**
TIXI	**Tiksi**	**42.01**	**15**	P	**P**	**01 18 03.7**	**+1.3**
TOLK	**Toolik Lake Re**	**42.74**	**336**	P	**P**	**01 18 09.4**	**+1.0**
TOLK				IAmb	IAmb	01 18 15.5	
	comp=Z,22nm,1.2s						
BMAR	**Burnt Mountain**	**42.88**	**333**	P	**P**	**01 18 10.5**	**+0.8**
BRVK	**Borovoye**	**43.11**	**62**	*de*P	**P**	**01 18 12.5**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,17nm,2.5s						
BRVK	**Borovoye**	**43.11**	**62**	P	**P**	**01 18 12.8**	**+1.2**
AGMN	**Agassiz Nation**	**43.13**	**287**	P	**P**	**01 18 12.7**	**+0.8**
L48A	**N Adams**	**43.39**	**272**	P	**P**	**01 18 14.8**	**+0.7**
L48A				IAmb	IAmb	01 18 17.2	
	comp=Z,25nm,1.3s						
MARD	**Mardin**	**43.50**	**100**	P	**P**	**01 18 16.1**	**+1.1**
MARD				IAmb	IAmb	01 18 21.5	
	comp=Z,12nm,1.1s						
P53A	**Whipple**	**44.11**	**267**	IAmb	IAmb	01 18 22.6	
	comp=Z,11nm,0.9s						
N49A	**Columbus Grove**	**44.12**	**271**	IAmb	IAmb	01 18 22.3	
	comp=Z,17nm,1.1s						
DAWY	**Dawson**	**44.69**	**328**	IAmb	IAmb	01 18 27.0	
	comp=Z,12nm,1.3s						
O49A	**Covington**	**44.79**	**270**	P	**P**	**01 18 26.1**	**+0.8**
IL31		**45.67**	**332**	P	**P**	**01 18 33.1**	**+1.2**
IL31				IAmb	IAmb	01 18 38.8	
	comp=Z,13nm,1.5s						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**01 18 33.1**	**+1.1**
	comp=Z,3.4nm,1.0s,baz=23,slow=5.9,SNR=22						
ILAR				PcP	**PcP**	**01 20 10.1**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=15,slow=3.7,SNR=7.0						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**01 18 33.0**	**+1.1**
ILAR						01 20 10.7	
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**01 18 33.0**	**+1.0**
ILAR					**PcP**	**01 20 10.7**	**+0.9**
COLA	**College**	**45.77**	**333**	⇑*e*P	**P**	**01 18 35.4**	**+2.7**
COLA				pmax	pmax		
	comp=Z,12nm,1.2s						
IMAR	**Indian Mountai**	**45.84**	**337**	P	**P**	**01 18 34.4**	**+1.1**
BCAR	**Beaver Creek A**	**46.10**	**329**	P	**P**	**01 18 36.1**	**+0.7**
ZAA0	**Zalesovo Array**	**47.61**	**51**	IAmb	IAmb	01 18 50.6	
	comp=Z,6.5nm,1.2s						
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**01 18 47.5**	**+0.3**
	comp=Z,3.9nm,1.1s,baz=339,slow=7.9,SNR=8.5						
ZALV				PcP	**PcP**	**01 20 17.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=319,slow=5.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**01 18 48.4**	**+1.2**
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**01 18 48.4**	**+1.2**
KURK	**Kurchatov**	**48.09**	**58**	*d* iP	**P**	**01 18 51.5**	**+0.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**01 18 52.1**	**+1.1**
EGMT	**Eagleton**	**48.88**	**297**	P	**P**	**01 18 58.1**	**+0.9**
GEYT	**Alibeck**	**50.41**	**84**	P	**P**	**01 19 07.0**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=325,slow=7.2,SNR=2.0						
RLMT	**Red Lodge**	**51.09**	**295**	IAmb	IAmb	01 19 17.7	
	comp=Z,12nm,1.4s						
KK31	**Karatay Array**	**51.25**	**70**	IAmb	IAmb	01 19 18.0	
	comp=Z,8.4nm,1.2s						
KKAR	**Karatay Array**	**51.25**	**70**	P	**P**	**01 19 16.6**	**+1.3**
KKAR	**Karatay Array**	**51.25**	**70**	P	**P**	**01 19 16.6**	**+1.3**
KKAR	**Karatay Array**	**51.25**	**70**	IAmb	IAmb	01 19 18.0	
	comp=Z,8.4nm,1.2s						
FCAR	**Ozark Folk Cen**	**51.74**	**274**	IAmb	IAmb	01 19 38.2	
	comp=Z,13nm,1.1s						
DGZ	**Jazzator, Alta**	**52.05**	**53**	⇑*e*P	**P**	**01 19 23.5**	**+2.2**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MAKZ	**Makanchi**	**52.57**	**59**	P	**P**	**01 19 26.3**	**+1.3**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MAKZ	**Makanchi**	**52.57**	**59**	P	**P**	**01 19 26.3**	**+1.3**
MK31	**Makanchi Array**	**52.70**	**58**	*de*P	**P**	**01 19 26.4**	**+0.4**
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**01 19 26.5**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=319,slow=6.4,SNR=16						
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**01 19 27.2**	**+1.2**
LOHW	**Long Hollow**	**52.88**	**295**	IAmb	IAmb	01 19 36.0	
	comp=Z,10nm,1.6s						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**01 19 28.4**	**-1.2**
	comp=Z,3.6nm,1.0s,baz=341,slow=8.2,SNR=12						
BW06	**Boulder Array**	**53.18**	**293**	P	**P**	**01 19 30.2**	**+0.4**
BW06				IAmb	IAmb	01 19 31.3	
	comp=Z,9.7nm,1.2s						
PD31	**Pinedale Array**	**53.18**	**293**	IAmb	IAmb	01 19 31.3	
	comp=Z,8.8nm,1.2s						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**01 19 29.7**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=53,slow=5.7,SNR=17						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**01 19 30.4**	**+0.5**
REDW	**Red Top Meadow**	**53.19**	**295**	P	**P**	**01 19 30.4**	**+0.5**
REDW				IAmb	IAmb	01 19 38.6	
	comp=Z,20nm,1.6s						
AAK	**Ala-Archa**	**53.23**	**67**	*de*P	**P**	**01 19 32.0**	**+1.9**
AAK				pmax	pmax		
	comp=Z,30nm,1.3s						
N23A	**Red Feather La**	**53.31**	**289**	P	**P**	**01 19 31.2**	**+0.3**
N23A				IAmb	IAmb	01 19 36.9	
	comp=Z,16nm,1.4s						
BTK	**Batken**	**53.94**	**72**	P	**P**	**01 19 36.4**	**+1.2**
BTK				pmax	pmax		
	comp=Z,26nm,1.3s						
BTK	**Batken**	**53.94**	**72**	P	**P**	**01 19 36.4**	**+1.2**
MOY	**Mondy**	**54.63**	**42**	*e*P	**P**	**01 19 42.4**	**+2.2**
MOY				pmax	pmax		
	comp=Z,24nm,1.4s						
O20A	**White River Ci**	**54.89**	**290**	IAmb	IAmb	01 19 44.4	
	comp=Z,14nm,1.5s						
HWUT	**Hardware Ranch**	**54.96**	**294**	IAmb	IAmb	01 19 44.9	
	comp=Z,13nm,1.4s						
ZAK	**Zakamensk**	**56.43**	**41**	*e*P	**P**	**01 19 53.9**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
DUG	**Dugway, Tooele**	**56.65**	**294**	IAmb	IAmb	01 19 57.7	
	comp=Z,10.0nm,1.6s						
PV01	**Paradox Valley**	**56.73**	**289**	IAmb	IAmb	01 19 57.7	
	comp=Z,7.4nm,1.2s						
PV02	**Paradox Valley**	**56.73**	**290**	P	**P**	**01 19 56.0**	**+0.5**
PV03	**Paradox Valley**	**56.74**	**290**	IAmb	IAmb	01 19 57.7	
	comp=Z,7.6nm,1.2s						
PV17	**East Wray Mesa**	**56.76**	**290**	IAmb	IAmb	01 19 57.7	
	comp=Z,8.3nm,1.2s						
PV05	**Paradox Valley**	**56.99**	**290**	IAmb	IAmb	01 19 58.7	
	comp=Z,8.0nm,0.9s						
R11A	**Troy Canyon, C**	**59.33**	**295**	IAmb	IAmb	01 20 16.3	
	comp=Z,8.7nm,1.4s						
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**01 20 15.1**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=345,slow=11,SNR=7.5						
SONM				LR	LR	01 47 50.1	
	comp=Z,39nm,18.2s,baz=112,slow=38						
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**01 20 16.5**	**+1.0**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**01 20 16.5**	**+1.0**
U15A	**North Rim**	**59.70**	**291**	IAmb	IAmb	01 20 17.9	
	comp=Z,5.1nm,1.1s						
ULN	**Ulaanbaatar**	**59.77**	**40**	⇑*e*P	**P**	**01 20 18.4**	**+1.8**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
WUAZ	**Wupatki**	**60.12**	**290**	P	**P**	**01 20 19.7**	**+0.6**
WUAZ				IAmb	IAmb	01 20 21.5	
	comp=Z,8.7nm,1.2s						
TX31	**Lajitas Ar. Si**	**62.30**	**280**	P	**P**	**01 20 34.1**	**+0.2**
TX32	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 20 34.2**	**+0.3**
TX32				IAmb	IAmb	01 20 37.3	
	comp=Z,9.5nm,1.6s						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 20 33.9**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=25,slow=4.1,SNR=11						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 20 34.0**	**+0.1**
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 20 34.0**	**+0.1**
GTA	**Gaotai**	**65.27**	**49**	*e*P	**P**	**01 20 54.8**	**+1.4**
GTA				pP	sP	01 20 58.4	+0.8
GTA				sP	pP	01 21 00.8	+4.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ROSC	**El Rosal**	**71.95**	**241**	LR	LR	01 50 22.4	
	comp=Z,57nm,20.4s,baz=212,slow=34						
KSRS	**Korea Array**	**74.62**	**28**	LR	LR	01 59 55.4	
	comp=Z,6.6nm,18.4s,baz=165,slow=40						
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**01 22 43.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=316,slow=7.1,SNR=7.7						
BOSA	**Boshof**	**98.77**	**143**	LR	LR	02 11 34.6	
	comp=Z,98nm,18.1s,baz=136,slow=37						
WRA	**Warramunga Arr**	**131.50**	**36**	PKP	**PKPdf**	**01 29 22.4**	**-1.7**
	comp=Z,1.0nm,1.2s,baz=336,slow=2.5,SNR=3.2						
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKPdf**	**01 29 30.2**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=329,slow=1.4,SNR=5.2						

IDC ***14*** *01:45:41.2±3.2, 5.°88S×147.°40E, h93km±27km, mb3.7/4, mb1 3.9/7, mb1mx3.5/29, mbtmp4.0/7, Error ellipse: s-maj=34.9km s-min=23.8km az=96.0*

ISC 14 01:45:40.4±1.2, 5.°96S±0.°09×147.°3E±0.°2, h77km, n8, σ2§68/12, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.43**	**182**	P	**Pn**	**01 46 33.5**	**+2.0**
	8.3nm,0.3s,baz=352,slow=7.1,SNR=12						
PMG				S	**Sn**	**01 47 12.6**	**+1.5**
	24nm,0.3s,baz=235,slow=22,SNR=5.7						
JAY	**Jayapura**	**7.41**	**297**	P	**Pn**	**01 47 28.4**	**+2.5**
	2.5nm,0.3s,baz=129,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**18.76**	**221**	P	**P**	**01 49 54.0**	**+0.6**
	0.6nm,0.3s,baz=44,slow=12,SNR=30						
WRA				S	**S**	**01 53 17.3**	**-5.5**
	0.1nm,0.3s,baz=54,slow=23,SNR=2.1						
WRA				PcP	**PcP**	**01 54 18.2**	**-0.2**
	0.0nm,0.3s,baz=45,slow=2.0,SNR=2.2						
ASAR	**Alice Springs**	**21.82**	**215**	P	**P**	**01 50 27.5**	**+1.0**
	1.1nm,0.4s,baz=51,slow=9.2,SNR=30						
ASAR				S	**S**	**01 54 19.9**	**-3.7**
	0.3nm,0.8s,baz=28,slow=22,SNR=2.6						
FITZ	**Fitzroy Crossi**	**24.34**	**238**	P	**P**	**01 50 51.2**	**0.0**
	6.5nm,0.4s,baz=48,slow=8.6,SNR=81						
STKA	**Stephens Creek**	**26.34**	**191**	P	**P**	**01 51 09.5**	**+0.4**
	0.6nm,0.2s,baz=12,slow=9.3,SNR=1.7						
ILAR	**Eielson Array**	**85.33**	**23**	P	**P**	**01 58 06.5**	**-2.2**
	0.3nm,0.6s,baz=248,slow=5.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**145.36**	**284**	PKPbc	**PKPdf**	**02 05 09.2**	**-1.3**
	0.2nm,0.6s,baz=87,slow=2.6,SNR=2.0						

MEX ***14*** *01:56:28.8±0.7, 31.°65N×115.°92W, h5km, MD3.5*
ECX ***14*** *01:56:28.7±0.7, 31.°64N×116.°00W, h6km±3km, MD2.7, ML2.9*

ISC 14 01:56:27.4±0.9, 31.°59N±0.°03×116.°00W±0.°04, h30km±7km, n20, σ1§37/34, 3C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJX	**San Joaquin**	**0.17**	**10**	*i* P	**Pn**	**01 56 35.1**	**+1.1**
SJX				*e*S	**Sb**	**01 56 40.2**	**+2.8**
SJX				⇑*e*		01 56 41.3	
SJX				IAML		01 56 41.3	
	comp=E,1μm,0.1s						
VTX	**Valle De La Tr**	**0.27**	**138**	⇓*e*P	**Pb**	**01 56 33.2**	**-1.4**
VTX				*e*S	**Sb**	**01 56 37.7**	**-1.7**
VTX				IAML		01 56 38.0	
	comp=N,3μm,0.1s						
VTX				⇓*e*		01 56 38.0	
VTX				⇑*e*		01 56 38.2	
VTX				IAML		01 56 38.2	
	comp=E,1μm,0.1s						
SVX	**San Vicente**	**0.34**	**220**	*e*P	**Pb**	**01 56 35.6**	**+0.2**
SVX				*e*S	**Sb**	**01 56 40.8**	**-0.1**
CCX	**Cicese**	**0.63**	**296**	*e*P	**Pb**	**01 56 39.6**	**-0.4**
CCX				*e*S	**Sb**	**01 56 48.0**	**-0.5**
SPIG	**San Pedro Mart**	**0.71**	**140**	*e*P	**Pn**	**01 56 42.1**	**+0.5**
SPIG				*i* S	**Sb**	**01 56 52.2**	**+1.1**
SPIG	**San Pedro Mart**	**0.71**	**140**	*e*P	**Pn**	**01 56 41.9**	**+0.3**
SPIG				*e*S	**Sb**	**01 56 52.5**	**+1.3**
SPX	**San Pedro Mart**	**0.72**	**141**	*e*P	**Pn**	**01 56 41.0**	**-0.8**
SPX				*i* S	**Sb**	**01 56 51.1**	**-0.2**
SPX	**San Pedro Mart**	**0.72**	**141**	*e*P	**Pn**	**01 56 41.0**	**-0.8**
SPX				*e*S	**Sb**	**01 56 51.3**	**0.0**
RMX	**La Rumorosa**	**1.01**	**356**	*e*P	**Pn**	**01 56 44.8**	**-0.8**
RMX				*e*S	**Sn**	**01 56 56.7**	**-2.2**
CPBX	**Cerro Prieto**	**1.01**	**35**	⇑*e*	**Sn**	**01 57 03.0**	**+4.3**
CPBX				IAML		01 57 03.0	
	comp=N,1μm,0.3s						
CPBX				IAML		01 57 03.5	
	comp=E,1μm,0.3s						
CPBX				⇓*e*		01 57 03.5	
TJIG	**Tijuana**	**1.02**	**326**	*e*P	**Pn**	**01 56 45.7**	**+0.1**
TJIG				*e*S	**Sn**	**01 56 58.1**	**-0.8**
SQX	**San Quintin**	**1.02**	**174**	*e*P	**Pn**	**01 56 46.0**	**+0.3**
SQX				*e*S	**Sn**	**01 57 00.1**	**+1.3**
SQX				*e*		01 57 03.0	
SQX				IAML		01 57 03.0	
	comp=E,167nm,0.2s						
MBIG	**Mexicali**	**1.06**	**40**	*i* P	**Pn**	**01 56 44.8**	**-1.3**
MBIG				*i* S	**Sn**	**01 56 57.8**	**-2.1**
IKP	**In-Ko-Pah, Jac**	**1.06**	**355**	*e*P	**Pn**	**01 56 46.7**	**+0.4**
IKP				*e*S	**Sn**	**01 56 60.0**	**-0.1**
TKX	**Tecate**	**1.10**	**332**	*e*P	**Pn**	**01 56 47.2**	**+0.4**
TKX				*e*S	**Sn**	**01 57 00.6**	**-0.5**
SFX	**San Felipe**	**1.13**	**119**	*e*P	**Pn**	**01 56 48.4**	**+1.3**
BAR	**Barrett**	**1.23**	**332**	*e*P	**Pn**	**01 56 49.1**	**+0.6**
MONP2	**Monument Peak**	**1.34**	**344**	*e*P	**Pn**	**01 56 51.6**	**+1.3**
SLH	**Sleepy Hollow**	**1.61**	**352**	*e*P	**Pb**	**01 56 55.9**	**-0.6**
MATG	**Mataguay Scout**	**1.69**	**341**	*e*P	**Pb**	**01 56 57.4**	**-0.6**

IDC 14 02:07:07.7±2.2, 3.°01S×128.°54E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=156.5km s-min=16.8km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.76**	**162**	P	P	02 11 17.1	-0.4
	0.2nm,0.3s,baz=344,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**21.18**	**166**	P	P	02 11 55.9	+1.0
	2.1nm,0.5s,baz=350,slow=12,SNR=27						
ASAR				S	S	02 15 52.1	+0.6
	1.0nm,0.9s,baz=350,slow=20,SNR=6.7						
MKAR	**Makanchi Array**	**64.11**	**327**	P	P	02 17 43.6	-0.2
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.6						

IDC ***14*** *02:29:26.8±4.9, 56.°21N×160.°82E, h115km±60km, mb3.0/4, mb1 3.4/5, mb1mx3.1/30, mbtmp3.3/5, Error ellipse: s-maj=70.8km s-min=24.3km az=178.0*
KRSC ***14*** *02:29:28.1±0.9, 55.°58N×161.°22E, h164km±7km, ML4.1*

ISC 14 02:29:30.1±0.8, 55.°63N±0.°05×161.°18E±0.°07, h159km±6km, n30, σ1§51/49, mb3.2/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZGR	**Bezymyannyi-Gr**	**0.41**	**319**	*e*P	**Pn**	**02 29 52.0**	**-0.1**
BZGR				*e*S	**Sn**	**02 30 10.2**	**+1.1**
ZLN	**Zelenaya**	**0.44**	**331**	*e*P	**Pn**	**02 29 52.6**	**+0.3**
ZLN				*e*S	**Sn**	**02 30 10.5**	**+1.2**
BZMR	**Bezymyannaya**	**0.49**	**308**	*e*P	**Pn**	**02 29 52.7**	**+0.2**
BZMR				*e*S	**Sn**	**02 30 10.3**	**+0.5**
BZWR	**Bezymyannyi-We**	**0.51**	**311**	*e*P	**Pn**	**02 29 52.4**	**-0.2**
BZWR				*e*S	**Sn**	**02 30 10.7**	**+0.8**
LGNR	**Loginova**	**0.53**	**329**	*e*P	**Pn**	**02 29 53.0**	**+0.1**
LGNR				*e*S	**Sn**	**02 30 11.4**	**+1.0**
CIRR	**Tsirk**	**0.54**	**334**	*e*P	**Pn**	**02 29 52.8**	**0.0**
CIRR				*e*S	**Sn**	**02 30 10.9**	**+0.7**
KMNR	**Kamenistaya**	**0.55**	**284**	*e*P	**Pn**	**02 29 52.7**	**-0.1**
KMNR				*e*S	**Sn**	**02 30 11.2**	**+1.1**
KIRR	**Kirishev**	**0.57**	**305**	*e*P	**Pn**	**02 29 52.5**	**-0.4**
KIRR				*e*S	**Sn**	**02 30 10.6**	**+0.2**
TUMD	**Tumrok D**	**0.62**	**226**	*e*P	**Pn**	**02 29 52.6**	**-0.5**
TUMD				*e*S	**Sn**	**02 30 10.4**	**-0.2**
KRSR	**Krestovskiy**	**0.68**	**330**	*e*P	**Pn**	**02 29 52.6**	**-0.9**
KRSR				*e*S	**Sn**	**02 30 10.8**	**-0.7**
KZV	**Kizimen**	**0.72**	**225**	*e*P	**Pn**	**02 29 53.7**	**-0.2**
KZV				*e*S	**Sn**	**02 30 11.4**	**-0.6**
KLY	**Klyuchi**	**0.74**	**337**	*e*P	**Pn**	**02 29 53.1**	**-0.6**
KLY				*e*S	**Sn**	**02 30 11.8**	**-0.1**
KOZ	**Kozyrevsk**	**0.85**	**301**	*e*P	**Pn**	**02 29 53.9**	**-0.6**
BDR	**Baidarnaya**	**0.94**	**1**	*e*P	**Pn**	**02 29 55.3**	**+0.1**
BDR				*e*S	**Sn**	**02 30 15.2**	**+0.6**
SMKR	**Semkarok**	**0.97**	**9**	*e*P	**Pn**	**02 29 55.6**	**+0.2**
SMKR				*e*S	**Sn**	**02 30 15.5**	**+0.5**
SRKR	**Sorokina**	**1.02**	**360**	*e*P	**Pn**	**02 29 55.8**	**-0.1**
SRKR				*e*S	**Sn**	**02 30 15.8**	**0.0**
KBG	**Krutoberegovo**	**1.06**	**53**	*e*P	**Pn**	**02 29 56.1**	**0.0**
KBG				*e*S	**Sn**	**02 30 16.6**	**+0.5**
SRDR	**Sredinnyy**	**1.07**	**310**	*e*P	**Pn**	**02 29 55.4**	**-0.9**
KBTR	**Krutoberegovo**	**1.09**	**57**	*e*P	**Pn**	**02 29 56.3**	**0.0**
KBTR				*e*S	**Sn**	**02 30 16.6**	**0.0**
ESO	**Esso**	**1.43**	**283**	*e*P	**Pn**	**02 29 58.6**	**-1.0**
SPN	**Mys Shipunski**	**2.63**	**195**	*e*P	**Pn**	**02 30 11.8**	**-1.3**
SPN				*e*S	**Sn**	**02 30 42.9**	**-3.5**
NLC	**Nalytchevo**	**2.69**	**204**	*e*S	**Sn**	**02 30 45.9**	**-1.8**
GNL	**Ganaly**	**2.70**	**225**	*e*P	**Pn**	**02 30 14.1**	**-0.1**
KRX	**Arik**	**2.71**	**214**	*e*P	**Pn**	**02 30 14.9**	**+0.5**
AVH	**Avacha**	**2.77**	**212**	*e*P	**Pn**	**02 30 15.3**	**+0.4**
PETK	**Petropavlovsk-**	**3.25**	**220**	P	**Pn**	**02 30 20.7**	**-0.2**
	1.1nm,0.3s,baz=63,slow=13,SNR=9.7						
PETK				S	**Sn**	**02 31 08.0**	**+7.8**
	0.6nm,0.3s,baz=89,slow=18,SNR=2.8						
ILAR	**Eielson Array**	**26.62**	**49**	P	**P**	**02 34 51.8**	**-1.5**
	0.2nm,0.5s,baz=258,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**47.66**	**294**	P	**P**	**02 37 47.8**	**-2.3**
	0.1nm,0.3s,baz=52,slow=9.3,SNR=3.2						
NVAR	**Mina Array Bea**	**54.32**	**72**	P	**P**	**02 38 42.0**	**+1.9**
	0.4nm,0.6s,baz=298,slow=7.8,SNR=4.5						
TXAR	**Lajitas Array**	**69.09**	**69**	P	**P**	**02 40 19.8**	**+1.0**
	0.4nm,0.5s,baz=299,slow=6.0,SNR=8.7						

IDC 14 02:29:50.1±2.1, 56.°26S×28.°02W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.5/16, mbtmp3.9/1, Error ellipse: s-maj=113.8km s-min=70.8km az=136.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**73.47**	**30**	P	P	02 41 24.2	0.0
	0.4nm,0.4s,baz=198,slow=6.4,SNR=14						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	PKPbc	02 49 40.2	-0.4
	0.7nm,0.8s,baz=128,slow=2.6,SNR=6.9						
SONM	**Songino Array**	**151.20**	**87**	PKPbc	PKPbc	02 49 44.2	-0.3
	0.7nm,0.5s,baz=216,slow=3.6,SNR=3.8						

IDC ***14*** *02:39:32.2±1.7, 51.°12N×158.°51E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/33, mbtmp3.6/6, ML2.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/45, Error ellipse: s-maj=42.7km s-min=27.7km az=28.0*
KRSC ***14*** *02:39:34.1±1.2, 51.°77N×160.°24E, h75km±20km, ML4.1*

ISC 14 02:39:34.6±3.6, 51.°73N±0.°09×160.°31E±0.°08, h28km±23km, n32, σ1§04/37, mb3.5/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.32**	**303**	*e*P	**Pn**	**02 39 56.8**	**-0.3**
RUS				*e*S	**Sn**	**02 40 14.4**	**+0.7**
SPN	**Mys Shipunski**	**1.39**	**353**	*e*P	**Pn**	**02 39 57.4**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.39**	**274**	*e*P	**Pn**	**02 39 58.3**	**+0.2**
KDTR				*e*S	**Sn**	**02 40 15.0**	**-0.6**
MTVR	**Mutnovka**	**1.52**	**301**	*e*P	**Pn**	**02 40 00.1**	**+0.1**
MTVR				*e*S	**Sn**	**02 40 19.1**	**+0.2**
NLC	**Nalytchevo**	**1.56**	**338**	*e*P	**Pn**	**02 40 01.1**	**+0.6**
GRL	**Gorelyy**	**1.61**	**302**	*e*P	**Pn**	**02 40 02.4**	**+1.1**
DALK	**Dalny**	**1.62**	**324**	*e*P	**Pn**	**02 40 01.6**	**+0.3**
DALK				*e*S	**Sn**	**02 40 21.0**	**-0.2**
ASAK	**Asacha**	**1.63**	**295**	*e*P	**Pn**	**02 40 02.3**	**+0.8**
PET	**Petropavlovsk**	**1.65**	**323**	*e*P	**Pn**	**02 40 01.9**	**+0.2**
PET				*e*S	**Sn**	**02 40 21.8**	**-0.2**
KRMR	**Karymshinskiy**	**1.74**	**310**	*e*P	**Pn**	**02 40 02.5**	**-0.4**
KRMR				*e*S	**Sn**	**02 40 24.5**	**+0.4**
UGLR	**Uglovaya**	**1.74**	**329**	*e*P	**Pn**	**02 40 03.8**	**+0.7**
AVH	**Avacha**	**1.82**	**329**	*e*P	**Pn**	**02 40 05.1**	**+1.0**
KRER	**Koryakskii**	**1.85**	**329**	*e*P	**Pn**	**02 40 05.2**	**+0.6**
KOK	**Koryaka**	**1.87**	**328**	*e*P	**Pn**	**02 40 05.6**	**+0.7**
KRX	**Arik**	**1.92**	**329**	*e*P	**Pn**	**02 40 06.0**	**+0.4**
PETK	**Petropavlovsk-**	**2.12**	**312**	Pn	**Pn**	**02 40 08.9**	**+0.8**
	8.5nm,0.3s,baz=118,slow=19,SNR=93						
PETK				Sn	**Sn**	**02 40 37.2**

	comp=Z,9.5nm,1.1s									
GO02	**Mina Guanaco**	**43.92**	**297**		P		**P**		**02 52 23.1**	**-0.8**
GO02					IAmb		IAmb		02 52 30.4	
	comp=Z,7.8nm,0.8s									
LVC	**Limon Verde**	**45.74**	**300**		P		**P**		**02 52 36.0**	**-2.5**
LVC					IAmb		IAmb		02 52 43.1	
	comp=Z,9.3nm,0.7s									
BOSA	**Boshof**	**45.82**	**75**		P		**P**		**02 52 37.2**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=225,slow=4.3,SNR=3.1									
BOSA					LR		LR		03 08 01.8	
	comp=Z,129nm,19.3s,baz=194,slow=31									
BOSA	**Boshof**	**45.82**	**75**		P		**P**		**02 52 38.7**	**0.0**
BOSA					IAmb		IAmb		02 52 39.0	
	comp=Z,8.3nm,1.1s									
VNDA	**Vanda**	**46.16**	**183**		P		**P**		**02 52 42.8**	**+2.1**
	comp=Z,3.4nm,0.7s,baz=173,slow=8.2,SNR=26									
VNDA					LR		LR		03 09 55.0	
	comp=Z,79nm,21.1s,baz=296,slow=33									
VNDA	**Vanda**	**46.16**	**183**		P		P		02 52 35.7	-5.1
VNDA					IAmb		IAmb		02 52 45.4	
	comp=Z,3.7nm,0.7s									
PB01	**IPOC Station P**	**47.35**	**300**		P		**P**		**02 52 50.2**	**-0.6**
GO01	**Chusmiza**	**48.39**	**302**		P		**P**		**02 52 58.3**	**-1.0**
MNMC	**Minye Minye**	**49.05**	**302**		P		**P**		**02 53 03.2**	**-0.8**
H10N1	**ASCENSION HYDR**	**49.45**	**16**		T		T		03 46 57.3	
	baz=188,slow=75,SNR=61									
H10N3	**ASCENSION HYDR**	**49.45**	**16**		T		T		03 46 57.2	
	baz=188,slow=75,SNR=194									
H10N2	**ASCENSION HYDR**	**49.46**	**16**		T		T		03 46 58.6	
	baz=188,slow=75,SNR=202									
PB16	**IPOC Station P**	**49.69**	**302**		P		**P**		**02 53 07.8**	**-1.5**
LPAZ	**La Paz**	**50.84**	**305**		P		**P**		**02 53 18.5**	**+0.5**
	comp=Z,8.2nm,0.7s,baz=178,slow=6.1,SNR=33									
LPAZ					PcP		**PcP**		**02 54 34.8**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=124,slow=3.6,SNR=1.4									
LPAZ					LR		LR		03 15 59.3	
	comp=Z,26nm,18.9s,baz=150,slow=37									
LPAZ	**La Paz**	**50.84**	**305**		P		**P**		**02 53 16.8**	**-1.2**
LPAZ							**PcP**		**02 54 31.8**	**-2.4**
SAML	**Samuel**	**55.29**	**314**		P		**P**		**02 53 49.7**	**-0.4**
LIC	**Lamto**	**64.97**	**24**	*eP*			**P**		**02 54 56.8**	**+0.5**
	comp=Z,42nm,1.1s									
KIC	**Kosan Boka**	**65.17**	**24**	*eP*			**P**		**02 54 57.9**	**+0.3**
	comp=Z,23nm,1.1s									
TIC	**Toumodi**	**65.38**	**24**	*eP*			**P**		**02 54 59.3**	**+0.3**
DBIC	**Dimbokro**	**65.44**	**24**	P			**P**		**02 54 59.8**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=182,slow=9.6,SNR=6.5									
DBIC					LR		LR		03 16 52.9	
	comp=Z,42nm,20.4s,baz=142,slow=30									
DBIC	**Dimbokro**	**65.44**	**24**	P			**P**		**02 54 59.5**	**+0.1**
DBIC					IAmb		IAmb		02 55 00.4	
	comp=Z,6.6nm,0.8s									
TOA0	**Torodi Ar. Sit**	**73.29**	**29**		P		**P**		**02 55 47.9**	**+0.1**
TOA0					IAmb		IAmb		02 55 49.2	
	comp=Z,9.4nm,0.9s									
TORD	**Torodi Ar. Bea**	**73.29**	**29**		P		**P**		**02 55 48.4**	**+0.6**
	comp=Z,6.9nm,0.6s,baz=201,slow=6.5,SNR=85									
TORD					LR		LR		03 20 36.3	
	comp=Z,20nm,21.4s,baz=245,slow=30									
TORD	**Torodi Ar. Bea**	**73.29**	**29**		P		**P**		**02 55 48.1**	**+0.3**
ASAR	**Alice Springs**	**98.51**	**162**		P		**P**		**02 57 54.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=188,slow=4.2,SNR=7.6									
ASAR	**Alice Springs**	**98.51**	**162**		P		**P**		**02 57 53.7**	**-1.2**
NVAR	**Mina Array Bea**	**121.80**	**293**		PKP		**PKiKP**		**03 03 10.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=140,slow=4.7,SNR=3.1									
NVAR	**Mina Array Bea**	**121.80**	**293**				**PKPdf**		**03 03 09.1**	**-0.7**
FINES	**FINESS Array B**	**124.63**	**28**		PKP		**PKPdf**		**03 03 13.9**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=157,slow=1.5,SNR=3.8									
FINES	**FINESS Array B**	**124.63**	**28**				**PKiKP**		**03 03 14.4**	**-0.1**
QIZ	**Qiongzhong**	**130.60**	**121**		PKP		**PKPdf**		**03 03 26.1**	**-0.8**
QIZ					sPKP				03 03 57.0	
QIZ					PP		**PP**		**03 05 41.8**	**-0.3**
QIZ	**Qiongzhong**	**130.60**	**121**		SS		SS		03 23 06.8	+0.1
QIZ					AMB		AMB			
	comp=Z,200nm,5.8s									
QIZ					LR		LR			
	comp=N,1μm,12.9s									
QIZ					LR		LR			
	comp=E,610nm,11.6s									
QIZ					LR		LR			
	comp=Z,330nm,11.6s									
YKA	**Yellowknife Ar**	**136.66**	**317**		PKP		**PKPdf**		**03 03 36.4**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=112,slow=2.4,SNR=4.8									
LZH	**Lanzhou**	**141.27**	**100**	*eP*	KP		**PKPdf**		**03 03 47.3**	**+0.9**
LZH					sPKP				03 04 22.8	
NRIK	**Noril'sk**	**149.17**	**39**		PKPbc		**PKPdf**		**03 04 00.7**	**+2.1**
	comp=Z,1.9nm,0.6s,baz=143,slow=5.1,SNR=2.7									
SONM	**Songino Array**	**150.49**	**87**		PKPbc		**PKPbc**		**03 04 06.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=219,slow=4.2,SNR=6.0									
SONM	**Songino Array**	**150.49**	**87**				**PKPbc**		**03 04 07.2**	**+0.2**
ILAR	**Eielson Array**	**150.59**	**311**		PKPbc		**PKPbc**		**03 04 06.0**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=5.6,slow=1.6,SNR=25									
ILAR	**Eielson Array**	**150.59**	**311**				**PKiKP**		**03 04 06.7**	**-0.5**
KDAK	**Kodiak Island**	**151.24**	**296**		PKPbc		**PKiKP**		**03 04 08.4**	**-0.3**
	comp=Z,2.9nm,0.4s,baz=209,slow=4.1,SNR=6.7									
KDAK	**Kodiak Island**	**151.24**	**296**				**PKiKP**		**03 04 08.5**	**-0.2**

NEIC ***14*** *02:49:39.3±1.4, 50.5°N±0.1°×176.2°E±0.1, h5km±6km, mb4.2/16, Error ellipse: s-maj=19.2km s-min=11.0km az=176.0*

IDC ***14*** *02:49:41.6±1.5, 50.74°N×176.27°E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.4/4, Error ellipse: s-maj=122.5km s-min=26.1km az=134.0*

ISC 14 02:49:45.5±0.9, 50.5°N±0.2°×176.4°E±0.1, h35km, n26, σ1§06/27, mb3.9/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.03**	**64**	Pn	**Pn**	**02 50 17.4**	**+0.3**
AMKA				Sn	**Sn**	**02 50 40.2**	**-1.0**
ADK	**Adak**	**4.56**	**70**	Pn	**Pn**	**02 50 51.8**	**-0.1**
ADK				Sn	**Sn**	**02 51 46.1**	**+2.5**
CNPM	**China Poot**	**20.43**	**51**	P	**P**	**02 54 18.3**	**-1.1**
CNPM				IAmb	IAmb	02 54 23.4	
	comp=Z,12nm,1.1s						
BRLK	**Bradley Lake**	**20.65**	**51**	P	**P**	**02 54 21.3**	**-0.6**
BRLK				IAmb	IAmb	02 54 29.1	
	comp=Z,11nm,1.0s						
SUA	**Susitna One**	**21.14**	**46**	P	**P**	**02 54 26.1**	**-1.0**
SUA				IAmb	IAmb	02 54 30.3	
	comp=Z,6.9nm,1.0s						
SEW	**Seward**	**21.43**	**50**	P	**P**	**02 54 29.3**	**-0.8**
IMAR	**Indian Mountai**	**21.72**	**33**	P	**P**	**02 54 33.5**	**+0.2**
SML	**Sawmill**	**22.34**	**46**	P	**P**	**02 54 40.2**	**+0.2**
SML				IAmb	IAmb	02 54 56.4	
	comp=Z,9.2nm,1.2s						
SCM	**Sheep Creek Mo**	**22.81**	**46**	P	**P**	**02 54 44.4**	**-0.6**
SCM				IAmb	IAmb	02 54 49.2	
	comp=Z,4.7nm,0.8s						
MDM	**Murphy Dome**	**23.34**	**38**	P	**P**	**02 54 49.0**	**-1.3**
KLU	**Klutina**	**23.39**	**48**	P	**P**	**02 54 51.0**	**+0.1**
IL31		**23.82**	**39**	P	**P**	**02 54 53.7**	**-1.1**
ILAR	**Eielson Array**	**23.82**	**39**	P	**P**	**02 54 54.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=258,slow=5.9,SNR=8.5						
ILAR	**Eielson Array**	**23.82**	**39**			**PKiKP**		**02 54 54.2**	**-0.6**
MCARA	**McCarthy VSAT**	**24.75**	**48**	P	**P**	**02 55 02.5**	**-0.9**
MCARA				IAmb	IAmb	02 55 04.7	
	comp=Z,7.4nm,0.9s						
EGAK	**Eagle**	**26.18**	**41**	P	**P**	**02 55 15.8**	**-0.5**
DAWY	**Dawson**	**26.80**	**43**	P	**P**	**02 55 21.2**	**-0.8**
DAWY				IAmb	IAmb	02 55 23.0	
	comp=Z,3.0nm,0.9s						
JYT	**Yasato**	**29.61**	**255**	P	P	02 55 42.3	-4.9
DIB	**Dawson Inlet,**	**31.14**	**65**	P	**P**	**02 56 00.3**	**-0.2**
HIA	**Hailar**	**35.75**	**291**	P	**P**	**02 56 40.0**	**-0.8**
YKA	**Yellowknife Ar**	**38.00**	**45**	P	**P**	**02 57 00.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=281,slow=6.9,SNR=3.5						
KKO	**Keanakako`i**	**38.34**	**134**	P	**P**	**02 57 01.5**	**-1.7**
PASC	**Pasadena Art C**	**49.42**	**83**	P	**P**	**02 58 31.1**	**-0.7**
PASC				IAmb	IAmb	02 58 43.9	
	comp=Z,7.0nm,1.0s						
PDAR	**Pinedale Array**	**49.46**	**69**	P	**P**	**02 58 33.6**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=292,slow=4.3,SNR=4.5						
PDAR	**Pinedale Array**	**49.46**	**69**	P	**P**	**02 58 32.8**	**+0.5**
WRA	**Warramunga Arr**	**79.35**	**220**	P	**P**	**03 01 49.8**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=29,slow=5.8,SNR=3.0						

IDC ***14*** *03:12:37.1±1.7, 0.18°S×125.34°E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/36, mbtmp3.6/4, MS3.7/1, Ms1 3.6/1, ms1mx2.6/43, Error ellipse: s-maj=184.5km s-min=23.7km az=63.0*

DJA ***14*** *03:12:41.6±0.4, 0.7°S±3.2°×12.5°E±0.1°, h10km, M3.8/6, MLv3.8/6*

ISC 14 03:12:43.1±1.2, 0.4°S±0.1°×125.2°E±0.1, h35km, n8, σ1§46/9, mb3.6/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.56**	**307**	P	**Pn**	**03 13 08.1**	**-0.2**
KMSI				S	**Sn**	**03 13 27.0**	**-0.3**
SANI	**Sanana**	**1.84**	**156**	P	**Pn**	**03 13 13.1**	**+0.8**
GTOI	**Gorontalo**	**2.43**	**294**	P	**Pn**	**03 13 23.4**	**+3.0**
LUWI	**Luwuk**	**2.55**	**255**	P	**Pn**	**03 13 21.7**	**-0.3**
WRA	**Warramunga Arr**	**21.41**	**156**	P	**P**	**03 17 27.5**	**-0.6**
	0.4nm,0.3s,baz=335,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**24.65**	**161**	P	**P**	**03 18 01.1**	**+0.4**
	0.4nm,0.5s,baz=330,slow=7.3,SNR=7.3						
STKA	**Stephens Creek**	**34.96**	**155**	P	**P**	**03 19 32.4**	**+0.4**
	0.8nm,0.5s,baz=331,slow=8.6,SNR=4.3						
STKA				LR	LR	03 36 49.7	
	comp=Z,106nm,18.3s,baz=203,slow=41						
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**03 22 45.6**	**-1.4**
	0.6nm,0.4s,baz=121,slow=8.6,SNR=7.8						

UCR ***14*** *03:31:10.0±1.3, 8.96°N×83.98°W, h8km±4km, MD3.9, MW5.2, mb4.5(NEIC)*

UPA ***14*** *03:31:10.1±1.9, 9.06°N×83.93°W, h2km±6km, MW5.0*

IDC ***14*** *03:31:15.8±1.9, 9.32°N×83.95°W, h49km±17km, mb3.9/19, mb1 4.1/21, mb1mx4.0/34, mbtmp4.2/21, ML3.3/2, MS3.9/2, Ms1 3.9/2, ms1mx3.6/32, Error ellipse: s-maj=23.0km s-min=13.0km az=46.0*

NEIC ***14*** *03:31:16.4±1.0, 9.28°N±0.07°×83.95°W±0.08, h56km±4km, mb4.5/106, Error ellipse: s-maj=12.4km s-min=7.8km az=51.0*

INET ***14*** *03:31:53.6, 11.71°N×85.36°W, h15km, ML3.3*

ISC 14 03:31:10.8±1.0, 9.09°N±0.03×83.98°W±0.03, h16km±6km, n269, σ1§56/259, mb4.5/74, 10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.20**	**35**	*i* P	**Pb**	**03 31 17.1**	**+1.0**
EDDO				*e*S	**Sb**	**03 31 22.3**	**+2.8**
PEZE	**Perez Zeledon,**	**0.41**	**46**	*e*P	**Pb**	**03 31 19.9**	**+0.1**
PEZE				*e*S	**Sn**	**03 31 28.3**	**-1.3**
EDLM	**Las Mercedes**	**0.43**	**64**	*i* P	**Pb**	**03 31 20.2**	**+0.2**
EDLM				*e*S	**Sn**	**03 31 27.8**	**-2.1**
EDPN	**Palmar Norte**	**0.53**	**104**	*e*P	**Pg**	**03 31 20.3**	**-1.1**
RIOS	**Rincon, Osa**	**0.60**	**130**	*e*P	**Pg**	**03 31 20.2**	**-2.4**
LCR2	**La Lucha 2**	**0.65**	**358**	*e*P	**Pn**	**03 31 24.7**	**-0.8**
RIMA	**Rio Macho**	**0.68**	**10**	*e*P	**Pn**	**03 31 24.9**	**-1.0**
EDBA	**Buenos Aires**	**0.70**	**84**	*e*P	**Pg**	**03 31 23.1**	**-1.4**
EDBA				*e*S	**Sg**	**03 31 33.3**	**-0.5**
DRK0	**Durika**	**0.74**	**77**	*e*P	**Pg**	**03 31 24.7**	**-0.7**
DRK0				*e*S	**Sb**	**03 31 35.7**	**+0.2**
DRK0	**Durika**	**0.74**	**77**	*e*P	**Pg**	**03 31 24.7**	**-0.7**
SJS	**Escuela Geolog**	**0.85**	**355**	*e*P	**Pn**	**03 31 28.2**	**0.0**
PTJ1	**Puerto Jimnez**	**0.87**	**130**	*e*P	**Pb**	**03 31 26.4**	**-1.0**
PTJ1				*e*S	**Sg**	**03 31 39.0**	**0.0**
PTJ1	**Puerto Jimnez**	**0.87**	**130**	*e*P	**Pb**	**03 31 25.7**	**-1.7**
HDC	**Heredia**	**0.91**	**352**	*i* P	**Pn**	**03 31 29.5**	**+0.4**
HDC				*e*S	**Sn**	**03 31 43.3**	**+1.3**
HDC	**Heredia**	**0.91**	**352**	*e*P	**Pn**	**03 31 29.4**	**+0.2**
HDC	**Heredia**	**0.91**	**352**	Pn	**Pn**	**03 31 29.6**	**+0.4**
HDC				Sn	**Sn**	**03 31 41.7**	**-0.3**
CVTR	**Volcan Turrial**	**0.95**	**13**	*e*P	**Pn**	**03 31 30.0**	**+0.2**
EDSV	**San Vito**	**1.03**	**105**	*e*P	**Pb**	**03 31 28.7**	**-1.6**
SRA1	**San Ramn**	**1.10**	**333**	*e*P	**Pg**	**03 31 32.3**	**+0.1**
BATAN	**Batan**	**1.16**	**31**	*i* P	**Pg**	**03 31 33.7**	**+0.4**
BATAN				*e*S	**Sb**	**03 31 42.4**	**-5.0**
LAFE	**Finca La Fe, P**	**1.16**	**308**	*e*P	**Pb**	**03 31 32.0**	**-0.5**
CDITO	**Canoas**	**1.21**	**115**	*e*P	**Pn**	**03 31 30.9**	**-2.1**
CDITO				*e*S	**Sb**	**03 31 48.7**	**+0.1**
BRU2	**Volcan**	**1.30**	**103**	*e*P	**Pn**	**03 31 33.3**	**-1.2**
BRU2				*e*S	**Sb**	**03 31 51.8**	**+0.2**
BRU2	**Volcan**	**1.30**	**103**	*e*P	**Pn**	**03 31 32.8**	**-1.7**
LESP3	**La Esperanza,**	**1.36**	**120**	*e*P	**Pn**	**03 31 34.2**	**-0.8**
LESP3				*e*S	**Sn**	**03 31 53.2**	**+0.5**
BC3P	**Paso Ancho**	**1.38**	**101**	*e*P	**Pn**	**03 31 34.2**	**-1.4**
BC3P				*e*S	**Sn**	**03 31 53.1**	**-0.5**
BCO2	**Palmira**	**1.48**	**104**	*e*P	**Pn**	**03 31 35.8**	**-1.1**
BCO2				*e*S	**Sn**	**03 31 56.3**	**+0.3**
TRT1	**Tortuguero**	**1.52**	**10**	*e*P	**Pg**	**03 31 38.9**	**-1.3**
FORC	**Fortuna**	**1.53**	**334**	*i* P	**Pg**	**03 31 39.2**	**-1.1**
FORC				*i* S	**Sg**	**03 32 01.6**	**+1.5**
CASO	**Castillo**	**1.53**	**331**	*i* P	**Pg**	**03 31 39.2**	**-1.0**
CASO				*i* S	**Sg**	**03 32 01.9**	**+1.7**
JTS	**Las Juntas de**	**1.53**	**321**	P	**Pb**	**03 31 37.9**	**-0.9**
	745nm,0.3s,baz=186,slow=7.4,SNR=557						
JTS				S	**Sg**	**03 31 59.4**	**-0.8**
	539nm,0.3s,baz=28,slow=23,SNR=11						
JTS				LR	LR	03 32 06.3	
	comp=Z,1μm,18.3s,baz=175,slow=37						
JTS	**Las Juntas de**	**1.53**	**321**	*e*P	**Pn**	**03 31 37.8**	**+0.3**
JTS	**Las Juntas de**	**1.53**	**321**	*e*P	**Pb**	**03 31 38.0**	**-0.8**
JTS				*e*S	**Sg**	**03 31 59.7**	**-0.5**
JTS	**Las Juntas de**	**1.53**	**321**	*e*P	**Pb**	**03 31 37.9**	**-0.9**
JTS	**Las Juntas de**	**1.53**	**321**		**Pb**	**03 31 38.1**	**-0.8**
ARE1	**Arenal 1**	**1.54**	**332**	*e*P	**Pg**	**03 31 39.5**	**-1.1**
CEDE	**Laguna Cedeo**	**1.56**	**333**	*i* P	**Pg**	**03 31 39.8**	**-1.1**
CEDE				*i* S	**Sg**	**03 32 02.8**	**+1.6**
GUAL3	**Gualaca, Chiri**	**1.75**	**108**	*e*P	**Pn**	**03 31 39.8**	**-0.7**
GUAL3				*e*S	**Sn**	**03 32 02.7**	**+0.2**
CHGR2	**Aguacate**	**1.82**	**95**	*e*P	**Pn**	**03 31 40.7**	**-0.7**
CHGR2				*e*S	**Sn**	**03 32 04.2**	**+0.1**
PLVR	**Palo Verde**	**1.84**	**313**	*e*P	**Pn**	**03 31 42.2**	**+0.3**
GUAI	**GUAI**	**1.91**	**308**	*i* P	**Pn**	**03 31 43.0**	**+0.3**
ORTG	**Ortega, Santa**	**1.93**	**311**	*e*P	**Pn**	**03 31 43.1**	**+0.1**
COLC	**Colonia**	**1.98**	**322**	*i* P	**Pb**	**03 31 44.7**	**-1.7**
GUAB	**Guayabo de Bag**	**2.02**	**323**	*i* P	**Pn**	**03 31 44.7**	**+0.4**
LAPC	**Finca la Perla**	**2.20**	**319**	*i* P	**Pn**	**03 31 47.8**	**+1.1**
BUEV	**Buena Vista**	**2.20**	**320**	*e*P	**Pb**	**03 31 48.3**	**-2.1**
GB1A	**Borinquen Arri**	**2.21**	**321**	*e*P	**Pb**	**03 31 48.5**	**-2.0**
BUAI	**Buenos Aires**	**2.22**	**323**	*i* P	**Pn**	**03 31 48.0**	**+1.0**
GBS3	**Finca Las Img**	**2.22**	**319**	*i* P	**Pn**	**03 31 48.2**	**+1.2**
GMAL	**Guarumal, Vera**	**3.02**	**116**	*e*P	**Pn**	**03 31 57.2**	**-0.8**
GMAL				*e*S	**Sn**	**03 32 33.1**	**-0.7**
ACON	**Acoyapa**	**3.09**	**338**		**Pn**	**03 32 00.5**	**+1.5**
ESPN	**Las Esperanzas**	**3.10**	**354**		**Pn**	**03 32 01.6**	**+2.5**
CACAO	**El Cacao, Vera**	**3.54**	**119**	*e*P	**Pn**	**03 32 05.2**	**+0.1**
CACAO				*e*S	**Sn**	**03 32 47.3**	**+0.6**
PNME	**Penonome**	**3.66**	**99**	*e*P	**Pn**	**03 32 09.6**	**+2.9**
PNME	**Penonome**	**3.66**	**99**	*e*P	**Pn**	**03 32 08.1**	**+1.3**
PNME				*e*S	**Sn**	**03 32 52.6**	**+3.0**
VTON	**El Valle, Cocl**	**3.85**	**97**	*e*P	**Pn**	**03 32 11.0**	**+1.6**
VTON				*e*S	**Sn**	**03 32 55.1**	**+0.7**
TOSI3	**Tonosi**	**3.88**	**115**	*e*P	**Pn**	**03 32 10.2**	**+0.4**
TOSI3				*e*S	**Sb**	**03 33 03.7**	**-1.9**
AZU	**Azuero**	**3.88**	**109**	*e*P	**Pn**	**03 32 10.3**	**+0.4**
AZU	**Azuero**	**3.88**	**109**	*e*P	**Pn**	**03 32 13.2**	**+3.3**
AZU				*e*S	**Sn**	**03 32 58.5**	**+3.3**
MATN	**Matagalpa**	**4.27**	**334**	Pn	**Pn**	**03 32 16.4**	**+1.2**
TABO3	**Taboga, Panama**	**4.38**	**94**	*e*P	**Pn**	**03 32 18.3**	**+1.6**
TABO3				*e*S	**Sn**	**03 33 07.4**	**0.0**
UPA	**Univ. de Panam**	**4.39**	**91**	*e*P	**Pn**	**03 32 16.9**	**+0.1**
UPA	**Univ. de Panam**	**4.39**	**91**	*e*P	**Pn**	**03 32 16.9**	**+0.1**
UPA				*e*S	**Sn**	**03 33 07.7**	**0.0**
CRIN	**San Cristobal**	**4.69**	**320**		**Pn**	**03 32 23.1**	**+2.2**
TGUH	**Tegucigalpa,Un**	**5.90**	**327**	*e*P	Pn	03 32 42.2	+4.5
TGUH	**Tegucigalpa,Un**	**5.90**	**327**	Pn	**Pn**	**03 32 39.6**	**+2.0**
UPD2	**Meteti**	**5.92**	**95**	*e*P	**Pn**	**03 32 39.9**	**+2.0**
UPD2	**Meteti**	**5.92**	**95**	*e*P	**Pn**	**03 32 40.0**	**+2.2**
UPD2				*e*S	**Sn**	**03 33 50.3**	**+5.0**
CAPC	**Capurgana**	**6.56**	**93**	*e*P	**Pn**	**03 32 47.8**	**+1.1**
SNET	**Serv Nac Est T**	**6.88**	**312**		**Pn**	**03 32 55.1**	**+4.0**
SOLC	**Bahia Solano**	**7.11**	**113**	*e*P	**Pn**	**03 32 54.2**	**+0.1**
MTO3	**Montecristo**	**7.46**	**316**		**Pn**	**03 33 02.1**	**+2.9**
LCBC	**Los crdobas,**	**7.52**	**91**	*e*P	Pn	03 33 04.9	+5.0
ESQI	**Esquipulas**	**7.56**	**316**	Pn	**Pn**	**03 33 03.3**	**+2.9**
DBBC	**Dabeiba**	**7.96**	**104**	*e*P	**Pn**	**03 33 08.1**	**+2.1**
CBOC	**Ciudad Bolivar**	**8.52**	**112**	*e*P	**Pn**	**03 33 15.8**	**+2.0**
APG	**El Apazote**	**8.65**	**313**	P	**Pn**	**03 33 19.8**	**+4.3**
	1.0nm,0.3s,baz=126,slow=7.8,SNR=32						
PLMC	**San Jos del P**	**8.70**	**118**	*e*P	**Pn**	**03 33 16.6**	**+0.6**
SJCC	**San Jacinto, C**	**8.72**	**84**	*e*P	**Pn**	**03 33 17.5**	**+1.1**
YOTC	**Yotoco, Valle**	**9.12**	**123**	*e*P	**Pn**	**03 33 21.7**	**-0.3**
ZARC	**Zaragoza, Cauc**	**9.16**	**99**	*e*P	**Pn**	**03 33 24.7**	**+2.2**
GUY2C	**Guyana, Caldas**	**9.37**	**114**	*e*P	**Pn**	**03 33 28.0**	**+2.3**
HUEH	**Huehuetenango**	**9.61**	**311**		**Pn**	**03 33 32.3**	**+3.6**
ARGC	**Ariguani, Magd**	**9.63**	**85**	*e*P	**Pn**	**03 33 31.5**	**+2.7**
PETF	**Flores**	**9.66**	**324**		**Pn**	**03 33 30.0**	**+0.7**
TOLC	**Tolima**	**9.69**	**117**	*e*P	**Pn**	**03 33 33.2**	**+3.3**

BBAC	**Balboa, Cauca**	**9.70**	**136**	*e*P		**Pn**		**03 33 31.4**	**+1.4**
POPC	**Popayan, Colom**	**9.75**	**131**	*e*P		**Pn**		**03 33 31.7**	**+1.0**
PTBC	**PUERTO BERRIO,**	**9.77**	**104**	*e*P		**Pn**		**03 33 31.1**	**+0.3**
SMLC	**San Martn de**	**9.79**	**91**	*e*P		**Pn**		**03 33 31.7**	**+0.7**
SMRC	**Santa Marta, M**	**9.82**	**77**	*e*P		**Pn**		**03 33 31.6**	**+0.1**
ORTC	**Ortega, Tolima**	**10.09**	**120**	*e*P		**Pn**		**03 33 37.8**	**+2.7**
PCON	**Cinco Dias**	**10.10**	**131**	*e*P		**Pn**		**03 33 38.3**	**+2.5**
GCUF	**Volcan Galeras**	**10.23**	**139**	*e*P		**Pn**		**03 33 39.2**	**+1.7**
BRRC	**Barranca, Sant**	**10.35**	**100**	*e*P		**Pn**		**03 33 38.9**	**+0.2**
OTAV	**Otavalo**	**10.38**	**148**	*e*P		**Pn**		**03 33 40.9**	**+1.5**
OTAV	**Otavalo**	**10.38**	**148**		Pn	**Pn**		**03 33 41.2**	**+1.7**
OTAV	**Otavalo**	**10.38**	**148**	*e*P		**Pn**		**03 33 39.7**	**+0.3**
OTAV				*e*S		**Sn**		**03 35 37.4**	**+1.6**
SPBC	**San Pablo de B**	**10.40**	**108**	*e*P		**Pn**		**03 33 43.5**	**+4.0**
ROSC	**El Rosal**	**10.47**	**113**	P		**Pn**		**03 33 44.2**	**+3.5**
	1.2nm,0.3s,baz=328,slow=21,SNR=8.1									
ROSC					LR	LR		03 37 51.0		
	comp=Z,438nm,19.4s,baz=302,slow=38									
ROSC	**El Rosal**	**10.47**	**113**		Pn	Pn		03 33 46.7	+6.0	
PRAC	**Prado**	**10.49**	**120**	*e*P		**Pn**		**03 33 43.8**	**+3.1**	
FSCY	**Frank Sound, G**	**10.52**	**15**		Pn	**Pn**		**03 33 44.6**	**+3.7**	
OCAC	**Ocana**	**10.57**	**94**	*e*P		**Pn**		**03 33 43.4**	**+1.5**	
CCIG	**Comitan**	**10.70**	**313**		Pn	**Pn**		**03 33 47.2**	**+3.7**	
BARC	**Barichara**	**10.98**	**102**	*e*P		**Pn**		**03 33 50.2**	**+2.7**	
CHIC	**Chingaza**	**11.10**	**113**	*e*P		Pn		03 33 55.0	+5.7	
FLOC	**Florencia**	**11.15**	**132**	*e*P		Pn		03 33 55.4	+5.7	
LCCY	**Blossom Villag**	**11.17**	**19**		Pn	**Pn**		**03 33 51.9**	**+2.0**	
RUSC	**La Rusia**	**11.26**	**106**	*e*P		**Pn**		**03 33 53.9**	**+2.3**	
PAMC	**Pamplona, Colo**	**11.30**	**98**	*e*P		**Pn**		**03 33 53.3**	**+1.2**	
VILC	**Villavicencio,

W13A	**Hualapai Mount**	**37.64**	**318**	IAmb	IAmb	03 38 37.2	
	comp=Z,6.1nm,0.9s						
E38A	**The Farm, Brul**	**37.94**	**351**	IAmb	IAmb	03 38 34.0	
	comp=Z,8.7nm,1.0s						
F33A	**5 Mile Ranch,**	**38.12**	**346**	IAmb	IAmb	03 38 35.5	
	comp=Z,7.1nm,0.8s						
PFO	**Pinyon Flats O**	**38.58**	**314**	P	**P**	**03 38 33.1**	**-0.2**
PFO				IAmb	IAmb	03 38 36.5	
	comp=Z,4.1nm,0.9s						
SNDB	**Serra Nova Dou**	**38.65**	**122**	*eP*	**P**	**03 38 33.0**	**-0.9**
D62A	**Allapoint, All**	**39.94**	**16**	P	**P**	**03 38 43.9**	**-0.3**
AC05	**El Transito**	**39.96**	**161**	P	**P**	**03 38 47.4**	**+2.6**
AC05				IAmb	IAmb	03 38 53.3	
	comp=Z,8.1nm,1.0s						
ARAG	**Araguaiana, MT**	**40.27**	**128**	*eP*	**P**	**03 38 47.2**	**-0.3**
AGMN	**Agassiz Nation**	**40.34**	**348**	IAmb	IAmb	03 38 54.6	
	comp=Z,11nm,1.1s						
PDAR	**Pinedale Array**	**40.34**	**331**	P	**P**	**03 38 47.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=124,slow=9.2,SNR=7.0						
PDAR				PcP	**PcP**	**03 40 49.6**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=137,slow=3.0,SNR=3.7						
PDAR	**Pinedale Array**	**40.34**	**331**	P	**P**	**03 38 47.6**	**-0.4**
SMTB	**Santa Maria do**	**40.39**	**115**	*eP*	**P**	**03 38 47.9**	**-0.6**
AQDB	**Aquidauana**	**40.46**	**137**	*eP*	**P**	**03 38 49.7**	**+0.8**
HWUT	**Hardware Ranch**	**40.51**	**328**	P	**P**	**03 38 49.0**	**-0.4**
MDND	**Maddock**	**40.83**	**344**	P	**P**	**03 38 51.3**	**-0.4**
BATG	**Bathurst New B**	**40.99**	**19**	P	**P**	**03 38 52.6**	**-0.3**
ROSB	**Rosrio**	**41.47**	**105**	*eP*	**P**	**03 38 56.5**	**-0.9**
ELK	**Elko**	**41.97**	**324**	P	**P**	**03 39 01.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=120,slow=8.1,SNR=4.1						
ELK				PcP	**PcP**	**03 40 55.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=243,slow=4.5,SNR=2.8						
ELK	**Elko**	**41.97**	**324**	P	**P**	**03 39 01.1**	**-0.4**
ULM	**Lac du Bonnet**	**42.20**	**349**	P	**P**	**03 39 00.8**	**-2.0**
	comp=Z,4.8nm,0.7s,baz=182,slow=6.2,SNR=8.8						
ULM				PcP	**PcP**	**03 40 56.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=180,slow=4.2,SNR=2.9						
ULM	**Lac du Bonnet**	**42.20**	**349**	IAmb	IAmb	03 39 09.4	
	comp=Z,11nm,1.0s						
NVAR	**Mina Array Bea**	**42.46**	**319**	P	**P**	**03 39 06.6**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=127,slow=7.1,SNR=11						
NVAR				PcP	**PcP**	**03 40 59.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=129,slow=4.0,SNR=5.0						
NVAR	**Mina Array Bea**	**42.46**	**319**	P	**P**	**03 39 05.1**	**-0.3**
HLID	**Hailey**	**43.38**	**328**	P	**P**	**03 39 12.4**	**-0.3**
PNTR	**Pine Nut**	**43.67**	**319**	P	**P**	**03 39 14.9**	**-0.3**
CPUP	**Villa Florida**	**43.70**	**144**	*eP*	**P**	**03 39 16.1**	**+0.8**
SDBA	**SAO DESIDERIO**	**44.31**	**118**	*eP*	**P**	**03 39 19.5**	**-1.0**
ORV	**Oroville**	**45.16**	**318**	P	**P**	**03 39 26.8**	**-0.1**
ORV				IAmb	IAmb	03 39 33.2	
	comp=Z,7.2nm,1.1s						
JTMT	**Jette**	**46.27**	**332**		**PcP**	**03 41 12.5**	**+1.5**
YBH	**Yreka Blue Hor**	**47.10**	**320**	P	**P**	**03 39 40.7**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=91,slow=1.9,SNR=3.6						
YBH	**Yreka Blue Hor**	**47.10**	**320**	P	**P**	**03 39 42.1**	**-0.1**
RCLB	**Rio Claro- Sao**	**47.50**	**132**	*eS*	**S**	**03 46 39.9**	**-0.1**
SCHQ	**Schefferville**	**47.62**	**13**	P	**P**	**03 39 44.6**	**-1.3**
	comp=Z,7.6nm,0.8s,baz=215,slow=5.8,SNR=6.9						
SCHQ	**Schefferville**	**47.62**	**13**	IAmb	IAmb	03 39 45.5	
	comp=Z,6.0nm,0.8s						
SCHQ				P	**P**	**03 39 45.6**	**-0.3**
NEW	**Newport**	**47.99**	**331**	P	**P**	**03 39 47.4**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=90,slow=16,SNR=2.0						
NEW	**Newport**	**47.99**	**331**	P	**P**	**03 39 48.7**	**-0.2**
L01	**Cunco**	**49.05**	**167**	P	**P**	**03 40 01.6**	**+4.4**
PLTB	**Pedras Altas**	**49.94**	**146**	*eP*	**P**	**03 40 04.8**	**+0.7**
SJMB	**Sao Joao De Ma**	**50.44**	**123**	*eP*	**P**	**03 40 08.0**	**-0.1**
PLCA	**Paso Flores**	**51.10**	**167**	P	**P**	**03 40 14.0**	**+1.3**
	comp=Z,9.3nm,1.0s,baz=340,slow=11,SNR=4.3						
PLCA	**Paso Flores**	**51.10**	**167**	P	**P**	**03 40 15.4**	**+2.6**
PLCA	**Paso Flores**	**51.10**	**167**	*eP*	**P**	**03 40 14.8**	**+2.0**
TRQA	**Tornquist**	**51.21**	**158**	*eP*	**P**	**03 40 16.0**	**+2.5**
YKA	**Yellowknife Ar**	**57.75**	**344**	P	**P**	**03 40 59.7**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=137,slow=6.2,SNR=7.0						
RES	**Resolute Bay**	**65.86**	**357**	P	**P**	**03 41 53.7**	**-1.4**
	comp=Z,9.7nm,0.8s,baz=194,slow=8.5,SNR=8.1						
ICESG	**Greenland Ices**	**66.41**	**16**	*i P*	**P**	**03 41 57.0**	**-2.3**
ICESG				IAmb	IAmb	03 41 58.2	
	comp=Z,25nm,1.1s						
BCAR	**Beaver Creek A**	**67.71**	**335**	P	**P**	**03 42 07.2**	**-0.1**
SUMG	**Summit**	**69.01**	**13**	P	**P**	**03 42 13.4**	**-2.3**
SUMG	**Summit**	**69.01**	**13**	*i P*	**P**	**03 42 14.0**	**-1.7**
	comp=Z,52nm,0.9s						
SUMG	**Summit**	**69.01**	**13**	*i* P	**P**	**03 42 14.0**	**-1.7**
SUMG				IAmb	IAmb	03 42 15.5	
	comp=Z,52nm,0.9s						
HDA	**Harding Lake**	**70.35**	**336**	P	**P**	**03 42 23.5**	**0.0**
HDA				IAmb	IAmb	03 42 32.6	
	comp=Z,5.7nm,0.9s						
IL31		**70.45**	**336**	P	**P**	**03 42 24.0**	**-0.1**
ILAR	**Eielson Array**	**70.45**	**336**	P	**P**	**03 42 23.7**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=126,slow=3.7,SNR=17						
ILAR	**Eielson Array**	**70.45**	**336**	P	**P**	**03 42 23.9**	**-0.2**
DBG	**Daneborg**	**74.34**	**15**	*i* P	**P**	**03 42 45.8**	**-1.4**
DBG				IAmb	IAmb	03 42 46.9	
	comp=Z,5.5nm,1.1s						
DAG	**Danmarks Havn**	**75.66**	**12**	*i* P	**P**	**03 42 53.0**	**-1.8**
	comp=Z,8.3nm,0.9s						
DAG	**Danmarks Havn**	**75.66**	**12**	*i* P	**P**	**03 42 53.0**	**-1.8**
DAG				IAmb	IAmb	03 42 53.8	
	comp=Z,8.3nm,0.9s						
ESDC	**Sonseca Array**	**76.59**	**51**	P	**P**	**03 43 00.6**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=284,slow=5.4,SNR=16						
ESDC	**Sonseca Array**	**76.59**	**51**	P	**P**	**03 43 00.5**	**-0.3**
NOR	**Nord**	**77.80**	**8**	*i* P	**P**	**03 43 05.1**	**-1.7**
NOR	**Nord**	**77.80**	**8**	*eP*	**P**	**03 43 05.1**	**-1.7**
TORD	**Torodi Ar. Bea**	**83.80**	**78**	P	**P**	**03 43 39.5**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=282,slow=4.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**83.80**	**78**	P	**P**	**03 43 39.5**	**-0.7**
NB2	**NORSAR Subarra**	**84.63**	**29**	P	**P**	**03 43 43.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=279,slow=5.1						
NOA	**NORSAR Array B**	**84.63**	**29**	P	**P**	**03 43 43.0**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=276,slow=5.0,SNR=11						
DAVA	**Damuels**	**86.00**	**43**	*eP*	**P**	**03 43 50.1**	**-0.8**
	comp=Z,8.9nm,1.0s						
FETA	**Feichten**	**86.61**	**43**	*eP*	**P**	**03 43 53.6**	**-0.3**
	comp=Z,5.2nm,1.1s						
SQTA	**Sankt Quirin**	**86.90**	**43**	*eP*	**P**	**03 43 54.6**	**-0.6**
	comp=Z,6.7nm,1.1s						
CLL	**Collm**	**87.31**	**39**	*eP*	**P**	**03 43 56.0**	**-0.9**
ABTA	**Abfaltersbach**	**87.87**	**43**	*eP*	**P**	**03 43 59.3**	**-0.5**
	comp=Z,7.8nm,1.3s						
KHC	**Kasperske Hory**	**88.11**	**41**	*eP*	**P**	**03 44 01.0**	**+0.2**
KHC				*ex*	x	03 44 50.5	
GERES	**GERESS Array B**	**88.24**	**41**	P	**P**	**03 44 00.8**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=260,slow=3.9,SNR=5.6						
FINES	**FINESS Array B**	**91.44**	**27**	P	**P**	**03 44 15.2**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=290,slow=5.5,SNR=7.5						
VNA3	**Neumayer Olymp**	**93.56**	**162**	P	P	03 44 30.9	+5.2
VNA2	**Neumayer--Watz**	**94.18**	**161**	P	P	03 44 33.7	+5.2
	baz=294,slow=3.6						
KLMR	**Klimovskoe**	**97.47**	**24**	*eP*	**P**	**03 44 41.5**	**-2.2**
KLMR				AMP		03 44 44.1	
	comp=Z,11nm,1.4s						
ZALV	**Zalesovo Beam**	**116.49**	**7**	PP	PP	03 50 56.4	-3.3
	comp=Z,1.3nm,0.7s,baz=326,slow=7.7,SNR=6.4						
LZH	**Lanzhou**	**134.46**	**351**	*e*PKP	**PKiKP**	**03 50 30.9**	**+0.5**
LZH				sPKP		03 50 47.3	
ASAR	**Alice Springs**	**141.02**	**244**	PKhKP	PKPpre	03 50 34.6	
	comp=Z,0.9nm,0.8s,baz=96,slow=4.3,SNR=4.5						
ASAR				PKP	**PKPdf**	**03 50 40.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=78,slow=2.6,SNR=7.4						
ASAR	**Alice Springs**	**141.02**	**244**		**PKPdf**	**03 50 40.9**	**-0.4**
WRA	**Warramunga Arr**	**141.46**	**249**	PKhKP	PKPpre	03 50 36.8	
	comp=Z,0.8nm,0.8s,baz=108,slow=2.1,SNR=6.4						
WRA				PKP	**PKPdf**	**03 50 42.6**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=104,slow=3.2,SNR=6.1						
WRA	**Warramunga Arr**	**141.46**	**249**		**PKPdf**	**03 50 41.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**152.47**	**354**	PKPbc	**PKPbc**	**03 51 06.7**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=344,slow=1.3,SNR=8.5						
CMAR	**Chiang Mai Arr**	**152.47**	**354**		**PKPbc**	**03 51 05.8**	**-1.5**

IDC ***14*** *03:32:57.7±0.5, 7°.58N×94°.31E, h19km±3km, mb4.0/20, mb1 4.1/21,mb1mx3.9/53,mbtmp4.1/21, ML3.8/1, MS3.9/3, Ms1 3.9/3,ms1mx3.5/58, Error ellipse: s-maj=19.8km s-min=11.1km az=56.0*

NEIC ***14*** *03:32:59.1±1.2, 7°.53N±0°.09×94°.4E±0°.1, h37km±6km, mb4.5/26, Error ellipse: s-maj=15.5km s-min=11.3km az=59.0*

DJA ***14*** *03:33:05.1±2.8, 7°N±8°×9°5E±1°,3, h39km±43km, M4.6/6, mb4.6/6, mB5.2/4, MLv4.6/6, Mw(mB)4.6/4*

ISC 14 03:32:57.4±0.4**, 7°.46N**±0°.07×**94°.39E**±0°.08**, h24**km**, n87,**

2014 OCT

σ1§**50**/78**, mb4.3**/28**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.37**	**131**	P	**Pn**	**03 33 50.0**	**+1.5**
LHMI	**Lhok Sumawe**	**3.37**	**131**	Pn	**Pn**	**03 33 49.7**	**+1.2**
MLSI	**Meulaboh, Aceh**	**3.75**	**148**	P	**Pb**	**03 33 58.3**	**-4.6**
PBA	**Port Blair**	**4.48**	**339**	*eP*	Pn	03 34 08.3	+4.5
TPTI		**5.01**	**146**	P	**Pn**	**03 34 15.1**	**+4.0**
DGPR	**DIGLIPUR**	**5.86**	**346**	*eP*	**Pn**	**03 34 27.2**	**+4.4**
PSI	**Prapat**	**6.46**	**135**	Pn	**Pn**	**03 34 35.1**	**+4.0**
	2.0nm,0.3s,baz=298,slow=2.1,SNR=8.5						
RPSI	**Rantau Prapat**	**6.54**	**136**	Pn	**Pn**	**03 34 33.1**	**+1.0**
RPSI	**Rantau Prapat**	**6.54**	**136**		**Pn**	**03 34 35.1**	**+3.0**
KULM	**Kulim**	**6.58**	**109**	Pn	**Pn**	**03 34 32.7**	**0.0**
GSI	**Gunungsitoli**	**6.89**	**152**	P	**Pn**	**03 34 37.7**	**+0.8**
IPM	**Ipoh**	**7.23**	**114**	Pn	**Pn**	**03 34 41.6**	**-0.1**
MNSI	**Mandailing Nat**	**8.40**	**142**	P	**Pn**	**03 35 00.9**	**+3.2**
	26nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.80**	**22**	Pn	**Pn**	**03 35 47.2**	**+3.0**
	1.8nm,0.3s,baz=216,slow=14,SNR=7.8						
CMAR				LR	LR	03 40 21.1	
	comp=Z,390nm,18.4s,baz=254,slow=38						
CMAR	**Chiang Mai Arr**	**11.80**	**22**		**Pn**	**03 35 44.2**	**-0.1**
PPBI	**Pangkal Pinang**	**15.12**	**129**	P	Pn	03 36 19.6	-10
MDSI	**Maura Dua**	**15.37**	**140**	P	**P**	**03 36 35.1**	**-2.2**
SLVN	**Son La**	**16.58**	**33**	P	**Pn**	**03 36 48.0**	**-0.4**
LEM	**Lembang**	**19.37**	**137**	LR	LR	03 46 51.5	
	comp=Z,428nm,18.1s,baz=274,slow=43						
MPSI	**Mapaga**	**26.39**	**104**	P	P	03 38 43.1	+11
H08S3	**Diego Garcia H**	**26.49**	**236**	T	T	04 05 08.5	
	baz=54,slow=75,SNR=307						
H08S2	**Diego Garcia H**	**26.49**	**236**	T	T	04 05 09.1	
	baz=54,slow=75,SNR=174						
H08S1	**Diego Garcia H**	**26.51**	**236**	T	T	04 05 09.6	
	baz=54,slow=75,SNR=91						
KAPI	**Kappang**	**28.17**	**115**	LR	LR	03 49 50.4	
	comp=Z,187nm,18.9s,baz=290,slow=36						
GTOI	**Gorontalo**	**29.32**	**102**	P	P	03 39 03.8	+5.3
LUWI	**Luwuk**	**29.54**	**105**	P	P	03 39 08.1	+7.7
LUWI	**Luwuk**	**29.54**	**105**	P	**P**	**03 39 00.6**	**+0.2**
NIL	**Nilore**	**32.58**	**326**	P	**P**	**03 39 26.5**	**-0.6**
WSAR	**Wadi Sarin**	**37.74**	**299**	P	P	03 40 16.6	+4.9
	3.4nm,0.7s,baz=162,slow=13,SNR=2.5						
GAR	**Garm**	**38.16**	**329**	P	**P**	**03 40 14.9**	**-0.2**
GAR				IAmb	IAmb	03 40 21.4	
	comp=Z,15nm,1.1s						
CHGR	**Chuyangaron**	**38.51**	**328**	P	**P**	**03 40 17.8**	**-0.3**
BTK	**Batken**	**38.72**	**331**	P	**P**	**03 40 19.6**	**-0.2**
BTK				IAmb	IAmb	03 40 31.7	
	comp=Z,8.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.95**	**130**	P	**P**	**03 40 32.6**	**+2.4**
	comp=Z,1.2nm,0.8s,baz=291,slow=8.6,SNR=2.3						
FITZ	**Fitzroy Crossi**	**39.95**	**130**	P	**P**	**03 40 30.7**	**+0.5**
MKAR	**Makanchi Array**	**40.55**	**347**	P	**P**	**03 40 34.2**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=166,slow=7.9,SNR=30						
MKAR	**Makanchi Array**	**40.55**	**347**	P	**P**	**03 40 33.1**	**-1.7**
MAKZ	**Makanchi**	**40.63**	**347**	P	**P**	**03 40 35.3**	**-0.2**
KK31	**Karatay Array**	**41.24**	**333**		pP	03 40 45.7	-1.5
KKAR	**Karatay Array**	**41.24**	**333**		pP	03 40 45.7	-1.5
KKAR	**Karatay Array**	**41.24**	**333**	P	**P**	**03 40 40.4**	**-0.2**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**03 40 43.8**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=195,slow=7.6,SNR=4.9						
SONM				PcP	**PcP**	**03 42 41.8**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=201,slow=2.5,SNR=2.6						
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**03 40 42.8**	**-0.1**
GEYT	**Alibeck**	**44.68**	**318**	P	**P**	**03 41 08.9**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=152,slow=6.7,SNR=4.3						
GEYT	**Alibeck**	**44.68**	**318**	P	**P**	**03 41 08.5**	**0.0**
KURBB	**Kurchatov Arra**	**45.01**	**346**	P	**P**	**03 41 11.0**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=164,slow=6.9,SNR=28						
KURK	**Kurchatov**	**45.07**	**346**	P	**P**	**03 41 11.5**	**+0.1**
KURK				IAmb	IAmb	03 41 19.6	
	comp=Z,7.6nm,0.9s						
ZAA0	**Zalesovo Array**	**47.00**	**352**	IAmb	IAmb	03 41 34.1	
	comp=Z,7.3nm,1.0s						
ZALV	**Zalesovo Beam**	**47.00**	**352**	P	**P**	**03 41 26.7**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=174,slow=8.1,SNR=14						
WB0	**Warramunga Arr**	**47.77**	**125**	P	**P**	**03 41 33.3**	**+0.2**
WRA	**Warramunga Arr**	**47.82**	**125**	P	**P**	**03 41 33.7**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=305,slow=9.0,SNR=8.6						
WRA				pP	**pP**	**03 41 40.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=306,slow=8.7,SNR=8.3						
WRA	**Warramunga Arr**	**47.82**	**125**	P	**P**	**03 41 33.0**	**-0.4**
ASAR	**Alice Springs**	**49.46**	**130**	P	**P**	**03 41 47.9**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=311,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**49.46**	**130**	P	**P**	**03 41 46.1**	**+0.1**
BRVK	**Borovoye**	**49.52**	**341**	P	**P**	**03 41 45.8**	**-0.3**
BRVK				IAmb	IAmb	03 41 52.8	
	comp=Z,2.8nm,0.7s						
FORT	**Forrest**	**49.86**	**141**	P	**P**	**03 41 48.9**	**0.0**
ABKAR	**Akbulak array**	**50.72**	**331**	P	**P**	**03 41 54.4**	**-0.7**
ABKAR	**Akbulak array**	**50.72**	**331**	IAmb	IAmb	03 42 04.8	
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**57.56**	**318**	P	**P**	**03 42 46.2**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=154,slow=7.2,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.63**	**264**	P	**P**	**03 42 46.8**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=54,slow=14,SNR=3.8						
KMBO	**Kilima Mbogo**	**57.63**	**264**	P	**P**	**03 42 45.2**	**-1.2**
KMBO				IAmb	IAmb	03 42 52.4	
	comp=Z,3.6nm,0.9s						
STKA	**Stephens Creek**	**59.64**	**134**	P	**P**	**03 43 02.8**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=297,slow=11,SNR=2.0						
AKASG	**Malin Array Be**	**68.63**	**322**	P	**P**	**03 43 58.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=94,slow=4.6,SNR=4.5						
AKASG	**Malin Array Be**	**68.63**	**322**	P	**P**	**03 43 58.1**	**-0.5**
MLR	**Muntele Rosu**	**69.64**	**316**	IAmb	IAmb	03 44 24.2	
	comp=Z,4.6nm,0.8s						
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**03 44 25.4**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=112,slow=6.2,SNR=5.3						
FINES				pP	**pP**	**03 44 32.2**	**-0.9**
	comp=Z,4.2nm,0.4s,baz=101,slow=7.2,SNR=6.5						
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**03 44 25.8**	**-0.2**
BOSA	**Boshof**	**75.58**	**238**	P	**P**	**03 44 40.7**	**0.0**
	comp=Z,2.5nm,1.1s,baz=146,slow=7.8,SNR=2.8						
BOSA				pP	**pP**	**03 44 47.8**	**0.0**
	comp=Z,4.4nm,0.8s,baz=83,slow=8.6,SNR=4.1						
BOSA	**Boshof**	**75.58**	**238**	P	**P**	**03 44 40.1**	**-0.6**
BOSA				IAmb	IAmb	03 44 53.6	
	comp=Z,4.2nm,1.1s						
ARCES	**ARCESS Array B**	**75.74**	**340**	P	**P**	**03 44 40.1**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=95,slow=5.4,SNR=9.6						
MAW	**Mawson**	**78.18**	**192**	P	**P**	**03 44 57.2**	**+2.9**
	comp=Z,0.7nm,0.6s,baz=56,slow=3.6,SNR=3.3						
MAW	**Mawson**	**78.18**	**192**	P	**P**	**03 44 55.3**	**+0.9**
GERES	**GERESS Array B**	**78.30**	**318**	P	**P**	**03 44 57.2**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=76,slow=5.6,SNR=5.3						
GERES	**GERESS Array B**	**78.30**	**318**	P	**P**	**03 44 55.1**	**-0.6**
CLL	**Collm**	**78.84**	**321**	*eP*	**P**	**03 44 58.0**	**-0.5**
NB2	**NORSAR Subarra**	**80.22**	**331**	P	**P**	**03 45 04.5**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=96,slow=5.1						
NOA	**NORSAR Array B**	**80.22**	**331**	P	**P**	**03 45 05.3**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=92,slow=5.7,SNR=5.8						
NOA				pP	**pP**	**03 45 12.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=95,slow=5.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**90.94**	**283**	P	**P**	**03 46 01.4**	**+1.3**
	comp=Z,0.9nm,1.0s,baz=79,slow=3.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**90.94**	**283**	P	**P**	**03 45 59.2**	**-0.9**
ESDC	**Sonseca Array**	**91.68**	**310**	P	**P**	**03 46 02.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=53,slow=4.6,SNR=2.9						
ESDC				pP	**pP**	**03 46 09.6**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=56,slow=4.6,SNR=4.4						
ESDC	**Sonseca Array**	**91.68**	**310**	P	**P**	**03 46 02.5**	**-0.7**
ULM	**Lac du Bonnet**	**121.84**	**8**	PKP	**PKPdf**	**03 51 49.2**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=45,slow=1.4,SNR=2.4						
ULM				pPKP	**pPKPdf**	**03 51 57.0**	**0.0**
	comp=Z,1.7nm,0.6s,baz=271,slow=5.4,SNR=3.3						
NVAR	**Mina Array Bea**	**125.14**	**31**	PKP	**PKiKP**	**03 51 57.9**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=331,slow=5.4,SNR=2.2						
NVAR				pPKP	**sPKPdf**	**03 52 05.4**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=263,slow=1.2,SNR=5.0						
NVAR	**Mina Array Bea**	**125.14**	**31**		**PKPdf**	**03 51 55.2**	**-1.4**
PDAR	**Pinedale Array**	**125.46**	**22**	pPKP	pPKPdf	03 52 04.2	-0.3
	comp=Z,0.5nm,0.7s,baz=124,slow=2.7,SNR=4.2						
TXAR	**Lajitas Array**	**139.50**	**25**	pPKP	pPKPdf	03 52 31.4	+0.3
	comp=Z,0.3nm,0.6s,baz=13,slow=1.8,SNR=3.1						
CPUP	**Villa Florida**	**147.21**	**232**	PKPbc	**PKPab**	**03 52 39.8**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=166,slow=4.2,SNR=3.0						
CPUP				pPKPbc	**pPKPab**	**03 52 47.4**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=60,slow=1.5,SNR=4.6						
CPUP	**Villa Florida**	**147.21**	**232**		**PKPbc**	**03 52 38.5**	**-1.0**

TAP 14 03:39:11.2,24°.14N×121°.62E, h7km**, ML1.2, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.04**	**330**	P	Pg	03 39 12.6	-0.2
	baz=330						
NACB				S	Sg	03 39 13.5	-0.4
	baz=330						
NACB	**Ninganchiao**	**0.04**	**330**	P	Pg	03 39 12.5	-0.3
TWD	**Chiawan**	**0.06**	**200**	*i* P	Pg	03 39 13.2	+0.3
	baz=192						
TWD				*i* S	Sg	03 39 14.5	+0.3
	baz=192						
ETLH	**Xiulin Townshi**	**0.14**	**299**	P	Pg	03 39 14.8	+0.5
	baz=299						
ETLH				S	Sg	03 39 17.7	+1.3
	baz=299						
WHF	**Hehuan Shan**	**0.32**	**271**	*eP*	Pg	03 39 18.3	+0.6
	baz=271						
WHF				*eS*	Sg	03 39 23.2	+1.2
	baz=271						
TWT	**Tachien**	**0.42**	**286**	*eP*	Pb	03 39 20.3	-0.7
	baz=285						
TWT				*eS*	Sb	03 39 26.6	-1.0
	baz=285						
TDCB	**Techi**	**0.43**	**285**	*eP*	Pg	03 39 19.8	+0.1
	baz=285						
TDCB				*eS*	Sb	03 39 27.1	-1.0
	baz=285						
NDT	**Datong Townshi**	**0.47**	**348**	*eS*	Sg	03 39 26.8	+0.2
	baz=347						
ENTT	**Nioudou**	**0.50**	**355**	*eS*	Sb	03 39 29.1	-0.9
	baz=355						

UPA ***14*** *03:51:25.1±4.8, 12°.35N×89°.38W, h10km±254km, MW7.5*

BJI ***14*** *03:51:32.9±0.0, 12°.60N×88°.05W, h40km, mB6.9/40, Ms7.6/78, Ms7 7.5/70*

NEIC ***14*** *03:51:34.5±1.4, 12°.53N±0°.05×88°.12W±0°.05, h40km±1km, mb6.7/786, Ms_20 7.0/770, Mwb7.2/74, Mww7.3, Md7.3(SNET), Mwc7.3(GCMT), Error ellipse: s-maj=9.7km s-min=7.3km az=221.0*

MOS ***14*** *03:51:34.7±1.2, 12°.72N×87°.87W, h51km, mb6.5/58, MS7.1/55, Error ellipse: s-maj=6.6km s-min=4.5km az=93.2 Broadband fault plane solution: P waves. NP1: ϕs114.00000°, δ20.00000°, λ-101.00000°. NP2: ϕs305.00000°, δ71.00000°, λ-86.00000°. Principal axes: T Plg26.0000°, Azm32

LLGN La Laguna 1.78 332 eS Sn 03 52 31.7 +4.2
TACO Tacachico 1.85 318 eS Sn 03 52 29.8 +0.5
SNJE San Jose 1.96 311 eP Pn 03 52 08.0 -0.3
SNJE San Jose 1.96 311 eP Pn 03 52 08.0 -0.3
SONS AGAPE Sonsonat 1.96 306 eP Pn 03 51 55.4 -13
SONS eS Sn 03 52 17.6 -14
ACAJ Puerto de Acaj 1.98 300 eP Pn 03 52 07.8 -0.5
ACAJ eS Sn 03 52 29.4 -2.6
ACAJ Puerto de Acaj 1.98 300 eP Pn 03 52 07.8 -0.5
ACAJ eS Sn 03 52 29.4 -2.6
UNIC Universidad Ca 2.00 314 eP Pn 03 52 09.9 +1.2
JUA Alcaldia, muni 2.05 308 eP Pn 03 52 09.8 +0.3
JUA eS Sn 03 52 32.4 -1.7
RCON San Juan de Ri 2.07 64‖ eP Pn 03 52 13.3 +3.5
MATN Matagalpa 2.12 81‖ eP Pn 03 52 12.9 +2.5
MATN Matagalpa 2.12 81 Pn Pn 03 52 11.5 +1.1
MTO3 Montecristo 2.19 325 eP Pn 03 52 12.3 +0.8
MTO3 Montecristo 2.19 325 eP Pn 03 52 12.3 +0.8
MTO3 Montecristo 2.19 325 Pn 03 52 11.5 0.0
ESQI Esquipulas 2.31 328 eP Pn 03 52 15.1 +2.1
ESQI Esquipulas 2.31 328 Pn Pn 03 52 13.4 +0.3
IXG Ixpaco 2.79 305 *i* P Pn 03 52 31.1 +12
ACON Acoyapa 2.90 102 Pn 03 52 19.1 -1.8
MRL Marmol 2.93 328 eP Pn 03 52 23.9 +2.4
NBG Las Nubes 2.97 312 eP Pn 03 52 23.7 +1.6
PCG Pacaya 3.05 306 eP Pn 03 52 25.2 +2.0
GBS3 Finca Las Img 3.13 125 eP Pn 03 52 25.9 +1.8
GB1A Boringuen Arri 3.15 124 eP Pn 03 52 26.3 +1.8
LAPC Finca la Perla 3.16 125 eP Pn 03 52 25.9 +1.5
BUEV Buena Vista 3.16 124 eP Pn 03 52 26.3 +1.7
BUAI Buenos Aires 3.18 122 eP Pn 03 52 26.6 +1.9
FUG Fuego 3 3.27 305 eP Pn 03 52 26.5 +1.8
APG El Apazote 3.34 316 P Pn 03 52 27.7 +0.5
138nm,0.3s,baz=131,slow=8.4,SNR=368
APG S Sn 03 53 18.7 +13
2µm,0.3s,baz=2.1,slow=23,SNR=6.9
GUAB Guayabo de Bag 3.35 124 eP Pn 03 52 29.6 +2.4
MICM Guayabo 3.38 123 eP Pn 03 52 30.8 +3.2
ORTG Ortega, Santa 3.38 131‖ eP Pn 03 52 30.3 +2.7
COLC Colonia 3.40 124 eP Pn 03 52 31.0 +3.3
GUAI GUAI 3.41 132 eP Pn 03 52 30.0 +2.2
PLVR Palo Verde 3.48 130‖ eP Pn 03 52 31.1 +2.2
PTEN Parque Tenorio 3.55 121 eP Pn 03 52 33.3 +3.5
DUNO Dulce Nombre, 3.55 134 eP Pn 03 52 31.6 +1.7
ACAL Aguas Claras 3.55 123 eP Pn 03 52 32.3 +2.3
ESPI Las Esperanzas 3.71 96 eP Pn 03 52 34.3 +3.0
ESPN Las Esperanzas 3.71 96 Pn 03 52 30.9 -1.0
JTS Las Juntas de 3.82 126 P Pn 03 52 35.2 +1.7
721nm,0.3s,baz=16,slow=18,SNR=427
JTS S Sn 03 53 20.1 +2.9
6µm,0.3s,baz=40,slow=9.4,SNR=8.0
JTS LR LR 03 54 04.0
comp=Z,1716µm,21.7s,baz=21,slow=40
JTS Las Juntas de 3.82 126 eP Pn 03 52 35.0 +1.5
JTS Las Juntas de 3.82 126 eP Pn 03 52 37.0 +3.5
JTS eS Sn 03 53 31.9 +15
JTS Las Juntas de 3.82 126 *c iP* Pn 03 52 35.4 +1.9
JTS pmax pmax
comp=Z,1µm,0.3s
JTS Las Juntas de 3.82 126 eP Pn 03 52 35.5 +1.9
JTS Las Juntas de 3.82 126 Pn Pn 03 52 32.7 -0.8
JTS Sn 03 53 15.3 -1.9
ERG Entre ros, C 3.87 299 eP Pn 03 52 34.5 +0.4
CEDE Laguna Cedeo 3.91 122 eP Pn 03 52 36.1 +1.4
ARE1 Arenal 1 3.91 122‖ eP Pn 03 52 37.0 +2.3
CASO Castillo 3.91 123 eP Pn 03 52 37.1 +2.4
FORC Fortuna 3.95 122 eP Pn 03 52 38.2 +2.9
RTAL Retalhuleu 4.01 299 Pn Pn 03 52 34.9 -1.2
LAFE Finca La Fe, P 4.16 131 eP Pn 03 52 39.8 +1.7
HUEH Huehuetenango 4.29 310 Pn 03 52 38.6 -1.6
SRA1 San Ramn 4.31 125‖ eP Pn 03 52 43.7 +3.4
PETF Flores 4.64 338 Pn 03 52 43.6 -1.1
HDC Heredia 4.66 123 eP Pn 03 52 48.7 +3.6
HDC eS Sn 03 53 51.8 +14
HDC Heredia 4.66 123‖ eP Pn 03 52 47.4 +2.3
HDC Heredia 4.66 123 Pn Pn 03 52 43.8 -1.3
HDC3 Heredia 3 4.66 123 eP Pn 03 52 47.8 +2.7
TRT1 Tortuguero 4.72 114‖ eP Pn 03 52 49.6 +3.8
SJS Escuela Geolog 4.74 123 eP Pn 03 52 50.2 +3.9
LCR2 La Lucha 2 4.89 125‖ eP Pn 03 52 50.7 +2.3
LCR2 eS Sn 03 53 47.6 +3.8
CVTR Volcan Turrial 4.94 121‖ eP Pn 03 52 51.5 +2.3
RIMA Rio Macho 4.99 124‖ eP Pn 03 52 52.7 +2.9
BATAN Batan 5.23 118 eP Pn 03 52 57.6 +4.9
EDDO Dominical 5.30 128 eP Pn 03 52 57.0 +3.2
PEZE Perez Zeledon, 5.36 126‖ eP Pn 03 52 57.7 +3.0
CCIG Comitan 5.38 313 Pn Pn 03 52 53.6 -1.5
EDLM Las Mercedes 5.50 126 eP Pn 03 53 00.2 +3.7
DRK0 Durika 5.78 124 eP Pn 03 53 03.8 +3.3
DRK0 eS Sn 03 54 05.5 -0.1
DRK0 Durika 5.78 124 eP Pn 03 53 02.8 +2.3
EDPN Palmar Norte 5.79 128 eP Pn 03 53 03.9 +3.4
EDBA Buenos Aires 5.81 125 eP Pn 03 53 03.7 +2.9
RIOS Rincon, Osa 5.92 130 eP Pn 03 53 06.0 +3.8
RIOS Rincon, Osa 5.92 130‖ eP Pn 03 53 05.2 +3.0
PTJ1 Puerto Jimnez 6.18 130 eP Pn 03 53 10.0 +4.2
PTJ1 eS Sn 03 54 23.1 +8.0
PTJ1 Puerto Jimnez 6.18 130‖ eP Pn 03 53 09.0 +3.2
EDSV San Vito 6.26 126 eP Pn 03 53 10.9 +3.9
CDITO Canoas 6.48 127 eP Pn 03 53 13.2 +3.2
BRU2 Volcan 6.50 125 eP Pn 03 53 13.7 +3.4
BRU2 eS Sn 03 54 29.9 +6.8
BRU2 Volcan 6.50 125 eP Pn 03 53 13.1 +2.8
CHGR2 Aguacate 6.86 121 eP Pn 03 53 17.9 +2.7
CHGR2 eS Sn 03 54 35.8 +3.9
TEIG Tepich 7.60 359 P Pn 03 53 28.7 +3.5
comp=Z,256nm,0.3s,baz=176,slow=9.9,SNR=416
TEIG S Sn 03 54 58.0 +8.1
comp=Z,40nm,0.3s,baz=135,slow=19,SNR=2.2
TEIG Tepich 7.60 359‖ eP Pn 03 53 29.2 +4.0
TEIG Tepich 7.60 359 Pn Pn 03 53 24.3 -0.9
TEIG Sn 03 54 50.6 +0.7
GMAL Guarumal, Vera 8.27 125 eP Pn 03 53 36.1 +1.8
GMAL eS Sn 03 55 14.8 +8.5
GMAL Guarumal, Vera 8.27 125 eP Pn 03 53 35.8 +1.4
PNME Penonome 8.64 117‖ eP Pn 03 53 41.6 +2.2
PNME Penonome 8.64 117 eP Pn 03 53 43.1 +3.6
PNME eS Sn 03 55 29.8 +14
CACAO El Cacao, Vera 8.81 126 eP Pn 03 53 45.1 +3.3
CACAO eS Sn 03 55 29.5 +10
AZU Azuero 9.03 121 eP Pn 03 53 47.0 +2.1
AZU Azuero 9.03 121 eP Pn 03 53 47.6 +2.6
AZU eS Sn 03 55 38.5 +13
AZU Azuero 9.03 121 eP Pn 03 53 47.5 +2.6
UPA Univ. de Panam 9.12 112‖ eP Pn 03 53 48.0 +1.9
UPA Univ. de Panam 9.12 112 eP Pn 03 53 49.0 +3.0
UPA eS Sn 03 55 43.0 +16
UPA Univ. de Panam 9.12 112‖ eP Pn 03 53 48.3 +2.2
FSCY Frank Sound, G 9.41 44 Pn 03 53 49.3 -0.7
LCCY Blossom Villag 10.41 46 Pn 03 54 03.1 -0.6
UPD2 Meteti 10.67 111‖ eP Pn 03 54 09.6 +2.3
UPD2 Meteti 10.67 111 eP Pn 03 54 12.0 +4.8
UPD2 eS Sn 03 56 19.8 +15
CBCY The Bluff, Cay 10.69 47 Pn 03 54 06.8 -0.7
CAP2 Capurgana 11.23 109 eP Pn 03 54 18.7 +3.7
CAP2 eS Sn 03 56 33.2 +14
CAPC Capurgana 11.25 109‖ eP Pn 03 54 16.1 +1.0
TLIG Tlapa 11.28 297 Pn 03 54 14.1 -1.5
MCJ Malvern 11.34 61 ‖ *iP* Pn 03 54 21.2 +4.8
MCJ Malvern 11.34 61 ‖ *iP* Pn 03 54 21.1 +4.8
PTAC Punta Ardita, 11.46 117 eP Pn 03 54 17.5 -0.6
PCJ Portland Cotta 11.71 63 *iP* Pn 03 54 25.8 +4.3
PCJ Portland Cotta 11.71 63 ‖ *iP* Pn 03 54 25.8 +4.3
BBJ Bamboo Saint A 11.90 60 ‖ *iP* Pn 03 54 30.0 +5.9
BBJ Bamboo Saint A 11.90 60 ‖ *iP* Pn 03 54 30.4 +6.3
LCBC Los crdobas, 12.08 107‖ eP Pn 03 54 28.6 +2.0
BNJ Bonny Gate 12.14 61 ‖ *iP* P 03 54 32.9 -4.8
BNJ Bonny Gate 12.14 61 ‖ *iP* P 03 54 33.4 -4.4
STH Stony Hill 12.15 62 *i* P P 03 54 32.9 -5.0
STH Stony Hill 12.15 62 ‖ *iP* Pn 03 54 31.9 +4.4
HOJ Hope 12.18 62 ‖ *iP* P 03 54 33.2 -4.9
HOJ Hope 12.18 62 *i* P Pn 03 54 32.8 +5.0
GWJ Greenwich 12.22 62 *i* P P 03 54 36.3 -2.6
SOLC Bahia Solano 12.27 120 eP Pn 03 54 30.2 +1.1
YHJ Yallahs 12.35 63 ‖ *iP* P 03 54 43.0 +2.9
CMJ Castle Mountai 12.56 62 ‖ *iP* P 03 54 38.5 -3.9
CMJ Castle Mountai 12.56 62 ‖ *iP* P 03 54 38.3 -4.1
UNM Universidad Na 12.60 304 P Pn 03 54 32.3 -1.6
UNM Universidad Na 12.60 304 Pn 03 54 32.3 -1.6
SJCC San Jacinto, C 12.93 101‖ eP Pn 03 54 38.8 +0.7
SJCC San Jacinto, C 12.93 101 eP Pn 03 54 39.4 +1.3
SJCC eS S 03 57 16.6 -6.0
DBBC Dabeiba 12.93 114 eP Pn 03 54 39.8 +1.5
PIZC Pizarro, Choco 13.01 125 eP Pn 03 54 42.1 +2.8
URES San Jos de Ur 13.24 110‖ eP Pn 03 54 42.8 +0.4
PAYG Puerto Ayora 13.36 190‖ eP Pn 03 54 45.7 +1.7
PAYG Puerto Ayora 13.36 190 Pn 03 54 42.3 -1.7
MALC Bahia Malaga 13.61 128 eP P 03 54 51.4 -2.7
SMRC Santa Marta, M 13.63 95‖ eP Pn 03 54 47.2 -0.4
CBOC Ciudad Bolivar 13.65 118‖ eP Pn 03 54 49.2 +1.2
GR1C Gorgona, Isla 13.67 133‖ eP Pn 03 54 51.2 +3.1
ARGC Ariguani, Magd 13.83 100‖ eP Pn 03 54 51.4 +1.1
PLMC San Jos del P 13.92 122‖ eP Pn 03 54 52.6 +1.0
ZARC Zaragoza, Cauc 13.96 110‖ eP Pn 03 54 52.1 +0.1
TUMC Tumaco 14.15 138‖ eP P 03 54 57.8 -2.3
SMLC San Martn de 14.26 104‖ eP Pn 03 54 55.5 -0.5
YOTC Yotoco, Valle 14.41 125‖ eP Pn 03 54 59.6 +1.6
GTBY Guantanamo Bay 14.42 58‖ eP P 03 55 01.6 -1.5
GTBY Guantanamo Bay 14.42 58 Pn Pn 03 54 57.6 -0.3
MOIG Morelia 14.43 301 Pn Pn 03 54 57.5 -0.9
GUY2C Guyana, Caldas 14.53 119‖ eP Pn 03 55 02.1 +2.3
PTBC PUERTO BERRIO, 14.71 113‖ eP Pn 03 55 02.3 +0.6
RREF El Recreo 14.71 120‖ eP Pn 03 55 01.0 -1.4
061Z Ochoppi 14.83 26 Pn Pn 03 55 03.1 -0.2
ANIL Santa Ana 14.88 122‖ eP Pn 03 55 06.2 +1.9
TOLC Tolima 14.90 121 eP P 03 55 07.3 -1.5
BBAC Balboa, Cauca 15.01 134‖ eP P 03 55 08.5 -1.4
POPC Popayan, Colom 15.07 131‖ eP P 03 55 09.7 -0.9
OCAC Ocana 15.14 105 eP Pn 03 55 06.8 -0.7
BRRC Barranca, Sant 15.16 110‖ eP Pn 03 55 08.3 +0.7
PAC1 Pacto, Paraso 15.32 142‖ eP P 03 55 11.7 -1.5
ORTC Ortega, Tolima 15.34 123‖ eP P 03 55 12.0 -1.4
PCON Cinco Dias 15.41 130‖ eP P 03 55 15.5 +0.7
MARP Paez Belalcaza 15.41 128‖ eP P 03 55 15.5 +1.0
SPBC San Pablo de B 15.44 115‖ eP P 03 55 13.3 -1.3
GCUF Volcan Galeras 15.51 136‖ eP P 03 55 16.2 +0.5
CUSE Cuicocha Este 15.52 141‖ eP P 03 55 15.3 -0.6
CRUC La Cruz 15.54 134 eP P 03 55 17.7 +1.8
OTAV Otavalo 15.54 141‖ eP P 03 55 15.4 -0.7
OTAV Otavalo 15.54 141 P Pn 03 55 11.9 -1.1
OTAV pmax pmax
comp=Z,2µm,1.2s
OTAV Otavalo 15.54 141 Pn Pn 03 55 11.9 -1.1
ROSC El Rosal 15.61 118 P P 03 55 17.6 +0.8
comp=Z,6.3nm,0.3s,baz=318,slow=9.4,SNR=60
ROSC S S 03 58 15.3 -2.9
comp=Z,2.2nm,0.3s,baz=182,slow=18,SNR=1.4
ROSC LR LR 04 01 44.7
comp=Z,823µm,21.6s,baz=326,slow=39
ROSC ScS ScS 04 07 22.1 +1.9
comp=Z,0.7nm,0.3s,baz=311,slow=19,SNR=1.9
ROSC El Rosal 15.61 118‖ eP P 03 55 17.3 +0.5
ROSC El Rosal 15.61 118 Pn Pn 03 55 12.9 -0.9
ROSC IAmb IAmb 03 55 30.7
comp=Z,9µm,1.4s
ROSC ScS 04 07 21.4 +1.2
PRAC Prado 15.74 123‖ eP P 03 55 17.5 -0.4
URIC Uribia, Colomb 15.75 91‖ eP Pn 03 55 16.1 +1.0
BARC Barichara 15.84 111 eP Pn 03 55 16.8 +0.3
BETC Betania 15.91 127 eP P 03 55 20.2 +0.4
PAMC Pamplona, Colo 16.01 108 eP Pn 03 55 19.2 +0.3
LGNH Logne 16.02 67 Pn Pn 03 55 18.4 0.0
060A Indiantown 16.09 26 Pn Pn 03 55 19.3 0.0
GARC Garzon, Huila 16.19 129‖ eP P 03 55 24.2 +1.2
RUSC La Rusia 16.21 113‖ eP Pn 03 55 22.5 +1.0
CHIC Chingaza 16.23 118‖ eP P 03 55 24.6 +1.0
FLOC Florencia 16.46 131‖ eP P 03 55 28.0 +2.1
VILC Villavicencio, 16.52 119 eP P 03 55 28.1 +1.4
PUAC Puerto Asis, P 16.53 136‖ eP P 03 55 28.4 +1.9
ZAIG Zacatecas 17.11 308 Pn 03 55 31.6 -0.8
DABV Dabajuro 17.15 94‖ eP P 03 55 34.0 +0.5
TAMC Tame, Arauca 17.18 109 eP P 03 55 33.5 -0.2
SDDR Presa de Saban 17.35 66 Pn 03 55 35.2 0.0
SDDR IAmb IAmb 03 55 54.9
comp=Z,6µm,1.3s
SOCV Socops 17.46 103‖ eP P 03 55 37.5 +0.6
656A Willston 17.47 16 Pn 03 55 36.7 +0.2
KVTX Kingsville 17.49 330 Pn 03 55 36.6 -0.1
MACC Macarena, Meta 17.50 125‖ eP P 03 55 38.9 +1.6
545A Edgard 17.51 353 Pn 03 55 37.0 0.0
SDV Santo Domingo 17.52 100 P P 03 55 38.1 +0.3
comp=Z,47nm,0.3s,baz=284,slow=8.8,SNR=192
SDV S S 03 58 55.4 -1.1
baz=175,slow=11,SNR=1.5
SDV Santo Domingo 17.52 100‖ eP P 03 55 38.6 +0.8
SDV Santo Domingo 17.52 100 Pn 03 55 37.2 -0.3
SDV IAmb IAmb 03 55 50.3
comp=Z,3µm,0.9s
SDV S S 03 58 55.7 -0.7
PTGC Puerto Gaitan, 17.82 117 eP Pn 03 55 41.7 +0.7
553A Crawfordville 17.84 10 Pn 03 55 41.0 +0.1
SC01 Santiago de lo 18.00 66 Pn 03 55 43.1 +0.1
SC01 IAmb IAmb 03 55 56.6
comp=Z,8µm,1.1s
BANI BANI 18.01 69 P 03 55 43.3 +0.2
PTLC Puerto Leguiza 18.04 132‖ eP Pn 03 55 48.7 +5.1
451A Vernon 18.07 6 Pn 03 55 43.9 +0.1
GUVC San Jose del G 18.26 122 eP Pn 03 55 49.4 +3.2
SDD Santo Domingo 18.44 69 Pn 03 55 48.4 +0.1
GRTK Grand Turk 18.45 59 Pn 03 55 48.6 +0.2
GRTK IAmb IAmb 03 56 23.2
comp=Z,11µm,1.4s
BRAL Brewton 18.52 3 P Pn 03 55 51.5 +2.4
baz=183,SNR=62
BRAL Brewton 18.52 3 Pn 03 55 49.3 +0.2
735A Kenedy 18.55 332 Pn 03 55 49.5 -0.1
441A DeRidder 18.68 346 Pn Pn 03 55 51.2 0.0
HKT Hockley 18.72 339 *c iP* Pn 03 55 52.5 +1.0
HKT pmax pmax
comp=Z,347nm,1.1s
HKT Hockley 18.72 339 Pn Pn 03 55 51.7 +0.2
HKT IAmb IAmb 03 56 14.7
comp=Z,15µm,1.9s
346A Big Creek Wild 18.75 356 Pn Pn 03 55 52.1 +0.1
833A Chaparral WMA, 18.89 328 P Pn 03 55 54.5 +0.9
baz=144,SNR=1000
833A S S 03 59 20.9 -2.8
baz=144
833A Chaparral WMA, 18.89 328 P P 03 55 52.7 +0.3
456A Hilliard 18.89 16 P P 03 55 53.1 +0.6
344A Westbrook Farm 18.93 353 P P 03 55 53.4 +0.5
DR12 Loma Pena Alta 19.01 69 P P 03 55 54.3 +0.3
352A Blakely 19.02 8 P P 03 55 54.4 +0.5
342A Flagon Creek P 19.10 349 P P 03 55 55.1 +0.4
ELOV Elorza 19.14 105 eP Pn 03 55 56.4 -0.4
TIGA Tifton 19.21 12 P Pn 03 55 59.4 +1.9
baz=193,SNR=681
TIGA S Sn 03 59 36.4 +4.1
baz=193
TIGA Tifton 19.21 12 P P 03 55 56.4 +0.5
250A Grady 19.37 5 P P 03 55 58.1 +0.5
VBMS Vicksburg 19.67 354 P Pn 03 56 04.3 +1.5
baz=173,SNR=607
VBMS Vicksburg 19.67 354 P P 03 56 01.4 +0.5
PCDR Punta Cana, DR 19.86 70 P P 03 56 03.5 +0.5
255A Hazlehurst 19.92 14 P P 03 56 04.2 +0.5
146A 19.98 358 P P 03 56 04.7 +0.4
BAUV El Baul 20.01 98 eP P 03 56 03.8 -1.0
NATX Nacogdoches 20.02 343 P Pn 03 56 07.3 +0.3
baz=161,SNR=397
NATX Nacogdoches 20.02 343 P P 03 56 05.1 +0.3
NATX IAMs_20 IAMs_20 04 00 51.3
comp=Z,362µm,19.0s
ETX02 Prairie Street 20.09 344 P P 03 56 05.9 +0.4
435B Jarrell 20.13 336 P Pn 03 56 07.3 -1.0
baz=152,SNR=216
435B S S 03 59 47.9 -0.7
baz=152
435B Jarrell 20.13 336 P P 03 56 06.2 +0.3
152A Waverly Hall 20.22 8 P P 03 56 07.4 +0.5
152A IAMs_20 IAMs_20 04 01 09.2
comp=Z,454µm,21.0s
143A Socs Landing, 20.25 352 P P 03 56 07.7 +0.4
143A IAMs_20 IAMs_20 04 00 58.2
comp=Z,630µm,21.0s
257A Skidaway Islan 20.35 17 P P 03 56 08.9 +0.5
LRAL Lakeview Retre 20.38 3 P Pn 03 56 11.6 +0.5
baz=183,SNR=1000
LRAL Lakeview Retre 20.38 3 P P 03 56 09.0 +0.4
LRAL IAmb IAmb 03 56 18.0
comp=Z,2µm,0.9s
154A Montrose 20.44 12 P P 03 56 09.8 +0.5
Z47A Carrollton 20.52 0 IAMs_20 IAMs_20 04 01 03.5
comp=Z,507µm,22.0s
Z51A Franklin 20.80 7 IAmb IAmb 03 56 30.0
comp=Z,5µm,1.2s
Z51A IAMs_20 IAMs_20 04 01 20.3
comp=Z,469µm,21.0s
JCT Junction City 20.85 330 P P 03 56 14.8 +1.0
baz=146,SNR=960
JCT Junction City 20.85 330 IAmb IAmb 03 56 21.8
comp=Z,2µm,0.8s
MPR Mayaguez 20.93 72 IAmb IAmb 03 56 51.7
comp=Z,7µm,1.4s
157A Early Branch 21.02 17 P P 03 56 19.1 +3.6
baz=200
157A S Sn 04 00 12.0 -3.7
baz=200
Z41A Richland Creek 21.02 349 P P 03 56 17.8 +2.2
baz=167,SNR=419
Z41A S Sn 04 00 11.5 -4.2
baz=167
Z41A Richland Creek 21.02 349 IAMs_20 IAMs_20 04 01 13.7
comp=Z,678µm,20.0s
GOGA Godfrey 21.15 11 P P 03 56 19.8 +2.9
baz=193,SNR=1000
GOGA Godfrey 21.15 11 IAMs_20 IAMs_20 04 01 26.8
comp=Z,492µm,21.0s
WHTX Lake Whitney, 21.15 337 P P 03 56 17.9 +0.9
baz=154
WHTX S S 04 00 09.5 +0.7
baz=154
Y45A Yeager Farm, C 21.22 357 IAMs_20 IAMs_20 04 01 18.2
comp=Z,638µm,21.0s
Y49A Blount Mountai 21.23 4 IAMs_20 IAMs_20 04 01 29.5
comp=Z,401µm,20.0s
158A Hollywood 21.31 19 P P 03 56 21.8 +3.1
baz=202,SNR=91
OBIP Obispado Ponce 21.39 73 IAmb IAmb 03 56 36.1
comp=Z,4µm,1.2s
OBIP IAMs_20 IAMs_20 04 06 02.9
comp=Z,820µm,21.0s
Y52A Lilburn 21.49 9 IAMs_20 IAMs_20 04 01 34.9
comp=Z,538µm,22.0s
CCAR Cane Creek 21.50 352 IAMs_20 IAMs_20 04 01 23.1
comp=Z,756µm,21.0s
WLAR White Oak Lake 21.50 348 IAMs_20 IAMs_20 04 01 23.3
comp=Z,681µm,20.0s
Z38A Mt. Pleasant 21.52 344 IAMs_20 IAMs_20 04 01 22.8
comp=Z,558µm,22.0s
Z56A Williston 21.53 15 P P 03 56 23.9 +2.9
baz=198,SNR=556
Z56A S Sn 04 00 23.0 -4.9
baz=198
Z56A Williston 21.53 15 IAMs_20 IAMs_20 04 01 24.9
comp=Z,826µm,22.0s
EMPR Esperanza - Ma 21.56 72 IAmb IAmb 03 56 52.6
comp=Z,5µm,1.2s
NHSC New Hope 21.66 18 P P 03 56 25.6 +3.2
baz=201,SNR=156
NHSC New Hope 21.66 18 IAMs_20 IAMs_20 04 01 28.3
comp=Z,704µm,22.0s
Z57A Bowman 21.68 17 P P 03 56 25.4 +2.7
baz=200,SNR=173
Z57A S Sn 04 00 28.5 -3.1
baz=200
ATAH Atahualpa 21.83 153 P P 03 56 26.6 +1.9
comp=Z,924nm,1.1s,baz=339,slow=9.6,SNR=220
ATAH S Sn 04 00 31.5 -4.4
comp=Z,50nm,0.8s,baz=0.0,slow=6.1,SNR=3.5
SJG San Juan 21.83 73 P P 03 56 23.3 -1.0
comp=Z,315nm,0.6s,baz=267,slow=6.2,SNR=112
SJG S S 04 00 24.8 +2.4
comp=Z,272nm,0.8s,baz=208,slow=16,SNR=6.0
SJG San Juan 21.83 73‖ eP P 03 56 24.6 +0.2
SJG San Juan 21.83 73 P P 03 56 24.8 +0.5
SJG IAmb IAmb 03 56 53.9
comp=Z,2µm,1.1s
SJG San Juan 21.83 73 IAMs_20 IAMs_20 04 06 24.5
comp=Z,629µm,21.0s
PDPR Patillas Dam, 21.93 73 IAmb IAmb 03 56 42.2
comp=Z,3µm,1.1s
FPAL Fort Paine 21.97 5 IAmb IAmb 03 56 53.6
comp=Z,8µm,1.7s
FPAL IAMs_20 IAMs_20 04 01 44.1
comp=Z,480µm,22.0s
X43A Marvell 21.98 354 P P 03 56 27.8 +2.0
baz=173,SNR=64
X43A S S 04 00 29.0 +4.2
baz=173
X43A Marvell 21.98 354 IAMs_20 IAMs_20 04 01 31.9
comp=Z,638µm,21.0s
Z58A St. Stephen 21.99 19 P P 03 56 28.8 +2.9
baz=202,SNR=361
Y56A Pelion 21.99 15 P P 03 56 28.8 +2.9
baz=198,SNR=305
X51A Calhoun 22.07 7 IAmb IAmb 03 56 54.7
comp=Z,7µm,1.4s
X51A IAMs_20 IAMs_20 04 01 45.9
comp=Z,513µm,22.0s
Z59A Georgetown, SC 22.07 20 P P 03 56 29.8 +3.0
baz=203,SNR=114
Z59A S S 04 00 29.9 +3.3
baz=203
TX32 Lajitas Array 22.09 321 P P 03 56 27.2 +0.1
TX32 IAmb IAmb 03 56 36.2
comp=Z,2µm,0.8s
TXAR Lajitas Array 22.09 321 P P 03 56 28.1 +1.0
comp=Z,2µm,0.9s,baz=142,slow=9.7,SNR=1206
TXAR S S 04 00 25.9 -1.2
comp=Z,168nm,1.0s,baz=162,slow=6.6,SNR=7.2
TXAR ScP ScP 04 03 58.5 +3.7
comp=Z,46nm,0.8s,baz=161,slow=6.6,SNR=16
TXAR P3KPbc 04 30 05.8
comp=Z,4.7nm,1.1s,baz=230,slow=5.9,SNR=4.5
TXAR Lajitas Array 22.09 321 S 04 00 26.1 -1.0
TXAR ScP 04 03 55.2 +0.4
HUMP Col San Antoni 22.12 73 IAmb IAmb 03 56 39.5
comp=Z,4µm,1.3s
CBYP Canovanas 22.14 72 IAmb IAmb 03 56 38.4
comp=Z,5µm,1.4s
HODGE Hodges 22.18 13 IAmb IAmb 03 56 34.7
comp=Z,4µm,0.9s
HODGE IAMs_20 IAMs_20 04 01 36.2
comp=Z,853µm,22.0s
X40A Basin Creek Fa 22.23 350 P P 03 56 30.3 +1.9
baz=168,SNR=301
X40A S S 04 00 32.1 +2.9
baz=168
X40A Basin Creek Fa 22.23 350 IAMs_20 IAMs_20 04 01 37.5
comp=Z,610µm,21.0s
Z35A Perchaven, San 22.29 339 IAmb IAmb 03 56 44.4
comp=Z,4µm,1.0s
PLAL Pickwick Lake 22.29 360 IAmb IAmb 03 56 55.8
comp=Z,7µm,1.9s
MTP Monte Pirata 22.39 73 IAmb IAmb 03 56 42.4
comp=Z,3µm,0.8s
MIAR Mount Ida 22.42 348 P P 03 56 32.3 +1.7
baz=166,SNR=751
MIAR Mount Ida 22.42 348 IAMs_20 IAMs_20 04 01 51.7
comp=Z,451µm,21.0s
UALR University of 22.43 351 IAmb IAmb 03 57 11.7
comp=Z,8µm,1.5s
UALR IAMs_20 IAMs_20 04 01 52.7
comp=Z,467µm,22.0s
Y57A Sumter 22.45 17 P P 03 56 33.2 +2.3
baz=200,SNR=622
Y57A S S 04 00 36.1 +3.0
baz=200
Y57A Sumter 22.45 17 IAmb IAmb 03 56 37.2
comp=Z,4µm,0.8s
Y57A IAMs_20 IAMs_20 04 01 42.2
comp=Z,723µm,22.0s
X54A Belton 22.46 12 P P 03 56 33.4 +2.4
baz=195,SNR=894
X54A S S 04 00 35.7 +2.4
baz=195
JSC Jenkinsville 22.47 15 IAmb IAmb 03 56 37.6
comp=Z,2µm,1.0s
JSC IAMs_20 IAMs_20 04 01 52.7
comp=Z,430µm,21.0s
W45A Hickory Valley 22.49 358 IAMs_20 IAMs_20 04 01 53.8
comp=Z,441µm,22.0s
MET Memphis--Engin 22.50 356 IAmb IAmb 03 56 53.7
comp=Z,6µm,1.4s
MET IAMs_20 IAMs_20 04 01 54.0
comp=Z,425µm,22.0s
X55A Gracelyn & Ava 22.56 14 P P 03 56 34.4 +2.4
baz=197,SNR=1000
X55A S S 04 00 39.4 +4.5

baz=197
Y58A Scranton 22.56 18 P **P** **03 56 34.1 +2.1**
baz=202
Y58A S **S** **04 00 38.9 +3.9**
baz=202
ABTX Abilene, Hawle 22.59 334 P **P** **03 56 32.5 +0.1**
baz=150,SNR=748
ABTX S **S** **04 00 31.9 -3.7**
baz=150
W50A Signal Mountai 22.65 6 IAmb IAmb 03 57 02.2
comp=Z,3μm,1.1s
W50A IAMs_20 IAMs_20 04 01 58.2
comp=Z,459μm,22.0s
CUPR Culebra, Puert 22.68 73 P **P** **03 56 33.8 +0.4**
CUPR IAmb IAmb 03 56 43.0
comp=Z,7μm,1.6s
W52A Murphy 22.72 9 IAMs_20 IAMs_20 04 01 58.3
comp=Z,581μm,20.0s
X56A White Oak 22.73 15 P **P** **03 56 36.0 +2.2**
baz=198,SNR=727
X56A S **S** **04 00 36.8 -0.9**
baz=198
BG3 Lake Jocassee 22.79 11 IAmb IAmb 03 56 46.9
comp=Z,5μm,1.4s
BG3 IAMs_20 IAMs_20 04 02 00.1
comp=Z,383μm,21.0s
W41B Gary Mavity, V 22.80 351 P **P** **03 56 35.7 +1.2**
baz=170,SNR=520
W41B S **S** **04 00 35.4 -3.5**
baz=170
W41B Gary Mavity, V 22.80 351 IAmb IAmb 03 57 15.3
comp=Z,5μm,1.2s
W41B IAMs_20 IAMs_20 04 02 10.6
comp=Z,343μm,21.0s
H06E1 SOCORRO T-PHAS 22.84 289 P **P** **03 56 37.4 +2.3**
H06E1 T T 04 20 16.6
SNR=98
PAULI Pauline 22.85 13 IAMs_20 IAMs_20 04 02 00.8
comp=Z,715μm,22.0s
H06S1 SOCORRO T 22.86 288 P **P** **03 56 37.7 +2.4**
X37A Clayton 22.88 344 IAMs_20 IAMs_20 04 02 11.8
comp=Z,353μm,21.0s
Y59A Loris 22.89 20 P **P** **03 56 37.3 +1.7**
baz=204,SNR=124
Y59A S **S** **04 00 39.6 -0.8**
baz=204
Y59A Loris 22.89 20 IAMs_20 IAMs_20 04 02 01.9
comp=Z,642μm,21.0s
H06N1 SOCORRO T-PHAS 22.91 289 P **P** **03 56 38.2 +2.4**
WHAR Wooly Hollow 22.92 351 IAmb IAmb 03 57 03.6
comp=Z,5μm,1.2s
WHAR IAMs_20 IAMs_20 04 02 11.8
comp=Z,349μm,22.0s
X57A Johnson Farm, 22.95 17 P **P** **03 56 37.9 +1.8**
baz=200,SNR=350
X57A S **S** **04 00 45.8 +4.4**
baz=200
CPCT Cooper Cave 22.99 7 IAMs_20 IAMs_20 04 02 04.1
comp=Z,492μm,20.0s
LPAR Lepanto 23.00 355 IAMs_20 IAMs_20 04 02 03.3
comp=Z,332μm,22.0s
BIRD Birdtown, Kers 23.02 16 IAmb IAmb 03 56 42.2
comp=Z,2μm,0.7s
BIRD IAMs_20 IAMs_20 04 02 03.3
comp=Z,770μm,21.0s
W54A Cherokee Point 23.02 12 P **P** **03 56 39.2 +2.4**
baz=195,SNR=1000
W54A S **S** **04 00 41.6 -1.0**
baz=195
CDVI St. Croix 23.06 74 *e*P P 03 56 29.7 -7.7
CDVI St. Croix 23.06 74 P **P** **03 56 37.1 -0.2**
CDVI IAmb IAmb 03 57 15.0
comp=Z,2μm,0.8s
CDVI **PcP** **04 00 24.1 -0.7**
V48A Smith Brothers 23.08 3 IAmb IAmb 03 57 19.9
comp=Z,9μm,1.9s
V48A IAMs_20 IAMs_20 04 01 55.6
comp=Z,392μm,22.0s
W39A Magazine 23.09 348 P **P** **03 56 39.0 +1.5**
baz=166,SNR=627
W39A S **S** **04 00 45.0 +1.2**
baz=166
W39A Magazine 23.09 348 IAMs_20 IAMs_20 04 01 52.5
comp=Z,473μm,22.0s
PCRV Puerto La Cruz 23.10 94 P **P** **03 56 37.8 -0.1**
comp=Z,917nm,0.7s,baz=259,slow=3.0,SNR=347
PCRV S **S** **04 00 47.1 +2.8**
comp=Z,112nm,1.0s,baz=150,slow=20,SNR=2.1
Y60A Bolivia 23.13 21 P **P** **03 56 39.6 +1.8**
baz=205,SNR=209
Y60A S **S** **04 00 47.4 +3.1**
baz=205
Y60A Bolivia 23.13 21 IAMs_20 IAMs_20 04 02 05.2
comp=Z,585μm,21.0s
HALT Halls 23.25 357 IAMs_20 IAMs_20 04 02 06.9
comp=Z,345μm,22.0s
X58A Rowland 23.26 18 P **P** **03 56 41.0 +1.9**
baz=202,SNR=537
X58A S **S** **04 00 49.8 +3.3**
baz=202
X58A Rowland 23.26 18 IAmb IAmb 03 56 45.8
comp=Z,2μm,0.8s
X58A IAMs_20 IAMs_20 04 02 07.7
comp=Z,679μm,22.0s
KMSC Kings Mountain 23.27 14 P **P** **03 56 41.2 +2.0**
baz=197,SNR=924
KMSC S **S** **04 00 48.2 +1.6**
baz=197
KMSC Kings Mountain 23.27 14 IAMs_20 IAMs_20 04 02 08.9
comp=Z,727μm,22.0s
TKL Tuckaleechee C 23.29 9 P **P** **03 56 39.5 0.0**
comp=Z,3μm,0.9s,baz=187,slow=9.4,SNR=217
TKL S **S** **04 00 49.3 +2.3**
comp=Z,142nm,1.1s,baz=263,slow=19,SNR=1.8
TKL Tuckaleechee C 23.29 9 P **P** **03 56 38.8 -0.6**
TKL **S** **04 00 46.6 -0.5**
TKL IAMs_20 IAMs_20 04 02 09.6
comp=Z,509μm,20.0s
GNAR Gosnell 23.34 356 IAMs_20 IAMs_20 04 06 15.3
comp=Z,368μm,22.0s
V51A Loudon 23.36 8 IAmb IAmb 03 57 11.2
comp=Z,4μm,1.2s
V51A IAMs_20 IAMs_20 04 02 10.9
comp=Z,488μm,20.0s
WVT Waverly 23.44 0 P **P** **03 56 40.8 0.0**
baz=181
WVT Waverly 23.44 0 P **P** **03 56 41.3 +0.5**
WVT pmax pmax
comp=Z,4μm,1.6s
WVT Waverly 23.44 0 P **P** **03 56 41.3 +0.5**
WVT IAmb IAmb 03 57 20.6
comp=Z,4μm,1.6s
LNXT Lenox 23.45 357 IAmb IAmb 03 57 13.7
comp=Z,5μm,1.5s
W56A Indian Trail 23.45 16 P **P** **03 56 42.7 +1.8**
baz=199,SNR=336
W56A S **S** **04 00 54.3 +4.8**
baz=199
V53A Saluda 23.47 11 IAMs_20 IAMs_20 04 02 12.1
comp=Z,445μm,20.0s
PEBM Pemiscott Bayo 23.48 356 IAMs_20 IAMs_20 04 02 09.0
comp=Z,323μm,22.0s
V52A Sevierville 23.50 9 IAMs_20 IAMs_20 04 02 13.1
comp=Z,466μm,20.0s
X59A McDuffie Farm, 23.52 20 P **P** **03 56 43.3 +1.9**
baz=204,SNR=199
LCAR Lake Charles 23.54 354 IAmb IAmb 03 57 13.8
comp=Z,4μm,1.2s
GLAT Glass 23.60 358 IAMs_20 IAMs_20 04 02 12.8
comp=Z,306μm,21.0s
W57A Gilead 23.63 17 P **P** **03 56 44.2 +1.7**
baz=200,SNR=569
W57A S **S** **04 00 59.2 +6.8**
baz=200
W57A Gilead 23.63 17 IAmb IAmb 03 57 20.9
comp=Z,5μm,1.3s
W57A IAMs_20 IAMs_20 04 02 14.4
comp=Z,657μm,22.0s
W58A Raeford 23.73 18 P **P** **03 56 45.2 +1.8**
baz=202,SNR=603
W58A S **S** **04 00 56.2 +2.3**
baz=202
X60A Albert Glenn T 23.73 21 P **P** **03 56 45.3 +1.8**
baz=205,SNR=174
X60A S **S** **04 00 57.4 +3.3**
baz=205
V54A Nebo 23.74 12 P **P** **03 56 45.6 +2.0**
baz=195,SNR=1000
V54A S **S** **04 00 58.6 +4.3**
baz=195
PVMO Portageville 23.77 357 IAmb IAmb 03 57 11.6
comp=Z,6μm,1.5s
U49A Red Boiling Sp 23.91 5 IAmb IAmb 03 56 57.8
comp=Z,4μm,1.4s
LPIG La Paz 23.97 302 P **P** **03 56 47.7 +1.9**
comp=Z,734nm,1.0s,baz=220,slow=0.6,SNR=44
LPIG S **S** **04 01 02.9 +4.7**
comp=Z,22nm,0.3s,baz=114,slow=12,SNR=3.0
V55A Taylorsville 23.98 14 P **P** **03 56 47.7 +2.1**
baz=197,SNR=1000
V55A S **S** **04 01 01.3 +3.3**
baz=197
V55A Taylorsville 23.98 14 IAmb IAmb 03 56 52.5
comp=Z,3μm,0.9s
U40A Yellville 24.05 350 P **P** **03 56 47.7 +1.3**
baz=169,SNR=516
U40A S **S** **04 01 00.4 +1.1**
baz=169
HENM Henderson Moun 24.06 357 IAmb IAmb 03 56 52.2
comp=Z,3μm,0.8s
WMOK Wichita Mounta 24.10 338 P **P** **03 56 47.3 +0.5**
baz=154,SNR=1000
WMOK Wichita Mounta 24.10 338 IAmb IAmb 03 56 55.9
comp=Z,2μm,1.1s
V56A Mocksville 24.11 15 P **P** **03 56 48.9 +2.0**
baz=198,SNR=932
V56A S **S** **04 01 05.8 +5.7**
baz=198
W59A Clinton 24.11 20 P **P** **03 56 48.8 +1.9**
baz=204,SNR=70
W59A S **S** **04 01 01.4 +1.2**
baz=204
PBMO Poplar Bluff 24.18 355 IAmb IAmb 03 57 20.8
comp=Z,4μm,1.4s
TZTN Tazewell 24.20 9 P **P** **03 56 48.9 +1.2**
baz=191,SNR=577
TZTN Tazewell 24.20 9 IAmb IAmb 03 57 24.4
comp=Z,4μm,1.2s
TUL1 Leonard 24.24 345 P **P** **03 56 48.6 +0.5**
baz=162,SNR=556
TUL1 S **S** **04 01 03.2 +0.9**
baz=162
TUL1 Leonard 24.24 345 IAmb IAmb 03 57 35.4
comp=Z,5μm,1.3s
W60A Pink Hill 24.25 21 P **P** **03 56 50.2 +2.0**
baz=205,SNR=291
W60A S **S** **04 01 03.8 +1.3**
baz=205
T47A Sharon Grove 24.31 2 IAmb IAmb 03 57 01.1
comp=Z,2μm,0.7s
CNNC Cliffs of the 24.36 21 P **P** **03 56 51.2 +2.0**
baz=205,SNR=193
CNNC Cliffs of the 24.36 21 IAmb IAmb 03 56 56.3
comp=Z,3μm,0.9s
V57A Coltrane Farms 24.38 16 P **P** **03 56 51.0 +1.7**
baz=200,SNR=705
V57A S **S** **04 01 04.4 -0.1**
baz=200
U38A Gravette 24.42 348 IAmb IAmb 03 56 57.6
comp=Z,2μm,1.0s
V58A Windy Hill, Pi 24.48 18 P **P** **03 56 52.2 +2.0**
baz=202,SNR=1000
V58A S **S** **04 01 07.0 +0.9**
baz=202
U54A Nelsons Funny 24.48 12 P **P** **03 56 52.3 +1.9**
baz=195,SNR=1000
U54A S **S** **04 01 08.7 +2.4**
baz=195
T42A Van Buren 24.49 354 IAmb IAmb 03 57 40.8
comp=Z,2μm,1.4s
T50A Nancy 24.50 6 IAmb IAmb 03 57 40.3
comp=Z,2μm,1.1s
OK029 Liberty Lake 24.61 341 IAmb IAmb 03 56 57.8
comp=Z,2μm,0.7s
W61A Ground Anchor 24.63 22 S **S** **04 01 09.9 +1.5**
baz=207
U55A TA2, Sparta 24.64 14 P **P** **03 56 53.7 +1.9**
baz=197,SNR=836
U55A S **S** **04 01 13.4 +4.6**
baz=197
U56A King 24.65 15 P **P** **03 56 53.9 +2.1**
baz=198,SNR=473
U56A S **S** **04 01 11.3 +2.5**
baz=198
SMRT St. Maarten 24.70 74 *e*P **P** **03 56 50.8 -1.7**
SMRT St. Maarten 24.70 74 IAMs_20 IAMs_20 04 06 59.5
comp=Z,737μm,21.0s
SEUS St. Eustatius 24.71 76 *e*P **P** **03 56 50.3 -2.2**
SEUS St. Eustatius 24.71 76 IAMs_20 IAMs_20 04 04 56.7
comp=Z,946μm,22.0s
V59A Middlesex 24.72 19 P **P** **03 56 54.1 +1.6**
baz=204,SNR=512
V59A S **S** **04 01 11.4 +1.4**
baz=204
T53A Wise 24.79 11 P **P** **03 56 54.3 +1.2**
baz=193,SNR=406
T53A S **S** **04 01 11.5 +0.3**
baz=193
MNTX Cornudas Mount 24.81 323 P **P** **03 56 54.4 +1.0**
baz=136,SNR=1000
MNTX Cornudas Mount 24.81 323 P **P** **03 56 53.9 +0.5**
MNTX IAmb IAmb 03 56 57.7
comp=Z,3μm,1.4s
U57A Blanch 25.01 17 P **P** **03 56 56.7 +1.6**
baz=200,SNR=686
U57A S **S** **04 01 15.1 +0.6**
baz=200
S44A Carbondale 25.02 358 IAmb IAmb 03 57 37.9
comp=Z,4μm,1.2s
T54A Tazewell 25.05 12 P **P** **03 56 57.2 +1.6**
baz=195,SNR=672
T54A S **S** **04 01 15.6 +0.1**
baz=195
V60A Jim Taylor Roa 25.05 21 P **P** **03 56 57.3 +1.8**
baz=206,SNR=292
V60A S **S** **04 01 14.9 -0.3**
baz=206
MSTX Muleshoe 25.14 330 P **P** **03 56 57.1 +0.6**
baz=145,SNR=1000
MSTX S **S** **04 01 14.5 -2.5**
baz=145
U58A Oxford 25.21 18 P **P** **03 56 58.2 +1.4**
baz=202,SNR=381
U58A S **S** **04 01 17.4 -0.2**
baz=202
USIN University of 25.27 1 IAmb IAmb 03 57 39.1
comp=Z,5μm,1.4s
T55A Pulaski 25.28 14 P **P** **03 56 59.3 +1.7**
baz=197,SNR=356
T55A S **S** **04 01 17.6 -1.4**
baz=197
CZSB Cruzeiro do Su 25.31 142 *e*P **P** **03 57 00.2 +2.2**
V61A Roper 25.32 22 P **P** **03 57 00.3 +2.3**
baz=207,SNR=170
V61A S **S** **04 01 20.1 +0.6**
baz=207
V62A Hyde County Ai 25.36 24 P **P** **03 57 00.3 +2.1**
baz=208,SNR=11
V62A S **S** **04 01 16.0 -4.1**
baz=208
T35A Sooner Cattle 25.38 344 IAmb IAmb 03 57 46.0
comp=Z,3μm,1.1s
T56A Rocky Mt 25.38 15 P **P** **03 57 00.3 +1.9**
baz=199,SNR=387
T56A S **S** **04 01 19.1 -1.5**
baz=199
AMTX Amarillo 25.40 333 P **P** **03 56 59.7 +0.9**
baz=148
AMTX Amarillo 25.40 333 IAmb IAmb 03 57 05.2
comp=Z,3μm,0.9s
U59A Littleton 25.41 20 P **P** **03 57 00.1 +1.5**
baz=204,SNR=532
U59A S **S** **04 01 23.1 +2.3**
baz=204
U59A Littleton 25.41 20 IAmb IAmb 03 57 06.2
comp=Z,2μm,1.0s
BLA Blacksburg 25.46 14 P **P** **03 57 01.2 +1.9**
baz=198,SNR=254
CCM Cathedral Cave 25.52 354 P **P** **03 57 00.0 +0.3**
baz=173
CCM Cathedral Cave 25.52 354 P **P** **03 57 00.4 +0.7**
CCM pmax pmax
comp=Z,5μm,1.6s
CCM MLR MLR
comp=Z,112μm,19.0s
CCM Cathedral Cave 25.52 354 P **P** **03 57 00.4 +0.7**
CCM IAmb IAmb 03 57 10.0
comp=Z,5μm,1.6s
S53A Williamson 25.55 11 P **P** **03 57 01.2 +1.2**
baz=194,SNR=133
S53A S **S** **04 01 25.6 +2.4**
baz=194
T57A Hurt 25.56 17 P **P** **03 57 01.8 +1.7**
baz=200,SNR=303
T57A S **S** **04 01 19.6 -3.7**
baz=200
T57A Hurt 25.56 17 IAmb IAmb 03 57 37.2
comp=Z,5μm,1.5s
WCI Wyandotte Cave 25.58 3 P **P** **03 57 00.7 +0.4**
baz=184
WCI Wyandotte Cave 25.58 3 P **P** **03 57 01.1 +0.9**
WCI pmax pmax
comp=Z,2μm,0.7s
WCI Wyandotte Cave 25.58 3 P **P** **03 57 01.1 +0.9**
WCI IAmb IAmb 03 57 07.4
comp=Z,2μm,0.7s
U32A Winter Ranch, 25.65 339 IAmb IAmb 03 57 11.7
comp=Z,3μm,1.1s
T58A Grand View Acr 25.72 18 P **P** **03 57 02.8 +1.3**
baz=202,SNR=301
T58A S **S** **04 01 22.1 -3.7**
baz=202
R49A Shelbyville 25.73 5 IAmb IAmb 03 57 55.1
comp=Z,3μm,1.6s
U60A Pendleton 25.73 21 P **P** **03 57 03.3 +1.7**
baz=205,SNR=241
U60A S **S** **04 01 25.5 -0.4**
baz=205
ANBD Bethesda, Anti 25.80 77 *e*P **P** **03 56 57.1 -5.3**
R50A Paris 25.80 7 IAmb IAmb 03 57 35.8
comp=Z,4μm,1.7s
GRGR Grenville 25.81 88 *e*P **P** **03 57 01.9 -0.7**
GRHS Sauteurs 25.81 88 *e*P **P** **03 57 02.7 +0.1**
TBG Guadaloupe-3 25.81 80 *e*P **P** **03 57 00.7 -1.9**
S54A Dingess, Beckl 25.82 12 P **P** **03 57 03.8 +1.3**
baz=195,SNR=131
S54A S **S** **04 01 26.4 -1.1**
baz=195
S54A Dingess, Beckl 25.82 12 IAmb IAmb 03 57 28.6
comp=Z,4μm,1.2s
U61A Possum Corner 25.85 22 P **P** **03 57 04.6 +1.9**
baz=207,SNR=45
U61A S **S** **04 01 26.6 -1.3**
baz=207
ANWB Willy Bob 25.86 75 *e*P **P** **03 56 58.4 -4.6**
ANWB Willy Bob 25.86 75 IAmb IAmb 03 57 13.3
comp=Z,3μm,1.1s
ANWB IAMs_20 IAMs_20 04 05 44.2
comp=Z,480μm,20.0s
CBE Ff, Capester 25.87 79 *e*P **P** **03 56 58.6 -4.5**
R40A Maddies Statio 25.87 352 IAmb IAmb 03 57 14.9
comp=Z,4μm,1.6s
S55A Lewisburg 25.98 14 P **P** **03 57 05.6 +1.7**
baz=197,SNR=295
S55A S **S** **04 01 28.3 -1.6**
baz=197
DSLB Salisbury 26.01 81 *e*P **P** **03 57 02.5 -1.9**
GCMP Grenada, Carri 26.01 87 *e*P **P** **03 57 03.3 -1.1**
ABD La Joyeuse, An 26.01 78 *e*P **P** **03 56 59.1 -5.2**
SLM Saint Louis 26.01 356 IAmb IAmb 03 57 39.1
comp=Z,2μm,1.1s
MDN Morne-Daniel 26.03 81 *e*P **P** **03 57 03.9 -0.6**
OLIL Olney 26.04 360 IAmb IAmb 03 57 43.3
comp=Z,3μm,1.4s
DPMT Pointe Michel 26.04 81 *e*P **P** **03 57 06.2 +1.6**
T59A Double "B" Far 26.05 19 P **P** **03 57 06.2 +1.7**
baz=204,SNR=426
T59A S **S** **04 01 31.1 +0.2**
baz=204
S56A Natural Bridge 26.11 15 P **P** **03 57 06.7 +1.6**
baz=199,SNR=258
S56A S **S** **04 01 33.4 +1.3**
baz=199
SVB Belmont 26.14 86 *e*P **P** **03 57 05.3 -0.3**
SVB Belmont 26.14 86 P **P** **03 57 06.2 +0.5**
SVB IAmb IAmb 03 57 33.4
comp=Z,3μm,1.1s
DLPL La Plaine 26.17 81 *e*P **P** **03 57 06.0 +0.2**
DLPL La Plaine 26.17 81 P **P** **03 57 06.4 +0.6**
MAGL Barre de l'ile 26.17 79 *e*P **P** **03 57 03.0 -2.8**
SVV Soufriere Volc 26.18 85 *e*P **P** **03 57 07.0 +1.1**
TRN Trinidad (W) 26.19 91 *e*P **P** **03 57 03.0 -3.0**
R53A Hurricane 26.21 11 P **P** **03 57 07.2 +1.3**
baz=194,SNR=103
R53A S **S** **04 01 34.3 +0.8**
baz=194
SFAN Fancy Village 26.22 85 *e*P **P** **03 57 08.5 +2.2**
Q44A Meyer Farm, Va 26.22 358 IAmb IAmb 03 57 12.9
comp=Z,1μm,0.7s
FDF Fort de France 26.24 82 *e*P **P** **03 57 03.8 -2.7**
SVCV St. Vincent, C 26.25 85 *e*P **P** **03 57 03.5 -3.1**
R54A Victor 26.26 13 P **P** **03 57 07.7 +1.3**
baz=196,SNR=163
R54A S **S** **04 01 38.7 +4.3**
baz=196
BHS Barnard House 26.27 85 *e*P **P** **03 57 07.9 +1.3**
BIM Bigot 26.31 83 *e*P **P** **03 57 05.8 -1.4**
SLDE Delcer 26.32 84 *e*P **P** **03 57 09.2 +1.9**
SLB Belfond 26.34 84 *e*P **P** **03 57 09.0 +1.6**
S57A Dark Hollow, R 26.36 16 P **P** **03 57 08.6 +1.3**
baz=200,SNR=168
S57A S **S** **04 01 37.8 +1.9**
baz=200
S57A Dark Hollow, R 26.36 16 IAmb IAmb 03 57 50.9
comp=Z,5μm,1.7s
SLBI Saint Lucia, B 26.40 84 *e*P **P** **03 57 07.1 -0.9**
H05N1 Guadeloupe/Mar 26.41 79 P **P** **03 57 07.4 -0.7**
SNR=442
MCLT Moule a Chique 26.44 85 *e*P **P** **03 57 05.6 -2.6**
SLW Petit Monier 26.44 84 *e*P **P** **03 57 08.6 +0.3**
SLPA Patience 26.46 84 *e*P **P** **03 57 09.4 +1.0**
T60A Surry 26.48 21 P **P** **03 57 10.3 +1.9**
baz=206,SNR=112
T60A S **S** **04 01 39.4 +1.7**
baz=206
T60A Surry 26.48 21 IAmb IAmb 03 57 19.9
comp=Z,3μm,0.9s
SLAC Saint Lucia, A 26.48 84 *e*P **P** **03 57 07.8 -0.8**
S58A Poland Farm, P 26.48 18 P **P** **03 57 09.9 +1.5**
baz=202,SNR=200
S58A S **S** **04 01 40.0 +2.2**
baz=202
S58A Poland Farm, P 26.48 18 IAmb IAmb 03 57 56.7
comp=Z,3μm,1.4s
ILAM Ilet Lapin Mar 26.51 82 *e*P **P** **03 57 07.8 -1.1**
MPOM Morne Pois Mar 26.52 83 *e*P **P** **03 57 07.8 -1.2**
TBH Brigand Hill 26.54 92 *e*P **P** **03 57 09.6 +0.5**
H05S1 Guadeloupe/Mar 26.54 83 P **P** **03 57 09.6 +0.4**
SNR=497
R55A Marlinton 26.55 14 P **P** **03 57 10.8 +1.7**
baz=198,SNR=382
R55A S **S** **04 01 41.8 +2.7**
baz=198
Q51A Peebles 26.66 8 IAmb IAmb 03 57 17.4
comp=Z,2μm,0.8s
TPR Prospect 26.74 90 *e*P **P** **03 57 09.5 -1.5**
Q52A Bidwell 26.77 10 P **P** **03 57 12.4 +1.4**
baz=193,SNR=181
Q52A S **S** **04 01 42.1 -0.2**
baz=193
BOT Bacolet 26.80 90 *e*P **P** **03 57 10.6 -0.9**
Q53A Leroy 26.80 11 P **P** **03 57 12.7 +1.4**
baz=194,SNR=205
HSIG 26.84 311 P **P** **03 57 12.1 +0.4**
NNA Nana 26.84 155 P **P** **03 57 13.1 +1.3**
comp=Z,290nm,1.3s,baz=324,slow=9.9,SNR=50
NNA Nana 26.84 155 *d* P **P** **03 57 13.0 +1.1**
NNA pmax pmax
comp=Z,2μm,1.6s
NNA MLR MLR
comp=Z,686μm,24.0s
NNA Nana 26.84 155 P **P** **03 57 12.0 +0.1**
NNA IAmb IAmb 03 57 21.1
comp=Z,2μm,1.8s
121A Cookes Peak, D 26.84 321 P **P** **03 57 14.7 +2.8**
baz=134,SNR=496
121A S **S** **04 01 44.6 +0.6**
baz=134
R56A Bull Pasture M 26.85 15 P **P** **03 57 13.6 +1.8**
baz=199,SNR=298
R56A S **S** **04 01 46.1 +2.4**
baz=199

S59A	**Mechanicsville**	**26.86**	**19**	P		**P**		**03 57 13.6**	**+1.9**
	baz=204,SNR=131								
S59A				S		**S**		**04 01 45.0**	**+1.3**
	baz=204								
R58B	**Mineral**	**26.86**	**18**	P		**P**		**03 57 13.6**	**+1.9**
	baz=202,SNR=223								
R58B				S		**S**		**04 01 45.1**	**+1.3**
	baz=202								
R58B	**Mineral**	**26.86**	**18**	IAmb		IAmb		03 57 23.3	
	comp=Z,1µm,1.1s								
P46A	**Rosedale**	**26.93**	**1**	IAmb		IAmb		03 58 08.8	
	comp=Z,3µm,1.3s								
SRIG	**Santa Rosalia**	**26.96**	**307**	IAmb		IAmb		03 57 41.2	
	comp=Z,3µm,1.5s								
SRIG				IAMs_20		IAMs_20		04 09 16.5	
	comp=Z,266µm,22.0s								
TOSP	**Speyside**	**26.97**	**90**	*e*P		**P**		**03 57 09.6**	**-3.4**
TOSP	**Speyside**	**26.97**	**90**	P		**P**		**03 57 11.5**	**-1.5**
TOSP				IAMs_20		IAMs_20		04 04 05.5	
	comp=Z,474µm,19.0s								
P43A	**Skaggs, Pawnee**	**26.98**	**358**	IAmb		IAmb		03 57 49.1	
	comp=Z,1µm,1.1s								
R57A	**Stanardsville**	**26.98**	**17**	P		**P**		**03 57 14.5**	**+1.7**
	baz=201,SNR=456								
R57A				S		**S**		**04 01 45.6**	**-0.1**
	baz=201								
P49A	**Miami Univ. Ec**	**27.00**	**6**	P		**P**		**03 57 13.0**	**0.0**
	baz=187,SNR=130								
P49A				S		**S**		**04 01 48.1**	**+2.1**
	baz=187								
P49A	**Miami Univ. Ec**	**27.00**	**6**	IAmb		IAmb		03 58 06.2	
	comp=Z,2µm,1.1s								
P49A				IAMs_20		IAMs_20		04 09 07.4	
	comp=Z,284µm,21.0s								
S60A	**Water View**	**27.01**	**20**	P		**P**		**03 57 15.0**	**+1.8**
	baz=205,SNR=64								
S60A				S		**S**		**04 01 48.7**	**+2.5**
	baz=205								
Q54A	**Coxs Mills**	**27.06**	**12**	P		**P**		**03 57 15.2**	**+1.6**
	baz=196,SNR=456								
Q54A				S		**S**		**04 01 48.6**	**+1.6**
	baz=196								
P40A	**Paris**	**27.06**	**353**	IAmb		IAmb		03 58 11.2	
	comp=Z,4µm,1.6s								
R58A	**Rapidan**	**27.13**	**18**	P		**P**		**03 57 16.0**	**+1.8**
	baz=202,SNR=175								
R58A				S		**S**		**04 01 47.5**	**-0.5**
	baz=202								
P51A	**Williamsport**	**27.15**	**9**	P		**P**		**03 57 15.1**	**+0.8**
	baz=191,SNR=130								
P51A				S		**S**		**04 01 46.7**	**-1.7**
	baz=191								
P51A	**Williamsport**	**27.15**	**9**	IAmb		IAmb		03 58 11.7	
	comp=Z,4µm,1.4s								
CBN	**Corbin Frederi**	**27.23**	**19**	P		**P**		**03 57 17.2**	**+2.1**
	baz=203,SNR=244								
CBN	**Corbin Frederi**	**27.23**	**19**	IAmb		IAmb		03 57 20.6	
	comp=Z,2µm,0.7s								
CBN				IAMs_20		IAMs_20		04 08 57.9	
	comp=Z,267µm,19.0s								
Q55A	**Buckhannon**	**27.24**	**14**	P		**P**		**03 57 16.9**	**+1.6**
	baz=197,SNR=158								
Q55A				S		**S**		**04 01 50.2**	**+0.3**
	baz=197								
R59A	**King George, V**	**27.31**	**19**	P		**P**		**03 57 18.0**	**+2.2**
	baz=204,SNR=289								
R59A				S		**S**		**04 01 50.8**	**-0.1**
	baz=204								
S61A	**Accomac**	**27.34**	**22**	P		**P**		**03 57 19.0**	**+3.0**
	baz=207,SNR=11								
S61A				S		**S**		**04 01 51.5**	**+0.2**
	baz=207								
S61A	**Accomac**	**27.34**	**22**	IAmb		IAmb		03 57 22.0	
	comp=Z,2µm,0.8s								
P38A	**Dawn**	**27.36**	**351**	IAmb		IAmb		03 57 20.1	
	comp=Z,2µm,1.0s								
P38A				IAMs_20		IAMs_20		04 09 24.2	
	comp=Z,324µm,22.0s								
R32A	**Long Quarter,**	**27.42**	**342**	IAmb		IAmb		03 58 03.8	
	comp=Z,4µm,1.6s								
Y22D	**IRIS PASSCAL I**	**27.42**	**324**	P		**P**		**03 57 19.5**	**+2.4**
	baz=137,SNR=136								
Y22D				S		**S**		**04 01 53.7**	**+0.7**
	baz=137								
Y22D	**IRIS PASSCAL I**	**27.42**	**324**	IAmb		IAmb		03 57 29.9	
	comp=Z,4µm,1.1s								
P53A	**Whipple**	**27.44**	**11**	P		**P**		**03 57 18.6**	**+1.6**
	baz=194,SNR=298								
P53A				S		**S**		**04 01 53.1**	**+0.2**
	baz=194								
P53A	**Whipple**	**27.44**	**11**	IAmb		IAmb		03 57 45.9	
	comp=Z,3µm,1.2s								
P53A				IAMs_20		IAMs_20		04 09 10.2	
	comp=Z,255µm,21.0s								
P52A	**Corning**	**27.45**	**10**	P		**P**		**03 57 18.2**	**+1.2**
	baz=193,SNR=219								
P52A				S		**S**		**04 01 53.7**	**+0.7**
	baz=193								
P52A	**Corning**	**27.45**	**10**	IAmb		IAmb		03 57 45.3	
	comp=Z,2µm,1.3s								
P52A				IAMs_20		IAMs_20		04 09 47.4	
	comp=Z,245µm,18.0s								
O44A	**Mansfield**	**27.46**	**359**	IAmb		IAmb		03 57 28.7	
	comp=Z,844nm,0.7s								
KSU1	**Kansas State U**	**27.47**	**345**	P		**P**		**03 57 17.7**	**+0.4**
	baz=162,SNR=107								
KSU1	**Kansas State U**	**27.47**	**345**	IAmb		IAmb		03 58 06.7	
	comp=Z,3µm,1.4s								
Q56A	**Snyder Ridge,**	**27.50**	**15**	P		**P**		**03 57 19.8**	**+2.2**
	baz=199								
Q56A				S		**S**		**04 01 55.3**	**+1.3**
	baz=199								
Q56A	**Snyder Ridge,**	**27.50**	**15**	IAmb		IAmb		03 57 54.8	
	comp=Z,3µm,1.4s								
Q56A				IAMs_20		IAMs_20		04 09 35.9	
	comp=Z,230µm,18.0s								
R60A	**Leonardtown, M**	**27.55**	**20**	P		**P**		**03 57 20.4**	**+2.4**
	baz=205,SNR=68								
R60A				S		**S**		**04 01 58.4**	**+3.8**
	baz=205								
O49A	**Covington**	**27.69**	**6**	IAmb		IAmb		03 57 25.7	
	comp=Z,809nm,0.8s								
O49A				IAMs_20		IAMs_20		04 09 37.6	
	comp=Z,227µm,19.0s								
SFIN	**Lafayette**	**27.70**	**2**	P		**P**		**03 57 19.3**	**0.0**
	baz=182,SNR=140								
SFIN	**Lafayette**	**27.70**	**2**	IAmb		IAmb		03 58 08.9	
	comp=Z,3µm,1.4s								
Q57A	**Strasburg**	**27.70**	**16**	P		**P**		**03 57 21.2**	**+1.9**
	baz=201,SNR=197								
Q57A				S		**S**		**04 02 00.3**	**+3.3**
	baz=201								
BCHC	**Barbados, Cave**	**27.73**	**86**	*e*P		**P**		**03 57 18.9**	**-0.9**
P54A	**Burton**	**27.73**	**13**	P		**P**		**03 57 21.0**	**+1.4**
	baz=196,SNR=252								
P55A	**Reedsville**	**27.79**	**14**	P		**P**		**03 57 21.7**	**+1.6**
	baz=198,SNR=166								
P55A				S		**S**		**04 02 02.8**	**+4.3**
	baz=198								
BBGH	**Gun Hill**	**27.80**	**86**	*e*P		**P**		**03 57 17.4**	**-3.0**
ANMO	**Albuquerque**	**27.80**	**326**	P		**P**		**03 57 21.5**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=142,slow=10.0,SNR=186								
ANMO				P3KPbc				04 29 46.5	
	comp=Z,0.2nm,0.9s,baz=262,slow=4.3,SNR=3.3								
ANMO	**Albuquerque**	**27.80**	**326**	P		**P**		**03 57 22.1**	**+1.6**
	baz=139								
ANMO	**Albuquerque**	**27.80**	**326**	*c* *i*P		**P**		**03 57 22.4**	**+1.9**
ANMO				pmax		pmax			
	comp=Z,580nm,1.0s								
ANMO				MLR		MLR			
	comp=Z,171µm,26.0s								
ANMO	**Albuquerque**	**27.80**	**326**	P		**P**		**03 57 20.8**	**+0.3**
Q58A	**Fox Den Farm,**	**27.82**	**18**	P		**P**		**03 57 22.3**	**+1.9**
	baz=202,SNR=194								
Q58A				S		**S**		**04 01 59.7**	**+0.9**
	baz=202								
O51A	**Pataskala**	**27.87**	**9**	P		**P**		**03 57 21.7**	**+0.9**
	baz=192,SNR=251								
O51A				S		**S**		**04 01 57.0**	**-2.7**
	baz=192								
HDIL	**Hopedale**	**27.88**	**358**	P		**P**		**03 57 21.0**	**+0.2**
	baz=178,SNR=58								
BBSP	**Saint Philip**	**27.90**	**86**	*e*P		**P**		**03 57 20.3**	**-1.0**
ACSO	**Alum Creek Sta**	**27.90**	**8**	P		**P**		**03 57 21.9**	**+0.9**
	baz=191,SNR=206								
ACSO	**Alum Creek Sta**	**27.90**	**8**	IAmb		IAmb		03 57 28.2	
	comp=Z,1µm,0.7s								
MCWV	**Mont Chateau**	**27.93**	**14**	P		**P**		**03 57 22.9**	**+1.6**
	baz=197,SNR=162								
O52A	**Adamsville**	**27.96**	**10**	P		**P**		**03 57 23.0**	**+1.3**
	baz=193,SNR=279								
O52A				S		**S**		**04 02 03.9**	**+2.7**
	baz=193								
O52A	**Adamsville**	**27.96**	**10**	IAmb		IAmb		03 57 51.2	
	comp=Z,2µm,1.2s								
P56A	**Dayton Farm, R**	**28.03**	**15**	P		**P**		**03 57 24.4**	**+2.2**
	baz=200,SNR=336								
P56A				S		**S**		**04 02 04.4**	**+2.2**
	baz=200								
R61A	**Willards**	**28.03**	**22**	P		**P**		**03 57 24.3**	**+2.1**
	baz=207,SNR=19								
R61A				S		**S**		**04 02 07.1**	**+4.9**
	baz=207								
R61A	**Willards**	**28.03**	**22**	IAmb		IAmb		03 58 15.9	
	comp=Z,3µm,1.2s								
R61A				IAMs_20		IAMs_20		04 10 28.0	
	comp=Z,470µm,18.0s								
Q59A	**Harwood**	**28.07**	**19**	P		**P**		**03 57 24.3**	**+1.8**
	baz=204,SNR=30								
Q59A				S		**S**		**04 02 05.2**	**+2.5**
	baz=204								
CBKS	**Cedar Bluff**	**28.10**	**340**	P		**P**		**03 57 23.8**	**+0.9**
	baz=156,SNR=95								
CBKS	**Cedar Bluff**	**28.10**	**340**	IAmb		IAmb		03 58 23.4	
	comp=Z,3µm,1.5s								
N41A	**Harden Midland**	**28.12**	**356**	IAmb		IAmb		03 57 29.6	
	comp=Z,813nm,0.7s								
O53A	**New Philadelph**	**28.21**	**11**	P		**P**		**03 57 24.9**	**+1.1**
	baz=194,SNR=254								
O53A				S		**S**		**04 02 06.0**	**+1.0**
	baz=194								
O53A	**New Philadelph**	**28.21**	**11**	IAmb		IAmb		03 58 13.8	
	comp=Z,3µm,1.4s								
O53A				IAMs_20		IAMs_20		04 09 43.6	
	comp=Z,233µm,21.0s								
P57A	**Homestead Farm**	**28.23**	**17**	P		**P**		**03 57 26.4**	**+2.4**
	baz=201,SNR=334								
P57A				S		**S**		**04 02 06.7**	**+1.4**
	baz=201								
P57A	**Homestead Farm**	**28.23**	**17**	IAmb		IAmb		03 57 36.0	
	comp=Z,1µm,1.1s								
P57A				IAMs_20		IAMs_20		04 10 24.2	
	comp=Z,205µm,18.0s								
O54A	**Avella**	**28.31**	**12**	P		**P**		**03 57 25.8**	**+1.1**
	baz=196,SNR=216								
O54A				S		**S**		**04 02 12.4**	**+5.8**
	baz=196								
O54A	**Avella**	**28.31**	**12**	IAmb		IAmb		03 57 33.9	
	comp=Z,838nm,0.8s								
O54A				IAMs_20		IAMs_20		04 08 16.3	
	comp=Z,231µm,22.0s								
N49A	**Columbus Grove**	**28.43**	**6**	IAmb		IAmb		03 57 32.3	
	comp=Z,952nm,0.8s								
P58A	**Pank, Wackersv**	**28.44**	**18**	P		**P**		**03 57 27.7**	**+1.8**
	baz=202,SNR=299								
P58A				S		**S**		**04 02 04.7**	**-3.9**
	baz=202								
Q60A	**Greensboro**	**28.46**	**20**	P		**P**		**03 57 28.0**	**+2.0**
	baz=206,SNR=49								
Q60A				S		**S**		**04 02 12.0**	**+3.1**
	baz=206								
Q60A	**Greensboro**	**28.46**	**20**	IAMs_20		IAMs_20		04 09 08.2	
	comp=Z,276µm,19.0s								
N38A	**Joes South For**	**28.46**	**352**	IAmb		IAmb		03 57 37.2	
	comp=Z,4µm,1.4s								
T25A	**Trinidad**	**28.50**	**332**	P		**P**		**03 57 28.5**	**+1.8**
	baz=145,SNR=309								
T25A				S		**S**		**04 02 04.5**	**-5.5**
	baz=145								
T25A	**Trinidad**	**28.50**	**332**	IAmb		IAmb		03 57 59.8	
	comp=Z,1µm,1.1s								
SDMD	**Soldier's Deli**	**28.50**	**18**	IAmb		IAmb		03 58 19.4	
	comp=Z,2µm,1.7s								
Q61A	**Milford**	**28.53**	**21**	P		**P**		**03 57 29.4**	**+2.8**
	baz=207,SNR=11								
Q61A				S		**S**		**04 02 09.9**	**-0.1**
	baz=207								
O55A	**Ligonier**	**28.57**	**14**	P		**P**		**03 57 28.5**	**+1.4**
	baz=198,SNR=60								
O55A				S		**S**		**04 02 03.2**	**-7.6**
	baz=198								
TUC	**Tucson**	**28.62**	**317**	P		**P**		**03 57 30.1**	**+2.4**
	baz=128								
TUC	**Tucson**	**28.62**	**317**	P		**P**		**03 57 28.1**	**+0.4**
TUC				pmax		pmax			
	comp=Z,426nm,1.1s								
TUC	**Tucson**	**28.62**	**317**	P		**P**		**03 57 28.1**	**+0.4**
N51A	**Ashland**	**28.66**	**9**	P		**P**		**03 57 28.4**	**+0.5**
	baz=192,SNR=112								
N51A				S		**S**		**04 02 15.0**	**+2.9**
	baz=192								
N51A	**Ashland**	**28.66**	**9**	IAmb		IAmb		03 57 39.2	
	comp=Z,4µm,1.8s								
N51A				IAMs_20		IAMs_20		04 10 34.6	
	comp=Z,216µm,18.0s								
N52A	**McGinn's Farm,**	**28.67**	**10**	P		**P**		**03 57 28.8**	**+0.9**
	baz=193,SNR=142								
N52A				S		**S**		**04 02 09.0**	**-3.2**
	baz=193								
M44A	**Midewin, Midew**	**28.69**	**0**	IAmb		IAmb		03 58 26.6	
	comp=Z,3µm,1.4s								
O56A	**Blue Knob Stat**	**28.82**	**15**	P		**P**		**03 57 30.8**	**+1.5**
	baz=200,SNR=127								
O56A				S		**S**		**04 02 15.8**	**+1.2**
	baz=200								
O56A	**Blue Knob Stat**	**28.82**	**15**	IAmb		IAmb		03 58 21.3	
	comp=Z,3µm,1.6s								
O56A				IAMs_20		IAMs_20		04 10 33.7	
	comp=Z,197µm,18.0s								
P59A	**Jarrettsville**	**28.82**	**19**	P		**P**		**03 57 31.0**	**+1.8**
	baz=204,SNR=183								
P59A				S		**S**		**04 02 15.8**	**+1.2**
	baz=204								
N53A	**Lisbon**	**28.82**	**11**	P		**P**		**03 57 30.2**	**+1.0**
	baz=195,SNR=176								
N53A				S		**S**		**04 02 09.8**	**-4.8**
	baz=195								
N53A	**Lisbon**	**28.82**	**11**	IAmb		IAmb		03 58 29.5	
	comp=Z,2µm,1.4s								
N53A				IAMs_20		IAMs_20		04 10 29.8	
	comp=Z,215µm,18.0s								
O57A	**Amberson**	**29.01**	**17**	P		**P**		**03 57 32.5**	**+1.6**
	baz=201,SNR=393								
O57A				S		**S**		**04 02 15.9**	**-1.8**
	baz=201								
M50A	**Fremont**	**29.04**	**8**	IAmb		IAmb		03 57 37.9	
	comp=Z,1µm,0.8s								
M51A	**Elyria**	**29.09**	**9**	P		**P**		**03 57 32.2**	**+0.6**
	baz=192,SNR=52								
M51A				S		**S**		**04 02 21.6**	**+2.7**
	baz=192								
HQIL	**Hanson Quary C**	**29.10**	**0**	IAmb		IAmb		03 57 42.1	
	comp=Z,2µm,1.4s								
BBSR	**BB Station**	**29.11**	**44**	P		**P**		**03 57 32.4**	**+0.5**
BBSR				IAmb		IAmb		03 57 39.4	
	comp=Z,1µm,0.8s								
BBSR	**BB Station**	**29.11**	**44**	IAMs_20		IAMs_20		04 07 45.3	
	comp=Z,235µm,20.0s								
O58A	**Lewisberry**	**29.14**	**18**	P		**P**		**03 57 34.1**	**+2.0**
	baz=203,SNR=209								
O58A				S		**S**		**04 02 15.9**	**-3.7**
	baz=203								
N54A	**Moraine State**	**29.14**	**13**	P		**P**		**03 57 33.3**	**+1.2**
	baz=196,SNR=250								
N54A				S		**S**		**04 02 12.6**	**-7.0**
	baz=196								
N54A	**Moraine State**	**29.14**	**13**	IAmb		IAmb		03 57 39.3	
	comp=Z,822nm,0.8s								
MVL	**Millersville**	**29.20**	**19**	IAmb		IAmb		03 57 42.5	
	comp=Z,1µm,1.1s								
MVL				IAMs_20		IAMs_20		04 10 16.8	
	comp=Z,223µm,20.0s								
N55A	**Marion Center**	**29.20**	**14**	P		**P**		**03 57 33.8**	**+1.1**
	baz=198,SNR=167								
N55A				S		S		04 02 10.4	-10
	baz=198								
P60A	**Greenville**	**29.25**	**20**	P		**P**		**03 57 34.8**	**+1.7**
	baz=205,SNR=242								
P60A				S		**S**		**04 02 20.8**	**-0.7**
	baz=205								
P60A	**Greenville**	**29.25**	**20**	IAmb		IAmb		03 57 38.0	
	comp=Z,734nm,0.8s								
P60A				IAMs_20		IAMs_20		04 10 27.3	
	comp=Z,301µm,19.0s								
PAGS	**Pennsylvania G**	**29.29**	**18**	IAmb		IAmb		03 57 44.8	
	comp=Z,1µm,0.9s								
KSCO	**Kaye Shedlock'**	**29.31**	**336**	P		**P**		**03 57 35.3**	**+1.4**
	baz=150,SNR=250								
KSCO				S		**S**		**04 02 24.5**	**+1.8**
	baz=150								
L42A	**Oliver, Polo**	**29.34**	**358**	IAmb		IAmb		03 58 39.2	
	comp=Z,3µm,1.6s								
L42A				IAMs_20		IAMs_20		04 10 24.1	
	comp=Z,227µm,22.0s								
SSPA	**Standing Stone**	**29.34**	**16**	P		**P**		**03 57 35.4**	**+1.6**
	baz=201								
SSPA	**Standing Stone**	**29.34**	**16**	P		**P**		**03 57 34.8**	**+0.9**
SSPA				IAmb		IAmb		03 57 45.1	
	comp=Z,856nm,0.9s								
SSPA	**Standing Stone**	**29.34**	**16**	IAMs_20		IAMs_20		04 10 49.5	
	comp=Z,198µm,18.0s								
L46A	**Eue Claire**	**29.36**	**3**	IAmb		IAmb		03 58 36.0	
	comp=Z,2µm,1.2s								
P61A	**Hammonton**	**29.42**	**21**	P		**P**		**03 57 36.4**	**+1.9**
	baz=207,SNR=25								
P61A				S		**S**		**04 02 26.6**	**+2.6**
	baz=207								
P61A	**Hammonton**	**29.42**	**21**	IAmb		IAmb		03 58 33.7	
	comp=Z,3µm,1.4s								
P61A				IAMs_20		IAMs_20		04 10 11.7	
	comp=Z,446µm,19.0s								
PSUB	**Penn St. - Bra**	**29.42**	**20**	IAMs_20		IAMs_20		04 09 36.7	
	comp=Z,374µm,20.0s								
M52A	**Chesterland**	**29.43**	**10**	P		**P**		**03 57 35.5**	**+0.8**
	baz=194,SNR=38								
M52A				S		**S**		**04 02 27.4**	**+3.1**
	baz=194								
M52A	**Chesterland**	**29.43**	**10**	IAmb		IAmb		03 58 28.4	
	comp=Z,2µm,1.6s								
M52A				IAMs_20		IAMs_20		04 10 33.1	
	comp=Z,265µm,20.0s								
M53A	**WI Miller and**	**29.46**	**11**	P		**P**		**03 57 35.9**	**+1.0**
	baz=195,SNR=147								
M53A				S		**S**		**04 02 24.3**	**-0.4**
	baz=195								
M53A	**WI Miller and**	**29.46**	**11**	IAMs_20		IAMs_20		04 10 58.8	
	comp=Z,229µm,19.0s								
L44A	**Lake County Fo**	**29.48**	**0**	P		**P**		**03 57 34.9**	**-0.1**
	baz=180,SNR=43								
L44A				S		**S**		**04 02 22.3**	**-2.6**
	baz=180								
L44A	**Lake County Fo**	**29.48**	**0**	IAmb		IAmb		03 58 37.6	
	comp=Z,5µm,1.9s								
L40A	**Anamosa**	**29.49**	**355**	IAmb		IAmb		03 57 42.6	
	comp=Z,1µm,0.8s								
N56A	**West Decatur**	**29.50**	**15**	P		**P**		**03 57 36.6**	**+1.3**
	baz=200,SNR=271								
N56A				S		**S**		**04 02 25.7**	**+0.4**
	baz=200								
SDCO	**Great Sand Dun**	**29.50**	**331**	P		**P**		**03 57 37.5**	**+1.9**
	baz=144,SNR=478								
O59A	**Robesonia**	**29.53**	**19**	P		**P**		**03 57 37.5**	**+1.9**
	baz=204,SNR=373								
O59A				S		**S**		**04 02 23.8**	**-2.1**
	baz=204								
N57A	**Milroy**	**29.54**	**16**	P		**P**		**03 57 36.8**	**+1.1**
	baz=201,SNR=225								
N57A				S		**S**		**04 02 26.1**	**+0.1**
	baz=201								
SCIA	**State Center**	**29.55**	**352**	P		**P**		**03 57 36.2**	**+0.5**
	baz=170,SNR=32								
M54A	**Oil Creek Stat**	**29.73**	**13**	P		**P**		**03 57 38.4**	**+1.1**
	baz=197,SNR=266								
M54A				S		**S**		**04 02 21.7**	**-7.2**
	baz=197								
M54A	**Oil Creek Stat**	**29.73**	**13**	IAmb		IAmb		03 58 41.7	
	comp=Z,4µm,1.8s								
M54A				IAMs_20		IAMs_20		04 08 59.0	
	comp=Z,233µm,22.0s								
ALLY	**Alegheny Colle**	**29.77**	**12**	IAmb		IAmb		03 58 42.1	
	comp=Z,4µm,1.6s								
ALLY				IAMs_20		IAMs_20		04 09 00.9	
	comp=Z,257µm,22.0s								
O60A	**Telford**	**29.79**	**20**	P		**P**		**03 57 39.4**	**+1.6**
	baz=206,SNR=163								
O60A				S		**S**		**04 02 31.0**	**+1.2**
	baz=206								
W18A	**Petrified Fore**	**29.79**	**322**	P		**P**		**03 57 40.9**	**+2.7**
	baz=134,SNR=32								
W18A				S		**S**		**04 02 21.9**	**-8.5**
	baz=134								
214A	**Organ Pipe Nat**	**29.80**	**314**	P		**P**		**03 57 40.0**	**+1.9**
	baz=125,SNR=59								
214A				S		**S**		**04 02 29.6**	**-0.8**
	baz=125								
AAM	**Ann Arbor**	**29.85**	**7**	P		**P**		**03 57 39.0**	**+0.6**
	baz=189,SNR=89								
AAM	**Ann Arbor**	**29.85**	**7**	IAmb		IAmb		03 57 47.0	
	comp=Z,1µm,0.6s								
N58A	**Sunbury**	**29.86**	**17**	P		**P**		**03 57 39.9**	**+1.5**
	baz=203,SNR=196								
N58A				S		**S**		**04 02 27.2**	**-3.7**
	baz=203								
N58A	**Sunbury**	**29.86**	**17**	IAmb		IAmb		03 57 49.6	
	comp=Z,985nm,1.1s								
N58A				IAMs_20		IAMs_20		04 11 23.2	
	comp=Z,207µm,19.0s								
O61A	**Allentown**	**29.88**	**21**	P		**P**		**03 57 40.2**	**+1.6**
	baz=207,SNR=81								
O61A				S		**S**		**04 02 30.7**	**-0.5**
	baz=207								
M55A	**Ridgway**	**29.90**	**14**	P		**P**		**03 57 39.9**	**+1.0**
	baz=198,SNR=207								
M55A				S		**S**		**04 02 29.3**	**-2.3**
	baz=198								
M55A	**Ridgway**	**29.90**	**14**	IAmb		IAmb		03 58 03.2	
	comp=Z,1µm,1.4s								
M55A				IAMs_20		IAMs_20		04 11 35.4	
	comp=Z,228µm,18.0s								
K43A	**Burlington**	**30.01**	**360**	IAmb		IAmb		03 58 44.0	
	comp=Z,4µm,1.6s								
BGNE	**Belgrade**	**30.03**	**345**	P		**P**		**03 57 40.8**	**+0.8**
	baz=160,SNR=66								
BGNE				S		**S**		**04 02 31.0**	**-2.7**
	baz=160								
PIX	**Pinacate**	**30.04**	**313**	P		**P**		**03 57 40.7**	**+0.5**
L53A	**Girard**	**30.04**	**12**	P		**P**		**03 57 41.0**	**+1.0**
	baz=195,SNR=150								
L53A				S		**S**		**04 02 37.7**	**+4.0**
	baz=195								
LUPA	**Lehigh Univers**	**30.05**	**20**	IAmb		IAmb		03 57 46.9	
	comp=Z,1µm,0.7s								
LUPA				IAMs_20		IAMs_20		04 09 47.4	
	comp=Z,306µm,21.0s								
M56A	**Emporium**	**30.06**	**15**	P		**P**		**03

Q24A S S 04 02 35.6 -3.3
baz=146
N60A Cedar Hill Far 30.39 20 P P 03 57 44.8 +1.7
baz=206,SNR=167
N60A S S 04 02 37.4 -1.8
baz=206
BRNJ Basking Ridge 30.40 21 IAmb IAmb 03 57 48.5
comp=Z,1µm,0.7s
BRNJ IAMs_20 IAMs_20 04 10 23.6
comp=Z,484µm,20.0s
M58A Price's Panora 30.42 17 P P 03 57 45.0 +1.5
baz=203,SNR=194
M58A S S 04 02 36.6 -3.2
baz=203
L54A Sinclairville 30.50 13 P P 03 57 44.9 +0.7
baz=197,SNR=111
L54A S S 04 02 40.1 -0.9
baz=197
N61A South Mountain 30.55 21 P P 03 57 46.3 +1.8
baz=207,SNR=94
N61A S S 04 02 41.6 -0.2
baz=207
MVCO Mesa Verde 30.59 327 P P 03 57 47.1 +1.8
baz=138,SNR=260
MVCO Mesa Verde 30.59 327 IAmb IAmb 03 58 23.3
comp=Z,2µm,1.8s
L55A Hinsdale 30.66 14 P P 03 57 46.7 +1.1
baz=199,SNR=250
L55A S S 04 02 39.8 -3.7
baz=199
J47A Sunmer 30.67 5 IAmb IAmb 03 57 54.1
comp=Z,769nm,0.9s
CPNY Central Park 30.70 21 IAmb IAmb 03 57 57.1
comp=Z,2µm,1.9s
CPNY IAMs_20 IAMs_20 04 10 48.7
comp=Z,412µm,20.0s
ODNJ Ogdensburg 30.74 20 IAmb IAmb 03 57 56.8
comp=Z,2µm,1.6s
ODNJ IAMs_20 IAMs_20 04 10 34.7
comp=Z,457µm,20.0s
KSPA Keystone Colle 30.80 18 IAmb IAmb 03 57 55.5
comp=Z,3µm,1.5s
KSPA IAMs_20 IAMs_20 04 11 09.2
comp=Z,333µm,19.0s
WVNY West Valley, N 30.83 14 IAMs_20 IAMs_20 04 09 43.0
comp=Z,213µm,22.0s
L56A Greenwood 30.83 15 P P 03 57 48.3 +1.2
baz=200,SNR=266
L56A S S 04 02 43.0 -3.2
baz=200
L56A Greenwood 30.83 15 IAmb IAmb 03 57 56.1
comp=Z,2µm,1.4s
L56A IAMs_20 IAMs_20 04 09 51.0
comp=Z,258µm,22.0s
M59A Waymart 30.89 19 P P 03 57 49.2 +1.6
baz=205,SNR=382
M59A S S 04 02 42.4 -4.7
baz=205
L57A Andrews Acres 30.89 16 P P 03 57 48.7 +1.1
baz=202,SNR=177
L57A S S 04 02 44.1 -3.1
baz=202
PAL Palisades 30.91 21 P P 03 57 49.3 +1.5
baz=208,SNR=168
PAL S S 04 02 47.0 -0.4
baz=208
PAL Palisades 30.91 21 IAmb IAmb 03 57 52.6
comp=Z,725nm,0.8s
PAL IAMs_20 IAMs_20 04 10 55.2
comp=Z,419µm,20.0s
TRNY Table Rock, Ra 30.93 21 IAMs_20 IAMs_20 04 10 39.6
comp=Z,569µm,20.0s
M60A Port Jervis 30.95 20 P P 03 57 49.8 +1.6
baz=206,SNR=380
M60A S S 04 02 47.9 -0.2
baz=206
K54A Basiliko Farm, 31.00 14 P P 03 57 49.7 +1.2
baz=198,SNR=130
K54A S S 04 02 34.0 -15
baz=198
N62A Caumsett State 31.00 22 P P 03 57 49.9 +1.4
baz=208,SNR=43
N62A S S 04 02 46.1 -2.7
baz=208
WUAZ Wupatki 31.05 321 P P 03 57 52.1 +2.8
baz=132,SNR=660
ETMB Extrema 31.10 135 eP P 03 57 50.1 +0.5
I42A Draeger Farm, 31.20 359 IAmb IAmb 03 58 01.0
comp=Z,2µm,1.4s
ISCO Idaho Springs 31.22 333 P P 03 57 52.4 +1.5
baz=146,SNR=242
L58A Harry Jones Me 31.22 18 P P 03 57 51.8 +1.3
baz=204,SNR=263
L58A S S 04 02 43.6 -8.6
baz=204
M61A Granite Spring 31.23 21 P P 03 57 52.1 +1.5
baz=208,SNR=329
M61A S S 04 02 50.3 -2.1
baz=208
WSPT Westport, CT 31.26 22 IAMs_20 IAMs_20 04 10 18.5
comp=Z,445µm,22.0s
I40A Norwalk 31.27 356 IAmb IAmb 03 57 57.8
comp=Z,552nm,0.7s
MMNY Mt. Morris Dam 31.30 14 IAMs_20 IAMs_20 04 12 10.5
comp=Z,194µm,19.0s
BINY Binghamton 31.32 17 P P 03 57 52.9 +1.5
baz=203,SNR=287
BINY Binghamton 31.32 17 IAMs_20 IAMs_20 04 12 44.0
comp=Z,224µm,18.0s
I45A Fountain 31.38 3 IAmb IAmb 03 58 02.5
comp=Z,1µm,0.7s
MACA Manacapuru-AM 31.39 118 eP P 03 57 52.6 +0.4
N63A Mattituck 31.41 23 P P 03 57 53.9 +1.8
baz=210,SNR=10.0
N63A S S 04 02 56.2 +1.2
baz=210
K56A Middlesex 31.41 15 P P 03 57 53.2 +1.0
baz=200,SNR=264
K56A S S 04 02 54.8 -0.6
baz=200
PV15 Paradox Valley 31.43 328 IAmb IAmb 03 58 18.4
comp=Z,2µm,1.5s
PV02 Paradox Valley 31.46 328 IAmb IAmb 03 58 03.5
comp=Z,2µm,1.5s
PV13 Radium Mtn., P 31.47 328 IAmb IAmb 03 58 02.7
comp=Z,1µm,1.3s
YLE Yale 31.53 22 IAmb IAmb 03 58 03.8
comp=Z,3µm,1.7s
YLE IAMs_20 IAMs_20 04 10 23.6
comp=Z,563µm,22.0s
PV03 Paradox Valley 31.55 328 IAmb IAmb 03 58 02.6
comp=Z,2µm,1.4s
I49A Point Hope 31.57 7 IAmb IAmb 03 57 59.5
comp=Z,1µm,0.8s
I49A IAMs_20 IAMs_20 04 12 25.2
comp=Z,191µm,19.0s
PV12 Saucer Basin, 31.58 328 IAmb IAmb 03 58 13.2
comp=Z,1µm,0.8s
PV18 Skein Mesa, Pa 31.58 328 IAmb IAmb 03 58 02.2
comp=Z,766nm,0.9s
MEDO Medina 31.58 13 IAmb IAmb 03 58 01.6
comp=Z,2µm,1.4s
MEDO IAMs_20 IAMs_20 04 12 45.9
comp=Z,179µm,18.0s
PV07 Paradox Valley 31.59 328 IAmb IAmb 03 58 02.6
comp=Z,956nm,1.2s
L59A Walton 31.60 19 P P 03 57 55.4 +1.6
baz=205,SNR=321
L59A S S 04 02 55.2 -3.0
baz=205
L59A Walton 31.60 19 IAmb IAmb 03 58 02.5
comp=Z,3µm,1.4s
L59A IAMs_20 IAMs_20 04 11 41.3
comp=Z,253µm,20.0s
PV11 David Mesa, Pa 31.60 328 IAmb IAmb 03 58 03.7
comp=Z,2µm,1.2s
PV17 East Wray Mesa 31.63 328 IAmb IAmb 03 58 08.2
comp=Z,767nm,0.8s
PV16 Nyswonger Mesa 31.63 328 IAmb IAmb 03 58 03.3
comp=Z,2µm,1.4s
J54A Appleton 31.64 13 P P 03 57 55.1 +1.0
baz=198,SNR=133
J54A S S 04 02 56.2 -2.5
baz=198
J54A Appleton 31.64 13 IAMs_20 IAMs_20 04 10 20.5
comp=Z,180µm,20.0s
M62A Hamden 31.66 22 P P 03 57 55.8 +1.5
baz=209,SNR=65
M62A S S 04 02 55.7 -3.3
baz=209
K57A Scipio Center 31.66 16 P P 03 57 55.0 +0.7
baz=202,SNR=160
K57A S S 04 02 58.0 -1.1
baz=202
PV19 Morning Glory 31.66 328 IAmb IAmb 03 58 05.7
comp=Z,1µm,1.1s
L60A Shokan 31.68 20 P P 03 57 56.1 +1.6
baz=206,SNR=255
L60A S S 04 02 57.6 -1.9
baz=206
PV04 Paradox Valley 31.69 328 IAmb IAmb 03 58 03.8
comp=Z,3µm,1.4s
I51A Listowel 31.69 10 P P 03 57 55.0 +0.4
baz=193,SNR=133
I51A S S 04 02 56.1 -3.4
baz=193
KSCT Kent School, K 31.70 21 IAMs_20 IAMs_20 04 13 11.0
comp=Z,408µm,18.0s
PV22 Blue Mesa, Par 31.73 328 IAmb IAmb 03 58 08.2
comp=Z,2µm,1.5s
PV14 Lion Creek, Pa 31.73 328 IAmb IAmb 03 58 07.0
comp=Z,3µm,1.6s
PV10 Paradox Valley 31.74 328 IAmb IAmb 03 58 42.7
comp=Z,2µm,1.4s
H43A Windswept, Lux 31.77 0 IAmb IAmb 03 58 05.6
comp=Z,2µm,1.3s
H43A IAMs_20 IAMs_20 04 12 36.4
comp=Z,254µm,19.0s
PV23 Carpenter Ridg 31.79 328 IAmb IAmb 03 58 22.8
comp=Z,978nm,1.0s
CPBX Cerro Prieto 31.82 313 IAmb IAmb 03 58 44.8
comp=Z,987nm,1.4s
GLA Glamis 31.82 314 P P 03 57 57.9 +2.0
baz=124,SNR=30
GLA S S 04 03 03.4 +1.4
baz=124
ECSD EROS Data Cent 31.90 348 P P 03 57 56.3 -0.1
baz=164,SNR=525
ECSD EROS Data Cent 31.90 348 IAmb IAmb 03 58 07.0
comp=Z,2µm,1.4s
ECSD EROS Data Cent 31.90 348 IAMs_20 IAMs_20 04 12 12.4
comp=Z,216µm,22.0s
K58A Earlville 31.94 17 P P 03 57 57.9 +1.1
baz=203,SNR=307
K58A S S 04 03 02.6 -0.8
baz=203
K58A Earlville 31.94 17 IAMs_20 IAMs_20 04 11 44.3
comp=Z,270µm,20.0s
M63A Gales Ferry 31.94 23 P P 03 57 58.7 +1.9
baz=211,SNR=124
M63A S S 04 03 02.6 -0.9
baz=211
J56A Wolcott 32.08 16 P P 03 57 58.9 +1.0
baz=201,SNR=421
J56A S S 04 03 04.4 -1.1
baz=201
J56A Wolcott 32.08 16 IAMs_20 IAMs_20 04 12 35.0
comp=Z,250µm,18.0s
L61A Hillsdale 1, H 32.09 21 P P 03 57 59.7 +1.6
baz=207,SNR=163
L61A S S 04 03 03.9 -1.9
baz=207
K59A Cooperstown 32.19 18 P P 03 58 00.3 +1.3
baz=205,SNR=408
K59A S S 04 03 05.3 -2.0
baz=205
GLMI Grayling 32.26 5 P P 03 57 59.3 -0.3
baz=186,SNR=67
GLMI Grayling 32.26 5 IAmb IAmb 03 58 05.3
comp=Z,1µm,0.8s
L62A Suffield 32.26 22 P P 03 58 01.3 +1.7
baz=209,SNR=53
L62A S S 04 03 06.5 -1.9
baz=209
N23A Red Feather La 32.26 334 P P 03 58 01.4 +1.5
baz=146,SNR=141
N23A S S 04 03 11.4 +2.3
baz=146
K60A Five Rivers En 32.35 20 P P 03 58 01.9 +1.6
baz=206,SNR=43
K60A S S 04 03 08.4 -1.4
baz=206
M64A Tiverton 32.40 24 P P 03 58 02.5 +1.7
baz=212,SNR=45
M64A S S 04 03 08.2 -2.3
baz=212
J57A Williamstown 32.43 17 P P 03 58 01.8 +0.7
baz=202,SNR=285
J57A S S 04 03 12.5 +1.4
baz=202
J57A Williamstown 32.43 17 IAmb IAmb 03 58 08.8
comp=Z,1µm,1.1s
J57A IAMs_20 IAMs_20 04 11 34.5
comp=Z,196µm,20.0s
SWSC Sam W. Stewart 32.45 313 P P 03 58 03.4 +2.0
baz=122,SNR=102
SWSC S S 04 03 14.9 +3.2
baz=122
L63A North Scituate 32.51 23 P P 03 58 03.2 +1.5
baz=211,SNR=109
L63A S S 04 03 10.3 -2.0
baz=211
IKP In-Ko-Pah, Jac 32.52 312 P P 03 58 05.3 +3.2
baz=122,SNR=86
IKP S S 04 03 14.4 +1.5
baz=122
TRY Troy 32.53 20 IAmb IAmb 03 58 10.6
comp=Z,1µm,1.1s
TRY IAMs_20 IAMs_20 04 11 47.0
comp=Z,476µm,20.0s
BRYW Bryant College 32.58 23 IAmb IAmb 03 58 12.7
comp=Z,3µm,1.8s
QUA2 Belchertown 32.59 22 IAmb IAmb 03 58 12.8
comp=Z,2µm,1.5s
QUA2 IAMs_20 IAMs_20 04 10 54.5
comp=Z,562µm,22.0s
J58A Remsen 32.59 17 P P 03 58 03.5 +1.0
baz=204,SNR=217
J58A S S 04 03 14.4 +0.8
baz=204
J58A Remsen 32.59 17 IAmb IAmb 03 58 07.7
comp=Z,560nm,0.8s
J58A IAMs_20 IAMs_20 04 12 14.6
comp=Z,264µm,19.0s
BC3 Big Chuckawall 32.59 315 P P 03 58 04.7 +1.9
baz=124,SNR=164
BC3 S S 04 03 14.5 +0.4
baz=124
M66A Nantucket 32.59 26 P P 03 58 04.3 +1.9
baz=214
M66A S S 04 03 14.3 +0.7
baz=214
K61A Williamstown 32.61 20 P P 03 58 04.5 +1.8
baz=208,SNR=224
K61A S S 04 03 13.4 -0.5
baz=208
G40A Rib Lake 32.62 357 IAmb IAmb 03 58 13.2
comp=Z,2µm,1.6s
G40A IAMs_20 IAMs_20 04 12 24.9
comp=Z,189µm,22.0s
L61B Northampton 32.62 21 P P 03 58 04.0 +1.3
baz=209,SNR=198
L61B S S 04 03 14.0 0.0
baz=209
M65A Busby, Falmout 32.63 25 P P 03 58 04.7 +1.9
baz=213
M65A S S 04 03 10.3 -3.9
baz=213
M65A Busby, Falmout 32.63 25 IAmb IAmb 03 58 41.6
comp=Z,2µm,1.9s
M65A IAMs_20 IAMs_20 04 10 45.7
comp=Z,327µm,21.0s
NEE2 Needles Airpor 32.66 317 P P 03 58 05.1 +2.0
baz=126,SNR=13
NEE2 S S 04 03 16.2 +1.4
baz=126
PECO Prince Edward 32.66 15 IAmb IAmb 03 58 13.3
comp=Z,1µm,1.3s
PECO IAMs_20 IAMs_20 04 12 54.4
comp=Z,257µm,18.0s
IRM Iron Mountain 32.66 316 P P 03 58 05.6 +2.3
baz=125,SNR=116
IRM S S 04 03 17.9 +2.9
baz=125
O20A White River Ci 32.69 331 P P 03 58 05.3 +1.7
baz=142,SNR=872
O20A S S 04 03 17.3 +1.7
baz=142
SAML Samuel 32.70 130 eP P 03 58 03.8 0.0
SAML Samuel 32.70 130 P P 03 58 04.2 +0.4
SAML pmax pmax
comp=Z,1µm,1.0s
SAML MLR MLR
comp=Z,294µm,18.0s
SAML Samuel 32.70 130 P P 03 58 04.2 +0.4
SAML IAmb IAmb 03 58 12.1
comp=Z,1µm,1.0s
SAML Samuel 32.70 130 IAMs_20 IAMs_20 04 13 38.6
comp=Z,294µm,18.0s
SPMN Marine on St. 32.77 354 P P 03 58 04.0 0.0
baz=172,SNR=763
SPMN S S 04 03 11.1 -5.3
baz=172
MONP2 Monument Peak 32.87 313 P P 03 58 07.1 +1.8
baz=122,SNR=70
MONP2 S S 04 03 20.7 +2.2
baz=122
L64A Middleborough 32.87 24 P P 03 58 06.7 +1.8
baz=212,SNR=51
L64A S S 04 03 16.2 -1.7
baz=212
H53A Bobcaygeon 32.90 13 P P 03 58 05.7 +0.6
baz=197,SNR=352
H53A S S 04 03 21.0 +2.7
baz=197
J59A Piesco 32.92 18 P P 03 58 06.2 +0.8
baz=205,SNR=370
J59A S S 04 03 17.8 -0.9
baz=205
J59A Piesco 32.92 18 IAmb IAmb 03 58 13.2
comp=Z,1µm,1.1s
J59A IAMs_20 IAMs_20 04 11 46.3
comp=Z,344µm,22.0s
K62A Royalston 32.97 22 P P 03 58 07.1 +1.4
baz=209,SNR=75
K62A S S 04 03 17.1 -2.4
baz=209
K62A Royalston 32.97 22 IAmb IAmb 03 58 17.0
comp=Z,3µm,1.8s
K62A IAMs_20 IAMs_20 04 11 16.6
comp=Z,496µm,21.0s
SADO Sadowa 32.97 12 IAmb IAmb 03 58 12.5
comp=Z,1µm,1.1s
SADO IAMs_20 IAMs_20 04 12 40.6
comp=Z,217µm,20.0s
I58A Old Forge 32.98 18 P P 03 58 06.9 +0.9
baz=204,SNR=304
I58A S S 04 03 19.5 -0.3
baz=204
I57A Carthage 33.01 17 P P 03 58 07.0 +0.8
baz=203,SNR=98
I57A S S 04 03 20.9 +0.7
baz=203
DELO Deloro Mine 33.06 14 IAmb IAmb 03 58 10.7
comp=Z,1µm,1.4s
DELO IAMs_20 IAMs_20 04 11 00.9
comp=Z,267µm,22.0s
F42A Maple Grove Fa 33.06 360 IAmb IAmb 03 58 17.3
comp=Z,2µm,1.9s
F42A IAMs_20 IAMs_20 04 13 24.7
comp=Z,215µm,20.0s
WES Weston 33.06 23 IAmb IAmb 03 58 15.4
comp=Z,1µm,1.3s
J60A Lant Hill Farm 33.07 20 P P 03 58 08.1 +1.5
baz=207,SNR=110
J60A S S 04 03 20.7 -0.2
baz=207
HRV Adam Dziewonsk 33.08 23 P P 03 58 08.0 +1.2
baz=210
HRV Adam Dziewonsk 33.08 23 P P 03 58 07.7 +1.0
HRV pmax pmax
comp=Z,2µm,1.6s
HRV MLR MLR
comp=Z,782µm,22.0s
HRV Adam Dziewonsk 33.08 23 P P 03 58 07.7 +1.0
HRV IAmb IAmb 03 58 18.1
comp=Z,2µm,1.6s
BCX Boston College 33.08 23 IAmb IAmb 03 58 18.2
comp=Z,2µm,1.3s
SUSD Miller 33.09 346 P P 03 58 06.9 +0.1
baz=160,SNR=233
SUSD S S 04 03 19.3 -2.0
baz=160
ACCN Adirondack Com 33.11 19 IAmb IAmb 03 58 15.2
comp=Z,2µm,1.8s
ACCN IAMs_20 IAMs_20 04 11 37.4
comp=Z,501µm,21.0s
TJX Tijuana 33.13 311 IAmb IAmb 03 58 32.2
comp=Z,966nm,1.0s
TJX IAMs_20 IAMs_20 04 13 36.1
comp=Z,169µm,20.0s
BELC Belle Mtn. Jos 33.16 315 P P 03 58 09.8 +2.1
baz=124,SNR=153
BELC S S 04 03 23.9 +0.9
baz=124
K63A Dunstable 33.25 23 P P 03 58 10.1 +1.9
baz=210,SNR=94
K63A S S 04 03 22.8 -0.9
baz=210
L65A Cape Cod Natio 33.27 25 P P 03 58 09.9 +1.5
baz=213
L65A S S 04 03 22.4 -1.6
baz=213
TPFO Pinon Flats 33.27 314 P P 03 58 10.7 +2.1
baz=122,SNR=92
PFO Pinyon Flats O 33.27 314 P3KPbc 04 29 28.0
comp=Z,16nm,1.1s,baz=250,slow=3.2,SNR=7.7
PFO Pinyon Flats O 33.27 314 P P 03 58 11.0 +2.3
baz=122,SNR=94
PFO S S 04 03 27.6 +2.9
baz=122
PFO Pinyon Flats O 33.27 314 eP P 03 58 11.0 +2.3
PFO pmax pmax
comp=Z,273nm,1.1s
PFO MLR MLR
comp=Z,331µm,22.0s
PFO Pinyon Flats O 33.27 314 P P 03 58 09.0 +0.3
109C Camp Elliot, M 33.36 312 P P 03 58 11.4 +2.1
baz=121,SNR=17
109C S S 04 03 26.7 +0.9
baz=121
GMRC Granite Mounta 33.37 316 P P 03 58 11.6 +2.1
baz=125,SNR=132
GMRC S S 04 03 29.0 +2.9
baz=125
COWI Conover 33.41 359 IAmb IAmb 03 58 19.1
comp=Z,630nm,1.0s
I59A Olmsteadville 33.41 19 P P 03 58 10.6 +0.9
baz=206,SNR=306
I59A S S 04 03 24.3 -2.1
baz=206
J61A Chester 33.45 21 P P 03 58 11.4 +1.4
baz=208,SNR=173
J61A S S 04 03 26.8 -0.1
baz=208
RWWY Rawlins 33.46 334 IAmb IAmb 03 58 35.9
comp=Z,2µm,1.3s
NCB Newcomb 33.46 18 IAmb IAmb 03 58 21.5
comp=Z,907nm,1.3s
NCB IAMs_20 IAMs_20 04 12 01.8
comp=Z,284µm,22.0s
F36A Milaca 33.48 353 IAmb IAmb 03 58 13.4
comp=Z,1µm,1.1s
H57A Richville 33.57 17 P P 03 58 11.8 +0.8
baz=203,SNR=230
H57A S S 04 03 27.4 -1.4
baz=203
J62A Henniker 33.61 22 P P 03 58 12.9 +1.6
baz=210,SNR=188
J62A S S 04 03 25.9 -3.4
baz=210
I60A Shoreham 33.64 19 P P 03 58 13.1 +1.4
baz=207,SNR=114
I60A S S 04 03 30.2 +0.3
baz=207
RDMU Red Mountain 33.67 330 P P 03 58 12.5 +0.3
RDMU PcP 04 00 52.2 +1.2
PLVO Plevna 33.68 14 IAmb IAmb 03 58 19.3
comp=Z,857nm,1.1s
PLVO IAMs_20 IAMs_20 04 13 43.4
comp=Z,189µm,18.0s
E43A Lone Tree Farm 33.69 1 IAmb IAmb 03 58 21.6
comp=Z,938nm,1.1s
G54A Lake Saint Pet 33.79 13 P P 03 58 13.4 +0.5

baz=198,SNR=479
G54A S **S** **04 03 27.6 -4.5**

baz=198
MURC Murrieta 33.79 313 P **P** **03 58 15.4 +2.3**
baz=122,SNR=54
MURC S **S** **04 03 32.6 +0.1**

baz=122
E46A Sault Ste Mari 33.82 5 IAmb IAmb 03 59 28.3
comp=Z,1µm,1.8s
E46A IAMs_20 IAMs_20 04 13 16.8

comp=Z,165µm,19.0s
HEC Hector,Ludlow 33.85 316 P **P** **03 58 15.8 +2.1**
baz=124,SNR=64
HEC S **S** **04 03 34.3 +0.8**

baz=124
HNH Hanover 33.86 21 IAMs_20 IAMs_20 04 11 47.2
comp=Z,302µm,22.0s
FFD Franklin Falls 33.88 22 IAmb IAmb 03 58 23.5
comp=Z,2µm,1.6s
H58A Gabriels 33.88 18 P **P** **03 58 14.3 +0.6**
baz=205,SNR=490
H58A S **S** **04 03 32.8 -0.8**

baz=205
TUQ Turquoise Moun 33.91 317 P **P** **03 58 16.4 +2.1**
baz=125,SNR=113
TUQ S **S** **04 03 37.6 +3.0**

baz=125
J63A Strafford 33.92 22 P **P** **03 58 15.9 +1.8**
baz=211,SNR=143
J63A S **S** **04 03 34.2 0.0**

baz=211
BBRC Big Bear Solar 33.94 314 P **P** **03 58 17.1 +2.4**
baz=123,SNR=51
BBRC S **S** **04 03 35.6 +0.3**

baz=123
LONY Lake Ozonia 33.95 17 P **P** **03 58 15.0 +0.7**
baz=204,SNR=468
LONY Lake Ozonia 33.95 17 IAmb IAmb 03 58 19.2
comp=Z,1µm,1.1s
LONY IAMs_20 IAMs_20 04 13 03.5

comp=Z,336µm,20.0s
K22A Casper 33.96 335 P **P** **03 58 16.2 +1.6**
baz=147,SNR=351
K22A S **S** **04 03 36.7 +1.5**

baz=147
K22A Casper 33.96 335 IAmb IAmb 03 58 26.3
comp=Z,2µm,1.4s
E38A The Farm, Brul 34.03 356 IAMs_20 IAMs_20 04 14 23.3
comp=Z,172µm,20.0s
I61A Oroboro, Fairl 34.09 21 P **P** **03 58 17.1 +1.6**
baz=208,SNR=162
I61A S **S** **04 03 35.6 -1.1**

baz=208
H59A Cadyville 34.24 18 P **P** **03 58 17.4 +0.6**
baz=206,SNR=281
H59A S **S** **04 03 38.6 -0.5**

baz=206
VT1 Waterbury 34.25 20 IAmb IAmb 03 58 24.9
comp=Z,812nm,1.5s
VT1 IAMs_20 IAMs_20 04 12 48.4

comp=Z,410µm,20.0s
G57A Newington 34.28 17 P **P** **03 58 17.7 +0.6**
baz=203,SNR=155
G57A S **S** **04 03 39.0 -0.6**

baz=203
RSSD Black Hills 34.28 339 P **P** **03 58 19.2 +1.7**
baz=152
RSSD Black Hills 34.28 339 P **P** **03 58 18.0 +0.5**
RSSD pmax pmax

comp=Z,441nm,0.7s
RSSD MLR MLR

comp=Z,82µm,22.0s
RSSD Black Hills 34.28 339 P **P** **03 58 18.0 +0.5**
RSSD IAmb IAmb 03 58 26.0
comp=Z,441nm,0.7s
ALGO Algonquin Park 34.33 12 P **P** **03 58 18.1 +0.6**
baz=198,SNR=261
RRX Edison Barstow 34.33 315 P **P** **03 58 20.2 +2.4**
baz=123,SNR=8.0
RRX S **S** **04 03 42.3 +1.5**

baz=123
I62A Tamworth 34.34 22 P **P** **03 58 19.4 +1.7**
baz=210,SNR=306
I62A S **S** **04 03 40.0 -0.7**

baz=210
D41A Chassel 34.36 359 IAmb IAmb 03 58 27.5
comp=Z,1µm,1.1s
D41A IAMs_20 IAMs_20 04 14 16.0

comp=Z,169µm,19.0s
SHOC Shoshone, Teco 34.41 317 P **P** **03 58 20.5 +2.0**
baz=126,SNR=31
SHOC S **S** **04 03 42.5 +0.4**

baz=126
GSC Goldstone, Bar 34.43 316 P **P** **03 58 21.0 +2.2**
baz=124,SNR=62
GSC S **S** **04 03 43.7 +1.2**

baz=124
BFSC Mount Baldy Ra 34.45 314 P **P** **03 58 20.6 +1.7**
baz=122,SNR=78
BFSC S **S** **04 03 42.2 -0.7**

baz=122
LBNH Lisbon 34.45 21 P **P** **03 58 20.0 +1.4**
baz=209,SNR=127
LBNH Lisbon 34.45 21 IAmb IAmb 03 58 28.9
comp=Z,2µm,1.6s
LBNH IAMs_20 IAMs_20 04 11 52.9

comp=Z,358µm,22.0s
SCI2 San Clemente I 34.46 311 P **P** **03 58 20.7 +1.8**
baz=119,SNR=13
SCI2 S **S** **04 03 45.0 +2.2**

baz=119
H60A Morristown 34.48 20 P **P** **03 58 19.8 +0.9**
baz=207,SNR=114
H60A S **S** **04 03 44.5 +1.7**

baz=207
PRN Pahroc Range 34.53 320 IAMs_20 IAMs_20 04 14 23.5
comp=Z,169µm,21.0s
CIS Catalina Islan 34.57 312 P **P** **03 58 22.0 +2.1**
baz=120,SNR=27
CIS S **S** **04 03 47.0 +2.5**

baz=120
G58A Ormstown 34.58 18 P **P** **03 58 20.3 +0.6**
baz=205,SNR=154
G58A S **S** **04 03 42.2 -2.2**

baz=205
FMP Fort Macarthur 34.63 312 P **P** **03 58 22.3 +2.0**
baz=120
FMP S **S** **04 03 47.6 +2.2**

baz=120
H61A Lyndonville 34.71 20 P **P** **03 58 22.0 +1.1**
baz=208,SNR=108
H61A S **S** **04 03 44.9 -1.5**

baz=208
I63A Otisfield 34.77 22 P **P** **03 58 23.0 +1.6**
baz=211,SNR=133
I63A S **S** **04 03 47.0 -0.2**

baz=211
I63A Otisfield 34.77 22 IAmb IAmb 03 58 32.8
comp=Z,2µm,1.4s
G59A Clarenceville 34.79 19 P **P** **03 58 22.4 +0.9**
baz=206,SNR=159
G59A S **S** **04 03 48.3 +0.9**

baz=206
PASC Pasadena Art C 34.79 313 IAMs_20 IAMs_20 04 14 41.0
comp=Z,160µm,20.0s
LPAZ La Paz 34.81 145 P **P** **03 58 23.3 +0.6**
comp=Z,98nm,0.9s,baz=331,slow=8.1,SNR=153
LPAZ S **S** **04 03 50.5 +0.9**

comp=Z,21nm,1.1s,baz=27,slow=4.5,SNR=1.7
LPAZ ScP **ScP** **04 04 40.1 +5.0**

comp=Z,21nm,0.9s,baz=348,slow=4.9,SNR=2.2
LPAZ La Paz 34.81 145 *e*P **P** **03 58 23.8 +1.1**
LPAZ La Paz 34.81 145 P **P** **03 58 22.4 -0.3**
LPAZ IAmb IAmb 03 58 31.9

comp=Z,820nm,1.5s
LPAZ S **S** **04 03 47.0 -2.7**
LPAZ **ScP** **04 04 33.1 -2.0**
LPAZ La Paz 34.81 145 *e*P **P** **03 58 23.5 +0.7**
DECC Green Verdugo 34.94 313 P **P** **03 58 25.2 +2.1**
baz=121,SNR=18
DECC S **S** **04 03 53.0 +2.8**

baz=121
F57A Harrington 35.01 16 P **P** **03 58 24.1 +0.7**
baz=203,SNR=123
F57A S **S** **04 03 44.7 -6.2**

baz=203
TPNV Topopah Spring 35.01 319 P **P** **03 58 25.9 +2.1**
baz=127,SNR=215

TPNV Topopah Spring 35.01 319 IAMs_20 IAMs_20 04 13 44.2
comp=Z,249µm,22.0s
H62A Milan 35.01 21 P **P** **03 58 24.7 +1.2**
baz=210,SNR=54
H62A S **S** **04 03 49.7 -1.4**

baz=210
H62A Milan 35.01 21 IAmb IAmb 03 58 34.6
comp=Z,2µm,1.9s
I64A Boothbay 35.02 23 P **P** **03 58 25.4 +1.9**
baz=212,SNR=28
I64A S **S** **04 03 51.9 +0.8**

baz=212
EDW2 Edwards Air Fo 35.02 314 P **P** **03 58 25.6 +1.8**
baz=122,SNR=96
EDW2 S **S** **04 03 53.7 +2.2**

baz=122
G60A Masonville 35.07 20 P **P** **03 58 24.7 +0.7**
baz=207,SNR=88
G60A S **S** **04 03 50.2 -1.7**

baz=207
DUG Dugway, Tooele 35.08 326 P **P** **03 58 26.1 +1.9**
baz=135,SNR=77
LRMC Laurel Mtn Rad 35.13 316 P **P** **03 58 26.7 +1.9**
baz=123,SNR=91
LRMC S **S** **04 03 51.3 -2.0**

baz=123
FURC Furnace Creek, 35.13 318 P **P** **03 58 27.0 +2.4**
baz=126,SNR=114
FURC S **S** **04 03 56.9 +4.0**

baz=126
E55A Montcerf-Lytto 35.25 14 P **P** **03 58 26.1 +0.6**
baz=201,SNR=116
E55A S **S** **04 03 51.8 -2.8**

baz=201
F58A St-Lin Laurent 35.31 17 P **P** **03 58 26.2 +0.2**
baz=205,SNR=26
F58A S **S** **04 03 58.3 +2.9**

baz=205
MPMC Manual Prospec 35.31 316 P **P** **03 58 28.0 +1.6**
baz=124,SNR=181
MPMC S **S** **04 03 57.9 +1.6**

baz=124
EYMN Ely 35.36 356 P **P** **03 58 25.8 -0.6**
baz=174,SNR=297
EYMN Ely 35.36 356 IAmb IAmb 03 58 36.7
comp=Z,2µm,1.4s
BW06 Boulder Array 35.37 332 P **P** **03 58 27.6 +0.7**
baz=142,SNR=417
PDAR Pinedale Array 35.37 332 P **P** **03 58 27.1 +0.2**
comp=Z,222nm,1.0s,baz=130,slow=9.0,SNR=210
PDAR PcP **PcP** **04 00 57.1 +1.3**

comp=Z,50nm,0.7s,baz=88,slow=4.0,SNR=6.9
PDAR S **S** **04 03 51.4 -5.5**

comp=Z,9.3nm,1.0s,baz=96,slow=5.5,SNR=2.1
PDAR ScP **ScP** **04 04 39.4 +3.1**

comp=Z,44nm,1.1s,baz=142,slow=4.6,SNR=5.2
PDAR Pinedale Array 35.37 332 P **P** **03 58 27.4 +0.5**
PDAR **PcP** **04 00 54.5 -1.4**
PDAR **S** **04 03 55.3 -1.7**
PDAR **ScP** **04 04 36.9 +0.6**
AP01 Chacalluta 35.39 150 IAMs_20 IAMs_20 04 12 35.6
comp=Z,513µm,21.0s
OSI Osito Audit: C 35.40 313 P **P** **03 58 28.6 +1.6**
baz=121
OSI S **S** **04 03 58.6 +1.3**

baz=121
OSI Osito Audit: C 35.40 313 IAMs_20 IAMs_20 04 14 17.2
comp=Z,175µm,21.0s
HWUT Hardware Ranch 35.44 329 IAmb IAmb 03 58 52.5
comp=Z,1µm,0.9s
R11A Troy Canyon, C 35.45 321 P **P** **03 58 29.7 +2.1**
baz=129,SNR=310
R11A S **S** **04 03 59.2 +0.9**

baz=129
H63A New Sharon 35.49 22 P **P** **03 58 29.5 +1.9**
baz=211,SNR=117
H63A S **S** **04 03 55.4 -2.9**

baz=211
G61A St-Isidore-de- 35.50 20 P **P** **03 58 28.7 +1.0**
baz=209,SNR=146
G61A S **S** **04 03 51.7 -6.9**

baz=209
WVL Waterville 35.55 23 IAmb IAmb 03 58 38.9
comp=Z,2µm,1.5s
E56A St. Veronique 35.59 16 P **P** **03 58 29.0 +0.6**
baz=202,SNR=141
E56A S **S** **04 03 52.5 -7.4**

baz=202
F59A Saint Guilaume 35.60 18 P **P** **03 58 29.4 +0.9**
baz=206,SNR=99
F59A S **S** **04 03 55.8 -4.1**

baz=206
E57A Chemin Saint G 35.71 17 P **P** **03 58 29.9 +0.4**
baz=204,SNR=175
E57A S **S** **04 03 54.6 -7.1**

baz=204
ARVC Arvin 35.73 314 P **P** **03 58 32.0 +2.2**
baz=122,SNR=37
ARVC S **S** **04 03 58.7 -3.6**

baz=122
ISA Isabella, Lake 35.77 315 P **P** **03 58 32.3 +2.1**
baz=123,SNR=55
ISA S **S** **04 04 01.8 -1.2**

baz=123
ISA Isabella, Lake 35.77 315 IAMs_20 IAMs_20 04 14 55.1
comp=Z,211µm,22.0s
PB16 IPOC Station P 35.77 149 IAMs_20 IAMs_20 04 13 29.8
comp=Z,528µm,22.0s
H64A Troy 35.79 23 P **P** **03 58 31.9 +1.8**
baz=213,SNR=180
H64A S **S** **04 04 06.2 +3.4**

baz=213
G62A West of Eustis 35.79 21 P **P** **03 58 31.9 +1.7**
baz=210,SNR=443
G62A S **S** **04 03 59.1 -3.9**

baz=210
D55A Sainte-Anne-du 35.92 15 P **P** **03 58 31.8 +0.6**
baz=201,SNR=521
D55A S **S** **04 03 58.1 -6.8**

baz=201
E58A La Victoria 35.92 18 P **P** **03 58 31.7 +0.4**
baz=205,SNR=227
E58A S **S** **04 04 00.8 -4.1**

baz=205
CWC Cottonwood Cre 35.92 317 P **P** **03 58 33.4 +1.8**
baz=124
CWC S **S** **04 04 07.0 +1.5**

baz=124
F60A Warwick 35.97 19 P **P** **03 58 32.2 +0.5**
baz=207,SNR=154
F60A S **S** **04 03 59.0 -6.6**

baz=207
B35A Bob, Littlefor 35.97 354 IAmb IAmb 03 58 41.1
comp=Z,2µm,1.4s
G63A Kingsbury 36.04 22 P **P** **03 58 33.7 +1.4**
baz=212,SNR=127
G63A S **S** **04 04 02.8 -3.9**

baz=212
AHID Auburn Hatcher 36.08 331 IAmb IAmb 03 58 40.0
comp=Z,970nm,0.8s
D56A ZEC Mazanza, M 36.13 15 P **P** **03 58 33.5 +0.4**
baz=202,SNR=162
D56A S **S** **04 04 03.7 -4.4**

baz=202
AGMN Agassiz Nation 36.19 351 P **P** **03 58 33.8 +0.3**
baz=167,SNR=1000
AGMN Agassiz Nation 36.19 351 IAMs_20 IAMs_20 04 16 03.9
comp=Z,164µm,20.0s
H65A Eastbrook 36.21 24 P **P** **03 58 35.7 +2.0**
baz=214,SNR=147
H65A S **S** **04 04 09.8 +0.5**

baz=214
E59A St. Maurice 36.25 18 P **P** **03 58 35.0 +1.0**
baz=206,SNR=26
E59A S **S** **04 04 05.8 -4.1**

baz=206
ITTB Itaituba 36.28 116 *e*P **P** **03 58 33.1 -1.7**
PKME Peaks-Kenny Pk 36.28 23 P **P** **03 58 35.9 +1.6**
baz=212,SNR=215
VES Vestal, Richgr 36.28 315 P **P** **03 58 37.1 +2.6**
baz=122,SNR=81
VES S **S** **04 04 11.2 +0.4**

baz=122
F61A St Evariste 36.29 20 P **P** **03 58 35.3 +0.9**
baz=209,SNR=60
F61A S **S** **04 04 05.0 -5.6**

baz=209
PKM Mcpherson Peak 36.31 313 P **P** **03 58 37.1 +2.2**
baz=120,SNR=75
PKM S **S** **04 04 10.2 -1.3**

baz=120
TIN Tinemaha, Big 36.37 317 P **P** **03 58 37.6 +2.2**
baz=124,SNR=27
TIN S **S** **04 04 13.0 +0.8**

baz=124
MDND Maddock 36.45 347 P **P** **03 58 36.2 +0.4**
baz=161,SNR=351
MDND S **S** **04 04 07.5 -5.4**

baz=161
G64A Maxfield 36.48 23 P **P** **03 58 37.0 +1.0**
baz=213,SNR=128
G64A S **S** **04 04 07.1 -6.3**

baz=213
E60A Ste Agathe de 36.49 19 P **P** **03 58 36.3 +0.3**
baz=208,SNR=100
E60A S **S** **04 04 08.9 -4.6**

baz=208
LOHW Long Hollow 36.50 332 IAmb IAmb 03 59 08.4
comp=Z,684nm,0.8s
MALB Monte Alegre 36.50 111 *e*P **P** **03 58 35.7 -1.0**
VLDQ Val d'Or 36.51 12 IAmb IAmb 03 58 42.8
comp=Z,621nm,1.1s
VLDQ IAMs_20 IAMs_20 04 12 55.6

comp=Z,226µm,21.0s
PSGCX Pisagua 36.54 151 IAmb IAmb 03 58 46.4
comp=Z,2µm,1.4s
PSGCX IAMs_20 IAMs_20 04 12 32.1

comp=Z,403µm,21.0s
EMMW East Machias 36.55 25 IAmb IAmb 03 58 47.1
comp=Z,3µm,1.6s
EMMW IAMs_20 IAMs_20 04 12 13.2

comp=Z,409µm,22.0s
SMMC Simmler 36.65 314 P **P** **03 58 40.4 +2.7**
baz=120,SNR=40
SMMC S **S** **04 04 12.6 -3.9**

baz=120
H66A Whiting 36.67 25 P **P** **03 58 39.5 +1.9**
baz=215,SNR=70
H66A S **S** **04 04 11.4 -4.8**

baz=215
D58A Chemin du LacG 36.69 17 P **P** **03 58 38.6 +0.7**
baz=205,SNR=249
D58A S **S** **04 04 11.8 -4.9**

baz=205
F63A Nahmakanta, Br 36.73 22 P **P** **03 58 39.5 +1.3**
baz=212,SNR=152
F63A S **S** **04 04 13.7 -3.6**

baz=212
F63A Nahmakanta, Br 36.73 22 IAmb IAmb 03 58 48.8
comp=Z,2µm,1.6s
F63A IAMs_20 IAMs_20 04 13 14.6

comp=Z,465µm,21.0s
VOG Valley Oaks Go 36.74 315 P **P** **03 58 41.1 +2.7**
baz=122
VOG S **S** **04 04 14.5 -3.2**

baz=122
E61A Lac Etchemin 36.86 20 P **P** **03 58 40.2 +0.9**
baz=209,SNR=70
E61A S **S** **04 04 17.0 -2.3**

baz=209
G65A Princeton 36.90 24 P **P** **03 58 41.4 +1.8**
baz=215,SNR=224
G65A S **S** **04 04 16.2 -3.6**

baz=215
G65A Princeton 36.90 24 IAMs_20 IAMs_20 04 15 50.8
comp=Z,315µm,18.0s
PB11 IPOC Station P 36.91 150 IAmb IAmb 03 58 50.5
comp=Z,2µm,1.3s
PB11 IAMs_20 IAMs_20 04 12 56.8

comp=Z,326µm,21.0s
FLWY Flagg Ranch 36.91 333 IAmb IAmb 03 58 54.7
comp=Z,2µm,1.2s
D59A Saint-Raymond 36.93 19 P **P** **03 58 40.4 +0.6**
baz=207,SNR=62
D59A S **S** **04 04 16.0 -4.3**

baz=207
LATQ La Tuque 36.98 17 P **P** **03 58 40.8 +0.6**
baz=205
PAGB Antelope Grade 37.04 314 IAmb IAmb 03 59 17.3
comp=Z,948nm,1.3s
PAGB IAMs_20 IAMs_20 04 15 19.7

comp=Z,176µm,22.0s
MLAC Mammoth, Mammo 37.09 318 P **P** **03 58 43.7 +2.1**
baz=124,SNR=12
MLAC S **S** **04 04 18.0 -5.4**

baz=124
H17A Grant Village 37.10 333 P **P** **03 58 43.6 +2.0**
baz=142,SNR=373
H17A S **S** **04 04 22.8 -0.7**

baz=142
H17A Grant Village 37.10 333 IAmb IAmb 03 59 08.4
comp=Z,678nm,0.9s
NV11 Mina Array Sit 37.11 319 IAmb IAmb 03 59 26.9
comp=Z,952nm,1.6s
RLMT Red Lodge 37.12 335 P **P** **03 58 42.8 +1.0**
baz=144,SNR=500
GGN Saint George 37.13 25 IAmb IAmb 03 58 52.8
comp=Z,2µm,1.2s
GGN IAMs_20 IAMs_20 04 12 42.0

comp=Z,358µm,21.0s
D60A Saint Jean D'O 37.14 20 P **P** **03 58 42.2 +0.6**
baz=208,SNR=169
D60A S **S** **04 04 22.7 -0.7**

baz=208
F64A Sherman 37.15 23 P **P** **03 58 43.2 +1.6**
baz=213,SNR=175
F64A S **S** **04 04 24.4 +0.8**

baz=213
F64A Sherman 37.15 23 IAmb IAmb 03 58 52.7
comp=Z,1µm,1.2s
LKWY Lake 37.16 333 IAmb IAmb 03 58 56.5
comp=Z,2µm,1.4s
OMMB Old Mammoth Mi 37.19 318 IAMs_20 IAMs_20 04 16 10.7
comp=Z,165µm,21.0s
NVAR Mina Array Bea 37.20 319 P **P** **03 58 44.2 +1.7**
comp=Z,108nm,0.9s,baz=134,slow=7.7,SNR=255
NVAR PcP **PcP** **04 01 03.0 +1.6**

comp=Z,240nm,1.1s,baz=130,slow=4.5,SNR=5.6
NVAR S **S** **04 04 24.1 -1.0**

comp=Z,5.7nm,0.9s,baz=151,slow=6.2,SNR=2.2
NVAR ScP **ScP** **04 04 46.5 +3.4**

comp=Z,14nm,0.5s,baz=134,slow=3.9,SNR=15
NVAR LR LR 04 16 55.5

comp=Z,120µm,20.7s,baz=130,slow=41
NVAR Mina Array Bea 37.20 319 P **P** **03 58 42.9 +0.4**
NVAR **PcP** **04 01 01.2 -0.2**
LHV Little Huntoon 37.23 319 IAmb IAmb 03 59 25.0
comp=Z,2µm,1.8s
LAO LASA Array 37.28 339 P **P** **03 58 43.9 +1.0**
baz=150,SNR=348
TA01 Diego Aracena 37.35 152 IAMs_20 IAMs_20 04 13 28.5
comp=Z,237µm,20.0s
E62A Clayton Lake 37.36 21 P **P** **03 58 44.7 +1.2**
baz=211,SNR=179
E62A S **S** **04 04 24.0 -2.8**

baz=211
KVN Kaiserville 37.44 320 IAMs_20 IAMs_20 04 15 49.4
comp=Z,186µm,22.0s
PB08 IPOC Station P 37.48 150 IAmb IAmb 03 58 55.3
comp=Z,2µm,1.6s
PB08 IAMs_20 IAMs_20 04 13 27.9

comp=Z,402µm,22.0s
LSQQ Lebel-sur-Quev 37.50 12 P **P** **03 58 45.0 +0.4**
baz=198
VILB Vilhena 37.52 132 *e*P **P** **03 58 45.9 +0.6**
PATCX Punta Patache 37.59 152 IAMs_20 IAMs_20 04 13 36.7
comp=Z,231µm,21.0s
E63A Oxbow 37.59 22 P **P** **03 58 46.7 +1.3**
baz=212,SNR=178
E63A S **S** **04 04 27.0 -3.3**

baz=212
E63A Oxbow 37.59 22 IAmb IAmb 03 58 56.4
comp=Z,2µm,1.4s
D61A St Aubert, Com 37.63 20 P **P** **03 58 46.9 +1.2**
baz=209,SNR=56
D61A S **S** **04 04 28.5 -2.4**

baz=209
PMPB Monarch Peak 37.67 314 IAmb IAmb 03 59 23.1
comp=Z,1µm,1.7s
PMPB IAMs_20 IAMs_20 04 15 27.4

comp=Z,222µm,22.0s
E64A Bridgewater 37.81 23 P **P** **03 58 48.8 +1.5**
baz=213,SNR=205
E64A S **S** **04 04 32.2 -1.4**

baz=213
NPGB Novo Progresso 37.92 119 *e*P **P** **03 58 46.5 -2.2**

D62A	**Allapoint, All**	**37.92**	**21**	P	**P**	**03 58 49.3**	**+1.1**
	baz=211,SNR=437							
D62A				S	**S**	**04 04 35.3**	**+0.1**
	baz=211							
WAKR	**Walker**	**37.97**	**318**	IAMs_20	IAMs_20	04 16 49.5		
	comp=Z,186µm,22.0s							
MCPB	**Macapa, AP**	**37.97**	**107**	*e*P	**P**	**03 58 47.5**	**-1.6**
MATQ	**Matagami**	**38.05**	**11**	P	**P**	**03 58 49.5**	**+0.3**
	baz=157,SNR=376							
PB01	**IPOC Station P**	**38.09**	**151**	IAmb	IAmb	03 59 01.7		
	comp=Z,1µm,1.4s							
PB01				IAMs_20	IAMs_20	04 14 02.0		
	comp=Z,264µm,21.0s							
ULM	**Lac du Bonnet**	**38.09**	**352**	P	**P**	**03 58 48.5**	**-1.2**
	comp=Z,1µm,0.9s,baz=167,slow=9.5,SNR=320							
ULM				S	**S**	**04 04 31.6**	**-6.2**
	comp=Z,41nm,0.9s,baz=240,slow=20,SNR=2.2							
ULM				LR	LR	04 17 20.5		
	comp=Z,109µm,20.0s,baz=165,slow=41							
ULM	**Lac du Bonnet**	**38.09**	**352**	*c i*P	**P**	**03 58 48.9**	**-0.7**
ULM	**Lac du Bonnet**	**38.09**	**352**	P	**P**	**03 58 48.4**	**-1.3**
ULM				IAmb	IAmb	03 58 52.3		
	comp=Z,1µm,0.9s							
ULM					**S**	**04 04 37.1**	**-0.7**
ULM				IAMs_20	IAMs_20	04 08 36.4		
	comp=Z,144µm,18.0s							
YERR	**Yerington**	**38.12**	**319**	IAmb	IAmb	03 59 12.8		
	comp=Z,2µm,1.9s							
HAL	**Halifax**	**38.19**	**29**	IAmb	IAmb	03 59 02.7		
	comp=Z,949nm,1.1s							
HAL				IAMs_20	IAMs_20	04 13 03.8		
	comp=Z,251µm,22.0s							
DGMT	**Dagmar**	**38.20**	**343**	P	**P**	**03 58 51.6**	**+0.9**
	baz=154,SNR=665							
D63A	**Stockholm**	**38.22**	**22**	P	**P**	**03 58 52.0**	**+1.2**
	baz=213,SNR=274							
D63A				S	**S**	**04 04 39.0**	**-0.9**
	baz=213							
HLID	**Hailey**	**38.31**	**329**	P	**P**	**03 58 52.9**	**+1.2**
	baz=136,SNR=362							
SAO	**San Andreas Ge**	**38.40**	**315**	IAMs_20	IAMs_20	04 17 17.6		
	comp=Z,228µm,21.0s							
PB07	**IPOC Station P**	**38.49**	**152**	IAMs_20	IAMs_20	04 14 04.2		
	comp=Z,215µm,21.0s							
BOZ	**Bozeman (W)**	**38.51**	**333**	P	**P**	**03 58 55.1**	**+1.8**
	baz=141,SNR=533							
BOZ	**Bozeman (W)**	**38.51**	**333**	IAmb	IAmb	03 59 06.0		
	comp=Z,1µm,1.1s							
LMN	**Caledonia Moun**	**38.58**	**26**	P	**P**	**03 58 53.5**	**-0.3**
LMN				IAmb	IAmb	03 58 58.3		
	comp=Z,2µm,0.9s							
LMN					**S**	**04 04 48.1**	**+2.8**
RUBR	**Rubicon Trail**	**38.74**	**319**	IAMs_20	IAMs_20	04 17 25.9		
	comp=Z,157µm,21.0s							
DLMT	**Dillon**	**38.76**	**332**	IAmb	IAmb	03 59 28.3		
	comp=Z,2µm,1.2s							
CHGQ	**Chibougamau**	**38.88**	**14**	P	**P**	**03 58 56.1**	**-0.1**
	baz=202,SNR=219							
PB04	**IPOC Station P**	**38.90**	**153**	IAmb	IAmb	03 59 06.5		
	comp=Z,3µm,1.5s							
PB04				IAMs_20	IAMs_20	04 12 24.1		
	comp=Z,280µm,22.0s							
LRM	**Limekiln Ridge**	**39.05**	**333**	P	**P**	**03 58 57.5**	**-0.5**
BATG	**Bathurst New B**	**39.20**	**24**	P	**P**	**03 58 59.0**	**0.0**
BATG				IAmb	IAmb	03 59 03.6		
	comp=Z,1µm,1.0s							
BATG				IAMs_20	IAMs_20	04 14 07.6		
	comp=Z,404µm,22.0s							
AFDM	**Forest Hills D**	**39.22**	**318**	P	**P**	**03 58 58.8**	**-0.5**
HRY	**Holter Researc**	**39.47**	**334**	P	**P**	**03 59 01.1**	**-0.3**
PB06	**IPOC Station P**	**39.48**	**153**	P	**P**	**03 59 00.8**	**-1.0**
PB06				IAmb	IAmb	03 59 11.4		
	comp=Z,4µm,1.6s							
PB06				IAMs_20	IAMs_20	04 12 42.0		
	comp=Z,234µm,20.0s							
CLDB	**Colider**	**39.63**	**125**	*e*P	**P**	**03 59 00.8**	**-2.2**
EGMT	**Eagleton**	**39.69**	**337**	P	**P**	**03 59 04.4**	**+1.2**
	baz=148,SNR=519							
EGMT	**Eagleton**	**39.69**	**337**	P	**P**	**03 59 02.9**	**-0.2**
EGMT				IAmb	IAmb	03 59 23.4		
	comp=Z,2µm,1.1s							
LVC	**Limon Verde**	**39.70**	**152**	P	**P**	**03 59 02.7**	**-1.1**
LVC				pmax	pmax			
	comp=Z,4µm,1.8s							
LVC	**Limon Verde**	**39.70**	**152**	P	**P**	**03 59 02.7**	**-1.1**
LVC				IAmb	IAmb	03 59 14.1		
	comp=Z,4µm,1.8s							
LVC	**Limon Verde**	**39.70**	**152**	*e*P	**P**	**03 59 05.7**	**+1.9**
GBN	**Guysborough**	**39.75**	**30**	P	**P**	**03 59 03.6**	**+0.1**
GBN				IAmb	IAmb	03 59 08.2		
	comp=Z,788nm,1.1s							
PB10	**IPOC Station P**	**39.77**	**154**	P	**P**	**03 59 03.2**	**-0.7**
PB10				IAMs_20	IAMs_20	04 12 23.9		
	comp=Z,114µm,19.0s							
ORV	**Oroville**	**39.89**	**318**	P	**P**	**03 59 04.4**	**-0.4**
ORV				pmax	pmax			
	comp=Z,338nm,1.3s							
ORV				MLR	MLR			
	comp=Z,113µm,22.0s							
ORV	**Oroville**	**39.89**	**318**	P	**P**	**03 59 04.4**	**-0.4**
PTLB	**Pontes e Lacer**	**39.95**	**133**	*e*P	**P**	**03 59 05.7**	**+0.2**
PB15	**IPOC Station P**	**39.97**	**153**	P	**P**	**03 59 04.9**	**-0.9**
PB15				IAmb	IAmb	03 59 15.7		
	comp=Z,4µm,1.8s							
MCCM	**Marconi Confer**	**40.07**	**316**	P	**P**	**03 59 05.9**	**-0.4**
MCCM				IAMs_20	IAMs_20	04 17 06.0		
	comp=Z,214µm,22.0s							
PLID	**Pearl Lake**	**40.19**	**329**	P	**P**	**03 59 07.0**	**-0.5**
J08A	**Circle Bar Ran**	**40.33**	**325**	P	**P**	**03 59 08.2**	**-0.4**
J08A				IAmb	IAmb	03 59 51.8		
	comp=Z,1µm,1.7s							
GDXM	**Geysers**	**40.35**	**317**	P	**P**	**03 59 08.2**	**-0.5**
GDXM				IAMs_20	IAMs_20	04 18 27.4		
	comp=Z,208nm,21.0s							
MSO	**Missoula**	**40.48**	**333**	P	**P**	**03 59 10.7**	**+1.0**
	baz=139,SNR=264							
MSO				ScP	**ScP**	**04 04 59.0**	**+3.6**
	baz=139							
MSO				S	**S**	**04 05 14.3**	**+0.3**
	baz=139							
MSO	**Missoula**	**40.48**	**333**	P	**P**	**03 59 09.5**	**-0.2**
MSO				IAmb	IAmb	03 59 21.6		
	comp=Z,4µm,1.6s							
MOD	**Modoc Plateau**	**40.48**	**322**	P	**P**	**03 59 09.4**	**-0.5**
MOD				IAMs_20	IAMs_20	04 17 43.1		
	comp=Z,185µm,22.0s							
O03E	**Paynes Creek**	**40.49**	**319**	P	**P**	**03 59 11.3**	**+1.4**
	baz=124,SNR=64							
O03E				ScP	**ScP**	**04 04 58.3**	**+2.8**
	baz=124							
O03E				S	**S**	**04 05 14.6**	**+0.3**
	baz=124							
HOPS	**Hopland Field**	**40.63**	**317**	P	**P**	**03 59 10.6**	**-0.4**
HOPS				IAMs_20	IAMs_20	04 17 38.9		
	comp=Z,184µm,21.0s							
BMO	**Blue Mountains**	**40.70**	**328**	P	**P**	**03 59 11.1**	**-0.4**
BMO				pmax	pmax			
	comp=Z,351nm,1.2s							
BMO				MLR	MLR			
	comp=Z,90µm,21.0s							
BMO	**Blue Mountains**	**40.70**	**328**	P	**P**	**03 59 11.1**	**-0.4**
PB14	**IPOC Station P**	**40.81**	**155**	P	**P**	**03 59 11.8**	**-1.1**
PB14				IAMs_20	IAMs_20	04 12 58.6		
	comp=Z,116µm,19.0s							
O02D	**Mt. Diablo Mer**	**41.06**	**318**	P	**P**	**03 59 14.7**	**+0.1**
	baz=122,SNR=54							
O02D				ScP	**ScP**	**04 05 03.0**	**+5.2**
	baz=122							
O02D				S	**S**	**04 05 20.5**	**-2.2**
	baz=122							
O02D				S	S	04 05 23.1	+0.4	
	baz=122							
WDC	**Whiskeytown Da**	**41.12**	**319**	P	**P**	**03 59 14.8**	**-0.1**
WDC				pmax	pmax			
	comp=Z,82nm,1.0s							
WDC				MLR	MLR			
	comp=Z,61µm,21.0s							
WDC	**Whiskeytown Da**	**41.12**	**319**	P	**P**	**03 59 14.8**	**-0.1**
KCPM	**Cahto Peak**	**41.33**	**317**	P	**P**	**03 59 16.3**	**-0.5**
KCPM				IAMs_20	IAMs_20	04 18 03.2		
	comp=Z,197µm,22.0s							
K05A	**Summer Lake**	**41.33**	**323**	P	**P**	**03 59 16.3**	**-0.5**
K05A				IAMs_20	IAMs_20	04 18 35.4		
	comp=Z,119µm,21.0s							
JTMT	**Jette**	**41.33**	**333**	P	**P**	**03 59 16.4**	**-0.4**
M04C	**Macdoel**	**41.35**	**321**	P	**P**	**03 59 18.3**	**+1.4**
	baz=125,SNR=89							
M04C				ScP	**ScP**	**04 05 03.3**	**+4.4**
	baz=125							
M04C				S	**S**	**04 05 27.1**	**+0.1**
	baz=125							
I07A	**Izee**	**41.37**	**325**	P	**P**	**03 59 16.7**	**-0.4**
F10A	**Beach Ranch, E**	**41.43**	**329**	P	**P**	**03 59 17.3**	**-0.2**
F10A				IAmb	IAmb	03 59 28.0		
	comp=Z,1µm,1.2s							
F10A				IAMs_20	IAMs_20	04 18 50.3		
	comp=Z,145µm,22.0s							
N02D	**Trinity Center**	**41.44**	**319**	P	**P**	**03 59 17.2**	**-0.4**
	baz=123,SNR=26							
N02D				ScP	**ScP**	**04 05 03.5**	**+4.3**
	baz=123							
N02D				S	**S**	**04 05 24.9**	**-3.4**
	baz=123							
N02D				S	S	04 05 27.3	-1.0	
	baz=123							
GO02	**Mina Guanaco**	**41.63**	**154**	P	**P**	**03 59 18.6**	**-1.0**
KMRM	**Mail Ridge**	**41.68**	**318**	P	**P**	**03 59 19.2**	**-0.5**
KMRM				IAMs_20	IAMs_20	04 18 40.5		
	comp=Z,176µm,20.0s							
M02C	**Callahan**	**41.76**	**320**	P	**P**	**03 59 20.4**	**+0.1**
	baz=124,SNR=22							
M02C				ScP	**ScP**	**04 05 04.7**	**+4.1**
	baz=124							
M02C				S	**S**	**04 05 30.5**	**-2.6**
	baz=124							
K04D	**Chiloquin, OR**	**41.78**	**322**	P	**P**	**03 59 21.3**	**+0.9**
	baz=126							
K04D				ScP	**ScP**	**04 05 04.4**	**+3.7**
	baz=126							
K04D				S	**S**	**04 05 34.0**	**+0.6**
	baz=126							
YBH	**Yreka Blue Hor**	**41.86**	**320**	ScP	**ScP**	**04 05 03.1**	**+2.2**
	comp=Z,28nm,1.1s,baz=147,slow=5.0,SNR=3.3							
YBH	**Yreka Blue Hor**	**41.86**	**320**	P	**P**	**03 59 20.6**	**-0.4**
YBH				ScP	**ScP**	**04 05 01.6**	**+0.7**
YBH				IAMs_20	IAMs_20	04 18 09.4		
	comp=Z,170µm,22.0s							
G08A	**Pilot Rock**	**41.86**	**327**	P	**P**	**03 59 20.8**	**-0.3**
J05D	**Fort Rock, OR**	**41.86**	**323**	P	**P**	**03 59 21.7**	**+0.5**
	baz=127,SNR=35							
J05D				ScP	**ScP**	**04 05 05.1**	**+4.1**
	baz=127							
J05D				S	**S**	**04 05 34.2**	**-0.5**
	baz=127							
J05D				S	S	04 05 36.6	+1.9	
	baz=127							
L04D	**Klamath Falls**	**41.88**	**321**	P	**P**	**03 59 22.2**	**+0.9**
	baz=125,SNR=59							
L04D				ScP	**ScP**	**04 05 05.2**	**+4.1**
	baz=125							
L04D				S	**S**	**04 05 33.2**	**-1.8**
	baz=125							
PINE	**Pine Mountain**	**42.00**	**324**	P	**P**	**03 59 21.9**	**-0.5**
KHMM	**Horse Mountain**	**42.04**	**319**	P	**P**	**03 59 23.2**	**+0.5**
KHMM				IAMs_20	IAMs_20	04 19 30.2		
	comp=Z,139µm,20.0s							
AC01	**Pan de Azucar**	**42.09**	**156**	P	**P**	**03 59 22.3**	**-0.7**
AC01				IAmb	IAmb	03 59 32.2		
	comp=Z,2µm,1.6s							
G01D	**G01D**	**42.16**	**317**	P	**P**	**03 59 27.7**	**+4.4**
G01D				PcS	**PcS**	**04 05 06.8**	**-1.5**
G01D				S	**S**	**04 05 43.1**	**+4.6**
G01D				sS	sS	04 06 31.5	+26	
G01D				SS	**ScS**	**04 09 22.9**	**+3.4**
WALA	**Waterton Lakes**	**42.17**	**335**	P	**P**	**03 59 23.2**	**-0.4**
WALA				IAmb	IAmb	03 59 46.2		
	comp=Z,3µm,1.7s							
JCC	**Jacoby Creek,**	**42.20**	**318**	P	**P**	**03 59 23.4**	**-0.3**
JCC				IAMs_20	IAMs_20	04 19 00.5		
	comp=Z,193µm,21.0s							
FS04D	**FS04D**	**42.22**	**317**	P	P	03 59 31.2	+7.3	
FS04D				S	**S**	**04 05 45.2**	**+5.6**
FS04D				sS	sS	04 06 30.4	+23	
FS04D				SS	**ScS**	**04 09 18.3**	**-1.8**
E09A	**Wood Farm, Sta**	**42.26**	**329**	P	**P**	**03 59 24.1**	**-0.1**
E09A				IAMs_20	IAMs_20	04 19 14.4		
	comp=Z,149µm,22.0s							
PRPB	**Parauapebas**	**42.35**	**114**	*e*P	**P**	**03 59 22.9**	**-2.4**
J04D	**Umpqua Nationa**	**42.35**	**323**	P	**P**	**03 59 26.2**	**+1.0**
	baz=126,SNR=58							
J04D				ScP	**ScP**	**04 05 07.5**	**+4.5**
	baz=126							
J04D				S	**S**	**04 05 40.9**	**-1.1**
	baz=126							
FS07D	**FS07D**	**42.37**	**317**	P	**P**	**03 59 29.5**	**+4.6**
FS07D				PcS	**PcS**	**04 05 09.3**	**+0.3**
FS07D				S	**S**	**04 05 44.4**	**+2.9**
FS07D				sS	sS	04 06 34.4	+26	
FS07D				SS	**ScS**	**04 09 18.3**	**-2.4**
TMAB	**Tom-Au,PA,Br**	**42.39**	**108**	*e*P	**P**	**03 59 24.1**	**-1.6**
FS10D	**FS10D**	**42.44**	**318**	P	**P**	**03 59 29.5**	**+4.0**
FS10D				S	**S**	**04 05 45.6**	**+3.1**
FS10D				sS	sS	04 06 30.5	+21	
FS10D				SS	**ScS**	**04 09 22.9**	**+1.7**
FS06D	**FS06D**	**42.48**	**317**	P	P	03 59 32.8	+7.1	
FS06D				PcS	**PcS**	**04 05 08.7**	**-0.6**
FS06D				S	**S**	**04 05 40.8**	**-2.2**
FS06D				sS	sS	04 06 33.1	+23	
FS06D				SS	**ScS**	**04 09 21.9**	**+0.8**
KRMB	**Red Mountain**	**42.50**	**319**	P	**P**	**03 59 26.0**	**-0.4**
HUMO	**Hull Mountain**	**42.50**	**321**	P	**P**	**03 59 26.1**	**-0.2**
HUMO				IAMs_20	IAMs_20	04 18 57.0		
	comp=Z,125µm,21.0s							
FS09D	**FS09D**	**42.51**	**318**	P	**P**	**03 59 29.5**	**+3.6**
FS09D				PcS	**PcS**	**04 05 07.4**	**-2.0**
FS09D				S	**S**	**04 05 44.4**	**+0.9**
FS09D				sS	sS	04 06 31.2	+20	
FS09D				SS	**ScS**	**04 09 28.4**	**+7.0**
FS16D	**FS16D**	**42.53**	**318**	P	P	03 59 31.4	+5.2	
FS16D				PcS	**PcS**	**04 05 09.9**	**+0.2**
FS16D				S	**S**	**04 05 45.6**	**+1.8**
FS16D				sS	sS	04 06 36.6	+25	
FS16D				SS	**ScS**	**04 09 25.6**	**+3.9**
FS13D	**FS13D**	**42.54**	**318**	P	P	03 59 32.0	+5.8	
FS13D				PcS	**PcS**	**04 05 09.9**	**+0.5**
FS13D				S	**S**	**04 05 42.1**	**-1.7**
FS13D				sS	sS	04 06 36.3	+25	
FS13D				SS	**ScS**	**04 09 27.4**	**+6.0**
FS41D	**FS41D**	**42.55**	**318**	P	P	03 59 33.6	+7.1	
FS41D				PcS	**PcS**	**04 05 07.4**	**-2.4**
FS41D				sS	sS	04 06 35.5	+24	
FS41D				SS	**ScS**	**04 09 26.5**	**+4.7**
I05D	**Terrebonne, OR**	**42.56**	**324**	P	**P**	**03 59 27.9**	**+1.2**
	baz=128,SNR=24							
I05D				ScP	**ScP**	**04 05 08.7**	**+5.1**
	baz=128							
I05D				S	**S**	**04 05 43.1**	**-1.6**
	baz=128							
G09D	**G09D**	**42.58**	**318**	P	**P**	**03 59 30.9**	**+4.2**
G09D				PcS	**PcS**	**04 05 09.9**	**-0.1**
G09D				sS	sS	04 06 38.0	+26	
G09D				SS	**ScS**	**04 09 21.0**	**-1.1**
FS44D	**FS44D**	**42.61**	**318**	P	P	03 59 32.0	+5.0	
FS44D				PcS	**PcS**	**04 05 09.9**	**-0.2**
FS44D				SS	SS	04 09 25.6	+28	
L02E	**Cave Junction**	**42.65**	**320**	P	**P**	**03 59 28.0**	**+0.6**
	baz=123,SNR=11							
L02E				ScP	**ScP**	**04 05 07.8**	**+3.9**
	baz=123							
L02E				S	**S**	**04 05 41.6**	**-4.4**
	baz=123							
E08A	**Dider Farm, El**	**42.71**	**328**	P	**P**	**03 59 27.8**	**0.0**
F07A	**Phinny Hill Vi**	**42.77**	**327**	P	**P**	**03 59 28.4**	**+0.1**
I04A	**Tendick Farm,**	**42.85**	**323**	P	**P**	**03 59 29.9**	**+0.8**
	baz=126,SNR=44							
I04A				ScP	**ScP**	**04 05 08.0**	**+3.2**
	baz=126							
I04A				S	**S**	**04 05 42.2**	**-6.9**
	baz=126							
HAWA	**Hanford**	**42.89**	**328**	P	**P**	**03 59 29.2**	**0.0**
K02D	**Willamette Mer**	**42.98**	**321**	P	**P**	**03 59 31.3**	**+1.1**
	baz=124,SNR=25							
K02D				ScP	**ScP**	**04 05 10.0**	**+4.6**
	baz=124							
K02D				S	**S**	**04 05 42.1**	**-8.9**
	baz=124							
NEW	**Newport**	**43.00**	**332**	S	**S**	**04 05 46.8**	**-4.2**
	comp=Z,21nm,1.1s,baz=90,slow=9.1,SNR=1.4							
NEW				LR	LR	04 22 55.1		
	comp=Z,97µm,18.1s,baz=122,slow=44							
NEW				P3KP		04 30 16.4		
	comp=Z,4.8nm,1.1s,baz=145,slow=8.0,SNR=3.4							
NEW	**Newport**	**43.00**	**332**	P	**P**	**03 59 30.5**	**+0.3**
	baz=136,SNR=193							
NEW				ScP	**ScP**	**04 05 07.3**	**+2.0**
	baz=136							
NEW				S	**S**	**04 05 50.2**	**-0.8**
	baz=136							
NEW	**Newport**	**43.00**	**332**	P	**P**	**03 59 30.5**	**+0.3**
NEW				S	**S**	**04 05 50.0**	**-1.0**
NEW				pmax	pmax			
	comp=Z,484nm,1.2s							
NEW				MLR	MLR			
	comp=Z,58µm,21.0s							
NEW	**Newport**	**43.00**	**332**	P	**P**	**03 59 30.5**	**+0.3**
NEW				S	**S**	**04 05 50.0**	**-1.0**
D08A	**Wollman Farm,**	**43.02**	**329**	P	**P**	**03 59 30.4**	**+0.1**
KBO	**Bosley Butte**	**43.06**	**320**	P	**P**	**03 59 30.7**	**-0.2**
KBO				IAmb	IAmb	03 59 42.5		
	comp=Z,1µm,1.2s							
KBO				IAMs_20	IAMs_20	04 20 22.4		
	comp=Z,131µm,22.0s							
G05D	**Wamic, OR**	**43.10**	**325**	P	**P**	**03 59 32.8**	**+1.7**
	baz=129,SNR=34							
G05D				S	**S**	**04 05 50.9**	**-1.8**
	baz=129							
M16D	**M16D**	**43.14**	**319**	P	P	03 59 36.8	+5.5	
M16D				PcS	**PcS**	**04 05 10.6**	**-1.6**
M16D				S	S	04 06 16.9	+24	
M16D				SS	**SnSn**	**04 09 35.5**	**+7.6**
E07A	**Sunnyside**	**43.16**	**328**	P	**P**	**03 59 31.6**	**+0.1**
G10D	**G10D**	**43.18**	**318**	P	**P**	**03 59 34.6**	**+3.4**
G10D				S	**S**	**04 05 57.1**	**+4.1**
G10D				SS	**ScS**	**04 09 18.1**	**-7.1**
C09A	**Chrisman Ranch**	**43.22**	**330**	P	**P**	**03 59 32.0**	**+0.1**
G03D7	**G03D7**	**43.23**	**316**	P	**P**	**03 59 35.2**	**+3.7**
G03D7				PcS	**PcS**	**04 05 09.3**	**-2.4**
G03D7				S	**S**	**04 05 59.0**	**+5.5**
G03D7				SS	**SnSn**	**04 09 27.4**	**-2.1**
H04A	**Detroit Lake**	**43.25**	**324**	P	**P**	**03 59 32.2**	**0.0**
H04A				IAMs_20	IAMs_20	04 20 06.4		
	comp=Z,115µm,22.0s							
AC02	**Maricunga**	**43.30**	**155**	P	**P**	**03 59 32.3**	**-1.0**
I03D	**Drain, OR**	**43.35**	**322**	P	**P**	**03 59 34.1**	**+1.1**
	baz=125,SNR=32							
I03D				ScP	**ScP**	**04 05 10.0**	**+3.3**
	baz=125							
I03D				S	**S**	**04 05 53.9**	**-2.3**
	baz=125							
J01E	**Myrtle Point**	**43.40**	**321**	P	**P**	**03 59 35.4**	**+2.0**
	baz=124,SNR=28							
J01E				ScP	**ScP**	**04 05 12.2**	**+5.2**
	baz=124							
J01E				S	**S**	**04 05 58.1**	**+1.2**
	baz=124							
FFC	**Flin Flon**	**43.44**	**348**	P	**P**	**03 59 33.8**	**+0.2**
FFC				pmax	pmax			
	comp=Z,3µm,1.7s							
FFC				MLR	MLR			
	comp=Z,140µm,21.0s							
FFC	**Flin Flon**	**43.44**	**348**	P	**P**	**03 59 33.8**	**+0.2**
FFC				IAmb	IAmb	03 59 44.1		
	comp=Z,3µm,1.6s							
FFC	**Flin Flon**	**43.44**	**348**	IAMs_20	IAMs_20	04 21 12.8		
	comp=Z,140µm,21.0s							
H04D	**Lebanon**	**43.47**	**324**	P	**P**	**03 59 34.7**	**+0.7**
	baz=126,SNR=22							
H04D				ScP	**ScP**	**04 05 11.5**	**+4.3**
	baz=126							
H04D				S	**S**	**04 05 56.6**	**-1.4**
	baz=126							
KEBM	**Edson Butte**	**43.49**	**321**	P	**P**	**03 59 34.0**	**-0.2**
KEBM				IAmb	IAmb	03 59 49.4		
	comp=Z,2µm,1.3s							
KEBM				IAMs_20	IAMs_20	04 20 01.6		
	comp=Z,103µm,20.0s							
GO03	**Copiap**	**43.53**	**157**	P	**P**	**03 59 34.1**	**-0.6**
F05D	**White Salmon**	**43.58**	**326**	P	**P**	**03 59 36.9**	**+2.0**
	baz=129,SNR=69							
F05D				ScP	**ScP**	**04 05 11.5**	**+3.8**
	baz=129							
F05D				S	**S**	**04 06 03.0**	**+3.4**
	baz=129							
G33D	**G33D**	**43.67**	**320**	P	**P**	**03 59 39.9**	**+4.5**
G33D				PcS	**PcS**	**04 05 14.4**	**0.0**
G33D				SS	SS	04 09 47.4	+29	
G04D	**G04D**	**43.70**	**316**	P	**P**	**03 59 38.9**	**+3.7**
G04D				PcS	**PcS**	**04 05 13.8**	**+0.2**
G04D				S	**S**	**04 06 05.4**	**+5.1**
G04D				SS	**SnSn**	**04 09 45.8**	**+5.1**
AC04	**Llanos de Chal**	**43.77**	**158**	P	**P**	**03 59 35.8**	**-0.7**
AC04				IAmb	IAmb	03 59 45.8		
	comp=Z,2µm,1.8s							
AC04				IAMs_20	IAMs_20	04 13 11.4		
	comp=Z,185µm,20.0s							
COR	**Corvallis**	**43.84**	**323**	P	**P**	**03 59 36.9**	**0.0**
COR				pmax	pmax			
	comp=Z,736nm,1.2s							
COR				MLR	MLR			
	comp=Z,32µm,20.0s							
COR	**Corvallis**	**43.84**	**323**	P	**P**	**03 59 36.9**	**0.0**
I02D	**Wisshome**	**43.88**	**323**	P	**P**	**03 59 39.1**	**+1.8**
	baz=125,SNR=15							
I02D				ScP	**ScP**	**04 05 13.8**	**+4.9**
	baz=125							
I02D				S	**S**	**04 06 05.9**	**+2.0**
	baz=125							
SNDB	**Serra Nova Dou**	**43.90**	**122**	*e*P	**P**	**03 59 36.9**	**-1.0**
LTY	**Liberty**	**44.05**	**328**	P	**P**	**03 59 38.6**	**-0.1**
F04A	**Amboy**	**44.14**	**326**	P	**P**	**03 59 39.4**	**0.0**
G03D	**McMinnville, O**	**44.18**	**324**	P	**P**	**03 59 40.6**	**+0.9**
	baz=126,SNR=16							
G03D				ScP	**ScP**	**04 05 13.6**	**+3.5**
	baz=126							
G03D				S	**S**	**04 06 06.1**	**-2.2**
	baz=126							
LON	**Longmire**	**44.32**	**327**	P	**P**	**03 59 40.8**	**0.0**
LON				pmax	pmax			
	comp=Z,226nm,0.9s							
LON	**Longmire**	**44.32**	**327**	P	**P**	**03 59 40.8**	**0.0**
G20D	**G20D**	**44.37**	**318**	P	**P**	**03 59 42.1**	**+1.3**
G20D				S	**S**	**04 06 09.9**	**-0.5**
G05D7	**G05D7**	**44.40**	**316**	P	**P**	**03 59 43.7**	**+2.9**
G05D7				PcS	**PcS**	**04 05 16.3**	**-0.1**
G05D7				S	**S**	**04 06 10.5**	**0.0**
G05D7				SS	**SnSn**	**04 09 52.2**	**-5.3**
DRLN	**Deer Lake**	**44.41**	**28**	P	**P**	**03 59 41.4**	**0.0**
DRLN				IAmb	IAmb	03 59 44.9		
	comp=Z,1µm,1.1s							
RPN	**Rapa Nui**	**44.55

G36D PcS **PcS** **04 05 18.2 -0.3**
G36D S **S** **04 06 22.0 +4.4**
G36D SS **SnSn** **04 10 03.0 -6.1**
D04E Lakebay 45.10 327 P **P** **03 59 47.7 +0.8**
baz=128,SNR=10
D04E S **S** **04 06 23.4 +1.9**
baz=128
G22D G22D 45.12 317 P **P** **03 59 47.4 +0.6**
G22D S **S** **04 06 18.8 -2.4**
G22D sS **sS** **04 06 54.1 +5.4**
G22D SS SS 04 09 56.7 +11
E03A Lebam 45.14 326 P **P** **03 59 47.4 +0.1**
E03A IAmb IAmb 04 00 19.6
comp=Z,567nm,0.9s
G29D G29D 45.23 318 P **P** **03 59 50.1 +2.5**
G29D S **S** **04 06 29.6 +6.9**
G37D G37D 45.23 319 P **P** **03 59 50.1 +2.4**
G37D S **S** **04 06 26.4 +3.7**
G37D sS **sS** **04 06 52.6 +2.3**
G37D SS **SnSn** **04 10 11.2 -6.2**
B06A Marblemount 45.28 329 P **P** **03 59 48.5 +0.1**
B06A IAmb IAmb 03 59 58.2
comp=Z,783nm,0.9s
SCHQ Schefferville 45.32 17 P **P** **03 59 48.0 -0.6**
comp=Z,1µm,0.9s,baz=221,slow=5.1,SNR=162
SCHQ S **S** **04 06 22.0 -2.6**
comp=Z,54nm,1.1s,baz=332,slow=17,SNR=3.9
SCHQ LR LR 04 19 08.8
comp=Z,352µm,21.5s,baz=207,slow=37
SCHQ Schefferville 45.32 17 P **P** **03 59 48.1 -0.6**
B05A Bryant 45.43 328 P **P** **03 59 49.6 0.0**
baz=130,SNR=58
B05A ScP **ScP** **04 05 18.8 +3.6**
baz=130
B05A S **S** **04 06 24.9 -1.3**
baz=130
D03D Eldon 45.49 327 P **P** **03 59 50.5 +0.4**
baz=128,SNR=36
D03D ScP **ScP** **04 05 19.0 +3.5**
baz=128
D03D S **S** **04 06 27.5 +0.4**
baz=128
SMTB Santa Maria do 45.52 116 *eP* **P** **03 59 49.2 -1.5**
ARAG Araguaiana, MT 45.58 127 *eP* **P** **03 59 51.2 +0.1**
GO04 Tololo Observa 45.65 159 P **P** **03 59 51.0 -0.8**
GO04 IAMs_20 IAMs_20 04 15 26.8
comp=Z,151µm,19.0s
CO01 Juntas del Tor 45.73 158 P **P** **03 59 51.7 -0.7**
CO01 IAmb IAmb 04 00 13.6
comp=Z,2µm,1.9s
CO01 IAMs_20 IAMs_20 04 22 27.8
comp=Z,148µm,21.0s
NLWA Neilton Lookou 45.82 326 P **P** **03 59 52.7 0.0**
NLWA IAmb IAmb 04 00 31.8
comp=Z,2µm,1.9s
J20D J20D 45.99 321 P **P** **03 59 57.0 +3.4**
J20D PcS **PcS** **04 05 17.6 -5.6**
J20D S **S** **04 06 39.2 +5.6**
J20D SS SS 04 10 14.9 +16
A04D Lummi Island 46.03 328 P **P** **03 59 55.2 +0.9**
baz=130,SNR=56
A04D ScP **ScP** **04 05 22.1 +4.4**
baz=130
A04D S **S** **04 06 35.2 +0.3**
baz=130
ROSB Rosrio 46.28 106 *eP* **P** **03 59 55.5 -1.3**
CO03 El Pedregal 46.30 159 P **P** **03 59 56.2 -0.5**
CO03 IAMs_20 IAMs_20 04 15 55.2
comp=Z,182µm,21.0s
FCC Fort Churchill 46.30 356 P **P** **03 59 55.8 -0.4**
FCC pmax pmax
comp=Z,1µm,1.0s
FCC MLR MLR
comp=Z,121µm,20.0s
FCC Fort Churchill 46.30 356 P **P** **03 59 55.8 -0.4**
FCC IAmb IAmb 03 59 59.6
comp=Z,1µm,0.9s
FCC IAMs_20 IAMs_20 04 21 55.5
comp=Z,121µm,20.0s
J28D J28D 46.37 322 P **P** **04 00 00.2 +3.7**
J28D S **S** **04 06 38.6 -0.4**
J28D SS **SnSn** **04 10 32.3 -12**
PGC Sidney 46.37 328 P **P** **03 59 57.1 +0.2**
PGC IAmb IAmb 04 00 36.6
comp=Z,953nm,1.3s
CO02 Combarbal 46.53 160 P **P** **03 59 57.8 -0.8**
H03N2 Juan Fernandez 46.59 169 P **P** **04 00 00.4 +1.9**
baz=147,slow=11,SNR=16
H03N1 Juan Fernandez 46.60 169 P **P** **04 00 00.6 +2.1**
baz=147,slow=11,SNR=15
H03N3 Juan Fernandez 46.61 169 P **P** **04 00 00.2 +1.5**
baz=147,slow=11,SNR=11
VA04 Juan Fernndez 46.81 169 P **P** **04 00 01.1 +0.6**
VA04 IAmb IAmb 04 00 09.3
comp=Z,2µm,1.6s
VA01 Torpederas 47.99 161 P **P** **04 00 09.2 -0.4**
VA03 San Esteban 48.11 160 P **P** **04 00 10.2 -0.6**
ROC1 El Roble 48.15 161 P **P** **04 00 10.5 -0.8**
MT02 Curacav 48.37 161 P **P** **04 00 12.1 -0.5**
MT02 IAMs_20 IAMs_20 04 15 58.0
comp=Z,212µm,21.0s
BDFB Brasilia 48.56 124 P **P** **04 00 14.1 -0.4**
comp=Z,684nm,0.8s,baz=293,slow=8.6,SNR=458
BDFB S **S** **04 07 07.4 -4.4**
comp=Z,11nm,0.8s,baz=150,slow=20,SNR=2.1
BDFB LR LR 04 23 19.2
comp=Z,194µm,18.0s,baz=310,slow=39
BDFB Brasilia 48.56 124 P **P** **04 00 14.2 -0.3**
BDFB pmax pmax
comp=Z,649nm,0.7s
BDFB MLR MLR
comp=Z,228µm,20.0s
BDFB Brasilia 48.56 124 P **P** **04 00 14.2 -0.3**
BDFB IAmb IAmb 04 00 16.4
comp=Z,649nm,0.7s
BDFB IAMs_20 IAMs_20 04 22 58.5
comp=Z,227µm,20.0s
MT05 Renca 48.62 161 P **P** **04 00 15.1 +0.5**
CPUP Villa Florida 48.89 142 P **P** **04 00 16.0 -0.8**
comp=Z,191nm,1.1s,baz=332,slow=8.1,SNR=164
CPUP S **S** **04 07 16.7 +0.7**
comp=Z,7.2nm,0.9s,baz=292,slow=16,SNR=1.7
CPUP LR LR 04 22 32.3
comp=Z,249µm,19.1s,baz=316,slow=38
CPUP PKPPKP **P'P'df** **04 31 19.2 +2.0**
comp=Z,4.8nm,1.1s,baz=305,slow=3.5,SNR=3.2
CPUP Villa Florida 48.89 142 P **P** **04 00 17.0 +0.3**
CPUP IAmb IAmb 04 00 24.8
comp=Z,2µm,1.6s
CPUP Villa Florida 48.89 142 *eP* **P** **04 00 16.4 -0.4**
ITRB Iturama 49.08 130 *eP* **P** **04 00 18.3 0.0**
TRCB Terra Rica 49.41 135 *eP* **P** **04 00 20.4 -0.5**
SDBA SAO DESIDERIO 49.51 118 *eP* **P** **04 00 20.0 -1.7**
PCMB Pacaembu 49.60 133 *eP* **P** **04 00 21.9 -0.4**
IPMB Ipameri, GO 49.70 127 *eP* **P** **04 00 22.3 -0.8**
GO05 Huala 49.75 163 P **P** **04 00 22.7 -0.6**
BO02 Sierra Bellavi 49.90 161 P **P** **04 00 23.7 -0.7**
BO02 IAMs_20 IAMs_20 04 16 43.4
comp=Z,232µm,21.0s
NBMO Morrinhos-CE 50.26 105 *eP* **P** **04 00 24.9 -2.5**
BBB Bella Bella 50.89 329 LR LR 04 25 43.0
comp=Z,86µm,20.5s,baz=146,slow=40
BBB Bella Bella 50.89 329 P **P** **04 00 31.7 +0.2**
PTGB Pitanga 51.08 137 *eP* **P** **04 00 32.6 -0.9**
BI03 Tigo 51.17 164 P **P** **04 00 33.5 -0.4**
BB19B Bebedouro 51.26 130 *eP* **P** **04 00 34.9 0.0**
JANB Januaria 51.30 121 *eP* **P** **04 00 34.1 -1.1**
BI02 San Fabin de 51.48 163 P **P** **04 00 36.3 0.0**
FRTB Fartura 51.92 133 *eP* **P** **04 00 39.5 -0.2**
ITAB Concordia 52.76 139 *eP* **P** **04 00 45.6 -0.3**
RCLB Rio Claro- Sao 52.82 131 *eP* **P** **04 00 46.3 -0.2**
YKA Yellowknife Ar 53.32 345 P **P** **04 00 48.8 -0.7**
comp=Z,276nm,0.8s,baz=140,slow=8.0,SNR=269
YKA PcP **PcP** **04 01 57.1 +0.9**
comp=Z,36nm,0.6s,baz=141,slow=3.8,SNR=5.6
YKA ScP **ScP** **04 05 51.0 +2.5**
comp=Z,27nm,1.0s,baz=138,slow=3.6,SNR=4.7
YKA S **S** **04 08 08.2 -8.0**
comp=Z,6.3nm,0.9s,baz=28,slow=34,SNR=2.4
YKA LR LR 04 24 57.7
comp=Z,131µm,21.9s,baz=0.0,slow=38
LC01 Cunco 53.41 164 P **P** **04 00 51.1 +0.7**
LC01 IAmb IAmb 04 00 59.0
comp=Z,2µm,1.3s
TIJ01 Guaruva-PR 53.57 135 *eP* **P** **04 00 51.6 -0.4**

VAO Valinhos 53.58 131 *eP* **P** **04 00 52.0 0.0**
SPB Sao Paulo 53.60 132 P **P** **04 00 51.9 -0.2**
SPB IAmb IAmb 04 01 03.9
comp=Z,452nm,1.0s
SPB Sao Paulo 53.60 132 *eP* **P** **04 00 52.0 0.0**
DIB Dawson Inlet, 53.66 328 P **P** **04 00 52.5 +0.4**
H02S1 DAWSON INLET T 53.66 328 P **P** **04 00 53.7 +1.6**
H02N1 VAN INLET T-PH 53.72 329 P **P** **04 00 55.0 +2.3**
BSCB Bom Sucesso 54.07 128 *eP* **P** **04 00 55.7 0.0**
PET01 Itanhaem-SP 54.14 133 *eP* **P** **04 00 55.8 -0.2**
CPSB Cacapava Do Su 54.20 143 *eP* **P** **04 00 56.4 0.0**
GDU01 Guandu, BA 54.71 117 *eP* **P** **04 00 58.1 -2.3**
PARB Paraibuna 54.77 131 *eP* **P** **04 01 01.1 +0.3**
RCBR Riachuelo 54.98 106 P **P** **04 01 02.1 -0.3**
RCBR pmax pmax
comp=Z,1µm,1.7s
RCBR MLR MLR
comp=Z,266µm,20.0s
RCBR Riachuelo 54.98 106 P **P** **04 01 02.1 -0.3**
RCBR IAmb IAmb 04 01 09.8
comp=Z,1µm,1.7s
RCBR Riachuelo 54.98 106 *eP* **P** **04 01 01.3 -1.1**
CNLB Canela 55.01 140 *eP* **P** **04 01 02.2 -0.1**
PLTB Pedras Altas 55.10 144 *eP* **P** **04 01 02.8 -0.1**
CRAG Craig 55.20 331 P **P** **04 01 03.7 +0.5**
CRAG IAmb IAmb 04 01 27.7
comp=Z,974nm,1.6s
LPA La Plata 55.22 150*d* *iP* **P** **04 01 04.0 +0.4**
LPA pP **pP** **04 01 20.7 +0.5**
LPA pPP 04 03 29.7
LPA PPP PPP 04 04 44.8
LPA S **S** **04 08 47.3 +4.9**
LPA sS **sS** **04 09 09.3 +0.2**
LPA SCS **ScS** **04 10 49.4 +2.3**
LPA SKIKS 04 15 37.8
WRAK Wrangell Islan 55.35 332 P **P** **04 01 04.8 +0.5**
WRAK IAmb IAmb 04 01 24.9
comp=Z,945nm,2.0s
PLCA Paso Flores 55.48 164 P **P** **04 01 05.8 +0.3**
comp=Z,76nm,0.6s,baz=332,slow=8.0,SNR=201
PLCA S **S** **04 08 47.7 +1.8**
comp=Z,5.6nm,1.1s,baz=216,slow=8.7,SNR=2.8
PLCA LR LR 04 21 09.0
comp=Z,179µm,18.3s,baz=354,slow=32
PLCA PKPPKP **P'P'df** **04 31 00.5 -6.3**
comp=Z,9.0nm,1.2s,baz=71,slow=4.6,SNR=3.7
PLCA Paso Flores 55.48 164 P **P** **04 01 06.2 +0.7**
PLCA Paso Flores 55.48 164 *eP* **P** **04 01 06.2 +0.7**
PTCN Pitcairn Islan 55.50 227 P **P** **04 01 06.2 +0.3**
PTCN IAmb IAmb 04 01 12.4
comp=Z,2µm,1.3s
DLBC Dease Lake 55.52 335 P **P** **04 01 05.6 0.0**
comp=Z,499nm,0.9s,baz=136,slow=6.1,SNR=7.3
DLBC S **S** **04 08 42.2 -3.9**
comp=Z,8.1nm,1.2s,baz=350,slow=19,SNR=1.9
DLBC LR LR 04 29 33.1
comp=Z,96µm,18.7s,baz=116,slow=41
DLBC PKPPKP P'P'df 04 30 55.1 -15
comp=Z,6.3nm,0.9s,baz=276,slow=4.0,SNR=3.1
DLBC Dease Lake 55.52 335 P **P** **04 01 06.7 +1.0**
DLBC IAmb IAmb 04 01 27.1
comp=Z,724nm,0.8s
SJMB Sao Joao De Ma 55.71 123 *eP* **P** **04 01 07.6 +0.2**
MAN01 Angra dos Reis 55.74 129 *eP* **P** **04 01 08.4 +0.7**
VAS01 Vassouras-RJ 55.81 128 *eP* **P** **04 01 09.0 +0.8**
TAOE Nuku Hiva Isla 55.95 250 *eP* **P** **04 01 09.5 +0.1**
comp=Z,732nm,1.4s
TAOE Nuku Hiva Isla 55.95 250 *eLR* LR 04 17 13.5
comp=Z,832µm,27.4s,baz=69
TAOE Nuku Hiva Isla 55.95 250 *eT* T 05 00 33.3
comp=Z,373nm,0.2s
TAOE Nuku Hiva Isla 55.95 250 P **P** **04 01 09.5 +0.1**
BSFB Barra de Sao F 56.05 123 *eP* **P** **04 01 10.3 +0.4**
NAN01 Guarapari, ES 56.16 122 *eP* **P** **04 01 11.0 +0.3**
LL01 San Ignacio de 56.56 166 P **P** **04 01 13.2 +0.2**
H07S1 FLORES T-PHASE 56.60 51 *eP* **P** **04 01 14.4 +0.8**
H07S1 *eS* **S** **04 09 02.9 +1.9**
RIB01 Linhares ES 56.66 123 *eP* **P** **04 01 13.9 -0.4**
H07N1 FLORES T-PHASE 56.73 51 *eP* **P** **04 01 13.8 -0.7**
H07N1 *eS* **S** **04 09 04.4 +1.7**
SIT Sitka 57.08 331 P **P** **04 01 17.1 +0.5**
SIT pmax pmax
comp=Z,330nm,1.4s
SIT Sitka 57.08 331 P **P** **04 01 17.1 +0.5**
JIS Juneau Island 57.30 333 P **P** **04 01 18.8 +0.6**
JIS IAmb IAmb 04 01 29.2
comp=Z,702nm,1.5s
JIS IAMs_20 IAMs_20 04 30 40.4
comp=Z,109µm,20.0s
NUUK Nuuk 57.38 18⇑ *iP* **P** **04 01 18.7 +0.1**
NUUK IAmb IAmb 04 01 22.5
comp=Z,780nm,0.8s
NUUK IAMs_20 IAMs_20 04 21 50.7
comp=Z,449µm,29.8s
NRS Narsarsuaq 57.48 23⇑ *iP* **P** **04 01 17.8 -1.5**
NRS pmax pmax
comp=Z,310nm,0.9s
NRS MLR MLR
comp=Z,640µm,26.0s
NRS Narsarsuaq 57.48 23 IAmb IAmb 04 01 53.9
comp=Z,471nm,1.1s
NRS IAMs_20 IAMs_20 04 24 10.0
comp=Z,238µm,22.0s
NRS Narsarsuaq 57.48 23⇑ *iP* **P** **04 01 17.8 -1.5**
comp=Z,305nm,0.9s
comp=Z,637µm,26.0s
NRS Narsarsuaq 57.48 23⇑ *iP* **P** **04 01 17.9 -1.5**
NRS IAmb IAmb 04 01 25.0
comp=Z,306nm,0.9s
NRS IAMs_20 IAMs_20 04 22 10.7
comp=Z,637µm,26.5s
BESE Bessie Mountai 57.68 333 P **P** **04 01 21.4 +0.5**
BESE IAmb IAmb 04 01 43.3
comp=Z,1µm,1.7s
BESE IAMs_20 IAMs_20 04 31 01.2
comp=Z,94µm,21.0s
RKT Rikitea 58.02 232 *eS* **S** **04 09 18.6 -1.3**
comp=Z,90µm,25.8s
RKT *eLQ* LQ 04 15 50.3
comp=Z,142µm,32.8s
RKT *eLR* LR 04 18 19.2
comp=Z,539µm,30.0s
SKAG Skagway 58.36 334 P **P** **04 01 26.2 +0.6**
SKAG IAmb IAmb 04 01 45.6
comp=Z,669nm,1.4s
CALA Caldeira 58.38 52 *eP* **P** **04 01 25.2 -1.0**
comp=Z,652nm,1.2s
CALA *eS* **S** **04 09 29.8 +5.4**
CALA *eLR* LR 04 19 13.2
comp=Z,76µm,24.2s
PCED Cedros 58.38 52 *eP* **P** **04 01 24.7 -1.4**
comp=Z,347nm,1.5s
PCED *eS* **S** **04 09 20.1 -4.2**
PCED Cedros 58.38 52 *eP* **P'P'df** **04 31 05.7 -1.5**
HOR Horta 58.42 52 *eP* **P** **04 01 24.4 -2.0**
comp=Z,349nm,1.2s
PCAN Candelaria 58.52 53 *eP* **P** **04 01 25.0 -2.1**
comp=Z,284nm,0.5s
PICO Pico 58.58 53 *eP* **P** **04 01 26.9 -0.7**
comp=Z,446nm,1.4s
ROSA Rosais 58.75 52 *eP* **P** **04 01 28.9 +0.2**
comp=Z,272nm,1.5s
ROSA *eS* **S** **04 09 29.8 +0.6**
ROSA *eLQ* LQ 04 16 08.4
ROSA *eLR* LR 04 18 57.1
comp=Z,86µm,21.3s
ROSA Rosais 58.75 52 *eP* P'P'df 04 30 37.0 -30
WHY Whitehorse 58.83 335 P **P** **04 01 29.4 +0.5**
SRBC Serra Branca 58.96 52 *eP* **P** **04 01 30.7 +0.6**
comp=Z,578nm,0.6s
PGRA Graciosa 59.00 52 *eP* **P** **04 01 32.2 +1.8**
comp=Z,460nm,1.4s
PGRA Graciosa 59.00 52 *eLQ* LQ 04 16 09.4
PGRA *eLR* LR 04 19 05.1
comp=Z,76µm,22.4s
PGRA Graciosa 59.00 52 *eP* **P'P'df** **04 31 09.1 +2.8**
ADH Angra Heroismo 59.52 52 *eP* **P** **04 01 34.3 +0.3**
comp=Z,557nm,1.3s
PSCM Serra do Cume 59.62 52 *eP* **P** **04 01 36.7 +2.0**
comp=Z,330nm,1.1s
PSCM *eS* S 04 09 51.5 +11
PSCM Serra do Cume 59.62 52 *eP* P'P'df 04 30 57.1 -8.2
SFJD Kangerlussuaq 59.75 16⇑ *iP* **P** **04 01 34.3 -0.7**
SFJD Kangerlussuaq 59.75 16 P **P** **04 01 34.2 -0.9**
SFJD IAmb IAmb 04 02 11.2
comp=Z,842nm,1.5s
SFJD Kangerlussuaq 59.75 16⇑ *iP* **P** **04 01 34.3 -0.7**
SFJD Kangerlussuaq 59.75 16⇑ *iP* **P** **04 01 34.3 -0.7**
SFJD IAMs_20 IAMs_20 04 23 06.0
comp=Z,28µm,31.1s
HYT Haines Junctio 60.01 335 P **P** **04 01 37.6 +0.5**
HYT IAmb IAmb 04 01 48.1
comp=Z,577nm,1.4s
BCPM Bancas Point 60.49 333 P **P** **04 01 40.7 +0.5**
BCPM IAmb IAmb 04 02 00.5
comp=Z,705nm,1.6s
BCPM IAMs_20 IAMs_20 04 32 24.8
comp=Z,100µm,19.0s
PSET Sete Cidades 60.59 54 *eP* **P** **04 01 43.9 +2.5**
comp=Z,593nm,1.7s
PSET Sete Cidades 60.59 54 *eLQ* LQ 04 16 45.7
PSET *eLR* LR 04 20 01.4
comp=Z,92µm,25.3s
PSET Sete Cidades 60.59 54 *eP* P'P'df 04 30 37.0 -27
PDA Ponta Delgada 60.63 54 *eP* **P** **04 01 40.9 -0.7**
comp=Z,344nm,1.3s
GRON Grota Negra 60.73 54 *eP* P'P'df 04 30 45.1 -19
CMLA Cha da Macela 60.74 54 *eP* **P** **04 01 43.6 +1.2**
comp=Z,290nm,1.0s
CMLA *eS* **S** **04 09 56.8 +2.0**
CMLA *eLQ* LQ 04 16 53.3
CMLA *eLR* LR 04 19 53.4
comp=Z,109µm,25.3s
CMLA Cha da Macela 60.74 54 *eP* **P'P'df** **04 30 57.1 -6.5**
CMLA Cha da Macela 60.74 54 IAMs_20 IAMs_20 04 24 17.9
comp=Z,128µm,20.0s
PCALD Caldeiras da R 60.77 54 *eP* **P** **04 01 44.5 +1.9**
comp=Z,281nm,0.8s
PCA Pinnacle 60.83 333 P **P** **04 01 43.1 +0.4**
PCA IAmb IAmb 04 02 03.7
comp=Z,367nm,1.1s
PCA IAMs_20 IAMs_20 04 32 24.8
comp=Z,86µm,19.0s
PSMA Santa Maria 60.97 55 *eP* **P** **04 01 46.3 +2.4**
comp=Z,492nm,1.1s
PSMA *eS* **S** **04 10 04.0 +6.4**
PSMA Santa Maria 60.97 55 *eP* P'P'df 04 30 33.0 -30
PSMN Pico do Norte, 61.02 55 *eP* **P** **04 01 41.8 -2.5**
comp=Z,638nm,1.3s
PSMN *eS* **S** **04 10 04.0 +5.7**
PSMN *eLQ* LQ 04 16 53.8
PSMN *eLR* LR 04 20 05.5
comp=Z,138µm,23.6s
PSMN Pico do Norte, 61.02 55 *eP* P'P'df 04 30 25.0 -38
BART Pico Bartolome 61.02 54 *eP* **P** **04 01 42.0 -2.4**
comp=Z,387nm,1.4s
BART *eS* **S** **04 09 59.5 +1.0**
BART Pico Bartolome 61.02 54 *eLR* LR 04 20 17.5
comp=Z,92µm,21.9s
BART Pico Bartolome 61.02 54 *eP* P'P'df 04 30 41.1 -22
C36M Paulatuk 61.14 346 P **P** **04 01 43.5 -0.9**
baz=139,SNR=21
C36M S **S** **04 09 56.5 -2.1**
baz=139
C36M Paulatuk 61.14 346 IAMs_20 IAMs_20 04 28 47.6
comp=Z,184µm,22.0s
ILULI Ilulissat 61.27 14⇑ *iP* **P** **04 01 44.2 -1.1**
ILULI pmax pmax
comp=Z,150nm,0.8s
ILULI MLR MLR
comp=Z,380µm,24.0s
ILULI Ilulissat 61.27 14 IAmb IAmb 04 02 21.6
comp=Z,1µm,1.7s
ILULI Ilulissat 61.27 14⇑ *iP* **P** **04 01 44.2 -1.1**
comp=Z,146nm,0.8s
comp=Z,382µm,24.0s
ILULI Ilulissat 61.27 14⇑ *iP* **P** **04 01 44.3 -1.1**
ILULI IAmb IAmb 04 01 48.3
comp=Z,147nm,0.8s
ILULI IAMs_20 IAMs_20 04 26 31.6
comp=Z,382µm,24.4s
TABL Table Mountain 61.38 333 P **P** **04 01 46.8 +0.2**
TABL IAmb IAmb 04 02 13.7
comp=Z,419nm,1.0s
TABL IAMs_20 IAMs_20 04 31 33.2
comp=Z,127µm,22.0s
YAH Yahtse 61.62 333 P **P** **04 01 48.5 +0.3**
YAH IAmb IAmb 04 02 10.9
comp=Z,839nm,1.4s
YAH IAMs_20 IAMs_20 04 31 41.5
comp=Z,89µm,22.0s
MESA MESA 61.63 333 IAmb IAmb 04 01 59.3
comp=Z,401nm,1.2s
MESA IAMs_20 IAMs_20 04 31 44.8
comp=Z,119µm,22.0s
CTGM Chitina Glacie 61.71 334 P **P** **04 01 49.1 +0.4**
CTGM IAmb IAmb 04 02 09.1
comp=Z,2µm,1.8s
CTGM IAMs_20 IAMs_20 04 31 16.0
comp=Z,139µm,22.0s
BARN Barnard Glacier 61.90 334 P **P** **04 01 50.3 +0.4**
BARN IAmb IAmb 04 02 10.2
comp=Z,732nm,1.4s
BARN IAMs_20 IAMs_20 04 32 56.9
comp=Z,88µm,22.0s
ISLE Juniper Island 61.99 333 P **P** **04 01 51.0 +0.4**
ISLE IAmb IAmb 04 02 12.1
comp=Z,590nm,1.2s
ISLE IAMs_20 IAMs_20 04 33 14.3
comp=Z,80µm,20.0s
BALM Baldy 62.18 333 P **P** **04 01 52.3 +0.5**
BALM IAmb IAmb 04 02 02.5
comp=Z,504nm,1.3s
BALM IAMs_20 IAMs_20 04 33 06.5
comp=Z,108µm,21.0s
RES Resolute Bay 62.20 358 P **P** **04 01 51.1 -0.4**
comp=Z,304nm,0.9s,baz=183,slow=10,SNR=14
RES S **S** **04 10 10.9 -1.1**
comp=Z,28nm,1.1s,baz=85,slow=12,SNR=2.0
RES LR LR 04 31 13.3
comp=Z,69µm,19.5s,baz=167,slow=38
RES Resolute Bay 62.20 358 P **P** **04 01 50.9 -0.7**
RES IAmb IAmb 04 01 57.0
comp=Z,352nm,0.8s
RES **S** **04 10 13.3 +1.3**
RES IAMs_20 IAMs_20 04 30 52.6
comp=Z,79µm,20.0s
TGL Tana Glacier 62.27 333 P **P** **04 01 52.9 +0.5**
TGL IAmb IAmb 04 02 13.3
comp=Z,488nm,1.0s
TGL IAMs_20 IAMs_20 04 33 22.8
comp=Z,100µm,21.0s
SUCK Suckling Hills 62.41 332 P **P** **04 01 53.8 +0.6**
SUCK IAmb IAmb 04 02 33.6
comp=Z,1µm,1.7s
SUCK IAMs_20 IAMs_20 04 32 45.4
comp=Z,111µm,20.0s
CRQM Cirque 62.41 333 P **P** **04 01 53.6 +0.2**
CRQM IAmb IAmb 04 02 15.3
comp=Z,639nm,1.2s
ISOG Isortoq, Green 62.42 21⇑ *iP* **P** **04 01 51.9 -1.2**
ISOG IAmb IAmb 04 01 58.7
comp=Z,346nm,0.8s
ISOG IAMs_20 IAMs_20 04 25 07.0
comp=Z,449µm,27.5s
DAWY Dawson 62.43 337 P **P** **04 01 53.2 -0.1**
DAWY IAMs_20 IAMs_20 04 31 42.9
comp=Z,153µm,22.0s
SACV Santiago Islan 62.46 80 P **P** **04 01 54.9 +0.6**
SACV Santiago Islan 62.46 80 IAMs_20 IAMs_20 04 24 29.1
comp=Z,64µm,19.0s
NUUG Nuugaatsiaq 62.58 12⇑ *iP* **P** **04 01 53.9 -0.3**
NUUG IAmb IAmb 04 01 57.5
comp=Z,310nm,0.8s
NUUG IAMs_20 IAMs_20 04 26 30.1
comp=Z,537µm,27.0s
MCARA McCarthy VSAT 62.63 334 IAMs_20 IAMs_20 04 33 19.3
comp=Z,88µm,22.0s
KAIM Kayak Island 62.64 332 P **P** **04 01 55.3 +0.6**
KAIM IAmb IAmb 04 02 16.1
comp=Z,344nm,1.0s
KAIM IAMs_20 IAMs_20 04 32 53.6
comp=Z,73µm,21.0s
HMT Hamilton 62.74 332 IAMs_20 IAMs_20 04 32 31.1
comp=Z,148µm,22.0s
VRDI Verde Repeater 62.75 333 P **P** **04 01 56.1 +0.4**
VRDI IAmb IAmb 04 02 15.6
comp=Z,1µm,1.7s
VRDI IAMs_20 IAMs_20 04 32 01.5
comp=Z,134µm,22.0s
BCAR Beaver Creek A 62.88 336 P **P** **04 01 57.1 +0.8**

INK **Inuvik** 62.89 343 P **P** 04 01 56.4 +0.2
comp=Z,400nm,1.0s,baz=120,slow=8.0,SNR=110
INK LR LR 04 33 10.3
comp=Z,55µm,20.2s,baz=121,slow=40
INK **Inuvik** 62.89 343 P **P** 04 01 56.8 +0.6
INK pmax pmax
comp=Z,763nm,1.1s
INK **Inuvik** 62.89 343 P **P** 04 01 56.8 +0.6
INK IAmb IAmb 04 02 17.3
comp=Z,763nm,1.1s
ANGG **Ammassalik, Gr** 62.92 21 IAMs_20 IAMs_20 04 27 45.8
comp=Z,186µm,21.0s
ANGG **Ammassalik, Gr** 62.92 21⇑*i*P **P** 04 01 54.6 -1.9
ANGG IAmb IAmb 04 01 59.9
comp=Z,615nm,0.8s
ANGG IAMs_20 IAMs_20 04 25 21.1
comp=Z,648µm,27.2s
RAGM **Ragged Mountai** 62.94 332 IAMs_20 IAMs_20 04 32 49.6
comp=Z,150µm,22.0s
GLB **Gilahina Butte** 63.00 334 P **P** 04 01 57.6 +0.5
GLB IAmb IAmb 04 02 18.6
comp=Z,907nm,1.5s
GLB IAMs_20 IAMs_20 04 32 30.0
comp=Z,87µm,21.0s
UPNV **Upernavik** 63.03 10⇑*i*P **P** 04 01 56.5 -0.6
UPNV IAmb IAmb 04 01 59.4
comp=Z,139nm,1.0s
UPNV IAMs_20 IAMs_20 04 25 26.9
comp=Z,295µm,29.8s
Q23K **Middleton Isla** 63.35 331 P **P** 04 02 00.6 +1.2
baz=112
Q23K S **S** 04 10 29.2 +2.3
baz=112
Q23K **Middleton Isla** 63.35 331 IAMs_20 IAMs_20 04 32 34.4
comp=Z,55µm,20.0s
N25K **Chitina, Valde** 63.41 334 P **P** 04 02 00.6 +0.6
baz=114,SNR=53
N25K S **S** 04 10 29.1 +1.4
baz=114
K27K **Chicken** 63.44 337 P **P** 04 02 00.8 +0.8
baz=118
K27K S **S** 04 10 28.1 +0.2
baz=118
EGAK **Eagle** 63.45 337 IAMs_20 IAMs_20 04 31 41.9
comp=Z,132µm,21.0s
EYAK **Cordova Ski Ar** 63.50 332 P **P** 04 02 00.9 +0.5
EYAK IAmb IAmb 04 02 22.1
comp=Z,2µm,1.7s
EYAK IAMs_20 IAMs_20 04 34 57.3
comp=Z,136µm,20.0s
HIN **Hinchinbrook I** 63.78 332 P **P** 04 02 02.8 +0.5
HIN IAmb IAmb 04 02 12.9
comp=Z,767nm,1.0s
HIN IAMs_20 IAMs_20 04 33 29.8
comp=Z,123µm,21.0s
FID **Port Fidalgo** 63.91 332 P **P** 04 02 04.0 +0.9
FID IAmb IAmb 04 02 25.3
comp=Z,1µm,1.4s
FID IAMs_20 IAMs_20 04 35 20.3
comp=Z,108µm,20.0s
KLU **Klutina** 63.94 333 P **P** 04 02 04.0 +0.6
KLU IAmb IAmb 04 02 13.9
comp=Z,1µm,1.7s
DOT **Dot Lake** 64.06 336 IAmb IAmb 04 02 23.8
comp=Z,2µm,1.9s
DOT IAMs_20 IAMs_20 04 32 19.0
comp=Z,157µm,22.0s
SCRK **Sand Creek** 64.17 336 P **P** 04 02 05.3 +0.4
baz=116,SNR=190
SCRK S **S** 04 10 37.6 +0.4
baz=116
ICESG **Greenland Ices** 64.23 17⇑*i*P **P** 04 02 04.2 -1.3
ICESG IAmb IAmb 04 02 08.0
comp=Z,721nm,0.9s
GLI **Glacier Island** 64.23 332 P **P** 04 02 05.8 +0.6
GLI IAMs_20 IAMs_20 04 35 29.8
comp=Z,77µm,21.0s
M24K **Tolsona, Glenn** 64.30 334 P **P** 04 02 06.4 +0.7
baz=113,SNR=50
M24K S **S** 04 10 40.1 +1.4
baz=113
M24K **Tolsona, Glenn** 64.30 334 P **P** 04 02 06.3 +0.6
M24K IAmb IAmb 04 02 28.0
comp=Z,1µm,1.3s
PAX **Paxson** 64.34 335 IAmb IAmb 04 02 25.5
comp=Z,832nm,1.6s
PAX IAMs_20 IAMs_20 04 32 21.5
comp=Z,65µm,22.0s
RIDG **Independent Ri** 64.41 336 P **P** 04 02 07.0 +0.6
RIDG IAmb IAmb 04 02 16.7
comp=Z,645nm,1.2s
RIDG IAMs_20 IAMs_20 04 32 51.0
comp=Z,106µm,20.0s
PUH **Pauahi** 64.57 286 P **P** 04 02 07.9 -0.4
PUH IAmb IAmb 04 02 14.9
comp=Z,906nm,1.0s
BYL **Byron's Ledge** 64.61 286 P **P** 04 02 08.1 -0.5
KKO **Keanakako`i** 64.61 286 IAmb IAmb 04 02 15.2
comp=Z,1µm,1.0s
RIM **Rim** 64.62 286 P **P** 04 02 08.3 -0.3
RIM IAmb IAmb 04 02 39.1
comp=Z,1µm,0.9s
UWB **Uwekahuna B** 64.62 286 IAmb IAmb 04 02 17.0
comp=Z,1µm,1.2s
UWE **Uwekahuna** 64.64 286 P **P** 04 02 08.2 -0.6
UWE IAmb IAmb 04 02 15.3
comp=Z,1µm,1.0s
HLP **Hilina Pali** 64.66 286 P **P** 04 02 08.6 -0.3
SCM **Sheep Creek Mo** 64.69 333 P **P** 04 02 08.7 +0.4
SCM pmax pmax
comp=Z,452nm,1.1s
SCM **Sheep Creek Mo** 64.69 333 P **P** 04 02 08.7 +0.4
SCM IAmb IAmb 04 02 28.6
comp=Z,452nm,1.1s
TULEG **Thule** 64.75 5 P **P** 04 02 08.4 +0.1
TULEG IAMs_20 IAMs_20 04 30 20.7
comp=Z,115µm,22.0s
TULEG **Thule** 64.75 5⇑*i*P **P** 04 02 08.1 -0.3
TULEG IAmb IAmb 04 02 17.1
comp=Z,691nm,1.1s
TULEG IAMs_20 IAMs_20 04 26 49.5
comp=Z,440µm,30.6s
HMH **Humu'ula Sheep** 64.80 286 P **P** 04 02 10.0 -0.1
HMH IAmb IAmb 04 02 26.2
comp=Z,1µm,1.2s
POHA **Pohakuloa** 64.83 286 P **P** 04 02 09.5 -0.7
MLOA **Mauna Loa Obse** 64.89 286 P **P** 04 02 10.0 -0.8
MLOA IAmb IAmb 04 02 18.3
comp=Z,968nm,1.2s
MWH **Moku'aweowe** 64.92 286 P **P** 04 02 10.2 -0.9
MWH IAmb IAmb 04 02 42.6
comp=Z,2µm,1.7s
KHU **Kahuku** 64.96 285 P **P** 04 02 10.4 -0.6
KHU pmax pmax
comp=Z,1µm,1.5s
KHU **Kahuku** 64.96 285 P **P** 04 02 10.4 -0.6
KHU IAmb IAmb 04 03 02.6
comp=Z,1µm,1.5s
KNK **Knik Glacier** 65.05 333 P **P** 04 02 11.0 +0.4
KNK IAmb IAmb 04 02 31.3
comp=Z,1µm,1.4s
KNK IAMs_20 IAMs_20 04 34 51.9
comp=Z,62µm,20.0s
SEW **Seward** 65.06 331 P **P** 04 02 11.2 +0.6
SEW IAMs_20 IAMs_20 04 35 24.6
comp=Z,76µm,22.0s
VAH **Vaihoa** 65.11 247 *e*P **P** 04 02 12.4 +0.8
comp=Z,838nm,1.2s
VAH **Vaihoa** 65.11 247 *e*T T 05 12 07.5
comp=Z,26nm,0.3s
SML **Sawmill** 65.13 333 IAmb IAmb 04 02 31.9
comp=Z,1µm,1.3s
SML IAMs_20 IAMs_20 04 35 52.3
comp=Z,77µm,21.0s
DHY **Denali Highway** 65.18 334 IAMs_20 IAMs_20 04 35 45.7
comp=Z,62µm,20.0s
KHLU **Kahalu`u** 65.19 286 P **P** 04 02 12.0 -0.3
KHLU IAmb IAmb 04 02 36.5
comp=Z,906nm,1.3s
PMOR **Pomariorio Ree** 65.26 247 *e*P **P** 04 02 13.6 +1.0
comp=Z,1µm,1.4s
PMOR **Pomariorio Ree** 65.26 247 *e*T T 05 12 29.2
comp=Z,91nm,0.2s
O22K **Cooper Landing** 65.31 331 P **P** 04 02 11.8 -0.4
baz=109,SNR=7.7
O22K S **S** 04 10 49.3 -1.7
baz=109

GHO **Glory Hole Cre** 65.38 333 P **P** 04 02 13.3 +0.5
GHO IAmb IAmb 04 02 32.9
comp=Z,548nm,0.8s
GHO IAMs_20 IAMs_20 04 36 10.7
comp=Z,89µm,19.0s
PMR **Palmer** 65.41 333 P **P** 04 02 13.0 +0.1
PMR pmax pmax
comp=Z,1µm,1.8s
PMR **Palmer** 65.41 333 P **P** 04 02 12.9 +0.1
PMR IAmb IAmb 04 02 32.1
comp=Z,1µm,1.8s
HLK **Haleakala** 65.42 287 P **P** 04 02 13.5 -0.5
RC01 **Rabbit Creek A** 65.52 332 P **P** 04 02 13.5 -0.1
baz=109,SNR=85
RC01 S **S** 04 10 51.4 -2.2
baz=109
HDA **Harding Lake** 65.53 336 P **P** 04 02 13.3 -0.3
baz=113,SNR=270
HDA S **S** 04 10 51.9 -1.7
baz=113
HDA **Harding Lake** 65.53 336 P **P** 04 02 13.8 +0.2
HDA IAmb IAmb 04 02 23.4
comp=Z,717nm,1.1s
HDA IAMs_20 IAMs_20 04 33 30.5
comp=Z,107µm,21.0s
BRLK **Bradley Lake** 65.64 330 P **P** 04 02 14.9 +0.5
BRLK IAmb IAmb 04 02 35.3
comp=Z,792nm,1.2s
BRLK IAMs_20 IAMs_20 04 33 25.8
comp=Z,58µm,22.0s
IL31 65.65 336 P **P** 04 02 14.6 +0.2
IL31 IAmb IAmb 04 02 35.1
comp=Z,905nm,1.2s
ILAR **Eielson Array** 65.65 336 P **P** 04 02 13.5 -0.9
comp=Z,196nm,1.0s,baz=138,slow=5.2,SNR=204
ILAR S **S** 04 10 53.8 -1.3
comp=Z,1.1nm,0.8s,baz=292,slow=0.5,SNR=2.6
ILAR LR LR 04 33 28.0
comp=Z,127µm,21.9s,baz=117,slow=38
ILAR **Eielson Array** 65.65 336 P **P** 04 02 14.6 +0.2
ILAR S **S** 04 10 55.5 +0.4
ILAR **Eielson Array** 65.65 336 P **P** 04 02 14.6 +0.2
ILAR S **S** 04 10 55.5 +0.4
CNPM **China Poot** 65.73 330 P **P** 04 02 15.6 +0.6
FYU **Fort Yukon** 65.78 338 P **P** 04 02 15.7 +0.6
FYU IAmb IAmb 04 03 14.1
comp=Z,797nm,1.3s
FYU IAMs_20 IAMs_20 04 35 24.1
comp=Z,68µm,21.0s
KDAK **Kodiak Island** 65.92 328 P **P** 04 02 16.4 +0.2
comp=Z,32nm,0.6s,baz=129,slow=2.7,SNR=21
KDAK S **S** 04 10 57.4 -1.1
comp=Z,5.1nm,1.0s,baz=193,slow=18,SNR=1.4
KDAK PKP2ab 04 30 60.0
comp=Z,30nm,1.1s,baz=218,slow=2.0,SNR=3.7
KDAK LR LR 04 34 11.0
comp=Z,32µm,19.6s,baz=125,slow=39
KDAK **Kodiak Island** 65.92 328 P **P** 04 02 17.3 +1.1
KDAK S **S** 04 10 57.5 -1.1
KDAK pmax pmax
comp=Z,302nm,1.2s
KDAK **Kodiak Island** 65.92 328 P **P** 04 02 17.3 +1.1
KDAK S **S** 04 10 57.5 -1.1
RND **Reindeer** 65.93 335 P **P** 04 02 16.9 +0.6
RND pmax pmax
comp=Z,2µm,1.4s
RND MLR MLR
comp=Z,70µm,20.0s
RND **Reindeer** 65.93 335 P **P** 04 02 16.9 +0.6
RND IAMs_20 IAMs_20 04 36 10.2
comp=Z,70µm,20.0s
BMAR **Burnt Mountain** 65.94 339 P **P** 04 02 17.0 +0.7
CCB **Clear Creek Bu** 65.96 336 IAMs_20 IAMs_20 04 33 14.0
comp=Z,124µm,21.0s
HOM **Homer** 65.97 330 P **P** 04 02 17.5 +1.0
baz=107
HOM S **S** 04 10 58.6 -0.5
baz=107
POKR **Poker Plat Res** 66.00 337 P **P** 04 02 16.8 +0.2
baz=113,SNR=76
POKR S **S** 04 10 57.5 -1.9
baz=113
COLA **College** 66.07 336*c*⇑*i*P **P** 04 02 16.3 -0.7
COLA pmax pmax
comp=Z,379nm,1.1s
COLA MLR MLR
comp=Z,175µm,23.0s
COLA **College** 66.07 336 P **P** 04 02 17.0 0.0
COLA **College** 66.07 336 IAMs_20 IAMs_20 04 33 17.9
comp=Z,156µm,22.0s
CAPN **Captain Cook N** 66.07 331 P **P** 04 02 17.8 +0.7
baz=108,SNR=5.7
CAPN S **S** 04 11 01.8 +1.5
baz=108
TCOL **CIGO, UAF Yank** 66.07 336 P **P** 04 02 16.8 -0.2
baz=113,SNR=35
TCOL S **S** 04 10 58.8 -1.4
baz=113
MCK **McKinley** 66.08 335 P **P** 04 02 17.4 +0.3
baz=111,SNR=154
MCK S **S** 04 10 58.9 -1.5
baz=111
SUA **Susitna One** 66.10 332 P **P** 04 02 17.3 -0.2
SUA IAmb IAmb 04 02 36.9
comp=Z,1µm,1.7s
SUA IAMs_20 IAMs_20 04 34 50.8
comp=Z,142µm,22.0s
OHAK **Old Harbor** 66.15 327 P **P** 04 02 18.2 +0.6
CUT **Chulitna** 66.19 333 P **P** 04 02 18.0 +0.2
baz=109,SNR=54
CUT S **S** 04 10 59.5 -2.1
baz=109
MDM **Murphy Dome** 66.25 336 P **P** 04 02 18.3 0.0
MDM IAmb IAmb 04 02 38.8
comp=Z,738nm,1.6s
MDM IAMs_20 IAMs_20 04 33 33.7
comp=Z,136µm,22.0s
NEA2 **Nenana** 66.45 336 P **P** 04 02 19.7 +0.2
baz=111,SNR=119
NEA2 S **S** 04 11 01.6 -3.2
baz=111
BWN **Browne** 66.46 335 P **P** 04 02 19.8 +0.2
SII **Sitkinak Islan** 66.47 326 P **P** 04 02 20.3 +0.5
SII IAmb IAmb 04 02 41.1
comp=Z,1µm,1.6s
SII IAMs_20 IAMs_20 04 34 07.9
comp=Z,77µm,22.0s
MEH **Mehetia** 66.49 244 *e*P **P** 04 02 21.2 +0.6
comp=Z,220nm,1.2s
MEH **Mehetia** 66.49 244 *e*T T 05 14 01.4
comp=Z,36nm,0.3s
TRF **Thorofare Moun** 66.55 334 P **P** 04 02 20.8 +0.4
TRF IAMs_20 IAMs_20 04 36 39.6
comp=Z,90nm,21.0s
SUMG **Summit** 66.61 14⇑*i*P **P** 04 02 20.4 -0.4
SUMG pmax pmax
comp=Z,1µm,1.0s
SUMG MLR MLR
comp=Z,280µm,18.0s
SUMG **Summit** 66.61 14 P **P** 04 02 20.7 -0.1
SUMG IAmb IAmb 04 02 54.1
comp=Z,1µm,1.3s
SUMG **Summit** 66.61 14⇑*i*P **P** 04 02 20.4 -0.4
comp=Z,1µm,1.0s
comp=Z,278µm,18.0s
SUMG **Summit** 66.61 14⇑*i*P **P** 04 02 20.4 -0.4
SUMG IAmb IAmb 04 02 24.4
comp=Z,1µm,1.0s
SUMG IAMs_20 IAMs_20 04 35 35.6
comp=Z,278µm,18.1s
SKT **Skwentna** 66.61 333 P **P** 04 02 20.3 -0.3
SKT IAmb IAmb 04 02 40.6
comp=Z,401nm,1.0s
SKT IAMs_20 IAMs_20 04 37 06.4
comp=Z,93µm,20.0s
I23K **Minto, Yukon-K** 66.77 336 S **S** 04 11 06.3 -2.2
baz=111
KTH **Kantishna Hill** 66.85 334 P **P** 04 02 22.1 -0.1
KTH IAMs_20 IAMs_20 04 36 48.6
comp=Z,74µm,19.0s
OPA **Opana** 66.98 288 P **P** 04 02 23.4 -0.3
OPA pmax pmax
comp=Z,1µm,1.5s
OPA **Opana** 66.98 288 P **P** 04 02 23.4 -0.3
OPA IAmb IAmb 04 02 32.2
comp=Z,1µm,1.5s

HON **Honolulu** 67.00 288 P **P** 04 02 23.4 -0.4
HON pmax pmax
comp=Z,3µm,1.2s
HON **Honolulu** 67.00 288 P **P** 04 02 23.4 -0.4
KIP **Kipapa** 67.01 288*de*P **P** 04 02 25.5 +1.7
KIP pmax pmax
comp=Z,1µm,1.5s
KIP **Kipapa** 67.01 288 P **P** 04 02 24.1 +0.3
KIP IAmb IAmb 04 02 35.5
comp=Z,2µm,1.6s
BPAW **Bear Paw Mtn.** 67.06 335 P **P** 04 02 23.6 +0.1
BPAW IAmb IAmb 04 02 43.3
comp=Z,545nm,1.1s
CHIR **Chirikof Islan** 67.10 326 IAMs_20 IAMs_20 04 31 53.5
comp=Z,78µm,22.0s
PPLA **Purkeypile** 67.19 333 P **P** 04 02 24.4 0.0
PPLA IAmb IAmb 04 02 44.2
comp=Z,916nm,1.4s
MLY **Manley** 67.27 336 P **P** 04 02 25.0 +0.2
baz=110,SNR=208
MLY S **S** 04 11 11.6 -3.3
baz=110
PMOZ **Porto Moniz, M** 67.28 60 *e*P **P** 04 02 25.0 -0.6
comp=Z,590nm,1.6s
PMOZ *e*S **S** 04 11 15.3 -0.9
PMOZ *e*LQ LQ 04 19 15.4
PMOZ *e*LR LR 04 23 20.7
comp=Z,82µm,22.0s
EUNU **Eureka** 67.48 0 IAmb IAmb 04 02 31.9
comp=Z,387nm,0.9s
EUNU IAMs_20 IAMs_20 04 34 53.6
comp=Z,144µm,20.0s
TIAR **Tiarei** 67.50 245 *e*P **P** 04 02 27.5 +0.5
comp=Z,194nm,1.1s
TIAR **Tiarei** 67.50 245 *e*T T 05 15 17.5
comp=Z,4.1nm,0.2s
TVO **Taravao** 67.50 245 *e*P **P** 04 02 27.7 +0.7
comp=Z,94nm,1.2s
TVO **Taravao** 67.50 245 *e*T T 05 15 10.9
comp=Z,1.8nm,0.2s
PMAR **Madeira** 67.53 60 *e*P **P** 04 02 30.7 +3.5
comp=Z,543nm,1.4s
FUL **Funchal** 67.54 60 *e*P **P** 04 02 29.7 +2.7
comp=Z,268nm,2.0s
PPTF **Pamatai, Papee** 67.70 245 P **P** 04 02 27.8 -0.5
PPTF IAmb IAmb 04 02 58.7
comp=Z,2µm,1.7s
PPT **Papeete** 67.71 245 P **P** 04 02 30.1 +1.8
comp=Z,181nm,1.2s,baz=48,slow=2.8,SNR=18
PPT LR LR 04 24 13.4
comp=Z,188µm,21.4s,baz=56,slow=29
PPT2 **Papeete2** 67.72 245 *e*P **P** 04 02 29.2 +0.8
comp=Z,384nm,1.4s
PPT2 *e*S **S** 04 11 20.8 -0.8
comp=Z,419µm,32.5s
PPT2 *e*LQ LQ 04 19 41.3
comp=Z,172µm,27.8s
PPT2 *e*LR LR 04 22 45.0
comp=Z,1039µm,27.8s,baz=63
PAE **Paea** 67.75 245 *e*P **P** 04 02 29.2 +0.7
comp=Z,104nm,1.2s
COLD **Coldfoot** 67.84 338 P **P** 04 02 29.4 +1.1
baz=111,SNR=191
COLD S **S** 04 11 22.4 +0.9
baz=111
COLD **Coldfoot** 67.84 338 P **P** 04 02 29.0 +0.7
COLD IAmb IAmb 04 02 50.3
comp=Z,910nm,1.3s
COLD IAMs_20 IAMs_20 04 36 39.6
comp=Z,67µm,22.0s
PMPST **Porto Santo, M** 68.01 59 *e*P **P** 04 02 29.6 -0.4
comp=Z,552nm,1.6s
PMPS **Porto Santo** 68.01 59 *e*P **P** 04 02 29.2 -0.7
comp=Z,750nm,1.8s
MACI **Morro de la Ar** 68.02 64 P **P** 04 02 30.5 +0.2
MACI IAmb IAmb 04 03 07.1
comp=Z,523nm,0.9s
TOLK **Toolik Lake Re** 68.15 340 P **P** 04 02 30.8 +0.5
baz=112,SNR=57
TOLK S **S** 04 11 25.6 +0.4
baz=112
TOLK **Toolik Lake Re** 68.15 340 P **P** 04 02 30.7 +0.5
TOLK IAmb IAmb 04 03 06.2
comp=Z,1µm,1.8s
TOLK IAMs_20 IAMs_20 04 37 13.7
comp=Z,71µm,20.0s
CHGN **Chignik** 68.72 326 P **P** 04 02 34.5 +0.6
CHGN IAmb IAmb 04 02 43.7
comp=Z,781nm,1.2s
BORG **Borgarnes** 68.84 25 PKPPKP 04 30 45.8
comp=Z,25nm,1.2s,baz=275,slow=3.2,SNR=6.1
BORG LR LR 04 33 52.9
comp=Z,80µm,18.7s,baz=263,slow=37
BORG **Borgarnes** 68.84 25 P **P** 04 02 34.8 +0.3
BORG pmax pmax
comp=Z,227nm,1.2s
BORG MLR MLR
comp=Z,92µm,19.0s
BORG **Borgarnes** 68.84 25 P **P** 04 02 34.8 +0.3
BORG **Borgarnes** 68.84 25 IAMs_20 IAMs_20 04 33 42.0
comp=Z,92µm,19.0s
TTA **Tatalina** 68.88 333 IAMs_20 IAMs_20 04 36 32.3
comp=Z,78µm,20.0s
MBO **M'Bour** 68.92 79 P **P** 04 02 35.8 -0.1
EFI **East Falkland** 69.09 161*d*⇑*i*P **P** 04 02 36.2 +0.1
EFI pmax pmax
comp=Z,2µm,1.4s
EFI MLR MLR
comp=Z,149µm,24.0s
EFI **East Falkland** 69.09 161 P **P** 04 02 37.1 +1.0
EFI **East Falkland** 69.09 161 IAMs_20 IAMs_20 04 28 27.8
comp=Z,160µm,20.0s
USHA **Ushuaia** 69.19 168 S **S** 04 11 40.9 +3.4
comp=Z,5.8nm,0.3s,baz=52,slow=2.8,SNR=2.2
USHA LR LR 04 27 08.8
comp=Z,430µm,21.2s,baz=338,slow=31
XMAS **Kiritimati** 69.43 267 P **P** 04 02 37.6 -1.5
XMAS IAmb IAmb 04 02 44.6
comp=Z,1µm,1.4s
XMAS **Kiritimati** 69.43 267 IAMs_20 IAMs_20 04 25 00.1
comp=Z,127µm,21.0s
MG01 **Puerto William** 69.45 168 P **P** 04 02 39.4 +1.2
MG01 IAmb IAmb 04 02 47.9
comp=Z,1µm,1.4s
SDPT **Sand Point** 69.74 325 P **P** 04 02 41.4 +1.1
TBI **Tubuai** 69.86 239 *e*P **P** 04 02 41.9 +0.4
comp=Z,819nm,1.2s
TBI *e*S **S** 04 11 45.3 -1.3
comp=Z,206µm,37.5s
TBI **Tubuai** 69.86 239 *e*LR LR 04 23 43.3
comp=Z,690µm,28.2s,baz=67
TBI **Tubuai** 69.86 239 *e*T T 05 18 14.2
comp=Z,129nm,0.3s
ALE **Alert** 70.72 3 IAMs_20 IAMs_20 04 36 05.0
comp=Z,133µm,19.0s
A21K **Barrow** 71.33 342 P **P** 04 02 49.6 0.0
baz=106
A21K S **S** 04 12 01.6 -0.7
baz=106
A21K **Barrow** 71.33 342 IAMs_20 IAMs_20 04 37 49.7
comp=Z,66µm,22.0s
FALS **False Pass** 71.37 324 P **P** 04 02 50.8 +0.6
FALS IAmb IAmb 04 03 20.7
comp=Z,1µm,1.2s
DBG **Daneborg** 72.03 15⇑*i*P **P** 04 02 53.2 -0.6
DBG IAmb IAmb 04 02 59.4
comp=Z,84nm,1.0s
DBG IAMs_20 IAMs_20 04 31 12.2
comp=Z,227µm,25.7s
RDOG **Red Dog Mine** 72.74 338 P **P** 04 02 58.5 +0.3
RDOG IAMs_20 IAMs_20 04 39 52.1
comp=Z,92µm,21.0s
UNV **Unalaska Valle** 73.11 323 P **P** 04 03 01.1 +0.5
UNV IAmb IAmb 04 03 24.0
comp=Z,795nm,1.4s
DAG **Danmarks Havn** 73.16 13⇑*i*P **P** 04 02 59.6 -0.8
DAG pmax pmax
comp=Z,160nm,0.7s
DAG MLR MLR
comp=Z,170µm,25.0s
DAG **Danmarks Havn** 73.16 13⇑*i*P **P** 04 02 59.6 -0.8
comp=Z,157nm,0.7s
comp=Z,169µm,25.0s
DAG **Danmarks Havn** 73.16 13⇑*i*P **P** 04 02 59.6 -0.8
DAG IAmb IAmb 04 03 02.2
comp=Z,157nm,0.7s
DAG IAMs_20 IAMs_20 04 32 39.8

ANM **Nome** 73.26 334 IAMs_20 IAMs_20 04 40 39.0
comp=Z,89µm,21.0s
LIS **Lisbon** 73.64 53 eP P 04 03 03.2 -0.9
LIS eS S 04 12 31.4 +1.6
LIS AMS AMS 04 28 39.2
comp=Z,171µm,28.9s
LIS **Lisbon** 73.64 53 eP P 04 03 03.1 -0.9
LIS eS S 04 12 31.3 +1.6
LIS **Lisbon** 73.64 53 eP P 04 03 06.3 +2.3
comp=Z,319nm,1.5s
PSBE **So Bento** 73.87 52 eP P 04 03 04.3 -1.1
comp=Z,433nm,2.0s
PFVI **Vila Bisbo** 73.99 55 eP P 04 03 05.8 -0.3
comp=Z,516nm,1.5s
PTEO **Sao Teotonio** 74.05 54 eP P 04 03 06.7 +0.3
comp=Z,564nm,1.6s
PCAS **Casmilo, Conde** 74.07 52 eP P 04 02 58.5 -8.1
comp=Z,932nm,1.3s
MORF **Marmelete** 74.12 55 eP P 04 03 06.2 -0.8
MORF eS S 04 12 36.8 +1.4
MORF AMS AMS 04 32 04.2
comp=Z,169µm,18.3s
MORF **Marmelete** 74.12 55 eP P 04 03 06.1 -0.8
MORF eS S 04 12 36.7 +1.4
MORF **Marmelete** 74.12 55 eP P 04 03 06.5 -0.5
comp=Z,514nm,1.5s
COI **Coimbra** 74.13 52 P P 04 03 06.6 -0.3
COI pmax pmax
comp=Z,470nm,1.2s
COI **Coimbra** 74.13 52 eP P 04 03 06.2 -0.7
comp=Z,749nm,1.4s
COI **Coimbra** 74.13 52 P P 04 03 06.6 -0.3
PGAV **Gavieira, Arco** 74.15 50 eP P 04 03 06.1 -1.0
comp=Z,334nm,1.9s
PGAV eS SKiKP 04 12 31.9 +2.7
PGAV eLQ LQ 04 22 28.6
PGAV eLR LR 04 26 17.2
comp=Z,176µm,22.0s
PNCL **Nicolau / Gran** 74.16 54 eP P 04 03 06.2 -0.9
comp=Z,116nm,1.6s
PCAB **Cabril** 74.34 50 eP P 04 03 07.5 -0.6
comp=Z,265nm,1.7s
PMTG **Montargil** 74.34 53 eP P 04 03 06.8 -1.3
comp=Z,465nm,1.4s
TNA **Tin City** 74.42 335 P P 04 03 08.7 +0.7
TNA IAMs_20 IAMs_20 04 41 38.8
comp=Z,88µm,20.0s
PVIS **Viseu** 74.50 51 eP P 04 03 09.2 +0.1
comp=Z,430nm,1.8s
NIKH **Nikolski High** 74.51 322 P P 04 03 09.3 +0.5
PCVE **Castro Verde** 74.58 54 eP P 04 03 08.9 -0.7
comp=Z,234nm,1.5s
PVRL **Vila Real** 74.60 50 eP P 04 03 09.6 -0.1
comp=Z,251nm,1.8s
PBEJ **Beja** 74.69 54 eP P 04 03 10.3 +0.1
comp=Z,190nm,1.5s
PBDV **Barranco-do-Ve** 74.70 55 eP P 04 03 10.2 -0.1
comp=Z,437nm,1.6s
LEWI **Lewis, Hebride** 74.76 33 eP P 04 03 08.0 -2.2
LEWI IAMs_20 IAMs_20 04 28 34.7
comp=Z,173µm,28.2s
JMIC **Jan Mayen** 74.78 20 LR LR 04 35 02.5
comp=Z,77µm,21.7s,baz=254,slow=35
JMIC **Jan Mayen** 74.78 20⇑ iP P 04 03 09.3 -0.7
JMIC eS S 04 12 43.5 +2.1
JMIC eSS SS 04 17 29.8 0.0
JMIC IVMs_BB IVMs_BB 04 30 13.7
comp=Z,123µm,32.3s
MTE **Manteigas** 74.78 51 eP P 04 03 09.8 -1.0
comp=Z,419nm,1.5s
MTE eS S 04 12 43.6 +0.9
MTE **Manteigas** 74.78 51 eLQ LQ 04 23 06.5
MTE eLR LR 04 26 46.0
comp=Z,136µm,20.0s
PVAQ **Vaqueiros** 74.86 54 eP P 04 03 10.6 -0.6
comp=Z,320nm,1.6s
PVAQ eS S 04 12 45.4 +1.9
PVAQ **Vaqueiros** 74.86 54 eLQ LQ 04 23 14.1
PVAQ eLR LR 04 26 49.3
comp=Z,175µm,22.0s
PCBR **Castelo Branco** 74.87 52 eP P 04 03 11.3 +0.1
comp=Z,461nm,1.4s
NOR **Nord** 74.93 8⇑ iP P 04 03 10.4 -0.3
NOR pmax pmax
comp=Z,170nm,1.1s
NOR MLR MLR
comp=Z,310µm,22.0s
NOR **Nord** 74.93 8⇑ iP P 04 03 10.4 -0.3
comp=Z,167nm,1.1s
comp=Z,311µm,22.0s
NOR **Nord** 74.93 8⇑ iP P 04 03 10.5 -0.3
NOR IAmb IAmb 04 03 15.4
comp=Z,167nm,1.1s
NOR IAMs_20 IAMs_20 04 36 29.0
comp=Z,311µm,21.6s
DSB **Dublin** 75.06 38 IAMs_20 IAMs_20 04 38 57.1
comp=Z,83µm,19.0s
MVO **Moncorvo** 75.12 51 eP P 04 03 12.0 -0.7
comp=Z,274nm,1.3s
MVO eS S 04 12 44.9 -1.6
MVO **Moncorvo** 75.12 51 eLQ LQ 04 23 26.3
MVO eLR LR 04 26 46.3
comp=Z,110µm,22.0s
CLGH **Cloghs, Cushen** 75.19 36 eP P 04 03 09.0 -3.7
CLGH e 04 12 38.6
CLGH IAMs_20 IAMs_20 04 27 48.6
comp=Z,215µm,33.9s
SPIA **Saint Paul Isl** 75.28 326 P P 04 03 13.7 +0.5
SPIA IAmb IAmb 04 03 34.4
comp=Z,1µm,1.2s
PBRG **Braganca** 75.30 50 eP P 04 03 12.6 -1.1
comp=Z,319nm,1.9s
KPL **Plockton** 75.42 34 eP P 04 03 11.4 -2.5
KPL IAMs_20 IAMs_20 04 28 50.9
comp=Z,220µm,28.5s
AVE **Averroes** 75.46 59⇑ iP P 04 03 11.6 -3.2
AVE i S S 04 12 47.7 -2.7
LAWE **Loch Awe, Argy** 75.57 35 eP P 04 03 12.4 -2.4
LAWE IAMs_20 IAMs_20 04 28 36.1
comp=Z,208µm,30.7s
KAC **Achnashellach** 75.61 34 eP P 04 03 12.5 -2.5
H10N3 **ASCENSION HYDR** 75.86 101 P P 04 03 18.0 +1.0
baz=261,slow=4.7,SNR=6.0
CCA1 **Carnmenellis** 75.87 41 eP P 04 03 14.2 -2.5
CCA1 e 04 12 42.4
CCA1 IAMs_20 IAMs_20 04 28 23.7
comp=Z,242µm,27.0s
H10N2 **ASCENSION HYDR** 75.87 101 P P 04 03 16.4 -0.6
baz=261,slow=4.7,SNR=4.8
H10N1 **ASCENSION HYDR** 75.89 101 P P 04 03 16.0 -1.1
baz=261,slow=4.7,SNR=7.0
GAMB **Gambell** 75.99 333 P P 04 03 17.8 +0.7
ASCN **Ascension** 76.02 102 P P 04 03 18.7 +0.5
ASCN IAmb IAmb 04 03 25.6
comp=Z,586nm,1.2s
ASCN IAMs_20 IAMs_20 04 42 35.7
comp=Z,56µm,20.0s
WIM **Isle of Man** 76.05 37 eP P 04 03 14.8 -2.8
PGBU **Glenifferbraes** 76.09 35 eP P 04 03 14.4 -3.4
PGBU IAMs_20 IAMs_20 04 27 56.1
comp=Z,256µm,40.4s
IOMK **Kirk Michael** 76.10 37 eP P 04 03 14.4 -3.6
IOMK IAMs_20 IAMs_20 04 28 13.3
comp=Z,577µm,37.5s
SFS **San Fernando** 76.14 55⇑ iP P 04 03 16.8 -1.7
SFS i S S 04 12 58.2 +0.5
SFS **San Fernando** 76.14 55 IAMs_20 IAMs_20 04 31 16.8
comp=Z,77µm,22.0s
EAB **Aberfoyle** 76.16 35 eP P 04 03 15.8 -2.4
WLF1 **Llynfaes** 76.25 38 eP P 04 03 16.2 -2.5
WLF1 e 04 12 50.5
WLF1 IAMs_20 IAMs_20 04 27 55.9
comp=Z,618µm,40.8s
NEWG **New Galloway** 76.27 36 eP P 04 03 16.6 -2.2
NEWG IAMs_20 IAMs_20 04 28 00.1
comp=Z,249µm,38.0s
INVG **Invergeldie, C** 76.32 35 eP P 04 03 16.8 -2.4
INVG IAMs_20 IAMs_20 04 28 58.2
comp=Z,210µm,30.2s
MCD **Coleburn Disti** 76.70 33 eP P 04 03 18.9 -2.3
LLW **Llanuwchllyn** 76.71 38 eP P 04 03 18.5 -2.9
ESK **Eskdalemuir** 76.84 36 eP P 04 03 19.8 -2.3
ESK IAMs_20 IAMs_20 04 28 15.3
comp=Z,240µm,39.9s
ESK **Eskdalemuir** 76.84 36 P P 04 03 21.3 -0.8
ESK pmax pmax
comp=Z,136nm,1.0s
ESK MLR MLR
comp=Z,71µm,18.0s
ESK **Eskdalemuir** 76.84 36 P P 04 03 21.3 -0.8
ESK **Eskdalemuir** 76.84 36 IAMs_20 IAMs_20 04 41 22.1
comp=Z,71µm,18.0s
CEU **Ceuta** 76.87 56⇑ iP P 04 03 21.7 -1.0
CEU i S S 04 13 05.1 -0.5
KESW **Keswick, Cumbr** 76.94 37 eP P 04 03 19.6 -3.1
KESW IAMs_20 IAMs_20 04 28 16.2
comp=Z,309µm,45.1s
FOEL **Foel Wylfa** 76.99 38 eP P 04 03 20.5 -2.5
FOEL e 04 12 56.9
FOEL IAMs_20 IAMs_20 04 29 12.4
comp=Z,223µm,31.3s
ESY **Stoneypath** 77.14 35 eP P 04 03 21.6 -2.2
DRUM **Mains of Drumt** 77.16 34 eP P 04 03 21.5 -2.3
DRUM IAMs_20 IAMs_20 04 29 38.5
comp=Z,222µm,30.1s
MCH1 **Michaelchurch** 77.17 39 eP P 04 03 20.7 -3.3
MCH1 e 04 12 58.5
MCH1 IAMs_20 IAMs_20 04 28 23.9
comp=Z,276µm,42.5s
HLM1 **Long Mynd** 77.21 39 eP P 04 03 21.7 -2.5
HLM1 IAMs_20 IAMs_20 04 29 34.4
comp=Z,205µm,26.7s
PAB **San Pablo** 77.30 52 P P 04 03 24.7 -0.4
PAB pmax pmax
comp=Z,421nm,1.6s
PAB **San Pablo** 77.30 52 P P 04 03 24.7 -0.4
PAB **San Pablo** 77.30 52 IAMs_20 IAMs_20 04 33 12.2
comp=Z,137µm,21.0s
MONM **Monmouth** 77.30 39 eP P 04 03 21.7 -3.1
MONM IAMs_20 IAMs_20 04 28 27.9
comp=Z,260µm,38.7s
IFR **Ifrane** 77.34 58⇑ iP P 04 03 24.4 -1.2
IFR i S S 04 13 09.7 -1.6
WAL1 **Walls** 77.42 31 eP P 04 03 22.4 -2.8
OLDB **Oldbury-Upon-S** 77.47 40 eP P 04 03 22.8 -2.9
OLDB IAMs_20 IAMs_20 04 28 32.5
comp=Z,240µm,35.8s
EMAL **Malaga-Limoner** 77.53 55⇑ iP P 04 03 24.9 -1.4
EMAL i S S 04 13 09.9 -2.9
STNC **Stoke** 77.57 38 eP P 04 03 24.1 -2.2
STNC e 04 13 05.3
STNC IAMs_20 IAMs_20 04 28 34.4
comp=Z,325µm,43.4s
ESDC **Sonseca Array** 77.58 52 P P 04 03 25.1 -1.6
comp=Z,42nm,1.0s,baz=292,slow=3.1,SNR=16
ESDC S S 04 13 08.0 -5.5
comp=Z,0.9nm,1.0s,baz=241,slow=26,SNR=2.3
ESDC PKKPbc PKKPbc 04 22 33.6 +3.0
comp=Z,1.4nm,0.8s,baz=72,slow=1.5,SNR=4.9
ESDC LR LR 04 34 11.8
comp=Z,112µm,19.8s,baz=270,slow=33
ESDC **Sonseca Array** 77.58 52 P P 04 03 25.2 -1.5
ESBB **Sonseca Array** 77.58 52 IAMs_20 IAMs_20 04 33 31.7
comp=Z,134µm,21.0s
EDMD **Edmundbyers** 77.59 36 eP P 04 03 23.5 -2.8
EDMD IAMs_20 IAMs_20 04 28 33.8
comp=Z,274µm,46.7s
ES12 **SONSECA Array** 77.60 52 IAMs_20 IAMs_20 04 33 32.5
comp=Z,129µm,21.0s
LRW **Lerwick** 77.64 31 eP P 04 03 24.6 -1.9
LRW IAMs_20 IAMs_20 04 31 11.4
comp=Z,230µm,27.3s
YEL1 **Yell** 77.67 30 eP P 04 03 24.8 -1.8
STRD **Stroud** 77.70 39 eP P 04 03 24.6 -2.3
STRD e 04 13 07.9
STRD IAMs_20 IAMs_20 04 28 38.0
comp=Z,243µm,38.3s
ATKA **Atka Island** 77.80 321 P P 04 03 28.0 +0.5
PVLZ **Peæn de** 77.82 56⇑ iP P 04 03 26.3 -1.7
PVLZ i S S 04 13 15.0 -1.0
LBWR **Ladybower, Pea** 77.84 38 eP P 04 03 25.6 -2.1
LBWR IAMs_20 IAMs_20 04 28 42.7
comp=Z,294µm,40.1s
HPK **Haverah Park** 77.85 37 eP P 04 03 25.3 -2.5
HPK IAMs_20 IAMs_20 04 29 37.2
comp=Z,201µm,31.0s
JSA **Saint Aubin** 77.92 42 eP P 04 03 26.0 -2.3
JSA IAMs_20 IAMs_20 04 29 36.3
comp=Z,256µm,27.0s
SWN1 **Swindon** 77.95 40 eP P 04 03 25.1 -3.3
SWN1 IAMs_20 IAMs_20 04 28 45.0
comp=Z,232µm,40.3s
RAR **Rarotonga** 77.99 245 P P 04 03 30.1 +1.0
comp=Z,198nm,1.2s,baz=112,slow=3.7,SNR=19
RAR S S 04 13 36.4 +18
comp=Z,3.7nm,0.6s,baz=296,slow=17,SNR=1.8
RAR LR LR 04 28 46.5
comp=Z,118µm,20.5s,baz=66,slow=28
RAR **Rarotonga** 77.99 245 P P 04 03 29.5 +0.4
RAR IAmb IAmb 04 03 33.1
comp=Z,2µm,2.0s
RAR **Rarotonga** 77.99 245 IAMs_20 IAMs_20 04 29 06.0
comp=Z,132µm,21.0s
UCM **Universidad Co** 78.06 51⇑ iP P 04 03 26.9 -2.4
UCM i S S 04 13 19.0 +0.4
CWF **Charnwood Fore** 78.14 38 eP P 04 03 27.0 -2.4
CWF e 04 13 12.7
CWF IAMs_20 IAMs_20 04 28 50.7
comp=Z,295µm,40.9s
WOL **Wolverton** 78.33 40 eP P 04 03 28.0 -2.5
WOL e 04 13 07.4
WOL IAMs_20 IAMs_20 04 29 51.6
comp=Z,176µm,29.5s
JOHN **Johnston Islan** 78.41 285 P P 04 03 31.8 +0.3
JOHN IAmb IAmb 04 03 42.6
comp=Z,2µm,1.5s
JOHN **Johnston Islan** 78.41 285 IAMs_20 IAMs_20 04 30 52.6
comp=Z,49µm,22.0s
MELI **Melilla** 78.92 56⇑ iP P 04 03 31.2 -2.8
MELI i S S 04 13 23.7 -4.0
GSTR **Great Sitkin T** 78.95 321 P P 04 03 34.3 +0.3
PMSA **Palmer Station** 79.25 170 P P 04 03 36.8 +1.7
baz=348,slow=7.0
PMSA S S 04 13 35.7 +5.8
comp=Z,5.5nm,1.1s,baz=27,slow=6.8,SNR=2.0
PMSA LR LR 04 32 38.1
comp=Z,150µm,19.8s,baz=335,slow=31
PMSA **Palmer Station** 79.25 170 P P 04 03 36.5 +1.4
PMSA IAmb IAmb 04 03 45.0
comp=Z,749nm,1.1s
PMSA **Palmer Station** 79.25 170 eP P 04 03 35.9 +0.9
PMSA eS S 04 13 38.4 +8.5
ADK **Adak** 79.36 321 P P 04 03 37.2 +1.1
ADK pmax pmax
comp=Z,359nm,0.9s
ADK **Adak** 79.36 321 P P 04 03 37.2 +1.1
HOPE **Hope Point** 79.61 152 P P 04 03 38.5 +1.2
HOPE pmax pmax
comp=Z,5µm,1.7s
HOPE MLR MLR
comp=Z,125µm,20.0s
HOPE **Hope Point** 79.61 152 P P 04 03 38.5 +1.2
HOPE **Hope Point** 79.61 152 IAMs_20 IAMs_20 04 39 30.2
comp=Z,125µm,20.0s
KBS **Kingsbay** 79.65 11c iP P 04 03 38.4 +1.2
KBS pmax pmax
comp=Z,307nm,0.9s
KBS **Kingsbay** 79.65 11 P P 04 03 38.6 +1.4
KBS **Kingsbay** 79.65 11⇑ iP P 04 03 38.2 +1.0
KBS eS S 04 13 35.2 +1.1
KBS eSS SS 04 18 45.8 +2.8
KBS IVMs_BB IVMs_BB 04 37 00.4
comp=Z,60µm,25.2s
KBS **Kingsbay** 79.65 11⇑ iP P 04 03 38.4 +1.2
KBS IAmb IAmb 04 03 43.6
comp=Z,669nm,0.9s
KBS IAMs_20 IAMs_20 04 37 07.8
comp=Z,534µm,25.0s
CART **Cartagena** 80.14 54⇑ iP P 04 03 36.6 -4.0
CART i S S 04 13 35.7 -5.0
CART **Cartagena** 80.14 54 IAMs_20 IAMs_20 04 34 17.6
comp=Z,65µm,20.0s
SUE **Sulen** 80.46 30⇑ iP P 04 03 40.4 -1.4
SUE IVmBBB 04 04 07.7
comp=Z,12µm,8.4s
SUE ePP PP 04 06 43.8 -1.6
SUE eS S 04 13 39.1 -3.9
SUE eSS SS 04 18 58.1 +2.5
SUE IVMs_BB IVMs_BB 04 32 55.0
comp=Z,48µm,26.9s
FOO **Floro** 80.51 29⇑ iP P 04 03 40.3 -1.8
FOO IVmBBB 04 04 08.4
comp=Z,12µm,10.6s
FOO eS S 04 13 40.0 -3.6
FOO eSS SS 04 18 58.7 +2.4
FOO IVMs_BB IVMs_BB 04 31 00.3
comp=Z,48µm,32.3s
SPA0 **Spitsbergen Ar** 80.69 12 P P 04 03 43.7 +0.8
SPA0 **Spitsbergen Ar** 80.69 12⇑ iP P 04 03 42.4 -0.5
SPA0 eS S 04 13 45.7 +0.6
SPA0 IVMs_BB IVMs_BB 04 37 05.6
comp=Z,102µm,25.6s
ASK **Askoy** 80.76 30 eP P 04 03 42.1 -1.4
ASK eS S 04 13 45.7 -0.5
ASK IVMs_BB IVMs_BB 04 32 35.3
comp=Z,44µm,26.2s
BER **Bergen** 80.84 30⇑ iP P 04 03 42.7 -1.2
BER eS S 04 13 43.9 -3.1
BER IVMs_BB IVMs_BB 04 32 36.7
comp=Z,48µm,26.2s
HSPB **Hornsund (broa** 80.85 13 eP P 04 03 44.2 +0.6
HSPB ePP PP 04 06 45.2 -3.1
HSPB eS S 04 13 47.4 +0.7
HSPB eL L 04 36 25.6
comp=Z,235µm,27.3s
KMY **Karmoy** 80.99 31 eP P 04 03 41.8 -2.9
KMY eS S 04 13 44.7 -3.9
KMY IVMs_BB IVMs_BB 04 32 10.6
comp=Z,41µm,29.5s
HYA **Hoyanger** 81.12 29 eP P 04 03 44.6 -0.8
HYA eS S 04 13 48.1 -1.9
KOWA **Kowa** 81.27 77 S S 04 13 49.7 -3.5
comp=Z,6.1nm,1.1s,baz=73,slow=17,SNR=3.4
KOWA PKKPbc PKKPbc 04 22 25.3 +3.7
comp=Z,4.2nm,0.8s,baz=33,slow=2.1,SNR=6.0
KOWA **Kowa** 81.27 77 P P 04 03 45.8 -1.3
KOWA S S 04 13 50.5 -2.7
AKN **Aaknes** 81.33 28 eP P 04 03 45.5 -1.0
MOL **Molde** 81.51 28 eP P 04 03 44.6 -2.8
MOL eS S 04 13 53.6 -0.3
MOL IVMs_BB IVMs_BB 04 33 17.3
comp=Z,45µm,28.0s
ODD1 **Odda** 81.56 31 eP P 04 03 45.9 -1.9
ODD1 eS S 04 13 52.5 -2.2
ODD1 IVMs_BB IVMs_BB 04 31 56.5
comp=Z,38µm,31.7s
BLS5 **Blasjo** 81.56 31⇑ iP P 04 03 47.2 -0.6
BLS5 eS S 04 13 51.4 -3.3
BLS5 IVMs_BB IVMs_BB 04 32 43.0
comp=Z,49µm,27.9s
TIC **Toumodi** 81.82 85 eP P 04 03 48.0 -2.1
UCC **Uccle** 81.89 40 P P 04 03 47.6 -2.0
UCC PcP PcP 04 03 53.5 -1.6
UCC sP pP 04 04 06.1 -1.2
UCC PP PP 04 06 54.6 -2.9
UCC x x 04 07 03.5
UCC **Uccle** 81.89 40 P P 04 03 48.8 -0.8
UCC pmax pmax
comp=Z,89nm,1.0s
UCC MLR MLR
comp=Z,105µm,20.0s
UCC **Uccle** 81.89 40 P P 04 03 48.8 -0.8
UCC IAMs_20 IAMs_20 04 41 50.9
comp=Z,105µm,20.0s
SNF **Seneffe** 81.89 40 P P 04 03 46.8 -2.8
SNF PcP PcP 04 03 53.9 -1.2
SNF x x 04 07 04.1
LIC **Lamto** 81.90 85 eP P 04 03 48.6 -1.8
comp=Z,196nm,0.7s
AMKA **Amchitka** 81.91 321 P P 04 03 50.3 +0.6
DBIC **Dimbokro** 81.98 85 P P 04 03 49.4 -1.5
comp=Z,31nm,0.6s,baz=260,slow=5.9,SNR=31
DBIC S S 04 13 55.3 -5.2
comp=Z,6.3nm,1.0s,baz=17,slow=16,SNR=3.0
DBIC PKKPbc PKKPbc 04 22 29.3 +9.3
comp=Z,2.3nm,0.6s,baz=7.4,slow=2.0,SNR=4.9
DBIC PKPPKP P'P'df 04 30 17.5 -10
comp=Z,4.1nm,0.9s,baz=202,slow=5.4,SNR=3.1
DBIC LR LR 04 37 33.0
comp=Z,88µm,20.8s,baz=260,slow=34
DBIC **Dimbokro** 81.98 85 P P 04 03 49.4 -1.5
DBIC pmax pmax
comp=Z,131nm,1.0s
DBIC **Dimbokro** 81.98 85 P P 04 03 49.4 -1.5
EANR **'Ain N'Sour** 82.07 55 P P 04 03 52.0 +1.0
SNART **Snartemo** 82.15 32 eP P 04 03 51.0 +0.1
SNART eS S 04 13 58.7 -1.9
SNART **Snartemo** 82.15 32 i P P 04 03 49.1 -1.8
SNART i P PcP 04 03 52.0 -4.1
SNART IAmb IAmb 04 03 57.5
comp=Z,265nm,1.2s
SNART i 04 06 59.5
KIC **Kosan Boka** 82.15 85 eP P 04 03 50.0 -1.8
comp=Z,141nm,0.9s
DOU **Dourbes** 82.16 40 ⇑P P 04 03 49.0 -2.1
comp=Z,78nm,2.2s
DOU PcP PcP 04 03 55.7 -0.7
DOU PP PP 04 06 55.7 -4.1
DOU x x 04 07 05.8
DOU **Dourbes** 82.16 40 S S 04 14 04.5 +3.4
BMRD **Maredsous** 82.23 40 P P 04 03 49.0 -2.5
BMRD PcP PcP 04 03 55.8 -0.8
BMRD PP PP 04 06 57.7 -2.6
BMRD **Maredsous** 82.23 40 S S 04 14 04.5 +2.7
SKAR **Skarslia** 82.23 30⇑ iP P 04 03 50.7 -0.6
SKAR eS S 04 13 59.8 -1.8
SKAR IVMs_BB IVMs_BB 04 33 58.0
comp=Z,55µm,26.6s
ECHA **Ech Chlef** 82.25 55 P P 04 03 52.6 +0.8
DOMB **Dombas** 82.31 28⇑ iP P 04 03 50.8 -0.9
DOMB IVmB_BB 04 04 19.4
comp=Z,13µm,11.6s
DOMB eS S 04 14 00.6 -1.7
DOMB eSS SS 04 19 22.6 -0.6
DOMB IVMs_BB IVMs_BB 04 34 45.3
comp=Z,54µm,25.0s
ETRT **Tiaret** 82.32 56 P P 04 03 52.9 +0.5
N2RO **R_st** 82.33 22 eP P 04 03 50.6 -0.9
EBNR **Beni Rached** 82.35 55 P P 04 03 51.7 -0.8
BGES **Gesves** 82.42 40 P P 04 03 50.6 -1.8
comp=Z,160nm,1.9s
BGES PcP PcP 04 03 57.1 -0.4
BGES PP PP 04 06 56.6 -5.3
BGES x x 04 07 06.4
BGES **Gesves** 82.42 40 S S 04 14 03.8 0.0
BJO1 **Bjornoya** 82.44 15 eP P 04 03 51.5 -0.6
BJO1 eS S 04 14 03.9 +0.8
BJO1 eSS SS 04 19 23.0 -1.6
BJO1 IVMs_BB IVMs_BB 04 36 26.0
comp=Z,74µm,26.6s
N2VA **Vr_y** 82.51 22 eP P 04 03 51.8 -0.8
BCLA **Clavier** 82.55 40 P P 04 03 51.2 -1.9
comp=Z,136nm,1.8s
BCLA PcP PcP 04 03 57.8 -0.2
BCLA PP PP 04 06 59.9 -3.1
BCLA x x 04 07 08.4
BCLA PKiKP PKiKP 04 09 10.1 -3.3
RCHB **Rochefort** 82.55 40 P P 04 03 51.0 -2.1
RCHB PP PP 04 06 58.0 -4.9
RCHB x x 04 07 08.6
TBLU **Trondheim** 82.58 27 eP P 04 03 51.7 -1.3
TBLU IVmB_BB 04 04 19.6
comp=Z,12µm,8.7s
TBLU eS S 04 14 03.6 -1.3
TBLU IVMs_BB IVMs_BB 04 31 47.6
comp=Z,43µm,41.9s
BSTI **Sart Tilman** 82.68 40 P P 04 03 51.2 -2.6
BSTI PcP PcP 04 03 58.4 -0.3
BSTI PP PP 04 07 00.3 -3.7
BSTI x x 04 07 10.0
LOF **Lofoten** 82.69 22⇑ iP P 04 03 51.0 -2.5
LOF eS S 04 14 05.7 -0.2
LOF IVMs_BB IVMs_BB 04 32 14.1
comp=Z,62µm,38.1s
BEBN **Eben Emael** 82.71 40 P P 04 03 51.6 -2.3
BEBN PcP PcP 04 03 57.7 -1.0
BEBN PP PP 04 07 00.8 -3.4
BEBN x x 04 07 08.1
HOMB **Homborsund** 82.83 32⇑ iP P 04 03 53.0 -1.3
HOMB ePP PP 04 07 03.7 -1.3
HOMB eS S 04 14 04.6 -3.0
HOMB eSS SS 04 19 30.4 -0.6
HOMB IVMs_BB IVMs_BB 04 33 03.2

comp=Z,42µm,26.6s
HOMB Homborsund 82.83 32⇑ *i*P **P 04 03 52.6 -1.8**
HOMB *i* P **P 04 03 56.0 +1.6**
N2VI Vinje 82.88 21 *e*P **P 04 03 53.0 -1.4**
NBB40 Tonnes 82.92 23 *e*P **P 04 03 54.5 -0.2**
MEM Membach 82.95 40 P **P 04 03 53.0 -2.2**
MEM PcP **PcP 04 03 59.2 -0.6**
MEM sP **pP 04 04 12.3 -0.6**
MEM Membach 82.95 40 P **P 04 03 53.4 -1.8**
MEM sP **pP 04 04 12.8 -0.1**
MEM PP **PP 04 07 02.4 -3.9**
MEM x x 04 07 12.5
MEM Membach 82.95 40 S **S 04 14 09.2 0.0**
KONS Konsvik 82.97 23 *e*P **P 04 03 55.0 +0.1**
KONS *e*S **S 04 14 08.3 -0.4**
STOK Stokkvaagen 82.97 24 *e*P **P 04 03 54.2 -0.7**
STOK *e*S **S 04 14 07.5 -1.2**
SSB Saint Sauveur 83.00 45 P **P 04 03 54.7 -0.9**
SSB pmax pmax
comp=Z,94nm,1.3s
SSB Saint Sauveur 83.00 45 P **P 04 03 54.7 -0.9**
SSB Saint Sauveur 83.00 45 IAms_20 IAms_20 04 35 55.5
comp=Z,114µm,21.0s
BHOU Houvegnez 83.00 40 ⇑P **P 04 03 54.0 -1.5**
BHOU PcP **PcP 04 03 59.8 -0.3**
BHOU sP **pP 04 04 13.2 0.0**
BHOU PP **PP 04 07 03.0 -3.7**
BHOU x x 04 07 13.4
NSS Namsos 83.01 25⇑ *i*P **P 04 03 55.0 -0.2**
NSS *e*S **S 04 14 06.4 -2.8**
NSS *e*SS **SS 04 19 35.3 +2.0**
NSS IVMs_BB IVMs_BB 04 32 01.5
comp=Z,66µm,44.6s
BTNL Ternell 83.03 40 P **P 04 03 53.8 -1.9**
BTNL x x 04 07 13.4
HOPEN Hopen 83.07 13 *e*P **P 04 03 53.5 -1.8**
HOPEN *e*S **S 04 14 09.6 +0.1**
HOPEN *e*SS **SS 04 19 34.1 +0.3**
HOPEN IVMs_BB IVMs_BB 04 34 57.6
comp=Z,64µm,30.9s
NBB30 Finnes 83.08 23 *e*P **P 04 03 54.8 -0.7**
KONO Kongsberg 83.08 30*c*e**P P 04 03 56.8 +1.1**
KONO pmax pmax
comp=Z,77nm,1.7s
KONO Kongsberg 83.08 30 P **P 04 03 55.3 -0.4**
KONO Kongsberg 83.08 30 IAms_20 IAms_20 04 35 26.8
comp=Z,51µm,21.0s
KONO Kongsberg 83.08 30 *e*P **P 04 03 52.7 -3.0**
KONO *e*S **S 04 14 10.4 +0.2**
KONO *e*SS **SS 04 19 35.9 +1.2**
KONO IVMs_BB IVMs_BB 04 33 41.0
comp=Z,50µm,27.4s
NBB05 Inndyr 83.17 23 *e*P **P 04 03 55.5 -0.4**
NBB17 Glomfjord BYr 83.20 23 *e*P **P 04 03 56.2 0.0**
WLF Walferdange 83.23 41 P **P 04 03 54.9 -1.8**
WLF x x 04 07 14.6
WLF Walferdange 83.23 41 S **S 04 14 10.9 -1.1**
NC204 NORSAR Array S 83.27 29 P **P 04 03 56.2 -0.6**
NBB28 Valnes 83.29 23 *e*P **P 04 03 56.5 -0.1**
NBB08 Skaug oppvekst 83.30 22 *e*P **P 04 03 56.2 -0.5**
NBO00 NORSAR Array S 83.34 29 P **P 04 03 56.3 -0.7**
NBO00 IAmb IAmb 04 04 50.2
comp=Z,995nm,1.7s
NBO00 NORSAR Array S 83.34 29⇑ *i*P **P 04 03 55.8 -1.2**
STEI Steigen 83.36 22⇑ *i*P **P 04 03 55.8 -1.2**
STEI IVmBBB 04 04 24.0
comp=Z,13µm,9.7s
STEI *e*PP **PP 04 07 08.7 -0.4**
STEI *e*SKSac **SKSac 04 14 13.8 +0.4**
STEI *e*SS **SS 04 19 37.4 -1.1**
STEI IVMs_BB IVMs_BB 04 32 33.7
comp=Z,67µm,38.1s
N2TV TYrnvik 83.43 22 *e*P **P 04 03 56.9 -0.4**
NAO01 NORSAR Array S 83.43 29 P **P 04 03 57.0 -0.5**
NAO01 IAmb IAmb 04 04 41.4
comp=Z,707nm,1.4s
NAO01 NORSAR Array S 83.43 29⇑ *i*P **P 04 03 56.5 -0.9**
GOET G??ttrup 83.48 33 *i* P **P 04 04 00.0 +2.3**
comp=Z,132nm,0.9s
GOET G??ttrup 83.48 33 *e*P **P 04 04 00.1 +2.3**
GOET IAmb IAmb 04 04 05.4
comp=Z,132nm,0.9s
NB2 NORSAR Subarra 83.54 29 P **P 04 03 56.9 -1.2**
comp=Z,1µm,3.3s,baz=285,slow=5.1
NB2 NORSAR Subarra 83.54 29 P **P 04 03 56.9 -1.2**
baz=285,slow=5.1
NOA NORSAR Array B 83.54 29 P **P 04 03 57.1 -0.9**
comp=Z,20nm,0.8s,baz=286,slow=5.0,SNR=43
NOA PP **PP 04 07 11.9 +1.1**
comp=Z,8.3nm,0.8s,baz=285,slow=7.3,SNR=3.3
NOA S **S 04 14 09.4 -5.4**
comp=Z,0.2nm,0.5s,baz=286,slow=15,SNR=2.1
NOA PKKPbc **PKKPbc 04 22 17.7 -0.4**
comp=Z,4.1nm,0.8s,baz=244,slow=3.1,SNR=7.5
NOA PKPPKP P'P'df 04 30 13.3 -10
comp=Z,3.9nm,1.0s,baz=255,slow=3.2,SNR=4.4
NOA LR LR 04 36 16.6
comp=Z,54µm,21.1s,baz=285,slow=32
FAUS Fauske 83.54 22⇑ *i*P **P 04 03 56.8 -1.1**
FAUS *e*SKSac **S 04 14 12.7 -1.8**
FAUS IVMs_BB IVMs_BB 04 32 38.5
comp=Z,57µm,43.8s
MIDW Midway 83.55 297 P **P 04 03 58.4 -0.3**
NC303 NORSAR Array S 83.57 29 P **P 04 03 57.5 -0.7**
OSL Oslo 83.57 30⇑ *i*P **P 04 03 56.8 -1.4**
OSL IVmBBB 04 04 24.8
comp=Z,11µm,8.0s
OSL *e*SKSac **S 04 14 11.3 -3.8**
OSL IVMs_BB IVMs_BB 04 34 22.8
comp=Z,46µm,24.5s
MOR8 Moi Rana 83.57 24⇑ *i*P **P 04 03 58.1 0.0**
MOR8 *e*SKSac **S 04 14 13.5 -1.4**
MOR8 IVMs_BB IVMs_BB 04 32 45.5
comp=Z,82µm,39.0s
NB201 NORSAR Array S 83.58 29 P **P 04 03 58.5 +0.2**
NB201 IAmb IAmb 04 04 51.5
comp=Z,1µm,1.7s
MUD Monsted U'grnd 83.58 34⇑ *i*P **P 04 03 57.0 -1.3**
MUD MLR MLR
comp=Z,110µm,25.0s
MUD Monsted U'grnd 83.58 34⇑ *i*P **P 04 03 57.0 -1.3**
comp=Z,114µm,25.0s
MUD Monsted U'grnd 83.58 34⇑ *i*P **P 04 03 57.0 -1.3**
MUD IAMs_20 IAMs_20 04 36 28.6
comp=Z,114µm,25.0s
N2IH Innhavet 83.61 22 *e*P **P 04 03 57.8 -0.4**
N2ST Straumen 83.67 22 *e*P **P 04 03 57.7 -0.8**
NC405 NORSAR Array S 83.76 29 P **P 04 03 59.3 +0.1**
NC405 IAmb IAmb 04 04 52.4
comp=Z,1µm,1.8s
NC602 NORSAR Array S 83.77 29 P **P 04 03 59.0 -0.2**
NC602 IAmb IAmb 04 04 43.2
comp=Z,725nm,1.5s
TRO Tromso 84.09 20 *e*P **P 04 03 59.9 -0.8**
TRO *e*SKSac **SKSac 04 14 15.9 -2.2**
TRO IVMs_BB IVMs_BB 04 33 35.7
comp=Z,82µm,36.6s
BILL Bilibino 84.17 339*c i*P **P 04 04 01.3 +0.2**
BILL *e**PP **pP 04 04 17.8 -1.1**
BILL *e* 04 07 17.1
BILL *i* S **S 04 14 17.0 -3.8**
BILL SS **SS 04 19 50.0 -0.4**
BILL pmax pmax
comp=Z,6µm,5.3s
BILL pmax pmax
comp=Z,628nm,1.2s
BILL MLR MLR
comp=Z,67µm,20.0s
BILL Bilibino 84.17 339 P **P 04 04 01.3 +0.2**
BILL IAmb IAmb 04 04 12.5
comp=Z,671nm,1.2s
BILL IAMs_20 IAMs_20 04 48 13.2
comp=Z,63µm,21.0s
ECH Echery 84.17 42 IAMs_20 IAMs_20 04 36 23.5
comp=Z,66µm,21.0s
KNTN Kanton 84.41 266 P **P 04 04 02.4 -0.9**
KNTN IAmb IAmb 04 04 09.3
comp=Z,706nm,1.4s
KNTN IAMs_20 IAMs_20 04 31 48.0
comp=Z,88µm,20.0s
SENIN Lac Senin/Sane 84.67 44 P **P 04 04 03.5 -0.8**
BFO Black Forest 84.91 42 IAMs_20 IAMs_20 04 39 34.0
comp=Z,80µm,21.0s
HAMF Hammerfest 85.21 18 *e*P **P 04 04 03.7 -2.6**
HAMF IVmBBB 04 04 33.3
comp=Z,11µm,8.8s
HAMF *e*PP **PP 04 07 23.9 -0.2**
HAMF *e*SKSac **SKSac 04 14 21.4 -3.9**
HAMF IVMs_BB IVMs_BB 04 35 05.4
comp=Z,102µm,33.3s
STU Stuttgart 85.37 41 P **P 04 04 07.0 -0.5**
STU pmax pmax
comp=Z,166nm,1.2s
STU MLR MLR
comp=Z,68µm,20.0s
STU Stuttgart 85.37 41 P **P 04 04 07.0 -0.5**
STU IAMs_20 IAMs_20 04 44 06.1
comp=Z,68µm,20.0s
SET Setif 85.44 54 P **P 04 04 08.0 -0.3**
COP Copenhagen 85.54 34⇑ *i*P **P 04 04 06.9 -1.3**
COP MLR MLR
comp=Z,70µm,25.0s
COP Copenhagen 85.54 34⇑ *i*P **P 04 04 06.9 -1.3**
comp=Z,70µm,25.0s
CKHR Kef el Ahmar 85.57 54 P **P 04 04 09.6 +0.6**
DFRA Djebel Bou Aff 85.74 54 P **P 04 04 10.2 +0.4**
TUE Stuetta 86.02 43 P **P 04 04 10.1 -1.0**
DAVA Damuels 86.18 43 *i* P **P 04 04 10.4 -1.4**
comp=Z,16nm,0.5s,SNR=42
DAVA *e*P **PP 04 07 33.8 +1.0**
comp=Z,15nm,0.8s
DAVA *e*P **PKKPbc 04 22 11.0 -0.5**
comp=Z,18nm,1.2s
DAVA *e*P **P'P'df 04 30 14.1 -4.8**
comp=Z,65nm,2.2s
SHEL Horse Pasture 86.20 107 P **P 04 04 12.0 -0.3**
SHEL pmax pmax
comp=Z,836nm,1.3s
SHEL Horse Pasture 86.20 107 P **P 04 04 12.0 -0.3**
SHEL IAmb IAmb 04 04 20.7
comp=Z,836nm,1.3s
ARCES ARCESS Array B 86.25 19 P **P 04 04 10.4 -1.1**
comp=Z,30nm,0.7s,baz=286,slow=2.3,SNR=53
ARCES PP **PP 04 07 31.2 -1.3**
comp=Z,173nm,1.2s,baz=295,slow=6.6,SNR=10
ARCES S S 04 14 27.7 -14
comp=Z,4.9nm,1.0s,baz=225,slow=1.5,SNR=2.8
ARCES PKKPbc **PKKPbc 04 22 10.2 -1.7**
comp=Z,5.7nm,0.6s,baz=97,slow=1.9,SNR=8.6
ARCES LR LR 04 43 04.4
comp=Z,31µm,18.5s,baz=295,slow=36
CTEI Djebel Teioual 86.26 54 P **P 04 04 11.5 -0.9**
CASM Ain Smara 86.29 54 P **P 04 04 11.3 -1.1**
RGN Rugen 86.35 35 IAMs_20 IAMs_20 04 42 32.5
comp=Z,55µm,21.0s
GRA1 Grafenberg Arr 86.43 40 P **P 04 04 12.1 -0.7**
GRA1 IAmb IAmb 04 04 20.7
comp=Z,985nm,2.0s
GRF Grafenberg Arr 86.43 40 P **P 04 04 12.1 -0.7**
GRF pmax pmax
comp=Z,985nm,2.0s
CKFL Kef-Lekhel 86.44 54 P **P 04 04 12.5 -0.7**
CAEH 'Ain El Ouahch 86.45 53 P **P 04 04 13.9 +0.7**
NIUE Niue 86.53 250 P **P 04 04 12.4 -1.3**
FUORN Ofenpass-Fuorn 86.60 43 P **P 04 04 13.1 -0.9**
FUORN IAMs_20 IAMs_20 04 37 47.6
comp=Z,90µm,22.0s
KEV Kevo 86.62 18 P **P 04 04 12.6 -0.6**
KEV pmax pmax
comp=Z,191nm,1.4s
KEV MLR MLR
comp=Z,48µm,21.0s
KEV Kevo 86.62 18 P **P 04 04 12.6 -0.6**
KEV IAMs_20 IAMs_20 04 45 21.5
comp=Z,48µm,21.0s
RETA Reutte 86.71 42 *i* P **P 04 04 12.5 -1.8**
comp=Z,47nm,0.8s,SNR=37
RETA *e*P **PP 04 07 38.2 +1.2**
comp=Z,17nm,1.0s
RETA *e*P **PKKPbc 04 22 10.1 -0.1**
comp=Z,10nm,1.4s
RETA *e*P **P'P'df 04 30 15.3 -2.4**
comp=Z,11nm,1.3s
FETA Feichten 86.80 43 *i* P **P 04 04 13.5 -1.4**
comp=Z,26nm,0.8s,SNR=29
FETA *e*P **PP 04 07 38.7 +0.8**
comp=Z,18nm,1.0s
FETA *e*P **PKKPbc 04 22 09.0 -1.0**
comp=Z,11nm,1.2s
FETA *e*P **P'P'df 04 30 14.0 -3.8**
comp=Z,18nm,1.3s
CMAH Djebel Manchou 86.93 53 P **P 04 04 14.3 -1.3**
MOTA Moosalm 86.97 42 *i* P **P 04 04 13.9 -1.7**
comp=Z,30nm,1.0s,SNR=21
MOTA *e*P **PKKPbc 04 22 09.6 0.0**
comp=Z,12nm,1.2s
MOTA *e*P **P'P'df 04 30 15.6 -1.8**
comp=Z,33nm,1.5s
TORD Torodi Ar. Bea 86.97 77 P **P 04 04 13.6 -2.5**
comp=Z,10nm,0.7s,baz=297,slow=3.6,SNR=42
TORD S S 04 14 29.8 -20
comp=Z,1.7nm,0.8s,baz=298,slow=1.1,SNR=2.7
TORD PKKPbc **PKKPbc 04 22 12.2 +3.7**
comp=Z,7.4nm,0.7s,baz=87,slow=1.7,SNR=10
TORD PKPPKP 04 30 15.0
comp=Z,9.8nm,1.0s,baz=49,slow=1.6,SNR=11
TORD LR LR 04 38 38.1
comp=Z,139µm,21.5s,baz=290,slow=32
TORD Torodi Ar. Bea 86.97 77 P **P 04 04 14.2 -1.9**
AFI Afiamalu 87.01 255 P **P 04 04 14.8 -1.5**
AFI pmax pmax
comp=Z,825nm,1.6s
AFI Afiamalu 87.01 255 P **P 04 04 14.8 -1.5**
AFI IAmb IAmb 04 04 22.1
comp=Z,825nm,1.6s
AFI Afiamalu 87.01 255 IAMs_20 IAMs_20 04 33 16.4
comp=Z,88µm,22.0s
NKC Novy Kostel 87.05 39 *e*P **P 04 04 14.3 -1.5**
NKC *ex* x 04 04 43.4
NKC *e*SKS **SKSac 04 14 31.6 -6.0**
NKC AMS AMS 04 34 50.0
comp=Z,182µm,26.8s
NKC Novy Kostel 87.05 39 *e*P **P 04 04 14.3 -1.5**
NKC *e* 04 14 31.6
NKC MLR MLR
comp=Z,182µm,26.8s
BSD Bornholm Skovb 87.06 34⇑ *i*P **P 04 04 13.7 -2.0**
BSD *i* 04 07 40.5
BSD pmax pmax
comp=Z,110nm,1.1s
BSD Bornholm Skovb 87.06 34⇑ *i*P **P 04 04 13.7 -2.0**
comp=Z,106nm,1.1s
BSD *i* 04 07 40.5
comp=Z,118µm,29.0s
BSD Bornholm Skovb 87.06 34⇑ *i*P **P 04 04 13.8 -2.0**
BSD IAmb IAmb 04 04 22.6
comp=Z,107nm,1.1s
BSD *i* 04 07 40.5
BSD IAMs_20 IAMs_20 04 33 26.3
comp=Z,118µm,29.3s
SQTA Sankt Quirin 87.07 42 *i* P **P 04 04 14.2 -1.9**
comp=Z,20nm,0.6s,SNR=19
SQTA *e*P **PP 04 07 41.9 +2.0**
comp=Z,20nm,1.0s
SQTA *e*P **PKKPbc 04 22 09.8 +0.5**
comp=Z,18nm,1.7s
SQTA *e*P **P'P'df 04 30 14.6 -2.6**
comp=Z,22nm,1.2s
CLL Collm 87.08 38 *i* P **P 04 04 14.5 -1.4**
comp=Z,123nm,1.4s
CLL *i* Pmax 04 04 21.3
comp=Z,222nm,1.4s
CLL *i* Pmax 04 04 30.6
CLL *i* 04 04 38.4
CLL *i* 04 04 45.0
CLL *e*PP **PP 04 07 41.0 +1.3**
comp=Z,354nm,1.7s
CLL *e*PPlp 04 08 02.0
CLL *i* 04 08 15.1
CLL *i* 04 08 30.6
CLL *e*PPPP 04 10 58.0
CLL *e*SKSac **SKSac 04 14 40.0 +2.3**
CLL *e*S **S 04 14 50.0 0.0**
CLL *e*PS **PnS 04 15 55.0 -2.1**
CLL *e* 04 16 48.0
CLL *e*SS **SS 04 20 36.0 +2.1**
CLL *e*PKKPdf **PKKPdf 04 22 02.0 -0.2**
CLL *e*SSS SSS 04 24 12.0
CLL *e*PKPPKPdf **P'P'df 04 30 16.0 -0.8**
comp=Z,1µm,4.5s
CLL Lmax 04 35 00.0
CLL Collm 87.08 38 *i* P **P 04 04 14.5 -1.4**
CLL *i* 04 04 38.4
CLL *e*S **S 04 14 50.0 0.0**
CLL pmax pmax
comp=Z,123nm,1.4s
CLL Collm 87.08 38 P **P 04 04 15.1 -0.8**
CLL IAMs_20 IAMs_20 04 41 31.1
comp=Z,55µm,21.0s
WATA Walderalm 87.28 42 *i* P **P 04 04 17.2 +0.1**
comp=Z,12nm,0.8s,SNR=14
WATA *e*P **PP 04 07 42.8 +1.1**
comp=Z,13nm,0.8s
WATA *e*P **PKKPbc 04 22 09.2 +0.4**
comp=Z,17nm,1.3s
WATA *e*P **P'P'df 04 30 13.6 -3.2**
comp=Z,27nm,1.3s
VLC Villacollemand 87.31 45 P **P 04 04 16.3 -0.9**
VLC IAMs_20 IAMs_20 04 38 32.6
comp=Z,77µm,22.0s
WTTA Wattenberg 87.34 42 *i* P **P 04 04 15.9 -1.6**
comp=Z,14nm,0.8s,SNR=14
WTTA *e*P **PP 04 07 45.0 +2.8**
comp=Z,20nm,0.9s
WTTA *e*P **PKKPbc 04 22 08.9 +0.1**
comp=Z,16nm,1.2s
WTTA *e*P **P'P'df 04 30 13.4 -3.4**
comp=Z,34nm,1.3s
ZCCA Zocca 87.67 45 P **P 04 04 18.4 -0.5**
ZCCA IAmb IAmb 04 04 51.4
comp=Z,785nm,1.9s
CTI Castel Tesino 87.67 43 P **P 04 04 17.8 -1.2**
CTI pmax pmax
comp=Z,201nm,1.5s
CTI Castel Tesino 87.67 43 P **P 04 04 17.8 -1.2**
VSL Villasalto 87.75 50 P **P 04 04 18.3 -1.1**
BRG Berggiesshubel 87.78 38 *i* P **P 04 04 18.0 -1.2**
comp=Z,156nm,1.6s
BRG *i* 04 04 25.2
comp=Z,450nm,1.8s
BRG PP **PP 04 07 41.0 -4.3**
BRG S S 04 14 45.0 -12
BRG SS **SS 04 20 34.0 -10**
BRG *e*PKKP **PKKPbc 04 22 08.2 +0.6**
comp=Z,41nm,1.6s
BRG *e*PKPPKP **P'P'df 04 30 10.4 -5.1**
comp=Z,106nm,2.1s
comp=N,81µm,24.0s
comp=E,73µm,25.2s
comp=Z,154µm,26.6s
BRG Berggiesshubel 87.78 38 *i* P **P 04 04 18.0 -1.2**
BRG 04 07 41.0
BRG S **SKSac 04 14 45.0 +3.0**
BRG pmax pmax
comp=Z,156nm,1.6s
BRG MLR MLR
comp=N,81µm,24.0s
BRG MLR MLR
comp=E,73µm,25.2s
BRG MLR MLR
comp=Z,154µm,26.6s
TEOL Teolo 87.87 44 P **P 04 04 18.9 -1.0**
TEOL IAmb IAmb 04 05 08.2
comp=Z,266nm,1.0s
CASP Castiglione de 88.00 47 P **P 04 04 19.6 -0.9**
ABTA Abfaltersbach 88.06 43 *i* P **P 04 04 18.9 -1.9**
comp=Z,32nm,1.3s,SNR=38
ABTA *e*P **PP 04 07 47.6 -0.2**
comp=Z,13nm,0.9s
ABTA *e*P **PKKPbc 04 22 07.0 +0.1**
comp=Z,10.0nm,1.3s
ABTA *e*P **P'P'df 04 30 12.9 -2.3**
comp=Z,19nm,1.2s
KHC Kasperske Hory 88.06 40 *e*P **P 04 04 18.7 -2.0**
KHC *ex* x 04 04 25.6
KHC *ex* x 04 04 48.6
KHC *e*SKS **SKSac 04 14 35.9 -8.0**
KHC AMS AMS 04 35 10.0
comp=Z,199µm,27.4s
KHC Kasperske Hory 88.06 40 *e*P **P 04 04 18.7 -2.0**
KHC *e* 04 14 35.9
KHC Kasperske Hory 88.06 40 IAMs_20 IAMs_20 04 39 57.2
comp=Z,44µm,20.0s
OSSC Osservatorio P 88.07 46 P **P 04 04 19.9 -0.9**
PBCC Pribram 88.16 39 *e*P **P 04 04 19.7 -1.4**
PBCC *ex* x 04 04 46.7
PBCC *e*SKS **SKSac 04 14 42.6 -1.8**
GEC2 GERESS Array S 88.22 40 P **P 04 04 20.2 -1.3**
GERES GERESS Array B 88.22 40 P **P 04 04 19.9 -1.6**
comp=Z,21nm,0.9s,baz=299,slow=1.4,SNR=44
GERES PKKPbc **PKKPbc 04 22 10.0 +3.5**
comp=Z,3.1nm,0.9s,baz=113,slow=3.0,SNR=6.4
GERES PKPPKP P'P'df 04 30 06.7 -8.2
comp=Z,3.1nm,1.1s,baz=47,slow=2.4,SNR=5.7
GERES LR LR 04 38 53.4
comp=Z,86µm,21.9s,baz=289,slow=32
PVCC Panska Ves 88.26 39 *e*P **P 04 04 21.5 0.0**
PVCC *ex* x 04 04 50.6
PVCC *e*SKS **SKSac 04 14 48.1 +3.2**
PVCC AMS AMS 04 38 10.0
comp=Z,124µm,23.6s
PVCC Panska Ves 88.26 39 *e*P **P 04 04 21.5 0.0**
PVCC *e* 04 14 48.1
PVCC MLR MLR
comp=Z,124µm,23.6s
PRA Prague 88.31 39 *e*P **P 04 04 18.3 -3.5**
PRA *e*SKS **SKSac 04 14 37.1 -8.1**
PRA AMS AMS 04 35 30.0
comp=Z,91µm,26.4s
PRA Prague 88.31 39 *e*P **P 04 04 18.3 -3.5**
PRA *e* 04 14 37.1
PRA MLR MLR
comp=Z,91µm,26.4s
PRU Pruhonice 88.41 39 *e*P **P 04 04 20.8 -1.5**
PRU *e*PCP **PcP 04 04 26.7 +2.8**
PRU *ex* x 04 04 54.3
PRU *e*SKS **SKSac 04 14 38.5 -7.3**
PRU AMS AMS 04 35 20.0
comp=Z,198µm,26.2s
PRU Pruhonice 88.41 39 *e*P **P 04 04 20.8 -1.5**
PRU *e* 04 14 38.5
PRU MLR MLR
comp=Z,198µm,26.2s
ZOU Zoufplan 88.41 43 P **P 04 04 21.4 -1.2**
KBA Koelnbreinsper 88.51 42 *i* P **P 04 04 21.7 -1.3**
comp=Z,33nm,0.8s,SNR=30
KBA *e*P **PP 04 07 50.5 -1.0**
comp=Z,15nm,1.0s
KBA *e*P **P'P'df 04 30 10.1 -4.5**
comp=Z,8.0nm,1.4s
GOPC GO Pecny, Ondr 88.58 39 *e*P **P 04 04 22.9 -0.2**
GOPC *e*pP **pP 04 04 39.2 -1.8**
GOPC *e*SKS **SKSac 04 14 38.9 -8.0**
GOPC AMS AMS 04 35 30.0
comp=Z,188µm,26.3s
GOPC GO Pecny, Ondr 88.58 39 *e*P **P 04 04 22.9 -0.2**
GOPC *e* 04 04 39.2
GOPC *e* 04 14 38.9
GOPC MLR MLR
comp=Z,188µm,26.3s
KEST Kesra 88.66 54 P **P 04 04 22.6 -1.2**
comp=Z,33nm,1.1s,baz=224,slow=3.8,SNR=18
KEST S **SKSac 04 14 47.4 -0.6**
comp=Z,10.0nm,1.3s,baz=346,slow=12,SNR=2.1
KEST PKKPbc **PKKPbc 04 22 07.8 +2.8**
comp=Z,8.1nm,0.8s,baz=166,slow=4.2,SNR=4.8
KEST PKPPKP **P'P'df 04 30 12.9 -1.7**
comp=Z,7.2nm,1.1s,baz=102,slow=3.8,SNR=5.1
KEST LR LR 04 39 15.3
comp=Z,57µm,21.6s,baz=228,slow=32
KEST Kesra 88.66 54 P **P 04 04 22.3 -1.6**
LATE Laterza 88.71 47 P **P 04 04 22.5 -1.4**
MYKA Terra Mystica 88.83 42 *i* P **P 04 04 23.9 -0.5**
comp=Z,27nm,0.9s,SNR=16
MYKA *e*P **PKKPbc 04 22 04.9 -0.1**
comp=Z,14nm,1.4s
MYKA *e*P **P'P'df 04 30 12.1 -1.7**
comp=Z,16nm,1.5s
PRED Cave del Predi 88.84 43 P **P 04 04 23.4 -1.1**
MOA Molln 88.88 41 *i* P **P 04 04 22.8 -1.7**
comp=Z,30nm,0.9s,SNR=19
MOA *e*P **PP 04 07 57.7 +3.4**
comp=Z,8.3nm,0.8s
MOA *e*P **PKKPdf 04 22 00.5 +1.3**
comp=Z,8.6nm,1.5s

MOA					*e*P		**P'P'df**	**04 30 11.6**	**-2.0**
	comp=Z,5.5nm,1.1s								
GKP	**Gorka Klasztor**	**88.95**	**35**		*e*P		**P**	**04 04 23.4**	**-1.3**
GKP					*e*SKSac		**SKSac**	**04 14 46.0**	**-2.8**
GKP					*e*L		L	04 39 37.3	
	comp=Z,121µm,26.8s								
MURB	**Monte Urbino**	**89.04**	**46**		P		**P**	**04 04 23.8**	**-1.7**
MURB					IAMs_20		IAMs_20	04 39 46.5	
	comp=Z,69µm,20.0s								
CHVC	**Chvalec**	**89.14**	**38**		*e*P		**P**	**04 04 24.3**	**-1.4**
CHVC					*ex*		x	04 04 57.5	
CHVC					*e*SKS		**SKSac**	**04 14 51.8**	**+1.6**
CHVC					↑AMS		AMS	04 36 30.0	
	comp=Z,116µm,26.1s								
UPC	**Upice**	**89.14**	**38**		*e*P		**P**	**04 04 25.5**	**-0.2**
UPC					*ex*		x	04 04 55.2	
UPC					*e*SKS		**SKSac**	**04 14 44.4**	**-5.8**
UPC					AMS		AMS	04 36 20.0	
	comp=Z,132µm,25.7s								
UPC	**Upice**	**89.14**	**38**		*e*P		**P**	**04 04 25.5**	**-0.2**
UPC					*e*			04 14 44.4	
UPC					MLR		MLR		
	comp=Z,132µm,25.7s								
GORS	**Gorjuse**	**89.16**	**43**		*i* P		**P**	**04 04 23.9**	**-2.1**
GORS					*e*			04 04 31.7	
GORS					*es*P		**pP**	**04 04 44.3**	**+0.4**
GORS					*e*SKSac		**SKSac**	**04 14 48.4**	**-2.2**
GORS					*e*SS		**SS**	**04 21 05.2**	**+0.6**
GORS					*e*			04 27 45.2	
VOJS	**Vojsko**	**89.17**	**43**		*i* P		**P**	**04 04 24.3**	**-1.7**
KSP	**Ksiaz**	**89.20**	**38**		*e*P		**P**	**04 04 24.7**	**-1.3**
KSP					*e*PP		**PP**	**04 07 50.3**	**-6.4**
KSP					*e*SKSac		**SKSac**	**04 14 46.9**	**-3.6**
KSP					*e*L		L	04 38 48.0	
	comp=Z,95µm,24.8s								
TREC	**Trest**	**89.21**	**40**		*e*P		**P**	**04 04 25.7**	**-0.4**
TREC					*ex*		x	04 04 55.2	
TREC					*e*SKS		**SKSac**	**04 14 42.6**	**-8.0**
TREC					AMS		AMS	04 36 00.0	
	comp=Z,184µm,25.7s								
TREC	**Trest**	**89.21**	**40**		*e*P		**P**	**04 04 25.7**	**-0.4**
TREC					*e*			04 14 42.6	
TREC					MLR		MLR		
	comp=Z,184µm,25.7s								
OSTC	**Ostas**	**89.25**	**38**		*e*P		**P**	**04 04 24.7**	**-1.5**
OSTC					*ex*		x	04 04 56.2	
OSTC					*e*SKS		**SKSac**	**04 14 42.6**	**-8.2**
OSTC					AMS		AMS	04 36 30.0	
	comp=Z,115µm,26.2s								
DPC	**Dobruska-Polom**	**89.38**	**38**		*e*P		**P**	**04 04 26.1**	**-0.8**
DPC					*ex*		x	04 04 58.6	
DPC					*e*SKS		**SKSac**	**04 14 44.4**	**-7.3**
DPC					AMS		AMS	04 36 30.0	
	comp=Z,114µm,24.7s								
DPC	**Dobruska-Polom**	**89.38**	**38**		*e*P		**P**	**04 04 26.1**	**-0.8**
DPC					*e*			04 14 44.4	
DPC					MLR		MLR		
	comp=Z,114µm,24.7s								
OBKA	**Obir**	**89.47**	**42**		*i* P		**P**	**04 04 27.9**	**+0.4**
	comp=Z,15nm,0.9s,SNR=12								
OBKA					*e*P		**PP**	**04 08 00.2**	**+1.1**
	comp=Z,19nm,0.8s								
OBKA					*e*P		**PKKPbc**	**04 22 03.4**	**0.0**
	comp=Z,13nm,1.6s								
OBKA					*e*P		**P'P'df**	**04 30 12.5**	**-0.1**
	comp=Z,22nm,1.9s								
NRCA	**Norcia**	**89.58**	**46**		P		**P**	**04 04 26.4**	**-1.6**
LJU	**Ljubljana**	**89.59**	**43**		*i* P		**P**	**04 04 26.7**	**-1.3**
LJU					*e*			04 04 34.0	
LJU					*ep*P		**pP**	**04 04 40.6**	**-5.3**
LJU					*es*P		**sP**	**04 04 46.0**	**-6.8**
LJU					*e*SKSac		**SKSac**	**04 14 52.1**	**-0.9**
LJU					*e*SS		**SS**	**04 21 18.0**	**+7.2**
LJU					*e*			04 28 05.0	
LJU	**Ljubljana**	**89.59**	**43**	⇑	*i*P		**P**	**04 04 26.4**	**-1.5**
CEY	**Cerknica**	**89.62**	**43**	⇑	*i*P		**P**	**04 04 26.8**	**-1.3**
SOKA	**Soboth**	**89.73**	**42**		*i* P		**P**	**04 04 27.7**	**-1.0**
	comp=Z,5.0nm,0.4s,SNR=18								
SOKA					*e*P		**PP**	**04 08 01.6**	**+0.4**
	comp=Z,16nm,0.9s								
SOKA					*e*P		**PKKPbc**	**04 22 03.2**	**+0.4**
	comp=Z,31nm,1.6s								
SOKA					*e*P		**P'P'df**	**04 30 09.3**	**-2.9**
	comp=Z,18nm,1.4s								
KRLC	**Kraliky**	**89.75**	**39**		*e*P		**P**	**04 04 27.4**	**-1.2**
KRLC					*ex*		x	04 05 01.7	
KRLC					*e*SKS		**SKSac**	**04 14 53.6**	**-0.2**
KRLC					AMS		AMS	04 39 00.0	
	comp=Z,94µm,23.3s								
KRLC	**Kraliky**	**89.75**	**39**		*e*P		**P**	**04 04 27.4**	**-1.2**
KRLC					*e*			04 14 53.6	
KRLC					MLR		MLR		
	comp=Z,94µm,23.3s								
APA	**Apatity**	**89.75**	**19**	⇓	*i*P		**P**	**04 04 26.9**	**-1.3**
APA					*i*			04 08 08.0	
APA					*i* S		**S**	**04 15 06.0**	**-8.6**
APA					*i* PS		PS	04 16 35.0	+6.8
APA					*i* PPS		PPS	04 16 45.0	
APA					*i* SS		**SS**	**04 21 20.0**	**+8.3**
APA					*i* SSS		SSS	04 24 44.0	
APA					pmax		pmax		
	comp=Z,30nm,1.0s								
RIY	**Rijeka**	**89.78**	**44**	⇑	*i*P		**P**	**04 04 27.2**	**-1.6**
PERS	**Pernice**	**89.80**	**42**		*e*P		**P**	**04 04 27.0**	**-2.0**
KRUC	**Moravsky**	**89.84**	**40**	⇑	*i*P		**P**	**04 04 27.3**	**-1.7**
KRUC					*ep*P		**pP**	**04 04 42.6**	**-4.3**
KRUC					*e*			04 08 26.0	
KRUC					*e*SKS		**SKSac**	**04 14 53.2**	**-1.1**
KRUC					*e*PKKP		**PKKPbc**	**04 22 02.3**	**-0.2**
KRUC					*e*PKPPKP		**P'P'df**	**04 30 08.2**	**-3.5**
ARSA	**Arzberg**	**89.87**	**41**		*i* P		**P**	**04 04 27.2**	**-2.0**
	comp=Z,11nm,1.0s,SNR=17								
ARSA					*e*P		**PP**	**04 08 03.0**	**+0.8**
	comp=Z,6.5nm,0.7s								
ARSA					*e*P		**PKKPbc**	**04 22 01.6**	**-0.8**
	comp=Z,16nm,1.8s								
ARSA					*e*P		**P'P'df**	**04 30 09.7**	**-2.0**
	comp=Z,8.5nm,1.4s								
CONA	**Conrad Observa**	**89.88**	**41**		*i* P		**P**	**04 04 27.8**	**-1.5**
	comp=Z,15nm,1.0s,SNR=28								
CONA					*e*P		**PP**	**04 08 03.8**	**+1.5**
	comp=Z,14nm,1.0s								
CONA					*e*P		**PKKPbc**	**04 22 01.8**	**-0.7**
	comp=Z,17nm,1.7s								
CONA					*e*P		**P'P'df**	**04 30 10.1**	**-1.7**
	comp=Z,4.0nm,1.2s								
VRAC	**Vranov**	**89.89**	**39**	⇑	P		**P**	**04 04 28.0**	**-1.2**
VRAC	**Vranov**	**89.89**	**39**	⇑	*i*P		**P**	**04 04 27.7**	**-1.5**
VRAC					*ep*P		**pP**	**04 04 42.3**	**-4.8**
VRAC					*e*			04 08 26.9	
VRAC					*e*SKS		**SKSac**	**04 14 54.0**	**-0.6**
VRAC					*e*PKPPKP			04 30 08.2	
VRAC	**Vranov**	**89.89**	**39**	⇑	P		**P**	**04 04 28.0**	**-1.2**
AQU	**L'Aquila**	**89.92**	**47**	⇑	*i*P		**P**	**04 04 27.8**	**-1.8**
LVZ	**Lovozero**	**89.96**	**19**	⇑	*e*P		**P**	**04 04 29.1**	**-0.1**
LVZ					pmax		pmax		
	comp=Z,146nm,1.0s								
LVZ	**Lovozero**	**89.96**	**19**		P		**P**	**04 04 28.3**	**-0.9**
LVZ					IAMs_20		IAMs_20	04 49 28.6	
	comp=Z,55µm,20.0s								
FIA1	**FINESS Array S**	**90.11**	**26**		P		**P**	**04 04 29.0**	**-1.0**
FINES	**FINESS Array B**	**90.11**	**26**		P		**P**	**04 04 28.4**	**-1.6**
	comp=Z,31nm,1.1s,baz=278,slow=1.3,SNR=24								
FINES					PP		**PP**	**04 08 03.6**	**0.0**
	comp=Z,28nm,0.9s,baz=304,slow=3.2,SNR=3.8								
FINES					PKKPbc		**PKKPbc**	**04 22 01.4**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=114,slow=2.6,SNR=8.8								
FINES					LR		LR	04 42 55.3	
	comp=Z,48µm,21.6s,baz=294,slow=34								
FINES	**FINESS Array B**	**90.11**	**26**		P		**P**	**04 04 28.1**	**-1.8**
MORC	**Moravsky Berou**	**90.31**	**39**	⇑	P		**P**	**04 04 30.8**	**-0.4**
MORC	**Moravsky Berou**	**90.31**	**39**	⇑	*i*P		**P**	**04 04 29.9**	**-1.4**
MORC					*ep*P		**pP**	**04 04 43.9**	**-5.3**
MORC					*e*			04 08 29.1	
MORC					*e*SKS		**SKSac**	**04 14 56.1**	**-1.0**
MORC					*e*PKKP		**PKKPbc**	**04 22 01.4**	**0.0**
MORC	**Moravsky Berou**	**90.31**	**39**	⇑	P		**P**	**04 04 30.8**	**-0.4**
MORC	**Moravsky Berou**	**90.31**	**39**		P		**P**	**04 04 30.6**	**-0.7**
INTR	**Introdaccua**	**90.38**	**47**		P		**P**	**04 04 30.3**	**-1.4**
ZST	**Bratislava**	**90.57**	**40**		*e*P		**P**	**04 04 30.2**	**-2.2**
ZST					pmax		pmax		
	comp=Z,477nm,1.5s								
ZST	**Bratislava**	**90.57**	**40**		*e*P		**P**	**04 04 30.2**	**-2.2**

ZST					*e*PP		**PP**	**04 08 12.1**	**+4.4**
KOGS	**Kog**	**90.60**	**42**		*e*P		**P**	**04 04 30.9**	**-1.7**
KOGS					*es*P		**pP**	**04 04 50.3**	**-0.2**
KOGS					*e*			04 28 07.4	
MODS	**Modra-Piesok**	**90.62**	**40**		*e*P		**P**	**04 04 30.9**	**-1.8**
MODS					pmax		pmax		
	comp=Z,280nm,1.5s								
MODS	**Modra-Piesok**	**90.62**	**40**		*e*P		**P**	**04 04 30.9**	**-1.8**
MODS					*e*PP		**PP**	**04 08 10.6**	**+2.5**
MODS					*e*S		**SKSac**	**04 15 01.3**	**+2.4**
MODS					*e*L		L	04 36 37.7	
OKC	**Ostrava-Krasne**	**90.66**	**38**		*e*P		**P**	**04 04 33.0**	**+0.2**
OKC					AMS		AMS	04 38 40.0	
	comp=Z,103µm,24.1s								
OKC	**Ostrava-Krasne**	**90.66**	**38**		*e*P		**P**	**04 04 33.0**	**+0.2**
OKC					MLR		MLR		
	comp=Z,103µm,24.1s								
SMOL	**Smolenice**	**90.67**	**40**		*e*P		**P**	**04 04 33.0**	**+0.1**
SMOL					pmax		pmax		
	comp=Z,131nm,1.9s								
SMOL	**Smolenice**	**90.67**	**40**		*e*P		**P**	**04 04 33.0**	**+0.1**
JAVC	**Velka Javorina**	**90.70**	**39**	⇑	*i*P		**P**	**04 04 32.8**	**-0.3**
JAVC					*ep*P		**pP**	**04 04 45.7**	**-5.3**
JAVC					*e*			04 08 34.3	
JAVC					*e*SKS		**SKSac**	**04 14 58.1**	**-1.3**
CORL	**Corleone**	**91.14**	**51**		P		**P**	**04 04 34.8**	**-0.5**
CORL					IAmb		IAmb	04 04 43.7	
	comp=Z,242nm,1.1s								
PAOL	**Paolisi**	**91.14**	**48**		P		**P**	**04 04 34.7**	**-0.6**
PAOL					IAMs_20		IAMs_20	04 40 23.3	
	comp=Z,47µm,20.0s								
BEL	**Belsk**	**91.49**	**36**		*e*P		**P**	**04 04 35.6**	**-0.9**
BEL					*e*PP		**PP**	**04 08 13.8**	**-0.9**
BEL					*e*SKSac		**SKSac**	**04 15 00.1**	**-3.5**
BEL					*e*SS		**SS**	**04 21 38.7**	**+1.1**
BEL					*e*L		L	04 38 51.1	
	comp=Z,113µm,25.8s								
OJC	**Ojcow**	**91.52**	**38**		*e*P		**P**	**04 04 35.5**	**-1.3**
OJC					*e*PP		**PP**	**04 08 13.1**	**-2.0**
OJC					*e*SKSac		**SKSac**	**04 14 57.6**	**-6.3**
OJC					*e*L		L	04 40 17.6	
	comp=Z,121µm,24.6s								
OJC	**Ojcow**	**91.52**	**38**		P		**P**	**04 04 35.9**	**-0.9**
OJC					pmax		pmax		
	comp=Z,137nm,1.5s								
OJC	**Ojcow**	**91.52**	**38**		P		**P**	**04 04 35.9**	**-0.9**
VYHS	**Vyhne**	**91.56**	**40**		*e*P		**P**	**04 04 35.9**	**-1.1**
VYHS					pmax		pmax		
	comp=Z,162nm,1.7s								
VYHS	**Vyhne**	**91.56**	**40**		*e*P		**P**	**04 04 35.9**	**-1.1**
VYHS					*e*PP		**PP**	**04 08 14.5**	**-1.0**
VYHS					*e*L		L	04 37 26.6	
SEY	**Seymchan**	**91.58**	**337**		P		**P**	**04 04 37.1**	**+0.4**
	comp=Z,164nm,1.0s,baz=96,slow=3.9,SNR=61								
SEY					PP		**PP**	**04 08 18.0**	**+2.9**
	comp=Z,74nm,1.2s,baz=44,slow=9.3,SNR=6.5								
SEY					PKKPbc		**PKKPbc**	**04 21 58.0**	**-0.6**
	comp=Z,12nm,1.1s,baz=110,slow=0.6,SNR=5.0								
LANS	**Liptovska Anna**	**91.71**	**39**		*e*P		**P**	**04 04 37.8**	**0.0**
LANS					pmax		pmax		
	comp=Z,81nm,1.9s								
LANS	**Liptovska Anna**	**91.71**	**39**		*e*P		**P**	**04 04 37.8**	**0.0**
LANS					*e*PP		**PP**	**04 08 22.4**	**+5.7**
VSU	**Vasula**	**91.78**	**29**	*de*	P		**P**	**04 04 36.6**	**-1.2**
VSU					pmax		pmax		
	comp=Z,297nm,1.4s								
VSU					MLR		MLR		
	comp=Z,162µm,21.0s								
BLY	**Banja Luka**	**91.78**	**43**	⇑	*i*P		**P**	**04 04 36.7**	**-1.4**
SUW	**Suwalki**	**91.95**	**33**		*e*P		**P**	**04 04 36.5**	**-2.2**
SUW					*e*PP		**PP**	**04 08 16.5**	**-1.8**
SUW					*e*SKSac		**SKSac**	**04 15 01.8**	**-4.3**
SUW					*e*SS		**SS**	**04 21 41.6**	**-2.5**
SUW					*e*L		L	04 37 21.7	
	comp=Z,165µm,33.1s								
SUW	**Suwalki**	**91.95**	**33**		P		**P**	**04 04 38.4**	**-0.2**
SUW					pmax		pmax		
	comp=Z,97nm,1.1s								
SUW	**Suwalki**	**91.95**	**33**		P		**P**	**04 04 38.4**	**-0.2**
SUW					IAMs_20		IAMs_20	04 43 32.5	
	comp=Z,51µm,22.0s								
NIE	**Niedzica**	**92.12**	**38**		*e*P		**P**	**04 04 39.3**	**-0.4**
NIE					*e*SKSac		**SKSac**	**04 15 04.2**	**-3.1**
NIE					*e*SS		**SS**	**04 21 47.7**	**+0.8**
NIE					*e*L		L	04 40 10.8	
	comp=Z,83µm,24.8s								
RAFF	**Raffo Rosso**	**92.14**	**51**		P		**P**	**04 04 39.7**	**-0.2**
RAFF					IAmb		IAmb	04 05 16.6	
	comp=Z,399nm,1.5s								
MORH	**Mrgy, Hungar**	**92.24**	**42**	⇑	*i*P		**P**	**04 04 38.1**	**-2.1**
TIXI	**Tiksi**	**92.39**	**349**	*ce*	P		**P**	**04 04 39.6**	**-0.7**
TIXI	**Tiksi**	**92.39**	**349**		P		**P**	**04 04 39.7**	**-0.6**
PSZ	**Piszkesteto**	**92.42**	**40**	⇑	P		**P**	**04 04 40.5**	**-0.6**
PSZ	**Piszkesteto**	**92.42**	**40**	⇑	P		**P**	**04 04 40.5**	**-0.6**
PSZ	**Piszkesteto**	**92.42**	**40**		P		**P**	**04 04 40.5**	**-0.6**
PSZ					IAMs_20		IAMs_20	04 42 54.6	
	comp=Z,72µm,21.0s								
KECS	**Kecovo**	**92.58**	**39**		*e*P		**P**	**04 04 42.0**	**+0.3**
KECS					pmax		pmax		
	comp=Z,21nm,1.1s								
KECS	**Kecovo**	**92.58**	**39**		*e*P		**P**	**04 04 42.0**	**+0.3**
KECS					*e*PP		**PP**	**04 08 27.2**	**+3.7**
SG1	**Sgolgore (BA)**	**92.72**	**47**		*e*P		**P**	**04 04 42.4**	**-0.2**
BAI	**Bari**	**92.78**	**47**		*e*P		**P**	**04 04 42.9**	**+0.1**
IZAR	**Zarasai**	**92.79**	**31**		*e*P		**P**	**04 04 42.7**	**+0.2**
MATE	**Matera**	**92.80**	**47**	⇑	P		**P**	**04 04 41.0**	**-1.9**
ISAL	**Salakas**	**92.81**	**31**		*e*P		**P**	**04 04 42.8**	**+0.1**
IIGN	**Ignalina**	**92.96**	**31**		*e*P		**P**	**04 04 43.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**93.02**	**39**		*e*P		**P**	**04 04 43.0**	**-0.8**
CRVS					pmax		pmax		
	comp=Z,169nm,1.6s								
CRVS	**Cervenica-Dubn**	**93.02**	**39**		*e*P		**P**	**04 04 43.0**	**-0.8**
CRVS					*e*PP		**PP**	**04 08 29.1**	**+2.2**
CRVS					*e*S		**SKSac**	**04 15 10.6**	**-1.8**
CRVS					*e*L		L	04 38 55.3	
HAPS	**Han Pijesak,Bl**	**93.20**	**44**		*e*P		**P**	**04 04 43.7**	**-1.1**
IDID	**Didziasalis**	**93.24**	**31**		*e*P		**P**	**04 04 44.7**	**+0.1**
TAR1	**Taranto**	**93.26**	**47**	⇑	*i*P		**P**	**04 04 43.4**	**-1.6**
TIP	**Timpagrande**	**93.32**	**49**	⇑	P		**P**	**04 04 42.6**	**-2.9**
BRY	**Bratogost**	**93.33**	**45**		*e*P		**P**	**04 04 45.6**	**+0.1**
CGL1	**Ceglie Messapi**	**93.36**	**47**		*e*P		**P**	**04 04 43.9**	**-1.6**
FRGS	**Fruska Gora**	**93.39**	**42**	⇑	*i*P		**P**	**04 04 44.2**	**-1.4**
NACGM	**Naroch**	**93.45**	**32**		*e*P		P	04 04 40.0	-5.6
NACGM					*e*P		**PcP**	**04 04 42.0**	**-4.1**
NACGM					*ep*P		pP	04 05 00.0	-3.5
NACGM					*e*PP		**PP**	**04 08 30.0**	**0.0**
NACGM					*e*SKS		**SKSac**	**04 15 10.0**	**-4.4**
NACGM					*e*S		**SKKSac**	**04 15 40.0**	**+6.0**
NACGM					*es*S		pS	04 16 12.0	+0.4
NACGM					*e*PS		**PS**	**04 17 05.0**	**-4.6**
NACGM					*e*SS		**SS**	**04 22 14.0**	**+8.5**
NACGM					*e*SSS		SSS	04 25 43.0	
NACGM					*e*LQ		LQ	04 44 28.0	
NACGM					*e*LR		LR	04 47 22.0	
NACGM					LRM		MLR	04 55 32.0	
	comp=Z,42nm,16.0s								
HCY	**Herceg Novi**	**93.46**	**45**		*e*P		**P**	**04 04 47.4**	**+1.5**
PET	**Petropavlovsk**	**93.47**	**326**	*d*	*i*P		**P**	**04 04 47.3**	**+1.6**
PET					*e*			04 15 15.9	
PET					*e*S		**S**	**04 15 49.7**	**+1.1**
PET					*e*PS		PS	04 17 09.4	-0.4
PET					*e*PPS		PPS	04 17 38.3	
PET					*e*SS		**SS**	**04 22 10.5**	**+4.7**
PET					*e*SSS		SSS	04 25 51.2	
PET					pmax		pmax		
	comp=Z,19µm,17.3s								
PET					pmax		pmax		
	comp=Z,15µm,12.7s								
PET					MLR		MLR		
	comp=Z,63µm,22.0s								
PET					MLR		MLR		
	comp=Z,44µm,22.0s								
PET	**Petropavlovsk**	**93.47**	**326**		IAMs_20		IAMs_20	04 54 40.8	
	comp=Z,29µm,19.0s								
KWP	**Kalwaria Pacla**	**93.48**	**38**		*e*P		**P**	**04 04 45.2**	**-0.7**
KWP					*e*PP		**PP**	**04 08 29.1**	**-1.4**
KWP					*e*SKSac		**SKSac**	**04 15 09.2**	**-5.7**
KWP					*e*L		L	04 40 52.4	
	comp=Z,116µm,27.9s								
KWP	**Kalwaria Pacla**	**93.48**	**38**		IAmb		IAmb	04 04 55.4	
	comp=Z,263nm,1.5s								
KWP					IAMs_20		IAMs_20	04 46 09.2	
	comp=Z,52µm,22.0s								

UPM	**Unac-Piva**	**93.48**	**44**		*e*P		**P**	**04 04 45.8**	**-0.4**
KOLS	**Kolonicke sedl**	**93.50**	**38**		*e*P		**P**	**04 04 44.3**	**-1.7**
KOLS					pmax		pmax		
	comp=Z,73nm,1.5s								
KOLS	**Kolonicke sedl**	**93.50**	**38**		*e*P		**P**	**04 04 44.3**	**-1.7**
KOLS					*e*PP		**PP**	**04 08 30.6**	**-0.1**
KOLS					*e*S		**SKSac**	**04 15 13.4**	**-1.6**
KOLS					*e*L		L	04 37 31.2	
BBLS	**Lazići**	**93.58**	**44**	⇑	*i*P		**P**	**04 04 45.4**	**-1.2**
UZH	**Uzhgorod**	**93.63**	**39**	⇑	*e*P		**P**	**04 04 47.2**	**+0.7**
UZH					*e*			04 05 01.3	
UZH					*e*			04 08 28.0	
UZH					*e*			04 10 32.9	
UZH					*e*			04 15 16.7	
UZH					*e*S		**S**	**04 15 47.4**	**-2.9**
UZH					*e*			04 17 06.8	
UZH					*e*			04 25 53.5	
DIVS	**Divibare**	**93.89**	**43**	⇑	*i*P		**P**	**04 04 46.2**	**-1.8**
DIVS	**Divibare**	**93.89**	**43**		IAMs_20		IAMs_20	04 43 37.7	
	comp=Z,83µm,22.0s								
PEA0B	**Petropavlovsk-**	**93.94**	**327**	⇑	*e*P		**P**	**04 04 50.4**	**+2.5**
PETK	**Petropavlovsk-**	**93.94**	**327**		P		**P**	**04 04 47.7**	**-0.2**
	comp=Z,14nm,0.7s,baz=78,slow=11,SNR=9.7								
PETK					PP		**PP**	**04 08 37.1**	**+3.1**
	comp=Z,35nm,1.1s,baz=87,slow=6.2,SNR=4.5								
PETK	**Petropavlovsk-**	**93.94**	**327**		P		**P**	**04 04 49.1**	**+1.2**
PETK	**Petropavlovsk-**	**93.94**	**327**		P		**P**	**04 04 49.0**	**+1.2**
PDG	**Podgorica**	**94.00**	**45**	⇑	P		**P**	**04 04 47.0**	**-1.4**
PDG	**Podgorica**	**94.00**	**45**	⇑	*i*P		**P**	**04 04 46.9**	**-1.4**
PDG	**Podgorica**	**94.00**	**45**		P		**P**	**04 04 48.0**	**-0.3**
DRME	**Dracevica, Mon**	**94.03**	**45**	⇑	*i*P		**P**	**04 04 47.8**	**-0.8**
MA2	**Magadan**	**94.05**	**334**	⇓	*e*P		**P**	**04 04 49.9**	**+1.6**
MA2					pmax		pmax		
	comp=Z,339nm,3.3s								
MA2	**Magadan**	**94.05**	**334**		P		**P**	**04 04 49.5**	**+1.3**
MA2					IAmb		IAmb	04 05 12.6	
	comp=Z,610nm,2.0s								
MA2					IAMs_20		IAMs_20	04 55 52.6	
	comp=Z,49µm,21.0s								
LVV	**L'vov**	**94.18**	**37**		*e*P		**P**	**04 04 48.7**	**-0.4**
LVV					*e**PP		**sP**	**04 05 13.3**	**-0.7**
LVV					*e*PPP		PPP	04 10 43.5	
LVV					*e*			04 15 10.2	
LVV					*e*S		S	04 15 43.1	-12
LVV					*e*PS		PS	04 17 21.8	+3.9
MICGM	**Minsk**	**94.20**	**32**		*e*P		**P**	**04 04 48.0**	**-1.0**
MICGM					*ep*P		sP	04 05 28.0	+14
MICGM					*e*PP		PP	04 08 48.0	+12
MICGM					PM			04 08 58.0	
	comp=Z,30nm,22.0s								
MICGM					PM			04 08 59.0	
	comp=Z,22nm,14.0s								
MICGM					*e*PPP		PPP	04 10 49.0	
MICGM					*e*SKS		**SKSac**	**04 15 16.0**	**-2.5**
MICGM					*e*S		**S**	**04 15 53.0**	**-2.1**
MICGM					SM			04 15 55.0	
	comp=E,20nm,12.0s								
MICGM					SM			04 15 56.0	
	comp=N,8.5nm,12.0s								
MICGM					*es*S		**sS**	**04 16 24.0**	**-1.7**
MICGM					*e*PS		**PS**	**04 17 22.0**	**+4.1**
MICGM					*e*SS		**SS**	**04 22 12.0**	**-4.3**
MICGM					*e*SSS		SSS	04 26 00.0	
MICGM					*e*LQ		LQ	04 36 55.0	
MICGM					LQM			04 36 56.0	
	comp=N,86nm,24.0s								
MICGM					LQM			04 39 56.0	
	comp=E,170nm,24.0s								
MICGM					*e*LR		LR	04 42 10.0	
MICGM					LRM		MLR	04 44 00.0	
	comp=Z,157nm,22.0s								
MICGM					LRM		MLR	04 44 00.0	
	comp=E,100nm,24.0s								
MICGM					LRM		MLR	04 44 04.0	
	comp=Z,95nm,20.0s								
MICGM					LRM		MLR	04 44 08.0	
	comp=E,59nm,20.0s								
MICGM					LRM		MLR	04 44 10.0	
	comp=N,15nm,20.0s								
MNK	**Minsk**	**94.20**	**32**		*e*P		**P**	**04 04 48.0**	**-1.0**
MNK					*e*	

VLS	Valsamata	96.48	49	P	P	04 04 57.3	-2.6		
KZN	Kozani	96.54	46	P	P	04 04 58.3	-1.8		
VTS	Vitosha	96.65	44	*e*P	P	04 04 57.4	-3.3		
DOPR	Dopca	96.66	40	⇑P	P	04 04 58.6	-1.8		
DOPR	Dopca	96.66	40	⇑P	SKSac	04 15 47.9	+16		
VOIR		96.67	41	⇓P	P	04 04 59.1	-1.5		
VOIR		96.67	41	⇑P	SKSac	04 15 36.7	+4.5		
VOIR		96.67	41	⇓P	P	04 04 59.1	-1.5		
BIZ	Bicaz	96.67	39	⇓P	P	04 04 58.9	-1.6		
AKASG	Malin Array Be	96.75	35	P	P	04 04 58.7	-2.1		
	comp=Z,1.2nm,0.5s,baz=296,slow=3.1,SNR=9.9								
AKASG				PP	PP	04 08 54.5	-1.2		
	comp=Z,9.8nm,0.7s,baz=304,slow=6.6,SNR=7.6								
AKASG				PKKP	PKKPdf	04 21 45.1	-0.2		
	comp=Z,3.1nm,0.5s,baz=87,slow=2.7,SNR=9.2								
AKASG				PKPPKP	P'P'df	04 29 53.1	-5.4		
	comp=Z,0.9nm,0.6s,baz=109,slow=1.4,SNR=5.1								
AKASG				LR	LR	04 46 38.6			
	comp=Z,93μm,20.7s,baz=295,slow=34								
AKASG	Malin Array Be	96.75	35	P	P	04 04 59.1	-1.6		
AKASG	Malin Array Be	96.75	35	P	P	04 04 59.1	-1.6		
AKBB	Malin Array Si	96.75	35⇓	*e*P	P	04 04 57.6	-3.1		
KKB	Krupnik	96.84	45	*e*P	P	04 05 00.6	-0.8		
OZUR		96.85	40	⇓P	P	04 05 00.1	-1.3		
THL	Klokotos Trika	97.00	47	P	P	04 04 59.4	-2.7		
KNT	Kendrikon	97.00	45	P	P	04 05 00.2	-1.9		
HUMR	Humele	97.01	42	⇓P	P	04 05 00.1	-2.0		
AXS	Araxos	97.05	48	P	P	04 05 01.0	-1.4		
EVR	Evrytania	97.09	48	P	P	04 05 00.2	-2.5		
LIT	Litokhoron	97.13	46	P	P	04 04 59.7	-3.0		
LIT	Litokhoron	97.13	46	P	P	04 05 01.0	-1.7		
LIT				pmax	pmax				
	comp=Z,55nm,1.4s								
LIT	Litokhoron	97.13	46	P	P	04 05 01.0	-1.7		
RLS	Riolos of Patr	97.17	49	P	P	04 05 01.9	-1.0		
TESR	Tescani	97.20	39	⇑P	P	04 05 01.1	-1.8		
MLR	Muntele Rosu	97.21	40	⇑P	P	04 05 00.7	-2.5		
MLR	Muntele Rosu	97.21	40	⇓P	SKSac	04 15 44.2	+9.0		
MLR	Muntele Rosu	97.21	40	⇑P	P	04 05 00.7	-2.5		
MLR	Muntele Rosu	97.21	40	P	P	04 05 01.9	-1.3		
MLR				IAmb	IAmb	04 08 32.1			
	comp=Z,404nm,2.0s								
THE	Thessaloniki	97.25	46	P	P	04 05 01.5	-1.7		
MAKR	Makrakomi, Fth	97.29	47	P	P	04 05 02.5	-1.0		
ANX	Ano Chora	97.30	48	P	P	04 05 01.8	-1.8		
PGB	Panagyurishte	97.30	44	*e*P	P	04 05 01.7	-1.8		
COPA	Copaceanca	97.33	42	⇓P	P	04 05 01.3	-2.2		
HORT	Hortiatis	97.36	46	P	P	04 05 01.9	-2.0		
MSVF	Nonsavu	97.38	254	*de*P	Pdif	04 05 06.9	+2.5		
MSVF				pmax	pmax				
	comp=Z,293nm,3.7s								
MSVF				MLR	MLR				
	comp=Z,26μm,16.0s								
MSVF	Nonsavu	97.38	254	P	Pdif	04 05 04.7	+0.2		
DRO	Drossia	97.39	49	P	P	04 05 03.1	-0.9		
MMB	Musomiste	97.40	45	*e*P	P	04 05 02.4	-1.6		
AGG	Agios Georgios	97.43	47	P	P	04 05 01.8	-2.3		
AGG	Agios Georgios	97.43	47	P	P	04 05 03.5	-0.6		
AGG				pmax	pmax				
	comp=Z,48nm,1.1s								
AGG	Agios Georgios	97.43	47	P	P	04 05 03.5	-0.6		
AGG				IAMs_20	IAMs_20	04 44 57.8			
	comp=Z,51μm,21.0s								
SOH	Sokhos	97.45	45	P	P	04 05 01.7	-2.5		
NEHR	Nehoiu	97.46	40	⇓P	P	04 05 01.8	-2.3		
SERG	Sergoula	97.47	48	P	P	04 05 02.1	-2.2		
SORM	Soroca	97.48	37	⇓P	P	04 05 01.8	-2.3		
SORM	Soroca	97.48	37	⇓P	P	04 05 01.8	-2.3		
SRS	Serrai	97.49	45	P	P	04 05 01.9	-2.5		
TRIZ	Trizonia	97.50	48	P	P	04 05 03.2	-1.2		
PLOR	Plostina	97.50	40	⇓P	P	04 05 01.7	-2.6		
PLOR	Plostina	97.50	40	⇑P	SKSac	04 15 37.9	+1.5		
PLOR	Plostina	97.50	40	⇓P	P	04 05 01.7	-2.6		
KALE	Kalithea	97.53	48	P	P	04 05 02.1	-2.6		
VRI	Vrincioaia	97.54	40	⇓P	P	04 05 02.4	-2.1		
VRI	Vrincioaia	97.54	40	⇓P	SKSac	04 15 46.0	+9.5		
VRI	Vrincioaia	97.54	40	⇓P	P	04 05 02.4	-2.1		
PRGR	Permogore	97.57	20	*e*P	P	04 05 02.5	-1.7		
PRGR				*e*		04 09 01.4			
PRGR				*e*S	SKSac	04 15 34.2	-1.8		
PRGR				pmax	pmax				
	comp=Z,112nm,0.9s								
NVR	Nevrokopi	97.59	45	P	P	04 05 02.8	-2.0		
KLV	Kalavryta, Ach	97.67	48	P	P	04 05 03.1	-2.2		
PLG	Polygyros	97.69	46	P	P	04 05 03.5	-1.8		
SULR		97.77	41	⇑P	P	04 05 02.7	-2.7		
DSF	Desfina	97.81	48	P	P	04 05 03.1	-2.8		
PYL	PYLOS	97.81	50	P	P	04 05 03.9	-1.9		
ITM	Ithomi	97.84	49	P	P	04 05 02.8	-3.2		
ITM	Ithomi	97.84	49	P	P	04 05 05.2	-0.8		
PLD	Plovdiv	97.85	44	*e*P	P	04 05 04.6	-1.3		
GUR	Goura	97.86	48	P	P	04 05 04.5	-1.7		
GHRR		97.87	39	⇑P	P	04 05 04.2	-1.7		
GHRR		97.87	39	⇓P	SKSac	04 15 43.4	+5.3		
XOR	Xorichti	97.91	47	P	P	04 05 03.4	-2.9		
PETR	Petresti	97.92	40	⇑P	P	04 05 01.8	-4.3		
NEO	Neokhori	97.96	47	P	P	04 05 03.7	-2.8		
TRIP	Tripoli	97.96	49	P	P	04 05 05.2	-1.4		
RZN	Rozhen	98.03	44	*e*P	P	04 05 05.4	-1.6		
PAIG	Paliouri	98.03	46	P	P	04 05 05.0	-1.8		
LKR	Lokris	98.06	48	P	P	04 05 04.4	-2.5		
VLX	Vlachokerasia	98.10	49	P	P	04 05 06.1	-1.2		
VNA3	Neumayer Olymp	98.13	161	P	Pdif	04 05 06.5	0.0		
OBN	Obninsk	98.14	29	LR	LR	04 51 30.2			
	comp=Z,9μm,18.1s,baz=302,slow=37								
OBN	Obninsk	98.14	29	⇓P	P	04 05 03.9	-2.9		
OBN	Obninsk	98.14	29	*ce*P	P	04 05 05.2	-1.7		
OBN				*i*		04 05 24.4			
OBN				*e*		04 09 05.1			
OBN				*e*PPP	PPP	04 11 08.5			
OBN				*i* S	SKSac	04 15 35.6	-3.5		
OBN				*e*PS	SP	04 17 51.4	-0.8		
OBN				PPS	PPS	04 18 48.0			
OBN				SS	SS	04 23 07.0	-4.7		
OBN				*e*SSS	SSS	04 26 55.0			
OBN				pmax	pmax				
	comp=Z,400nm,1.8s								
OBN				pmax	pmax				
	comp=Z,206nm,1.8s								
OBN				MLR	MLR				
	comp=Z,55μm,21.0s								
OBN	Obninsk	98.14	29	IAMs_20	IAMs_20	04 50 42.7			
	comp=Z,48μm,20.0s								
SZH	Strazhica	98.18	42	*e*P	P	04 05 05.4	-2.0		
KAVA	Kavala	98.18	45	P	P	04 05 04.5	-2.9		
NRIK	Noril'sk	98.22	2	P	P	04 05 06.1	-0.9		
	comp=Z,13nm,0.9s,baz=62,slow=3.7,SNR=11								
NRIK				PP	PP	04 09 04.3	-2.1		
	comp=Z,28nm,0.9s,baz=70,slow=6.5,SNR=6.3								
NRIK				S	SKSac	04 15 39.9	+0.8		
	comp=Z,7.9nm,1.0s,baz=107,slow=23,SNR=8.3								
NRIK				PKKPbc	PKKPbc	04 21 39.5	-1.6		
	comp=Z,4.8nm,0.8s,baz=50,slow=2.7,SNR=4.1								
NRIK				PKPPKP	P'P'df	04 29 52.9	-1.9		
	comp=Z,2.3nm,0.6s,baz=193,slow=2.3,SNR=7.5								
NRIK				LR	LR	04 51 21.4			
	comp=Z,65μm,21.6s,baz=2.5,slow=37								
NRIK	Noril'sk	98.22	2	⇓*e*P	P	04 05 06.7	-0.3		
NRIK				pmax	pmax				
	comp=Z,45nm,1.8s								
NRIK				MLR	MLR				
	comp=Z,178μm,24.0s								
MOS	Moscow	98.25	28	*e*P	P	04 05 04.5	-2.9		
MOS				*e*		04 09 03.3			
MOS				*e*		04 15 42.8			
MOS				pmax	pmax				
	comp=Z,1μm,6.3s								
MOS				pmax	pmax				
	comp=Z,56nm,1.0s								
MOS				MLR	MLR				
	comp=Z,48μm,21.0s								
LTK	Loutraki	98.28	48	P	P	04 05 05.4	-2.6		
MILM	Milestii Mici	98.33	38	⇑P	P	04 05 05.7	-2.3		
VNA1	Neumayer--Stat	98.43	161	Pdiff	Pdif	04 05 08.1	+0.3		
VILL	Villia	98.47	48	P	P	04 05 06.4	-2.5		
AOS	Alonnisos	98.48	47	P	P	04 05 06.9	-1.9		
THAS	Thassos island	98.48	45	P	P	04 05 06.0	-2.8		
TARA	Tarawa	98.49	273	P	Pdif	04 05 09.5	+0.1		
TARA				IAmb	IAmb	04 05 11.4			
	comp=Z,181nm,0.7s								
TARA	Tarawa	98.49	273	IAMs_20	IAMs_20	04 40 40.5			
	comp=Z,84μm,20.0s								
KRND	KRANIDI	98.66	49	P	P	04 05 06.7	-2.9		
CFR	Carcaliu	98.73	40	⇓P	P	04 05 07.6	-2.2		
CFR	Carcaliu	98.73	40	⇓P	P	04 05 07.6	-2.2		
VLI	Veliai	98.76	49	P	P	04 05 08.5	-1.6		
VNA2	Neumayer--Watz	98.78	161	Pdiff	P	04 05 09.2	-0.1		
	baz=301,slow=4.6								
RDO	Rodhopi	98.82	44	P	P	04 05 08.4	-1.9		
ATH	Athens Observa	98.84	48	P	P	04 05 08.5	-1.9		
ATHU	Athens Univers	98.89	48	P	P	04 05 08.2	-2.5		
PTL	Penteli	98.92	48	P	P	04 05 09.3	-1.5		
VLY	Voula,Athens	98.94	48	P	P	04 05 08.9	-2.0		
DION	Dionisos Attik	98.96	48	P	P	04 05 08.4	-2.6		
KTHR	Kythira	98.99	50	P	P	04 05 09.7	-1.5		
KTHA	Kythira Island	99.03	50	P	Pdif	04 05 10.2	-1.2		
SKY	Skiros Island	99.08	47	P	Pdif	04 05 09.9	-1.6		
LIA	Limnos Island	99.10	46	P	Pdif	04 05 09.1	-2.4		
SMTH	Samothraki Isl	99.10	45	P	Pdif	04 05 08.9	-2.7		
PURM	Purcari	99.16	38	⇓P	Pdif	04 05 11.6	0.0		
PRD	Provadia	99.17	42	*e*P	Pdif	04 05 09.3	-2.5		
TIRR	Tirgusor	99.24	40	⇑P	Pdif	04 05 10.3	-1.8		
TIRR	Tirgusor	99.24	40	⇑P	Pdif	04 05 10.3	-1.8		
ALN	Alexandroupoli	99.27	45	P	Pdif	04 05 09.1	-3.2		
ALN	Alexandroupoli	99.27	45	P	Pdif	04 05 11.7	-0.6		
ALN				pmax	pmax				
	comp=Z,73nm,1.5s								
ALN	Alexandroupoli	99.27	45	P	Pdif	04 05 11.7	-0.6		
EDRB	Edirne	99.33	43	P	Pdif	04 05 08.9	-3.7		
ANKY	Antikythira Is	99.36	50	P	Pdif	04 05 11.4	-1.4		
ENEZ	Enez	99.42	45	P	Pdif	04 05 04.3	-8.6		
PSN	Preselentsi	99.45	41	*e*P	Pdif	04 05 11.7	-1.3		
GADA	Gvkgeada	99.47	45	P	Pdif	04 05 10.6	-2.6		
MANR	Mangalia	99.65	41	⇑P	Pdif	04 05 12.7	-1.2		
SERI	Serifos	99.72	48	P	Pdif	04 05 11.3	-3.2		
MHLO	Agia Marina, M	99.85	49	P	Pdif	04 05 10.4	-4.6		
KNDR	Palaiochora Ch	99.90	51	P	Pdif	04 05 13.2	-2.0		
EZN	Ezine	99.93	45	P	Pdif	04 05 12.3	-2.9		
YAK	Yakutsk	99.96	343	P	Pdif	04 05 15.1	+0.2		
	comp=Z,14nm,0.5s,baz=213,slow=2.8,SNR=7.7								
YAK	Yakutsk	99.96	343	*e*P	Pdif	04 05 15.8	+1.0		
YAK				*e**PP	sP	04 05 36.7	-3.1		
YAK				*e*		04 09 30.3			
YAK				*e*S	SKSac	04 15 47.3	-0.6		
YAK				*e*SP	SP	04 18 17.1	+5.8		
YAK				*e*PS	PS	04 18 27.4	+7.5		
YAK				pmax	pmax				
	comp=Z,50nm,0.9s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,12nm,1.3s								
YAK				pmax	pmax				
	comp=Z,3μm,3.5s								
YAK				pmax	pmax				
	comp=E,1μm,3.5s								
YAK				pmax	pmax				
	comp=N,1μm,3.2s								
YAK				smax	smax				
	comp=N,7μm,8.2s								
YAK				smax	smax				
	comp=E,6μm,6.9s								
YAK	Yakutsk	99.96	343		Pdif	04 05 16.2	+1.4		
YAK				IAMs_20	IAMs_20	04 57 31.2			
	comp=Z,29μm,21.0s								
IMMV	Iera Moni Meta	100.03	50	P	Pdif	04 05 14.0	-1.8		
CHAN	Chania	100.05	50	P	Pdif	04 05 14.4	-1.5		
PRK	Paraskevi	100.14	46	P	Pdif	04 05 14.7	-1.5		
VAM	Vamos	100.22	50	P	Pdif	04 05 15.6	-1.0		
CHOS	Chios island	100.35	47	P	Pdif	04 05 15.2	-2.1		
GVD	Gavdhos	100.35	51	P	Pdif	04 05 14.9	-2.4		
GVDS	Gavdos	100.35	51	P	Pdif	04 05 14.9	-2.4		
SNAA	Sanae	100.36	161	Pdiff	Pdif	04 05 16.2	-0.2		
SNAA	Sanae	100.36	161	PKKPbc	PKKPbc	04 21 34.7	-1.0		
	comp=Z,10nm,1.1s,baz=62,slow=4.2,SNR=10								
SNAA	Sanae	100.36	161	*de*P	Pdif	04 05 16.5	+0.1		
SNAA				pmax	pmax				
	comp=Z,181nm,1.4s								
IOSP	Ios island	100.49	49	P	Pdif	04 05 14.7	-3.1		
APE	Apeiranthos	100.53	48	P	Pdif	04 05 13.2	-4.8		
APE	Apeiranthos	100.53	48	⇑P	Pdif	04 05 13.8	-4.2		
APE	Apeiranthos	100.53	48	⇑P	Pdif	04 05 13.8	-4.2		
CMBO	Columbo, Santo	100.68	49	P	Pdif	04 05 15.4	-3.3		
SNT1	Gialos, Santor	100.72	49	P	Pdif	04 05 15.8	-3.0		
SANT	Santorini	100.76	49	P	Pdif	04 05 15.9	-3.2		
SANT	Santorini	100.76	49	⇓P	Pdif	04 05 15.9	-3.2		
SANT	Santorini	100.76	49	⇓P	SKSac	04 15 51.1	-1.9		
SANT	Santorini	100.76	49	IAMs_20	IAMs_20	04 48 10.0			
	comp=Z,46μm,22.0s								
LPSR	Galich'ya Gora	100.76	30	*e*P	Pdif	04 05 17.2	-1.4		
LPSR				*e*		04 09 30.5			
LPSR				*e*		04 15 44.7			
LPSR				*e*SS	SS	04 23 47.1	-1.3		
LPSR				pmax	pmax				
	comp=Z,30nm,0.9s								
LPSR				pmax	pmax				
	comp=Z,4μm,12.6s								
IDI	Anoyia	100.78	50	S	SKSac	04 15 51.7	-1.6		
	comp=Z,10nm,0.9s,baz=74,slow=22,SNR=9.9								
IDI				PKKP		04 21 35.3			
	comp=Z,5.6nm,0.9s,baz=94,slow=5.9,SNR=4.3								
IDI	Anoyia	100.78	50	P	Pdif	04 05 16.9	-2.3		
IDI	Anoyia	100.78	50	⇑P	Pdif	04 05 17.4	-1.8		
IDI	Anoyia	100.78	50	⇓P	SKSac	04 15 50.2	-3.5		
SIVA	Sivas	100.83	50	P	Pdif	04 05 16.8	-2.5		
AMGA	Amorgos Island	100.89	48	P	Pdif	04 05 16.4	-3.2		
ANAF	Anafi Island	101.00	49	P	Pdif	04 05 17.5	-2.6		
BLCB	Balcova	101.05	46	P	Pdif	04 05 17.6	-2.7		
KIRV	Kirov	101.10	21⇑	*e*P	Pdif	04 05 19.1	-0.9		
SMG	Samos	101.20	47	P	Pdif	04 05 18.5	-2.5		
ISK	Istanbul-Kandi	101.24	43	P	Pdif	04 05 17.6	-3.4		
LAST	Lasithi	101.27	50	P	Pdif	04 05 19.2	-2.2		
NPS	Neapolis	101.33	50	P	Pdif	04 05 19.4	-2.2		
URZ	Urewera	101.42	233	P	Pdif	04 05 23.0	+1.2		
	comp=Z,1.8nm,0.3s,baz=103,slow=14,SNR=2.1								
URZ	Urewera	101.42	233		Pdif	04 05 22.5	+0.7		
STIA	Sitia Lasithi	101.71	50	P	Pdif	04 05 19.1	-4.2		
VSR	Storozhevoye	101.72	31	*e*P	Pdif	04 05 20.3	-2.7		
VSR				*e*		04 09 36.7			
VSR				*e*		04 15 52.3			
VSR				*e*SS	SS	04 23 58.5	-3.3		
VSR				*e*SSS	SSS	04 27 55.4			
VSR				pmax	pmax				
	comp=Z,20nm,1.4s								
VSR				pmax	pmax				
	comp=Z,4μm,12.9s								
BODT	Bodrum	101.82	48	P	Pdif	04 05 20.7	-3.0		
ZKR	Zakros	101.84	50	P	Pdif	04 05 18.6	-5.3		
VORD	Divnogorie	101.94	31	*e*P	Pdif	04 05 25.3	+1.4		
VORD				*e*		04 09 37.2			
VORD				*e*		04 15 52.3			
VORD				*e*SP	SP	04 18 35.0	+2.0		
VORD				*e*SSS	SSS	04 27 53.5			
VORD				pmax	pmax				
	comp=Z,10.0nm,1.3s								
VORD				pmax	pmax				
	comp=Z,740nm,5.8s								
KULA	Kula-Manisa	102.13	46	P	Pdif	04 05 22.7	-2.5		
KARP	Karpathos	102.36	49	P	Pdif	04 05 22.7	-3.5		
KARP	Karpathos	102.36	49	IAMs_20	IAMs_20	04 52 33.3			
	comp=Z,35μm,20.0s								
NKL	Nikolayevsk	102.40	332	*e*P	Pdif	04 05 28.7	+2.8		
NKL				*e*		04 09 44.4			
NKL				*e*S	SKSac	04 15 56.4	-3.6		
NKL				pmax	pmax				
	comp=N,11nm,0.9s								
NKL				pmax	pmax				
	comp=Z,37nm,1.2s								
NKL				MLR	MLR				
	comp=Z,50μm,25.0s								
YER	Yerkesik	102.48	47	P	Pdif	04 05 21.6	-5.2		
SIM	Simferopol'	102.52	38	P	Pdif	04 05 31.6	+4.9		
SIM						04 09 44.6			
SIM				*e*S	SKSac	04 16 03.6	+2.6		
SIM				pmax	pmax				
	comp=Z,3μm,19.0s								
SIM				MLR	MLR				
	comp=Z,13μm,22.0s								
QSPA	South Pole Qui	102.55	180	P	Pdif	04 05 27.2	+0.9		
	comp=Z,29nm,0.9s,baz=136,slow=1.9,SNR=34								
QSPA				PKKPbc	PKKPbc	04 21 27.1	-2.7		
	comp=Z,15nm,1.0s,baz=332,slow=0.4,SNR=10								
QSPA	South Pole Qui	102.55	180		Pdif	04 05 27.6	+1.3		
KDZE	Karadeniz Ereo	102.70	42	⇑P	Pdif	04 05 19.7	-7.9		
TYV	Tymovskoe	102.95	330	*e*P	Pdif	04 05 28.0	-0.4		
TYV				*e*S	SKSac	04 16 09.5	+6.8		
TYV				pmax	pmax				
	comp=Z,4μm,9.7s								
TYV				smax	smax				
	comp=E,23μm,8.7s								
VRH	Novokhopyorsk	102.99	30	*e*P	Pdif	04 05 27.7	-0.9		
VRH				*e*		04 09 41.9			
VRH				*e*SP	SP	04 18 37.9	-6.2		
VRH				*e*SS	SS	04 24 19.4	+0.2		
VRH				*e*SSS	SSS	04 28 10.6			
VRH				pmax	pmax				
	comp=Z,30nm,1.2s								
VRH				pmax	pmax				
	comp=Z,5μm,13.2s								
FETY	Fethiye	103.28	47	P	Pdif	04 05 27.2	-3.1		
KUR	Kuril'sk	103.48	323	*e*P	Pdif	04 05 31.0	+0.1		
AKAS	Kas	103.84	48	IAMs_20	IAMs_20	04 49 29.3			
	comp=Z,32μm,21.0s								
KSL	Kastellorizon	103.86	48	P	Pdif	04 05 30.9	-1.9		
BZK	Bozkurt	104.03	41	⇑P	Pdif	04 05 32.7	-0.7		
ANTO	Ankara	104.31	43	IAMs_20	IAMs_20	04 48 50.4			
	comp=Z,32μm,20.0s								
ILGA	Ilgaz	104.32	42	IAMs_20	IAMs_20	04 52 22.4			
	comp=Z,61μm,22.0s								
KHZ	Kahutara	104.54	229	IAMs_20	IAMs_20	04 44 51.1			
	comp=Z,71μm,20.0s								
ANN	Anapa	104.57	37	*e*P	Pdif	04 05 32.3	-3.5		
ANN				*i*		04 09 50.2			
ANN				*e*		04 16 08.7			
ANN				*e*PS	PS	04 19 02.9	-6.5		
ANN				pmax	pmax				
	comp=Z,87nm,1.3s								
BRTR	Keskin Array B	104.95	43	Pdiff	Pdif	04 05 36.9	-0.9		
	comp=Z,0.9nm,0.8s,baz=264,slow=5.8,SNR=5.3								
BRTR				PKiKP	PKiKP	04 09 53.4	+0.9		
	comp=Z,4.1nm,0.8s,baz=235,slow=4.5,SNR=5.8								
BRTR				PKKPbc	PKKPbc	04 21 20.8	-0.2		
	comp=Z,6.4nm,0.8s,baz=149,slow=4.2,SNR=8.3								
YUK	Yuzh-Kuril'sk	105.34	323	*e*P	Pdif	04 05 36.5	-2.7		
YUK				*i*		04 10 05.6			
YUK				*i*		04 16 08.7			
YUK				*i* PS	PS	04 19 05.1	-12		
YUK				*i* SS	SS	04 24 53.0	+1.1		
YUK				MLR	MLR				
	comp=E,27μm,21.0s								
YUK				MLR	MLR				
	comp=Z,32μm,21.0s								
YUK				MLR	MLR				
	comp=N,18μm,19.0s								
YSS	Yuzh-Sakhalins	105.35	327	*de*P	Pdif	04 05 42.1	+2.9		
YSS				*e*PPP	PPP	04 12 20.0			
YSS				*e*		04 16 11.0			
YSS				*e*PS	PS	04 19 09.0	-8.3		
YSS				*e*SS	SS	04 24 54.0	+2.2		
YSS				pmax	pmax				
	comp=N,2μm,17.2s								
YSS				pmax	pmax				
	comp=E,3μm,18.0s								
YSS				MLR	MLR				
	comp=Z,63μm,24.0s								
YSS				MLR	MLR				
	comp=N,12μm,20.0s								
YSS				MLR	MLR				
	comp=E,48μm,24.0s								
YSS	Yuzh-Sakhalins	105.35	327	IAMs_20	IAMs_20	05 02 45.9			
	comp=Z,35μm,19.0s								
ARU	Arti	105.84	19	P	Pdif	04 05 42.7	+1.6		
ARU						04 16 14.7			
ARU				SP	SP	04 19 15.6	+2.2		
ARU				SSS	SSS	04 29 01.7			
ARU	Arti	105.84	19	IAMs_20	IAMs_20	04 59 13.4			
	comp=Z,52μm,18.0s								
TOKA	Tokat	106.48	41	IAMs_20	IAMs_20	04 49 53.7			
	comp=Z,49μm,21.0s								
VNDA	Vanda	106.52	192	Pdiff	Pdif	04 05 44.2	+0.5		
	comp=Z,0.1nm,0.5s,baz=143,slow=6.5,SNR=2.4								
VNDA				PKiKP	PKiKP	04 09 57.0	+3.0		
	comp=Z,3.5nm,0.8s,baz=338,slow=1.7,SNR=5.8								
SOC	Sochi	106.61	37	*e*P	Pdif	04 05 43.7	-1.2		
SOC				*e*		04 10 06.2			
SOC				*e*PPP	PPP	04 12 23.7			
SOC				*e*		04 16 16.8			
SOC				*e*PS	PS	04 19 27.9	-2.7		
SOC				*e*SS	SS	04 25 04.4	-4.9		
SOC				*e*SSS	SSS	04 29 12.7			
SOC				pmax	pmax				
	comp=Z,7.0nm,0.7s				

USA0B Ussuriysk Arra 112.77 330 IAMs_20 IAMs_20 05 04 29.0
comp=Z,23µm,21.0s
USRK Ussuriysk Ar. 112.77 330 PKiKP **PKiKP** **04 10 08.2 +1.4**
comp=Z,17nm,1.0s,baz=310,slow=1.5,SNR=12
USRK PKKPbc **PKKPbc** **04 20 59.5 +3.4**
comp=Z,7.6nm,0.9s,baz=192,slow=4.0,SNR=5.3
HNR Honiara 113.32 265 IAMs_20 IAMs_20 04 49 06.3
comp=Z,44µm,21.0s
ZALV Zalesovo Beam 113.45 5 Pdiff **Pdif** **04 06 16.3 +1.2**
comp=Z,2.4nm,0.8s,baz=352,slow=4.5,SNR=7.3
ZALV PKiKP **PKiKP** **04 10 08.2 +0.4**
comp=Z,26nm,0.5s,baz=249,slow=1.6,SNR=46
ZALV PP **PP** **04 10 52.9 -5.8**
comp=Z,45nm,0.9s,baz=336,slow=5.4,SNR=6.8
ZALV PKKPbc **PKKPbc** **04 20 52.4 -1.8**
comp=Z,6.2nm,0.8s,baz=154,slow=3.7,SNR=6.2
MCQ Macquarie Isla 113.46 216 IAMs_20 IAMs_20 04 47 39.1
comp=Z,71µm,22.0s
JSD Sado 113.54 321 IAMs_20 IAMs_20 05 07 22.4
comp=Z,25µm,21.0s
MDJ Mudanjiang 113.60 332 PKP **PKiKP** **04 10 10.0 +1.6**
MDJ LR LR
comp=Z,24µm,30.6s
MDJ LR LR
comp=Z,37µm,27.8s
MDJ LR LR
comp=Z,76µm,35.6s
MDJ Mudanjiang 113.60 332 IAMs_20 IAMs_20 05 08 30.8
comp=Z,37µm,21.0s
HIA Hailar 113.70 340 IAMs_20 IAMs_20 05 00 48.7
comp=Z,64µm,22.0s
MJAR Matsushiro Arr 114.52 320 PKP PKPdf 04 10 12.1 +1.6
comp=Z,16nm,0.8s,baz=83,slow=1.1,SNR=12
MJAR PKKPab **PKKPab** **04 20 54.8 -2.3**
comp=Z,14nm,1.0s,baz=214,slow=3.5,SNR=9.4
MAJO Matsushiro 114.52 320⇑*i*PKiKP PKPdf 04 10 12.8 +2.3
MAJO MLR MLR
comp=Z,34µm,24.0s
MAT Matsushiro 114.52 320 PKP PKPdf 04 10 12.5 +2.0
IRK Irkutsk 114.56 352 *e*PKiKP **PKiKP** **04 10 04.1 -6.0**
IRK *e* 04 20 51.9
IRK pmax pmax
comp=Z,379nm,3.2s
SYO Syowa Base 114.64 162⇓*e*pPdiff pPdif 04 06 33.4 -4.4
TLY Talaya 115.19 352 PKKPbc PKKPbc 04 20 47.9 -0.3
comp=Z,16nm,1.0s,baz=244,slow=7.8,SNR=6.9
TLY Talaya 115.19 352 *c* P **Pdif** **04 06 36.5 +14**
TLY *e* 04 16 58.1
TLY *e*PS **PKKPbc** **04 20 42.8 -5.5**
TLY *e*SS SS 04 27 03.4 +0.8
TLY pmax pmax
comp=Z,96nm,1.8s
BRZS Berezniki 115.44 14 *e*PP **PP** **04 11 09.2 -3.7**
BRZS *e*PS **PS** **04 20 55.8 +1.5**
BRZS *e*SS SS 04 27 08.9 +3.0
BRZS *e*LR LR 04 56 00.2
comp=Z,52µm,26.9s
JGF Kuroka 115.65 320 IAMs_20 IAMs_20 05 02 12.4
comp=Z,24µm,22.0s
JSG Sagara 115.70 319 IAMs_20 IAMs_20 04 55 45.9
comp=Z,26µm,20.0s
LHI Lord Howe Isla 115.89 241 IAMs_20 IAMs_20 04 48 48.7
comp=Z,71µm,21.0s
KURK Kurchatov 115.90 9⇑*i*PKiKP **PKPdf** **04 10 13.7 +1.1**
KURK pmax pmax
comp=Z,30nm,0.7s
KURK MLR MLR
comp=Z,168µm,25.0s
KURBB Kurchatov Arra 115.97 9 PKiKP **PKPdf** **04 10 13.5 +0.7**
INU Inuyama 116.02 320 IAMs_20 IAMs_20 05 03 45.0
comp=Z,23µm,21.0s
CN2 Changchun 116.10 334 Pdif **Pdif** **04 06 38.3 +11**
CN2 PP PP 04 11 32.8 +15
CN2 Changchun 116.10 334 SS SS 04 27 23.9 +8.8
CN2 AMB AMB
comp=Z,9µm,18.0s
CN2 LR LR
comp=N,67µm,28.0s
CN2 LR LR
comp=E,50µm,28.0s
CN2 LR LR
comp=Z,69µm,28.0s
ITZ Itezhi-Tezhi 116.24 101 *e*P **Pdif** **04 06 26.7 -1.7**
ITZ *e* 04 16 56.6
ITZ *e* 04 19 00.2
BOSA Boshof 116.30 116 PKP **PKiKP** **04 10 15.4 +1.2**
comp=Z,84nm,0.8s,baz=253,slow=1.3,SNR=40
BOSA PKKPab **PKKPab** **04 20 46.7 -0.9**
comp=Z,25nm,1.1s,baz=87,slow=2.8,SNR=8.2
BOSA Boshof 116.30 116 **PKPdf** **04 10 14.0 -0.2**
ZAK Zakamensk 116.51 352 *e*PKiKP **PKPdf** **04 10 13.8 -0.2**
ZAK pmax pmax
comp=Z,25nm,1.4s
LBTB Lobatse 116.53 112 PKP **PKiKP** **04 10 16.1 +1.4**
baz=278,slow=3.2
LBTB PKKPbc **PKKPbc** **04 20 43.9 +1.1**
comp=Z,8.8nm,1.0s,baz=123,slow=4.4,SNR=9.9
LBTB Lobatse 116.53 112 **PKiKP** **04 10 15.0 +0.3**
JWT Wachi 117.07 321 IAMs_20 IAMs_20 05 10 16.9
comp=Z,29µm,22.0s
JCJ Chichijima 117.28 310 IAMs_20 IAMs_20 05 02 25.8
comp=Z,29µm,22.0s
DGZ Jazzator, Alta 117.86 3⇑*i*PKiKP **PKiKP** **04 10 18.2 +1.5**
DGZ MLR MLR
comp=Z,159µm,23.0s
MBAR Mbarara 118.21 84 PKiKP **PKiKP** **04 10 20.6 +2.2**
MBAR Mbarara 118.21 84*d i*PKiKP **PKiKP** **04 10 19.8 +1.4**
MBAR Mbarara 118.21 84 **PKPdf** **04 10 18.3 0.0**
LSZ Lusaka 118.27 101 PKP **PKiKP** **04 10 19.5 +1.2**
comp=Z,47nm,1.0s,baz=260,slow=0.8,SNR=35
LSZ PKKPab **PKKPab** **04 20 40.4 +1.0**
comp=Z,27nm,1.2s,baz=81,slow=2.5,SNR=8.2
LSZ Lusaka 118.27 101 PKiKP **PKiKP** **04 10 20.9 +2.6**
LSZ Lusaka 118.27 101 **PKiKP** **04 10 18.4 +0.1**
ULN Ulaanbaatar 118.33 348*d i*PKiKP **PKiKP** **04 10 18.9 +1.2**
ULN pmax pmax
comp=Z,50nm,1.0s
ULN Ulaanbaatar 118.33 348 **PKiKP** **04 10 18.6 +0.9**
SONM Songino Array 118.48 349 PKP **PKPdf** **04 10 17.7 -0.2**
comp=Z,40nm,0.8s,baz=310,slow=0.2,SNR=46
SONM PKKPbc **PKKPbc** **04 20 35.0 -1.8**
comp=Z,9.9nm,0.7s,baz=193,slow=3.4,SNR=5.2
SONM Songino Array 118.48 349 PKiKP **PKiKP** **04 10 18.8 +0.9**
SONM Songino Array 118.48 349 **PKiKP** **04 10 18.8 +0.9**
SNY Shenyang 118.50 333 Pdif **Pdif** **04 06 49.8 +12**
SNY ⇑PKP **PKiKP** **04 10 22.3 +4.4**
SNY PP PP 04 11 52.3 +18
SNY Shenyang 118.50 333 SS SS 04 27 57.3 +11
SNY LR LR
comp=N,62µm,26.6s
SNY LR LR
comp=E,24µm,26.2s
SNY LR LR
comp=Z,94µm,25.5s
SNY Shenyang 118.50 333 ⇑PKP **PKiKP** **04 10 22.3 +4.4**
SNY LR LR
comp=Z,62µm,26.6s
SNY LR LR
comp=Z,24µm,26.2s
SNY LR LR
comp=Z,94µm,25.5s
JHS Saijyo 118.65 322 IAMs_20 IAMs_20 05 11 28.7
comp=Z,37µm,21.0s
MATP Matopo 118.99 106 PKP **PKiKP** **04 10 19.8 +0.1**
comp=Z,77nm,1.0s,baz=272,slow=1.4,SNR=6.4
MATP PKKPab **PKKPab** **04 20 37.7 +1.7**
comp=Z,28nm,1.1s,baz=92,slow=3.1,SNR=12
JMN Monobe 119.04 320 IAMs_20 IAMs_20 05 11 43.1
comp=Z,35µm,20.0s
SUJ Sinuiju 119.48 332 PKPbc **PKPdf** **04 10 18.2 -1.6**
SUJ PP **PP** **04 11 37.6 -3.7**
PYS Pyongsong 119.50 330 PKPbc **PKiKP** **04 10 21.0 +1.0**
PYAG Pyongyang 119.71 330 PKPbc **PKiKP** **04 10 20.9 +0.5**
PYAG PP **PP** **04 11 42.0 -0.9**
KSRS Korea Array 119.83 327 PKP **PKiKP** **04 10 20.8 +0.1**
comp=Z,70nm,0.8s,baz=11,slow=1.6,SNR=38
KSRS SKP 04 13 54.6
comp=Z,11nm,0.7s,baz=10,slow=2.0,SNR=5.7
KSRS PKKPbc **PKKPbc** **04 20 30.1 -1.2**
comp=Z,7.7nm,1.0s,baz=228,slow=2.9,SNR=9.0
KSAR Wonju Array Be 119.86 327 PKiKP **PKiKP** **04 10 21.4 +0.7**
KSAR Wonju Array Be 119.86 327 **PKiKP** **04 10 21.4 +0.7**
ZSN Zaisan 119.90 6 *e*PKP **PKPdf** **04 10 19.9 -0.6**
ZSN *e*PP **PP** **04 11 38.7 -5.0**
ZSN *e*SKS **SKSac** **04 17 13.1 +1.2**
ZSN *e*PS PKKPdf 04 21 43.1 +41
ZSN *e*LR LR 04 59 21.0
comp=Z,72µm,24.9s
ZSN Zaisan 119.90 6 *e*PKiKP **PKPdf** **04 10 19.9 -0.6**
ZSN *e* 04 17 13.0
ZSN MLR MLR
comp=Z,72µm,25.0s
RABL Rabaul 119.94 272 IAMs_20 IAMs_20 04 50 41.9
comp=Z,69µm,22.0s
KRVT Keravat (AS076 120.10 272 PKP **PKiKP** **04 10 23.1 +1.3**
comp=Z,96nm,0.8s,baz=345,slow=20,SNR=1.6
MAKZ Makanchi 120.20 8 PKiKP **PKPdf** **04 10 20.4 -0.7**
MAKZ Makanchi 120.20 8 IAMs_20 IAMs_20 05 11 23.0
comp=Z,49µm,19.0s
MK31 Makanchi Array 120.26 8*c i*PKiKP **PKPdf** **04 10 20.3 -0.9**
MKAR Makanchi Array 120.26 8 PKP **PKPdf** **04 10 20.2 -1.0**
comp=Z,9.5nm,0.5s,baz=310,slow=2.8,SNR=52
MKAR PKKPbc **PKKPbc** **04 20 28.8 -1.3**
comp=Z,14nm,1.0s,baz=135,slow=4.5,SNR=9.9
BTLS Baital 120.40 15 *e*PKP **PKPdf** **04 10 20.9 -0.7**
BTLS *e*PP **PP** **04 11 46.3 -0.9**
BTLS *e*SKS **SKSac** **04 17 10.9 -2.8**
BTLS *e*PS **SP** **04 21 36.0 +5.3**
BTLS *e*SS **SS** **04 28 12.8 +2.6**
BTLS *e*LR LR 04 58 30.5
BTLS Baital 120.40 15 *e*PKiKP **PKPdf** **04 10 20.8 -0.7**
BTLS *e* 04 11 46.3
BTLS *e* 04 17 10.8
BTLS *e*PS **SP** **04 21 36.0 +5.3**
BTLS *e*SS **SS** **04 28 12.8 +2.6**
INCN Inchon 120.48 328 PKiKP **PKiKP** **04 10 22.7 +0.7**
INCN Inchon 120.48 328 **PKiKP** **04 10 22.7 +0.7**
INCN Inchon 120.48 328 IAMs_20 IAMs_20 05 14 03.5
comp=Z,31µm,20.0s
HJU Haeju 120.51 329 P **PKiKP** **04 10 24.2 +2.2**
GEYT Ailibek 120.59 31 PKP **PKPdf** **04 10 21.9 -0.3**
comp=Z,38nm,0.7s,baz=289,slow=4.5,SNR=33
GEYT PKKPbc **PKKPbc** **04 20 28.0 -0.5**
comp=Z,10nm,1.1s,baz=197,slow=1.5,SNR=9.1
GYA0 ALIBECK ARRAY120.59 31 PKiKP **PKiKP** **04 10 22.5 +0.3**
GYA0B ALIBECK ARRAY120.59 31 **PKPdf** **04 10 22.0 -0.1**
GYA0B IAMs_20 IAMs_20 05 03 36.9
comp=Z,67µm,22.0s
ASHT Ashkhabad 120.71 31 IAMs_20 IAMs_20 05 07 06.2
comp=Z,54µm,19.0s
TJN Taejon 120.93 327⇑*i*PKiKP **PKiKP** **04 10 23.8 +0.9**
BRLS Boroldoy 121.07 19 *e*PKP **PKPdf** **04 10 22.6 -0.3**
BRLS *e*PP **PP** **04 11 51.8 -0.2**
BRLS *e*SKS SKSdf 04 17 16.3 -13
BRLS *e*PS PS 04 22 00.8 +16
BRLS *e*SS SS 04 28 32.0 +13
BRLS Boroldoy 121.07 19 *e*PKiKP **PKPdf** **04 10 22.6 -0.3**
BRLS *e* 04 11 51.7
BRLS *e* 04 17 16.2
BRLS *e*SS SS 04 28 32.0 +13
JTU Tsushima 121.17 324 IAMs_20 IAMs_20 05 06 11.6
comp=Z,22µm,21.0s
KK31 Karatay Array 121.21 18 *i* PKiKP **PKPdf** **04 10 22.9 -0.3**
JNU Nakatsue 121.29 322 PKP **PKiKP** **04 10 25.0 +1.3**
comp=Z,38nm,0.8s,baz=62,slow=4.6,SNR=8.4
TDK Taldyqorghan 121.39 11 *e*PKP **PKPdf** **04 10 21.6 -1.8**
TDK *e*PP **PP** **04 11 51.7 -2.2**
TDK *e*SKS SKSdf 04 17 45.2 +15
TDK *e*PS PKKPdf 04 21 56.5 +57
TDK *e*LR LR 04 56 22.1
comp=Z,120µm,23.8s
TDK Taldyqorghan 121.39 11 *e*PKiKP **PKPdf** **04 10 21.6 -1.8**
TDK *e* 04 11 51.7
TDK MLR MLR
comp=Z,120µm,24.0s
GUMO Guam 121.43 295 PKP **PKiKP** **04 10 26.1 +1.8**
comp=Z,169nm,0.7s,baz=174,slow=12,SNR=6.8
GUMO Guam 121.43 295 **PKiKP** **04 10 24.5 +0.1**
LODK Lodwar 121.61 78 PKiKP **PKiKP** **04 10 25.9 +1.0**
DZA Taraz 121.65 18 *e*PKP **PKiKP** **04 10 24.9 +0.7**
DZA Taraz 121.65 18 *e*PKiKP **PKiKP** **04 10 24.9 +0.7**
DL2 Dalian 121.75 333 Pdif **Pdif** **04 07 07.9 +16**
DL2 PKP **PKiKP** **04 10 25.6 +1.2**
DL2 PP PP 04 12 05.0 +8.3
DL2 Dalian 121.75 333 PKP **PKiKP** **04 10 25.6 +1.2**
DL2 PP PP 04 12 05.0 +8.3
DL2 LR LR
comp=Z,39µm,26.5s
DL2 LR LR
comp=Z,34µm,25.6s
DL2 LR LR
comp=Z,69µm,25.7s
MAW Mawson 121.81 167 PKP **PKiKP** **04 10 23.6 0.0**
comp=Z,56nm,1.0s,baz=269,slow=4.1,SNR=22
MAW PKKPbc **PKKPbc** **04 20 24.0 -0.5**
comp=Z,3.7nm,0.7s,baz=71,slow=10.0,SNR=4.6
MAW Mawson 121.81 167 PKiKP **PKiKP** **04 10 23.8 +0.3**
MAW Mawson 121.81 167 **PKiKP** **04 10 23.8 +0.3**
MAW IAMs_20 IAMs_20 04 56 30.2
comp=Z,40µm,22.0s
IUG luzhnay 121.93 19 *e*PKP **PKPdf** **04 10 23.5 -1.2**
IUG *e*PP **PP** **04 11 57.0 -0.9**
IUG *e*SKS SKSdf 04 17 20.5 -11
IUG *e*LR LR 05 06 00.9
comp=Z,20µm,21.2s
IUG luzhnay 121.93 19 *e*PKiKP **PKPdf** **04 10 23.5 -1.2**
IUG *e* 04 11 56.9
IUG *e* 04 17 20.4
SGDS Sogindy 122.03 15 *e*PKP **PKPdf** **04 10 23.6 -1.2**
SGDS *e*PP **PP** **04 11 57.8 -0.7**
SGDS *e*SKS **SKSdf** **04 17 21.2 -10**
SGDS *e*PS **SP** **04 21 42.8 -2.6**
SGDS *e*SS SS 04 28 18.7 -13
SGDS *e*LR LR 05 04 37.3
comp=Z,20µm,22.2s
SGDS Sogindy 122.03 15 *e*PKiKP **PKPdf** **04 10 23.6 -1.2**
SGDS *e* 04 11 57.8
SGDS *e* 04 17 21.2
SGDS *e*PS **SP** **04 21 42.7 -2.6**
SGDS MLR MLR
comp=Z,20µm,22.0s
USP Ospenovka 122.17 15 P **PKiKP** **04 10 25.4 +0.2**
SNR=44
CHMS Chumysh 122.49 15 P **PKiKP** **04 10 28.6 +2.8**
SNR=9.0
EKS2 Erkin-Say 122.55 16 P **PKPdf** **04 10 26.0 +0.1**
SNR=20
AAK Ala-Archa 122.76 15 P **PKiKP** **04 10 28.6 +2.1**
SNR=20
AAK Ala-Archa 122.76 15 *i* PKiKP **PKiKP** **04 10 27.1 +0.6**
SNR=13
AAK Ala-Archa 122.76 15*d i*PKiKP **PKiKP** **04 10 28.0 +1.5**
AAK pmax pmax
comp=Z,156nm,1.3s
TKM2 Tokmak 2 122.77 14 P **PKiKP** **04 10 27.8 +1.2**
SNR=25
AAA Alma-Ata 122.80 13 *e*PP PP 04 12 02.8 -0.8
AAA *e*SKS **SKSdf** **04 17 28.3 -4.7**
AAA *e*PS **SP** **04 21 55.4 +3.3**
AAA *e*SS SS 04 28 52.2 +11
AAA *e*LR LR 05 00 09.4
comp=Z,55µm,24.7s
KBK Karagaybulak 122.86 15 P **PKiKP** **04 10 29.4 +2.7**
SNR=10
MDOK Medeo 122.87 13 *e*PKP **PKPdf** **04 10 25.9 -0.6**
MDOK *e*PP **PP** **04 12 00.5 -3.7**
MDOK *e*SKS **SKSdf** **04 17 22.6 -11**
MDOK *e*PS PS 04 22 09.7 +8.3
MDOK *e*SS SS 04 28 53.2 +11
MDOK *e*LR LR 04 54 34.5
comp=Z,49µm,31.3s
MDOK Medeo 122.87 13 *e*PKiKP **PKPdf** **04 10 25.9 -0.6**
MDOK *e* 04 12 00.4
MDOK *e* 04 17 22.6
KPKS Kokpek 122.92 11 *e*PKP **PKPdf** **04 10 25.5 -1.0**
KPKS *e*PP **PP** **04 12 04.4 0.0**
KPKS *e*SKS SKSdf 04 17 21.2 -12
KPKS *e*LR LR 04 58 44.3
comp=Z,63µm,22.8s
KPKS Kokpek 122.92 11 *e*PKiKP **PKPdf** **04 10 25.5 -1.0**
KPKS *e* 04 12 04.4
KPKS *e* 04 17 21.2
KPKS MLR MLR
comp=Z,63µm,23.0s
TNSS Tian-Shan 122.97 13 *e*PKP **PKPdf** **04 10 26.4 -0.7**
TNSS *e*PP **PP** **04 12 03.7 -1.5**
TNSS Tian-Shan 122.97 13 *e*PKiKP **PKPdf** **04 10 26.3 -0.7**
TNSS *e* 04 12 03.6
BJI Beijing 123.00 338 Pdif Pdif 04 07 17.8 +20
BJI PKP **PKiKP** **04 10 27.9 +1.1**
BJI PP **PP** **04 12 05.5 +0.5**
BJI Beijing 123.00 338 SS SS 04 28 48.0 +4.4
BJI AMB AMB
comp=Z,10µm,21.1s
BJI LR LR
comp=N,93µm,27.0s
BJI LR LR
comp=E,38µm,27.5s
BJI LR LR
comp=Z,154µm,28.6s
BJI Beijing 123.00 338 PKP **PKiKP** **04 10 27.9 +1.1**
BJI PP **PP** **04 12 05.5 +0.5**
BJI SS SS 04 28 48.0 +4.4
BJI LR LR
comp=Z,93µm,27.0s
BJI LR LR
comp=Z,38µm,27.5s
BJI LR LR
comp=Z,154µm,28.6s
AML Almayashu 123.02 16 P **PKiKP** **04 10 28.8 +1.4**
SNR=8.8
EIDS Eidsvold 123.03 248 IAMs_20 IAMs_20 04 52 59.4
comp=Z,67µm,22.0s
UCH Uchtor 123.15 15 P **PKiKP** **04 10 28.4 +0.7**
SNR=44
PDGK Podgornoye 123.20 11 PKiKP **PKPdf** **04 10 26.9 -0.2**
SATY Saty 123.25 12 *e*PKP **PKPdf** **04 10 26.0 -1.2**
SATY *e*PP **PP** **04 12 06.7 -0.1**
SATY *e*SKS **SKSdf** **04 17 23.4 -11**
SATY *e*PS PS 04 22 13.0 +8.4
SATY *e*LR LR 04 57 25.6
comp=Z,46µm,28.1s
SATY Saty 123.25 12 *e*PKiKP **PKPdf** **04 10 26.0 -1.2**
SATY *e* 04 12 06.7
SATY *e* 04 17 23.4
UZB Uzynbulak 123.29 11 *e*PKP **PKPdf** **04 10 26.4 -0.9**
UZB *e*PP **PP** **04 12 06.9 -0.1**
UZB *e*SKS **SKSdf** **04 17 24.1 -10**
UZB *e*PS PS 04 22 15.2 +10
UZB *e*LR LR 04 59 10.5
comp=Z,30µm,22.0s
UZB Uzynbulak 123.29 11 *e*PKiKP **PKPdf** **04 10 26.4 -0.9**
UZB *e* 04 12 06.9
UZB *e* 04 17 24.0
UZB MLR MLR
comp=Z,30µm,22.0s
ULHL Ulahol 123.56 14 P **PKiKP** **04 10 30.6 +2.4**
SNR=35
ANKE Ethiopia-Afar 123.66 69 *i* P **PKiKP** **04 10 31.1 +1.8**
ANKE *e*PK **PP** **04 12 10.1 -1.7**
ANKE *i* S **SKSac** **04 17 35.1 +8.6**
WMQ Urumqi 123.73 4 *e*PKP **PKiKP** **04 10 28.5 +0.2**
WMQ PP **PP** **04 12 13.4 +3.6**
WMQ SKS **SKSdf** **04 17 30.1 -4.6**
WMQ SS **SS** **04 28 58.9 +6.4**
WMQ AMB AMB
comp=Z,8µm,10.3s
WMQ LR LR
comp=Z,52µm,29.1s
WMQ LR LR
comp=Z,42µm,25.9s
WMQ LR LR
comp=Z,137µm,29.7s
HHC Hu-ho-hao-te 123.81 342 *e*PKP **PKiKP** **04 10 30.4 +1.8**
HHC SKS **SKSdf** **04 17 34.9 -0.2**
HHC AMB AMB
comp=Z,10µm,9.4s
HHC LR LR
comp=Z,77µm,22.9s
HHC LR LR
comp=Z,29µm,22.4s
HHC LR LR
comp=Z,148µm,22.7s
TEND Ethiopian Broa 123.96 66 *e*P **PKiKP** **04 10 31.4 +2.0**
TEND *e*S **SKSac** **04 17 34.5 +7.8**
MANU Manus Island 124.14 276 IAMs_20 IAMs_20 04 59 02.2
comp=Z,22µm,20.0s
BTO Baotou 124.48 343 *e*PKP **PKiKP** **04 10 30.5 +0.6**
BTO SKS **SKSdf** **04 17 32.5 -3.8**
KMBO Kilima Mbogo 124.65 83 PKhKP PKPpre 04 10 26.4
comp=Z,1.8nm,0.8s,baz=269,slow=2.0,SNR=4.4
KMBO PKP **PKiKP** **04 10 33.0 +1.9**
comp=Z,16nm,1.1s,baz=28,slow=3.1,SNR=16
KMBO PKKPab **PKKPab** **04 20 17.4 +4.8**
comp=Z,3.5nm,1.0s,baz=89,slow=3.6,SNR=4.6
KMBO Kilima Mbogo 124.65 83 *i* PKiKP **PKiKP** **04 10 34.6 +3.4**
SNR=22
KMBO Kilima Mbogo 124.65 83 PKiKP **PKiKP** **04 10 32.4 +1.3**
KMBO Kilima Mbogo 124.65 83 **PKPdf** **04 10 30.8 0.0**
CASY Casey 124.92 189 **PKiKP** **04 10 31.1 +1.4**
HRA Herat 125.43 30 IAMs_20 IAMs_20 05 10 36.0
comp=Z,48µm,21.0s
ATD Arta Tunnel 125.71 66 PKP **PKiKP** **04 10 34.2 +1.3**
comp=Z,111nm,1.1s,baz=303,slow=3.3,SNR=36
ATD Arta Tunnel 125.71 66 PKiKP **PKiKP** **04 10 35.6 +2.6**
KIBK Kibwezi 125.72 84 PKiKP **PKiKP** **04 10 34.6 +1.6**
DAMY Dhamar 125.73 62 PKiKP **PKiKP** **04 10 34.8 +1.5**
DAMY Dhamar 125.73 62 **PKiKP** **04 10 34.2 +0.9**
PMG Port Moresby 125.77 267*d i*PKiKP **PKiKP** **04 10 34.4 +1.4**
PMG pmax pmax
comp=Z,187nm,2.5s
PMG Port Moresby 125.77 267 **PKPdf** **04 10 32.6 0.0**
PMG Port Moresby 125.77 267 IAMs_20 IAMs_20 04 56 31.3
comp=Z,50µm,20.0s
TIA Tai'an 125.95 335 PKP **PKiKP** **04 10 33.3 +0.5**
TIA SKS **SKSdf** **04 17 35.3 -3.7**
TIA SS **SS** **04 29 29.4 +8.4**
TIA LR LR
comp=Z,59µm,26.0s
TIA LR LR
comp=Z,48µm,23.0s
TIA LR LR
comp=Z,143µm,26.7s
KSH Kashi 126.07 15 PKP **PKiKP** **04 10 35.3 +2.1**
KSH PP **PP** **04 12 30.3 +4.6**
KSH AMB AMB
comp=Z,16µm,10.7s
KSH LR LR
comp=Z,161µm,25.4s
KSH LR LR
comp=Z,92µm,21.8s
KSH LR LR
comp=Z,213µm,26.6s
TOO Toolangi 126.31 232 PKiKP **PKiKP** **04 10 33.7 +0.2**
TOO Toolangi 126.31 232 **PKiKP** **04 10 33.7 +0.2**
TIY Taiyuan 126.39 340 *e*PKP **PKiKP** **04 10 34.9 +1.1**
TIY PP **PP** **04 12 34.3 +6.5**
TIY LR LR
comp=Z,32µm,19.7s
TIY LR LR
comp=Z,50µm,20.8s
TIY LR LR
comp=Z,125µm,32.0s
CTA Charters Tower 127.52 254 PKP **PKiKP** **04 10 37.4 +1.0**
baz=90,slow=4.4
CTA SKP 04 14 00.0
comp=Z,109nm,1.2s,baz=84,slow=5.0,SNR=6.8
CTAO Charters Tower 127.52 254 PKiKP **PKPdf** **04 10 34.4 -1.4**
CTAO Charters Tower 127.52 254 **PKPdf** **04 10 34.4 -1.4**
GTA Gaotai 127.75 352 ⇑PKP **PKiKP** **04 10 36.5 0.0**
GTA sPKP 04 10 52.0
GTA PP **PP** **04 12 41.8 +5.1**
GTA SKS **SKSdf** **04 17 43.4 +0.9**
GTA SKKS **SKKSac** **04 19 30.8 +0.7**
GTA SS **SS** **04 29 47.5 +4.4**
GTA AMB AMB
comp=Z,2µm,9.1s
GTA LR LR
comp=Z,79µm,24.6s
GTA LR LR
comp=Z,45µm,24.7s
GTA LR LR
comp=Z,156µm,24.8s
SHME Shamm 128.16 42 *i* PKiKP **PKiKP** **04 10 37.9 +0.4**
SNR=13
UMQ Umm Al-Quwin 128.20 43 *i* PKiKP **PKiKP** **04 10 37.7 +0.2**
SNR=8.7
UMQ Umm Al-Quwin 128.20 43 PKiKP **PKiKP** **04 10 39.1 +1.5**
SSE Sheshan 128.27 328 PKP **PKiKP** **04 10 39.8 +2.2**
SSE PP **PP** **04 12 45.9 +5.4**
SSE SS SS 04 29 57.3 +7.0
SSE AMB AMB
comp=Z,4µm,11.5s

SSE	**Sheshan**	**128.27**	**328**		IAMs_20	IAMs_20	05 16 43.5		
	comp=Z,27µm,21.0s								
KBL	**Kabul**	**128.33**	**24**		PKIKP	**PKPdf**	**04 10 35.6**	**-1.7**	
KBL					MLR	MLR			
	comp=Z,55µm,22.0s								
KBL	**Kabul**	**128.33**	**24**			**PKPdf**	**04 10 35.6**	**-1.7**	
KBL					IAMs_20	IAMs_20	05 04 12.3		
	comp=Z,55µm,22.0s								
BANOM	**Banah**	**128.35**	**42**	*i*	PKiKP	**PKPdf**	**04 10 37.2**	**-0.1**	
	SNR=27								
BANOM	**Banah**	**128.35**	**42**		PKiKP	**PKiKP**	**04 10 38.6**	**+0.7**	
AJN	**Ajban**	**128.39**	**44**	*i*	PKiKP	**PKiKP**	**04 10 38.0**	**0.0**	
	SNR=16								
AJN	**Ajban**	**128.39**	**44**		PKiKP	**PKiKP**	**04 10 38.4**	**+0.4**	
NAZ	**Nazwa, Dubai**	**128.56**	**43**	*i*	PKiKP	**PKiKP**	**04 10 38.1**	**-0.2**	
	SNR=32								
NAZ	**Nazwa, Dubai**	**128.56**	**43**		PKPdf	**PKPdf**	**04 10 37.7**	**0.0**	
ASUD	**Al Ashush, Dub**	**128.58**	**44**	*i*	PKiKP	**PKiKP**	**04 10 38.1**	**-0.3**	
	SNR=29								
ASUD	**Al Ashush, Dub**	**128.58**	**44**		PKPdf	**PKPdf**	**04 10 38.0**	**+0.2**	
MSFE	**Esma-Masafi**	**128.64**	**43**	*i*	PKPdf	**PKPdf**	**04 10 37.7**	**-0.2**	
	SNR=94								
NJ2	**Nanjing**	**128.66**	**330**	*e*	PKiP	**PKiKP**	**04 10 38.3**	**0.0**	
NJ2					PP	**PP**	**04 12 44.0**	**+1.0**	
NJ2					PKS		04 14 10.3		
NJ2					SKS	**SKSdf**	**04 17 41.4**	**-2.8**	
NJ2					SKKS	**SKKSac**	**04 19 35.5**	**-0.3**	
NJ2					SS	**SS**	**04 30 00.1**	**+5.1**	
NJ2					AMB	AMB			
	comp=Z,10µm,12.0s								
NJ2					LR	LR			
	comp=Z,38µm,23.3s								
NJ2					LR	LR			
	comp=Z,36µm,24.3s								
NJ2					LR	LR			
	comp=Z,79µm,24.6s								
FAQ	**Al Faqa, Dubai**	**128.68**	**44**	*i*	PKiKP	**PKPdf**	**04 10 38.0**	**0.0**	
	SNR=14								
FAQ	**Al Faqa, Dubai**	**128.68**	**44**		PKPdf	**PKPdf**	**04 10 37.6**	**-0.3**	
MDH	**Madha**	**128.77**	**43**	*i*	PKPdf	**PKPdf**	**04 10 37.4**	**-0.6**	
	SNR=46								
MDH	**Madha**	**128.77**	**43**		PKPdf	**PKPdf**	**04 10 37.3**	**-0.8**	
UOSS	**Minazif**	**128.95**	**43**	*i*	PKPdf	**PKPdf**	**04 10 38.1**	**-0.3**	
	SNR=19								
UOSS	**Minazif**	**128.95**	**43**		PKPdf	**PKPdf**	**04 10 37.6**	**-0.9**	
UOSS	**Minazif**	**128.95**	**43**		IAMs_20	IAMs_20	05 12 07.8		
	comp=Z,26µm,20.0s								
HATD	**Hatta, Dubai**	**128.98**	**43**	*i*	PKPdf	**PKPdf**	**04 10 38.0**	**-0.5**	
	SNR=32								
HATD	**Hatta, Dubai**	**128.98**	**43**		PKPdf	**PKPdf**	**04 10 38.4**	**-0.2**	
ALNE	**Al Ain**	**129.24**	**44**	*i*	PKPdf	**PKPdf**	**04 10 38.6**	**-0.5**	
	SNR=31								
SOHO	**SOHO**	**129.72**	**43**	*i*	PKiKP	**PKiKP**	**04 10 41.0**	**+0.3**	
	SNR=16								
SOHO	**SOHO**	**129.72**	**43**		PKPdf	**PKPdf**	**04 10 39.5**	**-0.4**	
COEN	**Coen**	**130.18**	**262**		IAMs_20	IAMs_20	04 55 28.1		
	comp=Z,33µm,20.0s								
ARQ	**Araqi**	**130.25**	**44**		PKPdf	**PKPdf**	**04 10 40.8**	**-0.2**	
LZH	**Lanzhou**	**130.30**	**347**		Pdif	Pdif	04 07 47.6	+17	
LZH					PKP	**PKiKP**	**04 10 42.4**	**+0.6**	
LZH					sPKP		04 10 54.3		
LZH					PP	**PP**	**04 13 00.8**	**+7.4**	
LZH					SKS	**SKSdf**	**04 17 44.1**	**-3.3**	
LZH	**Lanzhou**	**130.30**	**347**		PKP	**PKiKP**	**04 10 42.4**	**+0.6**	
LZH					sPKP		04 10 54.3		
LZH					PP	**PP**	**04 13 00.8**	**+7.4**	
LZH					SKS	**SKSdf**	**04 17 44.1**	**-3.3**	
LZH					SKKS	**SKKSac**	**04 19 44.9**	**-1.3**	
LZH					SS	**SS**	**04 30 19.1**	**+4.4**	
LZH					AMB	AMB			
	comp=Z,4µm,5.7s								
LZH					LR	LR			
	comp=Z,121µm,18.2s								
LZH					LR	LR			
	comp=Z,74µm,15.2s								
LZH					LR	LR			
	comp=Z,191µm,18.4s								
HOQ	**Hoqain**	**130.62**	**43**		PKPdf	**PKPdf**	**04 10 41.6**	**-0.1**	
STKA	**Stephens Creek**	**130.65**	**239**		PKhKP	PKPpre	04 10 30.4		
	comp=Z,3.9nm,0.8s,baz=40,slow=5.2,SNR=5.1								
STKA					PKP	**PKiKP**	**04 10 42.2**	**0.0**	
	comp=Z,95nm,0.9s,baz=89,slow=5.1,SNR=27								
STKA					SKP		04 14 07.1		
	comp=Z,42nm,0.9s,baz=315,slow=19,SNR=10								
STKA	**Stephens Creek**	**130.65**	**239**			**PKPdf**	**04 10 39.3**	**-2.1**	
STKA					IAMs_20	IAMs_20	04 56 43.2		
	comp=Z,26µm,22.0s								
NIL	**Nilore**	**130.69**	**21**		PKPdf	**PKPdf**	**04 10 41.0**	**-0.6**	
NIL	**Nilore**	**130.69**	**21**		PKiKP	**PKiKP**	**04 10 42.2**	**-0.2**	
NIL	**Nilore**	**130.69**	**21**		PKPdf	**PKiKP**	**04 10 42.2**	**-0.2**	
JAY	**Jayapura**	**130.71**	**278**		PKP	**PKiKP**	**04 10 42.6**	**-0.3**	
	comp=Z,28nm,0.8s,baz=152,slow=1.0,SNR=10.0								
XAN	**Xi'an**	**130.89**	**341**		PKP	**PKiKP**	**04 10 43.4**	**+0.5**	
XAN					sPKP		04 10 56.4		
XAN					SKS	**SKSdf**	**04 17 48.4**	**+0.1**	
XAN					AMB	AMB			
	comp=Z,23µm,9.8s								
XAN					LR	LR			
	comp=Z,114µm,25.0s								
XAN					LR	LR			
	comp=Z,94µm,24.4s								
XAN					LR	LR			
	comp=Z,166µm,24.9s								
BSY	**Bisya**	**131.11**	**44**		PKiKP	**PKiKP**	**04 10 43.4**	**-0.2**	
BIDO	**Bidbid**	**131.20**	**43**		PKiKP	**PKiKP**	**04 10 43.6**	**-0.1**	
SMDO	**Samad**	**131.47**	**43**		PKPdf	**PKPdf**	**04 10 43.8**	**+0.4**	
ABTO	**Aybut**	**131.62**	**53**		PKPdf	**PKPdf**	**04 10 43.7**	**0.0**	
WHFO	**Wadi Hawf**	**131.66**	**52**		PKPdf	**PKPdf**	**04 10 43.8**	**0.0**	
WSAR	**Wadi Sarin**	**131.73**	**43**		PKP	**PKPdf**	**04 10 43.9**	**+0.1**	
	comp=Z,99nm,1.0s,baz=283,slow=2.7								
WSAR					SKPbc	**SKPab**	**04 14 04.6**	**-0.2**	
	comp=Z,279nm,0.9s,baz=323,slow=4.2,SNR=18								
WSAR	**Wadi Sarin**	**131.73**	**43**		PKPdf	**PKPdf**	**04 10 43.8**	**+0.1**	
JMDO	**Jabal Madar**	**131.97**	**44**		PKPdf	**PKPdf**	**04 10 44.3**	**+0.1**	
WHN	**Wuhan**	**132.00**	**334**		Pdif	**Pdif**	**04 07 53.8**	**+16**	
WHN					PKPbc	PKPdf	04 10 32.8	-11	
WHN					PP	**PP**	**04 13 08.6**	**+4.1**	
WHN					PKS	PKSdf	04 14 06.8	-14	
RBK	**Rabkut**	**132.23**	**52**		PKPdf	**PKPdf**	**04 10 45.3**	**+0.4**	
YOJ	**Yonaguni jima**	**132.28**	**321**		IAMs_20	IAMs_20	05 11 49.6		
	comp=Z,32µm,22.0s								
CRZF	**Crozet Islands**	**132.31**	**143**		IAMs_20	IAMs_20	05 02 44.7		
	comp=Z,51µm,21.0s								
WBK	**Wadi Bani Khal**	**132.39**	**43**		PKPdf	**PKiKP**	**04 10 45.8**	**-0.4**	
DMTO	**DMTO**	**132.68**	**51**		PKiKP	**PKiKP**	**04 10 46.8**	**0.0**	
MHTO	**MHTO**	**132.81**	**45**		PKPdf	**PKPdf**	**04 10 46.2**	**+0.4**	
TATO	**Taipei**	**132.82**	**322**		IAMs_20	IAMs_20	05 12 48.8		
	comp=Z,31µm,22.0s								
DHRM	**DHARAMSHALA**	**132.97**	**18**	*i*	x	**PP**	**04 13 08.4**	**-2.5**	
DHRM				*ex*		**PP**	**04 13 08.5**	**-2.3**	
JLN	**Jalan Bani Buh**	**133.00**	**43**		PKiKP	**PKiKP**	**04 10 47.1**	**-0.2**	
SHAO	**Shalim**	**133.00**	**50**	*i*	PKPdf	**PKPdf**	**04 10 45.9**	**-0.3**	
	SNR=8.2								
SHAO	**Shalim**	**133.00**	**50**		PKiKP	**PKiKP**	**04 10 47.4**	**-0.1**	
YHNB	**Yeheng**	**133.12**	**322**		IAMs_20	IAMs_20	05 21 12.8		
	comp=Z,45µm,22.0s								
DQM	**DQM**	**133.20**	**47**		PKPdf	**PKiKP**	**04 10 47.3**	**-0.5**	
NACB	**Ninganchiao**	**133.36**	**322**		IAMs_20	IAMs_20	05 11 22.2		
	comp=Z,31µm,22.0s								
BHK	**Bhakra**	**133.78**	**18**	*e*	P	**PKiKP**	**04 10 50.0**	**+1.3**	
BHK				*ex*		**SKPbc**	**04 14 11.8**	**+0.8**	
SSLB	**Suanglung**	**134.04**	**322**		IAMs_20	IAMs_20	05 17 21.1		
	comp=Z,23µm,19.0s								
YULB	**Yu-li**	**134.12**	**321**		IAMs_20	IAMs_20	05 22 01.4		
	comp=Z,23µm,22.0s								
ENH	**Enshi**	**134.16**	**339**		IAMs_20	IAMs_20	05 17 44.1		
	comp=Z,39µm,22.0s								
SMLA	**Simla**	**134.28**	**18**	*ex*		**SKPbc**	**04 14 13.8**	**+1.2**	
TPUB	**Ta-pu**	**134.60**	**322**		IAMs_20	IAMs_20	05 23 44.9		
	comp=Z,27µm,22.0s								
BBOO	**Buckleboo**	**134.98**	**236**			PKPpre	04 10 39.5		
KNMB	**Chin-men Tao**	**135.01**	**325**		IAMs_20	IAMs_20	05 15 32.5		
	comp=Z,31µm,22.0s								
SOCY	**Socotra**	**135.02**	**58**		PKPdf	**PKPdf**	**04 10 50.1**	**-0.2**	
SOCY	**Socotra**	**135.02**	**58**		IAMs_20	IAMs_20	05 11 11.8		
	comp=Z,38µm,22.0s								
CD2	**Chengdu**	**135.28**	**345**		Pdif	**Pdif**	**04 07 49.3**	**-3.5**	
CD2					PKP	**PKiKP**	**04 10 51.3**	**-0.5**	
CD2					PP	PP	04 13 36.4	+11	
CD2	**Chengdu**	**135.28**	**345**		SS	SS	04 31 11.0	-4.0	
CD2					AMB	AMB			
	comp=Z,34µm,12.0s								
CD2					LR	LR			
	comp=N,96µm,26.0s								
CD2					LR	LR			
	comp=E,58µm,24.2s								
CD2					LR	LR			
	comp=Z,148µm,28.4s								
CD2	**Chengdu**	**135.28**	**345**		PKP	**PKiKP**	**04 10 51.3**	**-0.5**	
CD2					SKS	**SKSdf**	**04 17 57.0**	**+0.8**	
CD2					SKKS	**SKKSac**	**04 20 12.8**	**-3.6**	
CD2					AMB	AMB			
	comp=Z,34µm,12.0s								
CD2					LR	LR			
	comp=Z,96µm,26.0s								
CD2					LR	LR			
	comp=Z,58µm,24.2s								
CD2					LR	LR			
	comp=Z,148µm,28.4s								
FOMA	**Nahampoana Res**	**135.89**	**113**		PKiKP	**PKiKP**	**04 10 53.6**	**+0.5**	
FOMA	**Nahampoana Res**	**135.89**	**113**			**PKPdf**	**04 10 51.7**	**+0.3**	
VOI	**Vohitsoka**	**136.05**	**109**		PKPdf	**PKPdf**	**04 10 52.6**	**+0.6**	
NDI	**New Delhi**	**136.57**	**19**	*ex*		PKPpre	04 10 43.0		
OPO	**Ambohidratompo**	**136.58**	**104**		PKhKP	PKPpre	04 10 43.6		
	comp=Z,24nm,1.0s,baz=238,slow=2.4,SNR=14								
OPO					PKP	**PKPdf**	**04 10 53.1**	**0.0**	
	comp=Z,66nm,1.0s,baz=276,slow=3.4,SNR=12								
OPO					SKP		04 14 25.7		
	comp=Z,56nm,0.8s,baz=247,slow=3.0,SNR=13								
ABPO	**Ambohimpanom**	**136.61**	**104**		PKIKP	**PKPdf**	**04 10 53.2**	**+0.1**	
ABPO					MLR	MLR			
	comp=Z,95µm,21.0s								
ABPO	**Ambohimpanom**	**136.61**	**104**		PKPdf	**PKPdf**	**04 10 53.2**	**+0.1**	
LGTI	**Lohaghat**	**136.71**	**15**	*e*	P	**PKPdf**	**04 10 53.2**	**+0.3**	
LGTI				*ex*		**SKiKP**	**04 14 25.0**	**-0.5**	
SGCP	**Mt. Cagua**	**137.32**	**315**	*e*	P	**PKiKP**	**04 10 59.3**	**+3.2**	
SGCP	**Mt. Cagua**	**137.32**	**315**	*e*	P	**PKiKP**	**04 10 59.3**	**+3.2**	
LSA	**Lhasa**	**137.95**	**1**		PKP	**PKPdf**	**04 10 55.3**	**-0.5**	
LSA					LR	LR			
	comp=Z,193µm,39.9s								
LSA					LR	LR			
	comp=Z,224µm,38.4s								
LSA					LR	LR			
	comp=Z,532µm,39.2s								
LSA	**Lhasa**	**137.95**	**1**		PKPdf	**PKPdf**	**04 10 55.1**	**-0.7**	
LSA	**Lhasa**	**137.95**	**1**		PKiKP	**PKPdf**	**04 10 56.7**	**+0.9**	
LSA	**Lhasa**	**137.95**	**1**		PKIKP	**PKPdf**	**04 10 55.7**	**-0.2**	
LSA	**Lhasa**	**137.95**	**1**			**PKPdf**	**04 10 55.7**	**-0.2**	
LSA					IAMs_20	IAMs_20	05 20 31.7		
	comp=Z,45µm,20.0s								
CAUP	**Cauayan**	**138.36**	**314**	*e*	P	**PKiKP**	**04 10 59.7**	**+1.4**	
CAUP	**Cauayan**	**138.36**	**314**	*e*	P	**PKiKP**	**04 10 59.7**	**+1.4**	
WR0	**Warramunga Arr**	**138.53**	**254**		PKPpre	PKPpre	04 10 48.2		
GYA	**Guiyang**	**138.63**	**340**		Pdif	**Pdif**	**04 08 22.1**	**+14**	
GYA				⇓	PKP	**PKiKP**	**04 10 58.3**	**-0.6**	
GYA					sPKP		04 11 12.9		
GYA					PP	**PP**	**04 13 53.8**	**+7.5**	
GYA					SKS	**SKSdf**	**04 18 03.6**	**+1.3**	
GYA	**Guiyang**	**138.63**	**340**	⇓	PKP	**PKiKP**	**04 10 58.3**	**-0.6**	
GYA					sPKP		04 11 12.9		
GYA					PP	**PP**	**04 13 53.8**	**+7.5**	
GYA					SKS	**SKSdf**	**04 18 03.6**	**+1.3**	
GYA					SKKS	**SKKSac**	**04 20 34.8**	**-1.9**	
GYA					SS	**SS**	**04 31 54.4**	**-0.8**	
GYA					LR	LR			
	comp=Z,50µm,27.1s								
GYA					LR	LR			
	comp=Z,51µm,25.0s								
GYA					LR	LR			
	comp=Z,122µm,26.8s								
WB0	**Warramunga Arr**	**138.68**	**254**			PKPpre	04 10 47.8		
WB9	**Warramunga Arr**	**138.69**	**254**		IAMs_20	IAMs_20	05 05 59.1		
	comp=Z,51µm,20.0s								
WB7	**Warramunga Arr**	**138.69**	**254**		IAMs_20	IAMs_20	05 08 28.5		
	comp=Z,45µm,20.0s								
WB8	**Warramunga Arr**	**138.69**	**254**		IAMs_20	IAMs_20	05 08 30.1		
	comp=Z,48µm,20.0s								
WRAB	**Tennant Creek**	**138.71**	**254**		PKHKP	PKPpre	04 10 47.9		
WRAB	**Tennant Creek**	**138.71**	**254**			PKPpre	04 10 47.9		
WRA	**Warramunga Arr**	**138.72**	**254**		PKhKP	PKPpre	04 10 44.6		
	comp=Z,6.3nm,0.8s,baz=96,slow=3.3,SNR=26								
WRA					PKP	**PKPdf**	**04 10 56.5**	**-0.4**	
	comp=Z,69nm,0.8s,baz=97,slow=2.0,SNR=36								
WRA					PP	**PP**	**04 13 47.7**	**-1.2**	
	comp=Z,14nm,1.1s,baz=87,slow=5.6,SNR=5.0								
WRA					SKPbc	**SKiKP**	**04 14 31.5**	**+1.7**	
	comp=Z,68nm,1.1s,baz=85,slow=2.6,SNR=5.5								
WRA	**Warramunga Arr**	**138.72**	**254**		PKIKP	**PKPdf**	**04 10 56.8**	**-0.1**	
WRA	**Warramunga Arr**	**138.72**	**254**			PKPpre	04 10 46.9		
WRA						**PKPdf**	**04 10 56.8**	**-0.1**	
AS31	**Alice Springs**	**138.75**	**248**			PKPpre	04 10 47.9		
ASAR	**Alice Springs**	**138.75**	**248**		PKhKP	PKPpre	04 10 48.4		
	comp=Z,24nm,0.8s,baz=101,slow=3.9,SNR=44								
ASAR					PKP	**PKiKP**	**04 10 58.3**	**-0.7**	
	comp=Z,71nm,0.8s,baz=95,slow=2.0,SNR=22								
ASAR	**Alice Springs**	**138.75**	**248**			PKPpre	04 10 46.9		
ASAR						**PKPdf**	**04 10 57.0**	**+0.2**	
PVCP	**Virac**	**138.80**	**308**	*e*	P	**PKiKP**	**04 10 58.9**	**-0.4**	
PVCP	**Virac**	**138.80**	**308**	*e*	P	**PKiKP**	**04 10 58.9**	**-0.4**	
GZH	**Guangzhou**	**138.81**	**329**		PKP	**PKPdf**	**04 10 54.6**	**-2.3**	
GZH					PP	**PP**	**04 13 47.5**	**-0.1**	
GZH					SS	SS	04 31 49.5	-8.1	
GZH					LR	LR			
	comp=Z,40µm,24.5s								
GZH					LR	LR			
	comp=Z,40µm,25.4s								
BESP	**Borongan**	**138.97**	**305**	*e*	P	**PKPdf**	**04 10 56.9**	**-0.5**	
BESP	**Borongan**	**138.97**	**305**	*e*	P	**PKPdf**	**04 10 56.9**	**-0.5**	
FAKI	**Fak Fak**	**138.97**	**280**			**PKPdf**	**04 10 57.4**	**-0.1**	
FAKI					IAMs_20	IAMs_20	05 03 27.8		
	comp=Z,34µm,21.0s								
HKC	**Hong Kong Obse**	**139.03**	**328**	⇓	P	**PKiKP**	**04 11 01.0**	**+1.4**	
CNP	**Catarman**	**139.06**	**306**	*e*	P	**PKPdf**	**04 10 50.9**	**-6.6**	
CNP	**Catarman**	**139.06**	**306**	*e*	P	**PKPdf**	**04 10 50.9**	**-6.6**	
HKPS	**Hong Kong Po S**	**139.07**	**328**		IAMs_20	IAMs_20	05 21 09.7		
	comp=Z,37µm,22.0s								
SBV	**Sambava**	**139.10**	**96**		PKPdf	**PKPdf**	**04 10 53.8**	**-3.8**	
SIJI	**Sorong**	**139.31**	**284**		PKhKP	PKPpre	04 10 53.8		
	comp=Z,20nm,0.7s,baz=350,slow=3.5,SNR=4.3								
SIJI					PKP	**PKiKP**	**04 10 59.6**	**-0.8**	
	comp=Z,159nm,1.1s,baz=23,slow=3.6,SNR=9.2								
BALP	**Baler**	**139.34**	**313**	*e*	P	**PKiKP**	**04 11 02.2**	**+1.8**	
BALP	**Baler**	**139.34**	**313**	*e*	P	**PKiKP**	**04 11 02.2**	**+1.8**	
GLSP	**General Luna,**	**139.40**	**302**	*e*	P	**PKiKP**	**04 11 02.1**	**+1.6**	
GLSP	**General Luna,**	**139.40**	**302**	*e*	P	**PKiKP**	**04 11 02.1**	**+1.6**	
JCNP	**Jose Panganiba**	**139.47**	**310**	*e*	P	**PKiKP**	**04 11 00.4**	**-0.2**	
JCNP	**Jose Panganiba**	**139.47**	**310**	*e*	P	**PKiKP**	**04 11 00.4**	**-0.2**	
BCP	**Baguio City**	**139.57**	**315**	⇓	*i*P	**SKiKP**	**04 11 02.2**	**+1.1**	
BCP	**Baguio City**	**139.57**	**315**	⇓	*i*P	**SKiKP**	**04 14 32.2**	**+0.4**	
BCP	**Baguio City**	**139.57**	**315**	⇓	*i*P	**PKiKP**	**04 11 02.2**	**+1.1**	
BCP	**Baguio City**	**139.57**	**315**	⇓	*i*P	**SKiKP**	**04 14 32.2**	**+0.4**	
SMPP	**San Manuel, Pa**	**139.70**	**314**	*e*	P	**PKPdf**	**04 10 58.9**	**+0.2**	
SMPP	**San Manuel, Pa**	**139.70**	**314**	*e*	P	**PKPdf**	**04 10 58.9**	**+0.2**	
POLP	**Polillo Island**	**139.75**	**311**	*e*	P	**PKiKP**	**04 11 02.9**	**+1.7**	
POLP	**Polillo Island**	**139.75**	**311**	*e*	P	**PKiKP**	**04 11 02.9**	**+1.7**	
OCLP	**Ormoc**	**139.94**	**305**	*e*	P	**PKPdf**	**04 11 00.2**	**+1.0**	
OCLP	**Ormoc**	**139.94**	**305**	*e*	P	**PKPdf**	**04 11 00.2**	**+1.0**	
TAWA	**Tawang**	**140.06**	**0**	*e*	P	**PKPdf**	**04 10 57.1**	**-2.5**	
DIBR	**DIBRUGARH**	**140.08**	**356**	*e*	P	**PKPdf**	**04 10 58.7**	**-0.4**	
DIBR				*i*	x	x	04 14 16.8		
ZIRO	**ZIRO**	**140.08**	**357**	*e*	P	**PKPdf**	**04 10 58.7**	**-0.7**	
ZIRO				*i*	x	x	04 14 13.4		
LKP	**Lekhapani**	**140.13**	**355**	*ex*		PKPdf	04 10 50.2	-9.0	
LKP				*i*	x	x	04 14 19.9		
GTK	**Tadong**	**140.20**	**5**	*ex*		**PKPdf**	**04 10 54.4**	**-5.2**	
GTK					IAmb	IAmb	04 11 09.9		
	comp=Z,103nm,0.8s								
GTK				*i*	x	x	04 14 05.3		
GTK				*ex*		x	04 26 04.9		
MSLP	**Maasin**	**140.26**	**303**	*e*	P	**PKiKP**	**04 11 01.9**	**-0.3**	
MSLP	**Maasin**	**140.26**	**303**	*e*	P	**PKiKP**	**04 11 01.9**	**-0.3**	
LQP	**Lukban**	**140.44**	**311**	*e*	P	**PKiKP**	**04 10 56.1**	**-4.2**	
LQP	**Lukban**	**140.44**	**311**	*e*	P	**PKPdf**	**04 10 56.1**	**-4.2**	
QVP	**Quezon City--P**	**140.50**	**312**	*e*	P	**PKiKP**	**04 11 04.6**	**+1.9**	
QVP	**Quezon City--P**	**140.50**	**312**	*e*	P	**PKiKP**	**04 11 04.6**	**+1.9**	
BOAC	**Boac**	**140.64**	**310**	*e*	P	**PKiKP**	**04 11 01.9**	**-1.1**	
BOAC	**Boac**	**140.64**	**310**	*e*	P	**PKiKP**	**04 11 01.9**	**-1.1**	
MATI	**Mati**	**140.75**	**298**	*e*	P	**PKiKP**	**04 11 02.2**	**-1.1**	
MATI	**Mati**	**140.75**	**298**	*e*	P	**PKiKP**	**04 11 02.2**	**-1.1**	
JORH	**JORHAT**	**140.84**	**357**	*e*	P	**PKiKP**	**04 11 02.5**	**-0.7**	
JORH				*i*	x	x	04 14 22.5		
TGY	**Tagaytay City**	**140.89**	**312**		PKP	**PKPdf**	**04 11 01.5**	**+0.6**	
	comp=Z,164nm,0.3s,baz=356,slow=5.0,SNR=6.4								
SAUI	**Saumlaki**	**141.02**	**273**			**PKPdf**	**04 11 01.1**	**0.0**	
TEZP	**TEZPUR**	**141.02**	**359**	*ex*		PKPdf	04 10 52.9	-7.9	
TEZP				*i*	x	x	04 14 12.1		
KMI	**Kunming**	**141.06**	**344**	⇓	PKP	**PKPdf**	**04 10 53.9**	**-7.4**	
KMI					SKS	**SKSdf**	**04 17 58.3**	**-8.2**	
KMI					SKKS	**SKKSac**	**04 20 49.4**	**-1.8**	
KMI					SS	**SS**	**04 32 28.9**	**+5.1**	
KMI					LR	LR			
	comp=Z,62µm,29.2s								
KMI					LR	LR			
	comp=Z,65µm,26.9s								
KMI					LR	LR			
	comp=Z,174µm,27.1s								
KMI	**Kunming**	**141.06**	**344**		IAMs_20	IAMs_20	05 20 48.7		
	comp=Z,52µm,21.0s								
OTRP	**Odiongan**	**141.19**	**309**	*e*	P	**PKPdf**	**04 10 58.6**	**-2.9**	
OTRP	**Odiongan**	**141.19**	**309**	*e*	P	**PKPdf**	**04 10 58.6**	**-2.9**	
DAV	**Davao City (W)**	**141.27**	**298**		PKP	**PKiKP**	**04 11 03.5**	**-0.9**	
	comp=Z,171nm,0.4s,baz=117,slow=6.8,SNR=3.8								
DAV	**Davao City (W)**	**141.27**	**298**			**PKPdf**	**04 10 59.1**	**-2.5**	
DAV					IAMs_20	IAMs_20	05 03 43.9		
	comp=Z,23µm,21.0s								
DAV	**Davao City (W)**	**141.27**	**298**	⇑	*i*P	**PKPdf**	**04 10 58.3**	**-3.3**	
BUKP	**Musuan**	**141.30**	**300**	*e*	P	**PKPdf**	**04 11 02.8**	**+1.0**	
BUKP	**Musuan**	**141.30**	**300**	*e*	P	**PKPdf**	**04 11 02.8**	**+1.0**	
CGP	**Cagayan de Oro**	**141.31**	**301**	⇓	*e*P	**PKiKP**	**04 11 08.3**	**+3.9**	
CGP	**Cagayan de Oro**	**141.31**	**301**	⇓	*e*P	**PKiKP**	**04 11 08.3**	**+3.9**	
DDMP	**Don Marcelino,**	**141.63**	**297**	*e*	P	PKPdf	04 10 51.9	-10	
DDMP	**Don Marcelino,**	**141.63**	**297**	*e*	P	PKPdf	04 10 51.9	-10	
LUBP	**Lubang**	**141.64**	**312**	*e*	P	PKPdf	04 10 52.0	-10	
LUBP	**Lubang**	**141.64**	**312**	*e*	P	PKPdf	04 10 52.0	-10	
BHPL	**Bhopal**	**141.66**	**22**	*ex*		PP	04 14 15.1	+10	
BHPL				*i*	x	x	04 17 17.3		
MTN	**Manton Dam**	**141.78**	**265**			PKPpre	04 10 57.4		
GUIM	**Jordan**	**141.80**	**306**	*e*	P	**PKPdf**	**04 10 59.2**	**-3.4**	
GUIM	**Jordan**	**141.80**	**306**	*e*	P	**PKPdf**	**04 10 59.2**	**-3.4**	
SJMP	**San Jose**	**141.82**	**310**	*e*	P	**PKPdf**	**04 11 03.8**	**+1.2**	
SJMP	**San Jose**	**141.82**	**310**	*e*	P	**PKPdf**	**04 11 03.8**	**+1.2**	
KOHI	**KOHIMA**	**141.86**	**357**	*ex*		PKPdf	04 10 54.6	-8.0	
KOHI				*i*	x	x	04 14 24.0		
SHL	**Shillong**	**142.07**	**0**	*ex*		PKPdf	04 10 50.6	-12	
SHL				*i*	x	x	04 14 20.3		
SHL				*ex*		x	04 14 38.8		
SHL	**Shillong**	**142.07**	**0**		PKHKP	PKPpre	04 10 57.2		
SHL	**Shillong**	**142.07**	**0**			PKPpre	04 10 57.2		
SHL					IAMs_20	IAMs_20	05 23 46.8		
	comp=Z,39µm,20.0s								
FORT	**Forrest**	**142.08**	**236**			PKPpre	04 10 57.8		
CNOP	**Candoni, Negro**	**142.23**	**305**	*e*	P	**PKPdf**	**04 10 59.2**	**-4.1**	
CNOP	**Candoni, Negro**	**142.23**	**305**	*e*	P	**PKPdf**	**04 10 59.2**	**-4.1**	
SKMP	**Bagumbayan, Su**

NWAO	**Narrogin (SRO)**	**149.25**	**225**	PKPdf	**PKPdf**	**04 11 15.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**149.25**	**225**		**PKPdf**	**04 11 15.3**	**+0.4**
ADKI	**Addanki**	**149.37**	**23**	*e*PKPdf	**PKPdf**	**04 11 15.8**	**+0.4**
ADKI				IVMs_BB	IVMs_BB	05 06 26.5	
	comp=E,11µm,36.2s						
KKM	**Kota Kinabalu**	**149.58**	**306**		**PKPdf**	**04 11 15.1**	**-0.9**
KKM				IAMs_20	IAMs_20	05 22 51.9	
	comp=E,17µm,21.0s						
MMRI	**Maumere**	**149.96**	**274**	IAMs_20	IAMs_20	05 24 34.3	
	comp=E,21µm,20.0s						
H01W1	**Cape Leeuwin H**	**150.02**	**218**	PKPbc	**PKiKP**	**04 11 22.2**	**+0.7**
	baz=141,slow=4.3,SNR=77						
H01W2	**Cape Leeuwin H**	**150.03**	**218**	PKPbc	**PKiKP**	**04 11 22.2**	**+0.7**
	baz=141,slow=4.3,SNR=79						
H01W3	**Cape Leeuwin H**	**150.04**	**218**	PKPbc	**PKiKP**	**04 11 22.6**	**+1.0**
	baz=141,slow=4.3,SNR=54						
SKHT	**Srikalahasti**	**151.17**	**25**	*e*PKPdf	**PKPdf**	**04 11 16.6**	**-1.6**
SKHT				IVMs_BB	IVMs_BB	05 17 26.4	
	comp=Z,8µm,26.7s						
KAPI	**Kappang**	**151.51**	**283**	PKP	**PKPdf**	**04 11 19.2**	**+0.4**
	comp=Z,51nm,1.1s,baz=61,slow=1.8,SNR=1.8						
KAPI				PKPbc	**PKiKP**	**04 11 27.3**	**+1.8**
	comp=Z,130nm,0.7s,baz=177,slow=1.8,SNR=3.7						
KAPI	**Kappang**	**151.51**	**283**	PKPdf	**PKPdf**	**04 11 19.3**	**+0.5**
KAPI	**Kappang**	**151.51**	**283**		**PKPdf**	**04 11 18.8**	**0.0**
KAPI					**PKPbc**	**04 11 25.2**	**+0.1**
KAPI	**Kappang**	**151.51**	**283**	IAMs_20	IAMs_20	05 21 31.2	
	comp=Z,26µm,21.0s						
PSA00	**Pilbara Seismi**	**151.90**	**248**		**PKPdf**	**04 11 19.4**	**+0.2**
PSA00	**Pilbara Seismi**	**151.90**	**248**		**PKPdf**	**04 11 19.4**	**+0.2**
PSA00				IAMs_20	IAMs_20	05 10 30.4	
	comp=Z,66µm,21.0s						
MBWA	**Marble Bar**	**152.10**	**248**	PKPdf	**PKPdf**	**04 11 20.4**	**+0.9**
MORW	**Morawa**	**152.22**	**230**		**PKPdf**	**04 11 19.6**	**+0.2**
SBUM	**Sibu**	**154.91**	**305**		**PKPdf**	**04 11 23.8**	**0.0**
SBUM				IAMs_20	IAMs_20	05 36 32.4	
	comp=Z,39µm,22.0s						
PBA	**Port Blair**	**155.90**	**358**	PKPdf	PKPdf	04 11 26.8	+1.7
PBA	**Port Blair**	**155.90**	**358**		PKPdf	04 11 25.2	+0.2
KSM	**Kuching**	**157.02**	**306**		**PKPdf**	**04 11 25.6**	**-0.9**
KSM				IAMs_20	IAMs_20	05 36 04.1	
	comp=Z,42µm,22.0s						
PALK	**Pallekele**	**157.33**	**30**	PKPdf	**PKPdf**	**04 11 28.7**	**+1.7**
PALK	**Pallekele**	**157.33**	**30**	PKIKP	**PKPdf**	**04 11 26.1**	**-0.9**
PALK	**Pallekele**	**157.33**	**30**		**PKPdf**	**04 11 26.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**157.78**	**278**	IAMs_20	IAMs_20	05 19 23.3	
	comp=Z,32µm,21.0s						
DGAR	**Diego Garcia**	**160.15**	**77**	PKPdf	**PKPdf**	**04 11 32.9**	**+2.6**
KULM	**Kulim**	**160.24**	**333**		**PKPdf**	**04 11 29.6**	**-0.8**
IPM	**Ipoh**	**160.78**	**331**		**PKPdf**	**04 11 30.1**	**-0.9**
MYKOM	**Kota Tinggi**	**161.45**	**320**		**PKPdf**	**04 11 31.6**	**-0.1**
LHMI	**Lhok Sumawe**	**161.61**	**344**		**PKPdf**	**04 11 31.9**	**0.0**
LEM	**Lembang**	**163.51**	**289**	PKP	**PKPdf**	**04 11 33.8**	**-0.1**
	comp=Z,107nm,1.0s,baz=129,slow=3.6,SNR=1.3						
BKNI	**Bangkinang**	**164.30**	**324**		**PKPdf**	**04 11 33.8**	**-0.7**
GSI	**Gunungsitoli**	**165.10**	**338**		**PKPdf**	**04 11 35.4**	**+0.2**

*ISK **14** 03:59:05.6,39.°53N×25.°94E,h8km,ML2.6/26*
*THE **14** 03:59:06.6,39.°55N×25.°95E,h3km±1km,ML2.1/8,Error ellipse: s-maj=1.9km s-min=0.8km az=127.0*
*ATH **14** 03:59:06.1,39.°53N×25.°93E,h27km±1km,ML2.2/6,Error ellipse: s-maj=2.3km s-min=1.0km az=247.0*
*DDA **14** 03:59:07.0,39.°58N×25.°99E,h7km±2km,ML2.7*

ISC 14 03:59:05.4±1.1,39°52N±0.02×25°93E±0.02,h8km±9km, n59,σ0°71/87,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.34**	**16**	PG	**Pb**	**03 59 12.7**	**-1.0**
BOZC				SG	**Sg**	**03 59 17.4**	**+0.9**
BOZC	**Bozcaada**	**0.34**	**16**	*i* P	**Pb**	**03 59 12.7**	**-1.0**
BOZC				*i* S	**Sg**	**03 59 16.8**	**+0.3**
PRK	**Paraskevi**	**0.38**	**136**	P	**Pb**	**03 59 14.9**	**+0.6**
PRK				S	**Sb**	**03 59 19.5**	**-0.8**
	845nm,0.3s						
PRK	**Paraskevi**	**0.38**	**136**	P	**Pb**	**03 59 14.9**	**+0.6**
PRK				S	**Sb**	**03 59 20.5**	**+0.1**
PRK				AML	AML	03 59 20.8	
	comp=E,1759µm,0.3s						
PRK				AML	AML	03 59 20.9	
	comp=N,1587µm,0.2s						
EZN	**Ezine**	**0.43**	**44**	P	**Pb**	**03 59 14.2**	**-1.1**
EZN				S	**Sg**	**03 59 20.0**	**+0.5**
	comp=N,428nm,0.2s						
EZN	**Ezine**	**0.43**	**44**	PG	**Pb**	**03 59 14.2**	**-1.1**
EZN				SG	**Sg**	**03 59 20.5**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**0.52**	**65**	*i* P	**Pg**	**03 59 15.8**	**+0.3**
BAYC				*i* S	**Sg**	**03 59 22.7**	**+0.2**
AYVA	**Ayvalik**	**0.62**	**110**	*i* P	**Pb**	**03 59 19.1**	**+0.6**
AYVA				*i* S	**Sb**	**03 59 28.1**	**+0.7**
GOKA	**anakkale-Gk**	**0.67**	**358**	*i* P	**Pb**	**03 59 18.9**	**-0.4**
GOKA				*i* S	**Sg**	**03 59 27.5**	**+0.3**
GADA	**Gvkgeada**	**0.67**	**358**	P	**Pb**	**03 59 18.8**	**-0.6**
GADA				S	**Sb**	**03 59 27.8**	**-1.0**
	comp=N,130nm,0.2s						
GADA	**Gvkgeada**	**0.67**	**358**	PG	**Pb**	**03 59 18.8**	**-0.6**
GADA				SG	**Sb**	**03 59 28.3**	**-0.5**
LIA	**Limnos Island**	**0.69**	**303**	P	**Pb**	**03 59 20.1**	**+0.4**
LIA				S	**Sb**	**03 59 29.9**	**+0.5**
	comp=N,132nm,0.4s						
LIA	**Limnos Island**	**0.69**	**303**	P	**Pb**	**03 59 20.2**	**+0.4**
LIA				S	**Sb**	**03 59 30.0**	**+0.6**
LIA				AML	AML	03 59 33.0	
	comp=E,253µm,0.5s						
LIA				AML	AML	03 59 34.0	
	comp=N,276µm,0.3s						
DKL	**Dikili**	**0.88**	**120**	PG	**Pb**	**03 59 23.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**25**	PG	**Pb**	**03 59 24.2**	**-0.3**
SMTH	**Samothraki Isl**	**1.00**	**342**	P	**Pb**	**03 59 25.1**	**+0.1**
SMTH				S	**Sb**	**03 59 38.7**	**+0.4**
	comp=N,152nm,0.3s						
SMTH	**Samothraki Isl**	**1.00**	**342**	P	**Pb**	**03 59 25.1**	**+0.1**
SMTH				S	**Sb**	**03 59 38.4**	**+0.1**
SMTH				AML	AML	03 59 40.2	
	comp=E,242µm,0.3s						
SMTH				AML	AML	03 59 41.0	
	comp=N,366µm,0.3s						
PSRA	**Psara**	**1.02**	**197**	P	**Pn**	**03 59 26.0**	**0.0**
ZEDA	**zmir-Bergama**	**1.04**	**121**	*i* P	**Pn**	**03 59 26.4**	**+0.1**
ZEDA				*i* S	**Sb**	**03 59 40.6**	**+1.0**
LPK	**Lapseki**	**1.06**	**36**	PG	**Pb**	**03 59 25.8**	**-0.3**
CHOS	**Chios island**	**1.13**	**175**	P	**Pn**	**03 59 28.0**	**+0.3**
CHOS				S	**Sn**	**03 59 43.6**	**+0.2**
CHOS				AML	AML	03 59 46.4	
	comp=N,364µm,0.2s						
CHOS				AML	AML	03 59 46.6	
	comp=E,565µm,0.2s						
CHOS	**Chios island**	**1.13**	**175**	PN	**Pn**	**03 59 28.1**	**+0.5**
ENEZ	**Enez**	**1.23**	**8**	P	**Pb**	**03 59 28.8**	**-0.1**
ENEZ				S	**Sn**	**03 59 46.8**	**+1.2**
	comp=E,158nm,0.5s						
ENEZ	**Enez**	**1.23**	**8**	PN	**Pn**	**03 59 28.9**	**+0.1**
ERIK	**Erikli-Kesan**	**1.23**	**21**	PN	**Pn**	**03 59 29.2**	**+0.3**
URLA	**Izmir**	**1.27**	**156**	PN	**Pn**	**03 59 29.5**	**+0.1**
URLA	**Izmir**	**1.27**	**156**	*i* P	**Pb**	**03 59 29.3**	**-0.3**
URLA				*i* S	**Sg**	**03 59 45.6**	**-0.6**
BALY	**Balya**	**1.32**	**80**	*i* P	**Pb**	**03 59 31.3**	**+0.9**
BALY				*i* S	**Sg**	**03 59 47.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.36**	**50**	PN	**Pn**	**03 59 30.8**	**+0.1**
ALN	**Alexandroupoli**	**1.38**	**4**	P	**Pb**	**03 59 31.3**	**-0.1**
ALN				S	**Sn**	**03 59 50.6**	**+1.2**
	comp=E,82nm,0.4s						
ALN	**Alexandroupoli**	**1.38**	**4**	P	**Pb**	**03 59 31.4**	**-0.1**
ALN				S	**Sn**	**03 59 50.5**	**+1.2**
ALN				AML	AML	03 59 51.4	
	comp=E,104µm,0.3s						
ALN				AML	AML	03 59 51.6	
	comp=N,100µm,0.6s						
ALN	**Alexandroupoli**	**1.38**	**4**	PN	**Pb**	**03 59 31.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.39**	**95**	*i* P	**Pg**	**03 59 31.4**	**-0.7**
STEP				*i* S	**Sb**	**03 59 49.7**	**+0.2**
BLCB	**Balcova**	**1.42**	**142**	PN	**Pg**	**03 59 32.6**	**-0.2**
THAS	**Thassos island**	**1.43**	**320**	P	**Pn**	**03 59 31.7**	**+0.1**
THAS	**Thassos island**	**1.43**	**320**	P	**Pg**	**03 59 32.2**	**-0.7**
THAS				S	**Sg**	**03 59 50.5**	**-1.0**
THAS				AML	AML	03 59 55.5	
	comp=N,61µm,0.3s						
THAS				AML	AML	03 59 55.9	
	comp=E,54µm,0.2s						
KNL	**Balıkesir**	**1.44**	**58**	*i* P	**Pg**	**03 59 32.7**	**-0.3**
KNL				*i* S	**Sb**	**03 59 50.9**	**+0.1**
KNL				IAML		03 59 53.0	
	comp=N,116nm,0.6s						
KNL				IAML		03 59 54.0	
	comp=E,125nm,0.6s						
GONE	**Gonen-Balikesi**	**1.45**	**68**	PN	**Pb**	**03 59 32.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.51**	**39**	PN	**Pn**	**03 59 33.1**	**+0.3**
SART	**Tekirdag**	**1.51**	**39**	*i* P	**Pb**	**03 59 33.5**	**-0.2**
SART				*i* S	**Sn**	**03 59 52.0**	**-0.7**
MAR6	**Marsite Statio**	**1.56**	**40**	PN	**Pn**	**03 59 33.9**	**+0.4**
AKHS	**Akhisar**	**1.59**	**113**	*i* P	**Pn**	**03 59 33.8**	**-0.2**
AKHS				*i* S	**Sn**	**03 59 51.5**	**-3.2**
MAR3	**Marsite Statio**	**1.61**	**40**	PN	**Pb**	**03 59 34.8**	**-0.5**
AOS	**Alonnisos**	**1.63**	**258**	P	**Pb**	**03 59 35.2**	**-0.5**
AOS	**Alonnisos**	**1.63**	**258**	PN	**Pb**	**03 59 35.4**	**-0.3**
MAR4	**Marsite Statio**	**1.64**	**39**	PN	**Pn**	**03 59 35.3**	**+0.6**
RDO	**Rodhopi**	**1.65**	**350**	P	**Pb**	**03 59 35.4**	**-0.7**
RDO				S	**Sn**	**03 59 56.6**	**+0.5**
	comp=E,20nm,0.2s						
RDO	**Rodhopi**	**1.65**	**350**	P	**Pb**	**03 59 35.4**	**-0.7**
RDO	**Rodhopi**	**1.65**	**350**	PN	**Pn**	**03 59 35.3**	**+0.6**
MRMT	**Marmara Adasi**	**1.67**	**49**	PN	**Pb**	**03 59 35.8**	**-0.7**
UKOP	**Uzunkopru-Edir**	**1.69**	**18**	PN	**Pn**	**03 59 35.7**	**+0.4**
EDC	**Edincik**	**1.70**	**60**	PN	**Pb**	**03 59 36.4**	**-0.5**
CRLT	**Corlu**	**2.12**	**40**	PN	**Pn**	**03 59 41.9**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.19**	**135**	PN	**Pn**	**03 59 42.4**	**+0.2**
EDRB	**Edirne**	**2.41**	**15**	PN	**Pn**	**03 59 45.9**	**+0.8**
SLVT	**Silivri**	**2.44**	**45**	PN	**Pn**	**03 59 46.4**	**+0.9**
ARMT	**Armutlu**	**2.48**	**64**	PN	**Pn**	**03 59 46.9**	**+0.8**
CTKS	**Kestanelik-??a**	**2.61**	**48**	PN	**Pn**	**03 59 48.9**	**+1.1**
TRML	**Termal-Yalova**	**2.71**	**65**	PN	**Pn**	**03 59 50.0**	**+0.7**

*INET **14** 04:01:28.7,12.°40N×88.°34W,h15km,MW3.3*
*NEIC **14** 04:01:32.1±1.3,12.°31N±0.°06×88.°20W±0.°05,h39km±13km, mb4.5/6,Error ellipse: s-maj=9.8km s-min=6.0km az=204.0*
*UCR **14** 04:01:44.7±1.6,12.°09N×87.°27W,h39km,MW3.0, mb4.5(NEIC)*

ISC 14 04:01:31.7±0.8,12°31N±0.°06×88°21W±0.°05,h35km,n42, σ0°74/45,mb4.6/4,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.92**	**44**	Pn	**Pn**	**04 01 48.9**	**+0.7**
CSGN					**Sn**	**04 01 59.9**	**-0.3**
CRIN	**San Cristobal**	**1.20**	**71**	Pn	**Pn**	**04 01 52.2**	**+0.2**
CRIN				Sn	**Sn**	**04 02 08.0**	**+0.9**
SNET	**Serv Nac Est T**	**1.69**	**324**	Pn	**Pn**	**04 01 58.3**	**-0.5**
SNET					**Sn**	**04 02 19.8**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.96**	**28**	Pn	**Pn**	**04 02 02.7**	**+0.2**
MATN	**Matagalpa**	**2.31**	**74**	Pn	**Pn**	**04 02 07.3**	**-0.1**
MTO3	**Montecristo**	**2.36**	**332**	Pn	**Pn**	**04 02 08.5**	**+0.3**
ESQI	**Esquipulas**	**2.49**	**334**	Pn	**Pn**	**04 02 10.8**	**+0.9**
ACON	**Acoyapa**	**2.99**	**96**		**Pn**	**04 02 16.7**	**+0.2**
GBS3	**Finca Las Img**	**3.10**	**119**	*e*P	**Pn**	**04 02 19.6**	**+1.5**
GB1A	**Borinquen Arri**	**3.13**	**118**	*e*P	**Pn**	**04 02 18.1**	**-0.5**
BUEV	**Buena Vista**	**3.13**	**118**	*e*P	**Pn**	**04 02 19.4**	**+0.8**
GUAB	**Guayabo de Bag**	**3.33**	**118**	*e*P	**Pn**	**04 02 22.5**	**+1.2**
GUAI	**GUAI**	**3.33**	**127**	*i* P	**Pn**	**04 02 22.1**	**+0.7**
ACAL	**Aguas Claras**	**3.53**	**118**	*e*P	**Pn**	**04 02 24.7**	**+0.6**
JTS	**Las Juntas de**	**3.77**	**122**	Pn	**Pn**	**04 02 28.2**	**+0.8**
ESPN	**Las Esperanzas**	**3.82**	**91**	Pn	**Pn**	**04 02 29.1**	**+1.0**
CASO	**Castillo**	**3.88**	**118**	*e*P	**Pn**	**04 02 29.3**	**+0.4**
RTAL	**Retalhuleu**	**4.04**	**303**	Pn	**Pn**	**04 02 32.1**	**+0.9**
HDC	**Heredia**	**4.53**	**119**	Pn	**Pn**	**04 02 39.2**	**0.0**
CCIG	**Comitan**	**5.49**	**317**		**Pn**	**04 02 51.2**	**+0.1**
BRAL	**Brewton**	**18.80**	**3**		**Pn**	**04 05 49.0**	**+0.1**
352A	**Blakely**	**19.32**	**8**	P	**Pn**	**04 05 54.6**	**-0.4**
FNO	**Franklin**	**24.32**	**341**	P	**P**	**04 06 46.1**	**0.0**
NNA	**Nana**	**26.64**	**155**	P	**P**	**04 07 06.2**	**-1.1**
113A	**Mohawk Valley,**	**31.03**	**315**	P	**P**	**04 07 47.0**	**+0.8**
PV03	**Paradox Valley**	**31.72**	**328**	P	**P**	**04 07 53.5**	**+1.0**
PV12	**Saucer Basin,**	**31.74**	**328**	P	**P**	**04 07 51.1**	**-1.6**
ECSD	**EROS Data Cent**	**32.14**	**349**	P	**P**	**04 07 55.3**	**-0.6**
MVU	**Marysvale**	**33.72**	**325**	P	**P**	**04 08 09.7**	**-0.3**
TMUT	**Trail Mountain**	**33.73**	**327**	P	**P**	**04 08 08.9**	**-1.3**
F33A	**5 Mile Ranch,**	**34.12**	**350**	P	**P**	**04 08 13.6**	**+0.5**
F33A				IAmb	IAmb	04 08 16.9	
	comp=Z,5.2nm,0.8s						
LPAZ	**La Paz**	**34.66**	**145**	P	**P**	**04 08 17.7**	**-1.2**
LPAZ				IAmb	IAmb	04 08 26.9	
	comp=Z,9.7nm,1.1s						
BW06	**Boulder Array**	**35.55**	**333**	P	**P**	**04 08 26.1**	**+0.3**
AGMN	**Agassiz Nation**	**36.44**	**351**	P	**P**	**04 08 32.5**	**-0.5**
AGMN				IAmb	IAmb	04 08 38.4	
	comp=Z,9.2nm,0.9s						
LOHW	**Long Hollow**	**36.69**	**332**	P	**P**	**04 08 35.3**	**-0.2**
RLMT	**Red Lodge**	**37.32**	**335**	P	**P**	**04 08 41.3**	**+0.5**
LAO	**LASA Array**	**37.49**	**340**	P	**P**	**04 08 43.3**	**+1.2**
LAO				IAmb	IAmb	04 08 43.9	
	comp=Z,1.2nm,0.3s						
YHH	**Holmes Hill**	**37.72**	**333**	P	**P**	**04 08 44.8**	**+0.5**
YHL	**Hebgen Lake**	**37.92**	**333**	P	**P**	**04 08 46.2**	**+0.3**
WDC	**Whiskeytown Da**	**41.24**	**319**	P	**P**	**04 09 13.5**	**+0.1**
NEW	**Newport**	**43.18**	**332**	P	**P**	**04 09 29.3**	**+0.2**
FFC	**Flin Flon**	**43.68**	**348**	P	**P**	**04 09 32.6**	**-0.4**

*INET **14** 04:06:33.0,12.°48N×88.°35W,h16km,MW3.6*
*UCR **14** 04:06:34.5±1.6,12.°59N×88.°37W,h64km±45km,ML3.9*
*SNET **14** 04:06:34.7±1.3,12.°70N×88.°32W,h79km±28km,ML3.9*

ISC 14 04:06:33.9±4.2,12°5N±0.°2×88°37W±0.°08,h35km,n25, σ0°63/33,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.88**	**347**	*e*S	**Sn**	**04 07 01.9**	**+0.5**
ALJI				IAML		04 07 02.4	
	comp=Z,3µm,0.1s						
ALJI	**Alcalda de J**	**0.88**	**347**	*e*S	**Sn**	**04 07 01.9**	**+0.5**
ALJI				IAML		04 07 02.4	
	comp=Z,3µm,0.1s						
LCND	**La Caada**	**0.96**	**29**	*e*S	**Sn**	**04 07 03.4**	**0.0**
RANC	**El Ranchito**	**0.97**	**5**	*e*P	**Pn**	**04 06 51.0**	**-0.1**
RANC				IAML		04 07 05.3	
	comp=Z,4µm,0.2s						
RANC	**El Ranchito**	**0.97**	**5**	*e*P	**Pn**	**04 06 51.0**	**-0.1**
RANC				IAML		04 07 05.3	
	comp=Z,4µm,0.2s						
BLLM	**Bellamira**	**0.98**	**8**	*e*P	**Pn**	**04 06 50.5**	**-0.8**
BLLM	**Bellamira**	**0.98**	**8**	*e*P	**Pn**	**04 06 50.5**	**-0.8**
CNRM	**Centro Naciona**	**1.02**	**11**	*e*P	**Pn**	**04 06 51.6**	**-0.2**
CNRM				*e*S	**Sn**	**04 07 05.8**	**+0.9**
CNRM				IAML		04 07 07.1	
CNRM	**Centro Naciona**	**1.02**	**11**	*e*P	**Pn**	**04 06 51.6**	**-0.2**
CNRM				*e*S	**Sn**	**04 07 05.8**	**+0.9**
CNRM				IAML		04 07 07.1	
COEB	**Comit de Eme**	**1.04**	**351**	*e*P	**Pn**	**04 06 51.9**	**-0.2**
COEB				*e*S	**Sn**	**04 07 05.7**	**+0.2**
COEB	**Comit de Eme**	**1.04**	**351**	*e*P	**Pn**	**04 06 51.9**	**-0.2**
COEB				*e*S	**Sn**	**04 07 05.7**	**+0.2**
LFRS	**El Faro**	**1.33**	**330**	*e*P	**Pn**	**04 06 55.5**	**-0.7**
LFRS	**El Faro**	**1.33**	**330**	*e*P	**Pn**	**04 06 55.5**	**-0.7**
AEIL	**Aeropuerto Ilo**	**1.42**	**329**	*e*P	**Pn**	**04 06 57.2**	**-0.1**
AEIL				*e*S	**Sn**	**04 07 15.6**	**+0.6**
AEIL				IAML		04 07 18.9	
	comp=Z,2µm,0.3s						
AEIL	**Aeropuerto Ilo**	**1.42**	**329**	*e*P	**Pn**	**04 06 57.2**	**-0.1**
AEIL				*e*S	**Sn**	**04 07 15.6**	**+0.6**
AEIL				IAML		04 07 18.9	
	comp=Z,2µm,0.3s						
LBRS	**Las Brisas**	**1.43**	**333**	*e*P	**Pn**	**04 06 57.4**	**0.0**
LBRS	**Las Brisas**	**1.43**	**333**	*e*P	**Pn**	**04 06 57.4**	**0.0**
IGN	**Direccin Gen**	**1.47**	**328**	*e*S	**Sn**	**04 07 15.3**	**-0.7**
IGN	**Direccin Gen**	**1.47**	**328**	*e*S	**Sn**	**04 07 15.3**	**-0.7**
LFU	**La Fuente**	**1.47**	**330**	*e*P	**Pn**	**04 06 57.5**	**-0.4**
LFU				*e*S	**Sn**	**04 07 15.4**	**-0.6**
LFU	**La Fuente**	**1.47**	**330**	*e*P	**Pn**	**04 06 57.5**	**-0.4**
LFU				*e*S	**Sn**	**04 07 15.4**	**-0.6**
OPAM	**Oficina de Pla**	**1.48**	**327**	*e*S	**Sn**	**04 07 15.8**	**-0.5**
OPAM				IAML		04 07 17.4	
	comp=Z,1µm,0.2s						
OPAM	**Oficina de Pla**	**1.48**	**327**	*e*S	**Sn**	**04 07 15.8**	**-0.5**
OPAM				IAML		04 07 17.4	
	comp=Z,1µm,0.2s						
BOQS	**Boqueron**	**1.54**	**325**	*e*P	**Pn**	**04 07 00.6**	**+1.4**
BOQS	**Boqueron**	**1.54**	**325**	*e*P	**Pn**	**04 07 00.6**	**+1.4**

*IDC **14** 04:12:26.2±0.3,34.°85S×179.°85E,h0km,mb5.7/39, mb1 5.7/41,mb1mx5.6/47,mbtmp5.7/41,ML5.7/2,MS6.1/4, Ms1 6.1/4,ms1mx5.5/32,Error ellipse: s-maj=11.4km s-min=10.0km az=2.0*
*NEIC **14** 04:12:27.0±1.0,34.°82S±0.°08×179.°9E±0.°1,h14km±3km, mb5.7/229,Error ellipse: s-maj=14.3km s-min=10.1km az=115.0*
*MOS **14** 04:12:28.6±1.1,34.°79S×179.°79E,h29km,mb5.9/43,Error ellipse: s-maj=9.4km s-min=7.1km az=91.9*
*BJI **14** 04:12:28.1±0.0,34.°23S×179.°21W,h28km,mb5.6/23*
*WEL **14** 04:12:30.5±0.6,35.°5S±4.°×18.°0W±.°,h33km,M6.5/19, mB6.4/2,ML6.8/19,MLv6.5/19,Mw(mB)6.2/2,Error ellipse: s-maj=0.0km s-min=0.0km az=113.7*

ISC 14 04:12:30.8±0.2,34°84S±0.°04×179°98E±0.°04,h35km, n1041,σ1966/1010,mb5.8/225,55C-24D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.04**	**206**	P	**Pn**	**04 13 17.1**	**+0.8**
MXZ				S	**Sn**	**04 13 53.5**	**+2.1**
MXZ	**Matakaoa Point**	**3.04**	**206**		**Pn**	**04 13 14.6**	**-1.7**
MXZ				Sn	**Sn**	**04 13 49.3**	**-2.1**
WMGZ	**Waiomatatini S**	**3.23**	**203**	P	**Pn**	**04 13 20.6**	**+1.6**
WMGZ				S	**Sn**	**04 13 59.6**	**+3.3**
PKGZ	**Pakihiroa**	**3.41**	**206**	P	**Pn**	**04 13 22.5**	**+1.0**
PKGZ				S	**Sn**	**04 14 01.7**	**+1.0**
HAZ	**Te Kaha**	**3.41**	**211**	P	**Pn**	**04 13 24.0**	**+2.6**
HAZ				S	**Sn**	**04 14 06.1**	**+5.5**
WIZ	**White Island**	**3.50**	**219**	P	**Pn**	**04 13 24.0**	**+1.3**
WIZ				S	**Sn**	**04 14 02.8**	**-0.2**
PUZ	**Puketiti**	**3.51**	**203**	P	**Pn**	**04 13 23.4**	**+0.5**
PUZ				S	**Sn**	**04 14 06.5**	**+3.3**
RUGZ	**Raukumara Rang**	**3.63**	**210**	P	**Pn**	**04 13 27.3**	**+2.7**
TWGZ	**Tauwhareparae**	**3.70**	**205**	P	**Pn**	**04 13 26.2**	**+0.7**
WHRZ	**Whale Island**	**3.87**	**218**	P	**Pn**	**04 13 30.1**	**+2.4**
WHRZ				S	**Sn**	**04 14 17.0**	**+5.1**
MYRZ	**Mayor Island**	**3.89**	**230**	P	**Pn**	**04 13 31.1**	**+3.1**
CNGZ	**Carnagh Statio**	**3.91**	**201**	P	**Pn**	**04 13 28.5**	**+0.3**
CNGZ				S	**Sn**	**04 14 15.2**	**+2.3**
GRZ	**Great Barrier**	**3.95**	**248**	P	**Pn**	**04 13 32.0**	**+3.2**
GRZ				S	**Sn**	**04 14 18.3**	**+4.4**
KUZ	**Kuaotunu**	**3.95**	**240**	P	**Pn**	**04 13 31.8**	**+2.9**
KUZ				S	**Sn**	**04 14 16.9**	**+3.0**
TKGZ	**Te Karaka**	**3.98**	**205**	P	**Pn**	**04 13 29.6**	**+0.4**
MWZ	**Matawai**	**4.01**	**209**	P	**Pn**	**04 13 30.7**	**+1.0**
MWZ				S	**Sn**	**04 14 17.8**	**+2.4**
OPRZ	**Ohinepanea**	**4.08**	**222**	P	**Pn**	**04 13 32.3**	**+1.7**
URZ	**Urewera**	**4.12**	**213**	Pn	**Pn**	**04 13 31.5**	**+0.3**
	421nm,0.3s,baz=35,slow=2.2,SNR=362						
URZ				Sn	**Sn**	**04 14 19.1**	**+0.9**
	1µm,0.3s,baz=81,slow=22,SNR=12						
URZ	**Urewera**	**4.12**	**213**	P	**Pn**	**04 13 32.0**	**+0.8**
URZ				S	**Sn**	**04 14 18.5**	**+0.3**
URZ	**Urewera**	**4.12**	**213**	Pn	**Pn**	**04 13 29.4**	**-1.9**
URZ					**Sn**	**04 14 17.2**	**-0.9**
RAGZ	**Rawiri**	**4.19**	**209**	P	**Pn**	**04 13 33.1**	**+0.9**
RIGZ	**Rimuhau**	**4.25**	**204**	P	**Pn**	**04 13 34.0**	**+1.0**
RIGZ				S	**Sn**	**04 14 23.4**	**+2.0**
MUGZ	**Murupara**	**4.45**	**214**	P	**Pn**	**04 13 36.3**	**+0.4**
MUGZ				S	**Sn**	**04 14 28.1**	**+1.6**
SNGZ	**Shannon Statio**	**4.47**	**208**	P	**Pn**	**04 13 37.1**	**+1.1**
SNGZ				S	**Sn**	**04 14 30.1**	**+3.3**
BKZ	**Black Stump Fm**	**5.14**	**212**	Pn	**Pn**

TOO IAmb IAmb 04 18 22.9
comp=Z,138nm,1.1s
RMQ Roma 28.03 279 P **P** **04 18 22.7 +4.0**
baz=28,SNR=32
CMSA Cobar Meteorol 28.80 267 P **P** **04 18 27.7 +2.2**
baz=29,SNR=82
TBI Tubuai 28.94 75 *e*P **P** **04 18 29.5 +2.7**
comp=Z,449nm,1.4s
TBI Tubuai 28.94 75 *e*T T 04 48 08.6
comp=Z,183nm,0.4s
ARPS Mount Arapiles 30.86 255 P **P** **04 18 47.6 +3.9**
baz=31,SNR=33
HNR Honiara 31.23 319 P **P** **04 18 47.4 +0.3**
comp=Z,232nm,0.7s,baz=226,slow=4.2,SNR=11
HNR Honiara 31.23 319 P **P** **04 18 44.7 -2.4**
HNR pmax pmax
comp=Z,626nm,1.0s
HNR Honiara 31.23 319 P **P** **04 18 44.7 -2.4**
QLP Quilpie 31.69 275 P **P** **04 18 54.8 +3.7**
baz=32,SNR=23
PAE Paea 32.04 66 *e*P **P** **04 18 56.2 +2.0**
comp=Z,82nm,1.4s
PAE Paea 32.04 66 *e*T T 04 51 23.6
comp=Z,26nm,0.3s
STKA Stephens Creek 32.07 264 P **P** **04 18 54.9 +0.5**
comp=Z,33nm,0.5s,baz=106,slow=11,SNR=49
STKA Stephens Creek 32.07 264 P **P** **04 18 57.7 +3.3**
baz=32,SNR=13
STKA Stephens Creek 32.07 264 P **P** **04 18 52.9 -1.5**
STKA pmax pmax
comp=Z,15nm,0.9s
STKA Stephens Creek 32.07 264 P **P** **04 18 52.9 -1.5**
PPT2 Papeete2 32.09 65 *e*P **P** **04 18 57.0 +2.3**
comp=Z,322nm,1.2s
PPT2 Papeete2 32.09 65 *e*T T 04 51 36.6
comp=Z,65nm,0.4s
PPTF Pamatai, Papee 32.10 65 P **P** **04 18 54.0 -0.8**
PPTF IAmb IAmb 04 18 59.9
comp=Z,83nm,0.7s
PPT Papeete 32.10 65 P **P** **04 18 57.3 +2.5**
comp=Z,82nm,0.7s,baz=106,slow=4.9,SNR=16
TVO Taravao 32.22 66 *e*P **P** **04 18 58.1 +2.3**
comp=Z,95nm,1.2s
TVO Taravao 32.22 66 *e*T T 04 52 09.0
comp=Z,13nm,0.4s
TIAR Tiarei 32.28 66 *e*P **P** **04 18 58.7 +2.3**
comp=Z,138nm,0.9s
TIAR Tiarei 32.28 66 *e*T T 04 51 46.7
comp=Z,8.7nm,0.4s
KNTN Kanton 32.83 15 P **P** **04 19 00.4 -0.7**
KNTN IAmb IAmb 04 19 04.2
comp=Z,145nm,0.8s
MEH Mehetia 33.05 68 *e*P **P** **04 19 05.5 +2.4**
comp=Z,170nm,1.2s
MEH Mehetia 33.05 68 *e*T T 04 53 13.0
comp=Z,72nm,0.3s
CTA Charters Tower 33.16 287 P **P** **04 19 06.8 +2.8**
comp=Z,131nm,0.9s,baz=116,slow=11,SNR=38
CTA S **S** **04 24 24.6 +3.3**
comp=Z,13nm,1.2s,baz=22,slow=19,SNR=3.3
CTAO Charters Tower 33.16 287 P **P** **04 19 02.6 -1.5**
CTAO pmax pmax
comp=Z,250nm,1.1s
CTAO Charters Tower 33.16 287 P **P** **04 19 02.5 -1.5**
HTT Hallett 33.85 260 P **P** **04 19 12.8 +2.8**
baz=34,SNR=28
PMOR Pomariorio Ree 34.97 64 *e*P **P** **04 19 21.9 +2.2**
comp=Z,445nm,1.2s
PMOR Pomariorio Ree 34.97 64 *e*T T 04 55 36.3
comp=Z,20nm,0.4s
VAH Vaihoa 35.02 64 *e*P **P** **04 19 22.0 +1.9**
comp=Z,670nm,1.4s
VAH Vaihoa 35.02 64 *e*T T 04 55 38.0
comp=Z,80nm,0.3s
MTSU Mount Surprise 35.76 288 P **P** **04 19 29.7 +3.1**
baz=36,SNR=35
BBOO Buckleboo 36.33 260 P **P** **04 19 33.5 +2.1**
baz=36,SNR=45
BBOO Buckleboo 36.33 260 P **P** **04 19 29.8 -1.5**
BBOO IAmb IAmb 04 19 35.2
comp=Z,140nm,1.1s
QIS Mount Isa 38.21 281 P **P** **04 19 50.0 +2.6**
baz=38,SNR=32
COEN Coen 39.13 293 P **P** **04 19 58.8 +3.6**
baz=39,SNR=16
PMG Port Moresby 39.25 302 P **P** **04 19 58.5 +2.4**
comp=Z,28nm,0.8s,baz=117,slow=5.3,SNR=7.6
PMG Port Moresby 39.25 302 P **P** **04 19 54.8 -1.3**
PMG pmax pmax
comp=Z,33nm,0.9s
PMG Port Moresby 39.25 302 P **P** **04 19 54.8 -1.3**
KRVT Keravat (AS076 39.92 313 P **P** **04 20 03.6 +2.0**
comp=Z,540nm,0.5s,baz=60,slow=2.2,SNR=13
KRVT S **S** **04 26 02.4 -2.1**
comp=Z,81nm,0.7s,baz=49,slow=19,SNR=2.1
RABL Rabaul 39.93 314 P **P** **04 19 59.9 -1.8**
ASAR Alice Springs 41.40 273 P **P** **04 20 14.7 +0.8**
comp=Z,110nm,0.6s,baz=117,slow=6.8,SNR=212
ASAR S **S** **04 26 24.4 -2.2**
comp=Z,1.8nm,0.5s,baz=117,slow=14,SNR=4.7
ASAR P3KP 04 51 12.2
comp=Z,0.8nm,1.0s,baz=299,slow=1.9,SNR=4.1
ASAR Alice Springs 41.40 273 P **P** **04 20 12.0 -1.9**
ASAR Alice Springs 41.40 273 P **P** **04 20 11.9 -1.9**
XMAS Kiritimati 42.36 35 P **P** **04 20 21.0 -0.7**
XMAS IAmb IAmb 04 20 25.4
comp=Z,142nm,0.8s
WR0 Warramunga Arr 42.62 278 P **P** **04 20 22.3 -1.5**
WR0 IAmb IAmb 04 20 27.6
comp=Z,157nm,0.9s
WB2 Warramunga Arr 42.78 278 P **P** **04 20 23.4 -1.8**
WB2 IAmb IAmb 04 20 28.8
comp=Z,186nm,0.7s
WRAB Tennant Creek 42.79 278*c*e**P** **P** **04 20 26.0 +0.8**
WRAB pmax pmax
comp=Z,123nm,0.8s
WRAB Tennant Creek 42.79 278 P **P** **04 20 25.0 -0.2**
WRAB IAmb IAmb 04 20 28.8
comp=Z,179nm,0.7s
WRA Warramunga Arr 42.79 278 P **P** **04 20 26.4 +1.1**
comp=Z,129nm,0.5s,baz=121,slow=7.5,SNR=135
WRA S **S** **04 26 43.5 -3.7**
comp=Z,5.0nm,1.1s,baz=126,slow=12,SNR=4.2
WRA PKiKP **PKiKP** **04 29 19.3 -1.1**
comp=Z,11nm,1.3s,baz=91,slow=0.1,SNR=4.9
WRA LR LR 04 38 50.8
comp=Z,22μm,18.6s,baz=45,slow=37
WRA Warramunga Arr 42.79 278 P **P** **04 20 23.6 -1.7**
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 42.79 278 P **P** **04 20 23.6 -1.7**
WB0 Warramunga Arr 42.84 278 P **P** **04 20 23.9 -1.7**
WB0 IAmb IAmb 04 20 29.2
comp=Z,189nm,0.8s
FORT Forrest 43.43 260 P **P** **04 20 28.9 -1.4**
FORT IAmb IAmb 04 20 34.4
comp=Z,234nm,0.8s
VNDA Vanda 43.52 186 P **P** **04 20 32.1 +1.7**
comp=Z,18nm,1.2s,baz=28,slow=3.2,SNR=9.3
VNDA Vanda 43.52 186 P **P** **04 20 29.9 -0.5**
VNDA pmax pmax
comp=Z,15nm,1.2s
VNDA Vanda 43.52 186 P **P** **04 20 29.9 -0.5**
TAOE Nuku Hiva Isla 44.70 64 *e*P **P** **04 20 42.7 +2.0**
comp=Z,282nm,1.0s
KWAJ Kwajalein Atol 44.95 343 P **P** **04 20 41.0 -1.5**
KWAJ pmax pmax
comp=Z,55nm,0.8s
KWAJ Kwajalein Atol 44.95 343 P **P** **04 20 41.0 -1.5**
KWAJ IAmb IAmb 04 20 44.2
comp=Z,55nm,0.8s
JAY Jayapura 48.63 303 P **P** **04 21 13.1 +1.7**
comp=Z,98nm,1.4s
GENI Genyem 48.95 302 P **P** **04 21 15.6 +1.8**
comp=Z,253nm,1.0s
MTN Manton Dam 49.19 284 P **P** **04 21 14.1 -1.6**
MTN IAmb IAmb 04 21 19.1
comp=Z,159nm,1.0s
KNRA Kununurra 49.53 279 P **P** **04 21 16.5 -1.8**
KNRA IAmb IAmb 04 21 21.5
comp=Z,148nm,0.9s
CASY Casey 50.44 209 P **P** **04 21 23.8 -0.7**
CASY IAmb IAmb 04 21 26.7
comp=Z,175nm,1.1s
FITZ Fitzroy Crossi 50.83 275 P **P** **04 21 28.7 +0.6**
comp=Z,152nm,1.0s,baz=131,slow=6.3,SNR=118
FITZ Fitzroy Crossi 50.83 275 P **P** **04 21 26.9 -1.2**
FITZ IAmb IAmb 04 21 31.2
comp=Z,184nm,0.9s
NWAO Narrogin (SRO) 51.36 253 P **P** **04 21 31.3 -0.6**
comp=Z,119nm,1.0s,baz=113,slow=6.1,SNR=20
NWAO Narrogin (SRO) 51.36 253 P **P** **04 21 31.1 -0.8**
NWAO pmax pmax
comp=Z,189nm,1.1s
NWAO Narrogin (SRO) 51.36 253 P **P** **04 21 30.3 -1.7**
NWAO IAmb IAmb 04 21 33.2
comp=Z,152nm,1.1s
NWAO Narrogin (SRO) 51.36 253 P **P** **04 21 31.1 -0.8**
NWAO IAmb IAmb 04 21 33.3
comp=Z,189nm,1.1s
SAUI Saumlaki 51.95 289 P **P** **04 21 38.3 +1.8**
comp=Z,571nm,1.3s
SAUI Saumlaki 51.95 289 P **P** **04 21 34.0 -2.6**
SRPI Serui, Papua 52.24 299 P **P** **04 21 40.4 +1.7**
comp=Z,10μmcomp=Z,334nm,0.7s
BAKI Biak 52.80 300 P **P** **04 21 44.6 +1.8**
comp=Z,294nm,1.0s
H01W1 Cape Leeuwin H 53.08 250 P **P** **04 21 46.0 +1.6**
baz=171,slow=76,SNR=4.0
H01W2 Cape Leeuwin H 53.09 250 P **P** **04 21 45.1 +0.6**
baz=171,slow=76,SNR=3.8
H01W3 Cape Leeuwin H 53.09 250 P **P** **04 21 46.7 +2.2**
baz=171,slow=76,SNR=4.0
MORW Morawa 53.76 257 P **P** **04 21 47.9 -1.8**
MORW IAmb IAmb 04 21 51.3
comp=Z,133nm,1.0s
PSA00 Pilbara Seismi 53.90 267 P **P** **04 21 49.2 -1.8**
FAKI Fak Fak 54.46 295 P **P** **04 21 56.4 +1.4**
comp=Z,100nm,0.6s
FAKI Fak Fak 54.46 295 P **P** **04 21 53.5 -1.4**
FAKI IAmb IAmb 04 21 57.3
comp=Z,106nm,0.9s
BNDI Bandanaira 55.19 291 P **P** **04 22 01.8 +1.5**
comp=Z,502nm,1.1s
QSPA South Pole Qui 55.28 180 P **P** **04 22 02.2 +1.8**
comp=Z,266nm,1.1s,baz=299,slow=0.5,SNR=58
QSPA South Pole Qui 55.28 180 P **P** **04 21 59.4 -1.1**
SIJI Sorong 56.55 296 P **P** **04 22 11.4 +1.4**
comp=Z,190nm,1.0s,baz=95,slow=3.5,SNR=24
BATI Baumata 56.69 281 P **P** **04 22 12.8 +1.7**
comp=Z,230nm,0.8s,baz=178,slow=1.4,SNR=20
BATI Baumata 56.69 281 P **P** **04 22 12.8 +1.7**
comp=Z,193nm,1.0s
MSAI Masohi 56.69 292 P **P** **04 22 11.3 +0.3**
comp=Z,2μmcomp=Z,53nm,0.9s
GIRL Giralia 58.01 263 P **P** **04 22 18.4 -1.9**
NLAI Namlea 58.16 290 P **P** **04 22 22.4 +1.0**
comp=Z,202nm,1.0s
GUMO Guam 58.57 319 P **P** **04 22 24.5 +0.4**
comp=Z,429nm,1.2s,baz=152,slow=3.0,SNR=10
GUMO Guam 58.57 319 P **P** **04 22 23.3 -0.8**
GUMO pmax pmax
comp=Z,387nm,1.1s
GUMO Guam 58.57 319 P **P** **04 22 23.3 -0.8**
MMRI Maumere 58.74 282 P **P** **04 22 26.1 +0.6**
comp=Z,666nm,1.2s
MMRI Maumere 58.74 282 P **P** **04 22 24.0 -1.5**
KHLU Kahalu`u 58.79 27 P **P** **04 22 26.0 +0.3**
MWH Moku'aweowe 58.80 27 P **P** **04 22 26.0 -0.3**
MWH IAmb IAmb 04 22 35.1
comp=Z,115nm,1.0s
PUH Pauahi 58.84 28 P **P** **04 22 26.4 +0.3**
MLOA Mauna Loa Obse 58.85 27 P **P** **04 22 26.3 -0.2**
MLOA IAmb IAmb 04 22 28.9
comp=Z,76nm,1.0s
HUH Hualalai 58.89 27 P **P** **04 22 26.7 +0.1**
HUH IAmb IAmb 04 22 30.6
comp=Z,145nm,1.1s
HMH Humu'ula Sheep 58.95 27 P **P** **04 22 27.1 0.0**
POHA Pohakuloa 59.07 27 P **P** **04 22 27.9 0.0**
EDFI Ende, Flores 59.12 282 P **P** **04 22 28.8 +0.6**
comp=Z,84nm,1.3s
BASI Baing, Sumba 59.18 279 P **P** **04 22 31.1 +2.6**
comp=Z,466nm,1.2s
HON Honolulu 59.64 24 P **P** **04 22 31.8 +0.4**
HON pmax pmax
comp=Z,507nm,1.1s
HON Honolulu 59.64 24 P **P** **04 22 31.8 +0.4**
KIP Kipapa 59.73 24*c*e**P** **P** **04 22 33.2 +1.2**
KIP pmax pmax
comp=Z,153nm,1.1s
KIP Kipapa 59.73 24 P **P** **04 22 32.5 +0.5**
SANI Sanana 59.77 291 P **P** **04 22 32.4 -0.2**
comp=Z,8μmcomp=Z,586nm,1.1s
RPN Rapa Nui 59.97 104 LR LR 04 42 12.2
comp=Z,14μm,21.6s,baz=326,slow=30
OPA Opana 59.98 24 P **P** **04 22 34.1 +0.4**
OPA pmax pmax
comp=Z,309nm,1.1s
OPA Opana 59.98 24 P **P** **04 22 34.1 +0.4**
ANA2 Anatahan 60.42 322 P **P** **04 22 36.5 -0.4**
TNTI Ternate 60.54 294 P **P** **04 22 39.3 +1.4**
comp=Z,4μmcomp=Z,111nm,2.4s
TNTI Ternate 60.54 294 P **P** **04 22 37.7 -0.2**
TNTI IAmb IAmb 04 22 46.9
comp=Z,49nm,0.9s
KDI Kendari 61.21 287 P **P** **04 22 44.0 +1.6**
comp=Z,181nm,1.2s
PLAI Plampang 62.24 279 P **P** **04 22 50.9 +1.5**
comp=Z,276nm,1.0s
BKSI Bukumba 62.38 284 P **P** **04 22 51.1 +0.8**
comp=Z,155nm,1.0s
KAPI Kappang 62.85 284 P **P** **04 22 53.9 +0.5**
comp=Z,73nm,0.8s,baz=136,slow=4.7,SNR=20
KAPI Kappang 62.85 284 P **P** **04 22 53.3 -0.2**
KAPI pmax pmax
comp=Z,109nm,1.0s
KAPI Kappang 62.85 284 P **P** **04 22 53.3 -0.2**
KAPI IAmb IAmb 04 22 58.2
comp=Z,109nm,0.9s
LUWI Luwuk 62.89 289 P **P** **04 22 55.2 +1.5**
comp=Z,497nm,1.2s
LUWI Luwuk 62.89 289 P **P** **04 22 52.5 -1.2**
TWSI Taliwang, Sumb 63.02 278 P **P** **04 22 55.3 +0.8**
comp=Z,228nm,1.1s
SPSI Sidrap Palu 63.47 285 P **P** **04 22 57.7 +0.2**
comp=Z,271nm,1.0s
TTSI Tana Toraja 63.98 285 P **P** **04 23 02.1 +1.2**
comp=Z,139nm,1.0s
DDMP Don Marcelino, 65.32 297 *e*P **P** **04 23 07.5 -2.1**
DDMP Don Marcelino, 65.32 297 *e*P **P** **04 23 07.5 -2.1**
JAGI Jajag, Banyuwa 65.39 277 P **P** **04 23 10.1 0.0**
comp=Z,295nm,1.2s
JAGI Jajag, Banyuwa 65.39 277 P **P** **04 23 08.9 -1.2**
BELA Belgrano 2 65.62 172 P **P** **04 23 10.7 0.0**
ABJI Asem Bagus 65.70 278 P **P** **04 23 14.3 +2.2**
comp=Z,175nm,1.4s
MPSI Mapaga 65.99 288 P **P** **04 23 15.0 +1.0**
comp=Z,125nm,0.9s
DAV Davao City (W) 66.07 298 P **P** **04 23 14.5 +0.1**
comp=Z,279nm,0.4s,baz=71,slow=4.0,SNR=9.2
DAV Davao City (W) 66.07 298 P **P** **04 23 13.1 -1.3**
BLJI Banyuglugur 66.25 277 P **P** **04 23 17.2 +1.5**
KMMI Kalianget 66.35 278 P **P** **04 23 18.1 +1.8**
comp=Z,228nm,1.2s
SKMP Bagumbayan, Su 66.45 297 *e*P **P** **04 23 15.2 -1.7**
SKMP Bagumbayan, Su 66.45 297 *e*P **P** **04 23 15.2 -1.7**
KBKI Kotabaru 66.74 283 P **P** **04 23 19.5 +0.7**
comp=Z,2μmcomp=Z,233nm,1.1s
BUKP Musuan 66.99 298 *e*P **P** **04 23 21.0 +0.6**
BUKP Musuan 66.99 298 *e*P **P** **04 23 21.0 +0.6**
BKB Balikpapan 67.38 285 P **P** **04 23 27.0 +4.2**
comp=Z,367nm,1.3s
BKB Balikpapan 67.38 285 P **P** **04 23 22.0 -0.8**
GLSP General Luna, 67.53 301 *e*P **P** **04 23 23.5 -0.2**
GLSP General Luna, 67.53 301 *e*P **P** **04 23 23.5 -0.2**
PWJI Pagerwojo 67.56 276 P **P** **04 23 24.6 +0.6**
comp=Z,267nm,1.2s
MAW Mawson 67.56 202 P **P** **04 23 23.5 +0.4**
comp=Z,463nm,1.3s,baz=115,slow=7.8,SNR=54
MAW PKP2ab 04 51 50.6
comp=Z,0.8nm,0.3s,baz=356,slow=3.8,SNR=4.2
MAW Mawson 67.56 202 P **P** **04 23 22.6 -0.5**
MAW pmax pmax
comp=Z,50nm,1.2s
MAW Mawson 67.56 202 P **P** **04 23 22.6 -0.5**
MAW IAmb IAmb 04 23 31.3
comp=Z,50nm,1.1s
SMKI Samarinda 67.62 286 P **P** **04 23 27.5 +3.1**
comp=Z,237nm,1.2s
GRJI Gresik 67.64 277 P **P** **04 23 26.6 +2.1**
comp=Z,2μmcomp=Z,195nm,1.0s
CGP Cagayan de Oro 67.65 298||*e*P **P** **04 23 27.1 +2.6**
CGP Cagayan de Oro 67.65 298||*e*P **P** **04 23 27.1 +2.6**
BBKI Banjar Baru 67.71 282 P **P** **04 23 25.6 +0.7**
comp=Z,366nm,1.3s
PAGZ Pagadian 68.19 297 *e*P **P** **04 23 27.0 -0.9**
PAGZ Pagadian 68.19 297 *e*P **P** **04 23 27.0 -0.9**
TBJI Tambak Boyo 68.20 277 P **P** **04 23 30.7 +2.7**
comp=Z,161nm,1.1s
WOJI Wonogiri, Jawa 68.39 276 P **P** **04 23 30.0 +0.8**
comp=Z,301nm,1.4s
MSLP Maasin 68.67 300 *e*P **P** **04 23 30.8 0.0**
MSLP Maasin 68.67 300 *e*P **P** **04 23 30.8 0.0**
PMSA Palmer Station 68.93 156 P **P** **04 23 32.4 +0.7**
comp=Z,45nm,1.1s,baz=212,slow=6.0,SNR=11
PMSA Palmer Station 68.93 156 P **P** **04 23 31.6 -0.2**
PMSA Palmer Station 68.93 156 *e*P **P** **04 23 32.5 +0.7**
MTKI Muara Teweh, K 69.16 284 P **P** **04 23 35.2 +1.2**
OCLP Ormoc 69.48 300 *e*P **P** **04 23 37.0 +1.1**
OCLP Ormoc 69.48 300 *e*P **P** **04 23 37.0 +1.1**
MYLDM Lahad Datu 70.11 291 P **P** **04 23 38.2 -1.6**
KPJI Karang Pucung 70.30 275 P **P** **04 23 41.5 +0.5**
comp=Z,287nm,1.4s
CMJI Cimerak 70.45 274 P **P** **04 23 42.3 +0.4**
comp=Z,218nm,1.2s
PBKI Pangkalan Bun 70.71 280 P **P** **04 23 45.5 +1.9**
comp=Z,14μmcomp=Z,392nm,1.2s
CISI Cisompet, Garu 71.09 274 P **P** **04 23 46.3 +0.4**
comp=Z,433nm,1.1s
CISI Cisompet, Garu 71.09 274 P **P** **04 23 44.1 -1.8**
XMIS Christmas Isla 71.26 270 P **P** **04 23 45.2 -1.7**
JCJI Jatiwangi 71.32 275 P **P** **04 23 48.7 +1.5**
comp=Z,445nm,0.9s
SPMM Sapulut 71.38 290 P **P** **04 23 50.0 +2.4**
LEM Lembang 71.66 274 P **P** **04 23 49.2 -0.3**
comp=Z,158nm,0.8s,baz=150,slow=3.8,SNR=14
CNJI Cibinong 71.79 274 P **P** **04 23 51.0 +0.9**
comp=Z,525nm,1.2s
CUYO Cuyo Island 71.92 298 *e*P **P** **04 23 50.0 -0.8**
CUYO Cuyo Island 71.92 298 *e*P **P** **04 23 50.0 -0.8**
OTRP Odiongan 72.22 300 *e*P **P** **04 23 51.8 -0.8**
OTRP Odiongan 72.22 300 *e*P **P** **04 23 51.8 -0.8**
SYO Syowa Base 72.41 194||*i*P **P** **04 23 50.4 -2.5**
SYO Syowa Base 72.41 194||*i*pP **P** **04 23 54.3 +1.4**
KKM Kota Kinabalu 72.42 291 P **P** **04 23 52.2 -1.7**
KKM IAmb IAmb 04 23 55.8
comp=Z,142nm,1.0s
SKJI Sukabumi 72.43 274 P P 04 23 59.1 +5.2
comp=Z,349nm,1.2s
STKI Sintang 72.50 283 P **P** **04 23 56.8 +2.5**
DBJI Dramaga 72.53 274 P **P** **04 23 54.9 +0.4**
comp=Z,26μmcomp=Z,259nm,1.3s
BATP Bataraza 72.96 294 *e*P **P** **04 23 55.4 -1.6**
BATP Bataraza 72.96 294 *e*P **P** **04 23 55.4 -1.6**
BOAC Boac 73.09 300 *e*P **P** **04 23 58.1 +0.5**
BOAC Boac 73.09 300 *e*P **P** **04 23 58.1 +0.5**
ENPP El Nido 73.33 297 *e*P **P** **04 23 57.4 -1.7**
ENPP El Nido 73.33 297 *e*P **P** **04 23 57.4 -1.7**
SBUM Sibu 73.33 285 P **P** **04 23 57.5 -1.7**
SBUM IAmb IAmb 04 24 01.4
comp=Z,138nm,1.1s
SBUM Sibu 73.33 285 P **P** **04 23 59.0 -0.2**
CGJI Cibinong 73.36 274 P **P** **04 23 59.0 -0.4**
comp=Z,252nm,1.2s
SNAA Sanae 73.77 179 P **P** **04 24 01.2 +0.2**
SNAA Sanae 73.77 179 P **P** **04 24 01.1 +0.1**
comp=Z,66nm,1.1s,baz=213,slow=1.9,SNR=112
SNAA Sanae 73.77 179 P **P** **04 24 00.6 -0.4**
SNAA pmax pmax
comp=Z,103nm,1.1s
SNAA Sanae 73.77 179 P **P** **04 24 00.6 -0.4**
SNAA IAmb IAmb 04 24 06.0
comp=Z,103nm,1.1s
TPI Tanjungpandan 73.94 278 P **P** **04 24 02.9 +0.1**
comp=Z,117nm,1.0s
VNA3 Neumayer Olymp 73.99 177 P **P** **04 24 02.2 0.0**
TGY Tagaytay City 74.17 300 P **P** **04 24 04.0 0.0**
comp=Z,259nm,0.4s,baz=273,slow=1.8,SNR=7.7
KSM Kuching 74.27 283 P **P** **04 24 03.1 -1.6**
KSM IAmb IAmb 04 24 06.4
comp=Z,92nm,0.9s
KSM Kuching 74.27 283 P **P** **04 24 05.0 +0.3**
NVL N'lazarevskaya 74.35 184 *e*P **P** **04 24 04.8 +0.5**
NVL *e*S **SKiKP** **04 33 28.6 +0.6**
NVL pmax pmax
comp=Z,391nm,1.3s
NVL MLR MLR
comp=Z,37μm,17.0s
VNA2 Neumayer--Watz 74.40 177 P **P** **04 24 04.9 +0.3**
baz=179,slow=5.7
LUBP Lubang 74.41 299 *e*P **P** **04 24 03.0 -2.4**
LUBP Lubang 74.41 299 *e*P **P** **04 24 03.0 -2.4**
BLSI Bandar Lampung 74.43 274 P **P** **04 24 05.5 -0.2**
comp=Z,132nm,1.4s
VNA1 Neumayer--Stat 74.64 177 P **P** **04 24 06.2 +0.2**
KLSI 75.23 275 P **P** **04 24 09.4 -0.9**
comp=Z,51nm,1.3s
CAUP Cauayan 75.48 303 *e*P **P** **04 24 09.5 -2.1**
CAUP Cauayan 75.48 303 *e*P **P** **04 24 09.5 -2.1**
PPBI Pangkal Pinang 75.52 278 P **P** **04 24 12.2 +0.2**
comp=Z,123nm,1.3s
LWLI Liwa 75.60 274 P **P** **04 24 14.5 +1.9**
comp=Z,145nm,0.9s
SMPP San Manuel, Pa 75.74 302 *e*P **P** **04 24 11.1 -2.0**
SMPP San Manuel, Pa 75.74 302 *e*P **P** **04 24 11.1 -2.0**
MDSI Maura Dua 75.80 274 P **P** **04 24 12.1 -1.5**
comp=Z,153nm,1.3s
LHSI Lahat 76.71 275 P **P** **04 24 18.3 -0.4**
comp=Z,188nm,1.5s
KSI Kapahiang 77.57 274 P **P** **04 24 26.0 +2.3**
comp=Z,147nm,1.8s
DSRI Dabo 77.76 278 P **P** **04 24 25.1 +0.5**
comp=Z,48nm,1.2s
MASI Maura Aman, Be 78.15 274 P **P** **04 24 26.7 -0.2**
comp=Z,609nm,1.2s
KRJI Kerinci 79.38 275 P **P** **04 24 33.9 +0.2**
comp=Z,608nm,1.2s
H03S2 Juan Fernandez 79.43 124 T T 05 52 49.7
baz=233,slow=74,SNR=66
H03S1 Juan Fernandez 79.44 124 T T 05 52 40.8
baz=233,slow=74,SNR=71
H03S3 Juan Fernandez 79.44 124 T T 05 52 39.3
baz=233,slow=74,SNR=133
H03N3 Juan Fernandez 79.65 123 P **P** **04 24 36.2 +1.7**
baz=350,slow=77,SNR=4.4
H03N3 T T 05 52 53.7
baz=237,slow=72,SNR=66
H03N2 Juan Fernandez 79.65 123 P **P** **04 24 37.3 +2.9**
baz=350,slow=77,SNR=4.4
H03N2 T T 05 52 53.1
baz=237,slow=72,SNR=72
H03N1 Juan Fernandez 79.66 123 P **P** **04 24 36.6 +2.1**
baz=350,slow=77,SNR=4.9
H03N1 T T 05 52 53.4
baz=237,slow=72,SNR=54
MYKOM Kota Tinggi 79.66 279 P **P** **04 24 33.4 -1.7**
MYKOM IAmb IAmb 04 24 38.8
comp=Z,55nm,1.1s
MYKOM Kota Tinggi 79.66 279 P **P** **04 24 35.0 -0.1**
EFI East Falkland 79.98 148 *i*P **P** **04 24 35.0 -1.2**
EFI pmax pmax
comp=Z,310nm,1.5s
SDSI Sungai Dareh 80.07 276 P **P** **04 24 36.0 -1.3**
comp=Z,27nm,0.9s
INU Inuyama 80.53 326 P **P** **04 24 38.3 -0.9**
TPUB Ta-pu 80.69 307 P **P** **04 24 39.0 -1.4**
TPUB IAmb IAmb 04 24 40.7
comp=Z,46nm,0.9s
PLCA Paso Flores 80.72 133 P **P** **04 24 42.1 +1.6**
comp=Z,63nm,1.0s,baz=231,slow=4.4,SNR=66
PLCA PKPPKP P'P'df 04 51 17.5 -11
comp=Z,2.4nm,1.0s,baz=135,slow=5.7,SNR=3.0
PLCA Paso Flores 80.72 133 P **P** **04 24 39.8 -0.7**
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 80.72 133 P **P** **04 24 39.8 -0.7**
PLCA Paso Flores 80.72 133 *e*P **P** **04 24 41.2 +0.7**
SSLB Suanglung 80.81 307 P **P** **04 24 39.7 -1.4**
SSLB IAmb IAmb 04 24 41.3
comp=Z,55nm,1.1s
MJAR Matsushiro Arr 80.97 327 P **P** **04 24 40.5 -1.1**
comp=Z,26nm,1.1s,baz=162,slow=5.3,SNR=10
MJAR Matsushiro Arr 80.97 327 P **P** **04 24 40.4 -1.1**
MJAR pmax pmax
comp=Z,13nm,1.0s
MJAR Matsushiro Arr 80.97 327 P **P** **04 24 40.4 -1.1**
MAJO Matsushiro 80.97 327 *i*P **P** **04 24 40.3 -1.3**

MAJO pmax pmax
comp=Z,27nm,1.1s
MAJO Matsushiro 80.97 327 P **P** **04 24 40.8 -0.8**
LC01 Cunco 81.04 131 P **P** **04 24 43.4 +1.2**
LC01 IAmb IAmb 04 24 45.0
comp=Z,143nm,1.1s
BKNI Bangkinang 81.11 277 P **P** **04 24 42.9 0.0**
comp=Z,131nm,0.9s
BKNI Bangkinang 81.11 277 P **P** **04 24 41.2 -1.7**
JNU Nakatsue 81.80 320 P **P** **04 24 45.0 -1.0**
JNU IAmb IAmb 04 24 48.1
comp=Z,75nm,1.1s
DLV T Lat 82.03 290 P **P** **04 24 46.2 -1.7**
DLV IAmb IAmb 04 24 50.6
comp=Z,134nm,1.1s
MNSI Mandailing Nat 82.57 276 P **P** **04 24 50.0 -0.6**
comp=Z,39nm,0.8s
BI02 San Fabin de 82.79 130 P **P** **04 24 50.8 -0.7**
GO05 Huala 83.39 128 P **P** **04 24 53.8 -0.8**
GO05 IAmb IAmb 04 25 01.6
comp=Z,32nm,1.1s
IPM Ipoh 83.51 280 P **P** **04 24 53.9 -1.5**
IPM Ipoh 83.51 280 P **P** **04 24 55.0 -0.5**
RPSI Rantau Prapat 84.19 277 P **P** **04 24 57.2 -1.7**
RPSI IAmb IAmb 04 25 00.5
comp=Z,99nm,1.1s
PSI Prapat 84.25 277 P **P** **04 24 57.2 -2.2**
PSI pmax pmax
comp=Z,99nm,1.1s
BO02 Sierra Bellavi 84.26 129 P **P** **04 24 58.3 -0.8**
KULM Kulim 84.29 280 P **P** **04 24 57.9 -1.4**
KULM IAmb IAmb 04 25 00.5
comp=Z,97nm,1.1s
KULM Kulim 84.29 280 P **P** **04 24 59.0 -0.4**
GSI Gunungsitoli 84.50 275 P **P** **04 25 00.6 +0.1**
comp=Z,396nm,1.2s
GSI Gunungsitoli 84.50 275 P **P** **04 24 58.8 -1.7**
VA01 Torpederas 84.80 127 P **P** **04 25 01.9 +0.1**
MT02 Curacav 84.99 127 P **P** **04 25 02.6 -0.1**
MT02 IAmb IAmb 04 25 06.6
comp=Z,54nm,1.1s
MT05 Renca 85.16 128 P **P** **04 25 03.6 -0.1**
MT05 IAmb IAmb 04 25 11.7
comp=Z,86nm,0.9s
ROC1 El Roble 85.24 127 P **P** **04 25 04.0 -0.3**
PEL Peldehue 85.35 127 P **P** **04 25 04.7 +0.1**
PEL pmax pmax
comp=Z,238nm,1.1s
PEL Peldehue 85.35 127 P **P** **04 25 04.7 +0.1**
JKA Kamikawa-asahi 85.63 334 P **P** **04 25 04.6 -0.7**
JKA IAmb IAmb 04 25 08.4
comp=Z,49nm,1.1s
ASAJ Asahikawa 85.63 334 P **P** **04 25 06.5 +1.2**
comp=Z,35nm,1.0s,baz=216,slow=16,SNR=5.6
ASAJ Asahikawa 85.63 334 P **P** **04 25 04.6 -0.7**
ASAJ pmax pmax
comp=Z,49nm,1.1s
VA03 San Esteban 85.68 127 P **P** **04 25 06.1 -0.2**
HOPE Hope Point 85.82 160 P **P** **04 25 06.1 -0.3**
HOPE pmax pmax
comp=Z,82nm,1.1s
HOPE Hope Point 85.82 160 P **P** **04 25 06.1 -0.3**
HOPE IAmb IAmb 04 25 09.7
comp=Z,82nm,1.1s
TPTI 85.94 277 P **P** **04 25 06.9 -0.8**
comp=Z,95nm,1.2s
TJN Taejon 86.15 320 *i* P **P** **04 25 07.9 -0.2**
CO02 Combarbal 86.36 126 P **P** **04 25 09.5 -0.2**
ADK Adak 86.41 2 P **P** **04 25 08.7 -0.2**
ADK pmax pmax
comp=Z,152nm,0.9s
ADK Adak 86.41 2 P **P** **04 25 08.7 -0.2**
KSRS Korea Array 86.67 321 P **P** **04 25 11.3 +0.7**
comp=Z,34nm,1.1s,baz=141,slow=5.2,SNR=22
KSRS PP **PP** **04 28 32.5 -1.0**
comp=Z,14nm,1.1s,baz=147,slow=9.3,SNR=5.9
KSAR Wonju Array Be 86.68 321 P **P** **04 25 09.9 -0.8**
KSAR Wonju Array Be 86.68 321 P **P** **04 25 09.9 -0.8**
CO03 El Pedregal 86.80 126 P **P** **04 25 10.9 -0.9**
CO03 IAmb IAmb 04 25 16.1
comp=Z,86nm,1.1s
ATKA Atka Island 86.83 4 P **P** **04 25 10.8 -0.2**
GO04 Tololo Observa 87.14 125 P **P** **04 25 12.7 -1.0**
GO04 IAmb IAmb 04 25 19.9
comp=Z,48nm,1.1s
MLSI Meulaboh, Aceh 87.15 277 P **P** **04 25 12.7 -0.9**
comp=Z,353nm,1.2s
LHMI Lhok Sumawe 87.26 278 P **P** **04 25 15.4 +1.3**
comp=Z,143nm,0.8s
CO01 Juntas del Tor 87.74 125 P **P** **04 25 15.5 -1.1**
NJ2 Nanjing 87.88 312 *eP* P **04 25 18.8 +2.2**
NJ2 sP **sP** **04 25 31.3 +0.8**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NIKH Nikolski High 87.99 7 P **P** **04 25 16.5 -0.1**
YSS Yuzh-Sakhalins 88.03 336 ⇓ *eP* **P** **04 25 17.8 +0.9**
YSS *e* 04 25 32.6
YSS pmax pmax
comp=Z,70nm,1.3s
YSS Yuzh-Sakhalins 88.03 336 P **P** **04 25 16.5 -0.4**
YSS IAmb IAmb 04 25 24.6
comp=Z,24nm,0.7s
AC04 Llanos de Chal 88.18 123 P **P** **04 25 17.6 -0.8**
LPIG La Paz 88.30 59 P **P** **04 25 21.6 +2.8**
comp=Z,76nm,0.9s,baz=310,slow=0.7,SNR=11
AC05 El Transito 88.33 124 P **P** **04 25 18.3 -1.0**
SCI2 San Clemente I 88.73 48 P **P** **04 25 22.9 +2.2**
baz=226,SNR=8.0
SRIG Santa Rosalia 89.02 55 P **P** **04 25 21.6 -0.5**
UNV Unalaska Valle 89.09 8 P **P** **04 25 21.7 -0.1**
CIS Catalina Islan 89.11 47 P **P** **04 25 24.4 +1.9**
baz=226,SNR=11
GO03 Coplap 89.14 123 P **P** **04 25 22.9 -0.2**
VLA Vladivostok 89.14 327 *i* P **P** **04 25 22.8 +0.5**
VLA pmax pmax
comp=Z,32nm,0.9s
PKM Mcpherson Peak 89.30 46 P **P** **04 25 26.4 +2.8**
baz=226
SPX San Pedro Mart 89.34 51 P **P** **04 25 23.9 -0.1**
PET Petropavlovsk 89.45 347 *i* P **P** **04 25 24.2 +0.8**
PET pmax pmax
comp=Z,254nm,0.9s
AKUT Akutan 89.47 8 P **P** **04 25 23.5 0.0**
SMMC Simmler 89.49 45 P **P** **04 25 26.9 +2.7**
baz=225
109C Camp Elliot, M 89.56 49 P **P** **04 25 26.9 +2.4**
baz=227,SNR=9.2
109C Camp Elliot, M 89.56 49 P **P** **04 25 24.2 -0.3**
109C IAmb IAmb 04 25 29.3
comp=Z,30nm,1.0s
PAGB Antelope Grade 89.64 45 P **P** **04 25 25.3 +0.4**
PMPB Monarch Peak 89.66 44 P **P** **04 25 25.4 +0.4**
PMPB IAmb IAmb 04 25 31.5
comp=Z,64nm,1.1s
ESJX Sierra Juarez 89.68 50 P **P** **04 25 24.8 -0.5**
BAR Barrett 89.68 49 P **P** **04 25 24.9 -0.3**
SAO San Andreas Ge 89.69 43 P **P** **04 25 24.9 -0.1**
SAO pmax pmax
comp=Z,55nm,1.2s
SAO San Andreas Ge 89.69 43 P **P** **04 25 24.9 -0.1**
SAO IAmb IAmb 04 25 28.7
comp=Z,55nm,1.1s
WHN Wuhan 89.70 308 ⇓ P **P** **04 25 25.3 +0.1**
PEA0B Petropavlovsk- 89.70 347 *i* P **P** **04 25 25.4 +0.7**
PEA0B Petropavlovsk- 89.70 347 P **P** **04 25 25.5 +0.7**
PETK Petropavlovsk- 89.70 347 P **P** **04 25 26.1 +1.4**
comp=Z,121nm,0.9s,baz=114,slow=6.4,SNR=47
PETK PKiKP **PKiKP** **04 30 21.3 -0.3**
comp=Z,3.2nm,0.5s,baz=99,slow=2.9,SNR=6.1
PETK Petropavlovsk- 89.70 347 P **P** **04 25 25.3 +0.6**
PETK Petropavlovsk- 89.70 347 P **P** **04 25 25.3 +0.6**
SFX San Felipe 89.73 51 P **P** **04 25 25.7 +0.4**
SFX IAmb IAmb 04 25 29.2
comp=Z,40nm,1.0s
DECC Green Verdugo 89.74 47 P **P** **04 25 27.6 +2.2**
baz=226
OSI Osito Audit: C 89.76 46 P **P** **04 25 28.7 +3.2**
baz=226
PASC Pasadena Art C 89.77 47 P **P** **04 25 25.3 -0.3**
PASC IAmb IAmb 04 25 29.2
comp=Z,52nm,1.1s
MWC Mount Wilson 89.89 47 P **P** **04 25 25.8 -0.5**
MWC Mount Wilson 89.89 47 P **P** **04 25 25.8 -0.5**
USA0B Ussuriysk Arra 89.95 328 *i* P **P** **04 25 26.2 +0.1**
USA0B Ussuriysk Arra 89.95 328 P **P** **04 25 26.4 +0.3**
USA0B IAmb IAmb 04 25 29.3
comp=Z,51nm,1.1s
USRK Ussuriysk Ar. 89.95 328 P **P** **04 25 26.5 +0.5**
comp=Z,24nm,1.0s,baz=158,slow=2.1,SNR=11
USRK Ussuriysk Ar. 89.95 328 P **P** **04 25 26.4 +0.3**
MONP2 Monument Peak 89.98 49 P **P** **04 25 29.8 +3.0**
baz=227,SNR=81
MURC Murrieta 89.98 48 P **P** **04 25 29.3 +2.7**
baz=227,SNR=32
IKP In-Ko-Pah, Jac 90.01 49 P **P** **04 25 29.3 +2.6**
baz=228,SNR=48
ARVC Arvin 90.05 46 P **P** **04 25 28.7 +1.9**
baz=226,SNR=14
BFSC Mount Baldy Ra 90.14 47 P **P** **04 25 29.6 +2.3**
baz=227,SNR=66
EDW2 Edwards Air Fo 90.38 47 P **P** **04 25 30.7 +2.3**
baz=226,SNR=58
AC02 Maricunga 90.38 123 P **P** **04 25 28.7 -0.7**
HOPS Hopland Field 90.39 41 P **P** **04 25 28.1 -0.1**
HOPS IAmb IAmb 04 25 33.6
comp=Z,72nm,1.1s
VES Vestal, Richgr 90.39 45 P **P** **04 25 30.0 +1.6**
baz=226,SNR=16
SWSC Sam W. Stewart 90.40 49 P **P** **04 25 31.1 +2.6**
baz=228,SNR=36
GDXM Geysers 90.40 41 P **P** **04 25 28.7 +0.3**
GDXM IAmb IAmb 04 25 32.4
comp=Z,58nm,1.1s
PFO Pinyon Flats O 90.44 48 P **P** **04 25 31.3 +2.5**
comp=Z,38nm,1.0s,baz=254,slow=3.0,SNR=49
PFO Pinyon Flats O 90.44 48 P **P** **04 25 31.4 +2.5**
baz=227,SNR=42
PFO Pinyon Flats O 90.44 48 *i* P **P** **04 25 28.2 -0.6**
PFO pmax pmax
comp=Z,70nm,1.0s
PFO Pinyon Flats O 90.44 48 P **P** **04 25 29.1 +0.2**
TPFO Pinon Flats 90.44 48 P **P** **04 25 31.7 +2.9**
baz=227,SNR=46
VOG Valley Oaks Go 90.55 45 P **P** **04 25 31.2 +2.1**
baz=226
BBRC Big Bear Solar 90.60 48 P **P** **04 25 32.1 +2.5**
baz=227,SNR=8.1
KCPM Cahto Peak 90.62 40 P **P** **04 25 29.8 +0.4**
KCPM IAmb IAmb 04 25 33.1
comp=Z,70nm,1.1s
ISA Isabella, Lake 90.63 46 P **P** **04 25 31.7 +2.2**
baz=226,SNR=45
ISA Isabella, Lake 90.63 46 P **P** **04 25 29.3 -0.3**
ISA pmax pmax
comp=Z,68nm,1.1s
ISA Isabella, Lake 90.63 46 P **P** **04 25 29.3 -0.3**
ISA IAmb IAmb 04 25 33.4
comp=Z,68nm,1.1s
PB14 IPOC Station P 90.90 121 P **P** **04 25 31.1 -0.5**
KMRM Mail Ridge 90.94 40 P **P** **04 25 31.3 +0.3**
KMRM IAmb IAmb 04 25 34.8
comp=Z,65nm,1.1s
PIX Pinacate 90.97 52 P **P** **04 25 30.8 -0.3**
RRX Edison Barstow 90.97 47 P **P** **04 25 33.3 +2.2**
baz=227
LRMC Laurel Mtn Rad 90.97 46 P **P** **04 25 33.3 +2.1**
baz=227,SNR=30
HSIG 90.98 55 P **P** **04 25 30.9 -0.4**
BELC Belle Mtn. Jos 90.99 48 P **P** **04 25 34.2 +2.9**
baz=228,SNR=62
GLA Glamis 91.08 50 P **P** **04 25 34.6 +3.0**
baz=228,SNR=46
BC3 Big Chuckawall 91.09 49 P **P** **04 25 34.8 +3.0**
baz=228,SNR=59
GO02 Mina Guanaco 91.13 122 P **P** **04 25 31.5 -1.1**
CMB Columbia Colle 91.18 43 P **P** **04 25 31.8 -0.3**
CMB pmax pmax
comp=Z,51nm,1.1s
CMB Columbia Colle 91.18 43 P **P** **04 25 31.8 -0.3**
CMB IAmb IAmb 04 25 35.2
comp=Z,50nm,1.1s
SLVN Son La 91.21 295 P **P** **04 25 31.6 -1.0**
HEC Hector,Ludlow 91.34 48 P **P** **04 25 35.1 +2.2**
baz=227,SNR=11
MDJ Mudanjiang 91.35 327 P **P** **04 25 34.0 +1.4**
MDJ pP pwP 04 25 46.8 +0.1
MDJ sP sP 04 25 48.8 +2.5
MDJ pmax pmax
comp=Z,57nm,1.3s
MDJ Mudanjiang 91.35 327 P **P** **04 25 32.4 -0.2**
MDJ IAmb IAmb 04 25 35.6
comp=Z,62nm,1.1s
GSC Goldstone, Bar 91.37 47 P **P** **04 25 34.9 +1.9**
baz=227,SNR=24
GSC Goldstone, Bar 91.37 47 P **P** **04 25 32.8 -0.3**
GSC pmax pmax
comp=Z,34nm,1.2s
GSC Goldstone, Bar 91.37 47 P **P** **04 25 32.8 -0.3**
GSC IAmb IAmb 04 25 38.7
comp=Z,34nm,1.1s
CWC Cottonwood Cre 91.39 45 P **P** **04 25 34.7 +1.5**
baz=226
O02D Mt. Diablo Mer 91.39 40 P **P** **04 25 35.6 +2.6**
baz=224,SNR=36
KHMM Horse Mountain 91.41 39 P **P** **04 25 32.9 -0.3**
KHMM IAmb IAmb 04 25 37.8
comp=Z,36nm,1.1s
TYV Tymovskoe 91.46 337 *eP* P 04 25 44.9 +12
TYV pmax pmax
comp=Z,36nm,1.7s
TYV pmax pmax
comp=Z,3μm,5.7s
MPMC Manual Prospec 91.48 46 P **P** **04 25 35.6 +1.9**
baz=227,SNR=13
AFDM Forest Hills D 91.50 42 P **P** **04 25 33.3 -0.2**
AFDM IAmb IAmb 04 25 36.5
comp=Z,30nm,1.1s
113A Mohawk Valley, 91.56 50 P **P** **04 25 33.6 -0.3**
IRM Iron Mountain 91.62 49 P **P** **04 25 36.8 +2.7**
baz=228,SNR=67
MDPB Devils Postpil 91.64 44 P **P** **04 25 34.0 -0.4**
ORV Oroville 91.64 41 P **P** **04 25 33.9 -0.2**
ORV pmax pmax
comp=Z,12nm,1.1s
ORV Oroville 91.64 41 P **P** **04 25 33.9 -0.2**
214A Organ Pipe Nat 91.64 52 P **P** **04 25 37.3 +3.0**
baz=229
214A Organ Pipe Nat 91.64 52 P **P** **04 25 34.0 -0.3**
OMMB Old Mammoth Mi 91.67 44 P **P** **04 25 34.2 -0.5**
GMRC Granite Mounta 91.72 48 P **P** **04 25 37.0 +2.2**
baz=228,SNR=14
TIN Tinemaha, Big 91.73 45 P **P** **04 25 36.8 +2.2**
baz=226,SNR=5.3
MLAC Mammoth, Mammo 91.78 44 P **P** **04 25 37.0 +1.9**
baz=226,SNR=8.2
KRMB Red Mountain 91.79 39 P **P** **04 25 34.6 -0.2**
WDC Whiskeytown Da 91.82 40 P **P** **04 25 34.8 -0.1**
WDC pmax pmax
comp=Z,31nm,1.0s
WDC Whiskeytown Da 91.82 40 P **P** **04 25 34.8 -0.1**
WDC IAmb IAmb 04 25 38.2
comp=Z,31nm,1.0s
TUQ Turquoise Moun 92.00 47 P **P** **04 25 38.2 +2.2**
baz=228,SNR=7.9
O03E Paynes Creek 92.00 41 P **P** **04 25 37.1 +1.2**
baz=224,SNR=17
N02D Trinity Center 92.01 40 P **P** **04 25 37.7 +1.8**
baz=224,SNR=18
RUBR Rubicon Trail 92.02 42 P **P** **04 25 35.7 -0.4**
RUBR IAmb IAmb 04 25 42.2
comp=Z,36nm,1.0s
WAKR Walker 92.04 43 P **P** **04 25 35.9 -0.3**
WAKR IAmb IAmb 04 25 39.7
comp=Z,34nm,1.0s
SHOC Shoshone, Teco 92.09 47 P **P** **04 25 38.5 +2.2**
baz=228,SNR=14
FURC Furnace Creek, 92.13 46 P **P** **04 25 38.2 +1.9**
baz=227,SNR=8.3
M02C Callahan 92.24 39 P **P** **04 25 39.2 +2.3**
baz=224,SNR=14
GYA Guiyang 92.31 301 ⇓ P **P** **04 25 38.5 +0.8**
GYA pP pwP 04 25 51.3 -0.1
GYA pmax pmax
comp=Z,22nm,1.8s
NEE2 Needles Airpor 92.35 49 P **P** **04 25 39.9 +2.5**
baz=228,SNR=5.7
PNTR Pine Nut 92.36 43 P **P** **04 25 37.3 -0.4**
PNTR IAmb IAmb 04 25 40.8
comp=Z,43nm,0.9s
LHV Little Huntoon 92.39 44 P **P** **04 25 37.5 -0.1**
LHV IAmb IAmb 04 25 44.5
comp=Z,39nm,1.0s
L02E Cave Junction 92.41 38 P **P** **04 25 39.9 +2.3**
baz=223
PB15 IPOC Station P 92.45 120 P **P** **04 25 37.6 -1.1**
VCNR Virginia City 92.47 42 P **P** **04 25 37.9 -0.3**
YERR Yerington 92.49 43 P **P** **04 25 37.7 -0.6**
YERR IAmb IAmb 04 25 41.2
comp=Z,23nm,0.8s
PB04 IPOC Station P 92.52 119 P **P** **04 25 37.9 -1.1**
YBH Yreka Blue Hor 92.56 39 P **P** **04 25 40.1 +1.7**
comp=Z,16nm,1.0s,baz=157,slow=3.0,SNR=23
YBH Yreka Blue Hor 92.56 39 P **P** **04 25 38.0 -0.4**
YBH pmax pmax
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 92.56 39 P **P** **04 25 38.0 -0.4**
KEBM Edson Butte 92.56 37 P **P** **04 25 37.9 -0.4**
NVAR Mina Array Bea 92.63 44 P **P** **04 25 41.0 +2.0**
comp=Z,17nm,0.9s,baz=219,slow=7.9,SNR=46
NVAR PKPPKP 04 51 08.2
comp=Z,1.5nm,1.1s,baz=104,slow=2.7,SNR=4.5
NVAR Mina Array Bea 92.63 44 P **P** **04 25 38.3 -0.7**
RYN Ryan 92.64 44 P **P** **04 25 38.5 -0.5**
RYN IAmb IAmb 04 25 42.1
comp=Z,19nm,1.1s
CN2 Changchun 92.68 324 *eP* **P** **04 25 38.0 -0.7**
CN2 *ep*P pwP 04 25 52.8 -0.1
CN2 pmax pmax
comp=Z,40nm,1.2s
PB06 IPOC Station P 92.70 120 P **P** **04 25 38.7 -1.0**
PB06 IAmb IAmb 04 25 42.9
comp=Z,66nm,1.0s
NV11 Mina Array Sit 92.72 44 P **P** **04 25 38.7 -0.6**
ENH Enshi 92.73 305 IAmb IAmb 04 25 48.0
comp=Z,26nm,1.0s
K02D Willamette Mer 92.77 38 P **P** **04 25 41.4 +2.1**
baz=223,SNR=8.0
Y14A Wickenburg 92.81 50 IAmb IAmb 04 25 43.7
comp=Z,39nm,0.8s
TPNV Topopah Spring 92.82 46 P **P** **04 25 41.9 +2.1**
baz=228,SNR=28
TPNV Topopah Spring 92.82 46 IAmb IAmb 04 25 43.4
comp=Z,20nm,0.8s
PAHR Pah Rah Range 92.91 42 IAmb IAmb 04 25 43.0
comp=Z,19nm,0.9s
J01E Myrtle Point 92.97 37 P **P** **04 25 42.5 +2.4**
baz=223,SNR=5.5
W13A Hualapai Mount 93.02 49 IAmb IAmb 04 25 46.5
comp=Z,25nm,1.1s
M04C Macdoel 93.05 40 P **P** **04 25 42.6 +1.9**
baz=224,SNR=14
HUMO Hull Mountain 93.06 38 IAmb IAmb 04 25 51.7
comp=Z,18nm,0.9s
PB07 IPOC Station P 93.09 119 IAmb IAmb 04 25 48.4
comp=Z,24nm,1.1s
L04D Klamath Falls 93.12 39 P **P** **04 25 43.2 +2.2**
baz=224,SNR=9.3
KVN Kaiserville 93.17 43 IAmb IAmb 04 25 44.3
comp=Z,16nm,0.9s
TUC Tucson 93.19 52 P **P** **04 25 44.4 +2.9**
baz=230
LVC Limon Verde 93.23 120 P **P** **04 25 44.5 +2.0**
comp=Z,48nm,1.0s,baz=238,slow=3.2,SNR=31
LVC Limon Verde 93.23 120 P **P** **04 25 41.6 -0.9**
LVC pmax pmax
comp=Z,90nm,1.1s
LVC Limon Verde 93.23 120 P **P** **04 25 41.6 -0.9**
LVC Limon Verde 93.23 120 *eP* **P** **04 25 42.3 -0.2**
CMAR Chiang Mai Arr 93.29 290 P **P** **04 25 42.5 +0.4**
comp=Z,14nm,0.9s,baz=147,slow=3.5,SNR=18
CMAR PP **PP** **04 29 26.1 -0.5**
comp=Z,1.6nm,0.3s,baz=141,slow=6.4,SNR=5.7
CMAR PKPPKP **P'P'df** **04 51 03.1 +2.8**
comp=Z,1.0nm,0.4s,baz=292,slow=3.5,SNR=5.1
CMAR Chiang Mai Arr 93.29 290 P **P** **04 25 41.5 -0.7**
CMAR Chiang Mai Arr 93.29 290 P **P** **04 25 41.5 -0.7**
PATCX Punta Patache 93.47 118 P **P** **04 25 42.7 -0.5**
PATCX IAmb IAmb 04 25 46.2
comp=Z,56nm,1.0s
CHTO Chiang Mai 93.49 290 P **P** **04 25 42.6 -0.5**
CHTO pmax pmax
comp=Z,28nm,1.2s
CHTO Chiang Mai 93.49 290 P **P** **04 25 42.6 -0.5**
CHTO IAmb IAmb 04 25 46.2
comp=Z,28nm,1.1s
TA01 Diego Aracena 93.61 118 IAmb IAmb 04 25 46.7
comp=Z,48nm,1.1s
I03D Drain, OR 93.65 37 P **P** **04 25 45.4 +2.2**
baz=224
K04D Chiloquin, OR 93.69 39 P **P** **04 25 45.6 +2.0**
baz=224
NNA Nana 93.79 107 *i* P **P** **04 25 40.7 -4.0**
NNA pmax pmax
comp=Z,11nm,1.1s
PB01 IPOC Station P 93.81 119 IAmb IAmb 04 25 47.9
comp=Z,40nm,1.0s
PRN Pahroc Range 93.83 46 IAmb IAmb 04 25 50.2
comp=Z,28nm,1.1s
MOD Modoc Plateau 93.94 40 IAmb IAmb 04 25 47.7
comp=Z,28nm,0.9s
J04D Umpqua Nationa 93.95 38 P **P** **04 25 46.5 +1.6**
baz=224,SNR=13
X16A Lo Mia Camp, P 94.11 50 IAmb IAmb 04 25 50.1
comp=Z,34nm,0.9s
R11A Troy Canyon, C 94.14 45 P **P** **04 25 47.2 +1.3**
baz=228
I04A Tendick Farm, 94.19 38 P **P** **04 25 47.4 +1.6**
baz=224,SNR=6.6
K05A Summer Lake 94.21 39 IAmb IAmb 04 25 49.4
comp=Z,48nm,1.0s
KMI Kunming 94.33 298 ⇑ P **P** **04 25 49.3 +2.2**
KMI pP sP 04 26 03.8 +2.8
KMI pmax pmax
comp=Z,14nm,1.5s
J05D Fort Rock, OR 94.43 39 P **P** **04 25 48.7 +1.6**
baz=225,SNR=10
PB11 IPOC Station P 94.50 118 P **P** **04 25 47.4 -0.6**
PB11 IAmb IAmb 04 25 50.6
comp=Z,50nm,1.0s
H04D Lebanon 94.55 37 P **P** **04 25 49.6 +2.2**
baz=224
WUAZ Wupatki 94.85 50 P **P** **04 25 51.4 +2.2**
baz=230
WUAZ Wupatki 94.85 50 IAmb IAmb 04 25 53.1
comp=Z,30nm,1.0s
U15A North Rim 94.86 49 IAmb IAmb 04 25 54.4
comp=Z,24nm,0.8s
PINE Pine Mountain 94.94 39 IAmb IAmb 04 25 52.8
comp=Z,40nm,0.9s
MNMC Minye Minye 94.94 117 IAmb IAmb 04 25 53.1
comp=Z,31nm,0.8s
H04A Detroit Lake 94.94 37 IAmb IAmb 04 25 59.3
comp=Z,29nm,1.1s
KDAK Kodiak Island 95.11 14 P **P** **04 25 49.8 +0.3**
comp=Z,19nm,1.1s,baz=291,slow=14,SNR=2.2
KDAK Kodiak Island 95.11 14 P **P** **04 25 50.2 +0.7**
I05D Terrebonne, OR 95.12 38 P **P** **04 25 51.5 +1.4**
baz=225,SNR=6.0
121A Cookes Peak, D 95.30 54 P **P** **04 25 53.4 +2.1**
baz=232
ATAH Atahualpa 95.41 102 P **P** **04 25 55.9 +3.3**
comp=Z,4.8nm,0.7s,baz=254,slow=4.2,SNR=7.1
XAN Xi'an 95.46 308 P **P** **04 25 52.8 +0.9**
XAN pP pP 04 26 02.4 +0.3
XAN sP sP 04 26 07.4 +1.6
XAN pmax pmax
comp=Z,19nm,1.4s
PB16 IPOC Station P 95.51 117 IAmb IAmb 04 25 58.1
comp=Z,18nm,1.1s
W18A Petrified Fore 95.64 51 P **P** **04 25 54.8 +2.0**
baz=231
F04A Amboy 95.72 36 IAmb IAmb 04 26 02.4
comp=Z,28nm,0.9s
G05D Wamic, OR 95.77 37 P **P** **04 25 55.4 +2.4**
baz=225
J08A Circle Bar Ran 95.92 40 IAmb IAmb 04 25 56.8
comp=Z,27nm,1.1s
ELK Elko 95.94 44 P **P** **04 25 55.3 +1.2**
comp=Z,5.4nm,0.9s,baz=252,slow=3.8,SNR=12
ELK PKKP **PKKPdf** **04 42 44.4 -0.2**
comp=Z,1.4nm,0.7s,baz=340,slow=3.0,SNR=4.8
TXAR Lajitas Array 96.18 59 P **P** **04 25 57.3 +2.0**
comp=Z,3.9nm,0.9s,baz=211,slow=7.8,SNR=16
TXAR PKKPbc **PKKPbc** **04 42 41.7 0.0**
comp=Z,1.2nm,0.8s,baz=67,slow=4.0,SNR=4.5
TXAR Lajitas Array 96.18 59 P **P** **04 25 55.2 -0.1**
TXAR Lajitas Array 96.18 59 P **P** **04 25 55.2 -0.1**

MNTX Cornudas Mount 96.41 56 P P 04 25 57.5 +1.3
baz=233
D03D Eldon 96.55 35 P P 04 25 58.3 +1.9
baz=224
PLTB Pedras Altas 96.78 136 eP P 04 25 58.0 -0.1
DUG Dugway, Tooele 96.98 45 P P 04 26 00.6 +1.9
baz=230
E07A Sunnyside 97.42 37 IAmb IAmb 04 26 10.3
comp=Z,9.8nm,0.8s
B05A Bryant 97.54 35 P Pdif 04 26 02.7 +1.8
baz=225
A04D Lummi Island 97.58 34 P Pdif 04 26 04.0 +2.9
baz=224
ANMO Albuquerque 97.65 53 P Pdif 04 26 03.5 +1.5
comp=Z,0.4nm,1.0s,baz=207,slow=4.3,SNR=15
ANMO PKKP PKKPbc 04 42 39.3 +1.2
comp=Z,0.1nm,0.8s,baz=112,slow=1.5,SNR=3.8
ANMO Albuquerque 97.65 53 P Pdif 04 26 03.5 +1.5
baz=233
ANMO Albuquerque 97.65 53 P P 04 26 01.8 -0.1
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO Albuquerque 97.65 53 P P 04 26 01.8 -0.1
MVCO Mesa Verde 97.72 50 P Pdif 04 26 04.1 +1.8
baz=232
BBB Bella Bella 97.80 29 LR LR 05 02 40.0
comp=Z,8µm,20.0s,baz=1.0,slow=31
LPAZ La Paz 97.81 116 P Pdif 04 26 05.3 +1.5
comp=Z,5.4nm,0.9s,baz=228,slow=3.5,SNR=13
LPAZ La Paz 97.81 116 eP P 04 26 03.3 -0.5
PV05 Paradox Valley 97.88 49 IAmb IAmb 04 26 07.3
comp=Z,12nm,1.1s
CPSB Cacapava Do Su 97.88 136 eP Pdif 04 26 03.6 +0.5
APG El Apazote 98.06 77 P Pdif 04 26 07.3 +3.1
comp=Z,2.6nm,0.8s,baz=184,slow=19,SNR=2.2
HHC Hu-ho-hao-te 98.11 315 eP Pdif 04 26 04.9 +1.1
HHC pmax pmax
comp=Z,29nm,0.8s
PV11 David Mesa, Pa 98.16 49 IAmb IAmb 04 26 09.0
comp=Z,13nm,1.1s
PV12 Saucer Basin, 98.21 49 IAmb IAmb 04 26 11.3
comp=Z,14nm,1.1s
D08A Wollman Farm, 98.23 37 IAmb IAmb 04 26 08.1
comp=Z,9.8nm,0.8s
HLID Hailey 98.25 42 P Pdif 04 26 06.2 +1.8
baz=229,SNR=5.3
PLID Pearl Lake 98.40 40 IAmb IAmb 04 26 07.8
comp=Z,14nm,1.1s
CPUP Villa Florida 98.50 130 P Pdif 04 26 06.3 +0.4
comp=Z,6.8nm,1.1s,baz=241,slow=4.9,SNR=5.4
CPUP Villa Florida 98.50 130 eP Pdif 04 26 06.0 0.0
RC01 Rabbit Creek A 98.74 14 P Pdif 04 26 08.6 +2.7
baz=205
C09A Chrisman Ranch 99.06 37 IAmb IAmb 04 26 16.7
comp=Z,13nm,1.1s
S22A 4UR Ranch, Cre 99.10 50 P Pdif 04 26 10.5 +2.0
baz=233
GLI Glacier Island 99.11 16 IAmb IAmb 04 26 11.4
comp=Z,32nm,0.9s
MSTX Muleshoe 99.52 55 P Pdif 04 26 11.9 +1.6
baz=234
GHO Glory Hole Cre 99.52 14 IAmb IAmb 04 26 14.2
comp=Z,18nm,0.9s
JCT Junction City 99.58 60 P Pdif 04 26 11.7 +1.2
baz=235
CZSB Cruzeiro do Su 99.59 106 eP Pdif 04 26 10.7 -0.3
SDCO Great Sand Dun 99.94 51 P Pdif 04 26 13.6 +1.4
baz=234
LZH Lanzhou 100.01 307 eP Pdif 04 26 15.3 +2.8
LZH pP sP 04 26 27.8 +1.4
LZH sP sPdif 04 26 32.6 +6.2
LZH pmax pmax
comp=Z,19nm,1.1s
CNLB Canela 100.18 137 eP Pdif 04 26 13.4 -0.1
T25A Trinidad 100.28 52 P Pdif 04 26 15.2 +1.5
baz=234
N25K Chitina, Valde 100.32 16 P Pdif 04 26 16.3 +3.2
baz=209
BW06 Boulder Array 100.50 45 P Pdif 04 26 16.1 +1.6
baz=232
PDAR Pinedale Array 100.50 45 P Pdif 04 26 15.8 +1.3
comp=Z,3.1nm,1.0s,baz=212,slow=2.9,SNR=8.2
PDAR PKiKP PKiKP 04 30 43.0 +2.0
comp=Z,3.0nm,0.8s,baz=242,slow=1.9,SNR=3.9
PDAR PKKPbc PKKPbc 04 42 26.5 -3.8
comp=Z,1.6nm,0.9s,baz=100,slow=5.4,SNR=4.3
PDAR Pinedale Array 100.50 45 Pdif Pdif 04 26 14.5 0.0
ABTX Abilene, Hawle 100.90 58 P Pdif 04 26 17.8 +1.5
baz=236
H17A Grant Village 100.92 43 P Pdif 04 26 17.3 +0.9
baz=232
ITAB Concordia 101.00 134 eP Pdif 04 26 17.1 0.0
BOZ Bozeman (W) 101.08 42 P Pdif 04 26 19.1 +2.1
baz=231
MCK McKinley 101.30 14 P Pdif 04 26 20.5 +3.2
baz=206
NEA2 Nenana 102.05 13 P Pdif 04 26 23.5 +2.9
baz=206
MLY Manley 102.14 12 P Pdif 04 26 23.4 +2.4
baz=204
K22A Casper 102.21 46 P Pdif 04 26 23.8 +1.7
baz=234
HDA Harding Lake 102.29 14 P Pdif 04 26 24.1 +2.4
baz=207
KSCO Kaye Shedlock' 102.51 51 P Pdif 04 26 24.8 +1.3
baz=235
TCOL CIGO, UAF Yank 102.53 13 P Pdif 04 26 25.8 +3.1
baz=207
SCRK Sand Creek 102.53 15 P Pdif 04 26 25.2 +2.3
baz=210
ILAR Eielson Array 102.63 14 P Pdif 04 26 24.2 +1.0
comp=Z,7.3nm,1.1s,baz=222,slow=5.3,SNR=15
ILAR PKiKP PKiKP 04 30 44.0 +0.1
comp=Z,2.9nm,0.6s,baz=285,slow=2.7,SNR=17
ILAR PKKPbc PKKPbc 04 42 26.9 +2.3
comp=Z,1.9nm,1.0s,baz=14,slow=2.0,SNR=5.3
ILAR Eielson Array 102.63 14 P Pdif 04 26 23.9 +0.8
ILAR Eielson Array 102.63 14 Pdif Pdif 04 26 23.9 +0.8
POKR Poker Plat Res 102.83 14 P Pdif 04 26 26.9 +2.9
baz=207
K27K Chicken 103.00 16 P Pdif 04 26 27.1 +2.3
baz=211
SIV San Ignacio 103.13 120 Pdiff Pdif 04 26 30.2 +3.5
comp=Z,0.5nm,0.7s,baz=253,slow=7.3,SNR=4.0
SIV PKKPbc PKKPbc 04 42 22.1 +0.8
comp=Z,1.1nm,0.6s,baz=74,slow=3.2,SNR=6.7
ETMB Extrema 103.35 112 eP Pdif 04 26 27.8 +0.1
RSSD Black Hills 104.54 46 P Pdif 04 26 34.0 +1.5
baz=236
SONM Songino Array 105.29 318 PKiKP PKiKP 04 30 50.8 +1.3
comp=Z,5.8nm,1.1s,baz=116,slow=4.0,SNR=5.4
SONM PKKPbc PKKPbc 04 42 17.2 +1.1
comp=Z,7.0nm,1.2s,baz=259,slow=3.1,SNR=9.7
TOLK Toolik Lake Re 105.63 11 P PKiKP 04 30 50.6 +1.3
baz=206
VILB Vilhena 105.79 118 eP Pdif 04 26 38.9 +0.3
INK Inuvik 108.51 17 PKiKP PKiKP 04 30 54.6 0.0
comp=Z,7.4nm,0.7s,baz=316,slow=6.6,SNR=5.6
INK PKKPab PKKPab 04 42 16.5 +1.6
comp=Z,8.0nm,1.0s,baz=30,slow=8.1,SNR=4.9
TLY Talaya 108.91 320 PKiKP PKiKP 04 30 58.1 +2.2
comp=Z,1.5nm,0.5s,baz=135,slow=2.9,SNR=3.0
TLY PKKP PKKPdf 04 42 19.6 -0.7
comp=Z,8.7nm,0.9s,baz=291,slow=2.0,SNR=3.9
CCM Cathedral Cave 109.59 57 P PKiKP 04 30 58.1 +0.5
baz=241
YKA Yellowknife Ar 110.17 27 Pdiff Pdif 04 27 02.2 +5.5
comp=Z,1.0nm,0.8s,baz=271,slow=5.9,SNR=3.2
YKA PKiKP PKiKP 04 30 58.1 +0.3
comp=Z,4.5nm,0.6s,baz=256,slow=1.4,SNR=20
YKA PKKPbc PKKPbc 04 41 59.8 -1.1
comp=Z,3.3nm,0.6s,baz=48,slow=3.9,SNR=18
SUR Sutherland 110.33 199 PKiKP PKiKP 04 30 59.6 0.0
comp=Z,4.3nm,0.7s,baz=241,slow=2.5,SNR=11
SUR PKKPbc PKKPbc 04 42 00.2 +0.5
comp=Z,14nm,1.0s,baz=293,slow=3.1,SNR=8.2
OPO Ambohidratompo 110.49 228 PKKPab PKKPab 04 42 12.8 +0.3
comp=Z,8.3nm,1.0s,baz=301,slow=17,SNR=5.6
TIXI Tiksi 112.08 345 c i PKiKP PKiKP 04 31 01.2 0.0
HDIL Hopedale 112.10 55 P PKiKP 04 31 03.6 +1.3
baz=243
BDFB Brasilia 112.21 129 PKiKP PKiKP 04 31 03.3 -0.1
comp=Z,5.3nm,1.0s,baz=259,slow=4.3,SNR=4.5
ULM Lac du Bonnet 112.47 44 PKiKP PKiKP 04 31 02.4 -0.2
comp=Z,4.2nm,0.7s,baz=238,slow=2.9,SNR=8.0
ULM PKKPbc PKKPbc 04 41 52.0 -0.9
comp=Z,4.3nm,0.8s,baz=88,slow=2.5,SNR=4.8

BOSA Boshof 112.52 204 PKiKP PKiKP 04 31 04.3 +0.5
comp=Z,4.6nm,0.9s,baz=143,slow=5.1,SNR=6.9
BOSA PKKPbc PKKPbc 04 41 55.0 +2.6
comp=Z,3.2nm,0.6s,baz=97,slow=2.3,SNR=6.5
TKL Tuckaleechee C 113.76 62 PKiKP PKiKP 04 31 07.0 +1.4
comp=Z,5.6nm,0.7s,baz=122,slow=2.7,SNR=4.9
TKL Tuckaleechee C 113.76 62 i PKiKP PKiKP 04 31 07.0 +1.4
WMQ Urumqi 114.59 307 ePKP PKiKP 04 31 08.1 +1.1
LBTB Lobatse 115.71 206 PKP PKiKP 04 31 09.1 -0.8
comp=Z,3.0nm,0.6s,baz=160,slow=4.6,SNR=4.0
Q52A Bidwell 116.27 59 P PKiKP 04 31 10.5 +0.1
baz=245
W57A Gilead 116.31 64 P PKiKP 04 31 10.7 +0.2
baz=245
DGZ Jazzator, Alta 117.15 313 i PKiKP PKPdf 04 31 08.4 -3.5
V58A Windy Hill, Pi 117.23 64 P PKiKP 04 31 13.1 +0.8
baz=245
U57A Blanch 117.34 63 P PKiKP 04 31 12.5 0.0
baz=245
N52A McGinn's Farm, 117.43 58 P PKiKP 04 31 13.3 +0.7
baz=246
ZSN Zaisan 117.87 310 ePKP PKPdf 04 31 11.3 -1.8
ZSN Zaisan 117.87 310 ePKIKP PKPdf 04 31 11.3 -1.8
MATP Matopo 118.72 211 PKP PKPdf 04 31 14.9 -0.9
comp=Z,9.9nm,0.7s,baz=172,slow=1.0,SNR=20
MATP PKKPab PKKPab 04 41 35.5 -1.1
comp=Z,7.1nm,1.0s,baz=352,slow=6.8,SNR=5.9
MK31 Makanchi Array 119.27 309 c i PKiKP PKPdf 04 31 14.2 -1.7
MKAR Makanchi Array 119.27 309 PKP PKPdf 04 31 14.6 -1.3
comp=Z,17nm,0.9s,baz=155,slow=1.2,SNR=27
MKAR PKKPbc PKKPbc 04 41 30.1 +1.0
comp=Z,3.5nm,0.6s,baz=287,slow=3.5,SNR=19
MKAR SKKPbc SKKPbc 04 45 15.8 +0.2
comp=Z,1.4nm,0.9s,baz=251,slow=4.4,SNR=3.7
MKAR Makanchi Array 119.27 309 c i PKiKP PKPdf 04 31 14.1 -1.8
MKAR pmax pmax
comp=Z,17nm,0.9s
MKAR Makanchi Array 119.27 309 PKPdf PKPdf 04 31 13.9 -2.0
MAKZ Makanchi 119.47 309 PKiKP PKPdf 04 31 14.1 -2.2
MAKZ Makanchi 119.47 309 PKPdf PKPdf 04 31 14.7 -1.5
PDGK Pogornoye 119.88 304 PKiKP PKPdf 04 31 14.7 -2.6
UZB Uzynbulak 120.13 304 ePKP PKPdf 04 31 15.4 -2.4
UZB Uzynbulak 120.13 304 ePKIKP PKPdf 04 31 15.4 -2.4
MCPB Macapa, AP 120.16 114 eP PKiKP 04 31 19.0 +0.3
ZALV Zalesovo Beam 120.16 317 PKhKP PKPpre 04 31 14.8
comp=Z,10nm,0.6s,baz=146,slow=2.9,SNR=24
KPKS Kokpek 120.47 304 ePKP PKPdf 04 31 15.6 -2.9
KPKS Kokpek 120.47 304 ePKIKP PKPdf 04 31 15.5 -2.9
SATY Saty 120.52 304 ePKP PKPdf 04 31 16.4 -2.1
SATY Saty 120.52 304 ePKIKP PKPdf 04 31 16.3 -2.2
SADO Sadowa 120.64 54 PKP PKPdf 04 31 18.4 -0.1
comp=Z,7.2nm,0.6s,baz=276,slow=3.3,SNR=7.1
NIL Nilore 120.74 292 PKiKP PKPdf 04 31 19.0 -0.2
NIL Nilore 120.74 292 PKPdf PKPdf 04 31 19.0 -0.2
L56A Greenwood 120.81 58 P PKiKP 04 31 19.5 +0.3
baz=249
M57A Sunshine Farm, 120.82 59 P PKiKP 04 31 19.5 +0.4
baz=249
N58A Sunbury 120.94 59 P PKiKP 04 31 19.4 0.0
baz=249
H53A Bobcaygeon 120.95 55 P PKPdf 04 31 19.2 +0.1
baz=250
KSH Kashi 120.96 299 PKP PKiKP 04 31 19.9 +0.3
MDOK Medeo 121.49 303 ePKP PKPdf 04 31 18.1 -2.4
MDOK Medeo 121.49 303 ePKIKP PKPdf 04 31 18.0 -2.4
TNSS Tian-Shan 121.52 303 ePKP PKPdf 04 31 19.2 -1.6
TNSS Tian-Shan 121.52 303 ePKIKP PKPdf 04 31 19.2 -1.6
TMAB Tom-Au,PA,Br 121.72 119 eP PKPdf 04 31 19.3 -2.3
ULHL Ulahol 121.73 302 P PKPdf 04 31 19.4 -1.7
SNR=8.5
H05S1 Guadeloupe/Mar 121.96 94 PKP PKiKP 04 31 22.7 +0.6
SNR=5.6
RES Resolute Bay 121.98 18 PKP PKPdf 04 31 20.1 -0.1
comp=Z,18nm,0.7s,baz=241,slow=2.6,SNR=15
PLVO Plevna 122.12 55 PKPdf PKPdf 04 31 20.9 -0.5
J57A Williamstown 122.32 57 PKPdf 04 31 21.3 -0.5
TKM2 Tokmak 2 122.41 303 P PKPdf 04 31 21.0 -1.3
SNR=18
KBK Karagaybulak 122.78 302 P PKPdf 04 31 22.0 -0.9
SNR=9.8
J58A Remsen 122.80 57 PKPdf 04 31 22.1 -0.6
KURK Kurchatov 122.82 312 c i PKiKP PKPdf 04 31 21.0 -1.5
KURK pmax pmax
comp=Z,81nm,1.3s
KURK Kurchatov 122.82 312 PKPdf PKPdf 04 31 20.8 -1.7
VLDQ Val d'Or 122.82 51 PKPdf PKPdf 04 31 22.7 +0.1
KURBB Kurchatov Arra 122.85 312 PKPbc PKKPbc 04 41 16.4 +0.9
comp=Z,0.6nm,0.2s,baz=296,slow=5.2,SNR=6.2
KURBB Kurchatov Arra 122.85 312 PKiKP PKPdf 04 31 20.4 -2.2
UCH Uchtor 122.94 301 P PKPdf 04 31 22.7 -0.9
SNR=33
NRIK Noril'sk 122.96 335 PKP PKPdf 04 31 21.8 -0.4
comp=Z,36nm,0.8s,baz=97,slow=2.6,SNR=22
CHMS Chumysh 123.02 302 P PKPdf 04 31 22.1 -1.1
SNR=14
AAK Ala-Archa 123.08 302 P PKiKP 04 31 24.2 +0.5
SNR=11
MDP Montagnes des 123.20 109 PKP PKiKP 04 31 25.8 +1.1
comp=Z,11nm,0.6s,baz=237,slow=3.8,SNR=9.8
E55A Montcerf-Lytto 123.24 53 P PKPdf 04 31 23.5 +0.1
baz=253
SGDS Sogindy 123.25 303 ePKP PKPdf 04 31 21.1 -2.6
SGDS Sogindy 123.25 303 ePKIKP PKPdf 04 31 21.1 -2.6
USP Ospenovka 123.28 303 P PKiKP 04 31 24.2 +0.3
SNR=12
LSQQ Lebel-sur-Quev 123.40 50 P PKiKP 04 31 24.2 +0.3
baz=254
LSZ Lusaka 123.41 213 PKKPbc PKKPbc 04 41 15.3 +2.2
comp=Z,4.4nm,0.8s,baz=63,slow=6.1,SNR=4.1
LSZ Lusaka 123.41 213 PKiKP PKPdf 04 31 24.1 -0.9
LSZ Lusaka 123.41 213 PKPdf PKPdf 04 31 24.1 -0.9
AML Almayashu 123.48 301 P PKPdf 04 31 23.5 -1.1
SNR=36
EKS2 Erkin-Say 123.59 302 P PKPdf 04 31 23.4 -1.1
SNR=17
L61A Hillsdale 1, H 123.63 59 P PKiKP 04 31 24.8 +0.2
baz=251
LONY Lake Ozonia 123.67 56 P PKiKP 04 31 25.2 +0.5
baz=252
TSUM Tsumeb 123.71 200 PKKPab PKKPab 04 41 14.2 -1.0
comp=Z,1.1nm,0.4s,baz=0.0,slow=4.0,SNR=2.7
TSUM Tsumeb 123.71 200 PKPdf PKPdf 04 31 24.7 -0.8
D55A Sainte-Anne-du 123.79 53 P PKiKP 04 31 24.8 +0.1
baz=253
M62A Hamden 123.85 60 P PKiKP 04 31 25.1 +0.1
baz=251
H58A Gabriels 123.89 56 P PKiKP 04 31 25.6 +0.5
baz=252
J60A Lant Hill Farm 124.05 58 P PKiKP 04 31 25.5 +0.1
baz=252
BTLS Baital 124.14 305 ePKP PKPdf 04 31 23.0 -2.3
BTLS Baital 124.14 305 ePKIKP PKPdf 04 31 22.9 -2.3
ROSB Rosrio 124.15 123 eP PKiKP 04 31 29.1 +2.5
G58A Ormstown 124.19 55 P PKPdf 04 31 25.0 -0.3
baz=253
KBL Kabul 124.31 291 PKIKP PKPdf 04 31 25.6 -0.6
KBL Kabul 124.31 291 PKPdf PKPdf 04 31 25.6 -0.6
L61B Northampton 124.32 59 P PKPdf 04 31 25.8 +0.1
baz=252
G59A Clarenceville 124.76 56 P PKPdf 04 31 26.4 0.0
baz=253
H60A Morristown 124.94 56 P PKPdf 04 31 26.9 +0.1
baz=253
E58A La Victoria 125.06 54 P PKPdf 04 31 27.1 +0.2
baz=254
M64A Tiverton 125.09 60 P PKiKP 04 31 27.6 +0.1
baz=252
I61A Oroboro, Fairl 125.10 57 P PKiKP 04 31 28.0 +0.5
baz=253
HRV Adam Dziewonsk 125.13 59 P PKiKP 04 31 27.9 +0.3
baz=253
J62A Henniker 125.17 58 P PKiKP 04 31 28.1 +0.5
baz=253
K63A Dunstable 125.21 59 P PKiKP 04 31 27.9 +0.3
baz=253
F59A Saint Guilaume 125.25 55 P PKiKP 04 31 27.7 0.0
baz=254
CHGQ Chibougamau 125.26 50 P PKPdf 04 31 27.3 0.0
baz=256
G60A Masonville 125.34 56 P PKiKP 04 31 27.9 -0.1
baz=254
DZA Taraz 125.38 301 ePKP PKPdf 04 31 26.1 -1.7
DZA Taraz 125.38 301 ePKIKP PKPdf 04 31 26.0 -1.7
LBNH Lisbon 125.38 57 P PKiKP 04 31 28.2 +0.1
baz=254
L64A Middleborough 125.47 60 P PKPdf 04 31 27.9 0.0
baz=252
D58A Chemin du LacG 125.51 53 P PKiKP 04 31 28.2 0.0
baz=255
LATQ La Tuque 125.65 53 P PKiKP 04 31 28.8 +0.4
baz=255
I62A Tamworth 125.69 58 P PKiKP 04 31 28.7 +0.1
baz=254
J63A Strafford 125.69 58 P PKiKP 04 31 29.1 +0.4
baz=253
F60A Warwick 125.84 55 P PKiKP 04 31 29.4 +0.5
baz=255
G61A St-Isidore-de- 125.94 56 P PKiKP 04 31 29.6 +0.5
baz=254
H62A Milan 126.00 57 P PKiKP 04 31 29.8 +0.5
baz=254
KK31 Karatay Array 126.02 301 i PKiKP PKPdf 04 31 27.5 -1.4
KKAR Karatay Array 126.02 301 PKiKP PKPdf 04 31 27.4 -1.5
KKAR Karatay Array 126.02 301 PKPdf PKPdf 04 31 27.4 -1.5
IUG luzhnay 126.08 300 ePKP PKPdf 04 31 26.8 -2.4
IUG luzhnay 126.08 300 ePKIKP PKPdf 04 31 26.8 -2.4
D59A Saint-Raymond 126.18 54 P PKiKP 04 31 29.9 +0.4
baz=256
I63A Otisfield 126.26 57 P PKiKP 04 31 30.3 +0.5
baz=254
E60A Ste Agathe de 126.28 55 P PKiKP 04 31 30.2 +0.5
baz=255
BRZS Berezniki 126.32 310 ePKP PKPdf 04 31 26.2 -3.1
BRZS Berezniki 126.32 310 ePKIKP PKPdf 04 31 26.2 -3.1
F61A St Evariste 126.48 55 P PKiKP 04 31 30.6 +0.4
baz=255
NBMO Morrinhos-CE 126.60 127 eP PKiKP 04 31 31.5 0.0
G62A West of Eustis 126.60 56 P PKiKP 04 31 30.4 -0.1
baz=255
D60A Saint Jean D'O 126.76 54 P PKiKP 04 31 30.6 -0.1
baz=256
H63A New Sharon 126.80 57 P PKiKP 04 31 31.2 +0.4
baz=255
I64A Boothbay 126.88 58 P PKiKP 04 31 31.5 +0.5
baz=255
E61A Lac Etchemin 126.94 55 P PKiKP 04 31 31.7 +0.6
baz=256
G63A Kingsbury 127.20 56 P PKiKP 04 31 32.1 +0.4
baz=255
RCBR Riachuelo 127.28 133 PKP PKiKP 04 31 33.7 +0.9
comp=Z,56nm,1.1s,baz=229,slow=4.1,SNR=6.1
RCBR Riachuelo 127.28 133 PKiKP PKPdf 04 31 31.4 -0.9
RCBR Riachuelo 127.28 133 PKPdf PKPdf 04 31 31.4 -0.9
RCBR Riachuelo 127.28 133 eP PKiKP 04 31 33.6 +0.7
D61A St Aubert, Com 127.32 54 P PKiKP 04 31 32.1 +0.3
baz=257
H64A Troy 127.36 57 P PKiKP 04 31 32.2 +0.3
baz=255
PKME Peaks-Kenny Pk 127.46 56 P PKiKP 04 31 32.2 +0.1
baz=256
E62A Clayton Lake 127.63 55 P PKiKP 04 31 32.7 +0.2
baz=257
F63A Nahmakanta, Br 127.70 56 P PKiKP 04 31 32.5 -0.1
baz=256
G64A Maxfield 127.83 56 P PKiKP 04 31 32.8 -0.1
baz=256
H65A Eastbrook 128.04 57 P PKiKP 04 31 33.2 -0.1
baz=256
D62A Allapoint, All 128.05 54 P PKiKP 04 31 33.0 -0.2
baz=257
F64A Sherman 128.25 56 P PKPdf 04 31 33.1 +0.1
baz=257
E63A Oxbow 128.32 55 P PKPdf 04 31 33.3 +0.1
baz=257
BRVK Borovoye 128.37 314 c i PKiKP PKPdf 04 31 32.2 -0.9
BRVK pmax pmax
comp=Z,66nm,1.3s
BRVK Borovoye 128.37 314 PKPdf PKPdf 04 31 32.5 -0.6
TULEG Thule 128.50 16 eP PKiKP 04 31 33.3 0.0
D63A Stockholm 128.67 54 P PKPdf 04 31 34.0 +0.2
baz=258
E64A Bridgewater 128.72 55 P PKPdf 04 31 34.3 +0.3
baz=258
KMBO Kilima Mbogo 130.04 232 PKP PKiKP 04 31 39.4 +0.7
comp=Z,26nm,1.2s,baz=59,slow=1.4,SNR=14
KMBO Kilima Mbogo 130.04 232 PKiKP PKPdf 04 31 36.7 -1.1
KMBO Kilima Mbogo 130.04 232 PKPdf 04 31 36.7 -1.1
SCHQ Schefferville 130.63 44 PKP PKiKP 04 31 39.1 +0.9
comp=Z,4.0nm,0.6s,baz=314,slow=6.1,SNR=5.4
UOSS Minazif 130.82 274 PKPdf PKPdf 04 31 37.5 -1.1
NOR Nord 132.72 3 i PKiKP PKPdf 04 31 40.0 -0.6
NOR Nord 132.72 3 i P PKPdf 04 31 40.0 -0.6
NOR Nord 132.72 3 i P PKPdf 04 31 40.1 -0.6
UPNV Upernavik 132.80 20 eP PKiKP 04 31 42.0 -0.1
GEYT Alibeck 133.75 292 PKP PKiKP 04 31 45.5 +0.4
comp=Z,25nm,0.9s,baz=211,slow=1.7,SNR=19
GEYT SKPbc SKPbc 04 35 06.6 -3.3
comp=Z,20nm,0.9s,baz=112,slow=1.6,SNR=10
GEYT Alibeck 133.75 292 PKPdf PKPdf 04 31 43.7 -0.1
NUUG Nuugaatsiaq 134.12 21 eP PKiKP 04 31 44.4 -0.3
SVE Sverdlovsk 134.16 318 ePKIKP PKPdf 04 31 43.4 -0.5
SVE pmax pmax
comp=Z,50nm,1.2s
MBAR Mbarara 134.50 226 PKIKP PKPdf 04 31 45.1 -1.0
MBAR Mbarara 134.50 226 PKPdf 04 31 45.1 -1.0
ARU Arti 135.32 318 i PKiKP PKPdf 04 31 45.6 -0.5
ARU 04 34 19.3
ARU Arti 135.32 318 PKPdf PKPdf 04 31 45.5 -0.6
KBS Kingsbay 135.52 357 c i PKiKP PKiKP 04 31 46.9 -0.6
KBS pmax pmax
comp=Z,97nm,1.3s
KBS Kingsbay 135.52 357 PKPdf 04 31 46.6 +0.7
KBS Kingsbay 135.52 357 i P PKPdf 04 31 45.9 0.0
SPITS Spitsbergen Ar 135.99 355 PKhKP PKPpre 04 31 39.5
comp=Z,10nm,0.9s,baz=96,slow=4.3,SNR=9.4
SPITS PKP PKPdf 04 31 47.5 +0.6
comp=Z,58nm,0.6s,baz=98,slow=6.0,SNR=32
SPITS SKPbc SKPbc 04 35 15.7 -0.1
comp=Z,14nm,0.9s,baz=57,slow=5.3,SNR=3.6
SFJD Kangerlussuaq 136.73 26 SKPbc SKPbc 04 35 18.3 +0.1
baz=318,slow=4.0
DAG Danmarks Havn 137.13 6 i PKiKP PKiKP 04 31 51.1 +0.3
DAG Danmarks Havn 137.13 6 i P PKiKP 04 31 51.1 +0.3
DAG Danmarks Havn 137.13 6 i P PKiKP 04 31 51.1 +0.3
SUMG Summit 137.43 16 ePKIKP PKiKP 04 31 52.7 +0.7
SUMG Summit 137.43 16 i P PKiKP 04 31 52.7 +0.7
SUMG Summit 137.43 16 eP PKiKP 04 31 52.8 +0.7
DBG Daneborg 139.23 8 eP PKiKP 04 31 55.6 +0.5
ICESG Greenland Ices 139.31 21 eP PKiKP 04 31 55.8 0.0
PRGR Permogore 140.74 327 ePKHKP PKPpre 04 31 48.8
PRGR e 04 34 53.9
PRGR pmax pmax
comp=Z,51nm,1.2s
HAMF Hammerfest 141.93 347 ePKPdf PKiKP 04 32 00.3 -0.4
APA Apatity 142.06 340 ⇓i PKiKP PKPdf 04 31 57.1 -1.0
APA pmax pmax
comp=Z,32nm,1.1s
ARCES ARCESS Array B 142.51 346 PKhKP PKPpre 04 31 54.3
comp=Z,12nm,0.4s,baz=47,slow=4.0,SNR=72
TRO Tromso 143.62 349 ePKPdf PKiKP 04 32 03.8 -0.3
KLMR Klimovskoe 143.75 328 ePKIKP PKPab 04 31 57.7 -0.5
KLMR e 04 35 16.3
KLMR pmax pmax
comp=Z,130nm,1.2s
KLMR Klimovskoe 143.75 328 ePKPdf PKPab 04 31 57.7 -0.5
KLMR AMP 04 32 05.7
comp=Z,130nm,1.2s
KLMR ePP PP 04 35 16.4 +1.7
GROC Groznyy 143.82 297 ePKIKP PKPab 04 31 57.9 -1.1
GROC pmax pmax
comp=Z,83nm,0.9s
ZEI Tsey 145.19 297 i PKHKP PKPpre 04 32 00.0
ZEI pmax pmax
comp=Z,157nm,1.4s
STEI Steigen 145.73 350 ePKPdf PKPab 04 32 05.2 -0.1
LOF Lofoten 145.78 351 ePKPdf PKPbc 04 32 05.0 -0.1
GOF Gofitskoye 145.81 301 ⇓i PKP2 PKPdf 04 32 05.1 -0.3
GOF pmax pmax
comp=Z,527nm,1.3s
VRH Novokhopyorsk 145.91 312 ePKIKP PKPdf 04 32 04.1 -1.2
VRH pmax pmax
comp=Z,250nm,0.8s
KBZ Khabaz 145.94 298 PKPbc PKPdf 04 32 05.2 -0.3
comp=Z,58nm,0.9s,baz=256,slow=1.8,SNR=25
KIV Kislovodsk 146.09 299 ⇑P PKPdf 04 32 06.4 +0.4
KIV Kislovodsk 146.09 299 ePKP2 PKPbc 04 32 06.6 -0.4
KIV pmax pmax
comp=Z,199nm,1.1s
KIV Kislovodsk 146.09 299 PKPdf PKPdf 04 32 06.0 0.0
FAUS Fauske 146.23 349 ePKPdf PKPdf 04 32 05.8 +0.5
CHVG Ch'k'valeri 146.53 296 ⇑P PKPbc 04 32 07.7 -0.5

CHVG	Ch'k'valeri	146.53	296	⇑PKP2	PKPbc	04 32 07.7	-0.5	
BATM	Batumi	146.79	294	⇑P	PKPbc	04 32 08.1	-0.9	
BATM	Batumi	146.79	294	⇑PKP2	PKPbc	04 32 08.1	-0.9	
BCA	Borcka	146.84	294	⇑P	PKPdf	04 32 06.8	-0.4	
MOS	Moscow	146.86	321	*i* PKHKP	PKPpre	04 32 03.3		
MOS	comp=Z,269nm,1.3s			pmax	pmax			
MOS	comp=Z,500nm,1.6s			pmax	pmax			
LPSR	Galich'ya Gora	147.23	315	*e*PKIKP	PKPdf	04 32 07.2	-0.3	
LPSR	comp=Z,70nm,0.9s			pmax	pmax			
VORR	Voronezh	147.33	313	*e*PKIKP	PKPdf	04 32 06.0	-1.7	
VORR	comp=Z,350nm,1.0s			pmax	pmax			
KONS	Konsvik	147.37	350	*e*PKPdf	PKPbc	04 32 09.0	-0.8	
BORG	Borgarnes	147.40	17	PKPbc	PKPbc	04 32 09.3	-0.6	
	comp=Z,116nm,1.0s,baz=298,slow=0.7,SNR=23							
BORG	Borgarnes	147.40	17		PKPbc	04 32 10.9	+1.0	
VSR	Storozhevoye	147.47	312	*e*PKIKP	PKPdf	04 32 07.4	-0.5	
VSR	comp=Z,120nm,1.3s			pmax	pmax			
MOR8	Moi Rana	147.48	349	*e*PKPdf	PKPdf	04 32 08.2	+0.7	
STOK	Stokkvaagen	147.54	350	*e*PKPbc	PKPbc	04 32 10.8	+0.6	
OBN	Obninsk	147.66	320⇓	*e*PKIKP	PKPdf	04 32 07.4	-0.7	
OBN				*i*		04 32 12.8		
OBN						04 39 16.0		
OBN	comp=Z,313nm,1.7s			pmax	pmax			
OBN	comp=Z,328nm,1.5s			pmax	pmax			
OBN	Obninsk	147.66	320	PKPdf	PKPdf	04 32 08.8	+0.7	
PUL	Pulkovo	148.18	331*c*	*i* PKP2	PKPbc	04 32 12.5	+0.4	
PUL	comp=Z,677nm,1.3s			pmax	pmax			
KTUT	Trabzon	148.22	293	⇑P	PKPbc	04 32 12.6	-0.3	
SOC	Sochi	148.25	298	*e*PKIKP	PKPdf	04 32 07.8	-1.7	
SOC				*i*		04 32 13.5		
SOC				*e*		04 35 41.2		
SOC				*e*PPP	PPP	04 39 02.3		
SOC				*e*SS	SS	04 54 51.4	+4.1	
SOC				*e*SSS	SSS	05 00 26.6		
SOC	comp=Z,29nm,1.0s			pmax	pmax			
SOC	comp=Z,59nm,0.9s			pmax	pmax			
FINES	FINESS Array B	148.62	336	PKPbc	PKPbc	04 32 11.6	-1.6	
	comp=Z,70nm,0.5s,baz=38,slow=3.3,SNR=213							
FINES	FINESS Array B	148.62	336		PKPdf	04 32 09.5	+0.1	
NSS	Namsos	149.40	350	*e*PKPdf	PKPdf	04 32 11.8	+1.1	
ANN	Anapa	149.80	301	*i* PKHKP	PKPpre	04 32 14.6		
ANN	comp=Z,177nm,1.1s			pmax	pmax			
TBLU	Trondheim	150.85	350	*e*PKPbc	PKPbc	04 32 17.8	-0.8	
SACV	Santiago Islan	150.99	127	PKPdf	PKPdf	04 32 14.0	-0.7	
LIC	Lamto	151.15	170	*e*PKIKP	PKPbc	04 32 21.1	+0.2	
	comp=Z,693nm,0.9s							
KIC	Kosan Boka	151.32	170	*e*PKIKP	PKPbc	04 32 21.3	0.0	
	comp=Z,549nm,0.9s							
TIC	Toumodi	151.56	170	*e*PKIKP	PKPbc	04 32 21.9	0.0	
DBIC	Dimbokro	151.61	170	PKP	PKPdf	04 32 16.1	+0.3	
	comp=Z,12nm,0.8s,baz=162,slow=3.5,SNR=9.3							
DBIC				PKPbc	PKPbc	04 32 22.1	+0.2	
	comp=Z,234nm,1.1s,baz=172,slow=3.1,SNR=54							
DBIC	Dimbokro	151.61	170	PKIKP	PKPdf	04 32 14.9	-0.8	
DBIC	Dimbokro	151.61	170	PKPdf	PKPdf	04 32 14.8	-0.8	
DIKM	Dikmen	151.62	294	⇑P	PKPbc	04 32 19.8	-1.3	
MOL	Molde	151.84	353	*e*PKPbc	PKPbc	04 32 19.8	-1.2	
DOMB	Dombas	152.17	351	*e*PKPdf	PKPbc	04 32 19.5	-2.3	
MICGM	Minsk	152.37	324⇓	*e*P	PKPbc	04 32 22.0	-0.4	
MICGM				PM		04 32 23.0		
MICGM	comp=Z,0.5nm,1.0s			eLR	LR	06 05 50.0		
MICGM				LRM	MLR	06 10 00.0		
MNK	comp=Z,20nm,22.0s Minsk	152.37	324⇓	*e*PKIKP	PKPbc	04 32 22.0	-0.4	
MNK	comp=Z,450nm,1.0s			pmax	pmax			
IZAR	Zarasai	152.39	327	*e*P	PKPbc	04 32 21.6	-0.8	
IDID	Didziasalis	152.43	326	*e*P	PKPbc	04 32 21.3	-1.2	
BZK	Bozkurt	152.53	295	⇑P	PKPbc	04 32 20.8	-2.4	
ISAL	Salakas	152.55	327	*e*P	PKPbc	04 32 21.6	-1.1	
IIGN	Ignalina	152.65	327	*e*P	PKPbc	04 32 21.8	-1.2	
NACGM	Naroch	152.66	325	*e*	PKPab	04 32 30.0	-3.8	
CSS	Mathiatis	152.72	280	PKPdf	PKPdf	04 32 16.6	-0.2	
NB2	NORSAR Subarra	152.81	348	PKP	PKPbc	04 32 22.9	-0.3	
	comp=Z,378nm,1.4s,baz=19,slow=4.0							
NB2	NORSAR Subarra	152.81	348	PKPdf	PKPbc	04 32 22.9	-0.3	
	baz=19,slow=4.0							
NOA	NORSAR Array B	152.81	348	PKP	PKPdf	04 32 15.9	-0.1	
	comp=Z,30nm,1.1s,baz=30,slow=1.8,SNR=25							
NOA				PKPbc	PKiKP	04 32 23.4	0.0	
	comp=Z,65nm,0.7s,baz=20,slow=4.0,SNR=104							
BRTR	Keskin Array B	152.88	290	PKP	PKPdf	04 32 15.6	-1.4	
	comp=Z,12nm,1.1s,baz=149,slow=2.9,SNR=15							
BRTR				PKPbc	PKPbc	04 32 24.0	-0.2	
	comp=Z,63nm,0.8s,baz=134,slow=3.7,SNR=75							
FOO	Floro	153.03	355	*e*PKPdf	PKPdf	04 32 18.7	+2.5	
NC602	NORSAR Array S	153.03	347	*e*PKPdf	PKPbc	04 32 20.4	-3.2	
LEF	Lefka	153.10	280	⇑P	PKPbc	04 32 24.0	-0.7	
HYA	Hoyanger	153.36	353	*e*PKPbc	PKPbc	04 32 24.2	-0.1	
AKASG	Malin Array Be	153.55	316	PKP	PKPdf	04 32 15.9	-1.5	
	comp=Z,26nm,1.1s,baz=54,slow=1.5,SNR=10							
AKASG				PKPbc	PKPbc	04 32 24.2	-0.9	
	comp=Z,28nm,0.6s,baz=56,slow=2.6,SNR=30							
AKASG	Malin Array Be	153.55	316		PKPdf	04 32 15.3	-2.0	
SKAR	Skarslia	153.59	351	*e*PKPdf	PKPdf	04 32 20.6	+3.4	
OSL	Oslo	153.93	348	*e*PKPdf	PKPdf	04 32 20.4	+2.7	
ASK	Askoy	154.12	354	*e*PKPdf	PKPdf	04 32 20.6	+2.7	
BER	Bergen	154.21	354	*e*PKPbc	PKPbc	04 32 24.8	-1.4	
KONO	Kongsberg	154.39	349	PKIKP	PKPdf	04 32 17.9	-0.4	
KONO	Kongsberg	154.39	349	PKPdf	PKPdf	04 32 17.9	-0.4	
KONO	Kongsberg	154.39	349	*e*PKPdf	PKPbc	04 32 22.7	-4.0	
ODD1	Odda	154.54	352	*e*PKPbc	PKiKP	04 32 27.6	+0.5	
SORM	Soroca	155.10	311	⇑P	PKPdf	04 32 17.0	-2.6	
SORM	Soroca	155.10	311	⇑PKIKP	PKPdf	04 32 17.0	-2.6	
HOMB	Homborsund	155.88	349	*e*PKPdf	PKPdf	04 32 23.8	+3.5	
HOMB	Homborsund	155.88	349	*i* P	PKPdf	04 32 20.9	+0.6	
HOMB				*i*		04 32 30.5		
TIRR	Tirgusor	156.20	302	⇑P	PKPdf	04 32 20.2	-1.0	
TIRR	Tirgusor	156.20	302	⇑PKIKP	PKPdf	04 32 20.2	-1.0	
CFR	Carcaliu	156.20	304	⇑P	PKPdf	04 32 20.2	-1.0	
CFR	Carcaliu	156.20	304	⇑PKIKP	PKPdf	04 32 20.2	-1.0	
HARR	Harsova	156.47	303	⇓P	PKPdf	04 32 21.4	-0.2	
HARR	Harsova	156.47	303	⇓PKIKP	PKPdf	04 32 21.4	-0.2	
PRAR	RASCA	156.72	310	⇑P	PKPdf	04 32 22.0	+0.1	
LVV	L'vov	156.90	318	*e*PKIKP	PKPdf	04 32 21.2	-0.8	
VRI	Vrincioaia	156.94	307	⇓P	PKPdf	04 32 24.2	+2.0	
VRI	Vrincioaia	156.94	307	⇓PKIKP	PKPdf	04 32 24.2	+2.0	
BIZ	Bicaz	156.96	310	⇑P	PKPdf	04 32 21.9	-0.3	
PLOR	Plostina	157.00	307	⇑P	PKPdf	04 32 20.9	-1.4	
PLOR	Plostina	157.00	307	⇑PKIKP	PKPdf	04 32 20.9	-1.4	
BSD	Bornholm Skovb	157.23	338	*e*PKIKP	PKPdf	04 32 20.8	-1.4	
BSD	Bornholm Skovb	157.23	338	*i* P	PKPdf	04 32 20.8	-1.4	
BSD	Bornholm Skovb	157.23	338	*e*P	PKPdf	04 32 20.8	-1.4	
BURAR	Bucovina Array	157.25	312	⇑P	PKPdf	04 32 22.5	-0.2	
BURAR	Bucovina Array	157.25	312	⇑PKIKP	PKPdf	04 32 22.5	-0.2	
BURAR	Bucovina Array	157.25	312	PKPdf	PKPdf	04 32 20.1	-2.6	
MUD	Monsted U'grnd	157.49	347	*i* PKIKP	PKPdf	04 32 20.0	-2.5	
MUD	Monsted U'grnd	157.49	347	*i* P	PKPdf	04 32 20.0	-2.5	
MUD	Monsted U'grnd	157.49	347	*i* P	PKPdf	04 32 20.0	-2.5	
MLR	Muntele Rosu	157.58	306	⇑P	PKPdf	04 32 21.7	-1.5	
MLR	Muntele Rosu	157.58	306	⇑PKIKP	PKPdf	04 32 21.7	-1.5	
DOPR	Dopca	157.78	308	⇑P	PKPdf	04 32 26.2	+2.9	
VOIR		158.19	307	⇑P	PKPdf	04 32 25.3	+1.4	
VOIR		158.19	307	⇑PKIKP	PKPdf	04 32 25.3	+1.4	
KOLS	Kolonicke sedl	158.34	317	*e*PKIKP	PKPdf	04 32 22.2	-1.6	
KOLS	Kolonicke sedl	158.34	317	*e*PKP	PKPdf	04 32 22.1	-1.7	
TORD	Torodi Ar. Bea	158.35	185	PKP	PKPdf	04 32 24.5	-0.4	
	comp=Z,13nm,0.9s,baz=6.9,slow=0.2,SNR=12							
TORD	Torodi Ar. Bea	158.35	185	PKPdf	PKPdf	04 32 24.2	-0.7	
ARR	Arges	158.49	307	⇑P	PKPdf	04 32 22.9	-1.3	
COPA	Copaceanca	158.49	303	⇑P	PKPab	04 32 59.0	-0.2	
CJR	Cluj-Napoca	158.63	311	⇑P	PKPab	04 33 01.4	+1.6	
CJR	Cluj-Napoca	158.63	311	⇑PKP2	PKPab	04 33 01.4	+1.6	
CRVS	Cervenica-Dubn	158.81	318	*e*PKIKP	PKPdf	04 32 24.8	+0.4	
CRVS	Cervenica-Dubn	158.81	318	*e*PKP	PKPdf	04 32 24.8	+0.4	
CRVS				*e*		04 33 01.3		
SANT	Santorini	159.24	282	⇑P	PKPdf	04 32 22.6	-2.7	
KOWA	Kowa	159.43	169	PKPdf	PKPdf	04 32 25.5	-0.6	
IDI	Anoyia	159.62	278	⇑P	PKPdf	04 32 25.5	-0.3	
GZR	Gura Zlata	159.69	308	⇑P	PKPdf	04 32 24.6	-1.0	
GZR	Gura Zlata	159.69	308	⇑PKIKP	PKPdf	04 32 24.6	-1.0	
HERR	Herculane	160.13	307	⇑P	PKPdf	04 32 25.3	-0.7	
PSZ	Piszkesteto	160.22	317	⇓P	PKPdf	04 32 24.8	-1.3	
PSZ	Piszkesteto	160.22	317	⇓PKIKP	PKPdf	04 32 24.8	-1.3	
MORC	Moravsky Berou	160.29	325	⇓P	PKPdf	04 32 25.4	-0.7	
MORC	Moravsky Berou	160.29	325	*e*PKP	PKPdf	04 32 24.9	-1.2	
MORC	Moravsky Berou	160.29	325	⇓PKIKP	PKPdf	04 32 25.4	-0.7	
BZS	Buzias	160.34	310	⇑P	PKPdf	04 32 24.6	-1.7	
BZS	Buzias	160.34	310	⇑PKIKP	PKPdf	04 32 24.6	-1.7	
OSTC	Ostas	160.34	328	*e*PKPDF	PKPdf	04 32 25.6	-0.5	
OSTC				*ex*	x	04 32 34.4		
CHVC	Chvalec	160.39	328	*e*PKPDF	PKPdf	04 32 24.4	-1.8	
CHVC				*ex*	x	04 32 36.9		
KRLC	Kraliky	160.44	326	*e*PKPDF	PKPdf	04 32 24.6	-1.7	
KRLC				*ex*	x	04 32 40.7		
KRLC	Kraliky	160.44	326	*e*PKIKP	PKPdf	04 32 24.6	-1.7	
DPC	Dobruska-Polom	160.45	327	*e*PKPDF	PKPdf	04 32 24.6	-1.7	
DPC				*ex*	x	04 32 35.5		
DPC	Dobruska-Polom	160.45	327	*e*PKIKP	PKPdf	04 32 24.6	-1.7	
DPC				*e*		04 32 35.5		
VYHS	Vyhne	160.46	320	*e*PKIKP	PKPdf	04 32 26.0	-0.3	
VYHS	Vyhne	160.46	320	*e*PKP	PKPdf	04 32 26.0	-0.3	
VYHS				*e*		04 33 07.9		
UPC	Upice	160.47	328	*e*PKPDF	PKPdf	04 32 25.8	-0.4	
UPC				*ex*	x	04 32 37.9		
UPC	Upice	160.47	328	*e*PKIKP	PKPdf	04 32 25.8	-0.4	
UPC				*e*		04 32 37.9		
MDVR	Moldovita	160.63	307	⇑P	PKPdf	04 32 25.9	-0.7	
JAVC	Velka Javorina	160.83	322	*e*PKP	PKPdf	04 32 26.2	-0.6	
CLL	Collm	161.04	334⇓	*i*PKPdf	PKPdf	04 32 26.1	-0.7	
CLL	comp=Z,25nm,1.1s			⇑*i*PKPdiff	sPKPdf	04 32 41.7	+0.8	
CLL	comp=Z,74nm,1.6s			*e*PKPab	PKPab	04 33 08.0	-1.9	
CLL	comp=Z,21nm,0.9s			*i*		04 33 22.7		
CLL	comp=Z,76nm,1.6s			*e*		04 42 43.0		
CLL	Collm	161.04	334⇓	*i*PKIKP	PKPdf	04 32 26.1	-0.7	
CLL				*e*		04 33 08.0		
CLL	comp=Z,25nm,1.1s			pmax	pmax			
CLL	comp=Z,74nm,1.6s			pmax	pmax			
CLL	comp=Z,21nm,0.9s			pmax	pmax			
BRG	Berggiesshubel	161.04	332⇓	*i*PKP	PKPdf	04 32 25.6	-1.2	
BRG	comp=Z,70nm,1.6s Berggiesshubel	161.04	332⇓	*i*PKIKP	PKPdf	04 32 25.6	-1.2	
BRG	comp=Z,70nm,1.6s			pmax	pmax			
VRAC	Vranov	161.06	325	⇑P	PKPdf	04 32 26.6	-0.4	
VRAC	Vranov	161.06	325	*e*PKP	PKPdf	04 32 25.6	-1.3	
VRAC	Vranov	161.06	325	⇑PKIKP	PKPdf	04 32 26.6	-0.4	
PVCC	Panska Ves	161.06	330	*e*PKPDF	PKPdf	04 32 26.4	-0.5	
PVCC	Panska Ves	161.06	330	*e*PKIKP	PKPdf	04 32 26.4	-0.5	
KRUC	Moravsky	161.32	325	*e*PKP	PKPdf	04 32 25.5	-1.7	
MODS	Modra-Piesok	161.35	322	*e*PKIKP	PKPdf	04 32 25.9	-1.4	
MODS	Modra-Piesok	161.35	322	*e*PKP	PKPdf	04 32 25.9	-1.4	
GOPC	GO Pecny, Ondr	161.44	329	*e*PKPDF	PKPdf	04 32 27.3	0.0	
GOPC	GO Pecny, Ondr	161.44	329	*e*PKIKP	PKPdf	04 32 27.3	0.0	
ZST	Bratislava	161.55	322	*e*PKIKP	PKPdf	04 32 25.6	-1.9	
ZST	Bratislava	161.55	322	*e*PKP	PKPdf	04 32 25.6	-1.9	
TREC	Trest	161.58	326	*e*PKPDF	PKPdf	04 32 26.1	-1.4	
TREC	Trest	161.58	326	*e*PKIKP	PKPdf	04 32 26.1	-1.4	
PBCC	Pribram	161.94	330	*e*PKPDF	PKPdf	04 32 26.7	-1.1	
PBCC				*ex*	x	04 32 34.2		
NKC	Novy Kostel	162.12	333	*e*PKPDF	PKPdf	04 32 26.6	-1.4	
NKC				*ex*	x	04 32 58.5		
NKC	Novy Kostel	162.12	333	*e*PKIKP	PKPdf	04 32 26.6	-1.4	
CONA	Conrad Observa	162.35	323	*i* P	PKPdf	04 32 26.8	-1.6	
	comp=Z,22nm,1.6s,SNR=7.6							
KHC	Kasperske Hory	162.55	329	*e*PKPDF	PKPdf	04 32 26.9	-1.6	
KHC				*ex*	x	04 32 31.5		
KHC				*ex*	x	04 32 52.0		
KHC				*ex*	x	04 33 14.2		
KHC	Kasperske Hory	162.55	329	*e*PKIKP	PKPdf	04 32 26.9	-1.6	
KHC				*e*		04 32 31.5		
KHC				*e*		04 33 14.2		
GERES	GERESS Array B	162.71	328	PKP	PKPdf	04 32 27.4	-1.3	
	comp=Z,4.7nm,0.9s,baz=132,slow=2.0,SNR=9.3							
GERES	GERESS Array B	162.71	328	PKIKP	PKPdf	04 32 27.0	-1.7	
GERES	GERESS Array B	162.71	328		PKPdf	04 32 27.0	-1.7	
ARSA	Arzberg	162.98	321	*e*P	PKPdf	04 32 27.5	-1.4	
	comp=Z,18nm,1.5s							
PDG	Podgorica	163.16	302	⇑P	PKPdf	04 32 28.2	-1.0	
MOA	Molln	163.19	325	*e*P	PKPdf	04 32 27.3	-1.9	
	comp=Z,12nm,1.2s							
SOKA	Soboth	163.61	321	*i* P	PKPdf	04 32 27.9	-1.8	
	comp=Z,36nm,1.4s,SNR=12							
BTNL	Ternell	163.64	346	PKPdf	PKPdf	04 32 28.0	-1.5	
MEM	Membach	163.64	346	PKPdf	PKPdf	04 32 28.6	-0.8	
OBKA	Obir	163.97	321	*e*P	PKPdf	04 32 28.4	-1.6	
	comp=Z,8.6nm,1.0s							
VNDS	Vrh nad Dolski	164.15	320	*e*PKPdf	PKPdf	04 32 28.7	-1.4	
BMRD	Maredsous	164.16	349	PKPdf	PKPdf	04 32 29.6	-0.3	
KBA	Koelnbreinsper	164.17	325	*i* P	PKPdf	04 32 28.6	-1.7	
	comp=Z,27nm,1.1s,SNR=5.3							
LJU	Ljubljana	164.28	320	*i* PKPdf	PKPdf	04 32 28.8	-1.4	
MYKA	Terra Mystica	164.35	323	*e*P	PKPdf	04 32 28.7	-1.7	
	comp=Z,15nm,1.1s							
ROBS	Robic	164.68	322	*e*PKPdf	PKPdf	04 32 28.6	-1.9	
WATA	Walderalm	164.78	329	*e*P	PKPdf	04 32 28.6	-2.2	
	comp=Z,21nm,1.4s							
ABTA	Abfaltersbach	164.81	325	*i* P	PKPdf	04 32 28.6	-2.2	
	comp=Z,26nm,1.1s,SNR=7.6							
WTTA	Wattenberg	164.81	328	*e*P	PKPdf	04 32 29.5	-1.4	
	comp=Z,25nm,1.3s							
MOTA	Moosalm	164.97	330	*e*P	PKPdf	04 32 29.4	-1.6	
	comp=Z,20nm,1.1s							
RETA	Reutte	165.00	331	*e*P	PKPdf	04 32 29.5	-1.3	
	comp=Z,8.8nm,1.1s							
SQTA	Sankt Quirin	165.03	329	*e*P	PKPdf	04 32 29.5	-1.4	
	comp=Z,18nm,1.4s							
FETA	Feichten	165.39	330	*e*P	PKPdf	04 32 29.9	-1.4	
	comp=Z,23nm,1.0s							
DAVA	Damuels	165.51	332	*e*P	PKPdf	04 32 29.6	-1.8	
	comp=Z,23nm,1.5s							
MATE	Matera	165.56	299	⇑P	PKPdf	04 32 30.0	-1.4	
TIP	Timpagrande	165.91	293	⇑P	PKPdf	04 32 30.6	-1.3	
PGAV	Gavieira, Arco	170.38	40	*i* LQ	LQ	04 32 47.8		
PCAB	Cabril	170.69	40	*i* LQ	LQ	04 32 48.1		
PCAB	Cabril	170.69	40	*e*PKPab	PKPab	04 34 09.3	+16	
PVRL	Vila Real	171.16	41	*e*PKPab	PKPab	04 33 58.8	+3.8	
PBRG	Braganca	171.27	35	*e*PKPab	PKPab	04 34 11.7	+16	
PVIS	Viseu	171.44	44	*e*PKPdf	PKPdf	04 32 38.5	+3.1	
PVIS				*i* LQ	LQ	04 32 48.3		
PVIS	Viseu	171.44	44	*e*PKPab	PKPab	04 34 12.3	+16	
COI	Coimbra	171.45	49	*e*PKPab	PKPab	04 34 08.4	+12	
PSBE	So Bento	171.59	54	*e*PKPab	PKPab	04 34 15.4	+18	
MVO	Moncorvo	171.61	39	*e*PKPdf	PKPdf	04 32 37.3	+1.8	
MVO				*i* LQ	LQ	04 32 48.6		
MVO	Moncorvo	171.61	39	*e*PKPab	PKPab	04 33 59.5	+2.5	
MTE	Manteigas	171.85	45	*i* LQ	LQ	04 32 49.2		
MTE	Manteigas	171.85	45	*e*PKPab	PKPab	04 34 14.4	+16	
PMTG	Montargil	172.19	55	*e*PKPab	PKPab	04 34 15.8	+16	
PCBR	Castelo Branco	172.24	48	*e*PKPdf	PKPdf	04 32 37.5	+1.8	
PCBR				*i* LQ	LQ	04 32 49.3		
PCBR	Castelo Branco	172.24	48	*e*PKPab	PKPab	04 34 15.7	+16	
KEST	Kesra	172.29	279	PKP	PKPdf	04 32 36.9	+0.9	
	comp=Z,12nm,1.0s,baz=292,slow=4.3,SNR=6.2							
PNCL	Nicolau / Gran	172.41	62	*e*PKPdf	PKPdf	04 32 38.0	+2.1	
PNCL	Nicolau / Gran	172.41	62	*e*PKPab	PKPab	04 34 17.4	+17	
PTEO	Sao Teotonio	172.46	66	*e*PKPdf	PKPdf	04 32 38.1	+2.2	
PTEO				*i* LQ	LQ	04 32 49.7		
PTEO	Sao Teotonio	172.46	66	*e*PKPab	PKPab	04 34 18.6	+18	
PFVI	Vila Bisbo	172.50	70	*e*PKPab	PKPab	04 34 18.0	+17	
MORF	Marmelete	172.59	68	*e*PKPdf	PKPdf	04 32 49.8	+14	
MORF	Marmelete	172.59	68	*e*PKPab	PKPab	04 34 17.2	+16	
PBEJ	Beja	172.92	61	*e*PKPdf	PKPdf	04 32 38.6	+2.5	
PBEJ				*i* LQ	LQ	04 32 53.6		
PBEJ	Beja	172.92	61	*e*PKPab	PKPab	04 34 19.5	+17	
PCVE	Castro Verde	172.95	64	*e*PKPdf	PKPdf	04 32 38.4	+2.3	
PCVE				*i* LQ	LQ	04 32 49.9		
PCVE	Castro Verde	172.95	64	*e*PKPab	PKPab	04 34 19.8	+17	
PBDV	Barranco-do-Ve	173.16	67	*e*PKPdf	PKPdf	04 32 37.6	+1.3	
PBDV				*i* LQ	LQ	04 32 50.3		
PVAQ	Vaqueiros	173.26	65	*e*PKPab	PKPab	04 34 18.5	+14	
PAB	San Pablo	174.17	35	PKIKP	PKPdf	04 32 36.6	0.0	
PAB	San Pablo	174.17	35		PKPdf	04 32 36.6	0.0	
ESDC	Sonseca Array	174.24	32	PKP	PKPdf	04 32 37.3	+0.7	
	comp=Z,17nm,1.2s,baz=344,slow=2.3,SNR=14							
ESDC				PKPab	PKPab	04 34 10.2	+1.5	
	comp=Z,15nm,1.1s,baz=324,slow=4.4,SNR=7.4							
ESDC	Sonseca Array	174.24	32		PKPdf	04 32 36.6	0.0	
ESDC				PKPab	PKPab	04 34 08.4	-0.3	

INET ***14*** *04:14:32.3, 11°.22N×87°.11W, h15km, ML4.4*
NEIC ***14*** *04:14:34.6±1.4, 11°.41N±0°.03×86°.90W±0°.07, h35km±2km, mb4.3/14, Error ellipse: s-maj=11.4km s-min=3.6km az=70.0*
UCR ***14*** *04:14:35.6±1.9, 11°.81N×86°.62W, h7km, ML3.8, MW4.4, mb4.3(NEIC)*
IDC ***14*** *04:14:37.4±2.8, 12°.07N×86°.19W, h38km±26km, mb3.8/9, mb1 4.0/11, mb1mx3.7/52, mbtmp3.9/11, ML3.2/2, Error ellipse: s-maj=45.2km s-min=16.1km az=52.0*
SNET ***14*** *04:14:39.9±0.8, 12°.20N×86°.57W, h14km±999km, ML3.9*

ISC 14 04:14:36.9±0.6, 11°.9N±0°.1×86°.5W±0°.1, h35km, n74, σ1s77/73, mb4.2/16, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.94	327	Pn	Pn		Pn	04 14 56.5	+2.8
MATN	Matagalpa	1.18	30	Pn	Pn		Pn	04 15 03.0	+5.9
ACON	Acoyapa	1.33	87	Pn	Pn		Pn	04 15 02.8	+3.8
GBS3	Finca Las Img	1.53	137	*e*P	Pn		Pn	04 15 01.7	-0.1
GB1A	Borinquen Arri	1.54	134	*e*P	Pn		Pn	04 15 01.8	-0.2
GB1A				*e*S	Sn		Sn	04 15 24.6	+3.7
BUAI	Buenos Aires	1.55	131	*e*P	Pn		Pn	04 15 03.8	+1.6
BUEV	Buena Vista	1.55	135	*e*P	Pn		Pn	04 15 01.7	-0.5
LAPC	Finca la Perla	1.56	136	*e*P	Pn		Pn	04 15 01.8	-0.4
GUAB	Guayabo de Bag	1.74	133	*e*P	Pn		Pn	04 15 05.3	+0.6
COLC	Colonia	1.79	133	*e*P	Pn		Pn	04 15 06.6	+1.3
ORTG	Ortega, Santa	1.85	145⇓	*e*P	Pn		Pn	04 15 07.8	+1.5
CNCH	Conchagua	1.87	317	*e*P	Pn		Pn	04 15 08.3	+1.8
CNCH					IAML			04 15 44.5	
	comp=Z,1μm,0.7s								
CNCH	Conchagua	1.87	317	*e*P	Pn		Pn	04 15 08.3	+1.8
CNCH					IAML			04 15 44.5	
	comp=Z,1μm,0.7s								
GUAI	GUAI	1.90	148	*e*P	Pn		Pn	04 15 07.4	+0.5
PTEN	Parque Tenorio	1.92	128	*e*P	Pn		Pn	04 15 08.2	+1.0
PLVR	Palo Verde	1.93	143	*e*P	Pn		Pn

PUZ			S	Sn	04 26 45.1	+0.4
RUGZ	**Raukumara Rang**	**3.73 220**	P	Pn	04 26 06.8	0.0
TWGZ	**Tauwhareparae**	**3.75 215**	P	Pn	04 26 07.4	+0.4
TWGZ			S	Sn	04 26 51.7	+1.7
CNGZ	**Carnagh Statio**	**3.90 210**	P	Pn	04 26 10.1	+1.0
MWZ	**Matawai**	**4.09 217**	P	Pn	04 26 11.2	-0.5
MWZ			S	Sn	04 26 58.4	0.0
URZ	**Urewera**	**4.25 222**	P	Pn	04 26 13.3	-0.5
RAGZ	**Rawiri**	**4.27 217**	P	Pn	04 26 14.0	-0.2
RIGZ	**Rimuhau**	**4.28 212**	P	Pn	04 26 13.9	-0.4
PRGZ	**Paritu Road**	**4.41 210**	P	Pn	04 26 16.0	-0.1
SNGZ	**Shannon Statio**	**4.53 215**	P	Pn	04 26 18.4	+0.7
KNZ	**Kokohu**	**4.58 211**	P	Pn	04 26 17.6	-0.7
RTZ	**Ruatahuna**	**4.58 219**	P	Pn	04 26 18.3	-0.2
MUGZ	**Murupara**	**4.59 222**	P	Pn	04 26 17.5	-1.1
KMRZ	**Kaimai**	**4.69 233**	P	Pn	04 26 19.5	-0.5
WHHZ	**Waihua**	**4.82 214**	P	Pn	04 26 22.1	+0.5
MTHZ	**Maungataniwha**	**4.83 218**	P	Pn	04 26 22.1	+0.2
TOZ	**Tahuroa Road**	**4.93 237**	P	Pn	04 26 23.4	+0.3
NMHZ	**Naumai**	**5.04 217**	P	Pn	04 26 24.8	+0.1
ARHZ	**Aropaoanui**	**5.08 214**	P	Pn	04 26 24.9	-0.3
KAHZ	**Kahuranaki**	**5.56 212**	P	Pn	04 26 29.9	-2.1
KAHZ			S	Sn	04 27 33.4	-1.3
TMVZ	**Te Maari**	**5.63 224**	P	Pn	04 26 34.5	+1.5
ETVZ	**East Tongariro**	**5.64 223**	P	Pn	04 26 32.7	-0.4
BHHZ	**Black Hill Sta**	**5.71 219**	P	Pn	04 26 34.4	+0.4

*INET **14** 04:36:05.7, 12°.04N×88°.02W, h16km, ML4.1*
SNET 14 04:36:07.7±1.2, 12°.45N×88°.27W, h11km±53km, ML3.4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.92**	**341**	*eP*	Pg	04 36 25.2	-0.4
ALJI				*eS*	Sg	04 36 37.7	+0.1
ALJI				IAML		04 36 39.3	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.93**	**23**	*eS*	Sg	04 36 37.9	-0.1
LCND				IAML		04 36 44.6	
	comp=Z,1μm,0.4s						
LCY	**Lacayo**	**0.97**	**358**	*eP*	Pg	04 36 26.0	-0.5
RANC	**El Ranchito**	**0.98**	**359**	*eP*	Pg	04 36 25.9	-0.8
RANC				IAML		04 36 49.2	
	comp=Z,1μm,0.2s						
BLLM	**Bellamira**	**0.99**	**2**	*eP*	Pg	04 36 25.8	-1.1
CNRM	**Centro Naciona**	**1.03**	**5**	*eS*	Sn	04 36 42.3	-0.2
COEB	**Comit de Eme**	**1.08**	**346**	*eP*	Pb	04 36 27.2	-1.2
COEB				*eS*	Sg	04 36 42.2	-0.3
COEB				IAML		04 36 47.3	
	comp=Z,1μm,0.3s						
LFRS	**El Faro**	**1.40**	**327**	*eP*	Pn	04 36 31.8	-1.5
LFRS				*eS*	Sn	04 36 51.8	-0.1
LBRS	**Las Brisas**	**1.49**	**330**	*eP*	Pn	04 36 34.2	-0.3
AEIL	**Aeropuerto Ilo**	**1.49**	**326**	*eS*	Sg	04 36 55.3	-0.5
IGN	**Direccin Gen**	**1.54**	**325**	*eS*	Sb	04 36 55.6	-0.1
OPAM	**Oficina de Pla**	**1.55**	**324**	*eS*	Sb	04 36 56.5	+0.4

*INET **14** 04:47:59.8, 12°.32N×88°.23W, h8km, ML3.6*
SNET 14 04:48:02.8±1.0, 12°.53N×88°.37W, h14km±999km, ML3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.90**	**5**	*eP*	Pg	04 48 19.8	-0.4
VSM	**San Miguel**	**0.90**	**6**	*eP*	Pg	04 48 20.2	-0.1
CNCH	**Conchagua**	**0.91**	**35**	*eP*	Pb	04 48 18.9	-1.5
BLLM	**Bellamira**	**0.92**	**8**	*eP*	Pb	04 48 20.0	-0.6
TECA	**Tecapa**	**0.97**	**352**	*i P*	Pb	04 48 21.1	-0.5
LFRS	**El Faro**	**1.28**	**328**	*eP*	Pn	04 48 25.4	-1.0
LFRS				*eS*	Sb	04 48 43.3	+0.1
LBRS	**Las Brisas**	**1.37**	**332**	*eP*	Pn	04 48 27.5	-0.2
LFU	**La Fuente**	**1.42**	**329**	*eP*	Pn	04 48 27.6	-0.6
SNET	**Serv Nac Est T**	**1.43**	**324**	IAML		04 48 48.4	
	comp=N,636nm,0.5s						

*INET **14** 04:49:33.7, 12°.81N×87°.62W, h143km, ML3.8*
SNET 14 04:49:34.8±1.2, 12°.57N×88°.19W, h94km±37km, ML3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.78**	**26**	*eP*	Pn	04 49 52.3	-0.3
LCND	**La Caada**	**0.79**	**22**	*eP*	Pn	04 49 52.5	0.0
LCND				*eS*	Sn	04 50 06.1	+0.3
LCND				IAML		04 50 10.8	
	comp=Z,764nm,0.4s						
ALJI	**Alcalda de J**	**0.84**	**334**	*eS*	Sn	04 50 07.2	+0.5
LCY	**Lacayo**	**0.85**	**353**	*eP*	Pn	04 49 53.7	+0.4
RANC	**El Ranchito**	**0.86**	**353**	*eS*	Sn	04 50 09.4	+1.9
RANC				IAML		04 50 10.4	
	comp=Z,1μm,0.2s						
BLLM	**Bellamira**	**0.87**	**357**	*eP*	Pn	04 49 54.1	+0.6
TECA	**Tecapa**	**0.97**	**342**	*eP*	Pn	04 49 55.4	+0.8
LFRS	**El Faro**	**1.35**	**321**	*eP*	Pn	04 49 59.9	+0.9
LFRS				*eS*	Sn	04 50 18.0	+0.7
LBRS	**Las Brisas**	**1.43**	**324**	*eP*	Pn	04 49 59.7	-0.2

*TUL **14** 04:55:44.8±0.6, 36°.52N±0°.02×98°.47W±0°.02, h4km±6km, ML3.3, Error ellipse: s-maj=2.7km s-min=2.1km az=100.0*
*ANF **14** 04:55:45.4±0.9, 36°.50N×98°.47W, h5km, ML4.2/7, Error ellipse: s-maj=11.8km s-min=8.4km az=89.0*
*NEIC **14** 04:55:45.4±0.9, 36°.51N±0°.02×98°.45W±0°.03, h8km±1km, Error ellipse: s-maj=3.2km s-min=2.3km az=98.0*
ISC 14 04:55:45.2±1.2, 36°.51N±0°.02×98°.46W±0°.03, h4km±10km, n40, σ0°.49/59, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.39**	**90**		**Pg**	**04 55 52.9**	**+0.3**
CROK				Sg	**Sg**	**04 55 58.6**	**+1.0**
U32A	**Winter Ranch,**	**0.45**	**254**		**Pg**	**04 55 53.8**	**-0.1**
U32A				Sg	**Sg**	**04 56 00.6**	**+0.8**
KAN14	**Manchester OK**	**0.60**	**42**		**Pg**	**04 55 56.7**	**-0.1**
KAN14				Sg	**Sg**	**04 56 05.2**	**+0.6**
KAN10	**Anthony SW Sta**	**0.68**	**25**		**Pg**	**04 55 58.0**	**-0.3**
KAN10				Sg	**Sg**	**04 56 07.5**	**+0.4**
KAN05	**Bluff City Nor**	**0.77**	**38**		**Pg**	**04 55 59.3**	**-0.6**
KAN05				Sg	**Sg**	**04 56 10.1**	**+0.3**
KAN08	**Anthony NE Sta**	**0.82**	**29**		**Pg**	**04 56 00.5**	**-0.4**
KAN08				Sg	**Sg**	**04 56 11.6**	**+0.1**
KAN12	**Harper NE Stat**	**0.87**	**25**		**Pg**	**04 56 01.1**	**-0.8**
KAN12				Sg	**Sg**	**04 56 13.2**	**0.0**
KAN09	**Caldwell North**	**0.92**	**47**		**Pg**	**04 56 02.6**	**-0.3**
KAN09				Sg	**Sg**	**04 56 14.9**	**+0.1**
KAN13	**South Haven SW**	**0.94**	**57**		**Pg**	**04 56 02.7**	**-0.5**
KAN13				Sg	**Sg**	**04 56 15.3**	**0.0**
OK029	**Liberty Lake**	**1.08**	**131**		**Pg**	**04 56 05.4**	**-0.5**
OK029				Sg	**Sg**	**04 56 20.3**	**+0.4**
BCOK	**Bluff Creek, N**	**1.09**	**141**		**Pg**	**04 56 05.6**	**-0.6**
BCOK				Sg	**Sg**	**04 56 20.4**	**+0.1**
OK025	**Westminster Rd**	**1.30**	**135**		**Pn**	**04 56 09.1**	**-1.0**
OK025				Sn	**Sg**	**04 56 27.1**	**+0.2**
OKCFA	**Oklahoma City**	**1.36**	**143**		**Pn**	**04 56 10.2**	**-0.9**
OKCFA				Sg	**Sb**	**04 56 28.9**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.38**	**143**		**Pn**	**04 56 10.4**	**-0.8**
OKCSW					**Sb**	**04 56 29.5**	**0.0**
QUOK	**Quay**	**1.46**	**103**		**Pn**	**04 56 11.8**	**0.4**
QUOK				Sn	**Sb**	**04 56 31.7**	**0.0**
FNO	**Franklin**	**1.52**	**145**		**Pn**	**04 56 13.1**	**0.0**
T35A	**Sooner Cattle**	**1.62**	**75**		**Pn**	**04 56 14.3**	**-0.2**
WMOK	**Wichita Mounta**	**1.78**	**188**	P	**Pn**	**04 56 16.8**	**-0.1**
	baz=7.9						
WMOK				S	**Sb**	**04 56 41.0**	**-0.3**
	baz=7.9						
WMOK	**Wichita Mounta**	**1.78**	**188**	Pn	**Pn**	**04 56 16.5**	**-0.3**
W35A	**Tecumseh**	**1.87**	**136**	Pn	**Pn**	**04 56 18.0**	**+0.1**
R32A	**Long Quarter,**	**1.92**	**354**	Pn	**Pn**	**04 56 18.1**	**-0.6**
TUL1	**Leonard**	**2.24**	**105**	P	**Pn**	**04 56 23.3**	**+0.2**
	baz=286						
TUL1				S	**Sn**	**04 56 51.8**	**+0.6**
	baz=286						
TUL1	**Leonard**	**2.24**	**105**		**Pn**	**04 56 22.7**	**-0.4**
CBKS	**Cedar Bluff**	**2.52**	**337**	P	**Pn**	**04 56 27.6**	**+0.7**
	baz=156						
CBKS				S	**Sn**	**04 56 59.0**	**+0.9**
	baz=156						
CBKS	**Cedar Bluff**	**2.52**	**337**	Pn	**Pn**	**04 56 26.2**	**-0.7**
KSU1	**Kansas State U**	**2.98**	**29**	P	**Pn**	**04 56 33.4**	**+0.2**
	baz=210						
KSU1				S	**Sn**	**04 57 09.9**	**+0.5**
	baz=210						
X37A	**Clayton**	**3.16**	**126**	Pn	**Pn**	**04 56 35.5**	**-0.2**
U38A	**Gravette**	**3.29**	**90**	Pn	**Pn**	**04 56 38.0**	**+0.5**
Z35A	**Perchaven, San**	**3.32**	**162**	Pn	**Pn**	**04 56 37.7**	**-0.3**
HHAR	**Hobbs**	**3.66**	**92**		**Pn**	**04 56 42.2**	**-0.3**
ABTX	**Abilene, Hawle**	**3.99**	**194**	P	**Pn**	**04 56 47.0**	**-0.3**
	baz=14						
W39A	**Magazine**	**4.02**	**108**	P	**Pn**	**04 56 48.2**	**+0.7**
	baz=291						
KSCO	**Kaye Shedlock'**	**4.14**	**308**	P	**Pn**	**04 56 49.0**	**-0.4**
	baz=126						
KSCO	**Kaye Shedlock'**	**4.14**	**308**	Pn	**Pn**	**04 56 48.6**	**-0.7**
S39A	**Bolivar**	**4.28**	**72**		**Pn**	**04 56 50.7**	**-0.4**
U40A	**Yellville**	**4.53**	**90**	Pn	**Pn**	**04 56 54.2**	**-0.3**
WHTX	**Lake Whitney,**	**4.58**	**169**	Pn	**Pn**	**04 56 55.0**	**-0.3**
BGNE	**Belgrade**	**4.90**	**3**	Pn	**Pn**	**04 56 59.0**	**-0.6**
MGMO	**Mountain Grove**	**5.01**	**81**	Pn	**Pn**	**04 57 00.8**	**-0.4**
R40A	**Maddies Statio**	**5.24**	**68**	Pn	**Pn**	**04 57 03.8**	**-0.6**

*IDC **14** 05:01:16.7±3.1, 53°.55N×87°.88E, h0km, mb1 3.2/2, mb1mx3.0/44, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=33.1km s-min=18.1km az=84.0*
*NNC **14** 05:01:18.0±3.0, 53°.40N×87°.65E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=25.7km s-min=12.8km az=60.0, Suspected Mining explosion.*
ISC 14 05:01:17.3±3.3, 53°.6N±0°.1×87°.7E±0°.2, h0km, n7, σ1°.63/11, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**284**	*i*		05 14 30.0	
	baz=98,slow=340,SNR=1.5						
ZAA0	**Zalesovo Array**	**1.75**	**284**	⇑P	**Pn**	**05 01 49.0**	**+0.1**
	1.2nm,0.7s						
ZAA0				⇓S	**Sb**	**05 02 13.9**	**+1.1**
	7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**1.75**	**284**	Pn	**Pb**	**05 01 49.2**	**-1.1**
	5.4nm,0.3s,baz=102,slow=14,SNR=54						
ZALV				Sn	**Sg**	**05 02 14.2**	**+0.7**
	1.3nm,0.3s,baz=101,slow=16,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.37**	**246**	Pn	**Pn**	**05 02 54.0**	**+1.8**
	0.1nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Lg	Lg	05 04 39.4	
	0.1nm,0.3s,baz=62,slow=32,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.37**	**246**	⇓Pn	**Pn**	**05 02 53.6**	**+1.4**
	4.3nm,0.7s						
KURBB				⇑Sn	**Sn**	**05 04 03.8**	**-1.8**
	4.7nm,0.8s						
KURBB				⇓Lg	Lg	05 04 39.2	
	14nm,0.8s						
MK31	**Makanchi Array**	**7.61**	**209**	⇑Pn	**Pn**	**05 03 10.1**	**+0.7**
	0.4nm,0.6s,baz=28,slow=13,SNR=12						
MK31				⇓Sn	**Sn**	**05 04 33.4**	**-2.8**
	2.9nm,1.1s,baz=31,slow=25,SNR=4.2						
MK31				⇓Lg	Lg	05 05 14.9	
	5.5nm,1.0s,baz=254,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**7.61**	**209**	Pn	**Pn**	**05 03 10.5**	**+1.1**
	0.2nm,0.3s,baz=26,slow=13,SNR=9.1						
MKAR				Sn	**Sn**	**05 04 36.9**	**+0.6**
	0.1nm,0.3s,baz=31,slow=25,SNR=6.3						
MKAR				Lg	Lg	05 05 17.4	
	0.1nm,0.3s,baz=41,slow=33,SNR=6.0						

*INET **14** 05:04:20.8, 12°.19N×88°.11W, h15km, ML3.6*
SNET 14 05:04:20.6±0.8, 12°.37N×88°.32W, h13km±12km, ML3.7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.98**	**345**	*eS*	Sg	05 04 52.5	0.0
LCND	**La Caada**	**1.02**	**24**	*eP*	Pb	05 04 38.9	-1.3
LCND				*eS*	Sb	05 04 52.8	-0.7
BLLM	**Bellamira**	**1.07**	**4**	*eP*	Pb	05 04 40.2	-0.8
TECA	**Tecapa**	**1.14**	**351**	*eP*	Pb	05 04 41.4	-0.8
COEB	**Comit de Eme**	**1.14**	**349**	*eP*	Pb	05 04 41.4	-0.9
COEB				*eS*	Sb	05 04 57.1	0.0
LFRS	**El Faro**	**1.44**	**330**	*eP*	Pn	05 04 45.7	-0.9
LFRS				*eS*	Sb	05 05 05.8	+0.1
LBRS	**Las Brisas**	**1.54**	**333**	*eP*	Pn	05 04 47.5	-0.3
OPAM	**Oficina de Pla**	**1.59**	**327**	IAML		05 05 56.9	
	comp=Z,997nm,0.2s						

WEL 14 05:07:05.8, 39°S±2°×17°5E±°, h124km±2km, M2.4/26, MLv2.4/26, Error ellipse: s-maj=0.0km s-min=0.0km az=27.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.18**	**180**	P	Pn	05 07 22.8	-0.1
KATZ	**Kakaramea**	**0.22**	**114**	P	Pn	05 07 23.2	+0.2
WTVZ	**West Tongariro**	**0.26**	**152**	P	Pn	05 07 23.2	0.0
WTVZ				S	Sn	05 07 36.2	-0.1
KRVZ	**Karewarewa**	**0.26**	**142**	P	Pn	05 07 23.1	0.0
KRVZ				S	Sn	05 07 35.7	-0.6
RATZ	**Rangitukua**	**0.26**	**86**	P	Pn	05 07 22.9	-0.1
WATZ	**Wairara**	**0.29**	**53**	P	Pn	05 07 23.4	+0.2
NGZ	**Ngauruhoe**	**0.32**	**156**	P	Pn	05 07 23.4	0.0
NGZ				S	Sn	05 07 36.9	+0.1
OTVZ	**Oturere**	**0.33**	**147**	P	Pn	05 07 23.9	+0.4
OTVZ				S	Sn	05 07 37.1	+0.3
FWVZ	**Far West T-bar**	**0.38**	**166**	P	Pn	05 07 23.7	0.0
PKVZ	**Pokaka**	**0.41**	**190**	P	Pn	05 07 23.7	0.0
PKVZ				S	Sn	05 07 37.4	+0.1
TUVZ	**Tukino**	**0.42**	**156**	P	Pn	05 07 24.0	+0.1
WNVZ	**Wahianoa**	**0.46**	**164**	P	Pn	05 07 24.2	+0.1
WHTZ	**Whakaora**	**0.46**	**62**	P	Pn	05 07 25.3	+1.3
MTVZ	**Mangateitei**	**0.50**	**177**	P	Pn	05 07 24.3	+0.1
KUTZ	**Kaahu Road**	**0.50**	**38**	P	Pn	05 07 24.5	+0.4
MOVZ	**Moawhango**	**0.57**	**155**	P	Pn	05 07 24.3	-0.3
MOVZ				S	Sn	05 07 38.5	-0.5
VRZ	**Vera Road**	**0.58**	**246**	P	Pn	05 07 24.7	+0.1
HIZ	**Hauiti**	**0.59**	**309**	P	Pn	05 07 24.7	0.0
HIZ				S	Sn	05 07 39.1	+0.2
MRHZ	**Matea Rd**	**0.77**	**86**	P	Pn	05 07 25.8	-0.2
BHHZ	**Black Hill Sta**	**0.78**	**141**	P	Pn	05 07 25.8	-0.4
BKZ	**Black Stump Fm**	**0.87**	**109**	P	Pn	05 07 26.6	-0.3
KWHZ	**Kaweka Forest**	**0.94**	**125**	P	Pn	05 07 28.7	+1.2
LREZ	**Lake Rotokare**	**0.99**	**234**	P	Pn	05 07 30.4	+2.5
KRHZ	**Kereru**	**1.05**	**136**	P	Pn	05 07 29.2	+0.6
NMHZ	**Naumai**	**1.09**	**102**	P	Pn	05 07 31.5	+2.5
MTHZ	**Maungataniwha**	**1.10**	**89**	P	Pn	05 07 29.3	+0.2
NEZ	**North Egmont**	**1.11**	**249**	P	Pn	05 07 29.9	+0.6
MUGZ	**Murupara**	**1.12**	**69**	P	Pn	05 07 29.4	+0.1
MCHZ	**McNeill Hill**	**1.13**	**120**	P	Pn	05 07 30.8	+1.5
TOZ	**Tahuroa Road**	**1.16**	**3**	P	Pn	05 07 30.0	+0.3
PKE	**Pukeiti**	**1.17**	**254**	P	Pn	05 07 30.2	+0.4
PNHZ	**Pukenui**	**1.18**	**150**	P	Pn	05 07 30.2	+0.3
TSZ	**Takapari Road**	**1.24**	**161**	P	Pn	05 07 31.0	+0.4
ARHZ	**Aropaoanui**	**1.27**	**108**	P	Pn	05 07 31.9	+1.1
WPHZ	**Waipukurau**	**1.41**	**147**	P	Pn	05 07 32.7	+0.3
KAHZ	**Kahuranaki**	**1.44**	**130**	P	Pn	05 07 33.3	+0.6
URZ	**Urewera**	**1.46**	**65**	P	Pn	05 07 33.6	+0.7
CKHZ	**Cape Kidnapper**	**1.49**	**122**	P	Pn	05 07 34.0	+0.7
DVHZ	**Dannevirke**	**1.52**	**158**	P	Pn	05 07 33.5	-0.1
PXZ	**Pawanui**	**1.59**	**136**	P	Pn	05 07 34.6	+0.2
PRHZ	**Porangahau**	**1.66**	**146**	P	Pn	05 07 35.5	+0.3
PRWZ	**Pori Road**	**1.72**	**166**	P	Pn	05 07 36.0	+0.1
MWZ	**Matawai**	**1.73**	**72**	P	Pn	05 07 37.6	+1.5
ANWZ	**Angora Road**	**1.76**	**153**	P	Pn	05 07 36.6	+0.2
MRZ	**Mangatainoka R**	**1.78**	**176**	P	Pn	05 07 36.3	-0.4
BFZ	**Birch Farm**	**1.90**	**161**	P	Pn	05 07 37.8	-0.3
PRGZ	**Paritu Road**	**1.91**	**92**	P	Pn	05 07 38.4	+0.1
TIWZ	**Tintock**	**1.92**	**170**	P	Pn	05 07 38.0	-0.4
OGWZ	**Otaki Gorge**	**1.94**	**186**	P	Pn	05 07 38.3	-0.3
RUGZ	**Raukumara Rang**	**1.99**	**63**	P	Pn	05 07 40.2	+0.8
HOWZ	**Holdsworth Sta**	**2.01**	**178**	P	Pn	05 07 38.8	-0.7
KIW	**Kapiti Island**	**2.01**	**191**	P	Pn	05 07 38.8	-0.8
KUZ	**Kuaotunu**	**2.15**	**6**	P	Pn	05 07 41.5	+0.3
CAW	**Cannon Point**	**2.24**	**187**	P	Pn	05 07 41.5	-0.8
DUWZ	**D'Urville Isla**	**2.24**	**211**	P	Pn	05 07 41.7	-0.7
TMWZ	**Te Maipa**	**2.25**	**171**	P	Pn	05 07 41.6	-0.9
PKGZ	**Pakihiroa**	**2.30**	**65**	P	Pn	05 07 43.5	+0.3
TCW	**Tory Channel**	**2.49**	**201**	P	Pn	05 07 44.4	-1.1
PAWZ	**Paruwai Farm**	**2.49**	**180**	P	Pn	05 07 44.2	-1.4
TRWZ	**Traveller**	**2.52**	**176**	P	Pn	05 07 44.6	-1.3
MSWZ	**Moikau Station**	**2.53**	**183**	P	Pn	05 07 44.7	-1.4
BHW	**Baring Head**	**2.56**	**190**	P	Pn	05 07 44.9	-1.5
PLWZ	**Palliser**	**2.68**	**183**	P	Pn	05 07 46.4	-1.6
TUWZ	**Tuamarina**	**2.79**	**204**	P	Pn	05 07 48.0	-1.4
NNZ	**Nelson**	**2.81**	**213**	P	Pn	05 07 48.6	-1.0
QRZ	**Quartz Range**	**2.96**	**228**	P	Pn	05 07 50.4	-1.2
BSWZ	**Blackbirch Sta**	**3.07**	**202**	P	Pn	05 07 51.7	-1.3
KHZ	**Kahutara**	**3.81**	**202**	P	Pn	05 08 00.8	-1.9
DSZ	**Denniston Nort**	**3.98**	**223**	P	Pn	05 08 02.8	-2.3
GVZ	**Greta Valley S**	**4.46**	**203**	P	Pn	05 08 09.0	-2.5
MHCZ	**Mount Hutt**	**5.48**	**211**	P	Pn	05 08 22.0	-3.1
ARCZ	**Arundel**	**5.98**	**211**	P	Pn	05 08 28.9	-3.0
ODZ	**Otahua Downs**	**7.11**	**209**	P	Pn	05 08 43.5	-3.6

*IDC **14** 05:08:39.0±1.6, 6°.83N×93°.21E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/33, mbtmp3.7/7, ML4.4/1, Error ellipse: s-maj=61.0km s-min=20.9km az=61.0*
ISC 14 05:08:43.2±1.5, 6°.8N±0°.2×93°.2E±0°.3, h27km, n10, σ1°.37/7, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.83**	**25**	Pn	**Pn**	**05 11 44.4**	**+0.4**
	0.7nm,0.3s,baz=214,slow=14,SNR=3.9						
H08S3	**Diego Garcia H**	**25.19**	**236**	T	T	05 41 08.5	
	baz=55,slow=75,SNR=23						
H08S2	**Diego Garcia H**	**25.19**	**236**	T	T	05 41 04.8	
	baz=55,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**25.20**	**236**	T	T	05 41 06.0	
	baz=55,slow=75,SNR=12						
MKAR	**Makanchi Array**	**40.92**	**349**	P	**P**	**05 16 22.4**	**-0.9**
	1.0nm,0.7s,baz=164,slow=7.6,SNR=8.0						
SONM	**Songino Array**	**42.38**	**13**	P	**P**	**05 16 35.8**	**+0.5**
	0.5nm,0.4s,baz=190,slow=7.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**47.48**	**353**	P	**P**	**05 17 14.1**	**-1.6**
	1.1nm,0.5s,baz=157,slow=7.7,SNR=5.8						
WRA	**Warramunga Arr**	**48.41**	**124**	P	**P**	**05 17 22.1**	**-1.3**
	0.1nm,0.3s,baz=307,slow=8.3,SNR=3.8						
ASAR	**Alice Springs**	**49.95**	**129**	P	**P**	**05 17 36.4**	**+1.1**
	0.5nm,0.7s,baz=309,slow=5.9,SNR=6.3						
FINES	**FINESS Array B**	**73.21**	**332**	P	**P**	**05 20 12.6**	**+1.0**
	1.0nm,0.7s,baz=111,slow=7.7,SNR=3.0						

*IDC **14** 05:09:43.1±10.0, 16°.88S×179°.25W, h487km±119km, mb3.0/6, mb1 3.3/6, mb1mx3.1/26, mbtmp3.9/6, Error ellipse: s-maj=91.5km s-min=37.6km az=157.0*
ISC 14 05:09:44.0±1.5, 16°.9S±0°.6×179°.3W±0°.4, h500km, n8, σ0°.47/8, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.40**	**240**	P	**P**	**05 16 21.9**	**-0.1**
	0.9nm,0.3s,baz=37,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**44.00**	**259**	P	**P**	**05 17 07.0**	**+0.2**
	0.3nm,0.6s,baz=96,slow=6.7,SNR=7.7						
ASAR	**Alice Springs**	**44.27**	**253**	P	**P**	**05 17 09.0**	**+0.1**
	4.1nm,0.5s,baz=89,slow=8.1,SNR=60						
ILAR	**Eielson Array**	**85.08**	**13**	P	**P**	**05 21 26.4**	**+0.3**
	0.4nm,0.4s,baz=221,slow=5.4,SNR=9.0						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**05 21 32.8**	**+0.6**
	0.4nm,0.7s,baz=207,slow=6.5,SNR=6.0						
PDAR	**Pinedale Array**	**87.19**	**44**	P	**P**	**05 21 36.3**	**-0.7**
	0.2nm,0.3s,baz=130,slow=2.3,SNR=4.1						
BRTR	**Keskin Array B**	**143.46**	**315**	PKP	**PKPdf**	**05 28 21.5**	**-0.2**
	0.7nm,0.4s,baz=129,slow=4.6,SNR=2.5						
GERES	**GERESS Array B**	**146.40**	**344**	PKPbc	**PKPbc**	**05 28 28.3**	**-0.3**
	1.2nm,0.7s,baz=48,slow=2.0,SNR=5.0						

IDC 14 05:17:05.7±1.9, 5°.96S×130°.48E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.7/22, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=130.8km s-min=27.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**165**	Pn	Pn	05 20 32.8	+1.7
	0.5nm,0.3s,baz=348,slow=13,SNR=25						
WRA				Sn	Sn	05

ARCZ	Arundel	0.83	246	P		Pn	05 58 47.2	-0.2
LTZ	Lake Taylor	0.83	2	P		Pn	05 58 46.9	-0.4
RPZ	Rata Peaks	0.85	263	P		Pn	05 58 47.3	-0.4
GVZ	Greta Valley S	0.88	43	P		Pn	05 58 47.6	-0.3
INZ	Inchbonnie	1.05	327	P		Pn	05 58 50.9	+0.5
ODZ	Otahua Downs	1.83	218	P		Pg	05 59 04.4	+0.4
PNHZ	Pukenui	4.74	40	P		Pn	05 59 44.9	+3.8

INET ***14*** *06:09:23.4, 12.°39N×88.°46W, h17km, ML4.2*
UCR ***14*** *06:09:25.5±1.4, 12.°55N×88.°48W, h28km±8km, ML4.1*
SNET ***14*** *06:09:25.7±1.2, 12.°56N×88.°47W, h29km±15km, ML4.1*

ISC 14 06:09:27.1±2.2, 12°60N±0.°08×88°50W±0.°06, h30km±16km, n18, σ0°80/26, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.73**	**354**	***eP***	**Pn**	**06 09 40.7**	**-0.6**
ALJI				*eS*	**Sb**	**06 09 51.0**	**+0.1**
ALJI				IAML		06 09 54.1	
	comp=Z,5μm,0.2s						
ALJI	**Alcalda de J**	**0.73**	**354**	***eP***	**Pn**	**06 09 40.7**	**-0.6**
ALJI				*eS*	**Sb**	**06 09 51.0**	**+0.1**
ALJI				IAML		06 09 54.1	
	comp=Z,5μm,0.2s						
BLLM	**Bellamira**	**0.87**	**17**	***eP***	**Pn**	**06 09 42.2**	**-1.3**
BLLM	**Bellamira**	**0.87**	**17**	***eP***	**Pn**	**06 09 42.2**	**-1.3**
COEB	**Comit de Eme**	**0.89**	**358**	***eP***	**Pn**	**06 09 43.1**	**-0.7**
COEB				*eS*	**Sn**	**06 09 56.8**	**+1.1**
COEB	**Comit de Eme**	**0.89**	**358**	***eP***	**Pn**	**06 09 43.1**	**-0.7**
COEB				*eS*	**Sn**	**06 09 56.8**	**+1.1**
CNRM	**Centro Naciona**	**0.92**	**20**	***eP***	**Pn**	**06 09 42.8**	**-1.3**
CNRM				*eS*	**Sb**	**06 09 57.2**	**+0.7**
CNRM	**Centro Naciona**	**0.92**	**20**	***eP***	**Pn**	**06 09 42.8**	**-1.3**
CNRM				*eS*	**Sb**	**06 09 57.2**	**+0.7**
AEIL	**Aeropuerto Ilo**	**1.25**	**331**	***eP***	**Pn**	**06 09 48.2**	**-0.3**
AEIL				*eS*	**Sb**	**06 10 06.2**	**+0.4**
AEIL				IAML		06 10 09.7	
	comp=Z,4μm,0.3s						
AEIL	**Aeropuerto Ilo**	**1.25**	**331**	***eP***	**Pn**	**06 09 48.2**	**-0.3**
AEIL				*eS*	**Sb**	**06 10 06.2**	**+0.4**
AEIL				IAML		06 10 09.7	
	comp=Z,4μm,0.3s						
IGN	**Direccin Gen**	**1.29**	**329**	***eS***	**Sn**	**06 10 06.0**	**+0.6**
IGN	**Direccin Gen**	**1.29**	**329**	***eS***	**Sn**	**06 10 06.0**	**+0.6**
CPRS	**Casa Presidenc**	**1.30**	**326**	***eS***	**Sn**	**06 10 06.0**	**+0.2**
ITCA	**Escuela Especi**	**1.31**	**324**	IAML		06 10 09.3	
ITCA	**Escuela Especi**	**1.31**	**324**	IAML		06 10 09.3	
BOQS	**Boqueron**	**1.36**	**326**	***eP***	**Pn**	**06 09 49.7**	**-0.6**
BOQS				*eS*	**Sb**	**06 10 08.7**	**-0.5**
BOQS	**Boqueron**	**1.36**	**326**	***eP***	**Pn**	**06 09 49.7**	**-0.6**
BOQS				*eS*	**Sb**	**06 10 08.7**	**-0.5**
EDLM	**Las Mercedes**	**5.84**	**124**	***eP***	**Pn**	**06 10 51.6**	**-0.1**

INET ***14*** *06:11:57.7, 12.°35N×88.°21W, h13km, ML3.7*
SNET ***14*** *06:11:58.3±1.0, 12.°40N×88.°23W, h29km±39km, ML3.7*
UCR ***14*** *06:11:58.4±1.6, 12.°40N×88.°26W, h25km±7km, ML3.7*

ISC 14 06:11:57.6±2.0, 12°42N±0.°05×88°23W±0.°05, h14km±13km, n46, σ0°52/56, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.93**	**25**	***eP***	**Pn**	**06 12 16.2**	**-0.2**
CNCH	**Conchagua**	**0.93**	**25**	***eP***	**Pn**	**06 12 16.2**	**-0.2**
LCND	**La Caada**	**0.94**	**21**	***eP***	**Pn**	**06 12 16.1**	**-0.3**
LCND				*eS*	**Sn**	**06 12 29.4**	**-0.4**
LCND				IAML		06 12 35.4	
	comp=Z,2μm,0.4s						
LCND	**La Caada**	**0.94**	**21**	***eP***	**Pn**	**06 12 16.1**	**-0.3**
LCND				*eS*	**Sn**	**06 12 29.4**	**-0.4**
LCND				IAML		06 12 35.4	
	comp=Z,2μm,0.4s						
ALJI	**Alcalda de J**	**0.96**	**340**	***eP***	**Pb**	**06 12 16.3**	**+0.3**
ALJI				*eS*	**Sn**	**06 12 30.2**	**+0.1**
ALJI				IAML		06 12 30.5	
	comp=Z,2μm,0.2s						
ALJI	**Alcalda de J**	**0.96**	**340**	***eP***	**Pb**	**06 12 16.3**	**+0.3**
ALJI				*eS*	**Sn**	**06 12 30.2**	**+0.1**
ALJI				IAML		06 12 30.5	
	comp=Z,2μm,0.2s						
LCY	**Lacayo**	**0.99**	**356**	***eP***	**Pn**	**06 12 17.2**	**-0.1**
LCY	**Lacayo**	**0.99**	**356**	***eP***	**Pn**	**06 12 17.2**	**-0.1**
RANC	**El Ranchito**	**1.00**	**357**	***eP***	**Pn**	**06 12 17.3**	**-0.2**
RANC				*eS*	**Sn**	**06 12 31.5**	**-0.1**
RANC				IAML		06 12 33.0	
	comp=Z,2μm,0.1s						
RANC	**El Ranchito**	**1.00**	**357**	***eP***	**Pn**	**06 12 17.3**	**-0.2**
RANC				*eS*	**Sn**	**06 12 31.5**	**-0.1**
RANC				IAML		06 12 33.0	
	comp=Z,2μm,0.1s						
BLLM	**Bellamira**	**1.01**	**360**	***eP***	**Pn**	**06 12 17.3**	**-0.2**
BLLM	**Bellamira**	**1.01**	**360**	***eP***	**Pn**	**06 12 17.3**	**-0.2**
CNRM	**Centro Naciona**	**1.05**	**3**	*eS*	**Sn**	**06 12 32.7**	**+0.4**
CNRM				IAML		06 12 33.9	
CNRM	**Centro Naciona**	**1.05**	**3**	*eS*	**Sn**	**06 12 32.7**	**+0.4**
CNRM				IAML		06 12 33.9	
COEB	**Comit de Eme**	**1.11**	**345**	***eP***	**Pb**	**06 12 18.4**	**-0.2**
COEB				*eS*	**Sg**	**06 12 33.6**	**+0.1**
COEB				IAML		06 12 34.8	
	comp=Z,1μm,0.2s						
COEB	**Comit de Eme**	**1.11**	**345**	***eP***	**Pb**	**06 12 18.4**	**-0.2**
COEB				*eS*	**Sg**	**06 12 33.6**	**+0.1**
COEB				IAML		06 12 34.8	
	comp=Z,1μm,0.2s						
LFRS	**El Faro**	**1.44**	**326**	***eP***	**Pn**	**06 12 22.8**	**-0.7**
LFRS	**El Faro**	**1.44**	**326**	***eP***	**Pn**	**06 12 22.8**	**-0.7**
PAVA	**Las Pavas**	**1.45**	**332**	*eS*	**Sn**	**06 12 43.0**	**+0.4**
PAVA	**Las Pavas**	**1.45**	**332**	*eS*	**Sn**	**06 12 43.0**	**+0.4**
AEIL	**Aeropuerto Ilo**	**1.53**	**326**	*eS*	**Sn**	**06 12 44.8**	**+0.3**
AEIL				IAML		06 12 51.1	
	comp=Z,1μm,0.3s						
AEIL	**Aeropuerto Ilo**	**1.53**	**326**	*eS*	**Sn**	**06 12 44.8**	**+0.3**
AEIL				IAML		06 12 51.1	
	comp=Z,1μm,0.3s						
LFU	**La Fuente**	**1.57**	**327**	***eP***	**Pn**	**06 12 25.0**	**-0.2**
LFU	**La Fuente**	**1.57**	**327**	***eP***	**Pn**	**06 12 25.0**	**-0.2**
IGN	**Direccin Gen**	**1.57**	**325**	*eS*	**Sn**	**06 12 45.4**	**-0.1**
IGN	**Direccin Gen**	**1.57**	**325**	*eS*	**Sn**	**06 12 45.4**	**-0.1**
BOQS	**Boqueron**	**1.66**	**322**	***eP***	**Pn**	**06 12 25.8**	**-0.7**
BOQS				*eS*	**Sn**	**06 12 48.4**	**+0.7**
BOQS	**Boqueron**	**1.66**	**322**	***eP***	**Pn**	**06 12 25.8**	**-0.7**
BOQS				*eS*	**Sn**	**06 12 48.4**	**+0.7**
QUEZ	**Alcaldia de Qu**	**1.73**	**324**	*eS*	**Sn**	**06 12 49.4**	**+0.1**
SBLS	**San Blas**	**1.95**	**316**	***eP***	**Pn**	**06 12 30.8**	**+0.2**
SBLS	**San Blas**	**1.95**	**316**	***eP***	**Pn**	**06 12 30.8**	**+0.2**
RTR	**El Retiro**	**2.01**	**317**	***eP***	**Pn**	**06 12 30.5**	**-0.8**
RTR	**El Retiro**	**2.01**	**317**	***eP***	**Pn**	**06 12 30.5**	**-0.8**
GB1A	**Borinquen Arri**	**3.20**	**120**	***eP***	**Pn**	**06 12 47.0**	**-0.6**
BUEV	**Buena Vista**	**3.20**	**120**	***eP***	**Pn**	**06 12 47.3**	**-0.4**
ORTG	**Ortega, Santa**	**3.40**	**127**	***eP***	**Pn**	**06 12 49.7**	**-0.8**
PLVR	**Palo Verde**	**3.50**	**126**	***eP***	**Pn**	**06 12 51.0**	**-0.8**
DUNO	**Dulce Nombre,**	**3.56**	**131**	***eP***	**Pn**	**06 12 51.7**	**-0.8**
JTS	**Las Juntas de**	**3.85**	**123**	***eP***	**Pn**	**06 12 55.6**	**-0.9**
ARE1	**Arenal 1**	**3.96**	**119**	***eP***	**Pn**	**06 12 58.3**	**+0.2**
LAFE	**Finca La Fe, P**	**4.17**	**128**	***eP***	**Pn**	**06 12 59.8**	**-1.1**
LCR2	**La Lucha 2**	**4.93**	**122**	***eP***	**Pn**	**06 13 12.7**	**+1.1**
RIMA	**Rio Macho**	**5.04**	**121**	***eP***	**Pn**	**06 13 12.4**	**-0.6**
EDLM	**Las Mercedes**	**5.53**	**124**	***eP***	**Pn**	**06 13 20.5**	**+0.8**
DRK0	**Durika**	**5.82**	**122**	***eP***	**Pn**	**06 13 23.9**	**+0.2**
RIOS	**Rincon, Osa**	**5.93**	**128**	***eP***	**Pn**	**06 13 26.2**	**+1.1**

IDC 14 06:12:25.3±0.9, 45°73N×153°64E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/44, mbtmp3.5/7, ML2.6/1, MS4.3/1, Ms1 4.3/1, ms1mx3.9/47, Error ellipse: s-maj=39.2km s-min=20.6km az=121.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.84**	**18**	Pn	Pn	06 14 19.4	-1.1
	0.5nm,0.3s,baz=177,slow=11,SNR=8.2						
PETK				LR	LR	06 18 31.3	
	comp=Z,2μm,19.0s,baz=260,slow=47						
ILAR	**Eielson Array**	**37.12**	**38**	P	P	06 19 37.1	-0.1
	0.2nm,0.5s,baz=252,slow=8.4,SNR=2.9						
INK	**Inuvik**	**42.32**	**32**	P	P	06 20 21.0	+0.7
	2.2nm,0.9s,baz=280,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**47.74**	**298**	P	P	06 21 03.7	-0.1
	0.3nm,0.7s,baz=72,slow=9.3,SNR=2.2						
WRA	**Warramunga Arr**	**67.67**	**200**	P	P	06 23 23.4	-0.7
	0.2nm,0.6s,baz=16,slow=6.7,SNR=3.6						
ASAR	**Alice Springs**	**71.36**	**199**	P	P	06 23 47.9	+1.0
	0.5nm,0.9s,baz=16,slow=9.3,SNR=4.6						
TXAR	**Lajitas Array**	**77.67**	**61**	P	P	06 24 23.6	-0.3
	0.3nm,0.8s,baz=298,slow=2.7,SNR=3.8						

IDC ***14*** *06:26:18.2±0.9, 36.°68N×97.°93W, h0km, mb3.2/1, mb1 3.8/5, mb1mx3.5/52, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=13.7km s-min=11.1km az=121.0*
TUL ***14*** *06:26:18.8±1.5, 36.°66N±0.°01×97.°90W±0.°02, h2km±5km, ML3.3, Error ellipse: s-maj=2.5km s-min=1.8km az=85.0*
NEIC ***14*** *06:26:19.5±1.5, 36.°64N±0.°01×97.°87W±0.°02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=254.0*
ANF ***14*** *06:26:21.2±0.6, 36.°64N×97.°88W, h21km±5km, ML4.2/16, Error ellipse: s-maj=2.6km s-min=1.8km az=16.0*

ISC 14 06:26:19.5±0.9, 36°64N±0.°02×97°89W±0.°02, h9km±7km, n112, σ0°88/130, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.16**	**209**		**Pg**	**06 26 22.6**	**-0.3**
CROK				Sg	**Sg**	**06 26 25.4**	**+0.2**
KAN14	**Manchester OK**	**0.32**	**349**	Pg	**Pg**	**06 26 25.6**	**-0.2**
KAN14				Sg	**Sg**	**06 26 30.0**	**0.0**
KAN05	**Bluff City Nor**	**0.46**	**2**		**Pg**	**06 26 28.2**	**-0.3**
KAN05				Sg	**Sg**	**06 26 34.6**	**-0.1**
KAN13	**South Haven SW**	**0.49**	**42**		**Pg**	**06 26 29.0**	**-0.1**
KAN13				Sg	**Sg**	**06 26 36.1**	**+0.5**
KAN10	**Anthony SW Sta**	**0.51**	**341**		**Pg**	**06 26 28.9**	**-0.5**
KAN09	**Caldwell North**	**0.54**	**24**		**Pg**	**06 26 29.7**	**-0.2**
KAN09				Sg	**Sg**	**06 26 37.0**	**0.0**
KAN08	**Anthony NE Sta**	**0.58**	**354**	Pg	**Pg**	**06 26 30.3**	**-0.5**
KAN08				Sg	**Sg**	**06 26 38.6**	**+0.1**
KAN12	**Harper NE Stat**	**0.66**	**352**		**Pg**	**06 26 31.7**	**-0.5**
OK029	**Liberty Lake**	**0.92**	**157**		**Pg**	**06 26 36.6**	**-0.5**
U32A	**Winter Ranch,**	**0.94**	**254**		**Pg**	**06 26 36.5**	**-0.9**
U32A				Sg	**Sg**	**06 26 49.2**	**-0.4**
BCOK	**Bluff Creek, N**	**1.01**	**167**		**Pg**	**06 26 38.1**	**-0.8**
BCOK				Sg	**Sg**	**06 26 52.1**	**0.0**
QUOK	**Quay**	**1.06**	**116**	Pg	**Pg**	**06 26 39.4**	**-0.5**
QUOK				Sg	**Sg**	**06 26 53.6**	**-0.1**
ADOK	**Arcadia Dam**	**1.07**	**157**		**Sn**	**06 26 58.3**	**+2.5**
T35A	**Sooner Cattle**	**1.14**	**76**		**Pg**	**06 26 40.7**	**-0.6**
T35A				Sg	**Sg**	**06 26 55.6**	**-0.5**
OK025	**Westminster Rd**	**1.15**	**157**		**Pg**	**06 26 40.9**	**-0.7**
OK025				Sg	**Sg**	**06 26 56.4**	**-0.1**
OKCFA	**Oklahoma City**	**1.28**	**164**		**Pn**	**06 26 42.8**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**1.29**	**163**		**Pn**	**06 26 43.2**	**-0.5**
FNO	**Franklin**	**1.44**	**164**		**Pn**	**06 26 45.8**	**+0.1**
W35A	**Tecumseh**	**1.70**	**151**		**Pn**	**06 26 49.7**	**+0.3**
TUL1	**Leonard**	**1.85**	**113**	P	**Pn**	**06 26 51.6**	**+0.2**
	baz=294						
TUL1				Sb	**Sb**	**06 27 17.5**	**+0.8**
	baz=294						
TUL1	**Leonard**	**1.85**	**113**	Pn	**Pn**	**06 26 51.9**	**+0.5**
R32A	**Long Quarter,**	**1.89**	**340**	Pn	**Pn**	**06 26 52.9**	**+0.9**
WMOK	**Wichita Mounta**	**2.04**	**201**	P	**Pn**	**06 26 54.2**	**+0.2**
	baz=21						
WMOK				Sb	**Sb**	**06 27 22.3**	**+0.2**
	baz=21						
WMOK	**Wichita Mounta**	**2.04**	**201**	Pn	**Pn**	**06 26 54.4**	**+0.4**
CBKS	**Cedar Bluff**	**2.62**	**326**	P	**Pn**	**06 27 02.5**	**+0.5**
	baz=146,SNR=9.4						
CBKS				Sb	**Sb**	**06 27 39.2**	**+0.3**
	baz=146						
CBKS	**Cedar Bluff**	**2.62**	**326**	Pn	**Pn**	**06 27 03.0**	**+1.0**
KSU1	**Kansas State U**	**2.65**	**22**	P	**Pn**	**06 27 03.1**	**+0.7**
	baz=202,SNR=36						
KSU1	**Kansas State U**	**2.65**	**22**	Pn	**Pn**	**06 27 03.2**	**+0.7**
U38A	**Gravette**	**2.83**	**93**	Pn	**Pn**	**06 27 05.6**	**+0.7**
X37A	**Clayton**	**2.90**	**134**		**Pn**	**06 27 07.0**	**+1.1**
HHAR	**Hobbs**	**3.20**	**95**		**Pn**	**06 27 10.7**	**+0.6**
Z35A	**Perchaven, San**	**3.35**	**171**	Pn	**Pn**	**06 27 12.9**	**+0.9**
AMTX	**Amarillo**	**3.55**	**241**	P	**Pn**	**06 27 15.5**	**+0.6**
	baz=59						
AMTX				Sb	**Sb**	**06 28 08.7**	**+2.9**
	baz=59						
AMTX	**Amarillo**	**3.55**	**241**		**Pn**	**06 27 16.1**	**+1.2**
W39A	**Magazine**	**3.63**	**112**	P	**Pn**	**06 27 16.4**	**+0.5**
	baz=295,SNR=16						
W39A				S	**Sn**	**06 27 59.8**	**+0.9**
	baz=295						
W39A	**Magazine**	**3.63**	**112**		**Pn**	**06 27 18.5**	**+2.6**
S39A	**Bolivar**	**3.79**	**73**		**Pn**	**06 27 18.6**	**+0.5**
U40A	**Yellville**	**4.07**	**93**	P	**Pn**	**06 27 22.0**	**+0.1**
	baz=275,SNR=5.5						
U40A	**Yellville**	**4.07**	**93**		**Pn**	**06 27 22.3**	**+0.4**
MIAR	**Mount Ida**	**4.09**	**120**	P	**Pn**	**06 27 22.2**	**0.0**
	baz=302						
MIAR	**Mount Ida**	**4.09**	**120**		**Pn**	**06 27 23.5**	**+1.3**
Z38A	**Mt. Pleasant**	**4.13**	**144**		**Pb**	**06 27 34.1**	**+1.7**
ABTX	**Abilene, Hawle**	**4.26**	**200**	Pn	**Pn**	**06 27 24.7**	**+0.1**
KSCO	**Kaye Shedlock'**	**4.43**	**304**	P	**Pn**	**06 27 27.5**	**+0.4**
	baz=121						
KSCO				S	**Sn**	**06 28 19.1**	**+0.1**
	baz=121						
KSCO	**Kaye Shedlock'**	**4.43**	**304**		**Pn**	**06 27 28.3**	**+1.2**
MGMO	**Mountain Grove**	**4.53**	**82**		**Pn**	**06 27 29.2**	**+0.9**
P38A	**Dawn**	**4.54**	**48**		**Pn**	**06 27 29.4**	**+1.0**
N35A	**Tabor**	**4.56**	**22**		**Pn**	**06 27 29.3**	**+0.6**
X40A	**Basin Creek Fa**	**4.65**	**116**	P	**Pn**	**06 27 30.3**	**+0.4**
	baz=299						
X40A	**Basin Creek Fa**	**4.65**	**116**		**Pn**	**06 27 31.0**	**+1.1**
WHTX	**Lake Whitney,**	**4.66**	**175**	P	**Pn**	**06 27 30.1**	**+0.1**
	baz=356						
WHTX				S	**Sn**	**06 28 24.1**	**-0.1**
	baz=356						
WHTX	**Lake Whitney,**	**4.66**	**175**	Pn	**Pn**	**06 27 30.1**	**+0.1**
FCAR	**Ozark Folk Cen**	**4.72**	**97**		**Pn**	**06 27 31.4**	**+0.6**
WHAR	**Wooly Hollow**	**4.74**	**105**		**Pn**	**06 27 32.0**	**+0.8**
BGNE	**Belgrade**	**4.76**	**358**	P	**Pn**	**06 27 31.5**	**0.0**
	baz=177						
BGNE	**Belgrade**	**4.76**	**358**		**Pn**	**06 27 31.9**	**+0.4**
R40A	**Maddies Statio**	**4.76**	**68**		**Pn**	**06 27 31.5**	**+0.1**
MSTX	**Muleshoe**	**4.80**	**238**	P	**Pn**	**06 27 32.3**	**+0.2**
	baz=55						
MSTX	**Muleshoe**	**4.80**	**238**		**Pn**	**06 27 32.8**	**+0.6**
W41B	**Gary Mavity, V**	**4.81**	**106**	P	**Pn**	**06 27 32.0**	**-0.1**
	baz=289,SNR=12						
W41B				Sb	**Sb**	**06 28 42.9**	**+1.0**
	baz=289						
W41B	**Gary Mavity, V**	**4.81**	**106**		**Pn**	**06 27 33.0**	**+1.0**
UALR	**University of**	**4.88**	**111**	Pn	**Pn**	**06 27 33.8**	**+0.7**
WLAR	**White Oak Lake**	**4.90**	**126**	Pn	**Pn**	**06 27 33.8**	**+0.4**
T25A	**Trinidad**	**5.25**	**277**	P	**Pn**	**06 27 38.8**	**+0.4**
	baz=94,SNR=6.5						
T25A	**Trinidad**	**5.25**	**277**		**Pn**	**06 27 40.0**	**+1.6**
Z41A	**Richland Creek**	**5.37**	**127**	S	**Sn**	**06 28 40.0**	**-1.8**
	baz=310						
P40A	**Paris**	**5.43**	**56**		**Pn**	**06 27 42.0**	**+1.4**
T42A	**Van Buren**	**5.46**	**84**		**Pn**	**06 27 42.1**	**+1.0**
LCAR	**Lake Charles**	**5.46**	**94**	Pn	**Pn**	**06 27 42.4**	**+1.3**
CCM	**Cathedral Cave**	**5.48**	**73**	P	**Pn**	**06 27 41.2**	**-0.1**
	baz=257						
CCM	**Cathedral Cave**	**5.48**	**73**	Pn	**Pn**	**06 27 41.3**	**+0.1**
N38A	**Joes South For**	**5.51**	**40**		**Pn**	**06 27 41.8**	**0.0**
SDCO	**Great Sand Dun**	**6.18**	**283**	Pn	**Pn**	**06 27 53.9**	**+2.7**
JCT	**Junction City**	**6.35**	**195**	P	**Pn**	**06 27 53.1**	**-0.3**
	baz=14						
JCT	**Junction City**	**6.35**	**195**	Pn	**Pn**	**06 27 54.0**	**+0.6**
ISCO	**Idaho Springs**	**6.85**	**300**	Pn	**Pn**	**06 28 01.8**	**+1.4**
ECSD	**EROS Data Cent**	**7.15**	**7**	P	**Pn**	**06 28 02.9**	**-1.3**
	baz=188,SNR=6.1						
ECSD	**EROS Data Cent**	**7.15**	**7**	Pn	**Pn**	**06 28 03.1**	**-1.1**
ANMO	**Albuquerque**	**7.17**	**259**	Pn	**Pn**	**06 28 06.9**	**+2.3**
	0.0nm,0.3s,baz=63,slow=4.5,SNR=3.0						
ANMO				Lg	Lg	06 30 00.2	
	0.1nm,0.3s,baz=354,slow=18,SNR=6.9						
K38A	**Parkersburg**	**7.18**	**32**	Pn	**Pn**	**06 28 05.0**	**+0.4**
P43A	**Skaggs, Pawnee**	**7.24**	**63**		**Pn**	**06 28 06.0**	**+0.5**
Q44A	**Meyer Farm, Va**	**7.38**	**70**		**Pn**	**06 28 07.2**	**-0.2**
L40A	**Anamosa**	**7.48**	**42**		**Pn**	**06 28 08.4**	**-0.3**
PHWY	**Pilot Hill**	**7.51**	**311**	Pn	**Pn**	**06 28 10.1**	**+0.7**
N23A	**Red Feather La**	**7.59**	**306**		**Pn**	**06 28 12.2**	**+1.7**
HDIL	**Hopedale**	**7.78**	**57**	P	**Pn**	**06 28 12.3**	**-0.6**
	baz=242,SNR=5.6						
HDIL	**Hopedale**	**7.78**	**57**		**Pn**	**06 28 13.2**	**+0.3**
MNTX	**Cornudas Mount**	**7.93**	**234**	P	**Pn**	**06 28 15.1**	**+0.1**
	baz=50						
MNTX	**Cornudas Mount**	**7.93**	**234**		**Pn**	**06 28 15.6**	**+0.6**
WVT	**Waverly**	**8.13**	**91**	P	**Pn**	**06 28 17.5**	**-0.2**
	baz=276						
JFWS	**Jewell Farm**	**8.59**	**41**	P	**Pn**	**06 28 23.0**	**-0.9**
	baz=226,SNR=9.4						
TX31	**Lajitas Ar. Si**	**8.76**	**215**	Pn	**Pn**	**06 28 25.9**	**-0.5**
TXAR	**Lajitas Array**	**8.76**	**215**	Pn	**Pn**	**06 28 25.2**	**-1.2**
	0.2nm,0.3s,baz=36,slow=10,SNR=15						
TXAR				Lg	Lg	06 30 47.6	
	0.6nm,0.3s,baz=26,slow=29,SNR=3.9						
RSSD	**Black Hills**	**8.82**	**330**		**Pn**	**06 28 26.6**	**-0.7**
K22A	**Casper**	**8.96**	**315**		**Pn**	**06 28 28.9**	**-0.3**
I40A	**Norwalk**	**9.12**	**35**	Pn	**Pn**	**06 28 30.5**	**-0.8**
SFIN	**Lafayette**	**9.24**	**63**	P	**Pn**	**06 28 32.9**	**-0.1**
	baz=250						
F33A	**5 Mile Ranch,**	**9.27**	**7**	Pn	**Pn**	**06 28 32.3**	**-1.0**
BLO	**Bloomington**	**9.33**	**71**	Pn	**Pn**	**06 28 33.3**	**-0.8**
WCI	**Wyandotte Cave**	**9.36**	**77**	P	**Pn**	**06 28 34.4**	**-0.1**
	baz=264						
WCI	**Wyandotte Cave**	**9.36**	**77**	Pn	**Pn**	**06 28 35.1**	**+0.6**
SPMN	**Marine on St.**	**9.39**	**23**	P	**Pn**	**06 28 35.0**	**0.0**
	baz=206						
SPMN	**Marine on St.**	**9.39**	**23**	Pn	**Pn**	**06 28 34.4**	**-0.6**
L44A	**Lake County Fo**	**9.49**	**51**	P	**Pn**	**06 28 36.0**	**-0.4**
	baz=238						
U49A	**Red Boiling Sp**	**9.74**	**87**	Pn	**Pn**	**06 28 40.1**	**+0.3**
F36A	**Milaca**	**9.78**	**18**	Pn	**Pn**	**06 28 39.5**	**-0.7**
P48A	**Milroy**	**10.22**	**70**	Pn	**Pn**	**06 28 44.4**	**-2.0**
G40A	**Rib Lake**	**10.39**	**32**	Pn	**Pn**	**06 28 47.9**	**-0.8**
PDAR	**Pinedale Array**	**10.87**	**308**	Pn	**Pn**	**06 28 54.6**	**-0.8**
	0.3nm,0.3s,baz=115,slow=21,SNR=4.8						
PDAR				Lg	Lg	06 31 59.2	
	0.3nm,0.3s,baz=116,slow=28,SNR=3.8						
TKL	**Tuckaleechee C**	**11.46**	**91**	Pn	**Pn**	**06 29 01.9**	**-1.4**
	0.2nm,0.3s,baz=280,slow=11,SNR=3.2						
TKL				Lg	Lg	06 32 13.2	
	0.4nm,0.3s,baz=180,slow=20,SNR=2.9						
ULM	**Lac du Bonnet**	**13.68**	**5**	Pn	Pn	06 29 28.7	-4.9
	0.4nm,0.3s,baz=190,slow=13,SNR=5.8						
ULM				Sn	Sn	06 31 53.7	-12
	0.4nm,0.3s,baz=102,slow=19,SNR=3.5						
ULM				Lg	Lg	06 33 19.4	
	0.2nm,0.3s,baz=244,slow=20,SNR=3.1						
ILAR	**Eielson Array**	**40.27**	**330**	P	**P**	**06 33 56.6**	**+0.2**
	0.2nm,0.6s,baz=100,slow=8.4,SNR=3.5						

BGS ***14*** *06:41:27.1±2.7, 64.°49N×17.°87W, h5km, mb4.5(NEIC)*
IDC ***14*** *06:41:28.5±0.7, 64.°41N×17.°61W, h0km, mb3.9/17, mb1 4.1/21, mb1mx3.9/54, mbtmp3.9/21, ML2.8/3, MS4.7/3, Ms1 4.7/3, ms1mx4.1/45, Error ellipse: s-maj=22.8km s-min=11.8km az=16.0*
REY ***14*** *06:41:28.1, 64.°62N×17.°48W, h5km*
MOS ***14*** *06:41:28.9±1.0, 64.°43N×17.°73W, h10km, mb4.7/18, Error ellipse: s-maj=12.8km s-min=9.1km az=93.0*
NEIC ***14*** *06:41:30.8±3.0, 64.°5N±0.°1×17.°9W±0.°1, h10km±1km, mb4.5/31, Error ellipse: s-maj=20.1km s-min=8.8km az=12.0*

ISC 14 06:41:30.8±0.4, 64°47N±0.°03×17°65W±0.°02, h10km, n182, σ1°83/159, mb4.3/39, MS4.7/4, 9C-1D, Iceland

| Code | Station Name |

IBRE	**Brettingsstaoi**	**1.66**	**356**	P		Pn	06 41 53.9 -6.0
	baz=353						
IBJA	**Bjarnastaoir**	**1.68**	**253**	P		**Pn**	**06 41 58.4 -1.7**
	baz=250						
IGIL	**Gilhagi**	**1.70**	**18**	P		Pn	06 41 53.9 -6.5
	baz=17						
ISIG	**Siglufjorour**	**1.75**	**343**	P		Pn	06 41 55.5 -5.6
	baz=339						
ISAN	**Sandskeio**	**1.76**	**258**	P		**Pn**	**06 41 59.0 -2.3**
	baz=254						
IKAS	**Kald??rsel**	**1.89**	**258**	P		**Pn**	**06 42 01.6 -1.4**
	baz=255						
IHRN	**Hraun**	**1.95**	**329**	P		Pn	06 41 59.1 -4.7
	baz=325						
LEWI	**Lewis, Hebride**	**8.19**	**136**	*e*P		**Pn**	**06 43 26.8 -2.7**
KAC	**Achnashellach**	**9.20**	**134**	*e*P		**Pn**	**06 43 41.7 -1.6**
KPL	**Plockton**	**9.22**	**135**	*e*P		**Pn**	**06 43 42.1 -1.6**
DBG	**Daneborg**	**9.92**	**356**	*e*P		Pn	06 43 58.1 +4.9
INVG	**Invergeldie, C**	**10.47**	**134**	*e*P		**Pn**	**06 43 58.5 -2.2**
EAB	**Aberfoyle**	**10.58**	**136**	*e*P		**Pn**	**06 44 01.0 -1.3**
PGBU	**Glenifferbraes**	**10.86**	**137**	*e*P		**Pn**	**06 44 03.4 -2.6**
SUMG	**Summit**	**11.07**	**326**	*e*P		**Pn**	**06 44 13.6 +4.4**
SUMG	**Summit**	**11.07**	**326**	*i* P		**Pn**	**06 44 13.6 +4.4**
SUMG				*i*			06 44 23.6
SUMG	**Summit**	**11.07**	**326**	*e*P		**Pn**	**06 44 13.6 +4.4**
SUMG				*i*			06 44 23.7
NEWG	**New Galloway**	**11.53**	**138**	*e*P		**Pn**	**06 44 14.6 -0.6**
ESK	**Eskdalemuir**	**11.66**	**135**	P		**Pn**	**06 44 16.6 -0.5**
ESK	**Eskdalemuir**	**11.66**	**135**	Pn		**Pn**	**06 44 16.6 -0.5**
EKA	**Eskdalemuir Ar**	**11.67**	**135**	Pn		**Pn**	**06 44 15.2 -1.9**
	baz=321,slow=13,SNR=9.0						
DAG	**Danmarks Havn**	**12.37**	**359**	*e*P		**Pn**	**06 44 28.1 +1.6**
DAG	**Danmarks Havn**	**12.37**	**359**	*i* P		**Pn**	**06 44 28.1 +1.6**
DAG	**Danmarks Havn**	**12.37**	**359**	*e*P		**Pn**	**06 44 28.1 +1.6**
NOA	**NORSAR Array B**	**13.59**	**91**	Pn		Pn	06 44 39.1 -4.3
	0.0nm,0.3s,baz=298,slow=13,SNR=2.8						
HFS	**Hagfors**	**15.10**	**92**	Pn		**P**	**06 45 09.5 +0.3**
	0.1nm,0.3s,baz=329,slow=5.2,SNR=9.6						
KBS	**Kingsbay**	**16.85**	**19**	*i* P		**Pn**	**06 45 27.2 +1.0**
KBS				pmax		pmax	
	comp=Z,7.0nm,1.2s						
ARCES	**ARCESS Array B**	**17.29**	**54**	P		**Pn**	**06 45 31.1 -0.8**
	baz=21,slow=7.8,SNR=4.8						
FINES	**FINESS Array B**	**19.81**	**79**	P		**P**	**06 45 59.3 -1.7**
	comp=Z,0.1nm,0.3s,baz=312,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**19.81**	**79**	P		**P**	**06 46 00.0 -0.9**
FINES	**FINESS Array B**	**19.81**	**79**	P		**P**	**06 46 00.0 -0.9**
CLL	**Collm**	**20.68**	**115**	*i* P		**P**	**06 46 11.5 +1.0**
	comp=Z,49nm,1.8s						
CLL				*e*(PP)			06 46 27.0
CLL	**Collm**	**20.68**	**115**	*i* P		**P**	**06 46 11.5 +1.0**
CLL				pmax		pmax	
	comp=Z,49nm,1.8s						
CLL	**Collm**	**20.68**	**115**	P		Pn	06 46 12.1 -0.8
CLL				IAmb		IAmb	06 46 14.4
	comp=Z,23nm,1.3s						
BFO	**Black Forest**	**21.39**	**127**	P		**P**	**06 46 17.5 -0.7**
BFO				pmax		pmax	
	comp=Z,19nm,1.1s						
BFO	**Black Forest**	**21.39**	**127**	P		**P**	**06 46 17.5 -0.7**
BFO				IAmb		IAmb	06 46 23.6
	comp=Z,18nm,1.1s						
BRG	**Berggiesshubel**	**21.39**	**114**	*e*P		**P**	**06 46 18.9 +0.8**
	comp=Z,19nm,1.1s						
BRG	**Berggiesshubel**	**21.39**	**114**	*e*P		**P**	**06 46 19.0 +0.8**
BRG				pmax		pmax	
	comp=Z,19nm,1.2s						
VSU	**Vasula**	**21.65**	**85**	*i* P		**P**	**06 46 20.4 -0.4**
VSU				pmax		pmax	
	comp=Z,53nm,0.9s						
KSP	**Ksiaz**	**22.35**	**111**	*e*P		**P**	**06 46 29.3 +0.8**
CHVC	**Chvalec**	**22.45**	**112**	*e*P		**P**	**06 46 33.2 +3.6**
KHC	**Kasperske Hory**	**22.64**	**118**	*e*P		**P**	**06 46 33.4 +1.8**
KHC	**Kasperske Hory**	**22.64**	**118**	*ce*P		**P**	**06 46 34.0 +2.4**
KHC				pmax		pmax	
	comp=Z,16nm,1.1s						
KHC	**Kasperske Hory**	**22.64**	**118**	P		**P**	**06 46 32.6 +0.9**
DPC	**Dobruska-Polom**	**22.75**	**112**	*e*P		**P**	**06 46 35.9 +3.1**
DPC	**Dobruska-Polom**	**22.75**	**112**	*e*P		**P**	**06 46 35.9 +3.1**
GEC2	**GERESS Array S**	**22.92**	**118**	P		**P**	**06 46 36.0 +1.3**
GERES	**GERESS Array B**	**22.92**	**118**	P		**P**	**06 46 34.1 -0.6**
	comp=Z,3.2nm,1.0s,baz=325,slow=6.8,SNR=11						
GERES	**GERESS Array B**	**22.92**	**118**	P		**P**	**06 46 35.1 +0.5**
VRAC	**Vranov**	**23.68**	**113**	P		**P**	**06 46 42.5 +0.4**
	comp=Z,2.5nm,0.5s,baz=336,slow=11,SNR=4.5						
MORC	**Moravsky Berou**	**23.69**	**112**	P		**P**	**06 46 41.9 -0.4**
MORC				pmax		pmax	
	comp=Z,12nm,1.3s						
MORC	**Moravsky Berou**	**23.69**	**112**	P		**P**	**06 46 41.9 -0.4**
MORC				IAmb		IAmb	06 46 53.4
	comp=Z,12nm,1.3s						
EUNU	**Eureka**	**23.82**	**336**	P		**P**	**06 46 42.7 -0.7**
NACGM	**Naroch**	**23.87**	**93**	*e*		**P**	**06 46 38.0 -6.0**
OJC	**Ojcow**	**24.26**	**108**	*e*P		**P**	**06 46 47.9 +0.3**
LANS	**Liptovska Anna**	**24.96**	**110**	*e*P		**P**	**06 46 55.4 +1.4**
LANS	**Liptovska Anna**	**24.96**	**110**	*e*P		**P**	**06 46 55.4 +1.4**
NIE	**Niedzica**	**25.09**	**109**	*e*P		**P**	**06 46 57.6 +2.4**
VYHS	**Vyhne**	**25.22**	**112**	*e*P		**P**	**06 46 59.7 +3.3**
VYHS	**Vyhne**	**25.22**	**112**	*e*P		**P**	**06 46 59.7 +3.3**
KLMR	**Klimovskoe**	**25.73**	**71**	*e*P		**P**	**06 47 01.8 +1.0**
KLMR				pmax		pmax	
	comp=Z,25nm,1.3s						
KLMR	**Klimovskoe**	**25.73**	**71**	*e*P		**P**	**06 47 01.8 +1.0**
KLMR				AMP			06 47 04.1
	comp=Z,25nm,1.3s						
KWP	**Kalwaria Pacla**	**25.92**	**106**	*e*P		**P**	**06 47 03.7 +0.9**
KWP	**Kalwaria Pacla**	**25.92**	**106**	P		**P**	**06 47 03.6 +0.9**
KWP				pmax		pmax	
	comp=Z,38nm,1.2s						
KWP	**Kalwaria Pacla**	**25.92**	**106**	P		**P**	**06 47 03.6 +0.9**
PSZ	**Piszkesteto**	**26.11**	**111**	P		**P**	**06 47 05.5 +1.0**
PSZ				pmax		pmax	
	comp=Z,30nm,1.5s						
PSZ	**Piszkesteto**	**26.11**	**111**	P		**P**	**06 47 05.5 +1.0**
PSZ				IAmb		IAmb	06 47 08.5
	comp=Z,30nm,1.5s						
AKASG	**Malin Array Be**	**27.88**	**97**	P		**P**	**06 47 17.7 -2.6**
	comp=Z,0.8nm,0.6s,baz=323,slow=10,SNR=6.2						
AKASG				LR		LR	06 57 02.9
	comp=Z,2μm,21.7s,baz=35,slow=34						
AKASG	**Malin Array Be**	**27.88**	**97**	P		**P**	**06 47 20.1 -0.2**
AKASG				pmax		pmax	
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**27.88**	**97**	P		**P**	**06 47 20.1 -0.2**
AKBB	**Malin Array Si**	**27.88**	**97**	*ce*P		**P**	**06 47 20.6 +0.3**
OBN	**Obninsk**	**27.97**	**84**	⇓*e*P		**P**	**06 47 22.6 +1.6**
OBN				*e*			06 48 26.0
OBN				*e*			06 53 39.2
OBN				pmax		pmax	
	comp=Z,50nm,1.5s						
OBN				MLR		MLR	
	comp=Z,1μm,19.0s						
BURAR	**Bucovina Array**	**28.54**	**106**	P		**P**	**06 47 25.8 -0.5**
KIRV	**Kirov**	**31.11**	**69**	*i* P		**P**	**06 47 48.2 -0.6**
AGG	**Agios Georgios**	**34.53**	**118**	P		**P**	**06 48 19.5 +0.5**
AGG				pmax		pmax	
	comp=Z,13nm,1.1s						
AGG	**Agios Georgios**	**34.53**	**118**	P		**P**	**06 48 19.5 +0.5**
AGG				IAmb		IAmb	06 48 23.2
	comp=Z,13nm,1.1s						
BELG	**Belogornoye**	**34.59**	**79**	*i* P		**P**	**06 48 20.6 +1.4**
ARU	**Arti**	**36.22**	**66**	P		**P**	**06 48 35.0 +1.7**
ARU							06 49 51.7
ARU				S		**S**	**06 54 17.4 +4.4**
ARU				SS		**SnSn**	**06 56 36.2 -2.5**
NRIK	**Noril'sk**	**36.66**	**35**	*i* P		**P**	**06 48 37.7 +0.9**
GOF	**Gofitskoye**	**38.18**	**91**	⇑*e*P		**P**	**06 48 53.5 +3.5**
BRTR	**Keskin Array B**	**38.49**	**105**	P		**P**	**06 48 51.6 -1.2**
	comp=Z,1.3nm,0.8s,baz=289,slow=4.4,SNR=3.7						
BRTR	**Keskin Array B**	**38.49**	**105**	P		**P**	**06 48 55.1 +2.2**
KIV	**Kislovodsk**	**38.90**	**92**	*i* P		**P**	**06 48 57.7 +1.5**
KIV				pmax		pmax	
	comp=Z,14nm,0.9s						
KBZ	**Khabaz**	**39.17**	**92**	P		**P**	**06 48 56.9 -1.4**
	comp=Z,3.3nm,0.9s,baz=316,slow=12,SNR=6.3						
YKA	**Yellowknife Ar**	**39.30**	**313**	P		**P**	**06 48 59.0 -0.2**
	comp=Z,2.6nm,0.9s,baz=38,slow=9.0,SNR=6.4						
YKA	**Yellowknife Ar**	**39.30**	**313**	*i* P		**P**	**06 49 00.0 +0.8**
YKA				pmax		pmax	
	comp=Z,3.0nm,0.9s						
AKTO	**Aktyubinsk**	**40.41**	**73**	P		**P**	**06 49 08.4 -0.1**
	comp=Z,1.9nm,0.6s,baz=306,slow=9.9,SNR=7.5						
ABKAR	**Akbulak array**	**42.11**	**73**	P		**P**	**06 49 24.4 +1.8**
ABKAR	**Akbulak array**	**42.11**	**73**	P		**P**	**06 49 22.2 -0.4**

TIXI	**Tiksi**	**42.24**	**15**	*ce*P		**P**	**06 49 22.1 -1.2**
BMAR	**Burnt Mountain**	**43.04**	**333**	P		**P**	**06 49 31.5 +1.5**
BRVK	**Borovoye**	**43.28**	**62**	*ce*P		**P**	**06 49 33.0 +1.0**
BRVK				pmax		pmax	
	comp=Z,7.0nm,1.7s						
BVAR	**Borovoye Array**	**43.35**	**62**	P		**P**	**06 49 31.2 -1.4**
	comp=Z,0.8nm,0.6s,baz=185,slow=11,SNR=8.5						
ILAR	**Eielson Array**	**45.83**	**332**	P		**P**	**06 49 52.5 +0.2**
	comp=Z,1.2nm,1.0s,baz=27,slow=6.3,SNR=9.8						
ILAR	**Eielson Array**	**45.83**	**332**	P		**P**	**06 49 52.3 +0.1**
ILAR	**Eielson Array**	**45.83**	**332**	P		**P**	**06 49 52.3 +0.1**
IMAR	**Indian Mountai**	**46.01**	**337**	P		**P**	**06 49 53.2 -0.4**
BCAR	**Beaver Creek A**	**46.24**	**329**	P		**P**	**06 49 57.3 +1.8**
ZALV	**Zalesovo Beam**	**47.81**	**51**	P		**P**	**06 50 07.6 -0.2**
	comp=Z,1.2nm,0.7s,baz=324,slow=7.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**47.81**	**51**	P		**P**	**06 50 09.1 +1.3**
KURK	**Kurchatov**	**48.27**	**58**	*ce*P		**P**	**06 50 11.8 +0.4**
KURK				pmax		pmax	
	comp=Z,14nm,2.5s						
KURK	**Kurchatov**	**48.27**	**58**	P		**P**	**06 50 10.6 -0.8**
KURK	**Kurchatov**	**48.27**	**58**	IAmb		IAmb	06 50 16.0
	comp=Z,4.8nm,0.9s						
KURBB	**Kurchatov Arra**	**48.31**	**58**	P		**P**	**06 50 10.6 -1.1**
	comp=Z,2.9nm,0.9s,baz=325,slow=7.4,SNR=13						
EGMT	**Eagleton**	**48.91**	**297**	P		**P**	**06 50 16.6 +0.2**
GEYT	**Alibeck**	**50.51**	**83**	LR		LR	07 15 27.0
	comp=Z,828nm,19.7s,baz=5.0,slow=40						
KKAR	**Karatay Array**	**51.41**	**69**	P		**P**	**06 50 37.5 +2.1**
KKAR	**Karatay Array**	**51.41**	**69**	P		**P**	**06 50 37.5 +2.1**
YNE	**Yellowstone No**	**51.50**	**295**	P		**P**	**06 50 37.1 +0.8**
BOZ	**Bozeman (W)**	**51.64**	**297**	P		**P**	**06 50 37.9 +0.6**
BOZ				pmax		pmax	
	comp=Z,10.0nm,1.2s						
BOZ	**Bozeman (W)**	**51.64**	**297**	P		**P**	**06 50 37.9 +0.6**
BOZ				IAmb		IAmb	06 50 40.1
	comp=Z,9.6nm,1.2s						
DGZ	**Jazzator, Alta**	**52.25**	**52**	*i* P		**P**	**06 50 42.9 +1.1**
DGZ				pmax		pmax	
	comp=Z,2.0nm,1.2s						
MK31	**Makanchi Array**	**52.88**	**58**	*ce*P		**P**	**06 50 47.5 +1.2**
MKAR	**Makanchi Array**	**52.88**	**58**	P		**P**	**06 50 45.5 -0.9**
	comp=Z,1.6nm,1.0s,baz=332,slow=4.1,SNR=7.5						
MKAR	**Makanchi Array**	**52.88**	**58**	P		**P**	**06 50 46.8 +0.5**
TORD	**Torodi Ar. Bea**	**52.99**	**156**	P		**P**	**06 50 46.4 -1.0**
	comp=Z,1.5nm,1.0s,baz=341,slow=7.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**52.99**	**156**	P		**P**	**06 50 48.8 +1.4**
BW06	**Boulder Array**	**53.19**	**293**	P		**P**	**06 50 49.4 +0.5**
PD31	**Pinedale Array**	**53.19**	**293**	P		**P**	**06 50 49.4 +0.4**
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**	**06 50 49.0 +0.1**
	comp=Z,2.3nm,0.8s,baz=58,slow=5.8,SNR=15						
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**	**06 50 48.4 -0.5**
KDAK	**Kodiak Island**	**53.34**	**332**	LR		LR	07 16 04.7
	comp=Z,881nm,20.4s,baz=65,slow=39						
AAK	**Ala-Archa**	**53.40**	**67**	*ce*P		**P**	**06 50 51.9 +1.6**
AAK				pmax		pmax	
	comp=Z,17nm,1.3s						
GAR	**Garm**	**54.77**	**72**	P		**P**	**06 51 01.8 +1.4**
HWUT	**Hardware Ranch**	**54.97**	**294**	IAmb		IAmb	06 51 06.8
	comp=Z,7.2nm,1.4s						
BGU	**Big Grassy Mou**	**56.13**	**295**	P		**P**	**06 51 09.5 -0.7**
PV14	**Lion Creek, Pa**	**56.70**	**290**	P		**P**	**06 51 12.0 -2.4**
PV14				IAmb		IAmb	06 51 16.0
	comp=Z,3.5nm,0.8s						
PV01	**Paradox Valley**	**56.72**	**289**	P		**P**	**06 51 13.2 -1.3**
PV01				IAmb		IAmb	06 51 17.0
	comp=Z,5.5nm,1.2s						
PV03	**Paradox Valley**	**56.73**	**290**	P		**P**	**06 51 15.1 +0.5**
PV03				IAmb		IAmb	06 51 16.4
	comp=Z,3.5nm,1.0s						
PV13	**Radium Mtn., P**	**56.80**	**290**	P		**P**	**06 51 15.6 +0.5**
PV13				IAmb		IAmb	06 51 17.1
	comp=Z,8.0nm,0.9s						
MSU	**Marysvale**	**57.86**	**293**	P		**P**	**06 51 21.9 -0.6**
MSU	**Marysvale**	**57.86**	**293**	P		**P**	**06 51 21.9 -0.6**
ANMO	**Albuquerque**	**58.58**	**286**	*ce*P		**P**	**06 51 28.6 +1.0**
ANMO				pmax		pmax	
	comp=Z,5.0nm,2.5s						
CCUT	**Cedar City**	**59.16**	**293**	P		**P**	**06 51 33.3 +1.7**
U15A	**North Rim**	**59.70**	**291**	IAmb		IAmb	06 51 39.8
	comp=Z,3.4nm,1.2s						
SONM	**Songino Array**	**59.83**	**40**	P		**P**	**06 51 36.8 +0.9**
	comp=Z,0.3nm,0.5s,baz=349,slow=4.5,SNR=4.0						
SONM	**Songino Array**	**59.83**	**40**	IAmb		IAmb	06 51 38.5
	comp=Z,3.3nm,1.4s						
TXAR	**Lajitas Array**	**62.25**	**280**	P		**P**	**06 51 52.1 -0.5**
	comp=Z,1.3nm,1.1s,baz=45,slow=3.7,SNR=6.0						
CMAR	**Chiang Mai Arr**	**84.29**	**59**	P		**P**	**06 54 02.1 -0.5**
	comp=Z,0.6nm,0.3s,baz=324,slow=5.9,SNR=5.2						

SOME **14** *06:44:41.1,44°.63N×82°.28E,h30km*
NNC **14** *06:44:41.5±1.5,44°.64N×82°.07E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=14.9km s-min=4.6km az=127.0
ISC 14 06:44:46.4±2.2,44°.64N±0°.09×82°.5E±0°.1,h35km,n16,
σ2s03/26,2C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.93**	**262**	*e*P		**Pn**		**06 45 13.4**	**-3.4**
DJR	7.8nm,0.2s			*e*S		**Sn**		**06 45 36.7**	**-3.1**
	8.5nm,0.2s								
DJR	**Jarkent**	**1.93**	**262**	P		**Pn**		**06 45 13.4**	**-3.4**
DJR	7.8nm,0.2s			S		**Sn**		**06 45 36.7**	**-3.1**
	8.5nm,0.2s								
MK31	**Makanchi Array**	**2.16**	**357**	Pn		**Pn**		**06 45 18.9**	**-1.0**
	11nm,0.3s,baz=188,slow=16,SNR=284								
MK31				⇑Sn		**Sn**		**06 45 47.0**	**+1.5**
	5.2nm,0.3s,baz=186,slow=27,SNR=11								
MAKZ	**Makanchi**	**2.20**	**351**	⇑Pn		**Pn**		**06 45 18.9**	**-1.5**
MAKZ	6.2nm,0.5s			⇓Sn		**Sn**		**06 45 47.3**	**+0.9**
	13nm,0.5s								
PDGK	**Podgornoye**	**2.50**	**240**	Pg		**Pn**		**06 45 22.5**	**-2.3**
PDGK	0.8nm,0.1s			Lg		Lg		06 45 52.3	
	6.4nm,0.5s								
UZB	**Uzynbulak**	**2.89**	**240**	*e*P		**Pn**		**06 45 29.6**	**-0.4**
UZB	4.3nm,0.2s			*e*S		**Sn**		**06 46 04.3**	**+0.6**
	8.2nm,0.2s								
UZB	**Uzynbulak**	**2.89**	**240**	Pg		**Pn**		**06 45 29.6**	**-0.4**
UZB	4.3nm,0.2s			Lg		Lg		06 46 04.3	
	8.2nm,0.2s								
TDK	**Taldyqorghan**	**2.90**	**279**	*e*P		**Pn**		**06 45 30.7**	**+0.6**
TDK	32nm,0.2s			*e*S		**Sn**		**06 46 06.1**	**+2.4**
	59nm,0.3s								
TDK	**Taldyqorghan**	**2.90**	**279**	Pg		**Pn**		**06 45 30.7**	**+0.6**
TDK	32nm,0.2s			Lg		Lg		06 46 06.1	
	59nm,0.3s								
KPKS	**Kokpek**	**2.96**	**248**	*e*P		**Pn**		**06 45 29.9**	**-1.0**
KPKS	12nm,0.2s			*e*S		**Sn**		**06 46 05.2**	**0.0**
	37nm,0.2s								
MNBS	**Baschi**	**2.96**	**261**	*e*P		**Pn**		**06 45 30.2**	**-0.8**
MNBS	5.4nm,0.2s			*e*S		**Sn**		**06 46 05.6**	**+0.3**
	19nm,0.4s								
MNBS	**Baschi**	**2.96**	**261**	Pg		**Pn**		**06 45 30.2**	**-0.8**
MNBS	5.4nm,0.2s			Lg		Lg		06 46 05.6	
	19nm,0.4s								
SATY	**Saty**	**3.32**	**243**	*e*P		**Pn**		**06 45 37.8**	**+1.8**
SATY	2.7nm,0.2s			*e*S		**Sn**		**06 46 18.4**	**+4.1**
	16nm,0.4s								
SATY	**Saty**	**3.32**	**243**	Pg		**Pn**		**06 45 37.8**	**+1.8**
SATY	2.7nm,0.2s			Lg		Lg		06 46 18.4	
	16nm,0.4s								
ARXS	**Arharly**	**3.34**	**264**	*e*P		**Pn**		**06 45 37.0**	**+0.9**
ARXS	3.9nm,0.3s			*e*S		**Sn**		**06 46 17.2**	**+2.5**
	18nm,0.3s								
ARXS	**Arharly**	**3.34**	**264**	Pg		**Pn**		**06 45 37.0**	**+0.9**
ARXS	3.9nm,0.3s			Lg		Lg		06 46 17.2	
	18nm,0.3s								

VIE 14 06:45:53.0±0.2,46°.86N×14°.54E,h0km,mb0.7/2,ml1.3/5,
Error ellipse: s-maj=1.4km s-min=0.8km az=179.0 2 km NNW of Klein Sankt Paul Suspected Mining explosion.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.35**	**178**	*e*Pg		Pg		06 45 59.9	+0.3
	1.5nm,0.1s								
OBKA				*e*Sg		Sg		06 46 04.8	+0.7
	9.8nm,0.3s								
SOKA	**Soboth**	**0.39**	**117**	*e*Pg		Pg		06 46 00.4	+0.1
	1.2nm,0.2s								
SOKA				*e*Sg		Sg		06 46 05.9	+0.6
	0.9nm,0.2s								
MYKA	**Terra Mystica**	**0.66**	**250**	*e*Sg		Sg		06 46 14.7	+0.7
	0.7nm,0.1s								
ARSA	**Arzberg**	**0.78**	**59**	*e*Pg		Pg		06 46 08.0	+0.1
	0.4nm,0.1s								
ARSA				*e*Sg		Sg		06 46 18.8	+0.7
	0.9nm,0.2s								
KBA	**Koelnbreinsper**	**0.84**	**286**	*e*Sg		Sg		06 46 21.3	+1.2
	2.5nm,0.2s								

IDC **14** *07:24:21.1±2.9,34°.64S×179°.81W,h0km,mb3.7/2,*
mb1 3.9/3,mb1mx3.7/24,mbtmp3.7/3,ML3.5/1,MS4.1/1,
Ms1 4.1/1,ms1mx3.5/34,Error ellipse: s-maj=66.8km
s-min=44.6km az=124.0
NEIC **14** *07:24:25.3±1.1,34°.9S±0°.1×179°.7W±0°.2,h33km±5km,*
mb4.1/7,Error ellipse: s-maj=24.2km s-min=14.7km
az=99.0
WEL **14** *07:24:30.0±0.9,35°.S±11°×18°.0W±1°.5,h33km,M3.9/18,*
mB4.8/1,ML4.2/18,MLv3.9/18,Mw(mB)4.1/1,Error ellipse:
s-maj=0.0km s-min=0.0km az=122.6
ISC 14 07:24:26.5±1.2,34°.95S±0°.07×179°.7W±0°.1,h43km,n41,
σ1s21/59,mb4.0/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.08**	**212**	P		**Pn**		**07 25 12.0**	**-0.5**
MXZ				S		**Sn**		**07 25 47.8**	**-0.2**
MXZ	**Matakaoa Point**	**3.08**	**212**	Pn		**Pn**		**07 25 12.0**	**-0.5**
WMGZ	**Waiomatatini S**	**3.25**	**208**	P		**Pn**		**07 25 16.5**	**+1.5**
WMGZ				S		**Sn**		**07 25 52.7**	**+0.3**
PKGZ	**Pakihiroa**	**3.45**	**211**	P		**Pn**		**07 25 18.6**	**+1.0**
PKGZ				S		**Sn**		**07 25 56.4**	**-0.9**
HAZ	**Te Kaha**	**3.47**	**216**	P		**Pn**		**07 25 19.0**	**+1.0**
HAZ				S		**Sn**		**07 25 59.3**	**+1.6**
PUZ	**Puketiti**	**3.53**	**208**	P		**Pn**		**07 25 19.5**	**+0.7**
PUZ				S		**Sn**		**07 25 58.1**	**-1.2**
RUGZ	**Raukumara Rang**	**3.69**	**215**	P		**Pn**		**07 25 22.0**	**+0.9**
RUGZ				S		**Sn**		**07 26 03.0**	**-0.3**
TWGZ	**Tauwhareparae**	**3.73**	**210**	P		**Pn**		**07 25 22.5**	**+0.9**
CNGZ	**Carnagh Statio**	**3.91**	**205**	P		**Pn**		**07 25 25.3**	**+1.2**
TKGZ	**Te Karaka**	**4.01**	**209**	P		**Pn**		**07 25 26.4**	**+1.0**
TKGZ				S		**Sn**		**07 26 10.4**	**-0.6**
URZ	**Urewera**	**4.19**	**217**	Pn		**Pn**		**07 25 28.1**	**+0.3**
	2.7nm,0.3s,baz=272,slow=3.9,SNR=11								
URZ				Sn		**Sn**		**07 26 14.3**	**-1.3**
	4.3nm,0.3s,baz=53,slow=23,SNR=7.0								
URZ	**Urewera**	**4.19**	**217**	P		**Pn**		**07 25 28.9**	**+1.0**
URZ				S		**Sn**		**07 26 14.0**	**-1.6**
URZ	**Urewera**	**4.19**	**217**	Pn		**Pn**		**07 25 28.7**	**+0.9**
OPRZ	**Ohinepanea**	**4.20**	**225**	P		**Pn**		**07 25 28.8**	**+1.0**
RAGZ	**Rawiri**	**4.24**	**213**	P		**Pn**		**07 25 29.3**	**+0.7**
RAGZ				S		**Sn**		**07 26 15.5**	**-1.3**
RIGZ	**Rimuhau**	**4.27**	**208**	P		**Pn**		**07 25 29.4**	**+0.4**
RIGZ				S		**Sn**		**07 26 17.1**	**-0.5**
TGRZ	**Tauranga**	**4.30**	**229**	P		**Pn**		**07 25 32.4**	**+3.1**
PRGZ	**Paritu Road**	**4.42**	**206**	P		**Pn**		**07 25 31.0**	**0.0**
PRGZ				S		**Sn**		**07 26 21.1**	**-0.1**
MUGZ	**Murupara**	**4.53**	**218**	P		**Pn**		**07 25 33.0**	**+0.5**
MUGZ				S		**Sn**		**07 26 21.9**	**-2.1**
RTZ	**Ruatahuna**	**4.54**	**215**	P		**Pn**		**07 25 33.4**	**+0.7**
RTZ				S		**Sn**		**07 26 21.8**	**-2.4**
KNZ	**Kokohu**	**4.58**	**207**	P		**Pn**		**07 25 32.7**	**-0.5**
KNZ				S		**Sn**		**07 26 21.6**	**-3.6**
MHGZ	**Mahia Peninsul**	**4.62**	**204**	P		**Pn**		**07 25 33.0**	**-0.7**
MTHZ	**Maungataniwha**	**4.79**	**215**	P		**Pn**		**07 25 37.5**	**+1.3**
NMHZ	**Na

CO02					IAmb	IAmb	07 57 37.9	
	comp=Z,16nm,1.3s							
CO03	**El Pedregal**	**39.28**	**292**	P	**P**	**P**	**07 57 38.2**	**0.0**
CO03					IAmb	IAmb	07 57 50.6	
	comp=Z,10nm,1.3s							
CO03					PcP	**PcP**	**07 59 45.7**	**+0.9**
CO01	**Juntas del Tor**	**39.66**	**293**	P	**P**	**P**	**07 57 41.9**	**+0.4**
MAW	**Mawson**	**40.22**	**144**	P	**P**	**P**	**07 57 45.5**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=242,slow=7.0,SNR=7.7							
MAW	**Mawson**	**40.22**	**144**	P	**P**	**P**	**07 57 46.0**	**+0.6**
AC05	**El Transito**	**40.67**	**294**	P	**P**	**P**	**07 57 49.0**	**-0.8**
AC04	**Llanos de Chal**	**41.59**	**294**	P	**P**	**P**	**07 57 56.8**	**-0.3**
AC04					IAmb	IAmb	07 57 57.7	
	comp=Z,8.1nm,0.7s							
AC04					PcP	**PcP**	**07 59 52.7**	**+0.5**
AC02	**Maricunga**	**41.73**	**297**	P	**P**	**P**	**07 57 59.6**	**+0.7**
AC02					IAmb	IAmb	07 58 00.4	
	comp=Z,7.2nm,0.8s							
GO02	**Mina Guanaco**	**43.34**	**298**	P	**P**	**P**	**07 58 11.9**	**+0.1**
GO02					IAmb	IAmb	07 58 13.0	
	comp=Z,8.2nm,0.7s							
PB14	**IPOC Station P**	**44.19**	**297**	P	**P**	**P**	**07 58 17.7**	**-0.9**
PB14					IAmb	IAmb	07 58 24.2	
	comp=Z,10nm,1.2s							
LVC	**Limon Verde**	**45.16**	**301**	P	**P**	**P**	**07 58 26.7**	**+0.4**
PB09	**IPOC Station P**	**46.01**	**301**	P	**P**	**P**	**07 58 33.7**	**+1.0**
PB09					IAmb	IAmb	07 58 34.4	
	comp=Z,7.4nm,0.7s							
PB07	**IPOC Station P**	**46.38**	**300**	P	**P**	**P**	**07 58 35.9**	**+0.2**
VNDA	**Vanda**	**46.51**	**183**	P	**P**	**P**	**07 58 36.1**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=182,slow=7.5,SNR=9.4							
VNDA	**Vanda**	**46.51**	**183**	P	**P**	**P**	**07 58 36.5**	**+0.6**
PB01	**IPOC Station P**	**46.77**	**301**	P	**P**	**P**	**07 58 38.8**	**+0.2**
PATCX	**Punta Patache**	**47.28**	**300**	P	**P**	**P**	**07 58 42.1**	**-0.5**
PB08	**IPOC Station P**	**47.38**	**302**	P	**P**	**P**	**07 58 44.5**	**+0.8**
PB08					IAmb	IAmb	07 58 45.6	
	comp=Z,7.4nm,0.6s							
GO01	**Chusmiza**	**47.81**	**302**	P	**P**	**P**	**07 58 47.5**	**+0.4**
PB11	**IPOC Station P**	**47.95**	**302**	P	**P**	**P**	**07 58 48.1**	**+0.2**
PSGCX	**Pisagua**	**48.31**	**301**	P	**P**	**P**	**07 58 50.9**	**+0.4**
PSGCX					IAmb	IAmb	07 58 51.4	
	comp=Z,5.7nm,0.5s							
MNMC	**Minye Minye**	**48.46**	**302**	P	**P**	**P**	**07 58 52.3**	**+0.4**
PB16	**IPOC Station P**	**49.10**	**303**	P	**P**	**P**	**07 58 57.8**	**+0.6**
LBTB	**Lobatse**	**49.21**	**73**	P	**P**	**P**	**07 58 57.5**	**+0.1**
LBTB					IAmb	IAmb	07 59 03.1	
	comp=Z,8.1nm,1.2s							
H10N1	**ASCENSION HYDR**	**49.22**	**17**	T	T	T	08 52 06.7	
	baz=189,slow=75,SNR=3.4							
H10N3	**ASCENSION HYDR**	**49.22**	**17**	T	T	T	08 52 07.9	
	baz=189,slow=75,SNR=6.8							
H10N2	**ASCENSION HYDR**	**49.24**	**17**	T	T	T	08 52 05.6	
	baz=189,slow=75,SNR=5.4							
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**P**	**07 59 06.9**	**+1.0**
	comp=Z,2.5nm,0.3s,baz=131,slow=3.6,SNR=39							
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**P**	**07 59 06.4**	**+0.5**
LPAZ					IAmb	IAmb	07 59 08.3	
	comp=Z,11nm,1.4s							
SAML	**Samuel**	**54.70**	**315**	P	**P**	**P**	**07 59 37.6**	**-0.5**
SAML					PcP	**PcP**	**08 00 40.6**	**+1.2**
DBIC	**Dimbokro**	**65.29**	**25**	P	**P**	**P**	**08 00 51.0**	**+0.7**
	comp=Z,5.4nm,0.8s,baz=195,slow=7.6,SNR=4.4							
DBIC	**Dimbokro**	**65.29**	**25**	P	**P**	**P**	**08 00 50.2**	**-0.1**
TOA0	**Torodi Ar. Sit**	**73.19**	**30**	P	**P**	**P**	**08 01 39.3**	**+0.3**
TOA0					IAmb	IAmb	08 01 40.0	
	comp=Z,5.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**73.19**	**30**	P	**P**	**P**	**08 01 39.5**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=200,slow=6.5,SNR=31							
TORD	**Torodi Ar. Bea**	**73.19**	**30**	P	**P**	**P**	**08 01 39.2**	**+0.2**
ASAR	**Alice Springs**	**99.00**	**163**	P	Pdif		08 03 47.8	-0.8
	comp=Z,0.4nm,0.6s,baz=185,slow=4.0,SNR=6.8							
FINES	**FINESS Array B**	**124.52**	**28**	PKP	**PKPdf**		**08 09 04.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=262,slow=6.9,SNR=3.7							
FINES	**FINESS Array B**	**124.52**	**28**	PKPdf	**PKPdf**		**08 09 04.3**	**-0.7**
ABKAR	**Akbulak array**	**127.56**	**56**	PKPdf	**PKPdf**		**08 09 10.3**	**-0.9**
KKAR	**Karatay Array**	**128.42**	**68**	PKPdf	**PKPdf**		**08 09 12.2**	**-0.9**
YKA	**Yellowknife Ar**	**136.08**	**318**	PKP	**PKPdf**		**08 09 26.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=109,slow=2.8,SNR=3.4							
MKAR	**Makanchi Array**	**137.09**	**72**	PKP	**PKPdf**		**08 09 30.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=222,slow=1.9,SNR=3.2							
MKAR	**Makanchi Array**	**137.09**	**72**		**PKPdf**		**08 09 29.8**	**+0.5**
KURBB	**Kurchatov Arra**	**137.50**	**65**	PKP	**PKiKP**		**08 09 31.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=248,slow=2.3,SNR=3.2							
KURK	**Kurchatov**	**137.60**	**65**		**PKPdf**		**08 09 30.2**	**+0.1**
ZALV	**Zalesovo Beam**	**142.57**	**64**	PKhKP	PKPpre		08 09 34.0	
	comp=Z,0.6nm,0.3s,baz=273,slow=4.0,SNR=3.0							
INK	**Inuvik**	**145.72**	**321**	PKPbc	**PKPdf**		**08 09 44.4**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=83,slow=1.9,SNR=6.5							
INK	**Inuvik**	**145.72**	**321**	PKPdf	**PKPbc**		**08 09 44.1**	**+0.2**
DAWY	**Dawson**	**146.68**	**312**	PKPdf	**PKPbc**		**08 09 47.3**	**-0.5**
BALM	**Baldy**	**146.93**	**306**	PKPbc	**PKPab**		**08 09 50.4**	**+0.1**
RIDG	**Independent Ri**	**148.89**	**310**	PKPbc	**PKPbc**		**08 09 53.9**	**+0.2**
BMAR	**Burnt Mountain**	**149.59**	**317**	PKPbc	**PKPbc**		**08 09 55.8**	**+0.6**
IL31		**150.00**	**312**	PKPbc	**PKPbc**		**08 09 56.5**	**+0.4**
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	**PKPbc**		**08 09 55.9**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=135,slow=1.8,SNR=32							
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	**PKPbc**		**08 09 55.5**	**-0.7**
CCB	**Clear Creek Bu**	**150.36**	**311**	PKPbc	**PKPbc**		**08 09 55.8**	**-1.3**
SONM	**Songino Array**	**150.93**	**87**	PKPbc	**PKPbc**		**08 09 58.4**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=219,slow=2.5,SNR=14							
SONM	**Songino Array**	**150.93**	**87**	PKPbc	**PKPbc**		**08 09 58.1**	**-1.1**
KTH	**Kantishna Hill**	**151.48**	**308**	PKPbc	**PKPbc**		**08 09 59.6**	**-0.3**
BPAW	**Bear Paw Mtn.**	**151.61**	**310**	PKPbc	**PKPbc**		**08 09 59.3**	**-0.8**
IMAR	**Indian Mountai**	**153.03**	**313**	PKPbc	**PKPbc**		**08 10 02.2**	**-0.9**

*IDC **14** 07:56:48.6±2.2, 6°.59N×92°.97E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/41, mbtmp3.6/6, ML4.4/1, Error ellipse: s-maj=89.0km s-min=20.6km az=60.0*
*NEIC **14** 07:56:54.5±1.5, 7°.6N±0°.2×94°.4E±0°.1, h10km±2km, mb4.2/7, Error ellipse: s-maj=32.5km s-min=4.9km az=208.0*

ISC 14 07:56:54.4±1.5, **7°.6N**±0°.2×**94°.4E**±0°.2, **h10**km, **n21**, σ1§**64**/**18**, **mb4.1**/**9**, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LHMI	**Lhok Sumawe**	**3.39**	**133**	Pn	**Pn**	**Pn**	**07 57 47.9**	**+0.5**
LHMI				Sn	**Sn**	**Sn**	**07 58 26.2**	**-1.7**
KULM	**Kulim**	**6.57**	**110**	Pn	**Pn**	**Pn**	**07 58 31.3**	**+0.2**
IPM	**Ipoh**	**7.22**	**115**		**Pn**	**Pn**	**07 58 39.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.69**	**22**	Pn	Pn	Pn	07 59 56.8	+15
	0.6nm,0.3s,baz=245,slow=13,SNR=2.7							
KSM	**Kuching**	**16.92**	**110**			**P**	**08 00 54.8**	**+1.3**
CISI	**Cisompet, Garu**	**20.07**	**138**	P		**P**	**08 01 28.2**	**0.0**
KKM	**Kota Kinabalu**	**21.67**	**93**	P		**P**	**08 01 46.3**	**+0.7**
KKM				IAmb		IAmb	08 02 03.0	
	comp=Z,8.2nm,0.7s							
H08S3	**Diego Garcia H**	**26.58**	**236**	T		T	08 29 14.3	
	baz=55,slow=75,SNR=10							
H08S2	**Diego Garcia H**	**26.58**	**236**	T		T	08 29 13.7	
	baz=55,slow=75,SNR=9.8							
H08S1	**Diego Carcia H**	**26.60**	**236**	T		T	08 29 18.6	
	baz=55,slow=75,SNR=7.3							
MKAR	**Makanchi Array**	**40.47**	**347**	P		**P**	**08 04 33.0**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=181,slow=7.9,SNR=9.8							
MKAR	**Makanchi Array**	**40.47**	**347**	P		**P**	**08 04 32.2**	**-1.1**
KURBB	**Kurchatov Arra**	**44.93**	**346**	P		**P**	**08 05 09.7**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=172,slow=7.0,SNR=15							
KURK	**Kurchatov**	**45.00**	**346**	P		**P**	**08 05 09.5**	**-0.4**
KURK				IAmb		IAmb	08 05 12.9	
	comp=Z,2.3nm,1.1s							
ZALV	**Zalesovo Beam**	**46.92**	**352**	P		**P**	**08 05 27.8**	**+2.8**
	comp=Z,0.9nm,0.5s,baz=187,slow=11,SNR=2.6							
ZALV	**Zalesovo Beam**	**46.92**	**352**	P		**P**	**08 05 20.7**	**-4.3**
WB0	**Warramunga Arr**	**47.79**	**125**	P		**P**	**08 05 34.5**	**+2.1**
WB0				IAmb		IAmb	08 05 35.4	
	comp=Z,5.0nm,1.4s							
WRA	**Warramunga Arr**	**47.83**	**125**	P		**P**	**08 05 33.9**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=306,slow=8.5,SNR=2.5							
WRA	**Warramunga Arr**	**47.83**	**125**	P		**P**	**08 05 33.3**	**+0.6**
WRAB	**Tennant Creek**	**47.84**	**125**	P		**P**	**08 05 32.4**	**-0.3**
WRAB				IAmb		IAmb	08 05 42.5	
	comp=Z,3.5nm,1.4s							
ASAR	**Alice Springs**	**49.48**	**130**	P		**P**	**08 05 44.5**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=304,slow=6.6,SNR=2.5							

*MDD **14** 08:14:11.7±1.0, 34°.97N×3°.88W, h19km±5km, mbLg2.4/19, Error ellipse: s-maj=13.3km s-min=3.7km az=0.0, PRXIMO*
*SFS **14** 08:14:11.0, 35°.10N×3°.93W, ML2.5, TAMASSINT (MARRUECOS)*
*CNRM **14** 08:14:12.2, 35°.09N×3°.95W, h22km*

*INMG **14** 08:14:13.6±1.5, 35°.10N×4°.02W, h13km±10km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.5km az=96.0*

ISC 14 08:14:12.4±1.0, **35°.12N**±0°.03×**3°.92W**±0°.02, **h27**km±8km, **n54**, σ1§**77**/**97**, **2C-2D**, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PVLZ	**Peæn de**	**0.32**	**281**	P		**Pb**	**08 14 19.6**	**-0.3**
PVLZ				S		**Sb**	**08 14 25.3**	**+0.4**
PVLZ	**Peæn de**	**0.32**	**281**	*i*P		**Pb**	**08 14 19.6**	**-0.3**
PVLZ				*i*S		**Sb**	**08 14 25.3**	**+0.4**
GOG	**Mont Gurugu**	**0.77**	**82**	P		**Pb**	**08 14 25.7**	**-1.6**
GOG				S		**Sb**	**08 14 37.5**	**+0.1**
EMEL	**Melilla**	**0.81**	**77**	⇑P		**Pn**	**08 14 26.7**	**-1.4**
	401nm,0.6s,SNR=18							
EMEL				S		**Sb**	**08 14 38.0**	**-0.6**
	648nm,0.2s,SNR=5.8							
MELI	**Melilla**	**0.83**	**77**	P		**Pn**	**08 14 26.7**	**-1.7**
	70nm,0.2s,SNR=7.9							
MELI				S		**Sb**	**08 14 39.0**	**0.0**
	144nm,0.2s,SNR=7.9							
MELI	**Melilla**	**0.83**	**77**	*i*P		**Pn**	**08 14 27.0**	**-1.3**
MELI				*e*S		**Sn**	**08 14 39.6**	**-0.1**
EALB	**Alboran**	**1.10**	**41**	P		**Pn**	**08 14 31.5**	**-0.5**
	34nm,0.3s,SNR=9.0							
EALB				S		**Sn**	**08 14 46.0**	**-0.3**
	87nm,0.7s							
JBK	**JBK**	**1.36**	**124**	P		**Pn**	**08 14 34.5**	**-1.4**
JBK				S		**Sn**	**08 14 52.5**	**-0.7**
CEU	**Ceuta**	**1.42**	**304**	P		**Pn**	**08 14 34.6**	**-1.8**
CEU				S		**Sn**	**08 14 51.8**	**-2.4**
CEU	**Ceuta**	**1.42**	**304**	*e*P		**Pn**	**08 14 34.6**	**-1.8**
CEU				*e*S		**Sn**	**08 14 51.8**	**-2.4**
ECEU	**Ceuta**	**1.42**	**304**	P		**Pn**	**08 14 36.9**	**+0.4**
	9.0nm,0.1s,SNR=7.9							
EMAL	**Malaga-Limoner**	**1.69**	**346**	P		**Pn**	**08 14 38.2**	**-2.0**
EMAL				S		**Sn**	**08 14 58.9**	**-2.1**
EMAL	**Malaga-Limoner**	**1.69**	**346**	*e*P		**Pn**	**08 14 38.2**	**-2.0**
EMAL				*e*S		**Sn**	**08 14 58.9**	**-2.1**
ELGU	**Los Guajares,**	**1.77**	**8**	P		**Pn**	**08 14 40.6**	**-0.7**
	4.1nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**08 15 03.7**	**+0.8**
	50nm,0.4s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.83**	**317**	P		**Pn**	**08 14 42.5**	**+0.3**
	SNR=7.9							
IFR	**Ifrane**	**1.88**	**212**	*i*P		**Pn**	**08 14 43.5**	**+0.5**
IFR				*e*S		**Sn**	**08 15 06.2**	**+0.3**
EBER	**Berja**	**1.97**	**25**	P		**Pn**	**08 14 44.2**	**0.0**
	4.0nm,0.3s,SNR=6.7							
EBER				S		**Sb**	**08 15 10.5**	**-1.3**
	23nm,0.5s,SNR=5.9							
EGOR	**Sierra Gorda,**	**2.00**	**356**	P		**Pn**	**08 14 45.8**	**+1.3**
	1.7nm,0.3s,SNR=7.9							
EGOR				S		**Sb**	**08 15 12.1**	**-0.6**
	19nm,0.5s,SNR=7.9							
EQUE	**Quentar**	**2.12**	**10**	P		**Pn**	**08 14 47.6**	**+1.3**
	2.2nm,0.4s,SNR=5.9							
EQUE				S		**Sb**	**08 15 14.4**	**-1.8**
	12nm,0.5s							
MD31	**MD31**	**2.35**	**197**	P		**Pn**	**08 14 50.4**	**+1.1**
MD31				S		**Sn**	**08 15 19.0**	**+1.7**
ESPR	**Espera**	**2.35**	**319**	P		**Pb**	**08 14 54.1**	**0.0**
	1.8nm,0.3s,SNR=5.5							
ESPR				S		**Sb**	**08 15 22.2**	**-0.4**
	9.6nm,0.3s,SNR=4.6							
MDT	**Midelt**	**2.37**	**194**	P		**Pn**	**08 14 50.7**	**+1.1**
MDT				S		**Sn**	**08 15 17.2**	**-0.5**
TDRA	**Tendrara**	**2.60**	**142**	P		**Pn**	**08 14 52.3**	**-0.5**
TDRA				Lg		Lg	08 15 34.0	
EQES	**Quesada**	**2.77**	**14**	P		**Pn**	**08 14 56.9**	**+1.8**
	5.5nm,0.4s,SNR=8.3							
EQES				S		**Sn**	**08 15 29.8**	**+2.1**
	8.8nm,0.4s,SNR=7.9							
HORN	**Hornachuelos**	**2.93**	**339**	P		**Pn**	**08 14 58.0**	**+0.8**
HORN				S		**Sn**	**08 15 34.1**	**+2.6**
EADA	**Adamuz**	**3.09**	**350**	P		**Pn**	**08 15 01.6**	**+2.1**
	0.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**08 15 37.9**	**+2.3**
	3.8nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**3.19**	**338**	S		**Sn**	**08 15 39.0**	**+1.0**
	2.9nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**3.20**	**20**	S		**Sn**	**08 15 42.2**	**+3.9**
	10nm,0.4s,SNR=7.9							
SESP	**Santiago Espad**	**3.20**	**20**	S		**Sn**	**08 15 41.0**	**+2.7**
EMIN	**Mina Concepcio**	**3.45**	**321**	P		**Pn**	**08 15 04.7**	**+0.3**
	2.7nm,0.7s,SNR=8.5							
EMIN				S		**Sn**	**08 15 44.5**	**+0.1**
	1.9nm,0.3s							
EGRO	**El Granado**	**3.75**	**311**	P		**Pn**	**08 15 09.3**	**+0.8**
	3.5nm,0.4s,SNR=11							
EGRO				S		**Sn**	**08 15 51.5**	**-0.4**
	8.1nm,0.4s							
PVAQ	**Vaqueiros**	**3.82**	**308**	P		**Pn**	**08 15 10.8**	**+1.3**
PVAQ				S		**Sn**	**08 15 52.7**	**-0.8**
	5.3nm,0.3s							
PVAQ	**Vaqueiros**	**3.82**	**308**	P		**Pn**	**08 15 10.4**	**+0.9**
PVAQ				S		**Sn**	**08 15 52.8**	**-0.8**
PVAQ	**Vaqueiros**	**3.82**	**308**	*e*Pn		**Pn**	**08 15 10.8**	**+1.3**
PVAQ				*e*Sn		**Sn**	**08 15 52.7**	**-0.8**
PVAQ				A		A	08 15 56.0	
	5.3nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.88**	**304**	P		**Pn**	**08 15 11.1**	**+0.8**
PBDV				S		**Sn**	**08 15 54.9**	**0.0**
	6.1nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.88**	**304**	*e*Pn		**Pn**	**08 15 11.1**	**+0.8**
PBDV				*e*Sn		**Sn**	**08 15 54.9**	**0.0**
PBDV				A		A	08 16 00.1	
	6.1nm,0.6s							
ETOB	**Tobarra**	**4.00**	**28**	P		**Pn**	**08 15 14.3**	**+2.2**
	2.9nm,0.5s,SNR=16							
ETOB				S		**Sn**	**08 16 01.7**	**+3.5**
	0.6nm,0.2s							
PCVE	**Castro Verde**	**4.16**	**308**	P		**Pn**	**08 15 16.1**	**+1.9**
PCVE				S		**Sn**	**08 16 01.5**	**-0.5**
	3.6nm,0.8s							
PCVE	**Castro Verde**	**4.16**	**308**	*e*Pn		**Pn**	**08 15 16.1**	**+1.9**
PCVE				*e*Sn		**Sn**	**08 16 01.5**	**-0.5**
PCVE				A		A	08 16 06.5	
	3.6nm,0.8s							
PFVI	**Vila Bisbo**	**4.45**	**298**	P		**Pn**	**08 15 19.1**	**+1.0**
	1.4nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**08 16 07.3**	**-1.7**
	3.1nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.45**	**298**	*e*Pn		**Pn**	**08 15 19.2**	**+1.1**
PFVI				*e*Sn		**Sn**	**08 16 07.7**	**-1.3**
PFVI				A		A	08 16 23.9	
	9.4nm,0.8s							
TZRR	**Tazzarine**	**4.54**	**198**	P		**Pn**	**08 15 20.6**	**+1.2**
TZRR				Lg		Lg	08 16 32.4	
PTEO	**Sao Teotonio**	**4.57**	**303**	P		**Pn**	**08 15 21.4**	**+1.6**
PTEO				S		**Sn**	**08 16 05.2**	**-6.8**
PTEO	**Sao Teotonio**	**4.57**	**303**	*e*Pn		**Pn**	**08 15 21.4**	**+1.6**
PTEO				*e*Sn		**Sn**	**08 16 05.2**	**-6.8**
PNCL	**Nicolau / Gran**	**4.76**	**310**	P		**Pn**	**08 15 23.8**	**+1.4**
PNCL				S		**Sn**	**08 16 16.1**	**-0.6**
	3.5nm,0.7s							
PNCL	**Nicolau / Gran**	**4.76**	**310**	*e*Pn		**Pn**	**08 15 23.8**	**+1.4**
PNCL				*e*Sn		**Sn**	**08 16 16.1**	**-0.6**
PNCL				A		A	08 16 21.4	
	3.5nm,0.7s							
OUZM	**OUZ**	**4.82**	**210**	P		**Pn**	**08 15 25.0**	**+1.6**
OUZM				S		**Sn**	**08 16 20.0**	**+1.6**
OUK	**Oukaimeden**	**5.11**	**221**	P		**Pn**	**08 15 28.1**	**+0.6**
OUK				S		**Sn**	**08 16 26.6**	**+0.7**
ZGR	**Zagora**	**5.18**	**196**	P		**Pn**	**08 15 30.5**	**+2.1**
ZGR				Lg		Lg	08 16 54.1	
PMTG	**Montargil**	**5.23**	**320**	P		**Pn**	**08 15 30.7**	**+1.8**
PMTG				S		**Sn**	**08 16 28.2**	**-0.1**
	3.0nm,0.9s							
PMTG	**Montargil**	**5.23**	**320**	*e*Pn		**Pn**	**08 15 30.7**	**+1.8**
PMTG				*e*Sn		**Sn**	**08 16 28.2**	**-0.1**
PMTG				A		A	08 16 41.5	
	3.0nm,0.9s							
PSBE	**So Bento**	**5.86**	**320**	*e*Pn		**Pn**	**08 15 41.0**	**+3.5**
MVO	**Moncorvo**	**6.52**	**339**	*e*Pn		**Pn**	**08 15 46.6**	**0.0**
PBRG	**Braganca**	**7.04**	**343**	*e*Pn		**Pn**	**08 15 56.2**	**+2.5**

*IDC **14** 08:23:48.9±1.4, 6°.90N×93°.59E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/42, mbtmp3.7/7, ML4.6/1, Error ellipse: s-maj=65.4km s-min=21.2km az=56.0*
*NEIC **14** 08:23:54.4±1.3, 7°.4N±0°.1×94°.4E±0°.2, h20km±9km, mb4.3/9, Error ellipse: s-maj=36.4km s-min=5.8km az=55.0*

ISC 14 08:23:52.7±1.1, **7°.4N**±0°.2×**94°.3E**±0°.2, **h10**km, **n26**, σ0§**72**/**22**, **mb4.2**/**10**, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RPSI	**Rantau Prapat**	**6.57**	**136**	Pn	**Pn**	**Pn**	**08 25 30.2**	**+0.7**
KULM	**Kulim**	**6.64**	**108**	Pn	**Pn**	**Pn**	**08 25 30.9**	**+0.4**
IPM	**Ipoh**	**7.28**	**113**		**Pn**	**Pn**	**08 25 39.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn	Pn	Pn	08 26 50.9	+9.1
	1.0nm,0.3s,baz=215,slow=14,SNR=4.4							
UGM	**Wanagama**	**22.21**	**133**	P		**P**	**08 28 49.4**	**-0.3**
H08S3	**Diego Garcia H**	**26.43**	**236**	T		T	08 56 11.8	
	baz=55,slow=75,SNR=78							
H08S2	**Diego Garcia H**	**26.43**	**236**	T		T	08 56 09.7	
	baz=55,slow=75,SNR=62							
H08S1	**Diego Carcia H**	**26.44**	**236**	T		T	08 56 10.8	
	baz=55,slow=75,SNR=26							
MK31	**Makanchi Array**	**40.55**	**347**	P		**P**	**08 31 32.3**	**+0.1**
MKAR	**Makanchi Array**	**40.55**	**347**	P		**P**	**08 31 32.2**	**0.0**
	0.9nm,0.6s,baz=160,slow=8.4,SNR=11							
MKAR	**Makanchi Array**	**40.55**	**347**	P		**P**	**08 31 32.0**	**-0.3**
MAKZ	**Makanchi**	**40.63**	**347**	P		**P**	**08 31 32.6**	**-0.3**
KURK	**Kurchatov**	**45.08**	**346**	P		**P**	**08 32 08.8**	**0.0**
KURK				IAmb		IAmb	08 32 15.2	
	comp=Z,3.3nm,0.8s							
ZALV	**Zalesovo Beam**	**47.01**	**352**	P		**P**	**08 32 25.2**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=179,slow=8.9,SNR=4.8							
ZALV	**Zalesovo Beam**	**47.01**	**352**	P		**P**	**08 32 24.6**	**+0.5**
WB0	**Warramunga Arr**	**47.82**	**125**	P		**P**	**08 32 30.2**	**-0.7**
WB0				IAmb		IAmb	08 32 35.9	
	comp=Z,2.7nm,1.1s							
WRA	**Warramunga Arr**	**47.86**	**125**	P		**P**	**08 32 30.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=306,slow=8.5,SNR=8.5							
WRA	**Warramunga Arr**	**47.86**	**125**	P		**P**	**08 32 31.7**	**+0.4**
WRAB	**Tennant Creek**	**47.87**	**125**	P		**P**	**08 32 31.3**	**0.0**
WRAB				IAmb		IAmb	08 32 45.8	
	comp=Z,3.7nm,1.4s							
WB2	**Warramunga Arr**	**47.87**	**125**	P		**P**	**08 32 31.2**	**-0.1**
WR0	**Warramunga Arr**	**48.03**	**125**	P		**P**	**08 32 31.7**	**-0.9**
WR0				IAmb		IAmb	08 32 34.4	
	comp=Z,3.9nm,1.2s							
ASAR	**Alice Springs**	**49.50**	**130**	P		**P**	**08 32 43.4**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=298,slow=8.3,SNR=5.5							
ABKAR	**Akbulak array**	**50.70**	**331**	P		**P**	**08 32 53.2**	**+0.7**
FINES	**FINESS Array B**	**73.18**	**332**	P		**P**	**08 35 21.5**	**-2.0**
	comp=Z,1.5nm,0.9s,baz=86,slow=7.8,SNR=4.5							
FINES	**FINESS Array B**	**73.18**	**332**	P		**P**	**08 35 24.3**	**+0.7**
NOA	**NORSAR Array B**	**80.20**	**331**	P		**P**	**08 36 02.9**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=98,slow=4.8,SNR=1.9							

*IDC **14** 08:25:39.9±1.4, 5°.59S×152°.58E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/32, mbtmp3.9/5, ML1.9/1, MS3.6/1, Ms1 3.8/1,

OTVZ **Oturere** 10.79 210 P **Pn** 08 37 52.4 -2.5
TWVZ **Taurewa** 10.81 211 P **Pn** 08 37 53.3 -2.0
NGZ **Ngauruhoe** 10.82 210 P **Pn** 08 37 53.2 -2.3
KAHZ **Kahuranaki** 10.85 204 P **Pn** 08 37 50.9 -4.8
TUVZ **Tukino** 10.88 210 P **Pn** 08 37 54.7 -1.5
BHHZ **Black Hill Sta** 10.89 208 P **Pn** 08 37 52.4 -3.9
KRHZ **Kereru** 10.90 206 P **Pn** 08 37 51.9 -4.6
FWVZ **Far West T-bar** 10.91 210 P **Pn** 08 37 55.1 -1.7
MOVZ **Moawhango** 10.95 209 P **Pn** 08 37 53.9 -3.2
WNVZ **Wahianoa** 10.95 210 P **Pn** 08 37 55.3 -2.0
PKVZ **Pokaka** 11.03 211 P **Pn** 08 37 57.8 -0.4
PXZ **Pawanui** 11.06 204 P **Pn** 08 37 54.8 -3.7
VRZ **Vera Road** 11.17 213 P **Pn** 08 38 01.4 +1.3
PNHZ **Pukenui** 11.20 206 P Pn 08 37 55.1 -5.4
WPHZ **Waipukurau** 11.24 205 P **Pn** 08 37 57.3 -3.7
PRHZ **Porangahau** 11.35 204 P **Pn** 08 38 00.1 -2.4
TSZ **Takapari Road** 11.42 207 P Pn 08 37 57.8 -5.7
DVHZ **Dannevirke** 11.55 206 P **Pn** 08 38 01.0 -4.2
ANWZ **Angora Road** 11.58 204 P Pn 08 38 00.8 -4.8
NEZ **North Egmont** 11.61 215 P **Pn** 08 38 06.8 +0.7
POWZ **Post Office Ro** 11.78 207 P **Pn** 08 38 07.1 -1.3
PRWZ **Pori Road** 11.84 206 P **Pn** 08 38 05.0 -4.2
BFZ **Birch Farm** 11.85 204 P Pn 08 38 03.2 -6.2
TIWZ **Tintock** 12.07 205 P Pn 08 38 07.2 -5.2
HOWZ **Holdsworth Sta** 12.31 206 P Pn 08 38 09.3 -6.4
TMWZ **Te Maipa** 12.36 205 P Pn 08 38 09.9 -6.4
TRWZ **Traveller** 12.68 205 P Pn 08 38 15.9 -4.8
PAWZ **Paruwai Farm** 12.77 205 P Pn 08 38 16.0 -5.9
MSWZ **Moikau Station** 12.86 206 P Pn 08 38 17.0 -6.2
MSVF **Nonsavu** 12.92 340 P **Pn** 08 38 23.9 -0.3
MSVF **Nonsavu** 12.92 340 Pn **Pn** 08 38 23.9 -0.3
WEL **Wellington** 12.94 207 P **Pn** 08 38 19.4 -4.8
PLWZ **Palliser** 12.99 205 **Pn** 08 38 23.0 -2.0
BHW **Baring Head** 13.00 207 P Pn 08 38 18.9 -6.2
CMWZ **Cape Campbell** 13.55 208 P **Pn** 08 38 32.2 -0.4
THZ **Tophouse** 14.12 211 P **Pn** 08 38 37.5 -3.0
DSZ **Denniston Nort** 14.62 214 P **Pn** 08 38 44.4 -2.9
AMCZ **Amberley** 15.38 209 P **Pn** 08 38 52.9 -4.3
WACZ **Wakanui South** 16.34 209 P **Pn** 08 39 06.7 -2.9
RPZ **Rata Peaks** 16.50 211 P **Pn** 08 39 10.1 -1.5
3.6nm,0.3s,baz=274,slow=1.6,SNR=17
RPZ S Sn 08 41 59.3 -14
4.8nm,0.3s,baz=123,slow=22,SNR=7.8
RPZ **Rata Peaks** 16.50 211 P **Pn** 08 39 08.8 -2.8
DZM **Mont Dzumac** 16.55 295 *e*Pn **P** 08 39 15.8 +1.1
152nm,0.8s
DZM *e*LR LR 08 43 16.5
comp=Z,1µm,24.4s
DZM **Mont Dzumac** 16.55 295 P **P** 08 39 18.4 +3.6
1.3nm,0.3s,baz=101,slow=16,SNR=13
DZM LR LR 08 44 29.6
comp=Z,884nm,19.1s,baz=200,slow=33
RAR **Rarotonga** 18.10 65 P **Pn** 08 39 28.5 -3.1
1.4nm,0.3s,baz=179,slow=4.6,SNR=6.9
WKZ **Wanaka** 18.29 212 P **P** 08 39 30.2 -3.5
HHSZ **Highcliff Hill** 18.44 207 P **Pn** 08 39 35.4 -0.2
TUZ **Tuapeka** 18.89 209 P **Pn** 08 39 41.7 +0.7
MLZ **Mavora Lakes** 19.11 213 P **P** 08 39 41.4 -1.4
SYZ **Scrubby Hill** 19.57 209 P **Pn** 08 39 49.3 +0.2
WHZ **Wether Hill Ro** 19.59 212 P **P** 08 39 46.4 -1.5
TBI **Tubuai** 25.75 82 *e*LR LR 08 46 55.2
comp=Z,987nm,31.2s
TBI **Tubuai** 25.75 82 *e*T T 09 06 53.0
27nm,0.3s
ARMA **Armidale** 26.76 261 P **P** 08 41 02.7 +3.0
baz=27,SNR=7.0
MGCD **Mangrove Creek** 26.99 255 P **P** 08 41 06.3 +4.8
baz=28
PAE **Paea** 28.14 70 *e*T T 09 10 00.2
7.3nm,0.3s
PPT2 **Papeete2** 28.18 70 *e*LR LR 08 48 18.5
comp=Z,699nm,23.5s
PPT2 **Papeete2** 28.18 70 *e*T T 09 10 04.2
5.7nm,0.3s
EIDS **Eidsvold** 28.27 272 P **P** 08 41 15.0 +1.9
baz=29,SNR=6.1
EIDS **Eidsvold** 28.27 272 P **P** 08 41 15.0 +1.9
TVO **Taravao** 28.35 71 *e*T T 09 10 15.5
1.7nm,0.3s
RMQ **Roma** 29.99 268 P **P** 08 41 31.3 +3.0
baz=31,SNR=12
VAH **Vaihoa** 31.02 68 *e*T T 09 13 36.3
16nm,0.2s
TOO **Toolangi** 31.63 246 P **P** 08 41 45.7 +3.0
baz=32,SNR=6.6
TOO **Toolangi** 31.63 246 P **P** 08 41 45.2 +2.5
TOO pmax pmax
comp=Z,40nm,1.5s
TOO **Toolangi** 31.63 246 P **P** 08 41 45.2 +2.5
CMSA **Cobar Meteorol** 31.69 258 P **P** 08 41 46.5 +3.3
baz=32,SNR=16
CTA **Charters Tower** 34.29 278 P **P** 08 42 07.3 +1.2
comp=Z,17nm,0.4s,baz=101,slow=12,SNR=13
CTAO **Charters Tower** 34.29 278 P **P** 08 42 07.1 +1.0
CTAO pmax pmax
comp=Z,49nm,1.0s
CTAO **Charters Tower** 34.29 278 P **P** 08 42 07.1 +1.0
CTAO IAmb IAmb 08 42 09.1
comp=Z,49nm,0.9s
ARPS **Mount Arapiles** 34.53 248 P **P** 08 42 10.0 +2.0
baz=35,SNR=5.9
STKA **Stephens Creek** 35.11 256 P **P** 08 42 14.6 +1.6
comp=Z,31nm,1.0s,baz=99,slow=11,SNR=46
STKA **Stephens Creek** 35.11 256 P **P** 08 42 14.7 +1.7
baz=36,SNR=17
STKA **Stephens Creek** 35.11 256 P **P** 08 42 15.3 +2.3
STKA pmax pmax
comp=Z,6.0nm,0.9s
STKA **Stephens Creek** 35.11 256 P **P** 08 42 15.3 +2.3
MTSU **Mount Surprise** 36.77 280 P **P** 08 42 28.6 +1.1
baz=37,SNR=8.5
HTT **Hallett** 37.15 253 P **P** 08 42 31.8 +1.3
baz=38,SNR=6.6
PMG **Port Moresby** 38.95 294 PcP **PcP** 08 44 57.2 +1.2
comp=Z,15nm,0.7s,baz=50,slow=2.0,SNR=4.5
PMG **Port Moresby** 38.95 294 *ce*P **P** 08 42 44.5 -1.3
PMG pmax pmax
comp=Z,9.0nm,1.3s
BBOO **Buckleboo** 39.61 254 P **P** 08 42 51.7 +0.5
baz=40,SNR=10
BBOO **Buckleboo** 39.61 254 P **P** 08 42 52.0 +0.8
COEN **Coen** 39.70 285 P **P** 08 42 53.0 +0.9
baz=40,SNR=10
COEN **Coen** 39.70 285 P **P** 08 42 53.8 +1.7
QIS **Mount Isa** 39.84 273 P **P** 08 42 54.2 +0.9
baz=40,SNR=6.9
ASAR **Alice Springs** 43.69 266 P **P** 08 43 24.1 -0.5
comp=Z,15nm,0.8s,baz=104,slow=7.0,SNR=86
ASAR PcP **PcP** 08 45 11.4 -0.1
comp=Z,3.5nm,0.7s,baz=121,slow=3.3,SNR=6.0
ASAR ScP **ScP** 08 49 00.5 0.0
comp=Z,2.6nm,0.9s,baz=109,slow=4.1,SNR=8.8
ASAR S **S** 08 49 50.0 -2.5
comp=Z,0.8nm,0.9s,baz=103,slow=15,SNR=7.1
ASAR PKiKP **PKiKP** 08 52 12.6 -0.9
comp=Z,0.5nm,0.7s,baz=102,slow=1.4,SNR=4.7
WR0 **Warramunga Arr** 44.46 271 IAmb IAmb 08 43 31.9
comp=Z,31nm,0.7s
WB2 **Warramunga Arr** 44.63 271 P **P** 08 43 31.9 -0.3
WRAB **Tennant Creek** 44.63 271 *ce*P **P** 08 43 31.1 -1.2
WRAB pmax pmax
comp=Z,84nm,1.3s
WRAB **Tennant Creek** 44.63 271 P **P** 08 43 31.9 -0.4
WRA **Warramunga Arr** 44.64 271 P **P** 08 43 31.6 -0.7
comp=Z,54nm,0.7s,baz=110,slow=7.6,SNR=222
WRA ScP **ScP** 08 49 03.5 -0.8
comp=Z,1.4nm,1.0s,baz=110,slow=4.4,SNR=4.4
WRA S S 08 49 57.0 -9.5
comp=Z,1.3nm,0.9s,baz=107,slow=14,SNR=4.0
WRA PKiKP **PKiKP** 08 52 13.4 -1.0
comp=Z,0.3nm,0.8s,baz=100,slow=0.7,SNR=8.1
WRA **Warramunga Arr** 44.64 271 P **P** 08 43 32.0 -0.3
FORT **Forrest** 46.68 255 P **P** 08 43 47.8 -0.6
baz=47,SNR=14
FORT **Forrest** 46.68 255 P **P** 08 43 48.0 -0.4
FORT IAmb IAmb 08 43 48.7
comp=Z,19nm,0.6s
WRKA **Warakurna** 48.08 262 P **P** 08 43 58.0 -1.4
baz=49,SNR=30
VNDA **Vanda** 48.54 186 P **P** 08 44 06.7 +4.6
comp=Z,0.8nm,0.9s,baz=9.4,slow=6.0,SNR=12
MTN **Manton Dam** 50.47 278 IAmb IAmb 08 44 17.6
comp=Z,21nm,0.7s
KNRA **Kununurra** 51.23 274 P **P** 08 44 23.6 +0.2
baz=52,SNR=13
KNRA **Kununurra** 51.23 274 IAmb IAmb 08 44 24.2
comp=Z,28nm,0.8s
FITZ **Fitzroy Crossi** 52.92 269 P **P** 08 44 35.6 -0.3
comp=Z,18nm,1.0s,baz=126,slow=7.7,SNR=30
FITZ **Fitzroy Crossi** 52.92 269 P **P** 08 44 35.7 -0.3
baz=54,SNR=21
FITZ **Fitzroy Crossi** 52.92 269 P **P** 08 44 36.0 +0.1
KLBR **Kellerberrin** 55.00 251 P **P** 08 44 50.2 -0.7
baz=56,SNR=6.5
CASY **Casey** 55.74 208 P **P** 08 44 57.4 +1.7
CASY IAmb IAmb 08 45 13.5
comp=Z,27nm,0.8s
BNDI **Bandanaira** 55.77 286 P **P** 08 44 53.6 -3.1
comp=Z,13µmcomp=Z,151nm,0.6s
MEEK **Meekatharra** 55.81 257 P **P** 08 44 55.8 -1.1
baz=56,SNR=5.8
SIJI **Sorong** 56.71 291 P **P** 08 45 01.8 -1.6
comp=Z,45nm,0.8s,baz=56,slow=8.0,SNR=6.6
MORW **Morawa** 57.17 253 P **P** 08 45 05.9 -0.6
baz=58,SNR=3.9
SOEI **Soe** 57.85 278 P **P** 08 45 09.6 -2.0
comp=Z,42nm,0.9s
SOEI **Soe** 57.85 278 IAmb IAmb 08 45 13.2
comp=Z,39nm,1.0s
QSPA **South Pole Qui** 60.10 180 P **P** 08 45 30.0 +3.5
comp=Z,5.2nm,0.9s,baz=236,slow=1.2,SNR=20
SANI **Sanana** 60.38 286 P **P** 08 45 27.4 -1.6
comp=Z,30nm,1.0s
EDFI **Ende, Flores** 60.56 277 P **P** 08 45 28.8 -1.5
comp=Z,9.9nm,0.6s
PLAI **Plampang** 63.90 275 P **P** 08 45 51.8 -0.8
comp=Z,68nm,0.9s
SPSI **Sidrap Palu** 64.61 281 P **P** 08 45 56.2 -1.1
comp=Z,17nm,1.0s
TTSI **Tana Toraja** 65.05 282 P **P** 08 45 58.9 -1.2
comp=Z,21nm,0.8s
BELA **Belano 2** 70.10 172 P **P** 08 46 32.8 +1.8
MAW **Mawson** 72.87 200 P **P** 08 46 50.5 +2.7
comp=Z,4.1nm,0.6s,baz=133,slow=6.9,SNR=7.1
MAW **Mawson** 72.87 200 P **P** 08 46 50.5 +2.7
baz=73,SNR=5.7
SBUM **Sibu** 74.38 282 P **P** 08 46 57.7 +0.1
SBUM **Sibu** 74.38 282 P **P** 08 46 58.0 +0.4
KSM **Kuching** 75.50 280 P **P** 08 47 03.7 -0.4
KSM **Kuching** 75.50 280 P **P** 08 47 04.0 -0.1
SYO **Syowa Base** 77.62 193 *e*P **P** 08 47 15.4 +0.3
SYO **Syowa Base** 77.62 193 *e*PcP **PcP** 08 47 23.8 -1.4
MDSI **Maura Dua** 77.78 272 P **P** 08 47 15.8 -1.2
MJAR **Matsushiro Arr** 78.24 325 P **P** 08 47 19.0 0.0
comp=Z,9.6nm,0.8s,baz=158,slow=5.6,SNR=16
MJAR **Matsushiro Arr** 78.24 325 P **P** 08 47 20.0 +1.0
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MJAR **Matsushiro Arr** 78.24 325 P **P** 08 47 20.0 +1.0
MAJO **Matsushiro** 78.24 325 P **P** 08 47 19.4 +0.4
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO **Matsushiro** 78.24 325 P **P** 08 47 19.4 +0.4
MAJO IAmb IAmb 08 47 20.4
comp=Z,17nm,0.8s
SNAA **Sanae** 78.53 178 P **P** 08 47 21.9 +1.7
SNAA **Sanae** 78.53 178 P **P** 08 47 21.9 +1.7
comp=Z,7.5nm,0.9s,baz=180,slow=6.1,SNR=4.1
SNAA **Sanae** 78.53 178 P **P** 08 47 22.1 +1.8
SNAA pmax pmax
comp=Z,9.0nm,0.9s
SNAA **Sanae** 78.53 178 P **P** 08 47 22.1 +1.8
VNA3 **Neumayer Olymp** 78.66 176 P **P** 08 47 22.3 +1.4
VNA2 **Neumayer--Watz** 79.10 177 P **P** 08 47 25.2 +1.9
baz=168,slow=5.1
VNA1 **Neumayer--Stat** 79.32 176 P **P** 08 47 26.4 +1.9
H03S2 **Juan Fernandez** 80.22 123 T T 10 17 02.0
baz=239,slow=74,SNR=26
H03S1 **Juan Fernandez** 80.23 123 T T 10 17 03.5
baz=239,slow=74,SNR=32
H03S3 **Juan Fernandez** 80.23 123 T T 10 17 05.7
baz=239,slow=74,SNR=33
H03N3 **Juan Fernandez** 80.41 123 T T 10 17 15.1
baz=244,slow=72,SNR=16
H03N2 **Juan Fernandez** 80.41 123 T T 10 17 14.6
baz=244,slow=72,SNR=9.5
H03N1 **Juan Fernandez** 80.42 123 T T 10 17 05.0
baz=244,slow=72,SNR=12
PLCA **Paso Flores** 82.36 133 P **P** 08 47 44.0 +2.6
comp=Z,11nm,1.1s,baz=221,slow=6.8,SNR=13
LC01 **Cunco** 82.50 131 P **P** 08 47 44.4 +2.3
LC01 IAmb IAmb 08 47 45.1
comp=Z,20nm,0.9s
EFI **East Falkland** 82.81 147 *ce*P **P** 08 47 42.5 -0.9
EFI pmax pmax
comp=Z,171nm,1.3s
SCI2 **San Clemente I** 83.80 46 P **P** 08 47 50.3 +1.7
baz=228
TJN **Taejon** 83.98 318 *ce*P **P** 08 47 49.5 0.0
BI02 **San Fabin de** 84.11 129 P **P** 08 47 52.6 +2.1
CIS **Catalina Islan** 84.17 46 P **P** 08 47 52.0 +1.4
baz=228
PKM **Mcpherson Peak** 84.30 44 P **P** 08 47 52.8 +1.4
baz=227
KSRS **Korea Array** 84.41 319 P **P** 08 47 52.1 +0.5
comp=Z,3.3nm,0.8s,baz=137,slow=6.0,SNR=10
SMMC **Simmler** 84.48 44 P **P** 08 47 54.0 +1.9
baz=227
PAGB **Antelope Grade** 84.61 43 IAmb IAmb 08 47 56.7
comp=Z,16nm,1.0s
YSS **Yuzh-Sakhalins** 84.64 334 *e*P **P** 08 47 53.7 +1.2
YSS pmax pmax
comp=Z,50nm,1.0s
YSS **Yuzh-Sakhalins** 84.64 334 P **P** 08 47 54.2 +1.7
DECC **Green Verdugo** 84.78 45 P **P** 08 47 54.8 +1.1
baz=228
OSI **Oshio Audit: C** 84.78 45 P **P** 08 47 55.2 +1.5
baz=228
PASC **Pasadena Art C** 84.82 46 IAmb IAmb 08 47 56.1
comp=Z,14nm,1.0s
ESJX **Sierra Juarez** 84.83 49 IAmb IAmb 08 47 57.1
comp=Z,24nm,1.4s
MWC **Mount Wilson** 84.93 46 IAmb IAmb 08 47 57.0
comp=Z,16nm,1.1s
IPM **Ipoh** 84.98 278 P **P** 08 47 54.7 -0.4
IPM IAmb IAmb 08 47 55.1
comp=Z,10nm,0.8s
IPM **Ipoh** 84.98 278 P **P** 08 47 54.0 -1.2
ARVC **Arvin** 85.06 45 P **P** 08 47 56.5 +1.6
baz=228
MURC **Murrieta** 85.06 47 P **P** 08 47 56.4 +1.3
baz=229,SNR=7.7
MONP2 **Monument Peak** 85.09 48 P **P** 08 47 57.0 +1.5
baz=230,SNR=11
RMX **La Rumorosa** 85.13 48 IAmb IAmb 08 47 58.4
comp=Z,25nm,1.4s
IKP **In-Ko-Pah, Jac** 85.14 48 P **P** 08 47 57.1 +1.6
baz=230,SNR=6.6
BFSC **Mount Baldy Ra** 85.19 46 P **P** 08 47 57.3 +1.4
baz=229,SNR=9.6
GDXM **Geysers** 85.28 40 IAmb IAmb 08 47 59.0
comp=Z,16nm,0.9s
VES **Vestal, Richgr** 85.38 44 P **P** 08 47 57.9 +1.3
baz=228,SNR=6.9
EDW2 **Edwards Air Fo** 85.41 45 P **P** 08 47 58.2 +1.4
baz=228,SNR=19
KCPM **Cahto Peak** 85.47 39 IAmb IAmb 08 47 59.7
comp=Z,23nm,0.9s
BO02 **Sierra Bellavi** 85.47 128 P **P** 08 47 59.3 +1.9
SWSC **Sam W. Stewart** 85.53 48 P **P** 08 47 58.8 +1.4
baz=230,SNR=7.1
PFO **Pinyon Flats O** 85.53 47 P **P** 08 47 59.0 +1.5
baz=229,SNR=9.6
PFO **Pinyon Flats O** 85.53 47 P **P** 08 47 58.8 +1.2
PFO pmax pmax
comp=Z,28nm,1.3s
PFO **Pinyon Flats O** 85.53 47 P **P** 08 47 58.8 +1.2
PFO IAmb IAmb 08 48 00.4
comp=Z,28nm,1.3s
TPFO **Pinon Flats** 85.53 47 P **P** 08 47 59.0 +1.4
baz=229,SNR=12
PETK **Petropavlovsk-** 85.58 345 P **P** 08 47 57.4 +0.3
comp=Z,23nm,0.8s,baz=108,slow=8.6,SNR=26
PETK **Petropavlovsk-** 85.58 345 P **P** 08 47 57.6 +0.5
PETK **Petropavlovsk-** 85.58 345 P **P** 08 47 57.5 +0.5
ISA **Isabella, Lake** 85.63 44 P **P** 08 47 59.5 +1.6
baz=228,SNR=24
ISA **Isabella, Lake** 85.63 44 P **P** 08 47 59.8 +1.9
ISA pmax pmax
comp=Z,36nm,1.2s
ISA **Isabella, Lake** 85.63 44 P **P** 08 47 59.8 +1.9
BBRC **Big Bear Solar** 85.67 46 P **P** 08 47 59.7 +1.3
baz=229
KULM **Kulim** 85.71 279 P **P** 08 47 56.0 -2.8
KMRM **Mail Ridge** 85.78 38 P **P** 08 48 00.7 +2.2
LRMC **Laurel Mtn Rad** 85.99 45 P **P** 08 48 01.2 +1.4
baz=229,SNR=23
RRX **Edison Barstow** 86.02 46 P **P** 08 48 01.4 +1.6
baz=229
BELC **Belle Mtn. Jos** 86.08 47 P **P** 08 48 02.1 +1.9
baz=230,SNR=20
CMB **Columbia Colle** 86.10 42 IAmb IAmb 08 48 02.4
comp=Z,24nm,0.9s
PIX **Pinacate** 86.18 50 IAmb IAmb 08 48 03.1
comp=Z,14nm,0.9s
BC3 **Big Chuckawall** 86.20 48 P **P** 08 48 02.9 +2.0
baz=230,SNR=17
GLA **Glamis** 86.22 48 P **P** 08 48 03.0 +2.1
baz=230
KHMM **Horse Mountain** 86.23 38 P **P** 08 48 02.8 +1.9
KHMM IAmb IAmb 08 48 03.2
comp=Z,17nm,0.9s
O02D **Mt. Diablo Mer** 86.25 39 P **P** 08 48 02.9 +2.0
baz=225,SNR=31
CWC **Cottonwood Cre** 86.39 44 P **P** 08 48 03.2 +1.4
baz=228
AFDM **Forest Hills D** 86.39 41 P **P** 08 48 03.5 +2.0
AFDM IAmb IAmb 08 48 03.7
comp=Z,15nm,1.0s
HEC **Hector,Ludlow** 86.40 46 P **P** 08 48 03.2 +1.4
baz=229,SNR=7.0
NJ2 **Nanjing** 86.42 310 *e*P **P** 08 48 02.6 +0.8
NJ2 pmax pmax
comp=Z,20nm,0.5s
GSC **Goldstone, Bar** 86.42 46 P **P** 08 48 03.4 +1.6
baz=229,SNR=26
MPMC **Manual Prospec** 86.49 45 P **P** 08 48 03.8 +1.4
baz=229,SNR=20
ORV **Oroville** 86.52 40 IAmb IAmb 08 48 04.3
comp=Z,20nm,1.2s
MDPB **Devils Postpil** 86.59 43 IAmb IAmb 08 48 05.3
comp=Z,15nm,1.1s
OMMB **Old Mammoth Mi** 86.62 43 P **P** 08 48 04.9 +1.8
OMMB IAmb IAmb 08 48 06.4
comp=Z,16nm,1.2s
IRM **Iron Mountain** 86.72 47 P **P** 08 48 05.2 +1.9
baz=230,SNR=24
MLAC **Mammoth, Mammo** 86.73 43 P **P** 08 48 05.0 +1.5
baz=228
113A **Mohawk Valley,** 86.73 49 IAmb IAmb 08 48 06.3
comp=Z,22nm,1.2s
GMRC **Granite Mounta** 86.80 47 P **P** 08 48 05.4 +1.6
baz=230,SNR=10
N02D **Trinity Center** 86.85 38 P **P** 08 48 05.6 +1.7
baz=225,SNR=17
214A **Organ Pipe Nat** 86.86 50 P **P** 08 48 05.8 +1.8
baz=232
O03E **Paynes Creek** 86.87 39 P **P** 08 48 04.6 +0.7
baz=226,SNR=9.2
TUQ **Turquoise Moun** 87.05 46 P **P** 08 48 06.6 +1.6
baz=230,SNR=20
M02C **Callahan** 87.07 38 P **P** 08 48 06.5 +1.6
baz=225,SNR=8.9
SHOC **Shoshone, Teco** 87.13 45 P **P** 08 48 06.6 +1.4
baz=229,SNR=21
FURC **Furnace Creek,** 87.14 45 P **P** 08 48 06.6 +1.4
baz=229,SNR=13
USRK **Ussuriysk Ar.** 87.14 326 P **P** 08 48 06.0 +0.9
comp=Z,14nm,0.8s,baz=120,slow=3.2,SNR=21
USRK **Ussuriysk Ar.** 87.14 326 P **P** 08 48 06.0 +0.9
CO02 **Combarbal** 87.29 125 IAmb IAmb 08 48 09.0
comp=Z,20nm,0.8s
VCNR **Virginia City** 87.38 41 IAmb IAmb 08 48 08.8
comp=Z,11nm,0.9s
YBH **Yreka Blue Hor** 87.38 38 P **P** 08 48 07.9 +1.5
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH **Yreka Blue Hor** 87.38 38 P **P** 08 48 07.9 +1.5
YERR **Yerington** 87.41 41 IAmb IAmb 08 48 08.8
comp=Z,16nm,0.8s
NEE2 **Needles Airpor** 87.44 47 P **P** 08 48 08.5 +1.8
baz=230
K02D **Willamette Mer** 87.57 36 P **P** 08 48 08.9 +1.6
baz=224
NVAR **Mina Array Bea** 87.58 42 P **P** 08 48 08.7 +1.1
comp=Z,17nm,0.8s,baz=222,slow=8.4,SNR=124
NVAR **Mina Array Bea** 87.58 42 P **P** 08 48 08.6 +1.0
RYN **Ryan** 87.58 42 IAmb IAmb 08 48 09.2
comp=Z,11nm,0.9s
NV11 **Mina Array Sit** 87.67 42 IAmb IAmb 08 48 10.1
comp=Z,20nm,1.0s
CO03 **El Pedregal** 87.72 124 IAmb IAmb 08 48 10.8
comp=Z,15nm,1.1s
J01E **Myrtle Point** 87.77 36 P **P** 08 48 09.6 +1.6
baz=224
PAHR **Pah Rah Range** 87.81 41 IAmb IAmb 08 48 10.6
comp=Z,11nm,0.8s
TPNV **Topopah Spring** 87.83 45 P **P** 08 48 10.3 +1.5
baz=229,SNR=29
TPNV **Topopah Spring** 87.83 45 P **P** 08 48 10.9 +2.1
TPNV pmax pmax
comp=Z,22nm,0.9s
TPNV **Topopah Spring** 87.83 45 P **P** 08 48 10.9 +2.1
M04C **Macdoel** 87.88 38 P **P** 08 48 10.1 +1.2
baz=226
L04D **Klamath Falls** 87.94 38 P **P** 08 48 10.4 +1.3
baz=225
KVN **Kaiserville** 88.11 42 P **P** 08 48 10.6 +0.5
KVN pmax pmax
comp=Z,19nm,0.9s
KVN **Kaiserville** 88.11 42 P **P** 08 48 10.6 +0.5
KVN IAmb IAmb 08 48 12.1
comp=Z,19nm,0.9s
W13A **Hualapai Mount** 88.12 47 IAmb IAmb 08 48 13.3
comp=Z,17nm,1.1s
SHPR **Sheep Range** 88.21 45 IAmb IAmb 08 48 13.7
comp=Z,22nm,1.3s
TUC **Tucson** 88.44 51 P **P** 08 48 14.0 +2.3
baz=233
TUC **Tucson** 88.44 51 P **P** 08 48 14.1 +2.4
TUC pmax pmax
comp=Z,15nm,1.0s
TUC **Tucson** 88.44 51 P **P** 08 48 14.1 +2.4
TUC IAmb IAmb 08 48 14.5
comp=Z,15nm,0.9s
I03D **Drain, OR** 88.44 36 P **P** 08 48 12.5 +1.2
baz=225
I02D **Swisshome** 88.48 35 P **P** 08 48 13.4 +2.0
baz=224
K04D **Chiloquin, OR** 88.52 38 P **P** 08 48 13.3 +1.4
baz=226
WHN **Wuhan** 88.56 307 ⇑P P 08 48 25.1 +13
MDJ **Mudanjiang** 88.62 325 P **P** 08 48 13.8 +1.7
MDJ sP pP 08 48 19.8 -2.0
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ pmax pmax
comp=Z,190nm,4.3s
J04D **Umpqua Nationa** 88.76 37 P **P** 08 48 14.5 +1.5
baz=225
MOD **Modoc Plateau** 88.80 39 IAmb IAmb 08 48 15.2
comp=Z,14nm,0.8s
I04A **Tendick Farm,** 88.99 36 P **P** 08 48 15.1 +1.1
baz=225
R11A **Troy Canyon, C** 89.14 44 P **P** 08 48 15.4 +0.5
baz=230
J05D **Fort Rock, OR** 89.25 37 P **P** 08 48 16.1 +0.8
baz=226
X16A **Lo Mia Camp, P** 89.28 49 P **P** 08 48 18.1 +2.5
H04D **Lebanon** 89.34 36 P **P** 08 48 16.8 +1.3
baz=225
PINE **Pine Mountain** 89.75 37 P **P** 08 48 19.3 +1.6
I05D **Terrebonne, OR** 89.93 37 P **P** 08 48 19.6 +1.3
baz=226
KNB **Kanab** 89.99 46 P **P** 08 48 21.0 +2.1
KNB pmax pmax
comp=Z,32nm,1.0s
KNB **Kanab** 89.99 46 P **P** 08 48 21.0 +2.1
WUAZ **Wupatki** 89.99 48 P **P** 08 48 20.9 +1.9
baz=232
CN2 **Changchun** 90.17 323 *e*P **P** 08 48 19.8 +0.5
CN2 pmax pmax
comp=Z,30nm,1.2s
G05D **Wamic, OR** 90.57 36 P **P** 08 48 22.7 +1.5
baz=226
121A **Cookes Peak, D** 90.61 52 P **P** 08 48 23.7 +1.8
baz=234
I07A **Izee** 90.71 38 P **P** 08 48 23.6 +1.5

I07A IAmb IAmb 08 48 24.3
comp=Z,18nm,1.0s
J08A Circle Bar Ran 90.77 39 IAmb IAmb 08 48 24.6
comp=Z,24nm,1.2s
W18A Petrified Fore 90.82 49 P **P 08 48 24.3 +1.5**
baz=233
E04D Cinebar 90.86 34 P **P 08 48 24.2 +1.7**
baz=225
ELK Elko 90.88 42 IAmb IAmb 08 48 25.1
comp=Z,14nm,1.3s
F05D White Salmon 90.94 35 P **P 08 48 24.1 +1.2**
baz=226
D04E Lakebay 91.20 34 P **P 08 48 25.9 +1.8**
baz=225
D03D Eldon 91.30 33 P **P 08 48 26.3 +1.8**
baz=225
TX32 Lajitas Array 91.71 57 IAmb IAmb 08 48 29.7
comp=Z,9.4nm,1.1s
TXAR Lajitas Array 91.71 57 P **P 08 48 28.3 +1.3**
comp=Z,4.2nm,1.0s,baz=216,slow=6.2,SNR=30
TXAR Lajitas Array 91.71 57 P **P 08 48 28.5 +1.5**
TXAR Lajitas Array 91.71 57 P **P 08 48 28.5 +1.5**
MNTX Cornudas Mount 91.80 54 P **P 08 48 28.3 +1.1**
baz=236
MNTX Cornudas Mount 91.80 54 IAmb IAmb 08 48 29.6
comp=Z,12nm,1.2s
DUG Dugway, Tooele 91.97 44 P **P 08 48 29.0 +1.0**
baz=232
HAWA Hanford 92.26 36 IAmb IAmb 08 48 31.2
comp=Z,15nm,0.9s
MFID Camas Ranch 92.26 40 IAmb IAmb 08 48 31.3
comp=Z,14nm,0.8s
B05A Bryant 92.29 33 P **P 08 48 30.5 +1.5**
baz=226
BMO Blue Mountains 92.39 38 P **P 08 48 30.7 +0.9**
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO Blue Mountains 92.39 38 P **P 08 48 30.7 +0.9**
BMO IAmb IAmb 08 48 31.0
comp=Z,7.2nm,0.9s
E08A Dider Farm, El 92.57 36 IAmb IAmb 08 48 32.4
comp=Z,12nm,1.1s
MVCO Mesa Verde 92.86 48 P **P 08 48 33.5 +1.2**
baz=234
ANMO Albuquerque 92.90 51 P **P 08 48 33.6 +1.1**
baz=235
ANMO Albuquerque 92.90 51 P **P 08 48 34.1 +1.6**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 92.90 51 P **P 08 48 34.1 +1.6**
ANMO IAmb IAmb 08 48 34.9
comp=Z,9.8nm,1.0s
D08A Wollman Farm, 93.02 36 IAmb IAmb 08 48 34.1
comp=Z,11nm,0.8s
E09A Wood Farm, Sta 93.05 36 IAmb IAmb 08 48 34.4
comp=Z,18nm,1.1s
HLID Hailey 93.15 40 P **P 08 48 34.8 +1.4**
baz=231
HLID Hailey 93.15 40 IAmb IAmb 08 48 35.8
comp=Z,12nm,0.8s
PV17 East Wray Mesa 93.19 47 IAmb IAmb 08 48 35.9
comp=Z,10nm,1.1s
PV18 Skein Mesa, Pa 93.20 47 IAmb IAmb 08 48 35.9
comp=Z,7.2nm,1.0s
PV14 Lion Creek, Pa 93.21 47 IAmb IAmb 08 48 36.0
comp=Z,12nm,1.2s
PV13 Radium Mtn., P 93.21 47 IAmb IAmb 08 48 36.6
comp=Z,12nm,1.3s
PV20 West Nyswonger 93.22 47 IAmb IAmb 08 48 36.0
comp=Z,9.4nm,1.2s
PLID Pearl Lake 93.25 39 P **P 08 48 34.6 +0.7**
PV23 Carpenter Ridg 93.26 47 IAmb IAmb 08 48 36.3
comp=Z,8.1nm,1.0s
PV02 Paradox Valley 93.29 47 IAmb IAmb 08 48 36.2
comp=Z,6.6nm,0.9s
PV12 Saucer Basin, 93.31 47 IAmb IAmb 08 48 36.6
comp=Z,12nm,1.1s
PV21 Cone Mtn., Par 93.35 47 IAmb IAmb 08 48 36.7
comp=Z,7.4nm,0.9s
PV01 Paradox Valley 93.36 47 P **P 08 48 35.9 +1.3**
PV01 IAmb IAmb 08 48 36.5
comp=Z,6.1nm,0.8s
PV22 Blue Mesa, Par 93.45 47 IAmb IAmb 08 48 38.2
comp=Z,9.3nm,1.2s
PV07 Paradox Valley 93.48 47 IAmb IAmb 08 48 37.1
comp=Z,8.2nm,1.0s
CMAR Chiang Mai Arr 93.80 289 P **P 08 48 36.2 -0.5**
comp=Z,1.0nm,0.4s,baz=154,slow=7.0,SNR=7.1
CMAR Chiang Mai Arr 93.80 289 P **P 08 48 37.1 +0.3**
CMAR Chiang Mai Arr 93.80 289 P **P 08 48 37.1 +0.3**
C09A Chrisman Ranch 93.85 35 IAmb IAmb 08 48 37.7
comp=Z,5.4nm,0.7s
S22A 4UR Ranch, Cre 94.25 49 P **P 08 48 40.1 +1.3**
baz=235
XAN Xi'an 94.32 307 P P 08 48 47.9 +9.0
XAN pmax pmax
comp=Z,5.0nm,0.6s
XAN pmax pmax
comp=Z,260nm,5.2s
O20A White River Ci 94.73 46 P **P 08 48 41.7 +0.9**
baz=234
NEW Newport 94.73 36 P **P 08 48 41.4 +1.0**
baz=229
MCMT McKenzie Canyo 94.82 40 P **P 08 48 41.8 +0.7**
MSTX Muleshoe 94.89 54 P **P 08 48 42.4 +0.8**
baz=237
MSTX Muleshoe 94.89 54 IAmb IAmb 08 48 43.2
comp=Z,11nm,0.8s
N25K Chitina, Valde 95.07 15 P **P 08 48 42.0 +0.3**
baz=208
TPAW Teton Pass 95.08 42 IAmb IAmb 08 48 44.1
comp=Z,6.9nm,0.9s
SDCO Great Sand Dun 95.12 49 P **P 08 48 43.8 +1.0**
baz=236
JCT Junction City 95.15 58 P **P 08 48 43.5 +0.7**
baz=238
SNOW Snow King Moun 95.18 42 P **P 08 48 43.4 +0.5**
DLMT Dillon 95.29 40 IAmb IAmb 08 48 45.4
comp=Z,7.7nm,0.9s
IMW Indian Meadow 95.33 42 IAmb IAmb 08 48 45.8
comp=Z,10nm,0.9s
LOHW Long Hollow 95.36 42 IAmb IAmb 08 48 45.7
comp=Z,14nm,1.4s
MSO Missoula 95.47 38 P **P 08 48 44.8 +0.9**
baz=231
BW06 Boulder Array 95.47 43 P **P 08 48 44.6 +0.4**
baz=234
PDAR Pinedale Array 95.47 43 P **P 08 48 44.4 +0.2**
comp=Z,2.2nm,0.8s,baz=213,slow=3.3,SNR=18
PDAR PKKP **PKKPbc 09 05 36.0 -0.9**
comp=Z,0.6nm,0.7s,baz=98,slow=4.4,SNR=6.0
PDAR Pinedale Array 95.47 43 P **P 08 48 43.7 -0.5**
T25A Trinidad 95.50 50 P **P 08 48 45.0 +0.6**
baz=236
TRF Thorofare Moun 95.59 12 IAmb IAmb 08 48 45.9
comp=Z,6.8nm,0.9s
SEY Seymchan 95.73 347 *i* P **P 08 48 43.5 -1.0**
H17A Grant Village 95.84 41 P **P 08 48 47.5 +1.6**
baz=233
H17A Grant Village 95.84 41 IAmb IAmb 08 48 49.1
comp=Z,8.1nm,0.9s
BOZ Bozeman (W) 95.97 40 P **P 08 48 47.2 +0.9**
baz=233
BOZ Bozeman (W) 95.97 40 IAmb IAmb 08 48 48.5
comp=Z,11nm,1.1s
AMTX Amarillo 96.14 53 P **P 08 48 47.5 +0.3**
baz=238
ISCO Idaho Springs 96.20 47 P **P 08 48 48.3 +0.6**
baz=236
HHC Hu-ho-hao-te 96.36 314 *e*P **P 08 48 48.4 +0.3**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.6s
ABTX Abilene, Hawle 96.39 56 P **P 08 48 48.6 +0.2**
baz=238
YNE Yellowstone No 96.53 41 P **P 08 48 49.9 +0.9**
N23A Red Feather La 96.60 46 P **P 08 48 50.2 +0.8**
baz=236
RLMT Red Lodge 97.03 41 P Pdif 08 48 52.0 +0.7
baz=234
K22A Casper 97.23 45 P Pdif 08 48 52.4 +0.2
baz=236
K22A Casper 97.23 45 IAmb IAmb 08 48 53.7
comp=Z,7.9nm,0.8s
SCRK Sand Creek 97.30 14 P Pdif 08 48 52.4 +0.5
baz=209

COLA College 97.34 12 *i* P **P 08 48 50.6 -1.1**
COLA pmax pmax
comp=Z,4.0nm,1.0s
ILAR Eielson Array 97.42 13 P **P 08 48 51.8 -0.5**
comp=Z,0.9nm,0.7s,baz=220,slow=5.1,SNR=13
ILAR PKiKP **PKiKP 08 53 24.8 -2.0**
comp=Z,0.5nm,0.7s,baz=319,slow=3.4,SNR=7.0
ILAR Eielson Array 97.42 13 P **P 08 48 51.2 -1.0**
POKR Poker Plat Res 97.63 12 P Pdif 08 48 53.5 +0.3
baz=206
LZH Lanzhou 98.94 306 *e*P **P 08 48 58.3 -1.6**
LZH pP pP 08 49 05.1 -4.7
LZH sP sP 08 49 09.6 -3.7
LZH pmax pmax
comp=Z,18nm,1.2s
RSSD Black Hills 99.55 44 P **Pdif 08 49 03.2 +0.6**
baz=237
ULM Lac du Bonnet 107.40 42 PKKP **PKKPab 09 05 14.9 +1.7**
comp=Z,0.7nm,0.4s,baz=63,slow=2.3,SNR=3.0
WMQ Urumqi 113.42 308 *e*PKP **PKiKP 08 53 58.3 +1.2**
DGZ Jazzator, Alta 115.44 314 *i* PKiKP **PKPdf 08 54 00.3 -0.6**
MK31 Makanchi Array 117.95 310 *i* PKiKP **PKPdf 08 54 04.2 -1.4**
MKAR Makanchi Array 117.95 310 PKP **PKPdf 08 54 04.6 -1.0**
comp=Z,1.5nm,0.6s,baz=187,slow=0.7,SNR=12
MKAR Makanchi Array 117.95 310 **PKPdf 08 54 03.9 -1.8**
ZALV Zalesovo Beam 118.11 318 PKP **PKPdf 08 54 03.6 -2.0**
comp=Z,1.4nm,0.5s,baz=153,slow=2.7,SNR=5.5
ZALV Zalesovo Beam 118.11 318 PKiKP **PKPdf 08 54 04.5 -1.1**
ZALV Zalesovo Beam 118.11 318 PKPdf **PKPdf 08 54 04.5 -1.1**
NRIK Noril'sk 119.51 336 PKP **PKPdf 08 54 07.2 -0.7**
comp=Z,3.7nm,0.7s,baz=52,slow=2.3,SNR=5.7
NRIK Noril'sk 119.51 336 *i* PKiKP **PKPdf 08 54 07.3 -0.6**
KURK Kurchatov 121.18 314 *c i* PKiKP **PKPdf 08 54 11.1 -0.5**
KURK pmax pmax
comp=Z,14nm,1.7s
KURK Kurchatov 121.18 314 PKPdf **PKPdf 08 54 10.9 -0.7**
AAK Ala-Archa 122.36 304 *i* PKiKP **PKPdf 08 54 13.4 -1.0**
KBL Kabul 124.58 293 PKiKP **PKiKP 08 54 19.3 0.0**
KBL Kabul 124.58 293 PKPdf **PKiKP 08 54 19.3 0.0**
KKAR Karatay Array 125.32 304 PKiKP **PKPdf 08 54 19.2 -0.7**
KKAR Karatay Array 125.32 304 PKPdf **PKPdf 08 54 19.2 -0.7**
SCHQ Schefferville 125.58 42 PKP **PKPdf 08 54 19.8 -0.2**
comp=Z,8.9nm,1.1s,baz=140,slow=1.4,SNR=3.6
SCHQ Schefferville 125.58 42 PKPdf **PKPdf 08 54 19.5 -0.5**
BRVK Borovoye 126.58 316 PKiKP **PKPdf 08 54 21.5 -0.5**
BRVK Borovoye 126.58 316 PKPdf **PKPdf 08 54 21.4 -0.5**
SPA0 Spitsbegen Ar 131.35 356 *e*PKPdf **PKiKP 08 54 31.4 0.0**
ABKAR Akbulak array 133.07 311 PKPdf **PKPdf 08 54 34.6 +0.2**
ARU Arti 133.14 321 PKP **PKPdf 08 54 34.0 -0.2**
comp=Z,3.2nm,0.2s,baz=162,slow=5.7,SNR=4.4
ARU Arti 133.14 321 *i* PKiKP **PKPdf 08 54 34.4 +0.1**
ARU 08 57 00.9
ARU SS SS 09 14 37.2 -4.9
ARU Arti 133.14 321 PKPdf **PKPdf 08 54 34.4 +0.1**
GEYT Alibeck 133.90 295 PKP **PKPdf 08 54 36.3 -0.1**
comp=Z,4.5nm,0.8s,baz=0.0,slow=2.2,SNR=6.1
GEYT Alibeck 133.90 295 PKPdf **PKPdf 08 54 36.6 +0.3**
AKTO Aktyubinsk 134.25 313 PKP **PKPdf 08 54 35.5 -1.0**
comp=Z,3.2nm,0.7s,baz=124,slow=4.0,SNR=8.8
KIRV Kirov 137.31 326 *i* PKiKP **PKPdf 08 54 41.5 -0.5**
HAMF Hammerfest 137.65 350 *e*PKPdf **PKiKP 08 54 43.3 -1.0**
ARCES ARCESS Array B 138.32 348 PKhKP PKPpre 08 54 33.7
comp=Z,7.0nm,1.0s,baz=11,slow=2.5,SNR=6.3
ARCES PKP **PKPdf 08 54 43.4 -0.3**
comp=Z,6.6nm,0.9s,baz=99,slow=1.6,SNR=10
TRO Tromso 139.25 351 *e*PKPdf **PKPdf 08 54 45.9 +0.7**
KLMR Klimovskoe 140.68 332 *e*PKiKP **PKPdf 08 54 43.7 -4.3**
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 140.68 332 *e*PKPdf **PKPdf 08 54 43.8 -4.3**
KLMR AMP 08 54 51.1
comp=Z,16nm,1.2s
STEI Steigen 141.32 352 *e*PKPdf **PKPdf 08 54 47.8 -1.2**
MOR8 Moi Rana 143.10 352 *e*PKPdf **PKPdf 08 54 52.9 +0.6**
VRH Novokhoyorsk 144.14 317 *e*PKiKP **PKPab 08 54 51.9 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MOS Moscow 144.32 326 *e*PKHKP PKPpre 08 54 51.3
MOS pmax pmax
comp=Z,53nm,0.9s
ZEI Tsey 144.77 303 *i* PKiKP **PKPab 08 54 54.7 -0.5**
ZEI pmax pmax
comp=Z,23nm,0.9s
PUL Pulkovo 144.87 336 *i* PKiKP **PKPab 08 54 54.1 -0.6**
NSS Namsos 144.97 353 *e*PKPbc **PKPab 08 54 54.3 -0.5**
FINES FINESS Array B 144.97 341 PKP **PKPab 08 54 54.5 -0.5**
comp=Z,85nm,0.8s,baz=62,slow=4.5,SNR=184
FINES FINESS Array B 144.97 341 PKiKP **PKPab 08 54 54.2 -0.8**
FINES FINESS Array B 144.97 341 **PKPab 08 54 54.2 -0.8**
GOF Gofitskoye 145.01 307 *c e*PKiKP **PKPab 08 54 55.8 +0.1**
GOF pmax pmax
comp=Z,47nm,0.7s
LPSR Galich'ya Gora 145.16 321 *e*PKiKP **PKPbc 08 54 55.1 -0.8**
LPSR pmax pmax
comp=Z,100nm,0.8s
OBN Obninsk 145.16 326 PKP **PKPbc 08 54 54.9 -0.9**
comp=Z,32nm,0.5s,baz=66,slow=3.0,SNR=25
OBN Obninsk 145.16 326 *i e*PKiKP **PKPbc 08 54 55.4 -0.4**
OBN *e* 08 55 06.1
OBN *e* 08 55 12.8
OBN 09 01 55.0
OBN SSS SSS 09 22 30.0
OBN pmax pmax
comp=Z,146nm,0.7s
OBN pmax pmax
comp=Z,44nm,1.1s
OBN Obninsk 145.16 326 **PKPbc 08 54 55.4 -0.4**
KBZ Khabaz 145.35 305 PKPbc **PKPbc 08 54 56.6 -0.1**
comp=Z,10nm,0.7s,baz=129,slow=1.4,SNR=23
KVAR Kislovodsk Arr 145.46 305 PKPbc **PKPab 08 54 58.1 +0.5**
comp=Z,6.7nm,0.7s,baz=323,slow=10,SNR=5.9
KIV Kislovodsk 145.46 305 *i* PKP2 **PKPdf 08 54 56.0 -1.2**
KIV pmax pmax
comp=Z,65nm,1.1s
VSR Storozhevoye 145.62 318 *e*PKiKP **PKPdf 08 54 56.6 -0.5**
VSR pmax pmax
comp=Z,110nm,0.6s
VORD Divnogorie 145.64 318 *e*PKiKP **PKPdf 08 54 56.8 -0.3**
VORD pmax pmax
comp=Z,70nm,0.8s
CHVG Ch'k'valeri 146.10 303 PKP **PKPab 08 54 59.7 -0.1**
BCA Borcka 146.62 301 PKP **PKPbc 08 55 00.9 +0.1**
MOL Molde 147.27 356 *e*pPKPdf **PKPbc 08 55 01.1 -0.8**
MARD Mardin 147.60 293 PKPbc **PKPbc 08 55 03.7 -0.1**
SOC Sochi 147.65 305 *e*PKiKP **PKPdf 08 55 01.2 +0.4**
SOC *e*SS SS 09 17 23.7 -8.8
SOC pmax pmax
comp=Z,30nm,0.7s
DOMB Dombas 147.68 354 *e*pPKPdf **PKPbc 08 55 02.1 -1.0**
KTUT Trabzon 148.07 300 PKP **PKPbc 08 55 05.3 +0.5**
FOO Floro 148.37 358 *e*pPKPdf **PKPbc 08 55 03.7 -1.1**
NB201 NORSAR Array S 148.43 352 PKPbc **PKPbc 08 55 04.5 -0.6**
NB2 NORSAR Subarra1 148.45 352 PKP **PKPbc 08 55 04.6 -0.6**
comp=Z,39nm,1.0s,baz=11,slow=2.8
NB2 NORSAR Subarra1 148.45 352 PKPab **PKPbc 08 55 04.6 -0.6**
baz=11,slow=2.8
NOA NORSAR Array B 148.45 352 PKPbc **PKPbc 08 55 04.8 -0.4**
comp=Z,15nm,0.8s,baz=15,slow=4.2,SNR=43
ANN Anapa 148.94 308 *i* PKP2 **PKPbc 08 55 05.8 -1.0**
ANN pmax pmax
comp=Z,58nm,0.8s
HFS Hagfors 148.97 349 PKP **PKPdf 08 55 02.1 -0.3**
comp=Z,27nm,0.7s,baz=158,slow=6.2,SNR=5.6
HFS PKPbc **PKPbc 08 55 06.0 -0.5**
comp=Z,27nm,0.7s,baz=59,slow=7.0,SNR=31
SKAR Skarslia 149.09 355 *e*PKPbc **PKPbc 08 55 06.9 +0.1**
IZAR Zarasai 149.30 334 *e*P **PKiKP 08 55 08.3 -0.2**
IDID Didziasalis 149.42 333 *e*P **PKiKP 08 55 08.3 -0.6**
ISAL Salakas 149.48 334 *e*P **PKiKP 08 55 08.7 -0.2**
ASK Askoy 149.48 358 *e*PKPbc **PKPbc 08 55 08.0 +0.3**
MICGM Minsk 149.52 331 *e* **PKPbc 08 55 08.0 0.0**
MNK Minsk 149.52 331 *e*PKP2 **PKPbc 08 55 08.0 0.0**
IIGN Ignalina 149.60 333 *e*P **PKiKP 08 55 09.0 -0.2**
NACGM Baroch 149.70 332 *e* **PKPbc 08 55 08.0 -0.4**
LRW Lerwick 149.76 4 *e*P **PKPbc 08 55 08.3 -0.1**
ODD1 Odda 149.98 356 *e*PKPbc **PKPbc 08 55 09.4 +0.3**
KONO Kongsberg 149.99 353 PKP2 **PKPbc 08 55 08.7 -0.3**
KONO Kongsberg 149.99 353 PKPbc **PKPbc 08 55 08.7 -0.3**
KONO Kongsberg 149.99 353 *e*PKPbc **PKPbc 08 55 08.9 -0.1**
BLS5 Blasjo 150.47 356 *e*PKPbc **PKiKP 08 55 10.7 -0.2**
ASF Jabal al Asfar 150.66 283 PKPbc **PKiKP 08 55 12.5 +0.2**
comp=Z,25nm,0.7s,baz=331,slow=20,SNR=19
KMY Karmoy 150.75 357 *e*PKPbc **PKiKP 08 55 11.4 0.0**
LEWI Lewis, Hebride 151.11 10 *e*P **PKPbc 08 55 11.6 -0.1**

DIKM Dikmen 151.28 303 ⇓P **PKiKP 08 55 13.5 +0.4**
AKASG Malin Array Be 151.32 324 PKP **PKPdf 08 55 05.1 -1.3**
comp=Z,0.2nm,0.3s,baz=49,slow=1.9,SNR=5.0
AKASG PKPbc **PKPbc 08 55 12.4 0.0**
comp=Z,26nm,0.6s,baz=46,slow=2.7,SNR=66
AKASG Malin Array Be 151.32 324 PKPdf **PKPdf 08 55 05.7 -0.7**
AKASG PKPbc **PKPbc 08 55 12.1 -0.3**
AKASG PKPab **sPKPdf 08 55 19.9 +0.1**
HOMB Homborsund 151.46 354 *e*PKPbc **PKiKP 08 55 12.8 -0.1**
SNART Snartemo 151.50 355 *e*PKPbc **PKiKP 08 55 12.8 -0.2**
SUW Suwalki 151.78 334 *e*PKPbc **PKPbc 08 55 13.3 -0.1**
SUW *e*PKPab **PKPab 08 55 21.5 -0.9**
SUW Suwalki 151.78 334 PKIKP **PKPbc 08 55 13.0 -0.4**
SUW 08 55 20.8
SUW Suwalki 151.78 334 **PKPbc 08 55 13.0 -0.4**
SUW PKPab **sPKPdf 08 55 20.8 +0.4**
KAC Achnashellach 151.97 9 *e*P **PKPbc 08 55 13.4 -0.3**
MMAI Mount Meron Ar 151.97 285 PKPbc **PKiKP 08 55 15.9 +1.0**
comp=Z,43nm,0.6s,baz=78,slow=5.2,SNR=67
EIL Elat 152.02 277 PKPbc **PKiKP 08 55 15.4 +0.4**
comp=Z,40nm,0.7s,baz=85,slow=1.1,SNR=29
KPL Plockton 152.07 10 *e*P **PKPbc 08 55 13.5 -0.4**
BZK Bozkurt 152.12 304 ⇓P **PKiKP 08 55 15.2 +0.4**
MCD Coleburn Disti 152.13 7 *e*P **PKPbc 08 55 13.6 -0.4**
DRUM Mains of Drumt 152.87 6 *e*P **PKPbc 08 55 14.4 -1.3**
BR131 Keskin Array S 152.90 299 PKiKP **PKPbc 08 55 16.1 -0.5**
BR131 Keskin Array S 152.90 299 **PKPbc 08 55 16.1 -0.5**
BRTR Keskin Array B 152.90 299 PKPbc **PKPbc 08 55 16.6 0.0**
comp=Z,6.9nm,0.8s,baz=116,slow=2.9,SNR=30
BRTR Keskin Array B 152.90 299 PKiKP **PKPbc 08 55 16.1 -0.5**
BRTR Keskin Array B 152.90 299 PKPbc **PKPbc 08 55 16.1 -0.5**
LAWE Loch Awe, Argy 153.15 10 *e*P **PKPbc 08 55 15.6 -0.7**
INVG Invergeldie, C 153.17 8 *e*P **PKPbc 08 55 15.1 -1.3**
SORM Soroca 153.25 320 ⇑P **PKPbc 08 55 15.2 -1.6**
SORM Soroca 153.25 320 ⇑PKIKP **PKPbc 08 55 15.2 -1.6**
EAB Aberfoyle 153.37 9 *e*P **PKPbc 08 55 15.5 -1.4**
CSS Mathiatis 153.70 289 PKPdf **PKPdf 08 55 09.4 -1.1**
CSS **PKPbc 08 55 18.1 -0.2**
JURR Jurilovca 154.62 313 ⇑P **PKiKP 08 55 22.1 +2.2**
TIRR Tirgusor 155.05 312 ⇑P **PKPab 08 55 36.7 +0.1**
TIRR Tirgusor 155.05 312 ⇑PKP2 **PKPab 08 55 36.7 +0.1**
KWP Kalwaria Pacla 155.21 328 *e*PKPab **PKPab 08 55 37.2 +0.1**
BURAR Bucovina Array 155.28 322 ⇑P PKPdf 08 55 22.5 +10
BURAR Bucovina Array 155.28 322 ⇑PKIKP PKPdf 08 55 22.5 +10
VRI Vrincioaia 155.41 317 ⇑P **PKPab 08 55 38.6 +0.5**
VRI Vrincioaia 155.41 317 ⇑PKP2 **PKPab 08 55 38.6 +0.5**
DBIC Dimbokro 155.74 162 PKP **PKPdf 08 55 14.7 +0.8**
comp=Z,7.5nm,1.0s,baz=161,slow=2.9,SNR=3.6
DBIC Dimbokro 155.74 162 **PKPdf 08 55 13.7 -0.1**
KOLS Kolonicke sedl 155.90 327 *e*PKP2 **PKPab 08 55 39.2 -0.9**
OJC Ojcow 156.03 332 *e*PKPab **PKPab 08 55 39.8 -0.7**
MLR Muntele Rosu 156.07 317 ⇑P **PKPab 08 55 42.5 +1.4**
MLR Muntele Rosu 156.07 317 ⇑PKP2 **PKPab 08 55 42.5 +1.4**
UZH Uzhgorod 156.10 327 *e*PKP2 **PKPab 08 55 40.6 -0.3**
CRVS Cervenica-Dubn 156.30 328 *e*PKP2 **PKPab 08 55 42.0 +0.2**
PLAR PLOIESTI 156.33 315 ⇓P **PKPab 08 55 45.0 +3.0**
NIE Niedzica 156.44 330 *e*PKPab **PKPab 08 55 42.1 -0.2**
VOIR 156.63 317 ⇑P **PKPab 08 55 45.5 +2.1**
VOIR 156.63 317 ⇑PKP2 **PKPab 08 55 45.5 +2.1**
KSP Ksiaz 156.81 338 *e*PKPab **PKPab 08 55 43.9 +0.1**
OSTC Ostas 157.08 337 *e*PKPAB **PKPab 08 55 45.7 +0.6**
CHVC Chvalec 157.11 338 *e*PKPAB **PKPab 08 55 45.2 0.0**
UPC Upice 157.19 338 *e*PKPAB **PKPab 08 55 45.6 +0.1**
UPC Upice 157.19 338 *e*PKP2 **PKPab 08 55 45.6 +0.1**
DPC Dobruska-Polom 157.22 337 *e*PKPAB **PKPab 08 55 46.0 +0.3**
DPC Dobruska-Polom 157.22 337 *e*PKP2 **PKPab 08 55 46.0 +0.3**
MORC Moravsky Berou 157.26 334 ⇑P **PKPab 08 55 46.3 +0.4**
MORC Moravsky Berou 157.26 334 ⇑PKP2 **PKPab 08 55 46.3 +0.4**
MORC Moravsky Berou 157.26 334 PKPab **PKPab 08 55 45.6 -0.4**
KRLC Kraliky 157.29 336 *e*PKPAB **PKPab 08 55 46.2 +0.2**
KRLC Kraliky 157.29 336 *e*PKP2 **PKPab 08 55 46.2 +0.2**
CLL Collm 157.36 343 *e*PKPdf **PKPdf 08 55 16.0 +1.2**
CLL *e*PKPdiff **sPKPdf 08 55 29.0 +0.7**
CLL *e*PKPab **PKPab 08 55 43.0 -3.2**
CLL ⇓*ip*PKPab **pPKPab 08 55 45.7 -10**
comp=Z,24nm,0.8s
CLL Collm 157.36 343 *e*PKIKP **PKPdf 08 55 16.0 +1.2**
CLL *e* 08 55 29.0
CLL *e* 08 55 43.0
BRG Berggiesshubel 157.50 341 *i* PKP2 **PKPab 08 55 46.6 -0.2**
BRG pmax pmax
comp=Z,27nm,0.9s
PSZ Piszkesteto 157.73 328 ⇓P **PKPab 08 55 48.0 0.0**
PSZ Piszkesteto 157.73 328 ⇓PKP2 **PKPab 08 55 48.0 0.0**
PSZ Piszkesteto 157.73 328 PKPab **PKPab 08 55 47.2 -0.8**
VYHS Vyhne 157.77 331 *e*PKPab **PKPab 08 55 48.3 +0.2**
VRAC Vranov 158.00 335 PKPab **PKPab 08 55 49.1 +0.1**
comp=Z,15nm,0.8s,baz=42,slow=5.2,SNR=14
VRAC Vranov 158.00 335 ⇑P **PKPab 08 55 48.8 -0.2**
VRAC Vranov 158.00 335 ⇑PKP2 **PKPab 08 55 48.8 -0.2**
GOPC GO Pecny, Ondr 158.10 339 *e*PKPAB **PKPab 08 55 49.9 +0.4**
GOPC GO Pecny, Ondr 158.10 339 *e*PKP2 **PKPab 08 55 49.9 +0.4**
PRU Pruhonice 158.11 339 *e*PKPAB **PKPab 08 55 49.9 +0.4**
PRU Pruhonice 158.11 339 *e*PKP2 **PKPab 08 55 49.9 +0.4**
TREC Trest 158.41 337 *e*PKPAB **PKPab 08 55 51.2 +0.4**
TREC Trest 158.41 337 *e*PKP2 **PKPab 08 55 51.2 +0.4**
HERR Herculane 158.47 319 ⇓P **PKPab 08 55 50.7 -0.6**
NKC Novy Kostel 158.49 343 *e*PKPAB **PKPab 08 55 51.0 -0.1**
NKC Novy Kostel 158.49 343 *e*PKP2 **PKPab 08 55 51.0 -0.1**
MODS Modra-Piesok 158.50 333 *e*PKP2 **PKPab 08 55 51.0 -0.3**
PBCC Pribram 158.55 340 *e*PKPAB **PKPab 08 55 51.3 -0.1**
KHC Kasperske Hory 159.17 339 *e*PKPAB **PKPab 08 55 53.8 -0.3**
KHC Kasperske Hory 159.17 339 *e*PKP2 **PKPab 08 55 53.8 -0.3**
GERES GERESS Array B 159.38 339 PKPab **PKPab 08 55 54.9 -0.3**
comp=Z,5.2nm,0.8s,baz=35,slow=4.9,SNR=16
GERES GERESS Array B 159.38 339 PKP2 **PKPab 08 55 54.0 -1.2**
GERES GERESS Array B 159.38 339 PKPab **PKPab 08 55 54.0 -1.2**
CONA Conrad Observa 159.42 334 *i* P **PKPab 08 55 55.8 +0.5**
comp=Z,12nm,0.8s,SNR=6.3
MOA Molln 160.06 337 *e*P **PKPab 08 55 58.3 +0.2**
comp=Z,13nm,1.1s
ARSA Arzberg 160.11 333 *e*P **PKPab 08 55 58.0 -0.3**
comp=Z,5.3nm,1.0s
SOKA Soboth 160.77 333 *i* P **PKPab 08 56 00.9 -0.3**
comp=Z,17nm,1.3s,SNR=5.6
KBA Koelnbreinsper 161.04 337 *e*P **PKPab 08 56 02.2 -0.4**
comp=Z,4.1nm,0.5s
OBKA Obir 161.09 334 *e*P **PKPab 08 56 01.8 -0.9**
comp=Z,4.6nm,0.8s
BFO Black Forest 161.19 348 PKP2 **PKPab 08 56 01.8 -1.1**
BFO Black Forest 161.19 348 PKPab **PKPab 08 56 01.8 -1.1**
MYKA Terra Mystica 161.33 336 *i* P **PKPab 08 56 03.0 -0.7**
comp=Z,14nm,0.6s,SNR=6.2
WATA Walderalm 161.37 341 *i* P **PKPab 08 56 03.9 -0.1**
comp=Z,28nm,1.2s,SNR=6.2
VNDS Vrh nad Dolski 161.37 333 *e*PKPab **PKPab 08 56 03.0 -0.9**
WTTA Wattenberg 161.42 340 *i* P **PKPab 08 56 04.6 +0.4**
comp=Z,36nm,1.0s,SNR=8.2
RETA Reutte 161.45 342 *i* P **PKPab 08 56 04.4 +0.2**
comp=Z,20nm,1.1s,SNR=5.6
LJU Ljubljana 161.49 333 *e*PKPab **PKPab 08 56 03.5 -0.8**
MOTA Moosalm 161.49 342 *i* P **PKPab 08 56 03.8 -0.6**
comp=Z,29nm,1.2s,SNR=5.9
SQTA Sankt Quirin 161.58 341 *i* P **PKPab 08 56 04.5 -0.3**
comp=Z,22nm,0.9s,SNR=5.5
ABTA Abfaltersbach 161.61 338 *i* P **PKPab 08 56 04.2 -0.7**
comp=Z,19nm,0.7s,SNR=6.1
BOJS Bojanci 161.63 331 *i* PKPab **PKPab 08 56 04.3 -0.7**
DAVA Damuels 161.86 344 *e*P **PKPab 08 56 06.0 -0.1**
comp=Z,14nm,0.8s
FETA Feichten 161.89 342 *e*P **PKPab 08 56 04.6 -1.7**
comp=Z,14nm,1.3s
DAVOX Davos/Dischmat 162.33 343 PKPab **PKPab 08 56 07.6 -0.6**
comp=Z,12nm,0.7s,baz=3.4,slow=4.1,SNR=16
FUORN Ofenpass-Fuorn 162.38 342 PKPab **PKPab 08 56 08.6 +0.1**
TOA0 Torodi Ar. Sit 163.20 177 **PKPdf 08 55 22.6 +0.2**
TORD Torodi Ar. Bea 163.20 177 PKP **PKPdf 08 55 22.9 +0.6**
comp=Z,3.2nm,1.0s,baz=268,slow=0.7,SNR=11
TORD PKPab **PKPab 08 56 14.0 +1.6**
comp=Z,3.7nm,0.9s,baz=177,slow=3.1,SNR=14
TORD Torodi Ar. Bea 163.20 177 **PKPdf 08 55 22.3 -0.1**
TORD PKPab **PKPab 08 56 12.9 +0.5**
KOWA Kowa 163.38 157 PKP **PKPdf 08 55 23.2 +0.7**
comp=Z,6.5nm,0.8s,baz=258,slow=0.4,SNR=13
KOWA PKPab **PKPab 08 56 13.5 +0.2**
comp=Z,1.2nm,0.4s,baz=89,slow=7.5,SNR=3.6
KOWA Kowa 163.38 157 **PKPdf 08 55 22.9 +0.4**
KOWA **PKPab 08 56 13.9 +0.6**

DDA ***14*** *09:10:54.0,36°.99N×30°.32E,h9km×4km,MW3.5*
ISK ***14*** *09:10:54.9,36°.98N×30°.28E,h4km,ML3.3/24*

ISC 14 09:10:55.3±0.9, 36°99N±0°02×30°30E±0°02, h6^{km}±6^{km}, n51, σ1°54/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.04**	**74**	PG		**Pg**	**09 10 56.6**	**-0.2**
KORT	**Korkueli**	**0.04**	**74**	*i* P		**Pg**	**09 10 56.6**	**-0.2**
KORT				*i* S		**Sg**	**09 10 57.8**	**0.0**
ANTB	**Antalya**	**0.30**	**107**	PG		**Pb**	**09 11 01.9**	**-1.2**
ELL	**Elmali**	**0.39**	**232**	PG		**Pg**	**09 11 02.2**	**-0.7**
KEMT	**Kemer-ANTALYA**	**0.44**	**151**	PG		**Pb**	**09 11 04.1**	**-1.3**
BCK	**Bucak**	**0.53**	**26**	PG		**Pb**	**09 11 05.5**	**-1.5**
BCK				SG		**Sb**	**09 11 13.9**	**-1.0**
GOLH	**Golhisar**	**0.64**	**293**	*i* P		**Pg**	**09 11 06.9**	**-0.7**
GOLH				*i* S		**Sn**	**09 11 20.0**	**-1.6**
GOLH				IAML			09 11 25.0	
	comp=N,952nm,0.5s							
AKUM	**Antalya-Kumluc**	**0.67**	**177**	*i* P		**Pb**	**09 11 08.0**	**-1.3**
AKUM				*i* S		**Sn**	**09 11 19.9**	**-2.1**
AKUM				IAML			09 11 25.0	
	comp=E,826nm,0.7s							
AKUM				IAML			09 11 30.0	
	comp=N,827nm,0.7s							
BRDR	**BURDUR-Merkez**	**0.73**	**345**	*i* P		**Pg**	**09 11 08.6**	**-0.7**
BRDR				*i* S		**Sb**	**09 11 20.4**	**-0.4**
BRDR				IAML			09 11 24.0	
	comp=N,357nm,0.8s							
BRDR				IAML			09 11 24.0	
	comp=E,468nm,0.5s							
DEMR	**Demre-Antalya**	**0.81**	**203**	PG		**Pb**	**09 11 10.9**	**-0.9**
ISP	**Isparta**	**0.85**	**12**	PG		**Pb**	**09 11 12.0**	**-0.6**
AKAS	**Kas**	**0.94**	**217**	PG		**Pb**	**09 11 13.1**	**-0.9**
AKAS	**Kas**	**0.94**	**217**	*i* P		**Pb**	**09 11 13.0**	**-0.9**
AKAS				*i* S		**Sn**	**09 11 32.6**	**+3.7**
AKAS				IAML			09 11 39.0	
	comp=E,417nm,0.4s							
BASM	**Basmaki-Afyon**	**0.95**	**348**	PG		**Pn**	**09 11 14.0**	**-1.3**
FETY	**Fethiye**	**1.03**	**250**	PG		**Pn**	**09 11 15.4**	**-1.0**
FETY	**Fethiye**	**1.03**	**250**	*i* P		**Pn**	**09 11 15.8**	**-0.6**
FETY				*i* S		**Sn**	**09 11 32.1**	**+0.9**
FETY				IAML			09 11 38.0	
	comp=N,268nm,0.8s							
FETY				IAML			09 11 38.0	
	comp=E,248nm,0.5s							
KEPZ	**Antalya-Kepez**	**1.05**	**94**	*i* P		**Pg**	**09 11 14.7**	**-0.7**
KEPZ				*i* S		**Sn**	**09 11 29.7**	**-1.9**
KEPZ				IAML			09 11 41.0	
	comp=E,191nm,1.0s							
KEPZ				IAML			09 11 49.0	
	comp=N,170nm,1.1s							
BAGO	**Egridir - ISPA**	**1.07**	**21**	*i* P		**Pn**	**09 11 16.4**	**-0.6**
BAGO				*i* S		**Sn**	**09 11 32.6**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.20**	**294**	*i* P		**Pg**	**09 11 17.4**	**-1.0**
TAVA				*i* S		**Sn**	**09 11 36.9**	**+1.5**
TAVA				IAML			09 11 38.0	
	comp=N,176nm,0.8s							
TAVA				IAML			09 11 43.0	
	comp=E,235nm,0.6s							
KZIL	**AFYON_Kizioren**	**1.27**	**354**	*i* P		**Pg**	**09 11 19.2**	**-0.5**
KZIL				*i* S		**Sn**	**09 11 38.5**	**+1.3**
KZIL				IAML			09 11 44.0	
	comp=N,133nm,0.8s							
KZIL				IAML			09 11 47.0	
	comp=E,171nm,1.0s							
SEYD	**Seydisehir-KON**	**1.30**	**71**	PN		**Pg**	**09 11 20.2**	**0.0**
DALY	**Dalyan (Mula)**	**1.33**	**263**	PN		**Pg**	**09 11 20.7**	**0.0**
DALY	**Dalyan (Mula)**	**1.33**	**263**	*i* P		**Pb**	**09 11 19.8**	**-0.8**
DALY				IAML			09 11 47.0	
	comp=E,365nm,0.8s							
DALY				IAML			09 11 51.0	
	comp=N,274nm,0.6s							
DOGA	**KONYA_Doganhis**	**1.56**	**44**	*i* P		**Pg**	**09 11 25.2**	**0.0**
DOGA				*i* S		**Sg**	**09 11 48.8**	**+3.3**
SHUT	**Suhut-Afyon**	**1.57**	**7**	PN		**Pg**	**09 11 24.4**	**-1.1**
YER	**Yerkesik**	**1.62**	**276**	PN		**Pb**	**09 11 24.6**	**-1.0**
TURN	**Turunc**	**1.66**	**263**	PN		**Pb**	**09 11 25.8**	**-0.4**
TURN	**Turunc**	**1.66**	**263**	*i* P		**Pg**	**09 11 26.9**	**-0.1**
TURN				*i* S		**Sg**	**09 11 51.0**	**+2.4**
TURN				IAML			09 11 52.0	
	comp=N,168nm,1.0s							
TURN				IAML			09 11 52.0	
	comp=E,90nm,1.0s							
GAZI	**Gazipasa**	**1.79**	**114**	PN		**Pb**	**09 11 27.3**	**-1.2**
GAZI	**Gazipasa**	**1.79**	**114**	*i* P		**Pg**	**09 11 29.5**	**-0.1**
GAZI				*i* S		**Sg**	**09 11 56.1**	**+3.3**
ARG	**Arkhangelos**	**1.91**	**247**	PN		**Pb**	**09 11 28.6**	**-1.9**
USAK	**Uak-Merkez**	**2.00**	**330**	*i* P		**Pb**	**09 11 30.1**	**-2.0**
USAK				*i* S		**Sg**	**09 12 04.6**	**+5.2**
USAK				IAML			09 12 46.0	
	comp=N,42nm,2.4s							
MANT	**Manisa**	**2.04**	**318**	*i* P		**Pn**	**09 11 30.7**	**+0.4**
MANT				*i* S		**Sb**	**09 11 58.1**	**-0.5**
MANT				IAML			09 12 08.0	
	comp=N,36nm,1.2s							
MANT				IAML			09 12 09.0	
	comp=E,45nm,1.0s							
MLSB	**Milas**	**2.04**	**279**	PN		**Pb**	**09 11 30.9**	**-1.8**
AYDN	**Tasoluk**	**2.04**	**290**	*i* P		**Pb**	**09 11 32.3**	**-0.5**
AYDN				IAML			09 12 02.0	
	comp=N,102nm,1.2s							
AYDN				*i* S		**Sg**	**09 12 03.3**	**+2.4**
AYDN				IAML			09 12 07.0	
	comp=E,91nm,0.6s							
KDHN	**Kadinhani**	**2.10**	**43**	*i* P		**Pb**	**09 11 32.6**	**-1.3**
KDHN				*i* S		**Sb**	**09 11 59.3**	**-1.0**
KDHN				IAML			09 12 09.0	
	comp=E,40nm,0.5s							
KDHN				IAML			09 12 12.0	
	comp=N,49nm,1.1s							
AYDB	**Zeytinkoy-Aydi**	**2.14**	**297**	PN		**Pb**	**09 11 32.3**	**-2.2**
GDZ	**Gediz**	**2.19**	**343**	*i* P		**Pn**	**09 11 32.6**	**+0.2**
GDZ				*i* S		**Sg**	**09 12 05.8**	**0.0**
DAT	**Datca**	**2.20**	**264**	PN		**Pn**	**09 11 32.9**	**+0.5**
DAT	**Datca**	**2.20**	**264**	*i* P		**Pg**	**09 11 36.0**	**-1.3**
DAT				*i* S		**Sg**	**09 12 06.3**	**+0.4**
KIZT	**Kizilcal**	**2.27**	**33**	PN		**Pb**	**09 11 34.8**	**-1.9**
BERE	**Bereket-Mersin**	**2.44**	**104**	PN		**Pn**	**09 11 36.1**	**+0.3**
TVSB	**Tavsanli**	**2.54**	**345**	PN		**Pn**	**09 11 37.9**	**+0.7**
TEVE	**Tevekalti-Mers**	**2.59**	**101**	PN		**Pn**	**09 11 38.7**	**+0.9**
CHBY	**Cihanbeyli**	**2.60**	**51**	PN		**Pn**	**09 11 39.1**	**+1.1**
AKKU	**Akkuyu-Mersin**	**2.75**	**107**	PN		**Pb**	**09 11 41.4**	**-3.4**
KEBE	**Keben-Mersin**	**2.80**	**100**	PN		**Pn**	**09 11 42.2**	**+1.5**
IKL	**Isikli**	**2.83**	**104**	PN		**Pn**	**09 11 42.2**	**+1.2**
BLCB	**Balcova**	**2.93**	**299**	PN		**Pn**	**09 11 43.3**	**+0.8**
KULU	**Kulu**	**2.96**	**45**	PN		**Pn**	**09 11 44.5**	**+1.5**
SRCK	**Saricakaya, Es**	**3.06**	**5**	PN		**Pn**	**09 11 45.6**	**+1.4**

*NEIC **14** 09:16:42.2, 33.71S×72.10W, h25^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.77; M$_{\theta\theta}$-0.21; M$_{\phi\phi}$-2.56; M$_{r\theta}$0.34; M$_{r\phi}$-0.15; M$_{\theta\phi}$-2.43; Fault plane solution: M$_o$3.63000×10^{16} NP1:ϕ_s176.01000°, δ66.33000°, λ84.45000°. NP2:ϕ_s9.62000°, δ24.27000°, λ102.45000°. Principal axes: T 3.7465, Plg68.0000°, Azm75.0000°; N -0.2471, Plg5.0000°, Azm178.0000°; P -3.4994, Plg21.0000°, Azm270.0000°;*

*NEIC **14** 09:16:42.9±1.6, 33.69S±0.04×72.08W±0.07, h22^{km}±3^{km} Error ellipse: s-maj=8.9km s-min=5.7km az=103.0*

*GUC **14** 09:16:43.0±0.5, 33.73S×72.07W, h19^{km}±4^{km}, ML4.9*

*MOS **14** 09:16:44.6±1.1, 33.64S×72.00W, h40^{km}, mb5.1/33, Error ellipse: s-maj=16.7km s-min=7.4km az=101.3*

*IDC **14** 09:16:45.7±3.4, 33.67S×71.94W, h38^{km}±27^{km}, mb4.4/13, mb1 4.6/16, mb1mx4.5/22, mbtmp4.7/16, ML4.8/3, MS4.7/10, Ms1 4.7/10, ms1mx4.4/19, Error ellipse: s-maj=20.7km s-min=14.8km az=85.0*

*VAO **14** 09:16:46.3±0.8, 33.69S×71.83W, h42^{km}±7^{km}, mb5.0*

ISC 14 09:16:43.1±0.8, 33.68S±0.03×72.07W±0.05, h22^{km}±6^{km}, n745, σ1°12/745, mb5.1/139, MS4.8/10, 8C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.74**	**29**	*e*P		**Pn**	**09 16 57.8**	**-0.4**
VA01				*e*S		**Sn**	**09 17 08.6**	**-0.3**
VA01				IAML			09 17 11.3	
	comp=N,86μm,0.8s							
VA01	**Torpederas**	**0.74**	**29**	Pg		**Pn**	**09 16 57.9**	**-0.4**
MT02	**Curacav**	**0.89**	**62**	⇓*i*P		**Pn**	**09 16 59.7**	**-0.5**
MT02				*i* S		**Sb**	**09 17 11.8**	**+0.6**
MT02				IAML			09 17 14.8	
	comp=E,54μm,0.4s							
MT02	**Curacav**	**0.89**	**62**			**Pn**	**09 16 59.8**	**-0.5**
ROC1	**El Roble**	**1.13**	**52**			**Pb**	**09 17 04.2**	**+0.1**
ROCH	**El Roble**	**1.13**	**52**	*e*P		**Pb**	**09 17 04.0**	**-0.1**
ROCH				*i* S		**Sb**	**09 17 19.8**	**+1.2**
ROCH				IAML			09 17 23.6	
	comp=N,45μm,0.5s							
MT05	**Renca**	**1.15**	**76**	*i* P		**Pn**	**09 17 03.7**	**-0.3**
MT05				IAML			09 17 28.3	
	comp=E,33μm,0.4s							
MT05	**Renca**	**1.15**	**76**			**Pn**	**09 17 03.7**	**-0.3**
MT03	**Universidad Ad**	**1.32**	**82**	⇓*i*P		**Pn**	**09 17 06.4**	**+0.1**
MT03				*i* S		**Sb**	**09 17 24.1**	**+0.4**
MT03				IAML			09 17 26.7	
	comp=N,42μm,0.3s							
GO05	**Huala**	**1.34**	**175**	⇑*i*P		**Pn**	**09 17 05.6**	**-0.9**
GO05				*e*S		**Sn**	**09 17 22.6**	**-1.0**
GO05	**Huala**	**1.34**	**175**			**Pn**	**09 17 05.7**	**-0.9**
BO02	**Sierra Bellavi**	**1.54**	**137**	⇓*i*P		**Pn**	**09 17 08.8**	**-0.6**
BO02	**Sierra Bellavi**	**1.54**	**137**	Pn		**Pn**	**09 17 08.8**	**-0.6**
LMEL	**Las Melosas**	**1.57**	**97**	⇓*i*P		**Pn**	**09 17 10.0**	**+0.2**
LMEL				*i* S		**Sb**	**09 17 31.0**	**0.0**
LMEL				IAML			09 17 35.9	
	comp=E,40μm,0.8s							
VA03	**San Esteban**	**1.57**	**55**	⇑*i*P		**Pb**	**09 17 10.6**	**-0.9**
VA03				*e*S		**Sb**	**09 17 32.6**	**+1.7**
VA03	**San Esteban**	**1.57**	**55**	Pn		**Pb**	**09 17 10.6**	**-0.9**
CO02	**Combarbal**	**2.63**	**20**	⇑*i*P		**Pn**	**09 17 24.6**	**+0.3**
CO02	**Combarbal**	**2.63**	**20**			**Pn**	**09 17 24.6**	**+0.3**
BI02	**San Fabin de**	**3.05**	**168**	*e*P		**Pn**	**09 17 30.5**	**+0.3**
BI02	**San Fabin de**	**3.05**	**168**	Pn		**Pn**	**09 17 30.0**	**-0.1**
CO03	**El Pedregal**	**3.06**	**23**	*e*P		**Pn**	**09 17 30.8**	**+0.5**
CO03	**El Pedregal**	**3.06**	**23**	Pn		**Pn**	**09 17 30.8**	**+0.5**
BI03	**Tigo**	**3.25**	**194**	*e*P		**Pn**	**09 17 31.8**	**-1.1**
BI03				IAML			09 18 45.2	
	comp=N,5μm,0.4s							
BI03	**Tigo**	**3.25**	**194**	Pn		**Pn**	**09 17 31.6**	**-1.2**
GO04	**Tololo Observa**	**3.66**	**18**			**Pn**	**09 17 38.5**	**-0.1**
CO01	**Juntas del Tor**	**4.05**	**25**	Pn		**Pn**	**09 17 44.9**	**+0.8**
AC05	**El Transito**	**5.06**	**18**			**Pn**	**09 17 58.1**	**+0.2**
LC01	**Cunco**	**5.21**	**178**			**Pn**	**09 17 58.2**	**-1.2**
AC04	**Llanos de Chal**	**5.52**	**9**			**Pn**	**09 18 02.5**	**-1.5**
I14CL	**ROBINSON CRUSO**	**5.61**	**268**	*i*			09 48 10.0	
	baz=93,slow=328,SNR=1.0							
VA04	**Juan Fernndez**	**5.63**	**268**			**Pn**	**09 18 05.2**	**-0.4**
H03S1	**Juan Fernandez**	**5.69**	**266**	Pn		**Pn**	**09 18 05.8**	**-0.3**
	baz=41,slow=19,SNR=13							
H03S1				T		T	09 23 58.6	
	baz=88,slow=74,SNR=7244							
H03S3	**Juan Fernandez**	**5.70**	**267**	Pn		**Pn**	**09 18 05.7**	**-0.4**
	baz=41,slow=19,SNR=20							
H03S3				T		T	09 24 00.9	
	baz=88,slow=74,SNR=4887							
H03S2	**Juan Fernandez**	**5.71**	**266**	Pn		**Pn**	**09 18 05.2**	**-1.1**
	baz=41,slow=19,SNR=15							
H03S2				T		T	09 24 00.6	
	baz=88,slow=74,SNR=6725							
H03N1	**Juan Fernandez**	**5.71**	**270**	Pn		**Pn**	**09 18 07.4**	**+0.9**
	baz=15,slow=24,SNR=67							
H03N1				T		T	09 24 05.2	
	baz=93,SNR=206							
H03N3	**Juan Fernandez**	**5.72**	**270**	Pn		**Pn**	**09 18 07.3**	**+0.7**
	baz=15,slow=24,SNR=58							
H03N3				T		T	09 24 05.7	
	baz=93,slow=74,SNR=145							
H03N2	**Juan Fernandez**	**5.73**	**270**	Pn		**Pn**	**09 18 07.5**	**+0.9**
	baz=15,slow=24,SNR=23							
H03N2				T		T	09 24 05.8	
	baz=93,slow=74,SNR=211							
GO03	**Copiap**	**6.27**	**15**			**Pn**	**09 18 13.7**	**-0.7**
PLCA	**Paso Flores**	**7.15**	**171**	Pn		**Pn**	**09 18 27.1**	**+0.7**
	comp=N,5.2nm,0.3s,baz=334,slow=11,SNR=136							
PLCA				Lg		Lg	09 20 19.7	
	comp=N,0.5nm,0.3s,baz=90,slow=20,SNR=2.4							
PLCA				LR		LR	09 21 32.7	
	comp=N,5μm,18.8s,baz=352,slow=40							
PLCA	**Paso Flores**	**7.15**	**171**	*e*P		**Pn**	**09 18 27.5**	**+1.1**
PB15	**IPOC Station P**	**10.68**	**13**			**Pn**	**09 19 11.8**	**-3.2**
LVC	**Limon Verde**	**11.37**	**15**	Pn		Pn	09 19 20.1	-4.5
	comp=N,1.4nm,0.3s,baz=181,slow=10,SNR=8.8							
LVC				Sn		Sn	09 21 47.2	+16
	comp=N,1.1nm,0.3s,baz=192,slow=15,SNR=2.6							
LVC				LR		LR	09 24 04.0	
	comp=N,6μm,18.9s,baz=210,slow=39							
LVC	**Limon Verde**	**11.37**	**15**	P		**Pn**	**09 19 20.6**	**-4.0**
LVC	**Limon Verde**	**11.37**	**15**			**Pn**	**09 19 20.6**	**-4.0**
LPA	**La Plata**	**11.76**	**100**	*ce*P		**Pn**	**09 19 33.8**	**+4.2**
LPA				PPP		PPP	09 20 32.0	
LPA				S		**Sn**	**09 21 36.1**	**-4.0**
LPA				sS			09 23 09.4	
LPA				PCP		**PcP**	**09 25 13.2**	**-4.5**
LPA				SCS		**ScS**	**09 32 28.6**	**+3.8**
PB08	**IPOC Station P**	**13.73**	**12**			**Pn**	**09 19 57.3**	**+0.4**
PB11	**IPOC Station P**	**14.03**	**9**	Pn		**Pn**	**09 20 01.6**	**+0.9**
PSGCX	**Pisagua**	**14.13**	**8**	Pn		**Pn**	**09 20 03.6**	**+1.9**
GO01	**Chusmiza**	**14.19**	**11**			**Pn**	**09 20 04.2**	**+1.0**
MNMC	**Minye Minye**	**14.65**	**9**			**Pn**	**09 20 09.3**	**-0.1**
CPUP	**Villa Florida**	**14.71**	**64**	Pn		**Pn**	**09 20 10.4**	**+0.5**
	comp=N,0.3nm,0.3s,baz=236,slow=17,SNR=5.8							
CPUP				Sn		**Sn**	**09 22 52.3**	**0.0**
	comp=N,0.4nm,0.3s,baz=186,slow=15,SNR=3.1							
CPUP				LR		LR	09 26 13.1	
	comp=N,5μm,19.9s,baz=240,slow=39							
CPUP	**Villa Florida**	**14.71**	**64**	Pn		**Pn**	**09 20 10.2**	**+0.2**
CPUP	**Villa Florida**	**14.71**	**64**	*e*P		**Pn**	**09 20 09.7**	**-0.2**
PB16	**IPOC Station P**	**15.45**	**9**	Pn		**Pn**	**09 20 22.1**	**+1.8**
PB16				IAmb		IAmb	09 20 28.8	
	comp=Z,262nm,1.4s							
PLTB	**Pedras Altas**	**15.66**	**88**	*e*P		**Pn**	**09 20 20.3**	**-2.2**
CPSB	**Cacapava Do Su**	**16.13**	**83**	*e*P		**Pn**	**09 20 26.8**	**-1.7**
LPAZ	**La Paz**	**17.68**	**13**	P		**Pn**	**09 20 48.7**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=194,slow=7.9,SNR=75							
LPAZ	**La Paz**	**17.68**	**13**	P		**P**	**09 20 49.3**	**-0.1**
LPAZ				pmax		pmax		
	comp=Z,127nm,1.4s							
LPAZ	**La Paz**	**17.68**	**13**	P		**P**	**09 20 49.3**	**-0.1**
LPAZ	**La Paz**	**17.68**	**13**	*e*P		**P**	**09 20 49.1**	**-0.3**
ITAB	**Concordia**	**18.34**	**75**	*e*P		**Pn**	**09 20 56.0**	**-0.1**
CNLB	**Canela**	**18.60**	**82**	*e*P		**P**	**09 20 58.4**	**-0.7**
PTGB	**Pitanga**	**19.59**	**68**	*e*P		**P**	**09 21 09.6**	**-0.3**
AQDB	**Aquidauana**	**19.60**	**52**	*e*P		**P**	**09 21 08.6**	**-1.3**
SIV	**San Ignacio**	**20.21**	**32**	P		**P**	**09 21 15.8**	**-0.9**
	comp=Z,14nm,0.8s,baz=222,slow=10,SNR=33							
TRCB	**Terra Rica**	**20.23**	**63**	*e*P		**P**	**09 21 16.3**	**-0.6**
EFI	**East Falkland**	**20.66**	**155**	*i* P		**P**	**09 21 23.0**	**+1.8**
EFI				pmax		pmax		
	comp=Z,92nm,1.2s							
EFI	**East Falkland**	**20.66**	**155**	P		**P**	**09 21 20.7**	**-0.6**
EFI				IAmb		IAmb	09 21 27.2	
	comp=Z,70nm,0.7s							
PTLB	**Pontes e Lacer**	**21.59**	**36**	*e*P		**P**	**09 21 31.3**	**-0.2**
PCMB	**Pacaembu**	**21.96**	**62**	*e*P		**P**	**09 21 34.1**	**-1.3**
NNA	**Nana**	**22.02**	**347**	P		**P**	**09 21 37.5**	**+1.3**
	comp=Z,20nm,0.9s,baz=198,slow=12,SNR=8.8							
NNA	**Nana**	**22.02**	**347**	P		**P**	**09 21 36.2**	**0.0**
NNA				IAmb		IAmb	09 21 40.3	
	comp=Z,95nm,1.4s							
VILB	**Vilhena**	**23.29**	**30**	*e*P		**P**	**09 21 49.6**	**0.0**
PET01	**Itanhaem-SP**	**23.57**	**73**	*e*P		**P**	**09 21 51.4**	**-0.8**
SPB	**Sao Paulo**	**23.79**	**71**	P		**P**	**09 21 53.3**	**-1.0**
SPB	**Sao Paulo**	**23.79**	**71**	*e*P		**P**	**09 21 54.2**	**-0.1**
ITRB	**Iturama**	**23.81**	**60**	*e*P		**P**	**09 21 53.3**	**-1.2**
BB19B	**Bebedouro**	**24.32**	**65**	*e*P		**P**	**09 21 58.6**	**-0.7**
RCLB	**Rio Claro- Sao**	**24.33**	**69**	*e*P		**P**	**09 21 58.7**	**-0.7**
ETMB	**Extrema**	**24.35**	**14**	*e*P		**P**	**09 22 00.1**	**+0.6**
VAO	**Valinhos**	**24.46**	**71**	*e*P		**P**	**09 22 00.1**	**-0.6**
PARB	**Paraibuna**	**25.36**	**73**	*e*P		**P**	**09 22 08.2**	**-0.6**
ARAG	**Araguaiana, MT**	**25.59**	**51**	*e*P		**P**	**09 22 10.0**	**-0.8**
CZSB	**Cruzeiro do Su**	**25.83**	**359**	*e*P		**P**	**09 22 13.9**	**+1.0**
SAML	**Samuel**	**25.94**	**20**	P		**P**	**09 22 14.2**	**+0.3**
SAML				pmax		pmax		
	comp=Z,53nm,1.0s							
SAML	**Samuel**	**25.94**	**20**	P		**P**	**09 22 14.2**	**+0.3**
SAML				IAmb		IAmb	09 22 17.9	
	comp=Z,53nm,1.0s							
SAML	**Samuel**	**25.94**	**20**	*e*P		**P**	**09 22 13.8**	**-0.1**
ESAR	**Angra dos Reis**	**26.46**	**74**	*e*P		**P**	**09 22 17.1**	**-1.5**
IPMB	**Ipameri, GO**	**26.47**	**60**	*e*P		**P**	**09 22 17.6**	**-1.2**
MAN01	**Angra dos Reis**	**26.92**	**74**	*e*P		**P**	**09 22 22.8**	**-0.1**
CLDB	**Colider**	**27.16**	**37**	*e*P		**P**	**09 22 23.6**	**-1.4**
BSCB	**Bom Sucesso**	**27.25**	**69**	*e*P		**P**	**09 22 25.4**	**-0.5**
BDFB	**Brasilia**	**28.18**	**56**	P		**P**	**09 22 33.5**	**-0.8**
	comp=Z,18nm,0.6s,baz=231,slow=8.1,SNR=19							
BDFB				LR		LR	09 35 08.7	
	comp=Z,4μm,18.8s,baz=225,slow=39							
BDFB	**Brasilia**	**28.18**	**56**	P		**P**	**09 22 33.8**	**-0.4**
BDFB				pmax		pmax		
	comp=Z,28nm,0.8s							
BDFB	**Brasilia**	**28.18**	**56**	P		**P**	**09 22 33.8**	**-0.4**
BDFB				IAmb		IAmb	09 22 34.4	
	comp=Z,28nm,0.8s							
SNDB	**Serra Nova Dou**	**28.75**	**46**	*e*P		**P**	**09 22 39.1**	**-0.1**
NPGB	**Novo Progresso**	**30.69**	**34**	*e*P		**P**	**09 22 55.4**	**-0.9**
JANB	**Januaria**	**31.20**	**60**	*e*P		**P**	**09 23 00.9**	**0.0**
SJMB	**Sao Joao De Ma**	**31.33**	**69**	*e*P		**P**	**09 23 01.8**	**-0.2**
BSFB	**Barra de Sao F**	**31.52**	**70**	*e*P		**P**	**09 23 03.4**	**-0.3**
RIB01	**Linhares ES**	**31.61**	**71**	*e*P		**P**	**09 23 02.9**	**-1.6**
MACA	**Manacapuru-AM**	**32.17**	**22**	*e*P		**P**	**09 23 09.1**	**-0.3**
SDBA	**SAO DESIDERIO**	**32.58**	**56**	*e*P		**P**	**09 23 11.8**	**-1.3**
NAN01	**Guarapari, ES**	**32.64**	**69**	*e*P		**P**	**09 23 12.5**	**-1.1**
ITTB	**Itaituba**	**32.89**	**31**	*e*P		**P**	**09 23 15.3**	**-0.5**
SMTB	**Santa Maria do**	**33.44**	**48**	*e*P		**P**	**09 23 20.1**	**-0.5**
PTLC	**Puerto Leguiza**	**33.77**	**355**	*e*P		**P**	**09 23 23.6**	**+0.3**
OTAV	**Otavalo**	**34.26**	**349**	P		**P**	**09 23 27.2**	**-1.0**
OTAV				pmax		pmax		
	comp=Z,22nm,1.4s							
OTAV	**Otavalo**	**34.26**	**349**	P		**P**	**09 23 27.2**	**-1.0**
OTAV				IAmb		IAmb	09 23 32.8	
	comp=Z,22nm,1.4s							
OTAV	**Otavalo**	**34.26**	**349**	*e*P		**P**	**09 23 29.8**	**+1.6**
PRPB	**Parauapebas**	**34.28**	**42**	*e*P		**P**	**09 23 27.2**	**-0.7**
GDU01	**Guandu, BA**	**35.55**	**64**	*e*P		**P**	**09 23 36.6**	**-2.3**
BBAC	**Balboa, Cauca**	**35.84**	**351**	*e*P		**P**	**09 23 38.8**	**-2.7**
PRAC	**Prado**	**37.28**	**355**	*e*P		**P**	**09 23 50.9**	**-2.8**
ORTC	**Ortega, Tolima**	**37.50**	**355**	*e*P		**P**	**09 23 50.9**	**-4.6**
MCPB	**Macapa, AP**	**38.10**	**34**	*e*P		**P**	**09 24 00.4**	**-0.1**
CHIC	**Chingaza**	**38.13**	**357**	*e*P		**P**	**09 23 59.8**	**-1.4**
TMAB	**Tom-Au,PA,Br**	**38.37**	**41**	*e*P		**P**	**09 24 03.0**	**+0.2**
SPBC	**San Pablo de B**	**39.16**	**357**	*e*P		**P**	**09 24 05.5**	**-3.9**
RUSC	**La Rusia**	**39.36**	**358**	*e*P		P	09 24 06.0	-5.6
CBOC	**Ciudad Bolivar**	**39.50**	**354**	*e*P		**P**	**09 24 15.0**	**+2.6**
ROSB	**Rosrio**	**40.23**	**46**	*e*P		**P**	**09 24 17.7**	**-0.7**
BRRC	**Barranca, Sant**	**40.59**	**357**	*e*P		**P**	**09 24 18.1**	**-3.2**
DBBC	**Dabeiba**	**40.66**	**354**	⇑*e*P		**P**	**09 24 21.9**	**0.0**
PAMC	**Pamplona, Colo**	**40.79**	**359**	*e*P		**P**	**09 24 21.1**	**-2.4**
SMLC	**San Martn de**	**42.28**	**357**	*e*P		**P**	**09 24 33.4**	**-1.7**
SDV	**Santo Domingo**	**42.35**	**2**	P		**P**	**09 24 35.7**	**-0.2**
SDV	**Santo Domingo**	**42.35**	**2**	*e*P		**P**	**09 24 35.9**	**0.0**
JTS	**Las Juntas de**	**45.41**	**342**	*i* P		**P**	**09 25 00.4**	**+0.1**
JTS				pmax		pmax		
	comp=Z,12nm,1.2s							
JTS	**Las Juntas de**	**45.41**	**342**	P		**P**	**09 25 00.4**	**+0.1**
JTS				IAmb		IAmb	09 25 03.4	
	comp=Z,30nm,1.4s							
TOSP	**Speyside**	**46.05**	**16**	P		**P**	**09 25 05.1**	**-0.2**
GRGR	**Grenville**	**46.62**	**14**	P		**P**	**09 25 09

X48A IAmb IAmb 09 27 50.3
comp=Z,23nm,0.9s
V60A Jim Taylor Roa 69.25 355 P P 09 27 49.7 +1.6
baz=175
W52A Murphy 69.31 350 P P 09 27 48.1 -0.5
V59A Middlesex 69.32 355 P P 09 27 50.2 +1.6
baz=175
Z41A Richland Creek 69.38 342 P P 09 27 50.4 +1.4
baz=162
Z41A Richland Creek 69.38 342 P P 09 27 48.8 -0.2
V58A Windy Hill, Pi 69.42 354 P P 09 27 49.7 +0.4
baz=174
TX31 Lajitas Ar. Si 69.44 331 P P 09 27 49.9 +0.2
TX32 Lajitas Array 69.44 331 P P 09 27 50.4 +0.7
TX32 IAmb IAmb 09 27 52.1
comp=Z,11nm,1.0s
TXAR Lajitas Array 69.44 331 P P 09 27 50.6 +1.0
comp=Z,6.1nm,0.6s,baz=156,slow=8.5,SNR=172
TXAR Lajitas Array 69.44 331 P P 09 27 50.3 +0.7
WHTX Lake Whitney, 69.56 337 P P 09 27 51.5 +1.3
baz=158
WHTX Lake Whitney, 69.56 337 P P 09 27 50.6 +0.4
WHTX IAmb IAmb 09 27 52.9
comp=Z,25nm,0.9s
V56A Mocksville 69.57 353 P P 09 27 50.7 +0.5
baz=173
V57A Coltrane Farms 69.58 353 P P 09 27 50.7 +0.5
baz=173
W50A Signal Mountai 69.63 348 P P 09 27 51.2 +0.5
V55A Taylorsville 69.69 352 P P 09 27 51.4 +0.5
baz=172
V55A Taylorsville 69.69 352 P P 09 27 50.7 -0.2
V55A IAmb IAmb 09 27 52.5
comp=Z,16nm,0.9s
V54A Nebo 69.71 351 P P 09 27 51.7 +0.7
baz=171
V53A Saluda 69.71 351 P P 09 27 47.7 -3.4
V53A IAmb IAmb 09 27 52.4
comp=Z,13nm,0.8s
CPCT Cooper Cave 69.75 349 P P 09 27 49.9 -1.4
CPCT IAmb IAmb 09 27 52.8
comp=Z,20nm,1.0s
SWET Sewanee 69.75 348 P P 09 27 49.9 -1.5
U61A Possum Corner 69.77 356 P P 09 27 52.1 +0.8
baz=176
TKL Tuckaleechee C 69.84 350 P P 09 27 49.9 -1.9
TKL pmax pmax
comp=Z,30nm,1.3s
TKL Tuckaleechee C 69.84 350 P P 09 27 49.9 -1.9
TKL IAmb IAmb 09 27 53.6
comp=Z,30nm,1.3s
U59A Littleton 69.87 355 P P 09 27 52.8 +0.8
baz=175
TVO Taravao 69.89 262 *e*T T 10 43 59.6
comp=Z,0.8nm,0.2s
PLAL Pickwick Lake 69.93 346 P P 09 27 51.7 -0.7
PLAL IAmb IAmb 09 27 53.7
comp=Z,17nm,0.7s
U60A Pendleton 69.95 356 P P 09 27 52.9 +0.4
baz=176
U58A Oxford 69.97 354 P P 09 27 53.6 +1.0
baz=174
V52A Sevierville 69.99 350 P P 09 27 52.3 -0.5
V52A IAmb IAmb 09 27 53.9
comp=Z,33nm,1.2s
U57A Blanch 70.08 354 P P 09 27 54.0 +0.7
baz=174
TIAR Tiarei 70.08 262 *e*T T 10 44 13.8
comp=Z,3.0nm,0.3s
U56A King 70.09 353 P P 09 27 54.1 +0.7
baz=173
U56A King 70.09 353 P P 09 27 52.9 -0.5
U56A IAmb IAmb 09 27 55.6
comp=Z,16nm,0.9s
PAE Paea 70.22 262 *e*T T 10 44 24.4
comp=Z,0.7nm,0.3s
U55A TA2, Sparta 70.32 352 P P 09 27 55.4 +0.5
baz=172
W45A Hickory Valley 70.33 345 P P 09 27 54.8 -0.1
V48A Smith Brothers 70.42 347 P P 09 27 55.4 0.0
U54A Nelsons Funny 70.43 352 P P 09 27 56.1 +0.6
baz=171
U54A Nelsons Funny 70.43 352 P P 09 27 55.2 -0.3
T59A Double "B" Far 70.47 355 P P 09 27 56.1 +0.4
baz=175,SNR=6.4
T59A Double "B" Far 70.47 355 P P 09 27 55.7 +0.1
T58A Grand View Acr 70.52 355 P P 09 27 56.7 +0.8
baz=174
X40A Basin Creek Fa 70.55 342 P P 09 27 56.9 +0.6
baz=162
CLTN Cedars of Leba 70.67 348 P P 09 27 55.8 -1.2
CLTN IAmb IAmb 09 27 59.1
comp=Z,27nm,1.0s
TZTN Tazewell 70.68 350 P P 09 27 57.4 +0.4
baz=170
TZTN Tazewell 70.68 350 P P 09 27 56.7 -0.2
TZTN IAmb IAmb 09 27 59.4
comp=Z,20nm,1.2s
T56A Rocky Mt 70.73 353 P P 09 27 58.0 +0.7
baz=173
Z35A Perchaven, San 70.73 338 P P 09 27 57.3 0.0
MIAR Mount Ida 70.80 341 P P 09 27 58.4 +0.6
baz=161
MIAR Mount Ida 70.80 341 P P 09 27 57.3 -0.5
MIAR pmax pmax
comp=Z,8.0nm,0.9s
MIAR Mount Ida 70.80 341 P P 09 27 57.2 -0.5
ABTX Abilene, Hawle 70.87 336 P P 09 27 58.8 +0.6
baz=156
ABTX Abilene, Hawle 70.87 336 P P 09 27 58.9 +0.6
ABTX IAmb IAmb 09 28 01.8
comp=Z,22nm,1.1s
T55A Pulaski 70.90 353 P P 09 27 58.7 +0.3
baz=172
T54A Tazewell 70.93 352 P P 09 27 59.4 +0.8
baz=172
T53A Wise 70.97 351 P P 09 27 59.2 +0.4
baz=171
WVT Waverly 70.99 347 P P 09 27 58.9 +0.1
baz=166
WVT Waverly 70.99 347 P P 09 27 59.0 +0.1
WVT pmax pmax
comp=Z,56nm,0.9s
WVT Waverly 70.99 347 P P 09 27 59.0 +0.1
U49A Red Boiling Sp 70.99 348 P P 09 27 58.7 -0.2
U49A IAmb IAmb 09 28 01.6
comp=Z,29nm,1.4s
W41B Gary Mavity, V 71.05 343 P P 09 27 59.6 +0.4
baz=162,SNR=7.1
W41B Gary Mavity, V 71.05 343 P P 09 27 58.5 -0.7
W41B IAmb IAmb 09 28 01.0
comp=Z,14nm,0.7s
S58A Poland Farm, P 71.14 355 P P 09 28 00.7 +1.0
baz=175
WHAR Wooly Hollow 71.17 343 P P 09 27 60.0 0.0
WHAR IAmb IAmb 09 28 01.7
comp=Z,33nm,1.2s
S59A Mechanicsville 71.24 356 P P 09 28 01.0 +0.7
baz=175,SNR=5.4
S56A Natural Bridge 71.33 354 P P 09 28 01.1 +0.1
baz=174
T50A Nancy 71.33 349 P P 09 27 57.7 -3.3
S57A Dark Hollow, R 71.36 354 P P 09 28 01.6 +0.5
baz=174
S57A Dark Hollow, R 71.36 354 P P 09 28 00.9 -0.2
S57A IAmb IAmb 09 28 02.9
comp=Z,17nm,0.9s
W39A Magazine 71.47 341 P P 09 28 02.7 +0.9
baz=161,SNR=16
W39A Magazine 71.47 341 P P 09 28 02.3 +0.5
R58B Mineral 71.48 355 P P 09 28 02.9 +1.1
baz=175
R58B Mineral 71.48 355 P P 09 28 02.1 +0.3
R58B IAmb IAmb 09 28 04.7
comp=Z,44nm,1.5s
S55A Lewisburg 71.52 353 P P 09 28 03.2 +1.1
baz=173
S53A Williamson 71.61 352 P P 09 28 03.3 +0.7
baz=171
S54A Dingess, Beckl 71.63 352 P P 09 28 02.7 0.0
baz=172
LCAR Lake Charles 71.64 344 P P 09 28 02.6 -0.2
T47A Sharon Grove 71.69 347 P P 09 28 02.9 -0.2
T47A IAmb IAmb 09 28 04.4
comp=Z,22nm,0.9s
S51A Beattyville 71.76 350 P P 09 28 01.6 -1.9
S51A IAmb IAmb 09 28 04.7
comp=Z,15nm,0.9s
R58A Rapidan 71.82 355 P P 09 28 04.9 +1.1
baz=175
R57A Stanardsville 71.86 355 P P 09 28 04.7 +0.7
baz=174,SNR=5.2
R54A Victor 71.97 353 P P 09 28 04.4 -0.4
baz=172
R55A Marlinton 71.98 353 P P 09 28 05.4 +0.5
baz=173
R55A Marlinton 71.98 353 P P 09 28 05.1 +0.2
R55A IAmb IAmb 09 28 07.5
comp=Z,20nm,1.1s
T45A Paducah 72.01 346 P P 09 28 04.8 -0.2
R56A Bull Pasture M 72.04 354 P P 09 28 06.0 +0.8
baz=174
PBMO Poplar Bluff 72.16 345 P P 09 28 05.7 -0.2
PBMO IAmb IAmb 09 28 07.3
comp=Z,19nm,0.7s
MNTX Cornudas Mount 72.22 331 P P 09 28 06.8 +0.4
baz=151
MNTX Cornudas Mount 72.22 331 P P 09 28 06.3 -0.1
GDL2 Guadalupe Moun 72.25 332 P P 09 28 07.7 +1.0
U40A Yellville 72.33 343 P P 09 28 07.1 +0.2
baz=162,SNR=13
U40A Yellville 72.33 343 P P 09 28 06.7 -0.2
U40A IAmb IAmb 09 28 09.0
comp=Z,19nm,0.9s
R50A Paris 72.49 350 P P 09 28 07.2 -0.7
R50A IAmb IAmb 09 28 09.0
comp=Z,19nm,1.2s
WMOK Wichita Mounta 72.52 337 P P 09 28 08.7 +0.6
baz=157
WMOK Wichita Mounta 72.52 337 P P 09 28 07.9 -0.3
WMOK pmax pmax
comp=Z,18nm,1.4s
WMOK Wichita Mounta 72.52 337 P P 09 28 07.8 -0.3
WMOK IAmb IAmb 09 28 10.3
comp=Z,18nm,1.4s
HHAR Hobbs 72.53 342 P P 09 28 07.7 -0.5
HHAR IAmb IAmb 09 28 09.7
comp=Z,16nm,0.9s
T42A Van Buren 72.55 344 P P 09 28 07.8 -0.4
FNO Franklin 72.56 338 P P 09 28 09.1 +0.7
Q57A Strasburg 72.58 355 P P 09 28 08.9 +0.5
baz=174
R49A Shelbyville 72.63 349 P P 09 28 07.8 -0.9
R49A IAmb IAmb 09 28 09.7
comp=Z,21nm,1.1s
Q56A Snyder Ridge, 72.65 354 P P 09 28 09.5 +0.7
baz=174
Q55A Buckhannon 72.69 353 P P 09 28 09.6 +0.6
baz=173
TUL1 Leonard 72.69 340 P P 09 28 09.2 +0.1
baz=160,SNR=5.6
TUL1 Leonard 72.69 340 P P 09 28 09.4 +0.3
TUL1 IAmb IAmb 09 28 10.6
comp=Z,16nm,0.8s
Q53A Leroy 72.70 352 P P 09 28 09.9 +0.8
baz=172
USIN University of 72.74 347 P P 09 28 08.9 -0.4
WCI Wyandotte Cave 72.75 348 P P 09 28 09.7 +0.3
baz=168
OK025 Westminster Rd 72.84 339 P P 09 28 10.3 +0.2
Q52A Bidwell 72.89 352 P P 09 28 10.6 +0.4
baz=171
MGMO Mountain Grove 72.94 343 P P 09 28 10.8 +0.3
MGMO IAmb IAmb 09 28 12.2
comp=Z,17nm,1.1s
P58A Pank, Wackersv 72.96 356 P P 09 28 11.1 +0.6
baz=176
BCOK Bluff Creek, N 73.00 338 P P 09 28 11.2 +0.2
P57A Homestead Farm 73.00 355 P P 09 28 11.6 +0.8
baz=175
P59A Jarrettsville 73.03 356 P P 09 28 12.0 +1.0
baz=176,SNR=6.7
OK029 Liberty Lake 73.08 339 P P 09 28 11.7 +0.2
P56A Dayton Farm, R 73.08 355 P P 09 28 11.9 +0.5
baz=174
Q51A Peebles 73.09 351 P P 09 28 11.5 +0.1
Q51A IAmb IAmb 09 28 13.2
comp=Z,18nm,0.9s
P55A Reedsville 73.17 354 P P 09 28 12.4 +0.5
baz=173
P60A Greenville 73.19 357 P P 09 28 12.4 +0.5
baz=177
MSTX Muleshoe 73.21 334 P P 09 28 12.6 +0.3
baz=154
MSTX Muleshoe 73.21 334 P P 09 28 12.7 +0.3
MSTX IAmb IAmb 09 28 14.8
comp=Z,18nm,0.8s
FVM French Village 73.31 345 P P 09 28 11.8 -0.9
FVM pmax pmax
comp=Z,21nm,0.9s
FVM French Village 73.31 345 P P 09 28 11.8 -0.9
FVM IAmb IAmb 09 28 14.9
comp=Z,21nm,0.9s
WUPA West Chester U 73.31 357 P P 09 28 13.3 +0.6
MCWV Mont Chateau 73.32 354 P P 09 28 13.0 +0.3
baz=173
P54A Burton 73.33 353 P P 09 28 13.2 +0.4
baz=173
MAW Mawson 73.50 164 P P 09 28 14.1 +0.6
comp=Z,7.2nm,0.7s,baz=219,slow=8.4,SNR=12
MAW LR LR 10 03 22.9
comp=Z,818nm,18.5s,baz=228,slow=38
MAW Mawson 73.50 164 P P 09 28 13.5 -0.1
P51A Williamsport 73.50 351 P P 09 28 13.9 +0.2
baz=170
P51A Williamsport 73.50 351 P P 09 28 13.2 -0.6
P51A IAmb IAmb 09 28 15.5
comp=Z,22nm,1.0s
P52A Corning 73.54 352 P P 09 28 14.1 0.0
baz=171
P52A Corning 73.54 352 P P 09 28 13.7 -0.4
P52A IAmb IAmb 09 28 15.7
comp=Z,25nm,1.2s
CCM Cathedral Cave 73.56 344 P P 09 28 14.3 +0.1
baz=164
CCM Cathedral Cave 73.56 344 P P 09 28 14.0 -0.2
CCM pmax pmax
comp=Z,26nm,0.8s
CCM Cathedral Cave 73.56 344 P P 09 28 14.0 -0.2
O58A Lewisberry 73.57 356 P P 09 28 15.1 +0.9
baz=176
AMTX Amarillo 73.63 335 P P 09 28 15.2 +0.4
baz=155
AMTX Amarillo 73.63 335 P P 09 28 15.2 +0.4
AMTX IAmb IAmb 09 28 17.0
comp=Z,33nm,1.2s
O60A Telford 73.69 357 P P 09 28 15.7 +0.8
baz=177
O57A Amberson 73.70 356 P P 09 28 15.7 +0.7
baz=175
S39A Bolivar 73.71 343 P P 09 28 14.9 -0.2
S39A IAmb IAmb 09 28 16.6
comp=Z,16nm,1.0s
O59A Robesonia 73.72 357 P P 09 28 15.8 +0.8
baz=176
P49A Miami Univ. Ec 73.78 350 P P 09 28 15.7 +0.2
baz=169
P49A Miami Univ. Ec 73.78 350 P P 09 28 15.1 -0.4
P49A IAmb IAmb 09 28 17.1
comp=Z,35nm,1.3s
P48A Milroy 73.81 349 P P 09 28 14.6 -1.1
O55A Ligonier 73.82 354 P P 09 28 16.3 +0.6
baz=174
T35A Sooner Cattle 73.84 340 P P 09 28 16.1 +0.3
T35A IAmb IAmb 09 28 17.8
comp=Z,35nm,1.2s
O54A Avella 73.89 353 P P 09 28 16.0 -0.1
baz=173
CROK Carrier 73.89 339 P P 09 28 15.7 -0.5
121A Cookes Peak, D 73.94 329 P P 09 28 17.8 +1.0
baz=150
121A Cookes Peak, D 73.94 329 P P 09 28 18.4 +1.6
121A IAmb IAmb 09 28 20.6
comp=Z,16nm,1.0s
O52A Adamsville 73.98 352 P P 09 28 16.1 -0.5
baz=172
R40A Maddies Statio 74.02 344 P P 09 28 17.0 +0.1
R40A IAmb IAmb 09 28 18.9
comp=Z,26nm,0.9s
O53A New Philadelph 74.04 353 P P 09 28 17.1 +0.2
baz=172
N61A South Mountain 74.09 358 P P 09 28 17.2 0.0
baz=178
O51A Pataskala 74.10 352 P P 09 28 17.3 0.0
baz=171
SSPA Standing Stone 74.14 355 P P 09 28 17.7 +0.2
baz=175
SSPA Standing Stone 74.14 355 P P 09 28 17.2 -0.3
SSPA IAmb IAmb 09 28 19.4
comp=Z,12nm,1.0s
ACSO Alum Creek Sta 74.23 351 P P 09 28 18.2 +0.1
baz=171
ACSO Alum Creek Sta 74.23 351 P P 09 28 17.7 -0.4
ACSO IAmb IAmb 09 28 19.3
comp=Z,20nm,0.6s
N60A Cedar Hill Far 74.23 358 P P 09 28 18.5 +0.5
baz=177
N57A Milroy 74.24 356 P P 09 28 18.5 +0.4
baz=175
P46A Rosedale 74.26 348 P P 09 28 16.9 -1.3
P46A IAmb IAmb 09 28 19.5
comp=Z,17nm,0.9s
N58A Sunbury 74.27 356 P P 09 28 18.9 +0.7
baz=176
N59A State Game Lan 74.30 357 P P 09 28 19.4 +0.9
baz=177
N59A State Game Lan 74.30 357 P P 09 28 16.2 -2.3
N55A Marion Center 74.36 355 P P 09 28 19.4 +0.5
baz=174,SNR=5.2
Q49A Covington 74.37 350 P P 09 28 17.1 -1.8
O49A IAmb IAmb 09 28 19.9
comp=Z,25nm,1.0s
N56A West Decatur 74.45 355 P P 09 28 20.0 +0.6
baz=175
N53A Lisbon 74.56 353 P P 09 28 20.1 +0.2
baz=172
N54A Moraine State 74.63 354 P P 09 28 20.1 -0.3
baz=173
M61A Granite Spring 74.64 359 P P 09 28 20.6 +0.2
baz=179
M60A Port Jervis 74.67 358 P P 09 28 21.4 +0.8
baz=178
LIC Lamto 74.70 72 *e*P P 09 28 21.1 -0.3
comp=Z,18nm,0.7s
P43A Skaggs, Pawnee 74.72 346 P P 09 28 20.5 -0.4
M62A Hamden 74.75 359 P P 09 28 22.0 +0.9
baz=179
M58A Price's Panora 74.79 357 P P 09 28 21.5 +0.2
baz=176
M57A Sunshine Farm, 74.79 356 P P 09 28 21.6 +0.3
baz=176
BNM Barren Site 74.86 331 P P 09 28 22.6 +0.4
M59A Waymart 74.91 357 P P 09 28 23.1 +1.1
baz=177
TIC Toumodi 74.96 71 *e*P P 09 28 23.4 +0.4
SFIN Lafayette 74.98 348 P P 09 28 22.8 +0.3
baz=167
M56A Emporium 75.00 355 P P 09 28 23.0 +0.5
baz=175
M56A Emporium 75.00 355 P P 09 28 22.1 -0.4
M56A IAmb IAmb 09 28 24.2
comp=Z,14nm,0.9s
KIC Kosan Boka 75.01 72 *e*P P 09 28 22.9 -0.3
comp=Z,50nm,0.9s
O44A Mansfield 75.01 347 P P 09 28 21.1 -1.4
O44A IAmb IAmb 09 28 23.8
comp=Z,35nm,1.4s
SUR Sutherland 75.01 119 LR LR 09 55 35.8
comp=Z,210nm,22.0s,baz=208,slow=31
M55A Ridgway 75.03 355 P P 09 28 23.5 +0.8
baz=174
M55A Ridgway 75.03 355 P P 09 28 21.1 -1.6
N49A Columbus Grove 75.07 351 P P 09 28 22.0 -0.9
N49A IAmb IAmb 09 28 24.1
comp=Z,25nm,0.9s
TUC Tucson 75.08 327 P P 09 28 24.5 +1.2
baz=148
TUC Tucson 75.08 327 P P 09 28 24.0 +0.7
TUC pmax pmax
comp=Z,11nm,1.3s
TUC Tucson 75.08 327 P P 09 28 24.0 +0.7
DBIC Dimbokro 75.10 71 P P 09 28 23.8 0.0
comp=Z,10nm,0.6s,baz=222,slow=5.7,SNR=18
DBIC LR LR 10 00 13.7
comp=Z,450nm,18.8s,baz=196,slow=35
DBIC Dimbokro 75.10 71 P P 09 28 23.5 -0.2
DBIC IAmb IAmb 09 28 25.2
comp=Z,16nm,0.8s
M54A Oil Creek Stat 75.14 354 P P 09 28 24.0 +0.6
baz=174
P40A Paris 75.15 344 P P 09 28 21.8 -1.6
L63A North Scituate 75.17 0 P P 09 28 24.7 +1.3
baz=180
N47A Urbana 75.25 349 P P 09 28 23.3 -0.6
L64A Middleborough 75.25 1 P P 09 28 25.2 +1.3
baz=181
L60A Shokan 75.32 358 P P 09 28 25.7 +1.3
baz=178
L58A Harry Jones Me 75.43 357 P P 09 28 25.7 +0.8
baz=177
L57A Andrews Acres 75.44 356 P P 09 28 25.9 +0.8
baz=176
ANMO Albuquerque 75.49 331 P P 09 28 27.2 +1.4
baz=151
ANMO Albuquerque 75.49 331 *ce*P P 09 28 27.5 +1.8
ANMO pmax pmax
comp=Z,15nm,1.7s
ANMO Albuquerque 75.49 331 P P 09 28 26.3 +0.6
L61A Hillsdale 1, H 75.51 359 P P 09 28 26.4 +1.0
baz=179
L59A Walton 75.55 358 P P 09 28 26.5 +0.8
baz=178
HDIL Hopedale 75.56 347 P P 09 28 26.1 +0.4
baz=165
HDIL Hopedale 75.56 347 P P 09 28 24.8 -0.9
HDIL IAmb IAmb 09 28 27.0
comp=Z,22nm,0.8s
P38A Dawn 75.59 343 P P 09 28 25.5 -0.5
P38A IAmb IAmb 09 28 27.3
comp=Z,17nm,0.9s
L56A Greenwood 75.61 356 P P 09 28 26.5 +0.5
baz=175,SNR=5.8
L56A Greenwood 75.61 356 P P 09 28 25.6 -0.4
L56A IAmb IAmb 09 28 27.9
comp=Z,24nm,1.1s
L55A Hinsdale 75.72 355 P P 09 28 27.6 +0.9
baz=175
214A Organ Pipe Nat 75.74 325 P P 09 28 28.6 +1.6
baz=146,SNR=5.9
214A Organ Pipe Nat 75.74 325 P P 09 28 27.2 +0.2
214A IAmb IAmb 09 28 30.3
comp=Z,10nm,0.9s
L61B Northampton 75.76 360 P P 09 28 28.0 +1.1
baz=180
R32A Long Quarter, 75.88 339 P P 09 28 27.9 +0.2
R32A IAmb IAmb 09 28 30.4
comp=Z,33nm,1.2s
WVNY West Valley, N 75.95 355 P P 09 28 27.6 -0.4
K62A Royalston 75.97 360 P P 09 28 29.1 +1.0
baz=180
N41A Harden Midland 76.02 345 P P 09 28 27.7 -0.7
TRY Troy 76.05 359 P P 09 28 28.6 +0.1
TRY IAmb IAmb 09 28 31.0
comp=Z,29nm,1.2s
K59A Cooperstown 76.12 358 P P 09 28 29.9 +1.0
baz=178
M44A Midewin, Midew 76.13 348 P P 09 28 29.4 +0.5
K58A Earlville 76.14 357 P P 09 28 29.4 +0.4
baz=177
K56A Middlesex 76.16 356 P P 09 28 30.2 +1.1
baz=176
K54A Basilika Farm, 76.16 355 P P 09 28 30.2 +1.1
baz=174
MMNY Mt. Morris Dam 76.23 356 P P 09 28 27.9 -1.6
MMNY IAmb IAmb 09 28 31.8
comp=Z,36nm,1.3s
SPX San Pedro Mart 76.29 323 P P 09 28 29.1 -1.5
J62A Henniker 76.53 0 P P 09 28 32.6 +1.4
baz=180
CBKS Cedar Bluff 76.56 338 P P 09 28 32.5 +0.9
baz=157
N38A Joes South For 76.63 344 P P 09 28 31.4 -0.4
T25A Trinidad 76.63 334 P P 09 28 33.8 +1.6
baz=153,SNR=19
T25A Trinidad 76.63 334 P P 09 28 32.8 +0.6
J58A Remsen 76.72 358 P P 09 28 33.0 +0.6
baz=177
J59A Piesco 76.80 358 P P 09 28 33.4 +0.6
baz=178

J59A **Piesco** 76.80 358 P P 09 28 31.9 -0.8
J54A **Appleton** 76.81 355 P P 09 28 33.2 +0.5
baz=174
113A **Mohawk Valley,** 76.86 325 P P 09 28 33.8 +0.5
L44A **Lake County Fo** 76.87 348 P P 09 28 32.7 -0.5
baz=167
I58A **Old Forge** 77.04 358 P P 09 28 34.7 +0.6
baz=178
X16A **Lo Mia Camp, P** 77.15 327 P P 09 28 35.7 +0.5
I60A **Shoreham** 77.16 359 P P 09 28 35.7 +1.0
baz=179
I62A **Tamworth** 77.18 1 P P 09 28 35.8 +0.9
baz=181
I62A **Tamworth** 77.18 1 P P 09 28 35.8 +0.9
I62A IAmb IAmb 09 28 37.6
comp=Z,40nm,1.4s
I61A **Oroboro, Fairl** 77.24 360 P P 09 28 36.8 +1.6
baz=180
I64A **Boothbay** 77.26 2 P P 09 28 36.5 +1.3
baz=182
N35A **Tabor** 77.29 342 P P 09 28 35.3 -0.2
N35A IAmb IAmb 09 28 36.8
comp=Z,28nm,0.9s
ESJX **Sierra Juarez** 77.31 323 P P 09 28 37.3 +1.2
I57A **Carthage** 77.31 357 P P 09 28 36.5 +0.9
baz=177
L40A **Anamosa** 77.40 346 P P 09 28 35.7 -0.4
Y14A **Wickenburg** 77.46 326 P P 09 28 38.0 +1.2
I51A **Listowel** 77.54 353 P P 09 28 38.0 +1.1
baz=172
LBNH **Lisbon** 77.55 0 P P 09 28 38.2 +1.3
baz=180
SDCO **Great Sand Dun** 77.57 333 P P 09 28 38.7 +1.1
baz=152,SNR=7.7
SDCO **Great Sand Dun** 77.57 333 P P 09 28 37.6 0.0
KSCO **Kaye Shedlock'** 77.67 336 P P 09 28 39.1 +1.2
baz=154,SNR=6.3
KSCO **Kaye Shedlock'** 77.67 336 P P 09 28 39.2 +1.2
KSCO IAmb IAmb 09 28 40.7
comp=Z,18nm,0.9s
H58A **Gabriels** 77.75 358 P P 09 28 38.8 +0.7
baz=178
H57A **Richville** 77.83 358 P P 09 28 39.2 +0.8
baz=177
H61A **Lyndonville** 77.84 0 P P 09 28 39.9 +1.3
baz=180
H60A **Morristown** 77.87 360 P P 09 28 40.7 +2.0
baz=180
IKP **In-Ko-Pah, Jac** 77.91 323 P P 09 28 41.2 +1.8
baz=144
LONY **Lake Ozonia** 77.96 358 P P 09 28 40.4 +1.2
baz=178
H59A **Cadyville** 77.97 359 P P 09 28 39.1 -0.1
baz=179
H63A **New Sharon** 77.99 1 P P 09 28 41.3 +2.0
baz=182
H64A **Troy** 77.99 2 P P 09 28 40.6 +1.3
baz=182
SWSC **Sam W. Stewart** 78.00 324 P P 09 28 41.1 +1.4
baz=144
JFWS **Jewell Farm** 78.02 346 P P 09 28 40.6 +1.1
baz=165
WUAZ **Wupatki** 78.04 328 P P 09 28 41.9 +1.9
baz=148,SNR=6.5
WUAZ **Wupatki** 78.04 328 P P 09 28 41.4 +1.3
S22A **4UR Ranch, Cre** 78.07 332 P P 09 28 41.8 +1.4
baz=151,SNR=7.0
S22A **4UR Ranch, Cre** 78.07 332 P P 09 28 37.5 -2.9
H65A **Eastbrook** 78.08 3 P P 09 28 41.7 +1.8
baz=183
H53A **Bobcaygeon** 78.11 355 P P 09 28 41.4 +1.4
baz=174
FRNY **Flat Rock** 78.15 359 P P 09 28 40.4 +0.2
FRNY IAmb IAmb 09 28 42.3
comp=Z,14nm,1.1s
BAR **Barrett** 78.22 323 P P 09 28 42.1 +1.2
MONP2 **Monument Peak** 78.26 323 P P 09 28 42.8 +1.3
baz=144
MVCO **Mesa Verde** 78.27 331 P P 09 28 42.8 +1.4
baz=150,SNR=6.1
MVCO **Mesa Verde** 78.27 331 P P 09 28 42.9 +1.5
BC3 **Big Chuckawall** 78.40 324 P P 09 28 43.8 +1.7
baz=144,SNR=9.9
G60A **Masonville** 78.40 360 P P 09 28 43.8 +2.1
baz=180
G63A **Kingsbury** 78.45 2 P P 09 28 42.9 +1.0
baz=182
Q24A **Divide** 78.52 334 P P 09 28 44.1 +1.2
baz=152,SNR=8.4
G62A **West of Eustis** 78.54 1 P P 09 28 43.9 +1.6
baz=181
G62A **West of Eustis** 78.54 1 P P 09 28 41.9 -0.5
G62A IAmb IAmb 09 28 45.0
comp=Z,19nm,0.9s
G61A **St-Isidore-de-** 78.59 0 P P 09 28 44.0 +1.3
baz=180
PKME **Peaks-Kenny Pk** 78.61 2 P P 09 28 44.2 +1.5
baz=182
G65A **Princeton** 78.61 3 P P 09 28 44.1 +1.4
baz=184
G64A **Maxfield** 78.62 2 P P 09 28 44.3 +1.5
baz=183
IRM **Iron Mountain** 78.66 325 P P 09 28 45.0 +1.6
baz=145,SNR=6.8
W13A **Hualapai Mount** 78.83 326 P P 09 28 44.1 -0.4
TPFO **Pinon Flats** 78.85 323 P P 09 28 46.5 +1.9
baz=144,SNR=9.6
PFO **Pinyon Flats O** 78.86 323 P P 09 28 46.4 +1.8
baz=144,SNR=11
PFO **Pinyon Flats O** 78.86 323 *i* P P 09 28 44.5 -0.1
PFO pmax pmax
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** 78.86 323 P P 09 28 44.0 -0.6
PFO IAmb IAmb 09 28 48.1
comp=Z,15nm,1.2s
G54A **Lake Saint Pet** 78.89 356 P P 09 28 45.2 +0.8
baz=175
BELC **Belle Mtn. Jos** 78.94 324 P P 09 28 46.8 +1.7
baz=144
F63A **Nahmakanta, Br** 79.06 2 P P 09 28 47.0 +1.8
baz=182
PV01 **Paradox Valley** 79.09 331 P P 09 28 46.3 +0.3
F59A **Saint Guilaume** 79.16 359 P P 09 28 47.3 +1.6
baz=179
U15A **North Rim** 79.21 328 P P 09 28 47.1 +0.5
PV13 **Radium Mtn., P** 79.21 331 P P 09 28 47.2 +0.6
PV13 IAmb IAmb 09 28 49.7
comp=Z,20nm,1.4s
MURC **Murrieta** 79.22 323 P P 09 28 48.0 +1.5
baz=143
F64A **Sherman** 79.24 3 P P 09 28 47.6 +1.4
baz=183
F64A **Sherman** 79.24 3 P P 09 28 45.7 -0.5
F64A IAmb IAmb 09 28 50.2
comp=Z,32nm,1.4s
PV05 **Paradox Valley** 79.26 331 P P 09 28 47.2 +0.4
F60A **Warwick** 79.28 0 P P 09 28 47.5 +1.1
baz=180
F61A **St Evariste** 79.29 1 P P 09 28 48.0 +1.6
baz=181
PV03 **Paradox Valley** 79.31 331 P P 09 28 47.7 +0.6
PV18 **Skein Mesa, Pa** 79.32 331 P P 09 28 46.3 -0.8
TSUM **Tsumeb** 79.33 106 LR LR 09 59 05.5
comp=Z,562nm,20.7s,baz=177,slow=32
TSUM **Tsumeb** 79.33 106 P P 09 28 46.7 -1.0
PV12 **Saucer Basin,** 79.34 331 P P 09 28 47.6 +0.4
PV12 IAmb IAmb 09 28 50.0
comp=Z,19nm,1.4s
PV11 **David Mesa, Pa** 79.36 331 P P 09 28 46.7 -0.6
PV11 IAmb IAmb 09 28 49.9
comp=Z,18nm,1.3s
PV17 **East Wray Mesa** 79.37 331 P P 09 28 48.0 +0.6
PV16 **Nyswonger Mesa** 79.38 331 P P 09 28 47.4 -0.1
GMRC **Granite Mounta** 79.41 325 P P 09 28 49.4 +1.8
baz=144,SNR=8.2
ISCO **Idaho Springs** 79.42 334 P P 09 28 49.0 +1.2
baz=152,SNR=7.5
ISCO **Idaho Springs** 79.42 334 P P 09 28 48.3 +0.5
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO **Idaho Springs** 79.42 334 P P 09 28 48.3 +0.5
ALGO **Algonquin Park** 79.44 356 P P 09 28 46.9 -0.4
baz=175
PV04 **Paradox Valley** 79.45 331 P P 09 28 47.7 -0.1
PV04 IAmb IAmb 09 28 51.3
comp=Z,20nm,1.4s

PV14 **Lion Creek, Pa** 79.48 331 P P 09 28 47.9 -0.1
PV21 **Cone Mtn., Par** 79.62 331 P P 09 28 49.9 +1.1
E60A **Ste Agathe de** 79.68 0 P P 09 28 49.8 +1.2
baz=181
E58A **La Victoria** 79.69 359 P P 09 28 49.8 +1.2
baz=179
I37A **Lemond, Waseca** 79.73 345 P P 09 28 46.1 -2.8
I37A IAmb IAmb 09 28 50.4
comp=Z,23nm,0.9s
E57A **Chemin Saint G** 79.74 359 P P 09 28 49.9 +0.9
baz=178
K31A **O'Neill** 79.77 340 P P 09 28 49.3 0.0
HEC **Hector,Ludlow** 79.78 324 P P 09 28 51.9 +2.3
baz=144
E63A **Oxbow** 79.80 3 P P 09 28 50.1 +0.9
baz=183
E64A **Bridgewater** 79.82 3 P P 09 28 50.4 +1.1
baz=184
E56A **St. Veronique** 79.89 358 P P 09 28 50.5 +0.8
baz=178
KNB **Kanab** 79.93 328 P P 09 28 51.5 +1.1
KNB pmax pmax
comp=Z,18nm,1.1s
KNB **Kanab** 79.93 328 P P 09 28 51.5 +1.1
BFSC **Mount Baldy Ra** 79.96 323 P P 09 28 52.2 +1.6
baz=143,SNR=5.4
E62A **Clayton Lake** 79.96 2 P P 09 28 51.6 +1.4
baz=182
E62A **Clayton Lake** 79.96 2 P P 09 28 49.1 -1.0
E62A IAmb IAmb 09 28 52.7
comp=Z,15nm,0.9s
TUQ **Turquoise Moun** 80.07 325 P P 09 28 52.7 +1.5
baz=144,SNR=7.4
LCMT **Little Creek M** 80.12 328 P P 09 28 52.3 +0.9
MWC **Mount Wilson** 80.15 323 P P 09 28 51.2 -0.5
MWC pmax pmax
comp=Z,10.0nm,1.2s
MWC **Mount Wilson** 80.15 323 P P 09 28 51.2 -0.5
D60A **Saint Jean D'O** 80.23 1 P P 09 28 52.5 +1.0
baz=181
ECSD **EROS Data Cent** 80.23 342 P P 09 28 52.3 +0.6
baz=160
ECSD **EROS Data Cent** 80.23 342 P P 09 28 51.0 -0.7
ECSD IAmb IAmb 09 28 53.4
comp=Z,16nm,0.9s
BOSA **Boshof** 80.25 118 P P 09 28 52.6 +0.1
comp=Z,6.7nm,1.0s,baz=243,slow=5.0,SNR=6.0
BOSA LR LR 09 59 41.9
comp=Z,206nm,20.2s,baz=221,slow=32
BOSA **Boshof** 80.25 118 P P 09 28 52.8 +0.3
BOSA pmax pmax
comp=Z,11nm,1.1s
BOSA **Boshof** 80.25 118 P P 09 28 52.8 +0.3
D55A **Sainte-Anne-du** 80.38 358 P P 09 28 53.4 +1.0
baz=177
GSC **Goldstone, Bar** 80.39 324 P P 09 28 54.3 +1.5
baz=144,SNR=7.4
GSC **Goldstone, Bar** 80.39 324 P P 09 28 51.8 -1.0
GSC pmax pmax
comp=Z,10.0nm,1.2s
GSC **Goldstone, Bar** 80.39 324 P P 09 28 51.8 -1.0
D56A **ZEC Mazanza, M** 80.39 358 P P 09 28 52.9 +0.5
baz=178
D58A **Chemin du LacG** 80.41 359 P P 09 28 53.1 +0.6
baz=179
D63A **Stockholm** 80.42 3 P P 09 28 53.3 +0.8
baz=183
D62A **Allapoint, All** 80.44 2 P P 09 28 54.0 +1.3
baz=183
D62A **Allapoint, All** 80.44 2 P P 09 28 53.4 +0.7
D62A IAmb IAmb 09 28 54.8
comp=Z,13nm,1.0s
E46A **Sault Ste Mari** 80.44 351 P P 09 28 51.7 -1.0
E46A IAmb IAmb 09 28 53.8
comp=Z,21nm,1.1s
N23A **Red Feather La** 80.51 335 P P 09 28 54.4 +0.9
baz=152
N23A **Red Feather La** 80.51 335 P P 09 28 53.9 +0.3
D61A **St Aubert, Com** 80.53 1 P P 09 28 55.0 +1.9
baz=182
KOWA **Kowa** 80.53 66 P P 09 28 53.2 -0.8
KOWA IAmb IAmb 09 28 55.4
comp=Z,17nm,0.8s
SZCU **Shurtz Canyon** 80.53 328 P P 09 28 53.3 -0.4
SHPR **Sheep Range** 80.58 326 P P 09 28 53.5 -0.4
CCUT **Cedar City** 80.62 328 P P 09 28 55.7 +1.5
EDW2 **Edwards Air Fo** 80.64 323 P P 09 28 55.4 +1.3
baz=143
O20A **White River Ci** 80.69 333 P P 09 28 55.9 +1.4
baz=150
O20A **White River Ci** 80.69 333 P P 09 28 55.1 +0.6
SRU **San Rafael Swe** 80.72 331 P P 09 28 54.6 -0.1
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU **San Rafael Swe** 80.72 331 P P 09 28 54.5 -0.1
SPMN **Marine on St.** 80.75 345 P P 09 28 54.7 +0.2
baz=163
Q16A **Castle Valley** 80.82 330 P P 09 28 55.8 +0.6
MSU **Marysvale** 80.90 329 P P 09 28 56.3 +0.6
MSU **Marysvale** 80.90 329 P P 09 28 56.3 +0.6
MVU **Marysvale** 80.91 329 P P 09 28 53.7 -2.1
LRMC **Laurel Mtn Rad** 80.96 324 P P 09 28 57.0 +1.1
baz=143
P17A **Butcher Ranch,** 81.11 331 P P 09 28 57.9 +1.1
TMUT **Trail Mountain** 81.16 330 P P 09 28 59.0 +1.9
PRN **Pahroc Range** 81.26 327 P P 09 28 59.1 +1.6
PRN IAmb IAmb 09 29 01.6
comp=Z,14nm,1.1s
MPMC **Manual Prospec** 81.32 324 P P 09 28 58.9 +0.9
baz=143
FURC **Furnace Creek,** 81.35 325 P P 09 28 59.3 +1.5
baz=144,SNR=7.4
TPNV **Topopah Spring** 81.44 326 P P 09 29 00.3 +1.7
baz=144,SNR=7.6
TPNV **Topopah Spring** 81.44 326 P P 09 29 00.6 +2.1
TPNV pmax pmax
comp=Z,19nm,1.4s
TPNV **Topopah Spring** 81.44 326 P P 09 29 00.6 +2.1
TPNV IAmb IAmb 09 29 01.9
comp=Z,19nm,1.4s
ISA **Isabella, Lake** 81.49 323 P P 09 29 00.4 +1.7
baz=142,SNR=5.9
ISA **Isabella, Lake** 81.49 323 P P 09 28 59.9 +1.2
ISA pmax pmax
comp=Z,16nm,1.5s
ISA **Isabella, Lake** 81.49 323 P P 09 28 59.9 +1.2
F36A **Milaca** 81.52 345 P P 09 28 57.6 -0.8
F36A IAmb IAmb 09 29 00.1
comp=Z,14nm,1.1s
PKM **Mcpherson Peak** 81.56 322 P P 09 29 00.9 +1.6
baz=142
VLDQ **Val d'Or** 81.56 356 P P 09 28 58.7 +0.1
VLDQ IAmb IAmb 09 29 01.0
comp=Z,18nm,1.1s
RDMU **Red Mountain** 81.58 332 P P 09 28 59.4 +0.1
PSUT **Pine Spring** 81.65 328 P P 09 28 59.7 +0.1
D41A **Chassel** 81.73 349 P P 09 28 59.0 -0.5
CWC **Cottonwood Cre** 81.92 324 P P 09 29 01.7 +0.7
baz=143
VES **Vestal, Richgr** 81.94 323 P P 09 29 02.0 +1.1
baz=142,SNR=6.1
SMMC **Simmler** 81.99 322 P P 09 29 02.5 +1.3
baz=142
F33A **5 Mile Ranch,** 82.13 343 P P 09 28 59.9 -1.8
F33A IAmb IAmb 09 29 02.8
comp=Z,18nm,1.4s
K22A **Casper** 82.26 335 P P 09 29 03.5 +0.9
baz=152
K22A **Casper** 82.26 335 P P 09 29 03.0 +0.3
K22A IAmb IAmb 09 29 05.0
comp=Z,19nm,1.2s
R11A **Troy Canyon, C** 82.27 327 P P 09 29 04.1 +1.2
baz=145,SNR=12
R11A **Troy Canyon, C** 82.27 327 P P 09 29 02.8 -0.1
JLU **Jordanelle** 82.36 331 P P 09 29 04.9 +1.5
LBTB **Lobatse** 82.47 115 P P 09 29 04.4 +0.1
LBTB pmax pmax
comp=Z,18nm,1.1s
LBTB **Lobatse** 82.47 115 P P 09 29 04.4 +0.1
LBTB IAmb IAmb 09 29 06.3
comp=Z,18nm,1.1s
LSQQ **Lebel-sur-Quev** 82.48 357 P P 09 29 03.9 +0.5
baz=176
DUG **Dugway, Tooele** 82.58 330 P P 09 29 05.4 +1.0
baz=147,SNR=9.4
DUG **Dugway, Tooele** 82.58 330 P P 09 29 04.9 +0.5

DUG pmax pmax
comp=Z,20nm,1.4s
DUG **Dugway, Tooele** 82.58 330 P P 09 29 04.9 +0.5
DUG IAmb IAmb 09 29 07.9
comp=Z,20nm,1.4s
RSSD **Black Hills** 82.73 337 P P 09 29 06.4 +1.2
baz=154
TCUT **Toone Canyon** 82.78 331 P P 09 29 06.6 +1.1
TPH **Tonopah** 82.81 326 P P 09 29 07.0 +1.3
TPH pmax pmax
comp=Z,58nm,1.2s
TPH **Tonopah** 82.81 326 P P 09 29 07.0 +1.3
EYMN **Ely** 83.10 347 P P 09 29 06.6 -0.1
baz=164,SNR=5.3
EYMN **Ely** 83.10 347 P P 09 29 06.2 -0.5
EYMN IAmb IAmb 09 29 07.9
comp=Z,25nm,1.4s
MATQ **Matagami** 83.22 356 P P 09 29 07.2 0.0
baz=175
CHGQ **Chibougamau** 83.25 359 P P 09 29 07.7 +0.3
baz=178
HWUT **Hardware Ranch** 83.25 331 P P 09 29 06.4 -1.5
HWUT IAmb IAmb 09 29 10.0
comp=Z,10nm,0.9s
BGU **Big Grassy Mou** 83.28 330 P P 09 29 07.5 -0.5
OMMB **Old Mammoth Mi** 83.29 324 P P 09 29 09.7 +1.4
OMMB IAmb IAmb 09 29 11.9
comp=Z,13nm,1.4s
MDPB **Devils Postpil** 83.35 324 P P 09 29 08.1 -0.5
BW06 **Boulder Array** 83.46 333 P P 09 29 09.1 +0.1
baz=149,SNR=6.1
BW06 **Boulder Array** 83.46 333 P P 09 29 06.6 -2.5
PD31 **Pinedale Array** 83.46 333 P P 09 29 06.6 -2.5
PDAR **Pinedale Array** 83.46 333 P P 09 29 09.1 +0.1
comp=Z,1.2nm,0.6s,baz=151,slow=4.3,SNR=13
PDAR **Pinedale Array** 83.46 333 P P 09 29 08.2 -0.8
LHV **Little Huntoon** 83.56 325 P P 09 29 11.1 +1.8
LHV IAmb IAmb 09 29 12.7
comp=Z,13nm,1.2s
DRLN **Deer Lake** 83.58 10 P P 09 29 08.2 -0.9
NVAR **Mina Array Bea** 83.60 325 P P 09 29 11.3 +1.5
comp=Z,1.4nm,0.6s,baz=151,slow=6.1,SNR=14
NVAR **Mina Array Bea** 83.60 325 P P 09 29 10.8 +1.0
RYN **Ryan** 83.86 325 P P 09 29 10.0 -1.1
B35A **Bob, Littlefor** 83.94 346 P P 09 29 10.0 -1.0
B35A IAmb IAmb 09 29 12.1
comp=Z,9.7nm,0.9s
KVN **Kaiserville** 84.00 326 P P 09 29 12.4 +0.6
KVN pmax pmax
comp=Z,11nm,1.3s
KVN **Kaiserville** 84.00 326 P P 09 29 12.4 +0.6
KVN IAmb IAmb 09 29 14.2
comp=Z,11nm,1.3s
ELK **Elko** 84.07 328 P P 09 29 12.5 +0.3
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK **Elko** 84.07 328 P P 09 29 12.5 +0.3
TOA0 **Torodi Ar. Sit** 84.13 70 P P 09 29 11.9 -0.8
TORD **Torodi Ar. Bea** 84.13 70 P P 09 29 12.6 -0.2
comp=Z,13nm,0.7s,baz=268,slow=4.4,SNR=52
TORD LR LR 10 04 01.0
comp=Z,237nm,20.9s,baz=245,slow=34
TORD **Torodi Ar. Bea** 84.13 70 P P 09 29 10.3 -2.5
WAKR **Walker** 84.21 325 P P 09 29 12.2 -0.6
WAKR IAmb IAmb 09 29 28.3
comp=Z,11nm,1.3s
CMB **Columbia Colle** 84.30 324 P P 09 29 13.2 0.0
CMB pmax pmax
comp=Z,8.0nm,1.5s
CMB **Columbia Colle** 84.30 324 P P 09 29 13.2 0.0
AGMN **Agassiz Nation** 84.34 344 P P 09 29 12.8 -0.2
baz=160,SNR=5.3
AGMN **Agassiz Nation** 84.34 344 P P 09 29 13.0 0.0
AGMN IAmb IAmb 09 29 14.4
comp=Z,9.3nm,0.9s
REDW **Red Top Meadow** 84.46 333 P P 09 29 12.9 -1.2
SNOW **Snow King Moun** 84.51 333 P P 09 29 14.3 -0.1
LOHW **Long Hollow** 84.58 333 P P 09 29 14.7 0.0
TPAW **Teton Pass** 84.61 333 P P 09 29 15.0 +0.1
MDND **Maddock** 84.83 342 P P 09 29 17.0 +1.4
IMW **Indian Meadow** 84.95 333 P P 09 29 17.0 +0.4
IMW IAmb IAmb 09 29 18.6
comp=Z,11nm,1.3s
FLWY **Flagg Ranch** 85.02 333 P P 09 29 16.1 -0.8
FLWY IAmb IAmb 09 29 19.2
comp=Z,11nm,0.9s
PAHR **Pah Rah Range** 85.13 325 P P 09 29 19.1 +1.7
PAHR IAmb IAmb 09 29 21.5
comp=Z,11nm,1.3s
AFDM **Forest Hills D** 85.30 324 P P 09 29 18.7 +0.5
AFDM IAmb IAmb 09 29 21.6
comp=Z,17nm,1.5s
YNE **Yellowstone No** 85.55 334 P P 09 29 18.8 -0.7
YHH **Holmes Hill** 85.67 333 P P 09 29 19.2 -1.0
LAO **LASA Array** 85.71 337 P P 09 29 20.2 +0.1
baz=152,SNR=6.1
LAO **LASA Array** 85.71 337 P P 09 29 19.4 -0.7
LAO IAmb IAmb 09 29 22.5
comp=Z,13nm,1.1s
YHL **Hebgen Lake** 85.85 333 P P 09 29 21.5 +0.4
QLMT **Earthquake Lak** 85.93 333 P P 09 29 23.1 +1.7
ORV **Oroville** 86.03 324 P P 09 29 22.4 +0.6
ORV pmax pmax
comp=Z,32nm,1.4s
ORV **Oroville** 86.03 324 P P 09 29 22.4 +0.6
HLID **Hailey** 86.04 331 P P 09 29 22.8 +0.9
baz=146,SNR=9.9
HLID **Hailey** 86.04 331 P P 09 29 22.0 0.0
ULM **Lac du Bonnet** 86.18 345 P P 09 29 21.6 -0.5
comp=Z,6.4nm,1.0s,baz=119,slow=1.5,SNR=6.2
ULM **Lac du Bonnet** 86.18 345 P P 09 29 21.0 -1.2
ULM IAmb IAmb 09 29 23.9
comp=Z,18nm,1.4s
BCYI **Bear Canyon** 86.26 332 P P 09 29 23.0 0.0
MCMT **McKenzie Canyo** 86.47 332 P P 09 29 23.6 -0.5
BOZ **Bozeman (W)** 86.65 333 P P 09 29 25.3 +0.4
baz=148,SNR=5.7
DGMT **Dagmar** 86.67 339 P P 09 29 25.3 +0.6
baz=154,SNR=5.9
DGMT **Dagmar** 86.67 339 P P 09 29 24.8 +0.1
O03E **Paynes Creek** 86.75 324 P P 09 29 25.9 +0.5
baz=141
DLMT **Dillon** 86.82 333 P P 09 29 24.4 -1.3
DLMT IAmb IAmb 09 29 28.2
comp=Z,19nm,1.4s
LRM **Limekiln Ridge** 87.15 333 P P 09 29 26.7 -0.7
WDC **Whiskeytown Da** 87.33 324 P P 09 29 24.3 -3.8
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC **Whiskeytown Da** 87.33 324 P P 09 29 24.3 -3.8
WDC IAmb IAmb 09 29 29.7
comp=Z,8.3nm,1.1s
J08A **Circle Bar Ran** 87.60 328 P P 09 29 25.3 -4.2
J08A IAmb IAmb 09 29 32.4
comp=Z,9.9nm,0.7s
N02D **Trinity Center** 87.71 324 P P 09 29 30.5 +0.5
baz=140
PLID **Pearl Lake** 87.94 331 P P 09 29 30.7 -0.5
PLID IAmb IAmb 09 29 34.1
comp=Z,25nm,1.4s
EGMT **Eagleton** 88.05 336 P P 09 29 32.0 +0.5
baz=149
M02C **Callahan** 88.10 324 P P 09 29 32.6 +0.7
baz=140
K05A **Summer Lake** 88.20 326 P P 09 29 33.4 +1.0
SCHQ **Schefferville** 88.27 3 P P 09 29 31.4 -0.8
comp=Z,2.8nm,0.4s,baz=233,slow=6.6,SNR=5.9
SCHQ **Schefferville** 88.27 3 P P 09 29 18.4 -14
SCHQ IAmb IAmb 09 29 39.7
comp=Z,20nm,1.3s
BMO **Blue Mountains** 88.30 330 P P 09 29 34.3 +1.6
BMO pmax pmax
comp=Z,4.0nm,1.2s
BMO **Blue Mountains** 88.30 330 P P 09 29 34.3 +1.6
I07A **Izee** 88.63 328 P P 09 29 33.0 -1.3
JTMT **Jette** 89.45 333 P P 09 29 35.2 -2.9
WALA **Waterton Lakes** 90.40 334 P P 09 29 41.7 -0.8
WALA IAmb IAmb 09 29 56.5
comp=Z,10nm,1.2s
ILAR **Eielson Array** 113.89 333 PKiKP **PKiKP** 09 35 19.2 -0.1
comp=Z,0.3nm,0.8s,baz=172,slow=1.7,SNR=4.5
ASAR **Alice Springs** 117.84 207 PKP **PKPdf** 09 35 27.2 -1.2
comp=Z,1.0nm,0.8s,baz=128,slow=1.7,SNR=13
ASAR **Alice Springs** 117.84 207 PKIKP **PKPdf** 09 35 28.0 -0.4
ASAR **Alice Springs** 117.84 207 **PKPdf** 09 35 28.0 -0.4

WRA	**Warramunga Arr**	**121.03**	**209**	PKP	**PKPdf**	**09 35 34.1**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=159,slow=1.7,SNR=58						
WRAB	**Tennant Creek**	**121.03**	**209**	*e*PKIKP	**PKPdf**	**09 35 34.7**	**+0.2**
BRTR	**Keskin Array B**	**121.70**	**61**	PKP	**PKPdf**	**09 35 33.6**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=208,slow=3.9,SNR=4.8						
AKASG	**Malin Array Be**	**121.99**	**47**	PKP	**PKPdf**	**09 35 34.2**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=261,slow=2.7,SNR=8.1						
AKASG	**Malin Array Be**	**121.99**	**47**	PKIKP	**PKPdf**	**09 35 34.5**	**-0.8**
AKASG	**Malin Array Be**	**121.99**	**47**		**PKPdf**	**09 35 34.5**	**-0.8**
FINES	**FINESS Array B**	**122.74**	**34**	PKP	**PKPdf**	**09 35 34.8**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=131,slow=3.8,SNR=2.6						
FINES	**FINESS Array B**	**122.74**	**34**	PKIKP	**PKiKP**	**09 35 36.4**	**-0.1**
FINES	**FINESS Array B**	**122.74**	**34**		**PKiKP**	**09 35 36.4**	**-0.1**
ARCES	**ARCESS Array B**	**123.73**	**25**	PKP	**PKPdf**	**09 35 37.9**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=242,slow=2.6,SNR=7.5						
H11S2	**WAKE ISLAND Hyl**	**25.75**	**269**	T	T	11 54 37.8	
	baz=118,slow=74,SNR=40						
H11S1	**WAKE ISLAND Hyl**	**25.76**	**269**	T	T	11 54 39.2	
	baz=118,slow=74,SNR=38						
H11S3	**WAKE ISLAND Hyl**	**25.76**	**269**	T	T	11 54 38.5	
	baz=118,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hyl**	**26.15**	**271**	T	T	11 55 06.7	
	baz=113,slow=78,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**26.17**	**271**	T	T	11 55 03.6	
	baz=113,slow=78,SNR=9.8						
H11N2	**WAKE ISLAND Hyl**	**26.17**	**271**	T	T	11 55 07.1	
	baz=113,slow=78,SNR=32						
KLMR	**Klimovskoe**	**129.16**	**36**	*e*PKIKP	**PKPdf**	**09 35 46.5**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,26nm,1.5s						
KLMR	**Klimovskoe**	**129.16**	**36**	*e*PKPdf	**PKPdf**	**09 35 46.6**	**-2.1**
KLMR				AMP		09 35 51.4	
	comp=Z,26nm,1.5s						
ARU	**Arti**	**139.52**	**40**	*i* PKIKP	**PKiKP**	**09 36 09.5**	**-1.0**
ARU						09 39 02.9	
ARU				SS	SS	09 57 13.9	-7.5
ARU				MLR	MLR		
	comp=Z,268nm,20.0s						
TIXI	**Tiksi**	**140.37**	**350**	*i* PKIKP	**PKPdf**	**09 36 08.9**	**-0.4**
BRVK	**Borovoye**	**146.99**	**43**	*i* PKP2	**PKPdf**	**09 36 22.2**	**+0.7**
BRVK	**Borovoye**	**146.99**	**43**		**PKPab**	**09 36 24.7**	**-0.3**
YAK	**Yakutsk**	**148.42**	**341**	PKPbc	**PKPbc**	**09 36 27.2**	**+0.2**
	comp=Z,14nm,0.5s,baz=37,slow=0.4,SNR=5.2						
YAK	**Yakutsk**	**148.42**	**341**	*e*PKIKP	**PKPbc**	**09 36 25.3**	**-1.7**
YAK				*e*		09 39 55.8	
YAK				*e*		09 43 32.0	
YAK				*e*SS	SS	09 58 58.0	-4.5
YAK				pmax	pmax		
	comp=Z,40nm,1.2s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,585nm,4.8s						
YAK				pmax	pmax		
	comp=E,322nm,4.7s						
YAK				pmax	pmax		
	comp=N,410nm,4.6s						
YAK	**Yakutsk**	**148.42**	**341**		**PKPbc**	**09 36 27.4**	**+0.4**
HYB	**Hyderabad**	**149.09**	**114**	*i* PKP	**PKPbc**	**09 36 29.0**	**-1.2**
KK31	**Karatay Array**	**149.41**	**61**	PKP2	**PKPbc**	**09 36 30.5**	**+0.2**
KK31	**Karatay Array**	**149.41**	**61**	PKPdf	**PKPdf**	**09 36 26.4**	**+0.6**
KK31					**PKPbc**	**09 36 30.5**	**+0.2**
KKAR	**Karatay Array**	**149.41**	**61**	PKP2	**PKPbc**	**09 36 30.2**	**-0.1**
KKAR	**Karatay Array**	**149.41**	**61**	PKPdf	**PKPdf**	**09 36 26.1**	**+0.3**
KKAR					**PKPbc**	**09 36 30.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**150.58**	**307**	*e*PKIKP	**PKPbc**	**09 36 33.3**	**+0.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**150.58**	**307**		**PKPbc**	**09 36 33.0**	**+0.1**
JKA	**Kamikawa-asahi**	**151.26**	**302**		**PKPbc**	**09 36 34.0**	**-0.6**
ASAJ	**Asahikawa**	**151.26**	**302**	PKPbc	**PKPbc**	**09 36 34.1**	**-0.5**
	comp=Z,7.1nm,0.7s,baz=107,slow=3.0,SNR=5.2						
AML	**Almayashu**	**151.85**	**62**	P	**PKiKP**	**09 36 37.4**	**+0.5**
	SNR=8.8						
EKS2	**Erkin-Say**	**151.85**	**61**	P	**PKiKP**	**09 36 37.2**	**+0.7**
	SNR=8.9						
USP	**Ospenovka**	**152.29**	**60**	P	**PKiKP**	**09 36 37.9**	**+0.6**
	SNR=5.2						
AAK	**Ala-Archa**	**152.38**	**61**	P	**PKiKP**	**09 36 38.2**	**+0.5**
	SNR=8.1						
UCH	**Uchtor**	**152.44**	**62**	P	**PKiKP**	**09 36 39.0**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**153.14**	**60**	P	**PKiKP**	**09 36 39.7**	**+0.4**
	SNR=5.2						
KSH	**Kashi**	**153.78**	**68**	PKPbc	**PKPbc**	**09 36 37.9**	**-2.6**
KSH				PP	**PP**	**09 40 33.3**	**+4.9**
KSH				AMB	AMB		
	comp=Z,140nm,4.1s						
KSH				LR	LR		
	comp=N,140nm,4.7s						
KSH				LR	LR		
	comp=E,110nm,5.1s						
ZALV	**Zalesovo Beam**	**153.97**	**32**	PKP	**PKPdf**	**09 36 33.0**	**+0.8**
	comp=E,1.9nm,0.6s,baz=236,slow=1.0,SNR=1.4						
ZALV				PKPbc	**PKiKP**	**09 36 40.9**	**+0.5**
	comp=E,10nm,0.6s,baz=311,slow=3.1,SNR=9.4						
ZALV				PKPab	**PKPab**	**09 36 52.7**	**-1.0**
	comp=E,7.4nm,0.6s,baz=300,slow=4.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**153.97**	**32**		**PKPbc**	**09 36 40.0**	**-0.3**
ZALV					**PKPab**	**09 36 52.5**	**-1.1**
BOD	**Bodaibo**	**155.50**	**352**	*e*PKP2	**PKPab**	**09 37 00.2**	**+0.1**
BOD				pmax	pmax		
	comp=Z,20nm,1.9s						
MKAR	**Makanchi Array**	**156.57**	**48**	PKP	**PKPdf**	**09 36 36.5**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=294,slow=1.2,SNR=7.3						
MKAR				PKPab	**PKPab**	**09 37 05.2**	**0.0**
	comp=Z,3.1nm,0.5s,baz=298,slow=4.0,SNR=16						
MKAR	**Makanchi Array**	**156.57**	**48**	PKPdf	**PKPdf**	**09 36 35.9**	**-0.2**
MKAR				PKPab	**PKPab**	**09 37 05.1**	**0.0**
MDJ	**Mudanjiang**	**160.02**	**310**	PKP	**PKPdf**	**09 36 43.3**	**+3.0**
WMQ	**Urumqi**	**161.29**	**51**	*e*PKP	**PKPdf**	**09 36 41.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**162.84**	**150**	PKP	**PKPdf**	**09 36 43.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=256,slow=2.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**162.84**	**150**	PKIKP	**PKPdf**	**09 36 44.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**162.84**	**150**		**PKPdf**	**09 36 44.9**	**+0.9**
SONM	**Songino Array**	**165.81**	**4**	PKPab	**PKPab**	**09 37 46.2**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=347,slow=5.6,SNR=5.4						
SONM	**Songino Array**	**165.81**	**4**	PKP2	**PKPab**	**09 37 45.8**	**+0.4**
SONM	**Songino Array**	**165.81**	**4**	PKPab	**PKPab**	**09 37 45.8**	**+0.4**
NJ2	**Nanjing**	**170.67**	**263**	*e*PKP	**PKPdf**	**09 36 50.4**	**+0.8**
GTA	**Gaotai**	**171.32**	**46**	*e*PKP	**PKPdf**	**09 36 51.8**	**+1.9**
GTA				PKPab	**PKPab**	**09 38 11.5**	**+1.3**
HHC	**Hu-ho-hao-te**	**172.28**	**339**	*e*P	PKPdf	09 36 39.0	-11
HHC				LR	LR		
	comp=N,220nm,21.3s						
HHC				LR	LR		
	comp=E,250nm,19.3s						
HHC				LR	LR		
	comp=Z,380nm,19.8s						
LZH	**Lanzhou**	**175.87**	**53**	*e*PKP	**PKPdf**	**09 36 50.4**	**-1.3**
LZH				pPKP	pPKPdf	09 36 59.8	+0.6

KEA ***14*** *09:26:46.4±0.0,39.°60N×116.°80E,h0km,ML3.8/1*
BJI ***14*** *09:27:28.5±0.0,39.°74N×118.°71E,h9km,ML3.9/12*

ISC 14 09:27:27.6±0.8,39.°48N±0.°06×118.°76E±0.°03,h10km,n12,
σ2.°37/22,1C,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**2.07**	**286**	Pn	**Pn**	**09 28 01.5**	**-0.9**
BJI				Pg	**Pb**	**09 28 03.8**	**-1.4**
BJI				Sg	**Sn**	**09 28 29.3**	**+1.1**
BJI				smax	smax		
	comp=N,850nm,0.4s						
BJI				smax	smax		
	comp=E,920nm,0.6s						
DL2	**Dalian**	**2.30**	**104**	Pn	**Pb**	**09 28 07.4**	**-1.8**
DL2				Pg	**Pg**	**09 28 11.8**	**0.0**
DL2				Sn	**Sn**	**09 28 34.6**	**+0.6**
DL2				Sg	**Sg**	**09 28 43.3**	**+1.7**
DL2				smax	smax		
	comp=N,380nm,0.5s						
DL2				smax	smax		
	comp=E,380nm,0.7s						
TIA	**Tai'an**	**3.51**	**202**	Pn	**Pn**	**09 28 24.4**	**+2.1**
TIA				Pg	**Pg**	**09 28 35.0**	**+0.1**
TIA				Sg	**Sg**	**09 29 22.0**	**+1.5**
TIA				smax	smax		
	comp=N,100nm,0.5s						
TIA				smax	smax		
	comp=E,180nm,0.6s						
SNY	**Shenyang**	**4.35**	**56**	⇑Pg	**Pb**	**09 28 47.3**	**+3.2**
SNY				Sg	**Sb**	**09 29 42.1**	**+5.5**
SNY				smax	smax		
	comp=N,220nm,0.4s						
SNY				smax	smax		
	comp=E,130nm,0.6s						
SUJ	**Sinuiju**	**4.46**	**80**	Pg	**Pn**	**09 28 35.9**	**+0.6**
SUJ				Sg	**Sg**	**09 29 50.4**	**-0.4**
PYAG	**Pyongyang**	**5.45**	**92**	Sg	**Sg**	**09 30 21.5**	**-1.0**
PYS	**Pyongsong**	**5.50**	**90**	Sg	**Sg**	**09 30 22.1**	**-2.2**
HJU	**Haeju**	**5.63**	**103**	Pg	**Pg**	**09 29 11.8**	**-3.7**
HJU				Sg	**Sg**	**09 30 27.3**	**-1.1**
WOSN	**Wonsan**	**6.72**	**90**	Sg	**Sg**	**09 30 59.5**	**-3.9**
HHU	**Hamhung**	**6.78**	**83**	Sg	**Sg**	**09 31 02.3**	**-2.8**
GTA	**Gaotai**	**14.64**	**276**	*e*P	**P**	**09 30 59.3**	**-2.0**
GTA				pP	Pn	09 31 03.3	+8.4
GTA				sP		09 31 06.1	
WMQ	**Urumqi**	**23.54**	**291**	*e*P	**P**	**09 32 38.8**	**+0.8**

BJI ***14*** *09:34:02.7±0.0,24.°85S×177.°03W,h130km,mB5.5/10, mb5.2/15*
NEIC ***14*** *09:34:03.1±2.3,24.°96S±0.°07×177.°2W±0.°1,h123km±5km, mb4.6/52,Error ellipse: s-maj=14.5km s-min=10.4km az=95.0*
IDC ***14*** *09:34:05.5±1.9,24.°82S×177.°38W,h128km±16km, mb4.1/14,mb1 4.3/16,mb1mx4.3/24,mbtmp4.5/16,Error ellipse: s-maj=18.2km s-min=14.1km az=101.0*

ISC 14 09:34:05.1±1.0,24.°88S±0.°06×177.°25W±0.°07,
h134km±9km,n214,σ1.°92/187,mb4.7/42,8C-5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.39**	**188**	P	**Pn**	**09 35 09.8**	**-0.3**
RIZ				S	**Sn**	**09 36 02.4**	**+1.7**
RAO	**Raoul Island**	**4.40**	**188**	P	**Pn**	**09 35 10.6**	**+0.4**
	97nm,0.3s,baz=78,slow=15,SNR=5.7						
RAO				S	**Sn**	**09 36 02.3**	**+1.6**
	852nm,0.3s,baz=86,slow=23,SNR=15						
RAO	**Raoul Island**	**4.40**	**188**	Pn	**Pn**	**09 35 08.8**	**-1.4**
GLKZ	**Green Lake**	**4.41**	**188**	P	**Pn**	**09 35 11.7**	**+1.4**
GLKZ				S	**Sn**	**09 36 03.1**	**+2.1**
MSVF	**Nonsavu**	**8.35**	**327**	Pn	Pn	09 36 09.3	+6.0
NIUE	**Niue**	**8.91**	**51**	P	**Pn**	**09 36 08.8**	**-2.0**
NIUE				S	Sn	09 37 34.8	-15
NIUE	**Niue**	**8.91**	**51**	Pn	**Pn**	**09 36 09.5**	**-1.3**
AFI	**Afiamalu**	**12.07**	**26**	Pn	Pn	09 36 48.6	-4.3
OUZ	**Omahuta**	**13.00**	**215**	P	**P**	**09 37 09.3**	**-0.8**
OUZ	**Omahuta**	**13.00**	**215**	Pn	**Pn**	**09 37 03.3**	**-1.4**
WCZ	**Waipu Caves**	**13.19**	**211**	P	**P**	**09 37 12.8**	**+0.7**
MXZ	**Matakaoa Point**	**13.20**	**196**	P	Pn	09 36 59.6	-7.7
MXZ				S	Sn	09 39 19.4	-14
WMGZ	**Waiomatatini S**	**13.42**	**195**	P	Pn	09 37 03.8	-6.3
WMGZ				S	Sn	09 39 25.1	-13
HAZ	**Te Kaha**	**13.52**	**197**	P	Pn	09 37 04.6	-6.8
HAZ				S	Sn	09 39 25.6	-15
WIAZ	**Waiheke Island**	**13.55**	**207**	P	**Pn**	**09 37 13.8**	**+2.0**
PKGZ	**Pakihiroa**	**13.57**	**196**	P	Pn	09 37 04.1	-8.0
PKGZ				S	Sn	09 39 26.3	-16
PUZ	**Puketiti**	**13.70**	**195**	P	Pn	09 37 08.5	-5.2
PUZ				S	Sn	09 39 30.1	-15
RUGZ	**Raukumara Rang**	**13.74**	**197**	P	Pn	09 37 07.9	-6.5
RUGZ				S	Sn	09 39 30.6	-16
EPAZ	**Eden Park BICE**	**13.79**	**208**	P	**Pn**	**09 37 16.2**	**+1.4**
TWGZ	**Tauwhareparae**	**13.87**	**196**	P	**Pn**	**09 37 13.8**	**-2.1**
MARZ	**Manawahe**	**14.05**	**200**	P	Pn	09 37 13.3	-5.0
CNGZ	**Carnagh Statio**	**14.10**	**195**	P	Pn	09 37 08.8	-10
MWZ	**Matawai**	**14.13**	**197**	P	Pn	09 37 14.3	-4.9
MWZ				S	Sn	09 39 40.4	-15
TKGZ	**Te Karaka**	**14.15**	**196**	P	Pn	09 37 13.0	-6.4
TKGZ				S	Sn	09 39 38.2	-18
URZ	**Urewera**	**14.18**	**198**	P	**Pn**	**09 37 20.7**	**+1.0**
	5.2nm,0.3s,baz=203,slow=1.9,SNR=12						
URZ				S	Sn	09 39 42.6	-14
	9.5nm,0.3s,baz=145,slow=23,SNR=13						
URZ	**Urewera**	**14.18**	**198**	P	Pn	09 37 14.8	-4.9
URZ				S	Sn	09 39 40.9	-16
URZ	**Urewera**	**14.18**	**198**	Pn	**Pn**	**09 37 18.4**	**-1.4**
URZ				P	**P**	**09 37 19.5**	**-3.6**
RAGZ	**Rawiri**	**14.31**	**197**	P	**Pn**	**09 37 21.3**	**-0.3**
RAGZ				S	Sn	09 39 44.3	-16
RIGZ	**Rimuhau**	**14.42**	**196**	P	**Pn**	**09 37 19.8**	**-3.1**
KNZ	**Kokohu**	**14.74**	**196**	P	Pn	09 37 20.1	-6.7
TLZ	**Tolley Road**	**14.74**	**203**	P	**Pn**	**09 37 27.4**	**+0.5**
MHGZ	**Mahia Peninsul**	**14.81**	**195**	P	Pn	09 37 16.5	-11
WHTZ	**Whakaora**	**14.90**	**201**	P	Pn	09 37 21.7	-7.3
MRHZ	**Matea Rd**	**14.91**	**200**	P	Pn	09 37 22.9	-6.2
NMHZ	**Naumai**	**15.04**	**198**	P	Pn	09 37 22.7	-8.0
HIZ	**Hauiti**	**15.15**	**204**	P	**Pn**	**09 37 30.5**	**-1.6**
HIZ	**Hauiti**	**15.15**	**204**	Pn	**Pn**	**09 37 29.2**	**-2.8**
HIZ				IAmb	IAmb	09 37 37.2	
	comp=Z,19nm,0.4s						
BKZ	**Black Stump Fm**	**15.20**	**199**	P	**Pn**	**09 37 27.3**	**-5.3**
BKZ	**Black Stump Fm**	**15.20**	**199**	Pn	**Pn**	**09 37 27.6**	**-5.1**
DZM	**Mont Dzumac**	**15.22**	**277**	P	**P**	**09 37 40.5**	**+5.5**
	comp=Z,2.4nm,0.3s,baz=104,slow=15,SNR=17						
DZM	**Mont Dzumac**	**15.22**	**277**		**Pn**	**09 37 30.4**	**-2.8**
MCHZ	**McNeill Hill**	**15.40**	**198**	P	**Pn**	**09 37 29.3**	**-5.8**
DVHZ	**Dannevirke**	**16.34**	**198**	P	**Pn**	**09 37 43.7**	**-3.0**
DVHZ				S	Sn	09 40 25.5	-23
ANWZ	**Angora Road**	**16.40**	**197**	P	**Pn**	**09 37 43.1**	**-4.3**
ANWZ				S	Sn	09 40 28.6	-21
RAR	**Rarotonga**	**16.49**	**81**	P	**P**	**09 37 53.6**	**+4.6**
	comp=Z,2.1nm,0.3s,baz=288,slow=7.0,SNR=5.6						
PRWZ	**Pori Road**	**16.63**	**198**	P	**Pn**	**09 37 47.9**	**-2.4**
PRWZ				S	Sn	09 40 33.3	-22
BFZ	**Birch Farm**	**16.67**	**197**	P	**Pn**	**09 37 45.1**	**-5.7**
BFZ	**Birch Farm**	**16.67**	**197**		**Pn**	**09 37 48.5**	**-2.2**
BFZ				IAmb	IAmb	09 37 57.8	
	comp=Z,39nm,1.2s						
MRZ	**Mangatainoka R**	**16.84**	**199**	P	**P**	**09 37 48.7**	**-4.0**
TIWZ	**Tintock**	**16.86**	**198**	P	**P**	**09 37 50.3**	**-2.6**
HOWZ	**Holdsworth Sta**	**17.08**	**199**	P	**P**	**09 37 50.3**	**-5.0**
OGWZ	**Otaki Gorge**	**17.11**	**200**	P	**P**	**09 37 49.9**	**-5.7**
TMWZ	**Te Maipa**	**17.17**	**198**	P	**P**	**09 37 53.5**	**-2.8**
KIW	**Kapiti Island**	**17.23**	**200**	P	S	09 40 48.7	-21
SANVU	**Saraoutou**	**17.34**	**300**		**Pn**	**09 37 58.3**	**-0.7**
CAW	**Cannon Point**	**17.41**	**200**	P	S	09 40 52.4	-21
TRWZ	**Traveller**	**17.49**	**198**	P	S	09 40 51.5	-24
DUWZ	**D'Urville Isla**	**17.51**	**203**	P	S	09 40 58.4	-17
PAWZ	**Paruwai Farm**	**17.55**	**199**	P	S	09 40 54.3	-22
MSWZ	**Moikau Station**	**17.64**	**199**	P	S	09 40 57.3	-21
MSWZ	**Moikau Station**	**17.64**	**199**	P	**P**	**09 37 59.7**	**-1.7**
WEL	**Wellington**	**17.66**	**200**	P	S	09 41 00.7	-18
SNZO	**South Karori**	**17.71**	**200**	P	**P**	**09 38 00.1**	**-2.0**
BHW	**Baring Head**	**17.74**	**200**	P	S	09 41 00.2	-20
BHW	**Baring Head**	**17.74**	**200**	P	**P**	**09 38 00.6**	**-1.9**
TCW	**Tory Channel**	**17.75**	**201**	P	S	09 41 00.8	-19
PLWZ	**Palliser**	**17.78**	**199**	P	S	09 41 00.4	-20
PLWZ	**Palliser**	**17.78**	**199**	P	**P**	**09 38 00.7**	**-2.2**
QRZ	**Quartz Range**	**18.05**	**206**	P	**P**	**09 38 04.1**	**-1.9**
TUWZ	**Tuamarina**	**18.06**	**202**	P	**P**	**09 38 02.5**	**-3.5**
NNZ	**Nelson**	**18.07**	**203**	P	**P**	**09 38 03.2**	**-2.9**
NNZ				IAmb	IAmb	09 38 05.2	
	comp=Z,35nm,1.1s						
CMWZ	**Cape Campbell**	**18.26**	**201**	P	**P**	**09 38 05.0**	**-3.2**
BSWZ	**Blackbirch Sta**	**18.34**	**202**	P	**P**	**09 38 06.2**	**-2.9**
THZ	**Tophouse**	**18.72**	**203**	P	**P**	**09 38 10.4**	**-2.9**
KHZ	**Kahutara**	**19.08**	**201**	P	**P**	**09 38 15.5**	**-1.6**
KHZ				IAmb	IAmb	09 38 21.4	
	comp=Z,34nm,1.2s						
LTZ	**Lake Taylor**	**19.84**	**203**	P	**P**	**09 38 23.4**	**-1.9**
OXZ	**Oxford**	**20.40**	**203**	P	**P**	**09 38 29.2**	**-2.2**
OXZ				IAmb	IAmb	09 38 35.6	
	comp=Z,12nm,0.5s						
MQZ	**McQueen's Vall**	**20.52**	**201**	P	**P**	**09 38 29.6**	**-3.1**
RPZ	**Rata Peaks**	**21.09**	**204**	P	**P**	**09 38 36.0**	**-2.7**
	comp=Z,8.4nm,0.9s,baz=22,slow=5.5,SNR=11						
RPZ				S	S	09 42 13.4	-12
	comp=Z,6.6nm,0.3s,baz=319,slow=22,SNR=12						
RPZ	**Rata Peaks**	**21.09**	**204**	P	**P**	**09 38 35.7**	**-3.1**
RPZ				IAmb	IAmb	09 38 44.9	
	comp=Z,16nm,0.6s						
FOZ	**Fox Glacier**	**21.42**	**206**	P	**P**	**09 38 40.7**	**-1.5**
FOZ				IAmb	IAmb	09 38 45.3	
	comp=Z,26nm,0.7s						
LBZ	**Lake Benmore**	**21.99**	**205**	P	**P**	**09 38 47.7**	**-0.6**
ODZ	**Otahua Downs**	**22.39**	**203**	P	**P**	**09 38 52.3**	**+0.1**
KNTN	**Kanton**	**22.61**	**15**	P	**P**	**09 38 54.0**	**-0.7**
KNTN				IAmb	IAmb	09 38 54.2	
	comp=Z,24nm,0.7s						
WKZ	**Wanaka**	**22.81**	**206**	P	**P**	**09 38 54.7**	**-1.7**
WKZ				IAmb	IAmb	09 39 00.2	
	comp=Z,29nm,1.0s						
MLZ	**Mavora Lakes**	**23.62**	**206**	P	**P**	**09 39 03.0**	**-0.8**
MLZ				IAmb	IAmb	09 39 09.3	
	comp=Z,22nm,1.2s						
WHZ	**Wether Hill Ro**	**24.12**	**206**	P	**P**	**09 39 07.5**	**-0.9**
ARMA	**Armidale**	**28.06**	**252**	P	**P**	**09 39 44.5**	**+0.4**
ARMA				IAmb	IAmb	09 39 47.5	
	comp=Z,11nm,0.9s						
CAN	**Canberra**	**30.87**	**242**	P	**P**	**09 40 09.8**	**+1.0**
CAN				IAmb	IAmb	09 40 14.9	
	comp=Z,20nm,1.1s						
CTAO	**Charters Tower**	**33.99**	**271**	P	**P**	**09 40 36.9**	**+0.7**
TOO	**Toolangi**	**34.06**	**239**	P	**P**	**09 40 37.2**	**+0.6**
STKA	**Stephens Creek**	**36.71**	**249**	P	**P**	**09 40 59.4**	**+0.1**
	comp=Z,6.4nm,0.5s,baz=97,slow=11,SNR=30						
STKA				PcP	**PcP**	**09 43 20.4**	**+1.3**
	comp=Z,3.5nm,0.6s,baz=101,slow=4.4,SNR=7.3						
STKA	**Stephens Creek**	**36.71**	**249**	P	**P**	**09 41 00.1**	**+0.8**
STKA					**PcP**	**09 43 20.7**	**+1.6**
PMG	**Port Moresby**	**37.18**	**288**	P	**P**	**09 41 02.9**	**-0.6**
COEN	**Coen**	**38.74**	**279**	P	**P**	**09 41 17.2**	**+0.7**
COEN				IAmb	IAmb	09 41 19.5	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**41.39**	**248**	P	**P**	**09 41 38.5**	**+0.2**
BBOO				IAmb	IAmb	09 41 40.3	
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**44.35**	**261**	P	**P**	**09 42 01.6**	**-0.7**
AS31				IAmb	IAmb	09 42 03.9	
	comp=Z,4.1nm,0.6s						
ASAR	**Alice Springs**	**44.35**	**261**	P	**P**	**09 42 01.8**	**-0.5**
	comp=Z,16nm,0.8s,baz=93,slow=7.2,SNR=109						
ASAR				PcP	**PcP**	**09 43 43.8**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=109,slow=4.2,SNR=6.0						
ASAR				ScP	**ScP**	**09 47 23.3**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=106,slow=5.9,SNR=2.6						
ASAR	**Alice Springs**	**44.35**	**261**	P	**P**	**09 42 01.8**	**-0.5**
ASAR					**PcP**	**09 43 42.8**	**-1.3**
WR0	**Warramunga Arr**	**44.66**	**266**	P	**P**	**09 42 04.3**	**-0.4**
WR0				IAmb	IAmb	09 42 05.6	
	comp=Z,15nm,0.8s						
WC3	**Warramunga Arr**	**44.81**	**266**	P	**P**	**09 42 05.1**	**-0.8**
WB2	**Warramunga Arr**	**44.83**	**266**	P	**P**	**09 42 04.9**	**-1.2**
WRAB	**Tennant Creek**	**44.84**	**266**	P	**P**	**09 42 05.0**	**-1.1**
WB0	**Warramunga Arr**	**44.84**	**266**	P	**P**	**09 42 05.7**	**-0.5**
WRA	**Warramunga Arr**	**44.84**	**266**	P	**P**	**09 42 05.3**	**-0.9**
	comp=Z,9.2nm,0.3s,baz=99,slow=7.0,SNR=264						
WRA				PcP	**PcP**	**09 43 46.4**	**+0.6**
	comp=Z,5.9nm,0.9s,baz=98,slow=3.6,SNR=9.0						
WRA				ScP	**ScP**	**09 47 27.3**	**+1.6**
	comp=Z,0.9nm,1.2s,baz=103,slow=4.2,SNR=3.3						
WRA	**Warramunga Arr**	**44.84**	**266**	P	**P**	**09 42 04.8**	**-1.3**
FORT	**Forrest**	**48.33**	**250**	P	**P**	**09 42 32.0**	**-1.2**
MTN	**Manton Dam**	**50.03**	**274**	P	**P**	**09 42 45.6**	**-0.7**
MTN				IAmb	IAmb	09 42 50.3	
	comp=Z,7.7nm,0.6s						
KNRA	**Kununurra**	**51.19**	**269**	P	**P**	**09 42 54.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.25**	**265**	P	**P**	**09 43 10.7**	**+0.5**
FITZ				IAmb	IAmb	09 43 12.8	
	comp=Z,9.2nm,0.7s						
VNDA	**Vanda**	**53.64**	**186**	P	**P**	**09 43 14.7**	**+2.5**
	comp=Z,2.3nm,0.8s,baz=2.0,slow=7.7,SNR=13						
VNDA	**Vanda**	**53.64**	**186**	P	**P**	**09 43 15.0**	**+2.8**
PSAD2	**Pilbara Seismi**	**57.34**	**259**	P	**P**	**09 43 37.8**	**-1.7**
PSAC2	**Pilbara Seismi**	**57.41**	**259**	P	**P**	**09 43 39.3**	**

LZH	**Lanzhou**	**95.96**	**307**	*e*P	**P**	**09 47 14.4**	**-2.8**
LZH				pP	pP	09 47 46.0	-4.9
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ	**Urumqi**	**110.28**	**310**	*e*PKP	**PKiKP**	**09 52 20.0**	**-1.2**
MKAR	**Makanchi Array**	**114.66**	**312**	PKP	PKPdf	09 52 28.6	-0.8
	comp=Z,0.6nm,0.5s,baz=158,slow=1.0,SNR=5.6						
MKAR	**Makanchi Array**	**114.66**	**312**		PKPdf	09 52 28.1	-1.4
KK31	**Karatay Array**	**122.45**	**307**		**PKPdf**	**09 52 43.7**	**-0.8**
KKAR	**Karatay Array**	**122.45**	**307**	PKPdf	**PKPdf**	**09 52 43.4**	**-1.1**
KKAR	**Karatay Array**	**122.45**	**307**		**PKPdf**	**09 52 43.3**	**-1.2**
MATP	**Matopo**	**128.47**	**211**	PKP	**PKPdf**	**09 52 57.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=127,slow=2.8,SNR=3.3						
ABKAR	**Akbulak array**	**129.68**	**314**	PKPdf	**PKPdf**	**09 52 55.9**	**-2.2**
ARCES	**ARCESS Array B**	**133.33**	**349**	PKP	**PKPdf**	**09 53 04.6**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=11,slow=1.2,SNR=12						
FINES	**FINESS Array B**	**140.14**	**343**	PKhKP	PKPpre	09 53 11.2	
	comp=Z,1.0nm,0.6s,baz=7.6,slow=4.2,SNR=2.8						
FINES				PKP	**PKiKP**	**09 53 19.5**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=90,slow=3.8,SNR=4.0						
FINES	**FINESS Array B**	**140.14**	**343**		**PKPdf**	**09 53 16.5**	**-0.7**
NB2	**NORSAR Subarra**	**143.39**	**353**	PKP	PKPab	09 53 20.2	+0.7
	comp=Z,3.8nm,1.1s,baz=20,slow=4.0						
NOA	**NORSAR Array B**	**143.39**	**353**	PKhKP	PKPpre	09 53 20.7	
	comp=Z,1.3nm,0.7s,baz=16,slow=2.4,SNR=6.4						
BCA	**Borcka**	**143.85**	**307**	⇑P	PKPab	09 53 22.8	+0.9
NACGM	**Naroch**	**145.15**	**336**	*e*	**PKPab**	**09 53 27.0**	**+0.7**
AKASG	**Malin Array Be**	**147.13**	**329**	PKPbc	**PKPdf**	**09 53 31.8**	**+2.0**
	comp=Z,9.2nm,0.6s,baz=43,slow=4.4,SNR=18						
AKASG	**Malin Array Be**	**147.13**	**329**		**PKPdf**	**09 53 30.7**	**+1.0**
AKBB	**Malin Array Si**	**147.13**	**329**	PKPbc	**PKPdf**	**09 53 31.6**	**+1.8**
SUW	**Suwalki**	**147.15**	**338**	*e*PKP	**PKPbc**	**09 53 32.3**	**+0.3**
SORM	**Soroca**	**149.24**	**326**	⇑P	**PKPbc**	**09 53 36.8**	**-0.9**
BRTR	**Keskin Array B**	**150.16**	**307**	PKPbc	**PKPbc**	**09 53 40.5**	**0.0**
	comp=Z,4.6nm,0.9s,baz=103,slow=3.9,SNR=14						
BRTR				PKPab	**PKPab**	**09 53 47.8**	**+0.8**
	comp=Z,9.6nm,0.8s,baz=85,slow=4.0,SNR=22						
BRTR	**Keskin Array B**	**150.16**	**307**		**PKPbc**	**09 53 40.6**	**+0.1**
BRTR					**PKPab**	**09 53 47.3**	**+0.4**
KWP	**Kalwaria Pacla**	**150.80**	**333**	*e*PKP	**PKPbc**	**09 53 42.2**	**+0.7**
BURAR	**Bucovina Array**	**151.16**	**328**	⇓P	**PKiKP**	**09 53 44.4**	**+1.4**
BIZ	**Bicaz**	**151.17**	**326**	⇓P	**PKiKP**	**09 53 43.7**	**+0.8**
CFR	**Carcaliu**	**151.18**	**321**	⇓P	**PKPbc**	**09 53 43.1**	**+0.6**
TIRR	**Tirgusor**	**151.44**	**320**	⇓P	**PKPbc**	**09 53 42.9**	**-0.2**
OJC	**Ojcow**	**151.46**	**337**	*e*PKP	**PKPbc**	**09 53 43.0**	**0.0**
VRI	**Vrincioaia**	**151.54**	**323**	⇑P	**PKPbc**	**09 53 44.0**	**+0.7**
HARR	**Harsova**	**151.58**	**320**	⇑P	**PKiKP**	**09 53 44.5**	**+0.7**
PLOR	**Plostina**	**151.59**	**323**	⇑P	**PKPab**	**09 53 52.7**	**+0.2**
NIE	**Niedzica**	**151.93**	**335**	*e*PKP	**PKPbc**	**09 53 45.0**	**+0.8**
KSP	**Ksiaz**	**152.05**	**342**	*e*PKP	**PKPbc**	**09 53 45.2**	**+0.9**
DOPR	**Dopca**	**152.19**	**325**	⇓P	**PKiKP**	**09 53 46.0**	**+0.9**
MLR	**Muntele Rosu**	**152.20**	**324**	⇑P	**PKPbc**	**09 53 45.0**	**0.0**
CLL	**Collm**	**152.46**	**346**	*i* PKPbc	**PKPbc**	**09 53 45.4**	**+0.2**
	comp=Z,11nm,0.9s						
CLL				*i* PKPab	**PKPab**	**09 53 53.0**	**-2.9**
	comp=Z,9.0nm,0.7s						
BRG	**Berggiesshubel**	**152.65**	**344**	*i* PKP	**PKPbc**	**09 53 46.2**	**+0.6**
	comp=Z,7.2nm,0.7s						
BRG				*e*		09 53 53.4	
	comp=Z,6.3nm,0.6s						
VOIR		**152.72**	**324**	⇑P	**PKPbc**	**09 53 46.9**	**+0.8**
PRD	**Provadia**	**152.75**	**318**	*e*P	**PKPab**	**09 53 52.8**	**-4.6**
NEF	**NEVSHA**	**152.79**	**318**	*e*P	**PKPab**	**09 53 53.6**	**-4.0**
ARR	**Arges**	**152.98**	**325**	⇑P	**PKiKP**	**09 53 48.4**	**+1.6**
GERES	**GERESS Array B**	**154.58**	**343**		**PKPdf**	**09 53 39.1**	**-2.3**
TORD	**Torodi Ar. Bea**	**168.29**	**175**	PKP	**PKPdf**	**09 53 55.7**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=316,slow=1.6,SNR=4.7						
TORD				PKPab	**PKPab**	**09 55 05.9**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=182,slow=3.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**168.29**	**175**		**PKPdf**	**09 53 55.0**	**-1.6**
TORD				PKPab	**PKPab**	**09 55 05.2**	**-0.3**

*SJA **14** 09:50:15.5±0.7, 33.°60S×72.°42W, h7km±8km, ML4.3, MW4.0*
*NEIC **14** 09:50:19.6±1.5, 33.°66S±0.°03×72.°10W±0.°05, h18km±3km, Error ellipse: s-maj=5.7km s-min=4.2km az=107.0*
*VAO **14** 09:50:19.5±0.6, 33.°70S×71.°90W, h10km, mb4.5*
*GUC **14** 09:50:20.0±0.5, 33.°70S×72.°07W, h36km±2km, ML4.2*
*NEIC **14** 09:50:20.2, 33.°65S×72.°07W, h25km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.62; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.54; $M_{r\theta}$0.49; $M_{r\phi}$-0.13; $M_{\theta\phi}$-0.55; Fault plane solution: $M_0$1.75000×10^{15} NP1:∅s19.27000°, δ37.94000°, λ114.51000°. NP2:∅s169.24000°, δ55.99000°, λ72.08000°. Principal axes: T 1.8500, Plg72.0000°, Azm33.0000°; N -0.2110, Plg15.0000°, Azm179.0000°; P -1.6390, Plg9.0000°, Azm272.0000°;*
*IDC **14** 09:50:22.5±3.9, 33.°63S×71.°98W, h36km±31km, mb3.9/10, mb1 4.0/14, mb1mx3.9/27, mbtmp4.1/14, ML4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx3.1/19 Error ellipse: s-maj=29.4km s-min=15.3km az=85.0*

ISC 14 09:50:19.8±0.9, **33.°65S**±0.°02×**72.°10W**±0.°04, **h19**km±3km, **n129**, σ1§**69**/159, **mb4.6**/18, **3C-2D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.73**	**31**	*e*P		**Pg**	**09 50 34.4**	**+0.4**
VA01				*e*S		**Sn**	**09 50 45.4**	**-0.2**
VA01				IAML			09 50 46.8	
	comp=N,13μm,0.1s							
VA01	**Torpederas**	**0.73**	**31**	Pg		**Pg**	**09 50 34.2**	**+0.1**
VA01						**Sb**	**09 50 43.5**	**+0.1**
MT02	**Curacav**	**0.89**	**65**	⇓*i*P		**Pb**	**09 50 36.4**	**-0.2**
MT02				*e*S		**Sg**	**09 50 48.2**	**-0.8**
MT02				IAML			09 50 50.5	
	comp=E,10μm,0.3s							
MT02	**Curacav**	**0.89**	**65**	Pg		**Pg**	**09 50 36.7**	**-0.4**
MT02				Sg		**Sg**	**09 50 48.1**	**-0.8**
ROC1	**El Roble**	**1.13**	**54**			**Pg**	**09 50 41.0**	**-0.7**
ROC1						**Sg**	**09 50 55.8**	**-0.7**
ROC1	**El Roble**	**1.13**	**54**	*e*P		**Pg**	**09 50 41.0**	**-0.7**
ROC1				*e*S		**Sg**	**09 50 56.2**	**-0.3**
ROCH	**El Roble**	**1.13**	**54**	*e*P		**Pn**	**09 50 40.9**	**+0.1**
ROCH				*i* S		**Sg**	**09 50 56.2**	**-0.5**
ROCH				IAML			09 51 05.2	
	comp=N,10μm,0.4s							
MT05	**Renca**	**1.17**	**78**	*e*P		**Pn**	**09 50 40.5**	**-0.6**
MT05				*e*S		**Sg**	**09 50 56.5**	**-1.2**
MT05				IAML			09 51 07.2	
	comp=E,9μm,0.4s							
MT05	**Renca**	**1.17**	**78**			**Pn**	**09 50 40.8**	**-0.3**
MT05				Sn		**Sb**	**09 50 55.6**	**-0.4**
FSR	**Penalolen**	**1.32**	**83**	*e*S		**Sb**	**09 51 00.4**	**-0.2**
MT03	**Universidad Ad**	**1.33**	**84**	⇓*i*P		**Pn**	**09 50 43.2**	**-0.2**
MT03				*i* S		**Sb**	**09 51 01.1**	**+0.2**
MT03				IAML			09 51 05.9	
	comp=N,14μm,0.2s							
GO05	**Huala**	**1.37**	**174**	⇑*i*P		**Pn**	**09 50 43.0**	**-0.9**
GO05				*e*S		**Sn**	**09 51 00.4**	**-1.0**
GO05	**Huala**	**1.37**	**174**			**Pn**	**09 50 43.3**	**-0.6**
GO05				Sn		**Sn**	**09 51 00.5**	**-1.0**
GO05	**Huala**	**1.37**	**174**	*e*P		**Pn**	**09 50 43.3**	**-0.6**
GO05				*e*S		**Sg**	**09 51 03.8**	**-0.3**
VA03	**San Esteban**	**1.57**	**56**	⇑*i*P		**Pb**	**09 50 47.4**	**-0.8**
VA03				*e*S		**Sg**	**09 51 08.7**	**-1.7**
VA03	**San Esteban**	**1.57**	**56**			**Pb**	**09 50 47.5**	**-0.8**
VA03				Sn		**Sb**	**09 51 07.7**	**0.0**
BO02	**Sierra Bellavi**	**1.58**	**137**	*e*P		**Pn**	**09 50 46.3**	**-0.5**
BO02				*e*S		**Sb**	**09 51 07.2**	**-0.8**
BO02	**Sierra Bellavi**	**1.58**	**137**			**Pn**	**09 50 46.5**	**-0.3**
BO02				Sn		**Sn**	**09 51 06.3**	**-0.5**
LMEL	**Las Melosas**	**1.59**	**98**	*e*P		**Pn**	**09 50 47.0**	**-0.1**
LMEL				*i* S		**Sb**	**09 51 07.7**	**-0.8**
LMEL				IAML			09 51 12.6	
	comp=N,9μm,0.4s							
CO02	**Combarbal**	**2.61**	**21**	*e*P		**Pn**	**09 51 01.3**	**+0.3**
CO02	**Combarbal**	**2.61**	**21**			**Pn**	**09 51 01.2**	**+0.3**
AUSP	**Uspallata**	**2.69**	**59**	*e*P		**Pb**	**09 51 05.3**	**-2.1**
AUSP				*e*S		**Sg**	**09 51 43.9**	**-2.3**
ARCO	**CERRO ARCO**	**2.77**	**74**	*e*P		**Pb**	**09 51 07.1**	**-1.7**
ARCO				*e*S		**Sg**	**09 51 48.4**	**-0.6**
ARCO				IAML			09 51 51.9	
	comp=Z,1μm,0.5s							
AAGR	**Agrelo**	**2.79**	**79**	*e*P		**Pb**	**09 51 07.1**	**-2.0**
AAGR				*e*S		**Sb**	**09 51 43.2**	**+0.2**
AAGR				IAML			09 51 53.0	
	comp=Z,547nm,0.8s							
ASAL	**Salagasta**	**2.93**	**70**	*e*P		**Pb**	**09 51 09.3**	**-2.2**
ASAL				*e*S		**Sg**	**09 51 50.0**	**-4.0**
ASAL				IAML			09 52 01.2	
	comp=Z,695nm,1.2s							
RTLS	**Leoncito**	**3.00**	**53**	*e*P		**Pn**	**09 51 09.3**	**+2.8**
RTLS				*e*S		**Sg**	**09 51 54.0**	**-2.1**
RTLS				IAML			09 51 55.1	
	comp=Z,428nm,0.3s							
MORA	**Malargue**	**3.03**	**124**	*e*P		**Pb**	**09 51 09.6**	**-3.5**
MORA				*e*S		**Sg**	**09 51 57.2**	**0.0**
CO03	**El Pedregal**	**3.04**	**23**⇑	*e*P		**Pn**	**09 51 07.6**	**+0.6**
CO03				*e*S		**Sn**	**09 51 44.1**	**+1.2**
CO03				IAML			09 52 01.8	
	comp=E,1μm,0.7s							
CO03	**El Pedregal**	**3.04**	**23**	Pn		**Pn**	**09 51 07.5**	**+0.6**
BI02	**San Fabin de**	**3.09**	**168**	*e*P		**Pn**	**09 51 07.4**	**-0.2**
BI02				*e*S		**Sn**	**09 51 42.9**	**-1.0**
BI02				IAML			09 52 04.1	
	comp=N,381nm,0.8s							
BI02	**San Fabin de**	**3.09**	**168**			**Pn**	**09 51 07.5**	**0.0**
RFA	**San Rafael**	**3.21**	**111**	*e*P		**Pn**	**09 51 11.5**	**+2.2**
RFA				*e*S		**Sg**	**09 52 02.1**	**-0.9**
BI03	**Tigo**	**3.28**	**193**	*e*P		**Pn**	**09 51 09.5**	**-0.6**
BI03	**Tigo**	**3.28**	**193**			**Pn**	**09 51 09.7**	**-0.4**
RTCV	**Cerro Valdivia**	**3.49**	**60**	*e*P		**Pn**	**09 51 16.1**	**+3.1**
RTCV				*e*S		**Sg**	**09 52 07.2**	**-4.6**
RTCV				IAML			09 52 13.7	
	comp=Z,480nm,1.2s							
GO04	**Tololo Observa**	**3.63**	**18**	Pn		**Pn**	**09 51 15.4**	**+0.2**
ACCO	**Cerro Coronel**	**3.99**	**41**	*e*P		**Pn**	**09 51 22.9**	**+2.7**
ACCO				*e*S		**Sg**	**09 52 25.8**	**-2.2**
ACCO				IAML			09 52 31.4	
	comp=Z,390nm,0.7s							
CO01	**Juntas del Tor**	**4.04**	**26**	Pn		**Pn**	**09 51 21.9**	**+1.2**
ACDV	**Cuesta del Vie**	**4.29**	**37**	*e*P		**Pn**	**09 51 27.3**	**+3.1**
ACDV				*e*S		**Sn**	**09 52 12.0**	**-1.8**
ACDV				IAML			09 52 52.6	
	comp=Z,139nm,0.6s							
AC05	**El Transito**	**5.04**	**19**	Pn		**Pn**	**09 51 34.8**	**+0.3**
LC01	**Cunco**	**5.24**	**178**	Pn		**Pn**	**09 51 36.5**	**-0.6**
AC04	**Llanos de Chal**	**5.50**	**9**	Pn		**Pn**	**09 51 39.3**	**-1.3**
MRA	**San Martin**	**5.50**	**79**	*e*P		**Pn**	**09 51 41.9**	**+1.2**
MRA				*e*S		**Sn**	**09 52 51.2**	**+7.7**
MRA				IAML			09 53 25.1	
	comp=Z,97nm,0.7s							
VA04	**Juan Fernndez**	**5.61**	**268**	Pn		**Pn**	**09 51 43.1**	**+0.9**
H03S1	**Juan Fernandez**	**5.67**	**266**	Pn		**Pn**	**09 51 44.0**	**+1.2**
H03S1				T		T	09 57 39.4	
	baz=87,slow=75,SNR=779							
H03S3	**Juan Fernandez**	**5.68**	**266**	Pn		**Pn**	**09 51 42.9**	**+0.1**
H03S3				T		T	09 57 40.8	
	baz=87,slow=75,SNR=711							
H03S2	**Juan Fernandez**	**5.69**	**266**	Pn		**Pn**	**09 51 43.4**	**+0.4**
H03S2				T		T	09 57 38.4	
	baz=87,slow=75,SNR=782							
H03N1	**Juan Fernandez**	**5.69**	**270**	Pn		**Pn**	**09 51 44.1**	**+1.1**
H03N1				T		T	09 57 39.8	
	baz=98,slow=74,SNR=22							
H03N3	**Juan Fernandez**	**5.70**	**270**	Pn		**Pn**	**09 51 44.5**	**+1.3**
H03N3				T		T	09 57 39.8	
	baz=98,slow=74,SNR=75							
H03N2	**Juan Fernandez**	**5.71**	**270**	Pn		**Pn**	**09 51 44.8**	**+1.6**
H03N2				T		T	09 57 40.9	
	baz=98,slow=74,SNR=64							
APLL	**PUNTA DE LOS L**	**5.73**	**57**	*e*P		**Pn**	**09 51 43.8**	**-0.2**
APLL				*e*S		**Sb**	**09 52 59.3**	**-8.3**
APLL				IAML			09 53 23.9	
	comp=Z,140nm,0.8s							
VCA	**Vinchina**	**5.92**	**35**	*e*P		**Pn**	**09 51 48.5**	**+1.9**
VCA				*e*S		**Sb**	**09 53 10.6**	**-2.5**
VCA				IAML			09 53 31.8	
	comp=Z,209nm,1.0s							
ACLC	**CERRO LA CRUZ**	**6.08**	**48**	*e*P		**Pn**	**09 51 49.5**	**+0.7**
ACLC				*e*S		**Sb**	**09 53 12.5**	**-5.2**
ACLC				IAML			09 53 14.6	
	comp=Z,232nm,1.3s							
GO03	**Copiap**	**6.24**	**15**	Pn		**Pn**	**09 51 50.7**	**-0.2**
TCA	**Tanti**	**6.74**	**72**	*e*P		**Pn**	**09 51 57.8**	**0.0**
TCA				*e*S		**Sn**	**09 53 21.3**	**+7.1**
TCA				IAML			09 54 03.3	
	comp=Z,77nm,0.6s							
PLCA	**Paso Flores**	**7.18**	**171**	Pn		**Pn**	**09 52 04.7**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=332,slow=12,SNR=40							
PLCA				Lg		Lg	09 53 57.8	
	comp=Z,0.2nm,0.3s,baz=88,slow=23,SNR=2.3							
PLCA				LR		LR	09 55 00.8	
	comp=Z,429nm,19.6s,baz=348,slow=39							
PLCA	**Paso Flores**	**7.18**	**171**	*e*P		**Pn**	**09 52 03.6**	**-0.1**
AC02	**Maricunga**	**7.26**	**21**	Pn		**Pn**	**09 52 04.8**	**-0.4**
AC01	**Pan de Azucar**	**7.58**	**10**	Pn		**Pn**	**09 52 06.4**	**-2.9**
GO02	**Mina Guanaco**	**8.73**	**15**	Pn		**Pn**	**09 52 23.0**	**-2.3**
PB14	**IPOC Station P**	**9.11**	**10**	Pn		**Pn**	**09 52 27.3**	**-3.2**
PB15	**IPOC Station P**	**10.65**	**13**	Pn		**Pn**	**09 52 48.4**	**-3.1**
LVC	**Limon Verde**	**11.35**	**15**	Pn		**Pn**	**09 53 01.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=198,slow=3.2,SNR=2.7							
LVC				Sn		Sn	09 55 22.6	+15
	comp=Z,0.2nm,0.3s,baz=173,slow=17,SNR=1.9							
LVC	**Limon Verde**	**11.35**	**15**	*e*P		**Pn**	**09 53 02.3**	**+1.1**
PB01	**IPOC Station P**	**12.77**	**11**	Pn		**Pn**	**09 53 22.7**	**+2.3**
PB11	**IPOC Station P**	**14.00**	**10**	Pn		**Pn**	**09 53 36.6**	**-0.7**
PSGCX	**Pisagua**	**14.10**	**8**	Pn		**Pn**	**09 53 37.3**	**-1.3**
GO01	**Chusmiza**	**14.16**	**11**			**Pn**	**09 53 40.3**	**+0.5**
MNMC	**Minye Minye**	**14.63**	**9**			**Pn**	**09 53 46.8**	**+0.8**
CPUP	**Villa Florida**	**14.72**	**64**	Pn		**Pn**	**09 53 46.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=164,slow=18,SNR=1.7							
CPUP				Sn		Sn	09 56 20.0	-10
	comp=Z,0.2nm,0.3s,baz=228,slow=15,SNR=2.3							
PB16	**IPOC Station P**	**15.42**	**9**			**Pn**	**09 53 58.6**	**+1.7**
LPAZ	**La Paz**	**17.65**	**13**	P		**P**	**09 54 26.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=180,slow=7.6,SNR=22							
LPAZ	**La Paz**	**17.65**	**13**	P		**P**	**09 54 26.2**	**+0.1**
LPAZ	**La Paz**	**17.65**	**13**	*e*P		**P**	**09 54 26.2**	**+0.1**
AQDB	**Aquidauana**	**19.59**	**52**	*e*P		**P**	**09 54 46.9**	**0.0**
SIV	**San Ignacio**	**20.20**	**32**	P		**P**	**09 54 52.6**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=231,slow=11,SNR=9.8							
EFI	**East Falkland**	**20.70**	**155**	P		**P**	**09 54 57.7**	**-0.9**
PTLB	**Pontes e Lacer**	**21.58**	**36**	*e*P		**P**	**09 55 08.3**	**0.0**
VILB	**Vilhena**	**23.28**	**31**	*e*P		**P**	**09 55 27.5**	**+1.1**
SPB	**Sao Paulo**	**23.80**	**72**	P		**P**	**09 55 31.1**	**-0.4**
SPB				IAmb		IAmb	09 55 32.1	
	comp=Z,15nm,0.8s							
ITRB	**Iturama**	**23.81**	**60**	*e*P		**P**	**09 55 31.4**	**-0.2**
ETMB	**Extrema**	**24.33**	**14**	*e*P		**P**	**09 55 37.1**	**+0.8**
RCLB	**Rio Claro- Sao**	**24.34**	**69**	*e*P		**P**	**09 55 35.8**	**-0.7**
SAML	**Samuel**	**25.92**	**21**	P		**P**	**09 55 50.8**	**0.0**
SAML	**Samuel**	**25.92**	**21**	*e*P		**P**	**09 55 51.0**	**+0.2**
CLDB	**Colider**	**27.15**	**37**	*e*P		**P**	**09 56 02.9**	**+1.0**
SMTB	**Santa Maria do**	**33.44**	**48**	*e*P		**P**	**09 56 58.2**	**+0.6**
BELA	**Belgrano 2**	**47.24**	**170**	P		**P**	**09 58 51.9**	**+0.8**
VNA3	**Neumayer Olymp**	**49.70**	**158**	P		**P**	**09 59 10.9**	**+0.8**
VNA1	**Neumayer--Stat**	**50.02**	**157**	P		**P**	**09 59 11.9**	**-0.5**
VNA2	**Neumayer--Watz**	**50.36**	**157**	P		**P**	**09 59 15.8**	**+0.8**
	baz=287,slow=7.9							
MLPR	**Magueyes Islan**	**51.55**	**6**	P		**P**	**09 59 24.5**	**0.0**
MLPR				IAmb		IAmb	09 59 25.4	
	comp=Z,18nm,0.9s							
CRPR	**Cabo Rojo, PR**	**51.58**	**6**	P		**P**	**09 59 24.7**	**-0.1**
SNAA	**Sanae**	**51.93**	**158**	P		**P**	**09 59 27.3**	**+0.3**
SNAA	**Sanae**	**51.93**	**158**	P		**P**	**09 59 27.8**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=286,slow=7.2,SNR=27							
SNAA	**Sanae**	**51.93**	**158**	P		**P**	**09 59 27.5**	**+0.5**
SNAA				IAmb		IAmb	09 59 28.5	
	comp=Z,8.9nm,1.3s							
AGPR	**Aguadilla, PR**	**52.04**	**6**	P		**P**	**09 59 29.0**	**+0.9**
QSPA	**South Pole Qui**	**56.59**	**180**	P		**P**	**10 00 01.5**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=135,slow=1.7,SNR=9.9							
QSPA	**South Pole Qui**	**56.59**	**180**	IAmb		IAmb	10 00 03.0	
	comp=Z,5.4nm,1.1s							
656A	**Willston**	**63.45**	**350**	P		**P**	**10 00 48.7**	**+0.5**
TXAR	**Lajitas Array**	**69.40**	**331**	P		**P**	**10 01 27.7**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=156,slow=8.3,SNR=24							
TXAR	**Lajitas Array**	**69.40**	**331**	P		**P**	**10 01 27.4**	**+1.0**
TX31	**Lajitas Ar. Si**	**69.40**	**331**	P		**P**	**10 01 28.1**	**+1.6**
TX31				IAmb		IAmb	10 01 30.4	
	comp=Z,7.2nm,1.3s							
TX32	**Lajitas Array**	**69.40**	**331**	P		**P**	**10 01 27.9**	**+1.4**
V48A	**Smith Brothers**	**70.39**	**347**	P		**P**	**10 01 31.9**	**-0.4**
WVT	**Waverly**	**70.96**	**347**	P		**P**	**10 01 35.7**	**0.0**
WVT				IAmb		IAmb	10 01 36.8	
	comp=Z,11nm,0.8s							
W41B	**Gary Mavity, V**	**71.02**	**343**	P		**P**	**10 01 37.4**	**+1.3**
W41B				IAmb		IAmb	10 01 47.9	
	comp=Z,13nm,1.5s							
LCAR	**Lake Charles**	**71.61**	**344**	P		**P**	**10 01 40.0**	**+0.4**
LCAR				IAmb		IAmb	10 01 40.5	
	comp=Z,6.6nm,0.6s							
MNTX	**Cornudas Mount**	**72.18**	**331**	P		**P**	**10 01 43.0**	**-0.2**
MNTX				IAmb		IAmb	10 01 44.1	
	comp=Z,2.4nm,0.7s							
CCM	**Cathedral Cave**	**73.53**	**344**	P		**P**	**10 01 51.8**	**+0.7**
CCM				IAmb		IAmb	10 01 52.7	
	comp=Z,6.4nm,0.9s							
MAW	**Mawson**	**73.53**	**164**	P		**P**	**10 01 51.1**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=295,slow=6.8,SNR=4.3							
MAW	**Mawson**	**73.53**	**164**	IAmb		IAmb	10 01 52.2	
	comp=Z,0.9nm,1.1s							
DBIC	**Dimbokro**	**75.11**	**71**	P		**P**	**10 02 00.9**	**0.0**
	comp=Z,5.6nm,0.9s,baz=164,slow=2.8,SNR=3.3							
DBIC	**Dimbokro**	**75.11**	**71**	P		**P**	**10 02 01.0**	**+0.2**
DBIC				IAmb		IAmb	10 02 16.6	
	comp=Z,20nm,1.4s							
PDAR	**Pinedale Array**	**83.42**	**333**	P		**P**	**10 02 46.1**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=194,slow=3.3,SNR=3.5							
NVAR	**Mina Array Bea**	**83.56**	**325**	P		**P**	**10 02 47.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=160,slow=5.6,SNR=3.1							
TOA0	**Torodi Ar. Sit**	**84.14**	**70**	P		**P**	**10 02 49.8**	**-0.1**
TOA0				IAmb		IAmb	10 02 50.5	
	comp=Z,5.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P		**P**	**10 02 49.9**	**0.0**
	comp=Z,3.1nm,0.8s,baz=263,slow=5.2,SNR=14							
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P		**P**	**10 02 49.9**	**0.0**
ULM	**Lac du Bonnet**	**86.14**	**345**	P		**P**	**10 02 58.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=199,slow=9.2,SNR=3.3							
ASAR	**Alice Springs**	**117.86**	**207**	PKP		**PKPdf**	**10 09 04.8**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=144,slow=3.3,SNR=3.6							
WRA	**Warramunga Arr**	**121.05**	**209**	PKP		**PKPdf**	**10 09 11.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=158,slow=1.7,SNR=11							
H11S2	**WAKE ISLAND Hyl**	**125.72**	**269**	T		T	12 28 15.9	
	baz=118,slow=74,SNR=16							
H11S1	**WAKE ISLAND Hyl**	**125.74**	**269**	T		T	12 28 18.7	
	baz=118,slow=74,SNR=16							
H11S3	**WAKE ISLAND Hyl**	**125.74**	**269**	T		T	12 28 17.0	
	baz=118,slow=74,SNR=11							
ZALV	**Zalesovo Beam**	**153.95**	**32**	PKPbc		**PKPbc**	**10 10 17.1**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=316,slow=4.1,SNR=6.3							
ZALV	**Zalesovo Beam**	**153.95**	**32**			**PKiKP**	**10 10 18.0**	**+0.6**
MKAR	**Makanchi Array**

comp=Z,2.2nm,0.3s,baz=15,slow=19,SNR=12
JTS Sn **Sn** 10 24 58.0 0.0
comp=Z,38nm,0.3s,baz=23,slow=14,SNR=9.6
JTS Las Juntas de 2.71 119 *eP* **Pn** 10 24 25.9 -0.5
JTS *eS* **Sn** 10 24 57.0 -1.0
JTS Las Juntas de 2.71 119 Pn **Pn** 10 24 26.2 -0.2
ARE1 Arenal 1 2.84 114 *eP* **Pn** 10 24 28.5 +0.2
CEDE Laguna Cedeo 2.84 113 *eP* **Pn** 10 24 29.0 +0.7
LAFE Finca La Fe, P 3.01 126 *eP* **Pn** 10 24 28.8 -1.7
ESPN Las Esperanzas 3.06 79 **Pn** 10 24 28.7 -2.5
MTO3 Montecristo 3.38 325 **Pn** 10 24 34.4 -1.5
ESQI Esquipulas 3.50 327 Pn **Pn** 10 24 35.9 -1.6
LCR2 La Lucha 2 3.79 119 *eP* **Pn** 10 24 42.9 +1.4
APG El Apazote 4.52 319 Pn **Pn** 10 24 52.1 +0.6
comp=Z,0.3nm,0.3s,baz=90,slow=7.6,SNR=4.1
APG Sn **Sn** 10 25 45.0 +2.0
comp=Z,0.5nm,0.3s,baz=85,slow=15,SNR=3.6
CCIG Comitan 6.56 316 Pn **Pn** 10 25 20.0 +0.5
PCDR Punta Cana, DR 19.56 67 P **P** 10 28 09.2 -0.8
833A Chaparral WMA, 20.08 328 P **P** 10 28 15.4 -0.1
833A IAmb IAmb 10 28 16.9
comp=Z,16nm,0.8s
342A Flagon Creek P 20.19 348 P **P** 10 28 16.8 +0.1
LRAL Lakeview Retre 21.32 1 P **P** 10 28 30.9 +1.9
GOGA Godfrey 21.99 9 P **P** 10 28 38.7 +2.7
GOGA IAmb IAmb 10 28 45.6
comp=Z,21nm,1.4s
Y49A Blount Mountai 22.16 2 P **P** 10 28 39.2 +1.3
Y49A IAmb IAmb 10 28 39.9
comp=Z,11nm,0.7s
PLAL Pickwick Lake 23.27 359 P **P** 10 28 49.2 -0.3
TXAR Lajitas Array 23.27 322 P **P** 10 28 50.4 +0.7
comp=Z,1.4nm,0.6s,baz=136,slow=9.6,SNR=31
TXAR PcP **PcP** 10 32 38.5 +2.1
comp=Z,0.3nm,0.8s,baz=70,slow=4.2,SNR=3.3
TXAR Lajitas Array 23.27 322 P **P** 10 28 50.3 +0.6
TXAR **PcP** 10 32 35.8 -0.7
TX31 Lajitas Ar. Si 23.27 322 P **P** 10 28 50.4 +0.7
TX31 IAmb IAmb 10 28 51.6
comp=Z,6.0nm,0.8s
TX32 Lajitas Array 23.27 322 P **P** 10 28 50.6 +0.9
MIAR Mount Ida 23.52 347 P **P** 10 28 52.1 +0.3
W50A Signal Mountai 23.55 4 P **P** 10 28 53.7 +1.4
W50A IAmb IAmb 10 28 54.0
comp=Z,11nm,0.8s
W52A Murphy 23.58 7 P **P** 10 28 53.6 +1.1
W52A IAmb IAmb 10 28 54.1
comp=Z,7.5nm,0.7s
CPCT Cooper Cave 23.87 6 P **P** 10 28 53.7 -1.4
WHAR Wooly Hollow 23.99 350 P **P** 10 28 56.4 +0.1
X37A Clayton 24.01 344 P **P** 10 28 55.3 -1.2
TKL Tuckaleechee C 24.16 7 P **P** 10 28 56.8 -1.0
comp=Z,5.9nm,0.8s,baz=176,slow=8.3,SNR=5.9
TKL Tuckaleechee C 24.16 7 P **P** 10 28 55.5 -2.4
TKL IAmb IAmb 10 29 00.6
comp=Z,12nm,1.0s
V53A Saluda 24.30 9 P **P** 10 28 59.4 +0.2
V53A IAmb IAmb 10 29 23.5
comp=Z,14nm,1.2s
V52A Sevierville 24.36 7 P **P** 10 29 00.9 +1.2
V52A IAmb IAmb 10 29 01.5
comp=Z,11nm,1.1s
CLTN Cedars of Leba 24.39 2 P **P** 10 28 59.8 -0.2
LNXT Lenox 24.46 356 P **P** 10 29 00.1 -0.5
LCAR Lake Charles 24.59 353 P **P** 10 29 01.0 -0.7
LCAR IAmb IAmb 10 29 01.4
comp=Z,5.2nm,0.7s
U49A Red Boiling Sp 24.83 3 P **P** 10 29 04.3 +0.3
U49A IAmb IAmb 10 29 06.2
comp=Z,6.7nm,0.8s
W35A Tecumseh 24.98 341 P **P** 10 29 06.0 +0.7
TZTN Tazewell 25.06 7 P **P** 10 29 05.2 -0.8
TZTN IAmb IAmb 10 29 24.0
comp=Z,15nm,1.3s
U40A Yellville 25.13 350 P **P** 10 29 06.8 +0.1
V58A Windy Hill, Pi 25.21 16 P **P** 10 29 07.0 -0.4
V58A IAmb IAmb 10 29 08.9
comp=Z,10.0nm,0.9s
PBMO Poplar Bluff 25.21 354 P **P** 10 29 07.2 -0.1
PBMO IAmb IAmb 10 29 08.3
comp=Z,6.3nm,0.6s
WMOK Wichita Mounta 25.26 338 P **P** 10 29 08.1 +0.2
T47A Sharon Grove 25.27 0 P **P** 10 29 08.0 +0.1
T47A IAmb IAmb 10 29 08.7
comp=Z,7.1nm,0.8s
HHAR Hobbs 25.27 347 P **P** 10 29 08.7 +0.7
TUL1 Leonard 25.36 344 P **P** 10 29 10.5 +1.7
S51A Beattyville 26.14 7 P **P** 10 29 15.1 -0.7
S51A IAmb IAmb 10 29 16.8
comp=Z,7.8nm,0.7s
MSTX Muleshoe 26.33 330 P **P** 10 29 16.7 -1.0
S39A Bolivar 26.51 349 P **P** 10 29 17.6 -1.6
S39A IAmb IAmb 10 29 19.5
comp=Z,9.2nm,0.8s
Q51A Peebles 27.53 7 P **P** 10 29 28.8 +0.5
PV12 Saucer Basin, 32.77 328 P **P** 10 30 16.6 +1.7
PV12 IAmb IAmb 10 30 26.0
comp=Z,3.7nm,0.9s
PV17 East Wray Mesa 32.82 328 P **P** 10 30 15.7 +0.3
PV17 IAmb IAmb 10 30 19.5
comp=Z,7.2nm,1.3s
PDAR Pinedale Array 36.55 332 P **P** 10 30 47.3 -0.2
comp=Z,0.3nm,0.5s,baz=129,slow=12,SNR=4.7
PDAR Pinedale Array 36.55 332 P **P** 10 30 47.0 -0.5
REDW Red Top Meadow 37.61 332 P **P** 10 30 57.2 +0.6
REDW IAmb IAmb 10 30 57.7
comp=Z,3.5nm,0.8s
SNOW Snow King Moun 37.64 332 P **P** 10 30 55.1 -1.7
SNOW IAmb IAmb 10 31 09.4
comp=Z,3.1nm,0.6s
ULM Lac du Bonnet 39.16 351 P **P** 10 31 06.6 -2.5
comp=Z,2.7nm,0.9s,baz=188,slow=12,SNR=4.0
ULM Lac du Bonnet 39.16 351 P **P** 10 31 07.8 -1.3
BDFB Brasilia 47.44 124 P **P** 10 32 17.2 +0.6
comp=Z,3.9nm,0.6s,baz=302,slow=8.1,SNR=5.7
BDFB Brasilia 47.44 124 P **P** 10 32 16.9 +0.3
NRS Narsarsuaq 58.11 22 P **P** 10 33 34.1 -0.4
ASAR Alice Springs 139.03 247 PKP **PKPdf** 10 43 09.4 +0.8
comp=Z,0.2nm,0.7s,baz=106,slow=2.9,SNR=3.5
ASAR Alice Springs 139.03 247 **PKPdf** 10 43 08.7 +0.1
WRA Warramunga Arr 139.11 253 PKP **PKiKP** 10 43 13.2 +2.1
comp=Z,0.5nm,0.8s,baz=90,slow=1.8,SNR=8.7
CMAR Chiang Mai Arr 149.48 348 PKPbc **PKiKP** 10 43 32.1 -0.2
comp=Z,1.1nm,0.5s,baz=349,slow=3.6,SNR=6.6
CMAR Chiang Mai Arr 149.48 348 **PKiKP** 10 43 32.0 -0.4

*IDC **14** 10:47:49.2± 1.1, 21°.42S×68°.21W, h103km± 10km, mb3.5/3, mb1 3.5/7, mb1mx3.3/26, mbtmp3.8/7, Error ellipse: s-maj=34.9km s-min=13.6km az=116.0*
*GUC **14** 10:47:49.0± 0.7, 21°.34S×68°.61W, h110km± 4km, ML3.6*
ISC 14 10:47:48.3±0.8, 21°.30S±0°.03×68°.59W±0°.07, h110km±8km, n29, σ1°22/47, mb3.8/3, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB09	**IPOC Station P**	**0.78**	**231**	↑*iP*		**Pn**	**10 48 08.0**	**+0.5**
PB09				*eS*		**Sn**	**10 48 22.4**	**+0.4**
PB09				IAML			10 48 24.7	
comp=E,2μm,0.3s								
PB01	**IPOC Station P**	**0.88**	**287**	↑*iP*		**Pn**	**10 48 08.2**	**-0.2**
PB01				*i* S		**Sn**	**10 48 23.1**	**-0.3**
PB01				IAML			10 48 23.6	
comp=N,2μm,0.2s								
PB08	**IPOC Station P**	**1.27**	**335**	*i* P		**Pn**	**10 48 13.8**	**+1.0**
PB08				*i* S		**Sn**	**10 48 32.9**	**+1.6**
PB08				IAML			10 48 35.2	
comp=E,708nm,0.3s								
PB07	**IPOC Station P**	**1.28**	**251**	↑*iP*		**Pn**	**10 48 12.5**	**-0.2**
PB07				*eS*		**Sn**	**10 48 30.6**	**-0.5**
PB07				IAML			10 48 31.9	
comp=E,679nm,0.4s								
PB07				IAML			10 48 32.6	
comp=N,696nm,0.4s								
PB03	**IPOC Station P**	**1.31**	**235**	↑*iP*		**Pn**	**10 48 13.0**	**0.0**
PB03				*i* S		**Sn**	**10 48 31.5**	**-0.3**
PB03				IAML			10 48 33.0	
comp=N,1μm,0.5s								
LVC	**Limon Verde**	**1.33**	**193**	P		**Pn**	**10 48 14.1**	**+0.6**
comp=N,30nm,0.3s,baz=11,slow=8.0,SNR=285								
LVC				S		**Sn**	**10 48 32.8**	**+0.2**
comp=N,39nm,0.3s,baz=284,slow=23,SNR=70								
LVC	**Limon Verde**	**1.33**	**193**	*eP*		**Pn**	**10 48 14.1**	**+0.6**
LVC				*i* S		**Sn**	**10 48 32.8**	**+0.2**
PATCX	**Punta Patache**	**1.54**	**288**	↑*iP*		**Pn**	**10 48 15.7**	**+0.1**
PATCX				*eS*		**Sn**	**10 48 36.5**	**+0.1**
PATCX				IAML			10 48 38.3	
comp=E,2μm,0.3s								
TA01	**Diego Aracena**	**1.66**	**296**	↑*iP*		**Pn**	**10 48 16.8**	**-0.2**
TA01				*i* S		**Sn**	**10 48 38.5**	**-0.4**
TA01				IAML			10 48 39.5	
comp=N,911nm,0.3s								
PB06	**IPOC Station P**	**1.67**	**213**	↑*iP*		**Pn**	**10 48 17.4**	**+0.1**
PB06				*i* S		**Sn**	**10 48 39.4**	**+0.1**
PB06				IAML			10 48 41.5	
comp=E,591nm,0.3s								
GO01	**Chusmiza**	**1.72**	**341**	*eP*		**Pn**	**10 48 18.9**	**+0.5**
GO01				*eS*		**Sn**	**10 48 42.6**	**+1.6**
GO01				IAML			10 48 44.7	
comp=N,882nm,0.2s								
TA02	**Huaiquique**	**1.77**	**305**	*eP*		**Pn**	**10 48 18.2**	**-0.2**
TA02				*eS*		**Sn**	**10 48 41.0**	**-0.4**
TA02				IAML			10 48 46.5	
comp=N,1μm,0.1s								
PB04	**IPOC Station P**	**1.78**	**235**	*eP*		**Pn**	**10 48 18.2**	**-0.4**
PB04				IAML			10 48 47.8	
comp=E,443nm,0.3s								
PB11	**IPOC Station P**	**1.83**	**327**	↑*iP*		**Pn**	**10 48 19.5**	**+0.2**
PB11				*i* S		**Sn**	**10 48 42.9**	**-0.1**
PB11				IAML			10 48 46.1	
comp=E,1μm,0.2s								
PB15	**IPOC Station P**	**2.06**	**203**	*eP*		**Pn**	**10 48 22.6**	**+0.3**
PB15				*i* S		**Sn**	**10 48 48.7**	**+0.4**
PB05	**IPOC Station P**	**2.15**	**224**	*eP*		**Pn**	**10 48 22.5**	**-0.8**
PB05				*eS*		**Sn**	**10 48 47.7**	**-2.4**
PB05				IAML			10 48 59.0	
comp=E,304nm,0.4s								
PSGC	**Pisagua**	**2.23**	**319**	↑*iP*		**Pn**	**10 48 23.6**	**-0.7**
PSGC				*i* S		**Sn**	**10 48 51.3**	**-0.5**
PSGC				IAML			10 48 55.8	
comp=N,464nm,0.5s								
MNMC	**Minye Minye**	**2.36**	**336**	↑*eP*		**Pn**	**10 48 26.6**	**+0.5**
MNMC				*eS*		**Sn**	**10 48 56.0**	**+0.9**
MNMC				IAML			10 49 02.5	
comp=E,684nm,0.2s								
PB10	**IPOC Station P**	**2.85**	**219**	*eP*		**Pn**	**10 48 32.0**	**-0.3**
PB10				IAML			10 49 25.5	
comp=N,102nm,0.5s								
PB16	**IPOC Station P**	**3.08**	**343**	*eP*		**Pn**	**10 48 37.2**	**+1.3**
PB16				IAML			10 49 22.2	
comp=N,52nm,0.4s								
LPAZ	**La Paz**	**5.01**	**5**	P		**Pn**	**10 49 05.3**	**+3.5**
comp=N,0.7nm,0.3s,baz=201,slow=2.7,SNR=15								
LPAZ				S		**Sn**	**10 49 54.9**	**-4.0**
comp=N,0.3nm,0.3s,baz=105,slow=6.6,SNR=5.3								
SIV	**San Ignacio**	**8.87**	**55**	P		**Pn**	**10 49 50.8**	**-2.8**
comp=N,2.3nm,0.3s,baz=252,slow=12,SNR=105								
CPUP	**Villa Florida**	**11.45**	**118**	P		**Pn**	**10 50 26.2**	**-2.3**
comp=N,0.1nm,0.3s,baz=276,slow=10,SNR=3.3								
PLCA	**Paso Flores**	**19.44**	**184**	P		**P**	**10 52 06.5**	**+0.3**
comp=N,0.1nm,0.3s,baz=345,slow=8.4,SNR=4.7								
SNAA	**Sanae**	**62.37**	**161**	P		**P**	**10 57 59.2**	**+0.2**
comp=N,0.3nm,0.5s,baz=312,slow=12,SNR=3.9								
QSPA	**South Pole Qui**	**68.89**	**180**	P		**P**	**10 58 42.7**	**+1.7**
comp=N,0.9nm,0.5s,baz=354,slow=1.1,SNR=19								
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**	**10 59 29.1**	**-0.6**
comp=N,0.9nm,0.5s,baz=258,slow=5.7,SNR=11								
WRA	**Warramunga Arr**	**133.28**	**210**	PKP		**PKPdf**	**11 06 52.5**	**+0.3**
comp=N,0.2nm,0.7s,baz=156,slow=1.8,SNR=3.8								
MKAR	**Makanchi Array**	**145.30**	**36**	PKPbc		**PKPdf**	**11 07 14.2**	**+1.0**
comp=N,0.6nm,0.7s,baz=292,slow=6.4,SNR=4.5								

*NEIC **14** 10:48:25.7± 2.3, 34°.7S± 0°.1×178°.9W± 0°.2, h10km± 2km, mb4.5/9, Error ellipse: s-maj=22.4km s-min=17.3km az=94.0*
*IDC **14** 10:48:34.5± 2.8, 34°.85S×179°.69E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/24, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=62.0km s-min=34.7km az=112.0*
*WEL **14** 10:48:37.0± 1.1, 35°.S± 13°×18°.0W± 1°.2, h205km± 24km, M3.9/15, MLv3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=42.1*
ISC 14 10:48:33.3±1.3, 34°.91S±0°.08×179°.5W±0°.1, h35km, n40, σ1°58/53, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MXZ	**Matakaoa Point**	**3.21**	**214**	P		**Pn**	**10 49 21.1**	**-0.1**
MXZ				S		**Sn**	**10 49 58.4**	**+0.3**
MXZ	**Matakaoa Point**	**3.21**	**214**	Pn		**Pn**	**10 49 21.3**	**+0.2**
WMGZ	**Waiomatatini S**	**3.37**	**210**	P		**Pn**	**10 49 26.1**	**+2.6**
WMGZ				S		**Sn**	**10 50 04.1**	**+1.9**
PKGZ	**Pakihiroa**	**3.58**	**213**	P		**Pn**	**10 49 28.3**	**+2.0**
PKGZ				S		**Sn**	**10 50 07.6**	**+0.2**
HAZ	**Te Kaha**	**3.61**	**217**	P		**Pn**	**10 49 29.2**	**+2.5**
HAZ				S		**Sn**	**10 50 10.6**	**+2.5**
PUZ	**Puketiti**	**3.65**	**210**	P		**Pn**	**10 49 28.2**	**+0.9**
PUZ				S		**Sn**	**10 50 10.1**	**+0.9**
RUGZ	**Raukumara Rang**	**3.83**	**216**	P		**Pn**	**10 49 31.1**	**+1.3**
RUGZ				S		**Sn**	**10 50 15.0**	**+1.4**
TWGZ	**Tauwhareparae**	**3.86**	**212**	P		**Pn**	**10 49 32.3**	**+2.1**
TWGZ				S		**Sn**	**10 50 16.4**	**+2.1**
CNGZ	**Carnagh Statio**	**4.03**	**207**	P		**Pn**	**10 49 34.6**	**+2.1**
TKGZ	**Te Karaka**	**4.13**	**211**	P		**Pn**	**10 49 35.4**	**+1.5**
TKGZ				S		**Sn**	**10 50 22.3**	**+1.3**
MWZ	**Matawai**	**4.19**	**214**	P		**Pn**	**10 49 34.9**	**+0.2**
MWZ				S		**Sn**	**10 50 22.1**	**-0.4**
KUZ	**Kuaotunu**	**4.32**	**244**	P		**Pn**	**10 49 38.3**	**+1.8**
KUZ				S		**Sn**	**10 50 24.1**	**-1.5**
URZ	**Urewera**	**4.33**	**219**	Pn		**Pn**	**10 49 37.6**	**+0.9**
2.2nm,0.3s,baz=28,slow=9.2,SNR=29								
URZ				Sn		**Sn**	**10 50 23.7**	**-2.3**
4.7nm,0.3s,baz=252,slow=20,SNR=7.4								
URZ	**Urewera**	**4.33**	**219**	P		**Pn**	**10 49 36.9**	**+0.2**
URZ				S		**Sn**	**10 50 23.4**	**-2.6**
URZ	**Urewera**	**4.33**	**219**			**Pn**	**10 49 38.0**	**+1.3**
OPRZ	**Ohinepanea**	**4.35**	**227**	P		**Pn**	**10 49 38.4**	**+1.5**
GRZ	**Great Barrier**	**4.35**	**251**	P		**Pn**	**10 49 37.4**	**+0.5**
RAGZ	**Rawiri**	**4.37**	**214**	P		**Pn**	**10 49 36.5**	**-0.7**
RAGZ				S		**Sn**	**10 50 26.0**	**-1.0**
PRGZ	**Paritu Road**	**4.54**	**207**	P		**Pn**	**10 49 40.4**	**+1.0**
KNZ	**Kokohu**	**4.70**	**208**	P		**Pn**	**10 49 41.6**	**-0.1**
KNZ				S		**Sn**	**10 50 30.3**	**-4.7**
WIAZ	**Waiheke Island**	**4.78**	**245**	P		**Pn**	**10 49 44.1**	**+1.4**
RAHZ	**Arahi**	**4.86**	**214**	P		**Pn**	**10 49 41.4**	**-2.6**
BKZ	**Black Stump Fm**	**5.34**	**216**			**Pn**	**10 49 50.8**	**+0.2**
OUZ	**Omahuta**	**5.70**	**265**	Pn		**Pn**	**10 49 56.2**	**+0.8**
HIZ	**Hauiti**	**5.81**	**230**	Pn		**Pn**	**10 49 59.3**	**+2.3**
BFZ	**Birch Farm**	**6.69**	**209**	Pn		**Pn**	**10 50 09.2**	**+0.1**
KHZ	**Kahutara**	**9.28**	**214**	Pn		**Pn**	**10 50 44.8**	**+0.3**
MLZ	**Mavora Lakes**	**14.10**	**218**	Pn		**Pn**	**10 51 49.9**	**-0.6**
AFI	**Afiamalu**	**22.03**	**20**	P		P	10 53 16.5	-8.4
ARMA	**Armidale**	**24.70**	**272**	P		P	**10 53 48.8**	**-2.5**
ARMA				IAmb		IAmb	10 53 50.5	
comp=Z,19nm,1.2s								
AS31	**Alice Springs**	**41.86**	**273**	P		P	**10 56 20.6**	**+0.5**
ASAR	**Alice Springs**	**41.86**	**273**	P		P	**10 56 20.9**	**+0.7**
comp=Z,0.8nm,0.7s,baz=116,slow=7.7,SNR=16								
WB2	**Warramunga Arr**	**43.25**	**278**	P		P	**10 56 32.2**	**+0.7**
WB2				IAmb		IAmb	10 56 37.0	
comp=Z,8.4nm,1.4s								
WRA	**Warramunga Arr**	**43.26**	**278**	P		P	**10 56 31.8**	**+0.2**
comp=Z,0.9nm,0.7s,baz=120,slow=7.5,SNR=17								
WB0	**Warramunga Arr**	**43.30**	**278**	P		P	**10 56 32.3**	**+0.5**
MTN	**Manton Dam**	**49.66**	**284**	P		P	**10 57 21.1**	**-0.6**
MTN				IAmb		IAmb	10 57 32.2	
comp=Z,9.8nm,1.4s								
KNRA	**Kununurra**	**50.00**	**279**	P		P	**10 57 22.6**	**-1.7**
CASY	**Casey**	**50.60**	**209**	P		P	**10 57 28.1**	**-0.2**
CASY				IAmb		IAmb	10 57 38.5	
comp=Z,7.9nm,1.2s								
QSPA	**South Pole Qui**	**55.21**	**180**	P		P	**10 58 02.1**	**-0.4**
QSPA				IAmb		IAmb	10 58 16.8	
comp=Z,3.0nm,1.2s								
FINES	**FINESS Array B**	**148.86**	**336**	PKPbc		**PKPab**	**11 08 21.8**	**+1.4**
comp=Z,1.3nm,0.9s,baz=28,slow=6.3,SNR=3.3								

*NNC **14** 11:08:32.1± 0.4, 42°.95N×71°.01E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=3.9km s-min=2.0km az=20.0, Suspected Mining explosion.*
*KRNET **14** 11:08:32.3± 0.1, 42°.97N×71°.05E, h6km, mb2.6*
*SOME **14** 11:08:32.1, 43°.10N×71°.05E, h15km*
ISC 14 11:08:31.0±0.8, 43°.04N±0°.04×70°.95E±0°.02, h0km, n28, σ0°63/54, 23C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK06	**Karatay Array**	**0.32**	**281**	↑P		**Pb**	**11 08 39.6**	**-0.1**
KK06				⇓S		**Sb**	**11 08 45.2**	**-0.2**
KK05	**Karatay Array**	**0.33**	**285**	↑P		**Pb**	**11 08 39.8**	**0.0**
KK05				⇓S		**Sb**	**11 08 45.7**	**+0.2**
KK02	**Karatay Array**	**0.33**	**282**	↑P		**Pb**	**11 08 39.8**	**0.0**
KK02				⇑S		**Sb**	**11 08 45.7**	**0.0**
KK31	**Karatay Array**	**0.33**	**282**	⇓P		**Pb**	**11 08 39.6**	**-0.2**
0.8nm,0.3s,baz=116,slow=18,SNR=39								
KK31				⇓S		**Sb**	**11 08 45.6**	**-0.1**
2.9nm,0.3s,baz=116,slow=31,SNR=18								
KK01	**Karatay Array**	**0.34**	**282**	↑P		**Pb**	**11 08 39.9**	**0.0**
KK01				⇑S		**Sb**	**11 08 45.8**	**0.0**
KK04	**Karatay Array**	**0.34**	**283**	↑P		**Pb**	**11 08 39.9**	**0.0**
KK04				⇑S		**Sb**	**11 08 45.9**	**0.0**
KK07	**Karatay Array**	**0.34**	**279**	↑P		**Pb**	**11 08 39.9**	**-0.1**
KK07				⇑S		**Sb**	**11 08 45.8**	**-0.1**
KK03	**Karatay Array**	**0.34**	**282**	↑P		**Pb**	**11 08 39.9**	**-0.1**
KK03				⇓S		**Sb**	**11 08 45.8**	**-0.1**
KK09	**Karatay Array**	**0.34**	**285**	↑P		**Pb**	**11 08 40.1**	**0.0**
KK09				⇓S		**Sb**	**11 08 46.2**	**+0.1**
KK08	**Karatay Array**	**0.35**	**281**	↑P		**Pb**	**11 08 40.1**	**-0.1**
KK08				⇓S		**Sb**	**11 08 46.1**	**-0.1**
BRLS	**Borolday**	**0.82**	**270**	*eP*		**Pn**	**11 08 50.3**	**+0.4**
baz=59								
BRLS				*eS*		**Sn**	**11 09 02.9**	**+0.1**
baz=59								
BRLS	**Borolday**	**0.82**	**270**	*eP*		**Pn**	**11 08 50.3**	**+0.4**
15nm,0.2s								
BRLS				*eS*		**Sn**	**11 09 02.8**	**+0.1**
7.8nm,0.3s								
BRLS	**Borolday**	**0.82**	**270**	P		**Pn**	**11 08 50.3**	**+0.4**
15nm,0.2s								
BRLS				S		**Sn**	**11 09 02.8**	**+0.1**
7.8nm,0.3s								
IUG	**luzhnay**	**1.12**	**218**	*eP*		**Pn**	**11 08 53.7**	**-0.4**
baz=23								
IUG				*eS*		**Sb**	**11 09 08.9**	**+0.4**
baz=23								
IUG	**luzhnay**	**1.12**	**218**	*eP*		**Pn**	**11 08 53.7**	**-0.4**
5.9nm,0.4s								
IUG				*eS*		**Sb**	**11 09 09.0**	**+0.4**
12nm,0.2s								
IUG	**luzhnay**	**1.12**	**218**	P		**Pn**	**11 08 53.7**	**-0.4**
5.9nm,0.4s								
IUG				S		**Sb**	**11 09 09.0**	**+0.4**
12nm,0.2s								
MNAS	**Manas**	**1.27**	**115**	↑*iP*		**Pg**	**11 08 54.2**	**-1.1**
baz=13								
MNAS				↑*iS*		**Sg**	**11 09 10.0**	**-1.7**
baz=13								
MRKS	**Merke**	**1.69**	**99**	*eP*		**Pb**	**11 09 03.0**	**-0.2**
baz=97								
MRKS				*eS*		**Sb**	**11 09 25.0**	**-0.1**
baz=97								
MRKS	**Merke**	**1.69**	**99**	*eP*		**Pb**	**11 09 03.0**	**-0.2**
2.4nm,0.3s								
MRKS				*eS*		**Sb**	**11 09 24.9**	**-0.1**
4.1nm,0.5s								
MRKS	**Merke**	**1.69**	**99**	P		**Pb**	**11 09 03.0**	**-0.2**
2.4nm,0.3s								
MRKS				S		**Sb**	**11 09 24.9**	**-0.1**
4.1nm,0.5s								
EKS2	**Erkin-Say**	**2.11**	**99**	↑*iP*		**Pb**	**11 09 09.2**	**-1.0**
baz=98								
EKS2				↑*iS*		**Sb**	**11 09 36.6**	**-0.4**
baz=98								
AML	**Almayashu**	**2.22**	**113**	↑*iP*		**Pn**	**11 09 10.1**	**+0.7**
baz=12								
AML				↑*iS*		**Sn**	**11 09 38.3**	**+0.6**
baz=12								
SGDS	**Sogindy**	**2.72**	**80**	Pg		**Pb**	**11 09 20.4**	**-0.2**
2.6nm,0.4s								
SGDS				Lg		Lg	11 09 55.2	
2.3nm,0.4s								
UCH	**Uchtor**	**2.75**	**106**	↑*iP*		**Pn**	**11 09 18.0**	**+1.2**
baz=5.0								
UCH				↑*iS*		**Sn**	**11 09 51.7**	**+0.8**
baz=5.0								
ARLS	**Aral**	**2.76**	**114**	⇓*iP*		**Pn**	**11 09 17.9**	**+1.3**
baz=13								
ARLS				⇓*iS*		**Sn**	**11 09 51.0**	**+0.3**
baz=13								
BTK	**Batken**	**2.98**	**182**	↑*iP*		**Pn**	**11 09 22.1**	**+2.5**
baz=83								
BTK				↑*iS*		**Sn**	**11 09 57.2**	**+1.1**
baz=83								
BTLS	**Baital**	**3.00**	**47**	*eP*		**Pb**	**11 09 25.2**	**-0.1**
0.6nm,0.2s								
BTLS				*eS*		**Sb**	**11 10 03.3**	**+0.9**
1.6nm,0.3s								
BTLS	**Baital**	**3.00**	**47**	Pg		**Pg**	**11 09 28.3**	**-0.2**
0.5nm,0.2s								
BTLS				Lg		Lg	11 10 08.6	
2.1nm,0.5s								

*IDC **14** 11:16:17.6± 1.4, 31°.14N×77°.85E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/55, mbtmp3.6/9, ML3.0/2, Error ellipse: s-maj=54.9km s-min=20.1km az=62.0*
ISC 14 11:16:19.0±0.8, 31°.16N±0°.06×77°.96E±0°.08, h10km, n12, σ0°89/14, mb3.6/7, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BHK	**Bhakra**	**1.35**	**282**	*eP*		**Pg**	**11 16 44.8**	**-0.1**
BHK				*eS*		**Sn**	**11 17 03.6**	**+1.7**
NDI	**New Delhi**	**2.55**	**195**	*eP*		**Pg**	**11 17 08.0**	**+0.2**
NDI				*eS*		**Sg**	**11 17 40.0**	**-0.9**
CEP	**Cherat**	**5.76**	**299**	P		**Pn**	**11 17 43.8**	**-1.0**
MKAR	**Makanchi Array**	**15.97**	**11**	Pn		**Pn**	**11 20 03.6**	**-0.2**
0.1nm,0.3s,baz=193,slow=11,SNR=6.5								
KURBB	**Kurchatov Arra**	**19.45**	**1**	P		**Pn**	**11 20 47.2**	**+0.3**
0.0nm,0.3s,baz=190,slow=11,SNR=

CTA	**Charters Tower**	**13.92**	**182**	Pn	**P**	**11 59 08.1**	**-0.9**
	0.3nm,0.3s,baz=318,slow=15,SNR=4.6						
CTAO	**Charters Tower**	**13.92**	**182**		**Pn**	**11 59 03.6**	**+2.9**
FAKI	**Fak Fak**	**14.87**	**282**	Pn	**Pn**	**11 59 12.9**	**-1.0**
SIJI	**Sorong**	**16.37**	**288**	Pn	**P**	**11 59 35.9**	**-0.4**
	0.4nm,0.3s,baz=119,slow=13,SNR=2.5						
SIJI				LR	LR	12 07 12.4	
	comp=Z,242nm,19.1s,baz=180,slow=42						
MTN	**Manton Dam**	**16.86**	**245**	P	**P**	**11 59 42.0**	**+0.2**
MTN				IAmb	IAmb	12 00 09.0	
	comp=Z,7.6nm,0.8s						
PATS	**Pohnpei**	**17.22**	**42**	P	**P**	**11 59 45.3**	**-0.3**
WB0	**Warramunga Arr**	**18.19**	**221**	P	**Pn**	**11 59 55.9**	**-0.2**
WR0	**Warramunga Arr**	**18.23**	**220**	P	**Pn**	**11 59 56.4**	**-0.2**
WR0				IAmb	IAmb	12 00 15.2	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**18.33**	**220**	P	**Pn**	**11 59 56.3**	**-1.6**
WRAB				IAmb	IAmb	12 00 06.7	
	comp=Z,7.5nm,0.9s						
WC3	**Warramunga Arr**	**18.34**	**220**	P	**Pn**	**11 59 57.7**	**-0.2**
WB2	**Warramunga Arr**	**18.34**	**220**	P	**P**	**11 59 58.1**	**+0.1**
WB2				IAmb	IAmb	12 00 24.2	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**18.35**	**220**	P	**Pn**	**11 59 57.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=44,slow=12,SNR=18						
WRA				PcP	**PcP**	**12 04 30.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=21,slow=1.8,SNR=5.1						
WRA	**Warramunga Arr**	**18.35**	**220**	P	**Pn**	**11 59 56.5**	**-1.6**
GUMO	**Guam**	**19.66**	**354**	P	**P**	**12 00 10.3**	**-2.2**
KNRA	**Kununurra**	**20.11**	**240**	P	**P**	**12 00 17.0**	**-0.5**
KNRA				IAmb	IAmb	12 00 43.9	
	comp=Z,31nm,1.4s						
SANI	**Sanana**	**21.17**	**280**	P	**P**	**12 00 31.2**	**+2.2**
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**21.44**	**214**	P	**P**	**12 00 31.3**	**-0.5**
ASAR	**Alice Springs**	**21.44**	**214**	P	**P**	**12 00 31.6**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=57,slow=8.8,SNR=20						
ASAR				S	**S**	**12 04 29.6**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=39,slow=16,SNR=4.2						
ASAR				LR	LR	12 10 01.6	
	comp=Z,211nm,20.4s,baz=56,slow=40						
ASAR	**Alice Springs**	**21.44**	**214**	P	**P**	**12 00 28.5**	**-3.4**
FITZ	**Fitzroy Crossi**	**23.87**	**238**	P	**P**	**12 00 56.8**	**-0.3**
	comp=Z,12nm,0.7s,baz=79,slow=7.7,SNR=30						
FITZ	**Fitzroy Crossi**	**23.87**	**238**	P	**P**	**12 00 56.3**	**-0.9**
FITZ				IAmb	IAmb	12 00 58.3	
	comp=Z,12nm,0.8s						
GTOI	**Gorontalo**	**24.70**	**285**	P	**P**	**12 01 07.1**	**+2.2**
	comp=Z,19nm,0.7s						
DZM	**Mont Dzumac**	**24.73**	**132**	LR	LR	12 09 09.5	
	comp=Z,115nm,21.8s,baz=161,slow=32						
STKA	**Stephens Creek**	**26.11**	**190**	P	**P**	**12 01 16.4**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=348,slow=11,SNR=5.6						
STKA				LR	LR	12 12 49.4	
	comp=Z,145nm,19.1s,baz=22,slow=39						
STKA	**Stephens Creek**	**26.11**	**190**	P	**P**	**12 01 18.6**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**31.32**	**38**	T	T	12 34 54.6	
	baz=220,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**31.33**	**38**	T	T	12 34 51.1	
	baz=220,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**31.34**	**38**	T	T	12 34 52.0	
	baz=220,slow=74,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**32.37**	**37**	T	T	12 36 13.7	
	baz=218,slow=76,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**32.39**	**37**	T	T	12 36 14.9	
	baz=218,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**32.39**	**37**	T	T	12 36 13.5	
	baz=218,slow=76,SNR=46						
DBJI	**Dramaga**	**39.83**	**267**	P	P	12 03 36.5	+19
JNU	**Nakatsue**	**41.84**	**340**	LR	LR	12 17 24.3	
	comp=Z,89nm,20.7s,baz=47,slow=31						
KSRS	**Korea Array**	**46.78**	**339**	P	**P**	**12 04 13.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=154,slow=8.6,SNR=4.4						
KSRS				LR	LR	12 22 07.7	
	comp=Z,51nm,18.8s,baz=128,slow=34						
CM31	**Chiang Mai Arr**	**53.15**	**298**	P	**P**	**12 05 01.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**53.15**	**298**	P	**P**	**12 05 03.2**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=122,slow=6.2,SNR=23						
CMAR	**Chiang Mai Arr**	**53.15**	**298**	P	**P**	**12 05 01.7**	**-0.1**
SONM	**Songino Array**	**64.41**	**331**	P	**P**	**12 06 20.6**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=159,slow=8.7,SNR=3.8						
SONM	**Songino Array**	**64.41**	**331**	P	**P**	**12 06 20.1**	**+0.2**
MK31	**Makanchi Array**	**77.46**	**321**	P	**P**	**12 07 37.4**	**-1.7**
MK31				IAmb	IAmb	12 07 40.0	
	comp=Z,3.3nm,1.4s						
MKAR	**Makanchi Array**	**77.46**	**321**	P	**P**	**12 07 38.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=102,slow=7.7,SNR=7.2						
MKAR	**Makanchi Array**	**77.46**	**321**	P	**P**	**12 07 37.6**	**-1.5**
ZALV	**Zalesovo Beam**	**79.00**	**328**	P	**P**	**12 07 46.1**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=121,slow=5.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**79.00**	**328**	P	**P**	**12 07 45.5**	**-1.9**
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**12 08 13.2**	**0.0**
QSPA				IAmb	IAmb	12 08 24.7	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**12 08 21.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=250,slow=4.8,SNR=26						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**12 08 22.0**	**+0.1**
LPAZ	**La Paz**	**138.88**	**123**	PKP	**PKPdf**	**12 15 12.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=216,slow=2.2,SNR=3.8						
LPAZ	**La Paz**	**138.88**	**123**		**PKPdf**	**12 15 12.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**144.95**	**284**	PKP	**PKPdf**	**12 15 21.7**	**-0.2**
	comp=Z,9.4nm,0.8s,baz=70,slow=3.6,SNR=47						
TORD	**Torodi Ar. Bea**	**144.95**	**284**		**PKPab**	**12 15 21.0**	**-0.1**
KIC	**Kosan Boka**	**151.74**	**272**	*e*PKP1	**PKiKP**	**12 15 39.6**	**-0.2**
	comp=Z,21nm,1.0s						
DBIC	**Dimbokro**	**151.85**	**273**	PKPbc	**PKiKP**	**12 15 40.7**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=112,slow=5.1,SNR=6.5						
DBIC	**Dimbokro**	**151.85**	**273**		**PKPbc**	**12 15 38.6**	**-1.0**
TIC	**Toumodi**	**152.02**	**273**	*e*PKP1	**PKPbc**	**12 15 40.1**	**+0.1**
LIC	**Lamto**	**152.02**	**272**	*e*PKP1	**PKiKP**	**12 15 40.3**	**-0.1**
	comp=Z,30nm,0.9s						

IDC 14 12:00:14.2±2.5, 54°.69N×83°.77E, h0km, mb1 2.9/2, mb1mx2.8/48, mbtmp2.9/2, ML2.6/1, Error ellipse: s-maj=20.2km s-min=11.8km az=170.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**140**	*i*		12 05 49.6	
	baz=320,slow=336,SNR=0.7						
ZALV	**Zalesovo Beam**	**0.97**	**140**	Pg	Pg	12 00 31.8	-0.9
	3.7nm,0.3s,baz=323,slow=20,SNR=25						
ZALV				Lg	Lg	12 00 47.1	
	5.8nm,0.3s,baz=319,slow=30,SNR=18						
ZALV				*i*		12 05 53.4	
	0.5nm,0.3s,baz=343,slow=9.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**5.18**	**220**	Pn	Pn	12 01 33.2	+0.4
	baz=41,slow=13,SNR=1.6						
KURBB				Lg	Lg	12 03 00.8	
	0.1nm,0.3s,baz=44,slow=31,SNR=4.5						
MKAR	**Makanchi Array**	**7.96**	**187**	Pn	Pn	12 02 10.9	-0.2
	0.1nm,0.3s,baz=5.0,slow=9.3,SNR=3.5						

IDC 14 12:07:48.2±2.3, 5°.14S×129°.69E, h230km±29km, mb3.0/1, mb1 2.9/5, mb1mx2.8/46, mbtmp3.5/5, Error ellipse: s-maj=59.1km s-min=13.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.53**	**20**	P	Pn	12 08 57.2	-0.5
	3.0nm,0.3s,baz=63,slow=5.5,SNR=56						
SIJI				S	S	12 09 48.4	-4.2
	7.0nm,0.3s,baz=112,slow=23,SNR=17						
FITZ	**Fitzroy Crossi**	**13.47**	**197**	P	Pn	12 10 49.8	-0.9
	0.2nm,0.3s,baz=15,slow=10,SNR=11						
FITZ				S	S	12 13 13.4	-6.3
	0.1nm,0.3s,baz=87,slow=18,SNR=4.1						
WRA	**Warramunga Arr**	**15.39**	**163**	P	Pn	12 11 14.3	+0.3
	0.1nm,0.3s,baz=347,slow=12,SNR=5.8						
WRA				S	S	12 13 57.5	-6.4
	0.1nm,0.3s,baz=330,slow=20,SNR=6.2						
ASAR	**Alice Springs**	**18.86**	**168**	P	Pn	12 11 53.4	-1.6
	0.1nm,0.3s,baz=346,slow=9.9,SNR=13						
ASAR				S	S	12 15 13.1	-0.5
	0.0nm,0.3s,baz=349,slow=22,SNR=5.7						
MKAR	**Makanchi Array**	**66.51**	**327**	P	P	12 18 13.2	-0.2
	0.3nm,0.4s,baz=122,slow=7.5,SNR=4.0						

TRN 14 12:13:31.2, 10°.96N×62°.33W, h97km, MD3.6, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.96**	**109**	*i*P	Pn	12 13 51.8	+0.8
TRN				*e*S	Sn	12 14 05.0	-0.8
TBH	**Brigand Hill**	**1.33**	**111**	*e*P	Pn	12 13 56.2	+1.0
TBH				*e*S	Sn	12 14 13.8	+0.5
GRGR	**Grenville**	**1.34**	**30**	*e*P	Pn	12 13 55.0	-0.3
GRGR				*e*S	Sn	12 14 12.6	-1.0
GRHS	**Sauteurs**	**1.42**	**28**	*e*P	Pn	12 13 56.4	0.0
GRHS				*e*S	Sn	12 14 15.3	-0.1
GRSS	**Sisters**	**1.50**	**28**	*e*P	Pn	12 13 58.2	+0.9
GRSS				*e*S	Sn	12 14 16.6	-0.6
TPR	**Prospect**	**1.54**	**82**	*e*P	Pn	12 13 57.6	-0.2
TPR				*e*S	Sn	12 14 17.2	-0.7
BOT	**Bacolet**	**1.59**	**83**	*e*P	Pn	12 13 58.6	+0.2
BOT				*e*S	Sn	12 14 19.1	-0.1
GCMP	**Grenada, Carri**	**1.75**	**30**	*e*P	Pn	12 14 00.0	-0.5
GCMP				*e*S	Sn	12 14 21.8	-1.0
TOSP	**Speyside**	**1.79**	**79**	*e*P	Pn	12 14 00.5	-0.5
TOSP				*e*S	Sn	12 14 22.4	-1.2
SVB	**Belmont**	**2.53**	**25**	*e*P	Pn	12 14 11.6	+1.1
SVB				*e*S	Sn	12 14 40.8	-0.1
SVCV	**St. Vincent, C**	**2.57**	**27**	*e*P	Pn	12 14 11.9	+0.7
SVCV				*e*S	Sn	12 14 41.1	-0.8
SVV	**Soufriere Volc**	**2.58**	**25**	*e*P	Pn	12 14 12.2	+0.8
SVV				*e*S	Sn	12 14 41.1	-1.0
BHS	**Barnard House**	**2.60**	**27**	*e*P	Pn	12 14 11.8	+0.2
SFAN	**Fancy Village**	**2.66**	**25**	*e*P	Pn	12 14 12.8	+0.4
MCLT	**Moule a Chique**	**3.05**	**26**	*e*P	Pn	12 14 17.6	0.0
MCLT				*e*S	Sn	12 14 52.3	-1.0
SLB	**Belfond**	**3.11**	**24**	*e*P	Pn	12 14 18.9	+0.5
SLB				*e*S	Sn	12 14 53.5	-1.4
SLAC	**Saint Lucia, A**	**3.23**	**25**	*e*P	Pn	12 14 19.4	-0.7
SLAC				*e*S	Sn	12 14 55.6	-2.2
SLBI	**Saint Lucia, B**	**3.32**	**23**	*e*P	Pn	12 14 20.7	-0.5
SLBI				*e*S	Sn	12 14 57.4	-2.3
SLW	**Petit Monier**	**3.33**	**24**	*e*P	Pn	12 14 21.5	+0.2
SLW				*e*S	Sn	12 14 59.2	-0.9
MPOM	**Morne Pois Mar**	**3.75**	**22**	*e*P	Pn	12 14 26.9	0.0
MPOM				*e*S	Sn	12 15 08.6	-1.5
ILAM	**Ilet Lapin Mar**	**4.05**	**20**	*e*P	Pn	12 14 30.4	-0.6
ILAM				*e*S	Sn	12 15 15.3	-2.0
BAUV	**El Baul**	**5.97**	**251**	*e*P	Pn	12 14 56.7	-0.5
BAUV	**El Baul**	**5.97**	**251**	*e*S	Sn	12 16 00.8	-3.5

*JMA **14** 12:15:20.5±0.2, 42°.81N×138°.90E, h229km±2km, M3.1*
*IDC **14** 12:15:21.1±0.9, 42°.92N×138°.90E, h218km±11km, mb3.2/6, mb1 3.4/12, mb1mx3.2/51, mbtmp3.9/12, Error ellipse: s-maj=23.8km s-min=10.4km az=148.0*
ISC 14 12:15:20.8±0.7, 42°.76N±0°.05×139°.05E±0°.06, h233km±7km, n35, σ1°03/50, mb3.5/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHST	**Hiyamasetana**	**0.69**	**119**	P	Pn	**12 15 52.2**	**-0.2**
JHST				*e*S	**Sn**	**12 16 17.7**	**+0.6**
JSH	**Shimam**	**0.74**	**99**	P	Pn	**12 15 53.0**	**+0.4**
JOSM	**Okushiri--Mats**	**0.74**	**155**	P	Pn	**12 15 52.5**	**-0.2**
JOSM				*e*S	**S**	**12 16 16.9**	**-0.7**
JYM2	**Yakumo 2**	**1.17**	**123**	*e*S	**S**	**12 16 22.9**	**+1.1**
JSK	**Shakotan**	**1.20**	**60**	P	Pn	**12 15 55.1**	**-0.1**
JSK				*e*S	**S**	**12 16 21.5**	**-0.7**
JOMM	**Oshimamatsumae**	**1.42**	**150**	P	Pn	**12 15 57.1**	**+0.2**
JOMM				*e*S	**S**	**12 16 25.6**	**+0.5**
JNB	**Noboribetsu**	**1.50**	**100**	P	Pn	**12 15 57.6**	**+0.2**
JSR	**Shiriuchi**	**1.59**	**140**	P	Pn	**12 15 59.9**	**+0.7**
JSR				*e*S	**S**	**12 16 28.2**	**+0.7**
JKB	**Kayabe**	**1.71**	**120**	P	Pn	**12 15 59.8**	**+0.6**
JEW	**Eniwo**	**1.77**	**87**	P	Pn	**12 16 00.6**	**+0.9**
JEW				*e*S	**S**	**12 16 31.9**	**+1.8**
JOT	**Ohata**	**2.02**	**132**	P	Pn	**12 16 02.2**	**+0.1**
JHR	**Hokuryu**	**2.19**	**62**	P	Pn	**12 16 04.5**	**+0.9**
JHR				*e*S	**S**	**12 16 38.3**	**+1.1**
JYG	**Yagishiri**	**2.40**	**45**	P	Pn	**12 16 05.8**	**+0.1**
JFR	**Furan**	**2.63**	**80**	P	Pn	**12 16 08.7**	**+0.5**
JFR				*e*S	**S**	**12 16 45.0**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.78**	**99**	P	Pn	**12 16 10.0**	**+0.3**
JNBK				*e*S	**S**	**12 16 48.3**	**+0.2**
ASAJ	**Asahikawa**	**2.92**	**61**	P	Pn	**12 16 11.9**	**+0.7**
	5.2nm,0.3s,baz=246,slow=12,SNR=49						
ASAJ				S	**S**	**12 16 50.6**	**-0.3**
	1.8nm,0.3s,baz=105,slow=27,SNR=16						
JKK2	**Kamakawa 2**	**2.92**	**66**	P	Pn	**12 16 12.1**	**+0.8**
JKK2				*e*S	**S**	**12 16 51.2**	**+0.2**
JANG	**Nango**	**3.02**	**141**	P	Pn	**12 16 12.9**	**+0.5**
JANG				*e*S	**S**	**12 16 51.0**	**-2.0**
JRBN	**Rebuntou**	**3.03**	**28**	P	Pn	**12 16 12.2**	**-0.3**
JCH	**Churui**	**3.18**	**91**	P	Pn	**12 16 13.8**	**-0.4**
JCH				*e*S	**S**	**12 16 53.8**	**-2.4**
JWK2	**Keihoku**	**3.28**	**38**	P	Pn	**12 16 16.4**	**+1.2**
JSE	**Soyaes**	**3.37**	**48**	P	Pn	**12 16 16.9**	**+0.6**
JAR	**Ashorobuto**	**3.50**	**80**	P	Pn	**12 16 18.1**	**+0.2**
JAR				*e*S	**S**	**12 17 01.1**	**-1.8**
USRK	**Ussuriysk Ar.**	**5.34**	**288**	P	Pn	**12 16 38.5**	**-1.7**
	baz=97,slow=12,SNR=17						
MAT	**Matsushiro**	**6.24**	**186**	P	Pn	**12 16 51.7**	**0.0**
MAT				*e*S	**S**	**12 18 06.6**	**+2.5**
MJAR	**Matsushiro Arr**	**6.24**	**186**	P	Pn	**12 16 52.1**	**+0.5**
	0.4nm,0.3s,baz=2.1,slow=13,SNR=19						
KSRS	**Korea Array**	**10.03**	**242**	P	Pn	**12 17 40.5**	**+0.7**
	0.2nm,0.3s,baz=54,slow=13,SNR=5.5						
JNU	**Nakatsue**	**11.58**	**216**	P	**P**	**12 18 02.0**	**-1.7**
	0.6nm,0.3s,baz=135,slow=1.4,SNR=6.0						
MA2	**Magadan**	**18.32**	**19**	P	**P**	**12 19 17.0**	**-0.5**
	0.6nm,0.3s,baz=198,slow=12,SNR=4.5						
SEY	**Seymchan**	**21.67**	**17**	P	**P**	**12 19 51.2**	**-1.4**
	2.0nm,0.7s,baz=208,slow=13,SNR=4.6						
SONM	**Songino Array**	**23.42**	**294**	P	**P**	**12 20 10.2**	**+1.2**
	0.6nm,0.5s,baz=81,slow=9.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**36.86**	**307**	P	**P**	**12 22 06.5**	**-0.1**
	1.0nm,0.5s,baz=86,slow=8.4,SNR=4.7						
MKAR	**Makanchi Array**	**39.75**	**296**	P	**P**	**12 22 29.9**	**-0.9**
	0.4nm,0.5s,baz=91,slow=8.7,SNR=3.7						
ILAR	**Eielson Array**	**45.75**	**35**	P	**P**	**12 23 19.6**	**+1.2**
	0.7nm,0.8s,baz=282,slow=6.9,SNR=6.9						
INK	**Inuvik**	**50.19**	**29**	P	**P**	**12 23 54.0**	**+1.7**
	1.2nm,0.3s,baz=297,slow=9.3,SNR=18						

WEL 14 12:23:41.8, 40°S±2°, 17°4E±°, h187km±4km, M2.6/23, MLv2.6/23, Error ellipse: s-maj=0.0km s-min=0.0km az=75.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.33**	**45**	S	Sn	12 24 27.3	+1.3
PREZ	**Palmer Road**	**0.35**	**7**	P	Pn	12 24 06.8	-0.2
NEZ	**North Egmont**	**0.42**	**359**	P	Pn	12 24 07.7	+0.5
NEZ				S	Sn	12 24 27.8	+1.0
VRZ	**Vera Road**	**0.76**	**42**	P	Pn	12 24 08.4	-0.2
VRZ				S	Sn	12 24 28.6	-0.7
PKVZ	**Pokaka**	**1.04**	**68**	P	Pn	12 24 10.7	+0.1
PKVZ				S	Sn	12 24 31.9	-0.8
MTVZ	**Mangateitei**	**1.10**	**74**	P	Pn	12 24 11.1	+0.1
MTVZ				S	Sn	12 24 32.4	-1.1
DUWZ	**D'Urville Isla**	**1.12**	**187**	P	Pn	12 24 11.6	+0.6
DUWZ				S	Sn	12 24 33.3	-0.6
WNVZ	**Wahianoa**	**1.21**	**73**	P	Pn	12 24 12.1	+0.1
WNVZ				S	Sn	12 24 34.1	-1.2
NGZ	**Ngauruhoe**	**1.27**	**67**	P	Pn	12 24 12.6	+0.2
NGZ				S	Sn	12 24 34.9	-1.2
TUVZ	**Tukino**	**1.27**	**71**	P	Pn	12 24 12.7	+0.2
TUVZ				S	Sn	12 24 35.6	-0.6
WTVZ	**West Tongariro**	**1.29**	**64**	P	Pn	12 24 12.4	-0.2
WTVZ				S	Sn	12 24 34.9	-1.4
MOVZ	**Moawhango**	**1.31**	**78**	P	Pn	12 24 12.3	-0.4
MOVZ				S	Sn	12 24 33.9	-2.6
HIZ	**Hauiti**	**1.31**	**27**	P	Pn	12 24 11.5	-1.2
OTVZ	**Oturere**	**1.32**	**67**	P	Pn	12 24 12.9	+0.1
OTVZ				S	Sn	12 24 36.1	-0.7
KIW	**Kapiti Island**	**1.32**	**152**	P	Pn	12 24 13.1	+0.5
KIW				S	Sn	12 24 35.7	-1.1
OGWZ	**Otaki Gorge**	**1.39**	**144**	P	Pn	12 24 13.9	+0.7
OGWZ				S	Sn	12 24 36.7	-1.1
TSZ	**Takapari Road**	**1.48**	**105**	P	Pn	12 24 14.2	+0.1
TSZ				S	Sn	12 24 37.1	-2.1
MRZ	**Mangatainoka R**	**1.49**	**131**	P	Pn	12 24 14.4	+0.2
MRZ				S	Sn	12 24 38.0	-1.3
TCW	**Tory Channel**	**1.52**	**175**	P	Pn	12 24 15.3	+0.8
TCW				S	Sn	12 24 39.4	-0.6
BHHZ	**Black Hill Sta**	**1.53**	**83**	P	Pn	12 24 14.2	-0.4
BHHZ				S	Sn	12 24 36.7	-3.3
CAW	**Cannon Point**	**1.59**	**153**	P	Pn	12 24 15.5	+0.4
CAW				S	Sn	12 24 40.5	-0.7
HOWZ	**Holdsworth Sta**	**1.62**	**139**	P	Pn	12 24 15.5	+0.1
HOWZ				S	Sn	12 24 40.0	-1.6
NNZ	**Nelson**	**1.62**	**200**	P	Pn	12 24 15.6	+0.3
NNZ				S	Sn	12 24 40.8	-0.8
QRZ	**Quartz Range**	**1.65**	**226**	P	Pn	12 24 15.3	-0.4
QRZ				S	Sn	12 24 40.4	-1.7
PRWZ	**Pori Road**	**1.67**	**122**	P	Pn	12 24 16.3	+0.5
PRWZ				S	Sn	12 24 41.1	-1.3
DVHZ	**Dannevirke**	**1.70**	**112**	P	Pn	12 24 16.2	+0.1
DVHZ				S	Sn	12 24 41.2	-1.7
TUWZ	**Tuamarina**	**1.74**	**184**	P	Pn	12 24 16.8	+0.3
TUWZ				S	Sn	12 24 42.5	-1.3
TIWZ	**Tintock**	**1.74**	**129**	P	Pn	12 24 17.0	+0.4
TIWZ				S	Sn	12 24 42.3	-1.4
BHW	**Baring Head**	**1.81**	**161**	P	Pn	12 24 17.2	0.0
BHW				S	Sn	12 24 43.7	-1.3
KWHZ	**Kaweka Forest**	**1.81**	**82**	P	Pn	12 24 17.5	+0.1
KWHZ				S	Sn	12 24 42.8	-2.2
BFZ	**Birch Farm**	**1.92**	**122**	P	Pn	12 24 18.4	0.0
BFZ				S	Sn	12 24 44.2	-2.6
BKZ	**Black Stump Fm**	**1.92**	**75**	P	Pn	12 24 17.8	-0.7
BKZ				S	Sn	12 24 43.9	-3.1
MSWZ	**Moikau Station**	**1.93**	**153**	P	Pn	12 24 18.4	-0.1
TMWZ	**Te Maipa**	**1.96**	**137**	P	Pn	12 24 18.8	-0.1
PAWZ	**Paruwai Farm**	**1.97**	**150**	P	Pn	12 24 18.8	-0.1
MRHZ	**Matea Rd**	**1.99**	**65**	P	Pn	12 24 17.9	-1.3
MRHZ				S	Sn	12 24 44.1	-4.2
MCHZ	**McNeill Hill**	**2.02**	**84**	P	Pn	12 24 19.8	+0.3
BSWZ	**Blackbirch Sta**	**2.03**	**185**	P	Pn	12 24 20.2	+0.6
PLWZ	**Palliser**	**2.07**	**155**	P	Pn	12 24 19.7	-0.3
TRWZ	**Traveller**	**2.09**	**145**	P	Pn	12 24 20.0	-0.2
KAHZ	**Kahuranaki**	**2.14**	**94**	P	Pn	12 24 21.0	+0.2
THZ	**Tophouse**	**2.26**	**203**	P	Pn	12 24 22.2	+0.1
ARHZ	**Aropaoanui**	**2.28**	**80**	P	Pn	12 24 22.2	-0.1
MTHZ	**Maungataniwha**	**2.28**	**69**	P	Pn	12 24 21.3	-1.1
MUGZ	**Murupara**	**2.40**	**61**	P	Pn	12 24 22.0	-1.8
RTZ	**Ruatahuna**	**2.48**	**65**	P	Pn	12 24 23.1	-1.6
DSZ	**Denniston Nort**	**2.69**	**220**	P	Pn	12 24 26.5	-0.5
URZ	**Urewera**	**2.75**	**60**	P	Pn	12 24 25.6	-2.1
KHZ	**Kahutara**	**2.75**	**189**	P	Pn	12 24 27.6	-0.1
RAGZ	**Rawiri**	**2.84**	**66**	P	Pn	12 24 27.4	-1.5
KNZ	**Kokohu**	**2.85**	**78**	P	Pn	12 24 27.7	-1.1
MWZ	**Matawai**	**2.99**	**64**	P	Pn	12 24 28.6	-2.0
MHGZ	**Mahia Peninsul**	**2.99**	**81**	P	Pn	12 24 30.1	-0.6
RIGZ	**Rimuhau**	**3.01**	**72**	P	Pn	12 24 29.5	-1.4
PRGZ	**Paritu Road**	**3.03**	**77**	P	Pn	12 24 29.9	-1.2
TKGZ	**Te Karaka**	**3.17**	**68**	P	Pn	12 24 31.3	-1.5
KUZ	**Kuautunu**	**3.21**	**24**	P	Pn	12 24 32.1	-1.2
RUGZ	**Raukumara Rang**	**3.28**	**59**	P	Pn	12 24 31.2	-3.1
TWGZ	**Tauwhareparae**	**3.38**	**65**	P	Pn	12 24 33.9	-1.4
LTZ	**Lake Taylor**	**3.38**	**204**	P	Pn	12 24 34.6	-0.7
CNGZ	**Carnagh Statio**	**3.41**	**71**	P	Pn	12 24 34.8	-0.9
HAZ	**Te Kaha**	**3.47**	**57**	P	Pn	12 24 33.4	-3.0
PKGZ	**Pakihiroa**	**3.59**	**61**	P	Pn	12 24 35.6	-2.4
PUZ	**Puketiti**	**3.62**	**65**	P	Pn	12 24 36.0	-2.3
INZ	**Inchbonnie**	**3.63**	**213**	P	Pn

MTO3 **Montecristo** 2.29 330 *eP* Pn 12 28 00.9 +0.5
MTO3 **Montecristo** 2.29 330 Pn 12 28 01.0 +0.5
MTO3 Sn Sn 12 28 31.6 +4.0
ESQI **Esquipulas** 2.43 332 Pn Pn 12 28 01.9 -0.2
ESQI Sn Sn 12 28 29.7 -1.0
ACON **Acoyapa** 2.95 98 Pn 12 28 08.6 -0.6
ACON Sn Sn 12 28 43.4 -0.1
GBS3 **Finca Las Img** 3.11 121 *eP* Pn 12 28 10.4 -0.9
LAPC **Finca la Perla** 3.13 121 *eP* Pn 12 28 11.1 -0.6
GB1A **Borinquen Arri** 3.13 120 *eP* Pn 12 28 12.2 +0.4
BUEV **Buena Vista** 3.14 120 *eP* Pn 12 28 11.4 -0.5
BUAI **Buenos Aires** 3.16 119 *eP* Pn 12 28 12.1 -0.1
ORTG **Ortega, Santa** 3.34 127 *eP* Pn 12 28 15.2 +0.6
GUAI **GUAI** 3.36 129 *eP* Pn 12 28 15.2 +0.4
COLC **Colonia** 3.38 121 *eP* Pn 12 28 15.8 +0.7
PLVR **Palo Verde** 3.43 126 *eP* Pn 12 28 16.6 +0.6
DUNO **Dulce Nombre,** 3.50 131 *eP* Pn 12 28 16.9 +0.2
ACAL **Aguas Claras** 3.54 120 *eP* Pn 12 28 17.8 +0.5
PTEN **Parque Tenorio** 3.54 118 *eP* Pn 12 28 17.4 +0.1
ESPN **Las Esperanzas** 3.78 93 Pn 12 28 20.8 +0.2
JTS **Las Juntas de** 3.79 123 P Pn 12 28 21.5 +0.9
comp=Z,23nm,0.3s,baz=172,slow=22,SNR=45
JTS S Sn 12 29 01.1 -2.9
comp=Z,100nm,0.3s,baz=12,slow=22,SNR=9.9
JTS **Las Juntas de** 3.79 123 *eP* Pn 12 28 20.8 +0.1
JTS **Las Juntas de** 3.79 123 Pn Pn 12 28 21.1 +0.4
ARE1 **Arenal 1** 3.89 120 *eP* Pn 12 28 22.9 +0.8
CEDE **Laguna Cedeo** 3.89 119 *eP* Pn 12 28 22.9 +0.8
CASO **Castillo** 3.89 120 *eP* Pn 12 28 22.9 +0.8
FORC **Fortuna** 3.93 119 *eP* Pn 12 28 23.4 +0.7
LAFE **Finca La Fe, P** 4.11 129 *eP* Pn 12 28 25.4 +0.3
PETF **Flores** 4.77 340 Pn 12 28 35.6 +1.4
LCR2 **La Lucha 2** 4.87 123 *eP* Pn 12 28 38.1 +2.4
RIMA **Rio Macho** 4.97 121 *eP* Pn 12 28 38.1 +1.1
EDDO **Dominical** 5.26 126 *eP* Pn 12 28 42.5 +1.6
PEZE **Perez Zeledon,** 5.33 124 *eP* Pn 12 28 44.2 +2.2
CCIG **Comitan** 5.45 315 Pn Pn 12 28 44.1 +0.5
EDLM **Las Mercedes** 5.46 124 *eP* Pn 12 28 46.1 +2.4
DRK0 **Durika** 5.75 122 *eP* Pn 12 28 49.6 +1.8
EDPN **Palmar Norte** 5.75 126 *eP* Pn 12 28 50.4 +2.7
RIOS **Rincon, Osa** 5.87 128 *eP* Pn 12 28 51.2 +2.0
BRU2 **Volcan** 6.47 123 *eP* Pn 12 28 58.9 +1.3
TEIG **Tepich** 7.77 359 P Pn 12 29 18.5 +3.2
comp=Z,3.9nm,0.3s,baz=346,slow=23,SNR=9.0
TEIG **Tepich** 7.77 359 Pn 12 29 17.9 +2.6
TLIG **Tlapa** 11.28 298 Pn 12 30 00.1 -3.4
UREC **San Jos de Ur** 13.27 109 *eP* Pn 12 30 32.3 +1.8
ZARC **Zaragoza, Cauc** 13.98 109 *eP* Pn 12 30 40.7 +0.5
SMLC **San Martn de** 14.30 103 *eP* Pn 12 30 48.2 +3.7
YOTC **Yotoco, Valle** 14.38 125 *eP* Pn 12 30 46.1 +0.5
GUY2C **Guyana, Caldas** 14.52 118 *eP* Pn 12 30 49.2 +1.5
GTBY **Guantanamo Bay** 14.59 58 P 12 30 52.9 -0.4
RREF **El Recreo** 14.70 119 *eP* Pn 12 30 46.5 -3.7
PTBC **PUERTO BERRIO,** 14.72 112 *eP* Pn 12 30 52.3 +2.4
TOLC **Tolima** 14.88 120 *eP* Pn 12 30 55.4 +3.0
BBAC **Balboa, Cauca** 14.95 133 *eP* P 12 30 59.0 +1.4
POPC **Popayan, Colom** 15.02 130 *eP* Pn 12 30 56.3 +2.3
ORTC **Ortega, Tolima** 15.31 122 *eP* Pn 12 30 59.6 +2.0
SOTA **Rioblanco** 15.34 131 *eP* P 12 31 02.3 +0.1
PCON **Cinco Dias** 15.37 130 *eP* P 12 31 01.5 -1.1
MARP **Paez Belalcaza** 15.38 127 *eP* P 12 31 05.5 +3.1
OTAV **Otavalo** 15.46 141 *eP* P 12 31 10.5 +7.0
PAMC **Pamplona, Colo** 16.04 107 *eP* Pn 12 31 07.2 -0.3
CHIC **Chingaza** 16.22 117 *eP* Pn 12 31 11.4 +1.8
RUSC **La Rusia** 16.23 112 *eP* Pn 12 31 11.1 +1.3
FLOC **Florencia** 16.41 130 *eP* P 12 31 13.5 -0.2
SDV **Santo Domingo** 17.58 100 P Pn 12 31 24.3 -2.0
comp=Z,2.3nm,0.3s,baz=271,slow=5.4,SNR=5.6
SDV **Santo Domingo** 17.58 100 Pn Pn 12 31 26.3 0.0
SDV Pn 12 31 27.0 +0.8
SDV **Santo Domingo** 17.58 100 *eP* Pn 12 31 27.1 +0.8
PTLC **Puerto Leguiza** 17.99 132 *eP* Pn 12 31 35.0 +3.9
833A **Chaparral WMA,** 18.99 328 P Pn 12 31 43.5 +0.4
baz=144,SNR=9.7
833A **Chaparral WMA,** 18.99 328 P Pn 12 31 43.2 +0.1
833A IAmb IAmb 12 31 44.5
comp=Z,42nm,0.8s
344A **Westbrook Farm** 19.10 353 P Pn 12 31 44.6 +0.2
344A IAmb IAmb 12 31 47.2
comp=Z,45nm,0.8s
352A **Blakely** 19.21 8 P Pn 12 31 46.3 +0.6
TIGA **Tifton** 19.40 12 P Pn 12 31 47.7 -0.2
baz=193
TIGA **Tifton** 19.40 12 P Pn 12 31 48.7 +0.7
VBMS **Vicksburg** 19.83 354 P Pn 12 31 53.4 +0.4
146A **Union** 20.15 358 P Pn 12 31 56.0 -0.8
146A IAmb IAmb 12 31 57.7
comp=Z,48nm,1.1s
NATX **Nacogdoches** 20.17 344 P P 12 31 54.8 +0.1
152A **Waverly Hall** 20.41 8 P Pn 12 31 59.2 -0.7
152A IAmb IAmb 12 32 00.2
comp=Z,30nm,0.8s
LRAL **Lakeview Retre** 20.56 3 P P 12 31 59.9 +1.0
baz=183
LRAL **Lakeview Retre** 20.56 3 P Pn 12 32 01.1 -0.5
LRAL IAmb IAmb 12 32 03.8
comp=Z,22nm,1.1s
154A **Montrose** 20.64 12 P P 12 31 57.3 -2.5
Z47A **Carrollton** 20.69 0 P P 12 32 01.9 +1.5
Z47A IAmb IAmb 12 32 07.6
comp=Z,16nm,0.7s
JCT **Junction City** 20.96 331 P P 12 32 04.2 +0.8
baz=147
JCT **Junction City** 20.96 331 P P 12 32 04.0 +0.6
JCT IAmb IAmb 12 32 07.7
comp=Z,14nm,0.6s
Z51A **Franklin** 20.99 7 P P 12 32 04.9 +1.3
GOGA **Godfrey** 21.34 11 P P 12 32 08.3 +1.0
baz=193,SNR=8.7
GOGA **Godfrey** 21.34 11 P P 12 32 08.7 +1.3
GOGA IAmb IAmb 12 32 10.1
comp=Z,19nm,0.8s
Y49A **Blount Mountai** 21.41 4 P P 12 32 08.4 +0.3
Y49A IAmb IAmb 12 32 09.9
comp=Z,14nm,0.7s
ICMP **Isla Caja de M** 21.57 73 P P 12 32 09.8 -0.2
ICMP IAmb IAmb 12 32 14.3
comp=Z,25nm,0.9s
Y52A **Lilburn** 21.68 9 P P 12 32 12.5 +1.4
Y52A IAmb IAmb 12 32 13.0
comp=Z,17nm,0.7s
X48A **Hartselle** 21.97 2 P P 12 32 13.9 -0.2
TX32 **Lajitas Array** 22.17 322 P P 12 32 17.9 +1.4
TXAR **Lajitas Array** 22.17 322 P P 12 32 17.6 +1.2
comp=Z,6.5nm,0.7s,baz=135,slow=10,SNR=67
TXAR PcP PcP 12 36 13.7 +1.9
comp=Z,0.4nm,0.7s,baz=158,slow=4.2,SNR=4.7
TXAR ScP ScP 12 39 48.4 +3.5
comp=Z,0.5nm,0.7s,baz=162,slow=3.8,SNR=6.6
TXAR **Lajitas Array** 22.17 322 P P 12 32 17.1 +0.7
TX31 **Lajitas Ar. Si** 22.17 322 P P 12 32 18.2 +1.8
TX31 IAmb IAmb 12 32 18.8
comp=Z,18nm,0.8s
CBYP **Canovanas** 22.27 72 P P 12 32 17.7 +0.1
HODGE **Hodges** 22.38 13 P P 12 32 20.0 +1.5
Z35A **Perchaven, San** 22.42 340 P P 12 32 20.8 +1.8
PLAL **Pickwick Lake** 22.47 0 P P 12 32 19.0 -0.5
MTP **Monte Pirata** 22.52 73 P P 12 32 18.7 -1.5
MIAR **Mount Ida** 22.58 348 P P 12 32 20.8 +0.2
baz=166,SNR=14
MIAR **Mount Ida** 22.58 348 P P 12 32 21.1 +0.5
MIAR IAmb IAmb 12 32 22.9
comp=Z,22nm,0.8s
UALR **University of** 22.59 351 P P 12 32 20.7 0.0
UALR IAmb IAmb 12 32 21.7
comp=Z,13nm,0.6s
Y57A **Sumter** 22.64 17 P P 12 32 20.2 -1.2
X54A **Belton** 22.66 12 P P 12 32 22.2 +0.7
baz=195,SNR=7.0
JSC **Jenkinsville** 22.66 15 P P 12 32 23.0 +1.5
JSC IAmb IAmb 12 32 23.7
comp=Z,26nm,1.2s
ABTX **Abilene, Hawle** 22.71 334 P P 12 32 22.9 +0.8
baz=150
ABTX **Abilene, Hawle** 22.71 334 P P 12 32 22.9 +0.8
X55A **Gracelyn & Ava** 22.75 14 P P 12 32 23.1 +0.7
baz=197,SNR=7.7
SWET **Sewanee** 22.80 5 P P 12 32 23.1 +0.1
W50A **Signal Mountai** 22.84 6 P P 12 32 23.0 -0.4
W50A IAmb IAmb 12 32 24.3
comp=Z,24nm,1.4s
X56A **White Oak** 22.92 15 P P 12 32 24.7 +0.6
baz=198
W41B **Gary Mavity, V** 22.96 351 P P 12 32 24.5 -0.1
baz=170,SNR=6.4
W41B **Gary Mavity, V** 22.96 351 P P 12 32 25.0 +0.4
W41B IAmb IAmb 12 32 25.8
comp=Z,20nm,1.2s
BG3 **Lake Jocassee** 22.98 11 P P 12 32 26.1 +1.3
BG3 IAmb IAmb 12 32 27.1
comp=Z,18nm,1.2s
X37A **Clayton** 23.03 345 P P 12 32 27.2 +1.9
PAULI **Pauline** 23.04 13 P P 12 32 26.6 +1.2
WHAR **Wooly Hollow** 23.08 351 P P 12 32 26.5 +0.6
WHAR IAmb IAmb 12 32 26.9
comp=Z,18nm,1.0s
X57A **Johnson Farm,** 23.15 17 P P 12 32 27.1 +0.6
baz=200
CPCT **Cooper Cave** 23.17 8 P P 12 32 27.0 +0.3
CPCT IAmb IAmb 12 32 28.8
comp=Z,22nm,1.2s
PCRV **Puerto La Cruz** 23.17 93 P P 12 32 26.3 -0.6
comp=Z,11nm,0.5s,baz=242,slow=4.4,SNR=6.3
BIRD **Birdtown, Kers** 23.21 16 P P 12 32 27.5 +0.4
W54A **Cherokee Point** 23.22 13 P P 12 32 27.9 +0.8
baz=195,SNR=8.1
PLCV **Puerto La Cruz** 23.22 93 P P 12 32 26.3 -1.1
W39A **Magazine** 23.25 348 P P 12 32 27.9 +0.5
baz=166,SNR=5.3
W39A **Magazine** 23.25 348 P P 12 32 28.7 +1.2
W39A IAmb IAmb 12 32 29.4
comp=Z,8.4nm,0.6s
X58A **Rowland** 23.46 19 P P 12 32 30.0 +0.5
baz=202
X58A **Rowland** 23.46 19 P P 12 32 30.4 +0.9
X58A IAmb IAmb 12 32 30.4
comp=Z,26nm,0.8s
KMSC **Kings Mountain** 23.46 14 P P 12 32 29.6 +0.2
baz=197
KMSC **Kings Mountain** 23.46 14 P P 12 32 30.4 +1.0
KMSC IAmb IAmb 12 32 31.0
comp=Z,21nm,1.1s
TKL **Tuckaleechee C** 23.48 9 P P 12 32 29.8 +0.2
comp=Z,18nm,0.7s,baz=184,slow=11,SNR=13
TKL **Tuckaleechee C** 23.48 9 P P 12 32 30.2 +0.5
TKL IAmb IAmb 12 32 31.7
comp=Z,23nm,0.9s
V51A **Loudon** 23.54 8 P P 12 32 30.1 -0.1
WVT **Waverly** 23.62 1 P P 12 32 29.8 -1.1
baz=181
WVT **Waverly** 23.62 1 P P 12 32 29.2 -1.7
CLTN **Cedars of Leba** 23.64 4 P P 12 32 30.1 -1.0
CLTN IAmb IAmb 12 32 32.0
comp=Z,7.8nm,0.5s
W56A **Indian Trail** 23.64 16 P P 12 32 31.3 +0.2
baz=199
V53A **Saluda** 23.66 11 P P 12 32 31.8 +0.5
V53A IAmb IAmb 12 32 33.8
comp=Z,21nm,0.9s
V52A **Sevierville** 23.69 9 P P 12 32 30.9 -0.8
V52A IAmb IAmb 12 32 33.2
comp=Z,14nm,0.9s
LCAR **Lake Charles** 23.71 354 P P 12 32 31.3 -0.5
W57A **Gilead** 23.82 17 P P 12 32 32.6 -0.2
baz=200,SNR=5.4
W57A **Gilead** 23.82 17 P P 12 32 32.8 0.0
W57A IAmb IAmb 12 32 33.5
comp=Z,17nm,0.6s
W58A **Raeford** 23.92 18 P P 12 32 33.9 +0.2
baz=202
X60A **Albert Glenn T** 23.93 21 P P 12 32 34.1 +0.3
baz=205
V54A **Nebo** 23.93 13 P P 12 32 34.1 +0.3
baz=195,SNR=13
U49A **Red Boiling Sp** 24.09 5 P P 12 32 34.9 -0.4
U49A IAmb IAmb 12 32 37.4
comp=Z,15nm,1.1s
V55A **Taylorsville** 24.17 14 P P 12 32 36.2 +0.3
baz=197
V55A **Taylorsville** 24.17 14 P P 12 32 36.3 +0.3
V55A IAmb IAmb 12 32 38.5
comp=Z,13nm,0.7s
U40A **Yellville** 24.21 351 P P 12 32 36.1 -0.3
baz=169,SNR=10
U40A **Yellville** 24.21 351 P P 12 32 36.8 +0.4
U40A IAmb IAmb 12 32 38.5
comp=Z,19nm,1.1s
WMOK **Wichita Mounta** 24.23 338 P P 12 32 36.3 -0.3
baz=154,SNR=7.1
WMOK **Wichita Mounta** 24.23 338 P P 12 32 36.7 +0.1
FNO **Franklin** 24.24 341 P P 12 32 37.3 +0.7
V56A **Mocksville** 24.30 15 P P 12 32 37.2 0.0
baz=198
HHAR **Hobbs** 24.33 349 P P 12 32 38.2 +0.7
HHAR IAmb IAmb 12 32 39.3
comp=Z,12nm,0.6s
PBMO **Poplar Bluff** 24.35 356 P P 12 32 37.4 -0.2
PBMO IAmb IAmb 12 32 38.0
comp=Z,9.1nm,0.7s
TZTN **Tazewell** 24.39 9 P P 12 32 37.4 -0.6
baz=191
TZTN **Tazewell** 24.39 9 P P 12 32 37.9 -0.1
TZTN IAmb IAmb 12 32 42.2
comp=Z,15nm,1.1s
TUL1 **Leonard** 24.39 345 P P 12 32 34.8 -3.2
TUL1 IAmb IAmb 12 32 41.2
comp=Z,9.9nm,0.7s
T47A **Sharon Grove** 24.49 2 P P 12 32 38.1 -0.8
V57A **Coltrane Farms** 24.57 17 P P 12 32 39.7 +0.1
baz=200
U38A **Gravette** 24.57 348 P P 12 32 40.5 +0.8
U38A IAmb IAmb 12 32 41.5
comp=Z,18nm,1.1s
T42A **Van Buren** 24.66 354 P P 12 32 40.0 -0.4
V58A **Windy Hill, Pi** 24.67 18 P P 12 32 40.6 0.0
baz=201,SNR=8.5
V58A **Windy Hill, Pi** 24.67 18 P P 12 32 40.8 +0.3
U54A **Nelsons Funny** 24.68 12 P P 12 32 40.3 -0.4
baz=195,SNR=10
U54A **Nelsons Funny** 24.68 12 P P 12 32 40.0 -0.7
T50A **Nancy** 24.69 6 P P 12 32 39.0 -1.7
U55A **TA2, Sparta** 24.83 14 P P 12 32 41.9 -0.1
baz=197,SNR=6.7
U56A **King** 24.84 15 P P 12 32 42.4 +0.3
baz=198,SNR=5.6
U56A **King** 24.84 15 P P 12 32 43.0 +0.9
MNTX **Cornudas Mount** 24.90 323 P P 12 32 43.3 +0.6
baz=137
MNTX **Cornudas Mount** 24.90 323 P P 12 32 43.6 +1.0
MGMO **Mountain Grove** 24.91 352 P P 12 32 42.7 0.0
V59A **Middlesex** 24.92 19 P P 12 32 42.8 0.0
baz=203
T53A **Wise** 24.98 11 P P 12 32 43.0 -0.5
baz=193
U57A **Blanch** 25.20 17 P P 12 32 45.5 +0.1
baz=200
CZSB **Cruzeiro do Su** 25.23 142 *eP* P 12 32 49.5 +3.7
T54A **Tazewell** 25.25 12 P P 12 32 45.4 -0.4
baz=195
V60A **Jim Taylor Roa** 25.25 21 P P 12 32 45.9 +0.1
baz=206
MSTX **Muleshoe** 25.26 331 P P 12 32 45.9 -0.2
baz=145,SNR=14
MSTX **Muleshoe** 25.26 331 P P 12 32 46.4 +0.3
MSTX IAmb IAmb 12 32 46.9
comp=Z,17nm,0.7s
U58A **Oxford** 25.40 18 P P 12 32 46.8 -0.4
baz=202
S51A **Beattyville** 25.45 8 P P 12 32 47.4 -0.3
S51A IAmb IAmb 12 32 52.2
comp=Z,11nm,0.9s
T55A **Pulaski** 25.48 14 P P 12 32 47.8 -0.1
baz=197
AMTX **Amarillo** 25.52 334 P P 12 32 48.1 -0.3
baz=148
AMTX **Amarillo** 25.52 334 P P 12 32 49.3 +1.0
AMTX IAmb IAmb 12 32 51.1
comp=Z,22nm,1.1s
T56A **Rocky Mt** 25.58 15 P P 12 32 48.8 +0.1
baz=198
S39A **Bolivar** 25.59 350 P P 12 32 49.0 0.0
U59A **Littleton** 25.60 20 P P 12 32 49.3 +0.3
baz=204
CCM **Cathedral Cave** 25.69 354 P P 12 32 48.7 -1.0
baz=173
CCM **Cathedral Cave** 25.69 354 P P 12 32 49.3 -0.4
CCM IAmb IAmb 12 32 49.6
comp=Z,9.5nm,0.7s
T57A **Hurt** 25.76 17 P P 12 32 50.2 -0.2
baz=200
T57A **Hurt** 25.76 17 P P 12 32 50.8 +0.4
T57A IAmb IAmb 12 32 50.9
comp=Z,10nm,0.4s
WCI **Wyandotte Cave** 25.77 3 P P 12 32 49.4 -1.0
baz=184
WCI **Wyandotte Cave** 25.77 3 P P 12 32 50.1 -0.3
WCI IAmb IAmb 12 32 50.2
comp=Z,11nm,0.6s
R49A **Shelbyville** 25.91 5 P P 12 32 51.2 -0.6
R49A IAmb IAmb 12 32 51.8
comp=Z,9.1nm,0.5s
T58A **Grand View Acr** 25.91 18 P P 12 32 51.5 -0.3
baz=202
R40A **Maddies Statio** 26.03 353 P P 12 32 52.0 -0.8
S55A **Lewisburg** 26.17 14 P P 12 32 54.4 +0.2
baz=197
T59A **Double "B" Far** 26.25 19 P P 12 32 55.3 +0.5
baz=204
S56A **Natural Bridge** 26.31 16 P P 12 32 55.5 +0.1
baz=199
R53A **Hurricane** 26.40 11 P P 12 32 55.9 -0.3
baz=194
S57A **Dark Hollow, R** 26.55 16 P P 12 32 57.3 -0.3
baz=200
S58A **Poland Farm, P** 26.68 18 P P 12 32 58.5 -0.2
baz=202
R55A **Marlinton** 26.74 14 P P 12 32 59.3 -0.1
baz=198
R55A **Marlinton** 26.74 14 P P 12 33 00.2 +0.8
R55A IAmb IAmb 12 33 03.8
comp=Z,10nm,1.0s
Q51A **Peebles** 26.85 8 P P 12 33 00.2 0.0
Q51A IAmb IAmb 12 33 03.3
comp=Z,14nm,0.9s
Q52A **Bidwell** 26.96 10 P P 12 33 00.9 -0.3
baz=193
Q53A **Leroy** 26.99 11 P P 12 33 01.2 -0.3
baz=194
R56A **Bull Pasture M** 27.04 15 P P 12 33 02.3 +0.3
baz=199
R57A **Stanardsville** 27.17 17 P P 12 33 03.0 -0.1
baz=201,SNR=5.1
P40A **Paris** 27.23 353 P P 12 33 03.9 +0.3
P40A IAmb IAmb 12 33 04.7
comp=Z,5.2nm,0.6s
Q54A **Coxs Mills** 27.25 13 P P 12 33 03.5 -0.3
baz=196
Q54A **Coxs Mills** 27.25 13 P P 12 33 04.3 +0.5
Q54A IAmb IAmb 12 33 04.5
comp=Z,10.0nm,0.6s
R58A **Rapidan** 27.33 18 P P 12 33 04.4 -0.1
baz=202
Q55A **Buckhannon** 27.43 14 P P 12 33 05.3 -0.3
baz=197
P38A **Dawn** 27.52 351 P P 12 33 05.8 -0.4
P38A IAmb IAmb 12 33 06.8
comp=Z,21nm,1.1s
P53A **Whipple** 27.63 11 P P 12 33 07.1 -0.1
baz=194
P53A **Whipple** 27.63 11 P P 12 33 07.3 +0.1
P53A IAmb IAmb 12 33 08.0
comp=Z,28nm,1.4s
Q56A **Snyder Ridge,** 27.69 15 P P 12 33 08.3 +0.5
baz=199
Q56A **Snyder Ridge,** 27.69 15 P P 12 33 08.6 +0.8
Q56A IAmb IAmb 12 33 10.9
comp=Z,9.3nm,0.9s
ANMO **Albuquerque** 27.90 327 P P 12 33 11.0 +1.1
comp=Z,0.1nm,0.7s,baz=143,slow=10,SNR=3.0
ANMO **Albuquerque** 27.90 327 IAmb IAmb 12 33 16.3
comp=Z,1.5nm,0.9s
P54A **Burton** 27.92 13 P P 12 33 09.2 -0.6
baz=196
O51A **Pataskala** 28.06 9 P P 12 33 10.3 -0.8
baz=192
ACSO **Alum Creek Sta** 28.09 8 P P 12 33 10.8 -0.5
baz=191
MCWV **Mont Chateau** 28.12 14 P P 12 33 11.5 -0.1
baz=197
O52A **Adamsville** 28.16 10 P P 12 33 11.4 -0.5
baz=193
O53A **New Philadelph** 28.40 11 P P 12 33 14.0 0.0
baz=194
O53A **New Philadelph** 28.40 11 P P 12 33 15.3 +1.2
P57A **Homestead Farm** 28.42 17 P P 12 33 14.6 +0.3
baz=201
P57A **Homestead Farm** 28.42 17 P P 12 33 15.1 +0.8
P58A **Pank, Wackersv** 28.63 18 P P 12 33 16.4 +0.3
baz=202
P59A **Jarrettsville** 29.01 19 P P 12 33 19.4 -0.1
baz=204
O57A **Amberson** 29.20 17 P P 12 33 21.2 -0.1
baz=201
O58A **Lewisberry** 29.33 18 P P 12 33 22.6 +0.3
baz=203
N54A **Moraine State** 29.33 13 P P 12 33 22.1 -0.2
baz=196
P60A **Greenville** 29.45 20 P P 12 33 23.3 -0.1
baz=205
SSPA **Standing Stone** 29.53 16 P P 12 33 23.8 -0.3
baz=201
SDCO **Great Sand Dun** 29.61 331 P P 12 33 26.2 +1.0
baz=144,SNR=8.5
O59A **Robesonia** 29.73 19 P P 12 33 25.9 +0.1
baz=204
N57A **Milroy** 29.73 16 P P 12 33 25.1 -0.9
baz=201
M54A **Oil Creek Stat** 29.93 13 P P 12 33 27.1 -0.5
baz=197
M56A **Emporium** 30.25 15 P P 12 33 30.2 -0.3
baz=200
M57A **Sunshine Farm,** 30.39 17 P P 12 33 31.6 -0.2
baz=202
N59A **State Game Lan** 30.41 19 P P 12 33 31.9 0.0
baz=204,SNR=5.2
N60A **Cedar Hill Far** 30.58 20 P P 12 33 33.6 +0.2
baz=206
M58A **Price's Panora** 30.62 17 P P 12 33 33.7 -0.1
baz=203
N61A **South Mountain** 30.75 21 P P 12 33 34.9 0.0
baz=207
L55A **Hinsdale** 30.85 14 P P 12 33 35.1 -0.7
baz=199
M59A **Waymart** 31.08 19 P P 12 33 37.9 +0.1
baz=204
L57A **Andrews Acres** 31.09 16 P P 12 33 37.9 0.0
baz=202
M60A **Port Jervis** 31.15 20 P P 12 33 38.4 0.0
baz=206
K54A **Basiliko Farm,** 31.19 14 P P 12 33 38.2 -0.6
baz=198
L58A **Harry Jones Me** 31.41 18 P P 12 33 41.0 +0.2
baz=203
M61A **Granite Spring** 31.43 21 P P 12 33 41.1 +0.3
baz=208
K56A **Middlesex** 31.61 15 P P 12 33 42.1 -0.4
baz=200
L59A **Walton** 31.79 19 P P 12 33 43.7 -0.4
baz=205
J54A **Appleton** 31.84 13 P P 12 33 44.2 -0.2
baz=198
K57A **Scipio Center** 31.86 16 P P 12 33 43.8 -0.8
baz=202
L60A **Shokan** 31.88 20 P P 12 33 44.5 -0.3
baz=206
ECSD **EROS Data Cent** 32.05 348 P P 12 33 44.7 -1.7
baz=164
ECSD **EROS Data Cent** 32.05 348 IAmb IAmb 12 33 46.5
comp=Z,13nm,1.3s
K58A **Earlville** 32.13 17 P P 12 33 46.6 -0.5
baz=203
J56A **Wolcott** 32.27 16 P P 12 33 48.1 -0.1
baz=201
SAML **Samuel** 32.66 129 *eP* P 12 33 52.9 +0.9
J58A **Remsen** 32.78 17 P P 12 33 52.3 -0.5
baz=204
O20A **White River Ci** 32.80 331 IAmb IAmb 12 34 13.8
comp=Z,7.5nm,0.9s
K61A **Williamstown** 32.80 20 P P 12 33 53.1 +0.2
baz=208
L61B **Northampton** 32.81 21 P P 12 33 52.8 -0.2
baz=209
SPMN **Marine on St.** 32.94 354 P P 12 33 52.6 -1.5
baz=172
H53A **Bobcaygeon** 33.09 13 P P 12 33 54.7 -0.7
baz=197
J59A **Piesco** 33.12 18 P P 12 33 54.8 -0.9

baz=205
SADO Sadowa 33.16 12 P **P** 12 33 54.7 -1.3
comp=Z,9.4nm,0.5s,baz=216,slow=9.0,SNR=13
I58A Old Forge 33.18 18 P **P** 12 33 55.6 -0.6
baz=204
K63A Dunstable 33.44 23 P **P** 12 33 58.5 +0.1
baz=210
I59A Olmstead ville 33.61 19 P **P** 12 33 59.6 -0.3
baz=206
F36A Milaca 33.65 353 IAmb IAmb 12 34 00.7
comp=Z,14nm,1.2s
J62A Henniker 33.80 22 P **P** 12 34 02.0 +0.4
baz=210
I60A Shoreham 33.84 19 P **P** 12 34 01.6 -0.3
baz=207
G54A Lake Saint Pet 33.98 13 P **P** 12 34 02.2 -0.9
baz=198
H58A Gabriels 34.08 18 P **P** 12 34 03.3 -0.8
baz=205
LONY Lake Ozonia 34.14 17 P **P** 12 34 03.4 -1.1
baz=204
RSSD Black Hills 34.42 340 P **P** 12 34 08.2 +1.0
RSSD IAmb IAmb 12 34 09.4
comp=Z,4.7nm,0.7s
G57A Newington 34.47 17 P **P** 12 34 06.8 -0.5
baz=203
ALGO Algonquin Park 34.52 12 P **P** 12 34 06.9 -0.9
baz=198
I62A Tamworth 34.54 22 P **P** 12 34 08.1 +0.2
baz=210
LPAZ La Paz 34.72 145 P **P** 12 34 11.0 +0.5
comp=Z,1.0nm,0.4s,baz=5.2,slow=7.5,SNR=5.6
G59A Clarenceville 34.98 19 P **P** 12 34 11.0 -0.7
baz=206
PDAR Pinedale Array 35.48 332 P **P** 12 34 16.8 +0.3
comp=Z,1.1nm,0.7s,baz=121,slow=7.2,SNR=8.7
PDAR PcP **PcP** 12 36 44.8 -0.2
comp=Z,0.5nm,0.5s,baz=120,slow=4.9,SNR=5.6
PDAR Pinedale Array 35.48 332 P **P** 12 34 16.0 -0.4
EYMN Ely 35.53 356 P **P** 12 34 14.6 -2.0
baz=174
PB16 IPOC Station P 35.66 149 P **P** 12 34 19.9 +1.3
PB16 IAmb IAmb 12 34 26.2
comp=Z,5.9nm,0.7s
G62A West of Eustis 35.99 21 P **P** 12 34 20.4 -0.1
baz=210
D55A Sainte-Anne-du 36.12 15 P **P** 12 34 20.4 -1.1
baz=201
F60A Warwick 36.16 19 P **P** 12 34 20.8 -1.1
baz=207
AHID Auburn Hatcher 36.20 331 IAmb IAmb 12 34 30.5
comp=Z,4.3nm,0.6s
ITTB Itaituba 36.28 115 *e*P **P** 12 34 22.0 -1.3
AGMN Agassiz Nation 36.35 351 P **P** 12 34 22.2 -1.3
baz=167,SNR=9.5
MALB Monte Alegre 36.52 111 *e*P **P** 12 34 24.5 -0.9
REDW Red Top Meadow 36.54 332 IAmb IAmb 12 34 28.9
comp=Z,12nm,1.0s
TPAW Teton Pass 36.68 332 IAmb IAmb 12 34 32.3
comp=Z,3.9nm,0.7s
GO01 Chusmiza 36.95 149 P **P** 12 34 31.1 +1.7
GO01 IAmb IAmb 12 34 40.9
comp=Z,3.6nm,0.7s
RLMT Red Lodge 37.24 335 P **P** 12 34 31.6 +0.2
baz=144
NVAR Mina Array Bea 37.28 319 P **P** 12 34 32.8 +1.0
comp=Z,0.7nm,0.8s,baz=120,slow=5.3,SNR=4.3
NVAR PcP **PcP** 12 36 52.3 +1.8
comp=Z,1.0nm,0.7s,baz=141,slow=3.8,SNR=7.2
NVAR ScP **ScP** 12 40 38.3 +5.2
comp=Z,0.6nm,0.7s,baz=145,slow=5.6,SNR=5.8
F64A Sherman 37.34 23 P **P** 12 34 32.0 +0.1
baz=213
LAO LASA Array 37.41 339 P **P** 12 34 32.7 +0.1
baz=150
VILB Vilhena 37.47 131 *e*P **P** 12 34 32.5 -1.0
LSQQ Lebel-sur-Quev 37.70 12 P **P** 12 34 33.5 -1.4
baz=198
E64A Bridgewater 38.01 23 P **P** 12 34 37.3 -0.2
baz=213
D62A Allapoint, All 38.12 21 P **P** 12 34 38.0 -0.4
baz=211
MATQ Matagami 38.24 11 P **P** 12 34 38.2 -1.2
baz=197
ULM Lac du Bonnet 38.26 352 P **P** 12 34 37.9 -1.7
comp=Z,9.3nm,0.5s,baz=165,slow=9.0,SNR=22
DGMT Dagmar 38.35 343 P **P** 12 34 39.9 -0.6
baz=154,SNR=9.1
HLID Hailey 38.41 329 P **P** 12 34 41.6 +0.4
baz=136
CLDB Colider 39.60 124 *e*P **P** 12 34 50.4 -0.9
EGMT Eagleton 39.82 337 P **P** 12 34 52.5 -0.3
baz=146
MSO Missoula 40.60 333 P **P** 12 35 00.2 +0.9
F10A Beach Ranch, E 41.53 329 P **P** 12 35 10.3 +3.3
PRPB Parauapebas 42.35 114 *e*P **P** 12 35 12.4 -1.6
AC02 Maricunga 43.17 155 P **P** 12 35 22.8 +1.8
FFC Flin Flon 43.59 348 P **P** 12 35 23.2 -0.3
FFC IAmb IAmb 12 35 23.6
comp=Z,5.8nm,0.7s
SCHQ Schefferville 45.52 17 P **P** 12 35 37.0 -1.8
comp=Z,12nm,0.8s,baz=200,slow=4.4,SNR=8.6
SCHQ LR LR 12 56 23.6
comp=Z,33nm,20.4s,baz=256,slow=38
SCHQ Schefferville 45.52 17 P **P** 12 35 37.2 -1.6
ARAG Araguaiana, MT 45.54 127 *e*P **P** 12 35 38.9 -0.6
ROSB Rosrio 46.31 106 *e*P **P** 12 35 42.1 -3.5
PEXB Peixe 46.45 120 *e*P **P** 12 35 45.4 -1.4
BDFB Brasilia 48.53 124 P **P** 12 36 02.6 -0.3
comp=Z,2.6nm,0.6s,baz=297,slow=9.0,SNR=3.6
BDFB Brasilia 48.53 124 IAmb IAmb 12 36 03.6
comp=Z,7.5nm,1.1s
CPUP Villa Florida 48.80 142 *e*P **P** 12 36 04.0 -0.8
ITRB Iturama 49.03 130 *e*P **P** 12 36 06.3 -0.3
TRCB Terra Rica 49.35 135 *e*P **P** 12 36 08.6 -0.4
PCMB Pacaembu 49.55 133 *e*P **P** 12 36 10.4 -0.1
IPMB Ipameri, GO 49.66 127 *e*P **P** 12 36 10.6 -0.9
JANB Januaria 51.28 121 *e*P **P** 12 36 21.8 -2.0
YKA Yellowknife Ar 53.47 345 P **P** 12 36 38.1 -1.0
comp=Z,3.4nm,0.7s,baz=136,slow=7.6,SNR=9.2
YKA PcP **PcP** 12 37 44.9 -0.7
comp=Z,0.9nm,0.4s,baz=177,slow=3.3,SNR=6.5
SPB Sao Paulo 53.55 132 *e*P **P** 12 36 38.8 -1.5
PLCA Paso Flores 55.33 164 P **P** 12 36 53.4 +0.3
comp=Z,3.7nm,0.8s,baz=322,slow=8.5,SNR=11
PLCA Paso Flores 55.33 164 IAmb IAmb 12 36 54.3
comp=Z,3.8nm,0.8s
ILAR Eielson Array 65.78 336 P **P** 12 38 02.9 -1.0
comp=Z,0.9nm,0.9s,baz=160,slow=5.0,SNR=9.9
ESDC Sonseca Array 77.76 52 P **P** 12 39 13.6 -2.8
comp=Z,0.8nm,0.9s,baz=287,slow=5.5,SNR=4.0
WRA Warramunga Ar 138.59 254 PKP **PKPdf** 12 46 43.7 -1.7
comp=Z,0.4nm,0.5s,baz=94,slow=2.9,SNR=8.3
WRA Warramunga Arr 138.59 254 **PKiKP** 12 46 45.9 -1.7
ASAR Alice Springs 138.61 248 PKhKP PKPpre 12 46 38.2
comp=Z,0.3nm,0.6s,baz=118,slow=2.6,SNR=5.7
ASAR PKP **PKiKP** 12 46 46.1 -1.4
comp=Z,1.8nm,0.7s,baz=102,slow=2.8,SNR=12
ASAR Alice Springs 138.61 248 **PKiKP** 12 46 50.2 +2.7
CMAR Chiang Mai Arr 148.54 347 PKPbc **PKPbc** 12 47 06.3 -0.2
comp=Z,3.5nm,0.6s,baz=344,slow=3.9,SNR=15

REY ***14*** *13:03:33.5,64°.68N×17°.46W,h7km*
MOS ***14*** *13:03:33.1±0.9,64°.67N×17°.58W,h6km,mb4.6/42, Error ellipse: s-maj=11.1km s-min=8.0km az=114.8*
IDC ***14*** *13:03:33.8±0.5,64°.60N×17°.59W,h0km,mb4.1/19, mb1 4.3/22,mb1mx4.2/39,mbtmp4.1/22,ML2.5/2,MS3.6/4, Ms1 3.6/4,ms1mx2.8/55,Error ellipse: s-maj=17.4km s-min=10.4km az=18.0*
NEIC ***14*** *13:03:35.3±1.1,64°.6N±0°.1×17°.5W±0°.2,h8km±4km, mb4.6/93, Error ellipse: s-maj=16.5km s-min=9.6km az=196.0*
ISC 14 13:03:34.7±0.6,64°.69N±0°.02×17°.47W±0°.02,h7km±3km, n304,σ1§47/315,mb4.5/113,MS3.8/3,15C-1D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.11**	**24**	P	**Pg**	**13 03 36.4**	**-0.8**
	baz=20						
IVON	**Vonarskard**	**0.12**	**262**	P	**Pg**	**13 03 36.2**	**-1.2**
	baz=270						
IVON				S	**Sg**	**13 03 38.8**	**-0.5**
	baz=270						
IDJK	**Dyngjujokull**	**0.21**	**152**	P	**Pg**	**13 03 37.6**	**-1.3**
	baz=150						
IDJK				S	**Sg**	**13 03 41.4**	**-0.5**
	baz=150						
IGRF	**Grimsfjall**	**0.30**	**163**	P	**Pg**	**13 03 39.0**	**-1.6**
	baz=162						
ISKR	**Skrokkalda**	**0.42**	**252**	P	**Pg**	**13 03 41.1**	**-1.6**
	baz=254						
IVOT	**Voltur**	**0.44**	**163**	P	**Pg**	**13 03 41.4**	**-1.8**
	baz=163						
IKRE	**Kreppuhraun**	**0.47**	**78**	P	**Pg**	**13 03 42.2**	**-1.7**
	baz=76						
IKRE				S	**Sg**	**13 03 49.1**	**-1.0**
	baz=76						
IJOK	**Jokulheimar**	**0.50**	**221**	P	**Pg**	**13 03 42.3**	**-2.0**
	baz=223						
IASK	**Askja**	**0.50**	**44**	P	**Pg**	**13 03 42.9**	**-1.5**
	baz=42						
IASK				S	**Sg**	**13 03 50.0**	**-1.0**
	baz=42						
IMKO	**Mokollar**	**0.56**	**59**	P	**Pg**	**13 03 43.9**	**-1.7**
	baz=57						
IMKO				S	**Sg**	**13 03 52.6**	**-0.3**
	baz=57						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**13 03 45.6**	**-1.7**
	baz=7.5						
IIEY	**Innrieyrar**	**0.66**	**206**	P	**Pg**	**13 03 45.1**	**-2.3**
	baz=207						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**13 03 45.1**	**-2.8**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**13 03 46.7**	**-2.4**
	baz=188						
IKAL				S	**Sg**	**13 03 58.8**	**0.0**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	**Pg**	**13 03 46.8**	**-2.4**
	baz=79						
IVSH				S	**Sg**	**13 03 57.2**	**-1.8**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**232**	P	**Pg**	**13 03 48.1**	**-2.1**
	baz=233						
IADA	**Aoalbol**	**0.87**	**67**	P	**Pg**	**13 03 48.8**	**-2.6**
	baz=66						
IADA				S	**Sg**	**13 04 01.0**	**-1.8**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**282**	P	**Pg**	**13 03 49.5**	**-2.8**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**13 03 50.3**	**-2.5**
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**13 03 51.1**	**-2.6**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**13**	P	**Pg**	**13 03 52.2**	**-2.8**
	baz=13						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**13 03 52.7**	**-2.8**
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**30**	P	**Pg**	**13 03 53.1**	**-2.8**
	baz=30						
ISLY	**Slysaalda**	**1.13**	**220**	P	**Pg**	**13 03 53.4**	**-2.9**
	baz=221						
IFED	**Fedgar**	**1.18**	**236**	P	**Pg**	**13 03 54.5**	**-2.7**
	baz=237						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pg**	**13 03 54.6**	**-3.1**
	baz=8.5						
IRJU	**Rjupnafell**	**1.20**	**207**	P	**Pg**	**13 03 54.5**	**-3.2**
	baz=207						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pg**	**13 03 54.7**	**-3.1**
	baz=16						
IMJO	**Mjoaskard**	**1.23**	**233**	P	**Pb**	**13 03 55.3**	**-2.9**
	baz=233						
IGRA	**Granastaoir**	**1.23**	**358**	P	**Pb**	**13 03 55.1**	**-3.1**
	baz=358						
IGRA				S	**Sg**	**13 04 12.8**	**-1.5**
	baz=358						
IHAU	**Haukadalur**	**1.31**	**237**	P	**Pn**	**13 03 56.1**	**-3.1**
	baz=238						
IHLA	**Hella**	**1.32**	**343**	P	**Pn**	**13 03 56.6**	**-2.8**
	baz=344						
IHLA				S	**Sb**	**13 04 14.3**	**-2.4**
	baz=344						
IHVO	**Lagu-Hvolar**	**1.32**	**208**	P	**Pn**	**13 03 56.4**	**-3.0**
	baz=208						
IHED	**Heoinshofoi**	**1.40**	**3**	P	**Pn**	**13 03 57.6**	**-2.9**
	baz=2.5						
IHED				S	**Sb**	**13 04 16.6**	**-2.5**
	baz=2.5						
IALF	**Alftagrof**	**1.42**	**213**	P	**Pn**	**13 03 58.0**	**-2.8**
	baz=213						
IBRE	**Brettingsstaoi**	**1.45**	**353**	P	**Pn**	**13 03 58.5**	**-2.7**
	baz=353						
IBRE				S	**Sn**	**13 04 18.7**	**-1.8**
	baz=353						
IESK	**Eystri-Skogar**	**1.46**	**218**	P	**Pn**	**13 03 58.6**	**-2.8**
	baz=218						
ISAU	**Saurbar**	**1.46**	**243**	P	**Pn**	**13 03 57.7**	**-3.7**
	baz=243						
IGIL	**Gilhagi**	**1.47**	**18**	P	**Pn**	**13 03 58.5**	**-3.0**
	baz=18						
IMID	**Miomork**	**1.48**	**227**	P	**Pn**	**13 03 59.7**	**-2.0**
	baz=227						
ISIG	**Siglufjorour**	**1.57**	**338**	P	**Pn**	**13 04 00.3**	**-2.5**
	baz=338						
BORG	**Borgarnes**	**1.66**	**274**	Pn	**Pn**	**13 04 01.6**	**-2.5**
	17nm,0.3s,baz=96,slow=11,SNR=100						
BORG				Sn	**Sn**	**13 04 25.3**	**-0.2**
	23nm,0.3s,baz=291,slow=20,SNR=10.0						
BORG	**Borgarnes**	**1.66**	**274**	Pn	**Pn**	**13 04 01.1**	**-3.0**
IKRO	**Krokur**	**1.69**	**251**	P	**Pn**	**13 04 01.7**	**-2.9**
	baz=252						
ISOL	**Solvholt**	**1.70**	**245**	P	**Pn**	**13 04 01.9**	**-2.7**
	baz=245						
IHEI	**Heiarbar**	**1.71**	**255**	P	**Pn**	**13 04 02.2**	**-2.5**
	baz=256						
IHRN	**Hraun**	**1.81**	**323**	P	**Pn**	**13 04 04.0**	**-2.1**
	baz=324						
IHRN				S	**Sn**	**13 04 28.9**	**-0.4**
	baz=324						
IBJA	**Bjarnastaoir**	**1.83**	**248**	P	**Pn**	**13 04 04.5**	**-2.0**
	baz=248						
ISAN	**Sandskeio**	**1.89**	**252**	P	**Pn**	**13 04 05.8**	**-1.5**
	baz=253						
IKUD	**Kuludalsa**	**1.94**	**261**	P	**Pn**	**13 04 05.8**	**-2.2**
	baz=262						
DBG	**Daneborg**	**9.71**	**356**	*e*P	Pn	13 06 02.6	+8.1
SUMG	**Summit**	**10.93**	**325**	*i* P	Pn	13 06 16.8	+5.2
SUMG	**Summit**	**10.93**	**325**	*i* P	Pn	13 06 16.8	+5.2
SUMG	**Summit**	**10.93**	**325**	*i* P	Pn	13 06 16.9	+5.3
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**13 06 21.6**	**-1.1**
	baz=326,slow=13,SNR=9.4						
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P	**Pn**	**13 06 31.5**	**+3.7**
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P	**Pn**	**13 06 31.5**	**+3.7**
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P	**Pn**	**13 06 31.5**	**+3.7**
NRS	**Narsarsuaq**	**13.15**	**267**	P	**Pn**	**13 06 41.7**	**+0.1**
NRS	**Narsarsuaq**	**13.15**	**267**	Pn	**Pn**	**13 06 41.7**	**+0.1**
NC204	**NORSAR Array S**	**13.22**	**92**	Pn	**Pn**	**13 06 40.2**	**-2.4**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**13 06 44.3**	**-2.4**
	0.0nm,0.3s,baz=299,slow=13,SNR=2.7						
HFS	**Hagfors**	**15.04**	**93**	Pn	**P**	**13 07 11.3**	**-1.4**
	0.1nm,0.3s,baz=318,slow=6.4,SNR=15						
SPITS	**Spitsbergen Ar**	**16.84**	**23**	LR	LR	13 13 32.3	
	comp=Z,50nm,19.6s,baz=150,slow=35						
FINES	**FINESS Array B**	**19.69**	**79**	P	**P**	**13 08 03.9**	**-0.1**
	0.0nm,0.3s,baz=328,slow=6.8,SNR=5.2						
FINES	**FINESS Array B**	**19.69**	**79**	P	**P**	**13 08 03.5**	**-0.4**
CLL	**Collm**	**20.70**	**116**	*i* P	**P**	**13 08 15.9**	**+0.8**
	comp=Z,84nm,2.1s						
CLL	**Collm**	**20.70**	**116**	*i* P	**P**	**13 08 15.9**	**+0.8**
CLL				pmax	pmax		
	comp=Z,84nm,2.1s						
CLL	**Collm**	**20.70**	**116**	P	**P**	**13 08 15.7**	**+0.6**
ECH	**Echery**	**21.16**	**129**	P	**P**	**13 08 20.9**	**+0.8**
ECH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ECH	**Echery**	**21.16**	**129**	P	**P**	**13 08 20.9**	**+0.8**
GRA1	**Grafenberg Arr**	**21.33**	**121**	P	**P**	**13 08 22.1**	**+0.1**
GRA1				IAmb	IAmb	13 08 46.5	
	comp=Z,15nm,0.6s						
GRF	**Grafenberg Arr**	**21.33**	**121**	P	**P**	**13 08 22.1**	**+0.1**
GRF				pmax	pmax		
	comp=Z,15nm,0.6s						
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**	**13 08 25.9**	**+3.8**
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**	**13 08 25.9**	**+3.8**
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P	**P**	**13 08 23.5**	**+0.7**
	comp=Z,32nm,1.3s						
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P	**P**	**13 08 23.5**	**+0.7**
BRG				pmax	pmax		
	comp=Z,32nm,1.3s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**13 08 23.0**	**-0.2**
BFO				pmax	pmax		
	comp=Z,14nm,1.1s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**13 08 23.0**	**-0.2**
VSU	**Vasula**	**21.55**	**86**	*i* P	**P**	**13 08 23.8**	**-0.4**
VSU				pmax	pmax		
	comp=Z,66nm,1.0s						
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**13 08 35.4**	**+2.6**
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**13 08 35.4**	**+2.6**
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**13 08 33.7**	**+0.7**
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**	**13 08 35.3**	**+1.2**
OSTC	**Ostas**	**22.55**	**113**	*e*P	**P**	**13 08 37.2**	**+2.2**
KHC	**Kasperske Hory**	**22.68**	**119**	*e*P	**P**	**13 08 37.3**	**+1.0**
KHC	**Kasperske Hory**	**22.68**	**119**	*ce*P	**P**	**13 08 36.2**	**-0.1**
KHC				pmax	pmax		
	comp=Z,35nm,1.5s						
KHC	**Kasperske Hory**	**22.68**	**119**	P	**P**	**13 08 36.8**	**+0.5**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**13 08 37.9**	**+0.7**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**13 08 37.9**	**+0.7**
DPC				smax	smax		
	comp=N,2.0nm,0.6s						
DAVA	**Damuels**	**22.89**	**126**	*e*P	**P**	**13 08 40.9**	**+2.2**
	comp=N,6.7nm,1.1s						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**13 08 39.5**	**+0.1**
	comp=N,7.4nm,0.3s,baz=334,slow=8.0,SNR=9.1						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**13 08 39.2**	**-0.1**
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**13 08 39.2**	**-0.1**
RETA	**Reutte**	**23.02**	**125**	*e*P	**P**	**13 08 41.4**	**+1.4**
	comp=N,3.5nm,0.7s						
KRLC	**Kraliky**	**23.16**	**113**	*e*P	**P**	**13 08 42.1**	**+0.7**
KRLC	**Kraliky**	**23.16**	**113**	*e*P	**P**	**13 08 42.1**	**+0.7**
MOTA	**Moosalm**	**23.26**	**125**	*e*P	**P**	**13 08 45.2**	**+2.6**
	comp=N,5.8nm,0.8s						
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P	**P**	**13 08 43.7**	**+0.4**
	comp=N,2.9nm,0.7s,baz=320,slow=9.0,SNR=5.2						
SQTA	**Sankt Quirin**	**23.41**	**125**	*e*P	**P**	**13 08 45.2**	**+1.2**
	comp=N,9.7nm,1.4s						
FETA	**Feichten**	**23.41**	**126**	*e*P	**P**	**13 08 47.2**	**+3.1**
	comp=N,6.0nm,1.1s						
WATA	**Walderalm**	**23.44**	**124**	*e*P	**P**	**13 08 45.7**	**+1.4**
	comp=N,13nm,0.9s						
WTTA	**Wattenberg**	**23.52**	**124**	*e*P	**P**	**13 08 44.3**	**-0.9**
	comp=N,12nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**23.59**	**127**	P	**P**	**13 08 46.6**	**+0.6**
EUNU	**Eureka**	**23.65**	**336**	P	**P**	**13 08 47.7**	**+1.6**
EUNU				IAmb	IAmb	13 08 56.6	
	comp=Z,20nm,1.3s						
VRAC	**Vranov**	**23.69**	**114**	P	**P**	**13 08 47.0**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=338,slow=11,SNR=4.4						
VRAC	**Vranov**	**23.69**	**114**	P	**P**	**13 08 47.0**	**+0.3**
MORC	**Moravsky Berou**	**23.69**	**112**	P	**P**	**13 08 47.1**	**+0.4**
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MORC	**Moravsky Berou**	**23.69**	**112**	P	**P**	**13 08 47.1**	**+0.4**
MOA	**Molln**	**23.99**	**119**	*e*P	**P**	**13 08 50.2**	**+0.6**
	comp=Z,3.1nm,0.9s						
OJC	**Ojcow**	**24.26**	**109**	*e*P	**P**	**13 08 52.7**	**+0.7**
ABTA	**Abfaltersbach**	**24.28**	**123**	*e*P	**P**	**13 08 52.5**	**+0.2**
	comp=Z,3.8nm,0.9s						
KBA	**Koelnbreinsper**	**24.30**	**122**	*e*P	**P**	**13 08 53.5**	**+0.9**
	comp=Z,5.1nm,1.1s						
CONA	**Conrad Observa**	**24.53**	**117**	*e*P	**P**	**13 08 54.2**	**-0.4**
	comp=Z,6.1nm,1.0s						
CTI	**Castel Tesino**	**24.57**	**125**	P	**P**	**13 08 55.7**	**+0.7**
CTI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTI	**Castel Tesino**	**24.57**	**125**	P	**P**	**13 08 55.7**	**+0.7**
CIMO	**Cimolais**	**24.62**	**124**	P	**P**	**13 08 56.4**	**+1.0**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**	**13 08 56.2**	**0.0**
MODS				pmax	pmax		
	comp=Z,16nm,1.3s						
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**	**13 08 56.2**	**0.0**
MYKA	**Terra Mystica**	**24.79**	**122**	*e*P	**P**	**13 08 57.0**	**+0.1**
	comp=Z,1.3nm,0.4s						
PRED	**Cave del Predi**	**24.92**	**122**	P	**P**	**13 08 58.7**	**+0.6**
PRED				IAmb	IAmb	13 09 07.3	
	comp=Z,12nm,1.3s						
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P	**P**	**13 08 59.4**	**+1.0**
LANS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P	**P**	**13 08 59.4**	**+1.0**
ARSA	**Arzberg**	**24.96**	**118**	*e*P	**P**	**13 08 56.8**	**-1.6**
	comp=Z,6.3nm,1.1s						
NIE	**Niedzica**	**25.09**	**109**	*e*P	**P**	**13 08 59.7**	**+0.2**
OBKA	**Obir**	**25.22**	**121**	*e*P	**P**	**13 08 59.8**	**-1.0**
	comp=Z,6.5nm,1.1s						
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**	**13 09 02.2**	**+1.4**
VYHS				pmax	pmax		
	comp=Z,11nm,1.2s						
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**	**13 09 02.2**	**+1.4**
SOKA	**Soboth**	**25.26**	**120**	*e*P	**P**	**13 09 02.0**	**+0.9**
	comp=Z,6.4nm,1.3s						
KLMR	**Klimovskoe**	**25.58**	**72**	*e*P	**P**	**13 09 03.2**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,25nm,1.5s						
KLMR	**Klimovskoe**	**25.58**	**72**	*e*P	**P**	**13 09 03.3**	**-0.6**
KLMR				AMP		13 09 07.3	
	comp=Z,25nm,1.5s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	*e*P	**P**	**13 09 07.7**	**+0.8**
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**13 09 07.8**	**+0.9**
KWP				pmax	pmax		
	comp=Z,32nm,1.2s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**13 09 07.8**	**+0.9**
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**13 09 07.9**	**-0.3**
	comp=Z,8.9nm,0.9s,baz=31,slow=11,SNR=5.1						
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**13 09 08.6**	**+0.4**
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**13 09 09.7**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,17nm,1.3s						
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**13 09 09.7**	**+0.8**
PSZ				IAmb	IAmb	13 09 15.3	
	comp=Z,17nm,1.3s						
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**	**13 09 10.9**	**+0.7**
KOLS				pmax	pmax		
	comp=Z,12nm,1.2s						
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**	**13 09 10.9**	**+0.7**
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**13 09 10.8**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=349,slow=9.0,SNR=11						
UZH	**Uzhgorod**	**26.52**	**108**	*e*P	**P**	**13 09 14.6**	**+2.2**
UZH				*e*		13 09 19.3	
AKASG	**Malin Array Be**	**27.83**	**98**	P	**P**	**13 09 24.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=321,slow=10,SNR=4.4						
AKBB	**Malin Array Si**	**27.83**	**98**	*ce*P	**P**	**13 09 23.6**	**-0.6**
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
OBN	**Obninsk**	**27.87**	**84⇑**	*e*P	**P**	**13 09 24.8**	**+0.3**
OBN				*PP	**sP**	**13 09 28.0**	**-0.1**
OBN				*SP	**pP**	**13 09 31.0**	**+3.9**
OBN				pmax	pmax		
	comp=Z,16nm,0.5s						
BUR08	**Bucovina Ar. S**	**28.49**	**106**	P	**P**	**13 09 30.3**	**+0.1**
BURAR	**Bucovina Array**	**28.52**	**106**	P	**P**	**13 09 31.4**	**+0.9**
MLR	**Muntele Rosu**	**30.52**	**108**	P	**P**	**13 09 48.7**	**+0.4**
MLR				pmax	pmax		
	comp

BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**13 10 58.0 +0.9**
	comp=Z,2.2nm,0.8s,baz=314,slow=7.9,SNR=9.0					
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**13 10 58.0 +0.9**
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**13 10 56.9 -0.2**
KIV	**Kislovodsk**	**38.83**	**92**	*eP*	**P**	**13 11 01.9 +1.9**
KIV				pmax	pmax	
	comp=Z,22nm,1.1s					
SHA1	**Shidzhatmaz**	**38.99**	**93**	*i* P	**P**	**13 11 02.9 +1.4**
KBZ	**Khabaz**	**39.10**	**93**	P	**P**	**13 11 04.2 +2.1**
	comp=Z,5.8nm,0.9s,baz=314,slow=12,SNR=7.8					
KBZ	**Khabaz**	**39.10**	**93**	*ceP*	**P**	**13 11 04.0 +1.9**
KBZ				pmax	pmax	
	comp=Z,5.0nm,0.9s					
PAL	**Palisades**	**39.65**	**261**	P	**P**	**13 11 07.4 +0.7**
PAL				pmax	pmax	
	comp=Z,46nm,1.5s					
PAL	**Palisades**	**39.65**	**261**	P	**P**	**13 11 07.4 +0.7**
AKAS	**Kas**	**39.82**	**112**	P	**P**	**13 11 09.2 +0.8**
ZEI	**Tsey**	**40.30**	**92**	*eP*	**P**	**13 11 13.0 +0.7**
ZEI				pmax	pmax	
	comp=Z,4.0nm,1.2s					
ABKAR	**Akbulak array**	**41.97**	**73**	P	**P**	**13 11 25.7 0.0**
TIXI	**Tiksi**	**42.01**	**15**	*ceP*	**P**	**13 11 26.5 +0.7**
TIXI	**Tiksi**	**42.01**	**15**	P	**P**	**13 11 27.5 +1.8**
TOLK	**Toolik Lake Re**	**42.73**	**336**	P	**P**	**13 11 33.5 +1.7**
TOLK				IAmb	IAmb	13 11 35.2
	comp=Z,18nm,1.1s					
BRVK	**Borovoye**	**43.11**	**62**	*ceP*	**P**	**13 11 35.5 +0.5**
BRVK				pmax	pmax	
	comp=Z,15nm,2.5s					
BRVK	**Borovoye**	**43.11**	**62**	P	**P**	**13 11 36.0 +1.0**
COLD	**Coldfoot**	**44.10**	**336**	P	**P**	**13 11 44.2 +1.4**
N49A	**Columbus Grove**	**44.12**	**271**	P	**P**	**13 11 43.7 +0.5**
P52A	**Corning**	**44.30**	**268**	P	**P**	**13 11 46.1 +1.4**
DAWY	**Dawson**	**44.69**	**328**	P	**P**	**13 11 48.0 +0.4**
DAWY				IAmb	IAmb	13 11 50.3
	comp=Z,7.5nm,1.2s					
IL31		**45.67**	**332**	P	**P**	**13 11 56.2 +0.9**
IL31				IAmb	IAmb	13 11 58.9
	comp=Z,7.2nm,1.2s					
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**13 11 57.2 +1.9**
	comp=Z,4.2nm,1.1s,baz=25,slow=6.0,SNR=20					
ILAR				PcP	**PcP**	**13 13 33.7 +0.6**
	comp=Z,1.8nm,1.0s,baz=5.9,slow=3.0,SNR=6.7					
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**13 11 56.4 +1.1**
MDM	**Murphy Dome**	**45.77**	**333**	P	**P**	**13 11 57.2 +1.1**
MDM				IAmb	IAmb	13 12 00.9
	comp=Z,14nm,1.3s					
COLA	**College**	**45.77**	**333**	*i* P	**P**	**13 11 57.1 +1.1**
COLA				pmax	pmax	
	comp=Z,13nm,1.3s					
COLA	**College**	**45.77**	**333**	P	**P**	**13 11 57.4 +1.4**
ZAA0	**Zalesovo Array**	**47.61**	**51**	P	**P**	**13 12 10.9 +0.3**
ZAA0				IAmb	IAmb	13 12 12.5
	comp=Z,8.3nm,1.4s					
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**13 12 10.9 +0.3**
	comp=Z,1.2nm,0.6s,baz=330,slow=8.6,SNR=6.9					
ZALV	**Zalesovo Beam**	**47.61**	**51**	*i* P	**P**	**13 12 11.8 +1.2**
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.5s					
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**13 12 10.7 +0.1**
KURK	**Kurchatov**	**48.09**	**58**	*ceP*	**P**	**13 12 14.3 -0.1**
KURK				pmax	pmax	
	comp=Z,10.0nm,1.0s					
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**13 12 14.8 +0.4**
LAO	**LASA Array**	**48.60**	**293**	P	**P**	**13 12 19.6 +1.1**
LAO				IAmb	IAmb	13 12 21.6
	comp=Z,6.7nm,1.0s					
T47A	**Sharon Grove**	**48.65**	**270**	P	**P**	**13 12 19.5 +0.6**
EGMT	**Eagleton**	**48.88**	**297**	P	**P**	**13 12 20.9 +0.3**
V48A	**Smith Brothers**	**49.58**	**269**	P	**P**	**13 12 24.7 -1.3**
GCMT	**Greycliff**	**50.69**	**295**	P	**P**	**13 12 35.3 +0.8**
RLMT	**Red Lodge**	**51.09**	**295**	P	**P**	**13 12 38.1 +0.5**
RLMT				IAmb	IAmb	13 12 40.0
	comp=Z,12nm,1.4s					
KK31	**Karatay Array**	**51.26**	**70**	P	**P**	**13 12 39.3 +0.6**
KK31				pmax	pmax	
	comp=Z,6.0nm,1.1s					
KK31	**Karatay Array**	**51.26**	**70**	P	**P**	**13 12 39.2 +0.6**
KK31				IAmb	IAmb	13 12 43.7
	comp=Z,5.6nm,1.1s					
KKAR	**Karatay Array**	**51.26**	**70**	P	**P**	**13 12 39.1 +0.5**
KKAR				pmax	pmax	
	comp=Z,6.0nm,1.1s					
KKAR	**Karatay Array**	**51.26**	**70**	P	**P**	**13 12 38.9 +0.2**
KKAR	**Karatay Array**	**51.26**	**70**	P	**P**	**13 12 39.1 +0.5**
KKAR				IAmb	IAmb	13 12 43.7
	comp=Z,5.6nm,1.1s					
NEW	**Newport**	**51.42**	**303**	LR	LR	13 34 04.7
	comp=Z,61nm,18.9s,baz=40,slow=36					
YNE	**Yellowstone No**	**51.47**	**295**	P	**P**	**13 12 40.0 -0.5**
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**13 12 40.3 -1.1**
BOZ				pmax	pmax	
	comp=Z,9.0nm,1.1s					
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**13 12 40.3 -1.1**
BOZ				IAmb	IAmb	13 12 43.7
	comp=Z,8.6nm,1.1s					
YMP	**Mirror Lake Pl**	**51.76**	**295**	P	**P**	**13 12 43.7 +1.0**
DGZ	**Jazzator, Alta**	**52.05**	**53**	*i* P	**P**	**13 12 43.7 -1.0**
DGZ				pmax	pmax	
	comp=Z,7.0nm,1.1s					
YHL	**Hebgen Lake**	**52.06**	**296**	P	**P**	**13 12 46.1 +1.1**
MK31	**Makanchi Array**	**52.70**	**58**	*ceP*	**P**	**13 12 49.5 +0.1**
MK31	**Makanchi Array**	**52.70**	**58**	P	**P**	**13 12 49.3 0.0**
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**13 12 49.6 +0.3**
	comp=Z,2.5nm,0.9s,baz=324,slow=6.0,SNR=16					
MKAR	**Makanchi Array**	**52.70**	**58**	*i* P	**P**	**13 12 50.2 +0.8**
MKAR				pmax	pmax	
	comp=Z,3.0nm,0.9s					
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**13 12 49.8 +0.5**
IMW	**Indian Meadow**	**52.77**	**295**	P	**P**	**13 12 51.0 +0.8**
MOOW	**Moose Ponds**	**52.82**	**295**	P	**P**	**13 12 50.9 +0.3**
LOHW	**Long Hollow**	**52.88**	**295**	P	**P**	**13 12 50.6 -0.3**
TOA0	**Torodi Ar. Sit**	**53.16**	**156**	P	**P**	**13 12 52.6 -0.4**
TOA0				IAmb	IAmb	13 12 53.8
	comp=Z,7.1nm,1.1s					
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**13 12 51.9 -1.1**
	comp=Z,3.5nm,1.1s,baz=342,slow=6.5,SNR=9.7					
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**13 12 52.5 -0.5**
BW06	**Boulder Array**	**53.18**	**293**	P	**P**	**13 12 53.2 0.0**
BW06				IAmb	IAmb	13 12 54.5
	comp=Z,7.1nm,1.1s					
PD31	**Pinedale Array**	**53.18**	**293**	P	**P**	**13 12 53.3 +0.1**
PD31				IAmb	IAmb	13 12 54.5
	comp=Z,7.1nm,1.1s					
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**13 12 53.3 +0.1**
	comp=Z,3.3nm,1.0s,baz=56,slow=5.6,SNR=15					
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**13 12 52.9 -0.3**
REDW	**Red Top Meadow**	**53.19**	**295**	P	**P**	**13 12 53.9 +0.7**
REDW				IAmb	IAmb	13 12 55.6
	comp=Z,7.5nm,1.3s					
AAK	**Ala-Archa**	**53.24**	**67**	*ceP*	**P**	**13 12 55.0 +1.5**
AAK				pmax	pmax	
	comp=Z,25nm,1.3s					
N23A	**Red Feather La**	**53.31**	**289**	P	**P**	**13 12 54.6 +0.4**
N23A				IAmb	IAmb	13 12 56.6
	comp=Z,10nm,1.1s					
BOOM	**Boomskoye usch**	**53.93**	**66**	P	**P**	**13 12 59.9 +1.2**
BOOM				pmax	pmax	
	comp=Z,7.0nm,1.3s					
BOOM	**Boomskoye usch**	**53.93**	**66**	P	**P**	**13 12 59.9 +1.2**
BOOM				IAmb	IAmb	13 13 01.6
	comp=Z,7.4nm,1.2s					
BTK	**Batken**	**53.94**	**72**	P	**P**	**13 12 59.9 +1.3**
BTK				pmax	pmax	
	comp=Z,24nm,1.3s					
BTK	**Batken**	**53.94**	**72**	P	**P**	**13 12 59.9 +1.3**
CHGR	**Chuyangaron**	**54.45**	**74**	P	**P**	**13 13 02.9 +0.6**
G08A	**Pilot Rock**	**54.61**	**302**	P	**P**	**13 13 04.4 +0.9**
GAR	**Garm**	**54.63**	**73**	P	**P**	**13 13 04.4 +0.7**
HWUT	**Hardware Ranch**	**54.95**	**294**	P	**P**	**13 13 06.7 +0.6**
WMOK	**Wichita Mounta**	**55.55**	**279**	P	**P**	**13 13 11.1 +0.8**
WMOK				pmax	pmax	
	comp=Z,7.0nm,1.3s					
WMOK	**Wichita Mounta**	**55.55**	**279**	P	**P**	**13 13 11.1 +0.8**
WMOK				IAmb	IAmb	13 13 13.8
	comp=Z,7.4nm,1.2s					
ZAK	**Zakamensk**	**56.43**	**41**	*eP*	**P**	**13 13 17.2 +0.7**
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.2s					
KSH	**Kashi**	**56.48**	**68**	P	**P**	**13 13 18.8 +1.8**
KSH				S	S	**13 21 07.8 -0.4**
KSH				pmax	pmax	
	comp=Z,18nm,1.4s					
KSH				pmax	pmax	
	comp=Z,72nm,3.6s					
KSH				LR	LR	
	comp=N,130nm,5.3s					
KSH				LR	LR	
	comp=E,150nm,5.0s					
KSH				LR	LR	
	comp=Z,410nm,7.1s					
PV15	**Paradox Valley**	**56.51**	**289**	P	**P**	**13 13 17.9 +0.5**
PV15				IAmb	IAmb	13 13 19.2
	comp=Z,6.5nm,1.2s					
PV21	**Cone Mtn., Par**	**56.52**	**290**	P	**P**	**13 13 18.0 +0.6**
PV21				IAmb	IAmb	13 13 19.6
	comp=Z,6.1nm,1.2s					
DUG	**Dugway, Tooele**	**56.65**	**294**	P	**P**	**13 13 19.4 +1.1**
DUG				pmax	pmax	
	comp=Z,4.0nm,1.2s					
DUG	**Dugway, Tooele**	**56.65**	**294**	P	**P**	**13 13 19.4 +1.1**
PV12	**Saucer Basin,**	**56.66**	**290**	P	**P**	**13 13 18.6 +0.2**
PV12				IAmb	IAmb	13 13 37.0
	comp=Z,5.4nm,1.2s					
SRU	**San Rafael Swe**	**56.67**	**292**	P	**P**	**13 13 18.3 -0.2**
SRU				pmax	pmax	
	comp=Z,5.0nm,1.1s					
SRU	**San Rafael Swe**	**56.67**	**292**	P	**P**	**13 13 18.3 -0.2**
PV14	**Lion Creek, Pa**	**56.70**	**290**	P	**P**	**13 13 19.5 +0.7**
PV14				IAmb	IAmb	13 13 20.4
	comp=Z,5.2nm,0.9s					
PV16	**Nyswonger Mesa**	**56.71**	**290**	P	**P**	**13 13 17.8 -1.0**
PV16				IAmb	IAmb	13 13 29.2
	comp=Z,6.9nm,1.2s					
PV01	**Paradox Valley**	**56.72**	**289**	P	**P**	**13 13 17.7 -1.2**
PV01				IAmb	IAmb	13 13 21.5
	comp=Z,7.3nm,1.1s					
PV02	**Paradox Valley**	**56.73**	**290**	P	**P**	**13 13 19.1 +0.1**
PV02				IAmb	IAmb	13 13 20.9
	comp=Z,9.3nm,1.1s					
PV03	**Paradox Valley**	**56.73**	**290**	P	**P**	**13 13 19.5 +0.6**
PV03				IAmb	IAmb	13 13 20.8
	comp=Z,7.6nm,1.1s					
PV17	**East Wray Mesa**	**56.75**	**290**	P	**P**	**13 13 19.3 +0.2**
PV17				IAmb	IAmb	13 13 21.0
	comp=Z,12nm,1.3s					
PV18	**Skein Mesa, Pa**	**56.76**	**290**	P	**P**	**13 13 19.9 +0.7**
PV18				IAmb	IAmb	13 13 21.1
	comp=Z,8.4nm,1.0s					
PV13	**Radium Mtn., P**	**56.80**	**290**	P	**P**	**13 13 20.1 +0.7**
ELK	**Elko**	**57.12**	**296**	LR	LR	13 37 07.5
	comp=Z,73nm,18.4s,baz=48,slow=35					
WMQ	**Urumqi**	**57.21**	**56**	*eP*	**P**	**13 13 24.9 +2.9**
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**13 13 27.3 +0.5**
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**13 13 27.2 +0.5**
MVU	**Marysvale**	**57.87**	**293**	P	**P**	**13 13 27.8 +0.8**
PSUT	**Pine Spring**	**58.49**	**294**	P	**P**	**13 13 32.5 +1.2**
DBIC	**Dimbokro**	**58.61**	**165**	P	**P**	**13 13 31.8 -0.2**
	comp=Z,6.0nm,1.0s,baz=0.0,slow=7.1,SNR=3.1					
ZEA	**Zeya**	**58.81**	**24**	*eP*	**P**	**13 13 34.4 +1.4**
ZEA				pmax	pmax	
	comp=Z,10.0nm,3.0s					
BNM	**Barren Site**	**59.35**	**285**	P	**P**	**13 13 35.9 -1.5**
KNB	**Kanab**	**59.39**	**292**	P	**P**	**13 13 37.4 -0.2**
KNB				pmax	pmax	
	comp=Z,7.0nm,1.4s					
KNB	**Kanab**	**59.39**	**292**	P	**P**	**13 13 37.4 -0.2**
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**13 13 38.4 -0.4**
	comp=Z,1.3nm,0.9s,baz=333,slow=7.0,SNR=5.9					
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**13 13 39.0 +0.1**
SONM				pmax	pmax	
	comp=Z,3.0nm,1.2s					
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**13 13 39.0 +0.1**
JCT	**Junction City**	**59.66**	**278**	P	**P**	**13 13 38.8 -0.5**
JCT				pmax	pmax	
	comp=Z,9.0nm,1.0s					
JCT	**Junction City**	**59.66**	**278**	P	**P**	**13 13 38.8 -0.5**
KVN	**Kaiserville**	**59.68**	**298**	P	**P**	**13 13 40.0 +0.5**
KVN				pmax	pmax	
	comp=Z,4.0nm,1.1s					
KVN	**Kaiserville**	**59.68**	**298**	P	**P**	**13 13 40.0 +0.5**
KVN				IAmb	IAmb	13 13 42.2
	comp=Z,4.5nm,1.1s					
U15A	**North Rim**	**59.69**	**291**	P	**P**	**13 13 39.8 0.0**
U15A				IAmb	IAmb	13 13 41.1
	comp=Z,4.0nm,1.0s					
ULN	**Ulaanbaatar**	**59.77**	**40**	*ceP*	**P**	**13 13 40.9 +0.9**
ULN				pmax	pmax	
	comp=Z,12nm,2.5s					
WUAZ	**Wupatki**	**60.11**	**290**	P	**P**	**13 13 43.2 +0.7**
YERR	**Yerington**	**60.17**	**298**	P	**P**	**13 13 43.6 +0.7**
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**13 13 44.6 +0.8**
	comp=Z,0.4nm,0.5s,baz=58,slow=5.6,SNR=4.8					
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**13 13 43.0 -0.8**
NIL	**Nilore**	**60.43**	**74**	P	**P**	**13 13 45.0 +0.5**
NIL				pmax	pmax	
	comp=Z,30nm,1.5s					
NIL	**Nilore**	**60.43**	**74**	P	**P**	**13 13 45.0 +0.5**
MNTX	**Cornudas Mount**	**60.96**	**283**	P	**P**	**13 13 48.5 +0.4**
MNTX				IAmb	IAmb	13 13 49.7
	comp=Z,5.8nm,1.3s					
X16A	**Lo Mia Camp, P**	**61.09**	**290**	P	**P**	**13 13 49.5 +0.3**
X16A				IAmb	IAmb	13 13 51.8
	comp=Z,6.2nm,1.2s					
TX31	**Lajitas Ar. Si**	**62.29**	**280**	P	**P**	**13 13 57.6 +0.3**
TX32	**Lajitas Array**	**62.29**	**280**	P	**P**	**13 13 57.3 0.0**
TX32				IAmb	IAmb	13 14 00.5
	comp=Z,4.1nm,1.4s					
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**13 13 56.9 -0.3**
	comp=Z,1.8nm,1.0s,baz=66,slow=4.4,SNR=9.7					
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**13 13 57.4 +0.2**
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**13 13 57.4 +0.2**
TUC	**Tucson**	**62.66**	**288**	P	**P**	**13 14 00.5 +0.8**
TUC				pmax	pmax	
	comp=Z,8.0nm,1.4s					
TUC	**Tucson**	**62.66**	**288**	P	**P**	**13 14 00.5 +0.8**
TUC				IAmb	IAmb	13 14 02.6
	comp=Z,8.1nm,1.4s					
PFO	**Pinyon Flats O**	**63.80**	**293**	LR	LR	13 41 42.4
	comp=Z,83nm,21.7s,baz=348,slow=36					
HHC	**Hu-ho-hao-te**	**67.48**	**40**	*eP*	**P**	**13 14 33.3 +2.4**
HHC				pmax	pmax	
	comp=Z,16nm,0.9s					
HHC				pmax	pmax	
	comp=Z,180nm,6.1s					
LZH	**Lanzhou**	**69.60**	**48**	*eP*	**P**	**13 14 44.3 0.0**
LZH				pP	sP	13 14 48.3 +0.2
LZH				sP	pP	13 14 50.6 +3.5
LZH				pmax	pmax	
	comp=Z,15nm,0.9s					
NJ2	**Nanjing**	**77.71**	**37**	*eP*	**P**	**13 15 33.6 +1.9**
NJ2				pmax	pmax	
	comp=Z,17nm,0.5s					
CHTO	**Chiang Mai**	**83.78**	**59**	P	**P**	**13 16 03.5 -0.9**
CHTO				pmax	pmax	
	comp=Z,6.0nm,1.1s					
CHTO	**Chiang Mai**	**83.78**	**59**	P	**P**	**13 16 03.5 -0.9**
CHTO				IAmb	IAmb	13 16 05.7
	comp=Z,5.9nm,1.1s					
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**13 16 06.2 +0.2**
	comp=Z,2.0nm,0.9s,baz=315,slow=6.9,SNR=11					
CMAR	**Chiang Mai Arr**	**84.11**	**59**	*i* P	**P**	**13 16 06.5 +0.4**
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**13 16 06.1 0.0**
WRA	**Warramunga Arr**	**131.50**	**36**	PKP	**PKiKP**	**13 22 49.1 +0.6**
	comp=Z,0.7nm,1.0s,baz=331,slow=2.0,SNR=4.0					
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKPdf**	**13 22 53.7 -0.2**
	comp=Z,0.9nm,0.9s,baz=340,slow=2.0,SNR=6.7					

*RSPR **14** 13:04:34.5, 19°.24N×68°.23W, h67km±9km, MD3.5/14*
*OSPL **14** 13:04:38.9±2.2, 18°.37N×68°.29W, h50km, ML3.1*

ISC 14 13:04:32.3±1.2, 19°.15N±0°.08×68°.24W±0°.03, h10km, n53, σ0.97/65, 11C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.65**	**192**	⇓*eP*		**Pg**	**13 04 45.3**	**+0.5**
PCDR	**Punta Cana, DR**	**0.65**	**192**			**Pg**	**13 04 45.3**	**+0.5**
PCDR	**Punta Cana, DR**	**0.65**	**192**	*i* P		**Pg**	**13 04 45.3**	**+0.5**
PCDR				*eS*		**Sg**	**13 04 51.8**	**-1.4**
DR12	**Loma Pena Alta**	**1.14**	**252**			**Pg**	**13 04 53.6**	**-0.5**
AGPR	**Aguadilla, PR**	**1.27**	**122**	⇑*eP*		**Pn**	**13 04 56.3**	**+0.3**
AGPR	**Aguadilla, PR**	**1.27**	**122**	*eS*		**Sb**	**13 05 13.3**	**+0.7**
AGPR	**Aguadilla, PR**	**1.27**	**122**			**Sb**	**13 05 13.3**	**+0.7**
AGPR	**Aguadilla, PR**	**1.27**	**122**			**Pn**	**13 04 56.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.27**	**122**	*i* P		**Pn**	**13 04 56.4**	**+0.4**
AGPR				*eS*		**Sb**	**13 05 12.5**	**-0.1**
AGPR				IAML			13 05 15.7	
	comp=Z,365nm,0.2s							
MPR	**Mayaguez**	**1.40**	**132**			**Pn**	**13 04 57.4**	**-0.4**
LSP	**Las Mesas**	**1.46**	**131**	⇑*eP*		**Pn**	**13 04 58.9**	**+0.1**
LSP	**Las Mesas**	**1.46**	**131**	*eS*		**Sn**	**13 05 17.3**	**-0.7**
LSP	**Las Mesas**	**1.46**	**131**			**Sn**	**13 04 58.9**	**+0.1**
LSP						**Sn**	**13 05 17.3**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.56**	**136**	⇑*eP*		**Pn**	**13 04 59.7**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.56**	**136**	*eS*		**Sn**	**13 05 18.5**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.56**	**136**			**Pn**	**13 04 59.7**	**-0.4**
CRPR						**Sn**	**13 05 18.5**	**-1.9**
AOPR	**Arecibo Observ**	**1.62**	**119**	⇑*eP*		**Pn**	**13 05 00.2**	**-0.7**
AOPR	**Arecibo Observ**	**1.62**	**119**	*eS*		**Sn**	**13 05 21.6**	**-0.2**
AOPR	**Arecibo Observ**	**1.62**	**119**			**Pn**	**13 05 00.2**	**-0.7**
AOPR						**Sn**	**13 05 21.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.63**	**136**	⇑*eP*		**Pn**	**13 05 00.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.63**	**136**			**Pn**	**13 05 00.7**	**-0.4**
SDD	**Santo Domingo**	**1.73**	**247**	*i* P		**Pn**	**13 05 02.0**	**-0.3**
SDD				*eS*		**Sn**	**13 05 22.1**	**-2.4**
SDD				IAML			13 05 24.2	
	comp=Z,61nm,0.5s							
GBPR	**Guanica, Bosqu**	**1.74**	**132**	⇑*eP*		**Pn**	**13 05 03.1**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.74**	**132**	*eS*		**Sn**	**13 05 24.6**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.74**	**132**			**Pn**	**13 05 03.1**	**+0.6**
GBPR						**Sn**	**13 05 24.6**	**-0.2**
EMPR	**Esperanza - Ma**	**1.75**	**112**	⇓*eP*		**Pn**	**13 05 02.7**	**0.0**
EMPR	**Esperanza - Ma**	**1.75**	**112**	*eS*		**Sn**	**13 05 24.2**	**-0.9**
EMPR	**Esperanza - Ma**	**1.75**	**112**			**Pn**	**13 05 02.7**	**0.0**
EMPR						**Sn**	**13 05 24.2**	**-0.9**
OBIP	**Obispado Ponce**	**1.90**	**125**	⇓*eP*		**Pn**	**13 05 04.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.90**	**125**	*eS*		**Sn**	**13 05 28.4**	**-0.4**
OBIP	**Obispado Ponce**	**1.90**	**125**			**Pn**	**13 05 04.9**	**+0.2**
OBIP						**Sn**	**13 05 28.4**	**-0.4**
CELP	**Cerrillos**	**1.90**	**124**	⇓*eP*		**Pn**	**13 05 05.5**	**+0.7**
CELP	**Cerrillos**	**1.90**	**124**	*eS*		**Sn**	**13 05 28.4**	**-0.4**
CELP	**Cerrillos**	**1.90**	**124**			**Pn**	**13 05 05.5**	**+0.7**
CELP						**Sn**	**13 05 28.4**	**-0.4**
ICMP	**Isla Caja de M**	**2.05**	**127**	⇑*eP*		**Pn**	**13 05 07.2**	**+0.3**
ICMP	**Isla Caja de M**	**2.05**	**127**	*eS*		**Sn**	**13 05 32.2**	**-0.4**
ICMP	**Isla Caja de M**	**2.05**	**127**			**Pn**	**13 05 07.2**	**+0.3**
ICMP						**Sn**	**13 05 32.2**	**-0.4**
BANI	**BANI**	**2.14**	**250**	Pn		**Pn**	**13 05 08.2**	**0.0**
GCPR	**Guaynabo City**	**2.21**	**112**	Pn		**Pn**	**13 05 09.4**	**+0.4**
SJG	**San Juan**	**2.23**	**117**			**Pn**	**13 05 09.3**	**0.0**
IGPR	**InterUniversit**	**2.34**	**120**	⇑*eP*		**Pn**	**13 05 11.9**	**+0.4**
IGPR	**InterUniversit**	**2.34**	**120**	*eS*		**Sn**	**13 05 39.5**	**-0.1**
SC01	**Santiago de lo**	**2.37**	**277**	*i* P		**Pb**	**13 05 17.3**	**+2.3**
SC01				IAML			13 05 57.6	
	comp=Z,93nm,0.3s							
PDPR	**Patillas Dam,**	**2.38**	**118**			**Pn**	**13 05 10.4**	**-1.0**
CBYP	**Canovanas**	**2.42**	**111**	⇑*eP*		**Pn**	**13 05 11.2**	**-0.8**
CBYP	**Canovanas**	**2.42**	**111**	*eS*		**Sn**	**13 05 39.7**	**-2.0**
CBYP	**Canovanas**	**2.42**	**111**			**Sn**	**13 05 39.7**	**-2.0**
CBYP	**Canovanas**	**2.42**	**111**			**Pn**	**13 05 10.8**	**-1.2**
HUMP	**Col San Antoni**	**2.48**	**113**	⇑*eP*		**Pn**	**13 05 12.2**	**-0.5**
HUMP	**Col San Antoni**	**2.48**	**113**	*eS*		**Sn**	**13 05 40.2**	**-2.8**
HUMP	**Col San Antoni**	**2.48**	**113**			**Pn**	**13 05 12.2**	**-0.5**
HUMP						**Sn**	**13 05 40.2**	**-2.8**
MTP	**Monte Pirata**	**2.75**	**112**	⇑*eP*		**Pn**	**13 05 15.9**	**-0.7**
MTP	**Monte Pirata**	**2.75**	**112**			**Pn**	**13 05 15.9**	**-0.7**

*SKO **14** 13:15:35.8, 41°.87N×21°.81E, h12km*
*BEO **14** 13:15:36.6±0.3, 41°.94N×21°.79E, h5km±2km, ML2.2/8*
*TIR **14** 13:15:37.6, 41°.87N×21°.59E, h7km±1km, ML2.7*
*THE **14** 13:15:38.0, 41°.45N×21°.64E, h14km±2km, ML2.2/2, Error ellipse: s-maj=14.8km s-min=0.3km az=196.0*

ISC 14 13:15:36.5±0.9, 41°.91N±0°.03×21°.80E±0°.02, h14km±8km, n35, σ0.98/52, 8C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.27**	**283**	*eP*g		**Pg**	**13 15 41.7**	**-0.6**
SKO				*eS*g		**Sg**	**13 15 45.8**	**-0.4**
SKO	**Skopje**	**0.27**	**283**	*i* Pg		**Pg**	**13 15 41.8**	**-0.6**
SKO				*i* Sg		**Sg**	**13 15 46.0**	**-0.3**
STIP	**Stip**	**0.36**	**127**	⇑*i*Pg		**Pb**	**13 15 45.4**	**+0.6**
STIP				*i*

comp=Z,3.5nm,0.5s
DPC Dobruska-Polom 1.10 175 *e*PG Pg 13 19 55.9 -0.3
DPC *e*SG Sg 13 20 10.8 +0.3
KRLC Kraliky 1.43 164 *e*PG Pn 13 20 01.3 -1.0
KRLC *e*SG Sg 13 20 20.8 -0.1
comp=Z,1.4nm,0.2s

*IDC **14** 13:22:46.1±2.1,6˚.87N×93˚.26E, h0km,mb3.5/5,mb1 3.6/6, mb1mx3.5/37,mbtmp3.5/6,ML4.0/1,MS3.1/1,Ms1 3.1/1, ms1mx2.6/39,Error ellipse: s-maj=85.2km s-min=20.9km az=60.0*
ISC 14 13:22:51.3±1.9, 6˚.9N±0˚.2×93˚.3E±0˚.3, h35km, n10, σ0s97/6, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.75**	**25**	Pn	**Pn**	**13 25 50.4**	**+0.2**
	0.2nm,0.3s,baz=218,slow=15,SNR=4.4						
H08S3	**Diego Garcia H**	**25.27**	**236**	T	T	13 55 08.3	
	baz=55,slow=75,SNR=57						
H08S2	**Diego Garcia H**	**25.27**	**236**	T	T	13 55 11.7	
	baz=55,slow=75,SNR=39						
H08S1	**Diego Garcia H**	**25.29**	**236**	T	T	13 55 11.4	
	baz=55,slow=75,SNR=17						
MKAR	**Makanchi Array**	**40.87**	**348**	P	**P**	**13 30 29.3**	**-0.5**
	0.6nm,0.5s,baz=160,slow=7.7,SNR=6.1						
KSRS	**Korea Array**	**43.76**	**41**	LR	LR	13 52 56.1	
	comp=Z,23nm,18.5s,baz=145,slow=41						
KURBB	**Kurchatov Arra**	**45.30**	**347**	P	**P**	**13 31 06.3**	**+0.7**
	0.5nm,0.3s,baz=174,slow=7.1,SNR=13						
ZALV	**Zalesovo Beam**	**47.42**	**353**	P	**P**	**13 31 21.5**	**-0.6**
	0.5nm,0.3s,baz=171,slow=10,SNR=4.2						
WRA	**Warramunga Ar**	**48.40**	**124**	P	**P**	**13 31 29.4**	**-0.9**
	0.1nm,0.5s,baz=306,slow=8.6,SNR=3.5						
ASAR	**Alice Springs**	**49.95**	**129**	P	**P**	**13 31 43.0**	**+0.9**
	0.3nm,0.8s,baz=301,slow=7.7,SNR=3.0						

WEL 14 13:22:54.0,41˚S±2˚×17˚3E±˚, h112km±4km, M2.7/22, MLv2.7/22, Error ellipse: s-maj=0.0km s-min=0.0km az=87.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.02**	**272**	P	Pn	13 23 09.3	0.0
TUWZ	**Tuamarina**	**0.46**	**118**	P	Pn	13 23 11.4	+0.6
DUWZ	**D'Urville Isla**	**0.57**	**43**	P	Pn	13 23 12.1	+0.6
BSWZ	**Blackbirch Sta**	**0.61**	**145**	P	Pn	13 23 12.6	+0.8
TCW	**Tory Channel**	**0.66**	**90**	P	Pn	13 23 13.0	+0.8
THZ	**Tophouse**	**0.66**	**214**	P	Pn	13 23 12.5	+0.2
QRZ	**Quartz Range**	**0.77**	**300**	P	Pn	13 23 12.4	-0.8
WEL	**Wellington**	**1.03**	**94**	P	Pn	13 23 16.2	+0.6
BHW	**Baring Head**	**1.12**	**100**	P	Pn	13 23 17.0	+0.5
KIW	**Kapiti Island**	**1.19**	**73**	P	Pn	13 23 17.9	+0.5
KHZ	**Kahutara**	**1.20**	**175**	P	Pn	13 23 18.3	+0.8
CAW	**Cannon Point**	**1.26**	**86**	P	Pn	13 23 18.5	+0.3
DSZ	**Denniston Nort**	**1.31**	**246**	P	Pn	13 23 18.7	-0.1
OGWZ	**Otaki Gorge**	**1.39**	**74**	P	Pn	13 23 20.1	+0.4
MSWZ	**Moikau Station**	**1.40**	**99**	P	Pn	13 23 20.1	+0.4
PLWZ	**Palliser**	**1.44**	**105**	P	Pn	13 23 20.6	+0.4
PAWZ	**Paruwai Farm**	**1.53**	**97**	P	Pn	13 23 21.5	+0.2
HOWZ	**Holdsworth Sta**	**1.63**	**79**	P	Pn	13 23 22.5	0.0
MRZ	**Mangatainoka R**	**1.74**	**72**	P	Pn	13 23 23.6	-0.2
GVZ	**Greta Valley S**	**1.77**	**189**	P	Pn	13 23 24.7	+0.4
PREZ	**Palmer Road**	**1.96**	**17**	P	Pn	13 23 27.8	+1.2
NEZ	**North Egmont**	**2.02**	**15**	P	Pn	13 23 27.9	+0.5
PKE	**Pukeiti**	**2.07**	**13**	P	Pn	13 23 28.9	+0.9
INZ	**Inchbonnie**	**2.10**	**224**	P	Pn	13 23 28.2	-0.2
BFZ	**Birch Farm**	**2.22**	**77**	P	Pn	13 23 29.5	-0.4
VRZ	**Vera Road**	**2.33**	**27**	P	Pn	13 23 32.5	+1.2
MQZ	**McQueen's Vall**	**2.55**	**192**	P	Pn	13 23 33.6	-0.5
MHCZ	**Mount Hutt**	**2.68**	**210**	P	Pn	13 23 35.7	-0.2
RTZ	**Ruatahuna**	**3.78**	**48**	P	Pn	13 23 51.4	+0.9
TKGZ	**Te Karaka**	**4.40**	**52**	P	Pn	13 24 03.3	+4.5

*IDC **14** 13:28:48.4±1.0,21˚.29S×67˚.82W, h140km±17km, mb3.6/1, mb1 3.4/4, mb1mx3.0/40, mbtmp3.8/4, Error ellipse: s-maj=40.9km s-min=10.6km az=104.0*
*GUC **14** 13:28:49.3±0.8,21˚.28S×68˚.22W, h172km±5km, ML3.5*
ISC 14 13:28:49.5±1.0, 21˚.28S±0˚.04×68˚.2W±0˚.1, h165km±10km, n26, σ0s67/45, 12C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.07**	**241**	⇑*i*P	**Pn**	**13 29 16.6**	**+0.1**
PB09				*i* S	**Sn**	**13 29 37.8**	**+0.5**
PB01	**IPOC Station P**	**1.20**	**281**	*e*P	**Pn**	**13 29 17.3**	**-0.2**
PB01				*i* S	**Sn**	**13 29 38.7**	**-0.3**
PB01				IAML		13 29 40.9	
	comp=E,495nm,0.1s						
PB08	**IPOC Station P**	**1.43**	**322**	⇑*i*P	**Pn**	**13 29 20.2**	**+0.2**
PB08				*i* S	**Sn**	**13 29 43.6**	**+0.3**
PB08				IAML		13 29 45.2	
	comp=N,438nm,0.6s						
LVC	**Limon Verde**	**1.47**	**206**	P	**Pn**	**13 29 19.5**	**-0.8**
	comp=N,34nm,0.3s,baz=28,slow=8.1,SNR=224						
LVC				S	**Sn**	**13 29 43.1**	**-0.9**
	comp=N,21nm,0.3s,baz=250,slow=21,SNR=30						
LVC	**Limon Verde**	**1.47**	**206**	*e*P	**Pn**	**13 29 19.5**	**-0.8**
PB02	**IPOC Station P**	**1.56**	**268**	⇑*i*P	**Pn**	**13 29 21.1**	**+0.2**
PB02				*i* S	**Sn**	**13 29 45.2**	**+0.1**
PB07	**IPOC Station P**	**1.61**	**254**	⇑*i*P	**Pn**	**13 29 21.7**	**+0.2**
PB07				*i* S	**Sn**	**13 29 46.1**	**0.0**
PB07				IAML		13 29 47.7	
	comp=E,493nm,0.3s						
PB03	**IPOC Station P**	**1.61**	**242**	⇑*i*P	**Pn**	**13 29 21.4**	**-0.1**
PB03				*i* S	**Sn**	**13 29 46.0**	**-0.2**
PB03				IAML		13 29 47.6	
	comp=N,392nm,0.2s						
GO01	**Chusmiza**	**1.84**	**330**	⇑*i*P	**Pn**	**13 29 24.5**	**+0.1**
GO01				*e*S	**Sn**	**13 29 51.6**	**+0.4**
PATCX	**Punta Patache**	**1.86**	**284**	*e*P	**Pn**	**13 29 24.5**	**+0.4**
PATCX				*i* S	**Sn**	**13 29 50.5**	**-0.2**
PB06	**IPOC Station P**	**1.89**	**221**	⇑*i*P	**Pn**	**13 29 24.2**	**-0.3**
PB06				*i* S	**Sn**	**13 29 51.3**	**-0.2**
PB06				IAML		13 29 53.9	
	comp=E,278nm,0.2s						
TA01	**Diego Aracena**	**1.96**	**291**	⇑*i*P	**Pn**	**13 29 25.0**	**-0.1**
TA01				*e*S	**Sn**	**13 29 52.2**	**-0.4**
TA01				IAML		13 29 53.1	
	comp=E,661nm,0.3s						
PB11	**IPOC Station P**	**2.02**	**318**	⇑*i*P	**Pn**	**13 29 25.9**	**-0.1**
PB11				*i* S	**Sn**	**13 29 54.0**	**-0.2**
PB04	**IPOC Station P**	**2.07**	**239**	*e*P	**Pn**	**13 29 26.7**	**+0.1**
PB04				*i* S	**Sn**	**13 29 54.7**	**-0.4**
PB04				IAML		13 29 57.1	
	comp=N,252nm,0.2s						
PB15	**IPOC Station P**	**2.24**	**211**	⇑*i*P	**Pn**	**13 29 28.6**	**+0.1**
PB15				*i* S	**Sn**	**13 29 58.9**	**+0.2**
PB05	**IPOC Station P**	**2.41**	**229**	⇑*i*P	**Pn**	**13 29 30.5**	**+0.1**
PB05				*i* S	**Sn**	**13 30 01.1**	**-1.0**
PB05				IAML		13 30 02.5	
	comp=E,135nm,0.4s						
PSGC	**Pisagua**	**2.44**	**313**	*e*P	**Pn**	**13 29 30.1**	**-0.7**
PSGC				*i* S	**Sn**	**13 30 01.7**	**-1.1**
MNMC	**Minye Minye**	**2.50**	**329**	⇑*i*P	**Pn**	**13 29 31.9**	**+0.2**
MNMC				*i* S	**Sn**	**13 30 04.3**	**0.0**
PB10	**IPOC Station P**	**3.09**	**224**	*e*P	**Pn**	**13 29 38.1**	**-0.5**
PB16	**IPOC Station P**	**3.17**	**337**	*e*P	**Pn**	**13 29 40.8**	**+0.6**
PB16				*i* S	**Sn**	**13 30 19.9**	**+0.4**
PB12	**IPOC Station P**	**3.31**	**323**	*e*P	**Pn**	**13 29 40.1**	**-1.4**
PB12				*i* S	**Sn**	**13 30 20.6**	**-1.3**
LPAZ	**La Paz**	**4.97**	**1**	P	**Pn**	**13 30 03.9**	**+0.5**
	comp=E,2.5nm,0.3s,baz=166,slow=5.4,SNR=32						
LPAZ				S	**Sn**	**13 30 59.0**	**-2.2**
	comp=E,0.1nm,0.3s,baz=260,slow=18,SNR=3.0						
SIV	**San Ignacio**	**8.58**	**53**	P	Pn	13 30 45.3	-5.5
	comp=E,0.9nm,0.3s,baz=254,slow=12,SNR=21						
SIV				S	Sn	13 32 13.7	-13
	comp=E,0.3nm,0.3s,baz=130,slow=22,SNR=11						
PLCA	**Paso Flores**	**19.49**	**185**	P	**P**	**13 33 04.7**	**+0.7**
	comp=E,0.1nm,0.3s,baz=351,slow=11,SNR=6.4						
TORD	**Torodi Ar. Bea**	**76.68**	**70**	P	**P**	**13 40 22.4**	**-0.5**
	comp=E,0.8nm,0.5s,baz=257,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**145.08**	**36**	PKP	**PKPab**	**13 48 08.5**	**+1.2**
	comp=E,0.5nm,0.7s,baz=318,slow=5.1,SNR=4.5						

IDC 14 13:37:32.9±424.0, 68˚.00N×43˚.32E, h0km, Error ellipse: s-maj=180.1km s-min=35.4km az=107.0, Baltic

States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**9.09**	**288**	*i*		14 34 40.0	
	baz=85,slow=319,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**19.09**	**150**	*i*		15 37 30.0	
	baz=342,slow=321,SNR=0.6						
I34MN	**SONGINO INFRAS**	**36.96**	**90**	*i*		17 35 10.0	
	baz=324,slow=331,SNR=1.3						

*IDC **14** 13:39:03.7±5.9,6˚.50S×154˚.53E, h58km±42km, mb3.6/5, mb1 3.9/6, mb1mx3.5/36, mbtmp4.0/6, ML2.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/31, Error ellipse: s-maj=47.0km s-min=18.0km az=94.0*
*NEIC **14** 13:39:04.1±1.5,6˚.5S±0˚.1×154˚.6E±0˚.2, h68km±9km, mb4.2/9, Error ellipse: s-maj=24.8km s-min=12.1km az=121.0*
ISC 14 13:39:01.8±1.1, 6˚.49S±0˚.09×154˚.7E±0˚.1, h48km, n21, σ1s11/24, mb4.1/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.40**	**312**	Pn	**Pn**	**13 39 53.8**	**+1.3**
KRVT	**Keravat (AS076**	**3.43**	**309**	P	**Pn**	**13 39 53.8**	**+0.9**
	48nm,0.3s,baz=190,slow=1.9,SNR=70						
KRVT				S	**Sn**	**13 40 31.3**	**-1.0**
	34nm,0.3s,baz=114,slow=20,SNR=8.2						
HNR	**Honiara**	**5.96**	**120**	LR	LR	13 42 48.6	
	comp=Z,136nm,21.0s,baz=278,slow=37						
PMG	**Port Moresby**	**8.01**	**248**	P	**Pn**	**13 40 56.6**	**+0.8**
	5.5nm,0.3s,baz=65,slow=8.3,SNR=22						
PMG				S	**Sn**	**13 42 26.6**	**+1.6**
	2.4nm,0.3s,baz=17,slow=20,SNR=4.3						
MANU	**Manus Island**	**8.54**	**301**	Pn	**Pn**	**13 41 02.5**	**-0.5**
WR0	**Warramunga Arr**	**23.72**	**234**	P	**P**	**13 44 08.8**	**-1.0**
WR0				IAmb	IAmb	13 44 10.3	
	comp=Z,8.4nm,0.8s						
WB0	**Warramunga Ar**	**23.74**	**234**	P	**P**	**13 44 09.2**	**-0.7**
WRAB	**Tennant Creek**	**23.86**	**234**	P	**P**	**13 44 10.6**	**-0.4**
WB2	**Warramunga Ar**	**23.86**	**234**	P	**P**	**13 44 10.5**	**-0.5**
WB2				IAmb	IAmb	13 44 12.0	
	comp=Z,8.8nm,1.1s						
WRA	**Warramunga Arr**	**23.87**	**234**	P	**P**	**13 44 10.4**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=57,slow=9.5,SNR=51						
WRA				PcP	**PcP**	**13 47 53.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=58,slow=2.3,SNR=16						
WRA	**Warramunga Arr**	**23.87**	**234**	P	**P**	**13 44 10.3**	**-0.9**
ASAR	**Alice Springs**	**26.30**	**227**	P	**P**	**13 44 31.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=58,slow=8.6,SNR=12						
ASAR				PcP	**PcP**	**13 47 59.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=71,slow=2.8,SNR=4.8						
KNRA	**Kununurra**	**27.01**	**248**	P	**P**	**13 44 37.8**	**-1.8**
KNRA				IAmb	IAmb	13 44 45.9	
	comp=Z,14nm,1.5s						
FITZ	**Fitzroy Crossi**	**30.59**	**245**	P	**P**	**13 45 09.3**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=71,slow=9.7,SNR=5.2						
FITZ	**Fitzroy Crossi**	**30.59**	**245**	P	**P**	**13 45 09.7**	**-1.7**
FITZ				IAmb	IAmb	13 45 37.0	
	comp=Z,6.8nm,1.5s						
SSLB	**Suanglung**	**44.61**	**314**	P	**P**	**13 47 10.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.30**	**295**	P	**P**	**13 49 07.1**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=124,slow=5.1,SNR=4.1						
SVW2	**Sparrevohn**	**77.64**	**22**	P	**P**	**13 50 53.3**	**+0.3**
MKAR	**Makanchi Array**	**82.83**	**319**	P	**P**	**13 51 21.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=104,slow=5.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**152.61**	**286**	PKPbc	**PKPbc**	**13 58 53.7**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=60,slow=2.3,SNR=10						
TORD	**Torodi Ar. Bea**	**152.61**	**286**		**PKPbc**	**13 58 53.5**	**-0.7**

*DJA **14** 13:47:22.4±0.6,8˚.S±4˚×14˚.8E±˚, h48km±8km, M4.7/15, mb4.7/15, mB4.9/5, MLv5.0/2, Mw(mB)4.2/5, Mwp5.4/1*
*IDC **14** 13:47:22.5±1.3,7˚.66S×147˚.75E, h58km±13km, mb4.1/14, mb1 4.2/17, mb1mx4.1/31, mbtmp4.4/17, MS3.5/9, Ms1 3.4/9, ms1mx3.2/26, Error ellipse: s-maj=16.7km s-min=9.0km az=117.0*
*NEIC **14** 13:47:23.0±1.3,7˚.68S±0˚.07×147˚.71E±0˚.09, h64km±6km, mb4.7/54, Error ellipse: s-maj=14.0km s-min=8.3km az=115.0*
ISC 14 13:47:21.8±0.4, 7˚.69S±0˚.05×147˚.66E±0˚.06, h50km, n106, σ1s33/106, mb4.7/39, MS3.4/6, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.77**	**196**	P	**Pn**	**13 47 52.1**	**+2.0**
	254nm,0.3s,baz=38,slow=5.5,SNR=156						
PMG				S	**Sn**	**13 48 14.1**	**+2.7**
	123nm,0.3s,baz=119,slow=8.4,SNR=7.5						
PMG				LR	LR	13 48 29.9	
	comp=Z,264nm,20.7s,baz=41,slow=37						
KRVT	**Keravat (AS076**	**5.49**	**52**	P	**Pn**	**13 48 41.1**	**+0.1**
	26nm,0.3s,baz=107,slow=1.8,SNR=9.3						
KRVT				S	**Sn**	**13 49 41.8**	**-1.1**
	14nm,0.3s,baz=188,slow=19,SNR=3.7						
RABL	**Rabaul**	**5.67**	**52**		**Pn**	**13 48 43.5**	**0.0**
COEN	**Coen**	**7.63**	**215**	Pn	**Pn**	**13 49 11.5**	**+1.1**
JAY	**Jayapura**	**8.63**	**306**	LR	LR	13 53 30.4	
	comp=Z,371nm,18.4s,baz=116,slow=42						
CTA	**Charters Tower**	**12.40**	**186**	P	**Pn**	**13 50 18.5**	**+2.8**
	2.1nm,0.3s,baz=2.6,slow=14,SNR=9.1						
SAUI	**Saumlaki**	**16.21**	**268**	Pn	**Pn**	**13 51 06.2**	**-0.2**
MTN	**Manton Dam**	**17.05**	**251**	Pn	**Pn**	**13 51 13.9**	**-2.9**
WB0	**Warramunga Ar**	**17.60**	**226**		**Pn**	**13 51 23.4**	**-0.2**
WR0	**Warramunga Ar**	**17.62**	**225**		**Pn**	**13 51 24.0**	**+0.1**
SIJI	**Sorong**	**17.69**	**292**	LR	LR	14 00 56.0	
	comp=Z,91nm,18.5s,baz=148,slow=46						
WRAB	**Tennant Creek**	**17.74**	**225**	P	**Pn**	**13 51 25.2**	**-0.1**
WB2	**Warramunga Arr**	**17.74**	**225**		**Pn**	**13 51 25.6**	**+0.2**
WRA	**Warramunga Arr**	**17.75**	**225**	P	**Pn**	**13 51 25.8**	**+0.3**
	1.2nm,0.3s,baz=52,slow=12,SNR=54						
WRA				S	**Sn**	**13 54 37.4**	**-5.2**
	0.1nm,0.3s,baz=41,slow=23,SNR=5.7						
WRA				LR	LR	13 58 41.4	
	comp=Z,129nm,19.4s,baz=230,slow=38						
WRA	**Warramunga Arr**	**17.75**	**225**		**Pn**	**13 51 25.5**	**+0.1**
EIDS	**Eidsvold**	**17.88**	**170**	P	**P**	**13 51 27.9**	**+0.8**
KNRA	**Kununurra**	**20.12**	**245**	P	**P**	**13 51 51.5**	**-0.2**
KNRA				IAmb	IAmb	13 51 58.7	
	comp=Z,36nm,0.9s						
SANVU	**Saraoutou**	**20.62**	**114**	P	**P**	**13 51 57.6**	**+0.4**
SANVU				IAmb	IAmb	13 51 58.8	
	comp=Z,38nm,0.6s						
AS31	**Alice Springs**	**20.65**	**218**	P	**P**	**13 51 58.2**	**+0.8**
AS31				IAmb	IAmb	13 52 05.4	
	comp=Z,8.1nm,0.3s						
ASAR	**Alice Springs**	**20.65**	**218**	P	**P**	**13 51 58.7**	**+1.2**
	comp=Z,12nm,0.7s,baz=51,slow=9.5,SNR=97						
ASAR				S	**S**	**13 55 37.9**	**-7.7**
	comp=Z,0.5nm,0.9s,baz=39,slow=17,SNR=2.3						
ASAR				ScP	**ScP**	**13 59 37.9**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=39,slow=4.7,SNR=3.5						
ASAR	**Alice Springs**	**20.65**	**218**	P	**P**	**13 51 58.0**	**+0.5**
GUMO	**Guam**	**21.32**	**353**	LR	LR	14 00 31.8	
	comp=Z,62nm,18.3s,baz=210,slow=37						
ARMA	**Armidale**	**22.91**	**171**	P	**P**	**13 52 21.1**	**-0.5**
DZM	**Mont Dzumac**	**23.06**	**130**	P	**P**	**13 52 22.3**	**-0.9**
	comp=Z,9.6nm,0.8s,baz=264,slow=8.2,SNR=7.3						
DZM	**Mont Dzumac**	**23.06**	**130**	P	**P**	**13 52 22.7**	**-0.5**
DZM				IAmb	IAmb	13 52 39.0	
	comp=Z,43nm,1.5s						
FITZ	**Fitzroy Crossi**	**23.80**	**242**	P	**P**	**13 52 29.7**	**-0.5**
	comp=Z,5.6nm,0.4s,baz=70,slow=7.3,SNR=29						
FITZ	**Fitzroy Crossi**	**23.80**	**242**	P	**P**	**13 52 29.5**	**-0.7**
BATI	**Baumata**	**23.84**	**262**	LR	LR	14 03 43.6	
	comp=Z,470nm,18.2s,baz=106,slow=41						
STKA	**Stephens Creek**	**24.72**	**192**	P	**P**	**13 52 38.5**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=358,slow=11,SNR=17						
STKA				LR	LR	14 03 23.1	
	comp=Z,61nm,19.8s,baz=25,slow=39						
STKA	**Stephens Creek**	**24.72**	**192**	P	**P**	**13 52 38.6**	**+0.1**
BBOO	**Buckleboo**	**27.22**	**202**	P	**P**	**13 52 59.3**	**-1.7**
BBOO				IAmb	IAmb	13 53 25.1	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**29.39**	**216**	P	**P**	**13 53 20.1**	**-0.3**
FORT				IAmb	IAmb	13 53 40.3	
	comp=Z,18nm,0.9s						
TOO	**Toolangi**	**29.81**	**183**	P	**P**	**13 53 24.1**	**0.0**
TOO				IAmb	IAmb	13 53 38.7	
	comp=Z,26nm,1.4s						
MORW	**Morawa**	**36.57**	**230**	P	**P**	**13 54 23.5**	**+0.4**
MORW				IAmb	IAmb	13 54 38.4	
	comp=Z,11nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**37.75**	**224**	P	**P**	**13 54 33.3**	**+0.3**
	comp=Z,7.0nm,0.9s,baz=38,slow=7.8,SNR=3.6						
NWAO	**Narrogin (SRO)**	**37.75**	**224**	P	**P**	**13 54 33.3**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.75**	**224**	IAmb	IAmb	13 54 36.0	
	comp=Z,29nm,1.4s						
NNZ	**Nelson**	**40.45**	**150**	P	**P**	**13 54 56.0**	**+0.6**
TPUB	**Ta-pu**	**40.59**	**320**	P	**P**	**13 54 56.1**	**-0.7**
NACB	**Ninganchiao**	**40.63**	**322**	P	**P**	**13 54 56.4**	**-0.7**
NACB				IAmb	IAmb	13 55 03.0	
	comp=Z,17nm,0.8s						
THZ	**Tophouse**	**40.63**	**151**	P	**P**	**13 54 56.8**	**-0.2**
THZ				IAmb	IAmb	13 55 00.4	
	comp=Z,14nm,0.8s						
BKZ	**Black Stump Fm**	**40.66**	**145**	P	**P**	**13 54 56.7**	**-0.5**
BKZ				IAmb	IAmb	13 55 14.9	
	comp=Z,24nm,1.4s						
BSWZ	**Blackbirch Sta**	**41.07**	**150**	P	**P**	**13 55 00.8**	**+0.3**
LTZ	**Lake Taylor**	**41.11**	**152**	P	**P**	**13 55 01.4**	**+0.4**
YHNB	**Yeheng**	**41.13**	**322**	P	**P**	**13 55 00.8**	**-0.5**
RPZ	**Rata Peaks**	**41.31**	**154**	P	**P**	**13 55 02.7**	**+0.3**
	comp=Z,6.4nm,0.6s,baz=11,slow=5.2,SNR=4.2						
RPZ	**Rata Peaks**	**41.31**	**154**	P	**P**	**13 55 02.5**	**0.0**
RPZ				IAmb	IAmb	13 55 04.5	
	comp=Z,37nm,1.4s						
KHZ	**Kahutara**	**41.43**	**151**	P	**P**	**13 55 03.1**	**-0.4**
LBZ	**Lake Benmore**	**41.48**	**156**	P	**P**	**13 55 03.6**	**-0.4**
LBZ				IAmb	IAmb	13 55 03.9	
	comp=Z,20nm,1.2s						
MSWZ	**Moikau Station**	**41.55**	**148**	P	**P**	**13 55 04.5**	**-0.1**
BFZ	**Birch Farm**	**41.56**	**147**	P	**P**	**13 55 04.3**	**-0.3**
PLWZ	**Palliser**	**41.67**	**148**	P	**P**	**13 55 04.9**	**-0.6**
JNU	**Nakatsue**	**43.62**	**339**	P	**P**	**13 55 21.4**	**0.0**
MAJO	**Matsushiro**	**44.89**	**349**	P	**P**	**13 55 30.8**	**-0.7**
MAJO				IAmb	IAmb	13 55 40.9	
	comp=Z,32nm,1.5s						
QIZ	**Qiongzhong**	**45.77**	**306**	P	**P**	**13 55 39.8**	**+1.1**
NJ2	**Nanjing**	**48.15**	**327**	*e*P	**P**	**13 55 58.0**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	**Korea Array**	**48.56**	**339**	P	**P**	**13 56 00.3**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=158,slow=8.4,SNR=9.2						
KSRS				LR	LR	14 15 34.6	
	comp=Z,40nm,19.0s,baz=145,slow=35						
GYA	**Guiyang**	**52.29**	**312**	⇑P	**P**	**13 56 30.3**	**+1.6**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
CM31	**Chiang Mai Arr**	**54.63**	**299**	P	**P**	**13 56 47.1**	**+1.2**
CM31				IAmb	IAmb	13 56 48.3	
	comp=Z,20nm,1.4s						
CMAR	**Chiang Mai Arr**	**54.63**	**299**	P	**P**	**13 56 47.4**	**+1.5**
	comp=Z,4.0nm,0.8s,baz=122,slow=5.9,SNR=22						
CMAR	**Chiang Mai Arr**	**54.63**	**299**	P	**P**	**13 56 46.9**	**+1.0**
CHTO	**Chiang Mai**	**54.78**	**299**	P	**P**	**13 56 47.6**	**+0.7**
CHTO				IAmb	IAmb	13 56 49.0	
	comp=Z,3.7nm,0.7s						
XAN	**Xi'an**	**55.40**	**321**	P	**P**	**13 56 52.3**	**+1.1**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,160nm,3.8s						
XAN	**Xi'an**	**55.40**	**321**	P	**P**	**13 56 52.0**	**+0.8**
XAN				IAmb	IAmb	13 56 53.7	
	comp=Z,4.9nm,0.6s						
CD2	**Chengdu**	**56.92**	**315**	P	**P**	**13 57 03.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
PBA	**Port Blair**	**57.91**	**289**	P	P	13 57 09.8	+0.5
HHC	**Hu-ho-hao-te**	**58.61**	**328**	*e*P	**P**	**13 57 14.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,230nm,5.3s						
LZH	**Lanzhou**	**59.92**	**320**	*e*P	**P**	**13 57 24.4**	**+1.3**
LZH				pP	sP	13 57 40.8	-1.8
LZH				sP	pP	13 57 46.9	+10
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
SHL	**Shillong**	**63.49**	**303**	P	**P**	**13 57 47.9**	**+0.5**
CASY	**Casey**	**63.81**	**196**	P	**P**	**13 57 48.4**	**-0.1**
CASY				IAmb	IAmb	13 58 16.0	

comp=Z,3.9nm,0.7s,baz=43,slow=4.5,SNR=4.9

*IDC **14** 14:12:24.4±3.1,0.°63N×98.°60E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/47, mbtmp3.7/5, Error ellipse: s-maj=138.9km s-min=21.0km az=58.0*
*DJA **14** 14:12:30.2±1.0, 1.°N±6.°×9.°8E±.°, h14km±9km, M3.0/6, MLv3.0/6*

ISC 14 14:12:31.3±1.3, 0.°7N±0.°1×98.°0E±0.°1, h35km, n12, σ1§30/8, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.76**	**324**	P	**Pn**	**14 12 45.7**	**+0.2**
GSI				S	**Sn**	**14 12 56.7**	**+1.0**
MNSI	**Mandailing Nat**	**1.57**	**86**	P	**Pn**	**14 12 57.5**	**+0.9**
SISI	**Saibi**	**2.27**	**152**	P	**Pn**	**14 13 07.0**	**+0.7**
TPTI		**2.69**	**342**	P	**Pn**	**14 13 13.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**17.69**	**3**	P	**Pn**	**14 16 33.1**	**-1.9**
	baz=189,slow=9.8,SNR=2.3						
H08S2	**Diego Garcia H**	**26.76**	**252**	T	T	14 45 14.6	
	baz=74,slow=74,SNR=96						
H08S3	**Diego Garcia H**	**26.77**	**252**	T	T	14 45 16.9	
	baz=74,slow=74,SNR=213						
H08S1	**Diego Garcia H**	**26.78**	**252**	T	T	14 45 19.8	
	baz=74,slow=74,SNR=89						
WRA	**Warramunga Ar**	**41.07**	**122**	P	P	14 20 05.8	-6.1
	0.4nm,0.7s,baz=302,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**42.44**	**127**	P	P	14 20 17.1	-6.0
	0.5nm,0.8s,baz=294,slow=7.9,SNR=8.0						
MKAR	**Makanchi Array**	**47.94**	**345**	P	**P**	**14 21 06.2**	**-0.1**
	1.4nm,0.5s,baz=160,slow=8.9,SNR=11						
ZALV	**Zalesovo Beam**	**54.20**	**350**	P	**P**	**14 21 52.6**	**-0.6**
	1.5nm,0.4s,baz=165,slow=6.5,SNR=8.1						

*IDC **14** 14:19:49.8±1.7, 5.°96S×150.°92E, h57km±15km, mb3.5/5, mb1 3.8/6, mb1mx3.4/31, mbtmp3.8/6, MS2.6/1, Ms1 2.6/1, ms1mx2.4/26, Error ellipse: s-maj=71.8km s-min=8.3km az=131.0*

ISC 14 14:19:48.1±0.9, 5.°1S±0.°2×150.°2E±0.°2, h35km, n9, σ1§47/10, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.01**	**66**	P	**Pn**	**14 20 19.3**	**-0.3**
	26nm,0.3s,baz=199,slow=4.1,SNR=19						
KRVT				S	**Sn**	**14 20 45.2**	**+1.7**
	107nm,0.3s,baz=87,slow=22,SNR=11						
PMG	**Port Moresby**	**5.19**	**215**	P	**Pn**	**14 21 05.3**	**+2.0**
	1.0nm,0.3s,baz=355,slow=5.7,SNR=4.5						
PMG				S	**Sn**	**14 22 00.5**	**-1.6**
	4.4nm,0.3s,baz=78,slow=22,SNR=11						
HNR	**Honiara**	**10.57**	**114**	LR	LR	14 25 47.4	
	comp=Z,38nm,20.9s,baz=236,slow=37						
WRA	**Warramunga Arr**	**21.31**	**225**	P	**P**	**14 24 31.9**	**-0.3**
	1.2nm,0.5s,baz=53,slow=10,SNR=32						
ASAR	**Alice Springs**	**24.20**	**219**	P	**P**	**14 25 00.2**	**-1.4**
	2.1nm,0.7s,baz=57,slow=9.0,SNR=38						
FITZ	**Fitzroy Crossi**	**27.22**	**240**	P	**P**	**14 25 30.7**	**+1.7**
	1.2nm,0.7s,baz=96,slow=7.6,SNR=7.3						
ILAR	**Eielson Array**	**83.47**	**23**	P	**P**	**14 32 12.1**	**+0.2**
	0.4nm,0.7s,baz=241,slow=4.9,SNR=5.1						
NVAR	**Mina Array Bea**	**94.34**	**52**	P	**P**	**14 33 03.9**	**-0.8**
	0.3nm,0.6s,baz=240,slow=8.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.93**	**287**	PKPbc	**PKiKP**	**14 39 32.1**	**-0.6**
	1.7nm,0.6s,baz=64,slow=3.3,SNR=10						

*DDA **14** 14:29:15.2, 37.°75N×27.°17E, h7km±3km, ML2.2*
*ISK **14** 14:29:15.7, 37.°76N×27.°23E, h16km, ML2.7/7*
*THE **14** 14:29:15.8, 37.°75N×27.°18E, h5km±2km, ML2.3/2, Error ellipse: s-maj=2.9km s-min=0.7km az=194.0*
*ATH **14** 14:29:16.9, 37.°72N×27.°09E, h17km±3km, ML2.4/3, Error ellipse: s-maj=6.0km s-min=1.6km az=258.0*

ISC 14 14:29:15.5±1.1, 37.°72N±0.°03×27.°16E±0.°03, h6km±11km, n23, σ0§67/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.25**	**269**	P	**Pb**	**14 29 21.4**	**-1.1**
SMG				S	**Sb**	**14 29 25.8**	**-1.3**
	902nm,0.3s						
SMG	**Samos**	**0.25**	**269**	P	**Pb**	**14 29 21.3**	**-1.1**
SMG				S	**Sb**	**14 29 25.8**	**-1.3**
SMG				AML	AML	14 29 28.0	
	comp=N,1558μm,0.3s						
SMG				AML	AML	14 29 28.1	
	comp=E,2251μm,0.3s						
DGB	**zmir**	**0.40**	**327**	*i* P	**Pg**	**14 29 23.3**	**0.0**
DGB				IAML		14 29 28.0	
	comp=N,130nm,0.1s						
DGB				*i* S	**Sg**	**14 29 28.4**	**-0.1**
AYDN	**Tasoluk**	**0.58**	**95**	*i* P	**Pg**	**14 29 26.7**	**+0.1**
AYDN				*i* S	**Sg**	**14 29 34.5**	**+0.4**
AYDN				IAML		14 29 39.0	
	comp=E,210nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**0.62**	**68**	PG	**Pg**	**14 29 27.1**	**-0.5**
AYDB				SG	**Sg**	**14 29 35.4**	**-0.3**
MLSB	**Milas**	**0.65**	**130**	PG	**Pb**	**14 29 29.1**	**-0.1**
BODT	**Bodrum**	**0.66**	**169**	P	**Pb**	**14 29 29.0**	**-0.5**
BLCB	**Balcova**	**0.68**	**352**	P	**Pg**	**14 29 28.3**	**-0.2**
BLCB	**Balcova**	**0.68**	**352**	PG	**Pg**	**14 29 28.8**	**+0.3**
BLCB				SG	**Sg**	**14 29 38.4**	**+1.1**
BDRM	**Kayabasi**	**0.69**	**160**	*i* P	**Pb**	**14 29 29.2**	**-0.7**
BDRM				*i* S	**Sb**	**14 29 39.9**	**+0.2**
URLA	**Izmir**	**0.78**	**326**	PG	**Pg**	**14 29 31.1**	**+0.6**
URLA				SG	**Sb**	**14 29 42.6**	**+0.2**
URLA	**Izmir**	**0.78**	**326**	*i* P	**Pg**	**14 29 30.4**	**-0.1**
URLA				*i* S	**Sb**	**14 29 43.4**	**+1.0**
URLA				IAML		14 29 45.0	
	comp=N,137nm,0.9s						
KOSK	**Kos Island**	**0.97**	**188**	PG	**Pn**	**14 29 35.9**	**+0.3**
KOSK				SG	**Sn**	**14 29 50.7**	**+1.0**
DAT	**Datca**	**1.04**	**161**	PG	**Pn**	**14 29 36.5**	**-0.2**
DAT	**Datca**	**1.04**	**161**	*i* P	**Pn**	**14 29 37.3**	**+0.6**
YER	**Yerkesik**	**1.07**	**123**	PG	**Pn**	**14 29 36.1**	**-0.9**
CHOS	**Chios island**	**1.10**	**308**	P	**Pg**	**14 29 36.5**	**-0.1**
CHOS				S	**Sb**	**14 29 51.8**	**+0.3**
	comp=N,188nm,0.4s						
CHOS	**Chios island**	**1.10**	**308**	P	**Pn**	**14 29 37.3**	**-0.2**
CHOS				S	**Sb**	**14 29 51.3**	**-0.2**
CHOS				AML	AML	14 29 53.2	
	comp=E,451μm,0.5s						
CHOS				AML	AML	14 29 55.4	
	comp=N,319μm,0.3s						
CHOS	**Chios island**	**1.10**	**308**	PN	**Pb**	**14 29 36.9**	**0.0**
ZEDA	**zmir-Bergama**	**1.25**	**357**	*i* P	**Pn**	**14 29 39.1**	**-0.3**
ZEDA				*i* S	**Sb**	**14 29 56.1**	**+0.3**
ZEDA				IAML		14 29 57.0	
	comp=N,98nm,0.7s						
APE	**Apeiranthos**	**1.45**	**244**	P	**Pg**	**14 29 43.2**	**0.0**
APE				S	**Sg**	**14 30 03.6**	**+1.6**
PRK	**Paraskevi**	**1.68**	**336**	P	**Pg**	**14 29 48.0**	**+0.4**
PRK				S	**Sg**	**14 30 09.6**	**+0.1**
PRK				AML	AML	14 30 14.5	
	comp=E,255μm,0.8s						
PRK				AML	AML	14 30 14.9	
	comp=N,152μm,0.5s						
SIGR	**SIGRI**	**1.81**	**326**	P	**Pb**	**14 29 48.5**	**-0.5**
SIGR				S	**Sb**	**14 30 12.0**	**+0.1**

*NEIC **14** 14:50:06.5±1.4, 1.°11N±0.°08×128.°01E±0.°06, h19km±6km, mb4.3/16, Error ellipse: s-maj=12.6km s-min=7.3km az=153.0*
*DJA **14** 14:50:06.7±0.3, 1.°N±3.°×12.°8E±.°, h10km, M4.1/13, mB5.3/2, mb4.5/6, MLv3.9/13, Mw(mB)4.7/2*
*IDC **14** 14:50:09.3±4.5, 1.°15N×128.°13E, h37km±44km, mb3.8/7, mb1 3.9/10, mb1mx3.7/38, mbtmp4.0/10, ML3.7/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/39, Error ellipse: s-maj=32.1km s-min=17.0km az=77.0*

ISC 14 14:50:07.3±0.6, 1.°12N±0.°06×128.°11E±0.°06, h23km, n61, σ1§55/59, mb4.2/15, MS3.1/3, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.82**	**245**	P	**Pb**	**14 50 20.7**	**-2.2**
TNTI				S	**Sb**	**14 50 32.8**	**-0.7**
TNTI	**Ternate**	**0.82**	**245**		**Pb**	**14 50 20.5**	**-2.4**
SGSI	**Sangihe**	**3.62**	**315**	P	**Pn**	**14 51 02.0**	**-0.1**
SIJI	**Sorong**	**3.72**	**122**	Pn	**Pn**	**14 51 04.2**	**+0.7**
	4.0nm,0.3s,baz=100,slow=15,SNR=13						
SIJI				Sn	**Sn**	**14 51 46.6**	**-0.1**
	baz=331,slow=19,SNR=2.3						
SIJI				LR	LR	14 52 36.7	
	comp=Z,300nm,19.7s,baz=214,slow=40						
SANI	**Sanana**	**3.80**	**214**	P	**Pn**	**14 51 03.4**	**-1.0**
KMSI	**Cibinong**	**4.16**	**263**	P	**Pn**	**14 51 11.4**	**+1.9**
NLAI	**Namlea**	**4.45**	**193**	P	**Pn**	**14 51 14.0**	**+0.7**
MSAI	**Masohi**	**4.51**	**170**	P	**Pn**	**14 51 17.0**	**+2.7**
GTOI	**Gorontalo**	**5.12**	**265**	P	**Pn**	**14 51 27.0**	**+4.4**
	0.1nm15nm,0.7s						
DDMP	**Don Marcelino,**	**5.50**	**334**	*eP*	**Pn**	**14 51 30.9**	**+3.1**
DDMP	**Don Marcelino,**	**5.50**	**334**	*eP*	**Pn**	**14 51 30.9**	**+3.1**
FAKI	**Fak Fak**	**5.76**	**134**	P	**Pn**	**14 51 32.0**	**+0.5**
	0.1nm28nm,1.4s						
FAKI	**Fak Fak**	**5.76**	**134**	Pn	**Pn**	**14 51 31.7**	**+0.2**
DAV	**Davao City (W)**	**6.43**	**337**	LR	LR	14 53 41.6	
	comp=Z,74nm,21.6s,baz=87,slow=33						
SKMP	**Bagumbayan, Su**	**6.44**	**327**	*eP*	**Pn**	**14 51 41.5**	**+0.8**
SKMP	**Bagumbayan, Su**	**6.44**	**327**	*eP*	**Pn**	**14 51 41.5**	**+0.8**
KCP	**Kidapawan**	**6.58**	**333**	*eP*	**Pn**	**14 51 45.4**	**+2.7**
KCP	**Kidapawan**	**6.58**	**333**	*eP*	**Pn**	**14 51 45.4**	**+2.7**
BUKP	**Musuan**	**7.37**	**336**	*eP*	**Pn**	**14 51 54.9**	**+1.3**
BUKP	**Musuan**	**7.37**	**336**	*eP*	**Pn**	**14 51 54.9**	**+1.3**
TTSI	**Tana Toraja**	**9.26**	**243**	P	**Pn**	**14 52 20.0**	**+0.5**
	1μm39nm,0.9s						
SPSI	**Sidrap Palu**	**9.75**	**239**	P	**Pn**	**14 52 28.0**	**+1.8**
	1μm92nm,0.5s						
KAPI	**Kappang**	**10.34**	**234**	Pn	**Pn**	**14 52 36.8**	**+2.5**
	1.5nm,0.3s,baz=66,slow=15,SNR=4.0						
KAPI	**Kappang**	**10.34**	**234**		**Pn**	**14 52 35.9**	**+1.6**
SOEI	**Soe**	**11.46**	**199**	Pn	**Pn**	**14 52 47.2**	**-2.6**
EDFI	**Ende, Flores**	**11.71**	**213**	P	**Pn**	**14 52 56.0**	**+2.9**
	13nm,0.9s						
BATI	**Baumata**	**12.09**	**201**	Pn	P	14 53 05.8	-5.1
	2.0nm,0.3s,baz=333,slow=4.5,SNR=4.8						
BATI				LR	LR	14 59 02.6	
	comp=Z,117nm,18.8s,baz=54,slow=44						
MTN	**Manton Dam**	**14.19**	**168**	Pn	**Pn**	**14 53 27.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.25**	**187**	P	**P**	**14 54 29.4**	**-0.8**
	0.1nm,0.3s,baz=41,slow=12,SNR=6.9						
FITZ				LR	LR	15 02 12.9	
	comp=Z,61nm,18.6s,baz=356,slow=38						
FITZ	**Fitzroy Crossi**	**19.25**	**187**	P	**P**	**14 54 29.1**	**-1.2**
KPJI	**Karang Pucung**	**20.89**	**246**	P	**P**	**14 54 50.1**	**+1.9**
	63nm,0.9s						
WB0	**Warramunga Arr**	**21.65**	**164**	P	**P**	**14 54 56.8**	**+0.5**
WRAB	**Tennant Creek**	**21.80**	**164**	P	**P**	**14 54 58.5**	**+0.6**
WRAB				IAmb	IAmb	14 55 01.8	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**21.80**	**164**	P	**P**	**14 54 58.4**	**+0.4**
	comp=Z,6.1nm,0.7s,baz=343,slow=11,SNR=58						
WRA	**Warramunga Arr**	**21.80**	**164**	P	**P**	**14 54 57.9**	**-0.1**
WB2	**Warramunga Arr**	**21.81**	**164**	P	**P**	**14 54 58.3**	**+0.3**
WB2				IAmb	IAmb	14 55 10.7	
	comp=Z,13nm,1.1s						
WC3	**Warramunga Arr**	**21.83**	**164**	P	**P**	**14 54 58.1**	**-0.2**
WR0	**Warramunga Arr**	**21.88**	**164**	P	**P**	**14 54 59.0**	**+0.3**
WR0				IAmb	IAmb	14 55 10.9	
	comp=Z,12nm,1.1s						
DBJI	**Dramaga**	**22.64**	**250**	P	P	14 55 32.1	+25
AS31	**Alice Springs**	**25.27**	**167**	P	**P**	**14 55 33.0**	**+0.9**
ASAR	**Alice Springs**	**25.27**	**167**	P	**P**	**14 55 32.8**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=353,slow=15,SNR=23						
ASAR	**Alice Springs**	**25.27**	**167**	P	**P**	**14 55 31.9**	**-0.2**
ENH	**Enshi**	**33.96**	**330**	P	**P**	**14 56 50.2**	**+1.0**
STKA	**Stephens Creek**	**35.22**	**160**	P	**P**	**14 57 01.2**	**+1.2**
	comp=Z,3.1nm,1.0s,baz=355,slow=8.6,SNR=3.3						
STKA				LR	LR	15 14 57.3	
	comp=Z,76nm,20.5s,baz=252,slow=42						
STKA	**Stephens Creek**	**35.22**	**160**	P	**P**	**14 57 00.1**	**+0.1**
KSAR	**Wonju Array Be**	**36.15**	**360**	P	**P**	**14 57 06.8**	**-1.0**
KSRS	**Korea Array**	**36.16**	**360**	P	**P**	**14 57 07.8**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=170,slow=7.6,SNR=4.1						
KSRS				LR	LR	15 11 40.2	
	comp=Z,33nm,20.0s,baz=185,slow=36						
MJAR	**Matsushiro Arr**	**36.47**	**14**	LR	LR	15 11 58.9	
	comp=Z,32nm,18.8s,baz=50,slow=36						
XAN	**Xi'an**	**37.35**	**333**	P	**P**	**14 57 17.6**	**-0.7**
SHL	**Shillong**	**42.54**	**308**	P	**P**	**14 58 02.0**	**+0.3**
SHL				IAmb	IAmb	14 58 03.4	
	comp=Z,5.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.03**	**4**	P	**P**	**14 58 05.1**	**0.0**
	comp=Z,2.8nm,0.8s,baz=188,slow=8.2,SNR=4.7						
USRK	**Ussuriysk Ar.**	**43.03**	**4**	P	**P**	**14 58 05.0**	**-0.2**
LSA	**Lhasa**	**45.20**	**313**	P	**P**	**14 58 25.1**	**+1.8**
LSA				IAmb	IAmb	14 58 25.9	
	comp=Z,6.0nm,1.1s						
ULN	**Ulaanbaatar**	**50.01**	**342**	P	**P**	**14 58 58.2**	**-1.8**
ULN				IAmb	IAmb	14 59 10.4	
	comp=Z,5.6nm,1.1s						
SONM	**Songino Array**	**50.20**	**341**	P	**P**	**14 59 00.9**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=143,slow=8.0,SNR=4.5						
SONM	**Songino Array**	**50.20**	**341**	P	**P**	**14 59 00.7**	**-0.7**
MKAR	**Makanchi Array**	**60.47**	**326**	P	**P**	**15 00 15.3**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=127,slow=8.4,SNR=8.5						
MKAR	**Makanchi Array**	**60.47**	**326**	P	**P**	**15 00 15.0**	**-0.4**
MAKZ	**Makanchi**	**60.66**	**325**	P	**P**	**15 00 14.8**	**-1.8**
MAKZ				IAmb	IAmb	15 00 39.5	
	comp=Z,2.0nm,0.9s						
YAK	**Yakutsk**	**60.77**	**1**	P	**P**	**15 00 16.1**	**-1.0**
KURK	**Kurchatov**	**64.67**	**328**	P	**P**	**15 00 42.5**	**-0.7**
KURK				IAmb	IAmb	15 00 51.0	
	comp=Z,3.7nm,0.9s						

*NEIC **14** 14:59:26.2±1.0, 23.°48N±0.°08×142.°2E±0.°2, h95km±6km, mb4.8/21, Error ellipse: s-maj=25.1km s-min=10.8km az=83.0*
*IDC **14** 14:59:26.6±1.9, 23.°54N×142.°26E, h97km±16km, mb3.8/16, mb1 3.9/17, mb1mx3.8/35, mbtmp4.1/17, MS3.1/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=19.6km s-min=12.3km az=97.0*

ISC 14 14:59:26.8±0.5, 23.°53N±0.°06×142.°2E±0.°1, h100km, n66, σ1§34/67, mb4.3/27, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.55**	**359**	P	**Pn**	**15 00 20.2**	**+0.1**
	48nm,0.3s,baz=218,slow=23,SNR=7.6						
JCJ				S	**Sn**	**15 01 00.9**	**-0.2**
	121nm,0.3s,baz=131,slow=23,SNR=14						
JCJ	**Chichijima**	**3.55**	**359**		**Pn**	**15 00 20.1**	**+0.1**
JCJ					**Sn**	**15 01 01.5**	**+0.4**
ANA2	**Anatahan**	**7.86**	**155**	Pn	**Pn**	**15 01 18.1**	**-0.5**
JGF	**Kuroka**	**12.75**	**342**	Pn	**Pn**	**15 02 23.1**	**-1.3**
JYT	**Yasato**	**12.78**	**353**	Pn	**Pn**	**15 02 20.8**	**-3.9**
MJAR	**Matsushiro Arr**	**13.43**	**346**	P	**Pn**	**15 02 29.9**	**-3.4**
	0.3nm,0.3s,baz=162,slow=10,SNR=16						
MJAR	**Matsushiro Arr**	**13.43**	**346**	P	**Pn**	**15 02 29.6**	**-3.7**
MAJO	**Matsushiro**	**13.43**	**346**	Pn	**Pn**	**15 02 31.3**	**-2.0**
JMM	**Marumori**	**14.35**	**355**	Pn	**Pn**	**15 02 42.1**	**-3.1**
KSRS	**Korea Array**	**18.53**	**322**	P	**Pn**	**15 03 38.4**	**+1.5**
	0.3nm,0.3s,baz=135,slow=12,SNR=9.3						
USRK	**Ussuriysk Ar.**	**22.27**	**340**	P	**P**	**15 04 14.5**	**-1.1**
	2.6nm,0.6s,baz=141,slow=9.8,SNR=7.3						
USRK	**Ussuriysk Ar.**	**22.27**	**340**	P	**P**	**15 04 14.4**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**23.23**	**95**	T	T	15 28 26.9	
	baz=282,slow=74,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**23.23**	**95**	T	T	15 28 24.9	
	baz=282,slow=74,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**23.25**	**95**	T	T	15 28 27.7	
	baz=282,slow=74,SNR=7.2						
SONM	**Songino Array**	**37.37**	**319**	PcP	**PcP**	**15 08 47.4**	**+0.5**
	0.3nm,0.4s,baz=187,slow=3.6,SNR=2.3						
YAK	**Yakutsk**	**39.43**	**351**	LR	LR	15 23 32.7	
	comp=Z,39nm,18.4s,baz=102,slow=37						
CMAR	**Chiang Mai Arr**	**40.61**	**271**	P	**P**	**15 06 57.8**	**+0.6**
	0.4nm,0.4s,baz=56,slow=8.8,SNR=4.2						
WB0	**Warramunga Arr**	**43.70**	**191**	P	**P**	**15 07 21.5**	**-0.6**
WR0	**Warramunga Arr**	**43.87**	**190**	P	**P**	**15 07 22.8**	**-0.6**
WR0				IAmb	IAmb	15 07 44.2	
	comp=Z,18nm,1.9s						
WB2	**Warramunga Arr**	**43.88**	**191**	P	**P**	**15 07 22.9**	**-0.7**
WRA	**Warramunga Arr**	**43.88**	**191**	P	**P**	**15 07 23.1**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=9.1,slow=8.6,SNR=68						
WRA				PcP	**PP**	**15 09 07.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=6.1,slow=3.4,SNR=5.2						
WRA				ScP	**ScP**	**15 12 49.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=1.3,slow=4.5,SNR=4.7						
WRA	**Warramunga Arr**	**43.88**	**191**	P	**P**	**15 07 23.0**	**-0.5**
ASAR	**Alice Springs**	**47.60**	**190**	P	**P**	**15 07 53.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=18,slow=11,SNR=12						
ASAR	**Alice Springs**	**47.60**	**190**	P	**P**	**15 07 52.5**	**-0.3**
TIXI	**Tiksi**	**48.75**	**354**	P	**P**	**15 08 01.4**	**+0.4**
ZALV	**Zalesovo Beam**	**52.23**	**321**	PcP	**PcP**	**15 09 37.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=98,slow=2.9,SNR=4.8						
MKAR	**Makanchi Array**	**52.82**	**312**	P	**P**	**15 08 31.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=84,slow=10,SNR=8.5						
MKAR				PcP	**PcP**	**15 09 40.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=100,slow=2.0,SNR=8.9						
STKA	**Stephens Creek**	**55.09**	**181**	P	**P**	**15 08 47.1**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=96,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**55.09**	**181**	P	**P**	**15 08 47.2**	**-1.4**
KDAK	**Kodiak Island**	**57.22**	**35**	P	**P**	**15 09 03.3**	**-0.1**
	comp=Z,1.1nm,1.1s,baz=320,slow=15,SNR=3.8						
IMAR	**Indian Mountai**	**58.22**	**26**	P	**P**	**15 09 11.9**	**+1.6**
PPLA	**Purkeypile**	**58.22**	**29**	P	**P**	**15 09 12.4**	**+1.9**
PPLA				IAmb	IAmb	15 09 37.9	
	comp=Z,28nm,1.5s						
KTH	**Kantishna Hill**	**58.91**	**29**	P	**P**	**15 09 16.0**	**+0.8**
KTH				IAmb	IAmb	15 11 04.8	
	comp=Z,30nm,1.7s						
BPAW	**Bear Paw Mtn.**	**58.97**	**28**	P	**P**	**15 09 16.2**	**+0.6**
BPAW				IAmb	IAmb	15 10 39.6	
	comp=Z,26nm,1.9s						
TRF	**Thorofare Moun**	**59.17**	**29**	P	**P**	**15 09 17.7**	**+0.6**
MDM	**Murphy Dome**	**60.28**	**27**	P	**P**	**15 09 24.7**	**+0.1**
MDM				IAmb	IAmb	15 09 34.7	
	comp=Z,26nm,1.9s						
SCM	**Sheep Creek Mo**	**60.32**	**31**	P	**P**	**15 09 24.9**	**0.0**
GLI	**Glacier Island**	**60.35**	**32**	P	**P**	**15 09 25.4**	**+0.3**
HDA	**Harding Lake**	**60.76**	**28**		**PcP**	**15 10 16.2**	**+5.5**
ILAR	**Eielson Array**	**60.83**	**28**	P	**P**	**15 09 28.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=257,slow=5.8,SNR=13						
ILAR	**Eielson Array**	**60.83**	**28**	P	**P**	**15 09 28.1**	**-0.2**
INK	**Inuvik**	**66.26**	**24**	P	**P**	**15 10 03.2**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=306,slow=8.7,SNR=3.1						
INK	**Inuvik**	**66.26**	**24**	P	**P**	**15 10 03.5**	**-0.4**
INK				IAmb	IAmb	15 10 10.7	
	comp=Z,11nm,1.6s						
ABKAR	**Akbulak array**	**67.63**	**315**	P	**P**	**15 10 13.0**	**+0.1**
ABKAR	**Akbulak array**	**67.63**	**315**	P	**P**	**15 10 13.1**	**+0.2**
EUNU	**Eureka**	**73.42**	**8**	P	**P**	**15 10 48.8**	**+1.1**
EUNU				IAmb	IAmb	15 11 30.2	
	comp=Z,24nm,1.8s						
YKA	**Yellowknife Ar**	**75.26**	**28**	P	**P**	**15 10 58.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=288,slow=5.6,SNR=3.7						
ARCES	**ARCESS Array B**	**76.91**	**341**	P	**P**	**15 11 08.6**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=79,slow=6.4,SNR=6.9						
KBZ	**Khabaz**	**80.47**	**314**	P	**P**	**15 11 29.4**	**+1.7**
	comp=Z,12nm,0.8s,baz=102,slow=4.5,SNR=35						
FIA1	**FINESS Array S**	**81.16**	**334**	P	**P**	**15 11 30.7**	**-0.4**
FIA1				IAmb	IAmb	15 12 57.8	
	comp=Z,42nm,1.8s						
FINES	**FINESS Array B**	**81.16**	**334**	P	**P**	**15 11 30.9**	**-0.2**
	comp=Z,3.5nm,0.5s,baz=89,slow=4.9,SNR=41						
FINES	**FINESS Array B**	**81.16**	**334**	P	**P**	**15 11 31.0**	**0.0**
NVAR	**Mina Array Bea**	**82.70**	**51**	P	**P**	**15 11 40.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=270,slow=5.7,SNR=4.6						
NVAR	**Mina Array Bea**	**82.70**	**51**	P	**P**	**15 11 39.6**	**-0.3**
AKASG	**Malin Array Be**	**85.51**	**324**	P	**P**	**15 11 53.5**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=51,slow=5.2,SNR=8.3						
AKASG	**Malin Array Be**	**85.51**	**324**	P	**P**	**15 11 53.1**	**-0.5**
AKBB	**Malin Array Si**	**85.51**	**324**	P	**P**	**15 11 53.3**	**-0.3**
AKBB				IAmb	IAmb	15 11 54.3	
	comp=Z,2.6nm,0.5s						
DUG	**Dugway, Tooele**	**85.78**	**48**	P	**P**	**15 11 56.1**	**+0.7**
DUG				IAmb	IAmb	15 11 56.9	
	comp=Z,2.8nm,0.6s						
NOA	**NORSAR Array B**	**86.93**	**338**	P	**P**	**15 11 59.7**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=48,slow=4.7,SNR=2.6						
NOA				LR	LR	15 53 10.3	
	comp=Z,7.2nm,19.3s,baz=260,slow=37						
BRTR	**Keskin Array B**	**88.45**	**313**	P	**P**	**15 12 08.6

EKS2				⇓*i*	S	**Sb**	**15 38 25.2**	**-4.1**
	baz=85							
ARLS	**Aral**	**3.56**	**102**	⇓*e*	P	**Pn**	**15 37 56.1**	**+3.0**
	baz=0.0							
ARLS				⇓*i*	S	**Sn**	**15 38 35.1**	**-0.3**
	baz=0.0							
UCH	**Uchtor**	**3.62**	**95**	⇑*i*	P	**Pn**	**15 37 57.6**	**+3.3**
	baz=93							
UCH				⇑*i*	S	**Sn**	**15 38 38.6**	**+1.1**
	baz=93							

IDC ***14*** *15:59:52.3±7.3,8˚.86N×82˚.44W, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.7/33, mbtmp4.0/5, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=161.3km s-min=52.1km az=4.0*

UCR ***14*** *15:59:54.1±2.2,8˚.49N×83˚.10W, h0km±5km, MD3.7, MW4.4*

NEIC ***14*** *15:59:54.5±0.9,9˚.0N±0˚.2×82˚.53W±0˚.04, h10km±2km, mb4.3/2, Md4.1(UCR), Error ellipse: s-maj=26.8km s-min=6.7km az=181.0*

UPA ***14*** *15:59:54.3±1.9,8˚.50N×83˚.06W, h3km±4km, MW4.7*

ISC 14 15:59:53.2±1.0,**8˚.37N**±0˚.04×**83˚.05W**±0˚.03,**h14**km±6km, **n71**,σ1ˢ**64**/94,**mb4.1**/4,**4D**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.27**	**41**	⇓*i* P	**Pg**	**15 59 59.9**	**+0.9**
CDITO				*e* S	**Sg**	**16 00 03.0**	**+0.1**
CDITO	**Canoas**	**0.27**	**41**	*e* P	**Pg**	**15 59 59.9**	**+0.9**
PTJ1	**Puerto Jimnez**	**0.30**	**304**	*e* P	**Pg**	**15 59 58.8**	**-0.6**
PTJ1				*i* S	**Sg**	**16 00 04.0**	**+0.3**
PTJ1	**Puerto Jimnez**	**0.30**	**304**	*e* P	**Pg**	**15 59 58.8**	**-0.6**
PTJ1				*e* S	**Sg**	**16 00 03.7**	**+0.1**
EDSV	**San Vito**	**0.46**	**10**	*i* P	**Pb**	**16 00 02.7**	**-0.4**
EDSV				*i* S	**Sb**	**16 00 09.5**	**-0.3**
BAGA3	**Bagala, Chiriq**	**0.53**	**79**	*i* P	**Pn**	**16 00 05.7**	**-0.6**
BAGA3				*e* S	**Sb**	**16 00 13.8**	**+2.1**
BRU2	**Volcan**	**0.56**	**40**	⇓*i* P	**Pb**	**16 00 05.1**	**+0.3**
BRU2				*e* S	**Sb**	**16 00 13.3**	**+0.7**
BRU2	**Volcan**	**0.56**	**40**	*e* P	**Pb**	**16 00 05.0**	**+0.2**
BRU2				*e* S	**Sb**	**16 00 14.0**	**+1.4**
RIOS	**Rincon, Osa**	**0.56**	**306**	*e* P	**Pg**	**16 00 02.5**	**-1.8**
RIOS				*e* S	**Sg**	**16 00 10.7**	**-1.1**
BC3P	**Paso Ancho**	**0.62**	**44**	⇓*i* P	**Pb**	**16 00 06.1**	**+0.2**
BC3P				*e* S	**Sb**	**16 00 15.3**	**+0.6**
BCO2	**Palmira**	**0.62**	**56**	⇓*i* P	**Pb**	**16 00 06.6**	**+0.6**
BCO2				*e* S	**Sn**	**16 00 16.7**	**-1.0**
PTAR3	**Potrerillos Ar**	**0.64**	**60**	*e* P	**Pb**	**16 00 07.1**	**+0.9**
PTAR3				*e* S	**Sn**	**16 00 16.8**	**-1.1**
EDPN	**Palmar Norte**	**0.71**	**326**	*i* P	**Pg**	**16 00 05.7**	**-1.4**
EDPN				*i* S	**Sg**	**16 00 15.3**	**-1.2**
GUAL3	**Gualaca, Chiri**	**0.77**	**78**	*e* P	**Pb**	**16 00 09.0**	**+0.7**
GUAL3				*e* S	**Sn**	**16 00 21.1**	**+0.3**
EDBA	**Buenos Aires**	**0.82**	**345**	*e* P	**Pg**	**16 00 08.2**	**-0.9**
DRK0	**Durika**	**0.91**	**348**	*e* P	**Pg**	**16 00 09.3**	**-1.6**
DRK0				*e* S	**Sg**	**16 00 22.1**	**-0.8**
DRK0	**Durika**	**0.91**	**348**	*e* P	**Pg**	**16 00 09.2**	**-1.6**
DRK0				*e* S	**Sg**	**16 00 21.6**	**-1.2**
EDLM	**Las Mercedes**	**1.05**	**330**	*e* P	**Pg**	**16 00 12.0**	**-1.4**
CHGR2	**Aguacate**	**1.06**	**58**	*e* P	**Pb**	**16 00 13.3**	**-0.1**
CHGR2				*e* S	**Sn**	**16 00 27.9**	**-0.3**
PEZE	**Perez Zeledon,**	**1.18**	**329**	*e* P	**Pg**	**16 00 13.5**	**-2.5**
EDDO	**Dominical**	**1.19**	**318**	*e* P	**Pg**	**16 00 14.1**	**-2.1**
NANC3	**Nancito, Chiri**	**1.31**	**95**	*e* P	**Pg**	**16 00 17.7**	**-0.8**
NANC3				*e* S	**Sn**	**16 00 37.2**	**+2.8**
CDM	**Cerro de Muert**	**1.37**	**329**	*e* P	**Pg**	**16 00 16.4**	**-3.2**
RIMA	**Rio Macho**	**1.60**	**330**	*e* P	**Pn**	**16 00 20.1**	**-1.2**
LCR2	**La Lucha 2**	**1.66**	**326**	*e* P	**Pn**	**16 00 21.8**	**-0.2**
BATAN	**Batan**	**1.75**	**350**	*e* P	**Pn**	**16 00 23.1**	**+0.1**
BATAN				*e* S	**Sn**	**16 00 45.1**	**0.0**
BATAN	**Batan**	**1.75**	**350**	*e* P	**Pn**	**16 00 23.4**	**+0.4**
GMAL	**Guarumal, Vera**	**1.90**	**108**	*e* P	**Pn**	**16 00 27.2**	**+2.1**
GMAL				*e* S	**Sg**	**16 00 53.1**	**-1.3**
GMAL	**Guarumal, Vera**	**1.90**	**108**	*e* P	**Pn**	**16 00 27.0**	**+1.8**
HDC3	**Heredia 3**	**1.93**	**327**	*e* P	**Pn**	**16 00 26.8**	**+1.1**
HDC	**Heredia**	**1.93**	**327**	*i* P	**Pn**	**16 00 27.1**	**+1.4**
HDC				*e* S	**Sn**	**16 00 52.3**	**+2.4**
HDC	**Heredia**	**1.93**	**327**	*e* P	**Pn**	**16 00 27.2**	**+1.4**
HDC	**Heredia**	**1.93**	**327**	Pn	**Pn**	**16 00 26.2**	**+0.5**
LAFE	**Finca La Fe, P**	**2.33**	**308**	*e* P	**Pn**	**16 00 32.5**	**+1.6**
CASO	**Castillo**	**2.64**	**321**	*e* P	**Pn**	**16 00 37.7**	**+2.3**
ARE1	**Arenal 1**	**2.65**	**322**	*e* P	**Pn**	**16 00 38.0**	**+2.5**
CEDE	**Laguna Cedeo**	**2.66**	**322**	*e* P	**Pn**	**16 00 37.1**	**+1.4**
JTS	**Las Juntas de**	**2.68**	**316**	Pn	**Pn**	**16 00 37.8**	**+2.0**
	baz=180,slow=11						
JTS				Sn	**Sn**	**16 01 07.6**	**-0.5**
	38nm,0.3s,baz=18,slow=20,SNR=6.4						
JTS	**Las Juntas de**	**2.68**	**316**	*e* P	**Pn**	**16 00 37.9**	**+2.0**
JTS				*e* S	**Sn**	**16 01 07.6**	**-0.5**
JTS	**Las Juntas de**	**2.68**	**316**	*e* P	**Pn**	**16 00 37.4**	**+1.5**
JTS	**Las Juntas de**	**2.68**	**316**		**Pn**	**16 00 37.2**	**+1.3**
COVE	**Coope Vega, Sa**	**2.69**	**330**	*e* P	**Pn**	**16 00 38.3**	**+2.3**
PNME	**Penonome**	**2.70**	**87**	*e* P	**Pb**	**16 00 39.6**	**-1.7**
PNME				*e* S	**Sg**	**16 01 19.1**	**-0.9**
AZU	**Azuero**	**2.81**	**102**	*e* P	**Pb**	**16 00 41.2**	**-2.0**
AZU				*e* S	**Sb**	**16 01 16.0**	**-1.5**
AZU	**Azuero**	**2.81**	**102**	*e* P	**Pb**	**16 00 41.3**	**-1.8**
ACAL	**Aguas Claras**	**2.98**	**319**	*e* P	**Pn**	**16 00 41.4**	**+3.1**
ACAL				*e* S	**Sn**	**16 01 16.8**	**+1.1**
GUAI	**GUAI**	**3.08**	**308**	*e* P	**Pn**	**16 00 42.0**	**+0.7**
ORTG	**Ortega, Santa**	**3.09**	**310**	*e* P	**Pn**	**16 00 42.2**	**+0.5**
COLC	**Colonia**	**3.12**	**317**	*e* P	**Pn**	**16 00 44.5**	**+2.6**
HORNC	**Hornillas**	**3.13**	**318**	*e* P	**Pn**	**16 00 44.0**	**+1.8**
LAPC	**Finca la Perla**	**3.35**	**316**	*e* P	**Pn**	**16 00 46.8**	**+1.7**
BUEV	**Buena Vista**	**3.35**	**316**	*e* P	**Pn**	**16 00 46.9**	**+1.7**
BUAI	**Buenos Aires**	**3.36**	**318**	*e* P	**Pn**	**16 00 47.2**	**+2.0**
GB1A	**Borinquen Arri**	**3.36**	**317**	*e* P	**Pn**	**16 00 47.3**	**+2.0**
GBS3	**Finca Las Img**	**3.37**	**316**	*e* P	**Pn**	**16 00 47.4**	**+2.0**
ESPN	**Las Esperanzas**	**4.00**	**342**	Pn	**Pn**	**16 00 50.8**	**-3.2**
ACON	**Acoyapa**	**4.14**	**330**	*e* P	**Pn**	**16 00 57.3**	**+1.3**
ACON	**Acoyapa**	**4.14**	**330**	Pn	**Pn**	**16 00 55.5**	**-0.6**
MATN	**Matagalpa**	**5.34**	**328**	Pn	**Pn**	**16 01 12.9**	**+0.3**
CRIN	**San Cristobal**	**5.83**	**318**	Pn	**Pn**	**16 01 23.4**	**+4.1**
TGUH	**Tegucigalpa,Un**	**7.01**	**324**	Pn	**Pn**	**16 01 35.3**	**-0.2**
MTO3	**Montecristo**	**8.61**	**315**	Pn	**Pn**	**16 01 59.2**	**+1.6**
APG	**El Apazote**	**9.80**	**313**	Pn	**Pn**	**16 02 18.5**	**+4.5**
	1.6nm,0.3s,baz=140,slow=12,SNR=11						
BANI	**BANI**	**15.86**	**50**	Pn	Pn	16 03 28.2	-8.0
SJG	**San Juan**	**19.08**	**58**	LR	LR	16 11 54.4	
	comp=Z,56nm,18.7s,baz=272,slow=40						
ESJX	**Sierra Juarez**	**38.54**	**312**	P	**P**	**16 07 18.2**	**+2.5**
ESJX				IAmb	IAmb	16 07 30.0	
	comp=Z,3.2nm,0.6s						
ULM	**Lac du Bonnet**	**43.09**	**348**	P	**P**	**16 07 50.9**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=143,slow=5.1,SNR=3.9						
ULM	**Lac du Bonnet**	**43.09**	**348**	P	**P**	**16 07 50.6**	**-2.1**
ULM				IAmb	IAmb	16 07 53.8	
	comp=Z,7.4nm,1.1s						
NVAR	**Mina Array Bea**	**43.60**	**319**	P	**P**	**16 07 59.4**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=138,slow=9.8,SNR=3.8						
NVAR	**Mina Array Bea**	**43.60**	**319**	P	**P**	**16 07 58.5**	**+1.2**
ILAR	**Eielson Array**	**71.48**	**336**	P	**P**	**16 11 13.4**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=121,slow=5.1,SNR=8.0						

TEH ***14*** *16:11:01.1,39˚.44N×45˚.43E, h7km, ML2.5*

ISC 14 16:11:02.7±1.0,**39˚.35N**±0˚.04×**45˚.47E**±0˚.09,**h10**km,**n10**, σ0ˢ**51**/13,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMRD	**Marand**	**0.66**	**164**	*e* Pg	**Pg**	**16 11 16.0**	**+0.5**
IMRD				*e* Sg	**Sb**	**16 11 26.3**	**+0.6**
IMRD				*e*		16 11 27.9	
ITBZ	**Tabriz**	**1.23**	**154**	*e* Pg	**Pn**	**16 11 25.3**	**-0.9**
ITBZ				*e*		16 11 25.8	
AHAR	**Ahar**	**1.50**	**124**	*e* Pg	**Pb**	**16 11 31.0**	**+0.3**
AHAR				*e*		16 11 53.0	
IHRS	**Heris**	**1.60**	**130**	*e* Pg	**Pb**	**16 11 32.0**	**-0.5**
IAZR	**Azarshahr**	**1.72**	**166**	*e* Pg	**Pb**	**16 11 34.7**	**+0.2**
IAZR				*e*		16 12 03.0	
DDFL	**Dedoflistskaro**	**2.15**	**13**	P	**Pg**	**16 11 43.8**	**-0.1**
DMNI	**Dmanisi**	**2.20**	**334**	P	**Pb**	**16 11 42.6**	**-0.1**
DMNI				S	**Sb**	**16 12 10.4**	**+0.3**
ISRB	**Sarab**	**2.30**	**131**	*e* Pn	**Pb**	**16 11 44.3**	**0.0**
ISRB				*e*		16 12 22.5	
TRLG	**Trialeti**	**2.42**	**335**	P	**Pb**	**16 11 46.1**	**-0.3**
TRLG				S	**Sb**	**16 12 17.0**	**+0.6**
LGD	**Lagodekhi**	**2.55**	**13**	P	**Pb**	**16 11 49.2**	**+0.7**

JMA 14 16:31:03.3,24˚.32N×123˚.95E,h17km±1km,M0.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.10**	**147**	P	Pg	16 31 06.8	0.0
JKRS				S	Sg	16 31 09.5	+0.4
JIJ	**Ishigaki jima**	**0.18**	**76**	P	Pg	16 31 07.7	-0.2
JIJ				S	Sg	16 31 10.8	-0.1
IRIF	**Iriomote-Funau**	**0.20**	**274**	P	Pg	16 31 08.2	+0.1
HATJ	**Hateruma jima**	**0.29**	**207**	P	Pg	16 31 09.6	0.0
HATJ				S	Sg	16 31 14.1	+0.1
JISG	**Ishigakijimahi**	**0.42**	**51**	P	Pg	16 31 11.7	-0.2
JISG				*e*S	Sg	16 31 18.0	+0.2

TAP 14 16:31:26.1,24˚.41N×121˚.94E,h25km,ML2.5,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.12**	**289**	*i* P	Pb	16 31 31.0	0.0
	baz=297						
ENAH				*i* S	Sb	16 31 34.5	+0.2
	baz=297						
ENA	**Nanau**	**0.18**	**276**	*i* P	Pb	16 31 32.2	+0.6
	baz=276						
ENA				*i* S	Sb	16 31 36.1	+0.8
	baz=276						
TWC	**Suao**	**0.22**	**338**	⇓*i* P	Pb	16 31 32.1	0.0
	baz=340						
TWC				*i* S	Sb	16 31 36.0	0.0
	baz=340						
NACB	**Ninganchiao**	**0.39**	**233**	P	Pb	16 31 34.6	0.0
	baz=237						
NACB				S	Sb	16 31 41.5	+1.1
	baz=237						
ILA	**Ilan**	**0.40**	**334**	P	Pb	16 31 35.4	+0.7
	baz=329						
ILA				S	Sn	16 31 41.8	-1.1
	baz=329						
TWE	**Neicheng**	**0.40**	**322**	*i* P	Pb	16 31 35.0	+0.3
	baz=323						
TWE				S	Sb	16 31 41.1	+0.6
	baz=323						
ENTT	**Nioudou**	**0.41**	**304**	*i* P	Pb	16 31 35.2	+0.3
	baz=305						
ENTT				*i* S	Sb	16 31 41.6	+0.7
	baz=305						
NDT	**Datong Townshi**	**0.43**	**296**	*i* P	Pb	16 31 35.7	+0.4
	baz=297						
NDT				*i* S	Sb	16 31 42.2	+0.7
	baz=297						
TWD	**Chiawan**	**0.45**	**224**	*i* P	Pb	16 31 35.6	0.0
	baz=226						
TWD				*i* S	Sn	16 31 43.5	-0.8
	baz=226						
ETLH	**Xiulin Townshi**	**0.46**	**244**	P	Pb	16 31 35.8	0.0
	baz=248						
ETLH				S	Sb	16 31 43.3	+0.9
	baz=248						
NNSB	**Datong**	**0.51**	**272**	P	Pb	16 31 36.7	+0.1
	baz=279						
NNSB				S	Sb	16 31 44.1	+0.4
	baz=279						
NNSH	**Datong**	**0.51**	**272**	*i* P	Pb	16 31 36.9	+0.3
	baz=276						
NNSH				*i* S	Sb	16 31 44.2	+0.5
	baz=276						
NNS	**Nan Shan**	**0.52**	**274**	*i* P	Pb	16 31 37.2	+0.5
	baz=280						
NNS				*i* S	Sb	16 31 44.6	+0.7
	baz=280						
TIPB	**Shuangxi**	**0.57**	**350**	*i* P	Pb	16 31 38.0	+0.4
	baz=355						
TIPB				*i* S	Sn	16 31 46.4	-0.9
	baz=355						
YHNB	**Yeheng**	**0.57**	**297**	P	Pb	16 31 38.1	+0.4
	baz=297						
YHNB				S	Sb	16 31 46.5	+0.9
	baz=297						
NSK	**Sanguang**	**0.59**	**297**	*i* P	Pb	16 31 38.3	+0.3
	baz=297						
NSK				*i* S	Sb	16 31 46.6	+0.6
	baz=297						
TWB1	**Santiao Chiao**	**0.60**	**4**	*i* P	Pb	16 31 38.4	+0.4
TWB1				S	Sn	16 31 47.1	-0.8
FUSS	**Fushou**	**0.65**	**256**	P	Pb	16 31 39.3	+0.2
	baz=261						
FUSS				S	Sn	16 31 48.9	-0.7
	baz=261						
WHF	**Hehuan Shan**	**0.67**	**247**	*i* P	Pb	16 31 39.7	+0.2
	baz=253						
WHF				*i* S	Sn	16 31 49.7	-0.5
	baz=253						
NWF	**Wu-fen Shan**	**0.68**	**348**	*e* P	Pn	16 31 40.5	+0.4
	baz=341						
NWF				*e* S	Sn	16 31 49.7	-0.3
	baz=341						
TDCB	**Techi**	**0.73**	**258**	*e* P	Pn	16 31 40.9	-0.1
	baz=258						
TDCB				S	Sn	16 31 51.0	-0.3
	baz=258						
CHGB	**Renai**	**0.78**	**244**	P	Pb	16 31 41.4	+0.2
	baz=244						
CHGB				S	Sn	16 31 52.8	+0.1
	baz=244						
YM01	**YM01**	**0.81**	**336**	P	Pn	16 31 42.8	+0.9
	baz=349						
YM01				S	Sn	16 31 54.2	+1.1
	baz=349						
YM10	**YM10**	**0.82**	**335**	P	Pn	16 31 42.9	+0.8
	baz=349						
YM10				S	Sn	16 31 55.1	+1.6
	baz=349						
YM11	**YM11**	**0.82**	**336**	*e* P	Pn	16 31 43.2	+1.0
	baz=350						
YM11				*e*S	Sn	16 31 54.0	+0.4
	baz=350						
YM05	**YM05**	**0.82**	**336**	P	Pn	16 31 43.1	+0.8
	baz=349						
YM05				S	Sn	16 31 54.6	+1.0
	baz=349						
YM04	**YM04**	**0.83**	**334**	P	Pn	16 31 42.9	+0.7
	baz=334						
YM04				S	Sn	16 31 54.8	+1.2
	baz=334						
TWS1	**Kuangyinshan**	**0.84**	**326**	*e* P	Pn	16 31 43.2	+0.9
	baz=336						
TWS1				*e*S	Sn	16 31 55.2	+1.4
	baz=336						
YM08	**YM08**	**0.84**	**338**	*e* P	Pn	16 31 43.3	+1.0
	baz=351						
YM08				*e*S	Sn	16 31 55.5	+1.6
	baz=351						
YM03	**YM03**	**0.85**	**335**	*e* P	Pn	16 31 43.5	+1.0
	baz=335						
YM03				S	Sn	16 31 55.2	+1.0
	baz=335						
ANP	**Anpu**	**0.86**	**334**	P	Pn	16 31 43.5	+0.8
	baz=334						
ANP				*e*S	Sn	16 31 55.8	+1.2
	baz=334						
EGFH	**Guangfu**	**0.87**	**213**	*e* P	Pb	16 31 42.2	-0.4
	baz=226						
EGFH				*e*S	Sn	16 31 55.1	+0.4
	baz=226						
LIOB	**Emei**	**0.87**	**286**	P	Pn	16 31 43.9	+1.1
	baz=286						
LIOB				*e*S	Sn	16 31 56.2	+1.5
	baz=286						
NTST	**Danshui**	**0.87**	**329**	P	Pn	16 31 44.5	+1.7
	baz=340						
NTST				*e*S	Sn	16 31 56.8	+2.1
	baz=340						
NSTT	**Nanjuang**	**0.88**	**285**	*i* P	Pn	16 31 43.9	+0.9
	baz=285						
NSTT				*i* S	Sn	16 31 56.0	+1.1
	baz=285						
WHP	**Taichung City**	**0.92**	**262**	*i* P	Pn	16 31 45.1	+1.6
	baz=262						
WHP				*i* S	Sn	16 31 57.2	+1.3
	baz=262						
VWDT	**VWDT**	**0.98**	**228**	P	Pb	16 31 44.4	0.0
	baz=228						
VWDT				S	Sn	16 31 58.1	+0.9
	baz=228						
HGSD	**Ruisui**	**1.03**	**207**	*e* P	Pb	16 31 45.5	+0.2
	baz=207						
EHY	**Hungye**	**1.06**	**212**	P	Pn	16 31 44.9	-0.6
	baz=211						
EHY				S	Sn	16 32 00.3	+0.9
	baz=211						
TWQ1	**Liyutan**	**1.06**	**267**	*e* P	Pb	16 31 47.0	+1.1
	baz=267						
TWQ1				S	Sn	16 32 02.4	+3.0
	baz=267						
SMLT	**Sun Moon Lake**	**1.08**	**241**	*e* P	Pb	16 31 46.9	+0.6
	baz=233						
SMLT				*e*S	Sb	16 32 01.9	+1.8
	baz=233						
SSLB	**Suanglung**	**1.09**	**236**	P	Pn	16 31 45.3	-0.6
	baz=226						
SSLB				S	Sb	16 32 00.7	+0.5
	baz=226						
TYC	**Yuchr**	**1.11**	**243**	P	Pb	16 31 47.3	+0.6
	baz=251						
TYC				S	Sb	16 32 02.9	+2.3
	baz=251						
YULB	**Yu-li**	**1.17**	**210**	P	Pn	16 31 46.4	-0.5
	baz=210						
EYUL	**Yuli**	**1.20**	**208**	P	Pn	16 31 47.7	+0.4
	baz=222						
TWF1	**Yuli**	**1.21**	**209**	*e* P	Pn	16 31 46.9	-0.5
	baz=220						
WHYT	**Xinyi Township**	**1.22**	**235**	*e*S	Sb	16 32 06.3	+2.3
	baz=234						
WJS	**Zhushan**	**1.25**	**242**	*e*S	Sb	16 32 09.3	+4.5
	baz=242						
WNT	**Mingjian**	**1.26**	**246**	*e*S	Sb	16 32 08.6	+3.5
	baz=245						
FULB	**Fuli**	**1.34**	**206**	*e* P	Pb	16 31 50.1	-0.5
	baz=220						
ALS	**Alishan**	**1.37**	**229**	P	Pn	16 31 50.6	+0.7
	baz=217						
ALS				S	Sb	16 32 10.3	+1.8
	baz=217						
CHN5	**Tsauling**	**1.41**	**235**	*i* P	Pb	16 31 51.9	+0.1
	baz=235						
CHN5				*e*S	Sb	16 32 11.3	+2.0
	baz=235						
WDLH	**Douliu**	**1.47**	**241**	*e* P	Pb	16 31 54.0	+1.2
	baz=241						
WDLH				*e*S	Sb	16 32 14.0	+3.0
	baz=241						
ELDTW	**Lidau**	**1.48**	**215**	*e* P	Pn	16 31 51.8	+0.5
	baz=203						
CHN4	**Tsaushan**	**1.62**	**230**	P	Pb	16 31 55.5	+0.2
	baz=229						
CHN4				S	Sb	16 32 17.8	+2.4
	baz=229						
TPUB	**Ta-pu**	**1.63**	**228**	P	Pb	16 31 54.7	-0.9
	baz=227						
TPUB				S	Sb	16 32 17.0	+1.3
	baz=227						
STYT	**Tauyuan**	**1.65**	**221**	*e* P	Pn	16 31 54.6	+1.1
	baz=210						
STYT				S	Sb	16 32 17.8	+1.5
	baz=210						
WTP	**Ta-pu**	**1.68**	**227**	*e* P	Pb	16 31 55.2	-1.1
	baz=226						
WTP				*e*S	Sb	16 32 18.3	+1.2
	baz=226						
TWK	**Hsinying**	**1.75**	**230**	*e* P	Pb	16 31 57.7	+0.1
	baz=229						
TWK				S	Sb	16 32 21.3	+2.1
	baz=229						
CHN1	**Nanshi**	**1.78**	**227**	P	Pb	16 31 57.8	-0.3
	baz=227						
CHN1				S	Sb	16 32 21.4	+1.5
	baz=227						
SGST	**Jiashian**	**1.81**	**224**	*e* P	Pb	16 31 57.9	-0.8
	baz=210						
SGST				S	Sb	16 32 22.3	+1.3
	baz=210						
SLGT	**Liugui**	**1.84**	**220**	P	Pb	16 31 57.9	-1.3
	baz=220						
SLGT				S	Sb	16 32 22.3	+0.5
	baz=220						
SSD	**Sandimen**	**2.04**	**216**	*e*S	Sb	16 32 27.9	+0.3
	baz=216						
MASBT	**Mashibuluo**	**2.15**	**214**	*e* P	Pb	16 32 02.9	-1.5
	baz=214						
MASBT				*e*S	Sb	16 32 30.6	-0.1
	baz=214						

IDC ***14*** *17:09:42.8±2.7,32˚.91S×178˚.87W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/27, mbtmp3.9/3, ML4.4/1, Error ellipse: s-maj=65.5km s-min=43.0km az=124.0*

WEL ***14*** *17:09:46.0±0.8,33˚.S±8˚×17˚8W±1˚8, h99km±65km, M4.4/25, mB4.9/14, ML5.0/6, MLv4.7/25, Mw(mB)4.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4*

NEIC ***14*** *17:09:46.6±2.6,33˚.3S±0˚.1×179˚.2W±0˚.2, h10km±2km, mb4.6/11, Error ellipse: s-maj=29.5km s-min=18.2km az=111.0*

ISC 14 17:09:43.1±1.2,**33˚.44S**±0˚.07×**178˚.0W**±0˚.1,**h35**km,**n70**, σ2ˢ**53**/81,**mb4.6**/9,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.16**	**1**	P	**Pn**	**17 10 44.1**	**0.0**
GLKZ				S	**Sn**	**17 11 29.9**	**-1.6**
MXZ	**Matakaoa Point**	**5.09**	**215**	P	**Pn**	**17 10 58.3**	**+1.5**
MXZ				S	**Sn**	**17 11 57.0**	**+2.6**
MXZ	**Matakaoa Point**	**5.09**	**215**	Pn	**Pn**	**17 10 58.7**	**+1.9**
WMGZ	**Waiomatatini S**	**5.25**	**213**	P	**Pn**	**17 11 02.2**	**+3.2**
WMGZ				S	**Sn**	**17 12 01.8**	**+3.6**
PKGZ	**Pakihiroa**	**5.46**	**214**	P	**Pn**	**17 11 04.2**	**+2.2**
PKGZ				S	**Sn**	**17 12 03.8**	**+0.2**
HAZ	**Te Kaha**	**5.50**	**217**	P	**Pn**	**17 11 04.8**	**+2.3**
HAZ				S	**Sn**	**17 12 06.7**	**+2.2**
PUZ	**Puketiti**	**5.53**	**212**	S	**Sn**	**17 12 05.5**	**+0.3**
RUGZ	**Raukumara Rang**	**5.72**	**217**	P	**Pn**	**17 11 08.1**	**+2.6**
RUGZ				S	**Sn**	**17 12 11.2**	**+1.3**
TWGZ	**Tauwhareparae**	**5.74**	**213**	P	**Pn**	**17 11 09.0**	**+3.2**
TWGZ				S	**Sn**	**17 12 13.3**	**+2.8**
CNGZ	**Carnagh Statio**	**5.89**	**210**	P	**Pn**	**17 11 10.8**	**+3.0**
WHRZ	**Whale Island**	**6.00**	**221**	P	**Pn**	**17 11 13.5**	**+4.1**
WH

BHW	**Baring Head**	**9.76**	**213**	Pn	**Pn**	17 11 59.1	**-1.8**
SNZO	**South Karori**	**9.76**	**214**	Pn	**Pn**	17 11 57.0	**-3.8**
TUWZ	**Tuamarina**	**10.22**	**216**	Pn	**Pn**	17 12 05.5	**-1.7**
NNZ	**Nelson**	**10.35**	**219**	Pn	**Pn**	17 12 06.6	**-2.3**
BSWZ	**Blackbirch Sta**	**10.47**	**216**	Pn	**Pn**	17 12 08.4	**-2.2**
THZ	**Tophouse**	**10.99**	**218**	Pn	**Pn**	17 12 15.0	**-2.8**
THZ					**Sn**	17 14 11.5	**-8.0**
KHZ	**Kahutara**	**11.16**	**214**	Pn	**Pn**	17 12 16.8	**-3.3**
LTZ	**Lake Taylor**	**12.05**	**216**	Pn	**Pn**	17 12 32.2	**-0.2**
OXZ	**Oxford**	**12.57**	**215**	Pn	Pn	17 12 34.4	-5.0
RPZ	**Rata Peaks**	**13.34**	**217**	Pn	Pn	17 12 44.8	-5.1
STKA	**Stephens Creek**	**33.89**	**261**	P	**P**	**17 16 22.9**	**+0.3**
COEN	**Coen**	**40.17**	**289**	P	**P**	**17 17 16.1**	**0.0**
COEN				IAmb	IAmb	17 18 20.8	
	comp=Z,20nm,1.7s						
AS31	**Alice Springs**	**43.02**	**270**	P	**P**	**17 17 38.0**	**-1.4**
ASAR	**Alice Springs**	**43.02**	**270**	P	**P**	**17 17 38.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=111,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**43.02**	**270**	P	**P**	**17 17 38.7**	**-0.7**
WR0	**Warramunga Arr**	**44.10**	**275**	P	**P**	**17 17 46.9**	**-1.2**
WR0				IAmb	IAmb	17 17 60.0	
	comp=Z,20nm,1.9s						
WB2	**Warramunga Arr**	**44.27**	**275**	P	**P**	**17 17 47.9**	**-1.5**
WB2				IAmb	IAmb	17 18 01.9	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**44.28**	**275**	P	**P**	**17 17 48.1**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=114,slow=7.8,SNR=13						
WB0	**Warramunga Arr**	**44.31**	**276**	P	**P**	**17 17 48.5**	**-1.3**
WB0				IAmb	IAmb	17 18 07.1	
	comp=Z,22nm,1.9s						
KNRA	**Kununurra**	**50.98**	**277**	P	**P**	**17 18 41.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.40**	**272**	P	**P**	**17 18 51.6**	**-0.5**
FITZ				IAmb	IAmb	17 19 26.2	
	comp=Z,19nm,1.8s						
CASY	**Casey**	**52.47**	**209**	P	**P**	**17 18 55.2**	**+3.3**
CASY				IAmb	IAmb	17 19 00.7	
	comp=Z,16nm,1.9s						
NWAO	**Narrogin (SRO)**	**53.36**	**251**	P	**P**	**17 18 58.6**	**-0.5**
QSPA	**South Pole Qui**	**56.68**	**180**		P	17 19 31.6	+8.8
QSPA				IAmb	IAmb	17 20 10.7	
	comp=Z,16nm,1.9s						
H03N3	**Juan Fernandez**	**79.02**	**123**	T	T	18 50 23.8	
	baz=239,slow=72,SNR=8.6						
H03N2	**Juan Fernandez**	**79.03**	**123**	T	T	18 50 26.1	
	baz=239,slow=72,SNR=6.1						
H03N1	**Juan Fernandez**	**79.04**	**123**	T	T	18 50 32.0	
	baz=239,slow=72,SNR=9.0						
FINES	**FINESS Array B**	**147.97**	**338**	PKPbc	**PKiKP**	**17 29 26.5**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=24,slow=3.4,SNR=18						

DJA ***14*** *18:08:42.2±0.5, 7˚S±3˚×12˚9E±˚, h338km±7km, M4.1/12, mB4.5/2, mb4.0/7, MLv4.2/12, Mw(mB)3.7/2*

NEIC ***14*** *18:08:43.8±2.0, 6˚.58S±0˚.07×128˚.80E±0˚.08, h300km±10km, mb4.6/9, Error ellipse: s-maj=12.0km s-min=10.2km az=88.0.*

IDC ***14*** *18:08:43.5±1.6, 6˚.50S×128˚.79E, h296km±22km, mb3.3/5, mb1 3.5/10, mb1mx3.3/48, mbtmp4.1/10, Error ellipse: s-maj=29.2km s-min=13.8km az=84.0*

ISC 14 18:08:43.5±0.6, 6˚.63S±0˚.05×128˚.79E±0˚.06, h300km, n39, σ2§28/50, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.37**	**28**	P			**Pn**	**18 09 35.1**	**+1.7**
BNDI				S			**S**	**18 10 16.1**	**+2.9**
SAUI	**Saumlaki**	**2.83**	**118**	P			**Pn**	**18 09 39.9**	**+2.3**
SAUI				S			**S**	**18 10 24.8**	**+4.0**
SAUI	**Saumlaki**	**2.83**	**118**	Pn			**Pn**	**18 09 39.8**	**+2.2**
SAUI							**S**	**18 10 15.7**	**-5.1**
MSAI	**Masohi**	**3.27**	**3**	P			**Pn**	**18 09 43.5**	**+1.5**
NLAI	**Namlea**	**3.77**	**333**	P			**Pn**	**18 09 47.8**	**+0.6**
NLAI				S			**S**	**18 10 42.4**	**+4.2**
FAKI	**Fak Fak**	**5.05**	**43**	P			**Pn**	**18 10 00.9**	**-0.7**
FAKI	**Fak Fak**	**5.05**	**43**	Pn			**Pn**	**18 10 01.1**	**-0.5**
SANI	**Sanana**	**5.34**	**328**	P			**Pn**	**18 10 04.8**	**-0.2**
	0.2nm42nm,0.7s								
SOEI	**Soe**	**5.44**	**235**	P			**Pn**	**18 10 07.0**	**+0.7**
	0.4nm22nm,0.6s								
SOEI	**Soe**	**5.44**	**235**				**Pn**	**18 10 07.6**	**+1.3**
SOEI							**S**	**18 11 09.8**	**-3.2**
BATI	**Baumata**	**6.19**	**235**	P			**Pn**	**18 10 16.5**	**+1.4**
	11nm,0.3s,baz=64,slow=2.8,SNR=32								
BATI				S			**S**	**18 11 25.8**	**-3.2**
	12nm,0.3s,baz=92,slow=21,SNR=15								
BATI	**Baumata**	**6.19**	**235**	P			**Pn**	**18 10 16.3**	**+1.2**
	0.2nm41nm,0.6s								
SIJI	**Sorong**	**6.24**	**23**	P			**Pn**	**18 10 14.2**	**-1.5**
	2.5nm,0.3s,baz=123,slow=22,SNR=21								
SIJI				S			**S**	**18 11 21.9**	**-8.2**
	12nm,0.3s,baz=232,slow=19,SNR=7.0								
MTN	**Manton Dam**	**6.59**	**160**				**Pn**	**18 10 20.9**	**+1.0**
MMRI	**Maumere**	**6.79**	**253**	Pn			**Pn**	**18 10 24.2**	**+1.9**
EDFI	**Ende, Flores**	**7.34**	**253**	P			**Pn**	**18 10 29.3**	**+0.2**
LUWI	**Luwuk**	**8.17**	**313**	Pn			**Pn**	**18 10 39.6**	**+0.3**
KNRA	**Kununurra**	**8.99**	**180**				**Pn**	**18 10 49.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.80**	**195**	P			**Pn**	**18 11 23.7**	**+0.1**
	0.1nm,0.3s,baz=12,slow=14,SNR=3.1								
FITZ				S			**S**	**18 13 29.7**	**-5.5**
	0.1nm,0.3s,baz=346,slow=17,SNR=1.3								
WB0	**Warramunga Arr**	**14.15**	**158**				**P**	**18 11 52.3**	**+1.0**
WRA	**Warramunga Arr**	**14.29**	**158**	P			**Pn**	**18 11 54.1**	**+0.5**
	0.7nm,0.3s,baz=340,slow=12,SNR=37								
WRA				S			**S**	**18 14 29.1**	**-0.9**
	0.1nm,0.3s,baz=336,slow=20,SNR=7.1								
WRA	**Warramunga Arr**	**14.29**	**158**	P			**P**	**18 11 52.4**	**-0.4**
WB2	**Warramunga Arr**	**14.29**	**158**	P			**P**	**18 11 53.8**	**+0.9**
WC3	**Warramunga Arr**	**14.32**	**158**				**Pn**	**18 11 54.5**	**+0.6**
WR0	**Warramunga Arr**	**14.38**	**158**				**Pn**	**18 11 55.2**	**+0.6**
COEN	**Coen**	**15.91**	**118**	P			**Pn**	**18 12 12.3**	**-0.3**
COEN				IAmb			IAmb	18 12 12.9	
	comp=Z,12nm,0.6s								
AS31	**Alice Springs**	**17.64**	**164**	P			**P**	**18 12 30.9**	**+1.6**
ASAR	**Alice Springs**	**17.64**	**164**	P			**P**	**18 12 31.4**	**+2.1**
	comp=Z,2.0nm,0.3s,baz=346,slow=12,SNR=376								
ASAR				S			**S**	**18 15 36.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=343,slow=20,SNR=11								
ASAR	**Alice Springs**	**17.64**	**164**	P			**P**	**18 12 30.9**	**+1.5**
ASAR							**S**	**18 15 37.9**	**+1.0**
KKM	**Kota Kinabalu**	**17.77**	**315**	P			**P**	**18 12 31.6**	**+0.7**
KKM				IAmb			IAmb	18 12 36.1	
	comp=Z,17nm,1.4s								
CTA	**Charters Tower**	**21.59**	**130**	P			**P**	**18 13 12.1**	**+2.2**
	comp=Z,9.2nm,1.2s,baz=311,slow=11,SNR=3.0								
STKA	**Stephens Creek**	**27.82**	**156**	P			**P**	**18 14 06.5**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=333,slow=14,SNR=3.9								
CAN	**Canberra**	**34.07**	**150**	P			**P**	**18 15 01.8**	**+1.5**
JWT	**Wachi**	**42.15**	**8**	P			**P**	**18 16 06.4**	**-0.8**
JWT				IAmb			IAmb	18 16 22.8	
	comp=Z,84nm,1.5s								
MJAR	**Matsushiro Arr**	**43.84**	**11**	P			**P**	**18 16 18.5**	**-2.2**
	comp=Z,2.4nm,0.9s,baz=196,slow=9.0,SNR=3.3								
KSRS	**Korea Array**	**43.86**	**359**	P			**P**	**18 16 20.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=178,slow=8.6,SNR=1.7								
KHZ	**Kahutara**	**53.17**	**139**	P			**P**	**18 17 31.9**	**+0.8**
KHZ				IAmb			IAmb	18 17 39.6	
	comp=Z,62nm,1.7s								
MCQ	**Macquarie Isla**	**53.55**	**159**	P			**P**	**18 17 33.1**	**-0.6**
SONM	**Songino Array**	**57.72**	**342**	P			**P**	**18 18 03.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=166,slow=8.6,SNR=1.3								

BJI ***14*** *18:08:43.6±0.0, 40˚.97N×143˚.10E, h26km, mB5.2/54, mb5.0/74, Ms4.9/77, Ms7 4.8/68*

JMA ***14*** *18:08:44.2±0.1, 40˚.87N×143˚.40E, h35km, M5.0*

JMA Felt II J1.

MOS ***14*** *18:08:44.2±0.9, 40˚.93N×143˚.21E, h30km, mb5.4/38, MS4.9/32, Error ellipse: s-maj=5.6km s-min=3.8km az=103.6*

NIED ***14*** *18:08:44.2, 40˚.87N×143˚.40E, h35km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr2.41; Mθθ0.12; Mϕϕ-2.54; Mrθ1.55; Mθϕ-1.44; Mϕr3.61; Fault plane solution: M0 4.82000×10¹⁶ NP1:ϕs23.00000°, δ72.00000°, λ90.00000°. NP2:ϕs204.00000°, δ18.00000°, λ91.00000°.*

IDC ***14*** *18:08:45.1±4.0, 40˚.94N×143˚.26E, h22km±25km, mb4.6/47, mb1 4.7/54, mb1mx4.6/70, mbtmp4.8/54, ML4.0/7, MS4.7/24, Ms1 4.7/24, ms1mx4.4/51 Error ellipse: s-maj=12.6km s-min=9.1km az=97.0*

NEIC ***14*** *18:08:46.0±1.9, 40˚.93N±0˚.05×143˚.23E±0˚.07, h29km±4km, mb5.0/228, Error ellipse: s-maj=9.6km s-min=4.6km az=126.0*

GCMT ***14*** *18:08:48.0±0.3, 40˚.89N±0˚.02×143˚.44E±0˚.03, h34km±1km, MW5.1/88, Moment Tensor Solution. s57,c81; s88,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.30±.21; Mθθ-0.79±.13; Mϕϕ-3.51±.14; Mrθ2.11±.16; Mθϕ-1.08±.07; Mϕr3.45±.16; Best double couple: M0 5.75000×10¹⁶ NP1:ϕs193.00000°, δ23.00000°, λ77.00000°. NP2: ϕs27.00000°, δ67.00000°, λ96.00000°. Principal axes: T 5.9950, Plg67.0000°, Azm308.0000°; N -0.4920, Plg5.0000°, Azm205.0000°; P -5.5040, Plg22.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 18:08:45.2±0.4, 40˚.91N±0˚.03×143˚.26E±0˚.03, h27km±2km, h26km:pP-P, n769, σ1§43/792, mb5.0/238, MS5.0/74, 89C-23D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.11**	**356**	*ce*P			**Pn**	**18 09 04.5**	**-0.4**
ERM					pmax		pmax		
	comp=Z,5μm,1.3s								
ERM	**Erimo**	**1.11**	**356**				**Pn**	**18 09 04.6**	**-0.3**
JEM	**Erimo**	**1.11**	**356**	⇑P			**Pn**	**18 09 04.6**	**-0.3**
JEM				*e*S			**Sn**	**18 09 19.9**	**+0.6**
JKEN	**Kujiedanarisaw**	**1.37**	**240**	⇑P			**Pn**	**18 09 08.4**	**-1.8**
JKEN				*e*S			**Sb**	**18 09 25.6**	**-1.7**
JTHR	**Tokachihiroo**	**1.38**	**1**	⇑P			**Pn**	**18 09 08.5**	**-0.2**
JTHR				*e*S			**Sn**	**18 09 26.0**	**0.0**
JNBK	**Urakawa-nobuka**	**1.42**	**345**	⇑P			**Pn**	**18 09 09.5**	**+0.3**
JNBK				*e*S			**Sn**	**18 09 29.4**	**+2.4**
JANG	**Nango**	**1.43**	**249**	⇑P			**Pb**	**18 09 09.8**	**-1.4**
JANG				*e*S			**Sb**	**18 09 28.3**	**-0.7**
JARK	**Aomorirokkasho**	**1.44**	**275**	⇑P			**Pn**	**18 09 09.8**	**+0.4**
JTH	**Tanohata**	**1.44**	**228**	⇑P			**Pb**	**18 09 09.6**	**-1.7**
JTH				S			**Sb**	**18 09 27.7**	**-1.5**
JAHD	**Aomorihigashid**	**1.49**	**284**	⇑P			**Pn**	**18 09 10.9**	**+0.7**
JTM	**Tenmabayashi**	**1.67**	**266**	⇑P			**Pn**	**18 09 13.6**	**+1.0**
JTM				S			**Sb**	**18 09 35.5**	**-0.2**
JTM	**Tenmabayashi**	**1.67**	**266**	P	n		**Pb**	**18 09 13.7**	**-1.5**
JCH	**Churui**	**1.71**	**3**	⇑P			**Pn**	**18 09 12.5**	**-0.6**
JCH				*e*S			**Sn**	**18 09 33.7**	**-0.3**
MIYJ	**Miyakonagasawa**	**1.73**	**220**	⇑P			**Pb**	**18 09 14.0**	**-2.2**
JOT	**Ohata**	**1.73**	**287**	⇑P			**Pn**	**18 09 14.4**	**+0.9**
JOT				S			**Sn**	**18 09 36.8**	**+2.1**
JKZ	**Kuzumaki**	**1.74**	**238**	⇑P			**Pb**	**18 09 14.2**	**-2.2**
JKB	**Kayabe**	**1.94**	**301**	⇑P			**Pn**	**18 09 16.9**	**+0.6**
JOM	**Ohasama**	**2.08**	**227**	⇑P			**Pb**	**18 09 19.6**	**-2.6**
JOM				*e*S			**Sb**	**18 09 44.7**	**-2.9**
JSZI	**Iwateshizukuis**	**2.11**	**237**	⇑P			**Pb**	**18 09 20.7**	**-2.1**
JAH	**Hinai**	**2.12**	**251**	⇑P			**Pb**	**18 09 20.6**	**-2.4**
JSI2	**Shiura 2**	**2.16**	**275**	⇑P			**Pn**	**18 09 20.9**	**+1.5**
OFUJ	**Ofunato**	**2.20**	**214**	⇑P			**Pb**	**18 09 21.0**	**-3.2**
JHHS	**Hirosakihyakuz**	**2.22**	**264**	⇑P			**Pb**	**18 09 22.2**	**-2.3**
JFR	**Furan**	**2.31**	**348**	P			**Pn**	**18 09 22.6**	**+1.2**
JAK	**Akkeshi**	**2.34**	**27**	P			**Pn**	**18 09 21.2**	**-0.7**
JAK				S			**Sn**	**18 09 48.7**	**-1.1**
JEW	**Eniwo**	**2.35**	**326**	⇑P			**Pn**	**18 09 23.1**	**+1.1**
JEW	**Eniwo**	**2.35**	**326**				**Pn**	**18 09 23.2**	**+1.1**
JAR	**Ashorobuto**	**2.42**	**9**	⇑P			**Pn**	**18 09 22.2**	**-0.7**
JAR				S			**Sn**	**18 09 49.6**	**-2.0**
JMK	**Ichinoseki**	**2.51**	**219**	⇑P			**Pb**	**18 09 25.4**	**-4.1**
JRG	**Rokugo**	**2.52**	**234**	⇑P			**Pb**	**18 09 26.1**	**-3.5**
JOMM	**Oshimamatsumae**	**2.53**	**285**	P			**Pn**	**18 09 25.4**	**+1.0**
JOMM				*e*S			**Sn**	**18 09 55.5**	**+1.2**
JIKH	**Ishinomakikobu**	**2.94**	**209**	P			**Pn**	**18 09 30.6**	**+0.5**
JYK	**Kaneyama**	**2.99**	**229**	⇑P			**Pn**	**18 09 32.4**	**+1.6**
NMR	**Nemuro--Hokkai**	**3.07**	**36**	⇓*i*P			**Pn**	**18 09 30.9**	**-0.9**
NMR				*e*S			**Sn**	**18 10 03.6**	**-4.0**
JOU	**Okura**	**3.23**	**219**	P			**Pn**	**18 09 35.5**	**+1.3**
JKA	**Kamikawa-asahi**	**3.24**	**352**				Sn	18 10 04.1	-7.8
JKA	**Kamikawa-asahi**	**3.24**	**352**	Pn			**Pn**	**18 09 34.8**	**+0.6**
ASAJ	**Asahikawa**	**3.24**	**352**	Pn			**Pn**	**18 09 35.1**	**+0.8**
	comp=Z,7.7nm,0.3s,baz=197,slow=15,SNR=74								
ASAJ					Sn		Sn	18 10 04.1	-7.9
	comp=Z,57nm,0.3s,baz=171,slow=14,SNR=5.8								
RUSJ	**Misakicho**	**3.52**	**24**	⇑*i*P			**Pn**	**18 09 38.8**	**+0.8**
RUSJ				*i* S			**Sn**	**18 10 18.7**	**+0.1**
JMM	**Marumori**	**3.59**	**213**				**Pn**	**18 09 39.1**	**0.0**
GRPR	**Tuman**	**3.60**	**30**	*e*P			**Pn**	**18 09 38.6**	**-0.5**
GRPR				*e*S			**Sn**	**18 10 19.1**	**-1.6**
GRPR					pmax		pmax		
	comp=N,331nm,0.4s								
GRPR					pmax		pmax		
	comp=E,145nm,0.4s								
GRPR					pmax		pmax		
	comp=Z,534nm,0.4s								
GRPR					smax		smax		
	comp=N,2μm,0.5s								
GRPR					smax		smax		
	comp=E,1μm,0.5s								
GRPR					MLR		MLR		
	comp=Z,925nm,5.0s								
YUK	**Yuzh-Kuril'sk**	**3.67**	**31**	*c i*P			**Pn**	**18 09 39.8**	**-0.3**
YUK				*i* S			**Sn**	**18 10 20.6**	**-1.8**
YUK					pmax		pmax		
	comp=Z,1μm,1.4s								
YUK					pmax		pmax		
	comp=Z,707nm,0.5s								
YUK					pmax		pmax		
	comp=N,256nm,0.3s								
YUK					smax		smax		
	comp=N,2μm,0.4s								
YUK					smax		smax		
	comp=E,780nm,0.2s								
YUK					MLR		MLR		
	comp=Z,6μm,16.0s								
YUK					MLR		MLR		
	comp=E,3μm,8.0s								
JAW	**Awa shima**	**3.95**	**233**	P			**Pn**	**18 09 45.7**	**+1.8**
JHO	**Hitachi**	**4.78**	**207**	P			**Pn**	**18 09 55.0**	**-0.4**
JSD	**Sado**	**4.81**	**235**	P			**Pn**	**18 09 57.3**	**+1.5**
JSD	**Sado**	**4.81**	**235**	Pn			**Pn**	**18 09 57.4**	**+1.5**
JIZZ	**Izumozaki**	**4.88**	**228**	P			**Pn**	**18 10 00.0**	**+3.2**
JHK	**Hiroka**	**4.92**	**223**	P			**Pn**	**18 09 59.4**	**+2.0**
JKT	**Katashina**	**5.19**	**218**	P			**Pn**	**18 10 03.5**	**+2.4**
JYT	**Yasato**	**5.25**	**208**	Pn			**Pn**	**18 10 01.3**	**-0.6**
JAG	**Ashikaga**	**5.38**	**215**	⇑P			**Pn**	**18 10 04.8**	**+1.2**
KUR	**Kuril'sk**	**5.48**	**36**	*c i*P			**Pn**	**18 10 05.3**	**+0.3**
KUR				*i* S			**Sn**	**18 11 05.4**	**-1.7**
KUR					pmax		pmax		
	comp=Z,542nm,0.6s								
KUR					pmax		pmax		
	comp=N,160nm,0.3s								
KUR					pmax		pmax		
	comp=E,124nm,0.3s								
KUR					pmax		pmax		
	comp=Z,2μm,1.3s								
KUR					smax		smax		
	comp=N,284nm,0.3s								
KUR					smax		smax		
	comp=E,490nm,0.4s								
KUR					MLR		MLR		
	comp=Z,7μm,17.0s								
KUR					MLR		MLR		
	comp=E,5μm,14.0s								
JJN	**Nakama**	**5.49**	**228**	P			**Pn**	**18 10 08.3**	**+3.1**
MJAR	**Matsushiro Arr**	**5.88**	**224**	Pn			**Pn**	**18 10 12.4**	**+1.8**
	comp=E,1.4nm,0.3s,baz=29,slow=14,SNR=72								
MJAR					LR		LR	18 12 50.6	
	comp=E,5μm,19.2s,baz=50,slow=42								
MJAR	**Matsushiro Arr**	**5.88**	**224**				**Pn**	**18 10 12.1**	**+1.6**
MJB9	**Matsu-Tunnel**	**5.88**	**224**				**Pn**	**18 10 11.2**	**+0.6**
MAJO	**Matsushiro**	**5.88**	**224**	P			**Pn**	**18 10 12.3**	**+1.8**
MAJO	**Matsushiro**	**5.88**	**224**	Pn			**Pn**	**18 10 12.3**	**+1.8**
MAT	**Matsushiro**	**5.88**	**224**	P			**Pn**	**18 10 12.7**	**+2.1**
MAT				*e*S			**Sn**	**18 11 22.0**	**+4.9**
MAT	**Matsushiro**	**5.88**	**224**	P			**Pn**	**18 10 12.6**	**+2.0**
JNG	**Nsakai**	**6.04**	**224**	P			**Pn**	**18 10 14.9**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.05**	**357**	*e*P			**Pn**	**18 10 14.6**	**+1.8**
YSS				*e*S			**Sn**	**18 11 20.5**	**-0.7**
YSS					pmax		pmax		
	comp=Z,80nm,0.9s								
YSS					MLR		MLR		
	comp=Z,7μm,15.0s								
YSS					MLR		MLR		
	comp=N,5μm,14.0s								
YSS					MLR		MLR		
	comp=E,4μm,16.0s								
YSS	**Yuzh-Sakhalins**	**6.05**	**357**	Pn			**Pn**	**18 10 13.9**	**+1.1**
JGF	**Kuroka**	**7.04**	**223**				**Pn**	**18 10 28.3**	**+1.8**
JSG	**Sagara**	**7.41**	**214**	P	n		**Pn**	**18 10 31.2**	**-0.2**
INU	**Inuyama**	**7.42**	**224**	P	n		**Pn**	**18 10 34.1**	**+2.5**
JHJ2	**Mitsune**	**8.25**	**201**	P	n		**Pn**	**18 10 43.5**	**+0.4**
JHJ	**Hachijo jima 2**	**8.26**	**201**	P	n		**Pn**	**18 10 43.4**	**+0.3**
	comp=E,27nm,0.3s,baz=310,slow=23,SNR=8.6								
JHJ					Sn		**Sn**	**18 12 10.2**	**-5.3**
	comp=E,33nm,0.3s,baz=107,slow=19,SNR=1.9								
JHJ					LR		LR	18 14 09.0	
	comp=E,2μm,19.1s,baz=45,slow=39								
JWT	**Wachi**	**8.36**	**230**				**Pn**	**18 10 45.8**	**+1.2**
VLA	**Vladivostok**	**8.75**	**288**	*i* P			**Pn**	**18 10 51.5**	**+1.7**
USA0B	**Ussuriysk Arra**	**8.94**	**295**	*c i*P			**Pn**	**18 10 55.2**	**+2.7**
USA0B	**Ussuriysk Arra**	**8.94**	**295**	Pn			**Pn**	**18 10 53.9**	**+1.4**
USRK	**Ussuriysk Ar.**	**8.94**	**295**	Pn			**Pn**	**18 10 54.3**	**+1.8**
	baz=102,slow=14,SNR=68								
USRK					LR		LR	18 14 29.0	
	comp=E,7μm,18.6s,baz=89,slow=38								
USRK	**Ussuriysk Ar.**	**8.94**	**295**	Pn			**Pn**	**18 10 53.8**	**+1.3**
JHS	**Saijyo**	**9.94**	**237**				**Pn**	**18 11 08.3**	**+2.0**
TYV	**Tymovskoe**	**9.96**	**358**	*e*P			**Pn**	**18 11 09.4**	**+3.0**
TYV				*e*S			**Sn**	**18 13 03.3**	**+6.0**
TYV					pmax		pmax		
	comp=Z,400nm,5.0s								
TYV					pmax		pmax		
	comp=Z,24nm,0.9s								
TYV					smax		smax		
	comp=N,15nm,1.1s								
TYV					smax		smax		
	comp=E,1μm,9.2s								
TYV					MLR		MLR		
	comp=E,4μm,17.0s								
TYV					MLR		MLR		
	comp=Z,5μm,17.0s								
JMN	**Monobe**	**10.35**	**229**	Pn			**Pn**	**18 11 14.1**	**+2.3**
MDJ	**Mudanjiang**	**10.71**	**295**	P			**Pn**	**18 11 19.0**	**+2.3**
MDJ					pmax		pmax		
	comp=Z,180nm,1.1s								
MDJ					pmax		pmax		
	comp=Z,700nm,5.3s								
MDJ	**Mudanjiang**	**10.71**	**295**	Pn			**Pn**	**18 11 18.2**	**+1.5**
GRNR	**Gornyy**	**10.95**	**337**	⇑*i*P			**Pn**	**18 11 21.5**	**+1.6**
GRNR				*e*S			**Sn**	**18 13 25.3**	**+3.9**
GRNR					pmax		pmax		
	comp=E,4.0nm,0.8s								
GRNR					pmax		pmax		
	comp=N,6.0nm,0.9s								
GRNR					pmax		pmax		
	comp=Z,7.0nm,1.0s								
GRNR					smax		smax		
	comp=E,6.0nm,1.1s								
GRNR					smax		smax		
	comp=N,4.0nm,1.0s								
GRNR					MLR		MLR		
	comp=E,3μm,14.0s								
GRNR					MLR		MLR		
	comp=N,2μm,15.0s								
GRNR					MLR		MLR		
	comp=Z,2μm,18.0s								
KSRS	**Korea Array**	**12.39**	**259**	Pn			**Pn**	**18 11 42.1**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=71,slow=13,SNR=25								
KSRS					LR		LR	18 16 19.2	
	comp=Z,5μm,18.1s,baz=66,slow=36								
KS19	**Wonju Array Si**	**12.41**	**259**				**Pn**	**18 11 39.9**	**-0.2**
KSAR	**Wonju Array Be**	**12.42**	**259**	P			**Pn**	**18 11 40.2**	**+0.1**
KSAR	**Wonju Array Be**	**12.42**	**259**	Pn			**Pn**	**18 11 40.2**	**+0.1**
JNU	**Nakatsue**	**12.57**	**236**	Pn			**Pn**	**18 11 43.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=86,slow=3.6,SNR=4.8								
JNU	**Nakatsue**	**12.57**	**236**				**Pn**	**18 11 43.2**	**+0.9**
OKH	**Okha**	**12.65**	**359**	*c i*P			Pn	18 11 36.9	-6.2
OKH					pmax		pmax		
	comp=Z,300nm,4.7s								
OKH					MLR		MLR		
	comp=E,4μm,18.0s								
OKH					MLR		MLR		
	comp=N,4μm,19.0s								
OKH					MLR		MLR		
	comp=Z,3μm,17.0s								
JTU	**Tsushima**	**12.68**	**244**	Pn			**Pn**

TIA LR LR
comp=Z,1μm,21.0s
TIA LR LR
comp=Z,2μm,18.1s
NJ2 Nanjing 21.47 253 *e*P **P** **18 13 30.3 -1.2**
NJ2 pP **sP** **18 13 41.3 -0.4**
NJ2 PP **PnPn** **18 13 58.5 +6.5**
NJ2 S **S** **18 17 24.8 -3.4**
NJ2 sS Sn 18 17 37.1 +0.2
NJ2 pmax pmax
comp=Z,79nm,1.0s
NJ2 pmax pmax
comp=Z,400nm,4.8s
NJ2 LR LR
comp=Z,2μm,11.8s
NJ2 LR LR
comp=Z,4μm,15.2s
NJ2 LR LR
comp=Z,4μm,14.2s
YAK Yakutsk 22.68 343 P **P** **18 13 40.6 -3.6**
comp=Z,76nm,1.0s,baz=105,slow=0.6,SNR=33
YAK S **S** **18 17 42.6 -8.0**
comp=Z,2.6nm,0.4s,baz=163,slow=19,SNR=1.6
YAK Yakutsk 22.68 343*c i*P **P** **18 13 40.1 -4.1**
YAK *e**PP **pP** **18 13 48.4 -2.7**
YAK *e* 18 17 36.0
YAK *e*S S 18 17 40.0 -11
YAK *e**SS **pS** **18 17 52.8 -5.3**
YAK *e* 18 24 56.8
YAK pmax pmax
comp=Z,118nm,0.9s
YAK pmax pmax
comp=N,56nm,1.1s
YAK pmax pmax
comp=E,26nm,1.1s
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,18nm,0.9s
YAK smax smax
comp=E,175nm,3.0s
YAK smax smax
comp=N,107nm,2.0s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=E,728nm,13.0s
YAK MLR MLR
comp=N,2μm,17.0s
YAK Yakutsk 22.68 343 P **P** **18 13 40.5 -3.7**
SEY Seymchan 22.72 11 P **P** **18 13 41.5 -3.1**
comp=N,15nm,0.8s,baz=199,slow=8.8,SNR=28
SEY Seymchan 22.72 11 *i*P **P** **18 13 42.2 -2.4**
HHC Hu-ho-hao-te 23.90 280 *e*P **P** **18 13 55.8 -0.9**
HHC sP sP 18 14 11.5 +4.4
HHC S **S** **18 18 07.6 -3.8**
HHC pmax pmax
comp=N,31nm,0.9s
HHC pmax pmax
comp=N,190nm,5.7s
HHC LR LR
comp=N,700nm,14.2s
HHC LR LR
comp=N,2μm,16.7s
HHC LR LR
comp=N,3μm,16.7s
TIY Taiyuan 24.00 272 *e*P **P** **18 13 57.4 -0.2**
YHNB Yeheng 24.41 235 P **P** **18 13 59.5 -1.9**
YHNB IAmb IAmb 18 14 03.6
comp=Z,44nm,1.0s
BTO Baotou 25.10 280 *e*P **P** **18 14 06.8 -0.8**
BOD Bodaibo 25.18 322 *e*P **P** **18 14 06.9 -1.2**
BOD pmax pmax
comp=Z,35nm,1.0s
SSLB Suanglung 25.31 234 P **P** **18 14 08.0 -1.6**
YULB Yu-li 25.40 233 P **P** **18 14 10.0 -0.3**
WHN Wuhan 25.54 255 ⇑P **P** **18 14 12.0 +0.4**
WHN S **S** **18 18 39.9 +2.4**
WHN pmax pmax
comp=Z,160nm,0.8s
WHN LR LR
comp=Z,5μm,14.7s
WHN LR LR
comp=Z,8μm,14.8s
WHN LR LR
comp=Z,10μm,16.3s
TPUB Ta-pu 25.87 234 P **P** **18 14 14.4 -0.3**
TPUB IAmb IAmb 18 14 29.7
comp=Z,30nm,0.8s
TWG Pinlang 25.96 233 P **P** **18 14 15.1 -0.4**
TWG IAmb IAmb 18 14 31.3
comp=Z,48nm,1.1s
QZH Quanzhou 25.99 240 *e*P **P** **18 14 17.0 +1.3**
QZH S **S** **18 18 47.0 +2.3**
QZH LR LR
comp=Z,1μm,19.9s
QZH LR LR
comp=Z,990nm,20.8s
QZH LR LR
comp=Z,2μm,17.5s
KNMB Chin-men Tao 26.46 239 P **P** **18 14 19.9 0.0**
ULN Ulaanbaatar 26.61 297*ce*P **P** **18 14 21.8 +0.5**
ULN pmax pmax
comp=Z,60nm,1.3s
ULN Ulaanbaatar 26.61 297 P **P** **18 14 21.1 -0.2**
ULN IAmb IAmb 18 14 24.8
comp=Z,41nm,0.9s
SONM Songino Array 27.05 297 P **P** **18 14 25.6 +0.4**
comp=Z,30nm,1.0s,baz=91,slow=9.2,SNR=66
SONM LR LR 18 25 56.5
comp=Z,3μm,19.2s,baz=93,slow=38
SONM Songino Array 27.05 297 P **P** **18 14 25.2 -0.1**
GUMO Guam 27.25 177 LR LR 18 24 02.1
comp=Z,528nm,21.6s,baz=7.0,slow=34
XAN Xi'an 27.97 267 P **P** **18 14 32.9 -0.6**
XAN pP sP 18 14 43.5 -0.7
XAN sP pP 18 14 47.8 +6.7
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,300nm,3.7s
XAN LR LR
comp=Z,550nm,14.4s
XAN LR LR
comp=Z,2μm,16.5s
XAN LR LR
comp=Z,2μm,17.6s
XAN Xi'an 27.97 267 P **P** **18 14 31.9 -1.7**
XAN pmax pmax
comp=Z,31nm,0.9s
XAN Xi'an 27.97 267 P **P** **18 14 31.9 -1.7**
XAN IAmb IAmb 18 14 38.2
comp=Z,31nm,0.9s
TLY Talaya 29.07 305 P **P** **18 14 43.2 +0.1**
comp=Z,20nm,0.8s,baz=106,slow=3.6,SNR=7.7
TLY Talaya 29.07 305*c i*P **P** **18 14 43.4 +0.3**
TLY pmax pmax
comp=Z,98nm,1.1s
TLY MLR MLR
comp=Z,3μm,13.0s
TLY Talaya 29.07 305 P **P** **18 14 42.3 -0.9**
TLY IAmb IAmb 18 14 46.7
comp=Z,41nm,1.1s
H11N2 WAKE ISLAND Hy 29.19 129 T T 18 45 30.9
baz=322,slow=74,SNR=528
ZAK Zakamensk 29.20 303 *e*P **P** **18 14 44.0 -0.3**
ZAK pmax pmax
comp=Z,30nm,1.1s
H11N1 WAKE ISLAND Hy 29.20 129 T T 18 45 32.6
baz=322,slow=74,SNR=767
H11N3 WAKE ISLAND Hy 29.21 129 T T 18 45 29.7
baz=322,SNR=619
ENH Enshi 29.28 260 P **P** **18 14 44.3 -0.9**
ENH IAmb IAmb 18 14 46.6
comp=Z,46nm,0.9s
BILL Bilibino 29.91 17⇓ *e*P **P** **18 14 50.8 +0.5**
BILL *e* 18 14 55.4
BILL *PP **sP** **18 15 03.0 +2.2**
BILL 18 15 44.0
BILL PPP PPP 18 16 00.0
BILL S **S** **18 19 48.0 +2.4**
BILL pmax pmax
comp=Z,50nm,1.3s
BILL MLR MLR
comp=Z,968nm,16.0s
BILL Bilibino 29.91 17 P **P** **18 14 50.4 +0.1**

BILL IAmb IAmb 18 14 52.7
comp=Z,46nm,1.1s
H11S1 WAKE ISLAND Hy 30.04 131 T T 18 46 34.3
baz=324,slow=74,SNR=431
H11S3 WAKE ISLAND Hy 30.04 131 T T 18 46 32.8
baz=324,slow=74,SNR=255
H11S2 WAKE ISLAND Hy 30.06 131 T T 18 46 32.0
baz=324,SNR=274
MOY Mondy 30.72 305 *e*P **P** **18 14 58.5 +0.7**
MOY pmax pmax
comp=Z,63nm,1.4s
LZH Lanzhou 31.04 274 *e*P **P** **18 15 00.6 -0.2**
LZH pP pP 18 15 09.6 +1.4
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,320nm,5.7s
LZH LR LR
comp=Z,570nm,12.7s
LZH LR LR
comp=Z,1μm,12.5s
LZH LR LR
comp=Z,1μm,17.1s
TIXI Tiksi 31.65 351*ce*P **P** **18 15 03.4 -2.2**
TIXI Tiksi 31.65 351 P **P** **18 15 05.5 0.0**
GTA Gaotai 32.98 282 ⇑P **P** **18 15 17.8 -0.1**
GTA pP sP 18 15 31.8 +3.4
GTA PcP **PcP** **18 18 02.9 +1.5**
GTA S **S** **18 20 33.5 -1.1**
GTA sS sS 18 20 49.5 +2.6
GTA PcS **PcS** **18 21 48.4 +1.5**
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,160nm,7.5s
GTA LR LR
comp=Z,980nm,16.7s
GTA LR LR
comp=Z,2μm,17.8s
GTA LR LR
comp=Z,3μm,17.1s
CD2 Chengdu 33.27 265 P **P** **18 15 19.3 -1.0**
CD2 S **S** **18 20 36.4 -2.6**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,260nm,9.6s
CD2 LR LR
comp=Z,2μm,15.5s
CD2 LR LR
comp=Z,2μm,13.3s
CD2 LR LR
comp=Z,2μm,15.2s
GYA Guiyang 33.43 256 ⇑P **P** **18 15 21.6 -0.2**
GYA pP sP 18 15 34.1 +1.6
GYA S **S** **18 20 40.4 -1.2**
GYA sS sS 18 20 59.3 +5.2
GYA pmax pmax
comp=Z,95nm,0.7s
GYA pmax pmax
comp=Z,250nm,4.4s
GYA LR LR
comp=Z,2μm,14.4s
GYA LR LR
comp=Z,2μm,16.5s
GYA LR LR
comp=Z,3μm,17.0s
QIZ Qiongzhong 35.91 243 P **P** **18 15 42.8 -0.4**
QIZ S **S** **18 21 18.1 -1.7**
QIZ LR LR
comp=Z,940nm,19.1s
QIZ LR LR
comp=Z,850nm,17.6s
QIZ LR LR
comp=Z,980nm,17.6s
AKUT Akutan 36.07 51 P **P** **18 15 44.3 +0.1**
KMI Kunming 37.09 258⇑ *i*P **P** **18 15 54.0 +0.5**
KMI pP sP 18 16 05.5 +1.3
KMI sP pP 18 16 09.5 +8.5
KMI PP **PnPn** **18 17 18.0 -0.5**
KMI S **S** **18 21 36.5 -1.6**
KMI pmax pmax
comp=Z,71nm,0.9s
KMI pmax pmax
comp=Z,350nm,4.2s
KMI LR LR
comp=Z,2μm,15.9s
KMI LR LR
comp=Z,1μm,16.6s
KMI LR LR
comp=Z,2μm,16.9s
KMI Kunming 37.09 258 P **P** **18 15 53.9 +0.5**
KMI pmax pmax
comp=Z,66nm,1.0s
KMI Kunming 37.09 258 P **P** **18 15 53.9 +0.5**
DAV Davao City (W) 37.21 210 LR LR 18 31 31.3
comp=Z,570nm,19.9s,baz=54,slow=37
SLVN Son La 38.52 252 P **P** **18 16 05.8 +0.4**
SLVN IAmb IAmb 18 16 08.0
comp=Z,18nm,0.9s
RDOG Red Dog Mine 39.41 29 P **P** **18 16 13.5 +1.2**
DGZ Jazzator, Alta 39.42 302*ci*P **P** **18 16 13.5 +0.8**
DGZ pmax pmax
comp=Z,52nm,1.0s
NRIK Noril'sk 40.41 333 P **P** **18 16 20.5 0.0**
comp=Z,14nm,1.0s,baz=108,slow=9.7,SNR=14
NRIK LR LR 18 34 27.8
comp=Z,3μm,19.5s,baz=101,slow=38
NRIK Noril'sk 40.41 333*ce*P **P** **18 16 20.1 -0.4**
NRIK pmax pmax
comp=Z,27nm,1.1s
ZAA0 Zalesovo Array 40.48 309 P **P** **18 16 20.7 -0.6**
ZAA0 IAmb IAmb 18 16 36.3
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 40.48 309 P **P** **18 16 21.6 +0.4**
comp=Z,27nm,0.8s,baz=87,slow=7.7,SNR=78
ZALV PcP **PcP** **18 18 24.1 +0.6**
comp=Z,8.8nm,0.9s,baz=90,slow=2.9,SNR=4.4
ZALV ScP **ScP** **18 22 11.7 +0.8**
comp=Z,0.9nm,0.7s,baz=116,slow=3.4,SNR=2.5
ZALV LR LR 18 34 12.4
comp=Z,2μm,19.6s,baz=85,slow=38
ZALV Zalesovo Beam 40.48 309 P **P** **18 16 20.9 -0.4**
WMQ Urumqi 40.51 293 *e*P **P** **18 16 22.4 +0.7**
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,180nm,5.1s
WMQ LR LR
comp=Z,690nm,15.9s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,850nm,19.3s
WMQ Urumqi 40.51 293 P **P** **18 16 21.8 +0.1**
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ Urumqi 40.51 293 P **P** **18 16 21.8 +0.1**
WMQ IAmb IAmb 18 16 49.5
comp=Z,36nm,0.9s
TTA Tatalina 41.44 37 P **P** **18 16 30.5 +1.3**
TTA pmax pmax
comp=Z,12nm,1.4s
TTA Tatalina 41.44 37 P **P** **18 16 30.5 +1.3**
UBPT Khong Chiam 41.50 243 P **P** **18 16 29.2 -0.9**
UBPT IAmb IAmb 18 16 32.4
comp=Z,18nm,0.8s
ZSN Zaisan 41.52 299 *e*P **P** **18 16 30.0 0.0**
comp=Z,58nm,3.2s
ZSN *e*S **S** **18 22 47.2 +3.3**
ZSN *e*LR LR 18 34 23.5
ZSN Zaisan 41.52 299 *e*P **P** **18 16 30.0 0.0**
ZSN *e*S **S** **18 22 47.2 +3.3**
ZSN pmax pmax
comp=Z,58nm,3.2s
SVW2 Sparrevohn 41.60 40 P **P** **18 16 32.2 +1.7**
MYLDM Lahad Datu 41.93 219 P **P** **18 16 34.6 +1.1**
MYLDM IAmb IAmb 18 16 38.6
comp=Z,35nm,1.2s
DLV T Lat 41.98 237 P **P** **18 16 34.8 +0.5**
DLV IAmb IAmb 18 16 36.9
comp=Z,26nm,0.9s
KKM Kota Kinabalu 42.30 222 P **P** **18 16 37.6 +0.9**
A21K Barrow 42.34 25 P **P** **18 16 38.2 +1.9**
TNTI Ternate 42.47 204 P **P** **18 16 39.5 +1.5**
comp=Z,12nm,1.1s

TNTI Ternate 42.47 204 P **P** **18 16 38.0 0.0**
SII Sitkinak Islan 42.55 47 P **P** **18 16 40.6 +2.3**
IMAR Indian Mountai 42.60 33 P **P** **18 16 39.5 +1.0**
SIJI Sorong 42.99 198 P **P** **18 16 42.8 +0.6**
comp=Z,9.0nm,0.7s,baz=315,slow=20,SNR=3.5
PPLA Purkeypile 43.19 37 P **P** **18 16 44.1 +0.6**
MK31 Makanchi Array 43.39 299*ce*P **P** **18 16 45.1 -0.1**
MK31 Makanchi Array 43.39 299 P **P** **18 16 44.1 -1.1**
MK31 IAmb IAmb 18 16 46.4
comp=Z,21nm,0.8s
MKAR Makanchi Array 43.39 299 P **P** **18 16 45.5 +0.3**
comp=Z,22nm,0.8s,baz=82,slow=8.9,SNR=109
MKAR LR LR 18 36 11.7
comp=Z,2μm,18.5s,baz=78,slow=38
MKAR Makanchi Array 43.39 299 P **P** **18 16 44.4 -0.8**
LSA Lhasa 43.40 272 P **P** **18 16 47.0 +1.0**
LSA LR LR
comp=Z,1μm,18.5s
LSA LR LR
comp=Z,3μm,22.1s
LSA Lhasa 43.40 272 P **P** **18 16 47.6 +1.6**
LSA Lhasa 43.40 272 P **P** **18 16 46.5 +0.5**
LSA pmax pmax
comp=Z,34nm,1.2s
LSA Lhasa 43.40 272 P **P** **18 16 46.5 +0.5**
LSA IAmb IAmb 18 17 11.6
comp=Z,34nm,1.2s
MAKZ Makanchi 43.59 299 P **P** **18 16 46.4 -0.4**
MAKZ pmax pmax
comp=Z,25nm,0.9s
MAKZ Makanchi 43.59 299 P **P** **18 16 46.4 -0.4**
MAKZ IAmb IAmb 18 16 48.1
comp=Z,25nm,0.8s
CHTO Chiang Mai 43.71 253 P **P** **18 16 48.6 +0.5**
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO Chiang Mai 43.71 253 P **P** **18 16 48.5 +0.5**
CHTO IAmb IAmb 18 16 50.2
comp=Z,26nm,0.9s
BPAW Bear Paw Mtn. 43.72 35 P **P** **18 16 48.8 +1.2**
KTH Kantishna Hill 43.76 36 P **P** **18 16 49.2 +1.2**
KTH IAmb IAmb 18 17 18.7
comp=Z,29nm,1.0s
MLY Manley 43.82 34 P **P** **18 16 49.2 +0.8**
baz=270
SUA Susitna One 43.92 39 P **P** **18 16 51.7 +2.3**
SUA IAmb IAmb 18 16 59.2
comp=Z,33nm,1.4s
CM31 Chiang Mai Arr 43.94 253 P **P** **18 16 50.1 +0.2**
CMAR Chiang Mai Arr 43.94 253 P **P** **18 16 51.3 +1.4**
comp=Z,9.8nm,0.8s,baz=47,slow=6.6,SNR=73
CMAR PcP **PcP** **18 18 37.2 +1.6**
comp=Z,2.7nm,0.9s,baz=24,slow=3.2,SNR=4.1
TRF Thorofare Moun 44.04 36 P **P** **18 16 52.9 +2.5**
GTOI Gorontalo 44.09 210 P **P** **18 16 52.0 +0.9**
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 44.38 29 P **P** **18 16 53.1 +0.3**
baz=267
TOLK Toolik Lake Re 44.38 29 P **P** **18 16 53.3 +0.4**
BWN Browne 44.38 35 P **P** **18 16 54.7 +1.8**
RC01 Rabbit Creek A 44.44 40 P **P** **18 16 53.9 +0.5**
baz=275
NEA2 Nenana 44.54 35 P **P** **18 16 55.5 +1.3**
baz=272
MCK McKinley 44.63 36 P **P** **18 16 55.5 +0.5**
baz=273
FAKI Fak Fak 44.76 196 P **P** **18 16 56.8 +0.4**
comp=Z,23nm,0.8s
FAKI Fak Fak 44.76 196 P **P** **18 16 56.1 -0.3**
FAKI IAmb IAmb 18 17 16.6
comp=Z,16nm,0.8s
KURK Kurchatov 44.77 305*ce*P **P** **18 16 56.0 -0.1**
KURK pmax pmax
comp=Z,49nm,0.8s
KURK Kurchatov 44.77 305 **PcP** **18 18 38.9 +1.0**
KURK Kurchatov 44.77 305 P **P** **18 16 55.8 -0.3**
KURBB Kurchatov Arra 44.85 305 PcP **PcP** **18 18 38.9 +0.7**
comp=Z,4.5nm,0.8s,baz=75,slow=3.7,SNR=3.0
MDM Murphy Dome 44.89 34 P **P** **18 16 57.9 +1.0**
WRH Wood River Hil 44.97 35 P **P** **18 16 58.5 +0.9**
WRH IAmb IAmb 18 17 05.4
comp=Z,20nm,1.4s
SHL Shillong 44.98 267 P **P** **18 16 57.5 -0.9**
SHL pmax pmax
comp=Z,27nm,0.9s
SHL Shillong 44.98 267 P **P** **18 16 57.5 -0.9**
SHL IAmb IAmb 18 17 01.3
comp=Z,27nm,0.9s
KNK Knik Glacier 45.02 39 P **P** **18 16 59.4 +1.3**
KNK IAmb IAmb 18 17 02.5
comp=Z,31nm,1.4s
SML Sawmill 45.05 39 P **P** **18 16 59.1 +0.8**
SML IAmb IAmb 18 17 28.6
comp=Z,33nm,1.2s
COLA College 45.05 34 P **P** **18 16 58.4 +0.2**
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 45.05 34 P **P** **18 16 58.4 +0.2**
COLA IAmb IAmb 18 17 20.5
comp=Z,15nm,0.8s
CCB Clear Creek Bu 45.08 35 P **P** **18 17 00.2 +1.7**
POKR Poker Flat Res 45.22 34 P **P** **18 17 00.9 +1.3**
baz=273
DHY Denali Highway 45.38 37 P **P** **18 17 02.3 +1.2**
DHY IAmb IAmb 18 17 28.0
comp=Z,10nm,0.7s
HDA Harding Lake 45.47 35 P **P** **18 17 01.5 0.0**
baz=274
HDA Harding Lake 45.47 35 P **P** **18 17 02.1 +0.5**
IL31 45.47 34 P **P** **18 17 01.6 +0.2**
ILAR Eielson Array 45.47 34 P **P** **18 17 02.6 +1.0**
comp=Z,4.4nm,0.8s,baz=261,slow=6.0,SNR=46
ILAR LR LR 18 36 00.1
comp=Z,316nm,21.9s,baz=283,slow=36
ILAR Eielson Array 45.47 34 P **P** **18 17 01.9 +0.3**
SCM Sheep Creek Mo 45.52 39 P **P** **18 17 04.0 +1.9**
SCM pmax pmax
comp=Z,31nm,1.2s
SCM Sheep Creek Mo 45.52 39 P **P** **18 17 04.0 +1.9**
SCM IAmb IAmb 18 17 11.1
comp=Z,31nm,1.2s
SANI Sanana 45.56 205 P **P** **18 17 03.7 +0.9**
comp=Z,656nmcomp=Z,17nm,0.8s
MPSI Mapaga 45.60 214 P **P** **18 17 04.6 +1.5**
comp=Z,14nm,0.8s
MSAI Masohi 45.95 200 P **P** **18 17 06.0 +0.2**
comp=Z,210nmcomp=Z,6.9nm,0.8s
M24K Tolsona, Glenn 46.03 38 P **P** **18 17 07.3 +1.2**
baz=277
M24K Tolsona, Glenn 46.03 38 P **P** **18 17 06.6 +0.6**
M24K IAmb IAmb 18 17 30.5
comp=Z,22nm,0.8s
FYU Fort Yukon 46.05 32 P **P** **18 17 07.8 +1.7**
KLU Klutina 46.22 39 P **P** **18 17 09.0 +1.4**
KLU IAmb IAmb 18 17 23.5
comp=Z,35nm,1.3s
BMAR Burnt Mountain 46.26 31 P **P** **18 17 09.5 +1.7**
EYAK Cordova Ski Ar 46.44 40 P **P** **18 17 10.6 +1.4**
EYAK IAmb IAmb 18 17 15.2
comp=Z,34nm,1.2s
RIDG Independent Ri 46.45 36 P **P** **18 17 10.6 +1.2**
RIDG IAmb IAmb 18 17 34.4
comp=Z,26nm,1.5s
TDK Taldyqorghan 46.51 298 *e*P **P** **18 17 10.0 -0.1**
comp=Z,34nm,0.9s
TDK *e*S **S** **18 23 59.5 +2.9**
TDK *e*LR LR 18 36 48.7
comp=Z,1μm,18.6s
TDK Taldyqorghan 46.51 298 *e*P **P** **18 17 09.9 -0.1**
TDK *e*S **S** **18 23 59.5 +2.9**
TDK pmax pmax
comp=Z,34nm,0.9s
TDK MLR MLR
comp=Z,1μm,19.0s
UZB Uzunbulak 46.71 295 *e*P **P** **18 17 10.9 -1.0**
UZB *e*S **S** **18 23 56.1 -3.8**
UZB *e*LR LR 18 37 06.7
comp=Z,805nm,17.9s
UZB Uzunbulak 46.71 295 *e*P **P** **18 17 10.8 -1.0**
UZB *e*S **S** **18 23 56.0 -3.8**
UZB MLR MLR
comp=Z,805nm,18.0s
SCRK Sand Creek 46.80 35 P **P** **18 17 12.7 +0.6**
baz=277
DOT Dot Lake 46.80 36 P **P** **18 17 12.4 +0.3**

KPKS Kokpek 46.84 296 *e*P **P 18 17 12.5 -0.3**
comp=Z,8.8nm,0.9s
KPKS *e*LR LR 18 37 39.6
comp=Z,696nm,15.7s
KPKS Kokpek 46.84 296 *e*P **P 18 17 12.4 -0.3**
KPKS pmax pmax
comp=Z,9.0nm,0.9s
KPKS MLR MLR
comp=Z,696nm,16.0s
RAGM Ragged Mountai 46.99 40 P **P 18 17 14.7 +1.1**
MENT Mentasta 47.05 37 P **P 18 17 14.6 +0.5**
MENT IAmb IAmb 18 17 31.5
comp=Z,23nm,1.2s
SATY Saty 47.17 295 *e*P **P 18 17 15.1 -0.3**
SATY *e*LR LR 18 37 35.3
comp=Z,536nm,17.1s
SATY Saty 47.17 295 *e*P **P 18 17 15.0 -0.3**
SATY MLR MLR
comp=Z,536nm,17.0s
SBUM Sibu 47.43 224 P **P 18 17 18.0 +0.5**
VRDI Verde Repeater 47.44 39 P **P 18 17 18.2 +0.9**
VRDI IAmb IAmb 18 17 31.7
comp=Z,16nm,1.2s
K27K Chicken 47.63 35 P **P 18 17 19.7 +1.3**
baz=278
TARA Tarawa 47.65 138 P **P 18 17 19.6 +0.5**
CRQM Cirque 47.67 40 P **P 18 17 21.0 +1.9**
TGL Tana Glacier 47.82 40 P **P 18 17 21.7 +1.6**
TGL IAmb IAmb 18 17 28.7
comp=Z,17nm,1.0s
BCAR Beaver Creek A 47.91 36 P **P 18 17 21.8 +1.1**
EGAK Eagle 47.91 34 P **P 18 17 21.1 +0.5**
EGAK IAmb IAmb 18 17 35.2
comp=Z,9.1nm,0.8s
BALM Baldy 48.00 39 P **P 18 17 22.6 +1.0**
BALM IAmb IAmb 18 17 29.8
comp=Z,22nm,1.4s
MDOK Medeo 48.06 296 *e*P **P 18 17 22.3 -0.1**
MDOK *e*LR LR 18 37 13.6
comp=Z,778nm,17.9s
MDOK Medeo 48.06 296 *e*P **P 18 17 22.2 -0.1**
MDOK MLR MLR
comp=Z,778nm,18.0s
ISLE Juniper Island 48.09 40 P **P 18 17 23.1 +0.9**
ISLE IAmb IAmb 18 17 36.5
comp=Z,24nm,1.1s
AAA Alma-Ata 48.13 296 *e*P **P 18 17 25.1 +2.3**
AAA *e*LR LR 18 37 34.0
comp=Z,862nm,19.9s
AAA Alma-Ata 48.13 296 *e*P **P 18 17 25.1 +2.3**
AAA MLR MLR
comp=Z,862nm,20.0s
TNSS Tian-Shan 48.17 296 *e*P **P 18 17 23.4 -0.1**
TNSS Tian-Shan 48.17 296 *e*P **P 18 17 23.3 -0.2**
KUU Kurty 48.28 297 *e*P **P 18 17 22.3 -1.6**
KUU *e*LR LR 18 38 00.0
comp=Z,728nm,15.1s
KUU Kurty 48.28 297 *e*P **P 18 17 22.2 -1.6**
KUU MLR MLR
comp=Z,728nm,15.0s
BARN Barnard Glacie 48.33 39 P **P 18 17 25.3 +1.2**
BARN IAmb IAmb 18 17 51.4
comp=Z,19nm,1.2s
MESA MESA 48.36 40 P **P 18 17 25.0 +0.5**
YAH Yahtse 48.43 40 P **P 18 17 26.2 +1.3**
YAH IAmb IAmb 18 17 34.4
comp=Z,25nm,1.1s
CTGM Chitina Glacie 48.50 39 P **P 18 17 25.8 +0.4**
CTGM IAmb IAmb 18 17 34.4
comp=Z,14nm,1.1s
BRZS Berezniki 48.63 306⇑ *i*P **P 18 17 26.3 -0.2**
comp=Z,23nm,1.0s
BRZS Berezniki 48.63 306 *c i*P **P 18 17 26.2 -0.2**
BRZS pmax pmax
comp=Z,23nm,1.0s
TABL Table Mountain 48.70 40 P **P 18 17 27.0 -0.1**
MTKI Muara Teweh, K 48.99 219 P **P 18 17 31.0 +1.5**
comp=Z,24nm,1.0s
BOOM Boomskoye usch 49.06 295 P **P 18 17 29.8 -0.3**
BOOM pmax pmax
comp=Z,62nm,1.4s
BOOM Boomskoye usch 49.06 295 P **P 18 17 29.8 -0.3**
BVAR Borovoye Array 49.10 310 P **P 18 17 30.5 +0.6**
comp=Z,8.3nm,0.8s,baz=63,slow=14,SNR=3.4
TKM2 Tokmak 2 49.14 296 P **P 18 17 31.2 +0.6**
SNR=41
BRVK Borovoye 49.15 310 *ce*P **P 18 17 30.6 +0.3**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 49.15 310 P **P 18 17 29.9 -0.5**
KSM Kuching 49.27 226 P **P 18 17 33.0 +1.3**
KSM IAmb IAmb 18 17 34.3
comp=Z,11nm,0.8s
BTLS Baital 49.40 299⇑ *i*P **P 18 17 31.7 -0.7**
comp=Z,4.5nm,1.0s
BTLS *e*LR LR 18 39 15.7
BTLS Baital 49.40 299 *c i*P **P 18 17 31.6 -0.7**
BTLS pmax pmax
comp=Z,5.0nm,1.0s
SGDS Sogindy 49.59 297⇑ *e*P **P 18 17 33.7 -0.3**
SGDS Sogindy 49.59 297 *ce*P **P 18 17 33.6 -0.3**
KBK Karagaybulak 49.68 296 P **P 18 17 35.4 +0.6**
SNR=19
AAK Ala-Archa 49.99 296 P **P 18 17 37.4 +0.2**
SNR=6.4
AAK Ala-Archa 49.99 296 *i* P **P 18 17 36.8 -0.3**
SNR=12
AAK Ala-Archa 49.99 296 *ce*P **P 18 17 36.9 -0.3**
AAK pmax pmax
comp=Z,26nm,1.0s
KSH Kashi 50.22 292 P **P 18 17 42.8 +3.9**
KSH S **S 18 24 50.0 +0.6**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH LR LR
comp=Z,370nm,11.6s
KSH LR LR
comp=Z,560nm,11.3s
KSH LR LR
comp=Z,860nm,11.8s
INK Inuvik 50.29 29 P **P 18 17 40.2 +1.4**
INK pmax pmax
comp=Z,27nm,1.2s
INK Inuvik 50.29 29 P **P 18 17 40.2 +1.4**
INK IAmb IAmb 18 17 53.9
comp=Z,26nm,1.1s
HYT Haines Junctio 50.36 39 P **P 18 17 41.8 +2.2**
EKS2 Erkin-Say 50.47 296 P **P 18 17 40.8 0.0**
SNR=10
KAPI Kappang 50.52 211 P **P 18 17 42.7 +1.6**
comp=Z,5.1nm,0.3s,baz=27,slow=6.8,SNR=4.1
KAPI Kappang 50.52 211 P **P 18 17 42.6 +1.4**
KAPI IAmb IAmb 18 18 02.7
comp=Z,26nm,1.1s
AML Almayashu 50.74 296 P **P 18 17 43.8 +0.7**
SNR=19
WHY Whitehorse 51.64 38 P **P 18 17 51.1 +1.9**
KULM Kulim 52.03 239 P **P 18 17 53.6 +1.1**
KULM IAmb IAmb 18 17 55.0
comp=Z,26nm,0.9s
DZA Taraz 52.03 298 *e*P **P 18 17 51.3 -1.0**
DZA Taraz 52.03 298 *e*P **P 18 17 51.3 -1.0**
BESE Bessie Mountai 52.29 41 P **P 18 17 56.3 +2.3**
BESE IAmb IAmb 18 18 12.6
comp=Z,27nm,1.4s
IPM Ipoh 52.40 238 P **P 18 17 55.3 0.0**
IPM IAmb IAmb 18 17 57.1
comp=Z,13nm,0.8s
KK31 Karatay Array 52.50 298 P **P 18 17 55.0 -0.7**
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 52.50 298 P **P 18 17 55.0 -0.7**
KK31 IAmb IAmb 18 17 56.7
comp=Z,12nm,0.8s
KKAR Karatay Array 52.50 298 P **P 18 17 55.2 -0.5**
KKAR pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 52.50 298 P **P 18 17 55.2 -0.5**
KKAR Karatay Array 52.50 298 P **P 18 17 55.2 -0.5**
KKAR IAmb IAmb 18 17 56.6
comp=Z,12nm,0.8s
JIS Juneau Island 52.62 41 P **P 18 17 58.5 +2.1**
JIS IAmb IAmb 18 18 10.9
comp=Z,21nm,1.1s
MYKOM Kota Tinggi 52.73 233 P **P 18 17 59.0 +1.3**
MYKOM IAmb IAmb 18 18 00.4
comp=Z,13nm,1.0s
IUG Iuzhnay 53.22 297⇑ *i*P **P 18 18 01.1 -0.1**
comp=Z,18nm,1.5s
IUG *e*LR LR 18 41 13.5
comp=Z,422nm,17.5s
IUG Iuzhnay 53.22 297 *c i*P **P 18 18 01.0 -0.1**
IUG pmax pmax
comp=Z,18nm,1.5s
IUG MLR MLR
comp=Z,422nm,18.0s
SVE Sverdlovsk 53.24 317 *d i*P **P 18 18 02.0 +1.0**
SVE pmax pmax
comp=Z,93nm,1.0s
SVE MLR MLR
comp=Z,2μm,18.0s
EDFI Ende, Flores 53.26 207 P **P 18 18 02.4 +0.8**
comp=Z,535nmcomp=Z,20nm,0.5s
C36M Paulatuk 53.32 26 P **P 18 18 02.0 +0.7**
baz=289
SOEI Soe 53.37 204 P **P 18 18 01.4 -1.0**
BTK Batken 53.58 295 P **P 18 18 03.2 -0.6**
BTK pmax pmax
comp=Z,11nm,1.0s
BTK Batken 53.58 295 P **P 18 18 03.2 -0.6**
BTK IAmb IAmb 18 18 10.5
comp=Z,11nm,0.9s
BATI Baumata 53.98 204 P **P 18 18 06.7 -0.1**
comp=Z,9.5nm,0.6s,baz=6.0,slow=19,SNR=2.6
GAR Garm 54.40 294 P **P 18 18 09.5 -0.4**
GAR IAmb IAmb 18 18 29.7
comp=Z,18nm,1.0s
ARU Arti 54.45 317 P **P 18 18 10.3 +0.4**
comp=Z,17nm,0.9s,baz=64,slow=4.5,SNR=65
ARU Arti 54.45 317 *c i*P **P**
ARU *PP **sP**
ARU 18 19 11.6
ARU 18 20 08.8
ARU PPP PPP 18 21 21.0
ARU S **S** **18 25 47.3 +0.7**
ARU 18 27 57.5
ARU SS **SS** **18 29 34.5 +6.0**
ARU pmax pmax
comp=Z,81nm,1.0s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 54.45 317 P **P 18 18 09.8 0.0**
COEN Coen 54.59 180 P **P 18 18 11.5 +0.3**
MTN Manton Dam 54.65 195 P **P 18 18 11.7 +0.1**
MTN IAmb IAmb 18 18 39.1
comp=Z,24nm,1.1s
NIL Nilore 54.83 286 P **P 18 18 13.0 0.0**
NIL pmax pmax
comp=Z,46nm,0.9s
NIL Nilore 54.83 286 P **P 18 18 13.0 0.0**
PSI Prapat 55.03 238 P **P 18 18 15.8 +1.1**
comp=Z,8.7nm,0.5s,baz=333,slow=9.0
PSI Prapat 55.03 238 P **P 18 18 15.8 +1.1**
PSI pmax pmax
comp=Z,11nm,0.7s
RPSI Rantau Prapat 55.11 238 P **P 18 18 15.8 +0.7**
RPSI Rantau Prapat 55.11 238 P **P 18 18 15.1 0.0**
RPSI IAmb IAmb 18 18 16.4
comp=Z,11nm,0.7s
CHGR Chuyangaron 55.36 294 P **P 18 18 16.3 -0.5**
BKNI Bangkinang 55.60 235 P **P 18 18 19.6 +1.0**
EUNU Eureka 56.14 9 P **P 18 18 22.3 +0.5**
EUNU IAmb IAmb 18 18 45.8
comp=Z,23nm,1.3s
SDSI Sungai Dareh 56.35 233 P **P 18 18 25.5 +1.6**
comp=Z,3μmcomp=Z,26nm,0.7s
ABKAR Akbulak array 56.59 309 P **P 18 18 25.4 +0.1**
ABKAR Akbulak array 56.59 309 P **P 18 18 25.2 -0.1**
ABKAR IAmb IAmb 18 18 26.9
comp=Z,43nm,0.9s
PWJI Pagerwojo 56.64 218 P **P 18 18 25.7 -0.3**
comp=Z,29nm,0.8s
GSI Gunungsitoli 57.03 238 P **P 18 18 29.4 +0.5**
comp=Z,30nm,0.9s
GSI Gunungsitoli 57.03 238 P **P 18 18 28.2 -0.7**
UGM Wanagama 57.16 220 P **P 18 18 30.2 +0.5**
AKTO Aktyubinsk 57.20 311 P **P 18 18 29.9 +0.3**
comp=Z,29nm,0.8s,baz=57,slow=6.5,SNR=44
NOR Nord 57.28 357 *i* P **P 18 18 28.7 -1.0**
NOR pmax pmax
comp=Z,6.0nm,1.0s
NOR Nord 57.28 357 *i* P **P 18 18 28.7 -1.0**
comp=Z,6.1nm,1.0s
NOR Nord 57.28 357 *i* P **P 18 18 28.8 -1.0**
NOR IAmb IAmb 18 18 30.8
comp=Z,6.1nm,1.0s
KBL Kabul 57.42 289 P **P 18 18 30.4 -1.3**
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 57.42 289 P **P 18 18 30.4 -1.3**
KBL IAmb IAmb 18 18 32.1
comp=Z,18nm,0.9s
LHSI Lahat 57.43 229 P **P 18 18 32.9 +1.3**
comp=Z,69nm,1.1s
KPJI Karang Pucung 57.44 222 P **P 18 18 31.7 +0.1**
comp=Z,41nm,1.0s
LEM Lembang 57.68 223 P **P 18 18 34.2 +0.6**
comp=Z,19nm,0.6s,baz=48,slow=11,SNR=5.8
KNRA Kununurra 57.88 197 P **P 18 18 35.1 +0.5**
KNRA IAmb IAmb 18 18 42.3
comp=Z,13nm,0.9s
KIRV Kirov 58.05 322 P **P 18 18 36.0 +0.5**
comp=Z,52nm,0.9s,baz=42,slow=3.7,SNR=20
KIRV Kirov 58.05 322 P **P 18 18 36.0 +0.5**
PRGR Permogore 58.33 326 *e*P **P 18 18 36.8 -0.5**
PRGR pmax pmax
comp=Z,29nm,1.0s
RES Resolute Bay 58.49 15 P **P 18 18 38.0 -0.3**
comp=Z,14nm,1.0s,baz=338,slow=4.3,SNR=8.1
RES Resolute Bay 58.49 15 P **P 18 18 38.9 +0.6**
RES pmax pmax
comp=Z,19nm,1.1s
RES Resolute Bay 58.49 15 P **P 18 18 38.9 +0.6**
RES IAmb IAmb 18 18 41.9
comp=Z,19nm,1.1s
YKA Yellowknife Ar 59.75 32 P **P 18 18 48.0 +0.9**
comp=Z,2.0nm,0.8s,baz=292,slow=6.6,SNR=3.1
YKA LR LR 18 48 53.7
comp=Z,254nm,18.2s,baz=0.0,slow=40
APA Apatity 59.76 335⇓ *i*P P 18 18 59.9 +13
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,1μm,17.0s
HYB Hyderabad 59.78 267 *i* P **P 18 18 48.0 -0.1**
HYB *e* 18 19 05.0
KEV Kevo 60.34 339 P **P 18 18 51.4 +0.3**
KEV pmax pmax
comp=Z,56nm,1.4s
KEV Kevo 60.34 339 P **P 18 18 51.4 +0.3**
CTA Charters Tower 60.75 177 P **P 18 18 54.0 -0.4**
comp=Z,1.4nm,0.5s,baz=354,slow=8.7,SNR=5.7
CTA Charters Tower 60.75 177 P **P 18 18 54.0 -0.4**
CTAO Charters Tower 60.75 177 P **P 18 18 53.8 -0.6**
CTAO pmax pmax
comp=Z,23nm,1.4s
CTAO Charters Tower 60.75 177 P **P 18 18 53.8 -0.6**
CTAO IAmb IAmb 18 19 03.6
comp=Z,23nm,1.4s
ARCES ARCESS Array B 60.89 339 P **P 18 18 54.8 -0.1**
comp=Z,5.7nm,0.9s,baz=57,slow=8.8,SNR=6.5
ARCES LR LR 18 50 11.9
comp=Z,1μm,19.4s,baz=60,slow=41
WB0 Warramunga Arr 60.92 190 P **P 18 18 55.3 -0.4**
WB0 IAmb IAmb 18 19 08.0
comp=Z,15nm,0.8s
FITZ Fitzroy Crossi 60.95 199 P **P 18 18 56.4 +0.7**
comp=Z,4.2nm,0.9s,baz=14,slow=9.3,SNR=5.5
FITZ LR LR 18 44 44.1
comp=Z,87nm,19.0s,baz=16,slow=35
FITZ Fitzroy Crossi 60.95 199 P **P 18 18 56.2 +0.4**
WRAB Tennant Creek 61.09 190 *ce*P **P 18 18 57.1 +0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WR0 Warramunga Arr 61.10 189 P **P 18 18 56.9 +0.1**
WR0 IAmb IAmb 18 19 09.2
comp=Z,8.4nm,0.8s
WB2 Warramunga Arr 61.10 190 P **P 18 18 56.8 0.0**
WB2 IAmb IAmb 18 19 09.3
comp=Z,9.4nm,0.8s
WRA Warramunga Arr 61.10 190 P **P 18 18 56.9 0.0**
comp=Z,4.4nm,0.6s,baz=7.4,slow=6.8,SNR=35
WRA Warramunga Arr 61.10 190 P **P 18 18 56.5 -0.4**
KLMR Klimovskoe 61.27 327 *e*P **P 18 18 55.3 -2.2**
KLMR *e* 18 21 09.9
KLMR pmax pmax
comp=Z,37nm,1.2s
KLMR Klimovskoe 61.27 327 *e*P **P 18 18 55.3 -2.2**
KLMR AMP 18 18 58.9
comp=Z,37nm,1.2s
KLMR *e*PP **PP** **18 21 09.9 -2.2**
KLMR LQ LQ 18 41 49.4
KLMR LQ LQ 18 41 49.4
KLMR LR LR 18 46 02.6
BELG Belogornoye 61.97 316 *c i*P **P 18 19 02.8 +0.4**
DAG Danmarks Havn 62.04 355⇑ *i*P **P 18 19 02.6 +0.1**
DAG pmax pmax
comp=Z,15nm,1.0s
DAG Danmarks Havn 62.04 355⇑ *i*P **P 18 19 02.6 +0.1**
comp=Z,15nm,1.0s
DAG Danmarks Havn 62.04 355⇑ *i*P **P 18 19 02.6 +0.1**
DAG IAmb IAmb 18 19 03.5
comp=Z,15nm,1.0s
HRA Herat 62.31 293 P **P 18 19 05.2 -0.1**
HRA IAmb IAmb 18 19 07.0
comp=Z,13nm,0.8s
GEYT Alibeck 63.25 298 P **P 18 19 11.6 +0.3**
comp=Z,16nm,0.8s,baz=44,slow=4.5,SNR=32
GEYT Alibeck 63.25 298 P **P 18 19 11.2 -0.1**
GYA0B ALIBECK ARRAY 63.25 298 P **P 18 19 10.9 -0.4**
AS31 Alice Springs 64.83 189 P **P 18 19 22.2 +0.6**
ASAR Alice Springs 64.83 189 P **P 18 19 22.1 +0.6**
comp=Z,4.3nm,0.8s,baz=1.4,slow=5.5,SNR=36
ASAR Alice Springs 64.83 189 P **P 18 19 21.7 +0.1**
MOS Moscow 65.01 323 *e*P **P 18 19 21.9 -0.5**
MOS *e* 18 19 52.8
MOS *e* 18 23 19.6
MOS pmax pmax
comp=Z,38nm,0.7s
MOS MLR MLR
comp=Z,1μm,17.0s
B08A Colville Reser 65.11 47 P **P 18 19 24.6 +1.3**
B08A IAmb IAmb 18 19 35.9
comp=Z,22nm,1.4s
VRH Novokhopyorsk 65.69 317 *e*P **P 18 19 26.4 -0.5**
VRH pmax pmax
comp=Z,40nm,1.0s
VRH MLR MLR
comp=Z,1μm,16.0s
K02D Willamette Mer 65.75 54 P **P 18 19 28.1 +0.5**
baz=304
OBN Obninsk 65.86 323 P **P 18 19 28.0 +0.1**
comp=Z,4.8nm,0.6s,baz=16,slow=15,SNR=2.8
OBN Obninsk 65.86 323 *ce*P **P 18 19 28.1 +0.1**
OBN *e* 18 19 35.0
OBN *PP **sP** 18 19 40.0 +1.1
OBN *e* 18 19 58.9
OBN 18 21 50.0
OBN *e*S S 18 28 37.6 +25
OBN *e*SS **SS** **18 32 35.1 +8.0**
OBN pmax pmax
comp=Z,44nm,1.0s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 65.86 323 P **P 18 19 28.1 +0.1**
FIA1 FINESS Array S 66.06 332 P **P 18 19 28.6 -0.6**
FIA1 IAmb IAmb 18 19 30.2
comp=Z,19nm,0.8s
FINES FINESS Array B 66.06 332 P **P 18 19 29.2 +0.1**
comp=Z,12nm,0.7s,baz=51,slow=7.2,SNR=46
FINES LR LR 18 50 57.0
comp=Z,2μm,19.4s,baz=38,slow=38
FINES FINESS Array B 66.06 332 P **P 18 19 28.9 -0.3**
DZM Mont Dzumac 66.26 156 *e*LR LR 18 39 27.7
comp=Z,747nm,23.1s
LPSR Galich'ya Gora 66.26 320 *e*P **P 18 19 30.5 -0.1**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR MLR MLR
comp=Z,610nm,20.0s
NEW Newport 66.38 46 P **P 18 19 31.2 -0.3**
baz=306
PINE Pine Mountain 66.77 52 P **P 18 19 35.5 +1.2**
PINE IAmb IAmb 18 19 48.9
comp=Z,23nm,1.2s
SUMG Summit 66.81 1⇑ *i*P **P 18 19 35.4 +1.2**
SUMG pmax pmax
comp=Z,49nm,0.8s
SUMG Summit 66.81 1 P P 18 19 35.0 +0.7
SUMG Summit 66.81 1⇑ *i*P **P 18 19 35.4 +1.2**
comp=Z,49nm,0.8s
SUMG Summit 66.81 1⇑ *i*P **P 18 19 35.4 +1.2**
SUMG IAmb IAmb 18 19 36.3
comp=Z,49nm,0.8s
L04D Klamath Falls 66.85 54 P **P 18 19 37.0 +2.2**
baz=305
J05D Fort Rock, OR 66.89 52 P **P 18 19 35.1 +0.1**
baz=305
VSR Storozhevoye 66.98 318 *e*P **P 18 19 35.0 -0.2**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,1μm,15.0s
M02C Callahan 66.98 55 P **P 18 19 36.8 +1.3**
baz=305
VORD Divnogorie 67.06 318 *e*P **P 18 19 35.0 -0.7**
VORD pmax pmax
comp=Z,30nm,0.4s
MAK Makhachkala 67.22 308 *e*P **P 18 19 35.7 -1.1**
MAK *e* 18 22 02.4
MAK *e*S **S** **18 28 27.8 -1.9**
MAK *e*SS **SS** **18 32 51.7 +3.0**
MAK pmax pmax
comp=Z,59nm,1.2s
MAK MLR MLR
comp=Z,523nm,15.0s
K05A Summer Lake 67.41 53 P **P 18 19 38.5 +0.1**
K05A IAmb IAmb 18 19 55.1
comp=Z,25nm,1.1s
O02D Mt. Diablo Mer 67.72 56 P **P 18 19 40.4 +0.2**
baz=305
VSU Vasula 67.85 329 *i* P **P 18 19 39.5 -1.0**
VSU pmax pmax
comp=Z,52nm,0.9s
GROC Groznyy 68.10 309 *e*P **P 18 19 42.3 -0.1**
GROC *e* 18 20 10.2
GROC *e* 18 22 12.6
GROC pmax pmax
comp=Z,12nm,0.6s
JTMT Jette 68.22 45 P **P 18 19 44.4 +1.1**
JTMT IAmb IAmb 18 19 57.8
comp=Z,13nm,1.1s
O03E Paynes Creek 68.27 55 P **P 18 19 41.7 -1.9**
baz=306
BMO Blue Mountains 68.28 49 P **P 18 19 44.9 +1.3**
BMO pmax pmax
comp=Z,5.0nm,1.1s
BMO Blue Mountains 68.28 49 P **P 18 19 44.9 +1.3**
J08A Circle Bar Ran 68.48 51 P **P 18 19 46.0 +1.0**
J08A IAmb IAmb 18 20 00.3
comp=Z,15nm,1.2s
GOF Gofitskoye 68.60 311⇑ *i*P **P 18 19 46.3 +0.8**
GOF pmax pmax
comp=Z,120nm,1.1s
MSO Missoula 68.96 46 P **P 18 19 47.5 -0.4**
baz=308
KVAR Kislovodsk Arr 69.46 311 P **P 18 19 52.5 +1.5**
comp=Z,51nm,1.1s,baz=349,slow=10,SNR=27
ZEI Tsey 69.46 309 *e*P **P 18 19 50.6 -0.6**
ZEI pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 69.46 311⇑ P **P 18 19 53.1 +2.1**
KIV Kislovodsk 69.46 311 *i* P **P 18 19 52.2 +1.2**
SNR=15
KIV Kislovodsk 69.46 311 *e*P **P 18 19 51.6 +0.6**
KIV pmax pmax
comp=Z,344nm,1.1s
KIV Kislovodsk 69.46 311 P **P 18 19 51.6 +0.6**
KBZ Khabaz 69.48 310 P **P 18 19 52.3 +1.3**
comp=Z,35nm,0.9s,baz=46,slow=3.9,SNR=88
KBZ LR LR 18 56 05.2
comp=Z,658nm,18.2s,baz=50,slow=41
KBZ Khabaz 69.48 310 *ce*P **P 18 19 50.9 -0.1**
KBZ pmax pmax
comp=Z,45nm,1.0s

SHA1 Shidzhatmaz 69.61 311 *c iP* **P 18 19 52.7 +0.6**
FFC Flin Flon 69.68 34 P **P 18 19 52.3 +0.2**
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC Flin Flon 69.68 34 P **P 18 19 52.3 +0.2**
FFC IAmb IAmb 18 19 53.7
comp=Z,9.0nm,0.8s
NACGM Naroch 70.28 327 *e* P 18 19 44.0 -12
NACGM *e*LQ LQ 18 48 10.0
NACGM *e*LR LR 18 52 26.0
ICESG Greenland Ices 70.30 1 *i P* **P 18 19 56.7 +0.7**
ICESG IAmb IAmb 18 19 57.8
comp=Z,13nm,0.8s
LRM Limekiln Ridge 70.40 46 P **P 18 19 57.5 +0.5**
EGMT Eagleton 70.44 43 P **P 18 19 57.6 +0.6**
baz=310
EGMT Eagleton 70.44 43 P **P 18 19 57.4 +0.5**
EGMT IAmb IAmb 18 20 12.5
comp=Z,13nm,1.0s
CHVG Ch'k'valeri 70.57 310 ⇓P **P 18 19 59.1 +1.3**
DLMT Dillon 70.61 46 P **P 18 19 59.2 +1.2**
DLMT IAmb IAmb 18 20 14.0
comp=Z,24nm,1.1s
HLID Hailey 70.71 49 P **P 18 20 00.2 +1.4**
baz=308
MCMT McKenzie Canyo 70.80 47 P **P 18 20 00.2 +0.8**
NC405 NORSAR Array S 70.96 337 P **P 18 19 59.7 -0.1**
BOZ Bozeman (W) 70.99 46 P **P 18 19 59.4 -1.0**
BOZ pmax pmax
comp=Z,22nm,1.2s
BOZ Bozeman (W) 70.99 46 P **P 18 19 59.4 -1.0**
BOZ IAmb IAmb 18 20 14.7
comp=Z,22nm,1.1s
NB2 NORSAR Subarra 71.17 338 P **P 18 20 00.7 -0.4**
comp=Z,3.6nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 71.17 338 P **P 18 20 01.0 -0.1**
comp=Z,8.3nm,0.9s,baz=36,slow=6.1,SNR=24
NOA NORSAR Array B 71.17 338 P **P 18 20 01.0 -0.1**
NBO00 NORSAR Array S 71.30 338 P **P 18 20 00.4 -1.4**
BANOM Banah 71.35 288 *i P* **P 18 20 02.1 -0.6**
SNR=8.3
SHME Shamm 71.38 289 *i P* **P 18 20 03.1 +0.1**
SNR=12
SOC Sochi 71.39 312 *e*P **P 18 20 00.7 -1.9**
SOC *e* 18 22 37.4
SOC *e*PPP PPP 18 24 25.2
SOC *e*S **S 18 29 17.7 -1.2**
SOC *e*SS **SS 18 33 48.7 -4.1**
SOC pmax pmax
comp=Z,16nm,0.8s
SOC MLR MLR
comp=Z,331nm,17.0s
BATM Batumi 71.48 309 ⇓P **P 18 20 04.6 +1.3**
NVAR Mina Array Bea 71.55 55 P **P 18 20 05.9 +1.9**
comp=Z,1.8nm,0.8s,baz=298,slow=6.0,SNR=9.5
NVAR LR LR 18 50 39.6
comp=Z,130nm,19.2s,baz=276,slow=35
NVAR Mina Array Bea 71.55 55 P **P 18 20 05.5 +1.4**
QLMT Earthquake Lak 71.58 46 P **P 18 20 04.8 +0.7**
ARTV Artvin 71.61 309 IAmb IAmb 18 20 06.7
comp=Z,16nm,0.9s
OMMB Old Mammoth Mi 71.62 56 P **P 18 20 05.0 +0.4**
BCA Borcka 71.62 309 ⇑P **P 18 20 05.3 +1.1**
NV11 Mina Array Sit 71.64 55 P **P 18 20 04.3 -0.2**
NV11 IAmb IAmb 18 20 19.2
comp=Z,16nm,1.4s
MDH Madha 71.72 288 P **P 18 20 04.9 0.0**
YHB Horse Butte 71.76 46 P **P 18 20 06.3 +1.1**
ANN Anapa 71.88 314 *e*P **P 18 20 04.3 -1.3**
ANN *e*S S 18 29 13.3 -11
ANN pmax pmax
comp=Z,28nm,1.0s
ANN MLR MLR
comp=Z,795nm,17.0s
GCMT Greycliff 71.92 45 P **P 18 20 07.2 +1.1**
YHH Holmes Hill 71.93 46 P **P 18 20 07.6 +1.3**
UOSS Minazif 72.00 288 *i P* **P 18 20 06.7 +0.1**
SNR=6.5
UOSS Minazif 72.00 288 P **P 18 20 06.5 -0.2**
AKASG Malin Array Be 72.11 322 P **P 18 20 06.9 0.0**
comp=Z,9.8nm,0.7s,baz=45,slow=6.0,SNR=43
HATD Hatta, Dubai 72.13 288 *i P* **P 18 20 08.0 +0.5**
SNR=7.9
YNE Yellowstone No 72.24 46 P **P 18 20 08.6 +0.5**
SOHO SOHO 72.25 287 P **P 18 20 08.5 +0.3**
H17A Grant Village 72.33 46 P **P 18 20 11.5 +2.8**
baz=310
H17A Grant Village 72.33 46 IAmb IAmb 18 20 26.3
comp=Z,19nm,1.0s
SUW Suwalki 72.40 328 *e*P **P 18 20 08.5 0.0**
STKA Stephens Creek 72.44 181 P **P 18 20 10.6 +1.7**
comp=Z,3.2nm,1.0s,baz=14,slow=8.3,SNR=4.2
IMW Indian Meadow 72.45 47 IAmb IAmb 18 20 26.0
comp=Z,14nm,0.9s
FAQ Al Faqa, Dubai 72.56 288 *i P* **P 18 20 10.2 +0.2**
SNR=7.4
RLMT Red Lodge 72.57 45 P **P 18 20 11.1 +1.1**
RLMT IAmb IAmb 18 20 26.7
comp=Z,19nm,1.5s
FRB Frobisher Bay 72.67 14 P **P 18 20 09.6 -0.3**
comp=Z,9.3nm,0.7s,baz=353,slow=6.3,SNR=4.0
GEVA Gevas 72.71 306 IAmb IAmb 18 20 13.2
comp=Z,11nm,1.0s
LOHW Long Hollow 72.82 47 P **P 18 20 12.2 +0.6**
ASUD Al Ashush, Dub 72.83 288 *i P* **P 18 20 12.1 +0.5**
SNR=8.0
LAO LASA Array 73.12 42 P **P 18 20 13.5 +0.4**
baz=312
ISA Isabella, Lake 73.15 57 P **P 18 20 14.5 +1.1**
baz=309
KOPT Kop Dagi 73.19 309 IAmb IAmb 18 20 17.0
comp=Z,20nm,1.0s
R11A Troy Canyon, C 73.28 54 P **P 18 20 15.1 +0.9**
baz=309
MPMC Manual Prospec 73.53 57 P **P 18 20 15.4 -0.4**
baz=309
FURC Furnace Creek, 73.67 56 P **P 18 20 17.8 +1.5**
baz=309
TPNV Topopah Spring 73.75 55 P **P 18 20 19.0 +2.0**
baz=309
DUG Dugway, Tooele 73.76 51 P **P 18 20 17.7 +0.6**
baz=310
DUG Dugway, Tooele 73.76 51 IAmb IAmb 18 20 31.3
comp=Z,13nm,1.0s
EDW2 Edwards Air Fo 73.94 58 P **P 18 20 19.7 +1.6**
baz=309
PDAR Pinedale Array 73.95 47 P **P 18 20 19.1 +0.9**
comp=Z,1.1nm,0.5s,baz=277,slow=2.1,SNR=15
PDAR Pinedale Array 73.95 47 P **P 18 20 18.7 +0.5**
PSUT Pine Spring 74.21 53 P **P 18 20 20.4 +0.7**
SORM Soroca 74.30 321 ⇓P **P 18 20 20.8 +1.0**
GSC Goldstone, Bar 74.44 57 P **P 18 20 21.6 +0.6**
GSC pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone, Bar 74.44 57 P **P 18 20 21.6 +0.6**
BFSC Mount Baldy Ra 74.56 58 P **P 18 20 24.4 +2.6**
baz=309
PURM Purcari 74.68 319 ⇓P **P 18 20 23.9 +1.9**
HEC Hector,Ludlow 75.03 57 P **P 18 20 26.0 +1.6**
baz=310
LVV L'vov 75.09 324 *e*P **P 18 20 21.1 -3.3**
CCUT Cedar City 75.14 53 **P 18 20 25.6 +0.4**
DIKM Dikmen 75.14 312 ⇑P **P 18 20 26.9 +2.1**
MVU Marysvale 75.21 52 **P 18 20 25.8 +0.1**
GMRC Granite Mounta 75.49 57 P **P 18 20 28.1 +1.0**
baz=310
ULM Lac du Bonnet 75.49 35 P **P 18 20 26.6 -0.1**
comp=Z,1.9nm,0.6s,baz=302,slow=6.2,SNR=3.5
BZK Bozkurt 75.63 313 ⇑P **P 18 20 29.2 +1.6**
K22A Casper 75.69 46 P **P 18 20 29.0 +0.8**
baz=313
KWP Kalwaria Pacla 75.81 325 *e*P **P 18 20 29.7 +1.1**
KWP Kalwaria Pacla 75.81 325 P **P 18 20 28.9 +0.4**
KWP pmax pmax
comp=Z,36nm,1.0s
KWP Kalwaria Pacla 75.81 325 P **P 18 20 28.9 +0.4**
RSSD Black Hills 76.00 43 P **P 18 20 30.8 +0.7**
baz=314
RSSD Black Hills 76.00 43 P **P 18 20 30.3 +0.3**
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 76.00 43 P **P 18 20 30.3 +0.3**
BUR08 Bucovina Ar. S 76.14 322 P **P 18 20 30.5 -0.1**
BUR08 IAmb IAmb 18 20 32.3
comp=Z,12nm,0.8s

TLCR 76.15 318 ⇓P **P 18 20 31.3 +0.8**
BURAR Bucovina Array 76.15 322 ⇓P **P 18 20 31.7 +1.0**
BURAR Bucovina Array 76.15 322 P **P 18 20 31.0 +0.4**
IRM Iron Mountain 76.22 57 P **P 18 20 31.8 +0.6**
baz=310
BIZ Bicaz 76.22 321 ⇑P **P 18 20 31.8 +0.8**
ILGA Ilgaz 76.41 313 IAmb IAmb 18 20 35.2
comp=Z,28nm,1.2s
O20A White River Ci 76.44 48 P **P 18 20 33.4 +0.8**
baz=312
CFR Carcaliu 76.49 319 ⇓P **P 18 20 33.2 +0.8**
KOLS Kolonicke sedl 76.52 324 *e*P **P 18 20 32.4 -0.2**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 76.52 324 *e*P **P 18 20 32.4 -0.2**
ODBI Odobesti 76.61 320 ⇑P **P 18 20 35.7 +2.6**
OJC Ojcow 76.61 327 *e*P **P 18 20 34.0 +0.9**
OJC Ojcow 76.61 327 IAmb IAmb 18 20 35.1
comp=Z,24nm,1.0s
SHAO Shalim 76.68 282 P **P 18 20 34.1 +0.1**
VRI Vrincioaia 76.69 320 ⇓P **P 18 20 34.5 +0.9**
UZH Uzhgorod 76.74 324 *e*P **P 18 20 34.2 +0.4**
UZH *e* 18 20 38.2
UZH *e* 18 20 45.7
UZH *e* 18 20 51.7
PLOR Plostina 76.74 320 ⇓P **P 18 20 35.1 +1.2**
CRVS Cervenica-Dubn 76.90 325 *e*P **P 18 20 35.2 +0.5**
CRVS pmax pmax
comp=Z,10.0nm,0.9s
CRVS Cervenica-Dubn 76.90 325 *e*P **P 18 20 35.2 +0.5**
BISRR Bisoca 76.93 320 ⇑P **P 18 20 36.9 +1.9**
HARR Harsova 76.94 319 ⇑P **P 18 20 35.7 +0.7**
OZUR 76.98 321 ⇑P **P 18 20 36.9 +1.6**
TLBR Topalu 76.99 318 ⇓P **P 18 20 36.4 +1.2**
GAZ Gaziantep 76.99 308 IAmb IAmb 18 20 38.4
comp=Z,19nm,0.9s
NIE Niedzica 77.01 326 *e*P **P 18 20 36.6 +1.2**
MFTR Murfatlar 77.06 318 ⇑P **P 18 20 37.1 +1.4**
GLA Glamis 77.13 57 P **P 18 20 38.8 +2.5**
baz=311
PV10 Paradox Valley 77.16 50 **P 18 20 37.2 +0.4**
N23A Red Feather La 77.21 47 P **P 18 20 38.2 +1.2**
baz=314
N23A Red Feather La 77.21 47 IAmb IAmb 18 20 53.2
comp=Z,23nm,1.1s
DOPR Dopca 77.27 321 ⇑P **P 18 20 38.6 +1.7**
PV18 Skein Mesa, Pa 77.33 50 P **P 18 20 37.8 +0.1**
PV18 IAmb IAmb 18 20 53.5
comp=Z,16nm,1.2s
MLR Muntele Rosu 77.35 320 P **P 18 20 38.3 +0.8**
comp=Z,1.6nm,0.5s,baz=138,slow=13,SNR=5.3
MLR Muntele Rosu 77.35 320 ⇑P **P 18 20 38.0 +0.5**
MLR Muntele Rosu 77.35 320 P **P 18 20 37.5 +0.1**
BRTR Keskin Array B 77.35 312 P **P 18 20 37.7 +0.1**
comp=Z,3.4nm,1.1s,baz=46,slow=11,SNR=12
BRTR LR LR 18 59 31.9
comp=Z,152nm,19.4s,baz=78,slow=39
BRTR Keskin Array B 77.35 312 *i P* **P 18 20 38.2 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
KSP Ksiaz 77.55 329 *e*P **P 18 20 38.9 +0.5**
LANS Liptovska Anna 77.57 326 *e*P **P 18 20 40.5 +2.0**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 77.57 326 *e*P **P 18 20 40.5 +2.0**
PV01 Paradox Valley 77.60 50 P **P 18 20 38.7 -0.4**
WUAZ Wupatki 77.68 54 P **P 18 20 40.7 +1.2**
baz=312
Y14A Wickenburg 77.71 56 **P 18 20 39.9 +0.3**
OSTC Ostas 77.81 329 AMS AMS 18 58 30.0
comp=Z,1μm,17.1s
VOIR 77.82 321 ⇓P **P 18 20 41.1 +1.1**
CHVC Chvalec 77.85 329 *e*P **P 18 20 40.8 +0.8**
CHVC AMS AMS 18 58 30.0
comp=Z,1μm,16.9s
MORC Moravsky Berou 77.89 327 ⇓P **P 18 20 41.5 +1.2**
MORC Moravsky Berou 77.89 327 *e*P **P 18 20 41.0 +0.7**
MORC Moravsky Berou 77.89 327 IAmb IAmb 18 20 42.4
comp=Z,13nm,0.9s
UPC Upice 77.93 329 *e*P **P 18 20 41.4 +0.9**
UPC AMS AMS 18 58 30.0
comp=Z,1μm,16.8s
UPC Upice 77.93 329 *e*P **P 18 20 41.4 +0.9**
UPC MLR MLR
comp=Z,1μm,16.8s
DPC Dobruska-Polom 77.93 328 *e*P **P 18 20 41.6 +1.1**
DPC AMS AMS 18 58 30.0
comp=Z,1μm,15.4s
DPC Dobruska-Polom 77.93 328 *e*P **P 18 20 41.6 +1.1**
DPC MLR MLR
comp=Z,1μm,15.4s
KRLC Kraliky 77.96 328 *e*P **P 18 20 41.2 +0.5**
KRLC *e*pP **PcP 18 20 50.9 +0.5**
KRLC AMS AMS 18 58 10.0
comp=Z,700nm,17.2s
KRLC Kraliky 77.96 328 *e*P **P 18 20 41.2 +0.5**
KRLC *e* 18 20 50.9
KRLC MLR MLR
comp=Z,700nm,17.2s
ARR Arges 78.07 321 ⇓P **P 18 20 43.4 +1.9**
ISCO Idaho Springs 78.14 47 P **P 18 20 43.6 +1.4**
ISCO pmax pmax
comp=Z,13nm,1.3s
ISCO Idaho Springs 78.14 47 **P 18 20 43.6 +1.4**
MVCO Mesa Verde 78.27 51 P **P 18 20 43.4 +0.5**
baz=313
MVCO Mesa Verde 78.27 51 **P 18 20 43.8 +0.9**
PSZ Piszkesteto 78.33 325 ⇓P **P 18 20 44.4 +1.6**
PSZ Piszkesteto 78.33 325 P **P 18 20 43.5 +0.7**
PSZ pmax pmax
comp=Z,15nm,1.0s
PSZ Piszkesteto 78.33 325 P **P 18 20 43.5 +0.7**
PSZ IAmb IAmb 18 20 45.1
comp=Z,15nm,1.0s
VYHS Vyhne 78.34 326 *e*P **P 18 20 44.1 +1.3**
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 78.34 326 *e*P **P 18 20 44.0 +1.3**
LOT Lotru 78.42 321 ⇓P **P 18 20 44.2 +0.8**
BRG Berggiesshubel 78.44 330 *e*P **P 18 20 43.6 +0.3**
comp=Z,12nm,1.0s
BRG *e* 18 21 13.1
comp=Z,10.0nm,1.2s
BRG S S 18 30 52.0 +15
BRG Berggiesshubel 78.44 330 *e*P **P 18 20 43.6 +0.3**
BRG S S 18 30 52.0 +15
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 78.44 331 *i P* **P 18 20 43.5 +0.3**
comp=Z,22nm,0.9s
CLL *e* 18 23 15.0
CLL *e*S **S 18 30 30.0 -7.2**
CLL *e*PS **PnS 18 31 18.0 -2.3**
CLL *e* 18 36 36.0
CLL *e* 18 40 12.0
CLL LmH 18 54 00.0
comp=N,900nm,19.3s
CLL LmH 18 54 00.0
comp=E,1μm,19.8s
CLL LmV 18 58 00.0
comp=N,1μm,19.0s
CLL LmV 18 58 00.0
comp=E,500nm,18.1s
CLL LmV 18 58 00.0
comp=Z,1μm,19.5s
CLL Collm 78.44 331 *i P* **P 18 20 43.5 +0.3**
CLL pmax pmax
comp=Z,22nm,0.9s
CLL MLR MLR
comp=Z,1μm,19.5s
CLL Collm 78.44 331 IAmb IAmb 18 20 45.0
comp=Z,20nm,0.9s
RAZG Razgrad 78.46 319 ⇑P **P 18 20 44.1 +0.5**
PVCC Panska Ves 78.47 329 AMS AMS 18 58 40.0
comp=Z,700nm,17.5s
HUMR Humele 78.52 320 ⇓P **P 18 20 44.6 +0.8**
JAVC Velka Javorina 78.55 327 *e*P **P 18 20 45.8 +1.8**
VRAC Vranov 78.64 328 P **P 18 20 45.8 +1.4**
comp=Z,10.0nm,0.9s,baz=47,slow=5.4,SNR=8.7
VRAC LR LR 18 59 05.0
comp=Z,976nm,18.0s,baz=23,slow=38
VRAC Vranov 78.64 328 ⇓P **P 18 20 45.9 +1.4**

VRAC Vranov 78.64 328 *e*P **P 18 20 45.6 +1.2**
COPA Copaceanca 78.69 320 ⇑P **P 18 20 45.6 +0.9**
S22A 4UR Ranch, Cre 78.87 49 P **P 18 20 47.2 +1.0**
baz=314
GOPC GO Pecny, Ondr 78.88 329 *e*P **P 18 20 46.5 +0.8**
GOPC *ex* x 18 21 04.5
GOPC AMS AMS 18 59 10.0
comp=Z,1μm,15.6s
GOPC GO Pecny, Ondr 78.88 329 *e*P **P 18 20 46.5 +0.8**
GOPC MLR MLR
comp=Z,1μm,15.6s
PRA Prague 78.89 329 AMS AMS 18 59 10.0
comp=Z,400nm,15.2s
KRUC Moravsky 78.91 328 *e*P **P 18 20 46.8 +0.9**
PRU Pruhonice 78.92 329 *e*P **P 18 20 46.8 +0.9**
PRU *ex* x 18 21 05.6
PRU AMS AMS 18 59 00.0
comp=Z,900nm,17.5s
PRU Pruhonice 78.92 329 *e*P **P 18 20 46.8 +0.9**
PRU MLR MLR
comp=Z,900nm,17.5s
SMOL Smolenice 78.92 327 *e*P **P 18 20 47.2 +1.2**
SMOL pmax pmax
comp=Z,5.0nm,1.0s
SMOL Smolenice 78.92 327 *e*P **P 18 20 47.2 +1.2**
GZR Gura Zlata 78.93 322 ⇑P **P 18 20 47.0 +0.8**
W18A Petrified Fore 78.94 53 P **P 18 20 48.2 +1.7**
baz=313
SZH Strazhica 78.97 319 *i P* **P 18 20 46.8 +0.5**
Q24A Divide 78.98 48 P **P 18 20 46.5 -0.4**
baz=314
MODS Modra-Piesok 79.09 327 *e*P **P 18 20 47.6 +0.6**
MODS pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 79.09 327 *e*P **P 18 20 47.5 +0.6**
TREC Trest 79.09 328 *e*P **P 18 20 47.5 +0.6**
TREC AMS AMS 18 59 00.0
comp=Z,900nm,16.5s
TREC Trest 79.09 328 *e*P **P 18 20 47.5 +0.6**
TREC MLR MLR
comp=Z,900nm,16.5s
EYMN Ely 79.11 34 P **P 18 20 46.7 -0.4**
baz=321
EYMN Ely 79.11 34 P **P 18 20 46.5 -0.6**
EYMN IAmb IAmb 18 20 50.9
comp=Z,11nm,1.1s
214A Organ Pipe Nat 79.14 57 P **P 18 20 49.4 +1.9**
baz=312
VLAD Vladila 79.19 320 ⇓P **P 18 20 47.9 +0.5**
BZS Buzias 79.30 323 ⇓P **P 18 20 48.6 +0.5**
PBCC Pribram 79.37 329 *e*P **P 18 20 49.0 +0.6**
HERR Herculane 79.48 322 ⇑P **P 18 20 49.4 +0.3**
NKC Novy Kostel 79.52 330 *e*P **P 18 20 49.8 +0.6**
NKC *ex* x 18 21 08.0
NKC AMS AMS 18 59 10.0
comp=Z,900nm,18.8s
NKC Novy Kostel 79.52 330 *e*P **P 18 20 49.8 +0.6**
NKC MLR MLR
comp=Z,900nm,18.8s
SDCO Great Sand Dun 79.63 49 P **P 18 20 52.4 +2.0**
baz=314
MDVR Moldovita 79.89 322 ⇑P **P 18 20 51.4 0.0**
KHC Kasperske Hory 79.98 329 *e*P **P 18 20 52.1 +0.3**
KHC *e*pP **sP 18 21 04.1 +1.3**
KHC AMS AMS 18 59 40.0
comp=Z,700nm,17.0s
KHC Kasperske Hory 79.98 329 *e*P **P 18 20 52.1 +0.3**
KHC *e* 18 21 04.1
KHC MLR MLR
comp=Z,700nm,17.0s
ECSD EROS Data Cent 80.00 40 P **P 18 20 52.7 +0.7**
baz=318
ECSD EROS Data Cent 80.00 40 P **P 18 20 52.6 +0.7**
CONA Conrad Observa 80.03 327 *i P* **P 18 20 53.4 +1.3**
comp=Z,10.0nm,1.0s,SNR=5.6
GERES GERESS Array B 80.16 329 P **P 18 20 53.3 +0.5**
comp=Z,4.1nm,0.9s,baz=29,slow=3.8,SNR=20
GERES LR LR 19 00 42.3
comp=Z,608nm,18.1s,baz=34,slow=39
GERES GERESS Array B 80.16 329 P **P 18 20 52.8 -0.1**
TUC Tucson 80.18 56 P **P 18 20 56.6 +3.4**
baz=312
GRA1 Grafenberg Arr 80.42 331 P **P 18 20 55.2 +1.1**
GRF Grafenberg Arr 80.42 331 P **P 18 20 55.2 +1.1**
GRF pmax pmax
comp=Z,33nm,1.0s
PLD Plovdiv 80.43 318 *i P* **P 18 20 55.4 +1.1**
ASF Jabal al Asfar 80.52 304 P **P 18 20 55.8 +0.7**
comp=Z,3.3nm,0.8s,baz=57,slow=3.8,SNR=6.3
ALN Alexandroupoli 80.64 317 P **P 18 20 55.8 +0.4**
ALN pmax pmax
comp=Z,12nm,1.1s
ALN Alexandroupoli 80.64 317 P **P 18 20 55.8 +0.4**
ALN IAmb IAmb 18 20 57.2
comp=Z,12nm,1.1s
T25A Trinidad 80.67 49 P **P 18 20 56.0 0.0**
baz=315
ARSA Arzberg 80.70 327 *e*P **P 18 20 56.5 +0.8**
comp=Z,9.9nm,0.9s
RDO Rodhopi 80.72 317 P **P 18 20 56.1 +0.3**
MOA Molln 80.74 328 *e*P **P 18 20 55.6 -0.3**
comp=Z,2.9nm,0.9s
VTS Vitosha 80.78 320 *i P* **P 18 20 57.4 +1.0**
MMAI Mount Meron Ar 80.88 306 P **P 18 20 58.1 +1.2**
comp=Z,11nm,0.8s,baz=33,slow=5.0,SNR=18
ANMO Albuquerque 81.02 51 P **P 18 20 59.2 +1.4**
baz=314
ANMO Albuquerque 81.02 51 P **P 18 20 58.8 +1.0**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 81.02 51 P **P 18 20 58.8 +1.0**
DIVS Divibare 81.21 322 P **P 18 20 58.5 0.0**
SCHQ Schefferville 81.22 17 P **P 18 20 58.8 +0.5**
comp=Z,8.8nm,1.0s,baz=350,slow=3.8,SNR=4.9
MMB Musomiste 81.31 319 *i P* **P 18 20 59.9 +0.9**
GROS Grobnik 81.34 326 *i P* **P 18 20 59.6 +0.4**
PERS Pernice 81.36 327 *i P* **P 18 20 59.9 +0.7**
SOKA Soboth 81.36 327 *i P* **P 18 20 59.8 +0.5**
comp=Z,20nm,0.9s,SNR=16
BTNL Ternell 81.46 334 P **P 18 21 00.1 +0.5**
BNM Barren Site 81.47 52 P **P 18 21 00.7 +0.4**
ELL Elmali 81.53 312 P **P 18 21 00.4 0.0**
ELL pmax pmax
comp=Z,42nm,1.0s
ELL Elmali 81.53 312 **P 18 21 00.4 0.0**
SOCY Socotra 81.59 279 P **P 18 20 59.0 -2.0**
GOLS Golise 81.65 326 *i P* **P 18 21 01.1 +0.3**
OBKA Obir 81.70 327 *e*P **P 18 21 01.2 +0.2**
comp=Z,8.4nm,0.8s
KBA Koelnbreinsper 81.73 328 *i P* **P 18 21 02.1 +0.7**
comp=Z,15nm,0.8s,SNR=12
BCLA Clavier 81.87 334 P **P 18 21 02.0 +0.2**
MYKA Terra Mystica 81.97 328 *e*P **P 18 21 02.4 0.0**
comp=Z,9.9nm,1.0s
STIP Stip 81.99 320 *i P* **P 18 21 02.3 -0.3**
LJU Ljubljana 82.08 327 *i P* **P 18 21 03.1 +0.1**
BMRD Maredsous 82.15 335 ⇑P **P 18 21 03.2 0.0**
WATA Walderalm 82.22 329 *e*P **P 18 21 04.8 +1.0**
comp=Z,13nm,1.1s
WTTA Wattenberg 82.25 329 *e*P **P 18 21 04.6 +0.5**
comp=Z,9.4nm,0.8s
ABTA Abfaltersbach 82.33 328 *e*P **P 18 21 04.5 +0.1**
comp=Z,4.6nm,0.8s
PLG Polygyros 82.35 318 P **P 18 21 03.4 -1.2**
MOTA Moosalm 82.39 329 *i P* **P 18 21 05.4 +0.6**
comp=Z,27nm,0.9s,SNR=9.5
RETA Reutte 82.41 330 *i P* **P 18 21 05.7 +1.0**
comp=Z,19nm,0.9s,SNR=7.6
SQTA Sankt Quirin 82.45 329 *e*P **P 18 21 05.8 +0.7**
comp=Z,10.0nm,1.0s
BFO Black Forest 82.61 332 P **P 18 21 06.1 +0.4**
BFO pmax pmax
comp=Z,17nm,1.3s
BFO Black Forest 82.61 332 P **P 18 21 06.1 +0.4**
BFO IAmb IAmb 18 21 08.3
comp=Z,17nm,1.3s
STAL STALIGIAL 82.65 328 P **P 18 21 05.0 -1.0**
STAL IAmb IAmb 18 21 07.7
comp=Z,19nm,1.2s
CIMO Cimolais 82.72 328 P **P 18 21 05.8 -0.5**
FETA Feichten 82.81 329 *e*P **P 18 21 07.3 +0.3**
comp=Z,8.6nm,1.0s
PDG Podgorica 82.83 322 ⇑P **P 18 21 07.5 +0.5**
DAVA Damuels 82.91 330 *i P* **P 18 21 08.0 +0.5**
comp=Z,18nm,1.0s,SNR=6.0

AOS	Alonnisos	83.03	317	P		P	18 21 06.8	-1.2
LIT	Litokhoron	83.04	318	P		P	18 21 07.3	-0.8
LIT	Litokhoron	83.04	318	IAmb	IAmb		18 21 10.1	
	comp=Z,20nm,1.0s							
ECH	Echery	83.12	332	IAmb	IAmb		18 21 10.1	
	comp=Z,8.6nm,0.9s							
CTI	Castel Tesino	83.25	328	IAmb	IAmb		18 21 34.7	
	comp=Z,7.6nm,0.8s							
FUORN	Ofenpass-Fuorn	83.32	329	P		P	18 21 10.4	+0.7
FUORN				IAmb	IAmb		18 21 11.6	
	comp=Z,16nm,0.9s							
DAVOX	Davos/Dischmat	83.33	330	LR	LR		19 02 30.1	
	comp=Z,1µm,18.1s,baz=9.5,slow=39							
EIL	Elat	83.45	304	P		P	18 21 11.4	+1.1
	comp=Z,11nm,1.1s,baz=48,slow=4.1,SNR=7.7							
CHGQ	Chibougamau	83.71	23	P		P	18 21 10.9	-0.5
	baz=332							
TUE	Stuetta	83.79	330	IAmb	IAmb		18 21 13.8	
	comp=Z,8.6nm,0.9s							
AMTX	Amarillo	83.83	49	P		P	18 21 12.8	+0.4
	baz=316							
MSTX	Muleshoe	83.86	50	P		P	18 21 14.6	+2.0
	baz=316							
MNTX	Cornudas Mount	83.93	53	P		P	18 21 10.8	-2.0
	baz=315							
AGG	Agios Georgios	83.94	318	IAmb	IAmb		18 21 12.9	
	comp=Z,8.1nm,0.9s							
VLDQ	Val d'Or	84.31	26	P		P	18 21 13.4	-1.0
VLDQ				IAmb	IAmb		18 21 14.6	
	comp=Z,12nm,0.9s							
PMOR	Pomariorio Ree	84.46	115	*e*T		T	19 54 16.3	
	comp=Z,6.1nm,0.2s							
RLS	Riolos of Patr	85.11	318	P		P	18 21 18.7	+0.1
PPT	Papeete	85.13	118	LR	LR		18 53 16.2	
	comp=Z,723nm,21.2s,baz=340,slow=31							
PPT2	Papeete2	85.15	118	*e*S		S	18 31 44.9	-2.4
	comp=Z,104nm,24.5s							
PPT2	Papeete2	85.15	118	*e*LR	LR		18 48 15.7	
	comp=Z,1µm,21.0s,baz=320							
MURB	Monte Urbino	85.17	326	P		P	18 21 19.2	+0.3
NRCA	Norcia	85.27	326	P		P	18 21 19.2	-0.3
IDI	Anoyia	85.38	314	P		P	18 21 20.6	+0.5
	comp=Z,12nm,0.9s,baz=28,slow=8.2,SNR=9.5							
ITM	Ithomi	85.54	317	P		P	18 21 17.5	-3.3
WMOK	Wichita Mounta	85.56	47	P		P	18 21 20.7	-0.3
	baz=318							
WMOK	Wichita Mounta	85.56	47	IAmb	IAmb		18 21 33.8	
	comp=Z,10.0nm,1.3s							
TAOE	Nuku Hiva Isla	85.76	105	*e*LR	LR		18 48 36.8	
	comp=Z,879nm,21.7s,baz=313							
D56A	ZEC Mazanza, M	86.12	25	P		P	18 21 23.1	-0.5
	baz=332							
TX31	Lajitas Ar. Si	86.64	54	P		P	18 21 27.1	+0.6
TX32	Lajitas Array	86.64	54	IAmb	IAmb		18 21 40.7	
	comp=Z,7.8nm,1.1s							
TXAR	Lajitas Array	86.64	54	P		P	18 21 28.2	+1.7
	comp=Z,2.1nm,1.1s,baz=289,slow=3.8,SNR=9.1							
TXAR	Lajitas Array	86.64	54	P		P	18 21 26.6	+0.1
TXAR	Lajitas Array	86.64	54	P		P	18 21 26.6	+0.1
D58A	Chemin du LacG	86.67	24	P		P	18 21 26.5	+0.3
	baz=334							
E57A	Chemin Saint G	86.88	25	P		P	18 21 27.6	+0.3
	baz=333							
CCM	Cathedral Cave	86.96	40	P		P	18 21 26.9	-0.9
	baz=322							
MGMO	Mountain Grove	87.16	41	P		P	18 21 28.5	-0.4
MGMO				IAmb	IAmb		18 21 41.0	
	comp=Z,16nm,1.2s							
E58A	La Victoria	87.19	24	P		P	18 21 28.6	-0.2
	baz=333							
D60A	Saint Jean D'O	87.42	23	P		P	18 21 29.9	+0.1
	baz=335							
U40A	Yellville	87.48	42	P		P	18 21 29.8	-0.6
	baz=321							
F61A	St Evariste	88.25	23	P		P	18 21 34.4	+0.6
	baz=335							
G61A	St-Isidore-de-	88.71	24	P		P	18 21 36.3	+0.3
	baz=334							
W41B	Gary Mavity, V	88.71	42	P		P	18 21 35.9	-0.3
	baz=322							
E64A	Bridgewater	88.74	21	P		P	18 21 34.3	-1.8
	baz=337							
TBI	Tubuai	89.32	122	*e*LR	LR		18 50 10.0	
	comp=Z,509nm,24.2s,baz=318							
I63A	Otisfield	90.11	24	P		P	18 21 44.0	+1.4
	baz=335							
ATD	Arta Tunnel	90.27	285	P		P	18 21 45.3	+1.4
	comp=Z,9.2nm,0.9s,baz=332,slow=9.8,SNR=4.0							
ATD	Arta Tunnel	90.27	285	P		P	18 21 45.1	+1.3
ATD				IAmb	IAmb		18 21 46.6	
	comp=Z,17nm,1.1s							
M57A	Sunshine Farm,	90.31	29	P		P	18 21 43.9	+0.3
	baz=331							
L59A	Walton	90.32	27	P		P	18 21 43.7	0.0
	baz=332							
O55A	Ligonier	90.46	31	P		P	18 21 43.6	-0.7
	baz=329							
I64A	Boothbay	90.51	23	P		P	18 21 45.0	+0.6
	baz=336							
M58A	Price's Panora	90.53	29	P		P	18 21 45.2	+0.5
	baz=331							
SSPA	Standing Stone	90.64	30	P		P	18 21 45.5	+0.3
	baz=330							
N57A	Milroy	90.66	30	P		P	18 21 45.0	-0.2
	baz=330							
O56A	Blue Knob Stat	90.70	31	P		P	18 21 45.5	0.0
	baz=330							
L60A	Shokan	90.78	27	P		P	18 21 46.6	+0.8
	baz=333							
L61A	Hillsdale 1, H	90.83	26	P		P	18 21 46.0	0.0
	baz=333							
ESDC	Sonseca Array	94.42	335	P		P	18 22 02.6	0.0
	comp=Z,0.9nm,0.9s,baz=347,slow=2.3,SNR=4.3							
ESDC				LR	LR		19 11 12.5	
	comp=Z,358nm,18.4s,baz=15,slow=40							
ESDC	Sonseca Array	94.42	335	IAmb	IAmb		18 22 08.4	
	comp=Z,13nm,1.4s							
TORD	Torodi Ar. Bea	115.52	318	PKP		PKiKP	18 27 24.2	-0.8
	comp=Z,0.2nm,0.4s,baz=22,slow=2.8,SNR=1.7							
TORD				PP		PP	18 28 22.3	-3.8
	comp=Z,2.9nm,1.0s,baz=27,slow=6.3,SNR=7.4							
LPAZ	La Paz	143.44	57	PKP		PKPdf	18 28 19.0	+0.7
	comp=Z,1.0nm,0.6s,baz=4.8,slow=11,SNR=2.7							
SNAA	Sanae	144.87	198	PKPdf	PKPbc		18 28 17.6	-0.1
SNAA	Sanae	144.87	198	PKiKP	PKPab		18 28 17.3	-0.3
SNAA	Sanae	144.87	198		PKPab		18 28 17.3	-0.3
PB11	IPOC Station P	144.94	63		PKPbc		18 28 19.0	-0.5
PB08	IPOC Station P	145.54	63		PKPdf		18 28 20.8	-0.7
H03N2	Juan Fernandez	145.83	91	T	T		21 11 34.8	
	baz=299							
H03N3	Juan Fernandez	145.84	91	T	T		21 11 34.2	
	baz=299,slow=74,SNR=5.4							
H03N1	Juan Fernandez	145.84	91	T	T		21 11 34.8	
	baz=299,slow=74,SNR=8.4							
PB01	IPOC Station P	145.93	64		PKPdf		18 28 22.3	+0.5
VNA2	Neumayer--Watz	146.44	197	PKPdf	PKPab		18 28 22.9	-0.5
	baz=120,slow=2.2							
SMTB	Santa Maria do	146.66	20	*e*P	PKPbc		18 28 25.3	+0.5
VNA3	Neumayer Olymp	146.68	196	PKPdf	PKPbc		18 28 22.8	-0.4
VNA1	Neumayer--Stat	146.84	197	PKPdf	PKPbc		18 28 23.3	-0.3
PTLB	Pontes e Lacer	148.04	44	*e*P	PKPbc		18 28 29.1	+0.6
SNDB	Serra Nova Dou	148.47	28	*e*P	PKPbc		18 28 30.6	+0.9
PEXB	Peixe	149.56	23	*e*P	PKPbc		18 28 33.0	+0.6

*IDC **14** 18:29:19.1±3.5,30.59S×177.44W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.7/28,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=72.2km s-min=27.9km az=106.0*

*NEIC **14** 18:29:23.6±1.1,30.48S±0.05×177.6W±0.2,h27km±5km, mb4.3/6,Error ellipse: s-maj=20.7km s-min=7.7km az=95.0.*

ISC 14 18:29:23.4±1.8,30.54S±0.07×177.5W±0.2,h33km,n20, σ1§98/17,mb4.1/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.34	343	Pn	Pn	18 29 45.4	-0.3
	133nm,0.3s,baz=248,slow=19,SNR=6.3						
RAO				Sn	Sn	18 29 59.0	-3.4
	159nm,0.3s,baz=37,slow=20,SNR=6.1						
RAO	Raoul Island	1.34	343		Sn	18 30 00.1	-2.3
OUZ	Omahuta	8.83	236	Pn	Pn	18 31 29.0	+0.3
URZ	Urewera	8.90	209	Pn	Pn	18 31 26.5	-3.2
	0.4nm,0.3s,baz=100,slow=20,SNR=1.2						
URZ				Sn	Sn	18 33 04.7	-4.1
	0.2nm,0.3s,baz=160,slow=16,SNR=1.5						
URZ	Urewera	8.90	209		Pn	18 31 29.1	-0.5
URZ					Sn	18 33 07.9	-0.9
CTAO	Charters Tower	34.26	279	P	P	18 36 08.2	+1.6
STKA	Stephens Creek	34.88	257	P	P	18 36 13.9	+2.1
	1.3nm,0.6s,baz=98,slow=12,SNR=5.5						
ASAR	Alice Springs	43.55	267	P	P	18 37 24.8	+0.4
	0.1nm,0.3s,baz=102,slow=7.6,SNR=12						
WB2	Warramunga Arr	44.54	272	P	P	18 37 32.8	+0.6
WB2				IAmb	IAmb	18 37 57.5	
	comp=Z,3.5nm,1.1s						
WRA	Warramunga Arr	44.55	272	P	P	18 37 32.6	+0.3
	comp=Z,0.4nm,0.2s,baz=110,slow=8.0,SNR=21						
WRA	Warramunga Arr	44.55	272	P	P	18 37 31.9	-0.5
WB0	Warramunga Arr	44.57	272	P	P	18 37 33.0	+0.5
WB0				IAmb	IAmb	18 37 53.9	
	comp=Z,7.3nm,1.4s						
CASY	Casey	55.23	208	P	P	18 38 54.2	+1.4
CASY				IAmb	IAmb	18 39 08.1	
	comp=Z,5.3nm,1.4s						
H03S2	Juan Fernandez	80.02	123	T	T	20 10 41.7	
	baz=238						
H03S1	Juan Fernandez	80.03	123	T	T	20 10 43.3	
	baz=238						
H03S3	Juan Fernandez	80.03	123	T	T	20 10 40.0	
	baz=238						
H03N3	Juan Fernandez	80.21	123	T	T	20 10 59.5	
	baz=235						
H03N2	Juan Fernandez	80.21	123	T	T	20 10 59.0	
	baz=235						
H03N1	Juan Fernandez	80.22	123	T	T	20 11 00.6	
	baz=235						
FINES	FINESS Array B	145.43	340	PKPbc	PKPab	18 48 58.0	+0.6
	comp=Z,0.8nm,0.4s,baz=49,slow=4.2,SNR=0.9						

*NEIC **14** 18:32:46.5±1.0,59.96N±0.04×152.98W±0.09, h109km±4km,Error ellipse: s-maj=6.6km s-min=4.9km az=108.0*

*ANF **14** 18:32:48.7±0.8,60.05N×152.55W,h122km±7km,ML3.6/11, ML3.6/11,Error ellipse: s-maj=8.1km s-min=5.2km az=57.0*

*AEIC **14** 18:32:48.0±1.7,59.95N±0.03×153.02W±0.09, h101km±4km,ML3.1,Error ellipse: s-maj=6.6km s-min=4.7km az=110.0*

ISC 14 18:32:45.5±1.4,59.93N±0.04×152.97W±0.05, h118km±7km,n154,σ1§12/183,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.06	298		Pn	18 33 01.4	-0.2
ILS					Sn	18 33 12.8	-1.1
IVE	Iliamna Volcan	0.09	345		Pn	18 33 01.4	-0.4
IVE					Sn	18 33 12.9	-1.1
OPT	Oil Point	0.31	205		Pn	18 33 02.4	+0.2
OPT					Sn	18 33 13.3	-1.5
RED	Redoubt Volcan	0.50	11		Pn	18 33 03.1	-0.1
RDWB	Redoubt West	0.56	7		Pn	18 33 03.5	-0.2
RDWB					Sn	18 33 16.0	-1.5
REF	Redoubt East F	0.58	13		Pn	18 33 03.9	0.0
REF					Sn	18 33 16.4	-1.4
AU22	Augustine Moun	0.60	199		Pn	18 33 04.3	+0.5
AU22					Sn	18 33 17.2	-0.3
AUL	Augustine Lava	0.60	203		Pn	18 33 04.4	+0.6
AUL					Sn	18 33 17.6	0.0
AUP	Augustine Pinn	0.61	202		Pn	18 33 04.5	+0.5
AUW	Augustine West	0.62	205		Pn	18 33 04.5	+0.6
AUCH	Augustine Cone	0.62	203		Pn	18 33 04.6	+0.6
AUQ	Augustine Qik'	0.62	201		Pn	18 33 04.5	+0.5
NCT	North Crescent	0.63	2		Pn	18 33 04.2	0.0
NCT					Sn	18 33 16.8	-1.5
DFR	Drift River	0.68	12		Pn	18 33 04.4	-0.1
DFR					Sn	18 33 17.7	-1.2
HOM	Homer	0.72	112	P	Pn	18 33 05.3	+0.6
	baz=294,SNR=6.9						
HOM				S	Sn	18 33 19.7	+0.4
	baz=294						
HOM	Homer	0.72	112		Pn	18 33 05.4	+0.6
HOM					Sn	18 33 20.1	+0.8
CNPM	China Poot	0.97	114	Pn	Pn	18 33 07.4	+0.4
CNPM				Sn	Sn	18 33 22.7	-0.6
BRLK	Bradley Lake	1.07	98	Pn	Pn	18 33 08.3	+0.3
BRLK				Sn	Sn	18 33 24.7	-0.3
BRSE	Bradley Lake S	1.14	99		Pn	18 33 09.1	+0.4
BRSE					Sn	18 33 26.4	+0.1
CAPN	Captain Cook N	1.23	46	P	Pn	18 33 11.7	+2.0
	baz=229						
CAPN	Captain Cook N	1.23	46		Pn	18 33 11.8	+2.2
SPCR	Spurr Chakacha	1.33	16		Pn	18 33 11.4	+0.6
SPBG	Spurr Blockage	1.37	12		Pn	18 33 12.7	+1.4
SPBG					Sn	18 33 30.8	-0.1
SPCG	Spurr Capps Gl	1.44	19		Pn	18 33 13.2	+1.1
SPNN	North Nagishla	1.45	5		Pn	18 33 13.0	+0.7
SLKM	Skilak Lake	1.49	66		Pn	18 33 13.3	+0.7
KAPH	Katmai Pasha	1.51	208		Pn	18 33 14.0	+1.0
KAHG	Katmai Hook Gl	1.65	210		Pn	18 33 15.7	+1.1
KAHC	Katmai Hardscr	1.66	220		Pn	18 33 15.4	+0.7
KARR	Katmai Rainbow	1.69	213		Pn	18 33 16.3	+1.2
O22K	Cooper Landing	1.71	70	P	Pn	18 33 15.8	+0.6
	baz=253,SNR=11						
O22K				S	Sn	18 33 36.4	-1.5
	baz=253						
O22K	Cooper Landing	1.71	70		Pn	18 33 15.8	+0.6
SVW2	Sparrevohn	1.74	313		Pn	18 33 16.0	+0.4
SEW	Seward	1.77	83	Pn	Pn	18 33 16.4	+0.4
FIS	Fire Island	1.82	47		Pn	18 33 18.7	+2.1
SUA	Susitna One	1.89	34		Pn	18 33 18.6	+1.2
SUA				Sn	Sn	18 33 42.5	+0.6
KAKN	Katmai Knife C	1.96	214		Pn	18 33 19.6	+1.2
KCG	Knife Ck. Glac	1.97	215		Pn	18 33 19.6	+1.1
RC01	Rabbit Creek A	1.98	53	P	Pn	18 33 19.0	+0.5
	baz=236,SNR=9.7						
RC01				S	Sn	18 33 42.8	-0.9
	baz=236						
RC01	Rabbit Creek A	1.98	53		Pn	18 33 19.5	+1.0
KBM	Katmai Bkd Mtn	2.02	216		Pn	18 33 20.5	+1.4
KABU	Katmai Buttres	2.05	217		Pn	18 33 21.1	+1.6
ANCK	Angle Creek	2.17	218		Pn	18 33 22.3	+1.3
SKT	Skwentna	2.17	18	Pn	Pn	18 33 21.9	+0.9
SKT				Sn	Sn	18 33 49.5	+1.3
CAHL	Cahill	2.24	214		Pn	18 33 23.5	+1.7
PWL	Port Wells	2.48	66		Pn	18 33 25.0	+0.1
PMR	Palmer	2.52	47	Pn	Pn	18 33 25.6	+0.4
PMR				Sn	Sn	18 33 53.3	-2.5
KNK	Knik Glacier	2.67	54		Pn	18 33 27.6	+0.3
KNK				Sn	Sn	18 33 57.3	-2.2
GHQ	Glory Hole Cre	2.71	45		Pn	18 33 28.8	+0.9
GHQ				Sn	Sn	18 33 58.7	-1.8
OHAK	Old Harbor	2.72	184	Pn	Pn	18 33 28.1	+0.2
OHAK				Sn	Sn	18 33 59.0	-1.6
CUT	Chulitna	2.81	27	P	Pn	18 33 30.2	+1.2
	baz=210,SNR=12						
CUT				S	Sn	18 34 02.5	-0.1
	baz=210						
CUT	Chulitna	2.81	27		Pn	18 33 30.4	+1.3
SML	Sawmill	2.95	48	Pn	Pn	18 33 31.3	+0.3
PPLA	Purkeypile	3.00	7	Pn	Pn	18 33 33.6	+1.9
GLI	Glacier Island	3.07	69	Pn	Pn	18 33 32.2	-0.3
HIN	Hinchinbrook I	3.27	79	Pn	Pn	18 33 36.0	+0.8
TT01	Tatalina	3.33	335		Pn	18 33 36.5	+0.7
FID	Port Fidalgo	3.33	73	Pn	Pn	18 33 35.6	-0.4
TTA	Tatalina	3.34	335	Pn	Pn	18 33 35.2	-1.0
SCM	Sheep Creek Mo	3.35	53	Pn	Pn	18 33 36.5	+0.2
Q23K	Middleton Isla	3.40	96	P	Pn	18 33 37.5	+0.8
	baz=282						
Q23K				S	Sn	18 34 15.7	-0.8
	baz=282						
Q23K	Middleton Isla	3.40	96	Pn	Pn	18 33 37.7	+1.0
MID	Middleton Isla	3.40	96	Pn	Pn	18 33 37.8	+0.9
SII	Sitkinak Islan	3.44	191	Pn	Pn	18 33 37.2	-0.3
HUR	Hurricane	3.45	26		Pn	18 33 39.2	+1.7
WAT1	Susitna Watana	3.60	34		Pn	18 33 40.3	+0.7
EYAK	Cordova Ski Ar	3.65	77	Pn	Pn	18 33 41.3	+1.1
WAT6	Susitna Watana	3.67	41		Pn	18 33 40.8	+0.2
WAT2	Susitna Watana	3.70	33		Pn	18 33 41.9	+0.9
DIV	Divide	3.75	68		Pn	18 33 41.9	+0.3
TRF	Thorofare Moun	3.75	19	Pn	Pn	18 33 42.7	+1.0
KTH	Kantishna Hill	3.76	14	Pn	Pn	18 33 42.5	+0.7
KLU	Klutina	3.80	63		Pn	18 33 42.3	0.0
M24K	Tolsona, Glenn	3.96	54	P	Pn	18 33 45.1	+0.7
	baz=240,SNR=5.2						
M24K				S	Sn	18 34 29.4	-0.6
	baz=240						
M24K	Tolsona, Glenn	3.96	54		Pn	18 33 45.2	+0.8
CHUM	Lake Minchumin	3.98	4		Pn	18 33 45.6	+1.1
RND	Reindeer	4.00	28	Pn	Pn	18 33 46.1	+1.2
DHY	Denali Highway	4.14	38		Pn	18 33 47.5	+0.6
GOAT	Goat Mountain	4.16	77		Pn	18 33 48.0	+0.9
RAGM	Ragged Mountai	4.17	80	Pn	Pn	18 33 47.6	+0.4
MCK	McKinley	4.27	25	P	Pn	18 33 49.7	+1.3
	baz=209,SNR=16						
MCK				S	Sn	18 34 35.1	-2.3
	baz=209						
MCK	McKinley	4.27	25		Pn	18 33 49.8	+1.3
BMRM	Bremner River	4.27	72		Pn	18 33 48.7	+0.1
BPAW	Bear Paw Mtn.	4.29	12	Pn	Pn	18 33 49.3	+0.6
KAIM	Kayak Island	4.30	86	Pn	Pn	18 33 50.1	+1.1
CHIR	Chirikof Islan	4.36	200	Pn	Pn	18 33 48.5	-1.2
HMT	Hamilton	4.38	81	Pn	Pn	18 33 51.1	+1.2
N25K	Chitina, Valde	4.44	64	P	Pn	18 33 50.7	-0.1
	baz=252						
N25K	Chitina, Valde	4.44	64		Pn	18 33 50.8	0.0
BWN	Browne	4.56	20		Pn	18 33 52.8	+0.4
SUCK	Suckling Hills	4.62	84	Pn	Pn	18 33 54.1	+1.0
PAX	Paxson	4.72	47	Pn	Pn	18 33 55.6	+1.1
GLB	Gilahina Butte	4.75	67	Pn	Pn	18 33 54.8	-0.1
VRDI	Verde Repeater	4.87	70	Pn	Pn	18 33 57.2	+0.5
CRQM	Cirque	4.95	76	Pn	Pn	18 33 59.1	+1.3
NEA2	Nenana	5.02	20	P	Pn	18 33 59.1	+0.6
	baz=203,SNR=29						
NEA2	Nenana	5.02	20		Pn	18 33 59.0	+0.6
SNH	Sunshine Point	5.08	83		Pn	18 34 00.5	+1.0
WRH	Wood River Hil	5.10	25	Pn	Pn	18 34 00.1	+0.6
TGL	Tana Glacier	5.11	76	Pn	Pn	18 34 01.0	+1.2
MCARA	McCarthy VSAT	5.11	69	Pn	Pn	18 34 00.5	+0.8
MLY	Manley	5.22	10	P	Pn	18 34 02.2	+0.9
	baz=193,SNR=19						
MLY	Manley	5.22	10		Pn	18 34 02.1	+0.9
BARK	Barkley Ridge	5.25	80		Pn	18 34 02.9	+1.1
HDA	Harding Lake	5.30	30	P	Pn	18 34 02.8	+0.5
	baz=215,SNR=10						
HDA				S	Sn	18 34 59.5	-2.7
	baz=215						
HDA	Harding Lake	5.30	30		Pn	18 34 02.8	+0.5
CCB	Clear Creek Bu	5.31	25		Pn	18 34 02.6	+0.3
PTPK	Patty Peak	5.33	72		Pn	18 34 03.3	+0.4
ISLE	Juniper Island	5.34	78	Pn	Pn	18 34 03.8	+0.9
KIAG	Kiagna River	5.35	75		Pn	18 34 03.6	+0.5
MENT	Mentasta	5.37	52	Pn	Pn	18 34 02.3	-0.9
BALM	Baldy	5.37	74	Pn	Pn	18 34 03.6	+0.3
RIDG	Independent Ri	5.42	42	Pn	Pn	18 34 04.7	+0.7
PS08	TAPS Pump Stn8	5.45	29		Pn	18 34 04.6	+0.3
TCOL	CIGO, UAF Yank	5.50	23	P	Pn	18 34 05.7	+0.8
	baz=208,SNR=6.8						
TCOL	CIGO, UAF Yank	5.50	23		Pn	18 34 05.8	+0.9
COLA	College	5.50	23		Pn	18 34 05.9	+1.0
MDM	Murphy Dome	5.50	22		Pn	18 34 05.7	+0.7
MESA	MESA	5.53	83	Pn	Pn	18 34 07.2	+1.7
IL31		5.62	28		Pn	18 34 06.9	+0.4
ILAR	Eielson Array	5.62	28	Pn	Pn	18 34 06.3	-0.3
YAH	Yahtse	5.63	81	Pn	Pn	18 34 08.4	+1.5
DOT	Dot Lake	5.63	45	Pn	Pn	18 34 07.7	+0.9
BARN	Barnard Glacie	5.71	74	Pn	Pn	18 34 09.4	+1.5
POKR	Poker Plat Res	5.80	24	P	Pn	18 34 09.8	+0.8
	baz=209						
POKR	Poker Plat Res	5.80	24		Pn	18 34 09.8	+0.8
RKAV	Rock Avalanche	5.83	81		Pn	18 34 10.9	+1.3
CTGM	Chitina Glacie	5.85	75	Pn	Pn	18 34 11.4	+1.6
SCRK	Sand Creek	5.87	42	P	Pn	18 34 10.0	0.0
	baz=231						
SCRK				S	Sn	18 35 11.7	-4.3
	baz=231						
SCRK	Sand Creek	5.87	42		Pn	18 34 10.0	0.0
TABL	Table Mountain	5.92	80	Pn	Pn	18 34 12.0	+1.1
CHX	Chaix Hills	5.95	84		Pn	18 34 13.0	+1.8
LOGN	Logan Glacier	6.00	76		Pn	18 34 13.3	+1.3
IM03		6.09	357		Pn	18 34 14.2	+1.4
IMAR	Indian Mountai	6.09	357		Pn	18 34 14.0	+1.1
PS06	TAPS Pump Stn6	6.13	13		Pn	18 34 14.7	+1.3
BC03		6.21	55		Pn	18 34 15.6	+1.1
BCAR	Beaver Creek A	6.21	55	Pn	Pn	18 34 16.0	+1.5
PCA	Pinnacle	6.38	83	Pn	Pn	18 34 18.0	+1.0
BCPM	Bancas Point	6.70	84	Pn	Pn	18 34 22.9	+1.7
PNL	Peninsula	6.86	86		Pn	18 34 24.4	+1.1
EGAK	Eagle	7.33	43	Pn	Pn	18 34 29.9	+0.3
FYU	Fort Yukon	7.51	24	Pn	Pn	18 34 32.7	+0.6
HYT	Haines Junctio	7.72	77	Pn	Pn	18 34 36.0	+0.9
BM03	Burnt Mountain	8.38	23		Pn	18 34 44.0	+0.1
BMAR	Burnt Mountain	8.39	23		Pn	18 34 43.8	-0.2
TOLK	Toolik Lake Re	8.87	8	P	Pn	18 34 51.6	+1.2
	baz=191						
TOLK	Toolik Lake Re	8.87	8		Pn	18 34 52.7	+2.3
SKAG	Skagway	8.93	85	Pn	Pn	18 34 54.3	+3.0
BESE	Bessie Mountai	9.38	90	Pn	Pn	18 34 59.7	+2.3
SIT	Sitka	9.67	100	Pn	Pn	18 35 02.2	+1.0
JIS	Juneau Island	9.70	92	Pn

26nm,1.9s
SDSI Sungai Dareh 11.05 139 P **Pn** 18 38 45.7 +0.7
19nm,1.4s
MYKOM Kota Tinggi 11.15 120 **Pn** 18 38 43.7 -2.8
CM31 Chiang Mai Arr 11.80 22 **Pn** 18 38 56.5 +1.2
CMAR Chiang Mai Arr 11.80 22 Pn **Pn** 18 38 57.0 +1.7
1.2nm,0.3s,baz=215,slow=14,SNR=18
CMAR ScP **ScP** 18 48 16.9 -0.3
0.2nm,0.3s,baz=199,slow=1.9,SNR=4.2
CMAR Chiang Mai Arr 11.80 22 Pn **Pn** 18 38 55.3 0.0
KRJI Kerinci 11.97 143 P **Pn** 18 38 56.8 -0.9
2µm98nm,1.0s
CHTO Chiang Mai 12.13 22 P **Pn** 18 39 00.2 +0.4
CHTO Chiang Mai 12.13 22 Pn **Pn** 18 39 00.2 +0.4
DSRI Dabo 13.03 127 P **Pn** 18 39 10.3 -1.8
34nm,2.1s
PALK Pallekele 13.41 270 P **Pn** 18 39 17.6 +0.2
PALK Pallekele 13.41 270 Pn **Pn** 18 39 17.6 +0.2
LHSI Lahat 14.60 140 P **Pn** 18 39 34.3 +0.7
2µm44nm,1.0s
MNAI Manna 14.67 143 P **Pn** 18 39 32.9 -1.7
407nm,1.7s
CHLP Challavanipeta 14.73 319 *eP* **Pn** 18 39 33.4 -2.0
MDRS Chennai 14.81 293 *eP* **P** 18 39 43.0 +0.7
BWNR Bhubaneshwar 15.09 328 *ex* **Pn** 18 39 37.9 -2.2
BWNR IAmb IAmb 18 39 49.6
comp=Z,42nm,0.4s
PPBI Pangkal Pinang 15.29 129 P **Pn** 18 39 43.2 +0.3
MDSI Maura Dua 15.52 140 P **Pn** 18 39 47.1 +1.2
comp=Z,29nm,1.1s
SKHT Srikalahasti 15.54 295 *eP* **Pn** 18 39 45.0 -1.1
PVM Polavaram 15.64 309 *eP* **P** 18 39 48.3 -3.2
LWLI Liwa 15.86 141 P **Pn** 18 39 51.0 +0.6
comp=Z,80nm,0.9s
KLSI 16.03 139 P **Pn** 18 39 51.7 -0.8
comp=Z,13nm,1.6s
MYLAV Mylavaram 16.13 306 *eP* **Pn** 18 39 54.0 +0.2
ADKI Addanki 16.22 302 *eP* **Pn** 18 39 53.4 -1.5
SLVN Son La 16.62 33 P **P** 18 40 03.2 +0.7
TPI Tanjungpandan 16.85 127 P **Pn** 18 40 03.6 +0.7
comp=Z,707nmcomp=Z,39nm,1.8s
GGR Gangavaram 17.07 308 *eP* **P** 18 40 05.5 -2.1
NJS Nagarjunasagar 17.12 303 *eP* **P** 18 40 07.0 -1.0
KSM Kuching 17.12 110 P **Pn** 18 40 06.2 -0.2
KSM IAmb IAmb 18 40 17.4
comp=Z,158nm,1.4s
SRLM Srisailam 17.25 301 *eP* **Pn** 18 40 06.8 -1.1
CUPL Choutuppal 17.81 304 *eP* **P** 18 40 14.3 -1.4
BOK Bokaro 18.05 335 *eP* **P** 18 40 19.1 +0.8
BOK IAmb IAmb 18 40 24.8
comp=Z,38nm,1.0s
BOK *ex* x 18 43 41.4
BOK AMP 18 43 43.0
comp=N,638nm,0.1s
SHL Shillong 18.09 353 P **Pn** 18 40 15.0 -3.4
SHL pmax pmax
comp=Z,95nm,1.6s
SHL Shillong 18.09 353 P **Pn** 18 40 15.0 -3.4
KOHI KOHIMA 18.10 360 *eP* **Pn** 18 40 16.9 -1.7
CGJI Cibinong 18.11 141 P **P** 18 40 20.5 +1.5
comp=Z,38nm,1.1s
HYB Hyderabad 18.17 304 *i* P **P** 18 40 21.0 +1.3
HYB *eS* **S** 18 43 48.0 0.0
HYBB Hyderabad (bro 18.18 304 *eP* **P** 18 40 19.6 -0.1
URV Uravakonda 18.19 295 *eP* **P** 18 40 20.4 +0.5
RPR Rampur 18.37 309 *eP* **P** 18 40 22.1 +0.2
SBUM Sibu 18.62 105 P **P** 18 40 21.3 -3.3
SBUM IAmb IAmb 18 40 36.0
comp=Z,121nm,1.7s
DBJI Dramaga 18.75 138 P **P** 18 40 26.3 +0.2
comp=Z,17nm,1.1s
SKJI Sukabumi 18.96 139 P **Pn** 18 40 29.6 +0.6
comp=Z,88nm,1.0s
QIZ Qiongzhong 19.01 51 P **P** 18 40 26.9 -1.9
QIZ S **Sn** 18 44 00.6 -2.0
QIZ pmax pmax
comp=Z,190nm,5.5s
QIZ LR LR
comp=Z,6µm,11.1s
QIZ LR LR
comp=Z,2µm,13.7s
QIZ LR LR
comp=Z,980nm,11.5s
TEZP TEZPUR 19.04 356 *eP* **Pn** 18 40 30.8 +0.9
KMI Kunming 19.30 24 ⇑P **Pn** 18 40 36.3 +3.0
KMI sP pwP 18 40 46.6 +10
KMI S **S** 18 44 16.1 +5.0
KMI pmax pmax
comp=Z,25nm,1.3s
KMI pmax pmax
comp=Z,320nm,3.9s
KMI LR LR
comp=Z,1µm,13.7s
KMI LR LR
comp=Z,2µm,13.9s
KMI LR LR
comp=Z,2µm,15.7s
LEM Lembang 19.54 137 P **P** 18 40 34.5 -0.4
comp=Z,0.8nm,0.3s,baz=294,slow=20,SNR=1.8
LEM LR LR 18 50 02.0
comp=Z,2µm,19.4s,baz=298,slow=43
ZIRO ZIRO 19.90 359 *ex* x 18 40 38.7
NGP Nagpur 19.96 314 *eP* Pn 18 40 47.1 +6.1
NGP IAmb IAmb 18 40 50.7
comp=Z,50nm,1.6s
KLRI Killari 20.11 303 *eP* Pn 18 40 42.1 -0.7
PBKI Pangkalan Bun 20.16 120 P Pn 18 40 44.0 +0.7
comp=Z,120nm,1.6s
GTK Tadong 20.40 346 *eP* Pn 18 40 44.9 -1.4
GTK IAmb IAmb 18 40 52.6
comp=Z,41nm,0.9s
SMRI Semarang 21.70 131 P **P** 18 41 00.5 +2.3
comp=Z,116nm,1.1s
KKM Kota Kinabalu 21.89 92 P **P** 18 40 59.1 -1.2
KKM IAmb IAmb 18 41 31.3
comp=Z,108nm,1.4s
GYA Guiyang 22.24 31 ⇓P P 18 41 11.3 +7.3
GYA pP pwP 18 41 23.6 +14
GYA sP sP 18 41 31.5 +24
GYA S **S** 18 45 11.4 +2.3
GYA pmax pmax
comp=Z,20nm,1.3s
GYA LR LR
comp=N,2µm,15.3s
GYA LR LR
comp=E,3µm,14.4s
GYA LR LR
comp=Z,1µm,18.7s
LSA Lhasa 22.25 353 P **P** 18 41 03.1 -1.4
LSA pmax pmax
comp=Z,49nm,1.0s
LSA Lhasa 22.25 353 P **P** 18 41 03.1 -1.4
LSA IAmb IAmb 18 41 17.5
comp=Z,49nm,1.0s
MTKI Muara Teweh, K 22.27 111 P **P** 18 41 10.9 +6.6
UGM Wanagama 22.34 133 P **P** 18 41 04.8 -0.3
comp=Z,122nm,1.6s
BHPL Bhopal 22.47 316 *eP* **P** 18 41 07.9 +1.5
BHPL IAmb IAmb 18 41 13.0
comp=Z,38nm,1.2s
WOJI Wonogiri, Jawa 22.58 132 P P 18 41 23.8 +16
BBKI Banjar Baru 23.29 117 P **P** 18 41 19.4 +4.4
comp=Z,7µmcomp=Z,42nm,1.0s
PWJI Pagerwojo 23.36 131 P **P** 18 41 18.2 +2.6
comp=Z,39nm,1.4s
MYLDM Lahad Datu 24.24 94 P **P** 18 41 23.7 -0.5
BLJI Banyuglugur 24.56 128 P **P** 18 41 33.3 +6.3
CD2 Chengdu 24.92 20 P **P** 18 41 31.3 +1.1
CD2 S **S** 18 45 55.9 +2.1
CD2 pmax pmax
comp=Z,30nm,1.4s
CD2 pmax pmax
comp=Z,490nm,9.2s
CD2 LR LR
comp=Z,1µm,10.7s
CD2 LR LR
comp=Z,2µm,11.3s
CD2 LR LR
comp=Z,1µm,13.1s
H08S3 Diego Garcia H 26.39 236 T T 19 08 24.7
baz=55,slow=75,SNR=186
H08S2 Diego Garcia H 26.39 236 T T 19 08 25.8
baz=55,slow=75,SNR=215
H08S1 Diego Garcia H 26.40 236 T T 19 08 26.4
baz=55,slow=75,SNR=254

MPSI Mapaga 26.57 104 P **P** 18 41 50.9 +5.6
comp=Z,741nmcomp=Z,72nm,1.3s
ENH Enshi 26.78 30 P **P** 18 41 47.2 +0.1
TGY Tagaytay City 27.03 74 LR LR 18 52 10.1
comp=Z,497nm,18.5s,baz=274,slow=36
KAPI Kappang 28.35 115 LR LR 18 53 24.1
comp=Z,500nm,21.8s,baz=294,slow=36
KAPI Kappang 28.35 115 P **P** 18 42 04.5 +3.2
KAPI pmax pmax
comp=Z,49nm,1.4s
KAPI Kappang 28.35 115 P **P** 18 42 04.5 +3.2
KAPI IAmb IAmb 18 42 09.2
comp=Z,48nm,1.4s
PLAI Plampang 28.54 124 P **P** 18 42 05.1 +2.1
comp=Z,32nm,1.8s
BKSI Bulukumba 28.82 116 P **P** 18 42 08.0 +2.6
comp=Z,528nmcomp=Z,40nm,1.1s
GTOI Gorontalo 29.50 102 P **P** 18 42 11.6 +0.1
comp=Z,668nmcomp=Z,52nm,1.7s
XAN Xi'an 29.68 25 P **P** 18 42 16.3 +3.4
XAN pP pwP 18 42 25.4 +7.5
XAN S **S** 18 47 11.4 +2.6
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,170nm,5.7s
XAN LR LR
comp=Z,3µm,14.6s
XAN LR LR
comp=Z,3µm,14.9s
XAN LR LR
comp=Z,2µm,15.5s
LUWI Luwuk 29.72 105 P **P** 18 42 15.8 +2.3
comp=Z,2µmcomp=Z,77nm,1.3s
LUWI Luwuk 29.72 105 P **P** 18 42 13.1 -0.4
DHRM DHARAMSHALA 29.72 328 *eP* **P** 18 42 12.3 -1.2
LZH Lanzhou 29.77 16 *eP* **P** 18 42 14.6 +0.8
LZH pP pwP 18 42 19.1 +0.3
LZH sP sP 18 42 21.8 +4.5
LZH SS SS 18 48 43.6 -33
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,220nm,5.4s
LZH LR LR
comp=Z,630nm,14.4s
LZH LR LR
comp=Z,1µm,12.7s
LZH LR LR
comp=Z,1µm,15.7s
KMSI Cibinong 30.46 102 P P 18 42 29.7 +10
GTA Gaotai 32.15 8 *eP* **P** 18 42 34.3 -0.4
GTA pP pwP 18 42 38.3 -1.5
GTA sP sP 18 42 41.3 +3.1
GTA S **S** 18 47 49.6 +2.1
GTA pmax pmax
comp=Z,130nm,6.7s
GTA LR LR
comp=Z,380nm,18.9s
GTA LR LR
comp=Z,430nm,17.8s
GTA LR LR
comp=Z,460nm,16.7s
NIL Nilore 32.44 326 P **P** 18 42 35.7 -1.5
NIL pmax pmax
comp=Z,27nm,0.9s
NIL Nilore 32.44 326 P **P** 18 42 35.7 -1.5
NIL IAmb IAmb 18 42 51.5
comp=Z,27nm,0.8s
SANI Sanana 33.09 105 P **P** 18 42 45.4 +2.3
comp=Z,6.8nm,1.1s
NJ2 Nanjing 33.49 40 *eP* **P** 18 42 45.5 -0.9
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 LR LR
comp=Z,2µm,13.6s
NJ2 LR LR
comp=Z,1µm,13.9s
NJ2 LR LR
comp=Z,1µm,15.1s
TNTI Ternate 33.71 100 P **P** 18 42 50.6 +2.0
comp=Z,11nm,1.5s
TNTI Ternate 33.71 100 **P** 18 42 48.7 +0.1
TNTI IAmb IAmb 18 42 55.0
comp=Z,26nm,1.4s
BATI Baumata 34.20 121 P **P** 18 42 54.5 +1.7
comp=Z,15nm,0.7s,baz=225,slow=2.9,SNR=5.3
SOEI Soe 34.50 119 P P 18 43 06.8 +11
SOEI Soe 34.50 119 P **P** 18 42 56.2 +0.7
SOEI IAmb IAmb 18 43 26.0
comp=Z,35nm,1.1s
KBL Kabul 35.50 323 P **P** 18 43 02.8 -1.3
KBL pmax pmax
comp=Z,13nm,1.3s
KBL Kabul 35.50 323 P **P** 18 43 02.8 -1.3
KSH Kashi 35.83 336 P **P** 18 43 06.8 +0.1
KSH S **S** 18 48 44.1 -0.4
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,1µm,13.6s
KSH LR LR
comp=Z,150nm,5.5s
KSH LR LR
comp=Z,560nm,12.9s
WMQ Urumqi 36.61 352 *eP* **P** 18 43 14.1 +0.8
WMQ pP pwP 18 43 17.8 -0.6
WMQ sP sP 18 43 20.1 +3.4
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,93nm,5.1s
WMQ LR LR
comp=Z,340nm,16.9s
WMQ LR LR
comp=Z,290nm,19.7s
WMQ LR LR
comp=Z,220nm,18.1s
WMQ Urumqi 36.61 352 P **P** 18 43 13.1 -0.2
WMQ pmax pmax
comp=Z,108nm,1.8s
WMQ Urumqi 36.61 352 P **P** 18 43 13.1 -0.2
HHC Hu-ho-hao-te 36.61 22 *eP* **P** 18 43 13.6 +0.2
HHC sP pwP 18 43 22.0 +3.6
HHC S **S** 18 48 53.8 -2.6
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.6s
HHC LR LR
comp=Z,820nm,14.3s
HHC LR LR
comp=Z,2µm,14.7s
HHC LR LR
comp=Z,800nm,15.5s
BJT Baijiatuau 37.86 28 P **P** 18 43 22.6 -1.3
BJT pmax pmax
comp=Z,15nm,1.3s
BJT Baijiatuau 37.86 28 P **P** 18 43 22.6 -1.3
SIJI Sorong 37.88 101 P **P** 18 43 26.5 +2.1
comp=Z,6.7nm,0.7s,baz=291,slow=6.4,SNR=5.7
UZB Uzunbulak 37.92 342 *eP* **P** 18 43 21.9 -2.6
UZB Uzunbulak 37.92 342 *eP* **P** 18 43 21.9 -2.6
GAR Garm 38.02 329 P **P** 18 43 24.5 -0.9
GAR IAmb IAmb 18 43 32.7
comp=Z,48nm,1.0s
SATY Saty 38.03 341 *eP* **P** 18 43 24.7 -0.8
comp=Z,20nm,2.1s
SATY Saty 38.03 341 *eP* **P** 18 43 24.6 -0.8
SATY pmax pmax
comp=Z,20nm,2.1s
KPKS Kokpek 38.31 342 *eP* **P** 18 43 26.5 -1.3
KPKS Kokpek 38.31 342 *eP* **P** 18 43 26.4 -1.3
PSA00 Pilbara Seismi 38.32 140 **P** 18 43 26.1 -1.8
PSA00 IAmb IAmb 18 43 34.0
comp=Z,31nm,1.2s
CHGR Chuyangaron 38.37 328 P **P** 18 43 27.2 -1.1
BOOM Boomskoye usch 38.38 338 P **P** 18 43 27.3 -1.2
BOOM pmax pmax
comp=Z,9.0nm,1.2s
BOOM Boomskoye usch 38.38 338 P **P** 18 43 27.3 -1.2
MDOK Medeo 38.58 340 *eP* **P** 18 43 28.4 -1.7
MDOK Medeo 38.58 340 *eP* **P** 18 43 28.4 -1.7
BTK Batken 38.58 331 P **P** 18 43 28.1 -2.0
BTK pmax pmax
comp=Z,128nm,2.0s

BTK Batken 38.58 331 P **P** 18 43 28.1 -2.0
BTK IAmb IAmb 18 43 41.1
comp=Z,128nm,1.9s
AAK Ala-Archa 39.06 337 *ce*P **P** 18 43 33.5 -0.7
AAK pmax pmax
comp=Z,22nm,1.3s
FRU1 Bishkek 39.16 337 P **P** 18 43 34.1 -0.7
FRU1 pmax pmax
comp=Z,24nm,1.3s
FRU1 Bishkek 39.16 337 P **P** 18 43 34.1 -0.7
KUU Kurty 39.47 340 *eP* **P** 18 43 35.7 -1.6
KUU Kurty 39.47 340 *eP* **P** 18 43 35.7 -1.6
SOCY Socotra 39.88 280 P **P** 18 43 40.8 -0.5
SAUI Saumlaki 40.04 112 P **P** 18 43 44.5 +2.0
comp=Z,221nm,1.1s
FITZ Fitzroy Crossi 40.12 130 P **P** 18 43 44.1 +1.1
comp=Z,3.7nm,0.9s,baz=339,slow=13,SNR=6.6
FITZ Fitzroy Crossi 40.12 130 P **P** 18 43 42.5 -0.6
MK31 Makanchi Array 40.45 347 *ce*P **P** 18 43 43.9 -1.6
MK31 Makanchi Array 40.45 347 P **P** 18 43 44.6 -0.8
MKAR Makanchi Array 40.45 347 P **P** 18 43 44.5 -0.9
comp=Z,8.7nm,0.9s,baz=168,slow=6.9,SNR=25
MKAR PcP **PcP** 18 45 47.9 -0.4
comp=Z,1.4nm,0.9s,baz=140,slow=3.4,SNR=1.9
MKAR LR LR 19 04 01.4
comp=Z,222nm,19.6s,baz=162,slow=42
MKAR Makanchi Array 40.45 347 P **P** 18 43 43.9 -1.6
MKAR 18 45 47.9
MKAR Makanchi Array 40.45 347 P **P** 18 43 43.9 -1.6
MAKZ Makanchi 40.53 347 P **P** 18 43 45.3 -0.8
MAKZ pmax pmax
comp=Z,19nm,1.3s
MAKZ Makanchi 40.53 347 P **P** 18 43 45.3 -0.8
IUG Iuzhnay 40.58 332 *eP* **P** 18 43 45.7 -1.0
IUG Iuzhnay 40.58 332 *eP* **P** 18 43 45.7 -1.0
ZSN Zaisan 40.58 350 *eP* **P** 18 43 45.0 -1.5
ZSN Zaisan 40.58 350 *eP* **P** 18 43 45.0 -1.5
KK31 Karatay Array 41.11 333 P **P** 18 43 50.3 -0.7
KK31 pmax pmax
comp=Z,17nm,1.3s
KK31 Karatay Array 41.11 333 P **P** 18 43 50.3 -0.7
KKAR Karatay Array 41.11 333 P **P** 18 43 50.3 -0.7
KKAR Karatay Array 41.11 333 P **P** 18 43 50.6 -0.4
KKAR Karatay Array 41.11 333 P **P** 18 43 50.3 -0.7
SONM Songino Array 41.49 12 P **P** 18 43 53.9 -0.3
comp=Z,1.3nm,0.6s,baz=193,slow=7.2,SNR=10
SONM PcP **PcP** 18 45 51.7 -0.1
comp=Z,0.6nm,0.5s,baz=193,slow=4.7,SNR=1.9
SONM LR LR 19 03 31.4
comp=Z,316nm,18.7s,baz=187,slow=40
SONM Songino Array 41.49 12 P **P** 18 43 54.2 +0.1
ULN Ulaanbaatar 41.66 13 P **P** 18 43 54.7 -0.9
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 41.66 13 P **P** 18 43 54.7 -0.9
DGZ Jazzator, Alta 42.42 353 *i* P **P** 18 44 01.9 +0.1
DGZ pmax pmax
comp=Z,6.0nm,1.6s
KSAR Wonju Array Be 42.65 41 P **P** 18 44 03.1 -0.5
KSAR Wonju Array Be 42.65 41 P **P** 18 44 03.1 -0.5
BAKI Biak 42.66 100 P P 18 44 09.6 +5.5
comp=Z,71nm,1.6s
KSRS Korea Array 42.68 41 P **P** 18 44 04.8 +1.0
comp=Z,1.6nm,0.9s,baz=233,slow=10,SNR=3.7
KSRS LR LR 19 03 51.3
comp=Z,465nm,19.2s,baz=230,slow=39
SRPI Serui, Papua 42.94 101 P **P** 18 44 08.9 +2.5
comp=Z,2µmcomp=Z,37nm,0.7s
ZAK Zakamensk 43.39 8 *eP* **P** 18 44 10.6 +1.1
ZAK pmax pmax
comp=Z,6.0nm,1.6s
GEYT Alibeck 44.52 318 P **P** 18 44 19.0 +0.3
comp=Z,7.8nm,0.6s,baz=148,slow=8.7,SNR=18
GEYT LR LR 19 06 04.1
comp=Z,451nm,18.1s,baz=60,slow=40
GEYT Alibeck 44.52 318 P **P** 18 44 19.2 +0.5
GYA0B ALIBECK ARRAY 44.52 318 P **P** 18 44 19.2 +0.5
GYA0B IAmb IAmb 18 44 34.3
comp=Z,11nm,0.7s
TLY Talaya 44.70 8 *i* P **P** 18 44 19.8 -0.2
TLY pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 44.97 346 *ce*P **P** 18 44 21.4 -0.7
KURK pmax pmax
comp=Z,21nm,1.3s
KURK Kurchatov 44.97 346 P **P** 18 44 21.3 -0.8
NWAO Narrogin (SRO) 45.80 153 P **P** 18 44 28.9 0.0
comp=Z,6.5nm,0.8s,baz=355,slow=11,SNR=2.4
NWAO Narrogin (SRO) 45.80 153 P **P** 18 44 29.6 +0.7
NWAO pmax pmax
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 45.80 153 P **P** 18 44 29.6 +0.7
NWAO IAmb IAmb 18 44 35.9
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 45.80 153 P **P** 18 44 29.6 +0.7
NWAO IAmb IAmb 18 44 35.9
comp=Z,27nm,1.2s
H01W3 Cape Leeuwin H 46.18 157 T T 19 34 12.8
baz=330
H01W2 Cape Leeuwin H 46.19 157 T T 19 34 11.4
baz=330
H01W1 Cape Leeuwin H 46.20 157 T T 19 34 10.5
baz=330
JWT Wachi 46.74 48 P **P** 18 44 35.5 -0.8
HIA Hailar 46.81 23 P **P** 18 44 35.4 -1.3
HIA pmax pmax
comp=Z,23nm,1.4s
HIA Hailar 46.81 23 P **P** 18 44 35.4 -1.3
HIA IAmb IAmb 18 45 04.4
comp=Z,23nm,1.4s
ZAA0 Zalesovo Array 46.91 352 P **P** 18 44 36.9 -0.4
ZALV Zalesovo Beam 46.91 352 P **P** 18 44 37.0 -0.4
comp=Z,3.3nm,0.3s,baz=180,slow=7.2,SNR=18
ZALV LR LR 19 09 02.8
comp=Z,337nm,18.7s,baz=256,slow=42
ZALV Zalesovo Beam 46.91 352 P **P** 18 44 36.4 -1.0
ZALV Zalesovo Beam 46.91 352 P **P** 18 44 36.4 -1.0
GENI Genyem 46.93 101 P **P** 18 44 40.5 +2.4
RER Riviere de l'E 47.32 232 P **P** 18 44 41.7 +0.6
JAY Jayapura 47.44 100 LR LR 19 06 30.8
comp=Z,17nm,21.6s,baz=197,slow=38
WB0 Warramunga Arr 47.95 125 P **P** 18 44 44.8 -1.1
WB0 IAmb IAmb 18 44 51.7
comp=Z,20nm,1.1s
WRA Warramunga Arr 47.99 125 P **P** 18 44 43.8 -2.5
comp=Z,4.8nm,1.2s,baz=304,slow=8.9,SNR=14
WRA PcP **PcP** 18 46 14.4 0.0
comp=Z,0.9nm,0.7s,baz=315,slow=2.5,SNR=1.5
WRA LR LR 19 06 29.8
comp=Z,468nm,21.1s,baz=290,slow=38
WRA Warramunga Arr 47.99 125 P **P** 18 44 46.6 +0.4
WRAB Tennant Creek 47.99 125 *i* P **P** 18 44 47.3 +1.0
WRAB pmax pmax
comp=Z,18nm,1.3s
WRAB Tennant Creek 47.99 125 P **P** 18 44 47.6 +1.3
WB2 Warramunga Arr 48.00 125 P **P** 18 44 47.1 +0.8
MDJ Mudanjiang 48.05 34 P P 18 44 50.9 +4.5
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,130nm,4.1s
MDJ Mudanjiang 48.05 34 P **P** 18 44 46.1 -0.3
MDJ IAmb IAmb 18 44 58.4
comp=Z,36nm,1.7s
WR0 Warramunga Arr 48.16 125 P **P** 18 44 47.7 +0.1
WR0 IAmb IAmb 18 44 53.5
comp=Z,42nm,1.4s
DAMY Dhamar 49.33 283 P **P** 18 44 57.0 0.0
DAMY IAmb IAmb 18 45 06.7
comp=Z,21nm,0.9s
MAJO Matsushiro 49.34 48 *i* P **P** 18 44 55.8 -0.7
MAJO pmax pmax
comp=Z,10.0nm,1.3s
MJAR Matsushiro Arr 49.34 48 P **P** 18 44 56.6 +0.2
comp=Z,0.5nm,0.4s,baz=241,slow=8.0,SNR=1.8
MJAR LR LR 19 08 49.2
comp=Z,180nm,18.2s,baz=230,slow=40
MJAR Matsushiro Arr 49.34 48 P **P** 18 44 56.6 +0.2
MJAR pmax pmax
comp=Z,4.0nm,1.2s
JCJ Chichijima 49.40 61 P **P** 18 44 56.3 -0.8
BRVK Borovoye 49.41 341 *ce*P **P** 18 44 55.7 -1.0
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK Borovoye 49.41 341 P **P** 18 44 56.1 -0.6

BRVK IAmb IAmb 18 45 03.1
comp=Z,9.9nm,0.9s
AS31 Alice Springs 49.63 130 P P 18 44 58.5 -0.3
ASAR Alice Springs 49.63 130 P P 18 44 58.0 -0.9
comp=Z,2.5nm,0.7s,baz=299,slow=7.9,SNR=19
ASAR PcP PcP **18 46 19.3 -1.1**
comp=Z,1.2nm,0.9s,baz=328,slow=3.3,SNR=1.5
ASAR LR LR 19 08 01.3
comp=Z,332nm,20.0s,baz=298,slow=38
ASAR Alice Springs 49.63 130 P P 18 44 58.7 -0.2
ASAR Alice Springs 49.63 130 P P 18 44 58.7 -0.2
FORT Forrest 50.01 141 P P 18 45 02.1 +0.5
ABKAR Akbulak array 50.58 331 P P 18 45 05.2 -0.4
ABKAR IAmb IAmb 18 45 13.7
comp=Z,42nm,1.4s
ABKAR Akbulak array 50.58 331 P P 18 45 05.1 -0.6
ATD Arta Tunnel 50.77 279 P P 18 45 07.8 +0.1
BOD Bodaibo 52.47 13 eP P 18 45 21.0 +1.4
BOD pmax pmax
comp=Z,20nm,1.7s
ZEA Zeya 53.24 24 eP P 18 45 28.1 +2.7
ZEA pmax pmax
comp=Z,10.0nm,2.0s
ZEA pmax pmax
comp=E,100nm,7.0s
ZEA pmax pmax
comp=Z,100nm,5.1s
ZEA MLR MLR
comp=N,400nm,19.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
PMG Port Moresby 55.35 107 P P 18 45 42.4 +1.0
comp=Z,8.0nm,0.8s,baz=316,slow=8.1,SNR=6.3
PMG Port Moresby 55.35 107 P P 18 45 41.7 +0.3
PMG pmax pmax
comp=Z,10.0nm,0.9s
PMG Port Moresby 55.35 107 P P 18 45 41.7 +0.3
PMG IAmb IAmb 18 45 48.4
comp=Z,10nm,0.9s
SVE Sverdlovsk 55.76 338 eP P 18 45 44.1 +0.5
SVE pmax pmax
comp=Z,78nm,1.5s
SVE MLR MLR
comp=Z,429nm,18.0s
ARU Arti 56.24 337 c iP P 18 45 49.0 +1.9
ARU 18 46 43.1
ARU 18 47 49.0
ARU S S **18 53 42.4 +5.6**
ARU 18 55 37.4
ARU SS SS **18 57 27.3 +3.8**
ARU pmax pmax
comp=Z,22nm,1.1s
ARU MLR MLR
comp=Z,469nm,20.0s
ARU Arti 56.24 337 P P 18 45 45.6 -1.5
ZEI Tsey 56.36 317 eP P 18 45 47.1 -1.4
ZEI pmax pmax
comp=Z,8.0nm,1.5s
MARD Mardin 56.68 310 P P 18 45 48.8 -2.0
MARD IAmb IAmb 18 45 56.3
comp=Z,11nm,1.0s
ARTV Artvin 57.11 315 P P 18 45 52.2 -1.7
KBZ Khabaz 57.40 318 P P 18 45 54.8 -0.8
comp=Z,3.2nm,1.0s,baz=205,slow=13,SNR=4.8
KMBO Kilima Mbogo 57.47 264 LR LR 19 07 39.7
comp=Z,401nm,19.1s,baz=92,slow=33
KMBO Kilima Mbogo 57.47 264 P P 18 45 57.5 +0.7
KMBO pmax pmax
comp=Z,14nm,0.9s
KMBO Kilima Mbogo 57.47 264 P P 18 45 57.5 +0.7
KMBO IAmb IAmb 18 46 06.0
comp=Z,14nm,0.9s
KIV Kislovodsk 57.63 318 eP P 18 45 55.2 -2.2
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 57.63 318 P P 18 45 56.4 -1.0
KIV IAmb IAmb 18 46 03.4
comp=Z,11nm,1.0s
BELG Belogornoye 58.65 329 i P P 18 46 02.2 -2.0
STKA Stephens Creek 59.80 134 LR LR 19 16 59.4
comp=Z,227nm,18.3s,baz=302,slow=41
STKA Stephens Creek 59.80 134 P P 18 46 12.5 -0.1
STKA pmax pmax
comp=Z,4.0nm,1.7s
STKA Stephens Creek 59.80 134 P P 18 46 12.4 -0.1
YAK Yakutsk 60.30 18 eP P 18 46 16.0 +0.6
YAK e*PP **pwP 18 46 26.3 +5.7**
YAK e 18 47 00.6
YAK eS S **18 54 28.1 -1.5**
YAK e*SS sS 18 54 45.1 +11
YAK e 18 56 04.1
YAK eSS SS **18 58 23.7 -3.3**
YAK pmax pmax
comp=Z,16nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,122nm,3.2s
YAK pmax pmax
comp=E,102nm,3.5s
YAK pmax pmax
comp=N,102nm,3.1s
YAK smax smax
comp=E,220nm,3.3s
YAK smax smax
comp=N,97nm,2.8s
YAK MLR MLR
comp=Z,521nm,19.0s
YAK MLR MLR
comp=E,347nm,18.0s
YAK MLR MLR
comp=N,201nm,17.0s
YAK Yakutsk 60.30 18 P P 18 46 14.5 -0.9
YAK IAmb IAmb 18 46 28.8
comp=Z,15nm,0.8s
VRH Novokhopyorsk 61.26 325 eP P 18 46 22.7 +0.6
VRH pmax pmax
comp=Z,30nm,1.8s
KIRV Kirov 61.37 335 i P P 18 46 22.5 -0.2
NRIK Noril'sk 61.90 357 P P 18 46 25.1 -1.1
comp=Z,1.8nm,0.3s,baz=121,slow=4.8,SNR=2.4
NRIK LR LR 19 17 21.7
comp=Z,326nm,20.2s,baz=200,slow=40
BR131 Keskin Array S 62.72 311 P P 18 46 30.2 -2.2
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 62.72 311 P P 18 46 30.2 -2.2
BRTR Keskin Array B 62.72 311 P P 18 46 30.3 -2.2
comp=Z,1.8nm,0.6s,baz=122,slow=7.7,SNR=6.5
BRTR Keskin Array B 62.72 311 P P 18 46 30.1 -2.3
BRTR Keskin Array B 62.72 311 P P 18 46 30.1 -2.3
VSR Storozhevoye 62.73 325 eP P 18 46 31.1 -0.9
VSR pmax pmax
comp=Z,10.0nm,1.3s
ILGA Ilgaz 62.98 312 P P 18 46 32.1 -2.2
ILGA IAmb IAmb 18 46 39.9
comp=Z,11nm,1.0s
LPSR Galich'ya Gora 63.43 326 eP P 18 46 38.4 +1.8
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MBAR Mbarara 63.81 266 P P 18 46 40.3 +0.2
MBAR pmax pmax
comp=Z,11nm,1.2s
MBAR Mbarara 63.81 266 P P 18 46 40.3 +0.2
MBAR IAmb IAmb 18 46 49.5
comp=Z,10nm,1.1s
PRGR Permogore 64.70 337 eP P 18 46 43.1 -1.7
PRGR pmax pmax
comp=Z,36nm,1.3s
ISP Isparta 64.70 308 P P 18 46 45.1 -0.4
ISP Isparta 64.70 308 P P 18 46 45.1 -0.4
ISP IAmb IAmb 18 48 09.3
comp=Z,19nm,0.8s
ELL Elmali 65.00 307 P P 18 46 46.7 -0.8
ELL pmax pmax
comp=Z,70nm,1.0s
ELL Elmali 65.00 307 P P 18 46 46.7 -0.8
MOS Moscow 65.42 329 eP P 18 46 47.3 -2.3
MOS e 18 47 17.5
MOS pmax pmax
comp=Z,52nm,1.1s
OBN Obninsk 65.72 328 deP P 18 46 50.4 -1.1
OBN e*PP **sP 18 46 54.6 -0.4**
OBN e 18 46 58.1
OBN 18 47 28.0
OBN pmax pmax
comp=Z,40nm,1.7s
OBN Obninsk 65.72 328 P P 18 46 50.7 -0.8
KLMR Klimovskoe 66.81 334 eP P 18 46 56.5 -1.9
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR Klimovskoe 66.81 334 eP P 18 46 56.5 -1.9
KLMR AMP 18 47 10.1
comp=Z,39nm,1.3s
KARP Karpathos 67.02 305 P P 18 47 00.1 -0.2
TIRR Tirgusor 67.56 315 ⇓P P 18 47 14.0 +10
TIXI Tiksi 67.56 11 P P 18 47 01.7 -1.3
TIXI pmax pmax
comp=Z,103nm,1.2s
TIXI Tiksi 67.56 11 P P 18 47 01.7 -1.3
CFR Carcaliu 67.90 316 ⇓P P 18 47 04.2 -1.4
AKASG Malin Array Be 68.48 322 P P 18 47 07.2 -2.0
comp=Z,0.3nm,0.3s,baz=94,slow=4.6,SNR=2.1
AKASG PP PP **18 49 38.7 -1.6**
comp=Z,0.1nm,0.3s,baz=98,slow=6.6,SNR=1.3
AKASG Malin Array Be 68.48 322 P P 18 47 08.8 -0.4
AKASG 18 49 38.7
AKASG pmax pmax
comp=Z,4.0nm,1.4s
AKASG Malin Array Be 68.48 322 P P 18 47 08.8 -0.4
AKBB Malin Array Si 68.48 322 P P 18 47 08.9 -0.3
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 68.48 322 P P 18 47 08.9 -0.3
ALN Alexandroupoli 68.64 311 P P 18 47 10.6 +0.2
ALN pmax pmax
comp=Z,6.0nm,0.9s
ALN Alexandroupoli 68.64 311 P P 18 47 10.6 +0.2
ALN IAmb IAmb 18 47 16.1
comp=Z,5.8nm,0.9s
IDI Anoyia 68.83 305 ⇓P P 18 47 11.3 -0.5
IDI Anoyia 68.83 305 P P 18 47 11.4 -0.4
IDI IAmb IAmb 18 47 29.9
comp=Z,12nm,1.0s
BISRR Bisoca 68.96 316 ⇓P P 18 47 17.0 +4.6
VRI Vrincioaia 69.01 316 ⇑P P 18 47 12.1 -0.5
PLOR Plostina 69.06 316 ⇓P P 18 47 12.6 -0.4
LSZ Lusaka 69.23 251 P P 18 47 15.3 +0.7
LSZ pmax pmax
comp=Z,9.0nm,0.9s
LSZ Lusaka 69.23 251 P P 18 47 15.3 +0.7
LSZ IAmb IAmb 18 47 22.5
comp=Z,9.4nm,0.9s
MLR Muntele Rosu 69.48 316 ⇑P P 18 47 15.4 -0.3
MLR Muntele Rosu 69.48 316 P P 18 47 14.9 -0.8
MLR Muntele Rosu 69.48 316 P P 18 47 14.9 -0.8
BIZ Bicaz 69.64 317 ⇑P P 18 47 15.8 -0.7
DOPR Dopca 69.95 316 ⇓P P 18 47 21.2 +2.7
VOIR 70.09 316 ⇑P P 18 47 17.1 -2.4
BURAR Bucovina Array 70.36 318 ⇑P P 18 47 19.7 -1.4
BURAR Bucovina Array 70.36 318 P P 18 47 20.3 -0.8
ARR Arges 70.37 315 ⇓P P 18 47 26.5 +5.3
BUR08 Bucovina Ar. S 70.38 318 P P 18 47 20.1 -1.1
LOT Lotru 70.98 315 ⇑P P 18 47 12.9 -12
NACGM Naroch 70.98 326 e P 18 47 23.0 -1.6
LIT Litokhoron 71.23 310 P P 18 47 24.1 -2.3
LIT pmax pmax
comp=Z,11nm,0.7s
LIT Litokhoron 71.23 310 P P 18 47 24.1 -2.3
LIT IAmb IAmb 18 47 31.6
comp=Z,11nm,0.7s
ITM Ithomi 71.39 307 P P 18 47 26.8 -0.6
ITM IAmb IAmb 18 47 32.6
comp=Z,13nm,0.9s
UZH Uzhgorod 72.46 319 eP P 18 47 42.2 +8.6
UZH e 18 47 49.6
SUW Suwalki 72.84 324 eP P 18 47 36.5 +0.8
CRVS Cervenica-Dubn 73.05 319 eP P 18 47 43.5 +6.4
CRVS Cervenica-Dubn 73.05 319 eP P 18 47 43.5 +6.4
FIA1 FINESS Array S 73.06 332 P P 18 47 36.1 -0.7
FIA1 IAmb IAmb 18 47 48.6
comp=Z,14nm,1.1s
FINES FINESS Array B 73.06 332 P P 18 47 35.7 -1.1
comp=Z,4.3nm,0.7s,baz=97,slow=4.3,SNR=23
FINES FINESS Array B 73.06 332 P P 18 47 35.4 -1.4
FINES FINESS Array B 73.06 332 P P 18 47 35.4 -1.4
LBTB Lobatse 74.14 241 P P 18 47 44.4 +0.3
LBTB pmax pmax
comp=Z,12nm,0.9s
LBTB Lobatse 74.14 241 P P 18 47 44.4 +0.3
LBTB IAmb IAmb 18 47 52.1
comp=Z,12nm,0.9s
OJC Ojcow 74.30 320 eP P 18 47 46.7 +2.3
OJC Ojcow 74.30 320 P P 18 47 45.1 +0.7
OJC pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 74.30 320 P P 18 47 45.1 +0.7
OJC IAmb IAmb 18 47 51.1
comp=Z,12nm,0.9s
CASY Casey 74.57 173 P P 18 47 46.6 +1.1
CASY IAmb IAmb 18 47 59.8
comp=Z,29nm,1.9s
VYHS Vyhne 74.72 318 eP P 18 47 52.5 +5.6
VYHS Vyhne 74.72 318 eP P 18 47 52.5 +5.6
BOSA Boshof 75.47 238 P P 18 47 51.7 0.0
comp=Z,4.8nm,0.9s,baz=85,slow=3.8,SNR=7.2
BOSA LR LR 19 16 47.8
comp=Z,169nm,20.8s,baz=63,slow=32
BOSA Boshof 75.47 238 P P 18 47 52.6 +0.9
BOSA pmax pmax
comp=Z,18nm,1.2s
BOSA Boshof 75.47 238 P P 18 47 52.6 +0.9
BOSA IAmb IAmb 18 48 08.1
comp=Z,18nm,1.1s
ARCES ARCESS Array B 75.62 340 P P 18 47 50.6 -1.1
comp=Z,5.8nm,0.8s,baz=98,slow=6.7,SNR=8.1
ARCES LR LR 19 23 49.4
comp=Z,389nm,20.2s,baz=105,slow=38
MORC Moravsky Berou 75.69 319 P P 18 47 51.6 -1.0
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 75.69 319 P P 18 47 51.6 -1.0
MORC IAmb IAmb 18 47 59.2
comp=Z,10nm,1.1s
BILL Bilibino 76.38 22 ⇑eP P 18 47 59.5 +3.5
BILL *PP **pwP 18 48 01.0 -0.3**
BILL 18 48 09.0
BILL S S **18 57 46.0 +5.0**
BILL SSS SSS 19 05 50.0
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,589nm,16.0s
DZM Mont Dzumac 76.57 115 eLR LR 19 11 35.0
comp=Z,241nm,26.3s
GEC2 GERESS Array S 78.14 318 P P 18 48 04.6 -1.9
GEC2 IAmb IAmb 18 48 13.0
comp=Z,7.8nm,0.8s
GERES GERESS Array B 78.14 318 P P 18 48 06.0 -0.5
comp=Z,2.2nm,0.7s,baz=77,slow=5.8,SNR=3.7
GERES GERESS Array B 78.14 318 P P 18 48 05.1 -1.3
GERES GERESS Array B 78.14 318 P P 18 48 05.1 -1.3
PRED Cave del Predi 78.16 316 P P 18 48 04.9 -1.7
PRED IAmb IAmb 18 48 12.7
comp=Z,9.5nm,0.9s
MAW Mawson 78.21 192 P P 18 48 06.0 -0.1
comp=Z,3.2nm,0.9s,baz=32,slow=8.0,SNR=5.2
MAW LR LR 19 18 15.9
comp=Z,161nm,18.8s,baz=52,slow=32
MAW Mawson 78.21 192 P P 18 48 06.6 +0.5
MAW pmax pmax
comp=Z,2.0nm,1.4s
MAW Mawson 78.21 192 P P 18 48 06.6 +0.5
CIMO Cimolais 78.93 316 P P 18 48 09.3 -1.5
CIMO IAmb IAmb 18 48 16.9
comp=Z,19nm,1.0s
NC405 NORSAR Array S 79.84 331 P P 18 48 13.4 -2.0
NC602 NORSAR Array S 79.90 330 P P 18 48 14.4 -1.3
ZCCA Zocca 79.97 314 P P 18 48 13.6 -2.8
NC303 NORSAR Array S 80.01 331 P P 18 48 15.0 -1.3
NB2 NORSAR Subarra 80.08 331 P P 18 48 15.1 -1.6
comp=Z,1.3nm,0.7s,baz=92,slow=5.6
NOA NORSAR Array B 80.08 331 P P 18 48 15.4 -1.3
comp=Z,2.4nm,0.8s,baz=94,slow=5.6,SNR=9.8
NOA LR LR 19 27 32.6
comp=Z,104nm,18.9s,baz=125,slow=39
KEST Kesra 81.51 305 P P 18 48 24.1 -0.9
comp=Z,1.7nm,0.6s,baz=45,slow=7.1,SNR=1.7
KEST Kesra 81.51 305 IAmb IAmb 18 48 31.9
comp=Z,16nm,1.1s
SYO Syowa Base 85.09 197 ⇑eP P 18 48 43.8 +1.3
SYO Syowa Base 85.09 197 ⇑ePcP P 18 48 45.0 +2.5
EKA Eskdalemuir Ar 88.06 325 P P 18 48 56.7 -0.7
comp=Z,1.4nm,0.6s,baz=91,slow=4.8,SNR=2.5
TORD Torodi Ar. Bea 90.76 283 P P 18 49 10.3 -0.6
comp=Z,0.5nm,0.8s,baz=77,slow=3.7,SNR=3.2
TORD PP PP **18 52 45.7 -0.8**
comp=Z,1.1nm,1.2s,baz=71,slow=7.8,SNR=3.1
TORD LR LR 19 30 24.4
comp=Z,215nm,18.4s,baz=35,slow=36
TORD Torodi Ar. Bea 90.76 283 P P 18 49 10.1 -0.8
ESDC Sonseca Array 91.51 310 P P 18 49 13.3 -0.7
comp=Z,0.6nm,0.5s,baz=60,slow=4.1,SNR=7.8
IMAR Indian Mountai 91.92 22 P P 18 49 16.0 +0.7
VNDA Vanda 92.57 168 LR LR 19 25 29.2
comp=Z,100nm,21.3s,baz=314,slow=32
ILAR Eilson Array 95.04 22 P P 18 49 29.5 -0.2
comp=Z,0.1nm,0.3s,baz=297,slow=3.8,SNR=1.7
ILAR LR LR 19 34 43.4
comp=Z,119nm,19.9s,baz=328,slow=37
TBI Tubuai 117.08 112 eLR LR 19 30 16.2
comp=Z,188nm,28.5s
PPT2 Papeete2 117.17 106 eLR LR 19 30 19.8
comp=Z,108nm,22.5s
NVAR Mina Array Bea 125.18 31 PKP PKiKP 18 55 08.5 -0.3
comp=Z,0.2nm,0.3s,baz=279,slow=1.7,SNR=1.8
PDAR Pinedale Array 125.46 21 PKP PKPdf 18 55 07.2 -1.7
comp=Z,0.2nm,0.7s,baz=305,slow=3.2,SNR=3.2
TXAR Lajitas Array 139.51 24 PKP PKPdf 18 55 34.2 -1.3
comp=Z,0.2nm,0.5s,baz=31,slow=2.4,SNR=2.4
TXAR PP PP **18 58 30.7 +2.1**
comp=Z,0.3nm,1.0s,baz=324,slow=4.5,SNR=3.6
PLCA Paso Flores 144.25 200 PKP PKPbc 18 55 41.7 0.0
comp=Z,4.7nm,0.9s,baz=94,slow=3.0,SNR=6.5
CPUP Villa Florida 147.11 232 PKPbc PKPbc 18 55 50.0 -0.9
comp=Z,3.0nm,0.8s,baz=156,slow=5.3,SNR=4.1
BI02 San Fabin de 148.12 202 PKPbc 18 55 51.8 -1.6

*IDC **14** 18:43:12.5±0.8, 17.87S×147.62W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/46, mbtmp3.9/6, Error ellipse: s-maj=39.9km s-min=21.0km az=166.0*
*NEIC **14** 18:43:13.4±2.5, 17.6S±0.2×147.71W±0.08, h12km±4km, mb4.4/4, Error ellipse: s-maj=23.0km s-min=10.3km az=168.0*
ISC 14 18:43:16.4±1.5, 17.72S±0.07×147.75W±0.07, h30km±10km, n34, σ1s30/34, mb4.0/8, Society Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MEH	**Mehetia**	**0.34**	**242**	*e*Pn		**Pb**	**18 43 24.6**	**+0.1**
MEH				*e*Sn		**Sn**	**18 43 32.3**	**+1.0**
TVO	**Taravao**	**1.43**	**267**	*e*Pn		**Pn**	**18 43 40.1**	**-0.3**
	44nm,0.1s							
TVO				*e*Sn		**Sb**	**18 44 00.2**	**-0.2**
	168nm,0.1s							
TIAR	**Tiarei**	**1.53**	**276**	*e*Pn		**Pn**	**18 43 41.9**	**+0.2**
	463nm,0.1s							
TIAR				*e*Sn		**Sn**	**18 44 01.2**	**+0.5**
	727nm,0.2s							
TIAR				*e*T		T	18 45 35.9	
	39nm,0.2s							
PPTF	**Pamatai, Papee**	**1.73**	**274**	Pn		**Pn**	**18 43 44.4**	**-0.2**
PPTF				Sn		**Sn**	**18 44 06.1**	**+0.3**
PAE	**Paea**	**1.75**	**271**	*e*Pn		**Pn**	**18 43 44.0**	**-0.7**
	26nm,0.1s							
PAE				*e*Sn		**Sn**	**18 44 06.4**	**+0.5**
	57nm,0.1s							
PPT2	**Papeete2**	**1.75**	**274**	*e*Pn		**Pn**	**18 43 44.4**	**-0.4**
	42nm,0.1s							
PPT2				*e*Sn		**Sn**	**18 44 06.4**	**+0.3**
	235nm,0.1s							
PPT2				*e*LR		LR	18 44 12.0	
	comp=Z,78nm,19.2s							
PPT	**Papeete**	**1.75**	**275**	Pn		**Pn**	**18 43 44.4**	**-0.3**
	691nm,0.3s,baz=110,slow=6.6,SNR=131							
PPT				Sn		**Sn**	**18 44 05.4**	**-0.6**
	625nm,0.3s,baz=83,slow=18,SNR=20							
VAH	**Vaihoa**	**2.47**	**3**	*e*Pn		**Pn**	**18 43 54.4**	**-0.2**
	164nm,0.1s							
VAH				*e*Sn		**Sn**	**18 44 23.1**	**-0.7**
	223nm,0.1s							
VAH				*e*T		T	18 46 27.7	
	127nm,0.3s							
PMOR	**Pomariorio Ree**	**2.70**	**357**	*e*Pn		**Pn**	**18 43 58.0**	**+0.2**
	164nm,0.1s							
PMOR				*e*Sn		**Sn**	**18 44 30.0**	**+0.5**
	248nm,0.1s							
PMOR				*e*T		T	18 46 47.6	
	16nm,0.2s							
TBI	**Tubuai**	**5.83**	**196**	*e*Pn		Pn	18 44 35.0	-5.9
	31nm,0.1s							
TBI				*e*Sn		Sn	18 45 33.6	-13
	22nm,0.2s							
TBI				*e*LR		LR	18 45 51.6	
	comp=Z,235nm,35.8s							
TBI				*e*T		T	18 50 05.1	
	34nm,0.3s							
TAOE	**Nuku Hiva Isla**	**11.50**	**41**	*e*Pn		Pn	18 45 50.6	-8.2
	52nm,0.2s							
TAOE				*e*Sn		Sn	18 47 42.7	-24
	21nm,0.2s							
TAOE	**Nuku Hiva Isla**	**11.50**	**41**	Pn		Pn	18 45 53.1	-5.6
H11S2	**WAKE ISLAND Hy**	**57.44**	**307**	T		T	19 55 46.3	
	baz=127,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**57.45**	**307**	T		T	19 55 46.7	
	baz=127,slow=75,SNR=47							
H11S3	**WAKE ISLAND Hy**	**57.46**	**307**	T		T	19 55 48.2	
	baz=127,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**58.01**	**308**	T		T	19 56 25.9	
	baz=128							
H11N1	**WAKE ISLAND Hy**	**58.02**	**308**	T		T	19 56 27.8	
	baz=128							
H11N2	**WAKE ISLAND Hy**	**58.03**	**308**	T		T	19 56 27.6	
	baz=128							
NV11	**Mina Array Sit**	**62.37**	**26**	P		**P**	**18 53 33.9**	**-2.7**
NV11				IAmb		IAmb	18 53 39.6	
	comp=Z,2.5nm,1.2s							
TXAR	**Lajitas Array**	**63.23**	**43**	P		**P**	**18 53 43.8**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=192,slow=11,SNR=4.0							
PDAR	**Pinedale Array**	**69.69**	**29**	P		**P**	**18 54 25.2**	**+1.6**
	comp=Z,2.3nm,1.2s,baz=197,slow=2.7,SNR=3.0							
QSPA	**South Pole Qui**	**72.37**	**180**	P		**P**	**18 54 39.1**	**-0.4**
QSPA				IAmb		IAmb	18 54 40.2	
	comp=Z,4.6nm,1.1s							
ASAR	**Alice Springs**	**72.71**	**250**	P		**P**	**18 54 43.8**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=98,slow=4.6,SNR=6.2							
ASAR	**Alice Springs**	**72.71**	**250**	P		**P**	**18 54 41.6**	**-0.6**
WRA	**Warramunga Arr**	**73.12**	**254**	P		**P**	**18 54 46.8**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=101,slow=5.7,SNR=9.0							
WRA	**Warramunga Arr**	**73.12**	**254**	P		**P**	**18 54 39.9**	**-4.7**
LPAZ	**La Paz**	**75.57**	**103**	P		**P**	**18 54 59.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=279,slow=1.5,SNR=6.9							
LPAZ	**La Paz**	**75.57**	**103**	P		**P**	**18 54 59.6**	**0.0**
LPAZ				IAmb		IAmb	18 55 00.3	
	comp=Z,2.9nm,0.8s							
ILAR	**Eielson Array**	**82.23**	**0**	P		**P**	**18 55 36.0**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=190,slow=4.0,SNR=5.2							
KOWA	**Kowa**	**145.04**	**90**	PKP		**PKPdf**	**19 02 51.2**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=286,slow=4.2,SNR=3.8							
KOWA	**Kowa**	**145.04**	**90**			**PKPdf**	**19 02 51.0**	**-0.9**
GERES	**GERESS Array B**	**145.49**	**22**	PKPbc		**PKPab**	**19 02 52.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=27,slow=1.5,SNR=5.0							
AKASG	**Malin Array Be**	**147.00**	**4**	PKPbc		**PKPab**	**19 02 56.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=344,slow=3.0,SNR=1.5							
TORD	**Torodi Ar. Bea**	**150.22**	**94**	PKPbc		**PKPbc**	**19 03 05.2**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=309,slow=2.5,SNR=15							

*IPEC **14** 18:44:02.5±0.5, 51.55N×16.24E, h1km±2km, ML2.7/3, Error ellipse: s-maj=4.3km s-min=1.9km az=53.0*
*VIE **14** 18:44:03.9±0.9, 51.38N×15.93E, h0km, mb2.5/10, ml2.8/13, ms3.3/2, Error ellipse: s-maj=6.7km s-min=4.5km az=163.0 82 km WNW of Wroclaw Suspected Mining induced.*
*PRU **14** 18:44:03.8±0.0, 51.48N×16.18E, h0km*
*IDC **14** 18:44:04.6±0.9, 51.50N×15.93E, h0km, mb1 3.4/5, mb1mx3.2/55, mbtmp3.3/5, ML2.7/4, Error ellipse: s-maj=18.3km s-min=8.1km az=116.0*
*DNK **14** 18:44:04.8±3.4, 51.50N×15.81E, h15km±117km, ML2.2*

*UPP **14** 18:44:08.9±3.3,51.84N×15.61E,h0km,ML2.7,Suspected explosion*
ISC 14 18:44:01.5±0.7,**51.55N**±0.03×**16.24E**±0.03,**h0**km,**n59,**
σ1§55/111,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**177**	*i* Pg	**Pg**	**18 44 16.1**	**+1.0**
KSP				*e*Sg	**Sg**	**18 44 24.2**	**-0.1**
CHVC	**Chvalec**	**0.97**	**187**	*e*PG	**Pg**	**18 44 20.9**	**+0.7**
CHVC				*e*SG	**Sg**	**18 44 32.8**	**+0.1**
	comp=Z,54nm,0.5s						
OSTC	**Ostas**	**1.00**	**181**	*e*PG	**Pg**	**18 44 21.6**	**+1.0**
OSTC				*e*SG	**Sg**	**18 44 33.5**	**0.0**
	comp=Z,96nm,0.6s						
UPC	**Upice**	**1.06**	**188**	*e*PG	**Pg**	**18 44 22.3**	**+0.5**
UPC				*e*SG	**Sg**	**18 44 35.3**	**-0.1**
	comp=Z,145nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**177**	*e*PG	**Pg**	**18 44 25.1**	**+0.5**
DPC				*e*SG	**Sg**	**18 44 40.3**	**+0.1**
	comp=Z,92nm,0.7s						
PVCC	**Panska Ves**	**1.47**	**226**	*e*PG	**Pn**	**18 44 29.8**	**+0.5**
PVCC				*e*SG	**Sg**	**18 44 49.3**	**+0.6**
	comp=Z,236nm,0.2s						
KRLC	**Kraliky**	**1.52**	**167**	*e*PG	**Pn**	**18 44 30.5**	**+0.5**
KRLC				*e*SG	**Sb**	**18 44 50.4**	**0.0**
	comp=Z,74nm,0.4s						
BRG	**Berggiesshubel**	**1.60**	**246**	PN	**Pn**	**18 44 31.1**	**+0.1**
BRG				PG	**Pb**	**18 44 32.9**	**+1.0**
BRG				SG	**Sn**	**18 44 53.3**	**+1.0**
	153nm,0.4s						
PRA	**Prague**	**1.87**	**218**	*e*PG	**Pn**	**18 44 35.8**	**+1.0**
PRA				*e*SG	**Sn**	**18 45 00.5**	**+1.3**
	comp=Z,22nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.88**	**210**	*e*PG	**Pn**	**18 44 35.9**	**+0.9**
GOPC				*e*SG	**Sb**	**18 45 00.7**	**-0.1**
PRU	**Pruhonice**	**1.90**	**215**	*e*PG	**Pn**	**18 44 36.9**	**+1.7**
PRU				*e*SG	**Sb**	**18 45 01.4**	**+0.1**
	comp=Z,72nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**154**	*e*PN	**Pn**	**18 44 36.7**	**+0.6**
MORC				*e*SG	**Sg**	**18 45 04.2**	**-0.3**
MORC	**Moravsky Berou**	**1.96**	**154**	*e*Pn	**Pn**	**18 44 36.6**	**+0.5**
	baz=336						
MORC				*e*Sg	**Sg**	**18 45 04.1**	**-0.4**
	55nm,0.4s,baz=336						
CLL	**Collm**	**2.04**	**264**	*e*Pn	**Pn**	**18 44 38.0**	**+0.9**
CLL				*i* Pg	**Pb**	**18 44 41.7**	**+2.3**
CLL				*e*Sg	**Sb**	**18 45 08.0**	**+2.7**
	comp=Z,42nm,0.6s						
VRAC	**Vranov**	**2.26**	**174**	*e*PN	**Pn**	**18 44 41.3**	**+1.2**
VRAC				*e*SG	**Sg**	**18 45 13.5**	**-0.6**
VRAC	**Vranov**	**2.26**	**174**	*e*Pn	**Pn**	**18 44 41.3**	**+1.2**
	baz=354						
VRAC				*e*Sg	**Sg**	**18 45 13.4**	**-0.6**
	comp=Z,36nm,0.4s,baz=354						
TREC	**Trest**	**2.31**	**192**	*e*PG	**Pb**	**18 44 45.3**	**+1.2**
TREC				*e*SG	**Sg**	**18 45 15.5**	**-0.2**
	comp=Z,36nm,0.6s						
PBCC	**Pribram**	**2.35**	**218**	*e*PG	**Pb**	**18 44 45.5**	**+0.7**
PBCC				*e*SG	**Sb**	**18 45 14.4**	**+0.1**
KRUC	**Moravsky**	**2.50**	**178**	*e*PN	**Pn**	**18 44 44.3**	**+0.9**
KRUC				*e*SG	**Sg**	**18 45 20.6**	**-1.1**
KRUC	**Moravsky**	**2.50**	**178**	*e*Pn	**Pn**	**18 44 44.3**	**+0.9**
	baz=358						
KRUC				*e*Sg	**Sg**	**18 45 20.6**	**-1.1**
	comp=Z,35nm,0.6s,baz=358						
OJC	**Ojcow**	**2.62**	**119**	*e*Pn	**Pn**	**18 44 44.9**	**-0.2**
OJC				*e*Pg	**Pg**	**18 44 52.4**	**+0.7**
OJC				*e*Sn	**Sn**	**18 45 16.2**	**-1.4**
OJC				*e*Sg	**Sg**	**18 45 27.2**	**+1.6**
NKC	**Novy Kostel**	**2.74**	**243**	*e*PN	**Pn**	**18 44 47.9**	**+1.1**
NKC				*e*PG	**Pb**	**18 44 53.1**	**+1.7**
NKC				*e*SG	**Sg**	**18 45 29.2**	**-0.3**
	comp=Z,89nm,0.3s						
JAVC	**Velka Javorina**	**2.85**	**161**	*e*PN	**Pn**	**18 44 49.3**	**+1.0**
KHC	**Kasperske Hory**	**2.96**	**216**	*e*PN	**Pn**	**18 44 50.9**	**+1.0**
KHC				*e*PG	**Pb**	**18 44 56.7**	**+1.5**
KHC				*e*SG	**Sb**	**18 45 34.6**	**+2.6**
	comp=Z,42nm,0.7s						
SMOL	**Smolenice**	**3.14**	**165**	*e*PG	**Pg**	**18 45 03.0**	**+1.4**
SMOL				*e*SG	**Sg**	**18 45 43.9**	**+1.6**
GERES	**GERESS Array B**	**3.16**	**212**	Pn	**Pn**	**18 44 53.9**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=26,slow=13,SNR=26						
GERES				Pg	**Pb**	**18 45 00.1**	**+1.4**
	comp=Z,8.4nm,0.3s,baz=31,slow=17,SNR=38						
GERES				Sn	**Sn**	**18 45 28.8**	**-2.3**
	comp=Z,3.2nm,0.3s,baz=28,slow=23,SNR=6.9						
GERES				Lg	Lg	18 45 39.0	
	comp=Z,7.2nm,0.3s,baz=26,slow=28,SNR=10.0						
LANS	**Liptovska Anna**	**3.17**	**138**	*e*PN	**Pn**	**18 44 54.3**	**+1.6**
LANS				*e*PG	**Pg**	**18 45 02.2**	**-0.1**
LANS				*e*SG	**Sg**	**18 45 43.4**	**0.0**
LANS				*e*LG	Lg	18 45 54.5	
MODS	**Modra-Piesok**	**3.25**	**168**	*e*PN	**Pn**	**18 44 55.0**	**+1.2**
MODS				*e*PG	**Pg**	**18 45 04.2**	**+0.4**
MODS				*e*SG	**Sg**	**18 45 46.2**	**+0.2**
MODS				*e*LG	Lg	18 45 52.2	
ZST	**Bratislava**	**3.41**	**170**	*e*SG	**Sg**	**18 45 49.0**	**-1.9**
VYHS	**Vyhne**	**3.49**	**150**	*e*PN	**Pn**	**18 44 57.7**	**+0.6**
VYHS				*e*PG	**Pg**	**18 45 08.5**	**+0.1**
CONA	**Conrad Observa**	**3.64**	**184**	*e*Pn	**Pn**	**18 45 00.6**	**+1.5**
	comp=Z,0.4nm,0.1s						
CONA				*e*Sn	**Sn**	**18 45 39.9**	**-2.9**
	comp=Z,21nm,0.4s						
BSD	**Bornholm Skovb**	**3.66**	**348**	*i* P	**Pn**	**18 45 00.8**	**+1.5**
BSD				*i* S	**Sn**	**18 45 41.6**	**-1.5**
BSD	**Bornholm Skovb**	**3.66**	**348**	*e*	**Pn**	**18 45 00.1**	**+0.9**
	baz=190,slow=14						
BSD				*i* P	Pb	18 45 00.9	-6.1
BSD				*i* S	**Sn**	**18 45 41.6**	**-1.5**
BSD				IAML		18 45 48.3	
	comp=Z,2.5nm,0.1s						
MOA	**Molln**	**3.92**	**200**	*e*Pn	**Pn**	**18 45 03.9**	**+0.9**
	comp=Z,0.6nm,0.1s						
MOA				*e*Sg	**Sg**	**18 46 07.6**	**+0.2**
	comp=Z,5.5nm,0.2s						
ARSA	**Arzberg**	**4.33**	**186**	*e*Pn	**Pn**	**18 45 09.7**	**+1.0**
	comp=Z,1.7nm,0.2s						
ARSA				*e*Sg	**Sg**	**18 46 21.5**	**+0.9**
	comp=Z,5.3nm,0.4s						
BLEU	**Blekinge**	**4.77**	**357**	P	**Pn**	**18 45 16.5**	**+2.0**
BLEU				S	**Sn**	**18 46 09.5**	**-1.0**
KBA	**Koelnbreinsper**	**4.86**	**204**	*e*Pn	**Pn**	**18 45 14.7**	**-1.3**
	comp=Z,0.6nm,0.2s						
KBA				*e*Sg	**Sg**	**18 46 35.3**	**-2.3**
	comp=Z,5.2nm,0.4s						
SOKA	**Soboth**	**4.94**	**190**	*e*Sn	**Sn**	**18 46 15.5**	**+0.5**
	comp=Z,1.8nm,0.4s						
DEL	**Delary**	**5.12**	**345**	P	**Pn**	**18 45 20.9**	**+1.5**
OBKA	**Obir**	**5.17**	**193**	*e*Pn	**Pn**	**18 45 22.3**	**+2.1**
	comp=Z,0.4nm,0.1s						
OBKA				*e*Sg	**Sg**	**18 46 45.1**	**-2.4**
	comp=Z,3.6nm,0.5s						
WATA	**Walderalm**	**5.20**	**218**	*e*Pn	**Pn**	**18 45 19.1**	**-1.6**
	comp=Z,0.5nm,0.1s						
WATA				*e*Sg	**Sg**	**18 46 48.1**	**-0.4**
	comp=Z,3.9nm,0.3s						
WTTA	**Wattenberg**	**5.24**	**217**	*e*Pn	**Pn**	**18 45 19.5**	**-1.7**
	comp=Z,0.6nm,0.2s						
WTTA				*e*Sn	**Sn**	**18 46 22.5**	**+0.1**
	comp=Z,8.0nm,0.5s						
MOTA	**Moosalm**	**5.38**	**220**	*e*Pn	**Pn**	**18 45 20.7**	**-2.4**
	comp=Z,0.3nm,0.1s						
MOTA				*e*Sn	**Sn**	**18 46 23.9**	**-2.0**
	comp=Z,0.4nm,0.1s						
ABTA	**Abfaltersbach**	**5.39**	**208**	*e*Sg	**Sg**	**18 46 51.4**	**-3.3**
	comp=Z,1.7nm,0.2s						
VXJU	**Vaexsjoe**	**5.43**	**352**	P	**Pn**	**18 45 26.1**	**+2.3**
VXJU	**Vaexsjoe**	**5.43**	**352**	P	**Pn**	**18 45 26.1**	**+2.3**
SQTA	**Sankt Quirin**	**5.44**	**219**	*e*Pn	**Pn**	**18 45 20.6**	**-3.4**
	comp=Z,0.8nm,0.2s						
SQTA				*e*Sg	**Sg**	**18 46 53.1**	**-3.0**
	comp=Z,2.6nm,0.3s						
OSKU	**Oskarshamn**	**5.66**	**359**	P	**Pn**	**18 45 29.2**	**+2.5**
OSKU	**Oskarshamn**	**5.66**	**359**	P	**Pn**	**18 45 29.2**	**+2.5**
BYXU	**Byxelkrok**	**5.77**	**4**	P	**Pn**	**18 45 31.2**	**+3.0**
BYXU	**Byxelkrok**	**5.77**	**4**	P	**Pn**	**18 45 31.2**	**+3.0**
FETA	**Feichten**	**5.79**	**221**	*e*Pn	**Pn**	**18 45 27.5**	**-1.3**
FETA				*e*Sg	**Sg**	**18 47 04.7**	**-2.8**
	comp=Z,1.0nm,0.5s						
DAVA	**Damuels**	**5.95**	**227**	*e*Pn	**Pn**	**18 45 30.6**	**-0.4**
	comp=Z,1.0nm,0.2s						
DAVA				*e*Sg	**Sg**	**18 47 13.0**	**+0.4**
	comp=Z,3.6nm,0.3s						
VSTU	**Vaestervik**	**6.12**	**2**	P	**Pn**	**18 45 35.8**	**+2.6**
VSTU	**Vaestervik**	**6.12**	**2**	P	**Pn**	**18 45 35.8**	**+2.6**
AKASG	**Malin Array Be**	**8.22**	**91**	Pn	**Pn**	**18 46 03.1**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=277,slow=12,SNR=2.9						
AKASG				Sn	**Sn**	**18 47 30.9**	**-4.5**
	comp=Z,1.1nm,0.3s,baz=265,slow=24,SNR=3.2						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**18 46 25.6**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=159,slow=11,SNR=4.6						
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**18 46 44.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=6.1						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**18 48 18.1**	**-1.6**
	baz=197,slow=12,SNR=1.3						

*REY **14** 18:51:14.7,64.67N×17.44W,h8km*
*IDC **14** 18:51:16.4±0.6,64.60N×17.57W,h0km,mb4.0/21, mb1 4.2/26,mb1mx4.0/61,mbtmp4.0/26,ML2.7/3,MS4.0/9, Ms1 4.0/9,ms1mx3.5/57,Error ellipse: s-maj=17.6km s-min=11.0km az=23.0*
*BGS **14** 18:51:16.2±2.5,64.65N×17.51W,h5km,mb4.7(NEIC)*
*MOS **14** 18:51:16.6±1.1,64.82N×17.39W,h10km,mb4.5/20,Error ellipse: s-maj=11.7km s-min=7.5km az=118.9*
*NEIC **14** 18:51:17.9±1.7,64.65N±0.06×17.51W±0.09,h9km±4km, mb4.7/131,Error ellipse: s-maj=10.1km s-min=4.3km az=155.0*
ISC 14 18:51:16.9±0.7,**64.71N**±0.03×**17.50W**±0.03,**h4**km±4km,
n333,σ1§60/316,mb4.6/121,**MS4.1**/11,**14C,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.10**	**36**	P	**Pg**	**18 51 17.6**	**-1.4**
	baz=15						
IDJK	**Dyngjujokull**	**0.24**	**152**	P	**Pg**	**18 51 18.7**	**-2.9**
	baz=151						
ISKR	**Skrokkalda**	**0.41**	**248**	P	**Pg**	**18 51 22.4**	**-2.5**
	baz=256						
IVOT	**Vottur**	**0.47**	**163**	P	Pg	18 51 22.6	-3.2
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**81**	P	**Pg**	**18 51 23.2**	**-3.0**
	baz=75						
IASK	**Askja**	**0.50**	**47**	P	**Pg**	**18 51 24.1**	**-2.4**
	baz=41						
IJOK	**Jokulheimar**	**0.51**	**219**	P	**Pg**	**18 51 23.5**	**-3.2**
	baz=224						
IMKO	**Mokollar**	**0.56**	**61**	P	**Pg**	**18 51 25.1**	**-2.6**
	baz=56						
IMKO				S	**Sg**	**18 51 35.4**	**+0.4**
	baz=56						
ISVA	**Svartarkot**	**0.64**	**9**	P	**Pg**	**18 51 26.8**	**-2.3**
	baz=6.7						
IIEY	**Innrieyrar**	**0.68**	**204**	P	Pg	18 51 26.2	-3.6
	baz=208						
IKSK	**Karasker**	**0.71**	**141**	P	Pg	18 51 26.2	-4.4
	baz=140						
IVSH	**V-Sauoahnukur**	**0.77**	**82**	P	**Pg**	**18 51 28.0**	**-3.6**
	baz=78						
IKAL	**Kalfafell**	**0.77**	**186**	P	Pg	18 51 27.9	-3.8
	baz=188						
IVAT	**Vatnsfell**	**0.81**	**230**	P	Pg	18 51 28.9	-3.6
	baz=234						
IADA	**Aoalbol**	**0.88**	**69**	P	**Pg**	**18 51 29.9**	**-3.8**
	baz=65						
IHVE	**Hveravellir**	**0.90**	**281**	P	**Pg**	**18 51 32.1**	**-2.0**
	baz=284						
IMEL	**Melhnausar**	**0.93**	**22**	P	**Pg**	**18 51 31.5**	**-3.3**
	baz=20						
IREN	**Reynihlio**	**0.97**	**15**	P	**Pg**	**18 51 32.3**	**-3.2**
	baz=13						
IKVO	**Krokottuvotn**	**1.04**	**14**	P	**Pg**	**18 51 33.4**	**-3.4**
	baz=12						
IGRS	**Grimsstaoir**	**1.09**	**31**	P	**Pg**	**18 51 34.3**	**-3.6**
	baz=29						
ISNB	**Snabyli**	**1.10**	**207**	P	Pg	18 51 33.5	-4.4
	baz=210						
ISLY	**Slysaalda**	**1.14**	**219**	P	Pg	18 51 34.5	-4.3
	baz=222						
IFED	**Fedgar**	**1.18**	**235**	P	Pg	18 51 35.5	-4.0
	baz=238						
ISKI	**Skildingahlsh**	**1.18**	**9**	P	**Pg**	**18 51 35.7**	**-3.7**
	baz=8.1						
IGHA	**Grjothals**	**1.19**	**17**	P	**Pg**	**18 51 35.7**	**-4.0**
	baz=15						
IRJU	**Rjupnafell**	**1.22**	**206**	P	Pg	18 51 35.7	-4.4
	baz=208						
IMJO	**Mjoaskard**	**1.23**	**231**	P	Pg	18 51 36.3	-4.1
	baz=234						
IDIM	**Dimmadalss**	**1.28**	**10**	P	**Pg**	**18 51 37.3**	**-4.1**
	baz=9.2						
IHLA	**Hella**	**1.29**	**344**	P	**Pg**	**18 51 37.8**	**-3.8**
	baz=343						
IHAU	**Haukadalur**	**1.31**	**236**	P	Pn	18 51 37.3	-4.6
	baz=238						
IHVO	**Lagu-Hvolar**	**1.33**	**207**	P	Pn	18 51 37.6	-4.6
	baz=209						
IHED	**Heoinshofoi**	**1.38**	**3**	P	**Pn**	**18 51 38.8**	**-4.0**
	baz=2.2						
IALF	**Alftagrof**	**1.43**	**212**	P	Pn	18 51 39.2	-4.4
	baz=214						
IESK	**Eystri-Skogar**	**1.47**	**217**	P	Pn	18 51 39.8	-4.3
	baz=218						
BORG	**Borgarnes**	**1.64**	**273**	Pn	**Pn**	**18 51 42.7**	**-3.8**
	38nm,0.3s,baz=100,slow=10,SNR=129						
BORG				Sn	**Sn**	**18 52 07.2**	**-0.8**
	43nm,0.3s,baz=84,slow=11,SNR=4.4						
BORG	**Borgarnes**	**1.64**	**273**	P	**Pn**	**18 51 42.3**	**-4.2**
BORG						18 52 07.2	
BORG	**Borgarnes**	**1.64**	**273**	Pn	**Pn**	**18 51 42.3**	**-4.2**
JMIC	**Jan Mayen**	**7.15**	**24**	Pn	**Pn**	**18 53 02.8**	**+0.8**
	baz=123,slow=23,SNR=2.7						
JMIC				Sn	**Sn**	**18 54 20.8**	**-2.8**
	baz=207,slow=18,SNR=1.1						
LEWI	**Lewis, Hebride**	**8.32**	**137**	*e*P	**Pn**	**18 53 16.4**	**-1.7**
ANGG	**Ammassalik, Gr**	**8.52**	**285**	Pn	**Pn**	**18 53 20.8**	**0.0**
KAC	**Achnashellach**	**9.32**	**135**	*e*P	**Pn**	**18 53 29.7**	**-2.1**
KPL	**Plockton**	**9.35**	**137**	*e*P	**Pn**	**18 53 30.4**	**-1.8**
LAWE	**Loch Awe, Argy**	**10.35**	**139**	*e*P	**Pn**	**18 53 45.4**	**-0.5**
INVG	**Invergeldie, C**	**10.60**	**135**	*e*P	**Pn**	**18 53 47.8**	**-1.5**
EAB	**Aberfoyle**	**10.71**	**137**	*e*P	**Pn**	**18 53 49.9**	**-0.9**
SUMG	**Summit**	**10.90**	**325**	P	**Pn**	**18 53 53.6**	**-0.2**
SUMG	**Summit**	**10.90**	**325**	Pn	**Pn**	**18 53 53.6**	**-0.2**
SUMG	**Summit**	**10.90**	**325**	*i* P	Pn	18 54 02.2	+8.4
SUMG				*e*		18 56 22.5	
SUMG	**Summit**	**10.90**	**325**	*e*P	Pn	18 54 02.2	+8.5
SUMG				*e*		18 56 22.5	
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**18 54 04.4**	**-1.2**
	baz=321,slow=13,SNR=28						
ESK	**Eskdalemuir**	**11.79**	**136**	*e*P	**Pn**	**18 54 04.9**	**-0.7**
ESK	**Eskdalemuir**	**11.79**	**136**	P	**Pn**	**18 54 04.5**	**-1.1**
ESK	**Eskdalemuir**	**11.79**	**136**	Pn	**Pn**	**18 54 04.5**	**-1.1**
EDMD	**Edmundbyers**	**12.58**	**135**	*e*P	**Pn**	**18 54 16.1**	**-0.3**
DSB	**Dublin**	**12.82**	**149**	Pn	**Pn**	**18 54 19.6**	**-0.1**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**18 54 22.9**	**-2.4**
NBO00	**NORSAR Array S**	**13.35**	**93**	Pn	**Pn**	**18 54 26.6**	**-0.3**
NOA	**NORSAR Array B**	**13.54**	**93**	Pn	**Pn**	**18 54 27.2**	**-2.2**
	0.0nm,0.3s,baz=300,slow=12,SNR=1.7						
NC405	**NORSAR Array S**	**13.72**	**92**	Pn	**Pn**	**18 54 32.9**	**+1.1**
ARCES	**ARCESS Array B**	**17.09**	**55**	P	**P**	**18 55 19.1**	**+1.0**
	baz=276,slow=9.9,SNR=2.6						
ARCES				LR	LR	19 00 55.6	
	comp=Z,118nm,19.2s,baz=65,slow=34						
BMRD	**Maredsous**	**18.59**	**130**	P	**Pn**	**18 55 40.7**	**+5.9**
BTNL	**Ternell**	**18.80**	**128**	P	**Pn**	**18 55 42.7**	**+5.2**
FIA1	**FINESS Array S**	**19.70**	**79**	P	**P**	**18 55 46.7**	**0.0**
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**18 55 48.1**	**0.0**
	0.1nm,0.3s,baz=256,slow=7.7,SNR=5.5						
FINES	**FINESS Array B**	**19.70**	**79**	P	**P**	**18 55 47.1**	**+0.4**
CLF	**Chambon-Foret**	**19.83**	**138**		**P**	**18 55 48.6**	**+0.4**
CLL	**Collm**	**20.73**	**116**	*e*P	**P**	**18 55 58.0**	**0.0**
	comp=Z,36nm,1.8s						
CLL				*e*		18 56 09.0	
CLL				*e*PPP	PPP	18 56 22.0	
CLL	**Collm**	**20.73**	**116**	*e*P	**P**	**18 55 58.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,36nm,1.8s						
CLL	**Collm**	**20.73**	**116**	P	**P**	**18 55 57.3**	**-0.7**
CLL				IAmb	IAmb	18 56 12.6	
	comp=Z,55nm,1.9s						
ECH	**Echery**	**21.18**	**129**	P	**P**	**18 56 03.5**	**+0.5**
ECH				pmax	pmax		
	comp=Z,13nm,1.0s						
ECH	**Echery**	**21.18**	**129**	P	**P**	**18 56 03.5**	**+0.5**
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**	**18 56 08.3**	**+3.3**
NKC				*ex*	x	18 56 23.7	
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**	**18 56 08.3**	**+3.3**
NKC				*e*		18 56 23.7	
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**18 56 04.5**	**-1.1**
	comp=Z,11nm,1.1s						
	comp=N,718nm,18.9s						
	comp=E,767nm,20.3s						
	comp=Z,889nm,21.1s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**18 56 04.5**	**-1.1**
BRG				pmax	pmax		
	comp=Z,11nm,1.1s						
BRG				MLR	MLR		
	comp=N,718nm,18.9s						
BRG				MLR	MLR		
	comp=E,767nm,20.3s						
BRG				MLR	MLR		
	comp=Z,889nm,21.1s						
BFO	**Black Forest**	**21.48**	**127**	P	**P**	**18 56 05.4**	**-0.7**
BFO				pmax	pmax		
	comp=Z,50nm,1.8s						
BFO	**Black Forest**	**21.48**	**127**	P	**P**	**18 56 05.4**	**-0.7**
BFO				IAmb	IAmb	18 56 16.4	
	comp=Z,50nm,1.8s						
VSU	**Vasula**	**21.56**	**86**	*i* P	**P**	**18 56 06.9**	**0.0**
VSU				pmax	pmax		
	comp=Z,53nm,1.0s						
PRU	**Pruhonice**	**22.37**	**116**	*e*P	**P**	**18 56 15.7**	**0.0**
PRU				*ex*	x	18 56 25.0	
PRU	**Pruhonice**	**22.37**	**116**	*e*P	**P**	**18 56 15.7**	**0.0**
KSP	**Ksiaz**	**22.38**	**112**	*e*P	**P**	**18 56 17.1**	**+1.4**
CHVC	**Chvalec**	**22.49**	**113**	*e*P	**P**	**18 56 22.3**	**+5.4**
UPC	**Upice**	**22.53**	**113**	*e*P	**P**	**18 56 19.3**	**+1.9**
UPC	**Upice**	**22.53**	**113**	*e*P	**P**	**18 56 19.3**	**+1.9**
KHC	**Kasperske Hory**	**22.70**	**119**	*e*P	**P**	**18 56 19.5**	**+0.3**
KHC	**Kasperske Hory**	**22.70**	**119**	*ce*P	**P**	**18 56 17.3**	**-1.9**
KHC				pmax	pmax		
	comp=Z,21nm,1.3s						
KHC	**Kasperske Hory**	**22.70**	**119**	P	**P**	**18 56 20.3**	**+1.1**
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**	**18 56 20.3**	**+0.2**
DPC				*ex*	x	18 56 33.3	
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**	**18 56 20.3**	**+0.2**
SENIN	**Lac Senin/Sane**	**22.86**	**132**		**P**	**18 56 22.1**	**+1.0**
SENIN				IAmb	IAmb	18 56 36.0	
	comp=Z,49nm,1.9s						
SUW	**Suwalki**	**22.89**	**98**	*e*P	**P**	**18 56 21.0**	**-0.1**
SUW	**Suwalki**	**22.89**	**98**	P	**P**	**18 56 20.8**	**-0.3**
SUW				pmax	pmax		
	comp=Z,20nm,1.0s						
SUW	**Suwalki**	**22.89**	**98**	P	**P**	**18 56 20.8**	**-0.3**
SUW				IAmb	IAmb	18 56 23.9	
	comp=Z,20nm,1.0s						
DAVA	**Damuels**	**22.91**	**126**	*e*P	**P**	**18 56 23.9**	**+2.3**
	comp=Z,15nm,1.2s						
GEC2	**GERESS Array S**	**22.98**	**119**	P	**P**	**18 56 21.9**	**-0.3**
GEC2				IAmb	IAmb	18 56 34.9	
	comp=Z,45nm,1.8s						
GERES	**GERESS Array B**	**22.98**	**119**	P	**P**	**18 56 22.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=334,slow=8.9,SNR=13						
GERES	**GERESS Array B**	**22.98**	**119**	P	**P**	**18 56 21.3**	**-0.9**
SSB	**Saint Sauveur**	**22.98**	**137**	P	**P**	**18 56 25.3**	**+3.1**
SSB				pmax	pmax		
	comp=Z,12nm,1.1s						
SSB	**Saint Sauveur**	**22.98**	**137**	P	**P**	**18 56 25.3**	**+3.1**
RETA	**Reutte**	**23.05**	**125**	*e*P	**P**	**18 56 25.8**	**+2.9**
	comp=Z,11nm,1.4s						
KRLC	**Kraliky**	**23.18**	**113**	*e*P	**P**	**18 56 25.7**	**+1.5**
KRLC	**Kraliky**	**23.18**	**113**	*e*P	**P**	**18 56 25.7**	**+1.5**
MOTA	**Moosalm**	**23.29**	**125**	*e*P	**P**	**18 56 28.1**	**+2.6**
	comp=Z,15nm,1.2s						
TREC	**Trest**	**23.29**	**116**	*e*P	**P**	**18 56 26.8**	**+1.4**
TREC	**Trest**	**23.29**	**116**	*e*P	**P**	**18 56 26.8**	**+1.4**
DAVOX	**Davos/Dischmat**	**23.35**	**127**	P	**P**	**18 56 27.1**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=350,slow=10,SNR=4.6						
SQTA	**Sankt Quirin**	**23.43**	**125**	*e*P	**P**	**18 56 29.6**	**+2.7**
	comp=Z,19nm,1.6s						
FETA	**Feichten**	**23.43**	**126**	*e*P	**P**	**18 56 30.3**	**+3.4**
	comp=Z,8.1nm,1.1s						
TUE	**Stuetta**	**23.43**	**128**	P	**P**	**18 56 27.9**	**+0.8**
TUE				IAmb	IAmb	18 56 43.0	
	comp=Z,25nm,1.4s						
WATA	**Walderalm**	**23.46**	**124**	*e*P	**P**	**18 56 28.1**	**+0.9**
	comp=Z,8.7nm,1.3s						
WTTA	**Wattenberg**	**23.55**	**124**	*e*P	**P**	**18 56 29.4**	**+1.3**
	comp=Z,3.8nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**23.62**	**127**	P	**P**	**18 56 30.3**	**+1.4**
EUNU	**Eureka**	**23.63**	**336**	P

comp=Z,2.4nm,0.8s,baz=326,slow=9.6,SNR=4.5
AKASG Malin Array Be 27.85 98 *i* P **P 18 57 08.8 +1.8**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 27.85 98 IAmb IAmb 18 57 11.6
comp=Z,1.7nm,1.1s
AKBB Malin Array Si 27.85 98 *i* P **P 18 57 08.1 +1.1**
AKBB Malin Array Si 27.85 98 P **P 18 57 07.8 +0.8**
AKBB IAmb IAmb 18 57 37.9
comp=Z,22nm,1.9s
OBN Obninsk 27.88 84⇑ *e*P **P 18 57 08.3 +1.1**
OBN *PP **sP** **18 57 10.0 +0.3**
OBN *SP **pP** **18 57 13.0 +4.0**
OBN pmax pmax
comp=Z,16nm,1.3s
OBN MLR MLR
comp=Z,126nm,14.0s
BUR08 Bucovina Ar. S 28.51 106 P **P 18 57 14.1 +1.0**
BURAR Bucovina Array 28.54 106 P **P 18 57 14.1 +0.7**
KIRV Kirov 30.96 69 *ce*P **P 18 57 34.8 +0.3**
CORL Corleone 32.41 131 P **P 18 57 47.2 -0.3**
G65A Princeton 33.53 259 P **P 18 57 57.8 +0.6**
LIT Litokhoron 33.71 117 P **P 18 57 58.5 -0.4**
LIT pmax pmax
comp=Z,7.0nm,1.5s
LIT Litokhoron 33.71 117 P **P 18 57 58.5 -0.4**
F62A Pittston Farm, 33.99 262 P **P 18 58 01.6 +0.3**
F62A IAmb IAmb 18 58 05.1
comp=Z,12nm,1.1s
ALN Alexandroupoli 34.41 112 P **P 18 58 05.1 +0.2**
ALN pmax pmax
comp=Z,6.0nm,1.1s
ALN Alexandroupoli 34.41 112 P **P 18 58 05.1 +0.2**
BELG Belogornoye 34.48 79 *i* P **P 18 58 04.9 -0.4**
AGG Agios Georgios 34.59 119 P **P 18 58 06.1 -0.4**
AGG pmax pmax
comp=Z,19nm,1.4s
AGG Agios Georgios 34.59 119 P **P 18 58 06.1 -0.4**
AGG IAmb IAmb 18 58 08.3
comp=Z,19nm,1.4s
G62A West of Eustis 34.77 262 P **P 18 58 08.4 +0.4**
WVL Waterville 34.93 260 P **P 18 58 10.7 +1.4**
MOQ Mont Orford 35.43 264 P **P 18 58 13.7 0.0**
H62A Milan 35.56 262 P **P 18 58 15.9 +1.1**
H62A IAmb IAmb 18 58 17.8
comp=Z,18nm,1.2s
ITM Ithomi 36.06 120 P **P 18 58 18.3 -0.8**
ITM IAmb IAmb 18 58 57.1
comp=Z,14nm,1.4s
ARU Arti 36.06 66 P **P 18 58 19.9 +1.0**
ARU 18 59 43.0
ARU S **S** **19 04 01.0 +2.8**
ARU SS **SnSn** **19 06 17.1 -5.0**
ARU Arti 36.06 66 P **P 18 58 19.4 +0.5**
I62A Tamworth 36.20 261 P **P 18 58 20.1 -0.1**
I62A IAmb IAmb 18 58 30.3
comp=Z,18nm,1.2s
FRNY Flat Rock 36.38 265 P **P 18 58 21.8 0.0**
FRNY IAmb IAmb 18 58 30.2
comp=Z,27nm,1.6s
NRIK Noril'sk 36.42 35 P **P 18 58 22.3 +0.5**
comp=Z,1.3nm,0.3s,baz=298,slow=3.6,SNR=3.9
NRIK Noril'sk 36.42 35 *ce*P **P 18 58 21.9 +0.1**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
LONY Lake Ozonia 36.98 265 P **P 18 58 27.6 +0.6**
LONY IAmb IAmb 18 58 34.7
comp=Z,22nm,1.4s
GOF Gofitskoye 38.12 91⇑ *e*P **P 18 58 39.6 +3.1**
GOF pmax pmax
comp=Z,17nm,0.8s
BR131 Keskin Array S 38.49 105 P **P 18 58 41.3 +1.4**
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 38.49 105 P **P 18 58 41.3 +1.4**
BRTR Keskin Array B 38.49 105 P **P 18 58 38.9 -1.0**
comp=Z,2.1nm,0.8s,baz=322,slow=5.4,SNR=8.1
BRTR Keskin Array B 38.49 105 P **P 18 58 40.8 +0.9**
BRTR Keskin Array B 38.49 105 P **P 18 58 40.8 +0.9**
KIV Kislovodsk 38.84 92 *e*P **P 18 58 43.6 +0.8**
KIV pmax pmax
comp=Z,13nm,1.1s
SHA1 Shidzhatmaz 39.01 93 *i* P **P 18 58 45.1 +0.8**
KBZ Khabaz 39.12 93 P **P 18 58 45.7 +0.8**
comp=Z,2.7nm,0.8s,baz=312,slow=11,SNR=8.7
KBZ Khabaz 39.12 93 *ce*P **P 18 58 44.0 -0.9**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
E46A Sault Ste Mari 39.77 276 P **P 18 58 51.2 +0.9**
INK Inuvik 39.80 329 P **P 18 58 51.1 +0.8**
comp=Z,1.4nm,0.7s,baz=64,slow=8.1,SNR=4.8
INK LR LR 19 14 40.4
comp=Z,582nm,20.9s,baz=168,slow=35
INK Inuvik 39.80 329 P **P 18 58 50.8 +0.5**
ZEI Tsey 40.31 92 *e*P **P 18 58 56.3 +1.2**
ZEI pmax pmax
comp=Z,3.0nm,1.2s
FFC Flin Flon 40.57 297 P **P 18 58 58.6 +1.7**
FFC pmax pmax
comp=Z,31nm,1.7s
FFC Flin Flon 40.57 297 P **P 18 58 58.6 +1.7**
FFC IAmb IAmb 18 59 00.1
comp=Z,31nm,1.7s
M57A Sunshine Farm, 40.74 265 P **P 18 58 58.6 +0.2**
M57A IAmb IAmb 18 59 03.6
comp=Z,20nm,1.2s
ARTV Artvin 40.77 96 P **P 18 59 00.1 +1.1**
PSUB Penn St. - Bra 41.19 262 P **P 18 59 01.2 -0.9**
M54A Oil Creek Stat 41.68 267 P **P 18 59 06.1 -0.1**
ABKAR Akbulak array 41.98 73 P **P 18 59 08.8 +0.3**
TIXI Tiksi 41.99 15 *ce*P **P 18 59 08.2 -0.1**
TIXI Tiksi 41.99 15 P **P 18 59 09.5 +1.2**
B35A Bob, Littlefor 42.18 285 P **P 18 59 10.1 0.0**
TOLK Toolik Lake Re 42.70 336 P **P 18 59 15.6 +1.4**
TOLK IAmb IAmb 18 59 18.5
comp=Z,27nm,1.2s
BRVK Borovoye 43.11 62 *ce*P **P 18 59 17.4 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK Borovoye 43.11 62 P **P 18 59 18.4 +0.8**
FYU Fort Yukon 43.73 333 P **P 18 59 25.0 +2.5**
P53A Whipple 44.09 267 P **P 18 59 25.9 +0.2**
P53A IAmb IAmb 18 59 29.6
comp=Z,21nm,1.1s
N49A Columbus Grove 44.10 271 P **P 18 59 24.8 -1.0**
IL31 45.64 332 P **P 18 59 39.4 +1.7**
IL31 IAmb IAmb 18 59 43.9
comp=Z,11nm,1.3s
ILAR Eielson Array 45.64 332 P **P 18 59 38.8 +1.0**
comp=Z,6.8nm,1.2s,baz=21,slow=6.1,SNR=20
ILAR PcP **PcP** **19 01 15.8 +0.1**
comp=Z,2.6nm,1.1s,baz=355,slow=2.8,SNR=5.6
ILAR Eielson Array 45.64 332 P **P 18 59 37.9 +0.1**
ILAR PcP **PcP** **19 01 15.3 -0.4**
MDM Murphy Dome 45.74 333 P **P 18 59 39.3 +0.8**
MDM IAmb IAmb 18 59 44.4
comp=Z,17nm,1.3s
COLA College 45.74 333 *i* P **P 18 59 40.0 +1.5**
COLA pmax pmax
comp=Z,8.0nm,1.1s
IMAR Indian Mountai 45.81 337 P **P 18 59 40.3 +1.1**
CCB Clear Creek Bu 45.94 333 P **P 18 59 41.4 +1.4**
CCB IAmb IAmb 18 59 45.3
comp=Z,15nm,1.5s
BCAR Beaver Creek A 46.07 329 P **P 18 59 41.4 +0.2**
BCAR PcP **PcP** **19 01 17.9 +0.6**
RIDG Independent Ri 46.14 331 P **P 18 59 43.0 +1.2**
ZALV Zalesovo Beam 47.60 51 P **P 18 59 53.4 +0.1**
comp=Z,1.2nm,0.7s,baz=328,slow=10,SNR=6.0
ZALV PcP **PcP** **19 01 22.6 -0.2**
comp=Z,0.3nm,0.3s,baz=338,slow=3.4,SNR=2.0
KURK Kurchatov 48.09 58 *ce*P **P 18 59 55.5 -1.5**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 48.09 58 P **P 18 59 56.7 -0.3**
KURK IAmb IAmb 19 00 12.4
comp=Z,8.5nm,1.2s
T47A Sharon Grove 48.64 270 P **P 19 00 00.2 -1.3**
EGMT Eagleton 48.85 297 P **P 19 00 03.5 +0.4**
W50A Signal Mountai 49.38 268 P **P 19 00 06.5 -0.7**
W50A IAmb IAmb 19 00 09.8
comp=Z,13nm,1.1s
T42A Van Buren 50.31 274 P **P 19 00 14.5 +0.3**
T42A IAmb IAmb 19 00 17.8

comp=Z,11nm,1.3s
GEYT Alibeck 50.42 84 P **P 19 00 16.9 +1.8**
comp=Z,1.1nm,0.7s,baz=309,slow=9.1,SNR=2.2
GEYT Alibeck 50.42 84 IAmb IAmb 19 00 18.3
comp=Z,2.3nm,1.3s
RLMT Red Lodge 51.07 295 P **P 19 00 20.9 +0.7**
RLMT IAmb IAmb 19 00 28.2
comp=Z,21nm,1.4s
KK31 Karatay Array 51.26 70 P **P 19 00 21.4 +0.1**
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KK31 Karatay Array 51.26 70 P **P 19 00 21.4 +0.1**
KKAR Karatay Array 51.26 70 P **P 19 00 21.0 -0.3**
KKAR pmax pmax
comp=Z,7.0nm,1.3s
KKAR Karatay Array 51.26 70 P **P 19 00 21.0 -0.3**
YNE Yellowstone No 51.45 295 P **P 19 00 22.9 -0.1**
BOZ Bozeman (W) 51.59 297 P **P 19 00 23.7 -0.2**
BOZ pmax pmax
comp=Z,19nm,1.4s
BOZ Bozeman (W) 51.59 297 P **P 19 00 23.7 -0.2**
BOZ IAmb IAmb 19 00 28.8
comp=Z,20nm,1.4s
YMP Mirror Lake Pl 51.73 295 P **P 19 00 26.7 +1.4**
YHH Holmes Hill 51.96 296 P **P 19 00 28.1 +1.2**
YHL Hebgen Lake 52.04 296 P **P 19 00 28.4 +0.9**
K22A Casper 52.05 291 P **P 19 00 26.5 -0.9**
K22A IAmb IAmb 19 00 29.2
comp=Z,11nm,1.1s
DGZ Jazzator, Alta 52.05 53 *i* P **P 19 00 28.0 +0.7**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
H17A Grant Village 52.19 295 P **P 19 00 29.2 +0.7**
H17A IAmb IAmb 19 00 35.1
comp=Z,19nm,1.4s
YPP Pitchstone Pla 52.38 295 P **P 19 00 31.2 +1.2**
SEY Seymchan 52.44 6 LR LR 19 20 07.1
comp=Z,305nm,21.9s,baz=231,slow=33
SEY Seymchan 52.44 6 *i* P **P 19 00 28.9 -0.9**
MK31 Makanchi Array 52.70 58 *ce*P **P 19 00 32.0 0.0**
MKAR Makanchi Array 52.70 58 P **P 19 00 32.6 +0.6**
comp=Z,1.8nm,0.9s,baz=318,slow=4.9,SNR=7.7
MKAR Makanchi Array 52.70 58 P **P 19 00 32.0 0.0**
IMW Indian Meadow 52.75 295 P **P 19 00 32.6 -0.2**
LOHW Long Hollow 52.86 295 P **P 19 00 33.8 +0.4**
TPAW Teton Pass 53.09 295 P **P 19 00 36.5 +1.2**
TPAW IAmb IAmb 19 00 40.3
comp=Z,13nm,1.2s
BW06 Boulder Array 53.16 293 P **P 19 00 35.3 -0.4**
BW06 IAmb IAmb 19 00 55.6
comp=Z,9.4nm,0.8s
PD31 Pinedale Array 53.16 293 P **P 19 00 34.6 -1.1**
PD31 IAmb IAmb 19 00 40.2
comp=Z,21nm,1.5s
PDAR Pinedale Array 53.16 293 P **P 19 00 35.5 -0.2**
comp=Z,9.3nm,1.2s,baz=64,slow=6.8,SNR=18
PDAR LR LR 19 22 46.8
comp=Z,141nm,18.6s,baz=5.0,slow=36
PDAR Pinedale Array 53.16 293 P **P 19 00 34.8 -1.0**
REDW Red Top Meadow 53.16 295 P **P 19 00 36.2 +0.4**
REDW IAmb IAmb 19 00 39.4
comp=Z,9.1nm,1.1s
TORD Torodi Ar. Bea 53.19 156 P **P 19 00 35.1 -0.8**
comp=Z,3.1nm,0.9s,baz=338,slow=9.3,SNR=8.8
TORD Torodi Ar. Bea 53.19 156 P **P 19 00 34.3 -1.6**
AAK Ala-Archa 53.24 67 *ce*P **P 19 00 35.4 -0.8**
AAK pmax pmax
comp=Z,16nm,1.3s
N23A Red Feather La 53.29 289 P **P 19 00 35.9 -0.8**
N23A IAmb IAmb 19 00 39.7
comp=Z,16nm,1.1s
PLID Pearl Lake 53.67 300 P **P 19 00 39.2 -0.3**
BTK Batken 53.94 72 P **P 19 00 41.4 +0.1**
BTK pmax pmax
comp=Z,14nm,1.1s
BTK Batken 53.94 72 P **P 19 00 41.4 +0.1**
BTK IAmb IAmb 19 00 45.0
comp=Z,14nm,1.1s
BMO Blue Mountains 54.36 300 P **P 19 00 45.0 +0.7**
BMO pmax pmax
comp=Z,9.0nm,1.5s
BMO Blue Mountains 54.36 300 P **P 19 00 45.0 +0.7**
CHGR Chuyangaron 54.45 74 P **P 19 00 45.3 +0.3**
GAR Garm 54.64 73 P **P 19 00 46.7 +0.3**
HWUT Hardware Ranch 54.93 294 P **P 19 00 49.1 +0.5**
HWUT IAmb IAmb 19 00 51.3
comp=Z,15nm,1.3s
RDMU Red Mountain 55.02 292 P **P 19 00 50.0 +0.6**
X34A Smith Ranch, M 55.25 278 P **P 19 00 51.8 +1.0**
TCUT Toone Canyon 55.29 294 P **P 19 00 51.4 +0.1**
WMOK Wichita Mounta 55.54 279 P **P 19 00 52.9 0.0**
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMOK Wichita Mounta 55.54 279 P **P 19 00 52.9 0.0**
WMOK IAmb IAmb 19 00 56.4
comp=Z,9.8nm,1.2s
SDCO Great Sand Dun 55.78 287 P **P 19 00 56.2 +1.3**
SDCO IAmb IAmb 19 00 59.6
comp=Z,12nm,1.7s
ZAK Zakamensk 56.42 41 *e*P **P 19 00 58.8 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
P17A Butcher Ranch, 56.43 292 P **P 19 01 00.1 +0.7**
PV21 Cone Mtn., Par 56.50 290 P **P 19 00 59.5 -0.5**
PV21 IAmb IAmb 19 01 04.7
comp=Z,12nm,1.4s
DUG Dugway, Tooele 56.63 294 P **P 19 01 01.8 +1.0**
DUG pmax pmax
comp=Z,5.0nm,0.5s
DUG Dugway, Tooele 56.63 294 P **P 19 01 01.8 +1.0**
DUG IAmb IAmb 19 01 55.6
comp=Z,5.4nm,0.5s
SRU San Rafael Swe 56.65 292 P **P 19 01 01.7 +0.7**
SRU pmax pmax
comp=Z,7.0nm,1.2s
SRU San Rafael Swe 56.65 292 P **P 19 01 01.6 +0.7**
PV14 Lion Creek, Pa 56.68 290 P **P 19 01 01.3 0.0**
PV16 Nyswonger Mesa 56.69 290 P **P 19 01 02.3 +1.0**
PV16 IAmb IAmb 19 01 03.9
comp=Z,14nm,1.3s
PV01 Paradox Valley 56.70 289 P **P 19 01 01.4 0.0**
PV02 Paradox Valley 56.71 290 P **P 19 01 02.0 +0.6**
PV02 IAmb IAmb 19 01 04.0
comp=Z,11nm,1.1s
PV03 Paradox Valley 56.71 290 P **P 19 01 02.0 +0.6**
PV18 Skein Mesa, Pa 56.74 290 P **P 19 01 00.6 -1.0**
PV13 Radium Mtn., P 56.78 290 P **P 19 01 01.7 -0.3**
ELK Elko 57.10 296 P **P 19 01 05.5 +1.3**
comp=Z,0.4nm,0.3s,baz=50,slow=4.3,SNR=3.0
ELK LR LR 19 24 45.0
comp=Z,123nm,21.0s,baz=29,slow=35
MVU Marysvale 57.84 293 P **P 19 01 10.1 +0.6**
ANMO Albuquerque 58.58 286 *ce*P **P 19 01 15.4 +0.8**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
TIC Toumodi 58.64 165 *e*P **P 19 01 13.8 -1.2**
KIC Kosan Boka 58.95 165 *e*P **P 19 01 15.0 -2.1**
comp=Z,7.0nm,0.8s
LIC Lamto 59.06 166 *e*P **P 19 01 17.3 -0.5**
comp=Z,12nm,0.6s
R11A Troy Canyon, C 59.30 295 IAmb IAmb 19 01 22.7
comp=Z,11nm,1.4s
KNB Kanab 59.37 292 P **P 19 01 21.6 +1.5**
KNB pmax pmax
comp=Z,13nm,1.5s
KNB Kanab 59.37 292 P **P 19 01 21.6 +1.5**
PAHR Pah Rah Range 59.58 299 IAmb IAmb 19 01 24.4
comp=Z,9.3nm,1.3s
SONM Songino Array 59.60 40 P **P 19 01 23.3 +1.8**
comp=Z,1.3nm,1.0s,baz=328,slow=5.3,SNR=5.8
SONM Songino Array 59.60 40 P **P 19 01 23.3 +1.8**
SONM pmax pmax
comp=Z,2.0nm,1.3s
SONM Songino Array 59.60 40 IAmb IAmb 19 01 24.3
comp=Z,2.2nm,1.3s
JCT Junction City 59.64 277 P **P 19 01 22.9 +1.1**
JCT pmax pmax
comp=Z,10.0nm,0.9s
JCT Junction City 59.64 277 P **P 19 01 22.9 +1.1**
KVN Kaiserville 59.66 298 P **P 19 01 22.6 +0.5**
KVN pmax pmax
comp=Z,7.0nm,1.3s
KVN Kaiserville 59.66 298 P **P 19 01 22.6 +0.5**
KVN IAmb IAmb 19 01 24.1
comp=Z,6.8nm,1.3s

U15A North Rim 59.67 291 IAmb IAmb 19 01 24.2
comp=Z,6.6nm,1.1s
ULN Ulaanbaatar 59.76 40 *ce*P **P 19 01 20.8 -1.8**
ULN pmax pmax
comp=Z,6.0nm,2.5s
PRN Pahroc Range 59.91 294 IAmb IAmb 19 01 31.0
comp=Z,16nm,1.6s
WUAZ Wupatki 60.09 290 IAmb IAmb 19 01 27.8
comp=Z,12nm,1.2s
NVAR Mina Array Bea 60.28 297 P **P 19 01 26.4 +0.1**
comp=Z,1.6nm,1.1s,baz=56,slow=6.5,SNR=4.0
NVAR LR LR 19 26 34.4
comp=Z,145nm,21.0s,baz=94,slow=35
NIL Nilore 60.44 74 P **P 19 01 27.5 +0.2**
NIL pmax pmax
comp=Z,13nm,1.1s
NIL Nilore 60.44 74 P **P 19 01 27.4 +0.2**
SHPR Sheep Range 60.74 294 P **P 19 01 30.8 +1.4**
SHPR IAmb IAmb 19 01 35.4
comp=Z,14nm,1.6s
MNTX Cornudas Mount 60.94 283 P **P 19 01 31.1 +0.4**
X16A Lo Mia Camp, P 61.07 290 IAmb IAmb 19 01 34.9
comp=Z,6.1nm,1.1s
OMMB Old Mammoth Mi 61.26 297 IAmb IAmb 19 01 38.5
comp=Z,9.5nm,1.3s
TX31 Lajitas Ar. Si 62.28 280 P **P 19 01 40.1 +0.2**
TX32 Lajitas Array 62.28 280 P **P 19 01 40.6 +0.8**
TXAR Lajitas Array 62.28 280 P **P 19 01 40.1 +0.3**
comp=Z,2.2nm,1.1s,baz=57,slow=4.6,SNR=9.6
TXAR LR LR 19 28 13.0
comp=Z,152nm,18.2s,baz=0.0,slow=36
ISA Isabella, Lake 62.77 296 P **P 19 01 44.1 +1.1**
ISA pmax pmax
comp=Z,6.0nm,1.2s
ISA Isabella, Lake 62.77 296 P **P 19 01 44.1 +1.1**
ISA IAmb IAmb 19 01 46.3
comp=Z,5.5nm,1.1s
PFO Pinyon Flats O 63.78 293 LR LR 19 29 11.7
comp=Z,82nm,19.7s,baz=23,slow=36
GTA Gaotai 65.27 49⇑ P **P 19 02 01.3 +1.8**
GTA pP sP 19 02 06.0 +3.9
GTA sP pP 19 02 08.4 +7.0
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA pmax pmax
comp=Z,240nm,7.5s
GTA LR LR
comp=N,100nm,17.5s
GTA LR LR
comp=E,120nm,17.4s
GTA LR LR
comp=Z,92nm,18.2s
YSS Yuzh-Sakhalins 67.61 14 *i* P **P 19 02 13.5 -0.6**
YSS pmax pmax
comp=Z,13nm,1.2s
LPIG La Paz 69.67 283 LR LR 19 31 29.0
comp=Z,82nm,20.1s,baz=42,slow=35
CMAR Chiang Mai Arr 84.11 59 P **P 19 03 49.1 +0.3**
comp=Z,0.9nm,0.8s,baz=318,slow=6.1,SNR=9.2
ASAR Alice Springs 134.93 38 PKP **PKPdf** **19 10 36.0 -0.6**
comp=Z,0.8nm,1.0s,baz=9.5,slow=1.1,SNR=4.1
ASAR Alice Springs 134.93 38 PKIKP **PKPdf** **19 10 36.0 -0.6**

*IDC **14** 18:57:41.7±1.4, 12°.92N×70°.20W, h0km, mb4.0/3, mb1 4.3/7, mb1mx3.7/48, mbtmp4.2/7, ML3.5/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/37, Error ellipse: s-maj=39.0km s-min=22.7km az=113.0*
*NEIC **14** 18:57:45.0±2.9, 12°.89N±0°.05×70°.23W±0°.07, h33km±6km, mb4.4/13, Error ellipse: s-maj=10.4km s-min=7.4km az=74.0*
*RSNC **14** 18:57:45.9±0.6, 12°.78N×70°.57W, h0km±24km, ML3.7, Mw3.9*

ISC 14 18:57:45.1±0.7, **12°.87N**±0°.05×**70°.35W**±0°.05, **h35**km, **n84,** σ2**s14**/108, **mb4.3**/10, **MS3.6**/3, **1C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DABV	**Dabajuro**	**1.96**	**188**	*e*P		**Pn**	**18 58 17.6**	**+1.8**
DABV				*e*S		**Sn**	**18 58 42.3**	**+3.2**
URIC	**Uribia, Colomb**	**1.98**	**234**	*e*P		**Pn**	**18 58 15.7**	**-0.4**
URIC				*e*S		**Sn**	**18 58 40.1**	**+0.3**
URIC				*i*			18 58 44.4	
comp=Z,407nm,0.3s								
CVALL	**Valledupar, Ce**	**3.69**	**231**	*e*P		**Pn**	**18 58 40.9**	**+1.2**
CVALL				*e*S		**Sn**	**18 59 19.9**	**-2.2**
CVALL				*i*			18 59 40.9	
comp=Z,138nm,0.7s								
SDV	**Santo Domingo**	**3.97**	**184**	Pn		**Pn**	**18 58 45.6**	**+1.9**
comp=Z,12nm,0.3s,baz=23,slow=9.5,SNR=23								
SDV				Sn		**Sn**	**18 59 31.1**	**+2.0**
comp=Z,7.2nm,0.3s,baz=0.0,slow=19,SNR=1.4								
SDV				LR		LR	19 00 43.1	
comp=Z,788nm,18.5s,baz=318,slow=45								
SDV	**Santo Domingo**	**3.97**	**184**	*e*P		**Pn**	**18 58 45.9**	**+2.2**
SDV				*e*S		**Sn**	**18 59 32.4**	**+3.3**
SDV				*i*			18 59 38.4	
comp=Z,62nm,0.6s								
SMRC	**Santa Marta, M**	**4.15**	**246**	*e*P		**Pn**	**18 58 47.0**	**+1.0**
SMRC				*e*S		**Sn**	**18 59 33.4**	**0.0**
SMRC				*i*			18 59 48.2	
comp=Z,127nm,0.5s								
SOCV	**Socops**	**4.58**	**186**⇓	*e*P		**Pn**	**18 58 54.8**	**+2.8**
SOCV				*e*S		**Sn**	**18 59 46.8**	**+2.7**
ARGC	**Ariguani, Magd**	**4.85**	**232**	*e*P		**Pn**	**18 58 55.0**	**-0.7**
ARGC				*e*S		**Sn**	**18 59 50.3**	**-0.4**
ARGC				*i*			19 00 09.2	
comp=Z,70nm,0.8s								
OCAC	**Ocana**	**5.45**	**213**	*e*P		**Pn**	**18 59 03.9**	**-0.1**
OCAC				*e*S		**Sn**	**19 00 02.4**	**-3.2**
SMLC	**San Martn de**	**5.45**	**222**	*e*P		**Pn**	**18 59 01.9**	**-1.9**
SMLC				*e*S		**Sn**	**18 59 59.2**	**-6.2**
SMLC				*i*			19 00 16.7	
comp=Z,48nm,0.6s								
BANI	**BANI**	**5.49**	**360**	Pn		**Pn**	**18 59 06.1**	**+1.5**
SJCC	**San Jacinto, C**	**5.58**	**239**	*e*P		**Pn**	**18 59 08.2**	**+2.5**
SJCC				*e*P			18 59 10.5	
SJCC				*e*S		**Sn**	**19 00 10.1**	**+1.4**
SJCC				*i*			19 00 27.4	
comp=Z,37nm,0.5s								
PCDR	**Punta Cana, DR**	**5.92**	**18**	Pn		**Pn**	**18 59 11.1**	**+0.7**
DR12	**Loma Pena Alta**	**5.96**	**9**			**Pn**	**18 59 11.9**	**+1.0**
PAMC	**Pamplona, Colo**	**5.96**	**203**	*e*P		**Pn**	**18 59 12.5**	**+1.1**
PAMC				*e*S		**Sn**	**19 00 17.9**	**-0.8**
PAMC				*i*			19 00 25.2	
comp=Z,34nm,0.6s								
CRPR	**Cabo Rojo, PR**	**5.99**	**31**	Pn		**Pn**	**18 59 10.7**	**-0.5**
MLPR	**Magueyes Islan**	**5.99**	**32**	Pn		**Pn**	**18 59 10.1**	**-1.1**
LGNH	**Logne**	**6.02**	**339**	Pn		**Pn**	**18 59 13.9**	**+2.2**
SDDR	**Presa de Saban**	**6.14**	**352**			**Pn**	**18 59 15.8**	**+2.3**
MPR	**Mayaguez**	**6.15**	**30**	Pn		**Pn**	**18 59 12.9**	**-0.5**
ICMP	**Isla Caja de M**	**6.20**	**36**			**Pn**	**18 59 13.0**	**-1.2**
PCRV	**Puerto La Cruz**	**6.21**	**115**	Pn		**Pn**	**18 59 14.7**	**+0.4**
comp=Z,0.6nm,0.3s,baz=272,slow=1.5,SNR=1.3								
PCRV				Sn		**Sn**	**19 00 24.2**	**+0.1**
comp=Z,1.9nm,0.3s,baz=230,slow=16,SNR=2.2								
PLCV	**Puerto La Cruz**	**6.25**	**115**			**Pn**	**18 59 14.7**	**-0.2**
PLCV						**Sn**	**19 00 24.2**	**-1.0**
OBIP	**Obispado Ponce**	**6.28**	**35**	Pn		**Pn**	**18 59 14.0**	**-1.3**
AGPR	**Aguadilla, PR**	**6.38**	**29**	Pn		**Pn**	**18 59 16.8**	**+0.1**
AOPR	**Arecibo Observ**	**6.45**	**32**	Pn		**Pn**	**18 59 16.7**	**-1.0**
SC01	**Santiago de lo**	**6.53**	**357**	Pn		**Pn**	**18 59 17.3**	**-1.5**
SJG	**San Juan**	**6.60**	**37**	Pn		**Pn**	**18 59 16.6**	**-3.1**
comp=Z,7.9nm,0.3s,baz=283,slow=13,SNR=6.1								
SJG				Sn		**Sn**	**19 00 31.8**	**-1.9**
comp=Z,26nm,0.3s,baz=142,slow=4.8,SNR=15								
SJG				LR		LR	19 02 03.3	
comp=Z,182nm,19.1s,baz=271,slow=40								
SJG	**San Juan**	**6.60**	**37**			**Pn**	**18 59 16.8**	**-2.9**
PDPR	**Patillas Dam,**	**6.60**	**39**			**Pn**	**18 59 17.7**	**-2.0**
BRRC	**Barranca, Sant**	**6.61**	**210**	*e*P		**Pn**	**18 59 20.6**	**+0.7**
BRRC				*e*S		**Sn**	**19 00 31.2**	**-2.9**
BRRC				*i*			19 00 53.0	
comp=Z,23nm,0.5s								
MOTC	**Monteria, Cord**	**6.62**	**233**	*e*P		**Pn**	**18 59 18.5**	**-1.4**
MOTC				*e*S		**Sn**	**19 00 34.3**	**+0.2**
MOTC				*i*			19 00 45.2	
comp=Z,16nm,0.7s								
GCPR	**Guaynabo City**	**6.79**	**37**			**Pn**	**18 59 20.6**	**-1.8**
HUMP	**Col San Antoni**	**6.80**	**39**	Pn		**Pn**	**18 59 20.9**	**-1.5**
BARC	**Barichara**	**6.83**	**204**	*e*P		**Pn**	**18 59 24.2**	**+1.1**
BARC				*e*S		**Sn**	**19 00 34.7**	**-5.1**

BARC				*i*			19 00 52.5		
	comp=Z,63nm,0.5s								
CBYP	**Canovanas**	**6.90**	**38**	Pn	**Pn**		**18 59 22.5**	**-1.3**	
ZARC	**Zaragoza, Cauc**	**6.94**	**220**	*e*P	**Pn**		**18 59 22.9**	**-1.5**	
ZARC				*e*S	**Sn**		**19 00 36.9**	**-5.4**	
ZARC				*i*			19 00 47.9		
	comp=Z,38nm,0.5s								
MTP	**Monte Pirata**	**6.96**	**41**	Pn	**Pn**		**18 59 22.7**	**-1.9**	
UREC	**San Jos de Ur**	**7.20**	**226**	*e*P	**Pn**		**18 59 28.3**	**+0.4**	
UREC				*e*S	**Sn**		**19 00 47.9**	**-0.7**	
CUPR	**Culebra, Puert**	**7.29**	**41**	Pn	**Pn**		**18 59 28.0**	**-1.1**	
RUSC	**La Rusia**	**7.44**	**201**	*e*P	**Pn**		**18 59 32.5**	**+0.9**	
RUSC				*e*S	**Sn**		**19 00 51.1**	**-3.9**	
RUSC				*i*			19 01 18.6		
	comp=Z,14nm,0.7s								
PTBC	**PUERTO BERRIO,**	**7.48**	**213**	*e*P	**Pn**		**18 59 32.0**	**+0.2**	
PTBC				*e*S	**Sn**		**19 00 53.3**	**-2.1**	
PTBC				*i*			19 01 04.3		
	comp=Z,26nm,0.6s								
SPBC	**San Pablo de B**	**8.06**	**207**	*e*P	**Pn**		**18 59 39.2**	**-0.6**	
GTBY	**Guantanamo Bay**	**8.37**	**328**	Pn	**Pn**		**18 59 44.5**	**+0.5**	
GRGR	**Grenville**	**8.52**	**94**	Pn	**Pn**		**18 59 46.1**	**0.0**	
GRTK	**Grand Turk**	**8.63**	**355**	Pn	**Pn**		**18 59 49.4**	**+1.9**	
PTGC	**Puerto Gaitan,**	**8.79**	**192**	*e*P	**Pn**		**18 59 47.8**	**-2.0**	
PTGC				*e*S	**Sn**		**19 01 23.2**	**-4.6**	
CHIC	**Chingaza**	**8.84**	**202**	*e*P	**Pn**		**18 59 51.8**	**+1.0**	
CHIC				*e*S	**Sn**		**19 01 29.1**	**-0.4**	
CHIC				*i*			19 01 39.0		
	comp=Z,9.4nm,0.5s								
ROSC	**El Rosal**	**8.89**	**207**	Pn	**Pn**		**18 59 53.5**	**+2.0**	
	comp=Z,5.8nm,0.3s,baz=37,slow=18,SNR=4.7								
ROSC				Sn	**Sn**		**19 01 32.4**	**+1.8**	
	comp=Z,2.8nm,0.3s,baz=102,slow=20,SNR=1.5								
ROSC				LR	LR		19 03 53.7		
	comp=Z,341nm,19.9s,baz=340,slow=41								
ROSC	**El Rosal**	**8.89**	**207**	*e*P	**Pn**		**18 59 52.7**	**+1.2**	
ROSC	**El Rosal**	**8.89**	**207**		**Pn**		**18 59 54.1**	**+2.6**	
CBOC	**Ciudad Bolivar**	**8.92**	**219**	*e*P	**Pn**		**18 59 52.2**	**+0.4**	
CBOC				*e*S	**Sn**		**19 01 37.4**	**+6.2**	
CBOC				*i*			19 01 51.5		
	comp=Z,7.6nm,0.6s								
GUY2C	**Guyana, Caldas**	**9.07**	**214**	*e*P	**Pn**		**18 59 55.4**	**+1.4**	
GUY2C				*e*S	Sn		19 01 21.9	-13	
GUY2C				*i*			19 01 51.5		
	comp=Z,14nm,0.6s								
FDF	**Fort de France**	**9.13**	**77**	Pn	**Pn**		**18 59 55.1**	**+0.7**	
VILC	**Villavicencio,**	**9.31**	**201**	*e*P	**Pn**		**18 59 55.8**	**-1.2**	
VILC				*e*S	**Sn**		**19 01 38.9**	**-1.6**	
VILC				*i*			19 01 47.3		
	comp=Z,23nm,0.4s								
H05S1	**Guadeloupe/Mar**	**9.38**	**79**	T	T		19 09 22.2		
	SNR=8.2								
TOLC	**Tolima**	**9.58**	**211**	*e*P	**Pn**		**19 00 02.7**	**+1.7**	
TOLC				*e*S	**Sn**		**19 01 50.1**	**+2.4**	
ORTC	**Ortega, Tolima**	**10.13**	**209**	*e*P	**Pn**		**19 00 08.8**	**+0.6**	
ORTC				*e*S	**Sn**		**19 01 54.4**	**-6.3**	
ORTC				*i*			19 02 29.0		
	comp=Z,9.4nm,0.6s								
PRAC	**Prado**	**10.14**	**207**	*e*P	**Pn**		**19 00 07.9**	**-0.5**	
YOTC	**Yotoco, Valle**	**10.63**	**214**	*e*P	**Pn**		**19 00 14.8**	**-0.4**	
MACC	**Macarena, Meta**	**11.20**	**198**	*e*P	**Pn**		**19 00 21.3**	**-1.6**	
MACC				*e*S	**Sn**		**19 02 21.8**	**-5.2**	
OTAV	**Otavalo**	**14.90**	**213**	P	**P**		**19 01 19.7**	**+0.7**	
MDP	**Montagnes des**	**19.11**	**112**	LR	LR		19 10 25.0		
	comp=Z,56nm,21.8s,baz=326,slow=40								
ATAH	**Atahualpa**	**21.42**	**202**	LR	LR		19 13 20.7		
	comp=Z,172nm,18.7s,baz=3.6,slow=44								
SAML	**Samuel**	**22.81**	**161**	P	**P**		**19 02 44.4**	**-0.7**	
SAML				IAmb	IAmb		19 02 47.1		
	comp=Z,8.6nm,0.8s								
NNA	**Nana**	**25.52**	**195**	LR	LR		19 16 04.7		
	comp=Z,193nm,19.2s,baz=328,slow=43								
LPAZ	**La Paz**	**29.05**	**176**	P	**P**		**19 03 45.2**	**+2.3**	
	comp=Z,2.0nm,0.5s,baz=345,slow=7.1,SNR=9.6								
LPAZ	**La Paz**	**29.05**	**176**	P	**P**		**19 03 45.4**	**+2.5**	
SIV	**San Ignacio**	**30.11**	**162**	P	**P**		**19 03 51.8**	**+0.2**	
	comp=Z,1.2nm,0.5s,baz=315,slow=7.1,SNR=6.3								
PB16	**IPOC Station P**	**31.02**	**178**	P	**P**		**19 03 58.1**	**-2.2**	
MNMC	**Minye Minye**	**31.81**	**179**	P	**P**		**19 04 04.8**	**-2.1**	
MNMC				IAmb	IAmb		19 04 21.0		
	comp=Z,8.9nm,1.3s								
GO01	**Chusmiza**	**32.35**	**178**	P	**P**		**19 04 10.1**	**-1.8**	
PB11	**IPOC Station P**	**32.43**	**179**	P	**P**		**19 04 10.3**	**-1.9**	
PB08	**IPOC Station P**	**32.82**	**178**	P	**P**		**19 04 15.7**	**-0.2**	
PB08				IAmb	IAmb		19 04 21.0		
	comp=Z,2.9nm,0.7s								
PB01	**IPOC Station P**	**33.71**	**179**	P	**P**		**19 04 22.3**	**-1.0**	
PB01				IAmb	IAmb		19 04 24.7		
	comp=Z,12nm,1.6s								
PB07	**IPOC Station P**	**34.38**	**179**	P	**P**		**19 04 28.4**	**-0.8**	
LVC	**Limon Verde**	**35.29**	**178**	P	**P**		**19 04 37.1**	**-0.1**	
LVC				IAmb	IAmb		19 04 37.5		
	comp=Z,4.5nm,0.6s								
GO02	**Mina Guanaco**	**37.81**	**179**	P	**P**		**19 04 58.3**	**-0.4**	
GO02				IAmb	IAmb		19 04 58.5		
	comp=Z,6.4nm,1.1s								
PLCA	**Paso Flores**	**53.33**	**180**	P	**P**		**19 07 00.3**	**-0.6**	
	comp=Z,1.1nm,0.5s,baz=350,slow=8.6,SNR=5.8								
PLCA	**Paso Flores**	**53.33**	**180**	IAmb	IAmb		19 07 03.2		
	comp=Z,2.6nm,1.0s								
RES	**Resolute Bay**	**63.32**	**353**	LR	LR		19 35 31.7		
	comp=Z,71nm,21.9s,baz=55,slow=36								
TORD	**Torodi Ar. Bea**	**69.95**	**81**	P	**P**		**19 08 55.2**	**+1.7**	
	comp=Z,0.5nm,0.9s,baz=278,slow=4.2,SNR=2.4								
CMAR	**Chiang Mai Arr**	**147.13**	**19**	PKPbc	**PKiKP**		**19 17 27.6**	**-0.3**	
	comp=Z,0.3nm,0.5s,baz=324,slow=3.9,SNR=2.1								
WRA	**Warramunga Arr**	**155.31**	**250**	PKPbc	PKPdf		19 17 44.5	+8.8	
	comp=Z,0.4nm,0.9s,baz=91,slow=3.5,SNR=1.9								
WRA				PKPab	**PKPab**		**19 18 03.2**	**+2.2**	
	comp=Z,0.3nm,0.7s,baz=102,slow=3.5,SNR=1.8								

IDC 14 19:04:20.7±361.0, 38.58N×118.09W, h0km, Error ellipse: s-maj=153.5km s-min=110.4km az=155.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.23**	**228**	*i*		19 03 43.8	
	3.9nm,0.3s,baz=236,slow=21,SNR=24						
I57US	**PINON FLAT INF**	**5.14**	**165**	*i*		19 37 10.0	
	baz=344,slow=302,SNR=2.3						
I56US	**NEWPORT INFRAS**	**9.70**	**4**	*i*		20 03 50.0	
	baz=183,slow=320,SNR=1.3						
I10CA	**LAC DU BONNET**	**19.50**	**46**	*i*		21 07 20.0	
	baz=240,slow=319,SNR=0.9						

*BJI **14** 19:08:41.5±0.0,23.36N×100.49E,h13km,ML3.5/5*
ISC 14 19:08:43.8±1.6, 23.1N±0.1×100.9E±0.3, h10km, n8, σ1§27/11, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.64**	**39**	‖Pn	**Pn**	**19 09 27.3**	**+0.5**
KMI				Pg	**Pg**	**19 09 33.8**	**-0.7**
KMI				Sg	**Sg**	**19 10 08.8**	**0.0**
KMI				smax	smax		
	comp=N,180nm,1.2s						
KMI				smax	smax		
	comp=E,110nm,1.0s						
CRAI	**Chiangrai**	**2.86**	**190**	Pn	**Pn**	**19 09 30.8**	**+1.2**
PAYA	**Payao**	**3.81**	**195**	Pg	**Pg**	**19 09 55.3**	**-1.5**
PHRA	**Phrae**	**4.58**	**188**	Pg	**Pg**	**19 10 10.5**	**-1.1**
PHRA				Pn	**Pn**	**19 09 54.7**	**+1.5**
CMMT	**Chiang Mai**	**4.61**	**204**	Pg	**Pg**	**19 10 11.1**	**-1.0**
CMMT				Pn	**Pn**	**19 09 54.1**	**+0.5**
CM02	**Chiang Mai Arr**	**4.96**	**202**	Pn	**Pn**	**19 09 59.5**	**+1.1**
CM05	**Chiang Mai Arr**	**4.99**	**202**	Pn	**Pn**	**19 10 00.4**	**+1.6**
WMQ	**Urumqi**	**23.41**	**335**	*e*P	P	19 13 44.1	-8.9

*NEIC **14** 19:19:29.9±2.4, 17.09N±0.10×95.24W±0.03, h120km±5km, Error ellipse: s-maj=13.9km s-min=2.9km az=170.0*
*MEX **14** 19:19:31.2±0.7, 17.15N×95.15W, h122km±5km, MD4.0*
ISC 14 19:19:29.2±0.9, 16.96N±0.08×95.19W±0.04, h123km±8km, n28, σ1§23/39, mb4.2/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**66**	*i* P	**Pn**	**19 19 46.9**	**+0.3**
CMIG				*i* S	**Sn**	**19 19 59.2**	**-0.4**
CMIG	**Matias Romero**	**0.32**	**66**		**Pn**	**19 19 46.9**	**+0.3**
CMIG					**Sn**	**19 19 59.2**	**-0.4**
HUIG	**Huatulco**	**1.48**	**217**	*i* P	**Pn**	**19 19 56.4**	**-0.2**
HUIG				*i* S	**Sn**	**19 20 19.4**	**+2.0**
HUIG	**Huatulco**	**1.48**	**217**		**Pn**	**19 19 56.4**	**-0.2**
HUIG					**Sn**	**19 20 19.4**	**+2.0**
VHO	**Vista Hermosa**	**1.48**	**275**	*i* P	**Pn**	**19 19 58.0**	**+1.1**
VHO				*e*S	**Sn**	**19 20 18.5**	**+0.7**
TGIG		**1.99**	**95**	*e*P	**Pn**	**19 20 03.7**	**+0.9**
TGIG				*e*S	**Sn**	**19 20 27.3**	**-1.0**
TGIG		**1.99**	**95**		**Pn**	**19 20 03.7**	**+0.9**
TGIG					**Sn**	**19 20 27.3**	**-1.0**
PEIG	**Puerto Escondi**	**2.11**	**243**	*i* P	**Pn**	**19 20 03.5**	**-0.8**
PEIG				*e*S	**Sn**	**19 20 31.2**	**+0.2**
TXIG	**Tlaxiaco**	**2.48**	**277**	*i* P	**Pn**	**19 20 10.4**	**+1.2**
TXIG				*i* S	**Sn**	**19 20 39.9**	**0.0**
PNIG	**Pinotepa**	**2.87**	**259**	*i* P	**Pn**	**19 20 12.2**	**-1.8**
PNIG				*i* S	**Sn**	**19 20 48.6**	**+0.1**
PNIG	**Pinotepa**	**2.87**	**259**		**Pn**	**19 20 13.5**	**-0.5**
PNIG					**Sn**	**19 20 44.9**	**-3.6**
CCIG	**Comitan**	**3.00**	**103**		**Pn**	**19 20 17.9**	**+2.1**
TLIG	**Tlapa**	**3.28**	**281**		**Pn**	**19 20 20.7**	**+1.2**
TEIG	**Tepich**	**7.32**	**63**	Pn	**Pn**	**19 21 11.6**	**-1.9**
MIAR	**Mount Ida**	**17.57**	**4**	P	**Pn**	**19 23 26.6**	**+0.1**
MIAR				IAmb	IAmb	19 23 27.6	
	comp=Z,12nm,1.1s						
LCAR	**Lake Charles**	**19.37**	**10**	P	**P**	**19 23 45.8**	**+0.5**
LCAR				IAmb	IAmb	19 23 46.5	
	comp=Z,7.3nm,0.7s						
PBMO	**Poplar Bluff**	**20.18**	**11**	P	**P**	**19 23 54.5**	**+0.4**
PBMO				IAmb	IAmb	19 23 55.2	
	comp=Z,14nm,1.0s						
T42A	**Van Buren**	**20.32**	**9**	P	**P**	**19 23 56.2**	**+0.7**
T42A				IAmb	IAmb	19 23 57.6	
	comp=Z,7.6nm,0.9s						
V51A	**Loudon**	**21.10**	**25**	P	**P**	**19 24 03.7**	**-0.3**
V51A				IAmb	IAmb	19 24 19.3	
	comp=Z,23nm,1.4s						
U49A	**Red Boiling Sp**	**21.19**	**21**	P	**P**	**19 24 04.4**	**-0.5**
U49A				IAmb	IAmb	19 24 06.7	
	comp=Z,5.7nm,0.7s						
TKL	**Tuckaleechee C**	**21.21**	**26**	P	**P**	**19 24 05.3**	**+0.1**
TKL				IAmb	IAmb	19 24 09.5	
	comp=Z,10nm,1.1s						
CCM	**Cathedral Cave**	**21.30**	**9**	P	**P**	**19 24 06.6**	**+0.5**
R40A	**Maddies Statio**	**21.40**	**6**	P	**P**	**19 24 07.0**	**-0.2**
R40A				IAmb	IAmb	19 24 09.3	
	comp=Z,17nm,1.5s						
P38A	**Dawn**	**22.63**	**3**	P	**P**	**19 24 19.9**	**+0.1**
KSCO	**Kaye Shedlock'**	**22.91**	**345**	P	**P**	**19 24 22.4**	**-0.4**
O49A	**Covington**	**24.99**	**20**	P	**P**	**19 24 40.7**	**-0.8**
O20A	**White River Ci**	**25.72**	**336**	P	**P**	**19 24 45.9**	**-2.5**
DUG	**Dugway, Tooele**	**27.74**	**330**	P	**P**	**19 25 08.1**	**+1.7**

*NEIC **14** 19:34:13.6±0.3, 21.7S±0.2×176.1W±0.2, h191km±25km, mb4.4/7, Error ellipse: s-maj=35.2km s-min=30.4km az=182.0*
*IDC **14** 19:34:28.3±10.0, 22.33S×176.57W, h301km±106km, mb3.1/4, mb1 3.4/5, mb1mx3.1/28, mbtmp3.9/5, Error ellipse: s-maj=41.6km s-min=34.0km az=5.0*
ISC 14 19:34:13.4±0.9, 21.7S±0.2×175.9W±0.1, h200km, n12, σ1§15/12, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.19**	**66**		**Pn**	**19 35 45.3**	**+2.1**
NIUE				Sn	**Sn**	**19 36 51.7**	**-2.6**
URZ	**Urewera**	**17.59**	**198**	P	**P**	**19 38 04.7**	**+0.1**
	1.2nm,0.3s,baz=45,slow=7.1,SNR=7.2						
URZ				S	S	19 41 03.7	-13
	0.2nm,0.3s,baz=63,slow=4.5,SNR=1.6						
URZ	**Urewera**	**17.59**	**198**	P	**P**	**19 38 04.6**	**0.0**
URZ				IAmb	IAmb	19 38 12.0	
	comp=Z,27nm,1.5s						
QRZ	**Quartz Range**	**21.46**	**205**	P	**P**	**19 38 45.4**	**-0.7**
KHZ	**Kahutara**	**22.50**	**201**	P	**P**	**19 38 55.9**	**-0.1**
CTA	**Charters Tower**	**35.31**	**266**	P	**P**	**19 40 49.4**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=84,slow=10,SNR=2.1						
BBOO	**Buckleboo**	**43.78**	**245**	P	**P**	**19 41 59.3**	**-0.2**
BBOO				IAmb	IAmb	19 42 06.3	
	comp=Z,24nm,1.4s						
ASAR	**Alice Springs**	**46.14**	**258**	P	**P**	**19 42 18.8**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=90,slow=8.5,SNR=14						
WB0	**Warramunga Arr**	**46.34**	**263**	P	**P**	**19 42 19.6**	**-0.3**
WB2	**Warramunga Arr**	**46.35**	**263**	P	**P**	**19 42 19.8**	**0.0**
WB2				IAmb	IAmb	19 42 34.3	
	comp=Z,12nm,1.6s						
WRA	**Warramunga Arr**	**46.36**	**263**	P	**P**	**19 42 19.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=102,slow=7.6,SNR=14						
TXAR	**Lajitas Array**	**86.07**	**56**	P	P	19 46 39.8	+7.8
	comp=Z,0.3nm,0.8s,baz=209,slow=9.2,SNR=2.9						

IDC 14 20:16:23.9±3.9, 4.37S×151.86E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=141.2km s-min=36.5km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**226**	P	P	20 21 30.9	-0.2
	0.6nm,0.6s,baz=51,slow=9.8,SNR=4.9						
ASAR	**Alice Springs**	**25.85**	**220**	P	P	20 21 58.1	+0.7
	0.1nm,0.4s,baz=48,slow=8.8,SNR=1.8						
ZALV	**Zalesovo Beam**	**80.28**	**326**	P	P	20 28 37.6	+1.0
	0.6nm,0.6s,baz=98,slow=4.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**149.28**	**288**	PKPbc	PKPbc	20 36 13.9	-1.9
	0.4nm,0.5s,baz=85,slow=2.3,SNR=4.0						

*NEIC **14** 20:31:47.5±1.1, 37.48N±0.03×118.78W±0.02, h6km±6km, Error ellipse: s-maj=4.1km s-min=1.2km az=157.0*
NCEDC 14 20:31:47.3±1.2, 37.48N±0.02×118.79W±0.02, h7km±5km, ML3.4/14, Error ellipse: s-maj=3.6km s-min=2.5km az=154.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	**Doe Ridge**	**0.16**	**346**		Pg	20 31 51.2	+0.4
ORC	**Owens River**	**0.19**	**34**		Pg	20 31 51.4	+0.2
OMMB	**Old Mammoth Mi**	**0.21**	**308**	Pg	Pg	20 31 51.8	0.0
OMMB				Sg	Sg	20 31 54.8	+0.1
MTUM	**Tungsten Hills**	**0.22**	**126**		Pg	20 31 51.9	+0.1
MRDM	**Red Cones**	**0.25**	**298**		Pg	20 31 52.5	+0.2
MDPB	**Devils Postpil**	**0.28**	**303**		Pg	20 31 53.0	+0.1
MDPB				Sg	Sg	20 31 56.9	+0.3
BENR	**Benton**	**0.29**	**36**		Pg	20 31 53.2	0.0
BHPR	**Bishop**	**0.30**	**127**		Pg	20 31 53.5	+0.2
MDCM	**Deadman Creek**	**0.30**	**318**		Pg	20 31 53.5	+0.1
MGNR	**McGee Canyon**	**0.34**	**12**		Pg	20 31 54.5	+0.4
MLNR	**Milner Canyon**	**0.37**	**72**		Pg	20 31 54.8	+0.2
POCCA	**Poleta Canyon**	**0.42**	**106**		Pg	20 31 55.7	+0.1
KCC	**Kaiser Creek**	**0.45**	**250**		Pg	20 31 56.1	0.0
KCC	**Kaiser Creek**	**0.45**	**250**		Sg	20 32 02.1	+0.1
ANTCA	**Antelope Range**	**0.47**	**22**		Pg	20 31 56.6	+0.1
LHV	**Little Huntoon**	**0.80**	**16**		Pg	20 32 02.8	+0.1
LHV				Sg	Sb	20 32 14.1	-0.5
HELL	**Mitchell Peak,**	**0.82**	**193**		Pg	20 32 02.7	-0.4
NVAR	**Mina Array Bea**	**1.02**	**22**		Pg	20 32 06.4	-0.6
NV11	**Mina Array Sit**	**1.07**	**28**		Pg	20 32 07.6	-0.4
NV11				Sg	Sg	20 32 22.1	+0.3
WAKR	**Walker**	**1.14**	**333**		Pg	20 32 09.4	+0.1
RYN	**Ryan**	**1.16**	**10**		Pg	20 32 09.5	-0.2
RYN				Sg	Sb	20 32 25.3	0.0
GVN	**Grapevine**	**1.25**	**112**		Pb	20 32 11.1	-0.2
TMO	**Tin Mountain**	**1.29**	**121**		Pn	20 32 11.5	-0.6
TPH	**Tonopah**	**1.37**	**64**		Pn	20 32 13.2	+0.1
CMB	**Columbia Colle**	**1.38**	**294**	Pn	Pn	20 32 12.6	-0.5
YERR	**Yerington**	**1.54**	**347**		Pb	20 32 16.1	-0.3
KVN	**Kaiserville**	**1.66**	**19**		Pn	20 32 17.4	+0.3
PNTR	**Pine Nut**	**1.73**	**339**		Pb	20 32 19.1	-0.5
ISA	**Isabella, Lake**	**1.83**	**172**	Pn	Pb	20 32 20.9	-0.3
RUBR	**Rubicon Trail**	**1.90**	**326**	Pn	Pb	20 32 21.7	-0.8
VCNR	**Virginia City**	**1.94**	**340**		Pn	20 32 20.8	0.0
CMPM	**Mikes Peak**	**2.02**	**267**		Pb	20 32 24.1	-0.3
PACP	**Pacheco Peak**	**2.05**	**257**		Pb	20 32 24.0	-1.0
PMPB	**Monarch Peak**	**2.05**	**233**	Pn	Pn	20 32 23.2	+0.9
LRV	**Little Rabbit**	**2.08**	**240**		Pb	20 32 25.2	-0.1
PKD	**Bear Valley Ra**	**2.08**	**223**		Pn	20 32 24.0	+1.3
TPNV	**Topopah Spring**	**2.09**	**104**		Pn	20 32 22.9	-0.1
THIS	**South End of C**	**2.10**	**214**		Pn	20 32 22.8	-0.2
PAGB	**Antelope Grade**	**2.11**	**214**	Pn	Pn	20 32 22.8	-0.2
HFEM	**San Felipe**	**2.15**	**257**		Pb	20 32 25.9	-0.6
GHS	**Gilroy Hot Spr**	**2.16**	**261**		Pb	20 32 25.7	-1.0
TRAM	**Private Proper**	**2.16**	**214**		Pn	20 32 25.1	+1.3
SAO	**San Andreas Ge**	**2.24**	**252**		Pb	20 32 26.9	-1.3
SAO	**San Andreas Ge**	**2.24**	**252**	Pn	Pn	20 32 25.2	+0.3
AFDM	**Forest Hills D**	**2.26**	**311**		Pn	20 32 26.2	+1.0
PAHR	**Pah Rah Range**	**2.27**	**348**		Pn	20 32 26.1	+0.6
SCZ	**Santa Cruz**	**2.27**	**248**		Pn	20 32 27.0	+1.7
BJCM	**Johnson Can.**	**2.28**	**247**		Pb	20 32 27.2	-1.6
BSMM	**Soledad Missio**	**2.38**	**243**		Pn	20 32 28.7	+1.8
HAST	**Hastings Reser**	**2.47**	**245**		Pn	20 32 29.6	+1.6
R11A	**Troy Canyon, C**	**2.68**	**70**		Pn	20 32 34.1	-1.6
GSC	**Goldstone, Bar**	**2.70**	**143**		Pn	20 32 31.2	0.0
ORV	**Oroville**	**2.97**	**315**		Pn	20 32 35.0	+0.1
PRN	**Pahroc Range**	**2.97**	**90**		Pn	20 32 35.7	+0.6
SHPR	**Sheep Range**	**3.06**	**107**		Pn	20 32 36.9	+0.6
MWC	**Mount Wilson**	**3.10**	**169**		Pn	20 32 40.9	+1.2
PASC	**Pasadena Art C**	**3.34**	**171**	Pn	Pn	20 32 41.6	+1.6
GDXM	**Geysers**	**3.43**	**294**		Pn	20 32 42.7	+1.5
PSUT	**Pine Spring**	**4.03**	**73**		Pn	20 32 47.9	-1.8
WDC	**Whiskeytown Da**	**4.26**	**318**	Pn	Pn	20 32 53.6	+1.0
ELK	**Elko**	**4.27**	**39**	Pn	Pn	20 32 54.8	+1.8
PFO	**Pinyon Flats O**	**4.30**	**153**	Pn	Pn	20 32 53.0	-0.3
CCUT	**Cedar City**	**4.31**	**87**		Pn	20 32 53.8	+0.2
LCMT	**Little Creek M**	**4.45**	**94**		Pn	20 32 54.7	-0.7
SZCU	**Shurtz Canyon**	**4.53**	**87**	Pn	Pn	20 32 56.0	-0.6
W13A	**Hualapai Mount**	**4.62**	**120**		Pn	20 32 55.2	-2.5
KNB	**Kanab**	**4.78**	**94**		Pn	20 32 58.7	-1.2

*ANF **14** 20:45:04.9±0.3, 37.45N×118.82W, h2km±2km, ML2.7/14, Error ellipse: s-maj=2.7km s-min=1.7km az=86.0*
*REN **14** 20:45:05.3±1.4, 37.48N±0.03×118.79W±0.03, h5km±6km, Error ellipse: s-maj=4.5km s-min=3.7km az=157.0*
*NEIC **14** 20:45:05.2±1.4, 37.47N±0.03×118.77W±0.03, h6km±6km, Error ellipse: s-maj=4.6km s-min=3.9km az=161.0*
*NCEDC **14** 20:45:05.2±1.1, 37.48N±0.03×118.79W±0.03, h7km±6km, ML3.1/13, Error ellipse: s-maj=4.7km s-min=3.3km az=157.0*
ISC 14 20:45:05.4±0.9, 37.48N±0.02×118.78W±0.02, h8km±9km, n63, σ0§96/77, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth, Mammo**	**0.16**	**344**	P	**Pg**	**20 45 08.8**	**-0.1**
	baz=166						
MLAC				S	**Sg**	**20 45 11.4**	**+0.1**
	baz=166						
MDRNC	**Doe Ridge**	**0.17**	**345**		**Pg**	**20 45 09.0**	**0.0**
MTUM	**Tungsten Hills**	**0.21**	**126**		**Pg**	**20 45 09.7**	**0.0**
OMMB	**Old Mammoth Mi**	**0.22**	**308**	Pg	**Pg**	**20 45 09.6**	**-0.4**
MRDM	**Red Cones**	**0.25**	**299**		**Pg**	**20 45 10.3**	**-0.2**
MDPB	**Devils Postpil**	**0.28**	**303**		**Pg**	**20 45 10.8**	**-0.3**
BENR	**Benton**	**0.29**	**35**		**Pg**	**20 45 11.0**	**-0.2**
MDCM	**Deadman Creek**	**0.31**	**318**		**Pg**	**20 45 11.4**	**-0.3**
MGNR	**McGee Canyon**	**0.34**	**11**		**Pg**	**20 45 12.3**	**+0.1**
MLNR	**Milner Canyon**	**0.37**	**71**		**Pg**	**20 45 12.7**	**+0.1**
POCCA	**Poleta Canyon**	**0.41**	**106**		**Pg**	**20 45 13.5**	**0.0**
KCC	**Kaiser Creek**	**0.46**	**250**		**Pg**	**20 45 13.9**	**-0.3**
KCC					**Sg**	**20 45 19.9**	**-0.4**
ANTCA	**Antelope Range**	**0.47**	**21**		**Pg**	**20 45 14.4**	**-0.2**
TIN	**Tinemaha, Big**	**0.61**	**134**	P	**Pg**	**20 45 17.2**	**0.0**
	baz=314						
TIN				S	**Sg**	**20 45 25.6**	**+0.4**
	baz=314						
HCK	**Huntoon Valley**	**0.61**	**14**		**Pg**	**20 45 17.4**	**+0.1**
LHV	**Little Huntoon**	**0.80**	**16**		**Pg**	**20 45 20.7**	**-0.2**
HELL	**Mitchell Peak,**	**0.82**	**194**		**Pg**	**20 45 20.5**	**-0.6**
NVAR	**Mina Array Bea**	**1.02**	**21**	Pg	**Pg**	**20 45 23.9**	**-

DZM	**Mont Dzumac**	**15.72**	**258**	P		**P**		**21 01 18.2**	**+0.4**
	0.5nm,0.3s,baz=102,slow=20,SNR=2.3								
DZM	**Mont Dzumac**	**15.72**	**258**	P		**P**		**21 01 17.5**	**-0.3**
DZM				IAmb		IAmb		21 01 37.2	
	comp=Z,19nm,1.3s								
KNTN	**Kanton**	**17.38**	**18**	P		**P**		**21 01 33.0**	**-2.5**
URZ	**Urewera**	**19.41**	**194**	P		**P**		**21 01 54.1**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=264,slow=3.6,SNR=10								
URZ				S		S		21 05 00.7	-11
	comp=Z,0.3nm,0.3s,baz=172,slow=6.9,SNR=2.6								
URZ	**Urewera**	**19.41**	**194**	P		**P**		**21 01 53.0**	**-3.1**
URZ				IAmb		IAmb		21 01 57.2	
	comp=Z,12nm,1.1s								
BKZ	**Black Stump Fm**	**20.41**	**195**	P		**P**		**21 02 03.9**	**-1.7**
BKZ				IAmb		IAmb		21 02 16.7	
	comp=Z,11nm,1.4s								
QRZ	**Quartz Range**	**23.09**	**201**	P		**P**		**21 02 30.9**	**+1.1**
THZ	**Tophouse**	**23.82**	**199**	P		**P**		**21 02 37.0**	**+0.6**
THZ				IAmb		IAmb		21 02 42.2	
	comp=Z,20nm,1.3s								
LTZ	**Lake Taylor**	**24.94**	**199**	P		**P**		**21 02 48.2**	**+1.8**
STKA	**Stephens Creek**	**39.10**	**243**	P		**P**		**21 04 48.0**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=100,slow=9.2,SNR=6.6								
STKA	**Stephens Creek**	**39.10**	**243**	P		**P**		**21 04 47.8**	**-0.4**
BBOO	**Buckleboo**	**43.87**	**243**	P		**P**		**21 05 26.7**	**+0.4**
BBOO				IAmb		IAmb		21 05 50.1	
	comp=Z,21nm,1.4s								
WB0	**Warramunga Arr**	**45.68**	**261**	P		**P**		**21 05 41.3**	**+0.7**
ASAR	**Alice Springs**	**45.70**	**256**	P		**P**		**21 05 41.9**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=93,slow=8.0,SNR=22								
ASAR	**Alice Springs**	**45.70**	**256**	P		**P**		**21 05 41.5**	**+0.8**
WRA	**Warramunga Arr**	**45.71**	**261**	P		**P**		**21 05 41.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=95,slow=7.5,SNR=9.1								
WRA	**Warramunga Arr**	**45.71**	**261**	P		**P**		**21 05 41.5**	**+0.6**
FORT	**Forrest**	**50.59**	**246**	P		**P**		**21 06 18.1**	**+0.7**
FORT				IAmb		IAmb		21 06 43.1	
	comp=Z,39nm,1.4s								
MJAR	**Matsushiro Arr**	**69.98**	**323**	P		P		21 08 33.9	+6.9
	comp=Z,1.4nm,0.6s,baz=162,slow=6.3,SNR=2.5								
GERES	**GERESS Array B**	**149.47**	**346**	PKPbc		**PKPab**		**21 17 08.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=20,slow=3.1,SNR=3.7								

*JMA **14** 21:10:35.2±0.1,25.°63N×126.°43E,h72km±3km,M3.4*
*IDC **14** 21:10:51.3±14.0,25.°20N×125.°62E,h186km±140km, mb3.2/8,mb1 3.4/8,mb1mx3.2/39,mbtmp3.7/8,Error ellipse: s-maj=126.8km s-min=14.1km az=68.0*
ISC 14 21:10:36.3±1.0,25.°57N±0.°08×126.°46E±0.°06,h54km±11km, n27,σ0°79/39,mb3.6/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKE	**Kume jima 2**	**0.81**	**21**	P		**Pn**	**21 10 51.1**	**-0.6**
JKE				S		**Sn**	**21 11 03.0**	**+0.1**
JAGN	**Aguni-jima**	**1.24**	**34**	P		**Pn**	**21 10 57.0**	**-0.3**
JAGN				eS		**Sn**	**21 11 13.4**	**+0.4**
JOGS	**Gusukube**	**1.25**	**230**	P		**Pn**	**21 10 57.7**	**+0.2**
JIKM	**Ikemajima**	**1.27**	**240**	P		**Pn**	**21 10 57.8**	**0.0**
JIKM				eS		**Sn**	**21 11 14.5**	**+0.7**
JMJ2	**Miyako jima3**	**1.31**	**232**	P		**Pn**	**21 10 58.4**	**0.0**
JMJ2				S		**Sn**	**21 11 16.1**	**+1.2**
JJT3	**Tamagusuku3**	**1.32**	**64**	P		**Pn**	**21 10 58.4**	**-0.1**
JJT3				S		**Sn**	**21 11 15.5**	**+0.4**
JIRB	**Irabujima**	**1.38**	**238**	P		**Pn**	**21 10 59.1**	**-0.1**
JIRB				S		**Sn**	**21 11 17.1**	**+0.7**
JNTH	**Nagotoyohara**	**1.70**	**56**	P		**Pn**	**21 11 03.2**	**-0.3**
JNTH				S		**Sn**	**21 11 23.6**	**-0.5**
JTJ	**Tarama**	**1.84**	**240**	P		**Pn**	**21 11 05.3**	**-0.2**
JTJ				S		**Sn**	**21 11 27.5**	**-0.2**
JIH	**Iheya**	**1.99**	**42**	P		**Pn**	**21 11 07.0**	**-0.6**
JIH				eS		**Sn**	**21 11 30.8**	**-0.6**
JOW	**Kunigami**	**2.06**	**52**	P		**Pn**	**21 11 08.1**	**-0.4**
JISG	**Ishigakijimahi**	**2.18**	**244**	P		**Pn**	**21 11 09.5**	**-0.6**
JISG				S		**Sn**	**21 11 34.9**	**-1.1**
JYRO	**Yoronjima**	**2.30**	**50**	P		**Pn**	**21 11 11.5**	**-0.3**
JIJ	**Ishigaki jima**	**2.42**	**241**	P		**Pn**	**21 11 12.9**	**-0.5**
JIJ				S		**Sn**	**21 11 40.6**	**-1.3**
JKRS	**Kuro-shima**	**2.59**	**240**	P		**Pn**	**21 11 15.5**	**-0.2**
JOKE	**Okinoerabujima**	**2.60**	**46**	P		**Pn**	**21 11 15.6**	**-0.4**
IRIF	**Iriomote-Funau**	**2.76**	**244**	P		**Pn**	**21 11 17.7**	**-0.4**
IRIF				eS		**Sn**	**21 11 48.2**	**-2.1**
HATJ	**Hateruma jima**	**2.84**	**239**	P		**Pn**	**21 11 19.0**	**-0.2**
JTK	**Tokunoshima**	**3.14**	**45**	P		**Pn**	**21 11 22.8**	**-0.5**
SONM	**Songino Array**	**27.28**	**330**	P		**P**	**21 16 18.3**	**+2.6**
	0.3nm,0.4s,baz=148,slow=10,SNR=3.7								
MKAR	**Makanchi Array**	**40.80**	**313**	P		**P**	**21 18 11.5**	**-0.9**
	0.4nm,0.4s,baz=98,slow=9.9,SNR=7.3								
ZALV	**Zalesovo Beam**	**41.83**	**324**	P		**P**	**21 18 21.1**	**+0.5**
	0.5nm,0.4s,baz=108,slow=9.4,SNR=2.1								
FITZ	**Fitzroy Crossi**	**43.41**	**181**	P		**P**	**21 18 33.2**	**-0.5**
	1.4nm,0.7s,baz=1.6,slow=10,SNR=2.1								
WRA	**Warramunga Arr**	**45.88**	**170**	P		**P**	**21 18 52.9**	**-0.6**
	0.6nm,0.5s,baz=351,slow=9.1,SNR=11								
ASAR	**Alice Springs**	**49.47**	**171**	P		**P**	**21 19 21.3**	**0.0**
	0.6nm,0.9s,baz=355,slow=7.7,SNR=5.1								
FINES	**FINESS Array B**	**72.65**	**330**	P		**P**	**21 21 58.2**	**+0.3**
	3.7nm,1.1s,baz=74,slow=4.4,SNR=2.0								
NOA	**NORSAR Array B**	**79.13**	**333**	P		**P**	**21 22 35.1**	**-0.2**
	0.2nm,0.5s,baz=55,slow=7.7,SNR=1.5								

*IDC **14** 21:20:54.8±2.0,23.°74N×44.°79W,h0km,mb4.0/11, mb1 4.2/11,mb1mx3.8/55,mbtmp4.0/11,MS3.3/9, Ms1 3.3/9,ms1mx3.0/32,Error ellipse: s-maj=58.0km s-min=23.9km az=23.0*
ISC 14 21:20:57.3±2.0,23.°7N±0.°4×44.°8W±0.°2,h15km,n23, σ0°93/11,mb4.0/11,MS3.3/9,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MDP	**Montagnes des**	**20.02**	**203**	LR		LR	21 31 21.6	
	comp=Z,41nm,21.2s,baz=56,slow=31							
SDV	**Santo Domingo**	**28.81**	**243**	LR		LR	21 36 50.1	
	comp=Z,51nm,20.2s,baz=80,slow=33							
ROSC	**El Rosal**	**34.12**	**241**	LR		LR	21 42 52.7	
	comp=Z,35nm,18.4s,baz=42,slow=39							
ESDC	**Sonseca Array**	**37.83**	**55**	LR		LR	21 41 13.3	
	comp=Z,70nm,18.8s,baz=245,slow=32							
KOWA	**Kowa**	**39.47**	**96**	P		**P**	**21 28 27.8**	**+0.4**
	2.0nm,0.7s,baz=295,slow=11,SNR=6.2							
H10N2	**ASCENSION HYDR**	**43.12**	**133**	T		T	22 14 53.3	
	baz=318,slow=75							
H10N3	**ASCENSION HYDR**	**43.12**	**133**	T		T	22 14 56.3	
	baz=318,slow=75							
H10N1	**ASCENSION HYDR**	**43.13**	**133**	T		T	22 14 52.0	
	baz=318,slow=75							
H10S3	**ASCENSION HYDR**	**43.83**	**134**	T		T	22 15 43.3	
	baz=317,slow=74,SNR=32							
H10S2	**ASCENSION HYDR**	**43.85**	**134**	T		T	22 15 44.9	
	baz=263,slow=74,SNR=12							
TORD	**Torodi Ar. Bea**	**45.14**	**95**	P		**P**	**21 29 12.8**	**-0.8**
	3.3nm,0.8s,baz=298,slow=8.5,SNR=15							
TORD				LR		LR	21 46 47.0	
	comp=Z,27nm,19.2s,baz=330,slow=34							
LPAZ	**La Paz**	**45.87**	**212**	LR		LR	21 47 30.9	
	comp=Z,37nm,20.8s,baz=338,slow=35							
KEST	**Kesra**	**47.95**	**63**	LR		LR	21 46 47.6	
	comp=Z,40nm,21.5s,baz=267,slow=32							
NOA	**NORSAR Array B**	**53.19**	**30**	P		**P**	**21 30 14.6**	**-0.1**
	1.1nm,0.8s,baz=251,slow=7.1,SNR=3.8							
NOA				LR		LR	21 48 44.2	
	comp=Z,39nm,21.1s,baz=260,slow=31							
PDAR	**Pinedale Array**	**56.07**	**307**	P		**P**	**21 30 36.5**	**+0.3**
	0.6nm,0.8s,baz=90,slow=8.1,SNR=4.2							
YKA	**Yellowknife Ar**	**59.92**	**330**	LR		LR	21 57 12.5	
	comp=Z,21nm,18.5s,baz=0.0,slow=36							
ARCES	**ARCESS Array B**	**61.09**	**22**	P		**P**	**21 31 10.6**	**+0.2**
	4.3nm,0.9s,baz=271,slow=6.1,SNR=4.7							
AKASG	**Malin Array Be**	**61.99**	**44**	P		**P**	**21 31 16.1**	**-0.7**
	1.4nm,0.6s,baz=272,slow=6.2,SNR=7.6							
BRTR	**Keskin Array B**	**66.62**	**55**	P		**P**	**21 31 46.8**	**-0.7**
	1.2nm,0.8s,baz=265,slow=5.9,SNR=5.1							
KBZ	**Khabaz**	**72.38**	**49**	P		**P**	**21 32 24.8**	**+2.0**
	0.9nm,0.8s,baz=234,slow=7.0,SNR=5.5							
ILAR	**Eielson Array**	**73.79**	**334**	P		**P**	**21 32 29.9**	**-0.9**
	1.1nm,0.9s,baz=60,slow=5.2,SNR=7.4							
AKTO	**Aktyubinsk**	**79.74**	**39**	P		**P**	**21 33 04.9**	**+0.2**
	1.2nm,0.7s,baz=302,slow=6.9,SNR=3.7							
KURBB	**Kurchatov Arra**	**90.68**	**32**	P		**P**	**21 33 59.5**	**+0.2**
	0.6nm,0.8s,baz=307,slow=5.2,SNR=5.1							

*NEIC **14** 21:21:02.4±3.1,14.°66N±0.°07×93.°83W±0.°06,h34km±10km,*

Error ellipse: s-maj=12.3km s-min=6.5km az=212.0
*MEX **14** 21:21:03.2±1.6,14.°71N×93.°78W,h14km±130km,MD4.2*
ISC 14 21:20:59.6±3.5,14.°71N±0.°06×93.°83W±0.°05,h11km±25km, n25,σ1°71/35,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.15**	**31**	*eP*		**Pb**	**21 21 20.2**	**-1.4**
PCIG				*eS*		**Sb**	**21 21 34.2**	**-2.5**
PCIG		**1.15**	**31**			**Pb**	**21 21 20.2**	**-1.4**
PCIG						**Sb**	**21 21 34.2**	**-2.5**
THIG		**1.53**	**82**	*eP*		**Pn**	**21 21 25.9**	**-1.0**
THIG				*eS*		**Sn**	**21 21 44.2**	**-2.6**
THIG		**1.53**	**82**			**Pn**	**21 21 25.9**	**-1.0**
THIG						**Sn**	**21 21 44.2**	**-2.6**
RTAL	**Retalhuleu**	**2.08**	**95**			**Pn**	**21 21 34.1**	**-0.4**
RTAL					Sn	**Sn**	**21 21 58.0**	**-2.3**
TGIG		**2.17**	**18**	*eP*		**Pn**	**21 21 36.5**	**+0.7**
TGIG				*eS*		**Sn**	**21 22 01.8**	**-0.9**
TGIG		**2.17**	**18**			**Pn**	**21 21 36.6**	**+0.7**
TGIG						**Sn**	**21 22 01.8**	**-0.9**
CCIG	**Comitan**	**2.26**	**46**	*eP*		**Pn**	**21 21 38.4**	**+1.3**
CCIG				*eS*		**Sn**	**21 22 05.1**	**-0.1**
CCIG	**Comitan**	**2.26**	**46**			**Pn**	**21 21 38.5**	**+1.3**
CCIG					Sn	**Sn**	**21 22 06.0**	**+0.8**
HUEH	**Huehuetenango**	**2.33**	**75**	Pn		**Pn**	**21 21 39.2**	**+1.0**
HUIG	**Huatulco**	**2.44**	**296**	*eP*		**Pn**	**21 21 38.7**	**-0.8**
HUIG				*eP*		Pb	21 21 39.0	-4.6
HUIG	**Huatulco**	**2.44**	**296**			**Pn**	**21 21 38.7**	**-0.8**
CMIG	**Matias Romero**	**2.58**	**337**	*eP*		**Pn**	**21 21 40.7**	**-0.7**
CMIG				*eS*		**Sn**	**21 22 09.6**	**-3.1**
CMIG	**Matias Romero**	**2.58**	**337**			**Pn**	**21 21 40.7**	**-0.7**
MTO3	**Montecristo**	**4.34**	**93**	Pn		**Pn**	**21 22 07.0**	**+1.2**
ESQI	**Esquipulas**	**4.35**	**91**	Pn		**Pn**	**21 22 05.3**	**-0.6**
PETF	**Flores**	**4.40**	**60**	Pn		**Pn**	**21 22 08.4**	**+1.9**
SNET	**Serv Nac Est T**	**4.57**	**102**	Pn		**Pn**	**21 22 10.6**	**+1.7**
TEIG	**Tepich**	**7.63**	**43**			**Pn**	**21 22 51.7**	**+0.8**
TX32	**Lajitas Array**	**17.16**	**330**	P		**Pn**	**21 25 02.1**	**+2.4**
TXAR	**Lajitas Array**	**17.16**	**330**	P		**Pn**	**21 25 03.2**	**+3.5**
WHAR	**Wooly Hollow**	**20.54**	**4**	P		**P**	**21 25 38.4**	**+0.2**
WHAR				IAmb		IAmb	21 25 39.3	
	comp=Z,4.6nm,0.9s							
X48A	**Hartselle**	**20.59**	**16**	P		**P**	**21 25 40.1**	**+1.3**
AMTX	**Amarillo**	**21.30**	**342**	P		**P**	**21 25 47.5**	**+0.9**
AMTX				IAmb		IAmb	21 25 52.6	
	comp=Z,11nm,1.1s							
121A	**Cookes Peak, D**	**21.83**	**327**	P		**P**	**21 25 54.2**	**+1.9**
121A				IAmb		IAmb	21 26 05.7	
	comp=Z,5.2nm,0.8s							

*IDC **14** 21:24:48.7±7.1,3.°95N×76.°84W,h80km±62km,mb3.2/1, mb1 3.5/2,mb1mx3.1/27,mbtmp3.6/2,ML2.4/1,Error ellipse: s-maj=184.6km s-min=43.1km az=148.0*
*RSNC **14** 21:24:48.2±1.7,3.°88N×76.°75W,h31km±5km,ML3.2, Mw3.5,Fault plane solution: NP1:ϕ≡26.00000°, δ≡50.00000°,λ≡98.00000°.*
ISC 14 21:24:46.4±1.0,3.°89N±0.°03×76.°80W±0.°03,h50km±9km, n39,σ1°54/71,12D,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.46**	**79**	⇓*iP*		**Pn**	**21 24 56.0**	**-1.3**
YOTC				*eS*		**Sn**	**21 25 03.4**	**-1.8**
YOTC				*i*			21 25 07.4	
	comp=Z,831nm,0.2s							
MALC	**Bahia Malaga**	**0.55**	**283**	⇓*iP*		**Pn**	**21 25 00.2**	**+1.9**
MALC				*eS*		**Sn**	**21 25 09.3**	**+2.5**
PLMC	**San Jos del P**	**1.13**	**27**	⇓*eP*		**Pn**	**21 25 04.7**	**-1.4**
PLMC				*eS*		**Sn**	**21 25 18.1**	**-2.4**
PLMC				*i*			21 25 23.2	
	comp=Z,700nm,0.4s							
PIZC	**Pizarro, Choco**	**1.20**	**332**	⇓*eP*		**Pn**	**21 25 08.7**	**+1.7**
PIZC				*eS*		**Sn**	**21 25 24.0**	**+1.9**
PIZC				*i*			21 25 33.5	
	comp=Z,304nm,0.4s							
MARP	**Paez Belalcaza**	**1.34**	**141**	⇓*iP*		**Pn**	**21 25 09.6**	**+0.5**
MARP				*eS*		**Sn**	**21 25 26.2**	**+0.3**
MARP				*i*			21 25 28.7	
	comp=Z,186nm,0.7s							
POPC	**Popayan, Colom**	**1.35**	**175**	⇓*iP*		**Pn**	**21 25 09.6**	**+0.4**
POPC				*eS*		**Sn**	**21 25 26.1**	**0.0**
POPC				*i*			21 25 27.3	
	comp=Z,915nm,0.3s							
ANIL	**Santa Ana**	**1.51**	**67**	⇓*iP*		**Pn**	**21 25 11.9**	**+0.5**
ANIL				*eS*		**Sn**	**21 25 31.0**	**+0.8**
ANIL				*i*			21 25 36.5	
	comp=Z,88nm,0.3s							
ORTC	**Ortega, Tolima**	**1.55**	**89**	⇓*eP*		**Pn**	**21 25 12.6**	**+0.9**
ORTC				*eS*		**Sn**	**21 25 30.8**	**+0.1**
ORTC				*i*			21 25 35.6	
	comp=Z,618nm,0.4s							
PCON	**Cinco Dias**	**1.60**	**166**	*eP*		**Pn**	**21 25 13.8**	**+0.9**
PCON				*eS*		**Sn**	**21 25 34.2**	**+1.4**
PCON				*i*			21 25 40.4	
	comp=Z,379nm,0.5s							
GR1C	**Gorgona, Isla**	**1.63**	**237**	⇓*eP*		**Pn**	**21 25 12.2**	**-0.5**
GR1C				*eS*		**Sn**	**21 25 31.3**	**-1.2**
TOLC	**Tolima**	**1.63**	**65**	⇓*iP*		**Pn**	**21 25 13.8**	**+0.8**
TOLC				*eS*		**Sn**	**21 25 33.6**	**+0.7**
SOTA	**Rioblanco**	**1.76**	**174**	*eP*		**Pn**	**21 25 16.5**	**+1.5**
SOTA				*eS*		**Sn**	**21 25 37.6**	**+1.3**
BETC	**Betania**	**1.81**	**132**	*eP*		**Pn**	**21 25 16.4**	**+1.1**
BETC				*eS*		**Sn**	**21 25 37.7**	**+0.6**
BBAC	**Balboa, Cauca**	**1.91**	**194**	*eP*		**Pn**	**21 25 17.6**	**+0.8**
BBAC				*eS*		**Sn**	**21 25 41.1**	**+1.3**
BBAC				*i*			21 25 50.0	
	comp=Z,220nm,0.3s							
PRAC	**Prado**	**1.92**	**95**	⇓*iP*		**Pn**	**21 25 17.7**	**+1.0**
PRAC				*eS*		**Sn**	**21 25 39.5**	**-0.2**
PRAC				*i*			21 25 43.2	
	comp=Z,523nm,0.4s							
GUY2C	**Guyana, Caldas**	**1.95**	**47**	*eP*		**Pn**	**21 25 18.3**	**+0.8**
GUY2C				*eS*		**Sn**	**21 25 41.9**	**+0.8**
GUY2C				*i*			21 25 53.1	
	comp=Z,128nm,0.6s							
CBOC	**Ciudad Bolivar**	**2.11**	**22**	*eP*		**Pn**	**21 25 19.2**	**-0.3**
CBOC				*i*			21 25 56.3	
	comp=Z,95nm,0.6s							
GARC	**Garzon, Huila**	**2.14**	**142**	*eP*		**Pn**	**21 25 21.0**	**+1.1**
GARC				*eS*		**Sn**	**21 25 46.2**	**+0.8**
GARC				*i*			21 25 48.3	
	comp=Z,377nm,0.2s							
CRUC	**La Cruz**	**2.31**	**184**	*eP*		**Pn**	**21 25 24.2**	**+1.7**
CRUC				*i*			21 26 01.4	
	comp=Z,66nm,0.3s							
FLOC	**Florencia**	**2.56**	**153**	⇓*eP*		**Pn**	**21 25 27.1**	**+1.6**
FLOC				*eS*		**Sn**	**21 25 56.0**	**+0.4**
FLOC				*i*			21 25 58.8	
	comp=Z,223nm,0.9s							
ROSC	**El Rosal**	**2.65**	**69**	P		**Pn**	**21 25 29.6**	**+2.6**
	comp=Z,14nm,0.3s,baz=250,slow=12,SNR=9.1							
ROSC				S		**Sn**	**21 26 02.2**	**+4.2**
	comp=Z,9.5nm,0.3s,baz=233,slow=20,SNR=6.0							
ROSC	**El Rosal**	**2.65**	**69**	*eP*		**Pn**	**21 25 27.2**	**+0.2**
ROSC				*eS*		**Sn**	**21 25 58.9**	**+0.8**
ROSC				*i*			21 26 06.7	
	comp=Z,47nm,0.5s							
GCUF	**Volcan Galeras**	**2.70**	**192**	*eP*		**Pn**	**21 25 30.9**	**+3.0**
GCUF				*eS*		**Sn**	**21 26 02.0**	**+2.3**
GCUF				*i*			21 26 11.5	
	comp=Z,35nm,0.3s							
TUMC	**Tumaco**	**2.82**	**223**	*eP*		**Pn**	**21 25 29.7**	**+0.7**
TUMC				*eS*		**Sn**	**21 26 02.5**	**+0.8**
VILC	**Villavicencio,**	**3.11**	**86**	*eP*		**Pn**	**21 25 35.6**	**+2.5**
VILC				*eS*		**Sn**	**21 26 09.4**	**+0.3**
VILC				*i*			21 26 15.4	
	comp=Z,126nm,0.6s							
CHIC	**Chingaza**	**3.15**	**76**	*eP*		**Pn**	**21 25 35.9**	**+2.0**
CHIC				*eS*		**Sn**	**21 26 11.2**	**+0.8**
CHIC				*i*			21 26 14.6	
	comp=Z,44nm,0.3s							
DBBC	**Dabeiba**	**3.16**	**11**	*eP*		**Pn**	**21 25 34.2**	**+0.4**
DBBC				*i*			21 26 28.2	
	comp=Z,134nm,0.5s							
MACC	**Macarena, Meta**	**3.42**	**120**	*eP*		**Pn**	**21 25 38.0**	**+0.7**
MACC				*eS*		**Sn**	**21 26 15.9**	**-0.8**
MACC				*i*			21 26 39.7	
	comp=Z,102nm,0.5s							
PTBC	**PUERTO BERRIO,**	**3.52**	**41**	*eP*		**Pn**	**21 25 40.5**	**+1.8**
PTBC				*i*			21 25 42.5	
	comp=Z,32nm,0.5s							
PTBC				*eS*		**Sn**	**21 26 19.6**	**+0.6**
OTAV	**Otavalo**	**3.99**	**204**	*eP*		**Pn**	**21 25 45.9**	**+0.4**
OTAV				*eS*		**Sn**	**21 26 28.6**	**-2.6**
OTAV				*i*			21 26 34.2	
	comp=Z,22nm,0.6s							
UREC	**San Jos de Ur**	**4.04**	**18**	*eP*		**Pn**	**21 25 46.9**	**+1.1**
UREC				*i*			21 26 50.4	
	comp=Z,14nm,0.4s							
ZARC	**Zaragoza, Cauc**	**4.07**	**28**	*eP*		**Pn**	**21 25 48.5**	**+2.3**
ZARC				*eS*		**Sn**	**21 26 33.2**	**+0.7**
ZARC				*i*			21 26 39.8	
	comp=Z,26nm,0.5s							
PAC1	**Pacto, Paraso**	**4.12**	**209**	*eP*		**Pn**	**21 25 46.4**	**-0.6**
PAC1				*eS*		**Sn**	**21 26 29.6**	**-4.3**
RUSC	**La Rusia**	**4.20**	**62**	*eP*		**Pn**	**21 25 50.3**	**+1.8**
RUSC				*eS*		**Sn**	**21 26 37.6**	**+1.0**
RUSC				*i*			21 26 48.7	
	comp=Z,12nm,0.6s							
BARC	**Barichara**	**4.49**	**53**	*eP*		**Pn**	**21 25 54.5**	**+2.3**
BARC				*eS*		**Sn**	**21 26 44.0**	**+0.7**
BARC				*i*			21 26 50.5	
	comp=Z,33nm,0.4s							
PAMC	**Pamplona, Colo**	**5.33**	**50**	*eP*		**Pn**	**21 26 04.7**	**+0.8**
PAMC				*i*			21 26 22.3	
	comp=Z,10nm,0.4s							
PAMC				*eS*		**Sn**	**21 27 04.8**	**+0.6**
ESDC	**Sonseca Array**	**74.33**	**50**	P		**P**	**21 36 17.9**	**-1.2**
	comp=Z,1.6nm,1.2s,baz=287,slow=6.0,SNR=4.3							
ASAR	**Alice Springs**	**144.44**	**234**	PKP		**PKPab**	**21 44 15.0**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=121,slow=3.7,SNR=18							
WRA	**Warramunga Arr**	**145.72**	**240**	PKPbc		**PKPdf**	**21 44 19.1**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=111,slow=2.9,SNR=7.5							

*SOME **14** 21:32:41.4,43.°23N×85.°77E,h5km*
*NNC **14** 21:32:44.7±1.6,43.°35N×85.°66E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=28.9km s-min=10.5km az=3.0*
ISC 14 21:32:35.3±5.2,43.°3N±0.°2×86.°0E±0.°2,h10km,n11, σ0°66/16,1C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DJR	**Jarkent**	**4.61**	**285**	*eP*		**Pg**	**21 34 03.9**	**+0.3**
	5.1nm,1.1s							
DJR				*eS*		**Sg**	**21 35 03.4**	**+0.1**
	1.7nm,0.2s							
DJR	**Jarkent**	**4.61**	**285**	Pg		**Pg**	**21 34 03.9**	**+0.3**
	5.1nm,1.1s							
DJR				Lg		Lg	21 35 03.4	
	1.7nm,0.2s							
PDGK	**Podgornoye**	**4.75**	**273**	Pg		**Pg**	**21 34 05.9**	**-0.3**
	0.6nm,0.1s							
PDGK				Lg		Lg	21 35 07.0	
	1.9nm,0.3s							
PDGK	**Podgornoye**	**4.75**	**273**	⇑Pg		**Pg**	**21 34 07.8**	**+1.5**
	0.7nm,0.5s							
PDGK				⇓Lg		Lg	21 35 07.6	
	2.6nm,0.6s							
UZB	**Uzynbulak**	**5.10**	**271**	*eP*		**Pg**	**21 34 12.6**	**-0.4**
	2.5nm,0.7s							
UZB				*eS*		**Sg**	**21 35 18.3**	**-0.7**
	2.7nm,0.3s							
UZB	**Uzynbulak**	**5.10**	**271**	Pg		**Pg**	**21 34 12.6**	**-0.4**
	2.5nm,0.7s							
UZB				Lg		Lg	21 35 18.3	
	2.7nm,0.3s							
KPKS	**Kokpek**	**5.33**	**274**	*eP*		**Pg**	**21 34 17.4**	**0.0**
	2.8nm,0.2s							
KPKS				*eS*		**Sg**	**21 35 26.8**	**+0.3**
	5.8nm,0.4s							
SATY	**Saty**	**5.56**	**270**	*eP*		**Pg**	**21 34 22.1**	**+0.4**
	0.7nm,0.2s							
SATY				*eS*		**Sg**	**21 35 34.3**	**+0.6**
	3.4nm,0.3s							
SATY	**Saty**	**5.56**	**270**	Pg		**Pg**	**21 34 22.1**	**+0.4**
	0.7n

baz=6.7
IKSK Karasker 0.68 140 P Pg 21 57 06.0 -3.4
baz=140
IKAL Kalfafell 0.74 188 P Pg 21 57 07.8 -2.7
baz=188
IVSH V-Sauoahnukur 0.76 80 P Pg 21 57 07.8 -3.0
baz=78
IVSH S Sg 21 57 18.1 -2.6
baz=78
IVAT Vatnsfell 0.80 232 P Pg 21 57 08.9 -2.8
baz=234
IADA Aoalbol 0.88 66 P Pg 21 57 09.8 -3.3
baz=65
IADA S Sg 21 57 22.1 -2.4
baz=65
IHVE Hveravellir 0.92 283 P Pg 21 57 10.6 -3.3
baz=284
IMEL Melhnausar 0.95 21 P Pg 21 57 11.5 -3.1
baz=20
IREN Reynihlio 1.00 13 P Pg 21 57 12.2 -3.2
baz=13
IKVO Krokottuvotn 1.07 13 P Pg 21 57 13.3 -3.4
baz=12
ISNB Snabyli 1.08 209 P Pg 21 57 13.4 -3.5
baz=210
IGRS Grimsstaoir 1.11 30 P Pb 21 57 14.2 -3.4
baz=29
IGRS S Sg 21 57 30.1 -2.0
baz=29
ISLY Slysaalda 1.12 221 P Pb 21 57 14.4 -3.3
baz=222
IFED Fedgar 1.17 237 P Pb 21 57 15.4 -3.1
baz=238
IRJU Rjupnafell 1.19 207 P Pb 21 57 15.4 -3.5
baz=208
ISKI Skildingahlsh 1.21 9 P Pn 21 57 15.7 -3.5
baz=8.0
ISKI S Sb 21 57 32.5 -2.3
baz=8.0
IGHA Grjothals 1.22 16 P Pn 21 57 15.6 -3.7
baz=15
IMJO Mjoaskard 1.22 233 P Pn 21 57 15.9 -3.5
baz=234
IGRA Granastaoir 1.24 358 P Pn 21 57 16.0 -3.6
baz=358
IGRA S Sb 21 57 32.9 -2.9
baz=358
IHAU Haukadalur 1.30 238 P Pn 21 57 17.3 -3.1
baz=239
IDIM Dimmadalss 1.30 10 P Pn 21 57 17.1 -3.4
baz=9.1
IHVO Lagu-Hvolar 1.31 208 P Pn 21 57 17.5 -3.0
baz=209
IHLA Hella 1.32 343 P Pn 21 57 17.7 -3.0
baz=343
IHED Heoinshofoi 1.41 3 P Pn 21 57 18.6 -3.2
baz=2.2
IHED S Sn 21 57 37.4 -3.0
baz=2.2
IALF Alftagrof 1.41 213 P Pn 21 57 19.1 -2.8
baz=214
BORG Borgarnes 1.66 274 Pg Pn 21 57 22.6 -2.7
34nm,0.3s,baz=99,slow=11,SNR=127
BORG Lg Lg 21 57 45.5
18nm,0.3s,baz=207,slow=21,SNR=9.3
BORG Borgarnes 1.66 274 Pn Pn 21 57 22.4 -2.9
BORG Sn Sn 21 57 45.7 -0.9
JMIC Jan Mayen 7.17 24 Pn Pn 21 58 39.8 -1.2
baz=216,slow=2.2,SNR=2.9
JMIC LR LR 22 00 21.3
comp=Z,22nm,21.8s,baz=234,slow=28
LEWI Lewis, Hebride 8.29 137 *eP* Pn 21 58 56.0 -0.2
KAC Achnashellach 9.29 135 *eP* Pn 21 59 09.0 -1.1
KPL Plockton 9.32 137 *eP* Pn 21 59 09.0 -1.4
MCD Coleburn Disti 9.87 130 *eP* Pn 21 59 17.6 -0.4
INVG Invergeldie, C 10.57 135 *eP* Pn 21 59 26.1 -1.4
EAB Aberfoyle 10.68 137 *eP* Pn 21 59 29.0 0.0
SUMG Summit 10.94 325 P Pn 21 59 33.7 +0.8
SUMG Summit 10.94 325 Pn Pn 21 59 33.7 +0.8
SUMG Summit 10.94 325 *i* P Pn 21 59 38.1 +5.2
SUMG *e* 22 01 41.7
SUMG Summit 10.94 325 *eP* Pn 21 59 38.1 +5.3
SUMG *e* 22 01 41.7
PGBU Glenifferbraes 10.96 138 *eP* Pn 21 59 31.9 -1.0
NEWG New Galloway 11.64 139 *eP* Pn 21 59 41.7 -0.4
EKA Eskdalemuir Ar 11.76 136 Pn Pn 21 59 42.3 -1.5
baz=321,slow=13,SNR=16
ESK Eskdalemuir 11.76 136 *eP* Pn 21 59 42.3 -1.5
ESK Eskdalemuir 11.76 136 P Pn 21 59 43.9 +0.1
ESK Eskdalemuir 11.76 136 Pn Pn 21 59 43.9 +0.1
NC204 NORSAR Array S 13.22 92 Pn 22 00 01.8 -1.9
NOA NORSAR Array B 13.52 92 Pn Pn 22 00 05.0 -2.8
0.0nm,0.3s,baz=299,slow=13,SNR=5.1
NOA LR LR 22 05 45.7
comp=Z,29nm,20.5s,baz=300,slow=39
NOA NORSAR Array B 13.52 92 P Pn 22 00 05.0 -2.8
HFS Hagfors 15.03 93 Pn Pn 22 00 28.3 -0.1
0.1nm,0.3s,baz=165,slow=29,SNR=1.4
HFS LR LR 22 05 27.8
comp=Z,50nm,18.8s,baz=302,slow=34
ARCES ARCESS Array B 17.10 55 P Pn 22 00 54.2 -0.7
baz=339,slow=6.5,SNR=5.6
FINES FINESS Array B 19.69 79 P P 22 01 24.5 -0.6
0.1nm,0.3s,baz=215,slow=6.3,SNR=5.7
FINES LR LR 22 08 50.1
comp=Z,66nm,20.3s,baz=332,slow=36
FINES FINESS Array B 19.69 79 P P 22 01 25.5 +0.4
FINES FINESS Array B 19.69 79 P P 22 01 25.5 +0.4
CLF Chambon-Foret 19.80 138 P Pn 22 01 27.4 -0.6
CLF IAmb IAmb 22 01 41.9
comp=Z,28nm,1.1s
APA Apatity 20.31 59⇓ *i* P Pn 22 01 35.1 +1.3
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,300nm,10.0s
CLL Collm 20.70 116 *i* P P 22 01 36.8 +0.6
comp=Z,25nm,1.2s
CLL *e* 22 01 45.0
CLL Collm 20.70 116 *i* P P 22 01 36.8 +0.6
CLL pmax pmax
comp=Z,25nm,1.2s
CLL Collm 20.70 116 P P 22 01 36.4 +0.2
CLL IAmb IAmb 22 01 40.1
comp=Z,29nm,1.3s
ECH Echery 21.15 129 P P 22 01 41.7 +0.6
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 21.15 129 P P 22 01 41.7 +0.6
GRA1 Grafenberg Arr 21.33 121 P P 22 01 44.4 +1.4
GRA1 IAmb IAmb 22 01 56.7
comp=Z,38nm,1.2s
GRF Grafenberg Arr 21.33 121 P P 22 01 44.4 +1.4
GRF pmax pmax
comp=Z,38nm,1.2s
NKC Novy Kostel 21.34 118 *eP* P 22 01 43.5 +0.3
NKC Novy Kostel 21.34 118 *eP* P 22 01 43.5 +0.3
STU Stuttgart 21.37 125 P P 22 01 44.0 +0.5
STU pmax pmax
comp=Z,22nm,0.8s
STU Stuttgart 21.37 125 P P 22 01 44.0 +0.5
STU IAmb IAmb 22 01 46.2
comp=Z,22nm,0.8s
BRG Berggiesshubel 21.41 115 *eP* P 22 01 44.2 +0.4
comp=Z,30nm,1.1s
BRG Berggiesshubel 21.41 115 *eP* P 22 01 44.2 +0.4
BRG pmax pmax
comp=Z,30nm,1.1s
BFO Black Forest 21.45 127 P P 22 01 44.6 +0.3
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 21.45 127 P P 22 01 44.6 +0.3
VSU Vasula 21.55 86 *i* P P 22 01 44.5 -0.8
VSU pmax pmax
comp=Z,40nm,0.8s
PRU Pruhonice 22.34 116 *eP* P 22 01 55.2 +1.3
PRU Pruhonice 22.34 116 *eP* P 22 01 55.2 +1.3
KSP Ksiaz 22.36 112 *eP* P 22 01 54.4 +0.4
CHVC Chvalec 22.46 113 *eP* P 22 01 55.9 +0.7
GOPC GO Pecny, Ondr 22.50 116 *eP* P 22 01 55.9 +0.3
GOPC GO Pecny, Ondr 22.50 116 *eP* P 22 01 55.9 +0.3
OSTC Ostas 22.55 113 *eP* P 22 01 57.0 +0.9
KHC Kasperske Hory 22.67 118 *eP* P 22 01 57.4 0.0
KHC Kasperske Hory 22.67 118 *ceP* P 22 01 55.4 -2.0
KHC pmax pmax
comp=Z,31nm,1.3s

KHC Kasperske Hory 22.67 118 P P 22 01 57.8 +0.4
DPC Dobruska-Polom 22.75 113 *eP* P 22 01 59.5 +1.2
DPC Dobruska-Polom 22.75 113 *eP* P 22 01 59.5 +1.2
SUW Suwalki 22.87 98 *eP* P 22 01 59.9 +0.4
SUW Suwalki 22.87 98 P P 22 01 59.4 0.0
SUW pmax pmax
comp=Z,46nm,1.2s
SUW Suwalki 22.87 98 P P 22 01 59.4 0.0
DAVA Damuels 22.88 126 *eP* P 22 02 01.4 +1.6
comp=Z,11nm,1.2s
GEC2 GERESS Array S 22.95 119 P P 22 02 00.9 +0.6
GEC2 IAmb IAmb 22 02 10.5
comp=Z,18nm,1.3s
GERES GERESS Array B 22.95 119 P P 22 02 01.1 +0.6
comp=Z,3.6nm,1.0s,baz=330,slow=7.8,SNR=17
GERES GERESS Array B 22.95 119 P P 22 02 00.9 +0.6
RETA Reutte 23.02 125 *eP* P 22 02 01.7 +0.7
comp=Z,3.4nm,0.8s
ISAL Salakas 23.08 93 *eP* P 22 02 03.1 +1.5
KRLC Kraliky 23.15 113 *eP* P 22 02 03.1 +0.7
KRLC Kraliky 23.15 113 *eP* P 22 02 03.1 +0.7
MOTA Moosalm 23.26 125 *eP* P 22 02 04.4 +0.7
comp=Z,9.6nm,1.2s
IIGN Ignalina 23.27 93 *eP* P 22 02 04.8 +1.4
TREC Trest 23.27 116 *eP* P 22 02 04.1 +0.5
TREC Trest 23.27 116 *eP* P 22 02 04.1 +0.5
DAVOX Davos/Dischmat 23.32 127 P P 22 02 04.5 +0.2
comp=Z,5.8nm,1.1s,baz=312,slow=11,SNR=4.5
DAVOX LR LR 22 10 53.2
comp=Z,43nm,21.9s,baz=318,slow=36
SQTA Sankt Quirin 23.40 125 *eP* P 22 02 05.6 +0.5
comp=Z,8.5nm,1.0s
FETA Feichten 23.40 126 *eP* P 22 02 06.8 +1.7
comp=Z,8.2nm,1.4s
WATA Walderalm 23.43 124 *eP* P 22 02 04.9 -0.5
comp=Z,10nm,1.4s
IDID Didziasalis 23.51 92 *eP* P 22 02 06.7 +0.8
WTTA Wattenberg 23.52 124 *eP* P 22 02 07.7 +1.4
comp=Z,9.5nm,1.2s
EUNU Eureka 23.66 336 P P 22 02 08.2 +0.9
VRAC Vranov 23.69 114 P P 22 02 08.4 +0.6
comp=Z,1.7nm,0.5s,baz=315,slow=10.0,SNR=5.0
VRAC LR LR 22 12 11.0
comp=Z,33nm,18.1s,baz=332,slow=39
VRAC Vranov 23.69 114 *eP* P 22 02 08.6 +0.9
MORC Moravsky Berou 23.69 112 *eP* P 22 02 08.5 +0.7
MORC Moravsky Berou 23.69 112 P P 22 02 08.2 +0.4
MORC pmax pmax
comp=Z,16nm,1.4s
MORC Moravsky Berou 23.69 112 P P 22 02 08.2 +0.4
NACGM Naroch 23.80 93 *e* P P 22 02 09.0 +0.2
KRUC Moravsky 23.81 115 *eP* P 22 02 08.9 0.0
MOA Molln 23.99 119 *eP* P 22 02 10.1 -0.5
comp=Z,6.2nm,1.4s
OJC Ojcow 24.25 109 *eP* P 22 02 12.7 -0.4
OJC Ojcow 24.25 109 P P 22 02 12.9 -0.2
OJC pmax pmax
comp=Z,9.0nm,1.2s
OJC Ojcow 24.25 109 P P 22 02 12.9 -0.2
ABTA Abfaltersbach 24.27 123 *eP* P 22 02 15.1 +1.8
comp=Z,2.9nm,0.8s
KBA Koelnbreinsper 24.29 122 *eP* P 22 02 15.1 +1.4
comp=Z,6.2nm,1.4s
JAVC Velka Javorina 24.47 113 *eP* P 22 02 16.6 +1.5
CONA Conrad Observa 24.52 117 *eP* P 22 02 15.9 +0.2
comp=Z,5.1nm,0.8s
CTI Castel Tesino 24.56 125 P P 22 02 16.9 +0.9
CTI pmax pmax
comp=Z,14nm,1.2s
CTI Castel Tesino 24.56 125 P P 22 02 16.9 +0.9
CTI IAmb IAmb 22 02 21.7
comp=Z,14nm,1.2s
ZOU Zoufplan 24.60 123 P P 22 02 17.3 +0.9
CIMO Cimolais 24.62 124 P P 22 02 16.6 +0.2
SMOL Smolenice 24.66 114 *eP* P 22 02 17.5 +0.8
SMOL pmax pmax
comp=Z,6.0nm,1.0s
SMOL Smolenice 24.66 114 *eP* P 22 02 17.5 +0.8
MODS Modra-Piesok 24.71 115 *eP* P 22 02 17.5 +0.3
MODS pmax pmax
comp=Z,16nm,1.3s
MODS Modra-Piesok 24.71 115 *eP* P 22 02 17.5 +0.3
MYKA Terra Mystica 24.78 122 *eP* P 22 02 19.5 +1.6
comp=Z,2.7nm,1.1s
PRED Cave del Predi 24.91 122 P P 22 02 20.1 +1.0
PRED IAmb IAmb 22 02 24.3
comp=Z,13nm,1.2s
LANS Liptovska Anna 24.95 111 *eP* P 22 02 20.9 +1.4
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 24.95 111 *eP* P 22 02 20.9 +1.4
ARSA Arzberg 24.96 118 *eP* P 22 02 20.1 +0.6
comp=Z,8.0nm,1.1s
NIE Niedzica 25.08 109 *eP* P 22 02 21.2 +0.6
OBKA Obir 25.21 121 *eP* P 22 02 22.9 +1.0
comp=Z,7.3nm,1.2s
VYHS Vyhne 25.23 112 *eP* P 22 02 22.7 +0.8
VYHS pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 25.23 112 *eP* P 22 02 22.7 +0.8
SOKA Sobth 25.25 120 *eP* P 22 02 22.6 +0.4
comp=Z,4.1nm,1.0s
KLMR Klimovskoe 25.59 72 *eP* P 22 02 24.2 -0.7
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 25.59 72 *eP* P 22 02 24.3 -0.7
KLMR AMP 22 02 26.6
comp=Z,19nm,1.3s
SCHQ Schefferville 26.05 271 P P 22 02 28.8 -0.5
comp=Z,7.7nm,1.0s,baz=49,slow=9.5,SNR=5.6
SCHQ Schefferville 26.05 271 P P 22 02 29.1 -0.2
SCHQ IAmb IAmb 22 02 32.0
comp=Z,11nm,1.0s
PSZ Piszkesteto 26.11 112 P P 22 02 30.2 +0.2
PSZ pmax pmax
comp=Z,22nm,1.4s
PSZ Piszkesteto 26.11 112 P P 22 02 30.2 +0.2
PSZ IAmb IAmb 22 02 42.2
comp=Z,22nm,1.4s
ESDC Sonseca Array 26.26 156 P P 22 02 30.8 -0.5
comp=Z,2.8nm,0.9s,baz=349,slow=9.1,SNR=14
ESDC Sonseca Array 26.26 156 P P 22 02 30.9 -0.5
KOLS Kolonicke sedl 26.27 108 *eP* P 22 02 31.3 0.0
KOLS pmax pmax
comp=Z,13nm,1.3s
KOLS Kolonicke sedl 26.27 108 *eP* P 22 02 31.3 0.0
LVV L'vov 26.30 104 *eP* P 22 02 32.0 +0.4
RES Resolute Bay 26.46 324 LR LR 22 12 41.5
comp=Z,43nm,19.3s,baz=148,slow=36
UZH Uzhgorod 26.51 108 *eP* P 22 02 35.0 +1.5
UZH *e* 22 02 40.6
OSSC Osservatorio P 26.64 129 P P 22 02 35.1 +0.4
AKASG Malin Array Be 27.83 98 P P 22 02 45.6 +0.3
comp=Z,27nm,0.8s,baz=316,slow=12,SNR=4.7
AKASG Malin Array Be 27.83 98 P P 22 02 44.5 -0.7
AKBB Malin Array Si 27.83 98 *ceP* P 22 02 44.2 -1.1
AKBB Malin Array Si 27.83 98 P P 22 02 45.3 0.0
OBN Obninsk 27.87 84⇑ *eP* P 22 02 45.7 +0.2
OBN *e* 22 02 51.4
OBN 22 03 33.0
OBN pmax pmax
comp=Z,16nm,1.3s
OBN MLR MLR
comp=Z,18nm,13.0s
OBN Obninsk 27.87 84 P P 22 02 45.0 -0.5
OBN IAmb IAmb 22 02 48.4
comp=Z,16nm,1.1s
BUR08 Bucovina Ar. S 28.49 106 P P 22 02 52.8 +1.5
BURAR Bucovina Array 28.52 106 P P 22 02 52.2 +0.6
MLR Muntele Rosu 30.52 108 P P 22 03 09.6 +0.2
MLR pmax pmax
comp=Z,6.0nm,1.1s
MLR Muntele Rosu 30.52 108 P P 22 03 09.6 +0.2
KIRV Kirov 30.96 69 *ceP* P 22 03 13.6 +0.7
VSR Storozhevoye 31.72 88 *eP* P 22 03 18.7 -1.0
VSR pmax pmax
comp=Z,10.0nm,1.3s
LIT Litokhoron 33.69 117 P P 22 03 36.6 -0.5
LIT pmax pmax
comp=Z,4.0nm,1.1s
LIT Litokhoron 33.69 117 P P 22 03 36.6 -0.5
ALN Alexandroupoli 34.39 112 P P 22 03 43.1 0.0
ALN pmax pmax
comp=Z,11nm,1.2s

ALN Alexandroupoli 34.39 112 P P 22 03 43.1 0.0
ALN IAmb IAmb 22 03 47.0
comp=Z,11nm,1.2s
BELG Belogornoye 34.47 79 *i* P P 22 03 43.7 0.0
AGG Agios Georgios 34.56 118 P P 22 03 44.9 +0.2
AGG pmax pmax
comp=Z,23nm,1.4s
AGG Agios Georgios 34.56 118 P P 22 03 44.9 +0.2
ARU Arti 36.06 66 *c iP* P 22 03 56.9 -0.5
ARU 22 05 14.3
ARU S S 22 09 38.3 +2.3
ARU SS SnSn 22 12 03.3 +3.0
ARU pmax pmax
comp=Z,13nm,2.8s
ARU Arti 36.06 66 P P 22 03 58.3 +0.9
ARU IAmb IAmb 22 04 02.7
comp=Z,11nm,1.4s
NRIK Noril'sk 36.44 35 P P 22 04 00.8 +0.4
comp=Z,2.4nm,0.6s,baz=194,slow=9.0,SNR=4.9
NRIK Noril'sk 36.44 35 *ceP* P 22 04 00.4 0.0
NRIK pmax pmax
comp=Z,7.0nm,1.2s
SVE Sverdlovsk 36.59 64 *eP* P 22 04 01.7 -0.2
SVE pmax pmax
comp=Z,11nm,1.5s
ILGA Ilgaz 37.39 104 P P 22 04 09.5 +0.4
GOF Gofitskoye 38.10 91⇑ *eP* P 22 04 16.1 +1.3
GOF pmax pmax
comp=Z,41nm,1.1s
BR131 Keskin Array S 38.47 105 *i* P P 22 04 18.9 +0.8
BR131 Keskin Array S 38.47 105 P P 22 04 18.5 +0.4
BRTR Keskin Array B 38.47 105 P P 22 04 19.1 +1.0
comp=Z,3.3nm,0.9s,baz=335,slow=5.5,SNR=15
BRTR Keskin Array B 38.47 105 P P 22 04 18.7 +0.6
BRTR Keskin Array B 38.47 105 P P 22 04 18.7 +0.6
KIV Kislovodsk 38.83 92 *eP* P 22 04 21.6 +0.5
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 38.83 92 P P 22 04 21.1 +0.1
KBZ Khabaz 39.10 92 P P 22 04 24.6 +1.5
comp=Z,6.7nm,0.9s,baz=329,slow=7.9,SNR=13
KBZ Khabaz 39.10 92 *ceP* P 22 04 24.4 +1.2
KBZ pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 40.29 92 *eP* P 22 04 34.4 +1.0
ZEI pmax pmax
comp=Z,5.0nm,1.1s
ARTV Artvin 40.76 96 P P 22 04 37.5 +0.2
GROC Groznyy 40.77 90 *eP* P 22 04 37.2 +0.1
GROC *e* 22 06 35.4
GROC pmax pmax
comp=Z,14nm,1.1s
KOPT Kop Dagi 41.11 98 P P 22 04 41.6 +1.3
M54A Oil Creek Stat 41.70 267 P P 22 04 44.3 -0.5
ABKAR Akbulak array 41.97 73 P P 22 04 47.5 +0.7
ABKAR Akbulak array 41.97 73 P P 22 04 46.9 0.0
TIXI Tiksi 42.01 15 *ceP* P 22 04 47.7 +0.8
TIXI Tiksi 42.01 15 P P 22 04 48.9 +1.9
TOLK Toolik Lake Re 42.74 336 P P 22 04 53.7 +0.7
BMAR Burnt Mountain 42.89 333 P P 22 04 55.0 +0.9
BRVK Borovoye 43.11 62 *ceP* P 22 04 56.3 +0.2
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 43.11 62 P P 22 04 56.5 +0.4
BVAR Borovoye Array 43.18 62 P P 22 04 57.1 +0.4
comp=Z,3.9nm,0.9s,baz=183,slow=15,SNR=18
MARD Mardin 43.50 100 P P 22 05 00.6 +1.0
MARD IAmb IAmb 22 05 05.6
comp=Z,8.4nm,0.8s
GEVA Gevas 43.63 97 P P 22 05 01.9 +1.2
N49A Columbus Grove 44.12 271 P P 22 05 04.0 -0.3
EGAK Eagle 44.48 329 P P 22 05 08.1 +1.2
F33A 5 Mile Ranch, 45.27 285 P P 22 05 14.7 +1.3
F33A IAmb IAmb 22 05 21.3
comp=Z,12nm,1.2s
IL31 45.68 332 P P 22 05 17.2 +0.8
IL31 IAmb IAmb 22 05 21.0
comp=Z,7.8nm,1.3s
ILAR Eielson Array 45.68 332 P P 22 05 17.5 +1.0
comp=Z,3.4nm,1.1s,baz=23,slow=6.1,SNR=19
ILAR PcP PcP 22 06 54.2 0.0
comp=Z,1.6nm,1.0s,baz=349,slow=2.5,SNR=5.9
MDM Murphy Dome 45.77 333 P P 22 05 19.0 +1.7
MDM IAmb IAmb 22 05 20.4
comp=Z,13nm,1.2s
COLA College 45.78 333 P P 22 05 18.8 +1.6
COLA pmax pmax
comp=Z,14nm,1.3s
COLA College 45.78 333 P P 22 05 18.8 +1.6
IMAR Indian Mountai 45.85 337 P P 22 05 19.7 +1.9
CCB Clear Creek Bu 45.97 333 P P 22 05 19.8 +1.1
CCB IAmb IAmb 22 05 24.2
comp=Z,12nm,1.5s
BCAR Beaver Creek A 46.10 329 P P 22 05 21.6 +1.7
WCI Wyandotte Cave 47.26 271 P P 22 05 29.9 +0.7
WCI pmax pmax
comp=Z,29nm,1.5s
WCI Wyandotte Cave 47.26 271 P P 22 05 29.9 +0.7
ZAA0 Zalesovo Array 47.61 51 P P 22 05 32.1 +0.3
ZAA0 IAmb IAmb 22 05 33.5
comp=Z,8.5nm,1.5s
ZALV Zalesovo Beam 47.61 51 P P 22 05 32.1 +0.3
comp=Z,1.2nm,0.7s,baz=324,slow=9.3,SNR=7.2
ZALV PcP PcP 22 07 01.1 0.0
comp=Z,0.3nm,0.3s,baz=321,slow=3.7,SNR=4.0
ZALV Zalesovo Beam 47.61 51 P P 22 05 31.9 +0.2
KURK Kurchatov 48.09 58 *ceP* P 22 05 35.7 +0.2
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 48.09 58 P P 22 05 35.4 0.0
KURBB Kurchatov Arra 48.14 58 P P 22 05 35.9 +0.1
comp=Z,4.5nm,0.8s,baz=326,slow=7.4,SNR=23
T47A Sharon Grove 48.65 270 P P 22 05 40.7 +0.7
EGMT Eagleton 48.88 297 P P 22 05 43.0 +1.3
N35A Tabor 49.06 281 P P 22 05 43.0 -0.2
GEYT Alibeck 50.41 84 P P 22 05 53.6 +0.2
comp=Z,26nm,0.9s,baz=260,slow=13,SNR=5.0
GEYT Alibeck 50.41 84 P P 22 05 53.9 +0.5
GYA0B ALIBECK ARRAY 50.41 84 P P 22 05 54.0 +0.6
GYA0B IAmb IAmb 22 05 55.8
comp=Z,6.4nm,1.1s
GCMT Greycliff 50.69 295 P P 22 05 56.3 +0.7
KOWA Kowa 50.98 163 P P 22 05 57.9 +0.1
KOWA IAmb IAmb 22 05 58.6
comp=Z,9.9nm,1.1s
KK31 Karatay Array 51.26 70 P P 22 06 01.0 +1.3
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KK31 Karatay Array 51.26 70 P P 22 06 01.0 +1.3
KKAR Karatay Array 51.26 70 P P 22 06 00.8 +1.1
KKAR Karatay Array 51.26 70 P P 22 06 00.8 +1.1
BOZ Bozeman (W) 51.61 297 P P 22 06 02.3 -0.2
BOZ pmax pmax
comp=Z,10.0nm,1.1s
BOZ Bozeman (W) 51.61 297 P P 22 06 02.3 -0.2
BOZ IAmb IAmb 22 06 04.8
comp=Z,10nm,1.1s
YMP Mirror Lake Pl 51.76 295 P P 22 06 04.7 +0.9
DGZ Jazzator, Alta 52.06 53 *i* P P 22 06 06.8 +1.0
DGZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 52.58 59 P P 22 06 10.1 +0.6
MAKZ pmax pmax
comp=Z,9.0nm,1.4s
MAKZ Makanchi 52.58 59 P P 22 06 10.1 +0.6
MAKZ IAmb IAmb 22 06 11.3
comp=Z,9.3nm,1.4s
MKAR Makanchi Array 52.70 58 P P 22 06 10.5 0.0
comp=Z,1.9nm,0.9s,baz=335,slow=5.4,SNR=9.2
MKAR Makanchi Array 52.70 58 P P 22 06 11.1 +0.6
MKAR Makanchi Array 52.70 58 P P 22 06 11.1 +0.6
IMW Indian Meadow 52.77 295 P P 22 06 12.1 +0.7
IMW IAmb IAmb 22 06 14.5
comp=Z,7.1nm,1.2s
PHWY Pilot Hill 52.77 289 P P 22 06 12.0 +0.6
PHWY IAmb IAmb 22 06 13.0
comp=Z,6.7nm,1.2s
LOHW Long Hollow 52.88 295 P P 22 06 13.3 +1.2
LOHW IAmb IAmb 22 06 14.5
comp=Z,11nm,1.5s
TPAW Teton Pass 53.12 295 P P 22 06 14.8 +0.9
TPAW IAmb IAmb 22 06 21.8
comp=Z,15nm,1.7s
FRU1 Bishkek 53.15 67 P P 22 06 14.8 +1.0

FRU1					pmax	pmax		
	comp=Z,10.0nm,1.2s							
FRU1	**Bishkek**	**53.15**	**67**	P	**P**	**22 06 14.8**	**+1.0**
FRU1				IAmb	IAmb	22 06 16.7	
	comp=Z,10nm,1.2s							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**22 06 12.9**	**-1.1**
	comp=Z,3.8nm,1.0s,baz=338,slow=6.4,SNR=12							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**22 06 13.3**	**-0.7**
PD31	**Pinedale Array**	**53.18**	**293**	P	**P**	**22 06 14.0**	**-0.3**
PD31				IAmb	IAmb	22 06 16.2	
	comp=Z,8.8nm,1.2s							
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**22 06 13.8**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=54,slow=6.0,SNR=18							
PDAR				LR	LR	22 29 56.9		
	comp=Z,56nm,19.4s,baz=344,slow=37							
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**22 06 14.3**	**0.0**
BW06	**Boulder Array**	**53.18**	**293**	P	**P**	**22 06 14.3**	**0.0**
BW06				IAmb	IAmb	22 06 16.2	
	comp=Z,11nm,1.2s							
N23A	**Red Feather La**	**53.31**	**289**	P	**P**	**22 06 16.4**	**+1.1**
N23A				IAmb	IAmb	22 06 23.2	
	comp=Z,13nm,1.2s							
BOOM	**Boomskoye usch**	**53.94**	**66**	P	**P**	**22 06 20.5**	**+0.7**
BOOM				pmax	pmax			
	comp=Z,8.0nm,1.2s							
BOOM	**Boomskoye usch**	**53.94**	**66**	P	**P**	**22 06 20.5**	**+0.7**
BOOM				IAmb	IAmb	22 06 22.6		
	comp=Z,7.6nm,1.2s							
BTK	**Batken**	**53.94**	**72**	P	**P**	**22 06 20.2**	**+0.5**
BTK				pmax	pmax			
	comp=Z,20nm,1.3s							
BTK	**Batken**	**53.94**	**72**	P	**P**	**22 06 20.2**	**+0.5**
CHGR	**Chuyangaron**	**54.45**	**74**	P	**P**	**22 06 24.2**	**+0.8**
GAR	**Garm**	**54.63**	**73**	P	**P**	**22 06 25.4**	**+0.6**
MOY	**Mondy**	**54.64**	**42**	*eP*	**P**	**22 06 27.0**	**+2.3**
MOY				pmax	pmax			
	comp=Z,19nm,1.7s							
HWUT	**Hardware Ranch**	**54.96**	**294**	P	**P**	**22 06 27.3**	**0.0**
HWUT				IAmb	IAmb	22 06 29.2		
	comp=Z,11nm,1.2s							
RDMU	**Red Mountain**	**55.05**	**292**	P	**P**	**22 06 28.2**	**+0.3**
HRA	**Herat**	**55.17**	**82**	P	**P**	**22 06 29.0**	**+0.1**
HRA				IAmb	IAmb	22 06 31.1		
	comp=Z,5.9nm,1.3s							
WMOK	**Wichita Mounta**	**55.56**	**279**	P	**P**	**22 06 31.8**	**+0.4**
WMOK				pmax	pmax			
	comp=Z,7.0nm,1.2s							
WMOK	**Wichita Mounta**	**55.56**	**279**	P	**P**	**22 06 31.8**	**+0.4**
WMOK				IAmb	IAmb	22 06 34.9		
	comp=Z,6.6nm,1.2s							
ZAK	**Zakamensk**	**56.44**	**41**	*eP*	**P**	**22 06 38.3**	**+0.7**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
P17A	**Butcher Ranch,**	**56.45**	**292**	P	**P**	**22 06 38.3**	**+0.4**
KSH	**Kashi**	**56.48**	**68**	P	**P**	**22 06 39.4**	**+1.3**
KSH				pP	sP	22 06 47.8	+4.7
KSH				S	**S**	**22 14 29.4**	**+0.4**
KSH				LR	LR			
	comp=Z,160nm,5.1s							
KSH				LR	LR			
	comp=Z,76nm,3.8s							
PV21	**Cone Mtn., Par**	**56.52**	**290**	P	**P**	**22 06 38.9**	**+0.3**
PV21				IAmb	IAmb	22 06 39.6		
	comp=Z,6.0nm,1.0s							
TMUT	**Trail Mountain**	**56.79**	**292**	P	**P**	**22 06 40.9**	**+0.4**
PV13	**Radium Mtn., P**	**56.81**	**290**	P	**P**	**22 06 41.3**	**+0.7**
WMQ	**Urumqi**	**57.21**	**56**	*eP*	**P**	**22 06 46.8**	**+3.6**
MSU	**Marysvale**	**57.85**	**293**	P	**P**	**22 06 49.0**	**+1.1**
MSU	**Marysvale**	**57.85**	**293**	P	**P**	**22 06 49.0**	**+1.1**
KBL	**Kabul**	**57.91**	**77**	P	**P**	**22 06 49.0**	**+0.6**
KBL				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KBL	**Kabul**	**57.91**	**77**	P	**P**	**22 06 49.0**	**+0.6**
KBL				IAmb	IAmb	22 06 52.3		
	comp=Z,6.8nm,1.3s							
FALS	**False Pass**	**57.95**	**338**	P	**P**	**22 06 49.9**	**+1.8**
DBIC	**Dimbokro**	**58.60**	**165**	P	**P**	**22 06 52.6**	**-0.5**
	comp=Z,6.7nm,1.0s,baz=331,slow=6.4,SNR=3.7							
TIC	**Toumodi**	**58.61**	**165**	*eP*	**P**	**22 06 52.5**	**-0.6**
KIC	**Kosan Boka**	**58.92**	**165**	*eP*	**P**	**22 06 54.7**	**-0.6**
	comp=Z,36nm,1.5s							
LIC	**Lamto**	**59.02**	**166**	*eP*	**P**	**22 06 55.6**	**-0.4**
	comp=Z,47nm,1.2s							
R11A	**Troy Canyon, C**	**59.33**	**295**	P	**P**	**22 06 58.7**	**+0.5**
R11A				IAmb	IAmb	22 07 00.5		
	comp=Z,4.9nm,1.2s							
BNM	**Barren Site**	**59.36**	**285**	P	**P**	**22 06 59.3**	**+0.9**
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**22 07 00.0**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=332,slow=9.6,SNR=8.2							
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**22 07 00.1**	**+0.1**
SONM				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**22 07 00.1**	**+0.1**
JCT	**Junction City**	**59.66**	**278**	P	**P**	**22 07 00.8**	**+0.4**
JCT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
JCT	**Junction City**	**59.66**	**278**	P	**P**	**22 07 00.8**	**+0.4**
U15A	**North Rim**	**59.70**	**291**	P	**P**	**22 07 00.9**	**+0.1**
U15A				IAmb	IAmb	22 07 02.2		
	comp=Z,5.1nm,1.1s							
ULN	**Ulaanbaatar**	**59.77**	**40**	P	**P**	**22 07 01.9**	**+0.8**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ULN	**Ulaanbaatar**	**59.77**	**40**	P	**P**	**22 07 01.9**	**+0.8**
ULN				IAmb	IAmb	22 07 02.6		
	comp=Z,4.7nm,1.2s							
WUAZ	**Wupatki**	**60.12**	**290**	P	**P**	**22 07 04.2**	**+0.6**
NIL	**Nilore**	**60.43**	**74**	P	**P**	**22 07 06.1**	**+0.5**
NIL				pmax	pmax			
	comp=Z,11nm,1.0s							
NIL	**Nilore**	**60.43**	**74**	P	**P**	**22 07 06.1**	**+0.5**
X16A	**Lo Mia Camp, P**	**61.10**	**290**	P	**P**	**22 07 11.1**	**+0.8**
X16A				IAmb	IAmb	22 07 12.3		
	comp=Z,4.3nm,1.1s							
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**22 07 18.6**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=73,slow=4.2,SNR=8.6							
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**22 07 18.4**	**+0.1**
TUC	**Tucson**	**62.67**	**288**	P	**P**	**22 07 21.7**	**+0.9**
TUC				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TUC	**Tucson**	**62.67**	**288**	P	**P**	**22 07 21.7**	**+0.9**
TUC				IAmb	IAmb	22 07 23.4		
	comp=Z,4.3nm,1.1s							
GTA	**Gaotai**	**65.28**	**49**	⇑P	**P**	**22 07 38.9**	**+1.0**
GTA				pP	sP	22 07 43.4	+0.4
GTA				sP	pP	22 07 46.3	+4.7
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,110nm,6.2s							
GTA				LR	LR			
	comp=Z,110nm,15.6s							
GTA				LR	LR			
	comp=Z,130nm,18.5s							
SDV	**Santo Domingo**	**66.84**	**239**	P	**P**	**22 07 48.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*eP*	**P**	**22 07 54.1**	**+2.1**
HHC				pmax	pmax			
	comp=Z,15nm,0.9s							
HHC				pmax	pmax			
	comp=Z,88nm,5.7s							
LZH	**Lanzhou**	**69.61**	**48**	*eP*	**P**	**22 08 07.3**	**+1.9**
LZH				pP	sP	22 08 11.8	+1.3
LZH				sP	pP	22 08 14.3	+5.2
LZH				pmax	pmax			
	comp=Z,12nm,1.1s							
LSA	**Lhasa**	**71.00**	**61**	P	**P**	**22 08 15.4**	**+1.0**
LSA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
LSA	**Lhasa**	**71.00**	**61**	P	**P**	**22 08 15.4**	**+1.0**
LSA				IAmb	IAmb	22 08 18.9		
	comp=Z,7.0nm,1.2s							
NJ2	**Nanjing**	**77.72**	**37**	*eP*	**P**	**22 08 54.0**	**+1.2**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
GYA	**Guiyang**	**79.41**	**49**	⇑P	**P**	**22 09 04.0**	**+1.6**
GYA				pmax	pmax			
	comp=Z,6.0nm,1.5s							
CM31	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**22 09 27.7**	**+0.6**
CM31				IAmb	IAmb	22 09 28.5		
	comp=Z,3.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**22 09 27.8**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=314,slow=6.9,SNR=9.9							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	*i* P	**P**	**22 09 27.2**	**0.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**22 09 27.4**	**+0.2**
WRAB	**Tennant Creek**	**131.50**	**36**	*ce*PKIKP	PKiKP	22 16 22.0	+12
WRAB				pmax	pmax			
	comp=Z,31nm,2.5s							
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKPdf**	**22 16 15.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=2.9,slow=1.9,SNR=4.5							

*NNC **14** 21:56:58.4±0.7, 43°.81N×82°.95E, h0km±3km, mb3.6, mpv3.2, Error ellipse: s-maj=5.9km s-min=2.3km az=134.0*
*SOME **14** 21:56:58.3, 43°.87N×82°.92E, h5km*
ISC 14 21:56:57.7±1.7, 43°.81N±0°.08×82°.97E±0°.07, h10km, n27, σ2§27/42, 3C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.35**	**284**	*eP*			**Pg**	**21 57 41.5**	**-1.2**
DJR	5.7nm,0.3s								
	18nm,0.3s			*eS*			**Sg**	**21 58 13.5**	**+0.4**
DJR	**Jarkent**	**2.35**	**284**	Pg			**Pg**	**21 57 41.5**	**-1.2**
DJR	5.7nm,0.3s								
	18nm,0.3s			Lg			Lg	21 58 13.5	
PDGK	**Podgornoye**	**2.57**	**260**	Pg			**Pb**	**21 57 45.2**	**+1.2**
PDGK	1.7nm,0.2s								
	6.8nm,0.3s			Lg			Lg	21 58 19.8	
PDGK	**Podgornoye**	**2.57**	**260**	⇓Pn			**Pn**	**21 57 41.3**	**+1.8**
PDGK	1.1nm,0.5s								
	17nm,0.7s			⇓Lg			Lg	21 58 20.5	
UZB	**Uzynbulak**	**2.94**	**258**	*eP*			**Pb**	**21 57 51.9**	**+1.5**
UZB	2.3nm,0.3s								
	13nm,0.2s			*eS*			**Sg**	**21 58 31.3**	**-1.0**
UZB	**Uzynbulak**	**2.94**	**258**	Pg			**Pb**	**21 57 51.9**	**+1.5**
UZB	2.3nm,0.3s								
	13nm,0.2s			Lg			Lg	21 58 31.3	
MK31	**Makanchi Array**	**3.02**	**351**	⇑Pn			**Pn**	**21 57 47.2**	**+1.5**
	0.2nm,0.1s,baz=167,slow=11,SNR=93								
MK31				⇓Pg			**Pb**	**21 57 52.7**	**+1.1**
	0.6nm,0.2s,baz=168,slow=15,SNR=51								
MK31				⇑Sn			**Sb**	**21 58 26.1**	**-2.5**
	1.3nm,0.2s,baz=164,slow=20,SNR=4.3								
MK31				⇓Lg			Lg	21 58 33.4	
	4.2nm,0.3s								
KPKS	**Kokpek**	**3.13**	**265**	*eP*			**Pb**	**21 57 55.4**	**+2.0**
	3.1nm,0.1s								
KPKS				*eS*			**Sg**	**21 58 37.2**	**-0.9**
	33nm,0.3s								
ZHN	**Zhinishke**	**3.36**	**261**	*eP*			**Pb**	**21 57 59.5**	**+2.1**
ZHN	135nm,0.6s								
	7.6nm,0.1s			*eS*			**Sg**	**21 58 44.5**	**-1.1**
ZHN	**Zhinishke**	**3.36**	**261**	Pg			**Pb**	**21 57 59.5**	**+2.1**
ZHN	135nm,0.6s								
	7.6nm,0.1s			Lg			Lg	21 58 44.5	
SATY	**Saty**	**3.40**	**259**	*eP*			**Pb**	**21 57 60.0**	**+1.8**
SATY	1.6nm,0.1s								
	8.8nm,0.2s			*eS*			**Sg**	**21 58 45.4**	**-1.6**
SATY	**Saty**	**3.40**	**259**	Pg			**Pb**	**21 57 60.0**	**+1.8**
SATY	1.6nm,0.1s								
	8.8nm,0.2s			Lg			Lg	21 58 45.3	
KURS	**Kuram**	**3.50**	**266**	*eP*			**Pb**	**21 58 01.6**	**+2.0**
KURS	2.5nm,0.5s								
	5.6nm,0.6s			*eS*			**Sg**	**21 58 48.4**	**-1.5**
KURS	**Kuram**	**3.50**	**266**	Pg			**Pb**	**21 58 01.6**	**+2.0**
KURS	2.5nm,0.5s								
	5.6nm,0.6s			Lg			Lg	21 58 48.4	
ARXS	**Arharly**	**3.73**	**278**	*eP*			**Pn**	**21 57 57.7**	**+2.3**
	2.6nm,0.3s								
ARXS				*eS*			**Sb**	**21 58 45.3**	**-3.6**
	7.8nm,0.3s								
ZSN	**Zaisan**	**3.88**	**19**	*eP*			**Pn**	**21 57 57.1**	**-0.3**
ZSN	2.3nm,0.2s								
	18nm,0.3s			*eS*			**Sn**	**21 58 44.5**	**+1.5**
ZSN	**Zaisan**	**3.88**	**19**	*eP*			**Pb**	**21 58 08.3**	**+2.2**
ZSN	5.9nm,0.3s								
	24nm,0.6s			*eS*			**Sg**	**21 58 59.6**	**-2.6**
ZSN	**Zaisan**	**3.88**	**19**	Pg			**Pb**	**21 58 08.3**	**+2.2**
ZSN	5.9nm,0.3s								
	24nm,0.6s			Lg			Lg	21 58 59.6	
MDOK	**Medeo**	**4.35**	**264**	*eP*			**Pb**	**21 58 17.5**	**+3.2**
MDOK	1.7nm,0.5s								
	6.2nm,0.3s			*eS*			**Sg**	**21 59 15.6**	**-1.8**
MDOK	**Medeo**	**4.35**	**264**	Pg			**Pb**	**21 58 17.5**	**+3.2**
MDOK	1.7nm,0.5s								
	6.2nm,0.3s			Lg			Lg	21 59 15.6	
TNSS	**Tian-Shan**	**4.45**	**262**	*eP*			**Pb**	**21 58 19.6**	**+3.4**
TNSS	1.4nm,0.3s								
	1.7nm,0.3s			*eS*			**Sg**	**21 59 19.4**	**-1.2**
TNSS	**Tian-Shan**	**4.45**	**262**	Pg			**Pb**	**21 58 19.6**	**+3.4**
TNSS	1.4nm,0.3s								
	1.7nm,0.3s			Lg			Lg	21 59 19.4	
KUU	**Kurty**	**4.79**	**273**	*eP*			**Pg**	**21 58 26.9**	**-2.6**
KUU	0.6nm,0.2s								
	4.5nm,0.4s			*eS*			**Sg**	**21 59 32.0**	**+0.4**
KUU	**Kurty**	**4.79**	**273**	Pg			**Pg**	**21 58 26.9**	**-2.6**
KUU	0.6nm,0.2s								
	4.5nm,0.4s			Lg			Lg	21 59 32.0	
KST	**Kastek**	**5.16**	**264**	*eP*			**Pg**	**21 58 32.8**	**-3.6**
KST	2.8nm,0.3s								
	3.9nm,0.2s			*eS*			**Sg**	**21 59 41.8**	**-1.5**
KST	**Kastek**	**5.16**	**264**	Pg			**Pg**	**21 58 32.8**	**-3.6**
KST	2.8nm,0.3s								
	3.9nm,0.2s			Lg			Lg	21 59 41.8	
KURBB	**Kurchatov Arra**	**7.46**	**338**	⇓Sn			**Sn**	**22 00 14.9**	**+4.0**
KURBB	2.1nm,0.6s								
	8.1nm,0.6s			⇑Lg			Lg	22 00 54.2	

*IDC **14** 21:56:53.1±1.0, 29°.93S×177°.37W, h0km, mb4.2/4, mb1 4.4/6, mb1mx4.1/28, mbtmp4.2/6, ML4.1/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/31, Error ellipse: s-maj=28.6km s-min=16.5km az=72.0*
*NEIC **14** 21:56:57.6±1.6, 29°.95S±0°.04×177°.4W±0°.2, h30km±5km, mb4.5/14, Error ellipse: s-maj=20.3km s-min=3.3km az=77.0*
ISC 14 21:56:58.8±0.7, 30°.02S±0°.06×177°.5W±0°.1, h35km, n54, σ1§01/51, mb4.5/9, MS3.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.83**	**336**	Pn			**Pn**	**21 57 12.9**	**-1.1**
	1µm,0.3s,baz=95,slow=6.7,SNR=64								
RAO				Sn			**Sn**	**21 57 25.7**	**+0.7**
	2µm,0.3s,baz=78,slow=20,SNR=11								
RAO	**Raoul Island**	**0.83**	**336**				**Pn**	**21 57 13.1**	**-0.9**
RAO				Sn			**Sn**	**21 57 25.5**	**+0.5**
OUZ	**Omahuta**	**9.10**	**233**	Pn			**Pn**	**21 59 08.2**	**+0.6**
URZ	**Urewera**	**9.34**	**207**	Pn			**Pn**	**21 59 11.1**	**+0.3**
	0.9nm,0.3s,baz=262,slow=7.1,SNR=2.0								
URZ				Sn			**Sn**	**22 00 50.6**	**-4.0**
	2.8nm,0.3s,baz=196,slow=24,SNR=10								
DZM	**Mont Dzumac**	**16.41**	**295**	*e*LR		LR	22 03 48.0		
	comp=Z,220nm,23.4s								
RPZ	**Rata Peaks**	**16.42**	**210**	Pn			**Pn**	**22 00 45.7**	**-0.8**
	1.1nm,0.3s,baz=66,slow=4.7,SNR=3.6								
RPZ				Sn			Sn	22 03 31.3	-16
	0.9nm,0.3s,baz=128,slow=19,SNR=1.9								
RPZ	**Rata Peaks**	**16.42**	**210**	IAmb		IAmb		22 00 46.6	
	comp=Z,52nm,1.5s								
RAR	**Rarotonga**	**18.25**	**65**	LR		LR		22 06 41.8	
	comp=Z,79nm,21.6s,baz=268,slow=33								
TBI	**Tubuai**	**25.91**	**82**	*e*LR		LR		22 08 51.3	
	comp=Z,97nm,26.0s								
PPT2	**Papeete2**	**28.33**	**70**	*e*LR		LR		22 09 58.4	
	comp=Z,83nm,23.8s								
PPT	**Papeete**	**28.34**	**70**	LR		LR		22 11 09.8	
	comp=Z,30nm,19.5s,baz=36,slow=30								
CTAO	**Charters Tower**	**34.13**	**278**	P		**P**		**22 03 41.1**	**+0.5**
STKA	**Stephens Creek**	**34.95**	**256**	P		**P**		**22 03 49.2**	**+1.6**
	comp=Z,2.4nm,0.4s,baz=99,slow=11,SNR=11								
STKA	**Stephens Creek**	**34.95**	**256**	P		**P**		**22 03 49.5**	**+1.9**
BBOO	**Buckleboo**	**39.46**	**254**	P		**P**		**22 04 25.4**	**-0.4**
BBOO				IAmb		IAmb		22 04 28.1	
	comp=Z,23nm,1.4s								
AS31	**Alice Springs**	**43.53**	**266**	P		**P**		**22 04 59.8**	**+0.4**
ASAR	**Alice Springs**	**43.53**	**266**	P		**P**		**22 04 59.1**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=103,slow=7.3,SNR=34								
ASAR				PcP		**PcP**		**22 06 48.0**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=98,slow=4.8,SNR=1.9								
ASAR	**Alice Springs**	**43.53**	**266**	P		**P**		**22 04 59.9**	**+0.6**
WR0	**Warramunga Arr**	**44.30**	**272**	P		**P**		**22 05 05.6**	**+0.1**
WR0				IAmb		IAmb		22 05 07.9	
	comp=Z,8.0nm,1.1s								
WB2	**Warramunga Arr**	**44.47**	**272**	P		**P**		**22 05 06.9**	**0.0**
WB2				IAmb		IAmb		22 05 09.4	
	comp=Z,10nm,1.1s								
WRA	**Warramunga Arr**	**44.48**	**272**	P		**P**		**22 05 06.5**	**-0.5**
	comp=Z,4.7nm,0.4s,baz=110,slow=7.9,SNR=70								
WRA	**Warramunga Arr**	**44.48**	**272**	P		**P**		**22 05 06.6**	**-0.3**
VNDA	**Vanda**	**48.52**	**186**	P		**P**		**22 05 39.4**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=21,slow=9.7,SNR=2.3								
VNDA	**Vanda**	**48.52**	**186**	P		**P**		**22 05 38.6**	**+0.8**
VNDA				IAmb		IAmb		22 05 49.2	
	comp=Z,4.7nm,1.5s								
FITZ	**Fitzroy Crossi**	**52.76**	**269**	P		**P**		**22 06 11.1**	**+0.5**
FITZ				IAmb		IAmb		22 06 16.7	
	comp=Z,7.0nm,1.4s								
CASY	**Casey**	**55.66**	**208**	P		**P**		**22 06 31.4**	**+0.4**
BATI	**Baumata**	**58.00**	**277**	LR		LR		22 31 36.9	
	comp=Z,291nm,18.0s,baz=90,slow=36								
QSPA	**South Pole Qui**	**60.09**	**180**	P		**P**		**22 07 03.9**	**+1.6**
MAW	**Mawson**	**72.81**	**200**	P		**P**		**22 08 24.6**	**+1.2**
SNAA	**Sanae**	**78.53**	**178**	P		**P**		**22 08 56.3**	**+0.2**
SNAA	**Sanae**	**78.53**	**178**	P		**P**		**22 08 56.6**	**+0.5**
SNAA				IAmb		IAmb		22 09 04.0	
	comp=Z,2.9nm,1.2s								
VNA3	**Neumayer Olymp**	**78.66**	**176**	P		**P**		**22 08 56.7**	**-0.1**
VNA2	**Neumayer--Watz**	**79.10**	**177**	P		**P**		**22 08 58.8**	**-0.4**
	baz=176,slow=5.7								
H03S2	**Juan Fernandez**	**80.34**	**123**	T		T		23 38 27.6	
	baz=238,slow=74								
H03S1	**Juan Fernandez**	**80.36**	**123**	T		T		23 38 30.7	
	baz=238,slow=74								
H03S3	**Juan Fernandez**	**80.36**	**123**	T		T		23 38 30.2	
	baz=238,slow=74								
ARCES	**ARCESS Array B**	**138.30**	**348**	PKP		**PKPdf**		**22 16 19.3**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=336,slow=2.0,SNR=4.1								
FINES	**FINESS Array B**	**144.92**	**340**	PKP		**PKPab**		**22 16 30.0**	**-0.7**
	comp=Z,4.3nm,0.4s,baz=60,slow=3.8,SNR=72								
FINES	**FINESS Array B**	**144.92**	**340**			**PKPab**		**22 16 30.0**	**-0.7**
KBZ	**Khabaz**	**145.22**	**304**	PKPbc		**PKPbc**		**22 16 31.9**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=192,slow=3.2,SNR=4.6								
GEVA	**Gevas**	**145.62**	**295**			**PKPab**		**22 16 34.2**	**-0.1**
NB2	**NORSAR Subarra1**	**148.43**	**352**	PKP		**PKPbc**		**22 16 40.0**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=13,slow=4.3								
NOA	**NORSAR Array B**	**148.43**	**352**	PKPbc		**PKPbc**		**22 16 40.0**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=29,slow=3.1,SNR=5.2								
AKASG	**Malin Array Be**	**151.23**	**323**	PKPbc		**PKPbc**		**22 16 47.5**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=48,slow=2.9,SNR=5.5								
AKASG				PKPab		**sPKPdf**		**22 16 54.7**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=46,slow=3.1,SNR=12								
AKASG	**Malin Array Be**	**151.23**	**323**			**PKPbc**		**22 16 47.7**	**-0.4**
AKASG						**sPKPdf**		**22 16 54.2**	**-1.6**
BRTR	**Keskin Array B**	**152.76**	**299**	PKPbc		**PKPbc**		**22 16 51.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=158,slow=2.6,SNR=1.9								
GERES	**GERESS Array B**	**159.33**	**339**	PKPab		**PKPab**		**22 17 30.6**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=64,slow=2.3,SNR=2.1								
CONA	**Conrad Observa**	**159.35**	**334**	*eP*		**PKPab**		**22 17 31.3**	**+0.3**
	comp=Z,4.6nm,1.5s								
WTTA	**Wattenberg**	**161.37**	**340**	*eP*		**PKPab**		**22 17 40.2**	**+0.3**
	comp=Z,2.2nm,0.5s								
RETA	**Reutte**	**161.41**	**342**	*eP*		**PKPab**		**22 17 38.1**	**-1.8**
	comp=Z,7.6nm,1.7s								
SQTA	**Sankt Quirin**	**161.53**	**341**	*eP*		**PKPab**		**22 17 40.1**	**-0.4**
	comp=Z,2.5nm,0.9s								
ABTA	**Abfaltersbach**	**161.56**	**338**	*eP*		**PKPab**		**22 17 40.2**	**-0.3**
	comp=Z,6.9nm,1.4s								
TORD	**Torodi Ar. Bea**	**163.20**	**177**	PKPab		**PKPab**		**22 17 48.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=170,slow=3.1,SNR=5.2								
TORD	**Torodi Ar. Bea**	**163.20**	**177**	PKPdf		**PKPdf**		**22 16 57.4**	**-0.9**
TORD						**PKPab**		**22 17 48.2**	**-0.1**

JMA 14 22:08:58.4±0.5, 32°.04N×140°.88E, h14km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.04**	**294**	P		P	Pb	22 09 18.0	-0.1
JHCJ	**Hachijojimakas**	**1.38**	**319**	P		P	Pn	22 09 23.3	+0.1
JHCJ				S		S	Sn	22 09 40.8	-0.4
JHJ2	**Mitsune**	**1.40**	**320**	P		P	Pn	22 09 23.7	+0.2
JHJ2				*e*S		S	Sb	22 09 42.0

WB2	**Warramunga Arr**	**18.18 220**	P	**Pn**	**22 16 21.5**	**-0.2**		
WRA	**Warramunga Arr**	**18.18 220**	P	**P**	**22 16 21.6**	**0.0**		
	comp=Z,0.9nm,0.3s,baz=44,slow=12,SNR=32							
WRA			PcP	**PcP**	**22 20 53.0**	**0.0**		
	comp=Z,0.0nm,0.3s,baz=27,slow=1.7,SNR=2.9							
EIDS	**Eidsvold**	**19.54 168**	P	**P**	**22 16 36.8**	**+0.4**		
NLAI	**Namlea**	**19.72 278**	P	**Pn**	**22 16 40.6**	**+0.4**		
	comp=Z,70nm,1.1s							
GUMO	**Guam**	**19.72 355**	LR	LR	22 24 04.2			
	comp=Z,245nm,18.0s,baz=186,slow=36							
KNRA	**Kununurra**	**19.93 240**	P	**P**	**22 16 40.0**	**-0.7**		
KNRA			IAmb	IAmb	22 16 54.8			
	comp=Z,28nm,0.8s							
TNTI	**Ternate**	**20.47 289**	P	Pn	22 16 49.3	+0.2		
	comp=Z,37nm,0.9s							
TNTI	**Ternate**	**20.47 289**	P	Pn	22 16 49.6	+0.5		
TNTI			IAmb	IAmb	22 16 52.6			
	comp=Z,28nm,0.9s							
SANI	**Sanana**	**21.02 280**	P	**P**	**22 16 53.8**	**+1.2**		
	comp=Z,52nm,1.0s							
AS31	**Alice Springs**	**21.28 214**	P	**P**	**22 16 56.0**	**+0.7**		
ASAR	**Alice Springs**	**21.28 214**	P	**P**	**22 16 55.2**	**-0.1**		
	comp=Z,2.0nm,0.4s,baz=57,slow=8.5,SNR=31							
ASAR			LR	LR	22 26 16.1			
	comp=Z,497nm,19.9s,baz=42,slow=40							
ASAR	**Alice Springs**	**21.28 214**	P	**P**	**22 16 57.0**	**+1.7**		
SANVU	**Saraoutou**	**22.15 116**	P	**P**	**22 17 04.8**	**+0.2**		
SANVU			IAmb	IAmb	22 17 19.2			
	comp=Z,37nm,0.9s							
SOEI	**Soe**	**22.46 259**	P	**P**	**22 17 07.2**	**-0.9**		
	comp=Z,42nm,0.8s							
BATI	**Baumata**	**23.11 259**	P	**P**	**22 17 16.0**	**+1.2**		
	comp=Z,13nm,0.5s,baz=84,slow=9.2,SNR=1.5							
BATI	**Baumata**	**23.11 259**	P	P	22 17 25.8	+11		
FITZ	**Fitzroy Crossi**	**23.69 238**	P	**P**	**22 17 19.2**	**-1.0**		
	comp=Z,9.8nm,0.5s,baz=66,slow=10,SNR=38							
LUWI	**Luwuk**	**24.38 281**	P	**P**	**22 17 27.9**	**+1.3**		
	comp=Z,8µmcomp=Z,178nm,0.9s							
LUWI	**Luwuk**	**24.38 281**	P	**P**	**22 17 27.3**	**+0.7**		
ARMA	**Armidale**	**24.56 170**	P	**P**	**22 17 27.9**	**-0.2**		
GTOI	**Gorontalo**	**24.57 285**	P	**P**	**22 17 30.1**	**+1.8**		
	comp=Z,670nmcomp=Z,64nm,0.8s							
DZM	**Mont Dzumac**	**24.79 132**	P	**P**	**22 17 30.0**	**-0.4**		
	comp=Z,6.3nm,0.7s,baz=132,slow=19,SNR=5.1							
DZM	**Mont Dzumac**	**24.79 132**	P	**P**	**22 17 29.7**	**-0.6**		
DZM			IAmb	IAmb	22 17 46.9			
	comp=Z,39nm,1.4s							
DAV	**Davao City (W)**	**24.82 302**	LR	LR	22 26 59.8			
	comp=Z,139nm,21.0s,baz=138,slow=36							
EDFI	**Ende, Flores**	**24.89 263**	P	**P**	**22 17 31.1**	**-0.3**		
	comp=Z,18nm,0.8s							
STKA	**Stephens Creek**	**26.00 190**	P	**P**	**22 17 41.1**	**0.0**		
	comp=Z,2.8nm,0.5s,baz=356,slow=8.8,SNR=9.1							
STKA			LR	LR	22 28 53.6			
	comp=Z,592nm,18.6s,baz=18,slow=38							
STKA	**Stephens Creek**	**26.00 190**	P	**P**	**22 17 40.8**	**-0.3**		
BKSI	**Bulukumba**	**26.42 270**	P	**P**	**22 17 46.3**	**+1.2**		
KAPI	**Kappang**	**26.81 271**	LR	LR	22 31 38.3			
	comp=Z,179nm,18.5s,baz=78,slow=43							
TTSI	**Tana Toraja**	**26.94 275**	P	**P**	**22 17 50.8**	**+1.1**		
	comp=Z,2µmcomp=Z,28nm,1.1s							
MPSI	**Mapaga**	**27.49 283**	P	**P**	**22 17 55.4**	**+0.7**		
	comp=Z,11nm,0.8s							
BBOO	**Buckleboo**	**28.28 199**	P	**P**	**22 18 02.0**	**+0.5**		
BBOO			IAmb	IAmb	22 18 16.4			
	comp=Z,23nm,1.4s							
PSA00	**Pilbara Seismi**	**30.12 237**	P	**P**	**22 18 17.7**	**-0.3**		
PSA00			IAmb	IAmb	22 18 37.4			
	comp=Z,24nm,1.4s							
MYLDM	**Lahad Datu**	**30.30 291**	P	**P**	**22 18 21.0**	**+1.3**		
MYLDM			IAmb	IAmb	22 18 32.1			
	comp=Z,26nm,1.4s							
H11S3	**WAKE ISLAND Hy**	**31.48 38**	T	T	22 51 18.9			
	baz=220,slow=76,SNR=9.7							
H11S2	**WAKE ISLAND Hy**	**31.49 39**	T	T	22 51 13.9			
	baz=220,slow=76,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**31.50 38**	T	T	22 51 14.4			
	baz=220,slow=76,SNR=8.1							
TGY	**Tagaytay City**	**32.53 308**	LR	LR	22 31 01.3			
	comp=Z,129nm,21.8s,baz=148,slow=35							
H11N1	**WAKE ISLAND Hy**	**32.53 37**	T	T	22 52 37.4			
	baz=219,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**32.55 37**	T	T	22 52 38.5			
	baz=219,slow=76,SNR=12							
H11N2	**WAKE ISLAND Hy**	**32.55 37**	T	T	22 52 38.7			
	baz=219,slow=76,SNR=23							
GIRL	**Giralia**	**35.29 239**	P	**P**	**22 19 02.3**	**-0.9**		
SBUM	**Sibu**	**35.45 283**	P	**P**	**22 19 04.2**	**-0.4**		
SBUM			IAmb	IAmb	22 19 06.7			
	comp=Z,13nm,1.1s							
MORW	**Morawa**	**36.80 228**	P	**P**	**22 19 16.5**	**+0.4**		
MORW			IAmb	IAmb	22 19 25.5			
	comp=Z,8.9nm,1.1s							
YULB	**Yu-li**	**38.45 321**	P	**P**	**22 19 29.2**	**-0.8**		
YULB			IAmb	IAmb	22 19 33.0			
	comp=Z,16nm,1.1s							
BKZ	**Black Stump Fm**	**42.45 145**	P	**P**	**22 20 03.8**	**+0.8**		
BKZ			IAmb	IAmb	22 20 14.4			
	comp=Z,13nm,1.0s							
JWT	**Wachi**	**42.59 346**	P	**P**	**22 20 02.8**	**-1.2**		
MJAR	**Matsushiro Arr**	**43.23 350**	P	**P**	**22 20 07.9**	**-1.3**		
	comp=Z,1.2nm,0.7s,baz=176,slow=8.9,SNR=5.1							
MJAR			LR	LR	22 38 16.7			
	comp=Z,51nm,18.1s,baz=205,slow=36							
BKNI	**Bangkinang**	**46.00 276**	P	**P**	**22 20 31.0**	**-0.6**		
NJ2	**Nanjing**	**46.35 327**	*eP*	**P**	**22 20 36.0**	**+2.0**		
NJ2			pmax	pmax				
	comp=Z,6.0nm,0.5s							
IPM	**Ipoh**	**46.78 282**	P	**P**	**22 20 37.5**	**-0.3**		
IPM			IAmb	IAmb	22 20 45.6			
	comp=Z,13nm,1.0s							
KSRS	**Korea Array**	**46.80 339**	P	**P**	**22 20 37.6**	**+0.1**		
	comp=Z,4.5nm,0.8s,baz=154,slow=8.9,SNR=14							
KSAR	**Wonju Array Be**	**46.80 339**	P	**P**	**22 20 37.0**	**-0.5**		
KULM	**Kulim**	**47.33 283**	P	**P**	**22 20 41.5**	**-0.5**		
KULM			IAmb	IAmb	22 20 60.0			
	comp=Z,17nm,1.2s							
WHN	**Wuhan**	**47.87 322**	⇓P	**P**	**22 20 47.1**	**+1.2**		
RPSI	**Rantau Prapat**	**48.48 279**	P	**P**	**22 20 49.9**	**-1.1**		
GSI	**Gunungsitoli**	**49.57 277**	P	**P**	**22 20 58.4**	**-0.9**		
ENH	**Enshi**	**50.83 318**	P	**P**	**22 21 08.8**	**+0.2**		
ENH			IAmb	IAmb	22 21 12.1			
	comp=Z,9.7nm,1.1s							
USA0B	**Ussuriysk Arra**	**51.87 347**	P	**P**	**22 21 15.7**	**-0.4**		
USA0B			IAmb	IAmb	22 21 26.5			
	comp=Z,13nm,1.5s							
USRK	**Ussuriysk Ar.**	**51.87 347**	P	**P**	**22 21 15.8**	**-0.3**		
	comp=Z,2.9nm,0.6s,baz=183,slow=7.1,SNR=9.8							
USRK	**Ussuriysk Ar.**	**51.87 347**	P	**P**	**22 21 16.0**	**-0.1**		
KMI	**Kunming**	**52.84 308**	P	**P**	**22 21 24.0**	**0.0**		
CM31	**Chiang Mai Arr**	**53.04 298**	P	**P**	**22 21 26.1**	**+0.9**		
CMAR	**Chiang Mai Arr**	**53.04 298**	P	**P**	**22 21 26.5**	**+1.2**		
	comp=Z,9.7nm,0.9s,baz=120,slow=5.8,SNR=55							
CMAR	**Chiang Mai Arr**	**53.04 298**	P	**P**	**22 21 25.9**	**+0.7**		
CHTO	**Chiang Mai**	**53.18 299**	P	**P**	**22 21 26.7**	**+0.4**		
CHTO			IAmb	IAmb	22 21 28.2			
	comp=Z,16nm,1.2s							
XAN	**Xi'an**	**53.61 321**	P	**P**	**22 21 28.5**	**-0.7**		
XAN			pP	pP	22 21 37.9	-6.2		
XAN			pmax	pmax				
	comp=Z,11nm,1.0s							
XAN			pmax	pmax				
	comp=Z,120nm,4.1s							
XAN	**Xi'an**	**53.61 321**	P	**P**	**22 21 28.5**	**-0.7**		
XAN			IAmb	IAmb	22 21 31.7			
	comp=Z,12nm,0.9s							
BJT	**Baijiatuan**	**53.88 331**	P	**P**	**22 21 30.7**	**-0.4**		
BJT			IAmb	IAmb	22 21 38.3			
	comp=Z,16nm,1.4s							
CD2	**Chengdu**	**55.16 315**	*eP*	**P**	**22 21 40.3**	**-0.3**		
HHC	**Hu-ho-hao-te**	**56.81 329**	*eP*	**P**	**22 21 53.1**	**+0.9**		
HHC			pmax	pmax				
	comp=Z,14nm,0.9s							
HHC			pmax	pmax				
	comp=Z,140nm,4.8s							
LZH	**Lanzhou**	**58.13 320**	*eP*	**P**	**22 22 02.8**	**+1.1**		
LZH			pP	sP	22 22 21.4	-1.6		
LZH			sP	pP	22 22 30.6	+14		
LZH			pmax	pmax				
	comp=Z,16nm,1.0s							
PETK	**Petropavlovsk-**	**59.80 8**	P	**P**	**22 22 13.7**	**+1.0**		
	comp=Z,1.8nm,0.5s,baz=188,slow=5.5,SNR=2.0							
PETK	**Petropavlovsk-**	**59.80 8**	P	**P**	**22 22 13.4**	**+0.7**		
HIA	**Hailar**	**60.01 340**	P	**P**	**22 22 14.0**	**-0.2**		
SHL	**Shillong**	**61.84 303**	P	**P**	**22 22 26.9**	**-0.5**		
GTA	**Gaotai**	**62.67 320**	*eP*	**P**	**22 22 33.0**	**+0.4**		
GTA			pP	pP	22 22 47.8	0.0		
GTA			sP	sP	22 22 55.3	+1.3		
GTA			S	**S**	**22 30 59.8**	**+2.4**		
GTA			pmax	pmax				
	comp=Z,6.0nm,0.7s							
GTA			pmax	pmax				
	comp=Z,110nm,7.8s							
GTA			LR	LR				
	comp=N,100nm,16.0s							
GTA			LR	LR				
	comp=E,86nm,16.4s							
GTA			LR	LR				
	comp=Z,95nm,15.3s							
PPT	**Papeete**	**63.16 106**	LR	LR	22 44 53.4			
	comp=Z,45nm,21.7s,baz=277,slow=31							
LSA	**Lhasa**	**64.08 307**	P	**P**	**22 22 41.4**	**-1.2**		
ULN	**Ulaanbaatar**	**64.11 331**	P	**P**	**22 22 41.7**	**-0.2**		
SONM	**Songino Array**	**64.40 331**	P	**P**	**22 22 43.2**	**-0.6**		
	comp=Z,1.2nm,0.4s,baz=154,slow=8.0,SNR=14							
SONM	**Songino Array**	**64.40 331**	P	**P**	**22 22 43.0**	**-0.8**		
CASY	**Casey**	**65.00 195**	P	**P**	**22 22 45.4**	**-1.8**		
CASY			IAmb	IAmb	22 22 57.4			
	comp=Z,10nm,1.4s							
YAK	**Yakutsk**	**69.27 352**	P	**P**	**22 23 14.2**	**-0.1**		
VNDA	**Vanda**	**71.75 177**	P	**P**	**22 23 29.7**	**+0.4**		
	comp=Z,1.3nm,0.7s,baz=327,slow=6.4,SNR=11							
VNDA			LR	LR	22 53 33.8			
	comp=Z,117nm,18.2s,baz=342,slow=35							
VNDA	**Vanda**	**71.75 177**	P	**P**	**22 23 30.1**	**+0.8**		
WMQ	**Urumqi**	**72.71 319**	*eP*	**P**	**22 23 36.1**	**+0.4**		
WMQ			pmax	pmax				
	comp=Z,9.0nm,1.1s							
WMQ			pmax	pmax				
	comp=Z,63nm,6.5s							
MK31	**Makanchi Array**	**77.42 321**	P	**P**	**22 24 01.9**	**-0.9**		
MKAR	**Makanchi Array**	**77.42 321**	P	**P**	**22 24 02.1**	**-0.6**		
	comp=Z,1.8nm,0.5s,baz=96,slow=8.6,SNR=27							
MKAR	**Makanchi Array**	**77.42 321**	P	**P**	**22 24 02.0**	**-0.7**		
MAKZ	**Makanchi**	**77.63 321**	P	**P**	**22 24 03.0**	**-0.8**		
MAKZ			IAmb	IAmb	22 24 04.1			
	comp=Z,7.7nm,1.1s							
ZAA0	**Zalesovo Array**	**78.99 328**	P	**P**	**22 24 09.4**	**-1.8**		
ZALV	**Zalesovo Beam**	**78.99 328**	P	**P**	**22 24 09.3**	**-1.8**		
	comp=Z,3.4nm,0.5s,baz=107,slow=6.0,SNR=17							
NIL	**Nilore**	**79.76 306**	P	**P**	**22 24 15.5**	**-0.4**		
NIL			IAmb	IAmb	22 24 27.2			
	comp=Z,11nm,0.8s							
BOOM	**Boomskoye usch**	**80.17 315**	P	**P**	**22 24 17.9**	**-0.3**		
BOOM			IAmb	IAmb	22 24 18.7			
	comp=Z,5.1nm,0.6s							
KURK	**Kurchatov**	**81.16 323**	P	**P**	**22 24 21.6**	**-1.3**		
CNPM	**China Poot**	**81.66 27**	P	**P**	**22 24 25.4**	**-0.1**		
MAW	**Mawson**	**81.95 203**	P	**P**	**22 24 26.7**	**-0.1**		
	comp=Z,1.4nm,0.6s,baz=316,slow=3.3,SNR=2.3							
MAW	**Mawson**	**81.95 203**	P	**P**	**22 24 26.5**	**-0.4**		
BTK	**Batken**	**83.22 311**	P	**P**	**22 24 33.0**	**-1.2**		
KBL	**Kabul**	**83.36 306**	P	**P**	**22 24 33.5**	**-1.6**		
KTH	**Kantishna Hill**	**83.65 24**	P	**P**	**22 24 34.8**	**-1.0**		
KTH			IAmb	IAmb	22 24 36.4			
	comp=Z,8.0nm,1.2s							
IMAR	**Indian Mountai**	**83.78 21**	P	**P**	**22 24 36.2**	**-0.1**		
QSPA	**South Pole Qui**	**83.79 180**	P	**P**	**22 24 35.9**	**-0.7**		
QSPA			IAmb	IAmb	22 24 45.3			
	comp=Z,10nm,1.3s							
CHGR	**Chuyangaron**	**84.15 310**	P	**P**	**22 24 37.8**	**-1.1**		
KK31	**Karatay Array**	**84.18 314**	P	**P**	**22 24 37.4**	**-1.5**		
KK31			IAmb	IAmb	22 24 41.5			
	comp=Z,9.1nm,1.4s							
KKAR	**Karatay Array**	**84.18 314**	P	**P**	**22 24 37.1**	**-1.8**		
WRH	**Wood River Hil**	**85.18 23**	P	**P**	**22 24 42.2**	**-1.2**		
WRH			IAmb	IAmb	22 24 42.7			
	comp=Z,6.6nm,1.0s							
NRIK	**Noril'sk**	**85.34 342**	P	**P**	**22 24 43.6**	**-0.5**		
	comp=Z,4.4nm,0.5s,baz=113,slow=4.4,SNR=8.4							
CCB	**Clear Creek Bu**	**85.36 23**	P	**P**	**22 24 43.2**	**-1.1**		
IL31		**85.78 23**	P	**P**	**22 24 45.0**	**-1.3**		
IL31			IAmb	IAmb	22 24 45.5			
	comp=Z,5.0nm,0.8s							
ILAR	**Eielson Array**	**85.78 23**	P	**P**	**22 24 44.8**	**-1.6**		
	comp=Z,4.3nm,0.8s,baz=252,slow=4.9,SNR=32							
ILAR	**Eielson Array**	**85.78 23**	P	**P**	**22 24 45.0**	**-1.4**		
BALM	**Baldy**	**86.32 27**	P	**P**	**22 24 49.4**	**+0.1**		
BALM			IAmb	IAmb	22 24 57.0			
	comp=Z,14nm,1.4s							
DOT	**Dot Lake**	**86.48 25**	P	**P**	**22 24 49.5**	**-0.5**		
DOT			IAmb	IAmb	22 24 51.3			
	comp=Z,12nm,1.3s							
BARN	**Barnard Glacie**	**86.64 28**	P	**P**	**22 24 51.3**	**+0.3**		
BARN			IAmb	IAmb	22 24 52.1			
	comp=Z,5.9nm,0.6s							
BRVK	**Borovoye**	**86.79 324**	P	**P**	**22 24 49.8**	**-1.8**		
BCAR	**Beaver Creek A**	**87.24 26**	P	**P**	**22 24 53.5**	**-0.2**		
BMAR	**Burnt Mountain**	**87.68 21**	P	**P**	**22 24 56.1**	**+0.4**		
EGAK	**Eagle**	**88.06 24**	P	**P**	**22 24 57.5**	**0.0**		
HRA	**Herat**	**88.87 305**	P	**P**	**22 25 00.9**	**-1.3**		
HRA			IAmb	IAmb	22 25 03.0			
	comp=Z,4.6nm,1.1s							
PLCA	**Paso Flores**	**122.15 147**	PKP	**PKiKP**	**22 31 03.0**	**+0.4**		
	comp=Z,0.8nm,0.6s,baz=202,slow=4.0,SNR=3.3							
LPAZ	**La Paz**	**138.96 123**	PKP	**PKPdf**	**22 31 33.1**	**-2.4**		
	comp=Z,1.7nm,0.7s,baz=287,slow=4.2,SNR=6.6							
LPAZ	**La Paz**	**138.96 123**	PKPdf	**PKPdf**	**22 31 33.4**	**-2.1**		
TORD	**Torodi Ar. Bea**	**144.81 284**	PKP	PKPbc	22 31 44.6	+0.3		
	comp=Z,26nm,1.0s,baz=82,slow=3.0,SNR=68							
TORD	**Torodi Ar. Bea**	**144.81 284**	PKPdf	PKPbc	22 31 44.4	+0.1		
DBIC	**Dimbokro**	**151.70 273**	PKPbc	**PKiKP**	**22 32 03.3**	**+0.1**		
	comp=Z,13nm,0.9s,baz=146,slow=1.0,SNR=9.8							

IDC 14 22:21:25.6±1.5, 3.66S×138.44E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=32.5km s-min=25.3km az=141.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.53**	**63**	Pn	Pn	22 22 08.6	+0.5
	2.3nm,0.3s,baz=219,slow=13,SNR=6.6						
JAY				Sn	Sn	22 22 39.9	+0.3
	2.3nm,0.3s,baz=275,slow=24,SNR=2.3						
WRA	**Warramunga Arr**	**16.67**	**194**	Pn	P	22 25 22.8	-0.5
	0.1nm,0.3s,baz=16,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**20.36**	**192**	P	P	22 26 03.0	-1.0
	1.3nm,0.9s,baz=18,slow=11,SNR=4.9						
CMAR	**Chiang Mai Arr**	**44.69**	**301**	P	P	22 29 40.9	+0.1
	0.7nm,1.0s,baz=121,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**70.38**	**323**	P	P	22 32 41.2	-0.3
	0.3nm,0.6s,baz=101,slow=7.5,SNR=3.0						

TIF 14 22:32:30.0, 41.86N×42.01E, h18km±1km
ATA 14 22:32:30.8±0.9, 41.75N×42.10E, h27km±6km, ML2.5, MW3.0
MOS 14 22:32:32.0±0.0, 41.81N×42.27E, h1km, MPVA3.1
NORS 14 22:32:32.1±0.0, 41.83N×42.26E, h1km, MPVA3.1
DDA 14 22:32:32.7, 41.69N×42.07E, h8km±3km, ML2.1

ISC 14 22:32:29.5±1.2, 41.84N±0.02×41.93E±0.03, h5km±10km, n25, σ0.83/47, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBOC	**Borcka**	**0.53**	**202**	*i* P	**Pb**	**22 32 41.8**	**+0.5**
DBOC				*i* S	**Sb**	**22 32 49.5**	**+0.2**
DBOC				IAML		22 32 51.0	
	comp=E,239nm,0.3s						
ARTV	**Artvin**	**0.66**	**180**	*eP*	**Pb**	**22 32 42.6**	**-0.9**
ARTV				*eS*	**Sb**	**22 32 53.0**	**0.0**
ARTV				IAML		22 32 53.7	
	comp=Z,61nm,0.7s						
ARTV	**Artvin**	**0.66**	**180**	*i* P	**Pb**	**22 32 43.6**	**+0.1**
ARTV				*i* S	**Sb**	**22 32 53.2**	**+0.1**
ARTV				IAML		22 32 54.0	
	comp=E,115nm,0.2s						
ARTV				IAML		22 32 54.0	
	comp=N,110nm,0.2s						
EPOS	**Posof**	**0.69**	**119**	*eP*	**Pg**	**22 32 42.3**	**-0.5**
EPOS				*eS*	**Sg**	**22 32 51.1**	**-0.6**
EPOS				IAML		22 32 55.2	
	comp=E,26nm,0.2s						
EPOS	**Posof**	**0.69**	**119**	*i* P	**Pg**	**22 32 42.9**	**+0.1**
EPOS				*i* S	**Sg**	**22 32 51.1**	**-0.6**
DBAD	**Bademkaya**	**0.84**	**192**	*i* P	**Pn**	**22 32 47.0**	**-1.1**
DBAD				*i* S	**Sb**	**22 32 57.2**	**-1.1**
DBAD				IAML		22 33 00.0	
	comp=E,67nm,0.3s						
DBAD				IAML		22 33 01.0	
	comp=N,64nm,0.4s						
CHVG	**Ch'k'valeri**	**0.88**	**8**	P	**Pb**	**22 32 46.9**	**-0.4**
CHVG				S	**Sn**	**22 33 00.3**	**-1.4**
TKB	**Tkibuli**	**0.94**	**57**	P	**Pg**	**22 32 47.0**	**-0.6**
TKB				S	**Sg**	**22 32 59.0**	**-0.9**
DDEM	**Demirkent**	**0.96**	**188**	*i* P	**Pb**	**22 32 48.8**	**+0.1**
DDEM				*i* S	**Sb**	**22 33 01.1**	**-0.6**
DDEM				IAML		22 33 04.0	
	comp=E,223nm,0.3s						
DDEM				IAML		22 33 06.0	
	comp=N,247nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.62**	**49**	*e*Pg	**Pn**	**22 32 59.4**	**+0.5**
DIGR				*e*Sg	**Sn**	**22 33 19.5**	**-0.7**
TRLG	**Trialeti**	**1.66**	**100**	P	**Pn**	**22 32 59.9**	**+0.6**
TRLG				S	**Sn**	**22 33 20.9**	**-0.1**
KRIK	**Erzurum-spir**	**1.68**	**207**	*eP*	**Pg**	**22 33 02.5**	**+0.7**
KRIK				*eS*	**Sg**	**22 33 24.9**	**+1.4**
KRIK				IAML		22 33 28.1	
	comp=E,845nm,0.1s						
KRIK	**Erzurum-spir**	**1.68**	**207**	*i* P	**Pg**	**22 33 02.2**	**+0.5**
KRIK				*i* S	**Sg**	**22 33 25.0**	**+1.4**
EAK	**Akyaka**	**1.71**	**132**	*i* P	**Pn**	**22 33 00.3**	**+0.1**
ZEI	**Tsey**	**1.74**	**56**	*e*Pg	**Pb**	**22 33 01.6**	**-0.4**
ZEI				*e*Sg	**Sn**	**22 33 23.4**	**+0.2**
DMNI	**Dmanisi**	**1.77**	**106**	P	**Pn**	**22 33 01.7**	**+0.8**
DMNI				S	**Sn**	**22 33 24.2**	**+0.3**
HOMI	**Horasan**	**1.79**	**181**	*i* P	**Pb**	**22 33 03.0**	**0.0**
HOMI				*i* S	**Sg**	**22 33 28.0**	**+0.8**
HOMI				IAML		22 33 34.0	
	comp=N,17nm,0.4s						
HOMI				IAML		22 33 39.0	
	comp=E,23nm,1.0s						
SHA1	**Shidzhatmaz**	**1.97**	**16**	*e*Pg	**Pg**	**22 33 06.7**	**-0.6**
SHA1				*e*Sg	**Sg**	**22 33 33.9**	**+1.1**
LSNR	**Lesken**	**2.01**	**44**	*e*Pg	**Pn**	**22 33 06.5**	**-0.1**
LSNR				*e*Sg	**Sb**	**22 33 32.0**	**+0.3**
KORR	**Kora**	**2.01**	**51**	*e*Pg	**Pg**	**22 33 08.8**	**+0.7**
KORR				*e*Sg	**Sb**	**22 33 33.0**	**+1.1**
LACR	**Lac**	**2.01**	**60**	*e*Pg	**Pn**	**22 33 05.1**	**+0.9**
LACR				*e*Sg	**Sn**	**22 33 31.0**	**+1.2**
BAYB	**BAYBURT**	**2.02**	**219**	*eP*	**Pg**	**22 33 07.4**	**-0.9**
BAYB				*eS*	**Sg**	**22 33 35.7**	**+1.1**
BAYB				IAML		22 33 38.7	
	comp=Z,7.3nm,0.5s						
BAYB	**BAYBURT**	**2.02**	**219**	*i* P	**Pb**	**22 33 05.2**	**-1.6**
DGRG	**David-gareji**	**2.61**	**97**	*i* P	**Pb**	**22 33 15.0**	**-1.8**
DGRG	**David-gareji**	**2.61**	**97**	P	**Pb**	**22 33 17.1**	**+0.3**
DGRG				S	**Sb**	**22 33 49.0**	**-0.2**

IDC 14 22:39:23.7±1.4, 32.69N×47.64E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.7/44, mbtmp3.8/15, ML3.8/4, Error ellipse: s-maj=29.3km s-min=16.2km az=167.0
TEH 14 22:39:26.1, 32.72N×47.75E, h12km, ML3.8
ISN 14 22:39:26.7±1.4, 32.70N×47.75E, h22km±8km, ML3.5
THR 14 22:39:27.4±0.4, 32.70N×47.75E, h16km±4km, ML3.8

ISC 14 22:39:25.5±0.5, 32.66N±0.03×47.69E±0.03, h10km, n91, σ1.81/94, mb3.6/12, 7C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.35**	**273**	*e*Pg	**Pg**	**22 39 33.9**	**+1.5**
IKFM	**Kafar-mosalman**	**0.87**	**9**	*e*Pg	**Pg**	**22 39 41.7**	**-0.6**
IKFM				*e*		22 40 03.8	
IKMR	**Kamar-syah**	**1.03**	**34**	*e*Pg	**Pg**	**22 39 44.0**	**-1.4**
IKMR				*e*		22 40 03.6	
SHGR	**Shooshtar-Gavs**	**1.09**	**120**	*e*Pg	**Pb**	**22 39 47.4**	**+0.9**
SHGR				*e*Sg	**Sb**	**22 40 02.0**	**+1.2**
SHGR	**Shooshtar-Gavs**	**1.09**	**120**	*e*Pg	**Pb**	**22 39 47.4**	**+0.9**
IDOB	**Doab**	**1.20**	**20**	*e*Pg	**Pn**	**22 39 47.1**	**-1.4**
BMDN	**Meydan**	**1.39**	**43**	*e*Pg	**Pn**	**22 39 50.8**	**-0.3**
BMDN				*e*		22 40 17.4	
IKOM	**Komasi**	**1.52**	**354**	*e*Pg	**Pn**	**22 39 54.0**	**+1.1**
IKOM				*e*		22 40 26.7	
IBDR	**Badra**	**1.55**	**287**	*e*Pg	**Pn

ASF					Lg		Lg	22 44 11.7	
	comp=E,0.3nm,0.3s,baz=213,slow=19,SNR=1.9								
ISFR	**Sfrayin**	**9.54**	**60**	*e*Pn		**Pn**		**22 41 44.6**	**+1.4**
EIL	**Elat**	**11.31**	**258**	Lg		Lg		22 45 24.0	
	comp=E,0.2nm,0.3s,baz=28,slow=12,SNR=2.2								
WSAR	**Wadi Sarin**	**13.47**	**131**	Pn		**Pn**		**22 42 35.8**	**-1.0**
	comp=E,0.7nm,0.3s,baz=344,slow=13,SNR=9.1								
WSAR				Sn		Sn		22 44 57.8	-8.7
	comp=E,0.2nm,0.3s,baz=174,slow=22,SNR=1.2								
IDI	**Anoyia**	**19.09**	**284**	P		**P**		**22 43 48.9**	**+0.5**
	comp=E,0.7nm,0.3s,baz=259,slow=22,SNR=8.7								
AKTO	**Aktyubinsk**	**19.33**	**20**	P		**P**		**22 43 50.4**	**-0.4**
	comp=E,0.4nm,0.3s,baz=202,slow=10,SNR=11								
BISRR	**Bisoca**	**20.68**	**315**	⇑P		**P**		**22 44 07.6**	**+1.9**
VRI	**Vrincioaia**	**20.83**	**315**	⇑P		**P**		**22 44 08.2**	**+1.0**
PLOR	**Plostina**	**20.87**	**315**	⇑P		**P**		**22 44 09.0**	**+1.3**
MLR	**Muntele Rosu**	**21.11**	**314**	P		**P**		**22 44 10.0**	**-0.4**
	comp=E,0.7nm,0.5s,baz=150,slow=20,SNR=2.0								
MLR	**Muntele Rosu**	**21.11**	**314**	⇓P		**P**		**22 44 12.0**	**+1.6**
SORM	**Soroca**	**21.26**	**322**	⇑P		P		22 44 06.1	-5.7
VOIR		**21.64**	**313**	⇓P		**P**		**22 44 15.7**	**-0.3**
DOPR	**Dopca**	**21.69**	**314**	⇑P		**P**		**22 44 14.6**	**-1.9**
BIZ	**Bicaz**	**21.77**	**317**	⇑P		**P**		**22 44 13.1**	**-4.3**
AKASG	**Malin Array Be**	**22.59**	**328**	P		**P**		**22 44 24.6**	**-1.4**
	comp=E,0.4nm,0.3s,baz=136,slow=9.2,SNR=4.6								
BURAR	**Bucovina Array**	**22.65**	**318**	⇓P		P		22 44 18.8	-8.1
GZR	**Gura Zlata**	**23.05**	**311**	⇓P		P		22 44 24.3	-6.7
MDVR	**Moldovita**	**23.50**	**309**	⇑P		P		22 44 28.9	-6.6
ARU	**Arti**	**24.93**	**14**	P		**P**		**22 44 48.0**	**-0.7**
	comp=E,0.9nm,0.6s,baz=190,slow=12,SNR=3.8								
KIRV	**Kirov**	**25.95**	**2**	P		**P**		**22 44 58.4**	**+0.5**
	comp=E,13nm,0.5s,baz=104,slow=1.2,SNR=6.3								
KURBB	**Kurchatov Arra**	**28.91**	**42**	P		**P**		**22 45 24.9**	**+0.4**
	comp=E,0.6nm,0.5s,baz=245,slow=9.0,SNR=4.5								
MKAR	**Makanchi Array**	**29.85**	**52**	P		**P**		**22 45 33.1**	**+0.1**
	comp=E,1.1nm,0.7s,baz=251,slow=7.5,SNR=9.5								
FINES	**FINESS Array B**	**32.02**	**341**	P		**P**		**22 45 51.2**	**-0.7**
	comp=E,1.0nm,0.5s,baz=145,slow=8.9,SNR=15								
ZALV	**Zalesovo Beam**	**33.82**	**40**	P		**P**		**22 46 07.0**	**-0.7**
	comp=E,0.6nm,0.3s,baz=262,slow=10,SNR=3.6								
NOA	**NORSAR Array B**	**36.94**	**331**	P		**P**		**22 46 33.0**	**-1.5**
	comp=E,0.2nm,0.4s,baz=148,slow=5.8,SNR=1.5								
ARCES	**ARCESS Array B**	**38.97**	**348**	P		**P**		**22 46 50.0**	**-1.5**
	comp=E,5.7nm,1.1s,baz=156,slow=9.2,SNR=8.6								
ESDC	**Sonseca Array**	**41.80**	**295**	P		**P**		**22 47 14.6**	**-0.8**
	comp=E,0.4nm,0.7s,baz=78,slow=8.3,SNR=4.5								
TORD	**Torodi Ar. Bea**	**46.19**	**256**	P		**P**		**22 47 50.1**	**-0.7**
	comp=E,0.4nm,0.7s,baz=68,slow=7.0,SNR=3.1								

NEIC ***14*** *22:52:09.0±1.6,26˚.25N±0˚.06×127˚.42E±0˚.06,h35km±3km, mb5.5/220,Ms_20 4.8/85,Mwb5.3/26,Error ellipse: s-maj=8.5km s-min=7.6km az=195.0*

MOS ***14*** *22:52:09.7±1.0,26˚.40N×127˚.29E,h50km,mb5.7/49, MS4.9/32,Error ellipse: s-maj=6.0km s-min=3.7km az=114.4*

NEIC ***14*** *22:52:09.9,26˚.20N×127˚.41E,h36km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr8.73; Mθθ0.07; Mϕϕ-8.80; Mrθ-1.28; Mθϕ0.49; Mϕr3.27; Fault plane solution: Mo9.45000×10¹⁶ NP1:φs183.47000°, δ34.97000°,λ100.92000°. NP2:φs350.22000°,δ55.76000°, λ82.45000°. Principal axes: T 9.4646, Plg78.0000°, Azm234.0000°; N -0.0212, Plg6.0000°, Azm354.0000°; P -9.4434, Plg10.0000°, Azm86.0000°;*

JMA ***14*** *22:52:10.8±0.1,26˚.29N×127˚.36E,h46km±2km,M5.1*

JMA Felt IV J1.

BJI ***14*** *22:52:10.0±0.0,26˚.30N×127˚.40E,h50km,mB5.0/50, mb5.0/70,ML4.8/1,Ms4.7/81,Ms7 4.6/74*

NIED ***14*** *22:52:10.8,26˚.29N×127˚.36E,h46km,MW5.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr5.81; Mθθ-3.12; Mϕϕ-2.69; Mrθ-1.55; Mθϕ-3.86; Mϕr0.26; Fault plane solution: Mo6.51000×10¹⁶ NP1: φs239.00000°,δ51.00000°,λ107.00000°. NP2: φs33.00000°,δ42.00000°,λ70.00000°.*

IDC ***14*** *22:52:11.2±1.6,26˚.39N×127˚.31E,h48km±14km,mb4.9/31, mb1 5.0/35,mb1mx4.9/39,mbtmp5.1/35,ML5.1/1,MS4.3/39, Ms1 4.3/39,ms1mx4.2/47 Error ellipse: s-maj=12.3km s-min=10.3km az=92.0*

GCMT ***14*** *22:52:11.0±0.2,26˚.28N±0˚.01×127˚.36E±0˚.01,h44km, MW5.2/116,Moment Tensor Solution. s93,c156; s116,c182; Duration: 1ſ0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.72±.02; Mθθ-0.32±.01; Mϕϕ-0.39±.01; Mrθ0.05±.01; Mθϕ-0.45±.01; Mϕr0.21±.01; Best double couple: Mo0.79400×10¹⁷ NP1:φs232.00000°,δ39.00000°, λ104.00000°. NP2:φs34.00000°,δ52.00000°,λ79.00000°. Principal axes: T 0.7560, Plg79.0000°, Azm259.0000°; N 0.0780, Plg9.0000°, Azm41.0000°; P -0.8330, Plg7.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 22:52:10.9±0.3,26˚.27N±0˚.03×127˚.43E±0˚.03,h53km±2km, h53km:pP-P,n1111,σ1ſ48/1149,mb5.4/281,MS4.7/115, 108C-45D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JJT3	**Tamagusuku3**	**0.34**	**111**	P		**Pn**	**22 52 21.0**	**+0.3**	
JAGN	**Aguni-jima**	**0.36**	**332**	P		**Pn**	**22 52 19.8**	**-1.0**	
JAGN				S		**Sn**	**22 52 26.3**	**-1.6**	
JKE	**Kume jima 2**	**0.58**	**276**	P		**Pn**	**22 52 22.0**	**-1.3**	
JKE				S		**Sn**	**22 52 30.2**	**-2.0**	
JNTH	**Nagotoyohara**	**0.59**	**65**	P		**Pn**	**22 52 23.2**	**-0.2**	
JNTH				S		**Sn**	**22 52 32.3**	**-0.1**	
JIH	**Iheya**	**0.90**	**32**	P		**Pn**	**22 52 27.0**	**-0.4**	
JIH				S		**Sn**	**22 52 39.0**	**-0.5**	
JOW	**Kunigami**	**0.94**	**53**	P		**Pn**	**22 52 28.2**	**+0.2**	
JOW				S		**Sn**	**22 52 40.9**	**+0.4**	
JYRO	**Yoronjima**	**1.19**	**50**	P		**Pn**	**22 52 31.4**	**+0.2**	
JYRO				S		**Sn**	**22 52 46.4**	**+0.1**	
JOGS	**Gusukube**	**2.37**	**231**	P		**Pn**	**22 52 48.4**	**+1.1**	
JIKM	**Ikemajima**	**2.38**	**236**	P		**Pn**	**22 52 47.2**	**-0.3**	
JMJ2	**Miyako jima3**	**2.43**	**232**	P		**Pn**	**22 52 48.7**	**+0.5**	
JIRB	**Irabujima**	**2.49**	**235**	P		**Pn**	**22 52 49.0**	**0.0**	
JAMN	**Amaminishikomi**	**2.51**	**38**	P		**Pn**	**22 52 49.4**	**+0.2**	
JAM	**Amami Oshima**	**2.88**	**42**	P		**Pn**	**22 52 55.2**	**+0.9**	
JTJ	**Tarama**	**2.95**	**237**	P		**Pn**	**22 52 54.9**	**-0.4**	
JTAJ	**Takarajima**	**3.27**	**28**	P		**Pn**	**22 53 00.4**	**+0.7**	
JISG	**Ishigakijimahi**	**3.28**	**240**	P		**Pn**	**22 52 59.4**	**-0.4**	
JMZ	**Minamidaito 2**	**3.44**	**97**	P		**Pn**	**22 52 59.7**	**-2.3**	
JMZ				S		**Sn**	**22 53 37.4**	**-4.2**	
JMZ	**Minamidaito 2**	**3.44**	**97**	Pn		**Pn**	**22 52 59.7**	**-2.3**	
JMZ				Sn		**Sn**	**22 53 37.6**	**-4.0**	
JKDJ	**Kitadaitoujima**	**3.49**	**94**	P		**Pn**	**22 53 00.6**	**-2.1**	
JKDJ				S		**Sn**	**22 53 39.2**	**-3.6**	
JIJ	**Ishigaki jima**	**3.53**	**238**	P		**Pn**	**22 53 02.4**	**-0.8**	
JKRS	**Kuro-shima**	**3.70**	**238**	P		**Pn**	**22 53 05.1**	**-0.4**	
IRIF	**Iriomote-Funau**	**3.86**	**241**	P		**Pn**	**22 53 07.4**	**-0.4**	
JNN	**Nakanoshima**	**4.16**	**31**	P		**Pn**	**22 53 13.2**	**+1.3**	
YOJ	**Yonaguni jima**	**4.38**	**247**	P		**Pn**	**22 53 15.4**	**+0.5**	
YOJ	**Yonaguni jima**	**4.38**	**247**	P		**Pn**	**22 53 15.4**	**+0.5**	
YOJ	**Yonaguni jima**	**4.38**	**247**	Pn		**Pn**	**22 53 15.4**	**+0.5**	
JKC	**Kuchinoerabu**	**4.84**	**30**	P		**Pn**	**22 53 22.2**	**+1.1**	
NACB	**Ninganchiao**	**5.68**	**250**	Pn		**Pn**	**22 53 31.6**	**-1.1**	
YHNB	**Yeheng**	**5.70**	**255**	Pn		**Pn**	**22 53 33.6**	**+0.6**	
JSU	**Suzuyama**	**5.85**	**26**	Pn		**Pn**	**22 53 36.0**	**+0.9**	
YULB	**Yu-li**	**6.26**	**244**	Pn		**Pn**	**22 53 38.1**	**-2.7**	
SSLB	**Suanglung**	**6.37**	**249**	Pn		**Pn**	**22 53 41.2**	**-1.1**	
TWG	**Pinlang**	**6.73**	**241**	Pn		**Pn**	**22 53 43.8**	**-3.3**	
TPUB	**Ta-pu**	**6.85**	**246**	Pn		**Pn**	**22 53 47.8**	**-1.0**	
SSE	**Sheshan**	**7.29**	**313**	P		**Pn**	**22 53 55.8**	**+1.0**	
SSE				S		**Sn**	**22 55 16.1**	**0.0**	
SSE				LR		LR			
	comp=N,1μm,11.5s								
SSE				LR		LR			
	comp=E,1μm,11.2s								
SSE	**Sheshan**	**7.29**	**313**	Pn		**Pn**	**22 53 55.4**	**+0.6**	
JNU	**Nakatsue**	**7.46**	**23**	P		**Pn**	**22 53 58.4**	**+1.3**	
	26nm,0.3s,baz=207,slow=4.6,SNR=144								
JNU				S		**Sn**	**22 55 20.8**	**+0.4**	
	baz=235,slow=18,SNR=0.7								
JNU				LR		LR	22 57 01.5		
	comp=Z,2μm,21.5s,baz=212,slow=39								
JNU	**Nakatsue**	**7.46**	**23**	Pn		**Pn**	**22 53 58.6**	**+1.5**	
QZH	**Quanzhou**	**8.08**	**263**	⇑*i*P		**Pn**	**22 54 05.9**	**+0.2**	
QZH				sP			22 54 21.0		
QZH				S		**Sn**	**22 55 34.9**	**-0.8**	
QZH				LR		LR			
	comp=N,2μm,18.0s								
QZH				LR		LR			
	comp=E,2μm,23.2s								
QZH				LR		LR			
	comp=Z,3μm,24.6s								
KNMB	**Chin-men Tao**	**8.37**	**260**	Pn		**Pn**	**22 54 08.5**	**-1.1**	
JTU	**Tsushima**	**8.40**	**11**	Pn		**Pn**	**22 54 10.8**	**+0.8**	
JMN	**Monobe**	**9.30**	**35**	Pn		**Pn**	**22 54 21.1**	**-1.2**	
NJ2	**Nanjing**	**9.45**	**310**	*e*P		**Pn**	**22 54 24.8**	**+0.4**	
NJ2				sP			22 54 43.8		
NJ2				S		**Sn**	**22 56 12.3**	**+3.2**	
NJ2				pmax		pmax			
	comp=Z,38nm,0.8s								
NJ2				LR		LR			
	comp=N,3μm,13.3s								
NJ2				LR		LR			
	comp=E,3μm,15.6s								
NJ2				LR		LR			
	comp=Z,3μm,17.0s								
JHS	**Saijyo**	**9.98**	**28**	Pn		**Pn**	**22 54 30.3**	**-1.4**	
KSAR	**Wonju Array Be**	**11.14**	**2**	P		**Pn**	**22 54 49.3**	**+1.8**	
KSAR	**Wonju Array Be**	**11.14**	**2**	Pn		**Pn**	**22 54 49.3**	**+1.8**	
KSRS	**Korea Array**	**11.16**	**2**	P		**Pn**	**22 54 49.6**	**+1.9**	
	1.0nm,0.3s,baz=178,slow=13,SNR=72								
KSRS				LR		LR	22 59 13.8		
	comp=Z,2μm,19.2s,baz=182,slow=38								
INCN	**Inchon**	**11.20**	**357**	P		**Pn**	**22 54 47.8**	**-0.5**	
INCN	**Inchon**	**11.20**	**357**	Pn		**Pn**	**22 54 47.8**	**-0.5**	
KS19	**Wonju Array Si**	**11.20**	**2**	Pn		**Pn**	**22 54 48.9**	**+0.6**	
JWT	**Wachi**	**11.29**	**35**	Pn		**Pn**	**22 54 48.4**	**-1.1**	
INU	**Inuyama**	**12.23**	**40**	Pn		**Pn**	**22 55 03.9**	**+1.5**	
WHN	**Wuhan**	**12.27**	**293**	⇑P		**Pn**	**22 55 03.8**	**+0.9**	
WHN				S		**Sn**	**22 57 26.3**	**+8.1**	
WHN				LR		LR			
	comp=N,3μm,5.7s								
WHN				LR		LR			
	comp=E,5μm,9.9s								
WHN				LR		LR			
	comp=Z,7μm,13.3s								
JGF	**Kuroka**	**12.61**	**40**	Pn		**Pn**	**22 55 08.2**	**+0.7**	
TIA	**Tai'an**	**13.25**	**321**	P		**Pn**	**22 55 18.3**	**+2.0**	
TIA				pmax		pmax			
	comp=Z,23nm,1.5s								
TIA				LR		LR			
	comp=N,1μm,12.8s								
TIA				LR		LR			
	comp=E,1μm,15.2s								
TIA				LR		LR			
	comp=Z,2μm,14.3s								
DL2	**Dalian**	**13.51**	**340**	P		**Pn**	**22 55 23.0**	**+3.2**	
DL2				pP		P	22 55 34.4	+7.0	
DL2				pmax		pmax			
	comp=Z,33nm,0.9s								
DL2				pmax		pmax			
	comp=Z,310nm,4.1s								
DL2				LR		LR			
	comp=N,1μm,14.4s								
DL2				LR		LR			
	comp=E,1μm,13.2s								
DL2				LR		LR			
	comp=Z,2μm,22.7s								
TGY	**Tagaytay City**	**13.55**	**208**	P		**Pn**	**22 55 22.6**	**+2.1**	
	65nm,0.3s,baz=55,slow=12,SNR=2.3								
TGY				LR		LR	23 00 11.8		
	comp=Z,386nm,21.6s,baz=45,slow=35								
MAJO	**Matsushiro**	**13.76**	**39**	P		**Pn**	**22 55 25.0**	**+1.8**	
MAJO	**Matsushiro**	**13.76**	**39**	Pn		**Pn**	**22 55 25.0**	**+1.8**	
MAT	**Matsushiro**	**13.76**	**39**	P		**Pn**	**22 55 24.0**	**+0.8**	
MAT				*e*S		**Sn**	**22 57 56.2**	**+1.8**	
MJAR	**Matsushiro Arr**	**13.76**	**39**	P		**Pn**	**22 55 24.9**	**+1.7**	
	0.2nm,0.3s,baz=240,slow=14,SNR=6.7								
MJAR				LR		LR	23 01 06.0		
	comp=Z,743nm,19.2s,baz=225,slow=39								
MJAR	**Matsushiro Arr**	**13.76**	**39**			**Pn**	**22 55 24.6**	**+1.4**	
JSD	**Sado**	**14.88**	**35**	Pn		**Pn**	**22 55 39.1**	**+1.1**	
SNY	**Shenyang**	**15.84**	**349**	⇑P		**P**	**22 55 53.8**	**+0.5**	
SNY				sP		**pP**	**22 56 07.4**	**+2.6**	
SNY				pmax		pmax			
	comp=Z,30nm,0.6s								
SNY				LR		LR			
	comp=N,1μm,20.5s								
SNY				LR		LR			
	comp=E,530nm,13.3s								
SNY				LR		LR			
	comp=Z,2μm,19.4s								
JMM	**Marumori**	**16.17**	**41**	P		**Pn**	**22 55 55.3**	**+0.8**	
ENH	**Enshi**	**16.30**	**288**	P		**Pn**	**22 55 56.6**	**+0.3**	
BJT	**Baijiatuan**	**16.62**	**328**	P		**P**	**22 56 01.6**	**-0.3**	
BJT				pmax		pmax			
	comp=Z,48nm,0.7s								
BJT	**Baijiatuan**	**16.62**	**328**	P		**P**	**22 56 01.6**	**-0.3**	
BJI	**Beijing**	**16.63**	**328**	P		**P**	**22 56 02.3**	**+0.2**	
BJI				pmax		pmax			
	comp=Z,63nm,0.8s								
BJI				LR		LR			
	comp=Z,1μm,15.3s								
BJI				LR		LR			
	comp=Z,610nm,18.1s								
BJI				LR		LR			
	comp=Z,1μm,27.3s								
TIY	**Taiyuan**	**17.06**	**316**	*e*P		**P**	**22 56 09.1**	**+2.2**	
CN2	**Changchun**	**17.57**	**355**	*e*P		**P**	**22 56 13.5**	**+1.1**	
CN2				*e*pP		pP	22 56 25.5	+1.6	
CN2				*e*S		**Sn**	**22 59 25.3**	**-1.3**	
CN2				pmax		pmax			
	comp=Z,60nm,0.7s								
CN2				LR		LR			
	comp=Z,830nm,16.0s								
CN2				LR		LR			
	comp=Z,950nm,16.0s								
CN2				LR		LR			
	comp=Z,870nm,16.0s								
QIZ	**Qiongzhong**	**17.75**	**250**	P		**Pn**	**22 56 13.8**	**-0.5**	
QIZ				pP		**pP**	**22 56 25.4**	**-0.8**	
QIZ				sP		**sP**	**22 56 32.3**	**-0.4**	
QIZ				S		**Sn**	**22 59 30.3**	**-1.1**	
QIZ				pmax		pmax			
	comp=Z,15nm,1.0s								
QIZ				pmax		pmax			
	comp=Z,300nm,3.5s								
QIZ				LR		LR			
	comp=Z,480nm,19.6s								
QIZ				LR		LR			
	comp=Z,700nm,20.6s								
QIZ				LR		LR			
	comp=Z,1μm,20.0s								
QIZ	**Qiongzhong**	**17.75**	**250**	P		**P**	**22 56 14.6**	**0.0**	
XAN	**Xi'an**	**17.76**	**300**	P		**P**	**22 56 15.8**	**+1.1**	
XAN				pP		pP	22 56 25.3	-0.9	
XAN				sP		sP	22 56 29.3	-3.5	
XAN				S		**Sn**	**22 59 29.8**	**-1.9**	
XAN				sS		S	22 59 42.6	+6.4	
XAN				SS		**SnSn**	**22 59 52.5**	**+6.8**	
XAN				pmax		pmax			
	comp=Z,33nm,1.0s								
XAN				pmax		pmax			
	comp=Z,590nm,6.8s								
XAN				LR		LR			
	comp=Z,1μm,13.8s								
XAN				LR		LR			
	comp=Z,2μm,15.2s								
XAN				LR		LR			
	comp=Z,3μm,14.1s								
XAN	**Xi'an**	**17.76**	**300**	P		**P**	**22 56 15.3**	**+0.6**	
XAN				pmax		pmax			
	comp=Z,228nm,1.6s								
XAN	**Xi'an**	**17.76**	**300**	P		**P**	**22 56 15.3**	**+0.6**	
USA0B	**Ussuriysk Arra**	**18.27**	**11**	*i*P		**Pn**	**22 56 21.4**	**+0.9**	
USA0B	**Ussuriysk Arra**	**18.27**	**11**	P		**P**	**22 56 18.6**	**-1.5**	
USRK	**Ussuriysk Ar.**	**18.27**	**11**	P		**P**	**22 56 18.7**	**-1.4**	
	baz=193,slow=10,SNR=6.5								
USRK				LR		LR	23 02 45.8		
	comp=Z,748nm,21.9s,baz=180,slow=35								
MDJ	**Mudanjiang**	**18.39**	**5**	P		**Pn**	**22 56 22.3**	**+0.3**	
MDJ				pP		pP	22 56 34.4	+1.3	
MDJ				sP		sP	22 56 39.4	-0.3	
MDJ				pmax		pmax			
	comp=Z,10.0nm,0.8s								
MDJ				LR		LR			
	comp=Z,830nm,20.6s								
MDJ				LR		LR			
	comp=Z,760nm,16.4s								
MDJ				LR		LR			
	comp=Z,1μm,21.4s								
GYA	**Guiyang**	**18.61**	**275**	⇑P		**Pn**	**22 56 25.1**	**+0.2**	
GYA				pP		sP	22 56 40.8	-1.7	
GYA				sP		**Pn**	**22 56 46.3**	**+10**	
GYA				S		**Sn**	**22 59 51.3**	**-1.0**	
GYA				sS		sS	23 00 06.9	-5.6	
GYA				pmax		pmax			
	comp=Z,19nm,1.2s								
GYA				LR		LR			
	comp=Z,1μm,21.3s								
GYA				LR		LR			
	comp=Z,1μm,17.2s								
GYA				LR		LR			
	comp=Z,2μm,17.4s								
HHC	**Hu-ho-hao-te**	**19.61**	**322**	*e*P		**Pn**	**22 56 37.1**	**+0.4**	
HHC				pP		sP	22 56 51.8	-1.1	
HHC				S		**S**	**23 00 11.3**	**-2.1**	
HHC				sS		sS	23 00 25.0	-7.4	
HHC				SS		**SnSn**	**23 00 41.9**	**+11**	
HHC				pmax		pmax			
	comp=Z,74nm,1.0s								
HHC				pmax		pmax			
	comp=Z,550nm,6.4s								
HHC				LR		LR			
	comp=Z,2μm,12.8s								
HHC				LR		LR			
	comp=Z,1μm,12.8s								
HHC				LR		LR			
	comp=Z,2μm,12.1s								
ANA2	**Anatahan**	**19.67**	**117**	P		**P**	**22 56 35.8**	**+0.1**	
ANA2				IAmb		IAmb	22 56 58.2		
	comp=Z,117nm,0.6s								
JEW	**Eniwo**	**20.12**	**31**			Pn	22 56 42.2	-0.3	
JEW				IAmb		IAmb	22 56 46.9		
	comp=Z,166nm,0.9s								
BTO	**Baotou**	**20.33**	**319**	*e*P		Pn	22 56 44.6	-0.6	
ERM	**Erimo**	**20.35**	**36**	P		**P**	**22 56 42.8**	**0.0**	
ERM				pmax		pmax			
	comp=Z,267nm,1.4s								
ERM	**Erimo**	**20.35**	**36**	P		**P**	**22 56 42.8**	**0.0**	
ERM				IAmb		IAmb	22 57 29.2		
	comp=Z,267nm,1.4s								
GUMO	**Guam**	**20.66**	**124**	P		Pn	22 56 48.9	-0.2	
	comp=Z,73nm,0.8s,baz=308,slow=1.6,SNR=5.4								
GUMO	**Guam**	**20.66**	**124**	P		Pn	22 56 47.9	-1.2	
CD2	**Chengdu**	**21.28**	**288**	P		**P**	**22 56 51.1**	**-1.9**	
CD2				S		**S**	**23 00 44.5**	**-2.2**	
CD2				pmax		pmax			
	comp=Z,130nm,1.0s								
CD2				pmax		pmax			
	comp=Z,530nm,7.5s								
CD2				LR		LR			
	comp=Z,3μm,17.5s								
CD2				LR		LR			
	comp=Z,3μm,14.9s								
CD2				LR		LR			
	comp=Z,3μm,19.1s								
ASAJ	**Asahikawa**	**21.63**	**31**	P		**P**	**22 56 56.2**	**-0.4**	
	comp=Z,17nm,0.6s,baz=238,slow=11,SNR=13								
SLVN	**Son La**	**22.06**	**262**	P		**P**	**22 57 02.9**	**+1.3**	
KMI	**Kunming**	**22.27**	**273**	⇓P		**P**	**22 57 04.3**	**+0.4**	
KMI				pP		pP	22 57 17.6	+1.7	
KMI				sP		sP	22 57 24.9	+2.4	
KMI				PP		**PnPn**	**22 57 36.3**	**+8.1**	
KMI				S		**S**	**23 01 02.0**	**-4.0**	
KMI				LR		LR			
	comp=Z,470nm,9.1s								
KMI				LR		LR			
	comp=Z,1μm,13.8s								
KMI				LR		LR			
	comp=Z,1μm,13.7s								
KMI	**Kunming**	**22.27**	**273**	P		**P**	**22 57 04.1**	**+0.2**	
KMI				pmax		pmax			
	comp=Z,30nm,0.8s								
KMI				MLR		MLR			
	comp=Z,1μm,20.0s								
KMI	**Kunming**	**22.27**	**273**	P		**P**	**22 57 04.1**	**+0.2**	
LZH	**Lanzhou**	**22.38**	**302**	*e*P		**P**	**22 57 04.6**	**-0.3**	
LZH				pP		pP	22 57 19.3	+2.5	
LZH				sP		sP	22 57 27.1	+3.8	
LZH				*e*S		**S**	**23 01 03.4**	**-4.2**	
LZH				SS		**SnSn**	**23 01 48.9**	**+10**	
LZH				pmax		pmax			
	comp=Z,69nm,1.1s								
LZH				pmax		pmax			
	comp=Z,750nm,4.1s								
LZH				LR		LR			
	comp=Z,900nm,13.3s								
LZH				LR		LR			
	comp=Z,2μm,13.8s								
LZH				LR		LR			
	comp=Z,2μm,16.0s								
SGSI	**Sangihe**	**22.53**	**185**	P		**P**	**22 57 08.5**	**+2.0**	
	comp=Z,104nm,0.6s								
MYLDM	**Lahad Datu**	**22.64**	**204**	P		**P**	**22 57 08.5**	**+0.8**	
KKM	**Kota Kinabalu**	**22.79**	**210**	P		**P**	**22 57 09.4**	**+0.2**	
KKM				IAmb		IAmb	22 57 30.9		
	comp=Z,205nm,1.6s								
DLV	**T Lat**	**22.83**	**235**	P		**P**	**22 57 09.5**	**-0.4**	
YUK	**Yuzh-Kuril'sk**	**23.18**	**35**	P		P	22 57 03.3	-10	
YUK				*e*S		**S**	**23 01 22.0**	**+1.5**	
YUK				MLR		MLR			
	comp=Z,845nm,22.0s								
UBPT	**Khong Chiam**	**23.22**	**246**	P		**P**	**22 57 14.1**	**+0.5**	
UBPT				IAmb		IAmb	22 57 34.0		
	comp=Z,249nm,1.3s								
HIA	**Hailar**	**23.72**	**347**	P		**P**	**22 57 16.1**	**-1.9**	
HIA				pmax		pmax			
	comp=Z,12nm,0.6s								
HIA				MLR		MLR			
	comp=Z,700nm,18.0s								
HIA	**Hailar**	**23.72**	**347**	P		**P**	**22 57 16.

CHTO Chiang Mai 27.29 260 P **P** 22 57 50.3 -0.4
CHTO 23 01 10.6
CHTO pmax pmax
comp=Z,141nm,0.7s
CHTO MLR MLR
comp=Z,500nm,20.0s
CHTO Chiang Mai 27.29 260 P **P** 22 57 50.3 -0.4
CHTO **PcP** 23 01 10.6 +1.3
CM31 Chiang Mai Arr 27.42 259 P **P** 22 57 52.9 +1.1
SNR=26
CM31 Chiang Mai Arr 27.42 259 P **P** 22 57 52.5 +0.6
CM31 IAmb IAmb 22 57 53.6
comp=Z,60nm,0.6s
CMAR Chiang Mai Arr 27.42 259 P **P** 22 57 52.5 +0.7
comp=Z,42nm,0.6s,baz=58,slow=7.8,SNR=306
CMAR PcP **PcP** 23 01 11.3 +1.7
comp=Z,11nm,0.7s,baz=32,slow=1.1,SNR=24
CMAR PKiKP **PKiKP** 23 08 46.6 -0.2
comp=Z,0.6nm,0.5s,baz=252,slow=2.6,SNR=6.1
CMAR LR LR 23 10 10.4
comp=Z,369nm,18.4s,baz=108,slow=40
ZEA Zeya 27.44 360 *e*P P 22 58 00.5 +8.9
ZEA pmax pmax
comp=Z,15nm,0.8s
SBUM Sibu 27.83 214 P **P** 22 57 56.1 +0.7
SBUM IAmb IAmb 22 58 00.4
comp=Z,80nm,0.6s
SANI Sanana 28.19 183 P **P** 22 57 57.9 -0.7
comp=Z,831nmcomp=Z,39nm,0.7s
FAKI Fak Fak 29.39 170 P **P** 22 58 09.4 +0.1
MOKO MOKOCHONG 29.46 278 IAmb IAmb 23 01 22.3
comp=Z,22nm,0.8s
MTKI Muara Teweh, K 29.64 206 P **P** 22 58 13.7 +2.2
comp=Z,19nm,0.6s
STKI Sintang 30.25 213 P **P** 22 58 20.2 +3.2
ZAK Zakamensk 30.38 329 *e*P **P** 22 58 16.0 -1.9
TEZP TEZPUR 30.95 278 *e*P **P** 22 58 22.1 -1.0
TEZP IAmb IAmb 22 58 24.1
comp=Z,19nm,0.5s
TLY Talaya 31.12 331 LR LR 23 12 23.9
comp=Z,788nm,20.4s,baz=131,slow=39
TLY Talaya 31.12 331 *e*P **P** 22 58 23.6 -0.8
TLY *e* 22 59 31.0
TLY *e*S **S** 23 03 31.7 +5.5
TLY pmax pmax
comp=Z,39nm,0.9s
TLY MLR MLR
comp=Z,2μm,15.0s
TLY Talaya 31.12 331 P **P** 22 58 23.9 -0.4
SHL Shillong 31.92 277 *e*P **P** 22 58 31.5 -0.3
SHL IAmb IAmb 22 58 33.1
comp=Z,16nm,0.9s
SHL Shillong 31.92 277 P **P** 22 58 31.7 -0.2
SNR=7.4
SHL Shillong 31.92 277 P **P** 22 58 31.3 -0.5
SHL pmax pmax
comp=Z,27nm,0.5s
SHL MLR MLR
comp=Z,2μm,21.0s
SHL Shillong 31.92 277 P **P** 22 58 31.3 -0.5
SHL IAmb IAmb 22 58 40.1
comp=Z,27nm,0.5s
SHL IAMs_20 IAMs_20 23 12 19.0
comp=Z,2μm,21.0s
BBKI Banjar Baru 31.97 204 P **P** 22 58 33.2 +1.1
comp=Z,76nm,1.2s
LSA Lhasa 32.13 285 P **P** 22 58 33.8 -0.2
LSA Lhasa 32.13 285 *i* P **P** 22 58 34.2 +0.1
SNR=18
LSA Lhasa 32.13 285 P **P** 22 58 33.9 -0.1
LSA pmax pmax
comp=Z,23nm,0.5s
LSA MLR MLR
comp=Z,1μm,19.0s
LSA Lhasa 32.13 285 P **P** 22 58 33.9 -0.1
LSA IAmb IAmb 22 58 35.4
comp=Z,23nm,0.5s
LSA IAMs_20 IAMs_20 23 12 25.6
comp=Z,1μm,19.0s
MOY Mondy 32.31 329 *e*P **P** 22 58 34.8 -0.1
MOY pmax pmax
comp=Z,12nm,1.7s
KULM Kulim 33.01 235 P **P** 22 58 41.7 +0.4
KULM IAmb IAmb 22 58 43.2
comp=Z,32nm,0.8s
KULM Kulim 33.01 235 P **P** 22 58 43.0 +1.7
IPM Ipoh 33.28 234 P **P** 22 58 44.1 +0.4
IPM IAmb IAmb 22 58 45.3
comp=Z,59nm,0.7s
IPM Ipoh 33.28 234 P **P** 22 58 44.0 +0.4
DSRI Dabo 34.54 223 P **P** 22 58 55.4 +0.9
comp=Z,14nm,1.5s
GTK Tadong 34.58 281 *e*P **P** 22 58 55.0 +0.1
GTK IAmb IAmb 22 58 59.6
comp=Z,20nm,0.8s
TPI Tanjungpandan 34.62 216 P **P** 22 58 57.6 +2.4
PPBI Pangkal Pinang 34.96 219 P **P** 22 58 59.1 +1.0
BWJI Bawean 35.00 206 P **P** 22 58 59.7 +1.3
comp=Z,173nm,0.9s
PEA0B Petropavlovsk- 35.04 32 P **P** 22 58 58.3 -0.2
PEA0B pmax pmax
comp=Z,113nm,1.7s
PEA0B Petropavlovsk- 35.04 32 P **P** 22 58 58.2 -0.2
PEA0B IAmb IAmb 22 59 59.5
comp=Z,112nm,1.7s
PETK Petropavlovsk- 35.04 32 P **P** 22 58 58.3 -0.2
comp=Z,16nm,0.9s,baz=198,slow=4.4,SNR=11
PETK LR LR 23 13 37.0
comp=Z,373nm,21.9s,baz=229,slow=37
PETK Petropavlovsk- 35.04 32 P **P** 22 58 58.1 -0.3
PATS Pohnpei 35.19 118 P **P** 22 58 59.9 -0.3
EDFI Ende, Flores 35.25 190 P **P** 22 59 00.6 -0.1
comp=Z,9.0nm,0.8s
PET Petropavlovsk 35.45 33 *ce*P **P** 22 59 01.8 -0.1
PET pmax pmax
comp=Z,83nm,0.5s
PET Petropavlovsk 35.45 33 P **P** 22 59 01.9 0.0
YAK Yakutsk 35.79 2 LR LR 23 14 30.2
comp=Z,462nm,19.1s,baz=182,slow=38
YAK Yakutsk 35.79 2 *e*P **P** 22 59 02.5 -2.2
YAK *e**PP **pP** 22 59 19.1 +1.0
YAK *e* 23 00 23.2
YAK *e* 23 01 30.9
YAK *e*S **S** 23 04 33.9 -4.1
YAK *e*SS **SnSn** 23 06 59.7 -4.7
YAK *e* 23 09 15.2
YAK pmax pmax
comp=Z,28nm,0.6s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,105nm,2.7s
YAK pmax pmax
comp=N,66nm,2.6s
YAK pmax pmax
comp=E,122nm,3.0s
YAK smax smax
comp=N,65nm,2.3s
YAK smax smax
comp=E,60nm,2.3s
YAK Yakutsk 35.79 2 P **P** 22 59 03.4 -1.3
YAK IAmb IAmb 22 59 04.6
comp=Z,74nm,0.9s
LHMI Lhok Sumawe 35.86 240 P **P** 22 59 06.3 +0.4
comp=Z,178nm,0.7s
LHMI Lhok Sumawe 35.86 240 P **P** 22 59 07.2 +1.3
SOEI Soe 35.94 185 P **P** 22 59 05.3 -1.3
comp=Z,36nm,0.9s
SOEI Soe 35.94 185 P **P** 22 59 05.1 -1.5
SOEI IAmb IAmb 22 59 51.6
comp=Z,38nm,1.0s
RPSI Rantau Prapat 36.02 234 P **P** 22 59 07.5 +0.2
RPSI IAmb IAmb 22 59 08.9
comp=Z,31nm,0.7s
RPSI PcP **PcP** 23 01 32.8 -0.1
PLAI Plampang 36.13 196 P **P** 22 59 08.7 +0.6
comp=Z,1μmcomp=Z,73nm,1.0s
BKNI Bangkinang 36.21 229 P **P** 22 59 10.4 +1.5
comp=Z,173nm,1.0s
BKNI Bangkinang 36.21 229 P **P** 22 59 10.1 +1.2
TWSI Taliwang, Sumb 36.28 198 P **P** 22 59 09.5 +0.1
comp=Z,17nm,1.7s
BATI Baumata 36.44 186 LR LR 23 15 15.2
comp=Z,218nm,21.1s,baz=332,slow=38

BATI Baumata 36.44 186 P **P** 22 59 09.2 -1.6
comp=Z,49nm,0.6s
WMQ Urumqi 36.53 309 P **P** 22 59 11.5 +0.1
WMQ sP sP 22 59 32.5 +1.5
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,90nm,4.5s
WMQ LR LR
comp=Z,270nm,17.3s
WMQ LR LR
comp=Z,470nm,19.9s
WMQ LR LR
comp=Z,470nm,21.9s
WMQ Urumqi 36.53 309 P **P** 22 59 10.7 -0.7
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ MLR MLR
comp=Z,1μm,21.0s
WMQ Urumqi 36.53 309 P **P** 22 59 10.7 -0.7
WMQ IAmb IAmb 22 59 13.1
comp=Z,36nm,0.9s
WMQ Urumqi 36.53 309 IAMs_20 IAMs_20 23 15 05.0
comp=Z,1μm,21.0s
H11N1 WAKE ISLAND Hy 36.80 92 T T 23 38 02.4
baz=290,slow=74,SNR=6.6
H11N2 WAKE ISLAND Hy 36.80 92 T T 23 38 03.3
baz=290,slow=74,SNR=14
H11N3 WAKE ISLAND Hy 36.82 92 T T 23 38 05.1
baz=290,slow=74,SNR=8.7
MNSI Mandailing Nat 36.88 231 P **P** 22 59 14.9 +0.3
comp=Z,1μmcomp=Z,110nm,0.8s
MLSI Meulaboh, Aceh 36.88 239 P **P** 22 59 15.1 +0.5
comp=Z,203nm,0.7s
SDSI Sungai Dareh 36.89 227 P **P** 22 59 15.8 +1.2
comp=Z,35nm,1.5s
SMRI Semarang 37.00 209 P **P** 22 59 15.0 -0.5
SMRI IAmb IAmb 22 59 51.0
comp=Z,79nm,1.1s
H11S3 WAKE ISLAND Hy 37.01 94 T T 23 38 53.8
baz=289,slow=74,SNR=16
MA2 Magadan 37.01 20 P **P** 22 59 15.0 -0.2
MA2 pmax pmax
comp=Z,21nm,0.7s
MA2 Magadan 37.01 20 P **P** 22 59 15.0 -0.2
H11S1 WAKE ISLAND Hy 37.01 94 T T 23 38 43.9
baz=289,slow=74,SNR=7.7
H11S2 WAKE ISLAND Hy 37.02 94 T T 23 38 52.7
baz=289,slow=74,SNR=8.8
PWJI Pagerwojo 37.31 206 P **P** 22 59 18.8 +0.6
comp=Z,65nm,1.0s
BOK Bokaro 37.61 275 *e*P **P** 22 59 21.2 +0.5
BOK IAmb IAmb 22 59 24.4
comp=Z,16nm,0.7s
UGM Wanagama 37.74 208 P **P** 22 59 22.8 +0.9
LHSI Lahat 37.83 221 P **P** 22 59 24.7 +2.1
comp=Z,65nm,1.0s
KLSI 37.83 219 P **P** 22 59 24.3 +1.7
comp=Z,18nm,1.4s
KPJI Karang Pucung 37.92 211 P **P** 22 59 24.9 +1.5
comp=Z,61nm,1.1s
GSI Gunungsitoli 37.95 234 P **P** 22 59 24.0 +0.3
comp=Z,65nm,0.9s
GSI Gunungsitoli 37.95 234 P **P** 22 59 23.4 -0.2
GSI IAmb IAmb 22 59 42.0
comp=Z,136nm,1.5s
MDSI Maura Dua 37.98 220 P **P** 22 59 25.2 +1.4
comp=Z,38nm,0.9s
LEM Lembang 38.11 213 LR LR 23 14 56.1
comp=Z,217nm,22.0s,baz=357,slow=36
LWLI Liwa 38.48 219 P **P** 22 59 28.9 +0.7
comp=Z,56nm,0.8s
DGZ Jazzator, Alta 38.61 318 *i* P **P** 22 59 28.7 -0.3
DGZ pmax pmax
comp=Z,6.0nm,0.6s
CISI Cisompet, Garu 38.64 212 P **P** 22 59 28.9 -0.6
CISI IAmb IAmb 22 59 33.4
comp=Z,177nm,1.5s
SISI Saibi 38.74 229 P **P** 22 59 29.9 -0.4
comp=Z,42nm,0.7s
MTN Manton Dam 39.05 174 P **P** 22 59 32.0 -0.7
MTN IAmb IAmb 22 59 51.4
comp=Z,87nm,1.1s
ZSN Zaisan 39.45 314 *e*P **P** 22 59 34.4 -1.5
ZSN Zaisan 39.45 314 *e*P **P** 22 59 34.4 -1.5
SEY Seymchan 40.19 17 PcP **PcP** 23 01 45.7 +0.7
comp=Z,7.6nm,0.6s,baz=213,slow=4.7,SNR=5.8
SEY LR LR 23 17 03.7
comp=Z,609nm,20.4s,baz=210,slow=37
SEY Seymchan 40.19 17⇑ *e*P **P** 22 59 42.2 +0.4
PMG Port Moresby 40.32 149 LR LR 23 13 55.9
comp=Z,598nm,21.2s,baz=309,slow=32
PMG Port Moresby 40.32 149 P **P** 22 59 43.5 +0.2
PMG pmax pmax
comp=Z,31nm,1.2s
PMG Port Moresby 40.32 149 P **P** 22 59 43.5 +0.2
CHLP Challavanipeta 40.69 268 *e*P **P** 22 59 47.7 +1.3
CHLP IVmB_BB 22 59 48.2
comp=Z,910nm,0.7s
MK31 Makanchi Array 40.97 312 *ce*P **P** 22 59 47.3 -1.2
MK31 Makanchi Array 40.97 312 P **P** 22 59 47.5 -1.0
MKAR Makanchi Array 40.97 312 P **P** 22 59 47.4 -1.1
comp=Z,18nm,0.5s,baz=97,slow=11,SNR=312
MKAR PcP **PcP** 23 01 48.4 +0.4
comp=Z,11nm,0.7s,baz=85,slow=4.2,SNR=7.7
MKAR ScP **ScP** 23 05 32.1 -1.1
comp=Z,0.5nm,0.4s,baz=100,slow=6.0,SNR=2.7
MKAR LR LR 23 18 10.8
comp=Z,438nm,19.5s,baz=106,slow=38
MKAR Makanchi Array 40.97 312 *i* P **P** 22 59 47.4 -1.1
MKAR pmax pmax
comp=Z,19nm,0.4s
MKAR Makanchi Array 40.97 312 P **P** 22 59 47.2 -1.3
MKAR PcP **PcP** 23 01 48.5 +0.6
MAKZ Makanchi 41.18 312 P **P** 22 59 49.0 -1.3
MAKZ pmax pmax
comp=Z,17nm,0.6s
MAKZ MLR MLR
comp=Z,500nm,20.0s
MAKZ Makanchi 41.18 312 P **P** 22 59 49.0 -1.3
KNRA Kununurra 41.72 178 P **P** 22 59 55.0 +0.2
KNRA IAmb IAmb 23 00 15.4
comp=Z,48nm,0.8s
ZAA0 Zalesovo Array 41.78 323 P **P** 22 59 53.7 -1.3
ZAA0 IAmb IAmb 22 59 55.3
comp=Z,36nm,0.5s
ZAA0 IAMs_20 IAMs_20 23 18 22.0
comp=Z,702nm,20.0s
ZALV Zalesovo Beam 41.78 323 P **P** 22 59 53.6 -1.3
comp=Z,37nm,0.5s,baz=114,slow=8.7,SNR=145
ZALV PcP **PcP** 23 01 50.3 0.0
comp=Z,3.7nm,0.6s,baz=126,slow=2.6,SNR=3.9
ZALV ScP **ScP** 23 05 36.2 -0.1
comp=Z,1.6nm,0.8s,baz=102,slow=3.5,SNR=3.3
ZALV LR LR 23 18 52.5
comp=Z,615nm,18.4s,baz=126,slow=38
ZALV Zalesovo Beam 41.78 323 *i* P **P** 22 59 53.7 -1.3
ZALV pmax pmax
comp=Z,38nm,0.4s
ZALV Zalesovo Beam 41.78 323 P **P** 22 59 53.2 -1.8
UZB Uzynbulak 42.59 306 *e*P **P** 23 00 01.7 -0.3
comp=Z,18nm,1.0s
UZB Uzynbulak 42.59 306 *e*P **P** 23 00 01.6 -0.3
UZB pmax pmax
comp=Z,18nm,1.0s
KPKS Kokpek 42.87 306 *e*P **P** 23 00 02.7 -1.5
comp=Z,27nm,0.6s
KPKS Kokpek 42.87 306 *e*P **P** 23 00 02.6 -1.6
KPKS pmax pmax
comp=Z,27nm,0.6s
SATY Saty 43.03 306 *e*P **P** 23 00 04.7 -0.8
comp=Z,11nm,0.8s
SATY Saty 43.03 306 *e*P **P** 23 00 04.6 -0.9
SATY pmax pmax
comp=Z,11nm,0.8s
TDK Taldyqorghan 43.28 309 *e*P **P** 23 00 06.6 -0.8
TDK Taldyqorghan 43.28 309 *e*P **P** 23 00 06.6 -0.8
PVM Polavaram 43.29 268 *e*P **P** 23 00 08.5 +0.8
PVM IVmB_BB 23 00 09.0
comp=Z,648nm,0.6s
MDOK Medeo 44.03 306 *e*P **P** 23 00 12.8 -0.7
MDOK Medeo 44.03 306 *e*P **P** 23 00 12.8 -0.7
SMLA Simla 44.05 288 *i* P **P** 23 00 13.3 -0.4
SMLA IAmb IAmb 23 00 15.6
comp=Z,94nm,0.6s
TNSS Tian-Shan 44.09 306 *e*P **P** 23 00 14.5 +0.2

TNSS Tian-Shan 44.09 306 *e*P **P** 23 00 14.5 +0.2
FITZ Fitzroy Crossi 44.14 182 LR LR 23 19 00.7
comp=Z,142nm,20.2s,baz=11,slow=36
FITZ Fitzroy Crossi 44.14 182 P **P** 23 00 14.5 +0.2
KURK Kurchatov 44.30 317 *ce*P **P** 23 00 14.5 -0.9
KURK pmax pmax
comp=Z,95nm,1.0s
KURK Kurchatov 44.30 317 P **P** 23 00 14.2 -1.2
KURK IAmb IAmb 23 00 16.2
comp=Z,82nm,0.9s
KURK Kurchatov 44.30 317 IAMs_20 IAMs_20 23 20 08.6
comp=Z,1μm,18.0s
MYLAV Mylavaram 44.35 267 *e*P **P** 23 00 17.3 +1.1
MYLAV IVmB_BB 23 00 17.8
comp=Z,589nm,0.6s
GGR Gangavaram 44.37 269 *e*P **P** 23 00 17.1 +0.6
GGR IVmB_BB 23 00 17.4
comp=Z,617nm,0.6s
NGP Nagpur 44.39 274 *e*P **P** 23 00 16.4 -0.2
NGP IAmb IAmb 23 00 22.9
comp=Z,28nm,1.0s
SONA Sohna 44.54 284 *e*P **P** 23 00 16.9 -0.7
SONA IAmb IAmb 23 00 20.9
comp=Z,72nm,0.6s
ULHL Ulahol 44.54 304 P **P** 23 00 18.0 +0.3
SNR=51
KUU Kurty 44.61 307 *e*P **P** 23 00 17.7 -0.3
comp=Z,38nm,0.6s
KUU Kurty 44.61 307 *e*P **P** 23 00 17.7 -0.3
KUU pmax pmax
comp=Z,38nm,0.6s
KSH Kashi 44.62 301 P **P** 23 00 20.8 +2.5
KSH S **S** 23 06 52.9 +2.1
KSH pmax pmax
comp=Z,40nm,0.7s
KSH LR LR
comp=Z,200nm,8.2s
KSH LR LR
comp=Z,190nm,6.8s
KSH LR LR
comp=Z,230nm,5.6s
BHK Bhakra 44.66 289 *ex* **P** 23 00 17.0 -1.6
DHRM DHARAMSHALA 44.66 290⇑ *i*P **P** 23 00 17.3 -1.6
DHRM IAmb IAmb 23 00 23.2
comp=Z,37nm,0.6s
BOOM Boomskoye usch 44.78 305 P **P** 23 00 19.2 -0.4
BOOM pmax pmax
comp=Z,16nm,0.7s
BOOM Boomskoye usch 44.78 305 P **P** 23 00 19.2 -0.4
RPR Rampur 44.85 271 *e*P **P** 23 00 20.3 +0.1
RPR IVmB_BB 23 00 21.1
comp=Z,517nm,0.7s
TKM2 Tokmak 2 45.06 305 P **P** 23 00 22.0 +0.1
SNR=131
KUDL Kundal 45.07 284 *e*P **P** 23 00 20.5 -1.3
ADKI Addanki 45.27 267 *e*P **P** 23 00 24.7 +1.1
ADKI IVmB_BB 23 00 25.3
comp=Z,407nm,0.7s
BHPL Bhopal 45.29 277 *e*P **P** 23 00 22.4 -1.3
BHPL IAmb IAmb 23 00 24.8
comp=Z,16nm,0.4s
TIXI Tiksi 45.42 1 *ce*P **P** 23 00 22.6 -1.4
TIXI Tiksi 45.42 1 P **P** 23 00 22.8 -1.2
KBK Karagaybulak 45.52 305 P **P** 23 00 25.6 +0.1
SNR=48
NJS Nagarjunasagar 45.61 268 *e*P **P** 23 00 26.9 +0.6
NJS IVmB_BB 23 00 27.4
comp=Z,324nm,0.7s
CHMS Chumysh 45.69 305 P **P** 23 00 26.8 +0.2
SNR=37
CUPL Choutuppal 45.70 269 *e*P **P** 23 00 27.6 +0.6
CUPL IVmB_BB 23 00 28.0
comp=Z,640nm,0.6s
FRU1 Bishkek 45.77 305 P **P** 23 00 27.1 -0.2
FRU1 pmax pmax
comp=Z,37nm,0.7s
FRU1 MLR MLR
comp=Z,700nm,18.0s
FRU1 Bishkek 45.77 305 P **P** 23 00 27.1 -0.2
FRU1 IAmb IAmb 23 00 28.3
comp=Z,37nm,0.7s
FRU1 IAMs_20 IAMs_20 23 22 35.7
comp=Z,665nm,18.0s
SGDS Sogindy 45.81 306 *e*P **P** 23 00 25.5 -2.1
comp=Z,7.8nm,0.6s
SGDS Sogindy 45.81 306 *e*P **P** 23 00 25.5 -2.1
SGDS pmax pmax
comp=Z,8.0nm,0.6s
UCH Uchtor 45.82 304 P **P** 23 00 28.4 +0.2
SNR=155
AAK Ala-Archa 45.86 305 P **P** 23 00 28.3 +0.2
SNR=18
AAK Ala-Archa 45.86 305 *i* P **P** 23 00 28.1 0.0
SNR=28
AAK Ala-Archa 45.86 305 *ce*P **P** 23 00 27.5 -0.6
AAK pmax pmax
comp=Z,51nm,0.7s
HYB Hyderabad 45.99 269 *i* P **P** 23 00 29.0 -0.3
comp=Z,107nm,0.8s
HYB *e*PcP **PcP** 23 02 06.0 +0.6
HYBB Hyderabad (bro 45.99 269 *e*P **P** 23 00 29.8 +0.5
HYBB IVmB_BB 23 00 30.1
comp=Z,509nm,0.6s
MDRS Chennai 46.09 263 *e*P **P** 23 00 32.0 +2.0
MDRS IAmb IAmb 23 00 50.1
comp=Z,126nm,1.3s
SRLM Srisailam 46.14 267 *e*P **P** 23 00 30.9 +0.4
SRLM IVmB_BB 23 00 31.5
comp=Z,378nm,0.8s
WB0 Warramunga Arr 46.26 171 P **P** 23 00 31.3 +0.1
WB0 IAmb IAmb 23 00 48.2
comp=Z,32nm,0.8s
WB9 Warramunga Arr 46.28 171 IAMs_20 IAMs_20 23 14 08.0
comp=Z,530nm,18.0s
SKHT Srikalahasti 46.30 264 *e*P **P** 23 00 32.8 +1.1
SKHT IVmB_BB 23 00 33.7
comp=Z,400nm,0.7s
BTLS Baital 46.36 308 *e*P **P** 23 00 30.3 -1.6
comp=Z,23nm,0.8s
BTLS Baital 46.36 308 *e*P **P** 23 00 30.2 -1.6
BTLS pmax pmax
comp=Z,23nm,0.8s
EKS2 Erkin-Say 46.39 305 P **P** 23 00 31.7 -0.5
SNR=26
WC1 Warramunga Arr 46.41 171 IAMs_20 IAMs_20 23 14 22.3
comp=Z,454nm,19.0s
WB3 Warramunga Arr 46.41 171 IAMs_20 IAMs_20 23 18 29.4
comp=Z,812nm,19.0s
WRAB Tennant Creek 46.42 171 *ce*P **P** 23 00 32.7 +0.3
WRAB pmax pmax
comp=Z,19nm,1.7s
AML Almayashu 46.42 304 P **P** 23 00 33.3 +0.5
SNR=53
WRA Warramunga Arr 46.42 171 P **P** 23 00 32.9 +0.4
comp=Z,6.4nm,0.6s,baz=353,slow=8.4,SNR=65
WRA LR LR 23 19 04.0
comp=Z,357nm,21.4s,baz=5.0,slow=35
WRA Warramunga Arr 46.42 171 *i* P **P** 23 00 32.9 +0.4
WRA pmax pmax
comp=Z,7.0nm,0.6s
WRA Warramunga Arr 46.42 171 P **P** 23 00 32.5 0.0
WR2 Warramunga Arr 46.43 171 IAMs_20 IAMs_20 23 13 59.0
comp=Z,406nm,18.0s
WR9 Warramunga Arr 46.47 171 IAMs_20 IAMs_20 23 18 28.9
comp=Z,523nm,19.0s
NIL Nilore 47.06 293 P **P** 23 00 37.0 -0.6
NIL pmax pmax
comp=Z,86nm,0.7s
NIL Nilore 47.06 293 P **P** 23 00 37.0 -0.6
KLRI Killari 47.53 271 *e*P **P** 23 00 41.5 +0.1
KLRI IVmB_BB 23 00 41.9
comp=Z,2μm,0.7s
BILL Bilibino 47.86 19 *c* *i*P **P** 23 00 43.2 0.0
BILL *e**PP **pP** 23 00 56.6 -0.5
BILL *e**SP **sP** 23 01 04.1 +1.0
BILL pmax pmax
comp=Z,76nm,1.7s
BILL Bilibino 47.86 19 P **P** 23 00 43.1 0.0
BILL IAmb IAmb 23 00 44.4
comp=Z,79nm,1.2s
BILL IAMs_20 IAMs_20 23 23 48.5
comp=Z,2μm,20.0s
BRZS Berezniki 47.88 315 *e*P **P** 23 00 41.9 -1.7
comp=Z,41nm,0.6s
BRZS Berezniki 47.88 315 *e*P **P** 23 00 41.9 -1.7
BRZS pmax pmax

comp=Z,41nm,0.6s
URV Uravakonda 48.03 267 eP P 23 00 45.5 +0.3
URV IVmB_BB 23 00 46.4
comp=Z,455nm,0.6s
PSA00 Pilbara Seismi 48.12 189 P P 23 00 45.8 +0.1
PSA00 IAmb IAmb 23 00 46.7
comp=Z,20nm,0.7s
DZA Taraz 48.19 305 eP P 23 00 44.6 -1.6
DZA Taraz 48.19 305 eP P 23 00 44.6 -1.6
PALK Pallekele 48.24 256 P P 23 00 47.4 +0.5
PALK pmax pmax
comp=Z,60nm,1.1s
PALK MLR MLR
comp=Z,400nm,22.0s
PALK Pallekele 48.24 256 P P 23 00 47.4 +0.5
PALK IAmb IAmb 23 01 06.4
comp=Z,60nm,1.1s
BTK Batken 48.59 301 P P 23 00 49.0 -0.3
BTK pmax pmax
comp=Z,23nm,0.8s
BTK Batken 48.59 301 P P 23 00 49.0 -0.3
BTK IAmb IAmb 23 00 50.0
comp=Z,23nm,0.8s
BTK IAMs_20 IAMs_20 23 23 35.5
comp=Z,648nm,20.0s
KK31 Karatay Array 48.80 305 P P 23 00 50.2 -0.6
KK31 pmax pmax
comp=Z,42nm,0.9s
KK31 Karatay Array 48.80 305 P P 23 00 50.2 -0.6
KK31 IAmb IAmb 23 00 52.4
comp=Z,42nm,0.8s
KKAR Karatay Array 48.80 305 P P 23 00 50.6 -0.2
KKAR Karatay Array 48.80 305 P P 23 00 50.5 -0.2
ADK Adak 48.89 43 P P 23 00 50.8 -0.4
ADK pmax pmax
comp=Z,197nm,1.7s
ADK Adak 48.89 43 P P 23 00 50.8 -0.4
NRIK Noril'sk 48.99 342 P P 23 00 50.8 -1.1
comp=Z,24nm,0.6s,baz=119,slow=9.7,SNR=44
NRIK PcP PcP 23 02 15.3 +0.2
comp=Z,7.6nm,0.6s,baz=108,slow=3.7,SNR=2.8
NRIK LR LR 23 23 40.3
comp=Z,1μm,19.3s,baz=167,slow=39
NRIK Noril'sk 48.99 342ceP P 23 00 50.1 -1.7
NRIK pmax pmax
comp=Z,21nm,0.6s
GAR Garm 49.02 300 P P 23 00 52.6 0.0
GAR IAMs_20 IAMs_20 23 24 57.9
comp=Z,1μm,19.0s
IUG Iuzhnay 49.15 304 eP P 23 00 53.6 0.0
comp=Z,20nm,0.7s
IUG Iuzhnay 49.15 304 eP P 23 00 53.6 0.0
IUG pmax pmax
comp=Z,20nm,0.7s
CTA Charters Tower 49.57 157 LR LR 23 23 10.3
comp=Z,264nm,19.2s,baz=346,slow=37
TAS Tashkent 49.71 303 P P 23 00 58.1 +0.3
TAS pmax pmax
comp=Z,101nm,0.7s
TAS Tashkent 49.71 303 P P 23 00 58.1 +0.3
BRVK Borovoye 49.83 318c iP P 23 00 58.0 -0.5
BRVK pmax pmax
comp=Z,186nm,1.0s
BRVK Borovoye 49.83 318 P P 23 00 58.3 -0.2
BRVK Borovoye 49.83 318 IAMs_20 IAMs_20 23 23 29.1
comp=Z,865nm,18.0s
POO Poona 49.84 273 ⇑iP P 23 00 57.0 -2.1
POO ⇑iP P 23 00 58.8 -0.3
POO IAmb IAmb 23 01 07.4
comp=Z,34nm,0.9s
CHGR Chuyangaron 49.94 300 P P 23 00 59.2 -0.4
AS31 Alice Springs 50.04 172 P P 23 01 00.2 -0.2
ASAR Alice Springs 50.04 172 P P 23 01 01.7 +1.4
comp=Z,3.5nm,0.7s,baz=360,slow=14,SNR=41
ASAR PcP PcP 23 02 20.4 +0.9
comp=Z,5.7nm,0.7s,baz=346,slow=3.2,SNR=6.1
ASAR LR LR 23 21 20.5
comp=Z,435nm,21.3s,baz=356,slow=35
ASAR Alice Springs 50.04 172 P P 23 01 00.8 +0.5
TARA Tarawa 50.24 112 IAMs_20 IAMs_20 23 16 40.2
comp=Z,2μm,22.0s
KBL Kabul 50.43 294 P P 23 01 03.6 0.0
KBL pmax pmax
comp=Z,170nm,0.8s
KBL Kabul 50.43 294 P P 23 01 03.6 0.0
GOA Goa 50.91 269 eP P 23 01 07.6 +0.5
GOA IAmb IAmb 23 01 13.8
comp=Z,47nm,0.8s
SVE Sverdlovsk 55.79 322d iP P 23 01 41.9 -0.4
SVE pmax pmax
comp=Z,58nm,0.8s
SVE MLR MLR
comp=Z,1μm,17.0s
TNA Tin City 55.93 27 P P 23 01 44.4 +1.2
baz=258
TNA Tin City 55.93 27 P P 23 01 44.0 +0.9
TNA IAmb IAmb 23 01 45.1
comp=Z,75nm,1.2s
HRA Herat 56.00 295 P P 23 01 44.4 -0.2
ABKAR Akbulak array 56.09 313 P P 23 01 44.3 -0.3
ABKAR Akbulak array 56.09 313 P P 23 01 44.1 -0.5
MORW Morawa 56.10 192 P P 23 01 45.1 +0.3
ARU Arti 56.91 322c iP P 23 01 49.2 -1.2
ARU *PP pP 23 02 03.2 -1.4
ARU 23 02 41.8
ARU 23 03 51.8
ARU PPP PPP 23 05 11.0
ARU S S 23 09 41.3 +1.1
ARU 23 11 29.3
ARU SS SS 23 13 28.1 -0.7
ARU pmax pmax
comp=Z,53nm,0.9s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 56.91 322 P P 23 01 49.3 -1.0
ARU IAmb IAmb 23 01 50.3
comp=Z,49nm,0.9s
RDOG Red Dog Mine 58.32 24 P P 23 02 00.8 +0.7
RDOG IAmb IAmb 23 02 19.2
comp=Z,129nm,2.0s
ASHT Ashkhabad 58.44 300 P P 23 02 01.4 0.0
ASHT pmax pmax
comp=Z,112nm,0.4s
ASHT Ashkhabad 58.44 300 P P 23 02 01.4 0.0
GEYT Alibeck 58.65 300 P P 23 02 03.3 +0.4
comp=Z,24nm,0.6s,baz=48,slow=2.4,SNR=62
GEYT LR LR 23 29 35.7
comp=Z,392nm,21.4s,baz=70,slow=38
GEYT Alibeck 58.65 300 P P 23 02 03.0 0.0
GYA0B ALIBECK ARRAY 58.65 300 P P 23 02 02.9 0.0
GYA0B IAmb IAmb 23 02 04.2
comp=Z,31nm,0.7s
STKA Stephens Creek 59.38 166 P P 23 02 08.8 +1.0
comp=Z,5.7nm,0.8s,baz=353,slow=7.1,SNR=10
STKA LR LR 23 26 38.6
comp=Z,277nm,21.8s,baz=1.7,slow=35
STKA Stephens Creek 59.38 166 P P 23 02 08.4 +0.6
NWAO Narrogin (SRO) 59.66 190 P P 23 02 10.3 +0.5
NWAO pmax pmax
comp=Z,38nm,1.5s
NWAO Narrogin (SRO) 59.66 190 P P 23 02 10.3 +0.5
NWAO IAmb IAmb 23 02 11.5
comp=Z,38nm,1.4s
CHGN Chignik 59.86 38 P P 23 02 10.7 -0.2
CHGN IAmb IAmb 23 02 11.2
comp=Z,37nm,0.8s
TTA Tatalina 60.86 31 P P 23 02 18.7 +0.9
TTA pmax pmax
comp=Z,60nm,1.8s
TTA Tatalina 60.86 31 P P 23 02 18.7 +0.9
TTA IAmb IAmb 23 02 20.0
comp=Z,60nm,1.8s
SVW2 Sparrevohn 61.12 33 P P 23 02 21.2 +1.7
SVW2 IAmb IAmb 23 02 22.1
comp=Z,22nm,0.8s
DZM Mont Dzumac 61.14 138 eP P 23 02 19.9 -0.3
comp=Z,52nm,1.1s
DZM Mont Dzumac 61.14 138 eLR LR 23 20 26.6
comp=Z,870nm,24.1s
JLN Jalan Bani Buh 61.53 282 P P 23 02 24.0 +1.1
SNR=5.2
IMAR Indian Mountai 61.78 27 P P 23 02 24.7 +0.9
KIRV Kirov 61.79 324c iP P 23 02 23.2 -0.7
WSAR Wadi Sarin 61.87 283 P P 23 02 26.1 +0.9
SNR=5.2

BIDO Bidbid 62.22 284 P P 23 02 28.1 +0.6
SNR=10.0
SMDO Samad 62.44 283 P P 23 02 29.4 +0.4
SNR=9.7
JMDO Jabal Madar 62.61 283 P P 23 02 30.1 0.0
SNR=5.9
PPLA Purkeypile 62.61 31 P P 23 02 31.2 +1.6
KDAK Kodiak Island 62.91 36 P P 23 02 31.9 +0.4
comp=Z,33nm,0.7s,baz=282,slow=6.2,SNR=30
KDAK Kodiak Island 62.91 36 P P 23 02 32.2 +0.7
KDAK pmax pmax
comp=Z,46nm,0.7s
KDAK Kodiak Island 62.91 36 P P 23 02 32.2 +0.7
HOQ Hoqain 62.91 284 P P 23 02 32.4 +0.3
SNR=11
BPAW Bear Paw Mtn. 63.05 29 P P 23 02 33.5 +1.2
BPAW IAmb IAmb 23 02 34.3
comp=Z,18nm,0.8s
BANOM Banah 63.07 287 i P P 23 02 33.7 +0.6
SNR=6.2
MLY Manley 63.08 28 P P 23 02 34.1 +1.5
baz=275,SNR=37
COLD Coldfoot 63.13 26 P P 23 02 33.9 +1.0
baz=274
COLD Coldfoot 63.13 26 P P 23 02 34.0 +1.1
SHME Shamm 63.16 287 i P P 23 02 34.6 +0.8
SNR=11
MHTO MHTO 63.18 281 P P 23 02 34.0 +0.1
SNR=14
MDH Madha 63.26 286 P P 23 02 33.6 -0.8
TOLK Toolik Lake Re 63.28 24 P P 23 02 34.8 +1.0
baz=274
TOLK Toolik Lake Re 63.28 24 P P 23 02 35.0 +1.1
TOLK IAmb IAmb 23 02 36.2
comp=Z,31nm,0.9s
BSY Bisya 63.28 283 P P 23 02 35.0 +0.4
SNR=7.1
PRGR Permogore 63.39 328 ⇑iP P 23 02 33.6 -1.0
PRGR pmax pmax
comp=Z,36nm,0.6s
SOHO SOHO 63.42 285 i P P 23 02 35.5 +0.1
SNR=44
SOHO SOHO 63.42 285 P P 23 02 35.0 -0.3
SUA Susitna One 63.42 32 P P 23 02 35.3 +0.3
SUA IAmb IAmb 23 02 53.0
comp=Z,36nm,0.8s
TRF Thorofare Moun 63.42 30 P P 23 02 35.7 +0.7
UOSS Minazif 63.45 286 i P P 23 02 35.4 -0.3
SNR=8.5
UOSS Minazif 63.45 286 P P 23 02 34.8 -0.8
UOSS Minazif 63.45 286 P P 23 02 35.3 -0.3
UOSS IAmb IAmb 23 02 46.5
comp=Z,23nm,0.6s
HATD Hatta, Dubai 63.55 286 i P P 23 02 36.4 +0.1
SNR=16
HATD Hatta, Dubai 63.55 286 P P 23 02 38.0 +1.7
SNR=5.1
BELG Belogornoye 63.56 318c iP P 23 02 34.9 -0.9
ARQ Araqi 63.68 284 P P 23 02 38.1 +0.9
SNR=5.4
BWN Browne 63.71 29 P P 23 02 38.4 +1.7
BWN IAmb IAmb 23 02 57.5
comp=Z,50nm,0.9s
NEA2 Nenana 63.83 29 P P 23 02 38.5 +1.0
baz=276,SNR=44
NAZ Nazwa, Dubai 63.90 286 i P P 23 02 38.8 +0.2
SNR=18
NAZ Nazwa, Dubai 63.90 286 P P 23 02 40.0 +1.4
SNR=6.4
DQM DQM 63.92 280 P P 23 02 39.1 +0.3
SNR=10
RC01 Rabbit Creek A 63.95 32 P P 23 02 38.6 +0.3
baz=277
MCK McKinley 63.99 29 P P 23 02 38.9 +0.3
baz=277,SNR=19
FAQ Al Faqa, Dubai 64.04 286 i P P 23 02 39.7 +0.2
SNR=65
FAQ Al Faqa, Dubai 64.04 286 P P 23 02 40.0 +0.5
SNR=9.2
MDM Murphy Dome 64.15 28 P P 23 02 41.0 +1.4
WRH Wood River Hil 64.27 29 P P 23 02 41.2 +0.9
WRH IAmb IAmb 23 02 56.8
comp=Z,30nm,0.9s
ASUD Al Ashush, Dub 64.30 286 i P P 23 02 41.8 +0.6
SNR=12
TCOL CIGO, UAF Yank 64.31 28 P P 23 02 41.2 +0.6
baz=277,SNR=5.8
COLA College 64.32 28 P P 23 02 41.6 +1.0
COLA pmax pmax
comp=Z,36nm,0.7s
COLA College 64.32 28 P P 23 02 41.6 +1.0
COLA IAmb IAmb 23 02 43.4
comp=Z,36nm,0.7s
CCB Clear Creek Bu 64.37 28 P P 23 02 41.6 +0.6
POKR Poker Plat Res 64.47 28 P P 23 02 42.7 +1.1
baz=278,SNR=37
IL31 64.74 28 P P 23 02 43.1 -0.2
IL31 IAmb IAmb 23 03 01.1
comp=Z,66nm,2.0s
ILAR Eielson Array 64.74 28 P P 23 02 43.1 -0.3
comp=Z,5.7nm,0.6s,baz=276,slow=5.0,SNR=53
ILAR PKP2bc 23 31 36.7
comp=Z,0.6nm,0.9s,baz=72,slow=2.9,SNR=4.1
ILAR LR LR 23 33 55.5
comp=Z,150nm,18.1s,baz=276,slow=39
ILAR Eielson Array 64.74 28 P P 23 02 43.0 -0.4
HDA Harding Lake 64.77 29 P P 23 02 43.6 0.0
baz=278,SNR=29
HDA Harding Lake 64.77 29 P P 23 02 43.4 -0.2
HDA IAmb IAmb 23 02 44.6
comp=Z,45nm,0.8s
GLI Glacier Island 65.25 32 P P 23 02 46.9 0.0
GLI IAmb IAmb 23 03 09.5
comp=Z,46nm,1.1s
GLI IAMs_20 IAMs_20 23 27 56.7
comp=Z,804nm,20.0s
BMAR Burnt Mountain 65.28 25 P P 23 02 48.8 +1.9
M24K Tolsona, Glenn 65.48 31 P P 23 02 49.6 +1.2
baz=280,SNR=6.0
MAK Makhachkala 65.53 307 eP P 23 02 48.6 -0.3
MAK e 23 05 13.6
MAK eS S 23 11 30.2 +0.2
MAK eSS SS 23 15 47.8 +3.8
MAK pmax pmax
comp=Z,41nm,0.9s
MAK MLR MLR
comp=Z,352nm,17.0s
PAX Paxson 65.65 30 P P 23 02 50.3 +0.8
PAX pmax pmax
comp=Z,19nm,0.8s
PAX Paxson 65.65 30 P P 23 02 50.3 +0.8
TOO Toolangi 65.73 164 P P 23 02 51.2 +1.1
TOO pmax pmax
comp=Z,29nm,1.2s
TOO Toolangi 65.73 164 P P 23 02 51.2 +1.1
RIDG Independent Ri 65.79 29 P P 23 02 50.6 +0.3
RIDG IAmb IAmb 23 02 52.4
comp=Z,27nm,0.9s
EYAK Cordova Ski Ar 65.97 33 P P 23 02 52.4 +1.0
EYAK IAmb IAmb 23 03 39.4
comp=Z,49nm,1.4s
SCRK Sand Creek 66.12 29 P P 23 02 52.7 +0.2
baz=281,SNR=24
DOT Dot Lake 66.15 29 P P 23 02 52.9 +0.3
DOT IAmb IAmb 23 02 53.9
comp=Z,36nm,0.8s
SHAO Shalim 66.28 279 P P 23 02 54.4 +0.2
N25K Chitina, Valde 66.31 31 P P 23 02 54.8 +1.1
baz=282
KLMR Klimovskoe 66.43 328 eP P 23 02 52.3 -2.0
KLMR pmax pmax
comp=Z,19nm,0.7s
KLMR Klimovskoe 66.43 328 eP P 23 02 52.3 -2.0
KLMR AMP 23 02 53.8
comp=Z,19nm,0.7s
KLMR LQ LQ 23 27 51.9
KLMR LQ LQ 23 27 51.9
KLMR LR LR 23 34 06.0
MENT Mentasta 66.44 30 P P 23 02 55.4 +0.9
MENT IAmb IAmb 23 03 14.2
comp=Z,42nm,1.0s
GROC Groznyy 66.68 308 eP P 23 02 54.3 -2.0
GROC eS S 23 11 36.1 -8.0
GROC pmax pmax
comp=Z,52nm,0.9s
GLB Gilahina Butte 66.71 32 P P 23 02 57.1 +0.8

GLB IAmb IAmb 23 03 12.0
comp=Z,23nm,0.9s
VRDI Verde Repeater 66.92 32 P P 23 02 58.6 +0.8
LVZ Lovozero 66.98 336 P P 23 02 57.0 -0.8
LVZ pmax pmax
comp=Z,241nm,2.0s
LVZ Lovozero 66.98 336 P P 23 02 57.0 -0.8
EGAK Eagle 67.15 28 P P 23 02 59.4 +0.5
BCAR Beaver Creek A 67.28 30 P P 23 03 00.4 +0.6
VRH Novokhopyorsk 67.39 317 eP P 23 02 59.3 -1.3
VRH pmax pmax
comp=Z,120nm,1.6s
BALM Baldy 67.49 32 P P 23 03 01.6 +0.4
APA Apatity 67.52 336 ⇓iP P 23 03 00.1 -1.1
APA pmax pmax
comp=Z,33nm,0.8s
APA MLR MLR
comp=Z,500nm,12.0s
RBK Rabkut 67.73 279 P P 23 03 03.2 -0.2
SNR=12
WHFO Wadi Hawf 67.97 280 P P 23 03 04.3 -0.6
SNR=12
CTGM Chitina Glacie 67.99 32 P P 23 03 05.0 +0.6
GOF Gofitskoye 68.11 311 ⇑iP P 23 03 05.3 0.0
GOF pmax pmax
comp=Z,86nm,0.8s
ZEI Tsey 68.13 308 eP P 23 03 03.3 -2.4
ZEI pmax pmax
comp=Z,37nm,0.6s
KBZ Khabaz 68.58 309 P P 23 03 08.3 +0.2
comp=Z,65nm,0.8s,baz=86,slow=5.3,SNR=212
KBZ LR LR 23 36 00.3
comp=Z,412nm,21.8s,baz=74,slow=38
KBZ Khabaz 68.58 309ceP P 23 03 08.1 -0.1
KBZ pmax pmax
comp=Z,64nm,0.9s
ABTO Aybut 68.59 279 P P 23 03 09.1 +0.3
SNR=17
MOS Moscow 68.60 323 eP P 23 03 05.6 -2.5
MOS e 23 03 29.6
MOS pmax pmax
comp=Z,67nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.8s
MOS MLR MLR
comp=Z,1μm,20.0s
SPA0 Spitsbergen Ar 68.64 348 ⇓iP P 23 03 07.7 -0.4
KIV Kislovodsk 68.66 309 ⇑iP P 23 03 09.5 +0.7
KIV Kislovodsk 68.66 309 iP P 23 03 09.3 +0.4
SNR=65
KIV Kislovodsk 68.66 309 eP P 23 03 09.0 +0.1
KIV eS S 23 12 08.4 +0.4
KIV pmax pmax
comp=Z,357nm,1.1s
KIV pmax pmax
comp=Z,21nm,2.3s
KIV MLR MLR
comp=Z,573nm,17.0s
KIV Kislovodsk 68.66 309 P P 23 03 09.0 +0.1
LPSR Galich'ya Gora 68.70 319 eP P 23 03 07.6 -1.2
LPSR pmax pmax
comp=Z,40nm,0.7s
PCA Pinnacle 68.73 32 P P 23 03 10.3 +1.3
VSR Storozhevoye 68.94 318 eP P 23 03 08.1 -2.2
VSR pmax pmax
comp=Z,60nm,1.2s
INK Inuvik 69.14 23 P P 23 03 12.2 +1.0
comp=Z,20nm,0.6s,baz=290,slow=6.3,SNR=38
INK Inuvik 69.14 23 P P 23 03 11.9 +0.7
INK IAmb IAmb 23 03 30.7
comp=Z,55nm,1.1s
KEV Kevo 69.14 339 P P 23 03 10.7 -0.5
KEV pmax pmax
comp=Z,44nm,0.8s
KEV Kevo 69.14 339 P P 23 03 10.7 -0.5
KEV IAmb IAmb 23 03 11.3
comp=Z,44nm,0.8s
OBN Obninsk 69.36 322c iP P 23 03 11.9 -0.9
OBN e*PP pP 23 03 27.3 -0.1
OBN *SP PcP 23 03 35.0 -1.0
OBN eS S 23 12 14.1 -1.4
OBN ePS PnS 23 12 57.1 +10
OBN pmax pmax
comp=Z,88nm,1.7s
OBN MLR MLR
comp=Z,703nm,20.0s
OBN Obninsk 69.36 322 P P 23 03 11.7 -1.1
OBN IAMs_20 IAMs_20 23 35 27.2
comp=Z,745nm,20.0s
CHVG Ch'k'valeri 69.43 308 ⇑iP P 23 03 14.2 +0.6
ARCES ARCESS Array B 69.70 338 P P 23 03 14.0 -0.7
comp=Z,13nm,0.8s,baz=68,slow=7.9,SNR=31
ARCES LR LR 23 39 45.3
comp=Z,187nm,19.8s,baz=60,slow=41
HYT Haines Junctio 69.83 31 P P 23 03 17.2 +1.4
HAMF Hammerfest 69.89 340 eP P 23 03 14.2 -1.7
SOCY Socotra 69.97 274 P P 23 03 16.8 -0.6
SNR=8.9
SOCY Socotra 69.97 274 P P 23 03 15.6 -1.8
ARTV Artvin 70.00 307 P P 23 03 17.3 -0.1
GEVA Gevas 70.06 304 P P 23 03 17.5 -0.3
GEVA IAmb IAmb 23 03 18.9
comp=Z,28nm,0.7s
BCA Borcka 70.14 307 ⇑iP P 23 03 18.2 +0.2
SOC Sochi 70.82 310 eP P 23 03 19.4 -2.7
SOC e*PP pP 23 03 32.0 -4.7
SOC e*SP sP 23 03 40.6 -2.0
SOC e 23 05 59.7
SOC ePPP PPP 23 07 43.8
SOC eS S 23 12 28.5 -4.6
SOC e*SS SKiKP 23 13 01.2 +1.2
SOC eSSS SSS 23 20 10.9
SOC pmax pmax
comp=Z,57nm,0.6s
SOC MLR MLR
comp=Z,341nm,19.0s
NOR Nord 70.82 355 i P P 23 03 20.9 -0.5
NOR pmax pmax
comp=Z,19nm,0.8s
NOR Nord 70.82 355 i P P 23 03 20.9 -0.5
comp=Z,19nm,0.8s
NOR Nord 70.82 355 i P P 23 03 20.9 -0.5
NOR IAmb IAmb 23 03 21.5
comp=Z,19nm,0.8s
PUL Pulkovo 71.12 328ceP P 23 03 23.7 +0.2
PUL pmax pmax
comp=Z,96nm,0.6s
KOPT Kop Dagi 71.40 306 P P 23 03 26.4 +0.3
KTUT Trabzon 71.62 307 ⇓iP P 23 03 27.3 +0.4
TRO Tromso 71.78 340 eP P 23 03 26.0 -1.4
C36M Paulatuk 71.91 21 P P 23 03 28.5 +0.4
baz=296
C36M Paulatuk 71.91 21 P P 23 03 28.6 +0.4
C36M IAmb IAmb 23 03 29.6
comp=Z,55nm,0.8s
ANN Anapa 71.99 312 eP P 23 03 28.1 -0.9
ANN e*PP pP 23 03 39.6 -4.1
ANN eS S 23 12 43.1 -3.4
ANN pmax pmax
comp=Z,137nm,0.8s
MARD Mardin 72.09 303 P P 23 03 30.0 0.0
EUNU Eureka 72.31 6 P P 23 03 30.6 +0.1
FIA1 FINESS Array S 72.47 330 P P 23 03 31.1 -0.5
FINES FINESS Array B 72.47 330 P P 23 03 31.0 -0.6
comp=Z,52nm,0.6s,baz=71,slow=6.1,SNR=207
FINES LR LR 23 39 05.0
comp=Z,699nm,18.5s,baz=44,slow=39
VSU Vasula 73.33 327c iP P 23 03 36.5 -0.2
VSU pmax pmax
comp=Z,176nm,0.7s
N2IH Innhavet 73.53 339 eP P 23 03 37.2 -0.6
STEI Steigen 73.77 339 eP P 23 03 37.7 -1.5
N2VI Vinje 73.91 339 eP P 23 03 38.8 -1.2
N2TV TŸrnvik 73.99 338 eP P 23 03 39.7 -0.7
FAUS Fauske 74.03 338 eP P 23 03 40.0 -0.7
SIM Simferopol' 74.15 313ceP P 23 03 40.7 -1.1
SIM pmax pmax
comp=Z,61nm,0.6s
TOKA Tokat 74.19 307 P P 23 03 42.2 -0.1
TOKA IAmb IAmb 23 03 43.7
comp=Z,30nm,0.9s
LOF Lofoten 74.22 339 eP P 23 03 39.7 -2.1
DLBC Dease Lake 74.23 32 P P 23 03 42.9 +0.7
comp=Z,1.6nm,0.3s,baz=289,slow=4.4,SNR=6.2

NBB08	Skaug oppvekst	74.25	338	*e*P		P		23 03 41.2	-0.8
NBB28	Valnes	74.41	338	*e*P		P		23 03 42.0	-0.9
IDID	Didziasalis	74.57	324	*e*P		P		23 03 44.6	+0.6
DIKM	Dikmen	74.57	309	⇓P		P		23 03 44.7	+0.3
NBB05	Inndyr	74.63	338	*e*P		P		23 03 43.5	-0.7
NACGM	Naroch	74.72	324	*e*		P		23 03 44.0	-0.9
N2VA	Vr_y	74.74	339	*e*P		P		23 03 44.3	-0.5
NBB30	Finnes	74.76	338	*e*P		P		23 03 43.8	-1.1
ISAL	Salakas	74.79	325	*e*P		P		23 03 45.8	+0.5
GAZ	Gaziantep	74.80	304	P		P		23 03 46.0	+0.1
IIGN	Ignalina	74.83	325	*e*P		P		23 03 46.0	+0.5
MOR8	Moi Rana	74.94	337	*e*P		P		23 03 44.0	-2.1
N2RO	R_st	75.01	339	*e*P		P		23 03 45.4	-1.0
AKASG	Malin Array Be	75.03	319	P		P		23 03 46.1	-0.7
	comp=Z,42nm,0.6s,baz=56,slow=6.1,SNR=116								
AKASG				LR		LR		23 39 03.3	
	comp=Z,682nm,20.6s,baz=60,slow=38								
AKASG	Malin Array Be	75.03	319	P		P		23 03 46.0	-0.9
AKBB	Malin Array Si	75.03	319	*ce*P		P		23 03 45.8	-1.0
AKBB	Malin Array Si	75.03	319	P		P		23 03 45.8	-1.0
AKBB				IAmb		IAmb		23 03 47.0	
	comp=Z,49nm,0.7s								
DAG	Danmarks Havn	75.12	352⇑	*i*P		P		23 03 46.1	-0.8
DAG				pmax		pmax			
	comp=Z,22nm,0.8s								
DAG	Danmarks Havn	75.12	352⇑	*i*P		P		23 03 46.1	-0.8
	comp=Z,22nm,0.8s								
DAG	Danmarks Havn	75.12	352⇑	*i*P		P		23 03 46.1	-0.8
DAG				IAmb		IAmb		23 03 47.2	
	comp=Z,22nm,0.8s								
KONS	Konsvik	75.22	338	*e*P		P		23 03 47.1	-0.5
BZK	Bozkurt	75.33	310	⇓P		P		23 03 49.1	+0.4
RES	Resolute Bay	75.64	11	P		P		23 03 50.2	+0.3
	comp=Z,31nm,0.7s,baz=305,slow=6.0,SNR=35								
RES	Resolute Bay	75.64	11	P		P		23 03 50.2	+0.3
RES				pmax		pmax			
	comp=Z,30nm,0.7s								
RES	Resolute Bay	75.64	11	P		P		23 03 50.2	+0.3
RES				IAmb		IAmb		23 03 52.5	
	comp=Z,30nm,0.7s								
ILGA	Ilgaz	75.87	309	P		P		23 03 51.9	-0.2
PURM	Purcari	76.29	315	⇓P		P		23 03 55.9	+1.9
BR131	Keskin Array S	76.44	308	P		P		23 03 55.3	0.0
	SNR=20								
BR131	Keskin Array S	76.44	308	*c* *i*P		P		23 03 55.1	-0.2
BR131	Keskin Array S	76.44	308	P		P		23 03 55.0	-0.3
BR131				IAmb		IAmb		23 03 56.3	
	comp=Z,40nm,0.9s								
BRTR	Keskin Array B	76.44	308	P		P		23 03 55.0	-0.2
	comp=Z,36nm,0.9s,baz=95,slow=5.3,SNR=129								
BRTR				LR		LR		23 40 45.3	
	comp=Z,56nm,21.2s,baz=82,slow=38								
BRTR	Keskin Array B	76.44	308	P		P		23 03 54.9	-0.4
SORM	Soroca	76.59	317	⇑P		P		23 03 55.2	-0.5
NSS	Namsos	76.70	336	*e*P		P		23 03 55.1	-0.9
KIS	Kishinev	76.77	316⇑	*i*P		P		23 03 56.0	-0.8
	comp=Z,100nm,1.8s								
KIS	Kishinev	76.77	316	*e*PcP		PcP		23 04 12.0	+4.1
KIS				*e*S		S		23 13 33.0	-6.9
KIS	Kishinev	76.77	316	*c* *i*P		P		23 03 56.0	-0.8
KIS				*e*				23 04 12.0	
KIS				*i* PS		PnS		23 14 31.0	+7.1
KIS				pmax		pmax			
	comp=Z,100nm,1.8s								
KIS				MLR		MLR			
	comp=Z,130nm,17.0s								
MILM	Milestii Mici	76.80	316	⇓P		P		23 03 56.4	-0.6
TULEG	Thule	76.94	4	*i* P		P		23 03 57.2	-0.1
TULEG				IAmb		IAmb		23 03 58.0	
	comp=Z,24nm,0.8s								
SUW	Suwalki	77.00	324	*e*P		P		23 03 57.5	-0.4
SUW	Suwalki	77.00	324	P		P		23 03 57.7	-0.2
SUW				pmax		pmax			
	comp=Z,213nm,0.9s								
SUW				MLR		MLR			
	comp=Z,900nm,20.0s								
SUW	Suwalki	77.00	324	P		P		23 03 57.7	-0.2
BR231	Keskin MP Arra	77.00	308	P		P		23 03 58.4	-0.1
BR231				IAmb		IAmb		23 03 59.6	
	comp=Z,37nm,0.8s								
DBG	Daneborg	77.46	351	*i* P		P		23 03 59.7	-0.5
DBG				IAmb		IAmb		23 04 00.7	
	comp=Z,25nm,1.0s								
TLCR		77.52	314	⇑P		P		23 04 01.5	+0.5
VASR	Vaslui	77.56	316	⇑P		P		23 04 01.3	0.0
DAMY	Dhamar	77.56	280	P		P		23 04 02.7	+0.6
DAMY				IAmb		IAmb		23 04 21.7	
	comp=Z,80nm,1.4s								
BIR	Birlad	77.82	316	⇓P		P		23 04 03.1	+0.4
VARL	Varlezi	77.83	315	⇑P		P		23 04 03.0	+0.2
MDUB	Mudurnu	77.86	309	P		P		23 04 02.8	-0.4
CFR	Carcaliu	77.95	314	⇑P		P		23 04 03.6	+0.1
SCHL	Schela	78.01	315	⇓P		P		23 04 04.5	+0.7
GHRR		78.04	316	⇓P		P		23 04 05.2	+1.2
TBLU	Trondheim	78.05	336	*e*P		P		23 04 02.3	-1.3
TIRR	Tirgusor	78.08	314	⇑P		P		23 04 04.3	+0.1
TIRR	Tirgusor	78.08	314	P		P		23 04 04.1	-0.1
TIRR				pmax		pmax			
	comp=Z,93nm,0.9s								
TIRR				MLR		MLR			
	comp=Z,400nm,19.0s								
TIRR	Tirgusor	78.08	314	P		P		23 04 04.1	-0.1
TIRR				IAMs_20		IAMs_20		23 35 02.5	
	comp=Z,360nm,19.0s								
MFTR	Murfatlar	78.19	313	⇑P		P		23 04 05.5	+0.7
PRAR	RASCA	78.21	317	⇓P		P		23 04 05.2	+0.3
TLBR	Topalu	78.28	314	⇑P		P		23 04 05.5	+0.2
HARR	Harsova	78.30	314	⇑P		P		23 04 05.8	+0.5
PETR	Petresti	78.30	315	⇓P		P		23 04 06.9	+1.6
ODBI	Odobesti	78.39	315	⇑P		P		23 04 06.9	+1.0
LVV	L'vov	78.42	320	*e*P		P		23 04 05.7	-0.3
BIZ	Bicaz	78.47	317	⇓P		P		23 04 06.9	+0.5
CSS	Mathiatis	78.55	303	P		P		23 04 06.8	-0.2
VRI	Vrincioaia	78.55	316	⇑P		P		23 04 07.9	+1.2
VRI				⇑P		P		23 04 08.0	+1.2
PSN	Preselentsi	78.56	313	*i* P		P		23 04 07.4	+0.6
GRER		78.61	315	⇑P		P		23 04 08.7	+1.6
PLOR	Plostina	78.61	316	⇓P		P		23 04 07.8	+0.7
ICOR	Ion Corvin	78.62	314	⇓P		P		23 04 08.2	+1.0
BISRR	Bisoca	78.70	315	⇑P		P		23 04 09.0	+1.3
AMRR	Amara	78.71	314	⇑P		P		23 04 09.2	+1.5
BUR08	Bucovina Ar. S	78.71	318	P		P		23 04 07.8	+0.1
BUR08				IAmb		IAmb		23 04 09.0	
	comp=Z,35nm,0.7s								
NC405	NORSAR Array S	78.72	334	P		P		23 04 07.1	-0.3
BURAR	Bucovina Array	78.72	318	⇑P		P		23 04 08.2	+0.4
BURAR	Bucovina Array	78.72	318	P		P		23 04 07.8	0.0
YKA	Yellowknife Ar	78.79	25	P		P		23 04 08.6	+0.9
	comp=Z,18nm,0.7s,baz=302,slow=4.8,SNR=19								
YKA				LR		LR		23 41 29.6	
	comp=Z,64nm,21.4s,baz=0.0,slow=38								
PGOR	Pogoanele	78.81	315	⇑P		P		23 04 08.7	+0.5
NB2	NORSAR Subarra	78.96	334	P		P		23 04 07.8	-0.9
	comp=Z,49nm,0.8s,baz=52,slow=5.9								
NB2	NORSAR Subarra	78.96	334	P		P		23 04 07.8	-0.9
	baz=52,slow=5.9								
NOA	NORSAR Array B	78.96	334	P		P		23 04 07.9	-0.9
	comp=Z,32nm,0.8s,baz=53,slow=5.4,SNR=158								
NOA				LR		LR		23 42 52.6	
	comp=Z,282nm,19.2s,baz=55,slow=39								
ISR	Istrita	79.00	315	⇑P		P		23 04 09.5	+0.2
NC602	NORSAR Array S	79.00	333	*e*P		P		23 04 07.9	-1.0
NEHR	Nehoiu	79.02	315	⇑P		P		23 04 10.2	+0.9
OZUR		79.04	316	⇑P		P		23 04 10.5	+0.9
MLR	Muntele Rosu	79.21	315	⇓P		P		23 04 11.1	+0.5
MLR	Muntele Rosu	79.21	315	P		P		23 04 10.5	-0.1
MLR				pmax		pmax			
	comp=Z,49nm,0.9s								
MLR				MLR		MLR			
	comp=Z,300nm,20.0s								
MLR	Muntele Rosu	79.21	315	P		P		23 04 10.4	-0.1
MLR				IAmb		IAmb		23 04 12.4	
	comp=Z,49nm,0.9s								
MLR				IAMs_20		IAMs_20		23 43 07.3	
	comp=Z,290nm,20.0s								
KWP	Kalwaria Pacla	79.27	320	*e*P		P		23 04 11.2	+0.6
KWP	Kalwaria Pacla	79.27	320	P		P		23 04 11.3	+0.6
KWP				pmax		pmax			
	comp=Z,99nm,0.7s								
KWP				MLR		MLR			
	comp=Z,600nm,21.0s								
KWP	Kalwaria Pacla	79.27	320	P		P		23 04 11.3	+0.6
KWP				IAMs_20		IAMs_20		23 40 33.7	
	comp=Z,579nm,21.0s								
PRD	Provadia	79.28	313	*i* P		P		23 04 11.4	+0.6
BEL	Belsk	79.30	323	*e*P		P		23 04 11.2	+0.5
NEF	NEVSHA	79.34	313	*i* P		P		23 04 11.6	+0.5
DOPR	Dopca	79.35	316	⇑P		P		23 04 12.0	+0.8
SULR		79.38	315	⇑P		P		23 04 12.1	+0.8
ISP	Isparta	79.44	307	P		P		23 04 11.2	-0.7
ISP				pmax		pmax			
	comp=Z,45nm,0.8s								
ISP	Isparta	79.44	307	P		P		23 04 11.2	-0.7
ISP				IAmb		IAmb		23 04 12.2	
	comp=Z,45nm,0.8s								
MOL	Molde	79.45	336	*e*P		P		23 04 11.4	+0.1
ARCR	ARCALIA	79.48	317	⇑P		P		23 04 12.6	+0.8
RAZG	Razgrad	79.71	313	⇓P		P		23 04 13.8	+0.6
SGRR	Singureni	79.76	314	⇓P		P		23 04 13.8	+0.4
OSL	Oslo	79.79	333	*e*P		P		23 04 13.1	-0.1
KOLS	Kolonicke sedl	79.85	320	*e*P		P		23 04 12.8	-1.0
KOLS				pmax		pmax			
	comp=Z,12nm,0.7s								
KOLS	Kolonicke sedl	79.85	320	*e*P		P		23 04 12.8	-1.0
MDB	Medias	79.89	317	⇓P		P		23 04 15.7	+1.6
AKN	Aaknes	79.90	336	⇓*i*P		P		23 04 14.3	+0.5
UZH	Uzhgorod	79.99	319	⇓*e*P		P		23 04 15.4	+0.9
UZH				*i*				23 04 23.7	
ARR	Arges	80.09	316	⇓P		P		23 04 16.2	+0.9
CJR	Cluj-Napoca	80.11	317	⇑P		P		23 04 16.4	+1.1
JMB	Yambol	80.15	312	*i* P		P		23 04 15.7	+0.2
ATD	Arta Tunnel	80.18	278	P		P		23 04 16.0	-0.3
ATD				IAmb		IAmb		23 04 36.2	
	comp=Z,92nm,1.6s								
SZH	Strazhica	80.22	313	*i* P		P		23 04 16.2	+0.3
HUMR	Humele	80.26	315	⇑P		P		23 04 16.0	0.0
COPA	Copaceanca	80.28	314	⇓P		P		23 04 16.4	+0.2
RPZ	Rata Peaks	80.32	150	P		P		23 04 16.7	+0.5
RPZ				IAmb		IAmb		23 05 33.3	
	comp=Z,87nm,1.6s								
SKAR	Skarslia	80.32	334	*e*P		P		23 04 15.8	-0.4
ELL	Elmali	80.33	306	P		P		23 04 16.4	-0.4
ELL				pmax		pmax			
	comp=Z,291nm,0.6s								
ELL	Elmali	80.33	306	P		P		23 04 16.4	-0.4
CRVS	Cervenica-Dubn	80.34	320	*e*P		P		23 04 17.0	+0.5
CRVS				pmax		pmax			
	comp=Z,29nm,0.9s								
CRVS	Cervenica-Dubn	80.34	320	*e*P		P		23 04 17.0	+0.5
ZIMR		80.41	314	⇑P		P		23 04 16.9	0.0
KONO	Kongsberg	80.42	333	*ce*P		P		23 04 16.9	+0.3
KONO				pmax		pmax			
	comp=Z,42nm,1.7s								
KONO	Kongsberg	80.42	333	P		P		23 04 16.5	-0.1
KONO	Kongsberg	80.42	333	IAMs_20		IAMs_20		23 43 50.4	
	comp=Z,601nm,18.0s								
KONO	Kongsberg	80.42	333	*e*P		P		23 04 15.9	-0.7
GKP	Gorka Klasztor	80.45	325	*e*P		P		23 04 17.0	+0.1
MANT	Manisa	80.55	308	P		P		23 04 17.3	-0.8
LOT	Lotru	80.59	316	⇑P		P		23 04 18.5	+0.4
BSD	Bornholm Skovb	80.63	327	*i* P		P		23 04 17.6	-0.2
BSD				pmax		pmax			
	comp=Z,58nm,0.8s								
BSD	Bornholm Skovb	80.63	327	*i* P		P		23 04 17.6	-0.2
	comp=Z,58nm,0.8s								
BSD	Bornholm Skovb	80.63	327	*i* P		P		23 04 17.7	-0.2
BSD				IAmb		IAmb		23 04 18.5	
	comp=Z,58nm,0.8s								
OJC	Ojcow	80.64	322	*e*P		P		23 04 18.2	+0.2
OJC	Ojcow	80.64	322	P		P		23 04 18.2	+0.2
OJC				pmax		pmax			
	comp=Z,58nm,0.7s								
OJC	Ojcow	80.64	322	P		P		23 04 18.2	+0.2
OJC				IAmb		IAmb		23 04 19.4	
	comp=Z,58nm,0.7s								
NIE	Niedzica	80.75	321	*e*P		P		23 04 19.4	+0.7
AKAS	Kas	80.78	306	P		P		23 04 18.1	-1.1
AKAS				IAmb		IAmb		23 04 18.9	
	comp=Z,28nm,0.9s								
KSL	Kastellorizon	80.83	306	P		P		23 04 19.5	+0.2
HYA	Hoyanger	80.83	335	⇓*i*P		P		23 04 18.8	+0.1
VLAD	Vladila	80.87	315	⇓P		P		23 04 19.8	+0.5
DEV	Deva	80.92	317	⇓P		P		23 04 20.5	+0.9
SUMG	Summit	80.94	356	*i* P		P		23 04 20.4	+0.7
SUMG				pmax		pmax			
	comp=Z,120nm,0.9s								
SUMG	Summit	80.94	356	P		P		23 04 20.0	+0.3
SUMG				IAmb		IAmb		23 04 22.6	
	comp=Z,39nm,0.8s								
SUMG	Summit	80.94	356	*i* P		P		23 04 20.4	+0.7
	comp=Z,116nm,0.9s								
SUMG	Summit	80.94	356	*i* P		P		23 04 20.4	+0.7
SUMG				IAmb		IAmb		23 04 22.0	
	comp=Z,116nm,0.9s								
DIM	Dimitrovgrad	81.03	312	*i* P		P		23 04 21.1	+0.9
KECS	Kecovo	81.11	320	*e*P		P		23 04 21.0	+0.4
KECS				pmax		pmax			
	comp=Z,11nm,0.8s								
KECS	Kecovo	81.11	320	*e*P		P		23 04 21.0	+0.4
UPNV	Upernavik	81.18	1	*i* P		P		23 04 20.3	-0.1
UPNV				IAmb		IAmb		23 04 21.2	
	comp=Z,25nm,0.9s								
ALN	Alexandroupoli	81.21	311	P		P		23 04 21.1	-0.1
ALN	Alexandroupoli	81.21	311	P		P		23 04 20.9	-0.3
ALN				pmax		pmax			
	comp=Z,41nm,1.0s								
ALN	Alexandroupoli	81.21	311	P		P		23 04 20.9	-0.3
ALN				IAmb		IAmb		23 04 22.2	
	comp=Z,41nm,1.0s								
GZR	Gura Zlata	81.24	316	⇑P		P		23 04 21.8	+0.4
KDZ	Kurdzhali	81.29	312	*i* P		P		23 04 22.1	+0.4
SRE	Strehaia	81.32	316	⇓P		P		23 04 22.9	+1.2
LANS	Liptovska Anna	81.36	321	*e*P		P		23 04 22.9	+1.0
LANS				pmax		pmax			
	comp=Z,8.0nm,0.6s								
LANS	Liptovska Anna	81.36	321	*e*P		P		23 04 22.9	+1.0
RDO	Rodhopi	81.44	312	P		P		23 04 22.3	-0.1
ODD1	Odda	81.45	334	⇓*i*P		P		23 04 22.4	+0.2
COP	Copenhagen	81.49	329	*i* P		P		23 04 22.6	+0.3
COP				pmax		pmax			
	comp=Z,78nm,0.8s								
COP	Copenhagen	81.49	329	*i* P		P		23 04 22.6	+0.3
	comp=Z,78nm,0.8s								
COP	Copenhagen	81.49	329	*i* P		P		23 04 22.7	+0.3
COP				IAmb		IAmb		23 04 23.7	
	comp=Z,78nm,0.8s								
SIRR	Siria	81.50	318	⇓P		P		23 04 23.4	+0.7
PLD	Plovdiv	81.55	313	*i* P		P		23 04 19.3	-3.7
ASK	Askoy	81.64	335	⇓*i*P		P		23 04 23.1	0.0
BER	Bergen	81.66	335	*e*P		P		23 04 22.9	-0.2
PUNG	Punghina	81.67	315	⇓P		P		23 04 24.5	+0.9
PGB	Panagyurishte	81.70	313	*i* P		P		23 04 24.4	+0.5
HERR	Herculane	81.71	316	⇓P		P		23 04 24.4	+0.6
HOMB	Homborsund	81.71	332	*i* P		P		23 04 24.0	+0.5
HOMB				*i* P		PcP		23 04 24.3	-4.9
PSZ	Piszkesteto	81.73	320	⇑P		P		23 04 24.6	+0.7
PSZ	Piszkesteto	81.73	320	P		P		23 04 23.9	-0.1
PSZ				pmax		pmax			
	comp=Z,15nm,1.0s								
PSZ	Piszkesteto	81.73	320	P		P		23 04 23.9	-0.1
RZN	Rozhen	81.74	312	*i* P		P		23 04 24.4	+0.1
OKC	Ostrava-Krasne	81.75	322	*e*P		P		23 04 24.4	+0.5
OKC	Ostrava-Krasne	81.75	322	*e*P		P		23 04 24.4	+0.5
SMTH	Samothraki Isl	81.75	311	P		P		23 04 23.4	-0.8
PRK	Paraskevi	81.81	310	P		P		23 04 25.2	+0.8
BLS5	Blasjo	81.83	334	*e*P		P		23 04 23.5	-0.7
BZS	Buzias	81.84	317	⇓P		P		23 04 24.6	+0.1
VYHS	Vyhne	82.05	320	*e*P		P		23 04 26.4	+0.8
VYHS				pmax		pmax			
	comp=Z,39nm,0.8s								
VYHS	Vyhne	82.05	320	*e*P		P		23 04 26.4	+0.8
MORC	Moravsky Berou	82.11	322	⇓P		P		23 04 26.6	+0.7
MORC	Moravsky Berou	82.11	322	⇑*i*P		P		23 04 26.1	+0.1
MORC	Moravsky Berou	82.11	322	P		P		23 04 26.0	+0.1
MORC				pmax		pmax			
	comp=Z,18nm,0.8s								
MORC				MLR		MLR			
	comp=Z,700nm,19.0s								
MORC	Moravsky Berou	82.11	322	P		P		23 04 26.0	+0.1
MORC				IAMs_20		IAMs_20		23 43 20.7	
	comp=Z,670nm,19.0s								
GOET	G??ttrup	82.15	331	*i* P		P		23 04 26.7	+0.9
	comp=Z,277nm,0.8s								
GOET	G??ttrup	82.15	331	*i* P		P		23 04 26.8	+0.9
GOET				IAmb		IAmb		23 04 27.6	
	comp=Z,277nm,0.8s								
MDVR	Moldovita	82.19	316	⇓P		P		23 04 26.8	+0.4
SNART	Snartemo	82.20	333	⇓*i*P		P		23 04 26.3	+0.2
SNART	Snartemo	82.20	333	*i* P		P		23 04 26.0	-0.1
SNART				*i* P		P		23 04 26.6	+0.5
KSP	Ksiaz	82.23	323	*e*P		P		23 04 26.9	+0.5
THAS	Thassos island	82.24	311	P		P		23 04 26.2	-0.4
LIA	Limnos Island	82.25	311	P		P		23 04 26.1	-0.6
VTS	Vitosha	82.27	314	*i* P		P		23 04 27.8	+0.8
KRLC	Kraliky	82.38	323	*e*P		P		23 04 27.9	+0.6
KRLC				AMS		AMS		23 43 20.0	
	comp=Z,600nm,17.6s								
KRLC	Kraliky	82.38	323	*e*P		P		23 04 27.9	+0.6
KRLC				MLR		MLR			
	comp=Z,600nm,17.6s								
OSTC	Ostas	82.42	323	*e*P		P		23 04 28.2	+0.7
OSTC				AMS		AMS		23 43 30.0	
	comp=Z,700nm,19.0s								
MMB	Musomiste	82.44	313	*i* P		P		23 04 27.6	-0.1
KMY	Karmoy	82.44	334	⇓*i*P		P		23 04 27.6	+0.3
NVR	Nevrokopi	82.46	312	P		P		23 04 27.4	-0.5
DPC	Dobruska-Polom	82.48	323	*e*P		P		23 04 28.7	+0.9
DPC				AMS		AMS		23 43 30.0	
	comp=Z,700nm,21.7s								
DPC	Dobruska-Polom	82.48	323	*e*P		P		23 04 28.7	+0.9
DPC				MLR		MLR			
	comp=Z,700nm,21.7s								
CHVC	Chvalec	82.50	323	*e*P		P		23 04 28.5	+0.6
CHVC				AMS		AMS		23 43 30.0	
	comp=Z,700nm,16.4s								
MUD	Monsted U'grnd	82.52	330	⇑*i*P		P		23 04 27.9	+0.2
MUD				pmax		pmax			
	comp=Z,78nm,0.7s								
MUD	Monsted U'grnd	82.52	330	⇑*i*P		P		23 04 27.9	+0.2
	comp=Z,78nm,0.7s								
MUD	Monsted U'grnd	82.52	330	⇑*i*P		P		23 04 28.0	+0.2
MUD				IAmb		IAmb		23 04 28.9	
	comp=Z,78nm,0.7s								
JAVC	Velka Javorina	82.52	321	⇑*i*P		P		23 04 29.6	+1.5
UPC	Upice	82.56	323	*e*P		P		23 04 28.9	+0.7
UPC				AMS		AMS		23 43 30.0	
	comp=Z,800nm,18.0s								
UPC	Upice	82.56	323	*e*P		P		23 04 28.9	+0.7
UPC				MLR		MLR			
	comp=Z,800nm,18.0s								
A04D	Lummi Island	82.66	39	P		P		23 04 30.2	+1.6
	baz=302								
SRS	Serrai	82.75	312	P		P		23 04 27.9	-1.5
SMOL	Smolenice	82.84	321	*e*P		P		23 04 30.7	+1.0
SMOL				pmax		pmax			
	comp=Z,19nm,1.0s								
SMOL	Smolenice	82.84	321	*e*P		P		23 04 30.7	+1.0
KARP	Karpathos	82.86	306	P		P		23 04 30.0	-0.1
OUR	Ouranopolis	82.86	311	P		P		23 04 29.1	-0.8
VRAC	Vranov	82.89	322	⇓P		P		23 04 31.0	+1.1
VRAC	Vranov	82.89	322	⇑*i*P		P		23 04 30.5	+0.6
MODS	Modra-Piesok	83.00	321	*e*P		P		23 04 30.5	0.0
MODS				pmax		pmax			
	comp=Z,40nm,1.4s								
MODS	Modra-Piesok	83.00	321	*e*P		P		23 04 30.5	0.0
D03D	Eldon	83.06	40	P		P		23 04 32.9	+2.1
	baz=302,SNR=12								
KRUC	Moravsky	83.13	322	⇑*i*P		P		23 04 31.6	+0.5
FRGS	Fruska Gora	83.18	317	⇑*i*P		P		23 04 31.5	0.0
KNT	Kendrikon	83.19	313	P		P		23 04 30.9	-0.7
ZST	Bratislava	83.19	321	*e*P		P		23 04 31.2	-0.3
ZST				pmax		pmax			
	comp=Z,28nm,0.8s								
ZST	Bratislava	83.19	321	*e*P		P		23 04 31.2	-0.3
PLG	Polygyros	83.20	312	P		P		23 04 31.1	-0.6
B05A	Bryant	83.24	39	P		P		23 04 33.4	+1.7
	baz=302,SNR=5.2								
PVCC	Panska Ves	83.32	324	*e*P		P		23 04 32.7	+0.6
PVCC				AMS		AMS		23 44 00.0	
	comp=Z,600nm,18.6s								
PVCC	Panska Ves	83.32	324	*e*P		P		23 04 32.7	+0.6
PVCC				MLR		MLR			
	comp=Z,600nm,18.6s								
VAY	Valandovo	83.33	313	*i* P		P		23 04 32.2	-0.1
MORH	Mrgy, Hungar	83.34	319	⇑*i*P		P		23 04 32.1	-0.1
STIP	Stip	83.40	313

comp=Z,34nm,0.8s
CONA Conrad Observa 84.04 321 *i* P **P** **23 04 36.8 +0.9**
comp=Z,20nm,0.6s,SNR=16
BBLS Lazići 84.08 316⇑ *i*P **P** **23 04 36.0 -0.2**
PBCC Pribram 84.10 323 *e*P **P** **23 04 36.6 +0.5**
G03D McMinnville, O 84.17 42 P **P** **23 04 38.3 +1.8**
baz=302
LRW Lerwick 84.22 337 *e*P **P** **23 04 36.2 -0.2**
LRW IAmb IAmb 23 04 36.9
comp=Z,48nm,0.9s
HAPS Han Pijesak,Bl 84.25 317 *e*P **P** **23 04 36.3 -0.8**
IVA Berane 84.29 315⇑ *i*P **P** **23 04 37.0 -0.3**
F04A Amboy 84.30 41 P **P** **23 04 38.2 +1.1**
BEHE Becsehely 84.30 319⇑ *i*P **P** **23 04 40.0 +2.8**
LKR Lokris 84.34 310 P **P** **23 04 35.8 -1.7**
KZN Kozani 84.36 312 P **P** **23 04 36.8 -0.9**
PLE Pljevlja 84.37 316⇑ *i*P **P** **23 04 37.3 -0.4**
PVY Plav 84.39 315⇓ *i*P **P** **23 04 37.5 -0.4**
ICESG Greenland Ices 84.45 355 *i* P **P** **23 04 38.0 +0.1**
ICESG IAmb IAmb 23 04 39.9
comp=Z,43nm,0.8s
KOME Kolasin 84.54 315⇑ *i*P **P** **23 04 38.2 -0.4**
OHR Ohrid 84.59 313 *i* P **P** **23 04 38.4 -0.5**
LTY Liberty 84.60 39 P **P** **23 04 39.2 +0.5**
ARSA Arzberg 84.60 321 *e*P **P** **23 04 38.7 0.0**
comp=Z,3.2nm,0.6s
NKC Novy Kostel 84.61 324 *e*P **P** **23 04 39.4 +0.7**
NKC AMS AMS 23 45 00.0
comp=Z,600nm,14.5s
NKC Novy Kostel 84.61 324 *e*P **P** **23 04 39.4 +0.7**
NKC MLR MLR
comp=Z,600nm,14.5s
AGG Agios Georgios 84.61 311 P **P** **23 04 37.2 -1.8**
AGG Agios Georgios 84.61 311 P **P** **23 04 37.6 -1.4**
AGG pmax pmax
comp=Z,49nm,0.9s
AGG Agios Georgios 84.61 311 P **P** **23 04 37.6 -1.4**
AGG IAmb IAmb 23 04 38.5
comp=Z,49nm,0.9s
IDI Anoyia 84.62 307 P **P** **23 04 37.9 -1.2**
IDI Anoyia 84.62 307⇑ P **P** **23 04 36.9 -2.2**
IDI Anoyia 84.62 307 P **P** **23 04 38.0 -1.1**
IDI IAmb IAmb 23 04 40.9
comp=Z,23nm,0.7s
KHC Kasperske Hory 84.64 323 *e*P **P** **23 04 39.0 +0.2**
KHC AMS AMS 23 44 40.0
comp=Z,800nm,19.5s
KHC Kasperske Hory 84.64 323*ce*P **P** **23 04 38.5 -0.4**
KHC pmax pmax
comp=Z,80nm,1.7s
KHC Kasperske Hory 84.64 323 P **P** **23 04 39.1 +0.2**
KHC IAMs_20 IAMs_20 23 45 08.4
comp=Z,336nm,20.0s
GEC2 GERESS Array S 84.73 323 P **P** **23 04 39.8 +0.3**
GEC2 IAmb IAmb 23 04 41.1
comp=Z,18nm,0.8s
GERES GERESS Array B 84.73 323 P **P** **23 04 40.0 +0.6**
comp=Z,9.3nm,0.6s,baz=52,slow=5.5,SNR=78
GERES PP **PP** **23 07 53.1 -2.3**
comp=Z,0.9nm,0.6s,baz=64,slow=9.1,SNR=3.6
GERES PKKPbc **PKKPbc** **23 22 48.4 -0.4**
comp=Z,0.1nm,0.2s,baz=200,slow=2.6,SNR=5.6
GERES LR LR 23 45 20.9
comp=Z,883nm,20.3s,baz=67,slow=38
GERES GERESS Array B 84.73 323 P **P** **23 04 40.0 +0.6**
GERES GERESS Array B 84.73 323 P **P** **23 04 39.5 +0.1**
UPM Unac-Piva 84.74 316⇑ *i*P **P** **23 04 39.0 -0.7**
UPM Unac-Piva 84.74 316 *e*P **P** **23 04 38.0 -1.7**
B08A Colville Reser 84.74 38 P **P** **23 04 40.1 +0.7**
B08A IAmb IAmb 23 04 41.8
comp=Z,22nm,0.8s
ILULI Ilulissat 84.79 359 *i* P **P** **23 04 39.7 +0.5**
ILULI pmax pmax
comp=Z,45nm,0.7s
ILULI Ilulissat 84.79 359 *i* P **P** **23 04 39.7 +0.5**
comp=Z,45nm,0.7s
ILULI Ilulissat 84.79 359 *i* P **P** **23 04 39.7 +0.5**
ILULI IAmb IAmb 23 04 41.3
comp=Z,45nm,0.7s
SIVA Sivas 84.81 306 P **P** **23 04 40.0 +0.1**
J01E Myrtle Point 84.83 44 P **P** **23 04 42.0 +2.1**
baz=301
KRND KRANIDI 84.85 309 P **P** **23 04 38.4 -1.7**
H04D Lebanon 84.85 43 P **P** **23 04 42.2 +2.2**
baz=302
NKY Niksic 84.88 316⇓ *i*P **P** **23 04 40.1 -0.2**
F05D White Salmon 84.89 41 P **P** **23 04 41.8 +1.6**
baz=303
I03D Drain, OR 84.92 43 P **P** **23 04 42.4 +2.1**
baz=302,SNR=5.0
PDG Podgorica 84.92 315⇑ *i*P **P** **23 04 40.6 +0.3**
PDG Podgorica 84.92 315⇑ *i*P **P** **23 04 40.2 -0.1**
PDG Podgorica 84.92 315 P **P** **23 04 40.5 +0.1**
TTG Podgorica 84.92 315⇑ *i*P **P** **23 04 40.4 +0.1**
NKME Niksic 84.93 315⇑ *i*P **P** **23 04 40.4 -0.1**
MOA Molln 84.98 322 *i* P **P** **23 04 41.4 +0.8**
comp=Z,12nm,0.8s,SNR=11
BLY Banja Luka 84.98 318 *i*P **P** **23 04 40.4 -0.2**
EVR Evrytania 85.02 311 P **P** **23 04 39.2 -1.9**
VAM Vamos 85.06 307 P **P** **23 04 41.1 -0.1**
CEME Cevo 85.07 315⇑ *i*P **P** **23 04 41.1 -0.1**
TIR Tirane 85.08 314⇑⇑ P **P** **23 04 41.2 0.0**
TIR Tirane 85.08 314 P **P** **23 04 41.3 0.0**
TIR pmax pmax
comp=Z,66nm,0.8s
TIR Tirane 85.08 314 P **P** **23 04 41.2 0.0**
DRME Dracevica, Mon 85.09 315⇑ *i*P **P** **23 04 41.2 0.0**
DRME Dracevica, Mon 85.09 315⇑ *i*P **P** **23 04 41.3 0.0**
BRY Bratogost 85.12 316⇑ *i*P **P** **23 04 41.2 -0.4**
BRY Bratogost 85.12 316⇑ *i*P **P** **23 04 41.2 -0.4**
ULC Ulcinj 85.16 315⇓ *i*P **P** **23 04 41.5 -0.2**
PERS Pernice 85.17 320 *e*P **P** **23 04 41.6 0.0**
SOKA Soboth 85.20 320 *i* P **P** **23 04 42.0 +0.2**
comp=Z,8.2nm,0.5s,SNR=13
BUM Brajici-Budva 85.21 315⇑ *i*P **P** **23 04 41.7 -0.2**
KLV Kalavryta, Ach 85.22 310 P **P** **23 04 40.5 -1.5**
K02D Willamette Mer 85.24 44 P **P** **23 04 43.8 +1.7**
baz=302
G05D Wamic, OR 85.32 41 P **P** **23 04 44.2 +1.9**
baz=303
VLI Veliai 85.32 309 P **P** **23 04 39.9 -2.6**
HCY Herceg Novi 85.39 315⇑ *i*P **P** **23 04 42.4 -0.3**
HCY Herceg Novi 85.39 315⇑ *i*P **P** **23 04 42.2 -0.5**
I04A Tendick Farm, 85.44 43 P **P** **23 04 44.5 +1.4**
baz=302,SNR=7.5
KTHA Kythira Island 85.46 308 P **P** **23 04 41.7 -1.5**
L02E Cave Junction 85.56 45 P **P** **23 04 45.2 +1.6**
baz=302
GRA1 Grafenberg Arr 85.57 324 P **P** **23 04 43.9 +0.4**
GRF Grafenberg Arr 85.57 324 P **P** **23 04 43.9 +0.4**
GRF pmax pmax
comp=Z,74nm,1.0s
GRF MLR MLR
comp=Z,800nm,20.0s
OBKA Obir 85.57 320 *i* P **P** **23 04 43.8 +0.1**
comp=Z,9.9nm,0.8s,SNR=6.1
C09A Chrisman Ranch 85.64 38 P **P** **23 04 44.8 +0.9**
RLS Riolos of Patr 85.68 310 P **P** **23 04 43.6 -0.6**
IGT Igoumenitsa 85.70 312 P **P** **23 04 43.2 -1.1**
F07A Phinny Hill Vi 85.78 40 P **P** **23 04 45.4 +0.8**
F07A IAmb IAmb 23 04 47.5
comp=Z,21nm,0.9s
VISS Visnje 85.80 320 *i* P **P** **23 04 44.7 0.0**
I05D Terrebonne, OR 85.80 42 P **P** **23 04 46.5 +1.7**
baz=303,SNR=5.6
ITM Ithomi 85.80 309 P **P** **23 04 44.0 -0.9**
ITM Ithomi 85.80 309 P **P** **23 04 44.0 -0.9**
LJU Ljubljana 85.84 320 *i* P **P** **23 04 45.0 +0.1**
LJU Ljubljana 85.84 320⇑ *i*P **P** **23 04 44.9 0.0**
LKD2 Lefkada island 85.86 311 P **P** **23 04 41.6 -3.6**
J04D Umpqua Nationa 85.92 43 P **P** **23 04 47.6 +1.9**
baz=303,SNR=16
KBA Koelnbreinsper 85.93 321 *i* P **P** **23 04 45.7 +0.1**
comp=Z,13nm,0.5s,SNR=18
NEW Newport 86.00 37 P **P** **23 04 47.0 +1.3**
comp=Z,13nm,0.8s,baz=304,slow=3.6,SNR=19
NEW Newport 86.00 37 P **P** **23 04 47.0 +1.3**
baz=306
NEW Newport 86.00 37 P **P** **23 04 46.5 +0.8**
MYKA Terra Mystica 86.02 321 *i* P **P** **23 04 45.7 -0.2**
comp=Z,12nm,0.7s,SNR=7.5
CEY Cerknica 86.07 320⇑ *i*P **P** **23 04 45.9 -0.2**
PRED Cave del Predi 86.17 321 P **P** **23 04 46.1 -0.5**
PRED IAMs_20 IAMs_20 23 46 15.0
comp=Z,697nm,21.0s
CADS Cadrg 86.19 320 *i* P **P** **23 04 46.0 -0.6**
RIY Rijeka 86.27 319 *e*P **P** **23 04 46.6 -0.4**
L04D Klamath Falls 86.35 44 P **P** **23 04 49.3 +1.6**
baz=302,SNR=12
YBH Yreka Blue Hor 86.35 45 P **P** **23 04 48.9 +1.3**
YBH pmax pmax
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 86.35 45 P **P** **23 04 48.9 +1.3**
YBH IAmb IAmb 23 04 50.7
comp=Z,21nm,1.1s
J05D Fort Rock, OR 86.44 43 P **P** **23 04 50.1 +2.0**
baz=303,SNR=13
ZOU Zoufplan 86.44 321 P **P** **23 04 47.5 -0.6**
ZOU IAmb IAmb 23 04 48.3
comp=Z,25nm,0.6s
ZOU IAMs_20 IAMs_20 23 46 13.2
comp=Z,717nm,22.0s
M02C Callahan 86.44 45 P **P** **23 04 50.1 +2.0**
baz=302,SNR=7.2
E09A Wood Farm, Sta 86.45 39 P **P** **23 04 48.9 +1.0**
E09A IAmb IAmb 23 04 50.6
comp=Z,27nm,1.2s
K04D Chiloquin, OR 86.47 44 P **P** **23 04 50.1 +1.8**
baz=303
ABTA Abfaltersbach 86.59 321 *i* P **P** **23 04 47.9 -0.7**
comp=Z,17nm,0.6s,SNR=14
STAL STALIGIAL 86.76 321 P **P** **23 04 48.9 -0.6**
N02D Trinity Center 86.76 46 P **P** **23 04 51.5 +1.9**
baz=302
WATA Walderalm 86.77 322 *i* P **P** **23 04 49.8 +0.2**
comp=Z,4.7nm,0.4s,SNR=11
WTTA Wattenberg 86.78 322 *i* P **P** **23 04 49.9 +0.2**
comp=Z,15nm,0.7s,SNR=14
MCD Coleburn Disti 86.81 336 *e*P **P** **23 04 48.7 -0.7**
M04C Macdoel 86.88 44 P **P** **23 04 52.0 +1.7**
baz=303,SNR=5.8
CIMO Cimolais 86.88 321 P **P** **23 04 49.3 -0.8**
CIMO IAmb IAmb 23 04 50.2
comp=Z,75nm,1.7s
SFJD Kangerlussuaq 87.01 359 P **P** **23 04 50.1 -0.1**
SFJD pmax pmax
comp=Z,23nm,0.6s
SFJD Kangerlussuaq 87.01 359 P **P** **23 04 50.1 -0.1**
SFJD IAmb IAmb 23 04 52.1
comp=Z,23nm,0.6s
SFJD Kangerlussuaq 87.01 359 *i* P **P** **23 04 49.8 -0.4**
SFJD Kangerlussuaq 87.01 359 *i* P **P** **23 04 49.8 -0.4**
MOTA Moosalm 87.02 322 *i* P **P** **23 04 51.0 +0.1**
baz=302
SQTA Sankt Quirin 87.04 322 *i* P **P** **23 04 50.5 -0.4**
comp=Z,4.5nm,0.5s,SNR=13
RETA Reutte 87.12 323 *i* P **P** **23 04 51.7 +0.5**
comp=Z,5.4nm,0.6s,SNR=6.5
O02D Mt. Diablo Mer 87.13 46 P **P** **23 04 53.5 +2.0**
baz=302,SNR=13
STU Stuttgart 87.18 324 P **P** **23 04 51.3 -0.1**
STU pmax pmax
comp=Z,43nm,0.8s
STU MLR MLR
comp=Z,700nm,20.0s
STU Stuttgart 87.18 324 P **P** **23 04 51.3 -0.1**
FETA Feichten 87.42 322 *i* P **P** **23 04 53.0 +0.2**
comp=Z,3.8nm,0.6s,SNR=6.2
CTI Castel Tesino 87.48 321 P **P** **23 04 52.5 -0.6**
CTI pmax pmax
comp=Z,18nm,1.0s
CTI Castel Tesino 87.48 321 P **P** **23 04 52.5 -0.6**
CTI IAmb IAmb 23 04 53.6
comp=Z,18nm,1.0s
SGRT San Giovanni R 87.49 316 P **P** **23 04 52.8 -0.3**
SGRT IAmb IAmb 23 07 17.5
comp=Z,54nm,1.3s
BTNL Ternell 87.60 327 P **P** **23 04 53.2 -0.2**
KAC Achnashellach 87.61 337 *e*P **P** **23 04 52.6 -0.7**
MEM Membach 87.65 327 P **P** **23 04 53.3 -0.3**
O03E Paynes Creek 87.70 46 P **P** **23 04 55.0 +0.8**
baz=303,SNR=6.2
DAVA Damuels 87.72 323 *i* P **P** **23 04 54.3 0.0**
comp=Z,13nm,0.6s,SNR=7.0
JTMT Jette 87.84 36 P **P** **23 04 55.7 +0.9**
KPL Plockton 87.86 337 *e*P **P** **23 04 53.7 -0.8**
KPL IAmb IAmb 23 04 54.3
comp=Z,30nm,0.9s
TEOL Teolo 87.87 321 P **P** **23 04 54.9 +0.1**
BFO Black Forest 87.91 324 P **P** **23 04 54.9 -0.1**
BFO pmax pmax
comp=Z,42nm,1.5s
BFO Black Forest 87.91 324 P **P** **23 04 54.9 -0.1**
BFO IAmb IAmb 23 04 57.2
comp=Z,42nm,1.5s
FUORN Ofenpass-Fuorn 87.91 322 P **P** **23 04 55.2 -0.1**
FUORN IAmb IAmb 23 04 57.0
comp=Z,34nm,1.0s
INVG Invergeldie, C 87.96 335 *e*P **P** **23 04 53.7 -1.2**
EBL Broad Law 88.06 335 *e*P **P** **23 04 55.0 -0.4**
BCLA Clavier 88.11 327 PcP **PcP** **23 04 57.1 -0.4**
WLF Walferdange 88.18 326 P **P** **23 04 56.4 +0.3**
WLF Walferdange 88.18 326 P **P** **23 04 56.5 +0.3**
WLF pmax pmax
comp=Z,24nm,0.7s
WLF Walferdange 88.18 326 P **P** **23 04 56.5 +0.4**
WLF IAmb IAmb 23 04 57.6
comp=Z,24nm,0.7s
EAB Aberfoyle 88.24 335 *e*P **P** **23 04 55.7 -0.6**
ORV Oroville 88.30 46 P **P** **23 04 57.3 +0.4**
ORV pmax pmax
comp=Z,14nm,0.8s
ORV Oroville 88.30 46 P **P** **23 04 57.3 +0.4**
ORV IAmb IAmb 23 04 58.9
comp=Z,14nm,0.8s
EDMD Edmundbyers 88.32 333 *e*P **P** **23 04 56.0 -0.7**
UCC Uccle 88.32 328 P **P** **23 04 56.9 +0.1**
UCC pmax pmax
comp=Z,16nm,0.6s
UCC Uccle 88.32 328 P **P** **23 04 56.9 +0.1**
UCC IAmb IAmb 23 04 57.6
comp=Z,16nm,0.6s
SALO Salr 88.37 321 P **P** **23 04 57.0 -0.2**
SALO IAmb IAmb 23 04 58.4
comp=Z,32nm,0.9s
BMRD Maredsous 88.45 327 P **P** **23 04 57.2 -0.2**
ESK Eskdalemuir 88.45 334 *e*P **P** **23 04 56.8 -0.5**
ESK Eskdalemuir 88.45 334 P **P** **23 04 57.2 -0.1**
ESK pmax pmax
comp=Z,98nm,1.7s
ESK Eskdalemuir 88.45 334 P **P** **23 04 57.2 -0.1**
INTR Introdacqua 88.48 317 P **P** **23 04 58.2 +0.3**
INTR IAMs_20 IAMs_20 23 48 35.6
comp=Z,388nm,21.0s
NRCA Norcia 88.49 318 P **P** **23 04 57.9 0.0**
NRCA IAmb IAmb 23 04 59.8
comp=Z,31nm,1.1s
PLID Pearl Lake 88.50 39 P **P** **23 04 58.3 +0.2**
TUE Stuetta 88.51 322 P **P** **23 04 57.8 -0.3**
FCC Fort Churchill 88.55 20 P **P** **23 04 57.9 +0.2**
FCC pmax pmax
comp=Z,38nm,1.0s
FCC Fort Churchill 88.55 20 P **P** **23 04 57.9 +0.2**
FCC IAmb IAmb 23 04 59.0
comp=Z,38nm,0.9s
LAWE Loch Awe, Argy 88.58 336 *e*P **P** **23 04 57.2 -0.7**
MSO Missoula 88.59 37 P **P** **23 04 59.3 +1.0**
baz=308
ECH Echery 88.59 325 P **P** **23 04 57.7 -0.5**
ECH pmax pmax
comp=Z,19nm,1.2s
ECH Echery 88.59 325 P **P** **23 04 57.7 -0.5**
ECH IAmb IAmb 23 04 59.8
comp=Z,19nm,1.2s
AQU L'Aquila 88.59 317 P **P** **23 04 58.6 +0.2**
AQU pmax pmax
comp=Z,18nm,0.7s
AQU MLR MLR
comp=Z,500nm,21.0s
AQU L'Aquila 88.59 317⇑ *i*P **P** **23 04 58.6 +0.2**
AQU L'Aquila 88.59 317 P **P** **23 04 58.6 +0.2**
AQU IAmb IAmb 23 05 03.5
comp=Z,18nm,0.7s
AQU IAMs_20 IAMs_20 23 48 30.4
comp=Z,451nm,21.0s
MURB Monte Urbino 88.60 318 P **P** **23 04 58.8 +0.5**
DOU Dourbes 88.67 327 P **P** **23 04 58.5 +0.1**
DOU PcP **PcP** **23 05 00.1 +0.1**
HPK Haverah Park 88.81 333 *e*P **P** **23 04 58.6 -0.4**
ZCCA Zocca 88.87 320 P **P** **23 05 01.1 +1.5**
ZCCA IAMs_20 IAMs_20 23 40 51.5
comp=Z,637nm,22.0s
FFC Flin Flon 88.87 26 P **P** **23 04 59.9 +0.6**
FFC pmax pmax
comp=Z,27nm,0.7s
FFC Flin Flon 88.87 26 P **P** **23 04 59.9 +0.6**
FFC IAmb IAmb 23 05 00.6
comp=Z,27nm,0.7s
AFDM Forest Hills D 88.98 46 P **P** **23 05 01.0 +0.8**
PRMA PARMA 89.00 321 P **P** **23 05 00.8 +0.7**
OSSC Osservatorio P 89.20 319 P **P** **23 05 01.3 +0.2**
OSSC IAmb IAmb 23 05 02.0
comp=Z,28nm,0.9s
OSSC IAMs_20 IAMs_20 23 47 40.4
comp=Z,216nm,20.0s
LBWR Ladybower, Pea 89.25 332 *e*P **P** **23 05 00.7 -0.4**
LBWR IAmb IAmb 23 05 01.9
comp=Z,32nm,0.8s
CEL Celeste 89.31 313 P **P** **23 05 01.8 0.0**
VLC Villacollemand 89.32 320 IAMs_20 IAMs_20 23 49 38.5
comp=Z,338nm,19.0s
CWF Charnwood Fore 89.55 332 *e*P **P** **23 05 01.5 -1.0**
SENIN Lac Senin/Sane 89.69 323 P **P** **23 05 03.1 -0.5**
MSSA Maissana 89.73 321 IAMs_20 IAMs_20 23 48 09.2
comp=Z,381nm,22.0s
EGMT Eagleton 90.02 34 P **P** **23 05 06.1 +1.1**
baz=311,SNR=15
EGMT Eagleton 90.02 34 P **P** **23 05 05.6 +0.7**
EGMT IAmb IAmb 23 05 07.3
comp=Z,31nm,0.8s
FOEL Foel Wylfa 90.23 333 *e*P **P** **23 05 05.2 -0.5**
FOEL IAmb IAmb 23 05 06.3
comp=Z,24nm,0.9s
HLID Hailey 90.33 40 P **P** **23 05 08.7 +2.1**
baz=308,SNR=21
WLF1 Llynfaes 90.42 333 *e*P **P** **23 05 06.0 -0.6**
WLF1 IAmb IAmb 23 05 07.5
comp=Z,65nm,1.1s
STRD Stroud 90.61 331 *e*P **P** **23 05 07.0 -0.4**
STRD IAmb IAmb 23 05 08.0
comp=Z,116nm,0.7s
BOZ Bozeman (W) 90.61 37 P **P** **23 05 09.2 +1.3**
baz=310,SNR=11
BOZ Bozeman (W) 90.61 37 P **P** **23 05 08.2 +0.3**
BOZ pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 90.61 37 P **P** **23 05 08.2 +0.3**
BOZ IAmb IAmb 23 05 10.5
comp=Z,13nm,0.9s
SWN1 Swindon 90.64 331 *e*P **P** **23 05 07.5 -0.1**
SWN1 IAmb IAmb 23 05 08.2
comp=Z,138nm,1.0s
KMBO Kilima Mbogo 90.65 269 P **P** **23 05 10.6 +1.9**
comp=Z,4.1nm,0.7s,baz=48,slow=8.8,SNR=16
KMBO LR LR 23 45 52.9
comp=Z,86nm,21.0s,baz=93,slow=36
MCH1 Michaelchurch 90.80 332 *e*P **P** **23 05 08.1 -0.3**
MCH1 IAmb IAmb 23 05 08.9
comp=Z,51nm,0.7s
MONM Monmouth 90.83 332 *e*P **P** **23 05 08.0 -0.5**
MONM IAmb IAmb 23 05 09.5
comp=Z,38nm,0.7s
RAFF Raffo Rosso 90.90 313 P **P** **23 05 09.6 +0.4**
NVAR Mina Array Bea 91.00 46 P **P** **23 05 11.9 +2.0**
comp=Z,5.1nm,0.7s,baz=288,slow=5.3,SNR=22
NVAR LR LR 23 40 53.7
comp=Z,87nm,19.2s,baz=269,slow=32
NVAR Mina Array Bea 91.00 46 P **P** **23 05 11.3 +1.4**
NV11 Mina Array Sit 91.09 46 P **P** **23 05 11.4 +1.2**
VOG Valley Oaks Go 91.49 48 P **P** **23 05 12.2 +0.3**
baz=304
PPT Papeete 91.58 109 LR LR 23 39 45.6
comp=Z,302nm,20.3s,baz=296,slow=31
PPT2 Papeete2 91.59 109 *e*S **S** **23 16 03.7 -5.4**
comp=Z,51nm,23.0s
PPT2 Papeete2 91.59 109 *e*LR LR 23 34 27.8
comp=Z,888nm,26.5s,baz=299
SMMC Simmler 91.64 49 P **P** **23 05 12.6 -0.1**
baz=304
SSB Saint Sauveur 91.86 324 IAMs_20 IAMs_20 23 49 59.4
comp=Z,530nm,19.0s
VES Vestal, Richgr 91.96 48 P **P** **23 05 14.7 +0.6**
baz=305
H17A Grant Village 91.96 37 P **P** **23 05 17.8 +3.5**
baz=310,SNR=15
PKM Mcpherson Peak 92.00 49 P **P** **23 05 16.3 +1.8**
baz=304
IMW Indian Meadow 92.08 38 IAMs_20 IAMs_20 23 40 27.5
comp=Z,220nm,18.0s
FLWY Flagg Ranch 92.09 38 P **P** **23 05 16.4 +1.6**
HTL Hartland 92.17 332 *e*P **P** **23 05 14.6 -0.1**
HTL IAmb IAmb 23 05 15.1
comp=Z,32nm,0.7s
RLMT Red Lodge 92.19 36 P **P** **23 05 17.0 +1.8**
baz=311,SNR=11
CWC Cottonwood Cre 92.28 47 P **P** **23 05 16.7 +0.9**
baz=305
ISA Isabella, Lake 92.47 48 P **P** **23 05 16.9 +0.3**
baz=305
LAO LASA Array 92.70 34 P **P** **23 05 18.9 +1.6**
baz=314
LAO LASA Array 92.70 34 P **P** **23 05 18.2 +0.8**
LAO IAmb IAmb 23 05 20.0
comp=Z,20nm,0.8s
R11A Troy Canyon, C 92.77 45 P **P** **23 05 19.6 +1.5**
baz=307,SNR=9.9
MPMC Manual Prospec 92.89 47 P **P** **23 05 20.1 +1.5**
baz=306,SNR=14
FURC Furnace Creek, 93.06 47 P **P** **23 05 20.7 +1.6**
baz=306,SNR=9.5
LRMC Laurel Mtn Rad 93.10 48 P **P** **23 05 21.0 +1.4**
baz=306
CASY Casey 93.15 187 P **P** **23 05 19.0 +0.4**
CASY IAmb IAmb 23 05 35.2
comp=Z,32nm,1.4s
TPNV Topopah Spring 93.18 46 P **P** **23 05 21.4 +1.5**
baz=306,SNR=11
EDW2 Edwards Air Fo 93.23 48 P **P** **23 05 21.5 +1.4**
baz=305,SNR=13
DUG Dugway, Tooele 93.35 42 P **P** **23 05 22.3 +1.7**
baz=309,SNR=6.1
DECC Green Verdugo 93.36 49 P **P** **23 05 21.9 +1.3**
baz=305
BW06 Boulder Array 93.58 38 P **P** **23 05 22.3 +0.6**
baz=311
PD31 Pinedale Array 93.58 38 P **P** **23 05 22.1 +0.4**
PDAR Pinedale Array 93.58 38 P **P** **23 05 22.6 +0.9**
comp=Z,5.1nm,0.9s,baz=329,slow=1.7,SNR=25
PDAR LR LR 23 52 17.1
comp=Z,41nm,18.1s,baz=334,slow=38
PDAR Pinedale Array 93.58 38 P **P** **23 05 22.1 +0.4**
SHOC Shoshone, Teco 93.78 47 P **P** **23 05 23.9 +1.4**
baz=306
GSC Goldstone, Bar 93.78 48 P **P** **23 05 24.2 +1.5**
baz=306,SNR=13
CIS Catalina Islan 93.80 50 P **P** **23 05 23.9 +1.3**
baz=305
BFSC Mount Baldy Ra 93.83 49 P **P** **23 05 24.1 +1.1**
baz=305,SNR=5.9
TBI Tubuai 94.27 114 *e*LR LR 23 35 38.8
comp=Z,275nm,32.8s
TUQ Turquoise Moun 94.29 47 P **P** **23 05 26.4 +1.4**
baz=306
BBRC Big Bear Solar 94.31 48 P **P** **23 05 26.8 +1.5**
baz=306
HEC Hector,Ludlow 94.37 48 P **P** **23 05 26.9 +1.6**
baz=306
MURC Murrieta 94.51 49 P **P** **23 05 26.7 +0.8**
baz=306
ULM Lac du Bonnet 94.70 26 P **P** **23 05 26.4 0.0**
comp=Z,7.8nm,0.8s,baz=322,slow=5.0,SNR=15
ULM LR LR 23 51 11.0
comp=Z,57nm,18.4s,baz=324,slow=37
ULM Lac du Bonnet 94.70 26 P **P** **23 05 26.1 -0.3**
GMRC Granite Mounta 94.85 47 P **P** **23 05 29.0 +1.4**
baz=307,SNR=6.3
109C Camp Elliot, M 94.99 50 P **P** **23 05 29.0 +1.0**
baz=306
PFO Pinyon Flats O 95.01 49 P **P** **23 05 29.7 +1.3**
baz=306,SNR=12
PFO Pinyon Flats O 95.01 49 P **P** **23 05 29.0 +0.7**
PFO pmax pmax
comp=Z,19nm,1.0s
PFO Pinyon Flats O 95.01 49 P **P** **23 05 29.0 +0.7**
PFO IAmb IAmb 23 05 45.2
comp=Z,20nm,0.9s

TPFO	**Pinon Flats**	95.01	49	P		**P**	23 05 29.8	+1.4	
	baz=306,SNR=12								
KEST	**Kesra**	95.05	314	P		**P**	23 05 28.4	0.0	
	comp=Z,4.2nm,0.9s,baz=215,slow=5.5,SNR=4.3								
KEST				LR		LR	23 55 03.3		
	comp=Z,99nm,19.1s,baz=267,slow=40								
BELC	**Belle Mtn. Jos**	95.09	48	P		**P**	23 05 29.9	+1.2	
	baz=306,SNR=6.1								
K22A	**Casper**	95.32	37	P		**P**	23 05 29.9	+0.3	
	baz=313								
SRU	**San Rafael Swe**	95.40	41	P		**P**	23 05 30.6	+0.5	
SRU				pmax		pmax			
	comp=Z,7.0nm,1.0s								
SRU	**San Rafael Swe**	95.40	41	P		**P**	23 05 30.6	+0.5	
MONP2	**Monument Peak**	95.45	49	P		**P**	23 05 31.9	+1.4	
	baz=306,SNR=6.8								
IRM	**Iron Mountain**	95.56	48	P		**P**	23 05 32.3	+1.6	
	baz=307,SNR=5.4								
RSSD	**Black Hills**	95.59	34	P		**P**	23 05 31.7	+0.8	
	baz=315								
RSSD	**Black Hills**	95.59	34	P		**P**	23 05 31.1	+0.2	
RSSD				pmax		pmax			
	comp=Z,26nm,1.7s								
RSSD	**Black Hills**	95.59	34	P		**P**	23 05 31.1	+0.2	
RSSD				IAmb		IAmb	23 05 33.1		
	comp=Z,26nm,1.7s								
BC3	**Big Chuckawall**	95.66	48	P		**P**	23 05 32.8	+1.5	
	baz=307,SNR=5.9								
IKP	**In-Ko-Pah, Jac**	95.81	49	P		**P**	23 05 33.5	+1.5	
	baz=306								
SWSC	**Sam W. Stewart**	95.84	49	P		**P**	23 05 33.3	+1.3	
	baz=306								
O20A	**White River Ci**	96.06	40	P		**P**	23 05 33.9	+0.8	
	baz=312								
ESJX	**Sierra Juarez**	96.30	50	IAMs_20		IAMs_20	23 46 12.1		
	comp=Z,378nm,19.0s								
PV22	**Blue Mesa, Par**	96.80	41	IAMs_20		IAMs_20	23 35 12.8		
	comp=Z,332nm,18.0s								
PHWY	**Pilot Hill**	96.82	37	IAMs_20		IAMs_20	23 35 42.9		
	comp=Z,129nm,18.0s								
PV04	**Paradox Valley**	96.83	41	IAMs_20		IAMs_20	23 49 02.5		
	comp=Z,374nm,18.0s								
N23A	**Red Feather La**	96.84	38	P		**P**	23 05 37.8	+1.1	
	baz=314								
WUAZ	**Wupatki**	97.17	45	P		Pdif	23 05 39.5	+1.3	
	baz=309								
EYMN	**Ely**	98.27	25	P		Pdif	23 05 43.4	+0.7	
	baz=325								
SCHQ	**Schefferville**	98.30	8	LR		LR	23 51 15.4		
	comp=Z,225nm,21.9s,baz=321,slow=36								
ES19	**SONSECA Array**	100.22	324	IAMs_20		IAMs_20	23 40 39.5		
	comp=Z,225nm,18.0s								
ESDC	**Sonseca Array**	100.27	324	P		**Pdif**	**23 05 51.4**	**-0.4**	
	comp=Z,3.7nm,0.8s,baz=28,slow=4.5,SNR=23								
ESDC				PP		**PP**	**23 09 52.4**	**-5.1**	
	comp=Z,1.0nm,0.9s,baz=45,slow=9.3,SNR=4.3								
ES14	**SONSECA Array**	100.30	324	IAMs_20		IAMs_20	23 55 27.7		
	comp=Z,294nm,19.0s								
CBKS	**Cedar Bluff**	101.66	36	IAMs_20		IAMs_20	23 37 38.9		
	comp=Z,185nm,19.0s								
MAW	**Mawson**	105.00	201	PKKPbc		PKKPbc	23 21 53.4	-2.6	
	comp=Z,1.3nm,0.6s,baz=139,slow=6.0,SNR=4.7								
VNDA	**Vanda**	105.58	173	PKKPbc		PKKPbc	23 21 52.2	-2.3	
	comp=Z,1.2nm,1.0s,baz=162,slow=2.4,SNR=5.9								
TXAR	**Lajitas Array**	106.13	45	Pdiff		**Pdif**	**23 06 19.5**	**+1.4**	
	comp=Z,1.0nm,0.8s,baz=279,slow=2.3,SNR=9.6								
TXAR				PKiKP		**PKiKP**	**23 10 30.6**	**+0.7**	
	comp=Z,0.4nm,0.7s,baz=236,slow=0.8,SNR=6.3								
TXAR				PP		**PP**	**23 10 48.2**	**+6.5**	
	comp=Z,0.3nm,0.8s,baz=304,slow=4.9,SNR=4.2								
TXAR				PKKPbc		**PKKPbc**	**23 21 47.5**	**-3.8**	
	comp=Z,0.4nm,0.4s,baz=300,slow=4.8,SNR=11								
TXAR	**Lajitas Array**	106.13	45	P		**Pdif**	**23 06 18.0**	**-0.2**	
TXAR	**Lajitas Array**	106.13	45	Pdif		**Pdif**	**23 06 18.0**	**-0.2**	
RKT	**Rikitea**	106.33	108	eLR		LR	23 41 32.6		
	comp=Z,553nm,32.2s								
R56A	**Bull Pasture M**	110.92	22	P		**PKiKP**	**23 10 38.1**	**-0.5**	
	baz=334								
SWET	**Sewanee**	111.18	29	IAMs_20		IAMs_20	00 04 50.4		
	comp=Z,300nm,19.0s								
BOSA	**Boshof**	112.10	248	PKiKP		**PKiKP**	**23 10 41.2**	**+0.2**	
	comp=Z,1.8nm,0.6s,baz=86,slow=4.2,SNR=6.1								
SYO	**Syowa Base**	113.48	203	eX		**PKiKP**	**23 10 35.5**	**-6.7**	
TORD	**Torodi Ar. Bea**	114.29	300	PKP		PKPdf	23 10 45.1	-0.3	
	comp=Z,3.3nm,0.7s,baz=16,slow=2.9,SNR=18								
TORD				PP		**PP**	**23 11 37.1**	**-3.9**	
	comp=Z,1.5nm,0.8s,baz=36,slow=5.2,SNR=4.3								
QSPA	**South Pole Qui**	116.05	180	PKKPbc		PKKPbc	23 21 18.2	-2.3	
	comp=Z,1.4nm,0.7s,baz=230,slow=1.0,SNR=5.3								
QSPA	**South Pole Qui**	116.05	180	PKPdf		**PKiKP**	**23 10 47.6**	**+0.3**	
DBIC	**Dimbokro**	123.32	298	PKP		**PKPdf**	**23 11 02.8**	**0.0**	
	comp=Z,11nm,0.8s,baz=23,slow=2.0,SNR=18								
KIC	**Kosan Boka**	123.41	298	ePKIKP		**PKPdf**	**23 11 02.9**	**-0.1**	
	comp=Z,34nm,0.8s								
TIC	**Toumodi**	123.46	299	ePKIKP		**PKPdf**	**23 11 03.1**	**0.0**	
LIC	**Lamto**	123.72	298	ePKIKP		**PKPdf**	**23 11 03.5**	**-0.1**	
	comp=Z,52nm,0.9s								
HUEH	**Huehuetenango**	123.95	47	IAMs_20		IAMs_20	00 09 43.2		
	comp=Z,288nm,19.0s								
SNAA	**Sanae**	126.96	198	PKPdf		**PKPdf**	**23 11 07.5**	**-0.7**	
SNAA	**Sanae**	126.96	198	PKiKP		**PKiKP**	**23 11 08.9**	**+0.2**	
SNAA	**Sanae**	126.96	198			**PKiKP**	**23 11 08.9**	**+0.2**	
BELA	**Belgrano 2**	127.65	185			**PKiKP**	**23 11 09.8**	**0.0**	
VNA2	**Neumayer--Watz**	128.60	197	PKPdf		**PKiKP**	**23 11 11.7**	**-0.2**	
	baz=103,slow=2.6								
VNA1	**Neumayer--Stat**	128.99	197	PKPdf		**PKiKP**	**23 11 13.0**	**+0.4**	
VNA3	**Neumayer Olymp**	129.00	196	PKPdf		**PKiKP**	**23 11 12.5**	**-0.2**	
SJCC	**San Jacinto, C**	137.86	34	eP		**PKPdf**	**23 11 31.0**	**+0.6**	
SMLC	**San Martn de**	139.36	34	eP		**PKPdf**	**23 11 33.5**	**+0.4**	
OCAC	**Ocana**	140.22	33	eP		**PKiKP**	**23 11 36.2**	**-1.1**	
SDV	**Santo Domingo**	140.89	29			**PKPdf**	**23 11 36.5**	**+0.4**	
SDV	**Santo Domingo**	140.89	29	eP		**PKiKP**	**23 11 38.5**	**-0.3**	
PTBC	**PUERTO BERRIO**	141.08	36	eP		**PKPdf**	**23 11 35.3**	**-0.9**	
PAMC	**Pamplona, Colo**	141.29	33	eP		**PKPdf**	**23 11 31.8**	**-5.4**	
PLMC	**San Jos del P**	141.42	40	eP		**PKPdf**	**23 11 37.3**	**+0.4**	
GUY2C	**Guyana, Caldas**	141.68	38	eP		**PKPdf**	**23 11 38.9**	**+1.0**	
BARC	**Barichara**	141.70	34	eP		**PKPdf**	**23 11 38.3**	**+0.6**	
RUSC	**La Rusia**	142.34	35	eP		**PKPdf**	**23 11 33.7**	**-5.4**	
CHIC	**Chingaza**	143.07	37	eP		PKPab	23 11 36.1	+0.5	
POPC	**Popayan, Colom**	143.08	43	eP		PKPab	23 11 35.3	-0.1	
VILC	**Villavicencio,**	143.52	37	eP		PKPbc	23 11 38.3	+0.2	
BETC	**Betania**	143.70	41	eP		PKPab	23 11 38.0	+0.3	
OTAV	**Otavalo**	143.71	48	eP		**PKPdf**	**23 11 41.8**	**+0.3**	
FLOC	**Florencia**	144.45	42	eP		**PKPab**	**23 11 40.5**	**0.0**	
PUAC	**Puerto Asis, P**	144.69	45	eP		**PKPab**	**23 11 40.5**	**-0.8**	
MACC	**Macarena, Meta**	145.06	39	eP		**PKPbc**	**23 11 41.7**	**-1.0**	
GUVC	**San Jose del G**	145.41	37	eP		**PKPab**	**23 11 44.4**	**+0.4**	
PTLC	**Puerto Leguiza**	146.09	43	eP		**PKPab**	**23 11 46.4**	**-0.1**	
NNA	**Nana**	153.10	63	PKIKP		**PKPbc**	**23 12 03.6**	**+0.1**	
NNA	**Nana**	153.10	63			**PKPbc**	**23 12 03.5**	**+0.1**	
CZSB	**Cruzeiro do Su**	153.42	50	eP		**PKPbc**	**23 12 01.1**	**-3.1**	
MCPB	**Macapa, AP**	154.24	359	eP		**PKPdf**	**23 12 00.2**	**+2.4**	
ROSB	**Rosrio**	155.38	339	eP		**PKPdf**	**23 12 02.0**	**+2.6**	
MALB	**Monte Alegre**	155.67	4	eP		**PKPdf**	**23 12 02.6**	**+2.9**	
MACA	**Manacapuru-AM**	155.74	20	eP		**PKPdf**	**23 12 02.2**	**+2.4**	
TMAB	**Tom-Au,PA,Br**	155.85	349	eP		**PKPdf**	**23 12 02.8**	**+2.8**	
PLCA	**Paso Flores**	159.25	139	PKPab		**PKPab**	**23 12 41.9**	**+1.0**	
	comp=Z,1.2nm,0.5s,baz=234,slow=7.8,SNR=3.9								
LC01	**Cunco**	159.48	133			**PKPab**	**23 12 43.7**	**+1.9**	
SAML	**Samuel**	160.05	32	PKP2		**PKPab**	**23 12 43.9**	**-0.9**	
SAML	**Samuel**	160.05	32			**PKPab**	**23 12 43.9**	**-0.9**	
LPAZ	**La Paz**	162.44	59	PKP		**PKPdf**	**23 12 09.2**	**+1.0**	
	comp=Z,2.0nm,0.7s,baz=326,slow=3.9,SNR=8.1								
LPAZ				PKPab		**PKPab**	**23 12 56.0**	**0.0**	
	comp=Z,4.8nm,1.2s,baz=331,slow=6.3,SNR=3.8								
LPAZ	**La Paz**	162.44	59	eP		**PKPdf**	**23 12 08.3**	**0.0**	
LPAZ	**La Paz**	162.44	59			**PKPdf**	**23 12 08.6**	**+0.3**	
LPAZ	**La Paz**	162.44	59	eP		**PKPdf**	**23 12 12.4**	**+4.1**	
PB16	**IPOC Station P**	162.47	67			**PKPdf**	**23 12 08.5**	**+0.3**	
PB11	**IPOC Station P**	163.00	71			**PKPdf**	**23 12 08.8**	**+0.7**	
PB11				PKPab		**PKPab**	**23 12 58.8**	**+0.8**	
GO01	**Chusmiza**	163.35	70			**PKPdf**	**23 12 10.2**	**+1.3**	
CLDB	**Colider**	164.38	12	eP		**PKPdf**	**23 12 13.7**	**+4.3**	
SDBA	**SAO DESIDERIO**	164.44	331	eP		**PKPdf**	**23 12 15.1**	**+5.6**	
SNDB	**Serra Nova Dou**	165.73	355	eP		**PKPdf**	**23 12 14.9**	**+4.4**	
JANB	**Januaria**	166.43	324	eP		**PKPdf**	**23 12 14.2**	**+3.1**	
RIB01	**Linhares ES**	166.81	299	eP		**PKPdf**	**23 12 15.7**	**+4.5**	
BDFB	**Brasilia**	168.60	337	PKP		**PKPdf**	**23 12 13.2**	**+0.5**	
	comp=Z,7.4nm,0.9s,baz=198,slow=3.2,SNR=9.1								
BDFB				PKPab		**PKPab**	**23 13 21.3**	**-1.1**	
	comp=Z,5.1nm,0.7s,baz=78,slow=2.5,SNR=6.5								
BDFB	**Brasilia**	168.60	337	PKPdf		**PKPdf**	**23 12 12.7**	**-0.1**	
BDFB						**PKPab**	**23 13 21.6**	**-0.8**	
ARAG	**Araguaiana, MT**	169.46	356	eP		**PKPdf**	**23 12 18.0**	**+4.8**	
PCMB	**Pacaembu**	175.21	345	eP		**PKPdf**	**23 12 21.5**	**+5.9**	
CPUP	**Villa Florida**	175.73	92	PKP		**PKPdf**	**23 12 16.4**	**+0.8**	
	comp=Z,2.2nm,0.8s,baz=252,slow=3.2,SNR=4.0								
CNLB	**Canela**	176.61	206	eP		**PKPdf**	**23 12 21.5**	**+5.8**	

IDC 14 23:03:53.5±3.6, 6°27S×149°53E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/44, mbtmp3.6/3, Error ellipse: s-maj=107.9km s-min=48.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	20.06	226	P	P	23 08 28.9	+0.3
	1.1nm,0.3s,baz=51,slow=11,SNR=11						
ASAR	**Alice Springs**	22.91	219	P	P	23 08 59.0	-0.2
	0.4nm,0.5s,baz=59,slow=9.1,SNR=6.7						
FITZ	**Fitzroy Crossi**	26.10	241	P	P	23 09 28.8	-0.5
	1.1nm,0.7s,baz=73,slow=10,SNR=7.6						
TORD	**Torodi Ar. Bea**	147.59	285	PKPbc	PKPbc	23 23 40.6	-0.3
	0.1nm,0.3s,baz=91,slow=2.1,SNR=5.7						

IDC 14 23:41:12.4±1.0, 23°64S×179°14E, h521km±9km, mb4.2/25, mb1 4.3/28, mb1mx4.2/36, mbtmp5.1/28, Error ellipse: s-maj=10.7km s-min=9.3km az=52.0
NEIC 14 23:41:12.5±1.8, 23°62S±0°09×179°16E±0°03, h530km±5km, mb4.6/161, Error ellipse: s-maj=12.8km s-min=4.6km az=177.0
ISC 14 23:41:14.1±0.2, 23°75S±0°04×179°13E±0°05, h548km, n428, σ1°26/447, mb4.6/98, 32C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	6.07	350	P	**P**	23 42 50.9	-2.5
RAO	**Raoul Island**	6.09	155	P	**P**	23 42 50.7	-2.5
	91nm,0.3s,baz=266,slow=23,SNR=2.6						
RAO				S	**S**	23 44 09.9	-4.6
	12nm,0.3s,baz=252,slow=23,SNR=1.2						
RAO	**Raoul Island**	6.09	155	P	**P**	23 42 50.9	-2.4
GLKZ	**Green Lake**	6.09	155	P	**P**	23 42 54.2	+0.9
GLKZ				S	**S**	23 44 13.8	-0.8
NIUE	**Niue**	11.20	68	P	**P**	23 43 42.3	-2.1
DZM	**Mont Dzumac**	11.81	276	P	**P**	23 43 50.7	-0.1
	2.8nm,0.3s,baz=218,slow=16,SNR=20						
DZM	**Mont Dzumac**	11.81	276	P	**P**	23 43 50.0	-0.8
OUZ	**Omahuta**	12.40	202	P	**P**	23 43 58.7	+2.1
OUZ	**Omahuta**	12.40	202	P	**P**	23 43 58.1	+1.5
WCZ	**Waipu Caves**	12.84	198	P	**P**	23 44 03.1	+2.0
AFI	**Afiamalu**	13.03	43	P	**P**	23 43 58.5	-4.9
MXZ	**Matakaoa Point**	13.79	183	P	**P**	23 44 08.8	-2.1
MXZ				S	**S**	23 46 34.0	-2.5
MXZ	**Matakaoa Point**	13.79	183		**P**	23 44 09.8	-1.1
HAZ	**Te Kaha**	14.01	184	P	**P**	23 44 11.5	-1.7
HAZ				S	**S**	23 46 36.7	-4.0
WMGZ	**Waiomatatini S**	14.04	182	P	**P**	23 44 12.0	-1.5
WMGZ				S	**S**	23 46 40.1	-1.2
PKGZ	**Pakihiroa**	14.13	183	P	**P**	23 44 12.0	-2.4
PKGZ				S	**S**	23 46 42.2	-0.9
WHRZ	**Whale Island**	14.19	187	P	**P**	23 44 13.5	-1.5
RUGZ	**Raukumara Rang**	14.23	185	P	**P**	23 44 13.5	-2.1
RUGZ				S	**S**	23 46 41.1	-4.0
PUZ	**Puketiti**	14.30	183	P	**P**	23 44 13.9	-2.3
PUZ				S	**S**	23 46 42.0	-4.3
MARZ	**Manawahe**	14.35	188	P	**P**	23 44 16.7	0.0
TWGZ	**Tauwhareparae**	14.42	184	P	**P**	23 44 16.3	-1.2
TWGZ				S	**S**	23 46 48.0	-0.6
URZ	**Urewera**	14.57	186	P	**P**	23 44 16.7	-2.2
	12nm,0.3s,baz=17,slow=5.1,SNR=133						
URZ				S	**S**	23 46 45.7	-5.6
	2.8nm,0.3s,baz=260,slow=23,SNR=3.7						
URZ	**Urewera**	14.57	186	P	**P**	23 44 16.6	-2.4
URZ				S	**S**	23 46 44.2	-7.1
RAGZ	**Rawiri**	14.78	185	P	**P**	23 44 19.1	-2.1
RAGZ				S	**S**	23 46 50.5	-4.9
SNGZ	**Shannon Statio**	15.07	185	P	**P**	23 44 22.3	-1.8
SNGZ				S	**S**	23 46 57.7	-2.8
NNZ	**Nelson**	18.08	194	P	**P**	23 44 51.9	-0.6
KHZ	**Kahutara**	19.19	193	P	**P**	23 45 01.8	-0.8
RPZ	**Rata Peaks**	21.00	197	P	**P**	23 45 18.9	-0.2
	5.5nm,0.4s,baz=244,slow=6.4,SNR=3.3						
KNTN	**Kanton**	22.65	24	P	**P**	23 45 31.9	-2.3
ARMA	**Armidale**	25.33	249	P	**P**	23 45 59.0	+1.0
EIDS	**Eidsvold**	25.55	261	P	**P**	23 46 00.7	+0.8
EIDS				IAmb	IAmb	23 46 02.1	
	comp=Z,20nm,1.0s						
PPT	**Papeete**	29.88	84	P	**P**	23 46 38.5	+0.7
	comp=Z,9.1nm,0.4s,baz=240,slow=19,SNR=2.1						
CTA	**Charters Tower**	30.68	270	P	**P**	23 46 45.3	+0.7
	comp=Z,83nm,0.3s,baz=94,slow=11,SNR=219						
CTA				ScP	**ScP**	23 52 21.2	+4.7
	comp=Z,12nm,1.0s,baz=283,slow=2.0,SNR=6.6						
CTAO	**Charters Tower**	30.68	270	P	**P**	23 46 45.2	+0.6
TOO	**Toolangi**	31.87	236	P	**P**	23 46 55.6	+1.0
TAU	**Tasmania Unive**	32.46	226	P	**P**	23 47 00.4	+0.9
KRVT	**Keravat (AS076**	32.51	302	P	**P**	23 46 59.5	-0.8
	comp=Z,62nm,0.7s,baz=257,slow=6.4,SNR=3.6						
PMG	**Port Moresby**	33.69	290	P	**P**	23 47 10.1	-0.1
	comp=Z,33nm,0.6s,baz=101,slow=5.5,SNR=24						
PMG				PcP	**PcP**	23 49 35.4	+1.3
	comp=Z,4.4nm,0.4s,baz=133,slow=1.9,SNR=3.9						
PMG				S	**S**	23 51 52.4	-2.7
	comp=Z,3.4nm,0.3s,baz=17,slow=23,SNR=7.1						
PMG				ScP	**ScP**	23 52 31.2	+4.2
	comp=Z,4.9nm,0.4s,baz=150,slow=7.9,SNR=4.2						
PMG	**Port Moresby**	33.69	290	P	**P**	23 47 10.2	-0.1
STKA	**Stephens Creek**	34.04	248	P	**P**	23 47 13.8	+0.7
	comp=Z,33nm,0.5s,baz=93,slow=10,SNR=101						
STKA				S	**S**	23 52 00.1	+0.1
	comp=Z,0.6nm,0.2s,baz=318,slow=18,SNR=1.6						
STKA	**Stephens Creek**	34.04	248	P	**P**	23 47 13.7	+0.7
STKA				IAmb	IAmb	23 47 14.8	
	comp=Z,9.5nm,0.7s						
KWAJ	**Kwajalein Atol**	34.25	339	P	**P**	23 47 13.3	-1.6
COEN	**Coen**	35.30	279	P	**P**	23 47 23.5	-0.3
COEN				IAmb	IAmb	23 47 25.4	
	comp=Z,9.4nm,0.6s						
BBOO	**Buckleboo**	38.77	247	P	**P**	23 47 51.0	-1.0
AS31	**Alice Springs**	41.27	261	P	**P**	23 48 12.3	+0.1
AS31				IAmb	IAmb	23 48 13.2	
	comp=Z,15nm,1.0s						
ASAR	**Alice Springs**	41.27	261	P	**P**	23 48 12.2	0.0
	comp=Z,24nm,0.5s,baz=91,slow=8.2,SNR=248						
ASAR				PcP	**PcP**	23 49 56.6	-1.1
	comp=Z,3.1nm,0.6s,baz=102,slow=5.6,SNR=5.8						
ASAR				ScP	**ScP**	23 52 60.0	+4.2
	comp=Z,5.2nm,0.9s,baz=104,slow=4.0,SNR=10						
ASAR				S	**S**	23 53 45.0	-2.1
	comp=Z,2.8nm,0.9s,baz=99,slow=16,SNR=8.0						
ASAR	**Alice Springs**	41.27	261	P	**P**	23 48 11.9	-0.3
WR0	**Warramunga Arr**	41.43	266	IAmb	IAmb	23 48 13.8	
	comp=Z,32nm,1.0s						
WB0	**Warramunga Arr**	41.61	267	P	**P**	23 48 14.3	-0.6
WRAB	**Tennant Creek**	41.61	266	P	**P**	23 48 14.4	-0.5
WRA	**Warramunga Arr**	41.62	266	P	**P**	23 48 14.5	-0.4
	comp=Z,43nm,0.7s,baz=93,slow=8.5,SNR=214						
WRA				PcP	**PcP**	23 49 59.1	+0.1
	comp=Z,1.0nm,0.4s,baz=100,slow=4.3,SNR=5.1						
WRA				ScP	**ScP**	23 53 01.5	+4.3
	comp=Z,9.5nm,0.8s,baz=99,slow=4.1,SNR=20						
WRA				S	**S**	23 53 49.6	-2.6
	comp=Z,4.3nm,0.8s,baz=99,slow=14,SNR=11						
WRA	**Warramunga Arr**	41.62	266		**ScP**	23 53 01.7	+4.5
JAY	**Jayapura**	42.72	294	P	**P**	23 48 23.1	-0.5
	comp=Z,14nm,0.4s,baz=154,slow=4.7,SNR=11						
JAY	**Jayapura**	42.72	294	P	**P**	23 48 23.5	-0.2
	comp=Z,16nm,1.2s						
MTN	**Manton Dam**	46.65	275	P	**P**	23 48 51.9	-1.9
MTN				IAmb	IAmb	23 48 53.3	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	47.89	270	P	**P**	23 49 03.3	+0.3
KHLU	**Kahalu`u**	49.48	32	P	**P**	23 49 11.9	-2.9
FITZ	**Fitzroy Crossi**	50.05	266	P	**P**	23 49 19.3	+0.3
SIJI	**Sorong**	51.63	289	ScP	**ScP**	23 53 44.3	+4.9
	comp=Z,28nm,0.6s,baz=134,slow=19,SNR=3.4						
SOEI	**Soe**	54.04	275	P	**P**	23 49 48.6	+0.7
	comp=Z,42nm,0.9s						
SOEI	**Soe**	54.04	275	IAmb	IAmb	23 49 55.9	
	comp=Z,26nm,0.6s						
NLAI	**Namlea**	54.17	284	P	**P**	23 49 48.2	-0.5
	comp=Z,17nm,0.5s						
PSA00	**Pilbara Seismi**	54.41	260	IAmb	IAmb	23 49 50.1	
	comp=Z,20nm,0.4s						
VNDA	**Vanda**	54.47	185	P	**P**	23 49 51.1	+1.4
	comp=Z,2.2nm,0.5s,baz=7.3,slow=7.8,SNR=32						
VNDA				PcP	**PcP**	23 50 46.2	+1.6
	comp=Z,2.5nm,0.8s,baz=348,slow=4.6,SNR=5.4						
VNDA	**Vanda**	54.47	185	P	**P**	23 49 51.1	+1.4
NWAO	**Narrogin (SRO)**	54.57	246	P	**P**	23 49 51.0	-0.2
LBMI	**Labuha**	55.03	287	P	**P**	23 49 54.8	+0.1
SANI	**Sanana**	55.70	285	P	**P**	23 49 58.7	-0.6
	comp=Z,22nm,1.2s						
EDFI	**Ende, Flores**	56.77	275	P	**P**	23 50 06.5	-0.3
GIRL	**Giralia**	59.17	257	P	**P**	23 50 24.1	+1.2
CASY	**Casey**	59.90	206	P	**P**	23 50 27.0	0.0
CASY				IAmb	IAmb	23 50 27.4	
	comp=Z,12nm,0.5s						
KAPI	**Kappang**	60.02	278	P	**P**	23 50 26.2	-2.4
PLAI	**Plampang**	60.32	273	P	**P**	23 50 30.1	-0.5
	comp=Z,88nm,1.0s						
TWSI	**Taliwang, Sumb**	61.17	273	P	**P**	23 50 35.7	-0.5
	comp=Z,545nmcomp=Z,18nm,1.0s						
JAGI	**Jajag, Banyuwa**	63.77	272	P	**P**	23 50 52.1	-0.9
JAGI				IAmb	IAmb	23 50 53.5	
	comp=Z,17nm,0.6s						
QSPA	**South Pole Qui**	66.33	180	P	**P**	23 51 10.1	+1.7
QSPA				IAmb	IAmb	23 51 11.2	
	comp=Z,29nm,1.1s						
KKM	**Kota Kinabalu**	68.10	287	P	**P**	23 51 19.5	-0.5
KKM				IAmb	IAmb	23 51 20.3	
	comp=Z,11nm,0.7s						
LEM	**Lembang**	70.38	271	P	**P**	23 51 34.1	+0.3
	comp=Z,46nm,0.7s,baz=105,slow=17,SNR=4.5						
MJAR	**Matsushiro Arr**	71.32	326	P	**P**	23 51 38.5	-0.2
	comp=Z,13nm,0.8s,baz=158,slow=5.8,SNR=25						
MJAR	**Matsushiro Arr**	71.32	326	P	**P**	23 51 37.9	-0.8
MAJO	**Matsushiro**	71.33	326	P	**P**	23 51 38.5	-0.2
MAJO				IAmb	IAmb	23 51 39.5	
	comp=Z,26nm,1.0s						
MAT	**Matsushiro**	71.33	326	P	**P**	23 51 38.4	-0.3
JHS	**Saijyo**	72.91	322	P	**P**	23 51 48.4	+0.4
JHS				IAmb	IAmb	23 51 53.5	
	comp=Z,19nm,1.1s						
NACB	**Ninganchiao**	73.37	306	P	**P**	23 51 49.1	-1.6
NACB				IAmb	IAmb	23 51 50.1	
	comp=Z,23nm,0.8s						
MDSI	**Maura Dua**	74.44	272	P	**P**	23 51 56.0	-1.1
ADK	**Adak**	75.39	3	P	**P**	23 52 01.1	-0.4
BELA	**Belgrano 2**	76.68	173	P	**P**	23 52 09.1	+0.7
MAW	**Mawson**	77.61	201

baz=236
NVAR Mina Array Bea 85.20 44 P P 23 52 54.1 +0.9
comp=Z,5.0nm,0.9s,baz=224,slow=8.0,SNR=17
NVAR Mina Array Bea 85.20 44 P P 23 52 52.7 -0.5
HSIG 85.28 56 P P 23 52 53.8 +0.3
I03D Drain, OR 85.34 38 P P 23 52 54.5 +1.2
baz=231
214A Organ Pipe Nat 85.40 52 P P 23 52 55.8 +1.7
baz=238
214A Organ Pipe Nat 85.40 52 IAmb IAmb 23 52 56.3
comp=Z,8.7nm,0.8s
VNA2 Neumayer--Watz 85.48 178 P P 23 52 53.9 +0.2
baz=188,slow=4.0
KVN Kaiserville 85.69 44 IAmb IAmb 23 52 56.7
comp=Z,8.1nm,0.7s
TPNV Topopah Spring 85.70 47 P P 23 52 56.6 +1.1
baz=236
ENH Enshi 85.70 306 P P 23 52 55.1 -0.5
ENH IAmb IAmb 23 52 56.9
comp=Z,23nm,1.1s
VNA1 Neumayer--Stat 85.72 178 P P 23 52 55.2 +0.4
J04D Umpqua Nationa 85.76 39 P P 23 52 57.0 +1.3
baz=232
I04A Tendick Farm, 85.93 38 P P 23 52 57.4 +1.1
baz=232
K05A Summer Lake 86.15 40 IAmb IAmb 23 52 59.5
comp=Z,10nm,0.7s
J05D Fort Rock, OR 86.29 39 P P 23 52 59.4 +1.2
baz=232
BJT Baijiatuau 86.36 317 P P 23 52 59.4 +1.0
BJT IAmb IAmb 23 53 00.1
comp=Z,9.0nm,0.9s
BJI Beijing 86.37 317 P P 23 52 59.0 +0.6
BJI pmax pmax
comp=Z,11nm,0.8s
H04A Detroit Lake 86.61 38 IAmb IAmb 23 53 01.5
comp=Z,15nm,1.2s
PRN Pahroc Range 86.75 47 IAmb IAmb 23 53 03.0
comp=Z,14nm,1.1s
PINE Pine Mountain 86.77 39 IAmb IAmb 23 53 02.5
comp=Z,12nm,0.8s
I05D Terrebonne, OR 86.87 38 P P 23 53 01.8 +1.0
baz=232
R11A Troy Canyon, C 86.91 46 P P 23 53 01.9 +0.6
baz=236
TUC Tucson 87.06 53 P P 23 53 04.0 +2.0
baz=240
TUC Tucson 87.06 53 P P 23 53 03.1 +1.1
TUC IAmb IAmb 23 53 05.2
comp=Z,16nm,1.1s
E04D Cinebar 87.57 36 P P 23 53 05.2 +1.3
baz=231
X16A Lo Mia Camp, P 87.66 51 IAmb IAmb 23 53 07.6
comp=Z,9.1nm,0.9s
F05D White Salmon 87.75 37 P P 23 53 05.2 +0.4
baz=232
D04E Lakebay 87.85 35 P P 23 53 07.7 +2.6
baz=231
D03D Eldon 87.90 35 P P 23 53 06.6 +1.2
baz=231
XAN Xi'an 88.02 309 P P 23 53 07.6 +1.2
XAN pmax pmax
comp=Z,29nm,1.0s
XAN pmax pmax
comp=Z,89nm,4.9s
XAN Xi'an 88.02 309 P P 23 53 07.0 +0.6
LON Longmire 88.10 36 IAmb IAmb 23 53 16.0
comp=Z,10nm,1.1s
RC01 Rabbit Creek A 88.21 15 P P 23 53 07.3 +0.7
baz=208
WUAZ Wupatki 88.27 50 P P 23 53 08.9 +1.3
baz=239
ELK Elko 88.46 44 IAmb IAmb 23 53 10.5
comp=Z,13nm,1.1s
TTA Tatalina 88.61 11 P P 23 53 08.2 -0.3
TTA IAmb IAmb 23 53 09.7
comp=Z,13nm,1.2s
CM31 Chiang Mai Arr 88.73 291 P P 23 53 10.4 +0.5
CM31 IAmb IAmb 23 53 12.5
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 88.73 291 P P 23 53 11.3 +1.3
comp=Z,5.0nm,0.9s,baz=133,slow=3.3,SNR=26
CMAR PP PP 23 56 47.9 -1.3
comp=Z,0.5nm,0.3s,baz=349,slow=0.9,SNR=1.9
CMAR Chiang Mai Arr 88.73 291 P P 23 53 10.7 +0.7
G08A Pilot Rock 88.80 39 IAmb IAmb 23 53 11.4
comp=Z,8.1nm,0.7s
A04D Lummi Island 88.85 34 P P 23 53 11.4 +1.6
baz=231
CHTO Chiang Mai 88.88 291 P P 23 53 11.2 +0.6
CHTO IAmb IAmb 23 53 13.4
comp=Z,11nm,1.1s
B05A Bryant 88.88 35 P P 23 53 11.3 +1.4
baz=232
PLCA Paso Flores 88.94 135 P P 23 53 12.6 +1.9
comp=Z,4.5nm,0.8s,baz=236,slow=3.6,SNR=9.6
PLCA Paso Flores 88.94 135 P P 23 53 12.0 +1.3
PLCA IAmb IAmb 23 53 13.2
comp=Z,7.2nm,0.9s
ZAIG Zacatecas 89.00 65 P P 23 53 12.5 +1.0
ZAIG IAmb IAmb 23 53 14.5
comp=Z,8.5nm,1.0s
LTY Liberty 89.02 36 IAmb IAmb 23 53 11.9
comp=Z,8.4nm,0.7s
HAWA Hanford 89.13 37 IAmb IAmb 23 53 12.9
comp=Z,9.1nm,0.8s
W18A Petrified Fore 89.22 51 P P 23 53 12.8 +0.7
baz=240
121A Cookes Peak, D 89.38 54 P P 23 53 14.3 +1.4
baz=241
121A Cookes Peak, D 89.38 54 IAmb IAmb 23 53 15.3
comp=Z,7.3nm,0.8s
MFID Camas Ranch 89.57 41 IAmb IAmb 23 53 15.5
comp=Z,12nm,0.9s
TNA Tin City 89.58 5 P P 23 53 13.8 +1.1
baz=192
DUG Dugway, Tooele 89.72 45 P P 23 53 15.0 +0.7
baz=238
HHC Hu-ho-hao-te 89.75 315 eP P 23 53 11.9 -2.4
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,250nm,5.4s
N25K Chitina, Valde 89.92 16 P P 23 53 15.5 +0.9
baz=213
M24K Tolsona, Glenn 89.95 16 P P 23 53 15.5 +0.8
baz=211
E09A Wood Farm, Sta 89.98 38 IAmb IAmb 23 53 16.7
comp=Z,7.2nm,1.0s
GLB Gilahina Butte 89.99 17 P P 23 53 14.8 0.0
KTH Kantishna Hill 90.14 13 P P 23 53 14.6 -1.0
F10A Beach Ranch, E 90.19 39 IAmb IAmb 23 53 17.4
comp=Z,7.3nm,0.8s
BARN Barnard Glacie 90.26 18 P P 23 53 15.7 -0.6
CD2 Chengdu 90.33 304 P P 23 53 17.5 +0.3
CD2 pmax pmax
comp=Z,30nm,0.8s
B08A Colville Reser 90.41 36 IAmb IAmb 23 53 17.7
comp=Z,4.4nm,0.7s
HLID Hailey 90.51 42 P P 23 53 18.5 +0.7
baz=237
BI02 San Fabin de 90.52 131 P P 23 53 19.2 +1.0
MCK McKinley 90.72 14 P P 23 53 18.8 +0.7
baz=209
MNTX Cornudas Mount 90.78 56 P P 23 53 20.3 +1.1
baz=242
MNTX Cornudas Mount 90.78 56 IAmb IAmb 23 53 21.5
comp=Z,9.5nm,1.0s
TX32 Lajitas Array 91.03 58 IAmb IAmb 23 53 22.6
comp=Z,8.2nm,0.9s
TXAR Lajitas Array 91.03 58 P P 23 53 22.0 +1.5
comp=Z,6.5nm,0.9s,baz=213,slow=6.8,SNR=52
TXAR PKKPbc PKKPbc 00 10 42.3 +1.0
comp=Z,0.4nm,0.7s,baz=73,slow=3.1,SNR=5.3
TXAR Lajitas Array 91.03 58 P P 23 53 21.7 +1.2
HWUT Hardware Ranch 91.26 45 IAmb IAmb 23 53 22.4
comp=Z,4.7nm,0.8s
PV14 Lion Creek, Pa 91.33 48 IAmb IAmb 23 53 23.4
comp=Z,4.1nm,0.8s
PV12 Saucer Basin, 91.45 48 IAmb IAmb 23 53 23.8
comp=Z,3.7nm,0.8s
PV21 Cone Mtn., Par 91.45 48 IAmb IAmb 23 53 23.7
comp=Z,5.4nm,0.9s
ANMO Albuquerque 91.49 52 P P 23 53 23.2 +0.5
baz=242
ANMO Albuquerque 91.49 52 P P 23 53 23.5 +0.9
PV01 Paradox Valley 91.52 49 IAmb IAmb 23 53 24.2
comp=Z,5.2nm,1.0s
WRH Wood River Hil 91.55 14 IAmb IAmb 23 53 21.6
comp=Z,4.6nm,0.9s
PV22 Blue Mesa, Par 91.57 48 IAmb IAmb 23 53 25.3
comp=Z,5.3nm,1.1s
HDA Harding Lake 91.75 14 P P 23 53 23.4 +0.5
baz=211
IMAR Indian Mountai 91.81 11 P P 23 53 22.8 -0.2
BO02 Sierra Bellavi 91.81 129 IAmb IAmb 23 53 26.1
comp=Z,5.5nm,0.8s
BCAR Beaver Creek A 91.87 17 P P 23 53 23.0 -0.5
TCOL CIGO, UAF Yank 91.95 13 P P 23 53 24.1 +0.4
baz=210
SCRK Sand Creek 92.07 15 P P 23 53 24.7 +0.2
baz=213
ILAR Eielson Array 92.07 14 P P 23 53 23.4 -1.0
comp=Z,1.0nm,0.6s,baz=228,slow=4.7,SNR=18
ILAR Eielson Array 92.07 14 P P 23 53 23.1 -1.3
POKR Poker Flat Res 92.25 13 P P 23 53 25.3 +0.2
baz=210
S22A 4UR Ranch, Cre 92.54 50 P P 23 53 28.6 +1.0
baz=242
K27K Chicken 92.58 16 P P 23 53 27.5 +0.8
baz=215
LZH Lanzhou 92.65 308 eP P 23 53 29.3 +1.4
LZH pP pwP 23 55 30.9 -1.7
LZH sP sP 23 56 22.1 +0.6
LZH pmax pmax
comp=Z,28nm,1.0s
O20A White River Ci 92.71 47 P P 23 53 28.9 +0.8
baz=241
O20A White River Ci 92.71 47 IAmb IAmb 23 53 31.1
comp=Z,4.5nm,0.8s
BW06 Boulder Array 93.14 44 P P 23 53 30.2 +0.1
baz=240
PDAR Pinedale Array 93.14 44 P P 23 53 30.4 +0.3
comp=Z,1.2nm,0.7s,baz=227,slow=3.3,SNR=11
PDAR Pinedale Array 93.14 44 P P 23 53 29.3 -0.7
EGAK Eagle 93.43 16 IAmb IAmb 23 53 30.9
comp=Z,3.4nm,0.7s
SDCO Great Sand Dun 93.47 50 P P 23 53 32.6 +0.8
baz=243
SDCO Great Sand Dun 93.47 50 IAmb IAmb 23 53 33.5
comp=Z,3.9nm,0.9s
MSTX Muleshoe 93.76 55 P P 23 53 33.5 +0.5
baz=244
CO03 El Pedregal 93.88 126 IAmb IAmb 23 53 35.2
comp=Z,6.0nm,0.8s
T25A Trinidad 93.97 51 P P 23 53 34.0 0.0
baz=243
RLMT Red Lodge 94.48 42 P P 23 53 37.3 +1.2
baz=241
AC05 El Transito 95.20 124 P P 23 53 40.7 +0.9
ULN Ulaanbaatar 96.09 320 P P 23 53 42.8 -0.5
ULN IAmb IAmb 23 53 51.4
comp=Z,3.2nm,0.9s
SONM Songino Array 96.47 320 P P 23 53 44.5 -0.3
comp=Z,1.3nm,0.8s,baz=131,slow=4.6,SNR=8.0
SONM PKKPbc PKKPbc 00 10 26.6 -1.3
comp=Z,0.9nm,0.7s,baz=264,slow=2.7,SNR=4.6
SONM Songino Array 96.47 320 P P 23 53 44.6 -0.3
GTA Gaotai 96.98 310 P P 23 53 48.1 +0.7
GTA pP pP 23 55 46.5 -0.5
GTA sP sP 23 56 38.9 -2.4
GTA pmax pmax
comp=Z,4.0nm,1.1s
LRAL Lakeview Retre 105.62 60 P PKiKP 23 58 35.5 0.0
baz=252
WVT Waverly 105.93 57 P PKiKP 23 58 35.8 -0.2
baz=252
ZALV Zalesovo Beam 111.33 321 PKiKP PKiKP 23 58 44.1 -1.4
comp=Z,0.6nm,0.4s,baz=321,slow=2.1,SNR=4.8
ZALV Zalesovo Beam 111.33 321 PKiKP 23 58 44.4 -1.2
MKAR Makanchi Array 111.47 313 Pdiff Pdif 23 54 52.5 +1.0
comp=Z,0.4nm,0.7s,baz=79,slow=6.3,SNR=3.9
MKAR PKiKP PKiKP 23 58 45.3 -0.8
comp=Z,1.2nm,0.6s,baz=186,slow=0.9,SNR=13
MKAR PKKPbc PKKPbc 00 09 43.2 0.0
comp=Z,0.9nm,0.8s,baz=275,slow=5.2,SNR=5.8
MKAR PKKPab PKKPab 00 09 54.3 +1.6
comp=Z,1.8nm,0.8s,baz=275,slow=4.2,SNR=12
KURK Kurchatov 114.54 317 PKPdf 23 58 51.1 -0.7
KURBB Kurchatov Arra 114.59 316 PKP PKPdf 23 58 51.4 -0.6
comp=Z,3.5nm,0.8s,baz=98,slow=2.0,SNR=35
BOOM Boomskoye usch 115.10 307 PKPdf PKPdf 23 58 52.6 -0.8
KBL Kabul 119.06 298 PKPdf PKiKP 23 59 01.8 +0.3
KKAR Karatay Array 119.14 307 PKPdf PKPdf 23 59 00.5 -0.5
BDFB Brasilia 119.55 126 PKP PKPdf 23 59 02.1 -0.6
comp=Z,0.9nm,0.4s,baz=304,slow=7.3,SNR=4.3
BRVK Berovoye 119.86 319 PKPdf PKPdf 23 59 01.6 -0.4
BOSA Boshof 122.18 207 PKP PKiKP 23 59 08.0 +0.3
comp=Z,4.1nm,0.8s,baz=173,slow=1.9,SNR=7.3
HRA Herat 124.60 296 PKPdf PKPdf 23 59 11.8 -0.2
SPA0 Spitsbergen Ar 124.91 356 ePKPdf PKPdf 23 59 10.4 -0.7
ARU Arti 126.29 324 PKPdf PKPdf 23 59 14.2 -0.1
SOCY Socotra 126.85 268 PKPdf PKPdf 23 59 16.7 0.0
SUMG Summit 126.91 13 PKPdf PKPdf 23 59 15.7 +0.2
GBN Guysborough 126.92 50 PKPdf PKiKP 23 59 16.2 -0.1
GEYT Alibeck 128.20 300 PKP PKiKP 23 59 19.4 +0.2
comp=Z,5.5nm,0.8s,baz=233,slow=0.7,SNR=12
ARCES ARCESS Array B 131.57 348 PKP PKPdf 23 59 23.6 -0.4
comp=Z,7.5nm,0.8s,baz=344,slow=1.8,SNR=24
ARCES SKPbc SKPab 00 02 00.4 +0.7
comp=Z,2.0nm,0.5s,baz=27,slow=3.4,SNR=14
LSZ Lusaka 131.93 219 PKP PKiKP 23 59 28.0 +0.5
comp=Z,2.5nm,0.7s,baz=143,slow=1.0,SNR=9.3
LSZ SKPbc SKPab 00 02 03.6 +0.6
comp=Z,2.1nm,0.6s,baz=252,slow=0.7,SNR=6.1
TRO Tromso 132.60 351 ePKPdf PKPdf 23 59 26.2 +0.4
KLMR Klimovskoe 133.70 334 ePKPdf PKPdf 23 59 27.5 -0.6
KLMR AMP 23 59 33.3
comp=Z,15nm,1.4s
STEI Steigen 134.70 352 ePKPdf PKPdf 23 59 29.8 0.0
FAUS Fauske 135.21 351 ePKPdf PKPdf 23 59 31.0 +0.2
KMBO Kilima Mbogo 135.47 242 PKP PKiKP 23 59 35.8 +0.8
comp=Z,1.1nm,0.3s,baz=47,slow=7.4,SNR=6.3
KMBO SKPbc SKPab 00 02 18.2 -0.6
comp=Z,1.7nm,0.7s,baz=30,slow=5.8,SNR=5.5
KONS Konsvik 136.33 352 ePKPdf PKPdf 23 59 33.0 +0.1
FINES FINESS Array B 138.04 341 PKhKP PKPpre 23 59 26.1
comp=Z,1.1nm,0.7s,baz=296,slow=23,SNR=9.0
FINES PKP PKPdf 23 59 36.8 +0.7
comp=Z,3.8nm,0.7s,baz=46,slow=2.4,SNR=8.6
FINES SKPbc SKPbc 00 02 20.4 +1.5
comp=Z,3.2nm,0.7s,baz=39,slow=3.0,SNR=5.9
FINES FINESS Array B 138.04 341 PKPdf PKPdf 23 59 36.5 +0.3
KBZ Khabaz 139.07 310 PKP PKPdf 23 59 38.3 -0.2
comp=Z,2.1nm,0.9s,baz=166,slow=1.5,SNR=6.7
GEVA Gevas 140.03 302 PKPdf PKPdf 23 59 39.2 -1.6
NB2 NORSAR Subarra 141.80 351 PKP PKPdf 23 59 38.7 -4.4
comp=Z,3.0nm,0.6s,baz=13,slow=3.1
NOA NORSAR Array B 141.80 351 PKhKP PKPpre 23 59 38.7
comp=Z,9.0nm,0.9s,baz=16,slow=4.7,SNR=22
SKAR Skarsla 142.54 353 ePKPdf PKPdf 23 59 43.2 -1.2
ASK Askoy 143.04 355 ePKPdf PKPab 23 59 42.6 -0.1
BER Bergen 143.13 355 ePKPbc PKPab 23 59 43.2 +0.1
KONO Kongsberg 143.37 351 PKPdf PKPab 23 59 43.9 -0.2
KONO Kongsberg 143.37 351 ePKPbc PKPab 23 59 43.8 -0.2
ODD1 Odda 143.48 354 ePKPab PKPab 23 59 44.4 -0.1
LRW Lerwick 143.63 0 eP PKPab 23 59 44.1 -0.9
BLS5 Blasjo 143.98 354 ePKPbc PKPbc 23 59 45.9 -0.3
KMY Karmoy 144.30 355 ePKPbc PKPbc 23 59 46.9 -0.2
AKASG Malin Array Be 144.41 327 PKP PKPbc 23 59 47.2 -0.6
comp=Z,13nm,0.5s,baz=44,slow=4.2,SNR=88
TOKA Tokat 144.59 307 PKPdf PKPab 23 59 49.3 -0.2
SUW Suwalki 144.80 335 ePKPbc PKPbc 23 59 48.8 -0.1
HOMB Homborsund 144.86 351 ePKPdf PKPdf 23 59 48.1 -0.3
SNART Snartemo 144.96 353 ePKPdf PKPdf 23 59 48.5 0.0
LEWI Lewis, Hebride 145.36 6 eP PKPbc 23 59 50.2 -0.3
KAC Achnashellach 146.13 4 eP PKPbc 23 59 52.3 -0.4
MCD Coleburn Disti 146.15 2 eP PKPbc 23 59 52.4 -0.3
KPL Plockton 146.26 5 eP PKPbc 23 59 52.0 -1.0
DRUM Mains of Drumt 146.85 2 eP PKPbc 23 59 54.3 -0.3
BR131 Keskin Array S 146.85 307 PKPbc 23 59 54.4 -1.0
BRTR Keskin Array B 146.85 307 PKPbc PKPbc 23 59 55.2 -0.2
comp=Z,8.4nm,0.7s,baz=139,slow=4.2,SNR=32
BRTR Keskin Array B 146.85 307 PKPdf 23 59 52.3 -0.2
INVG Invergeldie, C 147.27 3 eP PKPbc 23 59 55.1 -0.7
LAWE Loch Awe, Argy 147.35 5 eP PKPbc 23 59 55.9 -0.1
BEL Belsk 147.40 335 ePKPbc PKPbc 23 59 56.6 +0.4
GKP Gorka Klasztor 147.49 340 ePKPbc PKPbc 23 59 56.7 +0.3
EAB Aberfoyle 147.49 4 eP PKPbc 23 59 55.3 -1.0
TLCR 147.79 319 ↑P PKPab 00 00 02.4 +0.6
ESY Stoneypath 147.84 2 eP PKPbc 23 59 57.0 -0.3
PGBU Glenifferbraes 147.86 4 eP PKPbc 23 59 57.0 -0.3
EBL Broad Law 147.97 2 eP PKPbc 23 59 57.4 -0.2
KWP Kalwaria Pacla 148.25 330 ePKPbc PKPbc 23 59 59.0 +0.5
CSS Mathiatis 148.31 299 PKPbc 23 59 58.5 -0.6
BURAR Bucovina Array 148.39 325 PKPdf PKPdf 23 59 54.3 -0.5
BURAR PKPbc PKiKP 23 59 59.7 -0.6
ESK Eskdalemuir 148.42 3 eP PKPbc 23 59 58.1 -0.7
NEWG New Galloway 148.57 4 eP PKPbc 23 59 58.0 -1.0
TLBR Topalu 148.59 318 ↓P PKPab 00 00 05.5 +0.3
PLOR Plostina 148.69 322 ↑P PKPab 00 00 07.1 +1.4
EDMD Edmundbyers 148.94 1 eP PKPbc 23 59 59.4 -0.6
ORH Orhaniye 148.99 311 P PKPab 00 00 06.9 -0.1
MLR Muntele Rosu 149.30 322 ↑P PKPbc 00 00 01.6 +0.2
MLR Muntele Rosu 149.30 322 PKPdf PKPdf 23 59 55.9 -0.4
MLR PKPbc PKiKP 00 00 01.6 +0.2
DOPR Dopca 149.33 323 ↑P PKiKP 00 00 02.4 +0.3
SECR 149.50 321 ↑P PKiKP 00 00 02.2 -0.2
WIM Isle of Man 149.51 4 eP PKPbc 00 00 00.9 -0.4
SULR 149.59 320 ↑P PKiKP 00 00 03.4 +0.8
PRD Provadia 149.69 317 i P PKiKP 00 00 02.9 +0.1
NEF NEVSHA 149.73 317 i P PKiKP 00 00 02.8 -0.2
CJR Cluj-Napoca 149.82 325 ↑P PKiKP 00 00 03.4 +0.3
HPK Haverah Park 149.82 1 eP PKPbc 00 00 01.9 -0.2
VOIR 149.84 322 ↑P PKPbc 00 00 02.6 +0.1
KSP Ksiaz 149.85 338 ePKPdf PKPdf 23 59 57.4 +0.6
KSP ePKPbc PKiKP 00 00 03.1 +0.1
KSP ePKPab PKPab 00 00 10.9 +0.6
RAZG Razgrad 150.05 318 ↓P PKiKP 00 00 03.5 -0.1
ARR Arges 150.12 322 ↓P PKiKP 00 00 05.1 +1.3
OSTC Ostas 150.12 338↑ePKP PKiKP 00 00 03.6 0.0
CHVC Chvalec 150.15 338↑ePKP PKiKP 00 00 03.7 +0.1
UPC Upice 150.23 338↑ePKP PKiKP 00 00 03.9 +0.1
DPC Dobruska-Polom 150.26 338↑ePKP PKiKP 00 00 04.2 +0.3
DPC ePKPAB PKPab 00 00 12.8 +0.8
WME Myndd Eilian 150.28 4 eP PKPbc 00 00 02.6 -0.6
MORC Moravsky Berou 150.29 336 ↑P PKiKP 00 00 04.3 +0.4
MORC Moravsky Berou 150.29 336 ePKP PKiKP 00 00 03.8 -0.2
KRLC Kraliky 150.32 337 ePKPDF PKPdf 23 59 58.3 +0.6
KRLC ↑ePKP PKiKP 00 00 04.0 0.0
KRLC ↑ePKP PKiKP 00 00 04.1 0.0
KRLC ePKPAB PKPab 00 00 12.5 +0.2
WLF1 Llynfaes 150.38 4 eP PKPbc 00 00 02.7 -0.7
HUMR Humele 150.42 321 ↓P PKPbc 00 00 03.8 0.0
CLL Collm 150.47 342 ↓iPKPbc PKiKP 00 00 04.1 -0.1
comp=Z,70nm,1.0s
CLL ↑iPKPab PKPab 00 00 13.0 +0.2
comp=Z,23nm,1.0s
CLL e(pPKPbc) 00 02 02.0
COPA Copaceanca 150.51 320 ↓P PKiKP 00 00 04.3 -0.2
LOT Lotru 150.54 323 ↑P PKPbc 00 00 04.1 -0.2
SZH Strazhica 150.56 318 i P PKPbc 00 00 04.4 +0.2
JMB Yambol 150.58 316 i P PKiKP 00 00 04.7 0.0
PVCC Panska Ves 150.69 340↑ePKP PKiKP 00 00 05.0 +0.3
PVCC ePKPAB PKPab 00 00 13.9 +0.2
DEV Deva 150.73 325 ↑P PKiKP 00 00 04.9 0.0
PSZ Piszkesteto 150.77 331 ↑P PKiKP 00 00 04.9 -0.2
PSZ Piszkesteto 150.77 331 PKPbc 00 00 04.2 -0.5
FOEL Foel Wylfa 150.85 3 eP PKPbc 00 00 04.4 -0.2
AKAS Kas 150.94 302 PKPbc 00 00 05.2 -0.3
PVL Pavlikeni 150.96 318 i P PKiKP 00 00 05.7 +0.2
JAVC Velka Javorina 150.98 334 ePKP PKiKP 00 00 06.5 +1.1
JAVC e 00 02 16.9
VRAC Vranov 151.03 336 ↑P PKiKP 00 00 05.9 +0.4
VRAC Vranov 151.03 336 ePKP PKPbc 00 00 05.1 0.0
VRAC e 00 00 15.5
VRAC e 00 02 15.4
SIRR Siria 151.11 327 ↑P PKiKP 00 00 06.0 +0.2
GZR Gura Zlata 151.12 324 ↑P PKPbc 00 00 05.6 +0.1
GOPC GO Pecny, Ondr 151.15 339↑ePKP PKiKP 00 00 05.8 +0.1
PRU Pruhonice 151.17 339↑ePKP PKiKP 00 00 05.6 -0.1
HLM1 Long Mynd 151.23 3 eP PKPbc 00 00 04.7 -0.8
KRUC Moravsky 151.30 336 ePKP PKiKP 00 00 05.9 -0.1
KRUC e 00 00 16.9
KRUC e 00 02 16.3
SIRE Strehaia 151.35 323 ↑P PKiKP 00 00 06.8 +0.6
TREC Trest 151.44 337↑ePKP PKiKP 00 00 06.2 -0.1
TREC ePKPAB PKPab 00 00 17.2 +0.2
DIM Dimitrovgrad 151.46 316 i P PKiKP 00 00 07.1 +0.5
BZS Buzias 151.58 326 ↓P PKiKP 00 00 06.7 0.0
NKC Novy Kostel 151.59 342↑ePKP PKiKP 00 00 06.8 +0.2
NKC ePKPAB PKPab 00 00 18.2 +0.6
HERR Herculane 151.64 324 ↓P PKiKP 00 00 06.7 -0.1
BAIL Bailesti 151.66 321 ↑P PKiKP 00 00 07.4 +0.5
TIM Timisoara 151.70 326 ↓P PKiKP 00 00 07.7 +0.8
KDZ Kurdzhali 151.74 315 i P PKPbc 00 00 06.8 -0.2
MCH1 Michaelchurch 151.75 3 eP PKPbc 00 00 04.9 -1.7
MONM Monmouth 151.91 3 eP PKPbc 00 00 05.5 -1.4
BANR Banloc 151.99 326 ↑P PKiKP 00 00 08.4 +0.9
MDVR Moldovita 152.09 324 ↓P PKiKP 00 00 07.8 0.0
KHC Kasperske Hory 152.22 339 ePKPDF PKPdf 00 00 00.0 -0.5
KHC ↑ePKP PKiKP 00 00 08.2 +0.2
KHC ePKPAB PKPab 00 00 20.8 +0.5
GEC2 GERESS Array S 152.43 339 PKPdf PKPdf 00 00 01.0 +0.1
GEC2 PKPbc PKPbc 00 00 08.4 0.0
GEC2 PKPab PKPab 00 00 21.6 +0.3
GERES GERESS Array B 152.43 339 PKP PKPdf 00 00 00.7 -0.2
comp=Z,0.8nm,0.9s,baz=48,slow=2.0,SNR=6.8
GERES PKPbc PKiKP 00 00 08.6 +0.1
comp=Z,4.5nm,0.8s,baz=50,slow=2.1,SNR=29
GERES PKPab PKPab 00 00 21.4 +0.2
comp=Z,2.5nm,0.7s,baz=33,slow=5.1,SNR=10
GERES GERESS Array B 152.43 339 PKPdf PKPdf 00 00 00.3 -0.6
GERES PKPbc 00 00 08.2 -0.2
GERES PKPab PKPab 00 00 20.7 -0.6
CONA Conrad Observa 152.44 335 i P PKiKP 00 00 08.7 +0.2
comp=Z,17nm,1.1s,SNR=7.6
CONA eP PKPab 00 00 22.4 +1.0
comp=Z,14nm,1.1s
MOA Mollm 153.09 337 eP PKPbc 00 00 09.3 -0.4
comp=Z,5.0nm,1.1s
MOA eP PKPab 00 00 24.6 +0.6
comp=Z,8.8nm,1.1s
ARSA Arzberg 153.13 335 eP PKPbc 00 00 09.5 -0.4
comp=Z,4.7nm,1.3s
ARSA eP PKPab 00 00 24.5 +0.3
comp=Z,2.6nm,0.7s
APE Apeiranthos 153.74 306 ↓P PKPbc 00 00 09.4 -2.1
SOKA Soboth 153.79 335 eP PKPbc 00 00 11.3 0.0
comp=Z,4.4nm,0.9s
SOKA eP PKPab 00 00 26.8 -0.3
comp=Z,8.4nm,1.1s
KBA Koelnbreinsper 154.08 337 eP PKPbc 00 00 11.4 -0.7
comp=Z,5.9nm,1.0s
KBA eP PKPab 00 00 29.0 +0.5
comp=Z,11nm,1.1s
OBKA Obir 154.12 335 eP PKiKP 00 00 12.9 +0.9
comp=Z,1.7nm,0.6s
OBKA eP PKPab 00 00 28.1 -0.5
comp=Z,11nm,1.2s
MYKA Terra Mystica 154.35 336 eP PKiKP 00 00 12.0 -0.5
comp=Z,2.3nm,0.5s
MYKA eP PKPab 00 00 29.0 -0.6
comp=Z,3.6nm,0.6s
WATA Walderalm 154.44 340 eP PKPdf 00 00 03.2 -0.6
comp=Z,6.6nm,1.2s
WATA i P PKPab 00 00 30.0 0.0
comp=Z,4.7nm,0.4s,SNR=4.7
WTTA Wattenberg 154.49 340 eP PKPdf 00 00 04.0 0.0
comp=Z,11nm,1.7s
WTTA i P PKPab 00 00 30.7 +0.5
comp=Z,9.1nm,0.6s,SNR=4.8
RETA Reutte 154.55 341 eP PKPdf 00 00 03.7 -0.2
comp=Z,7.0nm,1.6s
RETA i P PKPab 00 00 30.8 +0.5
comp=Z,13nm,1.1s,SNR=6.4
MOTA Moosalm 154.58 341 eP PKPdf 00 00 03.6 -0.5
comp=Z,12nm,1.5s
MOTA i P PKPab 00 00 30.4 -0.2
comp=Z,18nm,1.4s,SNR=4.4
ABTA Abfaltersbach 154.65 338 eP PKPdf 00 00 03.2 -0.9
comp=Z,9.2nm,1.2s
ABTA i P PKPab 00 00 29.8 -1.0
comp=Z,9.2nm,1.0s,SNR=5.1
SQTA Sankt Quirin 154.66 341 eP PKPdf 00 00 04.3 +0.1
comp=Z,5.0nm,1.3s
SQTA eP PKPab 00 00 31.4 +0.5
comp=Z,13nm,1.1s
PDG Podgorica 154.98 323 ↑P PKPab 00 00 32.9 +0.7
FETA Feichten 154.98 341 eP PKPdf 00 00 04.4 -0.2
comp=Z,11nm,1.2s
FETA eP PKPab 00 00 33.2 +0.9
comp=Z,5.0nm,0.7s
DAVA Damuels 154.98 343 eP PKPdf 00 00 04.6 -0.1
comp=Z,5.3nm,1.0s

DAVA				*i* P		**PKPab**	**00 00 32.3**	**0.0**
	comp=Z,14nm,1.1s,SNR=6.5							
FUORN	**Ofenpass-Fuorn**	**155.48**	**341**	PKPab		**PKPab**	**00 00 34.9**	**+0.3**
LIC	**Lamto**	**162.12**	**166**	*e*PKIKP		**PKPdf**	**00 00 13.7**	**-0.1**
	comp=Z,32nm,1.3s							
LIC	**Lamto**	**162.12**	**166**	*e*PKP2		**PKPab**	**00 01 04.9**	**+1.0**
	comp=Z,36nm,1.1s							
KIC	**Kosan Boka**	**162.32**	**167**	*e*PKIKP		**PKPdf**	**00 00 13.9**	**-0.1**
	comp=Z,22nm,1.2s							
KIC	**Kosan Boka**	**162.32**	**167**	*e*PKP2		**PKPab**	**00 01 05.7**	**+0.9**
	comp=Z,58nm,1.4s							
TIC	**Toumodi**	**162.53**	**166**	*e*PKIKP		**PKPdf**	**00 00 14.3**	**+0.1**
TIC	**Toumodi**	**162.53**	**166**	*e*PKP2		**PKPab**	**00 01 06.6**	**+0.8**
DBIC	**Dimbokro**	**162.59**	**167**	PKP		**PKPdf**	**00 00 13.8**	**-0.5**
	comp=Z,7.3nm,1.1s,baz=136,slow=5.0,SNR=4.7							
DBIC				PKPab		**PKPab**	**00 01 07.2**	**+1.2**
	comp=Z,6.1nm,1.0s,baz=154,slow=5.8,SNR=4.1							
ESDC	**Sonseca Array**	**163.91**	**9**	PKPab		**PKPab**	**00 01 11.2**	**-0.1**
	comp=Z,5.5nm,1.1s,baz=340,slow=4.6,SNR=11							
ESDC	**Sonseca Array**	**163.91**	**9**	PKPab		**PKPab**	**00 01 10.3**	**-1.0**
KEST	**Kesra**	**165.13**	**326**	PKPab		**PKPab**	**00 01 17.0**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=293,slow=5.2,SNR=5.2							
TOA0	**Torodi Ar. Sit**	**169.18**	**193**			**PKPdf**	**00 00 18.2**	**-1.2**
TOA0				PKPab		**PKPab**	**00 01 35.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**169.18**	**193**	PKP		**PKPdf**	**00 00 18.8**	**-0.6**
	comp=Z,5.8nm,1.1s,baz=354,slow=1.4,SNR=17							
TORD				PKPab		**PKPab**	**00 01 35.8**	**+0.7**
	comp=Z,8.0nm,0.8s,baz=165,slow=4.3,SNR=26							
TORD				PP		**PP**	**00 05 25.5**	**+1.2**
	comp=Z,1.7nm,1.1s,baz=142,slow=6.6,SNR=4.2							

WEL 14 23:51:18.0, 40°S±2°×17°4E±°, h124km±5km, M3.1/27, MLv3.1/27, Error ellipse: s-maj=0.0km s-min=0.0km az=76.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.50**	**13**	P	Pn	23 51 36.9	+0.5
WAZ	**Wanganui**	**0.59**	**71**	P	Pn	23 51 37.7	+0.8
WAZ				S	Sn	23 51 52.7	+1.5
NMEZ	**Namu Road**	**0.61**	**331**	P	Pn	23 51 37.2	+0.2
PREZ	**Palmer Road**	**0.61**	**353**	P	Pn	23 51 37.2	+0.1
PREZ				S	Sn	23 51 49.5	-2.0
NEZ	**North Egmont**	**0.69**	**349**	P	Pn	23 51 38.0	+0.2
NEZ				S	Sn	23 51 53.0	+0.4
PKE	**Pukeiti**	**0.78**	**344**	P	Pn	23 51 38.6	+0.2
PKE				S	Sn	23 51 52.0	-1.8
OHWZ	**Ohakea**	**0.85**	**108**	P	Pn	23 51 39.8	+0.9
OHWZ				S	Sn	23 51 54.6	-0.1
DUWZ	**D'Urville Isla**	**0.89**	**197**	P	Pn	23 51 39.7	+0.4
DUWZ				S	Sn	23 51 55.2	-0.3
VRZ	**Vera Road**	**0.91**	**25**	P	Pn	23 51 39.6	+0.1
VRZ				S	Sn	23 51 56.0	+0.3
KIW	**Kapiti Island**	**1.04**	**152**	P	Pn	23 51 41.1	+0.4
KIW				S	Sn	23 51 55.9	-2.0
PKVZ	**Pokaka**	**1.07**	**52**	P	Pn	23 51 41.3	+0.3
PKVZ				S	Sn	23 51 58.6	+0.1
MTVZ	**Mangateitei**	**1.09**	**59**	P	Pn	23 51 41.5	+0.2
MTVZ				S	Sn	23 51 58.8	-0.1
OGWZ	**Otaki Gorge**	**1.11**	**142**	P	Pn	23 51 41.9	+0.5
OGWZ				S	Sn	23 51 57.2	-2.0
WNVZ	**Wahianoa**	**1.21**	**59**	P	Pn	23 51 42.6	+0.1
FWVZ	**Far West T-bar**	**1.22**	**56**	P	Pn	23 51 42.6	-0.2
MRZ	**Mangatainoka R**	**1.23**	**126**	P	Pn	23 51 43.0	+0.4
POWZ	**Post Office Ro**	**1.24**	**111**	P	Pn	23 51 43.0	+0.3
TCW	**Tory Channel**	**1.26**	**179**	P	Pn	23 51 43.6	+0.6
TWVZ	**Taurewa**	**1.27**	**47**	P	Pn	23 51 43.1	-0.1
MOVZ	**Moawhango**	**1.27**	**65**	P	Pn	23 51 42.9	-0.3
TUVZ	**Tukino**	**1.27**	**58**	P	Pn	23 51 43.5	+0.2
NGZ	**Ngauruhoe**	**1.29**	**54**	P	Pn	23 51 43.5	0.0
CAW	**Cannon Point**	**1.31**	**152**	P	Pn	23 51 44.2	+0.7
TSZ	**Takapari Road**	**1.31**	**95**	P	Pn	23 51 43.6	+0.1
WTVZ	**West Tongariro**	**1.32**	**51**	P	Pn	23 51 43.8	0.0
OTVZ	**Oturere**	**1.34**	**55**	P	Pn	23 51 44.2	+0.2
HOWZ	**Holdsworth Sta**	**1.35**	**135**	P	Pn	23 51 44.3	+0.4
KRVZ	**Karewarewa**	**1.37**	**52**	P	Pn	23 51 44.3	+0.1
ETVZ	**East Tongariro**	**1.39**	**55**	P	Pn	23 51 44.7	+0.3
WEL	**Wellington**	**1.39**	**164**	P	Pn	23 51 44.9	+0.6
TMVZ	**Te Maari**	**1.39**	**54**	P	Pn	23 51 44.8	+0.2
NNZ	**Nelson**	**1.43**	**208**	P	Pn	23 51 45.3	+0.5
PRWZ	**Pori Road**	**1.44**	**115**	P	Pn	23 51 45.6	+0.7
BHHZ	**Black Hill Sta**	**1.47**	**72**	P	Pn	23 51 44.9	-0.4
PNHZ	**Pukenui**	**1.49**	**89**	P	Pn	23 51 45.7	+0.1
TIWZ	**Tintock**	**1.49**	**124**	P	Pn	23 51 46.0	+0.4
TUWZ	**Tuamarina**	**1.50**	**189**	P	Pn	23 51 46.2	+0.6
DVHZ	**Dannevirke**	**1.50**	**104**	P	Pn	23 51 45.7	0.0
HIZ	**Hauiti**	**1.51**	**18**	P	Pn	23 51 45.7	0.0
BHW	**Baring Head**	**1.53**	**162**	P	Pn	23 51 46.3	+0.4
QRZ	**Quartz Range**	**1.58**	**236**	P	Pn	23 51 46.5	-0.1
QRZ				S	Sn	23 52 07.7	-0.8
RATZ	**Rangitukua**	**1.59**	**48**	P	Pn	23 51 47.5	+0.7
MSWZ	**Moikau Station**	**1.65**	**153**	P	Pn	23 51 47.8	+0.4
MSWZ				S	Sn	23 52 07.6	-2.2
KRHZ	**Kereru**	**1.66**	**80**	P	Pn	23 51 47.4	-0.1
KRHZ				S	Sn	23 52 09.0	-0.9
WPHZ	**Waipukurau**	**1.68**	**95**	P	Pn	23 51 48.0	+0.3
WPHZ				S	Sn	23 52 08.7	-1.7
PAWZ	**Paruwai Farm**	**1.69**	**149**	P	Pn	23 51 48.3	+0.5
PAWZ				S	Sn	23 52 08.5	-2.1
BFZ	**Birch Farm**	**1.69**	**116**	P	Pn	23 51 47.9	+0.1
BFZ				S	Sn	23 52 08.4	-2.1
TMWZ	**Te Maipa**	**1.70**	**133**	P	Pn	23 51 48.4	+0.4
KWHZ	**Kaweka Forest**	**1.75**	**73**	P	Pn	23 51 48.9	+0.3
CPWZ	**Castlepoint**	**1.77**	**124**	P	Pn	23 51 49.6	+0.9
ANWZ	**Angora Road**	**1.77**	**107**	P	Pn	23 51 49.4	+0.6
PLWZ	**Palliser**	**1.79**	**155**	P	Pn	23 51 49.2	+0.2
BSWZ	**Blackbirch Sta**	**1.79**	**159**	P	Pn	23 51 49.3	+0.9
CMWZ	**Cape Campbell**	**1.80**	**181**	P	Pn	23 51 50.3	+1.2
TRWZ	**Traveller**	**1.81**	**144**	P	Pn	23 51 49.6	+0.3
PRHZ	**Porangahau**	**1.85**	**101**	P	Pn	23 51 50.1	+0.3
BKZ	**Black Stump Fm**	**1.90**	**66**	P	Pn	23 51 49.8	-0.5
TLZ	**Tolley Road**	**1.90**	**32**	P	Pn	23 51 50.6	+0.2
PXZ	**Pawanui**	**2.00**	**93**	P	Pn	23 51 51.7	+0.2
KAHZ	**Kahuranaki**	**2.02**	**86**	P	Pn	23 51 52.1	+0.3
THZ	**Tophouse**	**2.08**	**209**	P	Pn	23 51 53.0	+0.3
NMHZ	**Naumai**	**2.15**	**67**	P	Pn	23 51 54.0	+0.5
ARHZ	**Aropaoanui**	**2.22**	**73**	P	Pn	23 51 54.1	-0.3
MTHZ	**Maungataniwha**	**2.28**	**62**	P	Pn	23 51 54.4	-0.7
KHZ	**Kahutara**	**2.52**	**192**	P	Pn	23 51 58.5	+0.4
DSZ	**Denniston Nort**	**2.59**	**225**	P	Pn	23 51 59.0	0.0
KNZ	**Kokohu**	**2.80**	**72**	P	Pn	23 52 00.5	-1.2
MHGZ	**Mahia Peninsul**	**2.93**	**75**	P	Pn	23 52 02.5	-0.9
PRGZ	**Paritu Road**	**2.99**	**71**	P	Pn	23 52 03.0	-1.2
GVZ	**Greta Valley S**	**3.15**	**197**	P	Pn	23 52 05.9	-0.4
LTZ	**Lake Taylor**	**3.20**	**207**	P	Pn	23 52 06.2	-0.8
WIAZ	**Waiheke Island**	**3.23**	**13**	P	Pn	23 52 07.9	+0.6
INZ	**Inchbonnie**	**3.49**	**216**	P	Pn	23 52 10.3	-0.4
OXZ	**Oxford**	**3.76**	**206**	P	Pn	23 52 14.0	-0.4
OKCZ	**Okains Bay**	**3.88**	**193**	P	Pn	23 52 14.7	-1.2
MQZ	**McQueen's Vall**	**3.94**	**197**	P	Pn	23 52 14.5	-2.2
AKCZ	**Akaroa Harbour**	**4.05**	**194**	P	Pn	23 52 16.4	-1.7
RACZ	**Rakaia**	**4.09**	**202**	P	Pn	23 52 17.0	-1.7
MHCZ	**Mount Hutt**	**4.11**	**208**	P	Pn	23 52 17.6	-1.3
WACZ	**Wakanui South**	**4.38**	**204**	P	Pn	23 52 21.0	-1.6
RPZ	**Rata Peaks**	**4.46**	**211**	P	Pn	23 52 22.6	-1.1
ARCZ	**Arundel**	**4.61**	**209**	P	Pn	23 52 24.5	-1.2
ODZ	**Otahua Downs**	**5.75**	**206**	P	Pn	23 52 39.5	-1.4
CTZ	**Chatham Island**	**7.79**	**122**	P	Pn	23 53 09.2	+0.7

IDC ***14*** *23:57:45.0±0.7, 5.°03N×78.°21W, h0km, mb3.9/13, mb1 4.1/16, mb1mx4.0/33, mbtmp3.9/16, ML3.3/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=22.7km s-min=13.2km az=48.0*

NEIC ***14*** *23:57:48.0±2.6, 5.°21N±0.°07×77.°94W±0.°04, h18km±4km, mb4.5/29, Error ellipse: s-maj=10.1km s-min=5.1km az=193.0*

RSNC ***14*** *23:57:48.2±2.3, 5.°43N×77.°90W, h40km±24km, ML3.9, Mw4.1, Fault plane solution: NP1:φ±17.00000°, δ68.00000°, λ-168.00000°.*

UPA ***14*** *23:57:48.1±2.3, 5.°50N×78.°07W, h10km±19km, MW4.5*

VAO ***14*** *23:57:50.5±1.6, 5.°06N×77.°59W, h10km, mb4.5*

ISC 14 23:57:46.4±1.3, 5.°35N±0.°02×77.°97W±0.°03, h8km±8km, n149, σ2.8s1/226, mb4.2/20, MS3.3/4, 21C-11D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.71**	**122**	⇑*i* P	**Pg**	**23 58 01.3**	**+1.1**
PIZC				*e*S	**Sg**	**23 58 10.1**	**+0.7**
SOLC	**Bahia Solano**	**1.03**	**32**	⇓*i* P	**Pg**	**23 58 04.8**	**-1.4**
SOLC				*e*S	**Sg**	**23 58 16.2**	**-3.4**
SOLC				*i*		23 58 20.5	
	comp=Z,4μm,0.3s						
MALC	**Bahia Malaga**	**1.47**	**155**	⇑*i* P	**Pn**	**23 58 13.0**	**-0.2**
MALC				*i*		23 58 13.4	
	comp=Z,2μm,0.5s						
MALC				*e*S	**Sn**	**23 58 31.0**	**-1.7**
PLMC	**San Jos del P**	**1.73**	**105**	⇓*i* P	**Pn**	**23 58 15.4**	**-1.5**
PLMC				*e*S	**Sn**	**23 58 35.2**	**-4.1**
PLMC				*i*		23 58 38.2	
	comp=Z,3μm,0.3s						
PTAC	**Punta Ardita,**	**1.79**	**5**	⇑*i* P	**Pn**	**23 58 15.4**	**-2.3**
PTAC				*e*S	**Sn**	**23 58 35.3**	**-5.3**
CBOC	**Ciudad Bolivar**	**2.01**	**75**	⇓*i* P	**Pn**	**23 58 19.0**	**-1.8**
CBOC				*e*S	**Sn**	**23 58 41.1**	**-5.2**
CBOC				*i*		23 58 43.7	
	comp=Z,530nm,0.4s						
YOTC	**Yotoco, Valle**	**2.11**	**130**	⇑*i* P	**Pn**	**23 58 21.0**	**-1.2**
YOTC				*i*		23 58 21.7	
	comp=Z,855nm,0.8s						
YOTC				*e*S	**Sn**	**23 58 45.0**	**-3.7**
GR1C	**Gorgona, Isla**	**2.34**	**185**	⇑*i* P	**Pn**	**23 58 23.3**	**-1.9**
GR1C				*e*S	**Sn**	**23 58 48.7**	**-5.5**
DBBC	**Dabeiba**	**2.41**	**46**	*e*P	**Pn**	**23 58 25.5**	**-0.7**
DBBC				*e*S	**Sn**	**23 58 53.0**	**-2.9**
GUY2C	**Guyana, Caldas**	**2.59**	**93**	⇓*i* P	**Pn**	**23 58 28.8**	**-0.3**
GUY2C				*e*S	**Sn**	**23 58 59.7**	**-1.4**
GUY2C				*i*		23 59 04.5	
	comp=Z,445nm,0.5s						
RREF	**El Recreo**	**2.65**	**100**	⇓*i* P	**Pn**	**23 58 26.4**	**-3.5**
RREF				*e*S	**Sn**	**23 58 56.0**	**-6.6**
RREF				*i*		23 59 05.3	
	comp=Z,311nm,0.4s						
ANIL	**Santa Ana**	**2.69**	**108**	⇑*i* P	**Pn**	**23 58 30.5**	**+0.1**
ANIL				*e*S	**Sn**	**23 58 59.5**	**-3.9**
TOLC	**Tolima**	**2.74**	**106**	⇑*i* P	**Pn**	**23 58 31.4**	**+0.3**
TOLC				*e*S	**Sn**	**23 59 03.0**	**-1.6**
TOLC				*i*		23 59 15.0	
	comp=Z,986nm,0.6s						
PEDA3	**Pedasi**	**2.98**	**317**	*e*P	**Pn**	**23 58 31.6**	**-2.4**
PEDA3				*e*S	**Sn**	**23 59 05.7**	**-4.3**
ACHO3	**Achotines, Los**	**3.00**	**313**	*e*P	**Pn**	**23 58 32.0**	**-2.3**
ACHO3				*e*S	**Sn**	**23 59 06.4**	**-4.2**
ORTC	**Ortega, Tolima**	**3.07**	**118**	⇑*i* P	**Pn**	**23 58 36.2**	**+1.0**
ORTC				*e*S	**Sn**	**23 59 09.6**	**-2.6**
ORTC				*i*		23 59 23.6	
	comp=Z,437nm,0.7s						
POPC	**Popayan, Colom**	**3.07**	**155**	⇑*i* P	**Pn**	**23 58 35.3**	**-0.2**
POPC				*i*		23 58 36.6	
	comp=Z,335nm,0.3s						
POPC				*e*S	**Sn**	**23 59 11.0**	**-1.6**
PCRI3	**Pocri, Los San**	**3.14**	**317**	*e*P	**Pn**	**23 58 34.5**	**-1.7**
PCRI3				*e*S	**Sn**	**23 59 10.1**	**-3.8**
UPD2	**Meteti**	**3.18**	**359**	⇑*i* P	**Pn**	**23 58 35.9**	**-0.8**
UPD2				*e*S	**Sn**	**23 59 10.8**	**-4.1**
UPD2				*i*		23 59 20.6	
	comp=Z,581nm,0.3s						
UPD2	**Meteti**	**3.18**	**359**	⇑*i* P	**Pn**	**23 58 35.9**	**-0.8**
UPD2				*e*S	**Sn**	**23 59 11.8**	**-3.1**
MARP	**Paez Belalcaza**	**3.20**	**141**	*e*P	**Pn**	**23 58 37.8**	**+0.5**
MARP				*i*		23 58 42.2	
	comp=Z,94nm,0.2s						
MARP				*e*S	**Sn**	**23 59 15.1**	**-0.7**
TOSI3	**Tonosi**	**3.20**	**310**	*e*P	**Pn**	**23 58 34.8**	**-2.2**
TOSI3				*e*S	**Sn**	**23 59 11.5**	**-3.9**
CAPC	**Capurgana**	**3.32**	**11**	⇑*i* P	**Pn**	**23 58 37.8**	**-0.9**
CAPC				*e*S	**Sn**	**23 59 13.0**	**-5.4**
CAPC				*i*		23 59 30.5	
	comp=Z,196nm,0.2s						
CAP2	**Capurgana**	**3.33**	**10**	*e*P	**Pn**	**23 58 38.2**	**-0.7**
CAP2				*e*S	**Sn**	**23 59 14.6**	**-4.2**
AZU	**Azuero**	**3.34**	**317**	⇑*i* P	**Pn**	**23 58 36.9**	**-2.1**
AZU				*e*S	**Sn**	**23 59 14.6**	**-4.2**
AZU				*i*		23 59 15.9	
	comp=Z,805nm,0.3s						
AZU	**Azuero**	**3.34**	**317**	*i* P	**Pn**	**23 58 36.9**	**-2.1**
AZU				*e*S	**Sn**	**23 59 14.7**	**-4.1**
BBAC	**Balboa, Cauca**	**3.38**	**168**	⇑*i* P	**Pn**	**23 58 38.8**	**-1.0**
BBAC				*i*		23 59 07.5	
	comp=Z,163nm,0.3s						
PCON	**Cinco Dias**	**3.39**	**152**	⇑*i* P	**Pn**	**23 58 41.2**	**+1.1**
PCON				*i*		23 58 48.4	
	comp=Z,267nm,0.5s						
PCON				*e*S	**Sn**	**23 59 20.1**	**-0.7**
UREC	**San Jos de Ur**	**3.40**	**45**	⇓*i* P	**Pn**	**23 58 40.4**	**+0.6**
UREC				*e*S	**Sn**	**23 59 18.0**	**-2.3**
UREC				*i*		23 59 22.5	
	comp=Z,662nm,0.8s						
PRAC	**Prado**	**3.47**	**118**	⇑*i* P	**Pn**	**23 58 42.2**	**+1.4**
PRAC				*e*S	**Sn**	**23 59 20.0**	**-2.2**
PRAC				*i*		23 59 25.8	
	comp=Z,422nm,0.4s						
CACAO	**El Cacao, Vera**	**3.49**	**305**	*e*P	**Pn**	**23 58 39.0**	**-2.1**
CACAO				*e*S	**Sn**	**23 59 18.7**	**-3.9**
CHIT3	**Chitre**	**3.56**	**317**	*e*P	**Pn**	**23 58 40.5**	**-1.4**
CHIT3				*e*S	**Sn**	**23 59 18.3**	**-5.9**
BETC	**Betania**	**3.66**	**136**	⇑*e*P	**Pn**	**23 58 45.1**	**+1.7**
BETC				*e*S	**Sn**	**23 59 25.0**	**-1.8**
ROSC	**El Rosal**	**3.67**	**98**	Pn	**Pn**	**23 58 47.8**	**+4.0**
	comp=Z,16nm,0.3s,baz=207,slow=23,SNR=19						
ROSC				Sn	**Sb**	**23 59 35.0**	**-1.5**
	comp=Z,8.8nm,0.3s,baz=267,slow=22,SNR=9.4						
ROSC				LR	LR	00 00 24.1	
	comp=Z,404nm,20.2s,baz=284,slow=41						
ROSC	**El Rosal**	**3.67**	**98**	Pn	**Pn**	**23 58 45.6**	**+1.8**
PTBC	**PUERTO BERRIO,**	**3.69**	**71**	⇓*i* P	**Pn**	**23 58 44.8**	**+1.1**
PTBC				*i*		23 58 46.6	
	comp=Z,248nm,0.4s						
PTBC				*e*S	**Sn**	**23 59 26.4**	**-1.1**
ZARC	**Zaragoza, Cauc**	**3.75**	**55**	⇓*i* P	**Pn**	**23 58 45.4**	**+0.8**
ZARC				*e*S	**Sn**	**23 59 26.0**	**-3.1**
ZARC				*i*		23 59 31.4	
	comp=Z,180nm,0.6s						
TABO3	**Taboga, Panama**	**3.77**	**335**	*e*P	**Pn**	**23 58 43.6**	**-1.2**
TABO3				*e*S	**Sn**	**23 59 25.1**	**-4.3**
MARI3	**Mariato, Verag**	**3.77**	**307**	*e*P	**Pn**	**23 58 44.3**	**-0.7**
MARI3				*e*S	**Sn**	**23 59 26.5**	**-3.1**
OCU3	**Ocu, Herrera**	**3.80**	**313**	*e*P	**Pn**	**23 58 46.7**	**+1.4**
OCU3				*e*S	**Sn**	**23 59 28.4**	**-1.9**
LCBC	**Los crdobas,**	**3.83**	**24**	*e*P	**Pn**	**23 58 47.6**	**+1.9**
LCBC				*e*S	**Sn**	**23 59 31.0**	**+0.1**
LCBC				*i*		23 59 34.6	
	comp=Z,182nm,0.3s						
VTON	**El Valle, Cocl**	**3.88**	**327**	*e*P	**Pn**	**23 58 45.2**	**-1.2**
VTON				*e*S	**Sn**	**23 59 30.6**	**-1.7**
SPBC	**San Pablo de B**	**3.89**	**85**	⇓*e*P	**Pn**	**23 58 47.7**	**+1.1**
CRUC	**La Cruz**	**3.89**	**165**	*e*P	**Pn**	**23 58 47.6**	**+0.7**
CRUC				*i*		23 59 02.3	
	comp=Z,159nm,0.5s						
PNME	**Penonome**	**3.90**	**323**	*e*P	**Pn**	**23 58 45.5**	**-1.2**
PNME				*e*S	**Sn**	**23 59 28.5**	**-4.2**
PNME				*i*		23 59 34.1	
	comp=Z,235nm,0.4s						
PNME	**Penonome**	**3.90**	**323**	*e*P	**Pn**	**23 58 45.7**	**-0.9**
CRIS3	**El Cristo, Coc**	**3.91**	**318**	*e*P	**Pn**	**23 58 45.7**	**-1.0**
UPA	**Univ. de Panam**	**3.93**	**337**	⇑*e*P	**Pn**	**23 58 44.2**	**-2.9**
UPA				*e*S	**Sn**	**23 59 28.2**	**-5.2**
UPA	**Univ. de Panam**	**3.93**	**337**	*e*P	**Pn**	**23 58 44.6**	**-2.4**
UPA				*e*S	**Sn**	**23 59 29.1**	**-4.3**
CHOR3	**La Chorrera**	**3.95**	**333**	*e*P	**Pn**	**23 58 46.0**	**-1.4**
CHOR3				*e*S	**Sn**	**23 59 32.5**	**-1.5**
CNTA3	**Canitas, Panam**	**3.95**	**347**	*e*P	**Pn**	**23 58 45.9**	**-1.5**
CNTA3				*e*S	**Sn**	**23 59 27.5**	**-6.5**
CHPO	**Chepo, Panama**	**3.96**	**343**	*e*P	**Pn**	**23 58 45.8**	**-1.8**
CHPO				*e*S	**Sn**	**23 59 30.1**	**-4.2**
ARRA3	**Arraijan, Pana**	**3.96**	**335**	*e*P	**Pn**	**23 58 45.9**	**-1.6**
GARC	**Garzon, Huila**	**4.00**	**142**	*e*P	**Pn**	**23 58 49.4**	**+1.2**
GARC				*e*S	**Sn**	**23 59 33.9**	**-1.6**
GARC				*i*		23 59 37.9	
	comp=Z,373nm,0.3s						
GMAL	**Guarumal, Vera**	**4.04**	**307**	*e*P	**Pn**	**23 58 47.7**	**-0.9**
GMAL				*e*S	**Sn**	**23 59 32.1**	**-4.0**
STIA3	**Santiago, Vera**	**4.05**	**313**	*e*P	**Pn**	**23 58 47.6**	**-1.1**
MONA	**Monteria**	**4.10**	**34**	*e*P	**Pn**	**23 58 49.8**	**+0.4**
MONA				*i* S	**Sn**	**23 59 34.9**	**-2.8**
MOTC	**Monteria, Cord**	**4.10**	**34**	⇓*i* P	**Pn**	**23 58 49.8**	**+0.3**
MOTC				*e*S	**Sn**	**23 59 34.3**	**-3.4**
MOTC				*i*		23 59 37.5	
	comp=Z,74nm,0.3s						
CALO3	**Calobre, Verag**	**4.11**	**316**	*e*P	**Pn**	**23 58 48.7**	**-0.9**
CALO3				*e*S	**Sn**	**23 59 32.7**	**-5.1**
GAMB1	**Gamboa**	**4.13**	**335**	*e*S	**Sn**	**23 59 35.6**	**-2.6**
GCUF	**Volcan Galeras**	**4.14**	**171**	*e*P	**Pn**	**23 58 51.2**	**+0.7**
GCUF				*e*S	**Sn**	**23 59 36.2**	**-3.2**
GCUF				*i*		23 59 41.2	
	comp=Z,90nm,0.3s						
SFRA3	**San Francisco,**	**4.15**	**314**	*e*P	**Pn**	**23 58 49.2**	**-0.9**
SFRA3				*e*S	**Sn**	**23 59 35.5**	**-3.4**
FRIJ	**El Hiral**	**4.22**	**336**	*e*P	**Pn**	**23 58 49.6**	**-1.6**
FRIJ				*e*S	**Sn**	**23 59 37.2**	**-3.5**
CHIC	**Chingaza**	**4.28**	**99**	*e*P	**Pn**	**23 58 55.1**	**+2.8**
CHIC				*e*S	**Sn**	**23 59 45.4**	**+2.8**
CHIC				*i*		23 59 53.9	
	comp=Z,52nm,0.4s						
CNAZ3	**Canazas, Verag**	**4.39**	**313**	*e*P	**Pn**	**23 58 53.0**	**-0.4**
FLOC	**Florencia**	**4.40**	**148**	⇑*i* P	**Pn**	**23 58 55.2**	**+1.6**
FLOC				*i*		23 58 56.0	
	comp=Z,179nm,0.3s						
FLOC				*e*S	**Sn**	**23 59 42.5**	**-2.6**
BRRC	**Barranca, Sant**	**4.58**	**67**	⇓*e*P	**Pn**	**23 58 57.1**	**+1.2**
BRRC				*i*		23 59 08.5	
	comp=Z,82nm,0.3s						
BRRC				*e*S	**Sn**	**23 59 46.8**	**-2.7**
BARC	**Barichara**	**4.92**	**75**	*e*P	**Pn**	**23 59 02.5**	**+1.7**
BARC				*e*S	**Sn**	**23 59 57.8**	**-0.3**
BARC				*i*		00 00 05.0	
	comp=Z,188nm,0.6s						
PUAC	**Puerto Asis, P**	**4.97**	**164**	⇑*e*P	**Pn**	**23 59 02.2**	**+0.8**
CUSE	**Cuicocha Este**	**5.03**	**185**	*e*P	**Pn**	**23 59 02.3**	**-0.3**
CUSE				*e*S	**Sn**	**23 59 53.7**	**-7.5**
OTAV	**Otavalo**	**5.10**	**185**	*e*P	**Pn**	**23 59 03.1**	**-0.5**
OTAV				*e*S	**Sn**	**23 59 56.4**	**-6.6**
OTAV				*i*		00 00 05.9	
	comp=Z,49nm,0.3s						
OTAV	**Otavalo**	**5.10**	**185**	Pn	**Pn**	**23 59 03.5**	**-0.1**
OTAV	**Otavalo**	**5.10**	**185**	*e*P	**Pn**	**23 59 03.6**	**0.0**
PAC1	**Pacto, Paraso**	**5.12**	**189**	*e*P	**Pn**	**23 59 02.4**	**-1.1**
PAC1				*i*		23 59 04.6	
	comp=Z,252nm,0.3s						
PAC1				*e*S	**Sn**	**23 59 55.5**	**-7.5**
MACC	**Macarena, Meta**	**5.20**	**128**	⇑*i* P	**Pn**	**23 59 05.4**	**+0.9**
MACC				*e*S	**Sn**	**00 00 01.6**	**-3.2**
MACC				*i*		00 00 23.1	
	comp=Z,105nm,0.6s						
SJCC	**San Jacinto, C**	**5.29**	**31**	*e*P	**Pn**	**23 59 06.1**	**+0.2**
SJCC				*e*S	**Sn**	**00 00 03.9**	**-3.4**
OCAC	**Ocana**	**5.43**	**58**	*e*P	**Pn**	**23 59 09.3**	**+1.3**
OCAC				*e*S	**Sn**	**00 00 10.1**	**-0.7**
OCAC				*i*		00 00 21.6	
	comp=Z,61nm,0.4s						
CHGR2	**Aguacate**	**5.47**	**311**	*e*P	**Pn**	**23 59 07.9**	**-0.4**
CHGR2				*e*S	**Sn**	**00 00 10.2**	**-1.2**
PAMC	**Pamplona, Colo**	**5.59**	**69**	*e*P	**Pn**	**23 59 12.0**	**+1.6**
PAMC			

PLVO	**Plevna**	**39.54**	**1**	P		**P**		**00 05 19.2**	**+1.4**
PLVO				IAmb		IAmb		00 05 24.5	
	comp=Z,12nm,1.2s								
PV13	**Radium Mtn., P**	**43.05**	**324**	P		**P**		**00 05 48.1**	**+1.0**
PLCA	**Paso Flores**	**46.36**	**172**	P		**P**		**00 06 10.1**	**-3.2**
	comp=Z,0.7nm,0.5s,baz=338,slow=10.0,SNR=1.6								
PLCA	**Paso Flores**	**46.36**	**172**	IAmb		IAmb		00 06 25.5	
	comp=Z,4.7nm,1.1s								
PDAR	**Pinedale Array**	**46.59**	**328**	P		**P**		**00 06 16.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=123,slow=10,SNR=5.8								
ULM	**Lac du Bonnet**	**47.21**	**344**	P		**P**		**00 06 20.6**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=148,slow=8.6,SNR=3.0								
ULM				LR		LR		00 27 22.2	
	comp=Z,64nm,19.0s,baz=86,slow=38								
MOOW	**Moose Ponds**	**47.89**	**328**	P		**P**		**00 06 25.9**	**+0.5**
MOOW				IAmb		IAmb		00 06 38.0	
	comp=Z,2.5nm,0.8s								
IMW	**Indian Meadow**	**48.10**	**328**	P		**P**		**00 06 27.4**	**+0.3**
NVAR	**Mina Array Bea**	**49.20**	**318**	P		**P**		**00 06 36.7**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=127,slow=6.0,SNR=2.4								
ESDC	**Sonseca Array**	**74.30**	**50**	P		**P**		**00 09 26.9**	**+2.2**
	comp=Z,0.7nm,0.9s,baz=240,slow=39,SNR=3.5								
ILAR	**Eielson Array**	**76.28**	**336**	P		**P**		**00 09 37.1**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=206,slow=11,SNR=4.5								
TORD	**Torodi Ar. Bea**	**78.75**	**78**	P		**P**		**00 09 51.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=280,slow=6.1,SNR=7.8								
GERES	**GERESS Array B**	**87.11**	**41**	P		**P**		**00 10 35.3**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=276,slow=3.7,SNR=1.8								
SNAA	**Sanae**	**90.40**	**162**	P		**P**		**00 10 47.7**	**-0.4**
LZH	**Lanzhou**	**138.75**	**358**	*e*PKP		**PKPdf**		**00 17 15.5**	**+1.5**
LZH				sPKP				00 17 28.4	
ASAR	**Alice Springs**	**144.32**	**236**	PKP		**PKPab**		**00 17 20.7**	**-1.4**
	comp=Z,4.9nm,0.7s,baz=118,slow=3.8,SNR=39								
ASAR	**Alice Springs**	**144.32**	**236**			**PKPab**		**00 17 20.7**	**-1.4**
WRA	**Warramunga Arr**	**145.40**	**242**	PKPbc		**PKPbc**		**00 17 24.6**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=105,slow=3.2,SNR=22								
WRA	**Warramunga Arr**	**145.40**	**242**			**PKPbc**		**00 17 24.8**	**-1.2**

*MAN **15** 00:05:03.9, 13°.56N×120°.11E, h1km, mb5.1, ML4.1, MS4.2*
MAN Intensity III - Lubang Occidental Mindoro.
*IDC **15** 00:05:09.8±1.2, 13°.72N×120°.63E, h54km±12km, mb3.9/15, mb1 4.1/16, mb1mx3.9/37, mbtmp4.2/16, MS3.4/7, Ms1 3.5/7, ms1mx3.1/37, Error ellipse: s-maj=26.7km s-min=11.5km az=71.0*
*NEIC **15** 00:05:11.5±1.4, 13°.56N±0°.09×120°.4E±0°.1, h66km±6km, mb4.4/31, Error ellipse: s-maj=19.7km s-min=12.5km az=88.0*

ISC 15 00:05:07.9±1.3, 13°.63N±0°.03×120°.27E±0°.06, h31km±10km, n84, σ1°.975/96, mb4.4/26, MS3.3/5, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.11**	**347**	*e*P		Pb	00 05 08.1	-5.4
LUBP				*e*S		**Sn**	**00 05 11.5**	**-5.5**
TGY	**Tagaytay City**	**0.80**	**54**	P		**Pn**	**00 05 22.5**	**-0.7**
	599nm,0.3s,baz=123,slow=1.6,SNR=27							
TGY				S		**Sb**	**00 05 31.9**	**-2.1**
	2μm,0.3s,baz=161,slow=7.9,SNR=16							
TGY	**Tagaytay City**	**0.80**	**54**	*i* P		**Pb**	**00 05 22.9**	**-0.6**
TGY				*i* S		**Sb**	**00 05 31.9**	**-2.1**
QVP	**Quezon City--P**	**1.22**	**36**	*e*P		**Pn**	**00 05 29.9**	**-0.5**
QVP				*e*S		**Sb**	**00 05 49.0**	**+3.2**
LQP	**Lukban**	**1.32**	**68**	*e*P		**Pn**	**00 05 30.6**	**+0.1**
LQP				*i* S		**Sb**	**00 05 47.8**	**-1.2**
SJMP	**San Jose**	**1.42**	**144**	*e*P		**Pn**	**00 05 32.0**	**+0.3**
SJMP				*e*S		**Sb**	**00 05 50.1**	**-1.6**
BUSP	**Coron**	**1.62**	**183**	*e*P		**Pn**	**00 05 33.1**	**-1.2**
BUSP				*e*S		**Sn**	**00 05 53.1**	**-1.0**
POLP	**Polilio Island**	**1.95**	**56**	*e*P		**Pn**	**00 05 40.1**	**+1.1**
POLP				*e*S		**Sb**	**00 06 08.3**	**+1.5**
OTRP	**Odiongan**	**2.12**	**126**	*e*P		**Pb**	**00 05 44.1**	**-1.6**
OTRP				*e*S		**Sb**	**00 06 13.8**	**+2.2**
GQP	**Guinayangan**	**2.13**	**82**	*e*P		**Pn**	**00 05 42.7**	**+1.3**
GQP				*e*S		**Sb**	**00 06 13.3**	**+1.3**
JCNP	**Jose Panganiba**	**2.44**	**74**	*e*P		**Pb**	**00 05 50.9**	**-0.4**
BALP	**Baler**	**2.45**	**31**	*e*P		**Pn**	**00 05 47.1**	**+1.2**
BALP				*e*S		**Sb**	**00 06 17.5**	**-3.7**
SMPP	**San Manuel, Pa**	**2.54**	**9**	*e*P		**Pn**	**00 05 46.9**	**-0.2**
SMPP				*e*S		**Sb**	**00 06 21.7**	**-2.0**
ENPP	**El Nido**	**2.54**	**199**	*e*P		**Pn**	**00 05 45.7**	**-1.5**
ENPP				*e*S		**Sn**	**00 06 15.0**	**-2.0**
BOLP	**Bolinao**	**2.76**	**353**	*e*P		**Pn**	**00 05 50.9**	**+0.8**
CUYO	**Cuyo Island**	**2.85**	**165**	*e*P		**Pn**	**00 05 51.0**	**-0.4**
CUYO				*e*S		**Sn**	**00 06 23.7**	**-1.1**
JAP	**San Jose, Anti**	**3.30**	**150**	*e*P		**Pn**	**00 05 58.1**	**+0.7**
CAUP	**Cauayan**	**3.62**	**24**	*e*P		**Pn**	**00 06 04.3**	**+2.4**
CAUP				*e*S		**Sb**	**00 07 02.6**	**+7.8**
APYP	**Conner**	**4.31**	**12**	*e*P		**Pn**	**00 06 14.0**	**+2.6**
APYP				*e*S		**Sb**	**00 07 10.9**	**-3.8**
DAV	**Davao City (W)**	**8.35**	**141**	LR		LR	00 11 14.7	
	comp=Z,346nm,20.2s,baz=112,slow=44							
MYLDM	**Lahad Datu**	**8.57**	**192**	Pn		**Pn**	**00 07 12.1**	**+2.1**
YULB	**Yu-li**	**9.76**	**6**	Pn		**Pn**	**00 07 30.7**	**+4.4**
KAPI	**Kappang**	**18.53**	**182**	P		**Pn**	**00 09 23.3**	**+0.9**
	1.4nm,0.3s,baz=349,slow=10,SNR=2.0							
KAPI				LR		LR	00 16 25.3	
	comp=Z,143nm,21.0s,baz=44,slow=36							
ENH	**Enshi**	**19.33**	**331**	P		**Pn**	**00 09 33.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.05**	**286**	P		**P**	**00 09 52.5**	**+2.9**
	6.8nm,0.6s,baz=96,slow=9.0,SNR=55							
CMAR	**Chiang Mai Arr**	**21.05**	**286**	P		**P**	**00 09 51.8**	**+2.3**
CM31	**Chiang Mai Arr**	**21.05**	**286**	P		**P**	**00 09 51.7**	**+2.1**
CM31				IAmb		IAmb	00 09 53.5	
	comp=Z,13nm,0.8s							
CHTO	**Chiang Mai**	**21.11**	**287**			**P**	**00 09 52.8**	**+2.6**
XAN	**Xi'an**	**22.79**	**335**	P		**P**	**00 10 08.1**	**0.0**
XAN				IAmb		IAmb	00 10 10.8	
	comp=Z,8.8nm,0.8s							
SOEI	**Soe**	**23.57**	**170**	P		**P**	**00 10 15.7**	**-0.4**
RPSI	**Rantau Prapat**	**23.73**	**245**	P		**P**	**00 10 18.1**	**+0.5**
LEM	**Lembang**	**23.89**	**212**	LR		LR	00 22 05.6	
	comp=Z,82nm,18.3s,baz=46,slow=42							
BATI	**Baumata**	**23.92**	**172**	P		**P**	**00 10 19.2**	**-0.1**
	comp=Z,146nm,0.7s,baz=23,slow=1.3,SNR=23							
KSAR	**Wonju Array Be**	**24.67**	**15**	P		**P**	**00 10 24.4**	**-1.6**
KSRS	**Korea Array**	**24.69**	**15**	LR		LR	00 20 52.3	
	comp=Z,70nm,18.3s,baz=188,slow=38							
USRK	**Ussuriysk Ar.**	**32.08**	**16**	LR		LR	00 26 19.7	
	comp=Z,55nm,18.1s,baz=220,slow=40							
ULN	**Ulaanbaatar**	**35.87**	**345**	P		**P**	**00 12 04.4**	**-0.7**
ULN				IAmb		IAmb	00 12 08.0	
	comp=Z,6.1nm,1.1s							
WB0	**Warramunga Arr**	**35.98**	**157**	P		**P**	**00 12 05.0**	**-1.2**
SONM	**Songino Array**	**36.01**	**344**	P		**P**	**00 12 07.1**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=163,slow=10.0,SNR=19							
SONM	**Songino Array**	**36.01**	**344**	P		**P**	**00 12 06.6**	**+0.2**
WRAB	**Tennant Creek**	**36.11**	**157**	P		**P**	**00 12 06.2**	**-1.1**
WRA	**Warramunga Arr**	**36.12**	**157**	P		**P**	**00 12 06.4**	**-1.0**
	comp=Z,26nm,0.7s,baz=336,slow=9.6,SNR=155							
WB2	**Warramunga Arr**	**36.12**	**157**	P		**P**	**00 12 05.8**	**-1.6**
WR0	**Warramunga Arr**	**36.21**	**157**	P		**P**	**00 12 06.4**	**-1.8**
AS31	**Alice Springs**	**39.39**	**160**	P		**P**	**00 12 34.5**	**-0.5**
ASAR	**Alice Springs**	**39.39**	**160**	P		**P**	**00 12 34.7**	**-0.3**
	comp=Z,12nm,0.6s,baz=338,slow=6.8,SNR=159							
ASAR	**Alice Springs**	**39.39**	**160**	P		**P**	**00 12 34.3**	**-0.7**
MK31	**Makanchi Array**	**45.84**	**324**	P		**P**	**00 13 28.1**	**+0.8**
MKAR	**Makanchi Array**	**45.84**	**324**	P		**P**	**00 13 28.6**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=124,slow=9.1,SNR=13							
MKAR				PcP		**PcP**	**00 15 04.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=137,slow=3.0,SNR=3.4							
MKAR	**Makanchi Array**	**45.84**	**324**	P		**P**	**00 13 27.9**	**+0.7**
NIL	**Nilore**	**47.00**	**303**	P		**P**	**00 13 36.8**	**+0.2**
ZAA0	**Zalesovo Array**	**48.93**	**333**	P		**P**	**00 13 52.2**	**+1.2**
ZAA0				IAmb		IAmb	00 13 56.0	
	comp=Z,3.3nm,0.9s							
ZALV	**Zalesovo Beam**	**48.93**	**333**	P		**P**	**00 13 50.7**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=131,slow=6.4,SNR=10.0							
ZALV	**Zalesovo Beam**	**48.93**	**333**	P		**P**	**00 13 51.2**	**+0.1**
STKA	**Stephens Creek**	**49.65**	**156**	P		**P**	**00 13 55.8**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=339,slow=9.0,SNR=4.6							
KURK	**Kurchatov**	**50.02**	**327**	P		**P**	**00 14 00.3**	**+0.8**
KBL	**Kabul**	**50.60**	**304**	P		**P**	**00 14 05.2**	**+0.8**
KBL				IAmb		IAmb	00 14 22.3	
	comp=Z,5.3nm,1.2s							
GAR	**Garm**	**50.64**	**310**	P		**P**	**00 14 05.8**	**+1.2**
CHGR	**Chuyangaron**	**51.43**	**309**	P		**P**	**00 14 11.1**	**+0.6**
KK31	**Karatay Array**	**51.73**	**315**	P		**P**	**00 14 13.1**	**+0.6**
KK31				IAmb		IAmb	00 14 14.4	
	comp=Z,3.8nm,0.7s							
KKAR	**Karatay Array**	**51.73**	**315**	P		**P**	**00 14 13.3**	**+0.8**
BRVK	**Borovoye**	**55.67**	**326**	P		**P**	**00 14 41.7**	**+0.5**
GEYT	**Alibeck**	**59.84**	**306**	P		**P**	**00 15 11.8**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=107,slow=5.0,SNR=7.9							
GEYT	**Alibeck**	**59.84**	**306**	P		**P**	**00 15 11.8**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**59.84**	**306**	P		**P**	**00 15 12.0**	**+1.2**
ABKAR	**Akbulak array**	**60.52**	**319**	P		**P**	**00 15 15.2**	**+0.1**
ARU	**Arti**	**63.22**	**327**	P		**P**	**00 15 32.6**	**-0.5**
KBZ	**Khabaz**	**71.62**	**312**	P		**P**	**00 16 27.2**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=135,slow=1.4,SNR=4.9							
KIV	**Kislovodsk**	**71.77**	**312**	P		**P**	**00 16 28.4**	**+0.8**
KIV				IAmb		IAmb	00 16 32.3	
	comp=Z,4.3nm,1.1s							
MARD	**Mardin**	**73.58**	**305**	P		**P**	**00 16 38.5**	**-0.1**
MARD				IAmb		IAmb	00 18 08.0	
	comp=Z,8.6nm,1.2s							
ILAR	**Eielson Array**	**79.00**	**26**	P		**P**	**00 17 06.1**	**-2.5**
	comp=Z,0.5nm,0.8s,baz=280,slow=3.3,SNR=4.1							
ARCES	**ARCESS Array B**	**79.00**	**339**	P		**P**	**00 17 07.9**	**-0.7**
	comp=Z,5.7nm,1.1s,baz=77,slow=7.6,SNR=6.9							
ARCES				LR		LR	00 54 24.0	
	comp=Z,28nm,18.9s,baz=240,slow=37							
BMAR	**Burnt Mountain**	**79.50**	**23**	P		**P**	**00 17 11.5**	**+0.2**
CASY	**Casey**	**80.01**	**184**	P		**P**	**00 17 13.5**	**-0.4**
FINES	**FINESS Array B**	**80.15**	**331**	P		**P**	**00 17 14.0**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=54,slow=3.3,SNR=9.9							
AKASG	**Malin Array Be**	**80.25**	**320**	P		**P**	**00 17 15.2**	**-0.5**
	comp=Z,0.2nm,0.2s,baz=74,slow=3.9,SNR=1.8							
BURAR	**Bucovina Array**	**83.43**	**317**	P		**P**	**00 17 32.1**	**-0.5**
BUR08	**Bucovina Ar. S**	**83.43**	**317**	P		**P**	**00 17 32.9**	**+0.2**
BUR08				IAmb		IAmb	00 17 48.8	
	comp=Z,11nm,1.8s							
KMBO	**Kilima Mbogo**	**83.48**	**267**	P		**P**	**00 17 34.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=62,slow=11,SNR=4.0							
NC405	**NORSAR Array S**	**86.88**	**333**	P		**P**	**00 17 48.5**	**-1.1**
NB2	**NORSAR Subarra**	**87.13**	**333**	P		**P**	**00 17 49.5**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=68,slow=4.6							
NB2	**NORSAR Subarra**	**87.13**	**333**	P		**P**	**00 17 49.5**	**-1.3**
	baz=68,slow=4.6							
NOA	**NORSAR Array B**	**87.13**	**333**	P		**P**	**00 17 49.8**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=68,slow=4.6,SNR=8.9							
NOA				LR		LR	00 59 17.8	
	comp=Z,21nm,21.2s,baz=310,slow=37							
GERES	**GERESS Array B**	**90.42**	**321**	P		**P**	**00 18 06.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=52,slow=6.9,SNR=5.3							

IDC 15 00:50:27.1±2.0, 17°.26S×178°.06W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/31, mbtmp3.8/5, Error ellipse: s-maj=116.6km s-min=27.9km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.23**	**241**	P		P	00 57 57.6	+0.2
	0.6nm,0.4s,baz=60,slow=8.9,SNR=1.7							
WRA	**Warramunga Arr**	**45.08**	**259**	P		P	00 58 44.9	-0.4
	0.5nm,0.5s,baz=96,slow=7.1,SNR=14							
ASAR	**Alice Springs**	**45.28**	**254**	P		P	00 58 47.0	-0.1
	4.2nm,0.5s,baz=89,slow=8.3,SNR=54							
ILAR	**Eielson Array**	**85.19**	**13**	P		P	01 03 04.7	-0.3
	0.2nm,0.4s,baz=227,slow=5.4,SNR=1.6							
TXAR	**Lajitas Array**	**85.37**	**58**	P		P	01 03 07.1	+0.3
	0.2nm,0.6s,baz=232,slow=5.6,SNR=2.3							

IDC 15 01:18:31.9±1.8, 4°.61S×150°.80E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/31, mbtmp3.3/2, Error ellipse: s-maj=76.3km s-min=22.5km az=152.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.26**	**76**	Pn		Pn	01 18 57.2	+0.4
	29nm,0.3s,baz=236,slow=3.6,SNR=6.9							
KRVT				Sn		Sg	01 19 12.0	-0.4
	200nm,0.3s,baz=180,slow=20,SNR=61							
WRA	**Warramunga Arr**	**22.12**	**225**	P		P	01 23 29.8	+0.5
	0.6nm,0.6s,baz=52,slow=10,SNR=6.1							
ASAR	**Alice Springs**	**25.00**	**219**	P		P	01 23 57.6	-0.1
	0.5nm,0.3s,baz=57,slow=9.0,SNR=8.0							
TORD	**Torodi Ar. Bea**	**148.35**	**288**	PKPbc		PKPbc	01 38 20.1	-1.3
	0.5nm,0.8s,baz=97,slow=1.6,SNR=2.6							

*VAO **15** 01:25:32.6±2.4, 1°.72S×79°.62W, h10km, mb4.8*
*NEIC **15** 01:25:46.0±1.3, 2°.15S±0°.06×79°.1W±0°.1, h105km±7km, mb4.7/155, Error ellipse: s-maj=14.7km s-min=8.7km az=82.0*
*IDC **15** 01:25:46.6±1.9, 2°.06S×79°.22W, h102km±18km, mb3.9/17, mb1 4.1/24, mb1mx4.0/34, mbtmp4.3/24, MS3.0/3, Ms1 3.0/3, ms1mx2.6/24, Error ellipse: s-maj=17.7km s-min=10.0km az=58.0*
*IGQ **15** 01:25:47.2±0.3, 2°.S±2°×7°.9W±°, h75km, M4.5*

ISC 15 01:25:45.7±0.5, 2°.16S±0°.03×79°.37W±0°.04, h99km±5km, n408, σ1°.06/396, mb4.7/81, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AMIL	**Milagro (Trans**	**0.23**	**276**	P		**Pn**	**01 25 59.2**	**-0.8**
AMIL				S		**Sn**	**01 26 09.1**	**-1.4**
COHC	**Cochancay**	**0.32**	**160**	P		**Pn**	**01 25 59.6**	**-0.7**
COHC				S		**Sn**	**01 26 10.8**	**-0.5**
GYE3	**Ecuador-Guayaq**	**0.53**	**271**	P		**Pn**	**01 26 00.6**	**-1.1**
GYE3				S		**Sn**	**01 26 11.6**	**-2.1**
AGUAY	**Guayaquil**	**0.60**	**280**	P		**Pn**	**01 26 00.9**	**-1.3**
IGUA	**Igualata**	**0.98**	**47**	P		**Pn**	**01 26 07.3**	**+0.8**
SANGA	**Volcan Sangay**	**1.00**	**84**	P		**Pn**	**01 26 07.6**	**+1.0**
MORR	**Playas El Morr**	**1.08**	**244**	P		**Pn**	**01 26 07.3**	**+0.3**
BMAS	**Trigal station**	**1.10**	**54**	P		**Pn**	**01 26 08.3**	**+0.7**
ARRY	**Arrayan**	**1.12**	**54**	P		**Pn**	**01 26 08.3**	**+0.5**
ISPG	**Isla Puna-Puer**	**1.14**	**225**	P		**Pn**	**01 26 08.6**	**+0.9**
BPAT	**Tungurahua Vol**	**1.14**	**55**	P		**Pn**	**01 26 05.9**	**-2.2**
JUI6	**Juive**	**1.16**	**51**	P		**Pn**	**01 26 08.8**	**+0.6**
RETU	**Refugio**	**1.16**	**53**	P		**Pn**	**01 26 09.2**	**+0.8**
ACH2	**Ecuador-Machal**	**1.18**	**202**	P		**Pn**	**01 26 08.5**	**+0.4**
BULB	**Ulba Tungurahu**	**1.20**	**53**	P		**Pn**	**01 26 09.5**	**+0.8**
BRUN	**Tungurahua Vol**	**1.20**	**52**	P		**Pn**	**01 26 09.4**	**+0.7**
BOSC	**San Juan Bosco**	**1.31**	**139**	P		**Pn**	**01 26 12.3**	**+2.5**
PIS1	**Pisayambo**	**1.47**	**42**	P		**Pn**	**01 26 12.9**	**+0.8**
PUYO	**Puyo, Santa Ro**	**1.50**	**64**	P		**Pn**	**01 26 12.7**	**+0.7**
PPLP	**Puerto Lpez**	**1.54**	**293**	P		**Pn**	**01 26 11.3**	**-1.2**
ARNL	**Arenillas**	**1.55**	**207**	P		**Pn**	**01 26 12.2**	**-0.3**
ILLI	**Illinizas Sur**	**1.57**	**24**	P		**Pn**	**01 26 14.1**	**+0.7**
SALI	**Salinas**	**1.62**	**269**	P		**Pn**	**01 26 12.7**	**-0.8**
VCES	**Cotopaxi**	**1.66**	**36**	P		**Pn**	**01 26 15.3**	**+0.8**
BNAS	**Cotopaxi Volca**	**1.72**	**31**	P		**Pn**	**01 26 16.0**	**+0.8**
BREF	**Cotopaxi Volca**	**1.75**	**32**	P		**Pn**	**01 26 17.5**	**+1.8**
BTAM	**Cotopaxi Volca**	**1.77**	**33**	P		**Pn**	**01 26 16.4**	**+0.6**
TAMB	**Tambo**	**1.77**	**34**	P		**Pn**	**01 26 16.7**	**+0.8**
VC1	**Cotopaxi 1**	**1.79**	**33**	P		**Pn**	**01 26 17.0**	**+0.9**
PKYU	**Pakayacu**	**1.84**	**74**	P		**Pn**	**01 26 17.9**	**+1.6**
FLF1	**Flavio Alfaro-**	**1.85**	**345**	P		**Pn**	**01 26 15.5**	**-1.0**
FLFR	**Flavio Alfaro**	**1.85**	**345**	P		**Pn**	**01 26 15.5**	**-1.0**
ASDO	**Santo Domingo**	**1.90**	**7**	P		**Pn**	**01 26 16.4**	**-0.7**
ARDO	**Archidona, Ten**	**1.95**	**53**	P		**Pn**	**01 26 18.3**	**+0.7**
ANTM	**Antisana-La Mi**	**1.98**	**35**	P		**Pn**	**01 26 19.1**	**+0.6**
ANTG	**Antisana-Guama**	**1.99**	**34**	P		**Pn**	**01 26 19.4**	**+0.7**
ANTS	**Antisana-Sarah**	**2.04**	**36**	P		**Pn**	**01 26 20.2**	**+0.9**
CAB1	**Cabo Pasado-Ma**	**2.06**	**329**	P		**Pn**	**01 26 18.6**	**-0.4**
CABP	**Cabo Pasado**	**2.06**	**329**	P		**Pn**	**01 26 18.6**	**-0.5**
GONZ	**Gonzanam**	**2.06**	**181**	P		**Pn**	**01 26 20.5**	**+1.0**
ANTI	**Antisana**	**2.08**	**35**	P		**Pn**	**01 26 20.7**	**+0.8**
GGPC	**Guagua Pichinc**	**2.11**	**21**	P		**Pn**	**01 26 21.2**	**+0.9**
MCRA	**Macar, Loja**	**2.27**	**195**	P		**Pn**	**01 26 21.6**	**-0.3**
BV15	**Puerto Quito-O**	**2.31**	**4**	P		**Pn**	**01 26 20.6**	**-1.7**
PULU	**Pululahua**	**2.33**	**22**	P		**Pn**	**01 26 23.6**	**+0.6**
PAC1	**Pacto, Paraso**	**2.48**	**13**	*e*P		**Pn**	**01 26 24.5**	**-0.2**
PAC1	**Pacto, Paraso**	**2.48**	**13**	P		**Pn**	**01 26 24.3**	**-0.4**
OTAV	**Otavalo**	**2.55**	**21**	*e*P		**Pn**	**01 26 26.6**	**+0.6**
OTAV	**Otavalo**	**2.55**	**21**	Pn		**Pn**	**01 26 26.5**	**+0.6**
OTAV				Sn		**Sn**	**01 26 55.7**	**-1.0**
ANGU	**Angureal**	**2.58**	**32**	P		**Pn**	**01 26 29.8**	**+3.3**
CUSE	**Cuicocha Este**	**2.63**	**22**	*e*P		**Pn**	**01 26 27.8**	**+0.8**
CUSE				*e*S		**Sn**	**01 27 00.6**	**+1.9**
CUSE	**Cuicocha Este**	**2.63**	**22**	P		**Pn**	**01 26 27.8**	**+0.8**
CUSW	**Cuicocha Oeste**	**2.63**	**23**	P		**Pn**	**01 26 28.0**	**+1.0**
CUIC	**Cuicocha-Domo**	**2.65**	**22**	P		**Pn**	**01 26 28.0**	**+0.9**
IMBA	**Imbabura, San**	**2.69**	**26**	P		**Pn**	**01 26 29.4**	**+1.6**
URCU	**Urcuqui**	**2.81**	**23**	P		**Pn**	**01 26 30.3**	**+1.0**
YAHU	**Yahuarcocha**	**2.83**	**27**	P		**Pn**	**01 26 31.2**	**+1.7**
CHL1	**Volcn Chiles**	**3.26**	**26**	P		**Pn**	**01 26 36.2**	**+0.8**
ECEN	**Cerro Negro**	**3.28**	**25**	P		**Pn**	**01 26 36.6**	**+0.9**
CHL2	**Volcn Chiles**	**3.28**	**26**	P		**Pn**	**01 26 36.7**	**+1.0**
CCUFI	**Cufio, Nario**	**3.92**	**31**	*e*P		**Pn**	**01 26 45.6**	**+1.2**
GCUF	**Volcan Galeras**	**3.92**	**31**	*e*P		**Pn**	**01 26 45.5**	**+1.1**
TUMC	**Tumaco**	**4.01**	**9**	*e*P		**Pn**	**01 26 45.4**	**+0.3**
BBAC	**Balboa, Cauca**	**4.66**	**27**	*e*P		**Pn**	**01 26 53.6**	**-0.5**
ATAH	**Atahualpa**	**5.04**	**169**	P		**Pn**	**01 27 01.3**	**+2.0**
	42nm,0.3s,baz=11,slow=9.7,SNR=199							
ATAH				S		**Sn**	**01 27 55.7**	**-0.8**
	25nm,0.3s,baz=176,slow=7.0,SNR=4.6							
ATAH				LR		LR	01 28 53.7	
	comp=Z,91nm,19.1s,baz=348,slow=37							
SOTA	**Rioblanco**	**5.08**	**33**	*e*P		**Pn**	**01 27 02.3**	**+2.3**
PTLC	**Puerto Leguiza**	**5.12**	**63**	*e*P		**Pn**	**01 26 57.3**	**-2.8**
FLOC	**Florencia**	**5.25**	**45**	*e*P		**Pn**	**01 27 00.4**	**-1.6**
PCON	**Cinco Dias**	**5.36**	**34**	*e*P		**Pn**	**01 27 04.4**	**+0.6**
POPC	**Popayan, Colom**	**5.39**	**30**	*e*P		**Pn**	**01 27 03.1**	**-0.8**
GARC	**Garzon, Huila**	**5.80**	**42**	*e*P		**Pn**	**01 27 08.7**	**-0.8**
MACC	**Macarena, Meta**	**6.98**	**52**	*e*P		**Pn**	**01 27 23.5**	**-1.9**
GUY2C	**Guyana, Caldas**	**8.35**	**29**	*e*P		**Pn**	**01 27 43.7**	**-0.8**
ROSC	**El Rosal**	**8.59**	**36**	P		**Pn**	**01 27 46.0**	**-1.6**
	4.2nm,0.3s,baz=130,slow=18,SNR=3.7							
ROSC				LR		LR	01 31 18.5	
	comp=Z,130nm,20.5s,baz=89,slow=39							
ROSC	**El Rosal**	**8.59**	**36**	Pn		**Pn**	**01 27 45.2**	**-2.4**
ROSC				Sn		**Sn**	**01 29 19.1**	**-4.0**
NNA	**Nana**	**10.08**	**166**	P		**Pn**	**01 28 07.8**	**+0.2**
	24nm,0.3s,baz=338,slow=14,SNR=27							
NNA				S		Sn	01 29 50.4	-8.5
	3.6nm,0.3s,baz=314,slow=11,SNR=1.7							
NNA	**Nana**	**10.08**	**166**	Pn		**Pn**	**01 28 07.5**	**-0.1**
NNA				Sn		**Sn**	**01 29 57.0**	**-1.9**
PAYG	**Puerto Ayora**	**11.02**	**278**	Pn		**

comp=Z,15nm,1.1s
T53A **Wise** 39.06 356 P P 01 33 02.6 -0.4
baz=175
T54A **Tazewell** 39.08 357 P P 01 33 02.6 -0.6
baz=176
WHAR **Wooly Hollow** 39.17 343 P P 01 33 03.3 -0.7
WHAR IAmb IAmb 01 33 04.2
comp=Z,8.6nm,0.8s
PLCA **Paso Flores** 39.22 169 P P 01 33 05.5 +1.2
comp=Z,1.8nm,0.7s,baz=333,slow=9.6,SNR=5.6
X37A **Clayton** 39.53 339 P P 01 33 07.7 +0.8
X37A IAmb IAmb 01 33 09.4
comp=Z,5.5nm,0.6s
W39A **Magazine** 39.54 341 P P 01 33 07.3 +0.3
baz=157,SNR=5.2
W39A **Magazine** 39.54 341 IAmb IAmb 01 33 08.3
comp=Z,12nm,0.8s
ABTX **Abilene, Hawle** 39.56 333 P P 01 33 08.5 +1.2
baz=147
ABTX **Abilene, Hawle** 39.56 333 IAmb IAmb 01 33 09.4
comp=Z,14nm,0.9s
LCAR **Lake Charles** 39.59 345 P P 01 33 06.8 -0.6
FCAR **Ozark Folk Cen** 39.69 344 P P 01 33 07.6 -0.6
FCAR IAmb IAmb 01 33 08.1
comp=Z,6.7nm,0.8s
S59A **Mechanicsville** 39.77 3 P P 01 33 08.7 -0.2
baz=183
PBMO **Poplar Bluff** 40.09 346 P P 01 33 10.7 -0.8
PBMO IAmb IAmb 01 33 10.9
comp=Z,7.2nm,0.6s
R54A **Victor** 40.17 358 P P 01 33 11.8 -0.4
baz=177
R58A **Rapidan** 40.28 2 P P 01 33 13.0 -0.1
baz=182
U40A **Yellville** 40.33 343 P P 01 33 13.2 -0.3
baz=159,SNR=14
U40A **Yellville** 40.33 343 P P 01 33 13.3 -0.3
X34A **Smith Ranch, M** 40.47 336 IAmb IAmb 01 33 16.6
comp=Z,12nm,0.7s
T42A **Van Buren** 40.49 345 P P 01 33 13.8 -1.0
HHAR **Hobbs** 40.59 342 P P 01 33 15.3 -0.4
HHAR IAmb IAmb 01 33 16.3
comp=Z,11nm,1.0s
WCI **Wyandotte Cave** 40.70 352 P P 01 33 15.5 -1.0
baz=169
Q53A **Leroy** 40.87 357 P P 01 33 17.4 -0.5
baz=176
TUL1 **Leonard** 40.87 339 P P 01 33 18.1 +0.1
baz=154,SNR=5.2
TUL1 **Leonard** 40.87 339 P P 01 33 18.0 +0.1
TUL1 IAmb IAmb 01 33 19.9
comp=Z,12nm,0.7s
U38A **Gravette** 40.88 341 IAmb IAmb 01 33 18.7
comp=Z,7.4nm,0.7s
MGMO **Mountain Grove** 40.91 344 P P 01 33 18.1 -0.2
MGMO IAmb IAmb 01 33 18.5
comp=Z,15nm,0.8s
Q58A **Fox Den Farm,** 40.93 2 P P 01 33 18.6 +0.2
baz=182
GDU01 **Guandu, BA** 40.97 108 eP P 01 33 18.8 -0.3
WMOK **Wichita Mounta** 40.98 335 P P 01 33 19.5 +0.6
baz=149,SNR=17
WMOK **Wichita Mounta** 40.98 335 P P 01 33 19.1 +0.2
WMOK IAmb IAmb 01 33 20.4
comp=Z,14nm,0.9s
OK025 **Westminster Rd** 41.14 338 P P 01 33 20.9 +0.7
FVM **French Village** 41.24 347 IAmb IAmb 01 33 21.2
comp=Z,15nm,0.8s
BCOK **Bluff Creek, N** 41.31 337 P P 01 33 21.7 +0.1
OK029 **Liberty Lake** 41.37 338 P P 01 33 22.4 +0.2
P57A **Homestead Farm** 41.46 2 P P 01 33 22.9 +0.1
baz=182,SNR=5.8
P56A **Dayton Farm, R** 41.47 1 P P 01 33 23.3 +0.5
baz=180
P58A **Pank, Wackersv** 41.49 2 P P 01 33 23.4 +0.4
baz=183
CCM **Cathedral Cave** 41.50 346 P P 01 33 21.8 -1.3
baz=162
CCM **Cathedral Cave** 41.50 346 P P 01 33 22.3 -0.8
CCM IAmb IAmb 01 33 23.3
comp=Z,10.0nm,0.6s
S39A **Bolivar** 41.71 343 P P 01 33 24.6 -0.3
RIB01 **Linhares ES** 41.75 117 eP P 01 33 24.9 -0.6
MNTX **Cornudas Mount** 41.76 326 P P 01 33 26.2 +0.8
baz=139,SNR=7.5
MNTX **Cornudas Mount** 41.76 326 P P 01 33 25.9 +0.5
T35A **Sooner Cattle** 42.02 339 P P 01 33 27.5 +0.1
T35A IAmb IAmb 01 33 29.0
comp=Z,14nm,0.8s
MVL **Millersville** 42.05 3 P P 01 33 27.9 +0.4
MVL IAmb IAmb 01 33 28.8
comp=Z,8.8nm,0.9s
O58A **Lewisberry** 42.14 3 P P 01 33 28.6 +0.3
baz=183
MSTX **Muleshoe** 42.16 331 P P 01 33 29.6 +0.9
baz=144,SNR=10
O56A **Blue Knob Stat** 42.23 1 P P 01 33 29.2 +0.1
baz=181
O61A **Allentown** 42.28 5 P P 01 33 29.9 +0.5
baz=187
ACSO **Alum Creek Sta** 42.32 356 P P 01 33 29.3 -0.5
baz=174
O59A **Robesonia** 42.37 4 P P 01 33 30.5 +0.3
baz=184
AMTX **Amarillo** 42.38 332 P P 01 33 31.7 +1.2
baz=146
AMTX **Amarillo** 42.38 332 P P 01 33 30.6 +0.2
AMTX IAmb IAmb 01 33 32.1
comp=Z,16nm,1.0s
O60A **Telford** 42.43 4 P P 01 33 31.4 +0.8
baz=186
U32A **Winter Ranch,** 42.49 336 P P 01 33 31.5 +0.3
SSPA **Standing Stone** 42.61 2 P P 01 33 32.2 +0.1
baz=182
SSPA **Standing Stone** 42.61 2 P P 01 33 31.6 -0.5
SSPA IAmb IAmb 01 33 32.8
comp=Z,6.0nm,0.8s
KAN05 **Bluff City Nor** 42.69 338 P P 01 33 33.1 +0.3
N55A **Marion Center** 42.74 0 P P 01 33 33.0 -0.2
baz=180
N57A **Milroy** 42.74 2 P P 01 33 33.2 0.0
baz=182
N59A **State Game Lan** 43.00 4 P P 01 33 35.6 +0.4
baz=185
N59A **State Game Lan** 43.00 4 P P 01 33 34.1 -1.2
N59A IAmb IAmb 01 33 36.5
comp=Z,11nm,0.7s
N60A **Cedar Hill Far** 43.00 5 P P 01 33 35.3 +0.1
baz=186
M57A **Sunshine Farm,** 43.34 2 P P 01 33 38.5 +0.5
baz=183
M57A **Sunshine Farm,** 43.34 2 P P 01 33 38.0 0.0
M57A IAmb IAmb 01 33 39.0
comp=Z,12nm,0.8s
M58A **Price's Panora** 43.41 3 P P 01 33 38.9 +0.3
baz=184
M56A **Emporium** 43.45 1 P P 01 33 38.7 -0.2
baz=181
M56A **Emporium** 43.45 1 P P 01 33 38.1 -0.8
M56A IAmb IAmb 01 33 39.3
comp=Z,15nm,0.9s
HDIL **Hopedale** 43.47 349 P P 01 33 37.2 -1.8
baz=165,SNR=7.9
HDIL **Hopedale** 43.47 349 P P 01 33 37.5 -1.6
WSPT **Westport, CT** 43.48 7 P P 01 33 38.8 -0.3
WSPT IAmb IAmb 01 33 44.2
comp=Z,17nm,1.1s
M59A **Waymart** 43.64 4 P P 01 33 40.3 -0.2
baz=185
121A **Cookes Peak, D** 43.75 324 P P 01 33 43.8 +2.1
baz=136,SNR=5.8
121A **Cookes Peak, D** 43.75 324 IAmb IAmb 01 33 44.8
comp=Z,7.5nm,0.8s
L57A **Andrews Acres** 44.02 3 P P 01 33 43.1 -0.3
baz=183,SNR=5.1
KSU1 **Kansas State U** 44.02 341 P P 01 33 43.5 0.0
baz=154,SNR=8.7
KSU1 **Kansas State U** 44.02 341 P P 01 33 43.6 +0.2
L58A **Harry Jones Me** 44.12 4 P P 01 33 44.6 +0.4
baz=185
L56A **Greenwood** 44.12 2 P P 01 33 44.4 +0.1
baz=182
R32A **Long Quarter,** 44.16 338 P P 01 33 44.9 +0.3
BINY **Binghamton** 44.26 4 P P 01 33 45.5 +0.2
baz=184
BINY **Binghamton** 44.26 4 P P 01 33 45.3 -0.1
BINY IAmb IAmb 01 33 46.3
comp=Z,14nm,0.7s
BNM **Barren Site** 44.30 327 P P 01 33 46.2 +0.1
L59A **Walton** 44.32 5 P P 01 33 46.2 +0.3
baz=186
L61A **Hillsdale 1, H** 44.46 6 P P 01 33 47.4 +0.5
baz=188
LENM **Lemitar** 44.50 327 P P 01 33 46.8 -0.8
N38A **Joes South For** 44.59 345 P P 01 33 47.5 -0.4
K57A **Scipio Center** 44.76 3 P P 01 33 49.2 -0.1
baz=184
ANMO **Albuquerque** 44.81 328 P P 01 33 51.6 +1.5
baz=140
ANMO **Albuquerque** 44.81 328 P P 01 33 50.8 +0.7
ANMO IAmb IAmb 01 33 52.5
comp=Z,15nm,0.8s
L61B **Northampton** 44.81 7 P P 01 33 49.4 -0.4
baz=189
K58A **Earlville** 44.84 4 P P 01 33 49.6 -0.4
baz=185
CBKS **Cedar Bluff** 44.89 337 P P 01 33 51.6 +1.2
baz=150,SNR=5.4
CBKS **Cedar Bluff** 44.89 337 P P 01 33 50.0 -0.5
K59A **Cooperstown** 44.91 5 P P 01 33 50.7 +0.1
baz=186
K61A **Williamstown** 44.96 6 P P 01 33 51.1 +0.2
baz=188
L40A **Anamosa** 45.31 348 P P 01 33 52.0 -1.6
L40A IAmb IAmb 01 33 53.0
comp=Z,16nm,0.8s
TUC **Tucson** 45.40 322 P P 01 33 56.2 +1.5
baz=133
TUC **Tucson** 45.40 322 P P 01 33 55.8 +1.2
J58A **Remsen** 45.46 4 P P 01 33 54.7 -0.2
baz=185
T25A **Trinidad** 45.50 332 P P 01 33 57.1 +1.6
baz=143,SNR=6.4
T25A **Trinidad** 45.50 332 P P 01 33 55.9 +0.4
T25A IAmb IAmb 01 33 60.0
comp=Z,6.6nm,0.8s
J60A **Lant Hill Farm** 45.51 6 P P 01 33 55.9 +0.7
baz=188
SCIA **State Center** 45.63 346 P P 01 33 56.0 -0.1
baz=160
ACCN **Adirondack Com** 45.63 6 P P 01 33 56.7 +0.5
ACCN IAmb IAmb 01 33 57.2
comp=Z,7.2nm,0.8s
J59A **Piesco** 45.63 5 P P 01 33 56.2 0.0
baz=186
J59A **Piesco** 45.63 5 P P 01 33 56.0 -0.2
J59A IAmb IAmb 01 33 56.7
comp=Z,9.2nm,0.7s
J61A **Chester** 45.71 7 P P 01 33 57.6 +0.8
baz=189
N33A **J Bar K, Exete** 45.78 341 P P 01 33 57.8 +0.4
I58A **Old Forge** 45.81 4 P P 01 33 57.0 -0.7
baz=186
I57A **Carthage** 46.01 4 P P 01 33 59.4 +0.2
baz=185
I59A **Olmstedville** 46.02 6 P P 01 33 59.8 +0.6
baz=187
I60A **Shoreham** 46.12 6 P P 01 34 00.7 +0.7
baz=188
KSCO **Kaye Shedlock'** 46.23 335 P P 01 34 02.2 +1.0
baz=147
I61A **Oroboro, Fairl** 46.33 7 P P 01 34 01.5 -0.1
baz=190
I62A **Tamworth** 46.39 8 P P 01 34 03.0 +0.9
214A **Organ Pipe Nat** 46.45 320 P P 01 34 04.4 +1.5
baz=130
214A **Organ Pipe Nat** 46.45 320 P P 01 34 03.8 +1.0
DELO **Deloro Mine** 46.50 2 P P 01 34 01.4 -1.5
DELO IAmb IAmb 01 34 03.1
comp=Z,9.8nm,1.1s
SDCO **Great Sand Dun** 46.50 331 P P 01 34 04.9 +1.4
baz=142,SNR=11
SDCO **Great Sand Dun** 46.50 331 P P 01 34 03.5 0.0
SDCO IAmb IAmb 01 34 06.5
comp=Z,8.2nm,1.1s
H57A **Richville** 46.55 4 P P 01 34 03.0 -0.3
baz=185
H58A **Gabriels** 46.60 5 P P 01 34 03.5 -0.3
baz=187
LONY **Lake Ozonia** 46.77 5 P P 01 34 04.7 -0.4
baz=186
H59A **Cadyville** 46.88 6 P P 01 34 05.9 0.0
baz=187
H60A **Morristown** 46.90 7 P P 01 34 06.8 +0.8
baz=189
H61A **Lyndonville** 46.96 7 P P 01 34 07.3 +0.7
baz=190
GLMI **Grayling** 47.01 355 P P 01 34 08.7 +1.7
baz=172
PLVO **Plevna** 47.04 2 P P 01 34 06.3 -0.9
PLVO IAmb IAmb 01 34 13.0
comp=Z,8.4nm,1.1s
G57A **Newington** 47.22 4 P P 01 34 08.3 -0.2
baz=186
X16A **Lo Mia Camp, P** 47.24 323 IAmb IAmb 01 34 11.8
comp=Z,5.9nm,0.8s
G60A **Masonville** 47.47 7 P P 01 34 11.0 +0.5
baz=189
H64A **Troy** 47.47 10 P P 01 34 11.9 +1.4
baz=194
MVCO **Mesa Verde** 47.60 328 P P 01 34 13.2 +1.2
baz=139
G61A **St-Isidore-de-** 47.75 7 P P 01 34 13.5 +0.9
baz=190
G62A **West of Eustis** 47.82 8 P P 01 34 14.2 +0.9
baz=192
G62A **West of Eustis** 47.82 8 P P 01 34 13.9 +0.6
G62A IAmb IAmb 01 34 15.0
comp=Z,11nm,1.1s
WUAZ **Wupatki** 47.96 324 P P 01 34 16.6 +1.9
baz=134,SNR=14
WUAZ **Wupatki** 47.96 324 IAmb IAmb 01 34 17.5
comp=Z,17nm,0.9s
ISCO **Idaho Springs** 48.20 333 P P 01 34 17.7 +1.1
baz=144
ECSD **EROS Data Cent** 48.24 343 P P 01 34 15.5 -1.0
baz=156,SNR=6.8
ECSD **EROS Data Cent** 48.24 343 IAmb IAmb 01 34 16.4
comp=Z,7.8nm,0.7s
PV15 **Paradox Valley** 48.44 329 IAmb IAmb 01 34 21.5
comp=Z,12nm,1.2s
GLA **Glamis** 48.45 319 P P 01 34 19.8 +1.4
baz=129
PV02 **Paradox Valley** 48.47 329 IAmb IAmb 01 34 20.8
comp=Z,11nm,0.7s
E57A **Chemin Saint G** 48.59 5 P P 01 34 18.4 -0.7
baz=187,SNR=7.4
E58A **La Victoria** 48.62 6 P P 01 34 19.2 -0.2
baz=188
PV17 **East Wray Mesa** 48.64 329 IAmb IAmb 01 34 21.8
comp=Z,9.5nm,0.7s
E56A **St. Veronique** 48.65 4 P P 01 34 19.2 -0.4
baz=185
F64A **Sherman** 48.80 10 P P 01 34 21.1 +0.3
baz=194
F64A **Sherman** 48.80 10 P P 01 34 21.3 +0.5
F64A IAmb IAmb 01 34 21.9
comp=Z,8.7nm,0.9s
IKP **In-Ko-Pah, Jac** 49.05 318 P P 01 34 24.8 +1.8
baz=128
D55A **Sainte-Anne-du** 49.09 4 P P 01 34 21.9 -1.0
baz=185
N23A **Red Feather La** 49.23 333 P P 01 34 25.3 +0.8
baz=144
BC3 **Big Chuckawall** 49.24 320 P P 01 34 26.0 +1.5
baz=129
E63A **Oxbow** 49.33 10 P P 01 34 24.6 -0.1
baz=194
PHWY **Pilot Hill** 49.34 334 IAmb IAmb 01 34 26.9
comp=Z,5.0nm,0.7s
E62A **Clayton Lake** 49.34 9 P P 01 34 25.7 +0.8
baz=193
IRM **Iron Mountain** 49.36 320 P P 01 34 26.9 +1.6
baz=130
D58A **Chemin du LacG** 49.38 6 P P 01 34 24.9 -0.2
baz=188
D60A **Saint Jean D'O** 49.43 8 P P 01 34 25.7 +0.2
baz=191
E64A **Bridgewater** 49.44 10 P P 01 34 26.5 +1.0
baz=195
LATQ **La Tuque** 49.68 6 P P 01 34 27.5 +0.1
baz=188
O20A **White River Ci** 49.70 331 P P 01 34 29.1 +1.1
baz=141
BELC **Belle Mtn. Jos** 49.81 320 P P 01 34 30.0 +1.1
baz=129
D61A **St Aubert, Com** 49.81 8 P P 01 34 28.6 +0.2
baz=192
TPFO **Pinon Flats** 49.86 319 P P 01 34 30.4 +1.1
baz=128
D62A **Allapoint, All** 49.87 9 P P 01 34 29.5 +0.7
baz=193
D62A **Allapoint, All** 49.87 9 P P 01 34 28.5 -0.3
D62A IAmb IAmb 01 34 29.8
comp=Z,6.8nm,0.8s
PFO **Pinyon Flats O** 49.87 319 P P 01 34 30.8 +1.5
baz=128
D63A **Stockholm** 49.98 10 P P 01 34 29.8 +0.1
baz=194
GMRC **Granite Mounta** 50.08 321 P P 01 34 32.5 +1.6
baz=129
RWWY **Rawlins** 50.43 333 IAmb IAmb 01 34 35.9
comp=Z,6.3nm,0.8s
K22A **Casper** 50.90 334 P P 01 34 37.7 +0.8
baz=144
EYMN **Ely** 51.02 350 P P 01 34 36.1 -1.4
baz=164
BFSC **Mount Baldy Ra** 51.04 319 P P 01 34 39.0 +0.9
baz=127
LSQQ **Lebel-sur-Quev** 51.06 2 P P 01 34 36.4 -1.3
baz=183
RSSD **Black Hills** 51.10 337 P P 01 34 39.7 +1.3
baz=147
RSSD **Black Hills** 51.10 337 P P 01 34 38.7 +0.2
RSSD IAmb IAmb 01 34 40.4
comp=Z,8.4nm,0.7s
GSC **Goldstone, Bar** 51.14 320 P P 01 34 40.5 +1.7
baz=129
GSC **Goldstone, Bar** 51.14 320 P P 01 34 39.7 +0.9
GSC IAmb IAmb 01 34 41.5
comp=Z,5.9nm,1.1s
EDW2 **Edwards Air Fo** 51.65 319 P P 01 34 43.9 +1.4
baz=127,SNR=5.3
TPNV **Topopah Spring** 51.84 322 P P 01 34 46.1 +2.1
baz=130
FURC **Furnace Creek,** 51.91 321 P P 01 34 46.6 +2.2
baz=129
MPMC **Manual Prospec** 52.05 321 P P 01 34 47.2 +1.6
baz=128
DUG **Dugway, Tooele** 52.08 328 P P 01 34 47.4 +1.7
baz=136
AGMN **Agassiz Nation** 52.27 346 P P 01 34 46.0 -0.8
baz=159,SNR=5.1
AGMN **Agassiz Nation** 52.27 346 IAmb IAmb 01 34 46.6
comp=Z,6.3nm,0.7s
R11A **Troy Canyon, C** 52.36 324 P P 01 34 49.6 +1.8
baz=132
PDAR **Pinedale Array** 52.36 332 P P 01 34 48.2 +0.4
comp=Z,2.3nm,0.6s,baz=127,slow=9.3,SNR=21
PDAR PcP PcP 01 35 57.3 -0.4
comp=Z,0.1nm,0.4s,baz=141,slow=5.8,SNR=1.3
BW06 **Boulder Array** 52.36 332 P P 01 34 48.2 +0.4
baz=140
ISA **Isabella, Lake** 52.43 320 P P 01 34 49.9 +1.5
baz=127
HWUT **Hardware Ranch** 52.46 330 IAmb IAmb 01 34 50.0
comp=Z,6.7nm,0.8s
CWC **Cottonwood Cre** 52.66 321 P P 01 34 51.4 +1.3
baz=128
VES **Vestal, Richgr** 52.94 319 P P 01 34 54.0 +2.1
baz=127
OMMB **Old Mammoth Mi** 53.96 321 IAmb IAmb 01 35 02.2
comp=Z,4.2nm,0.8s
NVAR **Mina Array Bea** 54.03 322 P P 01 35 01.4 +1.2
comp=Z,2.1nm,0.6s,baz=134,slow=6.4,SNR=16
NVAR PcP PcP 01 36 04.1 0.0
comp=Z,0.5nm,0.5s,baz=120,slow=5.3,SNR=2.6
NVAR **Mina Array Bea** 54.03 322 P P 01 35 00.8 +0.6
RLMT **Red Lodge** 54.07 334 P P 01 35 00.9 +0.6
baz=142
H17A **Grant Village** 54.09 333 P P 01 35 01.9 +1.3
baz=140
ULM **Lac du Bonnet** 54.10 347 P P 01 34 59.0 -1.1
comp=Z,6.8nm,0.6s,baz=156,slow=6.7,SNR=13
ULM **Lac du Bonnet** 54.10 347 IAmb IAmb 01 34 59.9
comp=Z,7.0nm,0.8s
DGMT **Dagmar** 54.86 340 P P 01 35 06.9 +1.1
baz=149
HLID **Hailey** 55.32 329 P P 01 35 10.8 +1.4
baz=136
BOZ **Bozeman (W)** 55.49 333 P P 01 35 11.3 +0.8
baz=140,SNR=6.4
BOZ **Bozeman (W)** 55.49 333 IAmb IAmb 01 35 12.2
comp=Z,6.4nm,0.8s
MFID **Camas Ranch** 55.95 328 IAmb IAmb 01 35 15.9
comp=Z,6.6nm,1.0s
EGMT **Eagleton** 56.57 336 P P 01 35 18.8 +0.7
baz=143
EGMT **Eagleton** 56.57 336 IAmb IAmb 01 35 19.4
comp=Z,9.9nm,1.0s
O03E **Paynes Creek** 57.32 322 P P 01 35 23.8 +0.3
baz=127
O02D **Mt. Diablo Mer** 57.86 322 P P 01 35 27.6 +0.3
baz=126
M04C **Macdoel** 58.24 324 P P 01 35 31.4 +1.4
baz=127
F10A **Beach Ranch, E** 58.44 330 IAmb IAmb 01 35 35.7
comp=Z,3.6nm,0.8s
J05D **Fort Rock, OR** 58.81 325 P P 01 35 34.9 +0.9
baz=129
G08A **Pilot Rock** 58.87 328 IAmb IAmb 01 35 35.5
comp=Z,4.8nm,0.9s
PINE **Pine Mountain** 58.97 326 IAmb IAmb 01 35 37.5
comp=Z,8.1nm,0.8s
E09A **Wood Farm, Sta** 59.28 330 IAmb IAmb 01 35 38.3
comp=Z,4.5nm,0.9s
J04D **Umpqua Nationa** 59.29 325 P P 01 35 38.1 +0.8
baz=128
K02D **Willamette Mer** 59.87 323 P P 01 35 42.1 +0.9
baz=126
NEW **Newport** 60.00 332 P P 01 35 42.7 +0.8
baz=135
G05D **Wamic, OR** 60.10 327 P P 01 35 43.9 +1.3
baz=129
D04E **Lakebay** 62.10 328 P P 01 35 56.5 +0.4
baz=129
B05A **Bryant** 62.45 329 P P 01 35 58.7 +0.4
baz=130
D03D **Eldon** 62.50 328 P P 01 35 58.7 0.0
baz=129
LIC **Lamto** 74.68 83 eP P 01 37 18.3 +3.1
comp=Z,3.7nm,0.2s
TIC **Toumodi** 74.72 83 eP P 01 37 14.7 -0.7
DBIC **Dimbokro** 74.88 83 P P 01 37 15.8 -0.6
comp=Z,2.1nm,0.7s,baz=243,slow=4.5,SNR=1.8
DBIC **Dimbokro** 74.88 83 P P 01 37 13.8 -2.5
KIC **Kosan Boka** 74.97 83 eP P 01 37 16.5 -0.4
comp=Z,6.2nm,0.6s
KOWA **Kowa** 76.38 75 P P 01 37 22.6 -2.3
SUMG **Summit** 78.94 12 P P 01 37 38.0 -0.5
INK **Inuvik** 79.47 342 P P 01 37 41.6 +0.7
INK IAmb IAmb 01 37 42.2
comp=Z,7.8nm,1.1s
ESDC **Sonseca Array** 80.18 49 P P 01 37 45.5 +0.1
comp=Z,0.5nm,0.9s,baz=274,slow=7.6,SNR=1.7
EGAK **Eagle** 80.30 337 P P 01 37 46.2 +0.8
K27K **Chicken** 80.32 337 P P 01 37 46.4 +0.8
baz=116
VNA3 **Neumayer Olymp** 81.51 162 P P 01 37 52.6 +0.8
SCM **Sheep Creek Mo** 81.67 334 P P 01 37 49.9 -3.0
TOA0 **Torodi Ar. Sit** 81.79 76 P P 01 37 53.3 -1.1
TORD **Torodi Ar. Bea** 81.79 76 P P 01 37 53.5 -0.9
comp=Z,0.3nm,0.4s,baz=284,slow=5.9,SNR=12
TORD **Torodi Ar. Bea** 81.79 76 P P 01 37 53.1 -1.3
VNA2 **Neumayer--Watz** 82.12 162 P P 01 37 55.8 +0.8
baz=297,slow=4.9
HDA **Harding Lake** 82.43 336 P P 01 37 56.9 +0.2
baz=111
RC01 **Rabbit Creek A** 82.51 333 P P 01 37 57.9 +0.7
baz=108
ILAR **Eielson Array** 82.54 336 P P 01 37 57.0 -0.2
comp=Z,1.6nm,0.8s,baz=124,slow=3.9,SNR=16
ILAR PP PP 01 41 09.2 +1.4
comp=Z,1.6nm,1.0s,baz=116,slow=6.9,SNR=11
MCK **McKinley** 83.01 335 P P 01 38 00.3 +0.5
baz=109
NEA2 **Nenana** 83.35 336 P P 01 38 01.3 -0.2
baz=109
SNAA **Sanae** 83.73 162 P P 01 38 04.0 +0.6
SNAA **Sanae** 83.73 162 P P 01 38 03.3 -0.1
BPAW **Bear Paw Mtn.** 83.99 335 P P 01 38 04.9 +0.1

BPAW					IAmb	IAmb	01 38 05.5	
	comp=Z,6.7nm,0.8s							
MLY	**Manley**	**84.17**	**336**		P	**P**	**01 38 05.7**	**0.0**
	baz=108							
SONM	**Songino Array**	**134.23**	**355**		PKP	**PKPdf**	**01 44 51.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=0.4,SNR=1.8							
WRA	**Warramunga Arr**	**140.30**	**235**		PKP	**PKPdf**	**01 45 04.3**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=119,slow=1.9,SNR=1.6							

NNC ***15*** *01:30:10.3±1.2, 41°.97N×63°.43E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=15.7km s-min=9.2km az=156.0*
IDC ***15*** *01:30:11.8±0.7, 41°.96N×63°.53E, h0km, mb4.0/19, mb1 4.2/28, mb1mx4.1/41, mbtmp4.1/28, ML3.7/9, MS3.1/9, Ms1 3.2/9, ms1mx2.8/41, Error ellipse: s-maj=13.1km s-min=8.5km az=159.0*
BJI ***15*** *01:30:12.0±0.0, 42°.10N×63°.70E, h5km, mB4.8/6, mb4.3/6, Ms4.1/4, Ms7 3.8/4*
MOS ***15*** *01:30:13.1±1.2, 42°.14N×63°.61E, h25km, mb4.6/11, Error ellipse: s-maj=6.1km s-min=6.0km az=179.8*
NEIC ***15*** *01:30:13.7±1.8, 42°.10N±0°.03×63°.46E±0°.09, h18km±5km, mb4.3/12, Error ellipse: s-maj=10.3km s-min=1.4km az=64.0*
ISU ***15*** *01:30:16.6, 42°.13N×63°.78E, h5km*
ISC 15 01:30:12.7±0.4, **42°.14N**±0°.04×**63°.52E**±0°.03, **h10**km, **n154**, σ**2s61**/175, **mb4.2**/37, **MS3.2**/6, **18C-14D, Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TMD	**Tamdy-Bulak**	**0.92**	**115**	*i* P		**Pg**	**01 30 30.4**	**0.0**
TMD				*i* S		**Sg**	**01 30 40.8**	**-1.6**
NUT	**Nurota**	**2.27**	**134**	*i* P		**Pb**	**01 30 53.9**	**+0.2**
NUT				*i* S		**Sb**	**01 31 22.5**	**+0.6**
BUXR	**Bukhara**	**2.48**	**165**	*i* P		**Pb**	**01 30 57.8**	**+0.5**
BUXR				*i* S		**Sb**	**01 31 29.2**	**+1.4**
DZI	**Dzhizak**	**3.82**	**120**	*eP*		**Pb**	**01 31 22.3**	**+2.1**
DZI				*i* P		**Sn**	**01 32 04.5**	**+7.9**
BRLS	**Boroldaу**	**4.75**	**77**	Pg		**Pb**	**01 31 38.5**	**+2.6**
	41nm,0.3s							
BRLS				Lg		Lg	01 32 40.7	
	237nm,0.6s							
IUG	**Iuzhnay**	**4.84**	**88**	Pg		**Pg**	**01 31 43.8**	**-1.5**
	78nm,0.3s							
IUG				Lg		Lg	01 32 49.2	
	627nm,0.7s							
KK08	**Karatay Array**	**5.23**	**77**	Pn		**Pn**	**01 31 31.8**	**+0.9**
KK31	**Karatay Array**	**5.25**	**77**	⇓Pn		**Pn**	**01 31 32.4**	**+1.3**
	17nm,0.3s,baz=256,slow=16,SNR=5.1							
KK31				⇓Sn		**Sn**	**01 32 31.9**	**+0.2**
	28nm,0.3s,baz=256,slow=26							
KK31				Lg		Lg	01 33 01.6	
	190nm,0.7s,baz=260,slow=27,SNR=6.3							
KK31	**Karatay Array**	**5.25**	**77**	PN		**Pn**	**01 31 32.5**	**+1.3**
KK31							01 32 30.8	
KK31	**Karatay Array**	**5.25**	**77**	Pn		**Pn**	**01 31 32.5**	**+1.3**
KK31				Sn		**Sn**	**01 32 30.8**	**-0.9**
KKAR	**Karatay Array**	**5.25**	**77**	PN		**Pn**	**01 31 32.5**	**+1.3**
KKAR							01 32 31.6	
KKAR	**Karatay Array**	**5.25**	**77**			**Pn**	**01 31 32.5**	**+1.3**
KKAR				Sn		**Sn**	**01 32 31.6**	**-0.1**
CHGR	**Chuyangaron**	**5.53**	**127**	Pn		**Pn**	**01 31 35.6**	**+0.4**
CHGR				Sn		**Sn**	**01 32 38.4**	**-0.5**
ASHT	**Ashkhabad**	**5.75**	**225**	PN		**Pn**	**01 31 40.2**	**+2.1**
GEYT	**Alibeck**	**5.91**	**226**	Pn		**Pn**	**01 31 39.3**	**-0.9**
	10nm,0.3s,baz=28,slow=10,SNR=104							
GEYT				Sn		**Sn**	**01 32 42.8**	**-5.2**
	18nm,0.3s,baz=25,slow=22,SNR=5.8							
GEYT				Lg		Lg	01 33 17.6	
	5.0nm,0.3s,baz=32,slow=36,SNR=3.1							
GEYT	**Alibeck**	**5.91**	**226**	Pn		**Pn**	**01 31 39.8**	**-0.5**
GYA0	**ALIBECK ARRAY**	**5.91**	**226**	PN		**Pn**	**01 31 39.5**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**5.91**	**226**	⇓Pn		**Pn**	**01 31 39.5**	**-0.7**
GYA0B				⇑Sn		**Sn**	**01 32 42.2**	**-5.8**
GYA0B				⇑Lg		Lg	01 33 16.7	
GYA0B	**ALIBECK ARRAY**	**5.91**	**226**	Pn		**Pn**	**01 31 39.8**	**-0.5**
GYB5	**ALIBECK ARRAY**	**5.92**	**226**	Pn		**Pn**	**01 31 39.5**	**-0.9**
GAR	**Garm**	**6.05**	**119**	Pn		**Pn**	**01 31 43.3**	**+1.0**
MRKS	**Merke**	**7.21**	**82**	Pg		**Pg**	**01 32 27.6**	**-3.0**
	22nm,0.3s							
MRKS				Lg		Lg	01 34 05.0	
	77nm,0.6s							
AB31	**Akbulak array**	**7.54**	**342**	⇓Pn		**Pn**	**01 32 03.2**	**+0.6**
	13nm,0.6s,baz=154,slow=14,SNR=200							
AB31				⇑Sn		**Sn**	**01 33 32.3**	**+4.1**
	8.9nm,0.3s							
AB31				⇑Lg		Lg	01 34 15.1	
	42nm,0.6s,baz=151,slow=28,SNR=4.2							
AB31	**Akbulak array**	**7.54**	**342**	P		**Pn**	**01 32 03.2**	**+0.6**
AB31							01 33 32.2	
AB31	**Akbulak array**	**7.54**	**342**	Pn		**Pn**	**01 32 03.3**	**+0.6**
ABKAR	**Akbulak array**	**7.54**	**342**			**Pn**	**01 32 03.2**	**+0.6**
ABKAR	**Akbulak array**	**7.54**	**342**	Pn		**Pn**	**01 32 03.2**	**+0.6**
AML	**Almayashu**	**7.56**	**87**	P		**Pn**	**01 32 04.9**	**+1.6**
	SNR=26							
EKS2	**Erkin-Say**	**7.61**	**83**	P		**Pn**	**01 32 04.8**	**+1.1**
	SNR=31							
HRA	**Herat**	**7.81**	**188**	Pn		**Pn**	**01 32 05.4**	**-1.1**
AAK	**Ala-Archa**	**8.14**	**83**	P		**Pn**	**01 32 12.5**	**+1.5**
	SNR=10							
AAK	**Ala-Archa**	**8.14**	**83**	⇓Pn		**Pn**	**01 32 11.8**	**+0.8**
	11nm,0.8s							
AAK				⇑Lg		Lg	01 34 34.8	
	114nm,0.9s							
AAK	**Ala-Archa**	**8.14**	**83**	P		**Pn**	**01 32 11.8**	**+0.8**
UCH	**Uchtor**	**8.16**	**86**	P		**Pn**	**01 32 12.8**	**+1.2**
	SNR=17							
CHMS	**Chumysh**	**8.33**	**80**	P		**Pn**	**01 32 14.7**	**+1.2**
	SNR=22							
KBK	**Karagaybulak**	**8.47**	**83**	P		**Pn**	**01 32 17.1**	**+1.5**
	SNR=7.4							
KBL	**Kabul**	**8.74**	**148**	P		**Pn**	**01 32 19.8**	**+0.5**
KBL	**Kabul**	**8.74**	**148**	Pn		**Pn**	**01 32 19.8**	**+0.5**
TKM2	**Tokmak 2**	**8.95**	**81**	P		**Pn**	**01 32 22.7**	**+0.5**
	SNR=22							
TKM2	**Tokmak 2**	**8.95**	**81**	⇑Pn		**Pn**	**01 32 22.4**	**+0.2**
	20nm,0.7s							
TKM2				⇑Lg		Lg	01 35 02.5	
	59nm,0.8s							
TKM2	**Tokmak 2**	**8.95**	**81**	*i* P		**Pn**	**01 32 22.4**	**+0.2**
TKM2				pmax		pmax		
	comp=Z,20nm,0.6s							
AKTO	**Aktyubinsk**	**9.13**	**337**	Pn		**Pn**	**01 32 25.8**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=163,slow=13,SNR=14							
AKTO				Sn		**Sn**	**01 34 03.1**	**-4.0**
	comp=Z,2.3nm,0.3s,baz=160,slow=14,SNR=3.5							
AKTO				Lg		Lg	01 35 05.1	
	comp=Z,3.5nm,0.3s,baz=119,slow=9.5,SNR=1.7							
AKTO				LR		LR	01 36 15.9	
	comp=Z,109nm,19.1s,baz=156,slow=39							
KSH	**Kashi**	**9.79**	**101**	P		**Pn**	**01 32 31.3**	**-2.4**
KSH				S		**Sn**	**01 34 15.3**	**-8.5**
KSH				smax		smax		
	comp=Z,34nm,0.7s							
KSH				smax		smax		
	comp=Z,27nm,0.6s							
CEP	**Cherat**	**10.61**	**139**	P		**Pn**	**01 32 43.2**	**-1.7**
CEP				S		**Sn**	**01 34 41.0**	**-2.9**
NIL	**Nilore**	**11.43**	**135**	P		**Pn**	**01 32 56.8**	**+0.7**
NIL	**Nilore**	**11.43**	**135**	Pn		**Pn**	**01 32 56.8**	**+0.7**
LKRN	**Lenkeran, Azer**	**11.75**	**258**	P		**Pn**	**01 32 59.3**	**-1.0**
BVAR	**Borovoye Array**	**11.83**	**21**	Pn		**Pn**	**01 33 01.4**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=261,slow=8.8,SNR=34							
BVAR				Sn		**Sn**	**01 35 08.9**	**-4.4**
	comp=Z,6.8nm,0.3s,baz=223,slow=33,SNR=5.2							
BRVK	**Borovoye**	**11.83**	**20**	⇓Pn		**Pn**	**01 33 01.6**	**+0.2**
	comp=Z,18nm,0.5s							
BRVK				⇑Sn		**Sn**	**01 35 08.4**	**-4.9**
	comp=Z,30nm,0.6s							
BRVK				⇑Lg		Lg	01 36 32.1	
	comp=Z,45nm,1.1s							
BRVK	**Borovoye**	**11.83**	**20**	P		**Pn**	**01 33 01.9**	**+0.6**
BRVK	**Borovoye**	**11.83**	**20**	Pn		**Pn**	**01 33 01.9**	**+0.6**
MAK	**Makhachkala**	**11.85**	**279**	*eP*		**Pn**	**01 32 58.3**	**-3.3**
MAK				*eS*		**Sn**	**01 35 10.0**	**-3.8**
MAK				pmax		pmax		
	comp=Z,10.0nm,0.4s							
MAK				MLR		MLR		
	comp=Z,166nm,11.0s							
SEKA	**Sheki**	**12.25**	**271**	P		**Pn**	**01 33 10.3**	**+3.2**
GANJ	**Ganja**	**13.00**	**269**	P		**Pn**	**01 33 19.4**	**+1.9**
GROC	**Groznyy**	**13.09**	**281**	*eP*		**Pn**	**01 33 20.9**	**+2.3**
GROC				*eS*		**Sn**	**01 35 46.3**	**+2.1**
GROC				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KURBB	**Kurchatov Arra**	**13.37**	**46**	Pn		**Pn**	**01 33 20.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=242,slow=13,SNR=6.9							
KURBB				Sn		Sn	01 35 39.3	-12
	comp=Z,0.2nm,0.3s,baz=228,slow=15,SNR=1.6							
KURBB				Lg		Lg	01 37 14.2	
	baz=241,slow=28,SNR=1.3							
KURK	**Kurchatov**	**13.47**	**45**	⇑Pn		**Pn**	**01 33 21.9**	**-1.8**
	comp=Z,4.0nm,0.9s							
KURK				⇓Sn		**Sn**	**01 35 51.1**	**-2.3**
	comp=Z,12nm,1.0s,baz=256,slow=26							
KURK	**Kurchatov**	**13.47**	**45**	P		**Pn**	**01 33 21.9**	**-1.8**
KURK	**Kurchatov**	**13.47**	**45**	Pn		**Pn**	**01 33 21.9**	**-1.8**
MAKZ	**Makanchi**	**13.97**	**64**			**Pn**	**01 33 28.3**	**-2.4**
MAKZ	**Makanchi**	**13.97**	**64**	P		**Pn**	**01 33 28.3**	**-2.4**
NAX	**Nakhchivan**	**14.00**	**264**	P		**Pn**	**01 33 32.8**	**+1.6**
MK31	**Makanchi Array**	**14.18**	**64**	Pn		**Pn**	**01 33 31.4**	**-2.1**
	comp=Z,7.2nm,0.6s,baz=251,slow=14,SNR=75							
MK31				⇓Sn		**Sn**	**01 36 07.4**	**-3.4**
	comp=Z,10nm,0.8s							
MK31	**Makanchi Array**	**14.18**	**64**	P		**Pn**	**01 33 31.8**	**-1.7**
MK31	**Makanchi Array**	**14.18**	**64**	Pn		**Pn**	**01 33 31.8**	**-1.7**
MKAR	**Makanchi Array**	**14.18**	**64**	Pn		**Pn**	**01 33 31.3**	**-2.2**
	comp=Z,1.5nm,0.3s,baz=250,slow=14,SNR=62							
MKAR				Sn		**Sn**	**01 36 03.0**	**-7.8**
	comp=Z,0.4nm,0.3s,baz=253,slow=25,SNR=2.2							
MKAR				Lg		Lg	01 37 43.4	
	comp=Z,0.2nm,0.3s,baz=257,slow=31,SNR=1.9							
MKAR	**Makanchi Array**	**14.18**	**64**	*eP*		**Pn**	**01 33 31.9**	**-1.6**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**14.18**	**64**	Pn		**Pn**	**01 33 31.6**	**-1.9**
ZEI	**Tsey**	**14.50**	**279**	*eP*		**Pn**	**01 33 38.2**	**+0.1**
ZEI				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**14.66**	**349**	Pn		**Pn**	**01 33 39.2**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=156,slow=12,SNR=6.5							
ARU				Sn		**Sn**	**01 36 15.6**	**-6.7**
	comp=Z,0.0nm,0.3s,baz=164,slow=22,SNR=1.6							
ARU				Lg		Lg	01 37 55.9	
	comp=Z,0.0nm,0.3s,baz=159,slow=22,SNR=3.9							
ARU				LR		LR	01 39 54.7	
	comp=Z,33nm,20.1s,baz=154,slow=39							
ARU	**Arti**	**14.66**	**349**	*d* P		**Pn**	**01 33 42.3**	**+2.4**
ARU				S		**Sn**	**01 36 29.4**	**+7.1**
ARU				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ARU	**Arti**	**14.66**	**349**	Pn		**Pn**	**01 33 40.5**	**+0.6**
BELG	**Belogornoye**	**14.85**	**319**	*i* P		**Pn**	**01 33 43.1**	**+0.5**
GOF	**Gofitskoye**	**15.12**	**288**	*eP*		**Pn**	**01 33 47.1**	**+0.9**
KBZ	**Khabaz**	**15.19**	**283**	Pn		**Pn**	**01 33 44.7**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=104,slow=8.5,SNR=20							
KBZ				Sn		Sn	01 36 24.1	-11
	comp=Z,0.3nm,0.3s,baz=127,slow=11,SNR=1.6							
KBZ	**Khabaz**	**15.19**	**283**	*ceP*		**Pn**	**01 33 47.2**	**+0.1**
KVAR	**Kislovodsk Arr**	**15.33**	**284**	Pn		**Pn**	**01 33 48.0**	**-1.2**
	baz=90,slow=20,SNR=1.5							
KVAR				Sn		Sn	01 36 28.3	-11
	baz=156,slow=12,SNR=2.4							
KVAR				LR		LR	01 41 01.2	
	comp=Z,93nm,20.5s,baz=268,slow=42							
KIV	**Kislovodsk**	**15.34**	**284**	*eP*		**Pn**	**01 33 50.5**	**+1.3**
KIV				*eS*		**Sn**	**01 36 41.6**	**+2.4**
KIV				pmax		pmax		
	comp=Z,47nm,1.1s							
KIV				MLR		MLR		
	comp=Z,58nm,12.0s							
KIV	**Kislovodsk**	**15.34**	**284**	P		**Pn**	**01 33 49.5**	**+0.2**
KIV				IAmb		IAmb	01 34 04.0	
	comp=Z,15nm,0.9s							
ARTV	**Artvin**	**16.16**	**274**	P		**Pn**	**01 34 00.3**	**+0.2**
VRH	**Novokhopyorsk**	**17.44**	**309**	*eP*		**P**	**01 34 20.0**	**+2.9**
VRH				*eS*		**Sn**	**01 37 25.2**	**-4.6**
VRH				pmax		pmax		
	comp=Z,20nm,0.7s							
VRH				smax		smax		
	comp=E,20nm,0.7s							
WMQ	**Urumqi**	**17.76**	**76**	P		**Pn**	**01 34 20.3**	**+0.4**
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.6s							
WMQ	**Urumqi**	**17.76**	**76**			**Pn**	**01 34 20.3**	**+0.4**
WMQ				IAmb		IAmb	01 34 28.8	
	comp=Z,10nm,0.6s							
DGZ	**Jazzator, Alta**	**18.22**	**57**	*i* P		**Pn**	**01 34 23.7**	**-2.0**
DGZ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ZAA0	**Zalesovo Array**	**18.42**	**43**			**P**	**01 34 28.0**	**+0.1**
ZAA0				IAmb		IAmb	01 34 29.5	
	comp=Z,5.7nm,0.7s							
ZALV	**Zalesovo Beam**	**18.42**	**43**	P		**P**	**01 34 27.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=242,slow=12,SNR=23							
ZALV	**Zalesovo Beam**	**18.42**	**43**	*eP*		**Pn**	**01 34 28.6**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KIRV	**Kirov**	**18.69**	**337**	Lg		Lg	01 40 07.0	
	comp=Z,1.1nm,0.3s,baz=342,slow=18,SNR=1.4							
KIRV				LR		LR	01 42 29.6	
	comp=Z,57nm,20.7s,baz=192,slow=39							
VORD	**Divnogorie**	**18.79**	**306**	*eP*		**Pn**	**01 34 34.6**	**+2.2**
VORD				*eS*		**Sn**	**01 38 00.4**	**-2.0**
VORD				pmax		pmax		
	comp=Z,10.0nm,1.0s							
VORD				smax		smax		
	comp=E,80nm,0.8s							
VSR	**Storozhevoye**	**18.94**	**307**	*eP*		**P**	**01 34 33.4**	**-0.3**
VSR				*eS*		**Sn**	**01 38 01.4**	**-4.8**
VSR				pmax		pmax		
	comp=Z,30nm,1.8s							
VSR				smax		smax		
	comp=N,40nm,0.9s							
LPSR	**Galich'ya Gora**	**19.57**	**311**	*eP*		**Pn**	**01 34 44.1**	**+2.2**
LPSR				*eS*		**S**	**01 38 15.4**	**-6.0**
LPSR				pmax		pmax		
	comp=Z,20nm,0.8s							
LPSR				smax		smax		
	comp=N,30nm,1.7s							
MOS	**Moscow**	**21.61**	**318**	*eP*		P	01 35 14.7	+12
MOS				pmax		pmax		
	comp=Z,29nm,0.8s							
OBN	**Obninsk**	**21.87**	**316**	P		**P**	**01 35 07.2**	**+1.8**
	comp=Z,6.3nm,0.6s,baz=180,slow=1.0,SNR=1.9							
OBN	**Obninsk**	**21.87**	**316**	*ceP*		**P**	**01 35 06.6**	**+1.2**
OBN				pmax		pmax		
	comp=Z,45nm,1.3s							
OBN	**Obninsk**	**21.87**	**316**	P		**P**	**01 35 07.5**	**+2.2**
PRGR	**Permogore**	**22.29**	**337**	*eP*		**P**	**01 35 13.6**	**+3.8**
PRGR				pmax		pmax		
	comp=Z,13nm,0.6s							
BRTR	**Keskin Array B**	**22.65**	**274**	P		**P**	**01 35 15.2**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=98,slow=11,SNR=1.5							
KLMR	**Klimovskoe**	**23.72**	**330**	P		**P**	**01 35 18.4**	**-6.1**
KLMR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KLMR	**Klimovskoe**	**23.72**	**330**	P		**P**	**01 35 18.5**	**-6.1**
KLMR				AMP			01 35 33.3	
	comp=Z,10.0nm,1.1s							
AKASG	**Malin Array Be**	**24.96**	**302**	P		**P**	**01 35 37.6**	**+1.6**
	comp=Z,1.5nm,0.5s,baz=80,slow=8.1,SNR=8.1							
AKBB	**Malin Array Si**	**24.96**	**302**	P		**P**	**01 35 35.5**	**-0.6**
AKBB				pmax		pmax		
	comp=Z,6.0nm,0.7s							
AKBB	**Malin Array Si**	**24.96**	**302**	P		**P**	**01 35 35.5**	**-0.6**
AKBB				IAmb		IAmb	01 35 51.4	
	comp=Z,5.8nm,0.7s							
SORM	**Soroca**	**25.37**	**296**	⇑P		**P**	**01 35 44.2**	**+4.5**
SORM	**Soroca**	**25.37**	**296**	⇑P		**P**	**01 35 44.2**	**+4.5**
CFR	**Carcaliu**	**25.65**	**289**	⇓P		**P**	**01 35 47.7**	**+5.3**
CFR	**Carcaliu**	**25.65**	**289**	⇓P		**P**	**01 35 47.7**	**+5.3**
EIL	**Elat**	**26.14**	**251**	P		**P**	**01 35 46.3**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=33,slow=17,SNR=1.6							
VRI	**Vrincioaia**	**26.57**	**291**	⇑P		P	01 35 58.8	+8.0
VRI	**Vrincioaia**	**26.57**	**291**	⇑P		P	01 35 58.8	+8.0
PLOR	**Plostina**	**26.63**	**291**	⇓P		**P**	**01 35 56.8**	**+5.5**
PLOR	**Plostina**	**26.63**	**291**	⇓P		**P**	**01 35 56.8**	**+5.5**
BIZ	**Bicaz**	**26.92**	**293**	⇓P		**P**	**01 36 00.9**	**+7.0**
MLR	**Muntele Rosu**	**27.16**	**290**	P		**P**	**01 35 59.1**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=69,slow=8.6,SNR=2.6							
MLR				LR		LR	01 48 43.1	
	comp=Z,52nm,18.6s,baz=74,slow=41							
MLR	**Muntele Rosu**	**27.16**	**290**	⇑P		**P**	**01 36 00.3**	**+4.1**
MLR	**Muntele Rosu**	**27.16**	**290**	P		**P**	**01 35 56.7**	**+0.5**
MLR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MLR	**Muntele Rosu**	**27.16**	**290**	P		**P**	**01 35 56.7**	**+0.5**
MLR				IAmb		IAmb	01 36 09.2	
	comp=Z,4.8nm,0.8s							
BUR08	**Bucovina Ar. S**	**27.50**	**295**	P		**P**	**01 35 57.9**	**-1.2**
TLY	**Talaya**	**28.70**	**57**	LR		LR	01 48 01.3	
	comp=Z,30nm,21.2s,baz=302,slow=37							
FINES	**FINESS Array B**	**29.55**	**324**	P		P	01 36 22.1	+5.1
	comp=Z,0.5nm,0.3s,baz=125,slow=11,SNR=6.2							
FINES				LR		LR	01 49 05.3	
	comp=Z,90nm,18.9s,baz=35,slow=38							
SANT	**Santorini**	**29.85**	**272**	P		**P**	**01 36 19.3**	**-0.9**
SONM	**Songino Array**	**30.55**	**64**	P		**P**	**01 36 28.5**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=286,slow=7.0,SNR=2.4							
ULN	**Ulaanbaatar**	**30.99**	**64**	*i* P		**P**	**01 36 28.8**	**-1.4**
ULN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AGG	**Agios Georgios**	**31.23**	**278**	P		**P**	**01 36 29.5**	**-2.8**
AGG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
AGG	**Agios Georgios**	**31.23**	**278**	P		**P**	**01 36 29.5**	**-2.8**
AGG				IAmb		IAmb	01 36 44.2	
	comp=Z,3.4nm,0.8s							
ARCES	**ARCESS Array B**	**33.71**	**337**	P		**P**	**01 36 56.2**	**+2.6**
	comp=Z,5.4nm,1.1s,baz=122,slow=9.7,SNR=2.3							
ARCES				LR		LR	01 51 23.9	
	comp=Z,53nm,19.5s,baz=265,slow=38							
CONA	**Conrad Observa**	**33.74**	**296**	*eP*		**P**	**01 36 54.3**	**0.0**
	comp=Z,3.0nm,1.1s							
ARSA	**Arzberg**	**34.07**	**295**	*eP*		**P**	**01 36 57.4**	**+0.4**
	comp=Z,2.2nm,0.8s							
SOKA	**Soboth**	**34.49**	**294**	*eP*		**P**	**01 37 00.5**	**-0.4**
	comp=Z,5.0nm,1.1s							
GERES	**GERESS Array B**	**35.03**	**298**	P		**P**	**01 37 07.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=64,slow=9.1,SNR=2.6							
KHC	**Kasperske Hory**	**35.07**	**299**	*eP*		**P**	**01 37 07.5**	**+1.8**
KHC	**Kasperske Hory**	**35.07**	**299**	*eP*		**P**	**01 37 06.8**	**+1.1**
KHC				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NB2	**NORSAR Subarra**	**36.36**	**319**	P		**P**	**01 37 17.9**	**+1.2**
	comp=Z,6nm,0.9s,baz=95,slow=9.3							
NOA	**NORSAR Array B**	**36.36**	**319**	P		**P**	**01 37 18.1**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=97,slow=8.4,SNR=6.9							
NOA				LR		LR	01 54 15.5	
	comp=Z,25nm,19.3s,baz=95,slow=40							
NC204	**NORSAR Array S**	**36.61**	**320**	P		**P**	**01 37 19.2**	**+0.5**
NC204				IAmb		IAmb	01 37 24.0	
	comp=Z,8.7nm,0.8s							
WTTA	**Wattenberg**	**36.67**	**296**	*eP*		**P**	**01 37 17.6**	**-2.0**
	comp=Z,1.3nm,0.4s							
SQTA	**Sankt Quirin**	**36.96**	**296**	*eP*		**P**	**01 37 21.2**	**-0.8**
	comp=Z,4.6nm,0.9s							
RETA	**Reutte**	**37.20**	**297**	*eP*		**P**	**01 37 22.6**	**-1.4**
	comp=Z,2.5nm,1.0s							
FETA	**Feichten**	**37.32**	**296**	*eP*		**P**	**01 37 23.4**	**-1.8**
	comp=Z,5.3nm,1.3s							
DAVA	**Damuels**	**37.83**	**297**	*eP*		**P**	**01 37 26.3**	**-3.2**
	comp=Z,7.5nm,1.6s							
SPA1	**Spitsbergen Ar**	**40.68**	**347**	P		**P**	**01 37 53.9**	**+1.2**
ZEA	**Zeya**	**42.84**	**52**	*eP*		P	01 37 59.0	-12
TIXI	**Tiksi**	**42.92**	**25**	*i* P		**P**	**01 38 11.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**48.64**	**63**	P		**P**	**01 38 56.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=280,slow=11,SNR=4.6							
KSRS	**Korea Array**	**48.66**	**73**	P		**P**	**01 38 57.5**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=293,slow=5.4,SNR=6.5							
ESDC	**Sonseca Array**	**49.84**	**291**	P		**P**	**01 39 07.1**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=55,slow=8.1,SNR=12							
BILL	**Bilibino**	**56.11**	**26**	*eP*		**P**	**01 39 51.3**	**-0.4**
BILL				*e*			01 40 46.4	
BILL				*e*			01 41 56.4	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BILL				MLR		MLR		
	comp=Z,521nm,19.0s							
MJAR	**Matsushiro Arr**	**56.33**	**69**	P		**P**	**01 39 54.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=298,slow=5.2,SNR=2.0							

GELI	**Tayfur-Gelibol**	**0.26**	**94**	PG	Pg	01 34 46.4	+0.6
GELI				SG	Sg	01 34 50.5	+1.1
GOKA	**anakkale-Gk**	**0.28**	**217**	*i* P	Pg	01 34 46.3	+0.1
GOKA				*i* S	Sg	01 34 50.8	+0.8
GOKA				IAML		01 34 51.0	
	comp=E,87nm,0.5s						
GOKA				IAML		01 34 52.0	
	comp=N,105nm,0.6s						
GADA	**Gvkgeada**	**0.29**	**218**	PG	Pg	01 34 46.9	+0.7
GADA				SG	Sg	01 34 51.3	+1.2
ENEZ	**Enez**	**0.32**	**3**	PG	Pg	01 34 47.5	+0.6
SMTH	**Samothraki Isl**	**0.46**	**277**	P	Pg	01 34 49.2	-0.3
SMTH				S	Sg	01 34 55.7	+0.1
SMTH				AML	AML	01 34 56.7	
	comp=E,42μm,0.3s						
SMTH				AML	AML	01 34 56.9	
	comp=N,46μm,0.1s						
LPK	**Lapseki**	**0.48**	**95**	PG	Pb	01 34 50.7	-0.4
ALN	**Alexandroupoli**	**0.48**	**352**	P	Pg	01 34 50.3	+0.4
ALN				S	Sg	01 34 56.6	+0.3
ALN	**Alexandroupoli**	**0.48**	**352**	PG	Pg	01 34 50.3	+0.3
ALN				SG	Sb	01 34 57.7	-0.7
BOZC	**Bozcaada**	**0.58**	**186**	PG	Pg	01 34 51.9	+0.2
BOZC	**Bozcaada**	**0.58**	**186**	*i* P	Pg	01 34 51.1	-0.6
BOZC				*i* S	Sg	01 34 58.1	-1.1
BAYC	**CANAKKALE_Bayr**	**0.74**	**155**	*i* P	Pg	01 34 55.0	+0.1
BAYC				*i* S	Sg	01 35 04.1	-0.5
UKOP	**Uzunkopru-Edir**	**0.81**	**28**	PG	Pb	01 34 56.5	-0.2
RDO	**Rodhopi**	**0.86**	**328**	P	Pg	01 34 56.7	-0.4
RDO				S	Sg	01 35 08.2	0.0
RDO	**Rodhopi**	**0.86**	**328**	PG	Pg	01 34 56.9	-0.1
LIA	**Limnos Island**	**0.89**	**235**	P	Pg	01 34 57.7	+0.1
LIA				S	Sg	01 35 09.4	+0.2
MAR3	**Marsite Statio**	**0.94**	**69**	PG	Pb	01 34 58.9	-0.1
MAR4	**Marsite Statio**	**0.96**	**67**	PG	Pb	01 34 59.5	+0.1
KNL	**Balıkesir**	**1.08**	**97**	*i* P	Pg	01 35 00.6	-0.6
KNL				*i* S	Sb	01 35 15.6	+0.2
KNL				IAML		01 35 18.0	
	comp=N,25nm,0.5s						
KNL				IAML		01 35 19.0	
	comp=E,32nm,0.4s						
THAS	**Thassos island**	**1.09**	**280**	P	Pg	01 35 00.6	-0.9
THAS				S	Sg	01 35 15.4	-0.3
MRMT	**Marmara Adasi**	**1.13**	**80**	PN	Pb	01 35 02.1	-0.1
PRK	**Paraskevi**	**1.17**	**175**	P	Pg	01 35 04.0	+1.0
PRK				S	Sn	01 35 20.6	+1.6
AYVA	**Ayvalik**	**1.19**	**159**	*i* P	Pb	01 35 02.6	-0.5
AYVA				*i* S	Sb	01 35 17.7	-0.8
AYVA				IAML		01 35 21.0	
	comp=N,33nm,0.4s						
AYVA				IAML		01 35 23.0	
	comp=E,16nm,0.7s						
SIGR	**SIGRI**	**1.22**	**190**	P	Pn	01 35 03.5	-0.1
EDC	**Edincik**	**1.32**	**92**	PN	Pb	01 35 05.6	+0.1
KDZ	**Kurdzhali**	**1.35**	**337**	PN	Pb	01 35 05.9	0.0
OUR	**Ouranopolis**	**1.64**	**268**	PN	Pn	01 35 10.0	+0.5

IDC 15 01:42:59.7±3.1, 23°.64N×144°.84E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/27, mbtmp3.8/4, Error ellipse: s-maj=119.2km s-min=32.8km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.01**	**317**	P	Pn	01 47 34.9	-0.7
	1.2nm,0.5s,baz=131,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**44.51**	**194**	P	P	01 51 13.2	0.0
	0.2nm,0.4s,baz=15,slow=9.1,SNR=2.5						
MKAR	**Makanchi Array**	**54.54**	**312**	P	P	01 52 29.0	-0.5
	0.6nm,0.4s,baz=92,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**82.09**	**335**	P	P	01 55 21.9	+0.1
	1.2nm,0.7s,baz=47,slow=6.1,SNR=4.6						

*SOME **15** 02:05:53.8, 42°.57N×79°.55E, h5km*
*NNC **15** 02:05:54.4±1.1, 42°.57N×79°.58E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=7.3km s-min=4.7km az=141.0*
*KRNET **15** 02:05:54.1±0.1, 42°.56N×79°.54E, h16km, mb3.1*
ISC 15 02:05:53.2±1.7, 42°.54N±0°.05×79°.54E±0°.05, h1km±10km, n60, σ1s77/105, 30C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.72**	**328**	⇑*e*P	**Pb**	**02 06 07.9**	**-0.7**
	baz=27						
UZB				⇑*e*S	**Sb**	**02 06 18.3**	**-0.7**
	baz=27						
UZB	**Uzynbulak**	**0.72**	**328**	⇑*e*P	**Pb**	**02 06 07.9**	**-0.7**
	24nm,0.1s						
UZB				*e*S	**Sb**	**02 06 18.3**	**-0.7**
	109nm,0.3s						
UZB	**Uzynbulak**	**0.72**	**328**	P	**Pb**	**02 06 07.9**	**-0.7**
	24nm,0.1s						
UZB				S	**Sb**	**02 06 18.3**	**-0.7**
	109nm,0.3s						
PDGK	**Podgornoye**	**0.79**	**357**	P	**Pg**	**02 06 08.6**	**+0.2**
	9.2nm,0.1s						
PDGK				S	**Sb**	**02 06 19.2**	**-1.8**
	92nm,0.3s						
PDGK	**Podgornoye**	**0.79**	**357**	⇓P	**Pg**	**02 06 08.3**	**0.0**
	2.6nm,0.2s						
PDGK				⇓S	**Sb**	**02 06 19.2**	**-1.8**
	40nm,0.6s						
ZHN	**Zhinishke**	**1.03**	**308**	*e*P	**Pb**	**02 06 13.5**	**-0.4**
	baz=7.0						
ZHN				*e*S	**Sn**	**02 06 28.0**	**-2.0**
	baz=7.0						
ZHN	**Zhinishke**	**1.03**	**308**	*e*P	**Pb**	**02 06 13.5**	**-0.4**
	4.9nm,0.2s						
ZHN				*e*S	**Sn**	**02 06 28.1**	**-2.0**
	20nm,0.2s						
ZHN	**Zhinishke**	**1.03**	**308**	P	**Pb**	**02 06 13.6**	**-0.2**
	4.9nm,0.2s						
ZHN				S	**Sn**	**02 06 28.1**	**-2.0**
	20nm,0.2s						
KPKS	**Kokpek**	**1.12**	**326**	⇑*e*P	**Pb**	**02 06 15.0**	**-0.4**
	baz=25						
KPKS				⇑*e*S	**Sn**	**02 06 30.4**	**-1.8**
	baz=25						
KPKS	**Kokpek**	**1.12**	**326**	⇑*e*P	**Pb**	**02 06 15.0**	**-0.4**
	42nm,0.1s						
KPKS				*e*S	**Sn**	**02 06 30.4**	**-1.8**
	53nm,0.4s						
KURS	**Kuram**	**1.38**	**314**	*e*P	**Pg**	**02 06 20.4**	**+0.7**
	baz=13						
KURS				*e*S	**Sg**	**02 06 39.6**	**+2.0**
	baz=13						
KURS	**Kuram**	**1.38**	**314**	*e*P	**Pg**	**02 06 20.4**	**+0.7**
	7.0nm,0.3s						
KURS				*e*S	**Sg**	**02 06 39.6**	**+2.0**
	11nm,0.3s						
KURS	**Kuram**	**1.38**	**314**	P	**Pg**	**02 06 20.4**	**+0.7**
	7.0nm,0.3s						
KURS				S	**Sg**	**02 06 39.6**	**+2.0**
	11nm,0.3s						
ANVS	**Anan'yevo**	**1.41**	**280**	⇓P	**Pg**	**02 06 20.6**	**+0.5**
	baz=80						
ANVS				⇓*i*S	**Sg**	**02 06 40.3**	**+1.9**
	baz=80						
MNBS	**Baschi**	**1.75**	**332**	⇓*e*P	**Pg**	**02 06 26.4**	**-0.3**
	0.2nm,0.1s						
MNBS				*e*S	**Sg**	**02 06 50.1**	**+0.7**
	1.0nm,0.2s						
MNBS	**Baschi**	**1.75**	**332**	P	**Pg**	**02 06 26.4**	**-0.3**
	0.2nm,0.1s						
MNBS				S	**Sg**	**02 06 50.1**	**+0.7**
	1.0nm,0.2s						
DJR	**Jarkent**	**1.80**	**6**	⇓*e*P	**Pb**	**02 06 26.6**	**-0.4**
	11nm,0.4s						
DJR				*e*S	**Sg**	**02 06 50.4**	**-0.6**
	64nm,0.4s						
DJR	**Jarkent**	**1.80**	**6**	P	**Pb**	**02 06 26.6**	**-0.4**
	11nm,0.4s						
DJR				S	**Sg**	**02 06 50.4**	**-0.6**
	64nm,0.4s						
KDJ	**Kajisay**	**1.80**	**258**	⇑*i*P	**Pg**	**02 06 27.9**	**+0.2**
	baz=57						
KDJ				⇑*i*S	**Sg**	**02 06 52.3**	**+1.3**
	baz=57						
KOTS	**Kotyrbulak**	**1.92**	**292**	*e*P	**Pg**	**02 06 30.0**	**+0.1**
	baz=91						
KOTS				*e*S	**Sg**	**02 06 56.0**	**+1.2**
	baz=91						
KOTS	**Kotyrbulak**	**1.92**	**292**	*e*P	**Pg**	**02 06 30.0**	**+0.1**
	67nm,0.3s						
KOTS				*e*S	**Sg**	**02 06 56.0**	**+1.2**
	20nm,0.2s						
KOTS	**Kotyrbulak**	**1.92**	**292**	P	**Pg**	**02 06 30.0**	**+0.1**
	67nm,0.3s						
KOTS				S	**Sg**	**02 06 56.0**	**+1.2**
	20nm,0.2s						
MDOK	**Medeo**	**1.94**	**290**	*e*P	**Pg**	**02 06 30.3**	**0.0**
	baz=89						
MDOK				*e*S	**Sg**	**02 06 56.8**	**+1.4**
	baz=89						
MDOK	**Medeo**	**1.94**	**290**	*e*P	**Pg**	**02 06 30.3**	**0.0**
	12nm,0.2s						
MDOK				*e*S	**Sg**	**02 06 56.9**	**+1.4**
	13nm,0.2s						
MDOK	**Medeo**	**1.94**	**290**	Pg	**Pg**	**02 06 30.3**	**0.0**
	12nm,0.2s						
MDOK				Lg	Lg	02 06 56.9	
	13nm,0.2s						
TNSS	**Tian-Shan**	**1.98**	**285**	*e*P	**Pb**	**02 06 30.6**	**+0.4**
	baz=85						
TNSS				*e*S	**Sg**	**02 06 57.3**	**+0.7**
	baz=85						
TNSS	**Tian-Shan**	**1.98**	**285**	*e*P	**Pb**	**02 06 30.6**	**+0.4**
	22nm,0.3s						
TNSS				*e*S	**Sg**	**02 06 57.4**	**+0.7**
	18nm,0.2s						
TNSS	**Tian-Shan**	**1.98**	**285**	Pg	**Pb**	**02 06 30.6**	**+0.4**
	22nm,0.3s						
TNSS				Lg	Lg	02 06 57.4	
	18nm,0.2s						
ARXS	**Arharly**	**2.09**	**324**	*e*P	**Pg**	**02 06 32.7**	**-0.5**
	25nm,0.4s						
ARXS				*e*S	**Sg**	**02 07 00.2**	**0.0**
	61nm,0.5s						
ARXS	**Arharly**	**2.09**	**324**	Pg	**Pg**	**02 06 32.7**	**-0.5**
	25nm,0.4s						
ARXS				Lg	Lg	02 07 00.2	
	61nm,0.5s						
MTBS	**Maitube**	**2.37**	**285**	*e*P	**Pg**	**02 06 38.2**	**-0.4**
	34nm,0.2s						
MTBS				*e*S	**Sg**	**02 07 10.2**	**+1.0**
	26nm,0.3s						
MTBS	**Maitube**	**2.37**	**285**	Pg	**Pg**	**02 06 38.2**	**-0.4**
	34nm,0.2s						
MTBS				Lg	Lg	02 07 10.2	
	26nm,0.3s						
KTBS	**Karatobe**	**2.40**	**300**	*e*P	**Pb**	**02 06 37.5**	**+0.3**
	7.1nm,0.3s						
KTBS				*e*S	**Sg**	**02 07 09.3**	**-1.0**
	87nm,0.3s						
KTBS	**Karatobe**	**2.40**	**300**	Pg	**Pb**	**02 06 37.5**	**+0.3**
	7.1nm,0.3s						
KTBS				Lg	Lg	02 07 09.3	
	87nm,0.3s						
ULHL	**Ulahol**	**2.46**	**264**	⇑*i*P	**Pb**	**02 06 37.6**	**-0.8**
	baz=64						
ULHL				⇑*i*S	**Sb**	**02 07 09.8**	**+0.5**
	baz=64						
BOOM	**Boomskoye usch**	**2.67**	**270**	⇓*i*P	**Pb**	**02 06 39.9**	**-1.9**
	baz=70						
BOOM				⇓*i*S	**Sb**	**02 07 13.7**	**-1.4**
	baz=70						
KST	**Kastek**	**2.68**	**282**	*e*P	**Pg**	**02 06 43.7**	**-0.9**
	15nm,0.2s						
KST				*e*S	**Sg**	**02 07 19.5**	**+0.1**
	23nm,0.5s						
KST	**Kastek**	**2.68**	**282**	Pg	**Pg**	**02 06 43.7**	**-0.9**
	15nm,0.2s						
KST				Lg	Lg	02 07 19.5	
	23nm,0.5s						
KUU	**Kurty**	**2.70**	**301**	*e*P	**Pb**	**02 06 43.2**	**+0.8**
	1.9nm,0.1s						
KUU				*e*S	**Sg**	**02 07 18.7**	**-1.4**
	28nm,0.2s						
KUU	**Kurty**	**2.70**	**301**	Pg	**Pb**	**02 06 43.2**	**+0.8**
	1.9nm,0.1s						
KUU				Lg	Lg	02 07 18.7	
	28nm,0.2s						
KAPS	**Kapalarasan**	**2.75**	**357**	*e*P	**Pb**	**02 06 43.1**	**-0.1**
	1.4nm,0.2s						
KAPS				*e*S	**Sb**	**02 07 18.1**	**+0.9**
	16nm,0.7s						
DGS	**Degeres**	**2.86**	**285**	*e*P	**Pb**	**02 06 46.7**	**+1.6**
	9.9nm,0.2s						
DGS				*e*S	**Sg**	**02 07 24.5**	**-0.5**
	28nm,0.5s						
DGS	**Degeres**	**2.86**	**285**	Pg	**Pb**	**02 06 46.7**	**+1.6**
	9.9nm,0.2s						
DGS				Lg	Lg	02 07 24.5	
	28nm,0.5s						
TKM2	**Tokmak 2**	**2.93**	**279**	⇑*i*P	**Pb**	**02 06 44.8**	**-1.6**
	baz=78						
TKM2				⇑*i*S	**Sb**	**02 07 20.1**	**-2.7**
	baz=78						
TKM2	**Tokmak 2**	**2.93**	**279**	⇑Pn	**Pb**	**02 06 45.1**	**-1.3**
	1.9nm,0.4s						
TKM2				⇓Lg	Lg	02 07 26.0	
	7.8nm,0.3s						
KRBS	**Karabastau**	**3.06**	**293**	*e*P	**Pg**	**02 06 50.3**	**-1.5**
	3.0nm,0.2s						
KRBS				*e*S	**Sg**	**02 07 30.8**	**-0.7**
	14nm,0.3s						
KRBS	**Karabastau**	**3.06**	**293**	Pg	**Pg**	**02 06 50.3**	**-1.5**
	3.0nm,0.2s						
KRBS				Lg	Lg	02 07 30.8	
	14nm,0.3s						
KBK	**Karagaybulak**	**3.40**	**273**	⇑*i*P	**Pb**	**02 06 50.7**	**-3.6**
	baz=73						
KBK				⇑*i*S	**Sn**	**02 07 31.4**	**+2.9**
	baz=73						
CHMS	**Chumysh**	**3.56**	**279**	⇑*i*P	**Pb**	**02 06 53.1**	**-3.9**
	baz=79						
CHMS				⇑*i*S	**Sb**	**02 07 35.7**	**-4.9**
	baz=79						
SGDS	**Sogindy**	**3.72**	**286**	Pg	**Pb**	**02 07 01.3**	**+1.6**
	4.7nm,0.3s						
SGDS				Lg	Lg	02 07 49.7	
	6.2nm,0.2s						
AAK	**Ala-Archa**	**3.73**	**273**	⇑*i*P	**Pn**	**02 06 55.3**	**+3.2**
	baz=73						
AAK				⇑*i*S	**Sn**	**02 07 39.3**	**+2.6**
	baz=73						
AAK	**Ala-Archa**	**3.73**	**273**	⇑Pg	**Pb**	**02 07 00.1**	**+0.1**
	1.2nm,0.6s						
AAK				⇓Lg	Lg	02 07 49.4	
	2.3nm,0.3s						
UCH	**Uchtor**	**3.74**	**267**	⇑*e*P	**Pn**	**02 06 55.8**	**+3.3**
	baz=67						
UCH				⇑*i*S	**Sb**	**02 07 41.5**	**-4.8**
	baz=67						
EKS2	**Erkin-Say**	**4.26**	**274**	⇑*i*P	**Pn**	**02 07 03.4**	**+4.1**
	baz=73						
EKS2				⇑*i*S	**Sb**	**02 07 54.8**	**-6.1**
	baz=73						
AML	**Almayashu**	**4.36**	**267**	⇑*i*P	**Pn**	**02 07 04.4**	**+3.5**
	baz=66						
AML				⇑*i*S	**Sn**	**02 07 56.4**	**+3.9**
	baz=66						
MAKZ	**Makanchi**	**4.60**	**21**	⇑Pn	**Pn**	**02 07 04.1**	**+0.1**
	0.4nm,0.2s						
MAKZ				⇓Sn	**Sn**	**02 07 57.7**	**-0.4**
	0.7nm,0.3s						
MRKS	**Merke**	**4.67**	**275**	*e*P	**Pg**	**02 07 19.7**	**-2.9**
	2.7nm,0.2s						
MRKS				*e*S	**Sg**	**02 08 21.1**	**-2.0**
	5.3nm,0.3s						
MRKS	**Merke**	**4.67**	**275**	Pg	**Pg**	**02 07 19.7**	**-2.9**
	2.7nm,0.2s						
MRKS				Lg	Lg	02 08 21.1	
	5.3nm,0.3s						
MK31	**Makanchi Array**	**4.68**	**24**	⇑Pn	**Pn**	**02 07 07.1**	**+2.1**
	0.2nm,0.2s,baz=206,slow=14,SNR=25						
MK31				⇑Sn	**Sn**	**02 07 60.0**	**+0.1**
	0.3nm,0.2s,baz=204,slow=27,SNR=6.5						
KK31	**Karatay Array**	**6.67**	**278**	⇑Lg	Lg	02 09 23.1	
	1.1nm,0.6s,baz=107,slow=23,SNR=6.0						

*IDC **15** 02:53:22.8±1.9, 4°.33N×126°.72E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/31, mbtmp3.8/5, MS2.8/2, Ms1 2.8/2, ms1mx2.4/35, Error ellipse: s-maj=104.7km s-min=26.8km az=69.0*
*MAN **15** 02:53:28.2, 4°.59N×126°.45E, h10km, mb4.6, ML3.5, MS3.4*
ISC 15 02:53:27.5±1.0, 4°.4N±0°.1×126°.6E±0°.2, h35km, n12, σ2s00/14, mb3.9/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.92**	**333**	*e*P	**Pn**	**02 53 56.9**	**-0.7**
DDMP				*e*S	**Sn**	**02 54 14.9**	**-5.7**
DAV	**Davao City (W)**	**2.85**	**340**	Sn	**Sn**	**02 54 45.8**	**+2.2**
	71nm,0.3s,baz=232,slow=19,SNR=2.0						
SKMP	**Bagumbayan, Su**	**2.93**	**316**	*e*P	**Pn**	**02 54 12.7**	**+1.0**
SKMP				*e*S	**Sn**	**02 54 45.1**	**-0.6**
KCP	**Kidapawan**	**3.00**	**331**	⇑*e*P	**Pn**	**02 54 13.8**	**+1.1**
KCP				*e*S	**Sn**	**02 54 47.9**	**+0.4**
BUKP	**Musuan**	**3.79**	**337**	*e*P	**Pn**	**02 54 23.4**	**-0.1**
BUKP				*e*S	**Sn**	**02 55 07.0**	**+0.2**
KAPI	**Kappang**	**11.56**	**216**	LR	LR	03 00 29.6	
	comp=Z,44nm,19.2s,baz=62,slow=37						
FITZ	**Fitzroy Crossi**	**22.36**	**182**	P	**P**	**02 58 21.6**	**-1.0**
	4.8nm,0.7s,baz=12,slow=9.2,SNR=11						
WRA	**Warramunga Arr**	**25.35**	**163**	P	**P**	**02 58 50.4**	**-1.1**
	3.5nm,0.7s,baz=344,slow=9.7,SNR=24						
ASAR	**Alice Springs**	**28.78**	**166**	P	**P**	**02 59 22.0**	**-0.3**
	0.4nm,0.7s,baz=340,slow=7.2,SNR=5.7						
MJAR	**Matsushiro Arr**	**33.75**	**17**	LR	LR	03 18 22.2	
	comp=Z,12nm,18.4s,baz=160,slow=44						
STKA	**Stephens Creek**	**38.79**	**159**	P	**P**	**03 00 49.3**	**+0.3**
	1.3nm,0.7s,baz=328,slow=9.5,SNR=1.9						
MKAR	**Makanchi Array**	**56.94**	**325**	P	**P**	**03 03 10.6**	**+1.2**
	0.2nm,0.5s,baz=122,slow=8.7,SNR=2.0						

*DDA **15** 02:56:34.9, 42°.16N×40°.98E, h12km±4km, ML1.8*
*ISK **15** 02:56:35.0, 42°.26N×40°.92E, h8km, ML2.5/3*
*TIF **15** 02:56:35.1, 42°.34N×41°.10E, h25km±1km*
*MOS **15** 02:56:36.1±0.0, 42°.53N×41°.09E, h5km, MPVA3.1*
ISC 15 02:56:34.8±2.2, 42°.33N±0°.03×41°.08E±0°.04, h13km±16km, n15, σ0s88/29, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**0.97**	**155**	PG	**Pb**	**02 56 54.2**	**+0.7**
BCA				SG	**Sn**	**02 57 07.8**	**+0.1**
ARXR	**Arkhyz**	**1.25**	**7**	*i* Pg	**Pn**	**02 56 57.0**	**-1.0**
ARXR				*i* Sg	**Sb**	**02 57 12.2**	**-2.1**
CHOM	**Cayeli-Rize**	**1.25**	**191**	PN	**Pn**	**02 56 57.9**	**-0.1**
CHOM				SN	**Sb**	**02 57 14.2**	**0.0**
ARTV	**Artvin**	**1.30**	**150**	*i* P	**Pn**	**02 56 58.8**	**-0.2**
ARTV				*i* S	**Sb**	**02 57 15.1**	**-0.9**
ARTV				IAML		02 57 16.0	
	comp=E,69nm,1.2s						
ARTV				IAML		02 57 25.0	
	comp=N,15nm,0.3s						
DBAD	**Bademkaya**	**1.39**	**160**	*i* P	**Pn**	**02 56 60.0**	**0.0**
DBAD				*i* S	**Sn**	**02 57 17.4**	**-0.7**
TKB	**Tkibuli**	**1.42**	**88**	P	**Pn**	**02 57 00.6**	**+0.3**
TKB				S	**Sb**	**02 57 19.8**	**+0.6**
EPOS	**Posof**	**1.48**	**123**	*i* P	**Pn**	**02 57 01.8**	**+0.5**
EPOS				*i* S	**Sg**	**02 57 22.4**	**-0.1**
EPOS				IAML		02 57 25.0	
	comp=E,8.6nm,0.3s						
EPOS				IAML		02 57 28.0	
	comp=N,15nm,0.5s						
DDEM	**Demirkent**	**1.52**	**160**	*i* P	**Pn**	**02 57 01.4**	**-0.3**
DDEM				*i* S	**Sn**	**02 57 20.4**	**-1.0**
DDEM				IAML		02 57 23.0	
	comp=N,26nm,0.3s						
DDEM				IAML		02 57 25.0	
	comp=E,20nm,0.4s						
GUZR	**Guzeripl'**	**1.81**	**338**	*i* Pg	**Pn**	**02 57 06.9**	**+1.2**
GUZR				*i* Sg	**Sn**	**02 57 29.3**	**+0.7**
SHA1	**Shidzhatmaz**	**1.83**	**39**	*e*Pg	**Pn**	**02 57 07.1**	**+1.0**
SHA1				*i* Sg	**Sn**	**02 57 30.2**	**+1.0**
KBZ	**Khabaz**	**1.94**	**43**	*e*Pg	**Pb**	**02 57 09.4**	**-0.5**
KBZ				*e*Sg	**Sb**	**02 57 33.2**	**-0.8**
KRIK	**Erzurum-spir**	**1.99**	**183**	*i* P	**Pn**	**02 57 07.2**	**-1.1**
KRIK				*i* S	**Sn**	**02 57 34.5**	**+1.3**
KIV	**Kislovodsk**	**2.01**	**35**	PN	**Pb**	**02 57 11.6**	**+0.3**
ESPY	**Espiye-Giresun**	**2.25**	**232**	PN	**Pn**	**02 57 11.8**	**0.0**
ESPY				SN	**Sn**	**02 57 38.6**	**-0.8**
KELT	**Kelkit**	**2.57**	**213**	*i* P	**Pn**	**02 57 17.7**	**+1.4**
KELT				*i* S	**Sn**	**02 57 47.7**	**+0.2**
KELT				IAML		02 57 50.0	
	comp=N,6.1nm,0.2s						

*MOS **15** 03:51:14.8±0.9, 38°.68N×141°.62E, h65km, mb5.0/40, Error ellipse: s-maj=6.1km s-min=4.6km az=94.4*
*BJI **15** 03:51:15.0±0.0, 38°.42N×141°.52E, h73km, mB4.9/39, mb4.9/61, Ms4.2/18, Ms7 3.9/18*
*NEIC **15** 03:51:16.0±0.7, 38°.57N±0°.05×141°.63E±0°.10, h61km±6km, mb4.7/159, Error ellipse: s-maj=11.5km s-min=6.4km az=113.0*
*NIED **15** 03:51:16.5, 38°.55N×141°.62E, h64km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.15; $M_{\theta\theta}$2.04; $M_{\phi\phi}$-6.18; $M_{r\theta}$3.44; $M_{\theta\phi}$-2.72; $M_{\phi r}$-4.24; Fault plane solution: $M_0$8.18000×10^{15} NP1: ϕ_s163.00000°, δ70.00000°, λ52.00000°. NP2: ϕ_s49.00000°, δ42.00000°, λ149.00000°.*
*IDC **15** 03:51:16.4±0.5, 38°.62N×141°.59E, h63km±4km, mb4.2/28, mb1 4.4/35, mb1mx4.3/51, mbtmp4.5/35, MS3.4/21, Ms1 3.4/21, ms1mx3.3/42 Error ellipse: s-maj=11.8km s-min=9.5km az=111.0*
*JMA **15** 03:51:16.5, 38°.55N×141°.62E, h64km±1km, M4.6*
JMA Felt IV J1.
ISC 15 03:51:15.7±0.4, 38°.57N±0°.03×141°.72E±0°.04, h63km±3km, h63km:pP-P, n456, σ1s27/463, mb4.7/141, 35C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.31**	**322**	P	**Pn**	**03 51 27.1**	**+0.9**
JKMT				*i* S	**Sn**	**03 51 34.6**	**+0.8**
JIO	**Ouri**	**0.31**	**249**	P	**Pn**	**03 51 26.6**	**+0.4**
JIO				*e*S	**Sn**	**03 51 33.8**	**0.0**
JIKH	**Ishinomakikobu**	**0.33**	**218**	P	**Pn**	**03 51 26.8**	**+0.5**
JIKH				S	**Sn**	**03 51 34.3**	**+0.3**
OFUJ	**Ofunato**	**0.51**	**356**	P	**Pn**	**03 51 29.1**	**+1.0**
OFUJ				*e*S	**Sn**	**03 51 38.3**	**+1.2**
JMK	**Ichinoseki**	**0.55**	**315**	P	**Pn**	**03 51 29.1**	**+0.7**
JMK				*e*S	**Sn**	**03 51 38.1**	**+0.4**
JOU	**Okura**	**0.85**	**257**	P	**Pn**	**03 51 32.0**	**0.0**
JOU				S	**Sn**	**03 51 43.7**	**-0.3**
JOM	**Ohasama**	**0.96**	**340**	P	**Pn**	**03 51 34.3**	**+0.9**
JOM				S	**Sn**	**03 51 47.6**	**+1.1**
JMM	**Marumori**	**1.01**	**226**	P	**Pn**	**03 51 33.6**	**-0.4**
JMM				S	**Sn**	**03 51 46.3**	**-1.3**
JMM	**Marumori**	**1.01**	**226**		**Pn**	**03 51 33.5**	**-0.4**
JMM				Sn	**Sn**	**03 51 46.3**	**-1.3**
JYK	**Kaneyama**	**1.12**	**289**	P	**Pn**	**03 51 35.6**	**+0.2**
JYK				S	**Sn**

JKA	**Kamikawa-asahi**	**5.58**	**7**	Pn		**Pn**	**03 52 35.6**	**-0.5**
ASAJ	**Asahikawa**	**5.58**	**7**	P		**Pn**	**03 52 36.3**	**+0.2**
	comp=Z,7.0nm,0.3s,baz=225,slow=9.1,SNR=30							
ASAJ				S		**Sn**	**03 53 36.5**	**-2.4**
	comp=Z,4.4nm,0.3s,baz=262,slow=26,SNR=1.6							
ASAJ				LR	LR		03 55 15.3	
	comp=Z,235nm,21.1s,baz=187,slow=43							
JHJ2	**Mitsune**	**5.66**	**196**	Pn		**Pn**	**03 52 37.7**	**+0.5**
JHJ	**Hachijo jima 2**	**5.66**	**197**	P		**Pn**	**03 52 37.9**	**+0.6**
	comp=Z,35nm,0.3s,baz=333,slow=20,SNR=6.6							
JHJ				S		**Sn**	**03 53 37.4**	**-3.4**
	comp=Z,92nm,0.3s,baz=78,slow=22,SNR=3.8							
JHJ				LR	LR		03 55 00.8	
	comp=Z,529nm,18.6s,baz=327,slow=40							
NMR	**Nemuro--Hokkai**	**5.67**	**31**	⇑*i* P		**Pn**	**03 52 36.3**	**-1.1**
NMR				*e*S		**Sn**	**03 53 36.3**	**-4.8**
GLVR	**Golovnino**	**5.91**	**28**	*e*P		**Pn**	**03 52 40.2**	**-0.3**
GLVR				*e*S		**Sn**	**03 53 44.0**	**-2.8**
JWT	**Wachi**	**6.03**	**239**			**Pn**	**03 52 43.4**	**+1.1**
RUSJ	**Misakicho**	**6.13**	**25**	*e*P		**Pn**	**03 52 44.4**	**+0.7**
RUSJ				*e*S		**Sn**	**03 53 51.2**	**-1.2**
GRPR	**Tuman**	**6.22**	**28**	*e*P		**Pn**	**03 52 43.9**	**-0.9**
GRPR				*e*S		**Sn**	**03 53 49.3**	**-5.2**
GRPR				pmax	pmax			
	comp=Z,175nm,0.4s							
GRPR				pmax	pmax			
	comp=N,134nm,0.3s							
GRPR				pmax	pmax			
	comp=E,96nm,0.3s							
GRPR				smax	smax			
	comp=N,1μm,0.4s							
GRPR				smax	smax			
	comp=E,245nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**6.29**	**28**	*e*P		**Pn**	**03 52 45.2**	**-0.6**
YUK				*e*S		**Sn**	**03 53 51.6**	**-4.6**
YUK				pmax	pmax			
	comp=Z,245nm,0.2s							
YUK				pmax	pmax			
	comp=N,12nm,0.1s							
YUK				pmax	pmax			
	comp=E,42nm,0.1s							
YUK				smax	smax			
	comp=N,1μm,0.7s							
YUK				smax	smax			
	comp=E,331nm,0.3s							
TEY	**Ternei**	**7.50**	**331**	⇑*e*P		**Pn**	**03 53 06.1**	**+3.7**
TEY				*e*S		**Sn**	**03 54 26.3**	**+0.3**
TEY				pmax	pmax			
	comp=N,90nm,0.8s							
TEY				pmax	pmax			
	comp=E,50nm,0.8s							
TEY				pmax	pmax			
	comp=Z,80nm,0.8s							
TEY				pmax	pmax			
	comp=N,200nm,0.9s							
TEY				pmax	pmax			
	comp=E,100nm,0.9s							
TEY				pmax	pmax			
	comp=Z,200nm,0.9s							
TEY				smax	smax			
	comp=N,30nm,0.8s							
JHS	**Saijyo**	**7.76**	**245**			**Pn**	**03 53 05.8**	**-0.2**
KUR	**Kuril'sk**	**8.08**	**33**	*e*P		**Pn**	**03 53 10.4**	**+0.1**
KUR				*e*S		**Sn**	**03 54 36.6**	**-3.5**
KUR				pmax	pmax			
	comp=Z,73nm,0.5s							
KUR				smax	smax			
	comp=E,222nm,0.7s							
KUR				smax	smax			
	comp=N,118nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.41**	**5**	⇑*e*P		**Pn**	**03 53 14.6**	**-0.2**
YSS				*e*S		**Sn**	**03 54 42.4**	**-5.8**
YSS				pmax	pmax			
	comp=Z,60nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.41**	**5**	Pn		**Pn**	**03 53 14.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**9.22**	**311**	*i* P		**Pn**	**03 53 26.8**	**+0.9**
USA0B	**Ussuriysk Arra**	**9.22**	**311**	Pn		**Pn**	**03 53 25.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**9.22**	**311**	P		**Pn**	**03 53 27.0**	**+1.1**
	baz=128,slow=16,SNR=76							
USRK				LR	LR		03 56 47.6	
	comp=Z,274nm,20.2s,baz=118,slow=36							
USRK	**Ussuriysk Ar.**	**9.22**	**311**	P		**Pn**	**03 53 27.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.22**	**311**	Pn		**Pn**	**03 53 25.7**	**-0.2**
JNU	**Nakatsue**	**10.34**	**242**	P		**Pn**	**03 53 41.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=91,slow=6.4,SNR=8.3							
JNU	**Nakatsue**	**10.34**	**242**	Pn		**Pn**	**03 53 41.2**	**0.0**
MDJ	**Mudanjiang**	**10.90**	**308**	P		**Pn**	**03 53 51.5**	**+2.7**
MDJ				pmax	pmax			
	comp=Z,20nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,280nm,5.5s							
MDJ	**Mudanjiang**	**10.90**	**308**	Pn		**Pn**	**03 53 48.4**	**-0.5**
KSRS	**Korea Array**	**10.94**	**268**	P		**Pn**	**03 53 49.3**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=80,slow=14,SNR=17							
KSRS				LR	LR		03 57 36.9	
	comp=Z,304nm,21.7s,baz=72,slow=35							
KSAR	**Wonju Array Be**	**10.97**	**268**	P		**Pn**	**03 53 49.2**	**-0.6**
KSAR	**Wonju Array Be**	**10.97**	**268**			**Pn**	**03 53 49.2**	**-0.6**
KS19	**Wonju Array Si**	**10.98**	**269**			**Pn**	**03 53 47.6**	**-2.4**
JCJ	**Chichijima**	**11.45**	**178**	P		**Pn**	**03 53 57.2**	**+0.9**
	comp=Z,7.9nm,0.3s,baz=290,slow=18,SNR=1.6							
JCJ				S		**Sn**	**03 55 55.1**	**-7.5**
	comp=Z,11nm,0.3s,baz=281,slow=22,SNR=1.6							
JCJ				LR	LR		03 58 54.1	
	comp=Z,43nm,18.5s,baz=12,slow=40							
JCJ	**Chichijima**	**11.45**	**178**	Pn		**Pn**	**03 53 57.4**	**+1.0**
JSU	**Suzuyama**	**11.61**	**236**			**Pn**	**03 53 58.3**	**-0.3**
TJN	**Taejon**	**11.62**	**264**	*ce*P		**Pn**	**03 54 01.2**	**+2.6**
INCN	**Inchon**	**11.95**	**269**	P		**Pn**	**03 54 02.7**	**-0.5**
INCN	**Inchon**	**11.95**	**269**			**Pn**	**03 54 02.7**	**-0.5**
CN2	**Changchun**	**13.32**	**298**	*e*P		**P**	**03 54 25.3**	**-4.0**
CN2				*e*S		**Sn**	**03 56 45.0**	**-3.0**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				LR	LR			
	comp=Z,260nm,20.0s							
CN2				LR	LR			
	comp=Z,220nm,20.0s							
DL2	**Dalian**	**15.68**	**278**	P		Pn	03 54 42.0	-11
DL2				pmax	pmax			
	comp=Z,60nm,1.4s							
ZEA	**Zeya**	**18.13**	**332**	*e*P		**Pn**	**03 55 23.6**	**+0.8**
ZEA				pmax	pmax			
	comp=N,10.0nm,0.3s							
ZEA				pmax	pmax			
	comp=E,10.0nm,0.3s							
ZEA				pmax	pmax			
	comp=Z,20nm,0.6s							
ZEA				pmax	pmax			
	comp=E,200nm,5.2s							
ZEA				pmax	pmax			
	comp=Z,200nm,6.0s							
PETK	**Petropavlovsk-**	**18.25**	**32**	P		**P**	**03 55 22.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=6.5							
PETK				LR	LR		04 01 52.9	
	comp=Z,156nm,20.4s,baz=226,slow=35							
SSE	**Sheshan**	**18.41**	**252**	P		**P**	**03 55 25.1**	**-0.6**
PET	**Petropavlovsk**	**18.59**	**33**	*ce*P		**Pn**	**03 55 28.9**	**+0.4**
PET				pmax	pmax			
	comp=Z,188nm,1.3s							
PET	**Petropavlovsk**	**18.59**	**33**	P		**P**	**03 55 28.4**	**+0.8**
PET				IAmb	IAmb		03 55 30.8	
	comp=Z,36nm,0.9s							
NJ2	**Nanjing**	**19.73**	**258**	*e*P		**P**	**03 55 38.3**	**-1.9**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
BJI	**Beijing**	**19.80**	**282**	P		**P**	**03 55 40.1**	**-0.8**
BJI				pmax	pmax			
	comp=Z,22nm,0.7s							
BJT	**Baijiatuau**	**19.81**	**282**	P		**P**	**03 55 39.8**	**-1.2**
BJT				pmax	pmax			
	comp=Z,22nm,0.8s							
BJT	**Baijiatuau**	**19.81**	**282**	P		**P**	**03 55 39.8**	**-1.2**
BJT				IAmb	IAmb		03 55 54.3	
	comp=Z,22nm,0.8s							
MA2	**Magadan**	**21.80**	**12**	P		**P**	**03 56 02.7**	**+0.4**
	comp=Z,56nm,0.7s,baz=199,slow=8.0,SNR=21							
MA2				LR	LR		04 03 51.4	
	comp=Z,103nm,20.1s,baz=156,slow=35							
MA2	**Magadan**	**21.80**	**12**	*ce*P		**P**	**03 56 02.4**	**+0.1**
MA2				pmax	pmax			
	comp=Z,133nm,1.7s							
MA2	**Magadan**	**21.80**	**12**	P		**P**	**03 56 03.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**23.26**	**285**	*e*P		**P**	**03 56 16.8**	**-1.0**
HHC				sP	sP		03 56 39.9	+0.3
HHC				pmax	pmax			
	comp=Z,22nm,0.9s							
HHC				pmax	pmax			
	comp=Z,210nm,4.0s							
HHC				LR	LR			
	comp=Z,220nm,10.2s							
HHC				LR	LR			
	comp=Z,300nm,12.4s							
HHC				LR	LR			
	comp=Z,330nm,11.7s							
WHN	**Wuhan**	**23.86**	**259**	⇑P		**P**	**03 56 22.3**	**-0.9**
WHN				S	S		04 00 21.8	-13
WHN				pmax	pmax			
	comp=Z,54nm,0.8s							
WHN				LR	LR			
	comp=Z,510nm,23.3s							
YAK	**Yakutsk**	**24.63**	**346**	P		**P**	**03 56 29.2**	**-0.7**
	comp=Z,26nm,0.6s,baz=308,slow=0.2,SNR=2.8							
YAK				LR	LR		04 05 34.1	
	comp=Z,65nm,20.8s,baz=276,slow=35							
YAK	**Yakutsk**	**24.63**	**346**	*ce*P		**P**	**03 56 28.9**	**-1.0**
YAK				pmax	pmax			
	comp=Z,78nm,1.0s							
YAK	**Yakutsk**	**24.63**	**346**	P		**P**	**03 56 30.2**	**+0.3**
SEY	**Seymchan**	**25.24**	**11**	P		**P**	**03 56 36.4**	**+1.0**
	comp=Z,31nm,0.9s,baz=203,slow=8.1,SNR=35							
SEY	**Seymchan**	**25.24**	**11**	*i* P		**P**	**03 56 35.9**	**+0.5**
BOD	**Bodaibo**	**26.38**	**326**	*e*P		**P**	**03 56 45.5**	**-0.3**
BOD				pmax	pmax			
	comp=Z,11nm,1.4s							
ULN	**Ulaanbaatar**	**26.72**	**302**	*ce*P		**P**	**03 56 49.1**	**-0.1**
ULN				pmax	pmax			
	comp=Z,13nm,1.3s							
ULN	**Ulaanbaatar**	**26.72**	**302**	P		**P**	**03 56 50.5**	**+1.3**
XAN	**Xi'an**	**26.73**	**270**	P		**P**	**03 56 47.3**	**-2.0**
XAN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,160nm,4.6s							
XAN	**Xi'an**	**26.73**	**270**	P		**P**	**03 56 48.5**	**-0.8**
XAN				pmax	pmax			
	comp=Z,18nm,0.8s							
XAN	**Xi'an**	**26.73**	**270**	P		**P**	**03 56 48.5**	**-0.8**
XAN				IAmb	IAmb		03 56 51.4	
	comp=Z,18nm,0.8s							
SONM	**Songino Array**	**27.16**	**301**	P		**P**	**03 56 53.4**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=100,slow=9.1,SNR=12							
SONM				LR	LR		04 08 13.6	
	comp=Z,103nm,18.4s,baz=53,slow=38							
SONM	**Songino Array**	**27.16**	**301**	P		**P**	**03 56 53.3**	**+0.3**
ENH	**Enshi**	**27.74**	**262**	P		**P**	**03 56 58.0**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**28.76**	**124**	T		T	04 27 25.0	
	baz=317,slow=75,SNR=1214							
H11N1	**WAKE ISLAND Hy**	**28.77**	**124**	T		T	04 27 46.9	
	baz=317,slow=75,SNR=1298							
H11N3	**WAKE ISLAND Hy**	**28.78**	**124**	T		T	04 27 47.6	
	baz=317,slow=75,SNR=1100							
H11S1	**WAKE ISLAND Hy**	**29.52**	**126**	T		T	04 28 37.5	
	baz=318,slow=76,SNR=861							
H11S3	**WAKE ISLAND Hy**	**29.52**	**126**	T		T	04 28 29.9	
	baz=318,slow=76,SNR=1101							
TLY	**Talaya**	**29.53**	**309**	LR	LR		04 09 42.5	
	comp=Z,97nm,18.6s,baz=100,slow=38							
TLY	**Talaya**	**29.53**	**309**	*e*P		**P**	**03 57 10.9**	**-3.2**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.6s							
TLY				MLR	MLR			
	comp=Z,259nm,15.0s							
ZAK	**Zakamensk**	**29.53**	**306**	*e*P		**P**	**03 57 13.1**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**29.54**	**126**	T		T	04 28 30.9	
	baz=318,slow=76,SNR=569							
LZH	**Lanzhou**	**30.08**	**277**	*e*P		**P**	**03 57 20.3**	**+1.1**
LZH				pP	pP		03 57 35.4	+0.8
LZH				sP	sP		03 57 41.6	-0.5
LZH				PP	**PnPn**		**03 58 19.5**	**+1.0**
LZH				pmax	pmax			
	comp=Z,26nm,1.1s							
LZH				pmax	pmax			
	comp=Z,190nm,5.4s							
LZH				LR	LR			
	comp=Z,270nm,13.0s							
LZH				LR	LR			
	comp=Z,280nm,13.2s							
LZH				LR	LR			
	comp=Z,380nm,16.3s							
GYA	**Guiyang**	**31.74**	**258**	⇑P		**P**	**03 57 32.8**	**-1.1**
GYA				PP	**PP**		**03 58 43.9**	**-2.6**
GYA				S	S		04 02 28.6	-11
GYA				pmax	pmax			
	comp=Z,28nm,1.0s							
GYA				pmax	pmax			
	comp=Z,170nm,4.3s							
CD2	**Chengdu**	**31.94**	**268**	P		**P**	**03 57 34.4**	**-1.1**
CD2				pmax	pmax			
	comp=Z,40nm,0.7s							
GTA	**Gaotai**	**32.37**	**285**	*e*P		**P**	**03 57 39.4**	**+0.1**
GTA				pP	pP		03 57 53.8	-1.0
GTA				sP	sP		03 58 01.6	-0.6
GTA				PcP	**PcP**		**04 00 25.6**	**0.0**
GTA				S	**S**		**04 02 50.4**	**+1.4**
GTA				sS	sS		04 03 14.5	-0.8
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,100nm,6.7s							
GTA				LR	LR			
	comp=Z,99nm,17.4s							
GTA				LR	LR			
	comp=Z,260nm,18.9s							
GTA				LR	LR			
	comp=Z,180nm,16.4s							
BILL	**Bilibino**	**32.49**	**17**	*e*P		**P**	**03 57 39.5**	**-0.3**
BILL				*e*			04 00 27.7	
BILL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
TIXI	**Tiksi**	**33.80**	**353**	*ce*P		**P**	**03 57 49.5**	**-1.7**
TIXI				pmax	pmax			
	comp=Z,16nm,0.7s							
TIXI	**Tiksi**	**33.80**	**353**	P		**P**	**03 57 50.8**	**-0.4**
DAV	**Davao City (W)**	**34.59**	**209**	LR	LR		04 11 04.8	
	comp=Z,39nm,19.4s,baz=138,slow=34							
KMI	**Kunming**	**35.45**	**259**	⇑*i* P		**P**	**03 58 05.8**	**-0.4**
KMI				pP	pP		03 58 22.3	+0.4
KMI				sP	sP		03 58 27.8	-1.5
KMI				pmax	pmax			
	comp=Z,16nm,1.1s							
KMI				pmax	pmax			
	comp=Z,120nm,4.7s							
KMI				LR	LR			
	comp=Z,200nm,5.6s							
KMI				LR	LR			
	comp=Z,110nm,4.5s							
KMI				LR	LR			
	comp=Z,180nm,29.3s							
KMI	**Kunming**	**35.45**	**259**	P		**P**	**03 58 05.9**	**-0.4**
KMI				pmax	pmax			
	comp=Z,32nm,1.1s							
KMI	**Kunming**	**35.45**	**259**	P		**P**	**03 58 05.9**	**-0.4**
TNA	**Tin City**	**39.41**	**30**	P		**P**	**03 58 41.3**	**+2.4**
	baz=252							
DGZ	**Jazzator, Alta**	**39.71**	**304**	*d i* P		**P**	**03 58 42.2**	**+0.3**
DGZ				pmax	pmax			
	comp=Z,17nm,1.0s							
WMQ	**Urumqi**	**40.38**	**295**	*e*P		**P**	**03 58 49.9**	**+2.5**
WMQ				pmax	pmax			
	comp=Z,23nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,81nm,5.1s							
ZAA0	**Zalesovo Array**	**41.07**	**311**	P		**P**	**03 58 53.1**	**+0.2**
ZAA0				IAmb	IAmb		03 58 56.1	
	comp=Z,13nm,0.8s							
ZALV	**Zalesovo Beam**	**41.07**	**311**	P		**P**	**03 58 53.0**	**+0.1**
	comp=Z,13nm,0.7s,baz=86,slow=7.8,SNR=28							
ZALV				LR	LR		04 16 37.5	
	comp=Z,94nm,18.4s,baz=82,slow=37							
ZALV	**Zalesovo Beam**	**41.07**	**311**	P		**P**	**03 58 53.3**	**+0.4**
ZALV	**Zalesovo Beam**	**41.07**	**311**	P		**P**	**03 58 53.2**	**+0.4**
ZSN	**Zaisan**	**41.68**	**301**	*e*P		**P**	**03 58 57.0**	**-1.0**
ZSN	**Zaisan**	**41.68**	**301**	*e*P		**P**	**03 58 56.9**	**-1.0**
CHTO	**Chiang Mai**	**41.92**	**254**	P		**P**	**03 59 00.1**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,19nm,0.7s							
CHTO	**Chiang Mai**	**41.92**	**254**	P		**P**	**03 59 00.1**	**-0.1**
CHTO				IAmb	IAmb		03 59 09.6	
	comp=Z,19nm,0.7s							
NRIK	**Noril'sk**	**41.98**	**335**	P		**P**	**03 58 59.4**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=106,slow=11,SNR=3.8							
NRIK				LR	LR		04 17 23.0	
	comp=Z,69nm,19.2s,baz=56,slow=37							
NRIK	**Noril'sk**	**41.98**	**335**	*ce*P		**P**	**03 58 58.5**	**-1.6**
NRIK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.13**	**254**	P		**P**	**03 59 02.3**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=38,slow=7.9,SNR=2.8							
CMAR				LR	LR		04 16 54.9	
	comp=Z,35nm,18.4s,baz=124,slow=37							
LSA	**Lhasa**	**42.33**	**274**	P		**P**	**03 59 03.7**	**-0.3**
LSA				pmax	pmax			
	comp=Z,15nm,0.5s							
LSA	**Lhasa**	**42.33**	**274**	P		**P**	**03 59 03.7**	**-0.3**
MK31	**Makanchi Array**	**43.52**	**301**	P		**P**	**03 59 12.7**	**-0.3**
MK31				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MK31	**Makanchi Array**	**43.52**	**301**	P		**P**	**03 59 12.7**	**-0.3**
MK31				IAmb	IAmb		03 59 13.7	
	comp=Z,7.7nm,0.8s							
MKAR	**Makanchi Array**	**43.52**	**301**	P		**P**	**03 59 12.8**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=86,slow=9.7,SNR=59							
MKAR				pP		**pP**	**03 59 28.3**	**-0.6**
	comp=Z,6.7nm,0.8s,baz=89,slow=11,SNR=7.8							
MKAR				LR	LR		04 18 01.2	
	comp=Z,51nm,18.6s,baz=76,slow=37							
SHL	**Shillong**	**43.68**	**268**	P		**P**	**03 59 14.6**	**-0.1**
SHL				pmax	pmax			
	comp=Z,27nm,0.9s							
SHL	**Shillong**	**43.68**	**268**	P		**P**	**03 59 14.6**	**-0.1**
SHL				IAmb	IAmb		03 59 18.7	
	comp=Z,26nm,0.9s							
MAKZ	**Makanchi**	**43.73**	**301**	P		**P**	**03 59 14.6**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MAKZ	**Makanchi**	**43.73**	**301**	P		**P**	**03 59 14.6**	**0.0**
MAKZ				IAmb	IAmb		03 59 15.5	
	comp=Z,9.6nm,0.8s							
KURK	**Kurchatov**	**45.19**	**307**	P		**P**	**03 59 25.9**	**-0.2**
KURK				pmax	pmax			
	comp=Z,27nm,0.6s							
KURK	**Kurchatov**	**45.19**	**307**	P		**P**	**03 59 25.9**	**-0.2**
IMAR	**Indian Mountai**	**45.21**	**31**	P		**P**	**03 59 26.9**	**+0.8**
IMAR						**PcP**	**04 01 06.2**	**+1.1**
PPLA	**Purkeypile**	**45.78**	**36**	P		**P**	**03 59 31.8**	**+1.0**
PPLA				IAmb	IAmb		03 59 39.1	
	comp=Z,9.9nm,1.1s							
BPAW	**Bear Paw Mtn.**	**46.31**	**34**	P		**P**	**03 59 35.4**	**+0.6**
MLY	**Manley**	**46.43**	**33**	P		**P**	**03 59 37.6**	**+1.8**
	baz=270,SNR=8.2							
SUA	**Susitna One**	**46.49**	**38**	P		**P**	**03 59 36.5**	**+0.1**
SUA				IAmb	IAmb		03 59 40.0	
	comp=Z,15nm,0.8s							
UZB	**Uzynbulak**	**46.66**	**297**	*e*P		**P**	**03 59 36.5**	**-1.6**
UZB	**Uzynbulak**	**46.66**	**297**	*e*P		**P**	**03 59 36.4**	**-1.6**
COLD	**Coldfoot**	**46.70**	**30**	P		**P**	**03 59 39.8**	**+2.0**
	baz=268							
COLD	**Coldfoot**	**46.70**	**30**	P		**P**	**03 59 38.2**	**+0.4**
COLD				IAmb	IAmb		03 59 55.5	
	comp=Z,6.8nm,1.0s							
KPKS	**Kokpek**	**46.81**	**297**	*e*P		**P**	**03 59 37.8**	**-1.3**
KPKS	**Kokpek**	**46.81**	**297**	*e*P		**P**	**03 59 37.8**	**-1.3**
BWN	**Browne**	**46.98**	**34**	P		**P**	**03 59 40.8**	**+0.8**
TOLK	**Toolik Lake Re**	**47.00**	**28**	P		**P**	**03 59 42.0**	**+1.8**
	baz=267							
TOLK	**Toolik Lake Re**	**47.00**	**28**	P		**P**	**03 59 40.0**	**-0.1**
TOLK				IAmb	IAmb		03 59 43.1	
	comp=Z,17nm,1.0s							
RC01	**Rabbit Creek A**	**47.00**	**38**	P		**P**	**03 59 41.4**	**+1.2**
	baz=274							
SATY	**Saty**	**47.12**	**297**	*e*P		**P**	**03 59 40.2**	**-1.4**
SATY	**Saty**	**47.12**	**297**	*e*P		**P**	**03 59 40.2**	**-1.4**
NEA2	**Nenana**	**47.14**	**33**	P		**P**	**03 59 43.0**	**+1.7**
	baz=271,SNR=7.7							
MCK	**McKinley**	**47.23**	**35**	P		**P**	**03 59 43.2**	**+1.2**
	baz=272							
MDM	**Murphy Dome**	**47.49**	**33**	P		**P**	**03 59 44.9**	**+0.8**
MDM				IAmb	IAmb		03 59 49.1	
	comp=Z,9.2nm,0.9s							
SML	**Sawmill**	**47.62**	**37**	P		**P**	**03 59 46.0**	**+0.9**
SML				IAmb	IAmb		03 59 47.5	
	comp=Z,12nm,0.8s							
COLA	**College**	**47.66**	**33**	*i* P		**P**	**03 59 46.2**	**+1.0**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CCB	**Clear Creek Bu**	**47.69**	**33**	P		**P**	**03 59 46.7**	**+1.2**
CCB				IAmb	IAmb		03 59 49.7	
	comp=Z,4.5nm,0.8s							
POKR	**Poker Plat Res**	**47.83**	**33**	P		**P**	**03 59 48.7**	**+2.1**
	baz=272,SNR=12							
KAPI	**Kappang**	**47.91**	**210**	P		**P**	**03 59 48.3**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=331,slow=15,SNR=1.1							
DHY	**Denali Highway**	**47.97**	**35**	P		**P**	**03 59 48.6**	**+0.7**
DHY				IAmb	IAmb		04 00 08.2	
	comp=Z,9.0nm,0.8s							
MDOK	**Medeo**	**48.04**	**297**	*e*P		**P**	**03 59 48.3**	**-0.4**
MDOK	**Medeo**	**48.04**	**297**	*e*P		**P**	**03 59 48.3**	**-0.4**
HDA	**Harding Lake**	**48.07**	**34**	P		**P**	**03 59 49.3**	**+0.8**
	baz=273							
HDA	**Harding Lake**	**48.07**	**34**	P		**P**	**03 59 49.5**	**+1.0**
IL31		**48.08**	**33**	P		**P**	**03 59 49.5**	**+1.1**
IL31				IAmb	IAmb		03 59 50.4	
	comp=Z,8.6nm,0.8s							
ILAR	**Eielson Array**	**48.08**	**33**	P		**P**	**03 59 49.4**	**+0.8**
	comp=Z,8.0nm,0.9s,baz=264,slow=6.0,SNR=72							
ILAR				pP		**pP**	**04 00 05.7**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=273,slow=7.3,SNR=8.0							
ILAR				PcP		**PcP**	**04 01 14.6**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=265,slow=3.7,SNR=1.4							
TNSS	**Tian-Shan**	**48.15**	**297**	*e*P		**P**	**03 59 49.1**	**-0.8**
TNSS	**Tian-Shan**	**48.15**	**297**	*e*P		**P**	**03 59 49.1**	**-0.8**
M24K	**Tolsona, Glenn**	**48.61**	**37**	P		**P**	**03 59 54.8**	**+2.1**
	baz=276							
FYU	**Fort Yukon**	**48.66**	**31**	P		**P**	**03 59 54.0**	**+1.0**
FYU				IAmb	IAmb		03 59 56.1	
	comp=Z,13nm,1.0s							
KLU	**Kl

KKAR Karatay Array 52.58 299 P **P** **04 00 23.1 +0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.8s

KKAR Karatay Array 52.58 299 P **P** **04 00 22.5 -0.4**
KKAR Karatay Array 52.58 299 P **P** **04 00 23.1 +0.3**
PSI Prapat 52.79 238 P **P** **04 00 24.4 -0.4**
PSI pmax pmax
comp=Z,9.0nm,0.8s

RPSI Rantau Prapat 52.87 238 P **P** **04 00 24.4 -0.9**
RPSI IAmb IAmb 04 00 25.3
comp=Z,9.0nm,0.8s

INK Inuvik 52.91 28 P **P** **04 00 26.5 +1.6**
INK pmax pmax
comp=Z,13nm,0.9s

INK Inuvik 52.91 28 P **P** **04 00 26.5 +1.6**
INK IAmb IAmb 04 00 27.4
comp=Z,12nm,0.9s

HYT Haines Junctio 52.93 37 P **P** **04 00 26.2 +1.0**
IUG luzhnay 53.25 298 *e*P **P** **04 00 28.1 +0.2**
IUG luzhnay 53.25 298 *e*P **P** **04 00 28.1 +0.2**
SVE Sverdlovsk 54.16 318 *e*P **P** **04 00 34.4 +0.2**
NIL Nilore 54.38 287 P **P** **04 00 36.2 0.0**
NIL pmax pmax
comp=Z,21nm,0.7s

NIL Nilore 54.38 287 P **P** **04 00 36.2 0.0**
CHGR Chuyangaron 55.24 295 P **P** **04 00 42.2 -0.2**
ARU Arti 55.38 318 *d i*P **P** **04 00 43.3 +0.3**
ARU *PP **pP** **04 01 02.5 +2.9**
ARU 04 02 44.7
ARU S **S** **04 08 23.2 +0.7**
ARU SS **SS** **04 12 05.8 -1.4**
ARU pmax pmax
comp=Z,8.0nm,0.7s

ARU Arti 55.38 318 P **P** **04 00 42.9 -0.1**
ARU IAmb IAmb 04 00 49.8
comp=Z,14nm,1.0s

C36M Paulatuk 55.94 25 P **P** **04 00 48.3 +1.5**
baz=289

ABKAR Akbulak array 57.14 309 P **P** **04 00 55.4 -0.3**
ABKAR IAmb IAmb 04 01 01.0
comp=Z,4.9nm,0.7s

ABKAR Akbulak array 57.14 309 P **P** **04 00 56.1 +0.4**
FITZ Fitzroy Crossi 58.35 198 P **P** **04 01 04.8 +0.4**
comp=Z,1.3nm,0.6s,baz=24,slow=8.6,SNR=8.0

WB0 Warramunga Arr 58.43 188 P **P** **04 01 05.1 +0.1**
WRAB Tennant Creek 58.60 188 *ce*P **P** **04 01 08.7 +2.6**
WRAB pmax pmax
comp=Z,17nm,2.5s

WR0 Warramunga Arr 58.61 188 P **P** **04 01 06.2 +0.1**
WB2 Warramunga Arr 58.61 188 P **P** **04 01 06.2 0.0**
WRA Warramunga Arr 58.61 188 P **P** **04 01 06.8 +0.6**
comp=Z,3.6nm,0.5s,baz=5.9,slow=7.2,SNR=59
WRA LR LR 04 26 24.6
comp=Z,16nm,19.6s,baz=225,slow=36

KIRV Kirov 59.17 322 *ce*P **P** **04 01 09.5 -0.2**
RES Resolute Bay 61.06 15 P **P** **04 01 23.0 +0.7**
RES pmax pmax
comp=Z,16nm,1.1s

RES Resolute Bay 61.06 15 P **P** **04 01 23.0 +0.7**
AS31 Alice Springs 62.34 188 P **P** **04 01 32.4 +0.8**
ASAR Alice Springs 62.34 188 P **P** **04 01 31.9 +0.3**
comp=Z,2.0nm,0.8s,baz=12,slow=6.3,SNR=20
ASAR LR LR 04 26 42.9
comp=Z,32nm,19.9s,baz=357,slow=34

ASAR Alice Springs 62.34 188 P **P** **04 01 32.7 +1.1**
ASAR Alice Springs 62.34 188 P **P** **04 01 32.7 +1.1**
YKA Yellowknife Ar 62.36 31 P **P** **04 01 31.4 +0.1**
comp=Z,5.5nm,0.7s,baz=304,slow=6.4,SNR=6.7

KLMR Klimovskoe 62.59 327 *e*P **P** **04 01 31.3 -1.5**
KLMR pmax pmax
comp=Z,10.0nm,1.1s

KLMR Klimovskoe 62.59 327 *e*P **P** **04 01 31.4 -1.4**
KLMR AMP 04 01 50.1
comp=Z,10.0nm,1.1s

ARCES ARCESS Array B 62.65 339 P **P** **04 01 33.2 +0.1**
comp=Z,5.0nm,0.8s,baz=52,slow=7.9,SNR=5.9

BELG Belogornoye 62.85 317 *i* P **P** **04 01 34.9 +0.3**
GEYT Alibeck 63.31 298 P **P** **04 01 37.0 -1.0**
comp=Z,1.3nm,0.5s,baz=76,slow=7.6,SNR=1.6

D03D Eldon 65.89 48 P **P** **04 01 56.8 +2.1**
baz=301

VRH Novokhopyorsk 66.61 318 *e*P **P** **04 01 58.0 -1.2**
VRH pmax pmax
comp=Z,9.0nm,0.6s

G03D McMinnville, O 67.00 50 P **P** **04 02 04.2 +2.4**
baz=302

OBN Obninsk 67.02 323 *e*P **P** **04 02 02.4 +0.7**
OBN *e* 04 02 29.7
OBN *e* 04 04 29.0
OBN pmax pmax
comp=Z,5.0nm,0.8s

FINES FINESS Array B 67.57 332 P **P** **04 02 05.0 0.0**
comp=Z,3.0nm,0.6s,baz=54,slow=9.7,SNR=8.1

B08A Colville Reser 67.59 45 P **P** **04 02 06.4 +0.9**
B08A IAmb IAmb 04 02 08.8
comp=Z,4.6nm,0.8s

F05D White Salmon 67.71 49 P **P** **04 02 08.4 +2.1**
baz=303

I03D Drain, OR 67.76 51 P **P** **04 02 08.9 +2.3**
baz=303

H04A Detroit Lake 67.93 50 P **P** **04 02 08.5 +0.8**
VSR Storozhevoye 67.94 319 *e*P **P** **04 02 06.0 -1.6**
VSR pmax pmax
comp=Z,8.0nm,0.5s

I04A Tendick Farm, 68.28 51 P **P** **04 02 11.7 +1.7**
baz=303

C09A Chrisman Ranch 68.49 46 P **P** **04 02 11.9 +0.8**
C09A IAmb IAmb 04 02 13.7
comp=Z,10.0nm,0.9s

HUMO Hull Mountain 68.59 52 P **P** **04 02 12.1 +0.2**
NEW Newport 68.86 45 P **P** **04 02 15.4 +1.9**
baz=305

NEW Newport 68.86 45 P **P** **04 02 14.0 +0.5**
NEW pmax pmax
comp=Z,11nm,1.0s

NEW Newport 68.86 45 P **P** **04 02 14.0 +0.5**
NEW IAmb IAmb 04 02 16.0
comp=Z,11nm,1.0s

SUMG Summit 69.15 0 P **P** **04 02 15.9 +0.6**
SUMG pmax pmax
comp=Z,13nm,1.0s

SUMG Summit 69.15 0 P **P** **04 02 15.9 +0.6**
SUMG IAmb IAmb 04 02 17.2
comp=Z,13nm,1.0s

PINE Pine Mountain 69.17 50 P **P** **04 02 16.2 +0.5**
PINE IAmb IAmb 04 02 19.0
comp=Z,10nm,0.9s

L04D Klamath Falls 69.20 52 P **P** **04 02 17.4 +1.5**
baz=304

YBH Yreka Blue Hor 69.22 53 P **P** **04 02 18.1 +2.2**
comp=Z,1.9nm,0.7s,baz=315,slow=1.4,SNR=2.8

E09A Wood Farm, Sta 69.28 47 P **P** **04 02 16.7 +0.7**
M02C Callahan 69.32 53 P **P** **04 02 18.7 +2.2**
baz=304

M04C Macdoel 69.73 52 P **P** **04 02 20.9 +1.8**
baz=304

O02D Mt. Diablo Mer 70.03 54 P **P** **04 02 22.9 +2.0**
baz=304

STKA Stephens Creek 70.09 180 P **P** **04 02 23.5 +2.5**
comp=Z,1.1nm,0.6s,baz=19,slow=4.0,SNR=3.6

KIV Kislovodsk 70.09 311 *e*P **P** **04 02 22.0 +0.8**
KIV pmax pmax
comp=Z,24nm,1.1s

KBZ Khabaz 70.09 310 P **P** **04 02 21.9 +0.8**
comp=Z,2.6nm,0.7s,baz=32,slow=5.7,SNR=7.5
KBZ LR LR 04 34 21.8
comp=Z,27nm,18.8s,baz=39,slow=37

KBZ Khabaz 70.09 310 *ce*P **P** **04 02 19.3 -1.7**
KBZ pmax pmax
comp=Z,4.0nm,0.9s

WALA Waterton Lakes 70.14 43 P **P** **04 02 22.3 +0.8**
WALA IAmb IAmb 04 02 24.0
comp=Z,11nm,0.9s

O03E Paynes Creek 70.59 54 P **P** **04 02 26.3 +1.9**
baz=304

BMO Blue Mountains 70.72 48 IAmb IAmb 04 02 27.7
comp=Z,6.6nm,1.1s

JTMT Jette 70.72 44 P **P** **04 02 25.5 +0.5**
JTMT IAmb IAmb 04 02 27.8
comp=Z,11nm,0.9s

MSO Missoula 71.45 45 P **P** **04 02 31.1 +1.6**
baz=307

MSO Missoula 71.45 45 IAmb IAmb 04 02 31.7
comp=Z,5.6nm,0.9s

ARTV Artvin 72.14 309 P **P** **04 02 33.9 +0.1**

BCA Borcka 72.17 309 ⇓P **P** **04 02 32.5 -1.3**
FFC Flin Flon 72.29 33 P **P** **04 02 35.3 +1.2**
FFC pmax pmax
comp=Z,12nm,1.0s

FFC Flin Flon 72.29 33 P **P** **04 02 35.3 +1.2**
FFC IAmb IAmb 04 02 35.9
comp=Z,12nm,0.9s

MFID Camas Ranch 72.42 48 P **P** **04 02 35.8 +0.5**
HRY Holter Researc 72.68 44 P **P** **04 02 37.3 +0.6**
NB2 NORSAR Subarra 72.87 337 P **P** **04 02 37.7 +0.2**
comp=Z,2.5nm,0.7s,baz=39,slow=6.2

NOA NORSAR Array B 72.87 337 P **P** **04 02 37.5 -0.1**
comp=Z,3.5nm,0.7s,baz=39,slow=6.0,SNR=16
NOA pP **PcP** **04 02 54.1 -0.2**
comp=Z,4.1nm,0.9s,baz=38,slow=5.9,SNR=5.9
NOA LR LR 04 37 27.3
comp=Z,53nm,21.9s,baz=290,slow=38

EGMT Eagleton 72.96 42 P **P** **04 02 39.5 +1.1**
baz=309,SNR=11

DLMT Dillon 73.09 45 IAmb IAmb 04 02 41.9
comp=Z,13nm,1.1s

HLID Hailey 73.16 48 P **P** **04 02 41.3 +1.5**
baz=308,SNR=7.0

AKASG Malin Array Be 73.23 322 P **P** **04 02 39.6 -0.1**
comp=Z,3.0nm,0.6s,baz=44,slow=6.0,SNR=14
AKASG pP **pP** **04 02 56.6 -0.4**
comp=Z,3.0nm,0.5s,baz=45,slow=6.3,SNR=4.7

AKASG Malin Array Be 73.23 322 P **P** **04 02 39.7 -0.1**
AKBB Malin Array Si 73.23 322 P **P** **04 02 39.9 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.8s

AKBB Malin Array Si 73.23 322 P **P** **04 02 39.9 +0.1**
AKBB IAmb IAmb 04 02 40.2
comp=Z,4.9nm,0.8s

BOZ Bozeman (W) 73.48 45 P **P** **04 02 42.9 +1.4**
baz=309,SNR=14

BOZ Bozeman (W) 73.48 45 IAmb IAmb 04 02 44.2
comp=Z,15nm,1.1s

KVN Kaiserville 73.64 53 IAmb IAmb 04 02 45.0
comp=Z,5.1nm,0.9s

NVAR Mina Array Bea 73.88 54 P **P** **04 02 45.1 +1.0**
comp=Z,3.1nm,0.9s,baz=286,slow=6.4,SNR=12

NVAR Mina Array Bea 73.88 54 P **P** **04 02 44.8 +0.6**
ELK Elko 74.38 50 LR LR 04 28 40.1
comp=Z,19nm,21.9s,baz=322,slow=30

H17A Grant Village 74.81 45 P **P** **04 02 52.7 +3.2**
baz=310,SNR=14

H17A Grant Village 74.81 45 IAmb IAmb 04 02 54.6
comp=Z,18nm,1.1s

VES Vestal, Richgr 74.92 56 P **P** **04 02 50.5 +0.5**
baz=307

IMW Indian Meadow 74.93 46 IAmb IAmb 04 02 53.6
comp=Z,8.5nm,0.9s

RLMT Red Lodge 75.07 44 P **P** **04 02 52.4 +1.5**
baz=310,SNR=6.0

RLMT Red Lodge 75.07 44 IAmb IAmb 04 02 54.5
comp=Z,7.4nm,1.0s

TPAW Teton Pass 75.18 46 IAmb IAmb 04 02 54.4
comp=Z,4.9nm,0.8s

SORM Soroca 75.36 321 ⇑P P 04 02 46.0 -6.2
SORM Soroca 75.36 321 ⇑P P 04 02 46.0 -6.2
ISA Isabella, Lake 75.43 56 P **P** **04 02 54.0 +1.1**
baz=307

DGMT Dagmar 75.49 39 P **P** **04 02 54.1 +1.1**
baz=312

R11A Troy Canyon, C 75.63 52 P **P** **04 02 55.8 +1.6**
baz=308,SNR=5.9

LAO LASA Array 75.66 41 P **P** **04 02 55.6 +1.5**
baz=312,SNR=10

MPMC Manual Prospec 75.82 55 P **P** **04 02 56.5 +1.2**
baz=308

FURC Furnace Creek, 75.98 55 P **P** **04 02 57.8 +1.9**
baz=308

HWUT Hardware Ranch 76.02 48 IAmb IAmb 04 02 58.7
comp=Z,5.3nm,0.9s

TPNV Topopah Spring 76.07 54 P **P** **04 02 58.2 +1.5**
baz=308

DUG Dugway, Tooele 76.17 49 P **P** **04 02 59.0 +1.8**
baz=309,SNR=6.9

DUG Dugway, Tooele 76.17 49 IAmb IAmb 04 02 59.7
comp=Z,4.9nm,0.7s

EDW2 Edwards Air Fo 76.21 56 P **P** **04 02 58.9 +1.5**
baz=308

BW06 Boulder Array 76.42 46 P **P** **04 02 59.5 +0.8**
baz=310,SNR=8.1

BW06 Boulder Array 76.42 46 IAmb IAmb 04 03 02.4
comp=Z,5.9nm,0.9s

PD31 Pinedale Array 76.42 46 IAmb IAmb 04 03 02.4
comp=Z,5.4nm,0.9s

PDAR Pinedale Array 76.42 46 P **P** **04 02 59.8 +1.0**
comp=Z,3.3nm,0.6s,baz=267,slow=1.7,SNR=41
PDAR pP **pP** **04 03 17.7 +1.8**
comp=Z,0.8nm,0.6s,baz=228,slow=0.4,SNR=2.6

PDAR Pinedale Array 76.42 46 P **P** **04 02 59.3 +0.6**
GSC Goldstone, Bar 76.72 55 P **P** **04 03 01.3 +1.0**
baz=308

BFSC Mount Baldy Ra 76.82 57 P **P** **04 03 02.3 +1.4**
baz=306

TUQ Turquoise Moun 77.21 55 P **P** **04 03 04.6 +1.5**
baz=308

BUR08 Bucovina Ar. S 77.25 322 P **P** **04 03 03.5 +0.4**
BURAR Bucovina Array 77.26 322 ⇑P **P** **04 03 03.3 +0.2**
BURAR Bucovina Array 77.26 322 ⇑P **P** **04 03 03.3 +0.2**
BURAR Bucovina Array 77.26 322 P **P** **04 03 03.3 +0.2**
BIZ Bicaz 77.29 321 ⇑P **P** **04 03 03.8 +0.6**
HEC Hector,Ludlow 77.32 56 P **P** **04 03 05.5 +1.8**
baz=308

VRI Vrincioaia 77.72 320 ⇑P **P** **04 03 02.6 -3.0**
VRI Vrincioaia 77.72 320 ⇑P **P** **04 03 02.6 -3.0**
GMRC Granite Mounta 77.78 55 P **P** **04 03 07.8 +1.5**
baz=309

PFO Pinyon Flats O 77.99 57 P **P** **04 03 09.0 +1.5**
baz=308

TPFO Pinon Flats 78.00 57 P **P** **04 03 09.0 +1.5**
baz=308

BRTR Keskin Array B 78.02 311 P **P** **04 03 07.7 +0.2**
comp=Z,1.2nm,0.5s,baz=203,slow=33,SNR=5.4

BELC Belle Mtn. Jos 78.05 56 P **P** **04 03 08.9 +1.0**
baz=309

K22A Casper 78.19 44 P **P** **04 03 09.4 +1.0**
baz=312

IRM Iron Mountain 78.51 55 P **P** **04 03 11.8 +1.6**
baz=309

RSSD Black Hills 78.53 42 P **P** **04 03 11.6 +1.2**
baz=313

BC3 Big Chuckawall 78.62 56 P **P** **04 03 12.4 +1.4**
baz=309

SWSC Sam W. Stewart 78.84 57 P **P** **04 03 12.9 +0.9**
baz=309

VOIR 78.86 320 ⇑P **P** **04 03 13.0 +1.0**
VOIR 78.86 320 ⇑P **P** **04 03 13.0 +1.0**
O20A White River Ci 78.89 47 P **P** **04 03 13.4 +0.9**
baz=312

ARR Arges 79.12 320 ⇑P **P** **04 03 15.0 +1.6**
MORC Moravsky Berou 79.21 327 ⇑P **P** **04 03 14.9 +1.1**
MORC Moravsky Berou 79.21 327 *e*P **P** **04 03 14.2 +0.4**
MORC Moravsky Berou 79.21 327 ⇑P **P** **04 03 14.9 +1.1**
DPC Dobruska-Polom 79.29 328 *e*P **P** **04 03 15.0 +0.8**
KRLC Kraliky 79.30 327 *e*P **P** **04 03 14.6 +0.3**
PV21 Cone Mtn., Par 79.50 49 IAmb IAmb 04 03 18.5
comp=Z,10nm,0.9s

AGMN Agassiz Nation 79.54 35 P **P** **04 03 15.8 +0.2**
baz=318

PV23 Carpenter Ridg 79.55 49 IAmb IAmb 04 03 18.4
comp=Z,7.3nm,0.7s

PV22 Blue Mesa, Par 79.63 49 IAmb IAmb 04 03 20.2
comp=Z,11nm,1.0s

PV20 West Nyswonger 79.65 49 IAmb IAmb 04 03 19.3
comp=Z,10nm,0.9s

PV04 Paradox Valley 79.65 49 IAmb IAmb 04 03 19.4
comp=Z,10nm,1.0s

PV19 Morning Glory 79.66 49 IAmb IAmb 04 03 19.4
comp=Z,13nm,0.8s

N23A Red Feather La 79.69 45 P **P** **04 03 18.7 +1.9**
baz=313

N23A Red Feather La 79.69 45 IAmb IAmb 04 03 19.2
comp=Z,6.3nm,0.9s

PV05 Paradox Valley 79.74 49 IAmb IAmb 04 03 20.0
comp=Z,15nm,1.0s

PV03 Paradox Valley 79.78 49 IAmb IAmb 04 03 20.0
comp=Z,7,1nm,0.9s

PV13 Radium Mtn., P 79.86 49 IAmb IAmb 04 03 20.5
comp=Z,12nm,1.0s

CLL Collm 79.89 330 *i* P **P** **04 03 17.5 +0.1**
comp=Z,5.0nm,0.8s

CLL *e*PcP **PcP** **04 03 24.0 -0.8**
CLL *i* pP **pP** **04 03 34.1 -0.7**
CLL *i* sP **sP** **04 03 41.2 -0.5**
CLL Collm 79.89 330 *i* P **P** **04 03 17.5 +0.1**
CLL *i* *PP **pP** **04 03 34.1 -0.7**
CLL *i* *SP **sP** **04 03 41.2 -0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s

VRAC Vranov 79.97 327 *e*P **P** **04 03 18.1 +0.2**
PV01 Paradox Valley 80.02 49 IAmb IAmb 04 03 21.3
comp=Z,8.7nm,1.1s

GZR Gura Zlata 80.02 321 ⇓P **P** **04 03 18.9 +0.6**
GZR Gura Zlata 80.02 321 ⇓P **P** **04 03 18.9 +0.6**
WUAZ Wupatki 80.03 52 P **P** **04 03 20.6 +2.0**
baz=311

KRUC Moravsky 80.24 327 *e*P **P** **04 03 19.4 +0.1**
BZS Buzias 80.42 322 ⇑P **P** **04 03 18.5 -1.9**
BZS Buzias 80.42 322 ⇑P **P** **04 03 18.5 -1.9**
ISCO Idaho Springs 80.61 46 P **P** **04 03 23.5 +1.6**
baz=313

MVCO Mesa Verde 80.67 50 P **P** **04 03 23.6 +1.4**
baz=312

MDVR Moldovita 80.98 321 ⇑P **P** **04 03 23.2 -0.3**
F33A 5 Mile Ranch, 81.16 37 IAmb IAmb 04 03 25.4
comp=Z,7.3nm,0.8s

S22A 4UR Ranch, Cre 81.30 48 P **P** **04 03 27.6 +2.0**
baz=313

CONA Conrad Observa 81.33 327 *e*P **P** **04 03 25.9 +0.6**
comp=Z,2.0nm,0.8s

KHC Kasperske Hory 81.36 328 *e*P **P** **04 03 25.6 +0.2**
KHC *e*pP **pP** **04 03 42.5 -0.3**
KHC Kasperske Hory 81.36 328 *ce*P **P** **04 03 25.5 +0.2**
KHC pmax pmax
comp=Z,9.0nm,1.3s

214A Organ Pipe Nat 81.42 56 P **P** **04 03 27.8 +1.8**
baz=310

GERES GERESS Array B 81.54 328 P **P** **04 03 26.4 0.0**
comp=Z,1.1nm,0.6s,baz=38,slow=6.8,SNR=8.6
GERES pP **pP** **04 03 43.7 -0.2**
comp=Z,1.8nm,0.8s,baz=38,slow=6.8,SNR=5.1

OGNE Ogallala 81.80 43 P **P** **04 03 28.8 +0.9**
baz=315

ARSA Arzberg 82.00 326 *e*P **P** **04 03 28.6 -0.2**
comp=Z,5.3nm,1.3s

SDCO Great Sand Dun 82.08 48 P **P** **04 03 30.7 +1.0**
baz=313

TUC Tucson 82.49 55 P **P** **04 03 33.0 +1.3**
baz=311

ECSD EROS Data Cent 82.56 38 P **P** **04 03 32.6 +0.9**
baz=318

ECSD EROS Data Cent 82.56 38 P **P** **04 03 32.6 +0.9**
ECSD IAmb IAmb 04 03 32.8
comp=Z,5.6nm,0.9s

SOKA Soboth 82.66 326 *e*P **P** **04 03 32.4 +0.1**
comp=Z,8.6nm,1.0s

KSCO Kaye Shedlock' 82.83 45 P **P** **04 03 34.3 +0.9**
baz=315

OBKA Obir 83.00 326 *e*P **P** **04 03 36.2 +2.2**
comp=Z,6.1nm,1.2s

KBA Koelnbreinsper 83.07 327 *e*P **P** **04 03 34.1 -0.4**
comp=Z,2.2nm,0.6s

T25A Trinidad 83.12 47 P **P** **04 03 36.3 +1.2**
baz=314

T25A Trinidad 83.12 47 IAmb IAmb 04 03 37.5
comp=Z,6.2nm,0.8s

MYKA Terra Mystica 83.30 327 *e*P **P** **04 03 35.0 -0.5**
comp=Z,5.8nm,1.2s

ANMO Albuquerque 83.42 50 P **P** **04 03 37.7 +1.2**
comp=Z,0.2nm,1.0s,baz=308,slow=8.0,SNR=8.8

ANMO Albuquerque 83.42 50 P **P** **04 03 38.0 +1.4**
baz=313

ANMO Albuquerque 83.42 50 *ce*P **P** **04 03 36.2 -0.4**
ANMO pmax pmax
comp=Z,7.0nm,1.7s

ANMO Albuquerque 83.42 50 P **P** **04 03 37.2 +0.6**
BGNE Belgrade 83.51 41 P **P** **04 03 37.4 +0.7**
baz=317

WTTA Wattenberg 83.64 328 *e*P **P** **04 03 37.3 -0.1**
comp=Z,7.9nm,1.1s

ABTA Abfaltersbach 83.68 328 *e*P **P** **04 03 39.2 +1.7**
comp=Z,4.6nm,1.0s

MOTA Moosalm 83.79 329 *e*P **P** **04 03 38.6 +0.4**
comp=Z,6.2nm,1.3s

SCHQ Schefferville 83.80 16 P **P** **04 03 38.1 +0.2**
comp=Z,6.1nm,0.9s,baz=7.7,slow=9.3,SNR=4.8

RETA Reutte 83.81 329 *e*P **P** **04 03 38.2 0.0**
comp=Z,9.5nm,1.5s

SQTA Sankt Quirin 83.84 329 *e*P **P** **04 03 38.7 +0.3**
comp=Z,2.6nm,0.7s

BFO Black Forest 84.08 331 P **P** **04 03 40.1 +0.6**
BFO pmax pmax
comp=Z,4.0nm,0.8s

BFO Black Forest 84.08 331 P **P** **04 03 40.1 +0.6**
BFO IAmb IAmb 04 03 40.6
comp=Z,3.7nm,0.8s

FETA Feichten 84.20 329 *e*P **P** **04 03 40.5 +0.2**
comp=Z,7.9nm,1.7s

121A Cookes Peak, D 84.24 53 P **P** **04 03 42.1 +1.4**
baz=313

DAVA Damuels 84.33 329 *e*P **P** **04 03 41.2 +0.3**
comp=Z,11nm,1.2s

CBKS Cedar Bluff 84.55 44 P **P** **04 03 42.8 +0.7**
baz=316

FUORN Ofenpass-Fuorn 84.71 329 IAmb IAmb 04 04 01.5
comp=Z,11nm,0.8s

KSU1 Kansas State U 86.00 42 P **P** **04 03 49.2 0.0**
baz=318

KSU1 Kansas State U 86.00 42 IAmb IAmb 04 03 50.4
comp=Z,9.3nm,0.8s

LSQQ Lebel-sur-Quev 86.26 24 P **P** **04 03 50.5 +0.2**
baz=331

AMTX Amarillo 86.28 47 P **P** **04 03 52.0 +1.2**
baz=316

MSTX Muleshoe 86.29 49 P **P** **04 03 51.7 +0.8**
baz=315

MNTX Cornudas Mount 86.29 52 P **P** **04 03 52.0 +1.2**
baz=314

CHGQ Chibougamau 86.32 22 P **P** **04 03 50.8 +0.2**
baz=333

ITM Ithomi 86.41 316 P **P** **04 03 51.5 +0.1**
GLMI Grayling 87.07 31 P **P** **04 03 55.2 +0.8**
baz=326

WMOK Wichita Mounta 88.04 46 P **P** **04 04 00.5 +1.2**
baz=317

HDIL Hopedale 88.49 36 P **P** **04 04 01.9 +0.7**
baz=323

D55A Sainte-Anne-du 88.54 24 P **P** **04 04 01.8 +0.5**
baz=332

D56A ZEC Mazanza, M 88.74 24 P **P** **04 04 02.8 +0.5**
baz=332

R40A Maddies Statio 88.83 40 IAmb IAmb 04 04 04.2
comp=Z,7.0nm,0.8s

G54A Lake Saint Pet 89.06 27 P **P** **04 04 03.9 +0.1**
baz=330

E57A Chemin Saint G 89.50 24 P **P** **04 04 06.6 +0.7**
baz=333

CCM Cathedral Cave 89.52 39 P **P** **04 04 07.1 +1.0**
baz=321

CCM Cathedral Cave 89.52 39 P **P** **04 04 06.9 +0.8**
CCM pmax pmax
comp=Z,10.0nm,0.9s

CCM Cathedral Cave 89.52 39 P **P** **04 04 06.9 +0.8**
E58A La Victoria 89.81 23 P **P** **04 04 08.1 +0.9**
baz=333

D60A Saint Jean D'O 90.03 22 P **P** **04 04 08.0 -0.2**
baz=335

G57A Newington 90.39 25 P **P** **04 04 10.9 +0.9**
baz=332

F60A Warwick 90.58 23 P **P** **04 04 12.1 +1.2**
baz=334

J54A Appleton 90.70 28 P **P** **04 04 11.6 +0.1**
baz=330

F61A St Evariste 90.86 22 P **P** **04 04 12.9 +0.7**
baz=335

MIAR Mount Ida 91.03 43 P **P** **04 04 14.3 +1.1**
baz=320,SNR=5.3

H59A Cadyville 91.22 24 P **P** **04 04 14.5 +0.6**
baz=333

F62A Pittston Farm, 91.23 22 P **P** **04 04 14.7 +0.8**
baz=336

H58A Gabriels 91.26 25 P **P** **04 04 14.9 +0.8**
baz=333

P49A Miami Univ. Ec 91.39 34 P **P** **04 04 15.2 +0.4**
baz=326

J59A Piesco 92.00 25 P **P** **04 04 17.9 +0.3**
baz=332

I60A Shoreham 92.06 25 P **P** **04 04 18.5 +0.7**
baz=333

H62A Milan 92.08 23 P **P** **04 04 18.3 +0.5**

baz=335
L56A **Greenwood** 92.08 28 P P 04 04 18.3 +0.3
baz=330
L58A **Harry Jones Me** 92.78 27 P P 04 04 21.6 +0.4
baz=332
ESDC **Sonseca Array** 96.02 334 P P 04 04 35.7 -0.4
comp=Z,0.5nm,0.7s,baz=38,slow=4.5,SNR=2.5
TORD **Torodi Ar. Bea** 116.41 316 PKP PKPdf 04 09 51.7 -1.0
comp=Z,0.3nm,0.8s,baz=14,slow=1.8,SNR=1.4
VNA2 **Neumayer--Watz** 143.86 197 PKPdf PKPbc 04 10 40.5 0.0
baz=120,slow=2.9
VNA3 **Neumayer Olymp** 144.11 195 PKPdf PKPbc 04 10 41.2 0.0
VNA1 **Neumayer--Stat** 144.25 197 PKPdf PKPbc 04 10 41.9 +0.2
LPAZ **La Paz** 145.69 58 PKPbc **PKPbc** 04 10 48.8 +0.3
comp=Z,10nm,0.9s,baz=351,slow=4.7,SNR=24
LPAZ pPKPbc **pPKPdf** 04 11 07.0 +0.6
comp=Z,5.4nm,0.9s,baz=37,slow=3.3,SNR=4.2
LVC **Limon Verde** 149.39 68 PKPbc **PKiKP** 04 10 59.3 -0.1
comp=Z,1.6nm,0.7s,baz=265,slow=5.6,SNR=3.6
SIV **San Ignacio** 149.89 48 PKPbc **PKPbc** 04 10 59.6 +0.4
comp=Z,6.5nm,0.9s,baz=342,slow=2.3,SNR=9.6
SIV PKPab **PKPab** 04 11 05.5 +0.6
comp=Z,5.1nm,0.6s,baz=314,slow=2.3,SNR=8.9
BDFB **Brasilia** 155.61 23 PKPab **PKPab** 04 11 28.1 -0.8
comp=Z,1.2nm,0.3s,baz=342,slow=3.2,SNR=2.6

IDC 15 03:52:40.8±10.0, 5°54S×148°44E, h230km±102km, mb3.0/3, mb1 3.3/4, mb1mx2.9/35, mbtmp3.6/4, Error ellipse: s-maj=84.6km s-min=46.4km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=49,slow=10,SNR=14	19.82	223	P	P	03 56 54.2	-0.2
ASAR	**Alice Springs** 0.6nm,0.6s,baz=57,slow=7.8,SNR=9.5	22.82	216	P	P	03 57 24.8	+0.6
FITZ	**Fitzroy Crossi** 0.8nm,0.5s,baz=53,slow=10,SNR=6.7	25.53	239	P	P	03 57 48.2	-0.5
ILAR	**Eielson Array** 0.3nm,0.6s,baz=253,slow=4.9,SNR=4.4	84.50	23	P	P	04 04 47.6	+0.1
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=96,slow=2.9,SNR=5.8	146.36	285	PKPbc	PKPdf	04 11 54.7	+0.7

*GCG **15** 03:59:53.9±0.6, 14°.68N×92°.68W, h35km±999km, MD4.9*
*NEIC **15** 03:59:53.5±1.1, 14°.65N±0°.06×92°.61W±0°.07, h70km±7km, mb4.8/201, Md5.1/14(MEX), Error ellipse: s-maj=10.6km s-min=7.9km az=225.0*
*MEX **15** 03:59:54.0±0.9, 14°.55N×92°.64W, h67km±14km, MD5.1*
*UCR **15** 03:59:55.4±1.1, 14°.49N×92°.53W, h34km±999km, ML4.5, MW4.2*
*SNET **15** 03:59:55.8±0.6, 14°.73N×92°.44W, h35km±820km, ML4.8*
*IDC **15** 03:59:58.8±1.9, 14°.89N×92°.14W, h111km±16km, mb4.1/21, mb1 4.3/23, mb1mx4.1/37, mbtmp4.5/23, MS3.5/21, Ms1 3.5/21, ms1mx3.3/40, Error ellipse: s-maj=21.1km s-min=7.9km az=62.0*

ISC 15 03:59:53.8±0.7, 14°.63N±0°.04×92°.59W±0°.04, h75km±6km, n556, σ1°30/524, mb4.7/97, 7C-9D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.41	49	eP	Pn	04 00 05.0	-1.3
THIG				i S	Sn	04 00 14.8	-0.7
THIG		0.41	49		Pn	04 00 05.3	-1.0
THIG					Sn	04 00 13.2	-2.3
ERG	**Entre ros, C**	1.00	101↑	eP	Pn	04 00 13.2	+0.6
PCIG		1.23	330	↓iP	Pn	04 00 14.7	-0.7
PCIG				i S	Sn	04 00 30.1	-1.5
PCIG		1.23	330		Pn	04 00 14.7	-0.7
PCIG					Sn	04 00 30.1	-1.5
CCIG	**Comitan**	1.70	15↑	iP	Pn	04 00 23.6	+1.9
CCIG				i S	Sn	04 00 46.1	+3.4
CCIG	**Comitan**	1.70	15		Pn	04 00 22.3	+0.6
CCIG				Sn	Sn	04 00 46.1	+3.4
FUG	**Fuego 3**	1.70	96	eP	Pn	04 00 22.8	+1.2
PCG	**Pacaya**	1.93	97↓	eP	Pn	04 00 26.5	+1.6
APG	**El Apazote** 127nm,0.3s,baz=304,slow=9.2,SNR=767	2.08	80	P	Pn	04 00 27.4	+0.5
APG				S	Sn	04 00 45.6	-6.5
	539nm,0.3s,baz=304,slow=15,SNR=15						
APG				LR	LR	04 01 24.6	
	comp=Z,844nm,19.8s,baz=256,slow=53						
NBG	**Las Nubes**	2.17	91↑	eP	Pn	04 00 30.2	+2.2
TGBT	**Tuxtla Gutierr**	2.19	347	eP	Pn	04 00 27.8	-0.2
TGBT				i S	Sn	04 00 54.0	-0.2
TGIG		2.19	346↑	eP	Pn	04 00 28.0	-0.2
TGIG				eS	Sn	04 00 54.0	-0.5
TGIG		2.19	346		Pn	04 00 27.4	-0.8
MRL	**Marmol**	2.84	81↓	eP	Pn	04 00 38.9	+1.8
RTR	**El Retiro**	2.94	104	eP	Pn	04 00 39.6	+1.2
RTR	**El Retiro**	2.94	104	eP	Pn	04 00 39.6	+1.2
SBLS	**San Blas**	2.98	105	eP	Pn	04 00 40.2	+1.2
SBLS	**San Blas**	2.98	105	eP	Pn	04 00 40.2	+1.2
SNJE	**San Jose**	2.99	104	eP	Pn	04 00 40.0	+0.9
SNJE	**San Jose**	2.99	104	eP	Pn	04 00 40.0	+0.9
MTO3	**Montecristo**	3.13	94	eP	Pn	04 00 41.8	+0.8
MTO3	**Montecristo**	3.13	94	eP	Pn	04 00 41.8	+0.8
MTO3	**Montecristo**	3.13	94		Pn	04 00 41.4	+0.3
TACO	**Tacachico**	3.20	101	↓iP	Pn	04 00 42.1	+0.3
TACO	**Tacachico**	3.20	101	↓iP	Pn	04 00 42.1	+0.3
CMIG	**Matias Romero**	3.30	318	↓eP	Pn	04 00 43.0	-0.1
CMIG				i S	Sn	04 01 20.4	-0.7
CMIG	**Matias Romero**	3.30	318		Pn	04 00 42.8	-0.3
BOQS	**Boqueron**	3.33	105	eP	Pn	04 00 44.8	+1.0
BOQS	**Boqueron**	3.33	105	eP	Pn	04 00 44.8	+1.0
SNET	**Serv Nac Est T**	3.39	106	eP	Pn	04 00 45.5	+1.1
SNET				eS	Sn	04 01 24.3	+0.8
SNET				IAML		04 01 28.9	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	3.39	106	eP	Pn	04 00 45.5	+1.1
SNET				eS	Sn	04 01 24.3	+0.8
SNET				IAML		04 01 28.9	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	3.39	106	Pn	Pn	04 00 45.1	+0.7
OPAM	**Oficina de Pla**	3.41	105	eP	Pn	04 00 45.7	+1.0
OPAM	**Oficina de Pla**	3.41	105	eP	Pn	04 00 45.7	+1.0
LFU	**La Fuente**	3.48	104	eP	Pn	04 00 46.4	+0.7
LFU	**La Fuente**	3.48	104	eP	Pn	04 00 46.4	+0.7
LBRS	**Las Brisas**	3.55	104	eP	Pn	04 00 47.7	+1.1
LBRS	**Las Brisas**	3.55	104	eP	Pn	04 00 47.7	+1.1
LFRS	**El Faro**	3.56	106	eP	Pn	04 00 47.7	+0.9
LFRS	**El Faro**	3.56	106	eP	Pn	04 00 47.7	+0.9
HUIG	**Huatulco**	3.58	289	↓eP	Pn	04 00 45.6	-1.4
HUIG				i S	Sn	04 01 25.9	-2.2
HUIG	**Huatulco**	3.58	289		Pn	04 00 45.5	-1.4
PAVA	**Las Pavas**	3.66	104	↑iP	Pn	04 00 49.1	+1.0
PAVA	**Las Pavas**	3.66	104	↑iP	Pn	04 00 49.1	+1.0
COEG	**Centro de Oper**	3.73	105	eP	Pn	04 00 49.9	+0.8
COEG				IAML		04 01 41.5	
	comp=Z,3μm,0.4s						
COEG	**Centro de Oper**	3.73	105	eP	Pn	04 00 49.9	+0.8
COEG				IAML		04 01 41.5	
	comp=Z,3μm,0.4s						
COEB	**Comit de Eme**	4.09	105	eP	Pn	04 00 55.1	+1.0
COEB				IAML		04 01 51.8	
	comp=Z,1μm,0.6s						
COEB	**Comit de Eme**	4.09	105	eP	Pn	04 00 55.1	+1.0
COEB				IAML		04 01 51.8	
	comp=Z,1μm,0.6s						
ALJI	**Alcalda de J**	4.11	108	eP	Pn	04 00 55.6	+1.5
ALJI				IAML		04 01 47.5	
	comp=Z,2μm,0.5s						
ALJI	**Alcalda de J**	4.11	108	eP	Pn	04 00 55.6	+1.5
ALJI				IAML		04 01 47.5	
	comp=Z,2μm,0.5s						
TECA	**Tecapa**	4.12	105	eP	Pn	04 00 56.1	+1.6
TECA	**Tecapa**	4.12	105	eP	Pn	04 00 56.1	+1.6
BLLM	**Bellamira**	4.38	105	eP	Pn	04 00 59.1	+1.2
BLLM	**Bellamira**	4.38	105	eP	Pn	04 00 59.1	+1.2
SCIG	**Sabancuy**	4.51	17↓	eP	Pn	04 00 59.6	-0.1
SCIG				i S	Sn	04 01 51.5	+0.6
VHO	**Vista Hermosa**	4.67	302	i P	Pn	04 01 02.4	+0.4
VHO				i S	Sn	04 01 54.2	-0.8
LCND	**La Caada**	4.75	106	eP	Pn	04 01 04.1	+1.2
LCND	**La Caada**	4.75	106	eP	Pn	04 01 04.1	+1.2
TGUH	**Tegucigalpa,Un**	5.18	96	Pn	Pn	04 01 09.7	+0.8
YOIG	**Yosondua**	5.26	295	i P	Pn	04 01 09.9	-0.3
YOIG				i S	Sn	04 02 08.3	-1.3
TOIG	**Toxpalan**	5.51	309	eP	Pn	04 01 14.6	+1.2
TOIG				i S	Sn	04 02 14.7	-0.8
PNIG	**Pinotepa**	5.62	289	eP	Pn	04 01 14.6	-0.3
PNIG				i S	Sn	04 02 17.2	-0.9
CRIN	**San Cristobal**	5.71	109		Pn	04 01 16.9	+0.8
TPIG	**Tehuac#an**	5.93	310	eP	Pn	04 01 19.1	0.0
TPIG				i S	Sn	04 02 26.0	+0.2
FTIG	**Fresnillo de T**	6.24	302	eP	Pn	04 01 25.8	+2.3
FTIG				i S	Sn	04 02 33.7	+0.2
TLIG	**Tlapa**	6.44	298	Pn	Pn	04 01 26.4	+0.2
MATN	**Matagalpa**	6.69	104	Pn	Pn	04 01 29.9	+0.4
MYIG	**Mrida**	6.85	23	i P	Pn	04 01 30.4	-1.2
MYIG				i S	Sn	04 02 51.6	+3.5
TEIG	**Tepich**	6.92	36	P	Pn	04 01 31.8	-0.7
	comp=Z,186nm,0.3s,baz=231,slow=7.7,SNR=1016						
TEIG				S	Sn	04 02 43.9	-5.8
	comp=Z,34nm,0.3s,baz=288,slow=19,SNR=1.4						
TEIG				LR	LR	04 04 49.2	
	comp=Z,471nm,20.8s,baz=132,slow=45						
TEIG	**Tepich**	6.92	36	↑iP	Pn	04 01 31.9	-0.6
TEIG				eS	Sn	04 02 52.2	+2.4
TEIG	**Tepich**	6.92	36	Pn	Pn	04 01 32.0	-0.6
ACON	**Acoyapa**	7.69	109		Pn	04 01 43.5	+0.4
UNM	**Universidad Na**	7.85	307	Pn	Pn	04 01 45.5	0.0
GBS3	**Finca Las Img**	7.94	118	eP	Pn	04 01 47.7	+1.1
LAPC	**Finca la Perla**	7.97	118	eP	Pn	04 01 48.0	+1.1
BUEV	**Buena Vista**	7.97	118	eP	Pn	04 01 48.2	+1.1
BUAI	**Buenos Aires**	8.00	117	eP	Pn	04 01 48.2	+0.9
GPS1	**Guardanparques**	8.03	118	eP	Pn	04 01 49.0	+1.1
GPS2	**Hotel Rincn d**	8.04	118	eP	Pn	04 01 49.9	+1.8
LIM1	**Limonal**	8.15	118	eP	Pn	04 01 51.1	+1.6
GUAI	**GUAI**	8.16	121	eP	Pn	04 01 51.3	+1.8
GUAB	**Guayabo de Bag**	8.17	118	eP	Pn	04 01 50.9	+1.2
HORNC	**Hornillas**	8.21	117	eP	Pn	04 01 51.6	+1.3
COLC	**Colonia**	8.21	118	eP	Pn	04 01 51.8	+1.5
PLVR	**Palo Verde**	8.25	120	eP	Pn	04 01 52.7	+1.8
CUI	**Cuipilapa**	8.25	118	eP	Pn	04 01 52.6	+1.8
ACAL	**Aguas Claras**	8.37	117	↓eP	Pn	04 01 54.1	+1.5
PTEN	**Parque Tenorio**	8.38	117	eP	Pn	04 01 52.8	+0.2
ESPN	**Las Esperanzas**	8.42	106		Pn	04 01 53.5	+0.5
JTS	**Las Juntas de**	8.61	119	P	Pn	04 01 56.8	+1.1
	comp=Z,4.9nm,0.3s,baz=28,slow=7.9,SNR=14						
JTS				S	Sn	04 03 31.7	+0.3
	comp=Z,2.2nm,0.3s,baz=214,slow=24,SNR=1.2						
JTS	**Las Juntas de**	8.61	119	eP	Pn	04 01 56.8	+1.1
JTS				eS	Sn	04 03 32.3	+0.9
JTS	**Las Juntas de**	8.61	119	Pn	Pn	04 01 56.3	+0.6
ARE1	**Arenal 1**	8.73	117	eP	Pn	04 01 59.4	+2.1
CEDE	**Laguna Cedeo**	8.73	117	eP	Pn	04 02 00.0	+2.7
HDC	**Heredia**	9.47	118		Pn	04 02 08.0	+0.5
MOIG	**Morelia**	9.63	303	Pn	Pn	04 02 10.2	+0.3
LCR2	**La Lucha 2**	9.70	119	eP	Pn	04 02 12.9	+2.2
EDDO	**Dominical**	10.07	121	eP	Pn	04 02 17.4	+1.8
DRK0	**Durika**	10.58	119	eP	Pn	04 02 24.1	+1.4
EDBA	**Buenos Aires**	10.61	120	eP	Pn	04 02 24.5	+1.5
BRU2	**Volcan**	11.29	120	eP	Pn	04 02 34.0	+1.5
FSCY	**Frank Sound, G**	11.86	65		Pn	04 02 40.2	+0.2
ZAIG	**Zacatecas**	12.44	312	Pn	Pn	04 02 48.1	-0.1
LCCY	**Blossom Villag**	12.96	66		Pn	04 02 55.3	+0.4
CBCY	**The Bluff, Cay**	13.27	66		Pn	04 02 58.5	-0.5
MTDJ	**Mount Denham**	14.87	74	P	P	04 03 24.2	+0.1
833A	**Chaparral WMA,** baz=154	15.02	336	P	Pn	04 03 23.4	+1.6
833A	**Chaparral WMA,**	15.02	336	Pn	Pn	04 03 21.7	-0.2
HKT	**Hockley**	15.54	349		Pn	04 03 28.9	+0.6
061Z	**Ochoppi**	15.64	43	Pn	Pn	04 03 28.9	-0.8
441A	**DeRidder**	16.05	358	IAmb	IAmb	04 03 44.2	
	comp=Z,58nm,0.6s						
342A	**Flagon Creek P**	16.67	1		Pn	04 03 42.9	+0.3
342A				IAmb	IAmb	04 03 47.7	
	comp=Z,62nm,1.1s						
435B	**Jarrell** baz=163	16.72	345	P	P	04 03 45.3	+1.0
435B	**Jarrell**	16.72	345		Pn	04 03 43.6	+0.3
060A	**Indiantown**	16.80	41		Pn	04 03 44.4	+0.1
344A	**Westbrook Farm**	16.83	5		Pn	04 03 44.6	0.0
344A				IAmb	IAmb	04 03 47.5	
	comp=Z,88nm,1.1s						
346A	**Big Creek Wild**	16.92	9		Pn	04 03 46.1	+0.3
346A				IAmb	IAmb	04 04 03.9	
	comp=Z,39nm,0.7s						
JCT	**Junction City** baz=156	17.11	338	P	P	04 03 50.7	+1.9
JCT	**Junction City**	17.11	338		Pn	04 03 48.1	-0.1
NATX	**Nacogdoches** baz=173	17.15	354	P	Pn	04 03 50.3	+1.7
NATX	**Nacogdoches**	17.15	354		Pn	04 03 48.5	-0.1
NATX				IAmb	IAmb	04 03 52.0	
	comp=Z,70nm,1.1s						
BRAL	**Brewton** baz=198	17.23	16	P	Pn	04 03 50.7	+1.2
656A	**Willston**	17.36	31		Pn	04 03 51.5	+0.3
VBMS	**Vicksburg** baz=187	17.61	6	P	Pn	04 03 55.3	+1.1
SJCC	**San Jacinto, C**	17.65	103	eP	Pn	04 03 50.4	-4.4
WHTX	**Lake Whitney,** baz=165,SNR=7.0	17.84	346	P	Pn	04 03 59.5	+2.4
WHTX	**Lake Whitney,**	17.84	346	P	P	04 03 56.9	+0.1
TXAR	**Lajitas Array**	17.86	327	P	Pn	04 03 59.8	+2.5
	comp=Z,0.6nm,0.3s,baz=144,slow=11,SNR=49						
TXAR	**Lajitas Array**	17.86	327		P	04 03 57.5	+0.4
TX32	**Lajitas Array**	17.86	327	P	P	04 03 57.0	-0.2
143A	**Socs Landing,**	18.02	3	P	P	04 03 58.8	+0.1
143A				IAmb	IAmb	04 04 02.8	
	comp=Z,58nm,0.9s						
250A	**Grady**	18.21	17	P	P	04 04 00.9	+0.1
250A				IAmb	IAmb	04 04 04.4	
	comp=Z,81nm,0.9s						
146A	**Union**	18.21	10	P	P	04 04 00.9	+0.1
146A				IAmb	IAmb	04 04 06.2	
	comp=Z,47nm,0.8s						
Z41A	**Richland Creek** baz=179,SNR=12	18.54	359	P	P	04 04 06.4	+2.0
Z41A	**Richland Creek**	18.54	359	P	P	04 04 04.7	+0.2
Z41A				IAmb	IAmb	04 04 09.9	
	comp=Z,73nm,0.8s						
TIGA	**Tifton** baz=208	18.65	25	P	P	04 04 06.7	+1.1
Z38A	**Mt. Pleasant**	18.67	354	P	P	04 04 06.3	+0.4
Z38A				IAmb	IAmb	04 04 13.7	
	comp=Z,39nm,0.9s						
Z47A	**Carrollton**	18.93	12	P	P	04 04 08.9	+0.1
Z47A				IAmb	IAmb	04 04 13.0	
	comp=Z,48nm,0.7s						
WLAR	**White Oak Lake**	18.98	359	P	P	04 04 09.2	0.0
LRAL	**Lakeview Retre** baz=197,SNR=18	19.01	15	P	P	04 04 11.2	+1.6
SMLC	**San Martn de**	19.03	106	eP	P	04 04 07.0	-2.9
ABTX	**Abilene, Hawle** baz=159	19.03	341	P	P	04 04 11.7	+1.8
152A	**Waverly Hall**	19.33	20	P	P	04 04 13.2	+0.1
152A				IAmb	IAmb	04 04 32.3	
	comp=Z,48nm,0.9s						
Y45A	**Yeager Farm, C**	19.35	8	P	P	04 04 13.7	+0.5
GUY2C	**Guyana, Caldas**	19.35	117	eP	P	04 04 14.8	+0.8
BBAC	**Balboa, Cauca**	19.66	128	eP	Pn	04 04 19.4	+0.3
TOLC	**Tolima**	19.72	119	eP	Pn	04 04 20.0	+0.1
POPC	**Popayan, Colom**	19.77	126	eP	Pn	04 04 20.7	+0.2
Z51A	**Franklin**	19.78	19	P	P	04 04 18.2	+0.2
Z51A				IAmb	IAmb	04 04 30.2	
	comp=Z,29nm,0.7s						
X43A	**Marvell** baz=185,SNR=7.2	19.86	4	P	Pn	04 04 22.7	+1.7
154A	**Montrose**	19.87	24	P	P	04 04 19.2	+0.2
OCAC	**Ocana**	19.92	107	eP	P	04 04 18.7	-1.1
Y49A	**Blount Mountai**	19.94	15	P	P	04 04 19.9	+0.2
OTAV	**Otavalo**	20.00	134	eP	P	04 04 22.6	+1.6
OTAV	**Otavalo**	20.00	134	P	P	04 04 21.3	+0.3
OTAV	**Otavalo**	20.00	134	eP	Pn	04 04 23.4	+0.1
X37A	**Clayton**	20.03	353	P	P	04 04 20.4	-0.2
UALR	**University of**	20.06	1	P	P	04 04 21.5	+0.6
UALR				IAmb	IAmb	04 04 27.9	
	comp=Z,43nm,0.9s						
SOTA	**Rioblanco**	20.08	127	eP	Pn	04 04 24.6	+0.3
GCUF	**Volcan Galeras**	20.11	130	eP	P	04 04 23.9	+1.7
PCON	**Cinco Dias**	20.12	126	eP	Pn	04 04 26.5	+1.6
ORTC	**Ortega, Tolima**	20.14	120	eP	P	04 04 23.6	+1.5
X48A	**Hartselle**	20.36	13	P	P	04 04 24.1	-0.1
X48A				IAmb	IAmb	04 04 30.4	
	comp=Z,45nm,0.8s						
ROSC	**El Rosal**	20.45	117	P	Pn	04 04 28.4	-0.1
	comp=Z,4.9nm,0.4s,baz=220,slow=17,SNR=2.9						
ROSC	**El Rosal**	20.45	117	eP	Pn	04 04 29.4	+0.9
ROSC	**El Rosal**	20.45	117	P	P	04 04 26.0	+0.2
GOGA	**Godfrey**	20.45	22	P	P	04 04 25.8	+0.6
	baz=206						
GOGA	**Godfrey**	20.45	22	P	P	04 04 25.1	0.0
GOGA				IAmb	IAmb	04 04 44.4	
	comp=Z,58nm,1.1s						
W41B	**Gary Mavity, V** baz=181	20.46	1	P	P	04 04 26.7	+1.4
W41B	**Gary Mavity, V**	20.46	1	P	P	04 04 25.1	-0.1
W41B				IAmb	IAmb	04 04 31.9	
	comp=Z,31nm,1.1s						
W39A	**Magazine** baz=177,SNR=13	20.50	357	P	P	04 04 28.6	+2.8
PRAC	**Prado**	20.55	120	eP	P	04 04 27.5	+1.0
MNTX	**Cornudas Mount** baz=143,SNR=26	20.63	328	P	P	04 04 28.9	+1.7
MNTX	**Cornudas Mount**	20.63	328	P	P	04 04 27.8	+0.5
Y52A	**Lilburn**	20.64	20	P	P	04 04 27.2	-0.1
Y52A				IAmb	IAmb	04 04 46.2	
	comp=Z,50nm,0.8s						
W45A	**Hickory Valley**	20.66	8	P	P	04 04 28.1	+0.5
WMOK	**Wichita Mounta** baz=163,SNR=9.5	20.78	345	P	P	04 04 29.6	+0.8
WMOK	**Wichita Mounta**	20.78	345	P	P	04 04 28.6	-0.3
W35A	**Tecumseh**	20.79	350	P	P	04 04 28.7	-0.2
FPAL	**Fort Paine**	20.80	16	P	P	04 04 28.8	-0.2
FPAL				IAmb	IAmb	04 04 48.7	
	comp=Z,64nm,1.1s						
PAMC	**Pamplona, Colo**	20.81	108	eP	P	04 04 31.4	+1.6
FNO	**Franklin**	20.99	349	P	P	04 04 30.9	-0.2
X51A	**Calhoun**	21.04	18	IAmb	IAmb	04 04 38.3	
	comp=Z,31nm,1.0s						
RUSC	**La Rusia**	21.05	112	eP	P	04 04 36.3	+3.9
PUAC	**Puerto Asis, P**	21.13	130	eP	P	04 04 36.3	+3.5
FLOC	**Florencia**	21.16	126	eP	P	04 04 30.4	-2.7
Z56A	**Williston** baz=211	21.21	27	P	P	04 04 33.4	-0.1
OK025	**Westminster Rd**	21.29	349	P	P	04 04 34.2	-0.1
MSTX	**Muleshoe** baz=152,SNR=15	21.35	336	P	P	04 04 35.8	+0.8
MSTX	**Muleshoe**	21.35	336	P	P	04 04 34.8	-0.2
SWET	**Sewanee**	21.35	15	P	P	04 04 35.0	0.0
SWET				IAmb	IAmb	04 04 42.4	
	comp=Z,28nm,0.7s						
GNAR	**Gosnell**	21.37	6	P	P	04 04 35.6	+0.6
TUL1	**Leonard** baz=172,SNR=9.8	21.38	353	P	P	04 04 37.7	+2.4
TUL1	**Leonard**	21.38	353	P	P	04 04 35.1	-0.1
TUL1				IAmb	IAmb	04 04 44.6	
	comp=Z,44nm,0.9s						
LCAR	**Lake Charles**	21.39	3	P	P	04 04 35.7	+0.5
LCAR				IAmb	IAmb	04 04 42.9	
	comp=Z,31nm,0.9s						
BCOK	**Bluff Creek, N**	21.42	349	P	P	04 04 35.5	-0.1
Z57A	**Bowman** baz=213	21.49	28	P	P	04 04 37.6	+1.3
W50A	**Signal Mountai**	21.50	16	P	P	04 04 36.5	0.0
W50A				IAmb	IAmb	04 04 53.3	
	comp=Z,26nm,0.8s						
OK029	**Liberty Lake**	21.52	349	P	P	04 04 36.1	-0.6
OK029				IAmb	IAmb	04 04 54.5	
	comp=Z,40nm,0.9s						
NHSC	**New Hope** baz=214,SNR=10	21.57	29	P	P	04 04 39.2	+1.9
HHAR	**Hobbs**	21.59	357	P	P	04 04 37.3	-0.1
HODGE	**Hodges**	21.63	24	P	P	04 04 37.9	0.0
U40A	**Yellville** baz=179	21.64	359	P	P	04 04 38.4	+0.5
QUOK	**Quay**	21.76	351	P	P	04 04 39.3	0.0
AMTX	**Amarillo** baz=156	21.77	339	P	P	04 04 40.2	+0.8
AMTX	**Amarillo**	21.77	339	P	P	04 04 39.2	-0.2
AMTX				IAmb	IAmb	04 04 58.4	
	comp=Z,32nm,0.7s						
U38A	**Gravette**	21.78	356	P	P	04 04 39.3	-0.1
WVT	**Waverly** baz=192	21.83	10	P	P	04 04 39.8	-0.2
X54A	**Belton** baz=207	21.87	23	P	P	04 04 40.6	+0.2
Z58A	**St. Stephen** baz=215,SNR=9.8	21.93	30	P	P	04 04 43.0	+1.9
CPCT	**Cooper Cave**	21.96	18	P	P	04 04 41.2	-0.2
CPCT				IAmb	IAmb	04 04 58.0	
	comp=Z,22nm,0.6s						
X55A	**Gracelyn & Ava** baz=209	22.09	25	P	P	04 04 43.8	+1.0
PBMO	**Poplar Bluff** comp=Z,30nm,0.7s	22.14	5	IAmb	IAmb	04 04 52.3	
SDV	**Santo Domingo** comp=Z,4.7nm,0.4s,baz=297,slow=4.5,SNR=3.3	22.23	102	P	P	04 04 43.7	-1.0
SDV				LR	LR	04 14 37.3	
	comp=Z,35nm,20.3s,baz=256,slow=40						
SDV	**Santo Domingo**	22.23	102	eP	P	04 04 43.3	-1.4
Y57A	**Sumter** baz=213,SNR=6.7	22.23	28	P	P	04 04 44.9	+0.5
MACC	**Macarena, Meta**	22.28	122	eP	P	04 04 39.9	-5.2
CROK	**Carrier**	22.31	348	P	P	04 04 45.0	-0.2
PAULI	**Pauline**	22.32	24	P	P	04 04 45.1	-0.2
PAULI				IAmb	IAmb	04 04 53.4	
	comp=Z,31nm,0.9s						
T42A	**Van Buren**	22.35	3	P	P	04 04 45.1	-0.4
X56A	**White Oak** baz=211	22.36	26

WCI	Wyandotte Cave	24.15	12	P	P	04 05 02.7	-0.2	
	baz=195							
WCI	Wyandotte Cave	24.15	12	P	P	04 05 02.5	-0.4	
WCI				IAmb	IAmb	04 05 05.7		
	comp=Z,34nm,0.9s							
TUC	Tucson	24.19	320	P	P	04 05 03.8	+0.4	
U56A	King	24.22	25	P	P	04 05 02.8	-0.8	
	baz=210,SNR=7.0							
S51A	Beattyville	24.27	18	IAmb	IAmb	04 05 17.3		
	comp=Z,22nm,0.9s							
V58A	Windy Hill, Pi	24.29	27	P	P	04 05 03.0	-1.2	
	baz=213,SNR=6.7							
V58A	Windy Hill, Pi	24.29	27	IAmb	IAmb	04 05 04.0		
	comp=Z,28nm,0.8s							
R32A	Long Quarter,	24.31	348	IAmb	IAmb	04 05 20.8		
	comp=Z,15nm,0.6s							
OLIL	Olney	24.33	9	IAmb	IAmb	04 05 23.2		
	comp=Z,38nm,0.8s							
Q44A	Meyer Farm, Va	24.38	7	IAmb	IAmb	04 05 19.1		
	comp=Z,20nm,0.9s							
T54A	Tazewell	24.40	22	P	P	04 05 04.3	-0.9	
	baz=207							
CNNC	Cliffs of the	24.41	30	P	P	04 05 04.5	-0.7	
	baz=216							
R49A	Shelbyville	24.46	14	IAmb	IAmb	04 05 20.7		
	comp=Z,34nm,1.1s							
KSU1	Kansas State U	24.63	352	P	P	04 05 07.2	0.0	
	baz=171,SNR=6.5							
KSU1	Kansas State U	24.63	352	IAmb	IAmb	04 05 24.2		
	comp=Z,30nm,0.6s							
R50A	Paris	24.66	16	IAmb	IAmb	04 05 23.8		
	comp=Z,26nm,1.1s							
V59A	Middlesex	24.67	29	P	P	04 05 06.8	-0.8	
	baz=215							
U57A	Blanch	24.73	26	P	P	04 05 07.1	-1.1	
	baz=212,SNR=9.6							
T55A	Pulaski	24.74	23	P	P	04 05 07.7	-0.6	
	baz=208							
S53A	Williamson	24.76	20	P	P	04 05 08.9	+0.4	
	baz=205							
T25A	Trinidad	24.77	337	P	P	04 05 10.3	+1.5	
	baz=152,SNR=14							
T25A	Trinidad	24.77	337	P	P	04 05 08.1	-0.6	
T25A				IAmb	IAmb	04 05 14.6		
	comp=Z,15nm,0.7s							
CBKS	Cedar Bluff	24.90	347	P	P	04 05 09.4	-0.4	
	baz=164							
CBKS	Cedar Bluff	24.90	347	P	P	04 05 09.6	-0.2	
T56A	Rocky Mt	24.95	24	P	P	04 05 09.2	-1.1	
	baz=210							
BLA	Blacksburg	24.96	23	P	P	04 05 09.5	-0.8	
	baz=209							
BLO	Bloomington	25.02	11	P	P	04 05 10.1	-0.7	
BLO				IAmb	IAmb	04 05 12.2		
	comp=Z,17nm,0.7s							
U58A	Oxford	25.04	28	P	P	04 05 09.9	-1.1	
	baz=214							
V60A	Jim Taylor Roa	25.13	30	P	P	04 05 10.9	-0.9	
	baz=217							
S54A	Dingess, Beckl	25.15	21	P	P	04 05 10.8	-1.2	
	baz=206							
T57A	Hurt	25.25	26	P	P	04 05 12.0	-0.8	
	baz=212							
P46A	Rosedale	25.34	10	P	P	04 05 13.6	0.0	
P46A				IAmb	IAmb	04 05 15.1		
	comp=Z,28nm,0.7s							
R53A	Hurricane	25.41	20	P	P	04 05 13.6	-0.8	
	baz=205							
S55A	Lewisburg	25.42	23	P	P	04 05 13.3	-1.2	
	baz=208							
V61A	Roper	25.50	31	P	P	04 05 13.2	-1.9	
	baz=218							
T58A	Grand View Acr	25.51	27	P	P	04 05 14.0	-1.2	
	baz=213							
P48A	Milroy	25.52	13	IAmb	IAmb	04 05 32.9		
	comp=Z,15nm,0.8s							
W18A	Petrified Fore	25.58	326	P	P	04 05 15.5	-0.6	
	baz=139							
SJG	San Juan	25.59	79	LR	LR	04 14 36.5		
	comp=Z,82nm,20.7s,baz=261,slow=35							
R54A	Victor	25.60	22	P	P	04 05 15.5	-0.7	
	baz=207							
Q51A	Peebles	25.63	17	P	P	04 05 15.9	-0.4	
Q51A				IAmb	IAmb	04 05 19.1		
	comp=Z,27nm,0.7s							
S56A	Natural Bridge	25.70	24	P	P	04 05 15.8	-1.2	
	baz=210							
SDCO	Great Sand Dun	25.72	336	P	P	04 05 19.1	+1.7	
	baz=150,SNR=6.5							
SDCO	Great Sand Dun	25.72	336	P	P	04 05 16.8	-0.7	
U60A	Pendleton	25.75	30	P	P	04 05 16.3	-1.1	
	baz=216							
P49A	Miami Univ. Ec	25.75	14	P	P	04 05 15.8	-1.7	
	baz=198							
ATAH	Atahualpa	25.80	146	P	P	04 05 21.1	+2.5	
	comp=Z,21nm,0.8s,baz=325,slow=8.4,SNR=10							
KSCO	Kaye Shedlock'	25.85	342	P	P	04 05 18.8	+0.3	
	baz=157							
Q52A	Bidwell	25.89	19	P	P	04 05 17.7	-1.0	
	baz=203							
T59A	Double "B" Far	25.97	28	P	P	04 05 18.6	-0.8	
	baz=215							
T59A	Double "B" Far	25.97	28	P	P	04 05 19.1	-0.3	
T59A				IAmb	IAmb	04 05 19.2		
	comp=Z,18nm,0.8s							
R55A	Marlinton	26.01	23	P	P	04 05 19.4	-0.5	
	baz=208							
S57A	Dark Hollow, R	26.02	25	P	P	04 05 19.0	-0.8	
	baz=211							
SFIN	Lafayette	26.10	10	P	P	04 05 20.2	-0.3	
	baz=192							
P51A	Williamsport	26.13	17	P	P	04 05 20.4	-0.5	
	baz=201							
P51A	Williamsport	26.13	17	IAmb	IAmb	04 05 23.5		
	comp=Z,22nm,0.8s							
S22A	4UR Ranch, Cre	26.26	334	P	P	04 05 24.2	+1.8	
	baz=148,SNR=14							
S22A	4UR Ranch, Cre	26.26	334	P	P	04 05 21.7	-0.8	
S58A	Poland Farm, P	26.28	27	P	P	04 05 21.3	-0.8	
	baz=213							
Q54A	Coxs Mills	26.38	21	P	P	04 05 22.6	-0.5	
	baz=206							
R56A	Bull Pasture M	26.39	24	P	P	04 05 22.9	-0.4	
	baz=210							
P52A	Corning	26.54	18	P	P	04 05 23.2	-1.4	
	baz=203							
MVCO	Mesa Verde	26.57	331	P	P	04 05 27.4	+2.3	
	baz=144,SNR=20							
MVCO	Mesa Verde	26.57	331	P	P	04 05 25.5	+0.3	
MVCO				IAmb	IAmb	04 05 44.8		
	comp=Z,34nm,0.9s							
P53A	Whipple	26.64	20	P	P	04 05 24.7	-0.8	
	baz=205							
R58B	Mineral	26.64	27	P	P	04 05 24.4	-1.1	
	baz=213							
Q55A	Buckhannon	26.65	22	P	P	04 05 24.7	-0.9	
	baz=208							
R57A	Stanardsville	26.65	25	P	P	04 05 24.4	-1.2	
	baz=212							
S59A	Mechanicsville	26.74	28	P	P	04 05 25.9	-0.4	
	baz=214							
WUAZ	Wupatki	26.78	324	P	P	04 05 27.3	+0.4	
ACSO	Alum Creek Sta	26.85	16	P	P	04 05 26.8	-0.6	
	baz=201							
R58A	Rapidan	26.87	26	P	P	04 05 26.7	-0.8	
	baz=213							
O51A	Pataskala	26.88	17	P	P	04 05 27.3	-0.3	
	baz=202							
Q56A	Snyder Ridge,	27.03	23	P	P	04 05 28.2	-0.8	
	baz=210							
P54A	Burton	27.05	21	P	P	04 05 28.4	-0.7	
	baz=206							
CBN	Corbin Frederi	27.07	27	P	P	04 05 28.6	-0.6	
	baz=214							
O52A	Adamsville	27.08	18	P	P	04 05 28.8	-0.5	
	baz=203							
O52A	Adamsville	27.08	18	IAmb	IAmb	04 05 32.8		
	comp=Z,23nm,0.8s							
R59A	King George, V	27.18	27	P	P	04 05 29.5	-0.7	
	baz=214							
P55A	Reedsville	27.20	22	P	P	04 05 29.8	-0.7	
	baz=208							
Q57A	Strasburg	27.33	25	P	P	04 05 31.2	-0.5	
	baz=211							
O53A	New Philadelph	27.39	19	P	P	04 05 31.2	-1.0	
	baz=204							
Q58A	Fox Den Farm,	27.55	26	P	P	04 05 32.6	-0.9	
	baz=212							
ISCO	Idaho Springs	27.55	338	P	P	04 05 34.2	+0.2	
O54A	Avella	27.61	20	P	P	04 05 32.7	-1.4	
	baz=206							
O54A	Avella	27.61	20	IAmb	IAmb	04 05 34.8		
	comp=Z,11nm,0.5s							
N52A	McGinn's Farm,	27.76	18	P	P	04 05 34.5	-1.0	
	baz=203							
P57A	Homestead Farm	27.87	25	P	P	04 05 35.9	-0.6	
	baz=211							
P57A	Homestead Farm	27.87	25	IAmb	IAmb	04 05 36.7		
	comp=Z,13nm,0.7s							
O55A	Ligonier	28.00	22	P	P	04 05 36.1	-1.5	
	baz=208							
N53A	Lisbon	28.02	19	P	P	04 05 36.1	-1.7	
	baz=205							
O56A	Blue Knob Stat	28.33	23	P	P	04 05 39.7	-0.9	
	baz=210							
N54A	Moraine State	28.43	20	P	P	04 05 40.1	-1.4	
	baz=206							
M52A	Chesterland	28.53	18	P	P	04 05 39.3	-3.0	
	baz=203							
N55A	Marion Center	28.62	22	P	P	04 05 41.6	-1.6	
	baz=208							
P59A	Jarrettsville	28.64	27	P	P	04 05 41.7	-1.6	
	baz=214							
O57A	Amberson	28.64	24	P	P	04 05 42.0	-1.4	
	baz=208							
O58A	Lewisberry	28.86	25	P	P	04 05 44.0	-1.3	
	baz=213							
SSPA	Standing Stone	28.91	24	P	P	04 05 44.9	-0.8	
	baz=210							
N56A	West Decatur	29.00	23	P	P	04 05 44.9	-1.6	
	baz=210							
P60A	Greenville	29.16	27	P	P	04 05 47.1	-0.7	
	baz=215							
ECSD	EROS Data Cent	29.21	354	P	P	04 05 47.7	-0.6	
	baz=172							
M56A	Emporium	29.53	22	P	P	04 05 50.0	-1.2	
	baz=209							
CZSB	Cruzeiro do Su	29.71	137	eP	P	04 05 55.5	+2.5	
M57A	Sunshine Farm,	29.80	24	P	P	04 05 52.4	-1.2	
	baz=211							
O61A	Allentown	29.87	28	P	P	04 05 52.8	-1.4	
	baz=217							
LUPA	Lehigh Univers	29.91	27	IAmb	IAmb	04 05 54.8		
	comp=Z,16nm,0.9s							
N59A	State Game Lan	30.00	26	P	P	04 05 54.5	-0.9	
	baz=214							
M58A	Price's Panora	30.10	25	P	P	04 05 55.1	-1.2	
	baz=212,SNR=5.8							
N60A	Cedar Hill Far	30.25	27	P	P	04 05 56.4	-1.2	
	baz=215							
L57A	Andrews Acres	30.48	23	P	P	04 05 58.3	-1.3	
	baz=211							
SPMN	Marine on St.	30.49	360	P	P	04 05 59.8	+0.1	
	baz=180							
SPMN	Marine on St.	30.49	360	IAmb	IAmb	04 06 01.4		
	comp=Z,9.2nm,0.5s							
M59A	Waymart	30.66	26	P	P	04 06 00.4	-0.9	
	baz=214							
NNA	Nana	30.71	149	LR	LR	04 16 29.3		
	comp=Z,29nm,21.1s,baz=320,slow=32							
M60A	Port Jervis	30.84	27	P	P	04 06 01.2	-1.6	
	baz=216							
GLMI	Grayling	30.84	11	P	P	04 06 01.7	-1.0	
	baz=195							
MPMC	Manual Prospec	30.85	318	P	P	04 06 05.0	+1.9	
	baz=128							
K56A	Middlesex	30.90	22	P	P	04 06 02.1	-1.2	
	baz=210,SNR=5.6							
L58A	Harry Jones Me	30.91	25	P	P	04 06 02.3	-1.1	
	baz=213							
BINY	Binghamton	30.99	24	P	P	04 06 02.7	-1.4	
	baz=212,SNR=7.3							
BINY	Binghamton	30.99	24	IAmb	IAmb	04 06 03.5		
	comp=Z,16nm,0.7s							
M61A	Granite Spring	31.20	28	P	P	04 06 03.9	-2.0	
	baz=217							
K57A	Scipio Center	31.23	23	P	P	04 06 04.6	-1.6	
	baz=211							
L59A	Walton	31.36	25	P	P	04 06 06.1	-1.3	
	baz=214							
L59A	Walton	31.36	25	IAmb	IAmb	04 06 06.9		
	comp=Z,12nm,0.7s							
L60A	Shokan	31.55	27	P	P	04 06 07.7	-1.3	
	baz=216							
J56A	Wolcott	31.57	22	P	P	04 06 08.0	-1.2	
	baz=210							
K58A	Earlville	31.60	24	P	P	04 06 07.8	-1.6	
	baz=212,SNR=7.6							
PDAR	Pinedale Array	31.61	336	P	P	04 06 10.4	+0.6	
	comp=Z,0.8nm,0.6s,baz=149,slow=11,SNR=5.8							
PDAR				PcP	PcP	04 09 01.4	+0.9	
	comp=Z,0.3nm,0.5s,baz=137,slow=5.9,SNR=4.2							
KSCT	Kent School, K	31.66	28	P	P	04 06 08.5	-1.4	
KSCT				IAmb	IAmb	04 06 09.5		
	comp=Z,14nm,0.8s							
J57A	Williamstown	32.01	23	P	P	04 06 11.4	-1.6	
	baz=211							
H53A	Bobcaygeon	32.13	19	P	P	04 06 12.6	-1.4	
	baz=206							
J58A	Remsen	32.24	24	P	P	04 06 13.9	-1.2	
	baz=213							
L62A	Suffield	32.28	28	P	P	04 06 14.0	-1.4	
	baz=218							
K61A	Williamstown	32.52	27	P	P	04 06 16.9	-0.6	
	baz=216							
J59A	Piesco	32.64	25	P	P	04 06 16.8	-1.8	
	baz=214							
I58A	Old Forge	32.64	24	P	P	04 06 16.9	-1.7	
	baz=213,SNR=7.4							
ELK	Elko	32.65	327	P	P	04 06 21.9	+2.9	
NV11	Mina Array Sit	32.74	321	P	P	04 06 19.2	-0.4	
LOHW	Long Hollow	32.74	335	IAmb	IAmb	04 06 38.2		
	comp=Z,11nm,0.8s							
TPAW	Teton Pass	32.78	335	P	P	04 06 19.5	-0.5	
TPAW				IAmb	IAmb	04 06 38.9		
	comp=Z,10nm,0.8s							
NVAR	Mina Array Bea	32.83	321	P	P	04 06 23.6	+3.1	
	comp=Z,3.6nm,0.6s,baz=132,slow=8.7,SNR=26							
NVAR				PcP	PcP	04 09 05.8	+1.8	
	comp=Z,0.7nm,0.6s,baz=177,slow=3.2,SNR=4.4							
NVAR				LR	LR	04 22 33.9		
	comp=Z,74nm,18.7s,baz=85,slow=41							
NVAR	Mina Array Bea	32.83	321	P	P	04 06 20.9	+0.4	
MOOW	Moose Ponds	32.91	335	IAmb	IAmb	04 06 40.1		
	comp=Z,8.8nm,0.9s							
J60A	Lant Hill Farm	32.91	26	P	P	04 06 19.7	-1.2	
	baz=216							
G54A	Lake Saint Pet	33.02	19	P	P	04 06 20.3	-1.6	
	baz=206							
L64A	Middleborough	33.07	30	P	P	04 06 21.2	-1.1	
	baz=221							
KVN	Kaiserville	33.10	322	IAmb	IAmb	04 06 44.0		
	comp=Z,11nm,1.1s							
H57A	Richville	33.14	23	P	P	04 06 21.3	-1.6	
	baz=212							
I59A	Olmsteadville	33.17	25	P	P	04 06 21.4	-1.8	
	baz=214							
I60A	Shoreham	33.45	26	P	P	04 06 24.3	-1.3	
	baz=215							
RLMT	Red Lodge	33.51	338	P	P	04 06 27.5	+1.1	
	baz=150							
ALGO	Algonquin Park	33.54	18	P	P	04 06 24.6	-1.7	
	baz=206							
H58A	Gabriels	33.56	24	P	P	04 06 24.6	-2.0	
	baz=214							
LONY	Lake Ozonia	33.58	24	P	P	04 06 25.1	-1.6	
	baz=213							
AGMN	Agassiz Nation	33.68	356	P	P	04 06 27.1	-0.4	
	baz=174							
G57A	Newington	33.83	23	P	P	04 06 27.3	-1.6	
	baz=212							
LAO	LASA Array	33.94	343	P	P	04 06 30.9	+1.0	
	baz=156							
H59A	Cadyville	33.95	24	P	P	04 06 28.1	-1.8	
	baz=214							
J63A	Strafford	33.98	29	P	P	04 06 28.8	-1.4	
	baz=219							
G58A	Ormstown	34.23	24	P	P	04 06 30.9	-1.4	
	baz=213							
H60A	Morristown	34.28	26	P	P	04 06 31.4	-1.5	
	baz=216							
HLID	Hailey	34.35	331	P	P	04 06 35.4	+1.8	
	baz=140,SNR=15							
HLID	Hailey	34.35	331	P	P	04 06 33.2	-0.4	
HLID				IAmb	IAmb	04 06 36.8		
	comp=Z,7.7nm,0.8s							
E55A	Montcerf-Lytto	34.62	20	P	P	04 06 33.7	-2.0	
	baz=209							
G60A	Masonville	34.87	25	P	P	04 06 36.3	-1.6	
	baz=216							
MFID	Camas Ranch	34.91	330	IAmb	IAmb	04 06 43.0		
	comp=Z,7.1nm,0.6s							
DLMT	Dillon	34.99	335	IAmb	IAmb	04 06 58.8		
	comp=Z,16nm,1.1s							
E56A	St. Veronique	35.05	21	P	P	04 06 38.5	-0.9	
	baz=210							
DGMT	Dagmar	35.08	347	P	P	04 06 41.4	+1.7	
	baz=160							
DGMT	Dagmar	35.08	347	IAmb	IAmb	04 06 42.5		
	comp=Z,9.6nm,0.8s							
E57A	Chemin Saint G	35.25	22	P	P	04 06 40.6	-0.6	
	baz=212							
LRM	Limekiln Ridge	35.31	336	P	P	04 06 41.5	-0.4	
D55A	Sainte-Anne-du	35.31	20	P	P	04 06 40.3	-1.3	
	baz=210							
G61A	St-Isidore-de-	35.36	26	P	P	04 06 41.3	-0.8	
	baz=217							
E58A	La Victoria	35.55	23	P	P	04 06 41.9	-1.7	
	baz=213							
ULM	Lac du Bonnet	35.62	356	P	P	04 06 42.5	-1.7	
	comp=Z,2.0nm,0.5s,baz=221,slow=7.5,SNR=2.3							
ULM				LR	LR	04 22 11.2		
	comp=Z,48nm,19.8s,baz=150,slow=38							
ETMB	Extrema	35.69	131	eP	P	04 06 45.6	+0.4	
F60A	Warwick	35.74	25	P	P	04 06 43.7	-1.6	
	baz=216							
EGMT	Eagleton	36.20	340	P	P	04 06 49.9	+0.5	
	baz=151							
MACA	Manacapuru-AM	36.22	117	eP	P	04 06 49.8	0.0	
E60A	Ste Agathe de	36.27	25	P	P	04 06 48.0	-1.8	
	baz=216							
D58A	Chemin du LacG	36.30	23	P	P	04 06 48.7	-1.4	
	baz=213							
PKME	Peaks-Kenny Pk	36.33	28	P	P	04 06 49.4	-1.0	
	baz=220							
G64A	Maxfield	36.57	29	P	P	04 06 51.1	-1.2	
	baz=221							
D59A	Saint-Raymond	36.63	24	P	P	04 06 51.4	-1.4	
	baz=215							
LSQQ	Lebel-sur-Quev	36.65	17	P	P	04 06 51.7	-1.3	
	baz=206							
E61A	Lac Etchemin	36.71	26	P	P	04 06 52.9	-0.8	
	baz=218							
MSO	Missoula	36.73	335	P	P	04 06 54.9	+1.0	
	baz=144							
D60A	Saint Jean D'O	36.92	25	P	P	04 06 53.4	-1.9	
	baz=216							
E62A	Clayton Lake	37.27	26	P	P	04 06 57.5	-0.9	
	baz=219							
SAML	Samuel	37.41	127	P	P	04 06 59.1	-0.7	
SAML				IAmb	IAmb	04 06 59.9		
	comp=Z,13nm,0.8s							
YBH	Yreka Blue Hor	37.52	322	P	P	04 07 01.4	+0.7	
	comp=Z,0.9nm,0.5s,baz=184,slow=1.4,SNR=5.0							
D62A	Allapoint, All	37.84	26	P	P	04 07 01.1	-2.0	
	baz=219							
D62A	Allapoint, All	37.84	26	IAmb	IAmb	04 07 02.2		
	comp=Z,6.6nm,0.6s							
E64A	Bridgewater	37.87	28	P	P	04 07 01.9	-1.5	
	baz=221							
D63A	Stockholm	38.22	27	P	P	04 07 04.9	-1.4	
	baz=220							
E09A	Wood Farm, Sta	38.31	331	IAmb	IAmb	04 07 09.5		
	comp=Z,7.4nm,0.8s							
H04A	Detroit Lake	39.07	326	IAmb	IAmb	04 07 33.4		
	comp=Z,9.5nm,0.9s							
LPAZ	La Paz	39.08	141	P	P	04 07 15.2	+0.6	
	comp=Z,5.3nm,0.7s,baz=333,slow=6.4,SNR=28							
LPAZ	La Paz	39.08	141	P	P	04 07 14.0	-0.6	
LPAZ	La Paz	39.08	141	eP	P	04 07 15.4	+0.8	
NEW	Newport	39.18	334	P	P	04 07 14.3	-0.1	
	baz=141							
F05D	White Salmon	39.49	328	P	P	04 07 18.8	+1.8	
	baz=133							
PB16	IPOC Station P	39.88	145	P	P	04 07 20.6	-0.5	
PB16				IAmb	IAmb	04 07 24.3		
	comp=Z,10nm,0.7s							
LTY	Liberty	40.05	330	IAmb	IAmb	04 07 41.3		
	comp=Z,8.1nm,0.9s							
LON	Longmire	40.26	329	P	P	04 07 24.2	+0.8	
LON				IAmb	IAmb	04 07 29.4		
	comp=Z,6.0nm,0.7s							
MNMC	Minye Minye	40.47	145	P	P	04 07 25.5	-0.2	
PB11	IPOC Station P	40.95	146	P	P	04 07 29.4	-0.1	
ITTB	Itaituba	41.12	115	eP	P	04 07 29.6	-1.3	
GO01	Chusmiza	41.13	145	P	P	04 07 30.9	-0.4	
GO01				IAmb	IAmb	04 07 34.2		
	comp=Z,15nm,0.7s							
B06A	Marblemount	41.33	331	P	P	04 07 32.9	+0.8	
B06A				IAmb	IAmb	04 07 34.1		
	comp=Z,17nm,0.8s							
TA01	Diego Aracena	41.33	147	P	P	04 07 33.2	+0.8	
B05A	Bryant	41.44	330	P	P	04 07 35.0	+2.0	
	baz=134							
PB08	IPOC Station P	41.53	146	IAmb	IAmb	04 07 37.1		
	comp=Z,9.5nm,0.7s							
A04D	Lummi Island	42.05	330	P	P	04 07 39.5	+1.5	
	baz=134							
PB01	IPOC Station P	42.09	147	IAmb	IAmb	04 07 40.9		
	comp=Z,13nm,1.1s							
VILB	Vilhena	42.19	129	eP	P	04 07 39.6	+0.1	
PGC	Sidney	42.36	330	P	P	04 07 41.3	+0.8	
PGC				IAmb	IAmb	04 07 43.3		
	comp=Z,20nm,0.9s							
PB07	IPOC Station P	42.45	148	P	P	04 07 41.7	0.0	
PB07				IAmb	IAmb	04 07 43.5		
	comp=Z,17nm,1.0s							
NPGB	Novo Progresso	42.74	118	eP	P	04 07 42.3	-1.8	
PB09	IPOC Station P	42.84	147	IAmb	IAmb	04 07 47.6		
	comp=Z,19nm,1.1s							
SIV	San Ignacio	43.53	133	P	P	04 07 50.6	+0.2	
	comp=Z,13nm,0.6s,baz=311,slow=7.4,SNR=99							
SIV				PcP	PcP	04 09 38.4	+1.2	
	comp=Z,3.5nm,0.8s,baz=323,slow=4.1,SNR=3.8							
LVC	Limon Verde	43.68	148	P	P	04 07 53.1	+1.3	
	comp=Z,6.6nm,0.7s,baz=18,slow=7.0,SNR=6.9							
LVC				LR	LR	04 23 26.8		
	comp=Z,48nm,21.5s,baz=305,slow=32							
LVC	Limon Verde	43.68	148	P	P	04 07 52.3	+0.4	
LVC	Limon Verde	43.68	148	eP	P	04 07 53.5	+1.7	
CLDB	Colider	44.41	123	eP	P	04 07 55.2	-2.2	
PTLB	Pontes e Lacer	44.57	131	eP	P	04 07 58.3	-0.4	
PB14	IPOC Station P	44.62	151	P	P	04 07 59.8	+0.5	
SCHQ	Schefferville	44.83	21	P	P	04 07 58.0	-2.3	
	comp=Z,3.2nm,0.6s,baz=216,slow=6.0,SNR=6.3							
SCHQ				LR	LR	04 27 07.5		
	comp=Z,188nm,20.1s,baz=206,slow=37							
GO02	Mina Guanaco	45.47	150	IAmb	IAmb	04 08 08.0		
	comp=Z,8.3nm,0.7s							
BBB	Bella Bella	46.93	331	LR	LR	04 32 38.9		
	comp=Z,46nm,20.0s,baz=10.0,slow=42							
AC05	El Transito	48.30	154	P	P	04 08 28.7	+0.8	
AC05				IAmb	IAmb	04 08 30.2		
	comp=Z,11nm,0.8s							
YKA	Yellowknife Ar	50.28	347	P	P	04 08 42.1	-0.3	
	comp=Z,3.0nm,0.5s,baz=133,slow=9.4,SNR=12							
YKA				LR	LR	04 32 56.7		
	comp=Z,29nm,18.2s,baz=0.0,slow=40							
ARAG	Araguaiana, MT	50.32	125	eP	P	04 08 41

BCAR	Beaver Creek A	59.23	336	P	P	04 09 48.1	+0.9
PLTB	Pedras Altas	59.37	141	*e*P	P	04 09 47.9	-0.6
GDU01	Guandu, BA	59.55	116	*e*P	P	04 09 48.5	-1.5
N25K	Chitina, Valde	59.65	334	P	P	04 09 51.5	+1.5
	baz=118						
INK	Inuvik	59.67	344	P	P	04 09 50.5	+0.5
	comp=Z,11nm,0.5s,baz=127,slow=5.4,SNR=39						
LL01	San Ignacio de	59.69	163	P	P	04 09 51.4	+1.0
K27K	Chicken	59.85	337	P	P	04 09 53.0	+1.7
	baz=122						
EGAK	Eagle	59.92	338	IAmb	IAmb	04 09 53.3	
	comp=Z,7.1nm,0.9s						
DOT	Dot Lake	60.41	336	IAmb	IAmb	04 09 57.8	
	comp=Z,8.8nm,0.9s						
M24K	Tolsona, Glenn	60.54	334	P	P	04 09 57.6	+1.5
	baz=117						
SCRK	Sand Creek	60.55	337	P	P	04 09 57.4	+1.2
	baz=120						
BSFB	Barra de Sao F	60.84	122	*e*P	P	04 09 58.1	-0.7
RIB01	Linhares ES	61.45	122	*e*P	P	04 10 03.4	+0.5
RC01	Rabbit Creek A	61.67	332	P	P	04 10 05.0	+1.3
	baz=112						
HDA	Harding Lake	61.90	336	P	P	04 10 06.1	+1.0
	baz=117,SNR=6.6						
HDA	Harding Lake	61.90	336	IAmb	IAmb	04 10 06.5	
	comp=Z,6.2nm,1.0s						
ILAR	Eielson Array	62.04	337	P	P	04 10 06.9	+0.8
	comp=Z,5.7nm,0.8s,baz=126,slow=5.2,SNR=52						
ILAR	Eielson Array	62.04	337	P	P	04 10 07.0	+0.8
MCK	McKinley	62.39	335	P	P	04 10 09.2	+0.7
	baz=115						
POKR	Poker Plat Res	62.40	337	P	P	04 10 09.2	+0.6
	baz=117						
CUT	Chulitna	62.41	334	P	P	04 10 10.4	+1.8
	baz=113						
TCOL	CIGO, UAF Yank	62.46	337	P	P	04 10 10.5	+1.7
	baz=116						
NEA2	Nenana	62.80	336	P	P	04 10 12.0	+0.8
	baz=115						
TRF	Thorofare Moun	62.83	335	P	P	04 10 12.3	+0.7
KTH	Kantishna Hill	63.13	335	P	P	04 10 14.0	+0.5
KTH				IAmb	IAmb	04 10 33.2	
	comp=Z,10nm,0.9s						
BPAW	Bear Paw Mtn.	63.37	335	IAmb	IAmb	04 10 16.9	
	comp=Z,7.6nm,0.9s						
MLY	Manley	63.63	336	P	P	04 10 17.7	+0.9
	baz=113,SNR=11						
COLD	Coldfoot	64.34	339	P	P	04 10 22.9	+1.6
	baz=115						
TOLK	Toolik Lake Re	64.74	340	P	P	04 10 25.4	+1.4
	baz=116,SNR=6.1						
TOLK	Toolik Lake Re	64.74	340	P	P	04 10 25.1	+1.1
TOLK				IAmb	IAmb	04 10 26.2	
	comp=Z,9.8nm,0.7s						
ESDC	Sonseca Array	79.77	52	P	P	04 11 51.8	-2.3
	comp=Z,0.5nm,0.7s,baz=290,slow=5.3,SNR=2.3						
ESDC				LR	LR	04 41 53.5	
	comp=Z,31nm,20.8s,baz=325,slow=32						
NOA	NORSAR Array B	83.86	28	LR	LR	04 47 39.8	
	comp=Z,37nm,21.9s,baz=35,slow=34						
ARCES	ARCESS Array B	85.72	18	P	P	04 12 22.7	-1.5
	comp=Z,3.1nm,0.8s,baz=283,slow=5.5,SNR=4.8						
ARCES				LR	LR	04 53 10.1	
	comp=Z,15nm,21.4s,baz=310,slow=37						
CLL	Collm	88.16	37	*e*P	P	04 12 37.0	+0.6
TIXI	Tiksi	89.52	348	P	P	04 12 42.5	0.0
FINES	FINESS Array B	90.17	25	P	P	04 12 43.7	-1.9
	comp=Z,3.7nm,1.0s,baz=296,slow=4.5,SNR=2.1						
FINES				LR	LR	04 51 25.0	
	comp=Z,35nm,21.9s,baz=270,slow=34						
MA2	Magadan	90.28	333	LR	LR	04 58 45.2	
	comp=Z,48nm,18.9s,baz=116,slow=39						
TORD	Torodi Ar. Bea	90.78	76	P	P	04 12 47.2	-2.2
	comp=Z,0.3nm,0.8s,baz=300,slow=4.5,SNR=0.8						
KEST	Kesra	90.97	53	LR	LR	04 47 34.5	
	comp=Z,35nm,19.2s,baz=288,slow=32						
NRIK	Noril'sk	96.25	360	LR	LR	05 00 58.8	
	comp=Z,35nm,18.9s,baz=19,slow=38						
YAK	Yakutsk	96.68	341	LR	LR	05 03 27.8	
	comp=Z,27nm,18.6s,baz=95,slow=39						
AKASG	Malin Array Be	97.51	33	LR	LR	05 00 02.6	
	comp=Z,25nm,18.6s,baz=310,slow=37						
SONM	Songino Array	115.54	346	PKP	PKPdf	04 18 28.9	+1.3
	comp=Z,0.5nm,0.6s,baz=9.5,slow=4.4,SNR=1.8						
MKAR	Makanchi Array	118.69	4	PKP	PKPdf	04 18 32.3	-1.2
	comp=Z,0.3nm,0.5s,baz=340,slow=2.6,SNR=2.7						
BOSA	Boshof	121.14	115	PKP	PKPdf	04 18 38.8	0.0
	comp=Z,4.5nm,0.9s,baz=271,slow=3.6,SNR=5.1						
LZH	Lanzhou	127.22	343	*e*PKP	PKPdf	04 18 47.0	-3.4
LZH				pPKP	pPKPdf	04 19 11.8	+0.2
LZH				sPKP		04 19 24.4	
STKA	Stephens Creek	127.87	241	PKP	PKPdf	04 18 52.5	+1.1
	comp=Z,2.9nm,0.8s,baz=146,slow=2.6,SNR=7.1						
WRA	Warramunga Arr	134.99	256	PKhKP	PKPpre	04 18 52.0	
	comp=Z,0.5nm,1.1s,baz=89,slow=1.7,SNR=2.4						
WRA				PKP	PKPdf	04 19 06.0	+0.8
	comp=Z,0.8nm,0.5s,baz=90,slow=2.6,SNR=13						
ASAR	Alice Springs	135.34	251	PKhKP	PKPpre	04 18 53.7	
	comp=Z,0.4nm,0.6s,baz=90,slow=2.8,SNR=2.6						
ASAR				PKP	PKPdf	04 19 06.7	+0.9
	comp=Z,0.8nm,0.6s,baz=96,slow=1.4,SNR=8.2						
CMAR	Chiang Mai Arr	145.21	341	PKPbc	PKPbc	04 19 24.0	+0.6
	comp=Z,3.8nm,0.6s,baz=340,slow=3.4,SNR=20						

IDC ***15*** *04:15:12.4*±*0.8, 32°.27S*×*111°.27W, h0*^{km}*, mb3.9/8, mb1 4.0/8, mb1mx3.9/31, mbtmp3.9/8, MS3.9/11, Ms1 3.9/11, ms1mx3.8/16, Error ellipse: s-maj=32.3km s-min=25.4km az=104.0*

NEIC ***15*** *04:15:17.8*±*0.8, 32°.5S*±*0°.1*×*111°.15W*±*0°.08, h10*^{km}±*1km, mb4.7/15, Error ellipse: s-maj=23.8km s-min=10.1km az=193.0*

ISC 15 04:15:16.3±0.6**, 32°.5S**±0°.1×**111°.2W**±0°.2**, h10**^{km}**, n49, σ2§14/33, mb4.6/15, MS4.0/11, 1C, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
H03S2	Juan Fernandez	26.97	102	T		T	04 49 09.3	
	baz=263,slow=75,SNR=132							
H03S3	Juan Fernandez	26.98	102	T		T	04 49 13.0	
	baz=263,slow=75,SNR=69							
H03S1	Juan Fernandez	26.98	102	T		T	04 49 12.2	
	baz=263,slow=75,SNR=75							
H03N2	Juan Fernandez	27.01	101	T		T	04 49 05.1	
	baz=267,slow=74,SNR=416							
H03N3	Juan Fernandez	27.01	101	T		T	04 49 06.4	
	baz=267,slow=74,SNR=433							
H03N1	Juan Fernandez	27.02	101	T		T	04 49 06.0	
	baz=267,slow=74,SNR=798							
VA03	San Esteban	34.06	102	P		P	04 22 02.2	+1.3
AC05	El Transito	35.22	95	P		P	04 22 13.7	+2.6
AC05				IAmb		IAmb	04 22 22.3	
	comp=Z,22nm,1.5s							
LVC	Limon Verde	38.53	86	P		P	04 22 37.6	-2.0
	comp=Z,2.3nm,0.6s,baz=234,slow=9.9,SNR=3.4							
LPAZ	La Paz	42.09	78	P		P	04 23 08.2	-1.2
	comp=Z,0.7nm,0.8s,baz=33,slow=10,SNR=2.6							
LPAZ				LR		LR	04 37 06.2	
	comp=Z,70nm,19.1s,baz=258,slow=31							
CPUP	Villa Florida	46.90	97	LR		LR	04 40 17.2	
	comp=Z,90nm,18.2s,baz=238,slow=32							
ROSC	El Rosal	51.04	50	P		P	04 24 14.6	-4.8
	comp=Z,3.6nm,0.4s,baz=120,slow=20,SNR=1.7							
ROSC				LR		LR	04 42 30.4	
	comp=Z,120nm,18.3s,baz=252,slow=32							
SDV	Santo Domingo	56.47	50	P		P	04 25 00.1	+1.1
SDV				IAmb		IAmb	04 25 17.1	
	comp=Z,10nm,1.4s							
BKZ	Black Stump Fm	57.60	241	P		P	04 25 08.1	+1.6
QSPA	South Pole Qui	57.67	180	P		P	04 25 07.2	+0.4
	comp=Z,3.3nm,1.2s,baz=128,slow=7.4,SNR=3.6							
QSPA	South Pole Qui	57.67	180	P		P	04 25 07.4	+0.6
QSPA				IAmb		IAmb	04 25 14.2	
	comp=Z,11nm,1.6s							
VNDA	Vanda	57.87	195	LR		LR	04 45 27.1	
	comp=Z,108nm,18.1s,baz=104,slow=31							
TXAR	Lajitas Array	61.93	7	P		P	04 25 33.1	-3.2
	comp=Z,0.1nm,0.3s,baz=170,slow=6.4,SNR=2.0							
TXAR				LR		LR	04 46 32.1	
	comp=Z,63nm,18.2s,baz=0.0,slow=30							
VNA3	Neumayer Olymp	63.14	159	P		P	04 25 41.7	-2.2
VNA2	Neumayer--Watz	63.95	159	P		P	04 25 47.6	-1.6
	baz=226,slow=4.9							
MNTX	Cornudas Mount	64.11	5	P		P	04 25 53.6	+2.9
SNAA	Sanae	64.95	161	P		P	04 25 53.3	-2.5
SNAA	Sanae	64.95	161	P		P	04 25 58.7	+2.9
U15A	North Rim	68.60	359	P		P	04 26 21.4	+1.7
U15A				IAmb		IAmb	04 26 29.9	
	comp=Z,11nm,1.6s							
SHPR	Sheep Range	68.77	357	P		P	04 26 20.4	-0.2
SHPR				IAmb		IAmb	04 26 33.2	
	comp=Z,6.5nm,1.4s							
MVCO	Mesa Verde	69.42	2	P		P	04 26 25.2	+0.5
CCUT	Cedar City	69.74	358	P		P	04 26 28.3	+1.7
SDCO	Great Sand Dun	70.11	5	P		P	04 26 30.5	+1.5
SDCO				IAmb		IAmb	04 26 39.1	
	comp=Z,10nm,1.7s							
R11A	Troy Canyon, C	70.63	356	P		P	04 26 33.7	+1.7
PV22	Blue Mesa, Par	70.73	2	P		P	04 26 34.1	+1.5
PV22				IAmb		IAmb	04 26 44.7	
	comp=Z,8.7nm,1.5s							
NVAR	Mina Array Bea	70.90	354	P		P	04 26 30.9	-2.8
	comp=Z,0.1nm,0.3s,baz=178,slow=9.0,SNR=3.6							
NVAR				LR		LR	04 50 30.8	
	comp=Z,123nm,20.1s,baz=278,slow=30							
NVAR	Mina Array Bea	70.90	354	P		P	04 26 34.1	+0.4
PDAR	Pinedale Array	74.94	1	P		P	04 26 53.5	-4.1
	comp=Z,0.6nm,1.1s,baz=174,slow=3.6,SNR=1.9							
PDAR				LR		LR	04 55 30.8	
	comp=Z,58nm,18.2s,baz=123,slow=32							
HLID	Hailey	75.77	358	P		P	04 27 04.0	+1.7
HLID				IAmb		IAmb	04 27 13.0	
	comp=Z,11nm,1.6s							
SYO	Syowa Base	76.50	170ĵ	*e*P		P	04 27 06.0	0.0
MAW	Mawson	80.08	178	P		P	04 27 24.2	-1.7
	comp=Z,0.7nm,0.3s,baz=187,slow=8.1,SNR=2.2							
MAW				LR		LR	05 00 54.2	
	comp=Z,134nm,18.6s,baz=70,slow=34							
NEW	Newport	80.60	356	LR		LR	04 58 13.4	
	comp=Z,101nm,18.3s,baz=180,slow=32							
YKA	Yellowknife Ar	94.72	358	LR		LR	05 06 31.2	
	comp=Z,71nm,18.7s,baz=0.0,slow=33							
WRA	Warramunga Arr	98.51	240	LR		LR	05 07 24.1	
	comp=Z,30nm,21.4s,baz=135,slow=32							
H01W1	Cape Leeuwin H	100.58	216	T		T	06 21 55.3	
	baz=142,slow=76,SNR=3.3							
H01W2	Cape Leeuwin H	100.58	216	T		T	06 21 59.3	
	baz=142,slow=76,SNR=3.4							
H01W3	Cape Leeuwin H	100.59	216	T		T	06 21 56.9	
	baz=142,slow=76,SNR=3.2							
CLL	Collm	135.59	48	*e*PKPdf		PKiKP	04 34 40.0	+2.0
MLR	Muntele Rosu	144.66	56			PKPdf	04 34 54.1	+0.9
AKASG	Malin Array Be	145.78	46	PKPbc		PKPdf	04 34 51.3	-3.4
	comp=Z,1.2nm,0.8s,baz=278,slow=4.1,SNR=2.1							
SONM	Songino Array	147.84	309	PKPbc		PKPdf	04 34 57.9	-0.6
	comp=Z,0.6nm,0.5s,baz=119,slow=1.8,SNR=2.1							
CMAR	Chiang Mai Arr	149.54	250	PKPbc		PKPdf	04 35 03.5	+1.6
	comp=Z,0.7nm,0.3s,baz=178,slow=1.2,SNR=4.2							
BRTR	Keskin Array B	150.82	66	PKPbc		PKPdf	04 35 06.7	+3.1
	comp=Z,0.9nm,0.8s,baz=252,slow=2.9,SNR=2.3							
MKAR	Makanchi Array	162.41	328	PKP		PKPdf	04 35 13.4	-4.7
	comp=Z,0.4nm,0.8s,baz=98,slow=4.4,SNR=2.5							

IDC ***15*** *04:41:01.9*±*1.8, 4°.92S*×*104°.49E, h0*^{km}*, mb3.8/7, mb1 4.0/7, mb1mx3.6/50, mbtmp3.8/7, Error ellipse: s-maj=109.8km s-min=19.4km az=48.0*

NEIC ***15*** *04:41:13.8*±*1.7, 5°.4S*±*0°.1*×*104°.2E*±*0°.1, h102*^{km}±*5km, mb4.0/4, Error ellipse: s-maj=22.3km s-min=8.1km az=224.0*

DJA ***15*** *04:41:18.6*±*1.4, 6°.S*±*8°.*×*10°.4E*±*1°.4, h10*^{km}*, M3.1/3, MLv3.1/3*

ISC 15 04:41:13.8±0.8**, 5°.60S**±0°.06×**104°.04E**±0°.08**, h100**^{km}**, n21, σ1§99/26, mb3.8/9, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MDSI	Maura Dua	1.12	7	P		Pn	04 41 38.9	+3.4
MDSI				S		Sn	04 41 54.6	+2.7
KLSI		1.14	37	P		Pn	04 41 36.6	+0.9
MNAI	Manna	1.64	319			Pn	04 41 42.2	+0.4
MNAI				Sn		Sn	04 42 03.5	+0.5
CGJI	Cibinong	1.93	122	P		Pn	04 41 48.1	+2.7
CGJI				S		Sn	04 42 11.7	+2.2
CISI	Cisompet, Garu	4.22	118	Pn		Pn	04 42 16.6	+0.5
CISI				Sn		Sn	04 43 00.1	-4.3
XMIS	Christmas Isla	5.10	162	Pn		Pn	04 42 29.8	+1.9
XMIS				Sn		Sn	04 43 26.8	+1.2
FITZ	Fitzroy Crossi	24.48	122	P		P	04 46 23.1	-0.6
	1.6nm,0.9s,baz=284,slow=12,SNR=1.5							
FITZ	Fitzroy Crossi	24.48	122	P		P	04 46 23.7	0.0
WB0	Warramunga Arr	32.70	118	P		P	04 47 36.0	-1.0
WB0				IAmb		IAmb	04 47 43.3	
	comp=Z,3.1nm,1.1s							
WRA	Warramunga Arr	32.72	119	P		P	04 47 35.9	-1.3
	comp=Z,0.6nm,0.4s,baz=310,slow=9.0,SNR=14							
WB2	Warramunga Arr	32.73	119	P		P	04 47 35.9	-1.3
WC3	Warramunga Arr	32.76	119	P		P	04 47 36.7	-0.8
WR0	Warramunga Arr	32.90	118	P		P	04 47 37.6	-1.1
ASAR	Alice Springs	33.89	125	P		P	04 47 47.1	-0.2
	comp=Z,0.4nm,0.3s,baz=294,slow=7.7,SNR=5.6							
BBOO	Buckleboo	40.27	136	P		P	04 48 41.9	+0.8
BBOO				IAmb		IAmb	04 48 42.9	
	comp=Z,2.3nm,0.9s							
STKA	Stephens Creek	43.76	131	P		P	04 49 10.4	+0.9
	comp=Z,4.0nm,1.0s,baz=302,slow=8.0,SNR=4.6							
STKA	Stephens Creek	43.76	131	P		P	04 49 10.6	+1.1
MKAR	Makanchi Array	55.62	342	P		P	04 50 35.8	-3.5
	comp=Z,0.3nm,0.4s,baz=157,slow=6.6,SNR=5.4							
MKAR	Makanchi Array	55.62	342	P		P	04 50 37.0	-2.2
ZALV	Zalesovo Beam	61.49	347	P		P	04 51 16.8	-3.0
	comp=Z,0.6nm,0.3s,baz=179,slow=6.1,SNR=2.1							
BRTR	Keskin Array B	78.71	312	P		P	04 53 05.9	+0.4
	comp=Z,0.6nm,0.5s,baz=125,slow=4.0,SNR=1.5							

IDC ***15*** *04:41:47.0*±*10.0, 18°.73N*×*145°.62E, h232*^{km}±*105*^{km}*, mb3.4/7, mb1 3.6/7, mb1mx3.2/55, mbtmp3.9/7, Error ellipse: s-maj=34.1km s-min=19.1km az=89.0*

ISC 15 04:41:48.8±1.0**, 18°.7N**±0°.2×**145°.6E**±0°.3**, h250**^{km}**, n7, σ1§03/8, mb3.6/7, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	Warramunga Arr	39.98	197	P		P	04 48 59.1	-0.4
	1.4nm,0.3s,baz=16,slow=8.5,SNR=29							
WRA				PcP		PcP	04 50 59.7	+0.1
	0.5nm,0.4s,baz=17,slow=3.4,SNR=7.5							
FITZ	Fitzroy Crossi	41.51	209	P		P	04 49 11.9	-0.1
	1.5nm,0.5s,baz=36,slow=8.0,SNR=28							
MKAR	Makanchi Array	58.37	314	P		P	04 51 19.1	+1.0
	0.4nm,0.5s,baz=97,slow=8.1,SNR=4.8							
KURBB	Kurchatov Arra	61.23	318	P		P	04 51 37.7	+0.2
	0.6nm,0.4s,baz=94,slow=7.3,SNR=6.3							
ILAR	Eielson Array	63.67	26	P		P	04 51 52.1	-1.2
	0.6nm,0.9s,baz=242,slow=6.4,SNR=4.3							
NVAR	Mina Array Bea	83.21	52	P		P	04 53 49.2	+1.4
	0.9nm,0.7s,baz=263,slow=6.3,SNR=5.7							
FINES	FINESS Array B	86.82	335	P		P	04 54 04.0	-0.8
	1.7nm,0.9s,baz=62,slow=4.9,SNR=8.8							

NIED ***15*** *04:47:13.8, 44°.32N*×*149°.49E, h30*^{km}*, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{14}*Nm; M*$_{rr}$*2.11; M*$_{\theta\theta}$*4.73; M*$_{\phi\phi}$*-6.83; M*$_{r\theta}$*5.23; M*$_{\theta\phi}$*-4.88; M*$_{r\phi}$*1.56; Fault plane solution: M*$_0$*9.50000×10*^{14} *NP1:*ϕ_s*61.00000°, δ80.00000°, λ143.00000°. NP2:*ϕ_s*159.00000°, δ54.00000°, λ13.00000°.*

JMA ***15*** *04:47:13.8*±*0.7, 44°.32N*×*149°.48E, h30*^{km}*, M4.0*

MOS ***15*** *04:47:14.9*±*0.9, 43°.93N*×*149°.42E, h38*^{km}*, mb4.4/12, Error ellipse: s-maj=9.7km s-min=8.4km az=43.8*

SKHL ***15*** *04:47:14.8*±*0.6, 43°.80N*×*149°.51E, h50*^{km}±*5km, mb4.8/3*

NEIC ***15*** *04:47:16.9*±*1.0, 43°.93N*±*0°.06*×*149°.4E*±*0°.1, h40*^{km}±*7km, mb4.3/9, Error ellipse: s-maj=12.9km s-min=8.3km az=103.0*

IDC ***15*** *04:47:18.3*±*1.1, 43°.97N*×*149°.29E, h47*^{km}±*6km, mb3.7/14, mb1 3.8/18, mb1mx3.6/55, mbtmp3.9/18, Error ellipse: s-maj=26.8km s-min=15.5km az=167.0*

ISC 15 04:47:16.1±0.6**, 43°.84N**±0°.06×**149°.42E**±0°.08**, h37**^{km}±1^{km}**, n101, σ1§12/117, mb4.1/22, 3C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KUR	Kuril'sk	1.78	322	*e*P		Pn	04 47 43.0	-1.3
KUR				AMB		AMB	04 47 46.0	
	450nm,0.5s							
KUR				*e*S		Sn	04 48 04.5	-1.2
KUR				A		A	04 48 08.0	
	700nm,0.4s							
KUR				A		A	04 48 08.0	
	530nm,0.4s							
KUR	Kuril'sk	1.78	322	*e*PN		Pn	04 47 44.0	-0.3
KUR				*e*S		Sn	04 48 04.9	-0.8
KUR				pmax		pmax		
	comp=Z,275nm,0.3s							
KUR				pmax		pmax		
	comp=N,92nm,0.2s							
KUR				pmax		pmax		
	comp=E,201nm,0.2s							
KUR				smax		smax		
	comp=N,702nm,0.5s							
KUR				smax		smax		
	comp=E,372nm,0.5s							
YUK	Yuzh-Kuril'sk	2.58	276	*e*P		Pn	04 47 55.3	+0.1
YUK				AMB		AMB	04 47 57.9	
	comp=E,220nm,0.4s							
YUK				*e*S		Sn	04 48 23.5	-1.7
YUK				A		A	04 48 29.1	
	comp=E,620nm,0.5s							
YUK				A		A	04 48 29.1	
	comp=E,540nm,0.5s							
GRPR	Tuman	2.64	275	*e*P		Pn	04 47 55.9	-0.2
GRPR				AMB		AMB	04 48 01.0	
	comp=E,121nm,0.3s							
GRPR				*e*S		Sn	04 48 25.0	-1.8
GRPR				A		A	04 48 26.0	
	comp=E,432nm,0.4s							
GRPR				A		A	04 48 26.0	
	comp=E,501nm,0.4s							
GRPR	Tuman	2.64	275	*e*PN		Pn	04 47 55.9	-0.2
GRPR				*e*S		Sn	04 48 24.5	-2.3
GRPR				pmax		pmax		
	comp=Z,121nm,0.1s							
GRPR				smax		smax		
	comp=N,432nm,0.4s							
GRPR				smax		smax		
	comp=E,501nm,0.4s							
NEM2	Nemuro 2	2.71	261	P		Pn	04 47 56.2	-0.8
NEM2				*e*S		Sn	04 48 28.0	-0.5
NMR	Nemuro--Hokkai	2.72	261	*e*P		Pn	04 47 56.6	-0.6
NMR				*e*S		Sn	04 48 28.0	-0.8
NMR	Nemuro--Hokkai	2.72	261	*e*PN		Pn	04 47 56.3	-0.9
NMR				*e*S		Sn	04 48 27.8	-1.0
GLVR	Golovnino	2.83	269	*e*P		Pn	04 47 58.0	-0.6
GLVR				*e*S		Sn	04 48 30.0	-1.4
GLVR				A		A	04 48 31.0	
	comp=E,387nm,0.5s							
GLVR				A		A	04 48 31.0	
	comp=E,511nm,0.5s							
GLVR	Golovnino	2.83	269	*e*PN		Pn	04 47 58.5	-0.1
GLVR				*e*S		Sn	04 48 30.7	-0.7
GLVR				smax		smax		
	comp=E,511nm,0.4s							
GLVR				smax		smax		
	comp=N,387nm,0.5s							
RUSJ	Misakicho	3.02	277	*e*PN		Pn	04 48 01.4	+0.1
RUSJ				*e*S		Sn	04 48 36.4	+0.2
JRA	Rausu	3.11	273	P		Pn	04 48 03.4	+0.9
JNK	Nakash	3.42	267	P		Pn	04 48 06.7	-0.1
JAK	Akkeshi	3.54	258	P		Pn	04 48 08.9	+0.5
JAK				*e*S		Sn	04 48 48.4	-0.6
JTKR	Abashiri--Toko	3.98	274	P		Pn	04 48 14.8	+0.3
JAR	Ashorobuto	4.14	264	P		Pn	04 48 17.1	+0.4
JAR				*e*S		Sn	04 49 04.0	+0.2
JOB	Onbets	4.18	259	P		Pn	04 48 17.8	+0.6
JCH	Churui	4.59	257	P		Pn	04 48 24.0	+1.1
JCH				*e*S		Sn	04 49 15.4	+0.5
JKA	Kamikawa-asahi	4.93	276	*e*P		Pn	04 48 29.2	+1.7
JKA	Kamikawa-asahi	4.93	276	Pn		Pn	04 48 28.1	+0.6
JKA				Sn		Sn	04 49 24.2	+0.9
ASAJ	Asahikawa	4.93	276	P		Pn	04 48 29.2	+1.6
	comp=N,0.8nm,0.3s,baz=85,slow=16,SNR=1.9							
ERM	Erimo	4.95	251	*i* PN		Pn	04 48 29.6	+1.9
ERM	Erimo	4.95	251	Pn		Pn	04 48 28.8	+1.1
ERM				Sn		Sn	04 49 24.9	+1.3
JEM	Erimo	4.95	251	Pn		Pn	04 48 27.8	+0.1
JEM				Sn		Sn	04 49 24.1	+0.5
JNBK	Urakawa-nobuka	5.13	255	P		Pn	04 48 30.9	+0.7
JBT2	Biratori 2	5.26	261	P		Pn	04 48 32.4	+0.4
YSS	Yuzh-Sakhalins	5.63	306	*e*P		Pn	04 48 38.9	+1.7
YSS	Yuzh-Sakhalins	5.63	306	*e*PN		Pn	04 48 39.1	+1.7
JNB	Noboribetsu	6.28	260	P		Pn	04 48 46.6	+0.5
JANG	Nango	6.82	242	P		Pn	04 48 53.0	-0.5
JTM	Tenmabayashi	6.90	247	*e*S		Sn	04 50 07.8	-4.0
JOSM	Okushiri--Mats	7.50	260	P		Pn	04 49 03.3	+0.5
JRG	Rokugo	7.94	239	P		Pn	04 49 09.2	+0.4
JRG				*e*S		Sn	04 50 34.6	-2.7
PETK	Petropavlovsk-	10.78	28	P		Pn	04 49 46.9	-0.8
	comp=N,0.1nm,0.3s,baz=206,slow=9.9,SNR=2.8							
PETK	Petropavlovsk-	10.78	28	Pn		Pn	04

comp=Z,8.0nm,2.5s
KURK Kurchatov 46.84 305 P **P** 04 55 42.5 +0.5
KURK IAmb IAmb 04 55 43.6
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 46.92 305 P **P** 04 55 42.0 -0.7
comp=Z,1.5nm,0.4s,baz=72,slow=7.6,SNR=9.9
AAK Ala-Archa 52.79 297 *eP* **P** 04 56 28.8 +1.2
AAK Ala-Archa 52.79 297⇓ *eP* **P** 04 56 28.8 +1.2
AAK pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 54.41 17 P **P** 04 56 40.0 +1.3
comp=Z,2.3nm,0.8s,baz=334,slow=8.9,SNR=4.1
RES Resolute Bay 54.41 17 P **P** 04 56 39.4 +0.7
RES pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 54.41 17 P **P** 04 56 39.4 +0.7
RES IAmb IAmb 04 56 47.2
comp=Z,5.2nm,1.1s
ABKAR Akbulak array 58.28 310 P **P** 04 57 07.2 +0.4
ABKAR Akbulak array 58.28 310 P **P** 04 57 07.3 +0.6
WR0 Warramunga Arr 64.93 195 P **P** 04 57 52.1 +0.3
WRA Warramunga Arr 64.96 196 P **P** 04 57 53.3 +1.4
comp=Z,0.5nm,0.8s,baz=14,slow=6.9,SNR=3.4
WRA Warramunga Arr 64.96 196 P **P** 04 57 53.5 +1.5
FINES FINESS Array B 65.53 334 P **P** 04 57 54.8 -0.5
comp=Z,3.4nm,0.6s,baz=42,slow=7.2,SNR=17
FINES FINESS Array B 65.53 334 P **P** 04 57 55.0 -0.2
FINES FINESS Array B 65.53 334 P **P** 04 57 55.0 -0.2
PDAR Pinedale Array 68.59 51 P **P** 04 58 15.9 +0.6
comp=Z,0.1nm,0.3s,baz=335,slow=4.0,SNR=2.0
PDAR Pinedale Array 68.59 51 P **P** 04 58 15.8 +0.5
NB2 NORSAR Subarra 70.10 340 P **P** 04 58 23.8 -0.3
comp=Z,7.8nm,1.2s,baz=32,slow=6.5
NOA NORSAR Array B 70.10 340 P **P** 04 58 23.7 -0.3
comp=Z,2.4nm,0.8s,baz=32,slow=6.1,SNR=8.0
NOA pP **sP** 04 58 37.4 -0.6
comp=Z,1.5nm,0.9s,baz=33,slow=6.1,SNR=4.2
NOA NORSAR Array B 70.10 340 *eP* **P** 04 58 24.1 0.0
NOA pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 70.96 313 P **P** 04 58 30.9 +1.4
comp=Z,3.1nm,0.8s,baz=39,slow=5.6,SNR=9.2
KBZ Khabaz 70.96 313 *eP* **P** 04 58 31.5 +2.0
AKASG Malin Array Be 72.47 325 P **P** 04 58 38.5 0.0
AKASG pP **sP** 04 58 52.0 -0.5
comp=Z,0.7nm,0.5s,baz=38,slow=6.0,SNR=3.2
AKASG Malin Array Be 72.47 325 P **P** 04 58 38.3 -0.2
AKASG pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 72.47 325 P **P** 04 58 38.3 -0.2
BURAR Bucovina Array 76.53 325 P **P** 04 59 02.2 0.0
KHC Kasperske Hory 79.66 332⇑ *eP* **P** 04 59 20.1 +0.6
KHC pmax pmax
comp=Z,9.0nm,1.7s
GERES GERESS Array B 79.87 332 P **P** 04 59 21.2 +0.5
comp=Z,0.5nm,0.6s,baz=45,slow=7.1,SNR=2.2
GERES GERESS Array B 79.87 332 P **P** 04 59 20.1 -0.6
TXAR Lajitas Array 81.22 58 P **P** 04 59 30.0 +1.7
comp=Z,0.4nm,0.7s,baz=317,slow=5.4,SNR=5.9
TXAR pP **pwP** 04 59 42.9 -4.6
comp=Z,0.4nm,0.6s,baz=305,slow=4.4,SNR=4.4
TXAR Lajitas Array 81.22 58 P **P** 04 59 28.5 +0.2
TXAR Lajitas Array 81.22 58 P **P** 04 59 28.5 +0.2

*GUC **15** 04:57:20.9±0.6,25°.00S×69°.95W,h64km±3km, ML4.3*
*NEIC **15** 04:57:20.5±1.4,24°.96S±0°.04×70°.10W±0°.06,h71km±5km, Error ellipse: s-maj=8.5km s-min=5.6km az=88.0*
*IDC **15** 04:57:21.7±1.1,25°.01S×69°.75W,h75km±7km, mb3.7/1, mb1 3.8/4, mb1mx3.4/24, mbtmp3.9/4, MS2.5/3, Ms1 2.6/3, ms1mx2.4/25, Error ellipse: s-maj=58.1km s-min=25.9km az=103.0*

ISC 15 04:57:20.3±0.6,25°.00S±0°.03×70°.01W±0°.05,h72km±5km, n71,σ1°35/87,8C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.41**	**113**	*eP*	**Pn**	**04 57 32.3**	**-0.5**
GO02				*i* S	**Sn**	**04 57 41.7**	**-0.4**
GO02	**Mina Guanaco**	**0.41**	**113**		**Pn**	**04 57 32.6**	**-0.2**
GO02				Sn	**Sn**	**04 57 41.8**	**-0.4**
PB14	**IPOC Station P**	**0.52**	**316**	⇓*iP*	**Pn**	**04 57 34.9**	**+1.1**
PB14				*eS*	**Sn**	**04 57 45.3**	**+1.6**
PB14	**IPOC Station P**	**0.52**	**316**		**Pn**	**04 57 34.3**	**+0.5**
PB14				Sn	**Sn**	**04 57 45.1**	**+1.4**
AC01	**Pan de Azucar**	**1.26**	**205**	⇑*iP*	**Pn**	**04 57 43.4**	**+1.1**
AC01				*eS*	**Sn**	**04 58 00.3**	**+1.7**
AC01				IAML		04 58 02.8	
comp=E,9μm,0.4s							
AC01	**Pan de Azucar**	**1.26**	**205**		**Pn**	**04 57 43.2**	**+0.9**
AC01				Sn	**Sn**	**04 58 00.4**	**+1.7**
PB10	**IPOC Station P**	**1.56**	**341**	⇑*iP*	**Pn**	**04 57 47.0**	**+0.8**
PB10	**IPOC Station P**	**1.56**	**341**		**Pn**	**04 57 45.7**	**-0.5**
PB10				Sn	**Sn**	**04 58 05.3**	**-0.3**
PB15	**IPOC Station P**	**1.85**	**16**	⇑*iP*	**Pn**	**04 57 51.5**	**+1.3**
PB15				*i* S	**Sn**	**04 58 14.7**	**+1.8**
PB15	**IPOC Station P**	**1.85**	**16**	Pn	**Pn**	**04 57 51.0**	**+0.8**
PB15				Sn	**Sn**	**04 58 15.7**	**+2.8**
AC02	**Maricunga**	**1.99**	**157**	⇑*iP*	**Pn**	**04 57 53.9**	**+1.6**
AC02				*i* S	**Sn**	**04 58 19.0**	**+2.3**
AC02				IAML		04 58 21.9	
comp=E,5μm,0.3s							
AC02	**Maricunga**	**1.99**	**157**		**Pn**	**04 57 53.8**	**+1.5**
AC02				Sn	**Sn**	**04 58 18.9**	**+2.3**
PB05	**IPOC Station P**	**2.14**	**355**	⇑*iP*	**Pn**	**04 57 54.1**	**0.0**
PB05				*i* S	**Sn**	**04 58 21.9**	**+2.1**
PB06	**IPOC Station P**	**2.32**	**10**	⇑*iP*	**Pn**	**04 57 56.9**	**+0.5**
PB06				*i* S	**Sn**	**04 58 26.4**	**+2.3**
PB06				IAML		04 58 31.1	
comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**2.32**	**10**	Pn	**Pn**	**04 57 56.5**	**+0.1**
PB06				Sn	**Sn**	**04 58 26.5**	**+2.5**
LVC	**Limon Verde**	**2.58**	**23**	P	**Pn**	**04 58 01.1**	**+0.9**
comp=N,23nm,0.3s,baz=162,slow=6.7,SNR=147							
LVC				S	**Sn**	**04 58 34.0**	**+3.3**
comp=N,50nm,0.3s,baz=224,slow=14,SNR=5.5							
LVC				LR	LR	04 59 02.9	
comp=N,61nm,21.6s,baz=223,slow=40							
LVC	**Limon Verde**	**2.58**	**23**	Pn	**Pn**	**04 58 00.4**	**+0.2**
LVC				Sn	**Sn**	**04 58 34.2**	**+3.5**
GO03	**Copiap**	**2.59**	**184**	*eP*	**Pn**	**04 58 00.4**	**+0.4**
GO03	**Copiap**	**2.59**	**184**	Pn	**Pn**	**04 58 00.7**	**+0.6**
PB04	**IPOC Station P**	**2.66**	**357**	⇑*iP*	**Pn**	**04 58 00.8**	**-0.3**
PB04				*i* S	**Sn**	**04 58 33.4**	**+1.2**
PB04				IAML		04 58 47.6	
comp=N,2μm,0.7s							
PB04	**IPOC Station P**	**2.66**	**357**	Pn	**Pn**	**04 58 00.8**	**-0.3**
PB04				Sn	**Sn**	**04 58 31.4**	**-0.9**
PB03	**IPOC Station P**	**2.95**	**5**	⇑*eP*	**Pn**	**04 58 04.4**	**-0.6**
PB03				*eS*	**Sn**	**04 58 41.8**	**+2.5**
PB03				IAML		04 58 56.5	
comp=E,1μm,0.5s							
PB07	**IPOC Station P**	**3.26**	**2**	*eP*	**Pn**	**04 58 08.7**	**-0.6**
PB07	**IPOC Station P**	**3.26**	**2**		**Pn**	**04 58 08.5**	**-0.7**
PB09	**IPOC Station P**	**3.27**	**13**	*eP*	**Pn**	**04 58 10.1**	**+0.8**
PB09				IAML		04 59 05.5	
comp=E,866nm,0.5s							
PB09	**IPOC Station P**	**3.27**	**13**		**Pn**	**04 58 09.4**	**+0.1**
AC04	**Llanos de Chal**	**3.33**	**196**	*eP*	**Pn**	**04 58 08.8**	**-1.3**
AC04	**Llanos de Chal**	**3.33**	**196**	Pn	**Pn**	**04 58 08.9**	**-1.1**
AC05	**El Transito**	**3.83**	**183**	Pn	**Pn**	**04 58 17.4**	**+0.4**
PB01	**IPOC Station P**	**3.97**	**7**		**Pn**	**04 58 18.2**	**-0.6**
PATCX	**Punta Patache**	**4.16**	**358**	Pn	**Pn**	**04 58 19.8**	**-1.7**
TA01	**Diego Aracena**	**4.42**	**358**	Pn	**Pn**	**04 58 24.5**	**-0.4**
PB08	**IPOC Station P**	**4.90**	**9**		**Pn**	**04 58 31.5**	**-0.3**
CO01	**Juntas del Tor**	**4.96**	**181**	Pn	**Pn**	**04 58 33.5**	**+1.0**
GO04	**Tololo Observa**	**5.20**	**188**	Pn	**Pn**	**04 58 34.7**	**-1.1**
PB11	**IPOC Station P**	**5.22**	**4**	Pn	**Pn**	**04 58 35.9**	**-0.2**
GO01	**Chusmiza**	**5.36**	**8**		**Pn**	**04 58 37.0**	**-1.2**
PSGCX	**Pisagua**	**5.38**	**359**	Pn	**Pn**	**04 58 35.8**	**-2.3**
CO03	**El Pedregal**	**5.85**	**186**	Pn	**Pn**	**04 58 43.4**	**-1.1**
MNMC	**Minye Minye**	**5.85**	**4**		**Pn**	**04 58 44.4**	**-0.4**
CO02	**Combarbal**	**6.24**	**188**	Pn	**Pn**	**04 58 48.0**	**-1.9**
PB16	**IPOC Station P**	**6.65**	**4**	Pn	**Pn**	**04 58 55.2**	**-0.7**
VA03	**San Esteban**	**7.75**	**183**	Pn	**Pn**	**04 59 11.0**	**+0.5**
MT02	**Curacav**	**8.29**	**187**		**Pn**	**04 59 18.8**	**+1.0**
LPAZ	**La Paz**	**8.84**	**12**	P	**Pn**	**04 59 25.9**	**0.0**
comp=E,0.5nm,0.3s,baz=239,slow=6.0,SNR=12							
LPAZ				LR	LR	05 02 47.6	
comp=E,32nm,20.4s,baz=252,slow=37							
LPAZ	**La Paz**	**8.84**	**12**	Pn	**Pn**	**04 59 25.2**	**-0.7**
BO02	**Sierra Bellavi**	**9.78**	**184**	Pn	**Pn**	**04 59 39.1**	**+0.9**
H03N1	**Juan Fernandez**	**11.45**	**221**	T	T	05 11 46.9	
baz=44,slow=72,SNR=102							
H03N2	**Juan Fernandez**	**11.46**	**221**	T	T	05 11 47.0	
baz=44,slow=72,SNR=59							
H03N3	**Juan Fernandez**	**11.47**	**221**	T	T	05 11 45.9	
baz=44,slow=72,SNR=52							
SIV	**San Ignacio**	**12.26**	**45**	P	Pn	05 00 06.5	-5.6
comp=E,0.3nm,0.3s,baz=248,slow=10,SNR=4.4							
SIV				S	Sn	05 02 12.2	-15
comp=E,0.2nm,0.3s,baz=214,slow=18,SNR=3.0							
SIV				LR	LR	05 05 11.3	
comp=E,41nm,19.3s,baz=177,slow=39							
PLCA	**Paso Flores**	**15.70**	**182**	P	**P**	**05 00 59.6**	**-0.2**
comp=E,0.0nm,0.3s,baz=1.0,slow=11,SNR=3.1							
PLCA	**Paso Flores**	**15.70**	**182**	Pn	**Pn**	**05 00 57.2**	**+0.1**
SAML	**Samuel**	**17.24**	**23**	Pn	**Pn**	**05 01 12.4**	**-4.0**
SAML				IAmb	IAmb	05 01 18.1	
comp=Z,5.7nm,0.8s							
SNDB	**Serra Nova Dou**	**21.94**	**57**	*eP*	**P**	**05 02 05.7**	**-2.4**
NPGB	**Novo Progresso**	**22.70**	**41**	*eP*	**P**	**05 02 13.4**	**-2.7**
MACA	**Manacapuru-AM**	**23.50**	**24**	*eP*	**P**	**05 02 23.2**	**-0.7**
ITTB	**Itaituba**	**24.68**	**36**	*eP*	**P**	**05 02 34.0**	**-0.6**
VNA3	**Neumayer Olymp**	**57.12**	**160**	P	**P**	**05 06 59.2**	**+0.3**
VNA2	**Neumayer--Watz**	**57.72**	**160**	P	**P**	**05 07 03.3**	**+0.2**
baz=286,slow=7.8							
SNAA	**Sanae**	**59.33**	**160**	P	**P**	**05 07 14.4**	**0.0**
MCWV	**Mont Chateau**	**64.97**	**352**	P	**P**	**05 07 52.0**	**-0.5**
MCWV				IAmb	IAmb	05 07 56.0	
comp=Z,4.3nm,1.1s							
QSPA	**South Pole Qui**	**65.21**	**180**	P	**P**	**05 07 54.7**	**+0.8**
QSPA				pP	**pP**	**05 08 13.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**79.48**	**70**	P	**P**	**05 09 19.4**	**-0.1**
comp=Z,0.9nm,0.7s,baz=259,slow=5.2,SNR=5.1							
TORD				pP	**pP**	**05 09 39.2**	**-0.4**
comp=Z,2.8nm,0.5s,baz=258,slow=5.0,SNR=14							
ASAR	**Alice Springs**	**126.36**	**207**	PKP	**PKPdf**	**05 16 15.8**	**+0.3**
comp=Z,0.5nm,0.5s,baz=130,slow=1.7,SNR=5.2							
H11S2	**WAKE ISLAND Hyl**	**27.24**	**275**	T	T	07 36 12.9	
baz=108							
H11S1	**WAKE ISLAND Hyl**	**27.25**	**275**	T	T	07 36 11.8	
baz=108							
H11S3	**WAKE ISLAND Hyl**	**27.25**	**275**	T	T	07 36 14.3	
baz=108							
WRA	**Warramunga Arr**	**129.44**	**210**	PKP	**PKPdf**	**05 16 22.0**	**+0.5**
comp=Z,0.2nm,0.7s,baz=178,slow=1.6,SNR=5.2							
ZALV	**Zalesovo Beam**	**145.53**	**26**	PKPbc	**PKPab**	**05 16 51.0**	**+0.6**
comp=Z,0.6nm,0.3s,baz=323,slow=4.7,SNR=4.6							
ZALV				pPKPbc	**pPKPdf**	**05 17 11.8**	**+0.7**
comp=Z,2.3nm,0.6s,baz=306,slow=6.2,SNR=3.4							
MKAR	**Makanchi Array**	**149.02**	**38**	PKPbc	**PKPbc**	**05 17 00.2**	**+0.1**
comp=Z,0.6nm,0.7s,baz=321,slow=3.1,SNR=5.8							
MKAR				pPKPbc	**pPKPbc**	**05 17 21.1**	**-0.1**
comp=Z,0.5nm,0.6s,baz=304,slow=3.1,SNR=4.4							

*ARE **15** 05:06:16±3.5, 13°.62S±0°.07×76°.9W±0°.1, h36km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=158.0*
*NEIC **15** 05:06:19.6±2.5, 13°.50S±0°.08×76°.6W±0°.1, h44km±7km, mb4.2/16, ML4.8(ARE), Error ellipse: s-maj=19.0km s-min=8.6km az=66.0*
*IDC **15** 05:06:20.5±0.6, 13°.40S×76°.53W, h49km±5km, mb3.9/12, mb1 4.1/17, mb1mx3.9/29, mbtmp4.1/17, MS3.3/10, Ms1 3.3/10, ms1mx3.2/23, Error ellipse: s-maj=22.5km s-min=11.3km az=66.0*
*VAO **15** 05:06:25.4±0.6, 13°.44S×76°.13W, h88km, mb4.3*

ISC 15 05:06:18.6±0.5,13°.43S±0°.05×76°.59W±0°.07,h35km,n113, σ1°73/111,mb4.3/16,MS3.4/6,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.46**	**350**	P	**Pn**	**05 06 43.2**	**+0.7**
38nm,0.3s,baz=185,slow=13,SNR=26							
NNA	**Nana**	**1.46**	**350**	Pn	**Pn**	**05 06 43.4**	**+0.9**
ATAH	**Atahualpa**	**6.50**	**344**	P	**Pn**	**05 07 54.5**	**+2.2**
2.7nm,0.3s,baz=160,slow=4.3,SNR=19							
ATAH				S	**Sn**	**05 09 09.1**	**+3.6**
1.2nm,0.3s,baz=141,slow=4.5,SNR=1.5							
ATAH				LR	LR	05 10 56.6	
comp=Z,124nm,20.0s,baz=194,slow=42							
CZSB	**Cruzeiro do Su**	**6.83**	**34**	*eP*	**Pn**	**05 07 58.4**	**+2.0**
CZSB				*eS*	**Sn**	**05 09 14.9**	**+1.9**
PB16	**IPOC Station P**	**8.38**	**126**	Pn	**Pn**	**05 08 18.8**	**+0.6**
LPAZ	**La Paz**	**8.66**	**110**	P	**Pn**	**05 08 25.0**	**+2.9**
1.6nm,0.3s,baz=293,slow=11,SNR=22							
LPAZ				S	**Sn**	**05 10 03.8**	**+5.0**
0.3nm,0.3s,baz=211,slow=19,SNR=2.0							
LPAZ				LR	LR	05 12 14.5	
comp=Z,150nm,21.0s,baz=250,slow=41							
LPAZ	**La Paz**	**8.66**	**110**	Pn	**Pn**	**05 08 26.2**	**+4.1**
PSGCX	**Pisagua**	**8.72**	**136**	Pn	**Pn**	**05 08 20.6**	**-1.8**
MNMC	**Minye Minye**	**8.79**	**131**		**Pn**	**05 08 22.2**	**-1.3**
PB11	**IPOC Station P**	**9.15**	**134**	Pn	**Pn**	**05 08 26.6**	**-1.8**
TA01	**Diego Aracena**	**9.38**	**140**	Pn	**Pn**	**05 08 31.2**	**-0.1**
GO01	**Chusmiza**	**9.42**	**132**		**Pn**	**05 08 31.9**	**-0.5**
PATCX	**Punta Patache**	**9.58**	**141**	Pn	**Pn**	**05 08 32.4**	**-0.3**
PB08	**IPOC Station P**	**9.76**	**134**		**Pn**	**05 08 36.6**	**-0.4**
PB01	**IPOC Station P**	**10.16**	**139**		**Pn**	**05 08 42.3**	**+0.1**
PB07	**IPOC Station P**	**10.44**	**143**		**Pn**	**05 08 45.3**	**-0.7**
PB04	**IPOC Station P**	**10.77**	**146**	Pn	**Pn**	**05 08 49.9**	**-0.7**
ETMB	**Extrema**	**10.78**	**72**	*eP*	**Pn**	**05 08 50.3**	**-0.3**
PB09	**IPOC Station P**	**10.87**	**141**		**Pn**	**05 08 52.3**	**+0.3**
PB06	**IPOC Station P**	**11.38**	**145**	Pn	**Pn**	**05 08 58.8**	**-0.2**
PB10	**IPOC Station P**	**11.55**	**151**		**Pn**	**05 08 59.7**	**-1.3**
LVC	**Limon Verde**	**11.69**	**142**	P	**Pn**	**05 09 03.5**	**+0.2**
3.3nm,0.3s,baz=306,slow=9.8,SNR=27							
LVC	**Limon Verde**	**11.69**	**142**	Pn	**Pn**	**05 09 04.3**	**+1.0**
LVC	**Limon Verde**	**11.69**	**142**	*eP*	**Pn**	**05 09 04.6**	**+1.2**
PB15	**IPOC Station P**	**11.84**	**146**	Pn	**Pn**	**05 09 05.2**	**-0.1**
PB14	**IPOC Station P**	**12.58**	**153**	Pn	**Pn**	**05 09 13.2**	**-2.3**
GO02	**Mina Guanaco**	**13.41**	**152**	Pn	**Pn**	**05 09 27.3**	**+0.5**
PTLC	**Puerto Leguiza**	**13.63**	**8**	*eP*	**Pn**	**05 09 25.7**	**-3.9**
OTAV	**Otavalo**	**13.71**	**352**		**P**	**05 09 38.2**	**-1.0**
OTAV	**Otavalo**	**13.71**	**352**	*eP*	**P**	**05 09 37.6**	**-1.6**
AC01	**Pan de Azucar**	**13.85**	**157**	Pn	**Pn**	**05 09 31.4**	**-1.0**
SAML	**Samuel**	**13.89**	**73**		**Pn**	**05 09 30.9**	**-2.2**
SAML	**Samuel**	**13.89**	**73**	*eP*	**Pn**	**05 09 30.9**	**-2.2**
PUAC	**Puerto Asis, P**	**13.89**	**0**	*eP*	**Pn**	**05 09 32.5**	**-0.7**
GCUF	**Volcan Galeras**	**14.58**	**357**	*eP*	**Pn**	**05 09 41.9**	**-1.1**
GCUF				*eP*	**Pn**	**05 09 41.9**	**-1.1**
FLOC	**Florencia**	**14.95**	**4**	*eP*	**Pn**	**05 09 45.1**	**-2.4**
AC02	**Maricunga**	**15.06**	**153**	Pn	**Pn**	**05 09 50.2**	**+0.9**
SIV	**San Ignacio**	**15.23**	**102**	P	**Pn**	**05 09 51.0**	**-0.2**
0.1nm,0.3s,baz=268,slow=14,SNR=3.1							
SOTA	**Rioblanco**	**15.46**	**360**	*eP*	**Pn**	**05 09 54.5**	**-0.2**
SOTA				*eP*	**P**	**05 10 00.9**	**+2.0**
AC04	**Llanos de Chal**	**15.57**	**162**	Pn	**Pn**	**05 09 57.1**	**+1.5**
PCON	**Cinco Dias**	**15.66**	**1**	*eP*	**P**	**05 10 01.2**	**+0.1**
MACC	**Macarena, Meta**	**15.71**	**10**	*eP*	**Pn**	**05 09 54.5**	**-3.0**
VILB	**Vilhena**	**15.97**	**90**	*eP*	**Pn**	**05 10 00.3**	**-0.5**
AC05	**El Transito**	**16.42**	**160**		**P**	**05 10 08.6**	**-0.4**
AC05				IAmb	IAmb	05 10 12.0	
comp=Z,18nm,1.1s							
PTLB	**Pontes e Lacer**	**17.02**	**99**	*eP*	**Pn**	**05 10 12.8**	**-1.4**
GO04	**Tololo Observa**	**17.50**	**163**	P	**Pn**	**05 10 21.0**	**+0.8**
GO04				IAmb	IAmb	05 10 24.7	
comp=Z,20nm,0.9s							
VILC	**Villavicencio,**	**17.66**	**10**	*eP*	**P**	**05 10 26.0**	**+3.1**
TOLC	**Tolima**	**17.94**	**4**	*eP*	**P**	**05 10 29.1**	**+2.9**
CO03	**El Pedregal**	**18.16**	**164**	P	**Pn**	**05 10 27.7**	**-0.5**
ROSC	**El Rosal**	**18.29**	**7**	P	**P**	**05 10 31.5**	**+1.5**
comp=Z,0.3nm,0.3s,baz=144,slow=19,SNR=1.5							
ROSC				LR	LR	05 18 59.2	
comp=Z,131nm,18.9s,baz=208,slow=42							
CO02	**Combarbal**	**18.42**	**165**	P	**P**	**05 10 31.6**	**+0.4**
GUY2C	**Guyana, Caldas**	**18.57**	**4**	*eP*	**P**	05 10 26.0	-7.3
MACA	**Manacapuru-AM**	**18.74**	**58**	*eP*	**P**	**05 10 32.7**	**-2.0**
SPBC	**San Pablo de B**	**19.12**	**8**	*eP*	**P**	**05 10 38.5**	**-0.3**
RUSC	**La Rusia**	**19.51**	**11**	*eP*	**Pn**	**05 10 44.8**	**-0.1**
VA03	**San Esteban**	**20.02**	**165**	P	**P**	**05 10 49.3**	**+0.7**
VA03				IAmb	IAmb	05 11 08.1	
comp=Z,9.1nm,0.8s							
H03N1	**Juan Fernandez**	**20.03**	**186**	T	T	05 30 38.5	
baz=7.6,slow=74							
H03N2	**Juan Fernandez**	**20.03**	**186**	T	T	05 30 47.6	
baz=7.6,slow=74							
H03N3	**Juan Fernandez**	**20.05**	**186**	T	T	05 30 37.2	
baz=7.6,slow=74							
MT02	**Curacav**	**20.36**	**167**	P	**P**	**05 10 53.4**	**+1.3**
MT02				IAmb	IAmb	05 10 58.1	
comp=Z,6.5nm,0.8s							
CLDB	**Colider**	**20.49**	**85**	*eP*	**P**	**05 10 51.5**	**-2.2**
ZARC	**Zaragoza, Cauc**	**20.86**	**5**	*eP*	**P**	**05 10 51.1**	**-6.6**
PAMC	**Pamplona, Colo**	**20.99**	**11**	*eP*	**P**	**05 10 57.4**	**-2.2**
AQDB	**Aquidauana**	**21.16**	**112**	*eP*	**P**	**05 10 59.6**	**-1.4**
OCAC	**Ocana**	**21.77**	**9**	*eP*	**P**	**05 11 00.6**	**-7.1**
NPGB	**Novo Progresso**	**21.83**	**75**	*eP*	**P**	**05 11 06.1**	**-2.1**
GO05	**Huala**	**21.89**	**170**	P	**P**	**05 11 10.7**	**+2.0**
GO05				IAmb	IAmb	05 11 11.5	
comp=Z,10.0nm,0.9s							
BO02	**Sierra Bellavi**	**21.91**	**167**	P	**P**	**05 11 10.2**	**+1.3**
BO02				IAmb	IAmb	05 11 25.6	
comp=Z,8.0nm,0.9s							
CPUP	**Villa Florida**	**22.16**	**128**	P	**P**	**05 11 12.1**	**+0.5**
comp=Z,1.6nm,0.9s,baz=332,slow=14,SNR=2.9							
CPUP	**Villa Florida**	**22.16**	**128**	*eP*	**P**	**05 11 11.3**	**-0.3**
SMLC	**San Martn de**	**22.23**	**7**	*eP*	**P**	**05 11 13.1**	**+0.7**
ITTB	**Itaituba**	**22.47**	**68**	*eP*	**P**	**05 11 13.4**	**-1.7**
SDV	**Santo Domingo**	**22.95**	**15**	P	**P**	**05 11 20.4**	**+0.2**
comp=Z,12nm,0.6s,baz=191,slow=11,SNR=5.5							
SDV				LR	LR	05 21 21.0	
comp=Z,64nm,19.8s,baz=286,slow=39							
ARAG	**Araguaiana, MT**	**24.09**	**98**	*eP*	**P**	**05 11 32.5**	**+1.4**
SNDB	**Serra Nova Dou**	**24.72**	**90**	*eP*	**P**	**05 11 35.4**	**-1.5**
MALB	**Monte Alegre**	**24.91**	**64**	*eP*	**P**	**05 11 37.8**	**-0.8**
LC01	**Cunco**	**25.71**	**171**	P	**P**	**05 11 45.6**	**0.0**
LC01				IAmb	IAmb	05 11 48.7	
comp=Z,11nm,0.8s							
PTGB	**Pitanga**	**25.71**	**120**	*eP*	**P**	**05 11 45.5**	**-0.4**
PCRV	**Puerto La Cruz**	**26.29**	**27**	P	**P**	**05 11 52.0**	**+0.9**
comp=Z,21nm,1.1s,baz=235,slow=9.9,SNR=2.7							
PLCV	**Puerto La Cruz**	**26.30**	**28**	P	**P**	**05 11 52.0**	**+0.8**
ITAB	**Concordia**	**26.67**	**125**	*eP*	**P**	**05 11 53.1**	**-1.3**
PLCA	**Paso Flores**	**27.71**	**170**	P	**P**	**05 12 04.0**	**+0.2**
comp=Z,6.4nm,0.6s,baz=347,slow=10,SNR=38							
PLCA				LR	LR	05 21 25.6	
comp=Z,32nm,18.3s,baz=332,slow=33							
PLCA	**Paso Flores**	**27.71**	**170**	P	**P**	**05 12 04.2**	**+0.5**
PLCA	**Paso Flores**	**27.71**	**170**	*eP*	**P**	**05 12 04.5**	**+0.8**
BDFB	**Brasilia**	**27.74**	**98**	LR	LR	05 23 47.0	
comp=Z,57nm,21.6s,baz=357,slow=38							
PLTB	**Pedras Altas**	**27.89**	**135**	*eP*	**P**	**05 12 04.8**	**-0.6**
LL01	**San Ignacio de**	**29.07**	**174**	P	**P**	**05 12 15.5**	**-0.1**
LL01				IAmb	IAmb	05 12 16.4	
comp=Z,15nm,1.1s							
TXAR	**Lajitas Array**	**49.91**	**329**	P	**P**	**05 15 10.0**	**+0.9**
comp=Z,0.4nm,0.7s,baz=154,slow=9.3,SNR=7.1							
TXAR	**Lajitas Array**	**49.91**	**329**	P	**P**	**05 15 09.8**	**+0.7**
PDAR	**Pinedale Array**	**63.58**	**333**	P	**P**	**05 16 46.1**	**0.0**
comp=Z,0.6nm,0.7s,baz=116,slow=6.8,SNR=3.7							
NVAR	**Mina Array Bea**	**64.68**	**325**	P	**P**	**05 16 54.0**	**+0.5**
comp=Z,0.7nm,0.7s,baz=143,slow=6.6,SNR=4.4							
ULM	**Lac du Bonnet**	**65.63**	**347**	P	**P**	**05 16 58.0**	**-0.9**
comp=Z,2.1nm,0.8s,baz=143,slow=4.3,SNR=1.9							
ULM				pP	**sP**	**05 17 12.1**	**-1.7**
comp=Z,3.6nm,0.6s,baz=132,slow=4.7,SNR=3.7							
VNA3	**Neumayer Olymp**	**70.02**	**162**	P	**P**	**05 17 26.9**	**+0.5**
VNA1	**Neumayer--Stat**	**70.28**	**161**	P	**P**	**05 17 28.8**	**+0.7**
VNA2	**Neumayer--Watz**	**70.64**	**161**	P	**P**	**05 17 30.5**	**+0.3**
baz=296,slow=6.3							
SNAA	**Sanae**	**72.24**	**161**	P	**P**	**05 17 40.0**	**+0.1**
SNAA	**Sanae**	**72.24**	**161**	P	**P**	**05 17 40.0

PB06					IAML			05 14 17.1	
	comp=N,329nm,0.4s								
LVC	**Limon Verde**	**3.24**	**146**	P		**Pn**		**05 13 29.5**	**+2.1**
	comp=N,3.9nm,0.3s,baz=324,slow=13,SNR=24								
LVC					S	**Sn**		**05 14 07.1**	**+0.9**
	comp=N,17nm,0.3s,baz=19,slow=9.4,SNR=5.8								
PB10	**IPOC Station P**	**3.58**	**175**	*eP*		**Pn**		**05 13 30.8**	**-1.0**
LPAZ	**La Paz**	**4.46**	**36**	P		**Pb**		**05 13 53.0**	**-1.9**
	comp=N,1.5nm,0.3s,baz=207,slow=4.8,SNR=20								
TORD	**Torodi Ar. Bea**	**78.58**	**71**	P		**P**		**05 24 38.5**	**0.0**
	comp=N,1.1nm,0.7s,baz=252,slow=5.1,SNR=7.8								
H11S2	**WAKE ISLAND Hyl**	**25.84**	**279**	T		T		07 50 14.5	
	baz=102								
H11S1	**WAKE ISLAND Hyl**	**25.85**	**279**	T		T		07 50 14.7	
	baz=102								
H11S3	**WAKE ISLAND Hyl**	**25.86**	**279**	T		T		07 50 15.8	
	baz=102								
H11N3	**WAKE ISLAND Hyl**	**25.89**	**280**	T		T		07 50 16.7	
	baz=105								
H11N2	**WAKE ISLAND Hyl**	**25.90**	**280**	T		T		07 50 18.1	
	baz=105								
H11N1	**WAKE ISLAND Hyl**	**25.90**	**280**	T		T		07 50 15.9	
	baz=105								
MKAR	**Makanchi Array**	**145.38**	**33**	PKPbc		**PKPdf**		**05 32 15.9**	**+1.5**
	comp=N,0.7nm,0.6s,baz=322,slow=3.8,SNR=6.6								

IDC 15 05:14:59.1±3.6, 30°29S×138°48E, h0km, mb1 3.1/3, mb1mx3.0/16, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=99.4km s-min=16.2km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.10**	**121**	Pn	Pn	05 15 49.5	+0.2
	0.4nm,0.3s,baz=302,slow=9.9,SNR=8.3						
STKA				Pg	Pb	05 15 56.7	+1.5
	1.4nm,0.3s,baz=296,slow=17,SNR=16						
STKA				Sn	Sn	05 16 28.1	+1.0
	1.7nm,0.3s,baz=336,slow=20,SNR=7.7						
STKA				Lg	Lg	05 16 36.2	
	1.7nm,0.3s,baz=29,slow=18,SNR=5.8						
ASAR	**Alice Springs**	**7.76**	**327**	Pn	Pn	05 16 53.3	0.0
	0.1nm,0.3s,baz=153,slow=12,SNR=2.2						
ASAR				Sn	Sn	05 18 20.8	-1.2
	0.1nm,0.3s,baz=151,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**10.96**	**339**	Pn	Pn	05 17 37.8	+0.5
	0.1nm,0.3s,baz=158,slow=12,SNR=2.5						
WRA				Sn	Sn	05 19 31.5	-9.2
	0.0nm,0.3s,baz=31,slow=23,SNR=1.6						

IDC 15 05:29:46.6±4.4, 20°.63S×70°.30W, h0km, mb4.0/1, mb1 3.8/2, mb1mx3.4/20, mbtmp3.7/2, ML3.2/1, MS2.6/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=149.9km s-min=64.7km az=101.0

GUC 15 05:29:50.4±0.6, 19°.96S×70°.85W, h29km±2km, ML3.7

ISC 15 05:29:42.7±1.7, 19°99S±0°.03×71°.07W±0°.07, h4km±10km, n20, σ1§46/33, 3C-7D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.93**	**107**	⇓*iP*	**Pn**	**05 30 03.0**	**+0.5**
TA02				*i* S	**Sg**	**05 30 13.3**	**+0.7**
TA02				IAML		05 30 15.9	
	comp=N,8μm,0.2s						
PSGC	**Pisagua**	**0.98**	**66**	⇓*iP*	**Pn**	**05 30 03.5**	**+0.2**
PSGC				*i* S	**Sg**	**05 30 14.3**	**+0.1**
TA01	**Diego Aracena**	**1.01**	**124**	⇓*iP*	**Pn**	**05 30 05.2**	**+1.5**
TA01				*i* S	**Sb**	**05 30 16.9**	**+0.4**
TA01				IAML		05 30 19.6	
	comp=E,4μm,0.4s						
PATCX	**Punta Patache**	**1.19**	**134**	⇓*iP*	**Pg**	**05 30 08.6**	**+2.9**
PATCX				*i* S	**Sn**	**05 30 22.6**	**-0.3**
PB11	**IPOC Station P**	**1.35**	**80**	⇓*iP*	**Pg**	**05 30 09.8**	**+1.1**
PB11				*i* S	**Sn**	**05 30 25.0**	**-2.0**
PB11				IAML		05 30 26.6	
	comp=N,3μm,0.3s						
MNMC	**Minye Minye**	**1.64**	**59**	⇓*iP*	**Pg**	**05 30 14.7**	**+0.6**
MNMC				*i* S	**Sn**	**05 30 34.0**	**-0.2**
MNMC				IAML		05 30 40.3	
	comp=N,3μm,0.1s						
AP01	**Chacalluta**	**1.75**	**23**	*eP*	**Pg**	**05 30 17.8**	**+1.5**
AP01				*i* S	**Sg**	**05 30 38.9**	**-0.2**
AP01				IAML		05 30 51.0	
	comp=E,3μm,0.7s						
GO01	**Chusmiza**	**1.80**	**80**	*eP*	**Pg**	**05 30 17.2**	**0.0**
GO01				*i* S	**Sn**	**05 30 38.1**	**-0.3**
GO01				IAML		05 30 40.3	
	comp=N,4μm,0.3s						
PB08	**IPOC Station P**	**1.81**	**95**	⇑*iP*	**Pg**	**05 30 17.2**	**-0.2**
PB08				*i* S	**Sn**	**05 30 38.4**	**-0.3**
PB01	**IPOC Station P**	**1.82**	**125**	⇑*iP*	**Pg**	**05 30 17.7**	**+0.1**
PB01				*i* S	**Sb**	**05 30 39.2**	**-0.6**
PB07	**IPOC Station P**	**2.05**	**147**	⇑*iP*	**Pg**	**05 30 21.2**	**-0.9**
PB07				*i* S	**Sg**	**05 30 48.3**	**-0.4**
PB07				IAML		05 30 57.1	
	comp=E,1μm,0.9s						
PB16	**IPOC Station P**	**2.22**	**42**	*eP*	**Pb**	**05 30 24.1**	**+0.4**
PB16				*i* S	**Sb**	**05 30 51.3**	**-0.4**
PB16				IAML		05 30 55.7	
	comp=N,384nm,0.3s						
PB03	**IPOC Station P**	**2.39**	**149**	*eP*	**Pb**	**05 30 25.8**	**-0.6**
PB09	**IPOC Station P**	**2.48**	**137**	⇓*eP*	**Pb**	**05 30 28.1**	**+0.2**
PB09				*eS*	**Sb**	**05 30 57.6**	**-1.4**
PB09				IAML		05 31 09.6	
	comp=E,336nm,0.7s						
PB04	**IPOC Station P**	**2.48**	**160**	*eP*	**Pb**	**05 30 27.3**	**-0.8**
PB04				IAML		05 31 11.7	
	comp=N,282nm,0.6s						
PB05	**IPOC Station P**	**2.96**	**164**	*eP*	**Pb**	**05 30 33.4**	**-2.7**
PB05				IAML		05 31 29.3	
	comp=E,122nm,0.5s						
PB06	**IPOC Station P**	**3.04**	**153**	*eP*	**Pb**	**05 30 34.7**	**-2.8**
PB06				IAML		05 31 31.5	
	comp=N,182nm,0.5s						
LPAZ	**La Paz**	**4.63**	**38**	Pn	**Pb**	**05 31 00.5**	**-4.3**
	comp=N,0.7nm,0.3s,baz=229,slow=1.7,SNR=29						
LPAZ				LR	LR	05 32 51.3	
	comp=N,60nm,20.1s,baz=247,slow=39						
TORD	**Torodi Ar. Bea**	**78.78**	**72**	P	**P**	**05 41 49.1**	**+1.9**
	comp=N,1.1nm,0.8s,baz=248,slow=4.2,SNR=4.4						
MKAR	**Makanchi Array**	**145.54**	**33**	PKPbc	**PKiKP**	**05 49 26.5**	**+0.2**
	comp=N,0.5nm,0.6s,baz=325,slow=4.0,SNR=2.8						

IDC 15 05:36:07.1±1.4, 27°.10S×71°.36W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/29, mbtmp3.6/4, ML4.2/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/28, Error ellipse: s-maj=40.5km s-min=29.2km az=104.0

GUC 15 05:36:10.3±0.6, 26°.99S×71°.63W, h29km±4km, ML3.9

VAO 15 05:36:14.9±2.0, 26°.63S×71°.12W, h10km, mb4.2

ISC 15 05:36:07.7±1.9, 27°02S±0°.03×71°57W±0°.08, h10km±11km, n33, σ1§66/37, MS3.2/3, 5C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**1.23**	**45**	⇑*iP*	**Pg**	**05 36 32.5**	**+1.2**
AC01				*eS*	**Sn**	**05 36 48.4**	**+0.8**
AC01				IAML		05 36 49.2	
	comp=E,5μm,0.1s						
AC04	**Llanos de Chal**	**1.26**	**160**	⇓*iP*	**Pg**	**05 36 31.8**	**-0.1**
AC04				*eS*	**Sb**	**05 36 46.7**	**-1.1**
AC04				IAML		05 36 47.6	
	comp=E,4μm,0.2s						
GO03	**Copiap**	**1.31**	**116**	⇓*iP*	**Pg**	**05 36 34.8**	**+1.8**
GO03				*i* S	**Sg**	**05 36 52.7**	**+2.7**
GO03				IAML		05 36 53.9	
	comp=N,3μm,0.2s						
AC05	**El Transito**	**2.14**	**148**	⇓*iP*	**Pb**	**05 36 46.3**	**-0.3**
AC05				*i* S	**Sb**	**05 37 11.8**	**-1.5**
AC05				IAML		05 37 13.3	
	comp=E,1μm,0.6s						
AC02	**Maricunga**	**2.18**	**86**	⇓*iP*	**Pg**	**05 36 49.3**	**-0.3**
AC02				*i* S	**Sg**	**05 37 16.8**	**-1.1**
GO02	**Mina Guanaco**	**2.56**	**44**	⇑*iP*	**Pb**	**05 36 52.1**	**-1.9**
GO02				*eS*	**Sb**	**05 37 23.3**	**-2.4**
PB14	**IPOC Station P**	**2.60**	**24**	⇑*iP*	**Pn**	**05 36 50.3**	**+0.1**
PB14				*i* S	**Sn**	**05 37 20.0**	**-2.1**
GO04	**Tololo Observa**	**3.21**	**168**	⇑*iP*	**Pn**	**05 36 59.3**	**+0.9**
CO01	**Juntas del Tor**	**3.22**	**157**	*eP*	**Pb**	**05 37 01.6**	**-3.5**
CO01				*i* S	**Sn**	**05 37 38.5**	**+1.4**
CO01				IAML		05 37 41.2	
	comp=N,385nm,0.3s						

PB10	**IPOC Station P**	**3.61**	**15**	⇑*iP*		**Pn**		**05 37 02.9**	**-0.9**
LVC	**Limon Verde**	**5.01**	**29**	Pn		**Pn**		**05 37 25.0**	**+1.7**
	comp=N,49nm,0.3s,baz=214,slow=7.5,SNR=269								
LVC					Sn	**Sn**		**05 38 21.2**	**-0.3**
	comp=N,23nm,0.3s,baz=54,slow=19,SNR=15								
LVC					Lg	Lg		05 38 39.4	
	comp=N,24nm,0.3s,baz=307,slow=11,SNR=6.6								
LVC					LR	LR		05 39 26.3	
	comp=N,154nm,19.1s,baz=220,slow=40								
H03N1	**Juan Fernandez**	**9.02**	**223**	T		T		05 47 53.7	
	baz=52,slow=71,SNR=91								
H03N2	**Juan Fernandez**	**9.03**	**223**	T		T		05 48 02.4	
	baz=52,slow=71,SNR=36								
H03N3	**Juan Fernandez**	**9.03**	**223**	T		T		05 47 57.1	
	baz=52,slow=71,SNR=33								
LPAZ	**La Paz**	**11.15**	**17**	Pn		**Pn**		**05 38 48.9**	**+1.1**
	comp=N,5.4nm,0.3s,baz=178,slow=4.2,SNR=190								
LPAZ				LR		LR		05 44 12.8	
	comp=N,47nm,18.2s,baz=275,slow=44								
LPAZ	**La Paz**	**11.15**	**17**	*eP*		**Pn**		**05 38 48.7**	**+0.9**
PLCA	**Paso Flores**	**13.70**	**177**	Pn		**Pn**		**05 39 21.7**	**-0.4**
	comp=N,0.0nm,0.3s,baz=315,slow=4.3,SNR=1.5								
SIV	**San Ignacio**	**14.68**	**44**	Pn		**Pn**		**05 39 32.6**	**-2.9**
	comp=N,2.6nm,0.3s,baz=247,slow=8.3,SNR=56								
SIV				LR		LR		05 44 57.0	
	comp=N,33nm,19.9s,baz=284,slow=36								
PTLB	**Pontes e Lacer**	**16.32**	**48**	*eP*		**Pn**		**05 39 56.1**	**-0.9**
VILB	**Vilhena**	**17.59**	**39**	*eP*		**P**		**05 40 13.7**	**-0.4**
ETMB	**Extrema**	**17.84**	**17**	*eP*		**P**		**05 40 16.9**	**0.0**
PCMB	**Pacaembu**	**19.27**	**78**	*eP*		**Pn**		**05 40 35.1**	**+1.5**
CLDB	**Colider**	**21.88**	**46**	*eP*		**P**		**05 41 01.8**	**+0.9**
BDFB	**Brasilia**	**24.64**	**67**	P		**P**		**05 41 27.4**	**-1.3**
	comp=N,2.2nm,0.5s,baz=262,slow=9.4,SNR=4.4								
BDFB				LR		LR		05 52 35.0	
	comp=N,78nm,20.0s,baz=130,slow=40								
NPGB	**Novo Progresso**	**25.14**	**41**	*eP*		**P**		**05 41 33.9**	**+0.8**
MACA	**Manacapuru-AM**	**25.91**	**26**	*eP*		**P**		**05 41 42.6**	**+2.5**
ITTB	**Itaituba**	**27.13**	**37**	*eP*		**P**		**05 41 54.3**	**+3.2**
MDP	**Montagnes des**	**36.81**	**33**	LR		LR		06 00 00.6	
	comp=N,34nm,18.8s,baz=222,slow=39								
TXAR	**Lajitas Array**	**63.92**	**329**	P		**P**		**05 46 42.9**	**+1.9**
	comp=N,0.0nm,0.3s,baz=146,slow=6.6,SNR=1.6								
TORD	**Torodi Ar. Bea**	**81.48**	**71**	P		**P**		**05 48 26.6**	**+0.9**
	comp=N,1.1nm,0.5s,baz=265,slow=4.7,SNR=15								
BORG	**Borgarnes**	**99.41**	**20**	LR		LR		06 36 06.7	
	comp=N,35nm,18.4s,baz=116,slow=36								
ZALV	**Zalesovo Beam**	**147.96**	**27**	PKPbc		**PKiKP**		**05 55 53.0**	**-1.7**
	comp=N,0.9nm,0.5s,baz=308,slow=3.6,SNR=3.5								
MKAR	**Makanchi Array**	**151.47**	**39**	PKPbc		**PKiKP**		**05 56 02.2**	**-0.1**
	comp=N,0.2nm,0.3s,baz=29,slow=3.3,SNR=2.2								

IDC 15 05:41:15.3±1.3, 6°.84S×126°.53E, h451km±17km, mb3.2/2, mb1 3.3/8, mb1mx2.9/45, mbtmp4.2/8, Error ellipse: s-maj=30.0km s-min=12.0km az=68.0

ISC 15 05:41:15.0±0.9, 6°91S±0°.08×126°5E±0°.1, h450km, n8, σ1§86/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.28**	**220**	P	**P**	**05 42 34.0**	**+1.3**
	44nm,0.3s,baz=14,slow=1.9,SNR=15						
BATI				S	**S**	**05 43 31.6**	**-4.3**
	11nm,0.3s,baz=34,slow=5.3,SNR=2.5						
KAPI	**Kappang**	**6.92**	**285**	P	**P**	**05 43 01.1**	**+2.1**
	0.6nm,0.3s,baz=151,slow=14,SNR=1.5						
SIJI	**Sorong**	**7.69**	**39**	P	**P**	**05 43 05.9**	**-1.3**
	4.9nm,0.3s,baz=173,slow=19,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.15**	**184**	P	**P**	**05 43 45.7**	**+1.0**
	0.7nm,0.3s,baz=360,slow=8.9,SNR=32						
FITZ				S	**S**	**05 45 47.1**	**-0.9**
	0.1nm,0.3s,baz=188,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**15.05**	**150**	P	**P**	**05 44 26.9**	**+0.1**
	0.5nm,0.3s,baz=324,slow=11,SNR=33						
WRA				S	**S**	**05 47 05.3**	**+0.1**
	0.1nm,0.3s,baz=321,slow=20,SNR=4.9						
ASAR	**Alice Springs**	**18.14**	**158**	P	**P**	**05 44 60.0**	**+0.7**
	1.2nm,0.3s,baz=339,slow=11,SNR=35						
ASAR				S	**S**	**05 48 04.5**	**+1.5**
	0.0nm,0.3s,baz=340,slow=21,SNR=11						
MKAR	**Makanchi Array**	**66.26**	**328**	P	**P**	**05 51 17.9**	**+0.5**
	0.5nm,0.5s,baz=118,slow=7.1,SNR=5.4						
ZALV	**Zalesovo Beam**	**69.98**	**335**	P	**P**	**05 51 39.5**	**-0.4**
	1.8nm,0.6s,baz=127,slow=4.6,SNR=6.5						

IDC 15 05:57:34.1±1.6, 3°47S×138°55E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/24, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=36.6km s-min=18.2km az=146.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.35**	**66**	Pn	Pb	05 58 15.8	-1.5
	1.1nm,0.3s,baz=232,slow=12,SNR=1.3						
JAY				Lg	Lg	05 58 47.6	
	3.0nm,0.3s,baz=66,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**16.88**	**194**	Pn	Pn	06 01 31.5	-0.4
	0.3nm,0.3s,baz=16,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**20.57**	**192**	P	P	06 02 14.7	0.0
	2.5nm,0.8s,baz=19,slow=11,SNR=16						
MKAR	**Makanchi Array**	**70.29**	**323**	P	P	06 08 49.3	-0.2
	0.4nm,0.7s,baz=130,slow=4.5,SNR=2.8						

BUT 15 06:49:34.0, 46°.89N×112°.54W, h16km, ML3.3, ML3.4, Montana

NEIC 15 06:49:34.4±2.4, 46°.84N±0°.02×112°.60W±0°.05, h5km±2km, Error ellipse: s-maj=6.0km s-min=3.3km az=75.0

ISC 15 06:49:33.0±1.4, 46°85N±0°.03×112°62W±0°.03, h2km±12km, n47, σ2§30/63, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRY	**Holter Researc**	**0.56**	**104**		**Pg**	**06 49 43.9**	**+0.2**
MSO	**Missoula**	**0.91**	**269**		**Pg**	**06 49 52.1**	**+1.7**
MSO					**Sb**	**06 50 04.9**	**+0.7**
LRM	**Limekiln Ridge**	**1.03**	**173**	Pn	**Pg**	**06 49 54.2**	**+1.4**
BOZ	**Bozeman (W)**	**1.43**	**151**		**Pn**	**06 50 00.6**	**+0.4**
BOZ					**Sb**	**06 50 18.1**	**-1.0**
JTMT	**Jette**	**1.45**	**309**	Pn	**Pn**	**06 50 00.4**	**0.0**
JTMT					**Sb**	**06 50 19.5**	**-0.2**
DLMT	**Dillon**	**1.48**	**179**		**Pn**	**06 50 00.9**	**0.0**
DLMT					**Sn**	**06 50 21.6**	**+0.6**
MCMT	**McKenzie Canyo**	**2.03**	**185**		**Pn**	**06 50 08.5**	**+0.1**
QLMT	**Earthquake Lak**	**2.18**	**157**	Pn	**Pn**	**06 50 12.0**	**+1.4**
YHL	**Hebgen Lake**	**2.23**	**153**		**Pn**	**06 50 12.1**	**+0.8**
YHL					**Sb**	**06 50 43.1**	**+0.6**
EGMT	**Eagleton**	**2.27**	**58**		**Pn**	**06 50 12.3**	**+0.6**
EGMT					**Sn**	**06 50 41.0**	**+0.7**
GCMT	**Greycliff**	**2.30**	**116**		**Pb**	**06 50 14.8**	**-0.6**
YHB	**Horse Butte**	**2.32**	**154**		**Pn**	**06 50 12.4**	**-0.1**
WALA	**Waterton Lakes**	**2.38**	**339**	Pg	**Pn**	**06 50 15.3**	**+2.1**
WALA				Sn	**Sn**	**06 50 38.9**	**-4.1**
WALA				Sg	**Sb**	**06 50 45.6**	**-0.9**
WALA	**Waterton Lakes**	**2.38**	**339**		**Pn**	**06 50 15.3**	**+2.1**
WALA					**Sb**	**06 50 45.9**	**-0.6**
YHH	**Holmes Hill**	**2.40**	**148**		**Pn**	**06 50 13.8**	**+0.1**
YMR	**Madison River**	**2.47**	**151**		**Pn**	**06 50 15.6**	**+1.1**
YNR	**Norris Junctio**	**2.53**	**147**	Pn	**Pn**	**06 50 17.1**	**+1.8**
YNE	**Yellowstone No**	**2.59**	**134**		**Pn**	**06 50 16.4**	**+0.3**
YMP	**Mirror Lake Pl**	**2.72**	**140**	Pn	**Pn**	**06 50 19.9**	**+1.8**
LKWY	**Lake**	**2.76**	**145**	Pn	**Pn**	**06 50 18.6**	**0.0**
YPP	**Pitchstone Pla**	**2.87**	**153**	Pn	**Pn**	**06 50 21.6**	**+1.5**
RLMT	**Red Lodge**	**2.90**	**125**		**Pn**	**06 50 21.9**	**+1.4**
PLID	**Pearl Lake**	**2.94**	**234**		**Pn**	**06 50 21.6**	**+0.6**
FLWY	**Flagg Ranch**	**3.08**	**153**		**Pn**	**06 50 24.8**	**+1.9**
IMW	**Indian Meadow**	**3.18**	**158**		**Pn**	**06 50 26.5**	**+2.2**
F10A	**Beach Ranch, E**	**3.31**	**256**		**Pn**	**06 50 26.9**	**+1.0**
NEW	**Newport**	**3.36**	**297**	Pn	**Pn**	**06 50 26.2**	**-0.4**
MOOW	**Moose Ponds**	**3.37**	**156**		**Pn**	**06 50 28.1**	**+1.2**
HLID	**Hailey**	**3.52**	**202**		**Pn**	**06 50 29.2**	**+0.3**
LOHW	**Long Hollow**	**3.53**	**156**		**Pn**	**06 50 30.7**	**+1.6**
TPAW	**Teton Pass**	**3.56**	**160**	Pn	**Pn**	**06 50 31.7**	**+2.1**
SNOW	**Snow King Moun**	**3.63**	**158**	Pn	**Pn**	**06 50 30.0**	**-0.6**
REDW	**Red Top Meadow**	**3.70**	**160**	Pn	**Pn**	**06 50 32.6**	**+1.1**
E09A	**Wood Farm, Sta**	**3.82**	**267**		**Pn**	**06 50 36.1**	**+3.2**
BMO	**Blue Mountains**	**3.83**	**240**		**Pn**	**06 50 34.9**	**+1.7**
C09A	**Chrisman Ranch**	**3.96**	**286**	Pn	**Pn**	**06 50 34.5**	**-0.3**
MFID	**Camas Ranch**	**4.11**	**215**	Pn	**Pn**	**06 50 37.1**	**+0.1**
PRDA	**Priddis**	**4.17**	**345**	Pn	**Pn**	**06 50 38.6**	**+0.7**
PRDA				Pg	**Pb**	**06 50 46.1**	**-1.1**
PRDA				Sn	**Sn**	**06 51 23.8**	**-3.4**
PRDA				Sg	**Sb**	**06 51 43.7**	**+5.6**

LAO	**LASA Array**	**4.40**	**90**			**Pn**		**06 50 41.6**	**+0.8**
G08A	**Pilot Rock**	**4.68**	**253**			**Pn**		**06 50 45.8**	**+1.0**
HAWA	**Hanford**	**4.79**	**267**	Pn		**Pn**		**06 50 46.2**	**0.0**
E07A	**Sunnyside**	**4.99**	**269**			**Pn**		**06 50 48.6**	**-0.3**
PNT	**Penticton**	**5.30**	**300**	Pn		**Pn**		**06 50 52.5**	**-0.7**
PNT				Sn		**Sn**		**06 51 53.5**	**-1.4**
PNT				Sg		**Sb**		**06 52 17.6**	**+7.2**
EDM	**Edmonton**	**6.40**	**356**	Pn		**Pn**		**06 51 06.4**	**-2.0**
EDM				Sn		**Sn**		**06 52 17.3**	**-4.6**
EDM				Sg		**Sb**		**06 52 50.4**	**+8.4**
HOPB	**Hope**	**6.42**	**297**	Pg		**Pb**		**06 51 25.8**	**+0.5**
HOPB				Sg		**Sg**		**06 52 53.4**	**-5.6**
MNB	**Mounoet Dainar**	**6.54**	**327**	Pn		**Pn**		**06 51 08.6**	**-1.8**
LLLB	**Lillooet**	**7.19**	**305**	Sg		Sb		06 53 15.5	+11

NEIC 15 06:59:16.3±0.5, 18°.95N±0°.10×145°.2E±0°.2, h168km±9km, mb4.0/8, Error ellipse: s-maj=21.9km s-min=13.7km az=85.0

IDC 15 06:59:19.9±3.4, 18°.86N×145°.30E, h202km±34km, mb3.2/6, mb1 3.5/7, mb1mx3.2/45, mbtmp3.8/7, Error ellipse: s-maj=34.5km s-min=17.9km az=103.0

ISC 15 06:59:20.0±0.8, 18°76N±0°.09×145°3E±0°.2, h200km, n20, σ1§28/19, mb3.7/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.44**	**171**	Pn	**Pn**	**07 00 01.4**	**-1.8**
GUMO	**Guam**	**5.16**	**185**	P	**Pn**	**07 00 37.7**	**+1.2**
	13nm,0.3s,baz=0.0,slow=14,SNR=3.9						
GUMO				S	**Sn**	**07 01 34.3**	**-2.5**
	14nm,0.3s,baz=12,slow=20,SNR=1.9						
GUMO	**Guam**	**5.16**	**185**		**Pn**	**07 00 35.5**	**-0.9**
PATS	**Pohnpei**	**17.34**	**131**	Pn	**Pn**	**07 03 12.1**	**+1.8**
WB0	**Warramunga Arr**	**39.76**	**196**	P	**P**	**07 06 34.3**	**+0.8**
WB0				IAmb	IAmb	07 06 34.9	
	comp=Z,7.5nm,1.2s						
WR0	**Warramunga Arr**	**39.90**	**196**	P	**P**	**07 06 35.5**	**+0.8**
WB2	**Warramunga Arr**	**39.94**	**196**	P	**P**	**07 06 35.2**	**+0.3**
WRA	**Warramunga Arr**	**39.94**	**196**	P	**P**	**07 06 35.5**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=13,slow=8.4,SNR=32						
WRA	**Warramunga Arr**	**39.94**	**196**	IAmb	IAmb	07 06 36.5	
	comp=Z,0.2nm,0.8s						
WC3	**Warramunga Arr**	**39.95**	**196**	P	**P**	**07 06 35.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**41.41**	**209**	P	**P**	**07 06 47.6**	**+0.6**
FITZ				IAmb	IAmb	07 06 55.3	
	comp=Z,4.1nm,1.2s						
ASAR	**Alice Springs**	**43.61**	**195**	P	**P**	**07 07 04.6**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=17,slow=9.3,SNR=6.2						
ASAR	**Alice Springs**	**43.61**	**195**	P	**P**	**07 07 05.2**	**+0.5**
BBOO	**Buckleboo**	**52.04**	**190**	P	**P**	**07 08 10.8**	**+1.7**
BBOO				IAmb	IAmb	07 08 22.0	
	comp=Z,4.8nm,1.2s						
MKAR	**Makanchi Array**	**58.15**	**314**	P	**P**	**07 08 51.1**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=93,slow=7.9,SNR=1.9						
KURK	**Kurchatov**	**60.98**	**318**	P	**P**	**07 09 13.0**	**+1.0**
KURK	**Kurchatov**	**60.98**	**318**	IAmb	IAmb	07 09 18.0	
	comp=Z,3.3nm,1.5s						
KURBB	**Kurchatov Arra**	**61.03**	**318**	P	**P**	**07 09 13.0**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=93,slow=7.6,SNR=2.2						
ILAR	**Eielson Array**	**63.75**	**26**	P	**P**	**07 09 29.0**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=256,slow=4.6,SNR=9.7						
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**07 11 25.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=269,slow=4.2,SNR=6.1						

WEL 15 07:03:22.3, 38°S±4°×17°6E±°, h188km±7km, M2.5/40, mB4.8/1, MLv2.5/40, Mw(mB)4.0/1, Error ellipse: s-maj=0.0km s-min=0.0km az=101.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MUGZ	**Murupara**	**0.

Plg19.0000°, Azm35.0000°; P -1.9160, Plg17.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 07:06:49.2±0.5,44°09N±0°05×149°17E±0°04,h44km±3km, h44km:pP-P,n374,σ1s56/393,mb4.7/112,MS4.5/38, 26C-15D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**321**	*i* P		**Pn**	**07 07 12.7**	**-0.6**
KUR					AMB	AMB	07 07 18.0	
	2μm,0.4s							
KUR				*e*S		**Sn**	**07 07 32.0**	**+0.6**
KUR					A	A	07 07 38.0	
	3μm,0.4s							
KUR					A	A	07 07 38.0	
	4μm,0.4s							
KUR					AMS	AMS	07 08 05.4	
	32μm,15.0s							
KUR					AMS	AMS	07 08 05.4	
	23μm,15.0s							
KUR					AMS	AMS	07 08 05.4	
	20μm,15.0s							
KUR	**Kuril'sk**	**1.48**	**321**	*c i* PN		**Pn**	**07 07 12.7**	**-0.6**
KUR				S		**Sn**	**07 07 36.7**	**+5.3**
KUR					pmax	pmax		
	comp=Z,7μm,3.8s							
KUR					pmax	pmax		
	comp=Z,2μm,0.4s							
KUR					pmax	pmax		
	comp=N,1μm,0.3s							
KUR					pmax	pmax		
	comp=E,498nm,0.3s							
KUR					smax	smax		
	comp=E,14μm,2.3s							
KUR					smax	smax		
	comp=N,14μm,2.0s							
KUR					smax	smax		
	comp=N,6μm,0.6s							
KUR					smax	smax		
	comp=E,4μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.39**	**270**	*e*P		**Pn**	**07 07 25.1**	**-0.6**
YUK					AMB	AMB	07 07 26.0	
	comp=E,730nm,0.4s							
YUK				*e*S		**Sn**	**07 07 53.6**	**-0.2**
YUK					A	A	07 08 07.0	
	comp=E,1μm,0.5s							
YUK					A	A	07 08 07.0	
	comp=E,4μm,0.5s							
YUK					AMS	AMS	07 09 02.0	
	comp=E,14μm,12.0s							
YUK					AMS	AMS	07 09 02.0	
	comp=E,18μm,12.0s							
YUK					AMS	AMS	07 09 02.0	
	comp=E,11μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**2.39**	**270**	*e*PN		**Pn**	**07 07 25.1**	**-0.6**
YUK				*e*S		**Sn**	**07 07 53.1**	**-0.7**
YUK					pmax	pmax		
	comp=N,101nm,0.3s							
YUK					pmax	pmax		
	comp=Z,726nm,0.3s							
YUK					pmax	pmax		
	comp=E,146nm,0.2s							
YUK					smax	smax		
	comp=N,1μm,0.5s							
YUK					smax	smax		
	comp=E,4μm,0.4s							
YUK					MLR	MLR		
	comp=Z,6μm,15.0s							
YUK					MLR	MLR		
	comp=N,5μm,11.0s							
YUK					MLR	MLR		
	comp=E,6μm,10.0s							
GRPR	**Tuman**	**2.46**	**269**	*e*P		**Pn**	**07 07 25.6**	**-1.1**
GRPR					AMB	AMB	07 07 29.0	
	comp=E,434nm,0.4s							
GRPR				*e*S		**Sn**	**07 07 54.9**	**-0.5**
GRPR					A	A	07 07 59.0	
	comp=E,2μm,0.5s							
GRPR					A	A	07 07 59.0	
	comp=E,1μm,0.5s							
GRPR					AMS	AMS	07 09 09.0	
	comp=E,5μm,9.0s							
GRPR	**Tuman**	**2.46**	**269**	*e*PN		**Pn**	**07 07 25.4**	**-1.3**
GRPR				*e*S		**Sn**	**07 07 54.8**	**-0.6**
GRPR					pmax	pmax		
	comp=Z,434nm,0.4s							
GRPR					pmax	pmax		
	comp=N,90nm,0.2s							
GRPR					pmax	pmax		
	comp=E,233nm,0.4s							
GRPR					smax	smax		
	comp=E,982nm,0.5s							
GRPR					smax	smax		
	comp=N,2μm,0.4s							
GRPR					MLR	MLR		
	comp=Z,5μm,9.0s							
NEM2	**Nemuro 2**	**2.59**	**255**	P		**Pn**	**07 07 27.0**	**-1.5**
NEM2				*e*S		**Sn**	**07 07 57.5**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.60**	**255**	*e*P		**Pn**	**07 07 27.0**	**-1.7**
NMR				*e*S		**Sn**	**07 07 57.0**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.60**	**255**	*e*PN		**Pn**	**07 07 26.9**	**-1.7**
NMR				*e*S		**Sn**	**07 07 57.5**	**-1.4**
GLVR	**Golovnino**	**2.66**	**264**	*e*P		**Pn**	**07 07 28.9**	**-0.6**
GLVR					AMB	AMB	07 07 29.0	
	comp=Z,1μm,0.4s							
GLVR				*e*S		**Sn**	**07 08 01.0**	**+0.5**
GLVR					A	A	07 08 05.0	
	comp=Z,2μm,0.4s							
GLVR					A	A	07 08 05.0	
	comp=Z,3μm,0.4s							
GLVR	**Golovnino**	**2.66**	**264**	*e*PN		**Pn**	**07 07 28.4**	**-1.1**
GLVR				*e*S		**Sn**	**07 08 01.7**	**+1.2**
GLVR					pmax	pmax		
	comp=Z,1μm,0.4s							
GLVR					pmax	pmax		
	comp=N,187nm,0.5s							
GLVR					pmax	pmax		
	comp=E,125nm,0.3s							
GLVR					smax	smax		
	comp=E,3μm,0.4s							
GLVR					smax	smax		
	comp=N,2μm,0.3s							
RUSJ	**Misakicho**	**2.83**	**272**	*i* PN		**Pn**	**07 07 32.3**	**+0.5**
RUSJ				S		**Sn**	**07 08 02.4**	**-2.2**
JRA	**Rausu**	**2.93**	**269**	P		**Pn**	**07 07 33.2**	**+0.1**
JAK	**Akkeshi**	**3.43**	**253**	P		**Pn**	**07 07 39.0**	**-1.1**
JAK				*e*S		**Sn**	**07 08 19.3**	**-0.2**
JTKR	**Abashiri--Toko**	**3.80**	**270**	P		**Pn**	**07 07 45.2**	**+0.1**
JAR	**Ashorobuto**	**4.00**	**261**	P		**Pn**	**07 07 47.4**	**-0.5**
JMP	**Maruseppu**	**4.19**	**271**	P		**Pn**	**07 07 51.4**	**+0.8**
JCH	**Churui**	**4.49**	**253**	P		**Pn**	**07 07 53.5**	**-1.1**
JKK2	**Kamakawa 2**	**4.64**	**270**	P		**Pn**	**07 07 57.6**	**+0.9**
JKA	**Kamikawa-asahi**	**4.74**	**273**	Pn		**Pn**	**07 07 59.3**	**+1.3**
JKA	**Kamikawa-asahi**	**4.74**	**273**			**Sn**	**07 08 48.1**	**-3.4**
ASAJ	**Asahikawa**	**4.74**	**273**	Pn		**Pn**	**07 07 56.3**	**-1.7**
	comp=N,2.3nm,0.3s,baz=94,slow=14,SNR=4.3							
ASAJ					Sn	**Sn**	**07 08 48.1**	**-3.5**
	comp=N,7.4nm,0.3s,baz=184,slow=14,SNR=4.9							
ASAJ					LR	LR	07 09 57.4	
	comp=N,2μm,20.4s,baz=134,slow=41							
JFR	**Furan**	**4.87**	**261**	P		**Pn**	**07 08 00.4**	**+0.6**
ERM	**Erimo**	**4.87**	**247**	PN		**Pn**	**07 08 00.7**	**+0.9**
ERM	**Erimo**	**4.87**	**247**	Pn		**Pn**	**07 08 00.7**	**+0.9**
JEM	**Erimo**	**4.87**	**247**			**Pn**	**07 08 00.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**5.03**	**251**	P		**Pn**	**07 08 01.0**	**-1.0**
JAB	**Ashibetsu**	**5.07**	**266**	P		**Pn**	**07 08 03.4**	**+0.9**
JBT2	**Biratori 2**	**5.13**	**258**	P		**Pn**	**07 08 02.7**	**-0.7**
JWK2	**Keihoku**	**5.33**	**286**	P		**Pn**	**07 08 09.4**	**+3.3**
YSS	**Yuzh-Sakhalins**	**5.34**	**305**	*e*P		**Pn**	**07 08 07.7**	**+1.4**
YSS					AMB	AMB	07 08 10.8	
	comp=N,100nm,4.0s							
YSS					AMB	AMB	07 08 10.9	
	comp=N,30nm,0.3s							
YSS				*e*S		**Sn**	**07 09 07.5**	**+0.9**
YSS					A	A	07 09 13.0	
	comp=N,60nm,0.7s							
YSS					A	A	07 09 13.0	
	comp=N,50nm,0.7s							
YSS					AMS	AMS	07 10 37.0	
	comp=N,2μm,16.0s							
YSS					AMS	AMS	07 10 37.0	
	comp=N,2μm,16.0s							
YSS					AMS	AMS	07 10 37.0	
	comp=N,4μm,16.0s							
YSS	**Yuzh-Sakhalins**	**5.34**	**305**	*e*PN		**Pn**	**07 08 07.7**	**+1.4**
YSS				*e*S		**Sn**	**07 09 10.2**	**+3.6**
YSS					pmax	pmax		
	comp=Z,100nm,3.7s							
YSS					pmax	pmax		
	comp=Z,30nm,0.3s							
YSS					smax	smax		
	comp=N,60nm,0.7s							
YSS					smax	smax		
	comp=E,50nm,0.6s							
YSS					MLR	MLR		
	comp=Z,4μm,15.0s							
YSS					MLR	MLR		
	comp=N,2μm,16.0s							
YSS					MLR	MLR		
	comp=E,2μm,17.0s							
YSS	**Yuzh-Sakhalins**	**5.34**	**305**			**Pn**	**07 08 10.5**	**+4.2**
JEW	**Eniwo**	**5.76**	**260**	P		**Pn**	**07 08 13.6**	**+1.6**
JEW	**Eniwo**	**5.76**	**260**	Pn		**Pn**	**07 08 13.5**	**+1.5**
JRBN	**Rebuntou**	**5.93**	**286**	P		**Pn**	**07 08 16.1**	**+1.8**
JNB	**Noboribetsu**	**6.16**	**258**	P		**Pn**	**07 08 17.1**	**-0.3**
JSK	**Shakotan**	**6.35**	**266**	P		**Pn**	**07 08 21.7**	**+1.6**
JKB	**Kayabe**	**6.36**	**253**	P		**Pn**	**07 08 19.3**	**-1.0**
JKB				*e*S		**Sn**	**07 09 28.1**	**-3.5**
JYM2	**Yakumo 2**	**6.74**	**256**	P		**Pn**	**07 08 24.9**	**-0.6**
JANG	**Nango**	**6.79**	**240**	P		**Pn**	**07 08 23.2**	**-2.9**
JSH	**Shimam**	**6.81**	**261**	*e*S		**Pn**	**07 08 27.1**	**+0.7**
JTH	**Tanohata**	**6.84**	**235**	P		**Pn**	**07 08 23.0**	**-3.9**
JTM	**Tenmabayashi**	**6.84**	**244**	P		**Pn**	**07 08 25.3**	**-1.6**
JTM				*e*S		**Sn**	**07 09 38.2**	**-5.2**
UGL	**Uglegorsk**	**6.99**	**318**	*e*P		**Pn**	**07 08 30.9**	**+2.0**
UGL					AMB	AMB	07 08 45.3	
	comp=E,77nm,0.5s							
UGL				*e*S		**Sn**	**07 09 48.5**	**+1.5**
UGL					AMS	AMS	07 11 35.5	
	comp=E,4μm,15.0s							
UGL					AMS	AMS	07 11 35.5	
	comp=E,4μm,15.0s							
UGL					AMS	AMS	07 11 35.5	
	comp=E,4μm,15.0s							
UGL	**Uglegorsk**	**6.99**	**318**	*e*PN		Pn	07 08 43.0	+14
UGL					pmax	pmax		
	comp=Z,77nm,0.5s							
UGL					MLR	MLR		
	comp=Z,4μm,15.0s							
UGL					MLR	MLR		
	comp=N,4μm,18.0s							
UGL					MLR	MLR		
	comp=E,4μm,15.0s							
JOSM	**Okushiri--Mats**	**7.38**	**258**	P		**Pn**	**07 08 33.5**	**-0.7**
OFUJ	**Ofunato**	**7.52**	**231**	P		**Pn**	**07 08 32.8**	**-3.5**
JRG	**Rokugo**	**7.92**	**237**	P		**Pn**	**07 08 39.8**	**-1.8**
JRG				*e*S		**Sn**	**07 10 03.6**	**-6.3**
TYV	**Tymovskoe**	**8.09**	**329**	*e*P		**Pn**	**07 08 46.0**	**+2.1**
TYV					AMB	AMB	07 08 47.0	
	comp=E,11nm,0.6s							
TYV				*e*S		**Sn**	**07 10 15.0**	**+1.0**
TYV					A	A	07 10 16.0	
	comp=E,17nm,1.7s							
TYV					A	A	07 10 16.0	
	comp=E,14nm,1.7s							
TYV					AMS	AMS	07 11 58.8	
	comp=E,3μm,16.0s							
TYV					AMS	AMS	07 11 58.8	
	comp=E,4μm,16.0s							
TYV					AMS	AMS	07 11 58.8	
	comp=E,3μm,16.0s							
TYV	**Tymovskoe**	**8.09**	**329**	*e*PN		**Pn**	**07 08 46.7**	**+2.8**
TYV					pmax	pmax		
	comp=Z,11nm,0.6s							
TYV					pmax	pmax		
	comp=Z,100nm,2.4s							
TYV					MLR	MLR		
	comp=Z,3μm,15.0s							
SKR	**Severo-Kuril's**	**8.11**	**33**	*e*P		**Pn**	**07 08 44.5**	**+0.3**
SKR					AMB	AMB	07 08 45.2	
	comp=Z,45nm,0.5s							
SKR				*e*S		**Sn**	**07 10 11.0**	**-3.4**
SKR					A	A	07 10 25.9	
	comp=Z,110nm,1.0s							
SKR					A	A	07 10 25.9	
	comp=Z,90nm,1.0s							
SKR					AMS	AMS	07 11 47.5	
	comp=Z,2μm,18.0s							
SKR	**Severo-Kuril's**	**8.11**	**33**	*e*PN		**Pn**	**07 08 44.5**	**+0.3**
SKR					pmax	pmax		
	comp=Z,46nm,0.5s							
SKR					MLR	MLR		
	comp=Z,2μm,18.0s							
SKR					MLR	MLR		
	comp=Z,1μm,19.0s							
SKR					MLR	MLR		
	comp=E,5μm,20.0s							
JIO	**Ouri**	**8.14**	**229**	P		**Pn**	**07 08 41.7**	**-3.0**
PAU	**Pauzhetka**	**8.99**	**32**	*e*P		**Pn**	**07 08 55.4**	**-0.9**
PAU					AMB	AMB	07 08 56.9	
	comp=E,60nm,0.5s							
PAU				*e*S		**Sn**	**07 10 33.7**	**-2.5**
PAU					A	A	07 10 43.5	
	comp=E,40nm,0.6s							
PAU					A	A	07 10 43.5	
	comp=E,30nm,0.6s							
TEY	**Ternei**	**9.03**	**280**	*e*P		**Pn**	**07 08 58.9**	**+2.1**
TEY					AMB	AMB	07 09 03.4	
	comp=E,16nm,0.8s							
TEY				*e*S		**Sn**	**07 10 37.0**	**0.0**
TEY					AMS	AMS	07 13 12.6	
	comp=E,4μm,18.0s							
TEY					AMS	AMS	07 13 12.6	
	comp=E,2μm,18.0s							
TEY					AMS	AMS	07 13 12.6	
	comp=E,4μm,18.0s							
TEY	**Ternei**	**9.03**	**280**	*i* PN		**Pn**	**07 08 58.1**	**+1.3**
TEY					pmax	pmax		
	comp=Z,10.0nm,0.9s							
TEY					MLR	MLR		
	comp=Z,200nm,16.0s							
OKH	**Okha**	**10.32**	**339**	*e*P		**Pn**	**07 09 17.5**	**+3.0**
OKH					AMB	AMB	07 09 24.5	
	comp=Z,100nm,12.0s							
OKH					AMS	AMS	07 13 43.0	
	comp=Z,600nm,19.0s							
OKH					AMS	AMS	07 13 43.0	
	comp=Z,3μm,19.0s							
OKH					AMS	AMS	07 13 43.0	
	comp=Z,1μm,19.0s							
OKH	**Okha**	**10.32**	**339**	*de*PN		**Pn**	**07 09 15.5**	**+1.0**
OKH					pmax	pmax		
	comp=Z,200nm,12.0s							
OKH					MLR	MLR		
	comp=N,600nm,20.0s							
OKH					MLR	MLR		
	comp=E,3μm,18.0s							
OKH					MLR	MLR		
	comp=Z,1μm,17.0s							
PEA0B	**Petropavlovsk-**	**10.64**	**29**	*i* PN		**Pn**	**07 09 17.6**	**-1.3**
PETK	**Petropavlovsk-**	**10.64**	**29**	Pn		**Pn**	**07 09 17.2**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=212,slow=12,SNR=22							
PETK					LR	LR	07 14 03.2	
	comp=Z,1μm,19.3s,baz=223,slow=41							
PETK	**Petropavlovsk-**	**10.64**	**29**	PN		**Pn**	**07 09 17.6**	**-1.3**
PETK	**Petropavlovsk-**	**10.64**	**29**	Pn		**Pn**	**07 09 17.6**	**-1.3**
GRNR	**Gornyy**	**10.91**	**312**	*e*P		**Pn**	**07 09 24.6**	**+2.0**
GRNR					AMB	AMB	07 09 32.4	
	comp=Z,6.0nm,1.0s							
GRNR					AMB	AMB	07 09 32.4	
	comp=Z,9.0nm,1.0s							
GRNR					AMB	AMB	07 09 32.4	
	comp=Z,2.0nm,1.0s							
GRNR					AMS	AMS	07 14 22.7	
	comp=Z,710nm,15.0s							
GRNR					AMS	AMS	07 14 22.7	
	comp=Z,880nm,15.0s							
GRNR					AMS	AMS	07 14 22.7	
	comp=Z,1μm,15.0s							
GRNR	**Gornyy**	**10.91**	**312**	*i* PN		Pn	07 09 30.6	+8.0
GRNR					pmax	pmax		
	comp=N,6.0nm,0.9s							
GRNR					pmax	pmax		
	comp=E,9.0nm,0.9s							
GRNR					pmax	pmax		
	comp=Z,2.0nm,1.1s							
GRNR					MLR	MLR		
	comp=E,880nm,14.0s							
GRNR					MLR	MLR		
	comp=N,710nm,15.0s							
GRNR					MLR	MLR		
	comp=Z,1μm,16.0s							
PET	**Petropavlovsk**	**10.92**	**32**	*e*P		**Pn**	**07 09 21.7**	**-0.9**
PET				*e*S		**Sn**	**07 11 18.2**	**-5.1**
PET					AMS	AMS	07 14 39.4	
	comp=Z,2μm,16.0s							
MJAR	**Matsushiro Arr**	**11.25**	**232**		Pn	**Pn**	**07 09 26.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=4.6							
MAJO	**Matsushiro**	**11.26**	**232**	*e*PN		**Pn**	**07 09 27.8**	**+0.4**
MAJO					pmax	pmax		
	comp=Z,35nm,2.5s							
MAT	**Matsushiro**	**11.26**	**232**	P		**Pn**	**07 09 30.1**	**+2.7**
MAT				*e*S		**Sn**	**07 11 33.3**	**+1.6**
USA0B	**Ussuriysk Arra**	**12.35**	**277**	*i* ePN		**Pn**	**07 09 42.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**12.35**	**277**	Pn		**Pn**	**07 09 42.4**	**+0.1**
	baz=78,slow=14,SNR=11							
USRK					LR	LR	07 14 59.0	
	comp=Z,2μm,18.1s,baz=80,slow=40							
USRK	**Ussuriysk Ar.**	**12.35**	**277**	PN		**Pn**	**07 09 42.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**12.35**	**277**	Pn		**Pn**	**07 09 42.7**	**+0.5**
JHJ	**Hachijo jima 2**	**13.17**	**217**	LR		LR	07 14 58.0	
	comp=Z,216nm,20.9s,baz=58,slow=38							
EKMR	**Ekimchan**	**13.98**	**316**	*e*P		**Pn**	**07 10 03.9**	**-0.5**
EKMR					AMB	AMB	07 10 15.4	
	comp=Z,12nm,0.8s							
MA2	**Magadan**	**15.54**	**3**	Pn		**Pn**	**07 10 23.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=176,slow=16,SNR=1.8							
MA2					LR	LR	07 16 53.5	
	comp=Z,1μm,18.9s,baz=190,slow=39							
MA2	**Magadan**	**15.54**	**3**	P		**Pn**	**07 10 23.2**	**-1.9**
MA2					pmax	pmax		
	comp=Z,24nm,1.4s							
BMKR	**Bomnak**	**16.91**	**316**	*e*P		**Pn**	**07 10 41.0**	**-1.4**
BMKR					AMB	AMB	07 10 46.8	
	comp=Z,26nm,0.2s							
CN2	**Changchun**	**17.08**	**277**	*e*P		**Pn**	**07 10 44.5**	**-0.1**
CN2				*e*S		**Sn**	**07 13 48.5**	**-4.9**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CN2					LR	LR		
	comp=Z,1μm,14.0s							
CN2					LR	LR		
	comp=Z,2μm,16.0s							
ZEA	**Zeya**	**17.28**	**312**	*e*P		**Pn**	**07 10 45.1**	**-1.9**
ZEA					AMB	AMB	07 10 49.9	
	comp=Z,54nm,1.0s							
ZEA					AMB	AMB	07 10 54.2	
	comp=Z,300nm,6.0s							
ZEA					AMB	AMB	07 10 54.2	
	comp=Z,300nm,6.0s							
ZEA					AMS	AMS	07 18 24.0	
	comp=Z,700nm,16.0s							
ZEA					AMS	AMS	07 18 24.0	
	comp=Z,600nm,16.0s							
ZEA					AMS	AMS	07 18 24.0	
	comp=Z,800nm,16.0s							
ZEA	**Zeya**	**17.28**	**312**	*e*P		**P**	**07 10 48.1**	**+0.1**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
ZEA					pmax	pmax		
	comp=N,300nm,6.7s							
ZEA					pmax	pmax		
	comp=Z,300nm,6.5s							
ZEA					MLR	MLR		
	comp=E,600nm,18.0s							
ZEA					MLR	MLR		
	comp=N,700nm,15.0s							
ZEA					MLR	MLR		
	comp=Z,800nm,15.0s							
KSRS	**Korea Array**	**17.38**	**255**	P		**Pn**	**07 10 47.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=60,slow=11,SNR=11							
KSRS					LR	LR	07 17 22.3	
	comp=Z,594nm,20.5s,baz=55,slow=37							
KROS	**Kirovskiy**	**17.73**	**314**	*e*P		**Pn**	**07 10 50.5**	**-2.1**
KROS					AMB	AMB	07 10 55.7	
	comp=Z,6.0nm,0.3s							
JNU	**Nakatsue**	**17.97**	**239**	P		**P**	**07 10 57.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=2.1							
SEY	**Seymchan**	**18.98**	**5**	P		**P**	**07 11 05.5**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=185,slow=9.9,SNR=10							
SEY	**Seymchan**	**18.98**	**5**	*e*P		**P**	**07 11 06.1**	**-0.4**
DL2	**Dalian**	**21.22**	**265**	P		P	07 11 40.0	+8.9
DL2				S		Sn	07 15 38.9	+5.7
DL2					pmax	pmax		
	comp=Z,56nm,1.3s							
DL2					pmax	pmax		
	comp=Z,250nm,5.7s							
DL2					LR	LR		
	comp=N,770nm,17.9s							
DL2					LR	LR		
	comp=E,1μm,16.6s							
DL2					LR	LR		
	comp=Z,860nm,16.7s							
YAK	**Yakutsk**	**21.30**	**334**		LR	LR	07 20 36.7	
	comp=Z,1μm,18.5s,baz=21,slow=39							
YAK	**Yakutsk**	**21.30**	**334**	*e*P		**P**	**07 11 29.0**	**-2.7**
YAK					pmax	pmax		
	comp=Z,15nm,0.8s							
YAK					MLR	MLR		
	comp=Z,1μm,17.0s							
BJI	**Beijing**	**24.73**	**272**	P		**P**	**07 12 07.0**	**+0.7**
BJI					pmax	pmax		
	comp=Z,24nm,1.9s							
BJI					pmax	pmax		
	comp=Z,220nm,4.5s							
BJI					LR	LR		
	comp=Z,490nm,14.1s							
BJI					LR	LR		
	comp=Z,1μm,16.1s							
BJI					LR	LR		
	comp=Z,820nm,18.8s							
BILL	**Bilibino**	**25.65**	**15**	*e*P		**P**	**07 12 15.3**	**+1.0**
BILL	**Bilibino**	**25.65**	**15**	*e*P		**P**	**07 12 15.3**	**+1.0**
BILL				*e*			07 12 51.9	
BILL					pmax	pmax		
	comp=Z,21nm,1.5s							
BILL					MLR	MLR		
	comp=Z,1μm,16.0s							
BOD	**Bodaibo**	**25.72**	**315**	*e*P		**P**	**07 12 11.7**	**-3.4**
BOD					pmax	pmax		
	comp=Z,6.0nm,1.5s							
NJ2	**Nanjing**	**26.57**	**253**	*e*P		**P**	**07 12 26.5**	**+3.5**
NJ2				S		**S**	**07 16 59.1**	**+4.7**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.6s							
NJ2					pmax	pmax		
	comp=Z,320nm,3.8s							
NJ2					LR	LR		
	comp=Z,1μm,15.2s							
NJ2					LR	LR		
	comp=Z,740nm,16.6s							
NJ2					LR	LR		
	comp=Z,1μm,19.9s							
HHC	**Hu-ho-hao-te**	**27.77**	**277**	*e*P		**P**	**07 12 37.3**	**+3.4**
HHC				S		**S**	**07 17 15.6**	**+2.0**
HHC					pmax	pmax		
	comp=Z,24nm,1.0s							
HHC					pmax	pmax		
	comp=Z,260nm,3.9s							
HHC					LR	LR		
	comp=Z,580nm,12.6s							
HHC					LR	LR		
	comp=Z,1μm,15.8s							
HHC					LR	LR		
	comp=Z,1μm,13.9s							
H11N2	**WAKE ISLAND Hy**	**28.44**	**143**		T	T	07 43 46.1	
	baz=333,slow=75,SNR=157							
H11N1	**WAKE ISLAND Hy**	**28.45**	**143**		T	T	07 43 52.3	
	baz=333,slow=75,SNR=121							
H11N3	**WAKE ISLAND Hy**	**28.46**	**143**		T	T	07 43 52.6	
	baz=333,slow=75,SNR=179							
BTO	**Baotou**	**28.96**	**277**	*e*P		**P**	**07 12 42.8**	**-1.6**
ULN	**Ulaanbaatar**	**29.25**	**292**	*e*P		**P**	**07 12 47.6**	**+0.6**
ULN	**Ulaanbaatar**	**29.25**	**292**	*i* P		**P**	**07 12 47.6**	**+0.6**
ULN					pmax	pmax		
	comp=Z,19nm,1.7s							
ULN	**Ulaanbaatar**	**29.25**	**292**	P		**P**	**07 12 46.6**	**-0.4**
ULN					IAmb	IAmb	07 12 48.0	
	comp=Z,7.7nm,0.7s							
TIXI	**Tiksi**	**29.34**	**347**	*e*P		**P**	**07 12 44.1**	**-3.2**
H11S1	**WAKE ISLAND Hy**	**29.44**	**144**		T	T	07 45 00.3	
	baz=334,slow=76,SNR=140							
H11S3	**WAKE ISLAND Hy**	**29.45**	**144**		T	T	07 45 04.7	
	baz=334,slow=76,SNR=93							
H11S2	**WAKE ISLAND Hy**	**29.46**	**144**		T	T	07 45 05.7	
	baz=334,slow=76,SNR=150							

SONM Songino Array 29.69 293 P **P** **07 12 51.0 +0.1**
comp=Z,4.4nm,0.6s,baz=82,slow=8.3,SNR=18
SONM LR LR 07 26 07.7
comp=Z,1μm,19.1s,baz=78,slow=39
SONM Songino Array 29.69 293 P **P** **07 12 51.0 +0.1**
SONM Songino Array 29.69 293 P **P** **07 12 50.0 -0.9**
GUMO Guam 30.61 188 LR LR 07 27 00.8
comp=Z,195nm,18.6s,baz=6.5,slow=40
TLY Talaya 31.04 300 LR LR 07 26 50.6
comp=Z,978nm,19.1s,baz=88,slow=39
LZH Lanzhou 35.22 273 ⇑P **P** **07 13 40.3 +0.9**
LZH pP pP 07 13 50.8 +1.0
LZH sP pwP 07 13 56.3 +0.6
LZH PP **PnPn** **07 14 57.3 -0.7**
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,970nm,13.6s
LZH LR LR
comp=Z,690nm,15.2s
LZH LR LR
comp=Z,750nm,16.3s
GTA Gaotai 36.68 280 P **P** **07 13 53.0 +1.2**
GTA pP pP 07 14 03.1 +0.9
GTA sP sP 07 14 07.5 +0.6
GTA S **S** **07 19 34.3 +2.2**
GTA sS sS 07 19 50.3 +0.8
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,150nm,7.3s
GTA LR LR
comp=Z,580nm,14.5s
GTA LR LR
comp=Z,760nm,14.5s
GTA LR LR
comp=Z,880nm,14.5s
IMAR Indian Mountai 37.54 34 P **P** **07 13 60.0 +1.4**
CD2 Chengdu 37.89 265 P **P** **07 14 02.3 +0.3**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,620nm,14.9s
CD2 LR LR
comp=Z,670nm,13.7s
CD2 LR LR
comp=Z,630nm,15.9s
KDAK Kodiak Island 37.94 48 P **P** **07 14 02.0 0.0**
comp=Z,7.0nm,0.7s,baz=277,slow=8.1,SNR=4.4
KDAK Kodiak Island 37.94 48 P **P** **07 14 02.0 0.0**
KDAK pmax pmax
comp=Z,39nm,1.3s
KDAK Kodiak Island 37.94 48 IAmb IAmb 07 14 07.8
comp=Z,39nm,1.3s
PPLA Purkeypile 37.99 39 P **P** **07 14 05.0 +2.4**
KTH Kantishna Hill 38.58 38 P **P** **07 14 09.3 +1.8**
KTH IAmb IAmb 07 14 28.0
comp=Z,7.8nm,0.8s
COLD Coldfoot 39.08 33 P **P** **07 14 12.4 +0.9**
NRIK Noril'sk 39.67 331 LR LR 07 32 20.4
comp=Z,409nm,19.0s,baz=63,slow=39
MDM Murphy Dome 39.78 36 P **P** **07 14 18.5 +1.1**
MDM IAmb IAmb 07 14 33.3
comp=Z,7.8nm,1.0s
SML Sawmill 39.81 41 P **P** **07 14 20.7 +3.0**
SML IAmb IAmb 07 14 32.1
comp=Z,19nm,0.8s
WRH Wood River Hil 39.84 37 P **P** **07 14 18.6 +0.7**
WRH IAmb IAmb 07 14 32.7
comp=Z,5.0nm,0.7s
COLA College 39.94 36↓*e*P **P** **07 14 20.9 +2.3**
COLA pmax pmax
comp=Z,17nm,1.8s
CCB Clear Creek Bu 39.96 37 P **P** **07 14 20.6 +1.8**
HDA Harding Lake 40.33 37 IAmb IAmb 07 14 41.9
comp=Z,6.0nm,0.7s
IL31 40.35 36 P **P** **07 14 23.4 +1.3**
ILAR Eielson Array 40.35 36 P **P** **07 14 21.8 -0.3**
comp=Z,0.5nm,0.6s,baz=258,slow=7.5,SNR=7.7
ILAR LR LR 07 32 54.7
comp=Z,375nm,18.9s,baz=278,slow=39
ILAR Eielson Array 40.35 36 P **P** **07 14 22.4 +0.3**
ILAR **pP** **07 14 34.6 +1.8**
KLU Klutina 40.98 41 IAmb IAmb 07 14 45.8
comp=Z,19nm,1.2s
QIZ Qiongzhong 41.23 245 P **P** **07 14 33.3 +3.4**
QIZ S **S** **07 20 46.3 +5.6**
QIZ LR LR
comp=Z,420nm,21.4s
QIZ LR LR
comp=Z,340nm,17.5s
QIZ LR LR
comp=Z,430nm,22.4s
BMAR Burnt Mountain 41.27 32 P **P** **07 14 31.1 +1.4**
BMAR **pP** **07 14 41.2 +0.9**
DGZ Jazzator, Alta 41.51 300↓*e*P **P** **07 14 32.6 +0.5**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
DOT Dot Lake 41.64 38 P **P** **07 14 32.7 -0.1**
ZALV Zalesovo Beam 41.96 307 P **P** **07 14 34.6 -0.8**
comp=Z,2.1nm,0.4s,baz=68,slow=7.6,SNR=8.0
ZALV PcP **PcP** **07 16 30.7 +0.6**
comp=Z,1.3nm,0.6s,baz=90,slow=3.0,SNR=4.0
ZALV LR LR 07 33 16.9
comp=Z,456nm,18.1s,baz=33,slow=38
ZALV Zalesovo Beam 41.96 307 P **P** **07 14 35.1 -0.4**
KMI Kunming 42.02 259↓*i*P **P** **07 14 38.1 +1.6**
KMI pmax pmax
comp=Z,19nm,0.8s
KMI pmax pmax
comp=Z,200nm,4.6s
KMI LR LR
comp=Z,570nm,15.9s
KMI LR LR
comp=Z,210nm,12.1s
KMI LR LR
comp=Z,240nm,21.3s
BCAR Beaver Creek A 42.72 39 P **P** **07 14 42.2 +0.6**
EGAK Eagle 42.80 36 P **P** **07 14 42.3 +0.2**
EGAK IAmb IAmb 07 14 58.1
comp=Z,20nm,1.4s
BARN Barnard Glacie 43.08 42 P **P** **07 14 45.9 +1.3**
BARN IAmb IAmb 07 14 59.5
comp=Z,9.3nm,0.8s
CTGM Chitina Glacie 43.25 42 P **P** **07 14 46.9 +0.8**
CTGM IAmb IAmb 07 15 00.6
comp=Z,10.0nm,0.8s
WMQ Urumqi 43.33 292 *e*P **P** **07 14 49.4 +2.6**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,130nm,5.9s
ZSN Zaisan 43.84 298 *e*P **P** **07 14 48.9 -1.9**
ZSN Zaisan 43.84 298 *e*P **P** **07 14 48.9 -1.9**
HYT Haines Junctio 45.11 41 P **P** **07 14 59.6 -1.3**
HYT IAmb IAmb 07 15 16.9
comp=Z,14nm,0.9s
INK Inuvik 45.37 31 P **P** **07 15 03.4 +0.8**
comp=Z,2.5nm,0.6s,baz=289,slow=4.9,SNR=12
INK Inuvik 45.37 31 P **P** **07 15 03.6 +1.0**
INK IAmb IAmb 07 15 17.5
comp=Z,10nm,1.0s
MK31 Makanchi Array 45.72 298*c*e**P** **P** **07 15 06.3 +0.5**
MK31 Makanchi Array 45.72 298 IAmb IAmb 07 15 08.3
comp=Z,15nm,0.8s
MKAR Makanchi Array 45.72 298 P **P** **07 15 06.3 +0.5**
comp=Z,16nm,0.8s,baz=76,slow=8.3,SNR=28
MKAR LR LR 07 35 44.9
comp=Z,1μm,18.7s,baz=69,slow=38
MAKZ Makanchi 45.92 298 P **P** **07 15 08.0 +0.7**
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 45.92 298 P **P** **07 15 08.0 +0.7**
MAKZ IAmb IAmb 07 15 09.4
comp=Z,13nm,0.8s
KURK Kurchatov 46.55 304 *e*P **P** **07 15 12.6 +0.4**
KURK Kurchatov 46.55 304 P **P** **07 15 12.6 +0.4**
KURK Kurchatov 46.55 304 P **P** **07 15 11.7 -0.5**
KURK IAmb IAmb 07 15 13.9
comp=Z,9.7nm,0.5s
KURBB Kurchatov Arra 46.64 304 P **P** **07 15 12.6 -0.2**
comp=Z,7.0nm,0.4s,baz=72,slow=8.6,SNR=31
JAY Jayapura 47.01 192 LR LR 07 31 21.9
comp=Z,86nm,20.3s,baz=25,slow=31

CMAR Chiang Mai Arr 49.02 255 P **P** **07 15 32.7 +1.0**
comp=Z,1.1nm,0.3s,baz=44,slow=7.4,SNR=6.1
SHLS Shalkode 49.05 295 *e*P **P** **07 15 27.8 -4.1**
SHLS Shalkode 49.05 295 *e*P **P** **07 15 27.7 -4.1**
UZB Uzynbulak 49.34 295 *e*P **P** **07 15 34.5 +0.4**
comp=Z,12nm,1.4s
UZB Uzynbulak 49.34 295 *e*P **P** **07 15 34.5 +0.4**
UZB pmax pmax
comp=Z,12nm,1.4s
KPKS Kokpek 49.42 295 *e*P **P** **07 15 33.9 -0.7**
KPKS Kokpek 49.42 295 *e*P **P** **07 15 33.9 -0.7**
SATY Saty 49.79 295 *e*P **P** **07 15 38.1 +0.6**
comp=Z,32nm,1.9s
SATY Saty 49.79 295 *e*P **P** **07 15 38.0 +0.6**
SATY pmax pmax
comp=Z,32nm,1.9s
BRZS Berezniki 50.35 305 *e*P **P** **07 15 40.6 -0.8**
BRZS Berezniki 50.35 305 *e*P **P** **07 15 40.6 -0.8**
BVAR Borovoye Array 50.42 310 P **P** **07 15 42.2 +0.3**
comp=Z,0.7nm,0.3s,baz=246,slow=12,SNR=7.0
BRVK Borovoye 50.46 310 *e*P **P** **07 15 43.3 +1.1**
BRVK Borovoye 50.46 310 P **P** **07 15 43.3 +1.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 50.46 310 P **P** **07 15 43.3 +1.1**
MDOK Medeo 50.62 296 *e*P **P** **07 15 43.3 -0.5**
MDOK Medeo 50.62 296 *e*P **P** **07 15 43.3 -0.5**
TNSS Tian-Shan 50.75 296 *e*P **P** **07 15 45.6 +0.6**
TNSS Tian-Shan 50.75 296 *e*P **P** **07 15 45.6 +0.6**
BTLS Baital 51.68 299 *e*P **P** **07 15 51.4 -0.1**
comp=Z,6.9nm,1.1s
BTLS Baital 51.68 299 *e*P **P** **07 15 51.3 -0.1**
BTLS pmax pmax
comp=Z,7.0nm,1.1s
SGDS Sogindy 52.05 297 *e*P **P** **07 15 54.9 +0.5**
comp=Z,22nm,1.7s
SGDS Sogindy 52.05 297 *e*P **P** **07 15 54.9 +0.5**
SGDS pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 52.53 296 *e*P **P** **07 15 58.7 +0.7**
AAK Ala-Archa 52.53 296*c i*P **P** **07 15 58.7 +0.7**
AAK pmax pmax
comp=Z,52nm,1.8s
RES Resolute Bay 54.22 17 P **P** **07 16 10.3 +0.5**
comp=Z,3.4nm,0.4s,baz=322,slow=8.6,SNR=16
RES Resolute Bay 54.22 17 IAmb IAmb 07 16 12.6
comp=Z,19nm,1.3s
YKA Yellowknife Ar 54.70 34 LR LR 07 41 52.5
comp=Z,174nm,19.0s,baz=0.0,slow=39
KKAR Karatay Array 54.84 299 P **P** **07 16 14.9 +0.1**
KKAR Karatay Array 54.84 299 P **P** **07 16 14.9 +0.1**
KKAR Karatay Array 54.84 299 P **P** **07 16 14.8 +0.1**
KKAR IAmb IAmb 07 16 15.8
comp=Z,11nm,0.6s
ARU Arti 55.10 317 P **P** **07 16 15.8 -0.6**
comp=Z,3.3nm,0.2s,baz=37,slow=6.6,SNR=8.1
ARU Arti 55.10 317 *e*P **P** **07 16 16.1 -0.3**
ARU Arti 55.10 317*d i*P **P** **07 16 15.4 -1.0**
ARU 07 18 16.7
ARU S **S** **07 23 56.0 +0.4**
ARU SS **SS** **07 27 34.9 -4.3**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU MLR MLR
comp=Z,936nm,17.0s
ARU Arti 55.10 317 P **P** **07 16 15.8 -0.6**
ARU IAmb IAmb 07 16 18.5
comp=Z,7.3nm,0.6s
IUG luzhnay 55.64 298 *e*P **P** **07 16 20.8 +0.2**
comp=Z,7.2nm,0.6s
IUG luzhnay 55.64 298 *e*P **P** **07 16 20.8 +0.2**
IUG pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 57.99 309 P **P** **07 16 37.2 +0.1**
ABKAR Akbulak array 57.99 309 IAmb IAmb 07 16 39.7
comp=Z,29nm,1.3s
CHGR Chuyangaron 58.05 295 P **P** **07 16 38.1 +0.3**
NIL Nilore 58.09 288 P **P** **07 16 38.7 +0.7**
NIL **sP** **07 16 53.7 +0.2**
KIRV Kirov 58.22 323↓*e*P **P** **07 16 38.9 +0.4**
AKTO Aktyubinsk 58.42 311 P **P** **07 16 40.0 0.0**
comp=Z,2.2nm,0.4s,baz=58,slow=8.3,SNR=9.9
ARCES ARCESS Array B 59.44 340 P **P** **07 16 47.2 +0.4**
comp=Z,1.4nm,0.7s,baz=51,slow=7.8,SNR=6.7
TRO Tromso 60.89 342 *e*P **P** **07 16 56.7 0.0**
KLMR Klimovskoe 60.93 328 *e*P **P** **07 16 55.7 -1.4**
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 60.93 328 *e*P **P** **07 16 55.8 -1.4**
KLMR AMP 07 16 59.0
comp=Z,24nm,1.1s
KLMR LQ LQ 07 38 30.8
KLMR LQ LQ 07 38 30.8
KLMR LR LR 07 42 49.8
BELG Belogornoye 62.65 317↓*e*P **P** **07 17 10.0 +1.2**
N2IH Innhavet 62.88 342 *e*P **P** **07 17 09.8 -0.3**
N2VI Vinje 62.97 343 *e*P **P** **07 17 11.0 +0.3**
STEI Steigen 63.07 342 *e*P **P** **07 17 10.8 -0.5**
LOF Lofoten 63.27 343 *e*P **P** **07 17 12.1 -0.6**
FAUS Fauske 63.51 342 *e*P **P** **07 17 13.5 -0.7**
SUMG Summit 63.52 3 *i*P **P** **07 17 14.6 -0.2**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 63.52 3 P **P** **07 17 15.2 +0.5**
SUMG IAmb IAmb 07 17 19.0
comp=Z,10nm,1.1s
SUMG Summit 63.52 3 *i*P **P** **07 17 14.6 -0.2**
comp=Z,16nm,0.8s
SUMG Summit 63.52 3 *i*P **P** **07 17 14.6 -0.2**
SUMG IAmb IAmb 07 17 16.1
comp=Z,16nm,0.8s
FFC Flin Flon 64.55 37 P **P** **07 17 22.2 +0.9**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 64.55 37 P **P** **07 17 22.2 +0.9**
FFC IAmb IAmb 07 17 36.7
comp=Z,8.1nm,0.9s
MOR8 Moi Rana 64.69 341 *e*P **P** **07 17 20.7 -1.4**
HRY Holter Researc 64.81 49 P **P** **07 17 26.4 +3.0**
HRY **pP** **07 17 36.5 +2.0**
WRA Warramunga Arr 65.15 195 P **P** **07 17 25.4 -0.1**
comp=Z,2.1nm,0.7s,baz=16,slow=6.7,SNR=12
WRA Warramunga Arr 65.15 195 P **P** **07 17 25.2 -0.3**
WRA Warramunga Arr 65.15 195 P **P** **07 17 25.2 -0.3**
DLMT Dillon 65.23 50 P **P** **07 17 27.4 +1.2**
FIA1 FINESS Array S 65.23 334 P **P** **07 17 25.3 -0.3**
FINES FINESS Array B 65.23 334 P **P** **07 17 25.1 -0.5**
comp=Z,12nm,0.5s,baz=38,slow=7.1,SNR=76
FINES LR LR 07 50 04.7
comp=Z,443nm,18.9s,baz=34,slow=40
FINES FINESS Array B 65.23 334 P **P** **07 17 25.5 -0.1**
FINES FINESS Array B 65.23 334 P **P** **07 17 25.4 -0.1**
GEYT Alibeck 65.55 300 P **P** **07 17 28.5 +0.4**
comp=Z,1.9nm,0.5s,baz=203,slow=1.1,SNR=3.8
GEYT LR LR 07 48 43.6
comp=Z,198nm,19.5s,baz=60,slow=38
BOZ Bozeman (W) 65.62 50 IAmb IAmb 07 17 42.5
comp=Z,7.0nm,0.8s
KVN Kaiserville 65.90 58 P **P** **07 17 30.1 -0.5**
KVN **pP** **07 17 42.4 +0.6**
OBN Obninsk 65.90 324 *e*P **P** **07 17 29.9 -0.1**
OBN Obninsk 65.90 324 *e*P **P** **07 17 29.9 -0.1**
OBN *e* 07 18 00.4
OBN *e* 07 19 54.7
OBN *e*PPP PPP 07 21 28.7
OBN pmax pmax
comp=Z,89nm,2.5s
OBN MLR MLR
comp=Z,444nm,16.0s
NVAR Mina Array Bea 66.16 59 P **P** **07 17 32.9 +0.6**
comp=Z,0.4nm,0.5s,baz=296,slow=7.1,SNR=2.3
VRH Novokhopyorsk 66.24 319 *e*P **P** **07 17 32.0 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
YHL Hebgen Lake 66.33 50 P **P** **07 17 34.9 +1.5**
LPSR Galich'ya Gora 66.59 321 *e*P **P** **07 17 34.0 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.9s
NSS Namsos 66.64 341 *e*P **P** **07 17 34.0 -0.6**
POO Poona 66.91 274 *e*P **P** **07 17 35.0 -2.1**
ICESG Greenland Ices 66.96 3 *i*P **P** **07 17 37.2 +0.2**
ICESG IAmb IAmb 07 17 38.2
comp=Z,15nm,0.8s
VSU Vasula 67.25 331⇑*e*P **P** **07 17 38.7 +0.1**
VSU pmax pmax
comp=Z,62nm,0.9s
MOOW Moose Ponds 67.27 51 P **P** **07 17 38.0 -1.4**
TPAW Teton Pass 67.32 51 P **P** **07 17 38.7 -1.0**
TPAW IAmb IAmb 07 17 54.4
comp=Z,4.7nm,0.8s
VSR Storozhevoye 67.42 320 *e*P **P** **07 17 40.1 +0.3**
VSR pmax pmax
comp=Z,10.0nm,0.4s
LOHW Long Hollow 67.44 51 P **P** **07 17 39.9 -0.5**
LOHW pP **pP** **07 17 53.8 +2.2**
VORD Divnogorie 67.53 320 *e*P **P** **07 17 40.5 0.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
PDAR Pinedale Array 68.57 51 P **P** **07 17 47.8 +0.3**
comp=Z,0.9nm,0.6s,baz=29,slow=0.1,SNR=7.2
PDAR Pinedale Array 68.57 51 P **P** **07 17 46.5 -1.1**
MAK Makhachkala 68.67 309 *e*P **P** **07 17 46.8 -1.0**
MAK *e*S **S** **07 26 46.9 -0.4**
MAK *e*SS **SS** **07 31 15.1 +3.5**
MAK pmax pmax
comp=Z,92nm,1.0s
ASAR Alice Springs 68.86 195 P **P** **07 17 49.9 +0.8**
comp=Z,1.3nm,0.7s,baz=13,slow=6.9,SNR=7.2
ASAR LR LR 07 47 34.8
comp=Z,45nm,19.4s,baz=13,slow=36
DOMB Dombas 69.46 341 *e*P **P** **07 17 52.5 +0.1**
IDID Didziasalis 69.64 329 *e*P **P** **07 17 54.3 +0.7**
ISAL Salakas 69.67 329 *e*P **P** **07 17 54.4 +0.7**
NC204 NORSAR Array S 69.72 340 P **P** **07 17 54.2 +0.2**
IIGN Ignalina 69.81 329 *e*P **P** **07 17 55.4 +0.8**
NB2 NORSAR Subarra 69.81 340 P **P** **07 17 54.1 -0.5**
comp=Z,14nm,0.8s,baz=30,slow=6.5
NB2 NORSAR Subarra 69.81 340 P **P** **07 17 54.1 -0.5**
baz=30,slow=6.5
NOA NORSAR Array B 69.81 340 P **P** **07 17 54.4 -0.2**
comp=Z,8.2nm,0.7s,baz=32,slow=6.1,SNR=38
NOA LR LR 07 53 22.1
comp=Z,143nm,19.3s,baz=30,slow=40
NC602 NORSAR Array S 69.99 339 *e*P **P** **07 17 55.8 +0.2**
NAO01 NORSAR Array S 70.06 340 P **P** **07 17 55.5 -0.6**
ULM Lac du Bonnet 70.34 38 LR LR 07 51 17.0
comp=Z,105nm,19.4s,baz=328,slow=38
KIV Kislovodsk 70.62 313 ⇑P **P** **07 18 01.8 +1.9**
KIV Kislovodsk 70.62 313 *e*P **P** **07 18 01.5 +1.6**
KIV Kislovodsk 70.62 313 *e*P **P** **07 18 01.5 +1.6**
KIV pmax pmax
comp=Z,71nm,1.0s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 70.62 313 P **P** **07 18 00.9 +0.9**
KBZ Khabaz 70.66 312 P **P** **07 18 01.4 +1.5**
comp=Z,16nm,0.8s,baz=56,slow=5.0,SNR=39
KBZ LR LR 07 54 09.3
comp=Z,1μm,18.1s,baz=33,slow=40
KBZ Khabaz 70.66 312*ce*P **P** **07 18 01.5 +1.5**
KBZ pmax pmax
comp=Z,18nm,0.8s
ZEI Tsey 70.76 311 *e*P **P** **07 17 58.9 -2.0**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
HYA Hoyanger 70.89 342 *e*P **P** **07 18 01.7 +0.7**
PV21 Cone Mtn., Par 71.68 54 P **P** **07 18 10.3 +3.7**
PV21 IAmb IAmb 07 18 27.5
comp=Z,5.8nm,0.7s
ASK Askoy 71.72 342 *e*P **P** **07 18 06.3 +0.2**
PV22 Blue Mesa, Par 71.80 54 IAmb IAmb 07 18 26.9
comp=Z,7.1nm,1.1s
PV17 East Wray Mesa 71.87 54 P **P** **07 18 07.8 0.0**
PV17 IAmb IAmb 07 18 21.6
comp=Z,12nm,0.7s
PV16 Nyswonger Mesa 71.88 54 P **P** **07 18 08.0 +0.2**
PV16 IAmb IAmb 07 18 26.9
comp=Z,6.2nm,0.7s
PV11 David Mesa, Pa 71.91 54 **P** **07 18 08.2 +0.2**
PV11 IAmb IAmb 07 18 22.9
comp=Z,8.2nm,0.7s
PV18 Skein Mesa, Pa 71.93 54 **P** **07 18 06.9 -1.2**
PV18 IAmb IAmb 07 18 21.8
comp=Z,6.5nm,0.7s
PV13 Radium Mtn., P 72.04 54 P **P** **07 18 09.7 +0.9**
PV13 IAmb IAmb 07 18 22.5
comp=Z,6.6nm,0.7s
AKASG Malin Array Be 72.17 325 P **P** **07 18 09.3 +0.3**
comp=Z,2.4nm,0.4s,baz=38,slow=6.1,SNR=11
AKASG LR LR 07 52 15.9
comp=Z,242nm,18.4s,baz=30,slow=38
AKASG Malin Array Be 72.17 325 IAmb IAmb 07 18 10.9
comp=Z,2.1nm,0.5s
AKBB Malin Array Si 72.17 325*c i*P **P** **07 18 09.1 +0.1**
AKBB pmax pmax
comp=Z,28nm,2.1s
AKBB Malin Array Si 72.17 325 IAmb IAmb 07 18 09.5
comp=Z,8.0nm,0.8s
BLS5 Blasjo 72.38 341 *e*P **P** **07 18 10.9 +0.7**
SOC Sochi 72.43 314 *e*P **P** **07 18 10.2 -0.5**
SOC Sochi 72.43 314 *e*P **P** **07 18 10.2 -0.5**
SOC *e* 07 22 49.2
SOC *e*S **S** **07 27 32.3 +1.1**
SOC *e*SS **SS** **07 32 05.9 -3.4**
SOC pmax pmax
comp=Z,12nm,0.6s
ANN Anapa 72.73 316 *e*P **P** **07 18 10.5 -1.9**
ANN *e**PP **pP** **07 18 21.4 -2.4**
ANN *e*PPP PPP 07 22 37.6
ANN *e*S **S** **07 27 32.4 -2.1**
ANN pmax pmax
comp=Z,40nm,1.2s
BATM Batumi 72.77 312 ⇑P **P** **07 18 14.3 +1.5**
BCA Borcka 72.92 311 ⇑P **P** **07 18 15.3 +1.6**
ARTV Artvin 72.93 311 P **P** **07 18 13.4 -0.6**
X16A Lo Mia Camp, P 72.97 59 P **P** **07 18 14.8 +0.5**
SORM Soroca 74.49 323 ⇑P **P** **07 18 23.4 +0.7**
ANMO Albuquerque 75.62 55↓*e*P **P** **07 18 32.2 +2.5**
ANMO pmax pmax
comp=Z,2.0nm,2.1s
KWP Kalwaria Pacla 75.63 327 *e*P **P** **07 18 30.2 +1.0**
STKA Stephens Creek 75.91 187 LR LR 07 57 13.3
comp=Z,57nm,18.3s,baz=20,slow=40
BUR08 Bucovina Ar. S 76.20 325 IAmb IAmb 07 18 35.0
comp=Z,7.7nm,0.6s
BURAR Bucovina Array 76.22 325 ⇑P **P** **07 18 33.4 +0.5**
BURAR Bucovina Array 76.22 325 P **P** **07 18 32.7 -0.1**
OJC Ojcow 76.25 329 *e*P **P** **07 18 33.4 +0.6**
OJC Ojcow 76.25 329 P **P** **07 18 32.1 -0.7**
OJC pmax pmax
comp=Z,14nm,1.1s
OJC Ojcow 76.25 329 P **P** **07 18 32.1 -0.7**
OJC IAmb IAmb 07 18 35.1
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 76.36 327 *e*P **P** **07 18 33.2 -0.3**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 76.36 327 *e*P **P** **07 18 33.2 -0.3**
BIZ Bicaz 76.38 324 ⇑P **P** **07 18 34.4 +0.8**
NIE Niedzica 76.72 329 *e*P **P** **07 18 36.5 +1.0**
SCHQ Schefferville 76.81 20 LR LR 07 55 34.6
comp=Z,218nm,19.8s,baz=30,slow=38
VRI Vrincioaia 76.95 323 ⇑P **P** **07 18 38.2 +1.4**
KSP Ksiaz 76.98 332 *e*P **P** **07 18 37.3 +0.4**
BISRR Bisoca 77.21 323 ⇑P **P** **07 18 39.8 +1.4**
LANS Liptovska Anna 77.25 329 *e*P **P** **07 18 40.6 +2.1**
LANS pmax pmax
comp=Z,5.0nm,0.6s
LANS Liptovska Anna 77.25 329 *e*P **P** **07 18 40.6 +2.1**
DPC Dobruska-Polom 77.39 331 *e*P **P** **07 18 40.6 +1.3**
MORC Moravsky Berou 77.44 330 ⇑P **P** **07 18 40.4 +0.8**
MORC Moravsky Berou 77.44 330 *e*P **P** **07 18 40.1 +0.5**
MORC Moravsky Berou 77.44 330 P **P** **07 18 39.7 +0.2**
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 77.44 330 P **P** **07 18 39.7 +0.2**
MORC IAmb IAmb 07 18 42.1
comp=Z,5.8nm,0.8s
KRLC Kraliky 77.46 331 *e*P **P** **07 18 40.6 +0.9**
KRLC *e*pP **pP** **07 18 54.4 +3.3**
MLR Muntele Rosu 77.58 323 ⇑P **P** **07 18 41.1 +0.5**
MLR Muntele Rosu 77.58 323 P **P** **07 18 42.3 +1.7**
MLR *PP **pP** **07 18 54.7 +2.7**
MLR Muntele Rosu 77.58 323 P **P** **07 18 42.3 +1.7**
MLR pP **pP** **07 18 54.7 +2.7**
MLR IAmb IAmb 07 18 57.8
comp=Z,4.9nm,0.7s
CLL Collm 77.68 334 *i*P **P** **07 18 40.8 0.0**

	comp=Z,16nm,1.0s						
CLL				*e*PcP	**PcP**	07 18 51.0	+0.2
CLL				*e*S	**S**	07 28 30.0	+0.8
CLL				*e*PS	**PnS**	07 29 12.0	-1.2
CLL				*e*(SS)		07 34 18.0	
CLL				*e*		07 38 12.0	
CLL				LmH		07 51 00.0	
	comp=N,200nm,21.2s						
CLL				LmH		07 51 00.0	
	comp=E,400nm,20.9s						
CLL	**Collm**	**77.68**	**334**	*i* P	**P**	07 18 40.8	0.0
CLL				*e*		07 18 51.0	
CLL				pmax	pmax		
	comp=Z,16nm,1.0s						
CLL	**Collm**	**77.68**	**334**	P	**P**	07 18 40.3	-0.5
BRG	**Berggiesshubel**	**77.75**	**333**	*e*P	**P**	07 18 44.7	+3.5
	comp=Z,3.5nm,1.1s						
BRG				*e*		07 18 54.2	
	comp=Z,6.4nm,1.1s						
	comp=N,295nm,14.0s						
	comp=E,240nm,15.0s						
	comp=Z,470nm,12.9s						
BRG	**Berggiesshubel**	**77.75**	**333**	*e*P	**P**	07 18 44.7	+3.5
BRG				*e*		07 18 54.2	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,295nm,14.0s						
BRG				MLR	MLR		
	comp=E,240nm,15.0s						
BRG				MLR	MLR		
	comp=Z,470nm,12.9s						
VOIR		**78.01**	**323**	⇑P	**P**	07 18 43.9	+1.0
VYHS	**Vyhne**	**78.03**	**329**	*e*P	**P**	07 18 43.7	+0.8
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VYHS	**Vyhne**	**78.03**	**329**	*e*P	**P**	07 18 43.7	+0.8
VRAC	**Vranov**	**78.17**	**331**	*e*P	**P**	07 18 43.8	+0.2
ARR	**Arges**	**78.25**	**324**	⇑P	**P**	07 18 45.3	+1.1
BRTR	**Keskin Array B**	**78.36**	**315**	P	**P**	07 18 45.7	+0.7
	comp=Z,1.7nm,0.7s,baz=79,slow=6.7,SNR=7.2						
BRTR				LR	LR	07 59 39.9	
	comp=Z,104nm,18.0s,baz=45,slow=40						
BRTR	**Keskin Array B**	**78.36**	**315**	P	**P**	07 18 45.1	+0.1
BRTR	**Keskin Array B**	**78.36**	**315**	P	**P**	07 18 45.1	+0.1
MNTX	**Cornudas Mount**	**78.52**	**57**	P	**P**	07 18 47.9	+2.0
LOT	**Lotru**	**78.55**	**324**	⇓P	**P**	07 18 46.8	+0.9
MODS	**Modra-Piesok**	**78.71**	**330**	*e*P	**P**	07 18 47.3	+0.7
MODS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MODS	**Modra-Piesok**	**78.71**	**330**	*e*P	**P**	07 18 47.3	+0.7
GZR	**Gura Zlata**	**79.01**	**325**	⇓P	**P**	07 18 48.8	+0.5
KHC	**Kasperske Hory**	**79.36**	**332**	*e*P	**P**	07 18 50.7	+0.5
KHC				*e*pP	**pP**	07 19 02.8	+1.2
KHC	**Kasperske Hory**	**79.36**	**332**	⇑*e*P	**P**	07 18 50.9	+0.7
KHC				pmax	pmax		
	comp=Z,36nm,2.5s						
KHC	**Kasperske Hory**	**79.36**	**332**	P	**P**	07 18 49.4	-0.8
KHC				pP	**pP**	07 19 03.2	+1.5
GERES	**GERESS Array B**	**79.57**	**332**	P	**P**	07 18 51.6	+0.2
	comp=Z,1.1nm,0.4s,baz=40,slow=6.1,SNR=10.0						
HERR	**Herculane**	**79.57**	**325**	⇑P	**P**	07 18 51.8	+0.5
CONA	**Conrad Observa**	**79.59**	**330**	*e*P	**P**	07 18 52.1	+0.6
	comp=Z,1.1nm,0.5s						
MDVR	**Moldovita**	**79.95**	**325**	⇓P	**P**	07 18 53.5	0.0
MOA	**Molln**	**80.22**	**331**	*e*P	**P**	07 18 55.7	+0.8
	comp=Z,3.9nm,0.9s						
ARSA	**Arzberg**	**80.29**	**330**	*e*P	**P**	07 18 56.1	+0.9
	comp=Z,2.1nm,0.7s						
SOKA	**Soboth**	**80.95**	**330**	*e*P	**P**	07 18 59.3	+0.4
	comp=Z,6.2nm,1.1s						
KBA	**Koelnbreinsper**	**81.21**	**331**	*e*P	**P**	07 19 00.6	+0.2
	comp=Z,10nm,0.8s						
DIVS	**Divibare**	**81.21**	**326**	IAmb	IAmb	07 19 02.3	
	comp=Z,5.8nm,0.9s						
TX31	**Lajitas Ar. Si**	**81.24**	**58**	P	**P**	07 18 59.6	-1.1
TX31				IAmb	IAmb	07 19 13.4	
	comp=Z,12nm,0.8s						
TX32	**Lajitas Array**	**81.24**	**58**	P	**P**	07 19 00.3	-0.5
TXAR	**Lajitas Array**	**81.24**	**58**	P	**P**	07 19 01.0	+0.3
	comp=Z,1.2nm,0.5s,baz=300,slow=4.3,SNR=22						
TXAR	**Lajitas Array**	**81.24**	**58**	P	**P**	07 19 00.3	-0.4
TXAR	**Lajitas Array**	**81.24**	**58**	P	**P**	07 19 00.3	-0.4
OBKA	**Obir**	**81.27**	**330**	*e*P	**P**	07 19 00.1	-0.5
	comp=Z,4.9nm,0.8s						
MYKA	**Terra Mystica**	**81.49**	**331**	*e*P	**P**	07 19 01.0	-0.7
	comp=Z,4.7nm,0.8s						
WATA	**Walderalm**	**81.59**	**332**	*e*P	**P**	07 19 02.1	-0.2
	comp=Z,7.8nm,0.6s						
WTTA	**Wattenberg**	**81.63**	**332**	*e*P	**P**	07 19 03.4	+0.9
	comp=Z,7.5nm,0.6s						
RETA	**Reutte**	**81.72**	**333**	*e*P	**P**	07 19 03.6	+0.7
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**81.74**	**333**	*e*P	**P**	07 19 03.7	+0.7
	comp=Z,13nm,1.2s						
SQTA	**Sankt Quirin**	**81.81**	**333**	*e*P	**P**	07 19 04.1	+0.6
	comp=Z,9.0nm,1.0s						
PMOR	**Pomariorio Ree**	**82.04**	**120**	*e*T	T	08 50 00.5	
	comp=Z,10nm,0.2s						
FETA	**Feichten**	**82.14**	**333**	*e*P	**P**	07 19 06.1	+0.8
	comp=Z,8.7nm,1.1s						
U40A	**Yellville**	**82.16**	**46**	P	**P**	07 19 02.6	-2.8
U40A					**pP**	07 19 17.6	+0.6
U40A				IAmb	IAmb	07 19 19.4	
	comp=Z,7.1nm,0.8s						
PPT	**Papeete**	**82.95**	**123**	LR	LR	07 54 53.2	
	comp=Z,246nm,18.8s,baz=316,slow=35						
PPT2	**Papeete2**	**82.97**	**123**	*e*LR	LR	07 45 20.4	
	comp=Z,113nm,20.5s						
PPT2	**Papeete2**	**82.97**	**123**	*e*T	T	08 51 11.9	
	comp=Z,2.5nm,0.3s						
KEST	**Kesra**	**92.58**	**328**	LR	LR	08 06 08.9	
	comp=Z,212nm,19.1s,baz=338,slow=38						
ESDC	**Sonseca Array**	**93.17**	**340**	LR	LR	08 09 01.2	
	comp=Z,178nm,18.6s,baz=10.0,slow=40						
BDFB	**Brasilia**	**148.11**	**33**	PKPbc	**PKPbc**	07 26 30.9	+0.6
	comp=Z,1.7nm,0.7s,baz=297,slow=2.3,SNR=2.0						
BDFB	**Brasilia**	**148.11**	**33**	PKP2	**PKPbc**	07 26 31.0	+0.6
PLCA	**Paso Flores**	**150.68**	**97**	PKPbc	**PKiKP**	07 26 37.3	+0.5
	comp=Z,1.9nm,1.0s,baz=297,slow=4.5,SNR=4.1						
VNA2	**Neumayer--Watz**	**150.71**	**196**	PKPdf	**PKiKP**	07 26 35.8	0.0
VNA3	**Neumayer Olymp**	**150.86**	**194**	PKPdf	**PKPdf**	07 26 29.6	-0.2
VNA1	**Neumayer--Stat**	**151.10**	**195**	PKPdf	**PKPbc**	07 26 35.6	-0.4

*SOME **15** 07:13:11.3, 39˚.57N×73˚.30E, h0km*
*NNC **15** 07:13:13.4±3.2, 39˚.58N×73˚.48E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=23.3km s-min=13.9km az=167.0*
*KRNET **15** 07:13:16.3±0.1, 39˚.47N×73˚.82E, mb3.2*

ISC 15 07:13:17.4±1.4, 39˚.38N±0˚.07×73.72E±0˚.04, h10km, n38, σ2§04/65, 34C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BTK	**Batken**	**2.33**	**288**	⇑*i*P		**Pb**	**07 13 58.7**	**-0.9**
BTK	baz=85			⇑*i*S		**Sb**	**07 14 30.3**	**+1.7**
	baz=85							
ARLS	**Aral**	**2.52**	**10**	⇑*i*P		**Pn**	**07 13 59.4**	**+0.9**
ARLS	baz=9.0			⇑*i*S		**Sn**	**07 14 31.5**	**+2.1**
	baz=9.0							
GAR	**Garm**	**2.67**	**263**	⇑*i*P		**Pb**	**07 14 04.1**	**-1.3**
GAR	baz=61			⇑*i*S		**Sb**	**07 14 38.9**	**+0.6**
	baz=61							
AML	**Almayashu**	**2.74**	**360**	⇑*i*P		**Pn**	**07 14 03.2**	**+1.3**
AML	baz=58			⇑*i*S		**Sn**	**07 14 37.2**	**+1.9**
	baz=58							
UCH	**Uchtor**	**2.90**	**12**	⇓*i*P		**Pn**	**07 14 04.8**	**+0.7**
UCH	baz=11			⇓*i*S		**Sn**	**07 14 40.4**	**+1.1**
	baz=11							
MNAS	**Manas**	**3.23**	**344**	⇑*i*P		**Pn**	**07 14 10.0**	**+1.6**
MNAS	baz=42			⇑*i*S		**Sn**	**07 14 49.2**	**+2.2**
	baz=42							
EKS2	**Erkin-Say**	**3.27**	**1**	⇑*i*P		**Pn**	**07 14 10.3**	**+1.4**
EKS2	baz=59			⇑*i*S		**Sn**	**07 14 49.5**	**+1.5**
	baz=59							
AAK	**Ala-Archa**	**3.30**	**10**	⇑*i*P		**Pn**	**07 14 10.4**	**+1.1**
AAK	baz=9.0			⇑*i*S		**Sn**	**07 14 50.2**	**+1.5**
	baz=9.0							
AAK	**Ala-Archa**	**3.30**	**10**	⇓Pg		**Pb**	**07 14 13.4**	**-2.8**
AAK	4.0nm,0.5s			⇑Lg		Lg	07 14 54.4	
	32nm,1.1s							
MRKS	**Merke**	**3.38**	**354**	*e*P		**Pn**	**07 14 10.1**	**-0.2**
MRKS	3.5nm,0.3s			*e*S		**Sn**	**07 14 52.9**	**+2.4**
	22nm,0.8s							
MRKS	**Merke**	**3.38**	**354**	Pg		**Pn**	**07 14 10.1**	**-0.2**
MRKS	3.5nm,0.3s			Lg		Lg	07 14 52.9	
	22nm,0.8s							
KBK	**Karagaybulak**	**3.40**	**15**	⇑*i*P		**Pn**	**07 14 11.8**	**+1.1**
KBK	baz=15			⇑*i*S		**Sn**	**07 14 52.2**	**+1.1**
	baz=15							
ULHL	**Ulahol**	**3.44**	**33**	⇑*e*P		**Pn**	**07 14 12.1**	**+0.8**
ULHL	baz=33			⇑*i*S		**Sn**	**07 14 52.9**	**+0.7**
	baz=33							
FRU1	**Bishkek**	**3.49**	**11**	⇑*i*P		**Pn**	**07 14 12.6**	**+0.8**
FRU1	baz=10.0			⇑*i*S		**Sn**	**07 14 54.1**	**+0.8**
	baz=10.0							
BOOM	**Boomskoye usch**	**3.53**	**28**	⇑*i*P		**Pn**	**07 14 13.2**	**+0.7**
BOOM	baz=27			⇑*i*S		**Sn**	**07 14 55.2**	**+0.8**
	baz=27							
CHMS	**Chumysh**	**3.69**	**12**	⇑*i*P		**Pn**	**07 14 15.6**	**+1.0**
CHMS	baz=11			⇑*i*S		**Sn**	**07 14 59.2**	**+1.0**
	baz=11							
KDJ	**Kajisay**	**3.80**	**43**	⇑*i*P		**Pn**	**07 14 17.5**	**+1.3**
KDJ	baz=43			⇑*i*S		**Sn**	**07 15 01.6**	**+0.6**
	baz=43							
TKM2	**Tokmak 2**	**3.81**	**21**	⇑*i*P		**Pn**	**07 14 17.5**	**+1.2**
TKM2	baz=21			⇑*i*S		**Sn**	**07 15 01.7**	**+0.5**
	baz=21							
TKM2	**Tokmak 2**	**3.81**	**21**	⇓Pg		**Pb**	**07 14 22.1**	**-2.7**
TKM2	2.3nm,0.5s			⇓Lg		Lg	07 15 10.6	
	7.9nm,0.5s							
USP	**Ospenovka**	**3.92**	**8**	⇑*i*P		**Pn**	**07 14 18.7**	**+0.9**
USP	baz=7.0			⇑*i*S		**Sn**	**07 15 04.6**	**+0.7**
	baz=7.0							
IUG	**Iuzhnay**	**3.93**	**316**	*e*P		**Pn**	**07 14 17.1**	**-0.8**
IUG	6.3nm,0.3s			*e*S		**Sn**	**07 15 05.2**	**+1.1**
	36nm,0.6s							
IUG	**Iuzhnay**	**3.93**	**316**	Pg		**Pn**	**07 14 17.1**	**-0.8**
IUG	6.3nm,0.3s			Lg		Lg	07 15 05.2	
	36nm,0.6s							
KST	**Kastek**	**4.03**	**24**	*e*P		**Pb**	**07 14 24.6**	**-3.9**
KST	4.0nm,0.5s			*e*S		**Sb**	**07 15 18.2**	**+0.9**
	14nm,0.7s							
KST	**Kastek**	**4.03**	**24**	Pg		**Pb**	**07 14 24.6**	**-3.9**
KST	4.0nm,0.5s			Lg		Lg	07 15 18.2	
	14nm,0.7s							
SGDS	**Sogindy**	**4.12**	**9**	Pg		**Pb**	**07 14 26.2**	**-3.9**
SGDS	5.6nm,0.3s			Lg		Lg	07 15 20.9	
	5.4nm,0.6s							
DGS	**Degeres**	**4.15**	**21**	*e*P		**Pb**	**07 14 27.2**	**-3.5**
DGS	2.8nm,0.5s			*e*S		**Sb**	**07 15 22.5**	**+1.6**
	21nm,0.6s							
DGS	**Degeres**	**4.15**	**21**	Pg		**Pb**	**07 14 27.2**	**-3.5**
DGS	2.8nm,0.5s			Lg		Lg	07 15 22.5	
	21nm,0.6s							
KK31	**Karatay Array**	**4.43**	**328**	Pn		**Pn**	**07 14 23.0**	**-1.7**
	0.4nm,0.2s,baz=132,slow=11,SNR=9.6							
KK31				⇑Sn		**Sn**	**07 15 14.9**	**-1.5**
	1.1nm,0.3s,baz=138,slow=24,SNR=4.3							
KK31				⇓Lg		Lg	07 15 31.0	
	5.8nm,0.5s,baz=149,slow=29,SNR=7.3							
ANVS	**Anan'yevo**	**4.52**	**40**	⇑*i*P		**Pn**	**07 14 27.4**	**+1.3**
ANVS	baz=40			⇑*e*S		**Sn**	**07 15 18.6**	**-0.2**
	baz=40							
MDOK	**Medeo**	**4.53**	**33**	*e*P		**Pb**	**07 14 34.1**	**-3.1**
MDOK	2.9nm,0.5s			*e*S		**Sb**	**07 15 34.2**	**+2.3**
	9.8nm,0.6s							
MDOK	**Medeo**	**4.53**	**33**	Pg		**Pb**	**07 14 34.1**	**-3.1**
MDOK	2.9nm,0.5s			Lg		Lg	07 15 34.2	
	9.8nm,0.6s							
KRBS	**Karabastau**	**4.55**	**18**	*e*P		**Pb**	**07 14 33.4**	**-4.0**
KRBS	2.5nm,0.3s			*e*S		**Sb**	**07 15 33.2**	**+0.9**
	5.8nm,0.7s							
KRBS	**Karabastau**	**4.55**	**18**	Pg		**Pb**	**07 14 33.4**	**-4.0**
KRBS	2.5nm,0.3s			Lg		Lg	07 15 33.2	
	5.8nm,0.7s							
KOTS	**Kotyrbulak**	**4.62**	**33**	*e*P		**Pb**	**07 14 36.0**	**-2.6**
KOTS	11nm,0.4s			*e*S		**Sb**	**07 15 37.6**	**+3.2**
	39nm,0.6s							
KOTS	**Kotyrbulak**	**4.62**	**33**	Pg		**Pb**	**07 14 36.0**	**-2.6**
KOTS	11nm,0.4s			Lg		Lg	07 15 37.6	
	39nm,0.6s							
PRZ	**Przheval'sk**	**4.71**	**47**	⇓*i*P		**Pn**	**07 14 29.7**	**+1.1**
PRZ	baz=48			⇓*i*S		**Sn**	**07 15 23.5**	**+0.1**
	baz=48							
KTBS	**Karatobe**	**4.86**	**26**	*e*P		**Pb**	**07 14 39.5**	**-3.2**
KTBS	1.6nm,0.5s			*e*S		**Sb**	**07 15 43.7**	**+2.5**
	9.6nm,1.1s							
KTBS	**Karatobe**	**4.86**	**26**	Pg		**Pb**	**07 14 39.5**	**-3.2**
KTBS	1.6nm,0.5s			Lg		Lg	07 15 43.7	
	9.6nm,1.1s							

*IDC **15** 07:27:55.5±1.8, 1˚.03N×123˚.49E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/35, mbtmp3.4/4, ML3.6/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/28, Error ellipse: s-maj=131.0km s-min=26.4km az=65.0*
*DJA **15** 07:27:59.4±0.4, 1˚.N±.7˚×12˚.3E±˚, h10km, M4.1/6, MLv4.1/6*
*NEIC **15** 07:28:03.2±2.8, 0˚.7N±0˚.1×122˚.9E±0˚.2, h68km±16km, mb4.0/5, Error ellipse: s-maj=29.3km s-min=16.3km az=67.0*

ISC 15 07:27:58.3±0.9, 0˚.61N±0˚.08×122˚.67E±0˚.06, h10km, n18, σ1§81/18, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KMSI	**Cibinong**	**1.31**	**91**	P		**Pg**	**07 28 23.6**	**+0.2**
KMSI				S		**Sg**	**07 28 42.5**	**+2.0**
LUWI	**Luwuk**	**1.64**	**176**	P		**Pg**	**07 28 29.8**	**0.0**
LUWI	**Luwuk**	**1.64**	**176**			**Pg**	**07 28 29.9**	**+0.2**
MPSI	**Mapaga**	**2.79**	**264**	P		**Pn**	**07 28 45.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**18.82**	**171**	P		**Pn**	**07 32 18.9**	**+0.2**
	0.2nm,0.3s,baz=352,slow=9.5,SNR=1.7							
FITZ	**Fitzroy Crossi**	**18.82**	**171**	P		**P**	**07 32 17.9**	**-0.3**
WB0	**Warramunga Arr**	**23.28**	**151**	P		**P**	**07 33 04.5**	**-1.8**
WB0				IAmb		IAmb	07 33 08.0	
	comp=Z,6.3nm,1.2s							
WRAB	**Tennant Creek**	**23.40**	**151**	P		**P**	**07 33 04.1**	**-3.5**
WRA	**Warramunga Arr**	**23.41**	**151**	P		**P**	**07 33 06.6**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=333,slow=10,SNR=26							
WRA	**Warramunga Arr**	**23.41**	**151**	P		**P**	**07 33 04.7**	**-2.9**
WB2	**Warramunga Arr**	**23.41**	**151**	P		**P**	**07 33 06.4**	**-1.3**
WR0	**Warramunga Arr**	**23.52**	**151**	P		**P**	**07 33 08.2**	**-0.5**
WR0				IAmb		IAmb	07 33 12.1	
	comp=Z,7.5nm,1.2s							
PSI	**Prapat**	**23.84**	**276**	LR		LR	07 44 09.7	
	comp=Z,203nm,18.7s,baz=60,slow=40							
ASAR	**Alice Springs**	**26.48**	**156**	P		**P**	**07 33 35.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=345,slow=14,SNR=7.4							
ASAR	**Alice Springs**	**26.48**	**156**	P		**P**	**07 33 34.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**29.28**	**309**	P		**P**	**07 34 01.7**	**+0.6**
MKAR	**Makanchi Array**	**57.93**	**328**	P		**P**	**07 37 50.2**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=129,slow=7.5,SNR=2.5							
MKAR	**Makanchi Array**	**57.93**	**328**	P		**P**	**07 37 47.6**	**-3.1**

*ISK **15** 07:39:25.7, 37˚.09N×30˚.57E, h10km, ML2.5/9*
*DDA **15** 07:39:26.3, 37˚.05N×30˚.60E, h7km±6km, ML2.1*

ISC 15 07:39:26.4±1.1, 37˚.09N±0˚.02×30˚.59E±0˚.02, h5km±9km, n21, σ1§62/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ANTB	**Antalya**	**0.20**	**166**	PG		**Pg**	**07 39 30.4**	**+0.2**
ANTB				SG		**Sg**	**07 39 33.9**	**+1.1**
KORT	**Korkueli**	**0.21**	**246**	PG		**Pg**	**07 39 30.2**	**-0.4**
KORT				SG		**Sg**	**07 39 33.6**	**+0.2**
KORT	**Korkueli**	**0.21**	**246**	*i* P		**Pg**	**07 39 30.0**	**-0.6**
KORT				*i* S		**Sg**	**07 39 34.3**	**+0.8**
KORT				IAML			07 39 35.0	
	comp=N,533nm,0.3s							
KORT				IAML			07 39 35.0	
	comp=E,1μm,0.5s							
BCK	**Bucak**	**0.37**	**359**	PG		**Pg**	**07 39 33.7**	**+0.1**
ELL	**Elmali**	**0.65**	**238**	PG		**Pg**	**07 39 38.2**	**-0.6**
ISP	**Isparta**	**0.73**	**356**	PG		**Pg**	**07 39 40.4**	**-0.1**
BRDR	**BURDUR-Merkez**	**0.74**	**325**	*i* P		**Pg**	**07 39 40.0**	**-0.6**
BRDR				*i* S		**Sb**	**07 39 51.9**	**-0.4**
BRDR				IAML			07 39 56.0	
	comp=N,70nm,0.9s							
BRDR				IAML			07 39 57.0	
	comp=E,121nm,0.4s							
AKUM	**Antalya-Kumluc**	**0.79**	**195**	*i* P		**Pb**	**07 39 41.7**	**-0.9**
AKUM				*i* S		**Sn**	**07 39 55.5**	**-0.9**
AKUM				IAML			07 40 07.0	
	comp=N,50nm,0.8s							
KEPZ	**Antalya-Kepez**	**0.83**	**103**	*i* P		**Pb**	**07 39 42.4**	**-0.9**
KEPZ				*i* S		**Sn**	**07 39 57.6**	**+0.1**
GOLH	**Golhisar**	**0.84**	**280**	*i* P		**Pb**	**07 39 42.4**	**-1.1**
GOLH				*i* S		**Sn**	**07 39 57.2**	**-0.6**
GOLH				IAML			07 40 00.0	
	comp=N,78nm,0.8s							
GOLH				IAML			07 40 14.0	
	comp=E,121nm,1.1s							
BAGO	**Egridir - ISPA**	**0.91**	**10**	*i* P		**Pn**	**07 39 45.1**	**-0.9**
BAGO				*i* S		**Sn**	**07 39 59.0**	**-0.6**
BASM	**Basmaki-Afyon**	**0.94**	**333**	PG		**Pg**	**07 39 43.9**	**-0.4**
SEYD	**Seydisehir-KON**	**1.04**	**72**	PG		**Pg**	**07 39 46.1**	**-0.3**
AKAS	**Kas**	**1.17**	**223**	PN		**Pb**	**07 39 48.2**	**-0.9**
AKAS	**Kas**	**1.17**	**223**	*i* P		**Pn**	**07 39 48.5**	**-1.1**
AKAS				*i* S		**Sn**	**07 40 12.8**	**+6.8**
AKAS				IAML			07 40 15.0	
	comp=E,30nm,0.6s							
KZIL	**AFYON_Kizioren**	**1.22**	**343**	*i* P		**Pb**	**07 39 49.5**	**-0.6**
KZIL				*i* S		**Sn**	**07 40 08.8**	**+1.6**
KZIL				IAML			07 40 13.0	
	comp=N,44nm,0.5s							
KZIL				IAML			07 40 15.0	
	comp=E,30nm,0.7s							
FETY	**Fethiye**	**1.29**	**250**	PN		**Pn**	**07 39 50.2**	**-1.0**
DOGA	**KONYA_Doganhis**	**1.33**	**40**	*i* P		**Pb**	**07 39 51.7**	**-0.2**
DOGA				*i* S		**Sg**	**07 40 09.5**	**+0.5**
DOGA				IAML			07 40 17.0	
	comp=N,45nm,0.7s							
DOGA				IAML			07 40 17.0	
	comp=E,42nm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.39**	**286**	*i* P		**Pb**	**07 39 52.4**	**-0.6**
TAVA				*i* S		**Sg**	**07 40 14.9**	**+3.7**
DALY	**Dalyan (Mula)**	**1.58**	**261**	PN		**Pn**	**07 39 53.5**	**-1.5**
KDHN	**Kadinhani**	**1.87**	**40**	*i* P		**Pn**	**07 39 59.4**	**+0.2**
KDHN				*i* S		**Sb**	**07 40 25.2**	**+0.3**

BJI 15 07:45:44.0±0.0, 27˚.70N×119˚.94E, h5km, ML4.0/9, 1D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
QZH	**Quanzhou**	**3.00**	**204**	*e*Pn		Pn	07 46 31.9	-0.3
QZH				Pg		Pb	07 46 39.4	+1.5
QZH				Sg		Sb	07 47 16.8	+1.9
QZH				smax		smax		
	comp=N,370nm,0.6s							
QZH				smax		smax		
	comp=E,470nm,0.9s							
NJ2	**Nanjing**	**4.44**	**348**	*e*Pn		Pn	07 46 51.3	-0.7
NJ2				Pg		Pg	07 47 06.0	-3.1
NJ2				Sn		Sn	07 47 44.6	+0.6
NJ2				Sg		Sg	07 48 05.0	-1.6
NJ2				smax		smax		
	comp=N,270nm,0.7s							
NJ2				smax		smax		
	comp=E,190nm,0.8s							
WHN	**Wuhan**	**5.65**	**301**	⇓Pn		Pn	07 47 09.8	+1.1
WHN				Sn		Sn	07 48 07.9	-6.0
XAN	**Xi'an**	**11.38**	**306**	P		Pn	07 48 24.8	-2.5
XAN				S		Sn	07 50 30.5	-4.3
XAN				LR		LR		
	comp=N,250nm,6.0s							
XAN				LR		LR		
	comp=E,240nm,7.6s							
XAN				LR		LR		
	comp=Z,280nm,8.4s							
LZH	**Lanzhou**	**16.01**	**305**	*e*P		Pn	07 49 29.8	-0.3
LZH				pP		P	07 49 32.1	-1.6
WMQ	**Urumqi**	**30.47**	**310**	*e*P		P	07 51 58.0	+0.2

BJI 15 07:49:27.0±0.0, 27˚.70N×119˚.94E, h5km, ML4.1/8, 1D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
QZH	**Quanzhou**	**3.00**	**204**	Pg		Pb	07 50 21.3	+0.4
QZH				Sg		Sb	07 50 59.4	+1.5
QZH				smax		smax		
	comp=N,430nm,0.9s							
QZH				smax		smax		
	comp=E,620nm,1.0s							
NJ2	**Nanjing**	**4.44**	**348**	*e*Pn		Pn	07 50 33.8	-1.2
NJ2				Pg		Pg	07 50 48.8	-3.3
NJ2				Sn		Sn	07 51 24.4	-2.6
NJ2				Sg		Sg	07 51 46.3	-3.3
NJ2				smax		smax		
	comp=N,320nm,0.8s							
NJ2				smax		smax		
	comp=E,150nm,0.7s							
WHN	**Wuhan**	**5.65**	**301**	⇓Pn		Pn	07 50 52.4	+0.7
WHN				Sn		Sn	07 51 54.5	-2.4
XAN	**Xi'an**	**11.38**	**306**	P		Pn	07 52 16.4	+6.1
XAN				S		Sn	07 54 23.6	+5.8
**WMQ

ZLN				S		Sn	07 55 53.7	-0.7
KMNR	Kamenistaya	1.50	314	*i* P		Pn	07 55 35.5	-0.2
KMNR	Kamenistaya	1.50	314	PN		Pn	07 55 35.5	-0.2
KBTR	Krutoberegovo	1.53	14	*e*P		Pn	07 55 35.8	-0.2
KBTR				*e*S		Sn	07 55 55.5	+0.6
KBTR	Krutoberegovo	1.53	14	PN		Pn	07 55 35.8	-0.2
KBTR				S		Sn	07 55 55.5	+0.6
BZWR	Bezymyannyi-We	1.55	323	*e*P		Pn	07 55 36.1	-0.4
BZWR	Bezymyannyi-We	1.55	323	PN		Pn	07 55 36.1	-0.4
KBG	Krutoberegovo	1.56	11	*e*P		Pn	07 55 36.2	-0.2
KBG				*e*S		Sn	07 55 57.1	+1.4
KBG	Krutoberegovo	1.56	11	PN		Pn	07 55 36.2	-0.2
KBG				S		Sn	07 55 57.1	+1.4
LGNR	Loginova	1.59	329	*i* P		Pn	07 55 37.1	0.0
LGNR				*e*S		Sn	07 55 58.2	+1.3
LGNR	Loginova	1.59	329	PN		Pn	07 55 37.1	0.0
LGNR				S		Sn	07 55 58.2	+1.3
CIRR	Tsirk	1.60	331	*e*P		Pn	07 55 37.1	0.0
CIRR				*e*S		Sn	07 55 57.6	+0.6
CIRR	Tsirk	1.60	331	PN		Pn	07 55 37.1	0.0
CIRR				S		Sn	07 55 57.6	+0.6
KIRR	Kirishev	1.60	321	*e*P		Pn	07 55 37.2	+0.1
KIRR				*e*S		Sn	07 55 57.9	+0.9
KIRR	Kirishev	1.60	321	PN		Pn	07 55 37.2	+0.1
KIRR				S		Sn	07 55 57.9	+0.9
KII	Karymskiy	1.73	247	*e*P		Pn	07 55 38.6	-0.2
KII	Karymskiy	1.73	247	PN		Pn	07 55 38.6	-0.2
KRSR	Krestovskiy	1.74	329	*e*P		Pn	07 55 38.5	-0.5
KRSR	Krestovskiy	1.74	329	PN		Pn	07 55 38.5	-0.5
KLY	Klyuchi	1.80	332	*e*P		Pn	07 55 38.6	-1.1
KLY				*e*S		Sn	07 56 00.5	-1.1
KLY	Klyuchi	1.80	332	PN		Pn	07 55 38.6	-1.1
KLY				S		Sn	07 56 00.5	-1.1
KOZ	Kozyrevsk	1.86	317	*e*P		Pn	07 55 41.2	+0.7
KOZ				*e*S		Sn	07 56 04.7	+1.5
KOZ	Kozyrevsk	1.86	317	PN		Pn	07 55 41.2	+0.7
KOZ				S		Sn	07 56 04.7	+1.5
SMKR	Semkarok	1.89	348	*e*P		Pn	07 55 41.1	0.0
SMKR	Semkarok	1.89	348	PN		Pn	07 55 41.1	0.0
BDR	Baidarnaya	1.92	344	*e*P		Pn	07 55 41.4	0.0
BDR	Baidarnaya	1.92	344	PN		Pn	07 55 41.4	0.0
SRKR	Sorokina	2.00	344	*e*P		Pn	07 55 42.5	-0.1
SRKR	Sorokina	2.00	344	PN		Pn	07 55 42.5	-0.1
SPN	Mys Shipunski	2.07	218	*e*P		Pn	07 55 41.3	-2.1
SPN				*e*S		Sn	07 56 04.7	-3.5
SPN	Mys Shipunski	2.07	218	PN		Pn	07 55 41.3	-2.1
SPN				S		Sn	07 56 04.7	-3.5
SRDR	Sredinnyy	2.11	320	*e*P		Pn	07 55 43.8	-0.2
SRDR	Sredinnyy	2.11	320	PN		Pn	07 55 43.8	-0.2
ESO	Esso	2.31	303	*e*P		Pn	07 55 46.9	+0.2
ESO	Esso	2.31	303	PN		Pn	07 55 46.9	+0.2
SDLR	Sedlovina	2.42	234	*e*P		Pn	07 55 48.6	+0.3
SDLR	Sedlovina	2.42	234	PN		Pn	07 55 48.6	+0.3
KRER	Koryakskii	2.47	236	*e*P		Pn	07 55 49.5	+0.4
KRER				*e*S		Sn	07 56 19.0	+0.6
KRER	Koryakskii	2.47	236	PN		Pn	07 55 49.5	+0.4
KRER				S		Sn	07 56 19.0	+0.6
SMAR	Somma	2.47	235	*i* P		Pn	07 55 49.3	+0.2
SMAR				*e*S		Sn	07 56 17.7	-0.7
SMAR	Somma	2.47	235	PN		Pn	07 55 49.3	+0.2
SMAR				S		Sn	07 56 17.7	-0.7
KRX	Arik	2.48	238	*i* P		Pn	07 55 49.7	+0.5
KRX				*e*S		Sn	07 56 19.2	+0.5
KRX	Arik	2.48	238	PN		Pn	07 55 49.7	+0.5
KRX				S		Sn	07 56 19.2	+0.5
UGLR	Uglovaya	2.49	234	*i* P		Pn	07 55 49.7	+0.4
UGLR	Uglovaya	2.49	234	PN		Pn	07 55 49.7	+0.4
AVH	Avacha	2.50	235	*e*P		Pn	07 55 50.2	+0.8
AVH	Avacha	2.50	235	PN		Pn	07 55 50.2	+0.8
KOK	Koryaka	2.53	237	*e*P		Pn	07 55 50.4	+0.6
KOK				*e*S		Sn	07 56 21.1	+1.3
KOK	Koryaka	2.53	237	PN		Pn	07 55 50.4	+0.6
KOK				S		Sn	07 56 21.1	+1.3
DALK	Dalny	2.64	231	*e*P		Pn	07 55 51.0	-0.2
DALK				*e*S		Sn	07 56 21.4	-0.9
DALK	Dalny	2.64	231	PN		Pn	07 55 51.0	-0.2
DALK				S		Sn	07 56 21.4	-0.9
GNL	Ganaly	2.68	249	*e*P		Pn	07 55 52.7	+0.7
GNL	Ganaly	2.68	249	PN		Pn	07 55 52.7	+0.7
PET	Petropavlovsk	2.69	232	*e*P		Pn	07 55 52.0	+0.1
PET				*e*S		Sn	07 56 23.0	-0.5
PET	Petropavlovsk	2.69	232	*de*PN		Pn	07 55 51.8	-0.1
KRMR	Karymshinskiy	3.05	233	*e*P		Pn	07 55 58.1	+1.2
KRMR				*e*S		Sn	07 56 35.3	+2.7
KRMR	Karymshinskiy	3.05	233	PN		Pn	07 55 58.1	+1.2
KRMR				S		Sn	07 56 35.3	+2.7
PEA0B	Petropavlovsk-	3.10	240	*ce*PN		Pn	07 55 58.9	+1.4
PETK	Petropavlovsk-	3.10	240	Pn		Pn	07 55 57.9	+0.3
	5.3nm,0.3s,baz=76,slow=17,SNR=110							
PETK				Sn		Sn	07 56 33.5	-0.2
	2.9nm,0.3s,baz=25,slow=21,SNR=3.7							
PETK				LR		LR	07 56 58.6	
	comp=Z,55nm,19.2s,baz=64,slow=36							
RUS	Russkaya	3.17	225	*e*P		Pn	07 55 58.8	+0.3
RUS	Russkaya	3.17	225	PN		Pn	07 55 58.8	+0.3
GRL	Gorelyy	3.27	230	*e*P		Pn	07 56 00.6	+0.6
GRL				*e*S		Sn	07 56 39.9	+1.9
GRL	Gorelyy	3.27	230	PN		Pn	07 56 00.6	+0.6
GRL				S		Sn	07 56 39.9	+1.9
MTVR	Mutnovka	3.27	228	*e*P		Pn	07 56 00.5	+0.5
MTVR	Mutnovka	3.27	228	PN		Pn	07 56 00.5	+0.5
ASAK	Asacha	3.46	229	*e*P		Pn	07 56 03.6	+1.0
ASAK	Asacha	3.46	229	PN		Pn	07 56 03.6	+1.0
APC	Apacha	3.47	241	*e*P		Pn	07 56 04.4	+1.8
APC	Apacha	3.47	241	PN		Pn	07 56 04.4	+1.8
MA2	Magadan	7.86	313	LR		LR	07 59 52.5	
	comp=Z,81nm,19.7s,baz=142,slow=36							
BILL	Bilibino	13.49	7	*e*P		Pn	07 58 17.6	-2.2
BILL				pmax	pmax			
	comp=Z,3.0nm,0.3s							
YAK	Yakutsk	18.36	307	LR		LR	08 08 16.1	
	comp=Z,61nm,18.8s,baz=92,slow=43							
TIXI	Tiksi	22.14	333‖	*e*P		P	08 00 02.9	-0.7
MJA0	Matsu Arr-Jizo	24.50	232	*e*P		P	08 00 29.8	+2.4
MJA0				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MJAR	Matsushiro Arr	24.52	232	P		P	08 00 27.3	-0.3
	comp=Z,1.6nm,0.4s,baz=29,slow=9.3,SNR=6.0							
MJAR				LR		LR	08 09 36.8	
	comp=Z,33nm,19.5s,baz=105,slow=36							
MAJO	Matsushiro	24.52	232‖	*e*P		P	08 00 31.4	+3.9
MAJO				pmax	pmax			
	comp=Z,22nm,2.1s							
KDAK	Kodiak Island	24.96	64	LR		LR	08 09 23.4	
	comp=Z,53nm,19.9s,baz=248,slow=34							
ILAR	Eielson Array	26.80	48	P		P	08 00 46.9	-1.0
	comp=Z,0.9nm,0.8s,baz=261,slow=8.3,SNR=9.4							
KSRS	Korea Array	28.97	248	LR		LR	08 12 29.9	
	comp=Z,47nm,18.7s,baz=285,slow=36							
H11N2	WAKE ISLAND Hy	35.13	172	T		T	08 39 16.7	
	baz=355,slow=76,SNR=130							
H11N3	WAKE ISLAND Hy	35.14	172	T		T	08 39 19.1	
	baz=355,slow=76,SNR=129							
H11N1	WAKE ISLAND Hy	35.15	172	T		T	08 39 16.0	
	baz=355,slow=76,SNR=119							
H11S1	WAKE ISLAND Hy	36.33	173	T		T	08 40 45.8	
	baz=352,slow=74							
H11S3	WAKE ISLAND Hy	36.34	173	T		T	08 40 46.5	
	baz=352,slow=74							
H11S2	WAKE ISLAND Hy	36.34	173	T		T	08 40 49.8	
	baz=352							
SPITS	Spitsbergen Ar	45.71	351	P		P	08 03 28.7	+0.1
	comp=Z,2.4nm,0.6s,baz=57,slow=6.0,SNR=1.3							
MK31	Makanchi Array	48.54	296‖	*e*P		P	08 03 50.6	-0.4
MKAR	Makanchi Array	48.54	296	LR		LR	08 24 05.5	
	comp=Z,43nm,19.1s,baz=324,slow=36							
NVAR	Mina Array Bea	54.06	73	P		P	08 04 33.5	+0.8
	comp=Z,1.1nm,0.7s,baz=307,slow=5.8,SNR=4.8							
PDAR	Pinedale Array	55.67	63	P		P	08 04 44.5	+0.2
	comp=Z,0.8nm,0.7s,baz=339,slow=3.7,SNR=8.1							
FINES	FINESS Array B	59.09	337	P		P	08 05 08.1	+0.4
	comp=Z,3.6nm,0.8s,baz=52,slow=9.9,SNR=6.9							
TXAR	Lajitas Array	68.89	69	P		P	08 06 12.9	+0.1
	comp=Z,0.8nm,0.6s,baz=299,slow=4.4,SNR=15							
WRA	Warramunga Arr	78.09	207	P		P	08 07 05.9	-0.7
	comp=Z,0.4nm,0.7s,baz=18,slow=5.4,SNR=2.5							
ASAR	Alice Springs	81.76	206	P		P	08 07 26.6	+0.1
	comp=Z,0.4nm,0.5s,baz=13,slow=5.9,SNR=4.2							

IDC 15 08:00:52.0±1.9,52°64N×35°74E,h0km,mb3.4/1,
mb1 3.4/4,mb1mx3.1/41,mbtmp3.3/4,ML2.9/3,MS3.4/1,

Ms1 3.4/1,ms1mx2.3/45,Error ellipse: s-maj=28.5km
s-min=22.7km az=135.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBN	**Obninsk**	**2.52**	**11**	Lg	Lg	08 02 14.1	
	2.5nm,0.3s,baz=9.7,slow=23,SNR=11						
AKASG	**Malin Array Be**	**4.50**	**247**	Pn	Pn	08 01 59.7	-1.6
	0.9nm,0.3s,baz=58,slow=16,SNR=2.2						
AKASG				Sn	Sn	08 02 57.3	+3.1
	1.3nm,0.3s,baz=63,slow=28,SNR=1.3						
FINES	**FINESS Array B**	**10.26**	**333**	Pn	Pn	08 03 16.0	-4.3
	0.1nm,0.3s,baz=151,slow=14,SNR=5.1						
ARCES	**ARCESS Array B**	**17.61**	**348**	P	Pn	08 04 57.3	-1.1
	baz=162,slow=12,SNR=7.9						
KURBB	**Kurchatov Arra**	**26.35**	**77**	P	P	08 06 29.4	0.0
	0.4nm,0.8s,baz=289,slow=9.6,SNR=2.7						
BORG	**Borgarnes**	**30.87**	**315**	LR	LR	08 20 03.2	
	comp=Z,64nm,19.6s,baz=178,slow=37						

*TEH **15** 08:24:58.9,32°66N×47°61E,h15km,ML4.0*
*IDC **15** 08:24:59.1±2.1,33°10N×47°71E,h0km,mb3.9/6,*
mb1 3.9/6,mb1mx3.6/39,mbtmp3.9/6,MS3.2/4,Ms1 3.1/4,
ms1mx2.7/44,Error ellipse: s-maj=47.6km s-min=27.8km
az=160.0
*NEIC **15** 08:25:00.2±3.4,33°2N±0°1×47°52E±0°10,h10km±2km,*
Error ellipse: s-maj=20.7km s-min=12.2km az=158.0
*ISN **15** 08:25:00.6±1.6,32°78N×47°52E,h15km±8km,ML3.7*
*THR **15** 08:25:00.1±0.7,32°62N×47°68E,h14km±9km,ML3.8*
ISC 15 08:24:59.1±1.1,32°72N±0°03×47°63E±0°03,h12km±8km,
n75,σ1°45/76,mb3.8/8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.29**	**263**	*e*Pg	**Pg**	**08 25 04.7**	**-0.4**
DHL1				*e*Sg	**Sg**	**08 25 09.8**	**+0.7**
IKMR	**Kamar-syah**	**1.02**	**38**	*e*Pg	**Pg**	**08 25 19.0**	**+0.3**
IKMR				*e*		08 25 39.1	
IDOB	**Doab**	**1.16**	**23**	*e*Pg	**Pg**	**08 25 21.6**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.17**	**121**	*e*Pg	**Pn**	**08 25 20.2**	**-1.1**
SHGR	**Shooshtar-Gavs**	**1.17**	**121**	*e*Pg	**Pn**	**08 25 20.2**	**-1.1**
BMDN	**Meydan**	**1.38**	**46**	*e*Pg	**Pg**	**08 25 26.3**	**+0.6**
BMDN				*e*		08 25 51.5	
BMDN	**Meydan**	**1.38**	**46**		**Pg**	**08 25 26.7**	**+1.0**
IKOM	**Komasi**	**1.46**	**356**	*e*Pg	**Pg**	**08 25 27.0**	**-0.1**
IKOM				*e*		08 25 53.6	
IBDR	**Badra**	**1.48**	**286**	*e*Pg	**Pn**	**08 25 25.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**08 25 45.0**	**+0.2**
IBDR				AML	AML	08 26 01.7	
	comp=E,2μm,0.6s						
IBDR				AML	AML	08 26 05.9	
	comp=N,1μm,0.7s						
KCHF	**Cheshme Sefid,**	**1.63**	**343**	*e*Pg	**Pg**	**08 25 30.2**	**-0.2**
KCHF				*e*		08 25 58.6	
AHWZ	**Ahwaz**	**1.63**	**148**	*e*Pg	**Pn**	**08 25 29.2**	**+1.5**
AHWZ				*e*Sg	**Sn**	**08 25 51.0**	**+2.4**
HSAM	**Samen**	**1.70**	**28**	*e*Pg	**Pb**	**08 25 31.2**	**+0.7**
HSAM				*e*		08 26 05.4	
KER	**Kermanshah**	**1.71**	**346**	*e*Pg	**Pb**	**08 25 31.1**	**+0.5**
IBZA	**Bozab**	**1.76**	**6**	*e*Pg	**Pg**	**08 25 32.3**	**-0.6**
IBZA				*e*		08 26 08.3	
IGHG	**Ghaleghazi**	**1.83**	**331**	*e*Pn	**Pb**	**08 25 32.4**	**-0.3**
IGHG				*e*		08 26 06.7	
IVIS	**Veis**	**1.92**	**340**	*e*Pn	**Pb**	**08 25 33.2**	**-0.9**
IVIS				*e*		08 26 07.8	
NSR	**Nassriya**	**2.12**	**217**	*e*Pn	**Pn**	**08 25 36.0**	**+1.6**
NSR				*e*Sn	**Sn**	**08 26 03.0**	**+2.3**
IALM	**Almabolaq**	**2.18**	**12**	*e*Pn	**Pb**	**08 25 38.0**	**-0.7**
KHMZ	**Khomeyn**	**2.20**	**62**	*e*Pn	**Pb**	**08 25 38.1**	**-0.9**
KHMZ	**Khomeyn**	**2.20**	**62**	*e*Pn	**Pb**	**08 25 38.1**	**-0.9**
IDHR	**Dehrash**	**2.23**	**333**	*e*Pn	**Pb**	**08 25 37.8**	**-1.7**
IDHR				*e*		08 26 20.6	
ILIN	**Lien**	**2.26**	**346**	*e*Pn	**Pn**	**08 25 38.2**	**+1.6**
ILIN				*e*		08 26 26.5	
SNGE	**Sanandaj**	**2.38**	**354**	*e*Pn	**Pb**	**08 25 42.2**	**+0.2**
SNGE				IAML		08 26 22.0	
	comp=N,393nm,0.5s						
SNGE	**Sanandaj**	**2.38**	**354**	*e*Pn	**Pb**	**08 25 42.2**	**+0.2**
HAGD	**Aghdareh**	**2.45**	**31**	*e*Pn	**Pb**	**08 25 41.9**	**-1.3**
HAGD				*e*		08 25 51.9	
HSRG	**Sareghieh**	**2.57**	**12**	*e*Pn	**Pb**	**08 25 43.9**	**-1.5**
HSRG				*e*		08 26 36.3	
JHBN	**Jahan bin**	**2.62**	**100**	*e*Pn	**Pn**	**08 25 42.5**	**+1.0**
ASAO	**Ashtian**	**2.71**	**47**	*e*Pn	**Pb**	**08 25 46.2**	**-1.5**
ASAO				*e*Sg	**Sg**	**08 26 26.1**	**0.0**
ASAO	**Ashtian**	**2.71**	**47**	*e*Pn	**Pb**	**08 25 46.2**	**-1.5**
IPIR	**Pirpir**	**2.75**	**90**	*e*Pn	**Pn**	**08 25 44.6**	**+1.2**
IPIR				*e*		08 26 48.1	
BHD	**Baghdad**	**2.78**	**282**	*e*Pn	**Pn**	**08 25 45.0**	**+1.5**
BHD				*e*Sn	**Sn**	**08 26 17.0**	**0.0**
IKLH	**Kolahrood**	**3.38**	**79**	*e*Pn	**Pn**	**08 25 53.6**	**+1.7**
IKLH				*e*		08 26 53.1	
QABG	**Abgarm-Qazvin**	**3.39**	**28**	*e*Pn	**Pn**	**08 25 53.5**	**+1.4**
GHVR	**GHOM**	**3.53**	**59**	*e*Pn	**Pn**	**08 25 56.7**	**+2.8**
GHVR	**GHOM**	**3.53**	**59**	*e*Pn	**Pn**	**08 25 56.7**	**+2.8**
IQOM	**Qom**	**3.57**	**53**	*e*Pn	**Pn**	**08 25 56.2**	**+1.7**
IGAR	**Gharneh**	**3.74**	**94**	*e*Pn	**Pn**	**08 25 57.7**	**+0.8**
KLNJ	**Kolanjah**	**3.78**	**116**	*e*Pn	**Pn**	**08 25 58.1**	**+0.5**
IZEF	**Zefreh**	**3.96**	**86**	*e*Pn	**Pn**	**08 26 01.7**	**+1.7**
KRSH	**Karshahi**	**3.98**	**71**	*e*Pn	**Pn**	**08 26 01.8**	**+1.7**
QSDN	**Sirdan**	**3.98**	**18**	*e*Pn	**Pn**	**08 26 03.3**	**+3.0**
IVRN	**Varamin**	**4.10**	**55**	*e*Pn	**Pn**	**08 26 03.5**	**+1.8**
IRAM	**Ramesheh**	**4.13**	**101**	*e*Pn	**Pn**	**08 26 02.4**	**+0.1**
QALM	**Alamut, Qazvin**	**4.46**	**33**	*e*Pn	**Pn**	**08 26 08.7**	**+1.8**
IDMV	**Damavand**	**4.63**	**51**	*e*Pn	**Pn**	**08 26 10.8**	**+1.6**
ANAR	**Anarak**	**5.15**	**83**	*e*Pn	**Pn**	**08 26 16.7**	**+0.5**
IFIR	**Firoozkooh**	**5.15**	**54**	*e*Pn	**Pn**	**08 26 18.7**	**+2.3**
ILAS	**Lasjerd**	**5.16**	**58**	*e*Pn	**Pn**	**08 26 17.6**	**+1.1**
ISAD	**Sadrabad**	**5.19**	**97**	*e*Pn	**Pn**	**08 26 17.4**	**+0.5**
MSL	**Mosul**	**5.23**	**316**	*e*Pn	**Pn**	**08 26 20.0**	**+2.8**
MSL				*e*Sn	**Sn**	**08 27 16.0**	**-1.4**
IPRN	**Peran**	**5.24**	**47**	*e*Pn	**Pn**	**08 26 20.3**	**+2.8**
IANJ	**Anjilo**	**5.89**	**61**	*e*Pn	**Pn**	**08 26 27.3**	**+0.8**
TPRV	**Parvadeh(Tabas**	**7.63**	**85**	*e*Pn	**Pn**	**08 26 51.1**	**+0.9**
TKDS	**Koohdasht(Taba**	**8.01**	**81**	*e*Pn	**Pn**	**08 26 56.6**	**+1.1**
GEYT	**Alibeck**	**10.02**	**56**	LR	LR	08 31 46.8	
	comp=N,146nm,19.2s,baz=195,slow=42						
KBZ	**Khabaz**	**11.60**	**343**	LR	LR	08 32 33.2	
	comp=N,51nm,21.6s,baz=242,slow=40						
BRTR	**Keskin Array B**	**13.27**	**306**	LR	LR	08 34 16.2	
	comp=N,29nm,18.5s,baz=108,slow=42						
KBL	**Kabul**	**17.93**	**78**		**P**	**08 29 09.7**	**+0.6**
KBL				IAmb	IAmb	08 29 20.9	
	comp=Z,7.4nm,1.1s						
GAR	**Garm**	**19.41**	**65**	P	**P**	**08 29 25.0**	**-0.2**
GAR				IAmb	IAmb	08 29 37.1	
	comp=Z,5.4nm,0.7s						
BTK	**Batken**	**20.02**	**62**	P	Pn	08 29 33.4	-0.3
BTK				IAmb	IAmb	08 29 38.7	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**20.76**	**53**	P	**P**	**08 29 41.0**	**+1.2**
KKAR	**Karatay Array**	**20.76**	**53**	P	**P**	**08 29 38.7**	**-1.1**
KKAR				IAmb	IAmb	08 29 44.5	
	comp=Z,4.1nm,1.2s						
NIL	**Nilore**	**21.46**	**81**	P	**P**	**08 29 46.9**	**-0.5**
NIL				IAmb	IAmb	08 29 58.1	
	comp=Z,10nm,1.0s						
AKASG	**Malin Array Be**	**22.51**	**328**	P	**P**	**08 29 58.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=137,slow=10,SNR=2.3						
BURAR	**Bucovina Array**	**22.57**	**318**	P	**P**	**08 29 58.2**	**-1.1**
KURK	**Kurchatov**	**29.00**	**42**	P	**P**	**08 30 55.8**	**-2.8**
MK31	**Makanchi Array**	**29.86**	**52**	P	**P**	**08 31 06.0**	**-0.4**
MK31				IAmb	IAmb	08 31 07.3	
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**29.86**	**52**	P	**P**	**08 31 06.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=253,slow=8.4,SNR=7.8						
FINES	**FINESS Array B**	**31.95**	**341**	P	**P**	**08 31 23.4**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=134,slow=8.0,SNR=1.6						
ZALV	**Zalesovo Beam**	**33.81**	**40**	P	**P**	**08 31 39.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=231,slow=9.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**33.81**	**40**	P	**P**	**08 31 39.2**	**-1.7**
ARCES	**ARCESS Array B**	**38.90**	**348**	P	**P**	**08 32 22.0**	**-2.2**
	comp=Z,1.9nm,0.9s,baz=158,slow=9.7,SNR=1.4						
TORD	**Torodi Ar. Bea**	**46.15**	**256**	P	**P**	**08 33 26.8**	**+3.0**
	comp=Z,0.4nm,0.9s,baz=76,slow=6.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**46.15**	**256**	IAmb	IAmb	08 33 27.0	
	comp=Z,1.2nm,1.1s						
ASAR	**Alice Springs**	**99.47**	**112**	LR	LR	09 27 14.7	
	comp=Z,70nm,18.9s,baz=14,slow=38						

*IDC **15** 08:26:28.9±1.2,43°98N×149°30E,h0km,mb3.8/8,*
mb1 4.0/9,mb1mx3.7/37,mbtmp3.8/9,ML2.4/1,MS2.8/1,
Ms1 2.8/1,ms1mx2.3/41,Error ellipse: s-maj=32.0km
s-min=27.2km az=159.0
*JMA **15** 08:26:32.0±0.6,44°31N×149°38E,h30km,M3.7*
*MOS **15** 08:26:32.4±1.1,44°04N×149°39E,h39km,mb4.2/2,Error*
ellipse: s-maj=14.4km s-min=11.6km az=1.1
*NIED **15** 08:26:32.1,44°31N×149°38E,h30km,MW3.8,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;
Mrr2.18; Mθθ3.96; Mϕϕ-6.14; Mrθ3.21; Mϕθ-1.56; Mrϕ0.09;
Fault plane solution: Mo6.47000×10¹⁴ NP1:ϕs48.00000°,
δ69.00000°,λ150.00000°. NP2:ϕs150.00000°,δ62.00000°,
λ25.00000°.
*SKHL **15** 08:26:33.5±0.2,43°96N×149°34E,h44km±2km,mb4.5/2*
*NEIC **15** 08:26:36.1±1.6,44°1N±0°1×149°29E±0°06,h51km±9km,*
mb4.1/4,Error ellipse: s-maj=17.1km s-min=5.7km
az=183.0
ISC 15 08:26:33.7±0.8,43°94N±0°06×149°32E±0°07,h38km,n67,
σ1°86/73,mb4.0/11,1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.66**	**322**	*e*P	**Pn**	**08 26 59.0**	**-1.2**
KUR				AMB	AMB	08 27 00.0	
	137nm,0.4s						
KUR				*e*S	**Sn**	**08 27 18.0**	**-2.3**
KUR				A	A	08 27 26.0	
	215nm,0.3s						
KUR				A	A	08 27 26.0	
	445nm,0.3s						
KUR	**Kuril'sk**	**1.66**	**322**	*e*PN	**Pn**	**08 26 59.5**	**-0.7**
KUR				S	**Sn**	**08 27 17.8**	**-2.5**
KUR				pmax	pmax		
	comp=Z,133nm,0.6s						
KUR				pmax	pmax		
	comp=N,102nm,0.3s						
KUR				pmax	pmax		
	comp=E,48nm,0.2s						
KUR				smax	smax		
	comp=N,459nm,0.5s						
KUR				smax	smax		
	comp=E,314nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.50**	**273**	*e*S	**Sn**	**08 27 39.0**	**-1.9**
GRPR	**Tuman**	**2.56**	**272**	*e*P	**Pn**	**08 27 12.0**	**-0.6**
GRPR				*e*S	**Sn**	**08 27 41.0**	**-1.5**
GRPR				A	A	08 27 46.0	
	comp=E,191nm,0.4s						
GRPR				A	A	08 27 46.0	
	comp=E,84nm,0.4s						
GRPR	**Tuman**	**2.56**	**272**	*e*PN	**Pn**	**08 27 12.3**	**-0.3**
GRPR				*e*S	**Sn**	**08 27 41.4**	**-1.1**
GRPR				smax	smax		
	comp=E,84nm,0.2s						
GRPR				smax	smax		
	comp=N,191nm,0.4s						
NEM2	**Nemuro 2**	**2.66**	**259**	P	**Pn**	**08 27 13.8**	**-0.2**
NEM2				*e*S	**Sn**	**08 27 44.6**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.67**	**259**	*i* P	**Pn**	**08 27 13.0**	**-1.1**
NMR				*e*S	**Sn**	**08 27 45.0**	**-0.1**
NMR	**Nemuro--Hokkai**	**2.67**	**259‖**	*i* PN	**Pn**	**08 27 13.9**	**-0.2**
NMR				*e*S	**Sn**	**08 27 45.3**	**+0.2**
GLVR	**Golovnino**	**2.76**	**267**	*e*P	**Pn**	**08 27 15.0**	**-0.3**
GLVR				AMB	AMB	08 27 16.0	
	comp=N,170nm,0.5s						
GLVR				*e*S	**Sn**	**08 27 46.0**	**-1.3**
GLVR				A	A	08 27

comp=Z,2.5nm,0.6s,baz=37,slow=7.4,SNR=6.9
NOA NORSAR Array B 69.98 340 P **P** **08 37 41.0 +0.2**
comp=Z,1.2nm,0.8s,baz=33,slow=6.0,SNR=3.7
KBZ Khabaz 70.84 313 P **P** **08 37 47.5 +1.2**
comp=Z,0.9nm,0.4s,baz=63,slow=2.3,SNR=3.9
TXAR Lajitas Array 81.23 58 P **P** **08 38 47.2 +1.3**
comp=Z,0.2nm,0.5s,baz=305,slow=3.4,SNR=7.4

BJI 15 08:37:24.6±0.0, 27.70N×119.95E, h5km, mb4.2/1, ML4.3/9, 1D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.00**	**204**	Pn		Pn	08 38 11.8	-1.1
QZH				Pg		Pb	08 38 19.4	+0.8
QZH				Sg		Sb	08 38 56.6	+1.0
QZH				smax		smax		
	comp=N,400nm,0.9s							
QZH				smax		smax		
	comp=E,660nm,1.0s							
NJ2	**Nanjing**	**4.44**	**348**	*e*Pn		Pn	08 38 31.4	-1.2
NJ2				Pg		Pb	08 38 45.9	+2.8
NJ2				Sn		Sn	08 39 22.9	-1.8
NJ2				Sg		Sg	08 39 43.5	-3.7
NJ2				smax		smax		
	comp=N,350nm,0.9s							
NJ2				smax		smax		
	comp=E,150nm,0.6s							
WHN	**Wuhan**	**5.66**	**301**	‖Pn		Pn	08 38 50.3	+0.9
WHN				Sn		Sn	08 39 51.8	-2.9
XAN	**Xi'an**	**11.38**	**306**	P		Pn	08 40 11.8	+3.8
XAN				S		Sn	08 42 21.6	+6.0
GYA	**Guiyang**	**11.90**	**267**	*e*P		Pn	08 40 20.8	+5.6
QIZ	**Qiongzhong**	**12.67**	**229**	P		Pn	08 40 24.0	-1.5
QIZ				S		Sn	08 42 46.1	-1.0
WMQ	**Urumqi**	**30.48**	**310**	*e*P		P	08 43 39.1	+0.6

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*BJI **15** 08:44:45.5±0.0, 44.°13N×149.°42E, h16km, mB5.0/54, mb4.9/63, Ms4.9/63, Ms7 4.6/61*

*IDC **15** 08:44:46.3±0.5, 44.°11N×149.°21E, h0km, mb4.5/35, mb1 4.6/42, mb1mx4.6/54, mbtmp4.5/42, ML3.6/6, MS4.4/30, Ms1 4.4/30, ms1mx4.2/51, Error ellipse: s-maj=12.9km s-min=10.2km az=158.0*

*JMA **15** 08:44:48.9±0.6, 44.°26N×149.°32E, h30km, M4.8*

*SKHL **15** 08:44:48.8±0.3, 43.°89N×149.°45E, h45km±4km, mb5.1/4, Ms4.6/1, msh5.3/1, msh5.0/2*

*NIED **15** 08:44:48.9, 44.°26N×149.°32E, h30km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.03; $M_{\theta\theta}$1.42; $M_{\phi\phi}$-2.45; $M_{r\theta}$1.36; $M_{\theta\phi}$-0.83; $M_{\phi r}$0.27; Fault plane solution: $M_0$2.67000×10^{16} NP1:ϕ_s49.00000°, δ70.00000°, λ144.00000°. NP2:ϕ_s153.00000°, δ56.00000°, λ24.00000°.*

*NEIC **15** 08:44:49.5±1.5, 44.°13N±0.°08×149.°1E±0.°1, h20km±4km, mb5.0/201 Error ellipse: s-maj=13.7km s-min=9.3km az=139.0*

*MOS **15** 08:44:50.2±0.9, 44.°10N×149.°19E, h40km, mb5.2/61, MS4.7/20, Error ellipse: s-maj=6.3km s-min=4.6km az=127.8*

*GCMT **15** 08:44:54.5±0.4, 44.°09N±0.°03×149.°49E±0.°04, h27km±1km, MW4.9/59, Moment Tensor Solution. s26,c29; s59,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.92±.14; $M_{\theta\theta}$-0.94±.10; $M_{\phi\phi}$-0.98±.09; $M_{r\theta}$0.98±.16; $M_{\theta\phi}$-0.87±.05; $M_{\phi r}$1.17±.14; Best double couple: $M_0$2.41600×10^{16} NP1:ϕ_s227.00000°, δ26.00000°, λ95.00000°. NP2: ϕ_s42.00000°, δ65.00000°, λ88.00000°. Principal axes: T 2.4640, Plg70.0000°, Azm307.0000°; N -0.0920, Plg2.0000°, Azm43.0000°; P -2.3690, Plg20.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 08:44:48.6±0.7, 44.°01N±0.°04×149.°26E±0.°04, h19km±2km, n698, σ1♀61/673, mb5.0/194, MS4.6/66, 52C-23D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.58**	**321**	*i* P		**Pn**	**08 45 15.6**	**0.0**
KUR				AMB		AMB	08 45 17.0	
	1μm,0.3s							
KUR				*i* S		**Sn**	**08 45 35.9**	**+0.5**
KUR				A		A	08 45 42.0	
	2μm,0.3s							
KUR				A		A	08 45 42.0	
	753nm,0.3s							
KUR				AMS		AMS	08 46 02.4	
	39μm,14.0s							
KUR				AMS		AMS	08 46 02.4	
	26μm,14.0s							
KUR				AMS		AMS	08 46 02.4	
	23μm,14.0s							
KUR	**Kuril'sk**	**1.58**	**321**	*c i*PN		**Pn**	**08 45 15.5**	**0.0**
KUR				S		**Sn**	**08 45 35.3**	**-0.1**
KUR				pmax		pmax		
	comp=Z,2μm,1.0s							
KUR				pmax		pmax		
	comp=E,401nm,0.8s							
KUR				pmax		pmax		
	comp=N,386nm,0.4s							
KUR				pmax		pmax		
	comp=Z,7μm,3.3s							
KUR				smax		smax		
	comp=E,18μm,3.7s							
KUR				smax		smax		
	comp=N,4μm,0.7s							
KUR				smax		smax		
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.45**	**272**	*i* P		**Pn**	**08 45 27.0**	**-0.5**
YUK				AMB		AMB	08 45 29.0	
	comp=E,866nm,0.4s							
YUK				*e*S		**Sn**	**08 45 57.8**	**+0.9**
YUK				A		A	08 46 07.0	
	comp=E,1μm,0.6s							
YUK				A		A	08 46 07.0	
	comp=E,2μm,0.6s							
YUK				AMS		AMS	08 47 04.9	
	comp=E,24μm,10.0s							
YUK				AMS		AMS	08 47 04.9	
	comp=E,23μm,10.0s							
YUK				AMS		AMS	08 47 04.9	
	comp=E,14μm,10.0s							
YUK	**Yuzh-Kuril'sk**	**2.45**	**272**	*e*PN		**Pn**	**08 45 27.8**	**+0.3**
GRPR	**Tuman**	**2.52**	**271**	*e*P		**Pn**	**08 45 28.0**	**-0.4**
GRPR				AMB		AMB	08 45 32.0	
	comp=E,440nm,0.4s							
GRPR				*e*S		**Sn**	**08 45 59.0**	**+0.5**
GRPR				A		A	08 46 03.0	
	comp=E,2μm,0.5s							
GRPR				A		A	08 46 03.0	
	comp=E,714nm,0.5s							
GRPR				AMS		AMS	08 47 16.0	
	comp=E,7μm,9.0s							
GRPR	**Tuman**	**2.52**	**271**	*e*PN		**Pn**	**08 45 28.8**	**+0.4**
GRPR				S		**Sn**	**08 45 59.8**	**+1.3**
GRPR				pmax		pmax		
	comp=Z,440nm,0.4s							
GRPR				pmax		pmax		
	comp=N,113nm,0.2s							
GRPR				pmax		pmax		
	comp=E,182nm,0.4s							
GRPR				smax		smax		
	comp=E,714nm,0.4s							
GRPR				smax		smax		
	comp=N,2μm,0.5s							
GRPR				MLR		MLR		
	comp=Z,7μm,9.0s							
NEM2	**Nemuro 2**	**2.63**	**257**	P		**Pn**	**08 45 29.9**	**0.0**
NEM2				*e*S		**Sn**	**08 46 00.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.64**	**257**	*i* P		**Pn**	**08 45 29.9**	**-0.2**
NMR				*e*S		**Sn**	**08 46 00.5**	**-1.0**
NMR	**Nemuro--Hokkai**	**2.64**	**257**	‖*i*PN		**Pn**	**08 45 29.8**	**-0.3**
NMR				*e*S		**Sn**	**08 46 00.8**	**-0.7**
GLVR	**Golovnino**	**2.72**	**266**	*e*P		**Pn**	**08 45 32.0**	**+0.9**
GLVR				AMB		AMB	08 45 32.0	
	comp=Z,2μm,0.6s							
GLVR				AMB		AMB	08 45 33.0	
	comp=Z,3μm,1.0s							
GLVR				*i* S		**Sn**	**08 46 04.0**	**+0.6**
GLVR				A		A	08 46 05.0	
	comp=Z,1μm,0.8s							
GLVR				A		A	08 46 05.0	
	comp=Z,3μm,0.8s							
GLVR	**Golovnino**	**2.72**	**266**	*e*PN		**Pn**	**08 45 32.0**	**+0.9**
GLVR				*i* S		**Sn**	**08 46 04.3**	**+0.9**
GLVR				pmax		pmax		
	comp=N,271nm,0.4s							
GLVR				pmax		pmax		
	comp=Z,2μm,0.4s							
GLVR				pmax		pmax		
	comp=E,195nm,0.3s							
GLVR				pmax		pmax		
	comp=Z,3μm,1.0s							
GLVR				smax		smax		
	comp=N,1μm,0.8s							
GLVR				smax		smax		
	comp=E,3μm,0.5s							
RUSJ	**Misakicho**	**2.89**	**273**	⇑*i*PN		**Pn**	**08 45 34.7**	**+1.1**
RUSJ				*e*S		**Sn**	**08 46 10.8**	**+3.0**
JRA	**Rausu**	**2.99**	**270**	P		**Pn**	**08 45 36.1**	**+1.2**
JRA				*e*S		**Sn**	**08 46 11.9**	**+1.8**
JNK	**Nakash**	**3.31**	**264**	P		**Pn**	**08 45 40.0**	**+0.6**
JAK	**Akkeshi**	**3.47**	**255**	P		**Pn**	**08 45 41.9**	**+0.4**
JTKR	**Abashiri--Toko**	**3.86**	**271**	P		**Pn**	**08 45 48.3**	**+1.4**
JAR	**Ashorobuto**	**4.05**	**262**	P		**Pn**	**08 45 50.8**	**+1.4**
JOB	**Onbets**	**4.10**	**256**	P		**Pn**	**08 45 51.4**	**+1.2**
JMP	**Maruseppu**	**4.25**	**272**	P		**Pn**	**08 45 54.0**	**+1.7**
JCH	**Churui**	**4.52**	**254**	P		**Pn**	**08 45 56.9**	**+0.9**
JKK2	**Kamakawa 2**	**4.70**	**271**	P		**Pn**	**08 46 00.6**	**+2.1**
JKA	**Kamikawa-asahi**	**4.80**	**274**	Pn		**Pn**	**08 46 01.2**	**+1.4**
JKA	**Kamikawa-asahi**	**4.80**	**274**			Sn	08 46 45.9	-8.9
ASAJ	**Asahikawa**	**4.80**	**274**	Pn		**Pn**	**08 46 02.9**	**+3.0**
	comp=E,6.6nm,0.3s,baz=76,slow=13,SNR=24							
ASAJ				Sn		Sn	08 46 45.9	-9.0
	comp=E,9.4nm,0.3s,baz=167,slow=16,SNR=3.7							
ASAJ				LR		LR	08 48 00.6	
	comp=E,3μm,20.1s,baz=133,slow=41							
ASAJ	**Asahikawa**	**4.80**	**274**	P		**Pn**	**08 46 01.8**	**+2.0**
ERM	**Erimo**	**4.90**	**248**	‖*e*PN		**Pn**	**08 46 03.3**	**+2.2**
ERM				pmax		pmax		
	comp=Z,233nm,1.3s							
ERM	**Erimo**	**4.90**	**248**	Pn		**Pn**	**08 46 03.8**	**+2.7**
JEM	**Erimo**	**4.90**	**248**	P		**Pn**	**08 46 03.2**	**+2.1**
JEM	**Erimo**	**4.90**	**248**			**Pn**	**08 45 58.0**	**-3.1**
JNBK	**Urakawa-nobuka**	**5.06**	**252**	P		**Pn**	**08 46 04.7**	**+1.3**
JAB	**Ashibetsu**	**5.12**	**267**	P		**Pn**	**08 46 07.3**	**+3.1**
JBT2	**Biratori 2**	**5.17**	**259**	P		**Pn**	**08 46 05.8**	**+0.9**
JWK2	**Keihoku**	**5.41**	**287**	P		**Pn**	**08 46 11.5**	**+3.3**
YSS	**Yuzh-Sakhalins**	**5.44**	**305**	*e*P		**Pn**	**08 46 11.0**	**+2.4**
YSS				AMB		AMB	08 46 16.8	
	comp=Z,400nm,4.0s							
YSS				*e*S		**Sn**	**08 47 11.8**	**+1.2**
YSS				AMS		AMS	08 48 41.0	
	comp=Z,1μm,15.0s							
YSS				AMS		AMS	08 48 41.0	
	comp=Z,3μm,15.0s							
YSS				AMS		AMS	08 48 41.0	
	comp=Z,4μm,15.0s							
YSS	**Yuzh-Sakhalins**	**5.44**	**305**	*e*PN		**Pn**	**08 46 10.2**	**+1.6**
YSS				*e*S		**Sn**	**08 47 11.8**	**+1.2**
YSS				pmax		pmax		
	comp=Z,400nm,3.7s							
YSS				smax		smax		
	comp=N,80nm,0.9s							
YSS				smax		smax		
	comp=E,90nm,0.7s							
YSS				MLR		MLR		
	comp=Z,4μm,14.0s							
YSS				MLR		MLR		
	comp=E,3μm,16.0s							
YSS	**Yuzh-Sakhalins**	**5.44**	**305**	Pn		**Pn**	**08 46 05.0**	**-3.5**
JHR	**Hokuryu**	**5.45**	**270**	P		**Pn**	**08 46 12.1**	**+3.3**
JEW	**Eniwo**	**5.80**	**261**	P		**Pn**	**08 46 15.8**	**+2.2**
JEW				*e*S		**Sn**	**08 47 22.0**	**+2.4**
JEW	**Eniwo**	**5.80**	**261**	Pn		**Pn**	**08 46 15.8**	**+2.2**
JRBN	**Rebuntou**	**6.01**	**286**	P		**Pn**	**08 46 19.3**	**+2.9**
JNB	**Noboribetsu**	**6.20**	**258**	P		**Pn**	**08 46 20.1**	**+1.1**
JNB				*e*S		**Sn**	**08 47 28.8**	**-0.5**
JKB	**Kayabe**	**6.40**	**254**	P		**Pn**	**08 46 22.4**	**+0.7**
JKB				*e*S		**Sn**	**08 47 31.3**	**-2.8**
JSK	**Shakotan**	**6.40**	**267**	P		**Pn**	**08 46 24.3**	**+2.5**
JYM2	**Yakumo 2**	**6.78**	**257**	P		**Pn**	**08 46 28.2**	**+1.2**
JANG	**Nango**	**6.80**	**240**	P		**Pn**	**08 46 26.0**	**-1.3**
JANG				*e*S		**Sn**	**08 47 36.0**	**-8.1**
JTH	**Tanohata**	**6.85**	**236**	P		**Pn**	**08 46 26.2**	**-1.7**
JTH				*e*S		Sn	08 47 36.6	-8.6
JSH	**Shimam**	**6.86**	**262**	P		**Pn**	**08 46 29.8**	**+1.8**
JTM	**Tenmabayashi**	**6.86**	**245**	P		**Pn**	**08 46 28.8**	**+0.7**
JTM				*e*S		**Sn**	**08 47 40.3**	**-5.3**
JTM	**Tenmabayashi**	**6.86**	**245**	Pn		**Pn**	**08 46 28.5**	**+0.4**
JSR	**Shiriuchi**	**6.96**	**252**	P		**Pn**	**08 46 30.9**	**+1.4**
UGL	**Uglegorsk**	**7.09**	**318**	*e*P		**Pn**	**08 46 34.6**	**+3.4**
UGL				AMB		AMB	08 46 48.0	
	comp=E,79nm,0.9s							
UGL				*e*S		**Sn**	**08 47 52.5**	**+1.3**
UGL				A		A	08 48 21.5	
	comp=E,1μm,4.7s							
UGL				AMS		AMS	08 49 50.0	
	comp=E,5μm,15.0s							
UGL				AMS		AMS	08 49 50.0	
	comp=E,4μm,15.0s							
UGL				AMS		AMS	08 49 50.0	
	comp=E,4μm,15.0s							
UGL	**Uglegorsk**	**7.09**	**318**	*e*PN		Pb	08 46 42.1	-8.9
UGL				S		Sb	08 48 04.6	-11
UGL				pmax		pmax		
	comp=Z,79nm,1.1s							
UGL				smax		smax		
	comp=N,1μm,4.7s							
UGL				MLR		MLR		
	comp=Z,5μm,13.0s							
UGL				MLR		MLR		
	comp=N,3μm,12.0s							
UGL				MLR		MLR		
	comp=E,4μm,13.0s							
JOSM	**Okushiri--Mats**	**7.42**	**258**	P		**Pn**	**08 46 37.0**	**+1.2**
OFUJ	**Ofunato**	**7.52**	**232**	P		**Pn**	**08 46 36.1**	**-1.1**
OFUJ				*e*S		**Sn**	**08 47 54.0**	**-7.9**
JRG	**Rokugo**	**7.93**	**237**	P		**Pn**	**08 46 42.0**	**-0.7**
JRG				*e*S		**Sn**	**08 48 07.4**	**-4.4**
JIO	**Ouri**	**8.14**	**230**	P		**Pn**	**08 46 43.6**	**-2.0**
JIO				*e*S		**Sn**	**08 48 09.1**	**-7.9**
SKR	**Severo-Kuril's**	**8.14**	**32**	*e*P		**Pn**	**08 46 46.7**	**+1.1**
SKR				AMB		AMB	08 46 51.2	
	comp=E,70nm,0.7s							
SKR				*e*S		**Sn**	**08 48 12.1**	**-4.8**
SKR				A		A	08 48 21.9	
	comp=E,90nm,0.9s							
SKR				A		A	08 48 21.9	
	comp=E,90nm,0.9s							
SKR				AMS		AMS	08 49 39.8	
	comp=E,2μm,18.0s							
SKR				AMS		AMS	08 49 39.8	
	comp=E,2μm,18.0s							
SKR	**Severo-Kuril's**	**8.14**	**32**	*e*PN		**Pn**	**08 46 46.7**	**+1.1**
SKR				pmax		pmax		
	comp=Z,67nm,0.7s							
SKR				MLR		MLR		
	comp=Z,2μm,20.0s							
SKR				MLR		MLR		
	comp=E,2μm,16.0s							
SKR				MLR		MLR		
	comp=Z,1μm,19.0s							
TYV	**Tymovskoe**	**8.19**	**329**	*e*P		**Pn**	**08 46 50.0**	**+3.7**
TYV				AMB		AMB	08 46 52.1	
	comp=Z,19nm,0.6s							
TYV				AMB		AMB	08 46 52.1	
	comp=Z,200nm,3.2s							
TYV				*e*S		**Sn**	**08 48 19.8**	**+1.7**
TYV				A		A	08 48 25.3	
	comp=Z,10.0nm,0.8s							
TYV				A		A	08 48 25.9	
	comp=Z,500nm,5.5s							
TYV				AMS		AMS	08 50 06.3	
	comp=Z,3μm,13.0s							
TYV				AMS		AMS	08 50 06.3	
	comp=Z,4μm,13.0s							
TYV				AMS		AMS	08 50 06.3	
	comp=Z,3μm,13.0s							
TYV	**Tymovskoe**	**8.19**	**329**	*e*PN		Pn	08 46 51.1	+4.8
TYV				*e*S		**Sn**	**08 48 23.2**	**+5.1**
TYV				pmax		pmax		
	comp=Z,200nm,3.2s							
TYV				pmax		pmax		
	comp=Z,17nm,0.7s							
TYV				smax		smax		
	comp=N,13nm,0.8s							
TYV				smax		smax		
	comp=E,500nm,5.5s							
TYV				MLR		MLR		
	comp=Z,3μm,16.0s							
JMM	**Marumori**	**8.87**	**229**			**Pn**	**08 46 53.2**	**-2.4**
JYA	**Atsumi**	**8.99**	**236**	P		**Pn**	**08 46 56.9**	**-0.4**
JYA				*e*S		**Sn**	**08 48 33.9**	**-4.0**
PAU	**Pauzhetka**	**9.03**	**32**	*e*P		**Pn**	**08 46 57.8**	**0.0**
PAU				AMB		AMB	08 46 58.6	
	comp=Z,90nm,0.4s							
PAU				*e*S		**Sn**	**08 48 34.4**	**-4.4**
PAU				A		A	08 48 35.7	
	comp=Z,81nm,0.6s							
PAU				A		A	08 48 35.7	
	comp=Z,81nm,0.6s							
TEY	**Ternei**	**9.10**	**281**	*e*P		**Pn**	**08 47 01.8**	**+3.0**
TEY				AMB		AMB	08 47 02.8	
	comp=Z,10.0nm,1.1s							
TEY				AMS		AMS	08 51 30.2	
	comp=Z,200nm,16.0s							
TEY				AMS		AMS	08 51 30.2	
	comp=Z,200nm,16.0s							
TEY	**Ternei**	**9.10**	**281**	⇑*e*PN		**Pn**	**08 47 01.8**	**+3.0**
TEY				pmax		pmax		
	comp=Z,100nm,1.1s							
TEY				MLR		MLR		
	comp=Z,200nm,16.0s							
JFK	**Kawauchi**	**9.19**	**227**	*e*S		Sn	08 48 34.1	-8.9
JFY	**Yanaizu**	**9.80**	**231**	P		**Pn**	**08 47 08.0**	**-0.4**
JSD	**Sado**	**10.22**	**238**	Pn		**Pn**	**08 47 14.0**	**-0.2**
OKH	**Okha**	**10.42**	**339**	*e*P		**Pn**	**08 47 20.5**	**+3.7**
OKH				AMB		AMB	08 47 33.0	
	comp=Z,200nm,9.0s							
OKH				*e*S		**Sn**	**08 49 13.2**	**+0.4**
OKH				AMS		AMS	08 54 13.0	
	comp=Z,1μm,14.0s							
OKH				AMS		AMS	08 54 13.0	
	comp=Z,2μm,14.0s							
OKH				AMS		AMS	08 54 13.0	
	comp=Z,1μm,14.0s							
OKH	**Okha**	**10.42**	**339**	*de*PN		Pn	08 47 23.2	+6.4
OKH				pmax		pmax		
	comp=Z,200nm,9.0s							
OKH				MLR		MLR		
	comp=N,1μm,14.0s							
OKH				MLR		MLR		
	comp=Z,1μm,14.0s							
OKH				MLR		MLR		
	comp=E,2μm,13.0s							
PEA0B	**Petropavlovsk-**	**10.68**	**29**	PN		**Pn**	**08 47 19.9**	**-0.5**
PEA0B	**Petropavlovsk-**	**10.68**	**29**	Pn		**Pn**	**08 47 19.9**	**-0.5**
PETK	**Petropavlovsk-**	**10.68**	**29**	Pn		**Pn**	**08 47 19.8**	**-0.6**
	comp=E,1.5nm,0.3s,baz=215,slow=12,SNR=16							
PETK				LR		LR	08 51 35.1	
	comp=E,1μm,18.8s,baz=223,slow=39							
NKL	**Nikolayevsk**	**10.76**	**331**	*e*P		**Pn**	**08 47 24.0**	**+2.5**
NKL				AMB		AMB	08 47 29.0	
	comp=E,33nm,0.9s							
NKL				AMS		AMS	08 49 29.4	
	comp=E,2μm,16.0s							
NKL				AMS		AMS	08 49 29.4	
	comp=E,1μm,16.0s							
NKL	**Nikolayevsk**	**10.76**	**331**	*e*PN		**Pn**	**08 47 24.9**	**+3.4**
NKL				pmax		pmax		
	comp=N,15nm,0.8s							
NKL				pmax		pmax		
	comp=Z,34nm,1.2s							
PET	**Petropavlovsk**	**10.96**	**31**	*e*P		**Pn**	**08 47 23.3**	**-0.9**
PET				*e*S		**Sn**	**08 49 20.5**	**-5.5**
PET				AMS		AMS	08 52 41.1	
	comp=Z,2μm,16.0s							
PET	**Petropavlovsk**	**10.96**	**31**	PN		**Pn**	**08 47 23.3**	**-0.9**
PET	**Petropavlovsk**	**10.96**	**31**	Pn		**Pn**	**08 47 23.3**	**-0.9**
GRNR	**Gornyy**	**11.01**	**312**	*e*P		**Pn**	**08 47 28.3**	**+3.3**
GRNR				AMB		AMB	08 47 34.6	
	comp=Z,4.0nm,1.0s							
GRNR				AMB		AMB	08 47 34.6	
	comp=Z,9.0nm,1.0s							
GRNR				AMB		AMB	08 47 34.6	
	comp=Z,6.0nm,1.0s							
GRNR				AMS		AMS	08 52 08.0	
	comp=Z,670nm,18.0s							
GRNR				AMS		AMS	08 52 08.0	
	comp=Z,990nm,18.0s							
GRNR				AMS		AMS	08 52 08.0	
	comp=Z,1μm,18.0s							
GRNR	**Gornyy**	**11.01**	**312**	⇑*i*PN		Pn	08 47 33.3	+8.3
GRNR				pmax		pmax		
	comp=N,4.0nm,1.1s							
GRNR				pmax		pmax		
	comp=E,9.0nm,1.1s							
GRNR				pmax		pmax		
	comp=Z,6.0nm,1.1s							
GRNR				MLR		MLR		
	comp=E,990nm,19.0s							
GRNR				MLR		MLR		
	comp=Z,1μm,18.0s							
MAJO	**Matsushiro**	**11.25**	**232**	‖*e*PN		**Pn**	**08 47 28.3**	**-0.1**
MAJO	**Matsushiro**	**11.25**	**232**	Pn		**Pn**	**08 47 27.4**	**-1.0**
MAT	**Matsushiro**	**11.25**	**232**	P		**Pn**	**08 47 27.8**	**-0.6**
MAT				*e*S		**Sn**	**08 49 35.0**	**+1.4**
MJAR	**Matsushiro Arr**	**11.25**	**232**	Pn		**Pn**	**08 47 28.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=16,SNR=9.0							
JGF	**Kuroka**	**12.41**	**231**			**Pn**	**08 47 44.2**	**+0.1**
USA0B	**Ussuriysk Arra**	**12.42**	**277**	⇑*i*PN		**Pn**	**08 47 45.9**	**+1.7**
USRK	**Ussuriysk Ar.**	**12.42**	**277**	Pn		**Pn**	**08 47 45.5**	**+1.3**
	baz=91,slow=14,SNR=12							
USRK				LR		LR	08 52 53.4	
	comp=Z,2μm,19.3s,baz=82,slow=39							
JHJ	**Hachijo jima 2**	**13.15**	**217**	LR		LR	08 52 50.2	
	comp=Z,210nm,21.5s,baz=44,slow=37							
JWT	**Wachi**	**13.77**	**235**	Pn		**Pn**	**08 48 04.4**	**+1.7**
EKMR	**Ekimchan**	**14.07**	**316**	*e*P		**Pn**	**08 48 06.9**	**+0.1**
EKMR				AMB		AMB	08 48 19.8	
	comp=Z,42nm,1.0s							
MDJ	**Mudanjiang**	**14.10**	**279**	Pn		**Pn**	**08 48 09.1**	**+1.9**
MA2	**Magadan**	**15.62**	**3**	Pn		**Pn**	**08 48 26.7**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=175,slow=15,SNR=2.9							
MA2				LR		LR	08 54 56.5	
	comp=Z,1μm,18.8s,baz=188,slow=39							
MA2	**Magadan**	**15.62**	**3**	P		**Pn**	**08 48 26.7**	**-0.7**
MA2				pmax		pmax		
	comp=Z,44nm,1.5s							
BMKR	**Bomnak**	**17.01**	**316**	*e*P		**Pn**	**08 48 44.8**	**-0.4**
BMKR				AMB		AMB	08 48 49.0	
	comp=Z,30nm,0.5s							
CN2	**Changchun**	**17.15**	**278**	*e*P		**Pn**	**08 48 46.3**	**-0.7**
CN2				*ep*P		pP	08 48 52.3	-0.4
CN2				*e*S		**Sn**	**08 51 53.6**	**-3.6**
CN2				LR		LR		
	comp=Z,1μm,14.0s							
CN2				LR		LR		
	comp=Z,2μm,14.0s							
CN2				LR		LR		
	comp=Z,2μm,17.0s							
ZEA	**Zeya**	**17.38**	**312**	*e*P		**Pn**	**08 48 49.5**	**-0.3**
ZEA				AMB		AMB	08 48 52.4	
	comp=Z,10.0nm,1.0s							
ZEA				AMB		AMB	08 48 52.4	
	comp=Z,20nm,1.0s							
ZEA				AMB		AMB	08 48 52.4	
	comp=Z,20nm,1.0s							
ZEA				AMB		AMB	08 49 23.3	
	comp=Z,200nm,5.0s							
ZEA				AMB		AMB	08 49 23.3	
	comp=Z,300nm,5.0s							
ZEA				AMB		AMB	08 49 23.3	
	comp=Z,300nm,5.0s							
ZEA				AMS		AMS

comp=N,200nm,6.2s
ZEA pmax pmax
comp=Z,300nm,4.9s
ZEA MLR MLR
comp=N,700nm,16.0s
ZEA MLR MLR
comp=E,800nm,16.0s
ZEA MLR MLR
comp=Z,900nm,14.0s
KSRS Korea Array 17.42 255 P Pn 08 48 50.8 +0.4
comp=Z,0.1nm,0.3s,baz=62,slow=11,SNR=12
KSRS LR LR 08 55 25.4
comp=Z,632nm,20.5s,baz=65,slow=37
KSAR Wonju Array Be 17.45 255 P Pn 08 48 48.1 -2.7
KSAR Wonju Array Be 17.45 255 Pn 08 48 48.1 -2.7
KROS Kirovskiy 17.83 314 *e*P **Pn 08 48 55.9 +0.5**
KROS AMB AMB 08 48 58.1
comp=Z,5.0nm,0.6s
JNU Nakatsue 17.98 239 P P 08 48 58.6 +0.8
comp=Z,0.3nm,0.3s,baz=44,slow=9.3,SNR=5.5
JNU Nakatsue 17.98 239 P P 08 48 58.3 +0.5
TJN Taejon 18.35 253‖ *e*P **Pn 08 49 04.1 +2.3**
SNY Shenyang 18.91 272 ⇑P **Pn 08 49 08.8 +0.1**
SNY S **Sn 08 52 35.5 -4.3**
SNY pmax pmax
comp=Z,24nm,1.1s
SNY pmax pmax
comp=Z,370nm,5.0s
SNY LR LR
comp=Z,500nm,21.4s
SNY LR LR
comp=Z,1μm,15.7s
SNY LR LR
comp=Z,2μm,16.3s
SEY Seymchan 19.05 4 P P 08 49 08.4 -0.9
comp=Z,1.3nm,0.3s,baz=181,slow=10,SNR=24
SEY LR LR 08 57 25.4
comp=Z,1μm,18.7s,baz=184,slow=40
SEY Seymchan 19.05 4‖ *e*P **P 08 49 07.8 -1.5**
JSU Suzuyama 19.36 236 V **P 08 49 13.8 +0.9**
DL2 Dalian 21.28 266 P **P 08 49 31.8 -1.9**
DL2 S **S 08 53 23.4 -5.8**
DL2 pmax pmax
comp=Z,45nm,1.2s
DL2 pmax pmax
comp=Z,260nm,5.1s
DL2 LR LR
comp=Z,650nm,18.5s
DL2 LR LR
comp=Z,800nm,17.8s
DL2 LR LR
comp=Z,1μm,17.4s
YAK Yakutsk 21.40 334 P P 08 49 32.6 -2.2
comp=Z,1μm,1.0s,baz=111,slow=0.2,SNR=6.2
YAK LR LR 08 58 39.5
comp=Z,1μm,18.4s,baz=138,slow=39
YAK Yakutsk 21.40 334 *d i*P **P 08 49 32.1 -2.7**
YAK pmax pmax
comp=Z,70nm,0.8s
YAK Yakutsk 21.40 334 P **P 08 49 32.3 -2.5**
YAK IAmb IAmb 08 49 33.9
comp=Z,68nm,0.9s
BJI Beijing 24.80 272 P **P 08 50 09.8 +0.6**
BJI S **S 08 54 35.3 +4.7**
BJI pmax pmax
comp=Z,29nm,1.9s
BJI pmax pmax
comp=Z,300nm,4.4s
BJI LR LR
comp=Z,490nm,15.2s
BJI LR LR
comp=Z,1μm,17.3s
BJI LR LR
comp=Z,910nm,18.6s
BJT Baijiatuau 24.81 272 P **P 08 50 09.5 +0.2**
BJT pmax pmax
comp=Z,26nm,1.0s
BJT Baijiatuau 24.81 272 P **P 08 50 09.4 +0.2**
BJT IAmb IAmb 08 50 26.5
comp=Z,26nm,1.0s
SSE Sheshan 25.58 249 P **P 08 50 17.6 +1.3**
SSE pmax pmax
comp=Z,11nm,0.6s
SSE pmax pmax
comp=Z,120nm,4.9s
SSE LR LR
comp=Z,370nm,20.2s
SSE LR LR
comp=Z,330nm,19.0s
TIA Tai'an 25.66 263 P **P 08 50 17.6 +0.5**
TIA pmax pmax
comp=Z,41nm,1.6s
TIA pmax pmax
comp=Z,230nm,11.7s
TIA LR LR
comp=Z,440nm,18.0s
TIA LR LR
comp=Z,540nm,17.1s
TIA LR LR
comp=Z,680nm,17.1s
BILL Bilibino 25.71 15 *e*P **P 08 50 15.8 -1.4**
BILL *e* 08 50 52.9
BILL *e*PPP PPP 08 51 04.7
BILL *e* 08 53 48.5
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,2μm,17.0s
BOD Bodaibo 25.82 315 *e*P **P 08 50 14.6 -3.7**
BOD pmax pmax
comp=Z,12nm,1.1s
NJ2 Nanjing 26.61 254 *e*P **P 08 50 27.6 +2.0**
NJ2 S **S 08 55 02.4 +3.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,3.8s
NJ2 LR LR
comp=Z,2μm,15.1s
NJ2 LR LR
comp=Z,910nm,14.7s
NJ2 LR LR
comp=Z,2μm,15.9s
HHC Hu-ho-hao-te 27.84 277 *e*P **P 08 50 40.5 +3.7**
HHC sP pwP 08 50 52.4 +4.4
HHC S **S 08 55 26.0 +7.0**
HHC SS **SnSn 08 56 43.3 +11**
HHC pmax pmax
comp=Z,57nm,0.9s
HHC pmax pmax
comp=Z,320nm,4.9s
HHC LR LR
comp=Z,670nm,12.9s
HHC LR LR
comp=Z,1μm,12.8s
HHC LR LR
comp=Z,1μm,14.6s
H11N2 WAKE ISLAND Hy 28.34 143 T T 09 21 46.0
baz=333,slow=75,SNR=76
H11N1 WAKE ISLAND Hy 28.36 143 T T 09 21 47.0
baz=333,slow=75,SNR=65
H11N3 WAKE ISLAND Hy 28.36 143 T T 09 21 47.4
baz=333,slow=75,SNR=82
BTO Baotou 29.03 277 *e*P **P 08 50 47.8 +0.4**
BTO S **S 08 55 39.8 +2.1**
ULN Ulaanbaatar 29.34 293 *e*P **P 08 50 50.6 +0.5**
ULN Ulaanbaatar 29.34 293 *c i*P **P 08 50 50.6 +0.5**
ULN pmax pmax
comp=Z,29nm,1.3s
ULN Ulaanbaatar 29.34 293 P **P 08 50 49.9 -0.2**
ULN IAmb IAmb 08 50 51.7
comp=Z,28nm,1.2s
H11S1 WAKE ISLAND Hy 29.34 145 T T 09 23 02.8
baz=334,slow=76,SNR=71
H11S3 WAKE ISLAND Hy 29.35 145 T T 09 23 07.5
baz=334,slow=76,SNR=53
H11S2 WAKE ISLAND Hy 29.36 145 T T 09 23 08.4
baz=334,slow=76,SNR=85
TIXI Tiksi 29.43 347‖ *e*P **P 08 50 47.0 -3.5**
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI MLR MLR
comp=Z,2μm,15.0s
TIXI Tiksi 29.43 347 P P 08 50 45.7 -4.8
TIXI IAmb IAmb 08 50 55.1
comp=Z,16nm,0.7s

SONM Songino Array 29.78 293 P **P 08 50 54.7 +0.7**
comp=Z,9.5nm,0.9s,baz=82,slow=9.2,SNR=34
SONM LR LR 09 04 10.7
comp=Z,2μm,18.9s,baz=83,slow=39
SONM Songino Array 29.78 293 P **P 08 50 54.2 +0.2**
TLY Talaya 31.13 301 *e*P **P 08 51 06.2 +0.5**
TLY Talaya 31.13 301 *e*P **P 08 51 07.1 +1.4**
TLY *e* 08 52 17.5
TLY pmax pmax
comp=Z,20nm,0.9s
TLY MLR MLR
comp=Z,4μm,13.0s
ZAK Zakamensk 31.47 298 *e*P **P 08 51 08.5 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
XAN Xi'an 32.60 266 P **P 08 51 19.6 +0.8**
XAN S S 08 56 42.8 +9.3
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,140nm,7.1s
XAN LR LR
comp=Z,600nm,16.0s
XAN LR LR
comp=Z,580nm,17.6s
XAN LR LR
comp=Z,840nm,16.8s
XAN Xi'an 32.60 266 P **P 08 51 18.2 -0.6**
XAN pmax pmax
comp=Z,38nm,1.5s
XAN Xi'an 32.60 266 P **P 08 51 18.2 -0.6**
XAN IAmb IAmb 08 51 34.3
comp=Z,38nm,1.5s
RDOG Red Dog Mine 34.55 29 P **P 08 51 35.9 +0.4**
RDOG IAmb IAmb 08 51 36.7
comp=Z,13nm,1.0s
LZH Lanzhou 35.28 273 ⇑P **P 08 51 43.4 +1.1**
LZH pP sP 08 51 49.1 +0.9
LZH sP pwP 08 51 50.8 -2.7
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,990nm,14.6s
LZH LR LR
comp=Z,920nm,15.7s
LZH LR LR
comp=Z,980nm,16.8s
TTA Tatalina 36.27 39 P **P 08 51 50.2 -0.1**
TTA pmax pmax
comp=Z,19nm,1.1s
TTA Tatalina 36.27 39 P **P 08 51 50.2 -0.1**
TTA IAmb IAmb 08 52 07.2
comp=Z,20nm,1.1s
GTA Gaotai 36.75 280 ⇑P **P 08 51 56.0 +1.2**
GTA pP pwP 08 52 07.8 +1.8
GTA S **S 08 57 36.6 -1.0**
GTA sS sS 08 57 52.4 +8.8
GTA SS **SnSn 09 00 05.6 -3.2**
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,190nm,8.0s
GTA LR LR
comp=Z,710nm,14.9s
GTA LR LR
comp=Z,830nm,14.9s
GTA LR LR
comp=Z,930nm,14.2s
CD2 Chengdu 37.95 266 P **P 08 52 05.8 +0.9**
CD2 S **S 08 57 54.5 -1.3**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,180nm,4.5s
CD2 LR LR
comp=Z,620nm,20.1s
CD2 LR LR
comp=Z,730nm,16.7s
CD2 LR LR
comp=Z,700nm,14.7s
PPLA Purkeypile 38.01 39 P **P 08 52 07.1 +1.9**
GYA Guiyang 38.46 257‖ P **P 08 52 10.1 +0.7**
GYA sP pwP 08 52 24.0 +3.0
GYA PP **PnPn 08 53 39.3 0.0**
GYA S **S 08 58 06.3 +2.5**
GYA sS sS 08 58 18.3 +8.5
GYA pmax pmax
comp=Z,13nm,1.2s
GYA LR LR
comp=Z,410nm,15.4s
GYA LR LR
comp=Z,450nm,20.9s
GYA LR LR
comp=Z,500nm,17.5s
BPAW Bear Paw Mtn. 38.59 37 P **P 08 52 11.7 +1.8**
KTH Kantishna Hill 38.60 38 P **P 08 52 11.4 +1.3**
KTH IAmb IAmb 08 52 27.4
comp=Z,37nm,1.1s
SUA Susitna One 38.69 42 P **P 08 52 11.4 +0.6**
MLY Manley 38.74 36 P **P 08 52 12.2 +1.0**
baz=267
TRF Thorofare Moun 38.89 39 P **P 08 52 15.3 +2.7**
CUT Chulitna 38.90 40 P **P 08 52 12.5 +0.1**
baz=271
COLD Coldfoot 39.12 32 P **P 08 52 14.7 +0.5**
baz=265
COLD Coldfoot 39.12 32 P **P 08 52 15.2 +0.9**
RC01 Rabbit Creek A 39.19 42 P **P 08 52 14.4 -0.5**
baz=273
BWN Browne 39.26 37 P **P 08 52 16.8 +1.3**
BWN IAmb IAmb 08 52 33.4
comp=Z,60nm,1.1s
NEA2 Nenana 39.44 37 P **P 08 52 17.8 +0.8**
baz=269
MCK McKinley 39.49 38 P **P 08 52 16.6 -0.9**
baz=270
TOLK Toolik Lake Re 39.50 30 P **P 08 52 18.0 +0.5**
baz=264
TOLK Toolik Lake Re 39.50 30 P **P 08 52 17.5 0.0**
GHO Glory Hole Cre 39.55 41 P **P 08 52 18.5 +0.5**
NRIK Noril'sk 39.77 331 LR LR 09 10 23.3
comp=Z,455nm,19.2s,baz=61,slow=39
NRIK Noril'sk 39.77 331 *de*P **P 08 52 16.9 -2.7**
NRIK pmax pmax
comp=Z,11nm,1.2s
MDM Murphy Dome 39.80 36 P **P 08 52 20.6 +0.5**
SML Sawmill 39.83 41 P **P 08 52 20.9 +0.6**
SML IAmb IAmb 08 52 37.8
comp=Z,59nm,1.3s
WRH Wood River Hil 39.86 37 P **P 08 52 21.4 +0.9**
TCOL CIGO, UAF Yank 39.96 36 P **P 08 52 21.2 0.0**
baz=270
COLA College 39.97 36‖ *e*P **P 08 52 23.2 +1.9**
COLA pmax pmax
comp=Z,7.0nm,0.7s
COLA College 39.97 36 P **P 08 52 21.8 +0.5**
CCB Clear Creek Bu 39.98 37 P **P 08 52 23.1 +1.6**
POKR Poker Plat Res 40.14 36 P **P 08 52 22.7 -0.2**
baz=270
HDA Harding Lake 40.36 37 P **P 08 52 25.1 +0.5**
baz=271
ILAR Eielson Array 40.38 36 P **P 08 52 24.9 +0.1**
comp=Z,1.5nm,0.6s,baz=266,slow=8.2,SNR=25
ILAR LR LR 09 11 07.2
comp=Z,382nm,18.9s,baz=278,slow=39
ILAR Eielson Array 40.38 36 P **P 08 52 24.3 -0.5**
ILAR Eielson Array 40.38 36 P **P 08 52 24.3 -0.5**
M24K Tolsona, Glenn 40.82 41 P **P 08 52 29.7 +1.1**
baz=275
M24K Tolsona, Glenn 40.82 41 P **P 08 52 30.0 +1.4**
FYU Fort Yukon 41.05 34 IAmb IAmb 08 52 48.4
comp=Z,40nm,1.1s
QIZ Qiongzhong 41.26 246 P **P 08 52 30.8 -1.7**
QIZ S **S 08 58 41.8 -3.7**
QIZ LR LR
comp=Z,400nm,21.5s
QIZ LR LR
comp=Z,440nm,16.1s
QIZ LR LR
comp=Z,430nm,19.7s
BMAR Burnt Mountain 41.30 32 P **P 08 52 33.6 +1.2**
DGZ Jazzator, Alta 41.60 300 *ce*P **P 08 52 36.3 +1.0**
DGZ pmax pmax
comp=Z,12nm,1.1s

N25K Chitina, Valde 41.62 41 P **P 08 52 37.2 +2.0**
baz=277
SCRK Sand Creek 41.67 38 P **P 08 52 35.3 -0.3**
baz=274
MENT Mentasta 41.88 39 P **P 08 52 39.2 +2.0**
GLB Gilahina Butte 42.01 41 P **P 08 52 39.7 +1.4**
ZALV Zalesovo Beam 42.06 307 P **P 08 52 37.9 -0.8**
comp=Z,2.9nm,0.6s,baz=78,slow=9.2,SNR=9.1
ZALV PcP **PcP 08 54 33.6 +0.4**
comp=Z,2.4nm,0.7s,baz=76,slow=1.5,SNR=4.7
ZALV LR LR 09 11 11.0
comp=Z,478nm,18.2s,baz=42,slow=38
ZALV Zalesovo Beam 42.06 307 P **P 08 52 37.5 -1.2**
ZALV **PcP 08 54 33.4 +0.2**
KMI Kunming 42.06 259‖ *e*P **P 08 52 41.1 +1.8**
KMI pP pwP 08 52 47.8 -3.2
KMI pmax pmax
comp=Z,16nm,1.0s
KMI pmax pmax
comp=Z,200nm,6.1s
KMI LR LR
comp=Z,540nm,15.1s
KMI LR LR
comp=Z,280nm,14.4s
KMI LR LR
comp=Z,260nm,20.3s
MCARA McCarthy VSAT 42.39 41 P **P 08 52 43.0 +1.6**
K27K Chicken 42.51 37 P **P 08 52 43.3 +1.1**
baz=276
TGL Tana Glacier 42.58 42 IAmb IAmb 08 53 03.5
comp=Z,24nm,1.2s
BCAR Beaver Creek A 42.75 39 P **P 08 52 45.0 +0.8**
ISLE Juniper Island 42.84 42 IAmb IAmb 08 53 02.7
comp=Z,24nm,0.8s
BARN Barnard Glacie 43.09 42 IAmb IAmb 08 53 04.8
comp=Z,18nm,0.9s
YAH Yahtse 43.17 43 P **P 08 52 49.0 +1.1**
YAH IAmb IAmb 08 53 06.0
comp=Z,68nm,1.3s
CTGM Chitina Glacie 43.27 42 IAmb IAmb 08 53 03.5
comp=Z,27nm,0.8s
WMQ Urumqi 43.41 292 *e*P **P 08 52 51.5 +1.6**
WMQ pP pwP 08 53 00.3 -0.9
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,170nm,3.9s
WMQ LR LR
comp=Z,810nm,15.7s
WMQ LR LR
comp=Z,650nm,17.9s
WMQ LR LR
comp=Z,470nm,17.3s
WMQ Urumqi 43.41 292 IAmb IAmb 08 52 53.3
comp=Z,36nm,0.7s
ZSN Zaisan 43.94 298 *e*P **P 08 52 52.4 -1.7**
ZSN *e*LR LR 09 12 15.2
ZSN Zaisan 43.94 298 *e*P **P 08 52 52.3 -1.7**
HYT Haines Junctio 45.13 41 P **P 08 53 04.2 +0.6**
INK Inuvik 45.41 31 P **P 08 53 05.8 +0.4**
comp=Z,3.2nm,0.5s,baz=283,slow=6.3,SNR=14
INK Inuvik 45.41 31 P **P 08 53 05.8 +0.4**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 45.41 31 P **P 08 53 05.8 +0.4**
INK IAmb IAmb 08 53 22.2
comp=Z,14nm,1.1s
MK31 Makanchi Array 45.81 298 *c i*P **P 08 53 09.4 +0.4**
MK31 Makanchi Array 45.81 298 P **P 08 53 09.5 +0.4**
MKAR Makanchi Array 45.81 298 P **P 08 53 09.5 +0.5**
comp=Z,20nm,0.8s,baz=74,slow=8.9,SNR=131
MKAR LR LR 09 13 47.8
comp=Z,1μm,18.7s,baz=68,slow=38
MKAR Makanchi Array 45.81 298 P **P 08 53 09.1 +0.1**
MAKZ Makanchi 46.01 298 P **P 08 53 10.9 +0.4**
MAKZ pmax pmax
comp=Z,42nm,1.2s
MAKZ Makanchi 46.01 298 P **P 08 53 10.9 +0.4**
KURK Kurchatov 46.65 304 *e*P **P 08 53 15.1 -0.3**
KURK Kurchatov 46.65 304 *c i*P **P 08 53 15.1 -0.3**
KURK pmax pmax
comp=Z,32nm,1.3s
KURK Kurchatov 46.65 304 P **P 08 53 14.7 -0.8**
KURK Kurchatov 46.65 304 **PcP 08 54 49.6 +0.6**
KURBB Kurchatov Arra 46.73 304 P **P 08 53 16.4 +0.3**
comp=Z,7.5nm,0.4s,baz=73,slow=7.5,SNR=31
KURBB PcP **PcP 08 54 49.6 +0.3**
comp=Z,1.3nm,0.5s,baz=78,slow=3.0,SNR=3.2
KURBB Kurchatov Arra 46.73 304 P **P 08 53 15.4 -0.7**
SIJI Sorong 47.48 205 LR LR 09 13 27.3
comp=Z,147nm,18.6s,baz=72,slow=36
C36M Paulatuk 48.54 28 P **P 08 53 30.3 +0.5**
CHTO Chiang Mai 48.82 256 P **P 08 53 32.2 +0.5**
CHTO pmax pmax
comp=Z,24nm,1.2s
CHTO Chiang Mai 48.82 256 P **P 08 53 33.2 +0.5**
CHTO IAmb IAmb 08 53 50.0
comp=Z,24nm,1.2s
TDK Taldyqorghan 49.02 297 *e*LR LR 09 15 07.0
comp=Z,733nm,15.8s
PDGK Podgornoye 49.05 295 P **P 08 53 34.4 +0.1**
CMAR Chiang Mai Arr 49.06 255 P **P 08 53 35.9 +1.4**
comp=Z,1.0nm,0.3s,baz=45,slow=7.0,SNR=8.5
CMAR LR LR 09 15 46.3
comp=Z,196nm,18.9s,baz=65,slow=38
SHLS Shalkode 49.14 295 *e*P **P 08 53 30.9 -4.1**
comp=Z,324nm,15.7s
SHLS *e*LR LR 09 15 39.3
SHLS Shalkode 49.14 295 *e*P **P 08 53 30.9 -4.1**
UZB Uzynbulak 49.43 295 *e*P **P 08 53 37.2 -0.1**
comp=Z,25nm,1.2s
UZB *e*LR LR 09 16 32.4
comp=Z,311nm,14.7s
UZB Uzynbulak 49.43 295 *e*P **P 08 53 37.2 -0.1**
UZB pmax pmax
comp=Z,25nm,1.2s
UZB MLR MLR
comp=Z,311nm,15.0s
DLBC Dease Lake 49.45 43 P **P 08 53 39.0 +1.8**
comp=Z,4.1nm,0.6s,baz=227,slow=5.3,SNR=11
DLBC LR LR 09 15 09.8
comp=Z,223nm,21.3s,baz=323,slow=37
DLBC Dease Lake 49.45 43 IAmb IAmb 08 53 54.6
comp=Z,11nm,0.9s
KPKS Kokpek 49.51 295 *e*P **P 08 53 38.0 +0.1**
comp=Z,62nm,1.4s
KPKS Kokpek 49.51 295 *e*P **P 08 53 37.9 +0.1**
KPKS pmax pmax
comp=Z,62nm,1.4s
SHL Shillong 49.57 268 *e*P **P 08 53 38.9 +0.3**
SHL IAmb IAmb 08 53 41.3
comp=Z,5.6nm,0.6s
SHL *i* x x 08 53 52.6
SHL Shillong 49.57 268 P **P 08 53 39.2 +0.6**
SHL pmax pmax
comp=Z,41nm,1.1s
SHL Shillong 49.57 268 P **P 08 53 39.1 +0.6**
SATY Saty 49.87 295 *e*P **P 08 53 41.0 +0.3**
comp=Z,26nm,1.3s
SATY *e*LR LR 09 16 36.6
SATY Saty 49.87 295 *e*P **P 08 53 40.9 +0.3**
SATY pmax pmax
comp=Z,25nm,1.3s
BRZS Berezniki 50.44 305 *e*P **P 08 53 43.2 -1.5**
BRZS Berezniki 50.44 305 *e*P **P 08 53 43.2 -1.5**
BVAR Borovoye Array 50.51 310 P **P 08 53 45.6 +0.4**
comp=Z,1.1nm,0.7s,baz=163,slow=15,SNR=9.0
BRVK Borovoye 50.56 310 *e*P **P 08 53 45.4 -0.1**
BRVK Borovoye 50.56 310⇑ *e*P **P 08 53 45.4 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 50.56 310 P **P 08 53 45.8 +0.2**
MDOK Medeo 50.71 296 *e*P **P 08 53 46.6 -0.4**
MDOK *e*LR LR 09 17 31.9
comp=Z,294nm,14.3s
MDOK Medeo 50.71 296 *e*P **P 08 53 46.6 -0.4**
MDOK MLR MLR
comp=Z,293nm,14.0s
TNSS Tian-Shan 50.84 296 *e*P **P 08 53 48.3 0.0**
TNSS Tian-Shan 50.84 296 *e*P **P 08 53 48.2 0.0**
KDJ Kajisay 51.11 295 IAmb IAmb 08 53 52.1
comp=Z,42nm,1.2s
ULHL Ulahol 51.67 295 P **P 08 53 54.9 +0.6**
SNR=29
BOOM Boomskoye usch 51.75 296 P **P 08 53 55.3 +0.5**

BOOM pmax pmax
comp=Z,63nm,1.3s
BOOM Boomskoye usch 51.75 296 P **P** **08 53 55.3 +0.5**
TKM2 Tokmak 2 51.77 296 P **P** **08 53 56.0 +1.0**
SNR=29
TKM2 Tokmak 2 51.77 296 P **P** **08 53 55.3 +0.3**
BTLS Baital 51.77 299 *e*P **P** **08 53 54.5 -0.3**
comp=Z,12nm,1.1s
BTLS *e*LR LR 09 16 33.8
comp=Z,289nm,16.2s
BTLS Baital 51.77 299 *e*P **P** **08 53 54.4 -0.3**
BTLS pmax pmax
comp=Z,13nm,1.1s
BTLS MLR MLR
comp=Z,289nm,16.0s
SGDS Sogindy 52.14 297 *e*P **P** **08 53 57.5 -0.1**
comp=Z,26nm,1.1s
SGDS Sogindy 52.14 297 *e*P **P** **08 53 57.4 -0.1**
SGDS pmax pmax
comp=Z,26nm,1.1s
USP Ospenovka 52.31 297 P **P** **08 53 59.6 +0.8**
SNR=23
KBK Karagaybulak 52.31 296 P **P** **08 54 00.3 +1.3**
SNR=14
AAK Ala-Archa 52.61 296 P **P** **08 54 02.1 +0.9**
SNR=13
AAK Ala-Archa 52.61 296 *e*P **P** **08 54 01.8 +0.6**
AAK Ala-Archa 52.61 296*c i*P **P** **08 54 01.8 +0.6**
AAK pmax pmax
comp=Z,59nm,0.9s
UCH Uchtor 52.80 296 P **P** **08 54 04.3 +1.3**
SNR=6.8
EKS2 Erkin-Say 53.07 297 P **P** **08 54 05.2 +0.7**
SNR=18
AML Almayashu 53.38 296 P **P** **08 54 08.2 +1.0**
SNR=19
SVE Sverdlovsk 53.99 317 *e*P **P** **08 54 10.9 0.0**
SVE pmax pmax
comp=Z,20nm,1.1s
SVE MLR MLR
comp=Z,1μm,17.0s
RES Resolute Bay 54.28 17 P **P** **08 54 12.4 -0.3**
comp=Z,4.3nm,0.4s,baz=340,slow=8.8,SNR=18
RES Resolute Bay 54.28 17 P **P** **08 54 12.5 -0.3**
RES pmax pmax
comp=Z,13nm,1.0s
RES Resolute Bay 54.28 17 P **P** **08 54 12.5 -0.3**
RES IAmb IAmb 08 54 14.6
comp=Z,12nm,0.9s
YKA Yellowknife Ar 54.73 34 P **P** **08 54 16.3 0.0**
comp=Z,5.1nm,0.8s,baz=302,slow=6.6,SNR=5.5
KK31 Karatay Array 54.93 299 *i* P **P** **08 54 18.1 +0.1**
KKAR Karatay Array 54.93 299 P **P** **08 54 17.6 -0.4**
KKAR pmax pmax
comp=Z,40nm,1.3s
KKAR Karatay Array 54.93 299 P **P** **08 54 17.8 -0.3**
KKAR Karatay Array 54.93 299 P **P** **08 54 17.6 -0.4**
ARU Arti 55.20 317 P **P** **08 54 18.7 -0.9**
comp=Z,5.5nm,0.2s,baz=48,slow=6.8,SNR=11
ARU LR LR 09 20 26.4
comp=Z,1μm,18.3s,baz=53,slow=39
ARU Arti 55.20 317 *e*P **P** **08 54 19.0 -0.7**
ARU Arti 55.20 317*d i*P **P** **08 54 18.8 -0.9**
ARU 08 56 19.2
ARU S **S** **09 02 00.7 -1.0**
ARU SS **SS** **09 05 45.0 -0.2**
ARU pmax pmax
comp=Z,26nm,1.3s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 55.20 317 IAmb IAmb 08 54 20.9
comp=Z,27nm,1.1s
IUG luzhnay 55.73 298 *e*P **P** **08 54 24.1 +0.2**
comp=Z,20nm,0.9s
IUG *e*LR LR 09 19 06.6
comp=Z,398nm,15.6s
IUG luzhnay 55.73 298 *e*P **P** **08 54 24.0 +0.2**
IUG pmax pmax
comp=Z,19nm,0.9s
IUG MLR MLR
comp=Z,399nm,16.0s
BTK Batken 56.30 295 IAmb IAmb 08 54 29.7
comp=Z,26nm,1.2s
DHRM DHARAMSHALA 56.85 285 *e*P **P** **08 54 32.3 +0.2**
DHRM IAmb IAmb 08 54 39.1
comp=Z,25nm,0.8s
SMLA Simla 56.88 283 *e*P **P** **08 54 32.3 +0.3**
SMLA IAmb IAmb 08 54 35.8
comp=Z,38nm,0.6s
AB31 Akbulak array 58.08 309 *i* P **P** **08 54 40.1 -0.2**
ABKAR Akbulak array 58.08 309 P **P** **08 54 40.2 -0.1**
ABKAR Akbulak array 58.08 309 P **P** **08 54 39.6 -0.7**
CHGR Chuyangaron 58.14 295 P **P** **08 54 40.9 -0.1**
NIL Nilore 58.17 288 P **P** **08 54 42.3 +1.1**
NIL pmax pmax
comp=Z,57nm,1.1s
NIL Nilore 58.17 288 P **P** **08 54 42.3 +1.1**
PRGR Permogore 58.19 327 *e*P **P** **08 54 37.7 -3.1**
PRGR pmax pmax
comp=Z,16nm,1.0s
KIRV Kirov 58.32 323 P **P** **08 54 41.1 -0.6**
comp=Z,9.7nm,0.5s,baz=304,slow=22,SNR=5.4
KIRV Kirov 58.32 323⇓ *e*P **P** **08 54 41.8 0.0**
AKTO Aktyubinsk 58.52 311 P **P** **08 54 43.2 -0.1**
comp=Z,5.0nm,0.7s,baz=68,slow=8.3,SNR=16
AKTO LR LR 09 21 59.4
comp=Z,240nm,18.1s,baz=52,slow=38
APA Apatity 58.76 336⇑ *i*P P 08 54 51.2 +6.4
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,400nm,19.0s
DAG Danmarks Havn 59.26 357 *i* P **P** **08 54 47.1 -0.9**
DAG pmax pmax
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 59.26 357 *i* P **P** **08 54 47.1 -0.9**
comp=Z,2.8nm,0.6s
DAG Danmarks Havn 59.26 357 *i* P **P** **08 54 47.2 -0.9**
DAG IAmb IAmb 08 54 48.8
comp=Z,2.8nm,0.6s
ARCES ARCESS Array B 59.53 340 P **P** **08 54 50.1 +0.1**
comp=Z,2.4nm,0.7s,baz=45,slow=8.5,SNR=12
B08A Colville Reser 59.73 51 P **P** **08 54 52.1 +0.2**
B08A IAmb IAmb 08 55 10.3
comp=Z,21nm,1.4s
KBL Kabul 60.53 291 P **P** **08 54 57.4 -0.3**
KBL pmax pmax
comp=Z,30nm,1.2s
KBL Kabul 60.53 291 P **P** **08 54 57.4 -0.3**
NEW Newport 61.01 50 P **P** **08 55 01.3 +0.7**
comp=Z,1.6nm,0.4s,baz=62,slow=4.2,SNR=3.8
NEW Newport 61.01 50 P **P** **08 55 01.2 +0.6**
baz=305
NEW Newport 61.01 50 P **P** **08 55 01.3 +0.7**
NEW pmax pmax
comp=Z,16nm,1.3s
NEW Newport 61.01 50 IAmb IAmb 08 55 18.9
comp=Z,16nm,1.2s
KLMR Klimovskoe 61.03 328 *e*P **P** **08 54 58.9 -1.5**
KLMR pmax pmax
comp=Z,37nm,1.1s
KLMR Klimovskoe 61.03 328 *e*P **P** **08 54 58.9 -1.5**
KLMR AMP 08 55 01.1
comp=Z,37nm,1.1s
KLMR LQ LQ 09 16 44.3
KLMR LQ LQ 09 16 44.3
KLMR LR LR 09 20 51.8
BHPL Bhopal 61.41 276 *e*P **P** **08 55 03.4 -0.2**
BHPL IAmb IAmb 08 55 04.5
comp=Z,16nm,0.6s
BHPL *i* x x 08 55 17.8
L04D Klamath Falls 61.44 58 P **P** **08 55 04.1 +0.4**
baz=305
YBH Yreka Blue Hor 61.47 58 P **P** **08 55 05.4 +1.6**
comp=Z,2.0nm,0.9s,baz=337,slow=7.7,SNR=2.6
YBH Yreka Blue Hor 61.47 58 P **P** **08 55 05.4 +1.6**
YBH pmax pmax
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 61.47 58 IAmb IAmb 08 55 16.5
comp=Z,14nm,1.4s
J05D Fort Rock, OR 61.48 56 P **P** **08 55 05.1 +1.2**
baz=305
WALA Waterton Lakes 62.29 48 IAmb IAmb 08 55 25.2
comp=Z,9.4nm,0.8s
O02D Mt. Diablo Mer 62.31 60 P **P** **08 55 10.6 +1.1**
baz=306

O03E Paynes Creek 62.86 59 P **P** **08 55 14.5 +1.3**
baz=306
STEI Steigen 63.16 342 *e*P **P** **08 55 14.1 -0.5**
LOF Lofoten 63.36 343 *e*P **P** **08 55 15.2 -0.7**
N2TV TVrnvik 63.48 342 *e*P **P** **08 55 16.4 -0.3**
SUMG Summit 63.59 3 *i* P **P** **08 55 18.0 +0.1**
SUMG pmax pmax
comp=Z,110nm,1.1s
SUMG Summit 63.59 3 P **P** **08 55 17.5 -0.4**
SUMG Summit 63.59 3 *i* P **P** **08 55 18.0 +0.1**
comp=Z,107nm,1.1s
SUMG Summit 63.59 3 *i* P **P** **08 55 18.0 +0.1**
SUMG IAmb IAmb 08 55 19.2
comp=Z,107nm,1.1s
FAUS Fauske 63.60 342 *e*P **P** **08 55 16.9 -0.6**
MSO Missoula 63.60 50 P **P** **08 55 17.8 -0.2**
baz=307
N2VA Vr_y 63.93 343 *e*P **P** **08 55 19.3 -0.3**
NBB28 Valnes 63.94 342 *e*P **P** **08 55 19.8 +0.1**
N2RO R_st 64.17 343 *e*P **P** **08 55 19.7 -1.6**
HYB Hyderabad 64.30 270 *i* P **P** **08 55 23.0 +0.1**
HYB *e* 08 55 37.0
FFC Flin Flon 64.58 37 P **P** **08 55 24.8 +0.7**
FFC pmax pmax
comp=Z,16nm,0.9s
FFC Flin Flon 64.58 37 P **P** **08 55 24.8 +0.7**
FFC IAmb IAmb 08 55 40.6
comp=Z,16nm,0.9s
MOR8 Moi Rana 64.79 341 *e*P **P** **08 55 24.0 -1.4**
KONS Konsvik 64.81 342 *e*P **P** **08 55 26.3 +0.9**
WB0 Warramunga Arr 64.91 195 P **P** **08 55 27.2 +0.6**
WB0 IAmb IAmb 08 55 46.5
comp=Z,6.9nm,0.8s
WRAB Tennant Creek 65.08 195⇑ *e*P **P** **08 55 28.7 +1.0**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 65.08 195 P **P** **08 55 29.3 +1.6**
WRAB IAmb IAmb 08 55 38.3
comp=Z,13nm,1.1s
WB2 Warramunga Arr 65.09 195 IAmb IAmb 08 55 47.7
comp=Z,7.6nm,0.9s
WRA Warramunga Arr 65.09 195 P **P** **08 55 28.5 +0.7**
comp=Z,5.6nm,0.8s,baz=16,slow=6.8,SNR=38
WRA Warramunga Arr 65.09 195 P **P** **08 55 28.3 +0.5**
WRA Warramunga Arr 65.09 195 P **P** **08 55 28.3 +0.5**
EGMT Eagleton 65.11 47 P **P** **08 55 28.4 +0.5**
baz=309
PUL Pulkovo 65.13 331 *e*P **P** **08 55 27.6 0.0**
PUL Pulkovo 65.13 331⇑ *e*P **P** **08 55 27.6 0.0**
PUL pmax pmax
comp=Z,77nm,0.8s
MOS Moscow 65.13 325 *e*P **P** **08 55 25.9 -1.8**
MOS Moscow 65.13 325 *e*P **P** **08 55 25.9 -1.8**
MOS pmax pmax
comp=Z,58nm,1.3s
MOS MLR MLR
comp=Z,400nm,17.0s
HRA Herat 65.15 294 P **P** **08 55 29.2 +0.7**
HRA IAmb IAmb 08 55 43.5
comp=Z,15nm,1.2s
DLMT Dillon 65.23 50 IAmb IAmb 08 55 47.6
comp=Z,27nm,1.5s
HLID Hailey 65.32 53 P **P** **08 55 29.6 +0.2**
baz=308
FINES FINESS Array B 65.33 334 P **P** **08 55 28.2 -0.7**
comp=Z,17nm,0.6s,baz=40,slow=7.7,SNR=72
FINES LR LR 09 28 07.7
comp=Z,424nm,19.2s,baz=30,slow=40
BCYI Bear Canyon 65.43 52 P **P** **08 55 30.2 +0.1**
BOZ Bozeman (W) 65.62 50 P **P** **08 55 32.0 +0.7**
baz=309
BOZ Bozeman (W) 65.62 50 P **P** **08 55 31.6 +0.3**
BOZ pmax pmax
comp=Z,30nm,1.4s
BOZ Bozeman (W) 65.62 50 P **P** **08 55 31.6 +0.3**
GEYT Alibeck 65.64 300 P **P** **08 55 32.0 +0.6**
comp=Z,3.2nm,0.5s,baz=248,slow=1.6,SNR=7.5
GEYT LR LR 09 26 46.7
comp=Z,270nm,18.8s,baz=120,slow=38
GEYT Alibeck 65.64 300 P **P** **08 55 31.8 +0.4**
KVN Kaiserville 65.89 58 IAmb IAmb 08 55 52.8
comp=Z,20nm,1.3s
OBN Obninsk 66.00 325 P **P** **08 55 33.3 0.0**
comp=Z,6.4nm,0.4s,baz=17,slow=4.1,SNR=9.8
OBN Obninsk 66.00 325*de*P **P** **08 55 33.3 0.0**
OBN *e* 08 55 46.2
OBN *e* 08 56 02.6
OBN *e* 08 57 57.6
OBN *e*PPP PPP 08 59 34.7
OBN pmax pmax
comp=Z,61nm,1.7s
OBN MLR MLR
comp=Z,472nm,16.0s
OBN Obninsk 66.00 325 IAmb IAmb 08 55 34.0
comp=Z,75nm,1.2s
LHV Little Huntoon 66.13 59 P **P** **08 55 35.8 +1.4**
LHV IAmb IAmb 08 55 54.0
comp=Z,17nm,1.0s
NVAR Mina Array Bea 66.14 59 P **P** **08 55 35.7 +0.9**
comp=Z,1.7nm,0.7s,baz=294,slow=6.8,SNR=12
QLMT Earthquake Lak 66.21 50 P **P** **08 55 35.4 +0.2**
VRH Novokhopyorsk 66.34 319 *e*P **P** **08 55 34.4 -1.2**
VRH pmax pmax
comp=Z,60nm,1.1s
YHH Holmes Hill 66.56 50 P **P** **08 55 37.9 +0.4**
YMR Madison River 66.57 50 P **P** **08 55 37.1 -0.4**
ELK Elko 66.58 56 P **P** **08 55 38.6 +1.0**
comp=Z,1.1nm,0.7s,baz=310,slow=7.6,SNR=3.9
LPSR Galich'ya Gora 66.69 321 *e*P **P** **08 55 37.8 0.0**
LPSR pmax pmax
comp=Z,60nm,1.2s
LPSR MLR MLR
comp=Z,660nm,19.0s
NSS Namsos 66.73 341 *e*P **P** **08 55 37.3 -0.6**
H17A Grant Village 66.96 50 P **P** **08 55 40.9 +0.9**
baz=310
H17A Grant Village 66.96 50 P **P** **08 55 41.6 +1.5**
H17A IAmb IAmb 08 56 00.5
comp=Z,21nm,1.1s
POO Poona 66.97 274 *ex* **P** **08 55 38.0 -2.2**
ICESG Greenland Ices 67.03 3 *i* P **P** **08 55 40.4 +0.2**
ICESG IAmb IAmb 08 55 41.3
comp=Z,74nm,1.2s
IMW Indian Meadow 67.07 51 IAmb IAmb 08 56 00.3
comp=Z,23nm,1.3s
RLMT Red Lodge 67.21 49 IAmb IAmb 08 56 00.7
comp=Z,21nm,1.2s
MOOW Moose Ponds 67.28 51 IAmb IAmb 08 56 01.5
comp=Z,20nm,1.2s
VSU Vasula 67.35 331*de*P **P** **08 55 42.1 +0.2**
VSU pmax pmax
comp=Z,164nm,1.4s
LOHW Long Hollow 67.44 51 IAmb IAmb 08 56 02.6
comp=Z,30nm,1.5s
SNOW Snow King Moun 67.45 51 IAmb IAmb 08 56 02.8
comp=Z,20nm,1.2s
REDW Red Top Meadow 67.46 51 pP 08 55 48.6 +0.9
VSR Storozhevoye 67.52 320 *e*P **P** **08 55 43.2 +0.1**
VSR pmax pmax
comp=Z,50nm,1.2s
VSR MLR MLR
comp=Z,930nm,20.0s
DZM Mont Dzumac 67.62 163 *e*LR LR 09 16 06.6
comp=Z,155nm,21.9s
VORD Divnogorie 67.63 320 *e*P **P** **08 55 43.6 -0.2**
VORD pmax pmax
comp=Z,50nm,1.1s
DGMT Dagmar 67.67 44 P **P** **08 55 44.4 +0.2**
baz=312
LAO LASA Array 67.81 46 P **P** **08 55 45.9 +0.8**
baz=311
R11A Troy Canyon, C 67.87 58 P **P** **08 55 46.4 +0.6**
baz=309
MPMC Manual Prospec 68.13 61 P **P** **08 55 47.9 +0.4**
baz=309
HWUT Hardware Ranch 68.18 53 IAmb IAmb 08 56 06.2
comp=Z,22nm,1.5s
SPR3 Spring Creek 3 68.21 57 P **P** **08 55 48.9 +0.8**
FURC Furnace Creek, 68.26 60 P **P** **08 55 49.1 +1.1**
baz=309
TPNV Topopah Spring 68.34 59 P **P** **08 55 49.3 +0.5**
baz=310
TPNV Topopah Spring 68.34 59 IAmb IAmb 08 56 08.2
comp=Z,23nm,1.2s
DUG Dugway, Tooele 68.36 55 P **P** **08 55 49.2 +0.4**
baz=310

DUG Dugway, Tooele 68.36 55 P **P** **08 55 48.9 +0.1**
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG Dugway, Tooele 68.36 55 P **P** **08 55 48.9 +0.1**
DUG IAmb IAmb 08 56 07.5
comp=Z,10.0nm,1.0s
EDW2 Edwards Air Fo 68.55 62 P **P** **08 55 50.6 +0.6**
baz=310
BW06 Boulder Array 68.57 51 P **P** **08 55 50.3 +0.1**
baz=311
BW06 Boulder Array 68.57 51 IAmb IAmb 08 56 08.7
comp=Z,22nm,1.4s
PD31 Pinedale Array 68.57 51 IAmb IAmb 08 56 08.7
comp=Z,18nm,1.3s
PDAR Pinedale Array 68.57 51 P **P** **08 55 50.5 +0.3**
comp=Z,1.3nm,0.5s,baz=359,slow=0.6,SNR=19
PDAR Pinedale Array 68.57 51 P **P** **08 55 50.1 -0.1**
MAK Makhachkala 68.76 310 *e*P **P** **08 55 48.7 -2.3**
MAK *e* 08 58 18.1
MAK *e*S **S** **09 04 50.0 -3.4**
MAK *e*SS **SS** **09 09 10.8 -6.7**
MAK pmax pmax
comp=Z,221nm,1.6s
MAK MLR MLR
comp=Z,293nm,14.0s
PRN Pahroc Range 68.79 58 IAmb IAmb 08 56 10.5
comp=Z,15nm,1.4s
AS31 Alice Springs 68.80 195 P **P** **08 55 53.6 +2.3**
ASAR Alice Springs 68.80 195 P **P** **08 55 52.8 +1.4**
comp=Z,2.8nm,0.9s,baz=15,slow=5.8,SNR=26
ASAR Alice Springs 68.80 195 P **P** **08 55 52.1 +0.7**
ASAR Alice Springs 68.80 195 P **P** **08 55 52.1 +0.7**
SHOC Shoshone, Teco 68.99 60 P **P** **08 55 53.1 +0.5**
baz=310
SHPR Sheep Range 69.30 59 IAmb IAmb 08 56 14.4
comp=Z,14nm,1.3s
DOMB Dombas 69.55 341 *e*P **P** **08 55 55.2 -0.5**
HEC Hector,Ludlow 69.64 61 P **P** **08 55 57.4 +0.7**
baz=310
IDID Didziasalis 69.74 329 *e*P **P** **08 55 57.5 +0.7**
ISAL Salakas 69.77 330 *e*P **P** **08 55 57.7 +0.6**
GOF Gofitskoye 69.78 314⇑ *e*P **P** **08 55 58.9 +1.6**
MURC Murrieta 69.87 63 P **P** **08 55 58.1 0.0**
baz=310
IIGN Ignalina 69.90 329 *e*P **P** **08 55 58.5 +0.6**
NB2 NORSAR Subarra 69.90 340 P **P** **08 55 57.3 -0.6**
comp=Z,4.0nm,0.5s,baz=30,slow=6.5
NB2 NORSAR Subarra 69.90 340 P **P** **08 55 57.3 -0.6**
baz=30,slow=6.5
NOA NORSAR Array B 69.90 340 P **P** **08 55 57.6 -0.3**
comp=Z,15nm,0.9s,baz=32,slow=6.1,SNR=39
NOA LR LR 09 31 24.8
comp=Z,164nm,19.3s,baz=25,slow=40
P17A Butcher Ranch, 70.04 54 P **P** **08 56 00.3 +1.1**
NC602 NORSAR Array S 70.08 339 *e*P **P** **08 55 58.7 -0.2**
GMRC Granite Mounta 70.09 61 P **P** **08 55 59.2 -0.4**
baz=310
K22A Casper 70.33 49 P **P** **08 56 00.8 -0.1**
baz=312
K22A Casper 70.33 49 P **P** **08 56 01.5 +0.5**
K22A IAmb IAmb 08 56 18.7
comp=Z,26nm,1.2s
ULM Lac du Bonnet 70.37 38 P **P** **08 56 00.7 -0.1**
comp=Z,1.7nm,0.7s,baz=311,slow=7.3,SNR=2.9
ULM Lac du Bonnet 70.37 38 P **P** **08 56 00.7 -0.1**
ULM pmax pmax
comp=Z,15nm,1.3s
ULM Lac du Bonnet 70.37 38 IAmb IAmb 08 56 17.4
comp=Z,14nm,1.3s
RSSD Black Hills 70.68 47 P **P** **08 56 02.9 -0.3**
baz=313
RSSD Black Hills 70.68 47 pP 08 56 08.1 +0.5
KVAR Kislovodsk Arr 70.71 313 LR LR 09 32 03.0
comp=Z,685nm,18.6s,baz=268,slow=40
KIV Kislovodsk 70.72 313⇑ P **P** **08 56 04.6 +1.4**
KIV Kislovodsk 70.72 313 *e*P **P** **08 56 04.3 +1.1**
KIV Kislovodsk 70.72 313 *e*P **P** **08 56 04.3 +1.1**
KIV *e*S **S** **09 05 16.3 -0.2**
KIV pmax pmax
comp=Z,69nm,3.3s
KIV pmax pmax
comp=Z,67nm,1.0s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 70.72 313 P **P** **08 56 05.1 +1.8**
KBZ Khabaz 70.76 313 P **P** **08 56 04.6 +1.3**
comp=Z,22nm,0.9s,baz=42,slow=4.5,SNR=37
KBZ LR LR 09 32 12.3
comp=Z,1μm,18.3s,baz=33,slow=40
KBZ Khabaz 70.76 313 *e*P **P** **08 56 04.3 +1.0**
KBZ Khabaz 70.76 313*c i*P **P** **08 56 04.3 +1.0**
KBZ pmax pmax
comp=Z,22nm,0.9s
IRM Iron Mountain 70.82 61 P **P** **08 56 04.2 +0.3**
baz=311
ZEI Tsey 70.86 311 *e*P **P** **08 56 03.3 -0.9**
ZEI pmax pmax
comp=Z,16nm,0.9s
SKAR Skarslia 70.92 341 *e*P **P** **08 56 04.2 +0.1**
HYA Hoyanger 70.98 342 *e*P **P** **08 56 05.0 +0.7**
W13A Hualapai Mount 71.00 59 P **P** **08 56 04.8 -0.4**
O20A White River Ci 71.05 52 P **P** **08 56 05.3 -0.1**
baz=312
U15A North Rim 71.11 57 IAmb IAmb 08 56 25.7
comp=Z,15nm,1.2s
IKP In-Ko-Pah, Jac 71.18 63 P **P** **08 56 07.1 +0.9**
baz=311
KONO Kongsberg 71.51 340 *e*P **P** **08 56 08.1 +0.5**
PV21 Cone Mtn., Par 71.67 54 IAmb IAmb 08 56 28.1
comp=Z,14nm,0.9s
PV23 Carpenter Ridg 71.73 54 P **P** **08 56 11.1 +1.5**
PV23 IAmb IAmb 08 56 28.0
comp=Z,20nm,1.0s
GLA Glamis 71.74 62 P **P** **08 56 12.7 +3.2**
GLA pmax pmax
comp=Z,11nm,0.9s
GLA Glamis 71.74 62 P **P** **08 56 12.7 +3.2**
GLA IAmb IAmb 08 56 29.9
comp=Z,11nm,0.9s
PV14 Lion Creek, Pa 71.77 54 IAmb IAmb 08 56 23.6
comp=Z,13nm,0.9s
AGMN Agassiz Nation 71.78 40 P **P** **08 56 09.3 -0.1**
baz=317
AGMN Agassiz Nation 71.78 40 P **P** **08 56 10.8 +1.4**
AGMN IAmb IAmb 08 56 26.7
comp=Z,24nm,1.5s
PV22 Blue Mesa, Par 71.80 54 IAmb IAmb 08 56 29.9
comp=Z,21nm,1.4s
PV20 West Nyswonger 71.83 54 IAmb IAmb 08 56 29.8
comp=Z,20nm,1.2s
PV04 Paradox Valley 71.83 54 IAmb IAmb 08 56 30.0
comp=Z,12nm,0.9s
N23A Red Feather La 71.83 50 P **P** **08 56 10.4 +0.2**
baz=313
PV19 Morning Glory 71.84 54 IAmb IAmb 08 56 29.9
comp=Z,14nm,1.0s
PV16 Nyswonger Mesa 71.88 54 P **P** **08 56 11.1 +0.6**
PV16 IAmb IAmb 08 56 29.5
comp=Z,22nm,1.1s
PV11 David Mesa, Pa 71.91 54 IAmb IAmb 08 56 29.1
comp=Z,17nm,0.7s
PV18 Skein Mesa, Pa 71.92 54 IAmb IAmb 08 56 29.8
comp=Z,27nm,1.3s
PV05 Paradox Valley 71.92 54 P **P** **08 56 11.4 +0.6**
PV12 Saucer Basin, 71.94 54 IAmb IAmb 08 56 30.7
comp=Z,8.5nm,0.8s
PV03 Paradox Valley 71.95 54 IAmb IAmb 08 56 29.3
comp=Z,9.5nm,0.8s
ODD1 Odda 72.00 341 *e*P **P** **08 56 11.6 +1.0**
PV02 Paradox Valley 72.05 54 P **P** **08 56 11.4 -0.1**
SUW Suwalki 72.06 330 *e*P **P** **08 56 10.9 0.0**
AKASG Malin Array Be 72.26 325 P **P** **08 56 12.2 0.0**
comp=Z,4.9nm,0.5s,baz=38,slow=6.6,SNR=42
AKASG LR LR 09 30 18.5
comp=Z,262nm,18.6s,baz=15,slow=38
AKASG Malin Array Be 72.26 325 *i* P **P** **08 56 12.0 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 72.26 325 P **P** **08 56 12.5 +0.2**
AKBB Malin Array Si 72.26 325*c i*P **P** **08 56 11.8 -0.5**
WUAZ Wupatki 72.27 58 P **P** **08 56 13.6 +0.8**
baz=312
WUAZ Wupatki 72.27 58 P **P** **08 56 13.4 +0.6**
WUAZ IAmb IAmb 08 56 32.6
comp=Z,15nm,1.1s
SOC Sochi 72.53 314 *e*P **P** **08 56 13.4 -0.6**

SOC	Sochi	72.53	314	*e*P		P		08 56 13.0	-1.0
SOC				*e*				08 58 52.6	
SOC				*e*PPP		PPP		09 00 37.1	
SOC				*e*S		S		09 05 35.9	-1.3
SOC				*e*SS		SS		09 10 13.2	-2.0
SOC				*e*SSS		SSS		09 13 26.1	
SOC				pmax		pmax			
	comp=Z,19nm,0.7s								
ISCO	Idaho Springs	72.76	51	P		P		08 56 16.4	+0.6
	baz=313								
ISCO	Idaho Springs	72.76	51	P		P		08 56 15.6	-0.3
ISCO				pmax		pmax			
	comp=Z,13nm,1.2s								
ISCO	Idaho Springs	72.76	51	P		P		08 56 15.6	-0.3
ISCO				IAmb		IAmb		08 56 35.0	
	comp=Z,13nm,1.2s								
ANN	Anapa	72.83	316	*e*P		P		08 56 12.1	-3.6
ANN				*e**PP		sP		08 56 23.3	+1.7
ANN				*e*S		S		09 05 33.7	-6.9
ANN				pmax		pmax			
	comp=Z,43nm,0.9s								
MVCO	Mesa Verde	72.86	55	P		P		08 56 16.4	0.0
	baz=313								
MVCO	Mesa Verde	72.86	55	P		P		08 56 15.7	-0.7
BATM	Batumi	72.86	312	⇓P		P		08 56 17.1	+1.1
BATM	Batumi	72.86	312	⇓P		P		08 56 17.1	+1.1
KMY	Karmoy	72.94	342	*e*P		P		08 56 17.0	+0.9
BCA	Borcka	73.01	311	⇑P		P		08 56 17.2	+0.3
S22A	4UR Ranch, Cre	73.47	53	P		P		08 56 20.4	+0.3
	baz=313								
S22A	4UR Ranch, Cre	73.47	53	IAmb		IAmb		08 56 39.6	
	comp=Z,25nm,1.4s								
Q24A	Divide	73.60	52	P		P		08 56 19.7	-1.1
	baz=314								
214A	Organ Pipe Nat	73.74	61	P		P		08 56 21.1	-0.3
	baz=312								
OGNE	Ogallala	73.94	48	P		P		08 56 22.2	-0.3
	baz=315								
EYMN	Ely	74.01	38	P		P		08 56 21.9	-0.7
	baz=319								
SDCO	Great Sand Dun	74.24	53	P		P		08 56 23.6	-0.9
	baz=314								
SORM	Soroca	74.59	323	⇑P		P		08 56 26.4	+0.4
SORM	Soroca	74.59	323	⇑P		P		08 56 26.4	+0.4
ECSD	EROS Data Cent	74.75	43	P		P		08 56 26.6	-0.5
	baz=317								
ECSD	EROS Data Cent	74.75	43	P		P		08 56 26.4	-0.6
TUC	Tucson	74.78	60	P		P		08 56 27.9	+0.4
	baz=313								
TUC	Tucson	74.78	60	P		P		08 56 28.8	+1.3
TUC				pmax		pmax			
	comp=Z,7.0nm,1.1s								
TUC	Tucson	74.78	60	P		P		08 56 28.8	+1.3
KSCO	Kaye Shedlock'	74.97	50	P		P		08 56 29.4	+0.7
	baz=315								
LVV	L'vov	75.06	327	*e*P		P		08 56 27.4	-1.3
UOSS	Minazif	75.20	290	P		P		08 56 30.5	+0.6
UOSS						PcP		08 56 44.5	+1.1
UOSS				IAmb		IAmb		08 56 48.0	
	comp=Z,29nm,1.1s								
KIS	Kishinev	75.26	322	*e*P		P		08 56 26.0	-3.9
	comp=Z,60nm,4.6s								
KIS	Kishinev	75.26	322	*e*PP		PP		08 59 26.0	+8.2
KIS				*e*S		SKiKP		09 05 56.0	+4.4
KIS				*e*ScS		S		09 06 13.0	+5.2
KIS	Kishinev	75.26	322	*e*P		P		08 56 26.0	-3.9
KIS				*e*				08 59 26.0	
KIS				*e*S		SKiKP		09 05 56.0	+4.4
KIS				pmax		pmax			
	comp=Z,60nm,4.6s								
KIS				MLR		MLR			
	comp=Z,200nm,18.0s								
T25A	Trinidad	75.28	52	P		P		08 56 31.0	+0.4
	baz=314								
T25A	Trinidad	75.28	52	P		P		08 56 30.8	+0.2
T25A				IAmb		IAmb		08 56 49.4	
	comp=Z,19nm,1.2s								
SPMN	Marine on St.	75.47	40	P		P		08 56 31.5	+0.3
	baz=319								
ANMO	Albuquerque	75.61	55	P		P		08 56 33.1	+0.7
	comp=Z,0.1nm,0.8s,baz=309,slow=9.4,SNR=5.7								
ANMO	Albuquerque	75.61	55	P		P		08 56 33.2	+0.8
	baz=314								
ANMO	Albuquerque	75.61	55	P		P		08 56 33.4	+1.0
BGNE	Belgrade	75.66	46	P		P		08 56 31.6	-0.7
	baz=317								
KWP	Kalwaria Pacla	75.72	327	*e*P		P		08 56 33.5	+0.9
STKA	Stephens Creek	75.84	187	P		P		08 56 35.2	+2.0
	comp=Z,0.6nm,0.6s,baz=312,slow=19,SNR=3.0								
STKA				LR		LR		09 35 25.6	
	comp=Z,61nm,18.4s,baz=25,slow=40								
Y22D	IRIS PASSCAL I	75.94	56	P		P		08 56 35.4	+1.2
	baz=314								
DIKM	Dikmen	76.21	315	⇑P		P		08 56 36.0	+0.6
BUR08	Bucovina Ar. S	76.30	325	P		P		08 56 36.1	+0.1
BUR08				IAmb		IAmb		08 56 38.1	
	comp=Z,17nm,1.1s								
BURAR	Bucovina Array	76.32	325	⇑P		P		08 56 37.2	+1.1
BURAR	Bucovina Array	76.32	325	⇑P		P		08 56 37.2	+1.1
BURAR	Bucovina Array	76.32	325	P		P		08 56 36.4	+0.3
OJC	Ojcow	76.35	329	*e*P		P		08 56 36.7	+0.6
OJC	Ojcow	76.35	329	IAmb		IAmb		08 56 38.9	
	comp=Z,14nm,1.0s								
KOLS	Kolonicke sedl	76.46	327	*e*P		P		08 56 36.3	-0.4
KOLS				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KOLS	Kolonicke sedl	76.46	327	*e*P		P		08 56 36.3	-0.4
121A	Cookes Peak, D	76.47	58	P		P		08 56 38.1	+0.8
	baz=314								
121A	Cookes Peak, D	76.47	58	IAmb		IAmb		08 56 57.3	
	comp=Z,29nm,1.4s								
BIZ	Bicaz	76.48	324	⇑P		P		08 56 38.3	+1.4
UZH	Uzhgorod	76.69	327	*e*P		P		08 56 45.5	+7.5
UZH				*e*				08 56 55.7	
CRVS	Cervenica-Dubn	76.80	328	*e*P		P		08 56 39.2	+0.5
CRVS				pmax		pmax			
	comp=Z,20nm,1.3s								
CRVS	Cervenica-Dubn	76.80	328	*e*P		P		08 56 39.2	+0.5
NIE	Niedzica	76.82	329	*e*P		P		08 56 39.7	+0.9
SCHQ	Schefferville	76.86	20	P		P		08 56 39.0	0.0
	comp=Z,5.0nm,0.8s,baz=150,slow=6.8,SNR=4.3								
SCHQ				LR		LR		09 33 17.1	
	comp=Z,226nm,20.9s,baz=32,slow=38								
SCHQ	Schefferville	76.86	20	IAmb		IAmb		08 56 49.8	
	comp=Z,16nm,1.3s								
CFR	Carcaliu	76.96	322	⇓P		P		08 56 40.3	+0.7
CFR	Carcaliu	76.96	322	⇓P		P		08 56 40.3	+0.7
VRI	Vrincioaia	77.05	323	⇑P		P		08 56 40.4	+0.2
VRI	Vrincioaia	77.05	323	⇑P		P		08 56 40.4	+0.2
KSP	Ksiaz	77.08	332	*e*P		P		08 56 40.8	+0.6
PLOR	Plostina	77.09	323	⇑P		P		08 56 41.5	+1.1
PLOR	Plostina	77.09	323	⇑P		P		08 56 41.5	+1.1
OZUR		77.28	323	⇑P		P		08 56 42.3	+0.9
OSTC	Ostas	77.35	331	AMS		AMS		09 35 10.0	
	comp=Z,400nm,18.5s								
LANS	Liptovska Anna	77.35	329	*e*P		P		08 56 43.3	+1.5
LANS				pmax		pmax			
	comp=Z,14nm,1.6s								
LANS	Liptovska Anna	77.35	329	*e*P		P		08 56 43.3	+1.5
HARR	Harsova	77.43	321	⇑P		P		08 56 43.0	+0.7
HARR	Harsova	77.43	321	⇑P		P		08 56 43.0	+0.7
UPC	Upice	77.46	332	AMS		AMS		09 38 20.0	
	comp=Z,400nm,18.5s								
DPC	Dobruska-Polom	77.48	331	*e*P		P		08 56 43.5	+0.9
DPC				AMS		AMS		09 39 00.0	
	comp=Z,500nm,21.3s								
DPC	Dobruska-Polom	77.48	331	*e*P		P		08 56 43.5	+0.9
DPC				MLR		MLR			
	comp=Z,500nm,21.3s								
MORC	Moravsky Berou	77.53	330	⇓P		P		08 56 43.8	+0.9
MORC	Moravsky Berou	77.53	330	*e*P		P		08 56 43.0	+0.2
MORC	Moravsky Berou	77.53	330	⇓P		P		08 56 43.8	+0.9
MORC	Moravsky Berou	77.53	330	P		P		08 56 42.4	-0.5
MORC				IAmb		IAmb		08 56 51.8	
	comp=Z,10nm,1.0s								
DOPR	Dopca	77.55	324	⇑P		P		08 56 43.7	+0.8
KRLC	Kraliky	77.56	331	*e*P		P		08 56 43.4	+0.4
KRLC				AMS		AMS		09 39 10.0	
	comp=Z,300nm,15.3s								
KRLC	Kraliky	77.56	331	*e*P		P		08 56 43.4	+0.4
KRLC				MLR		MLR			
	comp=Z,300nm,15.3s								
MLR	Muntele Rosu	77.68	323	⇑P		P		08 56 45.5	+1.6
MLR	Muntele Rosu	77.68	323	⇑P		P		08 56 45.5	+1.6
MLR	Muntele Rosu	77.68	323	IAmb		IAmb		08 56 59.3	
	comp=Z,26nm,1.4s								
CLL	Collm	77.78	334	⇑*i*P		P		08 56 43.9	-0.2
	comp=Z,11nm,0.6s								
CLL				*i* pP		sP		08 56 50.2	+0.2
CLL				LmH				09 29 00.0	
	comp=N,300nm,21.8s								
CLL				LmH				09 29 00.0	
	comp=E,500nm,21.4s								
CLL	Collm	77.78	334	⇑*i*P		P		08 56 43.9	-0.2
CLL				*i*				08 56 50.2	
CLL				pmax		pmax			
	comp=Z,11nm,0.6s								
CLL	Collm	77.78	334	IAmb		IAmb		08 56 52.1	
	comp=Z,9.4nm,0.7s								
BRG	Berggiesshubel	77.84	333	*e*P		P		08 56 40.5	-4.0
	comp=Z,2.6nm,0.8s								
BRG				*e*				08 56 46.1	
	comp=Z,13nm,1.3s								
	comp=N,376nm,14.7s								
	comp=E,280nm,22.7s								
	comp=Z,582nm,17.1s								
BRG	Berggiesshubel	77.84	333	*e*P		P		08 56 40.5	-4.0
BRG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BRG				MLR		MLR			
	comp=N,376nm,14.7s								
BRG				MLR		MLR			
	comp=E,280nm,22.7s								
BRG				MLR		MLR			
	comp=Z,582nm,17.1s								
VYHS	Vyhne	78.13	329	*e*P		P		08 56 46.8	+0.7
VYHS	Vyhne	78.13	329	*e*P		P		08 56 46.8	+0.7
JAVC	Velka Javorina	78.25	330	*e*P		P		08 56 48.1	+1.2
VRAC	Vranov	78.27	331	⇑P		P		08 56 48.2	+1.3
VRAC	Vranov	78.27	331	*e*P		P		08 56 47.4	+0.5
VRAC	Vranov	78.27	331	⇑P		P		08 56 48.2	+1.3
ARR	Arges	78.34	324	⇑P		P		08 56 49.6	+2.2
PRA	Prague	78.37	332	AMS		AMS		09 35 00.0	
	comp=Z,200nm,15.2s								
GOPC	GO Pecny, Ondr	78.38	332	*e*P		P		08 56 48.1	+0.6
GOPC				AMS		AMS		09 35 00.0	
	comp=Z,400nm,18.0s								
GOPC	GO Pecny, Ondr	78.38	332	*e*P		P		08 56 48.1	+0.6
GOPC				MLR		MLR			
	comp=Z,400nm,18.0s								
PRU	Pruhonice	78.40	332	*e*P		P		08 56 48.2	+0.6
PRU				*e*pP		sP		08 56 54.0	+0.5
PRU				AMS		AMS		09 35 10.0	
	comp=Z,500nm,13.6s								
PRU	Pruhonice	78.40	332	*e*P		P		08 56 48.2	+0.6
PRU				*e*				08 56 54.0	
PRU				MLR		MLR			
	comp=Z,500nm,13.6s								
AMTX	Amarillo	78.44	52	P		P		08 56 47.0	-1.2
	baz=316								
BRTR	Keskin Array B	78.46	315	P		P		08 56 48.9	+0.6
	comp=Z,3.5nm,0.8s,baz=51,slow=9.7,SNR=11								
BRTR				LR		LR		09 37 33.8	
	comp=Z,104nm,18.1s,baz=46,slow=40								
BRTR	Keskin Array B	78.46	315	*i* P		P		08 56 48.9	+0.6
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BRTR	Keskin Array B	78.46	315	P		P		08 56 48.4	+0.1
MNTX	Cornudas Mount	78.52	57	P		P		08 56 48.8	+0.3
	baz=315								
KRUC	Moravsky	78.54	331	*e*P		P		08 56 48.6	+0.2
LOT	Lotru	78.65	324	⇑P		P		08 56 49.8	+0.6
TREC	Trest	78.67	331	AMS		AMS		09 39 40.0	
	comp=Z,500nm,22.8s								
MODS	Modra-Piesok	78.81	330	*e*P		P		08 56 49.8	-0.1
MODS				pmax		pmax			
	comp=Z,12nm,1.0s								
MODS	Modra-Piesok	78.81	330	*e*P		P		08 56 49.8	-0.1
SIRR	Siria	78.86	326	⇑P		P		08 56 50.7	+0.5
CHGQ	Chibougamau	79.02	27	P		P		08 56 50.2	-0.8
	baz=330								
GZR	Gura Zlata	79.11	325	⇓P		P		08 56 51.8	+0.2
GZR	Gura Zlata	79.11	325	⇓P		P		08 56 51.8	+0.2
P38A	Dawn	79.34	44	IAmb		IAmb		08 57 10.2	
	comp=Z,23nm,1.1s								
BZS	Buzias	79.41	326	⇑P		P		08 56 53.9	+0.7
BZS	Buzias	79.41	326	⇑P		P		08 56 53.9	+0.7
KHC	Kasperske Hory	79.46	332	*e*P		P		08 56 54.1	+0.6
KHC				*e*pP		PcP		08 57 00.5	-1.0
KHC				AMS		AMS		09 35 50.0	
	comp=Z,600nm,17.9s								
KHC	Kasperske Hory	79.46	332	*c i*P		P		08 56 53.9	+0.4
KHC				pmax		pmax			
	comp=Z,40nm,1.3s								
KHC	Kasperske Hory	79.46	332	P		P		08 56 53.0	-0.5
GERES	GERESS Array B	79.66	332	P		P		08 56 54.9	+0.3
	comp=Z,2.5nm,0.5s,baz=38,slow=6.5,SNR=13								
GERES	GERESS Array B	79.66	332	P		P		08 56 54.6	-0.1
GERES	GERESS Array B	79.66	332	P		P		08 56 54.6	-0.1
HERR	Herculane	79.67	325	⇑P		P		08 56 55.2	+0.5
CONA	Conrad Observa	79.69	330	*e*P		P		08 56 55.7	+0.9
	comp=Z,7.9nm,0.8s								
MDVR	Moldovita	80.05	325	⇑P		P		08 56 56.7	0.0
WMOK	Wichita Mounta	80.19	51	P		P		08 56 57.2	-0.5
	baz=318								
MOA	Molln	80.32	331	*e*P		P		08 56 59.0	+0.9
	comp=Z,7.5nm,1.0s								
ARSA	Arzberg	80.39	330	*e*P		P		08 56 59.4	+0.9
	comp=Z,7.3nm,1.0s								
MEM	Membach	80.49	337	PcP		PcP		08 57 04.8	-1.1
HDIL	Hopedale	80.70	41	P		P		08 56 59.5	-0.8
	baz=322								
BCLA	Clavier	80.86	338	P		P		08 57 01.4	+0.5
S39A	Bolivar	80.92	45	IAmb		IAmb		08 57 18.7	
	comp=Z,17nm,1.2s								
TUL1	Leonard	80.96	48	P		P		08 57 01.8	+0.1
	baz=319								
R40A	Maddies Statio	81.00	44	IAmb		IAmb		08 57 19.6	
	comp=Z,20nm,1.1s								
SOKA	Soboth	81.05	330	*i* P		P		08 57 02.7	+0.6
	comp=Z,25nm,1.1s,SNR=7.3								
BMRD	Maredsous	81.11	338	P		P		08 57 02.0	-0.2
TX32	Lajitas Array	81.23	58	P		P		08 57 03.2	-0.2
TXAR	Lajitas Array	81.23	58	P		P		08 57 04.1	+0.7
	comp=Z,3.6nm,0.5s,baz=299,slow=4.0,SNR=58								
ALN	Alexandroupoli	81.26	320	IAmb		IAmb		08 57 20.3	
	comp=Z,11nm,1.0s								
KBA	Koelnbreinsper	81.31	331	*i* P		P		08 57 04.5	+0.9
	comp=Z,22nm,1.1s,SNR=11								
DIVS	Divibare	81.31	326	IAmb		IAmb		08 57 05.9	
	comp=Z,14nm,1.1s								
D56A	ZEC Mazanza, M	81.36	29	P		P		08 57 03.2	-0.5
	baz=330								
OBKA	Obir	81.37	330	*e*P		P		08 57 04.8	+1.0
	comp=Z,5.3nm,0.8s								
MYKA	Terra Mystica	81.59	331	*e*P		P		08 57 05.7	+0.7
	comp=Z,6.0nm,0.9s								
WATA	Walderalm	81.69	332	*e*P		P		08 57 06.3	+0.7
	comp=Z,33nm,1.6s								
CCM	Cathedral Cave	81.69	44	P		P		08 57 05.4	-0.2
	baz=321								
CCM	Cathedral Cave	81.69	44	P		P		08 57 05.4	-0.2
CCM				pmax		pmax			
	comp=Z,25nm,1.3s								
CCM	Cathedral Cave	81.69	44	P		P		08 57 05.4	-0.2
CCM				IAmb		IAmb		08 57 23.5	
	comp=Z,25nm,1.2s								
E56A	St. Veronique	81.69	29	P		P		08 57 04.7	-0.8
	baz=330								
WTTA	Wattenberg	81.73	332	*e*P		P		08 57 06.1	+0.3
	comp=Z,12nm,0.6s								
PRED	Cave del Predi	81.78	331	IAmb		IAmb		08 57 07.6	
	comp=Z,14nm,1.2s								
RETA	Reutte	81.82	333	*e*P		P		08 57 06.5	+0.3
	comp=Z,18nm,1.3s								
MOTA	Moosalm	81.83	333	*i* P		P		08 57 06.8	+0.5
	comp=Z,30nm,1.2s,SNR=8.3								
SQTA	Sankt Quirin	81.91	333	*e*P		P		08 57 07.5	+0.7
	comp=Z,16nm,0.9s								
E57A	Chemin Saint G	82.12	29	P		P		08 57 06.9	-0.8
	baz=330								
U40A	Yellville	82.17	46	P		P		08 57 07.9	-0.3
	baz=320								
FETA	Feichten	82.24	333	*e*P		P		08 57 09.0	+0.5
	comp=Z,10nm,1.3s								
DAVA	Damuels	82.28	333	*e*P		P		08 57 09.3	+0.5
	comp=Z,7.5nm,0.8s								
E58A	La Victoria	82.45	28	P		P		08 57 09.1	-0.3
	baz=331								
JCT	Junction City	82.72	54	P		P		08 57 11.1	0.0
	baz=318								
JCT	Junction City	82.72	54	P		P		08 57 10.7	-0.4
JCT				pmax		pmax			
	comp=Z,10.0nm,0.9s								
JCT	Junction City	82.72	54	P		P		08 57 10.7	-0.4
JCT				IAmb		IAmb		08 57 30.7	
	comp=Z,9.8nm,0.9s								
FUORN	Ofenpass-Fuorn	82.75	333	IAmb		IAmb		08 57 14.9	
	comp=Z,14nm,0.9s								
PPT	Papeete	82.86	123	LR		LR		09 32 28.7	
	comp=Z,253nm,19.2s,baz=336,slow=34								
PPT2	Papeete2	82.88	123	*e*LR		LR		09 23 12.0	
	comp=Z,124nm,20.2s								
WHTX	Lake Whitney,	82.96	52	P		P		08 57 12.2	-0.1
	baz=318								
WHTX	Lake Whitney,	82.96	52	IAmb		IAmb		08 57 31.2	
	comp=Z,18nm,1.2s								
F59A	Saint Guilaume	83.07	28	P		P		08 57 11.7	-0.9
	baz=331								
MIAR	Mount Ida	83.17	48	P		P		08 57 13.4	0.0
	baz=320								
TUE	Stuetta	83.18	333	IAmb		IAmb		08 57 16.2	
	comp=Z,14nm,1.0s								
H61A	Lyndonville	84.52	28	P		P		08 57 19.7	-0.4
	baz=332								
L56A	Greenwood	84.52	33	P		P		08 57 19.4	-0.8
	baz=328								
T47A	Sharon Grove	84.56	42	P		P		08 57 20.7	+0.3
Z41A	Richland Creek	84.57	48	P		P		08 57 20.7	+0.2
	baz=320								
O53A	New Philadelph	84.60	36	P		P		08 57 20.2	-0.4
	baz=326								
H62A	Milan	84.75	28	P		P		08 57 20.6	-0.7
	baz=332								
WVT	Waverly	84.89	43	P		P		08 57 22.2	+0.1
	baz=323								
WVT	Waverly	84.89	43	P		P		08 57 22.4	+0.3
WVT				pmax		pmax			
	comp=Z,11nm,1.1s								
WVT	Waverly	84.89	43	P		P		08 57 22.4	+0.3
WVT				IAmb		IAmb		08 57 37.6	
	comp=Z,11nm,1.1s								
U49A	Red Boiling Sp	85.58	41	P		P		08 57 24.2	-1.4
Q53A	Leroy	85.62	37	P		P		08 57 25.9	+0.2
	baz=326								
SSPA	Standing Stone	85.66	34	P		P		08 57 25.8	-0.1
	baz=328								
N57A	Milroy	85.70	34	P		P		08 57 25.9	-0.1
	baz=328								
O56A	Blue Knob Stat	85.70	35	P		P		08 57 25.7	-0.5
	baz=328								
P55A	Reedsville	85.81	36	P		P		08 57 26.4	-0.3
	baz=327								
Q54A	Coxs Mills	85.82	37	P		P		08 57 26.7	+0.1
	baz=326								
J63A	Strafford	85.92	28	P		P		08 57 28.0	+0.9
	baz=332								
O57A	Amberson	86.12	34	P		P		08 57 28.9	+0.7
	baz=328								
Q55A	Buckhannon	86.13	36	P		P		08 57 28.7	+0.4
	baz=327								
P56A	Dayton Farm, R	86.23	35	P		P		08 57 27.9	-0.8
	baz=328								
S53A	Williamson	86.32	38	P		P		08 57 29.2	-0.1
	baz=326								
R54A	Victor	86.41	37	P		P		08 57 29.4	-0.3
	baz=326								
TZTN	Tazewell	86.61	40	P		P		08 57 31.0	+0.4
	baz=325								
R55A	Marlinton	86.71	37	P		P		08 57 31.0	-0.2
	baz=327								
TKL	Tuckaleechee C	87.22	41	P		P		08 57 33.9	+0.3
	comp=Z,3.4nm,0.8s,baz=141,slow=2.6,SNR=2.5								
TKL	Tuckaleechee C	87.22	41	P		P		08 57 33.9	+0.3
TKL				pmax		pmax			
	comp=Z,13nm,1.1s								
TKL	Tuckaleechee C	87.22	41	IAmb		IAmb		08 57 51.3	
	comp=Z,13nm,1.1s								
TBI	Tubuai	87.37	126	*e*LR		LR		09 25 30.0	
	comp=Z,334nm,33.0s								
KEST	Kesra	92.67	328	LR		LR		09 43 31.3	
	comp=Z,252nm,19.9s,baz=338,slow=38								
ESDC	Sonseca Array	93.27	340	LR		LR		09 47 13.1	
	comp=Z,266nm,18.1s,baz=5.0,slow=40								
TORD	Torodi Ar. Bea	115.90	324	PKP		PKiKP		09 03 29.8	-0.5
	comp=Z,0.3nm,0.7s,baz=66,slow=1.0,SNR=4.1								
TORD				PP		PP		09 04 26.7	-6.4
	comp=Z,1.5nm,1.1s,baz=17,slow=6.3,SNR=3.6								
VNDA	Vanda	121.50	177	PKP		PKPdf		09 03 39.0	-0.2
	comp=Z,0.5nm,0.6s,baz=328,slow=6.3,SNR=8.1								
VNDA	Vanda	121.50	177	PKiKP		PKPdf		09 03 39.0	-0.2
MALB	Monte Alegre	133.12	33	*e*P		PKiKP		09 04 05.3	+0.9
SYO	Syowa Base	137.16	210	⇑epPKiKP		PKiKP		09 04 22.7	+12
AC05	El Transito	145.13	78			PKPdf		09 04 25.1	+0.3
GO04	Tololo Observa	145.54	80	PKPdf		PKPbc		09 04 26.3	+0.3
SDBA	SAO DESIDERIO	146.24	25	*e*P		PKPab		09 04 29.2	+0.5
BO02	Sierra Bellavi	147.99	87			PKPbc		09 04 33.3	+0.8
BDFB	Brasilia	148.14	33	PKPbc		PKPbc		09 04 33.7	+0.3
	comp=Z,1.6nm,0.4s,baz=180,slow=1.0,SNR=2.2								
BI02	San Fabin de	148.50	91			PKPbc		09 04 34.2	+0.5
SNAA	Sanae	149.15	197	PKPbc		PKPbc		09 04 34.9	+0.6
SNAA	Sanae	149.15	197	PKP2		PKiKP		09 04 35.3	-0.3
SNAA	Sanae	149.15	197			PKiKP		09 04 35.3	-0.3
PLCA	Paso Flores	150.60	98	PKPbc

ENAH	**Nanao**	**1.08 294**	⇓*i*P	**Pb**	**09 04 35.6**	**-0.1**
	baz=303							
ENAH			*i* S	**Sb**	**09 04 49.1**	**-0.5**
	baz=303							
TWC	**Suao**	**1.12 303**	⇓*i*P	**Pb**	**09 04 36.1**	**-0.4**
	baz=301							
TWC			*i* S	**Sb**	**09 04 49.6**	**-1.3**
	baz=301							
ENA	**Nanau**	**1.13 292**	⇑*i*P	**Pg**	**09 04 37.0**	**0.0**
	baz=301							
ENA			S	**Sb**	**09 04 50.5**	**-0.6**
	baz=301							
HWA	**Hwalien**	**1.18 269**	P	**Pn**	**09 04 37.5**	**+0.3**
	baz=267							
TWD	**Chiawan**	**1.19 274**	*i* P	**Pn**	**09 04 37.1**	**-0.3**
	baz=272							
TWD			*i* S	**Sb**	**09 04 51.5**	**-1.1**
	baz=272							
NACB	**Ninganchiao**	**1.20 278**	⇑P	**Pn**	**09 04 37.5**	**-0.1**
	baz=258							
NACB			*e*S	**Sn**	**09 04 53.7**	**+0.1**
	baz=258							
JIJ	**Ishigaki jima**	**1.20 72**	P	**Pn**	**09 04 37.2**	**-0.4**
JIJ			S	**Sb**	**09 04 53.3**	**+0.2**
EGS		**1.21 314**	*e*P	**Pg**	**09 04 38.3**	**-0.2**
	baz=327							
EGS			S	**Sn**	**09 04 52.9**	**-1.0**
	baz=327							
NTC	**Toucheng**	**1.28 311**	P	**Pg**	**09 04 40.2**	**+0.2**
	baz=310							
NTC			*i* S	**Sg**	**09 04 56.4**	**-0.2**
	baz=310							
ILA	**Ilan**	**1.29 306**	S	**Sg**	**09 04 57.4**	**+0.6**
	baz=305							
TWB1	**Santiao Chiao**	**1.29 321**	*i* P	**Pn**	**09 04 38.8**	**-0.1**
	baz=332							
TWB1			*i* S	**Sb**	**09 04 54.5**	**-1.3**
	baz=332							
ETLH	**Xiulin Townshi**	**1.30 279**	P	**Pn**	**09 04 39.4**	**+0.3**
	baz=261							
ETLH			S	**Sg**	**09 04 58.5**	**+1.3**
	baz=261							
TWE	**Neicheng**	**1.32 303**	⇓*i*P	**Pb**	**09 04 39.9**	**0.0**
	baz=302							
TWE			S	**Sg**	**09 04 57.0**	**-0.9**
	baz=302							
ESL	**Shilin**	**1.35 262**	*i* P	**Pn**	**09 04 39.2**	**-0.4**
	baz=260							
ESL			S	**Sn**	**09 04 56.9**	**-0.4**
	baz=260							
ENTT	**Nioudou**	**1.36 298**	*i* P	**Pb**	**09 04 40.7**	**+0.2**
	baz=297							
ENTT			S	**Sb**	**09 04 58.0**	**+0.2**
	baz=297							
TIPB	**Shuangxi**	**1.37 315**	⇑*i*P	**Pb**	**09 04 40.2**	**-0.4**
	baz=314							
TIPB			*i* S	**Sn**	**09 04 57.0**	**-0.8**
	baz=314							
EGFH	**Guangfu**	**1.38 256**	*e*P	**Pn**	**09 04 40.3**	**+0.2**
	baz=254							
EGFH			*e*S	**Sn**	**09 04 58.5**	**+0.3**
	baz=254							
NDT	**Datong Townshi**	**1.39 296**	*i* P	**Pb**	**09 04 41.3**	**+0.3**
	baz=294							
NDT			*i* S	**Sg**	**09 04 59.3**	**-0.8**
	baz=294							
JISG	**Ishigakijimahi**	**1.42 66**	P	**Pn**	**09 04 40.4**	**-0.2**
JISG			*e*S	**Sn**	**09 04 57.8**	**-1.3**
HGSD	**Ruisui**	**1.44 249**	P	**Pn**	**09 04 40.1**	**-0.7**
	baz=248							
HGSD			S	**Sn**	**09 04 58.4**	**-1.2**
	baz=248							
NNSB	**Datong**	**1.44 287**	P	**Pb**	**09 04 41.9**	**0.0**
	baz=286							
NNSB			S	**Sg**	**09 05 01.3**	**-0.4**
	baz=286							
NNSH	**Datong**	**1.44 287**	*i* P	**Pb**	**09 04 42.5**	**+0.7**
	baz=286							
NNSH			*e*S	**Sg**	**09 05 01.2**	**-0.4**
	baz=286							
NNS	**Nan Shan**	**1.45 288**	⇑*i*P	**Pb**	**09 04 42.0**	**-0.1**
	baz=286							
NNS			S	**Sn**	**09 04 59.3**	**-0.7**
	baz=286							
NWF	**Wu-fen Shan**	**1.46 317**	*i* P	**Pb**	**09 04 41.7**	**-0.6**
	baz=316							
NWF			*i* S	**Sb**	**09 05 00.1**	**-0.7**
	baz=316							
WFSB	**Wu-fen Shan**	**1.46 317**	P	**Pb**	**09 04 41.5**	**-0.7**
	baz=316							
WFSB			S	**Sb**	**09 05 00.0**	**-0.7**
	baz=316							
WHF	**Hehuan Shan**	**1.49 276**	⇑*i*P	**Pn**	**09 04 42.1**	**+0.1**
	baz=274							
WHF			S	**Sb**	**09 05 01.7**	**-0.3**
	baz=274							
EHY	**Hungye**	**1.52 251**	*i* P	**Pn**	**09 04 41.5**	**-0.6**
	baz=249							
EHY			S	**Sn**	**09 05 01.7**	**+0.1**
	baz=249							
FUSS	**Fushou**	**1.52 279**	P	**Pb**	**09 04 43.5**	**+0.1**
	baz=278							
FUSS			*e*S	**Sb**	**09 05 02.5**	**-0.2**
	baz=278							
YHNB	**Yeheng**	**1.53 296**	⇑P	**Pb**	**09 04 43.7**	**+0.3**
	baz=295							
YHNB			S	**Sb**	**09 05 03.4**	**+0.6**
	baz=295							
TWA	**Mucha**	**1.54 309**	*i* P	**Pb**	**09 04 43.1**	**-0.4**
	baz=323							
TWA			S	**Sb**	**09 05 02.0**	**-0.8**
	baz=323							
NSK	**Sanguang**	**1.55 296**	*i* P	**Pb**	**09 04 43.8**	**0.0**
	baz=295							
NSK			*i* S	**Sb**	**09 05 03.6**	**+0.3**
	baz=295							
OWD	**Renai**	**1.57 268**	P	**Pn**	**09 04 43.3**	**+0.5**
	baz=267							
OWD			S	**Sn**	**09 05 02.6**	**-0.4**
	baz=267							
CHGB	**Renai**	**1.57 272**	⇑P	**Pn**	**09 04 43.4**	**+0.5**
	baz=271							
CHGB			S	**Sb**	**09 05 04.2**	**+0.3**
	baz=271							
EYUL	**Yuli**	**1.58 246**	*e*P	**Pn**	**09 04 42.5**	**-0.4**
	baz=244							
EYUL			*e*S	**Sn**	**09 05 03.6**	**+0.4**
	baz=244							
YULB	**Yu-li**	**1.58 248**	P	**Pn**	**09 04 42.5**	**-0.4**
	baz=246							
YULB			S	**Sn**	**09 05 01.9**	**-1.3**
	baz=246							
TWT	**Tachien**	**1.58 279**	*i* P	**Pb**	**09 04 44.2**	**-0.2**
	baz=263							
TWT			S	**Sg**	**09 05 05.7**	**-0.7**
	baz=263							
TWF1	**Yuli**	**1.60 246**	P	**Pn**	**09 04 42.8**	**-0.3**
	baz=245							
TWF1			*i* S	**Sn**	**09 05 03.2**	**-0.3**
	baz=245							
TATO	**Taipei**	**1.60 307**	P	**Pb**	**09 04 44.1**	**-0.5**
	baz=322							
TATO			S	**Sn**	**09 05 03.3**	**-0.3**
	baz=322							
TDCB	**Techi**	**1.60 279**	P	**Pn**	**09 04 44.0**	**+0.8**
	baz=263							
TDCB			S	**Sb**	**09 05 04.5**	**-0.3**
	baz=263							
TAP1	**Taipei**	**1.61 310**	*e*P	**Pb**	**09 04 45.4**	**+0.6**
	baz=323							
TAP1			*e*S	**Sb**	**09 05 04.5**	**-0.6**
	baz=323							
VWDT	**VWDT**	**1.62 261**	P	**Pn**	**09 04 43.8**	**+0.4**
	baz=260							
VWDT			*e*S	**Sn**	**09 05 03.8**	**-0.3**
	baz=260							
TAP	**Taipei**	**1.63 310**	*e*P	**Pb**	**09 04 44.1**	**-0.9**
	baz=323							
TAP			S	**Sb**	**09 05 04.5**	**-1.0**
	baz=323							
NWRT	**Kuosheng**	**1.64 317**	*e*P	**Pn**	**09 04 44.0**	**+0.4**
	baz=316							
NWRT			*e*S	**Sn**	**09 05 03.6**	**-0.9**
	baz=316							
YM01	**YM01**	**1.65 314**	P	**Pb**	**09 04 45.0**	**-0.6**
	baz=327							
YM01			*e*S	**Sb**	**09 05 05.2**	**-1.0**
	baz=327							
CHKT	**Chengkung**	**1.66 237**	P	**Pn**	**09 04 43.1**	**-0.9**
	baz=221							
CHKT			S	**Sn**	**09 05 02.9**	**-2.3**
	baz=221							
YM11	**YM11**	**1.66 314**	P	**Pb**	**09 04 45.4**	**-0.3**
	baz=314							
YM10	**YM10**	**1.67 314**	P	**Pb**	**09 04 46.1**	**+0.3**
	baz=313							
YM05	**YM05**	**1.67 314**	P	**Pn**	**09 04 44.2**	**+0.1**
	baz=313							
YM05			S	**Sb**	**09 05 05.2**	**-1.5**
	baz=313							
YM08	**YM08**	**1.67 315**	*e*P	**Pb**	**09 04 44.7**	**-1.1**
	baz=314							
YM08			S	**Sb**	**09 05 05.4**	**-1.3**
	baz=314							
FULB	**Fuli**	**1.67 242**	P	**Pn**	**09 04 43.1**	**-1.0**
	baz=226							
FULB			S	**Sn**	**09 05 03.8**	**-1.6**
	baz=226							
YM04	**YM04**	**1.68 313**	P	**Pn**	**09 04 44.5**	**+0.2**
	baz=326							
YM04			S	**Sn**	**09 05 05.0**	**-0.6**
	baz=326							
YM03	**YM03**	**1.70 314**	P	**Pb**	**09 04 45.2**	**-1.0**
	baz=313							
YM03			*e*S	**Sn**	**09 05 05.7**	**-0.4**
	baz=313							
TWY	**Chenhua**	**1.73 317**	P	**Pn**	**09 04 45.1**	**+0.3**
	baz=317							
TWY			S	**Sn**	**09 05 05.8**	**-0.8**
	baz=317							
TWS1	**Kuangyinshan**	**1.73 309**	*e*P	**Pb**	**09 04 46.5**	**-0.2**
	baz=309							
NTST	**Danshui**	**1.75 312**	*e*P	**Pb**	**09 04 47.2**	**+0.2**
	baz=311							
JTJ	**Tarama**	**1.77 69**	P	**Pn**	**09 04 45.9**	**+0.5**
PCYT	**Pengchaiyu**	**1.78 335**	P	**Pb**	**09 04 47.0**	**-0.7**
	baz=335							
PCYT			S	**Sb**	**09 05 08.2**	**-1.7**
	baz=335							
EDH	**Donghe**	**1.78 235**	P	**Pn**	**09 04 44.9**	**-0.7**
	baz=234							
EDH			S	**Sn**	**09 05 05.7**	**-2.4**
	baz=234							
SSLB	**Suanglung**	**1.79 263**	P	**Pn**	**09 04 45.8**	**+0.1**
	baz=263							
WHP	**Taichung City**	**1.80 279**	P	**Pn**	**09 04 47.0**	**+1.1**
	baz=264							
WHP			S	**Sb**	**09 05 11.2**	**+0.8**
	baz=264							
LIOB	**Emei**	**1.82 291**	P	**Pb**	**09 04 48.1**	**-0.3**
	baz=290							
NCU	**National Centr**	**1.82 302**	P	**Pb**	**09 04 47.6**	**-0.8**
	baz=318							
NCU			S	**Sb**	**09 05 11.3**	**+0.2**
	baz=318							
SMLT	**Sun Moon Lake**	**1.82 267**	*i* P	**Pn**	**09 04 47.0**	**+0.7**
	baz=265							
SMLT			S	**Sn**	**09 05 09.8**	**+0.5**
	baz=265							
NCUH	**Zhongli**	**1.82 302**	*e*P	**Pb**	**09 04 48.4**	**0.0**
	baz=318							
NSTT	**Nanjuang**	**1.83 290**	P	**Pb**	**09 04 48.6**	**+0.1**
	baz=289							
NSTT			S	**Sb**	**09 05 10.9**	**-0.4**
	baz=289							
LDUT	**Ludao**	**1.86 225**	P	**Pn**	**09 04 45.6**	**-1.1**
	baz=223							
LDUT			S	**Sn**	**09 05 07.3**	**-2.7**
	baz=223							
TYC	**Yuchr**	**1.86 267**	P	**Pn**	**09 04 47.4**	**+0.7**
	baz=266							
TYC			S	**Sn**	**09 05 10.7**	**+0.7**
	baz=266							
WHYT	**Xinyi Township**	**1.89 261**	P	**Pn**	**09 04 48.1**	**+1.0**
	baz=246							
WHYT			*e*S	**Sb**	**09 05 13.0**	**0.0**
	baz=246							
ELDTW	**Lidau**	**1.90 245**	P	**Pn**	**09 04 47.0**	**-0.4**
	baz=244							
ELDTW			S	**Sn**	**09 05 10.5**	**-0.7**
	baz=244							
SBCB	**Hsinchu**	**1.90 295**	*e*P	**Pb**	**09 04 49.8**	**0.0**
	baz=294							
HSN	**Hsinchu**	**1.92 295**	*e*P	**Pb**	**09 04 49.8**	**-0.3**
	baz=295							
HSN			*e*S	**Sb**	**09 05 13.7**	**-0.2**
	baz=295							
LONT	**Longtian**	**1.95 236**	*e*P	**Pn**	**09 04 47.7**	**-0.3**
	baz=224							
LONT			S	**Sn**	**09 05 10.9**	**-1.3**
	baz=224							
TWQ1	**Liyutan**	**1.96 280**	P	**Pb**	**09 04 50.4**	**-0.3**
	baz=266							
TWQ1			S	**Sb**	**09 05 15.3**	**+0.2**
	baz=266							
ALS	**Alishan**	**1.97 256**	*i* P	**Pn**	**09 04 49.5**	**+1.0**
	baz=255							
NSY	**Sanyi**	**1.99 282**	P	**Pb**	**09 04 51.6**	**+0.4**
	baz=281							
NSY			*e*S	**Sb**	**09 05 16.7**	**+0.9**
	baz=281							
NMLH	**Miaoli**	**1.99 286**	P	**Pb**	**09 04 52.1**	**+0.9**
	baz=285							
NMLH			*e*S	**Sb**	**09 05 16.9**	**+1.1**
	baz=285							
WJS	**Zhushan**	**1.99 265**	*e*P	**Pn**	**09 04 50.0**	**+1.5**
	baz=264							
WJS			*e*S	**Sb**	**09 05 14.6**	**-1.2**
	baz=264							
WNT	**Mingjian**	**2.02 267**	*e*P	**Pb**	**09 04 51.1**	**-0.6**
	baz=266							
WNT			*e*S	**Sb**	**09 05 18.1**	**+1.3**
	baz=266							
TCU	**Taichung**	**2.03 274**	*e*P	**Pn**	**09 04 50.4**	**+1.4**
	baz=274							
TTN	**Taitung**	**2.03 232**	*e*P	**Pn**	**09 04 50.0**	**+1.0**
	baz=231							
TTN			*e*S	**Sn**	**09 05 13.7**	**-0.4**
	baz=231							
TWGBT	**Beinan**	**2.04 235**	P	**Pn**	**09 04 48.8**	**-0.3**
	baz=224							
TWGBT			S	**Sn**	**09 05 13.0**	**-1.5**
	baz=224							
PTSB	**Yuanli**	**2.04 283**	*e*P	**Pb**	**09 04 50.9**	**-1.2**
	baz=282							
TWG	**Pinlang**	**2.04 235**	P	**Pn**	**09 04 48.8**	**-0.4**
	baz=224							
TWG			S	**Sn**	**09 05 13.5**	**-1.1**
	baz=224							
CHN5	**Tsauling**	**2.07 259**	P	**Pb**	**09 04 51.6**	**-1.0**
	baz=246							
CHN5			S	**Sb**	**09 05 18.8**	**+0.6**
	baz=246							
WDJ	**Dajia District**	**2.08 280**	*e*P	**Pb**	**09 04 52.1**	**-0.7**
	baz=279							
WCHH	**Zhanghua**	**2.13 272**	P	**Pb**	**09 04 53.0**	**-0.6**
	baz=271							
WCHH			*e*S	**Sb**	**09 05 20.4**	**+0.4**
	baz=271							
WGK	**Gukeng**	**2.15 262**	P	**Pb**	**09 04 53.0**	**-1.1**
	baz=261							
WDLH	**Douliu**	**2.18 262**	*e*P	**Pn**	**09 04 53.0**	**+1.9**
	baz=262							
TPUB	**Ta-pu**	**2.19 252**	P	**Pb**	**09 04 54.2**	**-0.4**
	baz=240							
TPUB			*e*S	**Sn**	**09 05 19.2**	**+1.1**
	baz=240							
CHN4	**Tsaushan**	**2.20 253**	P	**Pb**	**09 04 54.2**	**-0.7**
	baz=240							
CHN4			S	**Sb**	**09 05 20.7**	**-1.3**
	baz=240							
WTP	**Ta-pu**	**2.22 251**	P	**Pn**	**09 04 53.8**	**+2.1**
	baz=241							
WTP			S	**Sb**	**09 05 21.3**	**-1.2**
	baz=241							
ECL	**Taimali**	**2.27 232**	P	**Pn**	**09 04 51.5**	**-0.8**
	baz=231							
ECL			S	**Sn**	**09 05 17.6**	**-2.4**
	baz=231							
SLGT	**Liugui**	**2.29 244**	P	**Pn**	**09 04 53.9**	**+1.2**
	baz=235							
SLGT			*e*S	**Sn**	**09 05 22.0**	**+1.3**
	baz=235							
SGST	**Jiashian**	**2.31 247**	P	**Pn**	**09 04 55.0**	**+2.2**
	baz=234							
SGST			S	**Sn**	**09 05 21.8**	**+0.7**
	baz=234							
WTK	**Tuku**	**2.31 263**	*e*P	**Pb**	**09 04 55.4**	**-1.3**
	baz=262							
WTK			*e*S	**Sb**	**09 05 24.5**	**-0.6**
	baz=262							
LAY	**Lan-yu**	**2.31 212**	P	**Pn**	**09 04 53.2**	**+0.3**
	baz=211							
LAY			S	**Sn**	**09 05 18.3**	**-2.9**
	baz=211							
CHN1	**Nanshi**	**2.31 250**	*i* P	**Pn**	**09 04 55.4**	**+2.4**
	baz=249							
CHN1			*i* S	**Sb**	**09 05 24.4**	**-0.9**
	baz=249							
CHY	**Chiayi**	**2.31 258**	*e*P	**Pb**	**09 04 55.5**	**-1.2**
	baz=257							
CHY			*e*S	**Sn**	**09 05 23.4**	**+2.2**
	baz=257							
RLNB	**Erlin**	**2.32 268**	P	**Pb**	**09 04 56.2**	**-0.6**
	baz=267							
RLNB			*e*S	**Sb**	**09 05 24.3**	**-1.0**
	baz=267							
TWK	**Hsinying**	**2.32 252**	*i* P	**Pb**	**09 04 55.8**	**-1.1**
	baz=251							
TWK			*i* S	**Sb**	**09 05 24.1**	**-1.4**
	baz=251							
SNST	**Tainan City**	**2.33 251**	P	**Pn**	**09 04 55.5**	**+2.4**
	baz=250							
SNST			S	**Sb**	**09 05 24.8**	**-0.9**
	baz=250							
JMJ	**Miyako jima 2**	**2.33 69**	*e*P	**Pn**	**09 04 54.8**	**+1.6**
	baz=69							
SSD	**Sandimen**	**2.42 239**	*e*P	**Pn**	**09 04 56.9**	**+2.4**
	baz=230							
TSMG	**Majia**	**2.44 238**	*e*P	**Pn**	**09 04 56.9**	**+2.3**
	baz=230							
TSMG			*e*S	**Sn**	**09 05 26.1**	**+1.9**
	baz=230							
TAW	**Tawu**	**2.46 229**	P	**Pn**	**09 04 55.0**	**+0.1**
	baz=239							
TAW			*e*S	**Sn**	**09 05 24.1**	**-0.8**
	baz=239							
SCST	**Cishan**	**2.47 244**	P	**Pn**	**09 04 56.4**	**+1.4**
	baz=233							
WSF	**Szhu**	**2.47 262**	*e*P	**Pn**	**09 04 57.6**	**+2.5**
	baz=261							
WSF			*e*S	**Sn**	**09 05 27.1**	**+2.0**
	baz=261							
EAST	**Anshuo**	**2.48 230**	P	**Pn**	**09 04 54.6**	**-0.6**
	baz=240							
EAST			S	**Sn**	**09 05 24.3**	**-1.0**
	baz=240							
ICHU	**Yijhu**	**2.48 256**	*e*P	**Pn**	**09 04 57.4**	**+2.2**
	baz=255							
CHN3	**Shinhua**	**2.50 249**	*e*P	**Pb**	**09 05 00.1**	**+0.3**
	baz=248							
CHN3			*e*S	**Sb**	**09 05 31.0**	**+0.6**
	baz=248							
MASBT	**Mashibuluo**	**2.50 237**	P	**Pn**	**09 04 56.2**	**+0.8**
	baz=228							
MASBT			*e*S	**Sn**	**09 05 25.0**	**-0.7**
	baz=228							
CHN8	**Yiju**	**2.54 256**	*e*S	**Sn**	**09 05 28.9**	**+2.1**
	baz=255							
TWM1	**Shoushan**	**2.55 243**	*e*P	**Pb**	**09 05 00.3**	**-0.5**
	baz=243							
SCZT	**Fangliau**	**2.65 233**	*e*P	**Pn**	**09 04 58.5**	**+1.0**
	baz=232							
KSRS	**Korea Array**	**14.08 17**	P	**P**	**09 07 42.4**	**+0.4**
	0.6nm,0.3s,baz=198,slow=12,SNR=24							
USRK	**Ussuriysk Ar.**	**21.48 18**	P	**P**	**09 09 03.3**	**-0.1**
	1.7nm,0.6s,baz=203,slow=9.1,SNR=5.4							
MKAR	**Makanchi Array**	**39.55 315**	P	**P**	**09 11 45.7**	**-0.1**
	0.2nm,0.4s,baz=115,slow=9.7,SNR=2.1							
WRA	**Warramunga Arr**	**45.09 165**	P	**P**	**09 12 32.0**	**+0.9**
	0.9nm,0.8s,baz=347,slow=8.8,SNR=8.5							
ASAR	**Alice Springs**	**48.58 166**	P	**P**	**09 12 59.1**	**+0.7**
	1.0nm,1.0s,baz=340,slow=6.5,SNR=5.7							

SOME ***15*** *09:04:59.3, 40.92N×69.85E, h0km*
NNC ***15*** *09:05:02.0±1.9, 40.99N×69.83E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=13.5km s-min=8.4km az=40.0
KRNET ***15*** *09:05:04.6±0.1, 40.82N×69.69E, mb3.0*
ISC 15 09:05:01.0±1.5, 41.00N±0.03×69.71E±0.05, h9km±12km,
n25, σ2s06/43, 9C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.17**	**12**	*e*P		**Pb**	**09 05 23.6**	**+0.1**
	61nm,0.3s							
IUG				*e*S		**Sn**	**09 05 40.1**	**+0.2**
	122nm,0.4s							
IUG	**Iuzhnay**	**1.17**	**12**	P		**Pb**	**09 05 23.6**	**+0.1**
	61nm,0.3s							
IUG				S		**Sn**	**09 05 40.1**	**+0.2**
	122nm,0.4s							
BTK	**Batken**	**1.26**	**138**	⇓*e*P		**Pg**	**09 05 26.6**	**+1.4**
	baz=31							
BTK				⇓*e*S		**Sn**	**09 05 42.4**	**+0.4**
	baz=31							
BRLS	**Boroldaу**	**2.03**	**3**	*e*P		**Pn**	**09 05 34.2**	**-1.2**
	20nm,0.3s							
BRLS				*e*S		**Sn**	**09 06 00.2**	**-0.8**
	86nm,0.4s							
BRLS	**Boroldaу**	**2.03**	**3**	Pg		**Pn**	**09 05 34.2**	**-1.2**
	20nm,0.3s							
BRLS				Lg		Lg	09 06 00.2	
	86nm,0.4s							
GAR	**Garm**	**2.05**	**167**	⇓*i*P		**Pb**	**09 05 39.4**	**+1.0**
	baz=65							
GAR				⇓*i*S		**Sb**	**09 06 04.9**	**+0.8**
	baz=65							
KK31	**Karatay Array**	**2.19**	**16**	⇓Pn		**Pb**	**09 05 41.4**	**+0.7**
	4.1nm,0.5s,baz=198,slow=16,SNR=32							
KK31				⇑Sn		**Sg**	**09 06 11.0**	**-0.2**
	8.3nm,0.3s,baz=202,slow=28,SNR=5.9							
CHGR	**Chuyangaron**	**2.38**	**190**	⇑*i*P		**Pb**	**09 05 44.0**	**0.0**
	baz=91							
CHGR				⇑*i*S		**Sb**	**09 06 13.1**	**-0.4**
	baz=91							
MNAS	**Manas**	**2.57**	**54**	⇓*i*P		**Pg**	**09 05 50.8**	**+0.7**
	baz=51							
MNAS				⇓*i*S		**Sg**	**09 06 24.8**	**+1.4**
	baz=51							
MRKS	**Merke**	**3.15**	**55**	*e*P		**Pb**	**09 05 57.7**	**+0.4**
	5.1nm,0.6s							
MRKS				*e*S		**Sg**	**09 06 39.7**	**-2.5**
	7.2nm,0.5s							
MRKS	**Merke**	**3.15**	**55**	Pg		**Pb**	**09 05 57.7**	**+0.4**
	5.1nm,0.6s							
MRKS				Lg		Lg	09 06 39.7	
	7.2nm,0.5s							
AML	**Almayashu**	**3.20**	**68**	⇑*i*P		**Pb**	**09 05 59.2**	**+1.0**
	baz=65							
AML				⇑*i*S		**Sb**	**09 06 38.8**	**+1.4**
	baz=65							
EKS2	**Erkin-Say**	**3.46**	**60**	⇑*i*P		**Pb**	**09 06 03.2**	**+0.6**
	baz=58							
EKS2				⇑*i*S		**Sb**	**09 06 45.9**	**+1.1**
	baz=58							
ARLS	**Aral**	**3.57**	**75**	⇑*i*P		**Pb**	**09 06 04.3**	**-0.1**
	baz=72							
ARLS				⇑*i*S		**Sb**	**09 06 48.1**	**+0.1**
	baz=72							
UCH	**Uchtor**	**3.81**	**70**	⇓*i*P		**Pb**	**09 06 07.6**	**-1.0**
	baz=67							
UCH				⇓*i*S		**Sb**	**09 06 53.7**	**-1.2**
	baz=67							
AAK	**Ala-Archa**	**3.93**	**64**	⇓*i*P		**Pb**	**09 06 09.5**	**-1.1**
	baz=62							
AAK				⇓*i*S		**Sb**	**09 06 57.5**	**-0.8**
	baz=62							
SGDS	**Sogindy**	**4.40**	**55**	Pg		**Pb**	**09 06 20.2**	**+1.8**
	5.7nm,0.8s							
SGDS				Lg		Lg	09 07 18.4	
	5.4nm,0.7s							
KST	**Kastek**	**5.09**	**64**	*e*P		**Pb**	**09 06 33.3**	**+3.1**
	3.9nm,1.1s							
KST				*e*S		**Sg**	**09 07 41.2**	**-3.1**
	5.4nm,0.6s							
KST	**Kastek**	**5.09**	**64**	Pg		**Pb**	**09 06 33.3**	**+3.1**
	3.9nm,1.1s							
KST				Lg		Lg	09 07 41.2	
	5.4nm,0.6s							
BTLS	**Baital**	**5.14**	**37**	*e*P		**Pb**	**09 06 34.9**	**+3.8**
	1.6nm,0.6s							
BTLS				*e*S		**Sg**	**09 07 43.9**	**-2.1**
	4.1nm,0.7s							

BTLS	**Baital**	**5.14**	**37**	Pg	**Pb**	**09 06 34.8**	**+3.8**
	1.6nm,0.6s						
BTLS				Lg	Lg	09 07 43.9	
	4.1nm,0.7s						
KRBS	**Karabastau**	**5.18**	**57**	*e*P	**Pb**	**09 06 34.6**	**+2.9**
	1.7nm,0.7s						
KRBS				*e*S	**Sg**	**09 07 43.4**	**-3.8**
	3.1nm,0.5s						
KRBS	**Karabastau**	**5.18**	**57**	Pg	**Pb**	**09 06 34.6**	**+2.9**
	1.7nm,0.7s						
KRBS				Lg	Lg	09 07 43.4	
	3.1nm,0.5s						
KTBS	**Karatobe**	**5.83**	**60**	*e*P	**Pb**	**09 06 46.7**	**+3.8**
	1.3nm,0.6s						
KTBS				*e*S	**Sg**	**09 08 04.2**	**-4.0**
	6.9nm,0.6s						
KTBS	**Karatobe**	**5.83**	**60**	Pg	**Pb**	**09 06 46.7**	**+3.8**
	1.3nm,0.6s						
KTBS				Lg	Lg	09 08 04.2	
	6.9nm,0.6s						

*NEIC **15** 09:14:49.9±1.3, 13°.6S±0°.1×112°.08W±0°.03, h10km±2km, mb4.8/133, Error ellipse: s-maj=22.1km s-min=3.9km az=190.0*
*IDC **15** 09:14:54.6±1.1, 12°.98S×111°.40W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.3/22, mbtmp4.1/9, MS4.1/12, Ms1 4.1/12, ms1mx3.9/26, Error ellipse: s-maj=38.5km s-min=19.1km az=55.0*

ISC 15 09:14:50.1±0.6, 13°.6S±0°.1×112°.1W±0°.1, h10km, n189, σ1§12/150, mb4.7/67, MS4.1/11, 1C, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.74**	**169**	LR	LR	09 21 58.4	
	comp=Z,912nm,18.9s,baz=356,slow=30						
PTCN	**Pitcairn Islan**	**20.43**	**233**	P	**P**	**09 19 25.1**	**-2.7**
PAYG	**Puerto Ayora**	**25.13**	**61**	P	**P**	**09 20 15.7**	**+0.1**
TLIG	**Tlapa**	**33.70**	**24**	P	**P**	**09 21 32.0**	**+0.2**
TLIG				IAmb	IAmb	09 21 34.7	
	comp=Z,15nm,1.3s						
NNA	**Nana**	**34.43**	**91**	P	**P**	**09 21 38.4**	**+0.2**
NNA				IAmb	IAmb	09 21 41.2	
	comp=Z,28nm,1.4s						
MTO3	**Montecristo**	**35.77**	**40**	P	**P**	**09 21 50.2**	**+0.2**
MTO3				IAmb	IAmb	09 21 52.2	
	comp=Z,14nm,1.0s						
JTS	**Las Juntas de**	**35.90**	**50**	P	**P**	**09 21 51.3**	**+0.5**
JTS				IAmb	IAmb	09 21 55.9	
	comp=Z,16nm,1.3s						
ESQI	**Esquipulas**	**35.91**	**40**	P	**P**	**09 21 51.2**	**+0.2**
OTAV	**Otavalo**	**36.07**	**70**	P	**P**	**09 21 50.7**	**-2.2**
OTAV	**Otavalo**	**36.07**	**70**	*e*P	**P**	**09 21 48.7**	**-4.2**
H03N2	**Juan Fernandez**	**36.07**	**129**	T	T	10 00 06.1	
	baz=300,slow=77,SNR=8.4						
H03N3	**Juan Fernandez**	**36.08**	**129**	T	T	10 00 05.8	
	baz=300,slow=77,SNR=7.4						
H03N1	**Juan Fernandez**	**36.09**	**129**	T	T	10 00 06.0	
	baz=300,slow=77,SNR=7.0						
ACON	**Acoyapa**	**36.85**	**48**	P	**P**	**09 21 57.2**	**-1.7**
ACON				IAmb	IAmb	09 22 03.5	
	comp=Z,19nm,1.2s						
TGUH	**Tegucigalpa,Un**	**36.86**	**43**	P	**P**	**09 21 59.5**	**+0.3**
TGUH				IAmb	IAmb	09 22 01.6	
	comp=Z,24nm,1.1s						
MATN	**Matagalpa**	**36.97**	**46**	P	**P**	**09 21 58.7**	**-1.3**
MATN				IAmb	IAmb	09 22 07.8	
	comp=Z,26nm,1.5s						
ZAIG	**Zacatecas**	**37.30**	**15**	P	**P**	**09 22 04.7**	**+1.7**
PETF	**Flores**	**37.42**	**37**	P	**P**	**09 22 04.9**	**+1.2**
ESPN	**Las Esperanzas**	**37.63**	**48**	P	**P**	**09 22 06.3**	**+0.8**
ESPN				IAmb	IAmb	09 22 13.2	
	comp=Z,17nm,1.0s						
CZSB	**Cruzeiro do Su**	**39.13**	**86**	*e*P	**P**	**09 22 16.0**	**-2.3**
AP01	**Chacalluta**	**40.39**	**102**	P	**P**	**09 22 27.0**	**-1.7**
PB07	**IPOC Station P**	**40.96**	**108**	P	**P**	**09 22 34.1**	**+0.5**
PB07				IAmb	IAmb	09 22 42.1	
	comp=Z,12nm,1.0s						
TEIG	**Tepich**	**40.96**	**35**	P	**P**	**09 22 31.6**	**-1.7**
	comp=Z,9.5nm,0.8s,baz=264,slow=10,SNR=3.9						
TEIG	**Tepich**	**40.96**	**35**	P	**P**	**09 22 32.7**	**-0.6**
PB11	**IPOC Station P**	**41.07**	**105**	P	**P**	**09 22 34.3**	**-0.2**
MNMC	**Minye Minye**	**41.11**	**104**	P	**P**	**09 22 34.6**	**-0.3**
PB16	**IPOC Station P**	**41.18**	**102**	P	**P**	**09 22 34.2**	**-1.7**
PB01	**IPOC Station P**	**41.28**	**106**	P	**P**	**09 22 37.5**	**+1.3**
GO02	**Mina Guanaco**	**41.59**	**113**	P	**P**	**09 22 37.6**	**-1.3**
LVC	**Limon Verde**	**41.93**	**109**	P	**P**	**09 22 43.8**	**+2.1**
	comp=Z,1.9nm,0.7s,baz=278,slow=9.4,SNR=3.6						
LVC	**Limon Verde**	**41.93**	**109**	*e*P	**P**	**09 22 44.2**	**+2.4**
AC02	**Maricunga**	**42.25**	**115**	P	**P**	**09 22 44.1**	**-0.4**
LPAZ	**La Paz**	**42.54**	**99**	P	**P**	**09 22 48.5**	**+1.4**
	comp=Z,2.1nm,0.6s,baz=270,slow=5.6,SNR=12						
LPAZ				LR	LR	09 36 25.1	
	comp=Z,162nm,21.0s,baz=260,slow=31						
LPAZ	**La Paz**	**42.54**	**99**	P	**P**	**09 22 45.2**	**-1.8**
LPAZ				IAmb	IAmb	09 23 00.5	
	comp=Z,20nm,1.4s						
LPAZ	**La Paz**	**42.54**	**99**	*e*P	**P**	**09 22 47.7**	**+0.6**
TX31	**Lajitas Ar. Si**	**43.42**	**11**	P	**P**	**09 22 53.8**	**+0.4**
TX31				IAmb	IAmb	09 22 55.9	
	comp=Z,29nm,1.4s						
TX32	**Lajitas Array**	**43.42**	**11**	P	**P**	**09 22 54.0**	**+0.6**
TXAR	**Lajitas Array**	**43.42**	**11**	P	**P**	**09 22 54.4**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=186,slow=10,SNR=16						
TXAR				PcP	**PcP**	**09 24 45.6**	**+3.8**
	comp=Z,0.5nm,0.9s,baz=184,slow=4.1,SNR=2.9						
TXAR				LR	LR	09 37 34.1	
	comp=Z,228nm,18.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**43.42**	**11**	P	**P**	**09 22 53.3**	**-0.1**
833A	**Chaparral WMA,**	**43.43**	**16**	P	**P**	**09 22 52.6**	**-0.7**
SFX	**San Felipe**	**44.42**	**357**	P	**P**	**09 23 01.9**	**+0.7**
SPX	**San Pedro Mart**	**44.46**	**356**	P	**P**	**09 23 01.6**	**-0.4**
SPX				IAmb	IAmb	09 23 10.0	
	comp=Z,9.0nm,1.1s						
ETMB	**Extrema**	**45.06**	**90**	*e*P	**P**	**09 23 05.5**	**-1.2**
PLCA	**Paso Flores**	**45.22**	**135**	P	P	09 23 13.2	+5.4
	comp=Z,4.4nm,0.9s,baz=292,slow=9.0,SNR=2.8						
PLCA				LR	LR	09 37 26.0	
	comp=Z,351nm,18.9s,baz=318,slow=30						
PLCA	**Paso Flores**	**45.22**	**135**	*e*P	P	09 23 20.9	+13
JCT	**Junction City**	**45.37**	**15**	P	**P**	**09 23 08.9**	**0.0**
MNTX	**Cornudas Mount**	**45.47**	**8**	P	**P**	**09 23 10.3**	**+0.7**
MNTX				IAmb	IAmb	09 23 11.6	
	comp=Z,15nm,1.2s						
TUC	**Tucson**	**45.63**	**2**	P	**P**	**09 23 11.3**	**+0.4**
121A	**Cookes Peak, D**	**46.02**	**5**	P	**P**	**09 23 12.9**	**-1.3**
121A				IAmb	IAmb	09 23 16.8	
	comp=Z,12nm,1.2s						
HKT	**Hockley**	**46.02**	**20**	P	**P**	**09 23 15.1**	**+1.2**
HKT				IAmb	IAmb	09 23 21.7	
	comp=Z,15nm,1.4s						
435B	**Jarrell**	**46.26**	**17**	P	**P**	**09 23 16.5**	**+0.6**
SDV	**Santo Domingo**	**46.84**	**64**	P	**P**	**09 23 21.4**	**+0.4**
SDV	**Santo Domingo**	**46.84**	**64**	*e*P	**P**	**09 23 20.2**	**-0.7**
CPRX	**Cap Rock**	**47.00**	**9**	P	**P**	**09 23 21.4**	**-0.4**
PFO	**Pinyon Flats O**	**47.09**	**355**	P	**P**	**09 23 22.5**	**0.0**
PFO				IAmb	IAmb	09 23 30.8	
	comp=Z,8.3nm,1.4s						
Y14A	**Wickenburg**	**47.24**	**359**	P	**P**	**09 23 24.9**	**+1.3**
WHTX	**Lake Whitney,**	**47.43**	**17**	P	**P**	**09 23 25.2**	**+0.2**
WHTX				IAmb	IAmb	09 23 26.4	
	comp=Z,8.7nm,0.9s						
ABTX	**Abilene, Hawle**	**47.45**	**14**	P	**P**	**09 23 25.7**	**+0.4**
ABTX				IAmb	IAmb	09 23 32.8	
	comp=Z,17nm,1.2s						
LENM	**Lemitar**	**47.72**	**6**	P	**P**	**09 23 28.0**	**+0.6**
X16A	**Lo Mia Camp, P**	**47.72**	**1**	IAmb	IAmb	09 23 36.3	
	comp=Z,7.7nm,1.4s						
PASC	**Pasadena Art C**	**47.82**	**353**	P	**P**	**09 23 28.1**	**+0.1**
PASC				IAmb	IAmb	09 23 30.8	
	comp=Z,9.6nm,1.1s						
MWC	**Mount Wilson**	**47.86**	**353**	IAmb	IAmb	09 23 36.8	
	comp=Z,11nm,0.9s						
NATX	**Nacogdoches**	**48.08**	**20**	P	**P**	**09 23 30.9**	**+0.9**
SAML	**Samuel**	**48.16**	**90**	P	**P**	**09 23 30.1**	**-0.9**
SAML	**Samuel**	**48.16**	**90**	*e*P	**P**	**09 23 30.6**	**-0.4**
W13A	**Hualapai Mount**	**48.42**	**358**	IAmb	IAmb	09 23 41.3	
	comp=Z,5.3nm,0.8s						
ANMO	**Albuquerque**	**48.54**	**6**	P	**P**	**09 23 34.1**	**+0.3**
GSC	**Goldstone, Bar**	**48.80**	**355**	IAmb	IAmb	09 23 43.9	
	comp=Z,5.4nm,0.9s						
AMTX	**Amarillo**	**49.19**	**11**	P	**P**	**09 23 39.6**	**+0.9**
AMTX				IAmb	IAmb	09 23 46.5	
	comp=Z,8.9nm,1.1s						
SIV	**San Ignacio**	**49.33**	**100**	LR	LR	09 40 44.4	
	comp=Z,151nm,20.5s,baz=287,slow=32						
SHPR	**Sheep Range**	**49.88**	**357**	IAmb	IAmb	09 23 52.6	
	comp=Z,10nm,1.0s						
VILB	**Vilhena**	**50.46**	**96**	*e*P	**P**	**09 23 49.1**	**+0.4**
FNO	**Franklin**	**50.52**	**16**	P	**P**	**09 23 49.3**	**+0.6**
W35A	**Tecumseh**	**50.56**	**16**	P	**P**	**09 23 48.8**	**-0.2**
MVCO	**Mesa Verde**	**50.62**	**4**	IAmb	IAmb	09 23 58.2	
	comp=Z,18nm,1.5s						
OKCFA	**Oklahoma City**	**50.66**	**16**	P	**P**	**09 23 50.3**	**+0.6**
PRN	**Pahroc Range**	**50.77**	**357**	IAmb	IAmb	09 23 54.0	
	comp=Z,13nm,1.4s						
BCOK	**Bluff Creek, N**	**50.84**	**15**	P	**P**	**09 23 51.3**	**+0.2**
CCUT	**Cedar City**	**50.85**	**359**	P	**P**	**09 23 52.3**	**+0.9**
T25A	**Trinidad**	**50.95**	**8**	IAmb	IAmb	09 23 54.3	
	comp=Z,9.0nm,1.2s						
MIAR	**Mount Ida**	**50.99**	**20**	IAmb	IAmb	09 23 53.3	
	comp=Z,7.4nm,0.8s						
PTLB	**Pontes e Lacer**	**51.23**	**99**	*e*P	**P**	**09 23 55.2**	**+0.8**
SDCO	**Great Sand Dun**	**51.41**	**7**	P	**P**	**09 23 56.1**	**+0.4**
SDCO				IAmb	IAmb	09 23 57.9	
	comp=Z,12nm,1.2s						
PV13	**Radium Mtn., P**	**51.54**	**3**	P	**P**	**09 23 57.1**	**+0.5**
CROK	**Carrier**	**51.56**	**15**	P	**P**	**09 23 56.8**	**+0.3**
QUOK	**Quay**	**51.57**	**16**	P	**P**	**09 23 56.2**	**-0.4**
QUOK				IAmb	IAmb	09 23 59.0	
	comp=Z,13nm,1.2s						
TUL1	**Leonard**	**51.57**	**17**	P	**P**	**09 23 56.4**	**-0.1**
TUL1				IAmb	IAmb	09 23 57.3	
	comp=Z,13nm,0.9s						
TPH	**Tonopah**	**51.59**	**355**	P	**P**	**09 23 57.5**	**+0.6**
PV02	**Paradox Valley**	**51.59**	**3**	P	**P**	**09 23 57.5**	**+0.5**
R11A	**Troy Canyon, C**	**51.74**	**357**	P	**P**	**09 23 57.8**	**-0.2**
PV14	**Lion Creek, Pa**	**51.74**	**3**	P	**P**	**09 23 57.9**	**-0.3**
PV22	**Blue Mesa, Par**	**51.92**	**3**	P	**P**	**09 23 59.9**	**+0.5**
KAN14	**Manchester OK**	**51.99**	**14**	P	**P**	**09 24 00.3**	**+0.6**
NV11	**Mina Array Sit**	**52.03**	**354**	P	**P**	**09 24 01.5**	**+1.4**
NV11				IAmb	IAmb	09 24 09.2	
	comp=Z,12nm,1.3s						
NVAR	**Mina Array Bea**	**52.04**	**354**	P	**P**	**09 24 02.4**	**+2.1**
	comp=Z,3.9nm,0.8s,baz=177,slow=11,SNR=16						
NVAR				LR	LR	09 41 02.0	
	comp=Z,212nm,18.5s,baz=101,slow=30						
NVAR	**Mina Array Bea**	**52.04**	**354**	P	**P**	**09 24 01.1**	**+0.8**
KAN10	**Anthony SW Sta**	**52.12**	**14**	P	**P**	**09 24 00.8**	**+0.2**
KAN13	**South Haven SW**	**52.16**	**15**	P	**P**	**09 24 00.9**	**-0.1**
Q16A	**Castle Valley**	**52.21**	**1**	P	**P**	**09 24 02.7**	**+1.2**
SRU	**San Rafael Swe**	**52.42**	**2**		**P**	**09 24 03.0**	**0.0**
KVN	**Kaiserville**	**52.64**	**354**	P	**P**	**09 24 05.5**	**+0.9**
CPUP	**Villa Florida**	**52.70**	**113**	P	**P**	**09 24 06.9**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=282,slow=8.1,SNR=2.9						
CPUP				LR	LR	09 42 13.2	
	comp=Z,122nm,20.5s,baz=244,slow=31						
CPUP	**Villa Florida**	**52.70**	**113**	P	**P**	**09 24 04.8**	**-0.5**
CPUP	**Villa Florida**	**52.70**	**113**	*e*P	P	09 24 11.8	+6.5
P17A	**Butcher Ranch,**	**52.78**	**1**	P	**P**	**09 24 06.4**	**+0.8**
U40A	**Yellville**	**52.88**	**20**	IAmb	IAmb	09 24 07.0	
	comp=Z,6.3nm,0.8s						
KSCO	**Kaye Shedlock'**	**53.05**	**9**	P	**P**	**09 24 08.4**	**+0.7**
KSCO				IAmb	IAmb	09 24 09.1	
	comp=Z,12nm,1.1s						
W45A	**Hickory Valley**	**53.11**	**24**	P	**P**	**09 24 08.3**	**+0.3**
LCAR	**Lake Charles**	**53.20**	**21**	P	**P**	**09 24 08.8**	**+0.2**
LCAR				IAmb	IAmb	09 24 09.7	
	comp=Z,19nm,1.5s						
R32A	**Long Quarter,**	**53.22**	**13**	P	**P**	**09 24 08.3**	**-0.5**
R32A				IAmb	IAmb	09 24 09.7	
	comp=Z,16nm,1.1s						
ISCO	**Idaho Springs**	**53.43**	**6**	P	**P**	**09 24 11.1**	**+0.4**
DUG	**Dugway, Tooele**	**53.49**	**359**		**P**	**09 24 11.0**	**+0.2**
DUG				IAmb	IAmb	09 24 13.5	
	comp=Z,6.3nm,1.1s						
MGMO	**Mountain Grove**	**53.80**	**20**	P	**P**	**09 24 13.2**	**+0.1**
MGMO				IAmb	IAmb	09 24 14.0	
	comp=Z,8.9nm,1.1s						
JLU	**Jordanelle**	**53.89**	**1**	P	**P**	**09 24 12.9**	**-1.1**
RDMU	**Red Mountain**	**53.91**	**2**	P	**P**	**09 24 13.3**	**-0.7**
S39A	**Bolivar**	**53.96**	**18**	P	**P**	**09 24 13.9**	**-0.2**
S39A				IAmb	IAmb	09 24 14.7	
	comp=Z,5.1nm,0.9s						
ELK	**Elko**	**54.11**	**357**	IAmb	IAmb	09 24 24.5	
	comp=Z,7.4nm,1.2s						
AQDB	**Aquidauana**	**54.18**	**106**	*e*P	P	09 24 21.2	+5.0
UTMT	**University of**	**54.28**	**23**	P	**P**	**09 24 16.6**	**+0.1**
PD31	**Pinedale Array**	**56.10**	**2**	P	**P**	**09 24 29.7**	**-0.2**
PDAR	**Pinedale Array**	**56.10**	**2**	P	**P**	**09 24 30.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=165,slow=7.0,SNR=6.2						
PDAR				LR	LR	09 43 59.4	
	comp=Z,155nm,18.9s,baz=152,slow=31						
PDAR	**Pinedale Array**	**56.10**	**2**	P	**P**	**09 24 29.7**	**-0.2**
NPGB	**Novo Progresso**	**56.12**	**89**	*e*P	**P**	**09 24 29.9**	**-0.5**
K22A	**Casper**	**56.17**	**5**	P	**P**	**09 24 30.2**	**-0.2**
K22A				IAmb	IAmb	09 24 31.7	
	comp=Z,7.2nm,0.9s						
PLTB	**Pedras Altas**	**56.31**	**119**	*e*P	P	09 24 38.9	+7.4
ITTB	**Itaituba**	**56.33**	**86**	*e*P	**P**	**09 24 31.8**	**-0.1**
TZTN	**Tazewell**	**56.66**	**27**	P	**P**	**09 24 32.7**	**-1.1**
TPAW	**Teton Pass**	**56.78**	**1**	P	**P**	**09 24 35.0**	**+0.1**
TPAW				IAmb	IAmb	09 24 41.8	
	comp=Z,12nm,1.4s						
MFID	**Camas Ranch**	**56.80**	**357**	P	**P**	**09 24 34.9**	**+0.2**
MFID				IAmb	IAmb	09 24 42.5	
	comp=Z,7.0nm,0.9s						
HLID	**Hailey**	**56.89**	**358**	P	**P**	**09 24 36.1**	**+0.7**
HLID				IAmb	IAmb	09 24 43.3	
	comp=Z,7.7nm,1.1s						
LOHW	**Long Hollow**	**56.91**	**1**	P	**P**	**09 24 35.0**	**-0.6**
J08A	**Circle Bar Ran**	**56.94**	**354**	P	**P**	**09 24 36.8**	**+1.0**
J08A				IAmb	IAmb	09 24 44.3	
	comp=Z,16nm,1.0s						
MOOW	**Moose Ponds**	**57.05**	**1**	P	**P**	**09 24 36.4**	**-0.2**
IMW	**Indian Meadow**	**57.19**	**1**	P	**P**	**09 24 37.7**	**0.0**
IMW				IAmb	IAmb	09 24 45.3	
	comp=Z,13nm,1.2s						
ITAB	**Concordia**	**57.38**	**114**	*e*P	P	09 24 45.8	+6.7
FLWY	**Flagg Ranch**	**57.38**	**1**	IAmb	IAmb	09 24 42.3	
	comp=Z,15nm,1.4s						
PTGB	**Pitanga**	**57.43**	**111**	*e*P	P	09 24 45.2	+5.6
RSSD	**Black Hills**	**57.88**	**7**	P	**P**	**09 24 41.8**	**-0.6**
RSSD				IAmb	IAmb	09 24 43.5	
	comp=Z,8.2nm,1.3s						
MCMT	**McKenzie Canyo**	**58.12**	**359**	P	**P**	**09 24 44.7**	**+0.6**
QLMT	**Earthquake Lak**	**58.12**	**1**	P	**P**	**09 24 43.5**	**-0.6**
BMO	**Blue Mountains**	**58.33**	**356**	P	**P**	**09 24 46.6**	**+1.2**
BMO				IAmb	IAmb	09 24 53.2	
	comp=Z,8.9nm,1.1s						
MALB	**Monte Alegre**	**58.36**	**84**	*e*P	**P**	**09 24 47.0**	**+0.8**
CNLB	**Canela**	**58.55**	**116**	*e*P	P	09 24 55.0	+7.7
G08A	**Pilot Rock**	**58.90**	**354**	P	**P**	**09 24 50.1**	**+0.6**
G08A				IAmb	IAmb	09 24 58.3	
	comp=Z,9.9nm,1.1s						
ITRB	**Iturama**	**59.23**	**105**	*e*P	P	09 24 56.7	+4.5
FRTB	**Fartura**	**59.76**	**109**	*e*P	P	09 25 02.2	+6.4
HRY	**Holter Researc**	**60.00**	**0**	P	**P**	**09 24 57.2**	**+0.2**
TIJ01	**Guaruva-PR**	**60.19**	**112**	*e*P	P	09 25 05.6	+6.7
F33A	**5 Mile Ranch,**	**60.83**	**13**	P	**P**	**09 25 03.6**	**+1.1**
F33A				IAmb	IAmb	09 25 15.0	
	comp=Z,4.5nm,0.8s						
C09A	**Chrisman Ranch**	**61.33**	**355**	P	**P**	**09 25 06.2**	**+0.2**
C09A				IAmb	IAmb	09 25 13.8	
	comp=Z,10.0nm,1.0s						
F36A	**Milaca**	**61.49**	**15**	P	**P**	**09 25 06.8**	**-0.3**
DGMT	**Dagmar**	**62.16**	**6**	P	**P**	**09 25 11.6**	**+0.1**
VAO	**Valinhos**	**62.16**	**109**	*e*P	P	09 25 19.0	+6.8
M56A	**Emporium**	**63.10**	**28**	P	**P**	**09 25 17.4**	**-0.6**
SMTB	**Santa Maria do**	**63.33**	**93**	*e*P	**P**	**09 25 22.3**	**+2.2**
L56A	**Greenwood**	**63.91**	**28**	P	**P**	**09 25 23.7**	**+0.4**
ACCN	**Adirondack Com**	**66.69**	**30**	P	**P**	**09 25 41.1**	**-0.2**
YKA	**Yellowknife Ar**	**75.84**	**359**	LR	LR	09 56 10.6	
	comp=Z,137nm,19.0s,baz=0.0,slow=33						
BCAR	**Beaver Creek A**	**79.78**	**347**	P	**P**	**09 26 58.5**	**+0.2**
RIDG	**Independent Ri**	**81.07**	**346**	P	**P**	**09 27 05.2**	**0.0**
RIDG				IAmb	IAmb	09 27 12.7	
	comp=Z,14nm,1.1s						
VNA3	**Neumayer Olymp**	**81.22**	**161**	P	**P**	**09 27 07.6**	**+1.6**
VNA1	**Neumayer--Stat**	**81.83**	**161**	P	**P**	**09 27 11.6**	**+2.4**
VNA2	**Neumayer--Watz**	**82.02**	**161**	P	**P**	**09 27 11.5**	**+1.3**
	baz=241,slow=5.5						
TRF	**Thorofare Moun**	**82.22**	**344**	P	**P**	**09 27 12.2**	**+0.8**
TRF				IAmb	IAmb	09 27 18.7	
	comp=Z,9.6nm,1.0s						
PPLA	**Purkeypile**	**82.32**	**343**	P	**P**	**09 27 12.7**	**+0.9**
ILAR	**Eielson Array**	**82.42**	**346**	P	P	09 27 17.2	+4.9
	comp=Z,1.3nm,1.0s,baz=191,slow=3.9,SNR=7.3						
ILAR				LR	LR	09 57 27.5	
	comp=Z,56nm,18.6s,baz=156,slow=31						
ILAR	**Eielson Array**	**82.42**	**346**	P	**P**	**09 27 12.3**	**+0.1**
WRH	**Wood River Hil**	**82.47**	**345**	P	**P**	**09 27 13.4**	**+1.0**
KTH	**Kantishna Hill**	**82.47**	**344**	P	**P**	**09 27 13.0**	**+0.4**
CCB	**Clear Creek Bu**	**82.55**	**345**	P	**P**	**09 27 13.8**	**+1.0**
CCB				IAmb	IAmb	09 27 14.3	
	comp=Z,14nm,1.5s						
BWN	**Browne**	**82.58**	**344**	P	**P**	**09 27 13.8**	**+0.7**
MDM	**Murphy Dome**	**82.91**	**345**	P	**P**	**09 27 15.0**	**+0.2**
MDM				IAmb	IAmb	09 27 28.6	
	comp=Z,13nm,1.2s						
BPAW	**Bear Paw Mtn.**	**82.92**	**344**	P	**P**	**09 27 15.4**	**+0.5**
INK	**Inuvik**	**83.09**	**352**	P	**P**	**09 27 15.2**	**-0.4**
INK				IAmb	IAmb	09 27 23.3	
	comp=Z,7.3nm,1.1s						
COLD	**Coldfoot**	**85.22**	**346**	P	**P**	**09 27 27.4**	**+1.0**
COLD				IAmb	IAmb	09 27 35.4	
	comp=Z,10nm,1.1s						
HNR	**Honiara**	**85.84**	**261**	LR	LR	10 01 16.8	
	comp=Z,484nm,18.5s,baz=158,slow=32						
H11S2	**WAKE ISLAND Hy**	**86.09**	**290**	T	T	11 02 38.0	
	baz=106,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**86.10**	**290**	T	T	11 02 40.2	
	baz=106,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**86.11**	**290**	T	T	11 02 48.1	
	baz=106,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**86.23**	**291**	T	T	11 02 52.7	
	baz=104						
H11N2	**WAKE ISLAND Hy**	**86.25**	**291**	T	T	11 02 53.0	
	baz=104,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**86.25**	**291**	T	T	11 03 01.9	
	baz=104						
SYO	**Syowa Base**	**95.23**	**170**	⇑*e*X	P	09 28 06.7	-7.1
STKA	**Stephens Creek**	**96.28**	**235**	LR	LR	10 08 45.3	
	comp=Z,48nm,18.6s,baz=201,slow=33						
LZH	**Lanzhou**	**140.73**	**311**	*e*PKP	**PKPdf**	**09 34 15.6**	**-5.3**
LZH				pPKP	sPKPdf	09 34 25.5	+1.4
LZH				sPKP		09 34 28.8	
KBZ	**Khabaz**	**143.09**	**31**	PKiKP	PKPpre	09 34 21.0	
	comp=Z,0.8nm,0.5s,baz=296,slow=2.3,SNR=1.9						
MKAR	**Makanchi Array**	**144.73**	**343**	PKP	**PKiKP**	**09 34 30.2**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=31,slow=3.1,SNR=9.5						
KMBO	**Kilima Mbogo**	**146.32**	**113**	PKPbc	**PKiKP**	**09 34 36.7**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=203,slow=2.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**149.77**	**283**	PKP	**PKiKP**	**09 34 43.4**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=99,slow=1.1,SNR=6.7						
CMAR				PKPbc	**pPKPab**	**09 34 48.5**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=65,slow=1.5,SNR=5.5						

IDC 15 09:39:15.9±4.5, 21°.48S×173°.13E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/43, mbtmp4.0/5, ML2.9/1, MS3.6/8, Ms1 3.6/8, ms1mx3.3/30, Error ellipse: s-maj=116.8km s-min=68.4km az=178.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.24**	**263**	Pn	Pn	09 40 50.4	+1.1
	0.3nm,0.3s,baz=110,slow=16,SNR=1.3						
DZM				Sn	Sn	09 42 01.1	-0.3
	1.2nm,0.3s,baz=120,slow=20,SNR=2.7						
URZ	**Urewera**	**17.07**	**169**	LR	LR	09 47 40.8	
	comp=Z,406nm,21.4s,baz=31,slow=30						
HNR	**Honiara**	**17.44**	**311**	LR	LR	09 49 30.8	
	comp=Z,214nm,20.1s,baz=194,slow=35						
STKA	**Stephens Creek**	**29.92**	**243**	P	P	09 45 25.1	-0.6
	1.5nm,0.7s,baz=91,slow=8.1,SNR=4.6						
PPT	**Papeete**	**35.31**	**90**	LR		09 58 39.0	
	comp=Z,23nm,19.1s,baz=251,slow=33		

GO01	Chusmiza	2.61	351	eP	Pn	09 42 10.9	+0.7
GO01				i S	Sn	09 42 42.2	+0.2
GO01				IAML		09 42 46.7	
	comp=N,2μm,0.1s						
GO01	Chusmiza	2.61	351		Pn	09 42 11.0	+0.7
PB11	IPOC Station P	2.62	341	eP	Pn	09 42 09.4	-0.6
PB11				eS	Sn	09 42 41.0	-0.9
PB11				IAML		09 42 44.5	
	comp=N,985nm,0.2s						
PB11	IPOC Station P	2.62	341		Pn	09 42 09.4	-0.6
PB14	IPOC Station P	2.79	212	eP	Pn	09 42 11.6	-0.8
PB14	IPOC Station P	2.79	212		Pn	09 42 11.9	-0.5
PSGCX	Pisagua	2.93	334	Pn	Pn	09 42 12.8	-1.4
GO02	Mina Guanaco	2.98	194	iP	Pn	09 42 14.9	0.0
GO02	Mina Guanaco	2.98	194	Pn	Pn	09 42 14.7	-0.3
MNMC	Minye Minye	3.21	346		Pn	09 42 17.2	-0.7
PB16	IPOC Station P	3.96	350	Pn	Pn	09 42 29.0	+0.8
AC01	Pan de Azucar	4.21	203	Pn	Pn	09 42 30.0	-1.0
AC02	Maricunga	4.57	184	Pn	Pn	09 42 36.4	+0.2
GO03	Copiap	5.47	194	Pn	Pn	09 42 46.2	-1.8
LPAZ	La Paz	5.97	6	Pn	Pn	09 42 56.9	+1.6
AC04	Llanos de Chal	6.28	199	Pn	Pn	09 42 54.7	-4.0
AC05	El Transito	6.69	191	Pn	Pn	09 43 02.2	-2.2
CO01	Juntas del Tor	7.78	188	Pn	Pn	09 43 17.8	-1.5
GO04	Tololo Observa	8.09	193	Pn	Pn	09 43 20.9	-2.6
CO03	El Pedregal	8.71	191		Pn	09 43 28.4	-3.4
SIV	San Ignacio	9.58	51	P	Pn	09 43 41.2	-2.4
	comp=N,6.2nm,0.3s,baz=254,slow=8.8,SNR=10						
SIV				S	Sn	09 45 21.6	-8.0
	comp=N,1.0nm,0.3s,baz=309,slow=21,SNR=11						
MT02	Curacav	11.15	190	Pn	Pn	09 44 04.4	-0.3
PTLB	Pontes e Lacer	11.36	55	eP	Pn	09 44 07.7	+0.2
TRCB	Terra Rica	14.93	95	eP	P	09 44 55.6	-0.9
PTGB	Pitanga	15.52	102	eP	P	09 45 02.5	-0.6
ITAB	Concordia	15.90	111	eP	P	09 45 07.7	+0.5
PCMB	Pacaembu	16.26	91	eP	P	09 45 12.1	+0.9
CLDB	Colider	16.80	50	eP	Pn	09 45 16.2	-0.8
ARAG	Araguaiana, MT	17.31	71	eP	Pn	09 45 23.5	+0.3
ITRB	Iturama	17.38	85	eP	Pn	09 45 25.2	+1.1
FRTB	Fartura	17.75	97	eP	P	09 45 28.0	+0.4
BB19B	Bebedouro	18.86	90	eP	P	09 45 40.5	+0.7
IPMB	Ipameri, GO	19.77	81	eP	P	09 45 49.1	-0.6
NPGB	Novo Progresso	19.90	43	eP	P	09 45 51.2	+0.1
VAO	Valinhos	20.14	96	eP	P	09 45 53.6	-0.2
LL01	San Ignacio de	20.29	188	P	P	09 45 56.1	+1.1
LL01				IAmb	IAmb	09 45 56.7	
	comp=Z,5.1nm,0.8s						
BDFB	Brasilia	20.70	75	P	P	09 45 58.7	-1.1
	comp=Z,6.3nm,0.5s,baz=250,slow=12,SNR=9.5						
BDFB	Brasilia	20.70	75	P	P	09 45 59.8	0.0
BDFB				IAmb	IAmb	09 46 01.1	
	comp=Z,7.4nm,0.6s						
ITTB	Itaituba	21.82	37	eP	P	09 46 10.3	-1.4
JANB	Januaria	24.24	77	eP	P	09 46 34.1	-0.8
PRPB	Parauapebas	24.31	52	eP	P	09 46 34.9	-0.6
SMTB	Santa Maria do	24.32	60	eP	P	09 46 35.9	+0.3
MALB	Monte Alegre	24.71	37	eP	P	09 46 39.0	-0.1
MDP	Montagnes des	31.45	32	P	P	09 47 39.3	+0.2
	comp=Z,3.2nm,0.7s,baz=209,slow=10,SNR=1.9						
TXAR	Lajitas Array	61.32	325	P	P	09 51 33.7	+1.6
	comp=Z,0.1nm,0.5s,baz=155,slow=8.5,SNR=4.4						
ANMO	Albuquerque	67.20	327	P	P	09 52 12.6	+2.1
	comp=Z,0.0nm,0.5s,baz=140,slow=6.4,SNR=4.5						
DBIC	Dimbokro	68.83	73	P	P	09 52 21.3	+0.4
	comp=Z,2.9nm,0.7s,baz=220,slow=7.9,SNR=4.0						
DBIC	Dimbokro	68.83	73	P	P	09 52 21.2	+0.4
TORD	Torodi Ar. Bea	77.49	70	P	P	09 53 12.0	+0.2
	comp=Z,2.8nm,0.5s,baz=255,slow=5.1,SNR=34						
TORD	Torodi Ar. Bea	77.49	70	P	P	09 53 11.6	-0.2
WRA	Warramunga Arr	132.36	210	PKP	PKPdf	10 00 30.8	+0.9
	comp=Z,0.2nm,0.7s,baz=150,slow=1.7,SNR=1.6						
MKAR	Makanchi Array	146.17	37	PKPbc	PKPdf	10 00 54.6	+0.5
	comp=Z,0.2nm,0.6s,baz=336,slow=3.2,SNR=4.2						
MKAR	Makanchi Array	146.17	37	PKPdf	PKPbc	10 00 55.6	+0.4

NEIC ***15*** *09:51:17.0±1.5, 36.51N±0.04×98.98W±0.04, h8km±6km, Error ellipse: s-maj=6.2km s-min=4.6km az=161.0*
TUL ***15*** *09:51:16.2±1.8, 36.50N±0.04×99.05W±0.04, h8km±6km, ML3.5, Error ellipse: s-maj=6.4km s-min=4.6km az=153.0*
IDC ***15*** *09:51:18.6±1.6, 36.48N×99.26W, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.5/39, mbtmp3.5/4, ML2.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/24, Error ellipse: s-maj=23.4km s-min=11.8km az=98.0*

ISC 15 09:51:17.1±1.0, 36.50N±0.04×98.97W±0.04, h6km±10km, n81, σ1°03/87, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	Winter Ranch,	0.12	194	Pg	Pg	09 51 19.6	-0.1
U32A				Sg	Sg	09 51 21.9	+0.5
CROK	Carrier	0.79	89		Pg	09 51 32.5	+0.2
CROK				Sg	Sg	09 51 43.7	+1.1
KAN14	Manchester OK	0.93	60		Pg	09 51 34.8	-0.1
KAN14				Sg	Sg	09 51 47.3	+0.5
KAN10	Anthony SW Sta	0.94	48		Pg	09 51 34.6	-0.4
KAN10				Sg	Sg	09 51 47.0	-0.2
KAN05	Bluff City Nor	1.07	55		Pg	09 51 37.2	-0.3
KAN05				Sg	Sg	09 51 51.8	+0.3
KAN08	Anthony NE Sta	1.08	47		Pg	09 51 37.2	-0.6
KAN12	Harper NE Stat	1.11	44		Pg	09 51 37.8	-0.6
KAN12				Sg	Sg	09 51 52.6	-0.2
KAN09	Caldwell North	1.25	59		Pn	09 51 40.7	-0.5
KAN13	South Haven SW	1.30	66		Pn	09 51 41.3	-0.5
BCOK	Bluff Creek, N	1.38	127	Pn	Pn	09 51 42.5	-0.5
OK029	Liberty Lake	1.41	119		Pn	09 51 42.9	-0.4
OK025	Westminster Rd	1.61	124		Pn	09 51 46.3	+0.2
OKCFA	Oklahoma City	1.64	131		Pn	09 51 46.7	+0.3
OKCSW	OKLAHOMA CITY	1.65	131		Pn	09 51 47.0	+0.3
WMOK	Wichita Mounta	1.76	175	Pn	Pn	09 51 47.6	-0.6
FNO	Franklin	1.77	134		Pn	09 51 49.5	+1.1
QUOK	Quay	1.85	100	Pn	Pn	09 51 50.3	+0.9
R32A	Long Quarter,	1.93	6	Pn	Pn	09 51 50.7	+0.2
T35A	Sooner Cattle	2.02	77	Pn	Pn	09 51 53.0	+1.4
W35A	Tecumseh	2.17	128		Pn	09 51 54.2	+0.5
CBKS	Cedar Bluff	2.39	345	Pn	Pn	09 51 56.6	-0.2
TUL1	Leonard	2.63	102	Pn	Pn	09 52 01.0	+0.8
AMTX	Amarillo	2.74	235	Pn	Pn	09 52 01.9	+0.3
KSU1	Kansas State U	3.20	35	Pn	Pn	09 52 08.3	+0.4
Z35A	Perchaven, San	3.46	156		Pn	09 52 12.3	+0.8
X37A	Clayton	3.50	122		Pn	09 52 12.4	+0.4
U38A	Gravette	3.69	90		Pn	09 52 15.9	+1.1
ABTX	Abilene, Hawle	3.91	188		Pn	09 52 17.6	-0.1
MSTX	Muleshoe	4.01	232		Pn	09 52 19.0	-0.2
N33A	J Bar K, Exete	4.40	15	Pn	Pn	09 52 23.6	-0.8
T25A	Trinidad	4.42	280		Pn	09 52 24.1	-0.8
Z38A	Mt. Pleasant	4.60	133	Pn	Pn	09 52 26.5	-0.6
S39A	Bolivar	4.67	74		Pn	09 52 28.8	+0.7
MIAR	Mount Ida	4.81	112		Pn	09 52 30.7	+0.7
U40A	Yellville	4.93	90		Pn	09 52 32.0	+0.3
BGNE	Belgrade	4.94	7		Pn	09 52 31.5	-0.4
OGNE	Ogallala	5.05	333		Pn	09 52 33.5	+0.2
N35A	Tabor	5.07	30	Pn	Pn	09 52 31.8	-1.9
237A	Washetta, Mont	5.19	149	Pn	Pn	09 52 34.8	-0.5
P38A	Dawn	5.30	52		Pn	09 52 36.5	-0.4
CPRX	Cap Rock	5.31	231		Pn	09 52 34.7	-2.4
SDCO	Great Sand Dun	5.37	285		Pn	09 52 38.2	+0.2
X40A	Basin Creek Fa	5.39	110		Pn	09 52 37.8	-0.2
MGMO	Mountain Grove	5.41	81		Pn	09 52 39.9	+1.5
Q24A	Divide	5.48	299	Pn	Pn	09 52 37.4	-2.2
WHAR	Wooly Hollow	5.55	101	Pn	Pn	09 52 39.7	-0.6
WLAR	White Oak Lake	5.56	119	Pn	Pn	09 52 40.1	-0.3
W41B	Gary Mavity, V	5.62	102		Pn	09 52 40.4	-0.7
R40A	Maddies Statio	5.62	69	Pn	Pn	09 52 40.9	-0.3
UALR	University of	5.66	106	Pn	Pn	09 52 41.4	-0.3
L34A	Svendsen Farm,	5.82	19		Pn	09 52 43.4	-0.5
ISCO	Idaho Springs	6.19	304	Pn	Pn	09 52 48.9	-0.4
N38A	Joes South For	6.20	45		Pn	09 52 48.9	-0.3
P40A	Paris	6.24	59		Pn	09 52 50.7	+1.0
ANMO	Albuquerque	6.29	258	Pn	Pn	09 52 50.7	+0.2
	0.0nm,0.3s,baz=82,slow=14,SNR=7.6						
ANMO				Pg	Pb	09 53 09.1	+2.0
	0.1nm,0.3s,baz=71,slow=16,SNR=8.5						
ANMO				Lg	Lg	09 54 31.0	
	0.2nm,0.3s,baz=202,slow=19,SNR=5.1						
ANMO	Albuquerque	6.29	258	Pn	Pn	09 52 48.3	-2.3
T42A	Van Buren	6.34	83	Pn	Pn	09 52 50.8	-0.3
CCM	Cathedral Cave	6.35	74	Pn	Pn	09 52 50.9	-0.4
BNM	Barren Site	6.69	252		Pn	09 52 54.2	-1.9
FVM	French Village	6.97	75	Pn	Pn	09 53 01.0	+1.3
PHWY	Pilot Hill	6.97	315		Pn	09 52 57.9	-2.1
N23A	Red Feather La	7.00	311		Pn	09 53 00.9	+0.5
MNTX	Cornudas Mount	7.16	230		Pn	09 53 01.3	-1.1
ECSD	EROS Data Cent	7.45	13	Pn	Pn	09 53 04.2	-2.1
N41A	Harden Midland	7.61	54	Pn	Pn	09 53 08.2	-0.4
MVCO	Mesa Verde	7.68	278	Pn	Pn	09 53 06.4	-3.3
TX31	Lajitas Ar. Si	8.16	210		Pn	09 53 15.0	-1.3
TX32	Lajitas Array	8.16	210		Pn	09 53 15.2	-1.0
TXAR	Lajitas Array	8.16	210	Pn	Pn	09 53 15.1	-1.1
	1.0nm,0.3s,baz=28,slow=11,SNR=76						
TXAR				Pg	Pb	09 53 37.8	-1.2
	0.7nm,0.3s,baz=81,slow=15,SNR=7.6						
TXAR				Lg	Lg	09 55 27.1	
	1.6nm,0.3s,baz=17,slow=32,SNR=6.4						
L40A	Anamosa	8.18	45	Pn	Pn	09 53 15.9	-0.4
K22A	Casper	8.47	319	Pn	Pn	09 53 20.6	+0.1
RSSD	Black Hills	8.54	335	Pn	Pn	09 53 22.1	+0.6
HDIL	Hopedale	8.59	59		Pn	09 53 21.9	-0.1
O44A	Mansfield	9.02	63	Pn	Pn	09 53 27.9	0.0
L42A	Oliver, Polo	9.06	50	Pn	Pn	09 53 28.6	+0.2
JFWS	Jewell Farm	9.28	44	Pn	Pn	09 53 31.5	+0.1
PDAR	Pinedale Array	10.29	311	Pn	Pn	09 53 46.3	+0.9
	0.2nm,0.3s,baz=119,slow=17,SNR=4.1						
PDAR				Pg		09 54 25.6	
	0.4nm,0.3s,baz=122,slow=15,SNR=6.1						
PDAR				Lg	Lg	09 56 34.8	
	0.3nm,0.3s,baz=118,slow=34,SNR=2.9						
TKL	Tuckaleechee C	12.32	89	Lg	Lg	09 57 45.6	
	0.4nm,0.3s,baz=288,slow=19,SNR=4.1						
ULM	Lac du Bonnet	13.93	8	Pn	Pn	09 54 32.5	-2.4
	0.2nm,0.3s,baz=193,slow=13,SNR=2.3						
ULM				Sn	Sn	09 56 56.9	-13
	0.2nm,0.3s,baz=102,slow=19,SNR=1.8						
ULM				Lg	Lg	09 58 30.5	
	0.2nm,0.3s,baz=129,slow=14,SNR=2.3						
DLBC	Dease Lake	29.92	327	LR	LR	10 09 17.3	
	comp=Z,94nm,21.0s,baz=289,slow=36						
ILAR	Eielson Array	39.96	330	P	P	09 58 54.1	+2.1
	0.4nm,0.7s,baz=107,slow=7.5,SNR=5.2						

IDC ***15*** *10:03:18.3±5.1, 15.97S×175.38W, h89km±44km, mb3.9/6, mb1 4.1/6, mb1mx3.7/26, mbtmp4.3/6, Error ellipse: s-maj=35.8km s-min=20.4km az=108.0*
NEIC ***15*** *10:03:42.6±1.3, 16.3S±0.1×175.6W±0.1, h312km±9km, mb4.1/19, Error ellipse: s-maj=22.5km s-min=16.2km az=130.0*

ISC 15 10:03:41.7±0.6, 16.3S±0.1×175.68W±0.10, h300km, n30, σ0°72/31, mb4.1/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.45	58		Pn	10 04 54.0	+0.9
AFI				S	S	10 05 50.5	+0.1
NIUE	Niue	6.15	118	Pn	Pn	10 05 13.4	+0.5
URZ	Urewera	22.79	195	P	P	10 08 17.2	-1.6
	6.6nm,0.3s,baz=56,slow=4.1,SNR=8.2						
URZ				S	S	10 12 23.2	+18
	3.3nm,0.4s,baz=287,slow=21,SNR=8.2						
URZ	Urewera	22.79	195	IAmb	IAmb	10 08 25.0	
	comp=Z,12nm,0.9s						
ARMA	Armidale	33.01	239	P	P	10 09 50.6	+1.0
CAN	Canberra	36.75	232	P	P	10 10 22.1	+0.8
TOO	Toolangi	40.21	231	P	P	10 10 50.5	+0.7
TOO				IAmb	IAmb	10 11 00.4	
	comp=Z,12nm,1.2s						
STKA	Stephens Creek	41.69	240	P	P	10 11 02.4	+0.5
	comp=Z,3.0nm,0.6s,baz=80,slow=6.1,SNR=7.2						
STKA	Stephens Creek	41.69	240	P	P	10 11 02.9	+1.0
BBOO	Buckleboo	46.47	240	P	P	10 11 39.6	0.0
BBOO				IAmb	IAmb	10 11 59.1	
	comp=Z,15nm,1.4s						
WR0	Warramunga Arr	47.32	258	P	P	10 11 46.1	-0.2
WB0	Warramunga Arr	47.47	258	P	P	10 11 48.2	+0.7
WB2	Warramunga Arr	47.49	258	P	P	10 11 47.6	-0.1
WB2				IAmb	IAmb	10 12 06.4	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	47.51	258	P	P	10 11 47.6	-0.1
	comp=Z,0.9nm,0.4s,baz=93,slow=7.4,SNR=49						
WRA				PcP	PcP	10 13 13.0	+0.3
	comp=Z,2.2nm,1.3s,baz=96,slow=3.4,SNR=3.8						
WRA	Warramunga Arr	47.51	258	IAmb	IAmb	10 11 49.0	
	comp=Z,0.2nm,0.9s						
AS31	Alice Springs	47.75	253	P	P	10 11 49.8	+0.2
ASAR	Alice Springs	47.75	253	P	P	10 11 49.8	+0.2
	comp=Z,9.1nm,0.5s,baz=88,slow=8.1,SNR=211						
ASAR				PcP	PcP	10 13 13.5	-0.1
	comp=Z,0.4nm,0.6s,baz=90,slow=5.7,SNR=2.2						
ASAR	Alice Springs	47.75	253	P	P	10 11 49.1	-0.5
MTN	Manton Dam	51.48	266	P	P	10 12 18.4	+0.8
MTN				IAmb	IAmb	10 12 30.3	
	comp=Z,9.1nm,1.1s						
FORT	Forrest	53.06	244	P	P	10 12 28.3	-0.6
FORT				IAmb	IAmb	10 12 47.3	
	comp=Z,13nm,1.0s						
KNRA	Kununurra	53.27	262	P	P	10 12 30.9	+0.3
KNRA				IAmb	IAmb	10 12 32.3	
	comp=Z,12nm,1.2s						
FITZ	Fitzroy Crossi	55.88	259	P	P	10 12 50.4	+1.1
PSA00	Pilbara Seismi	60.85	254	P	P	10 13 23.6	+0.2
NWAO	Narrogin (SRO)	62.27	241	P	P	10 13 31.6	-1.1
VNDA	Vanda	62.29	185	P	P	10 13 32.5	+0.5
	comp=Z,1.0nm,0.8s,baz=360,slow=8.2,SNR=5.9						
VNDA	Vanda	62.29	185	P	P	10 13 32.8	+0.8
VNDA				IAmb	IAmb	10 13 33.0	
	comp=Z,3.0nm,1.1s						
QSPA	South Pole Qui	73.76	180	P	P	10 14 43.3	0.0
QSPA				IAmb	IAmb	10 14 43.6	
	comp=Z,2.3nm,0.8s						
SZCU	Shurtz Canyon	79.52	46	P	P	10 15 14.8	-1.2
ILAR	Eielson Array	83.75	12	P	P	10 15 36.3	-0.7
	comp=Z,0.6nm,0.5s,baz=217,slow=5.3,SNR=11						
ILAR	Eielson Array	83.75	12	P	P	10 15 36.9	-0.1

WEL 15 10:25:55.2, 38.S±2.×17.6E±., h179km±4km, M2.5/47, MLv2.5/47, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRRZ	Galatos Road	0.10	71	P	Pn	10 26 19.0	+0.2
KUTZ	Kaahu Road	0.17	231	P	Pn	10 26 19.2	+0.3
WPRZ	Whakapapatarin	0.19	135	P	Pn	10 26 19.0	0.0
HSRZ	Hossack Road	0.21	71	P	Pn	10 26 19.2	+0.2
HRRZ	Handcock Road	0.23	92	P	Pn	10 26 19.0	0.0
WHTZ	Whakaora	0.28	185	P	Pn	10 26 19.7	+0.5
HLRZ	Highlands Stat	0.32	66	P	Pn	10 26 19.7	+0.5
ALRZ	Allen Road	0.33	123	P	Pn	10 26 19.3	+0.1
PRRZ	Plateau Road	0.34	110	P	Pn	10 26 19.2	+0.1
TLZ	Tolley Road	0.36	279	P	Pn	10 26 19.6	+0.2
WATZ	Wairara	0.38	212	P	Pn	10 26 19.7	+0.3
OMRZ	Omania	0.41	48	P	Pn	10 26 19.5	-0.1
KARZ	Kaharoa	0.41	29	P	Pn	10 26 19.4	-0.1
RRRZ	Republican Roa	0.42	84	P	Pn	10 26 19.4	-0.1
TARZ	Mount Tarawera	0.43	70	P	Pn	10 26 19.5	-0.2
MKRZ	Makatiti	0.45	57	P	Pn	10 26 20.2	+0.4
RATZ	Rangitukua	0.51	199	P	Pn	10 26 19.9	0.0
KMRZ	Kaimai	0.54	356	P	Pn	10 26 20.0	-0.1
MRHZ	Matea Rd	0.56	143	P	Pn	10 26 19.9	-0.2
MRHZ				S	Sn	10 26 38.6	-0.9
RITZ	Rihia Road	0.60	190	P	Pn	10 26 20.7	+0.4
MUGZ	Murupara	0.62	99	P	Pn	10 26 20.0	-0.4
MUGZ				S	Sn	10 26 38.6	-1.2
KATZ	Kakaramea	0.63	201	P	Pn	10 26 20.9	+0.3
MARZ	Manawahe	0.67	54	P	Pn	10 26 20.5	-0.2
TOZ	Tahuroa Road	0.76	329	P	Pn	10 26 21.0	-0.1
TOZ				S	Sn	10 26 41.0	0.0
KRVZ	Karewarewa	0.76	201	P	Pn	10 26 21.4	+0.2
WTVZ	West Tongariro	0.79	203	P	Pn	10 26 21.6	+0.1
TWVZ	Taurewa	0.81	212	P	Pn	10 26 21.6	0.0
RTZ	Ruatahuna	0.81	107	P	Pn	10 26 21.3	-0.3
RTZ				S	Sn	10 26 41.3	-0.6
MTHZ	Maungataniwha	0.82	125	P	Pn	10 26 21.5	0.0
MTHZ				S	Sn	10 26 40.6	-1.3
OTVZ	Oturere	0.82	198	P	Pn	10 26 21.8	+0.1
NGZ	Ngauruhoe	0.85	201	P	Pn	10 26 22.0	+0.2
BKZ	Black Stump Fm	0.88	153	P	Pn	10 26 21.9	0.0
BKZ				S	Sn	10 26 41.5	-1.2
URZ	Urewera	0.89	82	P	Pn	10 26 21.2	-0.7
URZ				S	Sn	10 26 40.8	-1.8
HIZ	Hauiti	0.90	261	P	Pn	10 26 22.1	+0.1
TUVZ	Tukino	0.92	196	P	Pn	10 26 22.5	+0.1
FWVZ	Far West T-bar	0.93	201	P	Pn	10 26 22.4	-0.2
NMHZ	Naumai	0.96	138	P	Pn	10 26 23.4	+0.9
NMHZ				S	Sn	10 26 43.8	+0.1
WNVZ	Wahianoa	0.99	198	P	Pn	10 26 22.9	0.0
RAHZ	Arahi	1.01	122	P	Pn	10 26 23.3	+0.5
RAHZ				S	Sn	10 26 44.7	+0.4
PKVZ	Pokaka	1.03	209	P	Pn	10 26 23.1	0.0
MOVZ	Moawhango	1.04	190	P	Pn	10 26 22.8	-0.3
MOVZ				S	Sn	10 26 42.8	-2.0
MTVZ	Mangateitei	1.08	202	P	Pn	10 26 23.5	+0.1
KWHZ	Kaweka Forest	1.09	162	P	Pn	10 26 23.8	+0.3
BHHZ	Black Hill Sta	1.11	177	P	Pn	10 26 23.5	-0.1
RAGZ	Rawiri	1.13	96	P	Pn	10 26 23.7	-0.2
ARHZ	Aropaoanui	1.18	138	P	Pn	10 26 24.8	+0.6
MCHZ	McNeill Hill	1.20	153	P	Pn	10 26 25.1	+0.8
WHHZ	Waihua	1.20	126	P	Pn	10 26 24.7	+0.5
MWZ	Matawai	1.21	88	P	Pn	10 26 24.0	-0.4
VRZ	Vera Road	1.21	232	P	Pn	10 26 24.5	+0.1
KRHZ	Kereru	1.29	167	P	Pn	10 26 25.3	+0.2
RUGZ	Raukumara Rang	1.40	73	P	Pn	10 26 24.8	-1.4
RIGZ	Rimuhau	1.43	104	P	Pn	10 26 26.4	+0.1
TKGZ	Te Karaka	1.46	93	P	Pn	10 26 26.5	-0.1
KNZ	Kokohu	1.47	116	P	Pn	10 26 26.7	+0.1
MHEZ	Mangahewa	1.47	242	P	Pn	10 26 27.3	+0.5
CKHZ	Cape Kidnapper	1.53	147	P	Pn	10 26 27.8	+0.6
PNHZ	Pukenui	1.54	174	P	Pn	10 26 27.2	-0.2
HAZ	Te Kaha	1.55	67	P	Pn	10 26 26.1	-1.3
KAHZ	Kahuranaki	1.57	154	P	Pn	10 26 28.2	+0.5
WAZ	Wanganui	1.58	209	P	Pn	10 26 27.6	-0.2
PRGZ	Paritu Road	1.58	111	P	Pn	10 26 27.9	+0.1
TWGZ	Tauwhareparae	1.58	83	P	Pn	10 26 28.2	+0.3
LREZ	Lake Rotokare	1.64	228	P	Pn	10 26 28.8	+0.4
LKUZ	Kuaotunu	1.65	353	P	Pn	10 26 28.7	-0.7
ETAZ	East Tamaki Re	1.66	329	P	Pn	10 26 28.0	-0.6
TSZ	Takapari Road	1.67	181	P	Pn	10 26 28.5	-0.2
MHGZ	Mahia Peninsul	1.69	118	P	Pn	10 26 29.2	+0.4
AWAZ	Awhitu Peninsu	1.69	321	P	Pn	10 26 28.6	-0.3
WPHZ	Waipukurau	1.71	168	P	Pn	10 26 29.0	-0.1
PREZ	Palmer Road	1.72	236	P	Pn	10 26 29.4	+0.2
PKGZ	Pakihiroa	1.72	74	P	Pn	10 26 30.0	+0.8
NEZ	North Egmont	1.72	238	P	Pn	10 26 29.5	+0.2
WIAZ	Waiheke Island	1.73	337	P	Pn	10 26 28.9	-0.4
CNGZ	Carnagh Statio	1.75	94	P	Pn	10 26 29.8	+0.4
PKE	Pukeiti	1.76	242	P	Pn	10 26 29.7	0.0
PXZ	Pawanui	1.78	158	P	Pn	10 26 29.7	0.0
KHEZ	Kahui Hut	1.79	239	P	Pn	10 26 30.1	+0.1
PUZ	Puketiti	1.81	81	P	Pn	10 26 30.0	-0.2
MBAZ	Motutapu North	1.83	331	P	Pn	10 26 29.8	-0.6
WTAZ	Waiatarua	1.83	322	P	Pn	10 26 30.2	-0.2
NBEZ	Newall Road No	1.88	241	P	Pn	10 26 30.9	+0.1
OHWZ	Ohakea	1.89	196	P	Pn	10 26 31.0	+0.1
DVHZ	Dannevirke	1.92	176	P	Pn	10 26 30.6	-0.6
PRHZ	Porangahau	1.95	165	P	Pn	10 26 31.2	-0.3
WMGZ	Waiomatatini S	2.00	74	P	Pn	10 26 32.5	+0.4
MXZ	Matakaoa Point	2.01	67	P	Pn	10 26 31.9	-0.3
POWZ	Post Office Ro	2.01	185	P	Pn	10 26 31.5	-0.7
ANWZ	Angora Road	2.11	170	P	Pn	10 26 32.9	-0.4
PRWZ	Pori Road	2.17	180	P	Pn	10 26 33.4	-0.6
GRZ	Great Barrier	2.17	349	P	Pn	10 26 33.4	-0.7
MRZ	Mangatainoka R	2

GCMT ***15*** *11:16:41.9±0.1,64.61N±0.01×17.25W±0.01,h12km, MW5.5/159,Moment Tensor Solution. s118,c185; s159,c326; Duration: 18s4 Moment tensor: Scale 1017 Nm; Mrr-3.13±.02; Mθθ 1.80±.03; Mϕϕ 1.33±.02; Mrθ 0.22±.07; Mθϕ-0.24±.02; Mϕr-0.63±.08; Best double couple: M◎2.58600×1017 NP1:ϕs110.00000°,δ40.00000°, λ-99.00000°. NP2:ϕs302.00000°,δ51.00000°, λ-82.00000°. Principal axes: T 1.9470, Plg5.0000°, Azm27.0000°; N 1.2780, Plg6.0000°, Azm117.0000°; P -3.2250, Plg82.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *11:16:42,64.60N×17.30W,h12km,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-3.26; Mθθ 1.96; Mϕϕ 1.30; Mrθ -0.07; Mθϕ -0.20; Mϕr-0.60; Fault plane solution: M◎2.91000×1017 NP1:ϕs99.00000°, δ44.00000°,λ-101.00000°. NP2:ϕs294.00000°, δ47.00000°,λ-80.00000°. Principal axes: T 2.0195, Plg1.0000°, Azm17.0000°; N 1.3206, Plg7.0000°, Azm107.0000°; P -3.3401, Plg82.0000°, Azm278.0000°;*

ISC 15 11:16:34.0±0.4,64°67N±0°02×17°65W±0°02,h4km±2km, h5km:pP-P,n1313,σ2s41/855,mb5.1/243,MS5.3/499, 46C-26D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IVON	**Vonarskard**	**0.05**	**274**	P	**Pg**	**11 16 35.3**	**0.0**
	baz=271						
IDYN	**Dyngjuhals**	**0.17**	**45**	P	**Pg**	**11 16 35.5**	**-2.0**
	baz=16						
IDJK	**Dyngjujokull**	**0.24**	**133**	P	**Pg**	**11 16 36.5**	**-2.3**
	baz=151						
IDJK				S	**Sg**	**11 16 39.6**	**-2.4**
	baz=151						
IURH	**Urdarhals**	**0.26**	**55**	P	**Pg**	**11 16 36.7**	**-2.4**
	baz=41						
IGRF	**Grimsfjall**	**0.31**	**148**	P	**Pg**	**11 16 38.0**	**-2.0**
	baz=163						
IGRF				S	**Sb**	**11 16 43.7**	**-3.9**
	baz=163						
ISKR	**Skrokkalda**	**0.34**	**251**	P	**Pg**	**11 16 40.3**	**-0.2**
	baz=255						
IJOK	**Jokulheimar**	**0.43**	**215**	P	**Pg**	**11 16 41.5**	**-0.9**
	baz=224						
IVOT	**Vottur**	**0.45**	**153**	P	**Pg**	**11 16 40.4**	**-2.2**
	baz=164						
IKRE	**Kreppuhraun**	**0.56**	**78**	P	**Pg**	**11 16 41.1**	**-3.6**
	baz=76						
IASK	**Askja**	**0.57**	**48**	P	**Pg**	**11 16 41.9**	**-3.2**
	baz=41						
IIEY	**Innrieyrar**	**0.61**	**200**	P	**Pg**	**11 16 44.3**	**-1.5**
	baz=207						
IMKO	**Mokollar**	**0.64**	**60**	P	**Pg**	**11 16 42.9**	**-3.4**
	baz=56						
ISVA	**Svartarkot**	**0.69**	**14**	P	**Pg**	**11 16 44.6**	**-2.7**
	baz=6.9						
ISVA				S	**Sg**	**11 16 54.6**	**-1.6**
	baz=6.9						
IKSK	**Karasker**	**0.72**	**135**	P	**Pg**	**11 16 43.9**	**-3.9**
	baz=140						
IKAL	**Kalfafell**	**0.72**	**181**	P	**Pg**	**11 16 45.7**	**-2.2**
	baz=188						
IVAT	**Vatnsfell**	**0.73**	**229**	P	**Pg**	**11 16 46.9**	**-1.2**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.84**	**80**	P	**Pg**	**11 16 45.8**	**-4.3**
	baz=79						
IHVE	**Hveravellir**	**0.85**	**285**	P	**Pg**	**11 16 48.6**	**-1.6**
	baz=283						
IHVE				S	**Sg**	**11 16 58.1**	**-3.1**
	baz=283						
IADA	**Aoalbol**	**0.95**	**67**	P	**Pg**	**11 16 47.7**	**-4.5**
	baz=66						
IADA				S	**Sg**	**11 16 58.6**	**-6.0**
	baz=66						
IMEL	**Melhnausar**	**1.00**	**24**	P	**Pg**	**11 16 49.4**	**-3.8**
	baz=20						
IREN	**Reynihlio**	**1.03**	**17**	P	**Pg**	**11 16 50.1**	**-3.6**
	baz=13						
ISNB	**Snabyli**	**1.03**	**205**	P	**Pg**	**11 16 51.4**	**-2.4**
	baz=209						
ISLY	**Slysaalda**	**1.06**	**218**	P	**Pg**	**11 16 52.3**	**-2.1**
	baz=221						
IKVO	**Krokottuvotn**	**1.10**	**17**	P	**Pg**	**11 16 51.2**	**-3.8**
	baz=13						
IFED	**Fedgar**	**1.10**	**235**	P	**Pg**	**11 16 53.4**	**-1.6**
	baz=237						
IRJU	**Rjupnafell**	**1.15**	**203**	P	**Pg**	**11 16 53.4**	**-2.6**
	baz=207						
IGRS	**Grimsstaoir**	**1.17**	**33**	P	**Pg**	**11 16 52.1**	**-4.3**
	baz=29						
IGRS				S	**Sg**	**11 17 03.3**	**-8.2**
	baz=29						
ISKI	**Skildingahlsh**	**1.23**	**12**	P	**Pg**	**11 16 53.6**	**-4.1**
	baz=8.2						
IALF	**Alftagrof**	**1.36**	**210**	P	**Pn**	**11 16 57.1**	**-2.7**
	baz=214						
IESK	**Eystri-Skogar**	**1.40**	**215**	P	**Pn**	**11 16 57.6**	**-2.5**
	baz=218						
IHED	**Heoinshofoi**	**1.42**	**6**	P	**Pn**	**11 16 56.6**	**-4.0**
	baz=2.3						
IGIL	**Gilhagi**	**1.51**	**20**	P	**Pn**	**11 16 57.5**	**-4.4**
	baz=18						
BORG	**Borgarnes**	**1.58**	**274**	Pg	**Pn**	**11 17 00.8**	**-1.9**
	36nm,0.3s,baz=95,slow=10,SNR=117						
BORG				Lg	Lg	11 17 26.5	
	173nm,0.3s,baz=47,slow=22,SNR=6.3						
BORG				LR	LR	11 17 37.7	
	comp=Z,10μm,20.6s,baz=153,slow=40						
BORG	**Borgarnes**	**1.58**	**274**	P	**Pn**	**11 17 00.5**	**-2.2**
BORG						11 17 18.9	
BORG	**Borgarnes**	**1.58**	**274**	Pn	**Pn**	**11 17 00.5**	**-2.2**
BORG				Sn	**Sn**	**11 17 18.9**	**-4.6**
IKRO	**Krokur**	**1.61**	**251**	P	**Pn**	**11 17 01.1**	**-2.1**
	baz=252						
IKAS	**Kald??rsel**	**1.94**	**252**	P	**Pn**	**11 17 06.9**	**-0.8**
	baz=253						
JMIC	**Jan Mayen**	**7.22**	**24**	Pn	Pn	11 18 24.5	+4.4
JMIC	**Jan Mayen**	**7.22**	**24**	Pn	**Pn**	**11 18 19.6**	**-0.4**
	baz=270,slow=1.0,SNR=2.2						
JMIC				LR	LR	11 20 43.5	
	comp=Z,33μm,18.1s,baz=256,slow=34						
JMIC	**Jan Mayen**	**7.22**	**24**	Pn	Pn	11 18 24.5	+4.4
LEWI	**Lewis, Hebride**	**8.33**	**137**	*e*P	**Pn**	**11 18 33.4**	**-2.0**
ANGG	**Ammassalik, Gr**	**8.47**	**285**	Pn	**Pn**	**11 18 35.7**	**-1.5**
ANGG	**Ammassalik, Gr**	**8.47**	**285**	*i* P	Pn	11 18 49.9	+13
ANGG					IAMs_20	IAMs_20	11 22 01.2
	comp=Z,30μm,11.5s						
WAL1	**Walls**	**8.63**	**113**	*e*P	**Pn**	**11 18 38.3**	**-1.2**
LRW	**Lerwick**	**8.88**	**113**	*e*P	**Pn**	**11 18 42.0**	**-0.9**
LRW					IAMs_20	IAMs_20	11 22 13.4
	comp=Z,22μm,14.4s						
ISOG	**Isortoq, Green**	**9.03**	**285**		IAMs_20	IAMs_20	11 23 14.0
	comp=Z,40μm,6.7s						
KAC	**Achnashellach**	**9.34**	**135**	*e*P	**Pn**	**11 18 46.9**	**-2.3**
KPL	**Plockton**	**9.36**	**136**	*e*P	**Pn**	**11 18 46.8**	**-2.7**
KPL	**Plockton**	**9.36**	**136**	*e*P	**Pn**	**11 18 47.5**	**-2.0**
ICESG	**Greenland Ices**	**9.68**	**307**	*e*P	Pn	11 19 04.1	+10
DBG	**Daneborg**	**9.73**	**356**	*e*P	Pn	11 19 07.6	+13
DBG					IAMs_20	IAMs_20	11 21 58.1
	comp=Z,28μm,14.8s						
MCD	**Coleburn Disti**	**9.93**	**129**	*e*P	**Pn**	**11 18 55.6**	**-1.6**
LAWE	**Loch Awe, Argy**	**10.36**	**139**	*e*P	**Pn**	**11 18 59.3**	**-3.8**
LAWE					IAMs_20	IAMs_20	11 24 45.7
	comp=Z,10μm,12.1s						
INVG	**Invergeldie, C**	**10.61**	**135**	*e*P	**Pn**	**11 19 03.5**	**-3.1**
INVG					IAMs_20	IAMs_20	11 24 26.0
	comp=Z,9μm,11.3s						
FOO	**Floro**	**10.70**	**96**	*e*P	**Pn**	**11 19 07.2**	**-0.4**
DRUM	**Mains of Drumt**	**10.71**	**129**	*e*P	**Pn**	**11 19 08.2**	**+0.3**
SUE	**Sulen**	**10.83**	**99**	*e*P	**Pn**	**11 19 09.3**	**-0.1**
SUMG	**Summit**	**10.90**	**326**	P	**Pn**	**11 19 14.8**	**+3.9**
SUMG	**Summit**	**10.90**	**326**	Pn	**Pn**	**11 19 14.8**	**+3.9**
SUMG	**Summit**	**10.90**	**326**	*i* P	Pn	11 19 16.0	+5.1
PGBU	**Glenifferbraes**	**11.01**	**138**	*e*P	**Pn**	**11 19 09.4**	**-2.5**
AKN	**Aaknes**	**11.29**	**91**	Pn	Pn	11 19 18.8	+3.0
AKN	**Aaknes**	**11.29**	**91**	Pn	Pn	11 19 18.8	+3.0
EDI	**Edinburgh**	**11.30**	**134**	*e*P	**Pn**	**11 19 13.7**	**-2.2**
EDI	**Edinburgh**	**11.30**	**134**	*e*P	**Pn**	**11 19 14.6**	**-1.4**
ASK	**Askoy**	**11.30**	**101**	*e*P	**Pn**	**11 19 16.4**	**+0.4**
MOL	**Molde**	**11.37**	**89**	*e*P	**Pn**	**11 19 16.0**	**-0.9**
HYA	**Hoyanger**	**11.38**	**97**	*e*P	**Pn**	**11 19 13.5**	**-3.5**
ESY	**Stoneypath**	**11.48**	**133**	*e*P	**Pn**	**11 19 16.9**	**-1.6**
NEWG	**New Galloway**	**11.68**	**139**	*e*P	**Pn**	**11 19 18.0**	**-3.1**
NEWG					IAMs_20	IAMs_20	11 24 07.5
	comp=Z,18μm,14.3s						
EKA	**Eskdalemuir Ar**	**11.81**	**136**	Pn	**Pn**	**11 19 22.3**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.81**	**136**	Pn	**Pn**	**11 19 21.0**	**-1.9**
	baz=328,slow=12,SNR=8.6						
EKA				Sn	**Sn**	**11 21 33.7**	**-1.2**
	baz=335,slow=24,SNR=1.9						
EKA				LR	LR	11 23 52.7	
	comp=Z,11μm,18.2s,baz=330,slow=38						
EKA	**Eskdalemuir Ar**	**11.81**	**136**	Pn	**Pn**	**11 19 22.3**	**-0.6**
ESK	**Eskdalemuir**	**11.81**	**136**	*e*P	**Pn**	**11 19 20.4**	**-2.5**
ESK	**Eskdalemuir**	**11.81**	**136**	P	**Pn**	**11 19 22.4**	**-0.5**
ESK						11 21 33.2	
ESK	**Eskdalemuir**	**11.81**	**136**		**Pn**	**11 19 22.4**	**-0.5**
ESK				Sn	**Sn**	**11 21 33.2**	**-1.7**
DY2G	**Dye2**	**11.93**	**292**		IAMs_20	IAMs_20	11 23 51.4
	comp=Z,25μm,12.0s						
KMY	**Karmoy**	**12.04**	**106**	*e*P	**Pn**	**11 19 22.0**	**-4.1**
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	Pn	11 19 32.6	+4.8
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	Pn	11 19 32.6	+4.8
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	Pn	11 19 32.6	+4.9
DAG					IAMs_20	IAMs_20	11 25 18.6
	comp=Z,7μm,9.3s						
ODD1	**Odda**	**12.21**	**102**	*e*P	**Pn**	**11 19 23.8**	**-4.7**
DOMB	**Dombas**	**12.23**	**90**	*e*P	**Pn**	**11 19 27.0**	**-1.7**
SKAR	**Skarslia**	**12.52**	**97**	*e*P	**Pn**	**11 19 29.8**	**-2.9**
EDMD	**Edmundbyers**	**12.60**	**134**	*e*P	**Pn**	**11 19 33.7**	**0.0**
NSS	**Namsos**	**12.66**	**77**	*e*P	**Pn**	**11 19 33.9**	**-0.6**
STOK	**Stokkvaagen**	**12.76**	**69**	*e*P	**Pn**	**11 19 36.9**	**+1.0**
KONS	**Konsvik**	**12.79**	**68**	*e*P	**Pn**	**11 19 36.1**	**-0.1**
DSB	**Dublin**	**12.82**	**148**	Pn	**Pn**	**11 19 34.0**	**-2.7**
LOF	**Lofoten**	**12.87**	**61**	Pn	Pn	11 19 40.7	+3.3
LOF	**Lofoten**	**12.87**	**61**	*e*P	**Pn**	**11 19 36.0**	**-1.4**
NRS	**Narsarsuaq**	**13.07**	**267**	P	**Pn**	**11 19 36.8**	**-3.3**
NRS						11 22 00.9	
NRS	**Narsarsuaq**	**13.07**	**267**	Pn	**Pn**	**11 19 36.8**	**-3.3**
NRS				Sn	**Sn**	**11 22 00.9**	**-4.8**
NRS	**Narsarsuaq**	**13.07**	**267**		IAMs_20	IAMs_20	11 27 01.5
	comp=Z,17μm,7.1s						
NC204	**NORSAR Array S**	**13.29**	**92**	Pn	**Pn**	**11 19 43.9**	**+0.7**
MOR8	**Moi Rana**	**13.36**	**69**	*e*P	**P**	**11 19 49.4**	**-4.4**
NBO00	**NORSAR Array S**	**13.41**	**93**		**Pn**	**11 19 45.6**	**+0.7**
STEI	**Steigen**	**13.52**	**61**	*e*P	**Pn**	**11 19 45.4**	**-0.7**
NAO01	**NORSAR Array S**	**13.55**	**93**	Pn	P	11 19 49.5	-6.5
FAUS	**Fauske**	**13.56**	**64**	*e*P	P	11 19 50.2	-5.8
NC303	**NORSAR Array S**	**13.58**	**91**		P	11 19 49.3	-7.0
NB2	**NORSAR Subarra**	**13.60**	**92**	P	**P**	**11 19 52.1**	**-4.5**
NB2	**NORSAR Subarra**	**13.60**	**92**	Pn	**Pn**	**11 19 43.8**	**-3.6**
	comp=Z,239nm,2.5s,baz=297,slow=14						
NB2	**NORSAR Subarra**	**13.60**	**92**	P	**P**	**11 19 52.1**	**-4.5**
NOA	**NORSAR Array B**	**13.60**	**92**	Pn	**Pn**	**11 19 42.9**	**-4.5**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=4.8						
NOA				LR	LR	11 25 00.8	
	comp=Z,5μm,20.0s,baz=295,slow=38						
SFJD	**Kangerlussuaq**	**13.61**	**295**	LR	LR	11 24 40.7	
	comp=Z,25μm,19.8s,baz=88,slow=36						
SFJD	**Kangerlussuaq**	**13.61**	**295**		IAMs_20	IAMs_20	11 24 44.4
	comp=Z,2μm,14.9s						
KONO	**Kongsberg**	**13.62**	**99**	P	**Pn**	**11 19 49.2**	**+1.6**
KONO	**Kongsberg**	**13.62**	**99**	Pn	**Pn**	**11 19 49.2**	**+1.6**
KONO	**Kongsberg**	**13.62**	**99**	*e*P	**Pn**	**11 19 46.2**	**-1.4**
NB201	**NORSAR Array S**	**13.63**	**92**		P	11 19 51.1	-5.8
ILULI	**Iluissat**	**13.74**	**304**		IAMs_20	IAMs_20	11 25 20.6
	comp=Z,21μm,9.1s						
NC405	**NORSAR Array S**	**13.78**	**91**	Pn	P	11 19 52.3	-6.2
NC602	**NORSAR Array S**	**13.88**	**93**		P	11 19 54.1	-5.6
NC602	**NORSAR Array S**	**13.88**	**93**	*e*P	P	11 19 53.1	-6.5
NUUK	**Nuuk**	**14.62**	**284**		IAMs_20	IAMs_20	11 26 38.7
	comp=Z,20μm,6.5s						
NUUG	**Nuugaatsiaq**	**14.71**	**313**		IAMs_20	IAMs_20	11 25 41.2
	comp=Z,23μm,11.9s						
SALU	**Saltoluokta**	**14.80**	**63**	*e*P	P	11 20 04.5	-5.4
TRO	**Tromso**	**14.86**	**54**	P	**P**	**11 20 08.2**	**-2.2**
TRO	**Tromso**	**14.86**	**54**	*e*P	**Pn**	**11 20 04.2**	**-0.3**
HFS	**Hagfors**	**15.11**	**93**	P	**P**	**11 20 12.1**	**-1.2**
	baz=307,slow=10						
HFS	**Hagfors**	**15.11**	**93**	Pn	**Pn**	**11 20 06.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=310,slow=11,SNR=1.2						
HFS				LR	LR	11 25 47.5	
	comp=Z,6μm,20.8s,baz=287,slow=37						
HFS	**Hagfors**	**15.11**	**93**	P	**P**	**11 20 12.1**	**-1.2**
	baz=307,slow=10						
MUD	**Monsted U'grnd**	**15.43**	**110**	*e*P	**Pn**	**11 20 06.5**	**-5.6**
MUD	**Monsted U'grnd**	**15.43**	**110**		IAMs_20	IAMs_20	11 28 47.3
	comp=Z,5μm,10.1s						
KIF	**Kilpisjarvi**	**15.53**	**57**	*e*P	**P**	**11 20 18.3**	**+0.5**
BJO1	**Bjornoya**	**15.78**	**36**	P	**P**	**11 20 21.0**	**+0.4**
BJO1	**Bjornoya**	**15.78**	**36**	P	**P**	**11 20 21.0**	**+0.4**
UPNV	**Upernavik**	**15.83**	**317**		IAMs_20	IAMs_20	11 26 20.0
	comp=Z,20μm,11.8s						
HSPB	**Hornsund (broa**	**16.09**	**27**	*e*P	**P**	**11 20 21.6**	**-2.5**
BRBB	**Barentsburg B**	**16.48**	**23**	P	**P**	**11 20 31.9**	**+3.6**
BRBB	**Barentsburg B**	**16.48**	**23**	P	**P**	**11 20 31.9**	**+3.6**
KBS	**Kingsbay**	**16.66**	**19**	*i* P	P	11 20 35.8	+5.5
KBS				*e*S	**S**	**11 23 51.5**	**+7.1**
KBS	**Kingsbay**	**16.66**	**19**	P	**P**	**11 20 33.8**	**+3.5**
KBS				pmax	pmax		
	comp=Z,307nm,1.5s						
KBS	**Kingsbay**	**16.66**	**19**		**P**	**11 20 33.8**	**+3.5**
KBS				IAmb	IAmb	11 20 47.9	
	comp=Z,307nm,1.5s						
KBS	**Kingsbay**	**16.66**	**19**	*i* P	**P**	**11 20 35.1**	**+4.8**
KBS					IAMs_20	IAMs_20	11 25 11.6
	comp=Z,18μm,17.9s						
SPA0	**Spitsbergen Ar**	**16.89**	**23**	*e*P	**P**	**11 20 34.2**	**+1.3**
SPA0				*i* S	**S**	**11 23 49.8**	**+0.6**
SPA0	**Spitsbergen Ar**	**16.89**	**23**		**P**	**11 20 33.6**	**+0.7**
SPA0				IAmb	IAmb	11 20 48.7	
	comp=Z,228nm,1.5s						
SPA0	**Spitsbergen Ar**	**16.89**	**23**	*e*P	**Pn**	**11 20 28.4**	**-2.4**
SPITS	**Spitsbergen Ar**	**16.89**	**23**	Pn	**P**	**11 20 33.3**	**+0.4**
	baz=311,slow=13,SNR=3.2						
SPITS				LR	LR	11 25 30.0	
	comp=Z,10μm,19.6s,baz=230,slow=32						
NOR	**Nord**	**17.02**	**0**	P	**P**	**11 20 35.3**	**+1.0**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**11 20 38.4**	**+4.1**
NOR	**Nord**	**17.02**	**0**	P	**P**	**11 20 35.3**	**+1.0**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**11 20 38.4**	**+4.1**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**11 20 38.4**	**+4.1**
ARD8	**ARCESS Array S**	**17.16**	**55**	P	**Pn**	**11 20 31.7**	**-2.5**
ARD8					IAmb	IAmb	11 20 44.7
	comp=Z,255nm,1.4s						
ARA0	**ARCESS Array S**	**17.17**	**55**	P	**P**	**11 20 35.7**	**-0.3**
	baz=272,slow=6.2						
ARA0	**ARCESS Array S**	**17.17**	**55**	P	**P**	**11 20 35.7**	**-0.3**
	baz=272,slow=6.2						
ARCES	**ARCESS Array B**	**17.17**	**55**	P	**P**	**11 20 35.4**	**-0.6**
	baz=302,slow=9.1,SNR=2.7						
ARCES				LR	LR	11 26 10.4	
	comp=Z,9μm,18.6s,baz=275,slow=34						
COP	**Copenhagen**	**17.29**	**107**		IAMs_20	IAMs_20	11 30 22.9
	comp=Z,3μm,9.6s						
KEV	**Kevo**	**17.67**	**54**	P	**P**	**11 20 42.4**	**+0.9**
KEV				pmax	pmax		
	comp=Z,119nm,1.1s						
KEV	**Kevo**	**17.67**	**54**	P	**P**	**11 20 42.4**	**+0.9**
HOPEN	**Hopen**	**17.86**	**31**	P	**P**	**11 20 47.1**	**+3.5**
HOPEN	**Hopen**	**17.86**	**31**	*i* P	**P**	**11 20 48.6**	**+5.0**
HOPEN				*e*S	S	11 24 17.4	+8.5
HOPEN	**Hopen**	**17.86**	**31**	P	**P**	**11 20 47.1**	**+3.5**
UCC	**Uccle**	**18.05**	**130**	P	**P**	**11 20 45.0**	**-0.8**
UCC				pmax	pmax		
	comp=Z,164nm,1.5s						
UCC	**Uccle**	**18.05**	**130**		**P**	**11 20 45.0**	**-0.8**
UCC				IAmb	IAmb	11 20 57.2	
	comp=Z,164nm,1.5s						
SNF	**Seneffe**	**18.27**	**130**	P	P	11 20 54.4	+6.1
BEBN	**Eben Emael**	**18.50**	**128**	P	P	11 20 56.3	+5.6
BGES	**Gesves**	**18.65**	**129**	P	Pn	11 21 00.3	+7.6
BCLA	**Clavier**	**18.69**	**129**	P	Pn	11 21 00.6	+7.5
BSD	**Bornholm Skovb**	**18.70**	**105**		IAMs_20	IAMs_20	11 32 53.4
	comp=Z,2μm,12.0s						
DOU	**Dourbes**	**18.73**	**131**	P	Pn	11 21 01.1	+7.4
MEM	**Membach**	**18.77**	**127**	P	**Pn**	**11 20 58.9**	**+4.8**
	comp=Z,119nm,3.0s						
BTNL	**Ternell**	**18.83**	**127**	P	Pn	11 20 59.9	+5.0
RCHB	**Rochefort**	**18.89**	**129**	P	**Pn**	**11 21 00.0**	**+4.4**
RCHB				x	x	11 21 10.1	
BHOU	**Houvegnez**	**18.98**	**128**	P	**Pn**	**11 21 00.6**	**+3.8**
WLF	**Walferdange**	**19.62**	**129**	P	**Pn**	**11 21 07.5**	**+3.1**
WLF	**Walferdange**	**19.62**	**129**	P	**Pn**	**11 21 02.8**	**-1.6**
WLF				pmax	pmax		
	comp=Z,141nm,1.4s						
WLF	**Walferdange**	**19.62**	**129**		**Pn**	**11 21 02.8**	**-1.6**
WLF				IAmb	IAmb	11 21 26.3	
	comp=Z,141nm,1.4s						
FIA0	**FINESS Array S**	**19.77**	**79**	P	**Pn**	**11 21 08.8**	**+2.8**
	baz=315,slow=4.0						
FIA0	**FINESS Array S**	**19.77**	**79**	P	**Pn**	**11 21 08.8**	**+2.8**
	baz=315,slow=4.0						
FINES	**FINESS Array B**	**19.77**	**79**	P	**Pn**	**11 21 04.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=228,slow=7.4,SNR=5.8						
FINES				LR	LR	11 28 19.8	
	comp=Z,6μm,21.4s,baz=300,slow=36						
FINES	**FINESS Array B**	**19.77**	**79**	P	**Pn**	**11 21 06.0**	**0.0**
FIA1	**FINESS Array S**	**19.77**	**79**	P	**Pn**	**11 21 08.2**	**+2.2**
FIA1					IAmb	IAmb	11 21 15.1
	comp=Z,170nm,1.4s						
TULEG	**Thule**	**19.81**	**327**		**Pn**	**11 21 04.9**	**-1.5**
TULEG					IAmb	IAmb	11 21 18.2
	comp=Z,156nm,1.3s						
TULEG	**Thule**	**19.81**	**327**	*i* P	**Pn**	**11 21 10.3**	**+3.8**
TULEG				*e*P	**sP**	**11 21 13.0**	**+5.7**
TULEG					IAMs_20	IAMs_20	11 28 41.8
	comp=Z,19μm,12.5s						
CLF	**Chambon-Foret**	**19.84**	**138**	P	**Pn**	**11 21 04.2**	**-2.8**
APA0	**Apatity Array**	**20.22**	**59**	P	Pn	11 21 11.4	+0.1
APA0	**Apatity Array**	**20.22**	**59**	P	Pn	11 21 11.4	+0.1
LVZ	**Lovozero**	**20.75**	**58**	P	Pn	11 21 16.8	-0.8
LVZ				pmax	pmax		
	comp=Z,168nm,1.3s						
LVZ				MLR	MLR		
	comp=Z,9μm,19.0s						
LVZ	**Lovozero**	**20.75**	**58**		Pn	11 21 16.8	-0.7
LVZ				IAmb	IAmb	11 21 24.7	
	comp=Z,168nm,1.3s						
CLL	**Collm**	**20.76**	**115**	*e*P	Pn	11 21 15.0	-2.8
CLL				*i* pP	sP	11 21 17.8	-0.1
	comp=Z,284nm,1.6s						
CLL				*e*Pmax		11 21 20.0	
CLL				*i*		11 21 23.9	
CLL				*i* PP	**PnPn**	**11 21 34.5**	**+1.3**
CLL				*e*		11 23 00.0	
CLL				*e*S	Sn	11 25 12.0	-0.2
CLL				*e*SSS	SSS	11 25 41.0	
CLL				Lmax		11 32 00.0	
CLL	**Collm**	**20.76**	**115**	*e*P	Pn	11 21 15.0	-2.8
CLL				*i*		11 21 17.8	
CLL				*e*S	Sn	11 25 12.0	-0.2
CLL				pmax	pmax		
	comp=Z,284nm,1.6s						
CLL	**Collm**	**20.76**	**115**	P	Pn	11 21 14.4	-3.4
CLL				IAmb	IAmb	11 21 36.4	
	comp=Z,123nm,1.2s						
GKP	**Gorka Klasztor**	**20.98**	**106**	*e*P	Pn	11 21 19.2	-1.1
ECH	**Echery**	**21.20**	**129**	P	**P**	**11 21 18.0**	**-2.3**
ECH				pmax	pmax		
	comp=Z,104nm,1.3s						
ECH				MLR	MLR		
	comp=Z,4μm,19.0s						
ECH	**Echery**	**21.20**	**129**	P	**P**	**11 21 18.0**	**-2.3**
ECH				IAmb	IAmb	11 21 25.9	
	comp=Z,104nm,1.3s						
GRA1	**Grafenberg Arr**	**21.39**	**121**	P	**P**	**11 21 22.1**	**-0.2**
GRA1				IAmb	IAmb	11 21 49.5	
	comp=Z,158nm,1.2s						
GRF	**Grafenberg Arr**	**21.39**	**121**	P	**P**	**11 21 22.1**	**-0.2**
GRF				pmax	pmax		
	comp=Z,158nm,1.2s						
GRF				MLR	MLR		
	comp=Z,6μm,20.0s						
BRG	**Berggiesshubel**	**21.47**	**115**	*i* P	**P**	**11 21 22.8**	**-0.3**
	comp=Z,11nm,0.9s						
BRG				*i*		11 21 27.2	
	comp=Z,1μm,2.1s						
BRG				S	Sn	11 25 33.0	+3.8
	comp=N,6μm,16.8s						
	comp=E,4μm,14.3s						
	comp=Z,7μm,17.8s						
BRG	**Berggiesshubel**	**21.47**	**115**	*i* P	**P**	**11 21 22.8**	**-0.3**
BRG				*i*		11 21 27.2	
BRG				S	Sn	11 25 33.0	+3.8
BRG				pmax	pmax		
	comp=Z,11nm,1.0s						
BRG				pmax	pmax		
	comp=Z,1μm,2.1s						
BRG				MLR	MLR		
	comp=N,6μm,16.8s						
BRG				MLR	MLR		
	comp=E,4μm,14.3s						
BRG				MLR	MLR		
	comp=Z,7μm,17.8s						
BFO	**Black Forest**

SSB IAmb IAmb 11 22 03.3
comp=Z,83nm,1.4s
SSB Saint Sauveur 23.00 137 IAMs_20 IAMs_20 11 30 50.1
comp=Z,9µm,19.0s
GEC2 GERESS Array S 23.01 118 P **P** **11 21 40.7 +1.0**
GERES GERESS Array B 23.01 118 P **P** **11 21 39.9 +0.2**
comp=Z,7.5nm,1.0s,baz=332,slow=7.7,SNR=9.5
GERES LR LR 11 31 40.6
comp=Z,6µm,18.8s,baz=331,slow=40
GERES GERESS Array B 23.01 118 P **P** **11 21 39.3 -0.4**
GERES GERESS Array B 23.01 118 P **P** **11 21 39.3 -0.4**
RETA Reutte 23.07 125 *i* P **P** **11 21 42.5 +2.2**
comp=Z,64nm,1.8s,SNR=14
ZFI2 Zemlya Franca- 23.09 22 *e*P **P** **11 21 40.1 0.0**
comp=Z,65nm,1.4s
ZFI2 *e*S **S** **11 25 54.5 +3.2**
ZFI Zemlya Franca- 23.09 22 *e*P **P** **11 21 39.6 -0.5**
comp=Z,356nm,2.1s
ZFI *e*S **S** **11 25 53.4 +2.1**
ISAL Salakas 23.16 92 *e*P **P** **11 21 42.7 +1.7**
KRLC Kraliky 23.22 112 *e*S Sn 11 26 00.4 -11
KRLC AMS AMS 11 31 00.0
comp=Z,5µm,18.4s
MOTA Moosalm 23.32 124 *i* P **P** **11 21 45.6 +2.7**
comp=Z,209nm,2.5s,SNR=26
TREC Trest 23.33 115 *e*P **P** **11 21 42.7 -0.2**
TREC AMS AMS 11 31 50.0
comp=Z,5µm,18.2s
TREC Trest 23.33 115 *e*P **P** **11 21 42.7 -0.2**
TREC MLR MLR
comp=Z,5µm,18.2s
IIGN Ignalina 23.34 93 *e*P **P** **11 21 44.6 +1.8**
DAVOX Davos/Dischmat 23.37 127 P **P** **11 21 42.8 -0.6**
comp=Z,2.0nm,0.4s,baz=320,slow=12,SNR=3.1
DAVOX LR LR 11 31 38.2
comp=Z,5µm,19.6s,baz=322,slow=39
PGAV Gavieira, Arco 23.37 162 *e*P **P** **11 21 47.7 +4.3**
comp=Z,219nm,1.5s
PGAV *i* LQ LQ 11 26 08.3
PGAV *e*LR LR 11 27 52.6
comp=Z,9µm,20.0s
TUE Stuetta 23.46 128 P **P** **11 21 41.5 -2.8**
SQTA Sankt Quirin 23.46 124 *i* P **P** **11 21 47.2 +3.0**
comp=Z,165nm,2.3s,SNR=22
FETA Feichten 23.46 125 *i* P **P** **11 21 48.0 +3.7**
comp=Z,74nm,2.4s,SNR=14
WATA Walderalm 23.49 124 *i* P **P** **11 21 45.3 +0.7**
comp=Z,87nm,1.7s,SNR=11
BEL Belsk 23.50 105 *e*P **P** **11 21 45.4 +0.9**
BEL *e*pP **sP** **11 21 48.7 +1.6**
BEL *e*S **S** **11 26 04.9 +6.4**
WTTA Wattenberg 23.57 124 *i* P **P** **11 21 47.5 +2.0**
comp=Z,102nm,1.5s,SNR=18
IDID Didziasalis 23.59 92 *e*P **P** **11 21 46.8 +1.5**
EUNU Eureka 23.64 336 P **P** **11 21 46.5 +0.7**
EUNU IAmb IAmb 11 22 00.5
comp=Z,83nm,1.1s
FUORN Ofenpass-Fuorn 23.64 126 P **P** **11 21 47.0 +0.8**
FUORN IAmb IAmb 11 22 10.5
comp=Z,61nm,1.2s
PCAB Cabril 23.66 162 *e*P **P** **11 21 51.2 +5.1**
comp=Z,184nm,2.0s
PBRG Braganca 23.75 159 *e*P **P** **11 21 51.2 +4.2**
comp=Z,161nm,1.9s
VRAC Vranov 23.75 114 P **P** **11 21 47.3 +0.3**
comp=Z,10nm,1.0s,baz=324,slow=11,SNR=20
VRAC LR LR 11 32 06.3
comp=Z,6µm,18.7s,baz=328,slow=39
VRAC Vranov 23.75 114 ⇓P **P** **11 21 51.9 +4.9**
VRAC Vranov 23.75 114 *e*P **P** **11 21 48.0 +1.0**
VRAC *e*S **S** **11 26 09.4 +6.8**
MORC Moravsky Berou 23.76 112 ⇑P **P** **11 21 49.6 +2.6**
MORC Moravsky Berou 23.76 112 *e*P **P** **11 21 47.6 +0.5**
MORC *e*S **S** **11 26 08.1 +5.4**
MORC Moravsky Berou 23.76 112 P **P** **11 21 46.1 -1.0**
MORC pmax pmax
comp=Z,85nm,1.5s
MORC MLR MLR
comp=Z,5µm,20.0s
MORC Moravsky Berou 23.76 112 P **P** **11 21 46.1 -1.0**
MORC IAmb IAmb 11 22 11.0
comp=Z,85nm,1.5s
BNI Bardonecchia 23.85 134 P **P** **11 21 47.1 -1.0**
BNI pmax pmax
comp=Z,48nm,1.3s
BNI MLR MLR
comp=Z,9µm,20.0s
BNI Bardonecchia 23.85 134 P **P** **11 21 47.1 -1.0**
BNI IAMs_20 IAMs_20 11 31 12.0
comp=Z,9µm,20.0s
KRUC Moravsky 23.87 115 *e*P **P** **11 21 49.0 +0.8**
KRUC *e*S **S** **11 26 12.2 +7.7**
NACGM Naroch 23.88 93 *e*P **P** **11 21 50.0 +1.8**
NACGM *e*S **S** **11 26 12.0 +7.5**
NACGM *e*LQ LQ 11 30 18.0
NACGM *e*LR LR 11 32 10.0
NACGM LRM MLR 11 33 08.0
comp=Z,7.7nm,12.0s
MOA Molln 24.05 119 *i* P **P** **11 21 54.2 +4.3**
comp=Z,96nm,1.9s,SNR=19
PVRL Vila Real 24.13 161 *e*P **P** **11 21 55.2 +4.6**
comp=Z,192nm,2.0s
OJC Ojcow 24.32 109 *e*P **P** **11 21 52.4 +0.1**
OJC *e*pP **sP** **11 21 55.8 +0.9**
OJC *e*S **S** **11 26 14.7 +3.1**
OJC Ojcow 24.32 109 P **P** **11 21 52.4 +0.1**
OJC pmax pmax
comp=Z,93nm,1.5s
OJC Ojcow 24.32 109 P **P** **11 21 52.4 +0.1**
OJC IAmb IAmb 11 22 04.5
comp=Z,93nm,1.5s
ABTA Abfaltersbach 24.33 123 *i* P **P** **11 21 55.4 +2.8**
comp=Z,66nm,1.5s,SNR=16
MVO Moncorvo 24.33 160 *e*P **P** **11 21 57.2 +4.6**
comp=Z,187nm,1.8s
MVO *i* LQ LQ 11 26 25.6
MVO *e*LR LR 11 28 36.4
comp=Z,6µm,18.0s
KBA Koelnbreinsper 24.35 121 *i* P **P** **11 21 57.6 +4.8**
comp=Z,50nm,1.7s,SNR=16
JAVC Velka Javorina 24.54 113 *e*P **P** **11 21 55.9 +1.5**
JAVC *e*S S 11 26 25.8 +11
CONA Conrad Observa 24.59 117 *i* P **P** **11 21 54.0 -0.9**
comp=Z,56nm,1.5s,SNR=12
CTI Castel Tesino 24.62 125 P **P** **11 21 59.9 +4.7**
CTI pmax pmax
comp=Z,118nm,1.3s
CTI MLR MLR
comp=Z,3µm,18.0s
CTI Castel Tesino 24.62 125 P **P** **11 21 59.9 +4.7**
MICGM Minsk 24.63 93 ⇑*e*P **P** **11 21 56.0 +1.0**
MICGM PM 11 22 00.0
comp=Z,1.0nm,2.0s
MICGM PM 11 22 00.0
comp=N,0.8nm,1.5s
MICGM PM 11 22 00.0
comp=E,0.4nm,1.5s
MICGM *e* 11 22 20.0
MICGM *e*PcP PcP 11 25 20.0 -12
MICGM *e*S **S** **11 26 24.0 +7.6**
MICGM *e*SS SnSn 11 27 30.0 +29
MICGM *e*LR LR 11 29 10.0
MICGM LRM MLR 11 34 00.0
comp=Z,6.0nm,12.0s
MICGM LRM MLR 11 34 00.0
comp=E,3.1nm,12.0s
MNK Minsk 24.63 93 ⇑*e*P **P** **11 21 56.0 +1.0**
MNK *e* 11 27 30.0
MNK pmax pmax
comp=Z,990nm,2.0s
MNK pmax pmax
comp=N,770nm,1.5s
MNK pmax pmax
comp=E,370nm,1.5s
MNK MLR MLR
comp=Z,6µm,12.0s
MNK MLR MLR
comp=E,3µm,12.0s
PVIS Viseu 24.65 162 *e*P **P** **11 22 00.1 +4.7**
comp=E,158nm,1.8s
ZOU Zoufplan 24.66 123 P **P** **11 21 54.1 -1.6**
CIMO Cimolais 24.68 124 P **P** **11 21 54.2 -1.4**
CIMO IAmb IAmb 11 22 16.5
comp=Z,72nm,1.2s
SMOL Smolenice 24.72 114 *e*P **P** **11 21 57.2 +1.2**
SMOL pmax pmax
comp=Z,142nm,1.9s
SMOL Smolenice 24.72 114 *e*P **P** **11 21 57.2 +1.2**
MODS Modra-Piesok 24.77 114 *e*P **P** **11 21 56.9 +0.4**
MODS pmax pmax
comp=Z,376nm,2.0s
MODS Modra-Piesok 24.77 114 *e*P **P** **11 21 56.9 +0.4**
MYKA Terra Mystica 24.84 122 *i* P **P** **11 22 01.6 +4.5**
comp=Z,46nm,1.5s,SNR=11
ZST Bratislava 24.85 115 *e*P **P** **11 21 59.3 +2.2**
ZST Bratislava 24.85 115 *e*P **P** **11 21 59.3 +2.2**
PRED Cave del Predi 24.97 122 P **P** **11 21 56.7 -1.6**
MTE Manteigas 25.01 162 *e*P **P** **11 22 02.4 +3.7**
comp=Z,193nm,1.6s
MTE *i* LQ LQ 11 26 36.3
MTE *e*LR LR 11 28 53.8
comp=Z,9µm,20.0s
MTE Manteigas 25.01 162 IAMs_20 IAMs_20 11 30 23.7
comp=Z,10µm,20.0s
ARSA Arzberg 25.02 118 *i* P **P** **11 21 59.2 +0.5**
comp=Z,44nm,1.4s,SNR=7.3
LANS Liptovska Anna 25.02 111 *e*P **P** **11 21 59.6 +0.9**
LANS pmax pmax
comp=Z,22nm,1.1s
LANS Liptovska Anna 25.02 111 *e*P **P** **11 21 59.6 +0.9**
COI Coimbra 25.09 163 *e*P **P** **11 22 03.1 +3.8**
comp=Z,252nm,1.4s
COI Coimbra 25.09 163 IAMs_20 IAMs_20 11 30 11.6
comp=Z,9µm,21.0s
NIE Niedzica 25.15 109 *e*P **P** **11 22 00.6 +0.7**
NIE *e*pP **sP** **11 22 04.3 +1.9**
NIE *e*S **S** **11 26 29.4 +4.3**
PCAS Casmilo, Conde 25.23 163 *e*P P 11 22 06.6 +6.0
comp=Z,259nm,1.6s
OBKA Obir 25.28 120 *e*P **P** **11 22 01.9 +0.8**
comp=Z,32nm,1.5s
VYHS Vyhne 25.29 112 *e*P **P** **11 22 00.7 -0.4**
VYHS pmax pmax
comp=Z,275nm,1.8s
VYHS Vyhne 25.29 112 *e*P **P** **11 22 00.7 -0.4**
SOKA Soboth 25.31 120 *i* P **P** **11 22 04.9 +3.5**
comp=Z,72nm,1.4s,SNR=14
PERS Pernice 25.38 120 *e*P **P** **11 22 06.2 +4.2**
PERS *e*S S 11 26 43.6 +15
PCBR Castelo Branco 25.57 162 *e*P **P** **11 22 08.1 +4.4**
comp=Z,117nm,1.9s
LJU Ljubljana 25.66 121 *i* P **P** **11 22 08.4 +4.0**
KLMR Klimovskoe 25.66 72 ⇑*i*P **P** **11 22 03.4 -0.9**
comp=Z,204nm,1.3s
KLMR *i* S **S** **11 26 34.2 +1.3**
KLMR Klimovskoe 25.66 72 *e*P **P** **11 22 03.4 -0.9**
KLMR *e*S **S** **11 26 34.4 +1.6**
KLMR pmax pmax
comp=Z,204nm,1.3s
KLMR MLR MLR
comp=Z,3µm,16.0s
KLMR Klimovskoe 25.66 72 *e*P **P** **11 22 03.4 -0.9**
KLMR AMP 11 22 15.7
comp=Z,204nm,1.3s
KLMR *e*S **S** **11 26 34.5 +1.6**
KLMR *e*S **S** **11 26 34.5 +1.6**
KLMR LQ LQ 11 29 03.9
KLMR LQ LQ 11 29 03.9
KLMR LR LR 11 30 18.7
KLMR AMP 11 31 49.7
comp=Z,3µm,15.6s
PSBE So Bento 25.72 164 *e*P **P** **11 22 09.1 +4.0**
comp=Z,222nm,1.8s
UCM Universidad Co 25.80 154 *e*P **P** **11 22 08.9 +3.1**
UCM *e*S **S** **11 26 32.9 -2.5**
ZCCA Zocca 25.87 128 P **P** **11 22 05.9 -0.5**
ZCCA IAMs_20 IAMs_20 11 33 35.1
comp=Z,7µm,18.0s
KECS Kecovo 25.96 110 *e*P **P** **11 22 11.6 +4.3**
KECS pmax pmax
comp=Z,46nm,1.5s
KECS Kecovo 25.96 110 *e*P **P** **11 22 11.5 +4.3**
KOGS Kog 25.96 118 *i* P **P** **11 22 11.2 +3.9**
KOGS *e*S S 11 26 54.0 +16
KWP Kalwaria Pacla 25.97 106 *e*P **P** **11 22 07.0 -0.3**
KWP *e*pP **sP** **11 22 11.3 +1.5**
KWP *e*S **S** **11 26 40.5 +2.5**
KWP Kalwaria Pacla 25.97 106 P **P** **11 22 07.1 -0.2**
KWP pmax pmax
comp=Z,363nm,1.4s
KWP MLR MLR
comp=Z,4µm,21.0s
KWP Kalwaria Pacla 25.97 106 P **P** **11 22 07.1 -0.2**
SCHQ Schefferville 25.98 271 P **P** **11 22 06.9 -0.4**
comp=Z,12nm,0.8s,baz=58,slow=6.3,SNR=10.0
SCHQ LR LR 11 31 32.3
comp=Z,4µm,19.2s,baz=72,slow=35
SCHQ Schefferville 25.98 271 P **P** **11 22 03.9 -3.4**
SCHQ IAmb IAmb 11 22 19.3
comp=Z,32nm,0.8s
LSH Leshukonskoye 26.02 60 P **P** **11 22 10.2 +2.7**
comp=Z,203nm,1.3s
LSH *e*S **S** **11 26 45.4 +6.9**
CRVS Cervenica-Dubn 26.03 108 *e*P **P** **11 22 10.0 +2.2**
CRVS pmax pmax
comp=Z,381nm,1.7s
CRVS Cervenica-Dubn 26.03 108 *e*P **P** **11 22 10.0 +2.2**
PSZ Piszkesteto 26.18 112 ⇑P **P** **11 22 13.2 +4.0**
PSZ Piszkesteto 26.18 112 P **P** **11 22 08.6 -0.6**
PSZ pmax pmax
comp=Z,285nm,1.4s
PSZ MLR MLR
comp=Z,4µm,19.0s
PSZ Piszkesteto 26.18 112 P **P** **11 22 08.6 -0.6**
PMAFR Mafra 26.22 165 *e*P P 11 22 16.3 +6.7
comp=Z,301nm,1.7s
PMTG Montargil 26.23 163 *e*P **P** **11 22 12.2 +2.5**
comp=Z,94nm,1.7s
ES18 SONSECA Array 26.25 156 IAMs_20 IAMs_20 11 32 31.1
comp=Z,8µm,18.0s
ES17 SONSECA Array 26.25 156 IAMs_20 IAMs_20 11 32 37.3
comp=Z,8µm,18.0s
ES16 SONSECA Array 26.27 156 IAMs_20 IAMs_20 11 32 31.5
comp=Z,8µm,18.0s
ES19 SONSECA Array 26.27 156 IAMs_20 IAMs_20 11 32 39.6
comp=Z,8µm,18.0s
ES07 SONSECA Array 26.27 156 IAMs_20 IAMs_20 11 32 38.7
comp=Z,8µm,18.0s
ES08 SONSECA Array 26.27 156 IAMs_20 IAMs_20 11 32 39.7
comp=Z,8µm,18.0s
ESBB Sonseca Array 26.28 156 P **P** **11 22 07.7 -2.5**
ESBB IAmb IAmb 11 22 22.0
comp=Z,100nm,1.4s
ESBB IAMs_20 IAMs_20 11 32 40.0
comp=Z,8µm,18.0s
ES06 SONSECA Array 26.28 156 IAMs_20 IAMs_20 11 32 39.0
comp=Z,8µm,18.0s
ESDC Sonseca Array 26.28 156 P **P** **11 22 09.3 -0.9**
comp=Z,4.5nm,0.8s,baz=348,slow=9.7,SNR=17
ESDC LR LR 11 32 41.6
comp=Z,7µm,18.0s,baz=345,slow=37
ESDC Sonseca Array 26.28 156 P **P** **11 22 09.2 -0.9**
ES02 SONSECA Array 26.29 156 IAMs_20 IAMs_20 11 32 40.1
comp=Z,8µm,18.0s
ES15 SONSECA Array 26.29 156 IAMs_20 IAMs_20 11 32 32.1
comp=Z,8µm,18.0s
ES01 SONSECA Array 26.29 156 IAMs_20 IAMs_20 11 32 32.2
comp=Z,8µm,18.0s
ES09 SONSECA Array 26.29 156 IAMs_20 IAMs_20 11 32 39.2
comp=Z,8µm,18.0s
ES05 SONSECA Array 26.30 156 IAMs_20 IAMs_20 11 32 38.3
comp=Z,9µm,18.0s
ES03 SONSECA Array 26.30 156 IAMs_20 IAMs_20 11 32 39.3
comp=Z,8µm,18.0s
ES14 SONSECA Array 26.30 156 IAMs_20 IAMs_20 11 32 32.4
comp=Z,7µm,18.0s
ES04 SONSECA Array 26.30 156 IAMs_20 IAMs_20 11 32 39.6
comp=Z,8µm,18.0s
ES13 SONSECA Array 26.31 156 IAMs_20 IAMs_20 11 32 32.6
comp=Z,8µm,18.0s
ES10 SONSECA Array 26.31 156 IAMs_20 IAMs_20 11 32 40.7
comp=Z,8µm,18.0s
ES11 SONSECA Array 26.32 156 IAMs_20 IAMs_20 11 32 49.9
comp=Z,8µm,18.0s
ES12 SONSECA Array 26.32 156 IAMs_20 IAMs_20 11 32 33.0
comp=Z,7µm,18.0s
KOLS Kolonicke sedl 26.34 107 *e*P **P** **11 22 10.4 -0.2**
KOLS pmax pmax
comp=Z,243nm,1.8s
KOLS Kolonicke sedl 26.34 107 *e*P **P** **11 22 10.4 -0.2**
PAB San Pablo 26.34 156 P **P** **11 22 08.2 -2.6**
PAB pmax pmax
comp=Z,61nm,1.3s
PAB MLR MLR
comp=Z,5µm,20.0s
PAB San Pablo 26.34 156 P **P** **11 22 08.2 -2.6**
PAB IAmb IAmb 11 22 28.3
comp=Z,61nm,1.3s
LVV L'vov 26.38 104 *e*P **P** **11 22 12.6 +1.7**
LVV *e* 11 23 04.5
LVV *e* 11 25 33.2
LVV *e*S **S** **11 26 43.8 -0.6**
LVV pmax pmax
comp=Z,900nm,1.8s
LVV smax smax
comp=N,4µm,5.3s
LVV smax smax
comp=E,3µm,5.3s
LVV MLR MLR
comp=E,2µm,13.0s
LVV MLR MLR
comp=N,3µm,14.0s
LVV MLR MLR
comp=Z,2µm,14.0s
RES Resolute Bay 26.43 324 P **P** **11 22 13.8 +2.7**
comp=Z,2.2nm,0.8s,baz=63,slow=14,SNR=1.9
RES LR LR 11 32 58.7
comp=Z,6µm,18.9s,baz=70,slow=37
RES Resolute Bay 26.43 324 P **P** **11 22 10.2 -0.9**
RES pmax pmax
comp=Z,24nm,1.2s
RES MLR MLR
comp=Z,6µm,20.0s
RES Resolute Bay 26.43 324 P **P** **11 22 10.2 -0.9**
LIS Lisbon 26.47 165 *e*P **P** **11 22 09.8 -2.1**
LIS AMb AMB 11 22 22.9
comp=Z,172nm,0.9s
LIS Lisbon 26.47 165 *e*P **P** **11 22 09.7 -2.1**
UZH Uzhgorod 26.58 108 *e*P **P** **11 22 11.9 -0.9**
UZH *e* 11 22 19.1
UZH *e*S **S** **11 26 43.9 -3.7**
UZH *e* 11 27 59.9
UZH MLR MLR
comp=N,1µm,16.0s
UZH MLR MLR
comp=E,1µm,16.0s
UZH MLR MLR
comp=Z,300nm,16.0s
OSSC Osservatorio P 26.69 129 P **P** **11 22 11.7 -2.2**
OSSC IAmb IAmb 11 22 28.8
comp=Z,64nm,1.1s
PNCL Nicolau / Gran 27.14 164 *e*P **P** **11 22 22.1 +4.3**
comp=Z,68nm,1.7s
PBEJ Beja 27.30 163 *e*P **P** **11 22 23.3 +3.9**
comp=Z,78nm,2.0s
MURB Monte Urbino 27.36 127 P **P** **11 22 22.2 +2.3**
PCVE Castro Verde 27.67 163 *e*P **P** **11 22 26.1 +3.5**
comp=Z,101nm,1.8s
PTEO Sao Teotonio 27.68 165 *e*P P 11 22 30.4 +7.7
comp=Z,112nm,1.6s
AKASG Malin Array Be 27.91 97 P **P** **11 22 23.2 -1.4**
comp=Z,0.4nm,0.3s,baz=324,slow=9.1,SNR=14
AKASG LR LR 11 33 24.2
comp=Z,3µm,21.3s,baz=315,slow=36
AKASG Malin Array Be 27.91 97 P **P** **11 22 26.7 +2.1**
AKBB Malin Array Si 27.91 97 ⇑*e*P **P** **11 22 22.8 -1.8**
AKBB pmax pmax
comp=Z,80nm,2.1s
AKBB Malin Array Si 27.91 97 P **P** **11 22 24.1 -0.5**
AKBB IAmb IAmb 11 22 37.0
comp=Z,68nm,1.4s
MORF Marmelete 27.92 165 *e*P **P** **11 22 22.8 -2.2**
MORF AMb AMB 11 22 34.8
comp=Z,91nm,2.1s
MORF *e*S **S** **11 27 06.2 -2.7**
MORF Marmelete 27.92 165 *e*P **P** **11 22 22.7 -2.2**
MORF *e*S **S** **11 27 06.2 -2.7**
MORF Marmelete 27.92 165 *e*P **P** **11 22 29.4 +4.5**
comp=Z,92nm,1.8s
PVAQ Vaqueiros 27.94 163 *e*P **P** **11 22 30.1 +5.1**
comp=Z,48nm,1.7s
PVAQ *i* LQ LQ 11 27 19.4
PVAQ *e*LR LR 11 30 05.8
comp=Z,7µm,22.0s
PVAQ Vaqueiros 27.94 163 IAMs_20 IAMs_20 11 31 38.1
comp=Z,8µm,21.0s
NRCA Norcia 27.94 127 P **P** **11 22 26.1 +1.1**
NRCA IAmb IAmb 11 22 36.5
comp=Z,37nm,1.1s
OBN Obninsk 27.95 84 P **P** **11 22 26.1 +1.2**
comp=Z,13nm,0.4s,baz=284,slow=1.2,SNR=14
OBN LR LR 11 33 15.4
comp=Z,565nm,21.5s,baz=322,slow=36
OBN Obninsk 27.95 84 *e*P **P** **11 22 24.1 -0.8**
OBN *e*PPP PPP 11 23 20.3
OBN pmax pmax
comp=Z,146nm,1.2s
OBN Obninsk 27.95 84 P **P** **11 22 26.6 +1.7**
MOS Moscow 27.98 82 *e*P **P** **11 22 26.1 +0.9**
MOS *e*S **S** **11 27 14.1 +4.6**
MOS pmax pmax
comp=Z,118nm,1.9s
MOS pmax pmax
comp=Z,600nm,2.8s
MOS smax smax
comp=N,1µm,4.6s
MOS smax smax
comp=E,2µm,6.8s
MOS MLR MLR
comp=Z,3µm,20.0s
SIRR Siria 28.22 112 ⇑P P 11 22 31.8 +4.2
AQU L'Aquila 28.46 127 IAMs_20 IAMs_20 11 35 30.9
comp=Z,6µm,18.0s
BUR08 Bucovina Ar. S 28.56 106 P **P** **11 22 30.2 -0.4**
BURAR Bucovina Array 28.59 106 ⇓P P 11 22 35.6 +4.7
BURAR Bucovina Array 28.59 106 ⇓P P 11 22 35.6 +4.7
BURAR Bucovina Array 28.59 106 P **P** **11 22 31.2 +0.3**
CJR Cluj-Napoca 28.64 109 ⇑P **P** **11 22 30.4 -0.9**
CJR Cluj-Napoca 28.64 109 ⇑P **P** **11 22 30.4 -0.9**
BZS Buzias 28.74 113 ⇓P P 11 22 36.4 +4.2
BZS Buzias 28.74 113 ⇓P P 11 22 36.4 +4.3
CART Cartagena 28.87 152 *e*P **P** **11 22 29.8 -3.4**
CART *e*S S 11 27 31.8 +8.1
INTR Introdacqua 28.94 126 P **P** **11 22 33.0 -1.0**
INTR IAmb IAmb 11 22 54.8
comp=Z,66nm,1.5s
DIVS Divibare 29.37 116 P **P** **11 22 37.6 -0.2**
GZR Gura Zlata 29.39 111 ⇓P **P** **11 22 38.8 +0.9**
GZR Gura Zlata 29.39 111 ⇓P **P** **11 22 38.8 +0.9**
MDB Medias 29.43 109 ⇑P **P** **11 22 35.3 -2.9**
MDB Medias 29.43 109 ⇑P **P** **11 22 35.3 -2.9**
MDVR Moldovita 29.47 113 ⇑P **P** **11 22 38.4 -0.2**
SORM Soroca 29.49 102 ⇑P **P** **11 22 40.8 +2.1**
SORM Soroca 29.49 102 ⇑P **P** **11 22 40.8 +2.1**
BIZ Bicaz 29.49 106 ⇓P **P** **11 22 38.5 -0.3**
HERR Herculane 29.67 112 ⇑P **P** **11 22 40.3 0.0**
VSL Villasalto 29.73 135 P **P** **11 22 39.4 -1.6**
VSL IAMs_20 IAMs_20 11 35 23.5
comp=Z,8µm,18.0s
CEU Ceuta 29.74 160 *i* P P 11 22 44.9 +3.9
CEU *e*S **S** **11 27 34.2 -3.2**
LOT Lotru 29.74 110 ⇑P **P** **11 22 43.5 +2.3**
DOPR Dopca 29.98 108 ⇑P P 11 22 48.8 +5.7
ARR Arges 30.16 109 ⇑P P 11 22 50.1 +5.4
VOIR 30.27 109 ⇓P **P** **11 22 46.2 +0.4**
VOIR 30.27 109 ⇓P **P** **11 22 46.2 +0.4**
MTUR Matau 30.45 109 ⇑P **P** **11 22 47.1 -0.2**
MTUR Matau 30.45 109 ⇑P **P** **11 22 47.1 -0.2**
PDG Podgorica 30.51 119 ⇓P P 11 22 51.1 +3.2
PDG Podgorica 30.51 119 P **P** **11 22 45.8 -2.0**
PDG IAmb IAmb 11 22 52.7
comp=Z,52nm,1.4s
KIS Kishinev 30.58 103 ⇑*i*P P 11 22 51.5 +3.2
comp=Z,310nm,3.5s
KIS Kishinev 30.58 103 *e*PcP **PcP** **11 25 48.0 +1.3**
KIS *e*S **S** **11 27 54.5 +4.1**
KIS *e*SS **SnSn** **11 29 20.0 -6.4**
KIS *e*LR LR 11 34 31.0
comp=Z,850nm,16.5s
KIS Kishinev 30.58 103 *c i*P P 11 22 51.5 +3.2
KIS *e* 11 23 47.0
KIS *e* 11 25 48.0
KIS *e*S **S** **11 27 54.5 +4.1**
KIS pmax pmax
comp=Z,310nm,3.5s

KIS MLR MLR
comp=Z,850nm,16.5s
KIS MLR MLR
comp=N,1μm,15.0s
PLOR Plostina 30.59 106 ⇓P **P 11 22 48.8 +0.2**
PLOR Plostina 30.59 106 ⇓P **P 11 22 48.8 +0.2**
MLR Muntele Rosu 30.59 108 P **P 11 22 50.5 +1.8**
comp=N,4.4nm,0.8s,baz=357,slow=4.4,SNR=17
MLR LR LR 11 36 40.5
comp=N,3μm,18.8s,baz=322,slow=40
MLR Muntele Rosu 30.59 108 ⇑P P 11 22 52.1 +3.4
MLR Muntele Rosu 30.59 108 P **P 11 22 49.1 +0.4**
MLR Muntele Rosu 30.59 108 P **P 11 22 49.1 +0.4**
VRI Vrincioaia 30.61 106 ⇓P **P 11 22 49.9 +1.2**
VRI Vrincioaia 30.61 106 ⇓P **P 11 22 49.9 +1.2**
PVLZ Peæn de 30.62 158 *e*P **P 11 22 47.0 -1.8**
PVLZ *e*S S 11 28 01.4 +10
MILM Milestii Mici 30.64 103 ⇓P P 11 22 52.4 +3.6
LPSR Galich'ya Gora 30.69 86 *e*P **P 11 22 50.8 +1.5**
LPSR pmax pmax
comp=Z,40nm,1.4s
LPSR MLR MLR
comp=Z,2μm,24.0s
MELI Melilla 30.73 156 *e*P **P 11 22 49.4 -0.4**
MELI *e*S S 11 28 01.0 +8.1
BISRR Bisoca 30.86 107 ⇑P P 11 22 56.8 +5.8
KIRV Kirov 31.04 69 P **P 11 22 51.4 -0.9**
comp=Z,5.5nm,0.5s,baz=312,slow=6.3,SNR=5.9
KIRV LR LR 11 34 51.8
comp=Z,7μm,20.1s,baz=310,slow=35
KIRV Kirov 31.04 69*de*P **P 11 22 52.7 +0.4**
MATE Matera 31.13 124 ⇓P **P 11 22 49.4 -3.8**
ISR Istrita 31.14 107 ⇑P P 11 22 57.3 +3.9
ISR Istrita 31.14 107 ⇑P P 11 22 57.3 +3.9
BATG Bathurst New B 31.18 260 P **P 11 22 51.2 -2.4**
BATG IAmb IAmb 11 23 10.9
comp=Z,26nm,1.2s
BATG IAMs_20 IAMs_20 11 33 39.3
comp=Z,7μm,19.0s
RTC Rabat Centre 31.41 163 IAMs_20 IAMs_20 11 35 21.1
comp=Z,9μm,20.0s
SKO Skopje 31.74 117 *i* P P 11 23 01.9 +3.2
CFR Carcaliu 31.75 106 ⇑P **P 11 22 57.2 -1.5**
CFR Carcaliu 31.75 106 ⇑P **P 11 22 57.2 -1.5**
LMN Caledonia Moun 31.78 257 IAMs_20 IAMs_20 11 33 56.0
comp=Z,6μm,20.0s
VSR Storozhevoye 31.80 87 *e*P **P 11 22 58.2 -0.8**
VSR pmax pmax
comp=Z,80nm,1.4s
VSR MLR MLR
comp=Z,2μm,15.0s
PMOZ Porto Moniz, M 31.87 179 *e*LR LR 11 31 30.7
comp=Z,4μm,20.0s
VTS Vitosha 31.89 114 *i* P P 11 23 03.5 +3.4
AVE Averroes 32.02 164 *e*P P 11 23 06.1 +4.9
AVE *e*S S 11 28 24.8 +12
VORD Divnogorie 32.03 88 *e*P **P 11 23 01.5 +0.4**
VORD pmax pmax
comp=Z,80nm,1.8s
IFR Ifrane 32.11 160 *e*P **P 11 23 05.2 +2.9**
IFR *e*S **S 11 28 16.2 +1.2**
OHR Ohrid 32.23 118 *i* P P 11 23 06.3 +3.2
STIP Stip 32.26 116 *i* P P 11 23 07.3 +4.1
PGB Panagyurishte 32.31 113 *i* P P 11 23 07.7 +4.0
RAZG Razgrad 32.40 109 ⇑P **P 11 23 04.9 +0.4**
SZH Strazhica 32.42 110 *i* P P 11 23 08.9 +4.3
TIP Timpagrande 32.45 125 P **P 11 23 02.9 -2.1**
TIP IAmb IAmb 11 23 20.8
comp=Z,34nm,1.5s
TIRR Tirgusor 32.45 106 P **P 11 23 05.1 +0.2**
TIRR pmax pmax
comp=Z,143nm,1.5s
TIRR MLR MLR
comp=Z,5μm,22.0s
TIRR Tirgusor 32.45 106 P **P 11 23 05.1 +0.2**
KKB Krupnik 32.46 115 *i* P P 11 23 09.6 +4.6
CLTB Caltabellotta 32.69 131 IAMs_20 IAMs_20 11 36 43.3
comp=Z,6μm,18.0s
VAY Valandovo 32.73 116 *i* P P 11 23 11.6 +4.3
E63A Oxbow 32.85 261 IAMs_20 IAMs_20 11 34 42.7
comp=Z,5μm,18.0s
VRH Novokhopyorsk 32.90 85 *e*P **P 11 23 09.8 +1.1**
VRH pmax pmax
comp=Z,90nm,1.7s
VRH MLR MLR
comp=Z,2μm,13.0s
MMB Musomiste 32.95 114 *i* P P 11 23 13.6 +4.3
LSK Leskovik 32.99 119 P P 11 23 13.9 +4.2
KNT Kendrikon 32.99 116 P **P 11 23 09.1 -0.6**
SRN Sarande 33.00 120 P P 11 23 13.8 +4.1
PRD Provadia 33.07 108 *i* P P 11 23 13.6 +3.3
KEK Kerkira 33.08 121 P P 11 23 14.3 +3.9
PENT Pentalofos 33.16 119 P P 11 23 15.3 +4.1
E62A Clayton Lake 33.16 262 IAMs_20 IAMs_20 11 34 35.0
comp=Z,5μm,21.0s
KEST Kesra 33.20 138 P **P 11 23 10.0 -1.6**
comp=Z,9.1nm,1.1s,baz=292,slow=5.4,SNR=2.6
KEST LR LR 11 36 45.3
comp=Z,4μm,18.8s,baz=298,slow=37
KEST Kesra 33.20 138 P **P 11 23 12.1 +0.5**
NVR Nevrokopi 33.21 114 P P 11 23 15.4 +3.8
GGN Saint George 33.22 258 IAMs_20 IAMs_20 11 35 00.1
comp=Z,5μm,18.0s
RZN Rozhen 33.26 113 *i* P P 11 23 15.9 +3.7
F64A Sherman 33.26 260 IAMs_20 IAMs_20 11 35 02.5
comp=Z,7μm,18.0s
KZN Kozani 33.30 118 P P 11 23 15.3 +2.9
SRS Serrai 33.30 115 P **P 11 23 11.3 -1.1**
IGT Igoumenitsa 33.43 120 P **P 11 23 14.1 +0.6**
G65A Princeton 33.46 259 IAMs_20 IAMs_20 11 34 57.6
comp=Z,7μm,20.0s
SOH Sokhos 33.46 115 P **P 11 23 14.8 +1.0**
THE Thessaloniki 33.48 116 P P 11 23 17.4 +3.6
JAN Janina 33.52 120 P P 11 23 18.4 +4.1
HORT Hortiatis 33.56 116 P **P 11 23 16.2 +1.5**
KDZ Kurdzhali 33.57 112 *i* P P 11 23 18.1 +3.4
F63A Nahmakanta, Br 33.71 261 IAMs_20 IAMs_20 11 34 59.4
comp=Z,6μm,19.0s
LIT Litokhoron 33.75 117 P **P 11 23 16.5 +0.2**
LIT Litokhoron 33.75 117 P **P 11 23 14.7 -1.6**
LIT pmax pmax
comp=Z,48nm,1.4s
LIT Litokhoron 33.75 117 P **P 11 23 14.7 -1.6**
LIT IAmb IAmb 11 23 26.2
comp=Z,48nm,1.4s
KAVA Kavala 33.77 114 P P 11 23 20.2 +3.8
EMMW East Machias 33.81 258 IAMs_20 IAMs_20 11 35 17.9
comp=Z,5μm,18.0s
PLG Polygyros 33.88 116 P **P 11 23 18.0 +0.5**
EDRB Edirne 33.93 111 P P 11 23 21.4 +3.6
THL Klokotos Trika 34.03 118 P **P 11 23 21.2 +2.5**
RDO Rodhopi 34.04 113 P **P 11 23 18.0 -0.8**
OUR Ouranopolis 34.13 115 P **P 11 23 19.3 -0.2**
PKME Peaks-Kenny Pk 34.14 261 IAMs_20 IAMs_20 11 35 20.7
comp=Z,6μm,18.0s
THAS Thassos island 34.18 114 P **P 11 23 19.3 -0.7**
LKD2 Lefkada island 34.20 120 P **P 11 23 21.8 +1.6**
EVGI Lefkada island 34.35 121 P P 11 23 25.3 +3.8
PAIG Paliouri 34.36 116 P **P 11 23 22.9 +1.4**
ALN Alexandroupoli 34.46 112 P **P 11 23 21.9 -0.5**
ALN Alexandroupoli 34.46 112 P **P 11 23 23.2 +0.8**
ALN pmax pmax
comp=Z,73nm,1.3s
ALN Alexandroupoli 34.46 112 P **P 11 23 23.2 +0.8**
FSK Fiskardo 34.46 121 P P 11 23 26.3 +3.9
EVR Evrytania 34.52 119 P P 11 23 27.4 +4.3
MAKR Makrakomi, Fth 34.56 119 P P 11 23 27.3 +4.0
SMTH Samothraki Isl 34.62 113 P P 11 23 26.9 +3.1
AGG Agios Georgios 34.63 118 P **P 11 23 23.3 -0.6**
AGG Agios Georgios 34.63 118 P **P 11 23 23.0 -0.9**
AGG pmax pmax
comp=Z,135nm,1.5s
AGG Agios Georgios 34.63 118 P **P 11 23 23.0 -0.9**
ENEZ Enez 34.64 112 P **P 11 23 24.9 +1.0**
XOR Xorichti 34.66 117 P **P 11 23 23.0 -1.2**
G62A West of Eustis 34.70 262 IAMs_20 IAMs_20 11 35 19.7
comp=Z,5μm,21.0s
NEO Neokhori 34.72 117 P **P 11 23 24.0 -0.7**
PSDA Pessada-Kefalo 34.77 121 P **P 11 23 26.3 +1.2**
ANX Ano Chora 34.85 119 P P 11 23 30.1 +4.2
WVL Waterville 34.86 260 IAMs_20 IAMs_20 11 35 41.7
comp=Z,6μm,20.0s
LIA Limnos Island 34.97 114 P **P 11 23 27.9 +1.1**
EFP Efpalio 34.99 119 P P 11 23 31.5 +4.5
AXS Araxos 34.99 120 P P 11 23 31.2 +4.2
GADA Gvkgeada 35.00 113 P **P 11 23 29.1 +2.0**
AOS Alonnisos 35.09 116 P **P 11 23 26.7 -1.2**
TRIZ Trizonia 35.10 119 P **P 11 23 30.2 +2.2**
KALE Kalithea 35.11 119 P **P 11 23 29.8 +1.7**
ATAL Atalanti 35.18 118 P **P 11 23 31.3 +2.7**
LKR Lokris 35.21 118 P **P 11 23 31.5 +2.6**
DRO Drossia 35.33 120 P P 11 23 34.6 +4.6
VLDQ Val d'Or 35.41 271 P **P 11 23 28.1 -2.4**
VLDQ IAMs_20 IAMs_20 11 36 59.1
comp=Z,4μm,18.0s
KLV Kalavryta, Ach 35.42 119 P P 11 23 34.5 +3.7
EZN Ezine 35.48 113 P **P 11 23 32.7 +1.5**
H62A Milan 35.49 262 IAMs_20 IAMs_20 11 35 54.4
comp=Z,5μm,21.0s
ISK Istanbul-Kandi 35.53 109 P P 11 23 35.1 +3.5
GUR Goura 35.58 119 P P 11 23 35.7 +3.5
I63A Otisfield 35.66 261 IAMs_20 IAMs_20 11 36 17.0
comp=Z,6μm,19.0s
LTK Loutraki 35.74 118 P P 11 23 36.4 +2.9
VILL Villia 35.75 118 P P 11 23 36.5 +2.9
SIGR SIGRI 35.83 114 P **P 11 23 34.3 +0.1**
TRIP Tripoli 35.92 120 P **P 11 23 37.4 +2.3**
PRK Paraskevi 35.96 113 P **P 11 23 35.9 +0.6**
ANN Anapa 35.98 96 *e*P **P 11 23 32.1 -3.3**
ANN *e*PP **pP 11 23 34.7 -2.4**
ANN *e* 11 24 52.7
ANN *e*S **S 11 29 11.5 -2.6**
ANN *e*SSS SSS 11 31 56.1
ANN pmax pmax
comp=Z,56nm,0.9s
ANN MLR MLR
comp=Z,3μm,13.0s
ANN MLR MLR
comp=E,1μm,13.0s
ANN MLR MLR
comp=N,204nm,10.0s
DION Dionisos Attik 36.06 117 P **P 11 23 38.7 +2.4**
LBNH Lisbon 36.08 262 IAMs_20 IAMs_20 11 36 34.2
comp=Z,5μm,19.0s
ITM Ithomi 36.09 120 P **P 11 23 39.9 +3.4**
ITM Ithomi 36.09 120 P **P 11 23 35.5 -1.1**
ITM IAmb IAmb 11 23 41.2
comp=Z,57nm,1.4s
VLX Vlachokerasia 36.09 120 P **P 11 23 36.6 0.0**
ATHU Athens Univers 36.10 117 P P 11 23 39.9 +3.3
ORH Orhaniye 36.12 108 P P 11 23 56.9 +20
I62A Tamworth 36.13 261 IAMs_20 IAMs_20 11 36 32.3
comp=Z,6μm,19.0s
ARU Arti 36.14 66 P **P 11 23 35.4 -1.3**
comp=Z,1.5nm,0.3s,baz=263,slow=23,SNR=1.8
ARU LR LR 11 37 50.9
comp=Z,6μm,19.9s,baz=310,slow=35
ARU Arti 36.14 66*c i*P **P 11 23 36.3 -0.4**
ARU 11 24 58.5
ARU PPP PPP 11 25 15.0
ARU S **S 11 29 19.7 +3.3**
ARU SS **SS 11 31 48.0 -5.4**
ARU pmax pmax
comp=Z,35nm,1.9s
ARU MLR MLR
comp=Z,6μm,18.0s
ARU Arti 36.14 66 P **P 11 23 37.2 +0.6**
ARU IAmb IAmb 11 23 49.5
comp=Z,65nm,1.3s
ARU IAMs_20 IAMs_20 11 37 38.2
comp=Z,6μm,19.0s
VLY Voula,Athens 36.21 118 P **P 11 23 37.6 +0.1**
PYL PYLOS 36.28 121 P **P 11 23 38.1 0.0**
FRNY Flat Rock 36.32 264 IAMs_20 IAMs_20 11 36 43.6
comp=Z,4μm,19.0s
VT1 Waterbury 36.36 263 IAMs_20 IAMs_20 11 36 32.9
comp=Z,5μm,20.0s
NRIK Noril'sk 36.49 35 P **P 11 23 39.2 -0.4**
comp=Z,7.8nm,0.9s,baz=323,slow=9.2,SNR=9.4
NRIK LR LR 11 40 37.7
comp=Z,4μm,18.1s,baz=349,slow=40
NRIK Noril'sk 36.49 35⇑ *e*P **P 11 23 38.9 -0.7**
NRIK pmax pmax
comp=Z,42nm,2.3s
FFD Franklin Falls 36.59 261 IAMs_20 IAMs_20 11 36 46.6
comp=Z,5μm,19.0s
CHOS Chios island 36.62 114 P P 11 23 44.0 +3.0
HNH Hanover 36.67 262 IAMs_20 IAMs_20 11 36 51.7
comp=Z,5μm,20.0s
SVE Sverdlovsk 36.67 64 *e*P P 11 23 46.0 +4.8
SVE *e*S **S 11 29 30.2 +5.7**
SVE pmax pmax
comp=Z,67nm,1.6s
SVE MLR MLR
comp=Z,5μm,18.0s
VLI Veliai 36.88 119 P **P 11 23 43.0 -0.2**
MDUB Mudurnu 36.91 107 P **P 11 23 44.9 +1.3**
BLCB Balcova 37.01 113 P **P 11 23 45.5 +1.3**
SERI Serifos 37.08 117 P **P 11 23 43.5 -1.4**
KTHR Kythira 37.31 120 P **P 11 23 48.0 +1.1**
KTHA Kythira Island 37.33 120 P **P 11 23 47.8 +0.7**
WES Weston 37.33 260 IAMs_20 IAMs_20 11 37 23.2
comp=Z,5μm,18.0s
HRV Adam Dziewonsk 37.34 260 IAMs_20 IAMs_20 11 37 33.2
comp=Z,6μm,18.0s
MHLO Agia Marina, M 37.46 118 P P 11 23 51.1 +3.0
ILGA Ilgaz 37.46 104 P **P 11 23 50.0 +1.6**
K62A Royalston 37.49 261 IAMs_20 IAMs_20 11 37 21.4
comp=Z,6μm,19.0s
SMG Samos 37.51 114 P **P 11 23 49.4 +0.8**
KULA Kula-Manisa 37.54 111 P **P 11 23 50.6 +1.7**
APE Apeiranthos 37.56 116 P P 11 23 52.4 +3.4
PLVO Plevna 37.65 268 IAMs_20 IAMs_20 11 37 36.1
comp=Z,6μm,21.0s
M65A Busby, Falmout 37.73 258 IAMs_20 IAMs_20 11 37 26.5
comp=Z,4μm,19.0s
IOSP Ios island 37.77 117 P **P 11 23 51.2 +0.5**
ANKY Antikythira Is 37.77 120 P **P 11 23 51.7 +1.0**
BRYW Bryant College 37.81 260 IAMs_20 IAMs_20 11 37 28.8
comp=Z,4μm,20.0s
J59A Piesco 37.81 264 IAMs_20 IAMs_20 11 37 27.1
comp=Z,4μm,20.0s
QUA2 Belchertown 37.86 261 IAMs_20 IAMs_20 11 38 00.1
comp=Z,6μm,18.0s
AMGA Amorgos Island 37.91 116 P P 11 23 54.8 +2.9
SOC Sochi 37.93 95 *e*P **P 11 23 51.6 -0.4**
SOC *e* 11 25 17.3
SOC *e*S **S 11 29 47.8 +3.8**
SOC *e*SS **SnSn 11 32 23.1 -1.6**
SOC pmax pmax
comp=Z,7.0nm,0.4s
SOC MLR MLR
comp=Z,2μm,16.0s
CMBO Columbo, Santo 38.03 117 P **P 11 23 55.5 +2.5**
TRY Troy 38.05 262 IAMs_20 IAMs_20 11 37 44.2
comp=Z,6μm,19.0s
SANT Santorini 38.14 117 P **P 11 23 53.7 -0.2**
SANT IAmb IAmb 11 23 58.3
comp=Z,66nm,1.2s
GOF Gofitskoye 38.18 91⇑ *e*P **P 11 23 55.9 +1.8**
GOF pmax pmax
comp=Z,168nm,1.3s
J58A Remsen 38.23 265 IAMs_20 IAMs_20 11 37 51.2
comp=Z,4μm,19.0s
BODT Bodrum 38.26 114 P **P 11 23 55.8 +0.9**
ANAF Anafi Island 38.27 116 P **P 11 23 57.4 +2.4**
DELO Deloro Mine 38.30 268 IAMs_20 IAMs_20 11 38 05.3
comp=Z,7μm,20.0s
IMMV Iera Moni Meta 38.38 119 P P 11 23 59.2 +3.3
BR131 Keskin Array S 38.54 105 P **P 11 23 59.5 +2.1**
SNR=32
BR131 Keskin Array S 38.54 105 P P 11 24 00.2 +2.8
BR131 pmax pmax
comp=Z,70nm,1.5s
BR131 Keskin Array S 38.54 105 P P 11 24 00.2 +2.7
BR131 IAmb IAmb 11 24 09.0
comp=Z,70nm,1.5s
BRTR Keskin Array B 38.54 105 P **P 11 23 56.0 -1.4**
comp=Z,8.4nm,1.1s,baz=332,slow=7.0,SNR=13
BRTR LR LR 11 40 45.7
comp=Z,729nm,20.9s,baz=312,slow=38
BRTR Keskin Array B 38.54 105 P **P 11 23 57.2 -0.3**
YER Yerkesik 38.58 113 P **P 11 23 58.7 +1.1**
DAT Datca 38.65 114 P **P 11 24 00.4 +2.1**
SADO Sadowa 38.75 270 IAMs_20 IAMs_20 11 38 29.5
comp=Z,5μm,20.0s
KSCT Kent School, K 38.79 261 IAMs_20 IAMs_20 11 38 22.9
comp=Z,4μm,18.0s
K58A Earlville 38.87 264 IAMs_20 IAMs_20 11 38 10.1
comp=Z,4μm,20.0s
IDI Anoyia 38.88 118 P **P 11 23 57.8 -2.4**
comp=Z,13nm,0.9s,baz=286,slow=7.0,SNR=7.1
IDI LR LR 11 41 38.4
comp=Z,2μm,21.4s,baz=333,slow=39
IDI Anoyia 38.88 118 P **P 11 23 57.0 -3.2**
YLE Yale 38.90 260 IAMs_20 IAMs_20 11 38 37.6
comp=Z,5μm,18.0s
KIV Kislovodsk 38.91 92 *i* P **P 11 24 02.0 +1.7**
SNR=19
KIV Kislovodsk 38.91 92 P P 11 24 03.4 +3.1
KIV P P 11 24 03.4 +3.1
KIV Kislovodsk 38.91 92 *e*P **P 11 23 58.9 -1.5**
KIV *e* 11 25 28.8
KIV *e*S **S 11 29 59.1 +0.2**
KIV pmax pmax
comp=Z,53nm,1.0s
KIV pmax pmax
comp=Z,271nm,4.8s
KIV MLR MLR
comp=Z,5μm,16.0s
KVAR Kislovodsk Arr 38.91 92 LR LR 11 40 21.4
comp=Z,2μm,19.4s,baz=286,slow=37
GVDS Gavdos 38.97 119 P P 11 24 04.1 +3.2
GVD Gavdhos 38.97 119 P P 11 24 04.3 +3.4
L59A Walton 39.08 263 IAMs_20 IAMs_20 11 38 16.5
comp=Z,4μm,19.0s
SIVA Sivas 39.09 119 P **P 11 24 02.3 +0.5**
YKA Yellowknife Ar 39.16 313 P **P 11 24 02.6 +0.4**
comp=Z,4.6nm,1.0s,baz=32,slow=12,SNR=2.2
YKA LR LR 11 40 18.3
comp=Z,4μm,18.3s,baz=0.0,slow=36
KBZ Khabaz 39.18 92 P **P 11 24 02.3 -0.2**
comp=Z,7.3nm,0.9s,baz=309,slow=11,SNR=12
KBZ LR LR 11 40 46.0
comp=Z,3μm,20.1s,baz=329,slow=37
KBZ Khabaz 39.18 92⇑ *e*P **P 11 24 03.3 +0.8**
KBZ pmax pmax
comp=Z,32nm,2.6s
WSPT Westport, CT 39.19 261 IAMs_20 IAMs_20 11 38 47.2
comp=Z,5μm,18.0s
LAST Lasithi 39.22 118 P **P 11 24 05.2 +2.2**
FETY Fethiye 39.33 112 P P 11 24 06.6 +2.7
BINY Binghamton 39.47 264 IAMs_20 IAMs_20 11 38 29.1
comp=Z,4μm,19.0s
E46A Sault Ste Mari 39.71 276 IAMs_20 IAMs_20 11 39 39.2
comp=Z,5μm,18.0s
J54A Appleton 39.74 268 IAMs_20 IAMs_20 11 38 38.4
comp=Z,5μm,20.0s
MEDO Medina 39.75 267 IAMs_20 IAMs_20 11 38 49.6
comp=Z,4μm,21.0s
INK Inuvik 39.80 328 LR LR 11 41 24.0
comp=Z,3μm,18.1s,baz=30,slow=37
INK Inuvik 39.80 328 IAMs_20 IAMs_20 11 42 01.1
comp=Z,5μm,18.0s
AKAS Kas 39.89 112 P **P 11 24 08.6 -0.1**
AKAS IAmb IAmb 11 24 18.0
comp=Z,63nm,1.3s
KSPA Keystone Colle 39.91 263 IAMs_20 IAMs_20 11 38 41.5
comp=Z,5μm,20.0s
KSL Kastellorizon 39.95 112 P **P 11 24 11.2 +2.2**
BRNJ Basking Ridge 40.11 261 IAMs_20 IAMs_20 11 39 11.9
comp=Z,4μm,18.0s
L56A Greenwood 40.20 266 IAMs_20 IAMs_20 11 39 03.4
comp=Z,3μm,19.0s
AKTO Aktyubinsk 40.35 73 P **P 11 24 10.9 -1.3**
comp=Z,1.1nm,0.4s,baz=330,slow=8.3,SNR=13
AKTO LR LR 11 40 50.9
comp=Z,6μm,19.1s,baz=319,slow=36
ZEI Tsey 40.37 92 *e*P **P 11 24 12.0 -0.7**
ZEI pmax pmax
comp=Z,74nm,1.9s
WVNY West Valley, N 40.43 267 IAMs_20 IAMs_20 11 38 59.5
comp=Z,4μm,21.0s
ARTV Artvin 40.83 96 P **P 11 24 17.7 +1.1**
GROC Groznyy 40.85 90 *e*P P 11 24 19.3 +2.9
GROC *e* 11 25 53.3
GROC *e* 11 26 20.6
GROC *e*S **S 11 30 31.7 +3.9**
GROC pmax pmax
comp=Z,198nm,1.8s
GROC MLR MLR
comp=Z,2μm,12.0s
N58A Sunbury 40.90 264 IAMs_20 IAMs_20 11 39 12.9
comp=Z,5μm,21.0s
D41A Chassel 40.98 280 IAMs_20 IAMs_20 11 39 54.2
comp=Z,5μm,21.0s
P61A Hammonton 41.05 261 IAMs_20 IAMs_20 11 40 01.6
comp=Z,3μm,18.0s
PSUB Penn St. - Bra 41.12 262 IAMs_20 IAMs_20 11 39 34.4
comp=Z,4μm,19.0s
ERPA Erie 41.26 268 IAMs_20 IAMs_20 11 39 45.6
comp=Z,5μm,20.0s
P60A Greenville 41.29 262 IAMs_20 IAMs_20 11 39 40.1
comp=Z,4μm,19.0s
G45A Suttons Bay 41.34 276 IAMs_20 IAMs_20 11 40 39.3
comp=Z,5μm,18.0s
EYMN Ely 41.52 283 IAMs_20 IAMs_20 11 40 39.8
comp=Z,5μm,19.0s
ULM Lac du Bonnet 41.54 289 P **P 11 24 25.7 +3.7**
comp=Z,2.6nm,0.7s,baz=7.3,slow=6.5,SNR=1.9
ULM LR LR 11 40 37.1
comp=Z,2μm,18.8s,baz=54,slow=35
ULM Lac du Bonnet 41.54 289 P **P 11 24 19.4 -2.6**
ULM Lac du Bonnet 41.54 289 P **P 11 24 19.4 -2.6**
ULM IAMs_20 IAMs_20 11 41 26.8
comp=Z,3μm,18.0s
M54A Oil Creek Stat 41.62 267 IAMs_20 IAMs_20 11 40 09.0
comp=Z,3μm,20.0s
ALLY Alegheny Colle 41.71 268 IAMs_20 IAMs_20 11 39 50.5
comp=Z,5μm,20.0s
MAK Makhachkala 41.78 89 *e*P P 11 24 18.3 -5.7
MAK *e* 11 25 57.7
MAK *e*S **S 11 30 34.0 -7.6**
MAK pmax pmax
comp=Z,118nm,1.0s
MAK MLR MLR
comp=Z,2μm,17.0s
K50A Casco 41.85 271 IAMs_20 IAMs_20 11 40 34.6
comp=Z,4μm,19.0s
COWI Conover 41.98 279 IAMs_20 IAMs_20 11 40 34.6
comp=Z,6μm,20.0s
TIXI Tiksi 42.05 15⇑ *i*P **P 11 24 27.2 +1.3**
TIXI Tiksi 42.05 15 P **P 11 24 26.8 +0.9**
AB31 Akbulak array 42.05 73 *i* P **P 11 24 25.6 -0.6**
ABKAR Akbulak array 42.05 73 P **P 11 24 25.2 -1.0**
ABKAR Akbulak array 42.05 73 P **P 11 24 25.1 -1.0**
ABKAR IAmb IAmb 11 24 37.0
comp=Z,94nm,1.4s
M53A WI Miller and 42.11 268 IAMs_20 IAMs_20 11 40 12.1
comp=Z,5μm,21.0s
B35A Bob, Littlefor 42.13 285 IAMs_20 IAMs_20 11 41 06.0
comp=Z,5μm,20.0s
SDMD Soldier's Deli 42.14 263 IAMs_20 IAMs_20 11 40 17.6
comp=Z,3μm,19.0s
N54A Moraine State 42.20 267 IAMs_20 IAMs_20 11 40 16.6
comp=Z,4μm,21.0s
M52A Chesterland 42.32 269 IAMs_20 IAMs_20 11 40 28.7
comp=Z,5μm,21.0s
I45A Fountain 42.39 275 IAMs_20 IAMs_20 11 41 12.1
comp=Z,4μm,19.0s
P57A Homestead Farm 42.58 264 IAMs_20 IAMs_20 11 40 16.3
comp=Z,6μm,21.0s
E38A The Farm, Brul 42.60 282 IAMs_20 IAMs_20 11 40 51.3
comp=Z,7μm,20.0s
H43A Windswept, Lux 42.70 277 IAMs_20 IAMs_20 11 40 55.4
comp=Z,6μm,20.0s
N53A Lisbon 42.70 268 IAMs_20 IAMs_20 11 40 30.6
comp=Z,4μm,21.0s
TOLK Toolik Lake Re 42.72 336 P **P 11 24 33.0 +1.6**
TOLK IAmb IAmb 11 24 40.6
comp=Z,66nm,1.1s
TOLK IAMs_20 IAMs_20 11 44 04.9
comp=Z,4μm,20.0s
BMAR Burnt Mountain 42.86 333 P **P 11 24 32.2 -0.5**
O54A Avella 43.01 267 IAMs_20 IAMs_20 11 40 53.0
comp=Z,5μm,21.0s
AGMN Agassiz Nation 43.06 287 P **P 11 24 30.3 -4.1**
AGMN IAMs_20 IAMs_20 11 42 04.9
comp=Z,5μm,19.0s
G40A Rib Lake 43.09 280 IAMs_20 IAMs_20 11 41 09.1
comp=Z,5μm,20.0s
M50A Fremont 43.15 270 IAMs_20 IAMs_20 11 41 06.0
comp=Z,4μm,20.0s
BRVK Borovoye 43.19 62 P P 11 24 40.2 +4.8

BRVK **Borovoye** 43.19 62 eP P 11 24 35.2 -0.2
BRVK pmax pmax
comp=Z,32nm,2.5s
BRVK **Borovoye** 43.19 62 P P 11 24 35.1 -0.3
BVAR **Borovoye Array** 43.25 62 P P 11 24 35.6 -0.3
comp=Z,2.8nm,1.0s,baz=179,slow=13,SNR=14
O53A **New Philadelph** 43.32 267 IAMs_20 IAMs_20 11 41 01.1
comp=Z,4μm,20.0s
CBN **Corbin Frederi** 43.38 262 IAMs_20 IAMs_20 11 41 03.3
comp=Z,4μm,18.0s
Q56A **Snyder Ridge,** 43.45 265 IAMs_20 IAMs_20 11 40 53.4
comp=Z,3μm,20.0s
MARD **Mardin** 43.58 100 P P 11 24 40.5 +1.7
O52A **Adamsville** 43.70 268 IAMs_20 IAMs_20 11 41 22.1
comp=Z,4μm,20.0s
FYU **Fort Yukon** 43.74 333 P P 11 24 41.7 +2.0
R58B **Mineral** 43.79 262 IAMs_20 IAMs_20 11 41 08.3
comp=Z,5μm,19.0s
T60A **Surry** 44.00 261 IAMs_20 IAMs_20 11 42 09.7
comp=Z,3μm,18.0s
F36A **Milaca** 44.02 283 IAMs_20 IAMs_20 11 42 05.9
comp=Z,3μm,19.0s
P53A **Whipple** 44.02 267 IAMs_20 IAMs_20 11 41 33.8
comp=Z,5μm,21.0s
N49A **Columbus Grove** 44.04 271 IAMs_20 IAMs_20 11 41 43.4
comp=Z,3μm,18.0s
L46A **Eue Claire** 44.05 273 IAMs_20 IAMs_20 11 42 11.0
comp=Z,3μm,19.0s
COLD **Coldfoot** 44.09 336 IAMs_20 IAMs_20 11 45 11.0
comp=Z,4μm,21.0s
ACSO **Alum Creek Sta** 44.09 269 IAMs_20 IAMs_20 11 41 23.7
comp=Z,5μm,20.0s
S58A **Poland Farm, P** 44.16 262 IAMs_20 IAMs_20 11 41 28.1
comp=Z,4μm,19.0s
Q54A **Coxs Mills** 44.20 266 IAMs_20 IAMs_20 11 41 28.5
comp=Z,4μm,21.0s
P52A **Corning** 44.22 268 IAMs_20 IAMs_20 11 41 17.1
comp=Z,4μm,21.0s
EGAK **Eagle** 44.45 329 IAMs_20 IAMs_20 11 44 24.9
comp=Z,4μm,18.0s
R55A **Marlinton** 44.48 265 IAMs_20 IAMs_20 11 41 26.8
comp=Z,4μm,21.0s
U61A **Possum Corner** 44.56 260 IAMs_20 IAMs_20 11 41 53.6
comp=Z,3μm,18.0s
L44A **Lake County Fo** 44.61 275 IAMs_20 IAMs_20 11 42 38.9
comp=Z,4μm,18.0s
O49A **Covington** 44.71 270 IAMs_20 IAMs_20 11 41 45.2
comp=Z,4μm,20.0s
P51A **Williamsport** 44.75 269 IAMs_20 IAMs_20 11 41 43.0
comp=Z,4μm,20.0s
HQIL **Hanson Quary C** 44.90 275 IAMs_20 IAMs_20 11 42 36.4
comp=Z,4μm,19.0s
V62A **Hyde County Ai** 45.01 259 IAMs_20 IAMs_20 11 41 49.4
comp=Z,5μm,20.0s
MMAI **Mount Meron Ar** 45.02 108 P P 11 24 50.5 +0.1
comp=Z,0.4nm,0.3s,baz=345,slow=4.9,SNR=1.7
V61A **Roper** 45.08 260 IAMs_20 IAMs_20 11 42 11.2
comp=Z,3μm,18.0s
F33A **5 Mile Ranch,** 45.19 285 IAMs_20 IAMs_20 11 42 41.2
comp=Z,4μm,19.0s
R53A **Hurricane** 45.23 267 IAMs_20 IAMs_20 11 42 10.6
comp=Z,5μm,21.0s
Q51A **Peebles** 45.25 268 IAMs_20 IAMs_20 11 41 58.3
comp=Z,4μm,21.0s
M44A **Midewin, Midew** 45.31 274 IAMs_20 IAMs_20 11 42 48.5
comp=Z,3μm,20.0s
S54A **Dingess, Beckl** 45.40 266 IAMs_20 IAMs_20 11 41 56.1
comp=Z,3μm,22.0s
I37A **Lemond, Waseca** 45.45 281 IAMs_20 IAMs_20 11 42 43.8
comp=Z,4μm,18.0s
IL31 45.65 332 P P 11 24 56.0 +1.1
IL31 IAmb IAmb 11 25 08.1
comp=Z,33nm,1.2s
ILAR **Eielson Array** 45.65 332 P P 11 24 56.2 +1.2
comp=Z,3.9nm,1.1s,baz=25,slow=6.0,SNR=18
ILAR PcP PcP 11 26 32.2 -0.7
comp=Z,1.6nm,1.0s,baz=12,slow=3.3,SNR=3.1
ILAR LR LR 11 46 37.7
comp=Z,3μm,19.4s,baz=31,slow=39
ILAR **Eielson Array** 45.65 332 P P 11 24 55.0 +0.1
SFIN **Lafayette** 45.74 273 IAMs_20 IAMs_20 11 43 12.6
comp=Z,3μm,18.0s
MDM **Murphy Dome** 45.75 333 P P 11 24 56.2 +0.5
COLA **College** 45.75 333 iP P 11 24 57.3 +1.6
COLA pmax pmax
comp=Z,23nm,1.8s
COLA **College** 45.75 333 P P 11 24 57.6 +1.9
COLA IAmb IAmb 11 25 04.5
comp=Z,46nm,1.4s
P48A **Milroy** 45.78 271 IAMs_20 IAMs_20 11 42 37.6
comp=Z,4μm,19.0s
IMAR **Indian Mountai** 45.83 337 P P 11 24 57.5 +1.1
CCB **Clear Creek Bu** 45.95 333 P P 11 24 57.8 +0.5
HDA **Harding Lake** 45.99 332 P P 11 24 58.3 +0.7
HDA IAmb IAmb 11 25 09.9
comp=Z,34nm,1.4s
HDA IAMs_20 IAMs_20 11 46 36.9
comp=Z,3μm,20.0s
DOT **Dot Lake** 46.06 330 P P 11 25 01.9 +3.7
DOT IAMs_20 IAMs_20 11 47 45.6
comp=Z,3μm,18.0s
BCAR **Beaver Creek A** 46.07 328 P P 11 24 59.8 +1.4
RIDG **Independent Ri** 46.15 331 P P 11 24 60.0 +1.0
RIDG IAmb IAmb 11 25 24.7
comp=Z,46nm,1.4s
RIDG IAMs_20 IAMs_20 11 46 28.9
comp=Z,3μm,19.0s
DGMT **Dagmar** 46.29 293 IAMs_20 IAMs_20 11 43 38.9
comp=Z,5μm,21.0s
R50A **Paris** 46.29 269 IAMs_20 IAMs_20 11 42 40.9
comp=Z,4μm,21.0s
K38A **Parkersburg** 46.30 280 IAMs_20 IAMs_20 11 42 58.0
comp=Z,5μm,20.0s
ASF **Jabal al Asfar** 46.37 107 P P 11 25 02.6 +1.5
comp=Z,8.6nm,1.0s,baz=289,slow=2.9,SNR=11
ASF PP PP 11 26 45.3 -4.4
comp=Z,8.4nm,1.2s,baz=235,slow=2.6,SNR=4.9
E28A **Huff** 46.41 289 IAMs_20 IAMs_20 11 43 32.8
comp=Z,3μm,19.0s
WHY **Whitehorse** 46.47 323 IAMs_20 IAMs_20 11 44 40.7
comp=Z,4μm,21.0s
S51A **Beattyville** 46.52 268 IAMs_20 IAMs_20 11 42 39.7
comp=Z,4μm,21.0s
O44A **Mansfield** 46.52 274 IAMs_20 IAMs_20 11 43 45.2
comp=Z,3μm,18.0s
HDIL **Hopedale** 46.54 275 IAMs_20 IAMs_20 11 43 46.9
comp=Z,3μm,19.0s
BRZS **Berezniki** 46.54 63 eP P 11 25 02.7 +0.6
BRZS **Berezniki** 46.54 63 eP P 11 25 02.7 +0.6
HYT **Haines Junctio** 47.00 324 IAMs_20 IAMs_20 11 45 36.8
comp=Z,3μm,19.0s
DLBC **Dease Lake** 47.03 318 IAMs_20 IAMs_20 11 45 14.0
comp=Z,3μm,19.0s
BPAW **Bear Paw Mtn.** 47.05 334 P P 11 25 06.0 0.0
N41A **Harden Midland** 47.08 276 IAMs_20 IAMs_20 11 43 27.4
comp=Z,4μm,21.0s
SCIA **State Center** 47.10 279 IAMs_20 IAMs_20 11 43 23.1
comp=Z,5μm,21.0s
DHY **Denali Highway** 47.27 332 IAMs_20 IAMs_20 11 46 24.6
comp=Z,3μm,19.0s
RND **Reindeer** 47.27 333 IAMs_20 IAMs_20 11 46 05.7
comp=Z,3μm,20.0s
Y60A **Bolivia** 47.30 260 IAMs_20 IAMs_20 11 43 21.0
comp=Z,3μm,20.0s
P43A **Skaggs, Pawnee** 47.39 274 IAMs_20 IAMs_20 11 44 23.5
comp=Z,3μm,18.0s
TZTN **Tazewell** 47.42 267 IAMs_20 IAMs_20 11 43 29.6
comp=Z,4μm,20.0s
SUSD **Miller** 47.43 286 IAMs_20 IAMs_20 11 44 26.4
comp=Z,3μm,20.0s
TRF **Thorofare Moun** 47.51 333 IAMs_20 IAMs_20 11 46 47.1
comp=Z,3μm,20.0s
KTH **Kantishna Hill** 47.53 334 IAMs_20 IAMs_20 11 46 48.9
comp=Z,3μm,20.0s
OLIL **Olney** 47.54 272 IAMs_20 IAMs_20 11 44 09.1
comp=Z,2μm,18.0s
BILL **Bilibino** 47.55 358 eP P 11 25 09.3 -0.4
BILL e 11 25 15.8
BILL e 11 26 55.5
BILL ePPP PPP 11 27 46.9
BILL pmax pmax
comp=Z,9.0nm,1.1s
T50A **Nancy** 47.57 268 IAMs_20 IAMs_20 11 43 02.7
comp=Z,3μm,21.0s
SKAG **Skagway** 47.62 322 IAMs_20 IAMs_20 11 45 25.9
comp=Z,4μm,20.0s
ZAA0 **Zalesovo Array** 47.68 51 P P 11 25 10.1 -0.8
ZALV **Zalesovo Beam** 47.68 51 P P 11 25 10.6 -0.4
comp=Z,1.5nm,0.7s,baz=335,slow=6.6,SNR=7.4
ZALV LR LR 11 47 56.8
comp=Z,1μm,19.1s,baz=326,slow=40
ZALV **Zalesovo Beam** 47.68 51 P P 11 25 09.6 -1.3
ZALV **Zalesovo Beam** 47.68 51 P P 11 25 09.6 -1.3
EIL **Elat** 47.78 111 P P 11 25 10.7 -1.3
comp=Z,2.9nm,0.9s,baz=324,slow=6.0,SNR=15
Q44A **Meyer Farm, Va** 47.79 273 IAMs_20 IAMs_20 11 44 26.9
comp=Z,3μm,18.0s
BARN **Barnard Glacie** 47.80 327 IAMs_20 IAMs_20 11 45 52.3
comp=Z,3μm,20.0s
CTGM **Chitina Glacie** 47.81 327 IAMs_20 IAMs_20 11 45 42.5
comp=Z,3μm,20.0s
GLB **Gilahina Butte** 47.96 329 IAMs_20 IAMs_20 11 46 33.6
comp=Z,4μm,18.0s
BALM **Baldy** 47.98 327 IAMs_20 IAMs_20 11 46 07.1
comp=Z,3μm,20.0s
V52A **Sevierville** 48.03 266 IAMs_20 IAMs_20 11 43 49.8
comp=Z,4μm,20.0s
VRDI **Verde Repeater** 48.06 328 IAMs_20 IAMs_20 11 46 28.4
comp=Z,4μm,19.0s
KURK **Kurchatov** 48.16 58 P P 11 25 19.0 +4.3
KURK **Kurchatov** 48.16 58 deP P 11 25 13.5 -1.2
KURK pmax pmax
comp=Z,28nm,2.5s
KURK **Kurchatov** 48.16 58 P P 11 25 13.4 -1.3
KURK **Kurchatov** 48.16 58 IAMs_20 IAMs_20 11 45 36.5
comp=Z,3μm,20.0s
KURBB **Kurchatov Arra** 48.21 58 P P 11 25 13.9 -1.1
comp=Z,4.8nm,1.0s,baz=324,slow=6.8,SNR=25
KURBB PP PP 11 27 10.9 +3.9
comp=Z,2.6nm,0.9s,baz=328,slow=9.2,SNR=4.2
KURBB **Kurchatov Arra** 48.21 58 P P 11 25 13.6 -1.5
TABL **Table Mountain** 48.22 326 IAMs_20 IAMs_20 11 46 41.4
comp=Z,4μm,18.0s
TKL **Tuckaleechee C** 48.26 266 IAMs_20 IAMs_20 11 43 46.9
comp=Z,5μm,21.0s
BCPM **Bancas Point** 48.28 325 IAMs_20 IAMs_20 11 47 13.9
comp=Z,3μm,22.0s
PCA **Pinnacle** 48.31 326 IAMs_20 IAMs_20 11 47 12.6
comp=Z,4μm,19.0s
TGL **Tana Glacier** 48.34 328 IAMs_20 IAMs_20 11 46 29.6
comp=Z,3μm,18.0s
ISLE **Juniper Island** 48.36 327 IAMs_20 IAMs_20 11 46 10.2
comp=Z,4μm,21.0s
SCM **Sheep Creek Mo** 48.37 331 IAMs_20 IAMs_20 11 46 47.8
comp=Z,2μm,19.0s
KLU **Klutina** 48.38 330 IAMs_20 IAMs_20 11 46 23.8
comp=Z,3μm,19.0s
JIS **Juneau Island** 48.38 321 IAMs_20 IAMs_20 11 46 04.0
comp=Z,4μm,20.0s
U49A **Red Boiling Sp** 48.40 269 IAMs_20 IAMs_20 11 43 47.8
comp=Z,4μm,20.0s
CRQM **Cirque** 48.41 328 IAMs_20 IAMs_20 11 46 31.3
comp=Z,4μm,20.0s
YAH **Yahtse** 48.43 327 IAMs_20 IAMs_20 11 46 13.1
comp=Z,3μm,20.0s
BG3 **Lake Jocassee** 48.47 265 IAMs_20 IAMs_20 11 43 49.2
comp=Z,4μm,20.0s
SLM **Saint Louis** 48.54 274 IAMs_20 IAMs_20 11 44 59.7
comp=Z,3μm,18.0s
P40A **Paris** 48.57 277 IAMs_20 IAMs_20 11 44 23.7
comp=Z,4μm,19.0s
T47A **Sharon Grove** 48.57 270 P P 11 25 16.3 -1.7
T47A IAMs_20 IAMs_20 11 44 04.4
comp=Z,4μm,20.0s
SML **Sawmill** 48.60 331 IAMs_20 IAMs_20 11 47 04.9
comp=Z,3μm,18.0s
MESA **MESA** 48.65 327 IAMs_20 IAMs_20 11 46 29.6
comp=Z,3μm,20.0s
GHO **Glory Hole Cre** 48.76 332 IAMs_20 IAMs_20 11 47 18.1
comp=Z,3μm,18.0s
CPCT **Cooper Cave** 48.76 267 IAMs_20 IAMs_20 11 44 21.2
comp=Z,4μm,20.0s
EGMT **Eagleton** 48.82 297 P P 11 25 21.2 +1.3
S44A **Carbondale** 48.90 273 IAMs_20 IAMs_20 11 45 03.4
comp=Z,3μm,18.0s
PMR **Palmer** 48.96 332 IAMs_20 IAMs_20 11 47 15.5
comp=Z,3μm,21.0s
CLTN **Cedars of Leba** 49.00 269 IAMs_20 IAMs_20 11 44 16.5
comp=Z,3μm,20.0s
TTA **Tatalina** 49.03 336 IAMs_20 IAMs_20 11 46 37.7
comp=Z,2μm,19.0s
SKT **Skwentna** 49.09 333 P P 11 25 21.7 0.0
SKT IAmb IAmb 11 25 33.0
comp=Z,20nm,1.2s
SKT IAMs_20 IAMs_20 11 48 46.9
comp=Z,3μm,19.0s
FVM **French Village** 49.16 274 IAMs_20 IAMs_20 11 45 28.4
comp=Z,3μm,18.0s
FID **Port Fidalgo** 49.16 330 IAMs_20 IAMs_20 11 49 26.8
comp=Z,3μm,18.0s
EYAK **Cordova Ski Ar** 49.19 329 IAMs_20 IAMs_20 11 49 17.1
comp=Z,4μm,18.0s
W50A **Signal Mountai** 49.31 267 P P 11 25 21.8 -2.0
W50A IAmb IAmb 11 25 40.2
comp=Z,26nm,1.1s
W50A IAMs_20 IAMs_20 11 44 38.8
comp=Z,4μm,20.0s
SUA **Susitna One** 49.41 332 P P 11 25 24.5 +0.2
SUA IAmb IAmb 11 25 36.6
comp=Z,33nm,1.2s
SUA IAMs_20 IAMs_20 11 48 22.2
comp=Z,3μm,19.0s
CCM **Cathedral Cave** 49.45 275 IAMs_20 IAMs_20 11 45 37.1
comp=Z,3μm,19.0s
HIN **Hinchinbrook I** 49.49 329 IAMs_20 IAMs_20 11 46 58.1
comp=Z,3μm,22.0s
V48A **Smith Brothers** 49.50 269 IAMs_20 IAMs_20 11 44 32.0
comp=Z,3μm,20.0s
SWET **Sewanee** 49.57 268 IAMs_20 IAMs_20 11 44 55.5
comp=Z,4μm,21.0s
BGNE **Belgrade** 49.59 283 IAMs_20 IAMs_20 11 45 08.4
comp=Z,3μm,20.0s
WVT **Waverly** 49.61 270 IAMs_20 IAMs_20 11 44 46.8
comp=Z,4μm,20.0s
X51A **Calhoun** 49.66 267 IAMs_20 IAMs_20 11 44 50.8
comp=Z,4μm,21.0s
SIT **Sitka** 49.69 321 IAMs_20 IAMs_20 11 46 44.6
comp=Z,3μm,20.0s
R40A **Maddies Statio** 49.70 276 IAMs_20 IAMs_20 11 45 45.5
comp=Z,4μm,18.0s
RSSD **Black Hills** 49.77 290 IAMs_20 IAMs_20 11 45 13.8
comp=Z,3μm,20.0s
SACV **Santiago Islan** 49.81 188 IAMs_20 IAMs_20 11 41 00.6
comp=Z,3μm,21.0s
HENM **Henderson Moun** 49.82 272 IAMs_20 IAMs_20 11 45 31.6
comp=Z,3μm,18.0s
PARMO **Parma** 49.98 272 IAMs_20 IAMs_20 11 45 44.9
comp=Z,3μm,18.0s
FPAL **Fort Paine** 50.00 267 IAMs_20 IAMs_20 11 45 09.0
comp=Z,4μm,20.0s
GLAT **Glass** 50.12 272 IAMs_20 IAMs_20 11 45 31.4
comp=Z,3μm,18.0s
PBMO **Poplar Bluff** 50.18 273 IAMs_20 IAMs_20 11 45 50.1
comp=Z,3μm,19.0s
257A **Skidaway Islan** 50.24 261 IAMs_20 IAMs_20 11 44 56.0
comp=Z,3μm,20.0s
SEW **Seward** 50.38 331 IAMs_20 IAMs_20 11 47 59.9
comp=Z,3μm,20.0s
HALT **Halls** 50.44 272 IAMs_20 IAMs_20 11 45 33.0
comp=Z,3μm,20.0s
GEYT **Alibeck** 50.49 83 P P 11 25 33.1 +0.4
comp=Z,1.5nm,0.5s,baz=339,slow=16,SNR=2.4
GEYT PP PP 11 27 32.1 +4.1
comp=Z,2.0nm,0.7s,baz=292,slow=7.6,SNR=1.7
GEYT LR LR 11 49 21.0
comp=Z,2μm,18.6s,baz=350,slow=39
GEYT **Alibeck** 50.49 83 P P 11 25 32.5 -0.2
GYA0 **ALIBECK ARRAY** 50.49 83 P P 11 25 32.2 -0.5
GYA0B **ALIBECK ARRAY** 50.49 83 P P 11 25 32.2 -0.5
GYA0B IAMs_20 IAMs_20 11 49 09.9
comp=Z,2μm,19.0s
PEBM **Pemiscott Bayo** 50.50 272 IAMs_20 IAMs_20 11 45 44.5
comp=Z,2μm,18.0s
154A **Montrose** 50.58 264 IAMs_20 IAMs_20 11 45 25.0
comp=Z,3μm,18.0s
ASHT **Ashkhabad** 50.59 83 IAMs_20 IAMs_20 11 49 42.7
comp=Z,2μm,18.0s
GCMT **Greycliff** 50.63 295 P P 11 25 31.8 -2.0
S39A **Bolivar** 50.65 276 IAMs_20 IAMs_20 11 46 16.9
comp=Z,3μm,18.0s
PLAL **Pickwick Lake** 50.69 270 IAMs_20 IAMs_20 11 45 38.3
comp=Z,4μm,18.0s
GNAR **Gosnell** 50.69 272 IAMs_20 IAMs_20 11 45 58.6
comp=Z,3μm,18.0s
X48A **Hartselle** 50.70 268 IAMs_20 IAMs_20 11 45 20.5
comp=Z,4μm,20.0s
HRY **Holter Researc** 50.70 298 P P 11 25 33.8 -0.5
255A **Hazlehurst** 50.90 263 IAMs_20 IAMs_20 11 46 06.5
comp=Z,4μm,18.0s
Y49A **Blount Mountai** 50.93 268 IAMs_20 IAMs_20 11 45 37.6
comp=Z,4μm,20.0s
KOWA **Kowa** 50.99 163 P P 11 25 34.3 -2.3
W45A **Hickory Valley** 51.02 271 IAMs_20 IAMs_20 11 45 49.1
comp=Z,4μm,20.0s
RLMT **Red Lodge** 51.03 294 P P 11 25 35.5 -1.4
LCAR **Lake Charles** 51.09 273 IAMs_20 IAMs_20 11 46 19.2
comp=Z,3μm,19.0s
LPAR **Lepanto** 51.12 272 IAMs_20 IAMs_20 11 46 20.9
comp=Z,3μm,18.0s
BTLS **Baital** 51.12 66 eP P 11 25 37.2 -0.2
comp=Z,10.0nm,1.8s
BTLS **Baital** 51.12 66 eP P 11 25 37.1 -0.2
BTLS pmax pmax
comp=Z,10.0nm,1.8s
152A **Waverly Hall** 51.22 265 IAMs_20 IAMs_20 11 45 25.1
comp=Z,4μm,21.0s
YAK **Yakutsk** 51.29 19 LR LR 11 49 29.6
comp=Z,1μm,18.8s,baz=358,slow=38
YAK **Yakutsk** 51.29 19 eP P 11 25 41.2 +2.9
YAK e*PP sP 11 25 46.4 +5.6
YAK e 11 26 48.3
YAK e 11 27 37.7
YAK ePPP PPP 11 28 34.5
YAK eS S 11 33 01.6 +4.4
YAK e*SS sS 11 33 09.3 +9.2
YAK e 11 35 31.7
YAK pmax pmax
comp=Z,12nm,1.2s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,45nm,2.0s
YAK pmax pmax
comp=N,65nm,2.4s
YAK pmax pmax
comp=E,13nm,2.0s
YAK smax smax
comp=E,20nm,1.9s
YAK smax smax
comp=N,74nm,2.5s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,326nm,17.0s
HBAR **Harrisburg** 51.31 272 IAMs_20 IAMs_20 11 46 35.0
comp=Z,3μm,18.0s
KK31 **Karatay Array** 51.34 70 iP P 11 25 39.0 0.0
KK31 **Karatay Array** 51.34 70 P P 11 25 39.4 +0.4
KKAR **Karatay Array** 51.34 70 P P 11 25 38.7 -0.3
KKAR 11 25 39.4
KKAR pmax pmax
comp=Z,19nm,1.2s
KKAR **Karatay Array** 51.34 70 P P 11 25 38.7 -0.3
KKAR **Karatay Array** 51.34 70 P P 11 25 39.4 +0.4
KKAR IAmb IAmb 11 25 53.9
comp=Z,19nm,1.2s
MET **Memphis--Engin** 51.37 272 IAMs_20 IAMs_20 11 46 01.4
comp=Z,3μm,19.0s
MSO **Missoula** 51.40 299 P P 11 25 38.6 -0.9
YNE **Yellowstone No** 51.41 295 P P 11 25 37.2 -2.6
BOZ **Bozeman (W)** 51.55 297 P P 11 25 40.4 -0.3
BOZ pmax pmax
comp=Z,27nm,1.1s
BOZ MLR MLR
comp=Z,9μm,19.0s
BOZ **Bozeman (W)** 51.55 297 P P 11 25 40.4 -0.3
BOZ IAmb IAmb 11 25 54.5
comp=Z,27nm,1.1s
U40A **Yellville** 51.58 275 P P 11 25 37.4 -3.4
U40A IAmb IAmb 11 25 54.9
comp=Z,35nm,1.5s
U40A IAMs_20 IAMs_20 11 46 45.2
comp=Z,3μm,18.0s
LRM **Limekiln Ridge** 51.67 297 P P 11 25 41.1 -0.6
YMP **Mirror Lake Pl** 51.69 295 P P 11 25 41.4 -0.6
456A **Hilliard** 51.75 261 IAMs_20 IAMs_20 11 46 00.8
comp=Z,3μm,19.0s
TIGA **Tifton** 51.80 263 IAMs_20 IAMs_20 11 46 12.3
comp=Z,2μm,19.0s
LRAL **Lakeview Retre** 51.88 268 P P 11 25 41.7 -1.5
LRAL IAmb IAmb 11 25 57.1
comp=Z,27nm,1.4s
LRAL IAMs_20 IAMs_20 11 46 07.9
comp=Z,3μm,20.0s
YNR **Norris Junctio** 51.92 295 P P 11 25 42.4 -1.2
IUG **luzhnay** 51.94 71 eP P 11 25 45.3 +1.7
comp=Z,28nm,1.4s
IUG **luzhnay** 51.94 71 eP P 11 25 45.3 +1.7
IUG pmax pmax
comp=Z,28nm,1.4s
K22A **Casper** 52.00 291 P P 11 25 44.3 +0.1
K22A IAMs_20 IAMs_20 11 46 55.9
comp=Z,4μm,20.0s
B08A **Colville Reser** 52.08 304 IAMs_20 IAMs_20 11 48 07.3
comp=Z,4μm,19.0s
YHB **Horse Butte** 52.09 296 P P 11 25 43.5 -1.4
HHAR **Hobbs** 52.10 276 IAMs_20 IAMs_20 11 47 11.3
comp=Z,3μm,20.0s
QLMT **Earthquake Lak** 52.11 296 P P 11 25 43.4 -1.6
DLMT **Dillon** 52.12 297 P P 11 25 44.4 -0.5
DLMT IAmb IAmb 11 25 59.5
comp=Z,34nm,1.5s
DGZ **Jazzator, Alta** 52.13 53 ceP P 11 25 45.9 +0.9
DGZ pmax pmax
comp=Z,79nm,2.0s
H17A **Grant Village** 52.15 295 P P 11 25 43.6 -1.7
H17A IAmb IAmb 11 26 07.8
comp=Z,24nm,1.4s
U38A **Gravette** 52.16 276 IAMs_20 IAMs_20 11 47 13.8
comp=Z,3μm,18.0s
C09A **Chrisman Ranch** 52.17 303 P P 11 25 43.9 -1.3
WHAR **Wooly Hollow** 52.24 274 IAMs_20 IAMs_20 11 47 02.6
comp=Z,3μm,19.0s
W41B **Gary Mavity, V** 52.32 274 IAMs_20 IAMs_20 11 47 06.8
comp=Z,3μm,19.0s
R32A **Long Quarter,** 52.32 281 IAMs_20 IAMs_20 11 46 51.6
comp=Z,3μm,19.0s
352A **Blakely** 52.33 265 IAMs_20 IAMs_20 11 46 31.6
comp=Z,3μm,18.0s
CBKS **Cedar Bluff** 52.43 282 P P 11 25 46.0 -1.2
CBKS pmax pmax
comp=Z,23nm,1.3s
CBKS **Cedar Bluff** 52.43 282 P P 11 25 46.0 -1.2
CBKS IAmb IAmb 11 26 13.2
comp=Z,23nm,1.2s
CBKS IAMs_20 IAMs_20 11 46 48.4
comp=Z,3μm,21.0s
BOD **Bodaibo** 52.44 30 eP P 11 25 45.8 -1.2
BOD pmax pmax
comp=Z,30nm,1.8s
SEY **Seymchan** 52.49 6 LR LR 11 49 11.4
comp=Z,1μm,18.6s,baz=354,slow=37
SEY **Seymchan** 52.49 6 eP P 11 25 48.6 +1.3
MAKZ **Makanchi** 52.65 58 P P 11 25 48.0 -0.8
MAKZ pmax pmax
comp=Z,21nm,1.5s
MAKZ MLR MLR
comp=Z,2μm,22.0s
MAKZ **Makanchi** 52.65 58 P P 11 25 48.0 -0.8
MCMT **McKenzie Canyo** 52.66 297 P P 11 25 47.3 -1.8
SGDS **Sogindy** 52.69 66 eP P 11 25 48.5 -0.7
comp=Z,38nm,3.0s
SGDS **Sogindy** 52.69 66 eP P 11 25 48.4 -0.7
SGDS pmax pmax
comp=Z,38nm,3.0s
UALR **University of** 52.70 273 IAMs_20 IAMs_20 11 47 18.8
comp=Z,3μm,19.0s
PHWY **Pilot Hill** 52.70 289 P P 11 25 47.8 -1.8
PHWY IAMs_20 IAMs_20 11 47 58.2
comp=Z,3μm,18.0s
IMW **Indian Meadow** 52.71 295 P P 11 25 47.4 -2.2
MK31 **Makanchi Array** 52.78 58 iP P 11 25 48.2 -1.5
MK31 pmax pmax
comp=Z,55nm,1.4s
MK31 **Makanchi Array** 52.78 58 P P 11 25 49.0 -0.7
MK31 IAmb IAmb 11 26 00.5
comp=Z,41nm,1.4s

MKAR Makanchi Array 52.78 58 P **P** **11 25 48.8 -1.0**
comp=Z,3.8nm,1.1s,baz=331,slow=6.0,SNR=14
MKAR LR LR 11 48 24.5
comp=Z,1μm,19.7s,baz=318,slow=36
TDK Taldyqorghan 52.84 62 *e*P **P** **11 25 49.7 -0.5**
TDK Taldyqorghan 52.84 62 *e*P **P** **11 25 49.7 -0.5**
SNOW Snow King Moun 53.00 294 P **P** **11 25 50.3 -1.4**
TPAW Teton Pass 53.05 295 P **P** **11 25 48.9 -3.2**
KAN05 Bluff City Nor 53.08 280 P **P** **11 25 50.0 -2.0**
146A Union 53.11 269 IAMs_20 IAMs_20 11 46 35.5
comp=Z,4μm,20.0s
BW06 Boulder Array 53.12 293 P **P** **11 25 49.5 -3.1**
BW06 IAmb IAmb 11 26 05.2
comp=Z,20nm,0.9s
PD31 Pinedale Array 53.12 293 P **P** **11 25 50.7 -1.8**
PD31 IAmb IAmb 11 26 05.1
comp=Z,19nm,1.0s
PDAR Pinedale Array 53.12 293 P **P** **11 25 52.6 +0.1**
comp=Z,3.8nm,0.7s,baz=60,slow=7.0,SNR=22
PDAR LR LR 11 48 26.5
comp=Z,4μm,18.1s,baz=28,slow=36
PDAR Pinedale Array 53.12 293 P **P** **11 25 51.1 -1.4**
REDW Red Top Meadow 53.12 294 P **P** **11 25 50.3 -2.3**
656A Willston 53.14 261 IAMs_20 IAMs_20 11 47 19.8
comp=Z,3μm,18.0s
TOC1 Torodi Ar. Sit 53.15 156 IAMs_20 IAMs_20 11 48 36.5
comp=Z,2μm,18.0s
ZSN Zaisan 53.15 56 *e*P **P** **11 25 53.3 +0.8**
comp=Z,22nm,2.0s
ZSN Zaisan 53.15 56 *e*P **P** **11 25 53.2 +0.8**
ZSN pmax pmax
comp=Z,22nm,2.0s
X40A Basin Creek Fa 53.15 274 IAMs_20 IAMs_20 11 47 50.9
comp=Z,3μm,18.0s
KDAK Kodiak Island 53.16 332 IAMs_20 IAMs_20 11 50 00.6
comp=Z,3μm,22.0s
TOA0 Torodi Ar. Sit 53.17 156 P **P** **11 25 49.9 -2.9**
TOA0 IAmb IAmb 11 26 03.2
comp=Z,29nm,1.1s
TORD Torodi Ar. Bea 53.17 156 P **P** **11 25 52.0 -0.9**
comp=Z,5.9nm,1.0s,baz=340,slow=5.8,SNR=14
TORD LR LR 11 48 39.2
comp=Z,2μm,18.8s,baz=335,slow=36
TORD Torodi Ar. Bea 53.17 156 P **P** **11 25 50.9 -2.0**
CCAR Cane Creek 53.18 272 IAMs_20 IAMs_20 11 47 26.6
comp=Z,2μm,18.0s
TOC5 Torodi Ar. Sit 53.19 156 IAMs_20 IAMs_20 11 48 37.5
comp=Z,2μm,18.0s
E09A Wood Farm, Sta 53.22 302 IAMs_20 IAMs_20 11 49 20.1
comp=Z,2μm,18.0s
FRU1 Bishkek 53.23 67 IAMs_20 IAMs_20 11 48 11.1
comp=Z,3μm,20.0s
N23A Red Feather La 53.24 289 P **P** **11 25 54.3 +0.8**
N23A IAmb IAmb 11 26 07.2
comp=Z,32nm,1.2s
N23A IAMs_20 IAMs_20 11 48 15.5
comp=Z,3μm,19.0s
AAK Ala-Arcka 53.32 67 *i* P **P** **11 25 56.5 +2.6**
SNR=27
AAK Ala-Arcka 53.32 67 P P 11 25 58.4 +4.5
AAK Ala-Arcka 53.32 67 ⇓ *i* P **P** **11 25 54.0 +0.1**
AAK pmax pmax
comp=Z,96nm,2.5s
MIAR Mount Ida 53.42 274 IAMs_20 IAMs_20 11 48 02.1
comp=Z,3μm,18.0s
451A Vernon 53.43 265 IAMs_20 IAMs_20 11 46 17.6
comp=Z,3μm,21.0s
LTY Liberty 53.49 304 IAMs_20 IAMs_20 11 48 59.7
comp=Z,3μm,20.0s
TKM2 Tokmak 2 53.51 66 *i* P **P** **11 25 56.0 +0.6**
TKM2 pmax pmax
comp=Z,97nm,1.7s
E08A Dider Farm, El 53.57 303 IAMs_20 IAMs_20 11 48 57.5
comp=Z,3μm,18.0s
PLID Pearl Lake 53.64 299 P **P** **11 25 55.0 -1.3**
PLID IAmb IAmb 11 26 14.1
comp=Z,31nm,1.4s
CROK Carrier 53.64 279 P **P** **11 25 52.3 -3.8**
CROK IAmb IAmb 11 26 09.6
comp=Z,21nm,1.0s
OHAK Old Harbor 53.83 332 IAMs_20 IAMs_20 11 53 21.1
comp=Z,3μm,18.0s
MDOK Medeo 53.87 65 *e*P **P** **11 25 59.6 +1.6**
MDOK Medeo 53.87 65 *e*P **P** **11 25 59.6 +1.6**
TNSS Tian-Shan 53.94 65 *e*P **P** **11 25 58.9 +0.1**
TNSS Tian-Shan 53.94 65 *e*P **P** **11 25 58.8 +0.1**
WLAR White Oak Lake 53.95 273 IAMs_20 IAMs_20 11 48 16.1
comp=Z,2μm,19.0s
BOOM Boomskoye usch 54.01 66 P **P** **11 25 59.4 +0.4**
BOOM pmax pmax
comp=Z,97nm,1.5s
BOOM MLR MLR
comp=Z,6μm,20.0s
BOOM Boomskoye usch 54.01 66 P **P** **11 25 59.4 +0.4**
BTK Batken 54.02 71 P **P** **11 25 59.1 +0.1**
BTK pmax pmax
comp=Z,211nm,1.5s
BTK MLR MLR
comp=Z,4μm,19.0s
BTK Batken 54.02 71 P **P** **11 25 59.1 +0.1**
143A Socs Landing, 54.06 271 IAMs_20 IAMs_20 11 47 43.9
comp=Z,3μm,19.0s
VBMS Vicksburg 54.10 270 IAMs_20 IAMs_20 11 47 53.7
comp=Z,3μm,18.0s
X37A Clayton 54.15 276 IAMs_20 IAMs_20 11 48 25.6
comp=Z,3μm,18.0s
Z41A Richland Creek 54.19 273 IAMs_20 IAMs_20 11 48 16.3
comp=Z,3μm,18.0s
KPKS Kokpek 54.25 63 *e*P **P** **11 26 01.8 +1.1**
KPKS Kokpek 54.25 63 *e*P **P** **11 26 01.7 +1.1**
060A Indiantown 54.26 258 IAMs_20 IAMs_20 11 48 13.3
comp=Z,2μm,19.0s
BMO Blue Mountains 54.32 300 P **P** **11 25 59.5 -1.7**
BMO pmax pmax
comp=Z,10.0nm,1.1s
BMO MLR MLR
comp=Z,8μm,18.0s
BMO Blue Mountains 54.32 300 P **P** **11 25 59.5 -1.7**
HLID Hailey 54.33 297 P **P** **11 26 01.9 +0.5**
SATY Saty 54.49 64 *e*P **P** **11 26 02.9 +0.4**
comp=Z,12nm,1.5s
SATY *e*S S 11 33 52.2 +11
SATY Saty 54.49 64 *e*P **P** **11 26 02.8 +0.4**
SATY *e*S S 11 33 52.1 +10
SATY pmax pmax
comp=Z,12nm,1.5s
NLWA Neilton Lookou 54.50 307 IAMs_20 IAMs_20 11 49 34.4
comp=Z,3μm,20.0s
CHGR Chuyangaron 54.52 74 P **P** **11 26 02.6 -0.1**
Q24A Divide 54.55 287 IAMs_20 IAMs_20 11 49 05.0
comp=Z,3μm,18.0s
SII Sitkinak Islan 54.63 332 IAMs_20 IAMs_20 11 49 44.3
comp=Z,3μm,21.0s
UZB Uzynbulak 54.65 63 *e*P **P** **11 26 03.2 -0.4**
comp=Z,17nm,1.8s
UZB *e*S S 11 33 54.9 +11
UZB Uzynbulak 54.65 63 *e*P **P** **11 26 03.2 -0.4**
UZB *e*S S 11 33 54.8 +11
UZB pmax pmax
comp=Z,17nm,1.8s
PDGK Podgornoye 54.67 63 P **P** **11 26 04.2 +0.4**
MOY Mondy 54.70 42 *e*P **P** **11 26 04.4 +0.6**
MOY pmax pmax
comp=Z,213nm,1.7s
GAR Garm 54.71 73 P **P** **11 26 04.5 +0.5**
KDJ Kajisay 54.80 65 P **P** **11 26 04.9 +0.1**
KDJ pmax pmax
comp=Z,66nm,1.5s
KDJ MLR MLR
comp=Z,5μm,19.0s
KDJ Kajisay 54.80 65 P **P** **11 26 04.9 +0.1**
SHLS Shalkode 54.81 63 *e*P **P** **11 26 07.4 +2.7**
SHLS *e*S S 11 33 59.8 +14
SHLS Shalkode 54.81 63 *e*P **P** **11 26 07.4 +2.7**
SHLS *e*S S 11 33 59.7 +14
O20A White River Ci 54.82 290 P **P** **11 26 05.9 +1.0**
O20A IAmb IAmb 11 26 18.4
comp=Z,39nm,1.4s
344A Westbrook Farm 54.85 270 IAMs_20 IAMs_20 11 48 01.6
comp=Z,3μm,19.0s
HWUT Hardware Ranch 54.89 294 P **P** **11 26 05.1 -0.3**
HWUT IAmb IAmb 11 26 26.4
comp=Z,18nm,1.1s
RDMU Red Mountain 54.98 292 P **P** **11 26 03.0 -3.1**
IRK Irkutsk 55.11 40 *e*P **P** **11 26 07.1 +0.5**
IRK *e* 11 28 13.4
IRK pmax pmax
comp=Z,128nm,1.9s
E03A Lebam 55.12 306 IAMs_20 IAMs_20 11 48 47.9
comp=Z,2μm,20.0s
F04A Amboy 55.25 305 IAMs_20 IAMs_20 11 50 07.2
comp=Z,3μm,18.0s
GRTK Grand Turk 55.43 245 IAMs_20 IAMs_20 11 45 43.5
comp=Z,4μm,20.0s
TLY Talaya 55.44 40 P **P** **11 26 11.9 +2.9**
comp=Z,3.9nm,0.7s,baz=334,slow=13,SNR=2.2
TLY Talaya 55.44 40 *e*P **P** **11 26 08.8 -0.2**
TLY *e* 11 28 17.6
TLY *e*PPP PPP 11 29 32.5
TLY *e*S S 11 34 04.1 +10
TLY pmax pmax
comp=Z,56nm,1.5s
TLY MLR MLR
comp=Z,9μm,15.0s
TLY Talaya 55.44 40 P **P** **11 26 08.8 -0.2**
TLY IAmb IAmb 11 26 18.6
comp=Z,25nm,1.4s
TLY IAMs_20 IAMs_20 11 52 28.9
comp=Z,3μm,18.0s
WMOK Wichita Mounta 55.48 279 P **P** **11 26 09.7 +0.1**
WMOK pmax pmax
comp=Z,19nm,1.4s
WMOK Wichita Mounta 55.48 279 P **P** **11 26 09.7 +0.1**
WMOK IAmb IAmb 11 26 18.9
comp=Z,19nm,1.4s
CHIR Chirikof Islan 55.60 333 IAMs_20 IAMs_20 11 52 12.2
comp=Z,3μm,20.0s
CHGN Chignik 55.68 335 IAMs_20 IAMs_20 11 50 31.5
comp=Z,2μm,20.0s
MA2 Magadan 55.76 7 ⇑ *e*P **P** **11 26 09.0 -2.2**
MA2 pmax pmax
comp=Z,20nm,1.5s
Z35A Perchaven, San 56.03 277 IAMs_20 IAMs_20 11 49 37.5
comp=Z,3μm,18.0s
H04A Detroit Lake 56.25 304 IAMs_20 IAMs_20 11 50 45.4
comp=Z,4μm,20.0s
NATX Nacogdoches 56.27 274 IAMs_20 IAMs_20 11 49 59.6
comp=Z,2μm,20.0s
S22A 4UR Ranch, Cre 56.28 288 P **P** **11 26 14.9 -0.7**
S22A IAMs_20 IAMs_20 11 50 05.8
comp=Z,2μm,21.0s
P17A Butcher Ranch, 56.38 292 P **P** **11 26 15.0 -1.1**
PV22 Blue Mesa, Par 56.40 290 P **P** **11 26 13.9 -2.4**
PV07 Paradox Valley 56.43 290 IAMs_20 IAMs_20 11 50 27.8
comp=Z,3μm,22.0s
PV15 Paradox Valley 56.44 289 IAMs_20 IAMs_20 11 50 24.3
comp=Z,3μm,20.0s
ZAK Zakamensk 56.50 41 *e*P **P** **11 26 16.7 -0.1**
ZAK pmax pmax
comp=Z,35nm,1.6s
KSH Kashi 56.56 68 P P 11 26 24.3 +7.0
KSH S **S** **11 34 14.0 +4.7**
KSH pmax pmax
comp=Z,170nm,1.9s
KSH pmax pmax
comp=Z,510nm,4.7s
KSH LR LR
comp=Z,4μm,17.5s
KSH LR LR
comp=Z,3μm,18.0s
KSH LR LR
comp=Z,5μm,18.6s
237A Washetta, Mont 56.56 275 IAMs_20 IAMs_20 11 50 02.2
comp=Z,3μm,20.0s
PV23 Carpenter Ridg 56.56 290 P **P** **11 26 15.1 -2.5**
PV23 IAmb IAmb 11 26 25.1
comp=Z,24nm,1.0s
PINE Pine Mountain 56.57 302 IAMs_20 IAMs_20 11 51 30.8
comp=Z,3μm,18.0s
PV04 Paradox Valley 56.57 290 P **P** **11 26 18.2 +0.7**
PV04 IAmb IAmb 11 26 30.7
comp=Z,16nm,1.1s
PV04 IAMs_20 IAMs_20 11 49 22.7
comp=Z,3μm,21.0s
DUG Dugway, Tooele 56.59 294 P **P** **11 26 15.6 -2.0**
DUG pmax pmax
comp=Z,23nm,1.5s
DUG MLR MLR
comp=Z,4μm,20.0s
DUG Dugway, Tooele 56.59 294 P **P** **11 26 15.6 -2.0**
DUG IAmb IAmb 11 26 37.5
comp=Z,23nm,1.5s
PV12 Saucer Basin, 56.59 290 P **P** **11 26 18.4 +0.6**
PV12 IAmb IAmb 11 26 37.9
comp=Z,30nm,1.4s
PV12 IAMs_20 IAMs_20 11 49 33.3
comp=Z,3μm,20.0s
SRU San Rafael Swe 56.61 291 P **P** **11 26 18.1 +0.3**
SRU pmax pmax
comp=Z,19nm,1.2s
SRU San Rafael Swe 56.61 291 P **P** **11 26 18.1 +0.3**
PV14 Lion Creek, Pa 56.63 290 P **P** **11 26 17.5 -0.6**
PV14 IAmb IAmb 11 26 31.1
comp=Z,16nm,0.9s
PV14 IAMs_20 IAMs_20 11 50 47.4
comp=Z,3μm,19.0s
PV11 David Mesa, Pa 56.64 290 P **P** **11 26 18.9 +0.9**
PV11 IAmb IAmb 11 26 31.3
comp=Z,35nm,1.2s
PV11 IAMs_20 IAMs_20 11 50 36.5
comp=Z,3μm,20.0s
PV16 Nyswonger Mesa 56.64 290 P **P** **11 26 17.8 -0.3**
PV16 IAmb IAmb 11 26 31.3
comp=Z,35nm,1.4s
PV16 IAMs_20 IAMs_20 11 50 47.6
comp=Z,3μm,20.0s
PV01 Paradox Valley 56.66 289 P **P** **11 26 18.1 -0.1**
PV01 IAmb IAmb 11 26 32.2
comp=Z,17nm,1.0s
PV02 Paradox Valley 56.66 289 P **P** **11 26 16.9 -1.3**
PV02 IAmb IAmb 11 26 32.1
comp=Z,22nm,1.0s
PV02 IAMs_20 IAMs_20 11 50 43.1
comp=Z,2μm,18.0s
PV03 Paradox Valley 56.66 290 P **P** **11 26 18.4 +0.2**
PV03 IAmb IAmb 11 26 38.9
comp=Z,16nm,1.1s
PV03 IAMs_20 IAMs_20 11 50 48.2
comp=Z,3μm,21.0s
PV19 Morning Glory 56.67 290 IAMs_20 IAMs_20 11 50 48.4
comp=Z,3μm,20.0s
PV17 East Wray Mesa 56.69 290 P **P** **11 26 17.9 -0.5**
PV17 IAmb IAmb 11 26 40.3
comp=Z,21nm,1.1s
PV18 Skein Mesa, Pa 56.70 290 P **P** **11 26 14.8 -3.7**
PV18 IAmb IAmb 11 26 27.6
comp=Z,14nm,0.9s
PV18 IAMs_20 IAMs_20 11 50 50.0
comp=Z,2μm,18.0s
TMUT Trail Mountain 56.72 292 P **P** **11 26 18.6 -0.1**
PV13 Radium Mtn., P 56.74 290 P **P** **11 26 18.7 -0.1**
ELK Elko 57.06 296 P **P** **11 26 18.1 -2.9**
ELK pmax pmax
comp=Z,19nm,1.5s
ELK MLR MLR
comp=Z,9μm,18.0s
ELK Elko 57.06 296 P **P** **11 26 18.1 -2.9**
MLPR Magueyes Islan 57.09 239 pP 11 26 22.7 -0.3
WHTX Lake Whitney, 57.27 276 IAMs_20 IAMs_20 11 49 26.2
comp=Z,3μm,21.0s
WMQ Urumqi 57.28 56 *e*P **P** **11 26 24.8 +2.4**
WMQ pP sP 11 26 31.8 +7.0
WMQ S **S** **11 34 22.8 +4.1**
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,300nm,4.3s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,1μm,18.9s
WMQ LR LR
comp=Z,970nm,24.1s
WMQ Urumqi 57.28 56 IAMs_20 IAMs_20 11 52 21.0
comp=Z,3μm,18.0s
CNBA Chernabura Isl 57.30 335 IAMs_20 IAMs_20 11 52 11.1
comp=Z,2μm,20.0s
MSTX Muleshoe 57.83 282 IAMs_20 IAMs_20 11 50 15.3
comp=Z,2μm,20.0s
FALS False Pass 57.94 337 IAMs_20 IAMs_20 11 52 53.2
comp=Z,3μm,20.0s
FDF Fort de France 57.99 232 IAMs_20 IAMs_20 11 48 11.0
comp=Z,2μm,20.0s
KBL Kabul 57.99 76 P P 11 26 32.0 +4.3
SNR=13
KBL Kabul 57.99 76 IAMs_20 IAMs_20 11 52 06.0
comp=Z,2μm,19.0s
HUMO Hull Mountain 58.33 303 IAMs_20 IAMs_20 11 52 39.4
comp=Z,2μm,18.0s
HKT Hockley 58.34 274 IAMs_20 IAMs_20 11 51 56.1
comp=Z,2μm,19.0s
PSUT Pine Spring 58.43 294 P **P** **11 26 26.9 -3.7**
GTBY Guantanamo Bay 58.43 249 *e*P P 11 26 34.7 +4.2
GTBY Guantanamo Bay 58.43 249 IAMs_20 IAMs_20 11 47 40.2
comp=Z,3μm,20.0s
ANMO Albuquerque 58.53 286 ⇓ *e*P **P** **11 26 30.5 -0.9**
ANMO pmax pmax
comp=Z,38nm,2.6s
ANMO Albuquerque 58.53 286 P **P** **11 26 29.5 -1.9**
DBIC Dimbokro 58.61 165 P P **11 26 29.6 -2.2**
comp=Z,16nm,1.0s,baz=358,slow=1.7,SNR=7.6
DBIC LR LR 11 52 32.5
comp=Z,3μm,18.7s,baz=344,slow=37
DBIC Dimbokro 58.61 165 P **P** **11 26 30.1 -1.7**
DBIC IAmb IAmb 11 26 38.1
comp=Z,31nm,1.1s
TIC Toumodi 58.62 165 *e*P **P** **11 26 30.4 -1.5**
PKCU Pink Cliffs 58.76 292 P **P** **11 26 33.4 +0.3**
ZEA Zeya 58.86 24 *e*P P 11 26 36.8 +3.6
ZEA *e* 11 28 48.4
ZEA *e*S S 11 34 52.7 +14
ZEA pmax pmax
comp=N,100nm,6.8s
ZEA pmax pmax
comp=Z,300nm,7.2s
ZEA pmax pmax
comp=E,100nm,4.9s
ZEA pmax pmax
comp=Z,100nm,5.4s
ZEA smax smax
comp=E,300nm,7.0s
ZEA MLR MLR
comp=E,300nm,17.0s
ZEA MLR MLR
comp=N,800nm,15.0s
ZEA MLR MLR
comp=Z,1μm,17.0s
KIC Kosan Boka 58.93 165 *e*P **P** **11 26 31.6 -2.4**
comp=Z,116nm,1.5s
BBGH Gun Hill 58.95 229 IAMs_20 IAMs_20 11 46 51.4
comp=Z,3μm,20.0s
LIC Lamto 59.03 165 *e*P **P** **11 26 30.2 -4.5**
comp=Z,179nm,1.5s
BNM Barren Site 59.28 285 P **P** **11 26 35.1 -1.5**
KNB Kanab 59.33 292 P **P** **11 26 36.4 -0.5**
KNB pmax pmax
comp=Z,31nm,1.5s
KNB Kanab 59.33 292 P **P** **11 26 36.4 -0.5**
UNV Unalaska Valle 59.40 339 IAMs_20 IAMs_20 11 55 41.2
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 59.47 286 IAMs_20 IAMs_20 11 51 52.1
comp=Z,2μm,18.0s
LCMT Little Creek M 59.50 292 P **P** **11 26 36.1 -1.9**
JCT Junction City 59.58 277 P **P** **11 26 38.2 -0.3**
JCT pmax pmax
comp=Z,19nm,1.2s
JCT Junction City 59.58 277 P **P** **11 26 38.2 -0.3**
JCT IAmb IAmb 11 26 59.7
comp=Z,19nm,1.2s
KVN Kaiserville 59.62 297 P **P** **11 26 37.2 -1.7**
KVN pmax pmax
comp=Z,12nm,1.1s
KVN MLR MLR
comp=Z,8μm,20.0s
KVN Kaiserville 59.62 297 P **P** **11 26 37.2 -1.7**
U15A North Rim 59.63 291 P **P** **11 26 36.5 -2.6**
U15A IAmb IAmb 11 26 48.8
comp=Z,11nm,0.9s
U15A IAMs_20 IAMs_20 11 52 41.7
comp=Z,3μm,18.0s
SONM Songino Array 59.68 40 P **P** **11 26 38.2 -0.9**
comp=Z,1.4nm,0.8s,baz=324,slow=7.3,SNR=6.6
SONM LR LR 11 54 52.3
comp=Z,4μm,20.3s,baz=339,slow=38
SONM Songino Array 59.68 40 P **P** **11 26 35.8 -3.3**
ULN Ulaanbaatar 59.83 40 P P 11 26 45.3 +5.2
ULN Ulaanbaatar 59.83 40 *ce*P **P** **11 26 40.9 +0.7**
ULN pmax pmax
comp=Z,25nm,2.5s
SHME Shamm 59.85 93 P P 11 26 43.4 +3.0
PRN Pahroc Range 59.87 294 P **P** **11 26 42.1 +1.5**
PRN IAmb IAmb 11 27 07.5
comp=Z,14nm,1.2s
BANOM Banah 60.02 92 P **P** **11 26 44.1 +2.5**
BANOM Banah 60.02 92 P P 11 26 45.8 +4.1
WUAZ Wupatki 60.05 290 P **P** **11 26 42.5 +0.6**
WUAZ IAmb IAmb 11 26 55.2
comp=Z,21nm,1.0s
735A Kenedy 60.14 275 IAMs_20 IAMs_20 11 52 45.0
comp=Z,2μm,18.0s
NVAR Mina Array Bea 60.24 297 P **P** **11 26 43.1 -0.1**
comp=Z,0.6nm,0.8s,baz=68,slow=5.0,SNR=2.7
NVAR Mina Array Bea 60.24 297 P **P** **11 26 42.1 -1.1**
NIL Nilore 60.51 73 P **P** **11 26 43.8 -1.0**
NIL pmax pmax
comp=Z,111nm,1.4s
NIL MLR MLR
comp=Z,2μm,18.0s
NIL Nilore 60.51 73 P **P** **11 26 43.8 -1.0**
NIL Nilore 60.51 73 IAMs_20 IAMs_20 11 54 12.9
comp=Z,2μm,18.0s
NAZ Nazwa, Dubai 60.57 94 P **P** **11 26 47.6 +2.3**
MDH Madha 60.57 93 *i* P P 11 26 48.2 +2.9
SNR=8.9
MDH Madha 60.57 93 P P 11 26 48.7 +3.4
SHPR Sheep Range 60.70 294 P **P** **11 26 44.7 -1.5**
SHPR IAmb IAmb 11 27 04.5
comp=Z,16nm,1.3s
SHPR IAMs_20 IAMs_20 11 53 05.3
comp=Z,2μm,19.0s
TPNV Topopah Spring 60.74 295 P **P** **11 26 46.0 -0.6**
TPNV pmax pmax
comp=Z,12nm,1.2s
TPNV MLR MLR
comp=Z,4μm,20.0s
TPNV Topopah Spring 60.74 295 P **P** **11 26 46.0 -0.6**
UOSS Minazif 60.84 93 *i* P **P** **11 26 47.3 +0.2**
SNR=7.8
UOSS Minazif 60.84 93 P P 11 26 50.9 +3.7
MNTX Cornudas Mount 60.89 283 P **P** **11 26 45.0 -2.4**
MNTX IAMs_20 IAMs_20 11 52 37.4
comp=Z,2μm,20.0s
HATD Hatta, Dubai 60.91 93 *i* P **P** **11 26 49.3 +1.6**
SNR=10
HATD Hatta, Dubai 60.91 93 P P 11 26 51.5 +3.8
SNR=9.9
MTDJ Mount Denham 60.94 250 *e*P P 11 26 52.6 +4.6
MTDJ Mount Denham 60.94 250 IAMs_20 IAMs_20 11 49 39.7
comp=Z,2μm,20.0s
X16A Lo Mia Camp, P 61.03 289 P **P** **11 26 47.3 -1.3**
X16A IAmb IAmb 11 27 02.4
comp=Z,23nm,1.3s
X16A IAMs_20 IAMs_20 11 52 51.7
comp=Z,2μm,20.0s
121A Cookes Peak, D 61.16 285 P **P** **11 26 46.3 -3.2**
121A IAMs_20 IAMs_20 11 52 50.0
comp=Z,2μm,18.0s
OMMB Old Mammoth Mi 61.22 297 P **P** **11 26 48.6 -1.4**
W13A Hualapai Mount 61.42 292 P **P** **11 26 49.1 -2.1**
W13A IAMs_20 IAMs_20 11 52 23.2
comp=Z,3μm,22.0s
HIA Hailar 61.66 30 IAMs_20 IAMs_20 11 54 21.2
comp=Z,2μm,19.0s
SOHO SOHO 61.69 93 *i* P **P** **11 26 53.9 +1.0**
SNR=9.5
SOHO SOHO 61.69 93 P P 11 26 56.0 +3.1
SOHO P P 11 26 56.0 +3.1
Y14A Wickenburg 62.08 290 IAMs_20 IAMs_20 11 53 20.5
comp=Z,2μm,19.0s
TX31 Lajitas Ar. Si 62.22 280 P **P** **11 26 55.1 -1.5**
TX32 Lajitas Array 62.22 280 P **P** **11 26 54.2 -2.4**
TXAR Lajitas Array 62.22 280 P **P** **11 26 57.4 +0.8**
comp=Z,1.8nm,1.0s,baz=59,slow=3.4,SNR=12
TXAR LR LR 11 53 23.6
comp=Z,5μm,19.7s,baz=0.0,slow=36
TXAR Lajitas Array 62.22 280 P **P** **11 26 54.6 -2.0**
TXAR Lajitas Array 62.22 280 P **P** **11 26 54.6 -2.0**

ARQ	**Araqi**	**62.39**	**94**	P	P	11 27 01.0	+3.3		
	SNR=5.8								
PETK	**Petropavlovsk-**	**62.50**	**3**	P	**P**	**11 27 00.7**	**+2.7**		
	comp=Z,6.4nm,1.0s,baz=50,slow=9.7,SNR=2.6								
PETK				PP	PP	11 29 23.9	+9.2		
	comp=Z,5.2nm,1.1s,baz=343,slow=13,SNR=6.1								
PETK				LR	LR	11 53 30.2			
	comp=Z,852nm,20.7s,baz=6.6,slow=35								
PETK	**Petropavlovsk-**	**62.50**	**3**	P	**P**	**11 26 56.3**	**-1.7**		
PETK	**Petropavlovsk-**	**62.50**	**3**	P	**P**	**11 26 56.3**	**-1.7**		
HOQ	**Hoqain**	**62.51**	**93**	P	P	11 27 01.9	+3.4		
	SNR=6.0								
TUC	**Tucson**	**62.60**	**288**	P	**P**	**11 26 57.8**	**-1.2**		
TUC				pmax	pmax				
	comp=Z,16nm,1.2s								
TUC				MLR	MLR				
	comp=Z,3μm,19.0s								
TUC	**Tucson**	**62.60**	**288**	P	**P**	**11 26 57.8**	**-1.2**		
TUC				IAmb	IAmb	11 27 13.1			
	comp=Z,16nm,1.2s								
TUC	**Tucson**	**62.60**	**288**	IAMs_20	IAMs_20	11 54 01.0			
	comp=Z,3μm,19.0s								
ISA	**Isabella, Lake**	**62.73**	**296**	P	**P**	**11 26 57.8**	**-2.0**		
ISA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ISA				MLR	MLR				
	comp=Z,6μm,18.0s								
ISA	**Isabella, Lake**	**62.73**	**296**	P	**P**	**11 26 57.8**	**-2.0**		
ISA				IAmb	IAmb	11 27 13.7			
	comp=Z,9.9nm,1.0s								
BIDO	**Bidbid**	**62.92**	**92**	P	P	11 27 04.2	+3.0		
	SNR=7.9								
DHRM	**DHARAMSHALA**	**62.98**	**72**	*e*P	**P**	**11 27 02.0**	**+0.3**		
DHRM				IAmb	IAmb	11 27 13.7			
	comp=Z,25nm,0.8s								
BSY	**Bisya**	**63.20**	**93**	P	**P**	**11 27 05.9**	**+2.8**		
	SNR=7.9								
SMDO	**Samad**	**63.29**	**92**	P	P	11 27 06.9	+3.1		
	SNR=8.4								
WSAR	**Wadi Sarin**	**63.38**	**92**	P	**P**	**11 27 05.0**	**+0.7**		
	comp=Z,2.1nm,0.8s,baz=340,slow=7.7,SNR=4.0								
WSAR				PP	PP	11 29 29.7	+6.4		
	comp=Z,4.9nm,0.8s,baz=349,slow=9.4,SNR=5.3								
WSAR	**Wadi Sarin**	**63.38**	**92**	P	P	11 27 08.0	+3.7		
113A	**Mohawk Valley,**	**63.41**	**290**	P	**P**	**11 27 02.6**	**-1.7**		
113A				IAMs_20	IAMs_20	11 54 18.8			
	comp=Z,2μm,19.0s								
GLA	**Glamis**	**63.59**	**292**	P	**P**	**11 27 04.5**	**-1.0**		
GLA				pmax	pmax				
	comp=Z,11nm,1.1s								
GLA	**Glamis**	**63.59**	**292**	P	**P**	**11 27 04.5**	**-1.0**		
GLA				IAmb	IAmb	11 27 23.5			
	comp=Z,11nm,1.1s								
GLA				IAMs_20	IAMs_20	11 53 48.5			
	comp=Z,2μm,21.0s								
TEIG	**Tepich**	**63.62**	**261**	IAMs_20	IAMs_20	11 53 47.4			
	comp=Z,2μm,18.0s								
214A	**Organ Pipe Nat**	**63.73**	**289**	P	**P**	**11 27 05.7**	**-0.8**		
214A				IAmb	IAmb	11 27 19.2			
	comp=Z,19nm,1.4s								
214A				IAMs_20	IAMs_20	11 54 54.3			
	comp=Z,3μm,21.0s								
PFO	**Pinyon Flats O**	**63.74**	**293**	P	**P**	**11 27 05.1**	**-1.5**		
PFO				pmax	pmax				
	comp=Z,5.0nm,1.2s								
PFO				MLR	MLR				
	comp=Z,4μm,19.0s								
PFO	**Pinyon Flats O**	**63.74**	**293**	P	**P**	**11 27 05.1**	**-1.5**		
TYV	**Tymovskoe**	**63.79**	**14**	*e*P	**P**	**11 27 03.9**	**-2.6**		
TYV				pmax	pmax				
	comp=Z,11nm,1.3s								
TYV				pmax	pmax				
	comp=Z,300nm,7.3s								
JMDO	**Jabal Madar**	**63.92**	**93**	P	P	11 27 11.0	+3.2		
WBK	**Wadi Bani Khal**	**64.08**	**92**	P	P	11 27 11.9	+3.0		
BAR	**Barrett**	**64.65**	**293**	P	**P**	**11 27 09.5**	**-3.0**		
BAR				IAmb	IAmb	11 27 25.1			
	comp=Z,18nm,1.4s								
URIC	**Uribia, Colomb**	**64.69**	**242**	*e*P	P	11 27 16.8	+3.9		
TKX	**Tecate**	**64.72**	**293**	P	**P**	**11 27 10.6**	**-2.3**		
TKX				IAmb	IAmb	11 27 21.5			
	comp=Z,14nm,1.4s								
DABV	**Dabajuro**	**64.89**	**240**	*e*P	P	11 27 19.1	+4.9		
ESJX	**Sierra Juarez**	**64.95**	**292**	IAMs_20	IAMs_20	11 54 45.8			
	comp=Z,2μm,19.0s								
MHTO	**MHTO**	**65.08**	**94**	P	P	11 27 18.4	+3.0		
MHTO				P	P	11 27 18.4	+3.0		
DAMY	**Dhamar**	**65.10**	**109**	P	P	11 27 19.7	+3.7		
GTA	**Gaotai**	**65.35**	**49**	⇑P	**P**	**11 27 19.4**	**+2.3**		
GTA				pP	sP	11 27 23.6	+4.1		
GTA				sP	pP	11 27 26.4	+7.5		
GTA				S	**S**	**11 36 06.3**	**+4.9**		
GTA				SS	SS	11 40 21.8	+8.4		
GTA				pmax	pmax				
	comp=Z,10.0nm,1.7s								
GTA				pmax	pmax				
	comp=Z,410nm,8.5s								
GTA				LR	LR				
	comp=Z,1μm,16.7s								
GTA				LR	LR				
	comp=Z,2μm,18.9s								
GTA				LR	LR				
	comp=Z,2μm,18.2s								
CCX	**Cicese**	**65.36**	**292**	IAMs_20	IAMs_20	11 55 07.6			
	comp=Z,2μm,21.0s								
HSIG		**65.54**	**286**	IAMs_20	IAMs_20	11 58 18.0			
	comp=Z,2μm,19.0s								
WHFO	**Wadi Hawf**	**66.01**	**99**	P	P	11 27 24.6	+3.1		
SMRC	**Santa Marta, M**	**66.03**	**244**	*e*P	**P**	**11 27 23.7**	**+2.1**		
ABTO	**Aybut**	**66.31**	**100**	P	P	11 27 26.4	+2.9		
SHAO	**Shalim**	**66.71**	**97**	P	**P**	**11 27 25.8**	**-0.1**		
SDV	**Santo Domingo**	**66.77**	**239**	*e*P	**P**	**11 27 29.1**	**+2.6**		
SDV	**Santo Domingo**	**66.77**	**239**	*e*P	P	11 27 19.7	-6.8		
ARGC	**Ariguani, Magd**	**67.24**	**243**	*e*P	**P**	**11 27 32.9**	**+3.6**		
PETF	**Flores**	**67.24**	**261**	IAMs_20	IAMs_20	11 56 25.3			
	comp=Z,2μm,18.0s								
BTO	**Baotou**	**67.35**	**41**	*e*P	**P**	**11 27 28.8**	**-1.0**		
BTO				S	**S**	**11 36 21.0**	**-4.6**		
SOCV	**Socops**	**67.41**	**239**	*e*P	**P**	**11 27 32.4**	**+2.0**		
ZAIG	**Zacatecas**	**67.51**	**276**	P	**P**	**11 27 29.0**	**-2.3**		
ZAIG				IAmb	IAmb	11 27 48.0			
	comp=Z,13nm,1.2s								
ZAIG				IAMs_20	IAMs_20	11 56 35.2			
	comp=Z,2μm,19.0s								
HHC	**Hu-ho-hao-te**	**67.55**	**39**	*e*P	**P**	**11 27 34.0**	**+2.9**		
HHC				S	S	11 36 37.1	+9.1		
HHC				pmax	pmax				
	comp=Z,36nm,1.1s								
HHC				pmax	pmax				
	comp=Z,490nm,6.1s								
HHC				LR	LR				
	comp=Z,2μm,16.4s								
HHC				LR	LR				
	comp=Z,980nm,15.4s								
HHC				LR	LR				
	comp=Z,2μm,17.2s								
SJCC	**San Jacinto, C**	**67.56**	**244**	*e*P	**P**	**11 27 34.6**	**+3.2**		
YSS	**Yuzh-Sakhalins**	**67.66**	**14**	⇑*e*P	P	11 27 36.3	+4.7		
YSS				*e*		11 27 41.5			
YSS				pmax	pmax				
	comp=Z,20nm,1.3s								
YSS				MLR	MLR				
	comp=Z,700nm,15.0s								
YSS				MLR	MLR				
	comp=N,800nm,16.0s								
YSS				MLR	MLR				
	comp=E,1μm,15.0s								
YSS	**Yuzh-Sakhalins**	**67.66**	**14**	P	**P**	**11 27 33.1**	**+1.5**		
CN2	**Changchun**	**68.06**	**28**	*e*P	**P**	**11 27 33.8**	**-0.4**		
CN2				eS	S	11 36 41.1	+7.3		
CN2				eSS	**SS**	**11 40 59.4**	**+4.5**		
CN2				pmax	pmax				
	comp=E,10.0nm,0.5s								
CN2				pmax	pmax				
	comp=E,370nm,4.0s								
CN2				LR	LR				
	comp=E,1μm,20.0s								
CN2				LR	LR				
	comp=E,860nm,20.0s								
CN2				LR	LR				
	comp=E,2μm,20.0s								
MDJ	**Mudanjiang**	**68.07**	**25**	IAMs_20	IAMs_20	11 59 58.5			
	comp=Z,2μm,18.0s								
SMLC	**San Martn de**	**68.14**	**243**	*e*P	**P**	**11 27 38.6**	**+3.7**		
OCAC	**Ocana**	**68.37**	**242**	*e*P	**P**	**11 27 38.6**	**+2.1**		
MOTC	**Monteria, Cord**	**68.77**	**244**	*e*P	P	11 27 44.1	+5.2		
CCIG	**Comitan**	**68.78**	**263**	IAMs_20	IAMs_20	11 56 18.0			
	comp=Z,2μm,22.0s								
USRK	**Ussuriysk Ar.**	**68.89**	**23**	P	**P**	**11 27 41.9**	**+2.6**		
	comp=Z,1.1nm,0.6s,baz=319,slow=4.0,SNR=2.6								
USRK				LR	LR	12 00 05.5			
	comp=Z,851nm,18.0s,baz=332,slow=38								
USRK	**Ussuriysk Ar.**	**68.89**	**23**	P	**P**	**11 27 39.7**	**+0.4**		
USRK	**Ussuriysk Ar.**	**68.89**	**23**	P	**P**	**11 27 39.7**	**+0.4**		
PAMC	**Pamplona, Colo**	**68.96**	**241**	*e*P	**P**	**11 27 44.1**	**+3.4**		
LCBC	**Los crdobas,**	**68.97**	**245**	*e*P	P	11 27 45.4	+5.3		
ESPN	**Las Esperanzas**	**69.14**	**254**	IAMs_20	IAMs_20	11 56 40.1			
	comp=Z,2μm,18.0s								
MATN	**Matagalpa**	**69.15**	**256**	IAMs_20	IAMs_20	11 55 54.6			
	comp=Z,2μm,20.0s								
MTO3	**Montecristo**	**69.28**	**260**	IAMs_20	IAMs_20	11 58 24.1			
	comp=Z,2μm,19.0s								
HUEH	**Huehuetenango**	**69.36**	**262**	IAMs_20	IAMs_20	11 57 39.6			
	comp=Z,2μm,20.0s								
TAMC	**Tame, Arauca**	**69.46**	**239**	*e*P	P	11 27 47.3	+4.1		
BJI	**Beijing**	**69.53**	**36**	P	P	11 27 46.9	+3.6		
BJI				S	S	11 36 58.5	+7.3		
BJI				pmax	pmax				
	comp=Z,230nm,3.7s								
BJI				LR	LR				
	comp=Z,3μm,18.0s								
BJI				LR	LR				
	comp=Z,2μm,16.4s								
BJI				LR	LR				
	comp=Z,2μm,17.9s								
BRRC	**Barranca, Sant**	**69.56**	**241**	*e*P	P	11 27 48.1	+4.4		
CAPC	**Capurgana**	**69.56**	**246**	*e*P	P	11 27 47.7	+3.9		
SNY	**Shenyang**	**69.57**	**30**	⇓P	P	11 27 49.4	+5.9		
SNY				pmax	pmax				
	comp=Z,22nm,1.6s								
SNY				pmax	pmax				
	comp=Z,270nm,5.2s								
SNY				LR	LR				
	comp=Z,780nm,22.8s								
SNY				LR	LR				
	comp=Z,680nm,18.5s								
SNY				LR	LR				
	comp=Z,2μm,19.9s								
ZARC	**Zaragoza, Cauc**	**69.64**	**243**	*e*P	**P**	**11 27 44.6**	**+0.3**		
UREC	**San Jos de Ur**	**69.66**	**244**	*e*P	**P**	**11 27 46.6**	**+2.1**		
LZH	**Lanzhou**	**69.67**	**47**	⇑P	**P**	**11 27 45.8**	**+1.3**		
LZH				pP	sP	11 27 49.3	+2.3		
LZH				sP	pP	11 27 51.4	+5.1		
LZH				S	**S**	**11 36 59.3**	**+5.8**		
LZH				sS	sS	11 37 07.8	+11		
LZH				pmax	pmax				
	comp=Z,19nm,1.1s								
LZH				pmax	pmax				
	comp=Z,120nm,4.9s								
LZH				LR	LR				
	comp=Z,1μm,17.0s								
LZH				LR	LR				
	comp=Z,2μm,17.0s								
LZH				LR	LR				
	comp=Z,2μm,18.1s								
BARC	**Barichara**	**69.83**	**241**	*e*P	P	11 27 50.2	+4.4		
PTBC	**PUERTO BERRIO,**	**70.36**	**242**	*e*P	**P**	**11 27 52.5**	**+3.8**		
RUSC	**La Rusia**	**70.44**	**240**	*e*P	P	11 27 53.8	+4.0		
DBBC	**Dabeiba**	**70.59**	**244**	*e*P	**P**	**11 27 51.7**	**+1.4**		
TIY	**Taiyuan**	**70.72**	**40**	*e*P	P	11 27 54.1	+3.3		
TIY				S	S	11 37 14.6	+9.1		
TIY				pmax	pmax				
	comp=Z,180nm,3.9s								
TIY				LR	LR				
	comp=Z,1μm,12.7s								
TIY				LR	LR				
	comp=Z,510nm,14.9s								
TIY				LR	LR				
	comp=Z,2μm,16.1s								
PNME	**Penonome**	**70.87**	**248**	*e*P	**P**	**11 27 54.6**	**+2.7**		
SPBC	**San Pablo de B**	**71.03**	**241**	*e*P	**P**	**11 27 56.3**	**+3.4**		
HDC	**Heredia**	**71.04**	**253**	IAMs_20	IAMs_20	11 55 56.4			
	comp=Z,2μm,21.0s								
LSA	**Lhasa**	**71.07**	**61**	P	P	11 27 58.3	+4.8		
BHPL	**Bhopal**	**71.38**	**75**	*e*P	**P**	**11 27 54.3**	**-0.7**		
BHPL				IAmb	IAmb	11 28 04.6			
	comp=Z,19nm,1.0s								
AZU	**Azuero**	**71.48**	**248**	*e*P	**P**	**11 27 59.2**	**+3.7**		
CBOC	**Ciudad Bolivar**	**71.57**	**243**	*e*P	**P**	**11 27 58.3**	**+2.0**		
PTGC	**Puerto Gaitan,**	**71.65**	**239**	*e*P	P	11 28 00.4	+3.9		
CHIC	**Chingaza**	**71.84**	**241**	*e*P	**P**	**11 27 56.3**	**-1.9**		
ROSC	**El Rosal**	**71.87**	**241**	P	**P**	**11 28 01.2**	**+2.9**		
	comp=Z,11nm,0.3s,baz=36,slow=6.2,SNR=10								
ROSC				LR	LR	11 55 54.2			
	comp=Z,2μm,22.0s,baz=1.5,slow=33								
ROSC	**El Rosal**	**71.87**	**241**	*e*P	P	11 28 03.1	+4.8		
ROSC	**El Rosal**	**71.87**	**241**	IAMs_20	IAMs_20	11 55 32.0			
	comp=Z,2μm,22.0s								
GUY2C	**Guyana, Caldas**	**71.91**	**242**	*e*P	**P**	**11 28 01.3**	**+2.6**		
DL2	**Dalian**	**71.92**	**32**	P	P	11 28 03.3	+5.4		
DL2				pmax	pmax				
	comp=Z,24nm,1.0s								
DL2				pmax	pmax				
	comp=Z,150nm,4.7s								
DL2				LR	LR				
	comp=Z,1μm,21.8s								
DL2				LR	LR				
	comp=Z,1μm,18.0s								
DL2				LR	LR				
	comp=Z,3μm,18.9s								
RREF	**El Recreo**	**72.20**	**242**	*e*P	**P**	**11 28 01.6**	**+0.9**		
GTK	**Tadong**	**72.24**	**64**	*e*P	P	11 28 04.0	+3.8		
GTK				IAmb	IAmb	11 28 07.1			
	comp=Z,109nm,1.7s								
TOLC	**Tolima**	**72.48**	**242**	⇓*e*P	**P**	**11 28 04.5**	**+2.5**		
PLMC	**San Jos del P**	**72.56**	**243**	*e*P	**P**	**11 28 05.8**	**+3.8**		
ANIL	**Santa Ana**	**72.60**	**242**	*e*P	P	11 28 06.9	+4.3		
ORTC	**Ortega, Tolima**	**73.08**	**242**	*e*P	**P**	**11 28 08.2**	**+3.1**		
PRAC	**Prado**	**73.12**	**241**	*e*P	**P**	**11 28 07.5**	**+2.1**		
XAN	**Xi'an**	**73.13**	**44**	P	**P**	**11 28 07.0**	**+1.7**		
XAN				PP	**PP**	**11 30 46.1**	**-1.4**		
XAN				sS	SKiKP	11 37 41.3	+3.7		
XAN				SKS	**SKSac**	**11 38 04.8**	**-6.8**		
XAN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
XAN				pmax	pmax				
	comp=Z,390nm,4.1s								
XAN				LR	LR				
	comp=Z,3μm,17.3s								
XAN				LR	LR				
	comp=Z,1μm,16.5s								
XAN				LR	LR				
	comp=Z,4μm,16.8s								
GUVC	**San Jose del G**	**73.36**	**239**	*e*P	**P**	**11 28 09.9**	**+3.2**		
TIA	**Tai'an**	**73.38**	**37**	P	P	11 28 11.6	+4.9		
TIA				S	**SKiKP**	**11 37 45.4**	**+7.5**		
TIA				pmax	pmax				
	comp=Z,14nm,1.9s								
TIA				pmax	pmax				
	comp=Z,290nm,6.5s								
TIA				LR	LR				
	comp=Z,520nm,20.4s								
TIA				LR	LR				
	comp=Z,950nm,23.3s								
TIA				LR	LR				
	comp=Z,1μm,29.4s								
YOTC	**Yotoco, Valle**	**73.42**	**243**	*e*P	**P**	**11 28 08.9**	**+1.6**		
NGP	**Nagpur**	**73.92**	**75**	*e*P	**P**	**11 28 10.5**	**+0.4**		
ZIRO	**ZIRO**	**74.04**	**59**	*e*P	P	11 28 15.1	+4.2		
ZIRO				IAmb	IAmb	11 28 22.0			
	comp=Z,72nm,1.4s								
POO	**Poona**	**74.07**	**81**	*e*P	**P**	**11 28 13.0**	**+2.0**		
MACC	**Macarena, Meta**	**74.17**	**240**	*e*P	**P**	**11 28 13.8**	**+2.2**		
BETC	**Betania**	**74.28**	**241**	*e*P	P	11 28 16.2	+4.0		
MARP	**Paez Belalcaza**	**74.32**	**242**	*e*P	**P**	**11 28 14.0**	**+1.2**		
BOK	**Bokaro**	**74.34**	**68**	*e*P	**P**	**11 28 13.7**	**+1.2**		
BOK				IAMs_20	IAMs_20	12 02 03.8			
	comp=Z,3μm,19.4s								
ITTB	**Itaituba**	**74.38**	**220**	*e*P	**P**	**11 28 09.4**	**-3.2**		
INCN	**Inchon**	**74.39**	**29**	IAMs_20	IAMs_20	12 02 09.0			
	comp=Z,2μm,22.0s								
CD2	**Chengdu**	**74.41**	**50**	*e*P	**P**	**11 28 14.3**	**+1.5**		
CD2				S	**S**	**11 37 49.8**	**+2.0**		
CD2				SS	**SS**	**11 42 36.6**	**+3.7**		
CD2				pmax	pmax				
	comp=Z,40nm,1.8s								
CD2				pmax	pmax				
	comp=Z,310nm,5.7s								
CD2				LR	LR				
	comp=Z,2μm,14.9s								
CD2				LR	LR				
	comp=Z,1μm,14.7s								
CD2				LR	LR				
	comp=Z,3μm,22.6s								
TEZP	**TEZPUR**	**74.47**	**61**	*e*P	**P**	**11 28 14.4**	**+1.3**		
TEZP				IAmb	IAmb	11 28 23.8			
	comp=Z,78nm,1.6s								
MACA	**Manacapuru-AM**	**74.66**	**225**	*e*P	**P**	**11 28 10.8**	**-3.5**		
KSRS	**Korea Array**	**74.68**	**28**	P	**P**	**11 28 15.8**	**+1.7**		
	comp=Z,0.6nm,0.7s,baz=354,slow=7.7,SNR=2.3								
KSRS				LR	LR	12 04 39.6			
	comp=Z,1μm,18.5s,baz=340,slow=39								
GARC	**Garzon, Huila**	**74.75**	**241**	*e*P	**P**	**11 28 16.7**	**+1.5**		
POPC	**Popayan, Colom**	**74.88**	**243**	*e*P	**P**	**11 28 16.8**	**+0.9**		
PCON	**Cinco Dias**	**74.96**	**242**	*e*P	P	11 28 22.1	+5.3		
SHL	**Shillong**	**75.08**	**62**	*e*P	**P**	**11 28 17.6**	**+0.7**		
SHL				IAmb	IAmb	11 28 26.7			
	comp=Z,78nm,1.6s								
SHL				IAMs_20	IAMs_20	12 02 20.1			
	comp=Z,2μm,19.3s								
SHL	**Shillong**	**75.08**	**62**	P	**P**	**11 28 16.6**	**-0.3**		
SHL				pmax	pmax				
	comp=Z,49nm,1.2s								
SHL	**Shillong**	**75.08**	**62**	P	**P**	**11 28 16.6**	**-0.3**		
FLOC	**Florencia**	**75.37**	**241**	*e*P	**P**	**11 28 22.0**	**+3.5**		
BBAC	**Balboa, Cauca**	**75.57**	**243**	*e*P	**P**	**11 28 23.4**	**+3.5**		
GCUF	**Volcan Galeras**	**76.34**	**243**	*e*P	P	11 28 29.7	+5.2		
PTLC	**Puerto Leguiza**	**76.35**	**240**	*e*P	P	11 28 29.6	+5.6		
PUAC	**Puerto Asis, P**	**76.66**	**242**	*e*P	**P**	**11 28 27.6**	**+1.7**		
SMTB	**Santa Maria do**	**76.69**	**210**	*e*P	**P**	**11 28 22.7**	**-3.2**		
KMBO	**Kilima Mbogo**	**76.72**	**123**	LR	LR	12 05 40.3			
	comp=Z,1μm,19.4s,baz=280,slow=38								
KMBO	**Kilima Mbogo**	**76.72**	**123**	IAMs_20	IAMs_20	12 05 36.7			
	comp=Z,1μm,19.0s								
GOA	**Goa**	**76.76**	**82**	IAMs_20	IAMs_20	12 06 42.8			
	comp=Z,1μm,18.3s								
NPGB	**Novo Progresso**	**76.83**	**219**	*e*P	**P**	**11 28 23.0**	**-3.7**		
HYB	**Hyderabad**	**77.04**	**77**	*i* P	**P**	**11 28 29.0**	**+1.0**		
MJAR	**Matsushiro Arr**	**77.35**	**20**	P	**P**	**11 28 29.3**	**-0.2**		
	comp=Z,0.9nm,0.5s,baz=359,slow=13,SNR=1.5								
MJAR	**Matsushiro Arr**	**77.35**	**20**	P	**P**	**11 28 30.1**	**+0.6**		
MJAR				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MJAR	**Matsushiro Arr**	**77.35**	**20**	P	**P**	**11 28 30.1**	**+0.6**		
OTAV	**Otavalo**	**77.67**	**243**	*e*P	P	11 28 37.1	+5.1		
OTAV	**Otavalo**	**77.67**	**243**	P	**P**	**11 28 29.1**	**-2.9**		
OTAV				pmax	pmax				
	comp=Z,29nm,1.4s								
OTAV	**Otavalo**	**77.67**	**243**	P	**P**	**11 28 29.1**	**-2.9**		
OTAV				IAmb	IAmb	11 28 42.6			
	comp=Z,29nm,1.4s								
OTAV	**Otavalo**	**77.67**	**243**	IAMs_20	IAMs_20	11 58 47.9			
	comp=Z,1μm,21.0s								
OTAV	**Otavalo**	**77.67**	**243**	*e*P	**P**	**11 28 27.8**	**-4.2**		
PAC1	**Pacto, Paraso**	**77.77**	**244**	*e*P	**P**	**11 28 34.4**	**+2.1**		
NJ2	**Nanjing**	**77.77**	**37**	*e*P	**P**	**11 28 31.5**	**-0.4**		
NJ2				pP	**sP**	**11 28 36.1**	**+1.7**		
NJ2				sP	**PcP**	**11 28 41.9**	**0.0**		
NJ2				S	**S**	**11 38 24.9**	**+0.3**		
NJ2				sS	**SKSac**	**11 38 37.8**	**-8.2**		
NJ2				pmax	pmax				
	comp=Z,14nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,180nm,3.9s								
NJ2				LR	LR				
	comp=Z,2μm,21.3s								
NJ2				LR	LR				
	comp=Z,1μm,19.9s								
NJ2				LR	LR				
	comp=Z,2μm,18.6s								
JTU	**Tsushima**	**77.80**	**27**	IAMs_20	IAMs_20	12 06 35.3			
	comp=Z,1μm,19.0s								
WHN	**Wuhan**	**77.99**	**41**	⇑P	P	11 28 37.6	+4.5		
WHN				S	S	11 38 34.8	+7.9		
WHN				pmax	pmax				
	comp=Z,790nm,5.1s								
WHN				LR	LR				
	comp=Z,2μm,12.0s								
WHN				LR	LR				
	comp=Z,1μm,14.1s								
WHN				LR	LR				
	comp=Z,4μm,19.6s								
JWT	**Wachi**	**78.15**	**22**	IAMs_20	IAMs_20	12 02 17.2			
	comp=Z,1μm,22.0s								
KMI	**Kunming**	**79.40**	**53**	⇑*e*P	**P**	**11 28 41.4**	**+0.1**		
KMI				pP	PcP	11 28 45.1	-4.3		
KMI				sP	sP	11 28 46.3	+2.6		
KMI				PP	PP	11 31 47.6	+6.9		
KMI				S	**S**	**11 38 42.9**	**+0.2**		
KMI				pmax	pmax				
	comp=Z,24nm,1.2s								
KMI				pmax	pmax				
	comp=Z,260nm,3.8s								
KMI				LR	LR				
	comp=Z,990nm,15.9s								
KMI				LR	LR				
	comp=Z,560nm,18.8s								
KMI				LR	LR				
	comp=Z,1μm,27.9s								
KMI	**Kunming**	**79.40**	**53**	IAMs_20	IAMs_20	12 09 25.4			
	comp=Z,1μm,19.0s								
JNU	**Nakatsue**	**79.45**	**26**	LR	LR	12 09 29.0			
	comp=Z,694nm,19.3s,baz=342,slow=40								
JNU	**Nakatsue**	**79.45**	**26**	IAMs_20	IAMs_20	12 08 49.9			
	comp=Z,1μm,19.0s								
GYA	**Guiyang**	**79.47**	**49**	⇑P	**P**	**11 28 43.4**	**+1.9**		
GYA				sP	PcP	11 28 46.4	-3.1		
GYA				PcP	sP	11 28 50.4	+6.4		
GYA				PP	**PP**	**11 31 46.5**	**+5.4**		
GYA				S	**S**	**11 38 49.4**	**+6.1**		
GYA				pmax	pmax				
	comp=Z,23nm,2.2s								
GYA				pmax	pmax				
	comp=Z,280nm,3.5s								
GYA				LR	LR				
	comp=Z,600nm,22.0s								
GYA				LR	LR				
	comp=Z,620nm,21.5s								
GYA				LR	LR				
	comp=Z,1μm,22.9s								
SDBA	**SAO DESIDERIO**	**79.58**

PALK	**Pallekele**	**87.05**	**79**	IAMs_20	IAMs_20	12 10 01.5			
	comp=Z,1μm,20.0s								
QIZ	**Qiongzhong**	**87.43**	**49**	P	**P**	**11 29 20.9**	**-1.4**		
QIZ				S	**S**	**11 40 02.4**	**-1.2**		
QIZ				SS	**SS**	**11 45 48.8**	**+1.5**		
QIZ				LR	LR				
	comp=Z,1μm,17.7s								
QIZ				LR	LR				
	comp=Z,540nm,16.1s								
QIZ				LR	LR				
	comp=Z,2μm,18.2s								
ITRB	**Iturama**	**87.80**	**211**	*e*P	**P**	**11 29 19.8**	**-4.1**		
NNA	**Nana**	**88.32**	**237**	IAMs_20	IAMs_20	12 08 43.1			
	comp=Z,1μm,20.0s								
BB19B	**Bebedouro**	**88.73**	**209**	*e*P	P	11 29 23.0	-5.3		
LPAZ	**La Paz**	**89.36**	**228**	P	**P**	**11 29 34.1**	**+2.1**		
	comp=Z,0.6nm,0.7s,baz=20,slow=10,SNR=1.8								
LPAZ				LR	LR	12 07 03.6			
	comp=Z,511nm,19.6s,baz=6.0,slow=34								
LPAZ	**La Paz**	**89.36**	**228**	P	**P**	**11 29 27.8**	**-4.2**		
LPAZ				pmax	pmax				
	comp=Z,6.0nm,1.4s								
LPAZ	**La Paz**	**89.36**	**228**	P	**P**	**11 29 27.8**	**-4.2**		
SPB	**Sao Paulo**	**90.96**	**207**	IAMs_20	IAMs_20	12 03 28.0			
	comp=Z,1μm,21.0s								
MNMC	**Minye Minye**	**92.49**	**228**	IAMs_20	IAMs_20	12 09 21.3			
	comp=Z,1μm,19.0s								
GO01	**Chusmiza**	**92.86**	**228**	IAMs_20	IAMs_20	12 06 02.2			
	comp=Z,1μm,22.0s								
PSGCX	**Pisagua**	**93.09**	**228**	IAMs_20	IAMs_20	12 09 31.4			
	comp=Z,935nm,19.0s								
PB11	**IPOC Station P**	**93.10**	**228**	IAMs_20	IAMs_20	12 10 00.4			
	comp=Z,1μm,20.0s								
DLV	**T Lat**	**93.59**	**52**	IAMs_20	IAMs_20	12 16 53.1			
	comp=Z,1μm,21.0s								
PB01	**IPOC Station P**	**94.24**	**227**	IAMs_20	IAMs_20	12 12 12.8			
	comp=Z,1μm,19.0s								
LVC	**Limon Verde**	**95.53**	**226**	IAMs_20	IAMs_20	12 13 11.9			
	comp=Z,993nm,20.0s								
LVC	**Limon Verde**	**95.53**	**226**	*e*P	P	11 29 55.4	-4.8		
CPUP	**Villa Florida**	**95.81**	**215**	LR	LR	12 09 20.4			
	comp=Z,1μm,18.6s,baz=16,slow=33								
KULM	**Kulim**	**96.92**	**62**	IAMs_20	IAMs_20	12 22 39.5			
	comp=Z,911nm,20.0s								
IPM	**Ipoh**	**97.80**	**62**	IAMs_20	IAMs_20	12 19 03.0			
	comp=Z,1μm,22.0s								
RPSI	**Rantau Prapat**	**98.63**	**65**	IAMs_20	IAMs_20	12 23 58.9			
	comp=Z,698nm,18.0s								
BOSA	**Boshof**	**98.80**	**143**	LR	LR	12 17 28.8			
	comp=Z,3μm,18.1s,baz=343,slow=37								
MYKOM	**Kota Tinggi**	**101.34**	**60**	IAMs_20	IAMs_20	12 20 11.4			
	comp=Z,861nm,21.0s								
BKNI	**Bangkinang**	**101.62**	**64**	IAMs_20	IAMs_20	12 21 18.1			
	comp=Z,922nm,22.0s								
KKM	**Kota Kinabalu**	**101.66**	**47**	IAMs_20	IAMs_20	12 18 41.0			
	comp=Z,885nm,21.0s								
CO01	**Juntas del Tor**	**102.78**	**225**	IAMs_20	IAMs_20	12 12 43.1			
	comp=Z,1μm,22.0s								
DAV	**Davao City (W)**	**103.39**	**38**	IAMs_20	IAMs_20	12 16 19.7			
	comp=Z,1μm,19.0s								
SBUM	**Sibu**	**103.72**	**52**	IAMs_20	IAMs_20	12 20 08.7			
	comp=Z,1μm,22.0s								
KSM	**Kuching**	**103.97**	**54**	IAMs_20	IAMs_20	12 21 13.5			
	comp=Z,846nm,22.0s								
CISI	**Cisompet, Garu**	**111.43**	**60**	IAMs_20	IAMs_20	12 29 01.2			
	comp=Z,888nm,20.0s								
TAOE	**Nuku Hiva Isla**	**111.50**	**296**	*e*LR	LR	12 08 02.0			
	comp=Z,981nm,21.9s								
FAKI	**Fak Fak**	**114.67**	**33**	IAMs_20	IAMs_20	12 26 32.4			
	comp=Z,622nm,19.0s								
SOEI	**Soe**	**119.06**	**44**	IAMs_20	IAMs_20	12 28 55.2			
	comp=Z,678nm,19.0s								
PPT2	**Papeete2**	**123.05**	**302**	*e*SS	SS	11 53 48.7	-6.3		
	comp=Z,940nm,31.8s								
PPT2	**Papeete2**	**123.05**	**302**	*e*LR	LR	12 13 33.3			
	comp=Z,1μm,22.0s								
TBI	**Tubuai**	**128.27**	**299**	*e*SS	SS	11 54 57.6	-2.8		
	comp=Z,318nm,36.8s								
TBI	**Tubuai**	**128.27**	**299**	*e*LR	LR	12 15 59.3			
	comp=Z,1μm,22.5s								
WB7	**Warramunga Arr**	**131.47**	**36**	IAMs_20	IAMs_20	12 34 35.3			
	comp=Z,615nm,22.0s								
WB6	**Warramunga Arr**	**131.48**	**36**	IAMs_20	IAMs_20	12 35 32.1			
	comp=Z,540nm,20.0s								
WB4	**Warramunga Arr**	**131.53**	**36**	IAMs_20	IAMs_20	12 35 23.3			
	comp=Z,568nm,20.0s								
WC1	**Warramunga Arr**	**131.54**	**36**	IAMs_20	IAMs_20	12 41 20.6			
	comp=Z,680nm,22.0s								
WRA	**Warramunga Arr**	**131.56**	**36**	PKP	**PKiKP**	**11 35 48.0**	**-0.4**		
	comp=Z,0.6nm,0.8s,baz=338,slow=2.5,SNR=3.5								
WRA	**Warramunga Arr**	**131.56**	**36**	PKIKP	**PKiKP**	**11 35 48.0**	**-0.4**		
WRA	**Warramunga Arr**	**131.56**	**36**		**PKiKP**	**11 35 48.1**	**-0.3**		
WB1	**Warramunga Ar.**	**131.57**	**36**	IAMs_20	IAMs_20	12 42 56.6			
	comp=Z,691nm,21.0s								
WC4	**Warramunga Arr**	**131.58**	**36**	IAMs_20	IAMs_20	12 25 19.6			
	comp=Z,762nm,18.0s								
WR9	**Warramunga Arr**	**131.62**	**36**	IAMs_20	IAMs_20	12 20 28.7			
	comp=Z,573nm,20.0s								
ASAR	**Alice Springs**	**135.00**	**38**	PKP	**PKiKP**	**11 35 53.6**	**-1.7**		
	comp=Z,0.9nm,1.0s,baz=336,slow=2.0,SNR=4.5								
ASAR				PP	**PP**	**11 38 31.1**	**+2.7**		
	comp=Z,0.4nm,1.1s,baz=316,slow=5.2,SNR=4.1								
ASAR	**Alice Springs**	**135.00**	**38**		**PKiKP**	**11 35 53.4**	**-1.9**		
VNA2	**Neumayer--Watz**	**135.51**	**175**	PKiKP	**PKiKP**	**11 35 57.2**	**+2.4**		
VNA3	**Neumayer Olymp**	**135.76**	**176**	PKiKP	**PKiKP**	**11 35 57.7**	**+2.4**		
SNAA	**Sanae**	**136.45**	**173**	IAMs_20	IAMs_20	12 24 17.4			
	comp=Z,628nm,22.0s								
DZM	**Mont Dzumac**	**137.33**	**354**	*e*LR	LR	12 20 07.6			
	comp=Z,2μm,24.4s								
SYO	**Syowa Base**	**139.31**	**152**	⫴*e*X	**Pdif**	**11 33 09.3**	**-4.1**		
STKA	**Stephens Creek**	**144.75**	**31**	PKP	PKPbc	11 36 08.7	-1.5		
	comp=Z,1.3nm,0.3s,baz=336,slow=10.0,SNR=3.1								
STKA	**Stephens Creek**	**144.75**	**31**	PKIKP	**PKiKP**	**11 36 13.2**	**-1.7**		
STKA	**Stephens Creek**	**144.75**	**31**		**PKiKP**	**11 36 13.2**	**-1.7**		
VNDA	**Vanda**	**167.08**	**180**	PKPab	**PKPab**	**11 37 46.8**	**+3.5**		
	comp=Z,1.5nm,1.1s,baz=215,slow=6.0,SNR=3.3								

*VAO **15** 11:17:06.6±0.4,21.˚73S×69.˚15W,h168km±3km,mb4.0*
*IDC **15** 11:17:10.8±2.7,21.˚49S×68.˚28W,h124km±24km,mb3.7/2,*
mb1 3.7/5,mb1mx3.4/23,mbtmp4.1/5,Error ellipse:
s-maj=39.0km s-min=20.4km az=83.0
*GUC **15** 11:17:10.0±0.7,21.˚57S×68.˚57W,h133km±4km,ML3.9*
ISC 15 11:17:09.0±0.7,21.˚56S±0.˚03×68.˚62W±0.˚07,h139km±8km,
n53,σ1°07/73,8C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.62**	**248**	⇑*i*	P	**Pn**	**11 17 30.3**	**+0.3**
PB09				*i*	S	**Sn**	**11 17 46.1**	**+0.1**
PB01	**IPOC Station P**	**0.96**	**302**	⇑*i*	P	**Pn**	**11 17 32.6**	**+0.1**
PB01				*e*	S	**Sn**	**11 17 49.5**	**-0.8**
PB01				IAML			11 17 50.8	
	comp=N,3μm,0.4s							
LVC	**Limon Verde**	**1.08**	**194**	*e*	P	**Pn**	**11 17 33.9**	**+0.1**
LVC				*i*	S	**Sn**	**11 17 51.6**	**-1.2**
LVC	**Limon Verde**	**1.08**	**194**	*e*	P	**Pn**	**11 17 34.0**	**+0.1**
LVC				*e*	S	**Sn**	**11 17 51.8**	**-1.0**
PB03	**IPOC Station P**	**1.16**	**245**	⇑*i*	P	**Pn**	**11 17 34.8**	**+0.4**
PB03				*i*	S	**Sn**	**11 17 53.4**	**-0.4**
PB03				IAML			11 17 54.2	
	comp=E,2μm,0.4s							
PB07	**IPOC Station P**	**1.19**	**262**	⇑*i*	P	**Pn**	**11 17 35.2**	**+0.6**
PB07				*i*	S	**Sn**	**11 17 54.2**	**0.0**
PB07				IAML			11 17 55.1	
	comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**1.44**	**218**	⇑*i*	P	**Pn**	**11 17 37.8**	**+0.6**
PB06				*i*	S	**Sn**	**11 17 58.8**	**-0.1**
PB06				IAML			11 17 59.7	
	comp=E,3μm,0.3s							
PB08	**IPOC Station P**	**1.50**	**341**	⇓*i*	P	**Pn**	**11 17 38.9**	**+0.8**
PB08				*e*	S	**Sn**	**11 18 00.7**	**+0.4**
PATCX	**Punta Patache**	**1.61**	**297**	*e*	P	**Pn**	**11 17 39.5**	**+0.5**
PATCX				*e*	S	**Sn**	**11 18 01.9**	**0.0**
PATCX				IAML			11 18 04.1	
	comp=N,2μm,0.3s							
PB04	**IPOC Station P**	**1.61**	**241**	⇑*i*	P	**Pn**	**11 17 39.7**	**+0.5**
PB04				*i*	S	**Sn**	**11 18 01.8**	**-0.5**
PB04				IAML			11 18 04.5	
	comp=E,779nm,0.6s							
TA01	**Diego Aracena**	**1.76**	**304**	⇑*i*	P	**Pn**	**11 17 40.8**	**+0.2**
TA01				*e*	S	**Sn**	**11 18 04.3**	**-0.5**
TA01				IAML			11 18 06.1	
	comp=E,939nm,0.3s							
PB15	**IPOC Station P**	**1.82**	**205**	*e*	P	**Pn**	**11 17 42.2**	**+0.7**
PB15				*e*	S	**Sn**	**11 18 07.4**	**+0.9**
TA02	**Huaiquique**	**1.91**	**312**	*e*	S	**Sn**	**11 18 07.5**	**-0.5**
TA02				IAML			11 18 11.2	
	comp=N,2μm,0.1s							
PB05	**IPOC Station P**	**1.95**	**228**	⇑*i*	P	**Pn**	**11 17 43.4**	**+0.5**
PB05				*e*	S	**Sn**	**11 18 08.4**	**-0.6**
PB05				IAML			11 18 12.0	
	comp=E,419nm,0.5s							
GO01	**Chusmiza**	**1.96**	**344**	⇓*i*	P	**Pn**	**11 17 43.9**	**+0.4**
GO01				*e*	S	**Sn**	**11 18 10.3**	**+0.5**
PB11	**IPOC Station P**	**2.04**	**331**	*e*	P	**Pn**	**11 17 44.1**	**0.0**
PB11				*e*	S	**Sn**	**11 18 10.7**	**-0.2**
PSGC	**Pisagua**	**2.41**	**324**	*e*	P	**Pn**	**11 17 48.1**	**-0.5**
PSGC				*i*	S	**Sn**	**11 18 16.8**	**-2.2**
PSGC				IAML			11 18 21.2	
	comp=N,409nm,0.4s							
MNMC	**Minye Minye**	**2.58**	**339**	*e*	P	**Pn**	**11 17 51.2**	**+0.3**
MNMC				*e*	S	**Sn**	**11 18 23.7**	**+0.5**
MNMC				IAML			11 18 27.6	
	comp=E,901nm,0.4s							
PB10	**IPOC Station P**	**2.64**	**222**	*e*	P	**Pn**	**11 17 51.6**	**+0.2**
PB10				*e*	S	**Sn**	**11 18 21.3**	**-2.7**
PB10				IAML			11 18 23.9	
	comp=E,198nm,0.5s							
PB16	**IPOC Station P**	**3.31**	**345**	*e*	P	**Pn**	**11 18 01.5**	**+1.0**
PB16				*e*	S	**Sn**	**11 18 36.0**	**-4.3**
PB16				IAML			11 18 44.4	
	comp=N,80nm,0.5s							
PB14	**IPOC Station P**	**3.46**	**208**	*e*	P	**Pn**	**11 18 02.5**	**+0.3**
PB14				*e*	S	Sn	11 18 34.6	-8.9
PB14				IAML			11 18 44.4	
	comp=N,103nm,0.3s							
GO02	**Mina Guanaco**	**3.69**	**194**	*e*	P	**Pn**	**11 18 05.3**	**+0.1**
LPAZ	**La Paz**	**5.26**	**5**	P	P	**Pn**	**11 18 28.0**	**+1.7**
	comp=N,2.3nm,0.3s,baz=181,slow=7.7,SNR=42							
LPAZ				S		**Sn**	**11 19 25.3**	**-1.3**
	comp=N,0.3nm,0.3s,baz=172,slow=3.6,SNR=3.8							
LPAZ	**La Paz**	**5.26**	**5**	*e*	P	**Pn**	**11 18 28.1**	**+1.7**
CPUP	**Villa Florida**	**11.37**	**117**	P	P	**Pn**	**11 19 46.0**	**-1.2**
	comp=N,1.0nm,0.3s,baz=310,slow=7.0,SNR=3.7							
VILB	**Vilhena**	**11.74**	**45**	*e*	P	**P**	**11 19 55.8**	**-4.0**
SAML	**Samuel**	**13.59**	**23**	*e*	P	**Pn**	**11 20 17.0**	**+0.9**
PTGB	**Pitanga**	**15.55**	**105**	*e*	P	**P**	**11 20 43.0**	**+0.8**
ITAB	**Concordia**	**16.04**	**114**	*e*	P	**P**	**11 20 47.5**	**0.0**
PCMB	**Pacaembu**	**16.15**	**93**	*e*	P	**P**	**11 20 49.4**	**+0.7**
CLDB	**Colider**	**16.25**	**51**	*e*	P	**P**	**11 20 50.6**	**+0.7**
ARAG	**Araguaiana, MT**	**16.96**	**73**	*e*	P	**Pn**	**11 20 59.8**	**+1.8**
ITRB	**Iturama**	**17.20**	**87**	*e*	P	**Pn**	**11 21 00.7**	**-0.1**
FRTB	**Fartura**	**17.71**	**99**	*e*	P	**Pn**	**11 21 07.2**	**+0.2**
BB19B	**Bebedouro**	**18.73**	**92**	*e*	P	**Pn**	**11 21 18.1**	**-1.1**
SNDB	**Serra Nova Dou**	**19.12**	**63**	*e*	P	**P**	**11 21 21.0**	**-0.3**
PLCA	**Paso Flores**	**19.18**	**184**	P	P	**Pn**	**11 21 25.4**	**+1.2**
	comp=N,0.1nm,0.3s,baz=346,slow=16,SNR=3.3							
NPGB	**Novo Progresso**	**19.30**	**44**	*e*	P	**P**	**11 21 21.9**	**-1.4**
IPMB	**Ipameri, GO**	**19.53**	**83**	*e*	P	**P**	**11 21 26.0**	**+0.2**
RCLB	**Rio Claro- Sao**	**19.58**	**96**	*e*	P	**P**	**11 21 26.5**	**+0.2**
SPB	**Sao Paulo**	**19.67**	**100**	*e*	P	**P**	**11 21 27.7**	**+0.5**
PET01	**Itanhaem-SP**	**19.85**	**102**	*e*	P	**P**	**11 21 29.4**	**+0.3**
VAO	**Valinhos**	**20.09**	**98**	*e*	P	**P**	**11 21 32.0**	**+0.1**
BDFB	**Brasilia**	**20.39**	**77**	P	P	**P**	**11 21 35.6**	**+0.5**
	comp=N,2.5nm,0.4s,baz=243,slow=11,SNR=4.0							
ITTB	**Itaituba**	**21.18**	**38**	*e*	P	**P**	**11 21 43.1**	**-0.3**
BSCB	**Bom Sucesso**	**22.23**	**93**	*e*	P	**P**	**11 21 54.4**	**-0.2**
PRPB	**Parauapebas**	**23.77**	**53**	*e*	P	**P**	**11 22 09.2**	**+0.3**
SMTB	**Santa Maria do**	**23.86**	**61**	*e*	P	**P**	**11 22 09.8**	**0.0**
JANB	**Januaria**	**23.95**	**78**	*e*	P	**P**	**11 22 10.8**	**+0.2**
SDBA	**SAO DESIDERIO**	**24.41**	**72**	*e*	P	**P**	**11 22 15.2**	**+0.4**
GDU01	**Guandu, BA**	**28.72**	**79**	*e*	P	**P**	**11 22 53.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P	P	**P**	**11 28 48.7**	**+1.1**
	comp=N,1.8nm,0.6s,baz=254,slow=5.5,SNR=14							
MKAR	**Makanchi Array**	**145.52**	**36**	PKPbc	**PKiKP**		**11 36 34.0**	**-0.6**
	comp=N,0.7nm,0.6s,baz=318,slow=4.0,SNR=5.9							

*JMA **15** 11:24:59.5±0.1,24.˚07N×122.˚11E,h42km±2km,M2.1*
*TAP **15** 11:24:60.0,24.˚13N×122.˚08E,h46km,ML3.0,C*
ISC 15 11:24:59.8±1.1,24.˚10N±0.˚02×122.˚13E±0.˚02,h33km±5km,
n80,σ0°79/141,6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.46**	**320**	*i*	P	**Pb**	**11 25 09.9**	**+0.2**
	baz=330							
ENAH				S		**Sb**	**11 25 17.6**	**+1.0**
	baz=330							
ENA	**Nanau**	**0.49**	**313**	*i*	P	**Pb**	**11 25 10.9**	**+0.7**
	baz=322							
ENA				S		**Sb**	**11 25 18.0**	**+0.6**
	baz=322							
TWD	**Chiawan**	**0.49**	**268**	⇓*i*	P	**Pb**	**11 25 10.1**	**-0.1**
	baz=257							
TWD				*i*	S	**Sb**	**11 25 17.6**	**+0.1**
	baz=257							
HWA	**Hwalien**	**0.50**	**256**	*e*	P	**Pn**	**11 25 12.1**	**+1.5**
	baz=250							
HWA				S		**Sn**	**11 25 19.0**	**+0.9**
	baz=250							
NACB	**Ninganchiao**	**0.50**	**279**	⇓	P	**Pb**	**11 25 10.0**	**-0.3**
	baz=269							
NACB				S		**Sb**	**11 25 17.6**	**-0.1**
	baz=269							
TWC	**Suao**	**0.57**	**333**	*i*	P	**Pb**	**11 25 11.1**	**-0.4**
	baz=344							
TWC				*i*	S	**Sb**	**11 25 18.9**	**-0.7**
	baz=344							
ETLH	**Xiulin Townshi**	**0.60**	**281**	P		**Pb**	**11 25 11.5**	**-0.6**
	baz=278							
ETLH				S		**Sb**	**11 25 20.3**	**-0.3**
	baz=278							
ESL	**Shilin**	**0.70**	**246**	*i*	P	**Pb**	**11 25 13.1**	**-0.6**
	baz=249							
ESL				S		**Sb**	**11 25 22.9**	**-0.2**
	baz=249							
ENTT	**Nioudou**	**0.75**	**316**	*i*	P	**Pb**	**11 25 13.7**	**-0.7**
	baz=317							
ENTT				S		**Sb**	**11 25 24.0**	**-0.4**
	baz=317							
TWE	**Neicheng**	**0.75**	**326**	⇓*i*	P	**Pn**	**11 25 14.1**	**-0.1**
	baz=328							
TWE				*i*	S	**Sb**	**11 25 24.2**	**-0.3**
	baz=328							
NDT	**Datong Townshi**	**0.76**	**312**	*i*	P	**Pn**	**11 25 13.9**	**-0.3**
	baz=312							
NDT				S		**Sb**	**11 25 24.2**	**-0.5**
	baz=312							
NNSB	**Datong**	**0.76**	**296**	⇓	P	**Pn**	**11 25 13.9**	**-0.5**
	baz=295							
NNSB				S		**Sb**	**11 25 24.2**	**-0.7**
	baz=295							
NNSH	**Datong**	**0.76**	**296**	*e*	P	**Pn**	**11 25 14.0**	**-0.3**
	baz=295							
NNSH				*e*	S	**Sb**	**11 25 24.2**	**-0.7**
	baz=295							
EGS		**0.77**	**346**	*i*	P	**Pn**	**11 25 14.8**	**+0.5**
	baz=355							
EGS				*i*	S	**Sb**	**11 25 24.5**	**-0.4**
	baz=355							
EGFH	**Guangfu**	**0.77**	**237**	*e*	P	**Pn**	**11 25 14.0**	**-0.4**
	baz=227							
EGFH				*e*	S	**Sb**	**11 25 24.6**	**-0.5**
	baz=227							
NNS	**Nan Shan**	**0.77**	**296**	*i*	P	**Pn**	**11 25 14.2**	**-0.4**
	baz=295							
NNS				*i*	S	**Sb**	**11 25 24.6**	**-0.7**
	baz=295							
WHF	**Hehuan Shan**	**0.80**	**274**	*i*	P	**Pn**	**11 25 14.4**	**-0.7**
	baz=262							
WHF				*i*	S	**Sb**	**11 25 25.2**	**-1.0**
	baz=262							
NTC	**Toucheng**	**0.80**	**340**	*e*	P	**Pn**	**11 25 15.1**	**+0.3**
	baz=352							
NTC				*e*	S	**Sb**	**11 25 26.0**	**+0.1**
	baz=352							
JYNG	**Yonagunijimaku**	**0.82**	**64**	P		**Pn**	**11 25 15.2**	**+0.2**
JYNG				*e*	S	**Sb**	**11 25 26.4**	**0.0**
FUSS	**Fushou**	**0.83**	**281**	P		**Pn**	**11 25 15.1**	**-0.3**
	baz=279							
FUSS				S		**Sb**	**11 25 24.6**	**-2.3**
	baz=279							
CHGB	**Renai**	**0.88**	**268**	P		**Pn**	**11 25 15.8**	**-0.2**
	baz=257							
CHGB				S		**Sb**	**11 25 27.6**	**-0.7**
	baz=257							
YOJ	**Yonaguni jima**	**0.88**	**65**	P		**Pn**	**11 25 16.1**	**+0.2**
	baz=68							
YOJ				S		**Sn**	**11 25 28.0**	**+0.5**
	baz=68							
YOJ	**Yonaguni jima**	**0.88**	**65**	P		**Pn**	**11 25 15.9**	**0.0**
YOJ				*e*	S	**Sn**	**11 25 27.5**	**0.0**
HGSD	**Ruisui**	**0.89**	**227**	P		**Pn**	**11 25 15.4**	**-0.5**
	baz=218							
HGSD				S		**Sn**	**11 25 28.4**	**+0.7**
	baz=218							
NWLT	**Wulai**	**0.89**	**320**	*e*	P	**Pn**	**11 25 16.1**	**0.0**
	baz=312							
TWT	**Tachien**	**0.89**	**280**	*i*	P	**Pn**	**11 25 16.2**	**+0.1**
	baz=270							
TWT				S		**Sn**	**11 25 26.9**	**-1.1**
	baz=270							
YHNB	**Yeheng**	**0.90**	**310**	P		**Pn**	**11 25 15.9**	**-0.3**
	baz=300							
YHNB				*e*	S	**Sn**	**11 25 28.6**	**+0.5**
	baz=300							
TDCB	**Techi**	**0.90**	**280**	*e*	P	**Pn**	**11 25 16.3**	**-0.1**
	baz=268							
TDCB				S		**Sn**	**11 25 28.2**	**-0.1**
	baz=268							
NSK	**Sanguang**	**0.91**	**309**	⇓*i*	P	**Pn**	**11 25 16.0**	**-0.4**
	baz=300							
NSK				S		**Sn**	**11 25 27.1**	**-1.4**
	baz=300							
TIPB	**Shuangxi**	**0.92**	**342**	P		**Pn**	**11 25 16.5**	**+0.1**
	baz=352							
TIPB				*i*	S	**Sn**	**11 25 28.8**	**+0.3**
	baz=352							
TWB1	**Santiao Chiao**	**0.92**	**352**	*i*	P	**Pn**	**11 25 15.9**	**-0.5**
	baz=355							
TWB1				S		**Sn**	**11 25 27.6**	**-0.9**
	baz=355							
EHY	**Hungye**	**0.95**	**232**	*i*	P	**Pn**	**11 25 16.6**	**-0.3**
	baz=228							
EHY				S		**Sn**	**11 25 28.8**	**-0.5**
	baz=228							
VWDT	**VWDT**	**0.97**	**250**	P		**Pn**	**11 25 17.2**	**+0.1**
	baz=238							
VWDT				S		**Sn**	**11 25 29.6**	**-0.2**
	baz=238							
TWA	**Mucha**	**1.01**	**330**	⇓*i*	P	**Pn**	**11 25 18.3**	**+0.6**
	baz=332							
TWA				S		**Sn**	**11 25 29.1**	**-1.8**
	baz=332							
NWF	**Wu-fen Shan**	**1.02**	**342**	P		**Pn**	**11 25 18.1**	**+0.1**
	baz=357							
NWF				*i*	S	**Sn**	**11 25 30.8**	**-0.4**
	baz=357							
WFSB	**Wu-fen Shan**	**1.02**	**342**	P		**Pn**	**11 25 17.9**	**0.0**
	baz=357							
WFSB				*e*	S	**Sn**	**11 25 30.3**	**-0.7**
	baz=357							
YULB	**Yu-li**	**1.04**	**228**	P		**Pn**	**11 25 17.8**	**-0.3**
	baz=236							
YULB				S		**Sn**	**11 25 31.8**	**+0.3**
	baz=236							
TATO	**Taipei**	**1.05**	**326**	P		**Pn**	**11 25 18.5**	**+0.3**
	baz=327							
TATO				S		**Sb**	**11 25 33.5**	**+0.4**
	baz=327							
TWF1	**Yuli**	**1.07**	**226**	P		**Pn**	**11 25 17.8**	**-0.7**
	baz=234							
TWF1				S		**Sn**	**11 25 31.2**	**-1.0**
	baz=234							
WHP	**Taichung City**	**1.10**	**280**	*e*	P	**Pn**	**11 25 19.6**	**+0.6**
	baz=271							
WHP				S		**Sn**	**11 25 33.4**	**+0.3**
	baz=271							
SSLB	**Suanglung**	**1.12**	**254**	*e*	P	**Pn**	**11 25 19.1**	**-0.2**
	baz=257							
SSLB				S		**Sn**	**11 25 33.5**	**-0.1**
	baz=257							
SMLT	**Sun Moon Lake**	**1.15**	**260**	P		**Pn**	**11 25 19.8**	**+0.1**
	baz=250							
SMLT				S		**Sn**	**11 25 34.9**	**+0.6**
	baz=250							
LIOB	**Emei**	**1.16**	**298**	P		**Pn**	**11 25 20.8**	**+1.0**
	baz=298							
LIOB				*e*	S	**Sn**	**11 25 35.9**	**+1.4**
	baz=298							
NSTT	**Nanjuang**	**1.16**	**297**	*i*	P	**Pn**	**11 25 20.3**	**+0.5**
	baz=297							
NSTT				S		**Sn**	**11 25 35.4**	**+0.9**
	baz=297							
YM01	**YM01**	**1.16**	**334**	P		**Pn**	**11 25 19.9**	**0.0**
	baz=335							
YM10	**YM10**	**1.18**	**334**	P		**Pn**	**11 25 20.5**	**+0.4**
	baz=335							
YM10				*e*	S	**Sn**	**11 25 35.8**	**+0.8**
	baz=335							
YM11	**YM11**	**1.18**	**335

baz=255
JKRS Kuro-shima 1.72 85 P Pn 11 25 28.3 +0.9
TWK Hsinying 1.72 242 eP Pn 11 25 28.8 +1.2
baz=240
CHN1 Nanshi 1.73 239 eP Pn 11 25 29.6 +2.0
baz=237
SLGT Liugui 1.75 231 eP Pn 11 25 29.5 +1.6
baz=230
JIJ Ishigaki jima 1.85 81 P Pn 11 25 29.4 +0.1
JIJ S Sn 11 25 51.1 -0.5
JISG Ishigakijimahi 2.04 76 P Pn 11 25 31.9 0.0
JISG eS Sn 11 25 55.6 -0.7
JTJ Tarama 2.40 76 P Pn 11 25 37.1 +0.3
JTJ S Sn 11 26 05.0 -0.2

*JMA **15** 11:32:48.7±0.3,36°.27N×141°.77E,h46km,M3.3*
*IDC **15** 11:32:50.7±1.5,36°.77N×141°.35E,h0km,mb3.6/6,*
mb1 3.6/8,mb1mx3.5/60,mbtmp3.5/8,ML3.1/2,MS3.6/3,
Ms1 3.6/3,ms1mx3.0/48,Error ellipse: s-maj=38.6km
s-min=20.9km az=77.0
ISC 15 11:32:49.5±1.7,36°.27N±0°.07×141°.8E±0°.1,h35km,n32,
σ0s95/23,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	Chosi	0.97	234	P		Pn	11 33 05.6	-1.1
JHYU	Hitachinakayam	1.01	274	P		Pn	11 33 05.8	-1.4
JHO	Hitachi	1.07	289	P		Pn	11 33 06.9	-1.2
JIHU	Itakohorinouch	1.10	254	P		Pn	11 33 08.1	-0.3
ONAJ	Iwakimizuishiy	1.17	315	P		Pn	11 33 07.9	-1.6
JFK	Kawauchi	1.33	325	P		Pn	11 33 11.2	-0.5
JFT	Otama	1.73	316	P		Pn	11 33 17.1	0.0
BSO1	Boso 1	1.76	204	P		Pn	11 33 16.2	-0.8
JMM	Marumori	1.79	333	P		Pn	11 33 17.7	-0.3
BSO3	Boso 3	1.82	217	P		Pn	11 33 17.7	-0.4
JAG	Ashikaga	1.93	275	P		Pn	11 33 19.3	-0.5
JFY	Yanaizu	2.05	304	P		Pn	11 33 21.0	-0.5
JKT	Katashina	2.14	284	P		Pn	11 33 22.9	+0.1
JRY	Ryogami san	2.39	265	P		Pn	11 33 25.6	-0.6
MJAR	Matsushiro Arr	2.94	276	Pn		Pn	11 33 34.4	+0.7
	1.1nm,0.3s,baz=108,slow=8.7,SNR=41							
MAT	Matsushiro	2.94	276	P		Pn	11 33 34.4	+0.7
MAT				eS		Sn	11 34 06.6	-1.2
ASAJ	Asahikawa	7.86	4	Pn		Pn	11 34 41.2	0.0
	0.5nm,0.3s,baz=199,slow=15,SNR=6.7							
ASAJ						Sn	11 36 07.1	-1.7
	0.2nm,0.3s,baz=233,slow=18,SNR=1.2							
KSRS	Korea Array	11.21	280	LR		LR	11 38 46.2	
	comp=Z,163nm,18.2s,baz=248,slow=33							
H11N2	WAKE ISLAND Hy	27.47	120	T		T	12 07 39.3	
	baz=312,slow=74,SNR=4.7							
H11N1	WAKE ISLAND Hy	27.48	120	T		T	12 07 20.2	
	baz=312,slow=74,SNR=3.8							
H11N3	WAKE ISLAND Hy	27.49	120	T		T	12 07 26.6	
	baz=312,slow=74,SNR=4.0							
H11S1	WAKE ISLAND Hy	28.17	122	T		T	12 08 47.5	
	baz=315,SNR=7.1							
H11S3	WAKE ISLAND Hy	28.17	122	T		T	12 08 13.1	
	baz=315,slow=74,SNR=5.4							
H11S2	WAKE ISLAND Hy	28.18	122	T		T	12 08 12.6	
	baz=315,slow=74,SNR=5.1							
SONM	Songino Array	28.49	305	P		P	11 38 42.0	+0.5
	0.4nm,0.4s,baz=108,slow=7.7,SNR=3.0							
SIJI	Sorong	38.24	197	LR		LR	11 54 37.6	
	comp=Z,60nm,20.6s,baz=258,slow=34							
JAY	Jayapura	38.60	182	LR		LR	11 56 58.8	
	comp=Z,195nm,19.1s,baz=170,slow=37							
ZALV	Zalesovo Beam	42.68	313	P		P	11 40 44.2	+1.6
	0.3nm,0.4s,baz=57,slow=5.5,SNR=3.5							
MKAR	Makanchi Array	44.81	303	P		P	11 41 00.6	+0.7
	0.5nm,0.7s,baz=91,slow=9.1,SNR=4.3							
KURBB	Kurchatov Arra	46.74	309	P		P	11 41 15.7	+0.7
	0.9nm,0.6s,baz=86,slow=7.8,SNR=9.0							
WRA	Warramunga Arr	56.36	188	P		P	11 42 36.0	+8.8
	0.3nm,0.5s,baz=0.9,slow=7.7,SNR=7.6							
ASAR	Alice Springs	60.09	188	P		P	11 43 03.8	+11
	0.1nm,0.5s,baz=16,slow=11,SNR=1.7							

*DDA **15** 11:38:15.8,37°.04N×30°.58E,h4km±4km,ML3.1*
*ISK **15** 11:38:15.7,37°.08N×30°.58E,h4km,ML3.2/26*
*IDC **15** 11:38:18.2±1.4,37°.39N×30°.50E,h0km,mb3.2/2,*
mb1 3.2/5,mb1mx3.1/43,mbtmp3.2/5,ML3.1/3,Error
ellipse: s-maj=40.4km s-min=15.5km az=141.0
ISC 15 11:38:16.4±1.1,37°.09N±0°.02×30°.58E±0°.02,h2km±9km,
n52,σ2s14/76,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANTB	Antalya	0.20	164	PG		Pg	11 38 19.7	-0.6
ANTB				SG		Sg	11 38 23.7	+0.8
KORT	Korkueli	0.21	244	PG		Pg	11 38 19.5	-1.0
KORT				SG		Sg	11 38 23.6	+0.4
KORT	Korkueli	0.21	244	*i* P		Pg	11 38 19.6	-0.8
KORT				*i* S		Sg	11 38 22.9	-0.3
KORT				IAML			11 38 24.0	
	comp=E,6μm,0.5s							
BCK	Bucak	0.37	1	PG		Pg	11 38 23.6	+0.1
BCK				SG		Sb	11 38 29.5	-2.5
ELL	Elmali	0.64	238	PG		Pb	11 38 28.5	-2.0
ELL				SG		Sb	11 38 38.2	-1.7
BRDR	BURDUR-Merkez	0.73	326	*i* P		Pg	11 38 29.6	-0.9
BRDR				*i* S		Sn	11 38 42.8	-2.9
AKUM	Antalya-Kumluc	0.79	194	*i* P		Pb	11 38 31.1	-1.9
AKUM				*i* S		Sn	11 38 44.0	-3.1
AKUM				IAML			11 38 50.0	
	comp=N,577nm,0.7s							
GOLH	Golhisar	0.83	280	*i* P		Pg	11 38 31.9	-0.5
GOLH				*i* S		Sn	11 38 45.5	-2.6
GOLH				IAML			11 38 49.0	
	comp=N,612nm,0.8s							
KEPZ	Antalya-Kepez	0.84	103	*i* P		Pg	11 38 32.0	-0.5
KEPZ				*i* S		Sn	11 38 52.6	+4.3
BAGO	Egridir - ISPA	0.91	10	*i* P		Pb	11 38 34.1	-0.9
BAGO				*i* S		Sn	11 38 51.1	+1.0
BASM	Basmaki-Afyon	0.93	333	PG		Pb	11 38 34.5	-0.8
BASM				SG		Sn	11 38 48.1	-2.5
SEYD	Seydisehir-KON	1.05	72	PG		Pn	11 38 36.4	-1.9
AKAS	Kas	1.16	223	PN		Pn	11 38 38.8	-1.1
AKAS	Kas	1.16	223	*i* P		Pb	11 38 37.7	-1.7
AKAS				*i* S		Sn	11 39 01.5	+5.0
KZIL	AFYON_Kizioren	1.21	343	*i* P		Pn	11 38 39.0	-1.6
KZIL				*i* S		Sn	11 38 58.2	+0.4
FETY	Fethiye	1.29	250	PN		Pg	11 38 40.6	-0.5
FETY	Fethiye	1.29	250	*i* P		Pg	11 38 41.2	+0.1
FETY				*i* S		Sg	11 39 02.7	+4.9
DOGA	KONYA_Doganhis	1.33	40	*i* P		Pn	11 38 40.7	-1.5
DOGA				*i* S		Sg	11 39 02.6	+3.4
DOGA				IAML			11 39 11.0	
	comp=N,315nm,0.8s							
TAVA	DENIZLI_Tavas	1.38	286	*i* P		Pg	11 38 42.1	-0.9
TAVA				*i* S		Sg	11 39 04.3	+3.4
SHUT	Suhut-Afyon	1.46	359	PN		Pg	11 38 43.9	-0.5
DALY	Dalyan (Mula)	1.57	260	PN		Pb	11 38 45.0	-1.2
DALY	Dalyan (Mula)	1.57	260	*i* P		Pg	11 38 45.6	-0.9
DALY				*i* S		Sg	11 39 10.6	+3.7
DALY				IAML			11 39 18.0	
	comp=N,296nm,0.6s							
KMER	Konya-Meram	1.57	64	*i* P		Pb	11 38 45.1	-1.3
KMER				*i* S		Sg	11 39 09.8	+2.8
GAZI	Gazipasa	1.64	121	PN		Pb	11 38 46.2	-1.2
GAZI	Gazipasa	1.64	121	*i* P		Pn	11 38 43.8	-2.5
GAZI				*i* S		Sg	11 39 13.5	+4.5
LADK	Ladik-KONYA	1.79	51	PN		Pb	11 38 48.2	-1.9
KDHN	Kadinhani	1.87	40	*i* P		Pn	11 38 48.2	-1.5
KDHN				*i* S		Sg	11 39 17.1	+0.4
TURN	Turunc	1.90	261	*i* P		Pg	11 38 51.7	-1.2
TURN				*i* S		Sg	11 39 17.5	0.0
USAK	Uak-Merkez	2.04	323	*i* P		Pn	11 38 51.2	-0.7
USAK				*i* S		Sg	11 39 27.6	+5.7
KIZT	Kizilcal	2.06	29	PN		Pn	11 38 51.9	-0.3
KULA	Kula-Manisa	2.08	314	PN		Pb	11 38 52.5	-2.5
MANT	Manisa	2.13	312	*i* P		Pn	11 38 52.7	-0.6
MANT				*i* S		Sg	11 39 29.2	+4.4
TEKE	Tekeli-Mersin	2.25	114	PN		Pb	11 38 54.7	-3.1
BERE	Bereket-Mersin	2.25	109	PN		Pn	11 38 54.7	-0.1
MLSB	Milas	2.25	276	PN		Pb	11 38 55.0	-2.9
CIFT	Cifteler, Eski	2.30	9	PN		Pn	11 38 55.3	-0.1
AYDB	Zeytinkoy-Aydi	2.30	293	PN		Pn	11 38 55.4	-0.2
CHBY	Cihanbeyli	2.35	50	PN		Pb	11 38 56.6	-3.1
SIMA	Simav-Kutahya	2.35	328	PN		Pn	11 38 56.4	+0.1
TEVE	Tevekalti-Mers	2.39	105	PN		Pn	11 38 56.7	0.0
DAT	Datca	2.44	262	PN		Pn	11 38 57.6	+0.2
TVSB	Tavsanli	2.51	340	PN		Pn	11 38 58.8	+0.3
KEBE	Keben-Mersin	2.59	103	PN		Pn	11 38 59.8	+0.3
YESY	Yesilyurt	2.61	74	PN		Pn	11 38 59.9	+0.1
IKL	Isikli	2.64	108	PN		Pn	11 39 00.5	+0.5
BORA	Eskisehir	2.79	358	PN		Pn	11 39 02.8	+0.6
AUBOZ	BOZOYUK	2.85	351	PN		Pn	11 39 03.3	+0.3
BRTR	Keskin Array B	3.56	41	Pn		Pn	11 39 12.4	-0.4
	comp=N,0.9nm,0.3s,baz=226,slow=16,SNR=9.0							
BRTR				Pg		Pg	11 39 21.8	-2.9
	comp=N,0.6nm,0.3s,baz=219,slow=18,SNR=14							
BRTR				Sn		Sn	11 39 55.8	+0.2
	comp=N,0.6nm,0.3s,baz=223,slow=24,SNR=5.6							
IDI	Anoyia	4.94	250	Pn		Pn	11 39 33.2	+1.3
	comp=N,0.8nm,0.3s,baz=68,slow=17,SNR=4.5							
IDI				Sn		Sn	11 40 31.4	+1.8
	comp=N,0.6nm,0.3s,baz=7.8,slow=6.5,SNR=3.6							
MMAI	Mount Meron Ar	5.67	134	Pn		Pn	11 39 46.8	+5.0
	comp=N,1.1nm,0.3s,baz=343,slow=14,SNR=1.8							
TORD	Torodi Ar. Bea	35.14	235	P		P	11 45 15.5	+3.8
	comp=N,0.2nm,0.6s,baz=50,slow=9.4,SNR=1.9							
MKAR	Makanchi Array	39.03	59	P		P	11 45 47.3	+2.7
	comp=N,0.2nm,0.6s,baz=276,slow=5.4,SNR=1.8							

*KRNET **15** 11:45:11.0±0.1,40°.32N×77°.04E,mb3.2*
*SOME **15** 11:45:14.8,40°.50N×77°.18E,h10km*
*NNC **15** 11:45:17.0±1.3,40°.52N×77°.24E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=9.2km s-min=6.1km az=176.0
ISC 15 11:45:13.2±2.3,40°.37N±0°.09×77°.19E±0°.04,h3km±11km,
n47,σ1s74/74,24C-10D,Kyrgyzstan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDJ	Kajisay	1.75	360	⇑*i* P		Pn	11 45 44.6	-0.2
	baz=4.0							
KDJ				⇑*i* S		Sg	11 46 09.5	-0.2
	baz=4.0							
ULHL	Ulahol	2.00	340	⇓*i* P		Pn	11 45 47.9	-0.3
	baz=43							
ULHL				⇓*i* S		Sb	11 46 14.9	-1.0
	baz=43							
PRZ	Przheval'sk	2.30	23	⇓*e* P		Pn	11 45 53.3	+1.0
	baz=25							
PRZ				⇓*i* S		Sg	11 46 24.4	-2.7
	baz=25							
BOOM	Boomskoye usch	2.31	337	⇑*e* P		Pn	11 45 52.1	-0.4
	baz=40							
BOOM				⇑*i* S		Sn	11 46 22.6	+1.0
	baz=40							
ANVS	Anan'yevo	2.44	8	⇓*i* P		Pn	11 45 55.3	+1.1
	baz=11							
ANVS				⇓*i* S		Sb	11 46 27.4	-1.0
	baz=11							
ARLS	Aral	2.62	305	⇑*i* P		Pn	11 45 55.9	-0.8
	baz=8.0							
ARLS				⇑*i* S		Sn	11 46 28.6	-0.6
	baz=8.0							
TNSS	Tian-Shan	2.67	356	*e* P		Pb	11 46 03.7	+1.8
	29nm,0.7s							
TNSS				*e* S		Sg	11 46 38.6	-0.4
	24nm,0.4s							
TNSS	Tian-Shan	2.67	356	Pg		Pb	11 46 03.7	+1.8
	29nm,0.7s							
TNSS				Lg		Lg	11 46 38.6	
	24nm,0.4s							
UCH	Uchtor	2.73	314	⇑*e* P		Pn	11 45 57.7	-0.8
	baz=16							
UCH				⇑*i* S		Sn	11 46 31.6	-0.8
	baz=16							
MDOK	Medeo	2.79	358	*e* P		Pb	11 46 05.8	+1.9
	21nm,0.6s							
MDOK				*e* S		Sg	11 46 42.4	-0.5
	37nm,0.5s							
MDOK	Medeo	2.79	358	Pg		Pb	11 46 05.8	+1.9
	21nm,0.6s							
MDOK				Lg		Lg	11 46 42.4	
	37nm,0.5s							
TKM2	Tokmak 2	2.81	335	⇑*i* P		Pn	11 45 59.1	-0.2
	baz=38							
TKM2				⇑*i* S		Sn	11 46 34.1	+0.2
	baz=38							
TKM2	Tokmak 2	2.81	335	⇓Pg		Pb	11 46 06.6	+2.4
	4.0nm,0.4s							
TKM2				⇑Lg		Lg	11 46 42.9	
	8.7nm,0.3s							
KST	Kastek	2.82	341	*e* P		Pb	11 46 06.7	+2.3
	7.8nm,0.5s							
KST				*e* S		Sg	11 46 43.5	-0.4
	32nm,0.4s							
KST	Kastek	2.82	341	Pg		Pb	11 46 06.7	+2.3
	7.8nm,0.5s							
KST				Lg		Lg	11 46 43.5	
	32nm,0.4s							
KBK	Karagaybulak	2.83	324	⇑*i* P		Pn	11 45 59.5	-0.1
	baz=27							
KBK				⇑*i* S		Sn	11 46 34.6	+0.2
	baz=27							
SATY	Saty	2.83	18	*e* P		Pb	11 46 05.8	+1.2
	7.2nm,0.5s							
SATY				*e* S		Sg	11 46 42.5	-1.8
	34nm,0.5s							
SATY	Saty	2.83	18	Pg		Pb	11 46 05.8	+1.2
	7.2nm,0.5s							
SATY				Lg		Lg	11 46 42.5	
	34nm,0.5s							
KOTS	Kotyrbulak	2.86	359	*e* P		Pg	11 46 07.6	-0.4
	22nm,0.3s							
KOTS				*e* S		Sg	11 46 45.3	+0.2
	88nm,0.7s							
KOTS	Kotyrbulak	2.86	359	Pg		Pg	11 46 07.6	-0.4
	22nm,0.3s							
KOTS				Lg		Lg	11 46 45.3	
	88nm,0.7s							
AAK	Ala-Archa	3.03	319	⇑*i* P		Pn	11 46 01.9	-0.5
	baz=21							
AAK				⇑*i* S		Sn	11 46 39.1	-0.2
	baz=21							
AAK	Ala-Archa	3.03	319	⇑Pg		Pb	11 46 09.5	+1.5
	6.2nm,0.5s							
AAK				Lg		Lg	11 46 49.9	
	37nm,0.6s							
DGS	Degeres	3.06	340	*e* P		Pb	11 46 11.1	+2.7
	8.2nm,0.8s							
DGS				*e* S		Sg	11 46 51.0	-0.4
	33nm,0.3s							
DGS	Degeres	3.06	340	Pg		Pb	11 46 11.1	+2.7
	8.2nm,0.8s							
DGS				Lg		Lg	11 46 51.0	
	33nm,0.3s							
UZB	Uzunbulak	3.09	26	*e* P		Pb	11 46 09.1	0.0
	6.2nm,0.4s							
UZB				*e* S		Sb	11 46 47.7	+0.5
	12nm,0.8s							
UZB	Uzunbulak	3.09	26	Pg		Pb	11 46 09.0	0.0
	6.2nm,0.4s							
UZB				Lg		Lg	11 46 47.8	
	12nm,0.8s							
AML	Almayashu	3.16	305	⇑*e* P		Pn	11 46 03.3	-1.1
	baz=7.0							
AML				⇑*i* S		Sn	11 46 41.6	-1.3
	baz=7.0							
CHMS	Chumysh	3.19	326	⇓*i* P		Pn	11 46 03.8	-0.7
	baz=28							
CHMS				⇓*i* S		Sn	11 46 42.7	-0.4
	baz=28							
KURS	Kuram	3.20	13	*e* P		Pb	11 46 12.5	+1.7
	8.1nm,0.8s							
KURS				*e* S		Sg	11 46 53.8	-2.1
	15nm,0.7s							
KURS	Kuram	3.20	13	Pg		Pb	11 46 12.5	+1.7
	8.1nm,0.8s							
KURS				Lg		Lg	11 46 53.8	
	15nm,0.7s							
SHLS	Shalkode	3.26	31	*e* P		Pg	11 46 16.4	+0.6
	13nm,0.1s							
SHLS				*e* S		Sg	11 46 60.0	+2.0
	29nm,0.4s							
SHLS	Shalkode	3.26	31	Pg		Pg	11 46 17.0	+1.2
	13nm,0.1s							
SHLS				Lg		Lg	11 47 01.6	
	29nm,0.4s							
KTBS	Karatobe	3.36	354	*e* P		Pb	11 46 15.4	+1.9
	15nm,0.6s							
KTBS				*e* S		Sg	11 46 58.6	-2.5
	47nm,0.4s							
KTBS	Karatobe	3.36	354	Pg		Pb	11 46 15.4	+1.9
	15nm,0.6s							
KTBS				Lg		Lg	11 46 58.6	
	47nm,0.4s							
PDGK	Podgornoye	3.42	29	Pg		Pb	11 46 15.5	+1.0
	2.3nm,0.6s							
PDGK				Lg		Lg	11 46 58.7	
	13nm,0.8s							
PDGK	Podgornoye	3.42	29	⇓Pn		Pb	11 46 12.1	-2.5
	2.6nm,0.5s							
PDGK				⇑Lg		Lg	11 46 58.9	
	31nm,0.8s							
EKS2	Erkin-Say	3.43	313	⇑*i* P		Pn	11 46 07.2	-0.6
	baz=15							
EKS2				⇑*i* S		Sn	11 46 48.4	-0.7
	baz=15							
KRBS	Karabastau	3.51	342	*e* P		Pb	11 46 18.7	+2.7
	5.3nm,0.5s							
KRBS				*e* S		Sg	11 47 04.2	-1.7
	14nm,0.4s							
KRBS	Karabastau	3.51	342	Pg		Pb	11 46 18.7	+2.7
	5.3nm,0.5s							
KRBS				Lg		Lg	11 47 04.2	
	14nm,0.4s							
MRKS	Merke	3.80	310	*e* P		Pb	11 46 24.0	+3.0
	6.8nm,0.5s							
MRKS				*e* S		Sg	11 47 13.2	-2.0
	12nm,0.3s							
MRKS	Merke	3.80	310	Pg		Pb	11 46 24.0	+3.0
	6.8nm,0.5s							
MRKS				Lg		Lg	11 47 13.2	
	12nm,0.3s							
ARXS	Arharly	3.87	7	*e* P		Pb	11 46 25.1	+2.9
	9.0nm,0.8s							
ARXS				*e* S		Sg	11 47 15.3	-2.1
	14nm,0.7s							
ARXS	Arharly	3.87	7	Pg		Pb	11 46 25.1	+2.9
	9.0nm,0.8s							
ARXS				Lg		Lg	11 47 15.4	
	14nm,0.7s							
MNAS	Manas	4.10	302	⇑*i* P		Pn	11 46 16.3	-0.8
	baz=4.0							
MNAS				⇑*i* S		Sn	11 47 03.4	-2.3
	baz=4.0							
DJR	Jarkent	4.40	25	*e* P		Pb	11 46 33.9	+2.6
	3.6nm,0.3s							
DJR				*e* S		Sg	11 47 30.1	-4.6
	7.9nm,0.5s							
DJR	Jarkent	4.40	25	Pg		Pb	11 46 33.9	+2.6
	3.6nm,0.3s							
DJR				Lg		Lg	11 47 30.1	
	7.9nm,0.5s							
KK31	Karatay Array	5.69	301	⇑Lg		Lg	11 48 13.3	
	4.0nm,0.8s,baz=122,slow=29,SNR=5.5							

IDC 15 11:46:17.4±0.9,4°.97S×151°.16E,h165km±16km,mb2.5/2,
mb1 2.9/3,mb1mx2.8/28,mbtmp3.2/3,Error ellipse:
s-maj=137.9km s-min=15.4km az=132.0,New Britain
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	Keravat (AS076	1.09	53	P		Pn	11 46 44.6	+0.2
	21nm,0.3s,baz=226,slow=1.3,SNR=22							
KRVT				S		Sn	11 47 05.1	+0.1
	21nm,0.3s,baz=195,slow=23,SNR=15							
KRVT				LR		LR	11 47 08.9	
	comp=Z,169nm,20.1s,baz=156,slow=47							
PMG	Port Moresby	5.93	222	P		Pn	11 47 45.3	+2.0
	1.9nm,0.3s,baz=18,slow=7.8,SNR=8.3							
PMG				S		Sn	11 48 51.0	+0.3
	3.2nm,0.3s,baz=325,slow=22,SNR=9.7							
WRA	Warramunga Arr	22.12	226	P		P	11 50 59.0	-0.8
	0.1nm,0.3s,baz=52,slow=9.8,SNR=8.7							
ASAR	Alice Springs	24.94	220	P		P	11 51 25.5	-0.1
	0.2nm,0.5s,baz=53,slow=8.8,SNR=6.3							
TORD	Torodi Ar. Bea	148.80	287	PKPbc		PKPbc	12 05 46.2	-0.3
	0.4nm,0.6s,baz=85,slow=1.2,SNR=2.6							

*IDC **15** 11:46:41.6±0.7,62°.61S×60°.04W,h0km,mb4.1/11,*
mb1 4.2/12,mb1mx4.0/30,mbtmp4.1/12,ML3.7/1,Error
ellipse: s-maj=28.4km s-min=17.0km az=88.0
*NEIC **15** 11:46:48.0±1.4,62°.71S±0°.10×60°.1W±0°.3,h40km±5km,*
mb4.5/17,Error ellipse: s-maj=21.0km s-min=13.5km
az=106.0
ISC 15 11:46:43.5±0.5,62°.63S±0°.06×60°.00W±0°.07,h10km,n42,
σ1s14/49,mb4.3/18,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JUBA	Jubany	0.74	58	*i* P		Pg	11 46 57.1	-0.6
JUBA				*e* S		Sg	11 47 07.2	-0.2
JUBA				IAML			11 47 08.8	
	comp=Z,6μm,1.0s							
PMSA	Palmer Station	2.80	218	Pn		Pn	11 47 28.0	-0.3
	comp=Z,12nm,0.3s,baz=37,slow=10.0,SNR=68							
PMSA				Sn		Sb	11 48 08.1	+0.2
	comp=Z,75nm,0.3s,baz=296,slow=18,SNR=16							
PMSA	Palmer Station	2.80	218			Pn	11 47 28.1	-0.1
PMSA						Sn	11 48 00.9	-1.2
PMSA	Palmer Station	2.80	218	*i* P		Pn	11 47 27.8	-0.4
PMSA				*i* S		Sb	11 48 07.0	-0.9
SMAI	San Martin Ant	6.26	205	*i* P		Pn	11 48 17.9	+2.1
BELA	Belgrano 2	17.25	162	P		P	11 50 45.6	+0.2
VNA3	Neumayer Olymp	20.84	136	P		P	11 51 25.5	+0.6
VNA1	Neumayer--Stat	21.33	134	P		P	11 51 31.3	+1.3
VNA2	Neumayer--Watz	21.60	135	P		P	11 51 33.7	+0.7
	baz=251,slow=12							
PLCA	Paso Flores	22.83	339	P		P	11 51 47.6	+1.2
	comp=Z,4.2nm,0.9s,baz=164,slow=11,SNR=5.9							
PLCA	Paso Flores	22.83	339	P		P	11 51 47.5	+1.1
SNAA	Sanae	23.00	137	P		P	11 51 48.3	+0.3
SNAA	Sanae	23.00	137	P		P	11 51 48.1	+0.2
	comp=Z,6.8nm,1.1s,baz=248,slow=8.4,SNR=10							
SNAA	Sanae	23.00	137	P		P	11 51 48.4	+0.5
SNAA				IAmb		IAmb	11 52 10.7	
	comp=Z,12nm,1.1s							
QSPA	South Pole Qui	27.59	180	P		P	11 52 30.9	+0.4
	comp=Z,3.8nm,1.1s,baz=166,slow=2.4,SNR=12							
QSPA				PcP		PcP	11 55 48.2	+0.7
	comp=Z,1.3nm,0.9s,baz=135,slow=5.2,SNR=3.1							

comp=Z,0.6nm,0.7s,baz=166,slow=5.1,SNR=5.2
WRA Warramunga Arr 96.92 194 P **P** **12 00 13.5 -1.4**
comp=Z,0.7nm,0.7s,baz=173,slow=4.1,SNR=8.0
CMAR Chiang Mai Arr 133.51 152 PKP **PKPdf** **12 05 59.9 +0.2**
comp=Z,0.5nm,0.3s,baz=208,slow=3.0,SNR=4.4
CMAR Chiang Mai Arr 133.51 152 **PKPdf** **12 05 59.3 -0.3**
ILAR Eielson Array 142.23 316 PKP **PKPdf** **12 06 11.8 -2.5**
comp=Z,0.2nm,0.5s,baz=210,slow=0.5,SNR=4.9
ARCES ARCESS Array B 144.83 37 PKP **PKPab** **12 06 16.1 -1.7**
comp=Z,1.7nm,0.7s,baz=243,slow=0.8,SNR=6.9
MKAR Makanchi Array 153.58 109 PKPbc **PKPbc** **12 06 40.4 -0.8**
comp=Z,0.9nm,0.8s,baz=224,slow=3.3,SNR=8.9
MKAR PKPab **PKPab** **12 06 54.4 +0.6**
comp=Z,3.3nm,0.7s,baz=220,slow=4.5,SNR=22
MKAR Makanchi Array 153.58 109 **PKPbc** **12 06 40.7 -0.4**
MKAR **PKPab** **12 06 54.5 +0.8**

*IDC **15** 11:52:21.6±1.3, 62.69S×59.89W, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/23, mbtmp3.7/5, Error ellipse: s-maj=38.0km s-min=23.8km az=81.0*
ISC 15 11:52:22.8±1.0, 62.8S±0.1×60.4W±0.2, h10km, n10, σ0s48/10, mb3.7/5, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**2.57**	**217**	Pn	**Pb**	**11 53 08.7**	**-0.1**
	baz=39,slow=14						
VNA3	**Neumayer Olymp**	**20.88**	**135**	P	**P**	**11 57 04.3**	**-0.3**
VNA1	**Neumayer--Stat**	**21.37**	**134**	P	**P**	**11 57 10.1**	**+0.3**
VNA2	**Neumayer--Watz**	**21.64**	**135**	P	**P**	**11 57 12.6**	**-0.1**
	baz=248,slow=11						
PLCA	**Paso Flores**	**22.89**	**340**	P	**P**	**11 57 26.2**	**-0.2**
	1.1nm,0.7s,baz=185,slow=6.8,SNR=4.7						
SNAA	**Sanae**	**23.02**	**137**	P	**P**	**11 57 26.4**	**-1.1**
	1.8nm,0.9s,baz=266,slow=9.6,SNR=3.9						
QSPA	**South Pole Qui**	**27.44**	**180**	P	**P**	**11 58 08.8**	**+0.3**
	2.4nm,1.0s,baz=142,slow=5.4,SNR=4.8						
MAW	**Mawson**	**43.66**	**152**	P	**P**	**12 00 27.0**	**+0.2**
	1.4nm,0.9s,baz=225,slow=8.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**89.50**	**59**	P	**P**	**12 05 20.1**	**+0.2**
	0.4nm,0.9s,baz=232,slow=6.4,SNR=2.3						
ARCES	**ARCESS Array B**	**145.07**	**38**	PKP	**PKPbc**	**12 11 57.9**	**-0.1**
	1.9nm,0.7s,baz=218,slow=5.3,SNR=1.4						

MAN 15 11:57:06.3, 7.98N×124.71E, h2km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.36**	**106**	*e*P	Pg	11 57 13.8	+0.5
BUKP				*e*S	Sg	11 57 17.9	-0.1
CGP	**Cagayan de Oro**	**0.47**	**358**	*i*P	Pg	11 57 15.7	+0.3
CGP				*i*S	Sb	11 57 23.4	-1.5
KCP	**Kidapawan**	**1.03**	**159**	*i*P	Pg	11 57 26.3	+0.1
PAGZ	**Pagadian**	**1.32**	**265**	*e*P	Pg	11 57 31.0	-0.7
PAGZ				*e*S	Sn	11 57 49.9	-0.1
DDMP	**Don Marcelino,**	**2.11**	**152**	*e*P	Pn	11 57 43.9	+1.2
DDMP				*e*S	Sn	11 58 08.2	-1.3
MSLP	**Maasin**	**2.15**	**4**	*e*P	Pn	11 57 43.1	-0.1

WEL 15 11:58:37.4±0.9, 35°S±7°×178°0W±1°1, h33km, M3.9/21, mB4.7/2, ML4.1/21, MLv3.9/21, Mw(mB)4.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.98**	**212**	P	Pn	11 59 21.6	-0.7
WMGZ	**Waiomatatini S**	**3.15**	**209**	P	Pn	11 59 25.0	+0.3
WMGZ				S	Sn	12 00 04.6	+3.4
PKGZ	**Pakihiroa**	**3.35**	**212**	P	Pn	11 59 28.2	+0.8
PKGZ				S	Sn	12 00 07.6	+1.5
HAZ	**Te Kaha**	**3.38**	**216**	P	Pn	11 59 28.4	+0.6
HAZ				S	Sn	12 00 09.5	+2.8
PUZ	**Puketiti**	**3.43**	**208**	P	Pn	11 59 28.8	+0.2
PUZ				S	Sn	12 00 07.7	-0.4
RUGZ	**Raukumara Rang**	**3.59**	**215**	P	Pn	11 59 31.5	+0.6
RUGZ				S	Sn	12 00 13.4	+1.1
TWGZ	**Tauwhareparae**	**3.63**	**210**	P	Pn	11 59 32.0	+0.6
CNGZ	**Carnagh Statio**	**3.81**	**206**	P	Pn	11 59 34.4	+0.6
TKGZ	**Te Karaka**	**3.91**	**210**	P	Pn	11 59 35.6	+0.5
TKGZ				S	Sn	12 00 20.6	+0.7
MWZ	**Matawai**	**3.96**	**214**	P	Pn	11 59 35.8	-0.1
MWZ				S	Sn	12 00 23.8	+2.6
KUZ	**Kuaotunu**	**4.09**	**244**	P	Pn	11 59 36.9	-0.7
URZ	**Urewera**	**4.10**	**218**	P	Sn	11 59 37.5	-0.2
URZ				S	Sn	12 00 22.5	-2.1
GRZ	**Great Barrier**	**4.13**	**252**	P	Pn	11 59 38.6	+0.5
RIGZ	**Rimuhau**	**4.17**	**209**	P	Pn	11 59 37.9	-0.9
RIGZ				S	Sn	12 00 27.7	+1.2
PRGZ	**Paritu Road**	**4.32**	**206**	P	Pn	11 59 40.3	-0.5
KARZ	**Kaharoa**	**4.41**	**227**	P	Pn	11 59 43.9	+1.9
SNGZ	**Shannon Statio**	**4.41**	**212**	P	Pn	11 59 42.0	-0.1
MUGZ	**Murupara**	**4.44**	**219**	P	Pn	11 59 42.7	+0.2
MUGZ				S	Sn	12 00 32.0	-1.0
KNZ	**Kokohu**	**4.48**	**207**	P	Pn	11 59 41.6	-1.4
MHGZ	**Mahia Peninsul**	**4.52**	**204**	P	Pn	11 59 42.4	-1.0
WIAZ	**Waiheke Island**	**4.54**	**246**	P	Pn	11 59 44.8	+1.0
MTHZ	**Maungataniwha**	**4.70**	**215**	P	Pn	11 59 46.3	+0.3
MRHZ	**Matea Rd**	**4.89**	**218**	P	Pn	11 59 48.9	+0.2
MRHZ				S	Sn	12 00 42.1	-2.1
NMHZ	**Naumai**	**4.91**	**214**	S	Sn	12 00 45.1	+0.5
BKZ	**Black Stump Fm**	**5.11**	**216**	P	Pn	11 59 51.0	-0.6
MCHZ	**McNeill Hill**	**5.24**	**212**	P	Pn	11 59 53.4	-0.1
KWHZ	**Kaweka Forest**	**5.35**	**214**	P	Pn	11 59 54.9	-0.1
KAHZ	**Kahuranaki**	**5.46**	**209**	P	Pn	11 59 54.9	-1.5
KAHZ				S	Sn	12 00 58.7	+0.6
BHHZ	**Black Hill Sta**	**5.57**	**216**	P	Pn	11 59 59.3	+1.3
WPHZ	**Waipukurau**	**5.87**	**210**	P	Pn	11 59 58.4	-3.6

*IDC **15** 11:59:19.9±1.3, 38.35N×142.31E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/48, mbtmp3.4/6, ML2.8/3, MS4.3/1, Ms1 4.3/1, ms1mx3.2/40, Error ellipse: s-maj=37.1km s-min=24.8km az=111.0*
*JMA **15** 11:59:25.7, 38.27N×141.88E, h51km±1km, M3.5*
JMA Felt I J1.
ISC 15 11:59:23.9±1.8, 38.25N±0.05×142.03E±0.07, h29km±13km, n26, σ0s88/32, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.45**	**278**	P	**Pn**	**11 59 35.1**	**+0.8**
JIKH				S	**Sn**	**11 59 41.8**	**+0.4**
JIO	**Ouri**	**0.57**	**292**	P	**Pn**	**11 59 36.5**	**+0.5**
JIO				S	**Sn**	**11 59 44.0**	**-0.5**
JKMT	**Kesennumamotoy**	**0.71**	**323**	P	**Pn**	**11 59 38.6**	**+0.6**
JKMT				S	**Sn**	**11 59 47.7**	**-0.2**
OFUJ	**Ofunato**	**0.88**	**342**	P	**Pb**	**11 59 41.1**	**+0.5**
OFUJ				S	**Sn**	**11 59 52.1**	**0.0**
JMK	**Ichinoseki**	**0.95**	**318**	P	**Pb**	**11 59 41.8**	**+0.1**
JMK				S	**Sb**	**11 59 53.2**	**-0.7**
JMM	**Marumori**	**1.04**	**249**	P	**Pn**	**11 59 42.4**	**-0.1**
JMM				S	**Sn**	**11 59 54.6**	**-1.5**
JOU	**Okura**	**1.08**	**277**	P	**Pn**	**11 59 43.2**	**+0.2**
JOU				S	**Sn**	**11 59 56.1**	**-0.9**
JFK	**Kawauchi**	**1.27**	**226**	P	**Pn**	**11 59 45.9**	**+0.3**
JFK				S	**Sn**	**12 00 00.8**	**-0.9**
JOM	**Ohasama**	**1.35**	**335**	P	**Pb**	**11 59 47.9**	**-0.7**
JOM				*e*S	**Sn**	**12 00 03.6**	**-0.2**
JYK	**Kaneyama**	**1.47**	**298**	P	**Pn**	**11 59 48.6**	**+0.2**
JFT	**Otama**	**1.52**	**242**	P	**Pn**	**11 59 49.8**	**+0.7**
JFT				S	**Sn**	**12 00 07.4**	**-0.6**
JYS	**Shirataka**	**1.54**	**270**	P	**Pn**	**11 59 49.8**	**+0.4**
JYS				S	**Sn**	**12 00 07.7**	**-0.8**
JRG	**Rokugo**	**1.58**	**317**	P	**Pn**	**11 59 50.8**	**+0.9**
JRG				*e*S	**Sn**	**12 00 10.2**	**+0.8**
MJAR	**Matsushiro Arr**	**3.48**	**242**	Pn	**Pn**	**12 00 17.9**	**+1.8**
	0.2nm,0.3s,baz=35,slow=15,SNR=9.0						
ASAJ	**Asahikawa**	**5.88**	**4**	Pn	**Pn**	**12 00 48.7**	**-0.3**
	0.7nm,0.3s,baz=209,slow=15,SNR=9.0						
ASAJ				Sn	**Sn**	**12 01 55.1**	**-0.3**
	0.4nm,0.3s,baz=12,slow=26,SNR=1.6						
USRK	**Ussuriysk Ar.**	**9.62**	**311**	Pn	**Pn**	**12 01 40.1**	**-0.2**
	baz=98,slow=14,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.38**	**124**	T	T	12 35 29.1	
	baz=316,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	12 35 32.0	
	baz=316,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	12 35 33.4	
	baz=316,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	12 36 37.7	
	baz=318,slow=76,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	12 36 32.4	
	baz=318,slow=76,SNR=7.8						
H11S2	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	12 36 39.0	
	baz=318,slow=76,SNR=8.6						
KAPI	**Kappang**	**47.75**	**211**	LR	LR	12 29 19.1	
	comp=Z,296nm,19.3s,baz=340,slow=38						
WRA	**Warramunga Arr**	**58.33**	**189**	P	**P**	**12 09 18.6**	**+2.4**
	0.2nm,0.7s,baz=7.2,slow=7.7,SNR=1.6						
PDAR	**Pinedale Array**	**76.47**	**46**	P	**P**	**12 11 10.2**	**-1.0**
	0.2nm,0.6s,baz=298,slow=7.9,SNR=2.7						
TXAR	**Lajitas Array**	**89.00**	**53**	P	**P**	**12 12 15.1**	**-1.2**
	0.2nm,0.6s,baz=250,slow=4.7,SNR=4.3						

*NEIC **15** 12:03:04.6±0.9, 21.65N±0.03×143.0E±0.1, h298km±6km, mb4.2/76, Error ellipse: s-maj=16.5km s-min=1.3km az=77.0*
*IDC **15** 12:03:05.6±1.5, 21.66N×143.04E, h307km±14km, mb3.7/22, mb1 3.9/26, mb1mx3.7/49, mbtmp4.4/26, Error ellipse: s-maj=14.2km s-min=8.3km az=85.0*
ISC 15 12:03:04.7±0.4, 21.67N±0.05×143.06E±0.09, h300km, n132, σ0s67/139, mb4.1/51, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.46**	**352**	P	**Pn**	**12 04 27.5**	**-0.1**
	76nm,0.3s,baz=300,slow=22,SNR=16						
JCJ				S	**S**	**12 05 31.1**	**-3.1**
	8.5nm,0.3s,baz=323,slow=23,SNR=1.4						
JCJ	**Chichijima**	**5.46**	**352**	Pn	**Pn**	**12 04 27.7**	**+0.2**
JCJ				S	**S**	**12 05 34.6**	**+0.4**
GUMO	**Guam**	**8.22**	**168**	P	**Pn**	**12 05 03.3**	**+2.1**
	7.4nm,0.3s,baz=188,slow=5.4,SNR=7.2						
GUMO	**Guam**	**8.22**	**168**	Pn	**Pn**	**12 05 01.0**	**-0.2**
JMN	**Monobe**	**14.49**	**328**	P	**P**	**12 06 16.4**	**+0.2**
INU	**Inuyama**	**14.62**	**340**		**P**	**12 06 18.1**	**+0.6**
JYT	**Yasato**	**14.72**	**351**	Pn	**Pn**	**12 06 20.1**	**+0.4**
JGF	**Kuroka**	**14.75**	**341**		**P**	**12 06 19.6**	**+0.6**
JSU	**Suzuyama**	**14.92**	**314**	P	**P**	**12 06 22.1**	**+1.1**
JWT	**Wachi**	**15.13**	**335**	Pn	**Pn**	**12 06 24.8**	**+0.1**
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**P**	**12 06 26.9**	**+0.7**
	0.2nm,0.3s,baz=171,slow=10,SNR=13						
MJAR	**Matsushiro Arr**	**15.41**	**345**		**P**	**12 06 27.1**	**+0.9**
MAJO	**Matsushiro**	**15.41**	**345**		**Pn**	**12 06 27.6**	**-0.3**
MAJO				IAmb	IAmb	12 06 50.2	
	comp=Z,16nm,1.2s						
MAT	**Matsushiro**	**15.41**	**345**	P	**P**	**12 06 26.7**	**+0.5**
MAT				*e*S	S	12 08 45.8	-28
JNU	**Nakatsue**	**15.70**	**319**	P	**Pn**	**12 06 31.6**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=116,slow=4.3,SNR=15						
JNU	**Nakatsue**	**15.70**	**319**	P	**Pn**	**12 06 31.3**	**-0.1**
JHS	**Saijyo**	**15.89**	**329**	P	**Pn**	**12 06 33.3**	**-0.3**
JMM	**Marumori**	**16.26**	**354**	P	**Pn**	**12 06 37.7**	**0.0**
JSD	**Sado**	**16.83**	**347**	P	**P**	**12 06 42.0**	**+0.4**
KSRS	**Korea Array**	**20.47**	**324**	P	**P**	**12 07 21.1**	**+0.8**
	comp=Z,12nm,0.7s,baz=147,slow=8.9,SNR=51						
KSAR	**Wonju Array Be**	**20.48**	**323**	P	**P**	**12 07 19.9**	**-0.6**
SSLB	**Suanglung**	**20.50**	**280**	P	**P**	**12 07 21.2**	**+0.3**
SSLB				IAmb	IAmb	12 07 21.5	
	comp=Z,29nm,1.2s						
KS19	**Wonju Array Si**	**20.53**	**324**	P	**P**	**12 07 21.1**	**+0.1**
KS19				IAmb	IAmb	12 07 21.9	
	comp=Z,18nm,0.8s						
TPUB	**Ta-pu**	**20.79**	**279**	P	**P**	**12 07 23.9**	**+0.2**
USA0B	**Ussuriysk Arra**	**24.27**	**340**	P	**P**	**12 07 55.8**	**+0.7**
USA0B				IAmb	IAmb	12 07 56.7	
	comp=Z,6.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**24.27**	**340**	P	**P**	**12 07 56.0**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=166,slow=9.9,SNR=9.3						
USRK	**Ussuriysk Ar.**	**24.27**	**340**	P	**P**	**12 07 56.1**	**+0.9**
COEN	**Coen**	**35.41**	**180**	P	**P**	**12 09 34.1**	**+1.1**
SBUM	**Sibu**	**35.56**	**242**	P	**P**	**12 09 35.0**	**+0.6**
SBUM				IAmb	IAmb	12 09 59.8	
	comp=Z,12nm,1.5s						
MTN	**Manton Dam**	**36.24**	**200**	P	**P**	**12 09 39.9**	**-0.2**
MTN				IAmb	IAmb	12 09 41.9	
	comp=Z,6.6nm,0.9s						
SLVN	**Son La**	**36.37**	**277**	P	**P**	**12 09 42.1**	**+0.9**
SONM	**Songino Array**	**39.29**	**321**	P	**P**	**12 10 05.6**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=134,slow=7.7,SNR=9.8						
SONM	**Songino Array**	**39.29**	**321**	P	**P**	**12 10 05.3**	**+0.1**
KNRA	**Kununurra**	**39.68**	**202**	P	**P**	**12 10 08.2**	**-0.3**
KNRA				IAmb	IAmb	12 10 09.5	
	comp=Z,12nm,1.1s						
YAK	**Yakutsk**	**41.37**	**350**	P	**P**	**12 10 20.6**	**-1.1**
	comp=Z,6.5nm,0.5s,baz=40,slow=1.0,SNR=2.0						
YAK	**Yakutsk**	**41.37**	**350**	P	**P**	**12 10 20.7**	**-1.1**
YAK				IAmb	IAmb	12 10 22.2	
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.46**	**274**	P	**P**	**12 10 23.7**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=78,slow=6.4,SNR=12						
CMAR	**Chiang Mai Arr**	**41.46**	**274**	P	**P**	**12 10 23.8**	**+0.6**
CTAO	**Charters Tower**	**41.62**	**175**	P	**P**	**12 10 24.1**	**-0.2**
CTAO				IAmb	IAmb	12 10 26.2	
	comp=Z,17nm,1.4s						
SEY	**Seymchan**	**41.72**	**6**	P	**P**	**12 10 25.0**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=174,slow=11,SNR=3.7						
WB0	**Warramunga Arr**	**42.05**	**192**	P	**P**	**12 10 25.9**	**-1.9**
WR0	**Warramunga Arr**	**42.21**	**192**	P	**P**	**12 10 28.7**	**-0.3**
WRAB	**Tennant Creek**	**42.22**	**192**	P	**P**	**12 10 29.0**	**-0.2**
WRAB				IAmb	IAmb	12 10 29.9	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**42.23**	**192**	P	**P**	**12 10 29.0**	**-0.2**
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**12 10 28.6**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=9.5,slow=7.9,SNR=119						
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**12 10 28.6**	**-0.6**
MYKOM	**Kota Tinggi**	**42.97**	**248**	P	**P**	**12 10 34.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**43.05**	**205**	P	**P**	**12 10 35.5**	**-0.2**
KULM	**Kulim**	**44.15**	**255**	P	**P**	**12 10 45.5**	**+0.8**
KULM				IAmb	IAmb	12 10 46.9	
	comp=Z,9.3nm,0.6s						
ATKA	**Atka Island**	**44.78**	**36**	P	**P**	**12 10 49.3**	**+0.3**
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**12 10 58.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=16,slow=12,SNR=14						
ASAR				S	**S**	**12 17 19.1**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=22,slow=18,SNR=5.9						
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**12 10 57.1**	**-1.3**
GSI	**Gunungsitoli**	**48.68**	**252**	P	**P**	**12 11 20.1**	**+0.4**
GSI				IAmb	IAmb	12 11 22.1	
	comp=Z,43nm,1.5s						
UNV	**Unalaska Valle**	**49.70**	**37**	P	**P**	**12 11 26.8**	**+0.1**
AKUT	**Akutan**	**50.20**	**37**	P	**P**	**12 11 30.9**	**+0.4**
STKA	**Stephens Creek**	**53.26**	**182**	P	**P**	**12 11 52.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=350,slow=8.6,SNR=8.4						
STKA	**Stephens Creek**	**53.26**	**182**	P	**P**	**12 11 53.2**	**+0.1**
CNBA	**Chernabura Isl**	**53.85**	**37**	P	**P**	**12 11 57.2**	**0.0**
FORT	**Forrest**	**54.10**	**196**	P	**P**	**12 11 58.3**	**-0.9**
FORT				IAmb	IAmb	12 12 00.2	
	comp=Z,8.6nm,0.8s						
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**12 11 59.2**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=101,slow=6.5,SNR=20						
ZALV				PcP	**PcP**	**12 12 59.4**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=122,slow=3.6,SNR=9.5						
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**12 11 59.4**	**0.0**
ZALV				PcP	**PcP**	**12 12 59.2**	**-0.6**
MK31	**Makanchi Array**	**54.63**	**313**	P	**P**	**12 12 02.6**	**-0.3**
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**12 12 03.5**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=90,slow=9.4,SNR=27						
MKAR				PcP	**PcP**	**12 13 02.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=85,slow=5.1,SNR=7.2						
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**12 12 02.6**	**-0.3**
MAKZ	**Makanchi**	**54.85**	**313**	P	**P**	**12 12 04.9**	**+0.4**
CHGN	**Chignik**	**54.86**	**36**	P	**P**	**12 12 04.3**	**-0.1**
KURK	**Kurchatov**	**57.42**	**317**	P	**P**	**12 12 22.1**	**-0.3**
KURK				IAmb	IAmb	12 12 23.3	
	comp=Z,7.3nm,0.8s						
SVW2	**Sparrevohn**	**57.48**	**30**	P	**P**	**12 12 22.7**	**-0.1**
SVW2				IAmb	IAmb	12 12 25.1	
	comp=Z,5.1nm,0.8s						
NRIK	**Noril'sk**	**57.98**	**340**	P	**P**	**12 12 26.1**	**0.0**
	comp=Z,3.7nm,0.6s,baz=107,slow=8.1,SNR=7.1						
BOOM	**Boomskoye usch**	**59.03**	**307**	P	**P**	**12 12 33.8**	**-0.2**
CNPM	**China Poot**	**59.27**	**33**	P	**P**	**12 12 35.0**	**-0.1**
PPLA	**Purkeypile**	**59.46**	**29**	P	**P**	**12 12 36.5**	**+0.1**
PPLA				IAmb	IAmb	12 12 37.0	
	comp=Z,9.5nm,1.4s						
BRLK	**Bradley Lake**	**59.49**	**32**	P	**P**	**12 12 36.1**	**-0.5**
BRLK				IAmb	IAmb	12 13 01.5	
	comp=Z,11nm,1.2s						
SUA	**Susitna One**	**59.84**	**31**	P	**P**	**12 12 39.3**	**+0.2**
BPAW	**Bear Paw Mtn.**	**60.24**	**28**	P	**P**	**12 12 42.4**	**+0.8**
TRF	**Thorofare Moun**	**60.42**	**28**	P	**P**	**12 12 43.3**	**+0.3**
TRF				IAmb	IAmb	12 12 44.6	
	comp=Z,4.6nm,0.8s						
PMR	**Palmer**	**60.63**	**31**	P	**P**	**12 12 44.0**	**-0.2**
PMR				IAmb	IAmb	12 12 52.1	
	comp=Z,16nm,1.4s						
GHO	**Glory Hole Cre**	**60.75**	**30**	P	**P**	**12 12 45.0**	**-0.2**
GLI	**Glacier Island**	**61.51**	**31**	P	**P**	**12 12 50.3**	**+0.2**
SCM	**Sheep Creek Mo**	**61.51**	**30**	P	**P**	**12 12 50.4**	**+0.2**
SCM				IAmb	IAmb	12 12 55.4	
	comp=Z,4.3nm,0.9s						
MDM	**Murphy Dome**	**61.58**	**27**	P	**P**	**12 12 50.9**	**+0.4**
CCB	**Clear Creek Bu**	**61.70**	**27**	P	**P**	**12 12 50.9**	**-0.4**
TOLK	**Toolik Lake Re**	**61.79**	**23**	P	**P**	**12 12 52.8**	**+0.9**
TOLK				IAmb	IAmb	12 12 53.8	
	comp=Z,4.5nm,0.6s						
FID	**Port Fidalgo**	**61.80**	**32**	P	**P**	**12 12 51.9**	**-0.1**
IL31		**62.11**	**27**	P	**P**	**12 12 53.2**	**-0.8**
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**12 12 53.5**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=257,slow=5.3,SNR=31						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**12 12 53.0**	**-1.0**
KLU	**Klutina**	**62.14**	**31**	P	**P**	**12 12 54.3**	**0.0**
KLU				IAmb	IAmb	12 12 57.1	
	comp=Z,5.6nm,1.0s						
BRVK	**Borovoye**	**62.68**	**320**	P	**P**	**12 12 58.3**	**+0.4**
BRVK				IAmb	IAmb	12 12 59.2	
	comp=Z,10nm,0.8s						
RIDG	**Independent Ri**	**62.87**	**28**	P	**P**	**12 12 59.2**	**+0.2**
RIDG				IAmb	IAmb	12 13 00.1	
	comp=Z,3.9nm,0.8s						
KK31	**Karatay Array**	**62.98**	**308**	P	**P**	**12 13 00.1**	**0.0**
KK31				IAmb	IAmb	12 13 01.6	
	comp=Z,7.4nm,0.9s						
KKAR	**Karatay Array**	**62.98**	**308**	P	**P**	**12 13 00.3**	**+0.1**
KKAR				IAmb	IAmb	12 13 01.6	
	comp=Z,7.4nm,0.9s						
KKAR	**Karatay Array**	**62.98**	**308**	P	**P**	**12 13 00.7**	**+0.5**
DOT	**Dot Lake**	**63.21**	**29**	P	**P**	**12 13 01.4**	**+0.2**
CHGR	**Chuyangaron**	**64.51**	**304**	P	**P**	**12 13 10.5**	**+0.2**
EGAK	**Eagle**	**64.56**	**27**	P	**P**	**12 13 10.3**	**+0.4**
INK	**Inuvik**	**67.64**	**24**	P	**P**	**12 13 29.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=319,slow=3.0,SNR=6.0						
INK	**Inuvik**	**67.64**	**24**	P	**P**	**12 13 29.5**	**+0.2**
INK				IAmb	IAmb	12 13 30.0	
	comp=Z,4.7nm,0.9s						
ARU	**Arti**	**69.22**	**324**	P	**P**	**12 13 38.9**	**-0.4**
ARU				IAmb	IAmb	12 13 40.1	
	comp=Z,14nm,1.2s						
ABKAR	**Akbulak array**	**69.49**	**316**	P	**P**	**12 13 41.4**	**+0.3**
ABKAR	**Akbulak array**	**69.49**	**316**	P	**P**	**12 13 40.8**	**-0.3**
ABKAR				IAmb	IAmb	12 13 41.9	
	comp=Z,12nm,0.6s						
C36M	**Palautuk**	**70.93**	**22**	P	**P**	**12 13 49.3**	**-0.1**
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**12 14 22.0**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=293,slow=5.4,SNR=5.3						
RES	**Resolute Bay**	**77.13**	**13**	P	**P**	**12 14 24.9**	**0.0**
RES				IAmb	IAmb	12 14 25.7	
	comp=Z,6.5nm,1.0s						
KEV	**Kevo**	**78.35**	**341**	P	**P**	**12 14 31.6**	**-0.1**
ARCES	**ARCESS Array B**	**78.91**	**341**	P	**P**	**12 14 35.2**	**+0.4**
	comp=Z,11nm,0.6s,baz=72,slow=8.6,SNR=43						
B08A	**Colville Reser**	**78.96**	**42**	P	**P**	**12 14 35.8**	**+0.2**
B08A				IAmb	IAmb	12 14 37.9	
	comp=Z,2.6nm,0.9s						
J08A	**Circle Bar Ran**	**81.30**	**47**	P	**P**	**12 14 48.9**	**+0.7**
J08A				IAmb	IAmb	12 14 50.1	
	comp=Z,4.0nm,0.9s						
BMO	**

IDC ***15*** *12:33:01.6±0.6,81˚.63N×119˚.46E,h0km,mb3.9/21, mb1 4.1/21,mb1mx3.9/61,mbtmp3.9/21,MS3.6/21, Ms1 3.6/21,ms1mx3.5/52,Error ellipse: s-maj=19.1km s-min=12.9km az=156.0*

MOS ***15*** *12:33:03.0±1.1,81˚.75N×118˚.45E,h14km,mb4.6/20,Error ellipse: s-maj=45.3km s-min=8.1km az=87.4*

NEIC ***15*** *12:33:04.0±1.9,81˚.67N±0˚.06×118˚.9E±0˚.3,h10km±1km, mb4.5/48,Error ellipse: s-maj=13.0km s-min=4.8km az=323.0*

ISC 15 12:33:04.0±0.4,81˚.86N±0˚.05×118˚.04E±0˚.05,h10km,n148, σ1ᵍ51/140,mb4.5/60,MS3.5/20,5C-6D,East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**10.07**	**300**	*iP*		**Pn**	**12 35 28.8**	**+0.5**
	17nm,0.6s							
ZFI2				*eS*		**Sn**	**12 37 16.9**	**-4.1**
ZFI	**Zemlya Franca-**	**10.07**	**300**	*eP*		**Pn**	**12 35 29.4**	**+1.1**
ZFI				*eS*		**Sn**	**12 37 18.4**	**-2.7**
TIXI	**Tiksi**	**10.53**	**161**	*eP*		**Pn**	**12 35 35.9**	**+1.3**
TIXI	**Tiksi**	**10.53**	**161**	Pn		Pn	12 35 28.6	-6.0
TIXI				Sn		**Sn**	**12 37 33.8**	**+1.5**
NRIK	**Noril'sk**	**14.31**	**227**	Pn		Pn	12 36 20.6	-5.8
	1.4nm,0.3s,baz=31,slow=11,SNR=30							
NRIK				Sn		Sn	12 38 48.3	-17
	0.3nm,0.3s,baz=214,slow=17,SNR=1.4							
NRIK				LR		LR	12 42 15.8	
	comp=Z,369nm,19.9s,baz=18,slow=39							
NRIK	**Noril'sk**	**14.31**	**227**	*deP*		Pn	12 36 21.7	-4.6
NRIK				pmax		pmax		
	comp=Z,33nm,0.8s							
KBS	**Kingsbay**	**15.53**	**316**	*eP*		**Pn**	**12 36 42.4**	**-0.2**
KBS	**Kingsbay**	**15.53**	**316**	Pn		**Pn**	**12 36 42.6**	**0.0**
KBS				IAmb		IAmb	12 36 59.3	
	comp=Z,30nm,1.2s							
KBS				Sn		**Sn**	**12 39 34.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**15.73**	**312**	*eP*		**Pn**	**12 36 45.3**	**+0.2**
SPA0				*eS*		**Sn**	**12 39 33.0**	**-6.0**
SPA0	**Spitsbergen Ar**	**15.73**	**312**	Pn		**Pn**	**12 36 45.6**	**+0.5**
SPA0				IAmb		IAmb	12 36 51.9	
	comp=Z,33nm,1.2s							
SPA0				Sn		**Sn**	**12 39 39.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**15.73**	**312**	Pn		**Pn**	**12 36 43.8**	**-1.3**
	baz=45,slow=11,SNR=17							
HOPEN	**Hopen**	**16.19**	**303**	*eP*		**Pn**	**12 36 53.0**	**+2.0**
AMDE	**Amderma**	**17.18**	**259**	P		**Pn**	**12 37 04.8**	**+1.2**
	comp=Z,23nm,1.1s							
BILL	**Bilibino**	**17.67**	**112**	*eP*		**Pn**	**12 37 09.3**	**-0.4**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.0s							
EUNU	**Eureka**	**17.80**	**14**			**P**	**12 37 11.9**	**-0.1**
DAG	**Danmarks Havn**	**20.07**	**333**	*i* P		Pn	12 37 39.5	+0.9
DAG				*i*			12 37 49.1	
DAG				pmax		pmax		
	comp=Z,5.0nm,0.9s							
DAG	**Danmarks Havn**	**20.07**	**333**	*i* P		Pn	12 37 39.5	+0.9
	comp=Z,4.6nm,0.9s							
DAG				*i*			12 37 49.1	
DAG	**Danmarks Havn**	**20.07**	**333**	*i* P		Pn	12 37 39.5	+0.9
DAG				IAmb		IAmb	12 37 41.0	
	comp=Z,4.6nm,0.9s							
DAG				*i*			12 37 49.2	
YAK	**Yakutsk**	**20.16**	**164**	LR		LR	12 45 06.1	
	comp=Z,119nm,19.7s,baz=354,slow=36							
YAK	**Yakutsk**	**20.16**	**164**	*eP*		Pn	12 37 38.8	-1.1
YAK				pmax		pmax		
	comp=Z,19nm,1.4s							
YAK				pmax		pmax		
	comp=N,11nm,1.5s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.5s							
SEY	**Seymchan**	**20.93**	**134**	P		**P**	**12 37 41.9**	**-4.5**
	comp=E,2.2nm,0.9s,baz=119,slow=23,SNR=1.9							
SEY	**Seymchan**	**20.93**	**134**	*eP*		Pn	12 37 47.4	-1.5
TULEG	**Thule**	**21.71**	**4**	P		**P**	**12 37 55.2**	**+0.7**
KEV	**Kevo**	**22.03**	**292**	P		**P**	**12 37 59.5**	**+1.5**
KEV				pmax		pmax		
	comp=Z,52nm,1.4s							
KEV	**Kevo**	**22.03**	**292**	P		**P**	**12 37 59.5**	**+1.5**
ARD9	**ARCESS Array S**	**22.43**	**293**	P		**P**	**12 38 04.0**	**+1.8**
ARCES	**ARCESS Array B**	**22.43**	**293**	P		**P**	**12 38 04.0**	**+1.7**
	comp=Z,5.2nm,0.7s,baz=26,slow=10,SNR=24							
ARCES				LR		LR	12 46 43.2	
	comp=Z,117nm,19.2s,baz=5.0,slow=36							
RES	**Resolute Bay**	**22.72**	**22**	LR		LR	12 46 11.6	
	comp=Z,105nm,19.2s,baz=15,slow=35							
LVZ	**Lovozero**	**22.72**	**283**	P		**P**	**12 38 06.5**	**+1.0**
LVZ				pmax		pmax		
	comp=Z,77nm,1.3s							
LVZ	**Lovozero**	**22.72**	**283**	P		**P**	**12 38 06.5**	**+1.0**
TOLK	**Toolik Lake Re**	**23.25**	**68**	P		**P**	**12 38 11.2**	**+0.2**
TOLK				IAmb		IAmb	12 38 32.2	
	comp=Z,30nm,1.4s							
LSH	**Leshukonskoye**	**24.00**	**270**	*eP*		**P**	**12 38 19.2**	**+1.0**
	comp=Z,39nm,1.1s							
MA2	**Magadan**	**24.07**	**138**	*eP*		**P**	**12 38 19.5**	**+0.6**
MA2				pmax		pmax		
	comp=Z,13nm,1.1s							
BOD	**Bodaibo**	**24.19**	**185**	*eP*		**P**	**12 38 15.8**	**-4.2**
BOD				pmax		pmax		
	comp=Z,16nm,1.9s							
COLD	**Coldfoot**	**24.49**	**70**	P		**P**	**12 38 21.9**	**-0.9**
COLD				IAmb		IAmb	12 38 43.9	
	comp=Z,7.7nm,0.7s							
BMAR	**Burnt Mountain**	**25.04**	**65**	P		**P**	**12 38 26.9**	**-0.9**
IMAR	**Indian Mountai**	**25.19**	**74**	P		**P**	**12 38 27.5**	**-1.6**
INK	**Inuvik**	**25.57**	**55**	P		**P**	**12 38 31.3**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=357,slow=8.0,SNR=4.0							
INK				LR		LR	12 49 15.0	
	comp=Z,129nm,18.7s,baz=354,slow=38							
INK	**Inuvik**	**25.57**	**55**	P		**P**	**12 38 32.0**	**-0.4**
INK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
INK	**Inuvik**	**25.57**	**55**	P		**P**	**12 38 32.0**	**-0.4**
INK				IAmb		IAmb	12 38 54.8	
	comp=Z,10nm,0.8s							
C36M	**Paulatuk**	**25.61**	**47**	P		**P**	**12 38 33.0**	**+0.2**
FYU	**Fort Yukon**	**25.78**	**66**	P		**P**	**12 38 34.5**	**+0.1**
MDM	**Murphy Dome**	**26.91**	**70**	P		**P**	**12 38 45.2**	**+0.5**
COLA	**College**	**27.04**	**70**	*eP*		**P**	**12 38 47.9**	**+2.1**
COLA				pmax		pmax		
	comp=Z,12nm,2.7s							
PRGR	**Permogore**	**27.10**	**268**	*eP*		**P**	**12 38 46.5**	**+0.2**
PRGR				pmax		pmax		
	comp=Z,17nm,0.8s							
CCB	**Clear Creek Bu**	**27.26**	**70**	P		**P**	**12 38 48.2**	**+0.5**
CCB				IAmb		IAmb	12 38 50.0	
	comp=Z,11nm,1.4s							
IL31		**27.27**	**69**	P		**P**	**12 38 48.4**	**+0.6**
ILAR	**Eielson Array**	**27.27**	**69**	P		**P**	**12 38 46.6**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=339,slow=9.7,SNR=15							
ILAR				LR		LR	12 49 59.9	
	comp=Z,94nm,19.4s,baz=358,slow=38							
ILAR	**Eielson Array**	**27.27**	**69**	P		**P**	**12 38 48.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**27.36**	**73**	P		**P**	**12 38 47.5**	**-1.2**
WRH	**Wood River Hil**	**27.39**	**70**	P		**P**	**12 38 49.2**	**+0.2**
HDA	**Harding Lake**	**27.61**	**69**	P		**P**	**12 38 52.7**	**+1.8**
HDA				IAmb		IAmb	12 39 03.9	
	comp=Z,8.1nm,0.9s							
TTA	**Tatalina**	**27.78**	**78**	P		**P**	**12 38 52.7**	**+0.2**
TTA				pmax		pmax		
	comp=Z,4.0nm,1.4s							
TTA	**Tatalina**	**27.78**	**78**	P		**P**	**12 38 52.7**	**+0.2**
TRF	**Thorofare Moun**	**28.07**	**73**	P		**P**	**12 38 55.3**	**0.0**
TRF				IAmb		IAmb	12 39 03.4	
	comp=Z,13nm,1.4s							
PPLA	**Purkeypile**	**28.34**	**75**	P		**P**	**12 38 56.9**	**-0.8**
PPLA				IAmb		IAmb	12 39 07.7	
	comp=Z,9.3nm,1.0s							
ZEA	**Zeya**	**28.38**	**168**	*eP*		P	12 39 04.1	+6.2
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
DOT	**Dot Lake**	**28.71**	**67**	P		**P**	**12 39 02.3**	**+1.5**
KLMR	**Klimovskoe**	**28.72**	**273**	*eP*		**P**	**12 39 00.2**	**-0.6**
KLMR	**Klimovskoe**	**28.72**	**273**	*eP*		**P**	**12 39 00.8**	**0.0**
KLMR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KLMR	**Klimovskoe**	**28.72**	**273**	*eP*		**P**	**12 39 00.9**	**+0.1**
KLMR				AMP			12 39 19.6	
	comp=Z,9.0nm,1.0s							
PAX	**Paxson**	**29.18**	**69**	P		**P**	**12 39 04.7**	**-0.3**
PAX				pmax		pmax		
	comp=Z,6.0nm,0.8s							
PAX	**Paxson**	**29.18**	**69**	P		**P**	**12 39 04.7**	**-0.3**
PAX				IAmb		IAmb	12 39 10.6	
	comp=Z,6.1nm,0.8s							
KIRV	**Kirov**	**29.50**	**262**	LR		LR	12 52 15.3	
	comp=Z,119nm,21.2s,baz=22,slow=39							
KIRV	**Kirov**	**29.50**	**262**	*eP*		**P**	**12 39 07.4**	**-0.3**
BCAR	**Beaver Creek A**	**29.57**	**65**	P		**P**	**12 39 07.8**	**-0.6**
ZALV	**Zalesovo Beam**	**29.68**	**221**	P		**P**	**12 39 07.3**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=20,slow=4.7,SNR=1.3							
ZALV				LR		LR	12 51 42.2	
	comp=Z,136nm,20.8s,baz=14,slow=38							
ZALV	**Zalesovo Beam**	**29.68**	**221**	P		**P**	**12 39 08.6**	**-0.7**
ZALV	**Zalesovo Beam**	**29.68**	**221**	P		**P**	**12 39 08.6**	**-0.7**
GHO	**Glory Hole Cre**	**29.87**	**72**	P		**P**	**12 39 11.9**	**+0.9**
GHO				IAmb		IAmb	12 39 19.0	
	comp=Z,5.4nm,0.7s							
SUA	**Susitna One**	**29.92**	**74**	P		**P**	**12 39 10.5**	**-1.0**
SUA				IAmb		IAmb	12 39 25.0	
	comp=Z,6.5nm,1.1s							
FINES	**FINESS Array B**	**30.04**	**286**	LR		LR	12 52 56.6	
	comp=Z,114nm,19.9s,baz=2.5,slow=39							
KNK	**Knik Glacier**	**30.28**	**72**	P		**P**	**12 39 15.1**	**+0.5**
KLU	**Klutina**	**30.54**	**70**	P		**P**	**12 39 17.6**	**+0.6**
KLU				IAmb		IAmb	12 39 25.5	
	comp=Z,7.6nm,0.7s							
PETK	**Petropavlovsk-**	**31.15**	**132**	LR		LR	12 51 40.9	
	comp=Z,126nm,18.6s,baz=4.6,slow=36							
BRVK	**Borovoye**	**32.11**	**237**	*eP*		**P**	**12 39 31.2**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.5s							
HYT	**Haines Junctio**	**32.28**	**63**	P		**P**	**12 39 32.6**	**+0.2**
HYT				IAmb		IAmb	12 39 42.9	
	comp=Z,7.7nm,0.8s							
NOA	**NORSAR Array B**	**32.37**	**300**	P		**P**	**12 39 33.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=31,slow=8.8,SNR=1.5							
NOA				LR		LR	12 53 03.3	
	comp=Z,52nm,19.2s,baz=265,slow=37							
NOA	**NORSAR Array B**	**32.37**	**300**	P		**P**	**12 39 33.0**	**-0.1**
YKA	**Yellowknife Ar**	**33.23**	**42**	LR		LR	12 53 24.3	
	comp=Z,98nm,19.4s,baz=0.0,slow=37							
DGZ	**Jazzator, Alta**	**33.65**	**217**	*eP*		**P**	**12 39 45.1**	**+0.6**
DGZ				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**34.36**	**194**	P		**P**	**12 39 48.3**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=357,slow=7.6,SNR=4.2							
SONM				PcP		**PcP**	**12 42 24.2**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=349,slow=2.9,SNR=2.0							
SONM	**Songino Array**	**34.36**	**194**	IAmb		IAmb	12 39 57.9	
	comp=Z,1.4nm,1.0s							
OBN	**Obninsk**	**34.69**	**273**	*eP*		**P**	**12 39 55.3**	**+2.1**
OBN				*e*			12 41 09.8	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BRZS	**Berezniki**	**34.86**	**233**	*eP*		**P**	**12 39 54.0**	**-0.8**
BRZS	**Berezniki**	**34.86**	**233**	*eP*		**P**	**12 39 53.9**	**-0.8**
ZSN	**Zaisan**	**36.11**	**219**	*eP*		**P**	**12 40 05.3**	**-0.2**
ZSN	**Zaisan**	**36.11**	**219**	*eP*		**P**	**12 40 05.3**	**-0.2**
SIT	**Sitka**	**36.23**	**62**	P		**P**	**12 40 06.0**	**-0.4**
SIT				pmax		pmax		
	comp=Z,111nm,1.4s							
SIT	**Sitka**	**36.23**	**62**	P		**P**	**12 40 06.0**	**-0.4**
AKTO	**Aktyubinsk**	**36.25**	**250**	P		**P**	**12 40 07.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=10,SNR=1.9							
MK31	**Makanchi Array**	**37.00**	**222**	*eP*		**P**	**12 40 13.0**	**-0.1**
MKAR	**Makanchi Array**	**37.00**	**222**	P		**P**	**12 40 11.7**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=19,slow=7.7,SNR=6.7							
MKAR				PP		**PP**	**12 41 34.5**	**-2.7**
	comp=Z,0.9nm,0.8s,baz=9.8,slow=7.9,SNR=3.7							
MKAR				PcP		**PcP**	**12 42 31.5**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=38,slow=5.4,SNR=2.5							
MKAR				LR		LR	12 56 15.5	
	comp=Z,136nm,20.1s,baz=5.5,slow=38							
MKAR	**Makanchi Array**	**37.00**	**222**	P		**P**	**12 40 13.3**	**+0.1**
MAKZ	**Makanchi**	**37.01**	**222**	P		**P**	**12 40 14.1**	**+0.8**
MAKZ				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MAKZ	**Makanchi**	**37.01**	**222**	P		**P**	**12 40 14.1**	**+0.8**
ABKAR	**Akbulak array**	**37.15**	**247**	P		**P**	**12 40 15.1**	**+0.7**
ABKAR	**Akbulak array**	**37.15**	**247**	P		**P**	**12 40 14.1**	**-0.2**
WMQ	**Urumqi**	**39.47**	**215**	*eP*		**P**	**12 40 36.4**	**+2.4**
BTLS	**Baital**	**39.58**	**231**	*eP*		**P**	**12 40 33.7**	**-1.2**
BTLS	**Baital**	**39.58**	**231**	*eP*		**P**	**12 40 33.6**	**-1.2**
AKASG	**Malin Array Be**	**40.03**	**279**	P		**P**	**12 40 39.8**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=15,slow=9.3,SNR=2.5							
AKASG				LR		LR	12 59 07.2	
	comp=Z,112nm,21.0s,baz=345,slow=39							
ERM	**Erimo**	**40.87**	**151**	*eP*		**P**	**12 40 46.4**	**+0.9**
ERM				pmax		pmax		
	comp=Z,80nm,1.7s							
ERM	**Erimo**	**40.87**	**151**	P		**P**	**12 40 46.0**	**+0.5**
SHLS	**Shalkode**	**40.88**	**224**	*eP*		**P**	**12 40 45.9**	**+0.2**
SHLS	**Shalkode**	**40.88**	**224**	*eP*		**P**	**12 40 45.9**	**+0.2**
UZB	**Uzynbulak**	**40.93**	**225**	*eP*		**P**	**12 40 46.7**	**+0.4**
UZB	**Uzynbulak**	**40.93**	**225**	*eP*		**P**	**12 40 46.6**	**+0.4**
KK31	**Karatay Array**	**41.89**	**234**	P		**P**	**12 40 54.6**	**+0.6**
KK31				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KK31	**Karatay Array**	**41.89**	**234**	P		**P**	**12 40 54.6**	**+0.6**
KKAR	**Karatay Array**	**41.89**	**234**	P		**P**	**12 40 54.5**	**+0.5**
KKAR	**Karatay Array**	**41.89**	**234**	P		**P**	**12 40 54.5**	**+0.5**
GTA	**Gaotai**	**43.05**	**201**	*eP*		**P**	**12 41 00.8**	**-2.7**
GTA				pP		pP	12 41 04.8	-1.0
GTA				sP		sP	12 41 07.8	+1.1
GTA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ANN	**Anapa**	**44.63**	**269**	*eP*		**P**	**12 41 12.5**	**-3.5**
ANN				*e**PP		**pP**	**12 41 17.5**	**-0.6**
ANN				*e*			12 42 54.2	
ANN				*eS*		**S**	**12 47 48.9**	**-2.7**
ANN				*eSS*		**SS**	**12 51 10.9**	**-0.2**
ANN				pmax		pmax		
	comp=Z,32nm,1.1s							
KSRS	**Korea Array**	**44.67**	**169**	LR		LR	13 00 37.4	
	comp=Z,62nm,18.9s,baz=100,slow=37							
KIV	**Kislovodsk**	**44.71**	**263**	*eP*		**P**	**12 41 19.8**	**+3.0**
KIV				pmax		pmax		
	comp=Z,27nm,1.1s							
KIV	**Kislovodsk**	**44.71**	**263**	P		**P**	**12 41 18.8**	**+2.0**
KIV				IAmb		IAmb	12 41 20.7	
	comp=Z,6.6nm,0.7s							
BTK	**Batken**	**44.86**	**233**	P		**P**	**12 41 18.5**	**+0.5**
BTK				pmax		pmax		
	comp=Z,9.0nm,1.3s							
BTK	**Batken**	**44.86**	**233**	P		**P**	**12 41 18.5**	**+0.5**
BTK				IAmb		IAmb	12 41 28.5	
	comp=Z,8.9nm,1.2s							
KBZ	**Khabaz**	**44.91**	**263**	P		**P**	**12 41 20.2**	**+2.1**
	comp=Z,2.2nm,0.9s,baz=36,slow=4.5,SNR=3.7							
KBZ				LR		LR	13 02 39.4	
	comp=Z,116nm,19.0s,baz=28,slow=39							
LZH	**Lanzhou**	**46.18**	**196**	*eP*		**P**	**12 41 29.5**	**+0.9**
LZH				pP		pwP	12 41 34.3	-0.1
LZH				sP		sP	12 41 37.3	+5.5
LZH				PP		**PcP**	**12 43 10.6**	**+6.4**
LZH				pmax		pmax		
	comp=Z,19nm,1.1s							
LZH				pmax		pmax		
	comp=Z,64nm,5.4s							
NEW	**Newport**	**47.00**	**49**	P		**P**	**12 41 34.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=287,slow=8.4,SNR=2.4							
NEW	**Newport**	**47.00**	**49**	P		**P**	**12 41 34.7**	**-0.1**
NEW				pmax		pmax		
	comp=Z,4.0nm,0.8s							
NEW	**Newport**	**47.00**	**49**	IAmb		IAmb	12 41 44.6	
	comp=Z,4.2nm,0.8s							
GEYT	**Alibeck**	**48.52**	**246**	LR		LR	13 03 02.0	
	comp=Z,95nm,20.7s,baz=5.0,slow=37							
NJ2	**Nanjing**	**49.93**	**179**	*eP*		**P**	**12 41 57.6**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BRTR	**Keskin Array B**	**50.15**	**271**	P		**P**	**12 42 01.6**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=357,slow=2.9,SNR=3.3							
BRTR				LR		LR	13 05 44.7	
	comp=Z,48nm,20.0s,baz=344,slow=39							
BMO	**Blue Mountains**	**50.35**	**49**	P		**P**	**12 42 00.9**	**+0.3**
BMO				pmax		pmax		
	comp=Z,6.0nm,1.0s							
BMO	**Blue Mountains**	**50.35**	**49**	P		**P**	**12 42 00.9**	**+0.3**
BMO				IAmb		IAmb	12 42 10.7	
	comp=Z,5.5nm,1.0s							
NIL	**Nilore**	**50.93**	**229**	P		**P**	**12 42 05.5**	**+0.5**
NIL				pmax		pmax		
	comp=Z,7.0nm,0.9s							
NIL	**Nilore**	**50.93**	**229**	P		**P**	**12 42 05.5**	**+0.5**
NIL				IAmb		IAmb	12 42 14.9	
	comp=Z,6.7nm,0.8s							
MFID	**Camas Ranch**	**51.93**	**48**	P		**P**	**12 42 11.6**	**-0.9**
MFID				IAmb		IAmb	12 42 22.2	
	comp=Z,4.6nm,0.8s							
PDAR	**Pinedale Array**	**53.21**	**43**	P		**P**	**12 42 20.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=23,slow=2.9,SNR=2.7							
PDAR				LR		LR	13 04 21.8	
	comp=Z,69nm,21.6s,baz=342,slow=35							
ESDC	**Sonseca Array**	**55.17**	**307**	P		**P**	**12 42 38.9**	**+2.6**
	comp=Z,0.8nm,0.8s,baz=339,slow=14,SNR=4.3							
P17A	**Butcher Ranch,**	**56.36**	**44**	P		**P**	**12 42 45.0**	**+0.1**
SPR3	**Spring Creek 3**	**56.46**	**48**	P		**P**	**12 42 46.7**	**+0.9**
SPR3				IAmb		IAmb	12 42 56.8	
	comp=Z,10.0nm,1.5s							
NVAR	**Mina Array Bea**	**56.59**	**52**	P		**P**	**12 42 46.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=318,slow=2.6,SNR=2.4							
PV13	**Radium Mtn., P**	**57.85**	**43**	P		**P**	**12 42 55.3**	**-0.3**
PV13				IAmb		IAmb	12 43 05.3	
	comp=Z,6.2nm,1.1s							
WMOK	**Wichita Mounta**	**62.13**	**34**	P		**P**	**12 43 24.2**	**-0.5**
WMOK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
WMOK	**Wichita Mounta**	**62.13**	**34**	P		**P**	**12 43 24.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**63.94**	**200**	P		**P**	**12 43 35.1**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=0.6,slow=5.6,SNR=4.7							
CMAR	**Chiang Mai Arr**	**63.94**	**200**	*eP*		**P**	**12 43 36.5**	**-0.3**
TXAR	**Lajitas Array**	**67.08**	**39**	P		**P**	**12 43 55.8**	**-1.3**
	comp=Z,3.1nm,1.0s,baz=338,slow=4.5,SNR=19							
TXAR				LR		LR	13 13 41.7	
	comp=Z,37nm,18.7s,baz=0.0,slow=36							
KOWA	**Kowa**	**80.04**	**304**	P		**P**	**12 45 13.5**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=58,slow=9.5,SNR=1.8							
KOWA	**Kowa**	**80.04**	**304**	IAmb		IAmb	12 45 19.1	
	comp=Z,7.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**80.67**	**298**	P		**P**	**12 45 17.6**	**+0.8**
	comp=Z,5.8nm,0.8s,baz=7.1,slow=5.2,SNR=32							
KRVT	**Keravat (AS076**	**87.48**	**146**	LR		LR	13 21 53.3	
	comp=Z,165nm,21.7s,baz=206,slow=34							
DBIC	**Dimbokro**	**87.86**	**303**	P		**P**	**12 45 52.3**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=355,slow=11,SNR=1.5							

IDC ***15*** *12:43:58.2±2.9,36˚.43S×177˚.25E,h260km±15km,mb3.2/3, mb1 3.4/3,mb1mx3.1/22,mbtmp3.8/3,Error ellipse: s-maj=58.2km s-min=24.0km az=44.0*

WEL ***15*** *12:44:04.6±0.9,37˚.S±17˚.7E±˚,h257km±7km,M3.2/56, MLv3.2/56,Error ellipse: s-maj=0.0km s-min=0.0km az=19.6*

ISC 15 12:44:02.0±1.0,36˚.94S±0˚.07×176˚.89E±0˚.07,h280km±7km, n117,σ1ᵍ02/125,mb3.3/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TGRZ	**Tauranga**	**0.94**	**212**	P		**Pn**	**12 44 40.9**	**+1.1**
OPRZ	**Ohinepanea**	**0.95**	**196**	P		**Pn**	**12 44 40.4**	**+0.6**
KUZ	**Kuaotunu**	**0.95**	**281**	P		**Pn**	**12 44 39.5**	**-0.4**
MARZ	**Manawahe**	**1.06**	**189**	P		**Pn**	**12 44 41.3**	**+0.8**
HAZ	**Te Kaha**	**1.09**	**139**	P		**Pn**	**12 44 40.2**	**-0.3**
HAZ				S		**S**	**12 45 08.8**	**-2.4**
KARZ	**Kaharoa**	**1.20**	**205**	P		**Pn**	**12 44 42.5**	**+1.3**
RUGZ	**Raukumara Rang**	**1.21**	**149**	P		**Pn**	**12 44 40.9**	**-0.5**
RUGZ				S		**S**	**12 45 09.8**	**-2.9**
OMRZ	**Omania**	**1.24**	**199**	P		**Pn**	**12 44 42.5**	**+1.0**
MXZ	**Matakaoa Point**	**1.29**	**119**	P		**Pn**	**12 44 41.6**	**-0.1**
MXZ				S		**S**	**12 45 11.6**	**-1.7**
TARZ	**Mount Tarawera**	**1.33**	**193**	P		**Pn**	**12 44 43.4**	**+1.3**
URZ	**Urewera**	**1.33**	**172**	P		**Pn**	**12 44 41.9**	**-0.1**
	9.5nm,0.3s,baz=252,slow=3.9,SNR=108							
URZ				S		**S**	**12 45 13.0**	**-0.8**
	9.0nm,0.3s,baz=273,slow=4.7,SNR=16							
URZ	**Urewera**	**1.33**	**172**	P		**Pn**	**12 44 41.9**	**-0.1**
URZ				S		**S**	**12 45 13.0**	**-0.8**
PKGZ	**Pakihiroa**	**1.34**	**136**	P		**Pn**	**12 44 42.5**	**+0.4**
TOZ	**Tahuroa Road**	**1.36**	**234**	P		**Pn**	**12 44 43.4**	**+1.2**
WIAZ	**Waiheke Island**	**1.41**	**275**	P		**Pn**	**12 44 43.0**	**+0.4**
RRRZ	**Republican Roa**	**

MSWZ	**Moikau Station**	**4.65**	**195**	P	**Pn**	**12 45 13.7**	**-0.9**
TCW	**Tory Channel**	**4.73**	**205**	P	**Pn**	**12 45 14.7**	**-0.7**
BHW	**Baring Head**	**4.73**	**199**	P	**Pn**	**12 45 14.8**	**-0.7**
PLWZ	**Palliser**	**4.80**	**195**	P	**Pn**	**12 45 15.8**	**-0.5**
TUWZ	**Tuamarina**	**5.04**	**206**	P	**Pn**	**12 45 18.0**	**-1.0**
NNZ	**Nelson**	**5.07**	**211**	P	**Pn**	**12 45 18.2**	**-1.3**
QRZ	**Quartz Range**	**5.16**	**220**	P	**Pn**	**12 45 19.0**	**-1.6**
BSWZ	**Blackbirch Sta**	**5.31**	**205**	P	**Pn**	**12 45 22.0**	**-0.4**
THZ	**Tophouse**	**5.72**	**211**	P	**Pn**	**12 45 26.9**	**-0.5**
KHZ	**Kahutara**	**6.05**	**204**	P	**Pn**	**12 45 30.7**	**-0.5**
DSZ	**Denniston Nort**	**6.21**	**218**	P	**Pn**	**12 45 32.4**	**-0.8**
GVZ	**Greta Valley S**	**6.71**	**205**	P	**Pn**	**12 45 38.7**	**-0.6**
LTZ	**Lake Taylor**	**6.83**	**210**	P	**Pn**	**12 45 39.3**	**-1.6**
INZ	**Inchbonnie**	**7.14**	**214**	P	**Pn**	**12 45 43.1**	**-1.5**
OKCZ	**Okains Bay**	**7.38**	**202**	P	**Pn**	**12 45 47.2**	**-0.5**
OXZ	**Oxford**	**7.38**	**209**	P	**Pn**	**12 45 45.9**	**-1.7**
MQZ	**McQueen's Vall**	**7.50**	**204**	P	Pn	12 45 47.1	-1.9
ASAR	**Alice Springs**	**39.08**	**277**	P	**P**	**12 51 02.4**	**-0.2**
	1.0nm,0.6s,baz=120,slow=8.1,SNR=27						
WRA	**Warramunga Arr**	**40.70**	**283**	P	**P**	12 51 15.2	-0.6
	0.7nm,0.4s,baz=120,slow=7.8,SNR=21						
QSPA	**South Pole Qui**	**53.19**	**180**	P	**P**	**12 52 53.2**	**+1.8**
	0.4nm,0.4s,baz=14,slow=16,SNR=5.1						
FINES	**FINESS Array B**	**149.41**	**333**	PKPbc	**PKPdf**	**13 03 13.6**	**+1.4**
	0.9nm,0.6s,baz=126,slow=7.1,SNR=1.1						

*SKHL **15** 13:00:23.7±0.6, 43°.92N×149°.45E, h36km±5km, mb4.0/1*
*JMA **15** 13:00:24.5±0.6, 44°.32N×149°.31E, h30km, M3.5*

ISC 15 13:00:23.5±3.8, 43°.9N±0°.1×149°.5E±0°.2, h38km, n17, σ1s80/27, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.75**	**320**	*e*P	**Pn**	**13 00 51.0**	**-0.2**
KUR				AMB	AMB	13 00 54.0	
	65nm,0.4s						
KUR				*i* S	**Sn**	**13 01 11.0**	**-1.3**
KUR				A	A	13 01 15.0	
	354nm,0.4s						
KUR				A	A	13 01 15.0	
	167nm,0.4s						
GRPR	**Tuman**	**2.67**	**273**	*e*P	**Pn**	**13 01 04.0**	**+0.2**
GRPR				*e*S	**Sn**	**13 01 34.0**	**-0.8**
GRPR				A	A	13 01 38.0	
	119nm,0.4s						
GRPR				A	A	13 01 38.0	
	156nm,0.4s						
NEM2	**Nemuro 2**	**2.75**	**260**	P	**Pn**	**13 01 05.5**	**+0.5**
NEM2				*e*S	**Sn**	**13 01 35.7**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.76**	**260**	*i* P	**Pn**	**13 01 06.0**	**+0.9**
NMR				*i* S	**Sn**	**13 01 38.0**	**+0.8**
GLVR	**Golovnino**	**2.86**	**268**	*e*P	**Pn**	**13 01 07.0**	**+0.6**
GLVR				*e*S	**Sn**	**13 01 40.0**	**+0.5**
JRA	**Rausu**	**3.13**	**272**	P	**Pn**	**13 01 12.1**	**+1.9**
JNK	**Nakash**	**3.45**	**266**	P	**Pn**	**13 01 15.5**	**+0.9**
JNK				*e*S	**Sn**	**13 01 53.1**	**-1.1**
JAK	**Akkeshi**	**3.58**	**257**	P	**Pn**	**13 01 17.5**	**+1.1**
JAK				*e*S	**Sn**	**13 01 57.3**	**-0.2**
JTKR	**Abashiri--Toko**	**4.01**	**273**	P	**Pn**	**13 01 24.0**	**+1.7**
JAR	**Ashorobuto**	**4.18**	**264**	P	**Pn**	**13 01 25.8**	**+1.2**
JMP	**Maruseppu**	**4.41**	**273**	P	**Pn**	**13 01 29.9**	**+2.2**
JCH	**Churui**	**4.63**	**256**	P	**Pn**	**13 01 32.1**	**+2.2**
JCH				*e*S	**Sn**	**13 02 23.4**	**0.0**
JNBK	**Urakawa-nobuka**	**5.17**	**254**	P	**Pn**	**13 01 39.7**	**+1.5**
JBT2	**Biratori 2**	**5.30**	**260**	P	**Pn**	**13 01 41.7**	**+1.8**
JNB	**Noboribetsu**	**6.32**	**260**	P	**Pn**	**13 01 56.0**	**+2.0**
JNB				*e*S	**Sn**	**13 03 04.3**	**-0.6**
JKB	**Kayabe**	**6.51**	**255**	P	**Pn**	**13 01 57.1**	**+0.5**
JKB				*e*S	**Sn**	**13 03 05.4**	**-4.1**
JANG	**Nango**	**6.88**	**242**	*e*S	**Sn**	**13 03 13.7**	**-4.9**

*IDC **15** 13:08:09.5±0.8, 12°.29N×143°.90E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/34, mbtmp3.9/7, MS3.8/2, Ms1 3.8/2, ms1mx2.9/52, Error ellipse: s-maj=43.2km s-min=15.7km az=112.0*
*NEIC **15** 13:08:13.6±1.6, 12°.16N±0°.08×144°.0E±0°.1, h28km±3km, mb4.4/16, Error ellipse: s-maj=22.1km s-min=10.2km az=109.0*

ISC 15 13:08:13.2±0.6, 12°.17N±0°.08×144°.1E±0°.1, h26km, n38, σ0s95/32, mb4.3/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.62**	**30**	Pn	**Pn**	**13 08 39.9**	**-0.1**
	151nm,0.3s,baz=17,slow=4.4,SNR=103						
GUMO				LR	LR	13 08 48.7	
	comp=Z,85nm,20.7s,baz=210,slow=24						
GUMO				Sn	**Sn**	**13 09 00.7**	**+0.7**
	216nm,0.3s,baz=46,slow=21,SNR=19						
GUMO	**Guam**	**1.62**	**30**		**Pn**	**13 08 39.8**	**-0.2**
PATS	**Pohnpei**	**15.03**	**109**	Pn	**Pn**	**13 11 42.3**	**-1.7**
PMG	**Port Moresby**	**21.66**	**172**	LR	LR	13 22 18.4	
	comp=Z,308nm,18.2s,baz=200,slow=39						
H11S3	**WAKE ISLAND Hy**	**22.71**	**71**	T	T	13 36 57.0	
	baz=253,slow=74,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**22.72**	**71**	T	T	13 36 48.9	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.72**	**71**	T	T	13 36 45.0	
	baz=253,slow=74,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**23.19**	**68**	T	T	13 37 21.0	
	baz=255,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**23.20**	**68**	T	T	13 37 20.4	
	baz=255,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**23.21**	**68**	T	T	13 37 20.0	
	baz=255,slow=75,SNR=11						
BATI	**Baumata**	**30.08**	**223**	LR	LR	13 26 27.8	
	comp=Z,146nm,19.7s,baz=174,slow=36						
CTAO	**Charters Tower**	**32.13**	**176**	P	**P**	**13 14 39.2**	**+0.5**
CTAO				IAmb	IAmb	13 14 48.7	
	comp=Z,11nm,1.2s						
WB0	**Warramunga Arr**	**33.13**	**197**	P	**P**	**13 14 48.2**	**+0.7**
WB0				IAmb	IAmb	13 15 16.9	
	comp=Z,5.1nm,1.2s						
WR0	**Warramunga Arr**	**33.27**	**196**	P	**P**	**13 14 49.1**	**+0.4**
WR0				IAmb	IAmb	13 15 00.6	
	comp=Z,5.0nm,1.2s						
WRAB	**Tennant Creek**	**33.30**	**197**	P	**P**	**13 14 49.4**	**+0.4**
WRAB				IAmb	IAmb	13 15 16.9	
	comp=Z,8.1nm,1.3s						
WB2	**Warramunga Arr**	**33.31**	**197**	P	**P**	**13 14 48.8**	**-0.2**
WRA	**Warramunga Arr**	**33.31**	**197**	P	**P**	**13 14 49.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=20,slow=9.5,SNR=11						
WRA	**Warramunga Arr**	**33.31**	**197**	P	**P**	**13 14 47.8**	**-1.3**
YSS	**Yuzh-Sakhalins**	**34.69**	**358**	P	**P**	**13 15 00.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.14**	**211**	P	**P**	**13 15 04.0**	**-0.9**
FITZ				IAmb	IAmb	13 15 23.6	
	comp=Z,5.4nm,1.4s						
ASAR	**Alice Springs**	**36.98**	**196**	P	**P**	**13 15 21.9**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=20,slow=10,SNR=15						
ASAR				PcP	**PcP**	**13 17 43.2**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=47,slow=2.7,SNR=5.3						
ASAR	**Alice Springs**	**36.98**	**196**	P	**P**	**13 15 20.3**	**-0.3**
EIDS	**Eidsvold**	**37.94**	**170**	P	**P**	**13 15 28.0**	**-0.7**
EIDS				IAmb	IAmb	13 15 53.3	
	comp=Z,7.0nm,1.2s						
STKA	**Stephens Creek**	**43.86**	**183**	P	**P**	**13 16 17.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=348,slow=9.3,SNR=3.1						
STKA	**Stephens Creek**	**43.86**	**183**	P	**P**	**13 16 17.5**	**+0.1**
BBOO	**Buckleboo**	**45.38**	**189**	P	**P**	**13 16 29.9**	**+0.4**
FORT	**Forrest**	**45.39**	**199**	P	**P**	**13 16 30.2**	**+0.6**
MORW	**Morawa**	**49.12**	**213**	P	**P**	**13 16 59.0**	**+0.2**
MKAR	**Makanchi Array**	**61.96**	**317**	P	**P**	**13 18 31.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=89,slow=9.4,SNR=2.4						
COLD	**Coldfoot**	**69.55**	**22**	P	**P**	**13 19 21.0**	**+1.5**
COLD				IAmb	IAmb	13 19 21.7	
	comp=Z,4.4nm,1.3s						
ILAR	**Eielson Array**	**70.18**	**25**	P	**P**	**13 19 22.3**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=262,slow=5.5,SNR=7.1						
ILAR	**Eielson Array**	**70.18**	**25**	P	**P**	**13 19 22.8**	**-0.6**
BMAR	**Burnt Mountain**	**71.71**	**23**	P	**P**	**13 19 33.2**	**+0.5**
BCAR	**Beaver Creek A**	**72.06**	**27**	P	**P**	**13 19 34.9**	**0.0**
ABKAR	**Akbulak array**	**77.05**	**318**	P	**P**	**13 20 03.4**	**-0.7**
C36M	**Paulatuk**	**79.37**	**21**	P	**P**	**13 20 16.3**	**-0.1**
NVAR	**Mina Array Bea**	**88.42**	**51**	P	**P**	**13 21 05.9**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=290,slow=4.3,SNR=3.5						
FINES	**FINESS Array B**	**92.10**	**335**	P	**P**	**13 21 18.1**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=86,slow=7.1,SNR=1.3						

*BJI **15** 13:35:47.3±0.0, 32°.30N×47°.28E, h5km, mB5.5/65, mb5.2/77, Ms5.9/88, Ms7 5.7/79*

*NEIC **15** 13:35:52.8±1.3, 32°.53N±0°.07×47°.81E±0°.07, h10km±1km, mb5.5/202, Ms_20 5.6/573, Mwb5.6/62, Mww5.7, Mwc5.8(GCMT), Error ellipse: s-maj=11.3km s-min=9.8km az=197.0*
*IDC **15** 13:35:52.8±0.4, 32°.60N×47°.73E, h0km, mb4.9/39, mb1 4.9/45, mb1mx4.8/51, mbtmp4.8/45, ML3.8/6, MS5.3/40, Ms1 5.3/40, ms1mx5.2/51, Error ellipse: s-maj=10.5km s-min=8.7km az=137.0*
*TEH **15** 13:35:53.8, 32°.58N×47°.79E, h10km, ML5.8*
*NEIC **15** 13:35:53.5, 32°.55N×47°.81E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.79; Mθθ-3.33; Mφφ0.54; Mrθ-1.45; Mrφ-0.30; Mθφ0.43; Fault plane solution: M0 3.46000×10^17^ NP1:φs73.14000°, δ33.83000°, λ70.48000°. NP2:φs276.26000°, δ58.35000°, λ102.62000°. Principal axes: T 3.2020, Plg73.0000°, Azm219.0000°; N 0.4614, Plg11.0000°, Azm90.0000°; P -3.6634, Plg12.0000°, Azm357.0000°;*
*ISN **15** 13:35:53.2±0.9, 32°.56N×47°.77E, h14km±6km, ML5.1*
*MOS **15** 13:35:54.0±1.2, 32°.53N×47°.77E, h26km, mb5.5/86, MS5.3/55, Error ellipse: s-maj=4.3km s-min=3.4km az=105.7*
*THR **15** 13:35:55.4±0.5, 32°.57N×47°.75E, h18km±4km, ML5.8*
*GII **15** 13:35:56.6±0.0, 32°.56N×47°.84E, h10km*
*PDG **15** 13:35:57.1, 32°.70N×47°.30E, h33km, mb5.8/7*
*GCMT **15** 13:35:57.8±0.1, 32°.45N×47°.87E, h12km, MW5.8/163, Moment Tensor Solution. s138,c246; s163,c396; Duration: 1s9 Moment tensor: Scale 10^17^Nm; Mrr5.81±.04; Mθθ-6.25±.04; Mφφ0.43±.04; Mrθ-1.76±.12; Mθφ0.07±.04; Mrφ0.17±.12; Best double couple: M0 6.28400×10^17^ NP1:φs89.00000°, δ37.00000°, λ88.00000°. NP2:φs272.00000°, δ53.00000°, λ92.00000°. Principal axes: T 6.0660, Plg82.0000°, Azm191.0000°; N 0.4330, Plg1.0000°, Azm91.0000°; P -6.5030, Plg8.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*OMAN **15** 13:35:58.5, 32°.34N×48°.06E, h20km, mb6.3/30, ms5.6/6, Mwp5.9/24*
*DSN **15** 13:35:59.0±0.7, 32°.15N×48°.12E, h10km, mb6.1/2, ML6.0/1, Error ellipse: s-maj=15.1km s-min=7.5km az=38.0*
*NEIC **15** 13:35:59, 32°.47N×47°.87E, h12km, Moment Tension Solution. Moment tensor: Scale 10^17^Nm; Mrr5.81; Mθθ-6.30; Mφφ0.49; Mrθ0.16; Mφφ0.23; Mθr0.41; Fault plane solution: M0 6.09000×10^17^ NP1:φs276.00000°, δ44.00000°, λ96.00000°. NP2:φs88.00000°, δ46.00000°, λ84.00000°. Principal axes: T 5.8422, Plg86.0000°, Azm281.0000°; N 0.4688, Plg4.0000°, Azm92.0000°; P -6.3110, Plg1.0000°, Azm182.0000°;*
*NEIC **15** 13:36:02, 32°.52N×47°.78E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr4.10; Mθθ-3.93; Mφφ-0.17; Mrθ-0.26; Mφφ0.12; Mθr-0.47; Fault plane solution: M0 4.05000×10^17^ NP1:φs98.00000°, δ44.00000°, λ99.00000°. NP2:φs265.00000°, δ47.00000°, λ81.00000°. Principal axes: T 4.1565, Plg83.0000°, Azm107.0000°; N -0.2166, Plg6.0000°, Azm271.0000°; P -3.9399, Plg2.0000°, Azm2.0000°;*

ISC 15 13:35:54.2±0.3, 32°.55N±0°.02×47°.86E±0°.02, h8km±1km, h9km:pP-P, n1350, σ2s13/1325, mb5.4/282, MS5.5/387, 89C-52D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.50**	**286**	*e*Pg	**Pg**	**13 36 02.4**	**-1.5**
IKMR	**Kamar-syah**	**1.06**	**24**	*e*Pg	**Pg**	**13 36 13.6**	**-1.0**
IKMR				*e*		13 36 42.9	
IDOB	**Doab**	**1.27**	**12**	*e*Pg	**Pn**	**13 36 17.3**	**-1.1**
AHWZ	**Ahwaz**	**1.39**	**151**	*e*Pg	**Pg**	**13 36 21.0**	**+0.3**
AHWZ				*e*Sg	**Sg**	**13 36 42.4**	**+3.7**
BMDN	**Meydan**	**1.39**	**36**	*e*Pg	**Pn**	**13 36 20.0**	**0.0**
BMDN				*e*		13 36 55.6	
IKOM	**Komasi**	**1.65**	**350**	*e*Pg	**Pb**	**13 36 24.9**	**0.0**
IKOM				*e*		13 36 35.7	
IBDR	**Badra**	**1.72**	**290**	*e*Pg	**Pn**	**13 36 23.0**	**-1.3**
IBDR				*e*Sg	**Sn**	**13 36 45.0**	**-1.4**
IBDR				AML	AML	13 36 59.2	
	comp=E,20μm,0.5s						
IBDR				AML	AML	13 37 01.5	
	comp=N,34μm,0.6s						
HSAM	**Samen**	**1.77**	**20**	*e*Pg	**Pg**	**13 36 27.7**	**-0.5**
HSAM				*e*		13 36 37.8	
KCHF	**Cheshme Sefid,**	**1.85**	**339**	*e*Pg	**Pn**	**13 36 27.2**	**+0.8**
KCHF				*e*		13 37 06.0	
IBZA	**Bozab**	**1.92**	**0**	*e*Pg	**Pb**	**13 36 29.3**	**-0.3**
IBZA				*e*		13 37 08.4	
KER	**Kermanshah**	**1.93**	**342**	*e*Pn	**Pn**	**13 36 28.5**	**+1.1**
IGHG	**Ghaleghazi**	**2.08**	**329**	*e*Pn	**Pn**	**13 36 30.7**	**+1.1**
IGHG				*e*		13 37 28.9	
NSR	**Nassriya**	**2.12**	**224**	*e*Pn	**Pn**	**13 36 29.0**	**-0.8**
NSR				*e*Sn	**Sn**	**13 36 54.0**	**-2.3**
NSR				AML	AML	13 37 12.2	
	comp=E,21μm,0.6s						
KHMZ	**Khomeyn**	**2.13**	**55**	*e*Pn	**Pb**	**13 36 33.0**	**-0.1**
KHMZ				*e*Sg	**Sg**	**13 37 04.7**	**+2.1**
KHMZ	**Khomeyn**	**2.13**	**55**	*e*Pn	**Pb**	**13 36 33.0**	**-0.1**
IVIS	**Veis**	**2.15**	**337**	*e*Pn	**Pn**	**13 36 31.1**	**+0.7**
IVIS				*e*		13 37 20.4	
IALM	**Almabolaq**	**2.32**	**6**	*e*Pn	**Pb**	**13 36 35.2**	**-1.3**
JHBN	**Jahan bin**	**2.40**	**97**	*e*Pn	**Pb**	**13 36 36.2**	**-1.5**
JHBN				*e*		13 37 18.8	
IDHR	**Dehrash**	**2.47**	**331**	*e*Pn	**Pn**	**13 36 35.7**	**+0.7**
IDHR				*e*		13 37 27.7	
ILIN	**Lien**	**2.48**	**343**	*e*Pn	**Pn**	**13 36 35.8**	**+0.7**
ILIN				*e*		13 37 38.5	
HAGD	**Aghdareh**	**2.51**	**25**	*e*Pn	**Pb**	**13 36 37.8**	**-1.8**
HAGD				*e*		13 37 26.9	
IPIR	**Pirpir**	**2.56**	**86**	*e*Pn	**Pb**	**13 36 38.9**	**-1.7**
IPIR				*e*		13 37 29.1	
SNGE	**Sanandaj**	**2.58**	**351**	*e*Pn	**Pn**	**13 36 38.0**	**+1.6**
SNGE				*e*Sg	**Sb**	**13 37 14.8**	**+2.1**
SNGE	**Sanandaj**	**2.58**	**351**	*e*Pn	**Pn**	**13 36 38.0**	**+1.6**
ROKH	**ROKH**	**2.69**	**93**	*e*Pn	**Pn**	**13 36 40.3**	**+2.3**
ROKH				*e*		13 37 35.3	
ASAO	**Ashtian**	**2.70**	**42**	*e*Pn	**Pb**	**13 36 40.6**	**-2.2**
ASAO	**Ashtian**	**2.70**	**42**	*e*Pn	**Pb**	**13 36 40.6**	**-2.2**
HSRG	**Sareghieh**	**2.71**	**7**	*e*Pn	**Pn**	**13 36 40.0**	**+1.7**
HSRG				*e*		13 37 45.1	
IBRJ	**Brojen**	**2.95**	**102**	*e*Pn	**Pn**	**13 36 43.7**	**+2.1**
IBRJ				*e*		13 37 48.0	
BHD	**Baghdad**	**3.01**	**285**	*e*Pn	**Pn**	**13 36 41.0**	**-1.1**
BHD				*e*Sn	**Sn**	**13 37 17.0**	**-1.4**
BHD				AML	AML	13 37 49.2	
	comp=E,13μm,0.5s						
IKLH	**Kolahrood**	**3.22**	**75**	*e*Pn	**Pn**	**13 36 47.3**	**+2.0**
IKLH				*e*		13 38 03.4	
QAM	**Ghamsar**	**3.24**	**67**	*e*Pn	**Pb**	**13 36 49.0**	**-3.1**
GHVR	**GHOM**	**3.46**	**55**	*e*Pn	**Pn**	**13 36 50.7**	**+2.3**
GHVR				*e*S	**Sn**	**13 37 31.2**	**+1.5**
GHVR	**GHOM**	**3.46**	**55**	*e*Pn	**Pn**	**13 36 50.7**	**+2.3**
IQOM	**Qom**	**3.52**	**49**	*e*Pn	**Pn**	**13 36 51.6**	**+2.1**
IQOM				*e*		13 38 01.1	
KLNJ	**Kolanjah**	**3.53**	**115**	*e*Pn	**Pn**	**13 36 51.2**	**+1.6**
KLNJ				*e*		13 38 12.6	
IGAR	**Gharneh**	**3.54**	**91**	*e*Pn	**Pn**	**13 36 51.6**	**+2.0**
IGAR				*e*		13 38 01.6	
IZEF	**Zefreh**	**3.79**	**84**	*e*Pn	**Pn**	**13 36 55.3**	**+2.2**
IZEF				*e*		13 38 10.9	
KRSH	**Karshahi**	**3.86**	**67**	*e*Pn	**Pn**	**13 36 56.3**	**+2.4**
IRAM	**Ramesheh**	**3.91**	**100**	*e*Pn	**Pn**	**13 36 55.9**	**+1.2**
IVRN	**Varamin**	**4.04**	**52**	*e*Pn	**Pn**	**13 36 58.6**	**+2.2**
ZNJK	**Zanjan**	**4.17**	**9**	*e*Pn	**Pn**	**13 37 00.4**	**+2.1**
ZNJK				*e*Sg	**Sg**	**13 38 05.0**	**-3.1**
ZNJK	**Zanjan**	**4.17**	**9**	*e*Pn	**Pn**	**13 37 00.4**	**+2.1**
CHTH	**Charan**	**4.31**	**38**	*e*Pn	**Pn**	**13 37 03.0**	**+2.8**
CHTH	**Charan**	**4.31**	**38**	*e*Pn	**Pn**	**13 37 03.0**	**+2.8**
KAZ1	**Kazerun**	**4.36**	**131**	*e*Pn	**Pn**	**13 37 02.0**	**+1.2**
IDMV	**Damavand**	**4.60**	**48**	*e*Pn	**Pn**	**13 37 06.1**	**+1.8**
AHBU	**AHRAM**	**4.71**	**140**	*e*Pn	**Pn**	**13 37 09.1**	**+3.5**
IFIR	**Firoozkooh**	**5.10**	**51**	*e*Pn	**Pn**	**13 37 13.1**	**+1.9**
HAKT	**HAKKARI**	**6.05**	**327**	*e*Pn	**Pn**	**13 37 23.4**	**-0.7**
IGLO	**Ghaloghah**	**6.32**	**50**	*e*Pn	**Pn**	**13 37 30.3**	**+2.5**
SIRT	**Sirnak**	**6.65**	**320**	*e*Pn	**Pn**	**13 37 32.4**	**+0.2**
GEVA	**Gevas**	**6.96**	**327**	*e*Pn	**Pn**	**13 37 36.1**	**-0.5**
GEVA	**Gevas**	**6.96**	**327**	Pn	**Pn**	**13 37 35.6**	**-0.9**
MARD	**Mardin**	**7.51**	**311**	Pn	**Pn**	**13 37 41.6**	**-2.5**
ASF	**Jabal al Asfar**	**9.28**	**271**	Pn	**Pn**	**13 38 05.5**	**-2.8**
	comp=E,1.2nm,0.3s,baz=59,slow=8.3,SNR=6.9						
ASF				Sn	**Sn**	**13 39 55.7**	**+2.8**
	comp=E,9.7nm,0.3s,baz=194,slow=18,SNR=3.6						
ASF				Lg	Lg	13 40 34.0	
	comp=E,12nm,0.3s,baz=197,slow=21,SNR=5.8						
ASF				LR	LR	13 42 35.0	
	comp=E,3μm,20.6s,baz=48,slow=44						
KOPT	**Kop Dagi**	**9.53**	**324**	Pn	**Pn**	**13 38 09.4**	**-2.5**
SHME	**Shamm**	**9.70**	**130**	*i* P	**Pn**	**13 38 12.8**	**-1.2**
	SNR=48						
UMQ	**Umm Al-Quwin**	**9.77**	**134**	P	**Pn**	**13 38 15.1**	**+0.1**
UMQ	**Umm Al-Quwin**	**9.77**	**134**	P	**Pn**	**13 38 14.6**	**-0.5**
UMQ				P	**Pn**	**13 38 14.6**	**-0.5**
ARTV	**Artvin**	**9.84**	**333**	Pn	**Pn**	**13 38 18.2**	**+2.1**
GAZ	**Gaziantep**	**9.89**	**301**	Pn	**Pn**	**13 38 17.8**	**+1.2**
BANOM	**Banah**	**9.89**	**130**	*i* P	**Pn**	**13 38 15.1**	**-1.6**
	SNR=33						
BANOM	**Banah**	**9.89**	**130**	P	**Pn**	**13 38 15.7**	**-1.0**
	SNR=29						
BANOM				P	**Pn**	**13 38 15.7**	**-1.0**
	SNR=29						
BANOM				S	**Sn**	**13 40 07.0**	**-1.0**
	SNR=6.4						
BANOM				S	**Sn**	**13 40 07.0**	**-1.0**
	SNR=6.4						
GEYT	**Alibeck**	**9.96**	**55**	Pn	**Pn**	**13 38 20.2**	**+2.6**
	comp=E,0.5nm,0.3s,baz=254,slow=11,SNR=31						
GEYT				LR	LR	13 42 16.1	
	comp=E,24μm,20.7s,baz=260,slow=38						
GEYT	**Alibeck**	**9.96**	**55**	Pn	**Pn**	**13 38 19.1**	**+1.5**
GYA0	**ALIBECK ARRAY**	**9.96**	**55**	P	**Pn**	**13 38 19.8**	**+2.2**
GYA0B	**ALIBECK ARRAY**	**9.96**	**55**	Pn	**Pn**	**13 38 19.4**	**+1.8**
NAZ	**Nazwa, Dubai**	**10.17**	**136**	*i* P	**Pn**	**13 38 19.9**	**-0.7**
	SNR=62						
NAZ	**Nazwa, Dubai**	**10.17**	**136**	P	**Pn**	**13 38 20.4**	**-0.1**
	SNR=62						
NAZ				P	**Pn**	**13 38 20.4**	**-0.1**
	SNR=62						
NAZ				S	**Sn**	**13 40 11.6**	**-3.2**
NAZ				S	**Sn**	**13 40 11.6**	**-3.2**
SHMJ	**Saham**	**10.20**	**274**	Pn	**Pn**	**13 38 23.4**	**+2.5**
NATI	**Neve Ativ**	**10.21**	**277**	Pn	**Pn**	**13 38 22.3**	**+1.3**
ASUD	**Al Ashush, Dub**	**10.26**	**138**	*i* P	**Pn**	**13 38 21.3**	**-0.4**
	SNR=13						
ASUD	**Al Ashush, Dub**	**10.26**	**138**	P	**Pn**	**13 38 21.5**	**-0.2**
	SNR=14						
ASUD				P	**Pn**	**13 38 21.5**	**-0.2**
	SNR=14						
ASUD				S	**Sn**	**13 40 15.4**	**-1.6**
ASUD				S	**Sn**	**13 40 15.4**	**-1.6**
KELT	**Kelkit**	**10.28**	**320**	*e*Pn	**Pn**	**13 38 24.4**	**+2.3**
GEM	**Giv'at Ha'Em**	**10.28**	**277**	Pn	**Pn**	**13 38 24.2**	**+2.3**
FAQ	**Al Faqa, Dubai**	**10.32**	**137**	*i* P	**Pn**	**13 38 21.4**	**-1.2**
	SNR=42						
FAQ	**Al Faqa, Dubai**	**10.32**	**137**	P	**Pn**	**13 38 22.3**	**-0.2**
	SNR=42						
FAQ				P	**Pn**	**13 38 22.3**	**-0.2**
	SNR=42						
FAQ				S	**Sn**	**13 40 16.0**	**-2.4**
FAQ				S	**Sn**	**13 40 16.0**	**-2.4**
MDH	**Madha**	**10.33**	**132**	*i* P	**Pn**	**13 38 20.7**	**-2.0**
	SNR=64						
MDH	**Madha**	**10.33**	**132**	P	**Pn**	**13 38 21.8**	**-0.9**
	SNR=64						
MDH				P	**Pn**	**13 38 21.8**	**-0.9**
	SNR=64						
MDH				S	**Sn**	**13 40 15.5**	**-3.3**
MDH				S	**Sn**	**13 40 15.5**	**-3.3**
MAK	**Makhachkala**	**10.40**	**359**	*e*P	Pn	13 38 17.9	-5.6
MAK				pmax	pmax		
	comp=Z,448nm,1.5s						
MAK				MLR	MLR		
	comp=Z,42μm,16.0s						
HMDT	**Nahal Hemdat**	**10.43**	**272**	Pn	**Pn**	**13 38 26.3**	**+2.3**
KARJ	**KARJ**	**10.48**	**265**	Pn	**Pn**	**13 38 26.3**	**+1.6**
MMA0B	**Mount Meron ar**	**10.49**	**276**	Pn	**Pn**	**13 38 27.5**	**+2.5**
MMAI	**Mount Meron Ar**	**10.49**	**276**	Pn	**Pn**	**13 38 25.6**	**+0.6**
	comp=Z,3.0nm,0.3s,baz=98,slow=17,SNR=8.4						
MMAI				Lg	Lg	13 41 11.4	

BIDO	**Bidbid**	**12.76**	**132**	P		**Pn**	**13 38 55.3**	**-0.7**
BIDO				P		**Pn**	**13 38 55.3**	**-0.7**
BIDO				S		**Sn**	**13 41 14.5**	**-3.8**
BIDO				S		**Sn**	**13 41 14.5**	**-3.8**
BSY	**Bisya**	**12.79**	**137**	P		**Pn**	**13 38 55.2**	**-1.3**
	SNR=156							
BSY				P		**Pn**	**13 38 55.2**	**-1.3**
	SNR=156							
BSY				P		**Pn**	**13 38 55.2**	**-1.3**
	SNR=156							
BSY				S		**Sn**	**13 41 16.0**	**-3.1**
BSY				S		**Sn**	**13 41 16.0**	**-3.1**
BSY				S		**Sn**	**13 41 16.0**	**-3.1**
GOF	**Gofitskoye**	**13.04**	**345**⇑	*e*P		**P**	**13 39 11.5**	**+1.3**
GOF				pmax	pmax			
	comp=Z,144nm,0.8s							
SMDO	**Samad**	**13.06**	**134**	P		**Pn**	**13 38 59.2**	**-0.8**
	SNR=117							
SMDO				P		**Pn**	**13 38 59.2**	**-0.8**
	SNR=117							
SMDO				S		**Sn**	**13 41 22.7**	**-2.9**
SMDO				S		**Sn**	**13 41 22.7**	**-2.9**
WSAR	**Wadi Sarin**	**13.29**	**132**	Pn		**Pn**	**13 39 00.2**	**-2.9**
	comp=Z,5.3nm,0.3s,baz=301,slow=12,SNR=36							
WSAR				Sn		Sn	13 41 21.4	-10
	comp=Z,3.4nm,0.3s,baz=166,slow=18,SNR=3.9							
WSAR				LR		LR	13 45 12.6	
	comp=Z,45μm,19.1s,baz=339,slow=42							
WSAR	**Wadi Sarin**	**13.29**	**132**	P		**Pn**	**13 39 01.9**	**-1.2**
	SNR=34							
WSAR				S		**Sn**	**13 41 27.5**	**-3.6**
BR131	**Keskin Array S**	**13.53**	**306**	P		**P**	**13 39 12.5**	**-3.3**
	SNR=27							
BR131				P		**P**	**13 39 12.5**	**-3.3**
	SNR=27							
BR131	**Keskin Array S**	**13.53**	**306**	P		**Pn**	**13 39 05.7**	**-0.8**
BR131	**Keskin Array S**	**13.53**	**306**	Pn		**Pn**	**13 39 05.7**	**-0.8**
BRTR	**Keskin Array B**	**13.53**	**306**	Pn		**Pn**	**13 39 06.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=21							
BRTR				LR		LR	13 44 56.9	
	comp=Z,10μm,19.3s,baz=125,slow=41							
BRTR	**Keskin Array B**	**13.53**	**306**	P		**Pn**	**13 39 06.3**	**-0.2**
BRTR	**Keskin Array B**	**13.53**	**306**			**Pn**	**13 39 06.3**	**-0.2**
DIKM	**Dikmen**	**13.54**	**316**	⇓P		**P**	**13 39 16.2**	**+0.4**
JMDO	**Jabal Madar**	**13.61**	**136**	P		**Pn**	**13 39 06.7**	**-0.9**
	SNR=69							
JMDO				P		**Pn**	**13 39 06.7**	**-0.9**
	SNR=69							
JMDO				P		**Pn**	**13 39 06.7**	**-0.9**
	SNR=69							
JMDO				S		**Sn**	**13 41 35.6**	**-3.4**
JMDO				S		**Sn**	**13 41 35.6**	**-3.4**
JMDO				S		**Sn**	**13 41 35.6**	**-3.4**
WBK	**Wadi Bani Khal**	**13.96**	**132**	P		**Pn**	**13 39 11.4**	**-0.9**
	SNR=13							
WBK				P		**Pn**	**13 39 11.4**	**-0.9**
	SNR=13							
WBK				S		**Sn**	**13 41 43.2**	**-4.3**
WBK				S		**Sn**	**13 41 43.2**	**-4.3**
ILGA	**Ilgaz**	**14.14**	**311**	Pn		**Pn**	**13 39 13.4**	**-1.6**
JLN	**Jalan Bani Buh**	**14.57**	**132**	P		**Pn**	**13 39 19.8**	**-0.8**
	SNR=27							
JLN				S		**Sn**	**13 41 57.3**	**-5.1**
MHTO	**MHTO**	**14.62**	**139**	P		**Pn**	**13 39 21.0**	**-0.4**
	SNR=112							
MHTO				P		**Pn**	**13 39 21.0**	**-0.4**
	SNR=112							
MHTO				S		**Sn**	**13 41 57.9**	**-5.7**
MHTO				S		**Sn**	**13 41 57.9**	**-5.7**
ANN	**Anapa**	**14.68**	**329**	*e*P		**Pn**	**13 39 20.5**	**-1.5**
ANN				*e*S		**Sn**	**13 42 03.8**	**-1.0**
ANN				pmax	pmax			
	comp=Z,36nm,1.0s							
ANN				MLR	MLR			
	comp=E,15μm,20.0s							
ANN				MLR	MLR			
	comp=Z,15μm,20.0s							
ANN				MLR	MLR			
	comp=N,8μm,14.0s							
ISP	**Isparta**	**15.12**	**295**	P		**P**	**13 39 31.8**	**-1.6**
ISP				pmax	pmax			
	comp=Z,204nm,0.9s							
ISP	**Isparta**	**15.12**	**295**	P		**P**	**13 39 31.8**	**-1.6**
ISP				IAmb	IAmb		13 39 42.0	
	comp=Z,204nm,0.9s							
DQM	**DQM**	**15.26**	**143**	P		**Pn**	**13 39 29.7**	**-0.3**
	SNR=173							
DQM				P		**Pn**	**13 39 29.7**	**-0.3**
	SNR=173							
DQM				P		**Pn**	**13 39 29.7**	**-0.3**
	SNR=173							
ELL	**Elmali**	**15.35**	**291**	P		**P**	**13 39 34.4**	**-1.7**
ELL				pmax	pmax			
	comp=Z,636nm,1.0s							
ELL	**Elmali**	**15.35**	**291**	P		**P**	**13 39 34.4**	**-1.7**
AKAS	**Kas**	**15.51**	**289**	P		**Pn**	**13 39 35.5**	**+2.2**
WHFO	**Wadi Hawf**	**15.51**	**158**	P		**Pn**	**13 39 33.2**	**-0.1**
	SNR=102							
WHFO				P		**Pn**	**13 39 33.2**	**-0.1**
	SNR=102							
KSL	**Kastellorizon**	**15.52**	**288**	P		**P**	**13 39 36.3**	**-1.4**
MDUB	**Mudurnu**	**15.54**	**305**	P		**P**	**13 39 36.7**	**-1.4**
ABTO	**Aybut**	**15.90**	**161**	P		**Pn**	**13 39 37.7**	**-0.7**
	SNR=107							
FETY	**Fethiye**	**15.99**	**290**	P		**P**	**13 39 41.6**	**-1.4**
RBK	**Rabkut**	**16.04**	**158**	P		**Pn**	**13 39 39.9**	**-0.2**
	SNR=35							
RBK				P		**Pn**	**13 39 39.9**	**-0.2**
	SNR=35							
SHAO	**Shalim**	**16.07**	**152**	*i* P		**Pn**	**13 39 37.5**	**-3.0**
	SNR=20							
SHAO	**Shalim**	**16.07**	**152**	P		**Pn**	**13 39 40.2**	**-0.3**
	SNR=20							
SHAO				P		**Pn**	**13 39 40.2**	**-0.3**
	SNR=20							
DMTO	**DMTO**	**16.09**	**155**	P		**Pn**	**13 39 40.2**	**-0.6**
	SNR=77							
DMTO				P		**Pn**	**13 39 40.2**	**-0.6**
	SNR=77							
SIM	**Simferopol'**	**16.35**	**323**	*e*P		**P**	**13 39 49.1**	**+2.2**
SIM				pmax	pmax			
	comp=Z,379nm,2.0s							
SIM				MLR	MLR			
	comp=Z,3μm,22.0s							
YER	**Yerkesik**	**16.70**	**291**	P		**Pn**	**13 39 49.6**	**+1.0**
KULA	**Kula-Manisa**	**16.71**	**296**	P		**P**	**13 39 51.4**	**+0.4**
MANT	**Manisa**	**16.78**	**296**	Pn		**Pn**	**13 39 47.4**	**-2.3**
KARP	**Karpathos**	**17.41**	**286**	P		**P**	**13 39 58.1**	**-0.6**
KARP	**Karpathos**	**17.41**	**286**	Pn		**Pn**	**13 39 54.8**	**-2.6**
BODT	**Bodrum**	**17.46**	**291**	P		**Pn**	**13 39 57.5**	**-0.5**
KBL	**Kabul**	**17.77**	**78**	P		**P**	**13 40 04.2**	**+1.2**
	SNR=91							
KBL				P		**P**	**13 40 04.2**	**+1.2**
	SNR=91							
KBL	**Kabul**	**17.77**	**78**	P		**P**	**13 40 03.1**	**+0.1**
KBL				pmax	pmax			
	comp=Z,387nm,1.1s							
KBL	**Kabul**	**17.77**	**78**	P		**P**	**13 40 03.1**	**+0.1**
KBL				IAmb	IAmb		13 40 11.5	
	comp=Z,387nm,1.1s							
SMG	**Samos**	**17.94**	**293**	P		**Pn**	**13 40 03.6**	**-0.4**
DAMY	**Dhamar**	**18.17**	**191**	P		**P**	**13 40 09.4**	**+1.9**
	SNR=18							
DAMY	**Dhamar**	**18.17**	**191**			**Pn**	**13 40 05.6**	**-1.6**
CHGR	**Chuyangaron**	**18.35**	**65**			**Pn**	**13 40 07.8**	**-1.3**
CHGR				IAmb		IAmb	13 40 24.5	
	comp=Z,233nm,0.8s							
AMGA	**Amorgos Island**	**18.55**	**289**	P		**P**	**13 40 09.7**	**-1.6**
ANAF	**Anafi Island**	**18.60**	**288**	P		**P**	**13 40 10.6**	**-1.2**
NPS	**Neapolis**	**18.66**	**284**	P		**P**	**13 40 12.3**	**-0.2**
CHOS	**Chios island**	**18.67**	**294**	P		**Pn**	**13 40 13.5**	**+0.5**
PRK	**Paraskevi**	**18.70**	**297**	P		**Pn**	**13 40 13.7**	**+0.5**
LAST	**Lasithi**	**18.76**	**284**	P		**Pn**	**13 40 14.2**	**+0.1**
EZN	**Ezine**	**18.81**	**299**	P		**Pn**	**13 40 14.8**	**+0.2**
SANT	**Santorini**	**18.85**	**288**	P		**P**	**13 40 11.7**	**-3.0**
APE	**Apeiranthos**	**18.87**	**290**	P		**P**	**13 40 13.6**	**-1.2**
APE	**Apeiranthos**	**18.87**	**290**	⇓P		**P**	**13 40 14.7**	**-0.2**
APE	**Apeiranthos**	**18.87**	**290**	⇓P		**P**	**13 40 14.7**	**-0.2**
THR3	**Thira Island,**	**18.90**	**288**	P		**P**	**13 40 14.8**	**-0.3**
THR5	**Thira Island,**	**18.95**	**288**	P		**P**	**13 40 14.8**	**-0.8**
ABKAR	**Akbulak array**	**18.99**	**25**	P		**P**	**13 40 15.6**	**-0.4**
ABKAR	**Akbulak array**	**18.99**	**25**	P		**P**	**13 40 15.3**	**-0.7**
SIGR	**SIGRI**	**19.01**	**297**	P		**P**	**13 40 16.1**	**-0.1**
IOSP	**Ios island**	**19.02**	**289**	P		**P**	**13 40 15.2**	**-1.3**
JURR	**Jurilovca**	**19.14**	**315**	⇑P		Pn	13 40 26.9	+8.4
VRH	**Novokhopyorsk**	**19.18**	**348**	*e*P		**Pn**	**13 40 18.5**	**-0.4**
VRH				*e*S		**Sn**	**13 43 47.7**	**-6.2**
VRH				pmax	pmax			
	comp=Z,240nm,0.6s							
VRH				smax	smax			
	comp=N,4μm,11.3s							
VRH				MLR	MLR			
	comp=Z,14μm,15.0s							
IDI	**Anoyia**	**19.25**	**284**	P		**P**	**13 40 18.4**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=86,slow=11,SNR=44							
IDI				S		**Sn**	**13 43 53.4**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=146,slow=19,SNR=0.7							
IDI				LR		LR	13 51 13.5	
	comp=Z,3μm,18.3s,baz=106,slow=48							
IDI	**Anoyia**	**19.25**	**284**	P		**P**	**13 40 18.5**	**-0.5**
IDI	**Anoyia**	**19.25**	**284**	⇓P		**P**	**13 40 18.6**	**-0.5**
IDI	**Anoyia**	**19.25**	**284**	P		**P**	**13 40 17.3**	**-1.7**
IDI				IAmb		IAmb	13 40 27.9	
	comp=Z,225nm,0.8s							
TIRR	**Tirgusor**	**19.26**	**314**	⇓P		**P**	**13 40 19.2**	**+0.2**
TIRR	**Tirgusor**	**19.26**	**314**	⇓P		**P**	**13 40 19.2**	**+0.2**
TIRR	**Tirgusor**	**19.26**	**314**	P		**P**	**13 40 18.0**	**-0.9**
PRD	**Provadia**	**19.29**	**309**	*i* P		**Pn**	**13 40 25.1**	**+4.8**
GAR	**Garm**	**19.31**	**64**	P		**P**	**13 40 19.4**	**-0.3**
GAR				IAmb		IAmb	13 40 36.1	
	comp=Z,181nm,0.9s							
SIVA	**Sivas**	**19.31**	**284**	P		**P**	**13 40 19.3**	**-0.3**
ALN	**Alexandroupoli**	**19.33**	**302**	P		**P**	**13 40 19.3**	**-0.5**
ALN	**Alexandroupoli**	**19.33**	**302**	P		**P**	**13 40 18.9**	**-0.9**
ALN				pmax	pmax			
	comp=Z,491nm,1.5s							
ALN	**Alexandroupoli**	**19.33**	**302**	P		**P**	**13 40 18.9**	**-0.9**
ALN				IAmb		IAmb	13 40 28.2	
	comp=Z,491nm,1.5s							
AKTO	**Aktyubinsk**	**19.39**	**20**	P		**P**	**13 40 20.1**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=204,slow=11,SNR=45							
AKTO				S		**Sn**	**13 43 57.1**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=165,slow=18,SNR=1.5							
NEF	**NEVSHA**	**19.40**	**309**	*i* P		**Pn**	**13 40 27.5**	**+5.8**
TLCR		**19.41**	**316**	⇓P		**Pn**	**13 40 25.1**	**+3.3**
TLCR		**19.41**	**316**	⇓P		**Pn**	**13 40 25.1**	**+3.3**
VORD	**Divnogorie**	**19.46**	**344**	*e*P		**P**	**13 40 19.4**	**-1.7**
VORD				*e*S		**Sn**	**13 43 59.1**	**-1.5**
VORD				pmax	pmax			
	comp=Z,230nm,0.8s							
VORD				smax	smax			
	comp=E,800nm,7.0s							
JMB	**Yambol**	**19.52**	**307**	*i* P		**Pn**	**13 40 27.9**	**+4.8**
SMTH	**Samothraki Isl**	**19.58**	**300**	P		**P**	**13 40 21.6**	**-0.9**
HARR	**Harsova**	**19.67**	**314**	⇑P		**Pn**	**13 40 29.2**	**+4.3**
HARR	**Harsova**	**19.67**	**314**	⇑P		**Pn**	**13 40 29.2**	**+4.3**
LIA	**Limnos Island**	**19.68**	**298**	P		**Pn**	**13 40 25.9**	**+0.9**
SERI	**Serifos**	**19.71**	**290**	P		**P**	**13 40 22.2**	**-1.8**
VSR	**Storozhevoye**	**19.72**	**344**	*e*P		**P**	**13 40 22.0**	**-2.0**
VSR				*e*S		**S**	**13 43 56.3**	**-10**
VSR				pmax	pmax			
	comp=Z,370nm,1.4s							
VSR				smax	smax			
	comp=N,4μm,10.8s							
VSR				MLR	MLR			
	comp=Z,7μm,20.0s							
MHLO	**Agia Marina, M**	**19.73**	**289**	P		**P**	**13 40 23.6**	**-0.6**
RDO	**Rodhopi**	**19.78**	**302**	P		**P**	**13 40 24.6**	**-0.1**
CHM	**Chimkent**	**19.79**	**54**	*e*S		**Sn**	**13 44 10.1**	**+1.4**
CFR	**Carcaliu**	**19.81**	**315**	⇑P		**P**	**13 40 24.9**	**-0.1**
CFR	**Carcaliu**	**19.81**	**315**	⇑P		**P**	**13 40 24.9**	**-0.1**
VAM	**Vamos**	**19.82**	**285**	P		**P**	**13 40 23.7**	**-1.5**
KARY	**Karystos**	**19.86**	**293**	P		**Pn**	**13 40 26.5**	**-0.8**
GVDS	**Gavdos**	**19.90**	**283**	P		**P**	**13 40 25.8**	**-0.3**
GVD	**Gavdhos**	**19.90**	**283**	P		**P**	**13 40 25.6**	**-0.5**
BTK	**Batken**	**19.93**	**61**	P		**P**	**13 40 25.3**	**-1.2**
BTK				pmax	pmax			
	comp=Z,214nm,1.2s							
BTK	**Batken**	**19.93**	**61**	P		**P**	**13 40 25.3**	**-1.2**
BTK				IAmb		IAmb	13 40 40.0	
	comp=Z,214nm,1.1s							
IMMV	**Iera Moni Meta**	**20.00**	**285**	P		**P**	**13 40 26.2**	**-0.9**
IUG	**Iuzhnay**	**20.02**	**55**	*e*P		**P**	**13 40 27.6**	**+0.1**
IUG				*e*S		Sn	13 44 15.8	+1.4
IUG				*e*LR		LR	13 49 21.9	
IUG	**Iuzhnay**	**20.02**	**55**	*e*P		**P**	**13 40 27.5**	**+0.1**
IUG				*e*S		Sn	13 44 15.8	+1.4
RAZG	**Razgrad**	**20.03**	**309**	⇑P		**P**	**13 40 27.9**	**+0.4**
VORR	**Voronezh**	**20.13**	**344**	*e*P		**P**	**13 40 29.0**	**+0.6**
VORR				pmax	pmax			
	comp=Z,1μm,1.6s							
RODP	**Rodopos**	**20.18**	**285**	P		**P**	**13 40 29.0**	**-0.2**
THAS	**Thassos island**	**20.21**	**300**	P		**P**	**13 40 28.5**	**-0.9**
BRLS	**Boroldav**	**20.22**	**53**	*e*P		**P**	**13 40 29.5**	**-0.1**
BRLS				*e*S		**S**	**13 44 12.9**	**-3.7**
BRLS				*e*LR		LR	13 49 20.2	
	comp=Z,4μm,9.7s							
BRLS	**Boroldav**	**20.22**	**53**	*e*P		**P**	**13 40 29.4**	**-0.1**
BRLS				*e*S		**S**	**13 44 12.9**	**-3.7**
BRLS				MLR	MLR			
	comp=Z,4μm,10.0s							
KNDR	**Palaiochora Ch**	**20.23**	**284**	P		**P**	**13 40 29.3**	**-0.4**
DION	**Dionisos Attik**	**20.27**	**292**	P		**P**	**13 40 30.1**	**0.0**
SZH	**Strazhica**	**20.28**	**308**	*i* P		Pn	13 40 35.2	+3.0
PTL	**Penteli**	**20.31**	**292**	P		**P**	**13 40 30.4**	**-0.2**
VLY	**Voula,Athens**	**20.34**	**292**	P		**P**	**13 40 30.2**	**-0.7**
ATHU	**Athens Univers**	**20.36**	**292**	P		**P**	**13 40 30.2**	**-0.9**
ATH	**Athens Observa**	**20.42**	**292**	P		**P**	**13 40 32.1**	**+0.4**
MILM	**Milestii Mici**	**20.43**	**320**	⇑P		Pn	13 40 35.2	+1.4
KIS	**Kishinev**	**20.48**	**320**	⇓*i* P		**P**	**13 40 32.5**	**+0.3**
	comp=Z,400nm,4.2s							
KIS	**Kishinev**	**20.48**	**320**	*d i* P		**P**	**13 40 32.5**	**+0.3**
KIS				*i*			13 40 49.0	
KIS				*i* S		**S**	**13 44 22.5**	**+1.0**
KIS				pmax	pmax			
	comp=Z,600nm,4.4s							
KIS				pmax	pmax			
	comp=Z,700nm,9.0s							
KIS				smax	smax			
	comp=E,4μm,1.0s							
KIS				smax	smax			
	comp=N,2μm,11.0s							
KIS				MLR	MLR			
	comp=Z,2μm,15.0s							
KIS				MLR	MLR			
	comp=N,1μm,18.0s							
KIS				MLR	MLR			
	comp=E,2μm,16.0s							
AOS	**Alonnisos**	**20.50**	**296**	P		**P**	**13 40 32.3**	**-0.2**
RZN	**Rozhen**	**20.54**	**303**	*i* P		Pn	13 40 38.3	+3.0
ANKY	**Antikythira Is**	**20.56**	**286**	P		**P**	**13 40 32.8**	**-0.5**
PETR	**Petresti**	**20.64**	**316**	⇓P		**P**	**13 40 34.5**	**+0.5**
SGRR	**Singureni**	**20.67**	**311**	⇓P		Pn	13 40 39.3	+2.6
OUR	**Ouranopolis**	**20.68**	**299**	P		**P**	**13 40 34.1**	**-0.4**
SULR		**20.70**	**312**	⇑P		Pn	13 40 40.7	+3.6
KK31	**Karatay Array**	**20.71**	**53**	*i* P		**P**	**13 40 34.7**	**-0.1**
KK31	**Karatay Array**	**20.71**	**53**	P		**P**	**13 40 34.4**	**-0.5**
KK31				IAmb		IAmb	13 40 44.3	
	comp=Z,211nm,1.0s							
KKAR	**Karatay Array**	**20.71**	**53**	P		**P**	**13 40 34.0**	**-0.8**
KKAR				pmax	pmax			
	comp=Z,211nm,1.0s							
KKAR	**Karatay Array**	**20.71**	**53**	P		**P**	**13 40 33.8**	**-1.1**
KKAR				IAmb		IAmb	13 40 44.3	
	comp=Z,211nm,1.0s							
KKAR	**Karatay Array**	**20.71**	**53**	P		**P**	**13 40 34.0**	**-0.8**
GHRR		**20.72**	**317**	⇓P		Pn	13 40 36.1	-1.1
ISR	**Istrita**	**20.74**	**313**	⇑P		Pn	13 40 36.5	-1.1
ISR	**Istrita**	**20.74**	**313**	⇑P		Pn	13 40 36.5	-1.1
VILL	**Villia**	**20.76**	**293**	P		**P**	**13 40 35.0**	**-0.5**
JASL	**Jaisalmer**	**20.77**	**100**	*e*P		**P**	**13 40 35.6**	**0.0**
KTHA	**Kythira Island**	**20.77**	**287**	P		**P**	**13 40 34.3**	**-1.3**
KRND	**KRANIDI**	**20.79**	**290**	P		**P**	**13 40 34.0**	**-1.8**
PAIG	**Paliouri**	**20.81**	**298**	P		**P**	**13 40 35.2**	**-0.7**
KTHR	**Kythira**	**20.82**	**287**	P		**P**	**13 40 35.5**	**-0.6**
VASR	**Vaslui**	**20.83**	**318**	⇓P		Pn	13 40 42.3	+3.8
EPID	**Epidavros**	**20.84**	**291**	P		**P**	**13 40 37.5**	**+1.2**
VLI	**Veliai**	**20.90**	**288**	P		**P**	**13 40 34.1**	**-2.9**
SECR		**20.99**	**313**	⇓P		Pn	13 40 41.3	+0.8
LTK	**Loutraki**	**21.01**	**292**	P		**P**	**13 40 36.6**	**-1.6**
NEO	**Neokhori**	**21.02**	**296**	P		**P**	**13 40 37.8**	**-0.5**
SOCY	**Socotra**	**21.03**	**163**	P		**P**	**13 40 36.4**	**-2.1**
	SNR=58							
SOCY	**Socotra**	**21.03**	**163**	P		**P**	**13 40 33.6**	**-4.9**
SOCY				IAmb		IAmb	13 40 50.6	
	comp=Z,217nm,0.8s							
NVR	**Nevrokopi**	**21.04**	**301**	P		**P**	**13 40 38.3**	**-0.2**
NEHR	**Nehoiu**	**21.05**	**314**	⇑P		**P**	**13 40 44.2**	**+5.7**
PLOR	**Plostina**	**21.05**	**315**	⇓P		**P**	**13 40 38.8**	**+0.2**
PLOR	**Plostina**	**21.05**	**315**	⇓P		**P**	**13 40 38.8**	**+0.2**
XOR	**Xorichti**	**21.06**	**296**	P		**P**	**13 40 38.0**	**-0.6**
LPSR	**Galich'ya Gora**	**21.06**	**345**	*e*P		**P**	**13 40 36.3**	**-2.2**
LPSR				*e*S		**S**	**13 44 28.6**	**-4.4**
LPSR				pmax	pmax			
	comp=Z,510nm,0.6s							
LPSR				smax	smax			
	comp=N,5μm,10.9s							
LPSR				MLR	MLR			
	comp=Z,7μm,21.0s							
ATAL	**Atalanti**	**21.07**	**294**	P		**P**	**13 40 38.2**	**-0.5**
LKR	**Lokris**	**21.08**	**294**	P		**P**	**13 40 37.9**	**-0.9**
PLG	**Polygyros**	**21.09**	**299**	P		**P**	**13 40 38.5**	**-0.5**
COPA	**Copaceanca**	**21.12**	**310**	⇑P		**P**	**13 40 41.8**	**+2.6**
SRS	**Serrai**	**21.17**	**301**	P		**P**	**13 40 38.9**	**-0.9**
MMB	**Musomiste**	**21.21**	**302**	*i* P		**P**	**13 40 44.9**	**+4.6**
PGB	**Panagyurishte**	**21.21**	**305**	*i* P		**P**	**13 40 45.7**	**+5.4**
SOH	**Sokhos**	**21.27**	**300**	P		**P**	**13 40 40.4**	**-0.5**
MLR	**Muntele Rosu**	**21.29**	**314**	P		**P**	**13 40 42.0**	**+0.8**
	comp=Z,54nm,0.8s,baz=9.9,slow=0.9,SNR=27							
MLR				S		**S**	**13 44 40.1**	**+2.1**
	comp=Z,8.7nm,0.8s,baz=140,slow=18,SNR=1.3							
MLR	**Muntele Rosu**	**21.29**	**314**	⇓P		**P**	**13 40 43.2**	**+2.0**
MLR	**Muntele Rosu**	**21.29**	**314**	⇓P		**P**	**13 40 43.2**	**+2.0**
MLR	**Muntele Rosu**	**21.29**	**314**	P		**P**	**13 40 39.1**	**-2.1**
NIL	**Nilore**	**21.29**	**80**	P		**P**	**13 40 40.4**	**-0.9**
NIL				pmax	pmax			
	comp=Z,315nm,0.8s							
NIL				MLR	MLR			
	comp=Z,19μm,18.0s							
NIL	**Nilore**	**21.29**	**80**	P		**P**	**13 40 40.4**	**-0.9**
NIL	**Nilore**	**21.29**	**80**	IAMs_20	IAMs_20		13 49 56.3	
	comp=Z,19μm,18.0s							
HORT	**Hortiatis**	**21.40**	**299**	P		**P**	**13 40 41.7**	**-0.7**
VLX	**Viachokerasia**	**21.40**	**290**	P		**P**	**13 40 40.5**	**-2.0**
TESR	**Tescani**	**21.41**	**317**	⇑P		**P**	**13 40 45.1**	**+2.8**
ATD	**Arta Tunnel**	**21.42**	**194**	P		**P**	**13 40 45.2**	**+2.5**
	comp=Z,60nm,0.9s,baz=13,slow=7.6,SNR=13							
ATD				S		Sn	13 44 51.1	+2.8
	comp=Z,4.9nm,0.4s,baz=36,slow=21,SNR=1.7							
ATD				Lg		Lg	13 47 18.8	
	comp=Z,34nm,1.0s,baz=190,slow=17,SNR=2.8							
ATD				LR		LR	13 49 20.8	
	comp=Z,15μm,21.1s,baz=12,slow=38							
ATD	**Arta Tunnel**	**21.42**	**194**	P		**P**	**13 40 45.9**	**+3.2**
	SNR=15							
ATD	**Arta Tunnel**	**21.42**	**194**	P		**P**	**13 40 41.1**	**-1.5**
ATD				IAmb		IAmb	13 40 55.8	
	comp=Z,143nm,1.0s							
ATD	**Arta Tunnel**	**21.42**	**194**	IAMs_20	IAMs_20		13 49 23.0	
	comp=Z,22μm,21.0s							
SORM	**Soroca**	**21.44**	**322**	⇑P		**P**	**13 40 40.3**	**-2.3**
SORM	**Soroca**	**21.44**	**322**	⇑P		**P**	**13 40 40.3**	**-2.3**
HUMR	**Humele**	**21.45**	**310**	⇑P		**P**	**13 40 46.2**	**+3.5**
GUR	**Goura**	**21.49**	**292**	P		**P**	**13 40 43.5**	**+0.1**
TRIP	**Tripoli**	**21.50**	**291**	P		**P**	**13 40 41.6**	**-1.9**
THE	**Thessaloniki**	**21.50**	**299**	P		**P**	**13 40 43.4**	**0.0**
TEND	**Ethiopian Broa**	**21.59**	**199**	*e*P		**P**	**13 40 49.1**	**+4.6**
TEND				*e*S		Sn	13 44 58.1	+5.6
STFAR	**Stefanesti-Arg**	**21.61**	**311**	⇓P		**P**	**13 40 44.9**	**+0.4**
AGG	**Agios Georgios**	**21.65**	**295**	P		**P**	**13 40 43.6**	**-1.5**
AGG	**Agios Georgios**	**21.65**	**295**	P		**P**	**13 40 41.9**	**-3.2**
AGG				pmax	pmax			
	comp=Z,146nm,0.9s							
AGG	**Agios Georgios**	**21.65**	**295**	P		**P**	**13 40 41.9**	**-3.2**
AGG				IAmb		IAmb	13 40 58.0	
	comp=Z,146nm,0.9s							
KLV	**Kalavryta, Ach**	**21.66**	**292**	P		**P**	**13 40 44.0**	**-1.1**
KNT	**Kendrikon**	**21.69**	**300**	P		**P**	**13 40 45.0**	**-0.4**
OZLR		**21.69**	**315**	⇓P		**P**	**13 40 47.4**	**0.0**
KALE	**Kalithea**	**21.71**	**293**	P		**P**	**13 40 46.8**	**+1.1**
LIT	**Litokhoron**	**21.74**	**297**	P		**P**	**13 40 44.5**	**-1.4**
LIT	**Litokhoron**	**21.74**	**297**	P		**P**	**13 40 44.1**	**-1.9**
LIT				pmax	pmax			
	comp=Z,89nm,1.1s							
LIT	**Litokhoron**	**21.74**	**297**	P		**P**	**13

SNR=44
SGDS Sogindy 23.64 55 eP P 13 41 05.9 0.0
comp=Z,299nm,2.4s
SGDS eS S 13 45 25.9 +5.1
SGDS eLR LR 13 51 33.8
comp=Z,4μm,10.6s
SGDS Sogindy 23.64 55 eP P 13 41 05.9 0.0
SGDS pmax pmax
comp=Z,299nm,2.4s
SGDS MLR MLR
comp=Z,4μm,11.0s
MDVR Moldovita 23.68 309 ⇑P P 13 41 04.7 -1.5
BTLS Baital 23.81 51 eP P 13 41 07.4 -0.1
comp=Z,26nm,0.9s
BTLS eS S 13 45 27.4 +4.1
BTLS eLR LR 13 51 47.9
comp=Z,3μm,10.6s
BTLS Baital 23.81 51 eP P 13 41 07.3 -0.1
BTLS eS S 13 45 27.3 +4.1
BTLS pmax pmax
comp=Z,26nm,0.9s
BTLS MLR MLR
comp=Z,3μm,11.0s
OBN Obninsk 23.92 344 P P 13 41 07.4 -0.9
comp=Z,17nm,0.5s,baz=162,slow=4.8,SNR=14
OBN S S 13 45 24.1 -0.7
comp=Z,4.0nm,0.4s,baz=345,slow=22,SNR=1.3
OBN LR LR 13 51 59.3
comp=Z,2μm,19.9s,baz=152,slow=40
OBN Obninsk 23.92 344 ⇑P P 13 41 11.6 +3.2
OBN Obninsk 23.92 344 ceP P 13 41 07.3 -1.0
OBN ePPP PPP 13 41 41.4
OBN e 13 44 49.1
OBN iS S 13 45 25.4 +0.7
OBN eSS SnSn 13 46 04.7 +0.6
OBN pmax pmax
comp=Z,118nm,1.7s
OBN MLR MLR
comp=Z,10μm,20.0s
OBN Obninsk 23.92 344 P P 13 41 06.6 -1.8
TIR Tirane 23.95 299 ⇑P P 13 41 12.9 +4.1
TIR Tirane 23.95 299 P P 13 41 06.5 -2.3
TIR pmax pmax
comp=Z,320nm,1.0s
TIR MLR MLR
comp=Z,9μm,20.0s
TIR Tirane 23.95 299 P P 13 41 06.5 -2.3
DHRM DHARAMSHALA 23.99 83 eP P 13 41 08.7 -0.8
DHRM IAmb IAmb 13 41 18.8
comp=Z,230nm,0.4s
DHRM ix x 13 45 33.9
ANKE Ethiopia-Afar 24.05 200 eP P 13 41 14.1 +3.8
BZS Buzias 24.07 310 ⇓P P 13 41 08.8 -1.0
BZS Buzias 24.07 310 ⇓P P 13 41 08.8 -1.0
TKM2 Tokmak 2 24.16 57 P P 13 41 11.8 +0.7
SNR=95
TKM2 Tokmak 2 24.16 57 iP P P 13 41 11.7 +0.7
TKM2 pmax pmax
comp=Z,198nm,1.4s
PVY Plav 24.18 303 ⇓iP P 13 41 10.1 -1.0
BHK Bhakra 24.23 85 eP P 13 41 15.0 +3.5
MOS Moscow 24.27 346 eP P 13 41 10.0 -1.6
MOS e 13 41 48.4
MOS eS S 13 45 29.3 -1.0
MOS pmax pmax
comp=Z,2μm,2.4s
MOS pmax pmax
comp=Z,472nm,1.7s
MOS MLR MLR
comp=Z,7μm,20.0s
BOOM Boomskoye usch 24.29 58 P P 13 41 11.0 -1.2
BOOM pmax pmax
comp=Z,94nm,1.1s
BOOM Boomskoye usch 24.29 58 P P 13 41 11.0 -1.2
BOOM IAmb IAmb 13 41 19.8
comp=Z,94nm,1.1s
IVA Berane 24.30 303 ⇓iP P 13 41 11.2 -1.0
ULHL Ulahol 24.45 59 P P 13 41 15.0 +1.3
SNR=17
ULC Ulcinj 24.54 301 ⇓iP P 13 41 13.5 -0.8
KOME Kolasin 24.57 303 ⇑iP P 13 41 13.7 -0.9
DIVS Divibare 24.60 306 ⇑iP P 13 41 13.9 -0.9
DIVS Divibare 24.60 306 P P 13 41 13.1 -1.7
DIVS IAmb IAmb 13 41 25.2
comp=Z,147nm,1.2s
DRME Dracevica, Mon 24.64 301 ⇑iP P 13 41 14.5 -0.6
DRME Dracevica, Mon 24.64 301 ⇑iP P 13 41 13.2 -1.9
PDG Podgorica 24.65 302 ⇓P P 13 41 14.2 -1.0
PDG Podgorica 24.65 302 ⇑iP P 13 41 14.1 -1.0
PDG Podgorica 24.65 302 P P 13 41 12.7 -2.5
TTG Podgorica 24.65 302 ⇑iP P 13 41 14.6 -0.6
LVV L'vov 24.72 321 eP P 13 41 14.9 -0.9
LVV e 13 41 49.7
LVV eS S 13 45 33.2 -4.6
LVV pmax pmax
comp=Z,380nm,1.6s
LVV smax smax
comp=N,1μm,2.2s
SCTE Santa Cesarea 24.77 296 P P 13 41 14.1 -2.2
SCTE IAmb IAmb 13 41 33.5
comp=Z,101nm,0.8s
PLE Pljevlja 24.79 304 ⇑iP P 13 41 15.8 -0.8
MTBS Maitube 24.80 57 eP P 13 41 17.9 +1.1
MTBS Maitube 24.80 57 eP P 13 41 17.8 +1.1
BUM Brajici-Budva 24.88 301 ⇑iP P 13 41 16.7 -0.6
RUDO Rudo 24.88 305 eP P 13 41 17.9 +0.6
SMLA Simla 24.91 85 eP P 13 41 18.0 +0.4
SMLA IAmb IAmb 13 41 21.9
comp=Z,45nm,0.7s
CEME Cevo 24.92 302 ⇑iP P 13 41 17.0 -0.7
NKY Niksic 24.93 303 ⇓iP P 13 41 17.1 -0.8
BBLS Lazići 24.93 305 ⇑iP P 13 41 16.8 -1.0
NKME Niksic 24.95 302 ⇑iP P 13 41 17.3 -0.6
KUU Kurty 24.96 55 ⇑iP P 13 41 18.3 +0.2
comp=Z,44nm,0.8s
KUU eS S 13 45 47.5 +5.7
KUU eLR LR 13 52 20.5
comp=Z,6μm,10.7s
KUU Kurty 24.96 55 ciP P 13 41 18.2 +0.2
KUU pmax pmax
comp=Z,44nm,0.8s
KUU MLR MLR
comp=Z,6μm,11.0s
ARU Arti 25.01 14 P P 13 41 18.0 -0.3
comp=Z,12nm,0.8s,baz=188,slow=9.4,SNR=42
ARU S S 13 45 43.0 +0.8
comp=Z,2.3nm,0.6s,baz=110,slow=20,SNR=1.2
ARU ScP ScP 13 48 34.2 +1.8
comp=Z,5.9nm,0.8s,baz=147,slow=3.0,SNR=4.3
ARU LR LR 13 53 50.2
comp=Z,10μm,21.4s,baz=226,slow=43
ARU Arti 25.01 14 ciP P 13 41 18.0 -0.3
ARU PPP PPP 13 41 59.6
ARU S S 13 45 42.3 0.0
ARU SSS SSS 13 46 48.7
ARU pmax pmax
comp=Z,73nm,1.0s
ARU MLR MLR
comp=Z,10μm,20.0s
ARU Arti 25.01 14 P P 13 41 17.1 -1.2
FURI Furi 25.02 202 IAMs_20 IAMs_20 13 51 22.4
comp=Z,20μm,20.0s
UZH Uzhgorod 25.03 317 eP P 13 41 18.1 -0.5
UZH e 13 41 32.5
UZH e 13 41 59.3
UZH e 13 44 53.3
UZH eS S 13 45 37.1 -5.6
UZH MLR MLR
comp=N,1μm,18.0s
UZH MLR MLR
comp=E,2μm,18.0s
TEKS Tekeris 25.06 307 eP P 13 41 18.2 -0.7
FRGS Fruska Gora 25.07 308 ⇑iP P 13 41 18.5 -0.5
UPM Unac-Piva 25.09 303 ⇑iP P 13 41 18.5 -0.9
UPM Unac-Piva 25.09 303 eP P 13 41 19.9 +0.5
TNSS Tian-Shan 25.15 57 ⇑iP P 13 41 20.9 +0.8
TNSS Tian-Shan 25.15 57 ⇑iP P 13 41 20.9 +0.8
AAA Alma-Ata 25.17 57 eP P 13 41 19.9 -0.1
AAA eS S 13 45 50.2 +4.9
AAA eLR LR 13 52 37.1
comp=E,12μm,12.4s
AAA Alma-Ata 25.17 57 eP P 13 41 19.9 -0.1
AAA eS S 13 45 50.1 +4.9
AAA MLR MLR
comp=Z,12μm,12.0s
HCY Herceg Novi 25.20 302 ⇑iP P 13 41 19.7 -0.5
HCY Herceg Novi 25.20 302 eP P 13 41 19.3 -0.9
KOLS Kolonicke sedl 25.20 318 eP P 13 41 20.0 -0.1
KOLS e 13 41 25.8
KOLS pmax pmax
comp=Z,648nm,1.6s
KOLS Kolonicke sedl 25.20 318 eP P 13 41 20.0 -0.1
KOLS e 13 41 25.8
KOLS eS S 13 45 51.1 +5.6
MDOK Medeo 25.25 57 eP P 13 41 21.2 +0.4
MDOK eS S 13 45 47.2 +0.5
MDOK eLR LR 13 52 31.8
comp=Z,16μm,12.3s
MDOK Medeo 25.25 57 eP P 13 41 21.2 +0.4
MDOK eS S 13 45 47.2 +0.5
MDOK MLR MLR
comp=Z,16μm,12.0s
BRY Bratogost 25.27 303 ⇓iP P 13 41 20.2 -0.8
BRY Bratogost 25.27 303 eP P 13 41 19.3 -1.7
HAPS Han Pijesak,Bl 25.31 305 ⇑iP P 13 41 20.0 -1.3
KWP Kalwaria Pacla 25.33 320 eP P 13 41 21.1 -0.1
KWP epP sP 13 41 26.4 +1.5
KWP eS S 13 45 50.4 +2.9
KWP Kalwaria Pacla 25.33 320 P P 13 41 18.6 -2.7
KWP pmax pmax
comp=Z,218nm,0.8s
KWP Kalwaria Pacla 25.33 320 P P 13 41 18.6 -2.7
BRZS Berezniki 25.34 39 eP P 13 41 20.6 -0.9
BRZS eS S 13 45 50.5 +2.7
BRZS eLR LR 13 52 25.2
BRZS Berezniki 25.34 39 eP P 13 41 20.5 -0.9
BRZS eS S 13 45 50.5 +2.7
NDI New Delhi 25.52 91 ex P 13 41 27.0 +3.8
NDI ex P 13 41 28.0 +4.8
SVE Sverdlovsk 25.84 16 ⇑eP P 13 41 25.8 0.0
SVE eS S 13 45 58.0 +2.6
SVE pmax pmax
comp=Z,136nm,1.5s
SVE MLR MLR
comp=Z,15μm,16.0s
TIP Timpagrande 25.97 294 ⇓P P 13 41 26.6 -0.8
TIP Timpagrande 25.97 294 P P 13 41 25.9 -1.5
TIP IAmb IAmb 13 41 34.9
comp=Z,126nm,0.8s
KECS Kecovo 26.01 316 eP P 13 41 27.5 0.0
KECS e 13 41 33.5
KECS pmax pmax
comp=Z,143nm,0.8s
KECS Kecovo 26.01 316 eP P 13 41 27.5 0.0
KECS e 13 41 33.5
KIRV Kirov 26.06 2 P P 13 41 27.2 -0.5
comp=Z,41nm,0.7s,baz=303,slow=1.0,SNR=17
KIRV S S 13 46 01.1 +2.3
comp=Z,11nm,0.6s,baz=282,slow=23,SNR=7.4
KIRV LR LR 13 54 10.2
comp=Z,13μm,18.3s,baz=177,slow=42
BRVK Borovoye 26.09 32 ciP P 13 41 27.8 -0.3
BRVK pmax pmax
comp=Z,48nm,1.0s
BRVK Borovoye 26.09 32 P P 13 41 27.6 -0.5
BRVK IAmb IAmb 13 41 34.9
comp=Z,116nm,1.1s
PSZ Piszkesteto 26.11 314 ⇓P P 13 41 28.5 0.0
PSZ Piszkesteto 26.11 314 ⇓P P 13 41 28.5 0.0
PSZ Piszkesteto 26.11 314 P P 13 41 27.5 -1.0
BVAR Borovoye Array 26.11 32 P P 13 41 28.4 +0.1
comp=Z,16nm,0.7s,baz=214,slow=23,SNR=113
BVAR PcP PcP 13 44 57.6 +2.0
comp=Z,7.9nm,0.8s,baz=175,slow=19,SNR=2.4
BVAR ScP ScP 13 48 37.0 +1.4
comp=Z,9.4nm,0.6s,baz=208,slow=16,SNR=15
MICGM Minsk 26.12 333 ⇑eP P 13 41 32.0 +3.6
MICGM PM 13 41 34.0
comp=Z,1.2nm,1.0s
MICGM PM 13 41 37.0
comp=N,0.9nm,1.2s
MICGM PM 13 41 37.0
comp=E,0.7nm,1.8s
MICGM ePP PnPn 13 42 27.0 +21
MICGM ePPP PPP 13 42 40.0
MICGM eS S 13 46 01.0 +1.1
MICGM eSS SnSn 13 47 08.0 +10
MICGM eSSS SSS 13 47 26.0
MICGM eLR LR 13 51 24.0
MICGM LRM MLR 13 53 04.0
comp=Z,21nm,20.0s
MICGM LRM MLR 13 53 06.0
comp=Z,14nm,18.0s
MNK Minsk 26.12 333 ⇑eP P 13 41 32.0 +3.6
MNK e 13 42 27.0
MNK eS S 13 46 01.0 +1.1
MNK e 13 47 08.0
MNK e 13 47 26.0
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=N,940nm,1.2s
MNK pmax pmax
comp=E,690nm,1.8s
MNK MLR MLR
comp=Z,21μm,20.0s
MNK MLR MLR
comp=Z,14μm,18.0s
MATE Matera 26.18 297 ⇑P P 13 41 29.1 0.0
SATY Saty 26.19 58 ⇑iP P 13 41 30.2 +0.9
comp=Z,37nm,1.1s
SATY eS S 13 46 05.9 +4.3
SATY Saty 26.19 58 ciP P 13 41 30.2 +0.9
SATY eS S 13 46 05.8 +4.3
SATY pmax pmax
comp=Z,37nm,1.1s
MORH Mrgy, Hungar 26.21 310 ⇑iP P 13 41 28.8 -0.5
ZHN Zhinishke 26.23 57 eS S 13 46 06.7 +4.4
KPKS Kokpek 26.48 57 ⇑iP P 13 41 32.2 +0.3
comp=Z,38nm,1.0s
KPKS eS S 13 46 11.1 +4.9
KPKS eLR LR 13 53 26.1
comp=Z,7μm,11.5s
KPKS Kokpek 26.48 57 ciP P 13 41 32.2 +0.3
KPKS eS S 13 46 11.0 +4.9
KPKS pmax pmax
comp=Z,38nm,1.0s
KPKS MLR MLR
comp=Z,7μm,12.0s
NIE Niedzica 26.56 317 eP P 13 41 32.4 -0.1
NIE epP sP 13 41 37.8 +1.7
NIE eS S 13 46 10.4 +3.3
CEL Celeste 26.59 291 P P 13 41 30.7 -2.2
CEL IAmb IAmb 13 41 41.1
comp=Z,162nm,1.1s
UZB Uzynbulak 26.65 58 ⇑iP P 13 41 33.9 +0.3
comp=Z,36nm,1.3s
UZB eS S 13 46 13.1 +4.2
UZB eLR LR 13 54 20.3
UZB Uzynbulak 26.65 58 ciP P 13 41 33.8 +0.3
UZB eS S 13 46 13.0 +4.2
UZB pmax pmax
comp=Z,36nm,1.3s
TDK Taldyqorghan 26.70 53 eP P 13 41 33.4 -0.4
comp=Z,102nm,1.0s
TDK eS S 13 46 10.9 +1.5
TDK eLR LR 13 53 14.6
comp=Z,15μm,12.1s
TDK Taldyqorghan 26.70 53 eP P 13 41 33.4 -0.4
TDK eS S 13 46 10.8 +1.5
TDK pmax pmax
comp=Z,102nm,1.0s
TDK MLR MLR
comp=Z,15μm,12.0s
BLY Banja Luka 26.71 306 ⇑iP P 13 41 32.1 -1.8
NACGM Naroch 26.84 333 eP P 13 41 33.0 -1.9
NACGM eP P 13 41 33.0 -1.9
NACGM ePP sP 13 41 38.0 -0.5
NACGM PM 13 41 42.0
comp=Z,0.6nm,1.0s
NACGM ePPP PPP 13 42 54.0
NACGM eS S 13 46 12.0 +0.7
NACGM eSS SnSn 13 47 12.0 -3.5
NACGM eSSS SSS 13 47 54.0
NACGM eLQ LQ 13 50 36.0
NACGM eLR LR 13 52 16.0
NACGM LRM MLR 13 53 41.0
comp=Z,8.4nm,20.0s
LANS Liptovska Anna 26.91 316 eP P 13 41 36.1 +0.4
LANS e 13 41 44.8
LANS pmax pmax
comp=Z,77nm,1.2s
LANS Liptovska Anna 26.91 316 eP P 13 41 36.1 +0.4
LANS e 13 41 44.8
SHLS Shalkode 26.96 58 eP P 13 41 38.3 +2.0
comp=Z,72nm,1.7s
SHLS eS S 13 46 23.9 +10
SHLS eLR LR 13 54 20.0
comp=Z,2μm,10.5s
SHLS Shalkode 26.96 58 eP P 13 41 38.3 +2.0
SHLS eS S 13 46 23.8 +10
SHLS pmax pmax
comp=Z,72nm,1.7s
SHLS MLR MLR
comp=Z,2μm,11.0s
VYHS Vyhne 26.99 315 eP P 13 41 36.2 -0.2
VYHS pmax pmax
comp=Z,101nm,1.3s
VYHS Vyhne 26.99 315 eP P 13 41 36.2 -0.2
PDGK Podgornoye 27.02 57 P P 13 41 39.1 +2.3
SGRT San Giovanni R 27.07 299 P P 13 41 35.4 -1.8
SGRT IAmb IAmb 13 41 47.3
comp=Z,114nm,1.2s
IDID Didziasalis 27.17 333 eP P 13 41 37.7 -0.1
POO Poona 27.20 115 ⇓iP P 13 41 41.0 +2.5
comp=Z,110nm,1.0s
POO eP sP 13 41 42.6 +0.5
POO IAmb IAmb 13 41 46.8
comp=Z,34nm,0.7s
POO ix x 13 46 34.2
OJC Ojcow 27.24 319 eP P 13 41 38.1 -0.5
OJC epP sP 13 41 43.5 +1.4
OJC eS S 13 46 17.1 -0.5
OJC Ojcow 27.24 319 P P 13 41 37.0 -1.5
OJC pmax pmax
comp=Z,212nm,1.0s
OJC Ojcow 27.24 319 P P 13 41 37.0 -1.5
IIGN Ignalina 27.39 333 eP P 13 41 39.8 0.0
DILA Dilla 27.47 201 eP P 13 41 47.5 +6.5
BEHE Becsehely 27.52 309 eP P 13 41 43.8 +2.7
ISAL Salakas 27.59 333 eP P 13 41 41.5 -0.1
BHPL Bhopal 27.65 102 eP P 13 41 42.7 +0.1
BHPL IAmb IAmb 13 41 47.9
comp=Z,70nm,1.1s
BHPL ix x 13 46 44.2
SUW Suwalki 27.73 328 eP P 13 41 42.0 -0.9
SUW eS S 13 46 24.2 -1.0
SUW Suwalki 27.73 328 P P 13 41 41.0 -1.8
SUW pmax pmax
comp=Z,178nm,1.0s
SUW Suwalki 27.73 328 P P 13 41 41.0 -1.8
ZAG Zagreb 27.83 308 eP P 13 41 49.2 +5.3
PAOL Paolisi 27.84 297 P P 13 41 42.0 -2.1
JAVC Velka Javorina 27.85 315 eP P 13 41 44.5 +0.4
JAVC eS S 13 46 29.2 +1.8
SMOL Smolenice 27.85 314 eP P 13 41 44.1 0.0
SMOL e 13 41 49.9
SMOL pmax pmax
comp=Z,40nm,1.4s
SMOL Smolenice 27.85 314 eP P 13 41 44.1 0.0
SMOL e 13 41 49.9
MODS Modra-Piesok 27.89 314 eP P 13 41 42.8 -1.6
MODS e 13 41 50.6
MODS pmax pmax
comp=Z,123nm,1.5s
MODS Modra-Piesok 27.89 314 eP P 13 41 42.8 -1.6
MODS e 13 41 50.6
ZST Bratislava 27.93 313 eP P 13 41 43.1 -1.6
ZST e 13 41 51.2
ZST eS S 13 46 30.9 +2.3
ZST pmax pmax
comp=Z,274nm,1.5s
ZST Bratislava 27.93 313 eP P 13 41 43.1 -1.6
ZST e 13 41 51.2
ZST eS S 13 46 30.9 +2.3
GCIS Gornji Cirnik 28.09 308 iP P 13 41 46.0 -0.2
GCIS eS S 13 46 31.1 -0.1
BOJS Bojanci 28.24 307 iP P 13 41 47.2 -0.3
BOJS e 13 48 26.0
MORC Moravsky Berou 28.32 316 ⇑P P 13 41 47.6 -0.6
MORC Moravsky Berou 28.32 316 eP P 13 41 47.3 -1.0
MORC e 13 41 52.4
MORC eS S 13 46 30.4 -4.4
MORC Moravsky Berou 28.32 316 ⇑P P 13 41 47.6 -0.6
MORC Moravsky Berou 28.32 316 P P 13 41 46.4 -1.9
MORC IAmb IAmb 13 41 56.0
comp=Z,96nm,1.5s
INTR Introdacqua 28.46 299 P P 13 41 47.9 -1.8
INTR IAmb IAmb 13 42 04.8
comp=Z,61nm,1.0s
ARSA Arzberg 28.58 310 eP P 13 41 50.2 -0.4
comp=Z,33nm,1.1s
CONA Conrad Observa 28.60 312 eP P 13 41 50.1 -0.7
comp=Z,36nm,1.1s,SNR=1.5
VRAC Vranov 28.68 315 P P 13 41 51.5 +0.1
comp=Z,7.4nm,0.6s,baz=104,slow=8.5,SNR=9.9
VRAC S S 13 46 43.9 +3.5
comp=Z,1.3nm,0.3s,baz=146,slow=13,SNR=1.3
VRAC LR LR 13 56 06.2
comp=Z,3μm,18.6s,baz=116,slow=42
VRAC Vranov 28.68 315 ⇑P P 13 41 56.1 +4.6
VRAC Vranov 28.68 315 eP P 13 41 50.9 -0.5
VRAC e 13 41 56.0
VRAC eS S 13 46 38.3 -2.1
VRAC Vranov 28.68 315 ⇑P P 13 41 56.1 +4.6
KRUC Moravsky 28.70 314 eP P 13 41 51.0 -0.6
KRUC e 13 41 55.2
KRUC eS S 13 46 36.9 -3.8
RIY Rijeka 28.71 306 eP P 13 41 53.0 +1.3
SOKA Soboth 28.72 309 eP P 13 41 51.4 -0.6
comp=Z,29nm,1.5s
KLMR Klimovskoe 28.84 352 eP P 13 41 49.9 -2.8
KLMR e 13 45 00.5
KLMR eS S 13 46 39.5 -3.1
KLMR pmax pmax
comp=Z,173nm,1.2s
KLMR MLR MLR
comp=Z,4μm,16.0s
KLMR Klimovskoe 28.84 352 eP P 13 41 49.9 -2.8
KLMR AMP 13 42 01.4
comp=Z,173nm,1.2s
KLMR ePcP PcP 13 45 00.5 -1.5
KLMR eS S 13 46 39.6 -3.1
KLMR eS S 13 46 39.6 -3.1
KLMR LQ LQ 13 51 24.9
KLMR LQ LQ 13 51 24.9
KLMR LR LR 13 53 31.5
KLMR AMP 13 54 37.8
comp=Z,4μm,16.3s
CEY Cerknica 28.86 307 ⇑iP P 13 41 51.4 -1.7
LJU Ljubljana 28.87 308 iP P 13 41 53.1 -0.1
LJU i 13 41 58.8
LJU eS S 13 46 42.0 -1.5
LJU e 13 47 09.2
LJU Ljubljana 28.87 308 ⇑iP P 13 41 53.1 -0.1
AQU L'Aquila 28.88 300 P P 13 41 51.4 -2.0
AQU pmax pmax
comp=Z,66nm,0.9s
AQU L'Aquila 28.88 300 ⇑iP P 13 41 58.0 +4.6
AQU L'Aquila 28.88 300 P P 13 41 51.4 -2.0
AQU IAmb IAmb 13 42 17.4
comp=Z,66nm,0.9s
KRLC Kraliky 28.89 316 eP P 13 41 52.5 -0.8
KRLC epP sP 13 41 57.6 +0.6
KRLC eS S 13 46 50.6 +6.8
KRLC AMS AMS 13 55 00.0
comp=Z,5μm,16.1s
KRLC Kraliky 28.89 316 eP P 13 41 52.5 -0.8
KRLC e 13 41 57.6
KRLC MLR MLR
comp=Z,5μm,16.1s
KURBB Kurchatov Arra 28.90 42 P P 13 41 54.0 +0.6
comp=Z,17nm,0.9s,baz=249,slow=9.5,SNR=44
KURBB PcP PcP 13 45 04.6 +2.2
comp=Z,8.0nm,0.9s,baz=238,slow=3.5,SNR=5.6
KURBB S S 13 46 48.0 +4.2
comp=Z,1.3nm,0.9s,baz=360,slow=24,SNR=1.2
KURBB ScP SS 13 48 45.4 -0.6
comp=Z,7.0nm,0.9s,baz=239,slow=3.7,SNR=10
KURBB Kurchatov Arra 28.90 42 P P 13 41 53.2 -0.2
OBKA Obir 28.99 309 eP P 13 41 55.2 +0.9

comp=Z,50nm,1.4s
KURK Kurchatov 29.00 42 *c* iP **P 13 41 54.8 +0.6**
KURK pmax pmax
comp=Z,43nm,1.3s
KURK Kurchatov 29.00 42 P **P 13 41 53.3 -0.9**
KURK IAmb IAmb 13 42 01.0
comp=Z,65nm,1.1s
KURK Kurchatov 29.00 42 **PcP 13 45 04.6 +2.0**
KURK **S 13 46 48.0 +2.7**
KURK **ScP 13 48 45.4 +1.0**
KURK Kurchatov 29.00 42 IAMs_20 IAMs_20 13 54 25.6
comp=Z,11µm,22.0s
GOA Goa 29.05 120 *e*P **P 13 41 55.8 +0.8**
NRCA Norcia 29.16 301 P **P 13 41 53.8 -2.1**
NRCA IAmb IAmb 13 42 19.7
comp=Z,96nm,1.1s
DPC Dobruska-Polom 29.27 317 *e*P **P 13 41 55.8 -1.0**
DPC *ep*P **sP 13 42 00.4 0.0**
DPC AMS AMS 13 55 10.0
comp=Z,4µm,17.6s
DPC Dobruska-Polom 29.27 317 *e*P **P 13 41 55.8 -1.0**
DPC *e* 13 42 00.4
DPC MLR MLR
comp=Z,4µm,17.6s
TREC Trest 29.34 314 *e*S **S 13 46 54.3 +3.5**
TREC AMS AMS 13 56 50.0
comp=Z,5µm,13.7s
OSTC Ostas 29.43 317 *e*P **P 13 41 57.2 -0.9**
OSTC *ex* x 13 42 02.6
OSTC AMS AMS 13 53 30.0
comp=Z,6µm,22.7s
CADS Cadrg 29.45 308 *i* P **P 13 41 57.5 -0.9**
KSP Ksiaz 29.51 318 *e*P **P 13 41 58.1 -0.6**
KSP *ep*P **sP 13 42 03.6 +1.3**
KSP *e*S **S 13 46 53.7 +0.4**
UPC Upice 29.52 317 *e*P **P 13 41 58.1 -0.8**
UPC *e*S **S 13 46 54.9 +1.3**
UPC AMS AMS 13 55 20.0
comp=Z,4µm,16.5s
UPC Upice 29.52 317 *e*P **P 13 41 58.1 -0.8**
UPC *e*S **S 13 46 54.9 +1.3**
UPC MLR MLR
comp=Z,4µm,16.5s
CHVC Chvalec 29.53 317 *ex* **pP 13 42 02.7 +1.1**
CHVC AMS AMS 13 53 30.0
comp=Z,6µm,25.9s
MOA Molln 29.59 311 *e*P **P 13 41 59.0 -0.6**
comp=Z,50nm,1.0s,SNR=21
VSU Vasula 29.59 337 *de*P **P 13 41 58.3 -1.0**
VSU pmax pmax
comp=Z,123nm,2.0s
KLRI Killari 29.60 112 *e*P **P 13 42 00.3 +0.5**
KLRI IVmB_BB 13 42 06.5
comp=Z,553nm,4.5s
MAKZ Makanchi 29.61 51 P **P 13 42 00.1 +0.3**
MAKZ Makanchi 29.61 51 P **P 13 41 58.5 -1.3**
PRED Cave del Predi 29.62 308 P **P 13 41 58.5 -1.4**
MYKA Terra Mystica 29.62 308 *e*P **P 13 41 57.9 -2.1**
comp=Z,10nm,0.6s
MURB Monte Urbino 29.66 301 P **P 13 41 59.1 -1.1**
MK31 Makanchi Array 29.82 51 *i* P **P 13 42 01.8 +0.2**
MK31 pmax pmax
comp=Z,54nm,0.7s
MK31 Makanchi Array 29.82 51 P **P 13 42 01.7 +0.1**
MK31 IAmb IAmb 13 42 11.0
comp=Z,44nm,0.7s
MKAR Makanchi Array 29.82 51 P **P 13 42 02.1 +0.5**
comp=Z,26nm,0.8s,baz=246,slow=7.6,SNR=196
MKAR ScP **ScP 13 48 48.8 +1.7**
comp=Z,11nm,1.1s,baz=264,slow=2.4,SNR=7.8
MKAR LR LR 13 54 50.2
comp=Z,8µm,21.0s,baz=246,slow=38
MKAR Makanchi Array 29.82 51 P **P 13 42 01.8 +0.2**
KBA Koelnbreinsper 29.95 309 *e*P **P 13 42 02.4 -0.5**
comp=Z,30nm,1.3s,SNR=25
GOPC GO Pecny, Ondr 30.00 315 *e*P **P 13 42 03.0 -0.1**
GOPC *ep*P **sP 13 42 07.5 +0.7**
GOPC *e*S **S 13 47 02.2 +1.0**
GOPC GO Pecny, Ondr 30.00 315 *e*P **P 13 42 03.0 -0.1**
GOPC *e* 13 42 07.5
GOPC *e*S **S 13 47 02.2 +1.0**
ZOU Zoufplan 30.05 308 P **P 13 42 02.8 -1.0**
LATE Laterza 30.09 300 P **P 13 42 02.9 -1.1**
LATE IAmb IAmb 13 42 12.4
comp=Z,109nm,1.2s
STAL STALIGIAL 30.15 307 P **P 13 42 03.1 -1.5**
STAL IAmb IAmb 13 42 11.8
comp=Z,97nm,1.3s
PRU Pruhonice 30.17 315 *e*P **P 13 42 05.3 +0.6**
PRU *e*S **S 13 47 04.5 +0.7**
PRU AMS AMS 13 56 40.0
comp=Z,4µm,17.2s
PRU Pruhonice 30.17 315 *e*P **P 13 42 05.3 +0.6**
PRU *e*S **S 13 47 04.5 +0.7**
PRU MLR MLR
comp=Z,4µm,17.2s
GERES GERESS Array B 30.27 313 P **P 13 42 04.8 -0.9**
comp=Z,2.4nm,0.9s,baz=106,slow=8.5,SNR=14
GERES PcP **PcP 13 45 05.7 -0.3**
comp=Z,5.8nm,0.7s,baz=101,slow=2.7,SNR=2.3
GERES ScP **ScP 13 48 50.0 +1.3**
comp=Z,2.0nm,0.9s,baz=151,slow=3.0,SNR=4.4
GERES LR LR 13 56 16.6
comp=Z,4µm,19.4s,baz=106,slow=41
GERES GERESS Array B 30.27 313 P **P 13 42 03.6 -2.0**
PRA Prague 30.27 315 AMS AMS 13 57 00.0
comp=Z,2µm,14.8s
CIMO Cimolais 30.34 307 P **P 13 42 04.8 -1.5**
CIMO IAmb IAmb 13 42 13.0
comp=Z,50nm,1.0s
PVCC Panska Ves 30.37 316 *e*S **S 13 47 04.5 -2.4**
PBCC Pribram 30.39 314 *e*P **P 13 42 06.0 -0.6**
PBCC *ex* x 13 42 11.3
ABTA Abfaltersbach 30.41 308 *e*P **P 13 42 06.0 -0.9**
comp=Z,17nm,0.7s,SNR=16
KHC Kasperske Hory 30.44 313 *e*P **P 13 42 06.7 -0.4**
KHC *ep*P **sP 13 42 12.3 +1.6**
KHC *e*S **S 13 47 10.8 +2.6**
KHC AMS AMS 13 55 30.0
comp=Z,4µm,20.5s
KHC Kasperske Hory 30.44 313 P **P 13 42 05.5 -1.6**
TEOL Teolo 30.65 305 P **P 13 42 06.7 -2.2**
TEOL IAmb IAmb 13 42 20.9
comp=Z,77nm,0.9s
CTI Castel Tesino 30.81 307 P **P 13 42 08.9 -1.6**
CTI pmax pmax
comp=Z,75nm,0.8s
CTI Castel Tesino 30.81 307 P **P 13 42 08.9 -1.6**
CTI IAmb IAmb 13 42 16.2
comp=Z,75nm,0.8s
BRG Berggiesshubel 30.87 316 *e*P **P 13 42 09.7 -1.1**
comp=Z,8.7nm,0.9s
BRG *i* 13 42 14.8
comp=Z,16nm,0.8s
BRG S **S 13 47 12.0 -2.8**
comp=N,6µm,16.5s
comp=E,3µm,17.1s
comp=Z,5µm,16.6s
BRG Berggiesshubel 30.87 316 *e*P **P 13 42 09.7 -1.1**
BRG *i* 13 42 14.8
BRG S **S 13 47 12.0 -2.8**
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG MLR MLR
comp=N,6µm,16.5s
BRG MLR MLR
comp=E,3µm,17.1s
BRG MLR MLR
comp=Z,5µm,16.6s
ZCCA Zocca 30.95 303 P **P 13 42 09.6 -2.0**
WTTA Wattenberg 31.12 309 *i* P **P 13 42 12.3 -1.0**
comp=Z,112nm,1.3s,SNR=18
WTTA S **S 13 47 20.5 +1.4**
comp=Z,50nm,1.2s
WATA Walderalm 31.18 309 *i* P **P 13 42 12.0 -1.7**
comp=Z,105nm,1.3s,SNR=14
WATA *e*S **S 13 47 21.4 +1.5**
comp=Z,34nm,1.2s
LODK Lodwar 31.25 205 P **P 13 42 16.8 +2.2**
SNR=16
RPR Rampur 31.30 108 *e*P **P 13 42 15.2 +0.2**
RPR IVmB_BB 13 42 20.9
comp=Z,473nm,5.1s
VLC Villacollemand 31.33 303 P **P 13 42 13.5 -1.5**
SQTA Sankt Quirin 31.39 309 *e*P **P 13 42 14.2 -1.4**
comp=Z,36nm,0.5s,SNR=16
SQTA *e*S **S 13 47 22.6 -0.6**
comp=Z,15nm,1.3s
MOTA Moosalm 31.49 309 *e*P **P 13 42 14.8 -1.7**
comp=Z,68nm,0.8s,SNR=18
MOTA *e*S **S 13 47 22.2 -2.6**
comp=Z,13nm,1.0s
SALO Salr 31.49 305 P **P 13 42 14.9 -1.5**
HYBB Hyderabad (bro 31.50 111 *e*P **P 13 42 17.2 +0.6**
HYBB IVmB_BB 13 42 22.1
comp=Z,652nm,1.4s
HYB Hyderabad 31.50 111 *i* P **P 13 42 17.0 +0.3**
comp=Z,150nm,1.0s
HYB *e*S **S 13 47 28.0 +2.8**
CLL Collm 31.59 317 *e*P **P 13 42 16.0 -1.1**
comp=Z,15nm,1.0s
CLL *i* sP **sP 13 42 21.4 +0.7**
comp=Z,116nm,1.7s
CLL *e* 13 42 34.0
CLL *e*PP **PP 13 43 26.0 -2.3**
CLL *e*PPPP 13 43 33.0
CLL *e* 13 43 41.0
CLL *e*S **S 13 47 30.0 +4.1**
CLL *e*SSS SSS 13 49 18.0
CLL *e*SSSS 13 49 48.0
CLL Lmax 13 57 00.0
CLL Collm 31.59 317 *e*P **P 13 42 16.0 -1.1**
CLL *i* 13 42 21.4
CLL *e*S **S 13 47 30.0 +4.1**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 31.59 317 P **P 13 42 15.3 -1.8**
FETA Feichten 31.66 308 *e*P **P 13 42 17.0 -1.0**
comp=Z,94nm,1.1s,SNR=15
FETA *e*S **S 13 47 29.1 +1.6**
comp=Z,40nm,2.0s
ZSN Zaisan 31.68 51 *e*P **P 13 42 17.8 -0.3**
ZSN *e*S **S 13 47 26.5 -1.1**
ZSN *e*LR LR 13 57 07.2
comp=Z,3µm,11.2s
ZSN Zaisan 31.68 51 *e*P **P 13 42 17.7 -0.3**
ZSN *e*S **S 13 47 26.5 -1.1**
ZSN MLR MLR
comp=Z,3µm,11.0s
VSL Villasalto 31.70 294 P **P 13 42 15.3 -3.0**
RETA Reutte 31.75 309 *e*P **P 13 42 17.2 -1.5**
comp=Z,19nm,0.7s
RETA *e*S **S 13 47 26.8 -1.9**
comp=Z,20nm,0.9s
CUPL Choutuppal 31.86 111 *e*P **P 13 42 19.2 -0.6**
CUPL IVmB_BB 13 42 25.9
comp=Z,484nm,5.6s
FUORN Ofenpass-Fuorn 31.88 307 P **P 13 42 18.2 -1.8**
FUORN IAmb IAmb 13 42 27.9
comp=Z,108nm,1.5s
KEST Kesra 31.90 287 P **P 13 42 21.4 +1.3**
comp=Z,7.5nm,1.0s,baz=217,slow=5.1,SNR=3.4
KEST Kesra 31.90 287 P **P 13 42 18.8 -1.4**
URV Uravakonda 31.96 116 *e*P **P 13 42 20.9 +0.2**
URV IVmB_BB 13 42 26.9
comp=Z,354nm,5.1s
MSSA Maissana 31.97 303 P **P 13 42 19.1 -1.6**
GRA1 Grafenberg Arr 32.08 313 P **P 13 42 20.1 -1.3**
GRF Grafenberg Arr 32.08 313 P **P 13 42 20.2 -1.3**
GRF pmax pmax
comp=Z,202nm,1.5s
DAVOX Davos/Dischmat 32.17 307 P **P 13 42 21.1 -1.4**
comp=Z,4.4nm,0.5s,baz=119,slow=11,SNR=7.6
DAVOX S **S 13 47 34.8 -0.8**
comp=Z,1.2nm,0.4s,baz=336,slow=9.2,SNR=1.3
FIA1 FINESS Array S 32.18 340 P **P 13 42 20.5 -1.6**
FIA1 IAmb IAmb 13 42 33.6
comp=Z,99nm,1.4s
FINES FINESS Array B 32.18 340 P **P 13 42 20.3 -1.8**
comp=Z,5.4nm,0.3s,baz=145,slow=8.6,SNR=27
FINES LR LR 13 57 10.3
comp=Z,9µm,18.7s,baz=148,slow=40
FINES FINESS Array B 32.18 340 *i* P **P 13 42 20.8 -1.3**
FINES pmax pmax
comp=Z,5.0nm,0.3s
FINES FINESS Array B 32.18 340 P **P 13 42 20.1 -2.0**
BSD Bornholm Skovb 32.28 324 *i* P **P 13 42 25.1 +2.0**
BSD pmax pmax
comp=Z,67nm,0.8s
BSD MLR MLR
comp=Z,4µm,16.0s
BSD Bornholm Skovb 32.28 324 *i* P **P 13 42 25.1 +2.0**
comp=Z,66nm,0.8s
comp=Z,4µm,16.0s
BSD Bornholm Skovb 32.28 324 *i* P **P 13 42 25.1 +2.0**
BSD *ep* P **13 42 25.5 +2.4**
BSD IAmb IAmb 13 42 27.6
comp=Z,66nm,0.8s
BSD IAMs_20 IAMs_20 14 00 27.8
comp=Z,4µm,15.7s
DAVA Damuels 32.28 308 *e*P **P 13 42 22.1 -1.4**
comp=Z,28nm,0.7s,SNR=17
DAVA S **S 13 47 36.4 -0.8**
comp=Z,55nm,1.4s
TUE Stuetta 32.47 307 P **P 13 42 23.1 -2.1**
TUE IAmb IAmb 13 42 39.6
comp=Z,86nm,1.3s
SRLM Srisailam 32.52 113 *e*P **P 13 42 25.8 +0.1**
SRLM IVmBBB 13 42 32.7
comp=Z,558nm,3.4s
NJS Nagarjunasagar 32.58 112 *e*P **P 13 42 26.3 +0.1**
NJS IVmB_BB 13 42 32.3
comp=Z,529nm,5.6s
WMQ Urumqi 32.98 58 *e*P **P 13 42 30.5 +1.0**
WMQ pP sP 13 42 34.8 +1.6
WMQ sP pP 13 42 37.6 +5.5
WMQ S **S 13 47 49.3 +1.3**
WMQ SS **SnSn 13 49 49.4 +4.1**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,240nm,7.5s
WMQ LR LR
comp=Z,5µm,18.7s
WMQ LR LR
comp=Z,4µm,14.1s
WMQ LR LR
comp=Z,2µm,26.5s
WMQ Urumqi 32.98 58 P **P 13 42 27.8 -1.7**
WMQ pmax pmax
comp=Z,49nm,1.1s
WMQ MLR MLR
comp=Z,7µm,19.0s
WMQ Urumqi 32.98 58 P **P 13 42 27.8 -1.7**
WMQ IAmb IAmb 13 42 36.2
comp=Z,49nm,1.1s
ADKI Addanki 33.51 112 *e*P **P 13 42 32.6 -1.7**
ADKI IVmB_BB 13 42 40.7
comp=Z,483nm,4.6s
MYLAV Mylavaram 33.52 110 *e*P **P 13 42 34.8 +0.5**
MYLAV IVmB_BB 13 42 40.8
comp=Z,545nm,4.8s
BFO Black Forest 33.54 310 P **P 13 42 32.5 -1.8**
BFO pmax pmax
comp=Z,25nm,1.0s
BFO MLR MLR
comp=Z,5µm,21.0s
BFO Black Forest 33.54 310 P **P 13 42 32.5 -1.8**
ZAA0 Zalesovo Array 33.82 40 P **P 13 42 34.3 -2.3**
ZAA0 IAmb IAmb 13 42 47.9
comp=Z,32nm,0.6s
ZALV Zalesovo Beam 33.82 40 P **P 13 42 36.3 -0.3**
comp=Z,15nm,0.5s,baz=256,slow=9.0,SNR=68
ZALV ScP **ScP 13 49 01.6 +1.1**
comp=Z,8.6nm,0.9s,baz=242,slow=3.2,SNR=6.6
ZALV LR LR 13 57 53.3
comp=Z,7µm,19.7s,baz=232,slow=39
ZALV Zalesovo Beam 33.82 40 P **P 13 42 35.8 -0.8**
SENIN Lac Senin/Sane 33.84 306 P **P 13 42 34.8 -2.3**
SENIN IAmb IAmb 13 42 44.7
comp=Z,62nm,0.8s
DGZ Jazzator, Alta 33.91 48 *ce*P **P 13 42 38.4 +0.7**
DGZ pmax pmax
comp=Z,18nm,0.7s
PVM Polavaram 34.03 108 *e*P **P 13 42 39.6 +0.8**
PVM IVmB_BB 13 42 45.4
comp=Z,532nm,5.9s
BNI Bardonecchia 34.08 304 P **P 13 42 36.7 -2.5**
BNI pmax pmax
comp=Z,196nm,1.1s
BNI Bardonecchia 34.08 304 P **P 13 42 36.7 -2.5**
ECH Echery 34.28 309 P **P 13 42 38.0 -2.8**
ECH pmax pmax
comp=Z,65nm,1.2s
ECH Echery 34.28 309 P **P 13 42 38.0 -2.8**
ECH IAmb IAmb 13 42 47.3
comp=Z,65nm,1.2s
BOK Bokaro 34.49 95 *e*P **P 13 42 41.8 -1.0**
BOK IAmb IAmb 13 42 46.6
comp=Z,24nm,0.5s
SKHT Srikalahasti 34.56 115 *e*P **P 13 42 43.2 -0.2**
SKHT IVmB_BB 13 42 50.0
comp=Z,417nm,5.7s
KMBO Kilima Mbogo 34.96 199 P **P 13 42 49.2 +2.1**
comp=Z,8.0nm,0.9s,baz=0.0,slow=20,SNR=4.2
KMBO PcP **PcP 13 45 23.2 +3.5**
comp=Z,6.6nm,0.8s,baz=342,slow=3.2,SNR=4.8
KMBO LR LR 13 57 43.8
comp=Z,11µm,18.0s,baz=15,slow=38
KMBO Kilima Mbogo 34.96 199 *i* P **P 13 42 51.5 +4.4**
SNR=9.9
KMBO Kilima Mbogo 34.96 199 IAMs_20 IAMs_20 13 57 11.0
comp=Z,11µm,19.0s
WLF Walferdange 35.24 311 x **P 13 42 52.9 +3.9**
WLF Walferdange 35.24 311 P **P 13 42 45.7 -3.3**
WLF pmax pmax
comp=Z,28nm,0.8s
WLF MLR MLR
comp=Z,3µm,21.0s
WLF Walferdange 35.24 311 P **P 13 42 45.7 -3.3**
CHLP Challavanipeta 35.35 104 *e*P **P 13 42 49.0 -1.2**
CHLP IVmBBB 13 42 56.2
comp=Z,614nm,1.1s
GTK Tadong 35.54 88 *e*P **P 13 42 51.2 -0.8**
MEM Membach 35.56 313 x P 13 42 58.2 +6.5
HFS Hagfors 35.58 331 P **P 13 42 50.5 -1.2**
comp=Z,6.4nm,0.4s,baz=142,slow=7.5,SNR=27
SSB Saint Sauveur 35.61 304 P **P 13 42 49.4 -2.8**
SSB pmax pmax
comp=Z,72nm,1.5s
SSB Saint Sauveur 35.61 304 P **P 13 42 49.4 -2.8**
SSB IAmb IAmb 13 42 58.7
comp=Z,72nm,1.5s
MUD Monsted U'grnd 35.77 324 *e*P **P 13 42 53.8 +0.4**
MUD *i* 13 42 59.2
MUD MLR MLR
comp=Z,5µm,23.0s
MUD Monsted U'grnd 35.77 324 *i* P **P 13 42 53.8 +0.4**
MUD *i* 13 42 59.2
comp=Z,5µm,23.0s
MUD Monsted U'grnd 35.77 324 *e*P **P 13 42 53.8 +0.4**
MUD *i* 13 42 59.2
MUD IAMs_20 IAMs_20 13 59 43.6
comp=Z,5µm,23.3s
KIBK Kibwezi 35.92 197 P **P 13 42 57.4 +2.2**
SNR=21
BWNR Bhubaneshwar 35.93 100 *e*P **P 13 42 57.6 +2.5**
RCHB Rochefort 35.94 312 x P 13 42 59.8 +4.9
BCLA Clavier 35.95 313 x P 13 43 00.5 +5.4
APA Apatity 36.07 351 ⇑ *i* P P 13 43 02.7 +6.8
APA *i* 13 44 22.0
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,7µm,18.0s
BGES Gesves 36.08 312 x P 13 43 01.0 +4.9
LVZ Lovozero 36.22 352 IAMs_20 IAMs_20 13 58 56.3
comp=Z,12µm,22.0s
BMRD Maredsous 36.26 312 x P 13 43 02.8 +5.2
DOU Dourbes 36.32 312 x **P 13 43 01.4 +3.2**
SNF Seneffe 36.60 312 x P 13 43 05.6 +5.0
OSL Oslo 36.72 329 *e*P **P 13 43 01.6 +0.1**
MBAR Mbarara 36.72 209 P **P 13 43 00.2 -1.9**
MBAR pmax pmax
comp=Z,37nm,1.0s
MBAR MLR MLR
comp=Z,8µm,18.0s
MBAR Mbarara 36.72 209 P **P 13 43 00.2 -1.9**
MBAR Mbarara 36.72 209 IAMs_20 IAMs_20 13 59 09.4
comp=Z,8µm,18.0s
NC602 NORSAR Array S 36.80 331 P **P 13 43 00.1 -2.1**
NC602 NORSAR Array S 36.80 331 *e*P **P 13 43 01.3 -0.9**
HOMB Homborsund 36.90 326 *i* P **P 13 43 06.0 +3.0**
NC405 NORSAR Array S 36.94 332 P **P 13 43 01.5 -1.9**
NC405 IAmb IAmb 13 43 09.9
comp=Z,97nm,1.2s
LSA Lhasa 36.99 83 P **P 13 43 02.0 -2.7**
LSA pmax pmax
comp=Z,58nm,1.4s
LSA MLR MLR
comp=Z,4µm,18.0s
LSA Lhasa 36.99 83 P **P 13 43 02.0 -2.7**
KONO Kongsberg 37.06 329 P **P 13 43 02.0 -2.4**
KONO pmax pmax
comp=Z,27nm,1.0s
KONO MLR MLR
comp=Z,4µm,20.0s
KONO Kongsberg 37.06 329 P **P 13 43 02.0 -2.4**
KONO Kongsberg 37.06 329 *e*P **P 13 43 03.5 -0.9**
NB201 NORSAR Array S 37.08 331 P **P 13 43 02.3 -2.3**
NB2 NORSAR Subarra 37.10 331 P **P 13 43 02.6 -2.2**
comp=Z,50nm,1.2s,baz=124,slow=8.6
NB2 NORSAR Subarra 37.10 331 P **P 13 43 02.6 -2.2**
baz=124,slow=8.6
NOA NORSAR Array B 37.10 331 P **P 13 43 03.0 -1.8**
comp=Z,4.9nm,0.9s,baz=112,slow=9.5,SNR=9.4
NOA PP **PP 13 44 29.4 +0.2**
comp=Z,7.9nm,0.6s,baz=132,slow=11,SNR=6.0
NOA S **S 13 48 55.9 +5.0**
comp=Z,5.0nm,0.9s,baz=125,slow=15,SNR=3.7
NOA ScP **ScP 13 49 14.7 +2.3**
comp=Z,3.6nm,0.8s,baz=108,slow=4.1,SNR=4.4
NOA LR LR 13 59 56.3
comp=Z,6µm,19.2s,baz=130,slow=39
NOA NORSAR Array B 37.10 331 P **P 13 43 03.0 -1.8**
NAO01 NORSAR Array S 37.13 331 P **P 13 43 03.3 -1.7**
NC303 NORSAR Array S 37.14 332 P **P 13 43 03.1 -2.0**
NBO00 NORSAR Array S 37.28 331 P **P 13 43 04.1 -2.1**
NC204 NORSAR Array S 37.42 331 P **P 13 43 05.6 -1.9**
SKAR Skarslia 38.13 329 *e*P **P 13 43 13.0 -0.5**
BLS5 Blasjo 38.37 327 *e*P **P 13 43 15.7 +0.2**
ODD1 Odda 38.51 328 *e*P **P 13 43 17.3 +0.6**
OMB Bombas 38.51 332 *e*P **P 13 43 16.8 0.0**
TBLU Trondheim 38.72 334 *e*P **P 13 43 18.6 +0.3**
NSS Namsos 38.86 336 *e*P **P 13 43 19.2 -0.4**
OJGS Djebel Guires 38.87 288 P P 13 43 27.0 +6.9
OKGL Djebel Kef Gue 38.87 289 P P 13 43 25.0 +5.0
SHL Shillong 38.90 89 *e*P **P 13 43 19.4 -1.1**
SHL IAmb IAmb 13 43 24.6
comp=Z,74nm,1.2s
SHL Shillong 38.90 89 P **P 13 43 20.5 -0.1**
SNR=37
SHL Shillong 38.90 89 P **P 13 43 18.5 -2.0**
SHL pmax pmax
comp=Z,132nm,1.2s
SHL MLR MLR
comp=Z,10µm,20.0s
SHL Shillong 38.90 89 P **P 13 43 18.5 -2.0**
SHL IAmb IAmb 13 43 25.5
comp=Z,132nm,1.2s
SHL IAMs_20 IAMs_20 14 02 21.5
comp=Z,10µm,20.0s
KEV Kevo 39.04 349 IAMs_20 IAMs_20 14 00 42.2
comp=Z,8µm,22.0s
ARCES ARCESS Array B 39.11 348 P **P 13 43 21.9 +0.3**
comp=Z,7.5nm,0.6s,baz=159,slow=9.2,SNR=20
ARCES PP **PP 13 44 53.2 +2.2**
comp=Z,19nm,0.8s,baz=142,slow=11,SNR=4.0
ARCES ScP **S 13 49 21.9 +0.9**
comp=Z,13nm,1.0s,baz=216,slow=1.0,SNR=5.4
ARCES LR LR 14 01 05.3
comp=Z,8µm,20.4s,baz=145,slow=39
MOR8 Moi Rana 39.14 339 *e*P **P 13 43 20.9 -1.0**
OJBR Djebel Berber 39.18 288 P P 13 43 26.0 +3.3
HYA Hoyanger 39.27 329 *e*P **P 13 43 22.3 -0.7**
BER Bergen 39.30 328 *e*P **P 13 43 23.3 +0.1**
TEZP TEZPUR 39.31 87 *i* x **S 13 49 25.1 +0.1**
MOL Molde 39.39 332 *e*P **P 13 43 24.0 0.0**
BELO BELONIA 39.40 92 *e*P **P 13 43 24.3 -0.2**
ASK Askoy 39.40 328 *e*P **P 13 43 24.3 +0.2**
PALK Pallekele 39.53 122 P **P 13 43 25.7 -0.1**
PALK pmax pmax
comp=Z,77nm,1.1s
PALK MLR MLR
comp=Z,6µm,20.0s

PALK Pallekele 39.53 122 P **P** **13 43 25.7 -0.1**
PALK Pallekele 39.53 122 IAMs_20 IAMs_20 14 01 11.7
comp=Z,7µm,20.0s
ODJA Bouhanifia 39.62 288 P **P** **13 43 29.0 +2.6**
N2ST Straumen 39.62 341 *e*P **P** **13 43 25.4 -0.4**
STOK Stokkvaagen 39.67 339 *e*P **P** **13 43 25.7 -0.6**
NBB17 Glomfjord BЎr 39.72 340 *e*P **P** **13 43 26.5 -0.2**
FAUS Fauske 39.73 341 *e*P **P** **13 43 25.4 -1.3**
KONS Konsvik 39.75 339 *e*P **P** **13 43 26.3 -0.6**
SUE Sulen 39.84 329 *e*P **P** **13 43 27.0 -0.7**
ZIRO ZIRO 39.89 85 *e*P **P** **13 43 28.4 -0.5**
ZIRO IAmb IAmb 13 43 33.4
comp=Z,23nm,0.3s
ZIRO *i* x **S** **13 49 35.2 +1.1**
N2TV TЎrnvik 39.91 341 *e*P **P** **13 43 27.2 -1.0**
CART Cartagena 39.95 291 *e*P **P** **13 43 30.4 +1.4**
CART *i* S S 13 49 46.5 +12
FOO Floro 39.96 330 *e*P **P** **13 43 28.5 -0.2**
N2IH Innhavet 39.98 342 *e*P **P** **13 43 27.1 -1.7**
STEI Steigen 40.13 342 *e*P **P** **13 43 28.4 -1.7**
HAMF Hammerfest 40.39 348 *e*P **P** **13 43 31.3 -0.8**
JORH JORHAT 40.49 86 *i* x **S** **13 49 40.9 -1.8**
TRO Tromso 40.51 345 *e*P **P** **13 43 31.9 -1.3**
KOHI KOHIMA 40.72 87 *i* x **S** **13 49 44.2 -2.2**
LOF Lofoten 40.73 341 *e*P **P** **13 43 34.5 -0.5**
MOKO MOKOCHONG 40.85 86 *e*P **P** **13 43 37.1 +0.3**
MOKO IAmb IAmb 13 43 42.0
comp=Z,177nm,1.2s
UCM Universidad Co 41.36 296⇑ *i*P **P** **13 43 44.7 +4.1**
UCM *i* S **S** **13 50 00.6 +5.1**
TDRA Tendrara 41.61 285 P P 13 43 48.1 +5.0
SNR=6.8
MELI Melilla 41.87 288 *e*P P 13 43 35.2 -10
MELI *e*S **S** **13 50 00.2 -2.8**
ESBB Sonseca Array 41.98 295 P **P** **13 43 43.8 -2.0**
ESDC Sonseca Array 41.98 295 P **P** **13 43 44.8 -1.0**
comp=Z,8.5nm,0.7s,baz=73,slow=7.6,SNR=33
ESDC PcP **PcP** **13 45 43.6 +2.6**
comp=Z,4.0nm,0.8s,baz=54,slow=3.1,SNR=4.6
ESDC LR LR 14 02 18.7
comp=Z,2µm,21.6s,baz=70,slow=38
ESDC Sonseca Array 41.98 295 P **P** **13 43 43.6 -2.1**
EKA Eskdalemuir Ar 42.01 318 P **P** **13 43 44.3 -1.4**
comp=Z,14nm,0.6s,baz=107,slow=8.7,SNR=29
EKA ScP **ScP** **13 49 33.1 +1.7**
comp=Z,4.7nm,0.8s,baz=112,slow=6.6,SNR=4.0
ESK Eskdalemuir 42.03 318 P **P** **13 43 44.0 -1.9**
ESK pmax pmax
comp=Z,45nm,0.8s
ESK Eskdalemuir 42.03 318 P **P** **13 43 44.0 -1.9**
GTA Gaotai 42.12 65⇑ P **P** **13 43 47.3 +0.3**
GTA pP sP 13 43 51.5 +0.8
GTA sP pP 13 43 54.4 +4.8
GTA ScP **ScP** **13 49 33.8 +1.4**
GTA S **S** **13 50 07.0 +0.1**
GTA SS **SS** **13 53 10.1 -4.1**
GTA ScS **ScS** **13 53 51.1 +1.1**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,380nm,7.5s
GTA LR LR
comp=Z,10µm,18.9s
GTA LR LR
comp=Z,9µm,16.7s
GTA LR LR
comp=Z,8µm,16.4s
PAB San Pablo 42.29 295 P **P** **13 43 46.8 -1.6**
PAB pmax pmax
comp=Z,55nm,1.2s
PAB San Pablo 42.29 295 P **P** **13 43 46.8 -1.6**
MOY Mondy 42.74 47 *e*P **P** **13 43 53.0 +1.1**
MOY pmax pmax
comp=Z,94nm,2.6s
EMAL Malaga-Limoner 42.78 291 *e*P **P** **13 43 53.7 +1.4**
EMAL *i* S **S** **13 50 15.8 -0.7**
PVLZ Peæn de 42.99 288 *e*P **P** **13 43 51.7 -2.2**
PVLZ *i* S **S** **13 50 22.8 +3.4**
NRIK Noril'sk 43.01 19 P **P** **13 43 53.7 0.0**
comp=Z,6.5nm,0.5s,baz=67,slow=2.0,SNR=10
NRIK ScP **ScP** **13 49 37.8 +2.6**
comp=Z,21nm,1.2s,baz=187,slow=4.7,SNR=5.1
NRIK S **S** **13 50 21.6 +2.5**
comp=Z,1.7nm,0.7s,baz=44,slow=20,SNR=6.3
NRIK LR LR 14 06 01.1
comp=Z,7µm,18.6s,baz=221,slow=42
DSB Dublin 43.56 315 P **P** **13 43 57.0 -1.4**
DSB IAmb IAmb 13 44 03.6
comp=Z,82nm,0.7s
CEU Ceuta 43.69 290 *e*P **P** **13 44 03.9 +4.3**
CEU *i* S S 13 50 42.5 +13
LCRM LCR 43.77 286 P P 13 44 07.0 +6.5
SNR=6.3
MDT Midelt 43.77 285 P **P** **13 43 59.5 -0.9**
comp=Z,4.8nm,0.8s,baz=91,slow=8.4,SNR=12
PBRG Braganca 43.83 298 *e*P **P** **13 43 59.4 -1.4**
comp=Z,95nm,1.5s
PBRG *e*pP **sP** **13 44 04.8 +0.4**
IFR Ifrane 44.02 286 *e*P P 13 43 49.8 -13
IFR *i* S **S** **13 50 41.6 +6.6**
SICH Sidi Chahed 44.04 287 P P 13 44 08.0 +5.5
SNR=10
SICH P P 13 44 08.0 +5.5
SNR=10
ZAK Zakamensk 44.10 49 *e*P **P** **13 44 03.2 +0.4**
ZAK pmax pmax
comp=Z,22nm,1.4s
MVO Moncorvo 44.12 297 *e*P **P** **13 44 02.8 -0.3**
comp=Z,77nm,1.8s
MVO *e*pP **sP** **13 44 07.6 +0.8**
MVO *e*S **S** **13 50 43.1 +7.0**
MVO *e*LR LR 13 54 14.7
comp=Z,1µm,20.0s
SFS San Fernando 44.24 291 *e*S **S** **13 50 37.0 -0.8**
GOLM Goulmima 44.34 284 P P 13 44 11.0 +5.9
SNR=6.7
GOLM P P 13 44 11.0 +5.9
SNR=6.7
TLY Talaya 44.39 47 P **P** **13 44 05.3 +0.3**
comp=Z,3.8nm,0.4s,baz=254,slow=8.1,SNR=3.7
TLY S **S** **13 50 39.0 -0.7**
comp=Z,1.3nm,0.3s,baz=337,slow=19,SNR=1.4
TLY Talaya 44.39 47*c i*P **P** **13 44 09.7 +4.7**
TLY *e*S **S** **13 50 39.8 +0.2**
TLY *e*SS **ScS** **13 54 04.7 +1.2**
TLY pmax pmax
comp=Z,79nm,1.4s
TLY MLR MLR
comp=Z,12µm,10.0s
TLY Talaya 44.39 47 P **P** **13 44 04.0 -1.0**
TLY Talaya 44.39 47 IAMs_20 IAMs_20 14 03 46.8
comp=Z,6µm,18.0s
MTE Manteigas 44.61 296 *e*P **P** **13 44 06.7 -0.3**
comp=Z,136nm,1.4s
MTE *e*pP **sP** **13 44 11.9 +1.2**
MTE *e*S **S** **13 50 49.9 +6.6**
MTE *e*LR LR 13 54 26.7
comp=Z,1µm,20.0s
MTE Manteigas 44.61 296 P **P** **13 44 05.6 -1.4**
PVRL Vila Real 44.62 298 *e*P **P** **13 44 06.7 -0.4**
comp=Z,115nm,1.4s
PVRL *e*pP **sP** **13 44 12.1 +1.4**
PCBR Castelo Branco 44.64 296 *e*P **P** **13 44 06.8 -0.4**
comp=Z,153nm,1.7s
PCBR *e*pP **sP** **13 44 12.2 +1.4**
PCAB Cabril 44.80 298 *e*pP pP 13 44 12.3 +1.2
IRK Irkutsk 44.80 47 *e*P **P** **13 44 08.9 +0.6**
IRK pmax pmax
comp=Z,96nm,2.1s
PVIS Viseu 44.83 297 *e*pP pP 13 44 13.7 +2.3
PGAV Gavieira, Arco 44.95 299 *e*P **P** **13 44 09.9 +0.2**
comp=Z,202nm,1.7s
PGAV *e*pP **sP** **13 44 14.8 +1.4**
PGAV *e*S **S** **13 50 56.4 +8.2**
PGAV *e*LR LR 13 54 31.4
comp=Z,2µm,18.0s
PBEJ Beja 45.24 293 *e*P **P** **13 44 11.3 -0.7**
comp=Z,113nm,1.3s
PBEJ *e*pP **sP** **13 44 16.1 +0.4**
PVAQ Vaqueiros 45.24 292 *e*P P **13 44 10.7 -1.3**
comp=Z,118nm,1.3s
PVAQ *e*pP **sP** **13 44 16.0 +0.3**
PVAQ *e*S **S** **13 50 56.9 +4.5**
PVAQ *e*LR LR 13 54 58.7
comp=Z,654nm,22.0s
PVAQ Vaqueiros 45.24 292 P **P** **13 44 10.0 -2.0**
PVAQ IAmb IAmb 13 44 18.8
comp=Z,76nm,1.2s
COI Coimbra 45.30 296 P **P** **13 44 11.2 -1.2**
COI pmax pmax
comp=Z,110nm,0.9s
COI Coimbra 45.30 296 *e*pP pP 13 44 17.4 +2.4
COI Coimbra 45.30 296 P **P** **13 44 11.2 -1.2**
PMTG Montargil 45.34 295 *e*P **P** **13 44 12.0 -0.7**
comp=Z,53nm,1.5s
PMTG *e*pP **sP** **13 44 17.4 +1.0**
ZGR Zagora 45.34 282 P P 13 44 19.0 +5.9
SNR=7.3
ZGR P P 13 44 19.0 +5.9
SNR=7.3
PCAS Casmilo, Conde 45.38 296 *e*P **P** **13 44 12.9 -0.2**
comp=Z,135nm,1.5s
PCAS *e*pP **sP** **13 44 17.9 +1.1**
PBDV Barranco-do-Ve 45.44 292 *e*P **P** **13 44 12.9 -0.8**
comp=Z,64nm,1.6s
PBDV *e*pP **sP** **13 44 17.5 +0.2**
PCVE Castro Verde 45.45 293 *e*P **P** **13 44 12.7 -1.0**
comp=Z,53nm,1.6s
PCVE *e*pP **sP** **13 44 17.7 +0.4**
PSBE So Bento 45.70 295 *e*pP **pP** **13 44 20.7 +2.4**
PSBE A A 13 44 26.7
comp=Z,106nm,2.4s
PNCL Nicolau / Gran 45.74 293 *e*P **P** **13 44 15.4 -0.5**
comp=Z,69nm,1.3s
PNCL *e*pP **sP** **13 44 20.4 +0.8**
SBV Sambava 45.79 177 P **P** **13 44 19.2 +2.8**
SNR=8.3
LZH Lanzhou 45.84 69⇑ P **P** **13 44 15.8 -1.2**
LZH sP sP 13 44 21.1 +0.5
LZH S **S** **13 51 04.0 +2.6**
LZH sS sS 13 51 09.0 +3.3
LZH pmax pmax
comp=Z,45nm,1.3s
LZH pmax pmax
comp=Z,600nm,5.0s
LZH LR LR
comp=Z,4µm,18.4s
LZH LR LR
comp=Z,4µm,16.3s
LZH LR LR
comp=Z,5µm,15.7s
MORF Marmelete 45.99 292 *e*P **P** **13 44 15.9 -2.1**
MORF *e*S **S** **13 51 01.4 -1.9**
MORF AMS AMS 14 12 11.2
comp=E,1µm,20.1s
MORF Marmelete 45.99 292 *e*P **P** **13 44 15.9 -2.1**
MORF *e*S **S** **13 51 01.4 -1.9**
PTEO Sao Teotonio 46.00 293 *e*pP pP 13 44 22.4 +1.8
LIS Lisbon 46.11 294 *e*S **S** **13 51 03.1 -1.6**
LIS AMS AMS 14 05 14.0
comp=E,2µm,12.3s
SONM Songino Array 46.16 53 P **P** **13 44 19.5 +0.2**
comp=E,5.4nm,0.6s,baz=272,slow=9.5,SNR=23
SONM PcP **PcP** **13 45 59.0 +3.8**
comp=E,3.9nm,0.7s,baz=238,slow=5.1,SNR=4.1
SONM ScP **ScP** **13 49 49.5 +0.7**
comp=E,7.6nm,1.1s,baz=258,slow=5.1,SNR=6.7
SONM S **S** **13 51 07.9 +2.3**
comp=E,0.4nm,0.4s,baz=94,slow=39,SNR=1.8
SONM LR LR 14 05 03.7
comp=E,6µm,19.4s,baz=269,slow=38
SONM Songino Array 46.16 53 P **P** **13 44 18.0 -1.3**
SONM 13 45 59.0
SONM S **S** **13 51 07.9 +2.3**
SONM pmax pmax
comp=Z,22nm,1.4s
SONM Songino Array 46.16 53 P **P** **13 44 18.0 -1.3**
PFVI Vila Bisbo 46.17 292 *e*pP pP 13 44 23.5 +1.5
PFVI Vila Bisbo 46.17 292 P **P** **13 44 16.4 -2.9**
PFVI IAmb IAmb 13 44 25.1
comp=Z,110nm,1.3s
PMAFR **Mafra 46.17 295** *e*P **P** **13 44 18.4 -0.9**
comp=Z,191nm,1.4s
PMAFR *e*pP **sP** **13 44 24.1 +1.1**
TOA0 Torodi Ar. Sit 46.30 256 P **P** **13 44 23.5 +2.9**
SNR=14
TOA0 Torodi Ar. Sit 46.30 256 P **P** **13 44 18.0 -2.6**
TOA0 IAmb IAmb 13 44 25.0
comp=Z,36nm,0.8s
TORD Torodi Ar. Bea 46.30 256 P **P** **13 44 18.6 -2.0**
comp=Z,15nm,0.7s,baz=58,slow=8.1,SNR=26
TORD LR LR 14 04 47.5
comp=Z,3µm,21.0s,baz=25,slow=38
TORD Torodi Ar. Bea 46.30 256 P **P** **13 44 18.2 -2.4**
ULN Ulaanbaatar 46.60 53*c i*P **P** **13 44 22.8 0.0**
ULN pmax pmax
comp=Z,46nm,1.0s
ULN Ulaanbaatar 46.60 53 P **P** **13 44 22.3 -0.5**
ULN IAmb IAmb 13 44 28.5
comp=Z,35nm,0.8s
ULN Ulaanbaatar 46.60 53 IAMs_20 IAMs_20 14 07 34.6
comp=Z,5µm,19.0s
CD2 Chengdu 47.11 76 P **P** **13 44 26.3 -0.6**
CD2 PP **PP** **13 46 20.3 +2.8**
CD2 S **S** **13 51 18.8 -0.6**
CD2 ScS **ScS** **13 54 20.8 -1.0**
CD2 SS **SS** **13 54 47.8 +1.5**
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,560nm,8.4s
CD2 LR LR
comp=Z,9µm,15.2s
CD2 LR LR
comp=Z,10µm,20.1s
CD2 LR LR
comp=Z,10µm,21.1s
CHTO Chiang Mai 47.61 94 P **P** **13 44 29.1 -1.8**
CHTO pmax pmax
comp=Z,98nm,1.3s
CHTO MLR MLR
comp=Z,2µm,19.0s
CHTO Chiang Mai 47.61 94 P **P** **13 44 29.1 -1.8**
SPA0 Spitsbergen Ar 47.75 352 P **P** **13 44 29.9 -1.2**
SPA0 Spitsbergen Ar 47.75 352 *e*P **P** **13 44 30.9 -0.2**
SPITS Spitsbergen Ar 47.75 352 P **P** **13 44 30.6 -0.5**
comp=Z,16nm,0.5s,baz=134,slow=9.4,SNR=26
CM31 Chiang Mai Arr 47.77 94 P **P** **13 44 30.6 -1.5**
CM31 IAmb IAmb 13 44 37.3
comp=Z,76nm,1.4s
CMAR Chiang Mai Arr 47.77 94 P **P** **13 44 31.6 -0.5**
comp=Z,21nm,1.1s,baz=296,slow=8.1,SNR=48
CMAR PcP **PcP** **13 46 04.5 +3.3**
comp=Z,7.3nm,0.7s,baz=292,slow=5.0,SNR=5.7
CMAR ScP **ScP** **13 49 56.3 +0.5**
comp=Z,8.6nm,1.0s,baz=289,slow=5.2,SNR=14
CMAR LR LR 14 08 40.4
comp=Z,2µm,20.9s,baz=327,slow=41
CMAR Chiang Mai Arr 47.77 94 P **P** **13 44 30.9 -1.3**
KMI Kunming 48.20 84⇑ *i*P **P** **13 44 34.9 -0.8**
KMI pP pP 13 44 38.3 0.0
KMI sP sP 13 44 39.5 +0.2
KMI PP **PP** **13 46 26.3 -1.6**
KMI S **S** **13 51 33.3 -2.2**
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,640nm,4.5s
KMI LR LR
comp=Z,5µm,15.8s
KMI LR LR
comp=Z,4µm,16.5s
KMI LR LR
comp=Z,3µm,28.0s
KMI Kunming 48.20 84 P **P** **13 44 34.3 -1.3**
KMI pmax pmax
comp=Z,65nm,1.2s
KMI MLR MLR
comp=Z,4µm,18.0s
KMI Kunming 48.20 84 P **P** **13 44 34.3 -1.3**
KMI IAmb IAmb 13 44 41.0
comp=Z,65nm,1.2s
KBS Kingsbay 48.89 351 P **P** **13 44 37.6 -2.3**
KBS pmax pmax
comp=Z,34nm,1.1s
KBS Kingsbay 48.89 351 P **P** **13 44 37.6 -2.3**
KBS IAmb IAmb 13 44 49.1
comp=Z,34nm,1.1s
KBS Kingsbay 48.89 351 *e*P **P** **13 44 39.2 -0.7**
BTO Baotou 49.66 62 *e*P **P** **13 44 44.5 -2.0**
KOWA Kowa 50.34 262 P **P** **13 44 50.3 -1.5**
comp=Z,25nm,0.6s,baz=60,slow=8.6,SNR=16
KOWA Kowa 50.34 262 P **P** **13 44 49.0 -2.8**
KOWA IAmb IAmb 13 44 57.2
comp=Z,62nm,1.1s
KOWA IAMs_20 IAMs_20 14 09 15.4
comp=Z,5µm,18.0s
PBKT Sadao Pong 50.36 95 P **P** **13 44 50.6 -1.4**
XAN Xi'an 50.38 71 P **P** **13 44 51.4 -0.6**
XAN pP sP 13 44 55.4 -0.3
XAN PP **PP** **13 46 47.8 +0.4**
XAN S **S** **13 52 02.8 -2.7**
XAN ScS **ScS** **13 54 39.1 -4.6**
XAN SS **SS** **13 55 39.0 0.0**
XAN pmax pmax
comp=Z,43nm,0.9s
XAN pmax pmax
comp=Z,530nm,6.8s
XAN LR LR
comp=Z,15µm,18.7s
XAN LR LR
comp=Z,13µm,19.2s
XAN LR LR
comp=Z,8µm,23.9s
XAN Xi'an 50.38 71 P **P** **13 44 49.6 -2.4**
XAN pmax pmax
comp=Z,114nm,1.0s
XAN MLR MLR
comp=Z,5µm,18.0s
XAN Xi'an 50.38 71 P **P** **13 44 49.6 -2.4**
XAN Xi'an 50.38 71 IAMs_20 IAMs_20 14 09 18.3
comp=Z,5µm,18.0s
CIT Chita 50.52 47 *e*P **P** **13 44 51.4 -1.4**
CIT *e* 13 45 01.1
CIT *e* 13 46 12.3
CIT *e* 13 52 08.8
CIT pmax pmax
comp=Z,131nm,1.3s
BOD Bodaibo 50.58 39 *e*P **P** **13 44 52.2 -0.8**
BOD pmax pmax
comp=Z,16nm,1.8s
SLVN Son La 50.70 88 P **P** **13 44 53.6 -0.9**
HHC Hu-ho-hao-te 50.75 61 *e*P **P** **13 44 55.0 +0.2**
HHC PP **PP** **13 46 52.3 +1.6**
HHC S **S** **13 52 12.4 +1.8**
HHC SS **SS** **13 55 44.3 -0.5**
HHC pmax pmax
comp=Z,93nm,1.1s
HHC pmax pmax
comp=Z,610nm,6.2s
HHC LR LR
comp=Z,11µm,17.1s
HHC LR LR
comp=Z,5µm,16.6s
HHC LR LR
comp=Z,5µm,16.3s
OPO Ambohidratompo 50.83 181 P **P** **13 44 56.1 +0.7**
comp=Z,19nm,0.8s,baz=340,slow=7.1,SNR=12
GYA Guiyang 50.99 81⇑ P **P** **13 44 55.8 -1.0**
GYA sP sP 13 45 00.3 -0.2
GYA S **S** **13 52 11.8 -2.5**
GYA pmax pmax
comp=Z,23nm,1.1s
GYA pmax pmax
comp=Z,400nm,5.1s
GYA LR LR
comp=Z,4µm,23.0s
GYA LR LR
comp=Z,3µm,17.3s
GYA LR LR
comp=Z,4µm,19.4s
LSZ Lusaka 51.14 205 P **P** **13 44 58.1 +0.3**
comp=Z,16nm,0.9s,baz=15,slow=7.8,SNR=13
LSZ Lusaka 51.14 205 P **P** **13 44 57.6 -0.2**
ABPO Ambohimpanom 51.27 181 P **P** **13 44 58.4 -0.4**
ABPO pmax pmax
comp=Z,50nm,1.0s
ABPO Ambohimpanom 51.27 181 P **P** **13 44 58.4 -0.4**
ABPO IAmb IAmb 13 45 07.9
comp=Z,50nm,0.9s
ENH Enshi 51.99 75 P **P** **13 45 02.3 -1.9**
ENH IAmb IAmb 13 45 09.5
comp=Z,95nm,1.2s
ENH IAMs_20 IAMs_20 14 09 16.0
comp=Z,5µm,19.0s
TIY Taiyuan 52.14 65 *e*P **P** **13 45 08.8 +3.6**
TIY pmax pmax
comp=Z,47nm,1.1s
TIY pmax pmax
comp=Z,360nm,9.0s
TIY LR LR
comp=Z,4µm,13.4s
TIY LR LR
comp=Z,2µm,11.1s
TIY LR LR
comp=Z,7µm,17.4s
DBG Daneborg 53.06 342 *e*P **P** **13 45 12.6 +1.3**
DBG *i* 13 45 16.5
DBG IAMs_20 IAMs_20 14 07 05.9
comp=Z,4µm,20.0s
DAG Danmarks Havn 53.23 345 *i*P **P** **13 45 11.1 -1.4**
DAG *i* 13 45 15.7
DAG MLR MLR
comp=Z,5µm,22.0s
DAG Danmarks Havn 53.23 345 *i*P **P** **13 45 11.1 -1.4**
DAG *i* 13 45 15.7
comp=Z,5µm,22.0s
DAG Danmarks Havn 53.23 345 *i*P **P** **13 45 11.2 -1.4**
DAG *i* 13 45 15.7
DAG IAMs_20 IAMs_20 14 07 57.5
comp=Z,5µm,21.6s
MLSI Meulaboh, Aceh 53.33 111 P **P** **13 45 16.2 +2.1**
comp=Z,3µmcomp=Z,159nm,1.1s
VOI Vohitsoka 54.16 181 P **P** **13 45 24.2 +4.2**
SNR=5.9
NOR Nord 54.34 351 *e*P **P** **13 45 18.9 -1.7**
NOR MLR MLR
comp=Z,4µm,24.0s
NOR Nord 54.34 351 *i*P **P** **13 45 18.9 -1.7**
comp=Z,4µm,24.0s
NOR Nord 54.34 351 *e*P **P** **13 45 18.9 -1.7**
NOR IAMs_20 IAMs_20 14 09 05.8
comp=Z,4µm,23.9s
BJI Beijing 54.36 61 P **P** **13 45 25.1 +3.7**
BJI S **S** **13 53 03.3 +3.6**
BJI pmax pmax
comp=Z,25nm,1.0s
BJI LR LR
comp=Z,9µm,17.0s
BJI LR LR
comp=Z,4µm,15.3s
BJT Baijiatuao 54.36 61 P **P** **13 45 20.7 -0.7**
BJT pmax pmax
comp=Z,26nm,1.0s
BJT MLR MLR
comp=Z,4µm,20.0s
BJT Baijiatuao 54.36 61 P **P** **13 45 20.7 -0.7**
BJT Baijiatuao 54.36 61 IAMs_20 IAMs_20 14 10 50.5
comp=Z,4µm,20.0s
TPTI 54.56 112 P **P** **13 45 26.9 +3.8**
comp=Z,1µmcomp=Z,84nm,1.2s
HIA Hailar 54.79 50 P **P** **13 45 23.2 -1.2**
HIA pmax pmax
comp=Z,56nm,1.3s
HIA MLR MLR
comp=Z,10µm,22.0s
HIA Hailar 54.79 50 P **P** **13 45 23.2 -1.2**
HIA IAmb IAmb 13 45 30.6
comp=Z,56nm,1.3s
DBIC Dimbokro 55.25 254 P **P** **13 45 26.4 -1.8**
comp=Z,20nm,0.7s,baz=28,slow=8.6,SNR=18
DBIC LR LR 14 12 03.8
comp=Z,4µm,18.8s,baz=30,slow=39
DBIC Dimbokro 55.25 254 P **P** **13 45 25.9 -2.2**
DBIC IAmb IAmb 13 45 33.1
comp=Z,45nm,1.1s
KIC Kosan Boka 55.33 254 *e*P **P** **13 45 26.8 -1.9**
comp=Z,71nm,0.8s
TIC Toumodi 55.40 254 *e*P **P** **13 45 27.1 -2.1**
TSI Tuntungan 55.50 110 P P **13 45 32.9 +3.0**
comp=Z,70nm,1.0s
BLWY Bulawayo 55.53 202 *i*P **P** **13 45 33.9 +3.8**
BLWY Bulawayo 55.53 202 *i*P **P** **13 45 33.9 +3.8**
LIC Lamto 55.64 254 *e*P **P** **13 45 28.9 -2.1**
comp=Z,176nm,0.9s

MATP	**Matopo**	55.83	202		P	**P**	**13 45 31.8**	**-0.5**		
	comp=Z,28nm,0.7s,baz=18,slow=8.1,SNR=21									
MATP	**Matopo**	55.83	202	*i*	P	**P**	**13 45 36.6**	**+4.3**		
MATP	**Matopo**	55.83	202	*i*	P	**P**	**13 45 36.6**	**+4.3**		
WHN	**Wuhan**	55.85	73	⇓	P	**P**	**13 45 32.3**	**0.0**		
WHN					S	**S**	**13 53 23.1**	**+3.2**		
WHN					pmax	pmax				
	comp=Z,200nm,1.2s									
WHN					LR	LR				
	comp=Z,15μm,16.8s									
WHN					LR	LR				
	comp=Z,9μm,15.1s									
WHN					LR	LR				
	comp=Z,12μm,17.5s									
GSI	**Gunungsitoli**	56.08	113		P	**P**	**13 45 34.9**	**+0.8**		
	comp=Z,210nm,1.1s									
GSI	**Gunungsitoli**	56.08	113		P	**P**	**13 45 33.3**	**-0.8**		
KULM	**Kulim**	56.11	107		P	**P**	**13 45 32.5**	**-1.8**		
KULM	**Kulim**	56.11	107		P	**P**	**13 45 33.0**	**-1.3**		
TIA	**Tai'an**	56.17	66		P	**P**	**13 45 34.3**	**-0.2**		
TIA					S	**S**	**13 53 25.3**	**+1.2**		
TIA					pmax	pmax				
	comp=Z,80nm,1.3s									
TIA					LR	LR				
	comp=Z,7μm,23.0s									
TIA					LR	LR				
	comp=Z,3μm,19.1s									
TIA					LR	LR				
	comp=Z,7μm,21.1s									
PSI	**Prapat**	56.21	111		P	**P**	**13 45 33.2**	**-2.0**		
PSI					pmax	pmax				
	comp=Z,112nm,1.1s									
PSI					MLR	MLR				
	comp=Z,3μm,21.0s									
RPSI	**Rantau Prapat**	56.28	111		P	**P**	**13 45 33.2**	**-2.3**		
TIXI	**Tiksi**	56.66	22	⇑	*e*P	**P**	**13 45 36.3**	**-1.1**		
TIXI					pmax	pmax				
	comp=Z,69nm,1.0s									
TIXI	**Tiksi**	56.66	22		P	**P**	**13 45 35.8**	**-1.6**		
QIZ	**Qiongzhong**	56.72	88		P	**P**	**13 45 35.8**	**-2.8**		
QIZ					S	**S**	**13 53 29.0**	**-2.7**		
QIZ					SS	**SS**	**13 57 18.3**	**-1.1**		
QIZ					pmax	pmax				
	comp=Z,180nm,4.7s									
QIZ					LR	LR				
	comp=Z,3μm,20.6s									
QIZ					LR	LR				
	comp=Z,3μm,19.7s									
QIZ					LR	LR				
	comp=Z,3μm,21.0s									
QIZ	**Qiongzhong**	56.72	88		P	**P**	**13 45 37.3**	**-1.3**		
IPM	**Ipoh**	56.89	108		P	**P**	**13 45 37.4**	**-2.4**		
IPM					IAMs_20	IAMs_20	14 10 21.8			
	comp=Z,4μm,21.0s									
IPM	**Ipoh**	56.89	108		P	**P**	**13 45 38.0**	**-1.9**		
FOMA	**Nahampoana Res**	57.21	181		P	**P**	**13 45 39.6**	**-2.1**		
FOMA					IAmb	IAmb	13 45 47.9			
	comp=Z,54nm,0.9s									
GZH	**Guangzhou**	57.90	82		P	**P**	**13 45 47.8**	**+0.9**		
GZH					S	**S**	**13 53 48.6**	**+1.5**		
GZH					LR	LR				
	comp=Z,4μm,18.2s									
GZH					LR	LR				
	comp=Z,2μm,16.8s									
MNSI	**Mandailing Nat**	57.96	112		P	**P**	**13 45 48.0**	**+0.6**		
	comp=Z,2μmcomp=Z,79nm,1.1s									
YAK	**Yakutsk**	58.08	33	*c*	*i*P	**P**	**13 45 46.0**	**-1.5**		
YAK					*e*		13 46 36.2			
YAK					*e*		13 47 54.2			
YAK					*e*S	**S**	**13 53 40.6**	**-7.8**		
YAK					*e*		13 55 26.7			
YAK					*e*SS	**SS**	**13 57 35.7**	**-3.4**		
YAK					pmax	pmax				
	comp=Z,69nm,1.3s									
YAK					pmax	pmax				
	comp=E,23nm,1.1s									
YAK					pmax	pmax				
	comp=N,17nm,1.4s									
YAK					pmax	pmax				
	comp=Z,61nm,2.5s									
YAK					pmax	pmax				
	comp=N,36nm,2.3s									
YAK					pmax	pmax				
	comp=E,69nm,2.2s									
YAK					smax	smax				
	comp=N,890nm,4.7s									
YAK					smax	smax				
	comp=E,623nm,4.7s									
YAK	**Yakutsk**	58.08	33		P	**P**	**13 45 45.6**	**-1.9**		
YAK					IAmb	IAmb	13 45 58.5			
	comp=Z,51nm,0.7s									
YAK					IAMs_20	IAMs_20	14 15 34.3			
	comp=Z,5μm,20.0s									
SUMG	**Summit**	58.20	339	*i*	P	**P**	**13 45 48.0**	**-0.8**		
SUMG				*i*			13 45 53.6			
SUMG					pmax	pmax				
	comp=Z,52nm,0.9s									
SUMG					MLR	MLR				
	comp=Z,15μm,23.0s									
SUMG	**Summit**	58.20	339		P	**P**	**13 45 47.4**	**-1.4**		
SUMG					IAMs_20	IAMs_20	14 11 10.4			
	comp=Z,4μm,21.0s									
SUMG	**Summit**	58.20	339	*i*	P	**P**	**13 45 48.0**	**-0.8**		
SUMG				*i*			13 45 53.6			
	comp=Z,52nm,0.9s									
SUMG				*i*			13 45 53.6			
	comp=Z,15μm,23.0s									
SUMG	**Summit**	58.20	339	*i*	P	**P**	**13 45 48.0**	**-0.8**		
SUMG					IAmb	IAmb	13 45 49.1			
	comp=Z,52nm,0.9s									
SUMG				*i*			13 45 53.7			
SUMG					IAMs_20	IAMs_20	14 10 03.6			
	comp=Z,15μm,22.9s									
ZEA	**Zeya**	58.46	43	*c*	*e*P	**P**	**13 45 50.7**	**+0.3**		
ZEA					*e*S	**S**	**13 53 59.8**	**+6.1**		
ZEA					*e*SS	**SS**	**13 57 51.7**	**+6.2**		
ZEA					pmax	pmax				
	comp=Z,20nm,1.1s									
ZEA					pmax	pmax				
	comp=E,100nm,6.0s									
ZEA					pmax	pmax				
	comp=Z,200nm,9.2s									
ZEA					smax	smax				
	comp=N,700nm,8.6s									
ZEA					smax	smax				
	comp=E,800nm,10.8s									
ZEA					MLR	MLR				
	comp=E,2μm,15.0s									
ZEA					MLR	MLR				
	comp=N,2μm,14.0s									
ZEA					MLR	MLR				
	comp=Z,3μm,13.0s									
DL2	**Dalian**	58.73	61		P	**P**	**13 45 52.8**	**+0.3**		
DL2					S	**S**	**13 54 01.1**	**+3.5**		
DL2					pmax	pmax				
	comp=Z,51nm,1.1s									
DL2					pmax	pmax				
	comp=Z,380nm,3.7s									
DL2					LR	LR				
	comp=Z,7μm,21.6s									
DL2					LR	LR				
	comp=Z,2μm,15.6s									
DL2					LR	LR				
	comp=Z,5μm,16.3s									
SISI	**Saibi**	58.91	114		P	P	13 45 59.2	+5.2		
	comp=Z,58nm,1.3s									
NJ2	**Nanjing**	58.92	70		*e*P	**P**	**13 45 53.4**	**-0.5**		
NJ2					pP	**sP**	**13 45 57.4**	**-0.2**		
NJ2					S	**S**	**13 53 57.4**	**-2.8**		
NJ2					ScS	**ScS**	**13 55 42.3**	**-2.1**		
NJ2					pmax	pmax				
	comp=Z,14nm,0.7s									
NJ2					pmax	pmax				
	comp=Z,270nm,3.9s									
NJ2					LR	LR				
	comp=Z,9μm,19.1s									
NJ2					LR	LR				
	comp=Z,5μm,18.8s									
NJ2					LR	LR				
	comp=Z,2μm,19.1s									
ICESG	**Greenland Ices**	59.14	335	*i*	P	**P**	**13 45 54.5**	**-0.8**		
ICESG				*i*			13 45 59.6			
SNY	**Shenyang**	59.24	57	⇓	P	P	13 46 01.5	+5.5		
SNY					S	**S**	**13 54 07.6**	**+3.4**		
SNY					pmax	pmax				
	comp=Z,10.0nm,0.8s									
SNY					pmax	pmax				
	comp=Z,330nm,6.6s									
SNY					LR	LR				
	comp=Z,3μm,14.6s									
SNY					LR	LR				
	comp=Z,6μm,17.1s									
SNY					LR	LR				
	comp=Z,6μm,17.8s									
BKNI	**Bangkinang**	59.39	112		P	**P**	**13 45 58.0**	**+0.6**		
	comp=Z,6μmcomp=Z,513nm,1.2s									
BKNI	**Bangkinang**	59.39	112		P	**P**	**13 45 56.0**	**-1.4**		
CN2	**Changchun**	59.95	55	*e*	P	**P**	**13 45 59.9**	**-1.0**		
CN2				*e*	S	**S**	**13 54 12.4**	**-0.9**		
CN2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CN2					pmax	pmax				
	comp=Z,570nm,6.0s									
CN2					LR	LR				
	comp=Z,4μm,13.0s									
CN2					LR	LR				
	comp=Z,5μm,13.0s									
CN2					LR	LR				
	comp=Z,6μm,13.0s									
SDSI	**Sungai Dareh**	60.47	112		P	**P**	**13 46 03.1**	**-1.7**		
	comp=Z,2μmcomp=Z,270nm,1.0s									
ALE	**Alert**	60.50	352		IAMs_20	IAMs_20	14 15 15.0			
	comp=Z,4μm,19.0s									
MYKOM	**Kota Tinggi**	60.74	108		P	**P**	**13 46 04.5**	**-2.1**		
MYKOM	**Kota Tinggi**	60.74	108		P	**P**	**13 46 05.0**	**-1.6**		
LBTB	**Lobatse**	61.05	203		P	**P**	**13 46 08.6**	**0.0**		
	comp=Z,20nm,0.7s,baz=13,slow=7.5,SNR=28									
LBTB	**Lobatse**	61.05	203	*i*	P	**P**	**13 46 12.5**	**+3.9**		
LBTB	**Lobatse**	61.05	203		P	**P**	**13 46 07.7**	**-0.9**		
LBTB					IAmb	IAmb	13 46 18.1			
	comp=Z,63nm,1.1s									
LBTB	**Lobatse**	61.05	203	*i*	P	**P**	**13 46 12.5**	**+3.9**		
SSE	**Sheshan**	61.12	70		P	**P**	**13 46 09.3**	**+0.3**		
SSE					S	**S**	**13 54 28.3**	**-0.3**		
SSE					ScS	**SKKSac**	**13 55 57.3**	**-3.4**		
SSE					pmax	pmax				
	comp=Z,31nm,0.8s									
SSE					LR	LR				
	comp=Z,4μm,23.3s									
KRJI	**Kerinci**	61.22	113		P	**P**	**13 46 13.5**	**+3.5**		
	comp=Z,10μmcomp=Z,825nm,1.0s									
QZH	**Quanzhou**	61.48	77		P	**P**	**13 46 10.6**	**-0.9**		
QZH					S	**S**	**13 54 34.3**	**+1.0**		
QZH					LR	LR				
	comp=Z,4μm,18.0s									
QZH					LR	LR				
	comp=Z,3μm,20.4s									
QZH					LR	LR				
	comp=Z,3μm,16.6s									
KNMB	**Chin-men Tao**	61.51	78		IAMs_20	IAMs_20	14 14 37.0			
	comp=Z,4μm,21.0s									
DSRI	**Dabo**	62.68	110		P	**P**	**13 46 20.1**	**+0.4**		
	comp=Z,1μmcomp=Z,55nm,1.1s									
INCN	**Inchon**	62.92	61		IAMs_20	IAMs_20	14 16 41.9			
	comp=Z,4μm,18.0s									
KSI	**Kapahiang**	63.08	114		P	**P**	**13 46 24.9**	**+2.5**		
	comp=Z,156nm,0.7s									
UPNV	**Upernavik**	63.24	341	*i*	P	**P**	**13 46 24.0**	**+1.4**		
UPNV				*i*			13 46 27.2			
UPNV					IAMs_20	IAMs_20	14 12 57.9			
	comp=Z,5μm,21.1s									
NRS	**Narsarsuaq**	63.59	327		P	**P**	**13 46 23.5**	**-1.5**		
NRS					pmax	pmax				
	comp=Z,64nm,1.3s									
NRS	**Narsarsuaq**	63.59	327		P	**P**	**13 46 23.5**	**-1.5**		
NRS					IAmb	IAmb	13 46 32.4			
	comp=Z,64nm,1.3s									
SFJD	**Kangerlussuaq**	63.68	334		P	**P**	**13 46 26.7**	**+1.1**		
	comp=Z,11nm,0.5s,baz=88,slow=4.8,SNR=7.6									
SFJD	**Kangerlussuaq**	63.68	334		P	**P**	**13 46 24.9**	**-0.6**		
SFJD					IAmb	IAmb	13 46 40.9			
	comp=Z,42nm,1.3s									
SFJD	**Kangerlussuaq**	63.68	334		IAMs_20	IAMs_20	14 13 51.6			
	comp=Z,4μm,21.0s									
MNAI	**Manna**	63.80	114		P	**P**	**13 46 26.2**	**-0.9**		
KS19	**Wonju Array Si**	63.83	61		P	**P**	**13 46 25.9**	**-1.2**		
KS19					IAmb	IAmb	13 46 54.8			
	comp=Z,36nm,1.3s									
KSAR	**Wonju Array Be**	63.86	61		P	**P**	**13 46 24.6**	**-2.7**		
KSAR	**Wonju Array Be**	63.86	61		P	**P**	**13 46 24.6**	**-2.7**		
YHNB	**Yeheng**	63.88	76		P	**P**	**13 46 25.4**	**-2.3**		
YHNB					IAMs_20	IAMs_20	14 16 07.8			
	comp=Z,3μm,20.0s									
KSRS	**Korea Array**	63.89	61		P	**P**	**13 46 26.0**	**-1.4**		
	comp=Z,8.5nm,0.6s,baz=285,slow=6.6,SNR=17									
KSRS					LR	LR	14 17 33.2			
	comp=Z,4μm,18.3s,baz=290,slow=39									
LHSI	**Lahat**	63.91	113		P	**P**	**13 46 30.6**	**+2.8**		
	comp=Z,2μmcomp=Z,48nm,1.1s									
SSLB	**Suanglung**	63.92	77		P	**P**	**13 46 26.4**	**-1.5**		
USA0B	**Ussuriysk Arra**	64.27	53		P	**P**	**13 46 27.9**	**-2.0**		
USA0B					pmax	pmax				
	comp=Z,25nm,0.9s									
USA0B					MLR	MLR				
	comp=Z,6μm,21.0s									
USA0B	**Ussuriysk Arra**	64.27	53		P	**P**	**13 46 27.9**	**-2.0**		
USA0B					IAmb	IAmb	13 46 33.6			
	comp=Z,25nm,0.9s									
USRK	**Ussuriysk Ar.**	64.27	53		P	**P**	**13 46 28.3**	**-1.6**		
	comp=Z,11nm,0.7s,baz=289,slow=6.2,SNR=15									
USRK					LR	LR	14 16 50.4			
	comp=Z,7μm,18.6s,baz=280,slow=38									
USRK	**Ussuriysk Ar.**	64.27	53		P	**P**	**13 46 27.4**	**-2.5**		
NACB	**Ninganchiao**	64.28	77		IAMs_20	IAMs_20	14 15 59.1			
	comp=Z,3μm,19.0s									
YULB	**Yu-li**	64.37	78		P	**P**	**13 46 30.2**	**-0.7**		
YULB					IAMs_20	IAMs_20	14 16 11.8			
	comp=Z,4μm,20.0s									
TULEG	**Thule**	64.43	347		P	**P**	**13 46 28.8**	**-1.6**		
TULEG					IAmb	IAmb	13 46 38.5			
	comp=Z,55nm,1.3s									
TULEG	**Thule**	64.43	347	*i*	P	**P**	**13 46 32.9**	**+2.5**		
TULEG					IAmb	IAmb	13 46 34.5			
	comp=Z,20nm,0.7s									
TULEG					IAMs_20	IAMs_20	14 14 36.8			
	comp=Z,4μm,21.0s									
BOSA	**Boshof**	64.50	202		P	**P**	**13 46 30.7**	**-0.8**		
	comp=Z,25nm,0.6s,baz=34,slow=5.9,SNR=13									
BOSA					LR	LR	14 15 40.0			
	comp=Z,9μm,18.4s,baz=28,slow=37									
BOSA	**Boshof**	64.50	202		P	**P**	**13 46 30.2**	**-1.3**		
BOSA					IAmb	IAmb	13 46 35.7			
	comp=Z,46nm,0.9s									
GRNR	**Gornyy**	64.72	45	⇑	*i*P	**P**	**13 46 35.7**	**+3.0**		
GRNR					pmax	pmax				
	comp=N,8.0nm,1.1s									
GRNR					pmax	pmax				
	comp=E,4.0nm,1.1s									
GRNR					pmax	pmax				
	comp=Z,10.0nm,1.0s									
GRNR					MLR	MLR				
	comp=E,2μm,15.0s									
GRNR					MLR	MLR				
	comp=N,740nm,14.0s									
GRNR					MLR	MLR				
	comp=Z,3μm,14.0s									
MDSI	**Maura Dua**	64.83	114		P	**P**	**13 46 34.7**	**+0.8**		
	comp=Z,1μmcomp=Z,45nm,1.7s									
EUNU	**Eureka**	64.86	352		P	**P**	**13 46 31.9**	**-1.4**		
PPBI	**Pangkal Pinang**	64.93	110		P	**P**	**13 46 36.9**	**+2.3**		
	comp=Z,10μmcomp=Z,70nm,1.2s									
LWLI	**Liwa**	65.07	114		P	**P**	**13 46 37.8**	**+2.2**		
	comp=Z,92nm,0.9s									
KLSI		65.38	113		P	**P**	**13 46 38.8**	**+1.3**		
	comp=Z,14nm,1.3s									
JTU	**Tsushima**	66.13	63		IAMs_20	IAMs_20	14 18 01.8			
	comp=Z,4μm,22.0s									
KSM	**Kuching**	66.16	104		P	**P**	**13 46 40.8**	**-1.7**		
KSM					IAmb	IAmb	13 46 47.5			
	comp=Z,44nm,1.1s									
KSM	**Kuching**	66.16	104		P	**P**	**13 46 41.0**	**-1.6**		
TPI	**Tanjungpandan**	66.50	110		P	**P**	**13 46 48.0**	**+3.3**		
	comp=Z,875nmcomp=Z,57nm,1.2s									
TEY	**Ternei**	67.00	50	⇑	*e*P	**P**	**13 46 48.0**	**+0.5**		
TEY					pmax	pmax				
	comp=Z,10.0nm,1.4s									
TEY					pmax	pmax				
	comp=N,20nm,1.4s									
TEY					MLR	MLR				
	comp=N,300nm,13.0s									
TEY					MLR	MLR				
	comp=E,400nm,13.0s									
TEY					MLR	MLR				
	comp=Z,500nm,13.0s									
SBUM	**Sibu**	67.18	102		P	**P**	**13 46 46.6**	**-2.4**		
SBUM					IAmb	IAmb	13 46 54.2			
	comp=Z,43nm,1.3s									
SBUM	**Sibu**	67.18	102		P	**P**	**13 46 46.0**	**-3.1**		
CGJI	**Cibinong**	67.33	114		P	**P**	**13 46 53.6**	**+3.6**		
	comp=Z,2μmcomp=Z,110nm,0.9s									
SEY	**Seymchan**	67.72	29	*c*	*e*P	**P**	**13 46 51.9**	**+0.2**		
JNU	**Nakatsue**	67.83	64		P	**P**	**13 46 52.0**	**-1.0**		
JNU					IAMs_20	IAMs_20	14 18 52.9			
	comp=Z,3μm,20.0s									
DBJI	**Dramaga**	68.11	114		P	**P**	**13 46 57.2**	**+2.3**		
	comp=Z,285μmcomp=Z,10μmcomp=Z,46nm,1.1s									
JSU	**Suzuyama**	68.20	66		IAMs_20	IAMs_20	14 19 33.7			
	comp=Z,3μm,20.0s									
SKJI	**Sukabumi**	68.24	114		P	**P**	**13 46 58.6**	**+2.9**		
	comp=Z,218nm,1.1s									
TYV	**Tymovskoe**	68.32	43		*e*P	**P**	**13 46 55.8**	**+0.1**		
TYV					*e*S	**S**	**13 55 57.9**	**+1.1**		
TYV					pmax	pmax				
	comp=Z,30nm,1.3s									
TYV					pmax	pmax				
	comp=Z,500nm,3.3s									
TYV					smax	smax				
	comp=N,800nm,4.4s									
KKM	**Kota Kinabalu**	68.54	97		P	**P**	**13 46 56.1**	**-1.7**		
MA2	**Magadan**	68.60	32	⇓	*e*P	**P**	**13 46 57.0**	**-0.3**		
MA2					pmax	pmax				
	comp=Z,34nm,1.0s									
MA2	**Magadan**	68.60	32		P	**P**	**13 46 56.4**	**-1.0**		
MA2					IAmb	IAmb	13 47 04.9			
	comp=Z,46nm,1.1s									
JHS	**Saijyo**	68.72	61		IAMs_20	IAMs_20	14 19 48.1			
	comp=Z,3μm,20.0s									
CNJI	**Cibinong**	68.87	114		P	**P**	**13 47 01.7**	**+2.0**		
	comp=Z,5μmcomp=Z,184nm,1.2s									
SUR	**Sutherland**	69.44	204		P	**P**	**13 47 01.2**	**-1.8**		
SUR					IAmb	IAmb	13 47 09.3			
	comp=Z,70nm,1.4s									
SPMM	**Sapulut**	69.47	98		P	P	13 46 58.0	-5.5		
CISI	**Cisompet, Garu**	69.56	114		P	**P**	**13 47 05.7**	**+1.7**		
	comp=Z,2μmcomp=Z,182nm,1.3s									
CISI	**Cisompet, Garu**	69.56	114		P	**P**	**13 47 02.7**	**-1.3**		
PBKI	**Pangkalan Bun**	69.68	107		P	**P**	**13 47 08.3**	**+3.6**		
	comp=Z,3μmcomp=Z,166nm,1.2s									
BILL	**Bilibino**	69.82	21		*e*P	**P**	**13 47 04.7**	**-0.1**		
BILL					*i*		13 47 18.0			
BILL					*e*		13 47 26.2			
BILL					*e*		13 49 40.3			
BILL					*e*PPP	PPP	13 51 24.0			
BILL					*e*S	**S**	**13 56 15.5**	**+1.5**		
BILL					*e*SS	**SS**	**14 00 45.1**	**+3.4**		
BILL					pmax	pmax				
	comp=Z,39nm,1.0s									
BILL					MLR	MLR				
	comp=Z,3μm,16.0s									
BILL	**Bilibino**	69.82	21		P	**P**	**13 47 04.1**	**-0.7**		
BILL					IAmb	IAmb	13 47 19.1			
	comp=Z,69nm,1.2s									
YSS	**Yuzh-Sakhalins**	70.08	47		*e*P	**P**	**13 47 05.4**	**-1.3**		
YSS					*e**SP	**pP**	**13 47 09.4**	**0.0**		
YSS					*e*		13 47 15.0			
YSS					*e*S	**S**	**13 56 14.9**	**-2.8**		
YSS					*e*PPS	PPS	13 56 57.0			
YSS					*e*SS	**SS**	**14 00 47.5**	**+0.9**		
YSS					pmax	pmax				
	comp=Z,30nm,1.1s									
YSS					MLR	MLR				
	comp=Z,3μm,16.0s									
YSS					MLR	MLR				
	comp=N,2μm,18.0s									
YSS					MLR	MLR				
	comp=E,3μm,17.0s									
YSS	**Yuzh-Sakhalins**	70.08	47		P	**P**	**13 47 04.9**	**-1.8**		
YSS					IAMs_20	IAMs_20	14 20 06.6			
	comp=Z,3μm,19.0s									
CMJI	**Cimerak**	70.19	113		P	**P**	**13 47 12.0**	**+4.2**		
	comp=Z,1μmcomp=Z,74nm,1.3s									
JWT	**Wachi**	70.28	60		P	**P**	**13 47 06.6**	**-1.6**		
JWT					IAmb	IAmb	13 47 11.9			
	comp=Z,62nm,1.3s									
KPJI	**Karang Pucung**	70.29	113		P	**P**	**13 47 10.6**	**+2.2**		
	comp=Z,27nm,0.9s									
SHEL	**Horse Pasture**	70.38	235		IAMs_20	IAMs_20	14 18 46.1			
	comp=Z,3μm,18.0s									
MYLDM	**Lahad Datu**	70.92	96		P	**P**	**13 47 11.2**	**-1.2**		
JSD	**Sado**	71.11	57		P	**P**	**13 47 12.5**	**-0.6**		
JSD					IAmb	IAmb	13 47 18.6			
	comp=Z,65nm,1.5s									
ASAJ	**Asahikawa**	71.27	49		P	**P**	**13 47 11.7**	**-2.3**		
ASAJ					pmax	pmax				
	comp=Z,28nm,1.2s									
ASAJ					MLR	MLR				
	comp=Z,6μm,20.0s									
JKA	**Kamikawa-asahi**	71.27	49		P	**P**	**13 47 11.7**	**-2.3**		
MTKI	**Muara Teweh, K**	71.30	104		P	**P**	**13 47 18.1**	**+3.5**		
	comp=Z,4μmcomp=Z,14nm,0.4s									
JMZ	**Minamidaito 2**	71.34	71		IAMs_20	IAMs_20	14 23 50.6			
	comp=Z,3μm,19.0s									
INU	**Inuyama**	71.43	60		IAMs_20	IAMs_20	14 22 02.1			
	comp=Z,3μm,18.0s									
JGF	**Kuroka**	71.56	59		IAMs_20	IAMs_20	14 21 08.3			
	comp=Z,3μm,21.0s									
MAJO	**Matsushiro**	71.75	58	⇓	*e*P	**P**	**13 47 19.2**	**+2.2**		
MAJO					pmax	pmax				
	comp=Z,35nm,2.2s									
MAT	**Matsushiro**	71.75	58		P	**P**	**13 47 17.2**	**+0.2**		
MAT					S	**S**	**13 56 37.0**	**-0.5**		
MJAR	**Matsushiro Arr**	71.75	58		P	**P**	**13 47 19.3**	**+2.2**		
	comp=Z,8.4nm,1.1s,baz=298,slow=8.3,SNR=9.1									
MJAR					LR	LR	14 21 44.2			
	comp=Z,1μm,21.0s,baz=300,slow=38									
JTM	**Tenmabayashi**	71.79	53		IAMs_20	IAMs_20	14 20 35.1			
	comp=Z,4μm,21.0s									
ERM	**Erimo**	72.61	51		P	**P**	**13 47 20.9**	**-1.2**		
ERM					pmax	pmax				
	comp=Z,34nm,1.0s									
ERM					MLR	MLR				
	comp=Z,6μm,18.0s									
ERM	**Erimo**	72.61	51		P	**P**	**13 47 20.9**	**-1.2**		
ER

KDI Kendari 79.35 102 P **P** **13 48 05.7 +4.7**
comp=Z,7µmcomp=Z,100nm,1.3s
INK Inuvik 79.45 1 P **P** **13 47 59.7 -0.8**
comp=Z,4.6nm,1.0s,baz=316,slow=3.4,SNR=3.4
INK Inuvik 79.45 1 P **P** **13 47 59.5 -1.0**
GBN Guysborough 79.47 317 P **P** **13 47 59.4 -1.7**
GBN IAmb IAmb 13 48 06.2
comp=Z,39nm,0.7s
COLD Coldfoot 79.60 7 P **P** **13 48 00.4 -1.0**
TNTI Ternate 80.74 95 P **P** **13 48 10.4 +1.9**
comp=Z,1µmcomp=Z,81nm,1.3s
TNTI Ternate 80.74 95 P **P** **13 48 06.4 -2.0**
LMN Caledonia Moun 81.06 319 P **P** **13 48 08.9 -0.8**
LMN IAmb IAmb 13 48 15.2
comp=Z,37nm,0.8s
SANI Sanana 81.11 98 P **P** **13 48 12.9 +2.5**
comp=Z,731nmcomp=Z,46nm,1.3s
HAL Halifax 81.12 318 P **P** **13 48 08.8 -1.2**
HAL pmax pmax
comp=Z,60nm,0.8s
HAL Halifax 81.12 318 P **P** **13 48 08.8 -1.2**
HAL IAmb IAmb 13 48 18.6
comp=Z,60nm,0.8s
EDFI Ende, Flores 81.28 106 P **P** **13 48 12.1 +0.6**
comp=Z,305nmcomp=Z,15nm,1.3s
MMRI Maumere 81.66 106 P **P** **13 48 14.7 +1.4**
comp=Z,2µmcomp=Z,96nm,1.2s
MMRI Maumere 81.66 106 IAMs_20 IAMs_20 14 26 08.5
comp=Z,2µm,21.0s
MDM Murphy Dome 82.00 7 P **P** **13 48 13.0 -1.3**
MDM IAmb IAmb 13 48 38.4
comp=Z,40nm,1.4s
COLA College 82.12 7⇑*e*P **P** **13 48 13.6 -1.3**
COLA pmax pmax
comp=Z,41nm,2.0s
ILAR Eielson Array 82.32 6 P **P** **13 48 14.7 -1.3**
comp=Z,1.4nm,0.8s,baz=336,slow=3.7,SNR=9.7
ILAR PP **PP** **13 51 26.5 +2.7**
comp=Z,3.2nm,1.1s,baz=357,slow=7.6,SNR=4.4
ILAR PKKPbc **PKKPbc** **14 06 43.4 -0.4**
comp=Z,1.5nm,0.6s,baz=208,slow=1.9,SNR=19
ILAR LR LR 14 29 43.3
comp=Z,1µm,20.9s,baz=359,slow=39
ILAR Eielson Array 82.32 6 P **P** **13 48 13.8 -2.2**
BPAW Bear Paw Mtn. 82.53 8 P **P** **13 48 15.3 -1.8**
BPAW IAmb IAmb 13 48 24.7
comp=Z,36nm,1.2s
D62A Allapoint, All 82.55 322 P **P** **13 48 15.9 -1.6**
D62A IAMs_20 IAMs_20 14 23 25.2
comp=Z,2µm,21.0s
E63A Oxbow 82.65 321 IAMs_20 IAMs_20 14 28 10.9
comp=Z,2µm,20.0s
HDA Harding Lake 82.67 6 P **P** **13 48 15.5 -2.3**
EGAK Eagle 82.74 4 P **P** **13 48 16.7 -1.5**
F64A Sherman 82.97 321 IAMs_20 IAMs_20 14 25 04.4
comp=Z,2µm,21.0s
KTH Kantishna Hill 83.07 8 P **P** **13 48 18.8 -1.2**
KTH IAMs_20 IAMs_20 14 30 32.8
comp=Z,3µm,21.0s
E62A Clayton Lake 83.10 322 P **P** **13 48 18.9 -1.4**
E62A IAmb IAmb 13 48 28.2
comp=Z,22nm,0.9s
TRF Thorofare Moun 83.25 8 IAMs_20 IAMs_20 14 29 54.5
comp=Z,2µm,21.0s
RIDG Independent Ri 83.51 6 P **P** **13 48 20.6 -1.7**
FCC Fort Churchill 83.66 341 IAMs_20 IAMs_20 14 29 49.2
comp=Z,2µm,22.0s
DOT Dot Lake 83.67 5 P **P** **13 48 21.6 -1.4**
BATI Baumata 83.71 106 P **P** **13 48 27.3 +3.3**
comp=Z,1µmcomp=Z,79nm,1.6s
GIRL Giralia 83.82 122 P **P** **13 48 23.4 -0.9**
DHY Denali Highway 83.93 7 IAMs_20 IAMs_20 14 28 16.6
comp=Z,2µm,22.0s
SOEI Soe 83.94 106 P **P** **13 48 27.8 +2.5**
comp=Z,1µmcomp=Z,119nm,1.2s
SOEI Soe 83.94 106 P **P** **13 48 23.4 -1.9**
SOEI IAMs_20 IAMs_20 14 27 43.0
comp=Z,2µm,22.0s
YKA Yellowknife Ar 84.24 352 P **P** **13 48 22.6 -3.3**
comp=Z,4.7nm,0.9s,baz=17,slow=5.1,SNR=3.9
YKA LR LR 14 29 05.0
comp=Z,947nm,18.2s,baz=0.0,slow=38
YKA Yellowknife Ar 84.24 352*ce*P **P** **13 48 26.3 +0.4**
YKA pmax pmax
comp=Z,5.0nm,0.9s
MSAI Masohi 84.27 98 P P 13 48 33.3 +6.4
MENT Mentasta 84.39 5 P **P** **13 48 25.8 -1.0**
G62A West of Eustis 84.55 321 P **P** **13 48 27.1 -0.8**
G62A IAmb IAmb 13 48 37.4
comp=Z,72nm,1.5s
SVW2 Sparrevohn 84.75 11 IAMs_20 IAMs_20 14 30 03.9
comp=Z,3µm,22.0s
SML Sawmill 85.07 8 IAMs_20 IAMs_20 14 29 40.6
comp=Z,3µm,22.0s
SUA Susitna One 85.11 9 P **P** **13 48 29.0 -1.5**
SUA IAmb IAmb 13 48 44.3
comp=Z,30nm,1.1s
SUA IAMs_20 IAMs_20 14 32 09.8
comp=Z,3µm,20.0s
MOQ Mont Orford 85.39 322 P **P** **13 48 30.7 -1.4**
KNK Knik Glacier 85.44 8 IAMs_20 IAMs_20 14 29 49.4
comp=Z,3µm,20.0s
KLU Klutina 85.63 7 P **P** **13 48 31.8 -1.2**
KLU IAMs_20 IAMs_20 14 28 55.4
comp=Z,2µm,21.0s
LBNH Lisbon 85.94 321 P **P** **13 48 34.1 -0.8**
LBNH pmax pmax
comp=Z,32nm,0.8s
LBNH Lisbon 85.94 321 P **P** **13 48 34.1 -0.8**
LBNH IAmb IAmb 13 48 40.7
comp=Z,32nm,0.8s
MCARA McCarthy VSAT 85.99 5 IAMs_20 IAMs_20 14 29 13.9
comp=Z,2µm,21.0s
FID Port Fidalgo 86.30 7 IAMs_20 IAMs_20 14 29 30.5
comp=Z,2µm,22.0s
FFD Franklin Falls 86.32 321 IAMs_20 IAMs_20 14 30 12.1
comp=Z,2µm,20.0s
BALM Baldy 86.38 5 P **P** **13 48 35.7 -1.2**
BALM IAmb IAmb 13 48 45.2
comp=Z,59nm,1.4s
FRNY Flat Rock 86.40 323 P **P** **13 48 35.5 -1.6**
SEW Seward 86.59 9 IAMs_20 IAMs_20 14 30 54.0
comp=Z,3µm,22.0s
FAKI Fak Fak 86.83 95 P **P** **13 48 44.2 +4.5**
comp=Z,2µmcomp=Z,61nm,1.2s
HYT Haines Junctio 86.86 3 P **P** **13 48 38.2 -1.1**
HYT IAmb IAmb 13 48 45.6
comp=Z,40nm,1.5s
WES Weston 86.87 320 IAMs_20 IAMs_20 14 27 14.8
comp=Z,2µm,21.0s
MBWA Marble Bar 86.95 117 IAMs_20 IAMs_20 14 25 20.6
comp=Z,2µm,21.0s
M65A Busby, Falmout 87.05 319 IAMs_20 IAMs_20 14 29 08.6
comp=Z,2µm,20.0s
LONY Lake Ozonia 87.06 323 P **P** **13 48 38.2 -2.1**
LONY IAmb IAmb 13 48 48.6
comp=Z,36nm,1.1s
PSAB1 Pilbara Seismi 87.27 118 IAMs_20 IAMs_20 14 20 42.8
comp=Z,2µm,21.0s
PSA00 Pilbara Seismi 87.29 118 P **P** **13 48 39.9 -1.8**
PSA00 Pilbara Seismi 87.29 118 P **P** **13 48 39.6 -2.0**
PSA00 IAmb IAmb 13 48 49.0
comp=Z,18nm,0.9s
BRYW Bryant College 87.31 319 IAMs_20 IAMs_20 14 32 13.3
comp=Z,2µm,20.0s
TRY Troy 87.90 321 IAMs_20 IAMs_20 14 28 34.9
comp=Z,2µm,20.0s
KDAK Kodiak Island 88.39 11 IAMs_20 IAMs_20 14 32 49.5
comp=Z,2µm,20.0s
DELO Deloro Mine 88.66 324 IAMs_20 IAMs_20 14 31 30.7
comp=Z,2µm,20.0s
CHGN Chignik 88.72 14 IAMs_20 IAMs_20 14 32 28.5
comp=Z,3µm,22.0s
L59A Walton 89.01 321 IAMs_20 IAMs_20 14 31 10.2
comp=Z,2µm,22.0s
MORW Morawa 89.08 126 P **P** **13 48 48.4 -1.6**
MORW IAMs_20 IAMs_20 14 26 26.7
comp=Z,2µm,20.0s
SDPT Sand Point 89.15 16 IAMs_20 IAMs_20 14 33 30.9
comp=Z,2µm,20.0s
BAKI Biak 89.16 92 P P 13 48 56.2 +5.4
comp=Z,83nm,1.1s
SADO Sadowa 89.21 325 IAMs_20 IAMs_20 14 29 15.4
comp=Z,2µm,21.0s
FFC Flin Flon 89.28 343 IAMs_20 IAMs_20 14 36 49.8
comp=Z,2µm,18.0s

SII Sitkinak Islan 89.29 12 IAMs_20 IAMs_20 14 36 21.4
comp=Z,3µm,20.0s
DLBC Dease Lake 89.35 359 IAMs_20 IAMs_20 14 34 21.5
comp=Z,2µm,21.0s
JIS Juneau Island 89.50 1 IAMs_20 IAMs_20 14 35 34.8
comp=Z,2µm,20.0s
ODNJ Ogdensburg 89.55 320 IAMs_20 IAMs_20 14 30 38.6
comp=Z,2µm,21.0s
FITZ Fitzroy Crossi 89.73 112 PP PP 13 52 31.3 +5.6
comp=Z,4.0nm,0.8s,baz=280,slow=17,SNR=3.7
FITZ Fitzroy Crossi 89.73 112 P **P** **13 48 51.8 -1.5**
FITZ IAmb IAmb 13 48 57.4
comp=Z,40nm,1.2s
MMNY Mt. Morris Dam 90.10 323 IAMs_20 IAMs_20 14 32 32.9
comp=Z,2µm,19.0s
WVNY West Valley, N 90.69 323 IAMs_20 IAMs_20 14 33 01.5
comp=Z,2µm,20.0s
KNRA Kununurra 90.87 108 P **P** **13 48 56.9 -1.8**
MVL Millersville 91.26 321 IAMs_20 IAMs_20 14 32 30.8
comp=Z,2µm,21.0s
PAGS Pennsylvania G 91.29 321 IAMs_20 IAMs_20 14 31 26.7
comp=Z,3µm,22.0s
E43A Lone Tree Farm 91.50 331 IAMs_20 IAMs_20 14 29 41.6
comp=Z,2µm,20.0s
ULM Lac du Bonnet 91.53 338 P **P** **13 48 58.3 -2.9**
comp=Z,5.7nm,0.9s,baz=45,slow=5.2,SNR=3.5
ULM LR LR 14 33 23.3
comp=Z,2µm,18.8s,baz=34,slow=38
ULM Lac du Bonnet 91.53 338 P **P** **13 48 58.3 -2.9**
ULM pmax pmax
comp=Z,19nm,1.3s
ULM Lac du Bonnet 91.53 338 P **P** **13 48 58.3 -2.9**
ULM IAmb IAmb 13 49 12.6
comp=Z,19nm,1.2s
ULM IAMs_20 IAMs_20 14 34 30.2
comp=Z,2µm,20.0s
D41A Chassel 91.58 332 IAMs_20 IAMs_20 14 34 32.8
comp=Z,2µm,20.0s
GLMI Grayling 91.70 328 IAMs_20 IAMs_20 14 29 51.2
comp=Z,2µm,22.0s
M54A Oil Creek Stat 91.88 323 P **P** **13 49 01.4 -1.8**
M54A IAmb IAmb 13 49 07.1
comp=Z,27nm,0.9s
EYMN Ely 91.98 334 P **P** **13 49 01.3 -2.1**
EYMN IAmb IAmb 13 49 07.9
comp=Z,13nm,0.7s
EYMN Ely 91.98 334 IAMs_20 IAMs_20 14 32 14.2
comp=Z,2µm,21.0s
G45A Suttons Bay 91.99 329 IAMs_20 IAMs_20 14 33 52.7
comp=Z,2µm,21.0s
ALLY Alegheny Colle 92.02 324 IAMs_20 IAMs_20 14 31 59.7
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 92.26 128 LR LR 14 28 11.5
comp=Z,1µm,19.6s,baz=285,slow=34
N54A Moraine State 92.45 323 IAMs_20 IAMs_20 14 33 13.3
comp=Z,2µm,18.0s
P57A Homestead Farm 92.52 321 IAMs_20 IAMs_20 14 32 12.0
comp=Z,2µm,21.0s
COWI Conover 92.59 332 IAMs_20 IAMs_20 14 35 19.6
comp=Z,2µm,20.0s
M52A Chesterland 92.70 324 IAMs_20 IAMs_20 14 33 50.8
comp=Z,2µm,18.0s
I45A Fountain 93.04 329 IAMs_20 IAMs_20 14 31 38.5
comp=Z,2µm,21.0s
E38A The Farm, Brul 93.12 333 P **P** **13 49 06.3 -2.3**
E38A IAmb IAmb 13 49 12.3
comp=Z,15nm,0.8s
E38A IAMs_20 IAMs_20 14 30 50.4
comp=Z,2µm,22.0s
ROSB Rosrio 93.21 269 *e*P **P** **13 49 13.4 +3.8**
AGMN Agassiz Nation 93.22 337 P **P** **13 49 06.8 -2.3**
GENI Genyem 93.33 91 P **P** **13 49 14.0 +3.8**
comp=Z,88nm,1.2s
T60A Surry 93.51 319 IAMs_20 IAMs_20 14 33 28.6
comp=Z,2µm,20.0s
R58B Mineral 93.55 320 IAMs_20 IAMs_20 14 35 05.4
comp=Z,1µm,19.0s
M50A Fremont 93.63 325 IAMs_20 IAMs_20 14 32 46.2
comp=Z,2µm,21.0s
G40A Rib Lake 93.70 332 P **P** **13 49 08.8 -2.5**
G40A IAmb IAmb 13 49 18.6
comp=Z,17nm,0.8s
JAY Jayapura 93.74 91 LR LR 14 36 30.8
comp=Z,477nm,19.6s,baz=316,slow=39
U61A Possum Corner 93.93 318 IAMs_20 IAMs_20 14 31 40.6
comp=Z,2µm,21.0s
O52A Adamsville 94.02 324 P **P** **13 49 11.0 -1.9**
O52A IAmb IAmb 13 49 20.5
comp=Z,39nm,1.4s
T59A Double "B" Far 94.09 319 IAMs_20 IAMs_20 14 33 53.8
comp=Z,2µm,19.0s
P53A Whipple 94.27 323 IAMs_20 IAMs_20 14 34 12.3
comp=Z,1µm,20.0s
V61A Roper 94.39 318 IAMs_20 IAMs_20 14 31 19.8
comp=Z,2µm,21.0s
F36A Milaca 94.48 334 IAMs_20 IAMs_20 14 31 29.5
comp=Z,2µm,22.0s
R55A Marlinton 94.51 322 IAMs_20 IAMs_20 14 35 06.8
comp=Z,2µm,21.0s
U59A Littleton 94.67 319 IAMs_20 IAMs_20 14 34 14.1
comp=Z,2µm,21.0s
SPMN Marine on St. 94.75 333 IAMs_20 IAMs_20 14 37 16.7
comp=Z,2µm,21.0s
K43A Burlington 95.02 329 IAMs_20 IAMs_20 14 33 11.9
comp=Z,2µm,21.0s
P51A Williamsport 95.11 324 IAMs_20 IAMs_20 14 35 06.5
comp=Z,2µm,19.0s
O49A Covington 95.19 325 IAMs_20 IAMs_20 14 32 37.5
comp=Z,2µm,22.0s
L44A Lake County Fo 95.26 329 IAMs_20 IAMs_20 14 26 44.3
comp=Z,2µm,20.0s
N47A Urbana 95.29 327 IAMs_20 IAMs_20 14 34 35.8
comp=Z,2µm,20.0s
BLA Blacksburg 95.47 321 IAMs_20 IAMs_20 14 36 18.2
comp=Z,2µm,21.0s
CNNC Cliffs of the 95.53 318 IAMs_20 IAMs_20 14 32 39.9
comp=Z,2µm,22.0s
DGMT Dagmar 95.56 342 IAMs_20 IAMs_20 14 38 26.9
comp=Z,2µm,21.0s
P49A Miami Univ. Ec 95.88 325 IAMs_20 IAMs_20 14 33 08.9
comp=Z,2µm,20.0s
M44A Midewin, Midew 95.95 328 IAMs_20 IAMs_20 14 33 28.7
comp=Z,2µm,21.0s
I37A Lemond, Waseca 96.00 333 IAMs_20 IAMs_20 14 37 42.7
comp=Z,2µm,22.0s
L42A Oliver, Polo 96.16 330 IAMs_20 IAMs_20 14 33 46.1
comp=Z,2µm,22.0s
E28A Huff 96.28 339 IAMs_20 IAMs_20 14 37 28.0
comp=Z,2µm,20.0s
SFIN Lafayette 96.33 327 IAMs_20 IAMs_20 14 35 07.8
comp=Z,2µm,21.0s
Y60A Bolivia 96.61 317 IAMs_20 IAMs_20 14 38 52.6
comp=Z,1µm,19.0s
R50A Paris 96.66 324 IAMs_20 IAMs_20 14 33 01.6
comp=Z,2µm,22.0s
U54A Nelsons Funny 96.73 321 IAMs_20 IAMs_20 14 36 23.5
comp=Z,2µm,22.0s
X58A Rowland 96.84 319 IAMs_20 IAMs_20 14 34 04.7
comp=Z,2µm,22.0s
V55A Taylorsville 96.91 321 IAMs_20 IAMs_20 14 37 55.3
comp=Z,2µm,19.0s
K38A Parkersburg 96.91 332 IAMs_20 IAMs_20 14 32 59.8
comp=Z,2µm,22.0s
P46A Rosedale 96.99 327 IAMs_20 IAMs_20 14 35 27.3
comp=Z,2µm,21.0s
O44A Mansfield 97.14 328 IAMs_20 IAMs_20 14 32 56.1
comp=Z,2µm,22.0s
WALA Waterton Lakes 97.15 348 IAMs_20 IAMs_20 14 41 48.7
comp=Z,2µm,20.0s
HDIL Hopedale 97.18 329 IAMs_20 IAMs_20 14 40 50.7
comp=Z,2µm,19.0s
EGMT Eagleton 97.32 345 IAMs_20 IAMs_20 14 41 53.3
comp=Z,2µm,18.0s
WB6 Warramunga Arr 97.61 109 IAMs_20 IAMs_20 14 34 50.0
comp=Z,1µm,19.0s
TZTN Tazewell 97.61 322 IAMs_20 IAMs_20 14 37 06.8
comp=Z,2µm,20.0s
WRA Warramunga Arr 97.63 109 P **P** **13 49 27.4 -2.2**
comp=Z,4.7nm,1.1s,baz=316,slow=4.0,SNR=12
WRA PKKPbc **PKKPdf** **14 06 08.4 +0.5**
comp=Z,0.6nm,0.6s,baz=120,slow=3.1,SNR=7.6
WRA LR LR 14 38 24.6
comp=Z,525nm,18.5s,baz=290,slow=38
WRA Warramunga Arr 97.63 109 *i* P Pdif 13 49 31.6 +1.9
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRA Warramunga Arr 97.63 109 P **P** **13 49 27.4 -2.2**
WRAB Tennant Creek 97.63 109⇓*e*P Pdif 13 49 31.8 +2.1

WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 97.63 109 P **P** **13 49 28.0 -1.6**
WRAB IAmb IAmb 13 49 33.6
comp=Z,6.9nm,0.8s
WB2 Warramunga Arr 97.64 109 P **P** **13 49 27.9 -1.8**
WB2 IAmb IAmb 13 49 33.6
comp=Z,8.3nm,0.9s
WCI Wyandotte Cave 97.67 325 IAMs_20 IAMs_20 14 34 13.1
comp=Z,2µm,20.0s
SCIA State Center 97.71 332 IAMs_20 IAMs_20 14 34 51.0
comp=Z,2µm,21.0s
N41A Harden Midland 97.74 330 IAMs_20 IAMs_20 14 34 43.8
comp=Z,2µm,22.0s
Y57A Sumter 97.83 319 IAMs_20 IAMs_20 14 34 43.7
comp=Z,2µm,22.0s
V53A Saluda 97.89 321 IAMs_20 IAMs_20 14 35 19.4
comp=Z,2µm,21.0s
P43A Skaggs, Pawnee 98.03 328 IAMs_20 IAMs_20 14 36 36.6
comp=Z,2µm,19.0s
V52A Sevierville 98.17 322 IAMs_20 IAMs_20 14 36 44.7
comp=Z,2µm,21.0s
NHSC New Hope 98.38 318 IAMs_20 IAMs_20 14 33 38.4
comp=Z,2µm,22.0s
TKL Tuckaleechee C 98.41 322 IAMs_20 IAMs_20 14 36 51.9
comp=Z,2µm,20.0s
NEW Newport 98.44 350 IAMs_20 IAMs_20 14 36 26.8
comp=Z,2µm,20.0s
BG3 Lake Jocassee 98.47 321 IAMs_20 IAMs_20 14 35 47.7
comp=Z,2µm,22.0s
JTMT Jette 98.48 348 IAMs_20 IAMs_20 14 38 52.0
comp=Z,1µm,20.0s
FORT Forrest 98.56 121 IAMs_20 IAMs_20 14 34 10.0
comp=Z,2µm,19.0s
Z56A Williston 98.88 319 IAMs_20 IAMs_20 14 34 10.7
comp=Z,2µm,22.0s
W52A Murphy 98.92 322 IAMs_20 IAMs_20 14 37 09.5
comp=Z,2µm,20.0s
CPCT Cooper Cave 98.95 322 IAMs_20 IAMs_20 14 37 57.4
comp=Z,1µm,21.0s
T47A Sharon Grove 99.04 325 IAMs_20 IAMs_20 14 41 44.5
comp=Z,1µm,20.0s
SLM Saint Louis 99.17 328 IAMs_20 IAMs_20 14 34 07.8
comp=Z,1µm,19.0s
AS31 Alice Springs 99.23 112 **Pdif** **13 49 33.8 -3.0**
ASAR Alice Springs 99.23 112 P **Pdif** **13 49 34.8 -2.0**
comp=Z,3.2nm,0.6s,baz=306,slow=4.2,SNR=18
ASAR PP **PP** **13 53 40.2 +0.4**
comp=Z,6.9nm,1.1s,baz=305,slow=5.8,SNR=4.8
ASAR PKKPbc **PKKPbc** **14 06 02.6 +1.8**
comp=Z,1.0nm,0.9s,baz=118,slow=3.8,SNR=8.9
ASAR LR LR 14 40 37.7
comp=Z,736nm,18.1s,baz=291,slow=39
ASAR Alice Springs 99.23 112 P **Pdif** **13 49 34.5 -2.3**
ASAR Alice Springs 99.23 112 P **Pdif** **13 49 34.5 -2.3**
MSO Missoula 99.30 347 IAMs_20 IAMs_20 14 40 58.7
comp=Z,2µm,20.0s
S44A Carbondale 99.49 327 IAMs_20 IAMs_20 14 34 08.4
comp=Z,2µm,21.0s
T45A Paducah 99.75 326 IAMs_20 IAMs_20 14 35 59.4
comp=Z,2µm,21.0s
FVM French Village 99.79 328 IAMs_20 IAMs_20 14 34 51.3
comp=Z,2µm,22.0s
X51A Calhoun 99.81 322 IAMs_20 IAMs_20 14 37 35.1
comp=Z,1µm,20.0s
BGNE Belgrade 100.02 335 IAMs_20 IAMs_20 14 36 32.0
comp=Z,2µm,19.0s
WVT Waverly 100.08 325 IAMs_20 IAMs_20 14 36 37.9
comp=Z,2µm,21.0s
CCM Cathedral Cave 100.10 328 IAMs_20 IAMs_20 14 39 06.3
comp=Z,2µm,22.0s
FPAL Fort Paine 100.22 322 IAMs_20 IAMs_20 14 34 39.0
comp=Z,1µm,22.0s
E09A Wood Farm, Sta 100.30 350 IAMs_20 IAMs_20 14 43 15.0
comp=Z,2µm,20.0s
N33A J Bar K, Exete 100.35 334 IAMs_20 IAMs_20 14 42 30.8
comp=Z,2µm,21.0s
R40A Maddies Statio 100.35 329 IAMs_20 IAMs_20 14 38 32.0
comp=Z,2µm,22.0s
DLMT Dillon 100.45 346 IAMs_20 IAMs_20 14 40 46.2
comp=Z,2µm,20.0s
MAW Mawson 100.48 174 P **Pdif** **13 49 43.2 +2.1**
comp=Z,5.0nm,1.2s,baz=4.7,slow=6.3,SNR=6.8
255A Hazlehurst 100.55 319 IAMs_20 IAMs_20 14 34 56.8
comp=Z,2µm,22.0s
F10A Beach Ranch, E 100.69 349 IAMs_20 IAMs_20 14 43 41.1
comp=Z,2µm,18.0s
PVMO Portageville 100.74 326 IAMs_20 IAMs_20 14 40 39.4
comp=Z,2µm,21.0s
PBMO Poplar Bluff 100.78 327 IAMs_20 IAMs_20 14 37 34.4
comp=Z,1µm,20.0s
T42A Van Buren 100.87 328 IAMs_20 IAMs_20 14 35 24.5
comp=Z,2µm,22.0s
Z51A Franklin 100.95 321 IAMs_20 IAMs_20 14 37 15.2
comp=Z,2µm,21.0s
X48A Hartselle 101.02 323 IAMs_20 IAMs_20 14 39 13.1
comp=Z,2µm,21.0s
PLAL Pickwick Lake 101.11 324 IAMs_20 IAMs_20 14 36 13.4
comp=Z,1µm,21.0s
MALB Monte Alegre 101.21 275 *e*P **Pdif** **13 49 48.8 +3.0**
FLWY Flagg Ranch 101.27 344 IAMs_20 IAMs_20 14 39 04.7
comp=Z,2µm,21.0s
S39A Bolivar 101.31 330 IAMs_20 IAMs_20 14 42 12.3
comp=Z,2µm,22.0s
IMW Indian Meadow 101.50 345 IAMs_20 IAMs_20 14 39 12.8
comp=Z,2µm,21.0s
W45A Hickory Valley 101.51 325 IAMs_20 IAMs_20 14 39 13.0
comp=Z,1µm,20.0s
TIGA Tifton 101.53 319 IAMs_20 IAMs_20 14 36 01.9
comp=Z,2µm,20.0s
PEXB Peixe 101.55 263 *e*P **Pdif** **13 49 50.5 +3.3**
MOOW Moose Ponds 101.59 344 IAMs_20 IAMs_20 14 40 04.4
comp=Z,2µm,22.0s
G08A Pilot Rock 101.61 351 IAMs_20 IAMs_20 14 44 24.8
comp=Z,2µm,20.0s
LPAR Lepanto 101.68 326 IAMs_20 IAMs_20 14 38 11.4
comp=Z,2µm,19.0s
LOHW Long Hollow 101.69 344 IAMs_20 IAMs_20 14 42 09.6
comp=Z,2µm,21.0s
LCAR Lake Charles 101.69 327 IAMs_20 IAMs_20 14 38 00.7
comp=Z,2µm,22.0s
BMO Blue Mountains 101.79 349 IAMs_20 IAMs_20 14 44 36.7
comp=Z,2µm,22.0s
SNOW Snow King Moun 101.87 344 IAMs_20 IAMs_20 14 40 13.3
comp=Z,2µm,22.0s
TPAW Teton Pass 101.89 344 IAMs_20 IAMs_20 14 38 10.1
comp=Z,2µm,21.0s
REDW Red Top Meadow 101.98 344 IAMs_20 IAMs_20 14 40 27.7
comp=Z,2µm,22.0s
LRAL Lakeview Retre 102.12 322 IAMs_20 IAMs_20 14 37 55.1
comp=Z,2µm,21.0s
U40A Yellville 102.22 328 IAMs_20 IAMs_20 14 37 01.5
comp=Z,2µm,22.0s
BW06 Boulder Array 102.24 343 IAMs_20 IAMs_20 14 39 50.6
comp=Z,2µm,21.0s
PDAR Pinedale Array 102.24 343 PP **PP** **13 53 58.2 -2.8**
comp=Z,0.4nm,0.7s,baz=58,slow=3.7,SNR=3.4
PDAR PKKPbc **PKKPbc** **14 05 53.8 +1.1**
comp=Z,0.6nm,0.6s,baz=145,slow=5.4,SNR=5.7
656A Willston 102.50 317 IAMs_20 IAMs_20 14 41 32.7
comp=Z,2µm,22.0s
PHWY Pilot Hill 102.50 340 IAMs_20 IAMs_20 14 36 48.7
comp=Z,2µm,22.0s
Z47A Carrollton 102.53 323 IAMs_20 IAMs_20 14 40 10.1
comp=Z,2µm,20.0s
HLID Hailey 102.54 347 IAMs_20 IAMs_20 14 45 34.4
comp=Z,2µm,19.0s
250A Grady 102.56 321 IAMs_20 IAMs_20 14 40 54.1
comp=Z,2µm,21.0s
AHID Auburn Hatcher 102.61 344 IAMs_20 IAMs_20 14 39 47.2
comp=Z,2µm,21.0s
VAS01 Vassouras-RJ 102.68 252 *e*P **Pdif** **13 49 55.9 +3.8**
Y45A Yeager Farm, C 102.73 325 IAMs_20 IAMs_20 14 38 30.2
comp=Z,2µm,20.0s
U38A Gravette 102.82 330 IAMs_20 IAMs_20 14 36 39.3
comp=Z,2µm,22.0s
R32A Long Quarter, 102.84 334 IAMs_20 IAMs_20 14 44 17.8
comp=Z,2µm,21.0s
WHAR Wooly Hollow 102.85 327 IAMs_20 IAMs_20 14 37 43.9
comp=Z,1µm,21.0s
N23A Red Feather La 103.02 340 IAMs_20 IAMs_20 14 43 10.3
comp=Z,2µm,22.0s
BDFB Brasilia 103.10 260 PP **PP** **13 54 10.5 +1.2**
comp=Z,4.1nm,0.8s,baz=59,slow=7.7,SNR=4.3
BDFB Brasilia 103.10 260 IAMs_20 IAMs_20 14 41 04.2
comp=Z,1µm,20.0s
PINE Pine Mountain 103.34 352 IAMs_20 IAMs_20 14 44 40.6
comp=Z,2µm,20.0s

451A	**Vernon**	**103.35 320**	IAMs_20	IAMs_20	14 37 21.8	
	comp=Z,1μm,19.0s					
146A	**Union**	**103.48 324**	IAMs_20	IAMs_20	14 40 41.1	
	comp=Z,1μm,19.0s					
BRAL	**Brewton**	**103.61 321**	IAMs_20	IAMs_20	14 41 25.8	
	comp=Z,1μm,18.0s					
X40A	**Basin Creek Fa**	**103.77 327**	IAMs_20	IAMs_20	14 39 38.6	
	comp=Z,2μm,22.0s					
HWUT	**Hardware Ranch**	**103.81 344**	IAMs_20	IAMs_20	14 41 13.9	
	comp=Z,2μm,21.0s					
TUL1	**Leonard**	**103.86 330**	IAMs_20	IAMs_20	14 42 49.9	
	comp=Z,2μm,21.0s					
ISCO	**Idaho Springs**	**103.93 339**	IAMs_20	IAMs_20	14 42 15.5	
	comp=Z,2μm,22.0s					
MIAR	**Mount Ida**	**104.06 328**	IAMs_20	IAMs_20	14 37 10.2	
	comp=Z,2μm,21.0s					
O20A	**White River Ci**	**104.37 341**	IAMs_20	IAMs_20	14 41 12.0	
	comp=Z,2μm,20.0s					
Q24A	**Divide**	**104.56 339**	IAMs_20	IAMs_20	14 42 01.1	
	comp=Z,2μm,21.0s					
WLAR	**White Oak Lake**	**104.56 327**	IAMs_20	IAMs_20	14 39 48.6	
	comp=Z,2μm,21.0s					
143A	**Socs Landing,**	**104.58 325**	IAMs_20	IAMs_20	14 39 16.1	
	comp=Z,1μm,20.0s					
346A	**Big Creek Wild**	**104.69 323**	IAMs_20	IAMs_20	14 37 52.7	
	comp=Z,2μm,22.0s					
HUMO	**Hull Mountain**	**104.74 353**	IAMs_20	IAMs_20	14 40 35.6	
	comp=Z,2μm,22.0s					
X37A	**Clayton**	**104.81 329**	IAMs_20	IAMs_20	14 45 48.0	
	comp=Z,1μm,20.0s					
OKCFA	**Oklahoma City**	**104.97 331**	IAMs_20	IAMs_20	14 44 25.3	
	comp=Z,2μm,20.0s					
344A	**Westbrook Farm**	**105.27 324**	IAMs_20	IAMs_20	14 41 52.1	
	comp=Z,2μm,19.0s					
DUG	**Dugway, Tooele**	**105.44 345**	IAMs_20	IAMs_20	14 44 07.3	
	comp=Z,1μm,19.0s					
BBOO	**Buckleboo**	**105.45 119**	IAMs_20	IAMs_20	14 36 12.4	
	comp=Z,1μm,20.0s					
Z38A	**Mt. Pleasant**	**105.77 328**	IAMs_20	IAMs_20	14 39 59.5	
	comp=Z,2μm,20.0s					
SDCO	**Great Sand Dun**	**105.79 338**	IAMs_20	IAMs_20	14 40 48.6	
	comp=Z,2μm,20.0s					
PV22	**Blue Mesa, Par**	**106.02 341**	IAMs_20	IAMs_20	14 44 03.6	
	comp=Z,2μm,18.0s					
342A	**Flagon Creek P**	**106.11 325**	IAMs_20	IAMs_20	14 40 22.7	
	comp=Z,2μm,20.0s					
PV20	**West Nyswonger**	**106.25 341**	IAMs_20	IAMs_20	14 39 37.7	
	comp=Z,2μm,22.0s					
PV16	**Nyswonger Mesa**	**106.26 341**	IAMs_20	IAMs_20	14 47 17.0	
	comp=Z,2μm,19.0s					
PV18	**Skein Mesa, Pa**	**106.32 341**	IAMs_20	IAMs_20	14 48 26.6	
	comp=Z,1μm,21.0s					
PV01	**Paradox Valley**	**106.33 341**	IAMs_20	IAMs_20	14 48 29.9	
	comp=Z,2μm,20.0s					
SPB	**Sao Paulo**	**106.53 252**	IAMs_20	IAMs_20	14 35 58.8	
	comp=Z,2μm,20.0s					
Z35A	**Perchaven, San**	**106.69 330**	IAMs_20	IAMs_20	14 42 13.8	
	comp=Z,2μm,20.0s					
NATX	**Nacogdoches**	**106.89 327**	IAMs_20	IAMs_20	14 39 10.2	
	comp=Z,2μm,22.0s					
AMTX	**Amarillo**	**107.08 334**	IAMs_20	IAMs_20	14 39 21.9	
	comp=Z,2μm,21.0s					
PAHR	**Pah Rah Range**	**107.14 350**	IAMs_20	IAMs_20	14 43 26.1	
	comp=Z,2μm,20.0s					
MVCO	**Mesa Verde**	**107.17 340**	IAMs_20	IAMs_20	14 47 00.2	
	comp=Z,2μm,21.0s					
237A	**Washetta, Mont**	**107.20 328**	IAMs_20	IAMs_20	14 47 27.4	
	comp=Z,2μm,21.0s					
KVN	**Kaiserville**	**107.58 349**	IAMs_20	IAMs_20	14 43 42.9	
	comp=Z,1μm,20.0s					
R11A	**Troy Canyon, C**	**107.80 346**	IAMs_20	IAMs_20	14 48 40.7	
	comp=Z,1μm,19.0s					
WHTX	**Lake Whitney,**	**107.93 329**	IAMs_20	IAMs_20	14 40 22.6	
	comp=Z,2μm,21.0s					
RYN	**Ryan**	**108.06 349**	IAMs_20	IAMs_20	14 42 01.6	
	comp=Z,1μm,20.0s					
NV11	**Mina Array Sit**	**108.19 348**	IAMs_20	IAMs_20	14 43 31.0	
	comp=Z,2μm,21.0s					
NVAR	**Mina Array Bea**	**108.22 349**	PKiKP	**PKiKP**	**13 54 24.8 +1.5**	
	comp=Z,0.7nm,0.5s,baz=4.1,slow=1.2,SNR=4.7					
NVAR			PKKPbc	**PKKPbc**	**14 05 37.4 +2.9**	
	comp=Z,1.0nm,0.6s,baz=197,slow=6.3,SNR=6.5					
LHV	**Little Huntoon**	**108.43 349**	IAMs_20	IAMs_20	14 42 31.2	
	comp=Z,1μm,21.0s					
GDXM	**Geysers**	**108.48 352**	IAMs_20	IAMs_20	14 43 37.6	
	comp=Z,2μm,19.0s					
PRN	**Pahroc Range**	**108.60 346**	IAMs_20	IAMs_20	14 49 46.9	
	comp=Z,2μm,18.0s					
ANMO	**Albuquerque**	**108.66 338**	IAMs_20	IAMs_20	14 43 33.7	
	comp=Z,2μm,21.0s					
U15A	**North Rim**	**108.91 343**	IAMs_20	IAMs_20	14 46 58.2	
	comp=Z,2μm,21.0s					
CMB	**Columbia Colle**	**108.93 350**	IAMs_20	IAMs_20	14 44 35.2	
	comp=Z,2μm,21.0s					
HKT	**Hockley**	**108.95 327**	IAMs_20	IAMs_20	14 42 49.6	
	comp=Z,2μm,20.0s					
MDPB	**Devils Postpil**	**109.13 349**	IAMs_20	IAMs_20	14 45 05.7	
	comp=Z,1μm,21.0s					
OMMB	**Old Mammoth Mi**	**109.13 349**	IAMs_20	IAMs_20	14 44 56.9	
	comp=Z,2μm,20.0s					
STKA	**Stephens Creek**	**109.16 116**	PKiKP	**PKiKP**	**13 54 26.4 +1.7**	
	comp=Z,1.1nm,0.6s,baz=327,slow=9.7,SNR=3.7					
TPNV	**Topopah Spring**	**109.29 347**	IAMs_20	IAMs_20	14 46 08.0	
	comp=Z,2μm,19.0s					
W18A	**Petrified Fore**	**109.48 341**	IAMs_20	IAMs_20	14 46 59.3	
	comp=Z,1μm,22.0s					
SHPR	**Sheep Range**	**109.49 346**	IAMs_20	IAMs_20	14 44 58.5	
	comp=Z,1μm,20.0s					
SNAA	**Sanae**	**109.79 195**	PKiKP	**PKiKP**	**13 54 19.5 -5.3**	
JCT	**Junction City**	**110.23 331**	IAMs_20	IAMs_20	14 42 14.6	
	comp=Z,2μm,22.0s					
VNA2	**Neumayer--Watz**	**110.33 197**	PKiKP	**PKiKP**	**13 54 26.3 +0.5**	
VNA1	**Neumayer--Stat**	**110.36 197**	PKiKP	**PKiKP**	**13 54 26.6 +0.9**	
735A	**Kenedy**	**110.78 328**	IAMs_20	IAMs_20	14 48 59.1	
	comp=Z,2μm,20.0s					
ISA	**Isabella, Lake**	**110.95 348**	IAMs_20	IAMs_20	14 48 05.0	
	comp=Z,2μm,19.0s					
Y14A	**Wickenburg**	**111.46 343**	IAMs_20	IAMs_20	14 45 25.6	
	comp=Z,1μm,19.0s					
GLA	**Glamis**	**112.74 344**	IAMs_20	IAMs_20	14 46 50.5	
	comp=Z,1μm,19.0s					
113A	**Mohawk Valley,**	**112.76 343**	IAMs_20	IAMs_20	14 43 51.1	
	comp=Z,2μm,22.0s					
TXAR	**Lajitas Array**	**112.79 333**	PKiKP	**PKiKP**	**13 54 31.2 -0.8**	
	comp=Z,0.5nm,0.8s,baz=72,slow=4.1,SNR=1.8					
TXAR			PKKPbc	**PKKPab**	**14 05 29.4 -1.1**	
	comp=Z,1.1nm,1.0s,baz=212,slow=4.4,SNR=5.4					
UABX	**UABC, Campus M**	**113.28 345**	IAMs_20	IAMs_20	14 53 03.8	
	comp=Z,1μm,18.0s					
214A	**Organ Pipe Nat**	**113.30 342**	IAMs_20	IAMs_20	14 47 19.2	
	comp=Z,1μm,20.0s					
109C	**Camp Elliot, M**	**113.39 346**	IAMs_20	IAMs_20	14 49 12.6	
	comp=Z,1μm,21.0s					
ROSC	**El Rosal**	**113.79 293**	IAMs_20	IAMs_20	14 43 48.2	
	comp=Z,1μm,22.0s					
ESJX	**Sierra Juarez**	**114.00 345**	IAMs_20	IAMs_20	14 51 39.8	
	comp=Z,1μm,22.0s					
CCX	**Cicese**	**114.28 346**	IAMs_20	IAMs_20	14 52 16.3	
	comp=Z,1μm,20.0s					
SFX	**San Felipe**	**114.68 344**	IAMs_20	IAMs_20	14 54 00.8	
	comp=Z,1μm,21.0s					
CPUP	**Villa Florida**	**115.77 254**	PKP	**PKiKP**	**13 54 39.6 +2.2**	
	comp=Z,1.3nm,0.6s,baz=48,slow=1.9,SNR=3.8					
PETF	**Flores**	**116.32 314**		**PKPdf**	**13 54 35.9 -2.9**	
BELA	**Belgrano 2**	**120.00 194**	PKPdf	**PKPdf**	**13 54 42.4 -1.8**	
LPAZ	**La Paz**	**120.31 269**	PKP	**PKPdf**	**13 54 46.0 -1.3**	
	comp=Z,2.3nm,0.8s,baz=9.5,slow=2.2,SNR=4.7					
LPAZ			PKKPbc	**PKKPab**	**14 05 02.0 +6.8**	
	comp=Z,0.6nm,0.4s,baz=250,slow=5.3,SNR=4.2					
LPAZ	**La Paz**	**120.31 269**	PKIKP	**PKPdf**	**13 54 46.0 -1.3**	
QSPA	**South Pole Qui**	**122.38 180**	PKPdf	**PKPdf**	**13 54 47.3 -1.8**	
GO01	**Chusmiza**	**122.76 266**		**PKPdf**	**13 54 50.4 -1.3**	
GO01			IAMs_20	IAMs_20	14 50 04.0	
	comp=Z,1μm,22.0s					
MNMC	**Minye Minye**	**122.86 267**	IAMs_20	IAMs_20	14 48 17.6	
	comp=Z,1μm,21.0s					
PB08	**IPOC Station P**	**122.93 266**	IAMs_20	IAMs_20	14 47 59.6	
	comp=Z,1μm,22.0s					
AP01	**Chacalluta**	**123.14 268**	IAMs_20	IAMs_20	14 51 26.2	
	comp=Z,1μm,20.0s					
PB11	**IPOC Station P**	**123.19 267**	PKPdf	**PKPdf**	**13 54 50.7 -1.5**	
PB11			IAMs_20	IAMs_20	14 50 16.0	
	comp=Z,1μm,22.0s					
PB12	**IPOC Station P**	**123.24 268**	IAMs_20	IAMs_20	14 49 42.8	
	comp=Z,1μm,20.0s					
LVC	**Limon Verde**	**123.79 263**	IAMs_20	IAMs_20	15 00 29.4	
	comp=Z,1μm,21.0s					
TA01	**Diego Aracena**	**123.98 266**	IAMs_20	IAMs_20	14 53 15.5	
	comp=Z,941nm,20.0s					
PATCX	**Punta Patache**	**124.07 266**	IAMs_20	IAMs_20	14 50 49.8	
	comp=Z,1μm,22.0s					
PB15	**IPOC Station P**	**124.51 263**	IAMs_20	IAMs_20	14 53 36.3	
	comp=Z,1μm,21.0s					
PB04	**IPOC Station P**	**124.71 264**	IAMs_20	IAMs_20	14 49 34.8	
	comp=Z,1μm,22.0s					
DZM	**Mont Dzumac**	**125.09 95**	eLR	LR	14 33 50.6	
	comp=Z,1μm,22.4s					
PB10	**IPOC Station P**	**125.54 263**	IAMs_20	IAMs_20	14 58 46.7	
	comp=Z,1μm,20.0s					
AC02	**Maricunga**	**125.65 258**	IAMs_20	IAMs_20	14 59 50.6	
	comp=Z,1μm,19.0s					
PB14	**IPOC Station P**	**125.86 262**	IAMs_20	IAMs_20	15 00 20.1	
	comp=Z,1μm,21.0s					
AC01	**Pan de Azucar**	**126.61 260**	IAMs_20	IAMs_20	14 58 15.0	
	comp=Z,1μm,20.0s					
VNDA	**Vanda**	**126.68 166**	PKP	**PKPdf**	**13 54 55.8 -1.2**	
	comp=Z,2.0nm,0.8s,baz=271,slow=6.0,SNR=3.8					
GO03	**Copiap**	**126.85 258**	IAMs_20	IAMs_20	15 00 06.2	
	comp=Z,1μm,19.0s					
CO01	**Juntas del Tor**	**127.56 255**	PKPdf	**PKPdf**	**13 54 59.0 -1.4**	
GO04	**Tololo Observa**	**128.21 255**	IAMs_20	IAMs_20	14 55 58.2	
	comp=Z,1μm,21.0s					
PMSA	**Palmer Station**	**128.23 210**		**PKPdf**	**13 54 58.9 -1.2**	
CO02	**Combarbal**	**128.70 254**	IAMs_20	IAMs_20	15 00 56.3	
	comp=Z,1μm,20.0s					
PLCA	**Paso Flores**	**130.80 242**	PKP	**PKiKP**	**13 55 06.6 -0.3**	
	comp=Z,9.4nm,1.1s,baz=259,slow=7.2,SNR=4.5					
PLCA			SKPbc	**SKPab**	**13 58 33.0 +2.6**	
	comp=Z,4.6nm,1.0s,baz=39,slow=3.5,SNR=3.7					
RPZ	**Rata Peaks**	**134.75 121**	SKPbc	**SKPab**	**13 58 45.8 -1.5**	
	comp=Z,22nm,1.0s,baz=18,slow=4.3,SNR=5.8					
PPT2	**Papeete2**	**158.34 51**	eSS	SS	14 20 01.8 -5.8	
	comp=Z,643nm,26.2s					
PPT2	**Papeete2**	**158.34 51**	eLR	LR	14 49 14.7	
	comp=Z,3μm,25.8s					
TBI	**Tubuai**	**162.19 63**	eSS	SS	14 20 44.5 -4.1	
	comp=Z,429nm,33.2s					
TBI	**Tubuai**	**162.19 63**	eLR	LR	14 51 05.2	
	comp=Z,3μm,26.0s					

MAN 15 13:37:33.7, 10.01N×124.23E, h5km, mb4.6, ML3.5, MS3.4, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.63**	**79**	*e*P	Pb	13 37 46.7	-0.4
MSLP				*e*S	Sb	13 37 56.9	+0.6
OCLP	**Ormoc**	**1.10**	**20**	*e*P	Pg	13 37 54.3	-0.5
OCLP				*e*S	Sn	13 38 10.9	-0.4
CNOP	**Candoni, Negro**	**1.58**	**264**	*e*P	Pn	13 38 01.9	-0.4
CNOP				*e*S	Sb	13 38 23.7	0.0
CGP	**Cagayan de Oro**	**1.61**	**164**↑	*e*P	Pn	13 38 02.0	-0.8
CGP				*e*S	Sn	13 38 24.1	+0.1
GUIM	**Jordan**	**1.73**	**291**	*e*P	Pn	13 38 04.0	-0.5
GUIM				*e*S	Sb	13 38 27.7	-0.3
BESP	**Borongan**	**1.98**	**37**	*e*P	Pn	13 38 03.2	-4.6
BESP				*e*S	Sn	13 38 32.1	-0.9
BUKP	**Musuan**	**2.27**	**159**	*e*P	Pn	13 38 10.7	-1.2
BUKP				*e*S	Sn	13 38 41.9	+1.6
PAGZ	**Pagadian**	**2.31**	**201**	*e*P	Pn	13 38 11.7	-0.7
PAGZ				*e*S	Sn	13 38 40.7	-0.5
KCP	**Kidapawan**	**3.10**	**164**↓	*e*P	Pn	13 38 24.6	+1.2

JMA 15 13:43:38.0±0.4, 37.04N×142.27E, h17km±5km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.16**	**287**	P	Pn	13 43 59.2	-0.3
JFK				*e*S	Sn	13 44 15.2	+0.2
ONAJ	**Iwakimizuishiy**	**1.18**	**273**	P	Pn	13 43 59.3	-0.5
ONAJ				*e*S	Sn	13 44 15.5	0.0
JMST	**Minamisoumatoc**	**1.30**	**302**	P	Pn	13 44 01.2	-0.1
JMST				*e*S	Sn	13 44 17.1	-1.1
JFFD	**Fukushimafurud**	**1.37**	**273**	P	Pn	13 44 02.1	-0.2
JIKH	**Ishinomakikobu**	**1.42**	**334**	P	Pn	13 44 02.9	-0.1
JMM	**Marumori**	**1.44**	**305**	P	Pn	13 44 03.4	+0.2
JIO	**Ouri**	**1.59**	**333**	P	Pn	13 44 05.6	+0.2
JIO				*e*S	Sn	13 44 25.4	-0.1
JFT	**Otama**	**1.61**	**288**	P	Pb	13 44 06.7	-0.7
JOU	**Okura**	**1.84**	**317**	S	Sn	13 44 32.3	+0.6
JFY	**Yanaizu**	**2.08**	**281**	P	Pb	13 44 14.0	-1.3
JMK	**Ichinoseki**	**2.08**	**337**	P	Pb	13 44 13.9	-1.4
JAG	**Ashikaga**	**2.34**	**256**	P	Pn	13 44 17.0	+1.3
JAG				*e*S	Sn	13 44 45.4	+1.3
MAT	**Matsushiro**	**3.30**	**263**	P	Pn	13 44 31.3	+2.4
MAT				*e*S	Sn	13 45 09.2	+1.5

*IDC **15** 13:45:20.7±0.6, 32.45N×47.88E, h0km, mb4.2/22, mb1 4.3/28, mb1mx4.2/58, mbtmp4.2/28, ML4.1/6, Error ellipse: s-maj=16.0km s-min=11.9km az=179.0*
*NEIC **15** 13:45:21.4±1.8, 32.28N±0.07×47.89E±0.08, h10km±1km, mb4.7/61, Error ellipse: s-maj=13.2km s-min=10.8km az=211.0*
*TEH **15** 13:45:22.9, 32.54N×47.93E, h8km, ML4.4*
*ISN **15** 13:45:22.8±1.1, 32.55N×47.88E, h14km±7km, ML4.0*
*THR **15** 13:45:24.1±0.3, 32.44N×47.93E, h15km±2km, ML4.4*
ISC 15 13:45:23.2±1.1, 32.48N±0.03×47.91E±0.03, h16km±7km, n207, σ1.977/216, mb4.6/48, 17C-5D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.57**	**291**	*e*Pg	**Pg**	**13 45 43.9**	**-0.6**
DHL1				*e*Sg	**Sb**	**13 45 43.3**	**+0.7**
IKMR	**Kamar-syah**	**1.11**	**21**	*e*Pg	**Pg**	**13 45 43.0**	**-1.8**
IKMR				*e*		13 46 05.6	
AHWZ	**Ahwaz**	**1.30**	**151**	*e*Pg	**Pg**	**13 45 48.6**	**+0.3**
AHWZ				*e*Sg	**Sg**	**13 46 08.8**	**+3.5**
IDOB	**Doab**	**1.33**	**10**	*e*Pg	**Pg**	**13 45 48.6**	**-0.3**
BMDN	**Meydan**	**1.42**	**33**	*e*Pg	**Pg**	**13 45 49.7**	**-0.9**
BMDN				*e*		13 46 18.7	
IKOM	**Komasi**	**1.73**	**349**	*e*Pg	**Pg**	**13 45 55.2**	**-1.3**
IKOM				*e*		13 46 27.9	
IBDR	**Badra**	**1.78**	**291**	*e*Pg	**Pn**	**13 45 54.0**	**+0.7**
IBDR				*e*Sg	**Sn**	**13 46 17.0**	**+1.4**
IBDR				AML	AML	13 46 22.3	
	comp=E,2μm,0.6s						
IBDR				AML	AML	13 46 23.1	
	comp=N,2μm,0.4s						
HSAM	**Samen**	**1.83**	**18**	*e*Pg	**Pg**	**13 45 57.0**	**-1.4**
HSAM				*e*		13 46 33.9	
KCHF	**Cheshme Sefid,**	**1.94**	**338**	*e*Pg	**Pb**	**13 45 58.2**	**0.0**
KCHF				*e*		13 46 36.9	
IBZA	**Bozab**	**1.99**	**359**	*e*Pg	**Pb**	**13 45 58.8**	**-0.4**
IBZA				*e*		13 46 32.8	
KER	**Kermanshah**	**2.01**	**341**	*e*Pg	**Pb**	**13 45 59.6**	**+0.1**
NSR	**Nassriya**	**2.10**	**226**	*e*Pn	**Pn**	**13 45 59.0**	**+1.4**
NSR				*e*Sn	**Sn**	**13 46 25.0**	**+1.6**
KHMZ	**Khomeyn**	**2.13**	**53**	*e*Pn	**Pb**	**13 46 01.6**	**0.0**
KHMZ				*e*Sg	**Sg**	**13 46 31.7**	**-0.2**
KHMZ	**Khomeyn**	**2.13**	**53**	*e*Pn	**Pb**	**13 46 01.6**	**0.0**
IGHG	**Ghaleghazi**	**2.16**	**329**	*e*Pn	**Pb**	**13 46 01.4**	**-0.7**
IGHG				*e*		13 46 43.4	
IVIS	**Veis**	**2.23**	**337**	*e*Pn	**Pb**	**13 46 01.7**	**-1.5**
IVIS				*e*		13 46 42.4	
JHBN	**Jahan bin**	**2.35**	**95**	*e*Pn	**Pb**	**13 46 03.7**	**-1.6**
JHBN				*e*		13 46 46.6	
IALM	**Almabolaq**	**2.39**	**5**	*e*Pn	**Pb**	**13 46 04.3**	**-1.7**
IPIR	**Pirpir**	**2.53**	**84**	*e*		13 46 54.1	
IPIR				*e*Pn	**Pb**	**13 46 06.6**	**-1.8**
HAGD	**Aghdareh**	**2.56**	**23**	*e*		13 46 51.7	
HAGD				*e*Pn	**Pb**	**13 46 06.9**	**-1.9**
IDHR	**Dehrash**	**2.56**	**331**	*e*Pn	**Pn**	**13 46 06.0**	**+1.8**
ILIN	**Lien**	**2.56**	**342**	*e*		13 46 55.2	
ILIN				*e*Pn	**Pb**	**13 46 06.8**	**-2.1**
ROKH	**ROKH**	**2.65**	**92**	*e*Pn	**Pn**	**13 46 07.7**	**+2.3**
ROKH				*e*		13 47 06.0	
ASAO	**Ashtian**	**2.72**	**40**	*e*Pn	**Pb**	**13 46 09.7**	**-1.9**
ASAO				*e*Sg	**Sg**	**13 46 49.8**	**-0.9**
ASAO				IAML		13 46 59.6	
	comp=N,649nm,0.6s						
ASAO	**Ashtian**	**2.72**	**40**	*e*Pn	**Pb**	**13 46 09.7**	**-1.9**
HSRG	**Sareghieh**	**2.78**	**6**	*e*Pn	**Pb**	**13 46 11.3**	**-1.3**
HSRG				*e*		13 46 56.9	
BHD	**Baghdad**	**3.07**	**286**	*e*Pn	**Pn**	**13 46 12.0**	**+1.0**
BHD				*e*Sn	**Sn**	**13 46 49.0**	**+1.6**
IKLH	**Kolahrood**	**3.20**	**74**	*e*Pn	**Pn**	**13 46 16.1**	**+3.0**
IKLH				*e*		13 47 16.4	
QAM	**Ghamsar**	**3.23**	**66**	*e*Pn	**Pb**	**13 46 17.3**	**-3.0**
KLNJ	**Kolanjah**	**3.46**	**114**	*e*Pn	**Pn**	**13 46 18.5**	**+1.7**
KLNJ				*e*		13 47 04.0	
GHVR	**GHOM**	**3.46**	**54**	*e*Pn	**Pn**	**13 46 19.3**	**+2.7**
GHVR				*e*S	**Sn**	**13 46 59.4**	**+2.1**
GHVR	**GHOM**	**3.46**	**54**	*e*Pn	**Pn**	**13 46 19.3**	**+2.7**
IGAR	**Gharneh**	**3.50**	**90**	*e*Pn	**Pn**	**13 46 19.1**	**+2.0**
IGAR				*e*		13 47 07.4	
QABG	**Abgarm-Qazvin**	**3.51**	**23**	*e*Pn	**Pn**	**13 46 19.7**	**+2.4**
IQOM	**Qom**	**3.54**	**47**	*e*Pn	**Pn**	**13 46 20.2**	**+2.5**
IZEF	**Zefreh**	**3.75**	**82**	*e*Pn	**Pn**	**13 46 23.2**	**+2.5**
KRSH	**Karshahi**	**3.84**	**66**	*e*Pn	**Pn**	**13 46 24.3**	**+2.5**
IRAM	**Rameseheh**	**3.85**	**99**	*e*Pn	**Pn**	**13 46 23.6**	**+1.6**
IVRN	**Varamin**	**4.05**	**51**	*e*Pn	**Pn**	**13 46 27.4**	**+2.8**
IHSB	**Hasanabad**	**4.07**	**43**	*e*Pn	**Pn**	**13 46 27.0**	**+2.1**
QSDN	**Sirdan**	**4.15**	**14**	*e*Pn	**Pn**	**13 46 28.6**	**+2.5**
ZNJK	**Zanjan**	**4.23**	**8**	*e*Pn	**Pn**	**13 46 30.9**	**+3.6**
ZNJK	**Zanjan**	**4.23**	**8**	*e*Pn	**Pn**	**13 46 30.9**	**+3.6**
CHTH	**Charan**	**4.34**	**37**	*e*Pn	**Pn**	**13 46 31.9**	**+3.2**
CHTH	**Charan**	**4.34**	**37**	*e*Pn	**Pn**	**13 46 32.0**	**+3.2**
TEH	**Tehran**	**4.35**	**41**	*e*Pn	**Pn**	**13 46 31.1**	**+2.4**
QALM	**Alamut, Qazvin**	**4.55**	**29**	*e*Pn	**Pn**	**13 46 34.1**	**+2.5**
IDMV	**Damavand**	**4.62**	**47**	*e*Pn	**Pn**	**13 46 34.8**	**+2.3**
AHBU	**AHRAM**	**4.63**	**140**	*e*Pn	**Pn**	**13 46 35.1**	**+2.6**
MAHB	**Mahabad**	**4.65**	**338**	*e*Pn	**Pn**	**13 46 34.7**	**+1.8**
ISAD	**Sadrabad**	**4.93**	**95**	*e*Pn	**Pn**	**13 46 38.8**	**+1.9**
ANAR	**Anarak**	**4.95**	**80**	*e*Pn	**Pn**	**13 46 38.8**	**+1.8**
ILAS	**Lasjerd**	**5.10**	**54**	*e*Pn	**Pn**	**13 46 40.9**	**+1.7**
IFIR	**Firoozkooh**	**5.11**	**51**	*e*Pn	**Pn**	**13 46 41.8**	**+2.4**
IPRN	**Peran**	**5.25**	**43**	*e*Pn	**Pn**	**13 46 44.8**	**+3.5**
ISRB	**Sarab**	**5.34**	**358**	*e*Pn	**Pn**	**13 46 44.3**	**+1.9**
IALA	**Alasht**	**5.42**	**47**	*e*Pn	**Pn**	**13 46 47.2**	**+3.5**
IAZR	**Azarshahr**	**5.43**	**344**	*e*Pn	**Pn**	**13 46 46.1**	**+2.4**
ICHK	**Chekchek**	**5.50**	**91**	*e*Pn	**Pn**	**13 46 46.3**	**+1.6**
ISHM	**Shahmirzad**	**5.56**	**52**	*e*Pn	**Pn**	**13 46 47.9**	**+2.3**
IMEH	**Mehriz**	**5.80**	**99**	*e*Pn	**Pn**	**13 46 50.1**	**+1.3**
IANJ	**Anjilo**	**5.81**	**57**	*e*Pn	**Pn**	**13 46 50.0**	**+1.0**
IHRS	**Heris**	**5.87**	**353**	*e*Pn	**Pn**	**13 46 52.7**	**+2.9**
IKIA	**Kiasar**	**6.06**	**50**	*e*Pn	**Pn**	**13 46 55.2**	**+2.9**
IGLO	**Ghaloghah**	**6.33**	**49**	*e*Pn	**Pn**	**13 46 59.7**	**+3.7**
IBAF	**Bafgh**	**6.56**	**96**	*e*Pn	**Pn**	**13 47 00.7**	**+1.5**
GEVA	**Gevas**	**7.04**	**327**	Pn	**Pn**	**13 47 06.9**	**+1.1**
MARD	**Mardin**	**7.59**	**311**	Pn	**Pn**	**13 47 13.2**	**-0.1**
SBZV	**Sabzevar**	**8.91**	**61**	*e*Pn	**Pn**	**13 47 33.3**	**+1.8**
ASF	**Jabal al Asfar**	**9.32**	**271**	Pn	**Pn**	**13 47 35.3**	**-1.7**
	comp=N,0.9nm,0.3s,baz=91,slow=22,SNR=1.2						
ASF					**Sn**	**13 49 15.7**	**-5.9**
	comp=N,0.8nm,0.3s,baz=154,slow=18,SNR=1.8						
ASF				Lg	Lg	13 50 25.7	
	comp=N,1.5nm,0.3s,baz=234,slow=22,SNR=3.7						
ISFR	**Sfrayin**	**9.47**	**58**	*e*Pn	**Pn**	**13 47 42.2**	**+3.0**
IKRD	**Kardeh**	**9.73**	**61**	*e*Pn	Pn	13 47 56.0	+13
ARTV	**Artvin**	**9.92**	**333**	Pn	**Pn**	**13 47 49.1**	**+3.8**
IPAY	**Payeh**	**9.97**	**64**	*e*Pn	**Pn**	**13 47

LANS Liptovska Anna 27.00 316 *eP* **P 13 51 05.6 +1.4**
SGRT San Giovanni R 27.14 299 P **P 13 51 08.3 +2.7**
SGRT IAmb IAmb 13 51 28.8
comp=Z,30nm,1.2s
MORC Moravsky Berou 28.40 316 *eP* **P 13 51 16.9 +0.1**
KRUC Moravsky 28.78 314 *eP* **P 13 51 21.6 +1.5**
KURBB Kurchatov Arra 28.93 42 P **P 13 51 22.8 +1.4**
comp=Z,1.6nm,0.6s,baz=245,slow=9.2,SNR=7.8
KURBB PcP **PcP 13 54 29.8 -0.3**
comp=Z,0.7nm,0.5s,baz=242,slow=3.4,SNR=3.1
KURK Kurchatov 29.02 42 P **P 13 51 23.6 +1.5**
KURK Kurchatov 29.02 42 **PcP 13 54 29.8 -0.5**
MK31 Makanchi Array 29.82 51 P **P 13 51 30.2 +0.7**
MKAR Makanchi Array 29.82 51 P **P 13 51 30.4 +1.0**
comp=Z,3.1nm,0.7s,baz=249,slow=10,SNR=9.4
MKAR PcP **PcP 13 54 31.9 -0.6**
comp=Z,0.4nm,0.5s,baz=252,slow=2.6,SNR=2.5
GERES GERESS Array B 30.35 313 P **P 13 51 35.9 +1.7**
comp=Z,10nm,0.2s,baz=104,slow=5.6,SNR=2.3
GERES PcP **PcP 13 54 33.0 -0.9**
comp=Z,0.4nm,0.2s,baz=96,slow=2.7,SNR=3.8
ZCCA Zocca 31.02 303 P **P 13 51 41.7 +1.6**
VLC Villacollemand 31.41 303 P **P 13 51 43.6 +0.1**
VLC IAmb IAmb 13 52 00.0
comp=Z,13nm,0.9s
MSSA Maissana 32.05 303 P **P 13 51 49.0 -0.2**
FIA1 FINESS Array S 32.26 340 P **P 13 51 50.1 -0.6**
FIA1 IAmb IAmb 13 51 57.4
comp=Z,13nm,1.0s
FINES FINESS Array B 32.26 340 P **P 13 51 50.4 -0.2**
comp=Z,2.9nm,0.3s,baz=146,slow=8.4,SNR=29
WMQ Urumqi 32.98 58 *eP* **P 13 51 59.3 +2.0**
ZAA0 Zalesovo Array 33.85 40 P **P 13 52 04.7 0.0**
ZAA0 IAmb IAmb 13 52 06.6
comp=Z,4.7nm,0.5s
ZALV Zalesovo Beam 33.85 40 P **P 13 52 05.0 +0.4**
comp=Z,5.0nm,0.4s,baz=228,slow=8.1,SNR=22
ZALV Zalesovo Beam 33.85 40 P **P 13 52 04.5 -0.2**
SENIN Lac Senin/Sane 33.91 306 P **P 13 52 05.2 -0.4**
SENIN IAmb IAmb 13 52 14.5
comp=Z,20nm,1.5s
BNI Bardonecchia 34.15 304 P **P 13 52 07.3 -0.3**
HFS Hagfors 35.66 331 P **P 13 52 20.1 -0.2**
comp=Z,3.7nm,0.4s,baz=124,slow=9.2,SNR=11
NC405 NORSAR Array S 37.02 332 P **P 13 52 31.4 -0.5**
NC405 IAmb IAmb 13 52 53.9
comp=Z,30nm,1.2s
NOA NORSAR Array B 37.19 331 P **P 13 52 31.4 -1.9**
comp=Z,0.8nm,0.6s,baz=124,slow=8.6,SNR=3.4
NC204 NORSAR Array S 37.50 331 P **P 13 52 35.1 -0.8**
NC204 IAmb IAmb 13 52 53.1
comp=Z,23nm,1.3s
KEV Kevo 39.12 349 P **P 13 52 49.5 +0.1**
ARCES ARCESS Array B 39.19 348 P **P 13 52 49.7 -0.3**
comp=Z,3.9nm,0.9s,baz=161,slow=9.1,SNR=12
ARCES PcP **PcP 13 54 57.8 -1.2**
comp=Z,2.2nm,0.7s,baz=163,slow=5.8,SNR=5.3
ESBB Sonseca Array 42.05 295 P **P 13 53 13.1 -1.0**
ESDC Sonseca Array 42.05 295 P **P 13 53 14.5 +0.4**
comp=Z,2.1nm,0.6s,baz=76,slow=8.2,SNR=15
ESDC Sonseca Array 42.05 295 P **P 13 53 11.7 -2.4**
EKA Eskdalemuir Ar 42.09 318 P **P 13 53 13.8 -0.4**
comp=Z,1.1nm,0.4s,baz=64,slow=13,SNR=8.4
GTA Gaotai 42.11 65 *eP* **P 13 53 15.6 +0.9**
GTA pP sP 13 53 21.3 -0.6
GTA sP pP 13 53 24.4 +4.5
GTA pmax pmax
comp=Z,5.0nm,1.2s
PAB San Pablo 42.36 295 P **P 13 53 17.2 +0.5**
PAB IAmb IAmb 13 53 17.9
comp=Z,15nm,1.5s
NRIK Noril'sk 43.07 19 P **P 13 53 22.1 +0.2**
comp=Z,1.9nm,0.4s,baz=218,slow=7.3,SNR=2.2
MDT Midelt 43.83 285 **P 13 53 29.1 +0.4**
comp=Z,1.2nm,0.6s,baz=94,slow=12.5,SNR=4.4
LZH Lanzhou 45.83 69 *eP* **P 13 53 44.0 -0.6**
LZH pP pP 13 53 48.3 -1.5
LZH sP sP 13 53 51.8 -0.1
LZH PP **PP 13 55 35.8 +3.9**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,56nm,4.8s
LZH LR LR
comp=N,650nm,16.5s
LZH LR LR
comp=E,670nm,16.7s
LZH LR LR
comp=Z,790nm,18.6s
SONM Songino Array 46.17 53 P **P 13 53 47.7 +0.6**
comp=Z,0.5nm,0.4s,baz=255,slow=7.0,SNR=2.3
SONM Songino Array 46.17 53 IAmb IAmb 13 53 51.5
comp=Z,1.4nm,1.0s
TOA0 Torodi Ar. Sit 46.33 256 P **P 13 53 47.1 -1.5**
TOA0 IAmb IAmb 13 54 15.6
comp=Z,7.0nm,1.3s
TORD Torodi Ar. Bea 46.33 256 P **P 13 53 47.9 -0.7**
comp=Z,2.1nm,0.6s,baz=65,slow=7.3,SNR=12
TORD Torodi Ar. Bea 46.33 256 P **P 13 53 47.5 -1.1**
CMAR Chiang Mai Arr 47.73 94 P **P 13 53 59.5 0.0**
comp=Z,0.7nm,0.7s,baz=285,slow=7.9,SNR=4.4
CMAR PcP **PcP 13 55 28.9 +0.3**
comp=Z,0.8nm,0.6s,baz=287,slow=5.2,SNR=5.6
SPA0 Spitsbergen Ar 47.82 352 P **P 13 53 59.9 +0.4**
KOWA Kowa 50.37 262 P **P 13 54 19.3 -0.5**
KOWA IAmb IAmb 13 54 22.7
comp=Z,3.8nm,0.7s
HHC Hu-ho-hao-te 50.75 61 *eP* **P 13 54 23.3 +0.8**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=N,750nm,15.8s
HHC LR LR
comp=E,1μm,16.6s
HHC LR LR
comp=Z,1μm,16.5s
DAG Danmarks Havn 53.31 345 *i* P **P 13 54 40.8 -0.1**
comp=Z,3.3nm,0.5s
DAG Danmarks Havn 53.31 345 *i* P **P 13 54 40.8 -0.1**
DAG IAmb IAmb 13 54 41.7
comp=Z,3.3nm,0.5s
GSI Gunungsitoli 56.01 113 P **P 13 55 01.5 +0.1**
KULM Kulim 56.05 107 P **P 13 55 00.1 -1.5**
RPSI Rantau Prapat 56.21 111 P **P 13 55 01.4 -1.4**
RPSI IAmb IAmb 13 55 02.8
comp=Z,5.5nm,0.6s
IPM Ipoh 56.82 108 P **P 13 55 05.4 -1.8**
SUMG Summit 58.28 339 P **P 13 55 17.2 +0.1**
SUMG Summit 58.28 339 *i* P **P 13 55 17.0 -0.1**
comp=Z,18nm,0.4s
SUMG Summit 58.28 339 *i* P **P 13 55 17.0 -0.1**
SUMG IAmb IAmb 13 55 18.1
comp=Z,18nm,0.4s
NJ2 Nanjing 58.90 70 *eP* **P 13 55 21.0 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MYKOM Kota Tinggi 60.68 108 P **P 13 55 32.2 -1.7**
MYKOM IAmb IAmb 13 55 33.2
comp=Z,8.7nm,1.1s
KSRS Korea Array 63.88 61 P **P 13 55 54.5 -0.7**
comp=Z,0.9nm,0.4s,baz=282,slow=6.5,SNR=5.7
USRK Ussuriysk Ar. 64.28 53 P **P 13 55 58.0 +0.4**
comp=Z,1.7nm,0.7s,baz=189,slow=11,SNR=4.2
BOSA Boshof 64.45 202 P **P 13 55 60.0 +1.0**
comp=Z,2.8nm,0.5s,baz=39,slow=4.6,SNR=7.8
BOSA Boshof 64.45 202 P **P 13 55 59.4 +0.4**
EUNU Eureka 64.94 352 P **P 13 56 02.2 +0.7**
JNU Nakatsue 67.83 64 P **P 13 56 18.4 -2.3**
KKM Kota Kinabalu 68.49 97 P **P 13 56 25.5 +0.3**
TOLK Toolik Lake Re 78.35 6 P **P 13 57 22.8 +0.5**
TOLK IAmb IAmb 13 57 31.6
comp=Z,10.0nm,1.3s
GBN Guysborough 79.56 318 P **P 13 57 29.6 +0.3**
WRA Warramunga Arr 97.57 109 P **P 13 58 56.0 -1.1**
comp=Z,0.2nm,0.5s,baz=315,slow=4.0,SNR=1.6
WRA Warramunga Arr 97.57 109 IAmb IAmb 13 59 04.6
comp=Z,0.1nm,1.1s
ASAR Alice Springs 99.16 112 P **Pdif 13 59 03.0 -1.1**
comp=Z,0.5nm,0.9s,baz=314,slow=3.7,SNR=2.7

*IDC **15** 13:53:09.7±2.5,32°.37N×47°.85E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/53,mbtmp3.7/4,Error ellipse: s-maj=72.3km s-min=30.4km az=153.0*

*NEIC **15** 13:53:10.1±2.3,32°.3N±0°.1×47°.6E±0°.1,h10km±1km, mb4.4/4,Error ellipse: s-maj=20.2km s-min=18.6km az=236.0*

*TEH **15** 13:53:11.9,32°.54N×47°.90E,h12km,ML3.4*

*THR **15** 13:53:12.3±0.3,32°.41N×47°.87E,h14km±2km,ML3.4*

ISC 15 13:53:11.1±0.7,32°.50N±0°.04×47°.83E±0°.03,h10km,n47, σ1s70/52,mb3.8/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.50**	**291**	*eP*g	**Pb**	**13 53 22.7**	**+0.7**
DHL1				*eS*g	**Sb**	**13 53 31.1**	**+1.8**
IKMR	**Kamar-sahab**	**1.11**	**24**	*eP*g	**Pb**	**13 53 32.4**	**-0.1**
IKMR				*e*		13 53 52.1	
IDOB	**Doab**	**1.31**	**13**	*eP*g	**Pn**	**13 53 35.7**	**-0.1**
AHWZ	**Ahwaz**	**1.36**	**149**	*eP*g	**Pg**	**13 53 37.7**	**+0.5**
AHWZ				*eS*g	**Sg**	**13 53 57.1**	**+2.3**
BMDN	**Meydan**	**1.43**	**35**	*eP*g	**Pn**	**13 53 37.3**	**-0.1**
BMDN				*e*		13 54 05.9	
IKOM	**Komasi**	**1.69**	**351**	*eP*g	**Pb**	**13 53 42.8**	**+0.4**
IKOM				*e*		13 53 47.1	
HSAM	**Samen**	**1.82**	**21**	*eP*g	**Pb**	**13 53 45.0**	**+0.2**
HSAM				*e*		13 53 47.7	
KCHF	**Cheshme Sefid,**	**1.89**	**340**	*eP*g	**Pb**	**13 53 46.1**	**+0.3**
KCHF				*e*		13 54 24.6	
IBZA	**Bozab**	**1.96**	**1**	*eP*g	**Pb**	**13 53 47.4**	**+0.2**
IBZA				*e*		13 54 21.3	
KER	**Kermanshah**	**1.97**	**343**	*eP*g	**Pb**	**13 53 47.2**	**+0.1**
IGHG	**Ghaleghazi**	**2.11**	**330**	*eP*g	**Pg**	**13 53 51.2**	**-0.4**
IGHG				*e*		13 54 33.3	
KHMZ	**Khomeyn**	**2.17**	**55**	*eP*n	**Pb**	**13 53 50.5**	**-0.1**
KHMZ				*eS*g	**Sg**	**13 54 21.6**	**+0.6**
KHMZ	**Khomeyn**	**2.17**	**55**	*eP*n	**Pb**	**13 53 50.5**	**-0.1**
IVIS	**Veis**	**2.18**	**338**	*eP*n	**Pn**	**13 53 48.4**	**+0.8**
IVIS				*e*		13 54 31.7	
JHBN	**Jahan bin**	**2.41**	**96**	*eP*n	**Pn**	**13 53 51.7**	**+0.7**
IDHR	**Dehrash**	**2.50**	**332**	*eP*n	**Pn**	**13 53 53.8**	**+1.7**
IDHR				*e*		13 54 35.3	
ILIN	**Lien**	**2.52**	**344**	*eP*n	**Pn**	**13 53 54.5**	**+2.2**
ILIN				*e*		13 54 47.4	
HAGD	**Aghdareh**	**2.56**	**25**	*eP*n	**Pn**	**13 53 53.9**	**+1.0**
HAGD				*e*		13 54 35.5	
IPIR	**Pirpir**	**2.59**	**85**	*eP*n	**Pn**	**13 53 55.0**	**+1.6**
ASAO	**Ashtian**	**2.74**	**41**	*eP*n	**Pb**	**13 53 58.7**	**-1.7**
ASAO				*eS*g	**Sg**	**13 54 39.8**	**+0.5**
ASAO	**Ashtian**	**2.74**	**41**	*eP*n	**Pb**	**13 53 58.7**	**-1.7**
HSRG	**Sareghieh**	**2.76**	**8**	*eP*n	**Pn**	**13 53 56.9**	**+1.2**
HSRG				*e*		13 54 45.9	
GHVR	**GHOM**	**3.50**	**55**	*eP*n	**Pn**	**13 54 08.2**	**+2.4**
GHVR				*eS*	**Sn**	**13 54 49.3**	**+2.0**
GHVR				IAML		13 55 24.0	
	comp=E,44nm,0.6s						
GHVR	**GHOM**	**3.50**	**55**	*eP*n	**Pn**	**13 54 08.2**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.51**	**24**	*eP*n	**Pn**	**13 54 05.7**	**-0.3**
KLNJ	**Kolanjah**	**3.53**	**114**	*eP*n	**Pn**	**13 54 07.7**	**+1.3**
IQOM	**Qom**	**3.57**	**48**	*eP*n	**Pn**	**13 54 06.8**	**0.0**
IZEF	**Zefreh**	**3.81**	**83**	*eP*n	**Pn**	**13 54 11.0**	**+0.8**
KRSH	**Karshahi**	**3.89**	**67**	*eP*n	**Pn**	**13 54 12.5**	**+1.3**
IVRN	**Varamin**	**4.09**	**51**	*eP*n	**Pn**	**13 54 15.3**	**+1.5**
ZNJK	**Zanjan**	**4.22**	**9**	*eP*n	**Pn**	**13 54 19.7**	**+4.0**
ZNJK	**Zanjan**	**4.22**	**9**	*eP*n	**Pn**	**13 54 19.7**	**+4.0**
QALM	**Alamut, Qazvin**	**4.56**	**30**	*eP*n	**Pn**	**13 54 21.9**	**+1.5**
IDMV	**Damavand**	**4.64**	**48**	*eP*n	**Pn**	**13 54 22.7**	**-0.4**
AHBU	**AHRAM**	**4.70**	**140**	*eP*n	**Pn**	**13 54 23.6**	**+1.6**
IALA	**Alasht**	**5.45**	**48**	*eP*n	**Pn**	**13 54 33.4**	**+0.7**
ISHM	**Shahmirzad**	**5.60**	**52**	*eP*n	**Pn**	**13 54 36.5**	**+1.7**
GEVA	**Gevas**	**6.98**	**327**	Pn	**Pn**	**13 54 52.8**	**-0.8**
KARP	**Karpathos**	**17.40**	**286**	Pn	**Pn**	**13 57 10.3**	**-3.8**
KARP				IAmb	IAmb	13 57 34.2	
	comp=Z,36nm,1.1s						
DAMY	**Dhamar**	**18.12**	**191**	Pn	**Pn**	**13 57 18.7**	**-4.6**
DAMY				IAmb	IAmb	13 57 23.7	
	comp=Z,45nm,1.2s						
ITM	**Ithomi**	**21.74**	**290**	P	**P**	**13 58 00.5**	**-2.2**
MKAR	**Makanchi Array**	**29.86**	**51**	P	**P**	**13 59 18.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=246,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**29.86**	**51**	P	**P**	**13 59 18.1**	**-0.5**
FINES	**FINESS Array B**	**32.21**	**340**	P	**P**	**13 59 39.9**	**+0.8**
	comp=Z,4.2nm,1.0s,baz=165,slow=7.9,SNR=3.4						
ZAA0	**Zalesovo Array**	**33.87**	**40**	P	**P**	**13 59 55.6**	**+1.9**
ZAA0				IAmb	IAmb	14 00 03.7	
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**33.87**	**40**	P	**P**	**13 59 55.6**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=235,slow=9.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**46.27**	**256**	P	**P**	**14 01 37.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=62,slow=8.3,SNR=1.9						

*NEIC **15** 14:05:48.5±1.9,39°.21N±0°.05×142°.4E±0°.1,h10km±1km, mb4.3/9,Error ellipse: s-maj=16.7km s-min=5.7km az=113.0*

*JMA **15** 14:05:51.1±0.1,39°.18N×142°.40E,h34km±1km,M4.0*

JMA Felt I J1.

*IDC **15** 14:05:54.1±2.6,39°.11N×142°.45E,h54km±25km,mb3.6/9, mb1 3.8/14,mb1mx3.6/43,mbtmp3.8/14,ML3.3/4,MS4.1/1, Ms1 4.3/1,ms1mx3.3/40,Error ellipse: s-maj=25.6km s-min=14.6km az=113.0*

ISC 15 14:05:50.8±2.3,39°.18N±0°.04×142°.46E±0°.07,h27km±16km, n60,σ1s66/66,mb4.0/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.62**	**261**	P	**Pn**	**14 06 02.7**	**-1.2**
OFUJ				S	**Sb**	**14 06 10.8**	**-0.7**
MIYJ	**Miyakonagasawa**	**0.64**	**309**	P	**Pn**	**14 06 02.8**	**-1.3**
MIYJ				S	**Sn**	**14 06 10.9**	**-2.4**
JKMT	**Kesennumamotoy**	**0.85**	**245**	P	**Pn**	**14 06 05.9**	**-1.1**
JKMT				S	**Sn**	**14 06 16.6**	**-2.0**
JTH	**Tanohata**	**0.89**	**329**	P	**Pn**	**14 06 06.8**	**-0.7**
JTH				*eS*	**Sn**	**14 06 18.3**	**-1.2**
JOM	**Ohasama**	**0.95**	**288**	P	**Pn**	**14 06 07.0**	**-0.7**
JOM				S	**Sb**	**14 06 20.0**	**-0.9**
JMK	**Ichinoseki**	**0.99**	**257**	P	**Pn**	**14 06 08.2**	**-0.7**
JMK				*eS*	**Sn**	**14 06 20.7**	**-1.3**
JIO	**Ouri**	**1.13**	**231**	P	**Pn**	**14 06 09.7**	**-1.1**
JIO				*eS*	**Sn**	**14 06 23.2**	**-2.2**
JKZ	**Kuzumaki**	**1.19**	**313**	P	**Pn**	**14 06 11.6**	**-0.1**
JKZ				S	**Sn**	**14 06 26.2**	**-0.8**
JANG	**Nango**	**1.40**	**329**	P	**Pn**	**14 06 14.4**	**-0.2**
JANG				*eS*	**Sn**	**14 06 32.1**	**0.0**
JRG	**Rokugo**	**1.43**	**279**	P	**Pn**	**14 06 14.9**	**-0.1**
JRG				*eS*	**Sb**	**14 06 33.7**	**-1.0**
JMM	**Marumori**	**1.85**	**225**	Pn	**Pn**	**14 06 19.9**	**-0.9**
JTM	**Tenmabayashi**	**1.93**	**327**	Pn	**Pn**	**14 06 21.8**	**-0.1**
ERM	**Erimo**	**2.88**	**10**	Pn	**Pn**	**14 06 35.2**	**+0.2**
JEM	**Erimo**	**2.88**	**10**	Pn	**Sn**	**14 07 02.1**	**-6.6**
JYT	**Yasato**	**3.45**	**212**		**Pn**	**14 06 42.5**	**-0.2**
JSD	**Sado**	**3.48**	**252**		**Pn**	**14 06 42.7**	**-0.4**
JEW	**Eniwo**	**3.74**	**349**	Pn	**Pn**	**14 06 49.6**	**+2.9**
MJAR	**Matsushiro Arr**	**4.27**	**233**	P	**Pn**	**14 06 56.1**	**+2.1**
	1.4nm,0.3s,baz=40,slow=11,SNR=103						
MJAR				S	**Sn**	**14 07 42.8**	**-0.3**
	baz=59,slow=10,SNR=1.2						
MJAR	**Matsushiro Arr**	**4.27**	**233**		**Pn**	**14 06 56.4**	**+2.3**
MAT	**Matsushiro**	**4.27**	**233**	P	**Pn**	**14 06 56.0**	**+1.9**
MAT				*eS*	**Sn**	**14 07 45.8**	**+2.8**
MJB9	**Matsu-Tunnel**	**4.27**	**233**	Pn	**Pn**	**14 06 53.5**	**-0.6**
ASAJ	**Asahikawa**	**4.94**	**1**	P	**Pn**	**14 07 05.2**	**+2.1**
	0.8nm,0.3s,baz=193,slow=3.8,SNR=12						
ASAJ				S	**Sn**	**14 08 00.1**	**+0.8**
	0.6nm,0.3s,baz=249,slow=17,SNR=1.6						
JKA	**Kamikawa-asahi**	**4.94**	**1**	Pn	**Pn**	**14 07 04.4**	**+1.2**
JKA	**Kamikawa-asahi**	**4.94**	**1**		**Sn**	**14 08 00.1**	**+0.8**
JGF	**Kuroka**	**5.41**	**230**		**Pn**	**14 07 11.7**	**+2.0**
INU	**Inuyama**	**5.78**	**230**		**Pn**	**14 07 17.4**	**+2.6**
JWT	**Wachi**	**6.84**	**238**		**Pn**	**14 07 31.1**	**+1.8**
JHS	**Saijyo**	**8.55**	**244**	Pn	**Pn**	**14 07 54.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**9.30**	**306**	P	**Pn**	**14 08 06.2**	**+3.1**
	baz=112,slow=14,SNR=11						
JNU	**Nakatsue**	**11.14**	**241**	P	**Pn**	**14 08 30.9**	**+2.5**
	0.4nm,0.3s,baz=323,slow=3.9,SNR=1.1						
JNU				S	Sn	14 10 21.2	-11
	0.0nm,0.3s,baz=47,slow=19,SNR=1.8						
KSRS	**Korea Array**	**11.55**	**266**	P	**Pn**	**14 08 37.0**	**+3.1**
	0.1nm,0.3s,baz=69,slow=14,SNR=2.5						
MA2	**Magadan**	**21.09**	**12**	P	**P**	**14 10 33.8**	**+0.9**
	11nm,1.1s,baz=184,slow=15,SNR=2.1						
MA2	**Magadan**	**21.09**	**12**	P	**P**	**14 10 33.3**	**+0.4**
MA2				IAmb	IAmb	14 10 38.3	
	comp=Z,20nm,1.3s						
SEY	**Seymchan**	**24.53**	**11**	P	**P**	**14 11 09.4**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=176,slow=19,SNR=2.2						
ENH	**Enshi**	**28.39**	**262**	P	**P**	**14 11 42.1**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**28.63**	**126**	T	T	14 42 08.2	
	baz=318,slow=76,SNR=208						
H11N1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	14 42 08.9	
	baz=318,slow=76,SNR=196						
H11N3	**WAKE ISLAND Hy**	**28.65**	**126**	T	T	14 42 09.6	
	baz=318,slow=76,SNR=173						
H11S1	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	14 43 07.2	
	baz=319,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	14 43 08.2	
	baz=319,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**29.44**	**128**	T	T	14 43 09.3	
	baz=319,slow=76,SNR=31						
ZALV	**Zalesovo Beam**	**41.11**	**311**	P	**P**	**14 13 32.1**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=90,slow=9.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**41.11**	**311**	P	**P**	**14 13 31.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.86**	**254**	P	**P**	**14 13 47.1**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=42,slow=7.9,SNR=2.1						
CMAR				LR	LR	14 32 52.1	
	comp=Z,219nm,18.8s,baz=300,slow=38						
MK31	**Makanchi Array**	**43.71**	**300**	P	**P**	**14 13 53.4**	**-0.1**
MKAR	**Makanchi Array**	**43.71**	**300**	P	**P**	**14 13 53.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=86,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**43.71**	**300**	P	**P**	**14 13 53.0**	**-0.5**
COLD	**Coldfoot**	**45.88**	**30**	P	**P**	**14 14 08.5**	**-2.0**
COLD				IAmb	IAmb	14 14 11.3	
	comp=Z,3.0nm,1.2s						
MDM	**Murphy Dome**	**46.67**	**33**	P	**P**	**14 14 15.6**	**-1.1**
MDM				IAmb	IAmb	14 14 16.6	
	comp=Z,5.3nm,1.3s						
ILAR	**Eielson Array**	**47.25**	**33**	P	**P**	**14 14 22.2**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=264,slow=6.1,SNR=18						
ILAR	**Eielson Array**	**47.25**	**33**	P	**P**	**14 14 21.2**	**0.0**
FID	**Port Fidalgo**	**47.78**	**39**	P	**P**	**14 14 23.7**	**-1.7**
DOT	**Dot Lake**	**48.57**	**35**	P	**P**	**14 14 33.3**	**+1.9**
DOT				IAmb	IAmb	14 14 51.4	
	comp=Z,2.4nm,1.2s						
AB01	**Akbulak array**	**57.20**	**309**	P	**P**	**14 15 35.0**	**-0.3**
AB31	**Akbulak array**	**57.20**	**309**	P	**P**	**14 15 35.0**	**-0.4**
ABKAR	**Akbulak array**	**57.20**	**309**	P	**P**	**14 15 35.0**	**-0.3**
WRA	**Warramunga Arr**	**59.30**	**189**	P	**P**	**14 15 49.2**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=6.5,slow=7.2,SNR=19						
WRA	**Warramunga Arr**	**59.30**	**189**	IAmb	IAmb	14 15 50.0	
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**63.03**	**189**	P	**P**	**14 16 15.0**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=14,slow=7.6,SNR=7.2						
PDAR	**Pinedale Array**	**75.58**	**46**	P	**P**	**14 17 34.3**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=352,slow=3.6,SNR=2.0						

*IDC **15** 14:07:43.0±2.2,24°.78S×179°.78W,h451km±22km, mb3.6/13,mb1 3.8/13,mb1mx3.7/22,mbtmp4.3/13,Error ellipse: s-maj=17.1km s-min=15.1km az=113.0*

*NEIC **15** 14:07:43.8±2.5,24°.8S±0°.1×179°.6W±0°.1,h468km±7km, mb4.5/42,Error ellipse: s-maj=19.0km s-min=15.3km az=129.0*

ISC 15 14:07:43.7±0.5,24°.82S±0°.06×179°.66W±0°.07,h465km, n115,σ2s09/131,mb4.3/32,1C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.67**	**161**	P	**P**	**14 09 08.5**	**+2.9**
RAO	**Raoul Island**	**4.68**	**161**	P	**P**	**14 09 08.9**	**+3.1**
GLKZ	**Green Lake**	**4.69**	**161**	P	**P**	**14 09 09.7**	**+1.9**
GLKZ				S	**S**	**14 10 13.0**	**+0.1**
NIUE	**Niue**	**10.69**	**60**	P	**P**	**14 10 08.1**	**-0.2**
OUZ	**Omahuta**	**11.89**	**208**	P	**P**	**14 10 23.6**	**+2.5**
OUZ	**Omahuta**	**11.89**	**208**	P	**P**	**14 10 24.1**	**+3.1**
WCZ	**Waipu Caves**	**12.23**	**204**	P	**P**	**14 10 27.4**	**+2.7**
KUZ	**Kuaotunu**	**12.53**	**197**	P	**P**	**14 10 29.7**	**+1.8**
WIAZ	**Waiheke Island**	**12.74**	**199**	P	**P**	**14 10 32.5**	**+2.2**
MXZ	**Matakaoa Point**	**12.82**	**187**	P	**P**	14 10 25.9	-5.1
MXZ				S	**S**	**14 12 48.9**	**-0.4**
MXZ	**Matakaoa Point**	**12.82**	**187**	P	**P**	**14 10 31.1**	**0.0**
DZM	**Mont Dzumac**	**13.04**	**279**	P	**P**	**14 10 35.9**	**+2.1**
	0.3nm,0.3s,baz=77,slow=18,SNR=4.4						
DZM	**Mont Dzumac**	**13.04**	**279**	P	**P**	**14 10 37.6**	**+3.8**
WMGZ	**Waiomatatini S**	**13.06**	**187**	P	**P**	**14 10 33.1**	**-0.5**
WMGZ				S	**S**	**14 12 52.3**	**-1.7**
HAZ	**Te Kaha**	**13.08**	**189**	P	**P**	**14 10 32.6**	**-1.2**
HAZ				S	**S**	**14 12 53.4**	**-0.9**
AFI	**Afiamalu**	**13.15**	**36**		**P**	**14 10 32.1**	**-2.9**
PKGZ	**Pakihiroa**	**13.17**	**188**	P	**P**	**14 10 36.4**	**+1.5**
PKGZ				S	**S**	**14 12 58.5**	**+2.2**
RUGZ	**Raukumara Rang**	**13.30**	**189**	P	**P**	**14 10 35.2**	**-1.1**
RUGZ				S	**S**	**14 12 56.5**	**-2.4**
PUZ	**Puketiti**	**13.33**	**187**	P	**P**	**14 10 35.6**	**-1.0**
PUZ				S	**S**	**14 12 53.1**	**-6.2**
TWGZ	**Tauwhareparae**	**13.47**	**188**	P	**P**	**14 10 35.7**	**-2.4**
TWGZ				S	**S**	**14 13 05.7**	**+3.6**
KMRZ	**Kaimai**	**13.52**	**195**	P	**P**	**14 10 40.2**	**+1.6**
TOZ	**Tahuroa Road**	**13.52**	**197**	P	**P**	**14 10 39.2**	**+0.7**
KARZ	**Kaharoa**	**13.62**	**194**	P	**P**	**14 10 41.0**	**+1.4**
URZ	**Urewera**	**13.68**	**191**	P	**P**	**14 10 37.3**	**-2.9**
	3.1nm,0.3s,baz=342,slow=6.4,SNR=23						
URZ				S	**S**	**14 13 03.5**	**-2.6**
	0.6nm,0.3s,baz=18,slow=20,SNR=4.2						
URZ	**Urewera**	**13.68**	**191**	P	**P**	**14 10 38.5**	**-1.7**
URZ				S	**S**	**14 13 08.9**	**+2.9**
URZ	**Urewera**	**13.68**	**191**	P	**P**	**14 10 36.3**	**-3.9**
MWZ	**Matawai**	**13.69**	**189**	S	**S**	**14 13 06.7**	**+0.5**
TKGZ	**Te Karaka**	**13.74**	**

comp=Z,36nm,1.3s
CTAO Charters Tower 31.80 272 P **P** 14 13 29.4 +0.6
CTAO IAmb IAmb 14 13 30.1
comp=Z,15nm,0.6s
TOO Toolangi 32.22 238 P **P** 14 13 32.6 +0.3
TOO IAmb IAmb 14 13 44.0
comp=Z,20nm,1.4s
STKA Stephens Creek 34.68 249 P **P** 14 13 53.2 0.0
comp=Z,7nm,0.4s,baz=91,slow=12,SNR=10
STKA Stephens Creek 34.68 249 P **P** 14 13 53.1 0.0
COEN Coen 36.57 280 P **P** 14 14 09.9 +0.8
BBOO Buckleboo 39.38 248 P **P** 14 14 31.0 -1.0
BBOO IAmb IAmb 14 14 31.8
comp=Z,7,6nm,0.8s
AS31 Alice Springs 42.20 262 P **P** 14 14 54.2 -0.6
ASAR Alice Springs 42.20 262 P **P** 14 14 53.9 -0.8
comp=Z,3.6nm,0.8s,baz=91,slow=6.7,SNR=57
ASAR ScP **ScP** 14 19 45.0 +0.6
comp=Z,0.6nm,0.7s,baz=107,slow=3,9,SNR=6.7
ASAR S **S** 14 20 35.0 -5.5
comp=Z,0.3nm,0.8s,baz=100,slow=16,SNR=3.4
ASAR Alice Springs 42.20 262 P **P** 14 14 53.7 -1.1
WR0 Warramunga Arr 42.47 267 P **P** 14 14 55.6 -1.3
WB2 Warramunga Arr 42.65 267 P **P** 14 14 57.0 -1.3
WB2 IAmb IAmb 14 14 58.2
comp=Z,11nm,0.9s
WRAB Tennant Creek 42.65 267 P **P** 14 14 57.0 -1.4
WRAB IAmb IAmb 14 14 58.1
comp=Z,9.2nm,0.9s
WB0 Warramunga Arr 42.66 267 P **P** 14 14 57.2 -1.2
WB0 IAmb IAmb 14 14 58.2
comp=Z,9.6nm,0.8s
WRA Warramunga Arr 42.66 267 P **P** 14 14 57.5 -0.9
comp=Z,6.6nm,0.5s,baz=102,slow=8.7,SNR=272
WRA ScP **ScP** 14 19 48.0 +1.7
comp=Z,3.9nm,0.8s,baz=99,slow=3.8,SNR=28
WRA S **S** 14 20 42.5 -4.7
comp=Z,1.6nm,0.9s,baz=102,slow=14,SNR=6.5
WRA Warramunga Arr 42.66 267 P **P** 14 14 56.5 -1.9
FORT Forrest 46.29 250 P **P** 14 15 24.8 -1.5
FORT IAmb IAmb 14 15 25.7
comp=Z,17nm,0.6s
MTN Manton Dam 47.84 275 P **P** 14 15 37.1 -1.2
KNRA Kununurra 49.00 270 P **P** 14 15 46.4 -0.5
KNRA IAmb IAmb 14 15 47.0
comp=Z,12nm,0.7s
FITZ Fitzroy Crossi 51.07 266 P **P** 14 16 02.1 -0.1
VNDA Vanda 53.49 185 P **P** 14 16 20.1 +1.3
comp=Z,2.4nm,0.7s,baz=349,slow=5.4,SNR=18
VNDA Vanda 53.49 185 P **P** 14 16 19.8 +1.0
MORW Morawa 56.85 250 P **P** 14 16 42.1 -1.1
MORW IAmb IAmb 14 16 44.5
comp=Z,19nm,1.2s
CASY Casey 59.43 206 P **P** 14 16 59.3 -0.7
CASY IAmb IAmb 14 17 00.3
comp=Z,12nm,1.1s
GIRL Giralia 60.01 257 P **P** 14 17 05.3 +0.7
QSPA South Pole Qui 65.27 180 P **P** 14 17 39.2 +1.0
QSPA IAmb IAmb 14 17 40.3
comp=Z,15nm,0.8s
MJAR Matsushiro Arr 72.83 326 P **P** 14 18 23.9 -0.2
comp=Z,1.8nm,0.8s,baz=156,slow=6.1,SNR=3.4
MAW Mawson 77.00 200 P **P** 14 18 47.7 +0.6
comp=Z,5.3nm,0.6s,baz=124,slow=6.3,SNR=33
MAW Mawson 77.00 200 P **P** 14 18 47.6 +0.4
PETK Petropavlovsk- 80.06 346 P **P** 14 19 04.3 +0.6
comp=Z,3.3nm,0.9s,baz=134,slow=6.2,SNR=2.2
NJ2 Nanjing 81.49 311 *eP* **P** 14 19 11.0 -0.6
NJ2 pmax pmax
comp=Z,2.0nm,0.6s
SYO Syowa Base 82.19 193‖ *eP* **P** 14 19 12.5 -2.1
SYO Syowa Base 82.19 193‖ *eP* **P** 14 19 17.3 +2.7
VNA3 Neumayer Olymp 83.95 177 P **P** 14 19 23.3 -0.2
NVAR Mina Array Bea 85.20 44 P **P** 14 19 30.7 +0.3
comp=Z,0.5nm,0.4s,baz=212,slow=5.3,SNR=6.0
ELK Elko 88.47 43 P **P** 14 19 46.6 +0.8
comp=Z,0.7nm,0.6s,baz=267,slow=4.2,SNR=4.2
CMAR Chiang Mai Arr 90.13 290 P **P** 14 19 55.6 +1.8
comp=Z,0.4nm,0.3s,baz=149,slow=3.4,SNR=6.4
TXAR Lajitas Array 90.65 58 P **P** 14 19 57.7 +1.7
comp=Z,2.3nm,0.8s,baz=213,slow=6.2,SNR=24
TXAR Lajitas Array 90.65 58 P **P** 14 19 55.9 -0.2
HHC Hu-ho-hao-te 91.28 315 *eP* **P** 14 19 56.4 -2.3
HHC pmax pmax
comp=Z,33nm,1.3s
HHC pmax pmax
comp=Z,700nm,6.8s
HHC LR LR
comp=N,310nm,17.5s
HHC LR LR
comp=E,400nm,17.9s
HHC LR LR
comp=Z,400nm,17.5s
PDAR Pinedale Array 93.13 44 P **P** 14 20 08.1 +0.7
comp=Z,0.3nm,0.5s,baz=212,slow=3.2,SNR=2.4
LZH Lanzhou 94.18 308 *eP* **P** 14 20 10.6 -1.6
LZH pP pP 14 21 52.8 -3.4
LZH sP sP 14 22 32.8 -10
LZH PP **PP** 14 24 10.4 +3.5
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.4s
MKAR Makanchi Array 113.00 312 PKiKP **PKiKP** 14 25 25.5 -1.6
comp=Z,0.2nm,0.5s,baz=158,slow=1.6,SNR=2.1
ARCES ARCESS Array B 132.84 348 PKP **PKPdf** 14 26 03.9 -0.4
comp=Z,2.5nm,0.8s,baz=17,slow=1.6,SNR=5.0
FINES FINESS Array B 139.41 341 SKPbc **SKPbc** 14 29 07.2 -0.6
comp=Z,3.8nm,1.0s,baz=64,slow=6.3,SNR=4.2
NB2 NORSAR Subarra1 143.03 351 PKP PKPab 14 26 19.9 -0.5
comp=Z,0.9nm,0.8s,baz=7.1,slow=3.6
NOA NORSAR Array B 143.03 351 PKhKP PKPab 14 26 20.2 -0.2
comp=Z,1.4nm,0.8s,baz=8.3,slow=2.3,SNR=4.3
AKASG Malin Array Be 145.91 327 PKPbc **PKPdf** 14 26 28.7 +0.3
comp=Z,1.2nm,0.4s,baz=44,slow=4.0,SNR=2.0
MMAI Mount Meron Ar 148.35 293 PKPbc **PKPbc** 14 26 36.9 -0.3
comp=Z,1.2nm,0.4s,baz=66,slow=5.0,SNR=4.5
BRTR Keskin Array B 148.37 306 PKPbc **PKPbc** 14 26 36.7 -0.5
comp=Z,0.5nm,0.5s,baz=88,slow=2.3,SNR=2.0
CLL Collm 151.82 343 *e*PKPbc **PKiKP** 14 26 45.0 0.0
TORD Torodi Ar. Bea 168.32 187 PKPab **PKPab** 14 28 07.9 -0.7
comp=Z,1.3nm,0.7s,baz=167,slow=3.8,SNR=7.2

*ISN **15** 14:12:03.8±0.8, 32°.51N×47°.93E, h14km±5km, ML3.3*
*TEH **15** 14:12:04.5, 32°.54N×47°.97E, h12km, ML3.5*
*IDC **15** 14:12:05.2±32.0, 32°.83N×48°.09E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/38, mbtmp3.9/4, Error ellipse: s-maj=644.4km s-min=43.5km az=14.0*
*THR **15** 14:12:05.3±0.3, 32°.50N×47°.92E, h17km±3km, ML3.8*
*NEIC **15** 14:12:11.8±1.2, 33°.60N±0°.10×48°.3E±0°.2, h10km±2km, Error ellipse: s-maj=30.8km s-min=14.4km az=108.0*
ISC 15 14:12:04.9±1.2,**32°.51N**±0°.03×**47°.96E**±0°.03,**h14**km±9km, **n58**,σ1°**09**/65,**mb3.9**/7,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.60**	**287**	*e*Pg		**Pg**		**14 12 16.2**	**-0.4**
IKMR	**Kamar-syah**	**1.07**	**19**	*e*Pg		**Pb**		**14 12 23.5**	**-1.7**
IKMR				*e*				14 12 44.9	
IDOB	**Doab**	**1.29**	**8**	*e*Pg		**Pn**		**14 12 28.4**	**-0.3**
AHWZ	**Ahwaz**	**1.31**	**153**	*e*Pg		**Pb**		**14 12 30.2**	**+0.9**
AHWZ				*e*Sg		**Sg**		**14 12 48.8**	**+1.6**
BMDN	**Meydan**	**1.37**	**32**	*e*Pg		**Pn**		**14 12 29.5**	**-0.3**
BMDN				*e*				14 13 00.2	
IKOM	**Komasi**	**1.70**	**347**	*e*Pg		**Pb**		**14 12 35.9**	**-0.2**
IKOM				*e*				14 12 39.8	
HSAM	**Samen**	**1.78**	**17**	*e*Pg		**Pb**		**14 12 36.8**	**-0.7**
HSAM				*e*				14 12 41.2	
IBDR	**Badra**	**1.81**	**290**	*e*Pg		**Pn**		**14 12 36.0**	**+0.3**
IBDR				*e*Sg		**Sb**		**14 13 00.0**	**-0.4**
IBDR					AML	AML		14 13 06.5	
	comp=E,151nm,0.4s								
IBDR					AML	AML		14 13 07.9	
	comp=N,229nm,0.8s								
KCHF	**Cheshme Sefid,**	**1.92**	**337**	*e*Pg		**Pb**		**14 12 39.9**	**0.0**
KCHF				*e*				14 13 12.5	
IBZA	**Bozab**	**1.96**	**358**	*e*Pg		**Pb**		**14 12 40.3**	**-0.2**
IBZA				*e*				14 13 16.3	
KER	**Kermanshah**	**2.00**	**340**	*e*Pg		**Pb**		**14 12 41.5**	**+0.4**
KHMZ	**Khomeyn**	**2.08**	**53**	*e*Pn		**Pb**		**14 12 42.0**	**-0.6**
KHMZ				*e*Sg		**Sg**		**14 13 11.9**	**+0.1**
KHMZ	**Khomeyn**	**2.08**	**53**	*e*Pn		**Pb**		**14 12 42.0**	**-0.6**
NSR	**Nassriya**	**2.15**	**226**	*e*Pn		**Pn**		**14 12 40.0**	**-0.4**
NSR				*e*Sn		**Sn**		**14 13 06.0**	**-0.8**
NSR					AML	AML		14 13 22.2	
	comp=E,1μm,1.0s								
IGHG	**Ghaleghazi**	**2.16**	**328**	*e*Pg		**Pb**		**14 12 43.9**	**0.0**
IGHG				*e*				14 13 29.4	
IVIS	**Veis**	**2.21**	**336**	*e*Pn		**Pn**		**14 12 42.9**	**+1.5**
IVIS				*e*				14 13 24.3	
JHBN	**Jahan bin**	**2.31**	**96**	*e*Pn		**Pn**		**14 12 43.6**	**+0.8**
JHBN				*e*				14 13 22.6	
IPIR	**Pirpir**	**2.48**	**85**	*e*Pn		**Pn**		**14 12 46.1**	**+0.9**
IPIR				*e*				14 13 29.8	
HAGD	**Aghdareh**	**2.51**	**23**	*e*Pn		**Pn**		**14 12 46.6**	**+1.1**
HAGD				*e*				14 13 28.0	
ILIN	**Lien**	**2.54**	**341**	*e*Pn		**Pn**		**14 12 47.1**	**+1.1**
ILIN				*e*				14 13 40.0	
IDHR	**Dehrash**	**2.55**	**329**	*e*Pn		**Pn**		**14 12 48.0**	**+2.0**
IDHR				*e*				14 13 35.5	
ROKH	**ROKH**	**2.61**	**93**	*e*Pn		**Pn**		**14 12 46.9**	**0.0**
ROKH				*e*				14 13 42.4	
SNGE	**Sanandaj**	**2.63**	**349**	*e*Pn		**Pn**		**14 12 49.2**	**+2.1**
SNGE	**Sanandaj**	**2.63**	**349**	*e*Pn		**Pn**		**14 12 49.2**	**+2.1**
ASAO	**Ashtian**	**2.67**	**40**	*e*Pn		**Pn**		**14 12 50.0**	**+2.3**
ASAO				*e*Sg		**Sg**		**14 13 29.7**	**-1.0**
ASAO	**Ashtian**	**2.67**	**40**	*e*Pn		**Pn**		**14 12 50.0**	**+2.3**
HSRG	**Sareghieh**	**2.74**	**6**	*e*Pn		**Pn**		**14 12 49.8**	**+1.0**
HSRG				*e*				14 13 37.9	
BHD	**Baghdad**	**3.10**	**285**	*e*Pn		**Pn**		**14 12 54.0**	**+0.5**
BHD				*e*Sn		**Sn**		**14 13 31.0**	**+0.6**
IKLH	**Kolahrood**	**3.15**	**74**	*e*Pn		**Pn**		**14 12 55.9**	**+1.5**
IKLH				*e*				14 13 58.2	
GHVR	**GHOM**	**3.41**	**54**	*e*Pn		**Pn**		**14 12 60.0**	**+2.2**
GHVR				*e*S		**Sn**		**14 13 39.6**	**+1.4**
GHVR	**GHOM**	**3.41**	**54**	*e*Pn		**Pn**		**14 13 00.0**	**+2.2**
KLNJ	**Kolanjah**	**3.44**	**115**	*e*Pn		**Pn**		**14 12 58.7**	**+0.3**
IGAR	**Gharneh**	**3.46**	**91**	*e*Pn		**Pn**		**14 12 59.1**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.46**	**22**	*e*Pn		**Pn**		**14 13 00.1**	**+1.4**
IQOM	**Qom**	**3.49**	**47**	*e*Pn		**Pn**		**14 13 00.1**	**+1.1**
IZEF	**Zefreh**	**3.71**	**83**	*e*Pn		**Pn**		**14 13 02.4**	**+0.4**
KRSH	**Karshahi**	**3.79**	**66**	*e*Pn		**Pn**		**14 13 04.6**	**+1.5**
IRAM	**Ramesheh**	**3.82**	**99**	*e*Pn		**Pn**		**14 13 03.1**	**-0.4**
IVRN	**Varamin**	**4.00**	**51**	*e*Pn		**Pn**		**14 13 06.5**	**+0.6**
QALM	**Alamut, Qazvin**	**4.50**	**29**	*e*Pn		**Pn**		**14 13 13.8**	**+0.9**
IDMV	**Damavand**	**4.56**	**47**	*e*Pn		**Pn**		**14 13 14.8**	**+1.0**
ISAD	**Sadrabad**	**4.89**	**95**	*e*Pn		**Pn**		**14 13 18.4**	**+0.1**
ANAR	**Anarak**	**4.91**	**80**	*e*Pn		**Pn**		**14 13 18.9**	**+0.5**
IFIR	**Firoozkooh**	**5.06**	**51**	*e*Pn		**Pn**		**14 13 21.3**	**+0.7**
IALA	**Alasht**	**5.37**	**47**	*e*Pn		**Pn**		**14 13 26.2**	**+1.3**
ISHM	**Shahmirzad**	**5.51**	**52**	*e*Pn		**Pn**		**14 13 27.8**	**+0.9**
IANJ	**Anjilo**	**5.76**	**58**	*e*Pn		**Pn**		**14 13 31.2**	**+1.0**
KKAR	**Karatay Array**	**20.66**	**53**			**P**		**14 16 44.1**	**-0.2**
MK31	**Makanchi Array**	**29.77**	**51**	P		**P**		**14 18 10.5**	**-0.6**
MK31					AML	AML		14 18 15.5	
	comp=Z,0.8nm,0.8s								
MKAR	**Makanchi Array**	**29.77**	**51**	P		**P**		**14 18 10.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=246,slow=11,SNR=5.3								
MKAR	**Makanchi Array**	**29.77**	**51**	P		**P**		**14 18 10.4**	**-0.7**
FINES	**FINESS Array B**	**32.24**	**340**	P		**P**		**14 18 33.4**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=140,slow=9.1,SNR=4.5								
FINES	**FINESS Array B**	**32.24**	**340**	P		**P**		**14 18 33.1**	**+0.6**
ZALV	**Zalesovo Beam**	**33.80**	**40**	P		**P**		**14 18 46.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=242,slow=9.2,SNR=2.2								
NC303	**NORSAR Array S**	**37.22**	**332**	P		**P**		**14 19 16.6**	**+1.0**
NC303					AML	AML		14 19 36.2	
	comp=Z,14nm,1.1s								
ARA2	**ARCESS Array S**	**39.16**	**348**	P		**P**		**14 19 30.6**	**-1.3**
ARA2					AML	AML		14 19 52.9	
	comp=Z,3.6nm,0.9s								
ARB4	**ARCESS Array S**	**39.16**	**348**	P		**P**		**14 19 30.9**	**-1.0**
ARCES	**ARCESS Array B**	**39.16**	**348**	P		**P**		**14 19 30.9**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=157,slow=9.4,SNR=1.7								

*TEH **15** 14:17:14.6, 32°.54N×48°.02E, h8km, ML3.4*
*THR **15** 14:17:15.9±0.3, 32°.47N×47°.98E, h18km±2km, ML3.6*
ISC 15 14:17:15.9±1.0,**32°.52N**±0°.04×**48°.01E**±0°.04,**h10**km,**n44,** σ1°**08**/48,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.64**	**284**	*e*Pg		**Pg**		**14 17 27.5**	**-0.7**
IKMR	**Kamar-syah**	**1.04**	**17**	*e*Pg		**Pg**		**14 17 34.0**	**-1.9**
IKMR				*e*				14 17 54.8	
IDOB	**Doab**	**1.27**	**6**	*e*Pg		**Pn**		**14 17 39.7**	**-0.2**
AHWZ	**Ahwaz**	**1.31**	**156**	*e*Pg		**Pn**		**14 17 40.4**	**+0.2**
AHWZ				*e*Sg		**Sg**		**14 17 58.9**	**+1.0**
BMDN	**Meydan**	**1.33**	**31**	*e*Pg		**Pn**		**14 17 40.0**	**-0.8**
BMDN				*e*				14 18 08.6	
IKOM	**Komasi**	**1.70**	**346**	*e*Pg		**Pn**		**14 17 46.8**	**+1.0**
IKOM				*e*				14 17 49.4	
HSAM	**Samen**	**1.75**	**16**	*e*Pg		**Pn**		**14 17 47.8**	**+1.2**
HSAM				*e*				14 17 52.7	
KCHF	**Cheshme Sefid,**	**1.93**	**335**	*e*Pg		**Pb**		**14 17 50.7**	**-0.5**
KCHF				*e*				14 18 24.9	
IBZA	**Bozab**	**1.94**	**356**	*e*Pg		**Pb**		**14 17 51.3**	**-0.3**
IBZA				*e*				14 18 23.8	
KER	**Kermanshah**	**2.00**	**339**	*e*Pg		**Pb**		**14 17 52.2**	**-0.2**
KHMZ	**Khomeyn**	**2.04**	**53**	*e*Pn		**Pn**		**14 17 52.2**	**+1.8**
KHMZ				*e*Sg		**Sg**		**14 18 22.0**	**+0.6**
KHMZ	**Khomeyn**	**2.04**	**53**	*e*Pn		**Pn**		**14 17 52.2**	**+1.8**
IGHG	**Ghaleghazi**	**2.17**	**327**	*e*Pg		**Pb**		**14 17 55.8**	**+0.4**
IGHG				*e*				14 18 36.7	
IVIS	**Veis**	**2.22**	**334**	*e*Pn		**Pn**		**14 17 54.0**	**+1.1**
IVIS				*e*				14 18 37.1	
JHBN	**Jahan bin**	**2.27**	**97**	*e*Pn		**Pn**		**14 17 54.2**	**+0.5**
JHBN				*e*				14 18 37.1	
IPIR	**Pirpir**	**2.44**	**85**	*e*Pn		**Pn**		**14 17 57.1**	**+1.1**
IPIR				*e*				14 18 35.7	
HAGD	**Aghdareh**	**2.48**	**22**	*e*Pn		**Pn**		**14 17 58.0**	**+1.4**
HAGD				*e*				14 18 44.4	
ILIN	**Lien**	**2.54**	**340**	*e*Pn		**Pn**		**14 17 58.2**	**+0.7**
ILIN				*e*				14 18 44.8	
IDHR	**Dehrash**	**2.56**	**328**	*e*Pn		**Pn**		**14 17 58.2**	**+0.6**
IDHR				*e*				14 18 46.8	
ROKH	**ROKH**	**2.56**	**93**	*e*		Sg		14 18 49.9	+12
SNGE	**Sanandaj**	**2.62**	**348**	*e*Pn		**Pn**		**14 18 00.2**	**+1.7**
SNGE				*e*Sg		**Sg**		**14 18 39.5**	**-0.7**
SNGE					IAML			14 18 49.8	
	comp=N,138nm,0.7s								
SNGE	**Sanandaj**	**2.62**	**348**	*e*Pn		**Pn**		**14 18 00.2**	**+1.7**
ASAO	**Ashtian**	**2.63**	**39**	*e*Pn		**Pn**		**14 18 00.6**	**+2.0**
ASAO				*e*Sg		**Sg**		**14 18 40.2**	**-0.2**
ASAO	**Ashtian**	**2.63**	**39**	*e*Pn		**Pn**		**14 18 00.6**	**+2.0**
HSRG	**Sareghieh**	**2.72**	**5**	*e*Pn		**Pn**		**14 18 00.9**	**+1.0**
HSRG				*e*				14 18 44.5	
IKLH	**Kolahrood**	**3.10**	**74**	*e*Pn		**Pn**		**14 18 06.7**	**+1.5**
IKLH				*e*				14 19 10.1	
GHVR	**GHOM**	**3.37**	**54**	*e*Pn		**Pn**		**14 18 10.2**	**+1.5**
GHVR				*e*S		**Sn**		**14 18 49.5**	**+0.8**
GHVR	**GHOM**	**3.37**	**54**	*e*Pn		**Pn**		**14 18 10.2**	**+1.5**
KLNJ	**Kolanjah**	**3.40**	**115**	*e*				14 18 56.3	
KLNJ				*e*Pn		**Pn**		**14 18 09.7**	**+0.3**
IGAR	**Gharneh**	**3.41**	**91**	*e*Pn		**Pn**		**14 18 09.7**	**+0.4**
IGAR				*e*				14 19 08.1	
QABG	**Abgarm-Qazvin**	**3.43**	**22**	*e*Pn		**Pn**		**14 18 10.3**	**+0.6**
IQOM	**Qom**	**3.44**	**47**	*e*Pn		**Pn**		**14 18 10.5**	**+0.7**
IQOM				*e*				14 18 12.5	
IZEF	**Zefreh**	**3.66**	**83**	*e*Pn		**Pn**		**14 18 13.8**	**+1.0**
KRSH	**Karshahi**	**3.74**	**66**	*e*Pn		**Pn**		**14 18 14.8**	**+0.9**
KRSH				*e*				14 19 23.0	
IRAM	**Ramesheh**	**3.77**	**100**	*e*Pn		**Pn**		**14 18 13.8**	**-0.6**
QALM	**Alamut, Qazvin**	**4.46**	**28**	*e*Pn		**Pn**		**14 18 24.4**	**+0.5**
IDMV	**Damavand**	**4.52**	**47**	*e*Pn		**Pn**		**14 18 25.4**	**+0.7**
ISAD	**Sadrabad**	**4.85**	**96**	*e*Pn		**Pn**		**14 18 28.9**	**-0.3**
ANAR	**Anarak**	**4.86**	**81**	*e*Pn		**Pn**		**14 18 29.2**	**0.0**
ILAS	**Lasjerd**	**5.00**	**54**	*e*Pn		**Pn**		**14 18 31.9**	**+0.6**
IPRN	**Peran**	**5.15**	**43**	*e*Pn		**Pn**		**14 18 34.6**	**+1.4**
IALA	**Alasht**	**5.33**	**47**	*e*Pn		**Pn**		**14 18 37.0**	**+1.2**
ISHM	**Shahmirzad**	**5.47**	**52**	*e*Pn		**Pn**		**14 18 38.7**	**+1.0**
IANJ	**Anjilo**	**5.71**	**57**	*e*Pn		**Pn**		**14 18 41.5**	**+0.5**

IDC 15 14:20:10.7±4.1,**7°.96S**×**128°.80E**,**h68**km±30km,**mb3.0**/1, **mb1 3.4**/5,**mb1mx3.1**/41,**mbtmp3.5**/5,**ML3.5**/3,**Error ellipse: s-maj=59.1km s-min=30.8km az=56.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.54**	**246**	P		**Pn**		**14 21 31.4**	**+0.6**
	baz=66,slow=16								
BATI					S		Sn	14 22 31.5	-1.6
FITZ	**Fitzroy Crossi**	**10.54**	**197**	P		**Pn**		**14 22 38.5**	**-0.5**
	1.4nm,0.3s,baz=81,slow=18,SNR=1.7								
	0.3nm,0.3s,baz=15,slow=11,SNR=22								
FITZ					S		Sn	14 24 29.7	-5.7
	0.7nm,0.3s,baz=128,slow=23,SNR=3.5								
WRA	**Warramunga Arr**	**13.06**	**156**	P		**Pn**		**14 23 13.3**	**-0.2**
	0.3nm,0.3s,baz=329,slow=13,SNR=28								
WRA					S		Sn	14 25 31.7	-5.5
	0.4nm,0.3s,baz=329,slow=25,SNR=6.2								
ASAR	**Alice Springs**	**16.37**	**163**	P		**Pn**		**14 23 56.7**	**+0.4**
	0.1nm,0.3s,baz=336,slow=9.8,SNR=14								
ASAR					S		Sn	14 26 51.1	-6.2
	0.1nm,0.3s,baz=346,slow=25,SNR=2.8								
ASAR					ScP		ScP	14 32 14.4	-0.3
	0.0nm,0.3s,baz=359,slow=1.6,SNR=4.2								
MKAR	**Makanchi Array**	**68.38**	**328**	P		**P**		**14 31 05.1**	**-0.2**
	0.1nm,0.4s,baz=126,slow=6.6,SNR=2.4								

*TEH **15** 14:20:33.7, 32°.49N×48°.00E, h10km, ML2.8*
*ISN **15** 14:20:33.1±1.2, 32°.50N×48°.00E, h14km±8km, ML2.5*
ISC 15 14:20:33.1±1.1,**32°.43N**±0°.07×**48°.08E**±0°.06,**h10**km,**n10,** σ0°**45**/13,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.72**	**291**	*e*Sg		**Sg**		**14 20 55.9**	**-0.6**
IKMR	**Kamar-syah**	**1.12**	**13**	*e*Pg		**Pb**		**14 20 54.2**	**-0.4**
IKMR				*e*				14 21 13.6	
IDOB	**Doab**	**1.36**	**3**	*e*Pg		**Pg**		**14 20 59.5**	**+0.2**
IDOB				*e*				14 21 22.8	
BMDN	**Meydan**	**1.39**	**27**	*e*Pg		**Pg**		**14 21 00.3**	**+0.4**
BMDN				*e*				14 21 04.3	
IKOM	**Komasi**	**1.81**	**345**	*e*				14 21 12.9	
IKOM				*e*Pg		**Pb**		**14 21 06.2**	**-0.2**
HSAM	**Samen**	**1.83**	**14**	*e*				14 21 36.4	
HSAM				*e*Pn		**Pb**		**14 21 07.0**	**0.0**
IBDR	**Badra**	**1.93**	**291**	*e*Pg		**Pn**		**14 21 06.0**	**-0.1**
IBDR				*e*Sg		**Sn**		**14 21 31.0**	**+0.6**
IBDR					AML	AML		14 21 37.1	
	comp=N,62nm,0.4s								
IBDR					AML	AML		14 21 47.6	
	comp=E,44nm,0.5s								
NSR	**Nassriya**	**2.17**	**230**	*e*Pn		**Pn**		**14 21 10.0**	**+0.7**
NSR				*e*Sn		**Sn**		**14 21 36.0**	**-0.3**
IPIR	**Pirpir**	**2.39**	**83**	*e*Pn		**Pb**		**14 21 15.9**	**-0.6**
IPIR				*e*				14 21 55.4	
BHD	**Baghdad**	**3.23**	**286**	*e*Pn		**Pn**		**14 21 24.0**	**+0.2**
BHD				*e*Sn		**Sn**		**14 22 02.0**	**-0.3**

*IDC **15** 14:25:51.1±2.4, 32°.50N×47°.85E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/42, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=68.6km s-min=22.1km az=160.0*
*TEH **15** 14:25:52.7, 32°.53N×47°.93E, h9km, ML3.6*
*ISN **15** 14:25:52.1±0.8, 32°.55N×47°.93E, h14km±6km, ML3.3*
*THR **15** 14:25:54.4±0.3, 32°.54N×47°.87E, h17km±3km, ML3.6*
ISC 15 14:25:52.5±0.7,**32°.41N**±0°.03×**47°.78E**±0°.03,**h10**km,**n53,** σ1°**08**/59,**mb3.5**/5,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.50**	**303**	*e*Pg		**Pb**		**14 26 03.9**	**+0.5**
IKMR	**Kamar-syah**	**1.22**	**25**	*e*Pg		**Pn**		**14 26 12.4**	**-3.2**
IKMR				*e*				14 26 35.0	
AHWZ	**Ahwaz**	**1.31**	**145**	*e*Pg		**Pg**		**14 26 19.0**	**+1.4**
IDOB	**Doab**	**1.41**	**14**	*e*Pg		**Pn**		**14 26 17.7**	**-0.8**
BMDN	**Meydan**	**1.54**	**35**	*e*Pg		**Pn**		**14 26 19.2**	**-1.0**
BMDN				*e*				14 26 44.6	
IBDR	**Badra**	**1.71**	**295**	*e*Pg		**Pb**		**14 26 24.0**	**0.0**
IBDR				*e*Sg		**Sg**		**14 26 48.0**	**+0.6**
IBDR					AML	AML		14 26 52.7	
	comp=N,368nm,0.4s								
IBDR					AML	AML		14 27 01.5	
	comp=E,284nm,0.7s								
IKOM	**Komasi**	**1.77**	**353**	*e*Pg		**Pb**		**14 26 25.0**	**-0.2**
IKOM				*e*				14 26 57.2	
HSAM	**Samen**	**1.92**	**21**	*e*Pg		**Pn**		**14 26 26.5**	**+0.9**
HSAM				*e*				14 27 00.8	
KCHF	**Cheshme Sefid,**	**1.96**	**342**	*e*Pg		**Pb**		**14 26 28.9**	**+0.5**
KCHF				*e*				14 27 04.8	
NSR	**Nassriya**	**1.97**	**225**	*e*Pn		**Pb**		**14 26 29.0**	**+0.5**
NSR				*e*Sn		**Sg**		**14 26 55.0**	**-1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.61**	**285**	*e*Sg	**Sb**	**14 30 16.1**	**+1.4**
DHL1				*e*Pg	**Pg**	**14 30 06.5**	**+0.3**
IKMR	**Kamar-syah**	**1.05**	**19**	*e*Pg	**Pb**	**14 30 13.2**	**-0.8**
IKMR				*e*		14 30 33.8	
IDOB	**Doab**	**1.27**	**8**	*e*Pg	**Pb**	**14 30 18.4**	**+0.4**
AHWZ	**Ahwaz**	**1.32**	**154**	*e*Pg	**Pg**	**14 30 20.0**	**+0.4**
AHWZ				*e*Sg	**Sg**	**14 30 38.5**	**+1.7**
BMDN	**Meydan**	**1.35**	**32**	*e*Pg	**Pg**	**14 30 20.1**	**-0.3**
BMDN				*e*		14 30 47.4	
IKOM	**Komasi**	**1.69**	**347**	*e*Pg	**Pb**	**14 30 25.4**	**+0.3**
IKOM				*e*		14 30 52.4	
HSAM	**Samen**	**1.77**	**17**	*e*Pg	**Pb**	**14 30 26.4**	**0.0**
HSAM				*e*		14 30 56.5	
IBDR	**Badra**	**1.82**	**289**	*e*Pg	**Pb**	**14 30 27.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**14 30 51.0**	**+1.4**
IBDR				AML	AML	14 30 55.3	
	comp=N,283nm,0.5s						
IBDR				AML	AML	14 31 01.4	
	comp=E,339nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.92**	**336**	*e*Pg	**Pg**	**14 30 30.1**	**-1.0**
KCHF				*e*		14 31 01.3	
IBZA	**Bozab**	**1.95**	**357**	*e*Pg	**Pb**	**14 30 29.7**	**+0.2**
IBZA				*e*		14 30 59.2	
KER	**Kermanshah**	**1.99**	**340**	*e*Pn	**Pb**	**14 30 29.2**	**-0.9**
KHMZ	**Khomeyn**	**2.06**	**53**	*e*Pn	**Pb**	**14 30 31.2**	**-0.2**
KHMZ				*e*Sg	**Sg**	**14 30 59.9**	**-0.8**
KHMZ	**Khomeyn**	**2.06**	**53**	*e*Pn	**Pb**	**14 30 31.2**	**-0.2**
IGHG	**Ghaleghazi**	**2.15**	**327**	*e*Pn	**Pb**	**14 30 32.5**	**-0.5**
IGHG				*e*		14 31 24.1	
NSR	**Nassriya**	**2.17**	**227**	*e*Pn	**Pn**	**14 30 31.0**	**+1.4**
NSR				*e*Sn	**Sn**	**14 30 59.0**	**+2.9**
IVIS	**Veis**	**2.21**	**335**	*e*Pn	**Pn**	**14 30 32.4**	**+2.1**
IVIS				*e*		14 31 15.3	
JHBN	**Jahan bin**	**2.30**	**97**	*e*Pn	**Pn**	**14 30 33.1**	**+1.4**
JHBN				*e*		14 31 15.9	
IALM	**Almabolaq**	**2.34**	**4**	*e*Pn	**Pn**	**14 30 34.0**	**+1.8**
IPIR	**Pirpir**	**2.47**	**85**	*e*Pn	**Pn**	**14 30 36.1**	**+2.1**
IPIR				*e*		14 31 19.8	
HAGD	**Aghdareh**	**2.49**	**23**	*e*Pn	**Pn**	**14 30 36.2**	**+1.9**
HAGD				*e*		14 31 20.2	
ILIN	**Lien**	**2.54**	**341**	*e*Pn	**Pn**	**14 30 36.8**	**+1.9**
ILIN				*e*		14 31 27.8	
IDHR	**Dehrash**	**2.54**	**329**	*e*Pn	**Pb**	**14 30 37.9**	**-1.7**
IDHR				*e*		14 31 25.4	
SNGE	**Sanandaj**	**2.62**	**349**	*e*Pn	**Pn**	**14 30 38.2**	**+2.2**
SNGE				*e*Sg	**Sb**	**14 31 15.2**	**+2.3**
SNGE	**Sanandaj**	**2.62**	**349**	*e*Pn	**Pn**	**14 30 38.2**	**+2.2**
ASAO	**Ashtian**	**2.65**	**40**	*e*Pn	**Pn**	**14 30 39.2**	**+2.7**
ASAO				*e*Sg	**Sg**	**14 31 17.1**	**-2.4**
ASAO	**Ashtian**	**2.65**	**40**	*e*Pn	**Pn**	**14 30 39.2**	**+2.7**
HSRG	**Sareghieh**	**2.73**	**5**	*e*Pn	**Pn**	**14 30 38.7**	**+1.1**
HSRG				*e*		14 31 29.5	
BHD	**Baghdad**	**3.11**	**285**	*e*Pn	**Pn**	**14 30 45.7**	**+3.1**
BHD				*e*Sn	**Sn**	**14 31 22.0**	**+2.6**
BHD				AML	AML	14 31 46.3	
	comp=E,73nm,0.7s						
IKLH	**Kolahrood**	**3.13**	**74**	*e*Pn	**Pn**	**14 30 45.4**	**+2.2**
IKLH				*e*		14 31 49.6	
GHVR	**GHOM**	**3.39**	**54**	*e*Pn	**Pn**	**14 30 49.0**	**+2.4**
GHVR				*e*S	**Sn**	**14 31 28.2**	**+1.7**
GHVR	**GHOM**	**3.39**	**54**	*e*Pn	**Pn**	**14 30 49.0**	**+2.4**
KLNJ	**Kolanjah**	**3.43**	**115**	*e*Pn	**Pn**	**14 30 48.0**	**+0.7**
KLNJ				*e*		14 31 56.9	
IGAR	**Gharneh**	**3.44**	**91**	*e*Pn	**Pn**	**14 30 48.4**	**+1.1**
IGAR				*e*		14 31 46.7	
QABG	**Abgarm-Qazvin**	**3.45**	**22**	*e*Pn	**Pn**	**14 30 49.3**	**+1.9**
IQOM	**Qom**	**3.47**	**47**	*e*Pn	**Pn**	**14 30 49.6**	**+1.9**
IZEF	**Zefreh**	**3.69**	**83**	*e*Pn	**Pn**	**14 30 52.7**	**+1.9**
KRSH	**Karshahi**	**3.77**	**66**	*e*Pn	**Pn**	**14 30 53.6**	**+1.7**
IRAM	**Ramesheh**	**3.81**	**100**	*e*Pn	**Pn**	**14 30 52.8**	**+0.5**
IVRN	**Varamin**	**3.98**	**51**	*e*Pn	**Pn**	**14 30 56.7**	**+2.0**
IHSB	**Hasanabad**	**4.00**	**42**	*e*Pn	**Pn**	**14 30 57.3**	**+2.4**
QSDN	**Sirdan**	**4.09**	**14**	*e*Pn	**Pn**	**14 30 58.7**	**+2.4**
QALM	**Alamut, Qazvin**	**4.48**	**29**	*e*Pn	**Pn**	**14 31 03.8**	**+2.1**
IDMV	**Damavand**	**4.54**	**47**	*e*Pn	**Pn**	**14 31 04.3**	**+1.7**
ISAD	**Sadrabad**	**4.88**	**96**	*e*Pn	**Pn**	**14 31 08.2**	**+1.0**
ANAR	**Anarak**	**4.89**	**81**	*e*Pn	**Pn**	**14 31 08.2**	**+1.0**
ILAS	**Lasjerd**	**5.03**	**54**	*e*Pn	**Pn**	**14 31 10.6**	**+1.4**
IFIR	**Firoozkooh**	**5.04**	**51**	*e*Pn	**Pn**	**14 31 11.0**	**+1.6**
IPRN	**Peran**	**5.18**	**43**	*e*Pn	**Pn**	**14 31 14.1**	**+3.0**
IALA	**Alasht**	**5.35**	**47**	*e*Pn	**Pn**	**14 31 16.0**	**+2.3**
ISHM	**Shahmirzad**	**5.49**	**52**	*e*Pn	**Pn**	**14 31 17.3**	**+1.7**
IANJ	**Anjilo**	**5.74**	**58**	*e*Pn	**Pn**	**14 31 20.0**	**+1.0**
IGLO	**Ghalogha h**	**6.26**	**49**	*e*Pn	**Pn**	**14 31 28.6**	**+2.6**
GEVA	**Gevas**	**7.03**	**327**	Pn	**Pn**	**14 31 37.8**	**+1.2**
TPRV	**Parvadeh(Tabas**	**7.36**	**84**	*e*Pn	**Pn**	**14 31 42.1**	**+1.1**
TNSJ	**Nastanj**	**7.38**	**76**	*e*Pn	**Pn**	**14 31 43.2**	**+1.9**
TKDS	**Koohdasht(Taba**	**7.76**	**79**	*e*Pn	**Pn**	**14 31 47.7**	**+1.2**
ASF	**Jabal al Asfar**	**9.38**	**271**	Pn	**Pn**	**14 32 08.4**	**-0.3**
	comp=E,0.5nm,0.3s,baz=54,slow=8.7,SNR=1.7						
ASF				Sn	**Sn**	**14 33 47.4**	**-6.5**
	comp=E,0.3nm,0.3s,baz=107,slow=17,SNR=2.0						
ISFR	**Sfrayin**	**9.40**	**58**	*e*Pn	**Pn**	**14 32 11.3**	**+2.1**
GEYT	**Alibeck**	**9.89**	**54**	Pn	**Pn**	**14 32 17.1**	**+1.3**
	comp=E,0.1nm,0.3s,baz=253,slow=15,SNR=1.7						
GEYT	**Alibeck**	**9.89**	**54**	Pn	**Pn**	**14 32 17.2**	**+1.4**
UOSS	**Minazif**	**10.44**	**134**	Pn	**Pn**	**14 32 21.5**	**-1.8**
HRA	**Herat**	**12.06**	**77**	Pn	**Pn**	**14 32 46.8**	**+1.1**
WSAR	**Wadi Sarin**	**13.19**	**132**	Pn	**Pn**	**14 32 58.6**	**-2.4**
	comp=E,0.7nm,0.3s,baz=339,slow=13,SNR=4.6						
WSAR				Sn	Sn	14 35 17.8	-10
	comp=E,0.2nm,0.3s,baz=356,slow=19,SNR=2.1						
ANTO	**Ankara**	**14.27**	**305**	Pn	**Pn**	**14 33 18.4**	**+2.7**
ELL	**Elmali**	**15.46**	**291**	Pn	**Pn**	**14 33 33.2**	**+1.6**
ELL				IAmb	IAmb	14 33 40.9	
	comp=Z,11nm,0.8s						
KARP	**Karpathos**	**17.51**	**286**	P	**P**	**14 34 00.6**	**+1.8**
DAMY	**Dhamar**	**18.16**	**191**	P	**Pn**	**14 34 02.9**	**-3.2**
DAMY				IAmb	IAmb	14 34 04.0	
	comp=Z,6.3nm,0.6s						
SANT	**Santorini**	**18.95**	**288**	P	**P**	**14 34 14.8**	**+0.2**
ABKAR	**Akbulak array**	**18.97**	**25**	P	**P**	**14 34 14.6**	**-0.1**
IDI	**Anoyia**	**19.35**	**285**	P	**P**	**14 34 19.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=110,slow=12,SNR=2.5						
IDI	**Anoyia**	**19.35**	**285**	IAmb	IAmb	14 34 27.6	
	comp=Z,10nm,1.4s						
AKTO	**Aktyubinsk**	**19.38**	**20**	P	**P**	**14 34 19.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=204,slow=7.0,SNR=2.5						
KKAR	**Karatay Array**	**20.64**	**53**	P	**P**	**14 34 33.5**	**+0.5**
MLR	**Muntele Rosu**	**21.38**	**314**	P	**P**	**14 34 41.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=173,slow=17,SNR=2.2						
AKASG	**Malin Array Be**	**22.83**	**328**	P	**P**	**14 34 54.6**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=134,slow=8.5,SNR=2.7						
KDJ	**Kajisay**	**25.02**	**59**	P	**P**	**14 35 18.5**	**+0.9**
KDJ				IAmb	IAmb	14 35 24.0	
	comp=Z,3.0nm,1.2s						
BRVK	**Borovoye**	**26.06**	**31**	P	**P**	**14 35 28.2**	**+1.6**
KURBB	**Kurchatov Arra**	**28.85**	**42**	P	**P**	**14 35 53.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=244,slow=9.4,SNR=3.3						
KURK	**Kurchatov**	**28.95**	**42**	P	**P**	**14 35 53.0**	**+0.4**
KURK	**Kurchatov**	**28.95**	**42**	IAmb	IAmb	14 36 00.5	
	comp=Z,5.4nm,1.5s						
MK31	**Makanchi Array**	**29.75**	**51**	P	**P**	**14 35 59.8**	**0.0**
MKAR	**Makanchi Array**	**29.75**	**51**	P	**P**	**14 36 00.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=244,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	**29.75**	**51**	P	**P**	**14 35 59.2**	**-0.6**
FINES	**FINESS Array B**	**32.23**	**340**	P	**P**	**14 36 21.0**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=141,slow=9.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**14 36 35.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=248,slow=7.8,SNR=4.0						
NOA	**NORSAR Array B**	**37.17**	**331**	P	**P**	**14 37 03.8**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=129,slow=8.4,SNR=1.1						
ARCES	**ARCESS Array B**	**39.16**	**348**	P	**P**	**14 37 20.4**	**-0.3**
	comp=Z,3.2nm,1.1s,baz=156,slow=6.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**46.39**	**256**	P	**P**	**14 38 19.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=72,slow=7.7,SNR=2.4						

*TEH **15** 14:32:27.9, 32°.54N×47°.93E, h8km, ML2.9*
*ISN **15** 14:32:27.1±0.8, 32°.55N×47°.93E, h14km±6km, ML3.1*
ISC 15 14:32:27.6±1.4, **32°.50N**±0°.07×**47°.97E**±0°.06, **h10km**, **n11**, **σ0s48/15**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.61**	**287**	*e*Pg	**Pg**	**14 32 39.2**	**-0.2**
DHL1				*e*Sg	**Sg**	**14 32 47.5**	**0.0**
IKMR	**Kamar-syah**	**1.07**	**19**	*e*Pg	**Pg**	**14 32 47.7**	**-0.4**
IKMR				*e*		14 33 20.1	
IDOB	**Doab**	**1.29**	**8**	*e*Pg	**Pg**	**14 32 52.9**	**+0.5**
IDOB				*e*		14 33 22.1	
BMDN	**Meydan**	**1.37**	**31**	*e*Pg	**Pg**	**14 32 54.1**	**+0.3**
BMDN				*e*		14 33 23.9	
IKOM	**Komasi**	**1.71**	**347**	*e*Pn	**Pb**	**14 32 58.6**	**-0.6**
IKOM				*e*		14 33 39.5	
HSAM	**Samen**	**1.78**	**17**	*e*Pn	**Pb**	**14 33 00.3**	**-0.2**
HSAM				*e*		14 33 35.2	
IBDR	**Badra**	**1.82**	**290**	*e*Pg	**Pn**	**14 32 59.0**	**0.0**
IBDR				*e*Sg	**Sn**	**14 33 23.0**	**+0.8**
IBDR				AML	AML	14 33 28.9	
	comp=E,226nm,0.6s						
IBDR				AML	AML	14 33 33.1	
	comp=N,213nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.93**	**336**	*e*Pn	**Pb**	**14 33 03.2**	**+0.2**
KCHF				*e*		14 33 41.9	
IBZA	**Bozab**	**1.96**	**357**	*e*Pn	**Pb**	**14 33 02.8**	**-0.8**
IBZA				*e*		14 33 42.6	
NSR	**Nassriya**	**2.16**	**227**	*e*Pn	**Pn**	**14 33 04.0**	**+0.4**
NSR				*e*Sn	**Sn**	**14 33 30.0**	**-0.4**
BHD	**Baghdad**	**3.12**	**285**	*e*Pn	**Pn**	**14 33 17.0**	**+0.2**
BHD				*e*Sn	**Sn**	**14 33 54.0**	**-0.1**

*DDA **15** 14:33:31.0, 41°.74N×41°.90E, h7km±2km, ML2.2*
*NORS **15** 14:33:32.8±0.0, 41°.82N×42°.12E, h1km, MPVA3.2*
ISC 15 14:33:33.0±1.2, **41°.65N**±0°.04×**41°.90E**±0°.05, **h5km**±12km, **n12**, **σ0s84/22**, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.16**	**253**	*i* P	**Pg**	**14 33 35.6**	**-0.6**
BATM				*i* S	**Sg**	**14 33 39.3**	**+0.9**
DBOC	**Borcka**	**0.35**	**210**	*i* P	**Pg**	**14 33 39.5**	**-0.3**
ARTV	**Artvin**	**0.47**	**177**	*i* P	**Pg**	**14 33 42.3**	**+0.2**
ARTV				*i* S	**Sg**	**14 33 48.3**	**+0.1**
DBAD	**Bademkaya**	**0.65**	**194**	*i* P	**Pg**	**14 33 45.6**	**+0.1**
DBAD				*i* S	**Sb**	**14 33 56.2**	**-0.1**
DBAD				IAML		14 33 58.0	
	comp=N,71nm,0.4s						
DBAD				IAML		14 34 00.0	
	comp=E,93nm,0.4s						
DDEM	**Demirkent**	**0.77**	**188**	*i* P	**Pg**	**14 33 47.7**	**0.0**
DDEM				*i* S	**Sb**	**14 33 59.1**	**-0.6**
DDEM				IAML		14 34 01.0	
	comp=N,174nm,0.2s						
DDEM				IAML		14 34 02.0	
	comp=E,199nm,0.2s						
KRIK	**Erzurum-spir**	**1.50**	**210**	*i* P	**Pn**	**14 33 60.0**	**-0.9**
KRIK				*i* S	**Sg**	**14 34 22.7**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.77**	**44**	*e*Pg	**Pn**	**14 34 03.7**	**-0.7**
DIGR				*e*Sg	**Sn**	**14 34 27.4**	**0.0**
ZEI	**Tsey**	**1.87**	**52**	*e*Pg	**Pn**	**14 34 06.6**	**+0.7**
ZEI				*e*Sg	**Sb**	**14 34 31.3**	**-0.3**
LACR	**Lac**	**2.13**	**56**	*e*Pg	**Pn**	**14 34 10.4**	**+1.0**
LACR				*e*Sg	**Sb**	**14 34 39.0**	**-0.1**
SHA1	**Shidzhatmaz**	**2.16**	**15**	*e*Pg	**Pb**	**14 34 11.4**	**-1.4**
SHA1				*e*Sg	**Sb**	**14 34 40.7**	**+0.8**
LSNR	**Lesken**	**2.16**	**41**	*e*Pg	**Pn**	**14 34 11.1**	**+1.3**
LSNR				*e*Sg	**Sb**	**14 34 39.9**	**0.0**
KELT	**Kelkit**	**2.50**	**234**	*i* P	**Pn**	**14 34 16.0**	**+1.4**

*ISN **15** 15:15:44.8±1.5, 32°.51N×47°.91E, h15km±8km, ML2.8*
*TEH **15** 15:15:46.3, 32°.53N×47°.91E, h10km, ML3.2*
*THR **15** 15:15:49.8±0.3, 32°.74N×47°.92E, h14km±2km, ML3.3*
ISC 15 15:15:46.5±2.2, **32°.49N**±0°.04×**47°.77E**±0°.03, **h14km**±18km, **n46**, **σ1s36/55**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.45**	**295**	*e*Pg	**Pb**	**15 15 56.9**	**+0.6**
DHL1				*e*Sg	**Sn**	**15 16 05.9**	**-0.7**
IKMR	**Kamar-syah**	**1.15**	**26**	*e*		15 16 28.9	
IKMR				*e*Pg	**Pn**	**15 16 06.1**	**-2.1**
IDOB	**Doab**	**1.34**	**15**	*e*Pg	**Pn**	**15 16 11.2**	**+0.2**
AHWZ	**Ahwaz**	**1.38**	**147**	*e*Pg	**Pn**	**15 16 12.4**	**+1.1**
AHWZ				*e*Sg	**Sb**	**15 16 31.0**	**+1.6**
BMDN	**Meydan**	**1.48**	**37**	*e*Pg	**Pn**	**15 16 12.3**	**-0.6**
BMDN				*e*		15 16 16.8	
IBDR	**Badra**	**1.67**	**292**	*e*Pg	**Pb**	**15 16 17.0**	**0.0**
IBDR				*e*Sg	**Sg**	**15 16 40.0**	**-0.2**
IBDR				AML	AML	15 16 44.7	
	comp=E,118nm,0.5s						
IBDR				AML	AML	15 16 45.9	
	comp=N,144nm,0.4s						
IKOM	**Komasi**	**1.69**	**353**	*e*Pg	**Pb**	**15 16 17.7**	**+0.1**
IKOM				*e*		15 16 22.0	
HSAM	**Samen**	**1.85**	**22**	*e*Pg	**Pn**	**15 16 19.4**	**+1.2**
HSAM				*e*		15 16 22.8	
KCHF	**Cheshme Sefid,**	**1.88**	**341**	*e*Pn	**Pb**	**15 16 21.1**	**+0.3**
KCHF				*e*		15 16 22.5	
KER	**Kermanshah**	**1.96**	**344**	*e*Pn	**Pb**	**15 16 21.8**	**-0.3**
IBZA	**Bozab**	**1.98**	**2**	*e*Pn	**Pn**	**15 16 21.2**	**+1.4**
IBZA				*e*		15 16 25.5	
NSR	**Nassriya**	**2.02**	**224**	*e*Pn	**Pn**	**15 16 20.0**	**-0.2**
NSR				*e*Sn	**Sb**	**15 16 47.0**	**-1.1**
IGHG	**Ghaleghazi**	**2.09**	**332**	*e*Pn	**Pb**	**15 16 23.8**	**-0.6**
IGHG				*e*		15 17 02.6	
IVIS	**Veis**	**2.17**	**340**	*e*Pn	**Pb**	**15 16 25.4**	**-0.3**
IVIS				*e*		15 17 10.8	
KHMZ	**Khomeyn**	**2.22**	**55**	*e*Pn	**Pn**	**15 16 25.0**	**+1.9**
KHMZ				*e*Sg	**Sn**	**15 16 52.5**	**+2.0**
KHMZ	**Khomeyn**	**2.22**	**55**	*e*Pn	**Pn**	**15 16 25.0**	**+1.9**
JHBN	**Jahan bin**	**2.47**	**95**	*e*Pn	**Pn**	**15 16 27.2**	**+0.6**
JHBN				*e*		15 17 13.9	
IDHR	**Dehrash**	**2.49**	**333**	*e*Pn	**Pn**	**15 16 28.6**	**+1.8**
IDHR				*e*		15 16 34.2	
ILIN	**Lien**	**2.51**	**345**	*e*Pn	**Pb**	**15 16 30.4**	**-1.2**
ILIN				*e*		15 16 35.2	
HAGD	**Aghdareh**	**2.59**	**26**	*e*Pn	**Pn**	**15 16 29.5**	**+1.2**
HAGD				*e*		15 17 16.5	
SNGE	**Sanandaj**	**2.62**	**352**	*e*Pn	**Pn**	**15 16 30.8**	**+2.1**
SNGE				*e*Sg	**Sb**	**15 17 05.0**	**-0.5**
SNGE	**Sanandaj**	**2.62**	**352**	*e*Pn	**Pn**	**15 16 30.8**	**+2.1**
IPIR	**Pirpir**	**2.64**	**85**	*e*Pn	**Pn**	**15 16 30.0**	**+1.0**
IPIR				*e*		15 17 12.4	
HSRG	**Sareghieh**	**2.78**	**9**	*e*Pn	**Pn**	**15 16 33.8**	**+2.9**
HSRG				*e*		15 16 39.1	
ASAO	**Ashtian**	**2.79**	**42**	*e*Pn	**Pn**	**15 16 32.6**	**+1.6**
ASAO				*e*Sg	**Sb**	**15 17 08.9**	**-1.4**
ASAO	**Ashtian**	**2.79**	**42**	*e*Pn	**Pn**	**15 16 32.6**	**+1.6**
BHD	**Baghdad**	**2.96**	**286**	*e*Pn	**Pn**	**15 16 35.0**	**+2.0**
BHD				*e*Sn	**Sb**	**15 17 12.0**	**-2.9**
IKLH	**Kolahrood**	**3.31**	**75**	*e*Pn	**Pn**	**15 16 38.2**	**0.0**
QABG	**Abgarm-Qazvin**	**3.55**	**25**	*e*Pn	**Pn**	**15 16 42.0**	**+0.6**
GHVR	**GHOM**	**3.55**	**55**	*e*Pn	**Pn**	**15 16 42.7**	**+1.3**
GHVR				*e*S	**Sn**	**15 17 21.4**	**-1.8**
GHVR				IAML		15 17 35.2	
	comp=N,21nm,0.4s						
GHVR	**GHOM**	**3.55**	**55**	*e*Pn	**Pn**	**15 16 42.7**	**+1.3**
KLNJ	**Kolanjah**	**3.58**	**113**	*e*Pn	**Pn**	**15 16 41.8**	**-0.1**
KLNJ				*e*		15 17 49.6	
IGAR	**Gharneh**	**3.61**	**90**	*e*Pn	**Pn**	**15 16 42.7**	**+0.4**
IGAR				*e*		15 16 47.9	
IQOM	**Qom**	**3.62**	**49**	*e*Pn	**Pn**	**15 16 43.4**	**+1.0**
IQOM				*e*		15 16 53.2	
IZEF	**Zefreh**	**3.87**	**83**	*e*Pn	**Pn**	**15 16 46.1**	**+0.3**
KRSH	**Karshahi**	**3.95**	**67**	*e*Pn	**Pn**	**15 16 47.7**	**+0.9**
IVRN	**Varamin**	**4.14**	**52**	*e*Pn	**Pn**	**15 16 50.6**	**+1.2**
QALM	**Alamut, Qazvin**	**4.59**	**30**	*e*Pn	**Pn**	**15 16 57.8**	**+2.0**
IDMV	**Damavand**	**4.69**	**48**	*e*Pn	**Pn**	**15 16 57.1**	**-0.1**
ANAR	**Anarak**	**5.07**	**80**	*e*Pn	**Pn**	**15 17 02.3**	**+0.1**
ILAS	**Lasjerd**	**5.19**	**55**	*e*Pn	**Pn**	**15 17 04.0**	**0.0**
IFIR	**Firoozkooh**	**5.20**	**51**	*e*Pn	**Pn**	**15 17 05.9**	**+1.8**
IPRN	**Peran**	**5.32**	**44**	*e*Pn	**Pn**	**15 17 07.1**	**+1.4**
IALA	**Alasht**	**5.50**	**48**	*e*Pn	**Pn**	**15 17 09.7**	**+1.4**
ISHM	**Shahmirzad**	**5.65**	**53**	*e*Pn	**Pn**	**15 17 11.4**	**+1.1**
IANJ	**Anjilo**	**5.91**	**58**	*e*Pn	**Pn**	**15 17 12.7**	**-1.1**

*ISN **15** 15:17:23.2±1.4, 32°.52N×47°.84E, h15km±7km, ML2.6*
*TEH **15** 15:17:24.3, 32°.51N×47°.86E, h10km, ML3.0*
*THR **15** 15:17:25.9±0.3, 32°.54N×47°.93E, h16km±2km, ML3.2*
ISC 15 15:17:23.4±1.5, **32°.51N**±0°.04×**47°.82E**±0°.03, **h3km**±13km, **n23**, **σ1s27/29**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.48**	**290**	*e*Pg	**Pb**	**15 17 34.1**	**-0.4**
IDOB	**Doab**	**1.30**	**13**	*e*Pg	**Pg**	**15 17 49.4**	**+1.0**
AHWZ	**Ahwaz**	**1.37**	**149**	*e*Sg	**Sg**	**15 18 09.2**	**+1.6**
BMDN	**Meydan**	**1.43**	**36**	*e*Pg	**Pg**	**15 17 51.1**	**+0.2**
BMDN				*e*		15 18 17.5	
IBDR	**Badra**	**1.70**	**291**	*e*Pg	**Pn**	**15 17 54.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**15 18 17.0**	**+0.1**
IBDR				AML	AML	15 18 23.7	
	comp=N,78nm,0.6s						
IBDR				AML	AML	15 18 24.8	
	comp=E,78nm,0.5s						
HSAM	**Samen**	**1.82**	**21**	*e*Pg	**Pb**	**15 17 56.8**	**-0.6**
HSAM				*e*		15 18 29.5	
IBZA	**Bozab**	**1.95**	**1**	*e*Pn	**Pb**	**15 18 00.0**	**+0.3**
IBZA				*e*		15 18 37.8	
NSR	**Nassriya**	**2.07**	**224**	*e*Pn	**Pn**	**15 17 59.0**	**0.0**
NSR				*e*Sn	**Sn**	**15 18 24.0**	**-1.3**
IVIS	**Veis**	**2.16**	**338**	*e*	Sg	15 18 42.5	+10
KHMZ	**Khomeyn**	**2.17**	**55**	*e*Pn	**Pb**	**15 18 02.5**	**-1.0**
KHMZ				*e*Sg	**Sg**	**15 18 31.7**	**-1.5**
KHMZ	**Khomeyn**	**2.17**	**55**	*e*Pn	**Pb**	**15 18 02.5**	**-1.0**
JHBN	**Jahan bin**	**2.43**	**96**	*e*		15 18 50.6	
JHBN				*e*Pn	**Pb**	**15 18 06.5**	**-1.4**
IDHR	**Dehrash**	**2.48**	**332**	*e*		15 18 12.3	
IDHR				*e*Pn	**Pb**	**15 18 07.8**	**-1.0**
HAGD	**Aghdareh**	**2.55**	**25**	*e*		15 18 54.5	
HAGD				*e*Pn	**Pn**	**15 18 07.3**	**+1.4**
SNGE	**Sanandaj**	**2.60**	**351**	*e*Pn	**Pb**	**15 18 09.4**	**-1.4**
SNGE				*e*Sg	**Sg**	**15 18 47.0**	**0.0**
SNGE	**Sanandaj**	**2.60**	**351**	*e*Pn	**Pb**	**15 18 09.4**	**-1.4**
ASAO	**Ashtian**	**2.74**	**42**	*e*Pn	**Pn**	**15 18 10.5**	**+2.0**
ASAO				*e*Sg	**Sg**	**15 18 49.3**	**-2.2**
ASAO	**Ashtian**	**2.74**	**42**	*e*Pn	**Pn**	**15 18 10.5**	**+2.0**
BHD	**Baghdad**	**2.99**	**286**	*e*Pn	**Pn**	**15 18 12.0**	**+0.4**
BHD				*e*Sn	**Sn**	**15 18 49.0**	**+1.1**
GHVR	**GHOM**	**3.50**	**55**	*e*Pn	**Pn**	**15 18 20.2**	**+1.3**
GHVR				*e*S	**Sn**	**15 18 59.8**	**-1.0**
GHVR	**GHOM**	**3.50**	**55**	*e*Pn	**Pn**	**15 18 20.2**	**+1.3**
IGAR	**Gharneh**	**3.57**	**91**	*e*Pn	**Pn**	**15 18 20.8**	**+0.9**
IGAR				*e*		15 19 07.8	
IZEF	**Zefreh**	**3.82**	**83**	*e*Pn	**Pn**	**15 18 24.6**	**+1.2**

*NNC **15** 15:21:36.0±11.0, 37°.91N×70°.86E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=115.6km s-min=54.1km az=161.0*
ISC 15 15:21:28.7±3.4, **37°.3N**±0°.2×**71°.1E**±0°.1, **h10km**, **n9**, **σ1s90/11**, **2C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.19**	**22**	P

DBBC eS **Sn** **15 26 02.5 -2.8**
TOLC Tolima 3.15 225 eP **Pn** **15 25 27.3 -0.4**
TOLC eS **Sn** **15 26 06.8 +0.5**
SDV Santo Domingo 3.17 49 P **Pn** **15 25 28.7 +0.8**
comp=Z,261nm,0.3s,baz=182,slow=3.0,SNR=328
SDV S **Sn** **15 26 05.3 -1.3**
comp=Z,154nm,0.3s,baz=212,slow=16,SNR=12
SDV Santo Domingo 3.17 49⇑ eP **Pn** **15 25 28.5 +0.6**
SDV eS **Sn** **15 26 05.7 -0.9**
SDV *i* 15 26 09.1
comp=Z,381nm,0.3s
SDV Santo Domingo 3.17 49 **Pn** **15 25 28.4 +0.6**
SDV Santo Domingo 3.17 49 eP **Pn** **15 25 28.6 +0.8**
SDV eS **Sn** **15 26 06.4 -0.2**
CIBA1 Ibague, SGC 3.19 223 eP **Pn** **15 25 27.3 -0.7**
CIBA1 eS **Sn** **15 26 05.1 -1.9**
MOTC Monteria, Cord 3.23 307⇑ eP **Pn** **15 25 25.9 -2.4**
MOTC eS **Sn** **15 26 04.5 -3.1**
MOTC *i* 15 26 07.0
comp=Z,751nm,0.6s
ANIL Santa Ana 3.27 225 eP **Pn** **15 25 29.8 +0.6**
ANIL eS **Sn** **15 26 09.9 +0.8**
ANIL *i* 15 26 15.7
comp=E,1μm,0.4s
PRAC Prado 3.57 210⇓ eP **Pn** **15 25 32.2 -0.6**
PRAC eS **Sn** **15 26 16.5 +0.9**
PRAC *i* 15 26 19.4
comp=Z,1μm,0.6s
ORTC Ortega, Tolima 3.61 217⇑ eP **Pn** **15 25 32.9 -0.4**
ORTC eS **Sn** **15 26 16.8 +0.4**
ORTC *i* 15 26 19.9
comp=Z,597nm,0.3s
CVALL Valledupar, Ce 3.67 357 eP **Pn** **15 25 33.0 -1.1**
CVALL eS **Sn** **15 26 13.8 -4.1**
CVALL *i* 15 26 21.7
comp=Z,603nm,0.4s
SJCC San Jacinto, C 3.71 326 eP **Pn** **15 25 32.7 -1.9**
SJCC eS **Sn** **15 26 13.6 -5.0**
SJCC *i* 15 26 28.7
comp=Z,482nm,0.7s
PLMC San Jos del P 3.72 239⇑ eP **Pn** **15 25 34.4 -0.3**
PLMC eS Sn 15 26 11.8 -7.1
PLMC *i* 15 26 28.2
comp=Z,338nm,0.3s
LCBC Los crdobas, 3.84 302 eP **Pn** **15 25 34.5 -1.7**
LCBC eS **Sn** **15 26 20.4 -1.3**
LCBC *i* 15 26 23.7
comp=Z,635nm,0.3s
GUVC San Jose del G 4.27 174 eP **Pn** **15 25 40.8 -1.0**
GUVC eS **Sn** **15 26 30.0 -1.7**
GUVC *i* 15 26 33.6
comp=Z,606nm,0.4s
YOTC Yotoco, Valle 4.31 229⇑ eP **Pn** **15 25 41.3 -1.1**
YOTC eS Sn 15 26 20.6 -12
SMRC Santa Marta, M 4.47 345 eP **Pn** **15 25 44.1 -0.3**
SMRC eS **Sn** **15 26 31.7 -4.7**
SMRC *i* 15 26 34.7
comp=Z,344nm,0.5s
CAPC Capurgana 4.61 293⇓ eP Pn 15 25 42.9 -3.4
CAPC eS Sn 15 26 28.2 -11
CAPC *i* 15 26 36.9
comp=Z,203nm,0.3s
PIZC Pizarro, Choco 4.65 247 eP **Pn** **15 25 47.2 +0.4**
PIZC eS **Sn** **15 26 42.0 +1.5**
PIZC *i* 15 26 54.2
comp=Z,153nm,0.5s
MACC Macarena, Meta 4.70 190⇓ eP **Pn** **15 25 45.8 -1.7**
MACC eS **Sn** **15 26 36.7 -5.3**
MACC *i* 15 26 43.0
comp=Z,219nm,0.3s
PTAC Punta Ardita, 4.71 274 eP **Pn** **15 25 45.9 -1.7**
PTAC eS Sn 15 26 34.2 -7.9
PTAC *i* 15 26 41.5
comp=Z,348nm,0.3s
BETC Betania 4.74 210 eP **Pn** **15 25 47.2 -0.8**
BETC eS **Sn** **15 26 38.3 -4.5**
MARP Paez Belalcaza 4.88 216 eP **Pn** **15 25 49.4 -0.7**
MARP eS **Sn** **15 26 43.9 -2.6**
URIC Uribia, Colomb 4.97 12⇑ eP **Pn** **15 25 49.4 -1.6**
MALC Bahia Malaga 5.08 237⇓ eP **Pn** **15 25 53.0 +0.6**
MALC eS **Sn** **15 26 52.6 +1.9**
MALC eS **Sn** **15 26 52.6 +1.9**
MALC *i* 15 27 05.5
comp=Z,94nm,0.5s
MALC *i* 15 27 05.5
comp=Z,94nm,0.5s
GARC Garzon, Huila 5.19 208⇓ eP **Pn** **15 25 53.1 -1.1**
GARC ⇓ eP **Pn** **15 25 53.1 -1.1**
GARC eS **Sn** **15 26 48.8 -5.1**
GARC eS **Sn** **15 26 48.8 -5.1**
GARC *i* 15 26 55.2
comp=Z,353nm,0.3s
GARC *i* 15 26 55.2
comp=Z,353nm,0.3s
PCON Cinco Dias 5.56 217 eP **Pn** **15 25 59.9 +0.6**
PCON eP **Pn** **15 25 59.9 +0.6**
PCON eS **Sn** **15 27 02.4 -0.5**
PCON eS **Sn** **15 27 02.4 -0.5**
PCON *i* 15 27 35.6
comp=Z,106nm,0.6s
PCON *i* 15 27 35.6
comp=Z,106nm,0.6s
FLOC Florencia 5.80 206 eP **Pn** **15 26 01.3 -0.8**
FLOC eP **Pn** **15 26 01.3 -0.8**
FLOC eS **Sn** **15 27 05.5 -2.5**
FLOC eS **Sn** **15 27 05.5 -2.5**
FLOC *i* 15 27 12.0
comp=Z,100nm,0.4s
FLOC *i* 15 27 12.0
comp=Z,100nm,0.4s
BBAC Balboa, Cauca 6.33 221 eP **Pn** **15 26 08.0 -1.2**
BBAC eP **Pn** **15 26 08.0 -1.2**
BBAC eS **Sn** **15 27 16.5 -4.3**
BBAC eS **Sn** **15 27 16.5 -4.3**
BBAC *i* 15 27 27.6
comp=Z,40nm,0.3s
BBAC *i* 15 27 27.6
comp=Z,40nm,0.3s
CRUC La Cruz 6.49 217 eP **Pn** **15 26 14.1 +2.6**
CRUC eP **Pn** **15 26 14.1 +2.6**
PTLC Puerto Leguiza 6.82 195 eP Pn 15 26 24.7 +9.1
PTLC eP Pn 15 26 24.7 +9.1
OTAV Otavalo 8.46 220 eP **Pn** **15 26 34.5 -3.3**
OTAV eP **Pn** **15 26 34.5 -3.3**
OTAV Otavalo 8.46 220 **Pn** **15 26 35.8 -2.0**
OTAV Otavalo 8.46 220 eP **Pn** **15 26 37.8 0.0**
PAC1 Pacto, Paraso 8.65 221 eP **Pn** **15 26 40.2 0.0**
PAC1 eP **Pn** **15 26 40.2 0.0**
BANI BANI 11.81 13 Pn **Pn** **15 27 22.0 +0.5**
SDD Santo Domingo 11.97 15 Pn **Pn** **15 27 23.1 -0.5**
MTDJ Mount Denham 12.15 339 Pn **Pn** **15 27 26.7 +0.7**
SDDR Presa de Saban 12.22 8 Pn **Pn** **15 27 27.3 +0.5**
JTS Las Juntas de 12.25 287 P **Pn** **15 27 28.5 +1.3**
comp=Z,0.5nm,0.3s,baz=28,slow=17,SNR=2.2
DR12 Loma Pena Alta 12.43 16 Pn **Pn** **15 27 30.4 +0.8**
GRGR Grenville 12.44 64 Pn **Pn** **15 27 30.7 +1.1**
ACON Acoyapa 12.99 294 P **P** **15 27 40.6 -0.7**
PDPR Patillas Dam, 13.09 31 Pn **Pn** **15 27 36.5 -1.4**
SJG San Juan 13.10 30 P **Pn** **15 27 36.7 -1.4**
comp=Z,3.0nm,0.3s,baz=172,slow=11,SNR=2.1
GTBY Guantanamo Bay 13.18 352 Pn **Pn** **15 27 41.3 +2.2**
CBYP Canovanas 13.38 31 Pn **Pn** **15 27 41.5 -0.2**
MTP Monte Pirata 13.40 32 Pn **Pn** **15 27 41.6 -0.3**
CDVI St. Croix 13.56 36 Pn **Pn** **15 27 43.3 -0.6**
CBCY The Bluff, Cay 14.39 334 Pn **Pn** **15 27 56.1 +1.6**
CZSB Cruzeiro do Su 14.45 179 eP **Pn** **15 27 54.6 -0.7**
LCCY Blossom Villag 14.48 333 P **P** **15 27 59.6 +1.8**
BBGH Gun Hill 14.71 64 P **P** **15 27 59.8 -0.7**
MACA Manacapuru-AM 15.85 128 eP **Pn** **15 28 12.2 -0.3**
MACA eS **S** **15 31 07.9 -1.5**
MTO3 Montecristo 17.69 297 P **P** **15 28 34.2 +0.7**
ESQI Esquipulas 17.73 297 P **P** **15 28 34.1 +0.2**
ETMB Extrema 17.88 157 eP **P** **15 28 35.4 0.0**
SAML Samuel 18.50 148 P **P** **15 28 42.0 -0.2**
SAML Samuel 18.50 148 eP **P** **15 28 42.4 +0.2**
TEIG Tepich 19.88 314 P **P** **15 28 58.0 +0.9**
comp=Z,3.5nm,0.3s,baz=100,slow=4.5,SNR=8.2
TEIG Tepich 19.88 314 P **P** **15 28 58.3 +1.2**
MDP Montagnes des 20.39 94 P **P** **15 29 02.2 -0.5**
comp=Z,6.4nm,0.6s,baz=261,slow=16,SNR=2.2
MDP pP **pP** **15 29 28.8 -1.3**
comp=Z,4.5nm,0.6s,baz=281,slow=15,SNR=2.3
MALB Monte Alegre 20.65 114 eP **P** **15 29 05.2 -0.2**

MALB eS **S** **15 32 45.6 -2.2**
MCPB Macapa, AP 22.14 108 eP **P** **15 29 20.3 -0.8**
NPGB Novo Progresso 22.40 128 eP **P** **15 29 23.4 -0.2**
LPAZ La Paz 23.47 168 P **P** **15 29 33.1 -0.9**
comp=Z,0.8nm,0.5s,baz=7.4,slow=13,SNR=3.8
LPAZ La Paz 23.47 168 P **P** **15 29 35.2 +1.1**
CLDB Colider 24.59 135 eP **P** **15 29 42.3 -1.3**
SIV San Ignacio 25.59 152 P **P** **15 29 51.7 -1.0**
comp=Z,0.7nm,0.6s,baz=354,slow=8.5,SNR=4.7
SIV pP **pP** **15 30 24.1 -2.0**
comp=Z,1.5nm,0.4s,baz=340,slow=10,SNR=4.4
MNMC Minye Minye 26.01 172 P **P** **15 29 56.1 -0.6**
BBSR BB Station 26.60 16 P **P** **15 30 00.3 -1.2**
PB11 IPOC Station P 26.62 173 P **P** **15 30 00.2 -1.8**
352A Blakely 26.93 337 P **P** **15 30 06.1 +1.6**
250A Grady 27.90 336 P **P** **15 30 15.1 +2.0**
PB01 IPOC Station P 27.91 173 P **P** **15 30 12.1 -1.4**
152A Waverly Hall 27.91 339 P **P** **15 30 14.8 +1.5**
152A IAmb IAmb 15 30 15.8
comp=Z,9.2nm,0.8s
GOGA Godfrey 28.17 341 P **P** **15 30 17.2 +1.7**
GOGA IAmb IAmb 15 30 22.9
comp=Z,9.5nm,1.3s
HODGE Hodges 28.57 344 P **P** **15 30 20.8 +1.7**
HODGE IAmb IAmb 15 30 41.1
comp=Z,11nm,1.2s
Z51A Franklin 28.66 339 P **P** **15 30 21.8 +1.8**
Y52A Lilburn 28.77 341 P **P** **15 30 22.3 +1.3**
Y52A IAmb IAmb 15 30 48.9
comp=Z,10nm,1.0s
346A Big Creek Wild 28.86 330 P **P** **15 30 23.5 +1.8**
Y49A Blount Mountai 29.61 337 P **P** **15 30 29.6 +1.2**
T59A Double "B" Far 30.29 353 P **P** **15 30 35.6 +1.3**
T59A IAmb IAmb 15 31 01.8
comp=Z,22nm,1.4s
X48A Hartselle 30.38 337 P **P** **15 30 36.5 +1.4**
X48A IAmb IAmb 15 30 37.0
comp=Z,8.9nm,0.6s
CPCT Cooper Cave 30.38 341 P **P** **15 30 36.8 +1.7**
CPCT IAmb IAmb 15 30 38.1
comp=Z,14nm,1.2s
W50A Signal Mountai 30.41 340 P **P** **15 30 37.2 +1.8**
W50A IAmb IAmb 15 30 38.0
comp=Z,7.1nm,0.8s
U54A Nelsons Funny 30.63 346 P **P** **15 30 39.0 +1.7**
V51A Loudon 30.65 342 P **P** **15 30 38.9 +1.4**
V51A IAmb IAmb 15 30 40.0
comp=Z,12nm,0.9s
ARAG Araguaiana, MT 30.73 137 eP **P** **15 30 37.9 -0.4**
PEXB Peixe 30.98 127 eP **P** **15 30 39.9 -0.8**
V48A Smith Brothers 31.43 338 P **P** **15 30 45.7 +1.4**
U49A Red Boiling Sp 31.76 340 P **P** **15 30 48.4 +1.2**
U49A IAmb IAmb 15 30 49.8
comp=Z,17nm,1.4s
W45A Hickory Valley 31.87 334 P **P** **15 30 49.5 +1.4**
WVT Waverly 32.16 337 P **P** **15 30 51.5 +0.9**
WVT IAmb IAmb 15 30 52.3
comp=Z,16nm,1.1s
T47A Sharon Grove 32.65 339 P **P** **15 30 55.9 +1.0**
R50A Paris 32.94 344 P **P** **15 30 59.3 +1.9**
R50A IAmb IAmb 15 31 00.2
comp=Z,10nm,0.8s
X40A Basin Creek Fa 33.03 329 P **P** **15 30 58.7 +0.4**
W41B Gary Mavity, V 33.28 331 P **P** **15 31 01.0 +0.6**
W41B IAmb IAmb 15 31 24.2
comp=Z,8.1nm,1.2s
BDFB Brasilia 33.37 132 P **P** **15 31 01.8 +0.2**
comp=Z,2.6nm,0.5s,baz=295,slow=12,SNR=3.8
Q51A Peebles 33.38 345 P **P** **15 31 02.9 +1.6**
Q51A IAmb IAmb 15 31 03.9
comp=Z,8.5nm,0.8s
WHAR Wooly Hollow 33.40 331 P **P** **15 31 01.8 +0.3**
WHAR IAmb IAmb 15 31 02.4
comp=Z,6.5nm,0.6s
WCI Wyandotte Cave 33.49 341 P **P** **15 31 03.0 +0.8**
WCI IAmb IAmb 15 31 04.3
comp=Z,11nm,0.7s
LCAR Lake Charles 33.50 333 P **P** **15 31 03.4 +1.1**
LCAR IAmb IAmb 15 31 03.9
comp=Z,5.2nm,0.7s
P52A Corning 33.68 347 P **P** **15 31 04.8 +1.0**
P52A IAmb IAmb 15 31 06.2
comp=Z,11nm,0.7s
PBMO Poplar Bluff 33.77 334 P **P** **15 31 05.6 +0.9**
FCAR Ozark Folk Cen 33.80 332 P **P** **15 31 05.0 +0.1**
FCAR IAmb IAmb 15 31 06.0
comp=Z,13nm,1.1s
W39A Magazine 34.07 329 P **P** **15 31 08.1 +0.8**
W39A IAmb IAmb 15 31 09.2
comp=Z,18nm,1.1s
S44A Carbondale 34.08 337 P **P** **15 31 07.6 +0.3**
O53A New Philadelph 34.08 349 P **P** **15 31 08.9 +1.6**
O53A IAmb IAmb 15 31 09.4
comp=Z,10.0nm,0.7s
T42A Van Buren 34.27 334 P **P** **15 31 09.4 +0.4**
T42A IAmb IAmb 15 31 10.4
comp=Z,14nm,1.1s
U40A Yellville 34.52 331 P **P** **15 31 11.7 +0.4**
FVM French Village 34.80 336 P **P** **15 31 14.2 +0.8**
M56A Emporium 34.82 353 P **P** **15 31 14.9 +1.2**
M56A IAmb IAmb 15 31 16.4
comp=Z,18nm,1.2s
MGMO Mountain Grove 34.90 333 P **P** **15 31 14.8 +0.4**
MGMO IAmb IAmb 15 31 15.8
comp=Z,9.1nm,0.9s
P46A Rosedale 35.05 341 P **P** **15 31 16.4 +0.8**
CCM Cathedral Cave 35.20 335 P **P** **15 31 17.2 +0.3**
QUA2 Belchertown 35.32 1 P **P** **15 31 18.3 +0.4**
QUA2 IAmb IAmb 15 31 38.5
comp=Z,8.4nm,0.8s
ABTX Abilene, Hawle 35.64 320 P **P** **15 31 21.1 +0.3**
ABTX IAmb IAmb 15 31 21.6
comp=Z,8.1nm,0.9s
SFIN Lafayette 35.70 342 P **P** **15 31 22.1 +0.9**
WVNY West Valley, N 35.78 353 P **P** **15 31 23.2 +1.4**
WVNY IAmb IAmb 15 31 49.5
comp=Z,21nm,1.3s
S39A Bolivar 35.82 332 P **P** **15 31 22.1 -0.1**
S39A IAmb IAmb 15 31 23.5
comp=Z,21nm,1.5s
R40A Maddies Static 35.84 334 P **P** **15 31 22.2 -0.2**
R40A IAmb IAmb 15 31 23.0
comp=Z,6.6nm,0.6s
P43A Skaggs, Pawnee 35.88 338 P **P** **15 31 23.1 +0.4**
O44A Mansfield 35.95 340 P **P** **15 31 23.3 0.0**
QUOK Quay 36.35 327 P **P** **15 31 26.7 -0.1**
TX32 Lajitas Array 36.50 312 P **P** **15 31 28.8 +0.5**
TXAR Lajitas Array 36.50 312 P **P** **15 31 28.8 +0.4**
comp=Z,2.3nm,0.6s,baz=127,slow=9.0,SNR=27
TXAR pCP **PcP** **15 33 49.8 +1.1**
comp=Z,0.6nm,0.6s,baz=130,slow=5.5,SNR=5.6
TX31 Lajitas Ar. Si 36.50 312 P **P** **15 31 29.0 +0.7**
TX31 IAmb IAmb 15 31 29.6
comp=Z,8.3nm,0.8s
MEDO Medina 36.51 353 P **P** **15 31 28.9 +0.9**
WMOK Wichita Mounta 36.51 323 P **P** **15 31 28.1 -0.1**
J57A Williamstown 36.54 356 P **P** **15 31 29.2 +0.9**
J57A IAmb IAmb 15 31 30.2
comp=Z,11nm,0.7s
J55A Hilton 36.54 354 P **P** **15 31 29.5 +1.2**
J55A IAmb IAmb 15 31 31.8
comp=Z,16nm,1.1s
HDIL Hopedale 36.60 339 P **P** **15 31 28.2 -0.6**
P40A Paris 36.78 335 P **P** **15 31 30.4 +0.1**
N41A Harden Midland 37.30 337 P **P** **15 31 34.5 -0.2**
P38A Dawn 37.49 334 P **P** **15 31 36.3 -0.1**
KAN14 Manchester OK 37.62 326 P **P** **15 31 36.8 -0.6**
J47A Sunmer 37.72 346 P **P** **15 31 38.8 +0.6**
EMMW East Machias 38.06 6 P **P** **15 31 42.5 +1.4**
SADO Sadowa 38.18 353 P **P** **15 31 42.4 +0.4**
comp=Z,4.1nm,0.4s,baz=221,slow=5.5,SNR=2.9
SADO Sadowa 38.18 353 P **P** **15 31 43.0 +1.0**
SADO IAmb IAmb 15 31 43.7
comp=Z,12nm,0.9s
K43A Burlington 38.20 342 P **P** **15 31 42.2 -0.1**
PLVO Plevna 38.24 355 P **P** **15 31 43.8 +1.2**
PLVO IAmb IAmb 15 32 09.5
comp=Z,7.8nm,1.0s
G62A West of Eustis 38.32 3 P **P** **15 31 45.1 +1.9**
G62A IAmb IAmb 15 31 55.0
comp=Z,17nm,1.4s
N38A Joes South For 38.33 335 P **P** **15 31 42.5 -0.9**
AMTX Amarillo 38.39 321 P **P** **15 31 44.6 +0.5**
AMTX IAmb IAmb 15 31 45.4
comp=Z,12nm,1.0s
PKME Peaks-Kenny Pk 38.44 4 P **P** **15 31 45.3 +1.1**
PKME IAmb IAmb 15 31 57.8
comp=Z,11nm,1.2s
G65A Princeton 38.54 6 P **P** **15 31 45.6 +0.6**
G65A IAmb IAmb 15 31 56.8
comp=Z,17nm,1.1s
L40A Anamosa 38.62 338 P **P** **15 31 45.3 -0.4**
L40A IAmb IAmb 15 31 47.6
comp=Z,21nm,1.4s
MNTX Cornudas Mount 39.01 314 P **P** **15 31 49.9 +0.7**
MNTX IAmb IAmb 15 31 51.3
comp=Z,5.4nm,0.8s
GDU01 Guandu, BA 39.01 122 eP **P** **15 31 48.0 -1.4**
JFWS Jewell Farm 39.02 340 P **P** **15 31 49.2 +0.1**
I42A Draeger Farm, 39.46 342 P **P** **15 31 53.0 +0.3**
LMN Caledonia Moun 39.54 9 P **P** **15 31 54.3 +0.9**
H43A Windswept, Lux 39.65 343 P **P** **15 31 55.2 +1.0**
E63A Oxbow 39.66 5 P **P** **15 31 55.5 +1.1**
E63A IAmb IAmb 15 32 00.8
comp=Z,19nm,1.4s
E62A Clayton Lake 39.77 4 P **P** **15 31 56.9 +1.5**
E62A IAmb IAmb 15 32 07.0
comp=Z,25nm,1.5s
PARB Paraibuna 40.22 139 eP **P** **15 31 57.6 -1.8**
D62A Allapoint, All 40.27 4 P **P** **15 32 00.5 +1.2**
D62A IAmb IAmb 15 32 01.1
comp=Z,11nm,1.1s
E46A Sault Ste Mari 40.58 348 P **P** **15 32 02.8 +0.9**
E46A IAmb IAmb 15 32 04.9
comp=Z,19nm,1.2s
BATG Bathurst New B 40.76 7 P **P** **15 32 04.3 +0.9**
G40A Rib Lake 41.10 342 P **P** **15 32 06.9 +0.7**
G40A IAmb IAmb 15 32 11.2
comp=Z,8.5nm,0.9s
ECSD EROS Data Cent 42.17 334 P **P** **15 32 14.9 -0.1**
ECSD IAmb IAmb 15 32 15.8
comp=Z,16nm,1.4s
D41A Chassel 42.25 344 P **P** **15 32 15.5 +0.1**
SDCO Great Sand Dun 42.58 321 P **P** **15 32 18.7 0.0**
TUC Tucson 43.29 311 P **P** **15 32 25.2 +0.9**
SUSD Miller 43.76 333 P **P** **15 32 27.5 -0.3**
EYMN Ely 43.89 342 P **P** **15 32 28.5 -0.2**
W18A Petrified Fore 43.90 315 P **P** **15 32 30.1 +0.8**
W18A IAmb IAmb 15 32 31.6
comp=Z,10nm,0.9s
ISCO Idaho Springs 43.94 323 P **P** **15 32 30.1 +0.5**
MVCO Mesa Verde 44.19 318 P **P** **15 32 32.4 +0.8**
X16A Lo Mia Camp, P 44.77 313 P **P** **15 32 37.3 +1.2**
PV15 Paradox Valley 44.83 320 P **P** **15 32 38.0 +1.3**
PV15 IAmb IAmb 15 32 39.0
comp=Z,15nm,1.0s
N23A Red Feather La 44.84 324 P **P** **15 32 38.6 +2.0**
PV02 Paradox Valley 44.91 319 P **P** **15 32 38.3 +1.0**
PV13 Radium Mtn., P 44.94 319 P **P** **15 32 38.3 +0.8**
PV13 IAmb IAmb 15 32 39.5
comp=Z,6.9nm,0.8s
B35A Bob, Littlefor 44.96 341 P **P** **15 32 37.1 -0.1**
B35A IAmb IAmb 15 32 37.8
comp=Z,7.2nm,0.7s
PV07 Paradox Valley 44.99 320 P **P** **15 32 38.8 +0.9**
PV03 Paradox Valley 45.01 319 P **P** **15 32 39.1 +1.1**
PV12 Saucer Basin, 45.02 320 P **P** **15 32 38.8 +0.7**
PV18 Skein Mesa, Pa 45.05 319 P **P** **15 32 39.2 +0.8**
PV17 East Wray Mesa 45.10 319 P **P** **15 32 40.1 +1.4**
PV22 Blue Mesa, Par 45.13 320 P **P** **15 32 41.0 +2.0**
WUAZ Wupatki 45.26 315 P **P** **15 32 41.2 +1.2**
WUAZ IAmb IAmb 15 32 42.7
comp=Z,8.6nm,0.8s
Y14A Wickenburg 45.69 312 P **P** **15 32 44.0 +0.8**
113A Mohawk Valley, 45.75 310 P **P** **15 32 44.5 +0.8**
E28A Huff 46.19 334 P **P** **15 32 47.0 +0.1**
E28A IAmb IAmb 15 32 47.9
comp=Z,16nm,0.8s
U15A North Rim 46.36 315 P **P** **15 32 49.7 +1.0**
U15A IAmb IAmb 15 32 51.1
comp=Z,9.3nm,1.1s
SRU San Rafael Swe 46.58 319 P **P** **15 32 50.4 +0.1**
RDMU Red Mountain 46.81 322 P **P** **15 32 52.5 +0.4**
P17A Butcher Ranch, 46.92 320 P **P** **15 32 53.4 +0.5**
KNB Kanab 47.02 316 P **P** **15 32 55.0 +1.2**
ULM Lac du Bonnet 47.31 340 P **P** **15 32 55.0 -0.5**
comp=Z,9.3nm,0.5s,baz=145,slow=7.2,SNR=14
ULM Lac du Bonnet 47.31 340 IAmb IAmb 15 32 56.3
comp=Z,8.4nm,0.6s
LCMT Little Creek M 47.31 315 P **P** **15 32 57.1 +1.2**
PLCA Paso Flores 47.37 177 eP **P** **15 32 56.0 -0.1**
TCRU Three Creeks R 47.57 318 P **P** **15 32 59.1 +1.0**
BW06 Boulder Array 48.11 324 P **P** **15 33 02.1 0.0**
PD31 Pinedale Array 48.11 324 P **P** **15 33 02.2 +0.1**
PDAR Pinedale Array 48.11 324 P **P** **15 33 02.2 +0.1**
comp=Z,1.7nm,0.6s,baz=124,slow=9.0,SNR=14
PDAR PcP **PcP** **15 34 26.7 -0.6**
comp=Z,0.6nm,0.7s,baz=140,slow=5.8,SNR=3.0
PDAR Pinedale Array 48.11 324 P **P** **15 33 02.1 0.0**
SCHQ Schefferville 48.14 5 P **P** **15 33 02.5 +0.6**
comp=Z,4.5nm,0.5s,baz=178,slow=5.0,SNR=5.5
SCHQ Schefferville 48.14 5 P **P** **15 33 02.4 +0.6**
SCHQ IAmb IAmb 15 33 08.9
comp=Z,12nm,1.2s
SHPR Sheep Range 48.43 314 P **P** **15 33 05.3 +0.8**
HWUT Hardware Ranch 48.64 322 P **P** **15 33 06.3 +0.3**
DUG Dugway, Tooele 48.65 319 P **P** **15 33 07.1 +0.9**
LAO LASA Array 48.87 330 P **P** **15 33 07.8 +0.2**
LAO IAmb IAmb 15 33 08.4
comp=Z,10nm,1.2s
DGMT Dagmar 49.18 333 P **P** **15 33 10.5 +0.6**
BGU Big Grassy Mou 49.18 320 P **P** **15 33 10.6 +0.4**
REDW Red Top Meadow 49.23 324 P **P** **15 33 11.2 +0.5**
REDW IAmb IAmb 15 33 12.1
comp=Z,6.4nm,0.7s
TPAW Teton Pass 49.36 324 P **P** **15 33 12.1 +0.4**
TPAW IAmb IAmb 15 33 13.5
comp=Z,4.6nm,0.7s
MOOW Moose Ponds 49.40 324 P **P** **15 33 11.9 0.0**
RLMT Red Lodge 49.41 327 P **P** **15 33 12.4 +0.4**
GCMT Greycliff 50.05 327 P **P** **15 33 17.5 +0.8**
YHH Holmes Hill 50.09 325 P **P** **15 33 18.6 +1.5**
YHL Hebgen Lake 50.31 325 P **P** **15 33 19.8 +1.0**
QLMT Earthquake Lak 50.44 325 P **P** **15 33 21.0 +1.3**
ELK Elko 50.52 319 P **P** **15 33 20.4 0.0**
BOZ Bozeman (W) 51.01 326 P **P** **15 33 24.4 +0.4**
MCMT McKenzie Canyo 51.25 324 P **P** **15 33 27.0 +1.2**
HLID Hailey 51.47 322 P **P** **15 33 27.7 +0.3**
NVAR Mina Array Bea 51.52 315 P **P** **15 33 28.8 +0.9**
comp=Z,0.8nm,0.5s,baz=120,slow=7.5,SNR=7.7
NVAR PcP **PcP** **15 34 40.6 +0.7**
comp=Z,0.3nm,0.4s,baz=126,slow=4.6,SNR=2.4
NVAR Mina Array Bea 51.52 315 P **P** **15 33 28.6 +0.7**
LHV Little Huntoon 51.59 314 P **P** **15 33 29.3 +1.2**
LRM Limekiln Ridge 51.61 326 P **P** **15 33 28.9 +0.4**
KVN Kaiserville 51.65 315 P **P** **15 33 28.7 -0.1**
HRY Holter Researc 51.80 327 P **P** **15 33 30.5 +0.7**
PAGB Antelope Grade 51.85 311 P **P** **15 33 30.9 +0.8**
PAGB IAmb IAmb 15 33 31.7
comp=Z,14nm,1.3s
MFID Camas Ranch 52.26 321 P **P** **15 33 33.7 +0.5**
MFID IAmb IAmb 15 33 35.5
comp=Z,5.2nm,0.7s
YERR Yerington 52.42 315 P **P** **15 33 33.8 -0.7**
PMPB Monarch Peak 52.45 311 P **P** **15 33 36.2 +1.5**
PMPB IAmb IAmb 15 33 49.3
comp=Z,21nm,1.5s
FFC Flin Flon 53.11 339 P **P** **15 33 38.7 -0.3**
FFC IAmb IAmb 15 34 02.5
comp=Z,10nm,1.3s
PLID Pearl Lake 53.25 323 P **P** **15 33 40.3 -0.3**
PLID IAmb IAmb 15 33 45.9
comp=Z,8.5nm,1.2s
JTMT Jette 53.76 327 P **P** **15 33 45.0 +0.9**
JTMT IAmb IAmb 15 34 13.9
comp=Z,5.5nm,1.0s
F10A Beach Ranch, E 54.45 323 P **P** **15 33 49.1 -0.1**
F10A IAmb IAmb 15 33 49.8
comp=Z,3.4nm,0.6s
I07A Izee 54.90 320 P **P** **15 33 52.5 +0.1**
G08A Pilot Rock 55.15 322 P **P** **15 33 54.5 +0.3**
G08A IAmb IAmb 15 33 55.5
comp=Z,6.0nm,0.7s
PINE Pine Mountain 55.69 319 P **P** **15 33 59.3 +1.2**
PINE IAmb IAmb 15 34 00.2
comp=Z,9.5nm,0.8s
YBH Yreka Blue Hor 55.98 317 P **P** **15 33 59.1 -1.0**

comp=Z,1.4nm,0.5s,baz=127,slow=2.9,SNR=5.5
YBH Yreka Blue Hor 55.98 317 P **P** 15 33 59.0 -1.1
YBH IAmb IAmb 15 34 05.9
comp=Z,4.9nm,1.1s
KMRM Mail Ridge 56.08 314 P **P** 15 34 01.1 +0.2
KRMB Red Mountain 56.72 316 P **P** 15 34 05.9 +0.5
KEBM Edson Butte 57.54 317 P **P** 15 34 13.1 +2.1
YKA Yellowknife Ar 63.29 340 P **P** 15 34 49.5 0.0
comp=Z,4.6nm,0.5s,baz=132,slow=7.4,SNR=16
DLBC Dease Lake 67.35 331 P **P** 15 35 16.7 +0.8
comp=Z,2.2nm,0.5s,baz=196,slow=11,SNR=3.0
DLBC Dease Lake 67.35 331 IAmb IAmb 15 35 17.6
comp=Z,14nm,1.4s
SUMG Summit 68.98 11 P **P** 15 35 26.4 +0.2
SUMG IAmb IAmb 15 35 31.8
comp=Z,4.4nm,0.6s
SUMG Summit 68.98 11 *i* P **P** 15 35 26.6 +0.4
comp=Z,15nm,0.7s
SUMG Summit 68.98 11 *i* P **P** 15 35 26.6 +0.4
SUMG IAmb IAmb 15 35 27.1
comp=Z,15nm,0.7s
HYT Haines Junctio 71.78 332 P **P** 15 35 44.5 +1.4
INK Inuvik 73.05 340 P **P** 15 35 50.8 +0.5
comp=Z,3.8nm,0.8s,baz=80,slow=5.8,SNR=4.6
INK Inuvik 73.05 340 P **P** 15 35 50.9 +0.6
INK IAmb IAmb 15 35 51.4
comp=Z,4.3nm,0.8s
CTGM Chitina Glacie 73.60 332 P **P** 15 35 55.5 +1.6
CTGM IAmb IAmb 15 36 23.2
comp=Z,9.2nm,1.2s
TORD Torodi Ar. Bea 73.69 78 P **P** 15 35 53.4 -1.7
comp=Z,0.3nm,0.4s,baz=287,slow=6.4,SNR=5.6
BARN Barnard Glacie 73.78 332 P **P** 15 35 56.5 +1.5
BARN IAmb IAmb 15 36 22.2
comp=Z,13nm,1.5s
ISLE Juniper Island 73.98 331 P **P** 15 35 56.3 +0.3
ISLE IAmb IAmb 15 36 12.5
comp=Z,14nm,1.3s
BALM Baldy 74.09 332 P **P** 15 35 58.0 +1.3
BALM IAmb IAmb 15 36 05.0
comp=Z,9.4nm,1.3s
BCAR Beaver Creek A 74.39 334 P **P** 15 35 59.5 +1.3
MCARA McCarthy VSAT 74.50 332 P **P** 15 36 00.6 +1.7
MCARA IAmb IAmb 15 36 20.1
comp=Z,13nm,1.4s
EGAK Eagle 74.61 336 P **P** 15 36 00.4 +0.9
VRDI Verde Repeater 74.66 332 P **P** 15 36 01.5 +1.4
VRDI IAmb IAmb 15 36 27.5
comp=Z,9.4nm,1.4s
GLB Gilahina Butte 74.88 332 P **P** 15 36 02.2 +1.1
MENT Mentasta 75.21 333 P **P** 15 36 03.8 +0.9
MENT IAmb IAmb 15 36 14.4
comp=Z,7.7nm,1.3s
DOT Dot Lake 75.53 334 P **P** 15 36 05.9 +1.1
DOT IAmb IAmb 15 36 06.7
comp=Z,4.5nm,0.6s
RIDG Independent Ri 75.89 334 P **P** 15 36 07.7 +0.8
M24K Tolsona, Glenn 76.13 332 P **P** 15 36 09.6 +1.4
M24K IAmb IAmb 15 36 25.2
comp=Z,8.5nm,1.2s
SCM Sheep Creek Mo 76.61 332 P **P** 15 36 12.1 +1.1
SCM IAmb IAmb 15 36 12.9
comp=Z,14nm,1.2s
BMAR Burnt Mountain 76.68 338 P **P** 15 36 11.9 +0.7
HDA Harding Lake 76.94 335 P **P** 15 36 13.2 +0.5
IL31 76.99 335 P **P** 15 36 13.0 +0.1
ILAR Eielson Array 76.99 335 P **P** 15 36 12.8 -0.2
comp=Z,0.8nm,0.7s,baz=115,slow=4.2,SNR=8.8
ILAR Eielson Array 76.99 335 P **P** 15 36 13.0 +0.1
KNK Knik Glacier 77.06 331 P **P** 15 36 14.7 +1.2
KNK IAmb IAmb 15 36 23.2
comp=Z,14nm,1.5s
GHO Glory Hole Cre 77.34 332 P **P** 15 36 15.6 +0.5
GHO IAmb IAmb 15 36 17.0
comp=Z,7.7nm,0.9s
BRLK Bradley Lake 78.01 330 P **P** 15 36 19.2 +0.4
CNPM China Poot 78.16 329 P **P** 15 36 19.9 +0.3
SUA Susitna One 78.16 331 P **P** 15 36 20.2 +0.6
SUA IAmb IAmb 15 36 20.9
comp=Z,5.5nm,0.8s
TRF Thorofare Moun 78.23 333 P **P** 15 36 20.7 +0.7
TRF IAmb IAmb 15 36 37.4
comp=Z,9.3nm,1.4s
KTH Kantishna Hill 78.52 333 P **P** 15 36 21.9 +0.3
KTH IAmb IAmb 15 36 23.0
comp=Z,6.4nm,1.2s
BPAW Bear Paw Mtn. 78.63 334 P **P** 15 36 22.4 +0.3
COLD Coldfoot 78.77 337 P **P** 15 36 24.0 +1.2
OHAK Old Harbor 79.01 327 P **P** 15 36 24.3 +0.1
OHAK IAmb IAmb 15 36 32.7
comp=Z,15nm,1.3s
PPLA Purkeypile 79.01 333 P **P** 15 36 24.5 +0.2
PPLA IAmb IAmb 15 36 25.3
comp=Z,5.8nm,0.5s
SVW2 Sparrevohn 80.45 331 P **P** 15 36 31.5 -0.4
NOA NORSAR Array B 81.31 29 P **P** 15 36 37.3 +0.8
comp=Z,0.2nm,0.5s,baz=266,slow=5.4,SNR=2.2
UNV Unalaska Valle 86.58 324 P **P** 15 37 03.7 +0.4
ARCES ARCESS Array B 86.66 20 P **P** 15 37 03.7 +0.2
comp=Z,4.8nm,1.1s,baz=282,slow=4.5,SNR=4.0
ZALV Zalesovo Beam 116.66 14 PKP **PKPdf** 15 43 01.9 -1.4
comp=Z,0.5nm,0.3s,baz=331,slow=1.8,SNR=3.8
MKAR Makanchi Array 122.31 20 PKP **PKPdf** 15 43 13.8 -0.6
comp=Z,0.3nm,0.3s,baz=290,slow=2.5,SNR=10
ASAR Alice Springs 149.15 234 PKP **PKPdf** 15 44 03.9 -0.3
comp=Z,1.3nm,0.6s,baz=115,slow=3.6,SNR=8.6
ASAR PKPbc **PKPbc** 15 44 07.7 -1.0
comp=Z,1.3nm,0.6s,baz=116,slow=3.6,SNR=26
WRA Warramunga Arr 150.38 241 PKP **PKPdf** 15 44 06.0 -0.3
comp=Z,1.1nm,0.4s,baz=108,slow=2.6,SNR=1.7
WRA PKPbc **PKPbc** 15 44 10.8 -0.8
comp=Z,1.2nm,0.4s,baz=107,slow=2.8,SNR=53
WRA pPKPbc **pPKPdf** 15 44 52.5 +4.3
comp=Z,0.3nm,0.4s,baz=105,slow=3.2,SNR=2.1
WRA Warramunga Arr 150.38 241 **PKPbc** 15 44 10.4 -1.2
CMAR Chiang Mai Arr 153.68 17 PKPbc **PKiKP** 15 44 19.2 0.0
comp=Z,0.7nm,0.6s,baz=321,slow=3.6,SNR=6.8

*ISN **15** 15:25:01.1±1.3,32°.55N×47°.91E,h15km±6km, ML2.9*
*TEH **15** 15:25:02.0,32°.54N×47°.90E,h12km, ML3.2*
*THR **15** 15:25:05.3±0.4,32°.66N×47°.83E,h14km±3km, ML3.2*
ISC 15 15:25:01.4±1.3,**32°.52N**±0°.03×**47°.87E**±0°.03,**h2km**±12km,
n34,σ1°45/42,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.52**	**288**	*e*Pg		**Pg**	**15 25 12.0**	**+0.6**
DHL1				*e*Sg		**Sb**	**15 25 20.9**	**-0.5**
IKMR	**Kamar-syah**	**1.09**	**23**	*e*Pg		**Pb**	**15 25 22.1**	**-0.9**
IKMR				*e*			15 25 25.6	
IDOB	**Doab**	**1.29**	**12**	*e*Pg		**Pg**	**15 25 26.7**	**+0.5**
AHWZ	**Ahwaz**	**1.35**	**151**	*e*Pg		**Pg**	**15 25 28.6**	**+1.2**
AHWZ				*e*Sg		**Sg**	**15 25 46.4**	**+1.4**
BMDN	**Meydan**	**1.40**	**35**	*e*Pg		**Pg**	**15 25 29.1**	**+0.7**
BMDN				*e*			15 25 55.2	
IKOM	**Komasi**	**1.68**	**350**	*e*Pg		**Pb**	**15 25 33.2**	**0.0**
IKOM				*e*			15 26 03.8	
IBDR	**Badra**	**1.73**	**290**	*e*Pg		**Pn**	**15 25 33.0**	**+0.4**
IBDR				*e*Sg		**Sb**	**15 25 56.0**	**-0.3**
IBDR				AML		AML	15 26 04.6	
	comp=N,150nm,0.5s							
IBDR				AML		AML	15 26 05.0	
	comp=E,144nm,0.6s							
HSAM	**Samen**	**1.80**	**20**	*e*Pg		**Pg**	**15 25 35.4**	**-0.5**
HSAM				*e*			15 25 37.1	
KCHF	**Cheshme Sefid,**	**1.89**	**339**	*e*Pg		**Pb**	**15 25 36.4**	**-0.3**
KCHF				*e*			15 25 40.0	
IBZA	**Bozab**	**1.95**	**360**	*e*Pn		**Pb**	**15 25 37.7**	**-0.1**
IBZA				*e*			15 25 41.6	
KER	**Kermanshah**	**1.96**	**342**	*e*Pn		**Pb**	**15 25 37.1**	**-0.9**
NSR	**Nassriya**	**2.10**	**225**	*e*Pn		**Pn**	**15 25 37.0**	**-0.7**
NSR				*e*Sn		**Sn**	**15 26 04.0**	**-0.4**
IGHG	**Ghaleghazi**	**2.11**	**329**	*e*Pn		**Pb**	**15 25 39.5**	**-1.1**
IGHG				*e*			15 26 23.2	
KHMZ	**Khomeyn**	**2.14**	**55**	*e*Pn		**Pg**	**15 25 42.0**	**-0.4**
KHMZ				*e*Sg		**Sg**	**15 26 11.3**	**+1.2**
IVIS	**Veis**	**2.18**	**337**	*e*Pn		**Pb**	**15 25 39.7**	**-1.9**
IVIS				*e*			15 26 18.5	
JHBN	**Jahan bin**	**2.38**	**96**	*e*Pn		**Pn**	**15 25 42.6**	**+0.7**
JHBN				*e*			15 26 37.1	
IDHR	**Dehrash**	**2.50**	**331**	*e*Pn		**Pn**	**15 25 44.4**	**+1.0**
IDHR				*e*			15 25 49.2	
ILIN	**Lien**	**2.51**	**343**	*e*Pn		**Pb**	**15 25 44.8**	**-2.6**
ILIN				*e*			15 26 35.1	
HAGD	**Aghdareh**	**2.53**	**24**	*e*Pn		**Pb**	**15 25 45.2**	**-2.6**
HAGD				*e*			15 25 51.1	
IPIR	**Pirpir**	**2.56**	**85**	*e*Pn		**Pn**	**15 25 44.5**	**+0.3**
IPIR				*e*			15 26 28.1	
SNGE	**Sanandaj**	**2.60**	**351**	*e*Pn		**Pb**	**15 25 47.3**	**-1.7**
ASAO	**Ashtian**	**2.71**	**41**	*e*Pn		**Pb**	**15 25 49.4**	**-1.5**
ASAO				*e*Sg		**Sg**	**15 26 27.5**	**-1.0**
HSRG	**Sareghieh**	**2.74**	**7**	*e*Pn		**Pb**	**15 25 48.8**	**-2.5**
HSRG				*e*			15 25 56.3	
BHD	**Baghdad**	**3.03**	**285**	*e*Pn		**Pn**	**15 25 51.0**	**+0.6**
BHD				*e*Sn		**Sn**	**15 26 28.0**	**+0.7**
IKLH	**Kolahrood**	**3.22**	**75**	*e*Pn		**Pn**	**15 25 54.2**	**+0.9**
IKLH				*e*			15 27 01.7	
GHVR	**GHOM**	**3.47**	**55**	*e*Pn		**Pb**	**15 25 59.7**	**-3.9**
GHVR				*e*S		**Sn**	**15 26 39.5**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.49**	**24**	*e*Pn		**Pn**	**15 25 57.9**	**+1.0**
KLNJ	**Kolanjah**	**3.51**	**114**	*e*Pn		**Pn**	**15 25 57.7**	**+0.3**
KLNJ				*e*			15 27 22.5	
IZEF	**Zefreh**	**3.78**	**83**	*e*Pn		**Pn**	**15 26 02.8**	**+1.8**
KRSH	**Karshahi**	**3.86**	**67**	*e*Pn		**Pn**	**15 26 04.0**	**+2.0**
IVRN	**Varamin**	**4.06**	**51**	*e*Pn		**Pn**	**15 26 05.6**	**+1.0**
QSDN	**Sirdan**	**4.12**	**15**	*e*Pn		**Pn**	**15 26 07.6**	**+1.9**
QALM	**Alamut, Qazvin**	**4.53**	**30**	*e*Pn		**Pn**	**15 26 13.7**	**+2.4**
IDMV	**Damavand**	**4.61**	**47**	*e*Pn		**Pn**	**15 26 12.7**	**+0.2**

*IDC **15** 15:25:09.9±1.1,23°.86N×142°.60E,h0km,mb3.7/4,*
mb1 3.8/6,mb1mx3.5/61,mbtmp3.7/6,ML3.1/2,Error ellipse: s-maj=71.4km s-min=19.0km az=93.0
*NEIC **15** 15:25:15.1±0.6,23°.9N±0°.1×142°.4E±0°.2,h35km±2km,*
mb4.2/6,Error ellipse: s-maj=36.6km s-min=18.0km az=84.0
ISC 15 15:25:15.1±1.0,**23°.86N**±0°.08×**142°.4E**±0°.2,**h35km,n14,**
σ0s55/16,mb3.9/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**3.23**	**357**	Pn		**Pn**	**15 26 03.1**	**-0.1**
	3.9nm,0.3s,baz=121,slow=19,SNR=1.6							
JCJ				Sn		**Sn**	**15 26 41.1**	**+0.6**
	28nm,0.3s,baz=124,slow=22,SNR=10							
JCJ	**Chichijima**	**3.23**	**357**	Pn		**Pn**	**15 26 03.5**	**+0.2**
MJAR	**Matsushiro Arr**	**13.14**	**345**	Pn		**Pn**	**15 28 19.0**	**-0.2**
	0.0nm,0.3s,baz=174,slow=15,SNR=0.9							
JMM	**Marumori**	**14.03**	**355**	Pn		**Pn**	**15 28 31.5**	**+0.2**
KS19	**Wonju Array Si**	**18.42**	**321**	P		**P**	**15 29 26.4**	**-0.9**
KS19				IAmb		IAmb	15 29 41.3	
	comp=Z,30nm,1.4s							
YHNB	**Yeheng**	**19.16**	**277**	P		**P**	**15 29 35.5**	**-0.1**
WB0	**Warramunga Arr**	**44.05**	**191**	P		**P**	**15 33 19.6**	**-0.1**
WB0				IAmb		IAmb	15 33 25.8	
	comp=Z,4.8nm,1.1s							
WR0	**Warramunga Arr**	**44.22**	**191**	P		**P**	**15 33 21.0**	**0.0**
WB2	**Warramunga Arr**	**44.23**	**191**	P		**P**	**15 33 21.3**	**+0.1**
WB2				IAmb		IAmb	15 33 40.8	
	comp=Z,3.7nm,1.1s							
WRA	**Warramunga Arr**	**44.23**	**191**	P		**P**	**15 33 21.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=7.6,slow=8.0,SNR=18							
WRA				PcP		**PcP**	**15 35 05.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=5.6,slow=3.4,SNR=3.3							
WRA	**Warramunga Arr**	**44.23**	**191**	P		**P**	**15 33 21.2**	**+0.1**
ASAR	**Alice Springs**	**47.95**	**190**	P		**P**	**15 33 50.6**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=18,slow=6.3,SNR=2.0							
ILAR	**Eielson Array**	**60.47**	**28**	P		**P**	**15 35 20.1**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=250,slow=5.6,SNR=5.6							
FINES	**FINESS Array B**	**80.92**	**334**	P		**P**	**15 37 26.5**	**+1.1**
	comp=Z,3.8nm,1.0s,baz=46,slow=5.5,SNR=4.3							

*IDC **15** 15:27:21.6±1.2,12°.07N×143°.63E,h0km,mb3.9/9,*
mb1 4.1/9,mb1mx3.7/52,mbtmp3.9/9,Error ellipse: s-maj=35.2km s-min=26.7km az=124.0
*NEIC **15** 15:27:25.8±1.7,12°.1N±0°.1×143°.7E±0°.1,h28km±7km,*
mb4.3/12,Error ellipse: s-maj=22.3km s-min=13.7km az=122.0
ISC 15 15:27:25.3±0.8,**12°.1N**±0°.1×**143°.7E**±0°.1,**h25km,n29,**
σ1s04/25,mb4.1/13,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**1.87**	**37**	Pn		**Pn**	**15 27 56.5**	**+0.7**
	33nm,0.3s,baz=167,slow=5.2,SNR=11							
GUMO				Sn		**Sn**	**15 28 19.3**	**+0.7**
	52nm,0.3s,baz=11,slow=24,SNR=4.5							
GUMO	**Guam**	**1.87**	**37**	Pn		**Pn**	**15 27 56.0**	**+0.2**
ANA2	**Anatahan**	**4.65**	**24**	Pn		**Pn**	**15 28 31.2**	**-2.9**
PATS	**Pohnpei**	**15.31**	**109**	Pn		**Pn**	**15 30 58.7**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**23.52**	**68**	T		T	15 57 04.7	
	baz=251							
H11N2	**WAKE ISLAND Hy**	**23.53**	**68**	T		T	15 57 09.9	
	baz=251							
H11N3	**WAKE ISLAND Hy**	**23.54**	**68**	T		T	15 57 04.1	
	baz=251							
ASAR	**Alice Springs**	**36.80**	**195**	P		**P**	**15 34 31.2**	**-0.2**
	0.1nm,0.5s,baz=12,slow=9.5,SNR=1.9							
SONM	**Songino Array**	**47.33**	**326**	P		**P**	**15 35 58.2**	**+1.0**
	0.5nm,0.6s,baz=144,slow=5.2,SNR=2.6							
SONM	**Songino Array**	**47.33**	**326**	IAmb		IAmb	15 35 59.5	
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**61.80**	**317**	P		**P**	**15 37 41.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=87,slow=9.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**62.20**	**325**	P		**P**	**15 37 44.8**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=98,slow=11,SNR=3.9							
CNPM	**China Poot**	**67.09**	**30**	P		**P**	**15 38 16.9**	**+0.4**
BRLK	**Bradley Lake**	**67.33**	**30**	P		**P**	**15 38 18.3**	**+0.2**
TRF	**Thorofare Moun**	**68.61**	**26**	P		**P**	**15 38 26.9**	**+0.7**
TRF				IAmb		IAmb	15 38 42.9	
	comp=Z,6.6nm,1.4s							
GHO	**Glory Hole Cre**	**68.78**	**28**	P		**P**	**15 38 27.4**	**+0.2**
GHO				IAmb		IAmb	15 38 36.2	
	comp=Z,4.1nm,1.2s							
RND	**Reindeer**	**69.22**	**26**	P		**P**	**15 38 28.0**	**-1.9**
FID	**Port Fidalgo**	**69.69**	**29**	P		**P**	**15 38 33.7**	**+0.9**
COLD	**Coldfoot**	**69.76**	**22**	P		**P**	**15 38 32.0**	**-1.0**
COLD				IAmb		IAmb	15 38 40.0	
	comp=Z,3.0nm,1.0s							
IL31		**70.40**	**25**	P		**P**	**15 38 36.7**	**-0.3**
ILAR	**Eielson Array**	**70.40**	**25**	P		**P**	**15 38 36.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=247,slow=4.8,SNR=7.3							
ILAR	**Eielson Array**	**70.40**	**25**	P		**P**	**15 38 36.1**	**-0.9**
DOT	**Dot Lake**	**71.37**	**27**	P		**P**	**15 38 43.0**	**0.0**
DOT				IAmb		IAmb	15 38 53.0	
	comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**76.18**	**22**	P		**P**	**15 39 11.5**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=270,slow=9.1,SNR=2.7							
INK	**Inuvik**	**76.18**	**22**	IAmb		IAmb	15 39 12.5	
	comp=Z,2.7nm,0.8s							
ABKAR	**Akbulak array**	**76.90**	**318**	P		**P**	**15 39 15.7**	**+0.2**
ARCES	**ARCESS Array B**	**88.16**	**342**	P		**P**	**15 40 14.0**	**+0.2**
	comp=Z,5.4nm,1.0s,baz=71,slow=7.8,SNR=5.2							
NVAR	**Mina Array Bea**	**88.73**	**51**	P		**P**	**15 40 19.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=268,slow=5.4,SNR=6.0							
FINES	**FINESS Array B**	**92.04**	**335**	P		**P**	**15 40 31.3**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=67,slow=4.2,SNR=9.1							

*TEH **15** 15:30:49.3,32°.52N×47°.89E,h10km, ML2.8*
*ISN **15** 15:30:49.8±1.1,32°.55N×47°.88E,h14km±7km, ML1.7*
ISC 15 15:30:50.4±1.1,**32°.53N**±0°.07×**47°.88E**±0°.05,**h10km,n11,**
σ0s69/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.53**	**286**	*e*Sg		**Sg**	**15 31 08.3**	**+0.7**
IKMR	**Kamar-syah**	**1.07**	**23**	*e*Pg		**Pb**	**15 31 10.6**	**-0.4**
IKMR				*e*			15 31 30.0	
IDOB	**Doab**	**1.28**	**11**	*e*Pg		**Pg**	**15 31 14.4**	**-0.6**
IDOB				*e*			15 31 43.5	
BMDN	**Meydan**	**1.39**	**35**	*e*Pg		**Pb**	**15 31 15.9**	**-0.6**
BMDN				*e*			15 31 42.7	
IKOM	**Komasi**	**1.67**	**349**	*e*Pg		**Pb**	**15 31 20.8**	**-0.5**
IKOM				*e*			15 31 49.5	
IBDR	**Badra**	**1.74**	**290**	*e*Pg		**Pn**	**15 31 21.0**	**+0.3**
IBDR				*e*Sg		**Sb**	**15 31 44.0**	**-0.4**
IBDR				AML		AML	15 31 49.1	
	comp=N,4.0nm,0.7s							
IBDR				AML		AML	15 31 53.8	
	comp=E,6.4nm,0.8s							
HSAM	**Samen**	**1.78**	**20**	*e*Pn		**Pb**	**15 31 22.7**	**-0.6**
HSAM				*e*			15 31 26.3	
NSR	**Nassriya**	**2.12**	**225**	*e*Pn		**Pn**	**15 31 26.0**	**+0.1**
NSR				*e*Sn		**Sn**	**15 31 52.0**	**-0.3**
NSR				AML		AML	15 32 11.3	
	comp=E,7.1nm,0.8s							
IPIR	**Pirpir**	**2.55**	**86**	*e*Pn		**Pn**	**15 31 32.6**	**+0.5**
IPIR				*e*			15 32 18.5	
BHD	**Baghdad**	**3.04**	**285**	*e*Pn		**Pn**	**15 31 39.0**	**+0.5**
BHD				*e*Sn		**Sn**	**15 32 16.0**	**+1.1**
BHD				AML		AML	15 32 21.1	
	comp=E,20nm,0.8s							
IKLH	**Kolahrood**	**3.21**	**75**	*e*Pn		**Pn**	**15 31 42.2**	**+1.1**
IKLH				*e*			15 32 37.5	

*IDC **15** 15:48:57.4±2.2,3°.78S×102°.82W,h0km,mb3.7/3,*
mb1 4.0/3,mb1mx3.5/36,mbtmp3.7/3,MS3.7/3,Ms1 3.7/3,
ms1mx3.2/36,Error ellipse: s-maj=98.5km s-min=34.0km az=46.0
*NEIC **15** 15:48:58.3±1.1,3°.8S±0°.2×102°.8W±0°.3,h10km±2km,*
mb4.6/3,Error ellipse: s-maj=52.7km s-min=20.5km az=244.0
ISC 15 15:48:58.5±1.7,**3°.8S**±0°.4×**102°.8W**±0°.4,**h10km,n22,**
σ0s61/9,mb4.2/5,MS3.4/4,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATAH	**Atahualpa**	**24.47**	**99**	LR		LR	16 01 25.2	
	comp=Z,138nm,20.7s,baz=339,slow=30							
NNA	**Nana**	**26.90**	**109**	LR		LR	16 02 26.2	
	comp=Z,101nm,18.7s,baz=312,slow=30							
H03N2	**Juan Fernandez**	**36.91**	**146**	T		T	16 36 04.8	
	baz=322,slow=78,SNR=18							
H03N1	**Juan Fernandez**	**36.92**	**146**	T		T	16 36 05.3	
	baz=322,slow=78,SNR=34							
H03N3	**Juan Fernandez**	**36.93**	**146**	T		T	16 36 04.8	
	baz=322,slow=78,SNR=20							
AC04	**Llanos de Chal**	**38.69**	**132**	P		**P**	**15 56 22.5**	**-0.3**
AC04				IAmb		IAmb	15 56 24.9	
	comp=Z,7.5nm,0.8s							
ANMO	**Albuquerque**	**38.72**	**355**	LR		LR	16 11 10.9	
	comp=Z,4.6nm,19.1s,baz=244,slow=34							
SIV	**San Ignacio**	**42.71**	**109**	P		**P**	**15 56 57.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=309,slow=8.3,SNR=4.3							
ELK	**Elko**	**45.80**	**347**	LR		LR	16 13 48.1	
	comp=Z,145nm,18.3s,baz=190,slow=33							
PD31	**Pinedale Array**	**46.78**	**353**	P		**P**	**15 57 28.2**	**-0.3**
PD31				IAmb		IAmb	15 57 37.2	
	comp=Z,7.5nm,1.4s							
PDAR	**Pinedale Array**	**46.78**	**353**	P		**P**	**15 57 29.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=165,slow=8.4,SNR=6.0							
PDAR	**Pinedale Array**	**46.78**	**353**	P		**P**	**15 57 28.6**	**+0.1**
BDFB	**Brasilia**	**55.06**	**106**	P		**P**	**15 58 30.5**	**-0.7**
BDFB				IAmb		IAmb	15 58 40.8	
	comp=Z,10nm,0.8s							
ILAR	**Eielson Array**	**75.69**	**342**	P		**P**	**16 00 43.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=151,slow=5.7,SNR=6.5							
H11N3	**WAKE ISLAND Hy**	**91.58**	**290**	T		T	17 42 52.5	
	baz=89,slow=74,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**91.60**	**290**	T		T	17 42 51.3	
	baz=89,slow=74,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**91.60**	**290**	T		T	17 42 51.2	
	baz=89							
H11S2	**WAKE ISLAND Hy**	**91.70**	**288**	T		T	17 43 00.8	
	baz=94,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**91.71**	**288**	T		T	17 43 00.4	
	baz=94,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hy**	**91.72**	**288**	T		T	17 43 00.1	
	baz=94,slow=75,SNR=10							
MKAR	**Makanchi Array**	**136.97**	**355**	PKP		**PKiKP**	**16 08 24.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=3.4,SNR=2.5							
CMAR	**Chiang Mai Arr**	**154.27**	**306**	PKPbc		**PKiKP**	**16 09 00.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=2.9,slow=1.8,SNR=2.5							

*AEIC **15** 16:03:29.2±2.6,56°.08N±0°.05×157°.71W±0°.06,h49km±5km,*
ML3.5/92,mb4.0/2(NEIC),Error ellipse: s-maj=7.3km s-min=4.6km az=174.0
*IDC **15** 16:03:29.8±0.9,56°.34N×157°.87W,h61km±7km,mb3.4/7,*
mb1 3.8/9,mb1mx3.4/48,mbtmp3.8/9,Error ellipse: s-maj=32.9km s-min=15.2km az=22.0
ISC 15 16:03:28.9±0.6,**56°.09N**±0°.05×**157°.75W**±0°.04,**h54km**±6km,
n125,σ1s29/134,mb3.7/7,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHGN	**Chignik**	**0.43**	**300**	Pn		**Pn**	**16 03 39.7**	**+0.1**
CHGN				Sn		**Sn**	**16 03 47.8**	**+0.4**
VNHG	**Veniaminof 1**	**0.81**	**280**			**Pn**	**16 03 45.1**	**+0.8**
VNWF	**Veniaminof 8**	**1.02**	**274**			**Pn**	**16 03 47.0**	**-0.1**
VNWF						**Sn**	**16 04 01.4**	**+0.9**
VNFG	**Fog Glacier, M**	**1.03**	**282**			**Pn**	**16 03 48.3**	**+1.1**
CHIR	**Chirikof Islan**	**1.22**	**102**			**Pn**	**16 03 49.2**	**-0.5**
CHIR	**Chirikof Islan**	**1.22**	**102**			**Sn**	**16 04 06.3**	**+1.1**
CNBA	**Chernabura Isl**	**1.65**	**220**			**Pn**	**16 03 55.5**	**0.0**
CNBA	**Chernabura Isl**	**1.65**	**220**			**Sn**	**16 04 17.0**	**+1.5**
PLBL	**Peulik Blue Cr**	**1.69**	**17**			**Pn**	**16 03 56.5**	**+0.3**
PLBL						**Sn**	**16 04 17.7**	**+1.0**
SDPT	**Sand Point**	**1.71**	**246**			**Pn**	**16 03 57.0**	**+0.7**
SDPT	**Sand Point**	**1.71**	**246**			**Sn**	**16 04 17.7**	**+0.7**
PLK3	**Peulik 3**	**1.80**	**26**			**Pn**	**16 03 58.1**	**+0.6**
PLK3						**Sn**	**16 04 20.3**	**+1.1**
PLK1	**Peulik 1**	**1.83**

GOAT	**Goat Mountain**	**8.19**	**51**			**Pn**	**16 05 23.5**	**-1.6**
KTH	**Kantishna Hill**	**8.23**	**22**			**Pn**	**16 05 25.2**	**-0.4**
TRF	**Thorofare Moun**	**8.28**	**24**			**Pn**	**16 05 25.6**	**-0.8**
HMT	**Hamilton**	**8.29**	**54**	Pn		**Pn**	**16 05 25.6**	**-0.8**
WAT2	**Susitna Watana**	**8.31**	**30**			**Pn**	**16 05 24.7**	**-2.1**
BMRM	**Bremner River**	**8.43**	**49**			**Pn**	**16 05 26.5**	**-1.8**
M24K	**Tolsona, Glenn**	**8.47**	**40**	Pn		**Pn**	**16 05 27.9**	**-0.9**
BPAW	**Bear Paw Mtn.**	**8.71**	**20**	Pn		**Pn**	**16 05 31.2**	**-0.9**
DHY	**Denali Highway**	**8.75**	**33**	Pn		**Pn**	**16 05 30.9**	**-1.9**
N25K	**Chitina, Valde**	**8.77**	**46**			**Pn**	**16 05 31.7**	**-1.3**
MCK	**McKinley**	**8.84**	**26**			**Pn**	**16 05 32.7**	**-1.2**
CRQM	**Cirque**	**8.97**	**53**	Pn		**Pn**	**16 05 33.9**	**-1.9**
GLB	**Gilahina Butte**	**9.00**	**48**	Pn		**Pn**	**16 05 33.8**	**-2.4**
VRDI	**Verde Repeater**	**9.05**	**49**	Pn		**Pn**	**16 05 35.8**	**-1.1**
TGL	**Tana Glacier**	**9.11**	**53**	Pn		**Pn**	**16 05 36.9**	**-0.7**
ISLE	**Juniper Island**	**9.27**	**54**	Pn		**Pn**	**16 05 39.0**	**-0.8**
PAX	**Paxson**	**9.29**	**37**	Pn		**Pn**	**16 05 39.0**	**-1.1**
ANM	**Nome**	**9.30**	**339**	Pn		**Pn**	**16 05 40.6**	**+0.5**
MESA	**MESA**	**9.30**	**57**	Pn		**Pn**	**16 05 40.4**	**+0.1**
KIAG	**Kiagna River**	**9.39**	**53**			**Pn**	**16 05 40.0**	**-1.6**
BALM	**Baldy**	**9.44**	**52**	Pn		**Pn**	**16 05 40.7**	**-1.5**
PTPK	**Patty Peak**	**9.45**	**51**			**Pn**	**16 05 41.0**	**-1.5**
YAH	**Yahtse**	**9.46**	**56**	Pn		**Pn**	**16 05 41.7**	**-0.8**
WRH	**Wood River Hil**	**9.67**	**26**	Pn		**Pn**	**16 05 42.7**	**-2.4**
BARN	**Barnard Glacie**	**9.76**	**53**	Pn		**Pn**	**16 05 45.5**	**-1.1**
TABL	**Table Mountain**	**9.77**	**57**	Pn		**Pn**	**16 05 46.5**	**-0.2**
CTGM	**Chitina Glacie**	**9.87**	**54**	Pn		**Pn**	**16 05 47.0**	**-1.0**
CCB	**Clear Creek Bu**	**9.88**	**26**	Pn		**Pn**	**16 05 45.3**	**-2.8**
HDA	**Harding Lake**	**9.91**	**28**	Pn		**Pn**	**16 05 45.6**	**-2.8**
RIDG	**Independent Ri**	**10.02**	**35**	Pn		**Pn**	**16 05 48.8**	**-1.3**
MDM	**Murphy Dome**	**10.04**	**24**	Pn		**Pn**	**16 05 47.9**	**-2.4**
PS08	**TAPS Pump Stn8**	**10.05**	**28**			**Pn**	**16 05 47.7**	**-2.7**
PCA	**Pinnacle**	**10.08**	**59**	Pn		**Pn**	**16 05 51.5**	**+0.5**
IMAR	**Indian Mountai**	**10.11**	**9**	Pn		**Pn**	**16 05 51.1**	**-0.2**
IL31		**10.21**	**27**	Pn		**Pn**	**16 05 49.7**	**-2.8**
ILAR	**Eielson Array**	**10.21**	**27**	P		**Pn**	**16 05 49.8**	**-2.9**
	0.8nm,0.3s,baz=213,slow=13,SNR=38							
ILAR				S		Sn	16 07 34.6	-11
	0.1nm,0.3s,baz=223,slow=7.8,SNR=1.8							
DOT	**Dot Lake**	**10.21**	**37**	Pn		**Pn**	**16 05 53.4**	**+0.7**
BCPM	**Bancas Point**	**10.35**	**61**	Pn		**Pn**	**16 05 54.7**	**+0.2**
BCAR	**Beaver Creek A**	**10.67**	**43**	Pn		**Pn**	**16 05 57.4**	**-1.6**
TNA	**Tin City**	**10.70**	**337**	Pn		**Pn**	**16 06 00.2**	**+0.9**
ADK	**Adak**	**11.90**	**257**	Pn		**Pn**	**16 06 15.1**	**-0.6**
EGAK	**Eagle**	**11.92**	**36**	Pn		**Pn**	**16 06 14.6**	**-1.2**
INK	**Inuvik**	**16.50**	**2**	P		**Pn**	**16 07 14.9**	**-1.4**
	1.5nm,0.3s,baz=214,slow=9.8,SNR=6.5							
NVAR	**Mina Array Bea**	**31.51**	**107**	P		**P**	**16 09 47.4**	**+1.7**
	0.8nm,0.6s,baz=315,slow=8.9,SNR=5.1							
NVAR				pP		**sP**	**16 10 03.7**	**-2.1**
	0.7nm,0.7s,baz=301,slow=8.6,SNR=3.0							
ELK	**Elko**	**31.53**	**101**	P		**P**	**16 09 46.2**	**+0.3**
	1.1nm,0.8s,baz=294,slow=8.4,SNR=4.7							
ELK	**Elko**	**31.53**	**101**	IAmb		IAmb	16 10 08.4	
	comp=Z,4.1nm,1.4s							
PDAR	**Pinedale Array**	**33.34**	**93**	P		**P**	**16 10 01.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=290,slow=4.2,SNR=6.2							
TXAR	**Lajitas Array**	**46.31**	**102**	P		**P**	**16 11 50.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=311,slow=5.1,SNR=11							
TXAR				pP		**pP**	**16 12 07.2**	**+3.7**
	comp=Z,0.5nm,0.7s,baz=306,slow=5.3,SNR=4.0							
TXAR	**Lajitas Array**	**46.31**	**102**	P		**P**	**16 11 49.4**	**+0.1**
SONM	**Songino Array**	**55.01**	**305**	P		**P**	**16 12 53.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=46,slow=8.3,SNR=2.8							
SONM	**Songino Array**	**55.01**	**305**	IAmb		IAmb	16 12 56.1	
	comp=Z,0.8nm,0.9s							
MKAR	**Makanchi Array**	**65.83**	**319**	P		**P**	**16 14 07.2**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=30,slow=5.9,SNR=4.2							
MKAR				pP		**pP**	**16 14 22.9**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=46,slow=6.2,SNR=2.5							
CMAR	**Chiang Mai Arr**	**82.06**	**291**	P		**P**	**16 15 44.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=20,slow=5.8,SNR=1.7							
CMAR				pP		**pP**	**16 15 58.1**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=4.2,slow=5.8,SNR=5.2							
QSPA	**South Pole Qui**	**145.87**	**180**	PKPbc		**PKPdf**	**16 22 59.8**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=27,slow=0.6,SNR=12							

DJA 15 16:04:09.3±0.5,**8°S**±12°×**11°9E**±°,**h170**km±6km,**M3.8**/10,
mB4.4/1,**mb3.9**/4,**MLv3.7**/10,**Mw(mB)3.5**/1,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.13**	**223**	P	Pn	16 04 37.1	0.0
PLAI				S	Sn	16 04 59.7	+1.2
TWSI	**Taliwang, Sumb**	**1.81**	**246**	P	Pn	16 04 44.0	+0.4
TWSI				S	Sn	16 05 10.0	-0.1
BASI	**Baing, Sumba**	**2.99**	**138**	P	Pn	16 04 56.6	-0.7
EDFI	**Ende, Flores**	**3.20**	**104**	P	Pn	16 05 00.1	0.0
EDFI				S	Sn	16 05 39.4	-0.1
JAGI	**Jajag, Banyuwa**	**4.38**	**263**	P	Pn	16 05 14.6	-0.4
GMJI	**Gumukmas**	**5.06**	**266**	P	Pn	16 05 23.6	-0.3
	0.1nm27nm,1.8s						
BATI	**Baumata**	**5.51**	**114**	P	Pn	16 05 30.1	+0.3
	0.1nm565nm13nm,0.5s						
SOEI	**Soe**	**5.92**	**108**	P	Pn	16 05 35.3	+0.1
	0.2nm43nm,0.5s						
SOEI				S	Sn	16 06 40.4	-2.3
	0.2nm43nm,0.5s						
PWJI	**Pagerwojo**	**6.68**	**269**	P	Pn	16 05 45.3	+0.1

*TEH **15** 16:21:35.5,32°.58N×47°.86E,h16km,ML3.0*
*ISN **15** 16:21:35.0±1.1,32°.60N×47°.88E,h14km±8km,ML2.7*
ISC 15 16:21:35.8±1.2,**32°.59N**±0°.04×**47°.82E**±0°.04,**h15**km±12km,
n24,σ1°75/28,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.46**	**282**	*e*Pg	**Pb**	**16 21 44.8**	**-0.9**
DHL1				*e*Sg	**Sb**	**16 21 53.3**	**+0.9**
IKMR	**Kamar-syah**	**1.04**	**27**	*e*Pg	**Pg**	**16 21 54.9**	**-1.1**
IKMR				*e*		16 21 57.8	
IDOB	**Doab**	**1.23**	**14**	*e*Pg	**Pn**	**16 21 59.7**	**+0.9**
BMDN	**Meydan**	**1.37**	**38**	*e*Pg	**Pg**	**16 22 01.9**	**-0.4**
BMDN				*e*		16 22 26.3	
AHWZ	**Ahwaz**	**1.44**	**151**	*e*Pg	**Pn**	**16 22 01.9**	**+0.6**
AHWZ				*e*Sg	**Sg**	**16 22 22.1**	**0.0**
IKOM	**Komasi**	**1.60**	**351**	*e*		16 22 07.6	
IKOM				*e*Pg	**Pg**	**16 22 05.8**	**-0.9**
IBDR	**Badra**	**1.67**	**289**	*e*Pg	**Pb**	**16 22 06.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**16 22 29.0**	**-0.7**
IBDR				AML	AML	16 22 32.8	
	comp=N,85nm,0.4s						
IBDR				AML	AML	16 22 37.6	
	comp=E,107nm,0.6s						
HSAM	**Samen**	**1.75**	**22**	*e*		16 22 09.4	
HSAM				*e*Pg	**Pg**	**16 22 08.3**	**-1.1**
KCHF	**Cheshme Sefid,**	**1.81**	**339**	*e*Pg	**Pg**	**16 22 10.0**	**-0.5**
KCHF				*e*		16 22 39.5	
IBZA	**Bozab**	**1.88**	**1**	*e*Pg	**Pg**	**16 22 10.6**	**-1.3**
IBZA				*e*		16 22 13.8	
IVIS	**Veis**	**2.10**	**338**	*e*	**Sg**	**16 22 49.8**	**+6.5**
NSR	**Nassriya**	**2.12**	**223**	*e*Pn	**Pn**	**16 22 12.0**	**+1.2**
NSR				*e*Sn	**Sn**	**16 22 38.0**	**+1.1**
IDHR	**Dehrash**	**2.42**	**331**	*e*Pn	**Pn**	**16 22 14.7**	**-0.4**
IDHR				*e*		16 22 59.8	
ILIN	**Lien**	**2.43**	**343**	*e*Pn	**Pn**	**16 22 15.1**	**-0.2**
ILIN				*e*		16 23 01.0	
JHBN	**Jahan bin**	**2.43**	**98**	*e*	Sg	16 23 03.4	+9.3
HAGD	**Aghdareh**	**2.49**	**26**	*e*Pn	**Pn**	**16 22 15.8**	**-0.2**
HAGD				*e*		16 22 23.3	
HSRG	**Sareghieh**	**2.68**	**8**	*e*Pn	**Pn**	**16 22 18.0**	**-0.7**
HSRG				*e*		16 23 11.2	
BHD	**Baghdad**	**2.97**	**284**	*e*Pn	**Pn**	**16 22 24.0**	**+1.5**
BHD				*e*Sn	**Sb**	**16 23 01.0**	**-3.6**
IKLH	**Kolahrood**	**3.24**	**76**	*e*Pn	**Pn**	**16 22 27.8**	**+1.3**
IKLH				*e*		16 23 30.2	
QABG	**Abgarm-Qazvin**	**3.44**	**25**	*e*Pn	**Pn**	**16 22 28.8**	**-0.3**
IGAR	**Gharneh**	**3.57**	**92**	*e*Pn	**Pn**	**16 22 31.6**	**+0.6**
IGAR				*e*		16 22 35.3	
KLNJ	**Kolanjah**	**3.58**	**115**	*e*Pn	**Pn**	**16 22 31.8**	**+0.7**
KLNJ				*e*		16 23 46.1	
KRSH	**Karshahi**	**3.87**	**68**	*e*Pn	**Pn**	**16 22 35.8**	**+0.8**
IDMV	**Damavand**	**4.60**	**48**	*e*Pn	**Pn**	**16 22 44.6**	**-0.5**

*IDC **15** 16:21:41.0±0.7,62°.66S×60°.19W,h0km,mb4.1/10,*
mb1 4.2/11,mb1mx4.0/22,mbtmp4.0/11,ML3.0/1,MS3.4/8,
Ms1 3.4/8,ms1mx3.2/30,Error ellipse: s-maj=24.1km
s-min=13.2km az=117.0
*NEIC **15** 16:21:47.6±1.7,62°.75S±0°.10×60°.2W±0°.3,h43km±6km,*
mb4.4/22,Error ellipse: s-maj=21.6km s-min=14.3km
az=93.0
ISC 15 16:21:43.1±0.5,**62°.67S**±0°.07×**60°.2W**±0°.1,**h10**km,**n45,**
σ1°25/39,**mb4.3**/18,**MS3.3**/8,**South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**2.72**	**217**	Pn	**Pn**	**16 22 27.3**	**+0.5**
	2.6nm,0.3s,baz=27,slow=11,SNR=30						
PMSA				Pg	**Pb**	**16 22 31.3**	**-0.4**
	22nm,0.3s,baz=43,slow=12,SNR=33						
PMSA				LR	LR	16 23 00.7	
	comp=Z,31nm,19.6s,baz=108,slow=29						
PMSA				Lg	Lg	16 23 06.9	
	51nm,0.3s,baz=332,slow=16,SNR=8.1						
BELA	**Belgrano 2**	**17.24**	**162**		**P**	**16 25 46.3**	**+1.3**
VNA3	**Neumayer Olymp**	**20.88**	**136**	P	**P**	**16 26 25.2**	**+0.4**
VNA1	**Neumayer--Stat**	**21.37**	**134**	P	**P**	**16 26 33.0**	**+2.9**
VNA2	**Neumayer--Watz**	**21.64**	**135**	P	**P**	**16 26 33.6**	**+0.7**
	baz=267,slow=9.9						
PLCA	**Paso Flores**	**22.83**	**339**	P	**P**	**16 26 46.9**	**+0.9**
	2.6nm,0.9s,baz=174,slow=9.2,SNR=2.3						
PLCA				LR	LR	16 34 20.8	
	comp=Z,71nm,21.8s,baz=154,slow=33						
PLCA	**Paso Flores**	**22.83**	**339**	P	**P**	**16 26 47.5**	**+1.4**
SNAA	**Sanae**	**23.03**	**137**	P	**P**	**16 26 49.8**	**+1.9**
SNAA	**Sanae**	**23.03**	**137**	P	**P**	**16 26 47.6**	**-0.2**
	4.6nm,1.0s,baz=258,slow=9.9,SNR=8.1						
SNAA	**Sanae**	**23.03**	**137**	P	**P**	**16 26 47.8**	**0.0**
SNAA				IAmb	IAmb	16 26 51.8	
	comp=Z,18nm,1.5s						
QSPA	**South Pole Qui**	**27.55**	**180**	P	**P**	**16 27 31.1**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=176,slow=2.7,SNR=13						
QSPA				LR	LR	16 37 44.9	
	comp=Z,50nm,21.2s,baz=175,slow=35						
QSPA	**South Pole Qui**	**27.55**	**180**	P	**P**	**16 27 31.0**	**+1.2**
MT02	**Curacav**	**30.24**	**342**	P	**P**	**16 27 54.9**	**+1.2**
MT02				IAmb	IAmb	16 28 05.8	
	comp=Z,8.7nm,1.1s						
CO02	**Combarbal**	**32.24**	**342**	P	**P**	**16 28 12.3**	**+0.9**
CO03	**El Pedregal**	**32.56**	**343**	P	**P**	**16 28 15.3**	**+1.1**
CO03				IAmb	IAmb	16 28 17.3	
	comp=Z,6.3nm,0.8s						
GO04	**Tololo Observa**	**33.23**	**343**	P	**P**	**16 28 21.5**	**+1.3**
GO04				IAmb	IAmb	16 28 22.0	
	comp=Z,4.3nm,0.8s						
CO01	**Juntas del Tor**	**33.33**	**344**	P	**P**	**16 28 22.9**	**+1.8**
AC05	**El Transito**	**34.48**	**344**	P	**P**	**16 28 32.7**	**+1.7**
AC05				IAmb	IAmb	16 28 41.2	
	comp=Z,5.3nm,1.1s						
CPUP	**Villa Florida**	**36.38**	**4**	LR	LR	16 43 10.3	
	comp=Z,50nm,20.7s,baz=216,slow=35						
VNDA	**Vanda**	**37.69**	**194**	LR	LR	16 42 40.0	
	comp=Z,46nm,21.2s,baz=164,slow=33						
PB11	**IPOC Station P**	**43.37**	**347**	P	**P**	**16 29 46.3**	**+0.8**
PB11				IAmb	IAmb	16 30 10.8	
	comp=Z,7.5nm,1.1s						
PSGCX	**Pisagua**	**43.58**	**346**	P	**P**	**16 29 47.4**	**+0.2**
PSGCX				IAmb	IAmb	16 30 16.2	
	comp=Z,12nm,1.3s						
MAW	**Mawson**	**43.70**	**152**	LR	LR	16 47 48.9	
	comp=Z,137nm,19.2s,baz=237,slow=36						
MAW	**Mawson**	**43.70**	**152**	P	**P**	**16 29 48.7**	**+1.2**
PB16	**IPOC Station P**	**44.77**	**347**	P	**P**	**16 29 58.7**	**+1.5**
PB16				IAmb	IAmb	16 29 59.9	
	comp=Z,6.4nm,1.4s						
SIV	**San Ignacio**	**46.63**	**359**	P	**P**	**16 30 10.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=193,slow=15,SNR=6.1						
LPAZ	**La Paz**	**46.66**	**349**	LR	LR	16 49 52.8	
	comp=Z,44nm,18.7s,baz=134,slow=36						
BDFB	**Brasilia**	**47.75**	**16**	P	**P**	**16 30 19.3**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=187,slow=4.8,SNR=5.5						
BDFB	**Brasilia**	**47.75**	**16**	P	**P**	**16 30 19.0**	**-1.2**
RPN	**Rapa Nui**	**47.82**	**295**	LR	LR	16 44 37.8	
	comp=Z,41nm,20.9s,baz=92,slow=29						
NNA	**Nana**	**51.99**	**339**	LR	LR	16 49 18.1	
	comp=Z,18nm,22.0s,baz=220,slow=32						
SUR	**Sutherland**	**57.73**	**99**	P	**P**	**16 31 34.3**	**+0.3**
BOSA	**Boshof**	**62.94**	**100**	P	**P**	**16 32 09.0**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=229,slow=6.2,SNR=8.0						
BOSA	**Boshof**	**62.94**	**100**	P	**P**	**16 32 09.3**	**-0.3**
LBTB	**Lobatse**	**66.18**	**98**	P	**P**	**16 32 29.7**	**-1.0**
LSZ	**Lusaka**	**75.83**	**96**	P	**P**	**16 33 29.3**	**-0.1**
LSZ				IAmb	IAmb	16 33 30.1	
	comp=Z,4.2nm,0.7s						
STKA	**Stephens Creek**	**84.17**	**199**	P	**P**	**16 34 12.7**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=124,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**89.35**	**59**	P	**P**	**16 34 39.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=192,slow=4.8,SNR=1.5						
TORD	**Torodi Ar. Bea**	**89.35**	**59**	IAmb	IAmb	16 34 47.4	
	comp=Z,1.3nm,1.2s						
ASAR	**Alice Springs**	**93.23**	**193**	P	**P**	**16 34 56.5**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=183,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**96.86**	**194**	P	**P**	**16 35 11.9**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=172,slow=4.1,SNR=6.0						
WRA	**Warramunga Arr**	**96.86**	**194**	IAmb	IAmb	16 35 15.1	
	comp=Z,0.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**133.51**	**152**	PKP	**PKiKP**	**16 41 00.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=220,slow=3.9,SNR=4.1						
ARCES	**ARCESS Array B**	**144.91**	**30**	PKP	**PKPab**	**16 41 15.3**	**-2.4**
	comp=Z,2.7nm,0.9s,baz=90,slow=0.1,SNR=7.8						
MKAR	**Makanchi Array**	**153.65**	**109**	PKPbc	**PKPbc**	**16 41 39.6**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=254,slow=1.6,SNR=7.7						
MKAR				PKPab	**PKPab**	**16 41 53.6**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=222,slow=4.7,SNR=25						

*TEH **15** 16:24:37.6,32°.52N×47°.89E,h8km,ML3.7*
*IDC **15** 16:24:37.2±5.8,32°.73N×47°.88E,h0km,mb4.0/6,*
mb1 3.9/7,mb1mx3.5/50,mbtmp3.9/7,ML3.6/1,Error
ellipse: s-maj=118.0km s-min=28.6km az=4.0
*THR **15** 16:24:38.6±0.3,32°.49N×47°.85E,h16km±2km,ML3.9*
*NEIC **15** 16:24:39.1±3.0,32°.6N±0°.1×48°.01E±0°.03,h10km±2km,*
mb3.9/14,Error ellipse: s-maj=23.5km s-min=3.7km
az=180.0
*ISN **15** 16:24:39.2±1.0,32°.54N×47°.85E,h14km±5km,ML3.0*
*OMAN **15** 16:24:46.0,32°.35N×48°.59E,h34km,mb5.1/15,ms2.8/4*
ISC 15 16:24:38.3±1.1,**32°.49N**±0°.03×**47°.94E**±0°.03,**h16**km±7km,
n104,σ2°59/127,**mb3.9**/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.59**	**289**	*e*Pg	**Pg**	**16 24 47.7**	**-2.1**
IKMR	**Kamar-syah**	**1.09**	**20**	*e*Pg	**Pg**	**16 24 57.8**	**-1.5**
IKMR				*e*		16 25 19.0	
IDOB	**Doab**	**1.30**	**9**	*e*Pg	**Pg**	**16 25 03.0**	**-0.5**
AHWZ	**Ahwaz**	**1.31**	**153**	*e*Sg	**Sg**	**16 25 23.2**	**+2.7**
AHWZ				*e*Pg	**Pg**	**16 25 03.9**	**+0.5**
BMDN	**Meydan**	**1.39**	**32**	*e*		16 25 32.9	
BMDN				*e*Pg	**Pb**	**16 25 04.0**	**0.0**
IKOM	**Komasi**	**1.71**	**348**	*e*		16 25 15.7	
IKOM				*e*Pg	**Pg**	**16 25 09.9**	**-1.3**
HSAM	**Samen**	**1.80**	**18**	*e*Pg	**Pg**	**16 25 11.4**	**-1.5**
HSAM				*e*		16 25 47.6	
IBDR	**Badra**	**1.80**	**290**	*e*Pg	**Pb**	**16 25 10.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**16 25 33.0**	**-0.2**
IBDR				AML	AML	16 25 40.8	
	comp=N,147nm,0.4s						
IBDR				AML	AML	16 25 48.5	
	comp=E,174nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.93**	**337**	*e*Pg	**Pg**	**16 25 14.4**	**-0.9**
KCHF				*e*		16 25 48.2	
IBZA	**Bozab**	**1.97**	**358**	*e*Pg	**Pg**	**16 25 14.3**	**-1.8**
IBZA				*e*		16 25 47.2	
KER	**Kermanshah**	**2.00**	**341**	*e*Pn	**Pb**	**16 25 12.7**	**-1.7**
KHMZ	**Khomeyn**	**2.10**	**53**	*e*Pn	**Pb**	**16 25 16.2**	**+0.1**
KHMZ				*e*Sg	**Sg**	**16 25 47.1**	**+1.2**
KHMZ	**Khomeyn**	**2.10**	**53**	*e*Pn	**Pb**	**16 25 16.2**	**+0.1**
NSR	**Nassriya**	**2.13**	**226**	*e*Pn	**Pb**	**16 25 15.0**	**-1.5**
NSR				*e*Sn	**Sn**	**16 25 41.0**	**+1.7**
NSR				AML	AML	16 25 48.6	
	comp=E,257nm,0.2s						
IGHG	**Ghaleghazi**	**2.16**	**328**	*e*Pn	**Pb**	**16 25 15.8**	**-1.3**
IGHG				*e*		16 25 55.7	
IVIS	**Veis**	**2.22**	**336**	*e*Pn	**Pb**	**16 25 17.2**	**-0.9**
IVIS				*e*		16 26 01.7	
JHBN	**Jahan bin**	**2.32**	**96**	*e*Pn	**Pn**	**16 25 18.6**	**+2.5**
JHBN				*e*		16 25 58.8	
IALM	**Almabolaq**	**2.37**	**5**	*e*Pn	**Pb**	**16 25 18.8**	**-1.9**
IPIR	**Pirpir**	**2.50**	**85**	*e*Pn	**Pb**	**16 25 21.5**	**-1.5**
IPIR				*e*		16 26 04.0	
HAGD	**Aghdareh**	**2.53**	**23**	*e*Pn	**Pb**	**16 25 21.2**	**-2.2**
HAGD				*e*		16 26 05.4	
ILIN	**Lien**	**2.55**	**342**	*e*Pn	**Pb**	**16 25 21.4**	**-2.4**
ILIN				*e*		16 26 10.2	
IDHR	**Dehrash**	**2.55**	**330**	*e*Pn	**Pn**	**16 25 20.9**	**+1.7**
IDHR				*e*		16 26 07.6	
ROKH	**ROKH**	**2.62**	**92**	*e*Pn	**Pn**	**16 25 22.5**	**+2.3**
ROKH				*e*		16 26 09.2	
SNGE	**Sanandaj**	**2.64**	**349**	*e*Pn	**Pb**	**16 25 22.8**	**-2.5**
SNGE				*e*Sg	**Sg**	**16 26 01.1**	**-2.0**
SNGE	**Sanandaj**	**2.64**	**349**	*e*Pn	**Pb**	**16 25 22.8**	**-2.5**
ASAO	**Ashtian**	**2.69**	**40**	*e*Pn	**Pb**	**16 25 24.2**	**-2.0**
ASAO				*e*Sg	**Sg**	**16 26 04.6**	**-0.1**
ASAO	**Ashtian**	**2.69**	**40**	*e*Pn	**Pb**	**16 25 24.2**	**-2.0**
HSRG	**Sareghieh**	**2.75**	**6**	*e*Pn	**Pn**	**16 25 24.3**	**+2.2**
HSRG				*e*		16 26 11.2	
BHD	**Baghdad**	**3.09**	**285**	*e*Pn	**Pn**	**16 25 28.0**	**+1.6**
BHD				*e*Sn	**Sn**	**16 26 05.0**	**+1.9**
IKLH	**Kolahrood**	**3.17**	**74**	*e*Pn	**Pn**	**16 25 30.7**	**+3.0**
IKLH				*e*		16 26 29.4	
GHVR	**GHOM**	**3.43**	**54**	*e*Pn	**Pn**	**16 25 34.0**	**+2.8**
GHVR				*e*S	**Sn**	**16 26 14.5**	**+2.9**
GHVR	**GHOM**	**3.43**	**54**	*e*Pn	**Pn**	**16 25 34.0**	**+2.8**
KLNJ	**Kolanjah**	**3.45**	**114**	*e*Pn	**Pn**	**16 25 33.8**	**+2.2**
KLNJ				*e*		16 26 20.1	
IGAR	**Gharneh**	**3.47**	**90**	*e*Pn	**Pn**	**16 25 34.1**	**+2.3**
IGAR				*e*		16 26 26.6	
QABG	**Abgarm-Qazvin**	**3.48**	**23**	*e*Pn	**Pn**	**16 25 34.3**	**+2.3**
IQOM	**Qom**	**3.51**	**47**	*e*Pn	**Pn**	**16 25 35.2**	**+2.8**
IZEF	**Zefreh**	**3.72**	**83**	*e*Pn	**Pn**	**16 25 38.0**	**+2.6**
KRSH	**Karshahi**	**3.81**	**66**	*e*Pn	**Pn**	**16 25 39.1**	**+2.6**
IRAM	**Ramesheh**	**3.83**	**99**	*e*Pn	**Pn**	**16 25 38.7**	**+1.9**
IVRN	**Varamin**	**4.02**	**51**	*e*Pn	**Pn**	**16 25 42.1**	**+2.8**
CHTH	**Charan**	**4.31**	**37**	*e*Pn	**Pn**	**16 25 46.6**	**+3.2**
CHTH	**Charan**	**4.31**	**37**	*e*Pn	**Pn**	**16 25 46.3**	**+3.2**
QALM	**Alamut, Qazvin**	**4.52**	**29**	*e*Pn	**Pn**	**16 25 49.7**	**+3.4**
IDMV	**Damavand**	**4.58**	**47**	*e*Pn	**Pn**	**16 25 49.3**	**+2.1**
MAHB	**Mahabad**	**4.64**	**337**	*e*Pn	**Pn**	**16 25 49.1**	**+1.2**
ISAD	**Sadrabad**	**4.91**	**95**	*e*Pn	**Pn**	**16 25 53.4**	**+1.8**
ANAR	**Anarak**	**4.92**	**80**	*e*Pn	**Pn**	**16 25 53.8**	**+2.1**
ILAS	**Lasjerd**	**5.07**	**54**	*e*Pn	**Pn**	**16 25 55.5**	**+1.7**
IFIR	**Firoozkooh**	**5.08**	**51**	*e*Pn	**Pn**	**16 25 56.4**	**+2.4**
IPRN	**Peran**	**5.21**	**43**	*e*Pn	**Pn**	**16 25 58.9**	**+3.2**
IALA	**Alasht**	**5.39**	**47**	*e*Pn	**Pn**	**16 26 01.5**	**+3.2**
ISHM	**Shahmirzad**	**5.53**	**52**	*e*Pn	**Pn**	**16 26

CO01	**Juntas del Tor**	**1.66**	**106**	⇑*iP*		**Pb**	**16 34 50.5**	**0.0**	
CO01				*i* S		**Sb**	**16 35 11.1**	**-0.5**	
CO01				IAML			16 35 12.7		
	comp=N,1μm,0.5s								
CO03	**El Pedregal**	**1.69**	**141**	⇑*iP*		**Pn**	**16 34 49.9**	**+0.6**	
CO03				*i* S		**Sb**	**16 35 10.6**	**-1.6**	
CO03				IAML			16 35 13.1		
	comp=E,2μm,0.2s								
CO02	**Combarbal**	**1.85**	**154**	⇓*iP*		**Pn**	**16 34 52.4**	**+0.9**	
CO02				*i* S		**Sn**	**16 35 14.7**	**-0.5**	
GO03	**Copiap**	**2.45**	**38**	*eP*		**Pn**	**16 35 00.0**	**+0.2**	
VA03	**San Esteban**	**3.43**	**160**	*eP*		**Pn**	**16 35 15.3**	**+2.0**	
VA03				*eS*		**Sn**	**16 35 53.7**	**-0.5**	
VA01	**Torpederas**	**3.48**	**176**	*eP*		**Pn**	**16 35 12.8**	**-1.2**	
ROCH	**El Roble**	**3.51**	**167**	*eP*		**Pn**	**16 35 15.0**	**+0.4**	
AC01	**Pan de Azucar**	**3.58**	**20**	*eP*		**Pn**	**16 35 14.4**	**-0.9**	
AC01				IAML			16 36 23.8		
	comp=E,161nm,0.6s								
AC02	**Maricunga**	**3.66**	**43**	*eP*		**Pn**	**16 35 18.7**	**+1.9**	
PEL	**Peldehue**	**3.75**	**164**	*eP*		**Pn**	**16 35 18.2**	**+0.6**	
MT02	**Curacav**	**3.77**	**170**	*eP*		**Pn**	**16 35 17.8**	**-0.1**	
MT03	**Universidad Ad**	**4.13**	**163**	*eP*		**Pn**	**16 35 23.7**	**+0.8**	
LMEL	**Las Melosas**	**4.54**	**161**	*eP*		**Pn**	**16 35 30.5**	**+1.9**	
H03N1	**Juan Fernandez**	**7.12**	**235**	T		T	16 43 33.2		
	baz=64,slow=72,SNR=2578								
H03N2	**Juan Fernandez**	**7.13**	**235**	T		T	16 43 32.6		
	baz=64,slow=72,SNR=1935								
H03N3	**Juan Fernandez**	**7.13**	**235**	T		T	16 43 32.6		
	baz=64,slow=72,SNR=2354								
LVC	**Limon Verde**	**7.42**	**22**	Pn		**Pn**	**16 36 07.7**	**-0.6**	
	comp=E,0.4nm,0.3s,baz=220,slow=6.1,SNR=2.0								
LVC				Sn		Sb	16 37 45.6	-12	
	comp=E,1.2nm,0.3s,baz=234,slow=3.5,SNR=3.9								
LVC				Lg		Lg	16 38 12.8		
	comp=E,3.0nm,0.3s,baz=98,slow=15,SNR=6.7								
PLCA	**Paso Flores**	**11.23**	**175**	Pn		**Pn**	**16 36 59.5**	**-0.8**	
	comp=E,0.3nm,0.3s,baz=342,slow=11,SNR=6.4								
SIV	**San Ignacio**	**16.78**	**39**	Pn		**P**	**16 38 17.8**	**+0.6**	
	comp=E,0.2nm,0.3s,baz=216,slow=8.7,SNR=5.4								
TXAR	**Lajitas Array**	**65.91**	**330**	P		**P**	**16 45 07.2**	**+1.2**	
	comp=E,0.2nm,0.6s,baz=152,slow=6.1,SNR=2.8								
TORD	**Torodi Ar. Bea**	**82.62**	**70**	P		**P**	**16 46 43.8**	**+0.1**	
	comp=E,0.2nm,0.4s,baz=255,slow=3.2,SNR=4.6								
WRA	**Warramunga Arr**	**124.67**	**210**	PKP		**PKPdf**	**16 53 20.2**	**-0.1**	
	comp=E,0.4nm,0.8s,baz=147,slow=1.6,SNR=5.0								
H11S2	**WAKE ISLAND Hyl**	**25.80**	**272**	T		T	19 12 19.4		
	baz=115,slow=75,SNR=6.5								
H11S1	**WAKE ISLAND Hyl**	**25.81**	**272**	T		T	19 12 20.6		
	baz=115,slow=75,SNR=5.0								
H11S3	**WAKE ISLAND Hyl**	**25.82**	**272**	T		T	19 12 21.8		
	baz=115,slow=75,SNR=5.9								
KURBB	**Kurchatov Arra**	**149.44**	**38**	PKPbc		**PKiKP**	**16 54 09.9**	**0.0**	
	comp=E,0.4nm,0.7s,baz=297,slow=2.9,SNR=5.5								
ZALV	**Zalesovo Beam**	**150.33**	**28**	PKPbc		**PKiKP**	**16 54 12.3**	**+0.6**	
	comp=E,1.5nm,0.7s,baz=306,slow=1.8,SNR=9.0								

*MEX **15** 16:34:23.8±1.0, 15.36N×91.92W, h218km±13km, MD3.7*
*GCG **15** 16:34:24.5±1.3, 16.28N×92.01W, h85km±148km, MD3.9*
ISC 15 16:34:24.7±2.4,**15.46N**±0.10×**91.96W**±0.07,
h204km±17km,**n10**,σ1s**17**/20,**Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.63**	**208**	*eP*		**Pn**	**16 34 51.9**	**-1.0**
THIG				*eS*		**Sn**	**16 35 14.1**	**-0.6**
CCIG	**Comitan**	**0.83**	**348**	*i* P		**Pn**	**16 34 54.6**	**+0.5**
CCIG				*eS*		**Sn**	**16 35 17.5**	**+0.5**
ERG	**Entre ros, C**	**1.08**	**160**	*eP*		**Pn**	**16 34 55.5**	**0.0**
ERG				*eS*		**Sn**	**16 35 18.9**	**-0.6**
PCIG		**1.24**	**281**	*eP*		**Pn**	**16 34 56.6**	**-0.1**
PCIG				*eS*		**Sn**	**16 35 20.9**	**-0.4**
FUG	**Fuego 3**	**1.48**	**133**	*eP*		**Pn**	**16 34 58.6**	**-0.2**
FUG				*eS*		**Sn**	**16 35 26.8**	**+1.5**
PCG	**Pacaya**	**1.68**	**129**	*eP*		**Pn**	**16 34 60.0**	**-0.8**
PCG				*eS*		**Sn**	**16 35 32.1**	**+3.4**
TGIG		**1.72**	**320**	*i* P		**Pn**	**16 35 00.4**	**-0.5**
TGIG				*eS*		**Sn**	**16 35 29.4**	**+0.3**
NBG	**Las Nubes**	**1.78**	**119**	*eP*		**Pn**	**16 35 02.0**	**+0.3**
NBG				*eS*		**Sn**	**16 35 30.7**	**+0.3**
MRL	**Marmol**	**2.23**	**100**	*eP*		**Pn**	**16 35 05.5**	**-0.7**
MRL				*eS*		**Sn**	**16 35 36.3**	**-2.0**
CMIG	**Matias Romero**	**3.25**	**300**	*eP*		**Pn**	**16 35 17.8**	**+0.3**
CMIG				*i* S		**Sn**	**16 35 59.0**	**+0.2**

*NEIC **15** 16:37:33.7±1.7, 19.2S×0.2×175.6W±0.1, h137km±4km, mb4.2/17, Error ellipse: s-maj=24.2km s-min=17.9km az=175.0*
*IDC **15** 16:37:35.2±12.0, 19.30S×175.63W, h144km±115km, mb3.8/4, mb1 4.1/5, mb1mx3.5/34, mbtmp4.2/5, ML4.3/1, Error ellipse: s-maj=47.5km s-min=32.7km az=176.0*
ISC 15 16:37:35.7±0.8,**19.4S**±0.1×**175.33W**±0.09,**h150**km,**n26**, σ1s**96**/26,**mb4.1**/10,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**5.11**	**88**	Pn		**Pn**	**16 38 51.2**	**+0.6**
MSVF	**Nonsavu**	**6.49**	**284**			**Pn**	**16 39 12.2**	**+3.1**
DZM	**Mont Dzumac**	**17.26**	**259**	P		**Pn**	**16 41 30.6**	**+2.7**
	0.5nm,0.3s,baz=83,slow=19,SNR=6.7							
DZM	**Mont Dzumac**	**17.26**	**258**	P		**P**	**16 41 26.7**	**-0.4**
DZM				IAmb		IAmb	16 41 36.1	
	comp=Z,14nm,0.9s							
OUZ	**Omahuta**	**18.57**	**210**	P		**Pn**	**16 41 43.8**	**+0.6**
OUZ				IAmb		IAmb	16 42 10.7	
	comp=Z,16nm,1.4s							
URZ	**Urewera**	**19.93**	**198**	P		**P**	**16 41 55.5**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=349,slow=1.6,SNR=6.1							
URZ	**Urewera**	**19.93**	**198**	P		**P**	**16 41 55.5**	**-0.3**
URZ				IAmb		IAmb	16 42 07.7	
	comp=Z,22nm,1.4s							
BKZ	**Black Stump Fm**	**20.95**	**198**	P		**P**	**16 42 07.3**	**+0.5**
LTZ	**Lake Taylor**	**25.58**	**201**	P		**P**	**16 42 52.6**	**+1.8**
CTAO	**Charters Tower**	**36.12**	**262**	P		**P**	**16 44 22.4**	**-1.1**
WR0	**Warramunga Arr**	**47.07**	**260**	P		**P**	**16 45 50.4**	**-2.3**
AS31	**Alice Springs**	**47.23**	**255**	P		**P**	**16 45 51.9**	**-2.0**
ASAR	**Alice Springs**	**47.23**	**255**	P		**P**	**16 45 52.0**	**-1.9**
	comp=Z,4.4nm,0.6s,baz=92,slow=8.2,SNR=92							
ASAR				PcP		**PcP**	**16 47 21.6**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=107,slow=4.0,SNR=7.7							
ASAR	**Alice Springs**	**47.23**	**255**	P		**P**	**16 45 51.9**	**-2.0**
WB0	**Warramunga Arr**	**47.23**	**261**	P		**P**	**16 45 51.2**	**-2.7**
WB0				IAmb		IAmb	16 45 53.2	
	comp=Z,4.4nm,0.8s							
WB2	**Warramunga Arr**	**47.24**	**260**	P		**P**	**16 45 51.7**	**-2.4**
WB2				IAmb		IAmb	16 45 52.7	
	comp=Z,3.4nm,0.7s							
WRAB	**Tennant Creek**	**47.25**	**260**	P		**P**	**16 45 51.5**	**-2.6**
WRAB				IAmb		IAmb	16 45 52.6	
	comp=Z,2.8nm,0.7s							
WRA	**Warramunga Arr**	**47.26**	**260**	P		**P**	**16 45 52.0**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=95,slow=7.6,SNR=173							
WRA	**Warramunga Arr**	**47.26**	**260**	P		**P**	**16 45 51.4**	**-2.7**
MTN	**Manton Dam**	**51.68**	**269**	P		**P**	**16 46 24.8**	**-2.9**
MTN				IAmb		IAmb	16 46 28.1	
	comp=Z,6.4nm,0.8s							
KNRA	**Kununurra**	**53.26**	**265**	P		**P**	**16 46 37.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**55.68**	**261**	P		**P**	**16 46 55.5**	**-1.3**
FITZ				IAmb		IAmb	16 47 13.4	
	comp=Z,6.6nm,1.4s							
QSPA	**South Pole Qui**	**70.69**	**180**	P		**P**	**16 48 35.1**	**+0.1**
QSPA				IAmb		IAmb	16 48 54.1	
	comp=Z,4.2nm,1.2s							
MJAR	**Matsushiro Arr**	**70.84**	**322**	P		**P**	**16 48 34.9**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=163,slow=5.9,SNR=6.4							
MJAR	**Matsushiro Arr**	**70.84**	**322**	IAmb		IAmb	16 48 36.0	
	comp=Z,1.5nm,0.7s							
TXAR	**Lajitas Array**	**84.34**	**56**	P		**P**	**16 49 52.6**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=224,slow=3.5,SNR=3.5							

*NORS **15** 16:39:04.8±0.0, 42.58N×43.49E, h14km, MPVA3.7*
*MOS **15** 16:39:05.6±0.0, 42.57N×43.41E, h12km, MPVA3.6*
*TIF **15** 16:39:05.2, 42.57N×43.42E, h17km±1km*
*DDA **15** 16:39:06.4, 42.35N×43.39E, h6km±3km, ML2.4*
ISC 15 16:39:05.6±1.0,**42.60N**±0.02×**43.46E**±0.02,**h11**km±8km, **n32**,σ0s**89**/64,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.32**	**17**	*i* Pg		**Pg**	**16 39 12.5**	**+0.4**
DIGR				*eSg*		**Sg**	**16 39 17.7**	**+1.3**
ZEI	**Tsey**	**0.38**	**59**	*i* Pg		**Pb**	**16 39 13.8**	**-0.7**
ZEI				*eSg*		**Sb**	**16 39 19.8**	**-0.7**
TKB	**Tkibuli**	**0.42**	**235**	*ePg*		**Pg**	**16 39 13.6**	**-0.3**
TKB				*eSg*		**Sg**	**16 39 19.7**	**+0.3**
TKB	**Tkibuli**	**0.42**	**235**	P		**Pg**	**16 39 13.6**	**-0.3**
TKB				S		**Sg**	**16 39 19.7**	**+0.3**
LACR	**Lac**	**0.66**	**69**	*i* Pg		**Pb**	**16 39 18.5**	**-0.7**
LACR				*eSg*		**Sb**	**16 39 27.9**	**-0.6**
KORR	**Kora**	**0.67**	**42**	*i* Pg		**Pn**	**16 39 19.7**	**-1.4**
KORR				*eSg*		**Sn**	**16 39 30.3**	**-1.2**
LSNR	**Lesken**	**0.73**	**22**	*i* Pg		**Pn**	**16 39 20.6**	**-1.3**
LSNR				*eSg*		**Sn**	**16 39 32.1**	**-1.2**
ARNR	**Ardon**	**0.84**	**46**	*ePg*		**Pn**	**16 39 24.0**	**+0.5**
ARNR				*eSg*		**Sn**	**16 39 37.1**	**+1.3**
STDR	**Stavd-Durt**	**0.89**	**30**	*ePg*		**Pn**	**16 39 25.3**	**+1.2**
STDR				*eSg*		**Sn**	**16 39 39.0**	**+2.0**
CHVG	**Ch'k'valeri**	**1.02**	**277**	P		**Pg**	**16 39 24.6**	**-0.6**
CHVG				S		**Sg**	**16 39 38.4**	**0.0**
TRLG	**Trialeti**	**1.16**	**155**	*ePg*		**Pg**	**16 39 27.5**	**-0.4**
TRLG				*eSg*		**Sg**	**16 39 43.5**	**+0.6**
TRLG	**Trialeti**	**1.16**	**155**	P		**Pg**	**16 39 27.5**	**-0.4**
TRLG				S		**Sg**	**16 39 43.5**	**+0.6**
KBZ	**Khabaz**	**1.21**	**340**	*ePg*		**Pn**	**16 39 28.3**	**0.0**
KBZ				*i* Sg		**Sn**	**16 39 44.3**	**-0.3**
EPOS	**Posof**	**1.22**	**207**	*i* P		**Pg**	**16 39 27.4**	**-1.6**
EPOS				*i* S		**Sg**	**16 39 44.4**	**-0.4**
SHA1	**Shidzhatmaz**	**1.28**	**333**	*i* Pg		**Pn**	**16 39 30.1**	**+0.4**
SHA1				*eSg*		**Sn**	**16 39 47.0**	**0.0**
BGD	**Bogdanovka**	**1.33**	**175**	*ePg*		**Pn**	**16 39 30.3**	**0.0**
BGD				*eSg*		**Sg**	**16 39 47.9**	**-0.6**
BGD	**Bogdanovka**	**1.33**	**175**	P		**Pn**	**16 39 30.3**	**0.0**
BGD				S		**Sg**	**16 39 47.9**	**-0.6**
BTNK	**Botanikuri**	**1.35**	**132**	*ePg*		**Pn**	**16 39 30.9**	**+0.5**
BTNK				*eSg*		**Sg**	**16 39 49.5**	**+0.4**
BTNK	**Botanikuri**	**1.35**	**132**	P		**Pn**	**16 39 30.9**	**+0.5**
BTNK				S		**Sg**	**16 39 49.5**	**+0.4**
DMNI	**Dmanisi**	**1.38**	**156**	*ePg*		**Pn**	**16 39 30.6**	**-0.2**
DMNI				*eSg*		**Sg**	**16 39 48.9**	**-1.0**
DMNI	**Dmanisi**	**1.38**	**156**	P		**Pn**	**16 39 30.6**	**-0.2**
DMNI				S		**Sg**	**16 39 48.9**	**-1.0**
KIV0	**Kislovodsk Arr**	**1.47**	**338**	*ePg*		**Pb**	**16 39 32.9**	**-0.1**
KIV0				*eSg*		**Sn**	**16 39 51.8**	**+0.4**
KIV	**Kislovodsk**	**1.47**	**338**	*ePg*		**Pb**	**16 39 32.6**	**-0.5**
KIV				*eSg*		**Sn**	**16 39 52.5**	**+1.0**
BATM	**Batumi**	**1.64**	**234**	*ePg*		**Pn**	**16 39 34.6**	**+0.2**
BATM				*eSg*		**Sn**	**16 39 57.3**	**+1.8**
BATM	**Batumi**	**1.64**	**234**	*i* P		**Pn**	**16 39 33.7**	**-0.7**
BATM				*i* S		**Sn**	**16 39 56.0**	**+0.5**
BATM	**Batumi**	**1.64**	**234**	S		**Pn**	**16 39 34.6**	**+0.2**
BATM				S		**Sn**	**16 39 57.3**	**+1.8**
ARTV	**Artvin**	**1.81**	**219**	*i* P		**Pn**	**16 39 37.3**	**+0.3**
ARTV				*i* S		**Sn**	**16 39 59.1**	**-0.9**
ARTV				IAML			16 40 03.0	
	comp=N,53nm,0.3s							
ARTV				IAML			16 40 04.0	
	comp=E,48nm,0.2s							
DBOC	**Borcka**	**1.83**	**227**	*i* P		**Pn**	**16 39 37.3**	**+0.3**
DBOC				*i* S		**Sn**	**16 39 59.9**	**-0.2**
DBOC				IAML			16 40 03.0	
	comp=E,38nm,0.5s							
DGRG	**David-gareji**	**1.83**	**128**	*i* P		**Pb**	**16 39 39.5**	**+0.4**
DGRG				*i* S		**Sb**	**16 40 03.2**	**+1.2**
DGRG	**David-gareji**	**1.83**	**128**	P		**Pg**	**16 39 40.0**	**-0.7**
DGRG				S		**Sg**	**16 40 06.6**	**+2.2**
DBAD	**Bademkaya**	**2.05**	**220**	*i* P		**Pn**	**16 39 41.2**	**+1.0**
DBAD				*i* S		**Sn**	**16 40 07.7**	**+1.9**
DBAD				IAML			16 40 10.0	
	comp=N,47nm,0.6s							
DBAD				IAML			16 40 11.0	
	comp=E,58nm,0.3s							
LGD	**Lagodekhi**	**2.21**	**109**	P		**Pb**	**16 39 45.6**	**+0.1**
LGD				S		**Sg**	**16 40 16.0**	**-0.4**

IDC 15 16:39:15.6±1.5,**44.75N**×**102.19E**,**h0**km,**mb3.5**/2, **mb1 3.7**/4,**mb1mx3.2**/49,**mbtmp3.5**/4,**ML3.0**/2,**Error ellipse: s-maj=34.9km s-min=18.8km az=121.0, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**4.24**	**42**	Pn		Pn	16 40 22.5	+0.9
	2.4nm,0.3s,baz=224,slow=15,SNR=27							
SONM				Pg		Pb	16 40 33.5	+2.3
	2.5nm,0.3s,baz=222,slow=18,SNR=19							
SONM				Lg		Lg	16 41 30.8	
	5.8nm,0.3s,baz=220,slow=30,SNR=10							
TLY	**Talaya**	**7.00**	**7**	Lg		Lg	16 42 53.9	
	0.0nm,0.3s,baz=29,slow=19,SNR=3.0							
MKAR	**Makanchi Array**	**14.04**	**285**	Lg		Lg	16 46 34.6	
	0.1nm,0.3s,baz=57,slow=29,SNR=3.6							
ZALV	**Zalesovo Beam**	**14.55**	**315**	Lg		Lg	16 46 51.6	
	0.1nm,0.3s,baz=130,slow=18,SNR=2.4							
KURBB	**Kurchatov Arra**	**16.94**	**299**	Pn		Pn	16 43 10.7	-3.1
	0.0nm,0.3s,baz=102,slow=12,SNR=6.3							
CMAR	**Chiang Mai Arr**	**26.36**	**187**	P		P	16 44 55.1	+1.8
	0.3nm,0.3s,baz=360,slow=10.0,SNR=4.3							
WRA	**Warramunga Arr**	**70.75**	**148**	P		P	16 50 32.7	-0.9
	0.2nm,0.5s,baz=347,slow=7.3,SNR=6.7							

*NORS **15** 16:40:47.0±0.0, 42.56N×43.33E, h2km, MPVA4.3*
*TIF **15** 16:40:47.6, 42.57N×43.41E, h18km*
*ATA **15** 16:40:48.5±0.4, 42.51N×43.31E, h20km±7km, ML3.5, MW4.9*
*MOS **15** 16:40:48.4±1.0, 42.56N×43.38E, h9km, mb3.8/1, Error ellipse: s-maj=6.6km s-min=4.7km az=75.3*
*DDA **15** 16:40:49.5, 42.60N×43.27E, h7km±2km, ML3.5*
*ISK **15** 16:40:49.4, 42.65N×42.87E, h5km, ML3.5/6*
ISC 15 16:40:48.0±1.1,**42.56N**±0.01×**43.35E**±0.01,**h3**km±9km, **n101**,σ1s**21**/172,**6C-6D**,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TKB	**Tkibuli**	**0.34**	**231**	PG		**Pg**	**16 40 55.7**	**+1.1**
TKB				S		**Sb**	**16 41 02.0**	**-0.6**
TKB	**Tkibuli**	**0.34**	**231**	P		**Pg**	**16 40 55.7**	**+1.1**
TKB				S		**Sb**	**16 41 02.0**	**-0.6**
DIGR	**Digorskoe uzhe**	**0.38**	**26**	*i* Pg		**Pg**	**16 40 54.7**	**-0.6**
DIGR				*eSg*		**Sg**	**16 41 00.0**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.38**	**26**	⇑*i*PG		**Pg**	**16 40 54.7**	**-0.6**
ZEI	**Tsey**	**0.46**	**61**	*i* Pg		**Pg**	**16 40 56.0**	**-1.0**
ZEI				*eSg*		**Sg**	**16 41 02.0**	**-1.0**
ZEI	**Tsey**	**0.46**	**61**	*c i*PG		**Pg**	**16 40 56.0**	**-1.0**
ZEI				pmax	pmax			
	comp=Z,1μm,0.1s							
KORR	**Kora**	**0.74**	**45**	*i* Pg		**Pg**	**16 41 01.7**	**-0.6**
KORR				*eSg*		**Sg**	**16 41 12.8**	**+0.9**
KORR	**Kora**	**0.74**	**45**	*i* PG		**Pg**	**16 41 01.7**	**-0.6**
KORR				*eS*		**Sg**	**16 41 12.5**	**+0.6**
LACR	**Lac**	**0.74**	**69**	*i* Pg		**Pg**	**16 41 00.7**	**-1.6**
LACR				*eSg*		**Sg**	**16 41 10.2**	**-1.8**
LACR	**Lac**	**0.74**	**69**	⇑*i*PG		**Pg**	**16 41 00.7**	**-1.6**
LACR				*eS*		**Sg**	**16 41 10.2**	**-1.8**
LSNR	**Lesken**	**0.79**	**26**	*i* Pg		**Pg**	**16 41 02.9**	**-0.4**
LSNR				*eSg*		**Sg**	**16 41 14.7**	**+1.1**
LSNR	**Lesken**	**0.79**	**26**	⇓*i*PG		**Pg**	**16 41 02.9**	**-0.4**
LSNR				*eS*		**Sg**	**16 41 14.7**	**+1.1**
ARNR	**Ardon**	**0.92**	**48**	*ePg*		**Pg**	**16 41 05.7**	**0.0**
ARNR				*eSg*		**Sb**	**16 41 19.0**	**-0.3**
ARNR	**Ardon**	**0.92**	**48**	*ePG*		**Pg**	**16 41 05.7**	**0.0**
ARNR				*eS*		**Sb**	**16 41 19.0**	**-0.3**
CHVG	**Ch'k'valeri**	**0.95**	**280**	P		**Pb**	**16 41 06.8**	**-0.4**
CHVG				S		**Sn**	**16 41 20.7**	**+1.7**
STDR	**Stavd-Durt**	**0.96**	**33**	*ePg*		**Pg**	**16 41 07.1**	**+0.7**
STDR				*eSg*		**Sn**	**16 41 21.9**	**-0.7**
STDR	**Stavd-Durt**	**0.96**	**33**	*ePG*		**Pg**	**16 41 07.1**	**+0.7**
STDR				*eS*		**Sn**	**16 41 21.9**	**-0.7**
VLKR	**Vladikavkaz**	**1.09**	**63**	*ePg*		**Pg**	**16 41 09.2**	**+0.3**
VLKR				*eSg*		**Sn**	**16 41 25.1**	**-0.8**
VLKR	**Vladikavkaz**	**1.09**	**63**	*ePG*		**Pg**	**16 41 09.2**	**+0.3**
VLKR				*eS*		**Sn**	**16 41 25.1**	**-0.8**
EPOS	**Posof**	**1.16**	**204**	*eP*		**Pg**	**16 41 09.8**	**-0.4**
EPOS				*eS*		**Sb**	**16 41 26.4**	**+0.2**
EPOS				IAML			16 41 35.8	
	comp=Z,87nm,0.5s							
EPOS	**Posof**	**1.16**	**204**	*i* P		**Pg**	**16 41 09.8**	**-0.4**
EPOS				*i* S		**Sb**	**16 41 26.0**	**-0.3**
EPOS				IAML			16 41 29.0	
	comp=N,329nm,0.5s							
TRLG	**Trialeti**	**1.17**	**151**	PG		**Pb**	**16 41 09.4**	**-1.5**
TRLG				S		**Sg**	**16 41 25.8**	**+0.3**
TRLG	**Trialeti**	**1.17**	**151**	P		**Pb**	**16 41 09.4**	**-1.5**
TRLG				S		**Sg**	**16 41 25.8**	**+0.3**
BTKR	**Batakoyurt**	**1.19**	**47**	*ePg*		**Pg**	**16 41 11.8**	**+1.0**
BTKR				*eSg*		**Sn**	**16 41 29.6**	**+1.2**
BTKR	**Batakoyurt**	**1.19**	**47**	*ePG*		**Pg**	**16 41 11.6**	**+0.8**
BTKR				*eS*		**Sn**	**16 41 29.9**	**+1.5**
KBZ	**Khabaz**	**1.21**	**344**	*d i*PG		**Pb**	**16 41 10.4**	**-1.2**
KMGR	**Komgaron**	**1.22**	**66**	*ePg*		**Pn**	**16 41 11.8**	**-0.2**
KMGR				*eSg*		**Sn**	**16 41 31.3**	**+2.2**
KMGR	**Komgaron**	**1.22**	**66**	*ePG*		**Pn**	**16 41 11.8**	**-0.2**
KMGR				*eS*		**Sn**	**16 41 31.3**	**+2.2**
SHA1	**Shidzhatmaz**	**1.28**	**337**	*ePg*		**Pg**	**16 41 12.3**	**-0.8**
SHA1				*eSg*		**Sg**	**16 41 29.4**	**+0.2**
SHA1	**Shidzhatmaz**	**1.28**	**337**	⇓*ePG*		**Pn**	**16 41 12.1**	**-1.0**
SHA1				*eS*		**Sb**	**16 41 28.7**	**-1.2**
BGD	**Bogdanovka**	**1.31**	**172**	PG		**Pn**	**16 41 12.2**	**-1.3**
BGD				S		**Sb**	**16 41 30.3**	**-0.5**
BGD	**Bogdanovka**	**1.31**	**172**	P		**Pn**	**16 41 12.2**	**-1.3**
BGD				S		**Sb**	**16 41 30.2**	**-0.5**
SEAG	**Tbilisi Sea**	**1.34**	**126**	PG		**Pn**	**16 41 12.6**	**-1.1**
SEAG				S		**Sb**	**16 41 30.8**	**-0.6**
SEAG	**Tbilisi Sea**	**1.34**	**126**	P		**Pn**	**16 41 12.6**	**-1.1**
SEAG				S		**Sb**	**16 41 30.8**	**-0.6**
PRTR	**Priterechnaya**	**1.37**	**29**	*ePg*		**Pg**	**16 41 14.6**	**+0.4**
PRTR				*eSg*		**Sg**	**16 41 34.8**	**+2.8**
PRTR	**Priterechnaya**	**1.37**	**29**	*c e*PG		**Pg**	**16 41 14.6**	**+0.4**
PRTR				pmax	pmax			
	comp=Z,132nm,0.4s							
DMNI	**Dmanisi**	**1.38**	**153**	PG		**Pn**	**16 41 12.7**	**-1.7**
DMNI				S		**Sb**	**16 41 31.1**	**-1.6**
DMNI	**Dmanisi**	**1.38**	**153**	P		**Pn**	**16 41 12.7**	**-1.7**
DMNI				S		**Sb**	**16 41 31.1**	**-1.6**
KIV	**Kislovodsk**	**1.47**	**341**	PN		**Pb**	**16 41 15.6**	**-0.6**
KIV				SN		**Sb**	**16 41 34.7**	**-0.6**
KIV	**Kislovodsk**	**1.47**	**341**	⇓*e*PG		**Pn**	**16 41 15.4**	**-0.2**
KIV				*eS*		**Sn**	**16 41 34.2**	**-1.3**
BEYR	**Belyy Ugol+**	**1.50**	**345**	*e*PG		**Pn**	**16 41 15.6**	**-0.3**
BEYR				*eS*		**Sn**	**16 41 34.9**	**-1.1**
TRKR	**Terskaya**	**1.54**	**41**	*e*Pg		**Pb**	**16 41 16.9**	**-0.3**
TRKR				*eSg*		**Sg**	**16 41 39.8**	**+2.4**
TRKR	**Terskaya**	**1.54**	**41**	*e*PG		**Pb**	**16 41 16.9**	**-0.3**
TRKR				*eS*		**Sg**	**16 41 39.8**	**+2.4**
BATM	**Batumi**	**1.56**	**233**	*e*P		**Pn**	**16 41 16.8**	**+0.1**
BATM				*eS*		**Sg**	**16 41 39.0**	**+0.7**
BATM				IAML			16 41 40.2	
	comp=Z,533nm,0.2s							
BATM	**Batumi**	**1.56**	**233**	PN		**Pn**	**16 41 16.6**	**-0.1**
BATM	**Batumi**	**1.56**	**233**	*i* P		**Pn**	**16 41 16.7**	**-0.1**
BATM				*i* S		**Sb**	**16 41 37.6**	**-0.2**
BATM	**Batumi**	**1.56**	**233**	PG		**Pn**	**16 41 16.6**	**-0.1**
BATM				S		**Sg**	**16 41 38.2**	**-0.1**

EUZM	**Uzumlu**	**3.97**	**225**	*e*P	**Pn**	**16 41 51.0**	**+1.1**
GEVA	**Gevas**	**4.25**	**183**	*e*PN	**Pn**	**16 41 54.4**	**+0.5**
ANN	**Anapa**	**4.84**	**300**	*e*PN	Pg	16 42 26.8	+6.0
ANN				*e*		16 43 33.8	
ANN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ANN				smax	smax		
	comp=N,8.0nm,0.4s						
ANN				smax	smax		
	comp=N,12nm,1.0s						
KEMA	**Kemaliye**	**4.94**	**230**	*e*P	**Pn**	**16 42 05.7**	**+2.5**
SIM	**Simferopol'**	**7.10**	**293**	P	**Pn**	**16 42 28.9**	**-3.9**
SIM				pmax	pmax		
	comp=Z,49nm,1.6s						
OBN	**Obninsk**	**13.32**	**343**	*e*P	**Pn**	**16 43 57.5**	**-0.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	**Kilima Mbogo**	**43.84**	**189**	*i* P	P	16 49 01.7	+5.9

IDC ***15*** *16:42:37.8±10.0, 15°.25N×91°.48W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/40, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=326.0km s-min=113.0km az=31.0*
MEX ***15*** *16:42:54.0±0.5, 15°.28N×93°.12W, h98km±5km, MD4.0*
NEIC ***15*** *16:42:54.2±1.7, 15°.32N±0°.06×93°.13W±0°.06, h88km±5km, Error ellipse: s-maj=10.3km s-min=5.5km az=48.0*
GCG ***15*** *16:43:07.5±1.0, 15°.53N×92°.01W, h23km±301km, MD4.0*
ISC 15 16:42:54.5±0.9, 15°.33N±0°.06×93°.10W±0°.05, h84km±7km, n33, σ1°.80/45, mb4.1/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.39**	**344**	*e*P	**Pn**	**16 43 07.7**	**-0.1**
PCIG				*e*S	**Sn**	**16 43 18.6**	**+0.9**
PCIG		**0.39**	**344**		**Pn**	**16 43 07.7**	**-0.1**
PCIG					**Sn**	**16 43 18.6**	**+0.9**
THIG		**0.91**	**117**	*e*P	**Pn**	**16 43 12.2**	**-0.6**
THIG				*i* S	**Sn**	**16 43 25.1**	**-1.3**
THIG		**0.91**	**117**		**Pn**	**16 43 12.2**	**-0.6**
THIG					**Sn**	**16 43 25.1**	**-1.3**
CCIG	**Comitan**	**1.33**	**44**	*e*P	**Pn**	**16 43 18.6**	**+0.6**
CCIG				*e*S	**Sn**	**16 43 38.3**	**+2.6**
CCIG	**Comitan**	**1.33**	**44**		**Pn**	**16 43 18.6**	**+0.6**
CCIG					**Sn**	**16 43 38.3**	**+2.6**
TGIG		**1.44**	**359**	*e*P	**Pn**	**16 43 19.0**	**-0.3**
TGIG				*i* S	**Sn**	**16 43 38.0**	**0.0**
TGIG		**1.44**	**359**		**Pn**	**16 43 19.0**	**-0.3**
TGIG					**Sn**	**16 43 38.0**	**0.0**
HUEH	**Huehuetenango**	**1.55**	**90**	Pn	**Pn**	**16 43 21.0**	**+0.2**
RTAL	**Retalhuleu**	**1.58**	**120**		**Pn**	**16 43 21.0**	**0.0**
ERG	**Entre ros, C**	**1.73**	**121**	*e*P	**Pn**	**16 43 27.3**	**+4.4**
ERG				*e*S	**Sn**	**16 43 44.7**	**+0.1**
FUG	**Fuego 3**	**2.36**	**112**	*e*P	**Pn**	**16 43 33.9**	**+2.5**
CMIG	**Matias Romero**	**2.45**	**316**	*e*P	**Pn**	**16 43 32.6**	**+0.1**
CMIG				*i* S	**Sn**	**16 44 00.6**	**-1.0**
CMIG	**Matias Romero**	**2.45**	**316**		**Pn**	**16 43 32.6**	**+0.1**
CMIG					**Sn**	**16 44 00.6**	**-1.0**
PCG	**Pacaya**	**2.59**	**111**	*e*P	**Pn**	**16 43 37.8**	**+3.2**
NBG	**Las Nubes**	**2.77**	**105**	*e*P	**Pn**	**16 43 39.4**	**+2.4**
NBG				*e*S	**Sn**	**16 44 03.0**	**-6.7**
PETF	**Flores**	**3.49**	**63**	Pn	**Pn**	**16 43 46.7**	**+0.2**
ESQI	**Esquipulas**	**3.72**	**101**	Pn	**Pn**	**16 43 49.8**	**+0.1**
MTO3	**Montecristo**	**3.74**	**104**		**Pn**	**16 43 50.1**	**0.0**
TEIG	**Tepich**	**6.70**	**43**		**Pn**	**16 44 29.1**	**-1.2**
LCCY	**Blossom Villag**	**13.15**	**69**	Pn	**Pn**	**16 45 56.4**	**-1.5**
CBCY	**The Bluff, Cay**	**13.46**	**69**	Pn	**Pn**	**16 46 02.4**	**+0.3**
237A	**Washetta, Mont**	**16.78**	**352**	Pn	**Pn**	**16 46 42.2**	**-2.0**
TXAR	**Lajitas Array**	**17.01**	**327**	P	**P**	**16 46 49.1**	**+1.4**
	0.1nm,0.3s,baz=144,slow=14,SNR=7.0						
TX31	**Lajitas Ar. Si**	**17.01**	**327**	P	**Pn**	**16 46 47.2**	**0.0**
TX31				IAmb	IAmb	16 46 55.7	
	comp=Z,13nm,1.5s						
S39A	**Bolivar**	**22.27**	**360**	P	**P**	**16 47 43.0**	**-1.7**
PV12	**Saucer Basin,**	**26.76**	**332**	P	**P**	**16 48 27.5**	**+0.8**
PV12				IAmb	IAmb	16 48 29.4	
	comp=Z,6.1nm,0.9s						
PV04	**Paradox Valley**	**26.87**	**332**	P	**P**	**16 48 29.1**	**+1.5**
PV04				IAmb	IAmb	16 48 30.1	
	comp=Z,4.9nm,0.8s						
NVAR	**Mina Array Bea**	**31.97**	**321**	P	**P**	**16 49 15.4**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=140,slow=7.1,SNR=4.3						
ILAR	**Eielson Array**	**61.20**	**337**	P	**P**	**16 52 58.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=127,slow=7.3,SNR=5.8						
BMAR	**Burnt Mountain**	**61.68**	**340**	P	**P**	**16 53 03.0**	**-0.5**
TRF	**Thorofare Moun**	**61.99**	**335**	P	**P**	**16 53 05.8**	**+0.1**
TRF				IAmb	IAmb	16 53 21.2	
	comp=Z,7.1nm,1.4s						
TOLK	**Toolik Lake Re**	**63.91**	**340**	P	**P**	**16 53 18.5**	**+0.2**
TOLK				IAmb	IAmb	16 53 39.3	
	comp=Z,6.7nm,1.2s						

JMA ***15*** *16:42:54.3±0.4, 46°.45N×142°.13E, h11km±4km, M3.2*
SKHL ***15*** *16:42:54.2±0.6, 46°.27N×142°.19E, h10km, mb4.1/6*
ISC 15 16:42:54.9±1.4, 46°.32N±0°.05×142°.21E±0°.09, h13km±12km, n6, σ1°.13/11, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.74**	**30**	*i* Pg	**Pg**	**16 43 09.2**	**-0.1**
YSS				AMB	AMB	16 43 10.1	
	70nm,0.3s						
YSS				*e*Sg	**Sb**	**16 43 20.2**	**+0.5**
YSS				A	A	16 43 22.1	
	3μm,0.3s						
YSS				A	A	16 43 22.1	
	1μm,0.3s						
JWK2	**Keihoku**	**1.02**	**193**	P	**Pn**	**16 43 15.7**	**+0.7**
JWK2				*e*S	**Sn**	**16 43 30.5**	**+1.3**
JRBN	**Rebuntou**	**1.20**	**222**	P	**Pn**	**16 43 17.0**	**-0.4**
JRBN				*e*S	**Sn**	**16 43 33.3**	**-0.2**
JRR	**Rishiri**	**1.34**	**209**	P	**Pg**	**16 43 20.4**	**-0.2**
JRR				*e*S	**Sg**	**16 43 39.5**	**+1.5**
JSE	**Soyaes**	**1.38**	**169**	P	**Pg**	**16 43 21.0**	**-0.5**
JSE				*e*S	**Sg**	**16 43 40.4**	**+1.0**
ASAJ	**Asahikawa**	**2.22**	**173**	P	**Pb**	**16 43 33.2**	**-1.6**

VIE ***15*** *16:53:31.4±1.4, 51°.55N×16°.17E, h0km, mb2.0/2, ml2.4/3, Error ellipse: s-maj=15.0km s-min=9.3km az=45.0 77 km NW of Wroclaw Suspected Mining induced.*
IDC ***15*** *16:53:34.9±1.2, 51°.38N×16°.06E, h0km, mb1 4.0/2, mb1mx3.1/49, mbtmp3.9/2, ML2.4/4, Error ellipse: s-maj=21.0km s-min=10.8km az=110.0*
PRU ***15*** *16:53:34.0±0.0, 51°.46N×16°.07E, h0km*
ISC 15 16:53:32.2±0.8, 51°.54N±0°.04×16°.10E±0°.03, h0km, n22, σ0°.81/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pg**	**16 53 45.8**	**0.0**
KSP				*e*Sg	**Sg**	**16 53 54.3**	**-0.7**
CHVC	**Chvalec**	**0.96**	**182**	*e*PG	**Pg**	**16 53 50.5**	**0.0**
CHVC				*e*SG	**Sg**	**16 54 02.4**	**-0.5**
OSTC	**Ostas**	**0.99**	**176**	*e*PG	**Pg**	**16 53 51.3**	**+0.1**
OSTC				*e*SG	**Sg**	**16 54 03.4**	**-0.6**
	comp=Z,14nm,0.3s						
UPC	**Upice**	**1.04**	**183**	*e*PG	**Pg**	**16 53 52.0**	**-0.1**
UPC				*e*SG	**Sg**	**16 54 04.9**	**-0.6**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**16 53 54.7**	**-0.5**
DPC				*e*SG	**Sg**	**16 54 09.7**	**-1.1**
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	**Pn**	**16 53 59.1**	**+0.1**
PVCC				*e*SG	**Sn**	**16 54 18.3**	**+0.1**
	comp=Z,51nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**245**	PG	**Pg**	**16 54 01.4**	**+0.2**
BRG				SG	**Sn**	**16 54 21.4**	**+0.4**
	48nm,0.5s						
KRLC	**Kraliky**	**1.53**	**163**	*e*PG	**Pn**	**16 54 00.7**	**-0.1**
KRLC				*e*SG	**Sg**	**16 54 19.4**	**-2.0**
	comp=Z,16nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PG	**Pn**	**16 54 05.5**	**+0.6**
PRU	**Pruhonice**	**1.84**	**213**	*e*PN	**Pn**	**16 54 04.5**	**-0.6**
PRU				*e*PG	**Pb**	**16 54 06.4**	**-0.4**
PRU				*e*SG	**Sb**	**16 54 30.2**	**-0.2**
	comp=Z,6.4nm,0.4s						
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**16 54 07.0**	**+0.4**
CLL				*e*Pg	**Pb**	**16 54 09.0**	**+0.4**
CLL				*i*		16 54 13.2	
CLL				*e*Sg	**Sg**	**16 54 36.0**	**+1.1**
	comp=Z,9.0nm,0.4s						
MORC	**Moravsky Berou**	**1.99**	**152**	*e*PN	**Pn**	**16 54 06.6**	**-0.6**
MORC				*e*SG	**Sn**	**16 54 33.1**	**+0.3**
VRAC	**Vranov**	**2.26**	**172**	Pn	**Pn**	**16 54 11.3**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=346,slow=13,SNR=4.6						
VRAC				Lg	Lg	16 54 42.2	
	comp=Z,1.9nm,0.3s,baz=246,slow=19,SNR=3.3						
VRAC	**Vranov**	**2.26**	**172**	*e*PN	**Pn**	**16 54 11.2**	**+0.4**
KRUC	**Moravsky**	**2.49**	**176**	*e*PN	**Pn**	**16 54 14.7**	**+0.7**
KRUC				*e*SG	**Sb**	**16 54 49.8**	**+0.8**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**16 54 24.9**	**+1.1**
OJC				*e*Sg	**Sg**	**16 55 00.0**	**+1.4**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**16 54 19.9**	**+0.2**
KHC				*e*PG	**Pb**	**16 54 25.5**	**+0.6**
KHC				*e*SN	**Sn**	**16 54 54.6**	**-0.7**
KHC				*e*SG	**Sg**	**16 55 04.5**	**-1.0**
	comp=Z,4.8nm,0.4s						
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**16 54 23.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=7.3						
GERES				Pg	**Pb**	**16 54 28.9**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=28,slow=17,SNR=18						
GERES				Lg	Lg	16 55 08.2	
	comp=Z,1.1nm,0.3s,baz=34,slow=27,SNR=7.8						
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn	**Pn**	**16 54 29.5**	**-0.1**
	comp=Z,0.7nm,0.3s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*e*	**Pn**	**16 54 28.8**	**-1.0**
	baz=184,slow=11						
BSD				*i* P	Pb	16 54 30.2	-7.2
BSD				IAML		16 55 06.8	
	comp=Z,1.8nm,0.4s						
BSD				*i* S	**Sn**	**16 55 10.8**	**-2.7**
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**16 56 15.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=240,slow=11,SNR=1.6						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**Pn**	**16 57 51.3**	**+0.6**
	baz=204,slow=11,SNR=1.3						

KRSC 15 17:05:20.4±1.8, 49°.71N×156°.77E, h16km±25km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.06**	**337**	*e*P	Pb	17 05 38.8	-1.5
SKR				*e*S	Sb	17 05 51.4	-2.5
PAU	**Pauzhetka**	**1.76**	**1**	*e*P	Pn	17 05 51.1	+1.0
PAU				*e*S	Sb	17 06 14.3	+0.3
KDTR	**Khodutka, Kamc**	**2.26**	**21**	*e*P	Pn	17 05 58.7	+1.7
KDTR				*e*S	Sb	17 06 27.8	-0.6
MTVR	**Mutnovka**	**2.91**	**17**	*e*P	Pn	17 06 09.1	+2.9
MTVR				*e*S	Sb	17 06 45.7	-1.8
RUS	**Russkaya**	**2.94**	**21**	*e*P	Pn	17 06 08.2	+1.8
RUS				*e*S	Sn	17 06 44.3	+3.0
GRL	**Gorelyy**	**2.96**	**16**	*e*P	Pn	17 06 09.4	+2.6
GRL				*e*S	Sb	17 06 46.8	-1.9
KRMR	**Karymshinskiy**	**3.24**	**15**	*e*P	Pb	17 06 14.5	-2.9
PET	**Petropavlovsk**	**3.52**	**19**	*e*P	Pn	17 06 17.1	+2.7
PET				*e*S	Sn	17 06 59.8	+4.2
DALK	**Dalny**	**3.55**	**20**	*e*P	Pn	17 06 17.6	+2.9
DALK				*e*S	Sn	17 07 00.5	+4.2
UGLR	**Uglovaya**	**3.73**	**19**	*e*P	Pn	17 06 21.5	+4.1
AVH	**Avacha**	**3.76**	**18**	*e*P	Pb	17 06 22.2	-4.3
KOK	**Koryaka**	**3.77**	**17**	*e*P	Pb	17 06 22.7	-3.9
SMAR	**Somma**	**3.78**	**19**	*e*P	Pn	17 06 22.3	+4.2
KRER	**Koryakskii**	**3.80**	**18**	*e*P	Pn	17 06 22.1	+3.6
KRX	**Arik**	**3.84**	**17**	*e*P	Pn	17 06 22.5	+3.6
SPN	**Mys Shipunski**	**3.96**	**30**	*e*P	Pn	17 06 23.1	+2.8
SPN				*e*S	Sn	17 07 10.4	+4.0
KZV	**Kizimen**	**5.82**	**20**	*e*P	Pn	17 06 50.4	+4.3

IDC 15 17:19:51.8±3.1, 8°.44S×123°.64E, h192km±34km, mb2.8/1, mb1 3.0/4, mb1mx2.8/41, mbtmp3.4/4, Error ellipse: s-maj=104.0km s-min=27.3km az=55.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.75**	**179**	P	Pn	17 20 26.8	-0.4
	19nm,0.3s,baz=8.7,slow=4.1,SNR=23						
BATI				S	Sn	17 20 55.3	+0.3
	20nm,0.3s,baz=78,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**9.79**	**169**	P	Pn	17 22 06.7	-1.8
	0.4nm,0.3s,baz=355,slow=10,SNR=23						
FITZ				S	Sn	17 23 52.8	-5.0
	0.6nm,0.3s,baz=112,slow=8.6,SNR=6.3						
WRA	**Warramunga Arr**	**15.42**	**139**	P	Pn	17 23 18.7	-0.9
	0.3nm,0.3s,baz=314,slow=14,SNR=21						
WRA				S	S	17 26 00.7	-11
	0.1nm,0.3s,baz=318,slow=24,SNR=2.7						
ASAR	**Alice Springs**	**18.05**	**148**	P	Pn	17 23 50.4	-0.5
	0.1nm,0.3s,baz=323,slow=12,SNR=16						
MKAR	**Makanchi Array**	**66.16**	**330**	P	P	17 30 18.7	0.0
	0.1nm,0.4s,baz=147,slow=8.1,SNR=2.5						

ISN ***15*** *17:21:41.1±3.2, 32°.54N×47°.96E, h17km±32km, ML1.5*
TEH 15 17:21:43.1, 32°.54N×47°.95E, h11km, ML2.9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.58**	**284**	*e*Pg	Pg	17 21 54.2	-0.2
DHL1				*e*		17 22 07.3	
IKMR	**Kamar-syah**	**1.04**	**20**	*e*Pg	Pb	17 22 02.7	-0.5
IKMR				*e*		17 22 25.7	
IDOB	**Doab**	**1.26**	**9**	*e*		17 22 32.1	
IDOB				*e*Pg	Pg	17 22 08.1	+0.7
AHWZ	**Ahwaz**	**1.34**	**154**	*e*Sg	Sg	17 22 28.6	+2.3
BMDN	**Meydan**	**1.35**	**33**	*e*Pg	Pg	17 22 10.3	+1.2
BMDN				*e*		17 22 11.2	
IKOM	**Komasi**	**1.67**	**347**	*e*Pg	Pg	17 22 15.7	+0.4
IKOM				*e*		17 22 42.9	
HSAM	**Samen**	**1.76**	**18**	*e*Pg	Pg	17 22 16.4	-0.5
HSAM				*e*		17 22 18.6	
IBDR	**Badra**	**1.79**	**289**	*e*Pg	Pn	17 22 12.0	-2.0
	baz=108						
IBDR				*e*Sg	Sb	17 22 39.0	+0.6
IBDR				AML	AML	17 22 48.8	
	comp=N,3.8nm,0.6s						
IBDR				AML	AML	17 22 53.4	
	comp=E,5.5nm,0.7s						
NSR	**Nassriya**	**2.17**	**226**	*e*Pn	Pn	17 22 19.0	-0.1
NSR				*e*Sn	Sn	17 22 43.0	-2.9
NSR				AML	AML	17 23 00.5	
	comp=E,10nm,0.7s						
JHBN	**Jahan bin**	**2.32**	**97**	*e*Pn	Pn	17 22 22.9	+1.4
JHBN				*e*		17 23 08.3	
HAGD	**Aghdareh**	**2.49**	**23**	*e*Pn	Pb	17 22 26.9	-1.0
HAGD				*e*		17 22 32.6	
IPIR	**Pirpir**	**2.49**	**86**	*e*Pn	Pb	17 22 26.1	-1.9
IPIR				*e*		17 23 16.7	
ILIN	**Lien**	**2.51**	**341**	*e*Pn	Pb	17 22 26.6	-1.8
ILIN				*e*		17 23 10.6	
IDHR	**Dehrash**	**2.52**	**329**	*e*Pn	Pn	17 22 26.0	+1.8
IDHR				*e*		17 22 34.8	

IDC ***15*** *18:11:17.7±1.2, 2°.02N×124°.90E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.6/39, mbtmp4.0/5, ML3.4/1, Error ellipse: s-maj=46.5km s-min=22.1km az=57.0*
NEIC ***15*** *18:11:30.6±1.3, 2°.44N±0°.09×126°.1E±0°.1, h118km±6km, mb4.3/14, Error ellipse: s-maj=16.8km s-min=10.1km az=58.0*
DJA ***15*** *18:11:32.2±0.8, 2°.N±2°×126°.6E±°, h23km±8km, M4.1/12, mB5.1/3, mb4.1/6, MLv4.0/12, Mw(mB)4.5/3*
ISC 15 18:11:30.2±0.7, 2°.35N±0°.05×126°.02E±0°.07, h105km, n37, σ1°.90/40, mb4.2/10, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.41**	**340**	P	Pn	**18 11 57.4**	**+1.6**
SGSI				S	**Sn**	**18 12 16.7**	**+1.6**
TNTI	**Ternate**	**2.06**	**139**	P	**Pn**	**18 12 06.3**	**+2.4**
TNTI	**Ternate**	**2.06**	**139**		**Pn**	**18 12 06.9**	**+3.0**
TNTI				Sn	**Sn**	**18 12 32.0**	**+2.5**
KMSI	**Cibinong**	**2.70**	**229**	P	**Pn**	**18 12 14.8**	**+2.7**
GTOI	**Gorontalo**	**3.46**	**241**	P	**Pn**	**18 12 24.2**	**+1.9**
SANI	**Sanana**	**4.37**	**180**	P	**Pn**	**18 12 34.5**	**-0.1**
LUWI	**Luwuk**	**4.68**	**224**	P	**Pn**	**18 12 41.5**	**+2.7**
LUWI	**Luwuk**	**4.68**	**224**		**Pn**	**18 12 41.3**	**+2.5**
KCP	**Kidapawan**	**4.72**	**349**	*e*P	**Pn**	**18 12 40.7**	**+1.4**
NLAI	**Namlea**	**5.66**	**169**	P	**Pn**	**18 12 53.6**	**+1.7**
	0.7nm6μm110nm,0.8s						
SIJI	**Sorong**	**6.14**	**121**	Pn	Pn	18 13 01.9	+3.4
	0.7nm,0.3s,baz=296,slow=14,SNR=3.8						
MSAI	**Masohi**	**6.36**	**153**	P	**Pn**	**18 13 04.6**	**+3.1**
	0.1nm372nm20nm,0.6s						
MPSI	**Mapaga**	**6.44**	**252**	P	**Pn**	**18 13 05.1**	**+2.5**
	0.0nm10nm,1.5s						
MYLDM	**Lahad Datu**	**8.02**	**291**	Pn	**Pn**	**18 13 27.0**	**+3.0**
TTSI	**Tana Toraja**	**8.20**	**229**	P	**Pn**	**18 13 28.2**	**+1.7**
SBUM	**Sibu**	**13.79**	**271**	P	**Pn**	**18 14 46.8**	**+0.5**
MTN	**Manton Dam**	**15.93**	**162**	Pn	**Pn**	**18 15 07.8**	**-0.7**
MTN				IAmb	IAmb	18 15 10.5	
	comp=Z,11nm,0.4s						
KNRA	**Kununurra**	**18.12**	**171**	P	**P**	**18 15 34.7**	**+0.6**
KNRA				IAmb	IAmb	18 15 35.4	
	comp=Z,15nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.32**	**181**	P	**P**	**18 15 53.5**	**-4.7**
CISI	**Cisompet, Garu**	**20.66**	**241**	P	**P**	**18 16 02.0**	**0.0**
WB0	**Warramunga Arr**	**23.47**	**160**	P	**P**	**18 16 30.1**	**-0.5**
WRAB	**Tennant Creek**	**23.61**	**160**	P	**P**	**18 16 31.6**	**-0.3**
WRAB				IAmb	IAmb	18 16 32.7	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**23.61**	**160**	P	**P**	**18 16 31.6**	**-0.3**
	comp=Z,7.9nm,0.5s,baz=339,slow=10,SNR=101						
WRA				S	**S**	**18 20 38.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=350,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**23.61**	**160**	P	**P**	**18 16 30.6**	**-1.3**
WB2	**Warramunga Arr**	**23.62**	**160**	P	**P**	**18 16 31.5**	**-0.4**
WB2				IAmb	IAmb	18 16 32.8	
	comp=Z,7.9nm,0.7s						
WR0	**Warramunga Arr**	**23.70**	**160**	P	**P**	**18 16 32.3**	**-0.3**
WR0				IAmb	IAmb	18 16 33.5	
	comp=Z,12nm,1.2s						
KRVT	**Keravat (AS076**	**26.81**	**104**	P	P	18 17 09.8	+8.9
	comp=Z,17nm,0.5s,baz=352,slow=7.1,SNR=1.8						
AS31	**Alice Springs**	**26.98**	**164**	P	**P**	**18 17 02.0**	**-0.3**
ASAR	**Alice Springs**	**26.98**	**164**	P	**P**	**18 17 02.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=338,slow=7.0,SNR=49						
ASAR				PcP	**PcP**	**18 20 21.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=346,slow=2.1,SNR=4.3						
ASAR				S	**S**	**18 21 28.5**	**-3.6**
	comp=Z,0.4nm,0.5s,baz=317,slow=26,SNR=6.4						
ASAR	**Alice Springs**	**26.98**	**164**	P	**P**	**18 17 02.2**	**-0.1**
MORW	**Morawa**	**32.67**	**196**	P	**P**	**18 17 52.1**	**-0.5**
BBOO	**Buckleboo**	**36.24**	**166**	P	**P**	**18 18 22.9**	**-0.4**
BBOO				IAmb	IAmb	18 18 35.1	
	comp=Z,4.2nm,0.9s						
STKA	**Stephens Creek**	**37.11**	**158**	P	**P**	**18 18 30.8**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=345,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**37.11**	**158**	P	**P**	**18 18 31.2**	**+0.5**
MK31	**Makanchi Array**	**58.29**	**326**	P	**P**	**18 21 12.3**	**-1.8**
MK31				IAmb	IAmb	18 21 39.2	
	comp=Z,2.5nm,1.4s						
MKAR	**Makanchi Array**	**58.29**	**326**	P	**P**	**18 21 12.1**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=120,slow=8.0,SNR=7.6						
MKAR	**Makanchi Array**	**58.29**	**326**	P	**P**	**18 21 12.2**	**-1.8**

TAP ***15*** *18:12:21.3, 24°.78N×122°.83E, h111km, ML2.8, C*
JMA ***15*** *18:12:21.8±0.2, 24°.73N×122°.80E, h109km±2km, M1.7*
ISC 15 18:12:23.0±1.5, 24°.69N±0°.06×122°.81E±0°.03, h101km±9km, n72, σ0°.99/124, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.27**	**153**	P	**Pn**	**18 12 37.6**	**+0.1**
JYNG				S	**Sn**	**18 12 49.4**	**+1.1**
YOJ	**Yonaguni jima**	**0.29**	**141**	*e*P	**Pn**	**18 12 37.8**	**+0.2**
	baz=160						
YOJ				*e*S	**Sn**	**18 12 50.1**	**+1.6**
	baz=160						
YOJ	**Yonaguni jima**	**0.29**	**141**	P	**Pn**	**18 12 37.7**	**+0.1**
YOJ				S	**Sn**	**18 12 49.0**	**+0.5**
EGS		**0.81**	**281**	*e*S	**Sn**	**18 12 55.2**	**-0.2**
	baz=268						
TWC	**Suao**	**0.88**	**265**	*e*P	**Pn**	**18 12 41.4**	**-0.7**
	baz=259						
TWC				*e*S	**Sn**	**18 12 56.1**	**-0.5**
	baz=259						
NTC	**Toucheng**	**0.91**	**281**	*e*P	**Pn**	**18 12 42.1**	**-0.3**
	baz=270						
IRIF	**Iriomote-Funau**	**0.91**	**113**	P	**Pn**	**18 12 42.2**	**-0.2**
IRIF				S	**Sn**	**18 12 57.5**	**+0.4**
TIPB	**Shuangxi**	**0.94**	**288**	P	**Pn**	**18 12 42.5**	**-0.3**
	baz=275						
ENA	**Nanau**	**1.01**	**255**	*e*P	**Pn**	**18 12 44.0**	**+0.6**
	baz=246						
ENA				*e*S	**Sn**	**18 12 59.4**	**+0.4**
	baz=246						
NWF	**Wu-fen Shan**	**1.01**	**292**	*e*P	**Pn**	**18 12 43.3**	**-0.3**
	baz=286						
WFSB	**Wu-fen Shan**	**1.01**	**292**	*e*P	**Pn**	**18 12 43.2**	**-0.3**
	baz=286						
TWE	**Neicheng**	**1.04**	**272**	P	**Pn**	**18 12 43.6**	**-0.3**
	baz=266						
TWE				*e*S

	baz=245								
CHGB	**Renai**	**1.62**	**248**	*e*P		**Pn**	**18 12 50.9**	**-0.1**
	baz=239								
CHGB				*e*S		**Sn**	**18 13 11.7**	**-0.5**
	baz=239								
EGFH	**Guangfu**	**1.62**	**231**	*e*P		**Pn**	**18 12 49.3**	**-1.5**
	baz=229								
EGFH				*e*S		**Sn**	**18 13 10.6**	**-1.2**
	baz=229								
LIOB	**Emei**	**1.63**	**269**	*e*P		**Pn**	**18 12 50.7**	**-0.2**
	baz=265								
LIOB				*e*S		**Sn**	**18 13 11.5**	**-0.7**
	baz=265								
NSTT	**Nanjuang**	**1.65**	**268**	*e*P		**Pn**	**18 12 50.5**	**-0.6**
	baz=264								
NSTT				*e*S		**Sn**	**18 13 11.9**	**-0.6**
	baz=264								
JTJ	**Tarama**	**1.72**	**91**	P		**Pn**	**18 12 51.6**	**-0.4**
JTJ				S		**Sn**	**18 13 13.5**	**-0.6**
HGSD	**Ruisui**	**1.74**	**227**	*e*P		**Pn**	**18 12 51.7**	**-0.5**
	baz=224								
HGSD				*e*S		**Sn**	**18 13 13.2**	**-1.3**
	baz=224								
WHP	**Taichung City**	**1.75**	**257**	*e*P		**Pn**	**18 12 52.9**	**+0.4**
	baz=250								
WHP				*e*S		**Sn**	**18 13 15.1**	**+0.3**
	baz=250								
VWDT	**VWDT**	**1.79**	**239**	P		**Pn**	**18 12 52.8**	**0.0**
	baz=232								
VWDT				S		**Sn**	**18 13 15.0**	**-0.6**
	baz=232								
EHY	**Hungye**	**1.80**	**229**	*e*P		**Pn**	**18 12 52.0**	**-1.0**
	baz=227								
EHY				*e*S		**Sn**	**18 13 14.0**	**-1.9**
	baz=227								
TWQ1	**Liyutan**	**1.89**	**260**	*e*P		**Pn**	**18 12 53.8**	**-0.3**
	baz=257								
YULB	**Yu-li**	**1.89**	**227**	*e*P		**Pn**	**18 12 53.0**	**-1.2**
	baz=232								
YULB				*e*S		**Sn**	**18 13 15.6**	**-2.4**
	baz=232								
EYUL	**Yuli**	**1.91**	**226**	*e*P		**Pn**	**18 12 54.7**	**+0.3**
	baz=232								
EYUL				*e*S		**Sn**	**18 13 18.9**	**+0.5**
	baz=232								
SSLB	**Suanglung**	**1.92**	**242**	*e*P		**Pn**	**18 12 54.9**	**+0.3**
	baz=237								
SSLB				*e*S		**Sn**	**18 13 18.0**	**-0.7**
	baz=237								
SMLT	**Sun Moon Lake**	**1.92**	**246**	*e*P		**Pn**	**18 12 55.5**	**+0.9**
	baz=237								
SMLT				*e*S		**Sn**	**18 13 20.7**	**+1.9**
	baz=237								
TWF1	**Yuli**	**1.92**	**226**	*e*P		**Pn**	**18 12 53.9**	**-0.7**
	baz=231								
TWF1				*e*S		**Sn**	**18 13 17.4**	**-1.3**
	baz=231								
TYC	**Yuchr**	**1.95**	**247**	*e*P		**Pn**	**18 12 55.3**	**+0.5**
	baz=239								
TYC				*e*S		**Sn**	**18 13 21.3**	**+2.1**
	baz=239								
FULB	**Fuli**	**2.03**	**223**	*e*P		**Pn**	**18 12 55.8**	**-0.2**
	baz=216								
FULB				*e*S		**Sn**	**18 13 20.7**	**-0.5**
	baz=216								
WHYT	**Xinyi Township**	**2.04**	**241**	*e*P		**Pn**	**18 12 56.8**	**+0.6**
	baz=238								
WHYT				*e*S		**Sn**	**18 13 23.2**	**+1.7**
	baz=238								
CHKT	**Chengkung**	**2.06**	**220**	*e*S		**Sn**	**18 13 19.7**	**-2.2**
	baz=214								
WJS	**Zhushan**	**2.09**	**246**	*e*P		**Pn**	**18 12 56.6**	**-0.1**
	baz=237								
WJS				*e*S		**Sn**	**18 13 24.4**	**+1.9**
	baz=237								
WNT	**Mingjian**	**2.10**	**248**	*e*S		**Sn**	**18 13 24.3**	**+1.5**
	baz=254								
ALS	**Alishan**	**2.18**	**238**	*e*P		**Pn**	**18 12 58.9**	**+0.7**
	baz=235								
ALS				*e*S		**Sn**	**18 13 25.9**	**+0.9**
	baz=235								
EDH	**Donghe**	**2.20**	**219**	*e*P		**Pn**	**18 12 56.8**	**-1.4**
	baz=213								
EDH				*e*S		**Sn**	**18 13 23.3**	**-1.7**
	baz=213								
ELDTW	**Lidau**	**2.22**	**228**	*e*P		**Pn**	**18 12 57.2**	**-1.4**
	baz=226								
CHN5	**Tsauling**	**2.23**	**241**	*e*P		**Pn**	**18 12 59.4**	**+0.8**
	baz=232								
CHN5				*e*S		**Sn**	**18 13 28.1**	**+2.2**
	baz=232								
LDUT	**Ludao**	**2.35**	**212**	*e*S		**Sn**	**18 13 26.2**	**-2.4**
	baz=208								
STYT	**Tauyuan**	**2.42**	**231**	*e*S		**Sn**	**18 13 31.3**	**+1.0**
	baz=228								
TPUB	**Ta-pu**	**2.43**	**236**	*e*P		**Pn**	**18 13 02.1**	**+0.9**
	baz=234								
TPUB				*e*S		**Sn**	**18 13 32.1**	**+1.6**
	baz=234								
WTP	**Ta-pu**	**2.47**	**235**	*e*P		**Pn**	**18 13 02.6**	**+0.9**
	baz=233								
WTP				*e*S		**Sn**	**18 13 33.7**	**+2.1**
	baz=233								
TWK	**Hsinying**	**2.55**	**237**	*e*P		**Pn**	**18 13 03.8**	**+0.9**
	baz=235								
TWK				*e*S		**Sn**	**18 13 34.4**	**+0.9**
	baz=235								
CHN1	**Nanshi**	**2.57**	**235**	*e*P		**Pn**	**18 13 03.3**	**+0.2**
	baz=233								
CHN1				*e*S		**Sn**	**18 13 34.9**	**+1.1**
	baz=233								
WSF	**Szhu**	**2.59**	**247**	*e*S		**Sn**	**18 13 32.8**	**-1.4**
	baz=244								
SGST	**Jiashian**	**2.59**	**232**	*e*P		**Pn**	**18 13 03.5**	**+0.1**
	baz=238								
SGST				*e*S		**Sn**	**18 13 35.8**	**+1.4**
	baz=238								
SLGT	**Liugui**	**2.60**	**230**	*e*P		**Pn**	**18 13 04.6**	**+1.1**
	baz=234								
SLGT				*e*S		**Sn**	**18 13 37.0**	**+2.4**
	baz=234								
SSD	**Sandimen**	**2.78**	**226**	*e*P		**Pn**	**18 13 07.2**	**+1.4**
	baz=224								
MASBT	**Mashibuluo**	**2.88**	**224**	*e*P		**Pn**	**18 13 07.4**	**+0.3**
	baz=234								
MASBT				*e*S		**Sn**	**18 13 42.6**	**+1.6**
	baz=234								

KLM ***15*** *18:32:14.0,3˙.43S×128˙.02E, h100km, mb5.1*
MOS ***15*** *18:32:16.1±1.0,3˙.14S×127˙.92E, h22km, mb5.3/23, Error ellipse: s-maj=9.5km s-min=5.1km az=121.6*
NEIC ***15*** *18:32:19.1±2.6,3˙.16S±0˙.04×128˙.02E±0˙.06, h32km±3km, mb5.0/96, Error ellipse: s-maj=8.4km s-min=5.6km az=113.0*
IDC ***15*** *18:32:19.3±0.3,3˙.21S×127˙.91E, h28km±2km, mb4.5/25, mb1 4.7/29, mb1mx4.6/36, mbtmp4.7/29, ML4.8/4, MS4.2/28, Ms1 4.2/28, ms1mx4.1/40, Error ellipse: s-maj=13.1km s-min=8.5km az=71.0*
GCMT ***15*** *18:32:21.1±0.2,2˙.97S±0˙.01×128˙.04E±0˙.01, h30km, MW5.1/100, Moment Tensor Solution. s82,c117; s100,c160; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.04±.14; Mθθ-3.93±.09; Mϕϕ-0.11±.11; Mrθ-0.70±.12; Mθϕ2.03±.07; Mϕr2.23±.18; Best double couple: Mo5.04700×10¹⁶ NP1:ϕs92.00000°, δ40.00000°, λ55.00000°. NP2:ϕs314.00000°, δ59.00000°, λ115.00000°. Principal axes: T 5.0140, Plg66.0000°, Azm273.0000°; N 0.0630, Plg21.0000°, Azm120.0000°; P -5.0810, Plg10.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***15*** *18:32:21.2±0.2,3˙.5S×12˙.8E±˚, h37km±2km, M4.9/71, mb5.1/71, mB5.4/47, MLv5.3/22, Mw(mB)4.9/47, Mwp5.2/11*
ISC 15 18:32:19.3±0.3, 3.14S±0.04×128.08E±0.03, h32km±2km, h32km:pP-P, n401, σ1§47/424, mb5.0/111, MS4.2/36, 12C-9D, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.87**	**104**	P			**Pb**	**18 32 37.1**	**+1.1**
MSAI				S			**Sn**	**18 32 48.7**	**+1.8**
NLAI	**Namlea**	**0.98**	**264**	P			**Pb**	**18 32 37.2**	**-0.7**
NLAI				S			**Sb**	**18 32 52.8**	**+2.2**
BNDI	**Bandanaira**	**2.28**	**127**	P			**Pb**	**18 32 58.6**	**-1.2**

SANI	**Sanana**	**2.36**	**297**	P			**Pn**	**18 32 54.4**	**-1.4**
SIJI	**Sorong**	**3.90**	**55**	Pn			**Pn**	**18 33 18.1**	**+1.0**
	134nm,0.3s,baz=70,slow=22,SNR=588								
SIJI				Sn			**Sn**	**18 34 01.9**	**+0.1**
	156nm,0.3s,baz=132,slow=22,SNR=27								
SIJI				LR			LR	18 34 58.1	
	comp=Z,3μm,21.3s,baz=275,slow=39								
TNTI	**Ternate**	**3.95**	**350**	P			**Pn**	**18 33 18.2**	**+0.4**
TNTI	**Ternate**	**3.95**	**350**	Pn			**Pn**	**18 33 17.9**	**+0.2**
FAKI	**Fak Fak**	**4.17**	**87**	P			**Pn**	**18 33 22.7**	**+2.0**
FAKI	**Fak Fak**	**4.17**	**87**				**Pn**	**18 33 21.9**	**+1.2**
FAKI				Sn			**Sn**	**18 34 06.8**	**-1.6**
KDI	**Kendari**	**5.51**	**261**	P			**Pn**	**18 33 41.6**	**+2.4**
	0.5nm3μm147nm,1.0s								
KMSI	**Cibinong**	**5.52**	**312**	P			**Pn**	**18 33 38.8**	**-0.5**
	7.0nm5μm566nm,0.9s								
LUWI	**Luwuk**	**5.70**	**291**	P			**Pn**	**18 33 41.9**	**+0.1**
	2.9nm18μm837nm,0.7s								
LUWI	**Luwuk**	**5.70**	**291**	Pn			**Pn**	**18 33 41.9**	**+0.1**
SAUI	**Saumlaki**	**5.78**	**146**	P			**Pn**	**18 33 47.3**	**+4.4**
	4.7nm5μm13μm2μm,1.0s								
SAUI	**Saumlaki**	**5.78**	**146**	Pn			**Pn**	**18 33 44.4**	**+1.6**
SGSI	**Sangihe**	**7.25**	**339**	P			**Pn**	**18 34 04.7**	**+1.6**
	1.2nm3μm216nm,0.4s								
SOEI	**Soe**	**7.58**	**210**	P			Pn	18 34 13.1	+5.3
	1.4nm6μm5μm396nm,1.1s								
SOEI	**Soe**	**7.58**	**210**	Pn			**Pn**	**18 34 09.2**	**+1.4**
MMRI	**Maumere**	**7.97**	**227**	P			Pn	18 34 17.4	+4.4
	4μm2μm211nm,1.2s								
MMRI	**Maumere**	**7.97**	**227**	Pn			**Pn**	**18 34 12.9**	**-0.1**
BKSI	**Bukukumba**	**8.23**	**254**	P			Pn	18 34 20.8	+4.3
	1.3nm3μm5μm277nm,1.6s								
SRPI	**Serui, Papua**	**8.25**	**81**	P			**Pn**	**18 34 17.8**	**+1.0**
	3.8nm3μm201nm,0.9s								
BAKI	**Biak**	**8.25**	**77**	P			**Pn**	**18 34 18.3**	**+1.5**
	1.7nm5μm616nm,0.8s								
TTSI	**Tana Toraja**	**8.25**	**270**	P			**Pn**	**18 34 19.1**	**+2.2**
	1μm3μm78nm,0.8s								
BATI	**Baumata**	**8.28**	**212**	Pn			Pn	18 34 23.8	+6.5
	8.1nm,0.3s,baz=150,slow=2.7,SNR=7.5								
BATI				LR			LR	18 37 29.1	
	comp=Z,5μm,21.3s,baz=32,slow=38								
BATI	**Baumata**	**8.28**	**212**	P			Pn	18 34 21.9	+4.7
	2μm1μm109nm,1.0s								
SPSI	**Sidrap Palu**	**8.34**	**264**	P			Pn	18 34 22.3	+4.3
	0.6nm2μm168nm,1.4s								
EDFI	**Ende, Flores**	**8.45**	**228**	P			**Pn**	**18 34 23.7**	**+4.0**
	3μm710nm51nm,0.7s								
KAPI	**Kappang**	**8.52**	**257**	Pn			Pn	18 34 24.8	+4.3
	13nm,0.3s,baz=111,slow=9.0,SNR=15								
KAPI				Sn			**Sn**	**18 36 00.9**	**+5.4**
	0.6nm,0.3s,baz=94,slow=19,SNR=0.9								
KAPI				LR			LR	18 38 09.6	
	comp=Z,3μm,21.7s,baz=70,slow=42								
KAPI	**Kappang**	**8.52**	**257**	P			**Pn**	**18 34 20.9**	**+0.4**
KAPI	**Kappang**	**8.52**	**257**				**Pn**	**18 34 20.9**	**+0.4**
MPSI	**Mapaga**	**8.88**	**293**	P			**Pn**	**18 34 29.0**	**+3.5**
	0.3nm934nm68nm,0.6s								
WSI	**Waingapu**	**10.09**	**230**	P			Pn	18 35 02.3	+20
MTN	**Manton Dam**	**10.10**	**163**	P			**Pn**	**18 34 45.9**	**+3.6**
	baz=10,SNR=16								
MTN	**Manton Dam**	**10.10**	**163**	Pn			**Pn**	**18 34 43.9**	**+1.6**
KDU	**Kakadu**	**10.43**	**156**	P			**Pn**	**18 34 49.2**	**+2.5**
	baz=10,SNR=140								
SMKI	**Samarinda**	**11.19**	**284**	P			Pn	18 35 11.3	+14
PLAI	**Plampang**	**11.70**	**241**	P			Pn	18 35 09.6	+5.5
	2μm2μm99nm,0.9s								
GENI	**Genyem**	**12.08**	**88**	P			**Pn**	**18 35 10.7**	**+1.3**
	3μm209nm,0.8s								
TWSI	**Taliwang, Sumb**	**12.45**	**243**	P			**Pn**	**18 35 18.1**	**+3.7**
	922nm46nm,0.8s								
KNRA	**Kununurra**	**12.47**	**177**	P			**Pn**	**18 35 17.7**	**+3.0**
	baz=13,SNR=123								
KNRA	**Kununurra**	**12.47**	**177**	Pn			**Pn**	**18 35 17.6**	**+2.9**
JAY	**Jayapura**	**12.62**	**87**	Pn			**Pn**	**18 35 18.8**	**+1.9**
	1.5nm,0.3s,baz=239,slow=8.4,SNR=3.3								
JAY				LR			LR	18 41 36.3	
	comp=Z,2μm,20.6s,baz=279,slow=44								
JAY	**Jayapura**	**12.62**	**87**	P			**Pn**	**18 35 18.0**	**+1.2**
	28nm,1.1s								
MYLDM	**Lahad Datu**	**12.65**	**311**				**Pn**	**18 35 18.6**	**+1.5**
BBKI	**Banjar Baru**	**13.22**	**268**	P			**Pn**	**18 35 27.9**	**+2.9**
	1μm44nm,1.4s								
MTKI	**Muara Teweh, K**	**13.36**	**279**	P			**P**	**18 35 39.2**	**+3.2**
JAGI	**Jajag, Banyuwa**	**14.83**	**248**	P			**P**	**18 35 49.7**	**-2.7**
	3μm3μm95nm,1.2s								
JAGI	**Jajag, Banyuwa**	**14.83**	**248**	Pn			**Pn**	**18 35 47.0**	**+0.1**
KKM	**Kota Kinabalu**	**14.96**	**308**	Pn			**Pn**	**18 35 48.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.06**	**189**	Pn			**Pn**	**18 35 50.5**	**+0.6**
	0.6nm,0.3s,baz=25,slow=13,SNR=30								
FITZ				LR			LR	18 41 58.4	
	comp=Z,2μm,21.5s,baz=28,slow=39								
FITZ	**Fitzroy Crossi**	**15.06**	**189**	P			**Pn**	**18 35 50.7**	**+0.8**
	baz=15,SNR=40								
FITZ	**Fitzroy Crossi**	**15.06**	**189**	Pn			**Pn**	**18 35 49.5**	**-0.4**
BLJI	**Banyuglugur**	**15.13**	**252**	P			**P**	**18 35 56.1**	**+0.5**
	2μm149nm,0.9s								
GMJI	**Gumukmas**	**15.43**	**250**	P			**P**	**18 35 59.0**	**0.0**
	4μm3μm121nm,2.1s								
PBKI	**Pangkalan Bun**	**16.40**	**271**	P			P	18 36 25.0	+15
SBUM	**Sibu**	**16.80**	**289**	Pn			**Pn**	**18 36 10.2**	**-2.2**
PWJI	**Pagerwojo**	**16.91**	**253**	P			**P**	**18 36 17.3**	**+1.9**
	3μm81nm,1.0s								
WB0	**Warramunga Arr**	**17.64**	**160**				**Pn**	**18 36 22.8**	**+0.1**
WB0						IAmb	IAmb	18 36 26.4	
	comp=Z,93nm,0.9s								
WOJI	**Wonogiri, Jawa**	**17.70**	**254**	P			**P**	**18 36 26.4**	**+2.2**
	comp=Z,2μmcomp=Z,120nm,1.9s								
WRAB	**Tennant Creek**	**17.78**	**160**	‖ *e*P			**P**	**18 36 25.2**	**+0.2**
WRAB						pmax	pmax		
	comp=Z,100nm,1.3s								
WRAB	**Tennant Creek**	**17.78**	**160**	P			**Pn**	**18 36 24.9**	**+0.5**
WRA	**Warramunga Arr**	**17.78**	**160**	P			**Pn**	**18 36 25.1**	**+0.6**
	comp=Z,8.6nm,0.3s,baz=340,slow=12,SNR=328								
WRA				S			**S**	**18 39 47.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=4.8								
WRA				LR			LR	18 44 06.5	
	comp=Z,2μm,18.6s,baz=335,slow=40								
WRA	**Warramunga Arr**	**17.78**	**160**	*i* P			**Pn**	**18 36 25.1**	**+0.6**
WRA						pmax	pmax		
	comp=Z,45nm,0.6s								
WRA	**Warramunga Arr**	**17.78**	**160**	P			**Pn**	**18 36 23.7**	**-0.8**
WB2	**Warramunga Arr**	**17.79**	**160**	P			**P**	**18 36 25.8**	**+0.6**
	baz=18								
WB2	**Warramunga Arr**	**17.79**	**160**				**Pn**	**18 36 24.3**	**-0.3**
WB2						IAmb	IAmb	18 36 37.3	
	comp=Z,78nm,0.8s								
WR0	**Warramunga Arr**	**17.86**	**160**				**Pn**	**18 36 25.6**	**+0.1**
SMRI	**Semarang**	**17.99**	**257**	P			**P**	**18 36 30.8**	**+3.4**
	comp=Z,5μmcomp=Z,220nm,0.9s								
SMRI	**Semarang**	**17.99**	**257**				**Pn**	**18 36 25.3**	**-1.8**
SMRI						IAmb	IAmb	18 36 33.0	
	comp=Z,185nm,0.9s								
KSM	**Kuching**	**18.35**	**284**	P			**Pn**	**18 36 31.3**	**-0.2**
COEN	**Coen**	**18.37**	**127**	P			**P**	**18 36 32.4**	**+0.8**
	baz=18,SNR=40								
COEN	**Coen**	**18.37**	**127**				**P**	**18 36 29.9**	**-1.8**
TGY	**Tagaytay City**	**18.54**	**338**	LR			LR	18 45 30.9	
	comp=Z,306nm,19.6s,baz=122,slow=43								
KPJI	**Karang Pucung**	**19.52**	**257**	P			**Pn**	**18 36 47.1**	**+1.5**
	comp=Z,2μmcomp=Z,221nm,0.9s								
PMG	**Port Moresby**	**19.95**	**109**	P			**P**	**18 36 50.7**	**+1.8**
	comp=Z,32nm,0.8s,baz=297,slow=6.3,SNR=13								
PMG				LR			LR	18 46 50.4	
	comp=Z,768nm,21.0s,baz=317,slow=43								
PMG	**Port Moresby**	**19.95**	**109**	*c i* P			Pn	18 36 52.1	+1.4
PMG						pmax	pmax		
	comp=Z,42nm,0.8s								
PMG	**Port Moresby**	**19.95**	**109**				**P**	**18 36 50.3**	**+1.4**
PSA00	**Pilbara Seismi**	**20.00**	**203**	P			**P**	**18 36 49.7**	**+0.4**
PSA00						IAmb	IAmb	18 37 11.1	
	comp=Z,70nm,1.1s								
PSA00	**Pilbara Seismi**	**20.00**	**203**	P			**P**	**18 36 49.2**	**-0.1**
PSA00						IAmb	IAmb	18 36 59.9	
	comp=Z,35nm,1.1s								
TPI	**Tanjungpandan**	**20.41**	**271**	P			Pn	18 37 10.0	+14
QIS	**Mount Isa**	**20.64**	**148**	P			**P**	**18 36 56.6**	**+0.3**
	baz=21,SNR=42								
CISI	**Cisompet, Garu**	**20.64**	**257**	P			Pn	18 36 58.5	-0.5
	comp=Z,2μmcomp=Z,129nm,0.7s								
CISI	**Cisompet, Garu**	**20.64**	**257**	P			**P**	**18 36 53.5**	**-3.0**
LEM	**Lembang**	**20.71**	**259**	P			**P**	**18 36 56.0**	**-1.4**
	comp=Z,29nm,0.8s,baz=37,slow=8.2,SNR=6.9								
LEM				LR			LR	18 45 54.9	
	comp=Z,2μm,20.4s,baz=92,slow=40								
LEM	**Lembang**	**20.71**	**259**	P			**P**	**18 36 56.0**	**-1.4**

AS31	**Alice Springs**	**21.17**	**165**	P			**P**	**18 37 02.3**	**+0.3**
AS31						IAmb	IAmb	18 37 04.8	
	comp=Z,78nm,0.8s								
ASAR	**Alice Springs**	**21.17**	**165**	P			**P**	**18 37 02.1**	**+0.1**
	comp=Z,239nm,0.9s,baz=345,slow=11,SNR=660								
ASAR				S			**S**	**18 40 52.9**	**-3.1**
	comp=Z,15nm,0.9s,baz=345,slow=18,SNR=7.3								
ASAR				LR			LR	18 46 00.3	
	comp=Z,1μm,19.4s,baz=339,slow=39								
ASAR	**Alice Springs**	**21.17**	**165**	P			**P**	**18 37 02.4**	**+0.3**
ASAR	**Alice Springs**	**21.17**	**165**	P			**P**	**18 37 02.4**	**+0.3**
CBJI	**Citeko**	**21.41**	**260**	P			P	18 37 17.9	+13
WRKA	**Warakurna**	**21.77**	**179**	P			**P**	**18 37 09.1**	**+0.6**
	baz=22,SNR=117								
MTSU	**Mount Surprise**	**21.80**	**134**	P			**P**	**18 37 09.9**	**+1.0**
	baz=22,SNR=38								
PPBI	**Pangkal Pinang**	**21.94**	**272**	P			**P**	**18 37 14.2**	**+3.7**
PMBI	**Palembang**	**23.28**	**270**	P			**P**	**18 37 25.7**	**+1.2**
KLSI		**23.35**	**265**	P			**P**	**18 37 26.0**	**+0.8**
	comp=Z,309nmcomp=Z,14nm,1.1s								
GUMO	**Guam**	**23.53**	**45**	LR			LR	18 46 09.5	
	comp=Z,285nm,20.3s,baz=234,slow=35								
GIRL	**Giralia**	**23.58**	**214**	P			**P**	**18 37 27.8**	**+0.5**
	baz=24,SNR=7.4								
GIRL	**Giralia**	**23.58**	**214**	P			**P**	**18 37 27.1**	**-0.2**
DSRI	**Dabo**	**23.64**	**276**	P			**P**	**18 37 29.6**	**+1.6**
	comp=Z,522nmcomp=Z,56nm,1.1s								
MDSI	**Maura Dua**	**23.89**	**266**	P			**P**	**18 37 32.3**	**+2.0**
	comp=Z,720nmcomp=Z,43nm,1.2s								
KRVT	**Keravat (AS076**	**23.92**	**94**	P			**P**	**18 37 32.1**	**+1.4**
	comp=Z,92nm,0.8s,baz=83,slow=11,SNR=9.6								
KRVT				LR			LR	18 47 51.0	
	comp=Z,438nm,21.8s,baz=274,slow=39								
RABL	**Rabaul**	**24.05**	**93**	P			**P**	**18 37 33.0**	**+1.0**
CTA	**Charters Tower**	**24.45**	**135**	P			**P**	**18 37 36.0**	**+0.5**
	comp=Z,8.4nm,0.7s,baz=320,slow=12,SNR=14								
CTA				LR			LR	18 48 48.9	
	comp=Z,774nm,18.9s,baz=326,slow=40								
CTAO	**Charters Tower**	**24.45**	**135**	P			**P**	**18 37 36.3**	**+0.8**
CTAO				pmax			pmax		
	comp=Z,36nm,1.0s								
CTAO	**Charters Tower**	**24.45**	**135**	P			**P**	**18 37 36.3**	**+0.8**
CTAO				IAmb			IAmb	18 38 00.1	
	comp=Z,36nm,1.0s								
LHSI	**Lahat**	**24.52**	**268**	P			**P**	**18 37 37.9**	**+1.7**
	comp=Z,2μmcomp=Z,86nm,0.9s								
DLV	**T Lat**	**24.58**	**308**	P			**P**	**18 37 37.9**	**+1.0**
DLV				IAmb			IAmb	18 37 40.2	
	comp=Z,38nm,1.0s								
MYKOM	**Kota Tinggi**	**24.71**	**281**	P			**P**	**18 37 38.9**	**+1.0**
MYKOM				IAmb			IAmb	18 37 53.7	
	comp=Z,47nm,1.1s								
MYKOM	**Kota Tinggi**	**24.71**	**281**	P			P	18 37 25.0	-13
MEEK	**Meekatharra**	**25.06**	**200**	P			**P**	**18 37 39.8**	**-1.2**
	baz=25,SNR=21								
KSI	**Kapahiang**	**25.45**	**268**	P			P	18 38 02.6	+18
SDSI	**Sungai Dareh**	**26.73**	**274**	P			**P**	**18 37 58.1**	**+1.9**
	comp=Z,646nmcomp=Z,34nm,1.3s								
BKNI	**Bangkinang**	**27.25**	**277**	P			P	18 38 16.5	+16
BKNI	**Bangkinang**	**27.25**	**277**	P			**P**	**18 38 00.4**	**-0.5**
FORT	**Forrest**	**27.49**	**180**	P			**P**	**18 38 03.1**	**+0.3**
	baz=28,SNR=9.4								
FORT	**Forrest**	**27.49**	**180**	P			**P**	**18 38 02.5**	**-0.3**
FORT				IAmb			IAmb	18 38 13.6	
	comp=Z,38nm,0.7s								
IPM	**Ipoh**	**28.07**	**286**	P			P	18 37 55.0	-13
QIZ	**Qiongzhong**	**28.42**	**322**	P			**P**	**18 38 10.5**	**-0.7**
QIZ				S			**S**	**18 42 55.8**	**-0.7**
QIZ				LR			LR		
	comp=Z,140nm,7.3s								
QIZ				LR			LR		
	comp=Z,270nm,12.6s								
QIZ				LR			LR		
	comp=Z,180nm,16.1s								
KULM	**Kulim**	**28.65**	**287**	P			P	18 38 01.0	-12
MNSI	**Mandailing Nat**	**28.76**	**277**	P			**P**	**18 38 14.8**	**+0.4**
	comp=Z,25nm,0.7s								
RPSI	**Rantau Prapat**	**29.72**	**281**	P			**P**	**18 38 22.1**	**-0.8**
RPSI				IAmb			IAmb	18 38 38.8	
	comp=Z,27nm,0.9s								
PSI	**Prapat**	**29.74**	**281**	P			**P**	**18 38 22.8**	**-0.4**
	comp=Z,5.8nm,0.4s,baz=166,slow=4.9,SNR=7.2								
PSI				LR			LR	18 52 48.3	
	comp=Z,512nm,18.1s,baz=102,slow=42								
BBOO	**

ENH	**Enshi**	**37.68**	**333**	P	**P**	**18 39 31.8**	**-0.1**
ENH				IAmb	IAmb	18 39 33.8	
	comp=Z,30nm,1.2s						
TOO	**Toolangi**	**37.80**	**157**	P	**P**	**18 39 34.5**	**+1.6**
	baz=38,SNR=4.0						
KSRS	**Korea Array**	**40.39**	**360**	P	**P**	**18 39 55.5**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=176,slow=9.9,SNR=9.2						
KSRS				pP	**pP**	**18 40 03.5**	**-0.3**
	comp=Z,6.6nm,0.9s,baz=181,slow=9.1,SNR=8.2						
KSRS				PcP	**PcP**	**18 41 59.0**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=202,slow=5.6,SNR=3.1						
MJAR	**Matsushiro Arr**	**40.59**	**13**	P	**P**	**18 39 56.8**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=186,slow=10,SNR=1.6						
MJAR	**Matsushiro Arr**	**40.59**	**13**	P	**P**	**18 39 55.6**	**-0.5**
MAT	**Matsushiro**	**40.59**	**13**	P	**P**	**18 39 55.0**	**-1.1**
MAT				*e*S	**S**	**18 46 01.6**	**-2.1**
CD2	**Chengdu**	**41.04**	**327**	P	**P**	**18 40 00.6**	**+0.6**
CD2				S	**S**	**18 46 10.5**	**-0.1**
CD2				SS	**SS**	**18 49 12.3**	**-1.5**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
CD2				pmax	pmax		
	comp=Z,90nm,6.3s						
CD2				LR	LR		
	comp=Z,250nm,21.4s						
CD2				LR	LR		
	comp=Z,380nm,16.1s						
CD2				LR	LR		
	comp=Z,220nm,21.6s						
XAN	**Xi'an**	**41.16**	**336**	P	**P**	**18 40 01.1**	**+0.2**
XAN				pmax	pmax		
	comp=Z,23nm,1.3s						
XAN				pmax	pmax		
	comp=Z,130nm,4.3s						
XAN				LR	LR		
	comp=Z,220nm,17.3s						
XAN				LR	LR		
	comp=Z,170nm,18.2s						
XAN				LR	LR		
	comp=Z,300nm,19.2s						
XAN	**Xi'an**	**41.16**	**336**	P	**P**	**18 40 00.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,29nm,1.3s						
XAN	**Xi'an**	**41.16**	**336**	P	**P**	**18 40 00.8**	**0.0**
XAN				IAmb	IAmb	18 40 01.9	
	comp=Z,29nm,1.3s						
DZM	**Mont Dzumac**	**41.70**	**120**	*e*P	P	18 40 11.4	+5.8
	comp=Z,14nm,0.8s						
DZM	**Mont Dzumac**	**41.70**	**120**	*e*LR	LR	18 51 47.0	
	comp=Z,373nm,27.9s						
DZM	**Mont Dzumac**	**41.70**	**120**	LR	LR	18 56 55.7	
	comp=Z,162nm,20.8s,baz=318,slow=35						
LKP	**Lekhapani**	**43.41**	**316**	*e*P	**P**	**18 40 19.0**	**-0.2**
LKP				IAmb	IAmb	18 40 20.6	
	comp=Z,42nm,0.8s						
LKP				*i* pP	**pP**	**18 40 29.1**	**+0.3**
KOHI	**KOHIMA**	**43.66**	**313**	*e*P	**P**	**18 40 21.1**	**-0.4**
KOHI				IAmb	IAmb	18 40 25.3	
	comp=Z,29nm,0.7s						
MOKO	**MOKOCHONG**	**43.72**	**314**	*e*P	**P**	**18 40 22.1**	**+0.1**
MOKO				IAmb	IAmb	18 40 25.0	
	comp=Z,23nm,0.6s						
SILR	**SILCHAR**	**44.09**	**311**	*e*P	**P**	**18 40 26.6**	**+1.9**
SILR				IAmb	IAmb	18 40 27.6	
	comp=Z,74nm,0.4s						
AGT	**Agartala**	**44.79**	**309**	*e*P	**P**	**18 40 33.2**	**+2.9**
AGT				*ex*	x	18 40 33.4	
ZIRO	**ZIRO**	**44.92**	**315**	*e*P	**P**	**18 40 32.1**	**+0.6**
LZH	**Lanzhou**	**45.12**	**332**	*e*P	**P**	**18 40 35.4**	**+2.4**
LZH				pP	sP	18 40 47.8	+1.3
LZH				sP	pP	18 40 52.6	+10
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
LZH				LR	LR		
	comp=Z,200nm,16.3s						
LZH				LR	LR		
	comp=Z,170nm,15.7s						
LZH				LR	LR		
	comp=Z,220nm,17.3s						
TEZP	**TEZPUR**	**45.13**	**313**	*ex*	x	18 40 31.1	
TEZP				*e*P	**P**	**18 40 33.9**	**+0.9**
SHL	**Shillong**	**45.22**	**311**	*e*P	**P**	**18 40 33.8**	**-0.1**
SHL				IAmb	IAmb	18 40 36.4	
	comp=Z,15nm,0.7s						
SHL	**Shillong**	**45.22**	**311**	P	**P**	**18 40 33.6**	**-0.4**
SHL				pmax	pmax		
	comp=Z,23nm,0.8s						
SHL	**Shillong**	**45.22**	**311**	P	**P**	**18 40 33.6**	**-0.4**
SHL				IAmb	IAmb	18 40 35.5	
	comp=Z,23nm,0.8s						
HHC	**Hu-ho-hao-te**	**46.31**	**343**	*e*P	**P**	**18 40 43.1**	**+0.8**
HHC				S	**S**	**18 47 23.9**	**-3.5**
HHC				pmax	pmax		
	comp=Z,27nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
HHC				LR	LR		
	comp=Z,240nm,15.6s						
HHC				LR	LR		
	comp=Z,130nm,16.1s						
HHC				LR	LR		
	comp=Z,210nm,15.0s						
USA0B	**Ussuriysk Arra**	**47.26**	**4**	P	**P**	**18 40 50.0**	**+0.5**
USA0B				pmax	pmax		
	comp=Z,13nm,1.0s						
USA0B	**Ussuriysk Arra**	**47.26**	**4**	P	**P**	**18 40 50.0**	**+0.5**
USA0B				IAmb	IAmb	18 41 06.7	
	comp=Z,12nm,1.0s						
USRK	**Ussuriysk Ar.**	**47.26**	**4**	P	**P**	**18 40 50.9**	**+1.4**
	comp=Z,9.7nm,1.1s,baz=211,slow=6.2,SNR=7.3						
USRK				pP	**pP**	**18 41 00.5**	**+1.4**
	comp=Z,6.1nm,0.7s,baz=186,slow=7.4,SNR=6.9						
USRK	**Ussuriysk Ar.**	**47.26**	**4**	P	**P**	**18 40 49.3**	**-0.1**
MDJ	**Mudanjiang**	**47.56**	**1**	P	**P**	**18 40 53.4**	**+1.5**
LSA	**Lhasa**	**48.12**	**315**	P	**P**	**18 40 57.3**	**+0.3**
LSA				pmax	pmax		
	comp=Z,68nm,0.9s						
LSA	**Lhasa**	**48.12**	**315**	P	**P**	**18 40 57.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,17nm,0.7s						
LSA	**Lhasa**	**48.12**	**315**	P	**P**	**18 40 57.9**	**+0.9**
LSA				IAmb	IAmb	18 41 09.0	
	comp=Z,17nm,0.7s						
GTK	**Tadong**	**48.63**	**311**	*e*P	**P**	**18 41 00.9**	**+0.2**
GTK				IAmb	IAmb	18 41 05.6	
	comp=Z,6.4nm,0.6s						
ASAJ	**Asahikawa**	**48.82**	**14**	P	**P**	**18 41 02.7**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,27nm,1.1s						
JKA	**Kamikawa-asahi**	**48.82**	**14**	P	**P**	**18 41 02.7**	**+1.2**
JKA				IAmb	IAmb	18 41 03.9	
	comp=Z,27nm,1.1s						
BOK	**Bokaro**	**49.02**	**305**	*e*P	**P**	**18 41 04.5**	**+1.0**
GTA	**Gaotai**	**49.69**	**331**	⇑P	**P**	**18 41 08.6**	**+0.1**
GTA				PcP	**PcP**	**18 42 25.3**	**-4.1**
GTA				ScP	**ScP**	**18 46 18.5**	**-4.3**
GTA				S	**S**	**18 48 16.5**	**+1.1**
GTA				sS	sS	18 48 38.1	+6.7
GTA				pmax	pmax		
	comp=Z,19nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,6.9s						
GTA				LR	LR		
	comp=Z,150nm,19.3s						
GTA				LR	LR		
	comp=Z,120nm,18.9s						
GTA				LR	LR		
	comp=Z,220nm,18.2s						
YSS	**Yuzh-Sakhalins**	**51.53**	**13**	*e*P	P	18 41 07.2	-15
YSS				MLR	MLR		
	comp=N,300nm,17.0s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
HYB	**Hyderabad**	**52.95**	**294**	*i* P	**P**	**18 41 33.0**	**-0.1**
ULN	**Ulaanbaatar**	**54.03**	**343**	*c i*P	**P**	**18 41 41.2**	**+0.5**
ULN				pmax	pmax		
	comp=Z,27nm,1.0s						
ULN	**Ulaanbaatar**	**54.03**	**343**	P	**P**	**18 41 41.3**	**+0.5**
ULN				IAmb	IAmb	18 41 42.5	
	comp=Z,22nm,0.9s						
SONM	**Songino Array**	**54.20**	**342**	P	**P**	**18 41 42.4**	**+0.4**
	comp=Z,14nm,1.1s,baz=162,slow=8.6,SNR=51						
SONM				pP	**pP**	**18 41 52.5**	**+0.7**
	comp=Z,7.9nm,1.0s,baz=162,slow=8.4,SNR=11						
SONM	**Songino Array**	**54.20**	**342**	P	**P**	**18 41 41.5**	**-0.5**
RPZ	**Rata Peaks**	**55.44**	**143**	P	**P**	**18 41 51.5**	**+0.7**
BKZ	**Black Stump Fm**	**56.67**	**136**	P	**P**	**18 41 59.5**	**-0.3**
BKZ				IAmb	IAmb	18 42 08.6	
	comp=Z,24nm,1.3s						
ZEA	**Zeya**	**56.68**	**359**	*e*P	**P**	**18 42 00.1**	**+0.6**
ZEA				*e*		18 42 10.5	
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=N,100nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
ZAK	**Zakamensk**	**57.42**	**341**	*e*P	**P**	**18 42 03.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
WMQ	**Urumqi**	**59.14**	**327**	*e*P	**P**	**18 42 16.3**	**-0.7**
WMQ				pP	sP	18 42 31.4	+0.7
WMQ				sP	pP	18 42 37.8	+11
WMQ				pmax	pmax		
	comp=Z,26nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.3s						
WMQ				LR	LR		
	comp=Z,190nm,17.9s						
WMQ				LR	LR		
	comp=Z,97nm,21.7s						
WMQ	**Urumqi**	**59.14**	**327**	P	**P**	**18 42 18.0**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,36nm,1.0s						
WMQ	**Urumqi**	**59.14**	**327**	P	**P**	**18 42 18.0**	**+0.9**
SMLA	**Simla**	**59.21**	**309**	*e*P	**P**	**18 42 17.5**	**-0.1**
SMLA				IAmb	IAmb	18 42 20.1	
	comp=Z,46nm,1.2s						
MOY	**Mondy**	**59.27**	**341**	*e*P	**P**	**18 42 18.7**	**+0.9**
MOY				pmax	pmax		
	comp=Z,33nm,2.5s						
DHRM	**DHARAMSHALA**	**60.36**	**310**	*e*P	**P**	**18 42 24.8**	**-1.1**
DHRM				IAmb	IAmb	18 42 28.6	
	comp=Z,13nm,0.8s						
PEA0B	**Petropavlovsk-**	**61.32**	**20**	⇓*e*P	**P**	**18 42 33.1**	**+1.4**
PETK	**Petropavlovsk-**	**61.32**	**20**	P	**P**	**18 42 33.5**	**+1.7**
	comp=Z,15nm,1.0s,baz=176,slow=8.0,SNR=7.5						
PETK				pP	**pP**	**18 42 42.0**	**+0.4**
	comp=Z,19nm,0.8s,baz=198,slow=8.6,SNR=13						
PETK	**Petropavlovsk-**	**61.32**	**20**	P	**P**	**18 42 32.9**	**+1.2**
BOD	**Bodaibo**	**61.81**	**352**	*e*P	**P**	**18 42 35.7**	**+0.8**
BOD				pmax	pmax		
	comp=Z,42nm,1.2s						
ZSN	**Zaisan**	**63.01**	**329**	*e*P	**P**	**18 42 42.7**	**-0.5**
ZSN	**Zaisan**	**63.01**	**329**	*e*P	**P**	**18 42 42.7**	**-0.5**
DGZ	**Jazzator, Alta**	**63.22**	**332**	*c i*P	**P**	**18 42 45.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**63.27**	**310**	P	**P**	**18 42 44.6**	**-0.6**
NIL				pmax	pmax		
	comp=Z,23nm,1.5s						
NIL	**Nilore**	**63.27**	**310**	P	**P**	**18 42 44.6**	**-0.6**
NIL				IAmb	IAmb	18 42 54.9	
	comp=Z,23nm,1.4s						
SHLS	**Shalkode**	**63.52**	**322**	*e*P	**P**	**18 42 43.5**	**-3.3**
SHLS	**Shalkode**	**63.52**	**322**	*e*P	**P**	**18 42 43.5**	**-3.3**
PDGK	**Podgornoye**	**63.59**	**322**	P	**P**	**18 42 47.3**	**0.0**
UZB	**Uzynbulak**	**63.78**	**322**	*e*P	**P**	**18 42 48.0**	**-0.6**
	comp=Z,17nm,2.0s						
UZB	**Uzynbulak**	**63.78**	**322**	*e*P	**P**	**18 42 47.9**	**-0.6**
UZB				pmax	pmax		
	comp=Z,17nm,2.0s						
PRZ	**Przheval'sk**	**63.81**	**321**	P	**P**	**18 42 47.8**	**-1.0**
PRZ				pmax	pmax		
	comp=Z,14nm,0.9s						
PRZ	**Przheval'sk**	**63.81**	**321**	P	**P**	**18 42 47.8**	**-1.0**
PRZ				IAmb	IAmb	18 42 51.3	
	comp=Z,14nm,0.9s						
KSH	**Kashi**	**63.90**	**317**	P	**P**	**18 42 49.3**	**-0.1**
KSH				S	**S**	**18 51 17.3**	**-5.9**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,140nm,5.7s						
KSH				LR	LR		
	comp=Z,84nm,4.9s						
KSH				LR	LR		
	comp=Z,150nm,5.4s						
KSH				LR	LR		
	comp=Z,270nm,11.8s						
MK31	**Makanchi Array**	**63.97**	**327**	*i* P	**P**	**18 42 49.3**	**-0.3**
MK31				pmax	pmax		
	comp=Z,30nm,1.1s						
MK31	**Makanchi Array**	**63.97**	**327**	P	**P**	**18 42 48.5**	**-1.1**
MK31				IAmb	IAmb	18 43 00.2	
	comp=Z,19nm,1.1s						
MKAR	**Makanchi Array**	**63.97**	**327**	P	**P**	**18 42 49.0**	**-0.5**
	comp=Z,9.6nm,0.8s,baz=121,slow=7.4,SNR=58						
MKAR				LR	LR	19 12 41.8	
	comp=Z,82nm,21.4s,baz=118,slow=38						
MKAR	**Makanchi Array**	**63.97**	**327**	P	**P**	**18 42 48.5**	**-1.1**
SATY	**Saty**	**64.12**	**322**	*e*P	**P**	**18 42 50.4**	**-0.3**
	comp=Z,14nm,1.2s						
SATY	**Saty**	**64.12**	**322**	*e*P	**P**	**18 42 50.4**	**-0.3**
SATY				pmax	pmax		
	comp=Z,13nm,1.2s						
MAKZ	**Makanchi**	**64.15**	**327**	P	**P**	**18 42 49.9**	**-0.8**
MAKZ	**Makanchi**	**64.15**	**327**	P	**P**	**18 42 49.5**	**-1.2**
MAKZ				IAmb	IAmb	18 43 01.3	
	comp=Z,20nm,1.1s						
KPKS	**Kokpek**	**64.16**	**322**	*e*P	**P**	**18 42 50.2**	**-0.8**
	comp=Z,18nm,1.0s						
KPKS	**Kokpek**	**64.16**	**322**	*e*P	**P**	**18 42 50.1**	**-0.8**
KPKS				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK	**Yakutsk**	**65.00**	**1**	*c i*P	**P**	**18 42 56.4**	**+0.5**
YAK				pmax	pmax		
	comp=Z,43nm,0.8s						
YAK	**Yakutsk**	**65.00**	**1**	P	**P**	**18 42 56.2**	**+0.3**
TNSS	**Tian-Shan**	**65.02**	**321**	*e*P	**P**	**18 42 56.8**	**-0.2**
TNSS	**Tian-Shan**	**65.02**	**321**	*e*P	**P**	**18 42 56.7**	**-0.2**
MDOK	**Medeo**	**65.02**	**321**	*e*P	**P**	**18 42 55.4**	**-1.3**
MDOK	**Medeo**	**65.02**	**321**	*e*P	**P**	**18 42 55.3**	**-1.3**
TDK	**Taldyqorghan**	**65.16**	**323**	*e*P	**P**	**18 42 56.3**	**-1.1**
TDK	**Taldyqorghan**	**65.16**	**323**	*e*P	**P**	**18 42 56.2**	**-1.1**
TKM2	**Tokmak 2**	**65.81**	**320**	P	**P**	**18 43 01.9**	**+0.1**
	SNR=14						
TKM2	**Tokmak 2**	**65.81**	**320**	*i* P	**P**	**18 43 01.4**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KUU	**Kurty**	**65.83**	**322**	*e*P	**P**	**18 43 01.0**	**-0.7**
	comp=Z,41nm,1.3s						
KUU	**Kurty**	**65.83**	**322**	*e*P	**P**	**18 43 01.0**	**-0.7**
KUU				pmax	pmax		
	comp=Z,41nm,1.3s						
UCH	**Uchtor**	**66.17**	**319**	P	**P**	**18 43 05.1**	**+0.6**
	SNR=12						
AAK	**Ala-Archa**	**66.38**	**320**	P	**P**	**18 43 05.2**	**-0.3**
	SNR=5.7						
AML	**Almayashu**	**66.66**	**319**	P	**P**	**18 43 07.5**	**-0.1**
	SNR=13						
SGDS	**Sogindy**	**66.69**	**320**	*e*P	**P**	**18 43 06.4**	**-1.0**
SGDS	**Sogindy**	**66.69**	**320**	*e*P	**P**	**18 43 06.3**	**-1.0**
KBL	**Kabul**	**66.84**	**310**	P	**P**	**18 43 07.2**	**-1.4**
KBL				pmax	pmax		
	comp=Z,13nm,1.2s						
KBL	**Kabul**	**66.84**	**310**	P	**P**	**18 43 07.2**	**-1.4**
KBL				IAmb	IAmb	18 43 09.4	
	comp=Z,13nm,1.1s						
EKS2	**Erkin-Say**	**66.86**	**319**	P	**P**	**18 43 08.6**	**+0.1**
	SNR=9.2						
ZAA0	**Zalesovo Array**	**67.30**	**334**	P	**P**	**18 43 10.1**	**-0.8**
ZAA0				pP	**pP**	**18 43 18.8**	**-2.1**
ZAA0				IAmb	IAmb	18 43 20.7	
	comp=Z,24nm,1.1s						
ZALV	**Zalesovo Beam**	**67.30**	**334**	P	**P**	**18 43 10.1**	**-0.8**
	comp=Z,7.3nm,0.9s,baz=107,slow=5.1,SNR=29						
ZALV				pP	**pP**	**18 43 19.5**	**-1.3**
	comp=Z,10nm,0.9s,baz=116,slow=5.4,SNR=15						
ZALV	**Zalesovo Beam**	**67.30**	**334**	P	**P**	**18 43 09.8**	**-1.0**
ZALV					**pP**	**18 43 19.2**	**-1.6**
GAR	**Garm**	**67.61**	**315**	P	**P**	**18 43 12.2**	**-1.1**
BTK	**Batken**	**67.69**	**316**	P	**P**	**18 43 13.3**	**-0.5**
BTK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BTK	**Batken**	**67.69**	**316**	P	**P**	**18 43 13.3**	**-0.5**
BTLS	**Baital**	**67.83**	**322**	*e*P	**P**	**18 43 13.0**	**-1.5**
BTLS	**Baital**	**67.83**	**322**	*e*P	**P**	**18 43 12.9**	**-1.5**
KURK	**Kurchatov**	**68.25**	**329**	*c i*P	**P**	**18 43 16.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,42nm,1.3s						
KURK	**Kurchatov**	**68.25**	**329**	P	**P**	**18 43 16.2**	**-0.7**
KURK				pP	**pP**	**18 43 26.0**	**-0.9**
CHGR	**Chuyangargon**	**68.30**	**314**	P	**P**	**18 43 17.2**	**-0.4**
CHGR				IAmb	IAmb	18 43 18.4	
	comp=Z,23nm,1.1s						
SEY	**Seymchan**	**68.41**	**12**	P	**P**	**18 43 19.3**	**+1.7**
	comp=Z,14nm,0.8s,baz=217,slow=5.5,SNR=24						
SEY				pP	**pP**	**18 43 28.3**	**+0.6**
	comp=Z,41nm,0.8s,baz=213,slow=7.0,SNR=33						
IUG	**Iuzhnay**	**69.11**	**318**	*e*P	**P**	**18 43 21.2**	**-1.5**
IUG	**Iuzhnay**	**69.11**	**318**	*e*P	**P**	**18 43 21.1**	**-1.5**
KK31	**Karatay Array**	**69.20**	**319**	*i* P	**P**	**18 43 22.3**	**-0.7**
KK31	**Karatay Array**	**69.20**	**319**	P	**P**	**18 43 22.0**	**-1.1**
KKAR	**Karatay Array**	**69.20**	**319**	P	**P**	**18 43 21.9**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KKAR	**Karatay Array**	**69.20**	**319**	P	**P**	**18 43 22.0**	**-1.1**
KKAR	**Karatay Array**	**69.20**	**319**	P	**P**	**18 43 21.9**	**-1.1**
BRZS	**Berezniki**	**71.07**	**326**	*e*P	**P**	**18 43 33.1**	**-1.2**
BRZS	**Berezniki**	**71.07**	**326**	*e*P	**P**	**18 43 33.1**	**-1.2**
HRA	**Herat**	**72.10**	**308**	P	**P**	**18 43 39.1**	**-2.0**
BRVK	**Borovoye**	**73.87**	**328**	*c e*P	**P**	**18 43 50.7**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,29nm,2.5s						
BRVK	**Borovoye**	**73.87**	**328**	P	**P**	**18 43 49.6**	**-1.4**
BRVK				pP	**pP**	**18 43 59.9**	**-1.1**
TIXI	**Tiksi**	**74.66**	**0**	⇑*i* P	**P**	**18 43 55.8**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,109nm,2.5s						
TIXI	**Tiksi**	**74.66**	**0**	P	**P**	**18 43 55.5**	**+0.3**
BILL	**Bilibino**	**75.83**	**14**	*e*P	**P**	**18 44 03.2**	**+1.2**
BILL				*e*		18 44 15.7	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GEYT	**Alibeck**	**76.28**	**310**	P	**P**	**18 44 05.5**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=180,slow=5.9,SNR=5.3						
GEYT				LR	LR	19 23 38.1	
	comp=Z,80nm,20.5s,baz=170,slow=40						
GEYT	**Alibeck**	**76.28**	**310**	P	**P**	**18 44 05.4**	**+0.1**
VNDA	**Vanda**	**76.48**	**173**	P	**P**	**18 44 04.7**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=321,slow=5.2,SNR=16						
VNDA				pP	**pP**	**18 44 14.6**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=330,slow=7.0,SNR=14						
VNDA				LR	LR	19 17 52.0	
	comp=Z,263nm,18.0s,baz=342,slow=36						
VNDA	**Vanda**	**76.48**	**173**	P	**P**	**18 44 04.7**	**-0.9**
NRIK	**Noril'sk**	**77.38**	**346**	P	**P**	**18 44 11.3**	**+0.6**
	comp=Z,7.2nm,0.8s,baz=140,slow=5.6,SNR=11						
NRIK				pP	**pP**	**18 44 20.6**	**-0.2**
	comp=Z,15nm,0.9s,baz=136,slow=5.2,SNR=10						
NRIK				LR	LR	19 20 31.2	
	comp=Z,161nm,20.1s,baz=196,slow=37						
MAW	**Mawson**	**77.84**	**201**	P	**P**	**18 44 12.4**	**-0.9**
	comp=Z,12nm,1.0s,baz=65,slow=6.7,SNR=23						
MAW				pP	**PcP**	**18 44 22.0**	**-1.1**
	comp=Z,6.6nm,1.0s,baz=80,slow=7.7,SNR=5.0						
MAW				LR	LR	19 16 47.3	
	comp=Z,196nm,18.3s,baz=57,slow=34						
MAW	**Mawson**	**77.84**	**201**	P	**P**	**18 44 12.4**	**-0.9**
	baz=78,SNR=9.6						
MAW	**Mawson**	**77.84**	**201**	P	**P**	**18 44 12.0**	**-1.3**
MAW				P	**PcP**	**18 44 21.8**	**-1.3**
AB31	**Akbulak array**	**78.32**	**322**	*i* P	**P**	**18 44 15.1**	**-1.2**
ABKAR	**Akbulak array**	**78.32**	**322**	P	**P**	**18 44 15.4**	**-1.0**
ABKAR	**Akbulak array**	**78.32**	**322**	P	**P**	**18 44 14.8**	**-1.5**
AKUT	**Akutan**	**78.84**	**33**	P	**P**	**18 44 16.9**	**-2.1**
AKTO	**Aktyubinsk**	**79.87**	**322**	P	**P**	**18 44 23.7**	**-1.1**
SVE	**Sverdlovsk**	**80.50**	**329**	*e*P	**P**	**18 44 27.9**	**-0.1**
ARU	**Arti**	**81.44**	**328**	*c e*P	**P**	**18 44 31.8**	**-1.3**
ARU				pmax	pmax		
	comp=Z,27nm,1.7s						
ARU	**Arti**	**81.44**	**328**	P	**P**	**18 44 31.5**	**-1.5**
ARU				IAmb	IAmb	18 44 35.5	
	comp=Z,14nm,1.0s						
PPT	**Papeete**	**81.76**	**107**	LR	LR	19 20 30.0	
	comp=Z,40nm,20.4s,baz=216,slow=35						
PPT2	**Papeete2**	**81.76**	**107**	*e*LR	LR	19 10 23.0	
	comp=Z,162nm,23.5s						
TBI	**Tubuai**	**81.84**	**113**	*e*LR	LR	19 10 28.8	
	comp=Z,240nm,26.0s						
DAMY	**Dhamar**	**84.68**	**285**	P	**P**	**18 44 48.9**	**-2.2**
ATD	**Arta Tunnel**	**85.96**	**282**	P	**P**	**18 44 54.6**	**-2.6**
ATD				IAmb	IAmb	18 45 00.4	
	comp=Z,15nm,1.0s						
SVW2	**Sparrevohn**	**86.16**	**28**	P	**P**	**18 44 58.4**	**+1.3**
SVW2				IAmb	IAmb	18 44 59.8	
	comp=Z,12nm,1.0s						
TTA	**Tatalina**	**86.40**	**26**	P	**P**	**18 44 58.6**	**+0.2**
TTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TTA	**Tatalina**	**86.40**	**26**	P	**P**	**18 44 58.6**	**+0.2**
GROC	**Groznyy**	**86.51**	**313**	*e*P	**P**	**18 44 58.5**	**-0.7**
GROC				*e*		18 48 20.2	
GROC				pmax	pmax		
	comp=Z,24nm,1.4s						
SYO	**Syowa Base**	**86.55**	**201**	⇑*e*X	**P**	**18 44 56.0**	**-2.9**
SYO	**Syowa Base**	**86.55**	**201**	⇓*e*PcP	**P**	**18 45 00.0**	**+1.1**
KIRV	**Kirov**	**86.77**	**329**	*de*P	**P**	**18 45 00.0**	**-0.1**
QSPA	**South Pole Qui**	**86.81**	**180**	P	**P**	**18 44 59.0**	**-1.4**
QSPA				IAmb	IAmb	18 45 00.4	
	comp=Z,16nm,1.1s						
ZEI	**Tsey**	**87.84**	**313**	*e*P	**P**	**18 45 05.7**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,12nm,0.9s						
GEVA	**Gevas**	**88.02**	**308**	P	**P**	**18 45 08.1**	**+1.2**
PPLA	**Purkeypile**	**88.10**	**27**	P	**P**	**18 45 04.4**	**-2.3**
SUA	**Susitna One**	**88.52**	**28**	P	**P**	**18 45 08.9**	**+0.3**
SUA				IAmb	IAmb	18 45 10.3	
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**88.67**	**314**	P	**P**	**18 45 09.4**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=126,slow=3.0,SNR=9.3						
KBZ				pP	**pP**	**18 45 18.1**	**-1.8**
	comp=Z,6.0nm,1.0s,baz=42,slow=0.7,SNR=8.9	

	comp=Z,6.7nm,0.8s							
IL31		**90.69**	**25**	P	**P**	**18 45 17.8**	**-0.8**	
ILAR	**Eielson Array**	**90.69**	**25**	P	**P**	**18 45 17.8**	**-0.8**	
	comp=Z,2.6nm,0.9s,baz=296,slow=4.4,SNR=18							
ILAR				pP	**pP**	**18 45 27.0**	**-1.9**	
	comp=Z,1.6nm,0.6s,baz=231,slow=5.3,SNR=7.1							
ILAR	**Eielson Array**	**90.69**	**25**	P	**P**	**18 45 16.8**	**-1.8**	
KMBO	**Kilima Mbogo**	**90.77**	**269**	P	**P**	**18 45 20.7**	**+0.3**	
	comp=Z,2.6nm,0.9s,baz=42,slow=7.2,SNR=7.1							
KMBO	**Kilima Mbogo**	**90.77**	**269**	P	**P**	**18 45 20.1**	**-0.3**	
KMBO				IAmb	IAmb	18 45 22.4		
	comp=Z,6.7nm,1.2s							
N25K	**Chitina, Valde**	**91.46**	**29**	P	**P**	**18 45 23.0**	**+0.6**	
	baz=266							
DOT	**Dot Lake**	**91.84**	**26**	P	**P**	**18 45 24.0**	**0.0**	
DOT				IAmb	IAmb	18 45 34.0		
	comp=Z,5.7nm,0.8s							
SCRK	**Sand Creek**	**91.89**	**26**	P	**P**	**18 45 24.5**	**+0.2**	
	baz=267							
KLMR	**Klimovskoe**	**92.02**	**331**	*e*P	**P**	**18 45 22.5**	**-2.3**	
KLMR				pmax	pmax			
	comp=Z,10.0nm,1.5s							
KLMR	**Klimovskoe**	**92.02**	**331**	*e*P	**P**	**18 45 22.5**	**-2.3**	
KLMR				AMP		18 45 31.1		
	comp=Z,10.0nm,1.5s							
GAZ	**Gaziantep**	**92.57**	**307**	P	**P**	**18 45 27.8**	**-0.3**	
GAZ				IAmb	IAmb	18 45 38.9		
	comp=Z,11nm,1.2s							
K27K	**Chicken**	**92.73**	**26**	P	**P**	**18 45 29.0**	**+1.0**	
	baz=268							
BARN	**Barnard Glacie**	**92.85**	**29**	P	**P**	**18 45 30.1**	**+1.1**	
CTGM	**Chitina Glacie**	**93.01**	**29**	P	**P**	**18 45 28.6**	**-1.0**	
OBN	**Obninsk**	**93.42**	**325**	*e*P	**P**	**18 45 30.7**	**-0.7**	
OBN				*e*		18 49 13.8		
OBN				pmax	pmax			
	comp=Z,7.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,95nm,20.0s							
DAWY	**Dawson**	**93.91**	**26**	P	**P**	**18 45 34.1**	**+0.6**	
DAWY				IAmb	IAmb	18 45 35.5		
	comp=Z,10nm,1.0s							
LVZ	**Lovozero**	**94.19**	**338**↓↓	*e*P	**P**	**18 45 35.4**	**+0.7**	
LVZ				pmax	pmax			
	comp=Z,104nm,1.5s							
BRTR	**Keskin Array B**	**95.41**	**309**	P	**P**	**18 45 40.0**	**-1.1**	
	comp=Z,0.9nm,0.8s,baz=145,slow=4.5,SNR=5.0							
BRTR				pP	**pP**	**18 45 49.9**	**-1.6**	
	comp=Z,1.6nm,0.8s,baz=90,slow=6.2,SNR=5.3							
BRTR				LR	LR	19 37 27.2		
	comp=Z,19nm,18.3s,baz=80,slow=41							
BRTR	**Keskin Array B**	**95.41**	**309**	P	**P**	**18 45 39.4**	**-1.7**	
INK	**Inuvik**	**96.01**	**22**	P	**P**	**18 45 42.2**	**-0.8**	
	comp=Z,2.9nm,0.8s,baz=315,slow=5.7,SNR=3.6							
INK				pP	**pP**	**18 45 51.8**	**-1.5**	
	comp=Z,2.5nm,0.8s,baz=241,slow=7.2,SNR=2.7							
INK	**Inuvik**	**96.01**	**22**	P	**P**	**18 45 41.9**	**-1.1**	
INK				IAmb	IAmb	18 45 43.9		
	comp=Z,4.0nm,0.9s							
INK					**pP**	**18 45 51.3**	**-2.0**	
ARCES	**ARCESS Array B**	**97.32**	**340**	P	**P**	**18 45 47.5**	**-1.5**	
	comp=Z,4.3nm,0.8s,baz=76,slow=5.1,SNR=10							
ARCES				pP	**pP**	**18 45 57.4**	**-1.9**	
	comp=Z,6.3nm,0.8s,baz=70,slow=5.3,SNR=4.2							
ARCES				LR	LR	19 35 23.5		
	comp=Z,77nm,19.1s,baz=20,slow=39							
AKASG	**Malin Array Be**	**98.03**	**321**	LR	LR	19 35 14.8		
	comp=Z,42nm,20.2s,baz=305,slow=38							
BELA	**Belgrano 2**	**98.53**	**184**		**P**	**18 45 52.6**	**-1.7**	
SNAA	**Sanae**	**98.93**	**194**	Pdiff	**P**	**18 45 54.5**	**-1.7**	
SNAA	**Sanae**	**98.93**	**194**↓↓	*e*P	**P**	**18 45 55.5**	**-0.8**	
SNAA				pmax	pmax			
	comp=Z,8.0nm,2.5s							
BOSA	**Boshof**	**99.73**	**240**	LR	LR	19 27 13.7		
	comp=Z,79nm,19.0s,baz=78,slow=33							
ANMO	**Albuquerque**	**120.46**	**51**	PKP	**PKiKP**	**18 51 10.5**	**+2.0**	
	comp=Z,0.1nm,0.8s,baz=174,slow=2.2,SNR=4.2							
ANMO	**Albuquerque**	**120.46**	**51**	PKIKP	**PKiKP**	**18 51 10.4**	**+1.9**	
ANMO	**Albuquerque**	**120.46**	**51**		**PKiKP**	**18 51 10.3**	**+1.9**	
TXAR	**Lajitas Array**	**124.49**	**56**	PKP	**PKiKP**	**18 51 17.3**	**+0.8**	
	comp=Z,1.1nm,0.8s,baz=208,slow=2.0,SNR=14							
TXAR				pPKP	**pPKPdf**	**18 51 26.9**	**+0.2**	
	comp=Z,1.6nm,0.9s,baz=273,slow=2.1,SNR=9.7							
TXAR	**Lajitas Array**	**124.49**	**56**	PKPdf	**PKiKP**	**18 51 16.8**	**+0.3**	
TOA0	**Torodi Ar. Sit**	**126.11**	**284**	PKPdf	**PKPdf**	**18 51 19.3**	**-0.2**	
TORD	**Torodi Ar. Bea**	**126.11**	**284**	PKP	**PKPdf**	**18 51 19.3**	**-0.2**	
	comp=Z,3.7nm,0.8s,baz=47,slow=2.2,SNR=18							
TORD				pPKP	**pPKPdf**	**18 51 28.9**	**-1.2**	
	comp=Z,3.0nm,0.8s,baz=55,slow=2.4,SNR=10							
TORD	**Torodi Ar. Bea**	**126.11**	**284**	PKPdf	**PKPdf**	**18 51 18.4**	**-1.1**	
JCT	**Junction City**	**127.27**	**54**	PKIKP	**PKPdf**	**18 51 22.0**	**+0.6**	
JCT	**Junction City**	**127.27**	**54**		**PKPdf**	**18 51 22.0**	**+0.6**	
S39A	**Bolivar**	**128.85**	**42**		**PKPdf**	**18 51 23.9**	**-0.3**	
PLCA	**Paso Flores**	**133.13**	**161**	PKP	**PKiKP**	**18 51 33.7**	**+0.2**	
	comp=Z,2.5nm,0.8s,baz=208,slow=8.8,SNR=4.1							
GO03	**Copiap**	**144.71**	**151**		**PKPab**	**18 51 52.5**	**0.0**	
MATN	**Matagalpa**	**145.00**	**72**		**PKPbc**	**18 51 54.4**	**+0.5**	
AC01	**Pan de Azucar**	**145.73**	**149**		**PKPdf**	**18 51 55.9**	**+0.4**	
GO02	**Mina Guanaco**	**147.05**	**150**		**PKPdf**	**18 51 59.1**	**+1.0**	
PB14	**IPOC Station P**	**147.07**	**148**		**PKPbc**	**18 52 00.1**	**-0.2**	
CBCY	**The Bluff, Cay**	**148.21**	**57**		**PKPbc**	**18 52 03.7**	**+0.6**	
PB04	**IPOC Station P**	**149.04**	**146**		**PKPbc**	**18 52 04.1**	**-1.2**	
LVC	**Limon Verde**	**149.50**	**148**	PKPbc	**PKPbc**	**18 52 06.6**	**-0.1**	
	comp=Z,8.9nm,0.8s,baz=161,slow=4.4,SNR=3.2							
LVC				pPKPbc	**sPKPdf**	**18 52 16.6**	**+0.1**	
	comp=Z,12nm,0.8s,baz=281,slow=3.9,SNR=8.1							
LVC	**Limon Verde**	**149.50**	**148**	PKIKP	**PKPdf**	**18 51 59.7**	**-2.5**	
LVC	**Limon Verde**	**149.50**	**148**		**PKPdf**	**18 51 59.7**	**-2.5**	
PB07	**IPOC Station P**	**149.67**	**145**		**PKPbc**	**18 52 05.7**	**-1.3**	
CPUP	**Villa Florida**	**150.24**	**170**	PKPbc	**PKPbc**	**18 52 07.9**	**-0.1**	
	comp=Z,21nm,1.1s,baz=211,slow=2.3,SNR=20							
CPUP				pPKPbc	**sPKPdf**	**18 52 17.8**	**+0.7**	
	comp=Z,24nm,1.1s,baz=178,slow=2.2,SNR=10							
CPUP	**Villa Florida**	**150.24**	**170**	PKIKP	**PKPbc**	**18 52 07.5**	**-0.5**	
CPUP						18 52 17.8		
CPUP	**Villa Florida**	**150.24**	**170**		**PKPbc**	**18 52 07.5**	**-0.5**	
NNA	**Nana**	**151.02**	**122**	PKPbc	**PKiKP**	**18 52 10.9**	**+0.2**	
	comp=Z,21nm,0.9s,baz=260,slow=4.4,SNR=8.3							
NNA				PKPab	**sPKPdf**	**18 52 19.7**	**+1.0**	
	comp=Z,24nm,0.8s,baz=310,slow=1.5,SNR=7.6							
NNA	**Nana**	**151.02**	**122**	PKIKP	**PKiKP**	**18 52 11.4**	**+0.6**	
NNA	**Nana**	**151.02**	**122**		**PKiKP**	**18 52 11.4**	**+0.6**	
PSGCX	**Pisagua**	**151.18**	**142**	PKPdf	**PKPdf**	**18 52 03.2**	**-1.4**	
PB11	**IPOC Station P**	**151.33**	**143**		**PKPdf**	**18 52 04.8**	**-0.1**	
PB11				PKPbc	**PKPbc**	**18 52 11.2**	**+0.2**	
ATAH	**Atahualpa**	**151.67**	**111**	PKPbc	**PKiKP**	**18 52 14.3**	**+1.7**	
	comp=Z,20nm,0.8s,baz=296,slow=3.4,SNR=4.4							
ATAH				PKPab	**pPKPbc**	**18 52 23.7**	**+1.0**	
	comp=Z,18nm,0.8s,baz=197,slow=1.0,SNR=8.2							
GO01	**Chusmiza**	**151.68**	**144**		**PKPbc**	**18 52 11.7**	**-0.5**	
OTAV	**Otavalo**	**153.32**	**96**	PKIKP	**PKPdf**	**18 52 02.8**	**-5.6**	
OTAV	**Otavalo**	**153.32**	**96**	PKPdf	**PKPdf**	**18 52 02.8**	**-5.6**	
LPAZ	**La Paz**	**154.91**	**141**	PKP	**PKPdf**	**18 52 11.9**	**+1.2**	
	comp=Z,1.6nm,0.8s,baz=247,slow=0.9,SNR=6.5							
LPAZ				PKPbc	**PKiKP**	**18 52 20.7**	**+1.3**	
	comp=Z,3.2nm,0.9s,baz=320,slow=5.4,SNR=6.3							
LPAZ				PKPab	**PKPab**	**18 52 36.0**	**+1.3**	
	comp=Z,3.1nm,0.9s,baz=252,slow=6.3,SNR=6.2							
LPAZ	**La Paz**	**154.91**	**141**	PKPdf	**PKPdf**	**18 52 11.5**	**+0.8**	
SIV	**San Ignacio**	**158.94**	**155**	PKP	**PKPdf**	**18 52 16.0**	**+0.8**	
	comp=Z,2.4nm,1.0s,baz=2.9,slow=1.5,SNR=6.5							
SIV				PKPab	**PKPab**	**18 52 51.1**	**-0.1**	
	comp=Z,4.7nm,0.8s,baz=187,slow=3.6,SNR=12							
SIV				pPKPab	**pPKPab**	**18 53 01.0**	**-0.5**	
	comp=Z,3.9nm,0.7s,baz=247,slow=1.3,SNR=6.0							
SDV	**Santo Domingo**	**160.54**	**72**	PKP	**PKPdf**	**18 52 18.2**	**+1.0**	
	comp=Z,5.7nm,0.6s,baz=288,slow=9.6,SNR=1.9							
SDV				PKPab	**PKPab**	**18 53 00.3**	**+1.6**	
	comp=Z,6.9nm,0.6s,baz=299,slow=7.0,SNR=4.8							
SAML	**Samuel**	**163.56**	**137**	PKIKP	**PKPdf**	**18 52 20.4**	**+0.3**	
SAML	**Samuel**	**163.56**	**137**		**PKPdf**	**18 52 20.4**	**+0.3**	

NEIC ***15*** *18:47:30.8±1.5,2°.83S±0°.05×128°.84E±0°.06,h17km±4km, mb4.3/25,Error ellipse: s-maj=9.4km s-min=7.2km az=97.0*

DJA ***15*** *18:47:31.8±0.6,3°.S±3°×12°.9E±°,h13km±6km,M4.3/9, mB4.5/1,mb4.4/7,MLv4.2/9,Mw(mB)3.7/1*

IDC ***15*** *18:47:34.4±2.7,2°.80S×129°.00E,h40km±25km,mb3.8/10, mb1 4.1/14,mb1mx3.8/41,mbtmp4.1/14,ML4.1/4,Error ellipse: s-maj=24.0km s-min=14.6km az=87.0*

ISC 15 18:47:33.4±0.4,2.83S±0.04×128.88E±0.05,h33km,n68, σ1§41/73,mb4.1/20,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.52**	**175**	P	**Pn**	**18 47 44.7**	**+0.2**
MSAI				S	**Sn**	**18 47 56.9**	**+4.7**
NLAI	**Namlea**	**1.82**	**257**	P	**Pb**	**18 48 04.4**	**-1.8**
NLAI				S	**Sb**	**18 48 27.3**	**-1.4**
BNDI	**Bandanaira**	**1.97**	**149**	P	**Pb**	**18 48 08.3**	**-0.4**
SANI	**Sanana**	**2.99**	**285**	P	**Pn**	**18 48 16.0**	**-2.5**
SIJI	**Sorong**	**3.08**	**51**	Pn	**Pn**	**18 48 19.5**	**-0.2**
	32nm,0.3s,baz=191,slow=23,SNR=139						
SIJI				Sn	**Sn**	**18 48 54.8**	**-0.7**
	42nm,0.3s,baz=39,slow=22,SNR=28						
FAKI	**Fak Fak**	**3.37**	**92**	P	**Pn**	**18 48 24.1**	**+0.4**
FAKI	**Fak Fak**	**3.37**	**92**	Pn	**Pn**	**18 48 24.0**	**+0.3**
TNTI	**Ternate**	**3.88**	**337**	P	**Pn**	**18 48 29.5**	**-1.3**
TNTI	**Ternate**	**3.88**	**337**	Pn	**Pn**	**18 48 29.8**	**-1.0**
SAUI	**Saumlaki**	**5.66**	**155**	Pn	**Pn**	**18 48 54.2**	**-1.0**
LUWI	**Luwuk**	**6.36**	**286**	Pn	**Pn**	**18 49 04.8**	**-0.1**
TTSI	**Tana Toraja**	**9.05**	**268**	P	**Pn**	**18 49 42.5**	**+0.6**
	14nm,1.1s						
BKSI	**Bulukumba**	**9.08**	**254**	P	Pn	18 49 47.9	+5.6
KAPI	**Kappang**	**9.36**	**256**	Pn	**Pn**	**18 49 49.1**	**+2.9**
	2.4nm,0.3s,baz=141,slow=7.1,SNR=7.0						
KAPI	**Kappang**	**9.36**	**256**		**Pn**	**18 49 48.6**	**+2.5**
MPSI	**Mapaga**	**9.51**	**289**	P	**Pn**	**18 49 47.6**	**-0.6**
	11nm,0.7s						
MTN	**Manton Dam**	**10.20**	**168**	Pn	**Pn**	**18 49 56.1**	**-1.5**
KNRA	**Kununurra**	**12.77**	**181**	Pn	**Pn**	**18 50 33.6**	**+0.8**
MYLDM	**Lahad Datu**	**13.07**	**307**	Pn	**Pn**	**18 50 39.7**	**+2.8**
FITZ	**Fitzroy Crossi**	**15.51**	**192**	Pn	**P**	**18 51 12.9**	**-0.9**
	0.2nm,0.3s,baz=27,slow=11,SNR=3.7						
FITZ	**Fitzroy Crossi**	**15.51**	**192**	P	**P**	**18 51 13.0**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.69**	**248**	Pn	**Pn**	**18 51 12.6**	**+0.4**
WB0	**Warramunga Arr**	**17.68**	**163**	Pn	**Pn**	**18 51 35.5**	**-1.7**
WB0				IAmb	IAmb	18 51 39.6	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**17.82**	**163**	P	**Pn**	**18 51 37.7**	**-1.3**
WRA	**Warramunga Arr**	**17.83**	**163**	P	**Pn**	**18 51 38.3**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=344,slow=12,SNR=58						
WRA				S	**Sn**	**18 54 52.5**	**-4.5**
	baz=321,slow=28,SNR=2.3						
WRA	**Warramunga Arr**	**17.83**	**163**	P	**Pn**	**18 51 37.2**	**-1.9**
WB2	**Warramunga Arr**	**17.83**	**163**	P	**Pn**	**18 51 37.2**	**-2.0**
WB2				IAmb	IAmb	18 51 42.0	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**17.90**	**162**	P	**Pn**	**18 51 38.5**	**-1.5**
COEN	**Coen**	**17.93**	**129**		**P**	**18 51 41.8**	**+1.0**
PSA00	**Pilbara Seismi**	**20.60**	**205**	P	**P**	**18 52 08.8**	**-1.1**
PSA00				IAmb	IAmb	18 52 25.9	
	comp=Z,25nm,1.4s						
AS31	**Alice Springs**	**21.28**	**167**	P	**P**	**18 52 17.2**	**0.0**
AS31				IAmb	IAmb	18 52 18.9	
	comp=Z,9.1nm,0.8s						
ASAR	**Alice Springs**	**21.28**	**167**	P	**P**	**18 52 17.4**	**+0.1**
	comp=Z,23nm,0.7s,baz=351,slow=12,SNR=272						
ASAR				S	**S**	**18 56 10.2**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=352,slow=24,SNR=4.3						
ASAR	**Alice Springs**	**21.28**	**167**	P	**P**	**18 52 17.2**	**-0.1**
RGRI	**Rengat**	**26.65**	**275**	P	P	18 52 59.1	-10
STKA	**Stephens Creek**	**31.28**	**159**	P	**P**	**18 53 50.0**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=285,slow=8.4,SNR=4.3						
STKA	**Stephens Creek**	**31.28**	**159**	P	**P**	**18 53 49.8**	**-0.7**
STKA				IAmb	IAmb	18 54 41.9	
	comp=Z,5.4nm,1.8s						
CMAR	**Chiang Mai Arr**	**36.28**	**307**	P	**P**	**18 54 35.1**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=135,slow=6.8,SNR=2.9						
CMAR				PcP	**PcP**	**18 56 59.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=178,slow=1.0,SNR=4.8						
MJAR	**Matsushiro Arr**	**40.12**	**12**	P	**P**	**18 55 04.5**	**-1.7**
	comp=Z,3.1nm,1.0s,baz=190,slow=9.4,SNR=4.9						
MJAR	**Matsushiro Arr**	**40.12**	**12**	P	**P**	**18 55 03.9**	**-2.3**
LZH	**Lanzhou**	**45.23**	**331**	*e*P	**P**	**18 55 50.6**	**+2.8**
LZH				pP	pP	18 55 59.1	+1.6
LZH				sP	sP	18 56 04.1	+2.4
LZH				PP	**PP**	**18 57 35.9**	**+1.8**
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,69nm,4.3s						
SHL	**Shillong**	**45.62**	**310**	P	**P**	**18 55 51.2**	**+0.1**
SHL				IAmb	IAmb	18 56 11.8	
	comp=Z,4.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**46.26**	**342**	*e*P	**P**	**18 55 55.4**	**-0.4**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,5.3s						
GTA	**Gaotai**	**49.81**	**330**	*e*P	**P**	**18 56 23.3**	**-0.1**
GTA				pP	pP	18 56 33.0	-0.1
GTA				sP	sP	18 56 36.3	-1.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TUWZ	**Tuamarina**	**55.75**	**140**	P	**P**	**18 57 08.2**	**+1.1**
WMQ	**Urumqi**	**59.32**	**326**	*e*P	**P**	**18 57 33.6**	**+1.3**
MK31	**Makanchi Array**	**64.15**	**326**	P	**P**	**18 58 04.4**	**-0.3**
MKAR	**Makanchi Array**	**64.15**	**326**	P	**P**	**18 58 04.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=124,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**64.15**	**326**	P	**P**	**18 58 04.1**	**-0.6**
MAKZ	**Makanchi**	**64.33**	**326**	P	**P**	**18 58 05.2**	**-0.8**
MAKZ				IAmb	IAmb	18 58 17.7	
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**67.37**	**334**	P	**P**	**18 58 25.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=103,slow=6.4,SNR=4.1						
SEY	**Seymchan**	**67.95**	**11**	P	**P**	**18 58 30.1**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=214,slow=7.5,SNR=9.2						
GAR	**Garm**	**67.96**	**314**	P	**P**	**18 58 29.1**	**-0.4**
KURK	**Kurchatov**	**68.40**	**328**	P	**P**	**18 58 32.0**	**+0.2**
CHGR	**Chuyangaron**	**68.67**	**313**	P	**P**	**18 58 33.3**	**-0.6**
KK31	**Karatay Array**	**69.50**	**318**	P	**P**	**18 58 38.5**	**-0.3**
KK31				IAmb	IAmb	18 58 39.8	
	comp=Z,1.8nm,0.9s						
KKAR	**Karatay Array**	**69.50**	**318**	P	**P**	**18 58 38.3**	**-0.5**
KKAR	**Karatay Array**	**69.50**	**318**	P	**P**	**18 58 38.5**	**-0.4**
KKAR				IAmb	IAmb	18 58 39.9	
	comp=Z,1.8nm,0.9s						
KIWB	**Kanaga Island**	**70.97**	**32**	P	**P**	**18 58 48.9**	**+1.3**
BRVK	**Borovoye**	**74.03**	**328**	P	**P**	**18 59 05.8**	**-0.1**
BRVK				IAmb	IAmb	18 59 06.6	
	comp=Z,4.1nm,0.8s						
TIXI	**Tiksi**	**74.34**	**360**	P	**P**	**18 59 07.2**	**-0.1**
VNDA	**Vanda**	**76.70**	**173**	P	**P**	**18 59 20.4**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=299,slow=6.1,SNR=7.2						
VNDA	**Vanda**	**76.70**	**173**	P	**P**	**18 59 21.0**	**+0.2**
VNDA				IAmb	IAmb	19 02 04.1	
	comp=Z,7.6nm,1.8s						
NRIK	**Noril'sk**	**77.27**	**346**	P	**P**	**18 59 23.3**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=117,slow=7.1,SNR=4.5						
ABKAR	**Akbulak array**	**78.57**	**321**	P	**P**	**18 59 31.0**	**-0.7**
ABKAR	**Akbulak array**	**78.57**	**321**	P	**P**	**18 59 31.5**	**-0.2**
ABKAR				IAmb	IAmb	18 59 32.1	
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**90.07**	**25**	P	**P**	**19 00 28.6**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=267,slow=5.2,SNR=2.3						
CPUP	**Villa Florida**	**150.40**	**169**	PKPbc	**PKiKP**	**19 07 23.6**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=201,slow=3.3,SNR=6.0						
CPUP	**Villa Florida**	**150.40**	**169**		**PKiKP**	**19 07 22.9**	**-0.2**

TEH ***15*** *18:53:11.8,32°.55N×47°.97E,h12km,ML3.2*

ISN ***15*** *18:53:12.4±1.1,32°.60N×47°.93E,h14km±7km,ML3.0*

THR ***15*** *18:53:13.0±0.4,32°.52N×47°.97E,h14km±3km,ML3.4*

ISC 15 18:53:11.4±1.4,32°.53N±0°.03×47°.96E±0°.03,h2km±12km, n43,σ1§09/51,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.60**	**285**	*e*Pg	**Pg**	**18 53 23.5**	**+0.7**
DHL1				*e*Sg	**Sb**	**18 53 32.8**	**-0.6**
IKMR	**Kamar-syah**	**1.05**	**19**	*e*Pg	**Pg**	**18 53 31.5**	**0.0**
IKMR				*e*		18 53 51.7	
IDOB	**Doab**	**1.27**	**8**	*e*Pg	**Pn**	**18 53 35.3**	**-1.0**
AHWZ	**Ahwaz**	**1.33**	**154**	*e*Pg	**Pg**	**18 53 37.6**	**+0.8**
BMDN	**Meydan**	**1.35**	**32**	*e*Pg	**Pb**	**18 53 37.2**	**-0.3**
BMDN				*e*		18 54 01.7	
IKOM	**Komasi**	**1.69**	**347**	*e*Pg	**Pn**	**18 53 41.9**	**-0.1**
IKOM				*e*		18 53 47.0	
HSAM	**Samen**	**1.76**	**17**	*e*Pg	**Pb**	**18 53 44.4**	**-0.2**
HSAM				*e*		18 54 14.5	
IBDR	**Badra**	**1.81**	**289**	*e*Pg	**Pn**	**18 53 44.0**	**+0.5**
IBDR				*e*Sg	**Sb**	**18 54 08.0**	**-0.3**
IBDR				AML	AML	18 54 14.5	
	comp=N,104nm,0.5s						
IBDR				AML	AML	18 54 26.0	
	comp=E,116nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.91**	**336**	*e*Pg	**Pb**	**18 53 46.2**	**-0.8**
KCHF				*e*		18 54 23.1	
IBZA	**Bozab**	**1.94**	**357**	*e*Pg	**Pb**	**18 53 47.2**	**-0.4**
IBZA				*e*		18 54 22.3	
KER	**Kermanshah**	**1.98**	**340**	*e*Pn	**Pb**	**18 53 47.4**	**-0.8**
KHMZ	**Khomeyn**	**2.06**	**54**	*e*Pn	**Pb**	**18 53 49.5**	**-0.2**
KHMZ				*e*Sg	**Sg**	**18 54 18.1**	**+0.4**
KHMZ	**Khomeyn**	**2.06**	**54**	*e*Pn	**Pb**	**18 53 49.5**	**-0.2**
IGHG	**Ghaleghazi**	**2.14**	**327**	*e*Pg	**Pb**	**18 53 52.1**	**+1.0**
IGHG				*e*		18 54 28.3	
NSR	**Nassriya**	**2.17**	**226**	*e*Pn	**Pb**	**18 53 50.0**	**-1.3**
NSR				*e*Sn	**Sn**	**18 54 16.0**	**+0.1**
NSR				AML	AML	18 54 28.6	
	comp=E,434nm,1.2s						
IVIS	**Veis**	**2.20**	**335**	*e*Pn	**Pb**	**18 53 51.6**	**-0.4**
IVIS				*e*		18 54 30.5	
JHBN	**Jahan bin**	**2.31**	**97**	*e*Pn	**Pn**	**18 53 51.4**	**+0.7**
JHBN				*e*		18 54 40.1	
IALM	**Almabolaq**	**2.33**	**4**	*e*Pn	**Pn**	**18 53 51.3**	**+0.3**
IPIR	**Pirpir**	**2.48**	**86**	*e*Pn	**Pn**	**18 53 53.5**	**+0.5**
IPIR				*e*		18 54 40.7	
HAGD	**Aghdareh**	**2.49**	**23**	*e*Pn	**Pb**	**18 53 55.1**	**-1.9**
HAGD				*e*		18 54 40.2	
ILIN	**Lien**	**2.53**	**341**	*e*Pn	**Pn**	**18 53 54.3**	**+0.6**
ILIN				*e*		18 54 43.2	
IDHR	**Dehrash**	**2.53**	**329**	*e*Pn	**Pn**	**18 53 55.0**	**+1.3**
IDHR				*e*		18 54 37.3	
SNGE	**Sanandaj**	**2.61**	**349**	*e*Pn	**Pb**	**18 53 57.0**	**-2.0**
SNGE				*e*Sg	**Sg**	**18 54 35.1**	**-0.1**
SNGE	**Sanandaj**	**2.61**	**349**	*e*Pn	**Pb**	**18 53 57.0**	**-2.0**
ASAO	**Ashtian**	**2.65**	**40**	*e*Pn	**Pb**	**18 53 57.4**	**-2.3**
ASAO				*e*Sg	**Sg**	**18 54 36.1**	**-0.5**
ASAO	**Ashtian**	**2.65**	**40**	*e*Pn	**Pb**	**18 53 57.4**	**-2.3**
HSRG	**Sareghieh**	**2.72**	**5**	*e*Pn	**Pn**	**18 53 57.8**	**+1.4**
HSRG				*e*		18 54 42.3	
BHD	**Baghdad**	**3.10**	**285**	*e*Pn	**Pn**	**18 54 02.0**	**+0.6**
BHD				*e*Sn	**Sn**	**18 54 39.0**	**0.0**
IKLH	**Kolahrood**	**3.14**	**74**	*e*Pn	**Pn**	**18 54 03.5**	**+1.4**
IKLH				*e*		18 55 02.6	
GHVR	**GHOM**	**3.40**	**54**	*e*Pn	**Pn**	**18 54 07.3**	**+1.8**
GHVR				*e*S	**Sn**	**18 54 46.8**	**+0.4**
GHVR	**GHOM**	**3.40**	**54**	*e*Pn	**Pn**	**18 54 07.3**	**+1.8**
KLNJ	**Kolanjah**	**3.44**	**115**	*e*		**18 54 54.8**	
KLNJ				*e*Pn	**Pn**	**18 54 06.3**	**0.0**
QABG	**Abgarm-Qazvin**	**3.44**	**22**	*e*P

comp=E,0.1nm,0.3s,baz=37,slow=22,SNR=3.7
AFRZ Afriz 9.39 81 *e*Pn **Pn 19 04 25.5 +1.1**
ISFR Sfrayin 9.50 58 *e*Pn **Pn 19 04 27.8 +1.8**
IMON Monand 9.93 82 *e*Pn **Pn 19 04 33.3 +1.5**
GEYT Alibeck 10.00 54 Pn **Pn 19 04 34.2 +1.6**
comp=E,0.2nm,0.3s,baz=257,slow=14,SNR=6.2
GEYT LR LR 19 08 19.3
comp=E,22nm,18.5s,baz=20,slow=37
UOSS Minazif 10.41 134 Pn **Pn 19 04 40.8 +2.5**
MMAI Mount Meron Ar 10.55 277 Pn **Pn 19 04 42.2 +2.0**
comp=E,0.3nm,0.3s,baz=90,slow=17,SNR=2.0
WSAR Wadi Sarin 13.17 131 Pn **Pn 19 05 13.1 -2.9**
comp=E,0.4nm,0.3s,baz=342,slow=9.6,SNR=2.4
WSAR Sn Sn 19 07 32.7 -10
comp=E,0.2nm,0.3s,baz=184,slow=19,SNR=1.5
KBL Kabul 17.76 77 P **Pn 19 06 16.9 +0.5**
CHGR Chuyangaron 18.36 64 P **Pn 19 06 20.9 -2.8**
CHGR IAmb IAmb 19 06 48.7
comp=Z,14nm,1.3s
SANT Santorini 18.93 288 **P 19 06 30.4 +0.4**
ABKAR Akbulak array 19.08 25 P **P 19 06 28.3 -3.1**
IDI Anoyia 19.32 285 P **Pn 19 06 37.2 +1.8**
comp=Z,0.6nm,0.3s,baz=74,slow=12,SNR=12
IDI Anoyia 19.32 285 ⇓P **Pn 19 06 37.3 +2.0**
IDI Anoyia 19.32 285 P **Pn 19 06 36.7 +1.4**
IDI IAmb IAmb 19 06 38.6
comp=Z,6.7nm,0.8s
AKTO Aktyubinsk 19.50 20 P **P 19 06 36.1 +0.1**
comp=Z,0.3nm,0.3s,baz=203,slow=11,SNR=8.9
CFR Carcaliu 19.93 315 ⇑P **P 19 06 39.6 -1.1**
KK31 Karatay Array 20.75 53 P **P 19 06 47.7 -2.0**
KK31 IAmb IAmb 19 06 56.9
comp=Z,6.3nm,1.1s
KKAR Karatay Array 20.75 53 P **P 19 06 48.0 -1.7**
KKAR IAmb IAmb 19 06 56.9
comp=Z,6.3nm,1.1s
KKAR Karatay Array 20.75 53 P **P 19 06 46.5 -3.2**
VRI Vrincioaia 21.14 316 ⇑P **P 19 06 58.0 +4.2**
NEHR Nehoiu 21.17 314 ⇓P **P 19 07 00.3 +6.1**
PLOR Plostina 21.17 315 ⇑P **P 19 06 58.8 +4.6**
NIL Nilore 21.27 80 P **P 19 06 54.1 -1.3**
MLR Muntele Rosu 21.41 314 P **P 19 07 00.9 +4.0**
comp=Z,4.4nm,0.7s,baz=178,slow=1.6,SNR=10
MLR Muntele Rosu 21.41 314 ⇑P **P 19 07 02.0 +5.1**
MLR Muntele Rosu 21.41 314 P **P 19 06 56.4 -0.5**
SORM Soroca 21.56 322 ⇑P **P 19 06 57.7 -0.6**
AGG Agios Georgios 21.75 295 P **P 19 07 00.7 +0.2**
OZUR 21.81 315 ⇓P **P 19 07 06.3 +5.1**
ITM Ithomi 21.83 290 P **P 19 07 01.3 -0.1**
VOIR 21.94 313 ⇑P **P 19 07 05.4 +2.8**
DOPR Dopca 21.99 314 ⇓P **P 19 07 05.0 +2.0**
BIZ Bicaz 22.08 317 ⇓P **P 19 07 07.8 +3.8**
LOT Lotru 22.74 312 ⇑P **P 19 07 09.7 -1.5**
AKASG Malin Array Be 22.89 328 P **P 19 07 12.4 -0.1**
comp=Z,0.4nm,0.3s,baz=139,slow=9.4,SNR=8.0
AKASG Malin Array Be 22.89 328 P **P 19 07 11.3 -1.2**
AKBB Malin Array Si 22.89 328 P **P 19 07 11.4 -1.1**
AKBB IAmb IAmb 19 07 20.1
comp=Z,3.4nm,0.7s
BURAR Bucovina Array 22.95 318 ⇑P **P 19 07 17.2 +3.9**
BUR08 Bucovina Ar. S 22.98 318 P **P 19 07 10.4 -3.2**
BUR08 IAmb IAmb 19 07 27.4
comp=Z,6.7nm,1.3s
GZR Gura Zlata 23.35 311 ⇑P **P 19 07 18.0 +0.6**
HERR Herculane 23.37 310 ⇓P **P 19 07 18.8 +1.3**
MDVR Moldovita 23.79 309 ⇑P **P 19 07 20.9 -0.8**
ARU Arti 25.12 14 P **P 19 07 36.1 +2.4**
comp=Z,2.2nm,0.7s,baz=187,slow=6.6,SNR=11
ARU Arti 25.12 14 **P 19 07 29.4 -4.3**
KOLS Kolonicke sedl 25.32 318 *e*P **P 19 07 37.3 +1.7**
BRVK Borovoye 26.17 31 P **P 19 07 38.9 -4.4**
BRVK IAmb IAmb 19 07 47.5
comp=Z,2.5nm,0.8s
BVAR Borovoye Array 26.20 32 P **P 19 07 42.7 -0.8**
comp=Z,1.6nm,0.9s,baz=156,slow=11,SNR=4.6
PSZ Piszkesteto 26.23 314 **P 19 07 43.3 -0.7**
VYHS Vyhne 27.11 315 *e*P **P 19 07 53.7 +1.8**
OJC Ojcow 27.36 319 P **P 19 07 53.1 -0.9**
KURBB Kurchatov Arra 28.96 42 P **P 19 08 09.4 +1.1**
comp=Z,1.2nm,0.8s,baz=245,slow=9.7,SNR=7.4
KURK Kurchatov 29.06 42 P **P 19 08 06.7 -2.5**
KURK IAmb IAmb 19 08 16.4
comp=Z,2.2nm,0.9s
MK31 Makanchi Array 29.86 51 P **P 19 08 16.7 +0.4**
MKAR Makanchi Array 29.86 51 P **P 19 08 16.9 +0.6**
comp=Z,1.1nm,0.7s,baz=248,slow=7.7,SNR=11
MKAR Makanchi Array 29.86 51 P **P 19 08 16.3 -0.1**
CLL Collm 31.71 317 *i* sP sP 19 08 36.5 -0.5
comp=Z,7.0nm,1.3s
FINES FINESS Array B 32.31 340 P **P 19 08 37.0 -0.8**
comp=Z,4.0nm,0.8s,baz=140,slow=15,SNR=2.6
FINES FINESS Array B 32.31 340 P **P 19 08 37.4 -0.3**
WMQ Urumqi 33.01 58 *e*P **P 19 08 46.3 +2.1**
ZALV Zalesovo Beam 33.89 40 P **P 19 08 51.6 0.0**
comp=Z,0.6nm,0.5s,baz=250,slow=8.8,SNR=4.6
ARCES ARCESS Array B 39.24 348 P **P 19 09 37.7 +0.7**
comp=Z,3.0nm,0.9s,baz=141,slow=10,SNR=2.1
ESDC Sonseca Array 42.07 295 P **P 19 10 01.5 +0.6**
comp=Z,0.4nm,0.6s,baz=83,slow=7.7,SNR=4.5
GTA Gaotai 42.13 65 *e*P **P 19 10 02.0 +0.5**
GTA pP sP 19 10 07.1 +1.2
GTA sP pP 19 10 10.3 +5.6
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,28nm,7.5s
GTA LR LR
comp=N,92nm,16.4s
GTA LR LR
comp=E,70nm,18.5s
GTA LR LR
comp=Z,81nm,16.4s
LZH Lanzhou 45.84 69 *e*P **P 19 10 31.8 +0.4**
LZH pP pP 19 10 34.6 0.0
LZH sP sP 19 10 37.6 +1.7
LZH PP **PP 19 12 16.4 -2.3**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,93nm,4.9s
TORD Torodi Ar. Bea 46.32 257 P **P 19 10 35.8 +0.7**
comp=Z,0.7nm,0.8s,baz=74,slow=5.7,SNR=4.8
CMAR Chiang Mai Arr 47.72 94 P **P 19 10 45.6 -0.4**
comp=Z,0.3nm,0.4s,baz=298,slow=10,SNR=1.5
HHC Hu-ho-hao-te 50.77 61 *e*P **P 19 11 10.0 +0.7**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.8s
BOSA Boshof 64.40 202 P **P 19 12 44.9 -0.4**
comp=Z,1.9nm,0.8s,baz=23,slow=7.3,SNR=4.7

*TEH **15** 19:21:32.2, 32˚.59N×47˚.95E, h17km, ML3.3*
*ISN **15** 19:21:32.4±1.1, 32˚.60N×47˚.93E, h14km±7km, ML2.8*
ISC 15 19:21:32.7±0.9, 32˚.57N±0˚.04×47˚.95E±0˚.03, h10km, n36, σ0§90/41, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.58**	**281**	*e*Pg	**Pg**	**19 21 43.1**	**-0.9**
DHL1				*e*Sg	**Sg**	**19 21 51.9**	**+0.3**
IKMR	**Kamar-syah**	**1.01**	**21**	*e*Pg	**Pg**	**19 21 50.7**	**-1.5**
IKMR				*e*		19 21 56.0	
IDOB	**Doab**	**1.23**	**9**	*e*Pg	**Pn**	**19 21 55.5**	**-0.7**
BMDN	**Meydan**	**1.32**	**33**	*e*Pg	**Pn**	**19 21 57.0**	**-0.4**
BMDN				*e*		19 22 22.9	
AHWZ	**Ahwaz**	**1.37**	**154**	*e*Pg	**Pn**	**19 21 58.1**	**+0.2**
AHWZ				*e*Sg	**Sg**	**19 22 18.5**	**+1.7**
IKOM	**Komasi**	**1.64**	**347**	*e*		19 22 07.3	
IKOM				*e*Pg	**Pn**	**19 22 02.8**	**+1.0**
HSAM	**Samen**	**1.72**	**18**	*e*		19 22 07.5	
HSAM				*e*Pg	**Pb**	**19 22 04.5**	**-0.2**
IBDR	**Badra**	**1.79**	**288**	*e*Pg	**Pn**	**19 22 04.0**	**+0.4**
IBDR				*e*Sg	**Sb**	**19 22 28.0**	**0.0**
IBDR				AML	AML	19 22 31.1	
	comp=E,130nm,0.4s						
IBDR				AML	AML	19 22 32.8	
	comp=N,136nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.86**	**336**	*e*Pg	**Pb**	**19 22 06.8**	**-0.2**
IBZA	**Bozab**	**1.90**	**358**	*e*		19 22 44.2	
IBZA				*e*Pn	**Pn**	**19 22 06.6**	**+1.2**
KER	**Kermanshah**	**1.93**	**339**	*e*Pg	**Pb**	**19 22 07.9**	**-0.3**
IGHG	**Ghaleghazi**	**2.10**	**327**	*e*Pn	**Pn**	**19 22 08.7**	**+0.5**
IGHG				*e*		19 23 07.4	
IVIS	**Veis**	**2.16**	**335**	*e*		19 22 51.3	
IVIS				*e*Pn	**Pn**	**19 22 08.1**	**-0.8**
NSR	**Nassriya**	**2.19**	**225**	*e*Pn	**Pn**	**19 22 10.0**	**+0.8**
NSR				*e*Sn	**Sn**	**19 22 36.0**	**-0.4**
IALM	**Almabolaq**	**2.29**	**4**	*e*Pn	**Pn**	**19 22 12.6**	**+1.7**
JHBN	**Jahan bin**	**2.32**	**98**	*e*Pn	**Pn**	**19 22 11.5**	**+0.2**
JHBN				*e*		19 23 03.7	
HAGD	**Aghdareh**	**2.45**	**23**	*e*Pn	**Pn**	**19 22 14.9**	**+1.8**
ILIN	**Lien**	**2.48**	**341**	*e*Pn	**Pn**	**19 22 13.5**	**0.0**
ILIN				*e*		19 23 07.6	
IPIR	**Pirpir**	**2.48**	**87**	*e*Pn	**Pn**	**19 22 14.5**	**+1.0**
IPIR				*e*		19 22 50.3	
IDHR	**Dehrash**	**2.49**	**329**	*e*Pn	**Pn**	**19 22 14.1**	**+0.5**
IDHR				*e*		19 22 57.0	
HSRG	**Sareghieh**	**2.68**	**6**	*e*Pn	**Pn**	**19 22 17.9**	**+1.7**
HSRG				*e*		19 23 09.2	
BHD	**Baghdad**	**3.08**	**284**	*e*Pn	**Pn**	**19 22 22.0**	**+0.5**
BHD				*e*Sn	**Sn**	**19 22 59.0**	**+0.6**
IKLH	**Kolahrood**	**3.14**	**75**	*e*Pn	**Pn**	**19 22 23.6**	**+1.1**
IKLH				*e*		19 23 22.6	
QABG	**Abgarm-Qazvin**	**3.41**	**23**	*e*Pn	**Pn**	**19 22 27.2**	**+1.0**
IGAR	**Gharneh**	**3.46**	**92**	*e*Pn	**Pn**	**19 22 27.2**	**+0.3**
IGAR				*e*		19 23 32.2	
KLNJ	**Kolanjah**	**3.47**	**116**	*e*Pn	**Pn**	**19 22 26.7**	**-0.4**
KLNJ				*e*		19 23 46.6	
IZEF	**Zefreh**	**3.70**	**84**	*e*Pn	**Pn**	**19 22 31.0**	**+0.7**
KRSH	**Karshahi**	**3.77**	**67**	*e*Pn	**Pn**	**19 22 31.2**	**+0.1**
IRAM	**Ramesheh**	**3.83**	**100**	*e*Pn	**Pn**	**19 22 31.9**	**-0.1**
QALM	**Alamut, Qazvin**	**4.45**	**29**	*e*Pn	**Pn**	**19 22 42.5**	**+2.0**
IDMV	**Damavand**	**4.52**	**47**	*e*Pn	**Pn**	**19 22 42.0**	**+0.4**
ANAR	**Anarak**	**4.90**	**81**	*e*Pn	**Pn**	**19 22 46.7**	**+0.1**
ISAD	**Sadrabad**	**4.90**	**96**	*e*Pn	**Pn**	**19 22 46.9**	**+0.1**
IFIR	**Firoozkooh**	**5.02**	**51**	*e*Pn	**Pn**	**19 22 49.6**	**+1.2**
ISHM	**Shahmirzad**	**5.48**	**52**	*e*Pn	**Pn**	**19 22 55.1**	**+0.4**
IANJ	**Anjilo**	**5.73**	**58**	*e*Pn	**Pn**	**19 22 58.3**	**+0.2**

*IDC **15** 19:34:02.9±0.9, 29˚.39S×69˚.24W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/30, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=44.6km s-min=27.2km az=103.0*
*GUC **15** 19:34:16.5±0.9, 28˚.75S×69˚.45W, h14km±7km, ML3.8*
ISC 15 19:34:17.7±0.9, 28˚.76S±0˚.04×69˚.4W±0˚.1, h113km±9km, n24, σ1§30/34, mb3.4/4, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC05	**El Transito**	**0.76**	**264**	⇓*i*P	**Pn**	**19 34 37.0**	**0.0**
AC05				*i* S	**Sn**	**19 34 51.8**	**+0.2**
CO01	**Juntas del Tor**	**1.35**	**206**	⇑*i*P	**Pn**	**19 34 43.7**	**+0.4**
CO01				*i* S	**Sn**	**19 35 03.3**	**+0.7**
GO03	**Copiap**	**1.37**	**328**	⇑*i*P	**Pn**	**19 34 42.8**	**-0.5**
GO03				*i* S	**Sn**	**19 35 02.5**	**-0.2**
GO03				IAML		19 35 03.8	
	comp=N,1μm,0.3s						
AC04	**Llanos de Chal**	**1.57**	**290**	*e*P	**Pn**	**19 34 45.0**	**-0.4**
AC04				*i* S	**Sn**	**19 35 06.0**	**-0.7**
AC04				IAML		19 35 06.8	
	comp=E,966nm,0.1s						
GO04	**Tololo Observa**	**1.86**	**220**	⇑*i*P	**Pn**	**19 34 48.7**	**-0.6**
GO04				*e*S	**Sn**	**19 35 13.9**	**+0.6**
GO04				IAML		19 35 16.6	
	comp=N,2μm,0.6s						
AC02	**Maricunga**	**1.93**	**7**	⇑*i*P	**Pn**	**19 34 50.9**	**+0.4**
AC02				*i* S	**Sn**	**19 35 16.9**	**+1.5**
CO03	**El Pedregal**	**2.35**	**208**	⇑*i*P	**Pn**	**19 34 55.1**	**-0.3**
CO03				*i* S	**Sn**	**19 35 24.7**	**+0.4**
CO03				IAML		19 35 25.5	
	comp=E,679nm,0.4s						
CO02	**Combarbal**	**2.80**	**209**	⇑*e*P	**Pn**	**19 35 00.2**	**-1.0**
CO02				*e*S	**Sn**	**19 35 33.9**	**-0.9**
AC01	**Pan de Azucar**	**2.81**	**338**	*e*P	**Pn**	**19 35 00.7**	**-0.6**
AC01				*e*S	**Sn**	**19 35 34.4**	**-0.4**
AC01				IAML		19 35 39.3	
	comp=E,188nm,0.4s						
GO02	**Mina Guanaco**	**3.59**	**357**	⇑*i*P	**Pn**	**19 35 11.4**	**-0.5**
VA03	**San Esteban**	**4.11**	**194**	*e*P	**Pn**	**19 35 17.8**	**-0.9**
VA03				*e*S	**Sn**	**19 36 04.1**	**-1.8**
PB14	**IPOC Station P**	**4.21**	**348**	*e*P	**Pn**	**19 35 18.9**	**-1.4**
ROCH	**El Roble**	**4.42**	**198**	*e*P	**Pn**	**19 35 20.0**	**-2.9**
PEL	**Peldehue**	**4.50**	**194**	*e*P	**Pn**	**19 35 21.9**	**-2.0**
LVC	**Limon Verde**	**6.14**	**4**	Pn	**Pn**	**19 35 44.3**	**-2.0**
	comp=E,5.7nm,0.3s,baz=169,slow=6.9,SNR=29						
LVC				Sn	**Sn**	**19 36 51.9**	**-3.5**
	comp=E,4.3nm,0.3s,baz=232,slow=13,SNR=4.8						
LPAZ	**La Paz**	**12.47**	**6**	Pn	**Pn**	**19 37 10.9**	**-1.0**
	comp=E,0.2nm,0.3s,baz=185,slow=5.6,SNR=5.2						
VNDA	**Vanda**	**69.65**	**190**	P	P	19 45 09.5	-4.8
	comp=E,0.3nm,0.6s,baz=126,slow=3.8,SNR=2.3						
DBIC	**Dimbokro**	**71.37**	**71**	P	**P**	**19 45 25.6**	**-0.1**
	comp=E,2.4nm,0.9s,baz=217,slow=10,SNR=1.3						
PDAR	**Pinedale Array**	**80.19**	**331**	P	**P**	**19 46 18.0**	**+2.4**
	comp=E,0.2nm,0.6s,baz=125,slow=10,SNR=2.5						
TORD	**Torodi Ar. Bea**	**80.28**	**69**	P	**P**	**19 46 16.6**	**+0.2**
	comp=E,0.5nm,0.5s,baz=276,slow=5.5,SNR=9.0						
ASAR	**Alice Springs**	**123.25**	**206**	PKP	**PKPdf**	**19 53 01.7**	**-0.1**
	comp=E,0.4nm,0.7s,baz=146,slow=2.1,SNR=7.1						
WRA	**Warramunga Arr**	**126.42**	**208**	PKP	**PKPdf**	**19 53 08.3**	**+0.4**
	comp=E,0.8nm,0.5s,baz=160,slow=1.5,SNR=15						
ZALV	**Zalesovo Beam**	**148.59**	**30**	PKPbc	**PKPbc**	**19 53 51.9**	**+1.0**
	comp=E,2.8nm,0.6s,baz=300,slow=3.4,SNR=13						
MKAR	**Makanchi Array**	**151.51**	**43**	PKPbc	**PKPbc**	**19 53 59.0**	**+0.8**
	comp=E,2.5nm,0.7s,baz=310,slow=2.0,SNR=27						

*LDG **15** 19:36:33.8±0.1, 46˚.65N×7˚.60E, h10km, Md3.3/1, Ml3.5/50, Error ellipse: s-maj=1.1km s-min=0.9km az=78.0*
*ZUR **15** 19:36:33.1, 46˚.65N×7˚.58E, h9km, MLh3.2/28, Error ellipse: s-maj=1.5km s-min=0.5km az=222.0*
*GEN **15** 19:36:33.2, 46˚.65N×7˚.58E, h9km±2km, Ml3.1*
*STR **15** 19:36:33.7±0.3, 46˚.7N±1˚.0×°±°, h19km±2km, MLv3.3/24, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ROM **15** 19:36:33.9±0.3, 46˚.590N±0˚.010×7˚.61E±0˚.01, h6km±2km, ML2.8/17, Error ellipse: s-maj=1.0km s-min=0.6km az=145.0*
*PRU **15** 19:36:33.5±0.0, 46˚.71N×7˚.54E, h10km*
*BGR **15** 19:36:33.3±0.4, 46˚.67N×7˚.55E, h10km, ML3.3/21, Error ellipse: s-maj=3.3km s-min=2.2km az=21.0*
ISC 15 19:36:31.4±0.6, 46˚.657N±0˚.009×7˚.578E±0˚.010, h16km±3km, n310, σ1§46/571, 79C-96D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIMIS	**Wimmis**	**0.03**	**76**	⇑Pg	**Pg**	**19 36 35.0**	**+0.6**
WIMIS				⇑Pg	**Pg**	**19 36 35.0**	**+0.6**
	65nm,SNR=912						
WIMIS				Sg	**Sg**	**19 36 36.3**	**0.0**
WIMIS	**Wimmis**	**0.03**	**76**	⇑Pg	**Pg**	**19 36 35.0**	**+0.6**
	65nm,SNR=912						
WIMIS				⇑Pg	**Pg**	**19 36 35.0**	**+0.6**
WIMIS				Sg	**Sg**	**19 36 36.3**	**0.0**
SINS	**Interlaken, Sc**	**0.20**	**81**	⇓Pg	**Pb**	**19 36 37.8**	**+1.0**
SINS				⇓Pg	**Pb**	**19 36 37.8**	**+1.0**
	33nm,SNR=154						
SINS	**Interlaken, Sc**	**0.20**	**81**	⇓Pg	**Pb**	**19 36 37.8**	**+1.0**
	33nm,SNR=154						
SINS				⇓Pg	**Pb**	**19 36 37.8**	**+1.0**
SINS				Sg	**Sb**	**19 36 41.5**	**+1.2**
LKBD	**Leukerbad**	**0.27**	**173**	Pg	**Pb**	**19 36 38.4**	**+0.4**
	8.8nm,SNR=178						
LKBD				Pg	**Pb**	**19 36 38.4**	**+0.4**
LKBD				Sg	**Sb**	**19 36 42.6**	**+0.1**
LKBD	**Leukerbad**	**0.27**	**173**	Pg	**Pb**	**19 36 38.5**	**+0.4**
LKBD				Pg	**Pb**	**19 36 38.5**	**+0.4**
	8.8nm,SNR=178						
LKBD				Sg	**Sb**	**19 36 42.6**	**+0.1**
LAUCH	**Lauchernalp**	**0.28**	**151**	⇓Pg	**Pb**	**19 36 38.9**	**+0.8**
LAUCH				⇓Pg	**Pb**	**19 36 38.9**	**+0.8**
	5.1nm,SNR=145						
LAUCH				Sg	**Sb**	**19 36 43.0**	**+0.3**
LAUCH	**Lauchernalp**	**0.28**	**151**	⇓Pg	**Pb**	**19 36 38.8**	**+0.6**
	5.1nm,SNR=144						
LAUCH				⇓Pg	**Pb**	**19 36 38.8**	**+0.6**
LAUCH				Sg	**Sb**	**19 36 43.1**	**+0.3**
STAF	**Tafers**	**0.29**	**301**	Pg	**Pb**	**19 36 39.2**	**+0.9**
STAF				Pg	**Pb**	**19 36 39.2**	**+0.9**
	2.7nm,SNR=25						
STAF				Sg	**Sb**	**19 36 43.9**	**+1.0**
STAF	**Tafers**	**0.29**	**301**	Pg	**Pb**	**19 36 39.2**	**+0.9**
STAF				Pg	**Pb**	**19 36 39.2**	**+0.9**
	2.7nm,SNR=25						
SBERN	**Bern, Kleine S**	**0.30**	**342**	Sg	**Sb**	**19 36 44.4**	**+1.1**
SBERN	**Bern, Kleine S**	**0.30**	**342**	Sg	**Sb**	**19 36 44.4**	**+1.1**
SENIN	**Lac Senin/Sane**	**0.35**	**213**	⇑Pg	**Pg**	**19 36 39.9**	**+1.1**
SENIN				⇑Pg	**Pg**	**19 36 39.9**	**+1.1**
	3.2nm,SNR=65						
SENIN				Sg	**Sg**	**19 36 45.3**	**+1.4**
SENIN	**Lac Senin/Sane**	**0.35**	**213**	⇑Pg	**Pg**	**19 36 39.9**	**+1.1**
SENIN				⇑Pg	**Pg**	**19 36 39.9**	**+1.1**
	3.2nm,SNR=65						
SENIN				Sg	**Sg**	**19 36 45.2**	**+1.4**
SIEB	**Ecole de Borzu**	**0.36**	**185**	⇑Pg	**Pb**	**19 36 40.2**	**+0.7**
	6.3nm,SNR=72						
SIEB				⇑Pg	**Pb**	**19 36 40.2**	**+0.7**
SIEB				Sg	**Sg**	**19 36 45.2**	**+1.2**
SIEB	**Ecole de Borzu**	**0.36**	**185**	⇑Pg	**Pb**	**19 36 40.2**	**+0.7**
SIEB				⇑Pg	**Pb**	**19 36 40.2**	**+0.7**
	6.3nm,SNR=72						
SIEB				Sg	**Sg**	**19 36 45.2**	**+1.2**
SCOU	**Cournillens**	**0.38**	**301**	⇓Pg	**Pb**	**19 36 41.1**	**+1.2**
SCOU				⇓Pg	**Pb**	**19 36 41.1**	**+1.2**
	3.7nm,SNR=34						
SCOU				Sg	**Sb**	**19 36 46.8**	**+1.3**
SCOU	**Cournillens**	**0.38**	**301**	⇓Pg	**Pb**	**19 36 41.1**	**+1.2**
	3.7nm,SNR=34						
SCOU				⇓Pg	**Pb**	**19 36 41.1**	**+1.2**
SCOU				Sg	**Sb**	**19 36 46.8**	**+1.3**
HASLI	**Hasliberg/Brie**	**0.41**	**76**	⇓Pg	**Pb**	**19 36 41.2**	**+0.9**
	4.6nm,SNR=86						
HASLI				⇓Pg	**Pb**	**19 36 41.2**	**+0.9**
HASLI				Sg	**Sb**	**19 36 47.3**	**+0.9**
HASLI	**Hasliberg/Brie**	**0.41**	**76**	⇓Pg	**Pb**	**19 36 41.2**	**+0.9**
	4.6nm,SNR=86						
HASLI				⇓Pg	**Pb**	**19 36 41.2**	**+0.9**
HASLI				Sg	**Sb**	**19 36 47.2**	**+0.9**
SVIO	**Visp Obere Sta**	**0.42**	**150**	⇓Pg	**Pb**	**19 36 41.6**	**+1.0**
SVIO				⇓Pg	**Pb**	**19 36 41.6**	**+1.0**
	3.3nm,SNR=22						
SVIO				Sg	**Sb**	**19 36 47.3**	**+0.6**
SVIO	**Visp Obere Sta**	**0.42**	**150**	⇓Pg	**Pb**	**19 36 41.6**	**+1.0**
	3.3nm,SNR=22						
SVIO				⇓Pg	**Pb**	**19 36 41.6**	**+1.0**
SVIO				Sg	**Sb**	**19 36 47.3**	**+0.6**
SVIL	**Visp Littennar**	**0.42**	**150**	Pg	**Pb**	**19 36 41.6**	**+1.0**
SVIL				Pg	**Pb**	**19 36 41.6**	**+1.0**
	11nm,SNR=9.5						
SVIL				Sg	**Sb**	**19 36 47.6**	**+0.9**
SVIL	**Visp Littennar**	**0.42**	**150**	Pg	**Pb**	**19 36 41.6**	**+1.0**
SVIL				Pg	**Pb**	**19 36 41.6**	**+1.0**
	11nm,SNR=9.5						
SVIL				Sg	**Sb**	**19 36 47.6**	**+0.9**
SVIT	**Visp-Terbiners**	**0.42**	**150**	⇓Pg	**Pb**	**19 36 41.7**	**+1.1**
	4.3nm,SNR=43						
SVIT				⇓Pg	**Pb**	**19 36 41.7**	**+1.1**
SVIT				Sg	**Sb**	**19 36 47.4**	**+0.6**
SVIT	**Visp-Terbiners**	**0.42**	**150**	⇓Pg	**Pb**	**19 36 41.6**	**+1.1**
	4.3nm,SNR=43						
SVIT				⇓Pg	**Pb**	**19 36 41.6**	**+1.1**
SVIT				Sg	**Sb**	**19 36 47.4**	**+0.6**
BIBA	**Brigerbad**	**0.43**	**145**	⇓Pg	**Pb**	**19 36 41.7**	**+1.0**
	6.3nm,SNR=47						
BIBA				⇓Pg	**Pb**	**19 36 41.7**	**+1.0**
BIBA				Sg	**Sb**	**19 36 47.6**	**+0.6**
BIBA	**Brigerbad**	**0.43**	**145**	⇓Pg	**Pb**	**19 36 41.7**	**+1.0**
	6.3nm,SNR=47						
BIBA				⇓Pg	**Pb**	**19 36 41.7**	**+1.0**
BIBA				Sg	**Sb**	**19 36 47.6**	**+0.6**
TORNY	**Torny/Romont**	**0.44**	**286**	⇓Pg	**Pb**	**19 36 42.2**	**+1.2**
TORNY				⇓Pg	**Pb**	**19 36 42.2**	**+1.2**
	4.0nm,SNR=64						
TORNY				Sg	**Sb**	**19 36 48.6**	**+1.3**
TORNY	**Torny/Romont**	**0.44**	**286**	⇓Pg	**Pb**	**19 36 42.1**	**+1.2**
TORNY				⇓Pg	**Pb**	**19 36 42.1**	**+1.2**
	4.0nm,SNR=64						
TORNY				Sg	**Sb**	**19 36 48.6**	**+1.3**
SIOO	**Sion-Ophtalmol**	**0.45**	**198**	Pg	**Pb**	**19 36 42.0**	**+1.1**
SIOO				Pg	**Pb**	**19 36 42.0**	**+1.1**
	6.4nm,SNR=45						
SIOV	**Sion-Valere**	**0.45**	**199**	Pg	**Pb**	**19 36 41.7**	**+0.7**
	3.4nm,SNR=24						
SIOV				Pg	**Pb**	**19 36 41.7**	**+0.7**
SIOV				Sg	**Sg**	**19 36 47.8**	**+1.3**
SIOV	**Sion-Valere**	**0.45**	**199**	Pg	**Pb**	**19 36 41.7**	**+0.7**
SIOV				Pg	**Pb**	**19 36 41.7**	**+0.7**
	3.4nm,SNR=24						
SIOV				Sg	**Sg**	**19 36 47.9**	**+1.3**
VANNI	**Vissoie, Val d**	**0.45**	**178**	⇑Pg	**Pb**	**19 36 42.0**	**+1.0**
	1.9nm,SNR=42						
VANNI				⇑Pg	**Pb**	**19 36 42.0**	**+1.0**
VANNI	**Vissoie, Val d**	**0.45**	**178**	⇑Pg	**Pb**	**19 36 42.0**	**+1.0**
	1.9nm,SNR=42						
VANNI				⇑Pg	**Pb**	**19 36 42.0**	**+1.0**
VANNI				Sg	**Sb**	**19 36 48.1**	**+0.5**
SGRA	**Graechen Ausbl**	**0.50**	**159**	⇓Pg	**Pb**	**19 36 43.0**	**+1.1**
	1.8nm,SNR=13						
SGRA				⇓Pg	**Pb**	**19 36 43.0**	**+1.1**
SGRA	**Graechen Ausbl**	**0.50**	**159**	⇓Pg	**Pb**	**19 36 43.0**	**+1.1**
	1.8nm,SNR=13						
SGRA				⇓Pg	**Pb**	**19 36 43.0**	**+1.1**
GRIMS	**Grimsel Gerste

DAGMA ⇑Pg **Pb** **19 36 46.0 +1.6**
comp=N,3.1nm,SNR=41
DAGMA Lutertal, Dagm 0.65 27 ⇑Pg **Pb** **19 36 46.0 +1.6**
DAGMA ⇑Pg **Pb** **19 36 46.0 +1.6**
comp=N,3.1nm,SNR=41
DAGMA Sg **Sb** **19 36 54.8 +1.6**
SMAO Martigny, Rue 0.66 212 ⇑Pg **Pb** **19 36 45.7 +1.1**
comp=N,2.9nm,SNR=28
SMAO ⇑Pg **Pb** **19 36 45.7 +1.1**
SALAN Lac Salanfe 0.66 219 ⇑Pg **Pg** **19 36 45.5 +1.0**
SALAN ⇑Pg **Pg** **19 36 45.5 +1.0**
comp=N,1.5nm,SNR=27
MMK Mattmark 0.66 156 ⇓Pg **Pb** **19 36 46.0 +1.2**
MMK ⇓Pg **Pb** **19 36 46.0 +1.2**
comp=N,0.9nm,SNR=21
MMK Mattmark 0.66 156 ⇓Pg **Pb** **19 36 46.0 +1.2**
MMK ⇓Pg **Pb** **19 36 46.0 +1.2**
comp=N,0.9nm,SNR=21
MMK Sg **Sb** **19 36 54.4 +0.5**
MMK Mattmark 0.66 156 ⇓P **Pb** **19 36 46.0 +1.2**
MMK S **Sb** **19 36 54.4 +0.5**
MMK AML AML
comp=E,581µm,0.2s
MMK AML AML
comp=E,581µm,0.2s
MMK AML AML
comp=N,732µm,0.5s
BALST Balsthal 0.68 7 ⇑Pn **Pb** **19 36 46.5 +1.4**
comp=N,2.1nm,SNR=37
BALST ⇑Pn **Pb** **19 36 46.5 +1.4**
BALST Balsthal 0.68 7 ⇑Pg **Pb** **19 36 46.5 +1.4**
comp=N,2.1nm,SNR=37
BALST ⇑Pg **Pb** **19 36 46.5 +1.4**
BALST PmP 19 36 48.5
BALST Sg **Sb** **19 36 55.8 +1.4**
BALST SmS 19 36 59.1
BALST Balsthal 0.68 7 *e*Pg **Pb** **19 36 46.5 +1.4**
BALST *e*Sg **Sb** **19 36 55.6 +1.3**
SEMOS Emosson Stauma 0.74 217 ⇑Pg **Pg** **19 36 46.9 +1.0**
comp=N,5.1nm,SNR=43
SEMOS ⇑Pg **Pg** **19 36 46.9 +1.0**
SEMOS PmP 19 36 50.3
HAMIK Hmikon, Dlik 0.76 39 ⇑Pn **Pn** **19 36 47.9 +0.4**
HAMIK Hmikon, Dlik 0.76 39 ⇑Pg **Pn** **19 36 47.9 +0.4**
HAMIK ⇑Pg **Pn** **19 36 47.9 +0.4**
comp=N,2.3nm,SNR=3.8
MTI03 Mont Terri (fr 0.77 339 Pg **Pb** **19 36 48.1 +1.6**
BOURR Bourrignon 0.78 342 ⇓Pn **Pb** **19 36 48.2 +1.6**
BOURR Bourrignon 0.78 342 ⇓Pg **Pb** **19 36 48.2 +1.6**
BOURR ⇓Pg **Pb** **19 36 48.2 +1.6**
comp=N,2.5nm,SNR=39
BOURR PmP 19 36 49.8
BOURR Sg **Sb** **19 36 58.8 +1.9**
FUSIO Fusio 0.78 105 ⇓Pn **Pn** **19 36 48.0 +0.1**
FUSIO Fusio 0.78 105 ⇓Pg **Pn** **19 36 48.0 +0.1**
comp=N,1.7nm,SNR=49
FUSIO ⇓Pg **Pn** **19 36 48.0 +0.1**
FUSIO Sg **Sb** **19 36 58.2 +1.1**
FUSIO Fusio 0.78 105 ⇓P **Pn** **19 36 48.0 +0.1**
FUSIO S **Sb** **19 36 58.2 +1.1**
FUSIO AML AML
comp=N,1003µm,1.1s
FUSIO AML AML
comp=E,593µm,1.0s
MTI01 Mont Terri (ME 0.78 339 ⇓Pg **Pb** **19 36 48.2 +1.6**
comp=E,2.6nm,SNR=22
MTI01 ⇓Pg **Pb** **19 36 48.2 +1.6**
MTI02 Mont Terri, (H 0.78 339 ⇓Pn **Pb** **19 36 48.2 +1.6**
MTI02 Mont Terri, (H 0.78 339 ⇓Pg **Pb** **19 36 48.2 +1.6**
comp=E,3.0nm,SNR=46
MTI02 ⇓Pg **Pb** **19 36 48.2 +1.6**
MTI02 PmP 19 36 49.9
MTI02 Sg **Sb** **19 36 58.6 +1.6**
MUO Muotathal 0.79 66 ⇑Pn **Pn** **19 36 48.7 +0.6**
MUO Muotathal 0.79 66 ⇑Pg **Pn** **19 36 48.7 +0.6**
MUO ⇑Pg **Pn** **19 36 48.7 +0.6**
comp=E,1.1nm,SNR=24
MUO Sg **Sn** **19 37 00.1 +0.3**
SATI Passo dei Sala 0.81 165 P **Pb** **19 36 48.4 +1.1**
SATI S **Sb** **19 36 58.7 +0.6**
SATI Passo dei Sala 0.81 165 P **Pb** **19 36 48.4 +1.1**
SATI S **Sb** **19 36 59.5 +1.4**
SATI AML AML
comp=E,694µm,0.6s
SATI AML AML
comp=N,434µm,0.5s
BRANT Les Verrieres 0.81 291 ⇓Pn **Pb** **19 36 48.9 +1.7**
BRANT Les Verrieres 0.81 291 ⇓Pg **Pb** **19 36 48.9 +1.7**
BRANT ⇓Pg **Pb** **19 36 48.9 +1.7**
comp=N,2.9nm,SNR=36
BRANT PmP 19 36 50.8
BRANT Sg **Sb** **19 37 00.2 +2.2**
NALPS Val Nalps 0.81 94 ⇓Pn **Pn** **19 36 48.9 +0.4**
NALPS Val Nalps 0.81 94 ⇓Pg **Pn** **19 36 48.9 +0.4**
comp=N,1.4nm,SNR=59
NALPS ⇓Pg **Pn** **19 36 48.9 +0.4**
NALPS Sg **Sb** **19 36 59.3 +1.2**
OGSI Sixt 0.82 224 ⇑Pg **Pg** **19 36 48.5 +1.1**
OGSI ⇑Pg **Pg** **19 36 48.5 +1.1**
comp=N,1.5nm,SNR=15
EMMET Emmethof 0.84 21 ⇑Pg **Pb** **19 36 49.1 +1.5**
comp=N,2.6nm,SNR=35
EMMET ⇑Pg **Pb** **19 36 49.1 +1.5**
EMMET Sg **Sn** **19 37 00.9 +0.2**
ROTHE Rothenfluh 0.85 16 ⇑Pn **Pn** **19 36 49.5 +0.7**
ROTHE Rothenfluh 0.85 16 ⇑Pg **Pn** **19 36 49.5 +0.7**
comp=N,2.5nm,SNR=31
ROTHE ⇑Pg **Pn** **19 36 49.5 +0.7**
LOMF Lomont 0.86 324 Pg **Pn** **19 36 50.0 +0.9**
LOMF Sg **Sb** **19 37 01.7 +2.2**
CHMF Charmoille 0.87 313 ⇓Pn **Pb** **19 36 49.9 +1.7**
CHMF Charmoille 0.87 313 ⇓Pg **Pb** **19 36 49.8 +1.7**
CHMF ⇓Pg **Pb** **19 36 49.8 +1.7**
comp=N,2.5nm,SNR=47
CHMF PmP 19 36 51.2
CHMF Charmoille 0.87 313 Pg **Pb** **19 36 49.8 +1.7**
CHMF Sg **Sb** **19 37 01.4 +1.8**
REMY Saint-Rhmy-en 0.87 200 ⇑Pn **Pb** **19 36 49.4 +1.1**
REMY Saint-Rhmy-en 0.87 200 ⇑Pg **Pb** **19 36 49.4 +1.1**
REMY ⇑Pg **Pb** **19 36 49.4 +1.1**
comp=N,1.0nm,SNR=34
REMY Saint-Rhmy-en 0.87 200 P **Pb** **19 36 49.4 +1.1**
REMY S **Sb** **19 37 01.6 +1.7**
REMY Saint-Rhmy-en 0.87 200 ⇑P **Pb** **19 36 49.5 +1.1**
REMY AML AML
comp=E,940µm,0.5s
REMY AML AML
comp=N,862µm,1.0s
REMY AML AML
comp=E,939µm,0.5s
REMY AML AML
comp=N,862µm,1.0s
GIMEL St. Georges / 0.91 263 ⇓Pg **Pb** **19 36 50.8 +1.8**
GIMEL ⇓Pg **Pb** **19 36 50.8 +1.8**
comp=N,3.4nm,SNR=40
GIMEL St. Georges / 0.91 263 P **Pb** **19 36 50.9 +1.8**
GIMEL S **Sn** **19 37 05.2 +2.6**
GIMEL AML AML
comp=E,1235µm,0.5s
GIMEL AML AML
comp=N,2005µm,0.2s
GIMEL AML AML
comp=E,1235µm,0.4s
EWZT2 Wettswil, ZR 0.93 42 ⇑Pg **Pn** **19 36 51.1 +1.2**
EWZT2 ⇑Pg **Pn** **19 36 51.1 +1.2**
comp=E,3.3nm,SNR=10
EWZT2 Sg **Sn** **19 37 04.0 +1.1**
SULZ Cheisacher 0.94 23 ⇑Pg **Pn** **19 36 51.3 +1.2**
SULZ ⇑Pg **Pn** **19 36 51.3 +1.2**
comp=E,2.7nm,SNR=50
SULZ Sg **Sn** **19 37 04.0 +0.7**
SULZ Cheisacher 0.94 23 *e*Pg **Pn** **19 36 51.3 +1.2**
SULZ *e*Sg **Sn** **19 37 04.1 +0.7**
MRGE Morge 0.96 202 ⇑Pn **Pb** **19 36 50.9 +1.2**
MRGE Morge 0.96 202 ⇑Pg **Pb** **19 36 51.0 +1.2**
MRGE ⇑Pg **Pb** **19 36 51.0 +1.2**
comp=E,1.6nm,SNR=30
MRGE Morge 0.96 202 ⇑P **Pb** **19 36 51.0 +1.2**
MRGE AML AML
comp=N,594µm,0.6s
MRGE AML AML
comp=E,828µm,0.2s
ZUR Degenried 0.99 44 ⇑Pn **Pn** **19 36 52.2 +1.4**
ZUR Degenried 0.99 44 ⇑Pg **Pn** **19 36 52.2 +1.4**
comp=E,1.4nm,SNR=21
ZUR ⇑Pg **Pn** **19 36 52.2 +1.4**
ZUR Sg **Sn** **19 37 05.5 +1.1**
LLS Linth-Limmern 1.00 79 ⇓Pn **Pn** **19 36 52.1 +1.1**
LLS Linth-Limmern 1.00 79 ⇓Pg **Pn** **19 36 52.1 +1.1**
comp=E,0.7nm,SNR=17
LLS ⇓Pg **Pn** **19 36 52.1 +1.1**
CABF La Chapelle 1.03 268 *e*Pg **Pg** **19 36 52.6 +1.3**
CABF La Chapelle 1.03 268 *e*Pn **Pn** **19 36 53.6 +2.3**
CABF *e*Sg **Sg** **19 37 06.8 +2.0**
comp=E,473nm,0.4s
BOBI Bbikon, Wasse 1.03 30 ⇑Pg **Pn** **19 36 52.9 +1.6**
comp=E,2.1nm,SNR=1.8
ACHB Acheberg 1.04 26 ⇓Pg **Pn** **19 36 52.9 +1.5**
ACHB ⇓Pg **Pn** **19 36 52.9 +1.5**
comp=E,2.4nm,SNR=51
CIRO Champorcher 1.05 180 Pg **Pb** **19 36 52.4 +0.9**
CIRO Pg **Pb** **19 36 52.4 +0.9**
comp=E,1.0nm,SNR=16
CIRO Champorcher 1.05 180 P **Pg** **19 36 52.6 +0.7**
CIRO Champorcher 1.05 180 ⇑P **Pg** **19 36 52.6 +0.7**
CIRO S **Sb** **19 37 06.6 +1.4**
CIRO AML AML
comp=E,802µm,0.3s
CIRO AML AML
comp=N,536µm,0.5s
CIRO AML AML
comp=N,536µm,0.5s
PANIX Pigniu (Panix) 1.07 80 ⇓Pg **Pn** **19 36 53.4 +1.5**
comp=N,0.5nm,SNR=12
PANIX ⇓Pg **Pn** **19 36 53.4 +1.5**
STIEG Stiegenhof Hun 1.12 41 Pg **Pg** **19 36 54.3 +1.3**
FLACH Flaach 1.14 36 Pn **Pg** **19 36 54.5 +1.1**
TRAV Traversella 1.15 174 P **Pg** **19 36 54.3 +0.6**
TRAV Traversella 1.15 174 P **Pg** **19 36 54.6 +0.9**
TRAV S **Sg** **19 37 09.4 +0.7**
TRAV AML AML
comp=N,1165µm,0.5s
TRAV AML AML
comp=E,884µm,0.2s
METMA Mettma DE 1.15 23 Pn **Pn** **19 36 54.1 +1.2**
METMA Mettma DE 1.15 23 *e*Pn **Pg** **19 36 54.3 +0.6**
METMA *e*Pg **Pn** **19 36 55.2 +2.2**
METMA *e*Sg **Sn** **19 37 10.2 +1.8**
RSL Roselend 1.17 215 P **Pg** **19 36 54.9 +0.8**
RSL Pn **Pn** **19 36 55.5 +2.1**
RSL Sn **Sn** **19 37 11.3 +2.2**
WILA Wila 1.18 50 ⇑Pn **Pg** **19 36 55.8 +1.5**
WILA Wila 1.18 50 *e*Pn **Pg** **19 36 55.8 +1.5**
WILA *e*Sg **Sn** **19 37 11.7 +2.4**
MOF Molkenrain 1.23 346 Pn **Pb** **19 36 55.8 +1.3**
MOF Pg **Pg** **19 36 56.8 +1.6**
MOF Sn **Sb** **19 37 11.5 +1.4**
MOF Sg **Sg** **19 37 12.7 +1.3**
TUE Stuetta 1.23 98 ⇓Pn **Pg** **19 36 56.5 +1.2**
TUE Stuetta 1.23 98 ⇓P **Pg** **19 36 56.5 +1.2**
TUE AML AML
comp=N,685µm,0.4s
TUE AML AML
comp=E,772µm,0.5s
TUE AML AML
comp=E,576µm,0.5s
TUE AML AML
comp=N,920µm,0.4s
LSD Lago del Serru 1.24 195 Pn **Pg** **19 36 55.9 +0.6**
LSD Lago del Serru 1.24 195 P **Pg** **19 36 55.9 +0.6**
LSD S **Sn** **19 37 13.1 +2.3**
LSD AML AML
comp=N,354µm,0.4s
LSD AML AML
comp=E,566µm,0.6s
TRULL Truellikon 1.25 37 Pn **Pg** **19 36 55.8 +0.4**
MUGIO Muggio 1.25 125 ⇓Pn **Pg** **19 36 56.8 +1.2**
MUGIO Muggio 1.25 125 ⇓P **Pg** **19 36 56.8 +1.2**
MUGIO AML AML
comp=E,436µm,1.2s
MUGIO AML AML
comp=N,586µm,0.3s
MUGIO AML AML
comp=E,435µm,1.2s
FELD Feldberg im Sc 1.25 13 ⇓Pn **Pn** **19 36 55.4 +1.0**
HINF Hinteralfeld 1.26 337 *e*Pn **Pn** **19 36 55.9 +1.4**
HINF Hinteralfeld 1.26 337 *e*Pg **Pg** **19 36 57.0 +1.2**
HINF *e*Sn **Sb** **19 37 11.9 +1.0**
HINF *e*Sg **Sg** **19 37 13.6 +1.4**
comp=E,229nm,0.3s
SLE Schleitheim 1.27 29 ⇓Pn **Pb** **19 36 55.9 +0.8**
SLE Schleitheim 1.27 29 *e*Pn **Pb** **19 36 55.9 +0.8**
SLE *e*Pg **Pg** **19 36 57.5 +1.5**
SLE *e*Sg **Sg** **19 37 14.4 +1.8**
BERGE Lenzkirch (DE) 1.28 18 ⇓Pn **Pn** **19 36 55.8 +1.0**
BERGE Lenzkirch (DE) 1.28 18 *e*Pn **Pn** **19 36 55.8 +1.0**
BERGE *e*Pg **Pg** **19 36 57.7 +1.5**
BERGE *e*Sg **Sg** **19 37 14.4 +1.5**
LPL La Plagne 1.28 208 *e*Pn **Pg** **19 36 57.1 +0.9**
LPL *e*Sg **Sn** **19 37 13.6 +1.7**
comp=E,99nm,0.3s
LPG La Plagne 1.29 207 *e*Pn **Pg** **19 36 57.4 +1.0**
LPG La Plagne 1.29 207 *e*P **Pg** **19 36 59.6 +3.2**
LPG *e*Sg **Sg** **19 37 14.1 +0.8**
comp=E,108nm,0.3s
PLONS Plons/SG 1.30 72 *e*Pg **Pg** **19 36 58.0 +1.6**
PLONS *e*Sg **Sg** **19 37 14.6 +1.2**
PLONS Plons/SG 1.30 72 ⇑P **Pg** **19 36 57.9 +1.4**
PLONS S **Sg** **19 37 15.2 +1.8**
PLONS AML AML
comp=N,758µm,0.7s
PLONS AML AML
comp=E,402nm,0.2s
VDL Val di Lei 1.30 97 ⇓Pn **Pg** **19 36 57.7 +1.1**
KIZ Kirchzarten 1.32 10 ⇓Pn **Pn** **19 36 56.2 +0.9**
KIZ Kirchzarten 1.32 10 Pn **Pn** **19 36 56.2 +0.9**
KIZ Pg **Pg** **19 36 58.2 +1.3**
KIZ Sn **Sb** **19 37 12.9 +0.3**
KIZ Sg **Sg** **19 37 15.4 +1.3**
LIENZ Kamor/St.Gall 1.46 63 Pn **Pg** **19 36 60.0 +0.5**
EMING Emmingen-Lipti 1.51 34 Pn **Pn** **19 36 59.2 +1.4**
EMING Emmingen-Lipti 1.51 34 *e*Pn **Pn** **19 36 59.3 +1.4**
EMING *e*Pg **Pg** **19 37 01.8 +1.4**
EMING *e*Sg **Sg** **19 37 21.7 +1.6**
OG35 Corcelles 1.52 247 Pn **Pn** **19 36 59.9 +1.9**
OG35 Pg **Pg** **19 37 02.5 +1.8**
OG35 Sn **Sn** **19 37 19.4 +1.9**
OG35 Sg **Sg** **19 37 22.0 +1.6**
WALHA Wallhausen, DE 1.52 43 *e*Pn **Pb** **19 36 59.7 +0.4**
WALHA *e*Pg **Pg** **19 37 02.1 +1.4**
WALHA *e*Sg **Sg** **19 37 22.4 +2.0**
RSP Reno Superiore 1.52 188 P **Pg** **19 37 01.4 +0.6**
RSP AML AML
comp=N,442µm,0.5s
RSP AML AML
comp=E,428µm,0.7s
OGMO Fort Saint-Gob 1.58 204 P **Pn** **19 36 59.2 +0.3**
OGMO Pg **Pg** **19 37 02.6 +0.8**
OGMO Sn **Sn** **19 37 20.1 +1.1**
ECH Echery 1.59 350 Pn **Pn** **19 37 00.3 +1.3**
ECH Echery 1.59 350 Pn **Pn** **19 37 00.2 +1.3**
ECH Pg **Pg** **19 37 03.1 +1.2**
ECH Sn **Sn** **19 37 13.3 +0.1**
ECH Sg **Sb** **19 37 22.4 +2.2**
ECH Echery 1.59 350 *e*Pn **Pn** **19 37 00.4 +1.4**
ECH *e*Pg **Pg** **19 37 03.1 +1.2**
ECH *e*Sg **Sg** **19 37 23.5 +0.9**
DAVOX Davos/Dischmat 1.59 85 Pn **Pg** **19 37 02.9 +0.9**
DAVOX Davos/Dischmat 1.59 85 P **Pg** **19 37 02.9 +0.9**
DAVOX S **Sg** **19 37 24.4 +1.7**
DAVOX AML AML
comp=N,344µm,0.7s
DAVOX AML AML
comp=E,216µm,0.4s
DAVOX AML AML
comp=N,344µm,0.8s
HAU Haudompre 1.59 329 *e*Pn **Pn** **19 37 00.7 +1.7**
HAU Haudompre 1.59 329 *e*Pg **Pg** **19 37 03.0 +1.0**
HAU *e*Sg **Sg** **19 37 23.4 +0.8**
comp=N,247nm,0.2s
MONC Moncucco Torin 1.60 171 Pn **Pg** **19 37 04.5 +2.3**
MONC Moncucco Torin 1.60 171 AML AML
comp=N,606µm,1.1s
MONC AML AML
comp=E,617µm,1.1s
OGSM Saint Maurice 1.68 232 Pn **Pb** **19 37 02.5 +0.6**
OGSM Pg **Pg** **19 37 05.0 +1.4**
OGSM Sn **Sn** **19 37 22.8 +1.5**
OGSM Sg **Sg** **19 37 26.8 +1.4**
DAVA Damuels 1.70 67 *e*Pn **Pb** **19 37 03.5 +1.1**
comp=E,12nm,0.1s,SNR=38
DAVA Sg **Sg** **19 37 28.5 +2.3**
comp=E,82nm,0.2s
BERNI Berninapass 1.71 97 ⇓Pn **Pg** **19 37 04.8 +0.6**
BERNI Berninapass 1.71 97 P **Pg** **19 37 04.8 +0.6**
BERNI AML AML
comp=E,238µm,1.6s
BERNI AML AML
comp=E,238µm,1.5s
BERNI AML AML
comp=N,250µm,0.5s
BNI Bardonecchia 1.72 202 ⇑Pn **Pg** **19 37 04.7 +0.1**
BNI Bardonecchia 1.72 202 ⇑P **Pg** **19 37 04.7 +0.1**
BNI AML AML
comp=E,114µm,0.4s
BNI AML AML
comp=N,135µm,0.8s
BNI AML AML
comp=E,82µm,0.4s
BNI AML AML
comp=N,134µm,0.8s
BNI AML AML
comp=N,135µm,0.8s
BFO Black Forest 1.75 17 ⇓Pn **Pn** **19 37 01.9 +0.7**
BFO Black Forest 1.75 17 *e*Pn **Pn** **19 37 01.9 +0.7**
BFO *e*Pg **Pg** **19 37 06.1 +1.1**
BFO *e*Sg **Sg** **19 37 28.0 +0.2**
GUT Gutenstein 1.76 36 Pn **Pn** **19 37 02.4 +1.1**
WLS Welschbruch 1.76 355 Pn **Pn** **19 37 02.9 +1.5**
WLS Sn **Sn** **19 37 24.1 +0.6**
CDF Champ du Feu 1.77 353 *e*Pn **Pn** **19 37 02.8 +1.3**
CDF Champ du Feu 1.77 353 *e*Pg **Pg** **19 37 06.5 +1.1**
CDF *e*Sn **Sn** **19 37 24.4 +0.7**
CDF *e*Sg **Sg** **19 37 28.7 +0.3**
comp=N,192nm,0.3s
GDM Grand'Maison 1.78 216 Pn **Pn** **19 37 03.7 +2.1**
GDM Pg **Pg** **19 37 07.2 +1.6**
GDM Sg **Sg** **19 37 29.5 +0.8**
RRL Rocca Remolon 1.82 198 P **Pb** **19 37 06.2 +1.6**
RRL AML AML
comp=E,173µm,1.1s
RRL AML AML
comp=N,176µm,0.8s
BHB Bricherasio 1.83 187 ⇓P **Pb** **19 37 05.7 +1.2**
BHB AML AML
comp=E,219µm,0.4s
BHB AML AML
comp=N,156µm,1.0s
FUORN Ofenpass-Fuorn 1.85 90 Pn **Pg** **19 37 07.6 +0.6**
FUORN Ofenpass-Fuorn 1.85 90 AML AML
comp=E,182µm,0.4s
FUORN AML AML
comp=N,238µm,0.8s
OPP Oppenau 1.89 12 Pn **Pn** **19 37 03.8 +0.7**
OPP Sn **Sn** **19 37 26.4 -0.1**
THEF They Montfort 1.91 326 Pn **Pn** **19 37 05.2 +1.9**
GRN Grenoble 1.91 223 Pn **Pn** **19 37 05.8 +2.4**
UBR Ueberruh 2.01 58 *e*Pg **Pg** **19 37 11.4 +1.4**
UBR *e*Sg **Sg** **19 37 37.7 +1.7**
MBDF Montbardon 2.01 197 *e*Pn **Pb** **19 37 08.8 +1.1**
MBDF Montbardon 2.01 197 *e*Pg **Pg** **19 37 10.8 +0.7**
MBDF *e*Sg **Sg** **19 37 36.8 +0.6**
comp=N,82nm,0.5s
MOSI Grossmontoni 2.05 90 AML AML
comp=N,570µm,0.8s
MOSI AML AML
comp=E,400µm,1.1s
ORIF Oris-en-Rattie 2.11 215 Pn **Pn** **19 37 08.1 +1.9**
ORIF Oris-en-Rattie 2.11 215 *e*Pn **Pn** **19 37 08.7 +2.6**
ORIF Oris-en-Rattie 2.11 215 *e*Pg **Pg** **19 37 12.0 +0.1**
ORIF *e*Sg **Sg** **19 37 39.3 +0.1**
comp=E,83nm,0.4s
MABI Malga Bissina 2.12 105 AML AML
comp=E,126µm,0.6s
MABI AML AML
comp=N,128µm,1.0s
DOI San Damiano 2.17 186 AML AML
comp=N,138µm,0.5s
DOI AML AML
comp=E,149µm,0.8s
PZZ Stroppo 2.17 189 P **Pb** **19 37 10.6 +0.1**
PZZ AML AML
comp=E,274µm,0.6s
PZZ AML AML
comp=N,312µm,0.6s
FETA Feichten 2.19 79 *e*Pn **Pb** **19 37 11.2 +0.3**
comp=N,2.7nm,0.2s,SNR=30
FETA Sg **Sg** **19 37 44.7 +2.7**
comp=N,20nm,0.4s
PCP Piancastagn 2.22 162 AML AML
comp=E,180µm,0.5s
PCP AML AML
comp=N,158µm,0.9s
PAGF Fort de Pagny 2.28 327 *e*Pn **Pn** **19 37 11.0 +2.6**
baz=145
PAGF Fort de Pagny 2.28 327 *e*Pg **Pg** **19 37 16.0 +0.9**
baz=145
PAGF *e*Sn **Sn** **19 37 37.5 +1.4**
PAGF *e*Sg **Sg** **19 37 45.8 +1.2**
comp=N,200nm,0.7s,baz=149
MAGA Magasa 2.29 111 ⇓P **Pb** **19 37 12.9 +0.4**
MAGA AML AML
comp=E,630µm,0.4s
MAGA AML AML
comp=N,430µm,0.4s
SFTF Sexfontaines 2.32 313 *e*Pn **Pn** **19 37 11.3 +2.3**
baz=133
SFTF Sexfontaines 2.32 313 *e*Pg **Pg** **19 37 16.6 +0.7**
baz=133
SFTF *e*Sn **Sn** **19 37 37.4 +0.3**
baz=132
SFTF *e*Sg **Sg** **19 37 47.0 +1.1**
comp=N,55nm,0.2s,baz=130
OGAG Argentiere 2.32 199 Pn **Pn** **19 37 07.4 -1.7**
LANF Langenberg 2.33 4 P **Pn** **19 37 09.2 0.0**
LANF Pn **Pb** **19 37 10.9 -2.1**
LANF Sn **Sn** **19 37 37.2 -0.3**
RETA Reutte 2.33 68 Pn **Pb** **19 37 12.2 -0.9**
comp=N,0.8nm,0.2s
RETA Sg **Sg** **19 37 47.0 +0.7**
comp=N,45nm,0.3s
STU Stuttgart 2.38 27 *e*Pn **Pn** **19 37 10.3 +0.4**
STU *e*Pg **Pg** **19 37 18.1 +1.0**
STU *e*Sg **Sg** **19 37 48.6 +0.7**
QLNO Quiliano 2.40 167 AML AML
comp=E,132µm,0.4s
QLNO AML AML
comp=N,227µm,0.5s
GBOS Grotte di Boss 2.42 176 AML AML
comp=N,82µm,0.8s
GBOS AML AML
comp=E,77µm,1.1s
ENR Entracque 2.43 183 AML AML
comp=N,73µm,0.5s
ENR AML AML
comp=E,77µm,0.4s
MOTA Moosalm 2.51 73 Pn **Pn** **19 37 14.3 +2.5**
comp=E,0.5nm,0.1s
MEZF Maizieres J'vi 2.52 318 *e*Pn **Pn** **19 37 14.4 +2.7**
baz=137
MEZF Maizieres J'vi 2.52 318 *e*Pg **Pg** **19 37 20.8 +1.1**
baz=138
MEZF *e*Sn **Sn** **19 37 42.5 +0.5**
MEZF *e*Sg **Sg** **19 37 52.8 +0.5**
comp=E,102nm,0.4s
SQTA Sankt Quirin 2.55 76 Pn **Pb** **19 37 15.4 -1.6**
comp=E,3.6nm,0.3s,SNR=8.8
SQTA Sn **Sg** **19 37 53.8 +0.4**
comp=E,19nm,0.3s
SMF Signal de Mont 2.57 271 *e*Pn **Pn** **19 37 14.6 +2.1**
SMF Signal de Mont 2.57 271 *e*Pg **Pg** **19 37 21.5 +0.7**
SMF *e*Sn **Sn** **19 37 44.4 +0.9**
SMF *e*Sg **Sg** **19 37 54.3 +0.2**
comp=E,98nm,0.2s
ABSI Aberstueckl 2.58 87 AML AML
comp=E,188µm,0.8s
ABSI AML AML
comp=N,210µm,0.9s
LOR Lormes 2.62 285 Pn **Pn** **19 37 14.9 +1.8**
LOR Lormes 2.62 285 *e*Pn **Pn** **19 37 14.6 +1.5**
baz=110
LOR Lormes 2.62 285 *e*Pg **Pg** **19 37 21.5 -0.1**
baz=105

LOR eSg Sg 19 37 55.7 +0.1
comp=N,136nm,0.3s,baz=115
MGRO Montegrosso 2.62 176 AML AML
comp=N,95μm,0.6s
MGRO AML AML
comp=E,118μm,0.5s
ROSI Rosskopf 2.65 83 AML AML
comp=N,304μm,1.2s
ROSI AML AML
comp=E,268μm,0.7s
SAOF Saorge 2.67 180 Pn Pn 19 37 16.7 +2.9
SAOF Sn Sn 19 37 48.8 +2.9
SAOF Saorge 2.67 180 AML AML
comp=N,76μm,0.6s
SAOF AML AML
comp=E,77μm,0.4s
TURF col de Turini 2.69 183 Pn Pn 19 37 17.3 +3.1
OGDI Digne 2.70 200 Pn Pb 19 37 18.0 -1.4
MSSA Maissana 2.71 149 AML AML
comp=N,114μm,0.6s
MSSA AML AML
comp=E,120μm,0.7s
VIVF Saint-Julien-l 2.72 230 ePn Pn 19 37 16.2 +1.7
VIVF Saint-Julien-l 2.72 230 ePg Pg 19 37 23.4 -0.1
VIVF eSn Sn 19 37 47.6 +0.6
VIVF eSg Sg 19 37 58.2 -0.5
comp=E,91nm,0.4s
SBF Sospel 2.80 182 eP Pn 19 37 19.1 +3.5
SBF eSn Sn 19 37 50.0 +1.0
SBF eSg Sg 19 38 01.7 +0.4
comp=E,98nm,0.5s
WATA Walderalm 2.82 75 Pn Pb 19 37 20.3 -1.2
comp=E,0.9nm,0.1s
WATA Sg Sg 19 38 03.4 +1.4
comp=E,11nm,0.2s
SSF Saint Saulge 2.82 280 ePn Pn 19 37 18.0 +2.1
SSF Saint Saulge 2.82 280 ePg Pg 19 37 26.1 +0.6
SSF eSg Sg 19 38 01.8 -0.3
comp=E,41nm,0.2s
ESCA l'Escarene 2.83 183 Pn Pn 19 37 18.6 +2.6
WTTA Wattenberg 2.84 76 Pn Pb 19 37 20.1 -1.9
comp=E,1.6nm,0.1s
WTTA Sn Sb 19 37 54.9 -1.7
comp=E,15nm,0.5s
AVF Avril sur Loir 2.91 274 ePn Pn 19 37 19.0 +1.9
AVF Avril sur Loir 2.91 274 ePg Pg 19 37 27.8 +0.6
AVF eSn Sn 19 37 52.3 +0.6
AVF eSg Sg 19 38 05.0 +0.1
comp=E,23nm,0.2s
BLAF les Blancs 2.91 202 Pn Pn 19 37 20.2 +3.0
FUR Furstenfeldbru 2.93 58 ePg Pg 19 37 28.2 +0.6
FUR eSg Sg 19 38 06.8 +1.2
CALF Calern 2.94 189 Pn Pn 19 37 20.6 +2.9
MLYF Mely 2.96 206 Pn Pn 19 37 20.2 +2.4
SMRF Simiane la Rot 3.03 209 ePn Pn 19 37 21.1 +2.3
SMRF Simiane la Rot 3.03 209 ePg Pg 19 37 30.2 +0.7
SMRF eSn Sn 19 37 55.4 +0.6
SMRF eSg Sg 19 38 07.8 -1.0
comp=E,18nm,0.5s
RUSF Rustrel 3.09 209 Pn Pn 19 37 22.4 +2.8
BSTF la Bastide-des 3.09 207 Pn Pn 19 37 23.1 +3.5
RISI Rein 3.10 83 AML AML
comp=E,169μm,0.4s
RISI AML AML
comp=N,310μm,0.4s
AGO Saint Agoulin 3.14 261 Pn Pn 19 37 22.3 +2.0
WLF Walferdange 3.16 343 ePn Pn 19 37 23.4 +2.9
WLF ePg Pg 19 37 32.5 +0.6
WLF eSg Sg 19 38 11.8 -1.0
FRF La Foret Royal 3.17 192 ePn Pn 19 37 22.9 +2.3
FRF La Foret Royal 3.17 192 ePg Pg 19 37 31.8 -0.3
FRF eSn Sn 19 37 58.3 +0.3
FRF eSg Sg 19 38 12.0 -1.1
comp=N,28nm,0.4s
ABH Alteburg 3.23 360 Pn Pn 19 37 23.3 +1.8
BGF Bois d'Agland 3.26 270 ePn Pn 19 37 23.8 +1.9
BGF Bois d'Agland 3.26 270 ePg Pg 19 37 34.5 +0.6
BGF eSn Sn 19 38 00.8 +0.4
BGF eSg Sg 19 38 15.7 -0.5
comp=N,105nm,0.3s
PYM Petit Puy Mans 3.30 256 Pn Pn 19 37 24.4 +1.9
PYM Sn Sn 19 38 00.8 -0.7
ARTF Artigues 3.32 203 Pn Pn 19 37 24.9 +2.2
LBL Lubilhac 3.34 246 Pn Pn 19 37 25.2 +2.1
ABTA Abfaltersbach 3.40 87 ePn Pb 19 37 28.5 -2.8
comp=N,0.6nm,0.2s
ABTA eSn Sn 19 38 08.6 +4.7
comp=N,1.1nm,0.2s
LMR La Mourre 3.41 193 ePn Pn 19 37 25.9 +2.0
LMR La Mourre 3.41 193 ePg Pg 19 37 36.1 -0.6
LMR eSn Sn 19 38 04.0 0.0
LMR eSg Sg 19 38 20.2 -0.7
comp=N,11nm,0.4s
HYF Humbligny 3.44 282 ePn Pn 19 37 27.1 +2.8
HYF eSn Sn 19 38 05.2 +0.5
HYF eSg Sg 19 38 21.3 -0.5
POPM Popiglio 3.44 138 AML AML
comp=N,54μm,1.4s
POPM AML AML
comp=E,68μm,0.3s
PII Pisa 3.60 144 AML AML
comp=E,63μm,1.1s
PII AML AML
comp=N,76μm,0.6s
TNS Taunus Mts 3.62 9 ePn Pn 19 37 27.7 +0.9
TNS eSg Sg 19 38 27.8 +0.3
LASF Ste Croix 3.68 227 ePn Pn 19 37 29.4 +1.7
LASF Ste Croix 3.68 227 ePg Pg 19 37 41.3 -0.6
LASF eSg Sg 19 38 28.3 -1.3
comp=N,24nm,0.3s
TCF Toulx Ste Croi 3.73 266 ePn Pn 19 37 30.5 +2.1
TCF Toulx Ste Croi 3.73 266 ePg Pg 19 37 43.1 +0.3
TCF eSn Sn 19 38 12.2 +0.3
comp=N,7.7nm,0.2s
TCF eSg Sg 19 38 30.1 -1.0
comp=N,38nm,0.3s
GRF Grafenberg Arr 3.89 37 ePg Pg 19 37 46.2 +0.1
GRF eSg Sg 19 38 35.9 -0.6
AHRW Bad Neuenahr-A 3.90 355 eSg Sg 19 38 35.7 -1.0
GIVF Givet 3.91 333 ePn Pn 19 37 32.0 +1.2
GIVF Givet 3.91 333 ePg Pg 19 37 46.5 +0.3
GIVF eSn Sn 19 38 16.0 -0.3
GIVF eSg Sg 19 38 35.6 -1.2
comp=N,50nm,0.6s
KBA Koelnbreinsper 3.98 82 ePn Pn 19 37 36.1 +4.1
comp=N,0.2nm,0.1s
BAIF Baives 4.08 328 ePn Pn 19 37 35.8 +2.7
BAIF Baives 4.08 328 eP Pn 19 37 38.4 +5.3
BAIF Baives 4.08 328 ePg Pg 19 37 49.7 +0.2
BAIF eSn Sn 19 38 20.0 -0.5
BAIF eSg Sg 19 38 42.2 -0.1
comp=N,18nm,0.4s
MYKA Terra Mystica 4.18 88 ePn Pn 19 37 39.3 +4.7
comp=N,1.1nm,0.4s
CAF Calviac 4.23 248 ePn Pn 19 37 37.4 +2.2
CAF Calviac 4.23 248 ePg Pg 19 37 50.5 -1.9
CAF eSn Sn 19 38 24.0 -0.3
CAF eSg Sg 19 38 45.9 -1.2
comp=N,46nm,0.6s
PGF Pioggiola 4.23 166 ePn Pn 19 37 37.8 +2.4
PGF eSn Sn 19 38 23.7 -0.8
comp=N,3.9nm,0.3s
WET Wettzell 4.35 53 ePn Pn 19 37 38.4 +1.6
WET ePg Pg 19 37 54.2 -0.5
WET eSn Sn 19 38 25.7 -1.5
WET eSg Sg 19 38 50.9 0.0
RJF Les Rejaudoux 4.44 254 ePn Pn 19 37 40.1 +2.0
RJF eSn Sn 19 38 28.8 -0.6
RJF eSg Sg 19 38 52.1 -1.7
comp=N,27nm,0.4s
GEC2 GERESS Array S 4.67 60 ePn Pn 19 37 44.3 +2.8
GEC2 ePg Pg 19 38 00.5 -0.4
GEC2 eSg Sg 19 39 00.5 -0.9
MOA Molln 4.71 73 ePn Pn 19 37 44.0 +2.2
comp=N,0.3nm,0.1s
KHC Kasperske Hory 4.74 56 ePN Pn 19 37 44.2 +2.0
KHC ePG Pg 19 38 00.0 -2.1
KHC eSN Sn 19 38 37.7 +0.9
KHC eSG Sg 19 39 02.0 -1.4
comp=N,13nm,0.5s
OBKA Obir 4.81 89 ePn Pn 19 37 47.7 +4.5
comp=N,0.2nm,0.1s
MTLF Montolieu 5.04 231 ePn Pn 19 37 48.1 +1.7
MTLF Montolieu 5.04 231 ePg Pg 19 38 07.0 -1.0
MTLF eSn Sn 19 38 43.2 -1.1
MTLF eSg Sg 19 39 10.2 -3.1
comp=N,14nm,0.4s
LFF La Frestale 5.08 253 ePn Pn 19 37 48.6 +1.7
LFF eSn Sn 19 38 44.1 -1.1
LFF eSg Sg 19 39 12.8 -1.7
comp=N,29nm,0.5s
SOKA Soboth 5.13 87 ePn Pn 19 37 50.3 +2.6
comp=N,0.3nm,0.3s
MFF Saint Martin d 5.32 272 ePn Pn 19 37 52.7 +2.5
MFF Saint Martin d 5.32 272 eP Pn 19 37 56.2 +6.0
MFF Saint Martin d 5.32 272 ePg Pg 19 38 11.7 -1.6
MFF eSn Sn 19 38 49.8 -1.3
comp=N,7.0nm,0.2s
MFF eSg Sg 19 39 19.8 -2.3
comp=N,7.9nm,0.3s
LDF La Druitiere 5.55 293 ePn Pn 19 37 55.7 +2.3
LDF La Druitiere 5.55 293 ePg Pg 19 38 16.3 -1.4
LDF eSn Sn 19 38 54.9 -2.0
LDF eSg Sg 19 39 27.3 -2.3
comp=N,22nm,0.6s
PRU Pruhonice 5.72 52 eSG Sg 19 39 32.9 -1.9
comp=N,8.2nm,0.5s
CONA Conrad Observa 5.78 74 ePn Pn 19 38 00.7 +4.1
comp=N,0.5nm,0.2s
CONA eSn Sn 19 39 00.7 -1.8
comp=N,1.7nm,0.2s
FLN La Foliniere 5.83 294 ePn Pn 19 37 59.4 +2.2
baz=116
FLN La Foliniere 5.83 294 ePg Pg 19 38 22.3 -0.8
baz=116
FLN eSn Sn 19 39 01.1 -2.6
FLN eSg Sg 19 39 36.8 -1.7
comp=N,17nm,0.4s
CLL Collm 5.87 36 ePg Pg 19 38 23.0 -0.7
CLL e(Sn) Sn 19 38 44.0 -21
CLL eSg Sg 19 39 36.0 -3.6
comp=E,10.0nm,0.7s
BRG Berggiesshubel 5.96 43 PG Pg 19 38 25.4 -0.1
BRG SG Sg 19 39 40.5 -2.0
comp=E,5.5nm,0.6s
GRR Gorron 5.97 290 ePn Pn 19 38 00.9 +1.8
GRR Gorron 5.97 290 ePg Pg 19 38 24.8 -0.9
GRR eSn Sn 19 39 05.7 -1.4
comp=E,9.5nm,0.3s
GRR eSg Sg 19 39 40.4 -2.5
comp=E,30nm,0.7s
EPF Esparros 6.29 237 ePn Pn 19 38 05.1 +1.5
EPF Esparros 6.29 237 ePg Pg 19 38 29.9 -2.0
EPF eSg Sg 19 39 50.4 -2.9
comp=E,10nm,0.5s
KRUC Moravsky 6.40 65 ePN Pn 19 38 06.8 +1.8
KRUC eSN Sn 19 39 17.7 -0.1
VRAC Vranov 6.61 63 ePN Pn 19 38 09.3 +1.4
VRAC eSN Sn 19 39 19.7 -3.1
ETSF Etsaut 6.90 240 eP Pn 19 38 18.3 +6.3
ETSF eSn Sn 19 39 27.6 -2.6
comp=E,0.9nm,0.2s
ETSF eSg Sg 19 40 09.5 -3.3
comp=E,1.6nm,0.3s
SGMF Saint Gilles 7.05 287 ePn Pn 19 38 15.3 +1.3
SGMF Saint Gilles 7.05 287 eP Pn 19 38 20.2 +6.2
SGMF eSn Sn 19 39 31.0 -2.8
SGMF eSg Sg 19 40 14.4 -3.3
comp=E,6.0nm,0.6s
SJPF Ste Jean 7.18 244 ePn Pn 19 38 17.4 +1.6
SJPF eSn Sn 19 39 34.9 -2.2
SJPF eSg Sg 19 40 18.3 -3.6
comp=E,2.2nm,0.4s
QUIF Quistinic 7.42 284 ePn Pn 19 38 20.5 +1.6
QUIF Quistinic 7.42 284 eP Pn 19 38 25.0 +6.1
ROSF Rostrenen 7.54 287 ePn Pn 19 38 22.3 +1.6
ROSF eSn Sn 19 39 42.4 -3.4
comp=E,1.3nm,0.2s
ROSF eSg 19 40 30.5
comp=E,3.9nm,0.5s

*NEIC **15** 19:39:36.9±1.2,33.°67N±0.°03×132.°65E±0.°06, h50km±10km, mb4.1/4, Error ellipse: s-maj=7.2km s-min=3.7km az=96.0*
*NIED **15** 19:39:37.1,33.°71N×132.°62E, h41km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=0.82; Mθθ=0.11; Mφφ=0.71; Mrθ=0.04; Mθφ=0.10; Mφr=0.92; Fault plane solution: M0=1.20000×10^15^ NP1: φs=184.00000°, δ70.00000°, λ-93.00000°. NP2:φs=12.00000°, δ20.00000°, λ-83.00000°.*
*JMA **15** 19:39:37.0, 33.°71N×132.°62E, h41km, M4.0 Broadband fault plane solution: P waves. NP1:φs=52.00000°, δ18.00000°, λ-29.00000°. NP2:φs=170.00000°, δ81.00000°, λ-106.00000°. Principal axes: T Plg34.0000°, Azm274.0000°; N Plg16.0000°, Azm173.0000°; P Plg51.0000°, Azm62.0000°;*
JMA Felt III J1.
*IDC **15** 19:39:38.4±1.9, 33.°72N×132.°61E, h60km±17km, mb3.5/11, mb1 3.7/13, mb1mx3.5/37, mbtmp3.7/13, MS3.2/6, Ms1 3.3/6, ms1mx2.9/30 Error ellipse: s-maj=16.7km s-min=13.1km az=108.0*

ISC 15 19:39:37.0±0.7, 33°69N±0.°03×132°63E±0.°03, h44km±6km, n52, σ1°37/60, mb3.7/16, MS3.1/4, 3C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.18**	**224**	⇓P	**Pn**	**19 39 44.1**	**-0.5**
JNA				S	Sn	19 39 49.5	-0.4
JET	**Tanbara**	**0.36**	**76**	⇑P	**Pn**	**19 39 46.0**	**-0.2**
JET				S	Sn	19 39 52.6	-0.2
JHM	**Kurahashi**	**0.46**	**349**	⇓P	**Pn**	**19 39 46.9**	**-0.4**
JHM				S	Sn	19 39 54.2	-0.5
UWA2	**Uwa jima 2**	**0.48**	**181**	⇓P	**Pn**	**19 39 47.5**	**-0.1**
UWA2				S	Sn	19 39 55.3	+0.1
JKU	**Kubokawa**	**0.52**	**136**	⇑P	**Pn**	**19 39 48.1**	**-0.1**
JKU				S	Sn	19 39 56.4	+0.2
JTO	**Tosashimizu**	**0.84**	**170**	⇓P	**Pn**	**19 39 52.6**	**+0.2**
JTO				S	Sn	19 40 04.4	+0.7
JHT	**Toyohira**	**0.98**	**350**	⇑P	**Pn**	**19 39 54.3**	**-0.1**
JHT				S	Sn	19 40 07.7	+0.5
JMN	**Monobe**	**1.04**	**88**	P	**Pn**	**19 39 55.5**	**+0.3**
JMN	**Monobe**	**1.04**	**88**		**Pn**	**19 39 54.8**	**-0.4**
JJS	**Sakaide**	**1.28**	**57**	⇓P	**Pn**	**19 39 58.0**	**-0.4**
JHS	**Saijyo**	**1.36**	**17**	Pn	**Pn**	**19 39 59.8**	**+0.2**
JNU	**Nakatsue**	**1.57**	**249**	P	**Pn**	**19 40 03.1**	**+0.6**
	117nm,0.3s,baz=74,slow=5.2,SNR=1071						
JNU				S	Sn	19 40 24.0	+2.3
	111nm,0.3s,baz=225,slow=11,SNR=7.6						
JNU				LR	LR	19 40 56.7	
	comp=Z,355nm,18.1s,baz=38,slow=50						
JNU	**Nakatsue**	**1.57**	**249**		**Pn**	**19 40 02.8**	**+0.4**
JWT	**Wachi**	**2.79**	**54**		**Pn**	**19 40 19.2**	**+0.1**
JTU	**Tsushima**	**2.81**	**288**		**Pn**	**19 40 18.7**	**-0.7**
JSU	**Suzuyama**	**2.85**	**221**		**Pn**	**19 40 20.1**	**+0.1**
INU	**Inuyama**	**3.98**	**64**		**Pn**	**19 40 36.6**	**+1.1**
JGF	**Kuroka**	**4.34**	**63**		**Pn**	**19 40 41.3**	**+0.9**
JSG	**Sagara**	**4.71**	**76**	Pn	**Pn**	**19 40 44.6**	**-0.8**
KSRS	**Korea Array**	**5.37**	**316**	P	**Pn**	**19 40 55.1**	**+0.7**
	0.7nm,0.3s,baz=139,slow=14,SNR=6.9						
KSRS				S	Sn	19 41 54.5	-0.6
	3.7nm,0.3s,baz=135,slow=24,SNR=5.9						
KSRS				LR	LR	19 43 16.0	
	comp=Z,207nm,18.7s,baz=114,slow=41						
MAT	**Matsushiro**	**5.38**	**57**	P	**Pn**	**19 40 56.5**	**+1.8**
MAT				eS	Sn	19 41 56.9	+1.5
KSAR	**Wonju Array Be**	**5.38**	**315**	Pn	**Pn**	**19 40 55.0**	**+0.2**
MAJO	**Matsushiro**	**5.38**	**57**	Pn	**Pn**	**19 40 54.4**	**-0.4**
MJAR	**Matsushiro Arr**	**5.38**	**57**	P	**Pn**	**19 40 56.6**	**+1.8**
	0.3nm,0.3s,baz=244,slow=14,SNR=24						
MJAR				LR	LR	19 43 15.3	
	comp=Z,127nm,20.3s,baz=235,slow=40						
MJAR	**Matsushiro Arr**	**5.38**	**57**	Pn	**Pn**	**19 40 55.8**	**+1.1**
KS19	**Wonju Array Si**	**5.43**	**316**	Pn	**Pn**	**19 40 55.2**	**-0.2**
HHC	**Hu-ho-hao-te**	**18.20**	**299**	eP	**Pn**	**19 43 46.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,91nm,4.0s						
HHC				LR	LR		
	comp=N,130nm,11.7s						
HHC				LR	LR		
	comp=E,130nm,14.0s						
HHC				LR	LR		
	comp=Z,120nm,11.8s						
LZH Lanzhou 23.70 284 eP **P** **19 44 43.3 -1.7**
LZH pP pP 19 44 53.9 -2.4
LZH sP sP 19 44 58.8 -2.9
LZH PP **PnPn** **19 45 21.3 +7.6**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.9s
SONM Songino Array 24.23 313 P **P** **19 44 49.4 -0.4**
comp=Z,1.0nm,0.5s,baz=134,slow=10,SNR=11
SONM LR LR 19 55 01.9
comp=Z,65nm,19.2s,baz=116,slow=38
SONM Songino Array 24.23 313 P **P** **19 44 48.6 -1.1**
GTA Gaotai 26.88 292 eP **P** **19 45 15.0 +1.2**
GTA pP pP 19 45 24.0 -1.5
GTA sP sP 19 45 28.1 -2.6
GTA pmax pmax
comp=Z,1.0nm,0.8s
TLY Talaya 27.61 319 LR LR 19 56 03.8
comp=Z,50nm,19.2s,baz=103,slow=36
CMAR Chiang Mai Arr 33.67 252 LR LR 20 00 42.3
comp=Z,21nm,18.0s,baz=65,slow=38
WMQ Urumqi 36.08 300 eP **P** **19 46 36.0 +1.5**
ZALV Zalesovo Beam 39.08 316 PcP **PcP** **19 49 07.3 -1.3**
comp=Z,0.3nm,0.4s,baz=94,slow=4.3,SNR=3.6
MKAR Makanchi Array 39.94 305 P **P** **19 47 04.9 -1.9**
comp=Z,0.1nm,0.4s,baz=87,slow=11,SNR=2.1
BRVK Borovoye 47.64 314 P **P** **19 48 08.5 -0.1**
BRVK IAmb IAmb 19 48 31.0
comp=Z,2.6nm,1.1s
KKAR Karatay Array 48.59 300 P **P** **19 48 15.3 -0.7**
WRA Warrannunga Arr 53.36 178 P **P** **19 48 51.5 -0.5**
comp=Z,0.5nm,0.7s,baz=354,slow=8.0,SNR=5.5
ABKAR Akbulak array 54.57 310 P **P** **19 49 00.4 -0.2**
ABKAR Akbulak array 54.57 310 P **P** **19 48 59.8 -0.9**
ABKAR IAmb IAmb 19 49 01.0
comp=Z,1.4nm,0.9s
MDM Murphy Dome 55.49 30 P **P** **19 49 08.8 +1.7**
MDM IAmb IAmb 19 49 09.1
comp=Z,3.6nm,0.8s
ILAR Eielson Array 56.09 31 P **P** **19 49 11.4 +0.1**
comp=Z,0.5nm,0.7s,baz=290,slow=10,SNR=6.8
ASAR Alice Springs 57.05 179 P **P** **19 49 16.8 -1.8**
comp=Z,0.6nm,0.8s,baz=10,slow=7.6,SNR=6.6
FINES FINESS Array B 68.28 330 P **P** **19 50 33.2 +0.2**
comp=Z,1.8nm,0.8s,baz=86,slow=5.7,SNR=4.0
AKASG Malin Array Be 72.35 320 P **P** **19 50 57.7 -0.4**
comp=Z,1.3nm,0.4s,baz=54,slow=6.2,SNR=6.5
NOA NORSAR Array B 74.29 334 P **P** **19 51 09.0 -0.3**
comp=Z,0.7nm,1.0s,baz=40,slow=6.9,SNR=1.6
BURAR Bucovina Array 76.25 318 P **P** **19 51 19.7 -1.3**
GERES GERESS Array B 81.48 324 P **P** **19 51 49.6 -0.1**
comp=Z,0.3nm,0.6s,baz=34,slow=7.1,SNR=3.5
PDAR Pinedale Array 85.00 41 P **P** **19 52 07.5 -0.5**
comp=Z,0.5nm,0.7s,baz=316,slow=4.1,SNR=3.9
ULM Lac du Bonnet 86.06 29 P **P** **19 52 14.2 +1.3**
comp=Z,3.7nm,0.8s,baz=323,slow=5.1,SNR=3.8
TXAR Lajitas Array 97.75 47 LR LR 20 41 48.8
comp=Z,28nm,18.3s,baz=0.0,slow=38

*INET **15** 19:55:19.2, 12.°63N×86.°87W, h3km, ML1.5*
SNET 15 19:56:09.5±0.7, 13.°26N×87.°81W, h10km, ML1.8, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.03**	**300**	*i* P	Pg	19 56 11.8	+0.3
CNCH				IAML		19 56 12.7	
	comp=Z,1μm,0.1s						
LCND	**La Caada**	**0.09**	**300**	eP	Pg	19 56 12.9	+0.9
LCND				eS	Sg	19 56 14.5	+0.6
LCND				eS		19 56 14.5	
LCND				IAML		19 56 15.8	
	comp=Z,207nm,0.3s						

MAN 15 20:11:03.5, 6.°04N×126.°68E, h57km, mb4.7, ML3.6, MS3.5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.97**	**274**	eP	Pn	20 11 21.5	+0.5
DDMP				eS	Sn	20 11 33.6	-0.4
MATI	**Mati**	**1.00**	**335**	eP	Pn	20 11 22.2	+0.8
MATI				eS	Sn	20 11 36.5	+1.9
KCP	**Kidapawan**	**1.85**	**302**	⇑P	Pn	20 11 35.6	+2.6
KCP				*i* S	Sn	20 11 56.4	+1.0
CGP	**Cagayan de Oro**	**3.11**	**321**	⇓eP	Pn	20 11 50.9	+0.8
GQP	**Guinayangan**	**8.86**	**332**	⇓*i*P	Pn	20 13 09.6	+0.6

*SOF **15** 20:27:37.9, 44.°07N×22.°11E, h15km, MD2.7*
*BEO **15** 20:27:38.1±0.3, 44.°24N×22.°19E, h0km, ML2.4/12, Mining explosion.*
ISC 15 20:27:36.8±0.7, 44°27N±0.°02×22°19E±0.°02, h0km, n51, σ0°92/64, 15C-13D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAGS	**Zajecar**	**0.46**	**176**	eP	**Pg**	**20 27 45.8**	**+0.2**
ZAGS				eSg	**Sg**	**20 27 52.1**	**+0.6**
DJES	**Djerdap**	**0.46**	**31**	eP	**Pb**	**20 27 48.0**	**+0.2**
DJES				eSg	**Sb**	**20 27 54.5**	**-0.7**
PUNG	**Punghina**	**0.54**	**89**	⇑P	**Pb**	**20 27 48.7**	**-0.4**
PUNG	**Punghina**	**0.54**	**89**	⇓S	**Sb**	**20 27 57.5**	**+0.2**
MDVR	**Moldovita**	**0.61**	**327**	⇑P	**Pb**	**20 27 50.3**	**-0.1**
MDVR	**Moldovita**	**0.61**	**327**	⇓S	**Sb**	**20 27 58.2**	**-1.4**
HERR	**Herculane**	**0.63**	**15**	⇑P	**Pb**	**20 27 50.7**	**0.0**
HERR	**Herculane**	**0.63**	**15**	⇑S	**Sb**	**20 27 59.6**	**-0.5**
SVIS	**Svilajnac**	**0.70**	**270**	ePg	**Pb**	**20 27 52.0**	**+0.2**
SVIS				eSg	**Sb**	**20 28 00.8**	**-1.2**
SVIS				eSg	**Sg**	**20 28 01.0**	**+1.8**
BOVS	**Bovan**	**0.72**	**209**	ePg	**Pg**	**20 27 51.2**	**+0.5**
BOVS				eSg	**Sg**	**20 28 00.5**	**+0.5**
SRE	**Strehaia**	**0.83**	**61**	⇓P	**Pn**	**20 27 54.9**	**-0.8**
SRE	**Strehaia**	**0.83**	**61**	⇑S	**Sn**	**20 28 08.0**	**-0.6**
ZAPS	**Zavoj**	**1.05**	**162**	ePg	**Pg**	**20 27 57.4**	**+0.5**
ZAPS				eSg	**Sg**	**20 28 11.0**	**+0.6**
GRUS	**Gruza**	**1.13**	**251**	ePg	**Pn**	**20 27 59.4**	**-0.4**
GRUS				eSg	**Sb**	**20 28 14.8**	**+0.4**
GZR	**Gura Zlata**	**1.20**	**20**	⇓P	**Pn**	**20 28 00.5**	**-0.4**
GZR	**Gura Zlata**	**1.20**	**20**	⇓S	**Sn**	**20 28 17.6**	**-0.3**
TRUS	**Trudelj**	**1.28**	**269**	ePg	**Pb**	**20 28 01.5**	**-0.3**
TRUS				eSg	**Sn**	**20 28 19.5**	**-0.3**
SELS	**Selova**	**1.30**	**217**	ePg	**Pg**	**20 28 02.0**	**+0.2**
SELS				eSg	**Sg**	**20 28 18.7**	**0.0**
BANR	**Banloc**	**1.34**	**326**	⇑P	**Pn**	**20 28 03.6**	**+0.8**
BANR	**Banloc**	**1.34**	**326**	⇑S	**Sn**	**20 28 23.0**	**+1.7**
BZS	**Buzias**	**1.41**	**343**	ePg	**Pg**	**20 28 02.9**	**-0.8**
BZS				eSg	**Sn**	**20 28 24.0**	**+1.1**
BZS	**Buzias**	**1.41**	**343**	⇑S	**Sn**	**20 28 23.1**	**+0.1**
MPEP	**Malo Peshtene**	**1.45**	**129**	P	**Pn**	**20 28 02.8**	**-1.5**
MPEP	**Malo Peshtene**	**1.45**	**129**	Pg	**Pb**	**20 28 05.1**	**+0.5**
DIVS	**Divibare**	**1.59**	**265**	ePg	**Pn**	**20 28 05.6**	**-0.7**
DIVS				eSg	**Sg**	**20 28 29.3**	**+1.5**
IVAS	**Ivanjica**	**1.63**	**245**	ePg	**Pn**	**20 28 06.3**	**-0.5**
IVAS				eSg	**Sg**	**20 28 29.0**	**0.0**
LOT	**Lotru**	**1.63**	**43**	⇓P	**Pg**	**20 28 10.7**	**+2.7**
DEV	**Deva**	**1.69**	**17**	⇓P	**Pg**	**20 28 09.3**	**+0.1**
DEV	**Deva**	**1.69**	**17**	⇑S	**Sg**	**20 28 31.8**	**+0.7**
BOSS	**Bosilegrad**	**1.79**	**173**	ePg	**Pn**	**20 28 08.9**	**0.0**
BOSS				eSg	**Sb**	**20 28 33.6**	**+0.3**
VTS	**Vitosha**	**1.82**	**155**	P	**Pn**	**20 28 08.5**	**-1.0**
VTS	**Vitosha**	**1.82**	**155**	Pg	**Pg**	**20 28 11.8**	**+0.1**
SJES	**Sjenica**	**1.90**	**239**	ePn	**Pn**	**20 28 10.0**	**-0.5**
FRGS	**Fruska Gora**	**1.91**	**298**	ePn	**Pn**	**20 28 11.1**	**+0.4**
TEKS	**Tekeris**	**1.93**	**279**	ePn	**Pn**	**20 28 10.6**	**-0.2**
HUMR	**Humele**	**2.02**	**82**	⇑P	**Pg**	**20 28 15.9**	**+0.4**
HUMR	**Humele**	**2.02**	**82**	⇑S	**Sg**	**20 28 42.6**	**+0.9**
SIRR	**Siria**	**2.03**	**350**	⇓P	**Pg**	**20 28 15.1**	**-0.6**
SIRR	**Siria**	**2.03**	**350**	⇓S	**Sg**	**20 28 41.7**	**-0.4**
BBLS	**Lazići**	**2.05**	**260**	ePn	**Pn**	**20 28 12.2**	**-0.3**
COPA	**Copaceanca**	**2.18**	**93**	⇓P	**Pb**	**20 28 17.1**	**0.0**
COPA	**Copaceanca**	**2.18**	**93**	⇓S	**Sg**	**20 28 46.6**	**-0.3**
PGB	**Panagyurishte**	**2.24**	**139**	P	**Sg**	**20 28 19.8**	**0.0**
HAPS	**Han Pijesak,BI**	**2.34**	**267**	ePn	**Pn**	**20 28 15.2**	**-1.4**
VOIR		**2.35**	**59**	⇓S	**Sb**	**20 28 50.5**	**+1.0**
STIP	**Stip**	**2.58**	**180**	*i* Pn	**Pn**	**20 28 19.5**	**-0.3**
CJR	**Cluj-Napoca**	**2.64**	**22**	⇑S	**Sb**	**20 28 57.9**	**0.0**
DOPR	**Dopca**	**2.83**	**52**	⇑P	**Pb**	**20 28 25.9**	**-2.3**
MLR	**Muntele Rosu**	**2.94**	**64**	⇑P	**Pn**	**20 28 27.2**	**+2.3**
MLR	**Muntele Rosu**	**2.94**	**64**	⇓S	**Sb**	**20 29 05.0**	**-1.6**

SULR		**2.94**	**81**	⇑S		**Sb**	**20 29 04.7**	**-1.8**

IDC ***15*** *20:29:22.9±1.0,34˚.54N×26˚.37E,h0km,mb3.8/7, mb1 3.8/12,mb1mx3.6/46,mbtmp3.7/12,ML3.6/5,MS2.5/1, Ms1 2.5/1,ms1mx2.1/51,Error ellipse: s-maj=22.3km s-min=16.7km az=171.0*
NIC ***15*** *20:29:25.1±0.0,34˚.43N×26˚.34E,h22km±3km,MI3.9/3*
ISK ***15*** *20:29:25.2,34˚.59N×26˚.39E,h2km,ML3.4/12*
ATH ***15*** *20:29:25.7,34˚.58N×26˚.32E,h18km±1km,ML3.2/7,Error ellipse: s-maj=3.5km s-min=1.3km az=333.0*
THE ***15*** *20:29:27.6,34˚.64N×26˚.33E,h0km±2km,ML3.2/5,Error ellipse: s-maj=4.1km s-min=1.4km az=145.0*
GII ***15*** *20:29:29.1±0.0,34˚.39N×26˚.94E,h5km*
DDA ***15*** *20:29:34.2,35˚.12N×26˚.44E,h6km±4km,ML2.7*

ISC 15 20:29:24.4±1.2,34°48N±0˙.04×26°41E±0˙.02,h15km±8km, n126,σ1§62/152,mb3.7/7,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.65**	**346**	P	**Pg**	**20 29 36.4**	**-0.7**
ZKR				S	**Sg**	**20 29 45.1**	**-0.6**
	3μm,0.5s						
ZKR	**Zakros**	**0.65**	**346**	P	**Pg**	**20 29 36.5**	**-0.7**
ZKR				S	**Sg**	**20 29 44.5**	**-1.3**
ZKR				AML	AML	20 29 45.9	
	comp=N,5631μm,0.3s						
ZKR				AML	AML	20 29 46.2	
	comp=E,7912μm,0.6s						
ZKR	**Zakros**	**0.65**	**346**	PG	**Pg**	**20 29 36.5**	**-0.7**
ZKR				SG	**Sg**	**20 29 45.2**	**-0.5**
STIA	**Sitia Lasithi**	**0.76**	**340**	P	**Pg**	**20 29 38.3**	**-0.9**
STIA				S	**Sg**	**20 29 49.1**	**-0.2**
FRMA	**Ierapetra Chan**	**0.77**	**314**	P	**Pg**	**20 29 37.6**	**-1.8**
FRMA				S	**Sg**	**20 29 48.0**	**-1.5**
	comp=E,1μm,0.3s						
NPS	**Neapolis**	**1.02**	**320**	P	**Pb**	**20 29 43.4**	**-0.3**
NPS	**Neapolis**	**1.02**	**320**	P	**Pb**	**20 29 42.7**	**-1.0**
NPS				AML	AML	20 30 04.0	
	comp=N,2620μm,0.7s						
NPS				AML	AML	20 30 05.3	
	comp=E,3102μm,0.7s						
LAST	**Lasithi**	**1.02**	**312**	P	**Pb**	**20 29 42.7**	**-1.2**
LAST				S	**Sn**	**20 29 58.5**	**+0.1**
	comp=E,1μm,0.9s						
LAST	**Lasithi**	**1.02**	**312**	P	**Pb**	**20 29 42.7**	**-1.2**
LAST				S	**Sb**	**20 29 55.5**	**-1.6**
LAST				AML	AML	20 30 06.7	
	comp=E,3008μm,1.3s						
LAST				AML	AML	20 30 09.6	
	comp=N,2598μm,0.6s						
KARP	**Karpathos**	**1.23**	**30**	P	**Pg**	**20 29 48.0**	**0.0**
KARP	**Karpathos**	**1.23**	**30**	P	**Pg**	**20 29 48.0**	**0.0**
KARP				S	**Sg**	**20 30 04.8**	**+0.8**
KARP				AML	AML	20 30 14.0	
	comp=E,1970μm,0.8s						
KARP				AML	AML	20 30 20.2	
	comp=N,2392μm,0.7s						
KARP	**Karpathos**	**1.23**	**30**	PN	**Pg**	**20 29 48.2**	**+0.2**
KARP				SN	**Sg**	**20 30 04.3**	**+0.8**
KARP	**Karpathos**	**1.23**	**30**	P	**Pb**	**20 29 47.7**	**+0.4**
KARP				S	**Sg**	**20 30 05.7**	**+1.7**
KARP				AML	AML	20 30 13.3	
	comp=N,2.0nm,0.8s						
KARP				AML	AML	20 30 13.3	
	comp=N,2.0nm,0.8s						
KARP				AML	AML	20 30 19.8	
	comp=N,2.4nm,0.7s						
KARP				AML	AML	20 30 19.8	
	comp=N,2.4nm,0.7s						
HRKL	**Herakleio**	**1.36**	**308**	PN	**Pg**	**20 29 50.9**	**+0.4**
HRKL				SN	**Sg**	**20 30 09.1**	**+0.9**
SIVA	**Sivas**	**1.42**	**292**	P	**Pn**	**20 29 50.3**	**+0.6**
SIVA	**Sivas**	**1.42**	**292**	P	**Pn**	**20 29 50.4**	**+0.7**
SIVA				AML	AML	20 30 21.5	
	comp=N,1860μm,0.7s						
SIVA				AML	AML	20 30 22.9	
	comp=E,2631μm,0.6s						
IDI	**Anoyia**	**1.49**	**303**	Pn	**Pn**	**20 29 49.9**	**-0.7**
	comp=E,3.6nm,0.3s,baz=147,slow=17,SNR=33						
IDI				Sn	**Sg**	**20 30 14.8**	**+2.5**
	comp=E,28nm,0.3s,baz=83,slow=23,SNR=14						
IDI	**Anoyia**	**1.49**	**303**	P	**Pn**	**20 29 51.4**	**+0.8**
IDI	**Anoyia**	**1.49**	**303**	P	**Pn**	**20 29 50.6**	**0.0**
IDI	**Anoyia**	**1.49**	**303**	PN	**Pg**	**20 29 52.6**	**-0.4**
ANAF	**Anafi Island**	**1.94**	**345**	P	**Pb**	**20 29 58.7**	**-0.7**
ANAF				S	**Sb**	**20 30 23.3**	**-0.2**
	comp=E,1μm,0.5s						
ANAF	**Anafi Island**	**1.94**	**345**	P	**Pb**	**20 29 59.0**	**-0.5**
GVDS	**Gavdos**	**1.95**	**281**	P	**Pb**	**20 30 00.2**	**+0.7**
GVDS	**Gavdos**	**1.95**	**281**	PN	**Pb**	**20 30 00.3**	**+0.7**
GVD	**Gavdhos**	**1.95**	**281**	P	**Pb**	**20 29 59.8**	**+0.2**
GVD				S	**Sb**	**20 30 25.2**	**+1.5**
	comp=E,968nm,0.4s						
GVD	**Gavdhos**	**1.95**	**281**	P	**Pb**	**20 29 59.6**	**0.0**
GVD	**Gavdhos**	**1.95**	**281**	PN	**Pb**	**20 29 59.9**	**+0.3**
SANT	**Santorini**	**2.04**	**338**	P	**Pn**	**20 29 59.3**	**+1.1**
SANT	**Santorini**	**2.04**	**338**	PN	**Pb**	**20 30 00.3**	**-0.8**
SANT	**Santorini**	**2.04**	**338**	*i* P	**Pb**	**20 30 00.1**	**-1.0**
VAM	**Vamos**	**2.04**	**298**	P	**Pb**	**20 30 00.9**	**-0.2**
VAM	**Vamos**	**2.04**	**298**	P	**Pb**	**20 30 00.3**	**-0.8**
VAM				AML	AML	20 30 43.6	
	comp=E,507μm,0.4s						
VAM				AML	AML	20 30 45.7	
	comp=N,656μm,1.0s						
THR6	**Thira Island,**	**2.04**	**336**	P	**Pn**	**20 29 59.8**	**+1.6**
THR6	**Thira Island,**	**2.04**	**336**	P	**Pn**	**20 29 59.8**	**+1.6**
THR9	**Santorini-Faro**	**2.06**	**336**	P	**Pb**	**20 30 00.3**	**-1.2**
THR8	**Santorini-Mono**	**2.06**	**339**	P	**Pb**	**20 30 00.3**	**-1.2**
SNT5	**Nea Kammeni, S**	**2.09**	**337**	P	**Pn**	**20 30 00.6**	**+1.8**
SNT5	**Nea Kammeni, S**	**2.09**	**337**	P	**Pn**	**20 30 00.3**	**+1.5**
SNT1	**Gialos, Santor**	**2.09**	**338**	P	**Pn**	**20 30 00.6**	**+1.8**
SNT1	**Gialos, Santor**	**2.09**	**338**	P	**Pn**	**20 30 00.6**	**+1.8**
THR3	**Thira Island,**	**2.09**	**337**	P	**Pn**	**20 30 00.5**	**+1.7**
THR3	**Thira Island,**	**2.09**	**337**	P	**Pn**	**20 30 00.6**	**+1.7**
THT2	**Imerovigli**	**2.11**	**338**	PN	**Pb**	**20 30 01.3**	**-1.0**
THR2	**Thira island,**	**2.12**	**338**	P	**Pb**	**20 30 01.2**	**-1.2**
THR2	**Thira island,**	**2.12**	**338**	P	**Pn**	**20 30 01.0**	**+1.8**
THR5	**Thira Island,**	**2.12**	**336**	P	**Pn**	**20 30 00.6**	**+1.4**
THR5	**Thira Island,**	**2.12**	**336**	P	**Pn**	**20 30 00.4**	**+1.2**
SAP3	**Santorini-Thir**	**2.13**	**336**	P	**Pn**	**20 30 01.1**	**+1.6**
SAP3	**Santorini-Thir**	**2.13**	**336**	P	**Pn**	**20 30 00.9**	**+1.4**
NIS1	**Nisyros Isl.**	**2.20**	**16**	P	**Pb**	**20 30 02.6**	**-1.3**
IMMV	**Iera Moni Meta**	**2.22**	**297**	P	**Pb**	**20 30 03.6**	**-0.6**
IMMV	**Iera Moni Meta**	**2.22**	**297**	P	**Pb**	**20 30 03.3**	**-0.9**
IMMV				AML	AML	20 30 54.4	
	comp=E,611μm,0.5s						
IMMV				AML	AML	20 31 03.5	
	comp=N,628μm,0.7s						
IMMV	**Iera Moni Meta**	**2.22**	**297**	PN	**Pb**	**20 30 04.3**	**+0.1**
ARG	**Arkhangelos**	**2.23**	**39**	P	**Pb**	**20 30 04.1**	**-0.2**
ARG	**Arkhangelos**	**2.23**	**39**	P	**Pb**	**20 30 03.9**	**-0.3**
ARG	**Arkhangelos**	**2.23**	**39**	PN	**Pb**	**20 30 03.7**	**-0.6**
KOSK	**Kos Island**	**2.31**	**11**	PN	**Pb**	**20 30 04.3**	**-1.4**
KNDR	**Palaiochora Ch**	**2.36**	**289**	P	**Pb**	**20 30 05.6**	**-1.0**
KNDR	**Palaiochora Ch**	**2.36**	**289**	PN	**Pb**	**20 30 06.4**	**-0.2**
AMGA	**Amorgos Island**	**2.38**	**350**	P	**Pn**	**20 30 04.1**	**+1.2**
AMGA	**Amorgos Island**	**2.38**	**350**	P	**Pn**	**20 30 03.9**	**+1.1**
IOSP	**Ios island**	**2.42**	**338**	P	**Pn**	**20 30 04.7**	**+1.4**
IOSP	**Ios island**	**2.42**	**338**	P	**Pn**	**20 30 04.7**	**+1.4**
RODP	**Rodopos**	**2.43**	**297**	P	**Pb**	**20 30 06.2**	**-1.5**
RODP	**Rodopos**	**2.43**	**297**	PN	**Pb**	**20 30 06.3**	**-1.5**
DAT	**Datca**	**2.43**	**23**	P	**Pb**	**20 30 06.1**	**-1.8**
DAT	**Datca**	**2.43**	**23**	PN	**Pb**	**20 30 06.3**	**-1.6**
BODT	**Bodrum**	**2.67**	**16**	P	**Pn**	**20 30 09.2**	**+2.3**
BODT	**Bodrum**	**2.67**	**16**	PN	**Pn**	**20 30 09.6**	**+2.7**
APE	**Apeiranthos**	**2.68**	**345**	P	**Pn**	**20 30 08.2**	**+1.2**
APE	**Apeiranthos**	**2.68**	**345**	P	**Pn**	**20 30 08.2**	**+1.2**
APE	**Apeiranthos**	**2.68**	**345**	PN	**Pn**	**20 30 08.5**	**+1.5**
APE	**Apeiranthos**	**2.68**	**345**	*i* P	**Pn**	**20 30 09.0**	**+2.0**
APE				*i* S	**Sn**	**20 30 39.3**	**+0.1**
APE	**Apeiranthos**	**2.68**	**345**	P	**Pn**	**20 30 08.1**	**+1.2**
APE				S	**Sn**	**20 30 40.7**	**+1.5**
TURN	**Turunc**	**2.73**	**33**	PN	**Pb**	**20 30 10.7**	**-2.2**
TURN	**Turunc**	**2.73**	**33**	*i* P	**Pb**	**20 30 11.8**	**-1.1**
TURN				*i* S	Pg	20 30 21.8	+5.1
MHLO	**Agia Marina, M**	**2.74**	**324**	P	**Pn**	**20 30 09.4**	**+1.6**
ANKY	**Antikythira Is**	**2.90**	**299**	P	**Pn**	**20 30 12.2**	**+2.2**
DALY	**Dalyan (Mula)**	**2.96**	**37**	PN	**Pn**	**20 30 13.7**	**+2.9**
YER	**Yerkesik**	**3.05**	**29**	P	**Pn**	**20 30 14.7**	**+2.6**
YER	**Yerkesik**	**3.05**	**29**	PN	**Pn**	**20 30 15.0**	**+2.9**
AKAS	**Kas**	**3.14**	**55**	PN	**Pn**	**20 30 15.8**	**+2.4**
AKAS	**Kas**	**3.14**	**55**	*i* P	**Pb**	**20 30 18.9**	**-1.1**
AKAS				*i* S	**Sn**	**20 30 51.8**	**+1.1**
AKAS				IAML		20 30 55.0	
	comp=E,24nm,0.7s						
KTHA	**Kythira Island**	**3.26**	**304**	P	**Pn**	**20 30 16.2**	**+1.3**
KTHA	**Kythira Island**	**3.26**	**304**	PN	**Pn**	**20 30 17.4**	**+2.4**
AYDN	**Tasoluk**	**3.39**	**20**	*i* P	**Pn**	**20 30 19.9**	**+3.2**
TAVA	**DENIZLI_Tavas**	**3.60**	**34**	*i* P	**Pn**	**20 30 23.8**	**+4.0**
TAVA				IAML		20 31 26.0	
	comp=E,21nm,0.8s						
VLI	**Veliai**	**3.60**	**309**	P	**Pn**	**20 30 20.4**	**+0.7**
VLI	**Veliai**	**3.60**	**309**	P	**Pn**	**20 30 20.4**	**+0.7**
ELL	**Elmali**	**3.63**	**51**	P	**Pn**	**20 30 22.0**	**+1.8**
GOLH	**Golhisar**	**3.75**	**42**	*i* P	**Pn**	**20 30 25.6**	**+3.8**
GOLH				IAML		20 31 03.0	
	comp=E,2μm,1.1s						
GOLH				IAML		20 31 46.0	
	comp=N,30nm,0.9s						
URLA	**Izmir**	**3.87**	**2**	*i* P	**Pn**	**20 30 24.7**	**+1.3**
KRND	**KRANIDI**	**3.92**	**318**	P	**Pn**	**20 30 25.6**	**+1.6**
OSC1	**CSNet OBS 1**	**4.16**	**102**	P	**Pn**	**20 30 27.9**	**+0.7**
OSC1				S	**Sn**	**20 31 17.9**	**+2.2**
MANT	**Manisa**	**4.36**	**23**	*i* P	**Pn**	**20 30 32.8**	**+2.5**
AKMS	**Akamas**	**4.91**	**82**	P	**Pn**	**20 30 39.9**	**+2.3**
AKMS				AML	AML	20 31 35.9	
	comp=N,0.3nm,0.5s						
AKMS				AML	AML	20 31 38.6	
	comp=N,0.2nm,0.3s						
OSC2	**CSNet OBS 4**	**5.07**	**104**	P	**Pn**	**20 30 41.7**	**+1.8**
OSC2				S	**Sn**	**20 31 41.2**	**+3.0**
NATA	**Nata**	**5.08**	**85**	P	**Pn**	**20 30 41.5**	**+1.5**
ALFC	**Alefka**	**5.13**	**81**	P	**Pn**	**20 30 41.6**	**+0.9**
ALFC				AML	AML	20 31 43.9	
	comp=N,0.2nm,0.5s						
ALFC				AML	AML	20 31 44.7	
	comp=N,0.2nm,0.6s						
SZAC	**Souni**	**5.34**	**85**	P	**Pn**	**20 30 45.2**	**+1.6**
AGG	**Agios Georgios**	**5.59**	**325**	*i* P	Pn	20 30 52.0	+5.0
AGG				IAML		20 32 37.0	
	comp=E,5.5nm,1.4s						
ASGA	**Asgata**	**5.64**	**85**	P	**Pn**	**20 30 49.9**	**+2.1**
CSS	**Mathiatis**	**5.72**	**83**	P	**Pn**	**20 30 50.5**	**+1.7**
MVOU	**Mavrovouni**	**5.97**	**83**	P	**Pn**	**20 30 53.8**	**+1.6**
SLTI	**Sal'it**	**7.56**	**105**	Pn	**Pn**	**20 31 13.2**	**-0.8**
SLTI				Sn	**Sn**	**20 32 36.1**	**-3.3**
MMA0B	**Mount Meron ar**	**7.63**	**99**	Pn	**Pn**	**20 31 14.8**	**-0.3**
MMAI	**Mount Meron Ar**	**7.63**	**99**	Pn	**Pn**	**20 31 14.7**	**-0.4**
	comp=E,1.0nm,0.3s,baz=275,slow=11,SNR=9.0						
MMAI				Sn	**Sn**	**20 32 41.0**	**-0.3**
	comp=E,1.9nm,0.3s,baz=268,slow=22,SNR=6.4						
BRTR	**Keskin Array B**	**7.79**	**46**	LR	LR	20 35 19.2	
	comp=E,36nm,21.9s,baz=301,slow=46						
NATI	**Neve Ativ**	**7.85**	**96**	Pn	**Pn**	**20 31 18.3**	**+0.3**
NATI				Sn	**Sn**	**20 32 43.1**	**-3.5**
YTIR	**Yattir**	**7.95**	**111**	Pn	**Pn**	**20 31 19.9**	**+0.4**
YTIR				Sn	**Sn**	**20 32 45.6**	**-3.6**
DSI	**Dead Sea**	**8.07**	**109**	Pn	**Pn**	**20 31 21.2**	**+0.2**
DSI				Sn	**Sn**	**20 32 48.6**	**-3.4**
PRNI	**Paran**	**8.35**	**117**	Pn	**Pn**	**20 31 25.0**	**+0.1**
PRNI				Sn	**Sn**	**20 32 55.1**	**-3.8**
ZFRI	**Zfri**	**8.37**	**115**	Pn	**Pn**	**20 31 23.8**	**-1.4**
ZFRI				Sn	**Sn**	**20 32 56.1**	**-3.4**
MBRI	**Mt Berech**	**8.59**	**121**	Pn	**Pn**	**20 31 29.4**	**+1.1**
MBRI				Sn	**Sn**	**20 33 02.1**	**-2.9**
EIL	**Elat**	**8.69**	**121**	Pn	**Pn**	**20 31 30.2**	**+0.7**
	comp=E,0.6nm,0.3s,baz=293,slow=3.0,SNR=16						
EIL	**Elat**	**8.69**	**121**	Pn	**Pn**	**20 31 30.1**	**+0.6**
EIL				Sn	**Sn**	**20 33 03.1**	**-4.1**
KBZ	**Khabaz**	**15.76**	**49**	Pn	**P**	**20 33 08.4**	**-1.1**
	comp=E,0.1nm,0.3s,baz=268,slow=9.8,SNR=2.5						
AKASG	**Malin Array Be**	**16.34**	**6**	Pn	**Pn**	**20 33 12.9**	**-0.1**
	comp=E,0.2nm,0.3s,baz=194,slow=11,SNR=2.8						
GERES	**GERESS Array B**	**17.17**	**331**	P	**Pn**	**20 33 24.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=142,slow=12,SNR=5.4						
EKA	**Eskdalemuir Ar**	**29.19**	**325**	P	**P**	**20 35 25.4**	**+0.4**
	comp=E,1.9nm,0.9s,baz=123,slow=10,SNR=2.0						
TORD	**Torodi Ar. Bea**	**30.87**	**233**	P	**P**	**20 35 41.5**	**+1.3**
	comp=E,0.4nm,0.3s,baz=30,slow=8.7,SNR=5.9						
KOWA	**Kowa**	**33.89**	**242**	P	**P**	**20 36 07.3**	**+0.5**
	comp=E,0.5nm,0.3s,baz=36,slow=8.7,SNR=4.5						
ARCES	**ARCESS Array B**	**35.11**	**359**	P	**P**	**20 36 15.7**	**-1.1**
	comp=E,3.2nm,1.0s,baz=178,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**43.29**	**56**	P	**P**	**20 37 27.1**	**+1.7**
	comp=E,1.0nm,0.8s,baz=275,slow=6.9,SNR=12						
ZALV	**Zalesovo Beam**	**44.73**	**46**	P	**P**	**20 37 36.9**	**+0.1**
	comp=E,0.4nm,0.4s,baz=281,slow=10.0,SNR=1.8						
SONM	**Songino Array**	**59.12**	**51**	P	**P**	**20 39 26.3**	**+2.0**
	comp=E,0.2nm,0.4s,baz=308,slow=7.1,SNR=2.4						

MAN 15 20:30:50.4,12°90N×122°81E,h15km,mb4.1,ML2.9, MS2.5,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTRP	**Odiongan**	**0.93**	**235**	*e*P	Pb	20 31 07.7	-0.7
OTRP				*e*S	Sg	20 31 21.3	+0.4
BOAC	**Boac**	**1.09**	**301**	*e*P	Pb	20 31 09.9	-1.1
BOAC				*e*S	Sn	20 31 26.7	+0.6
JCNP	**Jose Panganiba**	**1.39**	**356**	*e*P	Pn	20 31 14.5	-0.8
JCNP				*e*S	Sb	20 31 33.9	+0.2
PVCP	**Virac**	**1.48**	**62**	*e*P	Pn	20 31 15.9	-0.7
POLP	**Polilio Island**	**2.01**	**335**	*e*P	Pb	20 31 25.4	-1.3
POLP				*e*S	Sb	20 31 53.0	+1.5
JAP	**San Jose, Anti**	**2.30**	**202**	*e*P	Pb	20 31 31.4	-0.2
BUSP	**Coron**	**2.70**	**251**	*e*P	Pn	20 31 32.7	-0.6
CNOP	**Candoni, Negro**	**3.06**	**183**	*e*P	Pn	20 31 39.0	+0.8
CNOP				*e*S	Sn	20 32 16.5	+2.0
BALP	**Baler**	**3.07**	**337**	*e*P	Pb	20 31 42.2	-2.6
BALP				*e*S	Sn	20 32 14.8	-0.1
APYP	**Conner**	**5.16**	**343**	*e*P	Pn	20 32 07.4	+0.2

IDC ***15*** *20:39:03.6±5.6,9˚.81S×120˚.64E,h74km±60km,mb3.0/1, mb1 3.2/4,mb1mx3.0/29,mbtmp3.3/4,ML3.5/4,Error ellipse: s-maj=46.6km s-min=37.2km az=89.0*
DJA ***15*** *20:39:04.3±0.4,10˚S±5˚×12˚1E±˚,h38km±13km,M3.7/9, MLv3.7/9*

ISC 15 20:39:02.5±1.0,9°61S±0˙.07×120°73E±0˙.05,h35km,n12, σ2§75/15,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.43**	**262**	P	**Pn**	**20 39 15.5**	**+3.3**
BASI	**Baing, Sumba**	**0.62**	**194**	P	**Pn**	**20 39 17.9**	**+3.0**
EDFI	**Ende, Flores**	**1.28**	**48**	P	**Pn**	**20 39 26.1**	**+2.1**
EDFI				S	**Sn**	**20 39 41.9**	**+1.9**
MMRI	**Maumere**	**1.77**	**57**	P	**Pn**	**20 39 32.8**	**+2.0**
MMRI				S	**Sn**	**20 39 53.8**	**+1.7**
BATI	**Baumata**	**2.95**	**102**	P	**Pn**	**20 39 49.4**	**+2.5**
	40nm,0.3s,baz=304,slow=3.6,SNR=64						
BATI				S	**Sn**	**20 40 24.6**	**+3.4**
	1.9nm,0.3s,baz=37,slow=20,SNR=1.1						
BATI	**Baumata**	**2.95**	**102**	P	**Pn**	**20 39 49.3**	**+2.4**
PLAI	**Plampang**	**3.02**	**285**	P	**Pn**	**20 39 49.9**	**+2.0**
TWSI	**Taliwang, Sumb**	**3.90**	**283**	P	**Pn**	**20 40 02.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**9.69**	**151**	P	**Pn**	**20 41 17.6**	**-1.9**
	0.1nm,0.3s,baz=333,slow=6.8,SNR=1.5						
FITZ				S	Sn	20 42 56.2	-11
	0.6nm,0.3s,baz=193,slow=22,SNR=15						
WRA	**Warramunga Arr**	**16.68**	**130**	P	**Pn**	**20 42 50.5**	**-3.2**
	0.2nm,0.3s,baz=315,slow=14,SNR=15						
WRA				S	Sn	20 45 41.5	-16
	0.1nm,0.3s,baz=299,slow=26,SNR=2.5						
ASAR	**Alice Springs**	**18.81**	**140**	P	**P**	**20 43 17.3**	**-2.0**
	0.1nm,0.3s,baz=327,slow=14,SNR=4.4						
ASAR				S	Sn	20 46 37.3	-12
	0.1nm,0.3s,baz=316,slow=25,SNR=2.9						
MKAR	**Makanchi Array**	**65.78**	**332**	P	**P**	**20 49 41.6**	**-2.5**
	0.1nm,0.4s,baz=141,slow=6.1,SNR=2.4						

IDC 15 20:53:12.5±4.5,23°15N×144°02E,h104km±30km,mb3.3/4, mb1 3.4/5,mb1mx3.0/48,mbtmp3.7/5,Error ellipse: s-maj=114.4km s-min=21.4km az=79.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.26**	**337**	P	Pn	20 54 17.0	+1.7
	10nm,0.3s,baz=72,slow=19,SNR=1.9						
JCJ				S	Sn	20 55 03.9	-0.1
	25nm,0.3s,baz=280,slow=23,SNR=8.4						

H11N1	**WAKE ISLAND Hy**	**21.56**	**95**	T	T	21 22 03.1		
	baz=282							
H11N2	**WAKE ISLAND Hy**	**21.56**	**95**	T	T	21 22 03.0		
	baz=282,slow=74,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**21.58**	**95**	T	T	21 22 02.7		
	baz=282,slow=74,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**21.68**	**98**	T	T	21 21 37.1		
	baz=284,SNR=3.6							
H11S1	**WAKE ISLAND Hy**	**21.69**	**98**	T	T	21 21 36.3		
	baz=284							
H11S2	**WAKE ISLAND Hy**	**21.70**	**98**	T	T	21 21 38.5		
	baz=284							
WRA	**Warramunga Arr**	**43.86**	**193**	P	P	21 01 08.4	-0.3	
	0.2nm,0.3s,baz=16,slow=9.1,SNR=19							
MKAR	**Makanchi Array**	**54.29**	**312**	P	P	21 02 27.8	-0.3	
	0.2nm,0.4s,baz=96,slow=8.3,SNR=4.4							
KURBB	**Kurchatov Arra**	**57.00**	**316**	P	P	21 02 47.9	+0.6	
	0.3nm,0.4s,baz=92,slow=7.9,SNR=1.8							
FINES	**FINESS Array B**	**82.20**	**335**	P	P	21 05 21.8	-0.1	
	2.2nm,0.8s,baz=96,slow=8.5,SNR=5.5							

IDC ***15*** *21:31:41.5±0.5,28˚.19N×55˚.33E,h0km,mb4.2/29, mb1 4.3/33,mb1mx4.2/59,mbtmp4.2/33,ML4.0/4,MS3.2/12, Ms1 3.2/12,ms1mx3.0/44,Error ellipse: s-maj=14.4km s-min=11.0km az=17.0*
DSN ***15*** *21:31:42.1±1.7,28˚.43N×55˚.42E,h10km,ML4.2/9,Error ellipse: s-maj=35.6km s-min=14.4km az=96.0*
MOS ***15*** *21:31:43.9±1.2,28˚.21N×55˚.35E,h28km,mb4.7/13,Error ellipse: s-maj=7.2km s-min=5.4km az=92.6*
TEH ***15*** *21:31:43.6,28˚.26N×55˚.41E,h8km,ML4.4*
NEIC ***15*** *21:31:43.4±1.6,28˚.24N±0˙.04×55˚.38E±0˙.04,h10km±1km, Error ellipse: s-maj=7.2km s-min=5.2km az=211.0*
THR ***15*** *21:31:44.6±0.4,28˚.28N×55˚.40E,h16km±4km,ML4.2*
OMAN ***15*** *21:31:46.0±0.4,28˚.41N×55˚.95E,h33km±10km,ml4.1/8, Error ellipse: s-maj=7.4km s-min=5.4km az=231.0*

ISC 15 21:31:42.1±1.2,28°24N±0˙.03×55°41E±0˙.03,h1km±7km, n319,σ1§72/332,mb4.3/81,MS3.1/11,18C-21D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**1.07**	**238**	*e*		21 32 34.7	
LAR1				*e*Pg	**Pb**	**21 32 04.6**	**+1.1**
BNDS	**Bandar-Abbas**	**1.08**	**141**	*e*Pg	**Pn**	**21 32 05.5**	**+1.0**
BNDS	**Bandar-Abbas**	**1.08**	**141**	*e*Pg	**Pn**	**21 32 05.5**	**+1.0**
BNDS	**Bandar-Abbas**	**1.08**	**141**	Pg	**Pn**	**21 32 05.4**	**+1.0**
GENO	**Geno**	**1.08**	**141**	*e*		21 32 26.5	
GENO				*e*Pg	**Pb**	**21 32 04.9**	**+1.3**
IBND	**Bandar-abas**	**1.28**	**128**	*e*		21 32 50.8	
IBND				*e*Pg	**Pb**	**21 32 08.0**	**+1.1**
JHRM	**Jahrom**	**1.63**	**280**	*e*Pg	**Pg**	**21 32 14.9**	**+1.5**
JHRM				*e*		21 32 53.3	
JHRM	**Jahrom**	**1.63**	**280**		**Pg**	**21 32 14.9**	**+1.5**
NGRK	**Negar Kerman**	**1.82**	**39**	*e*Pn	**Pn**	**21 32 15.3**	**+0.4**
NGRK				*e*		21 32 50.3	
NGRK	**Negar Kerman**	**1.82**	**39**	Pn	**Pn**	**21 32 15.3**	**+0.4**
KHNJ	**Kahnooj**	**2.05**	**98**	*e*Pn	**Pn**	**21 32 19.6**	**+1.8**
KHNJ	**Kahnooj**	**2.05**	**98**	Pn	**Pn**	**21 32 19.5**	**+1.8**
KRBR	**Kerman**	**2.10**	**34**	*e*Pn	**Pb**	**21 32 21.1**	**-0.1**
KRBR				*e*Sg	**Sg**	**21 32 50.2**	**+0.5**
KRBR				IAML		21 32 57.5	
	comp=N,2μm,0.5s						
KRBR	**Kerman**	**2.10**	**34**	*e*Pn	**Pb**	**21 32 21.1**	**-0.1**
KRBR	**Kerman**	**2.10**	**34**	Pn	**Pb**	**21 32 21.0**	**-0.1**
TVBK	**TV Kerman**	**2.11**	**34**	*e*Pn	**Pb**	**

IDAH Dahanechah 5.91 40 *e*Pn **Pn 21 33 13.5 +2.5**
AFRZ Afriz 6.03 30 *e*Pn **Pn 21 33 15.0 +2.4**
IKLH Kolahrood 6.04 328 *e*Pn **Pn 21 33 14.1 +1.3**
IMON Monand 6.15 36 *e*Pn **Pn 21 33 17.7 +3.4**
KRSH Karshahi 6.36 335 *e*Pn **Pn 21 33 19.5 +2.3**
QAM Ghamsar 6.47 329 *e*Pn **Pn 21 33 20.3 +1.6**
IANJ Anjilo 7.32 350 *e*Pn **Pn 21 33 32.5 +2.2**
IFIR Firoozkooh 7.72 344 *e*Pn **Pn 21 33 38.1 +2.3**
ISHM Shahmirzad 7.75 347 *e*Pn **Pn 21 33 38.7 +2.3**
BMDN Meydan 7.83 315 *e*Pn **Pn 21 33 37.4 +0.1**
IDOB Doab 8.31 314 *e*Pn **Pn 21 33 44.8 +0.9**
HSAM Samen 8.33 317 *e*Pn **Pn 21 33 44.8 +0.6**
IGLO Ghaloghah 8.35 351 *e*Pn **Pn 21 33 47.7 +3.3**
IPRN Peran 8.39 343 *e*Pn **Pn 21 33 48.4 +3.4**
HAGD Aghdareh 8.46 322 *e*Pn **Pn 21 33 48.4 +2.3**
HRA Herat 8.47 42 Pn **Pn 21 33 48.6 +2.5**
IPAY Payeh 8.73 19 *e*Pn **Pn 21 33 51.6 +1.9**
QABG Abgarm-Qazvin 8.94 328 *e*Pn **Pn 21 33 53.3 +0.7**
IKOM Komasi 8.98 313 *e*Pn **Pn 21 33 53.1 0.0**
QALM Alamut, Qazvin 9.11 335 *e*Pn **Pn 21 33 56.6 +1.7**
HSRG Sareghieh 9.25 321 *e*Pn **Pn 21 33 57.3 +0.4**
IGHG Ghaleghazi 9.69 311 *e*Pn **Pn 21 34 04.0 +1.1**
GEYT Alibeck 9.93 13 Pn **Pn 21 34 09.8 +3.9**
comp=N,0.2nm,0.3s,baz=173,slow=16,SNR=2.5
GEYT LR LR 21 38 41.0
comp=N,112nm,18.4s,baz=175,slow=42
GEYT Allbeck 9.93 13 Pn **Pn 21 34 08.1 +2.1**
GYA0B ALIBECK ARRAY 9.93 13 Pn **Pn 21 34 06.7 +0.8**
IDHR Dehrash 10.04 312 *e*Pn **Pn 21 34 07.6 0.0**
KBL Kabul 13.23 58 P **Pn 21 34 52.7 +1.4**
KBL Kabul 13.23 58 Pn **Pn 21 34 52.7 +1.4**
CHGR Chuyangaron 15.46 44 **Pn 21 35 22.2 +0.8**
SOCY Socotra 16.03 185 **Pn 21 35 25.0 -3.9**
SOCY IAmb IAmb 21 35 36.1
comp=Z,16nm,0.8s
NIL Nilore 16.23 66 P **Pn 21 35 32.8 +1.4**
NIL pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 16.23 66 Pn **Pn 21 35 32.8 +1.4**
GAR Garm 16.39 45 **Pn 21 35 34.2 +0.6**
ASF Jabal al Asfar 16.47 288 Pn **Pn 21 35 32.1 -2.5**
comp=Z,0.7nm,0.3s,baz=341,slow=1.0,SNR=6.8
GROC Groznyy 16.83 335 *e*P **P 21 35 44.2 +3.1**
GROC *e*S **S 21 38 53.6 -3.8**
GROC pmax pmax
comp=Z,8.0nm,0.6s
ARTV Artvin 16.99 323 P **P 21 35 42.5 -0.7**
KOPT Kop Dagi 17.01 318 P **P 21 35 43.0 -0.6**
DAMY Dhamar 17.02 219 **Pn 21 35 41.5 -0.3**
DAMY IAmb IAmb 21 35 46.7
comp=Z,22nm,0.9s
ZEI Tsey 17.25 330 *e*P **P 21 35 49.1 +3.0**
ZEI pmax pmax
comp=Z,21nm,0.8s
BTK Batken 17.34 43 P **Pn 21 35 45.8 +0.3**
BTK pmax pmax
comp=Z,6.0nm,0.8s
BTK Batken 17.34 43 **Pn 21 35 45.8 +0.3**
GAZ Gaziantep 17.69 305 Pn **Pn 21 35 49.8 0.0**
MMAI Mount Meron Ar 17.86 290 P **Pn 21 35 51.0 -0.9**
comp=Z,0.5nm,0.3s,baz=98,slow=16,SNR=13
MMAI LR LR 21 44 30.4
comp=Z,80nm,18.4s,baz=230,slow=43
EIL Elat 17.96 279 P **Pn 21 35 52.8 -0.3**
comp=Z,0.2nm,0.3s,baz=53,slow=11,SNR=5.3
KBZ Khabaz 18.44 330 *e*P **Pn 21 36 01.1 +2.2**
comp=Z,0.1nm,0.3s,baz=125,slow=10,SNR=5.7
KBZ Khabaz 18.44 330⇑ *e*P **Pn 21 36 01.5 +2.6**
KVAR Kislovodsk Arr 18.71 330 P **Pn 21 36 06.0 +3.7**
baz=90,slow=20,SNR=2.6
KIV Kislovodsk 18.71 330 *e*P **Pn 21 36 03.4 +1.0**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 18.71 330 **P 21 36 02.0 0.0**
KIV IAmb IAmb 21 36 09.5
comp=Z,19nm,1.3s
KK31 Karatay Array 19.20 35 P **P 21 36 07.4 0.0**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KK31 Karatay Array 19.20 35 **P 21 36 07.4 0.0**
KKAR Karatay Array 19.20 35 P **P 21 36 07.3 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 19.20 35 P **P 21 36 07.3 -0.1**
KKAR Karatay Array 19.20 35 P **P 21 36 07.4 0.0**
TOKA Tokat 19.70 313 P **Pn 21 36 13.8 -0.4**
CSS Mathiatis 19.94 295 P **P 21 36 15.9 +0.4**
CSS IAmb IAmb 21 36 32.9
comp=Z,9.3nm,1.0s
ATD Arta Tunnel 20.36 218 LR LR 21 45 49.7
comp=Z,50nm,18.7s,baz=16,slow=42
ABKAR Akbulak array 21.27 8 P **P 21 36 30.1 +0.3**
ABKAR IAmb IAmb 21 36 33.7
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 21.27 8 P **P 21 36 30.0 +0.2**
FRU1 Bishkek 21.29 42 P **P 21 36 29.8 -0.3**
FRU1 pmax pmax
comp=Z,29nm,1.5s
FRU1 Bishkek 21.29 42 P **P 21 36 29.8 -0.3**
FRU1 IAmb IAmb 21 36 49.8
comp=Z,29nm,1.4s
BR131 Keskin Array S 21.32 308 P **P 21 36 30.7 +0.1**
BR131 pmax pmax
comp=Z,11nm,0.8s
BR131 Keskin Array S 21.32 308 P **P 21 36 30.7 +0.1**
BR131 IAmb IAmb 21 36 35.4
comp=Z,10nm,0.8s
BRTR Keskin Array B 21.32 308 P **P 21 36 31.4 +0.8**
comp=Z,15nm,0.8s,baz=129,slow=11,SNR=30
BRTR LR LR 21 47 06.4
comp=Z,40nm,19.2s,baz=127,slow=43
BRTR Keskin Array B 21.32 308 P **P 21 36 30.9 +0.3**
BRTR Keskin Array B 21.32 308 P **P 21 36 30.9 +0.3**
ILGA Ilgaz 21.88 311 P **P 21 36 36.0 -0.7**
ILGA IAmb IAmb 21 36 51.4
comp=Z,10nm,1.1s
BOOM Boomskoye usch 21.89 44 P **P 21 36 37.6 +0.9**
BOOM pmax pmax
comp=Z,10.0nm,1.0s
BOOM Boomskoye usch 21.89 44 P **P 21 36 37.6 +0.9**
BOOM IAmb IAmb 21 36 50.9
comp=Z,9.6nm,0.9s
BR231 Keskin MP Arra 21.97 308 P **P 21 36 37.7 +0.2**
BR231 IAmb IAmb 21 36 45.4
comp=Z,11nm,0.8s
AKTO Aktyubinsk 22.25 4 P **P 21 36 40.8 +0.5**
comp=Z,6.1nm,0.8s,baz=189,slow=11,SNR=21
AKTO LR LR 21 47 07.6
comp=Z,48nm,21.8s,baz=170,slow=42
KDJ Kajisay 22.47 46 P **P 21 36 43.6 +0.6**
KDJ pmax pmax
comp=Z,11nm,1.2s
KDJ Kajisay 22.47 46 P **P 21 36 43.6 +0.6**
KDJ IAmb IAmb 21 36 50.8
comp=Z,11nm,1.2s
ELL Elmali 23.07 298 P **P 21 36 49.1 -0.1**
ELL pmax pmax
comp=Z,27nm,0.9s
ELL Elmali 23.07 298 P **P 21 36 49.1 -0.1**
MDUB Mudurnu 23.33 308 P **P 21 36 52.2 +0.3**
PRZ Przheval'sk 23.43 47 P **P 21 36 53.6 +0.6**
PRZ pmax pmax
comp=Z,6.0nm,0.9s
PRZ Przheval'sk 23.43 47 P **P 21 36 53.6 +0.6**
PRZ IAmb IAmb 21 37 06.5
comp=Z,5.9nm,0.9s
VRH Novokhopyorsk 25.15 340 *e*P **P 21 37 09.0 +0.4**
VRH pmax pmax
comp=Z,30nm,0.8s
VORD Divnogorie 25.76 336 *e*P **P 21 37 15.8 +1.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 26.01 336 *e*P **P 21 37 17.7 +1.2**
VSR pmax pmax
comp=Z,20nm,1.5s
SANT Santorini 26.50 295 ⇓P **P 21 37 19.9 -1.2**
SANT Santorini 26.50 295 P **P 21 37 20.7 -0.4**
SANT IAmb IAmb 21 37 26.1
comp=Z,12nm,0.9s
JURR Jurilovca 26.79 315 ⇓P **P 21 37 27.2 +3.6**
IDI Anoyia 26.81 293 P **P 21 37 24.1 +0.1**
comp=Z,3.4nm,0.6s,baz=117,slow=13,SNR=5.5
IDI Anoyia 26.81 293 ⇓P **P 21 37 24.2 +0.3**
IDI Anoyia 26.81 293 P **P 21 37 23.9 -0.1**
IDI IAmb IAmb 21 37 28.9
comp=Z,7.8nm,1.0s
PURM Purcari 27.11 319 ⇑P **P 21 37 26.0 -0.4**
BRVK Borovoye 27.13 20*ce*P **P 21 37 28.3 +1.7**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 27.13 20 P **P 21 37 25.6 -0.9**
BVAR Borovoye Array 27.13 20 P **P 21 37 27.2 +0.6**
comp=Z,2.3nm,0.7s,baz=222,slow=25,SNR=8.1
TLBR Topalu 27.21 314 ⇑P P 21 37 41.1 +14
LPSR Galich'ya Gora 27.25 338 *e*P **P 21 37 31.7 +4.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 27.86 41 P **P 21 37 32.9 -0.3**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 27.86 41 P **P 21 37 32.9 -0.3**
MAKZ IAmb IAmb 21 37 36.1
comp=Z,5.2nm,0.8s
MK31 Makanchi Array 28.03 41*de*P **P 21 37 36.6 +1.8**
MK31 Makanchi Array 28.03 41 P **P 21 37 34.4 -0.3**
MK31 IAmb IAmb 21 37 39.5
comp=Z,10.0nm,1.6s
MKAR Makanchi Array 28.03 41 P **P 21 37 34.8 +0.1**
comp=Z,2.6nm,0.6s,baz=231,slow=8.8,SNR=30
MKAR PcP **PcP 21 40 48.3 -1.2**
comp=Z,0.6nm,0.6s,baz=260,slow=2.4,SNR=4.8
MKAR Makanchi Array 28.03 41 P **P 21 37 34.4 -0.4**
MKAR Makanchi Array 28.03 41 P **P 21 37 34.4 -0.4**
ARU Arti 28.26 4 LR LR 21 48 55.4
comp=Z,13nm,20.9s,baz=280,slow=36
BIR Birlad 28.29 317 ⇓P P 21 37 45.7 +8.7
BIR Birlad 28.29 317 ⇓P P 21 37 45.7 +8.7
KURBB Kurchatov Arra 28.39 32 P **P 21 37 39.0 +1.1**
comp=Z,1.5nm,0.7s,baz=231,slow=8.6,SNR=7.0
KURBB PcP **PcP 21 40 49.5 -0.8**
comp=Z,0.6nm,0.5s,baz=235,slow=2.9,SNR=4.2
KURK Kurchatov 28.50 32 P **P 21 37 39.0 +0.2**
KURK 21 40 49.5
PLOR Plostina 28.69 316 ⇑P **P 21 37 38.3 -2.3**
PLOR Plostina 28.69 316 ⇓P **P 21 37 44.4 +3.8**
PLOR Plostina 28.69 316 ⇑P **P 21 37 38.3 -2.3**
NEHR Nehoiu 28.71 315 ⇑P **P 21 37 42.0 +1.1**
MLR Muntele Rosu 28.96 314 P **P 21 37 43.6 +0.4**
comp=Z,2.5nm,0.5s,baz=65,slow=2.7,SNR=6.4
MLR LR LR 21 49 32.5
comp=Z,63nm,18.4s,baz=220,slow=37
MLR Muntele Rosu 28.96 314 ⇓P **P 21 37 44.0 +0.8**
MLR Muntele Rosu 28.96 314 ⇓P **P 21 37 44.0 +0.8**
MLR Muntele Rosu 28.96 314 P **P 21 37 43.2 0.0**
VOIR 29.51 314 ⇓P **P 21 37 49.1 +1.1**
VOIR 29.51 314 ⇓P **P 21 37 49.1 +1.1**
DOPR Dopca 29.52 315 ⇓P **P 21 37 47.8 -0.2**
BIZ Bicaz 29.54 317 ⇓P **P 21 37 48.2 +0.1**
ARR Arges 29.75 313 ⇑P **P 21 37 50.3 +0.3**
AKASG Malin Array Be 29.92 326 P **P 21 37 50.7 -0.7**
comp=Z,3.6nm,0.6s,baz=132,slow=8.5,SNR=15
AKASG Malin Array Be 29.92 326 P **P 21 37 49.9 -1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 29.92 326 P **P 21 37 49.9 -1.5**
AKBB Malin Array Si 29.92 326 P **P 21 37 50.5 -0.9**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 29.92 326 P **P 21 37 50.5 -0.9**
AKBB IAmb IAmb 21 37 52.0
comp=Z,8.9nm,0.8s
OBN Obninsk 30.12 338 *e*P **P 21 37 50.8 -2.3**
OBN *i* 21 38 49.1
OBN pmax pmax
comp=Z,7.0nm,1.5s
WMQ Urumqi 30.16 50 *e*P **P 21 37 56.8 +3.1**
BURAR Bucovina Array 30.39 318 ⇑P **P 21 37 55.6 -0.2**
BURAR Bucovina Array 30.39 318 ⇑P **P 21 37 55.6 -0.2**
BURAR Bucovina Array 30.39 318 P **P 21 37 55.6 -0.2**
BUR08 Bucovina Ar. S 30.42 318 P **P 21 37 55.7 -0.3**
BUR08 IAmb IAmb 21 38 06.1
comp=Z,7.0nm,1.6s
GZR Gura Zlata 30.96 312 ⇑P **P 21 37 59.7 -1.0**
GZR Gura Zlata 30.96 312 ⇑P **P 21 37 59.7 -1.0**
HERR Herculane 31.00 311 ⇓P **P 21 37 56.6 -4.4**
MDVR Moldovita 31.44 311 ⇓P **P 21 38 04.7 -0.3**
BZS Buzias 31.80 312 ⇓P **P 21 38 06.7 -1.3**
BZS Buzias 31.80 312 ⇓P **PKiKP 21 48 23.4 -4.5**
BZS Buzias 31.80 312 ⇓P **P 21 38 06.7 -1.3**
PDG Podgorica 32.45 306 ⇑P **P 21 38 13.8 0.0**
DGZ Jazzator, Alta 32.47 40⇓*e*P **P 21 38 15.9 +1.8**
DGZ pmax pmax
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 32.75 318 *e*P **P 21 38 16.2 -0.2**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 32.75 318 *e*P **P 21 38 16.2 -0.2**
ZAA0 Zalesovo Array 33.49 32 P **P 21 38 22.2 -0.6**
ZAA0 IAmb IAmb 21 38 25.7
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 33.49 32 P **P 21 38 22.3 -0.5**
comp=Z,3.7nm,0.5s,baz=235,slow=9.5,SNR=16
ZALV PcP **PcP 21 41 02.1 -1.6**
comp=Z,0.8nm,0.3s,baz=217,slow=4.1,SNR=4.3
ZALV Zalesovo Beam 33.49 32 P **P 21 38 22.1 -0.7**
ZALV **PcP 21 41 02.5 -1.2**
KMBO Kilima Mbogo 34.00 214 LR LR 21 54 18.7
comp=Z,37nm,19.4s,baz=96,slow=40
VYHS Vyhne 34.63 316 *e*P **P 21 38 32.8 0.0**
VYHS pmax pmax
comp=Z,5.0nm,1.2s
VYHS Vyhne 34.63 316 *e*P **P 21 38 32.8 0.0**
SUW Suwalki 34.87 327 P **P 21 38 34.3 -0.4**
SUW pmax pmax
comp=Z,29nm,1.0s
SUW Suwalki 34.87 327 P **P 21 38 34.3 -0.4**
MORC Moravsky Berou 35.91 317 *e*P **P 21 38 43.3 -0.5**
VRAC Vranov 36.31 316 P **P 21 38 46.9 -0.3**
comp=Z,3.1nm,0.7s,baz=113,slow=3.3,SNR=4.4
VRAC Vranov 36.31 316 ⇑P **P 21 38 46.6 -0.6**
VRAC Vranov 36.31 316 *e*P **P 21 38 46.9 -0.3**
VRAC Vranov 36.31 316 ⇑P **P 21 38 46.6 -0.6**
KRUC Moravsky 36.34 316 *e*P **P 21 38 47.1 -0.4**
MOA Molln 37.30 313 *e*P **P 21 38 55.4 -0.4**
comp=Z,4.1nm,0.7s
PRED Cave del Predi 37.39 311 P **P 21 38 55.0 -1.5**
PRED IAmb IAmb 21 39 10.3
comp=Z,6.8nm,1.2s
KBA Koelnbreinsper 37.69 312 *e*P **P 21 38 58.6 -0.6**
comp=Z,3.9nm,0.9s
GEC2 GERESS Array S 37.95 314 P **P 21 39 00.5 -0.9**
GERES GERESS Array B 37.95 314 P **P 21 39 00.6 -0.7**
comp=Z,1.0nm,0.6s,baz=117,slow=8.1,SNR=13
GERES PcP **PcP 21 41 16.9 -0.3**
comp=Z,0.3nm,0.5s,baz=99,slow=6.1,SNR=3.2
GERES GERESS Array B 37.95 314 P **P 21 39 00.4 -0.9**
KHC Kasperske Hory 38.12 315 *e*P **P 21 39 02.0 -0.6**
KHC Kasperske Hory 38.12 315 P **P 21 39 01.8 -0.8**
KHC pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 38.12 315 P **P 21 39 01.8 -0.8**
KHC IAmb IAmb 21 39 06.3
comp=Z,2.7nm,0.8s
GTA Gaotai 38.20 61 ⇑P **P 21 39 05.3 +1.8**
GTA pP 21 39 09.6
GTA sP 21 39 12.3
GTA S **S 21 45 03.4 +5.3**
GTA ScP **ScP 21 45 10.8 +3.7**
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,49nm,6.2s
GTA LR LR
comp=N,73nm,16.0s
GTA LR LR
comp=E,82nm,16.4s
GTA LR LR
comp=Z,69nm,16.0s
FIA1 FINESS Array S 38.52 338 P **P 21 39 04.9 -0.9**
FINES FINESS Array B 38.52 338 P **P 21 39 05.4 -0.3**
comp=Z,2.3nm,0.5s,baz=147,slow=9.7,SNR=13
WTTA Wattenberg 38.87 311 *e*P **P 21 39 07.7 -1.4**
comp=Z,6.1nm,0.9s
WATA Walderalm 38.93 311 *e*P **P 21 39 07.6 -2.0**
comp=Z,2.4nm,0.6s
SQTA Sankt Quirin 39.14 311 *e*P **P 21 39 10.3 -1.1**
comp=Z,5.8nm,0.6s
CLL Collm 39.16 318 *e*P **P 21 39 11.0 -0.3**
comp=Z,4.0nm,1.1s
CLL Collm 39.16 318 *e*P **P 21 39 11.0 -0.3**
CLL pmax pmax
comp=Z,4.0nm,1.1s
MOTA Moosalm 39.24 311 *e*P **P 21 39 10.0 -2.2**
comp=Z,1.4nm,0.4s
FETA Feichten 39.42 311 *e*P **P 21 39 12.8 -0.9**
comp=Z,6.4nm,1.1s
FUORN Ofenpass-Fuorn 39.65 310 P **P 21 39 15.3 -0.4**
FUORN IAmb IAmb 21 39 28.2
comp=Z,9.4nm,1.5s
DAVOX Davos/Dischmat 39.94 310 P **P 21 39 16.7 -1.4**
comp=Z,1.1nm,0.3s,baz=120,slow=3.3,SNR=5.8
DAVA Damuels 40.04 311 *e*P **P 21 39 17.5 -1.4**
comp=Z,5.7nm,0.5s
CMAR Chiang Mai Arr 40.95 94 P **P 21 39 27.8 +1.1**
comp=Z,0.7nm,0.7s,baz=289,slow=8.0,SNR=6.3
CMAR PcP **PcP 21 41 26.9 -0.1**
comp=Z,0.9nm,0.6s,baz=281,slow=5.1,SNR=4.2
CMAR LR LR 22 01 11.0
comp=Z,23nm,18.8s,baz=286,slow=43
CMAR Chiang Mai Arr 40.95 94 P **P 21 39 26.6 0.0**
LZH Lanzhou 41.40 66 *e*P **P 21 39 30.6 +0.4**
LZH pP 21 39 35.0
LZH sP 21 39 37.8
LZH PP **PnPn 21 41 11.6 +1.4**
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.9s
SENIN Lac Senin/Sane 41.62 309 P **P 21 39 30.9 -1.1**
SENIN IAmb IAmb 21 39 38.2
comp=Z,16nm,1.6s
HFS Hagfors 42.51 330 P **P 21 39 38.1 -0.7**
comp=Z,5.5nm,0.5s,baz=126,slow=9.8,SNR=25
SONM Songino Array 43.78 49 P **P 21 39 50.5 +1.1**
comp=Z,1.8nm,1.1s,baz=268,slow=7.8,SNR=6.8
SONM LR LR 21 59 30.8
comp=Z,44nm,19.5s,baz=308,slow=38
SONM Songino Array 43.78 49 P **P 21 39 49.6 +0.2**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 43.78 49 P **P 21 39 49.6 +0.2**
NB201 NORSAR Array S 43.99 331 P **P 21 39 50.1 -0.7**
NB2 NORSAR Subarra 44.02 331 P **P 21 39 49.4 -1.7**
comp=Z,3.4nm,0.7s,baz=116,slow=7.9
NOA NORSAR Array B 44.02 331 P **P 21 39 48.8 -2.2**
comp=Z,2.1nm,0.7s,baz=116,slow=7.9,SNR=9.4
NOA LR LR 21 58 30.9
comp=Z,27nm,19.5s,baz=270,slow=37
NBO00 NORSAR Array S 44.21 331 P **P 21 39 51.7 -0.8**
KEV Kevo 44.65 346 P **P 21 39 56.2 +0.3**
KEV pmax pmax
comp=Z,100nm,1.6s
KEV Kevo 44.65 346 P **P 21 39 56.2 +0.3**
ARCES ARCESS Array B 44.80 346 P **P 21 39 56.8 -0.4**
comp=Z,3.5nm,0.8s,baz=86,slow=3.8,SNR=5.2
NRIK Noril'sk 45.16 15⇓*e*P **P 21 40 00.8 +0.9**
NRIK pmax pmax
comp=Z,5.0nm,1.3s
HHC Hu-ho-hao-te 47.20 59 *e*P **P 21 40 17.3 +0.7**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,190nm,5.9s
ESDC Sonseca Array 49.74 300 P **P 21 40 35.0 -1.2**
comp=Z,0.6nm,0.6s,baz=64,slow=8.0,SNR=6.0
BOD Bodaibo 49.94 37 *e*P **P 21 40 36.6 -0.7**
BOD pmax pmax
comp=Z,11nm,1.5s
TOA0 Torodi Ar. Sit 52.04 265 P **P 21 40 52.7 -1.0**
TOA0 IAmb IAmb 21 40 53.7
comp=Z,7.3nm,0.8s
TORD Torodi Ar. Bea 52.04 265 P **P 21 40 52.8 -1.0**
comp=Z,7.0nm,0.7s,baz=57,slow=7.1,SNR=52
TORD Torodi Ar. Bea 52.04 265 P **P 21 40 52.4 -1.3**
SPA0 Spitsbergen Ar 52.99 351 P **P 21 41 00.3 +0.3**
KOWA Kowa 56.51 269 P **P 21 41 25.5 -0.8**
KOWA IAmb IAmb 21 41 29.8
comp=Z,5.1nm,0.7s
LBTB Lobatse 60.22 211 P **P 21 41 52.4 +0.3**
LBTB pmax pmax
comp=Z,6.0nm,1.2s
LBTB Lobatse 60.22 211 P **P 21 41 52.4 +0.3**
LBTB IAmb IAmb 21 42 00.3
comp=Z,6.0nm,1.1s
KSRS Korea Array 60.27 61 P **P 21 41 50.8 -1.4**
comp=Z,1.7nm,0.6s,baz=282,slow=6.0,SNR=3.5
DBIC Dimbokro 60.72 261 P **P 21 41 54.9 -0.8**
comp=Z,4.0nm,0.7s,baz=28,slow=5.0,SNR=6.4
DBIC Dimbokro 60.72 261 P **P 21 41 54.9 -0.8**
DBIC pmax pmax
comp=Z,27nm,1.7s
DBIC Dimbokro 60.72 261 P **P 21 41 54.9 -0.8**
KIC Kosan Boka 60.77 261 *e*P **P 21 41 54.8 -1.2**
comp=Z,9.2nm,0.7s
TIC Toumodi 60.88 261 *e*P **P 21 41 55.7 -1.1**
LIC Lamto 61.09 261 *e*P **P 21 41 53.8 -4.4**
comp=Z,9.6nm,0.6s
USRK Ussuriysk Ar. 61.69 53 P **P 21 42 03.0 +1.2**
comp=Z,1.5nm,0.8s,baz=316,slow=16,SNR=4.9
USRK Ussuriysk Ar. 61.69 53 P **P 21 42 03.0 +1.2**
BOSA Boshof 63.48 210 P **P 21 42 13.3 -0.7**
comp=Z,1.2nm,0.5s,baz=5.9,slow=6.7,SNR=6.6
BOSA LR LR 22 10 43.6
comp=Z,30nm,18.3s,baz=8.0,slow=37
BOSA Boshof 63.48 210 P **P 21 42 13.4 -0.6**
YSS Yuzh-Sakhalins 68.23 47⇑*e*P **P 21 42 42.1 -2.3**
YSS pmax pmax
comp=Z,14nm,0.8s
EUNU Eureka 69.94 353 P **P 21 42 54.9 +0.3**
BILL Bilibino 71.46 22 *e*P **P 21 43 00.8 -3.1**
BILL *e* 21 43 23.5
BILL *e*PPP PPP 21 47 27.8
BILL pmax pmax
comp=Z,9.0nm,1.2s
PEA0B Petropavlovsk- 74.80 38*ce*P **P 21 43 23.0 -0.9**
TOLK Toolik Lake Re 81.66 9 P **P 21 44 01.8 +0.1**
FITZ Fitzroy Crossi 82.04 115 P **P 21 44 03.9 -0.5**
comp=Z,1.6nm,0.7s,baz=22,slow=0.7,SNR=3.6
FITZ Fitzroy Crossi 82.04 115 P **P 21 44 03.8 -0.6**
FITZ IAmb IAmb 21 44 06.4
comp=Z,3.9nm,1.1s
IMAR Indian Mountai 83.45 12 P **P 21 44 10.5 -0.5**
INK Inuvik 83.52 3 P **P 21 44 12.5 +1.2**
comp=Z,3.3nm,1.1s,baz=17,slow=7.8,SNR=2.3
INK Inuvik 83.52 3 P **P 21 44 11.8 +0.5**
INK pmax pmax
comp=Z,8.0nm,1.4s
INK Inuvik 83.52 3 P **P 21 44 11.8 +0.5**
INK IAmb IAmb 21 44 14.3
comp=Z,8.3nm,1.4s
MDM Murphy Dome 85.30 10 P **P 21 44 20.2 -0.3**
MDM IAmb IAmb 21 44 21.2
comp=Z,4.3nm,1.1s
COLA College 85.44 10⇓*e*P **P 21 44 20.7 -0.4**
COLA pmax pmax
comp=Z,8.0nm,1.3s
BPAW Bear Paw Mtn. 85.66 11 P **P 21 44 22.2 0.0**
ILAR Eielson Array 85.68 9 P **P 21 44 21.4 -1.0**
comp=Z,0.7nm,0.6s,baz=324,slow=5.0,SNR=8.4
PPLA Purkeypile 86.55 12 P **P 21 44 26.1 -0.7**
BCAR Beaver Creek A 87.98 8 P **P 21 44 33.7 0.0**
SUA Susitna One 88.13 12 P **P 21 44 33.8 -0.6**
WRA Warramunga Arr 90.02 113 P **P 21 44 43.0 -0.8**
comp=Z,0.5nm,0.8s,baz=315,slow=4.5,SNR=3.2
ASAR Alice Springs 91.52 116 P **P 21 44 49.9 -1.0**
comp=Z,0.4nm,0.5s,baz=307,slow=4.8,SNR=9.7
NVL N'lazarevskaya 103.43 194 *e*P **Pdif 21 45 52.5 +9.1**
NVL pmax pmax
comp=Z,9.0nm,0.7s
TXAR Lajitas Array 119.35 339 PKP **PKPdf 21 50 32.6 -1.3**
comp=Z,0.3nm,0.7s,baz=180,slow=0.5,SNR=4.4

TEH ***15*** *22:02:17.5, 32°.51N×47°.93E, h8km, ML2.9*
ISN ***15*** *22:02:17.1±0.8, 32°.55N×47°.93E, h14km±6km, ML2.2*
ISC 15 22:02:18.5±1.1, 32°.52N±0°.05×47°.86E±0°.04, h10km, n14,
σ0°87/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.51**	**289**	*e*Pg		**Pb**	**22 02 29.0**	**-0.6**
DHL1				*e*Sg		**Sb**	**22 02 37.5**	**+0.4**
IKMR	**Kamar-syah**	**1.09**	**24**	*e*Pg		**Pb**	**22 02 38.4**	**-1.0**

IKMR				*e*			22 02 58.5	
IDOB	**Doab**	**1.29**	**12**	*e*Pg	**Pn**	**22 02 42.4**	**-0.4**
AHWZ	**Ahwaz**	**1.36**	**150**	*e*Sg	**Sn**	**22 03 02.1**	**+0.5**
BMDN	**Meydan**	**1.41**	**35**	*e*Pg	**Pn**	**22 02 44.2**	**-0.2**
BMDN				*e*		22 03 10.3	
IKOM	**Komasi**	**1.68**	**350**	*e*Pg	**Pb**	**22 02 49.3**	**-0.2**
IKOM				*e*		22 02 50.9	
IBDR	**Badra**	**1.73**	**291**	*e*Pg	**Pb**	**22 02 49.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**22 03 13.0**	**-1.0**
IBDR				AML	AML	22 03 18.2	
	comp=N,30nm,0.5s						
IBDR				AML	AML	22 03 45.2	
	comp=E,36nm,0.6s						
HSAM	**Samen**	**1.80**	**20**	*e*Pn	**Pn**	**22 02 50.4**	**+0.6**
HSAM				*e*		22 02 54.8	
NSR	**Nassriya**	**2.10**	**225**	*e*Pn	**Pn**	**22 02 54.0**	**+0.4**
NSR				*e*Sn	**Sn**	**22 03 20.0**	**+0.2**
HAGD	**Aghdareh**	**2.54**	**25**	*e*Pn	**Pn**	**22 03 01.5**	**+1.6**
HAGD				*e*		22 03 43.3	
IPIR	**Pirpir**	**2.57**	**85**	*e*Pn	**Pn**	**22 03 00.5**	**+0.1**
IPIR				*e*		22 03 48.5	
BHD	**Baghdad**	**3.02**	**285**	*e*Pn	**Pn**	**22 03 07.0**	**+0.7**
BHD				*e*Sn	**Sn**	**22 03 44.0**	**+1.4**
IKLH	**Kolahrood**	**3.23**	**75**	*e*Pn	**Pn**	**22 03 10.0**	**+0.5**
IKLH				*e*		22 03 18.6	
KLNJ	**Kolanjah**	**3.52**	**114**	*e*		22 04 24.9	

IDC ***15*** *22:15:53.7±2.5,32°.58N×47°.68E,h0km,mb3.7/3, mb1 3.7/3,mb1mx3.4/31,mbtmp3.7/3,Error ellipse: s-maj=68.8km s-min=33.7km az=153.0*
TEH ***15*** *22:15:55.5,32°.56N×47°.88E,h9km,ML3.3*
ISN ***15*** *22:15:55.3±1.1,32°.58N×47°.88E,h14km±7km, ML3.0*
THR ***15*** *22:15:57.0±0.3,32°.54N×47°.89E,h14km±2km, ML3.3*
ISC 15 22:15:56.1±1.3**,32°.45N**±0°.04×**47°.78E**±0°.03**,h13**km±10km**, n44,**σ1$38/53**,mb3.4**/3**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.48**	**298**	*e*Sg	**Sb**	**22 16 14.7**	**+1.2**
DHL1				*e*Pg	**Pg**	**22 16 05.2**	**-0.4**
IKMR	**Kamar-syah**	**1.18**	**25**	*e*Pg	**Pn**	**22 16 15.3**	**-3.0**
IKMR				*e*		22 16 37.1	
AHWZ	**Ahwaz**	**1.34**	**146**	*e*Pg	**Pg**	**22 16 22.3**	**+0.4**
AHWZ				*e*Sg	**Sg**	**22 16 42.0**	**+2.7**
IDOB	**Doab**	**1.37**	**14**	*e*Pg	**Pn**	**22 16 19.8**	**-1.5**
BMDN	**Meydan**	**1.50**	**36**	*e*Pg	**Pn**	**22 16 22.0**	**-1.0**
BMDN				*e*		22 16 48.3	
IBDR	**Badra**	**1.69**	**293**	*e*Pg	**Pn**	**22 16 26.0**	**+0.6**
IBDR				*e*Sg	**Sg**	**22 16 50.0**	**-0.5**
IBDR				AML	AML	22 16 59.0	
	comp=E,183nm,0.8s						
IBDR				AML	AML	22 16 59.1	
	comp=N,133nm,0.6s						
IKOM	**Komasi**	**1.73**	**353**	*e*Pg	**Pn**	**22 16 27.0**	**+0.8**
IKOM				*e*		22 16 30.9	
HSAM	**Samen**	**1.88**	**21**	*e*Pg	**Pn**	**22 16 29.4**	**+1.0**
HSAM				*e*		22 17 03.4	
KCHF	**Cheshme Sefid,**	**1.92**	**341**	*e*Pg	**Pn**	**22 16 30.5**	**+1.7**
KCHF				*e*		22 17 08.9	
KER	**Kermanshah**	**2.00**	**344**	*e*Pn	**Pn**	**22 16 30.6**	**+0.8**
NSR	**Nassriya**	**2.00**	**225**	*e*Pn	**Pb**	**22 16 32.0**	**-0.5**
NSR				*e*Sn	**Sg**	**22 16 58.0**	**-2.6**
NSR				AML	AML	22 17 12.0	
	comp=E,257nm,0.5s						
IBZA	**Bozab**	**2.01**	**2**	*e*Pg	**Pn**	**22 16 31.5**	**+1.4**
IBZA				*e*		22 17 02.2	
IGHG	**Ghaleghazi**	**2.13**	**332**	*e*Pn	**Pn**	**22 16 32.3**	**+0.6**
IGHG				*e*		22 17 11.7	
IVIS	**Veis**	**2.21**	**340**	*e*Pn	**Pn**	**22 16 33.3**	**+0.6**
IVIS				*e*		22 17 08.2	
KHMZ	**Khomeyn**	**2.23**	**54**	*e*Pn	**Pn**	**22 16 34.0**	**+0.9**
KHMZ				*e*Sg	**Sn**	**22 17 03.7**	**+3.0**
KHMZ	**Khomeyn**	**2.23**	**54**	*e*Pn	**Pn**	**22 16 34.0**	**+0.9**
IALM	**Almabolaq**	**2.42**	**8**	*e*Pn	**Pn**	**22 16 36.2**	**+0.4**
JHBN	**Jahan bin**	**2.45**	**94**	*e*Pn	**Pn**	**22 16 36.6**	**+0.4**
JHBN				*e*		22 17 26.0	
IDHR	**Dehrash**	**2.52**	**333**	*e*Pn	**Pn**	**22 16 38.7**	**+1.6**
IDHR				*e*		22 17 21.6	
ILIN	**Lien**	**2.55**	**345**	*e*Pn	**Pn**	**22 16 38.5**	**+1.0**
ILIN				*e*		22 17 22.6	
HAGD	**Aghdareh**	**2.62**	**25**	*e*Pn	**Pn**	**22 16 39.2**	**+0.7**
HAGD				*e*		22 17 17.6	
IPIR	**Pirpir**	**2.64**	**84**	*e*Pn	**Pn**	**22 16 39.5**	**+0.8**
IPIR				*e*		22 17 19.6	
SNGE	**Sanandaj**	**2.66**	**352**	*e*Pn	**Pn**	**22 16 40.6**	**+1.6**
SNGE				*e*Sg	**Sb**	**22 17 18.2**	**+1.8**
SNGE	**Sanandaj**	**2.66**	**352**	*e*Pn	**Pn**	**22 16 40.6**	**+1.6**
ASAO	**Ashtian**	**2.81**	**41**	*e*Pn	**Pn**	**22 16 42.0**	**+1.0**
ASAO				*e*Sg	**Sb**	**22 17 21.1**	**+0.3**
ASAO	**Ashtian**	**2.81**	**41**	*e*Pn	**Pn**	**22 16 42.0**	**+1.0**
HSRG	**Sareghieh**	**2.81**	**8**	*e*Pn	**Pn**	**22 16 43.1**	**+2.0**
HSRG				*e*		22 17 27.6	
BHD	**Baghdad**	**2.98**	**287**	*e*Pn	**Pn**	**22 16 45.0**	**+1.9**
BHD				*e*Sn	**Sn**	**22 17 21.0**	**+2.4**
IKLH	**Kolahrood**	**3.31**	**74**	*e*Pn	**Pn**	**22 16 48.8**	**+0.8**
IKLH				*e*		22 17 56.8	
QAM	**Ghamsar**	**3.34**	**66**	*e*Pn	**Pn**	**22 16 50.0**	**+1.7**
KLNJ	**Kolanjah**	**3.55**	**113**	*e*Pn	**Pn**	**22 16 51.8**	**+0.4**
KLNJ				*e*		22 18 07.5	
GHVR	**GHOM**	**3.57**	**55**	*e*Pn	**Pn**	**22 16 51.8**	**+0.5**
GHVR				*e*S	**Sn**	**22 17 31.9**	**-1.5**
GHVR	**GHOM**	**3.57**	**55**	*e*Pn	**Pn**	**22 16 51.8**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.58**	**24**	*e*Pn	**Pn**	**22 16 52.1**	**+0.5**
IGAR	**Gharneh**	**3.60**	**90**	*e*Pn	**Pn**	**22 16 52.0**	**0.0**
IZEF	**Zefreh**	**3.86**	**82**	*e*Pn	**Pn**	**22 16 55.9**	**+0.4**
KRSH	**Karshahi**	**3.95**	**66**	*e*Pn	**Pn**	**22 16 57.2**	**+0.5**
IRAM	**Ramesheh**	**3.96**	**98**	*e*Pn	**Pn**	**22 16 57.2**	**+0.4**
QSDN	**Sirdan**	**4.20**	**16**	*e*Pn	**Pn**	**22 17 01.5**	**+1.3**
QALM	**Alamut, Qazvin**	**4.62**	**30**	*e*Pn	**Pn**	**22 17 07.4**	**+1.4**
IFIR	**Firoozkooh**	**5.21**	**51**	*e*Pn	**Pn**	**22 17 15.1**	**+1.0**
MKAR	**Makanchi Array**	**29.92**	**51**	P	**P**	**22 22 03.2**	**-0.6**
	comp=E,0.4nm,0.8s,baz=248,slow=9.7,SNR=5.7						
FINES	**FINESS Array B**	**32.24**	**341**	P	**P**	**22 22 22.2**	**-1.8**
	comp=E,2.9nm,0.8s,baz=141,slow=8.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**46.22**	**256**	P	**P**	**22 24 20.2**	**-1.0**
	comp=E,0.3nm,0.8s,baz=64,slow=7.5,SNR=1.5						

TAP ***15*** *22:16:08.5,24°.91N×122°.21E,h15km,ML2.8,C*
JMA ***15*** *22:16:08.4,24°.83N×122°.22E,h0km,M2.4*
ISC 15 22:16:08.3±0.9**,24°.90N**±0°.02×**122°.22E**±0°.02**,h16**km±7km**, n66,**σ0$63/105**,1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.24**	**297**	*i*P	**Pg**	**22 16 13.9**	**+0.2**
	baz=296						
TWB1				S	**Sg**	**22 16 17.2**	**-0.1**
	baz=296						
EGS		**0.27**	**258**	P	**Pb**	**22 16 14.6**	**-0.2**
	baz=251						
EGS				*e*S	**Sb**	**22 16 19.5**	**+0.3**
	baz=251						
NTC	**Toucheng**	**0.36**	**263**	*e*P	**Pg**	**22 16 15.7**	**0.0**
	baz=269						
NTC				S	**Sb**	**22 16 21.6**	**-0.1**
	baz=269						
TIPB	**Shuangxi**	**0.37**	**281**	P	**Pb**	**22 16 16.4**	**-0.2**
	baz=280						
TIPB				*e*S	**Sb**	**22 16 21.6**	**-0.5**
	baz=280						
NWF	**Wu-fen Shan**	**0.44**	**293**	P	**Pb**	**22 16 17.9**	**+0.2**
	baz=292						
NWF				S	**Sb**	**22 16 24.4**	**+0.3**
	baz=292						
WFSB	**Wu-fen Shan**	**0.44**	**293**	*i* P	**Pb**	**22 16 17.9**	**+0.2**
	baz=292						
WFSB				S	**Sb**	**22 16 24.3**	**+0.3**
	baz=292						
TWC	**Suao**	**0.45**	**230**	P	**Pg**	**22 16 17.2**	**-0.1**
	baz=221						
TWC				*e*S	**Sb**	**22 16 23.9**	**-0.4**
	baz=221						
ILA	**Ilan**	**0.45**	**253**	*e*P	**Pb**	**22 16 17.8**	**-0.1**
	baz=239						
ILA				*e*S	**Sn**	**22 16 27.2**	**-0.7**
	baz=239						
TWE	**Neicheng**	**0.54**	**251**	P	**Pg**	**22 16 19.0**	**0.0**
	baz=241						
TWE				*e*S	**Sb**	**22 16 27.1**	**+0.3**
	baz=241						
ENAH	**Nanao**	**0.58**	**220**	*e*P	**Pg**	**22 16 19.6**	**-0.3**
	baz=212						
ENAH				*e*S	**Sg**	**22 16 27.3**	**-0.4**
	baz=212						
TWA	**Mucha**	**0.59**	**278**	*e*P	**Pb**	**22 16 20.7**	**+0.4**
	baz=277						
TWA				*e*S	**Sb**	**22 16 29.3**	**+0.9**
	baz=277						
NWRT	**Kuosheng**	**0.59**	**301**	*e*P	**Pb**	**22 16 21.1**	**+0.7**
	baz=308						
YM01	**YM01**	**0.64**	**293**	P	**Pn**	**22 16 22.1**	**-0.8**
	baz=292						
YM01				*e*S	**Sb**	**22 16 29.9**	**-0.1**
	baz=292						
YM08	**YM08**	**0.64**	**297**	P	**Pb**	**22 16 21.8**	**+0.6**
	baz=296						
YM08				*e*S	**Sb**	**22 16 29.6**	**-0.3**
	baz=296						
ENA	**Nanau**	**0.64**	**223**	P	**Pb**	**22 16 21.7**	**+0.5**
	baz=214						
ENA				*e*S	**Sb**	**22 16 29.9**	**-0.1**
	baz=214						
YM11	**YM11**	**0.65**	**294**	*e*P	**Pn**	**22 16 22.2**	**-0.7**
	baz=293						
YM11				*e*S	**Sn**	**22 16 31.9**	**-0.9**
	baz=293						
ENTT	**Nioudou**	**0.65**	**247**	*i* P	**Pb**	**22 16 21.4**	**0.0**
	baz=238						
ENTT				*e*S	**Sg**	**22 16 29.3**	**-0.5**
	baz=238						
YM05	**YM05**	**0.65**	**294**	*e*P	**Pb**	**22 16 21.9**	**+0.5**
	baz=293						
YM05				*e*S	**Sb**	**22 16 31.2**	**+0.9**
	baz=293						
YM10	**YM10**	**0.65**	**293**	*e*P	**Pn**	**22 16 22.3**	**-0.7**
	baz=292						
NWLT	**Wulai**	**0.67**	**260**	*i* P	**Pn**	**22 16 22.6**	**-0.6**
	baz=258						
NWLT				*e*S	**Sb**	**22 16 31.3**	**+0.7**
	baz=258						
TATO	**Taipei**	**0.67**	**277**	*e*P	**Pb**	**22 16 22.0**	**+0.3**
	baz=275						
TATO				*e*S	**Sb**	**22 16 31.5**	**+0.7**
	baz=275						
YM04	**YM04**	**0.67**	**292**	*e*P	**Pn**	**22 16 22.5**	**-0.7**
	baz=291						
TWY	**Chenhua**	**0.68**	**304**	P	**Pn**	**22 16 22.7**	**-0.5**
	baz=292						
TWY				*e*S	**Sn**	**22 16 32.3**	**-1.3**
	baz=292						
YM03	**YM03**	**0.68**	**294**	*e*P	**Pn**	**22 16 22.9**	**-0.5**
	baz=294						
NDT	**Datong Townshi**	**0.71**	**246**	*e*P	**Pb**	**22 16 22.6**	**+0.3**
	baz=244						
NDT				*e*S	**Sb**	**22 16 32.4**	**+0.5**
	baz=244						
PCYT	**Pengchaiyu**	**0.74**	**349**	*e*P	**Pb**	**22 16 23.6**	**+0.7**
	baz=356						
PCYT				*e*S	**Sn**	**22 16 34.7**	**-0.4**
	baz=356						
JYNG	**Yonagunijimaku**	**0.79**	**124**	P	**Pg**	**22 16 23.3**	**-0.5**
JYNG				S	**Sg**	**22 16 34.1**	**-0.2**
YHNB	**Yeheng**	**0.80**	**254**	*e*P	**Pb**	**22 16 24.0**	**0.0**
	baz=262						
NSK	**Sanguang**	**0.82**	**254**	P	**Pb**	**22 16 24.8**	**+0.6**
	baz=268						
NSK				*e*S	**Sn**	**22 16 36.5**	**-0.6**
	baz=268						
YOJ	**Yonaguni jima**	**0.84**	**121**	*e*P	**Pb**	**22 16 23.7**	**-0.8**
	baz=110						
YOJ				*e*S	**Sg**	**22 16 34.7**	**-1.0**
	baz=110						
YOJ	**Yonaguni jima**	**0.84**	**121**	P	**Pb**	**22 16 24.4**	**-0.1**
YOJ				S	**Sg**	**22 16 35.6**	**-0.1**
NNSB	**Datong**	**0.90**	**239**	*e*P	**Pb**	**22 16 25.4**	**-0.2**
	baz=228						
NNSB				*e*S	**Sn**	**22 16 38.7**	**-0.4**
	baz=228						
NNSH	**Datong**	**0.90**	**239**	*e*P	**Pb**	**22 16 25.8**	**0.0**
	baz=228						
NNSH				*e*S	**Sb**	**22 16 38.3**	**+0.9**
	baz=228						
NNS	**Nan Shan**	**0.90**	**240**	P	**Pn**	**22 16 26.3**	**-0.2**
	baz=228						
NNS				*e*S	**Sn**	**22 16 39.0**	**-0.1**
	baz=228						
NACB	**Ninganchiao**	**0.92**	**219**	P	**Pb**	**22 16 25.7**	**-0.3**
	baz=208						
NACB				*e*S	**Sb**	**22 16 37.4**	**-0.6**
	baz=208						
ETLH	**Xiulin Townshi**	**0.97**	**225**	*e*P	**Pb**	**22 16 26.8**	**0.0**
	baz=214						
ETLH				*e*S	**Sg**	**22 16 39.7**	**-0.1**
	baz=214						
TWD	**Chiawan**	**1.00**	**215**	*e*P	**Pb**	**22 16 27.0**	**-0.2**
	baz=214						
TWD				*e*S	**Sb**	**22 16 39.9**	**-0.2**
	baz=214						
FUSS	**Fushou**	**1.10**	**234**	*e*P	**Pb**	**22 16 29.1**	**-0.1**
	baz=223						
FUSS				*e*S	**Sb**	**22 16 43.2**	**-0.2**
	baz=223						
LIOB	**Emei**	**1.13**	**257**	*e*P	**Pn**	**22 16 29.8**	**+0.3**
	baz=270						
NSTT	**Nanjuang**	**1.14**	**257**	*e*P	**Pg**	**22 16 31.1**	**+0.7**
	baz=268						
WHF	**Hehuan Shan**	**1.15**	**229**	P	**Pg**	**22 16 30.6**	**-0.1**
	baz=228						
WHF				*e*S	**Sg**	**22 16 45.8**	**0.0**
	baz=228						
TDCB	**Techi**	**1.16**	**237**	P	**Pg**	**22 16 30.7**	**-0.1**
	baz=226						
TDCB				*e*S	**Sg**	**22 16 45.6**	**-0.4**
	baz=226						
CHGB	**Renai**	**1.27**	**229**	P	**Pg**	**22 16 32.6**	**-0.2**
	baz=228						
CHGB				*e*S	**Sg**	**22 16 51.1**	**+1.6**
	baz=228						
ESL	**Shilin**	**1.30**	**214**	*e*P	**Pn**	**22 16 32.1**	**+0.3**
	baz=213						
WHP	**Taichung City**	**1.32**	**242**	*e*P	**Pg**	**22 16 33.9**	**+0.1**
	baz=241						
WHP				*e*S	**Sn**	**22 16 49.9**	**+0.5**
	baz=241						
IRIF	**Iriomote-Funau**	**1.48**	**112**	P	**Pb**	**22 16 36.5**	**+1.0**
IRIF				S	**Sb**	**22 16 55.7**	**+1.6**
VWDT	**VWDT**	**1.51**	**221**	*e*P	**Pb**	**22 16 36.1**	**+0.2**
	baz=222						
SMLT	**Sun Moon Lake**	**1.57**	**230**	*e*P	**Pb**	**22 16 36.7**	**-0.4**
	baz=230						
HGSD	**Ruisui**	**1.58**	**208**	*e*P	**Pb**	**22 16 37.3**	**+0.1**
	baz=194						
TYC	**Yuchr**	**1.59**	**232**	*e*P	**Pg**	**22 16 39.3**	**+0.3**
	baz=231						
SSLB	**Suanglung**	**1.60**	**227**	*e*P	**Pg**	**22 16 38.9**	**-0.3**
	baz=226						
EHY	**Hungye**	**1.61**	**211**	*e*P	**Pb**	**22 16 37.4**	**-0.3**
	baz=211						
HATJ	**Hateruma jima**	**1.67**	**120**	*e*S	**Sb**	**22 17 00.3**	**+0.9**
YULB	**Yu-li**	**1.72**	**210**	*e*P	**Pn**	**22 16 37.3**	**-0.4**
	baz=210						
JKRS	**Kuro-shima**	**1.75**	**112**	P	**Pb**	**22 16 40.1**	**-0.1**
TWF1	**Yuli**	**1.76**	**209**	*e*P	**Pb**	**22 16 40.1**	**-0.1**
	baz=209						
JIJ	**Ishigaki jima**	**1.83**	**107**	P	**Pb**	**22 16 41.1**	**-0.3**
JIJ				*e*S	**Sb**	**22 17 04.4**	**+0.4**
ALS	**Alishan**	**1.90**	**223**	*e*P	**Pb**	**22 16 43.2**	**+0.5**
	baz=206						
FULB	**Fuli**	**1.90**	**207**	*e*P	**Pn**	**22 16 40.4**	**+0.3**
	baz=191						
CHN5	**Tsauling**	**1.92**	**228**	*e*P	**Pb**	**22 16 43.6**	**+0.6**
	baz=229						
STYT	**Tauyuan**	**2.19**	**218**	*e*P	**Pn**	**22 16 46.0**	**+1.8**
	baz=202						
WTP	**Ta-pu**	**2.21**	**222**	*e*P	**Pb**	**22 16 48.1**	**+0.2**
	baz=206						
TWK	**Hsinying**	**2.27**	**225**	*e*P	**Pb**	**22 16 48.0**	**-1.0**
	baz=226						
SLGT	**Liugui**	**2.38**	**218**	*e*P	**Pb**	**22 16 49.7**	**-1.2**
	baz=219						
MATB	**Ma-tsu**	**2.41**	**302**	*e*P	**Pn**	**22 16 46.6**	**-0.5**
	baz=302						
MASBT	**Mashibuluo**	**2.70**	**213**	*e*P	**Pn**	**22 16 53.9**	**+2.7**
	baz=199						

ISN ***15*** *22:31:40.5±1.0,32°.42N×47°.96E,h0km±14km, ML4.2*

MOS ***15*** *22:31:40.2±1.0,32°.48N×47°.93E,h11km,mb4.8/20,Error ellipse: s-maj=5.9km s-min=3.7km az=118.3*
NEIC ***15*** *22:31:41.7±1.4,32°.45N±0°.04×47°.89E±0°.06,h10km±1km, Error ellipse: s-maj=9.3km s-min=6.4km az=232.0*
TEH ***15*** *22:31:42.2,32°.50N×47°.92E,h12km,ML4.5*
IDC ***15*** *22:31:43.2±3.1,32°.43N×47°.91E,h21km±19km,mb4.2/24, mb1 4.2/34,mb1mx4.1/55,mbtmp4.2/34,ML3.7/10, MS3.6/24,Ms1 3.6/24,ms1mx3.5/38,Error ellipse: s-maj=14.9km s-min=10.8km az=174.0*
GII ***15*** *22:31:43.0±0.0,32°.40N×47°.97E,h10km*
THR ***15*** *22:31:44.1±0.3,32°.55N×47°.96E,h15km±3km, ML4.7*
DSN ***15*** *22:31:51.0±0.3,31°.81N×48°.48E,h10km,ML4.6/1, Error ellipse: s-maj=12.2km s-min=4.7km az=31.0*
OMAN ***15*** *22:31:56.7,31°.32N×48°.24E,h10km,mb5.5/21,ms3.8/2*
ISC 15 22:31:42.1±0.8**,32°.47N**±0°.03×**47°.94E**±0°.02**,h14**km±4km**, n555,**σ1$80/566**,mb4.5**/85**,MS3.7**/24**,55C-55D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.59**	**291**	*e*Pg	**Pb**	**22 31 53.8**	**-0.5**
IKMR	**Kamar-syah**	**1.11**	**19**	*e*Pg	**Pb**	**22 32 02.1**	**-1.0**
IKMR				*e*		22 32 24.3	
IKMR	**Kamar-syah**	**1.11**	**19**	Pg	**Pb**	**22 32 02.1**	**-1.0**
AHWZ	**Ahwaz**	**1.28**	**152**	*e*Sg	**Sg**	**22 32 25.7**	**+2.1**
AHWZ				*e*Pg	**Pb**	**22 32 07.2**	**+1.2**
AHWZ	**Ahwaz**	**1.28**	**152**		**Pb**	**22 32 07.2**	**+1.2**
AHWZ				Sg	**Sg**	**22 32 25.7**	**+2.1**
IDOB	**Doab**	**1.33**	**9**	*e*Pg	**Pn**	**22 32 06.5**	**0.0**
IDOB	**Doab**	**1.33**	**9**		**Pn**	**22 32 06.5**	**0.0**
BMDN	**Meydan**	**1.41**	**32**	*e*		22 32 34.4	
BMDN				*e*Pg	**Pb**	**22 32 08.2**	**-0.2**
BMDN	**Meydan**	**1.41**	**32**		**Pb**	**22 32 08.1**	**-0.3**
IKOM	**Komasi**	**1.74**	**348**	*e*Pg	**Pb**	**22 32 14.2**	**+0.2**
IKOM				*e*		22 32 43.7	
IKOM	**Komasi**	**1.74**	**348**	Pg	**Pb**	**22 32 14.2**	**+0.2**
IBDR	**Badra**	**1.81**	**291**	*e*Pn	**Pb**	**22 32 15.0**	**0.0**
IBDR				*e*Sn	**Sg**	**22 32 40.0**	**-0.3**
IBDR				AML	AML	22 32 45.1	
	comp=N,3μm,0.4s						
IBDR				AML	AML	22 32 56.0	
	comp=E,3μm,0.6s						
HSAM	**Samen**	**1.83**	**18**	*e*Pn	**Pb**	**22 32 15.5**	**-0.1**
HSAM				*e*		22 32 52.2	
HSAM	**Samen**	**1.83**	**18**	Pn	**Pb**	**22 32 15.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.95**	**338**	*e*Pn	**Pb**	**22 32 16.7**	**-0.9**
KCHF				*e*		22 32 54.5	
KCHF	**Cheshme Sefid,**	**1.95**	**338**	Pn	**Pb**	**22 32 16.6**	**-1.0**
IBZA	**Bozab**	**2.00**	**358**	*e*Pn	**Pb**	**22 32 18.0**	**-0.5**
IBZA				*e*		22 32 55.3	
IBZA	**Bozab**	**2.00**	**358**	Pn	**Pb**	**22 32 17.9**	**-0.5**
KER	**Kermanshah**	**2.03**	**341**	*e*Pn	**Pb**	**22 32 18.2**	**-0.6**
NSR	**Nassriya**	**2.11**	**227**	*e*Pn	**Pn**	**22 32 17.8**	**+0.9**
NSR				*e*Sn	**Sn**	**22 32 44.9**	**+2.0**
NSR				AML	AML	22 32 50.8	
	comp=E,2μm,0.5s						
KHMZ	**Khomeyn**	**2.12**	**53**	*e*Pn	**Pb**	**22 32 20.3**	**-0.1**
KHMZ	**Khomeyn**	**2.12**	**53**	*e*Pn	**Pb**	**22 32 20.3**	**-0.1**
KHMZ	**Khomeyn**	**2.12**	**53**	Pn	**Pb**	**22 32 20.3**	**-0.1**
IGHG	**Ghaleghazi**	**2.18**	**329**	*e*Pn	**Pb**	**22 32 20.1**	**-1.4**
IGHG				*e*		22 33 05.9	
IGHG	**Ghaleghazi**	**2.18**	**329**	Pn	**Pb**	**22 32 20.1**	**-1.4**
IVIS	**Veis**	**2.25**	**336**	*e*Pn	**Pb**	**22 32 20.9**	**-1.6**
IVIS				*e*		22 32 57.9	
IVIS	**Veis**	**2.25**	**336**	Pn	**Pb**	**22 32 20.9**	**-1.6**
JHBN	**Jahan bin**	**2.32**	**95**	*e*Pn	**Pn**	**22 32 22.5**	**+2.3**
JHBN				*e*		22 33 08.5	
JHBN	**Jahan bin**	**2.32**	**95**	Pn	**Pn**	**22 32 22.5**	**+2.3**
IALM	**Almabolaq**	**2.40**	**5**	*e*Pn	**Pb**	**22 32 23.3**	**-1.9**
IPIR	**Pirpir**	**2.50**	**84**	*e*Pn	**Pn**	**22 32 24.8**	**+2.0**
IPIR				*e*		22 33 06.2	
IPIR	**Pirpir**	**2.50**	**84**	Pn	**Pn**	**22 32 24.7**	**+2.0**
HAGD	**Aghdareh**	**2.56**	**23**	*e*Pn	**Pb**	**22 32 26.2**	**-1.7**
HAGD				*e*		22 33 10.7	
HAGD	**Aghdareh**	**2.56**	**23**	Pn	**Pb**	**22 32 26.2**	**-1.7**
IDHR	**Dehrash**	**2.58**	**330**	*e*Pn	**Pn**	**22 32 25.6**	**+2.0**
IDHR				*e*		22 33 08.4	
IDHR	**Dehrash**	**2.58**	**330**	Pn	**Pn**	**22 32 25.6**	**+2.0**
ILIN	**Lien**	**2.58**	**342**	*e*Pn	**Pb**	**22 32 25.9**	**-2.4**
ILIN				*e*		22 33 16.4	
ILIN	**Lien**	**2.58**	**342**	Pn	**Pb**	**22 32 25.9**	**-2.4**
ROKH	**ROKH**	**2.62**	**92**	*e*Pn	**Pn**	**22 32 26.0**	**+1.7**
ROKH				*e*		22 33 19.4	
ROKH	**ROKH**	**2.62**	**92**	Pn	**Pn**	**22 32 26.0**	**+1.7**
SNGE	**Sanandaj**	**2.66**	**350**	*e*Pn	**Pb**	**22 32 27.6**	**-2.1**
SNGE				*e*Sg	**Sg**	**22 33 05.4**	**-2.4**
SNGE	**Sanandaj**	**2.66**	**350**	*e*Pn	**Pb**	**22 32 27.6**	**-2.1**
SNGE	**Sanandaj**	**2.66**	**350**	Pn	**Pb**	**22 32 27.6**	**-2.1**
ASAO	**Ashtian**	**2.71**	**39**	*e*Pn	**Pb**	**22 32 28.4**	**-2.2**
ASAO				*e*Sg	**Sg**	**22 33 06.7**	**-2.6**
ASAO	**Ashtian**	**2.71**	**39**	*e*Pn	**Pb**	**22 32 28.4**	**-2.2**
HSRG	**Sareghieh**	**2.78**	**6**	*e*Pn	**Pb**	**22 32 29.2**	**-2.6**
HSRG				*e*		22 33 23.6	
BHD	**Baghdad**	**3.10**	**286**	*e*Pn	**Pn**	**22 32 33.0**	**+2.4**
BHD				*e*Sn	**

SNR=15
BANOM S Sn 22 35 44.2 -8.1
BANOM Banah 9.79 130 P **Pn** **22 34 01.3 -1.3**
SNR=15
BANOM S **Sn** **22 35 46.1 -6.2**
IAKL Akhelmad 9.83 62 *e*Pn **Pn** **22 34 05.3 +2.0**
IMON Monand 9.90 83 *e*Pn **Pn** **22 34 06.9 +2.7**
ARTV Artvin 9.94 333 Pn **Pn** **22 34 07.9 +3.2**
GEYT Alibeck 9.95 54 Pn **Pn** **22 34 06.7 +2.0**
comp=E,0.2nm,0.3s,baz=343,slow=40,SNR=3.6
GEYT LR LR 22 38 00.7
comp=E,354nm,20.1s,baz=250,slow=38
GYA0B ALIBECK ARRAY 9.95 54 Pn **Pn** **22 34 05.8 +1.1**
IPAY Payeh 9.96 63 *e*Pn **Pn** **22 34 07.0 +2.0**
GAZ Gaziantep 9.98 301 Pn **Pn** **22 34 06.5 +1.3**
NAZ Nazwa, Dubai 10.07 136 *i* P **Pn** **22 34 06.3 0.0**
SNR=11
NAZ Nazwa, Dubai 10.07 136 P **Pn** **22 34 07.8 +1.4**
SNR=11
NAZ S **Sn** **22 35 53.1 -6.0**
IEMG Emamgholi 10.08 58 *e*Pn **Pn** **22 34 09.4 +2.6**
ASUD Al Ashush, Dub 10.16 138 *i* P **Pn** **22 34 06.5 -1.1**
SNR=7.7
ASUD Al Ashush, Dub 10.16 138 P **Pn** **22 34 08.0 +0.4**
SNR=18
ASUD S **Sn** **22 35 53.8 -7.5**
FAQ Al Faqa, Dubai 10.22 137 P **Pn** **22 34 07.1 -1.2**
FAQ Al Faqa, Dubai 10.22 137 P **Pn** **22 34 09.0 +0.6**
SNR=5.4
FAQ S **Sn** **22 35 55.3 -7.4**
MDH Madha 10.23 132 P **Pn** **22 34 08.4 -0.2**
MDH S **Sn** **22 35 55.6 -7.5**
NATI Neve Ativ 10.29 278 Pn **Pn** **22 34 10.3 +1.0**
NHDN Nehbandan 10.35 93 *e*Pn **Pn** **22 34 11.8 +1.5**
KELT Kelkit 10.38 320 *e*Pn **Pn** **22 34 15.1 +4.4**
UOSS Minazif 10.43 134 P **Pn** **22 34 08.2 -3.1**
UOSS Minazif 10.43 134 Pn **Pn** **22 34 11.5 +0.2**
HATD Hatta, Dubai 10.47 135 P **Pn** **22 34 10.3 -1.6**
MAK Makhachkala 10.48 358 *e*P **Pn** **22 34 09.5 -2.4**
MAK *e*S **Sn** **22 36 07.6 -1.4**
MAK pmax pmax
comp=Z,72nm,1.0s
MAK MLR MLR
comp=Z,266nm,13.0s
HMDT Nahal Hemdat 10.50 272 Pn **Pn** **22 34 14.6 +2.4**
MMA0B Mount Meron ar 10.57 276 Pn **Pn** **22 34 15.4 +2.2**
MMAI Mount Meron Ar 10.57 276 Pn **Pn** **22 34 13.2 0.0**
comp=Z,1.3nm,0.3s,baz=86,slow=15,SNR=12
MMAI Lg Lg 22 37 07.5
comp=Z,1.3nm,0.3s,baz=122,slow=33,SNR=2.6
MMAI LR LR 22 39 34.6
comp=Z,283nm,18.8s,baz=70,slow=45
ZEI Tsey 10.79 344 *e*P Pn 22 34 24.5 +8.2
ZEI pmax pmax
comp=Z,3.0nm,0.7s
GROC Groznyy 10.85 352 P **Pn** **22 34 17.3 +0.4**
GROC *e*S **Sn** **22 36 21.5 +3.4**
GROC pmax pmax
comp=Z,16nm,1.4s
GROC MLR MLR
comp=Z,237nm,9.0s
SLTI Sal'it 10.91 272 Pn **Pn** **22 34 19.8 +2.0**
ZFRI Zfri 11.05 263 Pn **Pn** **22 34 22.3 +2.5**
SOHO SOHO 11.23 135 *i* P **Pn** **22 34 19.0 -3.3**
SNR=6.7
SOHO SOHO 11.23 135 P **Pn** **22 34 21.8 -0.4**
SOHO P **Pn** **22 34 21.8 -0.4**
SOHO S **Sn** **22 36 20.6 -7.0**
SOHO S **Sn** **22 36 20.6 -7.0**
PRNI Paran 11.25 263 Pn **Pn** **22 34 24.8 +2.3**
EIL Elat 11.48 259 Pn **Pn** **22 34 26.5 +0.9**
comp=Z,0.5nm,0.3s,baz=14,slow=19,SNR=2.2
EIL Lg Lg 22 37 38.3
comp=Z,0.8nm,0.3s,baz=12,slow=15,SNR=2.0
EIL LR LR 22 39 54.2
comp=Z,173nm,19.0s,baz=84,slow=43
ARQ Araqi 11.84 138 P **Pn** **22 34 31.5 +0.9**
SNR=9.1
ARQ S Sn 22 36 34.9 -7.7
KBZ Khabaz 11.92 342 Pn **Pn** **22 34 35.3 +3.8**
comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=6.5
KBZ LR LR 22 39 54.2
comp=Z,241nm,22.0s,baz=151,slow=41
KBZ Khabaz 11.92 342‖ *e*P Pn 22 34 37.5 +6.0
TOKA Tokat 12.10 314 Pn **Pn** **22 34 35.0 +0.8**
HRA Herat 12.11 77 Pn **Pn** **22 34 36.9 +2.5**
HOQ Hoqain 12.11 135 P **Pn** **22 34 36.4 +2.0**
HOQ S **Sn** **22 36 42.5 -6.8**
KVAR Kislovodsk Arr 12.18 342 Pn Pn 22 34 40.6 +5.3
baz=292,slow=22,SNR=2.2
KIV Kislovodsk 12.19 342 *e*P **Pn** **22 34 38.2 +2.9**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,308nm,12.0s
KIV Kislovodsk 12.19 342 **Pn** **22 34 36.6 +1.2**
CSS Mathiatis 12.41 286 **Pn** **22 34 39.6 +1.2**
BIDO Bidbid 12.66 132 P **Pn** **22 34 44.0 +2.2**
BIDO S **Sn** **22 36 55.0 -7.6**
BSY Bisya 12.69 137 P **Pn** **22 34 42.0 -0.3**
SNR=16
BSY S **Sn** **22 36 56.0 -7.4**
SOC Sochi 12.84 332 *e*P **Pn** **22 34 44.0 -0.2**
SOC *e* 22 37 07.9
SOC MLR MLR
comp=Z,617nm,13.0s
SMDO Samad 12.95 134 P **Pn** **22 34 47.8 +1.9**
SNR=6.2
SMDO S **Sn** **22 37 02.8 -7.1**
GOF Gofitskoye 13.13 345‖ *e*P **P** **22 35 00.9 +2.6**
GOF pmax pmax
comp=Z,24nm,0.7s
WSAR Wadi Sarin 13.18 132 Pn **Pn** **22 34 47.6 -1.4**
comp=Z,1.4nm,0.3s,baz=300,slow=11,SNR=16
WSAR Sn Sn 22 37 04.8 -11
comp=Z,0.7nm,0.3s,baz=150,slow=22,SNR=2.3
WSAR Wadi Sarin 13.18 132 P **Pn** **22 34 48.9 -0.1**
SNR=9.0
WSAR S **Sn** **22 37 08.0 -7.4**
BR131 Keskin Array S 13.63 306 P **Pn** **22 34 57.2 +2.1**
BR131 Keskin Array S 13.63 306 **Pn** **22 34 57.2 +2.1**
BRTR Keskin Array B 13.63 306 Pn **Pn** **22 34 57.0 +1.9**
comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=11
BRTR LR LR 22 40 41.8
comp=Z,114nm,18.5s,baz=124,slow=40
BRTR Keskin Array B 13.63 306 **Pn** **22 34 57.0 +1.9**
WBK Wadi Bani Khal 13.85 132 P **Pn** **22 35 00.4 +2.3**
SNR=6.2
WBK S **Sn** **22 37 25.4 -6.4**
ILGA Ilgaz 14.24 311 **Pn** **22 35 03.4 -0.2**
JLN Jalan Bani Buh 14.47 132 P **Pn** **22 35 08.5 +2.0**
JLN S Sn 22 37 36.3 -10
MHTO MHTO 14.52 140 P **Pn** **22 35 07.2 0.0**
SNR=11
MHTO S Sn 22 37 38.3 -10
ANN Anapa 14.78 329 *e*P **Pn** **22 35 09.2 -1.4**
ANN *e*S **Sn** **22 37 55.3 +1.2**
ANN pmax pmax
comp=Z,11nm,0.9s
ANN MLR MLR
comp=N,234nm,10.0s
ANN MLR MLR
comp=Z,342nm,13.0s
ANN MLR MLR
comp=E,232nm,13.0s
DQM DQM 15.16 143 P **Pn** **22 35 17.0 +1.1**
SNR=12
DQM S Sn 22 37 52.8 -11
WHFO Wadi Hawf 15.41 159 P **Pn** **22 35 17.9 -1.3**
SNR=27
WHFO S Sn 22 37 59.2 -11
ELL Elmali 15.44 291 P **Pn** **22 35 20.7 +1.0**
ELL pmax pmax
comp=Z,76nm,0.7s
ELL Elmali 15.44 291 Pn **Pn** **22 35 20.7 +1.0**
AKAS Kas 15.60 289 **Pn** **22 35 23.2 +1.5**
MDUB Mudurnu 15.64 305 Pn **Pn** **22 35 22.3 +0.1**
MDUB IAmb IAmb 22 35 29.5
comp=Z,39nm,0.6s
ABTO Aybut 15.81 161 P **Pn** **22 35 23.0 -1.4**
SNR=7.0
ABTO S Sn 22 38 09.5 -10
SHAO Shalim 15.97 152 P **Pn** **22 35 27.4 +1.0**
SNR=7.8
SHAO S Sn 22 38 13.8 -9.5
DMTO DMTO 15.99 155 P **Pn** **22 35 24.0 -2.8**
SNR=16
MANT Manisa 16.88 296 P **Pn** **22 35 39.1 +1.0**
KARP Karpathos 17.50 286 P **P** **22 35 48.3 +1.5**
KARP Karpathos 17.50 286 **P** **22 35 47.0 +0.2**
KARP IAmb IAmb 22 35 52.5
comp=Z,78nm,0.9s
KBL Kabul 17.73 78 P **P** **22 35 50.8 +1.2**
KBL pmax pmax
comp=Z,27nm,1.4s
KBL Kabul 17.73 78 P **P** **22 35 50.8 +1.2**
CHGR Chuyangaron 18.32 64 P **Pn** **22 35 55.9 0.0**
STIA Sitia Lasithi 18.35 285 P **P** **22 35 57.6 +1.4**
NPS Neapolis 18.74 285 P **Pn** **22 36 02.4 +1.4**
CHOS Chios island 18.77 294 P **Pn** **22 36 01.6 +0.3**
LAST Lasithi 18.85 284 P **Pn** **22 36 03.3 +1.0**
SANT Santorini 18.94 288‖ P **P** **22 36 02.7 0.0**
SANT Santorini 18.94 288 P **P** **22 36 02.5 -0.2**
SANT IAmb IAmb 22 36 05.2
comp=Z,19nm,0.7s
APE Apeiranthos 18.96 290 P **P** **22 36 02.5 -0.4**
APE Apeiranthos 18.96 290‖ P **Pn** **22 36 03.7 +0.1**
APE Apeiranthos 18.96 290‖ P **Pn** **22 36 03.7 +0.1**
AB31 Akbulak array 19.03 25 *i* P **Pn** **22 36 04.2 -0.1**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 19.03 25 P **Pn** **22 36 04.3 0.0**
ABKAR Akbulak array 19.03 25 P **Pn** **22 36 04.1 -0.2**
IOSP Ios island 19.11 289 P **P** **22 36 04.9 +0.4**
PSN Preselentsi 19.11 312 P **Pn** **22 36 05.1 -0.2**
JURR Jurilovca 19.25 315‖ P **P** **22 36 04.7 -1.2**
VRH Novokhopyorsk 19.27 348 *e*P **P** **22 36 05.6 -0.5**
VRH pmax pmax
comp=Z,40nm,0.6s
GAR Garm 19.28 64 P **P** **22 36 07.1 +0.6**
GAR IAmb IAmb 22 36 15.6
comp=Z,31nm,1.1s
IDI Anoyia 19.33 285 P **Pn** **22 36 08.1 -0.1**
comp=Z,1.8nm,0.3s,baz=90,slow=11,SNR=37
IDI Anoyia 19.33 285 P **Pn** **22 36 08.9 +0.7**
IDI Anoyia 19.33 285‖ P **Pn** **22 36 08.8 +0.7**
IDI Anoyia 19.33 285 P **P** **22 36 07.7 +0.6**
IDI IAmb IAmb 22 36 10.8
comp=Z,38nm,0.8s
TIRR Tirgusor 19.36 314‖ P **P** **22 36 06.9 -0.3**
TIRR Tirgusor 19.36 314‖ P **P** **22 36 06.9 -0.3**
TIRR Tirgusor 19.36 314 P **P** **22 36 07.4 +0.2**
TIRR IAmb IAmb 22 36 11.4
comp=Z,32nm,0.8s
SIVA Sivas 19.39 284 P **Pn** **22 36 09.4 +0.6**
ALN Alexandroupoli 19.43 302 P **Pn** **22 36 09.0 -0.2**
ALN pmax pmax
comp=Z,18nm,0.9s
ALN Alexandroupoli 19.43 302 P **Pn** **22 36 09.0 -0.2**
AKTO Aktyubinsk 19.44 20 P **P** **22 36 08.4 +0.3**
comp=Z,0.7nm,0.3s,baz=215,slow=13,SNR=10
NEF NEVSHA 19.50 309 P **Pn** **22 36 11.0 +1.0**
TLCR 19.52 316‖ P **Pn** **22 36 09.7 -0.4**
TLCR 19.52 316‖ P **Pn** **22 36 09.7 -0.4**
CVDA Cernavoda 19.53 313‖ P **Pn** **22 36 11.2 +0.9**
VORD Divnogorie 19.55 344 *e*P **P** **22 36 09.0 -0.2**
VORD pmax pmax
comp=Z,20nm,0.6s
ICOR Ion Corvin 19.57 312‖ P **P** **22 36 07.9 -1.6**
TLBR Topalu 19.63 314‖ P **Pn** **22 36 11.6 +0.1**
PURM Purcari 19.72 321‖ P **Pn** **22 36 12.2 -0.3**
HARR Harsova 19.78 314‖ P **P** **22 36 12.3 +0.6**
HARR Harsova 19.78 314‖ P **P** **22 36 12.3 +0.6**
VSR Storozhevoye 19.81 344 *e*P **P** **22 36 11.3 -0.8**
VSR pmax pmax
comp=Z,30nm,0.5s
VAM Vamos 19.90 285 P **Pn** **22 36 14.5 -0.4**
BTK Batken 19.91 61 P **Pn** **22 36 14.8 -0.3**
BTK pmax pmax
comp=Z,28nm,1.4s
BTK Batken 19.91 61 P **Pn** **22 36 14.8 -0.3**
BTK IAmb IAmb 22 36 22.6
comp=Z,28nm,1.4s
CFR Carcaliu 19.91 315‖ P **P** **22 36 13.4 +0.2**
CFR Carcaliu 19.91 315‖ P **P** **22 36 13.4 +0.2**
RASA Rasa 20.02 312‖ P **Pn** **22 36 16.4 +0.2**
IMMV Iera Moni Meta 20.08 285 P Pn 22 36 16.2 -0.8
KDZ Kurdzhali 20.13 303 P Pn 22 36 17.5 0.0
RAZG Razgrad 20.14 310‖ P Pn 22 36 17.4 -0.2
DIM Dimitrovgrad 20.19 305 P Pn 22 36 17.5 -0.6
RODP Rodopos 20.27 285 P Pn 22 36 18.8 -0.4
KNDR Palaiochora Ch 20.32 284 P **P** **22 36 18.5 +0.8**
LEHL Lehliu 20.36 312‖ P Pn 22 36 20.1 0.0
DION Dionisos Attik 20.36 293 P Pn 22 36 19.7 -0.5
SZH Strazhica 20.39 308 P Pn 22 36 19.8 -0.7
VLY Voula,Athens 20.43 292 P Pn 22 36 20.2 -0.9
VARL Varlezi 20.48 317‖ P Pn 22 36 20.6 -1.0
MILM Milestii Mici 20.54 320‖ P **P** **22 36 19.2 -0.8**
KIS Kishinev 20.58 320‖ P **P** **22 36 21.2 +0.7**
KIS Kishinev 20.58 320‖ P **P** **22 36 21.2 +0.7**
AOS Alonnisos 20.59 296 P Pn 22 36 22.3 -0.6
ANKY Antikythira Is 20.65 286 P **P** **22 36 22.4 +1.1**
KK31 Karatay Array 20.70 53 P **P** **22 36 23.2 +1.3**
KK31 pmax pmax
comp=Z,22nm,1.2s
KK31 Karatay Array 20.70 53 P **P** **22 36 23.2 +1.3**
KK31 IAmb IAmb 22 36 30.8
comp=Z,22nm,1.2s
KKAR Karatay Array 20.70 53 P **P** **22 36 23.2 +1.3**
KKAR pmax pmax
comp=Z,22nm,1.2s
KKAR Karatay Array 20.70 53 P **P** **22 36 23.2 +1.3**
KKAR IAmb IAmb 22 36 30.8
comp=Z,22nm,1.2s
KKAR Karatay Array 20.70 53 P **P** **22 36 22.8 +0.9**
GRER 20.71 315‖ P **P** **22 36 23.1 +1.2**
SGRR Singureni 20.77 311‖ P Pn 22 36 24.4 -0.7
OUR Ouranopolis 20.78 299 P **P** **22 36 23.4 +0.8**
SULR 20.81 312‖ P Pn 22 36 24.9 -0.5
BIR Birlad 20.81 317‖ P **P** **22 36 23.9 +0.9**
BIR Birlad 20.81 317‖ P **P** **22 36 23.9 +0.9**
GHRR 20.82 317‖ P Pn 22 36 25.1 -0.5
VILL Villia 20.85 293 P **P** **22 36 24.4 +0.8**
KTHA Kythira Island 20.86 287 P **P** **22 36 22.9 -0.7**
ODBI Odobesti 20.87 316‖ P Pn 22 36 25.5 -0.6
KRND KRANIDI 20.88 290 P **P** **22 36 23.8 0.0**
KTHR Kythira 20.91 287 P **P** **22 36 24.7 +0.6**
ZIMR 20.92 309‖ P **P** **22 36 17.3 -6.9**
ZIMR 20.92 309‖ P **P** **22 36 17.3 -6.9**
VASR Vaslui 20.93 318‖ P Pn 22 36 25.6 -1.2
EPID Epidavros 20.93 291 P **P** **22 36 24.7 +0.3**
SOCY Socotra 20.94 163 P **P** **22 36 20.8 -3.8**
BISRR Bisoca 20.96 315‖ P Pn 22 36 30.9 +3.6
VLI Veliai 20.99 289 P **P** **22 36 24.0 -1.0**
SECR 21.10 313‖ P **P** **22 36 28.4 +2.3**
VRI Vrincioaia 21.12 315‖ P **P** **22 36 28.1 +1.8**
VRI Vrincioaia 21.12 315‖ P **P** **22 36 28.1 +1.8**
NVR Nevrokopi 21.14 302 P **P** **22 36 26.3 -0.3**
NEHR Nehoiu 21.15 314‖ P **P** **22 36 29.3 +2.6**
XOR Xorichti 21.15 296 P **P** **22 36 27.8 +1.0**
PLOR Plostina 21.16 315‖ P **P** **22 36 28.6 +1.9**
PLOR Plostina 21.16 315‖ P **P** **22 36 28.6 +1.9**
LPSR Galich'ya Gora 21.16 345 *e*P **P** **22 36 25.8 -0.8**
LPSR pmax pmax
comp=Z,80nm,0.7s
ATAL Atalanti 21.16 294 P **P** **22 36 28.0 +1.2**
PLG Polygyros 21.18 299 P **P** **22 36 28.3 +1.2**
COPA Copaceanca 21.22 310‖ P **P** **22 36 28.9 +1.5**
NIL Nilore 21.24 80 P **P** **22 36 27.5 -0.3**
NIL pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 21.24 80 P **P** **22 36 27.5 -0.3**
NIL IAmb IAmb 22 36 37.4
comp=Z,20nm,0.8s
SRS Serrai 21.27 301 P **P** **22 36 29.1 +1.1**
MMB Musomiste 21.31 302 P **P** **22 36 30.4 +2.0**
IAS Iasi 21.38 319‖ P **P** **22 36 29.4 +0.3**
IAS Iasi 21.38 319‖ P **P** **22 36 29.4 +0.3**
MLR Muntele Rosu 21.39 314 P **P** **22 36 31.3 +1.9**
comp=Z,27nm,0.7s,baz=168,slow=5.0,SNR=15
MLR Muntele Rosu 21.39 314‖ P **P** **22 36 31.0 +1.6**
MLR Muntele Rosu 21.39 314‖ P **P** **22 36 31.0 +1.6**
MLR Muntele Rosu 21.39 314 P **P** **22 36 29.3 -0.1**
VLX Vlachokerasia 21.49 290 P **P** **22 36 30.5 0.0**
TESR Tescani 21.51 317‖ P **P** **22 36 31.0 +0.5**
SORM Soroca 21.54 322‖ P **P** **22 36 29.8 -1.0**
SORM Soroca 21.54 322‖ P **P** **22 36 29.8 -1.0**
HUMR Humele 21.55 311‖ P **P** **22 36 32.2 +1.3**
GUR Goura 21.58 292 P **P** **22 36 31.8 +0.3**
TRIP Tripoli 21.59 291 P **P** **22 36 31.7 +0.1**
VLAD Vladila 21.70 309‖ P **P** **22 36 33.7 +1.2**
STFAR Stefanesti-Arg 21.71 311‖ P **P** **22 36 35.5 +2.8**
KLV Kalavryta, Ach 21.75 292 P **P** **22 36 32.3 -0.9**
AGG Agios Georgios 21.75 295 P **P** **22 36 33.8 +0.6**
AGG Agios Georgios 21.75 295 P **P** **22 36 32.9 -0.3**
AGG pmax pmax
comp=Z,22nm,0.9s
AGG Agios Georgios 21.75 295 P **P** **22 36 32.9 -0.3**
AGG IAmb IAmb 22 36 39.1
comp=Z,22nm,0.9s
OZUR 21.80 315‖ P **P** **22 36 34.4 +0.8**
MTUR Matau 21.81 312‖ P **P** **22 36 35.9 +2.0**
MTUR Matau 21.81 312‖ P **P** **22 36 35.9 +2.0**
ITM Ithomi 21.84 290 P **P** **22 36 33.5 -0.6**
ITM Ithomi 21.84 290 P **P** **22 36 33.0 -1.1**
ITM IAmb IAmb 22 36 37.2
comp=Z,23nm,0.8s
MPEP Malo Peshtene 21.89 307 P **P** **22 36 36.7 +2.1**
MAKR Makrakomi, Fth 21.90 295 P **P** **22 36 35.2 +0.4**
VOIR 21.92 313‖ P **P** **22 36 36.7 +1.7**
VOIR 21.92 313‖ P **P** **22 36 36.7 +1.7**
PYL PYLOS 21.96 289 P **P** **22 36 33.7 -1.7**
DOPR Dopca 21.97 314‖ P **P** **22 36 37.7 +2.2**
VTS Vitosha 21.98 305 P **P** **22 36 38.4 +2.6**
ANX Ano Chora 22.00 293 P **P** **22 36 36.5 +0.6**
BIZ Bicaz 22.06 317‖ P **P** **22 36 37.2 +0.8**
VAY Valandovo 22.07 301 *i* P **P** **22 36 38.3 +1.8**
DRO Drossia 22.08 292 P **P** **22 36 37.3 +0.6**
ARR Arges 22.15 312‖ P **P** **22 36 39.2 +1.7**
PRAR RASCA 22.22 318‖ P **P** **22 36 38.5 +0.3**
AXS Araxos 22.37 292 P **P** **22 36 39.5 -0.3**
STIP Stip 22.45 302 *i* P **P** **22 36 38.9 -1.7**
MDB Medias 22.67 314‖ P **P** **22 36 45.4 +2.5**
MDB Medias 22.67 314‖ P **P** **22 36 45.4 +2.5**
LOT Lotru 22.73 312‖ P **P** **22 36 44.3 +0.6**
SRE Strehaia 22.75 309‖ P **P** **22 36 46.0 +2.2**
SRE Strehaia 22.75 309‖ P **P** **22 36 46.0 +2.2**
PUNG Punghina 22.78 308‖ P **P** **22 36 46.6 +2.4**
AKASG Malin Array Be 22.86 328 P **P** **22 36 43.6 -1.3**
comp=Z,5.4nm,0.6s,baz=138,slow=9.1,SNR=23
AKASG Malin Array Be 22.86 328 P **P** **22 36 42.7 -2.2**
AKBB Malin Array Si 22.86 328‖ *e*P **P** **22 36 43.7 -1.2**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 22.86 328 P **P** **22 36 43.3 -1.6**
AKBB IAmb IAmb 22 36 54.7
comp=Z,8.6nm,0.6s
BURAR Bucovina Array 22.93 318‖ P **P** **22 36 46.4 +0.6**
BURAR Bucovina Array 22.93 318‖ P **P** **22 36 46.4 +0.6**
BURAR Bucovina Array 22.93 318 P **P** **22 36 45.9 +0.1**
BUR08 Bucovina Ar. S 22.96 318 P **P** **22 36 46.0 -0.1**
NYDR Nydri-Lefkada 22.96 293 P **P** **22 36 46.4 +0.3**
NEST Nestorio 22.98 298 P **P** **22 36 47.2 +0.9**
EVGI Lefkada island 22.98 293 P **P** **22 36 45.6 -0.7**
LKD2 Lefkada island 23.00 294 P **P** **22 36 43.5 -3.0**
FSK Fiskardo 23.04 293 P **P** **22 36 46.7 -0.1**
SKO Skopje 23.06 302 *i* P **P** **22 36 49.1 +2.0**
ARCR ARCALIA 23.15 316‖ P **P** **22 36 48.7 +0.8**
OHR Ohrid 23.31 299 *i* P P 22 36 36.7 -13
GZR Gura Zlata 23.33 311‖ P **P** **22 36 49.7 -0.2**
GZR Gura Zlata 23.33 311‖ P **P** **22 36 49.7 -0.2**
HERR Herculane 23.36 309‖ P **P** **22 36 50.6 +0.6**
IGT Igoumenitsa 23.36 295 P **P** **22 36 48.8 -1.3**
CJR Cluj-Napoca 23.42 314‖ P **P** **22 36 52.2 +1.5**
CJR Cluj-Napoca 23.42 314‖ P **P** **22 36 52.2 +1.5**
FRU1 Bishkek 23.44 56 P **P** **22 36 51.0 +0.1**
FRU1 pmax pmax
comp=Z,4.0nm,0.8s
FRU1 Bishkek 23.44 56 P **P** **22 36 51.0 +0.1**
DEV Deva 23.46 312‖ P **P** **22 36 51.0 -0.1**
DEV Deva 23.46 312‖ P **P** **22 36 51.0 -0.1**
PHP Peshkopia 23.71 301 P **P** **22 36 55.2 +1.6**
MDVR Moldovita 23.78 309‖ P **P** **22 36 55.0 +0.8**
KEK Kerkira 23.80 296 P **P** **22 36 54.7 +0.3**
BMR Baia Mare 23.95 316‖ P **P** **22 36 57.1 +1.3**
BMR Baia Mare 23.95 316‖ P **P** **22 36 57.1 +1.3**
OBN Obninsk 24.02 344 P **P** **22 36 56.5 +0.3**
comp=Z,4.1nm,0.5s,baz=353,slow=3.1,SNR=6.5
OBN Obninsk 24.02 344‖ P **P** **22 36 56.7 +0.5**
OBN Obninsk 24.02 344 *ce*P **P** **22 36 56.3 0.0**
OBN *e* 22 37 27.3
OBN *e*PPP PPP 22 37 34.5
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,144nm,15.0s
OBN Obninsk 24.02 344 P **P** **22 36 56.1 -0.2**
BZS Buzias 24.17 311‖ P **P** **22 36 57.0 -0.8**
BZS Buzias 24.17 311‖ P **P** **22 36 57.0 -0.8**
BOOM Boomskoye usch 24.27 58 P **P** **22 36 58.9 -0.2**
BOOM pmax pmax
comp=Z,9.0nm,1.1s
BOOM Boomskoye usch 24.27 58 P **P** **22 36 58.9 -0.2**
MOS Moscow 24.36 346 *e*P **P** **22 36 57.5 -2.0**
MOS pmax pmax
comp=Z,39nm,0.8s
BANR Banloc 24.39 310‖ P **P** **22 37 01.6 +1.8**
SIRR Siria 24.41 312‖ P **P** **22 37 02.2 +2.1**
DIVS Divibare 24.70 306 *e*P **P** **22 37 02.4 -0.4**
DIVS Divibare 24.70 306 P **P** **22 37 02.6 -0.1**
DIVS IAmb IAmb 22 37 08.1
comp=Z,8.9nm,0.7s
DRME Dracevica, Mon 24.74 301 *e*P **P** **22 37 01.8 -1.2**
PDG Podgorica 24.74 302‖ P **P** **22 37 03.4 +0.4**
PDG Podgorica 24.74 302 *e*P **P** **22 37 01.8 -1.3**
BBLS Lazići 25.03 305 *e*P **P** **22 37 05.6 -0.2**
ARU Arti 25.07 14 P **P** **22 37 06.7 +0.8**
comp=Z,2.5nm,0.7s,baz=194,slow=6.4,SNR=11
ARU LR LR 22 49 52.9
comp=Z,93nm,18.4s,baz=202,slow=43
ARU Arti 25.07 14 *c i*P **P** **22 37 07.5 +1.6**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 25.07 14 P **P** **22 37 06.3 +0.4**
ARU IAmb IAmb 22 37 13.2
comp=Z,32nm,1.3s
KDJ Kajisay 25.08 59 P **P** **22 37 07.0 +0.6**
KDJ pmax pmax
comp=Z,8.0nm,1.1s
KDJ Kajisay 25.08 59 P **P** **22 37 07.0 +0.6**
UZH Uzhgorod 25.13 317 *e*P **P** **22 37 06.5 0.0**
UZH *e* 22 37 11.3
TEKS Tekeris 25.16 307 *e*P **P** **22 37 07.0 +0.2**
FRGS Fruska Gora 25.18 308 *e*P **P** **22 37 06.9 -0.1**
HCY Herceg Novi 25.30 302 *e*P **P** **22 37 07.3 -0.8**
KOLS Kolonicke sedl 25.30 318 *e*P **P** **22 37 09.2 +1.1**
KOLS pmax pmax
comp=Z,16nm,0.8s
KOLS Kolonicke sedl 25.30 318 *e*P **P** **22 37 09.2 +1.1**
BRY Bratogost 25.37 303 *e*P **P** **22 37 09.0 +0.1**
HAPS Han Pijesak,Bl 25.41 306 *e*P **P** **22 37 08.4 -0.8**
KWP Kalwaria Pacla 25.43 320 *e*P **P** **22 37 10.4 +1.2**
KWP Kalwaria Pacla 25.43 320 P **P** **22 37 09.8 +0.6**
KWP pmax pmax
comp=Z,18nm,0.6s
KWP Kalwaria Pacla 25.43 320 P **P** **22 37 09.8 +0.6**
CRVS Cervenica-Dubn 25.75 317 *e*P **P** **22 37 13.7 +1.6**
CRVS pmax pmax
comp=Z,27nm,0.9s
CRVS Cervenica-Dubn 25.75 317 *e*P **P** **22 37 13.7 +1.6**
SVE Sverdlovsk 25.89 16 *e*P **P** **22 37 16.9 +3.6**
PRZ Przheval'sk 26.04 59 P **P** **22 37 15.7 +0.6**
PRZ pmax pmax
comp=Z,9.0nm,1.0s
PRZ Przheval'sk 26.04 59 P **P** **22 37 15.7 +0.6**
PRZ IAmb IAmb 22 37 21.6
comp=Z,8.5nm,0.9s
TIP Timpagrande 26.07 294‖ P **P** **22 37 14.7 -0.5**
TIP Timpagrande 26.07 294 P **P** **22 37 15.1 -0.2**
TIP IAmb IAmb 22 37 19.9
comp=Z,15nm,0.8s
KECS Kecovo 26.11 316 *e*P **P** **22 37 17.2 +1.8**
KECS pmax pmax
comp=Z,19nm,0.7s
KECS Kecovo 26.11 316 *e*P **P** **22 37 17.2 +1.8**
BRVK Borovoye 26.12 31 *de*P **P** **22 37 16.4 +0.9**
BRVK pmax pmax
comp=Z,8.0nm,1.0s

BRVK	**Borovoye**	**26.12**	**31**	P		**P**		**22 37 15.6**	**+0.1**
BRVK				IAmb		IAmb		22 37 20.7	
	comp=Z,11nm,1.1s								
KIRV	**Kirov**	**26.14**	**2**	P		**P**		**22 37 16.0**	**+0.5**
	comp=Z,22nm,0.7s,baz=77,slow=5.8,SNR=11								
KIRV	**Kirov**	**26.14**	**2**	*d* P		**P**		**22 37 16.3**	**+0.8**
BVAR	**Borovoye Array**	**26.14**	**32**	P		**P**		**22 37 16.4**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=220,slow=23,SNR=17								
BVAR				PcP		**PcP**		**22 40 42.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=230,slow=16,SNR=4.4								
PSZ	**Piszkesteto**	**26.21**	**314**	‖P		**P**		**22 37 17.7**	**+1.3**
PSZ	**Piszkesteto**	**26.21**	**314**	‖P		**P**		**22 37 17.7**	**+1.3**
MORH	**Mrgy, Hungar**	**26.32**	**310**	*e*P		**P**		**22 37 17.7**	**+0.4**
NIE	**Niedzica**	**26.66**	**318**	*e*P		**P**		**22 37 21.7**	**+1.3**
NIE				*e*pP		**sP**		**22 37 25.3**	**-1.5**
BLY	**Banja Luka**	**26.81**	**306**	*e*P		**P**		**22 37 21.7**	**-0.1**
NACGM	**Naroch**	**26.94**	**333**	*e*		**P**		**22 37 25.0**	**+2.2**
VYHS	**Vyhne**	**27.10**	**315**	*e*P		**P**		**22 37 25.5**	**+1.2**
VYHS	**Vyhne**	**27.10**	**315**	*e*P		**P**		**22 37 25.5**	**+1.2**
OJC	**Ojcow**	**27.34**	**319**	*e*P		**P**		**22 37 27.3**	**+0.8**
OJC	**Ojcow**	**27.34**	**319**	P		**P**		**22 37 27.0**	**+0.5**
OJC				pmax	pmax				
	comp=Z,22nm,0.9s								
OJC	**Ojcow**	**27.34**	**319**	P		**P**		**22 37 27.0**	**+0.5**
OJC				IAmb	IAmb			22 37 31.3	
	comp=Z,22nm,0.9s								
SUW	**Suwalki**	**27.83**	**328**	P		**P**		**22 37 30.7**	**-0.1**
SUW				pmax	pmax				
	comp=Z,27nm,1.1s								
SUW	**Suwalki**	**27.83**	**328**	P		**P**		**22 37 30.7**	**-0.1**
JAVC	**Velka Javorina**	**27.95**	**315**	*e*P		**P**		**22 37 32.9**	**+0.8**
MORC	**Moravsky Berou**	**28.42**	**316**	⇑P		**P**		**22 37 37.0**	**+0.8**
MORC	**Moravsky Berou**	**28.42**	**316**	*e*P		**P**		**22 37 36.6**	**+0.4**
MORC	**Moravsky Berou**	**28.42**	**316**	⇑P		**P**		**22 37 37.0**	**+0.8**
MORC	**Moravsky Berou**	**28.42**	**316**	P		**P**		**22 37 36.3**	**+0.1**
VRAC	**Vranov**	**28.78**	**315**	P		**P**		**22 37 39.9**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=112,slow=6.8,SNR=7.8								
VRAC	**Vranov**	**28.78**	**315**	‖P		**P**		**22 37 38.4**	**-1.0**
VRAC	**Vranov**	**28.78**	**315**	*e*P		**P**		**22 37 40.1**	**+0.7**
VRAC	**Vranov**	**28.78**	**315**	‖P		**P**		**22 37 38.4**	**-1.0**
KRUC	**Moravsky**	**28.80**	**314**	*e*P		**P**		**22 37 40.1**	**+0.6**
KURBB	**Kurchatov Arra**	**28.91**	**42**	P		**P**		**22 37 41.8**	**+1.3**
	comp=Z,3.2nm,0.6s,baz=246,slow=9.3,SNR=20								
KURBB				PcP		**PcP**		**22 40 49.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=248,slow=3.2,SNR=4.8								
KURBB				ScP		**ScP**		**22 44 28.2**	**-2.1**
	comp=Z,0.4nm,0.9s,baz=236,slow=4.0,SNR=5.3								
KLMR	**Klimovskoe**	**28.93**	**351**	*e*P		**P**		**22 37 39.4**	**-1.1**
KLMR				pmax	pmax				
	comp=Z,13nm,0.9s								
KLMR	**Klimovskoe**	**28.93**	**351**	*e*P		**P**		**22 37 39.5**	**-1.1**
KLMR				AMP				22 37 44.6	
	comp=Z,13nm,0.9s								
KRLC	**Kraliky**	**28.99**	**317**	*e*P		**P**		**22 37 41.7**	**+0.4**
KRLC	**Kraliky**	**28.99**	**317**	*e*P		**P**		**22 37 41.7**	**+0.4**
KURK	**Kurchatov**	**29.01**	**42**	*de*P		**P**		**22 37 42.9**	**+1.6**
KURK				pmax	pmax				
	comp=Z,13nm,1.3s								
KURK	**Kurchatov**	**29.01**	**42**	P		**P**		**22 37 42.2**	**+0.8**
KURK				IAmb	IAmb			22 37 47.8	
	comp=Z,9.0nm,1.0s								
PRGR	**Permogore**	**29.22**	**358**	*e*P		**P**		**22 37 42.6**	**-0.5**
PRGR				pmax	pmax				
	comp=Z,20nm,0.7s								
DPC	**Dobruska-Polom**	**29.38**	**317**	*e*P		**P**		**22 37 45.4**	**+0.7**
DPC	**Dobruska-Polom**	**29.38**	**317**	*e*P		**P**		**22 37 45.4**	**+0.7**
OSTC	**Ostas**	**29.53**	**317**	*e*P		**P**		**22 37 46.6**	**+0.6**
KSP	**Ksiaz**	**29.61**	**318**	*e*P		**P**		**22 37 47.3**	**+0.6**
MAKZ	**Makanchi**	**29.61**	**51**	P		**P**		**22 37 47.6**	**+0.8**
MAKZ				pmax	pmax				
	comp=Z,7.0nm,1.5s								
MAKZ	**Makanchi**	**29.61**	**51**	P		**P**		**22 37 47.6**	**+0.8**
UPC	**Upice**	**29.62**	**317**	*e*P		**P**		**22 37 47.7**	**+0.9**
UPC	**Upice**	**29.62**	**317**	*e*P		**P**		**22 37 47.7**	**+0.9**
MOA	**Molln**	**29.69**	**311**	*e*P		**P**		**22 37 48.5**	**+1.0**
	comp=Z,8.0nm,0.9s								
MK31	**Makanchi Array**	**29.81**	**51**	*ce*P		**P**		**22 37 49.4**	**+0.8**
MK31	**Makanchi Array**	**29.81**	**51**	P		**P**		**22 37 49.2**	**+0.6**
MKAR	**Makanchi Array**	**29.81**	**51**	P		**P**		**22 37 49.8**	**+1.2**
	comp=Z,4.0nm,0.7s,baz=247,slow=7.9,SNR=38								
MKAR				PcP		**PcP**		**22 40 51.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=244,slow=5.2,SNR=2.3								
MKAR				LR		LR		22 49 51.0	
	comp=Z,124nm,19.9s,baz=250,slow=36								
MKAR	**Makanchi Array**	**29.81**	**51**	P		**P**		**22 37 49.3**	**+0.7**
MKAR	**Makanchi Array**	**29.81**	**51**	P		**P**		**22 37 49.3**	**+0.7**
KBA	**Koelnbreinsper**	**30.05**	**309**	*e*P		**P**		**22 37 51.9**	**+1.1**
	comp=Z,12nm,0.9s,SNR=7.8								
GOPC	**GO Pecny, Ondr**	**30.10**	**315**	*e*P		**P**		**22 37 52.1**	**+1.0**
GOPC	**GO Pecny, Ondr**	**30.10**	**315**	*e*P		**P**		**22 37 52.1**	**+1.0**
PRU	**Pruhonice**	**30.28**	**315**	*e*P		**P**		**22 37 53.1**	**+0.5**
PRU	**Pruhonice**	**30.28**	**315**	*e*P		**P**		**22 37 53.1**	**+0.5**
GERES	**GERESS Array B**	**30.37**	**313**	P		**P**		**22 37 54.1**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=98,slow=8.1,SNR=12								
GERES				PcP		**PcP**		**22 40 53.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=146,slow=2.6,SNR=4.9								
GERES	**GERESS Array B**	**30.37**	**313**	P		**P**		**22 37 53.1**	**-0.5**
CIMO	**Cimolais**	**30.44**	**307**	P		**P**		**22 37 54.6**	**+0.4**
ABTA	**Abfaltersbach**	**30.51**	**308**	*e*P		**P**		**22 37 55.7**	**+0.9**
	comp=Z,4.6nm,1.0s								
KHC	**Kasperske Hory**	**30.55**	**313**	*e*P		**P**		**22 37 55.7**	**+0.6**
KHC	**Kasperske Hory**	**30.55**	**313**	*e*P		**P**		**22 37 55.7**	**+0.6**
WTTA	**Wattenberg**	**31.22**	**309**	*e*P		**P**		**22 38 01.6**	**+0.4**
	comp=Z,3.5nm,0.5s								
WATA	**Walderalm**	**31.28**	**309**	*e*P		**P**		**22 38 01.4**	**-0.2**
	comp=Z,7.9nm,1.1s								
SQTA	**Sankt Quirin**	**31.49**	**309**	*e*P		**P**		**22 38 03.6**	**+0.1**
	comp=Z,8.3nm,0.5s								
MOTA	**Moosalm**	**31.59**	**309**	*e*P		**P**		**22 38 04.1**	**-0.4**
	comp=Z,4.8nm,0.8s								
CLL	**Collm**	**31.69**	**317**	*e*P		**P**		**22 38 05.0**	**0.0**
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**31.69**	**317**	*e*P		**P**		**22 38 05.0**	**0.0**
CLL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**31.69**	**317**	P		**P**		**22 38 04.7**	**-0.3**
FETA	**Feichten**	**31.76**	**308**	*e*P		**P**		**22 38 06.5**	**+0.6**
	comp=Z,5.5nm,0.7s,SNR=9.1								
RETA	**Reutte**	**31.85**	**309**	*e*P		**P**		**22 38 06.4**	**-0.2**
	comp=Z,1.5nm,0.4s								
DAVOX	**Davos/Dischmat**	**32.27**	**307**	P		**P**		**22 38 10.3**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=86,slow=14,SNR=6.4								
DAVOX				PcP		**PcP**		**22 40 58.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=187,slow=21,SNR=2.1								
FIA1	**FINESS Array S**	**32.27**	**340**	P		**P**		**22 38 09.8**	**-0.2**
FIA1				IAmb		IAmb		22 38 21.3	
	comp=Z,11nm,0.9s								
FINES	**FINESS Array B**	**32.27**	**340**	P		**P**		**22 38 09.4**	**-0.6**
	comp=Z,4.3nm,0.5s,baz=145,slow=9.8,SNR=36								
FINES				LR		LR		22 53 57.6	
	comp=Z,180nm,19.4s,baz=152,slow=41								
FINES	**FINESS Array B**	**32.27**	**340**	*i* P		**P**		**22 38 10.1**	**+0.1**
FINES				pmax	pmax				
	comp=Z,4.0nm,0.5s								
DAVA	**Damuels**	**32.38**	**308**	*i* P		**P**		**22 38 11.4**	**0.0**
	comp=Z,9.6nm,0.5s,SNR=9.1								
WMQ	**Urumqi**	**32.97**	**58**	*e*P		**P**		**22 38 18.3**	**+1.9**
WMQ	**Urumqi**	**32.97**	**58**	P		**P**		**22 38 16.5**	**0.0**
WMQ				pmax	pmax				
	comp=Z,8.0nm,0.5s								
WMQ	**Urumqi**	**32.97**	**58**	P		**P**		**22 38 16.5**	**0.0**
WMQ				IAmb		IAmb		22 38 16.5	
	comp=Z,7.6nm,0.5s								
ZAA0	**Zalesovo Array**	**33.84**	**40**	P		**P**		**22 38 23.8**	**0.0**
ZAA0				IAmb		IAmb		22 38 25.8	
	comp=Z,5.2nm,0.6s								
ZALV	**Zalesovo Beam**	**33.84**	**40**	P		**P**		**22 38 24.2**	**+0.4**
	comp=Z,5.3nm,0.5s,baz=243,slow=8.4,SNR=28								
ZALV				PcP		**PcP**		**22 41 02.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=202,slow=6.1,SNR=1.9								
ZALV				LR		LR		22 53 36.4	
	comp=Z,82nm,18.3s,baz=238,slow=39								
ZALV	**Zalesovo Beam**	**33.84**	**40**	P		**P**		**22 38 23.8**	**0.0**
DGZ	**Jazzator, Alta**	**33.91**	**48**	⇑*e*P		**P**		**22 38 25.9**	**+1.2**
DGZ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BNI	**Bardonecchia**	**34.18**	**304**	P		**P**		**22 38 27.2**	**+0.2**
BNI				pmax	pmax				
	comp=Z,15nm,0.8s								
BNI	**Bardonecchia**	**34.18**	**304**	P		**P**		**22 38 27.2**	**+0.2**
KMBO	**Kilima Mbogo**	**34.91**	**199**	LR		LR		22 52 48.9	
	comp=Z,78nm,21.1s,baz=100,slow=36								
HFS	**Hagfors**	**35.68**	**331**	P		**P**		**22 38 39.6**	**0.0**
	comp=Z,11nm,0.7s,baz=120,slow=8.8,SNR=21								
NB2	**NORSAR Subarra**	**37.20**	**331**	P		**P**		**22 38 51.9**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.6								
NOA	**NORSAR Array B**	**37.20**	**331**	P		**P**		**22 38 52.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=124,slow=8.5,SNR=13								
NOA				LR		LR		22 55 18.1	
	comp=Z,81nm,18.9s,baz=245,slow=38								
SHL	**Shillong**	**38.83**	**89**	P		**P**		**22 39 06.1**	**-0.9**
SHL				pmax	pmax				
	comp=Z,13nm,1.3s								
SHL	**Shillong**	**38.83**	**89**	P		**P**		**22 39 06.1**	**-0.9**
SHL				IAmb		IAmb		22 39 11.4	
	comp=Z,13nm,1.3s								
ARCES	**ARCESS Array B**	**39.20**	**348**	P		**P**		**22 39 10.0**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=139,slow=7.6,SNR=7.7								
ARCES				PcP		**PcP**		**22 41 16.9**	**-1.4**
	comp=Z,3.2nm,0.7s,baz=111,slow=2.7,SNR=4.0								
ARCES				LR		LR		22 56 12.8	
	comp=Z,108nm,19.4s,baz=225,slow=38								
ESDC	**Sonseca Array**	**42.07**	**295**	P		**P**		**22 39 33.9**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=77,slow=8.5,SNR=25								
ESDC	**Sonseca Array**	**42.07**	**295**	P		**P**		**22 39 33.9**	**+0.3**
GTA	**Gaotai**	**42.09**	**65**	⇑P		**P**		**22 39 34.8**	**+1.0**
GTA				pP		sP		22 39 39.3	-0.9
GTA				sP		pP		22 39 42.1	+3.7
GTA				PcP		**PcP**		**22 41 31.6**	**+3.2**
GTA				SS		SS		22 48 56.3	-3.9
GTA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,74nm,7.1s								
GTA				LR		LR			
	comp=N,160nm,16.7s								
GTA				LR		LR			
	comp=E,130nm,17.4s								
GTA				LR		LR			
	comp=Z,120nm,18.9s								
EKA	**Eskdalemuir Ar**	**42.12**	**318**	P		**P**		**22 39 33.6**	**0.0**
	comp=Z,6.3nm,0.6s,baz=104,slow=8.6,SNR=34								
ESK	**Eskdalemuir**	**42.14**	**318**	P		**P**		**22 39 33.5**	**-0.3**
ESK				pmax	pmax				
	comp=Z,26nm,1.3s								
ESK	**Eskdalemuir**	**42.14**	**318**	P		**P**		**22 39 33.5**	**-0.3**
ESK				IAmb		IAmb		22 39 42.5	
	comp=Z,26nm,1.3s								
NRIK	**Noril'sk**	**43.07**	**19**	P		**P**		**22 39 42.5**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=234,slow=5.2,SNR=5.4								
NRIK				LR		LR		23 01 01.4	
	comp=Z,113nm,18.9s,baz=199,slow=41								
NRIK	**Noril'sk**	**43.07**	**19**	‖*i* P		**P**		**22 39 42.5**	**+1.4**
NRIK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
DSB	**Dublin**	**43.67**	**315**	P		**P**		**22 39 46.0**	**-0.1**
LZH	**Lanzhou**	**45.81**	**69**	*e*P		**P**		**22 40 04.8**	**+1.1**
LZH				pP		sP		22 40 09.3	-0.8
LZH				sP		pP		22 40 11.4	+3.1
LZH				PP		**PP**		**22 41 52.9**	**+2.0**
LZH				pmax	pmax				
	comp=Z,24nm,1.0s								
LZH				pmax	pmax				
	comp=Z,91nm,4.9s								
LZH				LR		LR			
	comp=N,260nm,16.3s								
LZH				LR		LR			
	comp=E,170nm,14.1s								
LZH				LR		LR			
	comp=Z,210nm,15.2s								
SONM	**Songino Array**	**46.15**	**53**	P		**P**		**22 40 07.0**	**+0.7**
	comp=Z,1.7nm,1.2s,baz=266,slow=9.7,SNR=5.2								
SONM				LR		LR		23 03 17.5	
	comp=Z,101nm,18.0s,baz=286,slow=41								
SONM	**Songino Array**	**46.15**	**53**	P		**P**		**22 40 07.0**	**+0.7**
SONM	**Songino Array**	**46.15**	**53**	P		**P**		**22 40 06.7**	**+0.4**
TOA0	**Torodi Ar. Sit**	**46.35**	**257**	IAmb		IAmb		22 40 06.8	
	comp=Z,7.8nm,1.6s								
TOA0				P		**P**		**22 40 07.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**46.35**	**257**	P		**P**		**22 40 07.7**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=67,slow=6.6,SNR=7.1								
TORD				LR		LR		23 02 31.7	
	comp=Z,79nm,19.5s,baz=65,slow=40								
TORD	**Torodi Ar. Bea**	**46.35**	**257**	P		**P**		**22 40 07.6**	**-0.4**
ULN	**Ulaanbaatar**	**46.59**	**53**	‖*e*P		**P**		**22 40 10.9**	**+1.1**
ULN				pmax	pmax				
	comp=Z,5.0nm,1.3s								
ULN	**Ulaanbaatar**	**46.59**	**53**	P		**P**		**22 40 10.2**	**+0.5**
ULN				IAmb		IAmb		22 40 12.9	
	comp=Z,3.4nm,0.9s								
CHTO	**Chiang Mai**	**47.54**	**94**	P		**P**		**22 40 17.5**	**+0.2**
CHTO				pmax	pmax				
	comp=Z,14nm,1.8s								
CHTO	**Chiang Mai**	**47.54**	**94**	P		**P**		**22 40 17.5**	**+0.2**
CHTO				IAmb		IAmb		22 40 18.0	
	comp=Z,14nm,1.8s								
CMAR	**Chiang Mai Arr**	**47.70**	**94**	P		**P**		**22 40 18.4**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=289,slow=8.0,SNR=8.5								
CMAR				ScP		**ScP**		**22 45 41.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=299,slow=6.5,SNR=6.8								
CMAR				LR		LR		23 04 53.1	
	comp=Z,42nm,19.6s,baz=34,slow=42								
CMAR	**Chiang Mai Arr**	**47.70**	**94**			**P**		**22 40 18.2**	**-0.3**
CMAR				ScP		**ScP**		**22 45 40.9**	**-0.8**
SPA0	**Spitsbergen Ar**	**47.83**	**352**	P		**P**		**22 40 19.4**	**+0.5**
XAN	**Xi'an**	**50.35**	**71**	P		**P**		**22 40 38.4**	**-0.3**
XAN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
XAN				pmax	pmax				
	comp=Z,52nm,3.8s								
XAN	**Xi'an**	**50.35**	**71**	P		**P**		**22 40 38.4**	**-0.3**
XAN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
XAN	**Xi'an**	**50.35**	**71**	P		**P**		**22 40 38.4**	**-0.3**
KOWA	**Kowa**	**50.39**	**262**	P		**P**		**22 40 38.8**	**-0.5**
KOWA				IAmb		IAmb		22 40 48.1	
	comp=Z,8.6nm,1.4s								
HHC	**Hu-ho-hao-te**	**50.73**	**61**	*e*P		**P**		**22 40 42.3**	**+0.7**
HHC				S		**S**		**22 47 57.1**	**+0.4**
HHC				ScS		ScS		22 50 21.9	-10
HHC	**Hu-ho-hao-te**	**50.73**	**61**	SS		**SS**		**22 51 35.6**	**+4.7**
HHC				pmax	pmax				
	comp=Z,19nm,1.1s								
HHC				pmax	pmax				
	comp=Z,91nm,6.0s								
HHC				LR		LR			
	comp=N,210nm,15.0s								
HHC				LR		LR			
	comp=E,140nm,15.7s								
HHC				LR		LR			
	comp=Z,170nm,15.6s								
DAG	**Danmarks Havn**	**53.33**	**345**	*i* P		**P**		**22 41 00.0**	**-0.3**
DAG				pmax	pmax				
	comp=Z,6.0nm,0.6s								
DAG	**Danmarks Havn**	**53.33**	**345**	*i* P		**P**		**22 41 00.0**	**-0.3**
	comp=Z,5.5nm,0.6s								
DAG	**Danmarks Havn**	**53.33**	**345**	*i* P		**P**		**22 41 00.0**	**-0.3**
DAG				IAmb		IAmb		22 41 01.2	
	comp=Z,5.5nm,0.6s								
GSI	**Gunungsitoli**	**55.99**	**113**	P		**P**		**22 41 20.4**	**-0.1**
KULM	**Kulim**	**56.02**	**107**	P		**P**		**22 41 19.6**	**-1.0**
KULM				IAmb		IAmb		22 41 23.6	
	comp=Z,8.3nm,0.8s								
PSI	**Prapat**	**56.12**	**111**	LR		LR		23 06 17.4	
	comp=Z,58nm,21.5s,baz=48,slow=37								
TIXI	**Tiksi**	**56.70**	**22**	‖*i* P		**P**		**22 41 24.7**	**0.0**
TIXI				pmax	pmax				
	comp=Z,27nm,1.3s								
TIXI	**Tiksi**	**56.70**	**22**	P		**P**		**22 41 24.5**	**-0.2**
IPM	**Ipoh**	**56.80**	**108**	P		**P**		**22 41 24.8**	**-1.5**
SUMG	**Summit**	**58.30**	**339**	*i* P		**P**		**22 41 37.0**	**+0.5**
SUMG				pmax	pmax				
	comp=Z,34nm,0.8s								
SUMG	**Summit**	**58.30**	**339**	P		**P**		**22 41 36.8**	**+0.4**
SUMG	**Summit**	**58.30**	**339**	*i* P		**P**		**22 41 37.0**	**+0.5**
	comp=Z,34nm,0.8s								
SUMG	**Summit**	**58.30**	**339**	*i* P		**P**		**22 41 37.0**	**+0.5**
SUMG				IAmb		IAmb		22 41 39.7	
	comp=Z,34nm,0.8s								
NJ2	**Nanjing**	**58.88**	**70**	*e*P		**P**		**22 41 40.3**	**-0.3**
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
SDSI	**Sungai Dareh**	**60.38**	**112**	P		**P**		**22 41 50.6**	**-0.6**
LBTB	**Lobatse**	**61.01**	**203**	P		**P**		**22 41 55.5**	**+0.2**
LBTB				pmax	pmax				
	comp=Z,12nm,1.4s								
LBTB	**Lobatse**	**61.01**	**203**	P		**P**		**22 41 55.5**	**+0.2**
LBTB				IAmb		IAmb		22 41 58.6	
	comp=Z,12nm,1.4s								
KSRS	**Korea Array**	**63.87**	**61**	P		**P**		**22 42 13.6**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=286,slow=5.1,SNR=4.3								
KSRS				LR		LR		23 13 07.8	
	comp=Z,67nm,21.0s,baz=292,slow=39								
USRK	**Ussuriysk Ar.**	**64.27**	**53**	P		**P**		**22 42 16.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=328,slow=6.4,SNR=4.4								
USRK	**Ussuriysk Ar.**	**64.27**	**53**	P		**P**		**22 42 16.1**	**-0.7**
BOSA	**Boshof**	**64.45**	**202**	P		**P**		**22 42 18.2**	**0.0**
	comp=Z,4.7nm,0.9s,baz=47,slow=5.0,SNR=8.1								
BOSA				LR		LR		23 09 37.6	
	comp=Z,84nm,19.8s,baz=34,slow=35								
BOSA	**Boshof**	**64.45**	**202**	P		**P**		**22 42 18.6**	**+0.4**
BOSA				pmax	pmax				
	comp=Z,26nm,1.7s								
BOSA	**Boshof**	**64.45**	**202**	P		**P**		**22 42 18.6**	**+0.4**
SEY	**Seymchan**	**67.75**	**29**	⇑*e*P		**P**		**22 42 39.8**	**+0.9**
BILL	**Bilibino**	**69.87**	**21**	‖*i* P		**P**		**22 42 51.3**	**-0.7**
BILL				*e*				22 43 12.0	
BILL				*e*				22 45 30.3	
BILL				*e*PPP		PPP		22 47 05.5	
BILL				pmax	pmax				
	comp=Z,19nm,1.3s								
BILL				MLR		MLR			
	comp=Z,156nm,19.0s								
MJAR	**Matsushiro Arr**	**71.73**	**58**	LR		LR		23 15 57.8	
	comp=Z,43nm,19.2s,baz=140,slow=37								
DRLN	**Deer Lake**	**75.16**	**319**	P		**P**		**22 43 23.7**	**-0.2**
PETK	**Petropavlovsk-**	**75.29**	**36**	LR		LR		23 20 32.9	
	comp=Z,46nm,19.3s,baz=74,slow=39								
TOLK	**Toolik Lake Re**	**78.36**	**6**	P		**P**		**22 43 42.1**	**+0.4**
TOLK				IAmb		IAmb		22 43 53.5	
	comp=Z,19nm,1.8s								
IMAR	**Indian Mountai**	**80.45**	**9**	P		**P**		**22 43 52.8**	**-0.2**
BATG	**Bathurst New B**	**80.96**	**321**	P		**P**		**22 43 56.6**	**+0.5**
LMN	**Caledonia Moun**	**81.16**	**319**	P		**P**		**22 43 57.5**	**+0.3**
COLA	**College**	**82.19**	**7**	‖*e*P		**P**		**22 44 01.7**	**-0.6**
COLA				pmax	pmax				
	comp=Z,12nm,3.0s								
ILAR	**Eielson Array**	**82.39**	**6**	LR		LR		23 24 38.5	
	comp=Z,36nm,19.2s,baz=201,slow=38								
E62A	**Clayton Lake**	**83.20**	**322**	P		**P**		**22 44 08.1**	**+0.2**
YKA	**Yellowknife Ar**	**84.33**	**352**	LR		LR		23 22 06.3	
	comp=Z,27nm,19.5s,baz=0.0,slow=36								
BCAR	**Beaver Creek A**	**84.48**	**4**	P		**P**		**22 44 14.6**	**+0.4**
SUA	**Susitna One**	**85.18**	**9**	P		**P**		**22 44 17.9**	**+0.2**
SUA				IAmb		IAmb		22 44 19.9	
	comp=Z,11nm,1.5s								
LBNH	**Lisbon**	**86.05**	**321**	P		**P**		**22 44 22.9**	**+0.6**
LBNH				pmax	pmax				
	comp=Z,7.0nm,0.8s								
LBNH	**Lisbon**	**86.05**	**321**	P		**P**		**22 44 22.9**	**+0.6**
LBNH				IAmb		IAmb		22 44 24.4	
	comp=Z,6.6nm,0.8s								
ULM	**Lac du Bonnet**	**91.62**	**338**	LR		LR		23 25 43.0	
	comp=Z,58nm,19.0s,baz=314,slow=35								

THR ***15*** *22:46:30.9±0.3, 32°.43N×47°.87E, h18km±2km, ML3.4*
ISN ***15*** *22:46:30.8±0.8, 32°.51N×47°.93E, h14km±5km, ML3.0*
TEH ***15*** *22:46:31.8, 32°.54N×48°.00E, h13km, ML3.2*

ISC 15 22:46:32.6±1.3, 32°.47N±0°.04×47°.95E±0°.03, h15km±11km, n43, σ0s91/51, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.60**	**291**	*e*Pg	**Pg**	**22

FAKI	**Fak Fak**	**6.48**	**131**	Pn	**Pn**	22 56 03.5	**-0.7**
MTN	**Manton Dam**	**14.63**	**165**	Pn	**Pn**	22 57 50.1	**-0.9**
CISI	**Cisompet, Garu**	**21.46**	**245**	P	**P**	22 59 08.4	**+0.6**
COEN	**Coen**	**21.86**	**135**	P	**P**	22 59 12.7	**+0.8**
COEN				IAmb	IAmb	22 59 20.0	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**22.13**	**162**	P	**P**	22 59 13.9	**-0.8**
WB0				IAmb	IAmb	22 59 15.7	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**22.28**	**163**	P	**P**	22 59 16.1	**-0.1**
	comp=Z,0.8nm,0.3s,baz=343,slow=10,SNR=14						
WRA	**Warramunga Arr**	**22.28**	**163**	P	**P**	22 59 15.0	**-1.2**
TPUB	**Ta-pu**	**22.73**	**344**	P	**P**	22 59 20.9	**+0.5**
ASAR	**Alice Springs**	**25.71**	**166**	P	**P**	22 59 46.2	**-1.3**
	comp=Z,0.2nm,0.3s,baz=350,slow=10,SNR=1.7						
BBOO	**Buckleboo**	**35.00**	**167**	P	**P**	23 01 08.9	**-0.3**
BBOO				IAmb	IAmb	23 01 26.3	
	comp=Z,3.7nm,0.9s						
STKA	**Stephens Creek**	**35.73**	**159**	P	**P**	23 01 15.0	**-0.5**
	comp=Z,3.0nm,0.6s,baz=318,slow=6.8,SNR=7.0						
STKA	**Stephens Creek**	**35.73**	**159**	P	**P**	23 01 15.3	**-0.1**
SONM	**Songino Array**	**49.70**	**342**	P	**P**	23 03 09.6	**+1.7**
	comp=Z,0.3nm,0.5s,baz=164,slow=7.2,SNR=2.6						
MK31	**Makanchi Array**	**59.83**	**326**	P	**P**	23 04 19.0	**-1.7**
MKAR	**Makanchi Array**	**59.83**	**326**	P	**P**	23 04 19.4	**-1.4**
	comp=Z,0.5nm,0.3s,baz=118,slow=7.3,SNR=19						
MKAR	**Makanchi Array**	**59.83**	**326**	P	**P**	23 04 19.2	**-1.5**
KURK	**Kurchatov**	**64.05**	**328**	P	**P**	23 04 48.2	**-0.5**
KURK				IAmb	IAmb	23 04 50.6	
	comp=Z,1.5nm,0.7s						
BRVK	**Borovoye**	**69.69**	**327**	P	**P**	23 05 24.0	**-0.4**
BRVK				IAmb	IAmb	23 05 27.0	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**74.36**	**321**	P	**P**	23 05 53.2	**+1.0**
ABKAR	**Akbulak array**	**74.36**	**321**	P	**P**	23 05 52.7	**+0.5**
ABKAR				IAmb	IAmb	23 06 06.5	
	comp=Z,1.0nm,1.1s						
SKT	**Skwentna**	**84.57**	**28**	P	**P**	23 06 44.8	**-2.5**
SUA	**Susitna One**	**84.88**	**29**	P	**P**	23 06 47.6	**-1.3**
SUA				IAmb	IAmb	23 06 52.6	
	comp=Z,3.5nm,1.2s						

*SKHL **15** 23:02:13.2±0.2, 42.°11N × 143.°98E, h60km±6km, mb4.8/2*
*JMA **15** 23:02:14.3±0.1, 42.°62N × 143.°50E, h93km±1km, M3.6*
JMA Felt I J1.

ISC 15 23:02:15.0±1.6, **42.°64N**±0.°06 × **143.°57E**±0.°04, **h90**km±10km, **n21**, σ0°69/39, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
JCH	**Churui**	**0.15**	**262**	P			**Pn**	**23 02 27.4**	**-0.4**
JCH				*e*S			**Sn**	**23 02 36.8**	**-0.5**
JOB	**Onbets**	**0.33**	**36**	P			**Pn**	**23 02 29.0**	**+0.5**
JOB				*e*S			**Sn**	**23 02 40.0**	**+1.4**
JTHR	**Tokachihiroo**	**0.40**	**210**	P			**Pn**	**23 02 28.6**	**-0.3**
JTHR				*e*S			**Sn**	**23 02 38.8**	**-0.5**
JAR	**Ashorobuto**	**0.68**	**13**	P			**Pn**	**23 02 31.3**	**+0.1**
JAR				*e*S			**Sn**	**23 02 43.9**	**+0.5**
JEM	**Erimo**	**0.69**	**206**	P			**Pn**	**23 02 31.6**	**+0.3**
JEM				*e*S			**Sn**	**23 02 44.3**	**+0.8**
JNBK	**Urakawa-nobuka**	**0.70**	**240**	P			**Pn**	**23 02 31.2**	**-0.2**
JNBK				*e*S			**Sn**	**23 02 44.1**	**+0.4**
JFR	**Furan**	**0.89**	**307**	P			**Pn**	**23 02 32.5**	**-0.9**
JFR				*e*S			**Sn**	**23 02 46.8**	**-0.4**
JBT2	**Biratori 2**	**0.90**	**279**	P			**Pn**	**23 02 33.0**	**-0.5**
JAK	**Akkeshi**	**0.91**	**66**	P			**Pn**	**23 02 33.3**	**-0.2**
JAK				*e*S			**Sn**	**23 02 47.4**	**-0.1**
JKHN	**Kushirohamanak**	**1.25**	**69**	P			**Pn**	**23 02 37.3**	**-0.3**
JKHN				*e*S			**Sn**	**23 02 54.6**	**-0.1**
JNK	**Nakash**	**1.27**	**41**	P			**Pn**	**23 02 37.3**	**-0.5**
JNK				*e*S			**Sn**	**23 02 54.5**	**-0.5**
JAB	**Ashibetsu**	**1.31**	**312**	P			**Pn**	**23 02 38.2**	**-0.1**
JAB				*e*S			**Sn**	**23 02 56.2**	**+0.2**
JTKR	**Abashiri--Toko**	**1.36**	**10**	P			**Pn**	**23 02 38.6**	**-0.3**
JTKR				*e*S			**Sn**	**23 02 57.0**	**+0.1**
JKK2	**Kamakawa 2**	**1.37**	**334**	P			**Pn**	**23 02 38.8**	**-0.3**
JEW	**Eniwo**	**1.57**	**278**	P			**Pn**	**23 02 41.6**	**0.0**
JEW				*e*S			**Sn**	**23 03 02.0**	**+0.2**
JRA	**Rausu**	**1.73**	**41**	P			**Pn**	**23 02 43.5**	**0.0**
JRA				*e*S			**Sn**	**23 03 05.9**	**+0.6**
JHR	**Hokuryu**	**1.74**	**310**	P			**Pn**	**23 02 43.7**	**-0.1**
JHR				*e*S			**Sn**	**23 03 05.9**	**+0.2**
NMR	**Nemuro--Hokkai**	**1.75**	**64**	*i*S			**Sn**	**23 03 03.0**	**-2.7**
GRPR	**Tuman**	**2.10**	**49**	*i*P			**Pn**	**23 02 48.3**	**-0.2**
GRPR				AMB			AMB	23 02 49.0	
	146nm,0.4s								
GRPR				*i*S			**Sn**	**23 03 14.5**	**+0.4**
GRPR				A			A	23 03 17.0	
	1μm,0.7s								
GRPR				A			A	23 03 17.0	
	714nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**2.18**	**49**	*i*P			**Pn**	**23 02 49.0**	**-0.5**
YUK				AMB			AMB	23 02 50.0	
	204nm,0.4s								
YUK				*i*S			**Sn**	**23 03 16.0**	**+0.1**
YUK				A			A	23 03 18.0	
	922nm,0.6s								
YUK				A			A	23 03 18.0	
	686nm,0.6s								
KUR	**Kuril'sk**	**4.05**	**49**	*e*P			**Pn**	**23 03 15.2**	**+0.7**
KUR				*i*S			**Sn**	**23 04 02.0**	**+1.2**
KUR				A			A	23 04 03.0	
	59nm,0.3s								
KUR				A			A	23 04 03.0	
	112nm,0.3s								

IDC 15 23:07:35.8±1.4, **2.°66S** × **138.°55E**, **h0**km, **mb3.5**/3, **mb1 3.8**/5, **mb1mx3.6**/30, **mbtmpg3.6**/5, **ML3.7**/2, **Error ellipse: s-maj=34.9km s-min=27.3km az=113.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
JAY	**Jayapura**	**2.16**	**86**	Pn			Pn	23 08 13.9	+0.8
	11nm,0.3s,baz=231,slow=8.6,SNR=24								
WRA	**Warramunga Arr**	**17.66**	**193**	P			Pn	23 11 42.8	-0.7
	0.4nm,0.3s,baz=16,slow=12,SNR=11								
WRA				S			Sn	23 14 50.8	-10
	0.1nm,0.3s,baz=20,slow=22,SNR=3.5								
ASAR	**Alice Springs**	**21.36**	**192**	P			P	23 12 24.9	-0.1
	1.7nm,0.8s,baz=20,slow=10,SNR=13								
MKAR	**Makanchi Array**	**69.65**	**322**	P			P	23 18 48.0	+0.7
	0.3nm,0.7s,baz=111,slow=7.9,SNR=2.4								
ILAR	**Eielson Array**	**85.85**	**24**	P			P	23 20 16.3	-0.9
	0.4nm,0.7s,baz=248,slow=3.8,SNR=1.6								

IDC 15 23:08:20.8±7.9, **18.°84S** × **177.°77W**, **h583**km±86km, **mb3.0**/4, **mb1 3.3**/4, **mb1mx2.9**/29, **mbtmp4.0**/4, **Error ellipse: s-maj=107.1km s-min=42.2km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
STKA	**Stephens Creek**	**38.73**	**242**	P			P	23 14 55.8	-0.4
	2.3nm,0.6s,baz=91,slow=9.0,SNR=5.9								
WRA	**Warramunga Arr**	**45.07**	**260**	P			P	23 15 45.6	-0.5
	1.3nm,0.5s,baz=99,slow=5.9,SNR=17								
WRA				PcP			PcP	23 17 14.2	-0.1
	0.3nm,0.3s,baz=95,slow=3.4,SNR=2.0								
ASAR	**Alice Springs**	**45.13**	**255**	P			P	23 15 46.9	+0.3
	3.2nm,0.6s,baz=88,slow=8.3,SNR=30								
ASAR				PcP			PcP	23 17 14.1	-0.5
	0.7nm,0.4s,baz=125,slow=2.9,SNR=5.5								
TXAR	**Lajitas Array**	**85.98**	**57**	P			P	23 20 00.7	0.0
	0.2nm,0.6s,baz=215,slow=7.6,SNR=2.9								
ARCES	**ARCESS Array B**	**127.33**	**350**	PKP			PKPdf	23 26 18.7	-0.6
	4.2nm,1.1s,baz=4.3,slow=4.9,SNR=4.7								
GERES	**GERESS Array B**	**148.66**	**345**	PKPbc			PKPbc	23 27 02.7	-0.4
	0.1nm,0.3s,baz=24,slow=3.6,SNR=4.3								

*TEH **15** 23:12:52.3, 32.°49N × 47.°99E, h8km, ML3.1*
*ISN **15** 23:12:52.4±0.7, 32.°55N × 47.°97E, h14km±4km, ML2.9*

ISC 15 23:12:53.3±0.9, **32.°43N**±0.°04 × **47.°93E**±0.°04, **h10**km, **n33**, σ1°07/38, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
DHL1	**Dehloran**	**0.60**	**294**	*e*Sg			**Sb**	**23 13 14.6**	**+0.1**
DHL1				*e*Pg			**Pg**	**23 13 04.4**	**-0.6**
IKMR	**Kamar-syah**	**1.14**	**19**	*e*Pg			**Pb**	**23 13 12.6**	**-2.5**
IKMR				*e*				23 13 35.9	
AHWZ	**Ahwaz**	**1.26**	**151**	*e*Pg			**Pn**	**23 13 17.0**	**+0.2**
AHWZ				*e*Sg			**Sn**	**23 13 35.8**	**+2.0**
IDOB	**Doab**	**1.36**	**9**	*e*Pg			**Pn**	**23 13 18.2**	**-0.4**
BMDN	**Meydan**	**1.44**	**31**	*e*Pg			**Pn**	**23 13 19.5**	**-0.1**
BMDN				*e*				23 13 43.2	
IKOM	**Komasi**	**1.77**	**349**	*e*Pg			**Pn**	**23 13 24.8**	**+0.7**
IKOM				*e*				23 13 53.6	
IBDR	**Badra**	**1.82**	**292**	*e*Pg			**Pn**	**23 13 25.0**	**+0.4**
IBDR				*e*Sg			**Sb**	**23 13 49.0**	**-0.4**
HSAM	**Samen**	**1.86**	**17**	*e*Pg			**Pn**	**23 13 26.4**	**+1.0**
HSAM				*e*				23 13 56.4	
KCHF	**Cheshme Sefid,**	**1.98**	**338**	*e*Pn			**Pb**	**23 13 29.3**	**-0.2**
KCHF				*e*				23 13 34.0	
IBZA	**Bozab**	**2.03**	**358**	*e*Pg			**Pb**	**23 13 30.0**	**-0.4**
IBZA				*e*				23 14 08.6	
KER	**Kermanshah**	**2.06**	**341**	*e*Pn			**Pn**	**23 13 29.6**	**+1.6**
NSR	**Nassriya**	**2.09**	**228**	*e*Pn			**Pn**	**23 13 29.0**	**+0.7**
NSR				*e*Sn			**Sb**	**23 13 56.0**	**-1.2**
NSR				AML			AML	23 13 59.5	
	comp=E,118nm,0.4s								
IGHG	**Ghaleghazi**	**2.21**	**329**	*e*Pn			**Pn**	**23 13 30.8**	**+0.6**
IGHG				*e*				23 14 11.3	
IVIS	**Veis**	**2.27**	**337**	*e*Pn			**Pb**	**23 13 34.1**	**-0.4**
JHBN	**Jahan bin**	**2.32**	**94**	*e*Pn			**Pn**	**23 13 32.6**	**+0.8**
JHBN				*e*				23 14 15.7	
IALM	**Almabolaq**	**2.43**	**5**	*e*Pn			**Pn**	**23 13 35.1**	**+1.8**
IPIR	**Pirpir**	**2.51**	**84**	*e*Pn			**Pn**	**23 13 35.4**	**+1.0**
IPIR				*e*				23 14 17.0	
HAGD	**Aghdareh**	**2.58**	**23**	*e*Pn			**Pn**	**23 13 36.2**	**+0.8**
HAGD				*e*				23 14 19.3	
IDHR	**Dehrash**	**2.60**	**331**	*e*Pn			**Pn**	**23 13 36.2**	**+0.6**
IDHR				*e*				23 13 45.6	
ILIN	**Lien**	**2.61**	**342**	*e*Pn			**Pn**	**23 13 36.9**	**+1.2**
ILIN				*e*				23 14 27.0	
HSRG	**Sareghieh**	**2.81**	**6**	*e*Pn			**Pn**	**23 13 41.0**	**+2.4**
HSRG				*e*				23 14 25.5	
BHD	**Baghdad**	**3.10**	**287**	*e*Pn			**Pn**	**23 13 43.0**	**+0.7**
BHD				*e*Sn			**Sn**	**23 14 20.0**	**+0.6**
IKLH	**Kolahrood**	**3.19**	**73**	*e*Pn			**Pn**	**23 13 45.2**	**+1.5**
IKLH				*e*				23 13 46.3	
KLNJ	**Kolanjah**	**3.43**	**114**	*e*Pn			**Pn**	**23 13 47.7**	**+0.6**
KLNJ				*e*				23 14 59.9	
IGAR	**Gharneh**	**3.47**	**89**	*e*Pn			**Pn**	**23 13 47.8**	**+0.2**
IGAR				*e*				23 14 32.8	
QABG	**Abgarm-Qazvin**	**3.54**	**22**	*e*Pn			**Pn**	**23 13 48.2**	**-0.3**
IZEF	**Zefreh**	**3.73**	**82**	*e*Pn			**Pn**	**23 13 52.1**	**+0.9**
IRAM	**Ramesheh**	**3.83**	**98**	*e*Pn			**Pn**	**23 13 52.7**	**+0.3**
KRSH	**Karshahi**	**3.84**	**65**	*e*Pn			**Pn**	**23 13 53.5**	**+0.9**
QSDN	**Sirdan**	**4.19**	**14**	*e*Pn			**Pn**	**23 13 58.1**	**+0.7**
QALM	**Alamut, Qazvin**	**4.57**	**29**	*e*Pn			**Pn**	**23 14 03.1**	**+0.4**
IDMV	**Damavand**	**4.63**	**46**	*e*Pn			**Pn**	**23 14 04.2**	**+0.7**
IPRN	**Peran**	**5.26**	**43**	*e*Pn			**Pn**	**23 14 13.8**	**+1.7**

*KRNET **15** 23:23:13.0±0.1, 42.°62N × 70.°49E, h8km, mb3.6*
*SOME **15** 23:23:12.7, 42.°68N × 70.°45E, h10km*
*NNC **15** 23:23:13.3±1.1, 42.°69N × 70.°43E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=12.3km s-min=5.1km az=79.0*

ISC 15 23:23:10.9±1.1, **42.°70N**±0.°03 × **70.°53E**±0.°02, **h8**km±10km, **n55**, σ1°53/94, **18C-20D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KK07	**Karatay Array**	**0.39**	**357**	P			**Pn**	**23 23 21.1**	**-1.8**
KK07				S			**Sb**	**23 23 27.2**	**+0.9**
KK06	**Karatay Array**	**0.40**	**360**	P			**Pn**	**23 23 21.3**	**-1.6**
KK06				S			**Sb**	**23 23 27.4**	**+0.9**
KK02	**Karatay Array**	**0.41**	**358**	P			**Pn**	**23 23 21.4**	**-1.7**
KK02				S			**Sb**	**23 23 27.7**	**+1.0**
KK03	**Karatay Array**	**0.41**	**357**	P			**Pn**	**23 23 21.3**	**-1.7**
KK03				S			**Sb**	**23 23 27.6**	**+0.9**
KK31	**Karatay Array**	**0.41**	**358**	⇑P			**Pn**	**23 23 21.6**	**-1.5**
	27nm,0.2s,baz=102,slow=8.5,SNR=3148								
KK31				⇓S			**Sb**	**23 23 27.7**	**+1.0**
	52nm,0.2s,baz=184,slow=30,SNR=30								
KK01	**Karatay Array**	**0.41**	**358**	P			**Pn**	**23 23 21.4**	**-1.7**
KK01				S			**Sb**	**23 23 27.9**	**+1.1**
KK08	**Karatay Array**	**0.41**	**356**	P			**Pn**	**23 23 21.3**	**-1.8**
KK08				S			**Sb**	**23 23 27.5**	**+0.8**
KK04	**Karatay Array**	**0.41**	**358**	P			**Pn**	**23 23 21.5**	**-1.7**
KK04				S			**Sb**	**23 23 28.0**	**+1.0**
KK05	**Karatay Array**	**0.42**	**360**	P			**Pn**	**23 23 21.6**	**-1.6**
KK05				S			**Sb**	**23 23 28.0**	**+0.9**
KK09	**Karatay Array**	**0.43**	**357**	P			**Pn**	**23 23 21.7**	**-1.7**
KK09				S			**Sb**	**23 23 28.0**	**+0.7**
BRLS	**Borolday**	**0.61**	**304**	*e*P			**Pn**	**23 23 23.6**	**-2.2**
	baz=88								
BRLS				*e*S			**Sb**	**23 23 31.7**	**-0.7**
	baz=88								
BRLS	**Borolday**	**0.61**	**304**	*e*P			**Pn**	**23 23 23.6**	**-2.2**
	70nm,0.2s								
BRLS				*e*S			**Sb**	**23 23 31.8**	**-0.7**
	623nm,0.2s								
DZA	**Taraz**	**0.62**	**71**	*e*P			**Pn**	**23 23 26.0**	**-0.1**
	baz=66								
DZA				*e*S			**Sn**	**23 23 35.3**	**-0.9**
	baz=66								
DZA	**Taraz**	**0.62**	**71**	*e*P			**Pn**	**23 23 25.9**	**-0.1**
	322nm,0.2s								
DZA				*e*S			**Sn**	**23 23 35.3**	**-0.9**
	1μm,0.2s								
IUG	**Iuzhnay**	**0.66**	**214**	⇓*e*P			**Pg**	**23 23 24.2**	**+0.6**
	baz=16								
IUG				⇓*e*S			**Sg**	**23 23 32.9**	**+0.7**
	baz=16								
IUG	**Iuzhnay**	**0.66**	**214**	⇓*e*P			**Pg**	**23 23 24.2**	**+0.6**
	45nm,0.1s								
IUG				*e*S			**Sg**	**23 23 32.9**	**+0.7**
	653nm,0.2s								
MRKS	**Merke**	**1.99**	**88**	*e*P			**Pg**	**23 23 50.3**	**+1.3**
	baz=86								
MRKS				*e*S			**Sg**	**23 24 17.5**	**+2.7**
	baz=86								
MRKS	**Merke**	**1.99**	**88**	*e*P			**Pg**	**23 23 50.3**	**+1.3**
	42nm,0.4s								
MRKS				*e*S			**Sg**	**23 24 17.5**	**+2.7**
	70nm,0.3s								
EKS2	**Erkin-Say**	**2.40**	**90**	⇓*i*P			**Pg**	**23 23 56.6**	**-0.2**
	baz=88								
EKS2				⇓*i*S			**Sg**	**23 24 28.1**	**+0.2**
	baz=88								
EKS2	**Erkin-Say**	**2.40**	**90**	P			**Pg**	**23 23 56.9**	**0.0**
	SNR=33								
AML	**Almayashu**	**2.41**	**102**	⇑*i*P			**Pg**	**23 23 56.1**	**-1.0**
	baz=1.0								
AML				⇑*i*S			**Sg**	**23 24 27.2**	**-1.2**
	baz=1.0								
AML	**Almayashu**	**2.41**	**102**	P			**Pg**	**23 23 57.2**	**0.0**
	SNR=20								
BTK	**Batken**	**2.64**	**175**	⇓*i*P			**Pb**	**23 23 58.3**	**-0.2**
	baz=74								
BTK				⇓*i*S			**Sb**	**23 24 31.2**	**+0.1**
	baz=74								
AAK	**Ala-Archa**	**2.93**	**90**	⇓*e*P			**Pb**	**23 24 04.0**	**+0.6**
	baz=88								
AAK				⇓*i*S			**Sb**	**23 24 40.6**	**+1.3**
	baz=88								
AAK	**Ala-Archa**	**2.93**	**90**	P			**Pg**	**23 24 05.8**	**-1.1**
	SNR=15								
AAK	**Ala-Archa**	**2.93**	**90**	⇓Pn			**Pg**	**23 24 06.2**	**-0.8**
	6.2nm,0.3s								
AAK				⇓Lg			Lg	23 24 45.9	
	27nm,0.6s								
ARLS	**Aral**	**2.94**	**105**	⇑*e*P			**Pb**	**23 24 03.2**	**-0.3**
	baz=3.0								
ARLS				⇑*i*S			**Sb**	**23 24 39.7**	**0.0**
	baz=3.0								
USP	**Ospenovka**	**2.97**	**78**	⇑*e*P			**Pb**	**23 24 04.4**	**+0.4**
	baz=76								
USP				⇑*i*S			**Sb**	**23 24 41.6**	**+1.1**
	baz=76								
USP	**Ospenovka**	**2.97**	**78**	P			**Pg**	**23 24 07.0**	**-0.7**
	SNR=28								
UCH	**Uchtor**	**2.99**	**98**	⇓*i*P			**Pb**	**23 24 04.3**	**-0.3**
	baz=96								
UCH				⇓*i*S			**Sb**	**23 24 41.7**	**+0.4**
	baz=96								
UCH	**Uchtor**	**2.99**	**98**	P			**Pg**	**23 24 07.5**	**-0.6**
	SNR=22								
CHMS	**Chumysh**	**3.12**	**83**	⇑*e*P			**Pg**	**23 24 06.7**	**+0.1**
	baz=82								
CHMS				⇑*i*S			**Sb**	**23 24 45.8**	**+1.0**
	baz=82								
CHMS	**Chumysh**	**3.12**	**83**	P			**Pg**	**23 24 09.9**	**-0.8**
	SNR=8.3								
KBK	**Karagaybulak**	**3.26**	**89**	⇓*i*P			**Pb**	**23 24 08.6**	**-0.5**
	baz=88								
KBK				⇓*i*S			**Sb**	**23 24 49.0**	**+0.1**
	baz=88								
KBK	**Karagaybulak**	**3.26**	**89**	P			**Pg**	**23 24 12.6**	**-0.8**
	SNR=7.9								
BTLS	**Baital**	**3.46**	**46**	*e*P			**Pg**	**23 24 17.1**	**0.0**
	9.8nm,0.3s								
BTLS				*e*S			**Sg**	**23 25 03.1**	**+1.1**
	34nm,0.5s								
TKM2	**Tokmak 2**	**3.74**	**85**	P			**Pb**	**23 24 19.4**	**+2.2**
	SNR=17								
TKM2	**Tokmak 2**	**3.74**	**85**	⇓Pg			**Pg**	**23 24 20.3**	**-2.2**
	6.8nm,0.4s								
TKM2				⇓Lg			Lg	23 25 09.4	
	12nm,0.3s								
DGS	**Degeres**	**3.89**	**80**	*e*P			**Pg**	**23 24 24.5**	**-0.8**
	19nm,0.5s								
DGS				*e*S			**Sg**	**23 25 15.9**	**+0.2**
	51nm,0.6s								
KRBS	**Karabastau**	**3.90**	**73**	*e*P			**Pg**	**23 24 24.3**	**-1.2**
	9.4nm,0.3s								
KRBS				*e*S			**Sg**	**23 25 15.6**	**-0.4**
	33nm,0.5s								
BOOM	**Boomskoye usch**	**4.00**	**91**	⇑*i*P			**Pb**	**23 24 18.2**	**-3.5**
	baz=90								
BOOM				⇑*i*S			**Sb**	**23 25 06.1**	**-4.2**
	baz=90								
KST	**Kastek**	**4.01**	**83**	*e*P			**Pg**	**23 24 27.4**	**-0.3**
	25nm,0.6s								
KST				*e*S			**Sg**	**23 25 20.9**	**+1.3**
	24nm,0.7s								
MTBS	**Maitube**	**4.36**	**82**	*e*P			**Pg**	**23 24 34.7**	**+0.4**
	4.8nm,0.2s								
MTBS				*e*S			**Sg**	**23 25 33.5**	**+2.8**
	24nm,0.6s								
KUU	**Kurty**	**4.41**	**72**	*e*P			**Pg**	**23 24 34.2**	**-1.1**
	7.1nm,0.4s								
KUU				*e*S			**Sg**	**23 25 33.3**	**+0.9**
	46nm,0.6s								
KTBS	**Karatobe**	**4.61**	**75**	*e*P			**Pg**	**23 24 37.2**	**-2.1**
	3.9nm,0.4s								
KTBS				*e*S			**Sg**	**23 25 37.8**	**-1.2**
	69nm,0.5s								
TNSS	**Tian-Shan**	**4.73**	**84**	*e*P			**Pg**	**23 24 40.0**	**-1.5**
	6.7nm,0.4s								
TNSS				*e*S			**Sg**	**23 25 42.6**	**-0.3**
	16nm,0.6s								
KNDC	**Almaty**	**4.75**	**82**	⇑Pg			**Pg**	**23 24 44.0**	**+2.0**
	8.5nm,0.5s								
KNDC				⇑Lg			Lg	23 25 48.0	
	41nm,0.7s								
MDOK	**Medeo**	**4.81**	**82**	*e*P			**Pg**	**23 24 41.7**	**-1.4**
	5.6nm,0.6s								
MDOK				*e*S			**Sg**	**23 25 45.4**	**+0.1**
	22nm,0.9s								
KDJ	**Kajisay**	**4.96**	**94**	⇑*i*P			Pn	23 24 31.7	+6.0
	baz=93								
KDJ				⇑*i*S			**Sn**	**23 25 29.1**	**+5.8**
	baz=93								
KURS	**Kuram**	**5.65**	**79**	*e*P			**Pg**	**23 24 56.9**	**-2.2**
	5.1nm,0.5s								
KURS				*e*S			**Sg**	**23 26 11.7**	**-0.6**
	7.8nm,0.7s								
SATY	**Saty**	**5.80**	**84**	*e*P			**Pg**	**23 24 59.8**	**-2.2**
	3.6nm,0.5s								
SATY				*e*S			**Sg**	**23 26 17.0**	**-0.1**
	9.9nm,0.6s								
KPKS	**Kokpek**	**6.02**	**80**	*e*P			**Pg**	**23 25 04.4**	**-1.8**
	6.3nm,0.4s								
KPKS				*e*S			**Sg**	**23 26 24.4**	**+0.1**
	15nm,0.5s								
PDGK	**Podgornoye**	**6.60**	**81**	⇑Pg			**Pg**	**23 25 13.8**	**-3.4**
	2.7nm,0.7s								
PDGK				⇑Lg			Lg	23 26 40.1	
	8.0nm,0.8s								
MK31	**Makanchi Array**	**9.32**	**60**	⇑Pn			**Pn**	**23 25 27.1**	**+1.6**
	0.6nm,0.6s,baz=235,slow=14,SNR=4.8								
MK31				⇓Lg			Lg	23 28 09.9	
	4.0nm,0.8s,baz=252,slow=27,SNR=5.4								
KURBB	**Kurchatov Arra**	**9.65**	**32**	⇓Lg			Lg	23 28 16.9	
	17nm,0.7s								

*GCG **15** 23:32:48.2±0.4, 13.°56N × 90.°61W, h26km±3km, MD3.7*
*SNET **15** 23:32:49.0±1.6, 13.°36N × 90.°46W, h17km±22km,

EMPR	**Esperanza - Ma**	**1.83**	**85**	*eS*		**Sn**	**23 46 47.9**	**+0.2**
EMPR	**Esperanza - Ma**	**1.83**	**85**			**Pn**	**23 46 23.2**	**0.0**
EMPR						**Sn**	**23 46 47.9**	**+0.2**
ICMP	**Isla Caja de M**	**1.89**	**103**	⇑*eP*		**Pn**	**23 46 22.9**	**-0.9**
ICMP	**Isla Caja de M**	**1.89**	**103**	*eS*		**Sn**	**23 46 48.9**	**+0.1**
ICMP	**Isla Caja de M**	**1.89**	**103**			**Pn**	**23 46 23.4**	**-0.5**
ICMP						**Sn**	**23 46 48.7**	**-0.1**
SJG	**San Juan**	**2.20**	**95**			**Pn**	**23 46 27.9**	**+0.2**
GCPR	**Guaynabo City**	**2.25**	**90**	Pn		**Pn**	**23 46 27.5**	**-0.9**
GCPR						**Sn**	**23 46 57.3**	**+0.4**
IGPR	**InterUniversit**	**2.26**	**99**	⇑*eP*		**Pn**	**23 46 28.8**	**+0.3**
IGPR	**InterUniversit**	**2.26**	**99**	*eS*		**Sn**	**23 46 57.4**	**+0.3**
PDPR	**Patillas Dam,**	**2.33**	**97**	⇑*eP*		**Pn**	**23 46 29.4**	**+0.1**
PDPR	**Patillas Dam,**	**2.33**	**97**	*eS*		**Sn**	**23 46 59.7**	**+1.1**
PDPR	**Patillas Dam,**	**2.33**	**97**			**Pn**	**23 46 28.9**	**-0.4**
PDPR						**Sn**	**23 46 59.1**	**+0.4**
SC01	**Santiago de lo**	**2.41**	**297**			**Pn**	**23 46 30.8**	**+0.4**
CBYP	**Canovanas**	**2.47**	**91**	⇑*eP*		**Pn**	**23 46 30.2**	**-0.9**
CBYP	**Canovanas**	**2.47**	**91**			**Pn**	**23 46 30.1**	**-1.1**
CBYP						**Sn**	**23 47 01.2**	**-0.6**
HUMP	**Col San Antoni**	**2.48**	**94**			**Pn**	**23 46 31.0**	**-0.2**
SDDR	**Presa de Saban**	**2.76**	**284**			**Pn**	**23 46 35.3**	**+0.4**
MTP	**Monte Pirata**	**2.77**	**94**	Pn		**Pn**	**23 46 34.8**	**-0.1**
CUPR	**Culebra, Puert**	**3.01**	**90**	⇑*eP*		**Pn**	**23 46 36.7**	**-1.4**
CUPR	**Culebra, Puert**	**3.01**	**90**	*eS*		**Sn**	**23 47 13.5**	**-0.7**
CUPR	**Culebra, Puert**	**3.01**	**90**			**Pn**	**23 46 36.7**	**-1.4**
CUPR					Sn	**Sn**	**23 47 13.5**	**-0.7**

*IDC **15** 23:47:22.7±1.5,32°.36N×47°.93E, h0km, mb3.7/5, mb1 3.7/10, mb1mx3.4/53, mbtmp3.7/10, ML3.5/5, Error ellipse: s-maj=37.1km s-min=18.7km az=162.0*
*TEH **15** 23:47:25.3, 32°.51N×48°.00E, h8km, ML3.6*
*THR **15** 23:47:26.7±0.4, 32°.48N×47°.90E, h17km±3km, ML3.7*
*ISN **15** 23:47:26.5±1.7, 32°.53N×47°.94E, h15km±7km, ML3.4*
ISC 15 23:47:26.2±1.3,**32°.45N**±0°.04×**47°.91E**±0°.03,**h16**km±10km,
n64,σ1°57/73,mb3.6/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.58**	**294**	*e*Pg	**Pg**	**23 47 37.4**	**-0.2**
DHL1				*e*Sg	**Sb**	**23 47 47.3**	**+1.4**
IKMR	**Kamar-syah**	**1.14**	**20**	*e*Pg	**Pb**	**23 47 45.4**	**-2.0**
IKMR				*e*		23 48 08.3	
AHWZ	**Ahwaz**	**1.28**	**151**	*e*Pg	**Pb**	**23 47 50.9**	**+1.1**
AHWZ				*e*Sg	**Sg**	**23 48 08.5**	**+1.0**
IDOB	**Doab**	**1.35**	**10**	*e*Pg	**Pn**	**23 47 50.1**	**-0.5**
BMDN	**Meydan**	**1.44**	**32**	*e*Pg	**Pn**	**23 47 51.7**	**-0.1**
BMDN				*e*		23 48 21.6	
IKOM	**Komasi**	**1.75**	**349**	*e*Pg	**Pn**	**23 47 57.7**	**+1.7**
IKOM				*e*		23 48 31.3	
IBDR	**Badra**	**1.79**	**292**	*e*Pg	**Pb**	**23 47 59.0**	**+0.4**
IBDR				*e*Sg	**Sb**	**23 48 22.0**	**+1.2**
IBDR				AML	AML	23 48 28.1	
	comp=E,418nm,0.6s						
IBDR				AML	AML	23 48 28.7	
	comp=N,354nm,0.5s						
HSAM	**Samen**	**1.85**	**18**	*e*Pg	**Pn**	**23 47 59.1**	**+1.6**
HSAM				*e*		23 48 03.4	
KCHF	**Cheshme Sefid,**	**1.96**	**339**	*e*Pn	**Pn**	**23 48 00.2**	**+1.3**
KCHF				*e*		23 48 36.7	
IBZA	**Bozab**	**2.02**	**359**	*e*		23 48 06.1	
IBZA				*e*Pn	**Pn**	**23 48 01.4**	**+1.7**
KER	**Kermanshah**	**2.04**	**342**	*e*Pn	**Pn**	**23 48 01.4**	**+1.5**
NSR	**Nassriya**	**2.08**	**227**	*e*Pn	**Pn**	**23 48 02.0**	**+1.7**
NSR				*e*Sn	**Sb**	**23 48 30.0**	**+0.9**
NSR				AML	AML	23 48 32.0	
	comp=E,470nm,0.2s						
KHMZ	**Khomeyn**	**2.15**	**53**	*e*Pn	**Pn**	**23 48 04.0**	**+2.5**
KHMZ				*e*Sg	**Sb**	**23 48 34.0**	**+2.7**
IGHG	**Ghaleghazi**	**2.18**	**330**	*e*Pn	**Pn**	**23 48 04.8**	**+2.8**
IGHG				*e*		23 48 47.0	
IVIS	**Veis**	**2.25**	**337**	*e*Pn	**Pn**	**23 48 04.2**	**+1.4**
IVIS				*e*		23 48 47.7	
JHBN	**Jahan bin**	**2.34**	**95**	*e*Pn	**Pn**	**23 48 05.3**	**+1.0**
JHBN				*e*		23 48 57.1	
IALM	**Almabolaq**	**2.41**	**5**	*e*Pn	**Pn**	**23 48 07.3**	**+2.1**
IPIR	**Pirpir**	**2.53**	**84**	*e*Pn	**Pn**	**23 48 08.4**	**+1.6**
IDHR	**Dehrash**	**2.58**	**331**	*e*		23 48 51.5	
IDHR				*e*Pn	**Pn**	**23 48 08.8**	**+1.4**
HAGD	**Aghdareh**	**2.58**	**23**	*e*		23 48 56.7	
HAGD				*e*Pn	**Pn**	**23 48 08.9**	**+1.4**
ILIN	**Lien**	**2.59**	**343**	*e*		23 48 55.4	
ILIN				*e*Pn	**Pn**	**23 48 08.1**	**+0.5**
ROKH	**ROKH**	**2.65**	**91**	*e*		23 48 53.2	
ROKH				*e*Pn	**Pn**	**23 48 09.0**	**+0.6**
SNGE	**Sanandaj**	**2.68**	**350**	*e*Pn	**Pn**	**23 48 10.8**	**+2.0**
ASAO	**Ashtian**	**2.74**	**40**	*e*Pn	**Pn**	**23 48 12.0**	**+2.3**
ASAO				*e*Sg	**Sb**	**23 48 52.1**	**+3.7**
HSRG	**Sareghieh**	**2.80**	**6**	*e*Pn	**Pn**	**23 48 12.1**	**+1.5**
HSRG				*e*		23 49 06.7	
BHD	**Baghdad**	**3.08**	**286**	*e*Pn	**Pn**	**23 48 16.0**	**+1.9**
BHD				*e*Sn	**Sn**	**23 48 54.0**	**+3.4**
BHD				AML	AML	23 49 16.1	
	comp=E,238nm,0.4s						
IKLH	**Kolahrood**	**3.21**	**73**	*e*Pn	**Pn**	**23 48 17.7**	**+1.6**
IKLH				*e*		23 49 14.4	
KLNJ	**Kolanjah**	**3.45**	**114**	*e*Pn	**Pn**	**23 48 20.4**	**+0.8**
KLNJ				*e*		23 49 28.9	
GHVR	**GHOM**	**3.48**	**54**	*e*Pn	**Pn**	**23 48 21.6**	**+1.8**
GHVR				*e*S	**Sn**	**23 49 01.7**	**+1.1**
IGAR	**Gharneh**	**3.50**	**90**	*e*Pn	**Pn**	**23 48 20.7**	**+0.6**
IGAR				*e*		23 49 31.0	
QABG	**Abgarm-Qazvin**	**3.54**	**23**	*e*Pn	**Pn**	**23 48 21.0**	**+0.4**
IZEF	**Zefreh**	**3.75**	**82**	*e*Pn	**Pn**	**23 48 24.9**	**+1.2**
IRAM	**Ramesheh**	**3.85**	**98**	*e*Pn	**Pn**	**23 48 25.0**	**+0.1**
KRSH	**Karshahi**	**3.85**	**66**	*e*Pn	**Pn**	**23 48 26.1**	**+1.2**
IHSB	**Hasanabad**	**4.09**	**42**	*e*Pn	**Pn**	**23 48 29.3**	**+1.2**
QSDN	**Sirdan**	**4.18**	**14**	*e*Pn	**Pn**	**23 48 31.3**	**+1.9**
CHTH	**Charan**	**4.36**	**37**	*e*Pn	**Pn**	**23 48 34.3**	**+2.4**
QALM	**Alamut, Qazvin**	**4.57**	**29**	*e*Pn	**Pn**	**23 48 35.1**	**+0.2**
IDMV	**Damavand**	**4.63**	**47**	*e*Pn	**Pn**	**23 48 37.0**	**+1.3**
MAHB	**Mahabad**	**4.67**	**338**	*e*Pn	**Pn**	**23 48 37.3**	**+1.1**
ISAD	**Sadrabad**	**4.93**	**95**	*e*Pn	**Pn**	**23 48 40.2**	**+0.4**
ANAR	**Anarak**	**4.96**	**80**	*e*Pn	**Pn**	**23 48 40.7**	**+0.7**
IFIR	**Firoozkooh**	**5.13**	**50**	*e*Pn	**Pn**	**23 48 43.8**	**+1.2**
IPRN	**Peran**	**5.27**	**43**	*e*Pn	**Pn**	**23 48 46.5**	**+2.2**
ISRB	**Sarab**	**5.37**	**358**	*e*Pn	**Pn**	**23 48 47.0**	**+1.2**
IALA	**Alasht**	**5.44**	**47**	*e*Pn	**Pn**	**23 48 48.3**	**+1.4**
ISHM	**Shahmirzad**	**5.58**	**52**	*e*Pn	**Pn**	**23 48 49.9**	**+1.1**
MSL	**Mosul**	**5.59**	**316**	*e*Pn	**Pn**	**23 48 51.0**	**+2.4**
MSL				*e*Sn	**Sn**	**23 49 53.0**	**+0.5**
IMEH	**Mehriz**	**5.80**	**99**	*e*Pn	**Pn**	**23 48 52.9**	**+1.2**
IANJ	**Anjilo**	**5.83**	**57**	*e*Pn	**Pn**	**23 48 53.0**	**+0.9**
IHRS	**Heris**	**5.90**	**353**	*e*Pn	**Pn**	**23 48 54.8**	**+1.7**
IGLO	**Ghaloghah**	**6.34**	**49**	*e*Pn	**Pn**	**23 49 01.0**	**+1.8**
TKDS	**Koohdasht(Taba**	**7.82**	**79**	*e*Pn	**Pn**	**23 49 20.2**	**+0.8**
NGRK	**Negar Kerman**	**8.07**	**108**	*e*Pn	**Pn**	**23 49 23.3**	**+0.3**
ASF	**Jabal al Asfar**	**9.32**	**271**	Pn	**Pn**	**23 49 38.5**	**-1.4**
	comp=E,0.6nm,0.3s,baz=344,slow=3.8,SNR=6.9						
MMAI	**Mount Meron Ar**	**10.55**	**276**	Pn	**Pn**	**23 49 55.1**	**-1.6**
	comp=E,0.2nm,0.3s,baz=85,slow=18,SNR=2.1						
WSAR	**Wadi Sarin**	**13.19**	**131**	Pn	**Pn**	**23 50 30.0**	**-2.8**
	comp=E,0.1nm,0.3s,baz=98,slow=23,SNR=1.2						
IDI	**Anoyia**	**19.32**	**285**	P	**P**	**23 51 51.0**	**+0.4**
	comp=E,0.5nm,0.3s,baz=113,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**19.47**	**20**	P	**P**	**23 51 50.8**	**-1.3**
	comp=E,0.2nm,0.3s,baz=244,slow=18,SNR=2.0						
KURBB	**Kurchatov Arra**	**28.94**	**42**	P	**P**	**23 53 24.3**	**-0.2**
	comp=E,0.5nm,0.7s,baz=245,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**29.84**	**51**	P	**P**	**23 53 32.3**	**-0.3**
	comp=E,0.7nm,0.7s,baz=248,slow=8.6,SNR=9.4						
FINES	**FINESS Array B**	**32.28**	**340**	P	**P**	**23 53 53.5**	**-0.3**
	comp=E,2.9nm,1.0s,baz=146,slow=12,SNR=4.4						
ZALV	**Zalesovo Beam**	**33.87**	**40**	P	**P**	**23 54 06.9**	**-0.9**
	comp=E,0.5nm,0.4s,baz=259,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**46.32**	**256**	P	**P**	**23 55 50.2**	**-1.2**
	comp=E,0.2nm,0.4s,baz=58,slow=7.8,SNR=4.9						

*IDC **15** 23:50:41.9±0.8, 32°.49N×47°.91E, h0km, mb4.0/15, mb1 4.0/23, mb1mx3.9/52, mbtmp4.0/23, ML3.8/8, MS3.3/7, Ms1 3.3/7, ms1mx3.0/49, Error ellipse: s-maj=18.5km s-min=11.9km az=162.0*
*TEH **15** 23:50:43.7, 32°.51N×47°.95E, h9km, ML4.4*
*NEIC **15** 23:50:43.0±1.4, 32°.40N±0°.05×47°.83E±0°.06, h10km±1km, Error ellipse: s-maj=10.9km s-min=6.7km az=225.0*
*ISN **15** 23:50:45.3±1.0, 32°.56N×47°.86E, h14km±5km, ML4.0*
*MOS **15** 23:50:45.0±1.3, 32°.53N×47°.87E, h33km, mb4.7/7, Error ellipse: s-maj=7.8km s-min=4.6km az=118.4*
*THR **15** 23:50:46.0±0.4, 32°.52N×47°.98E, h14km±3km, ML4.2*
*GII **15** 23:50:47.7±0.0, 32°.40N×47°.90E, h10km*
*OMAN **15** 23:50:51.8±1.6, 32°.16N×48°.76E, h10km±75km, mb5.7/11, Error ellipse: s-maj=101.6km s-min=12.0km az=323.0*
ISC 15 23:50:44.0±1.0,**32°.48N**±0°.03×**47°.95E**±0°.02,**h17**km±6km,
n357,σ1°81/365,mb4.3/48,34C-28D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.60**	**290**	*e*Pg	**Pg**	**23 50 55.2**	**-0.7**
DHL1				*e*Sg	**Sb**	**23 51 04.6**	**+0.4**
IKMR	**Kamar-syah**	**1.10**	**19**	*e*		23 51 25.5	
IKMR				*e*Pg	**Pg**	**23 51 03.8**	**-1.5**
AHWZ	**Ahwaz**	**1.29**	**153**	*e*Sg	**Sg**	**23 51 28.8**	**+3.1**
AHWZ				*e*Pg	**Pn**	**23 51 08.4**	**+1.3**
AHWZ	**Ahwaz**	**1.29**	**153**		**Pn**	**23 51 08.3**	**+1.2**
AHWZ				Sg	**Sg**	**23 51 28.8**	**+3.1**
IDOB	**Doab**	**1.32**	**8**	*e*Pg	**Pg**	**23 51 08.8**	**-0.7**
IDOB	**Doab**	**1.32**	**8**		**Pg**	**23 51 08.8**	**-0.7**
BMDN	**Meydan**	**1.40**	**31**	*e*Pg	**Pg**	**23 51 10.1**	**-0.9**
BMDN	**Meydan**	**1.40**	**31**		**Pg**	**23 51 10.0**	**-0.9**
IKOM	**Komasi**	**1.73**	**348**	*e*Pg	**Pg**	**23 51 16.1**	**-1.2**
IKOM				*e*		23 51 45.7	
IKOM	**Komasi**	**1.73**	**348**	Pg	**Pg**	**23 51 16.1**	**-1.2**
HSAM	**Samen**	**1.81**	**17**	*e*Pg	**Pg**	**23 51 17.4**	**-1.5**
HSAM				*e*		23 51 53.4	
HSAM	**Samen**	**1.81**	**17**	Pg	**Pg**	**23 51 17.4**	**-1.5**
IBDR	**Badra**	**1.81**	**291**	*e*Pg	**Pb**	**23 51 16.5**	**-0.2**
IBDR				*e*Sg	**Sb**	**23 51 39.0**	**-0.1**
IBDR				AML	AML	23 51 45.3	
	comp=N,2μm,0.4s						
IBDR				AML	AML	23 51 58.4	
	comp=E,2μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.95**	**337**	*e*Pg	**Pb**	**23 51 19.4**	**+0.3**
KCHF				*e*		23 51 57.7	
KCHF	**Cheshme Sefid,**	**1.95**	**337**	Pg	**Pb**	**23 51 19.3**	**+0.2**
IBZA	**Bozab**	**1.99**	**358**	*e*Pg	**Pb**	**23 51 20.2**	**+0.4**
IBZA				*e*		23 51 56.5	
IBZA	**Bozab**	**1.99**	**358**	Pg	**Pb**	**23 51 20.2**	**+0.4**
KER	**Kermanshah**	**2.02**	**340**	*e*Pn	**Pb**	**23 51 19.8**	**-0.5**
KHMZ	**Khomeyn**	**2.10**	**53**	*e*Pn	**Pb**	**23 51 22.2**	**+0.5**
KHMZ				*e*Sg	**Sg**	**23 51 51.1**	**-0.6**
KHMZ	**Khomeyn**	**2.10**	**53**	*e*Pn	**Pb**	**23 51 22.3**	**+0.5**
KHMZ	**Khomeyn**	**2.10**	**53**	Pn	**Pb**	**23 51 22.2**	**+0.5**
NSR	**Nassriya**	**2.13**	**227**	*e*Pn	**Pn**	**23 51 21.0**	**+2.3**
NSR				*e*Sn	**Sn**	**23 51 48.0**	**+3.3**
NSR				AML	AML	23 51 59.5	
	comp=E,3μm,0.4s						
IGHG	**Ghaleghazi**	**2.18**	**328**	*e*Pn	**Pb**	**23 51 21.9**	**-1.2**
IGHG				*e*		23 52 06.5	
IGHG	**Ghaleghazi**	**2.18**	**328**	Pn	**Pb**	**23 51 21.9**	**-1.2**
IVIS	**Veis**	**2.24**	**336**	*e*Pn	**Pb**	**23 51 22.4**	**-1.7**
IVIS				*e*		23 51 59.0	
JHBN	**Jahan bin**	**2.31**	**95**	*e*Pn	**Pb**	**23 51 24.2**	**-1.2**
JHBN				*e*		23 52 09.9	
JHBN	**Jahan bin**	**2.31**	**95**	Pn	**Pb**	**23 51 24.1**	**-1.3**
IALM	**Almabolaq**	**2.38**	**4**	*e*Pn	**Pb**	**23 51 25.3**	**-1.3**
IPIR	**Pirpir**	**2.49**	**84**	*e*Pn	**Pb**	**23 51 27.0**	**-1.5**
IPIR				*e*		23 52 17.8	
HAGD	**Aghdareh**	**2.54**	**23**	*e*Pn	**Pb**	**23 51 27.4**	**-1.8**
HAGD				*e*		23 52 12.0	
HAGD	**Aghdareh**	**2.54**	**23**	Pn	**Pb**	**23 51 27.4**	**-1.8**
ILIN	**Lien**	**2.57**	**342**	*e*Pn	**Pn**	**23 51 27.4**	**+2.4**
ILIN				*e*		23 52 20.8	
ILIN	**Lien**	**2.57**	**342**	Pn	**Pn**	**23 51 27.4**	**+2.4**
IDHR	**Dehrash**	**2.57**	**330**	*e*Pn	**Pn**	**23 51 27.0**	**+2.0**
IDHR				*e*		23 52 09.5	
ROKH	**ROKH**	**2.61**	**92**	*e*Pn	**Pn**	**23 51 28.2**	**+2.6**
SNGE	**Sanandaj**	**2.66**	**349**	*e*Pn	**Pb**	**23 51 30.2**	**-1.0**
SNGE				*e*Sg	**Sg**	**23 52 08.0**	**-1.4**
SNGE				IAML		23 52 16.7	
	comp=N,944nm,0.6s						
SNGE	**Sanandaj**	**2.66**	**349**	*e*Pn	**Pb**	**23 51 30.2**	**-1.0**
ASAO	**Ashtian**	**2.69**	**39**	*e*Pn	**Pb**	**23 51 30.3**	**-1.6**
ASAO				*e*Sg	**Sg**	**23 52 09.0**	**-1.7**
ASAO	**Ashtian**	**2.69**	**39**	*e*Pn	**Pb**	**23 51 30.3**	**-1.6**
ASAO	**Ashtian**	**2.69**	**39**	Pn	**Pb**	**23 51 30.3**	**-1.6**
HSRG	**Sareghieh**	**2.77**	**6**	*e*Pn	**Pb**	**23 51 30.8**	**-2.4**
IBRJ	**Brojen**	**2.86**	**101**	*e*Pn	**Pn**	**23 51 31.5**	**+2.4**
BHD	**Baghdad**	**3.11**	**286**	*e*Pn	**Pn**	**23 51 34.0**	**+1.8**
BHD				*e*Sn	**Sn**	**23 52 11.0**	**+2.1**
BHD				AML	AML	23 52 39.6	
	comp=E,262nm,0.8s						
IKLH	**Kolahrood**	**3.17**	**74**	*e*Pn	**Pn**	**23 51 36.6**	**+3.4**
IKLH				*e*		23 52 40.0	
KLNJ	**Kolanjah**	**3.43**	**114**	*e*Pn	**Pn**	**23 51 39.0**	**+2.0**
KLNJ				*e*		23 53 14.6	
GHVR	**GHOM**	**3.44**	**54**	*e*Pn	**Pn**	**23 51 40.1**	**+3.3**
GHVR				*e*S	**Sn**	**23 52 19.7**	**+2.6**
GHVR	**GHOM**	**3.44**	**54**	*e*Pn	**Pn**	**23 51 40.1**	**+3.3**
IGAR	**Gharneh**	**3.46**	**90**	*e*Pn	**Pn**	**23 51 39.9**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.50**	**22**	*e*Pn	**Pn**	**23 51 40.6**	**+2.9**
IZEF	**Zefreh**	**3.71**	**82**	*e*Pn	**Pn**	**23 51 43.8**	**+3.0**
KRSH	**Karshahi**	**3.81**	**66**	*e*Pn	**Pn**	**23 51 44.8**	**+2.8**
IRAM	**Ramesheh**	**3.82**	**99**	*e*Pn	**Pn**	**23 51 44.1**	**+1.9**
IHSB	**Hasanabad**	**4.04**	**42**	*e*Pn	**Pn**	**23 51 47.8**	**+2.6**
QSDN	**Sirdan**	**4.14**	**14**	*e*Pn	**Pn**	**23 51 49.8**	**+3.2**
KAZ1	**Kazerun**	**4.25**	**131**	*e*Pn	**Pn**	**23 51 50.0**	**+1.9**
QALM	**Alamut, Qazvin**	**4.53**	**29**	*e*Pn	**Pn**	**23 51 55.1**	**+3.1**
IDMV	**Damavand**	**4.59**	**47**	*e*Pn	**Pn**	**23 51 55.3**	**+2.5**
MAHB	**Mahabad**	**4.66**	**337**	*e*Pn	**Pn**	**23 51 56.0**	**+2.3**
ISAD	**Sadrabad**	**4.89**	**95**	*e*Pn	**Pn**	**23 51 59.2**	**+2.2**
ANAR	**Anarak**	**4.92**	**80**	*e*Pn	**Pn**	**23 51 59.3**	**+2.1**
ILAS	**Lasjerd**	**5.07**	**54**	*e*Pn	**Pn**	**23 52 02.3**	**+2.9**
IFIR	**Firoozkooh**	**5.08**	**50**	*e*Pn	**Pn**	**23 52 02.5**	**+2.9**
IPRN	**Peran**	**5.22**	**43**	*e*Pn	**Pn**	**23 52 05.4**	**+4.0**
ISRB	**Sarab**	**5.34**	**358**	*e*Pn	**Pn**	**23 52 06.1**	**+3.0**
IALA	**Alasht**	**5.39**	**47**	*e*Pn	**Pn**	**23 52 06.1**	**+2.2**
IAZR	**Azarshahr**	**5.43**	**343**	*e*Pn	**Pn**	**23 52 06.8**	**+2.4**
ISHM	**Shahmirzad**	**5.54**	**52**	*e*Pn	**Pn**	**23 52 08.9**	**+3.1**
MSL	**Mosul**	**5.59**	**316**	*e*Pn	**Pn**	**23 52 09.0**	**+2.6**
MSL				*e*Sn	**Sn**	**23 53 10.0**	**-0.2**
IANJ	**Anjilo**	**5.78**	**57**	*e*Pn	**Pn**	**23 52 11.5**	**+2.3**
IHRS	**Heris**	**5.87**	**353**	*e*Pn	**Pn**	**23 52 13.2**	**+2.8**
ITBZ	**Tabriz**	**5.93**	**346**	*e*Pn	**Pn**	**23 52 14.0**	**+2.9**
IKIA	**Kiasar**	**6.03**	**50**	*e*Pn	**Pn**	**23 52 15.8**	**+3.3**
AHAR	**Ahar**	**6.04**	**353**	*e*Pn	**Pn**	**23 52 15.4**	**+2.7**
IGLO	**Ghaloghah**	**6.30**	**49**	*e*Pn	**Pn**	**23 52 19.8**	**+3.5**
GEVA	**Gevas**	**7.06**	**327**	Pn	**Pn**	**23 52 27.8**	**+1.1**
TNSJ	**Nastanj**	**7.41**	**76**	*e*Pn	**Pn**	**23 52 34.1**	**+2.7**
KHGB	**Koh Gabri**	**7.58**	**104**	*e*Pn	**Pn**	**23 52 35.5**	**+1.6**
MARD	**Mardin**	**7.61**	**311**		**Pn**	**23 52 34.0**	**-0.2**
TKDS	**Koohdasht(Taba**	**7.78**	**79**	*e*Pn	**Pn**	**23 52 38.6**	**+2.0**
ITEG	**Tejag**	**9.11**	**84**	*e*Pn	**Pn**	**23 52 56.9**	**+2.1**
IKOO	**Kooshah**	**9.34**	**87**	*e*Pn	**Pn**	**23 52 59.8**	**+1.7**
AFRZ	**Afriz**	**9.35**	**81**	*e*Pn	**Pn**	**23 53 00.3**	**+2.3**
ASF	**Jabal al Asfar**	**9.36**	**271**	Pn	**Pn**	**23 52 55.6**	**-2.6**
	comp=E,1.7nm,0.3s,baz=352,slow=5.1,SNR=8.3						
ASF				Sn	**Sn**	**23 54 37.4**	**-5.6**
	comp=E,1.2nm,0.3s,baz=190,slow=6.5,SNR=1.6						
ASF				Lg	Lg	23 55 40.5	
	comp=E,0.7nm,0.3s,baz=173,slow=23,SNR=2.1						
KBAM	**BAM**	**9.62**	**108**	*e*Pn	**Pn**	**23 53 03.4**	**+1.6**
KOPT	**Kop Dagi**	**9.63**	**323**	Pn	**Pn**	**23 53 02.0**	**0.0**
BANOM	**Banah**	**9.79**	**130**	P	**Pn**	**23 53 02.5**	**-1.5**
	SNR=24						
BANOM				S	**Sn**	**23 54 47.5**	**-6.1**
IMON	**Monand**	**9.88**	**83**	*e*Pn	**Pn**	**23 53 07.4**	**+1.9**
GEYT	**Alibeck**	**9.94**	**54**	Pn	**Pn**	**23 53 04.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=316,slow=33,SNR=1.6						
GEYT				LR	LR	23 57 27.8	
	comp=E,172nm,18.6s,baz=5.0,slow=41						
GEYT	**Alibeck**	**9.94**	**54**	Pn	**Pn**	**23 53 07.3**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**9.94**	**54**	Pn	**Pn**	**23 53 07.6**	**+1.7**
ARTV	**Artvin**	**9.94**	**333**	Pn	**Pn**	**23 53 07.0**	**+0.8**
IPAY	**Payeh**	**9.94**	**63**	*e*Pn	**Pn**	**23 53 09.8**	**+3.6**
IEMG	**Emamgholi**	**10.07**	**58**	*e*Pn	**Pn**	**23 53 11.1**	**+3.1**
NAZ	**Nazwa, Dubai**	**10.07**	**136**	P	**Pn**	**23 53 06.9**	**-0.9**
ASUD	**Al Ashush, Dub**	**10.16**	**138**	P	**Pn**	**23 53 08.2**	**-0.8**
	SNR=14						
ASUD				S	**Sn**	**23 54 57.2**	**-5.4**
FAQ	**Al Faqa, Dubai**	**10.22**	**137**	P	**Pn**	**23 53 09.0**	**-0.8**
FAQ				S	**Sn**	**23 54 59.3**	**-4.7**
MDH	**Madha**	**10.23**	**132**	P	**Pn**	**23 53 08.6**	**-1.4**
MDH				S	**Sn**	**23 54 58.0**	**-6.2**
NATI	**Neve Ativ**	**10.30**	**278**	Pn	**Pn**	23 53 16.6	+5.6
GEM	**Giv'at Ha'Em**	**10.36**	**277**	Pn	**Pn**	**23 53 15.8**	**+4.0**
UOSS	**Minazif**	**10.43**	**134**	Pn	**Pn**	**23 53 11.8**	**-1.0**
QRNJ	**Al-Qirein**	**10.46**	**273**	Pn	Pn	23 53 17.9	+4.8

MAK	**Makhachkala**	**10.47**	**358**	*e*P		**Pn**	**23 53 09.9**	**-3.3**
MAK				*e*S		**Sn**	**23 55 05.7**	**-4.4**
MAK				pmax	pmax			
	comp=Z,119nm,1.3s							
MAK				MLR	MLR			
	comp=Z,97nm,11.0s							
HATD	**Hatta, Dubai**	**10.47**	**135**	P		**Pn**	**23 53 13.8**	**+0.4**
HATD				S		**Sn**	**23 55 05.0**	**-5.3**
KARJ	**KARJ**	**10.55**	**266**	Pn		**Pn**	**23 53 17.7**	**+3.3**
MMAI	**Mount Meron Ar**	**10.58**	**276**	Pn		**Pn**	**23 53 14.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=82,slow=17,SNR=7.9							
MMAI				Lg	Lg	23 56 20.3		
	comp=Z,1.3nm,0.3s,baz=109,slow=35,SNR=3.9							
MMAI				LR	LR	23 58 16.5		
	comp=Z,113nm,18.9s,baz=105,slow=43							
ZEI	**Tsey**	**10.78**	**344**	*e*P		Pn	23 53 28.9	+11
ZEI				pmax	pmax			
	comp=Z,4.0nm,1.4s							
SLTI	**Sal'it**	**10.92**	**272**	Pn		**Pn**	**23 53 23.8**	**+4.3**
YTIR	**Yattir**	**10.96**	**268**	Pn		**Pn**	**23 53 23.6**	**+3.5**
ZFRI	**Zfri**	**11.07**	**263**	Pn		**Pn**	**23 53 24.0**	**+2.5**
MBRI	**Mt Berech**	**11.49**	**260**	Pn		Pn	23 53 32.3	+5.0
EIL	**Elat**	**11.49**	**259**	Pn		**Pn**	**23 53 26.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=14,slow=14,SNR=2.2							
EIL				Lg	Lg	23 56 49.0		
	comp=Z,0.7nm,0.3s,baz=258,slow=22,SNR=2.0							
EIL				LR

ODBI	Odobesti	20.87	376	⇑P		P	23 55 26.9 +1.9
KTHA	Kythira Island	20.87	287	P		P	23 55 25.7 +0.6
KRND	KRANIDI	20.89	290	P		P	23 55 25.2 -0.1
KTHR	Kythira	20.92	287	P		P	23 55 25.8 +0.2
VLI	Veliai	21.00	289	P		P	23 55 25.6 -0.9
SECR		21.10	313	⇑P		P	23 55 30.1 +2.6
VRI	Vrincioaia	21.12	315	⇑P		P	23 55 28.7 +1.0
VRI	Vrincioaia	21.12	315	⇑P		P	23 55 28.7 +1.0
LPSR	Galich'ya Gora	21.15	345	*e*P		P	23 55 28.0 +0.1
LPSR				pmax	pmax		
	comp=Z,30nm,0.7s						
NEHR	Nehoiu	21.15	314	⇑P		P	23 55 30.4 +2.3
PLOR	Plostina	21.16	315	⇑P		P	23 55 27.6 -0.6
PLOR	Plostina	21.16	315	⇑P		P	23 55 27.6 -0.6
ATAL	Atalanti	21.17	294	P		P	23 55 29.2 +0.9
COPA	Copaceanca	21.23	310	⇓P		P	23 55 30.1 +1.2
NIL	Nilore	21.23	80	P		P	23 55 30.1 +1.1
NIL				pmax	pmax		
	comp=Z,13nm,1.0s						
NIL	Nilore	21.23	80	P		P	23 55 30.1 +1.1
NIL				IAmb	IAmb		23 55 44.8
	comp=Z,13nm,0.9s						
ATD	Arta Tunnel	21.37	194	LR		LR	00 04 25.3
	comp=Z,83nm,19.0s,baz=338,slow=38						
MLR	Muntele Rosu	21.40	314	P		P	23 55 32.0 +1.2
	comp=Z,11nm,0.7s,baz=195,slow=7.6,SNR=15						
MLR	Muntele Rosu	21.40	314	⇓P		P	23 55 34.5 +3.7
MLR	Muntele Rosu	21.40	314	P		P	23 55 31.6 +0.7
MLR	Muntele Rosu	21.40	314	P		P	23 55 31.6 +0.7
SORM	Soroca	21.54	322	⇓P		P	23 55 30.9 -1.3
SORM	Soroca	21.54	322	⇓P		P	23 55 30.9 -1.3
HUMR	Humele	21.55	311	⇑P		P	23 55 33.4 +1.0
GUR	Goura	21.59	292	P		P	23 55 32.8 -0.2
TRIP	Tripoli	21.60	291	P		P	23 55 33.1 0.0
KLV	Kalavryta, Ach	21.75	292	P		P	23 55 34.9 +0.2
AGG	Agios Georgios	21.75	295	P		P	23 55 34.0 -0.7
AGG				pmax	pmax		
	comp=Z,13nm,1.0s						
AGG	Agios Georgios	21.75	295	P		P	23 55 34.0 -0.7
AGG				IAmb	IAmb		23 55 40.0
	comp=Z,13nm,1.0s						
OZUR		21.80	315	⇓P		P	23 55 36.0 +1.0
LIT	Litokhoron	21.84	298	P		P	23 55 35.2 -0.3
LIT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LIT	Litokhoron	21.84	298	P		P	23 55 35.2 -0.3
LIT				IAmb	IAmb		23 55 39.0
	comp=Z,6.0nm,0.6s						
ITM	Ithomi	21.84	290	P		P	23 55 35.5 -0.1
ITM	Ithomi	21.84	290	P		P	23 55 34.5 -1.1
VOIR		21.92	313	⇑P		P	23 55 38.3 +1.9
VOIR		21.92	313	⇑P		P	23 55 38.3 +1.9
PYL	PYLOS	21.97	289	P		P	23 55 35.9 -1.0
DOPR	Dopca	21.97	314	⇑P		P	23 55 38.4 +1.5
ANX	Ano Chora	22.00	293	P		P	23 55 37.7 +0.3
BIZ	Bicaz	22.06	317	⇑P		P	23 55 38.8 +1.0
DRO	Drossia	22.09	292	P		P	23 55 38.8 +0.6
ARR	Arges	22.15	312	⇑P		P	23 55 40.2 +1.3
PRAR	RASCA	22.22	318	⇓P		P	23 55 38.3 -1.3
BAIL	Bailesti	22.41	308	⇓P		P	23 55 40.1 -1.5
STIP	Stip	22.45	302	*i* P		P	23 55 43.1 +1.0
MDB	Medias	22.67	314	⇓P		P	23 55 48.4 +4.0
MDB	Medias	22.67	314	⇓P		P	23 55 48.4 +4.0
LOT	Lotru	22.73	312	⇓P		P	23 55 45.4 +0.3
AKASG	Malin Array Be	22.86	328	P		P	23 55 44.4 -1.9
	comp=Z,1.6nm,0.4s,baz=135,slow=9.3,SNR=9.3						
AKASG	Malin Array Be	22.86	328	P		P	23 55 45.6 -0.6
AKBB	Malin Array Si	22.86	328	⇓*e*P		P	23 55 45.3 -0.9
AKBB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKBB	Malin Array Si	22.86	328	P		P	23 55 45.4 -0.9
AKBB				IAmb	IAmb		23 55 59.6
	comp=Z,7.9nm,0.9s						
BURAR	Bucovina Array	22.93	318	⇑P		P	23 55 48.3 +1.1
BURAR	Bucovina Array	22.93	318	⇑P		P	23 55 48.3 +1.1
BURAR	Bucovina Array	22.93	318	P		P	23 55 47.4 +0.2
BUR08	Bucovina Ar. S	22.96	318	P		P	23 55 47.9 +0.4
BUR08				IAmb	IAmb		23 56 00.8
	comp=Z,8.4nm,0.9s						
SKO	Skopje	23.06	302	*i* P		P	23 55 50.6 +2.1
ARCR	ARCALIA	23.15	316	⇓P		P	23 55 50.7 +1.3
OHR	Ohrid	23.32	299	*i* P		P	23 55 53.0 +1.9
GZR	Gura Zlata	23.33	311	⇑P		P	23 55 51.2 -0.1
GZR	Gura Zlata	23.33	311	⇑P		P	23 55 51.2 -0.1
HERR	Herculane	23.36	309	⇑P		P	23 55 51.9 +0.5
IGT	Igoumenitsa	23.37	295	P		P	23 55 50.1 -1.5
CJR	Cluj-Napoca	23.42	314	⇑P		P	23 55 53.8 +1.7
CJR	Cluj-Napoca	23.42	314	⇑P		P	23 55 53.8 +1.7
MDVR	Moldovita	23.78	309	⇓P		P	23 55 56.1 +0.4
BMR	Baia Mare	23.95	316	⇓P		P	23 55 49.0 -8.2
BMR	Baia Mare	23.95	316	⇓P		P	23 55 49.0 -8.2
OBN	Obninsk	24.01	344	P		P	23 55 57.6 0.0
	comp=Z,1.5nm,0.4s,baz=133,slow=5.2,SNR=4.5						
OBN	Obninsk	24.01	344	*e*P		P	23 55 59.6 +2.0
OBN				*e*			23 56 25.6
OBN				*e*PPP	PPP		23 56 38.8
OBN				pmax	pmax		
	comp=Z,26nm,1.4s						
OBN	Obninsk	24.01	344	P		P	23 55 58.2 +0.7
OBN				IAmb	IAmb		23 56 03.2
	comp=Z,34nm,1.4s						
BZS	Buzias	24.17	311	⇑P		P	23 55 56.3 -2.9
BZS	Buzias	24.17	311	⇑P		P	23 55 56.3 -2.9
MOS	Moscow	24.35	346	*e*P		P	23 55 58.2 -2.6
MOS				*e*			23 56 14.6
BANR	Banloc	24.39	310	⇑P		P	23 56 03.2 +2.0
SIRR	Siria	24.41	312	⇓P		P	23 56 03.5 +2.1
DIVS	Divibare	24.70	306	P		P	23 56 04.4 +0.2
ARU	Arti	25.06	14	P		P	23 56 08.3 +1.2
	comp=Z,1.6nm,0.7s,baz=170,slow=7.2,SNR=10						
ARU	Arti	25.06	14	*c i*P		P	23 56 09.0 +1.9
ARU							23 56 42.7
ARU				S		S	00 00 35.3 +4.8
ARU				SS		SnSn	00 01 20.4 +0.4
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	Arti	25.06	14	P		P	23 56 08.4 +1.3
ARU				IAmb	IAmb		23 56 14.7
	comp=Z,23nm,1.4s						
UZH	Uzhgorod	25.13	317	*e*P		P	23 56 08.8 +0.9
UZH				*e*			23 56 18.4
KOLS	Kolonicke sedl	25.30	318	*e*P		P	23 56 10.9 +1.4
KOLS				pmax	pmax		
	comp=Z,13nm,1.1s						
KOLS	Kolonicke sedl	25.30	318	*e*P		P	23 56 10.9 +1.4
KWP	Kalwaria Pacla	25.43	320	P		P	23 56 11.8 +1.2
KWP				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KWP	Kalwaria Pacla	25.43	320	P		P	23 56 11.8 +1.2
KWP				IAmb	IAmb		23 56 20.9
	comp=Z,9.9nm,0.8s						
CRVS	Cervenica-Dubn	25.75	317	*e*P		P	23 56 15.2 +1.7
CRVS				pmax	pmax		
	comp=Z,18nm,1.1s						
CRVS	Cervenica-Dubn	25.75	317	*e*P		P	23 56 15.2 +1.7
SVE	Sverdlovsk	25.88	16	*e*P		P	23 56 17.3 +2.7
TIP	Timpagrande	26.07	294	⇓P		P	23 56 18.3 +1.6
TIP	Timpagrande	26.07	294	P		P	23 56 16.4 -0.2
TIP				IAmb	IAmb		23 56 21.3
	comp=Z,13nm,0.8s						
BRVK	Borovoye	26.11	31	P		P	23 56 18.2 +1.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	Borovoye	26.11	31	P		P	23 56 18.2 +1.5
BRVK				IAmb	IAmb		23 56 18.7
	comp=Z,4.3nm,0.8s						
KIRV	Kirov	26.13	2	⇑*e*P		P	23 56 16.2 -0.6
BVAR	Borovoye Array	26.13	32	P		P	23 56 18.0 +1.1
	comp=Z,1.3nm,0.6s,baz=181,slow=29,SNR=4.7						
PSZ	Piszkesteto	26.21	314	⇑P		P	23 56 21.2 +3.4
PSZ	Piszkesteto	26.21	314	P		P	23 56 18.6 +0.8
PSZ				pmax	pmax		
	comp=Z,12nm,0.8s						
PSZ	Piszkesteto	26.21	314	P		P	23 56 18.6 +0.8
PSZ				IAmb	IAmb		23 56 21.9
	comp=Z,12nm,0.8s						
NACGM	Naroch	26.94	333	*e*		P	23 56 27.0 +2.8
VYHS	Vyhne	27.10	315	*e*P		P	23 56 27.0 +1.3
VYHS	Vyhne	27.10	315	*e*P		P	23 56 27.0 +1.3
OJC	Ojcow	27.34	319	P		P	23 56 28.1 +0.2
OJC				pmax	pmax		
	comp=Z,13nm,1.0s						
OJC	Ojcow	27.34	319	P		P	23 56 28.1 +0.2
OJC				IAmb	IAmb		23 56 36.8
	comp=Z,13nm,1.0s						
MORC	Moravsky Berou	28.42	316	*e*P		P	23 56 38.0 +0.4
MORC	Moravsky Berou	28.42	316	P		P	23 56 37.7 +0.1
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MORC	Moravsky Berou	28.42	316	P		P	23 56 37.7 +0.1
CORL	Corleone	28.72	291	P		P	23 56 39.6 -0.8
VRAC	Vranov	28.78	315	*e*P		P	23 56 41.4 +0.6
KRUC	Moravsky	28.80	314	*e*P		P	23 56 41.5 +0.6
KURBB	Kurchatov Arra	28.90	42	P		P	23 56 43.2 +1.5
	comp=Z,1.4nm,0.6s,baz=246,slow=9.5,SNR=6.1						
KURBB				PcP		PcP	23 59 51.1 +0.5
	comp=Z,0.2nm,0.3s,baz=224,slow=3.7,SNR=1.9						
KLMR	Klimovskoe	28.92	351	*e*P		P	23 56 40.5 -1.3
KLMR				pmax	pmax		
	comp=Z,13nm,1.3s						
KLMR	Klimovskoe	28.92	351	*e*P		P	23 56 40.5 -1.3
KLMR				AMP			23 56 48.7
	comp=Z,13nm,1.3s						
KURK	Kurchatov	28.99	42	P		P	23 56 43.2 +0.6
KURK							23 59 51.1
KURK	Kurchatov	28.99	42	P		P	23 56 44.0 +1.4
MOA	Molln	29.69	311	*e*P		P	23 56 49.7 +0.9
	comp=Z,3.9nm,1.0s						
MK31	Makanchi Array	29.80	51	*c e*P		P	23 56 51.1 +1.3
MK31	Makanchi Array	29.80	51	P		P	23 56 50.9 +1.1
MKAR	Makanchi Array	29.80	51	P		P	23 56 51.4 +1.6
	comp=Z,2.4nm,0.7s,baz=249,slow=7.3,SNR=20						
MKAR	Makanchi Array	29.80	51	P		P	23 56 51.1 +1.3
MKAR	Makanchi Array	29.80	51	P		P	23 56 51.1 +1.3
KBA	Koelnbreinsper	30.05	309	*e*P		P	23 56 53.3 +1.0
	comp=Z,3.6nm,0.9s						
GERES	GERESS Array B	30.37	313	P		P	23 56 55.7 +0.7
	comp=Z,0.5nm,0.6s,baz=96,slow=8.5,SNR=5.4						
GERES				PcP		PcP	23 59 55.4 +0.8
	comp=Z,0.1nm,0.3s,baz=141,slow=4.5,SNR=4.6						
GERES	GERESS Array B	30.37	313	P		P	23 56 55.4 +0.4
GERES	GERESS Array B	30.37	313	P		P	23 56 55.4 +0.4
CTI	Castel Tesino	30.92	307	P		P	23 56 59.8 -0.1
CTI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CTI	Castel Tesino	30.92	307	P		P	23 56 59.8 -0.1
CTI				IAmb	IAmb		23 57 15.5
	comp=Z,8.0nm,1.1s						
ZCCA	Zocca	31.05	303	P		P	23 57 01.2 +0.3
SQTA	Sankt Quirin	31.49	309	*e*P		P	23 57 04.5 -0.4
	comp=Z,3.0nm,0.5s						
MOTA	Moosalm	31.59	309	*e*P		P	23 57 05.1 -0.7
	comp=Z,2.5nm,0.5s						
CLL	Collm	31.69	317	*e*P		P	23 57 06.0 -0.4
CLL	Collm	31.69	317	*e*P		P	23 57 06.0 -0.4
FETA	Feichten	31.76	308	*e*P		P	23 57 07.3 0.0
	comp=Z,4.1nm,0.8s						
RETA	Reute	31.85	309	*e*P		P	23 57 07.9 -0.1
	comp=Z,0.9nm,0.5s						
FIA1	FINESS Array S	32.27	340	P		P	23 57 11.4 +0.1
FINES	FINESS Array B	32.27	340	P		P	23 57 11.2 -0.2
	comp=Z,2.0nm,0.4s,baz=147,slow=10.0,SNR=24						
FINES	FINESS Array B	32.27	340	P		P	23 57 11.4 +0.1
DAVA	Damuels	32.39	308	*e*P		P	23 57 12.1 -0.7
	comp=Z,5.7nm,0.5s						
ZAA0	Zalesovo Array	33.82	40	P		P	23 57 25.6 +0.5
ZAA0				IAmb	IAmb		23 57 30.4
	comp=Z,3.4nm,1.1s						
ZALV	Zalesovo Beam	33.82	40	P		P	23 57 25.6 +0.6
	comp=Z,1.9nm,0.4s,baz=236,slow=7.6,SNR=11						
ZALV	Zalesovo Beam	33.82	40	P		P	23 57 25.4 +0.3
ZALV	Zalesovo Beam	33.82	40	P		P	23 57 25.4 +0.3
DGZ	Jazzator, Alta	33.90	48	⇑*e*P		P	23 57 28.1 +2.1
DGZ				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BNI	Bardonecchia	34.18	304	P		P	23 57 28.2 -0.3
BNI				pmax	pmax		
	comp=Z,18nm,1.2s						
BNI	Bardonecchia	34.18	304	P		P	23 57 28.2 -0.3
NB2	NORSAR Array	37.20	331	P		P	23 57 53.0 -1.0
	comp=Z,0.4nm,0.5s,baz=124,slow=8.6						
NOA	NORSAR Array B	37.20	331	P		P	23 57 53.5 -0.6
	comp=Z,0.5nm,0.6s,baz=125,slow=8.6,SNR=4.3						
SHL	Shillong	38.82	89	P		P	23 58 07.8 -0.5
SHL				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SHL	Shillong	38.82	89	P		P	23 58 07.8 -0.5
SHL				IAmb	IAmb		23 58 10.4
	comp=Z,7.0nm,0.4s						
ARCES	ARCESS Array B	39.19	348	P		P	23 58 10.8 +0.1
	comp=Z,2.1nm,0.8s,baz=134,slow=6.9,SNR=5.9						
PALK	Pallekele	39.43	122	P		P	23 58 12.6 -0.7
PALK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PALK	Pallekele	39.43	122	P		P	23 58 12.6 -0.7
PALK				IAmb	IAmb		23 58 18.3
	comp=Z,10nm,1.1s						
GTA	Gaotai	42.07	65	*e*P		P	23 58 36.3 +1.3
GTA				pP	sP		23 58 40.0 -2.7
GTA				sP	pP		23 58 43.1 +2.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ESDC	Sonseca Array	42.08	295	P		P	23 58 35.5 +0.5
	comp=Z,1.7nm,0.6s,baz=77,slow=8.1,SNR=18						
ESDC	Sonseca Array	42.08	295	P		P	23 58 34.3 -0.7
ESK	Eskdalemuir	42.14	318	P		P	23 58 35.4 +0.3
ESK				pmax	pmax		
	comp=Z,30nm,1.4s						
ESK	Eskdalemuir	42.14	318	P		P	23 58 35.4 +0.3
PAB	San Pablo	42.39	295	P		P	23 58 36.8 -0.7
PAB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PAB	San Pablo	42.39	295	P		P	23 58 36.8 -0.7
DSB	Dublin	43.67	315	P		P	23 58 47.6 +0.1
LZH	Lanzhou	45.79	69	*e*P		P	23 59 04.6 -0.4
LZH	Lanzhou	45.79	69	pP	pP		23 59 09.3 -1.2
TOA0	Torodi Ar. Sit	46.36	257	P		P	23 59 08.7 -0.8
TOA0				IAmb	IAmb		23 59 13.1
	comp=Z,5.8nm,1.3s						
TORD	Torodi Ar. Bea	46.36	257	P		P	23 59 09.3 -0.1
	comp=Z,0.8nm,0.6s,baz=61,slow=8.1,SNR=6.7						
TORD	Torodi Ar. Bea	46.36	257	P		P	23 59 09.1 -0.4
DBIC	Dimbokro	55.31	254	P		P	00 00 16.1 -0.8
DBIC				pmax	pmax		
	comp=Z,14nm,1.5s						
DBIC	Dimbokro	55.31	254	P		P	00 00 16.1 -0.8
KULM	Kulim	56.01	107	P		P	00 00 21.4 -0.6
IPM	Ipoh	56.79	108	P		P	00 00 26.8 -0.7
BOSA	Boshof	64.47	202	P		P	00 01 20.4 +0.7
	comp=Z,4.2nm,1.0s,baz=18,slow=4.7,SNR=7.3						
YSS	Yuzh-Sakhalins	70.07	47	⇓*e*P		P	00 01 58.3 +3.3
YSS				pmax	pmax		
	comp=Z,45nm,1.0s						

HEL ***15*** *23:51:10.2, 67.84N×19.84E, h0km, ML1.9, Explosion*
UPP 15 23:51:11.5±0.0, 67.84N×20.19E, h0km, ML2.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	25	P		Pg	23 51 14.2	+0.3
KUA	Kurravaara	0.13	25	*i* P		Pg	23 51 14.2	+0.3
RATU	Laukkuluspa	0.23	267	P		Pg	23 51 16.1	+0.3
RATU	Laukkuluspa	0.23	267	*i* P		Pg	23 51 16.1	+0.3
KOVU	Salmi	0.39	358	P		Pg	23 51 19.0	+0.1
KOVU				S		Sg	23 51 24.1	+0.2
KOVU	Salmi	0.39	358	*i* P		Pg	23 51 19.0	+0.1
KOVU				*i* S		Sg	23 51 24.1	+0.2
LANU	Lannavaara	0.71	72	P		Pg	23 51 25.0	-0.1
LANU	Lannavaara	0.71	72	*e*PB		Pb	23 51 26.1	-0.7
LANU				*e*S		Sb	23 51 36.8	-0.2
DUNU	Dundret	0.73	168	P		Pg	23 51 25.2	-0.3
DUNU	Dundret	0.73	168	*i* P		Pg	23 51 25.2	-0.3
MASU	Masugnsbyn	0.79	118	P		Pg	23 51 26.5	-0.1
MASU	Masugnsbyn	0.79	118	*i* P		Pg	23 51 26.5	-0.1
SALU	Saltoluokta	0.79	235	P		Pg	23 51 26.5	-0.2
SALU	Saltoluokta	0.79	235	*i* P		Pg	23 51 26.5	-0.2
KIF	Kilpisjarvi	1.19	11	*e*PB		Pg	23 51 34.5	+0.2
KIF				MSG			23 51 48.6	
	comp=Z,13nm,0.2s							
KIF				*e*SB		Sg	23 51 50.4	+0.5
KIF	Kilpisjarvi	1.19	11	*e*P		Pb	23 51 35.0	+0.1
PAJU	Pajala	1.39	125	P		Pg	23 51 37.0	-1.1
PAJU	Pajala	1.39	125	*e*P		Pg	23 51 37.0	-1.1
ERTU	Ertsjaerv	1.50	148	P		Pn	23 51 39.3	-0.4
ERTU	Ertsjaerv	1.50	148	*e*P		Pn	23 51 39.3	-0.4
HARU	Harads	1.71	169	P		Pn	23 51 42.7	+0.2
HARU	Harads	1.71	169	*e*P		Pn	23 51 42.7	+0.2
STEI	Steigen	1.88	275	*e*P		Pb	23 51 46.2	-0.4
KALU	Kalix	2.35	146	*e*P		Pn	23 51 52.3	+1.1
KALU	baz=324							
				*e*SG		Sb	23 52 24.8	+0.7
TOF	Tornio	2.40	135	*e*PB		Pn	23 51 53.5	+1.6
TOF				MSG			23 52 24.1	
	comp=Z,4.0nm,0.2s							
TOF				*e*SG		Sb	23 52 26.4	+0.9
SGF	Sodankyl	2.45	96	*e*PB		Pb	23 51 54.8	-1.6
SGF				*e*SG		Sb	23 52 27.9	+0.7
RNF	Rovaniemi	2.58	116	*e*PB		Pb	23 51 56.6	-1.9
RNF				*e*SG		Sb	23 52 30.9	+0.2
ARE0	ARCESS Array S	2.58	46	*e*P		Pn	23 51 55.6	+1.1
ARE0				*e*SG		Sb	23 52 32.3	+1.4
BURU	Burvik	3.30	171	*e*PB		Pb	23 52 08.1	-2.8
VRF	Varrio	3.58	87	*e*PB		Pb	23 52 12.7	-2.8
	baz=273							
OUL	Oulu	3.59	138	*e*PG		Pg	23 52 19.4	-0.8
KU6	Riekki	4.23	111	*e*P		Pn	23 52 19.8	+2.8

UPP 15 23:51:13.3±0.0, 67.84N×20.19E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	26	P		Pg	23 51 16.0	+0.3
KUA				S		Sg	23 51 18.0	+0.6
KUA	Kurravaara	0.13	26	*i* S		Pg	23 51 16.0	+0.3
KUA	Kurravaara	0.13	26	S		Sg	23 51 16.0	+0.3
RATU	Laukkuluspa	0.23	266	P		Pg	23 51 17.9	+0.2
RATU				S		Sg	23 51 21.2	+0.6
KOVU	Salmi	0.39	358	P		Pg	23 51 20.8	+0.1
LANU	Lannavaara	0.71	72	P		Pg	23 51 26.6	-0.3
DUNU	Dundret	0.74	168	P		Pg	23 51 27.3	-0.1
MASU	Masugnsbyn	0.79	118	P		Pg	23 51 28.2	-0.2
SALU	Saltoluokta	0.79	235	P		Pg	23 51 28.2	-0.2
PAJU	Pajala	1.39	125	P		Pg	23 51 38.6	-1.4
PAJU				S		Sg	23 51 57.3	-0.7

MOS ***15*** *23:53:01.0±0.8, 31.77N×140.39E, h67km, mb6.0/111, MS4.8/18, Error ellipse: s-maj=6.5km s-min=3.8km az=113.6*

NEIC ***15*** *23:53:01.7, 31.75N×140.52E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.29; $M_{\theta\theta}$=1.24; $M_{\phi\phi}$=1.05; $M_{r\theta}$=-1.24; $M_{\theta\phi}$=0.72; $M_{\phi r}$=-0.01; Fault plane solution: M_{o}2.45000×10^{17} NP1:ϕ_s65.86000°, δ59.41000°, λ-75.38000°. NP2:ϕ_s218.73000°, δ33.60000°, λ-113.12000°. Principal axes: T 2.0925, Plg13.0000°, Azm145.0000°; N 0.6007, Plg13.0000°, Azm238.0000°; P -2.6932, Plg72.0000°, Azm10.0000°;*

IDC ***15*** *23:53:01.8±0.9, 31.76N×140.43E, h56km±7km, mb5.3/42, mb1 5.4/45, mb1mx5.3/51, mbtmp5.6/45, MS4.7/38, Ms1 4.7/38, ms1mx4.7/41 Error ellipse: s-maj=10.5km s-min=6.5km az=72.0*

NEIC ***15*** *23:53:02.3±1.4, 31.79N±0.05×140.51E±0.08, h60km±1km, mb5.8/336, Mwb5.5/52, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=12.3km s-min=8.3km az=251.0*

JMA ***15*** *23:53:03.1±0.1, 32.12N×140.82E, h9km, MS.7*

JMA Felt II J1.

NIED ***15*** *23:53:03.2, 32.12N×140.82E, h9km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.13; $M_{\theta\theta}$0.95; $M_{\phi\phi}$0.18; $M_{r\theta}$-0.68; $M_{\theta\phi}$1.18; $M_{\phi r}$-1.22; Fault plane solution: M_{o}2.07000×10^{17} NP1:ϕ_s32.00000°, δ69.00000°, λ-114.00000°. NP2:ϕ_s263.00000°, δ31.00000°, λ-43.00000°.*

GCMT ***15*** *23:53:04.3±0.1, 31.86N±0.01×140.60E±0.01, h71km, MW5.5/156, Moment Tensor Solution. s144, c253; s156, c312; Duration: 194 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.21±.03; $M_{\theta\theta}$1.43±.03; $M_{\phi\phi}$0.78±.03; $M_{r\theta}$-1.09±.02; $M_{\theta\phi}$1.22±.02; $M_{\phi r}$0.03±.02; Best double couple: M_{o}2.53900×10^{17} NP1:ϕ_s217.00000°, δ37.00000°, λ-116.00000°. NP2:ϕ_s68.00000°, δ57.00000°, λ-72.00000°. Principal axes: T 2.5260, Plg11.0000°, Azm145.0000°; N 0.0310, Plg15.0000°, Azm238.0000°; P -2.5530, Plg72.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *23:53:04, 31.65N×140.66E, h80km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.13; $M_{\theta\theta}$1.31; $M_{\phi\phi}$0.83; $M_{r\theta}$-0.88; $M_{\theta\phi}$1.03; $M_{\phi r}$-0.47; Fault plane solution: M_{o}2.35000×10^{17} NP1:ϕ_s227.00000°, δ33.00000°, λ-97.00000°. NP2:ϕ_s56.00000°, δ58.00000°, λ-85.00000°. Principal axes: T 2.3388, Plg12.0000°, Azm143.0000°; N 0.0263, Plg4.0000°, Azm233.0000°; P -2.3651, Plg77.0000°, Azm341.0000°;*

NEIC ***15*** *23:53:05, 31.84N×140.67E, h75km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.20; $M_{\theta\theta}$1.48; $M_{\phi\phi}$0.72; $M_{r\theta}$-0.99; $M_{\theta\phi}$1.38; $M_{\phi r}$0.11; Fault plane solution: M_{o}2.58000×10^{17} N

JYT	**Yasato**	**4.42**	**357**		Pn		**Pn**	**23 54 07.6**	**+0.7**
TSUJ	**Tsu 2**	**4.49**	**311**	⇑	P		**Pn**	**23 54 11.4**	**+3.6**
JNT	**Takato**	**4.52**	**335**		P		**Pn**	**23 54 12.6**	**+4.3**
INU	**Inuyama**	**4.59**	**321**		Pn		**Pn**	**23 54 12.8**	**+3.7**
JTNC	**Tanabenakahech**	**4.59**	**297**	⇑	P		**Pn**	**23 54 12.6**	**+3.4**
JGF	**Kuroka**	**4.61**	**326**		P		**Pn**	**23 54 13.5**	**+4.0**
JGF	**Kuroka**	**4.61**	**326**		Pn		**Pn**	**23 54 13.7**	**+4.2**
JICN	**Ichinomiyachia**	**4.64**	**320**		P		**Pn**	**23 54 13.9**	**+4.0**
JAG	**Ashikaga**	**4.70**	**350**		P		**Pn**	**23 54 12.2**	**+1.6**
JAG					*e*S		**Sn**	**23 55 03.5**	**-0.3**
JWY	**Kouya**	**4.78**	**302**		P		**Pn**	**23 54 15.7**	**+3.8**
JEG	**Eigenji**	**4.79**	**315**		P		**Pn**	**23 54 16.0**	**+4.1**
JWM	**Minabe**	**4.80**	**297**	⇑	P		**Pn**	**23 54 15.4**	**+3.4**
CBIJ	**Chichi jima**	**4.91**	**162**		P		**Pn**	**23 54 13.4**	**-0.2**
CBIJ					*e*S		**Sn**	**23 55 06.6**	**-2.5**
JCJ	**Chichijima**	**4.91**	**162**		P		**Pn**	**23 54 13.3**	**-0.3**
	245nm,0.3s,baz=344,slow=6.9,SNR=48								
JCJ					S		**Sn**	**23 55 04.5**	**-4.7**
	480nm,0.3s,baz=105,slow=23,SNR=5.6								
JCJ					LR		LR	23 55 30.3	
	comp=Z,3µm,20.1s,baz=348,slow=30								
JCJ	**Chichijima**	**4.91**	**162**		Pn		**Pn**	**23 54 12.6**	**-1.0**
JYTA	**Yamagatataniai**	**4.92**	**321**		P		**Pn**	**23 54 17.8**	**+4.1**
JHE	**Heguri**	**4.94**	**306**	⇑	P		**Pn**	**23 54 17.7**	**+3.7**
JNG	**Nsakai**	**5.01**	**337**		P		**Pn**	**23 54 18.2**	**+3.2**
JKT	**Katashina**	**5.06**	**348**		P		**Pn**	**23 54 16.9**	**+1.2**
MJAR	**Matsushiro Arr**	**5.10**	**339**		P		**Pn**	**23 54 18.9**	**+2.7**
	11nm,0.3s,baz=162,slow=13,SNR=161								
MJAR					S		**Sn**	**23 55 13.9**	**+0.1**
	6.0nm,0.3s,baz=163,slow=12,SNR=4.2								
MJAR					LR		LR	23 56 26.1	
	comp=Z,11µm,21.6s,baz=150,slow=40								
MJAR	**Matsushiro Arr**	**5.10**	**339**		P		**Pn**	**23 54 18.0**	**+1.8**
MJAR	**Matsushiro Arr**	**5.10**	**339**				**Pn**	**23 54 18.0**	**+1.8**
MAJO	**Matsushiro**	**5.10**	**339**	*de*	P		**Pn**	**23 54 18.3**	**+2.1**
MAJO	**Matsushiro**	**5.10**	**339**		Pn		**Pn**	**23 54 18.0**	**+1.8**
MAT	**Matsushiro**	**5.10**	**339**		P		**Pn**	**23 54 18.8**	**+2.6**
MAT					*e*S		**Sn**	**23 55 15.9**	**+2.1**
MAT	**Matsushiro**	**5.10**	**339**		P		**Pn**	**23 54 20.0**	**+3.8**
MJB9	**Matsu-Tunnel**	**5.11**	**339**				**Pn**	**23 54 19.1**	**+2.8**
JGN	**Niukaw**	**5.15**	**330**		P		**Pn**	**23 54 21.2**	**+4.3**
JSB	**Shiboa**	**5.18**	**355**		P		**Pn**	**23 54 18.2**	**+0.9**
JFM	**Mihama**	**5.30**	**316**	⇑	P		**Pn**	**23 54 23.0**	**+4.1**
JMIK	**Miki**	**5.46**	**305**	⇑	P		**Pn**	**23 54 25.5**	**+4.3**
JAI	**Aioi**	**5.47**	**293**	⇑	P		**Pn**	**23 54 25.2**	**+3.9**
JWT	**Wachi**	**5.50**	**311**	⇑	P		**Pn**	**23 54 25.8**	**+4.1**
JWT	**Wachi**	**5.50**	**311**				**Pn**	**23 54 25.7**	**+4.1**
MRT2	**Murotomisaki 2**	**5.60**	**288**	⇑	P		**Pn**	**23 54 26.8**	**+3.8**
JJN	**Nakama**	**5.63**	**341**	⇑	P		**Pn**	**23 54 26.0**	**+2.5**
JKS	**Kasai**	**5.70**	**305**	⇑	P		**Pn**	**23 54 28.5**	**+4.1**
JFT	**Otama**	**5.71**	**359**	⇑	P		**Pn**	**23 54 24.5**	**0.0**
JKY	**Yasaka**	**5.91**	**312**	⇑	P		**Pn**	**23 54 31.3**	**+4.1**
JMN	**Monobe**	**5.91**	**291**	⇑	P		**Pn**	**23 54 31.3**	**+4.0**
JMN	**Monobe**	**5.91**	**291**		Pn		**Pn**	**23 54 31.0**	**+3.7**
JMM	**Marumori**	**6.06**	**2**				**Pn**	**23 54 28.7**	**-0.6**
JAD	**Aida**	**6.16**	**302**	⇑	P		**Pn**	**23 54 34.7**	**+4.0**
JKSM	**Kasumi**	**6.17**	**309**	⇑	P		**Pn**	**23 54 34.6**	**+3.9**
JKU	**Kubokawa**	**6.46**	**285**	⇑	P		**Pn**	**23 54 38.8**	**+3.9**
JSD	**Sado**	**6.49**	**344**		P		**Pn**	**23 54 35.4**	**+0.2**
JSD	**Sado**	**6.49**	**344**		Pn		**Pn**	**23 54 35.5**	**+0.2**
JET	**Tanbara**	**6.59**	**289**	⇑	P		**Pn**	**23 54 40.4**	**+3.9**
JTO	**Tosashimizu**	**6.61**	**281**	⇑	P		**Pn**	**23 54 40.5**	**+3.7**
JKR	**Kurayoshi**	**6.62**	**304**		P		**Pn**	**23 54 41.7**	**+4.7**
UWA2	**Uwa jima 2**	**6.81**	**284**		P		**Pn**	**23 54 43.8**	**+4.2**
JHS	**Saijyo**	**6.96**	**299**		P		**Pn**	**23 54 45.8**	**+4.2**
JHS	**Saijyo**	**6.96**	**299**				**Pn**	**23 54 45.3**	**+3.7**
JHM	**Kurahashi**	**7.10**	**291**		P		**Pn**	**23 54 47.6**	**+4.1**
JRG	**Rokugo**	**7.58**	**1**		P		**Pn**	**23 54 49.5**	**-0.6**
JOM	**Ohasama**	**7.68**	**5**		P		**Pn**	**23 54 50.1**	**-1.4**
JNU	**Nakatsue**	**8.25**	**282**		P		**Pn**	**23 55 03.3**	**+4.0**
	15nm,0.3s,baz=103,slow=4.5,SNR=75								
JNU					S		**Sn**	**23 56 31.6**	**+0.6**
	baz=218,slow=15,SNR=0.5								
JNU					LR		LR	23 58 10.9	
	comp=Z,9µm,20.6s,baz=102,slow=38								
JFA	**Akaike**	**8.40**	**286**		P		**Pn**	**23 55 05.5**	**+4.1**
JSU	**Suzuyama**	**8.58**	**271**				**Pn**	**23 55 08.0**	**+4.2**
JTM	**Tenmabayashi**	**8.98**	**3**		Pn		**Pn**	**23 55 07.7**	**-1.6**
JTU	**Tsushima**	**9.70**	**289**				**Pn**	**23 55 22.4**	**+3.3**
JKDJ	**Kitadaitoujima**	**9.96**	**236**		P		Pn	23 55 29.0	+6.4
JMZ	**Minamidaito 2**	**10.09**	**236**		P		Pn	23 55 30.4	+5.9
JMZ	**Minamidaito 2**	**10.09**	**236**				**Pn**	**23 55 26.6**	**+2.2**
ERM	**Erimo**	**10.41**	**11**		P		**Pn**	**23 55 26.6**	**-2.2**
ERM	**Erimo**	**10.41**	**11**		Pn		**Pn**	**23 55 26.6**	**-2.2**
JEW	**Eniwo**	**11.05**	**4**		Pn		**Pn**	**23 55 35.1**	**-2.3**
JOW	**Kunigami**	**11.77**	**248**		P		Pn	23 55 53.0	+5.6
KSRS	**Korea Array**	**11.80**	**302**		P		**Pn**	**23 55 51.8**	**+4.0**
	4.3nm,0.3s,baz=117,slow=13,SNR=198								
KSRS					LR		LR	00 00 12.0	
	comp=Z,6µm,20.7s,baz=112,slow=36								
KSRS					PcP		**PcP**	**00 01 32.8**	**+1.3**
	0.3nm,0.3s,baz=162,slow=0.5,SNR=7.0								
KS19	**Wonju Array Si**	**11.86**	**302**				**Pn**	**23 55 52.2**	**+3.6**
NMR	**Nemuro--Hokkai**	**12.26**	**18**	⇑	*i*P		**Pn**	**23 55 50.4**	**-3.6**
ASAJ	**Asahikawa**	**12.40**	**7**		P		**Pn**	**23 55 52.7**	**-3.3**
	10nm,0.3s,baz=224,slow=10,SNR=35								
ASAJ					S		Sn	23 58 02.3	-10
	5.3nm,0.3s,baz=32,slow=27,SNR=3.4								
ASAJ	**Asahikawa**	**12.40**	**7**		P		**Pn**	**23 55 53.0**	**-3.0**
JKA	**Kamikawa-asahi**	**12.40**	**7**				**Pn**	**23 55 53.0**	**-3.0**
INCN	**Inchon**	**12.75**	**300**		P		**P**	**23 56 06.8**	**-3.0**
INCN					P		**P**	**23 56 06.8**	**-3.0**
INCN	**Inchon**	**12.75**	**300**		P		**Pn**	**23 56 04.6**	**+3.8**
INCN	**Inchon**	**12.75**	**300**				**Pn**	**23 56 04.6**	**+3.8**
RUSJ	**Misakicho**	**12.84**	**16**	⇑	*i*P		**Pn**	**23 55 59.7**	**-2.1**
GRPR	**Tuman**	**12.86**	**17**	*c*	*i*P		**Pn**	**23 55 58.5**	**-3.6**
GRPR					pmax	pmax			
	comp=Z,297nm,0.4s								
GRPR					pmax	pmax			
	comp=N,54nm,0.3s								
GRPR					pmax	pmax			
	comp=E,170nm,0.4s								
GRPR					pmax	pmax			
	comp=Z,477nm,1.4s								
YUK	**Yuzh-Kuril'sk**	**12.92**	**18**	*e*	P		Pn	23 55 57.7	-5.3
YUK					pmax	pmax			
	comp=Z,366nm,0.2s								
YUK					pmax	pmax			
	comp=N,247nm,0.3s								
YUK					pmax	pmax			
	comp=E,268nm,0.6s								
YUK					pmax	pmax			
	comp=Z,856nm,1.5s								
WOSN	**Wonsan**	**12.94**	**308**		P		**P**	**23 56 10.2**	**-1.6**
CHJN	**Chongjin**	**13.15**	**322**		P		**Pn**	**23 56 08.7**	**+2.5**
VLA	**Vladivostok**	**13.20**	**331**	⇓	*e*P		**Pn**	**23 56 07.5**	**+0.7**
VLA					pmax	pmax			
	comp=Z,61nm,0.7s								
HHU	**Hamhung**	**13.28**	**311**		P		**P**	**23 56 14.2**	**-1.3**
HHU					S		**Sn**	**23 58 38.3**	**+4.6**
TEY	**Ternei**	**13.56**	**348**	⇑	*e*P		**Pn**	**23 56 11.0**	**-0.7**
TEY					*e*			23 58 37.9	
TEY					pmax	pmax			
	comp=N,50nm,0.7s								
TEY					pmax	pmax			
	comp=Z,20nm,1.2s								
TEY					pmax	pmax			
	comp=N,100nm,0.9s								
TEY					pmax	pmax			
	comp=E,70nm,0.9s								
TEY					pmax	pmax			
	comp=Z,140nm,0.9s								
HJU	**Haeju**	**13.63**	**301**		P		**P**	**23 56 21.1**	**+1.7**
PYAG	**Pyongyang**	**14.03**	**305**		P		**P**	**23 56 23.7**	**-0.1**
PYAG					S		Sn	23 58 38.3	-14
PYS	**Pyongsong**	**14.05**	**306**		P		**P**	**23 56 25.3**	**+1.2**
PYS					S		**S**	**23 59 14.2**	**+3.8**
USA0B	**Ussuriysk Arra**	**14.07**	**334**		P		**Pn**	**23 56 18.9**	**+0.4**
USA0B	**Ussuriysk Arra**	**14.07**	**334**				**Pn**	**23 56 18.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**14.07**	**334**		P		**Pn**	**23 56 18.0**	**-0.5**
	baz=140,slow=9.7,SNR=36								
USRK					LR		LR	00 01 18.2	
	comp=Z,6µm,20.6s,baz=140,slow=35								
USRK	**Ussuriysk Ar.**	**14.07**	**334**		P		**Pn**	**23 56 18.5**	**0.0**
USRK	**Ussuriysk Ar.**	**14.07**	**334**				**Pn**	**23 56 18.5**	**0.0**
KUR	**Kuril'sk**	**14.59**	**21**	*c*	*i*P		**Pn**	**23 56 24.0**	**-1.2**
KUR					pmax	pmax			
	comp=Z,331nm,0.8s								
KUR					pmax	pmax			
	comp=N,90nm,0.7s								
KUR					pmax	pmax			
	comp=E,75nm,0.6s								
KUR					MLR	MLR			
	comp=Z,2µm,15.0s								
KUR					MLR	MLR			
	comp=E,2µm,12.0s								
YSS	**Yuzh-Sakhalins**	**15.23**	**6**	*ce*	P		**Pn**	**23 56 30.7**	**-2.8**
YSS					pmax	pmax			
	comp=Z,159nm,0.8s								
YSS	**Yuzh-Sakhalins**	**15.23**	**6**				**Pn**	**23 56 30.5**	**-3.0**
YSS					IAmb	IAmb		23 56 40.1	
	comp=Z,662nm,0.7s								
SUJ	**Sinuiju**	**15.38**	**307**		P		**P**	**23 56 41.1**	**+2.3**
MDJ	**Mudanjiang**	**15.39**	**329**		P		**P**	**23 56 37.6**	**-1.3**
MDJ					S		**Sn**	**23 59 22.1**	**-2.8**
MDJ					pmax	pmax			
	comp=Z,90nm,0.9s								
MDJ					LR	LR			
	comp=Z,5µm,24.1s								
MDJ					LR	LR			
	comp=Z,4µm,20.2s								
MDJ					LR	LR			
	comp=Z,10µm,17.0s								
MDJ	**Mudanjiang**	**15.39**	**329**				**Pn**	**23 56 35.8**	**+0.3**
ANA2	**Anatahan**	**16.10**	**162**		Pn		**Pn**	**23 56 44.4**	**-0.4**
SSE	**Sheshan**	**16.51**	**273**		P		**P**	**23 56 52.5**	**+1.1**
SSE					pmax	pmax			
	comp=Z,37nm,1.1s								
SSE					pmax	pmax			
	comp=Z,420nm,5.2s								
SSE					LR	LR			
	comp=Z,580nm,15.9s								
SSE	**Sheshan**	**16.51**	**273**		Pn		**Pn**	**23 56 50.1**	**+0.3**
IRIF	**Iriomote-Funau**	**16.56**	**248**		P		**P**	**23 56 55.5**	**+3.4**
SNY	**Shenyang**	**16.82**	**311**	⇑	P		**P**	**23 56 56.5**	**+1.6**
SNY					S		**Sn**	**23 59 58.4**	**-1.3**
SNY					pmax	pmax			
	comp=Z,77nm,0.7s								
SNY					pmax	pmax			
	comp=Z,1µm,5.9s								
SNY					LR	LR			
	comp=Z,3µm,17.8s								
SNY					LR	LR			
	comp=Z,2µm,20.6s								
SNY					LR	LR			
	comp=Z,5µm,23.5s								
DL2	**Dalian**	**16.94**	**300**		P		**Pn**	**23 56 53.8**	**-1.3**
DL2					pP		**P**	**23 57 00.4**	**+4.2**
DL2					pmax	pmax			
	comp=Z,34nm,1.4s								
DL2					pmax	pmax			
	comp=Z,190nm,3.9s								
DL2					LR	LR			
	comp=Z,4µm,16.1s								
DL2					LR	LR			
	comp=Z,3µm,22.2s								
DL2					LR	LR			
	comp=Z,5µm,24.9s								
YOJ	**Yonaguni jima**	**17.07**	**249**		P		**P**	**23 57 00.5**	**+2.8**
YOJ	**Yonaguni jima**	**17.07**	**249**		P		**P**	**23 56 58.8**	**+1.1**
YOJ					pmax	pmax			
	comp=Z,253nm,0.9s								
YOJ	**Yonaguni jima**	**17.07**	**249**		P		**P**	**23 56 58.8**	**+1.1**
UGL	**Uglegorsk**	**17.30**	**3**	*d*	*i*P		**P**	**23 57 00.4**	**+0.4**
UGL					*e*S		**S**	**00 00 15.2**	**-1.3**
UGL					pmax	pmax			
	comp=Z,2µm,2.2s								
UGL					pmax	pmax			
	comp=Z,712nm,1.0s								
UGL					pmax	pmax			
	comp=N,325nm,1.1s								
UGL					pmax	pmax			
	comp=E,572nm,0.8s								
UGL					smax	smax			
	comp=E,3µm,9.6s								
UGL					smax	smax			
	comp=N,9µm,7.7s								
UGL					smax	smax			
	comp=Z,6µm,7.6s								
UGL					MLR	MLR			
	comp=Z,3µm,20.0s								
UGL					MLR	MLR			
	comp=E,3µm,16.0s								
UGL					MLR	MLR			
	comp=N,2µm,14.0s								
TATO	**Taipei**	**18.05**	**253**		P		**Pn**	**23 57 11.6**	**+2.7**
TATO					S		**S**	**00 00 36.0**	**+4.2**
TATO	**Taipei**	**18.05**	**253**		P		**Pn**	**23 57 09.5**	**+0.7**
YHNB	**Yeheng**	**18.28**	**252**		P		**Pn**	**23 57 12.3**	**+0.6**
NACB	**Ninganchiao**	**18.34**	**250**		P		**Pn**	**23 57 12.5**	**+0.2**
NJ2	**Nanjing**	**18.39**	**277**	⇑	*i*P		**Pn**	**23 57 14.9**	**+2.1**
NJ2					pmax	pmax			
	comp=N,66nm,0.5s								
NJ2					pmax	pmax			
	comp=N,660nm,3.7s								
NJ2					LR	LR			
	comp=N,920nm,17.7s								
NJ2					LR	LR			
	comp=N,2µm,17.7s								
NJ2					LR	LR			
	comp=N,3µm,17.8s								
GUMO	**Guam**	**18.56**	**167**		P		**Pn**	**23 57 15.8**	**+0.7**
	comp=N,30nm,0.3s,baz=160,slow=3.4,SNR=33								
GUMO	**Guam**	**18.56**	**167**		P		**Pn**	**23 57 14.7**	**-0.3**
YULB	**Yu-li**	**18.96**	**249**				**Pn**	**23 57 19.2**	**-0.6**
TYV	**Tymovskoe**	**19.11**	**4**		*e*P		**Pn**	**23 57 21.7**	**+0.3**
TYV					*e*S		**Sn**	**00 00 54.4**	**-0.4**
TYV					pmax	pmax			
	comp=Z,900nm,2.2s								
TYV					pmax	pmax			
	comp=Z,403nm,0.8s								
TYV					smax	smax			
	comp=E,48nm,1.8s								
TYV					smax	smax			
	comp=N,4µm,6.0s								
TYV					MLR	MLR			
	comp=Z,3µm,22.0s								
GRNR	**Gornyy**	**19.19**	**352**	⇑	*i*P		**Pn**	**23 57 22.6**	**+0.2**
GRNR					*e*S		**Sn**	**00 00 59.6**	**+2.8**
GRNR					pmax	pmax			
	comp=N,40nm,0.9s								
GRNR					pmax	pmax			
	comp=E,3.0nm,0.9s								
GRNR					pmax	pmax			
	comp=Z,40nm,0.9s								
GRNR					smax	smax			
	comp=N,20nm,1.0s								
GRNR					MLR	MLR			
	comp=E,790nm,17.0s								
GRNR					MLR	MLR			
	comp=N,590nm,12.0s								
GRNR					MLR	MLR			
	comp=Z,850nm,15.0s								
TWG	**Pinlang**	**19.43**	**247**		P		**P**	**23 57 23.5**	**-0.1**
TPUB	**Ta-pu**	**19.53**	**249**				**Pn**	**23 57 26.4**	**-0.2**
TPUB					IAmb	IAmb		23 57 48.6	
	comp=Z,531nm,1.1s								
TIA	**Tai'an**	**19.87**	**289**		P		**Pn**	**23 57 29.8**	**-0.6**
TIA					pmax	pmax			
	comp=Z,25nm,0.9s								
TIA					pmax	pmax			
	comp=Z,1µm,11.8s								
TIA					LR	LR			
	comp=Z,2µm,16.6s								
TIA					LR	LR			
	comp=Z,4µm,20.4s								
TIA					LR	LR			
	comp=Z,4µm,22.6s								
QZH	**Quanzhou**	**20.44**	**256**	⇑	*i*P		**P**	**23 57 32.1**	**-2.5**
QZH					LR	LR			
	comp=Z,2µm,19.9s								
QZH					LR	LR			
	comp=Z,2µm,24.6s								
QZH					LR	LR			
	comp=Z,2µm,22.7s								
KNMB	**Chin-men Tao**	**20.81**	**255**		P		**P**	**23 57 39.5**	**+0.9**
BJI	**Beijing**	**21.31**	**299**		P		**P**	**23 57 44.3**	**+0.5**
BJI					pmax	pmax			
	comp=Z,65nm,1.0s								
BJI					LR	LR			
	comp=Z,3µm,24.4s								
BJI					LR	LR			
	comp=Z,2µm,21.6s								
BJI					LR	LR			
	comp=Z,4µm,25.5s								
BJT	**Baijiatuau**	**21.31**	**299**		P		**P**	**23 57 43.0**	**-0.8**
BJT					pmax	pmax			
	comp=Z,51nm,0.7s								
BJT	**Baijiatuau**	**21.31**	**299**		P		**P**	**23 57 43.0**	**-0.8**
NKL	**Nikolayevsk**	**21.34**	**0**	*e*	P		**P**	**23 57 47.7**	**+3.7**
NKL					*e*S		Sn	00 01 43.6	-4.5
NKL					pmax	pmax			
	comp=N,9.0nm,0.9s								
NKL					pmax	pmax			
	comp=Z,976nm,0.8s								
NKL					MLR	MLR			
	comp=N,97nm,11.0s								
NKL					MLR	MLR			
	comp=Z,2µm,20.0s								
SKR	**Severo-Kuril's**	**22.13**	**27**	*e*	P		**P**	**23 57 49.6**	**-2.9**
SKR					*e*S		**S**	**00 01 50.8**	**-1.8**
SKR					pmax	pmax			
	comp=Z,185nm,1.1s								
SKR					pmax	pmax			
	comp=Z,700nm,13.5s								
SKR					MLR	MLR			
	comp=Z,900nm,20.0s								
WHN	**Wuhan**	**22.41**	**274**	⇓	P		**P**	**23 57 56.5**	**+0.8**
WHN					pmax	pmax			
	comp=Z,220nm,0.6s								
WHN					LR	LR			
	comp=Z,940nm,14.7s								
WHN					LR	LR			
	comp=Z,5µm,17.2s								
WHN					LR	LR			
	comp=Z,7µm,20.9s								
HIA	**Hailar**	**23.40**	**324**		P		**P**	**23 58 04.3**	**-1.3**
HIA					pmax	pmax			
	comp=Z,165nm,0.7s								
HIA	**Hailar**	**23.40**	**324**		P		**P**	**23 58 04.3**	**-1.3**
HIA					IAmb	IAmb		23 58 07.4	
	comp=Z,165nm,0.7s								
TIY	**Taiyuan**	**23.76**	**292**	*e*	P		**P**	**23 58 09.3**	**+0.2**
TIY					pmax	pmax			
	comp=Z,77nm,0.7s								
TIY					pmax	pmax			
	comp=Z,310nm,4.4s								
TIY					LR	LR			
	comp=Z,1µm,14.7s								
TIY					LR	LR			
	comp=Z,4µm,18.4s								
TIY					LR	LR			
	comp=Z,4µm,19.3s								
ZEA	**Zeya**	**23.91**	**340**	*de*	P		**P**	**23 58 10.6**	**+0.5**
ZEA					*e*			23 58 36.3	
ZEA					*e*S		**S**	**00 02 20.4**	**-1.5**
ZEA					pmax	pmax			
	comp=E,400nm,3.5s								
ZEA					pmax	pmax			
	comp=N,700nm,1.6s								
ZEA					pmax	pmax			
	comp=Z,1µm,1.7s								
ZEA					pmax	pmax			
	comp=E,160nm,0.9s								
ZEA					pmax	pmax			
	comp=N,420nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,750nm,0.8s								
ZEA					smax	smax			
	comp=Z,2µm,12.4s								
ZEA					smax	smax			
	comp=E,2µm,5.9s								
ZEA					smax	smax			
	comp=N,2µm,12.2s								
ZEA					MLR	MLR			
	comp=N,900nm,15.0s								
ZEA					MLR	MLR			
	comp=Z,900nm,15.0s								
PEA0B	**Petropavlovsk-**	**24.66**	**25**	⇓	*e*P		**P**	**23 58 18.4**	**+1.4**
PEA0B	**Petropavlovsk-**	**24.66**	**25**		P		**P**	**23 58 17.3**	**+0.4**
PETK	**Petropavlovsk-**	**24.66**	**25**		P		**P**	**23 58 18.2**	**+1.3**
	comp=Z,60nm,0.9s,baz=208,slow=4.3,SNR=27								
PETK					LR		LR	00 08 19.6	
	comp=Z,787nm,20.5s,baz=211,slow=37								
PETK	**Petropavlovsk-**	**24.66**	**25**		P		**P**	**23 58 17.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**24.92**	**299**	*e*	P		**P**	**23 58 18.5**	**-1.1**
HHC					sP	pwP		23 58 37.0	+0.6
HHC					PP		**PnPn**	**23 58 58.9**	**+3.5**
HHC					pmax	pmax			
	comp=Z,69nm,0.8s								
HHC					pmax	pmax			
	comp=Z,880nm,5.3s								
HHC					LR	LR			
	comp=Z,3µm,14.8s								
HHC					LR	LR			
	comp=Z,4µm,14.0s								
HHC					LR	LR			
	comp=Z,5µm,15.5s								
PET	**Petropavlovsk**	**24.95**	**26**	*d*	*i*P		**P**	**23 58 20.3**	**+0.7**
PET					*e**SP		**pwP**	**23 58 38.9**	**+1.7**
PET					*e*S		**S**	**00 02 37.1**	**-1.4**
PET					pmax	pmax			
	comp=Z,215nm,1.4s								
PET					pmax	pmax			
	comp=Z,600nm,15.8s								
PET					MLR	MLR			
	comp=Z,2µm,20.0s								
PET					MLR	MLR			
	comp=Z,2µm,19.0s								
TGY	**Tagaytay City**	**25.13**	**230**		P		**P**	**23 58 22.4**	**+0.7**
	comp=Z,178nm,0.3s,baz=114,slow=5.7,SNR=9.4								
H11N2	**WAKE ISLAND Hy**	**26.55**	**111**		T		T	00 27 12.9	
	baz=304,slow=75,SNR=441								
H11N1	**WAKE ISLAND Hy**	**26.56**	**111**		T		T	00 27 12.9	
	baz=304,slow=75,SNR=249								
XAN	**Xi'an**	**26.56**	**283**		P		**P**	**23 58 34.0**	**-0.5**
XAN					PP		**PnPn**	**23 59 19.3**	**+1.5**
XAN					pmax	pmax			
	comp=Z,63nm,1.0s								
XAN					pmax	pmax			
	comp=Z,340nm,9.8s								
XAN					LR	LR			
	comp=Z,1µm,14.1s								
XAN					LR	LR			
	comp=Z,2µm,15.7s								
XAN					LR	LR			
	comp=Z,2µm,15.7s								
XAN	**Xi'an**	**26.56**	**283**		P		**P**	**23 58 33.5**	**-0.9**
XAN					pmax	pmax			
	comp=Z,129nm,0.9s								
XAN	**Xi'an**	**26.56**	**283**		P		**P**	**23 58 33.5**	**-0.9**

QIZ LR LR
comp=Z,990nm,22.8s
QIZ LR LR
comp=Z,2µm,29.6s
SONM Songino Array 30.41 312 P **P** **23 59 09.9 +1.2**
comp=Z,29nm,0.5s,baz=115,slow=8.6,SNR=225
SONM PcP **PcP** **00 02 06.9 0.0**
comp=Z,2.7nm,0.3s,baz=114,slow=1.5,SNR=11
SONM ScP **ScP** **00 05 42.8 -1.2**
comp=Z,3.2nm,0.8s,baz=107,slow=4.1,SNR=4.1
SONM LR LR 00 11 38.6
comp=Z,3µm,18.4s,baz=105,slow=37
SONM Songino Array 30.41 312 P **P** **23 59 09.0 +0.4**
SONM Songino Array 30.41 312 P **P** **23 59 09.0 +0.4**
SONM Songino Array 30.41 312 pmax pmax
comp=Z,38nm,0.9s
LZH Lanzhou 30.60 288 ⇑P **P** **23 59 09.9 -0.6**
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,280nm,5.5s
LZH LR LR
comp=Z,2µm,17.1s
LZH LR LR
comp=Z,2µm,16.5s
LZH LR LR
comp=Z,2µm,17.5s
YAK Yakutsk 31.05 350 P **P** **23 59 13.7 -0.2**
comp=Z,104nm,0.7s,baz=317,slow=1.5,SNR=9.7
YAK Yakutsk 31.05 350*d iP* **P** **23 59 13.3 -0.6**
YAK *e**PP **pwP** **23 59 31.0 -0.3**
YAK *e* 00 02 05.5
YAK *e*S **S** **00 04 11.9 -2.4**
YAK *e**SS **sS** **00 04 38.1 -1.2**
YAK *e*SS **SS** **00 06 27.4 -1.6**
YAK *e* 00 09 42.2
YAK pmax pmax
comp=Z,244nm,0.9s
YAK pmax pmax
comp=N,83nm,1.3s
YAK pmax pmax
comp=E,29nm,1.1s
YAK pmax pmax
comp=Z,429nm,2.3s
YAK pmax pmax
comp=N,342nm,2.3s
YAK pmax pmax
comp=E,97nm,2.0s
YAK smax smax
comp=N,386nm,2.3s
YAK smax smax
comp=E,155nm,2.0s
YAK MLR MLR
comp=Z,3µm,21.0s
YAK MLR MLR
comp=N,2µm,23.0s
YAK MLR MLR
comp=E,690nm,20.0s
YAK Yakutsk 31.05 350 P **P** **23 59 13.4 -0.5**
CD2 Chengdu 31.30 278 P **P** **23 59 15.3 -1.4**
CD2 sP pP 23 59 34.0 +2.2
CD2 pmax pmax
comp=E,90nm,0.8s
CD2 pmax pmax
comp=E,230nm,10.0s
CD2 LR LR
comp=E,3µm,14.9s
CD2 LR LR
comp=E,2µm,20.0s
CD2 LR LR
comp=E,3µm,21.6s
BOD Bodaibo 31.70 333*eP* **P** **23 59 19.3 -0.5**
BOD pmax pmax
comp=Z,106nm,1.0s
SEY Seymchan 32.06 10 P **P** **23 59 23.7 +0.9**
comp=Z,76nm,0.8s,baz=200,slow=6.3,SNR=141
SEY Seymchan 32.06 10*d iP* **P** **23 59 23.3 +0.5**
ZAK Zakamensk 33.19 315*eP* **P** **23 59 33.3 +0.3**
ZAK pmax pmax
comp=Z,21nm,1.4s
TNTI Ternate 33.27 204 P **P** **23 59 33.1 -0.8**
comp=Z,75nm,1.1s
TNTI Ternate 33.27 204 P **P** **23 59 33.0 -0.8**
TLY Talaya 33.44 317 P **P** **23 59 36.5 +1.5**
comp=Z,24nm,0.8s,baz=133,slow=5.1,SNR=16
TLY Talaya 33.44 317 P **P** **23 59 35.3 +0.3**
TLY P **P** **23 59 35.3 +0.3**
TLY S **S** **00 04 52.2 +0.3**
TLY S **S** **00 04 52.2 +0.3**
TLY Talaya 33.44 317*d iP* **P** **23 59 35.7 +0.6**
TLY *e*S **S** **00 04 52.1 +0.2**
TLY pmax pmax
comp=Z,78nm,0.9s
TLY MLR MLR
comp=Z,7µm,19.0s
TLY Talaya 33.44 317 P **P** **23 59 35.9 +0.8**
MYLDM Lahad Datu 33.56 222 P **P** **23 59 37.3 +0.8**
MYLDM IAmb IAmb 23 59 55.4
comp=Z,70nm,0.9s
GTA Gaotai 33.73 295 ⇑P **P** **23 59 37.3 -0.5**
GTA pP pP 23 59 51.1 -1.7
GTA sP sP 23 59 57.8 -2.1
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,190nm,7.1s
GTA LR LR
comp=Z,1µm,17.8s
GTA LR LR
comp=Z,2µm,17.8s
GTA LR LR
comp=Z,2µm,17.8s
KMI Kunming 33.74 268⇓*eP* **P** **23 59 37.8 -0.4**
KMI sP sP 23 59 57.9 -2.7
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,170nm,8.8s
KMI LR LR
comp=Z,910nm,17.4s
KMI LR LR
comp=Z,970nm,24.1s
KMI LR LR
comp=Z,1µm,28.0s
KMI Kunming 33.74 268 P **P** **23 59 37.6 -0.7**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI Kunming 33.74 268 P **P** **23 59 37.6 -0.7**
SLVN Son La 34.22 261 P **P** **23 59 41.8 -0.4**
KKM Kota Kinabalu 34.24 227 P **P** **23 59 42.2 -0.3**
MANU Manus Island 34.28 168 P **P** **23 59 42.3 -0.3**
MOY Mondy 34.98 316*eP* **P** **23 59 48.9 +0.4**
MOY pmax pmax
comp=Z,43nm,1.3s
GTOI Gorontalo 35.13 211 P **P** **23 59 49.9 -0.1**
comp=Z,379nmcomp=Z,26nm,0.9s
SPMM Sapulut 35.14 225 P **P** **23 59 52.0 +1.9**
FAKI Fak Fak 35.41 194 P **P** **23 59 52.0 -0.3**
DLV T Lat 35.48 243 P **P** **23 59 53.0 -0.3**
SANI Sanana 36.38 205 P **P** **23 59 58.9 -1.8**
comp=Z,898nmcomp=Z,81nm,0.6s
LUWI Luwuk 36.74 211 P **P** **00 00 03.0 -0.7**
ADK Adak 36.99 44 P **P** **00 00 05.5 0.0**
ADK pmax pmax
comp=Z,206nm,1.0s
ADK Adak 36.99 44 P **P** **00 00 05.5 0.0**
GSTR Great Sitkin T 37.42 44 P **P** **00 00 09.3 +0.1**
ATKA Atka Island 38.56 45 P **P** **00 00 18.9 +0.1**
LKP Lekhapani 38.90 275*eP* **P** **00 00 21.9 0.0**
LKP IAmb IAmb 00 00 26.4
comp=Z,101nm,1.0s
BILL Bilibino 39.26 15*d iP* **P** **00 00 24.3 -0.1**
BILL *i* S **S** **00 06 20.1 -0.1**
BILL pmax pmax
comp=Z,294nm,2.5s
BILL Bilibino 39.26 15 P **P** **00 00 24.6 +0.2**
BILL IAmb IAmb 00 00 25.8
comp=Z,77nm,0.8s
CHTO Chiang Mai 39.51 261 P **P** **00 00 26.3 -0.8**
CHTO P **P** **00 00 26.3 -0.8**
CHTO Chiang Mai 39.51 261 P **P** **00 00 26.5 -0.6**
CHTO pmax pmax
comp=Z,75nm,1.1s
CHTO Chiang Mai 39.51 261 P **P** **00 00 26.4 -0.6**
SBUM Sibu 39.52 228 P **P** **00 00 26.8 -0.4**

CM31 Chiang Mai Arr 39.67 261 P **P** **00 00 29.0 +0.5**
SNR=7.6
CM31 Chiang Mai Arr 39.67 261 P **P** **00 00 28.4 -0.1**
CMAR Chiang Mai Arr 39.67 261 P **P** **00 00 28.2 -0.3**
comp=Z,14nm,0.6s,baz=52,slow=7.0,SNR=15
CMAR PcP **PcP** **00 02 34.5 +0.2**
comp=Z,14nm,1.0s,baz=48,slow=0.5,SNR=10
CMAR ScP **ScP** **00 06 18.4 +0.8**
comp=Z,0.9nm,0.3s,baz=23,slow=2.9,SNR=1.1
CMAR LR LR 00 18 33.4
comp=Z,862nm,18.5s,baz=106,slow=39
CMAR Chiang Mai Arr 39.67 261 P **P** **00 00 28.5 0.0**
CMAR PcP **PcP** **00 02 35.1 +0.9**
MOKO MOKOCHONG 40.34 274*eP* **P** **00 00 33.2 -0.9**
MOKO IAmb IAmb 00 00 34.6
comp=Z,61nm,1.0s
TIXI Tiksi 40.40 354*i P* **P** **00 00 33.3 -0.5**
TIXI Tiksi 40.40 354 P **P** **00 00 33.3 -0.5**
ZIRO ZIRO 40.53 276*eP* **P** **00 00 35.3 -0.4**
PMG Port Moresby 41.46 170⇑*eP* **P** **00 00 43.8 +0.7**
PMG pmax pmax
comp=Z,66nm,1.3s
PMG MLR MLR
comp=Z,372nm,19.0s
PMG Port Moresby 41.46 170 P **P** **00 00 42.6 -0.5**
KSM Kuching 41.49 229 P **P** **00 00 43.4 0.0**
KAPI Kappang 41.61 212 P **P** **00 00 44.1 -0.3**
KAPI P **P** **00 00 44.1 -0.3**
KAPI S **S** **00 06 48.9 -7.4**
KAPI S **S** **00 06 48.9 -7.4**
KAPI Kappang 41.61 212 P **P** **00 00 44.1 -0.3**
KAPI pmax pmax
comp=Z,41nm,1.0s
KAPI Kappang 41.61 212 P **P** **00 00 44.1 -0.3**
TEZP TEZPUR 41.70 275*eP* **P** **00 00 44.3 -0.8**
TEZP IAmb IAmb 00 00 45.8
comp=Z,106nm,0.7s
NIKH Nikolski High 41.91 44 P **P** **00 00 46.4 0.0**
SPIA Saint Paul Isl 42.05 38 P **P** **00 00 48.4 +0.9**
LSA Lhasa 42.18 281 P **P** **00 00 49.7 +0.2**
LSA Lhasa 42.18 281 P **P** **00 00 49.4 -0.2**
LSA pmax pmax
comp=Z,19nm,1.1s
LSA Lhasa 42.18 281 P **P** **00 00 49.4 -0.2**
WMQ Urumqi 42.75 302*eP* **P** **00 00 55.6 +2.1**
WMQ pP pP 00 01 06.0 -3.0
WMQ sP sP 00 01 13.5 -2.6
WMQ PcP **PcP** **00 02 45.3 +1.3**
WMQ S **S** **00 07 08.0 -4.8**
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=Z,620nm,18.9s
WMQ LR LR
comp=Z,740nm,24.3s
WMQ LR LR
comp=Z,990nm,24.9s
WMQ Urumqi 42.75 302 P **P** **00 00 53.4 -0.1**
WMQ pmax pmax
comp=Z,101nm,1.3s
WMQ Urumqi 42.75 302 P **P** **00 00 53.4 -0.1**
SHL Shillong 42.83 274*eP* **P** **00 00 53.2 -1.3**
SHL *i* PCP **PcP** **00 02 44.9 +0.1**
SHL Shillong 42.83 274 P **P** **00 00 53.0 -1.5**
SHL pmax pmax
comp=Z,33nm,0.6s
SHL Shillong 42.83 274 P **P** **00 00 53.0 -1.5**
DGZ Jazzator, Alta 43.03 310*d iP* **P** **00 00 56.0 +0.2**
DGZ pmax pmax
comp=Z,50nm,0.6s
UNV Unalaska Valle 43.43 43 P **P** **00 00 58.1 -0.6**
UNV IAmb IAmb 00 01 03.6
comp=Z,70nm,0.6s
GAMB Gambell 43.62 28 P **P** **00 01 00.6 +0.5**
GAMB IAmb IAmb 00 01 02.2
comp=Z,95nm,0.8s
MMRI Maumere 43.84 207 P **P** **00 01 01.7 -0.8**
AKUT Akutan 43.90 43 P **P** **00 01 02.0 -0.5**
AKUT IAmb IAmb 00 01 04.7
comp=Z,153nm,0.7s
SOEI Soe 44.15 203 P **P** **00 01 04.2 -0.8**
SOEI IAmb IAmb 00 01 60.0
comp=Z,132nm,1.0s
ZSN Zaisan 44.66 307⇓*iP* **P** **00 01 08.1 -0.7**
ZSN Zaisan 44.66 307*d iP* **P** **00 01 08.1 -0.7**
HNR Honiara 45.02 152 LR LR 00 18 50.4
comp=Z,996nm,21.3s,baz=320,slow=34
GTK Tadong 45.03 278*ex* **PcP** **00 02 52.5 +0.3**
ZAA0 Zalesovo Array 45.04 316 P **P** **00 01 11.1 -0.5**
ZAA0 PcP **PcP** **00 02 51.6 +0.1**
ZAA0 IAmb IAmb 00 02 52.5
comp=Z,81nm,0.8s
ZALV Zalesovo Beam 45.04 316 P **P** **00 01 11.0 -0.6**
comp=Z,42nm,0.6s,baz=101,slow=8.4,SNR=138
ZALV PcP **PcP** **00 02 51.8 +0.3**
comp=Z,91nm,0.8s,baz=94,slow=3.4,SNR=15
ZALV ScP **ScP** **00 06 37.2 -1.4**
comp=Z,5.2nm,0.7s,baz=100,slow=4.3,SNR=4.7
ZALV LR LR 00 20 26.5
comp=Z,2µm,19.2s,baz=94,slow=36
ZALV Zalesovo Beam 45.04 316*i P* **P** **00 01 11.0 -0.6**
ZALV pmax pmax
comp=Z,42nm,0.6s
ZALV Zalesovo Beam 45.04 316 P **P** **00 01 10.8 -0.8**
ZALV **PcP** **00 02 51.7 +0.2**
ZALV **ScP** **00 06 39.3 +0.8**
MTN Manton Dam 45.29 193 P **P** **00 01 12.7 -1.2**
COEN Coen 45.57 176 P **P** **00 01 16.5 +0.4**
MYKOM Kota Tinggi 45.65 237 P **P** **00 01 16.9 -0.1**
MYKOM PcP **PcP** **00 02 55.6 +1.4**
KULM Kulim 45.66 243 P **P** **00 01 16.6 -0.4**
TNA Tin City 45.81 27 P **P** **00 01 19.2 +1.7**
baz=248,SNR=10
TNA Tin City 45.81 27 P **P** **00 01 18.7 +1.3**
TNA IAmb IAmb 00 01 20.3
comp=Z,118nm,0.9s
IPM Ipoh 45.90 242 P **P** **00 01 17.5 -1.5**
IPM IAmb IAmb 00 02 57.2
comp=Z,78nm,0.9s
MK31 Makanchi Array 46.44 306*i* P **P** **00 01 22.3 -0.5**
MK31 pmax pmax
comp=Z,122nm,1.0s
MK31 Makanchi Array 46.44 306 P **P** **00 01 22.2 -0.6**
MK31 PcP **PcP** **00 02 57.1 +0.6**
MKAR Makanchi Array 46.44 306 P **P** **00 01 22.2 -0.6**
comp=Z,67nm,0.8s,baz=85,slow=8.2,SNR=151
MKAR PcP **PcP** **00 02 56.8 +0.2**
comp=Z,59nm,0.9s,baz=84,slow=5.4,SNR=7.6
MKAR ScP **ScP** **00 06 43.4 -1.2**
comp=Z,4.5nm,0.6s,baz=74,slow=5.6,SNR=5.2
MKAR LR LR 00 21 27.1
comp=Z,2µm,21.9s,baz=88,slow=37
MKAR P4KPbc 00 39 08.6
comp=Z,0.8nm,0.6s,baz=80,slow=5.3,SNR=7.7
ANM Nome 46.49 29 P **P** **00 01 24.9 +2.0**
ANM pmax pmax
comp=Z,193nm,0.8s
ANM Nome 46.49 29 P **P** **00 01 24.9 +2.0**
MAKZ Makanchi 46.65 306 P **P** **00 01 24.0 -0.5**
MAKZ Makanchi 46.65 306 P **P** **00 01 23.9 -0.6**
SDPT Sand Point 47.09 42 P **P** **00 01 27.7 0.0**
JAGI Jajag, Banyuwa 47.31 217 P **P** **00 01 29.3 -0.6**
CNBA Chernabura Isl 47.56 43 P **P** **00 01 31.8 +0.5**
NRIK Noril'sk 47.75 338 P **P** **00 01 32.8 +0.1**
comp=Z,46nm,0.4s,baz=112,slow=8.7,SNR=112
NRIK LR LR 00 22 26.7
comp=Z,3µm,19.7s,baz=120,slow=37
NRIK Noril'sk 47.75 338*ceP* **P** **00 01 32.7 +0.1**
NRIK pmax pmax
comp=Z,137nm,1.0s
CHGN Chignik 48.32 41 P **P** **00 01 37.1 -0.1**
CHGN IAmb IAmb 00 01 37.8
comp=Z,66nm,0.7s
RDOG Red Dog Mine 48.53 25 P **P** **00 01 40.1 +1.4**
KNRA Kununurra 48.53 195 P **P** **00 01 38.5 -0.6**
BOK Bokaro 48.55 275*eP* **P** **00 01 38.2 -1.3**
BOK IAmb IAmb 00 01 43.0
comp=Z,34nm,0.4s
LHMI Lhok Sumawe 48.55 246 P **P** **00 01 39.9 +0.3**
LHMI IAmb IAmb 00 02 01.4
comp=Z,98nm,1.0s
RPSI Rantau Prapat 48.65 242 PcP **PcP** **00 03 05.6 +0.7**

BKNI Bangkinang 48.68 238 P **P** **00 01 39.8 -0.7**
KURK Kurchatov 48.71 312 P **P** **00 01 39.0 -1.3**
KURK P **P** **00 01 39.0 -1.3**
KURK Kurchatov 48.71 312 P **P** **00 01 40.0 -0.3**
KURK 00 03 04.8
KURK Kurchatov 48.71 312 P **P** **00 01 39.7 -0.6**
KURK IAmb IAmb 00 01 42.7
comp=Z,78nm,0.7s
PDGK Podgornoye 48.73 302 P **P** **00 01 39.6 -1.2**
KURBB Kurchatov Arra 48.77 312 P **P** **00 01 40.0 -0.7**
comp=Z,35nm,0.5s,baz=87,slow=7.4,SNR=357
KURBB PcP **PcP** **00 03 04.8 0.0**
comp=Z,18nm,1.0s,baz=88,slow=3.4,SNR=5.2
KURBB ScP **ScP** **00 06 53.0 -1.3**
comp=Z,1.7nm,0.6s,baz=92,slow=4.3,SNR=3.0
KURBB Kurchatov Arra 48.77 312 P **P** **00 01 39.8 -1.0**
SHLS Shalkode 48.77 302*eP* P 00 01 36.1 -4.9
SHLS Shalkode 48.77 302*eP* P 00 01 36.1 -5.0
UZB Uzynbulak 49.09 302⇓*iP* **P** **00 01 42.3 -1.3**
comp=Z,23nm,1.7s
UZB *e*S **S** **00 08 40.2 -4.0**
UZB Uzynbulak 49.09 302*d iP* **P** **00 01 42.2 -1.3**
UZB *e*S **S** **00 08 40.1 -4.0**
UZB pmax pmax
comp=Z,23nm,1.7s
TDK Taldyqorghan 49.29 304*eP* **P** **00 01 44.1 -0.8**
TDK *e*S **S** **00 08 38.9 -7.6**
TDK *e*LR LR 00 22 55.9
TDK Taldyqorghan 49.29 304*eP* **P** **00 01 44.0 -0.8**
TDK *e*S **S** **00 08 38.9 -7.6**
KPKS Kokpek 49.29 302*eP* **P** **00 01 43.5 -1.6**
comp=Z,14nm,0.6s
KPKS *e*LR LR 00 22 05.4
KPKS Kokpek 49.29 302*eP* **P** **00 01 43.4 -1.6**
KPKS pmax pmax
comp=Z,14nm,0.6s
SATY Saty 49.55 302⇓*iP* **P** **00 01 45.9 -1.1**
comp=Z,22nm,1.9s
SATY *e*S **S** **00 08 44.2 -6.3**
SATY *e*LR LR 00 23 42.4
SATY Saty 49.55 302*d iP* **P** **00 01 45.9 -1.1**
SATY *e*S **S** **00 08 44.1 -6.3**
SATY pmax pmax
comp=Z,22nm,1.9s
PRZ Przheval'sk 49.65 301 P **P** **00 01 47.9 +0.1**
PRZ pmax pmax
comp=Z,63nm,0.7s
PRZ Przheval'sk 49.65 301 P **P** **00 01 47.9 +0.1**
PRZ IAmb IAmb 00 01 50.8
comp=Z,62nm,0.7s
CHIR Chirikof Islan 49.87 42 P **P** **00 01 49.8 +0.8**
SVW2 Sparrevohn 50.19 35 P **P** **00 01 52.7 +1.3**
TTA Tatalina 50.19 32 P **P** **00 01 52.4 +0.9**
TTA pmax pmax
comp=Z,82nm,1.0s
TTA Tatalina 50.19 32 P **P** **00 01 52.4 +0.9**
TTA IAmb IAmb 00 01 53.9
comp=Z,82nm,1.0s
MDOK Medeo 50.52 302*i* P **P** **00 01 54.1 -0.4**
MDOK *e*S **S** **00 08 59.7 -4.3**
MDOK *e*LR LR 00 22 28.5
MDOK Medeo 50.52 302*i* P **P** **00 01 54.0 -0.4**
MDOK *e*S **S** **00 08 59.6 -4.3**
GSI Gunungsitoli 50.57 242 P **P** **00 01 53.7 -1.2**
KDJ Kajisay 50.60 301 P **P** **00 01 54.2 -0.8**
KDJ Kajisay 50.60 301 P **P** **00 01 54.2 -0.8**
AAA Alma-Ata 50.61 302*eP* **P** **00 01 53.5 -1.5**
AAA *e*LR LR 00 22 03.9
AAA Alma-Ata 50.61 302*eP* **P** **00 01 53.4 -1.5**
TNSS Tian-Shan 50.61 302*eP* **P** **00 01 55.1 -0.3**
TNSS Tian-Shan 50.61 302*eP* **P** **00 01 55.1 -0.3**
SII Sitkinak Islan 50.68 41 P **P** **00 01 55.5 +0.3**
KUU Kurty 50.91 303⇓*iP* **P** **00 01 56.0 -1.1**
comp=Z,58nm,1.2s
KUU *e*S **S** **00 09 01.4 -7.7**
KUU *e*LR LR 00 22 56.2
KUU Kurty 50.91 303*d iP* **P** **00 01 56.0 -1.1**
KUU *e*S **S** **00 09 01.4 -7.7**
KUU pmax pmax
comp=Z,58nm,1.2s
MTBS Maitube 50.97 302*eP* **P** **00 01 56.7 -1.1**
MTBS Maitube 50.97 302*eP* **P** **00 01 56.6 -1.1**
OHAK Old Harbor 51.18 40 P **P** **00 01 59.0 +0.2**
OHAK IAmb IAmb 00 02 01.2
comp=Z,94nm,0.9s
ULHL Ulahol 51.26 301 P **P** **00 01 59.5 -0.5**
SNR=20
BOOM Boomskoye usch 51.44 301 P **P** **00 02 01.0 -0.3**
BOOM pmax pmax
comp=Z,102nm,0.8s
BOOM Boomskoye usch 51.44 301 P **P** **00 02 01.0 -0.3**
BOOM PcP **PcP** **00 03 15.9 +0.9**
BOOM IAmb IAmb 00 03 16.7
comp=Z,102nm,0.8s
KDAK Kodiak Island 51.56 39 P **P** **00 02 01.9 +0.2**
KDAK pmax pmax
comp=Z,238nm,0.9s
KDAK Kodiak Island 51.56 39 P **P** **00 02 01.9 +0.2**
IMAR Indian Mountai 51.56 28 P **P** **00 02 02.1 +0.4**
A21K Barrow 51.57 21 P **P** **00 02 02.9 +1.3**
baz=255
WB0 Warramunga Arr 51.61 187 P **P** **00 02 01.1 -1.3**
WB0 IAmb IAmb 00 03 18.5
comp=Z,77nm,1.1s
TKM2 Tokmak 2 51.61 302 P **P** **00 02 02.6 -0.1**
SNR=42
TKM2 Tokmak 2 51.61 302*i* P **P** **00 02 02.5 -0.1**
TKM2 pmax pmax
comp=Z,27nm,0.9s
FITZ Fitzroy Crossi 51.62 198 P **P** **00 02 01.4 -1.2**
WRAB Tennant Creek 51.78 187*de*P **P** **00 02 02.4 -1.3**
WRAB pmax pmax
comp=Z,25nm,1.0s
WB2 Warramunga Arr 51.78 187 P **P** **00 02 02.4 -1.4**
WB2 IAmb IAmb 00 03 18.6
comp=Z,64nm,0.9s
WRA Warramunga Arr 51.79 187 P **P** **00 02 02.7 -1.1**
comp=Z,12nm,0.4s,baz=1.5,slow=7.8,SNR=200
WRA PcP **PcP** **00 03 17.5 +1.3**
comp=Z,46nm,0.9s,baz=1.1,slow=3.8,SNR=9.2
WRA ScP **ScP** **00 07 05.4 -2.1**
comp=Z,2.5nm,0.9s,baz=1.8,slow=5.2,SNR=2.9
WRA LR LR 00 21 53.5
comp=Z,412nm,18.9s,baz=20,slow=34
WRA PKPPKP **P'P'df** **00 32 38.5 +3.5**
comp=Z,1.1nm,1.0s,baz=143,slow=1.8,SNR=4.6
WRA Warramunga Arr 51.79 187 P **P** **00 02 02.4 -1.4**
WRA **PcP** **00 03 16.9 +0.6**
CTAO Charters Tower 51.88 173 P **P** **00 02 04.3 -0.3**
CTAO pmax pmax
comp=Z,69nm,1.3s
CTAO Charters Tower 51.88 173 P **P** **00 02 04.2 -0.3**
PPLA Purkeypile 51.93 32 P **P** **00 02 05.8 +1.2**
KSH Kashi 52.01 298 P **P** **00 02 08.1 +2.5**
KSH S **S** **00 09 32.6 +8.0**
KSH pmax pmax
comp=Z,28nm,0.8s
KSH LR LR
comp=Z,630nm,13.2s
KSH LR LR
comp=Z,1µm,15.2s
KSH LR LR
comp=Z,690nm,13.1s
HOM Homer 52.06 37 P **P** **00 02 05.6 +0.2**
baz=269
KBK Karagaybulak 52.13 302 P **P** **00 02 06.4 0.0**
SNR=49
SKT Skwentna 52.18 34 P **P** **00 02 06.8 +0.4**
SKT IAmb IAmb 00 02 08.2
comp=Z,152nm,1.0s
CHMS Chumysh 52.21 302 P **P** **00 02 06.5 -0.4**
SNR=11
SGDS Sogindy 52.21 303⇓*iP* **P** **00 02 06.0 -0.9**
comp=Z,16nm,1.3s
SGDS Sogindy 52.21 303*d iP* **P** **00 02 06.0 -0.9**
SGDS pmax pmax
comp=Z,16nm,1.3s
CNPM China Poot 52.27 37 P **P** **00 02 07.3 +0.2**
CNPM IAmb IAmb 00 02 08.2
comp=Z,71nm,0.6s
CHLP Challavanipeta 52.27 270*eP* **P** **00 02 07.0 -0.5**
CHLP IVmB_BB 00 02 10.8
comp=Z,212nm,1.1s
CAPN Captain Cook N 52.33 35 P **P** **00 02 09.1 +1.7**

baz=269
FRU1 **Bishkek** 52.33 302 P P 00 02 07.6 -0.2
FRU1 00 03 18.6
FRU1 **Bishkek** 52.33 302 P P 00 02 07.6 -0.2
FRU1 PcP 00 03 18.6 +0.4
FRU1 IAmb IAmb 00 03 19.7
comp=Z,79nm,0.8s
USP **Ospenovka** 52.34 303 P P 00 02 07.4 -0.5
SNR=21
BTLS **Baital** 52.35 305 ⇓*i*P P 00 02 06.9 -0.9
comp=Z,17nm,0.8s
BTLS *e*S S 00 09 25.2 -3.6
BTLS **Baital** 52.35 305*d i*P P 00 02 06.9 -0.9
BTLS *e*S S 00 09 25.1 -3.6
BTLS pmax pmax
comp=Z,17nm,0.8s
AAK **Ala-Archa** 52.46 302 P P 00 02 08.4 -0.6
SNR=33
AAK **Ala-Archa** 52.46 302 *i* P P 00 02 08.3 -0.6
AAK pmax pmax
comp=Z,20nm,0.6s
UCH **Uchtor** 52.53 301 P P 00 02 09.8 +0.1
SNR=34
SUA **Susitna One** 52.54 34 P P 00 02 09.3 +0.2
KTH **Kantishna Hill** 52.54 32 P P 00 02 09.8 +0.7
BPAW **Bear Paw Mtn.** 52.54 31 P P 00 02 09.8 +0.8
BPAW IAmb IAmb 00 02 11.6
comp=Z,106nm,1.1s
BRZS **Berezniki** 52.56 311 ⇓*i*P P 00 02 08.2 -1.1
comp=Z,38nm,1.1s
BRZS **Berezniki** 52.56 311*d i*P P 00 02 08.2 -1.1
BRZS pmax pmax
comp=Z,39nm,1.1s
MLY **Manley** 52.71 30 P P 00 02 11.8 +1.5
baz=266,SNR=174
CUT **Chulitna** 52.79 33 P P 00 02 11.1 +0.3
baz=268,SNR=12
TRF **Thorofare Moun** 52.82 32 P P 00 02 11.6 +0.4
TRF IAmb IAmb 00 02 15.2
comp=Z,84nm,0.9s
EKS2 **Erkin-Say** 52.97 302 P P 00 02 12.2 -0.5
SNR=32
RC01 **Rabbit Creek A** 53.02 35 P P 00 02 12.8 +0.2
baz=270,SNR=43
O22K **Cooper Landing** 53.03 36 P P 00 02 12.7 +0.1
baz=270
COLD **Coldfoot** 53.11 27 P P 00 02 14.3 +1.2
baz=265,SNR=21
COLD **Coldfoot** 53.11 27 P P 00 02 14.2 +1.1
COLD IAmb IAmb 00 02 16.0
comp=Z,160nm,1.8s
AML **Almayashu** 53.14 301 P P 00 02 14.4 +0.2
SNR=125
SEW **Seward** 53.17 36 P P 00 02 13.5 0.0
BWN **Browne** 53.21 31 P P 00 02 15.2 +1.3
PMR **Palmer** 53.31 34 P P 00 02 14.8 +0.2
PMR **Palmer** 53.31 34 P P 00 02 14.8 +0.2
SMLA **Simla** 53.32 287 *e*P P 00 02 13.9 -1.3
SMLA IAmb IAmb 00 02 17.7
comp=Z,110nm,1.1s
NEA2 **Nenana** 53.40 30 P P 00 02 16.5 +1.2
baz=268,SNR=302
GHO **Glory Hole Cre** 53.41 34 P P 00 02 15.7 +0.2
MCK **McKinley** 53.43 31 P P 00 02 16.0 +0.4
baz=268,SNR=88
RND **Reindeer** 53.46 32 P P 00 02 16.2 +0.4
RND pmax pmax
comp=Z,175nm,0.9s
RND **Reindeer** 53.46 32 P P 00 02 16.2 +0.4
TOLK **Toolik Lake Re** 53.48 25 P P 00 02 17.1 +1.2
baz=264,SNR=34
TOLK **Toolik Lake Re** 53.48 25 P P 00 02 16.8 +0.9
TOLK **Toolik Lake Re** 53.48 25 IAmb IAmb 00 02 18.4
comp=Z,107nm,0.9s
SANVU **Saraoutou** 53.50 147 P P 00 02 16.9 +0.4
KNK **Knik Glacier** 53.64 34 P P 00 02 17.6 +0.5
BVAR **Borovoye Array** 53.64 315 P P 00 02 17.0 -0.2
comp=Z,55nm,0.7s,baz=200,slow=13,SNR=142
BVAR PcP PcP 00 03 22.5 -0.4
comp=Z,50nm,0.8s,baz=188,slow=16,SNR=8.8
SML **Sawmill** 53.70 34 P P 00 02 18.0 +0.4
BRVK **Borovoye** 53.70 315 P P 00 02 17.0 -0.6
BRVK P P 00 02 17.0 -0.6
BRVK **Borovoye** 53.70 315*d i*P P 00 02 17.3 -0.4
BRVK pmax pmax
comp=Z,97nm,1.0s
BRVK **Borovoye** 53.70 315 P P 00 02 17.5 -0.2
BRVK IAmb IAmb 00 02 19.5
comp=Z,70nm,0.7s
BHK **Bhakra** 53.84 288 *ex* P 00 02 17.9 -1.1
TCOL **CIGO, UAF Yank** 53.93 30 P P 00 02 19.8 +0.7
baz=269,SNR=5.3
COLA **College** 53.93 30*d i*P P 00 02 19.7 +0.6
COLA pmax pmax
comp=Z,95nm,0.9s
COLA **College** 53.93 30 P P 00 02 20.0 +0.9
COLA IAmb IAmb 00 02 22.5
comp=Z,110nm,0.9s
CCB **Clear Creek Bu** 53.95 30 P P 00 02 19.6 +0.3
CCB IAmb IAmb 00 02 22.7
comp=Z,51nm,0.8s
NDI **New Delhi** 54.08 284 *e*P P 00 02 19.0 -1.8
POKR **Poker Plat Res** 54.12 30 P P 00 02 21.5 +1.0
baz=269,SNR=56
SCM **Sheep Creek Mo** 54.17 34 P P 00 02 21.9 +0.9
SCM pmax pmax
comp=Z,257nm,0.9s
SCM **Sheep Creek Mo** 54.17 34 P P 00 02 21.9 +0.9
HDA **Harding Lake** 54.32 31 P P 00 02 21.9 -0.1
baz=270,SNR=173
IL31 54.34 30 P P 00 02 22.0 -0.1
IL31 IAmb IAmb 00 02 23.4
comp=Z,160nm,1.1s
ILAR **Eielson Array** 54.34 30 P P 00 02 22.1 -0.1
comp=Z,86nm,0.9s,baz=268,slow=5.8,SNR=296
ILAR LR LR 00 29 00.3
comp=Z,160nm,20.0s,baz=296,slow=40
ILAR **Eielson Array** 54.34 30 P P 00 02 21.9 -0.3
FID **Port Fidalgo** 54.62 35 P P 00 02 24.4 +0.2
DZA **Taraz** 54.69 303 *e*P P 00 02 23.8 -1.3
DZA **Taraz** 54.69 303 *e*P P 00 02 23.7 -1.3
M24K **Tolsona, Glenn** 54.71 33 P P 00 02 26.2 +1.3
baz=272,SNR=22
M24K **Tolsona, Glenn** 54.71 33 P P 00 02 26.1 +1.2
Q23K **Middleton Isla** 54.76 37 P P 00 02 26.7 +1.5
baz=274
KLU **Klutina** 54.85 34 P P 00 02 26.7 +0.7
PVM **Polavaram** 54.90 269 *e*P P 00 02 26.2 -0.6
PVM IVmB_BB 00 02 26.8
comp=Z,138nm,1.0s
OPA **Opana** 55.20 84 P P 00 02 30.0 +1.1
OPA pmax pmax
comp=Z,128nm,0.9s
OPA **Opana** 55.20 84 P P 00 02 30.0 +1.1
OPA IAmb IAmb 00 02 32.0
comp=Z,128nm,0.9s
KK31 **Karatay Array** 55.23 303 P P 00 02 28.3 -0.6
KK31 pmax pmax
comp=Z,72nm,0.8s
KK31 **Karatay Array** 55.23 303 P P 00 02 28.3 -0.6
KK31 IAmb IAmb 00 02 30.9
comp=Z,72nm,0.8s
KKAR **Karatay Array** 55.23 303 P P 00 02 28.2 -0.7
KKAR **Karatay Array** 55.23 303 P P 00 02 28.2 -0.7
BMAR **Burnt Mountain** 55.30 27 P P 00 02 30.3 +1.3
KIP **Kipapa** 55.30 85⇑ *e*P P 00 02 31.5 +1.8
KIP pmax pmax
comp=Z,192nm,2.5s
N25K **Chitina, Valde** 55.48 34 P P 00 02 31.5 +1.0
baz=274,SNR=21
AS31 **Alice Springs** 55.51 187 P P 00 02 29.9 -1.1
ASAR **Alice Springs** 55.51 187 P P 00 02 29.7 -1.3
comp=Z,5.9nm,0.5s,baz=2.9,slow=7.3,SNR=68
ASAR LR LR 00 24 07.8
comp=Z,431nm,21.0s,baz=358,slow=34
ASAR P4KPbc 00 39 47.9
comp=Z,1.5nm,1.1s,baz=48,slow=2.4,SNR=5.7
SCRK **Sand Creek** 55.62 31 P P 00 02 32.0 +0.5
baz=273,SNR=113
NIL **Nilore** 55.68 291 P P 00 02 32.0 -0.4
NIL **Nilore** 55.68 291 P P 00 02 31.9 -0.4
NIL pmax pmax
comp=Z,75nm,0.8s
NIL **Nilore** 55.68 291 P P 00 02 31.9 -0.4
NIL IAmb IAmb 00 02 33.2
comp=Z,75nm,0.8s
BTK **Batken** 55.74 299 P P 00 02 31.9 -0.8
BTK pmax pmax
comp=Z,33nm,0.8s
BTK **Batken** 55.74 299 P P 00 02 31.9 -0.8
IUG **Iuzhnay** 55.79 302 ⇓*i*P P 00 02 32.8 -0.4
comp=Z,73nm,0.9s
IUG **Iuzhnay** 55.79 302*d i*P P 00 02 32.7 -0.4
IUG pmax pmax
comp=Z,73nm,0.9s
MENT **Mentasta** 55.80 32 P P 00 02 33.9 +1.2
MENT IAmb IAmb 00 02 35.5
comp=Z,159nm,1.3s
GGR **Gangavaram** 55.85 271 *e*P P 00 02 32.5 -1.3
GGR IVmB_BB 00 02 33.3
comp=Z,103nm,2.5s
BHPL **Bhopal** 55.92 278 *e*P P 00 02 32.0 -2.2
BHPL IAmb IAmb 00 02 34.1
comp=Z,22nm,0.7s
BHPL *i* pP pP 00 02 51.0 +1.0
MYLAV **Mylavaram** 55.97 269 *e*P P 00 02 34.0 -0.5
MYLAV IVmBBB 00 02 35.3
comp=Z,142nm,1.2s
RPR **Rampur** 56.17 272 *e*P P 00 02 34.6 -1.3
RPR IVmB_BB 00 03 04.6
comp=Z,222nm,0.8s
CRQM **Cirque** 56.26 35 P P 00 02 36.9 +0.8
GAR **Garm** 56.39 298 P P 00 02 36.6 -0.8
GAR IAmb IAmb 00 02 39.9
comp=Z,116nm,0.9s
K27K **Chicken** 56.46 31 P P 00 02 38.6 +1.3
baz=274,SNR=93
PSA00 **Pilbara Seismi** 56.64 203 P P 00 02 38.2 -0.8
PSA00 IAmb IAmb 00 02 39.3
comp=Z,54nm,1.1s
BCAR **Beaver Creek A** 56.67 32 P P 00 02 39.8 +0.9
KNTN **Kanton** 56.88 118 P P 00 02 41.8 +0.8
ADKI **Addanki** 56.95 269 *e*P P 00 02 41.1 -0.4
ADKI IVmBBB 00 02 43.1
comp=Z,120nm,3.0s
HLK **Haleakala** 57.08 85 P P 00 02 43.4 +0.8
CUPL **Choutuppal** 57.18 271 *e*P P 00 02 42.0 -1.2
CUPL IVmBBB 00 02 43.8
comp=Z,125nm,2.5s
NJS **Nagarjunasagar** 57.19 270 *e*P P 00 02 42.2 -1.0
NJS IVmBBB 00 03 03.8
comp=Z,141nm,2.0s
CHGR **Chuyangaron** 57.36 298 P P 00 02 43.7 -0.6
HYB **Hyderabad** 57.44 271 *i* P P 00 02 44.0 -1.0
HYB *e* 00 03 02.0
HYB *e*PcP PcP 00 03 38.5 +0.3
HYBB **Hyderabad (bro** 57.44 271 *e*P P 00 02 43.7 -1.3
HYBB IVmB_BB 00 02 45.4
comp=Z,153nm,3.5s
DAWY **Dawson** 57.63 31 P P 00 02 46.6 +0.9
DAWY IAmb IAmb 00 02 48.2
comp=Z,92nm,1.4s
EIDS **Eidsvold** 57.74 169 P P 00 02 47.3 +0.6
EIDS IAmb IAmb 00 02 49.3
comp=Z,91nm,0.9s
SRLM **Srisailam** 57.75 270 *e*P P 00 02 45.9 -1.3
SRLM IVmB_BB 00 03 11.4
comp=Z,119nm,0.7s
PCA **Pinnacle** 57.76 36 P P 00 02 47.6 +0.9
BCPM **Bancas Point** 58.09 36 P P 00 02 50.2 +1.3
MLOA **Mauna Loa Obse** 58.17 86 P P 00 02 52.2 +1.6
SKHT **Srikalahasti** 58.17 267 *e*P P 00 02 49.2 -0.9
SKHT IVmBBB 00 02 50.8
comp=Z,161nm,1.1s
MWH **Moku'aweowe** 58.17 86 P P 00 02 51.2 +0.5
HMH **Humu'ula Sheep** 58.22 85 P P 00 02 52.6 +1.9
MLH **Mauna Loa** 58.35 86 P P 00 02 53.6 +2.0
SVE **Sverdlovsk** 58.64 321 *c i*P P 00 02 53.3 +0.5
SVE *e*S S 00 10 50.6 -1.7
SVE pmax pmax
comp=Z,377nm,0.9s
SVE MLR MLR
comp=Z,1μm,18.0s
KBL **Kabul** 58.71 294 P P 00 02 53.1 -0.8
SNR=28
KBL P P 00 02 53.1 -0.8
SNR=28
KBL **Kabul** 58.71 294 P P 00 02 52.9 -1.0
KBL pmax pmax
comp=Z,39nm,0.8s
KBL **Kabul** 58.71 294 P P 00 02 52.9 -1.0
KBL IAmb IAmb 00 02 55.9
comp=Z,38nm,0.8s
KLRI **Killari** 58.81 273 *e*P P 00 02 52.8 -1.8
KLRI IVmBBB 00 02 53.5
comp=Z,242nm,0.9s
HYT **Haines Junctio** 58.98 34 P P 00 02 57.0 +1.7
DZM **Mont Dzumac** 59.04 152 *e*P P 00 02 58.2 +2.2
comp=Z,245nm,1.2s
DZM *e*S S 00 10 58.0 -0.3
comp=Z,594nm,29.8s
DZM *e*LR LR 00 20 23.6
comp=Z,2μm,24.8s
DZM **Mont Dzumac** 59.04 152 LR LR 00 27 57.2
comp=Z,610nm,19.6s,baz=30,slow=36
DZM **Mont Dzumac** 59.04 152 P P 00 02 57.9 +1.9
DZM IAmb IAmb 00 02 59.9
comp=Z,114nm,1.1s
INK **Inuvik** 59.40 26 P P 00 02 58.2 +0.4
comp=Z,71nm,0.8s,baz=284,slow=6.2,SNR=76
INK **Inuvik** 59.40 26 P P 00 02 58.3 +0.5
INK IAmb IAmb 00 02 59.5
comp=Z,83nm,0.9s
URV **Uravakonda** 59.68 269 IVmB_BB 00 02 58.8
comp=Z,154nm,2.4s
URV *e*P P 00 02 59.3 -1.3
ARU **Arti** 59.85 320 P P 00 03 01.1 -0.1
comp=Z,115nm,0.8s,baz=81,slow=2.5,SNR=318
ARU **Arti** 59.85 320*d i*P P 00 03 01.0 -0.1
ARU *PP pP 00 03 13.9 -3.3
ARU 00 03 42.3
ARU 00 05 10.5
ARU S S 00 11 11.9 +4.1
ARU *SS sS 00 11 35.0 -0.6
ARU 00 12 42.3
ARU SS SS 00 15 10.7 +6.4
ARU pmax pmax
comp=Z,471nm,1.0s
ARU MLR MLR
comp=Z,943nm,18.0s
ARU **Arti** 59.85 320 P P 00 03 01.2 +0.1
WHY **Whitehorse** 60.28 34 P P 00 03 05.6 +1.4
WHY IAmb IAmb 00 03 07.0
comp=Z,111nm,0.9s
SKAG **Skagway** 60.32 36 P P 00 03 05.7 +1.4
SKAG IAmb IAmb 00 03 27.3
comp=Z,89nm,1.1s
PALK **Pallekele** 60.61 260 P P 00 03 06.6 -0.4
PALK pmax pmax
comp=Z,23nm,1.0s
PALK **Pallekele** 60.61 260 P P 00 03 06.6 -0.4
BESE **Bessie Mountai** 60.77 37 P P 00 03 07.8 +0.4
BESE IAmb IAmb 00 03 09.6
comp=Z,46nm,0.8s
AB31 **Akbulak array** 60.82 312 *i* P P 00 03 07.5 -0.4
ABKAR **Akbulak array** 60.82 312 P P 00 03 07.5 -0.3
ABKAR IAmb IAmb 00 03 10.5
comp=Z,72nm,0.6s
ABKAR **Akbulak array** 60.82 312 P P 00 03 07.3 -0.6
POO **Poona** 60.94 275 *e*P P 00 03 07.5 -1.8
POO **Poona** 60.94 275 *e*P P 00 03 06.0 -3.2
JIS **Juneau Island** 61.08 37 P P 00 03 10.6 +1.1
JIS IAmb IAmb 00 03 11.8
comp=Z,51nm,0.7s
AKTO **Aktyubinsk** 61.69 314 P P 00 03 13.2 -0.5
comp=Z,59nm,0.7s,baz=80,slow=7.3,SNR=114
AKTO LR LR 00 30 53.0
comp=Z,1μm,21.5s,baz=85,slow=37
GOA **Goa** 62.35 272 *e*P P 00 03 17.4 -1.2
GOA IAmb IAmb 00 03 20.1
comp=Z,32nm,0.7s
C36M **Paulatuk** 62.50 23 P P 00 03 19.2 +0.4
baz=287,SNR=20
C36M **Paulatuk** 62.50 23 P P 00 03 19.1 +0.3
WRAK **Wrangell Islan** 62.64 39 P P 00 03 20.7 +0.8
WRAK IAmb IAmb 00 03 24.0
comp=Z,65nm,1.2s
ARMA **Armidale** 62.77 169 P P 00 03 22.0 +0.8
ARMA IAmb IAmb 00 03 23.5
comp=Z,65nm,1.0s
DLBC **Dease Lake** 63.24 36 P P 00 03 25.7 +1.7
comp=Z,33nm,1.0s,baz=302,slow=6.1,SNR=20
DLBC **Dease Lake** 63.24 36 P P 00 03 24.9 +0.8
STKA **Stephens Creek** 63.34 179 P P 00 03 25.1 +0.3
comp=Z,11nm,0.7s,baz=344,slow=8.1,SNR=25
STKA LR LR 00 29 27.4
comp=Z,524nm,21.9s,baz=351,slow=34
STKA **Stephens Creek** 63.34 179 P P 00 03 25.2 +0.4
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA **Stephens Creek** 63.34 179 P P 00 03 25.2 +0.4
FORT **Forrest** 63.35 192 P P 00 03 24.6 -0.3
FORT IAmb IAmb 00 03 51.3
comp=Z,67nm,0.7s
DIB **Dawson Inlet,** 63.54 42 P P 00 03 26.9 +0.9
KIRV **Kirov** 64.01 324 *i* P P 00 03 29.1 +0.1
HRA **Herat** 64.02 296 P P 00 03 29.6 -0.2
HRA IAmb IAmb 00 03 32.5
comp=Z,54nm,0.9s
BBOO **Buckleboo** 64.40 184 P P 00 03 31.4 -0.4
PRGR **Permogore** 64.78 328 ⇓*i*P P 00 03 34.0 +0.1
PRGR *e*S S 00 12 08.3 -1.3
PRGR pmax pmax
comp=Z,218nm,0.9s
MORW **Morawa** 64.85 204 P P 00 03 34.1 -0.7
HOPEN **Hopen** 64.93 346 ⇓*i*P P 00 03 35.4 +0.7
EUNU **Eureka** 65.46 8 P P 00 03 38.5 +0.2
EUNU IAmb IAmb 00 03 39.6
comp=Z,94nm,0.8s
SPA0 **Spitsbergen Ar** 65.51 349 P P 00 03 38.9 +0.4
SPA0 IAmb IAmb 00 03 57.2
comp=Z,72nm,1.1s
SPA0 **Spitsbergen Ar** 65.51 349 *e*P P 00 03 38.9 +0.4
KBS **Kingsbay** 65.68 350 *d i*P P 00 03 40.5 +0.9
KBS pmax pmax
comp=Z,199nm,2.5s
KBS **Kingsbay** 65.68 350 P P 00 03 40.5 +0.9
KBS IAmb IAmb 00 03 41.5
comp=Z,63nm,0.8s
KBS **Kingsbay** 65.68 350 ⇓*i*P P 00 03 40.4 +0.9
GEYT **Alibeck** 65.79 301 P P 00 03 40.6 -0.4
comp=Z,21nm,0.9s,baz=54,slow=3.8,SNR=35
GEYT LR LR 00 34 06.5
comp=Z,957nm,21.2s,baz=35,slow=38
GEYT **Alibeck** 65.79 301 P P 00 03 40.7 -0.3
GYA0B **ALIBECK ARRAY** 65.79 301 P P 00 03 40.9 -0.1
NOR **Nord** 66.22 356 *i* P P 00 03 43.1 +0.1
NOR pmax pmax
comp=Z,24nm,0.9s
NOR **Nord** 66.22 356 *i* P P 00 03 43.1 +0.1
NOR IAmb IAmb 00 03 43.6
comp=Z,24nm,0.9s
BBB **Bella Bella** 66.38 42 P P 00 03 45.0 +0.6
BBB IAmb IAmb 00 03 46.4
comp=Z,106nm,1.1s
HSPB **Hornsund (broa** 66.40 348 *e*P P 00 03 44.3 +0.1
HSPB *e*pP pP 00 04 01.7 +1.3
HSPB **Hornsund (broa** 66.40 348 *i* P P 00 03 44.3 +0.1
LVZ **Lovozero** 66.59 337 P P 00 03 45.4 -0.2
LVZ pmax pmax
comp=Z,79nm,1.1s
LVZ **Lovozero** 66.59 337 P P 00 03 45.4 -0.2
LVZ IAmb IAmb 00 04 36.7
comp=Z,79nm,1.1s
APA **Apatity** 67.16 337 ⇓*i*P P 00 03 48.3 -0.8
APA *i* 00 04 18.0
APA *i* 00 06 21.0
APA *i*S S 00 12 36.0 -2.4
APA *i* 00 13 21.0
APA pmax pmax
comp=Z,60nm,1.0s
CAN **Canberra** 67.24 172 P P 00 03 50.8 +0.8
CAN pmax pmax
comp=Z,74nm,1.0s
CAN **Canberra** 67.24 172 P P 00 03 50.8 +0.8
CAN IAmb IAmb 00 03 52.6
comp=Z,74nm,1.0s
BJO1 **Bjornoya** 67.33 346 *e*P P 00 03 50.1 0.0
KLMR **Klimovskoe** 67.80 329 *d i*P P 00 03 53.0 -0.2
KLMR *e* 00 06 19.3
KLMR *e*S S 00 12 46.0 -0.2
KLMR pmax pmax
comp=Z,174nm,1.1s
KLMR **Klimovskoe** 67.80 329 ⇓*i*P P 00 03 53.1 -0.2
KLMR ⇑*i*P P 00 03 53.1 -0.2
KLMR ⇑*i*P P 00 03 53.1 -0.2
KLMR AMP 00 03 54.4
comp=Z,174nm,1.1s
KLMR *e*PP PP 00 06 19.3 -3.7
KLMR *e*S S 00 12 46.1 -0.2
KLMR *e*S S 00 12 46.1 -0.2
KLMR LQ LQ 00 28 49.5
KLMR LQ LQ 00 28 49.5
KLMR LR LR 00 29 52.8
RES **Resolute Bay** 67.85 14 P P 00 03 53.7 +0.4
comp=Z,181nm,0.8s,baz=319,slow=5.7,SNR=115
RES **Resolute Bay** 67.85 14 P P 00 03 53.8 +0.4
RES pmax pmax
comp=Z,190nm,0.8s
RES **Resolute Bay** 67.85 14 P P 00 03 53.8 +0.4
NWAO **Narrogin (SRO)** 68.03 201 P P 00 03 54.7 -0.3
NWAO pmax pmax
comp=Z,35nm,0.8s
NWAO **Narrogin (SRO)** 68.03 201 P P 00 03 54.7 -0.3
KEV **Kevo** 68.07 340 P P 00 03 55.0 +0.1
KEV pmax pmax
comp=Z,120nm,1.3s
KEV **Kevo** 68.07 340 P P 00 03 55.0 +0.1
KEV IAmb IAmb 00 04 20.6
comp=Z,120nm,1.3s
HAMF **Hammerfest** 68.52 341 *e*P P 00 03 57.9 +0.3
ARCES **ARCESS Array B** 68.63 340 P P 00 03 58.9 +0.5
comp=Z,15nm,0.5s,baz=55,slow=9.1,SNR=64
ARCES LR LR 00 37 38.4
comp=Z,2μm,21.4s,baz=70,slow=39
YKA **Yellowknife Ar** 68.72 29 P P 00 03 58.9 -0.1
comp=Z,55nm,0.9s,baz=298,slow=6.1,SNR=39
YKA LR LR 00 36 34.5
comp=Z,80nm,21.2s,baz=0.0,slow=38
TOO **Toolangi** 69.17 176 P P 00 04 02.7 +0.7
TOO pmax pmax
comp=Z,45nm,1.3s
TOO **Toolangi** 69.17 176 P P 00 04 02.7 +0.7
TULEG **Thule** 70.37 7 P P 00 04 09.0 +0.1
TULEG **Thule** 70.37 7 ⇓*i*P P 00 04 09.2 +0.2
TULEG IAmb IAmb 00 04 10.1
comp=Z,278nm,0.9s
TRO **Tromso** 70.42 342 *e*P P 00 04 09.8 +0.5
PGC **Sidney** 70.54 44 P P 00 04 11.8 +1.4
PGC IAmb IAmb 00 04 13.1
comp=Z,128nm,0.9s
DAG **Danmarks Havn** 70.91 355 ⇓*i*P P 00 04 12.6 +0.4
DAG pmax pmax
comp=Z,210nm,0.8s
DAG **Danmarks Havn** 70.91 355 ⇓*i*P P 00 04 12.7 +0.4
DAG IAmb IAmb 00 04 13.7
comp=Z,210nm,0.8s
A04D **Lummi Island** 70.95 44 P P 00 04 14.7 +1.8
baz=297,SNR=5.8
VRH **Novokhopyorsk** 70.99 319 *e*P P 00 04 12.4 -0.7
VRH *e*S S 00 13 19.6 -4.5
VRH pmax pmax
comp=Z,250nm,0.7s
VRH smax smax
comp=E,40nm,1.0s
MOS **Moscow** 71.03 324 *e*P P 00 04 11.5 -1.8
MOS *e**PP pP 00 04 29.2 -0.4
MOS *e* 00 06 47.6
MOS *e*S S 00 13 19.3 -5.1
MOS *e**SS SKiKP 00 13 50.7 +1.8
MOS pmax pmax
comp=Z,241nm,1.1s
MOS pmax pmax
comp=N,87nm,0.9s
MOS pmax pmax
comp=E,84nm,0.9s
MOS pmax pmax
comp=Z,600nm,2.0s
MOS smax smax
comp=N,700nm,3.8s
MOS smax smax
comp=E,700nm,3.8s
MOS MLR MLR
comp=Z,1μm,19.0s

MAK	**Makhachkala**	**71.14**	**309**	*e*P		**P**	**00 04 14.4**	**+0.2**
MAK				*e*			00 06 53.2	
MAK				*e*PPP	PPP		00 08 34.2	
MAK				*e*S		**S**	**00 13 28.4**	**+2.3**
MAK				pmax	pmax			
	comp=Z,148nm,1.1s							
MAK				MLR	MLR			
	comp=Z,2µm,17.0s							
D03D	**Eldon**	**71.26**	**45**	P		**P**	**00 04 16.9**	**+2.1**
	baz=297,SNR=28							
JLN	**Jalan Bani Buh**	**71.42**	**285**	P		**P**	**00 04 15.9**	**-0.4**
JLN				P		**P**	**00 04 15.9**	**-0.4**
B05A	**Bryant**	**71.52**	**44**	P		**P**	**00 04 17.9**	**+1.5**
	baz=297,SNR=40							
WSAR	**Wadi Sarin**	**71.56**	**286**	P		**P**	**00 04 17.4**	**+0.3**
	comp=Z,14nm,0.8s,baz=109,slow=6.1,SNR=8.7							
WSAR	**Wadi Sarin**	**71.56**	**286**	P		**P**	**00 04 16.9**	**-0.2**
WBK	**Wadi Bani Khal**	**71.57**	**286**	P		**P**	**00 04 17.1**	**-0.1**
WBK				P		**P**	**00 04 17.1**	**-0.1**
D04E	**Lakebay**	**71.61**	**46**	P		**P**	**00 04 19.3**	**+2.3**
	baz=297							
BIDO	**Bidbid**	**71.84**	**287**	P		**P**	**00 04 18.4**	**-0.4**
BIDO				P		**P**	**00 04 18.4**	**-0.4**
OBN	**Obninsk**	**71.86**	**324**	P		**P**	**00 04 18.4**	**+0.1**
	comp=Z,35nm,0.8s,baz=55,slow=2.1,SNR=61							
OBN	**Obninsk**	**71.86**	**324**	*d* *i*P		**P**	**00 04 17.9**	**-0.4**
OBN				*i*			00 04 35.8	
OBN				*e*			00 06 58.3	
OBN				*e*PPP	PPP		00 08 45.0	
OBN				pmax	pmax			
	comp=Z,274nm,1.3s							
OBN				MLR	MLR			
	comp=Z,2µm,21.0s							
OBN	**Obninsk**	**71.86**	**324**	P		**P**	**00 04 18.1**	**-0.2**
LPSR	**Galich'ya Gora**	**71.86**	**321**	*e*P		**P**	**00 04 18.1**	**-0.3**
LPSR				*e*S		**S**	**00 13 29.1**	**-5.0**
LPSR				pmax	pmax			
	comp=Z,200nm,0.8s							
LPSR				smax	smax			
	comp=E,50nm,1.9s							
F04D	**Rainier, OR**	**71.96**	**47**	P		**P**	**00 04 20.8**	**+1.7**
	baz=297							
E04D	**Cinebar**	**72.02**	**46**	P		**P**	**00 04 21.3**	**+1.9**
	baz=297,SNR=19							
SMDO	**Samad**	**72.11**	**286**	P		**P**	**00 04 20.2**	**-0.3**
SMDO				P		**P**	**00 04 20.2**	**-0.3**
GROC	**Groznyy**	**72.15**	**310**	*e*P		**P**	**00 04 18.9**	**-1.4**
GROC				*e*			00 04 37.9	
GROC				*e*			00 07 00.3	
GROC				pmax	pmax			
	comp=Z,106nm,0.9s							
G03D	**McMinnville, O**	**72.20**	**48**	P		**P**	**00 04 22.5**	**+1.9**
	baz=297,SNR=6.5							
BANOM	**Banah**	**72.22**	**290**	P		**P**	**00 04 21.1**	**+0.1**
BANOM	**Banah**	**72.22**	**290**	P		**P**	**00 04 20.6**	**-0.5**
SHME	**Shamm**	**72.29**	**290**	*i* P		**P**	**00 04 21.4**	**0.0**
	SNR=18							
PUL	**Pulkovo**	**72.32**	**330**	⇓*e*P		**P**	**00 04 21.6**	**+0.6**
PUL				pmax	pmax			
	comp=Z,285nm,0.7s							
I02D	**Swisshome**	**72.34**	**49**	P		**P**	**00 04 23.4**	**+2.0**
	baz=297							
N2IH	**Innhavet**	**72.34**	**341**	*e*P		**P**	**00 04 21.2**	**+0.3**
JMDO	**Jabal Madar**	**72.39**	**286**	P		**P**	**00 04 21.4**	**-0.7**
JMDO				P		**P**	**00 04 21.4**	**-0.7**
LON	**Longmire**	**72.39**	**46**	P		**P**	**00 04 22.7**	**+0.9**
LON				pmax	pmax			
	comp=Z,35nm,1.0s							
LON	**Longmire**	**72.39**	**46**	P		**P**	**00 04 22.7**	**+0.9**
VSR	**Storozhevoye**	**72.40**	**320**	*e*P		**P**	**00 04 21.5**	**-0.1**
VSR				*e*S		**S**	**00 13 35.8**	**-4.5**
VSR				pmax	pmax			
	comp=Z,250nm,0.8s							
VSR				smax	smax			
	comp=E,50nm,1.1s							
VORD	**Divnogorie**	**72.45**	**319**	*e*P		**P**	**00 04 21.7**	**-0.2**
VORD				pmax	pmax			
	comp=Z,140nm,0.9s							
COR	**Corvallis**	**72.47**	**48**	P		**P**	**00 04 23.9**	**+1.8**
COR				pmax	pmax			
	comp=Z,236nm,1.0s							
COR	**Corvallis**	**72.47**	**48**	P		**P**	**00 04 23.9**	**+1.8**
HOQ	**Hoqain**	**72.47**	**287**	P		**P**	**00 04 25.0**	**+2.4**
	SNR=5.2							
HOQ				P		**P**	**00 04 25.0**	**+2.4**
	SNR=5.2							
MDH	**Madha**	**72.51**	**289**	P		**P**	**00 04 21.6**	**-1.1**
MDH	**Madha**	**72.51**	**289**	P		**P**	**00 04 22.3**	**-0.4**
STEI	**Steigen**	**72.56**	**341**	⇓*i*P		**P**	**00 04 22.4**	**+0.1**
N2VI	**Vinje**	**72.57**	**342**	*e*P		**P**	**00 04 22.5**	**+0.2**
J01E	**Myrtle Point**	**72.72**	**50**	P		**P**	**00 04 25.5**	**+1.9**
	baz=298,SNR=7.8							
DDFL	**Dedoflistskaro**	**72.74**	**308**	*i* P		**P**	**00 04 25.4**	**+1.5**
UOSS	**Minazif**	**72.74**	**289**	P		**P**	**00 04 23.6**	**-0.5**
	SNR=10							
UOSS	**Minazif**	**72.74**	**289**	P		**P**	**00 04 24.1**	**0.0**
UOSS	**Minazif**	**72.74**	**289**	P		**P**	**00 04 24.4**	**+0.3**
N2TV	**Tv̈rnvik**	**72.84**	**341**	*e*P		**P**	**00 04 24.3**	**+0.4**
I03D	**Drain, OR**	**72.85**	**49**	P		**P**	**00 04 26.4**	**+2.0**
	baz=298,SNR=21							
H04D	**Lebanon**	**72.85**	**48**	P		**P**	**00 04 26.3**	**+1.9**
	baz=298,SNR=11							
SOHO	**SOHO**	**72.85**	**288**	*i* P		**P**	**00 04 24.6**	**-0.2**
	SNR=27							
SOHO	**SOHO**	**72.85**	**288**	P		**P**	**00 04 25.1**	**+0.4**
SOHO				P		**P**	**00 04 25.1**	**+0.4**
HATD	**Hatta, Dubai**	**72.86**	**289**	*i* P		**P**	**00 04 25.3**	**+0.5**
	SNR=16							
HATD	**Hatta, Dubai**	**72.86**	**289**	P		**P**	**00 04 27.0**	**+2.1**
	SNR=6.5							
HATD				P		**P**	**00 04 27.0**	**+2.1**
	SNR=6.5							
N2ST	**Straumen**	**72.86**	**341**	*e*P		**P**	**00 04 24.5**	**+0.5**
FAUS	**Fauske**	**72.92**	**341**	⇓*i*P		**P**	**00 04 24.6**	**+0.2**
BSY	**Bisya**	**72.95**	**286**	P		**P**	**00 04 28.0**	**+2.6**
	SNR=5.8							
F05D	**White Salmon**	**73.01**	**46**	P		**P**	**00 04 26.9**	**+1.5**
	baz=298,SNR=12							
GOF	**Gofitskoye**	**73.05**	**313**	⇓*i*P		**P**	**00 04 25.8**	**+0.2**
GOF				*e*S		**S**	**00 13 46.1**	**-1.9**
GOF				pmax	pmax			
	comp=Z,241nm,0.8s							
GOF				smax	smax			
	comp=N,16nm,0.8s							
GOF				smax	smax			
	comp=E,42nm,1.4s							
FIA1	**FINESS Array S**	**73.10**	**333**	P		**P**	**00 04 25.8**	**+0.2**
FINES	**FINESS Array B**	**73.10**	**333**	P		**P**	**00 04 25.6**	**0.0**
	comp=E,167nm,0.7s,baz=81,slow=5.2,SNR=572							
FINES				LR	LR		00 38 34.7	
	comp=E,840nm,20.3s,baz=48,slow=37							
FINES	**FINESS Array B**	**73.10**	**333**	P		**P**	**00 04 25.3**	**-0.2**
NBB08	**Skaug oppvekst**	**73.10**	**341**	*e*P		**P**	**00 04 26.2**	**+0.7**
K02D	**Willamette Mer**	**73.11**	**50**	P		**P**	**00 04 27.8**	**+1.7**
	baz=298,SNR=17							
H04A	**Detroit Lake**	**73.12**	**48**	P		**P**	**00 04 27.4**	**+1.3**
MHTO	**MHTO**	**73.14**	**284**	P		**P**	**00 04 27.1**	**+0.5**
	SNR=10							
MHTO				P		**P**	**00 04 27.1**	**+0.5**
	SNR=10							
NAZ	**Nazwa, Dubai**	**73.16**	**289**	*i* P		**P**	**00 04 26.7**	**+0.1**
	SNR=6.8							
NAZ	**Nazwa, Dubai**	**73.16**	**289**	P		**P**	**00 04 29.0**	**+2.4**
	SNR=5.7							
ARQ	**Araqi**	**73.23**	**287**	P		**P**	**00 04 28.0**	**+0.9**
	SNR=9.5							
ARQ				P		**P**	**00 04 28.0**	**+0.9**
	SNR=9.5							
DGRG	**David-gareji**	**73.23**	**309**	*i* P		**P**	**00 04 25.5**	**-1.3**
NBB28	**Valnes**	**73.29**	**341**	*e*P		**P**	**00 04 27.1**	**+0.6**
FAQ	**Al Faqa, Dubai**	**73.33**	**289**	*i* P		**P**	**00 04 27.8**	**+0.2**
	SNR=16							
FAQ	**Al Faqa, Dubai**	**73.33**	**289**	P		**P**	**00 04 29.0**	**+1.4**
	SNR=6.4							
FAQ				P		**P**	**00 04 29.0**	**+1.4**
	SNR=6.4							
DBG	**Daneborg**	**73.39**	**355**	⇓*i*P		**P**	**00 04 27.4**	**+0.3**
DBG				IAmb	IAmb		00 04 27.9	
	comp=Z,54nm,0.9s							
L02E	**Cave Junction**	**73.40**	**51**	P		**P**	**00 04 29.3**	**+1.6**
	baz=298,SNR=14							
I04A	**Tendick Farm,**	**73.40**	**49**	P		**P**	**00 04 29.1**	**+1.4**
	baz=298,SNR=33							
G05D	**Wamic, OR**	**73.41**	**47**	P		**P**	**00 04 29.1**	**+1.4**
	baz=298,SNR=12							
N2VA	**Vr.y**	**73.44**	**342**	⇓*i*P		**P**	**00 04 27.4**	**0.0**
KRMB	**Red Mountain**	**73.49**	**51**	P		**P**	**00 04 29.8**	**+1.4**
KRMB				IAmb	IAmb		00 04 31.4	
	comp=Z,95nm,1.1s							
NBB05	**Inndyr**	**73.52**	**341**	*e*P		**P**	**00 04 28.3**	**+0.4**
ZEI	**Tsey**	**73.57**	**310**	*e*P		**P**	**00 04 26.0**	**-3.0**
ZEI				pmax	pmax			
	comp=Z,101nm,1.0s							
ASUD	**Al Ashush, Dub**	**73.60**	**289**	*i* P		**P**	**00 04 30.0**	**+0.8**
	SNR=8.4							
NBB30	**Finnes**	**73.64**	**341**	⇓*i*P		**P**	**00 04 28.7**	**+0.1**
NBB17	**Glomfjord B¥r**	**73.69**	**341**	*e*P		**P**	**00 04 29.4**	**+0.4**
N2RO	**R st**	**73.70**	**342**	⇓*i*P		**P**	**00 04 28.8**	**-0.2**
KBZ	**Khabaz**	**73.77**	**312**	P		**P**	**00 04 30.4**	**+0.6**
	comp=Z,197nm,0.8s,baz=73,slow=4.2,SNR=396							
KBZ				LR	LR		00 39 17.9	
	comp=Z,657nm,18.9s,baz=57,slow=38							
KBZ	**Khabaz**	**73.77**	**312**	*d* *i*P		**P**	**00 04 30.3**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,251nm,0.9s							
KIV	**Kislovodsk**	**73.80**	**312**	*i* P		**P**	**00 04 30.8**	**+0.6**
	SNR=156							
KIV	**Kislovodsk**	**73.80**	**312**	P		**P**	**00 04 30.8**	**+0.6**
KIV				P		**P**	**00 04 30.8**	**+0.6**
KIV	**Kislovodsk**	**73.80**	**312**	*e*P		**P**	**00 04 30.6**	**+0.4**
KIV				*e*			00 07 16.1	
KIV				*e*S		**S**	**00 13 58.5**	**+1.8**
KIV				*e*SS		**SS**	**00 18 44.1**	**+3.2**
KIV				pmax	pmax			
	comp=Z,659nm,1.0s							
KIV				pmax	pmax			
	comp=Z,281nm,3.2s							
KIV				MLR	MLR			
	comp=Z,1µm,18.0s							
KIV	**Kislovodsk**	**73.80**	**312**	P		**P**	**00 04 30.7**	**+0.6**
I05D	**Terrebonne, OR**	**73.82**	**48**	P		**P**	**00 04 31.6**	**+1.3**
	baz=299,SNR=21							
J04D	**Umpqua Nationa**	**73.86**	**49**	P		**P**	**00 04 32.3**	**+1.6**
	baz=298,SNR=27							
D08A	**Wollman Farm,**	**73.98**	**44**	P		**P**	**00 04 32.0**	**+0.9**
D08A				IAmb	IAmb		00 04 33.3	
	comp=Z,141nm,0.9s							
DQM	**DQM**	**74.00**	**284**	P		**P**	**00 04 31.2**	**-0.3**
KONS	**Konsvik**	**74.16**	**341**	*e*P		**P**	**00 04 33.4**	**+1.7**
NBB40	**Tonnes**	**74.18**	**341**	⇓*i*P		**P**	**00 04 31.5**	**-0.3**
YBH	**Yreka Blue Hor**	**74.19**	**51**	P		**P**	**00 04 34.0**	**+1.6**
YBH				pmax	pmax			
	comp=Z,92nm,0.9s							
YBH	**Yreka Blue Hor**	**74.19**	**51**	P		**P**	**00 04 34.0**	**+1.6**
YBH				IAmb	IAmb		00 04 35.3	
	comp=Z,92nm,0.9s							
L04D	**Klamath Falls**	**74.22**	**50**	P		**P**	**00 04 34.2**	**+1.5**
	baz=299,SNR=25							
M02C	**Callahan**	**74.25**	**51**	P		**P**	**00 04 34.6**	**+1.8**
	baz=299,SNR=25							
K04D	**Chiloquin, OR**	**74.38**	**49**	P		**P**	**00 04 35.2**	**+1.5**
	baz=299,SNR=13							
J05D	**Fort Rock, OR**	**74.40**	**49**	P		**P**	**00 04 35.4**	**+1.7**
	baz=299,SNR=74							
NEW	**Newport**	**74.44**	**43**	P		**P**	**00 04 34.8**	**+1.0**
	baz=300,SNR=73							
NEW	**Newport**	**74.44**	**43**	P		**P**	**00 04 34.2**	**+0.5**
NEW				pmax	pmax			
	comp=Z,108nm,0.8s							
NEW	**Newport**	**74.44**	**43**	P		**P**	**00 04 34.2**	**+0.5**
NEW				IAmb	IAmb		00 04 36.0	
	comp=Z,108nm,0.8s							
N02D	**Trinity Center**	**74.55**	**51**	P		**P**	**00 04 36.2**	**+1.7**
	baz=299,SNR=43							
KCPM	**Cahto Peak**	**74.58**	**53**	P		**P**	**00 04 36.2**	**+1.4**
VSU	**Vasula**	**74.59**	**330**	*d* *i*P		**P**	**00 04 34.5**	**+0.2**
VSU				pmax	pmax			
	comp=Z,465nm,0.7s							
M04C	**Macdoel**	**74.73**	**50**	P		**P**	**00 04 37.1**	**+1.5**
	baz=299,SNR=44							
CHVG	**Ch'k'valeri**	**74.78**	**311**	⇓P		**P**	**00 04 36.0**	**+0.2**
CHVG	**Ch'k'valeri**	**74.78**	**311**	⇓P		**P**	**00 04 36.0**	**+0.2**
WDC	**Whiskeytown Da**	**74.85**	**52**	P		**P**	**00 04 37.2**	**+1.0**
WDC				pmax	pmax			
	comp=Z,88nm,1.1s							
WDC	**Whiskeytown Da**	**74.85**	**52**	P		**P**	**00 04 37.2**	**+1.0**
WDC				IAmb	IAmb		00 04 38.7	
	comp=Z,88nm,1.1s							
O02D	**Mt. Diablo Mer**	**74.88**	**52**	P		**P**	**00 04 38.2**	**+1.7**
	baz=299,SNR=33							
EPOS	**Posof**	**74.95**	**310**	*i* P		**P**	**00 04 38.1**	**+1.2**
UPNV	**Upernavik**	**75.07**	**5**	⇓*i*P		**P**	**00 04 37.2**	**+0.4**
UPNV				IAmb	IAmb		00 04 38.2	
	comp=Z,84nm,0.8s							
JMIC	**Jan Mayen**	**75.16**	**350**	*e*P		**P**	**00 04 39.2**	**+1.8**
HOPS	**Hopland Field**	**75.26**	**53**	P		**P**	**00 04 39.6**	**+1.0**
O03E	**Paynes Creek**	**75.48**	**52**	P		**P**	**00 04 40.6**	**+0.6**
	baz=299,SNR=34							
GDXM	**Geysers**	**75.54**	**53**	P		**P**	**00 04 41.6**	**+1.3**
ARTV	**Artvin**	**75.64**	**310**	*i* P		**P**	**00 04 41.7**	**+0.7**
ARTV	**Artvin**	**75.64**	**310**	P		**P**	**00 04 41.5**	**+0.5**
MOD	**Modoc Plateau**	**75.67**	**50**	P		**P**	**00 04 41.9**	**+0.8**
MOD				IAmb	IAmb		00 04 43.5	
	comp=Z,78nm,0.9s							
BCA	**Borcka**	**75.71**	**310**	⇑P		**P**	**00 04 41.4**	**+0.3**
DBOC	**Borcka**	**75.73**	**310**	*i* P		**P**	**00 04 41.9**	**+0.6**
WALA	**Waterton Lakes**	**75.84**	**41**	P		**P**	**00 04 42.7**	**+0.8**
WALA				IAmb	IAmb		00 04 44.2	
	comp=Z,88nm,0.8s							
SOC	**Sochi**	**75.86**	**313**	⇓*i*P		**P**	**00 04 41.9**	**0.0**
SOC				*e**PP		**PcP**	**00 04 54.0**	**-0.2**
SOC				*e**SP		**pwP**	**00 05 00.7**	**-0.3**
SOC				*e*			00 07 28.1	
SOC				*e*S		**S**	**00 14 21.9**	**+2.5**
SOC				*e**SS		**SKSac**	**00 14 44.9**	**-2.1**
SOC				*e*SS		**SS**	**00 19 13.7**	**+1.9**
SOC				*e*SSS	SSS		00 22 31.5	
SOC				pmax	pmax			
	comp=Z,168nm,1.1s							
SOC				MLR	MLR			
	comp=Z,720nm,20.0s							
DBAD	**Bademkaya**	**75.87**	**310**	*i* P		**P**	**00 04 43.0**	**+0.8**
DDEM	**Demirkent**	**75.90**	**309**	*i* P		**P**	**00 04 43.1**	**+0.7**
SUMG	**Summit**	**75.90**	**360**	⇓*i*P		**P**	**00 04 43.4**	**+1.3**
SUMG				pmax	pmax			
	comp=Z,500nm,0.9s							
SUMG	**Summit**	**75.90**	**360**	P		**P**	**00 04 43.2**	**+1.1**
SUMG	**Summit**	**75.90**	**360**	⇓*i*P		**P**	**00 04 43.4**	**+1.3**
SUMG				IAmb	IAmb		00 04 44.6	
	comp=Z,497nm,0.9s							
NSS	**Namsos**	**75.91**	**340**	⇓*i*P		**P**	**00 04 41.5**	**-0.3**
GEVA	**Gevas**	**76.30**	**307**	P		**P**	**00 04 45.3**	**+0.5**
GEVA				IAmb	IAmb		00 04 47.3	
	comp=Z,104nm,0.9s							
JTMT	**Jette**	**76.34**	**42**	P		**P**	**00 04 45.8**	**+1.1**
MICGM	**Minsk**	**76.42**	**326**	⇓*i*P		**P**	**00 04 45.0**	**+0.1**
MICGM				PM			00 04 46.0	
	comp=Z,1.0nm,0.8s							
MICGM				PM			00 04 46.0	
	comp=N,0.2nm,1.5s							
MICGM				PM			00 04 47.0	
	comp=E,0.3nm,1.2s							
MICGM				*e*pP		**pP**	**00 05 02.0**	**+0.6**
MICGM				*e*Pcp			00 05 09.0	
MICGM				*e*PP		**PP**	**00 07 40.0**	**+3.4**
MICGM				*e*PPP	PPP		00 09 12.0	
MICGM				*e*S		**S**	**00 14 22.0**	**-3.1**
MICGM				*e*LR	LR		00 37 18.0	
MNK	**Minsk**	**76.42**	**326**	⇓*i*P		**P**	**00 04 45.0**	**+0.1**
MNK				*e*			00 05 02.0	
MNK				*e*			00 05 09.0	
MNK				*e*			00 07 41.0	
MNK				*e*S		**S**	**00 14 22.0**	**-3.1**
MNK				pmax	pmax			
	comp=Z,960nm,0.8s							
MNK				pmax	pmax			
	comp=N,170nm,1.5s							
MNK				pmax	pmax			
	comp=E,290nm,1.2s							
IDID	**Didziasalis**	**76.46**	**327**	*e*P		**P**	**00 04 45.7**	**+0.6**
SHAO	**Shalim**	**76.50**	**283**	*i* P		**P**	**00 04 46.5**	**+0.6**
	SNR=9.2							
SHAO	**Shalim**	**76.50**	**283**	P		**P**	**00 04 48.0**	**+2.0**
	SNR=6.6							
ISAL	**Salakas**	**76.59**	**328**	*e*P		**P**	**00 04 46.5**	**+0.7**
ANN	**Anapa**	**76.64**	**315**	*e*P		**P**	**00 04 43.1**	**-3.2**
ANN				*e**PP		**PcP**	**00 04 58.7**	**+1.2**
ANN				*e*S		**S**	**00 14 25.2**	**-2.7**
ANN				pmax	pmax			
	comp=Z,417nm,1.0s							
ANN				smax	smax			
	comp=E,507nm,6.0s							
ANN				MLR	MLR			
	comp=E,477nm,16.0s							
ANN				MLR	MLR			
	comp=N,577nm,18.0s							
ANN				MLR	MLR			
	comp=Z,1µm,20.0s							
IIGN	**Ignalina**	**76.68**	**328**	*e*P		**P**	**00 04 46.9**	**+0.5**
NACGM	**Naroch**	**76.69**	**327**	*e*P		**P**	**00 04 45.0**	**-1.4**
NACGM				PM			00 04 47.0	
	comp=Z,0.7nm,1.0s							
NACGM				*e*LR	LR		00 34 08.0	
NACGM				LRM	MLR		00 41 00.0	
	comp=Z,2.7nm,18.0s							
KRIK	**Erzurum-spir**	**76.72**	**309**	*i* P		**P**	**00 04 48.6**	**+1.4**
EMRE	**Erzurum,Aziziy**	**76.84**	**309**	*i* P		**P**	**00 04 49.2**	**+1.3**
HIZ	**Hauiti**	**76.92**	**153**	P		**P**	**00 04 49.2**	**+1.4**
HIZ				IAmb	IAmb		00 04 51.4	
	comp=Z,134nm,1.0s							
MSO	**Missoula**	**77.03**	**43**	P		**P**	**00 04 49.1**	**+0.5**
	baz=303,SNR=38							
MSO	**Missoula**	**77.03**	**43**	P		**P**	**00 04 49.0**	**+0.3**
MSO				IAmb	IAmb		00 04 50.4	
	comp=Z,153nm,1.5s							
KTUT	**Trabzon**	**77.15**	**310**	⇓P		**P**	**00 04 49.4**	**+0.2**
KOPT	**Kop Dagi**	**77.16**	**309**	*i* P		**P**	**00 04 51.1**	**+1.4**
BAYB	**BAYBURT**	**77.20**	**309**	*i* P		**P**	**00 04 51.0**	**+1.2**
TBLU	**Trondheim**	**77.37**	**339**	*e*P		**P**	**00 04 49.6**	**-0.4**
VRZ	**Vera Road**	**77.41**	**153**	P		**P**	**00 04 53.4**	**+2.9**
VRZ				S		**sP**	**00 05 13.6**	**0.0**
SAO	**San Andreas Ge**	**77.48**	**55**	P		**P**	**00 04 51.8**	**+0.6**
SAO				pmax	pmax			
	comp=Z,69nm,1.1s							
SAO	**San Andreas Ge**	**77.48**	**55**	P		**P**	**00 04 51.8**	**+0.6**
SAO				IAmb	IAmb		00 04 53.3	
	comp=Z,69nm,1.1s							
URZ	**Urewera**	**77.60**	**151**	P		**P**	**00 04 51.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**77.64**	**307**	*i* P		**P**	**00 04 53.0**	**+0.8**
WTVZ	**West Tongariro**	**77.73**	**153**	P		**P**	**00 04 54.5**	**+2.2**
TMVZ	**Te Maari**	**77.77**	**153**	P		**P**	**00 04 55.7**	**+3.0**
ETVZ	**East Tongariro**	**77.79**	**153**	P		**P**	**00 04 55.5**	**+2.8**
OTVZ	**Oturere**	**77.80**	**153**	P		**P**	**00 04 55.1**	**+2.3**
EUZM	**Uzumlu**	**77.85**	**309**	*i* P		**P**	**00 04 54.7**	**+1.3**
KELT	**Kelkit**	**77.91**	**310**	*i* P		**P**	**00 04 54.8**	**+1.0**
AKASG	**Malin Array Be**	**77.99**	**323**	P		**P**	**00 04 53.5**	**-0.2**
	comp=Z,21nm,0.4s,baz=49,slow=6.0,SNR=214							
AKASG				LR	LR		00 41 26.5	
	comp=Z,2µm,21.0s,baz=50,slow=37							
AKASG	**Malin Array Be**	**77.99**	**323**	P		**P**	**00 04 53.7**	**0.0**
AKASG				pmax	pmax			
	comp=Z,45nm,1.1s							
AKASG	**Malin Array Be**	**77.99**	**323**	P		**P**	**00 04 53.7**	**0.0**
AKBB	**Malin Array Si**	**77.99**	**323**	P		**P**	**00 04 53.5**	**-0.2**
AKBB				pmax	pmax			
	comp=Z,131nm,0.9s							
AKBB	**Malin Array Si**	**77.99**	**323**	P		**P**	**00 04 53.5**	**-0.2**
AKBB				IAmb	IAmb		00 04 54.7	
	comp=Z,131nm,0.8s							
WHFO	**Wadi Hawf**	**78.08**	**284**	P		**P**	**00 04 55.0**	**+0.1**
	SNR=5.6							
WHFO				P		**P**	**00 04 55.0**	**+0.1**
	SNR=5.6							
QRZ	**Quartz Range**	**78.09**	**156**	P		**P**	**00 04 56.1**	**+1.8**
BKZ	**Black Stump Fm**	**78.12**	**152**	P		**P**	**00 04 56.0**	**+1.5**
BKZ	**Black Stump Fm**	**78.12**	**152**	P		**P**	**00 04 54.7**	**+0.2**
BKZ				IAmb	IAmb		00 05 17.3	
	comp=Z,127nm,1.4s							
TNCL	**Tunceli-Merkez**	**78.26**	**309**	*i* P		**P**	**00 04 56.7**	**+1.1**
MARD	**Mardin**	**78.36**	**307**	*i* P		**P**	**00 04 56.9**	**+0.6**
LRM	**Limekiln Ridge**	**78.44**	**43**	P		**P**	**00 04 57.5**	**+0.8**
HLID	**Hailey**	**78.52**	**46**	P		**P**	**00 04 58.4**	**+1.3**
	baz=303,SNR=99							
HLID	**Hailey**	**78.52**	**46**	P		**P**	**00 04 58.1**	**+1.0**
HLID				IAmb	IAmb		00 04 59.6	
	comp=Z,62nm,0.9s							
FFC	**Flin Flon**	**78.52**	**32**	P		**P**	**00 04 56.7**	**+0.1**
FFC				pmax	pmax			
	comp=Z,125nm,0.8s							
FFC	**Flin Flon**	**78.52**	**32**	P		**P**	**00 04 56.7**	**+0.1**
FFC				IAmb	IAmb		00 04 58.0	
	comp=Z,125nm,0.8s							
SIM	**Simferopol'**	**78.55**	**316**	*e*P		**P**	**00 04 56.1**	**-0.9**
SIM				*e**PP		**pwP**	**00 05 16.0**	**-0.4**
SIM				*e*S		**S**	**00 14 46.0**	**-2.6**
SIM				pmax	pmax			
	comp=Z,69nm,0.6s							
SIM				MLR	MLR			
	comp=Z,2µm,23.0s							
DUWZ	**D'Urville Isla**	**78.57**	**155**	P		**P**	**00 04 58.3**	**+1.5**
DUWZ				S		**sP**	**00 05 19.3**	**-0.7**
KVN	**Kaiserville**	**78.57**	**51**	P		**P**	**00 04 58.1**	**+0.6**
KVN				pmax	pmax			
	comp=Z,73nm,0.8s							
KVN	**Kaiserville**	**78.57**	**51**	P		**P**	**00 04 58.1**	**+0.6**
KVN				IAmb	IAmb		00 04 59.7	
	comp=Z,73nm,0.8s						

comp=Z,106nm,0.8s
THZ Tophouse 79.05 156 P P 00 04 59.7 +0.1
THZ IAmb IAmb 00 05 00.9
comp=Z,96nm,1.0s
MRZ Mangatainoka R 79.06 154 P P 00 05 00.5 +1.0
TUWZ Tuamarina 79.13 155 P P 00 04 59.8 0.0
VOG Valley Oaks Go 79.13 54 P P 00 05 00.7 +0.4
baz=302
AKN Aaknes 79.16 340 *eP* **P 00 05 00.9 +0.9**
SMMC Simmler 79.23 55 P P 00 05 02.3 +1.3
baz=301,SNR=15
HOWZ Holdsworth Sta 79.24 154 P P 00 05 01.9 +1.4
ERBA Erbaa 79.25 311 *i* P **P 00 05 01.8 +0.8**
SNZO South Karori 79.30 154 P P 00 05 01.1 +0.3
SNZO IAmb IAmb 00 05 02.2
comp=Z,145nm,1.1s
WEL Wellington 79.30 154 P P 00 04 60.0 -0.8
BFZ Birch Farm 79.33 153 P P 00 05 02.4 +1.3
BFZ S **sP 00 05 22.8 -1.4**
BFZ Birch Farm 79.33 153 P P **00 05 01.5 +0.5**
BFZ IAmb IAmb 00 05 02.9
comp=Z,135nm,1.0s
BSWZ Blackbirch Sta 79.35 155 P P 00 05 01.3 +0.2
ICESG Greenland Ices 79.41 0 ⇓*i* P **P 00 05 02.6 +1.0**
ICESG IAmb IAmb 00 05 03.6
comp=Z,255nm,1.0s
SINO SINOP_Merkez 79.50 313 *i* P **P 00 05 01.4 -0.8**
CUKAN kangal_SIVAS 79.52 310 *i* P **P 00 05 03.7 +1.1**
TIN Tinemaha, Big 79.53 53 P P 00 05 03.9 +1.2
baz=302,SNR=11
PKM Mcpherson Peak 79.58 55 P P 00 05 04.3 +1.2
baz=302,SNR=27
VES Vestal, Richgr 79.59 54 P P 00 05 03.1 +0.3
baz=302,SNR=26
MSWZ Moikau Station 79.59 154 P P 00 05 02.6 +0.2
TOKA Tokat 79.62 311 *i* P **P 00 05 03.8 +0.8**
TOKA Tokat 79.62 311 P P 00 05 03.6 +0.6
TOKA IAmb IAmb 00 05 05.0
comp=Z,120nm,0.9s
SANL SANLIURFA_Merk 79.65 307 *i* P **P 00 05 04.2 +1.0**
DIKM Dikmen 79.67 313 ⇑P **P 00 05 03.7 +0.6**
TPH Tonopah 79.67 52 P P 00 05 03.9 +0.4
TPH pmax pmax
comp=Z,402nm,1.1s
TPH Tonopah 79.67 52 P P 00 05 03.9 +0.4
OSL Oslo 79.70 337 *eP* **P 00 05 03.1 +0.2**
KHZ Kahutara 79.85 156 P P 00 05 03.6 -0.2
KHZ IAmb IAmb 00 05 04.8
comp=Z,86nm,0.9s
SKAR Skarslia 79.92 338 ⇓*i* P **P 00 05 04.8 +0.5**
SORM Soroca 79.97 321 ⇓P **P 00 05 04.2 -0.4**
SORM Soroca 79.97 321 ⇓P **P 00 05 04.2 -0.4**
PURM Purcari 80.09 319 ⇑P **P 00 05 07.0 +1.7**
ISA Isabella, Lake 80.10 54 P P 00 05 05.7 0.0
baz=302,SNR=17
ARVC Arvin 80.14 55 P P 00 05 06.4 +0.6
baz=302,SNR=11
SCZ2 Santa Cruz Isl 80.17 56 P P 00 05 06.7 +0.7
baz=302
RPZ Rata Peaks 80.18 158 P P 00 05 05.7 +0.1
RPZ IAmb IAmb 00 05 10.1
comp=Z,70nm,0.9s
FOO Floro 80.19 340 ⇓*i* P **P 00 05 05.7 +0.2**
HYA Hoyanger 80.20 339 ⇓*i* P **P 00 05 05.8 +0.2**
BZK Bozkurt 80.28 313 ⇓P **P 00 05 06.9 +0.5**
KONO Kongsberg 80.30 337 P P 00 05 06.1 -0.1
KONO pmax pmax
comp=Z,46nm,1.1s
KONO Kongsberg 80.30 337 P P 00 05 06.1 -0.1
KONO Kongsberg 80.30 337 ⇓*i* P **P 00 05 06.0 -0.2**
H17A Grant Village 80.34 43 P P 00 05 10.1 +3.0
baz=305,SNR=55
KIS Kishinev 80.39 320 *eP* **P 00 05 06.0 -0.9**
comp=Z,220nm,1.0s
KIS XM 00 14 50.0
comp=Z,500nm,19.0s
KIS *e*LR LR 00 40 59.0
comp=Z,200nm,16.0s
KIS Kishinev 80.39 320 *eP* **P 00 05 06.0 -0.9**
KIS *e* 00 08 52.0
KIS *i* 00 14 40.0
KIS pmax pmax
comp=Z,200nm,6.4s
KIS MLR MLR
comp=Z,200nm,16.0s
KAGI orum-Kargı 80.44 313 *i* P **P 00 05 08.3 +0.9**
MILM Milestii Mici 80.44 320 ⇓P **P 00 05 06.5 -0.7**
OSI Osito Audit: C 80.48 55 P P 00 05 08.6 +0.9
baz=302
LBZ Lake Benmore 80.51 159 P P 00 05 07.5 +0.2
LBZ IAmb IAmb 00 05 09.5
comp=Z,111nm,1.1s
CTAK Corum_Osmancik 80.52 312 *i* P **P 00 05 08.9 +0.9**
MPMC Manual Prospec 80.57 53 P P 00 05 09.1 +0.7
baz=302,SNR=74
R11A Troy Canyon, C 80.61 51 P P 00 05 09.5 +0.9
baz=303,SNR=121
COAL Corum-Alaca 80.61 312 *i* P **P 00 05 09.3 +0.9**
SNCC San Nicolas Is 80.64 57 P P 00 05 09.2 +0.7
baz=302,SNR=6.3
SNCC San Nicolas Is 80.64 57 P P 00 05 09.2 +0.7
SNCC IAmb IAmb 00 05 10.6
comp=Z,132nm,0.9s
RLMT Red Lodge 80.68 42 P P 00 05 10.2 +1.3
baz=306,SNR=58
SUE Sulen 80.71 340 *eP* **P 00 05 09.0 +0.7**
LRMC Laurel Mtn Rad 80.75 54 P P 00 05 09.8 +0.6
baz=302,SNR=5.1
SOCY Socotra 80.77 279 P P 00 05 07.3 -2.3
SOCY IAmb IAmb 00 05 09.4
comp=Z,66nm,0.8s
SNOW Snow King Moun 80.78 44 P P 00 05 10.5 +1.0
SNOW IAmb IAmb 00 05 12.1
comp=Z,82nm,0.8s
FURC Furnace Creek, 80.78 53 P P 00 05 10.2 +1.0
baz=303,SNR=26
MLZ Mavora Lakes 80.80 161 P P 00 05 09.4 +0.6
GAZ Gaziantep 80.85 308 P P 00 05 10.5 +0.8
GAZ IAmb IAmb 00 05 11.8
comp=Z,169nm,0.9s
EDW2 Edwards Air Fo 80.85 55 P P 00 05 10.7 +0.9
baz=302,SNR=52
TPNV Topopah Spring 80.93 52 P P 00 05 11.1 +0.9
baz=303,SNR=68
DECC Green Verdugo 80.95 55 P P 00 05 10.7 +0.5
baz=302,SNR=6.0
IAS Iasi 80.96 321 ⇓P **P 00 05 09.9 -0.1**
IAS Iasi 80.96 321 ⇓P **P 00 05 09.9 -0.1**
ILGA Ilgaz 80.97 313 *i* P **P 00 05 11.7 +1.2**
ILGA Ilgaz 80.97 313 P P 00 05 11.6 +1.2
SIRC Yozgat 81.02 311 *i* P **P 00 05 10.9 +0.3**
ASK Askoy 81.04 339 *eP* **P 00 05 10.5 +0.4**
ODD1 Odda 81.05 338 ⇓*i* P **P 00 05 10.5 +0.3**
BER Bergen 81.07 339 *eP* **P 00 05 10.7 +0.4**
PELI Kastamonı-Ara 81.08 313 *i* P **P 00 05 11.9 +1.0**
SFJD Kangerlussuaq 81.15 4 P P 00 05 10.9 +0.3
SFJD pmax pmax
comp=Z,122nm,1.0s
SFJD Kangerlussuaq 81.15 4 P P 00 05 10.9 +0.3
SFJD IAmb IAmb 00 05 12.2
comp=Z,122nm,1.0s
SFJD Kangerlussuaq 81.15 4 *i* P **P 00 05 10.0 -0.6**
LVV L'vov 81.16 324 *eP* **P 00 05 10.3 -0.7**
LVV *e*S **S 00 15 20.6 +4.7**
LVV MLR MLR
comp=Z,1µm,18.0s
VASR Vaslui 81.17 320 ⇓P **P 00 05 11.5 +0.4**
ODZ Otahua Downs 81.25 159 P P 00 05 12.1 +0.9
ODZ IAmb IAmb 00 05 13.9
comp=Z,94nm,1.1s
FMP Fort Macarthur 81.26 56 P P 00 05 12.4 +0.6
baz=302
CIS Catalina Islan 81.34 56 P P 00 05 12.6 +0.3
baz=302,SNR=8.8
CDAG Cicekdag 81.36 311 *i* P **P 00 05 13.0 +0.7**
DUG Dugway, Tooele 81.38 48 P P 00 05 13.8 +1.2
baz=304,SNR=54
BEL Belsk 81.41 327 *eP* **P 00 05 13.1 +0.8**
BEL *eP* **pP 00 05 30.4 +1.4**
DGMT Dagmar 81.41 37 P P 00 05 12.6 +0.2
baz=309,SNR=9.4
DGMT Dagmar 81.41 37 P P 00 05 12.6 +0.2
DGMT IAmb IAmb 00 05 14.0
comp=Z,143nm,1.1s

BFSC Mount Baldy Ra 81.43 55 P P 00 05 13.3 +0.4
baz=303,SNR=20
DELI KIRIKKALE 81.43 312 *i* P **P 00 05 13.2 +0.4**
LAO LASA Array 81.44 40 P P 00 05 13.5 +0.9
baz=308,SNR=86
LAO LASA Array 81.44 40 P P 00 05 13.4 +0.7
GSC Goldstone, Bar 81.44 54 P P 00 05 13.7 +0.8
baz=303,SNR=50
GSC Goldstone, Bar 81.44 54 P P 00 05 13.4 +0.5
GSC pmax pmax
comp=Z,72nm,1.0s
GSC Goldstone, Bar 81.44 54 P P 00 05 13.4 +0.5
GSC IAmb IAmb 00 05 14.9
comp=Z,72nm,1.0s
SCI2 San Clemente I 81.47 57 P P 00 05 13.5 +0.6
baz=302,SNR=5.4
TLCR 81.48 318 ⇑P **P 00 05 13.2 +0.5**
TLCR 81.48 318 ⇑P **P 00 05 13.2 +0.5**
SHOC Shoshone, Teco 81.48 53 P P 00 05 13.6 +0.6
baz=303,SNR=6.4
BLS5 Blasjo 81.49 338 *eP* **P 00 05 13.6 +1.0**
BIR Birlad 81.49 320 ⇓P **P 00 05 13.5 +0.7**
BIR Birlad 81.49 320 ⇓P **P 00 05 13.5 +0.7**
KBUK KARABUK-Merkez 81.54 313 *i* P **P 00 05 14.0 +0.8**
RRX Edison Barstow 81.54 54 P P 00 05 14.3 +1.0
baz=303
PRAR RASCA 81.57 321 ⇓P **P 00 05 13.3 +0.1**
VARL Varlezi 81.59 319 ⇓P **P 00 05 13.8 +0.5**
BSD Bornholm Skovb 81.69 332 ⇓*i* P **P 00 05 13.1 -0.5**
BSD pmax pmax
comp=Z,86nm,0.9s
BSD Bornholm Skovb 81.69 332 ⇓*i* P **P 00 05 13.2 -0.5**
BSD IAmb IAmb 00 05 14.2
comp=Z,86nm,0.9s
JURR Jurilovca 81.70 318 ⇓P P 00 05 20.3 +6.4
HOMB Homborsund 81.72 337 *i* P **P 00 05 14.1 +0.4**
GHRR 81.73 320 ⇓P **P 00 05 14.9 +0.8**
BR131 Keskin Array S 81.77 312 P P 00 05 15.2 +0.6
SNR=117
BR131 Keskin Array S 81.77 312 P P 00 05 14.9 +0.3
BR131 Keskin Array S 81.77 312 P P 00 05 14.9 +0.3
BR131 IAmb IAmb 00 05 16.5
comp=Z,126nm,0.8s
BRTR Keskin Array B 81.77 312 P P 00 05 14.9 +0.3
comp=Z,173nm,0.8s,baz=103,slow=3.8,SNR=485
BRTR PKKPbc **PKKPbc 00 23 46.4 +1.3**
comp=Z,1.6nm,0.8s,baz=207,slow=4.2,SNR=6.6
BRTR LR LR 00 45 53.9
comp=Z,171nm,20.4s,baz=50,slow=39
BRTR Keskin Array B 81.77 312 P P 00 05 14.8 +0.2
CFR Carcaliu 81.87 319 ⇓P **P 00 05 14.7 -0.1**
CFR Carcaliu 81.87 319 ⇓P **P 00 05 14.7 -0.1**
TESR Tescani 81.87 320 ⇓P **P 00 05 15.0 +0.2**
TUDR 81.88 319 ⇓P **P 00 05 16.0 +1.2**
BW06 Boulder Array 81.89 44 P P 00 05 15.7 +0.3
baz=306,SNR=22
PD31 Pinedale Array 81.89 44 P P 00 05 15.7 +0.4
PD31 IAmb IAmb 00 05 16.9
comp=Z,49nm,0.8s
PDAR Pinedale Array 81.89 44 P P 00 05 15.7 +0.4
comp=Z,44nm,0.7s,baz=269,slow=2.3,SNR=151
PDAR LR LR 00 42 10.6
comp=Z,89nm,18.6s,baz=332,slow=36
PDAR Pinedale Array 81.89 44 P P 00 05 15.5 +0.2
BIZ Bicaz 81.90 321 ⇓P **P 00 05 15.3 +0.3**
SHPR Sheep Range 81.91 52 P P 00 05 16.3 +0.9
SHPR IAmb IAmb 00 05 17.7
comp=Z,53nm,0.8s
BBRC Big Bear Solar 81.93 55 P P 00 05 15.9 +0.2
baz=303
BUR08 Bucovina Ar. S 81.94 322 P P 00 05 15.7 +0.4
KWP Kalwaria Pacla 81.94 324 *eP* **P 00 05 15.7 +0.5**
KWP *e*S **S 00 15 21.9 -2.2**
KWP Kalwaria Pacla 81.94 324 P P 00 05 15.9 +0.7
KWP pmax pmax
comp=Z,458nm,1.2s
KWP Kalwaria Pacla 81.94 324 P P 00 05 15.8 +0.7
BURAR Bucovina Array 81.95 322 ⇓P **P 00 05 15.6 +0.3**
BURAR Bucovina Array 81.95 322 ⇓P **P 00 05 15.6 +0.3**
BURAR Bucovina Array 81.95 322 P P 00 05 15.4 +0.1
TUQ Turquoise Moun 81.98 53 P P 00 05 16.6 +0.9
baz=303,SNR=40
JLU Jordanelle 82.00 47 P P 00 05 16.7 +0.8
HEC Hector,Ludlow 82.03 54 P P 00 05 16.7 +0.8
baz=303,SNR=67
GKP Gorka Klasztor 82.03 330 *eP* **P 00 05 15.7 +0.2**
GKP *ep*P **pP 00 05 33.1 +0.9**
GKP *e*S **S 00 15 21.6 -3.1**
KMY Karmoy 82.03 339 *eP* **P 00 05 15.8 +0.4**
PETR Petresti 82.04 319 ⇓P **P 00 05 17.1 +1.4**
CMDR Camlidere-ANKA 82.06 313 *i* P **P 00 05 16.6 +0.5**
MURC Murrieta 82.10 55 P P 00 05 16.8 +0.5
baz=303,SNR=19
SNART Snartemo 82.10 337 *eP* **P 00 05 16.2 +0.4**
SNART Snartemo 82.10 337 *i* P **P 00 05 16.0 +0.3**
SNART *i* P **P 00 05 16.3 +0.6**
ODBI Odobesti 82.11 320 ⇓P **P 00 05 17.5 +1.4**
BCAM Yenicaga 82.13 313 *i* P **P 00 05 17.0 +0.6**
TIRR Tirgusor 82.15 318 ⇑P **P 00 05 16.3 +0.1**
TIRR Tirgusor 82.15 318 P P 00 05 16.5 +0.2
TIRR pmax pmax
comp=Z,102nm,0.9s
TIRR Tirgusor 82.15 318 P P 00 05 16.5 +0.2
TIRR IAmb IAmb 00 05 17.2
comp=Z,102nm,0.9s
ANTO Ankara 82.22 312 ⇑P sP 00 05 42.2 +2.0
VRI Vrincioaia 82.23 320 ⇓P **P 00 05 17.2 +0.5**
VRI Vrincioaia 82.23 320 ⇓P **P 00 05 17.2 +0.5**
BR231 Keskin MP Arra 82.25 312 P P 00 05 17.8 +0.7
BR231 IAmb IAmb 00 05 18.9
comp=Z,110nm,0.8s
COP Copenhagen 82.25 333 *i* P **P 00 05 16.8 +0.2**
COP pmax pmax
comp=Z,86nm,0.8s
COP Copenhagen 82.25 333 *i* P **P 00 05 16.8 +0.2**
comp=Z,86nm,0.8s
COP Copenhagen 82.25 333 ⇓*i* P **P 00 05 16.6 +0.1**
COP *i* P **P 00 05 16.9 +0.2**
COP IAmb IAmb 00 05 17.6
comp=Z,86nm,0.8s
HARR Harsova 82.28 318 ⇓P **P 00 05 17.5 +0.5**
HARR Harsova 82.28 318 ⇓P **P 00 05 17.5 +0.5**
PLOR Plostina 82.28 320 ⇓P **P 00 05 17.4 +0.4**
PLOR Plostina 82.28 320 ⇓P **P 00 05 17.4 +0.4**
TLBR Topalu 82.30 318 ⇑P **P 00 05 17.6 +0.6**
MFTR Murfatlar 82.31 318 ⇑P **P 00 05 18.0 +0.8**
GRER 82.39 319 ⇓P **P 00 05 19.5 +2.0**
GOET G??ttrup 82.42 336 *i* P **P 00 05 18.0 +0.6**
comp=Z,321nm,0.8s
GOET G??ttrup 82.42 336 *i* P **P 00 05 17.9 +0.6**
GOET *i* P **P 00 05 18.0 +0.6**
GOET IAmb IAmb 00 05 19.1
comp=Z,321nm,0.8s
MANR Mangalia 82.43 317 ⇑P **P 00 05 18.0 +0.3**
GMRC Granite Mounta 82.51 54 P P 00 05 19.4 +0.8
baz=304,SNR=90
109C Camp Elliot, M 82.55 56 P P 00 05 19.0 +0.4
baz=303
PFO Pinyon Flats O 82.60 55 P P 00 05 19.7 +0.6
baz=303,SNR=63
PFO Pinyon Flats O 82.60 55 *d i* P **P 00 05 19.7 +0.6**
PFO pmax pmax
comp=Z,199nm,1.0s
PFO Pinyon Flats O 82.60 55 P P 00 05 19.4 +0.3
PFO IAmb IAmb 00 05 20.9
comp=Z,123nm,1.0s
TPFO Pinon Flats 82.61 55 P P 00 05 19.6 +0.5
baz=303,SNR=56
KOLS Kolonicke sedl 82.61 324 *eP* **P 00 05 17.8 -0.9**
KOLS pmax pmax
comp=Z,44nm,1.0s
AMRR Amara 82.66 319 ⇓P **P 00 05 19.9 +0.9**
AMRR Amara 82.66 319 ⇓P **P 00 05 19.9 +0.9**
PGOR Pogoanele 82.68 319 ⇓P **P 00 05 20.9 +1.9**
ICOR Ion Corvin 82.70 318 ⇓P **P 00 05 20.1 +1.0**
BELC Belle Mtn. Jos 82.71 55 P P 00 05 19.9 +0.3
baz=304,SNR=78
BORG Borgarnes 82.72 352 P P 00 05 20.8 +1.9
BORG pmax pmax
comp=Z,111nm,1.0s
BORG Borgarnes 82.72 352 P P 00 05 20.8 +1.9
BORG IAmb IAmb 00 05 22.2
comp=Z,111nm,1.0s
NEHR Nehoiu 82.74 320 ⇓P **P 00 05 19.9 +0.5**

ARCR ARCALIA 82.74 322 ⇑P **P 00 05 20.5 +1.2**
PSN Preselentsi 82.75 317 P P 00 05 19.9 +0.5
PSN Preselentsi 82.75 317 P P 00 05 19.9 +0.5
ISR Istrita 82.79 319 ⇑P **P 00 05 20.7 +1.0**
ISR Istrita 82.79 319 ⇑P **P 00 05 20.7 +1.0**
UZH Uzhgorod 82.80 324 ⇑*i* P **P 00 05 19.4 -0.2**
UZH *e* 00 05 26.6
UZH *e* 00 05 31.3
BMR Baia Mare 82.81 323 ⇓P **P 00 05 20.6 +0.9**
BMR Baia Mare 82.81 323 ⇓P **P 00 05 20.6 +0.9**
PMOR Pomariorio Ree 82.83 112 *eT* T 01 36 08.0
comp=Z,43nm,0.2s
MUD Monsted U'grnd 82.88 335 ⇓*i* P **P 00 05 19.8 0.0**
MUD pmax pmax
comp=Z,77nm,1.0s
MUD Monsted U'grnd 82.88 335 ⇓*i* P **P 00 05 19.9 0.0**
MUD IAmb IAmb 00 05 20.8
comp=Z,77nm,1.0s
ANGG Ammassalik, Gr 82.89 359 P P 00 05 19.9 +0.1
ANGG Ammassalik, Gr 82.89 359 *i* P **P 00 05 19.5 -0.2**
ANGG IAmb IAmb 00 05 20.9
comp=Z,76nm,0.9s
MLR Muntele Rosu 82.89 320 P P 00 05 20.5 +0.2
comp=Z,25nm,0.5s,baz=43,slow=2.4,SNR=35
MLR LR LR 00 43 04.7
comp=Z,1µm,21.3s,baz=94,slow=36
MLR Muntele Rosu 82.89 320 ⇓P **P 00 05 20.4 +0.1**
MLR Muntele Rosu 82.89 320 ⇓P **P 00 05 20.4 +0.1**
DOPR Dopca 82.90 320 ⇑P **P 00 05 21.3 +1.1**
OJC Ojcow 82.96 326 *i* P **P 00 05 20.9 +0.4**
OJC *ep*P **pP 00 05 38.3 +1.1**
OJC *e*S **S 00 15 31.7 -2.7**
OJC Ojcow 82.96 326 P P 00 05 20.9 +0.4
OJC pmax pmax
comp=Z,202nm,1.0s
OJC Ojcow 82.96 326 P P 00 05 20.9 +0.4
RASA Rasa 83.01 318 ⇑P **P 00 05 21.4 +0.6**
PPT Papeete 83.01 115 LR LR 00 39 52.3
comp=Z,416nm,19.0s,baz=322,slow=34
MONP2 Monument Peak 83.02 56 P P 00 05 21.8 +0.5
baz=303,SNR=32
PPT2 Papeete2 83.03 116 *e*S **S 00 15 33.9 -2.1**
comp=Z,202nm,24.2s
PPT2 Papeete2 83.03 116 *e*LR LR 00 31 00.5
comp=Z,2µm,31.0s
CRVS Cervenica-Dubn 83.04 324 *eP* **P 00 05 21.4 +0.5**
CRVS pmax pmax
comp=Z,106nm,1.1s
LEHL Lehliu 83.04 319 ⇑P **P 00 05 21.8 +0.8**
SECR 83.11 319 ⇓P **P 00 05 21.8 +0.5**
LRW Lerwick 83.13 342 *eP* **P 00 05 20.5 -0.5**
LRW IAmb IAmb 00 05 22.5
comp=Z,74nm,1.0s
RDMU Red Mountain 83.18 46 P P 00 05 23.0 +1.0
TIAR Tiarei 83.18 115 *eP* **P 00 05 23.4 +1.4**
comp=Z,21nm,1.0s
PLAR PLOIESTI 83.21 319 ⇓P **P 00 05 22.9 +1.1**
IRM Iron Mountain 83.22 54 P P 00 05 22.9 +0.8
baz=304,SNR=33
SULR 83.23 319 ⇑P **P 00 05 22.2 +0.3**
NEE2 Needles Airpor 83.24 53 P P 00 05 22.7 +0.6
baz=304,SNR=6.9
NIE Niedzica 83.26 325 *eP* **P 00 05 22.8 +0.8**
NIE *ep*P **pwP 00 05 41.0 -0.5**
BC3 Big Chuckawall 83.28 55 P P 00 05 23.2 +0.6
baz=304,SNR=49
ORH Orhaniye 83.33 314 P P 00 05 31.8 +9.3
ORH Orhaniye 83.33 314 P P 00 05 31.8 +9.3
MDB Medias 83.33 321 ⇓P **P 00 05 23.9 +1.5**
MDB Medias 83.33 321 ⇓P **P 00 05 23.9 +1.5**
CJR Cluj-Napoca 83.38 322 ⇑P **P 00 05 23.4 +0.7**
CJR Cluj-Napoca 83.38 322 ⇑P **P 00 05 23.4 +0.7**
IKP In-Ko-Pah, Jac 83.38 56 P P 00 05 23.8 +0.7
baz=304,SNR=24
TVO Taravao 83.39 115 *eP* **P 00 05 24.5 +1.4**
comp=Z,14nm,0.9s
VOIR 83.42 320 ⇑P **P 00 05 23.1 +0.1**
VOIR 83.42 320 ⇑P **P 00 05 23.1 +0.1**
SWSC Sam W. Stewart 83.43 55 P P 00 05 23.5 +0.4
baz=304,SNR=14
PRD Provadia 83.49 317 P P 00 05 24.1 +0.8
PRD Provadia 83.49 317 P P 00 05 24.1 +0.8
NEF NEVSHA 83.53 318 P P 00 05 24.1 +0.6
NEF NEVSHA 83.53 318 P P 00 05 24.1 +0.6
MTUR Matau 83.54 320 ⇓P **P 00 05 24.0 +0.4**
MTUR Matau 83.54 320 ⇓P **P 00 05 24.0 +0.4**
SGRR Singureni 83.67 319 ⇑P **P 00 05 24.3 +0.2**
ARR Arges 83.69 320 ⇓P **P 00 05 25.3 +1.0**
BHL Bhannes 83.71 306 *eP* **P 00 05 24.7 0.0**
K22A Casper 83.75 43 P P 00 05 25.3 +0.5
baz=308,SNR=25
K22A Casper 83.75 43 P P 00 05 25.3 +0.5
K22A IAmb IAmb 00 05 27.8
comp=Z,111nm,0.8s
RAZG Razgrad 83.78 318 ⇓P **P 00 05 25.0 +0.2**
KECS Kecovo 83.80 325 *eP* **P 00 05 25.2 +0.4**
KECS pmax pmax
comp=Z,24nm,0.9s
RCY Rachaya 83.81 306 *eP* **P 00 05 25.8 +0.5**
ISK Istanbul-Kandi 83.82 315 P P 00 05 24.3 -0.7
PDMCI Parker Dam,Lak 83.82 53 P P 00 05 25.8 +0.7
baz=304,SNR=37
STFAR Stefanesti-Arg 83.83 320 ⇓P **P 00 05 25.3 +0.3**
LANS Liptovska Anna 83.84 326 *eP* **P 00 05 26.3 +1.3**
LANS pmax pmax
comp=Z,44nm,0.6s
NUUK Nuuk 83.86 5 *i* P **P 00 05 25.8 +1.1**
NUUK IAmb IAmb 00 05 26.5
comp=Z,146nm,0.9s
DQRL Deir Qamar 83.88 306 *eP* **P 00 05 26.1 +0.5**
QRWL Qaraoun 83.89 306 *eP* **P 00 05 26.1 +0.4**
OKC Ostrava-Krasne 84.00 327 ⇓*eP* **P 00 05 26.2 +0.4**
OKC *ex* x 00 05 46.5
OKC AMS AMS 00 45 30.0
comp=Z,1µm,13.9s
OKC Ostrava-Krasne 84.00 327 *eP* **P 00 05 26.2 +0.4**
OKC *e* 00 05 46.5
OKC MLR MLR
comp=Z,1µm,13.9s
HUMR Humele 84.03 320 ⇑P **P 00 05 25.3 -0.7**
GLA Glamis 84.05 55 P P 00 05 27.4 +0.9
baz=304,SNR=24
GLA Glamis 84.05 55 P P 00 05 27.0 +0.6
GLA IAmb IAmb 00 05 28.5
comp=Z,115nm,0.9s
LOT Lotru 84.10 321 ⇓P **P 00 05 26.7 +0.2**
KSP Ksiaz 84.15 328 *i* P **P 00 05 27.0 +0.5**
KSP *ep*P **pwP 00 05 44.7 -1.3**
KSP *e*S **S 00 15 44.9 -1.4**
COPA Copaceanca 84.15 319 ⇓P **P 00 05 26.4 -0.3**
MDND Maddock 84.16 36 P P 00 05 27.0 +0.3
baz=312,SNR=8.4
RSSD Black Hills 84.25 41 P P 00 05 27.5 +0.1
baz=310
RSSD Black Hills 84.25 41 P P 00 05 27.3 -0.2
RSSD pmax pmax
comp=Z,237nm,1.8s
RSSD Black Hills 84.25 41 P P 00 05 27.2 -0.2
RSSD IAmb IAmb 00 05 29.1
comp=Z,237nm,1.8s
O20A White River Ci 84.25 46 P P 00 05 28.2 +0.6
baz=307,SNR=72
DEV Deva 84.28 322 ⇓P **P 00 05 27.6 +0.3**
DEV Deva 84.28 322 ⇓P **P 00 05 27.6 +0.3**
SZH Strazhica 84.29 318 P P 00 05 27.5 +0.1
SZH Strazhica 84.29 318 P P 00 05 27.5 +0.1
ULM Lac du Bonnet 84.29 32 P P 00 05 26.5 -0.8
comp=Z,21nm,0.9s,baz=312,slow=7.7,SNR=14
ULM LR LR 00 43 29.4
comp=Z,110nm,21.1s,baz=298,slow=36
ULM Lac du Bonnet 84.29 32 P P 00 05 26.9 -0.3
ULM pmax pmax
comp=Z,192nm,2.0s
ULM Lac du Bonnet 84.29 32 P P 00 05 26.9 -0.3
ULM IAmb IAmb 00 05 28.3
comp=Z,192nm,1.9s
MORC Moravsky Berou 84.33 327 ⇓P **P 00 05 27.7 +0.3**
MORC Moravsky Berou 84.33 327 ⇓*i* P **P 00 05 27.8 +0.3**
MORC Moravsky Berou 84.33 327 ⇓P **P 00 05 27.7 +0.3**
MORC Moravsky Berou 84.33 327 P P 00 05 27.8 +0.3
MORC IAmb IAmb 00 05 28.5
comp=Z,57nm,0.8s
MEH Mehetia 84.36 115 *eT* T 01 38 03.0
comp=Z,20nm,0.2s

ZIMR 84.37 319 ⇓P **P** 00 05 28.0 +0.3
ZIMR 84.37 319 ⇓P **P** 00 05 28.0 +0.3
OSTC Ostas 84.39 328⇓*e*P **P** 00 05 28.4 +0.7
OSTC *ex* x 00 05 55.6
OSTC AMS AMS 00 45 20.0
comp=Z,1µm,24.5s
JMB Yambol 84.42 317 P **P** 00 05 28.5 +0.5
JMB Yambol 84.42 317 P **P** 00 05 28.5 +0.5
CHVC Chvalec 84.44 328 *e*P **P** 00 05 28.3 +0.3
CHVC *ex* x 00 05 34.2
CHVC AMS AMS 00 47 10.0
comp=Z,1µm,22.4s
KRLC Kraliky 84.47 327⇓*e*P **P** 00 05 28.4 +0.2
KRLC AMS AMS 00 46 20.0
comp=Z,1µm,16.3s
KRLC Kraliky 84.47 327 *e*P **P** 00 05 28.4 +0.2
KRLC MLR MLR
comp=Z,1µm,16.3s
PSZ Piszkesteto 84.47 324 ⇓P **P** 00 05 28.5 +0.2
PSZ Piszkesteto 84.47 324 ⇓P **P** 00 05 28.5 +0.2
PSZ Piszkesteto 84.47 324 P **P** 00 05 28.5 +0.2
PSZ IAmb IAmb 00 05 30.0
comp=Z,65nm,0.9s
DPC Dobruska-Polom 84.48 328 *e*P **P** 00 05 28.7 +0.4
DPC *ex* x 00 05 49.7
DPC AMS AMS 00 46 30.0
comp=Z,1µm,21.3s
DPC Dobruska-Polom 84.48 328 *e*P **P** 00 05 28.7 +0.4
DPC *e* 00 05 49.7
DPC MLR MLR
comp=Z,1µm,21.3s
UPC Upice 84.51 328⇓*e*P **P** 00 05 28.5 +0.1
UPC *ex* x 00 05 46.6
UPC AMS AMS 00 47 30.0
comp=Z,1µm,11.8s
UPC Upice 84.51 328 *e*P **P** 00 05 28.5 +0.1
UPC *e* 00 05 46.6
UPC MLR MLR
comp=Z,1µm,11.8s
VYHS Vyhne 84.60 325 *e*P **P** 00 05 29.3 +0.5
VYHS pmax pmax
comp=Z,83nm,0.8s
PVL Pavlikeni 84.66 318 P **P** 00 05 29.8 +0.6
PVL Pavlikeni 84.66 318 P **P** 00 05 29.8 +0.6
GZR Gura Zlata 84.67 321 ⇑P **P** 00 05 29.2 -0.2
GZR Gura Zlata 84.67 321 ⇑P **P** 00 05 29.2 -0.2
CSS Mathiatis 84.69 308 P **P** 00 05 29.5 -0.1
EDRB Edirne 84.71 317 P **P** 00 05 29.6 +0.1
SPX San Pedro Mart 84.73 57 P **P** 00 05 30.1 -0.1
ISP Isparta 84.85 312 P **P** 00 05 29.9 -0.5
ISP pmax pmax
comp=Z,90nm,1.1s
ISP Isparta 84.85 312 P **P** 00 05 29.9 -0.5
ISP IAmb IAmb 00 05 31.1
comp=Z,90nm,1.1s
LEF Lefka 84.89 308 ⇓P **P** 00 05 30.2 -0.3
JAVC Velka Javorina 84.90 326⇓*i*P **P** 00 05 31.8 +1.4
SRE Strehaia 84.92 320 ⇓P **P** 00 05 31.2 +0.7
SRE Strehaia 84.92 320 ⇓P **P** 00 05 31.2 +0.7
113A Mohawk Valley, 84.95 55 P **P** 00 05 31.4 +0.6
113A IAmb IAmb 00 05 32.7
comp=Z,63nm,0.8s
WUAZ Wupatki 84.99 51 P **P** 00 05 32.2 +1.0
baz=306,SNR=44
WUAZ Wupatki 84.99 51 P **P** 00 05 31.9 +0.7
WUAZ IAmb IAmb 00 05 33.4
comp=Z,92nm,0.9s
VRAC Vranov 85.09 327 P **P** 00 05 31.8 +0.5
comp=Z,64nm,0.7s,baz=53,slow=4.2,SNR=136
VRAC LR LR 00 46 54.4
comp=Z,804nm,18.6s,baz=34,slow=38
VRAC Vranov 85.09 327 ⇓P **P** 00 05 31.7 +0.4
VRAC Vranov 85.09 327 ⇓*i*P **P** 00 05 31.8 +0.5
BZS Buzias 85.14 322 ⇑P **P** 00 05 31.0 -0.6
BZS Buzias 85.14 322 ⇑P **P** 00 05 31.0 -0.6
PVCC Panska Ves 85.14 329⇓*e*P **P** 00 05 32.0 +0.5
PVCC *ex* x 00 05 52.6
PVCC AMS AMS 00 41 50.0
comp=Z,900nm,25.0s
PVCC Panska Ves 85.14 329 *e*P **P** 00 05 32.0 +0.5
PVCC *e* 00 05 52.6
PVCC MLR MLR
comp=Z,900nm,25.0s
SFX San Felipe 85.16 56 P **P** 00 05 32.6 +0.7
SFX IAmb IAmb 00 05 33.9
comp=Z,64nm,0.9s
BRG Berggiesshubel 85.16 329⇓*i*P **P** 00 05 31.8 +0.2
comp=Z,77nm,0.8s
BRG *e* 00 05 48.3
comp=Z,64nm,1.5s
BRG *e* 00 05 58.6
comp=Z,55nm,1.0s
BRG PP **PP** 00 08 50.4 +1.5
comp=Z,22nm,1.4s
BRG S **S** 00 15 57.0 +0.6
BRG Berggiesshubel 85.16 329⇓*i*P **P** 00 05 31.8 +0.2
BRG *e* 00 05 48.3
BRG *e* 00 05 58.6
BRG 00 08 50.4
BRG S **S** 00 15 57.0 +0.6
BRG pmax pmax
comp=Z,77nm,0.8s
BRG pmax pmax
comp=Z,64nm,1.5s
BRG pmax pmax
comp=Z,55nm,1.0s
BRG pmax pmax
comp=Z,22nm,1.4s
N23A Red Feather La 85.17 44 P **P** 00 05 33.5 +1.3
baz=308,SNR=47
HERR Herculane 85.20 321 ⇓P **P** 00 05 31.5 -0.4
CLL Collm 85.25 330⇓*i*P **P** 00 05 31.9 -0.1
comp=Z,179nm,1.0s
CLL *e*(PcP) **PcP** 00 05 37.0 +1.9
CLL *i* pP **pP** 00 05 49.5 +0.7
CLL *i* 00 05 52.6
CLL *e*PP **PP** 00 08 50.0 +0.4
CLL *e*sPP 00 09 12.0
CLL *e*S **SKSac** 00 15 54.0 +2.6
CLL *e*SP ScS 00 16 54.0 +47
CLL *e*SS **SS** 00 21 24.0 -7.3
CLL *e* 00 22 48.0
CLL *e*SSS SSS 00 25 06.0
CLL *e* 00 26 30.0
CLL *e*SSSS 00 27 42.0
CLL Lm MLR 00 44 00.0
comp=N,600nm,21.0s
CLL Lm MLR 00 44 00.0
comp=E,600nm,21.1s
CLL Collm 85.25 330⇓*i*P **P** 00 05 31.9 -0.1
CLL *i* *SP **pwP** 00 05 52.6 +1.1
CLL *e*S **SKSac** 00 15 50.0 -1.4
CLL pmax pmax
comp=Z,179nm,1.0s
CLL Collm 85.25 330 P **P** 00 05 32.0 0.0
PV01 Paradox Valley 85.25 48 P **P** 00 05 33.2 +0.5
PV01 IAmb IAmb 00 05 34.5
comp=Z,85nm,0.8s
BAIL Bailesti 85.26 320 ⇑P **P** 00 05 32.9 +0.7
SMOL Smolenice 85.26 326 *e*P **P** 00 05 33.0 +0.9
SMOL pmax pmax
comp=Z,47nm,0.7s
MLA1 Latheron 85.28 342 *e*P **P** 00 05 32.4 +0.4
DIM Dimitrovgrad 85.29 317 P **P** 00 05 33.1 +0.7
DIM Dimitrovgrad 85.29 317 P **P** 00 05 33.1 +0.7
PUNG Punghina 85.31 320 ⇓P **P** 00 05 32.5 0.0
KRUC Moravsky 85.36 327⇓*i*P **P** 00 05 32.8 +0.2
MODS Modra-Piesok 85.43 326 *e*P **P** 00 05 32.7 -0.3
MODS pmax pmax
comp=Z,60nm,1.0s
MPEP Malo Peshtene 85.47 319 P **P** 00 05 33.9 +0.6
MPEP Malo Peshtene 85.47 319 P **P** 00 05 33.9 +0.6
GOPC GO Pecny, Ondr 85.49 328 *e*P **P** 00 05 33.7 +0.4
GOPC *ex* x 00 05 54.0
GOPC AMS AMS 00 47 10.0
comp=Z,900nm,21.3s
GOPC GO Pecny, Ondr 85.49 328 *e*P **P** 00 05 33.7 +0.4
GOPC *e* 00 05 54.0
GOPC MLR MLR
comp=Z,900nm,21.3s
PRA Prague 85.53 329⇓*e*P **P** 00 05 33.8 +0.4
PRA AMS AMS 00 41 20.0
comp=Z,400nm,26.6s
PRA Prague 85.53 329 *e*P **P** 00 05 33.8 +0.4
PRA MLR MLR
comp=Z,400nm,26.6s
PRU Pruhonice 85.54 328⇓*e*P **P** 00 05 33.5 0.0
PRU *ex* x 00 05 54.5
PRU AMS AMS 00 40 50.0
comp=Z,900nm,24.7s
PRU Pruhonice 85.54 328 *e*P **P** 00 05 33.5 0.0
PRU *e* 00 05 54.5
PRU MLR MLR
comp=Z,900nm,24.7s
BANR Banloc 85.55 322 ⇑P **P** 00 05 34.0 +0.4
X16A Lo Mia Camp, P 85.59 52 P **P** 00 05 34.9 +0.6
X16A IAmb IAmb 00 05 36.6
comp=Z,48nm,0.9s
KULA Kula-Manisa 85.61 313 P **P** 00 05 33.6 -0.6
KDZ Kurdzhali 85.61 317 P **P** 00 05 34.2 +0.2
KDZ Kurdzhali 85.61 317 P **P** 00 05 34.2 +0.2
TREC Trest 85.61 327⇓*e*P **P** 00 05 34.3 +0.4
TREC *ex* x 00 05 54.9
TREC AMS AMS 00 47 00.0
comp=Z,1µm,17.6s
TREC Trest 85.61 327 *e*P **P** 00 05 34.3 +0.4
TREC *e* 00 05 54.9
TREC MLR MLR
comp=Z,1µm,17.6s
ZST Bratislava 85.64 326 *e*P **P** 00 05 33.8 -0.2
ZST pmax pmax
comp=Z,76nm,1.0s
MDVR Moldovita 85.64 321 ⇓P **P** 00 05 33.8 -0.3
AGMN Agassiz Nation 85.67 34 P **P** 00 05 33.5 -0.7
baz=315,SNR=5.9
TAOE Nuku Hiva Isla 85.67 103 *e*S **S** 00 16 00.3 -2.4
comp=Z,273nm,27.1s
TAOE Nuku Hiva Isla 85.67 103 *e*LR LR 00 32 32.7
comp=Z,2µm,26.8s
MANT Manisa 85.69 313 P **P** 00 05 34.5 -0.3
ALN Alexandroupoli 85.72 316 P **P** 00 05 33.5 -1.0
ALN Alexandroupoli 85.72 316 P **P** 00 05 34.4 -0.1
ALN pmax pmax
comp=Z,42nm,0.8s
ALN Alexandroupoli 85.72 316 P **P** 00 05 34.4 -0.1
ALN IAmb IAmb 00 05 35.8
comp=Z,42nm,0.8s
PGB Panagyurishte 85.75 318 P **P** 00 05 36.2 +1.4
PGB Panagyurishte 85.75 318 P **P** 00 05 36.2 +1.4
MVCO Mesa Verde 85.86 48 P **P** 00 05 36.0 +0.3
baz=307,SNR=17
RDO Rodhopi 85.86 317 P **P** 00 05 34.6 -0.6
MCD Coleburn Disti 85.88 341 *e*P **P** 00 05 34.7 -0.3
PBCC Pribram 86.01 328⇓*e*P **P** 00 05 35.9 +0.1
ISCO Idaho Springs 86.05 45 P **P** 00 05 37.6 +0.9
baz=309,SNR=38
ISCO Idaho Springs 86.05 45 P **P** 00 05 37.3 +0.6
ISCO pmax pmax
comp=Z,42nm,1.1s
ISCO Idaho Springs 86.05 45 P **P** 00 05 37.3 +0.6
214A Organ Pipe Nat 86.07 55 P **P** 00 05 37.4 +0.8
baz=305,SNR=41
VTS Vitosha 86.23 319 P **P** 00 05 37.5 +0.2
VTS Vitosha 86.23 319 P **P** 00 05 37.5 +0.2
MORH Mrgy, Hungar 86.26 324⇓*i*P **P** 00 05 36.4 -0.7
W18A Petrified Fore 86.31 51 P **P** 00 05 38.4 +0.6
baz=307,SNR=7.8
W18A Petrified Fore 86.31 51 P **P** 00 05 38.2 +0.3
LEWI Lewis, Hebride 86.32 343 *e*P **P** 00 05 36.6 -0.5
LEWI IAmb IAmb 00 05 38.6
comp=Z,115nm,0.9s
FRGS Fruska Gora 86.39 322⇓*i*P **P** 00 05 37.5 -0.3
AKAS Kas 86.39 311 P **P** 00 05 37.1 -1.0
AKAS IAmb IAmb 00 05 38.3
comp=Z,76nm,0.8s
CONA Conrad Observa 86.42 326 *i* P **P** 00 05 38.3 +0.3
comp=Z,21nm,0.8s,SNR=20
KAC Achnashellach 86.49 342 *e*P **P** 00 05 38.4 +0.3
TBI Tubuai 86.53 120 *e*S **S** 00 16 09.2 -1.1
comp=Z,561nm,29.8s
TBI Tubuai 86.53 120 *e*LR LR 00 32 46.8
comp=Z,1µm,32.8s,baz=317
TBI Tubuai 86.53 120 *e*T T 01 40 45.7
comp=Z,12nm,0.3s
KAVA Kavala 86.55 317 P **P** 00 05 37.7 -0.9
S22A 4UR Ranch, Cre 86.58 47 P **P** 00 05 40.3 +1.1
baz=308,SNR=32
KHC Kasperske Hory 86.60 328⇓*e*P **P** 00 05 38.5 -0.3
KHC *ex* x 00 06 05.2
KHC *ex* x 00 09 01.5
KHC AMS AMS 00 47 50.0
comp=Z,1µm,16.5s
KHC Kasperske Hory 86.60 328 *e*P **P** 00 05 38.5 -0.3
KHC *e* 00 06 05.2
KHC *e* 00 09 01.5
KHC MLR MLR
comp=Z,1µm,16.5s
KHC Kasperske Hory 86.60 328 P **P** 00 05 38.7 -0.1
MMB Musomiste 86.62 318 P **P** 00 05 38.3 -0.8
MMB Musomiste 86.62 318 P **P** 00 05 38.3 -0.8
THAS Thassos island 86.68 317 P **P** 00 05 38.3 -1.0
BLCB Balcova 86.69 314 P **P** 00 05 38.6 -0.8
KPL Plockton 86.73 342 *e*P **P** 00 05 38.7 -0.5
KPL IAmb IAmb 00 05 40.7
comp=Z,166nm,0.9s
GEC2 GERESS Array S 86.75 328 P **P** 00 05 39.2 -0.5
GERES GERESS Array B 86.75 328 P **P** 00 05 39.1 -0.5
comp=Z,16nm,0.7s,baz=46,slow=5.8,SNR=132
GERES PP **PP** 00 09 00.4 -1.6
comp=Z,10nm,1.0s,baz=46,slow=9.5,SNR=8.4
GERES PKKPbc **PKKPbc** 00 23 34.1 +0.4
comp=Z,0.5nm,0.7s,baz=219,slow=1.7,SNR=5.6
GERES LR LR 00 48 23.5
comp=Z,1µm,18.4s,baz=47,slow=38
SUSD Miller 86.79 38 P **P** 00 05 39.8 0.0
baz=313,SNR=8.7
KKB Krupnik 86.81 318 P **P** 00 05 39.5 -0.4
KKB Krupnik 86.81 318 P **P** 00 05 39.5 -0.4
Q24A Divide 86.86 45 P **P** 00 05 41.2 +0.6
baz=309,SNR=9.4
LIA Limnos Island 86.86 316 P **P** 00 05 39.0 -1.2
TEKS Tekeris 86.95 322⇓*i*P **P** 00 05 40.2 -0.4
BEHE Becsehely 87.01 325⇓*i*P **P** 00 05 42.3 +1.5
DIVS Divibare 87.01 322⇓*i*P **P** 00 05 39.6 -1.4
DIVS Divibare 87.01 322 P **P** 00 05 40.5 -0.5
ARSA Arzberg 87.06 326 *e*P **P** 00 05 41.0 -0.1
comp=Z,10nm,0.7s,SNR=8.8
INVG Invergeldie, C 87.10 341 *e*P **P** 00 05 40.8 -0.2
INVG IAmb IAmb 00 05 42.0
comp=Z,96nm,0.7s
ESY Stoneypath 87.14 340 *e*P **P** 00 05 41.0 -0.2
GRA1 Grafenberg Arr 87.21 330 P **P** 00 05 42.1 +0.4
GRA1 IAmb IAmb 00 06 10.5
comp=Z,80nm,1.3s
GRF Grafenberg Arr 87.21 330 P **P** 00 05 42.1 +0.4
GRF pmax pmax
comp=Z,80nm,1.3s
MOA Molln 87.22 327 *e*P **P** 00 05 41.8 0.0
comp=Z,21nm,0.8s,SNR=13
SMG Samos 87.23 313 P **P** 00 05 41.5 -0.6
TUC Tucson 87.27 53 P **P** 00 05 43.1 +0.7
baz=306
TUC Tucson 87.27 53 P **P** 00 05 42.8 +0.4
TUC pmax pmax
comp=Z,19nm,1.0s
TUC Tucson 87.27 53 P **P** 00 05 42.8 +0.4
OUR Ouranopolis 87.28 317 P **P** 00 05 41.6 -0.6
CHOS Chios island 87.29 314 P **P** 00 05 42.0 -0.4
EBL Broad Law 87.38 340 *e*P **P** 00 05 42.2 -0.2
EAB Aberfoyle 87.39 341 *e*P **P** 00 05 42.1 -0.3
SDCO Great Sand Dun 87.41 46 P **P** 00 05 44.0 +0.8
baz=309,SNR=38
OGNE Ogallala 87.42 42 P **P** 00 05 43.4 +0.3
baz=311,SNR=12
OGNE Ogallala 87.42 42 P **P** 00 05 42.5 -0.5
OGNE IAmb IAmb 00 05 44.5
comp=Z,87nm,1.1s
STIP Stip 87.42 319 *i* P **P** 00 05 41.5 -1.4
VAY Valandovo 87.45 318 *i* P **P** 00 05 42.1 -0.9
BBLS Lazići 87.48 322⇓*i*P **P** 00 05 42.7 -0.5
DAMY Dhamar 87.52 286 P **P** 00 05 44.4 +0.3
HAPS Han Pijesak,BI 87.57 322⇓*i*P **P** 00 05 42.9 -0.8
LAWE Loch Awe, Argy 87.61 342 *e*P **P** 00 05 43.7 +0.2
LAWE IAmb IAmb 00 05 44.6
comp=Z,80nm,0.9s
GROS Grobnik 87.64 325 *i* P **P** 00 05 42.9 -1.0
SKO Skopje 87.66 319 *i* P **P** 00 05 44.3 +0.2
PERS Pernice 87.70 326 *i* P **P** 00 05 43.7 -0.5
SOKA Soboth 87.70 326 *e*P **P** 00 05 43.8 -0.5
comp=Z,25nm,0.9s,SNR=28
PAIG Paliouri 87.72 317 P **P** 00 05 43.4 -0.9
PGBU Glenifferbraes 87.76 341 *e*P **P** 00 05 44.5 +0.4
PGBU IAmb IAmb 00 05 45.5
comp=Z,162nm,0.9s
ESK Eskdalemuir 87.83 340 *e*P **P** 00 05 43.8 -0.8
ESK IAmb IAmb 00 05 45.6
comp=Z,68nm,1.0s
ESK Eskdalemuir 87.83 340 P **P** 00 05 44.9 +0.4
ESK pmax pmax
comp=Z,67nm,1.0s
ESK Eskdalemuir 87.83 340 P **P** 00 05 44.9 +0.4
ESK IAmb IAmb 00 05 45.9
comp=Z,67nm,0.9s
EYMN Ely 87.95 32 P **P** 00 05 45.0 -0.3
baz=318,SNR=15
EYMN Ely 87.95 32 P **P** 00 05 45.0 -0.3
EYMN IAmb IAmb 00 05 46.5
comp=Z,81nm,1.2s
BLY Banja Luka 88.02 323⇓*i*P **P** 00 05 45.2 -0.5
OBKA Obir 88.06 326 *e*P **P** 00 05 45.1 -0.8
comp=Z,15nm,0.8s,SNR=6.7
UPM Unac-Piva 88.20 321 *e*P **P** 00 05 47.0 +0.2
KBA Koelnbreinsper 88.21 327 *e*P **P** 00 05 46.1 -0.7
comp=Z,30nm,0.6s,SNR=22
NEWG New Galloway 88.29 341 *e*P **P** 00 05 46.8 +0.1
LIT Litokhoron 88.30 317 P **P** 00 05 45.8 -1.4
LIT pmax pmax
comp=Z,46nm,0.7s
LIT Litokhoron 88.30 317 P **P** 00 05 45.8 -1.4
LIT IAmb IAmb 00 05 49.6
comp=Z,46nm,0.7s
KSCO Kaye Shedlock' 88.34 44 P **P** 00 05 47.7 +0.2
baz=311
KSCO Kaye Shedlock' 88.34 44 P **P** 00 05 47.6 +0.2
KARP Karpathos 88.38 311 P **P** 00 05 46.7 -0.9
MYKA Terra Mystica 88.40 327 *e*P **P** 00 05 46.4 -1.2
comp=Z,24nm,0.6s,SNR=9.8
LJU Ljubljana 88.41 326 *i* P **P** 00 05 46.6 -0.9
LJU Ljubljana 88.41 326⇓*i*P **P** 00 05 46.1 -1.4
APE Apeiranthos 88.44 314 ⇓P **P** 00 05 45.6 -2.3
APE Apeiranthos 88.44 314 ⇓P **P** 00 05 45.6 -2.3
T25A Trinidad 88.46 46 P **P** 00 05 48.9 +0.7
baz=310,SNR=11
T25A Trinidad 88.46 46 P **P** 00 05 48.2 0.0
ECSD EROS Data Cent 88.50 38 P **P** 00 05 48.1 +0.1
baz=314,SNR=36
GBAS Gorenja Brezov 88.53 326 *e*P **P** 00 05 47.0 -1.1
PDG Podgorica 88.54 321 ⇓P **P** 00 05 47.3 -0.9
PDG Podgorica 88.54 321⇓*i*P **P** 00 05 47.2 -0.9
PDG Podgorica 88.54 321 P **P** 00 05 47.6 -0.6
PDG IAmb IAmb 00 05 48.6
comp=Z,46nm,1.0s
ANMO Albuquerque 88.55 49 P **P** 00 05 49.3 +0.7
baz=308
ANMO Albuquerque 88.55 49*d*⇓*i*P **P** 00 05 49.2 +0.6
ANMO pmax pmax
comp=Z,19nm,1.0s
ANMO Albuquerque 88.55 49 P **P** 00 05 48.6 -0.1
PRED Cave del Predi 88.57 326 P **P** 00 05 47.2 -1.1
OHR Ohrid 88.59 319 *i* P **P** 00 05 47.6 -0.9
BRY Bratogost 88.60 321 *e*P **P** 00 05 47.5 -1.1
BTNL Ternell 88.60 333 PcP **P** 00 05 47.9 -0.5
BEBN Eben Emael 88.61 333 PcP **P** 00 05 48.5 +0.2
MEM Membach 88.63 333 PcP **P** 00 05 48.3 -0.1
CEY Cerknica 88.67 326⇓*i*P **P** 00 05 47.8 -1.0
VOJS Vojsko 88.72 326 *e*P **P** 00 05 47.2 -2.1
DRME Dracevica, Mon 88.75 321 *e*P **P** 00 05 48.8 -0.4
ZOU Zoufplan 88.77 327 P **P** 00 05 48.0 -1.4
ZOU IAmb IAmb 00 05 51.4
comp=Z,32nm,0.6s
STU Stuttgart 88.78 330 P **P** 00 05 48.4 -0.8
STU pmax pmax
comp=Z,23nm,0.7s
STU Stuttgart 88.78 330 P **P** 00 05 48.4 -0.8
STU IAmb IAmb 00 05 57.6
comp=Z,23nm,0.7s
Y22D IRIS PASSCAL I 88.79 50 P **P** 00 05 50.4 +0.7
baz=308
BSTI Sart Tilman 88.82 333 PcP **P** 00 05 49.4 +0.1
WATA Walderalm 88.83 328 *e*P **P** 00 05 48.9 -0.7
comp=Z,19nm,0.7s,SNR=9.7
BHOU Houvegnez 88.83 333 PcP **P** 00 05 49.2 -0.2
ABTA Abfaltersbach 88.84 327 *i* P **P** 00 05 48.2 -1.4
comp=Z,44nm,1.0s,SNR=27
WTTA Wattenberg 88.85 328 *i* P **P** 00 05 49.2 -0.6
comp=Z,22nm,0.7s,SNR=12
SANT Santorini 88.93 313 ⇓P **P** 00 05 46.8 -3.4
SANT Santorini 88.93 313 P **P** 00 05 47.7 -2.5
SANT IAmb IAmb 00 05 49.0
comp=Z,83nm,1.0s
RIY Rijeka 88.95 325⇓*i*P **P** 00 05 48.3 -1.7
MOTA Moosalm 89.03 328 *e*P **P** 00 05 49.9 -0.7
comp=Z,17nm,0.9s,SNR=9.6
BCLA Clavier 89.05 333 PcP **P** 00 05 50.3 -0.1
RETA Reutte 89.08 329 *i* P **P** 00 05 50.2 -0.5
comp=Z,19nm,0.8s,SNR=18
SQTA Sankt Quirin 89.08 328 *e*P **P** 00 05 50.1 -0.7
comp=Z,25nm,0.7s,SNR=21
HSIG 89.09 56 P **P** 00 05 51.6 +0.6
AGG Agios Georgios 89.11 317 P **P** 00 05 49.0 -2.0
AGG pmax pmax
comp=Z,15nm,0.9s
AGG Agios Georgios 89.11 317 P **P** 00 05 49.0 -2.0
UCC Uccle 89.11 334 P **P** 00 05 50.2 -0.4
UCC pmax pmax
comp=Z,27nm,1.1s
UCC Uccle 89.11 334 P **P** 00 05 50.2 -0.4
STAL STALIGIAL 89.11 327 P **P** 00 05 49.4 -1.4
121A Cookes Peak, D 89.16 52 P **P** 00 05 52.4 +0.9
baz=308,SNR=6.0
121A Cookes Peak, D 89.16 52 P **P** 00 05 51.7 +0.1
BGES Gesves 89.16 333 PcP **P** 00 05 50.8 -0.1
BGNE Belgrade 89.29 40 P **P** 00 05 51.3 -0.5
baz=313
RCHB Rochefort 89.29 333 PcP **P** 00 05 51.1 -0.4
WLF Walferdange 89.32 332 PcP **P** 00 05 51.8 +0.1
WLF Walferdange 89.32 332 P **P** 00 05 51.3 -0.4
WLF pmax pmax
comp=Z,37nm,1.0s
WLF Walferdange 89.32 332 P **P** 00 05 51.3 -0.4
WLF IAmb IAmb 00 05 53.9
comp=Z,37nm,1.0s
SPMN Marine on St. 89.34 35 P **P** 00 05 52.0 +0.1
baz=317,SNR=14
BMRD Maredsous 89.35 333 PcP **P** 00 05 51.6 -0.2
SNF Seneffe 89.37 334 PcP **P** 00 05 52.0 +0.2
FETA Feichten 89.44 328 *e*P **P** 00 05 52.0 -0.5
comp=Z,39nm,0.8s,SNR=24
CWF Charnwood Fore 89.46 338 *e*P **P** 00 05 51.1 -1.2
CWF IAmb IAmb 00 05 53.1
comp=Z,111nm,1.3s
BFO Black Forest 89.48 330 P **P** 00 05 52.1 -0.4
BFO pmax pmax
comp=Z,40nm,0.9s
BFO Black Forest 89.48 330 P **P** 00 05 52.1 -0.4
BFO IAmb IAmb 00 05 53.4
comp=Z,40nm,0.9s
DOU Dourbes 89.58 333 PcP **P** 00 05 52.7 -0.2
DAVA Damuels 89.62 329 *e*P **P** 00 05 53.0 -0.4
comp=Z,63nm,0.8s,SNR=31
CTI Castel Tesino 89.76 327 P **P** 00 05 52.7 -1.3
CTI pmax pmax
comp=Z,33nm,0.7s
CTI Castel Tesino 89.76 327 P **P** 00 05 52.7 -1.3
CTI IAmb IAmb 00 05 53.6
comp=Z,33nm,0.7s
WME Myndd Eilian 89.81 340 *e*P **P** 00 05 52.7 -1.2
FOEL Foel Wylfa 89.92 339 *e*P **P** 00 05 54.1 -0.4
FOEL IAmb IAmb 00 05 55.6
comp=Z,93nm,0.8s
I37A Lemond, Waseca 89.93 36 P **P** 00 05 55.0 +0.3
I37A IAmb IAmb 00 05 56.5
comp=Z,66nm,0.8s
WLF1 Llynfaes 89.94 340 *e*P **P** 00 05 53.4 -1.1
WLF1 IAmb IAmb 00 05 55.3
comp=Z,111nm,0.8s
FUORN Ofenpass-Fuorn 89.96 328 P **P** 00 05 55.0 0.0
IDI Anoyia 89.98 312 P **P** 00 05 53.5 -1.7
comp=Z,25nm,0.5s,baz=26,slow=7.7,SNR=37
IDI PKKPbc **PKKPbc** 00 23 27.5 +2.1
comp=Z,3.7nm,0.8s,baz=289,slow=4.2,SNR=4.6

IDI LR LR 00 52 12.4
comp=Z,268nm,19.3s,baz=56,slow=40
IDI Anoyia 89.98 312 ⇓P **P 00 05 53.4 -1.7**
IDI Anoyia 89.98 312 P **P 00 05 53.6 -1.7**
IDI IAmb IAmb 00 05 56.3
comp=Z,33nm,0.6s
YLL Llanberis 90.00 340 *e*P **P 00 05 55.0 +0.3**
DAVOX Davos/Dischmat 90.01 329 LR LR 00 50 25.5
comp=Z,1µm,18.1s,baz=25,slow=38
YRC Rhoscolyn 90.02 340 *e*P **P 00 05 54.0 -0.9**
ECH Echery 90.06 331 P **P 00 05 54.5 -0.7**
ECH pmax pmax
comp=Z,27nm,0.9s
ECH Echery 90.06 331 P **P 00 05 54.5 -0.7**
ECH IAmb IAmb 00 05 56.0
comp=Z,26nm,0.9s
HLM1 Long Mynd 90.15 339 *e*P **P 00 05 54.9 -0.7**
CBKS Cedar Bluff 90.16 43 P **P 00 05 55.6 -0.3**
baz=312,SNR=11
TEOL Teolo 90.26 327 P **P 00 05 55.5 -0.7**
ATD Arta Tunnel 90.41 284 P **P 00 05 58.1 +0.7**
comp=Z,15nm,1.0s,baz=98,slow=1.8,SNR=7.4
ATD Arta Tunnel 90.41 284 P **P 00 05 58.2 +0.7**
ATD IAmb IAmb 00 05 59.5
comp=Z,41nm,1.2s
TUE Stuetta 90.48 329 P **P 00 05 56.7 -0.7**
TUE IAmb IAmb 00 05 58.3
comp=Z,51nm,0.8s
STRD Stroud 90.56 338 *e*P **P 00 05 56.6 -0.9**
STRD IAmb IAmb 00 05 57.9
comp=Z,130nm,0.9s
ITM Ithomi 90.56 315 P **P 00 05 56.6 -1.2**
SCHQ Schefferville 90.56 15 P **P 00 05 58.0 +0.6**
comp=Z,29nm,0.8s,baz=353,slow=5.0,SNR=17
SCHQ LR LR 00 50 15.3
comp=Z,142nm,18.9s,baz=337,slow=38
SCHQ Schefferville 90.56 15 P **P 00 05 57.9 +0.5**
SCHQ IAmb IAmb 00 05 58.6
comp=Z,45nm,0.9s
SALO Salr 90.60 327 P **P 00 05 57.3 -0.5**
MCH1 Michaelchurch 90.63 338 *e*P **P 00 05 57.0 -0.8**
MCH1 IAmb IAmb 00 05 58.2
comp=Z,56nm,0.8s
SWN1 Swindon 90.67 338 *e*P **P 00 05 57.1 -0.8**
SWN1 IAmb IAmb 00 05 58.6
comp=Z,73nm,0.9s
MONM Monmouth 90.71 338 *e*P **P 00 05 57.3 -0.8**
MONM IAmb IAmb 00 05 59.0
comp=Z,68nm,0.8s
MNTX Cornudas Mount 91.28 51 P **P 00 06 01.8 +0.7**
baz=309,SNR=33
MNTX Cornudas Mount 91.28 51 P **P 00 06 01.4 +0.2**
ZCCA Zocca 91.35 326 P **P 00 06 02.2 +0.9**
ZCCA IAmb IAmb 00 06 11.8
comp=Z,37nm,0.8s
NRCA Norcia 91.44 324 P **P 00 06 01.4 -0.4**
NRCA IAmb IAmb 00 06 02.8
comp=Z,32nm,0.7s
SENIN Lac Senin/Sane 91.46 330 P **P 00 06 01.2 -0.8**
SENIN IAmb IAmb 00 06 02.1
comp=Z,25nm,1.0s
MSTX Muleshoe 91.52 48 P **P 00 06 02.4 0.0**
baz=311,SNR=5.1
SCIA State Center 91.55 37 P **P 00 06 02.7 +0.4**
baz=317,SNR=5.3
SCIA State Center 91.55 37 P **P 00 06 02.4 +0.1**
SCIA IAmb IAmb 00 06 04.0
comp=Z,56nm,0.9s
AMTX Amarillo 91.61 47 P **P 00 06 03.5 +0.8**
baz=311
GDL2 Guadalupe Moun 91.63 50 P **P 00 06 03.4 +0.4**
INTR Introdacqua 91.65 323 P **P 00 06 02.1 -0.6**
INTR IAmb IAmb 00 06 03.5
comp=Z,26nm,0.8s
AQU L'Aquila 91.65 324 P **P 00 06 02.7 -0.1**
AQU pmax pmax
comp=Z,48nm,0.9s
AQU L'Aquila 91.65 324 ⇓*i*P **P 00 06 02.4 -0.4**
AQU L'Aquila 91.65 324 P **P 00 06 02.7 -0.1**
AQU IAmb IAmb 00 06 03.8
comp=Z,48nm,0.9s
KSU1 Kansas State U 91.74 41 P **P 00 06 03.0 -0.1**
baz=314,SNR=18
KSU1 Kansas State U 91.74 41 P **P 00 06 03.3 +0.1**
MATQ Matagami 92.01 24 P **P 00 06 04.2 0.0**
baz=328,SNR=12
CLF Chambon-Foret 92.16 333 P **P 00 06 05.3 +0.4**
JFWS Jewell Farm 92.29 35 P **P 00 06 05.2 -0.5**
baz=319
L40A Anamosa 92.45 36 P **P 00 06 06.4 0.0**
L40A IAmb IAmb 00 06 07.4
comp=Z,37nm,1.0s
KAN14 Manchester OK 92.45 43 P **P 00 06 07.0 +0.5**
BNI Bardonecchia 92.76 329 P **P 00 06 07.9 -0.1**
BNI pmax pmax
comp=Z,124nm,1.7s
BNI Bardonecchia 92.76 329 P **P 00 06 07.8 -0.1**
LSQQ Lebel-sur-Quev 92.83 24 P **P 00 06 07.8 -0.2**
baz=329
CHGQ Chibougamau 92.95 22 P **P 00 06 08.4 -0.1**
baz=331,SNR=9.2
CEL Celeste 93.29 320 P **P 00 06 09.7 -0.7**
CEL IAmb IAmb 00 06 11.0
comp=Z,36nm,0.9s
GLMI Grayling 93.39 30 P **P 00 06 11.0 +0.3**
baz=323,SNR=5.4
GLMI Grayling 93.39 30 P **P 00 06 11.3 +0.7**
WMOK Wichita Mounta 93.48 45 P **P 00 06 11.5 +0.2**
baz=313,SNR=34
WMOK Wichita Mounta 93.48 45 P **P 00 06 11.5 +0.2**
WMOK pmax pmax
comp=Z,31nm,0.9s
WMOK Wichita Mounta 93.48 45 P **P 00 06 11.5 +0.2**
WMOK IAmb IAmb 00 06 12.8
comp=Z,31nm,0.9s
BCOK Bluff Creek, N 93.55 44 P **P 00 06 12.2 +0.6**
N41A Harden Midland 93.64 37 P **P 00 06 11.9 +0.1**
N41A IAmb IAmb 00 06 13.1
comp=Z,31nm,0.8s
P40A Paris 93.89 38 P **P 00 06 13.1 0.0**
P40A IAmb IAmb 00 06 14.3
comp=Z,46nm,0.8s
TX32 Lajitas Array 93.91 52 P **P 00 06 14.4 +0.9**
TXAR Lajitas Array 93.91 52 P **P 00 06 14.3 +0.8**
comp=Z,60nm,0.7s,baz=298,slow=3.1,SNR=607
TXAR PP **PP 00 10 01.6 +2.3**
comp=Z,2.7nm,0.9s,baz=302,slow=5.5,SNR=3.9
TXAR LR LR 00 48 45.9
comp=Z,308nm,18.3s,baz=0.0,slow=36
TXAR Lajitas Array 93.91 52 P **P 00 06 14.1 +0.6**
ABTX Abilene, Hawle 94.37 47 P **P 00 06 16.0 +0.5**
baz=312,SNR=15
ABTX Abilene, Hawle 94.37 47 P **P 00 06 15.7 +0.3**
ABTX IAmb IAmb 00 06 17.3
comp=Z,72nm,1.2s
TUL1 Leonard 94.43 43 P **P 00 06 15.5 -0.1**
baz=315,SNR=7.1
TUL1 Leonard 94.43 43 P **P 00 06 15.5 -0.1**
HDIL Hopedale 94.53 36 P **P 00 06 15.8 -0.2**
baz=319,SNR=6.8
R40A Maddies Statio 94.69 39 P **P 00 06 16.4 -0.4**
R40A IAmb IAmb 00 06 17.5
comp=Z,38nm,0.9s
H06N1 SOCORRO T-PHAS 95.01 64 T T 01 52 57.0
SNR=5.0
ALGO Algonquin Park 95.09 26 P **P 00 06 17.8 -0.6**
baz=328,SNR=10
D55A Sainte-Anne-du 95.11 24 P **P 00 06 18.1 -0.3**
baz=330,SNR=10
H06E1 SOCORRO T-PHAS 95.11 64 T T 01 53 02.9
SNR=68
H06S1 SOCORRO T 95.11 64 T T 01 52 45.4
SNR=14
HHAR Hobbs 95.22 41 P **P 00 06 18.9 -0.4**
HHAR IAmb IAmb 00 06 21.4
comp=Z,87nm,2.0s
D56A ZEC Mazanza, M 95.32 23 P **P 00 06 19.4 -0.1**
baz=330,SNR=16
Z35A Perchaven, San 95.36 45 P **P 00 06 19.9 0.0**
E55A Montcerf-Lytto 95.39 24 P **P 00 06 19.3 -0.5**
baz=329
CCM Cathedral Cave 95.40 39 P **P 00 06 19.6 -0.5**
baz=318
CCM Cathedral Cave 95.40 39 P **P 00 06 20.1 +0.1**
CCM pmax pmax
comp=Z,33nm,1.0s
CCM Cathedral Cave 95.40 39 P **P 00 06 20.1 +0.1**
CCM IAmb IAmb 00 06 21.0
comp=Z,33nm,0.9s
G54A Lake Saint Pet 95.55 26 P **P 00 06 20.0 -0.6**
baz=328,SNR=10
E56A St. Veronique 95.67 24 P **P 00 06 20.7 -0.4**
baz=330,SNR=11
LATQ La Tuque 95.68 22 P **P 00 06 20.8 -0.2**
baz=332
JCT Junction City 95.70 49 P **P 00 06 21.6 0.0**
baz=312,SNR=6.2
JCT Junction City 95.70 49 P **P 00 06 21.6 0.0**
JCT pmax pmax
comp=Z,28nm,1.0s
JCT Junction City 95.70 49 P **P 00 06 21.6 0.0**
JCT IAmb IAmb 00 06 44.0
comp=Z,28nm,1.0s
I51A Listowel 95.73 29 P **P 00 06 21.7 +0.3**
baz=326
SFIN Lafayette 95.75 35 P **P 00 06 21.6 +0.1**
baz=321
U40A Yellville 95.78 41 P **P 00 06 21.4 -0.3**
baz=317,SNR=19
U40A Yellville 95.78 41 P **P 00 06 21.5 -0.3**
U40A IAmb IAmb 00 06 26.1
comp=Z,29nm,1.0s
FVM French Village 95.89 38 P **P 00 06 22.2 0.0**
FVM pmax pmax
comp=Z,19nm,1.0s
FVM French Village 95.89 38 P **P 00 06 22.2 0.0**
FVM IAmb IAmb 00 06 23.3
comp=Z,19nm,1.0s
D58A Chemin du LacG 95.90 22 P **P 00 06 21.8 -0.4**
baz=332,SNR=8.3
Q44A Meyer Farm, Va 95.93 37 P **P 00 06 22.4 0.0**
Q44A IAmb IAmb 00 06 23.4
comp=Z,32nm,1.0s
H53A Bobcaygeon 96.06 27 P **P 00 06 22.6 -0.3**
baz=327,SNR=7.7
E57A Chemin Saint G 96.08 23 P **P 00 06 22.8 -0.2**
baz=331
W39A Magazine 96.09 42 P **P 00 06 22.7 -0.5**
baz=316
WHTX Lake Whitney, 96.16 46 P **P 00 06 23.9 +0.2**
baz=314,SNR=7.4
WHTX Lake Whitney, 96.16 46 P **P 00 06 23.8 +0.2**
WHTX IAmb IAmb 00 06 25.3
comp=Z,41nm,1.1s
D59A Saint-Raymond 96.31 22 P **P 00 06 23.8 -0.1**
baz=333
E58A La Victoria 96.41 23 P **P 00 06 24.2 -0.2**
baz=332,SNR=9.3
OLIL Olney 96.52 36 P **P 00 06 25.1 0.0**
OLIL IAmb IAmb 00 06 26.3
comp=Z,43nm,1.1s
D61A St Aubert, Com 96.64 21 P **P 00 06 25.4 -0.1**
baz=334
MIAR Mount Ida 96.68 42 P **P 00 06 25.9 0.0**
baz=316,SNR=13
MIAR Mount Ida 96.68 42 P **P 00 06 26.0 +0.1**
MIAR pmax pmax
comp=Z,20nm,1.0s
MIAR Mount Ida 96.68 42 P **P 00 06 26.0 +0.1**
MIAR IAmb IAmb 00 06 27.1
comp=Z,20nm,0.9s
D60A Saint Jean D'O 96.68 21 P **P 00 06 25.3 -0.3**
baz=334,SNR=6.2
WHAR Wooly Hollow 96.87 41 P **P 00 06 26.5 -0.2**
WHAR IAmb IAmb 00 06 27.6
comp=Z,77nm,1.9s
G57A Newington 96.93 24 P **P 00 06 26.2 -0.6**
baz=330,SNR=10
W41B Gary Mavity, V 96.97 41 P **P 00 06 26.8 -0.4**
baz=317
E60A Ste Agathe de 97.00 22 P **P 00 06 26.9 -0.2**
baz=333
F59A Saint Guilaume 97.03 23 P **P 00 06 27.2 0.0**
baz=332,SNR=6.3
D62A Allapoint, All 97.08 20 P Pdif 00 06 27.5 0.0
baz=335
D62A Allapoint, All 97.08 20 P Pdif 00 06 27.7 +0.2
F60A Warwick 97.20 22 P **P 00 06 27.8 -0.2**
baz=333
G58A Ormstown 97.22 24 P **P 00 06 27.7 -0.4**
baz=331,SNR=8.8
E61A Lac Etchemin 97.24 21 P Pdif 00 06 28.3 0.0
baz=334
H57A Richville 97.34 25 P **P 00 06 28.1 -0.6**
baz=330,SNR=8.7
E62A Clayton Lake 97.36 20 P **P 00 06 28.5 -0.3**
baz=335
D63A Stockholm 97.39 19 P **P 00 06 28.8 0.0**
baz=336
833A Chaparral WMA, 97.41 50 P Pdif 00 06 29.7 +0.3
baz=312
M52A Chesterland 97.44 30 P **P 00 06 29.1 -0.1**
baz=325
F61A St Evariste 97.50 22 P Pdif 00 06 29.8 +0.4
baz=333,SNR=10
LONY Lake Ozonia 97.50 24 P **P 00 06 29.0 -0.4**
baz=330
N51A Ashland 97.51 31 P **P 00 06 27.8 -1.7**
baz=324
P49A Miami Univ. Ec 97.55 34 P **P 00 06 29.1 -0.6**
baz=322
L53A Girard 97.57 29 P **P 00 06 29.6 -0.2**
baz=326
G59A Clarenceville 97.58 23 P **P 00 06 29.2 -0.5**
baz=332,SNR=5.6
K54A Basiliko Farm, 97.67 28 P **P 00 06 30.0 -0.2**
baz=327
I57A Carthage 97.70 25 P **P 00 06 29.9 -0.4**
baz=330
L54A Sinclairville 97.73 29 P **P 00 06 30.3 -0.2**
baz=327
H59A Cadyville 97.78 24 P **P 00 06 30.2 -0.5**
baz=331,SNR=6.7
ACSO Alum Creek Sta 97.79 32 P **P 00 06 30.7 -0.1**
baz=324
WCI Wyandotte Cave 97.81 35 P **P 00 06 30.6 -0.3**
baz=321
H58A Gabriels 97.81 24 P **P 00 06 30.6 -0.3**
baz=331,SNR=8.2
J56A Wolcott 97.82 27 P **P 00 06 30.6 -0.2**
baz=329
M53A WI Miller and 97.82 30 P **P 00 06 30.5 -0.4**
baz=326
G60A Masonville 97.84 23 P **P 00 06 30.5 -0.5**
baz=332
E63A Oxbow 97.86 20 P **P 00 06 30.7 -0.3**
baz=336
G61A St-Isidore-de- 97.94 22 P Pdif 00 06 31.6 +0.2
baz=333,SNR=6.1
J57A Williamstown 98.03 26 P **P 00 06 31.5 -0.3**
baz=329,SNR=5.3
J57A Williamstown 98.03 26 P **P 00 06 31.8 0.0**
J57A IAmb IAmb 00 06 32.8
comp=Z,36nm,1.1s
O51A Pataskala 98.03 32 P **P 00 06 31.6 -0.3**
baz=324
E64A Bridgewater 98.04 19 P **P 00 06 31.7 0.0**
baz=336
K56A Middlesex 98.13 27 P **P 00 06 32.1 -0.2**
baz=328
I58A Old Forge 98.16 25 P **P 00 06 31.7 -0.8**
baz=330
NCB Newcomb 98.19 25 P Pdif 00 06 32.8 +0.2
M54A Oil Creek Stat 98.19 29 P Pdif 00 06 32.6 0.0
baz=326
H60A Morristown 98.20 23 P **P 00 06 32.5 0.0**
baz=332
N53A Lisbon 98.27 30 P **P 00 06 32.8 -0.2**
baz=325
F63A Nahmakanta, Br 98.32 20 P **P 00 06 33.1 0.0**
baz=335
G62A West of Eustis 98.32 22 P Pdif 00 06 33.4 +0.3
baz=334
J58A Remsen 98.33 26 P **P 00 06 32.8 -0.4**
baz=330,SNR=6.4
P51A Williamsport 98.36 33 P **P 00 06 32.6 -0.7**
baz=324
O52A Adamsville 98.40 31 P **P 00 06 33.1 -0.5**
baz=325
K57A Scipio Center 98.41 27 P **P 00 06 33.3 -0.2**
baz=329
I59A Olmsteadville 98.46 24 P **P 00 06 33.4 -0.4**
baz=331
H61A Lyndonville 98.48 23 P Pdif 00 06 34.0 +0.1
baz=333,SNR=6.8
N54A Moraine State 98.50 30 P **P 00 06 33.8 -0.3**
baz=326
L56A Greenwood 98.52 28 P **P 00 06 34.1 0.0**
baz=328
J59A Piesco 98.53 25 P **P 00 06 33.8 -0.3**
baz=330,SNR=6.6
O53A New Philadelph 98.56 31 P **P 00 06 34.0 -0.3**
baz=325
I60A Shoreham 98.62 24 P **P 00 06 34.2 -0.2**
baz=331
WVT Waverly 98.65 38 P **P 00 06 34.5 -0.2**
baz=320
P52A Corning 98.66 32 P **P 00 06 34.1 -0.6**
baz=324
PKME Peaks-Kenny Pk 98.66 21 P **P 00 06 34.3 -0.2**
baz=335
PKME Peaks-Kenny Pk 98.66 21 P Pdif 00 06 35.3 +0.8
PKME IAmb IAmb 00 06 35.6
comp=Z,24nm,1.1s
KEST Kesra 98.69 322 P **P 00 06 34.6 -0.4**
comp=Z,5.0nm,0.6s,baz=332,slow=2.5,SNR=18
KEST LR LR 00 56 01.3
comp=Z,437nm,19.0s,baz=333,slow=38
KEST Kesra 98.69 322 P **P 00 06 34.8 -0.3**
KEST IAmb IAmb 00 07 14.8
comp=Z,30nm,1.4s
G63A Kingsbury 98.69 21 P **P 00 06 34.7 0.0**
baz=334
H62A Milan 98.69 22 P Pdif 00 06 34.8 0.0
baz=333,SNR=8.4
K58A Earlville 98.72 26 P **P 00 06 34.4 -0.5**
baz=330
LBNH Lisbon 98.74 23 P Pdif 00 06 35.6 +0.6
baz=332
M56A Emporium 98.82 28 P Pdif 00 06 35.7 +0.2
baz=328
G64A Maxfield 98.83 20 P Pdif 00 06 35.5 +0.1
baz=335
L57A Andrews Acres 98.91 27 P Pdif 00 06 35.9 +0.1
baz=328
I61A Oroboro, Fairl 98.92 23 P Pdif 00 06 36.3 +0.5
baz=332
H63A New Sharon 98.97 22 P Pdif 00 06 36.2 +0.2
baz=334
O54A Avella 98.98 31 P **P 00 06 35.5 -0.6**
baz=326
K59A Cooperstown 99.00 26 P **P 00 06 36.2 0.0**
baz=330
BINY Binghamton 99.07 27 P **Pdif 00 06 36.2 -0.3**
baz=329
J60A Lant Hill Farm 99.11 24 P **Pdif 00 06 36.7 0.0**
baz=331
P53A Whipple 99.11 32 P **Pdif 00 06 36.7 0.0**
baz=325
L58A Harry Jones Me 99.26 27 P **Pdif 00 06 37.3 -0.1**
baz=329
I62A Tamworth 99.26 23 P **Pdif 00 06 37.1 -0.2**
baz=333
J61A Chester 99.32 24 P **Pdif 00 06 37.6 0.0**
baz=332
I63A Otisfield 99.35 22 P **Pdif 00 06 37.6 0.0**
baz=334
M57A Sunshine Farm, 99.36 28 P **Pdif 00 06 37.3 -0.5**
baz=328
L59A Walton 99.44 26 P **Pdif 00 06 38.0 -0.2**
baz=330
M58A Price's Panora 99.60 27 P **Pdif 00 06 39.2 +0.3**
baz=329
SSPA Standing Stone 99.65 29 P **Pdif 00 06 39.1 0.0**
baz=328
K61A Williamstown 99.66 25 P **Pdif 00 06 39.1 -0.1**
baz=331
M59A Waymart 99.85 27 P **Pdif 00 06 40.1 +0.1**
baz=330
J63A Strafford 99.87 23 P **Pdif 00 06 40.1 +0.1**
baz=333
L61A Hillsdale 1, H 99.98 25 P **Pdif 00 06 40.6 +0.1**
baz=331
K62A Royalston 100.03 24 P **Pdif 00 06 40.9 +0.2**
baz=332
R54A Victor 100.36 32 P **Pdif 00 06 41.9 -0.5**
baz=325
O58A Lewisberry 100.48 28 P **Pdif 00 06 41.8 -1.0**
baz=328
M61A Granite Spring 100.67 26 P **Pdif 00 06 43.7 +0.1**
baz=331
BLA Blacksburg 101.41 32 P **Pdif 00 06 46.3 -0.7**
baz=325
R58A Rapidan 101.57 30 P **Pdif 00 06 46.5 -1.1**
baz=327
S57A Dark Hollow, R 101.61 31 P **Pdif 00 06 47.1 -0.8**
baz=326
ESDC Sonseca Array 101.62 333 P **Pdif 00 06 47.2 -0.8**
comp=Z,1.4nm,0.9s,baz=14,slow=3.7,SNR=6.3
ESDC PP PP 00 10 44.5 -13
comp=Z,2.8nm,0.9s,baz=23,slow=6.6,SNR=7.4
KMBO Kilima Mbogo 101.86 276 P **Pdif 00 06 49.5 -0.2**
comp=Z,1.1nm,0.3s,baz=38,slow=4.7,SNR=5.6
KMBO Kilima Mbogo 101.86 276 *i*P **Pdif 00 06 50.2 +0.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
T60A Surry 103.08 30 P **Pdif 00 06 52.0 -2.4**
baz=328
U61A Possum Corner 103.89 30 P **Pdif 00 06 57.4 -0.6**
baz=328
X58A Rowland 104.09 33 P **Pdif 00 06 56.9 -2.0**
baz=326
VNDA Vanda 109.83 175 PKiKP **PKiKP 00 11 25.1 0.0**
comp=Z,1.5nm,0.8s,baz=286,slow=4.1,SNR=10
VNDA PKKPbc **PKKPbc 00 22 30.0 -0.8**
comp=Z,0.5nm,0.7s,baz=266,slow=5.5,SNR=3.9
MAW Mawson 114.49 204 PKP **PKiKP 00 11 34.4 +0.2**
comp=Z,2.0nm,0.8s,baz=329,slow=2.6,SNR=6.7
MAW PKKPbc **PKKPbc 00 22 13.9 -1.0**
comp=Z,1.9nm,0.7s,baz=258,slow=9.8,SNR=8.1
ACON Acoyapa 118.30 53 PKPdf 00 11 43.0 -0.2
TOA0 Torodi Ar. Sit 120.38 312 PKPdf **PKPdf 00 11 46.8 -0.4**
TORD Torodi Ar. Bea 120.38 312 PKP **PKPdf 00 11 46.4 -0.8**
comp=Z,6.9nm,0.6s,baz=17,slow=2.2,SNR=56
TORD PP **PP 00 13 14.3 +1.0**
comp=Z,3.4nm,0.8s,baz=36,slow=7.9,SNR=3.5
TORD PKKPbc **PKKPbc 00 21 54.8 +1.9**
comp=Z,1.9nm,0.9s,baz=219,slow=2.2,SNR=7.0
TORD Torodi Ar. Bea 120.38 312 PKPdf **PKPdf 00 11 46.6 -0.6**
QSPA South Pole Qui 121.56 180 PKPdf **PKPdf 00 11 47.4 -0.5**
KOWA Kowa 122.76 318 PKPdf 00 11 51.8 +0.1
LBTB Lobatse 123.09 259 PKiKP **PKiKP 00 11 52.4 0.0**
LBTB Lobatse 123.09 259 PKPdf **PKiKP 00 11 52.4 0.0**
SYO Syowa Base 123.18 205‖*e*Pdiff **Pdif 00 08 21.9 -0.9**
SYO Syowa Base 123.18 205‖*e*PKPdf **PKPdf 00 11 49.5 -1.3**
SYO Syowa Base 123.18 205‖*ep*PKPdf pPKPdf 00 12 09.9 +0.4
OBIP Obispado Ponce 124.03 32 PKPdf 00 11 53.7 -0.4
ICMP Isla Caja de M 124.20 32 PKPdf 00 11 53.9 -0.5
BOSA Boshof 124.70 255 PKP **PKiKP 00 11 55.9 +0.3**
comp=Z,4.2nm,0.7s,baz=51,slow=2.9,SNR=9.0
BOSA PKKPbc **PKKPbc 00 21 37.1 +0.8**
comp=Z,2.2nm,0.7s,baz=311,slow=4.7,SNR=6.3
BOSA Boshof 124.70 255 PKiKP 00 11 56.7 +1.1
CAPC Capurgana 125.91 49 *e*P **PKPdf 00 11 57.5 -0.3**
TSUM Tsumeb 127.51 269 PKPdf **PKiKP 00 12 01.5 +0.1**
FDF Fort de France 129.28 27 PKiKP **PKPdf 00 12 04.3 0.0**
FDF Fort de France 129.28 27 PKPdf 00 12 04.3 0.0
PTBC PUERTO BERRIO 129.34 47 *e*P **PKPdf 00 12 03.4 -1.0**
PLMC San Jos del P 129.41 51 *e*P **PKPdf 00 12 05.2 -0.1**
DBIC Dimbokro 129.45 313 PKP **PKPdf 00 12 04.5 -0.1**
comp=Z,8.5nm,0.9s,baz=335,slow=3.1,SNR=9.0
DBIC Dimbokro 129.45 313 PKiKP **PKiKP 00 12 05.2 -0.1**
DBIC Dimbokro 129.45 313 PKiKP 00 12 05.2 -0.1
TIC Toumodi 129.57 313 *e*PKP1 **PKPdf 00 12 05.1 +0.2**
KIC Kosan Boka 129.62 313 *e*PKP1 **PKPdf 00 12 04.9 0.0**
comp=Z,24nm,0.8s
SDV Santo Domingo 129.76 42 *e*P **PKPdf 00 12 05.6 +0.1**
SDV Santo Domingo 129.76 42 PKPdf **PKPdf 00 12 05.8 +0.3**
SDV Santo Domingo 129.76 42 *e*P **PKPdf 00 12 03.9 -1.5**
GUY2C Guyana, Caldas 129.77 49 *e*P **PKPdf 00 12 06.2 +0.3**
PAMC Pamplona, Colo 129.80 45 *e*P **PKPdf 00 12 06.3 +0.4**
LIC Lamto 129.90 313 *e*PKP1 **PKPdf 00 12 05.8 +0.3**
comp=Z,29nm,0.7s
SPBC San Pablo de B 130.27 48 *e*P **PKPdf 00 12 06.0 -0.3**
ROSC El Rosal 130.73 49 PKP **PKPdf 00 12 07.7 +0.2**
comp=Z,25nm,0.8s,baz=88,slow=4.0,SNR=17
ROSC El Rosal 130.73 49 *e*P **PKPdf 00 12 07.8 +0.2**
ROSC El Rosal 130.73 49 PKPdf **PKiKP 00 12 08.2 -0.2**
ORTC Ortega, Tolima 130.84 50 *e*P **PKPdf 00 12 04.9 -2.4**
PCON Cinco Dias 131.23 53 *e*P **PKPdf 00 12 08.9 +0.2**

OTAV	**Otavalo**	**131.29**	**57**	*eP*	**PKPdf**	**00 12 07.5**	**-1.2**
OTAV	**Otavalo**	**131.29**	**57**	PKIKP	**PKiKP**	**00 12 09.2**	**-0.4**
OTAV	**Otavalo**	**131.29**	**57**	PKPdf	**PKiKP**	**00 12 09.2**	**-0.4**
OTAV	**Otavalo**	**131.29**	**57**	*eP*	**PKPdf**	**00 12 08.2**	**-0.5**
GARC	**Garzon, Huila**	**131.95**	**52**	*eP*	**PKPdf**	**00 12 09.9**	**+0.2**
NVL	**N'lazarevskaya**	**132.15**	**200**	*e*PKIKP	**PKPdf**	**00 12 07.0**	**-0.9**
NVL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SNAA	**Sanae**	**135.53**	**196**	PKPdf	**PKPdf**	**00 12 14.4**	**+0.1**
SNAA	**Sanae**	**135.53**	**196**	PKIKP	**PKPdf**	**00 12 14.1**	**-0.3**
SNAA	**Sanae**	**135.53**	**196**	PKPdf	**PKiKP**	**00 12 14.1**	**-0.3**
ATAH	**Atahualpa**	**136.24**	**64**	PKP	**PKiKP**	**00 12 19.1**	**-0.4**
	comp=Z,25nm,0.9s,baz=335,slow=2.1,SNR=14						
VNA2	**Neumayer--Watz**	**137.09**	**195**	PKPdf	**PKPdf**	**00 12 17.6**	**+0.4**
	baz=118,slow=2.2						
VNA3	**Neumayer Olymp**	**137.32**	**194**	PKPdf	**PKPdf**	**00 12 17.8**	**+0.1**
VNA1	**Neumayer--Stat**	**137.49**	**195**	PKPdf	**PKPdf**	**00 12 15.7**	**-2.2**
NNA	**Nana**	**140.40**	**69**	PKhKP	PKPpre	00 12 16.3	
	comp=Z,9.5nm,0.6s,baz=349,slow=1.3,SNR=5.4						
NNA				PKP	**PKPdf**	**00 12 25.7**	**+0.7**
	comp=Z,25nm,0.8s,baz=254,slow=5.2,SNR=8.1						
NNA	**Nana**	**140.40**	**69**		**PKPdf**	**00 12 25.1**	**+0.1**
CZSB	**Cruzeiro do Su**	**140.80**	**59**	*eP*	**PKPdf**	**00 12 25.8**	**-0.1**
PMSA	**Palmer Station**	**143.68**	**163**	*eP*	**PKPdf**	**00 12 30.3**	**+1.1**
MACA	**Manacapuru-AM**	**145.23**	**39**	*eP*	**PKPbc**	**00 12 32.9**	**-0.4**
SHEL	**Horse Pasture**	**145.52**	**289**	PKIKP	**PKPab**	**00 12 34.8**	**+0.3**
SHEL	**Horse Pasture**	**145.52**	**289**		**PKPab**	**00 12 34.8**	**+0.3**
MCPB	**Macapa, AP**	**146.55**	**23**	*eP*	**PKPdf**	**00 12 35.8**	**0.0**
ASCN	**Ascension**	**146.67**	**310**		**PKPbc**	**00 12 37.8**	**+0.1**
H10N2	**ASCENSION HYDR**	**146.67**	**310**	PKPbc	**PKiKP**	**00 12 40.0**	**-0.1**
	baz=100,slow=2.8,SNR=4.2						
H10N1	**ASCENSION HYDR**	**146.68**	**310**	PKPbc	**PKiKP**	**00 12 40.1**	**+0.1**
	baz=100,slow=2.8,SNR=4.5						
H10N3	**ASCENSION HYDR**	**146.69**	**310**	PKPbc	**PKPab**	**00 12 38.7**	**+0.2**
	baz=100,slow=2.8,SNR=2.4						
H03N2	**Juan Fernandez**	**146.87**	**104**	T	T	02 57 36.7	
	baz=281,slow=75,SNR=84						
H03N3	**Juan Fernandez**	**146.88**	**104**	T	T	02 57 39.4	
	baz=281,slow=75,SNR=118						
H03N1	**Juan Fernandez**	**146.89**	**104**	T	T	02 57 42.8	
	baz=281,slow=75,SNR=94						
ETMB	**Extrema**	**146.97**	**54**	*eP*	**PKPdf**	**00 12 36.7**	**+0.3**
MALB	**Monte Alegre**	**147.11**	**28**	*eP*	**PKPdf**	**00 12 37.4**	**+0.7**
SAML	**Samuel**	**148.36**	**49**	PKIKP	**PKPdf**	**00 12 38.6**	**-0.1**
SAML						00 12 42.8	
SAML	**Samuel**	**148.36**	**49**		**PKPdf**	**00 12 38.6**	**-0.1**
SAML				PKPbc	**PKPbc**	**00 12 42.8**	**+0.5**
ITTB	**Itaituba**	**148.74**	**33**	*eP*	**PKPdf**	**00 12 39.4**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**149.62**	**17**	*eP*	**PKPdf**	**00 12 41.2**	**+0.3**
LPAZ	**La Paz**	**149.75**	**66**	PKP	**PKPdf**	**00 12 42.6**	**+0.9**
	comp=Z,59nm,1.0s,baz=351,slow=2.8,SNR=68						
LPAZ				PKPbc	**PKiKP**	**00 12 47.8**	**+0.4**
	comp=Z,122nm,0.8s,baz=350,slow=4.5,SNR=89						
LPAZ	**La Paz**	**149.75**	**66**	*eP*	**PKPdf**	**00 12 41.8**	**+0.1**
LPAZ	**La Paz**	**149.75**	**66**	PKPdf	**PKPdf**	**00 12 42.5**	**+0.8**
LPAZ					**PKiKP**	**00 12 47.6**	**+0.1**
LPAZ	**La Paz**	**149.75**	**66**	*eP*	**PKPdf**	**00 12 41.8**	**+0.1**
PB16	**IPOC Station P**	**149.80**	**71** ⇑	*iP*	**PKPdf**	**00 12 41.7**	**+0.1**
PB16	**IPOC Station P**	**149.80**	**71**	PKPdf	**PKPdf**	**00 12 42.6**	**+1.0**
PB16				PKPbc	**PKiKP**	**00 12 48.2**	**+0.7**
PSGC	**Pisagua**	**149.95**	**74** ⇑	*iP*	**PKPdf**	**00 12 40.3**	**-1.0**
PSGCX	**Pisagua**	**149.95**	**74**	PKPdf	**PKPdf**	**00 12 42.2**	**+0.9**
MNMC	**Minye Minye**	**150.14**	**72**	*eP*	**PKPdf**	**00 12 42.1**	**+0.3**
MNMC	**Minye Minye**	**150.14**	**72**		**PKPdf**	**00 12 42.7**	**+0.9**
MNMC				PKPbc	**PKiKP**	**00 12 48.1**	**+0.3**
TA02	**Huaiquique**	**150.27**	**75**	*eP*	**PKPdf**	**00 12 43.8**	**+2.2**
TA01	**Diego Aracena**	**150.37**	**75**	*eP*	**PKPbc**	**00 12 47.1**	**0.0**
PB11	**IPOC Station P**	**150.41**	**73** ⇑	*iP*	**PKPdf**	**00 12 42.4**	**+0.4**
PB11	**IPOC Station P**	**150.41**	**73**	PKPdf	**PKPdf**	**00 12 42.3**	**+0.2**
PB11				PKPbc	**PKiKP**	**00 12 48.5**	**+0.3**
PATCX	**Punta Patache**	**150.51**	**76**	*eP*	**PKPbc**	**00 12 47.8**	**+0.3**
GO01	**Chusmiza**	**150.74**	**73**	*eP*	**PKPdf**	**00 12 41.2**	**-1.8**
GO01	**Chusmiza**	**150.74**	**73**		**PKPdf**	**00 12 43.3**	**+0.3**
GO01				PKPbc	**PKiKP**	**00 12 49.8**	**+0.5**
PB02	**IPOC Station P**	**150.96**	**76**	*eP*	**PKiKP**	**00 12 49.1**	**-0.1**
PB08	**IPOC Station P**	**151.01**	**74** ⇑	*iP*	**PKPdf**	**00 12 44.7**	**+1.4**
PB07	**IPOC Station P**	**151.15**	**77** ⇑	*iP*	**PKPdf**	**00 12 45.3**	**+2.1**
PB01	**IPOC Station P**	**151.17**	**76**		**PKiKP**	**00 12 48.5**	**-0.6**
PB01	**IPOC Station P**	**151.17**	**76**		**PKiKP**	**00 12 43.6**	**+0.4**
PB01				PKPbc	**PKiKP**	**00 12 49.8**	**+0.2**
PB04	**IPOC Station P**	**151.20**	**79**	*eP*	**PKiKP**	**00 12 49.7**	**0.0**
PB04	**IPOC Station P**	**151.20**	**79**		**PKiKP**	**00 12 50.1**	**+0.3**
NPGB	**Novo Progresso**	**151.26**	**34**	*eP*	**PKPdf**	**00 12 43.7**	**+0.3**
PB10	**IPOC Station P**	**151.35**	**81**	*eP*	**PKPdf**	**00 12 43.8**	**+0.6**
PB10	**IPOC Station P**	**151.35**	**81**		**PKiKP**	**00 12 50.3**	**+0.5**
PB05	**IPOC Station P**	**151.37**	**80** ⇑	*iP*	**PKPdf**	**00 12 45.3**	**+1.9**
PB03	**IPOC Station P**	**151.40**	**78**	*eP*	**PKPbc**	**00 12 49.4**	**-0.3**
PB09	**IPOC Station P**	**151.72**	**77** ⇑	*iP*	**PKPdf**	**00 12 45.4**	**+1.4**
PB09	**IPOC Station P**	**151.72**	**77**		**PKPdf**	**00 12 44.1**	**0.0**
PB09				PKPbc	**PKiKP**	**00 12 52.0**	**+1.2**
PB06	**IPOC Station P**	**151.84**	**79**	*eP*	**PKiKP**	**00 12 51.1**	**+0.1**
PB06	**IPOC Station P**	**151.84**	**79**	PKPdf	**PKPdf**	**00 12 44.9**	**+0.7**
PB06				PKPbc	**PKiKP**	**00 12 51.6**	**+0.6**
PB14	**IPOC Station P**	**151.90**	**83**		**PKiKP**	**00 12 51.7**	**+0.4**
PB15	**IPOC Station P**	**152.13**	**80** ⇑	*iP*	**PKPbc**	**00 12 51.5**	**+0.1**
PB15	**IPOC Station P**	**152.13**	**80**	PKPdf	**PKPdf**	**00 12 45.5**	**+0.8**
PB15					**PKiKP**	**00 12 52.1**	**+0.4**
AC01	**Pan de Azucar**	**152.26**	**86**		**PKiKP**	**00 12 52.2**	**+0.5**
LVC	**Limon Verde**	**152.35**	**78**	PKP	**PKPdf**	**00 12 45.9**	**+0.7**
	comp=Z,9.6nm,1.0s,baz=344,slow=3.2,SNR=5.7						
LVC				PKPbc	**PKiKP**	**00 12 52.4**	**+0.1**
	comp=Z,58nm,0.9s,baz=277,slow=2.7,SNR=32						
LVC	**Limon Verde**	**152.35**	**78**	PKIKP	**PKPdf**	**00 12 45.6**	**+0.4**
LVC						00 12 53.3	
LVC	**Limon Verde**	**152.35**	**78**	PKPdf	**PKPdf**	**00 12 45.6**	**+0.4**
LVC					**PKiKP**	**00 12 53.3**	**+1.0**
LVC	**Limon Verde**	**152.35**	**78**	*eP*	**PKPdf**	**00 12 46.3**	**+1.1**
AC04	**Llanos de Chal**	**152.47**	**91**		**PKiKP**	**00 12 52.4**	**+0.5**
PRPB	**Parauapebas**	**152.74**	**23**	*eP*	**PKPdf**	**00 12 46.2**	**+0.6**
LC01	**Cunco**	**152.75**	**114**	PKPbc	**PKiKP**	**00 12 52.3**	**+0.1**
GO02	**Mina Guanaco**	**152.78**	**84**	PKPdf	**PKPdf**	**00 12 46.4**	**+0.6**
GO02				PKPbc	**PKiKP**	**00 12 53.6**	**+0.5**
GO05	**Huala**	**152.79**	**106**	PKPdf	**PKPdf**	**00 12 45.2**	**+0.2**
GO05				PKPbc	**PKiKP**	**00 12 52.9**	**+0.4**
VA01	**Torpederas**	**152.88**	**101**		**PKiKP**	**00 12 52.8**	**+0.1**
GO03	**Copiap**	**153.01**	**89**		**PKiKP**	**00 12 53.6**	**+0.4**
GO04	**Tololo Observa**	**153.15**	**95**	PKPbc	**PKiKP**	**00 12 54.0**	**+0.3**
CO02	**Combarbal**	**153.17**	**97**	PKPdf	**PKPdf**	**00 12 46.1**	**+0.3**
CO02				PKPbc	**PKiKP**	**00 12 53.7**	**+0.2**
VILB	**Vilhena**	**153.28**	**50**	*eP*	**PKPdf**	**00 12 47.6**	**+1.2**
AC05	**El Transito**	**153.31**	**92**	PKPdf	**PKPdf**	**00 12 45.8**	**-0.3**
AC05				PKPbc	**PKiKP**	**00 12 54.5**	**+0.7**
BI02	**San Fabin de**	**153.35**	**109**	PKPdf	**PKPdf**	**00 12 46.1**	**+0.1**
BI02				PKPbc	**PKiKP**	**00 12 54.2**	**+0.6**
ROC1	**El Roble**	**153.40**	**101**		**PKPdf**	**00 12 46.5**	**+0.2**
ROC1				PKPbc	**PKiKP**	**00 12 54.8**	**+0.7**
PLCA	**Paso Flores**	**153.53**	**118**	PKP	**PKPdf**	**00 12 47.1**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=217,slow=7.1,SNR=4.3						
PLCA				PKPbc	**PKiKP**	**00 12 54.8**	**+0.9**
	comp=Z,36nm,0.9s,baz=241,slow=2.7,SNR=37						
PLCA				PKPab	**PKPab**	**00 13 07.5**	**+1.0**
	comp=Z,14nm,0.8s,baz=297,slow=9.8,SNR=3.3						
PLCA	**Paso Flores**	**153.53**	**118**	PKIKP	**PKPdf**	**00 12 46.5**	**+0.4**
PLCA						00 12 55.1	
PLCA	**Paso Flores**	**153.53**	**118**		**PKPdf**	**00 12 46.5**	**+0.4**
PLCA					**PKiKP**	**00 12 55.1**	**+1.2**
PLCA	**Paso Flores**	**153.53**	**118**	*eP*	**PKPdf**	**00 12 48.3**	**+2.2**
MT05	**Renca**	**153.67**	**102**	PKPdf	**PKPdf**	**00 12 46.3**	**-0.1**
MT05					**PKiKP**	**00 12 54.5**	**+0.1**
PEL	**Peldehue**	**153.69**	**101**	PKIKP	**PKPdf**	**00 12 46.6**	**+0.1**
PEL						00 12 54.6	
PEL	**Peldehue**	**153.69**	**101**	PKPdf	**PKPdf**	**00 12 46.6**	**+0.1**
PEL					**PKiKP**	**00 12 54.6**	**+0.2**
CO01	**Juntas del Tor**	**153.71**	**94**	PKPdf	**PKPdf**	**00 12 47.5**	**+0.7**
CO01					**PKiKP**	**00 12 55.6**	**+0.8**
BO02	**Sierra Bellavi**	**153.73**	**105**	PKPdf	**PKPdf**	**00 12 46.8**	**+0.3**
BO02				PKPbc	**PKiKP**	**00 12 55.3**	**+0.8**
VA03	**San Esteban**	**153.77**	**100**	PKPdf	**PKPdf**	**00 12 46.7**	**0.0**
VA03				PKPbc	**PKiKP**	**00 12 55.2**	**+0.6**
CLDB	**Colider**	**154.29**	**39**	*eP*	**PKPdf**	**00 12 47.1**	**-0.7**
PTLB	**Pontes e Lacer**	**155.80**	**52**	*eP*	**PKPdf**	**00 12 53.0**	**+3.2**
SMTB	**Santa Maria do**	**155.97**	**20**	*eP*	**PKPdf**	**00 12 50.9**	**+0.8**
PEXB	**Peixe**	**158.78**	**24**	*eP*	**PKPdf**	**00 12 56.4**	**+2.8**
AQDB	**Aquidauana**	**161.61**	**56**	*eP*	**PKPdf**	**00 12 56.9**	**+0.3**
GDU01	**Guandu, BA**	**162.00**	**0**	*eP*	**PKPdf**	**00 12 59.9**	**+2.8**
BDFB	**Brasilia**	**162.13**	**28**	PKP	**PKPdf**	**00 12 57.8**	**+0.4**
	comp=Z,10.0nm,0.9s,baz=80,slow=0.8,SNR=13						
BDFB				PKPab	**PKPab**	**00 13 43.8**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=324,slow=9.0,SNR=5.1						
BDFB				PP	**PP**	**00 17 26.2**	**-1.0**
	comp=Z,11nm,1.0s,baz=351,slow=4.4,SNR=6.6						
JANB	**Januaria**	**162.76**	**16**	*eP*	**PKPdf**	**00 12 58.4**	**+0.5**
CPUP	**Villa Florida**	**163.48**	**75**	PKP	**PKPdf**	**00 12 58.5**	**+0.2**
	comp=Z,10nm,0.9s,baz=282,slow=0.7,SNR=24						
CPUP				PKPab	**PKPab**	**00 13 49.8**	**0.0**
	comp=Z,16nm,0.9s,baz=305,slow=4.5,SNR=11						
IPMB	**Ipameri, GO**	**164.14**	**32**	*eP*	**PKPdf**	**00 12 59.7**	**+0.5**
ITRB	**Iturama**	**164.49**	**42**	*eP*	**PKPdf**	**00 13 00.7**	**+1.3**
TRCB	**Terra Rica**	**165.28**	**56**	*eP*	**PKPdf**	**00 13 01.2**	**+1.2**
PCMB	**Pacaembu**	**165.39**	**49**	*eP*	**PKPdf**	**00 13 01.6**	**+1.5**
NAN01	**Guarapari, ES**	**166.09**	**3**	*eP*	**PKPdf**	**00 13 02.2**	**+1.5**
PTGB	**Pitanga**	**166.87**	**61**	*eP*	**PKPdf**	**00 13 04.5**	**+3.2**
SJMB	**Sao Joao De Ma**	**166.87**	**7**	*eP*	**PKPdf**	**00 13 02.6**	**+1.3**
BSFB	**Barra de Sao F**	**167.03**	**6**	*eP*	**PKPdf**	**00 13 02.1**	**+0.7**
RIB01	**Linhares ES**	**167.54**	**4**	*eP*	**PKPdf**	**00 13 03.1**	**+1.3**
FRTB	**Fartura**	**167.73**	**49**	*eP*	**PKPdf**	**00 13 03.1**	**+1.3**
CPSB	**Cacapava Do Su**	**167.96**	**87**	*eP*	**PKPdf**	**00 13 04.5**	**+2.7**
BSCB	**Bom Sucesso**	**168.25**	**25**	*eP*	**PKPdf**	**00 13 03.2**	**+0.9**
VAO	**Valinhos**	**169.01**	**39**	*eP*	**PKPdf**	**00 13 04.2**	**+1.4**
SPB	**Sao Paulo**	**169.22**	**43**		**PKPdf**	**00 13 03.8**	**+1.0**
SPB				PKPab	**PKPab**	**00 14 14.8**	**-0.3**
SPB	**Sao Paulo**	**169.22**	**43**	*eP*	**PKPdf**	**00 13 04.0**	**+1.2**
VAS01	**Vassouras-RJ**	**169.89**	**21**	*eP*	**PKPdf**	**00 13 05.0**	**+1.8**
MAN01	**Angra dos Reis**	**170.25**	**25**	*eP*	**PKPdf**	**00 13 04.4**	**+0.9**

ATH 16 00:03:07.1, 38.33N×22.14E, h11km±2km, ML1.4/4, Error ellipse: s-maj=2.3km s-min=1.0km az=41.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.06**	**2**	P	Pg	00 03 09.6	+0.2
KALE				S	Sg	00 03 11.3	+0.3
KALE				AML	AML	00 03 11.7	
	comp=N,1644μm,0.2s						
KALE				AML	AML	00 03 12.4	
	comp=E,545μm,0.2s						
TRIZ	**Trizonia**	**0.06**	**302**	P	Pg	00 03 09.0	-0.3
TRIZ				S	Sg	00 03 10.2	-0.7
SERG	**Sergoula**	**0.10**	**321**	P	Pg	00 03 10.1	+0.2
SERG				S	Sg	00 03 11.9	+0.1
SERG				AML	AML	00 03 12.4	
	comp=E,863μm,0.2s						
SERG				AML	AML	00 03 12.5	
	comp=N,596μm,0.2s						
KLV	**Kalavryta, Ach**	**0.29**	**178**	P	Pg	00 03 12.7	-0.3
ANX	**Ano Chora**	**0.31**	**327**	P	Pg	00 03 12.8	-0.6
ANX				S	Sg	00 03 17.9	+0.3
ANX				AML	AML	00 03 18.8	
	comp=N,270μm,0.3s						
ANX				AML	AML	00 03 19.1	
	comp=E,138μm,0.3s						
GUR	**Goura**	**0.43**	**158**	P	Pg	00 03 15.5	-0.1
GUR				S	Sg	00 03 21.7	+0.4
GUR				AML	AML	00 03 23.1	
	comp=N,73μm,0.2s						
GUR				AML	AML	00 03 23.5	
	comp=E,56μm,0.2s						
RLS	**Riolos of Patr**	**0.60**	**243**	P	Pg	00 03 18.7	+0.1
RLS				S	Sb	00 03 27.3	-0.7
AXS	**Araxos**	**0.61**	**257**	P	Pg	00 03 18.5	-0.5
AXS				S	Sb	00 03 28.1	-0.5
EVR	**Evrytania**	**0.64**	**336**	P	Pg	00 03 19.4	-0.1
AGG	**Agios Georgios**	**0.70**	**12**	P	Pg	00 03 20.6	-0.1

DDA 16 00:04:14.5, 39.10N×43.96E, h12km±1km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.06**	**323**	*i* P	Pg	00 04 16.6	-0.5
CLDR				*i* S	Sg	00 04 18.9	-0.1
CLDR				IAML		00 04 19.0	
	comp=E,1μm,0.4s						
CLDR				IAML		00 04 19.0	
	comp=N,904nm,0.6s						
VMUR	**Van-Muradiye**	**0.32**	**250**	*i* P	Pg	00 04 20.9	-0.2
VMUR				*i* S	Sg	00 04 26.4	+0.9
DYDN	**Diyadin**	**0.49**	**335**	*i* P	Pg	00 04 23.9	-0.3
DYDN				*i* S	Sb	00 04 31.8	-0.8
DYDN				IAML		00 04 35.0	
	comp=E,84nm,0.3s						
TVAN	**Van**	**0.71**	**217**	*i* P	Pb	00 04 29.0	-0.1
TVAN				*i* S	Sn	00 04 42.8	+1.1
TVAN				IAML		00 04 52.0	
	comp=E,83nm,0.8s						
IGDI	**IGDIR**	**0.77**	**7**	*i* P	Pg	00 04 29.5	0.0
IGDI				*i* S	Sg	00 04 37.9	-1.8
IGDI				IAML		00 04 38.0	
	comp=E,56nm,0.8s						
IGDI				IAML		00 04 38.0	
	comp=N,58nm,1.4s						
GEVA	**Gevas**	**1.05**	**222**	*i* P	Pn	00 04 36.0	+0.6
GEVA				*i* S	Sg	00 04 43.8	-4.8
GEVA				IAML		00 04 59.0	
	comp=E,47nm,0.8s						
EATA	**Eleskirt**	**1.37**	**304**	*i* P	Pg	00 04 43.9	+3.0
DIGO	**Kars**	**1.39**	**341**	*i* P	Pn	00 04 38.5	-1.5
YOVA	**Hakkari_Yksek**	**1.53**	**170**	*i* P	Pn	00 04 41.1	-0.8
HAKT	**HAKKARI**	**1.55**	**187**	*i* P	Pg	00 04 44.7	+0.4
BLIS	**Bitlis-Merkez**	**1.60**	**245**	*i* P	Pb	00 04 44.2	+0.2
BLIS				*i* S	Pg	00 04 49.6	+4.5
BLIS				IAML		00 04 51.0	
	comp=E,45nm,0.7s						
BLIS				IAML		00 04 53.0	
	comp=N,61nm,0.7s						
EAK	**Akyaka**	**1.61**	**350**	*i* P	Pn	00 04 36.5	-6.5
HOMI	**Horasan**	**1.85**	**301**	*i* P	Pn	00 04 44.1	-2.2
SRTM	**Siirt_Merkez**	**1.94**	**236**	*i* P	Pb	00 04 49.1	-0.8
MUSM	**Mu-Merkez**	**1.95**	**260**	*i* P	Pb	00 04 50.3	+0.3
VRTB	**Varto-Mus**	**1.95**	**273**	*i* P	Pb	00 04 49.8	-0.3

*UPA **16** 00:09:55.4±0.8, 7.87N×82.12W, h1km±2km, MW4.5*
ISC 16 00:09:55.5±1.4, 7.86N±0.06×82.10W±0.04, h1km±11km, n24, σ0.99/37, 6C-3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVID3	**Puerto Vidal,**	**0.52**	**69** ⇑	*eP*	**Pb**	**00 10 07.2**	**-0.2**
PVID3				*i* S	**Sb**	**00 10 15.6**	**+0.1**
PEDE3	**Pedregal, Chir**	**0.61**	**329**	*eP*	**Pb**	**00 10 08.5**	**-0.5**
GUAL3	**Gualaca, Chiri**	**0.70**	**344** ⇑	*eP*	**Pb**	**00 10 10.3**	**-0.2**
GUAL3				*eS*	**Sb**	**00 10 20.8**	**+0.2**
BAGA3	**Bagala, Chiriq**	**0.74**	**325** ⇑	*iP*	**Pb**	**00 10 11.0**	**-0.2**
PSOM3	**Paja de Sombre**	**0.85**	**345**	*eP*	**Pb**	**00 10 12.6**	**-0.5**
PSOM3				*eS*	**Sb**	**00 10 25.9**	**+0.8**
GMAL	**Guarumal, Vera**	**0.86**	**96**	*eP*	**Pg**	**00 10 11.5**	**-0.6**
GMAL				*eS*	**Sg**	**00 10 27.7**	**-0.6**
GMAL				*i* S	**Sb**	**00 10 23.1**	**-2.3**
PTAR3	**Potrerillos Ar**	**0.92**	**335** ⇑	*eP*	**Pb**	**00 10 13.9**	**-0.4**
PTAR3				*eS*	**Sb**	**00 10 27.8**	**+0.7**
BCO2	**Palmira**	**0.96**	**334** ⇓	*iP*	**Pb**	**00 10 14.6**	**-0.4**
BCO2				*i* S	**Sn**	**00 10 30.1**	**-0.4**
CDITO	**Canoas**	**1.04**	**313** ⇑	*eP*	**Pn**	**00 10 17.4**	**+0.1**
BRU2	**Volcan**	**1.10**	**328** ⇓	*iP*	**Pg**	**00 10 16.5**	**-0.1**
BRU2				*i* S	**Sn**	**00 10 33.4**	**-0.7**
MARI3	**Mariato, Verag**	**1.12**	**101**	*eP*	**Pg**	**00 10 17.4**	**+0.4**
MARI3				*eS*	**Sb**	**00 10 34.0**	**+1.2**
CACAO	**El Cacao, Vera**	**1.33**	**112**	*eP*	**Pg**	**00 10 20.3**	**-0.7**
CACAO				*i* S	**Sn**	**00 10 39.8**	**+0.3**
RIOS	**Rincon, Osa**	**1.63**	**301** ⇓	*eP*	**Pn**	**00 10 24.3**	**-1.1**
RIOS				*eS*	**Sg**	**00 10 49.3**	**+1.4**
DRK0	**Durika**	**1.80**	**321**	*eP*	**Pn**	**00 10 27.0**	**-0.8**
DRK0				*eS*	**Sn**	**00 10 51.2**	**-0.2**
AZU	**Azuero**	**1.81**	**92** ⇑	*iP*	**Pn**	**00 10 27.6**	**-0.2**
AZU				*i* S	**Sn**	**00 10 50.9**	**-0.5**
MOTC	**Monteria, Cord**	**6.43**	**81**	*eP*	**Pg**	**00 11 59.6**	**+0.8**
YOTC	**Yotoco, Valle**	**6.90**	**124**	*eP*	**Pg**	**00 12 05.5**	**-2.2**
ZARC	**Zaragoza, Cauc**	**7.19**	**92**	*eP*	**Pb**	**00 12 02.2**	**+1.0**
TOLC	**Tolima**	**7.48**	**115**	*eP*	**Pb**	**00 12 06.9**	**+0.5**
POPC	**Popayan, Colom**	**7.55**	**134**	*eP*	**Pb**	**00 12 07.8**	**+0.3**
SOTA	**Rioblanco**	**7.89**	**136**	*eP*	**Pb**	**00 12 15.1**	**+1.7**
CHIC	**Chingaza**	**8.91**	**111**	*eP*	**Pn**	**00 12 08.6**	**+2.7**
BARC	**Barichara**	**8.94**	**98**	*eP*	**Pn**	**00 12 06.1**	**+0.1**
VILC	**Villavicencio,**	**9.15**	**114**	*eP*	**Pn**	**00 12 08.6**	**-0.3**

*IDC **16** 00:27:13.1±0.5, 32.65N×47.84E, h0km, mb4.3/27, mb1 4.3/35, mb1mx4.2/50, mbtmp4.2/35, ML3.9/8, Error ellipse: s-maj=12.6km s-min=10.7km az=174.0*
*NEIC **16** 00:27:15.2±1.4, 32.73N±0.03×47.73E±0.05, h10km±1km, Error ellipse: s-maj=6.7km s-min=5.3km az=104.0*

*ISN **16** 00:27:16.2±1.4, 32.77N×47.82E, h15km±6km, ML4.2*
*MOS **16** 00:27:16.4±0.9, 32.70N×47.80E, h33km, mb4.6/36, Error ellipse: s-maj=6.4km s-min=4.4km az=116.3*
*TEH **16** 00:27:16.3, 32.77N×47.79E, h18km, ML4.4*
*THR **16** 00:27:18.5±0.3, 32.82N×47.84E, h14km±3km, ML4.6*
*DSN **16** 00:27:19.6±1.2, 32.50N×48.32E, h10km, ML4.6/1, Error ellipse: s-maj=20.3km s-min=9.5km az=23.0*
*OMAN **16** 00:27:20.7±0.5, 32.28N×47.90E, h33km, mb5.3/22, ms3.6/12, Error ellipse: s-maj=17.9km s-min=9.8km az=226.0*
ISC 16 00:27:16.4±0.7, 32.70N±0.02×47.78E±0.02, h23km±5km, n467, σ1.82/506, mb4.5/95, 23C-36D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.42**	**268**	*e*Pg	**Pb**	**00 27 25.2**	**-0.1**
DHL1				*e*Sg	**Sb**	**00 27 32.3**	**+1.0**
IKMR	**Kamar-syah**	**0.96**	**31**	*e*Pg	**Pb**	**00 27 33.2**	**-1.2**
IKMR				*e*		00 27 40.5	
IKMR	**Kamar-syah**	**0.96**	**31**	Pg	**Pb**	**00 27 33.1**	**-1.3**
IDOB	**Doab**	**1.14**	**17**	*e*Pg	**Pn**	**00 27 36.2**	**-0.9**
IDOB	**Doab**	**1.14**	**17**		**Pn**	**00 27 36.2**	**-0.9**
BMDN	**Meydan**	**1.31**	**42**	*e*Pg	**Pn**	**00 27 39.6**	**+0.2**
BMDN				*e*		00 28 05.7	
BMDN	**Meydan**	**1.31**	**42**		**Pn**	**00 27 39.6**	**+0.2**
IKOM	**Komasi**	**1.49**	**351**	*e*Pg	**Pb**	**00 27 43.4**	**-0.2**
IKOM				*e*		00 28 12.0	
IKOM	**Komasi**	**1.49**	**351**	Pg	**Pb**	**00 27 43.4**	**-0.2**
AHWZ	**Ahwaz**	**1.55**	**152**	*e*Pg	**Pb**	**00 27 46.3**	**+1.9**
AHWZ				*e*Sg	**Sb**	**00 28 09.3**	**+5.8**
AHWZ	**Ahwaz**	**1.55**	**152**	Pg	**Pb**	**00 27 46.3**	**+1.9**
AHWZ				Sg	**Sb**	**00 28 09.3**	**+5.8**
IBDR	**Badra**	**1.61**	**285**	*e*Pg	**Pb**	**00 27 45.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**

NAZ **Nazwa, Dubai** 10.33 136 P Pn 00 29 43.7 +0.6
SNR=10
NAZ S Sn 00 31 32.4 -5.8
ASUD **Al Ashush, Dub** 10.42 139 *i* P Pn 00 29 44.5 +0.1
SNR=7.1
ASUD **Al Ashush, Dub** 10.42 139 P Pn 00 29 44.8 +0.5
SNR=20
ASUD P Pn 00 29 44.8 +0.5
SNR=20
ASUD S Sn 00 31 36.9 -3.5
ASUD S Sn 00 31 36.9 -3.5
MMAI **Mount Meron Ar** 10.42 275 Pn Pn 00 29 45.6 +1.2
comp=N,0.3nm,0.3s,baz=90,slow=15,SNR=5.2
MMAI Sn Sn 00 31 39.8 -0.7
comp=N,0.9nm,0.3s,baz=109,slow=26,SNR=1.3
MMAI Lg Lg 00 32 51.8
comp=N,2.0nm,0.3s,baz=67,slow=28,SNR=1.7
FAQ **Al Faqa, Dubai** 10.47 137 *i* P Pn 00 29 44.1 -1.1
SNR=6.9
FAQ **Al Faqa, Dubai** 10.47 137 P Pn 00 29 45.1 -0.1
SNR=6.9
FAQ P Pn 00 29 45.1 -0.1
SNR=6.9
FAQ S Sn 00 31 38.4 -3.4
FAQ S Sn 00 31 38.4 -3.4
MDH **Madha** 10.48 133 P Pn 00 29 43.5 -1.8
MDH **Madha** 10.48 133 P Pn 00 29 44.7 -0.6
SNR=7.5
MDH S Sn 00 31 34.9 -7.1
UOSS **Minazif** 10.68 134 *i* P Pn 00 29 46.5 -1.5
SNR=14
UOSS **Minazif** 10.68 134 Pn Pn 00 29 47.5 -0.5
HATD **Hatta, Dubai** 10.73 135 *i* P Pn 00 29 47.6 -1.1
SNR=9.3
HATD **Hatta, Dubai** 10.73 135 P Pn 00 29 48.2 -0.5
SNR=9.3
HATD P Pn 00 29 48.2 -0.5
SNR=9.3
HATD S Sn 00 31 42.1 -6.0
HATD S Sn 00 31 42.1 -6.0
IMYA **Miami** 10.79 67 *e*Pn Pn 00 29 52.3 +2.6
EIL **Elat** 11.39 258 Pn Pn 00 29 57.9 +0.1
comp=N,0.9nm,0.3s,baz=205,slow=8.1,SNR=17
EIL Lg Lg 00 33 18.4
comp=N,1.3nm,0.3s,baz=203,slow=21,SNR=1.6
SOHO **SOHO** 11.49 136 *i* P Pn 00 29 57.2 -1.9
SNR=9.5
KBZ **Khabaz** 11.66 342 Pn Pn 00 30 10.8 +9.5
comp=N,0.0nm,0.3s,baz=173,slow=8.0,SNR=4.2
KIV **Kislovodsk** 11.93 342 *e*P Pn 00 30 06.0 +0.9
KIV pmax pmax
comp=Z,6.0nm,1.0s
ARQ **Araqi** 12.10 138 P Pn 00 30 07.5 +0.1
SNR=16
ARQ P Pn 00 30 07.5 +0.1
SNR=16
ARQ S Sn 00 32 16.3 -5.4
ARQ S Sn 00 32 16.3 -5.4
SOC **Sochi** 12.58 332 *e*P P 00 30 21.1 -4.1
SOC MLR MLR
comp=Z,345nm,16.0s
BSY **Bisya** 12.95 138 P Pn 00 30 18.5 -0.6
SNR=19
SMDO **Samad** 13.21 134 P Pn 00 30 22.3 -0.3
SNR=14
SMDO P Pn 00 30 22.3 -0.3
SNR=14
BR131 **Keskin Array S** 13.39 306 P Pn 00 30 26.5 +1.3
BR131 **Keskin Array S** 13.39 306 Pn Pn 00 30 26.5 +1.3
BRTR **Keskin Array B** 13.39 306 Pn Pn 00 30 27.5 +2.3
comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=9.5
BRTR **Keskin Array B** 13.39 306 P Pn 00 30 26.8 +1.7
BRTR **Keskin Array B** 13.39 306 Pn 00 30 26.8 +1.7
WSAR **Wadi Sarin** 13.43 132 Pn Pn 00 30 24.1 -1.5
comp=Z,1.9nm,0.3s,baz=297,slow=6.6,SNR=21
WSAR Sn Sn 00 32 47.5 -6.8
comp=Z,0.5nm,0.3s,baz=354,slow=20,SNR=2.3
WSAR **Wadi Sarin** 13.43 132 P Pn 00 30 23.9 -1.8
SNR=7.2
JMDO **Jabal Madar** 13.76 136 P Pn 00 30 28.3 -1.9
SNR=6.9
JMDO P Pn 00 30 28.3 -1.9
SNR=6.9
WBK **Wadi Bani Khal** 14.10 133 P Pn 00 30 32.1 -2.8
SNR=24
WBK P Pn 00 30 32.1 -2.8
SNR=24
MHTO **MHTO** 14.78 140 P Pn 00 30 41.6 -2.4
SNR=20
MHTO P Pn 00 30 41.6 -2.4
SNR=20
MHTO S Sn 00 33 19.0 -8.0
MHTO S Sn 00 33 19.0 -8.0
ELL **Elmali** 15.24 290 P P 00 30 55.7 +0.7
ELL pmax pmax
comp=Z,78nm,1.2s
ELL **Elmali** 15.24 290 P P 00 30 55.7 +0.7
AKAS **Kas** 15.40 288 Pn Pn 00 30 54.2 +1.8
MDUB **Mudurnu** 15.40 305 P P 00 30 56.3 -0.4
MDUB IAmb IAmb 00 31 06.6
comp=Z,42nm,0.8s
DQM **DQM** 15.42 143 P Pn 00 30 49.8 -2.7
SNR=14
DQM S Sn 00 33 32.5 -10
WHFO **Wadi Hawf** 15.67 158 P Pn 00 30 52.8 -3.1
SNR=72
ABTO **Aybut** 16.07 161 P Pn 00 30 58.1 -2.8
SNR=34
RBK **Rabkut** 16.20 158 P Pn 00 31 01.0 -1.7
SNR=8.4
RBK P Pn 00 31 01.0 -1.7
SNR=8.4
SHAO **Shalim** 16.23 152 P Pn 00 31 01.0 -2.0
SNR=32
SHAO P Pn 00 31 01.0 -2.0
SNR=32
SHAO S Sn 00 33 51.2 -11
SHAO S Sn 00 33 51.2 -11
DMTO **DMTO** 16.25 155 P Pn 00 31 01.0 -2.3
SNR=36
DMTO S Sn 00 33 51.8 -11
MANT **Manisa** 16.66 296 Pn 00 31 09.6 +1.0
KARP **Karpathos** 17.31 285 P 00 31 17.4 -0.5
KARP IAmb IAmb 00 31 20.6
comp=Z,35nm,1.2s
KBL **Kabul** 17.80 78 P P 00 31 25.3 +1.8
SNR=6.7
KBL **Kabul** 17.80 78 P P 00 31 24.1 +0.6
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL **Kabul** 17.80 78 P 00 31 24.1 +0.6
SANT **Santorini** 18.75 287 ⇑P P 00 31 33.8 +0.1
SANT **Santorini** 18.75 287 P Pn 00 31 34.3 +0.1
SANT IAmb IAmb 00 31 37.0
comp=Z,15nm,0.6s
APE **Apeiranthos** 18.76 290 ⇓P Pn 00 31 34.4 +0.1
APE **Apeiranthos** 18.76 290 ⇓P Pn 00 31 34.4 +0.1
AB31 **Akbulak array** 18.88 25 *e*P P 00 31 35.3 +0.3
ABKAR **Akbulak array** 18.88 25 P P 00 31 35.3 +0.3
ABKAR **Akbulak array** 18.88 25 P P 00 31 35.2 +0.3
VRH **Novokhopyorsk** 19.02 348 *e*P Pn 00 31 38.1 +0.8
VRH pmax pmax
comp=Z,10.0nm,0.6s
TIRR **Tirgusor** 19.11 313 ⇓P Pn 00 31 38.1 -0.4
TIRR **Tirgusor** 19.11 313 ⇓P Pn 00 31 38.1 -0.4
TIRR **Tirgusor** 19.11 313 P P 00 31 37.6 +0.1
TIRR IAmb IAmb 00 31 45.2
comp=Z,21nm,0.9s
IDI **Anoyia** 19.15 284 P Pn 00 31 39.6 +0.5
comp=Z,2.6nm,0.3s,baz=75,slow=12,SNR=35
IDI **Anoyia** 19.15 284 P Pn 00 31 39.9 +0.8
IDI **Anoyia** 19.15 284 ⇑P Pn 00 31 38.9 -0.2
IDI **Anoyia** 19.15 284 Pn 00 31 39.2 +0.1
IDI IAmb IAmb 00 31 49.4
comp=Z,13nm,0.6s
AKTO **Aktyubinsk** 19.27 20 P Pn 00 31 40.5 +0.1
comp=Z,0.8nm,0.3s,baz=202,slow=12,SNR=17
HARR **Harsova** 19.52 314 ⇑P Pn 00 31 43.2 -0.2
HARR **Harsova** 19.52 314 ⇑P Pn 00 31 43.2 -0.2
VSR **Storozhevoye** 19.56 344 *e*P Pn 00 31 43.3 -0.5
VSR pmax pmax
comp=Z,10.0nm,0.4s
RDO **Rodhopi** 19.64 302 P Pn 00 31 45.4 +0.5
CFR **Carcaliu** 19.66 315 ⇓P Pn 00 31 44.6 -0.4
CFR **Carcaliu** 19.66 315 ⇓P Pn 00 31 44.6 -0.4
VAM **Vamos** 19.72 284 P Pn 00 31 45.5 -0.3
CHAN **Chania** 19.85 285 P Pn 00 31 46.7 -0.7
AMRR **Amara** 19.85 313 ⇑P Pn 00 31 57.4 +10
AMRR **Amara** 19.85 313 ⇑P Pn 00 31 57.4 +10
RAZG **Razgrad** 19.89 309 ⇑P Pn 00 31 47.6 -0.2
IMMV **Iera Moni Meta** 19.90 285 P Pn 00 31 47.7 -0.3
BTK **Batken** 19.92 62 P Pn 00 31 47.4 -0.9
BTK pmax pmax
comp=Z,8.0nm,1.0s
BTK **Batken** 19.92 62 P Pn 00 31 47.4 -0.9
DION **Dionisos Attik** 20.15 292 P Pn 00 31 50.6 -0.3
PTL **Penteli** 20.20 292 P Pn 00 31 51.6 +0.1
ODBI **Odobesti** 20.61 315 ⇓P Pn 00 31 56.8 +0.5
VILL **Villia** 20.65 292 P Pn 00 31 55.9 -0.9
KK31 **Karatay Array** 20.67 53 P P 00 31 54.8 +0.2
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 **Karatay Array** 20.67 53 P P 00 31 54.8 +0.2
KKAR **Karatay Array** 20.67 53 P P 00 31 55.3 +0.7
KKAR **Karatay Array** 20.67 53 P P 00 31 55.3 +0.7
VASR **Vaslui** 20.68 318 ⇓P P 00 31 54.7 +0.1
KRND **KRANIDI** 20.68 290 P P 00 31 54.5 -0.2
KTHR **Kythira** 20.72 287 P P 00 31 55.4 +0.2
VLI **Veliai** 20.80 288 P P 00 31 55.8 -0.2
PLAR **PLOIESTI** 20.81 312 ⇑P Pn 00 32 17.1 +18
SECR 20.84 313 ⇓P Pn 00 32 01.5 +2.5
VRI **Vrincioaia** 20.86 315 ⇓P Pn 00 31 58.3 -1.0
VRI **Vrincioaia** 20.86 315 ⇓P Pn 00 31 58.3 -0.9
NEHR **Nehoiu** 20.90 314 ⇑P Pn 00 31 59.7 0.0
LPSR **Galich'ya Gora** 20.90 345 *e*P P 00 31 56.7 -0.2
LPSR pmax pmax
comp=Z,40nm,0.8s
PLOR **Plostina** 20.90 315 ⇓P Pn 00 31 59.7 0.0
PLOR **Plostina** 20.90 315 ⇓P Pn 00 31 59.7 0.0
ATAL **Atalanti** 20.95 294 P Pn 00 31 59.0 -1.3
LKR **Lokris** 20.96 293 P P 00 31 58.3 +0.6
MLR **Muntele Rosu** 21.14 313 P P 00 32 02.3 +2.5
comp=Z,15nm,0.7s,baz=203,slow=5.6,SNR=22
MLR **Muntele Rosu** 21.14 313 ⇓P P 00 32 05.1 +5.3
MLR **Muntele Rosu** 21.14 313 P P 00 32 01.6 +1.8
MLR **Muntele Rosu** 21.14 313 P P 00 32 01.6 +1.8
SOCY **Socotra** 21.19 163 P P 00 31 57.6 -2.9
SNR=18
SOCY **Socotra** 21.19 163 P P 00 31 57.8 -2.7
SOCY IAmb IAmb 00 32 04.7
comp=Z,25nm,0.9s
HUMR **Humele** 21.30 310 ⇓P P 00 31 59.7 -1.6
NIL **Nilore** 21.33 80 P P 00 32 03.1 +1.3
NIL **Nilore** 21.33 80 P P 00 32 02.4 +0.6
NIL pmax pmax
comp=Z,23nm,0.9s
NIL **Nilore** 21.33 80 P P 00 32 02.4 +0.6
NIL IAmb IAmb 00 32 07.5
comp=Z,23nm,0.8s
GUR **Goura** 21.38 291 P P 00 32 03.7 +1.3
AGG **Agios Georgios** 21.54 294 P P 00 32 05.0 +1.0
AGG pmax pmax
comp=Z,14nm,0.9s
AGG **Agios Georgios** 21.54 294 P P 00 32 05.0 +1.0
AGG IAmb IAmb 00 32 17.0
comp=Z,14nm,0.9s
KLV **Kalavryta, Ach** 21.54 292 P P 00 32 04.0 -0.1
ATD **Arta Tunnel** 21.55 193 P P 00 32 04.1 -0.2
comp=Z,2.6nm,0.5s,baz=10,slow=19,SNR=1.9
ATD **Arta Tunnel** 21.55 193 P P 00 32 04.8 +0.6
LIT **Litokhoron** 21.61 297 P P 00 32 05.4 +0.6
LIT pmax pmax
comp=Z,9.0nm,1.0s
LIT **Litokhoron** 21.61 297 P P 00 32 05.4 +0.6
ITM **Ithomi** 21.64 289 P P 00 32 04.9 -0.2
ITM **Ithomi** 21.64 289 P P 00 32 05.2 +0.1
ITM IAmb IAmb 00 32 14.3
comp=Z,25nm,0.6s
VOIR 21.67 313 ⇑P P 00 32 07.6 +2.2
VOIR 21.67 313 ⇑P P 00 32 07.6 +2.2
MAKR **Makrakomi, Fth** 21.69 294 P P 00 32 07.2 +1.6
DOPR **Dopca** 21.72 314 ⇑P P 00 32 07.6 +1.8
BIZ **Bicaz** 21.80 317 ⇓P P 00 32 10.6 +3.8
DRO **Drossia** 21.88 291 P P 00 32 08.7 +1.1
ARR **Arges** 21.90 312 ⇓P P 00 32 10.9 +3.0
PRAR **RASCA** 21.96 318 ⇑P P 00 32 09.9 +1.4
STIP **Stip** 22.21 301 *i* P P 00 32 12.8 +1.6
MDB **Medias** 22.42 314 ⇓P P 00 32 17.8 +4.5
MDB **Medias** 22.42 314 ⇓P P 00 32 17.8 +4.5
LOT **Lotru** 22.48 311 ⇓P P 00 32 15.0 +0.9
AKASG **Malin Array Be** 22.60 328 P P 00 32 14.9 -0.3
comp=Z,2.7nm,0.5s,baz=136,slow=9.5,SNR=14
AKASG **Malin Array Be** 22.60 328 P P 00 32 13.9 -1.3
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG **Malin Array Be** 22.60 328 P P 00 32 13.9 -1.3
AKBB **Malin Array Si** 22.60 328 *de*P P 00 32 16.6 +1.4
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKBB **Malin Array Si** 22.60 328 P P 00 32 14.9 -0.2
AKBB IAmb IAmb 00 32 17.4
comp=Z,8.4nm,0.6s
BURAR **Bucovina Array** 22.68 318 ⇑P P 00 32 17.3 +1.1
BURAR **Bucovina Array** 22.68 318 ⇑P P 00 32 17.3 +1.1
BURAR **Bucovina Array** 22.68 318 P P 00 32 16.3 +0.1
BUR08 **Bucovina Ar. S** 22.70 318 P P 00 32 16.8 +0.3
SKO **Skopje** 22.83 301 *i* P P 00 32 17.0 -0.7
ARCR **ARCALIA** 22.90 316 ⇑P P 00 32 21.4 +3.0
GZR **Gura Zlata** 23.09 311 ⇓P P 00 32 20.5 +0.1
GZR **Gura Zlata** 23.09 311 ⇓P P 00 32 20.5 +0.1
HERR **Herculane** 23.11 309 ⇓P P 00 32 21.7 +1.1
CJR **Cluj-Napoca** 23.16 314 ⇓P P 00 32 22.5 +1.3
CJR **Cluj-Napoca** 23.16 314 ⇓P P 00 32 22.5 +1.3
MDVR **Moldovita** 23.54 308 ⇓ P 00 32 26.7 +1.8
KSH **Kashi** 23.71 65 P P 00 32 25.6 -1.1
KSH S S 00 36 32.0 -8.6
KSH pmax pmax
comp=Z,110nm,6.8s
KSH LR LR
comp=N,110nm,5.1s
KSH LR LR
comp=E,140nm,7.0s
KSH LR LR
comp=Z,140nm,7.3s
OBN **Obninsk** 23.76 344 ⇑ *e*P P 00 32 27.1 +0.2
OBN *e* 00 32 52.8
OBN *e*S S 00 36 38.1 -2.7
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,273nm,17.0s
OBN **Obninsk** 23.76 344 P P 00 32 27.1 +0.2
OBN IAmb IAmb 00 32 32.8
comp=Z,12nm,0.8s
BZS **Buzias** 23.92 310 ⇓P P 00 32 28.3 -0.2
BZS **Buzias** 23.92 310 ⇓P P 00 32 28.3 -0.2
SIRR **Siria** 24.16 312 ⇑P P 00 32 29.7 -1.1
BOOM **Boomskoye usch** 24.26 58 P P 00 32 33.7 +1.7
BOOM pmax pmax
comp=Z,6.0nm,1.0s
BOOM **Boomskoye usch** 24.26 58 P P 00 32 33.7 +1.7
DIVS **Divibare** 24.46 306 *e*P P 00 32 34.0 +0.4
DIVS **Divibare** 24.46 306 P P 00 32 34.0 +0.4
DIVS IAmb IAmb 00 32 40.4
comp=Z,16nm,1.4s
DRME **Dracevica, Mon** 24.51 301 *e*P P 00 32 34.3 +0.3
PDG **Podgorica** 24.51 302 *e*P P 00 32 34.7 +0.8
PDG **Podgorica** 24.51 302 P P 00 32 34.8 +0.8
PDG IAmb IAmb 00 32 44.9
comp=Z,20nm,1.2s
BBLS **Lazići** 24.79 305 *e*P P 00 32 37.7 +1.1
UZH **Uzhgorod** 24.88 317 *e*P P 00 32 37.9 +0.7
UZH *i* 00 32 44.1
UZH *e* 00 32 53.4
UZH *e*S S 00 36 56.0 -2.9
UZH *e* 00 38 17.7
UZH MLR MLR
comp=N,180nm,18.0s
UZH MLR MLR
comp=E,260nm,18.0s
UZH MLR MLR
comp=Z,130nm,18.0s
ARU **Arti** 24.88 14 P P 00 32 36.9 -0.3
comp=Z,1.3nm,0.6s,baz=185,slow=9.0,SNR=7.3
ARU **Arti** 24.88 14 *d* *i*P P 00 32 36.1 -1.1
ARU S S 00 37 00.4 +1.6
ARU SS SnSn 00 37 47.0 -0.1
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU **Arti** 24.88 14 P P 00 32 36.8 -0.4
ARU IAmb IAmb 00 32 50.7
comp=Z,6.7nm,0.7s
FRGS **Fruska Gora** 24.93 308 *e*P P 00 32 38.8 +1.0
UPM **Unac-Piva** 24.96 303 *e*P P 00 32 38.7 +0.5
KOLS **Kolonicke sedl** 25.04 318 *e*P P 00 32 40.0 +1.2
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS **Kolonicke sedl** 25.04 318 *e*P P 00 32 39.9 +1.2
HCY **Herceg Novi** 25.07 301 *e*P P 00 32 39.7 +0.7
KDJ **Kajisay** 25.07 59 P P 00 32 39.2 -0.1
KDJ pmax pmax
comp=Z,4.0nm,0.7s
KDJ **Kajisay** 25.07 59 P P 00 32 39.2 -0.1
BRY **Bratogost** 25.14 302 *e*P P 00 32 40.1 +0.3
HAPS **Han Pijesak,Bl** 25.17 305 *e*P P 00 32 40.4 +0.3
KWP **Kalwaria Pacla** 25.17 320 P P 00 32 40.3 +0.4
KWP pmax pmax
comp=Z,17nm,0.6s
KWP **Kalwaria Pacla** 25.17 320 P P 00 32 40.3 +0.4
CRVS **Cervenica-Dubn** 25.49 317 *e*P P 00 32 44.1 +1.3
CRVS pmax pmax
comp=Z,25nm,0.9s
CRVS **Cervenica-Dubn** 25.49 317 *e*P P 00 32 44.1 +1.3
SVE **Sverdlovsk** 25.71 16 *e*P P 00 32 39.6 -5.1
KECS **Kecovo** 25.86 316 *e*P P 00 32 48.0 +1.9
KECS pmax pmax
comp=Z,9.0nm,1.1s
KECS **Kecovo** 25.86 316 *e*P P 00 32 48.0 +1.9
KIRV **Kirov** 25.91 2 P P 00 32 47.1 +0.6
comp=Z,13nm,0.5s,baz=198,slow=6.0,SNR=12
KIRV **Kirov** 25.91 2⇑ *e*P P 00 32 46.9 +0.4
PSZ **Piszkesteto** 25.96 314 ⇓P P 00 32 48.4 +1.3
PSZ **Piszkesteto** 25.96 314 ⇓P P 00 32 48.4 +1.3
PSZ **Piszkesteto** 25.96 314 P P 00 32 47.9 +0.8
PSZ IAmb IAmb 00 32 54.9
comp=Z,10nm,0.7s
BRVK **Borovoye** 26.00 32⇑ *e*P P 00 32 48.0 +0.7
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BRVK **Borovoye** 26.00 32 P P 00 32 47.4 +0.1
PRZ **Przheval'sk** 26.03 59 P P 00 32 47.2 -0.8
PRZ pmax pmax
comp=Z,8.0nm,0.8s
PRZ **Przheval'sk** 26.03 59 P P 00 32 47.2 -0.8
PRZ IAmb IAmb 00 32 51.1
comp=Z,8.3nm,0.8s
MORH **Mrgy, Hungar** 26.07 310 *e*P P 00 32 49.2 +1.2
NACGM **Naroch** 26.68 333 *e* P 00 32 52.0 -1.5
VYHS **Vyhne** 26.84 315 *e*P P 00 32 56.2 +1.1
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS **Vyhne** 26.84 315 *e*P P 00 32 56.2 +1.1
OJC **Ojcow** 27.08 319 P P 00 32 57.4 +0.2
OJC pmax pmax
comp=Z,21nm,0.9s
OJC **Ojcow** 27.08 319 P P 00 32 57.4 +0.2
OJC IAmb IAmb 00 33 05.6
comp=Z,21nm,0.9s
SUW **Suwalki** 27.57 328 P P 00 33 01.2 -0.3
SUW pmax pmax
comp=Z,23nm,1.0s
SUW **Suwalki** 27.57 328 P P 00 33 01.1 -0.3
SUW IAmb IAmb 00 33 06.3
comp=Z,22nm,1.0s
JAVC **Velka Javorina** 27.70 315 *e*P P 00 33 05.5 +2.7
MODS **Modra-Piesok** 27.74 313 *e*P P 00 33 03.4 +0.3
MODS **Modra-Piesok** 27.74 313 *e*P P 00 33 03.4 +0.3
MORC **Moravsky Berou** 28.16 316 *e*P P 00 33 07.5 +0.6
VRAC **Vranov** 28.53 315 P P 00 33 11.7 +1.6
comp=Z,1.4nm,0.6s,baz=108,slow=13,SNR=2.4
VRAC **Vranov** 28.53 315 *e*P P 00 33 11.1 +1.0
KRUC **Moravsky** 28.55 314 *e*P P 00 33 11.2 +0.9
KLMR **Klimovskoe** 28.68 352 *e*P P 00 33 10.3 -1.0
KLMR pmax pmax
comp=Z,9.0nm,0.7s
KLMR **Klimovskoe** 28.68 352 *e*P P 00 33 10.3 -1.0
KLMR AMP 00 33 11.7
comp=Z,9.0nm,0.7s
KRLC **Kraliky** 28.74 316 *e*P P 00 33 12.5 +0.5
KRLC *e*pP pP 00 33 16.6 -2.6
KRLC **Kraliky** 28.74 316 *e*P P 00 33 12.5 +0.5
KURBB **Kurchatov Arra** 28.83 42 P P 00 33 14.8 +2.0
comp=Z,1.2nm,0.4s,baz=247,slow=9.1,SNR=5.7
KURBB PcP PcP 00 36 21.8 -0.1
comp=Z,0.3nm,0.3s,baz=238,slow=3.2,SNR=1.6
KURK **Kurchatov** 28.93 42⇓ *e*P P 00 33 15.2 +1.6
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK **Kurchatov** 28.93 42 P P 00 33 14.3 +0.7
DPC **Dobruska-Polom** 29.12 317 *e*P P 00 33 16.0 +0.6
DPC *e*pP pP 00 33 20.7 -1.9
DPC **Dobruska-Polom** 29.12 317 *e*P P 00 33 16.0 +0.6
OSTC **Ostas** 29.27 317 *e*P P 00 33 17.5 +0.8
CHVC **Chvalec** 29.38 317 *e*P P 00 33 18.1 +0.4
CHVC *e*pP pP 00 33 22.5 -2.4
MOA **Molln** 29.44 311 *e*P P 00 33 19.2 +0.9
comp=Z,4.1nm,0.6s
PRED **Cave del Predi** 29.48 308 P P 00 33 19.4 +0.7
MK31 **Makanchi Array** 29.77 52 P P 00 33 21.8 +0.6
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 **Makanchi Array** 29.77 52 P P 00 33 21.8 +0.6
MKAR **Makanchi Array** 29.77 52 P P 00 33 22.6 +1.4
comp=Z,3.8nm,0.8s,baz=249,slow=7.9,SNR=22
MKAR PcP PcP 00 36 24.3 -0.2
comp=Z,0.3nm,0.5s,baz=255,slow=2.0,SNR=2.4
MKAR **Makanchi Array** 29.77 52 P P 00 33 22.2 +1.0
MKAR **Makanchi Array** 29.77 52 P P 00 33 22.2 +1.0
MKAR PcP PcP 00 36 24.5 +0.1
KBA **Koelnbreinsper** 29.80 309 *e*P P 00 33 22.9 +1.2
comp=Z,4.7nm,0.7s,SNR=5.9
GERES **GERESS Array B** 30.12 312 P P 00 33 25.0 +0.6
comp=Z,1.0nm,0.5s,baz=107,slow=8.5,SNR=11
GERES PcP PcP 00 36 25.9 +0.5
comp=Z,0.7nm,0.7s,baz=125,slow=2.1,SNR=6.7
CIMO **Cimolais** 30.20 307 P P 00 33 25.3 +0.3
CIMO IAmb IAmb 00 33 30.2
comp=Z,10nm,1.4s
KHC **Kasperske Hory** 30.30 313 *e*P P 00 33 26.8 +1.0
KHC *ex* x 00 33 33.7
KHC **Kasperske Hory** 30.30 313 *e*P P 00 33 26.8 +1.0
KHC *e* 00 33 33.7
CTI **Castel Tesino** 30.67 306 P P 00 33 30.1 +0.8
CTI pmax pmax
comp=Z,7.0nm,0.7s
CTI **Castel Tesino** 30.67 306 P P 00 33 30.1 +0.8
CTI IAmb IAmb 00 33 31.5
comp=Z,7.3nm,0.7s
ZCCA **Zocca** 30.81 303 P P 00 33 32.9 +2.4
WTTA **Wattenberg** 30.98 309 *e*P P 00 33 32.8 +0.8
comp=Z,3.3nm,0.6s,SNR=6.4
WATA **Walderalm** 31.03 309 *e*P P 00 33 32.8 +0.3
comp=Z,3.6nm,0.6s,SNR=4.6
VLC **Villacollemand** 31.20 302 P P 00 33 34.8 +1.0
SQTA **Sankt Quirin** 31.25 308 *e*P P 00 33 34.3 0.0
comp=Z,4.2nm,0.5s,SNR=7.4
MOTA **Moosalm** 31.35 309 *e*P P 00 33 35.4 +0.2
comp=Z,4.8nm,0.5s,SNR=8.3
CLL **Collm** 31.43 317 *e*P P 00 33 36.0 +0.2
comp=Z,9.0nm,1.5s
CLL *i* pP pP 00 33 40.5 -2.5
comp=Z,7.0nm,1.3s
CLL **Collm** 31.43 317 *e*P P 00 33 36.0 +0.2
CLL pmax pmax
comp=Z,9.0nm,1.5s
FETA **Feichten** 31.52 308 *e*P P 00 33 37.4 +0.7
comp=Z,2.1nm,0.6s
RETA **Reutte** 31.61 309 *i* P P 00 33 37.6 +0.1
comp=Z,0.8nm,0.3s,SNR=5.0
HYB **Hyderabad** 31.61 111 *i* P P 00 33 39.0 +1.3
MSSA **Maissana** 31.84 303 P P 00 33 39.8 +0.3
FIA1 **FINESS Array S** 32.01 340 P P 00 33 40.8 0.0
FIA1 IAmb IAmb 00 33 51.9
comp=Z,20nm,1.4s
FINES **FINESS Array B** 32.01 340 P P 00 33 41.0 +0.3
comp=Z,4.3nm,0.5s,baz=147,slow=9.7,SNR=48
FINES PcP PcP 00 36 29.1 -0.9
comp=Z,4.3nm,0.9s,baz=160,slow=4.4,SNR=2.7
FINES **FINESS Array B** 32.01 340 P P 00 33 40.5 -0.2
FINES **FINESS Array B** 32.01 340 P P 00 33 40.5 -0.2
BSD **Bornholm Skovb** 32.12 324 *i* P P 00 33 41.7 0.0
BSD **Bornholm Skovb** 32.12 324 *i* P P 00 33 41.7 0.0

BSD	**Bornholm Skovb**	**32.12**	**324**	*i* P	**P**	**00 33 41.8**	**0.0**
DAVA	**Damuels**	**32.14**	**308**	*e*P	**P**	**00 33 42.6**	**+0.3**
	comp=Z,5.6nm,0.4s,SNR=16						
WMQ	**Urumqi**	**32.96**	**59**	*e*P	**P**	**00 33 52.3**	**+3.0**
SENIN	**Lac Senin/Sane**	**33.70**	**306**	P	**P**	**00 33 56.2**	**+0.3**
SENIN				IAmb	IAmb	00 33 58.9	
	comp=Z,5.7nm,0.7s						
ZAA0	**Zalesovo Array**	**33.75**	**40**	P	**P**	**00 33 56.2**	**+0.3**
ZAA0				IAmb	IAmb	00 34 02.1	
	comp=Z,5.4nm,1.1s						
ZALV	**Zalesovo Beam**	**33.75**	**40**	P	**P**	**00 33 56.6**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=256,slow=11,SNR=11						
ZALV				PcP	**PcP**	**00 36 34.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=232,slow=1.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**33.75**	**40**	P	**P**	**00 33 56.3**	**+0.3**
ZALV	**Zalesovo Beam**	**33.75**	**40**	P	**P**	**00 33 56.3**	**+0.3**
DGZ	**Jazzator, Alta**	**33.86**	**48**	⇓*e*P	**P**	**00 33 58.7**	**+1.5**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BNI	**Bardonecchia**	**33.94**	**303**	P	**P**	**00 33 58.4**	**+0.4**
BNI				pmax	pmax		
	comp=Z,29nm,0.6s						
BNI	**Bardonecchia**	**33.94**	**303**	P	**P**	**00 33 58.4**	**+0.4**
KMBO	**Kilima Mbogo**	**35.08**	**199**	P	**P**	**00 34 08.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=66,slow=7.6,SNR=3.1						
KMBO	**Kilima Mbogo**	**35.08**	**199**	P	**P**	**00 34 08.5**	**+0.4**
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KMBO	**Kilima Mbogo**	**35.08**	**199**	P	**P**	**00 34 08.5**	**+0.4**
OSL	**Oslo**	**36.55**	**329**	*e*P	**P**	**00 34 20.3**	**+0.3**
MBAR	**Mbarara**	**36.82**	**209**	P	**P**	**00 34 23.4**	**+0.4**
MBAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MBAR	**Mbarara**	**36.82**	**209**	P	**P**	**00 34 23.4**	**+0.4**
MBAR				IAmb	IAmb	00 34 37.2	
	comp=Z,6.8nm,0.8s						
NB2	**NORSAR Subarra**	**36.94**	**331**	P	**P**	**00 34 22.9**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=123,slow=8.6						
NB2	**NORSAR Subarra**	**36.94**	**331**	P	**P**	**00 34 22.9**	**-0.5**
	baz=123,slow=8.6						
NOA	**NORSAR Array B**	**36.94**	**331**	P	**P**	**00 34 23.1**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=124,slow=8.5,SNR=12						
LSA	**Lhasa**	**37.03**	**83**	P	**P**	**00 34 26.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LSA	**Lhasa**	**37.03**	**83**	P	**P**	**00 34 26.1**	**+1.0**
LSA				IAmb	IAmb	00 34 35.9	
	comp=Z,9.5nm,1.2s						
SKAR	**Skarslia**	**37.97**	**329**	*e*P	**P**	**00 34 33.1**	**+0.9**
NSS	**Namsos**	**38.70**	**336**	*e*P	**P**	**00 34 39.1**	**+1.0**
KEV	**Kevo**	**38.88**	**349**	P	**P**	**00 34 39.8**	**+0.2**
KEV	**Kevo**	**38.88**	**349**	P	**P**	**00 34 39.8**	**+0.2**
ARCES	**ARCESS Array B**	**38.95**	**348**	P	**P**	**00 34 40.4**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=169,slow=7.2,SNR=32						
ARCES				PcP	**PcP**	**00 36 50.7**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=157,slow=3.7,SNR=6.2						
SHL	**Shillong**	**38.95**	**89**	P	**P**	**00 34 40.5**	**-0.5**
SHL				pmax	pmax		
	comp=Z,15nm,0.4s						
SHL	**Shillong**	**38.95**	**89**	P	**P**	**00 34 40.5**	**-0.5**
FAUS	**Fauske**	**39.57**	**341**	*e*P	**P**	**00 34 45.4**	**+0.1**
KONS	**Konsvik**	**39.59**	**339**	*e*P	**P**	**00 34 46.0**	**+0.5**
NBB28	**Valnes**	**39.67**	**340**	*e*P	**P**	**00 34 46.3**	**+0.1**
NBB05	**Inndyr**	**39.68**	**340**	*e*P	**P**	**00 34 46.8**	**+0.5**
NBB30	**Finnes**	**39.73**	**340**	*e*P	**P**	**00 34 47.4**	**+0.7**
N2TV	**T¥rnvik**	**39.74**	**341**	*e*P	**P**	**00 34 47.4**	**+0.5**
N2IH	**Innhavet**	**39.81**	**342**	*e*P	**P**	**00 34 47.7**	**+0.3**
STEI	**Steigen**	**39.97**	**342**	*e*P	**P**	**00 34 49.0**	**+0.3**
HAMF	**Hammerfest**	**40.23**	**348**	*e*	**P**	**00 34 51.5**	**+0.7**
TRO	**Tromso**	**40.35**	**345**	*e*P	**P**	**00 34 52.2**	**+0.5**
N2VA	**Vr¸y**	**40.49**	**340**	*e*P	**P**	**00 34 52.5**	**-0.5**
N2RO	**R¸st**	**40.56**	**340**	*e*P	**P**	**00 34 53.2**	**-0.3**
LOF	**Lofoten**	**40.57**	**341**	*e*P	**P**	**00 34 53.2**	**-0.4**
ESBB	**Sonseca Array**	**41.86**	**295**	P	**P**	**00 35 05.0**	**+0.2**
ESDC	**Sonseca Array**	**41.86**	**295**	P	**P**	**00 35 05.5**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=75,slow=8.0,SNR=21						
ESDC	**Sonseca Array**	**41.86**	**295**	P	**P**	**00 35 05.2**	**+0.5**
ESK	**Eskdalemuir**	**41.88**	**318**	P	**P**	**00 35 04.7**	**+0.1**
ESK				pmax	pmax		
	comp=Z,30nm,1.3s						
ESK	**Eskdalemuir**	**41.88**	**318**	P	**P**	**00 35 04.7**	**+0.1**
GTA	**Gaotai**	**42.11**	**66**	*e*P	**P**	**00 35 08.3**	**+1.4**
GTA				pP	pP	00 35 11.8	-2.4
GTA				sP	sP	00 35 14.3	-2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PAB	**San Pablo**	**42.17**	**295**	P	**P**	**00 35 08.4**	**+1.1**
PAB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PAB	**San Pablo**	**42.17**	**295**	P	**P**	**00 35 08.4**	**+1.1**
PAB				IAmb	IAmb	00 35 20.7	
	comp=Z,9.8nm,1.2s						
NRIK	**Noril'sk**	**42.89**	**19**	P	**P**	**00 35 14.1**	**+1.5**
	comp=Z,2.9nm,0.5s,baz=214,slow=6.3,SNR=4.9						
NRIK	**Noril'sk**	**42.89**	**19**	⇑*e*P	**P**	**00 35 14.9**	**+2.2**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DSB	**Dublin**	**43.41**	**315**	P	**P**	**00 35 17.6**	**+0.6**
LZH	**Lanzhou**	**45.85**	**69**	*e*P	**P**	**00 35 37.1**	**+0.1**
LZH				pP	pP	00 35 42.1	-2.2
LZH				sP	sP	00 35 45.3	-1.9
LZH				PP	**PP**	**00 37 24.3**	**-0.1**
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,5.4s						
LZH				LR	LR		
	comp=N,140nm,17.0s						
LZH				LR	LR		
	comp=E,140nm,16.7s						
LZH				LR	LR		
	comp=Z,200nm,19.0s						
SONM	**Songino Array**	**46.12**	**53**	P	**P**	**00 35 39.7**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=277,slow=9.9,SNR=4.4						
SONM				PcP	**PcP**	**00 37 14.1**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=262,slow=2.9,SNR=2.2						
SONM	**Songino Array**	**46.12**	**53**	P	**P**	**00 35 39.5**	**+0.6**
TOA0	**Torodi Ar. Sit**	**46.28**	**256**	P	**P**	**00 35 40.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**46.28**	**256**	P	**P**	**00 35 40.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=68,slow=7.2,SNR=20						
TORD	**Torodi Ar. Bea**	**46.28**	**256**	P	**P**	**00 35 40.8**	**+0.5**
ULN	**Ulaanbaatar**	**46.56**	**53**	⇓*i*P	**P**	**00 35 44.0**	**+1.6**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**46.56**	**53**	P	**P**	**00 35 43.0**	**+0.5**
ULN				IAmb	IAmb	00 35 47.6	
	comp=Z,4.7nm,0.8s						
CHTO	**Chiang Mai**	**47.68**	**94**	P	**P**	**00 35 52.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHTO	**Chiang Mai**	**47.68**	**94**	P	**P**	**00 35 52.0**	**+0.6**
CHTO				IAmb	IAmb	00 35 52.4	
	comp=Z,5.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**47.85**	**94**	P	**P**	**00 35 53.1**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=294,slow=7.9,SNR=11						
CMAR	**Chiang Mai Arr**	**47.85**	**94**	P	**P**	**00 35 52.9**	**+0.3**
KOWA	**Kowa**	**50.30**	**262**	P	**P**	**00 36 11.8**	**+0.4**
KOWA				IAmb	IAmb	00 36 17.5	
	comp=Z,10nm,1.5s						
XAN	**Xi'an**	**50.39**	**71**	P	P	00 36 18.8	+6.8
XAN				pP	sP	00 36 29.8	+7.5
XAN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**50.74**	**62**	*e*P	**P**	**00 36 15.9**	**+1.3**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,7.0s						
GYA	**Guiyang**	**51.03**	**81**	*e*P	**P**	**00 36 17.0**	**0.0**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DAG	**Danmarks Havn**	**53.07**	**345**	*i* P	**P**	**00 36 31.6**	**+0.3**
DAG	**Danmarks Havn**	**53.07**	**345**	*i* P	**P**	**00 36 31.6**	**+0.3**
DAG	**Danmarks Havn**	**53.07**	**345**	*i* P	**P**	**00 36 31.6**	**+0.3**
DBIC	**Dimbokro**	**55.23**	**254**	P	**P**	**00 36 48.2**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=36,slow=7.8,SNR=5.4						
DBIC	**Dimbokro**	**55.23**	**254**	P	**P**	**00 36 48.0**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,11nm,1.3s						
DBIC	**Dimbokro**	**55.23**	**254**	P	**P**	**00 36 48.0**	**+0.1**
DBIC				IAmb	IAmb	00 36 59.3	
	comp=Z,11nm,1.2s						
KIC	**Kosan Boka**	**55.31**	**254**	*e*P	**P**	**00 36 48.7**	**+0.2**
	comp=Z,5.6nm,0.6s						
TIC	**Toumodi**	**55.38**	**254**	*e*P	**P**	**00 36 46.9**	**-2.1**
LIC	**Lamto**	**55.62**	**254**	*e*P	**P**	**00 36 50.1**	**-0.6**
	comp=Z,7.7nm,0.4s						
GSI	**Gunungsitoli**	**56.20**	**113**	P	**P**	**00 36 54.6**	**-0.2**
KULM	**Kulim**	**56.21**	**107**	P	**P**	**00 36 54.3**	**-0.7**
PSI	**Prapat**	**56.33**	**111**	P	**P**	**00 36 55.7**	**-0.2**
	comp=Z,5.0nm,0.5s,baz=354,slow=9.2,SNR=9.4						
RPSI	**Rantau Prapat**	**56.39**	**111**	P	**P**	**00 36 55.4**	**-0.8**
RPSI				IAmb	IAmb	00 36 56.3	
	comp=Z,5.8nm,0.6s						
RPSI	**Rantau Prapat**	**56.39**	**111**	P	**P**	**00 36 55.7**	**-0.5**
TIXI	**Tiksi**	**56.54**	**22**	⇑*i*P	**P**	**00 36 57.0**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,17nm,1.7s						
TIXI	**Tiksi**	**56.54**	**22**	P	**P**	**00 36 57.9**	**+1.4**
IPM	**Ipoh**	**56.99**	**108**	P	**P**	**00 36 59.5**	**-1.0**
SUMG	**Summit**	**58.04**	**339**	*i* P	**P**	**00 37 08.4**	**+0.9**
SUMG	**Summit**	**58.04**	**339**	P	**P**	**00 37 08.5**	**+1.0**
SUMG				IAmb	IAmb	00 37 09.0	
	comp=Z,11nm,1.0s						
SUMG	**Summit**	**58.04**	**339**	*i* P	**P**	**00 37 08.4**	**+0.9**
SUMG	**Summit**	**58.04**	**339**	*i* P	**P**	**00 37 08.5**	**+0.9**
NJ2	**Nanjing**	**58.92**	**70**	*e*P	**P**	**00 37 13.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SDSI	**Sungai Dareh**	**60.59**	**112**	P	**P**	**00 37 25.3**	**-0.2**
LBTB	**Lobatse**	**61.16**	**203**	P	**P**	**00 37 30.3**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,13nm,1.4s						
LBTB	**Lobatse**	**61.16**	**203**	P	**P**	**00 37 30.3**	**+1.1**
KSRS	**Korea Array**	**63.87**	**61**	P	**P**	**00 37 46.1**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=285,slow=7.5,SNR=3.8						
USRK	**Ussuriysk Ar.**	**64.23**	**53**	P	**P**	**00 37 48.3**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=246,slow=7.5,SNR=5.3						
BOSA	**Boshof**	**64.62**	**202**	P	**P**	**00 37 53.0**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=4.7,slow=7.3,SNR=5.5						
BOSA	**Boshof**	**64.62**	**202**	P	**P**	**00 37 53.0**	**+0.8**
BOSA	**Boshof**	**64.62**	**202**	P	**P**	**00 37 53.3**	**+1.1**
BOSA				IAmb	IAmb	00 37 59.2	
	comp=Z,6.7nm,0.9s						
EUNU	**Eureka**	**64.71**	**352**	P	**P**	**00 37 52.8**	**+0.6**
SEY	**Seymchan**	**67.61**	**29**	⇓*e*P	**P**	**00 38 12.5**	**+1.6**
KKM	**Kota Kinabalu**	**68.62**	**97**	P	**P**	**00 38 18.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**70.03**	**47**	⇑*e*P	**P**	**00 38 25.0**	**-1.2**
YSS				*e*		00 38 30.5	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TOLK	**Toolik Lake Re**	**78.15**	**6**	P	**P**	**00 39 14.3**	**+0.9**
TOLK				IAmb	IAmb	00 39 21.0	
	comp=Z,5.9nm,0.9s						
INK	**Inuvik**	**79.30**	**0**	P	**P**	**00 39 19.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
INK	**Inuvik**	**79.30**	**0**	P	**P**	**00 39 19.9**	**+0.3**
INK				IAmb	IAmb	00 39 28.6	
	comp=Z,10nm,1.2s						
IMAR	**Indian Mountai**	**80.24**	**9**	P	**P**	**00 39 25.1**	**+0.3**
BATG	**Bathurst New B**	**80.70**	**321**	P	**P**	**00 39 28.1**	**+0.5**
LMN	**Caledonia Moun**	**80.90**	**319**	P	**P**	**00 39 29.2**	**+0.5**
MDM	**Murphy Dome**	**81.86**	**7**	P	**P**	**00 39 33.5**	**+0.1**
MDM				IAmb	IAmb	00 39 40.8	
	comp=Z,4.1nm,1.1s						
ILAR	**Eielson Array**	**82.17**	**6**	P	**P**	**00 39 34.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=308,slow=3.1,SNR=4.0						
ILAR	**Eielson Array**	**82.17**	**6**	P	**P**	**00 39 34.9**	**-0.1**
D62A	**Allapoint, All**	**82.39**	**322**	P	**P**	**00 39 37.3**	**+0.8**
D62A				IAmb	IAmb	00 39 42.5	
	comp=Z,6.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**82.39**	**8**	P	**P**	**00 39 36.3**	**+0.1**
BPAW				IAmb	IAmb	00 39 43.9	
	comp=Z,3.9nm,1.0s						
EGAK	**Eagle**	**82.60**	**4**	P	**P**	**00 39 38.5**	**+1.2**
EGAK				IAmb	IAmb	00 39 38.6	
	comp=Z,3.6nm,1.1s						
E62A	**Clayton Lake**	**82.94**	**322**	P	**P**	**00 39 39.2**	**-0.2**
E62A				IAmb	IAmb	00 39 56.3	
	comp=Z,4.0nm,0.9s						
GIRL	**Giralia**	**83.95**	**122**	P	**P**	**00 39 45.9**	**+1.1**
BCAR	**Beaver Creek A**	**84.26**	**4**	P	**P**	**00 39 46.8**	**+0.9**
WRA	**Warramunga Arr**	**97.74**	**109**	P	**P**	**00 40 49.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=314,slow=4.1,SNR=7.0						
ASAR	**Alice Springs**	**99.34**	**112**	P	**Pdif**	**00 40 56.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=305,slow=4.8,SNR=7.0						
ASAR				PP	**PP**	**00 45 02.2**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=310,slow=9.7,SNR=4.2						

ROM 16 00:29:20.2±0.1**,39°.864N**±0°.004×**16°.145E**±0°.006**,**
h7km**,ML2.1**/8**,3C,Error ellipse: s-maj=0.5km**
s-min=0.3km az=232.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.12**	**283**	⇑P	Pg	00 29 23.4	+0.6
MMN				S	Sg	00 29 25.7	+1.1
MMN				AML	AML		
	comp=E,898µm,0.3s						
MMN				AML	AML		
	comp=N,1580µm,1.4s						
T0701	**Viggianello (P**	**0.12**	**350**	P	Pg	00 29 23.4	+0.4
T0701				S	Sg	00 29 25.8	+1.0
T0701				AML	AML		
	comp=N,1915µm,0.5s						
T0701				AML	AML		
	comp=E,3235µm,0.2s						
T0721	**Laino Castello**	**0.15**	**300**	⇑P	Pg	00 29 23.8	+0.5
T0721				S	Sg	00 29 27.0	+1.5
T0721				AML	AML		
	comp=E,1315µm,0.5s						
T0721				AML	AML		
	comp=N,1995µm,0.8s						
T0721				AML	AML		
	comp=E,1310µm,0.9s						
T0721				AML	AML		
	comp=N,2155µm,0.8s						
T0721				AML	AML		
	comp=E,1305µm,0.9s						
T0721				AML	AML		
	comp=N,2150µm,0.8s						
T0702	**Acquaformosa (**	**0.15**	**198**	P	Pg	00 29 24.1	+0.8
T0702				S	Sg	00 29 26.4	+1.0
SALB	**San Lorenzo Be**	**0.15**	**85**	P	Pg	00 29 23.9	+0.5
SALB				S	Sg	00 29 26.4	+0.6
SALB				AML	AML		
	comp=E,1795µm,0.3s						
SALB				AML	AML		
	comp=N,1485µm,0.6s						
SALB				AML	AML		
	comp=N,1745µm,0.6s						
SALB				AML	AML		
	comp=E,1715µm,0.3s						
SALB				AML	AML		
	comp=N,1490µm,0.6s						
TDS	**Terranova Siba**	**0.25**	**144**	P	Pb	00 29 26.4	-0.8
TDS				S	Sb	00 29 30.4	-1.3
TDS				AML	AML		
	comp=N,233µm,0.8s						
TDS				AML	AML		
	comp=E,86µm,0.8s						
CUC	**Castrocucco**	**0.28**	**297**	P	Pg	00 29 26.1	+0.2
CUC				S	Sb	00 29 31.2	-1.5
CUC				AML	AML		
	comp=E,295µm,0.3s						
CUC				AML	AML		
	comp=N,212µm,1.3s						
CUC				AML	AML		
	comp=E,366µm,0.3s						
CUC				AML	AML		
	comp=N,240µm,0.6s						
SCHR	**S. Chirico Rap**	**0.34**	**351**	P	Pg	00 29 27.4	+0.5
SCHR				S	Sb	00 29 33.4	-1.0
SCHR				AML	AML		
	comp=E,118µm,0.8s						
SCHR				AML	AML		
	comp=N,124µm,1.4s						
SCHR				AML	AML		
	comp=E,119µm,0.8s						
SCHR				AML	AML		
	comp=N,124µm,1.4s						
CET2	**Cetraro**	**0.36**	**204**	⇑P	Pg	00 29 27.9	+0.5
CET2				AML	AML		
	comp=E,668µm,0.3s						
CET2				AML	AML		
	comp=E,669µm,0.3s						
CET2				AML	AML		
	comp=N,803µm,0.2s						
SIRI	**Monte Sirino -**	**0.38**	**326**	P	Pg	00 29 28.4	+0.6
SIRI				S	Sb	00 29 36.0	+0.3
SIRI				AML	AML		
	comp=E,300µm,0.8s						
SIRI				AML	AML		
	comp=N,261µm,1.4s						
SIRI				AML	AML		
	comp=E,316µm,1.5s						
SIRI				AML	AML		
	comp=N,264µm,0.3s						
MTSN	**Montesano sull**	**0.50**	**323**	P	Pg	00 29 30.5	+0.6
MTSN				S	Sb	00 29 38.2	-0.9
MTSN				AML	AML		
	comp=N,96µm,1.1s						
MTSN				AML	AML		
	comp=E,126µm,0.3s						
MTSN				AML	AML		
	comp=N,96µm,1.1s						
MCEL	**Monticello**	**0.53**	**330**	P	Pg	00 29 30.9	+0.4
MCEL				S	Sb	00 29 40.0	+0.1
MCEL				AML	AML		
	comp=E,96µm,0.3s						
MCEL				AML	AML		
	comp=N,108µm,0.8s						
MGR	**Morigerati**	**0.53**	**301**	P	Pb	00 29 31.3	-0.6
MGR				AML	AML		
	comp=E,123µm,1.1s						
MGR				AML	AML		
	comp=N,131µm,0.2s						
CELI	**Celico**	**0.54**	**148**	P	Pb	00 29 31.5	-0.7
CELI				S	Sb	00 29 39.8	-0.4
CELI				AML	AML		
	comp=E,158µm,0.7s						
CELI				AML	AML		
	comp=N,159µm,0.8s						
CRAC	**Craco**	**0.55**	**24**	P	Pb	00 29 32.0	-0.2
CRAC				S	Sb	00 29 40.6	+0.3
CAR1	**CAROLEI**	**0.61**	**175**	AML	AML		
	comp=E,157µm,1.5s						
CAR1				AML	AML		
	comp=N,148µm,0.9s						
BULG	**Bulgheria - Ca**	**0.63**	**290**	AML	AML		
	comp=E,109µm,1.2s						
BULG				AML	AML		
	comp=N,192µm,0.7s						
SLCN	**Sala Consilina**	**0.66**	**323**	P	Pg	00 29 33.4	+0.5

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*IDC **16** 00:45:27.4±2.5, 5°.52S×152°.12E, h58km±16km, mb3.8/9, mb1 4.1/10, mb1mx3.7/33, mbtmp4.1/10, MS3.7/1, Ms1 3.7/1, ms1mx2.8/36, Error ellipse: s-maj=37.9km s-min=10.3km az=117.0*

*NEIC **16** 00:45:27.4±1.9, 5°.32S±0°.04×152°.0E±0°.1, h52km±8km, mb4.4/16, Error ellipse: s-maj=17.1km s-min=5.8km az=95.0*

ISC 16 00:45:27.0±0.6**, 5°.44S**±0°.07×**152°.1E**±0°.1**, h45**km**, n38,**
σ**1**$**22**/39**, mb4.2**/16**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.13**	**359**	P	**Pn**	**00 45 46.5**	**+0.1**
	633nm,0.3s,baz=179,slow=0.7,SNR=182						
KRVT				S	**Sn**	**00 46 04.1**	**+3.4**
	240nm,0.3s,baz=69,slow=22,SNR=6.4						
KRVT				LR	LR	00 46 13.5	
	comp=Z,381nm,21.5s,baz=72,slow=38						
RABL	**Rabaul**	**1.25**	**5**	Pn	**Pn**	**00 45 47.7**	**-0.3**
PMG	**Port Moresby**	**6.25**	**231**	P	**Pn**	**00 46 56.0**	**-0.7**
	2.0nm,0.3s,baz=46,slow=11,SNR=7.0						
PMG				S	**Sn**	**00 48 08.0**	**+1.3**
	6.4nm,0.3s,baz=301,slow=22,SNR=8.1						
PMG	**Port Moresby**	**6.25**	**231**		**Pn**	**00 46 57.6**	**+0.9**
WB0	**Warramunga Arr**	**22.31**	**229**	P	**P**	**00 50 20.0**	**-0.9**
WB0				IAmb	IAmb	00 50 28.6	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**22.46**	**229**	P	**P**	**00 50 21.1**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=51,slow=10.0,SNR=15						
WRA	**Warramunga Arr**	**22.46**	**229**	P	**P**	**00 50 20.7**	**-1.8**
KNRA	**Kununurra**	**25.02**	**244**	P	**P**	**00 50 47.6**	**+0.6**
AS31	**Alice Springs**	**25.17**	**222**	P	**P**	**00 50 47.9**	**-0.5**
ASAR	**Alice Springs**	**25.17**	**222**	P	**P**	**00 50 48.6**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=51,slow=9.6,SNR=23						
ASAR	**Alice Springs**	**25.17**	**222**	P	**P**	**00 50 47.9**	**-0.5**
MSVF	**Nonsavu**	**28.20**	**118**	P	**P**	**00 51 15.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**28.69**	**242**	P	**P**	**00 51 20.0**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=86,slow=7.9,SNR=12						
FITZ	**Fitzroy Crossi**	**28.69**	**242**	P	**P**	**00 51 19.8**	**-0.3**
FITZ				IAmb	IAmb	00 51 37.0	
	comp=Z,6.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**57.47**	**296**	P	**P**	**00 55 11.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=124,slow=5.4,SNR=4.9						
SONM	**Songino Array**	**66.47**	**328**	P	**P**	**00 56 12.0**	**0.0**
	comp=Z,0.5nm,0.4s,baz=129,slow=3.5,SNR=4.5						
SONM	**Songino Array**	**66.47**	**328**	P	**P**	**00 56 11.2**	**-0.9**
VNDA	**Vanda**	**72.22**	**178**	P	**P**	**00 56 48.4**	**+1.5**
SVW2	**Sparrevohn**	**77.70**	**23**	P	**P**	**00 57 18.6**	**-0.2**
SVW2				IAmb	IAmb	00 57 19.6	
	comp=Z,4.0nm,0.8s						
SUA	**Susitna One**	**79.85**	**24**	P	**P**	**00 57 29.4**	**-1.3**
SUA				IAmb	IAmb	00 57 30.0	
	comp=Z,5.3nm,0.7s						
MKAR	**Makanchi Array**	**80.31**	**319**	P	**P**	**00 57 32.7**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=102,slow=6.4,SNR=4.6						
MKAR	**Makanchi Array**	**80.31**	**319**	P	**P**	**00 57 32.4**	**-1.0**
SML	**Sawmill**	**81.01**	**25**	P	**P**	**00 57 36.2**	**-0.6**
IMAR	**Indian Mountai**	**81.23**	**20**	P	**P**	**00 57 37.3**	**-0.6**
ZAA0	**Zalesovo Array**	**81.27**	**327**	P	**P**	**00 57 36.1**	**-2.2**
ZALV	**Zalesovo Beam**	**81.27**	**327**	P	**P**	**00 57 36.6**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=110,slow=7.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**81.27**	**327**	P	**P**	**00 57 36.8**	**-1.5**
IL31		**83.03**	**22**	P	**P**	**00 57 45.5**	**-1.8**
IL31				IAmb	IAmb	00 57 46.2	
	comp=Z,3.3nm,0.7s						
ILAR	**Eielson Array**	**83.03**	**22**	P	**P**	**00 57 45.5**	**-1.8**
	comp=Z,3.1nm,0.7s,baz=246,slow=5.3,SNR=36						
ILAR	**Eielson Array**	**83.03**	**22**	P	**P**	**00 57 45.9**	**-1.5**
DOT	**Dot Lake**	**83.61**	**24**	P	**P**	**00 57 49.6**	**-0.8**
DOT				IAmb	IAmb	00 57 50.7	
	comp=Z,4.6nm,0.8s						
TOLK	**Toolik Lake Re**	**84.06**	**18**	P	**P**	**00 57 51.9**	**-0.7**
TOLK				IAmb	IAmb	00 57 58.1	
	comp=Z,5.8nm,1.2s						
BCAR	**Beaver Creek A**	**84.30**	**25**	P	**P**	**00 57 53.9**	**-0.1**
QSPA	**South Pole Qui**	**84.52**	**180**	P	**P**	**00 57 57.0**	**+1.8**
QSPA				IAmb	IAmb	00 58 11.1	
	comp=Z,3.3nm,1.3s						
BMAR	**Burnt Mountain**	**85.10**	**20**	P	**P**	**00 57 57.3**	**-0.6**
BBB	**Bella Bella**	**88.06**	**37**	LR	LR	01 32 15.5	
	comp=Z,37nm,19.5s,baz=134,slow=32						
NVAR	**Mina Array Bea**	**93.07**	**52**	P	**P**	**00 58 37.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=252,slow=6.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.78**	**287**	PKPbc	**PKPbc**	**01 05 12.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=87,slow=2.6,SNR=12						

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*IDC **16** 00:49:41.1±4.1, 5°.75S×152°.39E, h46km±31km, mb3.4/5, mb1 3.7/6, mb1mx3.4/35, mbtmp3.7/6, ML2.2/1, Error ellipse: s-maj=54.7km s-min=14.1km az=106.0*

ISC 16 00:49:40.6±1.5**, 5°.8S**±0°.1×**152°.3E**±0°.2**, h38**km**, n8,**
σ**1**$**29**/10**, mb3.7**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.48**	**348**	P	**Pn**	**00 50 04.5**	**-0.1**
	115nm,0.3s,baz=292,slow=1.8,SNR=9.0						
KRVT				S	**Sn**	**00 50 23.6**	**+0.8**
	80nm,0.3s,baz=93,slow=22,SNR=9.9						
PMG	**Port Moresby**	**6.28**	**234**	P	**Pn**	**00 51 12.5**	**+1.9**
	3.0nm,0.3s,baz=268,slow=7.6,SNR=2.0						
PMG				S	**Sn**	**00 52 18.6**	**-2.5**
	2.5nm,0.3s,baz=240,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**22.46**	**230**	P	**P**	**00 54 36.7**	**+0.1**
	0.8nm,0.7s,baz=55,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**25.13**	**223**	P	**P**	**00 55 02.8**	**+0.6**
	1.7nm,0.8s,baz=53,slow=9.6,SNR=10						
FITZ	**Fitzroy Crossi**	**28.80**	**242**	P	**P**	**00 55 35.2**	**+0.1**
	1.5nm,0.4s,baz=56,slow=11,SNR=11						
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**01 01 50.0**	**0.0**
	0.1nm,0.4s,baz=107,slow=5.0,SNR=1.7						
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**01 02 02.1**	**-0.5**
	0.6nm,0.9s,baz=250,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**150.14**	**286**	PKPbc	**PKPbc**	**01 09 27.9**	**-0.5**
	0.5nm,0.6s,baz=94,slow=2.1,SNR=4.3						

IDC **16** *00:56:27.1±0.4, 1˚.09N×97˚.28E, h0km, mb4.8/33, mb1 4.8/35, mb1mx4.7/46, mbtmp4.8/35, ML4.6/2, MS4.6/23, Ms1 4.6/23, ms1mx4.5/37, Error ellipse: s-maj=14.0km s-min=9.6km az=46.0*

KLM **16** *00:56:28.0, 1˚.01N×97˚.00E, h15km, mb5.2*

MOS **16** *00:56:28.3±0.8, 1˚.06N×97˚.27E, h22km, mb5.3/62, Error ellipse: s-maj=7.3km s-min=3.9km az=109.8*

BJI **16** *00:56:28.3±0.0, 0˚.95N×97˚.31E, h27km, mB5.2/61, mb5.2/73, Ms5.3/76, Ms7 5.2/69*

DJA **16** *00:56:30.9±0.6, 1˚.N±2˚×9˚.7E±˚, h25km±4km, M5.0/40, mb5.1/40, mB5.4/25, MLv5.4/19, Mw(mB)4.9/25, Mwp5.3/8*

NEIC **16** *00:56:30.7±1.1, 1˚.05N±0˚.06×97˚.22E±0˚.06, h27km±3km, mb5.1/125, Error ellipse: s-maj=9.3km s-min=8.7km az=81.0*

GCMT **16** *00:56:31.7±0.2, 0˚.95N±0˚.02×97˚.10E±0˚.02, h20km±1km, MW5.2/87, Moment Tensor Solution. s87,c123; s74,c105; Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr4.46±.21; Mθθ-2.20±.14; Mϕϕ-2.26±.16; Mrθ3.20±.33; Mθϕ2.10±.10; Mϕr-6.89±.56; Best double couple: Ms8.76700×10¹⁶ NP1:ϕs303.00000°, δ17.00000°, λ62.00000°. NP2:ϕs152.00000°, δ75.00000°, λ98.00000°. Principal axes: T 9.0110, Plg59.0000°, Azm73.0000°; N -0.4880, Plg8.0000°, Azm330.0000°; P -8.5230, Plg30.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 00:56:30.5±0.6, 1.06N±0.03×97.21E±0.04, h25km±3km, h25km:pP-P, n553, σ1§19/592, mb5.1/174, MS4.8/45, 53C-24D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.44**	**56**	P	**Pb**	**00 56 40.4**	**+0.7**
GSI				S	**Sn**	**00 56 48.8**	**+0.3**
GSI	**Gunungsitoli**	**0.44**	**56**	Pg	**Pb**	**00 56 40.1**	**+0.4**
GSI				Sg	**Sn**	**00 56 48.7**	**+0.3**
PBSI	**Pulau Batu**	**1.54**	**136**	P	**Pn**	**00 56 56.9**	**+0.4**
PBSI				S	**Sn**	**00 57 15.9**	**+0.2**
TPTI		**2.19**	**359**	P	**Pn**	**00 57 04.3**	**-1.0**
TPTI				S	**Sn**	**00 57 31.4**	**-0.2**
RPSI	**Rantau Prapat**	**2.36**	**46**	Pn	**Pn**	**00 57 08.2**	**+0.4**
MNSI	**Mandailing Nat**	**2.38**	**96**	P	**Pn**	**00 57 08.3**	**+0.2**
PSI	**Prapat**	**2.43**	**45**	Pn	**Pn**	**00 57 08.2**	**-0.7**
	43nm,0.3s,baz=188,slow=8.7,SNR=160						
PSI				LR	LR	00 57 35.4	
	comp=Z,4μm,21.2s,baz=280,slow=30						
TSI	**Tuntungan**	**2.77**	**29**	P	**Pn**	**00 57 14.8**	**+1.3**
SISI	**Saibi**	**3.02**	**142**	P	**Pn**	**00 57 18.0**	**+1.1**
MLSI	**Meulaboh, Aceh**	**3.29**	**346**	P	**Pn**	**00 57 20.2**	**-0.3**
MLSI				S	**Sn**	**00 57 59.1**	**+0.3**
BKNI	**Bangkinang**	**3.90**	**101**	P	**Pn**	**00 57 29.2**	**+0.3**
BKNI	**Bangkinang**	**3.90**	**101**		**Pn**	**00 57 28.6**	**-0.3**
LHMI	**Lhok Sumawe**	**4.15**	**356**	P	**Pn**	**00 57 31.1**	**-1.3**
LHMI	**Lhok Sumawe**	**4.15**	**356**		**Pn**	**00 57 32.8**	**+0.4**
SDSI	**Sungai Dareh**	**4.66**	**115**	P	**Pn**	**00 57 40.0**	**+0.6**
IPM	**Ipoh**	**5.10**	**48**	Pn	**Pn**	**00 57 46.3**	**+0.8**
IPM	**Ipoh**	**5.10**	**48**	P	**Pn**	**00 57 47.0**	**+1.5**
KRJI	**Kerinci**	**5.28**	**126**	P	**Pn**	**00 57 49.3**	**+1.3**
	17nm7μm24μm930nm,1.0s						
KULM	**Kulim**	**5.42**	**39**	Pn	**Pn**	**00 57 49.9**	**-0.1**
KULM	**Kulim**	**5.42**	**39**	P	**Pn**	**00 57 51.0**	**+1.1**
MYKOM	**Kota Tinggi**	**6.67**	**84**		**Pn**	**00 58 07.7**	**+0.6**
MYKOM	**Kota Tinggi**	**6.67**	**84**	P	**Pn**	**00 58 09.0**	**+1.9**
PKDT	**Phuket**	**6.88**	**9**	P	**Pn**	**00 58 07.6**	**-2.3**
KSI	**Kapahiang**	**7.13**	**131**	P	**Pn**	**00 58 15.3**	**+1.9**
	1.4nm204nm,1.1s						
TRTT	**Trang**	**7.17**	**20**	P	**Pn**	**00 58 12.9**	**-1.0**
DSRI	**Dabo**	**7.52**	**102**	P	**Pn**	**00 58 18.5**	**-0.3**
	0.9nm3μm720nm32nm,0.8s						
SRIT	**Nakonsritamara**	**7.85**	**18**	P	**Pn**	**00 58 22.8**	**-0.5**
MNAI	**Manna**	**7.87**	**133**	Pn	**Pn**	**00 58 23.4**	**-0.2**
LHSI	**Lahat**	**7.96**	**128**	P	**Pn**	**00 58 25.6**	**+0.8**
	2.3nm5μm188nm,0.7s						
SURT	**Suratani**	**8.00**	**11**	P	**Pn**	**00 58 25.1**	**-0.2**
MDSI	**Maura Dua**	**8.88**	**128**	P	**Pn**	**00 58 37.2**	**-0.2**
	837nm86nm,0.7s						
KLSI		**9.44**	**127**	P	**Pn**	**00 58 44.3**	**-0.8**
	22nm,0.9s						
TPI	**Tanjungpandan**	**11.11**	**110**	P	**Pn**	**00 59 10.2**	**+2.3**
	742nm38nm,1.1s						
KSM	**Kuching**	**13.10**	**88**	Pn	**Pn**	**00 59 35.2**	**0.0**
KSM	**Kuching**	**13.10**	**88**	P	**Pn**	**00 59 37.0**	**+1.8**
CISI	**Cisompet, Garu**	**13.61**	**129**	Pn	**Pn**	**00 59 40.7**	**-1.5**
SRAK	**Srakaew**	**13.73**	**20**	P	**Pn**	**00 59 46.4**	**+2.7**
XMIS	**Christmas Isla**	**14.21**	**144**	Pn	**Pn**	**00 59 49.4**	**-1.1**
KPJI	**Karang Pucung**	**14.36**	**126**	P	P	01 00 06.0	+6.8
SBUM	**Sibu**	**15.06**	**85**	Pn	**Pn**	**01 00 01.7**	**-0.3**
SBUM	**Sibu**	**15.06**	**85**	P	**Pn**	**01 00 03.0**	**+1.0**
SMRI	**Semarang**	**15.46**	**122**	Pn	**Pn**	**01 00 06.9**	**-0.3**
SMRI				IAmb	IAmb	01 00 58.8	
	comp=Z,135nm,1.4s						
CHAI	**Chaiyaphum**	**15.48**	**17**	P	**Pn**	**01 00 06.4**	**-1.0**
DLV	**T Lat**	**15.56**	**46**		**Pn**	**01 00 08.2**	**-0.4**
DLV				IAmb	IAmb	01 00 13.5	
	comp=Z,166nm,0.8s						
PBKT	**Sadao Pong**	**15.85**	**13**	P	**P**	**01 00 15.9**	**+0.1**
KHON	**Khomkaen**	**16.16**	**20**	P	**P**	**01 00 19.4**	**+0.2**
UBPT	**Khong Chiam**	**16.31**	**30**	P	**Pn**	**01 00 17.5**	**-0.6**
UBPT	**Khong Chiam**	**16.31**	**30**		**Pn**	**01 00 17.8**	**-0.3**
PHIT	**Phitsanulok**	**16.33**	**11**	P	**P**	**01 00 20.3**	**-0.8**
SUKH	**Sukhothai**	**16.49**	**8**	P	**Pn**	**01 00 19.7**	**-0.7**
CM05	**Chiang Mai Arr**	**17.32**	**6**	P	**Pn**	**01 00 29.3**	**-1.5**
CM31	**Chiang Mai Arr**	**17.37**	**6**		**Pn**	**01 00 30.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**17.37**	**6**	P	**Pn**	**01 00 30.8**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=195,slow=13,SNR=58						
CMAR				PcP	**PcP**	**01 05 14.7**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=224,slow=2.7,SNR=6.5						
CMAR				LR	LR	01 08 28.1	
	comp=Z,5μm,18.4s,baz=240,slow=42						
CMAR	**Chiang Mai Arr**	**17.37**	**6**	P	**Pn**	**01 00 30.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**17.37**	**6**	Pn	**Pn**	**01 00 30.0**	**-1.5**
PALK	**Pallekele**	**17.58**	**291**	P	**Pn**	**01 00 33.8**	**-0.3**
PALK				pmax	pmax		
	comp=Z,24nm,1.1s						
PALK	**Pallekele**	**17.58**	**291**	P	**Pn**	**01 00 33.8**	**-0.3**
PHRA	**Phrae**	**17.58**	**10**	P	**Pn**	**01 00 33.3**	**-0.7**
CHTO	**Chiang Mai**	**17.72**	**5**	P	**Pn**	**01 00 34.3**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,23nm,0.9s						
CHTO	**Chiang Mai**	**17.72**	**5**	Pn	**Pn**	**01 00 34.3**	**-1.5**
CMMT	**Chiang Mai**	**17.72**	**5**	P	**Pn**	**01 00 34.6**	**-1.3**
NONG	**Nongkai**	**17.87**	**19**	P	**Pn**	**01 00 35.5**	**-2.2**
BBKI	**Banjar Baru**	**18.18**	**104**	P	**P**	**01 00 41.7**	**0.0**
	comp=Z,11μmcomp=Z,28nn,0.9s						
PAYA	**Payao**	**18.37**	**8**	P	**P**	**01 00 43.3**	**-0.4**
CRAI	**Chiangrai**	**19.30**	**9**	P	**P**	**01 00 53.9**	**0.0**
SPMM	**Sapulut**	**19.56**	**79**	P	**Pn**	**01 01 00.0**	**+1.7**
KKM	**Kota Kinabalu**	**19.60**	**75**	P	**P**	**01 00 56.5**	**-0.7**
KKM				IAmb	IAmb	01 01 01.2	
	comp=Z,87nm,0.9s						
KKM	**Kota Kinabalu**	**19.60**	**75**	P	**Pn**	**01 00 58.0**	**-0.7**
SLVN	**Son La**	**21.18**	**18**	P	**P**	**01 01 13.5**	**-0.8**
SLVN				IAmb	IAmb	01 01 18.5	
	comp=Z,124nm,0.8s						
MYLDM	**Lahad Datu**	**21.64**	**79**	P	**P**	**01 01 19.1**	**-0.3**
QIZ	**Qiongzhong**	**21.73**	**34**	P	**P**	**01 01 18.9**	**-1.3**
QIZ				S	**S**	**01 05 21.1**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,66nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,280nm,7.9s						
QIZ				LR	LR		
	comp=Z,3μm,14.2s						
QIZ				LR	LR		
	comp=Z,1μm,21.2s						
QIZ				LR	LR		
	comp=Z,2μm,12.5s						
QIZ	**Qiongzhong**	**21.73**	**34**	P	**P**	**01 01 18.9**	**-1.3**
QIZ				IAmb	IAmb	01 01 20.8	
	comp=Z,90nm,1.1s						
TWSI	**Taliwang, Sumb**	**21.89**	**117**	P	P	01 01 39.5	+18
MPSI	**Mapaga**	**22.70**	**92**	P	**P**	**01 01 30.2**	**-0.4**
	comp=Z,834nmcomp=Z,53nm,1.4s						
PLAI	**Plampang**	**22.73**	**116**	P	**P**	**01 01 28.7**	**-2.2**
	comp=Z,33nm,0.7s						
BELO	**BELONIA**	**22.75**	**346**	*e*P	**P**	**01 01 31.0**	**-0.1**
TTSI	**Tana Toraja**	**22.96**	**100**	P	**P**	**01 01 34.5**	**+1.1**
	comp=Z,39nm,1.2s						
KAPI	**Kappang**	**23.31**	**105**	P	**P**	**01 01 36.0**	**-0.9**
	comp=Z,24nm,0.9s,baz=298,slow=8.3,SNR=8.9						
KAPI	**Kappang**	**23.31**	**105**	P	**P**	**01 01 36.1**	**-0.9**
AGT	**Agartala**	**23.41**	**346**	*e*P	**P**	**01 01 37.9**	**+0.1**
BKSI	**Bulukumba**	**23.75**	**106**	P	**P**	**01 01 44.1**	**+2.9**
	comp=Z,886nmcomp=Z,29nm,0.7s						
KMI	**Kunming**	**24.51**	**12**	*i*P	**P**	**01 01 50.3**	**+1.9**
KMI				sS	sS	01 06 19.1	-0.7
KMI				pmax	pmax		
	comp=Z,220nm,1.1s						
KMI				pmax	pmax		
	comp=Z,940nm,3.9s						
KMI				LR	LR		
	comp=Z,6μm,15.3s						
KMI				LR	LR		
	comp=Z,3μm,12.7s						
KMI				LR	LR		
	comp=Z,4μm,19.0s						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**01 01 48.4**	**0.0**
KMI				pmax	pmax		
	comp=Z,305nm,1.2s						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**01 01 48.4**	**0.0**
HYB	**Hyderabad**	**24.51**	**313**	*i*P	**P**	**01 01 50.0**	**+1.7**
HYB				*e*		01 02 00.5	
HYB				*e*S	**S**	**01 06 12.0**	**+4.4**
KOHI	**KOHIMA**	**24.70**	**353**	*e*P	**P**	**01 01 48.6**	**-1.4**
KOHI				IAmb	IAmb	01 01 52.9	
	comp=Z,78nm,1.2s						
SHL	**Shillong**	**24.90**	**349**	*e*P	**P**	**01 01 51.9**	**0.0**
SHL				IAmb	IAmb	01 01 53.8	
	comp=Z,109nm,0.9s						
SHL	**Shillong**	**24.90**	**349**	P	**P**	**01 01 51.5**	**-0.4**
SHL				pmax	pmax		
	comp=Z,146nm,0.8s						
SHL	**Shillong**	**24.90**	**349**	P	**P**	**01 01 51.5**	**-0.4**
BOK	**Bokaro**	**25.13**	**335⇑**	*e*P	**P**	**01 01 55.4**	**+1.6**
BOK				IAmb	IAmb	01 01 58.6	
	comp=Z,158nm,1.1s						
MOKO	**MOKOCHONG**	**25.25**	**354**	*e*P	**P**	**01 01 55.8**	**+0.8**
MOKO				IAmb	IAmb	01 01 58.2	
	comp=Z,82nm,0.8s						
LUWI	**Luwuk**	**25.64**	**95**	P	**P**	**01 01 55.7**	**-2.9**
	comp=Z,2μmcomp=Z,178nm,1.0s						
LUWI	**Luwuk**	**25.64**	**95**	P	**P**	**01 01 56.4**	**-2.2**
JORH	**JORHAT**	**25.69**	**354**	*e*P	**P**	**01 01 58.5**	**-0.4**
TEZP	**TEZPUR**	**25.76**	**351**	*e*P	**P**	**01 01 59.4**	**0.0**
GTOI	**Gorontalo**	**25.80**	**91**	P	**P**	**01 01 57.9**	**-2.1**
	comp=Z,398nmcomp=Z,42nm,0.9s						
H08S2	**Diego Garcia H**	**26.13**	**250**	T	T	01 29 06.7	
	baz=71,slow=75						
H08S3	**Diego Garcia H**	**26.13**	**250**	T	T	01 29 06.5	
	baz=71,slow=75						
H08S1	**Diego Carcia H**	**26.14**	**250**	T	T	01 29 02.4	
	baz=71,slow=75						
LKP	**Lekhapani**	**26.16**	**357**	*e*P	**P**	**01 02 03.5**	**+0.5**
EDFI	**Ende, Flores**	**26.27**	**112**	P	**P**	**01 02 09.9**	**+5.5**
ZIRO	**ZIRO**	**26.51**	**353**	*e*P	**P**	**01 02 06.9**	**+0.4**
ZIRO				IAmb	IAmb	01 02 09.8	
	comp=Z,83nm,0.7s						
MMRI	**Maumere**	**26.74**	**112**	P	**P**	**01 02 08.3**	**-0.2**
MMRI				IAmb	IAmb	01 02 44.4	
	comp=Z,45nm,1.0s						
GYA	**Guiyang**	**26.84**	**19**	⇓P	**P**	**01 02 09.4**	**0.0**
GYA				SS		01 07 57.6	
GYA				pmax	pmax		
	comp=Z,26nm,1.1s						
GYA				pmax	pmax		
	comp=Z,240nm,3.9s						
GYA				LR	LR		
	comp=Z,2μm,13.3s						
GYA				LR	LR		
	comp=Z,3μm,14.8s						
GYA				LR	LR		
	comp=Z,2μm,13.1s						
GTK	**Tadong**	**27.39**	**343**	*e*P	**P**	**01 02 16.1**	**+1.8**
GTK				IAmb	IAmb	01 02 20.5	
	comp=Z,65nm,1.0s						
DAV	**Davao City (W)**	**28.91**	**77**	P	**P**	**01 02 28.5**	**+0.6**
	comp=Z,217nm,0.4s,baz=286,slow=1.3,SNR=3.7						
SANI	**Sanana**	**28.94**	**96**	P	**P**	**01 02 25.7**	**-2.5**
	comp=Z,24nm,1.0s						
SOEI	**Soe**	**29.00**	**112**	P	P	01 02 33.8	+4.9
SOEI	**Soe**	**29.00**	**112**	P	**P**	**01 02 29.5**	**+0.6**
SOEI				IAmb	IAmb	01 02 57.6	
	comp=Z,76nm,1.2s						
LSA	**Lhasa**	**29.06**	**349**	P	**P**	**01 02 30.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,22nm,0.8s						
LSA	**Lhasa**	**29.06**	**349**	P	**P**	**01 02 30.4**	**+0.8**
LSA				IAmb	IAmb	01 02 32.2	
	comp=Z,22nm,0.8s						
NLAI	**Namlea**	**30.18**	**98**	P	**P**	**01 02 42.2**	**+3.0**
	comp=Z,37nm,0.7s						
CD2	**Chengdu**	**30.33**	**11**	P	**P**	**01 02 39.9**	**-0.4**
CD2				pP	pP	01 02 48.3	+0.6
CD2				S	**S**	**01 07 45.3**	**+6.0**
CD2				sS	sS	01 07 54.3	+2.9
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
CD2				pmax	pmax		
	comp=Z,440nm,5.9s						
CD2				LR	LR		
	comp=Z,7μm,15.5s						
CD2				LR	LR		
	comp=Z,8μm,15.9s						
CD2				LR	LR		
	comp=Z,9μm,13.3s						
ENH	**Enshi**	**31.30**	**21**	P	**P**	**01 02 47.6**	**-1.3**
PSA00	**Pilbara Seismi**	**31.54**	**137**	P	**P**	**01 02 50.9**	**-0.3**
PSA00				IAmb	IAmb	01 03 01.2	
	comp=Z,57nm,1.7s						
TWG	**Pinlang**	**31.71**	**45**	P	**P**	**01 02 51.3**	**-1.3**
TWG				IAmb	IAmb	01 02 55.5	
	comp=Z,70nm,1.3s						
YULB	**Yu-li**	**32.23**	**45**	P	**P**	**01 02 56.8**	**-0.3**
YULB				IAmb	IAmb	01 02 58.9	
	comp=Z,25nm,0.8s						
SSLB	**Suanglung**	**32.25**	**44**	P	**P**	**01 02 57.0**	**-0.4**
SSLB				IAmb	IAmb	01 02 58.2	
	comp=Z,37nm,1.1s						
WHN	**Wuhan**	**33.53**	**27**	⇓P	**P**	**01 03 08.8**	**+0.4**
WHN				S	**S**	**01 08 31.6**	**+2.5**
WHN				pmax	pmax		
	comp=Z,460nm,6.2s						
WHN				LR	LR		
	comp=Z,2μm,10.1s						
WHN				LR	LR		
	comp=Z,4μm,11.1s						
WHN				LR	LR		
	comp=Z,6μm,13.3s						
FITZ	**Fitzroy Crossi**	**33.84**	**126**	P	**P**	**01 03 10.0**	**-1.3**
	comp=Z,5.5nm,0.7s,baz=304,slow=5.7,SNR=26						
FITZ	**Fitzroy Crossi**	**33.84**	**126**	P	**P**	**01 03 10.5**	**-0.7**
	baz=34,SNR=14						
FITZ	**Fitzroy Crossi**	**33.84**	**126**	P	**P**	**01 03 10.5**	**-0.7**
SIJI	**Sorong**	**34.11**	**93**	P	**P**	**01 03 11.5**	**-2.2**
	comp=Z,11nm,0.6s,baz=292,slow=5.5,SNR=5.2						
XAN	**Xi'an**	**34.59**	**17**	⇑P	**P**	**01 03 16.6**	**-1.1**
XAN				PcP	**PcP**	**01 05 52.4**	**+0.4**
XAN				S	**S**	**01 08 41.4**	**-4.2**
XAN				pmax	pmax		
	comp=Z,88nm,0.8s						
XAN				pmax	pmax		
	comp=Z,380nm,3.5s						
XAN				LR	LR		
	comp=Z,2μm,16.3s						
XAN				LR	LR		
	comp=Z,3μm,14.9s						
XAN				LR	LR		
	comp=Z,4μm,17.6s						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**01 03 16.8**	**-0.9**
XAN				pmax	pmax		
	comp=Z,57nm,0.8s						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**01 03 16.8**	**-0.9**
FAKI	**Fak Fak**	**35.25**	**97**	P	**P**	**01 03 22.1**	**-1.5**
FAKI				IAmb	IAmb	01 04 26.2	
	comp=Z,68nm,1.5s						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	**P**	**01 03 24.1**	**-0.5**
LZH				pP	pP	01 03 32.3	+0.2
LZH				sP	sP	01 03 35.9	+0.8
LZH				PP	**PP**	**01 04 49.4**	**+4.1**
LZH				S	**S**	**01 08 59.3**	**+1.2**
LZH				pmax	pmax		
	comp=Z,40nm,1.2s						
LZH				pmax	pmax		
	comp=Z,200nm,4.9s						
LZH				LR	LR		
	comp=Z,2μm,17.0s						
LZH				LR	LR		
	comp=Z,4μm,15.2s						
LZH				LR	LR		
	comp=Z,3μm,18.4s						
SMLA	**Simla**	**35.42**	**330**	*e*P	**P**	**01 03 25.2**	**+0.4**
SMLA				IAmb	IAmb	01 03 27.5	
	comp=Z,20nm,0.7s						
MTN	**Manton Dam**	**36.38**	**113**	P	**P**	**01 03 31.3**	**-1.9**
MTN				IAmb	IAmb	01 03 32.3	
	comp=Z,30nm,1.3s						
BLDU	**Ballidu**	**36.56**	**151**	P	**P**	**01 03 36.1**	**+1.5**
	baz=37						
DHRM	**DHARAMSHALA**	**36.76**	**330**	*e*P	**P**	**01 03 37.0**	**+0.5**
DHRM				IAmb	IAmb	01 03 44.7	
	comp=Z,29nm,0.6s						
NJ2	**Nanjing**	**36.98**	**31**	*e*P	**P**	**01 03 38.5**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
NJ2				LR	LR		
	comp=Z,2μm,14.9s						
NJ2				LR	LR		
	comp=Z,2μm,13.7s						
NJ2				LR	LR		
	comp=Z,3μm,13.3s						
SSE	**Sheshan**	**37.52**	**35**	P	**P**	**01 03 42.8**	**+0.1**
SSE				sP	**sP**	**01 03 53.4**	**+0.3**
SSE				pmax	pmax		
	comp=Z,38nm,0.7s						
SSE				pmax	pmax		
	comp=Z,140nm,3.5s						
SSE				LR	LR		
	comp=Z,580nm,15.0s						
GTA	**Gaotai**	**38.24**	**3**	⇑P	**P**	**01 03 48.9**	**+0.1**
GTA				pP	pP	01 03 55.8	-0.5
GTA				sP	sP	01 04 00.1	+0.8
GTA				PcP	**PcP**	**01 06 04.4**	**+1.5**
GTA				S	**S**	**01 09 38.5**	**-2.9**
GTA				pmax	pmax		
	comp=Z,51nm,1.2s						
GTA				pmax	pmax		
	comp=Z,360nm,5.7s						
GTA				LR	LR		
	comp=Z,1μm,17.4s						
GTA				LR	LR		
	comp=Z,1μm,14.9s						
GTA				LR	LR		
	comp=Z,1μm,18.9s						
NWAO	**Narrogin (SRO)**	**38.73**	**153**	P	**P**	**01 03 51.3**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,43nm,1.4s						
NWAO	**Narrogin (SRO)**	**38.73**	**153**	P	**P**	**01 03 51.2**	**-1.6**
NWAO				IAmb	IAmb	01 05 13.6	
	comp=Z,42nm,1.4s						
H01W3	**Cape Leeuwin H**	**39.11**	**158**	T	T	01 45 19.4	
	baz=333,slow=76,SNR=183						
H01W2	**Cape Leeuwin H**	**39.12**	**158**	T	T	01 45 20.2	
	baz=333,slow=76,SNR=169						
H01W1	**Cape Leeuwin H**	**39.13**	**158**	T	T	01 45 26.7	
	baz=333,slow=76,SNR=229						
NIL	**Nilore**	**39.44**	**328**	P	**P**	**01 03 58.8**	**-0.1**
NIL				pmax	pmax		
	comp=Z,38nm,0.8s						
NIL	**Nilore**	**39.44**	**328**	P	**P**	**01 03 58.8**	**-0.1**
NIL				IAmb	IAmb	01 04 00.1	
	comp=Z,38nm,0.8s						
TIA	**Tai'an**	**39.55**	**26**	P	**P**	**01 03 59.0**	**-0.7**
TIA				pmax	pmax		
	comp=Z,15nm,1.0s						
TIA				pmax	pmax		
	comp=Z,250nm,3.7s						
TIA				LR	LR		
	comp=Z,2μm,15.0s						
TIA				LR	LR		
	comp=Z,2μm,12.8s						
TIA				LR	LR		
	comp=Z,2μm,14.2s						
WRKA	**Warakurna**	**39.74**	**133**	P	**P**	**01 04 02.5**	**+1.1**
	baz=40,SNR=12						
BTO	**Baotou**	**41.04**	**15**	*e*P	**P**	**01 04 08.9**	**-3.2**
HHC	**Hu-ho-hao-te**	**41.69**	**16**	*e*P	**P**	**01 04 18.4**	**+1.0**
HHC				PP	**PnPn**	**01 05 58.3**	**-0.8**
HHC				S	**S**	**01 10 33.6**	**+0.7**
HHC				SS	**SS**	**01 13 33.5**	**-5.5**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				LR	LR		
	comp=Z,890nm,17.5s						
HHC				LR	LR		
	comp=Z,2μm,14.7s						
HHC				LR	LR		
	comp=Z,940nm,20.1s						
WB0	**Warramunga Arr**	**41.92**	**122**	P	**P**	**01 04 18.4**	**-1.2**
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**01 04 18.9**	**-0.9**
	comp=Z,5.6nm,0.8s,baz=299,slow=9.0,SNR=49						
WRA				LR	LR	01 22 13.8	
	comp=Z,858nm,21.5s,baz=285,slow=37						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**01 04 18.4**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**01 04 18.4**	**-1.4**
WRAB	**Tennant Creek**	**41.96**	**122⇑**	*e*P	**P**	**01 04 18.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,30nm,1.7s						
WB2	**Warramunga Arr**	**41.96**	**122**	P	**P**	**01 04 19.5**	**-0.4**
	baz=42						
WB2	**Warramunga Arr**	**41.96**	**122**	P	**P**	**01 04 19.1**	**-0.8**
KBL	**Kabul**	**42.44**	**325**	P	**P**	**01 04 24.0**	**+0.2**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KBL	**Kabul**	**42.44**	**325**	P	**P**	**01 04 24.0**	**+0.2**
BJT	**Baijiatuao**	**42.44**	**22**	P	**P**	**01 04 24.0**	**+0.5**
BJT				pmax	pmax		
	comp=Z,46nm,0.7s						
BJT	**Baijiatuao**	**42.44**	**22**	P	**P**	**01 04 24.0**	**+0.5**
BJT				IAmb	IAmb	01 04 25.6	
	comp=Z,46nm,0.7s						
KSH	**Kashi**	**42.90**	**336**	P	**P**	**01 04 25.8**	**-1.6**
KSH				S	**S**	**01 10 50.5**	**-0.4**
KSH				sS	sS	01 11 05.8	+2.5
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KSH				pmax	pmax		
	comp=Z,160nm,6.0s						
KSH				LR	LR		
	comp=Z,570nm,14.4s						
KSH				LR	LR		
	comp=Z,620nm,16.0s						
KSH				LR	LR		
	comp=Z,2μm,20.5s						
FORT	**Forrest**	**43.16**	**140**	P	**P**	**01 04 31.7**	**+2.3**
	baz=43,SNR=14

comp=Z,160nm,0.8s
DL2 pmax pmax
comp=Z,510nm,4.4s
DL2 LR LR
comp=Z,700nm,16.7s
DL2 LR LR
comp=Z,2μm,15.7s
DL2 LR LR
comp=Z,1μm,14.6s
PRZ Przheval'sk 44.56 340 P **P 01 04 41.5 +0.7**
PRZ pmax pmax
comp=Z,19nm,1.0s
PRZ Przheval'sk 44.56 340 P **P 01 04 41.5 +0.7**
PRZ IAmb IAmb 01 05 05.4
comp=Z,19nm,1.0s
KDJ Kajisay 44.68 339 P **P 01 04 42.4 +0.7**
KDJ Kajisay 44.68 339 P **P 01 04 42.4 +0.7**
SHLS Shalkode 44.82 342 *eP* **P 01 04 41.2 -1.6**
SHLS Shalkode 44.82 342 *eP* **P 01 04 41.1 -1.6**
TJN Taejon 44.88 35*ceP* **P 01 04 43.0 -0.1**
JNU Nakatsue 44.90 41 P **P 01 04 43.3 -0.2**
comp=Z,21nm,0.8s,baz=43,slow=3.4,SNR=6.9
JNU LR LR 01 25 56.2
comp=Z,1μm,18.4s,baz=246,slow=40
JNU Nakatsue 44.90 41 P **P 01 04 43.1 -0.3**
UZB Uzynbulak 44.95 341 *eP* **P 01 04 45.1 +1.2**
comp=Z,16nm,1.2s
UZB *eS* **S 01 11 20.6 -0.1**
UZB Uzynbulak 44.95 341 *eP* **P 01 04 45.0 +1.2**
UZB *eS* **S 01 11 20.6 -0.1**
UZB pmax pmax
comp=Z,16nm,1.2s
PDGK Podgornoye 44.96 342 P **P 01 04 44.5 +0.6**
GAR Garm 45.06 330 P **P 01 04 44.8 +0.1**
SATY Saty 45.07 341⇑*eP* **P 01 04 45.6 +0.8**
comp=Z,12nm,0.7s
SATY *eS* **S 01 11 23.9 +1.3**
SATY Saty 45.07 341*ceP* **P 01 04 45.5 +0.8**
SATY *eS* **S 01 11 23.8 +1.3**
SATY pmax pmax
comp=Z,12nm,0.7s
ULHL Ulahol 45.13 338 P **P 01 04 46.5 +1.2**
SNR=13
KPKS Kokpek 45.34 341⇑*eP* **P 01 04 47.6 +0.7**
comp=Z,68nm,2.3s
KPKS Kokpek 45.34 341*ceP* **P 01 04 47.6 +0.7**
KPKS pmax pmax
comp=Z,68nm,2.3s
CHGR Chuyangaron 45.39 329 P **P 01 04 47.1 -0.2**
BOOM Boomskoye usch 45.45 338 P **P 01 04 48.8 +1.0**
BOOM pmax pmax
comp=Z,14nm,0.8s
BOOM Boomskoye usch 45.45 338 P **P 01 04 48.8 +1.0**
BOOM IAmb IAmb 01 04 51.7
comp=Z,14nm,0.8s
TNSS Tian-Shan 45.56 339 *eP* **P 01 04 49.5 +0.6**
TNSS Tian-Shan 45.56 339 *eP* **P 01 04 49.5 +0.6**
MDOK Medeo 45.63 339 *i* P **P 01 04 50.1 +0.9**
MDOK *eS* **S 01 11 30.3 -0.4**
MDOK Medeo 45.63 339 *i* P **P 01 04 50.1 +0.9**
MDOK *eS* **S 01 11 30.2 -0.4**
BTK Batken 45.64 331 P **P 01 04 50.5 +1.3**
BTK pmax pmax
comp=Z,40nm,0.9s
BTK Batken 45.64 331 P **P 01 04 50.5 +1.3**
BTK IAmb IAmb 01 04 58.5
comp=Z,40nm,0.9s
AAA Alma-Ata 45.72 339 *eP* **P 01 04 50.5 +0.7**
AAA Alma-Ata 45.72 339 *eP* **P 01 04 50.5 +0.7**
UCH Uchtor 45.78 336 P **P 01 04 52.4 +1.6**
SNR=32
MTBS Maitube 45.82 339 *eP* **P 01 04 50.3 -0.3**
MTBS Maitube 45.82 339 *eP* **P 01 04 50.3 -0.3**
TKM2 Tokmak 2 45.95 338 P **P 01 04 53.3 +1.5**
SNR=20
KSRS Korea Array 45.95 34 P **P 01 04 51.6 0.0**
comp=Z,36nm,0.8s,baz=221,slow=9.0,SNR=87
KSRS LR LR 01 26 48.5
comp=Z,646nm,18.0s,baz=220,slow=40
KS19 Wonju Array Si 45.96 34 P **P 01 04 51.4 -0.3**
KBK Karagaybulak 45.97 337 P **P 01 04 54.2 +2.3**
SNR=17
AML Almayashu 46.03 336 P **P 01 04 54.3 +1.6**
SNR=14
AAK Ala-Archa 46.13 337 P **P 01 04 55.3 +2.1**
SNR=7.2
FRU1 Bishkek 46.23 337 P **P 01 04 54.7 +0.9**
FRU1 pmax pmax
comp=Z,23nm,0.7s
FRU1 Bishkek 46.23 337 P **P 01 04 54.6 +0.9**
FRU1 IAmb IAmb 01 05 34.9
comp=Z,23nm,0.7s
CHMS Chumysh 46.34 337 P **P 01 04 56.2 +1.6**
SNR=5.3
EKS2 Erkin-Say 46.44 336 P **P 01 04 57.6 +2.0**
SNR=7.3
KUU Kurty 46.52 339⇑*iP* **P 01 04 56.3 +0.2**
comp=Z,100nm,2.6s
KUU *eS* **S 01 11 44.0 +0.8**
KUU Kurty 46.52 339*c iP* **P 01 04 56.2 +0.2**
KUU *eS* **S 01 11 43.9 +0.8**
KUU pmax pmax
comp=Z,100nm,2.6s
HRA Herat 46.53 319 P **P 01 04 56.3 -0.2**
USP Ospenovka 46.66 337 P **P 01 04 59.0 +1.7**
SNR=24
QIS Mount Isa 46.72 120 P **P 01 04 58.6 +0.6**
baz=47,SNR=4.2
SGDS Sogindy 46.77 337⇑*eP* **P 01 04 58.4 +0.3**
comp=Z,32nm,2.3s
SGDS *eS* **S 01 11 46.3 -0.6**
SGDS Sogindy 46.77 337*ceP* **P 01 04 58.3 +0.3**
SGDS *eS* **S 01 11 46.2 -0.6**
SGDS pmax pmax
comp=Z,32nm,2.3s
TDK Taldyqorghan 46.81 342 *eP* **P 01 04 58.4 0.0**
TDK Taldyqorghan 46.81 342 *eP* **P 01 04 58.3 0.0**
SONM Songino Array 47.27 8 P **P 01 05 02.3 +0.3**
comp=Z,47nm,0.9s,baz=191,slow=9.0,SNR=74
SONM PcP **PcP 01 06 33.9 +1.0**
comp=Z,10nm,0.7s,baz=187,slow=4.0,SNR=8.1
SONM LR LR 01 27 39.4
comp=Z,3μm,18.3s,baz=190,slow=40
SONM Songino Array 47.27 8 P **P 01 05 02.2 +0.3**
SONM pmax pmax
comp=Z,25nm,0.8s
SONM Songino Array 47.27 8 P **P 01 05 02.2 +0.3**
JMN Monobe 47.27 43 P **P 01 05 02.1 0.0**
JMN IAmb IAmb 01 05 04.3
comp=Z,40nm,1.0s
MK31 Makanchi Array 47.38 346 P **P 01 05 02.9 +0.2**
MK31 pmax pmax
comp=Z,20nm,0.8s
MK31 Makanchi Array 47.38 346 P **P 01 05 02.9 +0.2**
MK31 IAmb IAmb 01 05 04.5
comp=Z,20nm,0.8s
MKAR Makanchi Array 47.38 346 P **P 01 05 03.5 +0.8**
comp=Z,25nm,0.7s,baz=159,slow=7.8,SNR=247
MKAR LR LR 01 28 56.8
comp=Z,625nm,20.5s,baz=154,slow=41
MKAR Makanchi Array 47.38 346 P **P 01 05 02.7 0.0**
MKAR Makanchi Array 47.38 346 P **P 01 05 02.7 0.0**
ULN Ulaanbaatar 47.40 9*c iP* **P 01 05 02.6 -0.4**
ULN pmax pmax
comp=Z,29nm,0.8s
ULN Ulaanbaatar 47.40 9 P **P 01 05 02.6 -0.4**
ULN IAmb IAmb 01 05 06.4
comp=Z,24nm,0.7s
ULN PcP **PcP 01 06 33.8 +0.4**
ZSN Zaisan 47.44 349⇑*iP* **P 01 05 03.8 +0.7**
comp=Z,89nm,2.6s
ZSN *eS* **S 01 11 57.9 +1.7**
ZSN Zaisan 47.44 349*c iP* **P 01 05 03.8 +0.7**
ZSN *eS* **S 01 11 57.8 +1.7**
ZSN pmax pmax
comp=Z,89nm,2.6s
MAKZ Makanchi 47.47 346 P **P 01 05 03.6 +0.2**
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 47.47 346 P **P 01 05 03.6 +0.2**
MAKZ IAmb IAmb 01 05 05.1
comp=Z,18nm,0.8s
JHS Saijyo 47.52 41 P **P 01 05 04.0 0.0**
IUG luzhnay 47.65 333⇑*iP* **P 01 05 05.8 +0.8**
comp=Z,21nm,0.9s
IUG *eS* **S 01 11 59.6 +0.2**
comp=Z,78nm,2.6s
IUG luzhnay 47.65 333*c iP* **P 01 05 05.8 +0.8**
IUG *eS* **S 01 11 59.6 +0.2**
IUG pmax pmax
comp=Z,21nm,0.9s
IUG smax smax
comp=E,78nm,2.6s
DZA Taraz 47.66 334 *eP* **P 01 05 04.8 -0.2**
DZA Taraz 47.66 334 *eP* **P 01 05 04.7 -0.2**
COEN Coen 47.91 110 P **P 01 05 06.8 -0.5**
baz=48,SNR=6.0
COEN Coen 47.91 110 P **P 01 05 06.4 -0.9**
KK31 Karatay Array 48.19 334 P **P 01 05 09.6 +0.6**
KK31 pmax pmax
comp=Z,16nm,1.0s
KK31 Karatay Array 48.19 334 P **P 01 05 09.6 +0.6**
KK31 IAmb IAmb 01 05 17.7
comp=Z,16nm,0.9s
KKAR Karatay Array 48.19 334 P **P 01 05 09.1 +0.1**
KKAR pmax pmax
comp=Z,16nm,1.0s
KKAR Karatay Array 48.19 334 P **P 01 05 09.6 +0.6**
KKAR IAmb IAmb 01 05 17.7
comp=Z,16nm,0.9s
KKAR Karatay Array 48.19 334 P **P 01 05 09.1 +0.1**
BTLS Baital 48.34 338⇑*eP* **P 01 05 10.1 -0.1**
BTLS *eS* **S 01 12 12.0 +3.0**
BTLS Baital 48.34 338*ceP* **P 01 05 10.0 -0.1**
BTLS *eS* **S 01 12 11.9 +3.0**
DGZ Jazzator, Alta 49.17 352*c iP* **P 01 05 17.4 +0.7**
DGZ pmax pmax
comp=Z,19nm,1.0s
JWT Wachi 49.19 42 P **P 01 05 16.6 -0.3**
ZAK Zakamensk 49.41 5*eP* **P 01 05 18.6 +0.2**
ZAK pmax pmax
comp=Z,15nm,1.7s
CN2 Changchun 49.42 27 *eP* **P 01 05 17.4 -1.1**
CN2 *eS* **S 01 12 30.8 +6.6**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
BBOO Buckleboo 49.77 136 P **P 01 05 22.4 +1.1**
baz=50,SNR=11
BBOO Buckleboo 49.77 136 P **P 01 05 21.2 -0.2**
BBOO IAmb IAmb 01 06 47.5
comp=Z,29nm,1.3s
MTSU Mount Surprise 50.10 115 P **P 01 05 24.4 +0.3**
baz=50,SNR=5.3
MOY Mondy 50.53 3*eP* **P 01 05 27.7 +0.8**
MOY pmax pmax
comp=Z,38nm,2.5s
JGF Kuroka 50.69 43 P **P 01 05 27.9 -0.4**
JGF IAmb IAmb 01 05 40.8
comp=Z,23nm,0.9s
TLY Talaya 50.73 5 P **P 01 05 29.1 +0.8**
comp=Z,16nm,0.8s,baz=4.5,slow=8.9,SNR=6.3
TLY Talaya 50.73 5*eP* **P 01 05 29.7 +1.4**
TLY *e* 01 07 31.7
TLY *eS* S 01 12 56.4 +14
TLY pmax pmax
comp=Z,52nm,0.9s
TLY MLR MLR
comp=Z,5μm,19.0s
TLY Talaya 50.73 5 P **P 01 05 29.2 +0.9**
TLY IAmb IAmb 01 05 32.9
comp=Z,19nm,0.9s
PMG Port Moresby 50.81 103 P **P 01 05 29.3 -0.2**
comp=Z,16nm,0.7s,baz=315,slow=2.9,SNR=5.9
PMG Port Moresby 50.81 103*ceP* **P 01 05 29.3 -0.2**
PMG pmax pmax
comp=Z,12nm,0.8s
PMG Port Moresby 50.81 103 P **P 01 05 29.0 -0.5**
PMG IAmb IAmb 01 05 30.2
comp=Z,17nm,0.8s
GEYT Alibeck 51.33 320 P **P 01 05 33.5 +0.5**
comp=Z,7.4nm,0.8s,baz=156,slow=8.1,SNR=17
GEYT LR LR 01 31 03.7
comp=Z,304nm,18.3s,baz=55,slow=40
GEYT Alibeck 51.33 320 P **P 01 05 33.4 +0.3**
GYA0B ALIBECK ARRAY 51.33 320 P **P 01 05 33.2 +0.1**
GYA0B IAmb IAmb 01 05 45.3
comp=Z,14nm,0.8s
HIA Hailar 51.77 19 P **P 01 05 36.3 +0.2**
HIA pmax pmax
comp=Z,31nm,0.7s
HIA Hailar 51.77 19 P **P 01 05 36.3 +0.2**
HIA IAmb IAmb 01 05 37.4
comp=Z,30nm,0.7s
MAT Matsushiro 51.78 42 P **P 01 05 36.2 -0.3**
MAT *eS* **S 01 12 54.4 -2.9**
MJAR Matsushiro Arr 51.78 42 P **P 01 05 35.8 -0.7**
comp=Z,3.3nm,0.6s,baz=226,slow=7.0,SNR=9.0
MJAR LR LR 01 27 33.0
comp=Z,408nm,21.7s,baz=245,slow=36
MJAR Matsushiro Arr 51.78 42 P **P 01 05 35.3 -1.2**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 51.78 42 P **P 01 05 35.3 -1.2**
KURBB Kurchatov Arra 51.87 345 P **P 01 05 37.1 +0.3**
comp=Z,16nm,0.7s,baz=168,slow=7.1,SNR=45
KURK Kurchatov 51.93 345*c iP* **P 01 05 37.9 +0.7**
KURK pmax pmax
comp=Z,43nm,1.3s
KURK Kurchatov 51.93 345 P **P 01 05 37.7 +0.4**
KURK IAmb IAmb 01 05 39.1
comp=Z,30nm,0.9s
MDJ Mudanjiang 51.98 29 P **P 01 05 37.6 -0.1**
MDJ IAmb IAmb 01 05 41.0
comp=Z,26nm,0.8s
VLA Vladivostok 52.08 32*c iP* **P 01 05 39.0 +0.5**
VLA pmax pmax
comp=Z,156nm,1.5s
HTT Hallett 52.11 135 P **P 01 05 39.9 +0.9**
baz=52,SNR=8.5
CTA Charters Tower 52.43 116 P **P 01 05 41.5 -0.1**
comp=Z,3.5nm,1.0s,baz=306,slow=11,SNR=5.1
CTAO Charters Tower 52.43 116 P **P 01 05 40.9 -0.7**
CTAO pmax pmax
comp=Z,27nm,1.5s
CTAO Charters Tower 52.43 116 P **P 01 05 40.9 -0.7**
CTAO IAmb IAmb 01 05 59.1
comp=Z,27nm,1.4s
USA0B Ussuriysk Arra 52.88 31 P **P 01 05 44.5 +0.1**
USA0B pmax pmax
comp=Z,53nm,1.0s
USA0B Ussuriysk Arra 52.88 31 P **P 01 05 44.5 +0.1**
USRK Ussuriysk Ar. 52.88 31 P **P 01 05 44.7 +0.3**
comp=Z,34nm,0.8s,baz=233,slow=4.5,SNR=62
USRK LR LR 01 28 38.6
comp=Z,1μm,21.6s,baz=209,slow=37
QLP Quilpie 52.97 125 P **P 01 05 46.9 +1.4**
baz=53,SNR=5.3
BRZS Berezniki 53.04 340⇑*eP* **P 01 05 44.8 -0.8**
comp=Z,55nm,2.7s
BRZS Berezniki 53.04 340*ceP* **P 01 05 44.7 -0.8**
BRZS pmax pmax
comp=Z,55nm,2.7s
STKA Stephens Creek 53.26 132 P **P 01 05 47.9 +0.4**
comp=Z,14nm,0.7s,baz=311,slow=7.6,SNR=34
STKA LR LR 01 30 27.2
comp=Z,973nm,21.7s,baz=299,slow=38
STKA Stephens Creek 53.26 132 P **P 01 05 48.1 +0.7**
baz=53,SNR=26
STKA Stephens Creek 53.26 132 P **P 01 05 47.3 -0.1**
STKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 53.26 132 P **P 01 05 47.3 -0.1**
ZAA0 Zalesovo Array 53.70 351 P **P 01 05 50.6 +0.4**
ZALV Zalesovo Beam 53.70 351 P **P 01 05 50.5 +0.3**
comp=Z,46nm,0.7s,baz=179,slow=6.2,SNR=216
ZALV LR LR 01 33 57.4
comp=Z,501nm,19.2s,baz=174,slow=42
ZALV Zalesovo Beam 53.70 351 P **P 01 05 50.3 0.0**
ZALV Zalesovo Beam 53.70 351 P **P 01 05 50.3 0.0**
CMSA Cobar Meteorol 56.20 130 P **P 01 06 10.2 +1.5**
baz=56,SNR=22
BRVK Borovoye 56.45 341*c iP* **P 01 06 09.9 -0.3**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 56.45 341 P **P 01 06 10.1 -0.1**
BRVK IAmb IAmb 01 06 17.8
comp=Z,14nm,0.8s
RMQ Roma 56.70 123 P **P 01 06 14.6 +2.1**
baz=57,SNR=8.3
AB31 Akbulak array 57.64 332 P **P 01 06 18.4 -0.3**
ABKAR Akbulak array 57.64 332 P **P 01 06 18.4 -0.3**
ZEA Zeya 58.06 21*eP* **P 01 06 22.1 +0.5**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA pmax pmax
comp=Z,100nm,6.4s
BOD Bodaibo 58.14 10*eP* **P 01 06 22.1 +0.1**
BOD pmax pmax
comp=Z,48nm,0.9s
EIDS Eidsvold 58.30 121 P **P 01 06 25.0 +1.2**
baz=58,SNR=12
EIDS Eidsvold 58.30 121 P **P 01 06 24.1 +0.4**
KMBO Kilima Mbogo 59.99 268 P **P 01 06 38.8 +2.8**
comp=Z,0.9nm,0.7s,baz=76,slow=8.9,SNR=4.1
KMBO LR LR 01 31 17.6
comp=Z,475nm,18.4s,baz=88,slow=35
KMBO Kilima Mbogo 59.99 268 P **P 01 06 36.8 +0.8**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 59.99 268 P **P 01 06 36.8 +0.8**
CAN Canberra 60.32 132 P **P 01 06 39.4 +1.7**
baz=60
CAN Canberra 60.32 132 P **P 01 06 38.0 +0.4**
CAN pmax pmax
comp=Z,44nm,1.4s
CAN Canberra 60.32 132 P **P 01 06 38.0 +0.4**
ARMA Armidale 60.44 126 P **P 01 06 41.1 +2.4**
baz=60,SNR=6.5
YSS Yuzh-Sakhalins 60.46 34⇓*eP* **P 01 06 39.1 +0.9**
YSS pmax pmax
comp=Z,35nm,1.3s
YSS Yuzh-Sakhalins 60.46 34 P **P 01 06 38.5 +0.3**
GROC Groznyy 62.06 320 *eP* **P 01 06 49.2 0.0**
GROC *e* 01 07 28.5
GROC *e* 01 09 08.4
GROC pmax pmax
comp=Z,25nm,1.0s
SVE Sverdlovsk 62.82 338*deP* **P 01 06 54.0 0.0**
SVE pmax pmax
comp=Z,21nm,0.9s
ZEI Tsey 63.12 319 *eP* **P 01 06 56.7 +0.2**
ZEI pmax pmax
comp=Z,13nm,1.0s
MARD Mardin 63.14 312 P **P 01 06 57.0 +0.3**
ARU Arti 63.31 337*c iP* **P 01 06 57.0 -0.3**
ARU 01 07 33.0
ARU 01 09 16.1
ARU S **S 01 15 30.8 +2.9**
ARU SS **SS 01 19 30.8 -4.0**
ARU pmax pmax
comp=Z,11nm,0.8s
ARU MLR MLR
comp=Z,564nm,17.0s
ARU Arti 63.31 337 P **P 01 06 56.8 -0.5**
ARU IAmb IAmb 01 07 05.9
comp=Z,14nm,0.9s
HNR Honiara 63.33 101 P **P 01 06 58.3 +0.1**
comp=Z,56nm,0.3s,baz=185,slow=7.0,SNR=3.9
HNR Honiara 63.33 101 P **P 01 06 57.7 -0.5**
HNR pmax pmax
comp=Z,81nm,0.6s
HNR Honiara 63.33 101 P **P 01 06 57.7 -0.5**
ARTV Artvin 63.78 316 P **P 01 07 01.0 0.0**
KBZ Khabaz 64.18 319 P **P 01 07 03.6 +0.4**
comp=Z,10nm,0.8s,baz=127,slow=5.8,SNR=35
KBZ Khabaz 64.18 319*ceP* **P 01 07 03.5 +0.2**
KBZ pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 64.42 319 *eP* **P 01 07 05.1 +0.1**
KIV *eS* **S 01 15 43.4 +1.1**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV pmax pmax
comp=Z,76nm,4.1s
KIV Kislovodsk 64.42 319 P **P 01 07 05.0 +0.1**
KIV IAmb IAmb 01 07 29.2
comp=Z,13nm,0.9s
GOF Gofitskoye 64.67 321⇑*eP* **P 01 07 06.3 -0.2**
GOF pmax pmax
comp=Z,19nm,1.1s
YAK Yakutsk 65.55 16*c iP* **P 01 07 11.1 -0.6**
YAK pmax pmax
comp=Z,65nm,0.8s
YAK Yakutsk 65.55 16 P **P 01 07 11.2 -0.6**
GAZ Gaziantep 65.77 311 P **P 01 07 14.6 +0.7**
GAZ IAmb IAmb 01 07 16.9
comp=Z,14nm,0.8s
SOC Sochi 66.23 318 *eP* **P 01 07 15.0 -1.6**
SOC *e* 01 09 41.7
SOC *eS* **S 01 16 05.5 +1.2**
SOC *eSS* **SS 01 20 18.5 -2.2**
SOC pmax pmax
comp=Z,13nm,0.7s
SOC MLR MLR
comp=Z,130nm,17.0s
TOKA Tokat 67.32 314 P **P 01 07 24.0 +0.3**
VRH Novokhopyorsk 68.24 326 *eP* **P 01 07 27.7 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIRV Kirov 68.44 335*ceP* **P 01 07 30.0 -0.2**
NRIK Noril'sk 68.47 356 P **P 01 07 29.9 -0.3**
comp=Z,17nm,0.8s,baz=152,slow=6.2,SNR=27
NRIK LR LR 01 41 59.0
comp=Z,440nm,18.0s,baz=190,slow=40
NRIK Noril'sk 68.47 356*c iP* **P 01 07 29.9 -0.3**
NRIK pmax pmax
comp=Z,69nm,2.3s
BR131 Keskin Array S 69.21 312 P **P 01 07 35.3 -0.4**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 69.21 312 P **P 01 07 35.3 -0.4**
BRTR Keskin Array B 69.21 312 P **P 01 07 35.2 -0.4**
comp=Z,4.3nm,0.8s,baz=135,slow=7.0,SNR=18
BRTR LR LR 01 38 33.8
comp=Z,60nm,21.2s,baz=131,slow=36
BRTR Keskin Array B 69.21 312 P **P 01 07 35.1 -0.6**
ILGA Ilgaz 69.54 314 P **P 01 07 38.0 +0.2**
ILGA IAmb IAmb 01 07 59.9
comp=Z,20nm,1.2s
VSR Storozhevoye 69.69 325 *eP* **P 01 07 36.6 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.7s
BR231 Keskin MP Arra 69.88 312 P **P 01 07 39.6 -0.1**
BR231 IAmb IAmb 01 07 40.7
comp=Z,7.8nm,0.6s
LSZ Lusaka 70.08 253 P **P 01 07 41.0 -0.4**
LSZ pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 70.08 253 P **P 01 07 41.0 -0.4**
LPSR Galich'ya Gora 70.42 327 *eP* **P 01 07 41.3 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
DZM Mont Dzumac 71.22 114 *e*LR LR 01 29 27.5
comp=Z,4μm,39.7s
DZM *e*LR LR 01 29 28.8
comp=Z,5μm,38.1s
DZM *e*LR LR 01 29 31.6
comp=Z,685nm,23.3s
MDUB Mudurnu 71.22 313 P **P 01 07 47.8 -0.1**
ELL Elmali 71.29 309 P **P 01 07 48.5 +0.1**
ELL pmax pmax
comp=Z,36nm,0.8s
ELL Elmali 71.29 309 P **P 01 07 48.5 +0.1**
MA2 Magadan 71.45 26*c iP* **P 01 07 48.7 -0.1**
MA2 pmax pmax
comp=Z,15nm,0.8s
MA2 Magadan 71.45 26 P **P 01 07 48.8 +0.1**
MA2 IAmb IAmb 01 07 50.0
comp=Z,22nm,0.7s
PRGR Permogore 71.77 337 *eP* **P 01 07 48.8 -1.8**
PRGR pmax pmax
comp=Z,27nm,0.8s
PETK Petropavlovsk- 71.84 34 P **P 01 07 51.2 -0.1**

comp=Z,6.2nm,0.8s,baz=205,slow=3.1,SNR=5.2
PETK LR LR 01 43 14.1
comp=Z,491nm,19.1s,baz=239,slow=39
MOS Moscow 72.46 329 *eP* **P 01 07 52.4 -2.4**
MOS *e* 01 08 11.2
MOS *eS* **S 01 17 10.4 -6.9**
MOS MLR MLR
comp=Z,400nm,19.0s
MAW Mawson 72.58 193 P **P 01 07 56.7 +1.4**
comp=Z,1.5nm,0.7s,baz=342,slow=6.9,SNR=8.0
MAW Mawson 72.58 193 P **P 01 07 57.6 +2.3**
baz=73,SNR=7.8
MAW Mawson 72.58 193 P **P 01 07 55.8 +0.5**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 72.58 193 P **P 01 07 55.8 +0.5**
OBN Obninsk 72.74 328⇑ *eP* **P 01 07 56.2 -0.3**
OBN *e* 01 08 10.3
OBN *e* 01 10 44.4
OBN pmax pmax
comp=Z,23nm,1.7s
OBN MLR MLR
comp=Z,250nm,18.0s
OBN Obninsk 72.74 328 P **P 01 07 56.3 -0.2**
OBN IAmb IAmb 01 08 11.3
comp=Z,16nm,0.9s
KARP Karpathos 73.21 307 P **P 01 08 00.1 +0.2**
KARP IAmb IAmb 01 08 01.8
comp=Z,27nm,0.8s
TIXI Tiksi 73.32 10 *ceP* **P 01 07 59.0 -0.7**
TIXI pmax pmax
comp=Z,90nm,0.8s
TIXI Tiksi 73.32 10 P **P 01 07 58.9 -0.8**
LBTB Lobatse 73.84 244 P **P 01 08 03.5 -0.3**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 73.84 244 P **P 01 08 03.5 -0.3**
LBTB IAmb IAmb 01 08 13.9
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 73.88 334 *eP* **P 01 08 00.7 -2.5**
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 73.88 334 *eP* **P 01 08 00.7 -2.5**
KLMR AMP 01 08 17.1
comp=Z,17nm,1.3s
KLMR LQ LQ 01 35 55.4
KLMR LQ LQ 01 35 55.4
KLMR LR LR 01 38 59.6
SEY Seymchan 73.88 23⇑ *eP* **P 01 08 03.3 +0.2**
HARR Harsova 74.62 316 ⇑P **P 01 08 07.8 0.0**
HARR Harsova 74.62 316 ⇑P **P 01 08 07.8 0.0**
BOSA Boshof 74.72 240 P **P 01 08 09.9 +1.0**
comp=Z,2.6nm,0.8s,baz=68,slow=6.3,SNR=5.2
BOSA LR LR 01 36 42.8
comp=Z,486nm,19.0s,baz=46,slow=32
BOSA Boshof 74.72 240 P **P 01 08 09.1 +0.2**
IDI Anoyia 74.99 306 ⇑P **P 01 08 11.7 +1.4**
IDI Anoyia 74.99 306 P **P 01 08 10.4 +0.1**
RAZG Razgrad 75.36 315 ⇑P **PcP 01 08 26.2 +0.9**
AKASG Malin Array Be 75.38 322 P **P 01 08 11.5 -0.6**
comp=Z,5.6nm,0.7s,baz=88,slow=4.8,SNR=18
AKBB Malin Array Si 75.38 322 P **P 01 08 11.6 -0.5**
AKBB pmax pmax
comp=Z,7.0nm,1.0s
AKBB Malin Array Si 75.38 322 P **P 01 08 11.6 -0.5**
VRI Vrincioaia 75.73 317 ⇓P **P 01 08 15.4 +1.2**
VRI Vrincioaia 75.73 317 ⇓P **P 01 08 15.4 +1.2**
PLOR Plostina 75.78 317 ⇑P **P 01 08 16.1 +1.6**
PLOR Plostina 75.78 317 ⇑P **P 01 08 16.1 +1.6**
MLR Muntele Rosu 76.18 317 ⇑P **P 01 08 17.6 +0.7**
MLR Muntele Rosu 76.18 317 ⇑P **P 01 08 17.6 +0.7**
MLR Muntele Rosu 76.18 317 P **P 01 08 17.3 +0.3**
MLR IAmb IAmb 01 08 32.6
comp=Z,18nm,1.2s
BIZ Bicaz 76.39 318 ⇑P **P 01 08 19.4 +1.4**
PRAR RASCA 76.41 319 ⇓P **P 01 08 18.4 +0.3**
HUMR Humele 76.64 316 ⇓P **P 01 08 19.7 +0.3**
DOPR Dopca 76.66 317 ⇓P **P 01 08 19.3 -0.2**
VOIR 76.78 316 ⇓P **P 01 08 19.9 -0.4**
VOIR 76.78 316 ⇓P **P 01 08 19.9 -0.4**
ARR Arges 77.05 316 ⇑P **P 01 08 21.7 -0.1**
BURAR Bucovina Array 77.14 319 ⇑P **P 01 08 23.3 +1.1**
BURAR Bucovina Array 77.14 319 ⇑P **P 01 08 23.3 +1.1**
BURAR Bucovina Array 77.14 319 P **P 01 08 23.4 +1.1**
BUR08 Bucovina Ar. S 77.15 319 P **P 01 08 22.6 +0.2**
AGG Agios Georgios 77.60 310 P **P 01 08 23.6 -1.4**
AGG pmax pmax
comp=Z,9.0nm,1.0s
AGG Agios Georgios 77.60 310 P **P 01 08 23.6 -1.4**
PUL Pulkovo 77.62 332⇑ *eP* **P 01 08 25.3 +0.8**
PUL pmax pmax
comp=Z,62nm,0.6s
LIT Litokhoron 77.65 311 P **P 01 08 24.2 -1.0**
LIT pmax pmax
comp=Z,10.0nm,0.9s
LIT Litokhoron 77.65 311 P **P 01 08 24.2 -1.0**
NACGM Naroch 77.97 326 *e* **P 01 08 27.0 +0.4**
PUNG Punghina 78.03 315 ⇓P **PcP 01 08 36.2 -0.6**
BMR Baia Mare 78.29 319 ⇓P P 01 08 23.0 -5.6
BMR Baia Mare 78.29 319 ⇓P P 01 08 23.0 -5.6
DEV Deva 78.34 317 ⇓P **P 01 08 30.5 +1.6**
DEV Deva 78.34 317 ⇓P **P 01 08 30.5 +1.6**
HERR Herculane 78.50 316 ⇓P **P 01 08 26.7 -3.1**
LVZ Lovozero 78.97 340⇓ *eP* **P 01 08 31.7 -0.2**
LVZ pmax pmax
comp=Z,158nm,2.0s
LVZ Lovozero 78.97 340 P **P 01 08 31.8 -0.2**
RPZ Rata Peaks 79.10 135 P **P 01 08 34.0 +0.9**
comp=Z,9.8nm,0.6s,baz=252,slow=6.4,SNR=3.0
BZS Buzias 79.18 316 ⇓P **P 01 08 33.6 +0.1**
BZS Buzias 79.18 316 ⇓P **P 01 08 33.6 +0.1**
UZH Uzhgorod 79.26 319 *eP* **P 01 08 34.5 +0.6**
UZH *e* 01 08 48.2
SIRR Siria 79.26 317 ⇑P **P 01 08 34.7 +0.8**
KOLS Kolonicke sedl 79.33 320 *eP* **P 01 08 34.2 -0.1**
KOLS pmax pmax
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 79.33 320 *eP* **P 01 08 34.2 -0.1**
SUW Suwalki 79.79 325 *eP* **P 01 08 36.7 +0.1**
SUW *epP* **PcP 01 08 43.0 -1.2**
SUW Suwalki 79.79 325 P **P 01 08 36.6 -0.1**
SUW pmax pmax
comp=Z,36nm,1.0s
SUW Suwalki 79.79 325 P **P 01 08 36.6 -0.1**
SUW IAmb IAmb 01 08 57.7
comp=Z,36nm,1.0s
CRVS Cervenica-Dubn 79.85 319 *eP* **P 01 08 38.8 +1.7**
CRVS Cervenica-Dubn 79.85 319 *eP* **P 01 08 38.8 +1.7**
SYO Syowa Base 79.88 198⇓ *eP* **PcP 01 08 43.6 -0.7**
FIA1 FINESS Array S 80.13 333 P **P 01 08 38.1 -0.2**
FIA1 IAmb IAmb 01 08 55.3
comp=Z,18nm,1.1s
FINES FINESS Array B 80.13 333 P **P 01 08 38.5 +0.2**
comp=Z,7.9nm,0.8s,baz=96,slow=5.8,SNR=18
FINES LR LR 01 47 13.1
comp=Z,266nm,20.6s,baz=76,slow=38
FINES FINESS Array B 80.13 333 P **P 01 08 37.9 -0.4**
FINES FINESS Array B 80.13 333 P **P 01 08 37.9 -0.4**
PDG Podgorica 80.40 313 P **P 01 08 39.9 -0.2**
NIE Niedzica 80.69 320 *eP* **P 01 08 42.6 +1.0**
PSZ Piszkesteto 80.72 318 ⇓P **P 01 08 42.3 +0.4**
PSZ Piszkesteto 80.72 318 ⇓P **P 01 08 42.3 +0.4**
PSZ Piszkesteto 80.72 318 P **P 01 08 41.1 -0.8**
OJC Ojcow 81.14 321 *eP* **P 01 08 44.5 +0.5**
OJC *epP* **PcP 01 08 51.1 +0.8**
OJC Ojcow 81.14 321 P **P 01 08 43.8 -0.2**
OJC pmax pmax
comp=Z,58nm,1.1s
OJC Ojcow 81.14 321 P **P 01 08 43.8 -0.2**
VYHS Vyhne 81.50 319 *eP* **P 01 08 46.6 +0.6**
VYHS Vyhne 81.50 319 *eP* **P 01 08 46.6 +0.6**
OKC Ostrava-Krasne 82.14 320 *eP* **P 01 08 50.1 +0.8**
OKC Ostrava-Krasne 82.14 320 *eP* **P 01 08 50.1 +0.8**
JAVC Velka Javorina 82.32 319 *eP* **P 01 08 51.6 +1.3**
BKZ Black Stump Fm 82.36 130 P **P 01 08 49.9 -0.8**
BKZ IAmb IAmb 01 09 12.2
comp=Z,15nm,0.9s
MORC Moravsky Berou 82.52 320 *eP* **P 01 08 51.9 +0.6**
MORC Moravsky Berou 82.52 320 P **P 01 08 51.3 0.0**
MORC pmax pmax
comp=Z,14nm,1.0s
MORC Moravsky Berou 82.52 320 P **P 01 08 51.3 0.0**
MORC IAmb IAmb 01 11 28.9
comp=Z,14nm,1.0s
ARCES ARCESS Array B 82.67 340 P **P 01 08 52.1 +0.4**
comp=Z,7.0nm,0.8s,baz=98,slow=4.5,SNR=19
ARCES LR LR 01 50 01.6
comp=Z,483nm,19.2s,baz=40,slow=39
KRLC Kraliky 83.04 320 *eP* **P 01 08 54.8 +0.8**
KRLC *epP* **pP 01 09 02.2 +0.1**
KRLC Kraliky 83.04 320 *eP* **P 01 08 54.8 +0.8**
KRLC *e* 01 09 02.2
VRAC Vranov 83.08 319 *eP* **P 01 08 54.2 0.0**
KRUC Moravsky 83.18 319 *eP* **P 01 08 54.6 -0.1**
DPC Dobruska-Polom 83.36 320 *eP* **P 01 08 56.7 +1.0**
DPC *epP* **pP 01 09 04.0 +0.3**
DPC Dobruska-Polom 83.36 320 *eP* **P 01 08 56.7 +1.0**
DPC *e* 01 09 04.0
CONA Conrad Observa 83.41 318 *eP* **P 01 08 56.5 +0.4**
comp=Z,4.0nm,0.9s
KSP Ksiaz 83.44 321 *eP* **P 01 08 56.9 +0.9**
OSTC Ostas 83.46 321 *eP* **P 01 08 56.7 +0.6**
CHVC Chvalec 83.56 321 *eP* **P 01 08 57.4 +0.7**
CHVC *epP* **pP 01 09 04.9 +0.2**
ARSA Arzberg 83.57 317 *i P* **P 01 08 57.6 +0.7**
comp=Z,5.4nm,0.9s
TREC Trest 83.79 319 *eP* **P 01 08 58.9 +1.0**
TREC Trest 83.79 319 *eP* **P 01 08 58.9 +1.0**
SOKA Soboth 83.86 317 *eP* **P 01 08 59.0 +0.7**
comp=Z,4.4nm,0.8s,SNR=6.8
GOPC GO Pecny, Ondr 84.31 320 *eP* **P 01 09 00.6 +0.1**
GOPC GO Pecny, Ondr 84.31 320 *eP* **P 01 09 00.6 +0.1**
PRU Pruhonice 84.47 320 *eP* **P 01 09 02.0 +0.7**
PRU *epP* **pP 01 09 09.4 +0.1**
PRU Pruhonice 84.47 320 *eP* **P 01 09 02.0 +0.7**
PRU *e* 01 09 09.4
MOA Molln 84.47 318 *eP* **P 01 09 01.9 +0.5**
comp=Z,1.4nm,0.6s
PBCC Pribram 84.80 320 *eP* **P 01 09 03.3 +0.3**
PBCC *epP* **pP 01 09 09.5 -1.5**
PRED Cave del Predi 84.85 316 P **P 01 09 03.7 +0.3**
PRED IAmb IAmb 01 09 05.6
comp=Z,11nm,0.8s
BRG Berggiesshubel 84.92 321⇑ *iP* **P 01 09 04.3 +0.7**
comp=Z,4.9nm,0.8s
BRG *i* 01 09 11.4
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 84.92 321⇑ *iP* **P 01 09 04.3 +0.7**
BRG *i* 01 09 11.4
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 84.92 319 P **P 01 09 04.6 +0.9**
comp=Z,4.5nm,0.8s,baz=90,slow=5.3,SNR=36
GERES GERESS Array B 84.92 319 P **P 01 09 04.1 +0.3**
GERES GERESS Array B 84.92 319 P **P 01 09 04.1 +0.3**
KHC Kasperske Hory 85.03 319 *eP* **P 01 09 04.2 0.0**
KHC *epP* **pP 01 09 10.7 -1.5**
KHC Kasperske Hory 85.03 319 *eP* **P 01 09 04.2 0.0**
KHC *e* 01 09 10.7
KHC Kasperske Hory 85.03 319 P **P 01 09 03.7 -0.4**
ZOU Zoufplan 85.26 316 P **P 01 09 05.9 +0.3**
CLL Collm 85.55 321 *eP* **P 01 09 08.0 +1.3**
comp=Z,4.0nm,0.9s
CLL *epP* **pP 01 09 14.0 -0.7**
CLL *eS* **S 01 19 36.0 -1.0**
CLL *eSSSS* 01 31 48.0
CLL *LmV* 01 55 00.0
comp=Z,200nm,21.7s
CLL Collm 85.55 321 *eP* **P 01 09 08.0 +1.3**
CLL *e*SP* **pP 01 09 14.0 -0.7**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 85.55 321 P **P 01 09 06.8 +0.2**
CIMO Cimolais 85.62 316 P **P 01 09 07.4 +0.2**
CIMO IAmb IAmb 01 09 24.5
comp=Z,14nm,0.8s
VNDA Vanda 85.69 169 P **P 01 09 07.9 +1.1**
comp=Z,0.8nm,1.0s,baz=355,slow=3.7,SNR=4.2
VNDA LR LR 01 45 10.9
comp=Z,280nm,18.3s,baz=310,slow=34
VNDA Vanda 85.69 169 P **P 01 09 07.4 +0.5**
VNDA pmax pmax
comp=Z,14nm,1.9s
VNDA Vanda 85.69 169 P **P 01 09 07.4 +0.5**
CTI Castel Tesino 86.15 316 P **P 01 09 10.3 +0.3**
CTI pmax pmax
comp=Z,12nm,0.9s
CTI Castel Tesino 86.15 316 P **P 01 09 10.3 +0.3**
CTI IAmb IAmb 01 09 29.4
comp=Z,12nm,0.9s
WTTA Wattenberg 86.22 317 *eP* **P 01 09 10.0 -0.3**
comp=Z,5.4nm,0.9s
WATA Walderalm 86.26 317 *eP* **P 01 09 10.2 -0.3**
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 86.50 317 *eP* **P 01 09 11.9 +0.2**
comp=Z,5.1nm,0.8s
MOTA Moosalm 86.58 317 *eP* **P 01 09 12.1 0.0**
comp=Z,6.4nm,0.9s,SNR=5.9
RETA Reutte 86.82 317 *eP* **P 01 09 13.3 +0.1**
comp=Z,4.7nm,0.8s,SNR=5.1
FETA Feichten 86.83 317 *eP* **P 01 09 13.6 +0.3**
comp=Z,1.8nm,0.8s
NC405 NORSAR Array S 86.89 331 P **P 01 09 13.3 +0.2**
NB2 NORSAR Subarra 87.13 331 P **P 01 09 14.2 -0.1**
comp=Z,7.2nm,0.9s,baz=94,slow=5.1
NOA NORSAR Array B 87.13 331 P **P 01 09 14.6 +0.3**
comp=Z,5.0nm,0.8s,baz=94,slow=4.9,SNR=23
NOA LR LR 01 52 58.3
comp=Z,180nm,20.1s,baz=100,slow=39
FUORN Ofenpass-Fuorn 87.13 316 P **P 01 09 15.0 +0.1**
FUORN IAmb IAmb 01 09 35.1
comp=Z,7.8nm,0.9s
NC204 NORSAR Array S 87.36 331 P **P 01 09 15.7 +0.3**
DAVA Damuels 87.41 317 *eP* **P 01 09 17.0 +0.8**
comp=Z,4.4nm,0.8s,SNR=4.7
KEST Kesra 87.65 306 P **P 01 09 18.9 +1.5**
comp=Z,8.6nm,0.8s,baz=306,slow=3.1,SNR=9.4
KEST Kesra 87.65 306 P **P 01 09 17.6 +0.1**
KEST IAmb IAmb 01 09 30.8
comp=Z,17nm,1.1s
NVL N'lazarevskaya 89.47 199 *eP* P 01 09 32.0 +6.9
NVL *eS* **SKKSac 01 20 02.2 -3.7**
NVL pmax pmax
comp=Z,10.0nm,0.8s
BTNL Ternell 89.88 320 PcP **P 01 09 28.4 +0.8**
MEM Membach 89.96 320 PcP **P 01 09 28.3 +0.4**
BGES Gesves 90.55 320 PcP **P 01 09 31.2 +0.6**
BGES pP **pP 01 09 38.8 0.0**
BMRD Maredsous 90.76 320 PcP **P 01 09 32.7 +1.1**
DOU Dourbes 90.88 320 PcP **P 01 09 33.2 +1.1**
NOR Nord 92.37 352 *i P* **P 01 09 38.1 -0.4**
NOR pmax pmax
comp=Z,5.0nm,1.0s
NOR Nord 92.37 352 *i P* **P 01 09 38.1 -0.4**
comp=Z,5.1nm,1.0s
NOR Nord 92.37 352 *i P* **P 01 09 38.1 -0.4**
NOR IAmb IAmb 01 09 39.2
comp=Z,5.1nm,1.0s
DAG Danmarks Havn 94.74 348 *i P* **P 01 09 48.9 -0.5**
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 94.74 348 *i P* **P 01 09 48.9 -0.5**
comp=Z,4.5nm,0.7s
DAG Danmarks Havn 94.74 348 *i P* **P 01 09 49.0 -0.5**
DAG IAmb IAmb 01 09 50.4
comp=Z,4.5nm,0.7s
TORD Torodi Ar. Bea 95.13 283 LR LR 01 51 30.9
comp=Z,239nm,19.1s,baz=70,slow=35
DBG Daneborg 96.18 346 *i P* P 01 09 51.2 -4.8
DBG IAmb IAmb 01 09 53.0
comp=Z,16nm,1.3s
IMAR Indian Mountai 96.70 23 P **P 01 09 58.5 0.0**
BPAW Bear Paw Mtn. 98.43 24 P Pdif 01 10 06.5 +0.1
BPAW IAmb IAmb 01 10 07.3
comp=Z,8.6nm,1.1s
SUA Susitna One 99.44 27 P **Pdif 01 10 10.9 -0.2**
SUA IAmb IAmb 01 10 11.7
comp=Z,7.3nm,1.0s
ILAR Eielson Array 99.82 23 P **Pdif 01 10 11.4 -1.2**
comp=Z,0.4nm,0.8s,baz=280,slow=5.3,SNR=4.2
ILAR PP **PP 01 14 15.2 -1.7**
comp=Z,0.9nm,1.0s,baz=278,slow=6.5,SNR=5.4
ILAR LR LR 02 01 47.6
comp=Z,155nm,19.3s,baz=320,slow=39
TBI Tubuai 111.78 115 *e*LR LR 01 48 14.6
comp=Z,396nm,24.0s
PPT2 Papeete2 112.42 109 *e*LR LR 01 48 31.0
comp=Z,296nm,24.2s
ULM Lac du Bonnet 127.67 11 PKP **PKPdf 01 15 33.5 -0.4**
comp=Z,4.5nm,0.7s,baz=320,slow=3.8,SNR=7.5
BDFB Brasilia 142.77 245 PKP **PKPdf 01 16 01.2 -1.8**
comp=Z,2.0nm,0.6s,baz=221,slow=8.5,SNR=4.4
TX31 Lajitas Ar. Si 143.78 32 PKPdf PKPbc 01 16 02.8 +0.8
TX32 Lajitas Array 143.78 32 PKPbc 01 16 02.6 +0.5
TXAR Lajitas Array 143.78 32 PKP PKPbc 01 16 02.6 +0.6
comp=Z,1.5nm,0.7s,baz=205,slow=0.2,SNR=21
TXAR Lajitas Array 143.78 32 PKPdf PKPbc 01 16 02.5 +0.4
WLAR White Oak Lake 144.10 15 PKPdf **PKPdf 01 16 03.8 -1.0**
CCAR Cane Creek 144.20 13 **PKPdf 01 16 04.0 -0.9**
Z41A Richland Creek 144.58 15 PKPbc 01 16 04.8 +0.5
BO02 Sierra Bellavi 144.62 197 PKPdf **PKPdf 01 16 05.7 -0.1**
Y45A Yeager Farm, C 144.68 10 PKPdf PKPbc 01 16 04.5 0.0
JCT Junction City 144.69 26 PKIKP PKPbc 01 16 05.2 +0.4
JCT Junction City 144.69 26 PKPdf PKPbc 01 16 05.2 +0.4
Y60A Bolivia 144.86 353 **PKPdf 01 16 05.8 -0.2**
237A Washetta, Mont 144.88 19 PKPdf PKPbc 01 16 05.6 +0.4
CPUP Villa Florida 144.91 222 PKP **PKPab 01 16 05.5 0.0**
comp=Z,5.0nm,0.8s,baz=113,slow=3.1,SNR=13
CPUP Villa Florida 144.91 222 **PKPdf 01 16 06.1 -0.3**
Y57A Sumter 145.03 357 **PKPab 01 16 05.8 +0.1**
143A Socs Landing, 145.44 13 **PKPab 01 16 07.5 +0.3**
NATX Nacogdoches 145.47 18 PKPdf **PKPbc 01 16 07.1 -0.1**
Z47A Carrollton 145.56 8 **PKPdf 01 16 06.7 -0.6**
GOGA Godfrey 145.71 1 PKP2 **PKPdf 01 16 07.1 -0.5**
GOGA Godfrey 145.71 1 PKPdf **PKPdf 01 16 07.1 -0.5**
Z51A Franklin 145.73 4 **PKPdf 01 16 07.5 -0.2**
LRAL Lakeview Retre 145.85 6 PKPdf **PKPdf 01 16 07.9 +0.1**
152A Waverly Hall 146.40 3 **PKPdf 01 16 09.1 +0.3**
342A Flagon Creek P 146.50 15 **PKPbc 01 16 10.0 -0.3**
154A Montrose 146.51 0 **PKPbc 01 16 09.7 -0.6**
HKT Hockley 146.74 21 PKP2 **PKPbc 01 16 11.2 +0.2**
HKT Hockley 146.74 21 **PKPbc 01 16 11.2 +0.2**
LPAZ La Paz 159.08 223 PKP **PKPdf 01 16 29.2 +0.8**
comp=Z,1.0nm,0.8s,baz=68,slow=2.5,SNR=5.4

IDC ***16*** *01:03:37.9±2.4, 18°.42S×168°.98E, h200km±22km, mb3.9/11,mb1 4.0/12,mb1mx3.8/33,mbtmp4.4/12,MS2.3/1, Ms1 2.3/1,ms1mx2.3/24,Error ellipse: s-maj=23.1km s-min=20.3km az=139.0*

NEIC ***16*** *01:03:38.6±1.2, 18°.47S±0°.02×168°.9E±0°.1, h214km±6km, mb4.3/21,Error ellipse: s-maj=14.7km s-min=2.6km az=94.0*

ISC 16 01:03:37.4±0.5,**18°.45S**±0°.05×**168°.96E**±0°.09,**h200**km,**n64,** σ1§**04/72,mb4.2/19,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.43**	**330**		**Pn**	**01 04 33.6**	**+1.4**
SANVU				S	**Sn**	**01 05 17.6**	**+2.5**
DZM	**Mont Dzumac**	**4.31**	**213**	P	**Pn**	**01 04 44.6**	**+1.5**
	7.2nm,0.3s,baz=245,slow=21,SNR=67						
DZM				S	**Sn**	**01 05 36.5**	**+1.6**
	5.7nm,0.3s,baz=347,slow=5.4,SNR=9.0						
DZM				LR	LR	01 05 52.1	
	comp=Z,33nm,18.5s,baz=33,slow=31						
DZM	**Mont Dzumac**	**4.31**	**213**		**Pn**	**01 04 44.2**	**+1.1**
DZM					**Sn**	**01 05 35.9**	**+1.0**
MSVF	**Nonsavu**	**8.68**	**87**	Pn	**Pn**	**01 05 41.3**	**+1.7**
URZ	**Urewera**	**20.98**	**162**	P	**P**	**01 08 06.9**	**+1.8**
	5.2nm,0.7s,baz=12,slow=9.3,SNR=3.8						
CTA	**Charters Tower**	**21.50**	**262**	P	**P**	**01 08 12.2**	**+1.4**
	5.0nm,0.9s,baz=82,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**21.50**	**262**	P	**P**	**01 08 10.5**	**-0.3**
CTAO				IAmb	IAmb	01 08 13.5	
	comp=Z,8.5nm,1.0s						
BKZ	**Black Stump Fm**	**21.65**	**164**	P	**P**	**01 08 13.2**	**+1.0**
BKZ				IAmb	IAmb	01 08 16.5	
	comp=Z,14nm,1.1s						
MSWZ	**Moikau Station**	**23.52**	**168**	P	**P**	**01 08 30.0**	**+0.6**
RPZ	**Rata Peaks**	**25.25**	**176**	P	**P**	**01 08 43.6**	**-1.4**
STKA	**Stephens Creek**	**28.05**	**236**	P	**P**	**01 09 11.2**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=80,slow=8.9,SNR=4.2						
STKA	**Stephens Creek**	**28.05**	**236**	P	**P**	**01 09 09.9**	**-0.3**
WR0	**Warramunga Arr**	**32.51**	**262**	P	**P**	**01 09 49.2**	**-0.4**
WB0	**Warramunga Arr**	**32.66**	**262**	P	**P**	**01 09 50.7**	**-0.2**
WB0				IAmb	IAmb	01 09 51.6	
	comp=Z,5.5nm,0.9s						
WB2	**Warramunga Arr**	**32.69**	**262**	P	**P**	**01 09 50.7**	**-0.4**
WB2				IAmb	IAmb	01 09 51.6	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**32.70**	**262**	P	**P**	**01 09 51.2**	**0.0**
	comp=Z,1.9nm,0.3s,baz=81,slow=6.2,SNR=74						
WRA				PcP	**PcP**	**01 12 31.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=87,slow=3.2,SNR=2.3						
WRA	**Warramunga Arr**	**32.70**	**262**	P	**P**	**01 09 50.1**	**-1.1**
WRA					**PcP**	**01 12 31.2**	**-1.0**
BBOO	**Buckleboo**	**32.77**	**238**	P	**P**	**01 09 51.5**	**-0.3**
BBOO				IAmb	IAmb	01 09 55.5	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**33.07**	**255**	P	**P**	**01 09 54.8**	**+0.3**
ASAR	**Alice Springs**	**33.07**	**255**	P	**P**	**01 09 54.7**	**+0.2**
	comp=Z,8.9nm,0.3s,baz=82,slow=8.5,SNR=150						
ASAR				PcP	**PcP**	**01 12 33.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=95,slow=3.1,SNR=2.4						
ASAR	**Alice Springs**	**33.07**	**255**	P	**P**	**01 09 54.2**	**-0.2**
ASAR					**PcP**	**01 12 32.7**	**-0.5**
KNRA	**Kununurra**	**38.47**	**268**	P	**P**	**01 10 40.0**	**-0.4**
KNRA				IAmb	IAmb	01 10 52.7	
	comp=Z,8.4nm,0.9s						
FORT	**Forrest**	**38.95**	**244**	P	**P**	**01 10 44.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.06**	**263**	P	**P**	**01 11 02.4**	**+0.7**
FITZ				IAmb	IAmb	01 11 03.8	
	comp=Z,3.6nm,0.5s						
PSA00	**Pilbara Seismi**	**46.11**	**258**	P	**P**	**01 11 41.2**	**-0.7**
MJAR	**Matsushiro Arr**	**61.93**	**332**	P	**P**	**01 13 35.9**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=167,slow=7.3,SNR=5.2						
MJAR	**Matsushiro Arr**	**61.93**	**332**	P	**P**	**01 13 36.0**	**0.0**
JHS	**Saijyo**	**63.12**	**327**	P	**P**	**01 13 44.8**	**+0.8**
JHS				IAmb	IAmb	01 13 50.5	
	comp=Z,9.9nm,1.1s						
JSD	**Sado**	**63.16**	**333**	P	**P**	**01 13 43.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**70.92**	**333**	P	**P**	**01 14 33.7**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=168,slow=8.8,SNR=2.9						
USRK	**Ussuriysk Ar.**	**70.92**	**333**	P	**P**	**01 14 32.4**	**-0.4**
QSPA	**South Pole Qui**	**71.60**	**180**	P	**P**	**01 14 36.8**	**0.0**
PETK	**Petropavlovsk-**	**71.92**	**353**	P	**P**	**01 14 39.7**	**+1.1**
	comp=Z,7.8nm,0.7s,baz=158,slow=8.9,SNR=4.9						
PETK	**Petropavlovsk-**	**71.92**	**353**	P	**P**	**01 14 38.5**	**-0.1**
RPSI	**Rantau Prapat**	**72.00**	**279**	P	**P**	**01 14 38.8**	**-1.2**
RPSI				IAmb	IAmb	01 14 41.4	
	comp=Z,7.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**77.94**	**294**	P	**P**	**01 15 15.7**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=130,slow=3.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**77.94**	**294**	P	**P**	**01 15 13.0**	**-0.9**
ULN	**Ulaanbaatar**	**86.08**	**323**	P	**P**	**01 15 55.0**	**-0.7**
ULN				IAmb	IAmb	01 15 57.3	
	comp=Z,2.9nm,0.7s						
SONM	**Songino Array**	**86.43**	**323**	P	**P**	**01 15 58.6**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=145,slow=5.1,SNR=13						
SONM	**Songino Array**	**86.43**	**323**	P	**P**	**01 15 57.2**	**-0.3**
ILAR	**Eielson Array**	**89.56**	**17**	P	**P**	**01 16 10.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=233,slow=5.4,SNR=10						
MKAR	**Makanchi Array**	**100.99**	**316**	P	**Pdif**	**01 17 05.8**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=93,slow=7.4,SNR=6.2						
MKAR	**Makanchi Array**	**100.99**	**316**		**Pdif**	**01 17 04.2**	**+0.1**
ARCES	**ARCESS Array B**	**124.24**	**345**	PKP	**PKPdf**	**01 22 10.7**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=64,slow=2.1,SNR=9.5						
EKA	**Eskdalemuir Ar**	**142.69**	**353**	PKP	**PKPdf**	**01 22 44.1**	**-2.4**
	comp=Z,3.2nm,1.0s,baz=41,slow=2.3,SNR=1.7						
CONA	**Conrad Observa**	**143.33**	**329**	*eP*	**PKPdf**	**01 22 47.4**	**-0.5**
	comp=Z,3.6nm,0.7s						
GERES	**GERESS Array B**	**143.67**	**332**	PKP	PKPbc	01 22 46.8	+0.2
	comp=Z,1.1nm,0.8s,baz=76,slow=0.6,SNR=8.8						
GERES	**GERESS Array B**	**143.67**	**332**		**PKPdf**	**01 22 47.1**	**-1.4**
ARSA	**Arzberg**	**143.97**	**329**	*eP*	**PKPdf**	**01 22 48.1**	**-0.9**
	comp=Z,2.2nm,0.7s						
MOA	**Molln**	**144.15**	**331**	*eP*	**PKPdf**	**01 22 48.6**	**-0.7**
	comp=Z,4.7nm,0.6s						
SOKA	**Soboth**	**144.61**	**328**	*i P*	**PKPdf**	**01 22 49.8**	**-0.4**
	comp=Z,8.5nm,0.6s,SNR=14						
OBKA	**Obir**	**144.96**	**329**	*i P*	**PKPdf**	**01 22 51.7**	**+0.8**
	comp=Z,4.8nm,0.7s						
MYKA	**Terra Mystica**	**145.32**	**330**	*eP*	**PKPab**	**01 22 52.1**	**+0.1**
	comp=Z,5.2nm,0.9s						
WATA	**Walderalm**	**145.75**	**332**	*i P*	**PKPab**	**01 22 53.2**	**-0.5**
	comp=Z,2.6nm,0.6s						
ABTA	**Abfaltersbach**	**145.77**	**331**	*eP*	**PKPab**	**01 22 52.9**	**-0.9**
	comp=Z,2.1nm

	comp=Z,8.3nm,1.2s							
MOTA	**Moosalm**	**145.95**	**333**	*e*P		**PKPab**	**01 22 54.3**	**-0.2**
	comp=Z,8.9nm,0.8s							
RETA	**Reutte**	**145.99**	**333**	*i* P		**PKPab**	**01 22 54.0**	**-0.6**
	comp=Z,6.4nm,1.3s							
SQTA	**Sankt Quirin**	**146.00**	**333**	*e*P		**PKPab**	**01 22 54.2**	**-0.5**
	comp=Z,6.5nm,0.7s,SNR=4.9							
FETA	**Feichten**	**146.36**	**333**	*e*P		**PKPab**	**01 22 55.5**	**-0.7**
	comp=Z,3.4nm,0.7s,SNR=6.5							
DAVOX	**Davos/Dischmat**	**146.91**	**333**		PKPbc	**PKPab**	**01 22 57.1**	**-1.2**
	comp=Z,7.0nm,0.5s,baz=250,slow=2.4,SNR=20							
ESDC	**Sonseca Array**	**157.98**	**345**		PKPab	**PKPab**	**01 23 45.6**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=276,slow=2.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**166.66**	**249**		PKP	**PKPdf**	**01 23 18.5**	**-1.3**
	comp=Z,1.0nm,1.2s,baz=254,slow=0.5,SNR=4.4							
TORD					PKPab	**PKPab**	**01 24 23.4**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=104,slow=6.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**166.66**	**249**			**PKPdf**	**01 23 18.1**	**-1.7**
TORD						**PKPab**	**01 24 20.9**	**-2.6**

IDC 16 01:18:39.1±1.4, 49°43'N×28°47'W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/54, mbtmp3.7/4, Error ellipse: s-maj=47.9km s-min=34.1km az=26.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**43.85**	**135**	P	P	01 26 47.1	0.0
	0.3nm,0.8s,baz=336,slow=7.5,SNR=1.1						
PDAR	**Pinedale Array**	**54.06**	**296**	P	P	01 28 05.4	-0.1
	0.9nm,0.9s,baz=64,slow=6.8,SNR=5.7						
MKAR	**Makanchi Array**	**66.97**	**44**	P	P	01 29 33.1	-0.2
	1.5nm,1.0s,baz=322,slow=4.4,SNR=7.7						
SONM	**Songino Array**	**75.56**	**30**	P	P	01 30 26.1	+0.7
	0.2nm,0.3s,baz=318,slow=6.2,SNR=1.8						
ASAR	**Alice Springs**	**150.80**	**35**	PKPbc	PKPbc	01 38 32.7	-0.7
	1.1nm,0.9s,baz=334,slow=2.4,SNR=8.5						

IDC 16 01:27:07.4±0.6, 49°.60N×28°.40W, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.8/48, mbtmp3.8/13, ML4.0/1, MS3.5/1, Ms1 3.6/1, ms1mx2.9/39, Error ellipse: s-maj=21.8km s-min=15.8km az=10.0
NEIC 16 01:27:09.1±0.5, 49°.5N±0°.1×28°.5W±0°.2, h15km±3km, mb4.7/28, Error ellipse: s-maj=22.2km s-min=12.3km az=45.0

ISC 16 01:27:08.5±0.6, 49°.6N±0°.1×28°.43W±0°.09, h10km, n44, σ0s67/40, mb4.3/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.95**	**110**	P	**P**	**01 31 40.2**	**-0.4**
	0.1nm,0.3s,baz=314,slow=8.9,SNR=3.1						
ESDC				LR	LR	01 38 11.9	
	comp=Z,124nm,18.6s,baz=305,slow=33						
ESDC	**Sonseca Array**	**19.95**	**110**	P	**P**	**01 31 40.8**	**+0.3**
MDT	**Midelt**	**24.36**	**124**	P	**P**	**01 32 27.4**	**+0.6**
	1.4nm,0.8s,baz=1.8,slow=8.0,SNR=4.6						
NOA	**NORSAR Array B**	**24.91**	**48**	P	**P**	**01 32 30.4**	**-0.9**
	2.2nm,1.1s,baz=260,slow=9.9,SNR=4.5						
TUE	**Stuetta**	**25.28**	**82**	P	**P**	**01 32 35.2**	**+0.1**
GERES	**GERESS Array B**	**27.28**	**75**	P	**P**	**01 32 54.4**	**+1.5**
	0.7nm,0.8s,baz=286,slow=9.1,SNR=3.4						
GERES	**GERESS Array B**	**27.28**	**75**	P	**P**	**01 32 52.1**	**-0.9**
BUR08	**Bucovina Ar. S**	**34.90**	**72**	P	**P**	**01 34 00.2**	**+0.2**
BURAR	**Bucovina Array**	**34.92**	**72**	P	**P**	**01 34 00.0**	**-0.2**
AKASG	**Malin Array Be**	**36.17**	**66**	P	**P**	**01 34 10.1**	**-0.7**
	0.5nm,0.5s,baz=288,slow=9.0,SNR=4.8						
ULM	**Lac du Bonnet**	**42.08**	**298**	P	**P**	**01 34 59.8**	**-0.4**
	2.0nm,0.6s,baz=101,slow=8.5,SNR=3.4						
ULM	**Lac du Bonnet**	**42.08**	**298**	P	**P**	**01 35 00.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**43.93**	**135**	P	**P**	**01 35 14.4**	**-1.1**
	0.9nm,0.9s,baz=335,slow=8.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**43.93**	**135**	P	**P**	**01 35 15.4**	**-0.1**
CCM	**Cathedral Cave**	**45.51**	**280**	P	**P**	**01 35 27.2**	**-0.7**
CCM				IAmb	IAmb	01 35 29.5	
	comp=Z,11nm,1.2s						
U40A	**Yellville**	**47.55**	**279**	P	**P**	**01 35 43.8**	**-0.3**
U40A				IAmb	IAmb	01 35 44.7	
	comp=Z,7.5nm,1.1s						
N23A	**Red Feather La**	**53.01**	**292**	P	**P**	**01 36 24.7**	**-0.9**
BOZ	**Bozeman (W)**	**53.52**	**300**	P	**P**	**01 36 28.9**	**-0.2**
BOZ				IAmb	IAmb	01 36 30.8	
	comp=Z,18nm,1.9s						
BW06	**Boulder Array**	**54.02**	**296**	P	**P**	**01 36 32.1**	**-0.9**
PD31	**Pinedale Array**	**54.02**	**296**	P	**P**	**01 36 32.8**	**-0.2**
PDAR	**Pinedale Array**	**54.02**	**296**	P	**P**	**01 36 32.5**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=56,slow=8.0,SNR=14						
PDAR	**Pinedale Array**	**54.02**	**296**	P	**P**	**01 36 32.6**	**-0.4**
MSTX	**Muleshoe**	**55.38**	**283**	IAmb	IAmb	01 36 49.1	
	comp=Z,5.4nm,0.8s						
PV12	**Saucer Basin,**	**56.34**	**291**	IAmb	IAmb	01 36 51.3	
	comp=Z,8.4nm,1.0s						
PV03	**Paradox Valley**	**56.41**	**291**	IAmb	IAmb	01 36 52.4	
	comp=Z,6.5nm,1.1s						
PV20	**West Nyswonger**	**56.42**	**291**	P	**P**	**01 36 49.5**	**-0.8**
PV20				IAmb	IAmb	01 36 51.9	
	comp=Z,8.7nm,1.1s						
ILAR	**Eielson Array**	**56.45**	**333**	P	**P**	**01 36 50.7**	**+0.9**
	comp=Z,1.3nm,1.0s,baz=49,slow=5.2,SNR=9.1						
ILAR	**Eielson Array**	**56.45**	**333**	P	**P**	**01 36 50.6**	**+0.8**
PV18	**Skein Mesa, Pa**	**56.45**	**291**	P	**P**	**01 36 50.2**	**-0.3**
PV18				IAmb	IAmb	01 36 52.7	
	comp=Z,9.0nm,1.1s						
PV17	**East Wray Mesa**	**56.46**	**291**	IAmb	IAmb	01 36 57.7	
	comp=Z,6.7nm,0.9s						
DUG	**Dugway, Tooele**	**57.54**	**295**	IAmb	IAmb	01 37 00.1	
	comp=Z,7.7nm,1.1s						
TXAR	**Lajitas Array**	**59.02**	**280**	P	**P**	**01 37 08.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=108,slow=4.1,SNR=9.1						
TXAR	**Lajitas Array**	**59.02**	**280**	P	**P**	**01 37 08.2**	**-0.3**
KVN	**Kaiserville**	**61.37**	**297**	P	**P**	**01 37 24.4**	**-0.3**
KVN				IAmb	IAmb	01 37 26.4	
	comp=Z,9.1nm,1.3s						
GSC	**Goldstone, Bar**	**63.15**	**294**	P	**P**	**01 37 35.5**	**-1.0**
MK31	**Makanchi Array**	**66.85**	**44**	P	**P**	**01 38 00.6**	**+0.3**
MKAR	**Makanchi Array**	**66.85**	**44**	P	**P**	**01 38 00.5**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=316,slow=5.1,SNR=13						
MKAR	**Makanchi Array**	**66.85**	**44**	P	**P**	**01 38 01.1**	**+0.8**
LPAZ	**La Paz**	**74.36**	**220**	P	**P**	**01 38 48.3**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=52,slow=7.2,SNR=1.6						
SONM	**Songino Array**	**75.43**	**30**	P	**P**	**01 38 53.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=318,slow=5.8,SNR=5.9						
SONM	**Songino Array**	**75.43**	**30**	P	**P**	**01 38 52.2**	**-0.2**
WRA	**Warramunga Arr**	**147.40**	**31**	PKPbc	**PKPbc**	**01 46 52.4**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=328,slow=3.3,SNR=7.2						
ASAR	**Alice Springs**	**150.67**	**35**	PKPbc	**PKPbc**	**01 47 00.6**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=359,slow=2.5,SNR=20						
VNDA	**Vanda**	**151.66**	**185**	PKPbc	**PKiKP**	**01 47 01.9**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=194,slow=4.2,SNR=6.1						
VNDA				PKPab	**pPKPab**	**01 47 12.2**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=190,slow=3.5,SNR=8.9						

MDD 16 01:32:40.4±1.2, 35°.56N×0°.46E, h42km±12km, mb3.8/4, Error ellipse: s-maj=11.4km s-min=9.1km az=142.0, PRXIMO
CRAAG 16 01:32:41.3, 35°.72N×0°.54E, Ml2.1

ISC 16 01:32:39.6±2.0, 35°.63N±0°.07×0°.43E±0°.07, h43km±16km, n16, σ1s62/23, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJBR	**Djebel Berber**	**0.08**	**238**	P	**Pn**	**01 32 47.0**	**+0.3**
OJBR	**Djebel Berber**	**0.08**	**238**	P	**Pn**	**01 32 47.0**	**+0.3**
OJGS	**Djebel Guires**	**0.29**	**115**	P	**Pn**	**01 32 48.0**	**-0.2**
OJGS	**Djebel Guires**	**0.29**	**115**	P	**Pn**	**01 32 48.0**	**-0.2**
OKGL	**Djebel Kef Gue**	**0.45**	**23**	P	**Pn**	**01 32 49.0**	**-0.9**
OKGL	**Djebel Kef Gue**	**0.45**	**23**	P	**Pn**	**01 32 50.4**	**+0.5**
	48nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**01 32 58.6**	**+1.5**
	66nm,0.1s,SNR=7.9						
ODJA	**Bouhanifia**	**0.56**	**238**	P	**Sn**	**01 33 00.0**	**+0.4**
ODJA	**Bouhanifia**	**0.56**	**238**	P	**Sn**	**01 33 00.0**	**+0.4**
ENIJ	**Nijar**	**2.52**	**303**	P	**Pn**	**01 33 17.9**	**-0.1**
	0.5nm,0.1s,SNR=4.0						
ENIJ				S	**Sn**	**01 33 43.8**	**-3.7**
	1.0nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.59**	**329**	P	**Pn**	**01 33 20.4**	**+1.4**
	1.3nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**01 33 46.5**	**-2.8**
	8.2nm,0.5s,SNR=7.9						
EBER	**Berja**	**2.97**	**296**	P	**Pn**	**01 33 24.6**	**+0.2**
	2.0nm,0.1s,SNR=16						
EBER				S	**Sn**	**01 33 57.0**	**-1.8**
	0.0nm,0.1s						
ETOB	**Tobarra**	**3.40**	**333**	P	**Pn**	**01 33 32.1**	**+1.8**
	0.6nm,0.1s,SNR=7.5						
ETOB				S	**Sn**	**01 34 07.9**	**-1.5**
	7.5nm,0.7s,SNR=5.8						
SESP	**Santiago Espad**	**3.45**	**317**	P	**Pn**	**01 33 33.1**	**+2.2**
	2.9nm,0.2s,SNR=4.0						
EQUE	**Quentar**	**3.50**	**298**	P	**Pn**	**01 33 32.4**	**+0.9**
	0.5nm,0.2s,SNR=5.9						
ELGU	**Los Guajares,**	**3.50**	**292**	P	**Pn**	**01 33 32.0**	**+0.3**
	0.8nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**01 34 10.6**	**-1.3**
	3.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.55**	**309**	P	**Pn**	**01 33 34.9**	**+2.5**
	0.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**01 34 14.0**	**+0.8**
	2.7nm,0.5s						

ISN 16 01:55:36.9±0.7, 32°.74N×47°.84E, h14km±4km, ML2.5
TEH 16 01:55:37.2, 32°.74N×47°.81E, h8km, ML2.9

ISC 16 01:55:37.1±0.9, 32°.72N±0°.04×47°.88E±0°.04, h10km, n19, σ0s75/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.51**	**266**	*e*Pg	**Pg**	**01 55 46.4**	**-0.6**
DHL1				*e*		01 55 54.6	
IKMR	**Kamar-syah**	**0.90**	**28**	*e*Pg	**Pg**	**01 55 54.8**	**+0.3**
IKMR				*e*		01 55 59.0	
IDOB	**Doab**	**1.09**	**13**	*e*Pg	**Pn**	**01 55 59.0**	**+0.2**
IDOB				*e*		01 56 00.4	
BMDN	**Meydan**	**1.24**	**40**	*e*Pg	**Pg**	**01 56 01.7**	**+0.8**
BMDN				*e*		01 56 26.5	
IKOM	**Komasi**	**1.48**	**348**	*e*		01 56 06.5	
IKOM				*e*Pg	**Pg**	**01 56 05.7**	**+0.1**
AHWZ	**Ahwaz**	**1.53**	**155**	*e*		01 56 32.0	
AHWZ				*e*Pg	**Pg**	**01 56 07.6**	**+1.1**
HSAM	**Samen**	**1.61**	**22**	*e*		01 56 08.9	
HSAM				*e*Pg	**Pg**	**01 56 08.3**	**+0.3**
IBDR	**Badra**	**1.68**	**284**	*e*Pg	**Pn**	**01 56 07.0**	**+0.4**
IBDR				*e*Sg	**Sb**	**01 56 29.0**	**-0.5**
IBDR				AML	AML	01 56 33.2	
	comp=E,64nm,0.6s						
IBDR				AML	AML	01 56 40.0	
	comp=N,68nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.70**	**336**	*e*		01 56 31.9	
KCHF				*e*Pg	**Pb**	**01 56 08.6**	**-0.1**
IBZA	**Bozab**	**1.75**	**360**	*e*Pn	**Pb**	**01 56 10.0**	**+0.5**
IBZA				*e*		01 56 11.6	
KER	**Kermanshah**	**1.77**	**340**	*e*Pg	**Pb**	**01 56 10.4**	**+0.5**
KER				*e*		01 56 44.0	
IVIS	**Veis**	**2.00**	**335**	*e*Pg	**Pb**	**01 56 13.8**	**+0.2**
IVIS				*e*		01 56 14.7	
NSR	**Nassriya**	**2.25**	**221**	*e*Pn	**Pn**	**01 56 15.0**	**+0.5**
NSR				*e*Sn	**Sn**	**01 56 42.0**	**-0.3**
IDHR	**Dehrash**	**2.33**	**328**	*e*Pn	**Pb**	**01 56 18.4**	**-1.0**
IDHR				*e*		01 56 20.4	
HAGD	**Aghdareh**	**2.35**	**26**	*e*Pn	**Pb**	**01 56 18.6**	**-1.1**
HAGD				*e*		01 56 24.6	
JHBN	**Jahan bin**	**2.41**	**101**	*e*Pn	**Pb**	**01 56 19.8**	**-0.9**
JHBN				*e*		01 57 07.2	
HSRG	**Sareghieh**	**2.54**	**7**	*e*Pn	**Pb**	**01 56 21.7**	**-1.3**
HSRG				*e*		01 56 25.1	
IPIR	**Pirpir**	**2.54**	**90**	*e*Pn	**Pb**	**01 56 21.7**	**-1.3**
IPIR				*e*		01 57 02.0	
BHD	**Baghdad**	**2.99**	**282**	*e*Pn	**Pn**	**01 56 25.0**	**+0.4**
BHD				*e*Sn	**Sn**	**01 57 01.0**	**+0.5**

IDC 16 02:11:11.6±0.5, 45°.76S×14°.18W, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/29, mbtmp4.4/17, MS4.1/17, Ms1 4.1/17, ms1mx4.1/22, Error ellipse: s-maj=15.6km s-min=13.2km az=171.0
NEIC 16 02:11:13.7±0.9, 45°.8S±0°.1×14°.1W±0°.2, h15km±4km, mb5.0/39, Error ellipse: s-maj=17.1km s-min=16.2km az=145.0
BJI 16 02:11:14.0±0.0, 45°.90S×14°.20W, h10km, Ms4.9/2, Ms7 4.7/1
GCMT 16 02:11:17.7±0.3, 45°.88S±0°.03×14°.11W±0°.04, h22km±1km, MW5.0/73, Moment Tensor Solution. s13,c13; s73,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.12±.30; Mθθ 1.79±.19; Mϕϕ 1.33±.16; Mrθ 0.65±.26; Mθϕ -1.72±.09; Mrϕ 0.94±.22; Best double couple: M0 3.40400×10^16 NP1: ϕs 293.00000°, δ47.00000°, λ -116.00000°. NP2: ϕs 149.00000°, δ49.00000°, λ -65.00000°. Principal axes: T 3.2980, Plg1.0000°, Azm222.0000°; N 0.2110, Plg19.0000°, Azm312.0000°; P -3.5090, Plg71.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 16 02:11:13.0±0.4, 45°.83S±0°.08×14°.16W±0°.09, h10km, n105, σ0s91/85, mb4.8/32, MS4.2/22, 2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**25.06**	**175**	P	**P**	**02 16 37.2**	**+0.1**
VNA2	**Neumayer--Watz**	**25.38**	**175**	P	**P**	**02 16 39.2**	**-0.8**
	baz=351,slow=9.2						
VNA3	**Neumayer Olymp**	**25.58**	**177**	P	**P**	**02 16 40.0**	**-1.8**
SNAA	**Sanae**	**26.48**	**172**	P	**P**	**02 16 49.9**	**-0.1**
SNAA	**Sanae**	**26.48**	**172**	P	**P**	**02 16 51.5**	**+1.5**
	3.8nm,0.9s,baz=352,slow=9.4,SNR=12						
SNAA				LR	LR	02 24 34.4	
	comp=Z,238nm,20.7s,baz=34,slow=30						
SNAA	**Sanae**	**26.48**	**172**	P	**P**	**02 16 49.5**	**-0.5**
SUR	**Sutherland**	**30.02**	**76**	LR	LR	02 26 33.1	
	comp=Z,1μm,20.0s,baz=234,slow=31						
PMSA	**Palmer Station**	**32.97**	**217**	LR	LR	02 28 30.3	
	comp=Z,274nm,21.9s,baz=73,slow=32						
BELA	**Belgrano 2**	**33.15**	**188**	P	**P**	**02 17 48.8**	**-0.2**
MG01	**Puerto William**	**34.51**	**235**	P	**P**	**02 18 01.1**	**+0.1**
USHA	**Ushuaia**	**34.98**	**235**	P	**P**	**02 18 05.1**	**0.0**
	8.9nm,0.8s,baz=52,slow=2.0,SNR=5.9						
SYO	**Syowa Base**	**35.32**	**150**	*i*eP	**P**	**02 18 06.0**	**-1.9**
SYO	**Syowa Base**	**35.32**	**150**	*i*pP	**P**	**02 18 07.2**	**-0.7**
BOSA	**Boshof**	**35.36**	**75**	P	**P**	**02 18 08.2**	**-0.6**
	5.6nm,0.9s,baz=230,slow=9.1,SNR=8.6						
BOSA				LR	LR	02 29 48.8	
	comp=Z,788nm,19.8s,baz=229,slow=32						
BOSA	**Boshof**	**35.36**	**75**	IAmb	IAmb	02 18 14.9	
	comp=Z,19nm,1.3s						
H10S2	**ASCENSION HYDR**	**36.74**	**359**	T	T	02 57 28.1	
	baz=179,slow=74,SNR=29						
H10S3	**ASCENSION HYDR**	**36.75**	**359**	T	T	02 57 28.5	
	baz=41,slow=74,SNR=126						
TSUM	**Tsumeb**	**37.28**	**55**	P	**P**	**02 18 25.1**	**-0.2**
	comp=Z,7.2nm,0.8s,baz=201,slow=11,SNR=8.3						
TSUM	**Tsumeb**	**37.28**	**55**	P	**P**	**02 18 25.3**	**0.0**
TSUM				IAmb	IAmb	02 18 32.5	
	comp=Z,43nm,1.6s						
H10N1	**ASCENSION HYDR**	**37.85**	**359**	T	T	02 58 48.7	
	baz=179,slow=72,SNR=9.0						
H10N3	**ASCENSION HYDR**	**37.85**	**359**	T	T	02 58 51.7	
	baz=179,slow=72,SNR=24						
H10N2	**ASCENSION HYDR**	**37.86**	**359**	T	T	02 58 50.0	
	baz=179,slow=72,SNR=7.9						
LBTB	**Lobatse**	**37.97**	**71**	P	**P**	**02 18 31.2**	**+0.1**
	comp=Z,14nm,0.8s,baz=220,slow=8.7,SNR=31						
LBTB	**Lobatse**	**37.97**	**71**	P	**P**	**02 18 30.9**	**-0.2**
LBTB				IAmb	IAmb	02 18 31.9	
	comp=Z,18nm,0.8s						
CPUP	**Villa Florida**	**39.37**	**285**	P	**P**	**02 18 42.9**	**+0.2**
	comp=Z,6.8nm,1.2s,baz=111,slow=8.0,SNR=5.4						
CPUP				LR	LR	02 34 08.6	
	comp=Z,142nm,18.1s,baz=146,slow=35						
CPUP	**Villa Florida**	**39.37**	**285**	P	**P**	**02 18 42.9**	**+0.2**
PLCA	**Paso Flores**	**40.64**	**256**	P	**P**	**02 18 53.5**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=155,slow=7.6,SNR=5.5						
PLCA				LR	LR	02 34 00.0	
	comp=Z,253nm,19.6s,baz=132,slow=34						
BDFB	**Brasilia**	**41.33**	**306**	P	**P**	**02 18 59.6**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=150,slow=8.0,SNR=7.2						
BDFB				LR	LR	02 33 24.4	
	comp=Z,380nm,19.6s,baz=120,slow=32						
BDFB	**Brasilia**	**41.33**	**306**	IAmb	IAmb	02 19 05.8	
	comp=Z,22nm,1.7s						
MATP	**Matopo**	**43.09**	**68**	P	**P**	**02 19 13.4**	**-0.1**
	comp=Z,9.5nm,0.8s,baz=220,slow=8.2,SNR=24						
MAW	**Mawson**	**43.90**	**147**	P	**P**	**02 19 20.3**	**+1.0**
	comp=Z,6.2nm,1.0s,baz=253,slow=7.3,SNR=16						
MAW				LR	LR	02 34 54.2	
	comp=Z,86nm,19.0s,baz=242,slow=32						
MAW	**Mawson**	**43.90**	**147**	P	**P**	**02 19 19.3**	**0.0**
GO05	**Huala**	**44.41**	**263**	P	**P**	**02 19 24.0**	**+0.1**
GO05				IAmb	IAmb	02 19 24.4	
	comp=Z,26nm,1.5s						
QSPA	**South Pole Qui**	**44.43**	**180**	P	**P**	**02 19 23.9**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=210,slow=4.9,SNR=16						
QSPA	**South Pole Qui**	**44.43**	**180**	P	**P**	**02 19 23.8**	**0.0**
QSPA				IAmb	IAmb	02 19 26.4	
	comp=Z,42nm,1.6s						
PEL	**Peldehue**	**44.55**	**266**	P	**P**	**02 19 25.0**	**-0.1**
PEL				IAmb	IAmb	02 19 26.1	
	comp=Z,24nm,0.9s						
CO01	**Juntas del Tor**	**45.95**	**270**	P	**P**	**02 19 36.3**	**-0.2**
CO01				IAmb	IAmb	02 19 39.0	
	comp=Z,43nm,1.3s						
GO04	**Tololo Observa**	**46.33**	**269**	P	**P**	**02 19 39.4**	**0.0**
LSZ	**Lusaka**	**46.69**	**63**	P	**P**	**02 19 42.0**	**-0.2**
AC05	**El Transito**	**46.76**	**271**	P	**P**	**02 19 42.6**	**-0.1**
AC02	**Maricunga**	**47.19**	**274**	P	**P**	**02 19 45.9**	**-0.5**
AC02				IAmb	IAmb	02 19 47.9	
	comp=Z,11nm,0.9s						
GO03	**Copiap**	**47.49**	**272**	P	**P**	**02 19 48.2**	**0.0**
GO02	**Mina Guanaco**	**48.56**	**276**	P	**P**	**02 19 56.6**	**-0.3**
AC01	**Pan de Azucar**	**48.64**	**274**	P	**P**	**02 19 57.2**	**+0.1**
SIV	**San Ignacio**	**49.07**	**292**	P	**P**	**02 20 00.1**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=158,slow=5.7,SNR=12						
PB15	**IPOC Station P**	**49.74**	**278**	P	**P**	**02 20 05.6**	**-0.2**
LVC	**Limon Verde**	**49.75**	**279**	P	**P**	**02 20 06.1**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=129,slow=5.8,SNR=7.0						
LVC	**Limon Verde**	**49.75**	**279**	P	**P**	**02 20 05.7**	**-0.4**
PB06	**IPOC Station P**	**50.14**	**278**	P	**P**	**02 20 08.6**	**-0.2**
PB09	**IPOC Station P**	**50.52**	**279**	P	**P**	**02 20 11.3**	**-0.4**
PB09				IAmb	IAmb	02 20 13.9	
	comp=Z,59nm,1.5s						
PB07	**IPOC Station P**	**51.01**	**279**	P	**P**	**02 20 14.6**	**-0.8**
PB07				IAmb	IAmb	02 20 16.8	
	comp=Z,25nm,0.8s						
PB01	**IPOC Station P**	**51.19**	**280**	P	**P**	**02 20 16.7**	**0.0**
PB01				IAmb	IAmb	02 20 18.1	
	comp=Z,30nm,1.0s						
PB08	**IPOC Station P**	**51.57**	**281**	P	**P**	**02 20 18.8**	**-1.0**
PB08				IAmb	IAmb	02 20 21.6	
	comp=Z,29nm,1.2s						
GO01	**Chusmiza**	**51.92**	**281**	P	**P**	**02 20 21.9**	**-0.7**
GO01				IAmb	IAmb	02 20 24.0	
	comp=Z,26nm,1.5s						
PB11	**IPOC Station P**	**52.17**	**281**	P	**P**	**02 20 23.7**	**-0.4**
PB11				IAmb	IAmb	02 20 24.9	
	comp=Z,23nm,1.1s						
LIC	**Lamto**	**52.46**	**11**	*e*P	**P**	**02 20 25.6**	**-0.4**
	comp=Z,2.8nm,0.2s						
KIC	**Kosan Boka**	**52.64**	**12**	*e*P	**P**	**02 20 26.5**	**-0.8**
	comp=Z,13nm,1.0s						
TIC	**Toumodi**	**52.88**	**11**	*e*P	**P**	**02 20 29.5**	**+0.4**
DBIC	**Dimbokro**	**52.92**	**12**	LR	LR	02 37 54.8	
	comp=Z,200nm,18.8s,baz=158,slow=30						
LPAZ	**La Paz**	**53.54**	**285**	P	**P**	**02 20 33.1**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=133,slow=7.0,SNR=5.3						
LPAZ				LR	LR	02 43 27.5	
	comp=Z,105nm,18.2s,baz=86,slow=36						
LPAZ	**La Paz**	**53.54**	**285**	P	**P**	**02 20 33.4**	**-1.4**
SAML	**Samuel**	**55.70**	**295**	P	**P**	**02 20 49.5**	**-0.3**
SAML				IAmb	IAmb	02 20 50.9	
	comp=Z,24nm,1.8s						
VNDA	**Vanda**	**56.90**	**179**	P	**P**	**02 20 57.9**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=194,slow=7.7,SNR=12						
VNDA				LR	LR	02 42 42.9	
	comp=Z,197nm,21.8s,baz=174,slow=33						
VNDA	**Vanda**	**56.90**	**179**	P	**P**	**02 20 57.9**	**+0.4**
VNDA				IAmb	IAmb	02 21 00.3	
	comp=Z,14nm,1.2s						
TOA0	**Torodi Ar. Sit**	**60.42**	**18**	P	**P**	**02 21 22.2**	**-0.4**
TOA0				IAmb	IAmb	02 21 30.5	
	comp=Z,27nm,1.6s						
TORD	**Torodi Ar. Bea**	**60.42**	**18**	P	**P**	**02 21 21.4**	**-1.3**
	comp=Z,4.4nm,1.0s,baz=215,slow=2.8,SNR=11						
TORD				LR	LR	02 41 50.7	

PDGK	**Podgornoye**	**1.43**	**222**	P	**Pb**	**02 12 51.0 +0.5**
	17nm,0.3s					
PDGK				S	**Sn**	**02 13 10.8 +1.2**
	47nm,0.4s					
PDGK	**Podgornoye**	**1.43**	**222**	⇑P	**Pb**	**02 12 51.0 +0.5**
	12nm,0.3s					
PDGK				⇑S	**Sn**	**02 13 10.5 +0.8**
	195nm,0.7s					
SHLS	**Shalkode**	**1.57**	**218**	*e*P	**Pn**	**02 12 50.7 -1.4**
	61nm,0.2s					
SHLS				*e*S	**Sn**	**02 13 10.5 -2.8**
	161nm,0.3s					
SHLS	**Shalkode**	**1.57**	**218**	P	**Pn**	**02 12 50.7 -1.4**
	61nm,0.2s					
SHLS				S	**Sn**	**02 13 10.5 -2.8**
	161nm,0.3s					
KPKS	**Kokpek**	**1.79**	**239**	*e*P	**Pg**	**02 12 57.8 +0.5**
	55nm,0.1s					
KPKS				*e*S	**Sg**	**02 13 22.1 +1.6**
	451nm,0.5s					
UZB	**Uzynbulak**	**1.79**	**226**	*e*P	**Pb**	**02 12 57.3 +0.5**
	31nm,0.3s					
UZB				*e*S	**Sg**	**02 13 21.8 +1.2**
	172nm,0.3s					
UZB	**Uzynbulak**	**1.79**	**226**	P	**Pb**	**02 12 57.0 +0.3**
	31nm,0.3s					
UZB				S	**Sg**	**02 13 21.8 +1.2**
	172nm,0.3s					
TDK	**Taldyqorghan**	**1.81**	**290**	*e*P	**Pg**	**02 12 57.7 +0.1**
	223nm,0.4s					
TDK				*e*S	**Sg**	**02 13 22.6 +1.5**
	104nm,0.3s					
TDK	**Taldyqorghan**	**1.81**	**290**	P	**Pg**	**02 12 57.7 +0.1**
	223nm,0.4s					
TDK				S	**Sg**	**02 13 22.6 +1.5**
	104nm,0.3s					
KURS	**Kuram**	**2.10**	**245**	*e*P	**Pg**	**02 13 03.4 +0.1**
	8.5nm,0.4s					
KURS				*e*S	**Sg**	**02 13 31.5 +0.9**
	80nm,0.4s					
KURS	**Kuram**	**2.10**	**245**	Pg	**Pg**	**02 13 03.4 +0.1**
	8.5nm,0.4s					
KURS				Lg	Lg	02 13 31.5
	80nm,0.4s					
ZHN	**Zhinishke**	**2.11**	**235**	*e*P	**Pb**	**02 13 02.9 +0.8**
	8.9nm,0.3s					
ZHN				*e*S	**Sg**	**02 13 30.9 +0.2**
	66nm,0.2s					
ZHN	**Zhinishke**	**2.11**	**235**	Pg	**Pb**	**02 13 02.5 +0.5**
	156nm,0.3s					
ZHN				Lg	Lg	02 13 30.9
	101nm,0.2s					
ARXS	**Arharly**	**2.14**	**266**	*e*P	**Pb**	**02 13 03.6 +1.0**
	44nm,0.2s					
ARXS				*e*S	**Sg**	**02 13 32.2 +0.5**
	221nm,0.5s					
ARXS	**Arharly**	**2.14**	**266**	Pg	**Pb**	**02 13 03.6 +1.0**
	44nm,0.2s					
ARXS				Lg	Lg	02 13 32.2
	221nm,0.5s					
SATY	**Saty**	**2.19**	**233**	*e*P	**Pb**	**02 13 04.5 +1.0**
	12nm,0.2s					
SATY				*e*S	**Sg**	**02 13 34.2 +0.9**
	289nm,0.3s					
SATY	**Saty**	**2.19**	**233**	Pg	**Pb**	**02 13 04.0 +0.5**
	25nm,0.4s					
SATY				Lg	Lg	02 13 34.2
	289nm,0.3s					
MAKZ	**Makanchi**	**2.55**	**19**	⇓Pg	**Pb**	**02 13 08.1 -1.4**
	1.0nm,0.2s					
MAKZ				⇑Lg	Lg	02 13 39.3
	12nm,0.5s					
MK31	**Makanchi Array**	**2.61**	**23**	⇑Pg	**Pb**	**02 13 08.8 -1.9**
	2.7nm,0.3s,baz=205,slow=14,SNR=62					
MK31				⇑Lg	Lg	02 13 40.4
	2.3nm,0.2s,baz=203,slow=27,SNR=17					
KOTS	**Kotyrbulak**	**2.91**	**248**	*e*P	**Pb**	**02 13 17.2 +1.5**
	19nm,0.4s					
KOTS				*e*S	**Sg**	**02 13 55.2 -1.3**
	58nm,0.4s					
KOTS	**Kotyrbulak**	**2.91**	**248**	Pg	**Pb**	**02 13 17.2 +1.5**
	19nm,0.4s					
KOTS				Lg	Lg	02 13 55.2
	58nm,0.4s					
MDOK	**Medeo**	**2.98**	**247**	*e*P	**Pb**	**02 13 18.6 +1.6**
	7.7nm,0.4s					
MDOK				*e*S	**Sg**	**02 13 57.4 -1.4**
	26nm,0.5s					
MDOK	**Medeo**	**2.98**	**247**	Pg	**Pb**	**02 13 18.6 +1.6**
	7.7nm,0.4s					
MDOK				Lg	Lg	02 13 57.4
	26nm,0.5s					
KTBS	**Karatobe**	**3.04**	**258**	*e*P	**Pb**	**02 13 19.1 +1.1**
	8.0nm,0.4s					
KTBS				*e*S	**Sg**	**02 13 58.9 -1.9**
	157nm,0.4s					
KTBS	**Karatobe**	**3.04**	**258**	Pg	**Pb**	**02 13 19.1 +1.1**
	8.0nm,0.4s					
KTBS				Lg	Lg	02 13 58.9
	157nm,0.4s					
TNSS	**Tian-Shan**	**3.10**	**245**	*e*P	**Pb**	**02 13 21.0 +1.8**
	4.3nm,0.2s					
TNSS				*e*S	**Sg**	**02 14 01.7 -1.0**
	16nm,0.3s					
TNSS	**Tian-Shan**	**3.10**	**245**	Pg	**Pb**	**02 13 21.0 +1.8**
	4.3nm,0.2s					
TNSS				Lg	Lg	02 14 01.7
	16nm,0.3s					
KUU	**Kurty**	**3.25**	**263**	*e*P	**Pb**	**02 13 22.4 +0.9**
	6.6nm,0.3s					
KUU				*e*S	**Sb**	**02 14 03.9 +2.4**
	45nm,0.4s					
KUU	**Kurty**	**3.25**	**263**	Pg	**Pb**	**02 13 22.4 +0.9**
	6.6nm,0.3s					
KUU				Lg	Lg	02 14 03.9
	45nm,0.4s					
DGS	**Degeres**	**3.82**	**254**	*e*P	**Pb**	**02 13 32.0 +0.9**
	5.8nm,0.3s					
DGS				*e*S	**Sb**	**02 14 20.9 +3.0**
	60nm,0.7s					
DGS	**Degeres**	**3.82**	**254**	Pg	**Pb**	**02 13 32.0 +0.9**
	5.8nm,0.3s					
DGS				Lg	Lg	02 14 20.9
	60nm,0.7s					
TKM2	**Tokmak 2**	**4.05**	**250**	⇑Pg	**Pb**	**02 13 38.3 +3.1**
	3.1nm,0.6s					
TKM2				⇑Lg	Lg	02 14 33.0
	21nm,0.6s					
ZSN	**Zaisan**	**4.17**	**42**	*e*P	**Pb**	**02 13 38.7 +1.6**
	5.7nm,0.2s					
ZSN				*e*S	**Sb**	**02 14 32.1 +4.1**
	14nm,0.3s					
ZSN	**Zaisan**	**4.17**	**42**	Pg	**Pb**	**02 13 38.7 +1.6**
	5.7nm,0.2s					
ZSN				Lg	Lg	02 14 32.1
	14nm,0.3s					
SGDS	**Sogindy**	**4.55**	**260**	Pg	**Pb**	**02 13 46.5 +2.7**
	4.0nm,0.6s					
SGDS				Lg	Lg	02 14 45.2
	6.5nm,0.4s					
AAK	**Ala-Archa**	**4.91**	**251**	⇑Pg	**Pg**	**02 13 54.6 -2.5**
	1.4nm,0.4s					
AAK				⇑Lg	Lg	02 14 59.1
	13nm,0.8s					
KURBB	**Kurchatov Arra**	**6.41**	**347**	⇓Lg	Lg	02 15 43.9
	16nm,0.7s					
KURK	**Kurchatov**	**6.49**	**348**	⇑Lg	Lg	02 15 45.5
	13nm,0.9s					
KK31	**Karatay Array**	**7.56**	**264**	⇓Pg	**Pg**	**02 14 43.7 -4.1**
	0.4nm,0.5s,baz=70,slow=16,SNR=4.3					
KK31				⇑Lg	Lg	02 16 21.9
	0.8nm,0.5s,baz=76,slow=28,SNR=7.6					

RSNC 16 02:29:16.2±1.2, 6°83N×73°14W, h155km±5km, ML3.5, Mw3.8, 9C-8D, Fault plane solution: NP1:ϕs138.00000°, δ64.00000°, λ-122.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**189**	⇓*e*P		Pn	02 29 37.1	-0.4
BARC				*e*S		Sn	02 29 52.0	-1.8
BARC				*i*			02 29 54.9	
	comp=Z,1μm,0.4s							
BRRC	**Barranca, Sant**	**0.63**	**296**	⇑*e*P		Pn	02 29 39.0	+0.2
BRRC				*e*S		Sn	02 29 55.9	-0.2
BRRC				*i*			02 29 59.8	
	comp=Z,485nm,0.2s							

PAMC	**Pamplona, Colo**	**0.67**	**41**	⇑*e*P	Pn	02 29 40.0 +0.3
PAMC				*e*S	Sn	02 29 57.1 -0.5
PAMC				*i*		02 29 59.6
	comp=Z,897nm,0.5s					
RUSC	**La Rusia**	**0.93**	**176**	⇓*e*P	Pn	02 29 41.1 -0.4
RUSC				*e*S	Sn	02 30 00.1 -0.8
RUSC				*i*		02 30 00.8
	comp=Z,466nm,0.3s					
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	⇓*e*P	Pn	02 29 43.5 -1.0
PTBC				*e*S	Sn	02 30 05.3 -0.9
PTBC				*i*		02 30 07.2
	comp=Z,337nm,0.2s					
TAMC	**Tame, Arauca**	**1.40**	**106**	⇑*i*P	Pn	02 29 45.6 +0.4
TAMC				*i*		02 30 06.3
	comp=Z,148nm,0.3s					
TAMC				*e*S	Sn	02 30 07.0 -0.4
OCAC	**Ocana**	**1.41**	**353**	*e*P	Pn	02 29 45.3 -0.2
OCAC				*e*S	Sn	02 30 07.1 -0.8
OCAC				*i*		02 30 10.8
	comp=Z,336nm,0.2s					
SPBC	**San Pablo de B**	**1.49**	**218**	*e*P	Pn	02 29 45.9 -0.3
SPBC				*e*S	Sn	02 30 09.1 -0.1
SPBC				*i*		02 30 14.4
	comp=Z,619nm,0.2s					
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P	Pn	02 29 49.2 -0.4
ZARC				*e*S	Sn	02 30 15.2 -0.2
ZARC				*i*		02 30 21.0
	comp=Z,318nm,0.6s					
SMLC	**San Martn de**	**2.16**	**335**	⇑*e*P	Pn	02 29 53.5 -0.1
SMLC				*e*S	Sn	02 30 21.7 -0.7
SMLC				*i*		02 30 25.3
	comp=Z,458nm,0.1s					
CHIC	**Chingaza**	**2.26**	**195**	⇓*e*P	Pn	02 29 55.0 -0.2
CHIC				*e*S	Sn	02 30 24.6 -0.6
CHIC				*i*		02 30 30.7
	comp=Z,209nm,0.3s					
ROSC	**El Rosal**	**2.30**	**211**	⇓*e*P	Pn	02 29 56.9 +1.4
ROSC				*e*S	Sn	02 30 28.2 +2.3
ROSC				*i*		02 30 34.9
	comp=Z,339nm,0.4s					
HELC	**Santa Helena**	**2.45**	**255**	*e*P	Pn	02 29 56.8 -0.6
HELC				*e*S	Sn	02 30 28.7 -0.4
HELC				*i*		02 30 35.9
	comp=Z,198nm,0.4s					
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	Pn	02 29 56.9 -1.2
UREC				*e*S	Sn	02 30 28.5 -1.9
UREC				*i*		02 30 39.2
	comp=Z,208nm,0.2s					
GUY2C	**Guyana, Caldas**	**2.73**	**234**	*e*P	Pn	02 30 01.0 +0.2
GUY2C				*e*S	Sn	02 30 39.5 +4.2
GUY2C				*i*		02 30 47.2
	comp=Z,216nm,0.5s					
VILC	**Villavicencio,**	**2.76**	**191**	*e*P	Pn	02 30 00.5 -0.4
VILC				*e*S	Sn	02 30 34.6 -0.9
VILC				*i*		02 30 44.2
	comp=Z,197nm,0.5s					
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i*P	Pn	02 30 00.3 -1.0
PTGC				*e*S	Sn	02 30 33.3 -3.0
PTGC				*i*		02 30 38.5
	comp=Z,285nm,0.3s					
RREF	**El Recreo**	**2.91**	**229**	*e*P	Pn	02 29 59.8 -3.5
RREF				*e*S	Sn	02 30 37.8 -1.9
RREF				*i*		02 30 40.1
	comp=Z,183nm,0.3s					
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*e*P	Pn	02 30 04.6 +0.6
CBOC				*e*S	Sn	02 30 41.8 +0.7
CBOC				*i*		02 30 58.0
	comp=Z,61nm,0.5s					
DBBC	**Dabeiba**	**3.05**	**274**	⇑*e*P	Pn	02 30 04.5 0.0
TOLC	**Tolima**	**3.11**	**224**	*e*P	Pn	02 30 06.3 +0.8
TOLC				*e*S	Sn	02 30 46.2 +2.6
MOTC	**Monteria, Cord**	**3.16**	**308**	*e*P	Pn	02 30 04.2 -1.7
MOTC				*e*S	Sn	02 30 42.8 -1.5
MOTC				*i*		02 30 44.8
	comp=Z,86nm,0.5s					
ARGC	**Ariguani, Magd**	**3.20**	**340**	*e*P	Pn	02 30 07.1 +0.8
ARGC				*e*S	Sn	02 30 45.3 +0.1
ARGC				*i*		02 30 57.2
	comp=Z,96nm,0.2s					
SDV	**Santo Domingo**	**3.22**	**50**	*e*P	Pn	02 30 06.6 -0.2
SDV				*e*S	Sn	02 30 43.9 -2.0
SDV				*i*		02 30 47.6
	comp=Z,58nm,0.5s					
ANIL	**Santa Ana**	**3.23**	**224**	*e*P	Pn	02 30 08.3 +1.3
ANIL				*e*S	Sn	02 30 47.8 +1.3
ANIL				*i*		02 30 54.1
	comp=Z,53nm,0.3s					
PRAC	**Prado**	**3.55**	**209**	⇓*e*P	Pn	02 30 10.2 -0.6
PRAC				*e*S	Sn	02 30 53.0 -0.3
PRAC				*i*		02 30 59.4
	comp=Z,190nm,0.2s					
ORTC	**Ortega, Tolima**	**3.58**	**216**	⇑*e*P	Pn	02 30 11.2 0.0
ORTC				*e*S	Sn	02 30 54.9 +0.9
ORTC				*i*		02 31 01.0
	comp=Z,110nm,0.3s					
SJCC	**San Jacinto, C**	**3.65**	**327**	⇑*e*P	Pn	02 30 10.9 -1.3
SJCC				*e*S	Sn	02 30 52.4 -3.3
SJCC				*i*		02 30 56.4
	comp=Z,59nm,0.5s					
PLMC	**San Jos del P**	**3.66**	**239**	⇑*e*P	Pn	02 30 12.5 +0.1
PLMC				*e*S	Sn	02 30 55.2 -0.7
PLMC				*i*		02 30 58.7
	comp=Z,58nm,0.5s					
YOTC	**Yotoco, Valle**	**4.26**	**229**	*e*P	Pn	02 30 19.8 -0.3
YOTC				*e*S	Sn	02 31 11.3 +1.4
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	Pn	02 30 19.9 -0.5
GUVC				*e*S	Sn	02 31 08.0 -2.5
GUVC				*i*		02 31 13.3
	comp=Z,104nm,0.4s					
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	Pn	02 30 22.5 +0.2
SMRC				*e*S	Sn	02 31 09.8 -4.0
SMRC				*i*		02 31 14.2
	comp=Z,41nm,0.4s					
CAPC	**Capurgana**	**4.54**	**294**	*e*P	Pn	02 30 20.8 -2.9
CAPC				*e*S	Sn	02 31 10.3 -6.0
MACC	**Macarena, Meta**	**4.71**	**189**	⇓*e*P	Pn	02 30 24.0 -1.9
MACC				*e*S	Sn	02 31 14.8 -5.5
MACC				*i*		02 31 47.0
	comp=Z,30nm,0.4s					
MARP	**Paez Belalcaza**	**4.85**	**215**	*e*P	Pn	02 30 28.5 +0.5
MARP				*e*S	Sn	02 31 21.2 -2.9
MARP				*i*		02 31 25.1
	comp=Z,12nm,0.2s					
URIC	**Uribia, Colomb**	**4.97**	**13**	*e*P	Pn	02 30 27.0 -2.4
URIC				*e*S	Sn	02 31 21.7 -4.8
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P	Pn	02 30 31.3 -1.0
GARC				*e*S	Sn	02 31 26.8 -4.9
GARC				*i*		02 31 31.1
	comp=Z,45nm,0.3s					
PCON	**Cinco Dias**	**5.53**	**216**	*e*P	Pn	02 30 36.7 -0.6
POPC	**Popayan, Colom**	**5.53**	**220**	*e*P	Pn	02 30 37.2 +0.2
POPC				*e*S	Sn	02 31 35.3 -4.8
FLOC	**Florencia**	**5.78**	**206**	⇑*e*P	Pn	02 30 39.6 -0.6
FLOC				*e*S	Sn	02 31 46.3 +0.5
FLOC				*i*		02 31 53.9
	comp=Z,10.0nm,0.2s					
BBAC	**Balboa, Cauca**	**6.29**	**221**	*e*P	Pn	02 30 47.1 +0.1
BBAC				*e*S	Sn	02 31 56.4 -1.9

*TEH **16** 03:01:47.0, 32°.55N×47°.86E, h14km, ML3.1*
*THR **16** 03:01:47.3±0.3, 32°.47N×47°.89E, h16km±3km, ML3.2*
*ISN **16** 03:01:47.8±1.4, 32°.60N×47°.85E, h15km±6km, ML2.8*
ISC 16 03:01:46.8±1.4, 32°.54N±0°.03×47°.85E±0°.03, h5km±12km, n37, σ1s09/46, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.50**	**286**	*e*Pg		**Pg**	**03 01 56.3**	**-0.2**
DHL1				*e*Sg		**Sb**	**03 02 05.3**	**-0.5**
IKMR	**Kamar-syah**	**1.07**	**24**	*e*			03 02 29.5	
IKMR				*e*Pg		**Pb**	**03 02 06.8**	**-1.0**
IDOB	**Doab**	**1.27**	**12**	*e*Pg		**Pn**	**03 02 10.8**	**-0.7**
AHWZ	**Ahwaz**	**1.38**	**151**	*e*Pg		**Pb**	**03 02 12.9**	**-0.3**
AHWZ				*e*Sg		**Sg**	**03 02 33.0**	**+1.7**
BMDN	**Meydan**	**1.39**	**36**	*e*Pg		**Pb**	**03 02 13.4**	**0.0**
BMDN				*e*			03 02 36.1	
IKOM	**Komasi**	**1.65**	**350**	*e*Pg		**Pb**	**03 02 17.5**	**-0.4**
IKOM				*e*			03 02 48.0	
IBDR	**Badra**	**1.71**	**290**	*e*Pg		**Pb**	**03 02 18.0**	**-0.8**
IBDR				*e*Sg		**Sb**	**03 02 41.0**	**+0.3**
IBDR					AML	AML	03 02 44.2	
	comp=E,122nm,0.5s							
IBDR					AML	AML	03 02 45.5	
	comp=N,160nm,0.8s							
HSAM	**Samen**	**1.78**	**20**	*e*Pg		**Pb**	**03 02 19.7**	**-0.4**
HSAM				*e*			03 02 51.3	
KCHF	**Cheshme Sefid,**	**1.85**	**339**	*e*Pg		**Pb**	**03 02 21.6**	**+0.2**
KCHF				*e*			03 02 55.9	
IBZA	**Bozab**	**1.92**	**0**	*e*Pn		**Pb**	**03 02 21.6**	**-0.9**
IBZA				*e*			03 02 25.7	
KER	**Kermanshah**	**1.93**	**342**	*e*Pn		**Pb**	**03 02 21.9**	**-0.8**
IGHG	**Ghaleghazi**	**2.08**	**329**	*e*Pn		**Pn**	**03 02 23.2**	**+0.6**
IGHG				*e*			03 03 18.6	
NSR	**Nassriya**	**2.11**	**224**	*e*Pn		**Pb**	**03 02 24.0**	**-1.6**
NSR				*e*Sn		**Sb**	**03 02 51.0**	**-1.2**
KHMZ	**Khomeyn**	**2.13**	**55**	*e*Pn		**Pb**	**03 02 24.9**	**-1.2**
KHMZ				*e*Sg		**Sg**	**03 02 55.2**	**-0.1**
KHMZ	**Khomeyn**	**2.13**	**55**	*e*Pn		**Pb**	**03 02 24.9**	**-1.2**
IVIS	**Veis**	**2.15**	**337**	*e*Pn		**Pn**	**03 02 24.0**	**+0.5**
IVIS				*e*			03 03 02.7	
IALM	**Almabolaq**	**2.33**	**6**	*e*Pn		**Pb**	**03 02 27.6**	**-1.8**
JHBN	**Jahan bin**	**2.40**	**97**	*e*Pn		**Pn**	**03 02 27.2**	**+0.1**
JHBN				*e*			03 03 10.9	
IDHR	**Dehrash**	**2.47**	**331**	*e*Pn		**Pn**	**03 02 28.9**	**+0.9**
IDHR				*e*			03 02 33.3	
ILIN	**Lien**	**2.48**	**343**	*e*Pn		**Pn**	**03 02 29.3**	**+1.1**
ILIN				*e*			03 03 16.0	
HAGD	**Aghdareh**	**2.51**	**25**	*e*Pn		**Pn**	**03 02 29.8**	**+1.2**
HAGD				*e*			03 03 07.9	
IPIR	**Pirpir**	**2.57**	**86**	*e*Pn		**Pn**	**03 02 29.8**	**+0.4**
IPIR				*e*			03 03 20.1	
SNGE	**Sanandaj**	**2.58**	**351**	*e*Pn		**Pb**	**03 02 31.5**	**-2.2**
SNGE				*e*Sg		**Sg**	**03 03 10.5**	**+0.8**
SNGE					IAML		03 03 16.4	
	comp=N,47nm,0.5s							
SNGE	**Sanandaj**	**2.58**	**351**	*e*Pn		**Pb**	**03 02 31.5**	**-2.2**
ASAO	**Ashtian**	**2.70**	**42**	*e*Pn		**Pn**	**03 02 32.7**	**+1.6**
ASAO	**Ashtian**	**2.70**	**42**	*e*Pn		**Pn**	**03 02 32.7**	**+1.6**
HSRG	**Sareghieh**	**2.71**	**7**	*e*Pn		**Pn**	**03 02 32.6**	**+1.2**
HSRG				*e*			03 03 27.2	
BHD	**Baghdad**	**3.01**	**285**	*e*Pn		**Pn**	**03 02 36.0**	**+0.8**
BHD				*e*Sn		**Sn**	**03 03 13.0**	**+1.3**
IKLH	**Kolahrood**	**3.23**	**75**	*e*Pn		**Pn**	**03 02 39.2**	**+0.8**
GHVR	**GHOM**	**3.46**	**55**	*e*Pn		**Pn**	**03 02 42.6**	**+1.1**
GHVR				*e*S		**Sn**	**03 03 22.8**	**-0.2**
GHVR	**GHOM**	**3.46**	**55**	*e*Pn		**Pn**	**03 02 42.6**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.47**	**24**	*e*Pn		**Pn**	**03 02 42.6**	**+0.9**
IZEF	**Zefreh**	**3.79**	**83**	*e*Pn		**Pn**	**03 02 46.2**	**0.0**
KRSH	**Karshahi**	**3.86**	**67**	*e*Pn		**Pn**	**03 02 47.9**	**+0.9**
QSDN	**Sirdan**	**4.10**	**15**	*e*Pn		**Pn**	**03 02 51.7**	**+1.3**
QALM	**Alamut, Qazvin**	**4.51**	**30**	*e*Pn		**Pn**	**03 02 56.4**	**+0.3**
MSL	**Mosul**	**5.49**	**316**	*e*Pn		**Pn**	**03 03 11.0**	**+1.7**
MSL				*e*Sn		**Sn**	**03 04 12.0**	**-0.8**

*DNK **16** 03:14:52.1±3.0, 63°.84N×16°.84W, h15km, mb4.5*
*MOS **16** 03:14:57.9±1.2, 64°.56N×17°.64W, h10km, mb4.7/32, MS4.0/4, Error ellipse: s-maj=10.7km s-min=6.9km az=106.3*
*IDC **16** 03:14:58.0±0.6, 64°.58N×17°.67W, h0km, mb4.0/18, mb1 4.3/21, mb1mx4.1/47, mbtmp4.1/21, ML3.8/3, MS3.7/29, Ms1 3.7/29, ms1mx3.6/47, Error ellipse: s-maj=18.3km s-min=10.7km az=22.0*
*REY **16** 03:14:57.4, 64°.67N×17°.45W, h4km*
*NEIC **16** 03:14:59.2±0.9, 64°.62N±0°.10×17°.5W±0°.1, h8km±4km, mb4.7/80, Error ellipse: s-maj=14.7km s-min=8.4km az=194.0*
*GCMT **16** 03:15:02.2±0.3, 64°.57N±0°.04×17°.12W±0°.08, h14km±1km, MW4.7/96, Moment Tensor Solution. s16,c18; s96,c113; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.58±.13; Mθθ 0.95±.09; Mϕϕ 0.62±.07; Mrθ~0.48±.22; Mϕθ~0.47±.05; Mϕr~0.67±.19; Best double couple: Mo 1.59200×10^16 NP1:ϕs325.00000°, δ48.00000°, λ-62.00000°. NP2: ϕs106.00000°, δ49.00000°, λ-118.00000°. Principal axes: T 1.2930, Plg0.0000°, Azm215.0000°; N 0.5970, Plg21.0000°, Azm125.0000°; P -1.8910, Plg69.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 03:14:58.8±0.7, 64°.67N±0°.02×17°.43W±0°.02, h5km±4km, n301, σ1s83/286, mb4.6/101, MS3.7/30, 8C-12D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.13**	**13**	P		**Pg**	**03 15 00.3**	**-1.1**
	baz=16							
IVON	**Vonarskard**	**0.14**	**273**	P		**Pg**	**03 15 00.2**	**-1.4**
	baz=272							
IURH	**Urdarhals**	**0.20**	**38**	P		**Pg**	**03 15 01.6**	**-1.1**
	baz=40							
IGRF	**Grimsfjall**	**0.27**	**164**	P		**Pg**	**03 15 02.9**	**-1.2**
	baz=163							
IHUS	**Husbondi**	**0.39**	**195**	P		**Pg**	**03 15 04.8**	**-1.4**
	baz=194							
ISKR	**Skrokkalda**	**0.42**	**256**	P		**Pg**	**03 15 05.0**	**-2.0**
	baz=255							
IKRE	**Kreppuhraun**	**0.47**	**75**	P		**Pg**	**03 15 06.0**	**-1.8**
	baz=75							
IJOK	**Jokulheimar**	**0.49**	**224**	P		**Pg**	**03 15 06.3**	**-2.0**
	baz=224							
IMKO	**Mokollar**	**0.56**	**56**	S		**Sg**	**03 15 16.4**	**-0.5**
	baz=56							
IMKO				P		**Pg**	**03 15 07.6**	**-2.0**
	baz=56							
IIEY	**Innrieyrar**	**0.65**	**208**	P		**Pg**	**03 15 09.1**	**-2.2**
	baz=207							
IKSK	**Karasker**	**0.66**	**140**	P		**Pg**	**03 15 08.8**	**-2.6**
	baz=140							
ISVA	**Svartarkot**	**0.68**	**6**	P		**Pg**	**03 15 09.5**	**-2.2**
	baz=6.9							
IKAL	**Kalfafell**	**0.73**	**189**	P		**Pg**	**03 15 10.6**	**-2.1**
	baz=188							
IVSH	**V-Sauoahnukur**	**0.75**	**78**	S		**Sg**	**03 15 21.0**	**-1.7**
	baz=78							
IVSH				P		**Pg**	**03 15 10.6**	**-2.4**
	baz=78							
IVAT	**Vatnsfell**	**0.80**	**234**	P		**Pg**	**03 15 12.1**	**-2.1**
	baz=234							
IADA	**Aoalbol**	**0.87**	**65**	P		**Pg**	**03 15 12.6**	**-2.9**
	baz=66							
IADA				S		**Sg**	**03 15 24.8**	**-2.0**
	baz=66							
IHVE	**Hveravellir**	**0.94**	**284**	P		**Pg**	**03 15 13.4**	**-3.3**
	baz=284							
IMEL	**Melhnausar**	**0.96**	**20**	P		**Pg**	**03 15 14.2**	**-3.0**
	baz=20							
ISNB	**Snabyli**	**1.07**	**210**	P		**Pg**	**03 15 16.2**	**-3.1**
	baz=210							
IKVO	**Krokottuvotn**	**1.08**	**12**	P		**Pg**	**03 15 16.1**	**-3.4**
	baz=13							
ISLY

BORG Borgarnes 1.67 275 Pn **Pn** **03 15 25.3 -3.3**
37nm,0.3s,baz=81,slow=7.4,SNR=107
BORG LR LR 03 15 37.6
comp=Z,606nm,18.5s,baz=47,slow=25
BORG Sn **Sn** **03 15 50.6 +0.1**
49nm,0.3s,baz=69,slow=23,SNR=14
BORG Borgarnes 1.67 275 Pn 03 15 25.9 -2.7
BORG **Sn** **03 15 50.0 -0.4**
ISOL Solvholt 1.70 246 P **Pn** **03 15 26.0 -3.0**
baz=246
IKRO Krokur 1.70 252 P **Pn** **03 15 25.8 -3.3**
baz=252
IBJA Bjarnastaoir 1.83 249 P **Pn** **03 15 28.2 -2.6**
baz=248
ISAN Sandskeio 1.90 253 P **Pn** **03 15 29.6 -2.1**
baz=253
IKUD Kuludalsa 1.95 262 P **Pn** **03 15 29.4 -3.1**
baz=262
IKAS Kald??rsel 2.03 253 P **Pn** **03 15 31.5 -2.0**
baz=253
JMIC Jan Mayen 7.18 24 LR LR 03 18 55.0
comp=Z,549nm,19.5s,baz=248,slow=32
KPL Plockton 9.30 137 *eP* **Pn** **03 17 12.4 -0.8**
FOO Floro 10.60 97 *eP* **Pn** **03 17 27.9 -3.2**
DRUM Mains of Drumt 10.64 130 *eP* **Pn** **03 17 31.3 -0.3**
SUE Sulen 10.74 99 *eP* **Pn** **03 17 32.2 -0.7**
SUMG Summit 10.96 325 P **Pn** **03 17 35.6 -0.7**
SUMG Summit 10.96 325 Pn **Pn** **03 17 35.6 -0.7**
SUMG Summit 10.96 325 *i P* **Pn** **03 17 40.2 +3.9**
SUMG Summit 10.96 325 *i P* **Pn** **03 17 40.2 +3.9**
AKN Aaknes 11.19 92 *eP* **Pn** **03 17 37.3 -1.9**
ASK Askoy 11.21 102 *eP* **Pn** **03 17 40.8 +1.4**
BER Bergen 11.32 102 *eP* **Pn** **03 17 42.3 +1.4**
EKA Eskdalemuir Ar 11.74 136 Pn **Pn** **03 17 45.8 -0.9**
baz=323,slow=14,SNR=16
ESK Eskdalemuir 11.74 136 P **Pn** **03 17 45.0 -1.7**
ESK Eskdalemuir 11.74 136 Pn **Pn** **03 17 45.0 -1.7**
KMY Karmoy 11.95 107 *eP* **Pn** **03 17 48.6 -0.9**
DAG Danmarks Havn 12.17 359 *i P* **Pn** **03 17 56.4 +3.9**
DAG pmax pmax
comp=Z,26nm,1.4s
DAG Danmarks Havn 12.17 359 *i P* **Pn** **03 17 56.4 +3.9**
comp=Z,26nm,1.4s
DAG Danmarks Havn 12.17 359 *i P* **Pn** **03 17 56.5 +3.9**
DAG IAmb IAmb 03 18 00.1
comp=Z,26nm,1.4s
BLS5 Blasjo 12.33 104 *eP* **Pn** **03 17 54.3 -0.4**
SKAR Skarslia 12.43 97 *eP* **Pn** **03 17 54.3 -1.8**
EDMD Edmundbyers 12.53 135 *eP* **Pn** **03 17 58.9 +1.4**
NC204 NORSAR Array S 13.20 92 Pn **Pn** **03 18 05.9 -0.8**
NBO00 NORSAR Array S 13.32 93 Pn **Pn** **03 18 04.9 -3.4**
NOA NORSAR Array B 13.51 92 Pn **Pn** **03 18 08.2 -2.5**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.3
NOA LR LR 03 23 29.1
comp=Z,221nm,19.6s,baz=300,slow=38
SFJD Kangerlussuaq 13.69 295 LR LR 03 22 20.7
comp=Z,272nm,20.1s,baz=84,slow=32
HFS Hagfors 15.02 93 LR LR 03 24 25.3
comp=Z,281nm,19.0s,baz=263,slow=38
NOR Nord 17.03 0 *i P* **P** **03 19 00.0 +1.0**
NOR pmax pmax
comp=Z,52nm,1.5s
NOR Nord 17.03 0 *i P* **P** **03 19 00.0 +1.0**
comp=Z,52nm,1.5s
NOR Nord 17.03 0 *i P* **P** **03 19 00.0 +1.0**
NOR IAmb IAmb 03 19 02.5
comp=Z,52nm,1.5s
ARCES ARCESS Array B 17.09 55 P **P** **03 18 59.4 -0.5**
baz=275,slow=11,SNR=4.7
ARCES LR LR 03 24 09.7
comp=Z,174nm,19.6s,baz=275,slow=32
BEBN Eben Emael 18.42 128 x **Pn** **03 19 17.8 +3.3**
BMRD Maredsous 18.54 130 pPn **Pn** **03 19 17.2 +1.2**
BCLA Clavier 18.61 129 Pn **P** **03 19 15.2 -1.5**
DOU Dourbes 18.66 131 x **Pn** **03 19 21.8 +4.3**
MEM Membach 18.69 128 x **Pn** **03 19 21.2 +3.3**
BTNL Ternell 18.75 128 pPn **Pn** **03 19 19.1 +0.5**
BTNL x x 03 19 22.7
BHOU Houvegnez 18.91 128 Pn **P** **03 19 19.4 -0.5**
BHOU x x 03 19 24.0
FINES FINESS Array B 19.68 79 P **Pn** **03 19 30.5 +0.9**
comp=Z,0.2nm,0.3s,baz=299,slow=13,SNR=5.2
FINES LR LR 03 26 59.8
comp=Z,138nm,20.1s,baz=296,slow=36
FINES FINESS Array B 19.68 79 P **Pn** **03 19 29.1 -0.6**
CLF Chambon-Foret 19.78 138 P **P** **03 19 28.6 -0.8**
APA Apatity 20.30 59 *i P* Pn 03 19 39.3 +2.3
APA pmax pmax
comp=Z,26nm,0.6s
APA MLR MLR
comp=Z,700nm,12.0s
CLL Collm 20.68 116 *i P* **P** **03 19 39.6 +0.4**
comp=Z,20nm,1.6s
CLL *i sP* **sP** **03 19 42.5 +0.4**
comp=Z,53nm,1.6s
CLL *i* 03 19 52.9
CLL *eS* Sn 03 23 33.0 -1.8
CLL LmV 03 28 00.0
comp=Z,200nm,20.6s
CLL Collm 20.68 116 *i P* **P** **03 19 39.6 +0.4**
CLL *i* 03 19 42.5
CLL *eS* Sn 03 23 33.0 -1.8
CLL pmax pmax
comp=Z,20nm,1.6s
CLL Collm 20.68 116 **P** **03 19 39.1 -0.2**
GKP Gorka Klasztor 20.89 107 *eP* Pn 03 19 44.0 +0.1
ECH Echery 21.13 129 P **P** **03 19 44.3 +0.1**
ECH pmax pmax
comp=Z,19nm,1.0s
ECH Echery 21.13 129 P **P** **03 19 44.3 +0.1**
STU Stuttgart 21.35 125 P **P** **03 19 46.0 -0.5**
STU Stuttgart 21.35 125 P **P** **03 19 46.0 -0.5**
BRG Berggiesshubel 21.39 115 *i P* **P** **03 19 47.0 +0.1**
comp=Z,33nm,1.3s
BRG Berggiesshubel 21.39 115 *i P* **P** **03 19 47.0 +0.1**
BRG pmax pmax
comp=Z,33nm,1.3s
BFO Black Forest 21.43 127 P **P** **03 19 47.7 +0.3**
BFO pmax pmax
comp=Z,28nm,1.3s
BFO Black Forest 21.43 127 P **P** **03 19 47.6 +0.3**
VSU Vasula 21.54 86 *eP* **P** **03 19 48.0 -0.4**
VSU pmax pmax
comp=Z,58nm,1.1s
FRB Frobisher Bay 21.77 291 LR LR 03 27 21.3
comp=Z,310nm,21.4s,baz=34,slow=34
PRU Pruhonice 22.32 116 *eP* **P** **03 19 58.3 +1.4**
PRU Pruhonice 22.32 116 *eP* **P** **03 19 58.3 +1.4**
KSP Ksiaz 22.34 112 *eP* **P** **03 19 57.8 +0.7**
CHVC Chvalec 22.44 113 *eP* **P** **03 19 59.9 +1.7**
GOPC GO Pecny, Ondr 22.48 116 *eP* **P** **03 20 01.8 +3.2**
GOPC *ex* x 03 20 09.1
GOPC GO Pecny, Ondr 22.48 116 *eP* **P** **03 20 01.8 +3.2**
GOPC *e* 03 20 09.1
UPC Upice 22.49 113 *eP* **P** **03 20 00.6 +1.9**
UPC *ex* x 03 20 10.7
UPC Upice 22.49 113 *eP* **P** **03 20 00.6 +1.9**
OSTC Ostas 22.53 113 *eP* **P** **03 20 00.1 +0.9**
KHC Kasperske Hory 22.65 119 *eP* **P** **03 20 00.7 +0.2**
KHC Kasperske Hory 22.65 119 *eP* **P** **03 20 02.6 +2.1**
KHC pmax pmax
comp=Z,30nm,1.3s
KHC Kasperske Hory 22.65 119 P **P** **03 19 59.7 -0.7**
DPC Dobruska-Polom 22.73 113 *eP* **P** **03 20 02.5 +1.1**
DPC Dobruska-Polom 22.73 113 *eP* **P** **03 20 02.5 +1.1**
SENIN Lac Senin/Sane 22.80 132 **P** **03 20 01.9 -0.4**
SENIN IAmb IAmb 03 20 12.8
comp=Z,51nm,1.6s
SUW Suwalki 22.86 98 *eP* **P** **03 20 03.1 +0.6**
SUW *eS* **S** **03 24 15.7 +3.5**
DAVA Damuels 22.86 126 P **P** **03 20 04.1 +1.3**
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 22.93 119 P **P** **03 20 03.5 +0.1**
GEC2 IAmb IAmb 03 20 17.6
comp=Z,38nm,1.5s
GERES GERESS Array B 22.93 119 P **P** **03 20 03.9 +0.4**
comp=Z,4.6nm,0.9s,baz=322,slow=8.5,SNR=12
GERES GERESS Array B 22.93 119 **P** **03 20 03.4 -0.1**
RETA Reutte 23.00 125 *eP* **P** **03 20 03.4 -0.7**
comp=Z,9.1nm,2.1s
ISAL Salakas 23.07 93 *eP* **P** **03 20 05.5 +0.8**
KRLC Kraliky 23.13 113 *eP* **P** **03 20 05.1 -0.4**
KRLC *epP* **sP** **03 20 09.1 +0.7**
KRLC *ex* x 03 20 17.6

KRLC Kraliky 23.13 113 *eP* **P** **03 20 05.1 -0.4**
KRLC *e* 03 20 09.1
MOTA Moosalm 23.24 125 *eP* **P** **03 20 08.5 +1.7**
comp=Z,16nm,1.5s
TREC Trest 23.25 116 *eP* **P** **03 20 07.7 +1.0**
TREC *ex* x 03 20 20.4
TREC Trest 23.25 116 *eP* **P** **03 20 07.7 +1.0**
IIGN Ignalina 23.25 93 *eP* **P** **03 20 07.5 +0.9**
DAVOX Davos/Dischmat 23.30 127 P **P** **03 20 07.5 +0.2**
comp=Z,4.7nm,1.0s,baz=24,slow=7.3,SNR=4.2
DAVOX LR LR 03 28 46.2
comp=Z,137nm,21.1s,baz=338,slow=36
SQTA Sankt Quirin 23.38 125 *eP* **P** **03 20 07.6 -0.5**
comp=Z,24nm,1.8s
FETA Feichten 23.38 126 *eP* **P** **03 20 09.8 +1.6**
comp=Z,12nm,1.3s
TUE Stuetta 23.38 128 **P** **03 20 08.6 +0.4**
WATA Walderalm 23.41 124 *eP* **P** **03 20 08.5 0.0**
comp=Z,8.3nm,1.0s
WTTA Wattenberg 23.50 124 *eP* **P** **03 20 09.9 +0.5**
comp=Z,16nm,1.2s
IDID Didziasalis 23.50 92 *eP* **P** **03 20 09.9 +0.9**
FUORN Ofenpass-Fuorn 23.57 127 **P** **03 20 09.9 -0.3**
VRAC Vranov 23.67 114 P **P** **03 20 11.5 +0.7**
comp=Z,6.3nm,0.9s,baz=329,slow=10.0,SNR=7.5
VRAC LR LR 03 31 01.1
comp=Z,260nm,18.2s,baz=322,slow=41
VRAC Vranov 23.67 114 *eP* **P** **03 20 13.5 +2.7**
MORC Moravsky Berou 23.67 112 *eP* **P** **03 20 13.0 +2.1**
MORC Moravsky Berou 23.67 112 P **P** **03 20 10.5 -0.4**
MORC Moravsky Berou 23.67 112 P **P** **03 20 10.5 -0.4**
EUNU Eureka 23.68 336 P **P** **03 20 10.5 -0.2**
EUNU IAmb IAmb 03 20 18.9
comp=Z,27nm,1.3s
KRUC Moravsky 23.79 115 *eP* **P** **03 20 14.5 +2.5**
NACGM Naroch 23.79 93 *e* **P** **03 20 12.0 +0.1**
MOA Molln 23.97 119 *eP* **P** **03 20 16.2 +2.4**
comp=Z,7.2nm,1.2s
OJC Ojcow 24.23 109 *eP* **P** **03 20 15.5 -0.6**
OJC Ojcow 24.23 109 P **P** **03 20 15.6 -0.6**
OJC pmax pmax
comp=Z,56nm,1.8s
OJC Ojcow 24.23 109 **P** **03 20 15.6 -0.6**
OJC IAmb IAmb 03 20 33.6
comp=Z,56nm,1.8s
ABTA Abfaltersbach 24.25 123 *eP* **P** **03 20 17.2 +0.8**
comp=Z,7.4nm,1.5s
KBA Koelnbreinsper 24.27 122 *eP* **P** **03 20 15.8 -1.0**
comp=Z,5.3nm,1.3s
JAVC Velka Javorina 24.45 113 *eP* **P** **03 20 18.9 +0.6**
CONA Conrad Observa 24.51 117 *eP* **P** **03 20 19.0 +0.3**
comp=Z,5.2nm,1.0s
MICGM Minsk 24.53 93 *e* **P** **03 20 20.0 +1.2**
MNK Minsk 24.53 93 *eP* **P** **03 20 20.0 +1.2**
CTI Castel Tesino 24.54 125 P **P** **03 20 17.3 -1.8**
CTI pmax pmax
comp=Z,27nm,1.5s
CTI Castel Tesino 24.54 125 **P** **03 20 17.3 -1.8**
CTI IAmb IAmb 03 20 31.1
comp=Z,27nm,1.5s
ZOU Zoufplan 24.58 123 P **P** **03 20 18.7 -0.8**
ZOU IAmb IAmb 03 20 29.5
comp=Z,29nm,1.5s
CIMO Cimolais 24.60 124 P **P** **03 20 19.5 -0.1**
CIMO IAmb IAmb 03 20 31.4
comp=Z,40nm,1.8s
SMOL Smolenice 24.64 114 *eP* **P** **03 20 21.0 +1.2**
SMOL pmax pmax
comp=Z,7.0nm,0.9s
SMOL Smolenice 24.64 114 *eP* **P** **03 20 21.0 +1.2**
MODS Modra-Piesok 24.69 115 *eP* **P** **03 20 21.3 +1.0**
MODS pmax pmax
comp=Z,43nm,1.7s
MODS Modra-Piesok 24.69 115 *eP* **P** **03 20 21.3 +1.0**
MYKA Terra Mystica 24.76 122 P **P** **03 20 22.9 +1.9**
comp=Z,3.9nm,1.0s
PRED Cave del Predi 24.89 122 P **P** **03 20 22.6 +0.4**
PRED IAmb IAmb 03 20 27.8
comp=Z,18nm,1.3s
LANS Liptovska Anna 24.94 111 *eP* **P** **03 20 23.7 +1.1**
LANS Liptovska Anna 24.94 111 *eP* **P** **03 20 23.7 +1.1**
ARSA Arzberg 24.94 118 *eP* **P** **03 20 23.4 +0.8**
comp=Z,7.4nm,1.2s
NIE Niedzica 25.06 109 *eP* **P** **03 20 24.1 +0.4**
OBKA Obir 25.20 121 *eP* **P** **03 20 27.7 +2.7**
comp=Z,12nm,1.7s
VYHS Vyhne 25.21 112 *eP* **P** **03 20 25.6 +0.6**
VYHS pmax pmax
comp=Z,25nm,1.4s
VYHS Vyhne 25.21 112 *eP* **P** **03 20 25.6 +0.6**
SOKA Soboth 25.23 120 *eP* **P** **03 20 24.8 -0.5**
comp=Z,7.8nm,1.1s
KLMR Klimovskoe 25.58 72 *eP* **P** **03 20 26.9 -1.2**
KLMR pmax pmax
comp=Z,34nm,1.2s
KLMR Klimovskoe 25.58 72 *eP* **P** **03 20 27.0 -1.2**
KLMR AMP 03 20 34.7
comp=Z,34nm,1.2s
KWP Kalwaria Pacla 25.88 106 *eP* **P** **03 20 32.4 +1.2**
SCHQ Schefferville 26.07 271 LR LR 03 30 03.6
comp=Z,158nm,18.8s,baz=70,slow=35
PSZ Piszkesteto 26.09 112 P **P** **03 20 33.6 +0.5**
PSZ Piszkesteto 26.09 112 P **P** **03 20 33.6 +0.5**
ESDC Sonseca Array 26.24 156 P **P** **03 20 34.5 0.0**
comp=Z,2.1nm,0.8s,baz=351,slow=9.8,SNR=13
ESDC LR LR 03 30 16.2
comp=Z,228nm,18.1s,baz=255,slow=35
KOLS Kolonicke sedl 26.25 108 *eP* **P** **03 20 34.1 -0.3**
KOLS Kolonicke sedl 26.25 108 *eP* **P** **03 20 34.1 -0.3**
LVV L'vov 26.29 104 *eP* **P** **03 20 36.6 +1.8**
LVV *e* 03 21 18.3
LVV *e* 03 21 26.5
LVV *e* 03 25 04.4
LVV pmax pmax
comp=Z,70nm,1.4s
RES Resolute Bay 26.48 324 LR LR 03 31 09.8
comp=Z,105nm,19.2s,baz=106,slow=37
UZH Uzhgorod 26.49 108 *i P* **P** **03 20 36.9 +0.3**
UZH *i* 03 20 38.7
UZH *eS* **S** **03 25 06.1 -4.7**
UZH MLR MLR
comp=N,80nm,14.0s
UZH MLR MLR
comp=E,80nm,14.0s
UZH MLR MLR
comp=Z,40nm,14.0s
OSSC Osservatorio P 26.62 129 P **P** **03 20 38.3 +0.5**
OSSC IAmb IAmb 03 20 45.5
comp=Z,20nm,1.1s
AKASG Malin Array Be 27.82 98 P **P** **03 20 47.9 -0.5**
comp=Z,1.7nm,0.8s,baz=324,slow=9.4,SNR=2.2
AKASG LR LR 03 32 14.6
comp=Z,155nm,19.2s,baz=315,slow=37
AKBB Malin Array Si 27.82 98 *eP* **P** **03 20 48.4 -0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 27.85 84 *eP* **P** **03 20 48.9 +0.2**
OBN *e* 03 21 38.1
OBN *eS* **S** **03 25 29.0 -3.0**
OBN pmax pmax
comp=Z,28nm,1.1s
OBN MLR MLR
comp=Z,137nm,14.0s
MOS Moscow 27.89 82 *eP* **P** **03 20 51.1 +2.0**
MOS *e* 03 21 36.2
BURAR Bucovina Array 28.50 106 P **P** **03 20 55.2 +0.5**
KIRV Kirov 30.95 69 *deP* **P** **03 21 17.9 +1.7**
VSR Storozhevoye 31.70 88 *eP* **P** **03 21 24.8 +1.9**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 31.94 88 *eP* **P** **03 21 25.9 +0.9**
VORD pmax pmax
comp=Z,4.0nm,0.5s
AGG Agios Georgios 34.55 119 P **P** **03 21 48.3 +0.5**
AGG Agios Georgios 34.55 119 P **P** **03 21 48.3 +0.5**
ARU Arti 36.06 66 *d iP* **P** **03 22 00.5 -0.1**
ARU 03 23 20.1
ARU S **S** **03 27 40.8 +1.1**
ARU SS **SnSn** **03 30 05.8 +2.2**
ARU pmax pmax
comp=Z,18nm,2.5s
NRIK Noril'sk 36.44 35 P **P** **03 22 04.9 +1.1**
comp=Z,3.4nm,0.8s,baz=155,slow=20,SNR=3.6
NRIK Noril'sk 36.44 35 *eP* **P** **03 22 04.8 +1.0**

NRIK pmax pmax
comp=Z,9.0nm,1.3s
GOF Gofitskoye 38.09 91 *eP* **P** **03 22 21.0 +3.0**
GOF pmax pmax
comp=Z,75nm,1.4s
BRTR Keskin Array B 38.45 105 P **P** **03 22 22.5 +1.2**
comp=Z,1.9nm,0.7s,baz=327,slow=6.5,SNR=9.0
BRTR LR LR 03 39 49.5
comp=Z,23nm,18.1s,baz=314,slow=39
BRTR Keskin Array B 38.45 105 P **P** **03 22 21.8 +0.5**
KIV Kislovodsk 38.81 92 *eP* **P** **03 22 27.3 +3.1**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,253nm,16.0s
KBZ Khabaz 39.09 93 P **P** **03 22 28.1 +1.8**
comp=Z,4.4nm,0.9s,baz=320,slow=12,SNR=7.6
KBZ LR LR 03 38 09.6
comp=Z,169nm,20.6s,baz=340,slow=36
KBZ Khabaz 39.09 93 *deP* **P** **03 22 27.5 +1.1**
YKA Yellowknife Ar 39.23 313 LR LR 03 37 11.8
comp=Z,102nm,19.2s,baz=0.0,slow=34
INK Inuvik 39.86 329 P **P** **03 22 33.5 +1.0**
comp=Z,6.9nm,1.1s,baz=58,slow=5.6,SNR=3.9
INK Inuvik 39.86 329 P **P** **03 22 33.1 +0.6**
INK pmax pmax
comp=Z,12nm,1.3s
INK Inuvik 39.86 329 P **P** **03 22 33.1 +0.6**
ZEI Tsey 40.28 92 *eP* **P** **03 22 36.4 -0.2**
ZEI pmax pmax
comp=Z,6.0nm,1.4s
ARTV Artvin 40.74 96 P **P** **03 22 40.8 +0.3**
ULM Lac du Bonnet 41.63 289 LR LR 03 39 20.6
comp=Z,134nm,19.7s,baz=82,slow=35
MAK Makhachkala 41.69 89 *eP* **P** **03 22 44.1 -3.8**
MAK *eS* **S** **03 28 58.3 -6.5**
MAK pmax pmax
comp=Z,285nm,1.2s
MAK MLR MLR
comp=Z,251nm,17.0s
ABKAR Akbulak array 41.96 73 P **P** **03 22 50.6 +0.5**
ABKAR Akbulak array 41.96 73 P **P** **03 22 50.6 +0.5**
ABKAR IAmb IAmb 03 22 56.6
comp=Z,11nm,1.2s
TIXI Tiksi 42.02 15 *eP* **P** **03 22 52.2 +1.9**
TIXI pmax pmax
comp=Z,68nm,1.3s
TIXI Tiksi 42.02 15 P **P** **03 22 51.4 +1.0**
TIXI IAmb IAmb 03 22 56.3
comp=Z,13nm,1.0s
TOLK Toolik Lake Re 42.76 336 P **P** **03 22 57.0 +0.6**
TOLK IAmb IAmb 03 23 01.7
comp=Z,18nm,1.1s
BRVK Borovoye 43.11 62 *deP* **P** **03 22 59.7 +0.3**
BRVK pmax pmax
comp=Z,15nm,2.5s
BRVK Borovoye 43.11 62 P **P** **03 23 00.2 +0.8**
EGAK Eagle 44.50 329 IAmb IAmb 03 23 22.8
comp=Z,16nm,1.6s
DAWY Dawson 44.71 328 P **P** **03 23 12.7 +0.5**
DAWY IAmb IAmb 03 23 16.7
comp=Z,37nm,2.0s
IL31 45.70 332 IAmb IAmb 03 23 27.7
comp=Z,8.8nm,1.2s
ILAR Eielson Array 45.70 332 P **P** **03 23 20.8 +0.8**
comp=Z,3.1nm,1.0s,baz=26,slow=5.7,SNR=12
ILAR PcP **PcP** **03 24 57.4 -0.2**
comp=Z,2.1nm,1.0s,baz=353,slow=2.9,SNR=8.9
ILAR LR LR 03 44 10.5
comp=Z,65nm,19.0s,baz=48,slow=38
ILAR Eielson Array 45.70 332 P **P** **03 23 20.5 +0.5**
ILAR 03 24 57.7
ILAR Eielson Array 45.70 332 P **P** **03 23 20.5 +0.5**
ILAR **PcP** **03 24 57.7 +0.1**
MDM Murphy Dome 45.79 333 IAmb IAmb 03 23 29.4
comp=Z,18nm,1.2s
COLA College 45.80 333 *i eP* **P** **03 23 22.8 +2.1**
COLA pmax pmax
comp=Z,16nm,1.3s
IMAR Indian Mountai 45.87 337 P **P** **03 23 21.9 +0.7**
CCB Clear Creek Bu 45.99 333 IAmb IAmb 03 23 30.4
comp=Z,9.7nm,1.3s
BCAR Beaver Creek A 46.12 329 P **P** **03 23 23.7 +0.3**
ZAA0 Zalesovo Array 47.61 51 IAmb IAmb 03 23 41.5
comp=Z,7.0nm,1.2s
ZALV Zalesovo Beam 47.61 51 P **P** **03 23 35.5 +0.4**
comp=Z,1.4nm,0.7s,baz=319,slow=7.2,SNR=5.9
ZALV LR LR 03 46 36.9
comp=Z,52nm,18.4s,baz=328,slow=40
KURK Kurchatov 48.09 58 *deP* **P** **03 23 38.4 -0.4**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 48.09 58 P **P** **03 23 38.7 -0.1**
KURK IAmb IAmb 03 23 45.0
comp=Z,12nm,1.1s
EGMT Eagleton 48.90 297 P **P** **03 23 45.1 0.0**
SKT Skwentna 49.13 333 IAmb IAmb 03 23 59.4
comp=Z,10nm,1.2s
GEYT Alibeck 50.40 84 P **P** **03 23 58.0 +1.3**
comp=Z,1.4nm,0.5s,baz=309,slow=9.1,SNR=2.0
GEYT LR LR 03 49 18.2
comp=Z,50nm,19.1s,baz=330,slow=41
GEYT Alibeck 50.40 84 P **P** **03 23 57.0 +0.3**
KOWA Kowa 50.96 163 P **P** **03 24 00.8 -0.2**
KOWA IAmb IAmb 03 24 06.2
comp=Z,11nm,1.2s
RLMT Red Lodge 51.11 295 P **P** **03 24 02.1 -0.1**
RLMT IAmb IAmb 03 24 10.2
comp=Z,21nm,1.5s
KKAR Karatay Array 51.25 70 P **P** **03 24 03.8 +0.8**
KKAR Karatay Array 51.25 70 P **P** **03 24 03.8 +0.8**
BOZ Bozeman (W) 51.63 297 IAmb IAmb 03 24 13.1
comp=Z,13nm,1.2s
DGZ Jazzator, Alta 52.06 53 *i eP* **P** **03 24 10.6 +1.5**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
SEY Seymchan 52.48 6 *i eP* **P** **03 24 15.4 +3.5**
MAKZ Makanchi 52.57 59 P **P** **03 24 13.4 +0.6**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 52.57 59 P **P** **03 24 13.4 +0.6**
MK31 Makanchi Array 52.70 58 *deP* **P** **03 24 13.7 -0.1**
MKAR Makanchi Array 52.70 58 P **P** **03 24 13.6 -0.2**
comp=Z,1.7nm,0.9s,baz=328,slow=4.4,SNR=14
MKAR LR LR 03 46 34.7
comp=Z,40nm,20.4s,baz=319,slow=36
MKAR Makanchi Array 52.70 58 P **P** **03 24 14.2 +0.4**
MKAR Makanchi Array 52.70 58 P **P** **03 24 14.2 +0.4**
TOA0 Torodi Ar. Sit 53.13 156 P **P** **03 24 17.1 -0.1**
TOA0 IAmb IAmb 03 24 20.3
comp=Z,18nm,1.6s
TORD Torodi Ar. Bea 53.13 156 P **P** **03 24 16.4 -0.7**
comp=Z,7.3nm,1.2s,baz=343,slow=7.9,SNR=9.8
TORD LR LR 03 49 39.6
comp=Z,56nm,18.4s,baz=330,slow=39
TORD Torodi Ar. Bea 53.13 156 P **P** **03 24 16.3 -0.9**
BW06 Boulder Array 53.20 293 IAmb IAmb 03 24 24.6
comp=Z,8.6nm,1.1s
PD31 Pinedale Array 53.20 293 IAmb IAmb 03 24 24.6
comp=Z,8.4nm,1.1s
PDAR Pinedale Array 53.20 293 P **P** **03 24 17.3 -0.5**
comp=Z,1.8nm,0.7s,baz=64,slow=6.8,SNR=13
PDAR LR LR 03 45 44.1
comp=Z,140nm,19.9s,baz=36,slow=35
BOOM Boomskoye usch 53.93 66 IAmb IAmb 03 24 31.3
comp=Z,6.9nm,1.0s
MOY Mondy 54.64 42 *eP* **P** **03 24 30.1 +2.1**
MOY pmax pmax
comp=Z,27nm,1.4s
HWUT Hardware Ranch 54.98 294 IAmb IAmb 03 24 37.5
comp=Z,17nm,1.3s
TARG Taragay, Kyrgy 55.30 65 IAmb IAmb 03 24 40.4
comp=Z,9.2nm,1.1s
ZAK Zakamensk 56.44 41 *eP* **P** **03 24 41.3 +0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KSH Kashi 56.47 68 P **P** **03 24 42.4 +1.0**
KSH S **S** **03 32 31.9 -0.9**
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=N,110nm,7.0s
KSH LR LR
comp=E,100nm,5.1s
KSH LR LR
comp=Z,99nm,5.2s

PV01	**Paradox Valley**	**56.74**	**289**	IAmb	IAmb	03 24 50.8		
	comp=Z,16nm,1.4s							
PV02	**Paradox Valley**	**56.75**	**290**	IAmb	IAmb	03 24 44.7		
	comp=Z,7.4nm,1.0s							
PV03	**Paradox Valley**	**56.75**	**290**	IAmb	IAmb	03 24 50.1		
	comp=Z,12nm,1.4s							
WMQ	**Urumqi**	**57.21**	**56**	*e*P	**P**	**03 24 50.0**	**+3.5**	
WMQ				pmax	pmax			
	comp=Z,22nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,150nm,4.1s							
TIC	**Toumodi**	**58.59**	**166**	*e*P	**P**	**03 24 55.3**	**-1.0**	
ANMO	**Albuquerque**	**58.62**	**286**	ǀǀ*e*P	**P**	**03 24 58.2**	**+1.6**	
ANMO				pmax	pmax			
	comp=Z,7.0nm,2.5s							
ZEA	**Zeya**	**58.83**	**24**	*e*P	P	03 25 03.7	+6.1	
KIC	**Kosan Boka**	**58.90**	**165**	*e*P	**P**	**03 24 53.8**	**-4.7**	
	comp=Z,33nm,1.4s							
LIC	**Lamto**	**59.01**	**166**	*e*P	**P**	**03 24 56.2**	**-3.0**	
	comp=Z,2.0nm,0.2s							
R11A	**Troy Canyon, C**	**59.35**	**295**	IAmb	IAmb	03 25 09.0		
	comp=Z,12nm,1.6s							
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**03 25 03.5**	**+0.1**	
	comp=Z,1.1nm,0.8s,baz=338,slow=8.8,SNR=5.9							
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**03 25 03.6**	**+0.3**	
SONM				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**03 25 03.6**	**+0.3**	
JCT	**Junction City**	**59.67**	**278**	P	**P**	**03 25 03.8**	**0.0**	
JCT				pmax	pmax			
	comp=Z,14nm,1.2s							
JCT	**Junction City**	**59.67**	**278**	P	**P**	**03 25 03.8**	**0.0**	
KVN	**Kaiserville**	**59.71**	**298**	P	**P**	**03 25 03.9**	**-0.2**	
KVN				pmax	pmax			
	comp=Z,8.0nm,1.4s							
KVN	**Kaiserville**	**59.71**	**298**	P	**P**	**03 25 03.9**	**-0.2**	
KVN				IAmb	IAmb	03 25 10.2		
	comp=Z,7.9nm,1.4s							
U15A	**North Rim**	**59.71**	**291**	IAmb	IAmb	03 25 09.9		
	comp=Z,8.8nm,1.4s							
ULN	**Ulaanbaatar**	**59.78**	**40**	ǀǀ*e*P	**P**	**03 25 05.8**	**+1.4**	
ULN				pmax	pmax			
	comp=Z,15nm,2.5s							
WUAZ	**Wupatki**	**60.13**	**290**	P	**P**	**03 25 06.9**	**-0.2**	
WUAZ				IAmb	IAmb	03 25 13.4		
	comp=Z,15nm,1.4s							
NVAR	**Mina Array Bea**	**60.33**	**297**	P	**P**	**03 25 08.5**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=56,slow=4.8,SNR=2.4							
NVAR				LR	LR	03 50 41.4		
	comp=Z,172nm,20.8s,baz=80,slow=36							
NVAR	**Mina Array Bea**	**60.33**	**297**	P	**P**	**03 25 08.1**	**-0.3**	
SHPR	**Sheep Range**	**60.78**	**294**	P	**P**	**03 25 11.5**	**0.0**	
X16A	**Lo Mia Camp, P**	**61.12**	**290**	P	**P**	**03 25 13.4**	**-0.4**	
TXAR	**Lajitas Array**	**62.31**	**280**	P	**P**	**03 25 21.4**	**-0.5**	
	comp=Z,0.8nm,0.9s,baz=50,slow=3.9,SNR=6.6							
TXAR				LR	LR	03 51 55.7		
	comp=Z,119nm,18.2s,baz=0.0,slow=36							
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*e*P	**P**	**03 25 56.6**	**+1.2**	
HHC				pmax	pmax			
	comp=Z,18nm,0.8s							
HHC				pmax	pmax			
	comp=Z,160nm,7.3s							
YSS	**Yuzh-Sakhalins**	**67.64**	**15**	*i* P	**P**	**03 25 59.1**	**+3.0**	
LZH	**Lanzhou**	**69.61**	**48**	*e*P	**P**	**03 26 06.8**	**-2.0**	
LZH				pP	sP	03 26 11.8	+0.1	
LZH				sP	pP	03 26 13.6	+2.7	
LZH				PP	**PP**	**03 28 37.8**	**-4.2**	
LZH				pmax	pmax			
	comp=Z,10.0nm,1.1s							
LZH				pmax	pmax			
	comp=Z,97nm,4.3s							
LZH				LR	LR			
	comp=N,65nm,17.0s							
LZH				LR	LR			
	comp=E,72nm,17.3s							
LZH				LR	LR			
	comp=Z,100nm,18.7s							
ROSC	**El Rosal**	**71.95**	**241**	LR	LR	03 57 13.5		
	comp=Z,45nm,18.4s,baz=42,slow=35							
XAN	**Xi'an**	**73.07**	**44**	P	**P**	**03 26 31.0**	**+1.4**	
XAN				sP	PcP	03 26 44.8	-1.5	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.6s							
XAN				LR	LR			
	comp=E,160nm,17.3s							
KSRS	**Korea Array**	**74.64**	**28**	LR	LR	04 02 00.8		
	comp=E,27nm,19.0s,baz=340,slow=38							
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**03 26 57.3**	**+1.1**	
NJ2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
LPAZ	**La Paz**	**89.42**	**228**	LR	LR	04 04 39.0		
	comp=Z,14nm,20.7s,baz=352,slow=33							
BOSA	**Boshof**	**98.75**	**143**	LR	LR	04 14 25.9		
	comp=Z,35nm,18.4s,baz=10,slow=36							
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKPdf**	**03 34 18.0**	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=2.3,slow=2.3,SNR=5.3							
ASAR	**Alice Springs**	**134.95**	**38**	PKIKP	**PKPdf**	**03 34 18.0**	**-0.4**	
STKA	**Stephens Creek**	**144.71**	**32**	PKP	**PKPab**	**03 34 34.5**	**-0.1**	
	comp=Z,1.9nm,0.7s,baz=9.9,slow=5.1,SNR=4.0							

BJI 16 03:25:29.4±0.0, 23°.36N×100°.49E, h10km, ML3.5/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**22.97**	**336**	*e*P	P	03 30 32.6	-1.5

*IDC **16** 03:29:11.7±0.9, 34°.73N×141°.04E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.7/44, mbtmp3.8/8, ML3.4/2, MS2.4/2, Ms1 2.4/2, ms1mx2.2/51, Error ellipse: s-maj=27.8km s-min=16.5km az=104.0*
*JMA **16** 03:29:15.4±0.2, 34°.78N×140°.92E, h52km±2km, M3.4*
*NEIC **16** 03:29:16±1.2, 34°.78N±0°.04×141°.02E±0°.10, h34km±5km, mb4.2/12, Error ellipse: s-maj=11.6km s-min=5.4km az=93.0*

ISC 16 03:29:12.7±3.1, 34°.75N±0°.04×140°.97E±0°.06, h10km±20km, n58, σ0°.89/58, mb4.1/13**, 6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.09**	**178**	ǀǀP	Pg	03 29 23.4	+8.7
BSO1				X		03 29 29.0	
BSO3	**Boso 3**	**0.39**	**278**	ǀǀP	**Pn**	**03 29 25.0**	**+0.9**
BSO3				X		03 29 32.0	
BSO4	**Boso 4**	**0.58**	**295**	ǀǀP	**Pn**	**03 29 27.5**	**+0.7**
BSO4				X		03 29 35.9	
KTR	**Katsuura**	**0.67**	**307**	ǀǀP	**Pn**	**03 29 28.2**	**0.0**
KTR				S	**Sb**	**03 29 37.7**	**+1.8**
JKUC	**kamogawauchiur**	**0.76**	**303**	ǀǀP	**Pn**	**03 29 29.4**	**0.0**
JKUC				S	**Sb**	**03 29 38.6**	**+0.3**
JCN	**Nagara**	**0.92**	**317**	P	**Pn**	**03 29 32.0**	**+0.3**
JCN				*e*S	**Sn**	**03 29 44.4**	**-0.6**
JSMT	**Sammumatsuo**	**0.99**	**334**	P	**Pn**	**03 29 33.4**	**+0.8**
JIM2	**Oshima 3**	**1.27**	**269**	ǀǀP	**Pn**	**03 29 36.2**	**-0.3**
JIM2				S	**Sb**	**03 29 50.9**	**-2.2**
JTHY	**Toshimahigashi**	**1.41**	**261**	P	**Pb**	**03 29 38.7**	**-0.3**
JTHY				*e*S	**Sn**	**03 29 55.6**	**-1.4**
JYT	**Yasato**	**1.61**	**337**	Pn	**Pb**	**03 29 42.1**	**-0.4**
JYT				Sn	**Sn**	**03 30 00.4**	**-1.5**
JHJ2	**Mitsune**	**1.90**	**211**	Pn	**Pb**	**03 29 46.6**	**-0.8**
JHJ	**Hachijo jima 2**	**1.90**	**212**	Pn	**Pb**	**03 29 47.2**	**-0.2**
	100nm,0.3s,baz=79,slow=23,SNR=10						
JHJ				Sn	**Sn**	**03 30 09.2**	**0.0**
	109nm,0.3s,baz=257,slow=23,SNR=5.3						
MJAR	**Matsushiro Arr**	**2.88**	**309**	Pn	**Pn**	**03 29 58.8**	**+0.2**
	1.0nm,0.3s,baz=152,slow=14,SNR=17						
MJAR				LR	LR	03 30 50.3	
	comp=Z,47nm,19.1s,baz=100,slow=34						
MAJO	**Matsushiro**	**2.88**	**309**		**Pn**	**03 29 59.6**	**+0.9**
MAT	**Matsushiro**	**2.88**	**309**	P	**Pn**	**03 29 59.3**	**+0.7**
MAT				*e*S	**Sn**	**03 30 31.9**	**-1.4**
JGF	**Kuroka**	**3.08**	**287**		**Pn**	**03 30 02.6**	**+1.1**
JMM	**Marumori**	**3.12**	**357**	Pn	**Pn**	**03 30 02.8**	**+0.9**
INU	**Inuyama**	**3.30**	**282**	Pn	**Pn**	**03 30 06.2**	**+1.8**
JSD	**Sado**	**3.94**	**327**		**Pn**	**03 30 14.6**	**+1.3**
JWT	**Wachi**	**4.60**	**278**		**Pn**	**03 30 23.7**	**+1.3**
JTM	**Tenmabayashi**	**6.03**	**1**	Pn	**Pn**	**03 30 42.1**	**+0.2**
ERM	**Erimo**	**7.46**	**13**	Pn	**Pn**	**03 31 01.6**	**+0.2**
JCJ	**Chichijima**	**7.70**	**172**	Pn	**Pn**	**03 31 05.5**	**+0.7**
JKA	**Kamikawa-asahi**	**9.44**	**7**		**Pn**	**03 31 28.1**	**-0.6**
ASAJ	**Asahikawa**	**9.44**	**7**	Pn	**Pn**	**03 31 27.7**	**-1.0**
	1.0nm,0.3s,baz=211,slow=9.9,SNR=7.3						
KSRS	**Korea Array**	**10.90**	**288**	LR	LR	03 35 27.1	
	comp=Z,28nm,21.5s,baz=250,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.37**	**116**	T	T	04 04 23.3	
	baz=309,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.38**	**116**	T	T	04 04 28.2	
	baz=309,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.39**	**116**	T	T	04 04 13.0	
	baz=309,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	04 05 05.1	
	baz=312,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	04 05 00.5	
	baz=312,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	04 04 58.6	
	baz=312,slow=75,SNR=11						
KAPI	**Kappang**	**44.32**	**211**	P	**P**	**03 37 23.8**	**+0.8**
MKAR	**Makanchi Array**	**45.06**	**304**	P	**P**	**03 37 29.7**	**+1.0**
	0.3nm,0.4s,baz=82,slow=8.7,SNR=4.6						
MKAR	**Makanchi Array**	**45.06**	**304**	P	**P**	**03 37 28.7**	**-0.1**
KURK	**Kurchatov**	**47.09**	**310**	P	**P**	**03 37 43.2**	**-1.3**
KURK				IAmb	IAmb	03 37 47.6	
	comp=Z,1.8nm,0.6s						
IMAR	**Indian Mountai**	**48.80**	**30**	P	**P**	**03 37 56.9**	**-0.7**
MDM	**Murphy Dome**	**51.05**	**31**	P	**P**	**03 38 15.9**	**+1.2**
MDM				IAmb	IAmb	03 38 17.0	
	comp=Z,2.5nm,0.7s						
HDA	**Harding Lake**	**51.60**	**32**	P	**P**	**03 38 18.1**	**-0.8**
HDA				IAmb	IAmb	03 38 24.8	
	comp=Z,2.5nm,1.1s						
ILAR	**Eielson Array**	**51.62**	**31**	P	**P**	**03 38 19.4**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=266,slow=6.0,SNR=15						
ILAR	**Eielson Array**	**51.62**	**31**	P	**P**	**03 38 19.2**	**+0.3**
KLU	**Klutina**	**52.22**	**36**	P	**P**	**03 38 23.4**	**-0.2**
KLU				IAmb	IAmb	03 38 40.9	
	comp=Z,2.9nm,1.2s						
RIDG	**Independent Ri**	**52.55**	**33**	P	**P**	**03 38 25.6**	**-0.4**
DOT	**Dot Lake**	**52.91**	**33**	P	**P**	**03 38 28.5**	**-0.1**
EGAK	**Eagle**	**54.07**	**31**	P	**P**	**03 38 36.7**	**-0.3**
EGAK				IAmb	IAmb	03 38 37.6	
	comp=Z,1.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**54.54**	**198**	P	**P**	**03 38 40.4**	**-0.5**
WB0	**Warramunga Arr**	**54.57**	**188**	P	**P**	**03 38 40.8**	**-0.4**
WR0	**Warramunga Arr**	**54.75**	**187**	P	**P**	**03 38 41.9**	**-0.5**
WR0				IAmb	IAmb	03 38 57.0	
	comp=Z,2.5nm,0.8s						
WB2	**Warramunga Arr**	**54.75**	**188**	P	**P**	**03 38 42.8**	**+0.3**
WB2				IAmb	IAmb	03 38 48.4	
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**54.75**	**188**	P	**P**	**03 38 42.4**	**0.0**
	comp=Z,1.2nm,0.5s,baz=3.7,slow=8.0,SNR=27						
WRA	**Warramunga Arr**	**54.75**	**188**	P	**P**	**03 38 42.3**	**-0.2**
ASAR	**Alice Springs**	**58.48**	**188**	P	**P**	**03 39 09.0**	**+0.1**
	comp=Z,9.9nm,0.6s,baz=17,slow=10,SNR=8.0						
ABKAR	**Akbulak array**	**59.15**	**311**	P	**P**	**03 39 13.7**	**+0.2**
EUNU	**Eureka**	**62.49**	**8**	P	**P**	**03 39 34.8**	**-1.0**
SPB1	**Spitsbergen Ar**	**62.69**	**349**	P	**P**	**03 39 37.6**	**+0.6**
KBZ	**Khabaz**	**72.12**	**311**	P	**P**	**03 40 38.6**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=0.0,slow=5.1,SNR=3.0						
NVAR	**Mina Array Bea**	**76.65**	**52**	P	**P**	**03 41 05.4**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=289,slow=4.5,SNR=3.8						
NVAR	**Mina Array Bea**	**76.65**	**52**	P	**P**	**03 41 03.3**	**-0.8**

*MAN **16** 03:36:31.3, 13°.32N×120°.53E, h80km, mb4.7, ML3.5, MS3.4*
*IDC **16** 03:36:32.5±0.8, 13°.55N×121°.12E, h105km±5km, mb3.6/9, mb1 3.8/9, mb1mx3.4/44, mbtmp4.0/9, Error ellipse: s-maj=44.5km s-min=14.6km az=64.0*

ISC 16 03:36:30.2±0.8, 13°.21N±0°.07×120°.54E±0°.09, h80km±6km, n19, σ2s03/29, mb3.9/9, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.97**	**24**	P	**Pn**	**03 36 50.7**	**+1.7**
	1µm,0.3s,baz=191,slow=2.4,SNR=30						
TGY				S	**Sn**	**03 37 03.5**	**+0.6**
	1µm,0.3s,baz=186,slow=8.5,SNR=7.9						
TGY	**Tagaytay City**	**0.97**	**24**	ǀǀ*i*P	**Pn**	**03 36 50.8**	**+1.8**
TGY				*i* S	**Sn**	**03 37 03.8**	**+0.9**
LQP	**Lukban**	**1.32**	**47**	↑*i*P	**Pn**	**03 36 54.3**	**+0.8**
LQP				*i* S	**Sn**	**03 37 07.8**	**-3.2**
GQP	**Guinayangan**	**1.98**	**69**	ǀǀ*e*P	**Pn**	**03 37 02.6**	**+0.8**
GQP				*e*S	**Sn**	**03 37 27.4**	**+1.5**
BALP	**Baler**	**2.71**	**22**	*e*P	**Pn**	**03 37 12.3**	**+0.6**
BALP				*e*S	**Sn**	**03 37 43.6**	**+0.1**
SMPP	**San Manuel, Pa**	**2.93**	**3**	*e*P	**Pn**	**03 37 13.4**	**-1.3**
SMPP				*e*S	**Sn**	**03 37 45.6**	**-3.2**
BOLP	**Bolinao**	**3.21**	**349**	*e*P	**Pn**	**03 37 18.9**	**+0.5**
BOLP				*e*S	Sn	03 37 45.3	-10
CAUP	**Cauayan**	**3.92**	**18**	*e*P	**Pn**	**03 37 29.1**	**+1.1**
CAUP				*e*S	**Sn**	**03 38 17.1**	**+4.4**
APYP	**Conner**	**4.68**	**8**	*e*P	**Pn**	**03 37 39.9**	**+1.5**
APYP				*e*S	**Sn**	**03 38 31.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.41**	**287**	P	**P**	**03 41 17.4**	**+5.6**
	1.6nm,0.7s,baz=96,slow=7.7,SNR=6.5						
WRA	**Warramunga Arr**	**35.63**	**157**	P	**P**	**03 43 20.9**	**+0.3**
	1.2nm,0.4s,baz=333,slow=10,SNR=17						
WRA				pP	**sP**	**03 43 46.5**	**-2.0**
	1.1nm,0.8s,baz=335,slow=9.5,SNR=4.0						
SONM	**Songino Array**	**36.48**	**344**	P	**P**	**03 43 26.3**	**-1.5**
	0.6nm,0.5s,baz=165,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**38.91**	**160**	P	**P**	**03 43 49.0**	**+0.7**
	1.0nm,0.6s,baz=336,slow=7.9,SNR=11						
ASAR				pP	**sP**	**03 44 15.5**	**-0.7**
	0.7nm,0.5s,baz=336,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**46.33**	**324**	P	**P**	**03 44 48.5**	**+0.2**
	0.6nm,0.5s,baz=125,slow=9.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**49.42**	**333**	P	**P**	**03 45 09.9**	**-2.0**
	1.2nm,0.4s,baz=119,slow=6.7,SNR=4.1						
ARCES	**ARCESS Array B**	**79.48**	**339**	P	**P**	**03 48 26.7**	**-1.1**
	6.8nm,1.1s,baz=72,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**80.64**	**331**	P	**P**	**03 48 33.1**	**-0.9**
	2.1nm,0.7s,baz=116,slow=4.4,SNR=4.1						
NOA	**NORSAR Array B**	**87.62**	**333**	P	**P**	**03 49 08.4**	**-1.2**
	0.4nm,0.7s,baz=62,slow=8.6,SNR=1.3						
TXAR	**Lajitas Array**	**119.93**	**45**	PKP	**PKPdf**	**03 55 11.4**	**-0.9**
	0.1nm,0.5s,baz=2.9,slow=1.0,SNR=4.4						

*IDC **16** 03:46:00.7±1.2, 14°.91S×166°.95E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/37, mbtmp3.8/6, ML3.6/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/31, Error ellipse: s-maj=35.1km s-min=27.3km az=116.0*
*NEIC **16** 03:46:04.2±1.7, 15°.00S±0°.09×167°.0E±0°.2, h27km±8km, mb4.2/5, Error ellipse: s-maj=28.4km s-min=10.9km az=76.0*

ISC 16 03:46:05.6±1.0, 15°.06S±0°.09×167°.1E±0°.2, h35km, n23, σ0s98/20, mb4.0/6, MS3.2/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.40**	**164**		**Pn**	**03 46 13.9**	**-1.0**
SANVU					**Sn**	**03 46 20.5**	**-0.7**
DZM	**Mont Dzumac**	**7.00**	**185**	Pn	**Pn**	**03 47 46.8**	**+1.1**
	1.1nm,0.3s,baz=324,slow=12,SNR=17						
DZM				Sn	**Sn**	**03 49 04.5**	**+0.3**
	1.7nm,0.3s,baz=296,slow=22,SNR=2.7						
DZM				LR	LR	03 50 02.5	
	comp=Z,282nm,19.8s,baz=22,slow=34						
DZM	**Mont Dzumac**	**7.00**	**185**		**Pn**	**03 47 46.7**	**+1.1**
DZM					**Sn**	**03 49 03.2**	**-1.0**
HNR	**Honiara**	**8.94**	**308**	LR	LR	03 51 21.9	
	comp=Z,152nm,18.4s,baz=196,slow=37						
RAO	**Raoul Island**	**19.78**	**138**	LR	LR	03 56 19.0	
	comp=Z,351nm,19.6s,baz=134,slow=31						
PMG	**Port Moresby**	**20.26**	**284**	LR	LR	03 57 43.4	
	comp=Z,62nm,18.8s,baz=221,slow=35						
STKA	**Stephens Creek**	**28.64**	**230**	LR	LR	04 02 46.1	
	comp=Z,46nm,20.6s,baz=25,slow=35						
WRA	**Warramunga Arr**	**31.57**	**256**	P	**P**	**03 52 24.0**	**-1.1**
	0.4nm,0.7s,baz=88,slow=9.6,SNR=1.7						
WRA	**Warramunga Arr**	**31.57**	**256**	P	**P**	**03 52 24.0**	**-1.1**
WRA	**Warramunga Arr**	**31.57**	**256**	IAmb	IAmb	03 52 31.3	
	comp=Z,0.1nm,1.1s						
ASAR	**Alice Springs**	**32.39**	**250**	P	**P**	**03 52 31.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=72,slow=9.9,SNR=5.3						
ASAR				LR	LR	04 04 09.1	
	comp=Z,67nm,19.4s,baz=106,slow=34						
ASAR	**Alice Springs**	**32.39**	**250**	P	**P**	**03 52 30.4**	**-1.8**
BBOO	**Buckleboo**	**33.24**	**232**	P	**P**	**03 52 39.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.78**	**260**	P	**P**	**03 53 35.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=83,slow=9.1,SNR=2.7						
FITZ	**Fitzroy Crossi**	**39.78**	**260**	P	**P**	**03 53 34.9**	**-0.6**
VNDA	**Vanda**	**62.53**	**181**	P	**P**	**03 56 26.6**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=13,slow=4.2,SNR=11						
VNDA	**Vanda**	**62.53**	**181**	P	**P**	**03 56 26.3**	**+0.9**
VNDA				IAmb	IAmb	03 56 40.7	
	comp=Z,1.5nm,1.0s						
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**03 57 43.5**	**+0.4**
QSPA				IAmb	IAmb	03 57 49.4	
	comp=Z,2.6nm,0.8s						
MA2	**Magadan**	**75.55**	**352**	LR	LR	04 28 56.5	
	comp=Z,17nm,19.3s,baz=176,slow=34						
ILAR	**Eielson Array**	**86.89**	**18**	P	**P**	**03 58 46.0**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=238,slow=4.9,SNR=24						
VNA3	**Neumayer Olymp**	**93.88**	**181**	P	**P**	**03 59 19.2**	**+0.1**
VNA2	**Neumayer--Watz**	**94.15**	**182**	P	**P**	**03 59 19.7**	**-0.7**
ARCES	**ARCESS Array B**	**120.53**	**345**	PKP	**PKPdf**	**04 04 54.2**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=64,slow=2.8,SNR=6.9						

*IDC **16** 03:51:20.9±1.0, 23°.29N×100°.71E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/41, mbtmp3.7/6, ML3.9/1, MS3.3/2, Ms1 3.4/2, ms1mx2.8/40, Error ellipse: s-maj=34.9km s-min=16.1km az=87.0*
*BJI **16** 03:51:20.4±0.0, 23°.33N×100°.49E, h14km, mb4.2/4, ML4.0/8*

ISC 16 03:51:21.8±0.7, 23°.28N±0°.04×100°.47E±0°.08, h10km, n25, σ2s64/35, mb3.8/6, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.77**	**48**	ǀǀ*e*Pn	**Pn**	**03 52 08.1**	**+1.7**
KMI				Pg	**Pb**	**03 52 12.5**	**+1.0**
KMI				Sg	**Sg**	**03 52 50.0**	**-0.8**
KMI				smax	smax		
	comp=N,370nm,0.9s						
KMI				smax	smax		
	comp=E,420nm,0.8s						
CRAI	**Chiangrai**	**3.04**	**182**	P	**Pn**	**03 52 09.8**	**-0.1**
CRAI				S	**Sg**	**03 52 58.4**	**+0.9**
PAYA	**Payao**	**3.94**	**188**	P	**Pn**	**03 52 23.2**	**+0.9**
PAYA				S	**Sg**	**03 53 26.8**	**-1.6**
CMMT	**Chiang Mai**	**4.67**	**198**	P	**Pn**	**03 52 34.1**	**+1.7**
CMMT				S	**Sg**	**03 53 48.4**	**-3.2**
PHRA	**Phrae**	**4.76**	**183**	P	**Pn**	**03 52 34.6**	**+1.0**
PHRA				S	**Sb**	**03 53 48.1**	**+5.4**
CM09	**Chiang Mai Arr**	**5.00**	**196**	P	**Pn**	**03 52 38.4**	**+1.4**
CM09				S	**Sg**	**03 53 58.5**	**-4.0**
CMAR	**Chiang Mai Arr**	**5.00**	**197**	Pn	**Pn**	**03 52 38.4**	**+1.4**
	1.0nm,0.3s,baz=13,slow=13,SNR=8.4						
CMAR				Pg	**Pg**	**03 52 55.4**	**-2.3**
	14nm,0.3s,baz=7.6,slow=17,SNR=101						
CMAR				Lg	Lg	03 54 01.8	
	12nm,0.3s,baz=16,slow=28,SNR=7.8						
CMAR				LR	LR	03 54 56.1	
	comp=Z,159nm,18.4s,baz=270,slow=42						
CM02	**Chiang Mai Arr**	**5.03**	**197**	P	**Pn**	**03 52 38.6**	**+1.3**
CM02				S	**Sb**	**03 53 57.5**	**+7.1**
CM01	**Chiang Mai Arr**	**5.04**	**197**	P	**Pn**	**03 52 37.7**	**+0.3**
CM13	**Chiang Mai Arr**	**5.05**	**197**	P	**Pn**	**03 52 39.6**	**+2.0**
CM13				S	**Sb**	**03 53 57.3**	**+6.3**
CM04	**Chiang Mai Arr**	**5.05**	**196**	P	**Pn**	**03 52 39.3**	**+1.6**
CM04				S	**Sg**	**03 54 03.1**	**-1.0**
CM05	**Chiang Mai Arr**	**5.06**	**197**	P	**Pn**	**03 52 38.8**	**+1.0**
UTTA	**Uttaradit**	**5.51**	**179**	P	**Pn**	**03 52 42.6**	**-1.3**
SUKH	**Sukhothai**	**5.82**	**188**	S	**Sg**	**03 54 27.8**	**-0.9**
GYA	**Guiyang**	**6.46**	**59**	*e*Pn	**Pn**	**03 52 59.3**	**+2.3**
GYA				Sn	Sn	03 54 19.4	+8.6
GYA				smax	smax		
	comp=N,25nm,0.9s						
GYA				smax	smax		
	comp=E,29nm,1.6s						
QIZ	**Qiongzhong**	**9.71**	**114**	P	**Pn**	**03 53 41.0**	**-0.7**
QIZ				S	**Sn**	**03 55 28.4**	**-2.5**
QIZ				pmax	pmax		
	comp=Z,17nm,1.8s						
XAN	**Xi'an**	**13.03**	**33**	P	Pn	03 54 32.6	+5.5
GTA	**Gaotai**	**16.09**	**358**	*e*P	**Pn**	**03 55 03.4**	**-4.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WMQ	**Urumqi**	**23.04**	**336**	*e*P	**P**	**03 56 25.3**	**-1.9**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SONM	**Songino Array**	**24.96**	**9**	P	**P**	**03 56 46.2**	**+0.7**
	0.9nm,0.7s,baz=187,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**27.65**	**332**	P	**P**	**03 57

SVCV	**St. Vincent, C**	**2.67**	**186**	*e*P		Pn	03 59 14.3	+2.9
SVCV				*e*S		Sn	03 59 44.2	+1.4
SVB	**Belmont**	**2.68**	**188**	*e*P		Pn	03 59 14.1	+2.5
SVB				*e*S		Sn	03 59 45.4	+2.3
BBGH	**Gun Hill**	**3.06**	**155**	*e*P		Pn	03 59 18.0	+1.3
GCMP	**Grenada, Carri**	**3.48**	**189**	*e*P		Pn	03 59 24.6	+2.0
GCMP				*e*S		Sn	04 00 04.3	+1.6
GRHS	**Sauteurs**	**3.77**	**192**	*e*P		Pn	03 59 29.3	+2.7
GRGR	**Grenville**	**3.87**	**192**	*e*P		Pn	03 59 30.1	+2.3
GRGR				*e*S		Sn	04 00 13.3	+1.0
TOSP	**Speyside**	**4.63**	**176**	*e*P		Pn	03 59 41.3	+3.0
TOSP	**Speyside**	**4.63**	**176**	*e*S		Sn	04 00 31.7	+0.6
TRN	**Trinidad (W)**	**5.29**	**186**	*e*P		Pn	03 59 50.2	+2.8
TRN	**Trinidad (W)**	**5.29**	**186**	*e*S		Sn	04 00 47.9	+0.4
BAUV	**El Baul**	**9.87**	**226**	*e*P		Pn	04 00 51.9	+1.5
BAUV	**El Baul**	**9.87**	**226**	*e*S		Sn	04 02 37.1	-3.1

IDC **16** *04:16:19.2±1.6, 32°.60N×47°.78E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.5/50, mbtmp3.9/7, ML3.9/2, MS2.9/7, Ms1 2.9/7, ms1mx2.7/49, Error ellipse: s-maj=31.3km s-min=28.6km az=159.0*
THR **16** *04:16:20.2±0.7, 32°.55N×47°.59E, h18km±10km, ML4.0*
TEH **16** *04:16:22.3, 32°.76N×47°.81E, h16km, ML3.8*
ISN **16** *04:16:23.4±1.2, 32°.79N×47°.77E, h15km±5km, ML3.3*
OMAN **16** *04:16:29.0±0.4, 31°.95N×47°.65E, h37km, mb4.8/16, ms3.0/1, Error ellipse: s-maj=10.4km s-min=8.3km az=21.0*
ISC 16 04:16:20.4±1.1, 32°.60N±0°.03×47°.78E±0°.02, h15km±8km, n82, σ2s66/97, mb3.6/5, MS3.2/3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.42**	**281**	*e*Pg	**Pn**	**04 16 31.0**	**-1.0**
DHL1				*e*Sg	**Sb**	**04 16 38.5**	**+2.7**
IKMR	**Kamar-syah**	**1.04**	**29**	*e*Pg	**Pb**	**04 16 39.3**	**-0.9**
IDOB	**Doab**	**1.23**	**16**	*e*Pg	**Pb**	**04 16 42.2**	**-1.3**
IDOB				*e*		04 16 46.3	
BMDN	**Meydan**	**1.38**	**39**	*e*Pg	**Pg**	**04 16 45.8**	**-1.2**
BMDN				*e*		04 17 11.7	
AHWZ	**Ahwaz**	**1.47**	**150**	*e*Pg	Pg	04 16 52.5	+3.9
AHWZ				*e*Sg	**Sg**	**04 17 14.8**	**+7.0**
IKOM	**Komasi**	**1.58**	**352**	*e*Pg	**Pg**	**04 16 49.7**	**-1.1**
IKOM				*e*		04 16 51.3	
IKOM				*e*Sg	**Sg**	**04 17 10.1**	**-1.3**
IBDR	**Badra**	**1.63**	**288**	*e*Pg	**Pg**	**04 16 52.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**04 17 13.0**	**0.0**
IBDR				AML	AML	04 17 23.3	
	comp=E,315nm,0.6s						
IBDR				AML	AML	04 17 24.8	
	comp=N,440nm,0.6s						
HSAM	**Samen**	**1.75**	**23**	*e*Pg	**Pg**	**04 16 52.3**	**-1.7**
HSAM				*e*		04 16 53.9	
KCHF	**Cheshme Sefid,**	**1.78**	**340**	*e*Pg	**Pg**	**04 16 52.6**	**-1.9**
KER	**Kermanshah**	**1.85**	**343**	*e*Pn	**Pb**	**04 16 53.7**	**-0.4**
IBZA	**Bozab**	**1.86**	**2**	*e*Pg	**Pg**	**04 16 54.3**	**-1.9**
IBZA				*e*		04 16 58.2	
IGHG	**Ghaleghazi**	**1.99**	**330**	*e*Pn	**Pb**	**04 16 56.0**	**-0.5**
IGHG				*e*		04 17 29.4	
IVIS	**Veis**	**2.07**	**338**	*e*Pn	**Pb**	**04 16 56.3**	**-1.4**
IVIS				*e*		04 17 00.2	
NSR	**Nassriya**	**2.11**	**222**	*e*Pn	**Pg**	**04 17 01.0**	**+0.1**
NSR				*e*Sn	**Sg**	**04 17 29.0**	**+0.7**
KHMZ	**Khomeyn**	**2.15**	**58**	*e*Pn	**Pg**	**04 16 59.7**	**-2.1**
IDHR	**Dehrash**	**2.39**	**331**	*e*		04 17 05.3	
IDHR				*e*Pn	**Pb**	**04 17 01.2**	**-2.1**
ILIN	**Lien**	**2.41**	**344**	*e*		04 17 06.7	
ILIN				*e*Pn	**Pb**	**04 17 01.3**	**-2.3**
JHBN	**Jahan bin**	**2.47**	**98**	*e*Pn	**Pb**	**04 17 04.2**	**-0.5**
JHBN				*e*		04 17 55.8	
HAGD	**Aghdareh**	**2.49**	**27**	*e*		04 17 09.6	
HAGD				*e*Pn	**Pb**	**04 17 03.1**	**-1.9**
SNGE	**Sanandaj**	**2.51**	**352**	*e*Pn	**Pb**	**04 17 02.5**	**-2.7**
SNGE				*e*Sg	**Sg**	**04 17 40.1**	**-0.9**
IPIR	**Pirpir**	**2.63**	**87**	*e*		04 17 49.4	
IPIR				*e*Pn	**Pb**	**04 17 06.0**	**-1.4**
HSRG	**Sareghieh**	**2.66**	**9**	*e*		04 17 49.6	
HSRG				*e*Pn	**Pb**	**04 17 05.4**	**-2.6**
ASAO	**Ashtian**	**2.70**	**43**	*e*Pn	**Pb**	**04 17 06.9**	**-1.7**
ROKH	**ROKH**	**2.77**	**94**	*e*		04 17 57.9	
ROKH				*e*Pn	**Pb**	**04 17 08.0**	**-1.7**
BHD	**Baghdad**	**2.93**	**284**	*e*Pn	**Pb**	**04 17 10.0**	**-2.3**
BHD				*e*Sn	**Sb**	**04 17 46.0**	**-2.0**
BHD				AML	AML	04 17 50.6	
	comp=E,290nm,0.2s						
IKLH	**Kolahrood**	**3.28**	**76**	*e*Pn	**Pb**	**04 17 14.1**	**-4.3**
IKLH				*e*		04 18 12.4	
QABG	**Abgarm-Qazvin**	**3.44**	**25**	*e*Pn	**Pn**	**04 17 15.7**	**+2.0**
GHVR	**GHOM**	**3.48**	**57**	*e*Pn	**Pb**	**04 17 17.8**	**-4.0**
GHVR				*e*S	**Sn**	**04 17 58.8**	**+3.6**
GHVR				IAML		04 18 02.3	
	comp=N,134nm,0.7s						
IQOM	**Qom**	**3.54**	**50**	*e*Pn	**Pn**	**04 17 17.6**	**+2.5**
IGAR	**Gharneh**	**3.61**	**92**	*e*Pn	**Pb**	**04 17 19.6**	**-4.5**
KLNJ	**Kolanjah**	**3.62**	**115**	*e*Pn	**Pb**	**04 17 19.6**	**-4.7**
KLNJ				*e*		04 18 45.8	
IZEF	**Zefreh**	**3.85**	**84**	*e*Pn	**Pb**	**04 17 23.6**	**-4.6**
KRSH	**Karshahi**	**3.90**	**68**	*e*Pn	**Pn**	**04 17 22.9**	**+3.0**
KRSH				*e*		04 18 32.7	
IRAM	**Ramesheh**	**3.98**	**100**	*e*Pn	**Pn**	**04 17 23.9**	**+2.7**
IHSB	**Hasanabad**	**4.05**	**45**	*e*Pn	**Pn**	**04 17 24.8**	**+2.8**
QSDN	**Sirdan**	**4.06**	**16**	*e*Pn	**Pn**	**04 17 24.9**	**+2.7**
IVRN	**Varamin**	**4.06**	**53**	*e*Pn	**Pn**	**04 17 24.8**	**+2.7**
QALM	**Alamut, Qazvin**	**4.49**	**31**	*e*Pn	**Pn**	**04 17 29.8**	**+1.6**
IDMV	**Damavand**	**4.61**	**49**	*e*Pn	**Pn**	**04 17 32.3**	**+2.4**
ANAR	**Anarak**	**5.04**	**82**	*e*Pn	**Pn**	**04 17 38.7**	**+3.1**
ISAD	**Sadrabad**	**5.05**	**96**	*e*Pn	**Pn**	**04 17 38.6**	**+2.7**
ILAS	**Lasjerd**	**5.12**	**56**	*e*Pn	**Pn**	**04 17 39.4**	**+2.6**
IFIR	**Firoozkooh**	**5.12**	**52**	*e*Pn	**Pn**	**04 17 39.5**	**+2.7**
IPRN	**Peran**	**5.23**	**45**	*e*Pn	**Pn**	**04 17 40.5**	**+2.2**
MSL	**Mosul**	**5.40**	**316**	*e*Pn	**Pn**	**04 17 44.0**	**+3.6**
MSL				*e*Sn	**Sn**	**04 18 43.0**	**+0.7**
IALA	**Alasht**	**5.42**	**49**	*e*Pn	**Pn**	**04 17 44.3**	**+3.3**
ISHM	**Shahmirzad**	**5.58**	**54**	*e*Pn	**Pn**	**04 17 45.3**	**+2.2**
IANJ	**Anjilo**	**5.84**	**59**	*e*Pn	**Pn**	**04 17 48.6**	**+1.9**
IMEH	**Mehriz**	**5.93**	**100**	*e*Pn	**Pn**	**04 17 51.0**	**+3.0**
IGLO	**Ghaloghah**	**6.33**	**50**	*e*Pn	**Pn**	**04 17 56.7**	**+3.3**
TPRV	**Parvadeh(Tabas**	**7.51**	**84**	*e*Pn	**Pn**	**04 18 12.4**	**+2.9**
TNSJ	**Nastanj**	**7.52**	**77**	*e*Pn	**Pn**	**04 18 12.3**	**+2.6**
BANOM	**Banah**	**9.98**	**130**	P	**Pn**	**04 18 44.6**	**+1.2**
BANOM				S	**Sn**	**04 20 34.1**	**-1.1**
GEYT	**Alibeck**	**9.98**	**55**	LR	LR	04 22 50.9	
	comp=N,41nm,19.2s,baz=40,slow=39						
ASUD	**Al Ashush, Dub**	**10.35**	**138**	P	**Pn**	**04 18 49.1**	**+0.7**
ASUD				S	**Sn**	**04 20 41.6**	**-2.6**
MMAI	**Mount Meron Ar**	**10.42**	**276**	LR	LR	04 24 17.7	
	comp=N,26nm,19.2s,baz=60,slow=46						
MDH	**Madha**	**10.42**	**132**	P	**Pn**	**04 18 50.4**	**+1.1**
MDH				S	**Sn**	**04 20 43.0**	**-2.9**
EIL	**Elat**	**11.37**	**258**	LR	LR	04 24 39.6	
	comp=N,42nm,18.5s,baz=97,slow=44						
ARQ	**Araqi**	**12.04**	**138**	P	**Pn**	**04 19 13.1**	**+1.6**
ARQ				S	**Sn**	**04 21 22.8**	**-2.7**
HOQ	**Hoqain**	**12.31**	**135**	P	**Pn**	**04 19 16.7**	**+1.5**
HOQ				S	**Sn**	**04 21 29.6**	**-2.6**
BSY	**Bisya**	**12.88**	**137**	P	**Pn**	**04 19 24.1**	**+1.0**
	SNR=6.8						
BSY				S	**Sn**	**04 21 42.6**	**-3.7**
SMDO	**Samad**	**13.15**	**134**	P	**Pn**	**04 19 28.3**	**+1.5**
SMDO				S	**Sn**	**04 21 51.0**	**-1.8**
WSAR	**Wadi Sarin**	**13.38**	**132**	Pn	**Pn**	**04 19 29.8**	**-0.1**
	comp=N,0.8nm,0.3s,baz=303,slow=10.0,SNR=6.9						
WSAR	**Wadi Sarin**	**13.38**	**132**	P	**Pn**	**04 19 29.7**	**-0.1**
BRTR	**Keskin Array B**	**13.44**	**306**	LR	LR	04 25 00.4	
	comp=N,15nm,18.6s,baz=207,slow=39						
WBK	**Wadi Bani Khal**	**14.05**	**132**	P	**Pn**	**04 19 39.8**	**+0.9**
JLN	**Jalan Bani Buh**	**14.66**	**132**	P	**Pn**	**04 19 49.0**	**+1.6**
JLN				P	**Pn**	**04 19 49.0**	**+1.6**
JLN				S	**Sn**	**04 22 25.3**	**-4.3**
JLN				S	**Sn**	**04 22 25.3**	**-4.3**
MHTO	**MHTO**	**14.71**	**139**	P	**Pn**	**04 19 49.3**	**+1.3**
MHTO				S	**Sn**	**04 22 25.6**	**-5.2**
DQM	**DQM**	**15.35**	**143**	P	**Pn**	**04 19 56.8**	**+0.2**
WHFO	**Wadi Hawf**	**15.59**	**158**	P	**Pn**	**04 19 59.3**	**-0.4**
	SNR=19						
ABTO	**Aybut**	**15.98**	**161**	P	**Pn**	**04 20 04.1**	**-0.8**
ABTO				S	**Sn**	**04 22 53.9**	**-8.1**
SHAO	**Shalim**	**16.15**	**152**	P	**Pn**	**04 20 07.1**	**+0.1**
	SNR=10						
SHAO				S	**Sn**	**04 22 58.2**	**-7.7**
DMTO	**DMTO**	**16.18**	**155**	P	**Pn**	**04 20 06.9**	**-0.3**
	SNR=8.6						
AKTO	**Aktyubinsk**	**19.36**	**20**	P	**Pn**	**04 20 46.5**	**0.0**
	comp=N,0.3nm,0.3s,baz=206,slow=14,SNR=9.4						
SOCY	**Socotra**	**21.11**	**163**	P	**P**	**04 21 04.0**	**-0.7**
	SNR=5.4						
AKASG	**Malin Array Be**	**22.67**	**328**	P	**P**	**04 21 22.4**	**+1.3**
	comp=N,1.8nm,0.8s,baz=135,slow=9.7,SNR=6.4						
ARU	**Arti**	**24.97**	**14**	LR	LR	04 34 12.1	
	comp=N,47nm,18.7s,baz=311,slow=43						
MKAR	**Makanchi Array**	**29.83**	**51**	P	**P**	**04 22 28.2**	**+1.3**
	comp=N,0.5nm,0.7s,baz=246,slow=7.7,SNR=4.4						
FINES	**FINESS Array B**	**32.10**	**340**	P	**P**	**04 22 47.0**	**+0.3**
	comp=N,3.4nm,0.8s,baz=146,slow=9.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**33.82**	**40**	LR	LR	04 39 07.0	
	comp=N,43nm,18.5s,baz=2.0,slow=40						
ARCES	**ARCESS Array B**	**39.04**	**348**	P	**P**	**04 23 47.1**	**+0.9**
	comp=N,3.6nm,1.1s,baz=155,slow=9.3,SNR=5.1						
ARCES				LR	LR	04 41 34.4	
	comp=N,67nm,19.4s,baz=265,slow=39						
TORD	**Torodi Ar. Bea**	**46.25**	**256**	P	**P**	**04 24 46.6**	**+1.2**
	comp=N,0.4nm,0.7s,baz=63,slow=6.5,SNR=5.7						

SOME **16** *04:49:37.1, 42°.95N×74°.75E*
KNET **16** *04:49:39.2±0.2, 43°.05N×74°.91E, h6km±4km, ml1.1, Error ellipse: s-maj=1.5km s-min=1.0km az=55.0*
NNC **16** *04:49:39.5±0.6, 43°.00N×74°.92E, h0km, mb2.9, mpv2.3, Error ellipse: s-maj=6.4km s-min=2.7km az=156.0, Suspected Mining explosion.*
ISC 16 04:49:38.9±0.8, 42°.94N±0°.03×74°.86E±0°.02, h0km, n15, σ0s80/27, 11C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.10**	**307**	⇑P	**Pg**	**04 49 41.8**	**+1.0**
	15nm,0.1s,SNR=58						
CHMS				⇑S	**Sg**	**04 49 43.9**	**+1.9**
	32nm,0.1s						
KBK	**Karagaybulak**	**0.29**	**167**	⇑P	**Pb**	**04 49 47.2**	**0.0**
	9.6nm,0.1s,SNR=10						
KBK				⇑S	**Sb**	**04 49 53.3**	**+0.7**
	28nm,0.3s						
AAK	**Ala-Archa**	**0.40**	**221**	⇓P	**Pb**	**04 49 49.0**	**0.0**
	1.3nm,0.1s,SNR=5.7						
AAK				⇑S	**Sb**	**04 49 56.5**	**+0.7**
	5.6nm,0.3s						
AAK	**Ala-Archa**	**0.40**	**221**	⇑P	**Pb**	**04 49 49.3**	**+0.3**
	0.7nm,0.3s						
AAK				⇑S	**Sb**	**04 49 56.2**	**+0.4**
	1.5nm,0.4s						
USP	**Ospenovka**	**0.42**	**321**	⇑P	**Pg**	**04 49 46.6**	**-0.3**
	6.4nm,0.1s,SNR=52						
USP				⇓S	**Sg**	**04 49 52.1**	**-0.3**
	7.3nm,0.1s						
SGDS	**Sogindy**	**0.54**	**342**	P	**Pg**	**04 49 48.3**	**-0.9**
	1.7nm,0.1s						
SGDS				S	**Sg**	**04 49 56.2**	**-0.1**
	23nm,1.1s						
TKM2	**Tokmak 2**	**0.54**	**92**	⇑P	**Pg**	**04 49 49.2**	**-0.2**
	2.4nm,0.1s,SNR=45						
TKM2	**Tokmak 2**	**0.54**	**92**	⇑P	**Pg**	**04 49 49.0**	**-0.4**
	0.5nm,0.3s						
TKM2				⇓S	**Sg**	**04 49 56.3**	**-0.1**
	0.9nm,0.3s						
DGS	**Degeres**	**0.74**	**66**	P	**Pg**	**04 49 53.0**	**-0.1**
	1.1nm,0.2s						
DGS				S	**Sg**	**04 50 03.7**	**+1.1**
	4.0nm,0.4s						
EKS2	**Erkin-Say**	**0.84**	**251**	⇑P	**Pb**	**04 49 56.7**	**+0.2**
	1.4nm,0.1s,SNR=9.7						
KRBS	**Karabastau**	**0.96**	**38**	P	**Pg**	**04 49 56.4**	**-1.0**
	1.4nm,0.1s						
KRBS				S	**Sg**	**04 50 09.2**	**-0.7**
	1.4nm,0.2s						
MRKS	**Merke**	**1.22**	**261**	P	**Pg**	**04 50 00.8**	**-1.4**
	0.9nm,0.1s						
MRKS				S	**Sg**	**04 50 16.8**	**-1.2**
	1.3nm,0.2s						
KUU	**Kurty**	**1.44**	**48**	P	**Pn**	**04 50 06.0**	**-0.3**
	1.1nm,0.2s						
KUU				S	**Sn**	**04 50 26.3**	**+0.3**
	5.2nm,0.5s						
KTBS	**Karatobe**	**1.54**	**59**	P	**Pb**	**04 50 08.1**	**-0.3**
	1.1nm,0.2s						
KTBS				S	**Sb**	**04 50 29.8**	**+1.4**
	5.0nm,0.3s						
BTLS	**Baital**	**2.18**	**345**	Pg	**Pb**	**04 50 19.0**	**-0.3**
	0.9nm,0.2s						
BTLS				Lg	Lg	04 50 47.9	
	1.9nm,0.3s						

NEIC **16** *04:59:22.5±1.4, 1°.76N±0°.08×126°.38E±0°.07, h48km±5km, mb4.6/35, Error ellipse: s-maj=12.9km s-min=6.9km az=218.0*
DJA **16** *04:59:23.1±0.5, 2°.N×3°×12°.6E±°, h34km±6km, M4.5/20, mb4.8/20, mB5.2/8, MLv4.4/13, Mw(mB)4.5/8*
IDC **16** *04:59:24.9±2.7, 1°.73N×126°.38E, h64km±26km, mb4.1/18, mb1 4.2/21, mb1mx4.1/35, mbtmp4.4/21, ML4.2/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/42, Error ellipse: s-maj=22.7km s-min=11.4km az=80.0*
ISC 16 04:59:21.7±0.4, 1°.87N±0°.05×126°.52E±0°.07, h35km, n105, σ1s33/99, mb4.6/35, 2C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.38**	**142**	P	**Pn**	**04 59 44.5**	**0.0**
TNTI	**Ternate**	**1.38**	**142**	Pn	**Pn**	**04 59 44.6**	**0.0**
TNTI				Sn	**Sn**	**05 00 02.0**	**+0.5**
SGSI	**Sangihe**	**2.06**	**331**	P	**Pn**	**04 59 54.6**	**+0.8**
LBMI	**Labuha**	**2.68**	**158**	P	Pn	04 59 52.6	-10
GTOI	**Gorontalo**	**3.71**	**251**	P	**Pn**	**05 00 17.8**	**+1.2**
SANI	**Sanana**	**3.93**	**188**	P	**Pn**	**05 00 19.8**	**+0.3**
LUWI	**Luwuk**	**4.73**	**232**	P	**Pn**	**05 00 33.0**	**+2.4**
LUWI	**Luwuk**	**4.73**	**232**	Pn	**Pn**	**05 00 30.1**	**-0.5**
NLAI	**Namlea**	**5.11**	**173**	P	**Pn**	**05 00 37.5**	**+1.7**
	0.4nm55nm,0.6s						
SIJI	**Sorong**	**5.47**	**120**	P	**Pn**	**05 00 45.0**	**+4.2**
	3.3nm,0.3s,baz=314,slow=20,SNR=4.7						
SIJI				LR	LR	05 02 55.8	
	comp=Z,393nm,20.6s,baz=264,slow=38						
MSAI	**Masohi**	**5.71**	**155**	P	**Pn**	**05 00 47.2**	**+3.1**
	0.1nm949nm13nm,0.8s						
MPSI	**Mapaga**	**6.79**	**257**	P	**Pn**	**05 01 01.5**	**+2.6**
	0.2nm1μm39nm,0.6s						
TTSI	**Tana Toraja**	**8.28**	**234**	P	**Pn**	**05 01 20.8**	**+1.4**
	2μm64nm,0.6s						
MYLDM	**Lahad Datu**	**8.65**	**293**	Pn	**Pn**	**05 01 25.6**	**+1.1**
SPSI	**Sidrap Palu**	**8.89**	**229**	P	**Pn**	**05 01 29.0**	**+1.3**
	838nm37nm,1.1s						
BNSI	**Bone**	**8.93**	**226**	P	**Pn**	**05 01 29.3**	**+1.0**
	1μm64nm,0.5s						
BKSI	**Bulukumba**	**9.58**	**222**	P	**Pn**	**05 01 38.2**	**+1.0**
	799nm37nm,0.8s						
KAPI	**Kappang**	**9.61**	**225**	P	**Pn**	**05 01 39.6**	**+1.9**
	7.8nm,0.3s,baz=40,slow=4.2,SNR=8.1						
KAPI	**Kappang**	**9.61**	**225**	Pn	**Pn**	**05 01 37.3**	**-0.3**
KKM	**Kota Kinabalu**	**11.08**	**292**	Pn	**Pn**	**05 01 58.8**	**+0.9**
SOEI	**Soe**	**11.76**	**191**	P	Pn	05 02 20.1	+13
PLAI	**Plampang**	**13.74**	**219**	P	**P**	**05 02 44.5**	**+2.3**
TWSI	**Taliwang, Sumb**	**14.25**	**222**	P	**Pn**	**05 02 43.6**	**+2.4**
	38nm,1.0s						
SBUM	**Sibu**	**14.30**	**273**	Pn	**Pn**	**05 02 41.8**	**0.0**
MTN	**Manton Dam**	**15.32**	**163**	Pn	**Pn**	**05 02 54.5**	**-0.9**
MTN				IAmb	IAmb	05 03 06.3	
	comp=Z,13nm,0.5s						
KNRA	**Kununurra**	**17.57**	**173**		**Pn**	**05 03 23.0**	**-1.0**
KNRA				IAmb	IAmb	05 03 38.4	
	comp=Z,28nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.86**	**182**	P	**P**	**05 03 48.5**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**19.86**	**182**	P	**P**	**05 03 48.3**	**-1.6**
CISI	**Cisompet, Garu**	**20.87**	**243**	P	**P**	**05 03 57.3**	**-3.7**
CISI				IAmb	IAmb	05 04 00.0	
	comp=Z,33nm,1.0s						
YULB	**Yu-li**	**21.99**	**347**	P	**P**	**05 04 11.2**	**-1.7**
YULB				IAmb	IAmb	05 04 16.7	
	comp=Z,20nm,1.1s						
COEN	**Coen**	**22.80**	**134**	P	**P**	**05 04 20.4**	**-1.3**
WB0	**Warramunga Arr**	**22.85**	**161**	P	**P**	**05 04 21.0**	**-1.1**
WB0				IAmb	IAmb	05 04 24.0	
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**22.99**	**161**	P	**P**	**05 04 22.4**	**-1.2**
WRAB				IAmb	IAmb	05 04 29.5	
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**05 04 21.9**	**-1.7**
	comp=Z,13nm,0.6s,baz=339,slow=11,SNR=108						
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**05 04 22.3**	**-1.3**
WB2	**Warramunga Arr**	**23.00**	**161**	P	**P**	**05 04 22.0**	**-1.6**
WB2				IAmb	IAmb	05 04 29.5	
	comp=Z,24nm,0.7s						
WR0	**Warramunga Arr**	**23.08**	**160**	P	**P**	**05 04 23.3**	**-1.1**
WR0				IAmb	IAmb	05 04 31.2	
	comp=Z,18nm,0.7s						
PMG	**Port Moresby**	**23.42**	**119**	LR	LR	05 15 50.8	
	comp=Z,70nm,18.4s,baz=129,slow=42						
QIZ	**Qiongzhong**	**23.61**	**317**	P	**P**	**05 04 28.2**	**-1.5**
QIZ				IAmb	IAmb	05 04 30.2	
	comp=Z,17nm,0.9s						
SDSI	**Sungai Dareh**	**25.24**	**264**	P	**P**	**05 04 48.1**	**+3.4**
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**26.38**	**165**	P	**P**	**05 04 53.5**	**-1.4**
ASAR	**Alice Springs**	**26.38**	**165**	P	**P**	**05 04 54.3**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=342,slow=8.0,SNR=36						
ASAR	**Alice Springs**	**26.38**	**165**	P	**P**	**05 04 53.5**	**-1.4**
GIRL	**Giralia**	**27.15**	**206**	P	**P**	**05 05 02.3**	**+0.5**
WHN	**Wuhan**	**30.76**	**339**	P	**P**	**05 05 34.8**	**+0.9**
GYA	**Guiyang**	**31.01**	**324**	*e*P	**P**	**05 05 34.8**	**-1.5**
GYA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**31.66**	**303**	P	**P**	**05 05 42.8**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=117,slow=6.9,SNR=8.4						
CMAR	**Chiang Mai Arr**	**31.66**	**303**	P	**P**	**05 05 41.8**	**-0.2**
ENH	**Enshi**	**32.54**	**332**	P	**P**	**05 05 49.0**	**-0.6**
KMI	**Kunming**	**32.56**	**317**	*e*P	P	05 05 44.8	-5.3
KMI				pP	sP	05 06 04.3	+0.6
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				pmax	pmax		
	comp=Z,75nm,4.1s						
KSRS	**Korea Array**	**35.44**	**2**	P	**P**	**05 06 17.1**	**+2.5**
	comp=Z,3.5nm,0.8s,baz=180,slow=10,SNR=7.4						
XAN	**Xi'an**	**35.99**	**335**	⇑P	**P**	**05 06 18.4**	**-1.1**
XAN				pP	sP	05 06 36.0	+3.0
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN	**Xi'an**	**35.99**	**335**	P	**P**	**05 06 18.4**	**-1.1**
XAN				IAmb	IAmb	05 06 19.7	
	comp=Z,10nm,0.7s						
MJAR	**Matsushiro Ar**	**36.16**	**16**	P	**P**	**05 06 22.4**	**+1.6**
	comp=Z,4.9nm,0.8s,baz=189,slow=9.8,SNR=7.6						
MJAR	**Matsushiro Ar**	**36.16**	**16**	P	**P**	**05 06 21.6**	**+0.7**
STKA	**Stephens Creek**	**36.48**	**158**	P	**P**	**05 06 23.4**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=338,slow=6.3,SNR=9.5						
STKA	**Stephens Creek**	**36.48**	**158**	P	**P**	**05 06 22.4**	**-1.3**
LZH	**Lanzhou**	**40.00**	**331**	*e*P	**P**	**05 06 53.9**	**+0.4**
LZH				pP	pP	05 06 59.5	-3.6
LZH				sP	pwP	05 07 03.1	-2.5
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
USRK	**Ussuriysk Ar.**	**42.43**	**6**	P	**P**	**05 07 15.5**	**+2.4**
	comp=Z,2.0nm,0.6s,baz=196,slow=5.4,SNR=5.3						
USRK	**Ussuriysk Ar.**	**42.43**	**6**	P	**P**	**05 07 13.8**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**42.70**	**65**	T	T	05 52 57.2	
	baz=241						
H11S2	**WAKE ISLAND Hy**	**42.71**	**65**	T	T	05 54 41.9	
	baz=241,slow=74,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**42.71**	**65**	T	T	05 54 26.6	
	baz=241,slow=74,SNR=5.4						
GTA	**Gaotai**	**44.59**	**330**	*e*P	**P**	**05 07 30.5**	**-0.2**
GTA				pP	pP	05 07 34.0	-6.5
GTA				sP	pwP	05 07 36.5	-6.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,74nm,4.5s						
GTA				LR	LR		
	comp=N,78nm,16.0s						

0.2nm,0.3s,baz=348,slow=14,SNR=9.9
ASAR Alice Springs 16.89 169 Pn Pn 05 20 27.9 +0.4
0.1nm,0.3s,baz=352,slow=10.0,SNR=4.8
MKAR Makanchi Array 68.53 327 P P 05 27 33.9 0.0
0.1nm,0.5s,baz=112,slow=6.4,SNR=2.3

IDC ***16*** *05:23:40.5±0.6, 11°.56N×141°.65E, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.3/40, mbtmp4.4/15, MS3.7/24, Ms1 3.7/24, ms1mx3.5/52, Error ellipse: s-maj=27.2km s-min=14.8km az=86.0*

NEIC ***16*** *05:23:45.5±1.6, 11°.59N±0°.10×141°.5E±0°.1, h30km±5km, mb4.8/67, Error ellipse: s-maj=16.1km s-min=12.4km az=128.0*

BJI ***16*** *05:23:45.7±0.0, 11°.61N×141°.46E, h39km, mB5.0/21, mb4.7/28, Ms4.4/7, Ms7 4.2/7*

ISC 16 05:23:46.2±0.5, 11°.60N±0°.07×141°.57E±0°.08, h35km, n122, σ1°02/111, mb4.7/53, MS3.7/23, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.78**	**58**	Pn	**Pn**	**05 24 42.7**	**+0.7**
	48nm,0.3s,baz=205,slow=8.0,SNR=12						
GUMO	**Guam**	**3.78**	**58**	Pn	**Pn**	**05 24 42.9**	**+0.9**
ANA2	**Anatahan**	**6.20**	**40**	Pn	**Pn**	**05 25 15.6**	**+0.3**
ANA2				Sn	**Sn**	**05 26 22.7**	**-2.3**
JAY	**Jayapura**	**14.05**	**184**	LR	LR	05 31 49.7	
	comp=Z,492nm,18.2s,baz=222,slow=35						
JCJ	**Chichijima**	**15.43**	**2**	LR	LR	05 32 37.6	
	comp=Z,181nm,18.8s,baz=70,slow=35						
SIJI	**Sorong**	**16.07**	**220**	LR	LR	05 32 51.6	
	comp=Z,284nm,20.1s,baz=86,slow=34						
FAKI	**Fak Fak**	**17.14**	**213**		**P**	**05 27 43.7**	**-0.8**
FAKI				IAmb	IAmb	05 28 00.5	
	comp=Z,62nm,1.3s						
KRVT	**Keravat (AS076**	**18.92**	**146**	LR	LR	05 34 31.1	
	comp=Z,240nm,19.0s,baz=4.6,slow=34						
JHJ	**Hachijo jima 2**	**21.48**	**356**	LR	LR	05 35 51.4	
	comp=Z,305nm,18.5s,baz=184,slow=34						
PMG	**Port Moresby**	**21.59**	**165**	LR	LR	05 36 11.5	
	comp=Z,288nm,18.1s,baz=320,slow=35						
JNU	**Nakatsue**	**23.56**	**337**	LR	LR	05 37 36.1	
	comp=Z,148nm,18.1s,baz=156,slow=35						
MYLDM	**Lahad Datu**	**23.68**	**256**	P	**P**	**05 28 55.1**	**+0.2**
MYLDM				IAmb	IAmb	05 29 04.1	
	comp=Z,37nm,1.1s						
JWT	**Wachi**	**24.24**	**348**	P	**P**	**05 28 59.5**	**-0.3**
JWT				IAmb	IAmb	05 29 02.3	
	comp=Z,15nm,0.6s						
JYT	**Yasato**	**24.55**	**357**	P	**P**	**05 29 02.7**	**0.0**
MJAR	**Matsushiro Arr**	**25.02**	**354**	P	**P**	**05 29 06.3**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=175,slow=11,SNR=5.9						
MJAR				LR	LR	05 39 02.1	
	comp=Z,126nm,18.1s,baz=210,slow=37						
MJAR	**Matsushiro Arr**	**25.02**	**354**	P	**P**	**05 29 05.6**	**-1.4**
MAT	**Matsushiro**	**25.02**	**354**	P	**P**	**05 29 05.6**	**-1.4**
HNR	**Honiara**	**27.75**	**138**	LR	LR	05 40 34.4	
	comp=Z,86nm,18.8s,baz=211,slow=37						
KSRS	**Korea Array**	**28.51**	**337**	LR	LR	05 39 02.9	
	comp=Z,101nm,21.7s,baz=137,slow=32						
NJ2	**Nanjing**	**29.19**	**318**	*e*P	**P**	**05 29 44.0**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	**Wuhan**	**31.49**	**311**	P	**P**	**05 30 04.9**	**+0.1**
WB0	**Warramunga Arr**	**31.96**	**193**	P	**P**	**05 30 07.0**	**-2.0**
WB2	**Warramunga Arr**	**32.14**	**193**	P	**P**	**05 30 08.6**	**-2.0**
WB2				IAmb	IAmb	05 30 11.2	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**32.14**	**193**	P	**P**	**05 30 08.4**	**-2.2**
	comp=Z,6.7nm,0.8s,baz=12,slow=9.8,SNR=36						
WRA				LR	LR	05 43 53.2	
	comp=Z,140nm,20.1s,baz=5.0,slow=38						
WRA	**Warramunga Arr**	**32.14**	**193**	P	**P**	**05 30 08.2**	**-2.4**
FITZ	**Fitzroy Crossi**	**33.44**	**208**	LR	LR	05 44 31.4	
	comp=Z,32nm,18.6s,baz=10.0,slow=37						
FITZ	**Fitzroy Crossi**	**33.44**	**208**	P	**P**	**05 30 20.4**	**-1.6**
USRK	**Ussuriysk Ar.**	**33.52**	**347**	P	**P**	**05 30 23.3**	**+0.9**
	comp=Z,7.5nm,0.7s,baz=176,slow=8.3,SNR=14						
USRK				LR	LR	05 42 23.0	
	comp=Z,119nm,20.6s,baz=138,slow=33						
USRK	**Ussuriysk Ar.**	**33.52**	**347**	P	**P**	**05 30 22.3**	**-0.1**
AS31	**Alice Springs**	**35.84**	**192**	P	**P**	**05 30 43.5**	**+0.7**
ASAR	**Alice Springs**	**35.84**	**192**	P	**P**	**05 30 41.2**	**-1.5**
	comp=Z,2.9nm,0.6s,baz=18,slow=12,SNR=44						
ASAR				LR	LR	05 46 55.5	
	comp=Z,118nm,18.1s,baz=24,slow=39						
ASAR	**Alice Springs**	**35.84**	**192**	P	**P**	**05 30 41.8**	**-0.9**
XAN	**Xi'an**	**37.21**	**312**	P	**P**	**05 30 57.8**	**+3.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				LR	LR		
	comp=Z,130nm,18.4s						
XAN				LR	LR		
	comp=Z,160nm,19.5s						
XAN				LR	LR		
	comp=Z,220nm,19.5s						
HHC	**Hu-ho-hao-te**	**39.30**	**323**	*e*P	**P**	**05 31 13.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,25nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,7.6s						
HHC				LR	LR		
	comp=Z,150nm,13.3s						
HHC				LR	LR		
	comp=Z,130nm,14.6s						
HHC				LR	LR		
	comp=Z,160nm,18.1s						
CD2	**Chengdu**	**39.88**	**305**	*e*P	**P**	**05 31 16.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.65**	**285**	P	**P**	**05 31 33.0**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=84,slow=5.9,SNR=4.6						
CMAR				LR	LR	05 49 28.2	
	comp=Z,44nm,18.5s,baz=122,slow=37						
CMAR	**Chiang Mai Arr**	**41.65**	**285**	P	**P**	**05 31 31.7**	**+0.1**
HIA	**Hailar**	**41.69**	**339**	P	**P**	**05 31 32.7**	**+1.2**
HIA				IAmb	IAmb	05 31 54.3	
	comp=Z,7.1nm,0.5s						
LZH	**Lanzhou**	**41.85**	**312**	*e*P	**P**	**05 31 31.6**	**-1.6**
LZH				pP	sP	05 31 45.9	0.0
LZH				sP	pwP	05 31 51.0	+3.4
LZH				PP	**PnPn**	**05 33 14.0**	**-1.5**
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.3s						
LZH				LR	LR		
	comp=Z,230nm,16.5s						
LZH				LR	LR		
	comp=Z,240nm,16.8s						
LZH				LR	LR		
	comp=Z,310nm,18.6s						
RPSI	**Rantau Prapat**	**43.17**	**262**	P	**P**	**05 31 43.2**	**-0.8**
STKA	**Stephens Creek**	**43.23**	**180**	P	**P**	**05 31 44.8**	**+0.7**
	comp=Z,4.0nm,1.0s,baz=354,slow=9.6,SNR=5.6						
STKA				LR	LR	05 51 08.2	
	comp=Z,174nm,18.6s,baz=23,slow=38						
STKA	**Stephens Creek**	**43.23**	**180**	P	**P**	**05 31 44.7**	**+0.6**
PETK	**Petropavlovsk-**	**43.38**	**14**	LR	LR	05 46 43.5	
	comp=Z,62nm,20.3s,baz=178,slow=32						
FORT	**Forrest**	**44.09**	**197**	P	**P**	**05 31 51.6**	**+0.6**
GTA	**Gaotai**	**46.16**	**314**	P	**P**	**05 32 08.6**	**+0.9**
GTA				pP	pwP	05 32 21.9	-0.3
GTA				sP	sP	05 32 26.8	+6.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
ULN	**Ulaanbaatar**	**46.27**	**328**	P	**P**	**05 32 08.4**	**0.0**
SONM	**Songino Array**	**46.59**	**328**	P	**P**	**05 32 11.7**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=137,slow=6.4,SNR=9.1						
SONM				LR	LR	05 52 32.1	
	comp=Z,107nm,19.2s,baz=140,slow=37						
SONM	**Songino Array**	**46.59**	**328**	P	**P**	**05 32 11.7**	**+0.8**
TLY	**Talaya**	**50.39**	**330**	P	**P**	**05 32 39.6**	**-0.4**
TLY				IAmb	IAmb	05 32 43.0	
	comp=Z,9.9nm,1.5s						
YAK	**Yakutsk**	**51.08**	**353**	P	**P**	**05 32 45.4**	**+0.5**
WMQ	**Urumqi**	**56.22**	**315**	*e*P	**P**	**05 33 24.3**	**+1.2**
WMQ				pP	pwP	05 33 36.8	-0.9
WMQ				sP	sP	05 33 41.4	+5.4
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,73nm,5.1s						
MK31	**Makanchi Array**	**60.72**	**317**	P	**P**	**05 33 54.5**	**+0.2**
MKAR	**Makanchi Array**	**60.72**	**317**	P	**P**	**05 33 54.5**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=103,slow=8.8,SNR=17						
MKAR	**Makanchi Array**	**60.72**	**317**	P	**P**	**05 33 54.0**	**-0.4**
MAKZ	**Makanchi**	**60.93**	**317**	P	**P**	**05 33 55.0**	**-0.8**
SDHHI	**Sand Hill**	**61.06**	**74**	P	**P**	**05 33 56.1**	**-1.1**
ZAA0	**Zalesovo Array**	**61.40**	**326**	P	**P**	**05 33 58.8**	**0.0**
ZAA0				IAmb	IAmb	05 33 59.3	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**61.40**	**326**	P	**P**	**05 33 58.7**	**0.0**
	comp=Z,2.5nm,0.4s,baz=110,slow=6.4,SNR=12						
ZALV				LR	LR	06 02 33.2	
	comp=Z,97nm,19.1s,baz=113,slow=38						
KURK	**Kurchatov**	**64.06**	**321**	P	**P**	**05 34 16.4**	**-0.1**
NIL	**Nilore**	**65.66**	**302**	P	**P**	**05 34 26.7**	**-0.7**
NRIK	**Noril'sk**	**66.98**	**342**	P	**P**	**05 34 34.6**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=112,slow=8.0,SNR=3.6						
NRIK				LR	LR	06 04 36.7	
	comp=Z,52nm,18.5s,baz=196,slow=37						
KKAR	**Karatay Array**	**68.35**	**312**	P	**P**	**05 34 43.7**	**-0.6**
IMAR	**Indian Mountai**	**69.28**	**23**	P	**P**	**05 34 50.5**	**+0.9**
BRVK	**Borovoye**	**69.57**	**322**	P	**P**	**05 34 52.1**	**+0.5**
BRVK				IAmb	IAmb	05 34 52.6	
	comp=Z,6.9nm,0.7s						
SEW	**Seward**	**69.58**	**30**	P	**P**	**05 34 51.5**	**+0.1**
KTH	**Kantishna Hill**	**69.73**	**26**	P	**P**	**05 34 52.5**	**+0.1**
KTH				IAmb	IAmb	05 34 54.4	
	comp=Z,14nm,1.2s						
BPAW	**Bear Paw Mtn.**	**69.85**	**26**	P	**P**	**05 34 53.6**	**+0.5**
BPAW				IAmb	IAmb	05 35 06.9	
	comp=Z,5.6nm,0.8s						
TRF	**Thorofare Moun**	**69.98**	**26**	P	**P**	**05 34 53.8**	**-0.4**
TRF				IAmb	IAmb	05 34 58.9	
	comp=Z,11nm,1.2s						
BWN	**Browne**	**70.51**	**26**	P	**P**	**05 34 57.8**	**+0.7**
COLD	**Coldfoot**	**71.01**	**22**	P	**P**	**05 35 01.4**	**+1.2**
COLD				IAmb	IAmb	05 35 14.7	
	comp=Z,5.0nm,0.9s						
WRH	**Wood River Hil**	**71.17**	**26**	P	**P**	**05 35 00.7**	**-0.4**
WRH				IAmb	IAmb	05 35 01.5	
	comp=Z,10nm,1.3s						
MDM	**Murphy Dome**	**71.22**	**25**	P	**P**	**05 35 01.6**	**+0.1**
MDM				IAmb	IAmb	05 35 04.1	
	comp=Z,5.7nm,1.1s						
CCB	**Clear Creek Bu**	**71.32**	**25**	P	**P**	**05 35 02.5**	**+0.4**
CCB				IAmb	IAmb	05 35 02.9	
	comp=Z,9.9nm,1.3s						
TOLK	**Toolik Lake Re**	**71.62**	**21**	P	**P**	**05 35 03.8**	**-0.1**
TOLK				IAmb	IAmb	05 35 17.9	
	comp=Z,8.8nm,0.9s						
IL31		**71.74**	**25**	P	**P**	**05 35 03.6**	**-0.9**
IL31				IAmb	IAmb	05 35 16.8	
	comp=Z,4.6nm,0.7s						
ILAR	**Eielson Array**	**71.74**	**25**	P	**P**	**05 35 03.2**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=247,slow=5.9,SNR=28						
ILAR				LR	LR	06 05 16.1	
	comp=Z,54nm,20.1s,baz=264,slow=35						
ILAR	**Eielson Array**	**71.74**	**25**	P	**P**	**05 35 03.6**	**-1.0**
RIDG	**Independent Ri**	**72.42**	**27**	P	**P**	**05 35 08.1**	**-0.6**
GLB	**Gilahina Butte**	**72.54**	**29**	P	**P**	**05 35 09.5**	**0.0**
GLB				IAmb	IAmb	05 35 10.9	
	comp=Z,17nm,1.4s						
VRDI	**Verde Repeater**	**72.68**	**29**	P	**P**	**05 35 10.7**	**+0.2**
DOT	**Dot Lake**	**72.75**	**27**	P	**P**	**05 35 10.8**	**+0.2**
DOT				IAmb	IAmb	05 35 28.9	
	comp=Z,8.0nm,0.9s						
FYU	**Fort Yukon**	**72.76**	**24**	P	**P**	**05 35 11.1**	**+0.4**
BALM	**Baldy**	**73.19**	**30**	P	**P**	**05 35 13.6**	**+0.1**
BALM				IAmb	IAmb	05 35 25.2	
	comp=Z,14nm,1.3s						
BCAR	**Beaver Creek A**	**73.69**	**27**	P	**P**	**05 35 16.8**	**+0.5**
PCA	**Pinnacle**	**74.13**	**31**	P	**P**	**05 35 18.6**	**-0.3**
PCA				IAmb	IAmb	05 35 32.6	
	comp=Z,12nm,0.9s						
EGAK	**Eagle**	**74.16**	**26**	P	**P**	**05 35 19.7**	**+0.8**
DAWY	**Dawson**	**74.85**	**27**	P	**P**	**05 35 23.2**	**+0.2**
HYT	**Haines Junctio**	**75.53**	**30**	P	**P**	**05 35 26.3**	**-0.8**
HYT				IAmb	IAmb	05 35 42.3	
	comp=Z,8.4nm,1.0s						
ABKAR	**Akbulak array**	**75.85**	**318**	P	**P**	**05 35 28.6**	**-0.4**
JIS	**Juneau Island**	**77.10**	**33**	P	**P**	**05 35 35.1**	**-0.7**
INK	**Inuvik**	**77.42**	**22**	P	**P**	**05 35 37.1**	**-0.3**
INK				IAmb	IAmb	05 35 43.4	
	comp=Z,12nm,1.3s						
DLBC	**Dease Lake**	**79.38**	**32**	P	**P**	**05 35 49.6**	**+1.0**
DLBC				IAmb	IAmb	05 35 56.4	
	comp=Z,11nm,1.3s						
EUNU	**Eureka**	**85.26**	**7**	P	**P**	**05 36 19.9**	**+0.9**
EUNU				IAmb	IAmb	05 36 33.8	
	comp=Z,11nm,1.4s						
YKA	**Yellowknife Ar**	**86.09**	**27**	P	**P**	**05 36 23.4**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=289,slow=3.9,SNR=4.1						
YKA				LR	LR	06 16 04.4	
	comp=Z,32nm,19.2s,baz=0.0,slow=36						
LON	**Longmire**	**86.14**	**43**	P	**P**	**05 36 24.4**	**+0.5**
B08A	**Colville Reser**	**87.39**	**41**	P	**P**	**05 36 30.6**	**+0.6**
B08A				IAmb	IAmb	05 36 31.8	
	comp=Z,7.2nm,1.1s						
PINE	**Pine Mountain**	**87.41**	**46**	P	**P**	**05 36 31.7**	**+1.3**
K05A	**Summer Lake**	**87.69**	**47**	P	**P**	**05 36 33.1**	**+1.3**
ARCES	**ARCESS Array B**	**87.96**	**342**	P	**P**	**05 36 31.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=48,slow=5.6,SNR=8.2						
ARC4	**ARCESS Array S**	**87.96**	**342**	P	**P**	**05 36 31.9**	**-0.3**
MOD	**Modoc Plateau**	**88.31**	**48**	P	**P**	**05 36 35.5**	**+0.8**
MOD				IAmb	IAmb	05 36 35.8	
	comp=Z,3.5nm,0.8s						
J08A	**Circle Bar Ran**	**89.25**	**46**	P	**P**	**05 36 38.5**	**-0.5**
J08A				IAmb	IAmb	05 36 40.6	
	comp=Z,5.6nm,1.0s						
PNTR	**Pine Nut**	**89.52**	**50**	P	**P**	**05 36 42.2**	**+1.7**
PNTR				IAmb	IAmb	05 36 43.7	
	comp=Z,4.0nm,0.8s						
BMO	**Blue Mountains**	**89.66**	**44**	P	**P**	**05 36 42.2**	**+1.3**
BMO				IAmb	IAmb	05 36 42.9	
	comp=Z,6.4nm,1.2s						
VNDA	**Vanda**	**89.72**	**176**	LR	LR	06 16 44.3	
	comp=Z,79nm,18.5s,baz=321,slow=36						
YERR	**Yerington**	**89.82**	**50**	P	**P**	**05 36 40.9**	**-0.9**
YERR				IAmb	IAmb	05 36 48.2	
	comp=Z,6.0nm,1.3s						
KVN	**Kaiserville**	**90.66**	**50**	P	**P**	**05 36 46.9**	**+1.1**
NVAR	**Mina Array Bea**	**90.67**	**51**	P	**P**	**05 36 46.7**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=261,slow=5.9,SNR=25						
NVAR	**Mina Array Bea**	**90.67**	**51**	P	**P**	**05 36 47.2**	**+1.3**
MFID	**Camas Ranch**	**91.09**	**45**	P	**P**	**05 36 48.6**	**+1.1**
MFID				IAmb	IAmb	05 36 50.0	
	comp=Z,8.6nm,1.4s						
FINES	**FINESS Array B**	**91.57**	**334**	P	**P**	**05 36 47.7**	**-1.6**
	comp=Z,3.4nm,0.4s,baz=70,slow=5.0,SNR=34						
FINES	**FINESS Array B**	**91.57**	**334**	P	**P**	**05 36 47.8**	**-1.4**
TPH	**Tonopah**	**91.58**	**51**	P	**P**	**05 36 51.5**	**+1.4**
HLID	**Hailey**	**92.03**	**45**	P	**P**	**05 36 53.0**	**+1.0**
YHL	**Hebgen Lake**	**93.80**	**43**	P	**P**	**05 37 02.2**	**+1.9**
AKASG	**Malin Array Be**	**94.75**	**324**	LR	LR	06 23 14.1	
	comp=Z,100nm,18.7s,baz=245,slow=38						
MAW	**Mawson**	**96.37**	**202**	P	**P**	**05 37 13.2**	**+2.3**
	comp=Z,1.8nm,0.9s,baz=41,slow=6.8,SNR=6.1						
MAW	**Mawson**	**96.37**	**202**	P	**P**	**05 37 12.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**133.21**	**301**	PKP	**PKiKP**	**05 43 00.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=70,slow=1.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**133.21**	**301**		**PKPdf**	**05 42 59.5**	**+0.2**
LPAZ	**La Paz**	**150.82**	**103**	PKPbc	**PKiKP**	**05 43 37.4**	**0.0**
	comp=Z,3.2nm,0.7s,baz=250,slow=2.3,SNR=19						
LPAZ	**La Paz**	**150.82**	**103**		**PKiKP**	**05 43 37.9**	**+0.5**

SOF ***16*** *05:30:25.2, 40°.67N×22°.61E, h14km, MD2.8*

SKO ***16*** *05:30:25.6, 40°.72N×22°.61E, h15km*

ATH ***16*** *05:30:25.3, 40°.70N×22°.61E, h27km, ML2.6/16, Error ellipse: s-maj=1.2km s-min=0.7km az=317.0*

THE ***16*** *05:30:26.4, 40°.71N×22°.60E, h11km, ML2.6/9, Error ellipse: s-maj=0.7km s-min=0.4km az=336.0*

BEO ***16*** *05:30:27.4±1.0, 40°.77N×22°.65E, h14km±3km, ML2.5/8*

ISC 16 05:30:25.8±1.0, 40°.70N±0°.02×22°.61E±0°.02, h14km±9km, n67, σ0°.67/100, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	**0.28**	**103**	P	**Pb**	**05 30 32.2**	**-0.4**
THE				S	**Sb**	**05 30 36.6**	**-0.5**
	2µm,0.4s						
THE	**Thessaloniki**	**0.28**	**103**	P	**Pb**	**05 30 32.2**	**-0.4**
THE				S	**Sb**	**05 30 36.6**	**-0.5**
THE				AML	AML	05 30 37.0	
	comp=E,2019µm,0.3s						
THE				AML	AML	05 30 37.5	
	comp=N,5826µm,0.3s						
GRG	**Griva**	**0.30**	**329**	P	**Pg**	**05 30 32.2**	**0.0**
HORT	**Hortiatis**	**0.39**	**105**	P	**Pb**	**05 30 34.0**	**-0.5**
HORT				S	**Sb**	**05 30 39.7**	**-0.6**
	comp=N,595nm,0.2s						
HORT	**Hortiatis**	**0.39**	**105**	P	**Pg**	**05 30 33.8**	**+0.2**
HORT				S	**Sb**	**05 30 39.8**	**-0.5**
KTI	**Kastanea**	**0.48**	**231**	P	**Pb**	**05 30 35.9**	**-0.3**
KNT	**Kendrikon**	**0.51**	**25**	P	**Pb**	**05 30 36.3**	**-0.3**
KNT				S	**Sb**	**05 30 43.2**	**-0.7**
	comp=N,700nm,0.2s						
KNT	**Kendrikon**	**0.51**	**25**	P	**Pb**	**05 30 36.3**	**-0.3**
KNT				S	**Sb**	**05 30 43.5**	**-0.5**
KNT				AML	AML	05 30 44.4	
	comp=N,1392µm,0.1s						
KNT				AML	AML	05 30 45.0	
	comp=E,1317µm,0.4s						
SOH	**Sokhos**	**0.58**	**77**	P	**Pb**	**05 30 37.7**	**-0.1**
SOH				S	**Sb**	**05 30 46.1**	**+0.2**
	comp=E,698nm,0.3s						
SOH	**Sokhos**	**0.58**	**77**	P	**Pb**	**05 30 37.5**	**-0.2**
SOH				S	**Sb**	**05 30 46.4**	**+0.5**
SOH				AML	AML	05 30 52.1	
	comp=N,2008µm,0.3s						
SOH				AML	AML	05 30 52.8	
	comp=E,1515µm,0.3s						
LIT	**Litokhoron**	**0.60**	**189**	P	**Pg**	**05 30 37.8**	**+0.1**
LIT				S	**Sb**	**05 30 46.7**	**+0.2**
	comp=E,660nm,0.3s						
LIT	**Litokhoron**	**0.60**	**189**	P	**Pg**	**05 30 37.7**	**+0.1**
LIT				S	**Sb**	**05 30 46.9**	**+0.4**
LIT				AML	AML	05 30 47.2	
	comp=E,1696µm,0.3s						
LIT				AML	AML	05 30 47.9	
	comp=N,980µm,0.3s						
VAY	**Valandovo**	**0.62**	**357**	*e*Pg	**Pg**	**05 30 37.9**	**-0.1**
VAY				*e*Sg	**Sb**	**05 30 46.8**	**-0.3**
VAY	**Valandovo**	**0.62**	**357**	*i* Pg	**Pg**	**05 30 37.7**	**-0.4**
VAY				*i* Sg	**Sb**	**05 30 46.9**	**-0.3**
VAY				*e*Lg	Lg	05 30 48.9	
	comp=N,264nm,0.4s						
PLG	**Polygyros**	**0.71**	**117**	P	**Pb**	**05 30 40.1**	**+0.1**
PLG				S	**Sb**	**05 30 50.9**	**+1.2**
	comp=N,645nm,0.3s						
PLG	**Polygyros**	**0.71**	**117**	P	**Pb**	**05 30 40.2**	**+0.1**
PLG				S	**Sb**	**05 30 50.2**	**+0.5**
PLG				AML	AML	05 30 54.3	
	comp=E,1350µm,0.4s						
PLG				AML	AML	05 30 55.2	
	comp=N,1218µm,0.3s						
KZN	**Kozani**	**0.75**	**239**	P	**Pg**	**05 30 40.4**	**0.0**
KZN				S	**Sb**	**05 30 51.4**	**+0.6**
	comp=N,465nm,0.7s						
KZN	**Kozani**	**0.75**	**239**	P	**Pg**	**05 30 39.9**	**-0.5**
KZN				S	**Sg**	**05 30 50.0**	**-0.3**
KZN				AML	AML	05 30 55.4	
	comp=E,1232µm,0.6s						
KZN				AML	AML	05 30 56.7	
	comp=N,670µm,0.6s						
SRS	**Serrai**	**0.85**	**60**	P	**Pb**	**05 30 42.2**	**-0.2**
SRS	**Serrai**	**0.85**	**60**	P	**Pg**	**05 30 42.1**	**-0.3**
SRS				S	**Sb**	**05 30 53.8**	**0.0**
SRS				AML	AML	05 30 59.5	
	comp=N,362µm,0.3s						
SRS				AML	AML	05 30 59.9	
	comp=E,633µm,0.6s						
STIP	**Stip**	**1.05**	**342**	↓ *i* Pg	**Pb**	**05 30 45.0**	**-0.7**
STIP				*i* Sg	**Sn**	**05 31 00.1**	**-0.4**
STIP				*e*Lg	Lg	05 31 03.0	
	comp=E,56nm,0.5s						
OUR	**Ouranopolis**	**1.11**	**109**	P	**Pg**	**05 30 47.3**	**+0.1**
OUR				S	**Sn**	**05 31 03.2**	**+1.3**
	comp=E,750nm,0.3s						
OUR	**Ouranopolis**	**1.11**	**109**	P	**Pg**	**05 30 47.3**	**+0.1**
OUR				S	**Sn**	**05 31 02.7**	**+0.8**
OUR				AML	AML	05 31 05.8	
	comp=E,1204µm,0.4s						
OUR				AML	AML	05 31 06.6	
	comp=N,1840µm,0.3s						
PAIG	**Paliouri**	**1.12**	**133**	P	**Pb**	**05 30 46.9**	**-0.1**
PAIG				S	**Sn**	**05 31 03.5**	**+1.2**
	comp=N,728nm,0.4s						
PAIG	**Paliouri**	**1.12**	**133**	P	**Pb**	**05 30 46.8**	**-0.2**
PAIG				S	**Sn**	**05 31 02.4**	**+0.1**
PAIG				AML	AML	05 31 04.6	
	comp=N,1225µm,0.3s						
PAIG				AML	AML	05 31 04.9	
	comp=E,1663µm,0.4s						
NVR	**Nevrokopi**	**1.15**	**55**	P	**Pg**	**05 30 47.8**	**-0.2**
NVR	**Nevrokopi**	**1.15**	**55**	P	**Pb**	**05 30 46.3**	**-1.2**
NVR				S	**Sn**	**05 31 03.3**	**+0.2**
NVR				AML	AML	05 31 11.1	
	comp=E,337µm,0.5s						
NVR				AML	AML	05 31 14.5	
	comp=N,284µm,0.4s						
THL	**Klokotos Trika**	**1.22**	**202**	P	**Pg**	**05 30 49.1**	**-0.2**
THL	**Klokotos Trika**	**1.22**	**202**	P	**Pg**	**05 30 49.0**	**-0.3**
THL				S	**Sn**	**05 31 04.8**	**+0.1**
THL				AML	AML	05 31 08.0	
	comp=N,359µm,0.7s						
THL				AML	AML	05 31 08.4	
	comp=E,878µm,0.7s						
KKB	**Krupnik**	**1.22**	**17**	P	**Pb**	**05 30 48.5**	**-0.2**
MMB	**Musomiste**	**1.23**	**43**	P	**Pb**	**05 30 48.8**	**0.0**
PENT	**Pentalofos**	**1.23**	**246**	P	**Pg**	**05 30 49.2**	**-0.4**
VOL2	**Volos**	**1.35**

KLV	Kalavryta, Ach	2.67	188	P	Pn	05 31 08.6	+0.1
SELS	Selova	2.75	337	*e*Pn	Pn	05 31 10.3	+0.7
MPEP	Malo Peshtene	2.79	17	P	Pn	05 31 11.8	+1.8
BOVS	Bovan	3.01	347	*e*Pn	Pn	05 31 13.4	+0.3
ZAGS	Zajecar	3.13	355	*e*Pn	Pn	05 31 15.4	+0.8
IVAS	Ivanjica	3.41	328	*e*Pn	Pn	05 31 19.3	+0.7
GRUS	Gruza	3.48	337	*e*Pn	Pn	05 31 20.4	+0.8
DIVS	Divibare	3.91	331	*e*Pn	Pn	05 31 26.6	+1.1

IDC **16** *05:41:02.7±1.0, 8°.44N×82°.96W, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.3/29, mbtmp4.2/13, ML4.4/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/32, Error ellipse: s-maj=35.9km s-min=19.0km az=45.0*

INET **16** *05:41:03.9, 8°.36N×82°.70W, h15km, ML4.1*

UCR **16** *05:41:03.9±1.9, 8°.47N×83°.11W, h0km±5km, MD3.7, MW4.4, Fault plane solution: NP1:ϕ=73.62000°, δ77.30000°, λ-38.26000°.*

UPA **16** *05:41:04.0±1.3, 8°.46N×83°.10W, h3km±3km, MW4.8, Fault plane solution: NP1:ϕ=282.49000°, δ52.97000°, λ74.90000°.*

NEIC **16** *05:41:06.8±1.4, 8°.45N±0°.07×83°.03W±0°.08, h26km±5km, mb4.6/101, ML4.3(UCR), Error ellipse: s-maj=13.3km s-min=7.7km az=46.0*

ISC 16 05:41:04.1±0.6, **8°.40N**±0°.03×**83°.12W**±0°.02, **h10**km±3km, **n250**,σ1°**19**/278, **mb4.6**/52, **17C-20D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.22**	**306**	⇑*i*P	**Pg**	**05 41 09.0**	**+0.3**
PTJ1	**Puerto Jimnez**	**0.22**	**306**	⇑*i*P	**Pg**	**05 41 09.0**	**+0.3**
PTJ1				*e*S	**Sg**	05 41 14.2	+2.4
CDITO	**Canoas**	**0.30**	**55**	⇓*i*P	**Pg**	05 41 10.3	+0.2
CDITO				*e*S	**Sg**	05 41 14.7	+0.6
CDITO	**Canoas**	**0.30**	**55**	⇓*e*P	**Pg**	05 41 10.2	+0.2
CDITO				*e*S	**Sg**	05 41 13.7	-0.3
LESP3	**La Esperanza,**	**0.33**	**90**	⇓*i*P	**Pb**	05 41 11.1	-0.9
LESP3				*i* S	**Sb**	05 41 16.7	-0.6
EDSV	**San Vito**	**0.44**	**19**	*i* P	**Pb**	05 41 13.2	-0.8
EDSV				*e*S	**Sg**	05 41 19.0	+0.5
RIOS	**Rincon, Osa**	**0.49**	**307**	⇑*i*P	**Pg**	05 41 13.0	-0.6
RIOS	**Rincon, Osa**	**0.49**	**307**	*e*P	**Pg**	05 41 13.0	-0.6
BRU2	**Volcan**	**0.57**	**47**	⇓*i*P	**Pb**	05 41 15.5	-0.9
BRU2				*i* S	**Sb**	05 41 24.6	0.0
BRU2	**Volcan**	**0.57**	**47**	⇓*i*P	**Pb**	05 41 15.5	-0.9
EDPN	**Palmar Norte**	**0.65**	**329**	*i* P	**Pg**	05 41 16.0	-0.7
EDPN				*e*S	**Sg**	05 41 25.6	+0.5
BC3P	**Paso Ancho**	**0.65**	**51**	⇓*i*P	**Pg**	05 41 16.6	-0.1
BC3P				*i* S	**Sb**	05 41 27.1	+0.2
BCO2	**Palmira**	**0.66**	**62**	⇓*i*P	**Pg**	05 41 17.0	0.0
BCO2				*i* S	**Sb**	05 41 27.2	0.0
PTAR3	**Potrerillos Ar**	**0.68**	**65**	⇓*i*P	**Pg**	05 41 17.2	-0.1
EDBA	**Buenos Aires**	**0.77**	**348**	⇓*e*P	**Pg**	05 41 18.7	-0.3
EDBA				*e*S	**Sb**	05 41 30.0	-0.2
PSOM3	**Paja de Sombre**	**0.84**	**70**	⇓*i*P	**Pg**	05 41 19.4	-0.8
PSOM3				*i* S	**Sb**	05 41 31.7	-0.4
DRK0	**Durika**	**0.86**	**352**	⇓*e*P	**Pg**	05 41 19.8	-0.9
DRK0				*i* S	**Sb**	05 41 33.5	+0.5
DRK0	**Durika**	**0.86**	**352**	⇓*e*P	**Pg**	05 41 19.8	-0.9
EDLM	**Las Mercedes**	**0.99**	**332**	*i* P	**Pg**	05 41 22.7	-0.4
EDLM				*i* S	**Sb**	05 41 36.9	+0.5
CHGR2	**Aguacate**	**1.10**	**61**	⇑*i*P	**Pb**	05 41 23.8	-1.4
CHGR2				*i* S	**Sg**	05 41 38.6	-1.0
PEZE	**Perez Zeledon,**	**1.12**	**330**	⇑*e*P	**Pb**	05 41 23.9	-1.7
EDDO	**Dominical**	**1.12**	**319**	*e*P	**Pb**	05 41 24.0	-1.6
EDDO				*e*S	**Sg**	05 41 40.5	+0.3
CDM	**Cerro de Muert**	**1.31**	**331**	⇓*e*P	**Pn**	05 41 27.1	-1.8
RIMA	**Rio Macho**	**1.54**	**332**	⇓*e*P	**Pn**	05 41 30.4	-1.4
LCR2	**La Lucha 2**	**1.59**	**327**	⇓*e*P	**Pn**	05 41 31.3	-1.2
BATAN	**Batan**	**1.70**	**351**	⇓*i*P	**Pn**	05 41 34.1	+0.2
BATAN				*e*S	**Sn**	05 41 55.5	-0.2
BATAN	**Batan**	**1.70**	**351**	⇓*e*P	**Pn**	05 41 34.0	+0.2
CVTR	**Volcan Turrial**	**1.73**	**339**	⇓*e*P	**Pn**	05 41 34.0	-0.5
SJS	**Escuela Geolog**	**1.78**	**329**	*e*P	**Pn**	05 41 34.5	-0.6
HDC	**Heredia**	**1.87**	**328**	⇑*i*P	**Pn**	05 41 36.1	-0.1
HDC				*e*S	**Sn**	05 42 01.0	+0.9
HDC				*i* S	**Sb**	05 42 01.3	-0.6
HDC	**Heredia**	**1.87**	**328**	⇓*e*P	**Pn**	05 41 36.0	-0.3
HDC	**Heredia**	**1.87**	**328**		**Pn**	05 41 36.9	+0.6
HDC				Sn	**Sb**	05 42 01.9	0.0
GMAL	**Guarumal, Vera**	**1.97**	**109**	⇑*i*P	**Pn**	05 41 36.9	-0.7
GMAL				*i* S	**Sb**	05 42 04.8	0.0
SRA1	**San Ramn**	**2.14**	**321**	*e*P	**Pn**	05 41 40.6	+0.6
PONU3	**Ponuga, Veragu**	**2.18**	**104**	⇑*e*P	**Pn**	05 41 41.1	+0.6
PONU3				*i* S	**Sb**	05 42 10.7	-0.1
MARI3	**Mariato, Verag**	**2.24**	**109**	⇑*i*P	**Pn**	05 41 42.1	+0.8
MARI3				*i* S	**Sb**	05 42 12.0	-0.4
LAFE	**Finca La Fe, P**	**2.25**	**308**	*e*P	**Pn**	05 41 40.8	-0.7
CACAO	**El Cacao, Vera**	**2.47**	**115**	⇑*e*P	**Pn**	05 41 44.8	+0.3
CACAO				*e*S	**Sb**	05 42 16.7	-2.4
FORC	**Fortuna**	**2.56**	**323**	*i* P	**Pn**	05 41 47.9	+2.2
CASO	**Castillo**	**2.57**	**322**	*i* P	**Pn**	05 41 46.6	+0.7
ARE1	**Arenal 1**	**2.58**	**322**	*e*P	**Pn**	05 41 47.0	+1.0
CEDE	**Laguna Cedeo**	**2.59**	**323**	*i* P	**Pn**	05 41 46.5	+0.3
JTS	**Las Juntas de**	**2.61**	**316**	Pn	**Pn**	05 41 45.9	-0.5
	109nm,0.3s,baz=251,slow=1.8,SNR=149						
JTS				Sn	**Sn**	05 42 17.9	-0.2
	93nm,0.3s,baz=116,slow=23,SNR=8.3						
JTS	**Las Juntas de**	**2.61**	**316**	⇓*i*P	**Pn**	05 41 47.8	+1.4
JTS				*i* S	**Sn**	05 42 18.1	0.0
JTS	**Las Juntas de**	**2.61**	**316**	⇓*e*P	**Pn**	05 41 47.1	+0.7
JTS	**Las Juntas de**	**2.61**	**316**	Pn	**Pn**	05 41 47.1	+0.7
JTS					**Sn**	05 42 18.4	+0.3
COVE	**Coope Vega, Sa**	**2.63**	**331**	*e*P	**Pn**	05 41 47.5	+0.9
PNME	**Penonome**	**2.76**	**88**	⇑*e*P	**Pn**	05 41 49.6	+1.1
AZU	**Azuero**	**2.88**	**102**	⇑*i*P	**Pn**	05 41 51.1	+1.0
AZU				*i* S	**Sn**	05 42 26.6	+1.7
PLVR	**Palo Verde**	**2.93**	**311**	⇑*e*P	**Pn**	05 41 51.6	+0.7
ORTG	**Ortega, Santa**	**3.02**	**310**	⇑*e*P	**Pn**	05 41 52.6	+0.5
ACHO3	**Achotines, Los**	**3.08**	**108**	*i* P	**Pn**	05 41 54.2	+1.4
ACHO3				*e*S	**Sn**	05 42 30.6	+0.9
GUAB	**Guayabo de Bag**	**3.09**	**318**	*i* P	**Pn**	05 41 54.8	+1.7
GPS2	**Hotel Rincn d**	**3.21**	**317**	*i* P	**Pn**	05 41 56.4	+1.7
GPS3	**Bodega del ICE**	**3.22**	**317**	*i* P	**Pn**	05 41 56.1	+1.3
GPS1	**Guardaparques**	**3.22**	**317**	*i* P	**Pn**	05 41 56.6	+1.7
BUEV	**Buena Vista**	**3.28**	**317**	*e*P	**Pn**	05 41 56.9	+1.2
BUAI	**Buenos Aires**	**3.29**	**319**	*i* P	**Pn**	05 41 57.1	+1.4
GB1A	**Borinquen Arri**	**3.29**	**317**	*i* P	**Pn**	05 41 56.9	+1.1
CHOR3	**La Chorrera**	**3.35**	**81**	⇑*e*P	**Pn**	05 41 59.5	+2.9
CHOR3				*i* S	**Sn**	05 42 39.4	+2.9
ESPN	**Las Esperanzas**	**3.94**	**343**		**Pn**	05 42 04.4	-0.3
CHPO	**Chepo, Panama**	**4.03**	**79**	⇑*i*P	**Pn**	05 42 07.7	+1.8
CHPO				*e*S	**Sn**	05 42 52.0	-1.2
ACON	**Acoyapa**	**4.08**	**330**		**Pn**	05 42 07.5	+0.9
MATN	**Matagalpa**	**5.28**	**329**	Pn	**Pn**	05 42 23.3	+0.1
MATN				Sn	**Sn**	05 43 22.7	-1.5
CRIN	**San Cristobal**	**5.76**	**318**		**Pn**	05 42 31.5	+1.7
CRIN				Sn	**Sn**	05 43 35.7	-0.3
SOLC	**Bahia Solano**	**6.06**	**111**	*e*P	**Pn**	05 42 31.4	-2.5
TGUH	**Tegucigalpa,Un**	**6.94**	**324**	Pn	**Pn**	05 42 48.1	+2.1
MOTC	**Monteria, Cord**	**7.38**	**87**	*e*P	**Pn**	05 42 53.7	+1.7
CBOC	**Ciudad Bolivar**	**7.49**	**109**	*e*P	**Pn**	05 42 51.8	-1.9
UREC	**San Jos de Ur**	**7.54**	**94**	*e*P	**Pn**	05 42 55.6	+1.4
PLMC	**San Jos del P**	**7.63**	**117**	*e*P	**Pn**	05 42 57.6	+2.1
HELC	**Santa Helena**	**7.84**	**106**	*e*P	**Pn**	05 42 59.7	+1.0
SNET	**Serv Nac Est T**	**7.97**	**312**	Pn	**Pn**	05 43 01.9	+1.8
SJCC	**San Jacinto, C**	**7.98**	**79**	*e*P	**Pn**	05 43 01.5	+1.2
YOTC	**Yotoco, Valle**	**8.04**	**123**	*e*P	**Pn**	05 42 59.5	-1.6
ZARC	**Zaragoza, Cauc**	**8.23**	**96**	*e*P	**Pn**	05 43 01.5	-2.2
GUY2C	**Guyana, Caldas**	**8.32**	**112**	*e*P	**Pn**	05 43 06.5	+1.2
MTO3	**Montecristo**	**8.54**	**315**		**Pn**	05 43 09.9	+1.8
BBAC	**Balboa, Cauca**	**8.62**	**137**	*e*P	**Pn**	05 43 11.2	+1.9
TOLC	**Tolima**	**8.63**	**116**	*e*P	**Pn**	05 43 11.2	+1.8
ESQI	**Esquipulas**	**8.64**	**316**	Pn	**Pn**	05 43 11.9	+2.6
POPC	**Popayan, Colom**	**8.66**	**132**	*e*P	**Pn**	05 43 11.1	+1.3
ORTC	**Ortega, Tolima**	**9.01**	**119**	*e*P	**Pn**	05 43 19.0	+4.5
PCON	**Cinco Dias**	**9.01**	**132**	*e*P	**Pn**	05 43 17.1	+2.3
GCUF	**Volcan Galeras**	**9.16**	**141**	*e*P	**Pn**	05 43 16.8	-0.1
OTAV	**Otavalo**	**9.35**	**150**	Pn	**Pn**	05 43 21.5	+2.1
OTAV	**Otavalo**	**9.35**	**150**	*e*P	**Pn**	05 43 18.8	-0.7
ROSC	**El Rosal**	**9.43**	**112**	LR	LR	05 46 41.2	
	comp=Z,120nm,20.4s,baz=352,slow=36						
ROSC	**El Rosal**	**9.43**	**112**	Pn	**Pn**	05 43 22.6	+2.1
VILC	**Villavicencio,**	**10.29**	**114**	*e*P	**Pn**	05 43 36.6	+4.5
HUEH	**Huehuetenango**	**10.70**	**311**		**Pn**	05 43 39.8	+2.0
PETF	**Flores**	**10.72**	**323**		**Pn**	05 43 39.6	+1.9
CBCY	**The Bluff, Cay**	**11.73**	**16**	Pn	**Pn**	05 43 51.4	-0.2
CCIG	**Comitan**	**11.78**	**313**	Pn	**Pn**	05 43 53.6	+1.1
SDV	**Santo Domingo**	**12.35**	**87**		**Pn**	05 44 01.9	+1.5
SDV	**Santo Domingo**	**12.35**	**87**	*e*P	**Pn**	05 44 03.2	+2.8
TEIG	**Tepich**	**12.77**	**338**	LR	LR	05 49 01.0	
	comp=Z,302nm,21.0s,baz=136,slow=37						
TEIG	**Tepich**	**12.77**	**338**	Pn	**Pn**	05 44 06.6	+0.8
LGNH	**Logne**	**14.33**	**44**	Pn	**Pn**	05 44 26.4	-0.7
CMIG	**Matias Romero**	**14.35**	**308**	Pn	**Pn**	05 44 29.4	+1.9
	1.0nm,0.3s,baz=114,slow=11,SNR=7.8						
SDDR	**Presa de Saban**	**15.57**	**46**	Pn	**Pn**	05 44 43.9	+0.1
BANI	**BANI**	**15.88**	**50**	Pn	**Pn**	05 44 46.5	-1.5
CRPR	**Cabo Rojo, PR**	**18.26**	**57**	P	**P**	05 45 18.6	+0.7
MLPR	**Magueyes Islan**	**18.30**	**57**	P	**Pn**	05 45 17.9	-0.4
MLPR				IAmb	IAmb	05 45 23.2	
	comp=Z,48nm,1.2s						
ICMP	**Isla Caja de M**	**18.69**	**58**	P	**Pn**	05 45 22.7	-0.4
ICMP				IAmb	IAmb	05 45 26.1	
	comp=Z,50nm,0.9s						
OBIP	**Obispado Ponce**	**18.70**	**58**	P	**P**	05 45 22.5	-0.3
CZSB	**Cruzeiro do Su**	**19.09**	**147**	*e*P	**Pn**	05 45 28.4	+0.4
SJG	**San Juan**	**19.11**	**58**	P	**P**	05 45 24.4	-2.9
SJG				IAmb	IAmb	05 45 33.6	
	comp=Z,25nm,0.8s						
GCPR	**Guaynabo City**	**19.26**	**58**	P	**P**	05 45 28.7	-0.3
GCPR				IAmb	IAmb	05 45 34.6	
	comp=Z,39nm,1.0s						
HUMP	**Col San Antoni**	**19.38**	**58**	P	**P**	05 45 24.0	-6.2
CBYP	**Canovanas**	**19.43**	**58**	P	**P**	05 45 28.8	-2.1
CBYP				IAmb	IAmb	05 45 36.0	
	comp=Z,77nm,1.5s						
MTP	**Monte Pirata**	**19.61**	**59**	Pn	**Pn**	05 45 33.4	-0.7
MTP				IAmb	IAmb	05 45 35.6	
	comp=Z,35nm,0.8s						
CDVI	**St. Croix**	**20.13**	**61**	P	**P**	05 45 37.8	-0.7
ZAIG	**Zacatecas**	**23.51**	**310**	P	**P**	05 46 13.9	-0.9
344A	**Westbrook Farm**	**24.01**	**344**	P	**P**	05 46 19.0	+0.4
154A	**Montrose**	**24.09**	**0**	P	**P**	05 46 18.1	-1.8
441A	**DeRidder**	**24.14**	**338**	P	**P**	05 46 20.2	-0.2
152A	**Waverly Hall**	**24.19**	**357**	P	**P**	05 46 22.0	+1.1
152A				IAmb	IAmb	05 46 23.8	
	comp=Z,15nm,0.7s						
342A	**Flagon Creek P**	**24.41**	**341**	P	**P**	05 46 22.6	-0.2
ETMB	**Extrema**	**24.72**	**137**	*e*P	**P**	05 46 25.6	-0.3
LRAL	**Lakeview Retre**	**24.77**	**352**	P	**P**	05 46 25.1	-1.1
GOGA	**Godfrey**	**24.89**	**359**	P	**P**	05 46 28.3	+1.1
GOGA				IAmb	IAmb	05 46 30.4	
	comp=Z,16nm,0.8s						
Z47A	**Carrollton**	**25.10**	**350**	P	**P**	05 46 28.8	-0.2
Z47A				IAmb	IAmb	05 46 32.2	
	comp=Z,14nm,1.0s						
MACA	**Manacapuru-AM**	**25.15**	**116**	*e*P	**P**	05 46 30.6	+0.9
Y52A	**Lilburn**	**25.35**	**358**	P	**P**	05 46 31.4	0.0
HODGE	**Hodges**	**25.72**	**2**	P	**P**	05 46 35.0	+0.3
HODGE				IAmb	IAmb	05 46 38.0	
	comp=Z,19nm,0.8s						
JSC	**Jenkinsville**	**25.81**	**4**	P	**P**	05 46 36.3	+0.8
JSC				IAmb	IAmb	05 46 41.6	
	comp=Z,15nm,1.2s						
BIRD	**Birdtown, Kers**	**26.23**	**5**	P	**P**	05 46 40.6	+1.2
BIRD				IAmb	IAmb	05 46 42.0	
	comp=Z,25nm,1.3s						
237A	**Washetta, Mont**	**26.28**	**335**	P	**P**	05 46 40.5	+0.7
237A				IAmb	IAmb	05 46 44.2	
	comp=Z,17nm,1.0s						
SAML	**Samuel**	**26.30**	**131**	P	**P**	05 46 39.1	-1.0
Z41A	**Richland Creek**	**26.30**	**341**	P	**P**	05 46 40.9	+0.9
Z41A				IAmb	IAmb	05 46 45.1	
	comp=Z,22nm,0.8s						
PAULI	**Pauline**	**26.32**	**2**	P	**P**	05 46 41.4	+1.2
BG3	**Lake Jocassee**	**26.46**	**0**	P	**P**	05 46 41.6	+0.1
W52A	**Murphy**	**26.57**	**359**	P	**P**	05 46 43.7	+1.2
W52A				IAmb	IAmb	05 46 45.4	
	comp=Z,25nm,1.5s						
W50A	**Signal Mountai**	**26.75**	**356**	P	**P**	05 46 44.6	+0.5
WLAR	**White Oak Lake**	**26.80**	**341**	P	**P**	05 46 43.7	-0.8
SWET	**Sewanee**	**26.81**	**355**	P	**P**	05 46 42.4	-2.3
MIAR	**Mount Ida**	**27.74**	**341**	P	**P**	05 46 53.2	+0.3
MIAR				IAmb	IAmb	05 47 01.3	
	comp=Z,12nm,1.1s						
W41B	**Gary Mavity, V**	**27.93**	**344**	P	**P**	05 46 55.0	+0.4
W41B				IAmb	IAmb	05 46 56.3	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**28.05**	**344**	P	**P**	05 46 56.4	+0.7
WHAR				IAmb	IAmb	05 46 57.3	
	comp=Z,16nm,0.8s						
TXAR	**Lajitas Array**	**28.39**	**320**	P	**P**	**05 47 00.7**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=133,slow=8.9,SNR=6.7						
TXAR				LR	LR	06 01 14.8	
	comp=Z,24nm,20.0s,baz=0.0,slow=43						
TXAR	**Lajitas Array**	**28.39**	**320**	P	**P**	05 46 59.9	+1.0
W39A	**Magazine**	**28.40**	**341**	P	**P**	05 47 00.2	+1.3
W39A				IAmb	IAmb	05 47 00.8	
	comp=Z,19nm,1.2s						
LCAR	**Lake Charles**	**28.50**	**346**	P	**P**	05 46 58.9	-0.8
LCAR				IAmb	IAmb	05 47 01.9	
	comp=Z,17nm,0.9s						
FCAR	**Ozark Folk Cen**	**28.57**	**345**	P	**P**	**05 47 00.4**	**+0.1**
FCAR				IAmb	IAmb	05 47 01.7	
	comp=Z,9.1nm,0.8s						
LPAZ	**La Paz**	**28.67**	**149**	LR	LR	05 59 40.1	
	comp=Z,54nm,20.2s,baz=260,slow=39						
LPAZ	**La Paz**	**28.67**	**149**	*e*P	**P**	**05 47 01.5**	**-0.6**
H06E1	**SOCORRO T-PHAS**	**28.88**	**294**	T	T	06 17 16.1	
	SNR=14						
S51A	**Beattyville**	**29.11**	**359**	P	**P**	05 47 05.2	+0.1
S51A				IAmb	IAmb	05 47 07.6	
	comp=Z,9.3nm,0.8s						
U40A	**Yellville**	**29.20**	**344**	P	**P**	**05 47 05.0**	**-0.9**
U40A				IAmb	IAmb	05 47 08.1	
	comp=Z,7.6nm,0.8s						
T42A	**Van Buren**	**29.40**	**347**	P	**P**	05 47 07.2	-0.5
PB16	**IPOC Station P**	**29.77**	**153**	P	**P**	05 47 11.8	0.0
MGMO	**Mountain Grove**	**29.80**	**345**	P	**P**	05 47 12.4	+1.1
R49A	**Shelbyville**	**29.81**	**357**	P	**P**	05 47 12.2	+0.8
R49A				IAmb	IAmb	05 47 13.5	
	comp=Z,9.8nm,0.8s						
CCM	**Cathedral Cave**	**30.42**	**347**	P	**P**	**05 47 16.8**	**0.0**
CCM				IAmb	IAmb	05 47 19.2	
	comp=Z,6.1nm,0.7s						
Q51A	**Peebles**	**30.49**	**360**	P	**P**	05 47 17.3	0.0
MALB	**Monte Alegre**	**30.52**	**108**	*e*P	**P**	05 47 20.0	+2.1
S39A	**Bolivar**	**30.59**	**344**	P	**P**	05 47 18.1	-0.1
S39A				IAmb	IAmb	05 47 20.0	
	comp=Z,11nm,0.9s						
VILB	**Vilhena**	**31.12**	**133**	*e*P	**P**	05 47 23.9	+0.7
MCPB	**Macapa, AP**	**32.16**	**104**	*e*P	**P**	05 47 33.9	+1.6
P38A	**Dawn**	**32.46**	**345**	P	**P**	05 47 34.8	+0.1
KSU1	**Kansas State U**	**32.88**	**340**	P	**P**	05 47 38.3	0.0
N38A	**Joes South For**	**33.49**	**346**	P	**P**	05 47 43.0	-0.6
PTLB	**Pontes e Lacer**	**33.56**	**135**	*e*P	**P**	05 47 44.6	+0.1
LVC	**Limon Verde**	**33.82**	**156**	*e*P	**P**	05 47 46.4	-0.7
LVC				*e*pP	**pP**	05 47 49.2	-0.9
N35A	**Tabor**	**34.19**	**343**	P	**P**	05 47 49.8	0.0
L40A	**Anamosa**	**34.28**	**349**	P	**P**	05 47 50.3	-0.2
TUC	**Tucson**	**34.99**	**317**	P	**P**	05 47 56.1	-0.8
214A	**Organ Pipe Nat**	**36.19**	**315**	P	**P**	05 48 06.7	-0.5
PRPB	**Parauapebas**	**36.23**	**113**	*e*P	**P**	05 48 08.8	+1.1
PRPB				*e*pP	**sP**	05 48 11.6	-0.5
OGNE	**Ogallala**	**36.51**	**336**	P	**P**	05 48 10.1	+0.3
TMAB	**Tom-Au,PA,Br**	**36.52**	**106**	*e*P	**P**	05 48 11.7	+1.4
TMAB				*e*pP	**sP**	05 48 14.7	+0.1
X16A	**Lo Mia Camp, P**	**36.71**	**319**	P	**P**	05 48 11.5	-0.3
K31A	**O'Neill**	**36.76**	**341**	P	**P**	05 48 12.0	+0.2
ECSD	**EROS Data Cent**	**37.12**	**344**	P	**P**	05 48 14.8	-0.1
ECSD				IAmb	IAmb	05 48 16.0	
	comp=Z,8.1nm,1.0s						
Y14A	**Wickenburg**	**37.45**	**317**	P	**P**	05 48 17.1	-0.8
SPMN	**Marine on St.**	**37.63**	**349**	P	**P**	05 48 19.2	0.0
SPMN				IAmb	IAmb	05 48 19.9	
	comp=Z,8.3nm,0.8s						
PV12	**Saucer Basin,**	**37.72**	**326**	P	**P**	05 48 22.4	+2.1
PV12				IAmb	IAmb	05 48 27.6	
	comp=Z,14nm,1.4s						
GLA	**Glamis**	**38.21**	**314**	P	**P**	05 48 24.8	+0.4
GLA				IAmb	IAmb	05 48 29.5	
	comp=Z,9.5nm,0.8s						
F36A	**Milaca**	**38.38**	**348**	P	**P**	05 48 25.2	-0.3
F36A				IAmb	IAmb	05 48 26.4	
	comp=Z,6.8nm,0.7s						
ESJX	**Sierra Juarez**	**38.47**	**312**	P	**P**	05 48 26.0	-0.7
F33A	**5 Mile Ranch,**	**38.99**	**345**	P	**P**	05 48 30.6	-0.1
F33A				IAmb	IAmb	05 48 30.8	
	comp=Z,6.6nm,0.6s						
ARAG	**Araguaiana, MT**	**39.18**	**128**	*e*P	**P**	05 48 33.1	+0.5
SMTB	**Santa Maria do**	**39.33**	**115**	*e*P	**P**	05 48 33.5	-0.4
GSC	**Goldstone, Bar**	**40.81**	**316**	P	**P**	05 48 47.2	+1.2
E28A	**Huff**	**40.91**	**341**	P	**P**	05 48 47.0	+0.4
E28A				IAmb	IAmb	05 48 47.3	
	comp=Z,13nm,0.9s						
CO02	**Combarbal**	**41.06**	**164**	P	**P**	05 48 48.9	+0.8
CO02				IAmb	IAmb	05 49 14.2	
	comp=Z,20nm,1.1s						
AGMN	**Agassiz Nation**	**41.20**	**347**	P	**P**	05 48 49.2	+0.3
PDAR	**Pinedale Array**	**41.36**	**330**	P	**P**	05 48 51.6	+1.0
	comp=Z,0.8nm,0.8s,baz=110,slow=13,SNR=5.4						
PDAR				LR	LR	06 08 00.1	
	comp=Z,58nm,18.6s,baz=43,slow=39						
PDAR	**Pinedale Array**	**41.36**	**330**	P	**P**	05 48 51.2	+0.6
MDND	**Maddock**	**41.72**	**343**	P	**P**	05 48 53.6	+0.3
H03N2	**Juan Fernandez**	**41.80**	**175**	T	T	06 33 21.3	
	baz=354,slow=76,SNR=6.7						
H03N1	**Juan Fernandez**	**41.80**	**175**	T	T	06 33 18.6	
	baz=354,slow=76,SNR=8.0						
H03N3	**Juan Fernandez**	**41.82**	**175**	T	T	06 33 17.6	
	baz=354,slow=76,SNR=8.4						
TPH	**Tonopah**	**42.63**	**319**	P	**P**	05 49 01.9	+0.8
ULM	**Lac du Bonnet**	**43.05**	**348**	P	**P**	05 49 03.3	-0.6
	comp=Z,5.0nm,0.6s,baz=155,slow=6.3,SNR=11						
ULM	**Lac du Bonnet**	**43.05**	**348**	P	**P**	05 49 03.4	-0.6
ULM				IAmb	IAmb	05 49 04.5	
	comp=Z,8.0nm,0.8s						
PCMB	**Pacaembu**	**43.21**	**134**	*e*P	**P**	05 49 05.8	+0.1
IPMB	**Ipameri, GO**	**43.31**	**127**	*e*P	**P**	05 49 06.7	+0.1
PAGB	**Antelope Grade**	**43.43**	**314**	P	**P**	05 49 08.4	+1.0
PAGB				IAmb	IAmb	05 49 12.3	
	comp=Z,9.9nm,0.8s						
NV11	**Mina Array Sit**	**43.44**	**319**	P	**P**	05 49 07.7	+0.2
NVAR	**Mina Array Bea**	**43.53**	**319**	P	**P**	05 49 10.2	+1.8
	comp=Z,2.1nm,0.7s,baz=129,slow=6.8,SNR=18						
NVAR	**Mina Array Bea**	**43.53**	**319**	P	**P**	05 49 08.6	+0.2
MDPB	**Devils Postpil**	**43.61**	**317**	P	**P**	05 49 09.3	+0.3
GCMT	**Greycliff**	**43.70**	**333**	P	**P**	05 49 10.2	+0.7
DGMT	**Dagmar**	**43.72**	**340**	P	**P**	05 49 09.8	+0.4
DGMT		

PYZ				S	Sn	05 45 14.2	-1.0
PYZ	Puysegur Point	2.41	259	Pn	Pn	05 44 43.9	-1.2
GCSZ	Gaunt Creek Bo	2.46	4	P	Pn	05 44 45.9	+0.2
MHCZ	Mount Hutt	2.47	26	P	Pn	05 44 44.7	-1.2
RACZ	Rakaia	2.51	36	P	Pn	05 44 44.8	-1.5
WVZ	Waitaha Valley	2.73	10	P	Pn	05 44 48.8	-0.6
MQZ	McQueen's Vall	2.75	42	P	Pn	05 44 48.2	-1.5
MQZ	McQueen's Vall	2.75	42	Pn	Pn	05 44 48.4	-1.4
AKCZ	Akaroa Harbour	2.76	48	P	Pn	05 44 49.0	-0.8
OXZ	Oxford	2.81	30	P	Pn	05 44 48.9	-1.6
OXZ	Oxford	2.81	30	Pn	Pn	05 44 48.7	-1.9
OKCZ	Okains Bay	2.94	47	P	Pn	05 44 52.0	-0.3
AMCZ	Amberley	3.17	36	P	Pn	05 44 56.6	+1.1
INZ	Inchbonnie	3.19	18	P	Pn	05 44 54.7	-1.0
LTZ	Lake Taylor	3.37	28	P	Pn	05 44 56.9	-1.4
LTZ	Lake Taylor	3.37	28	Pn	Pn	05 44 56.8	-1.4
GVZ	Greta Valley S	3.50	38	P	Pn	05 45 00.7	+0.6
KHZ	Kahutara	4.17	38	Pn	Pn	05 45 07.7	-1.5
DSZ	Dennistoun Nort	4.21	18	P	Pn	05 45 08.4	-1.4
THZ	Tophouse	4.49	28	P	Pn	05 45 12.6	-1.1
THZ	Tophouse	4.49	28	Pn	Pn	05 45 12.4	-1.3
QRZ	Quartz Range	5.25	21	Pn	Pn	05 45 23.3	-0.8
DUWZ	D'Urville Isla	5.69	31	P	Pn	05 45 33.4	+3.2
BFZ	Birch Farm	6.78	44	Pn	Pn	05 45 46.1	+1.0
PKE	Pukeiti	7.17	25	P	Pn	05 45 52.7	+2.2
OTVZ	Oturere	7.78	34	P	Pn	05 46 02.2	+3.3
HIZ	Hauiti	8.06	28	Pn	Pn	05 46 02.6	-0.1
URZ	Urewera	9.13	37	Pn	Pn	05 46 19.4	+2.1
OUZ	Omahuta	10.87	15	Pn	Pn	05 46 43.9	+2.8
LHI	Lord Howe Isla	16.61	325	P	Pn	05 47 59.2	+0.8
WR0	Warramunga Arr	38.92	299	P	P	05 51 33.7	+1.9
WR0	comp=Z,5.1nm,1.2s			IAmb	IAmb	05 51 40.3	
WB2	Warramunga Arr	39.05	299	P	P	05 51 35.5	+2.7
WRA	Warramunga Arr	39.05	299	P	P	05 51 36.1	+3.2
WB0	Warramunga Arr	39.15	299	P	P	05 51 36.8	+3.0
WB0	comp=Z,5.7nm,1.2s			IAmb	IAmb	05 51 42.2	
FITZ	Fitzroy Crossi	45.91	292	P	P	05 52 28.1	-0.6
FITZ	comp=Z,3.8nm,1.2s			IAmb	IAmb	05 52 45.6	

JMA ***16*** *05:46:57.9±0.5, 33.°73N×141.°11E, h12km, M3.1*
IDC ***16*** *05:47:06.8±1.5, 32.°78N×140.°07E, h90km±10km, mb3.1/3, mb1 3.3/4, mb1mx3.1/34, mbtmp3.4/4, Error ellipse: s-maj=47.4km s-min=27.2km az=88.0*

ISC 16 05:46:52.5±1.7, 33°44N±0.°08×141°5E±0.°1, h10km, n11, σ2s 19/12, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.27	342	P	Pn	05 47 15.2	-0.6
JHJ2	Mitsune	1.40	257	P	Pb	05 47 20.7	+2.0
JHJ	Hachijo jima 2	1.43	257	P	Pb	05 47 21.4	+2.2
	40nm,0.3s,baz=83,slow=23,SNR=3.7						
JHJ				S	Sn	05 47 33.4	-3.9
	40nm,0.3s,baz=67,slow=22,SNR=2.2						
BSO3	Boso 3	1.56	331	P	Pn	05 47 20.2	+0.1
BSO4	Boso 4	1.80	330	P	Pn	05 47 24.0	+0.6
JAG	Ashikaga	3.40	332	P	Pn	05 47 45.7	+0.2
MJAR	Matsushiro Arr	4.08	320	P	Pb	05 48 06.1	+1.8
	0.2nm,0.3s,baz=154,slow=11,SNR=4.7						
MAT	Matsushiro	4.08	320	P	Pn	05 47 57.0	+2.1
MAT				eS	Sn	05 48 39.6	-3.1
MKAR	Makanchi Array	46.12	305	P	P	05 55 17.3	+0.4
	0.3nm,0.4s,baz=85,slow=8.5,SNR=3.1						
ILAR	Eielson Array	52.53	31	P	P	05 56 19.0	+13
	0.3nm,0.8s,baz=270,slow=6.0,SNR=2.5						
WRA	Warramunga Arr	53.52	188	P	P	05 56 12.3	-1.0
	0.4nm,0.7s,baz=5.5,slow=7.6,SNR=6.5						

TEH ***16*** *05:54:08.0, 32.°57N×48.°00E, h15km, ML3.5*
ISN ***16*** *05:54:09.1±1.4, 32.°58N×47.°91E, h15km±5km, ML3.1*
THR ***16*** *05:54:09.6±0.8, 32.°64N×47.°95E, h14km±7km, ML3.6*

ISC 16 05:54:08.1±1.3, 32°55N±0.°03×47°98E±0.°03, h7km±11km, n46, σ1s 00/53, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	Dehloran	0.60	283	ePg	Pg	05 54 19.7	0.0
DHL1				eSg	Sb	05 54 29.3	-0.4
IKMR	Kamar-syah	1.02	19	ePg	Pg	05 54 26.1	-1.7
IKMR				e		05 54 48.9	
IDOB	Doab	1.25	8	ePg	Pn	05 54 31.6	-0.7
BMDN	Meydan	1.33	32	ePg	Pn	05 54 33.0	-0.3
BMDN				e		05 54 56.6	
AHWZ	Ahwaz	1.34	155	ePg	Pn	05 54 33.0	-0.3
AHWZ				eSg	Sg	05 54 53.6	+2.4
IKOM	Komasi	1.67	347	ePg	Pb	05 54 39.0	-0.3
IKOM				eSg	Sg	05 55 02.5	+0.7
IKOM				e		05 55 14.2	
HSAM	Samen	1.74	17	ePg	Pb	05 54 40.1	-0.5
HSAM				e		05 55 08.3	
IBDR	Badra	1.81	289	ePg	Pn	05 54 40.0	+0.2
IBDR				eSg	Sb	05 55 04.0	-0.6
IBDR				AML	AML	05 55 12.1	
	comp=N,242nm,0.4s						
IBDR				AML	AML	05 55 15.0	
	comp=E,273nm,0.6s						
KCHF	Cheshme Sefid,	1.89	336	ePg	Pb	05 54 42.8	-0.4
KCHF				e		05 55 14.0	
IBZA	Bozab	1.92	357	ePg	Pn	05 54 42.5	+1.0
IBZA				e		05 55 24.7	
KHMZ	Khomeyn	2.04	54	ePn	Pb	05 54 44.9	-0.9
KHMZ				eSg	Sb	05 55 13.0	+1.5
KHMZ	Khomeyn	2.04	54	ePn	Pb	05 54 44.9	-0.9
IGHG	Ghaleghazi	2.13	327	ePn	Pn	05 54 45.5	+1.1
IGHG				e		05 55 30.2	
IVIS	Veis	2.19	335	e	Sg	05 55 34.4	+16
NSR	Nassriya	2.19	226	ePn	Pn	05 54 45.0	0.0
NSR				eSn	Sn	05 55 13.0	+0.7
JHBN	Jahan bin	2.30	97	ePn	Pn	05 54 46.7	-0.1
JHBN				e		05 55 28.1	
IALM	Almabolaq	2.31	4	ePn	Pn	05 54 46.7	-0.3
IPIR	Pirpir	2.46	86	ePn	Pn	05 54 49.5	+0.4
IPIR				e		05 55 30.7	
HAGD	Aghdareh	2.47	23	ePn	Pn	05 54 50.4	+1.4
HAGD				e		05 55 34.9	
ILIN	Lien	2.51	341	ePn	Pn	05 54 50.3	+0.6
IDHR	Dehrash	2.52	329	ePn	Pn	05 54 50.3	+0.5
IDHR				e		05 55 32.7	
SNGE	Sanandaj	2.59	349	ePn	Pn	05 54 51.8	+1.1
SNGE	Sanandaj	2.59	349	ePn	Pn	05 54 51.8	+1.1
ASAO	Ashtian	2.63	40	ePn	Pn	05 54 53.3	+2.0
ASAO	Ashtian	2.63	40	ePn	Pn	05 54 53.3	+2.0
HSRG	Sareghieh	2.70	5	ePn	Pn	05 54 52.4	+0.1
HSRG				e		05 55 35.7	
BHD	Baghdad	3.11	284	eSn	Sn	05 55 35.0	-0.1
IKLH	Kolahrood	3.13	75	ePn	Pn	05 54 58.1	0.0
IKLH				e		05 56 02.6	
QAM	Ghamsar	3.15	66	ePn	Pn	05 54 59.9	+1.5
GHVR	GHOM	3.38	54	ePn	Pn	05 55 03.2	+1.8
GHVR				eS	Sn	05 55 42.4	+0.6
GHVR				IAML		05 56 03.3	
	comp=N,86nm,0.5s						
GHVR	GHOM	3.38	54	ePn	Pn	05 55 03.2	+1.8
QABG	Abgarm-Qazvin	3.42	22	ePn	Pn	05 55 02.8	+0.6
IGAR	Gharneh	3.44	91	e		05 55 13.9	
IGAR				ePn	Pn	05 55 02.3	-0.1
KLNJ	Kolanjah	3.44	116	ePn	Pn	05 55 01.9	-0.6
KLNJ				e		05 56 18.9	
IQOM	Qom	3.45	48	ePn	Pn	05 55 03.1	+0.5
IQOM				e		05 55 07.2	
IZEF	Zefreh	3.69	83	ePn	Pn	05 55 06.0	+0.2
KRSH	Karshahi	3.76	67	ePn	Pn	05 55 07.6	+0.8
IRAM	Ramesheh	3.81	100	ePn	Pn	05 55 07.1	-0.4
IVRN	Varamin	3.96	51	ePn	Pn	05 55 09.4	-0.1
QSDN	Sirdan	4.07	14	ePn	Pn	05 55 11.8	+0.7
IDMV	Damavand	4.52	47	ePn	Pn	05 55 17.5	+0.1
ANAR	Anarak	4.88	81	ePn	Pn	05 55 21.2	-1.0
ILAS	Lasjerd	5.01	54	ePn	Pn	05 55 24.0	-0.1
IFIR	Firoozkooh	5.02	51	ePn	Pn	05 55 25.0	+0.8
ICHK	Chekchek	5.45	91	ePn	Pn	05 55 29.5	-0.5
MSL	Mosul	5.56	315	ePn	Pn	05 55 33.0	+1.7
MSL				eSn	Sn	05 56 34.0	-1.5

KRSC ***16*** *06:02:57.2±2.4, 49.°15N×156.°64E, h7km±36km, ML4.3*

MOS ***16*** *06:02:58.7±1.0, 49.°04N×155.°90E, h46km, mb3.9/1, Error ellipse: s-maj=22.5km s-min=5.1km az=75.1*
IDC ***16*** *06:03:03.9±3.1, 49.°40N×155.°45E, h84km±30km, mb3.5/4, mb1 3.8/8, mb1mx3.3/59, mbtmp4.0/8, MS3.2/5, Ms1 3.2/5, ms1mx2.8/49, Error ellipse: s-maj=44.4km s-min=17.9km az=142.0*

ISC 16 06:02:59.0±1.0, 49°04N±0.°10×155°89E±0.°10, h35km, n52, σ2s 10/55, mb3.6/4, MS3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.65	5	ePN	Pn	06 03 23.5	-2.0
SKR				eS	Sn	06 03 43.6	-1.8
SKR				pmax	pmax		
	comp=Z,283nm,0.7s						
SKR				smax	smax		
	comp=E,2μm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
ALID	Alaid	1.84	353	ePN	Pn	06 03 27.8	-0.5
ALID	Alaid	1.84	353	PN	Pn	06 03 27.8	-0.5
PAU	Pauzhetka	2.50	13	ePN	Pn	06 03 37.1	0.0
PAU				eS	Sn	06 04 06.7	+0.3
PAU	Pauzhetka	2.50	13	PN	Pn	06 03 37.1	0.0
PAU				S	Sn	06 04 06.7	+0.3
KDTR	Khodutka, Kamc	3.10	26	ePN	Pn	06 03 45.0	-0.4
KDTR				eS	Sn	06 04 20.3	-0.9
KDTR	Khodutka, Kamc	3.10	26	PN	Pn	06 03 45.0	-0.4
KDTR				S	Sn	06 04 20.3	-0.9
MTVR	Mutnovka	3.74	22	ePN	Pn	06 03 55.3	+1.0
MTVR				eS	Sn	06 04 38.9	+1.7
MTVR	Mutnovka	3.74	22	PN	Pn	06 03 55.3	+1.0
MTVR				S	Sn	06 04 38.9	+1.7
GRL	Gorelyy	3.78	21	ePN	Pn	06 03 56.3	+1.5
GRL	Gorelyy	3.78	21	PN	Pn	06 03 56.3	+1.5
RUS	Russkaya	3.78	25	ePN	Pn	06 03 54.7	-0.1
RUS				eS	Sn	06 04 37.9	-0.1
RUS	Russkaya	3.78	25	PN	Pn	06 03 54.7	-0.1
RUS				S	Sn	06 04 37.9	-0.1
APC	Apacha	3.97	11	ePN	Pn	06 04 01.0	+3.7
APC	Apacha	3.97	11	PN	Pn	06 04 01.0	+3.7
KRMR	Karymshinskiy	4.05	20	ePN	Pn	06 04 01.2	+2.8
KRMR	Karymshinskiy	4.05	20	PN	Pn	06 04 01.2	+2.8
PETK	Petropavlovsk-	4.23	15	P	Pn	06 04 03.0	+2.0
	comp=N,1.0nm,0.3s,baz=169,slow=12,SNR=15						
PETK	Petropavlovsk-	4.23	15	PN	Pn	06 04 03.0	+2.0
PET	Petropavlovsk	4.35	23	ePN	Pn	06 04 07.2	+4.6
PET				eS	Sn	06 04 58.5	+6.5
PET				smax	smax		
	comp=E,169nm,1.0s						
DALK	Dalny	4.38	23	eP	Pn	06 04 04.0	+1.0
DALK	Dalny	4.38	23	PN	Pn	06 04 04.0	+1.0
AVH	Avacha	4.59	22	eP	Pn	06 04 08.8	+2.8
AVH	Avacha	4.59	22	PN	Pn	06 04 08.8	+2.8
KOK	Koryaka	4.59	21	eP	Pn	06 04 08.5	+2.5
KOK	Koryaka	4.59	21	PN	Pn	06 04 08.5	+2.5
SMAR	Somma	4.61	22	eP	Pn	06 04 08.3	+2.0
SMAR	Somma	4.61	22	PN	Pn	06 04 08.3	+2.0
KRER	Koryakskii	4.63	22	eP	Pn	06 04 08.5	+1.9
KRER	Koryakskii	4.63	22	PN	Pn	06 04 08.5	+1.9
KRX	Arik	4.66	21	eP	Pn	06 04 08.8	+1.9
KRX	Arik	4.66	21	PN	Pn	06 04 08.8	+1.9
SPN	Mys Shipunski	4.83	31	eP	Pn	06 04 08.0	-1.1
SPN				eS	Sn	06 05 03.9	+0.2
SPN	Mys Shipunski	4.83	31	PN	Pn	06 04 08.0	-1.1
GNL	Ganaly	4.83	15	eP	Pn	06 04 12.0	+2.7
GNL	Ganaly	4.83	15	PN	Pn	06 04 12.0	+2.7
ASAJ	Asahikawa	10.39	247	P	Pn	06 05 27.3	+1.9
	comp=E,2.0nm,0.3s,baz=78,slow=14,SNR=19						
MA2	Magadan	10.96	346	LR	LR	06 09 43.5	
	comp=E,64nm,20.0s,baz=194,slow=38						
USRK	Ussuriysk Ar.	17.09	263	P	Pn	06 06 54.6	-0.4
	baz=64,slow=15,SNR=4.6						
USRK				LR	LR	06 12 47.5	
	comp=E,55nm,19.3s,baz=31,slow=35						
MJAR	Matsushiro Arr	17.96	232	P	P	06 07 07.9	+1.8
	comp=E,0.2nm,0.3s,baz=35,slow=12,SNR=5.3						
KSRS	Korea Array	23.29	251	P	P	06 08 03.6	+0.1
	comp=E,1.8nm,0.7s,baz=48,slow=8.8,SNR=5.2						
KSRS				LR	LR	06 16 26.3	
	comp=E,48nm,19.9s,baz=46,slow=35						
H11N2	WAKE ISLAND Hy	30.55	159	T	T	06 41 37.7	
	baz=342,slow=76,SNR=9.8						
H11N1	WAKE ISLAND Hy	30.57	159	T	T	06 41 36.6	
	baz=342,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	30.57	159	T	T	06 41 39.6	
	baz=342,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	31.69	160	T	T	06 43 01.1	
	baz=346,slow=76,SNR=134						
H11S3	WAKE ISLAND Hy	31.70	160	T	T	06 43 01.4	
	baz=346,slow=76,SNR=132						
H11S2	WAKE ISLAND Hy	31.71	160	T	T	06 43 03.3	
	baz=346,slow=76,SNR=99						
TLY	Talaya	32.85	295	LR	LR	06 24 05.7	
	comp=E,49nm,18.7s,baz=26,slow=39						
ILAR	Eielson Array	33.59	41	P	P	06 09 34.9	-0.5
	comp=E,0.7nm,1.0s,baz=258,slow=7.2,SNR=4.7						
ILAR				pP	pP	06 09 45.3	+0.3
	comp=E,0.7nm,0.8s,baz=260,slow=8.0,SNR=3.3						
NRIK	Noril'sk	37.80	327	P	P	06 10 07.3	-4.1
	comp=E,1.8nm,0.5s,baz=96,slow=4.1,SNR=3.7						
MKAR	Makanchi Array	47.56	297	LR	LR	06 32 24.0	
	comp=E,66nm,20.6s,baz=3.5,slow=37						
TXAR	Lajitas Array	74.76	63	P	P	06 14 35.4	-0.2
	comp=E,0.4nm,0.6s,baz=303,slow=4.4,SNR=8.8						

SOME ***16*** *06:03:21.8, 44.°38N×84.°00E, h15km*
NNC ***16*** *06:03:24.1±1.6, 44.°52N×83.°69E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.2km s-min=5.5km az=125.0*

ISC 16 06:03:17.3±2.2, 44°36N±0.°10×84°0E±0.°1, h10km, n18, σ1s 00/22, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	Makanchi Array	2.72	334	⇑Pn	Pb	06 04 06.3	+0.2
	2.4nm,0.5s,baz=145,slow=17,SNR=15						
MK31				⇓Lg	Lg	06 04 40.5	
	14nm,0.5s,baz=146,slow=30,SNR=19						
MAKZ	Makanchi	2.84	331	⇑Pn	Pb	06 04 07.6	-0.4
	2.1nm,0.4s						
MAKZ				⇑Lg	Lg	06 04 45.2	
	20nm,0.6s						
DJR	Jarkent	3.02	271	eP	Pg	06 04 16.2	+1.1
	2.5nm,0.3s						
DJR				eS	Sg	06 04 55.3	+0.9
	13nm,0.4s						
DJR	Jarkent	3.02	271	Pg	Pg	06 04 16.3	+1.1
	6.1nm,0.5s						
DJR				Lg	Lg	06 04 56.4	
	18nm,0.4s						
ZSN	Zaisan	3.15	11	eP	Pg	06 04 18.0	+0.3
	9.4nm,0.5s						
ZSN				eS	Sg	06 04 58.6	+0.1
	35nm,0.7s						
ZSN	Zaisan	3.15	11	Pg	Pg	06 04 18.0	+0.3
	9.4nm,0.5s						
ZSN				Lg	Lg	06 04 58.6	
	35nm,0.7s						
PDGK	Podgornoye	3.42	254	Pg	Pg	06 04 22.3	-0.5
	1.4nm,0.3s						
PDGK				Lg	Lg	06 05 05.9	
	16nm,0.6s						
PDGK	Podgornoye	3.42	254	⇑Pg	Pg	06 04 22.5	-0.3
	3.9nm,0.5s						
PDGK				⇑Lg	Lg	06 05 05.3	
	24nm,0.5s						
SHLS	Shalkode	3.50	252	eP	Pb	06 04 19.3	-0.1
	7.6nm,0.1s						
SHLS				eS	Sb	06 05 00.9	-1.2
	119nm,0.4s						
SHLS	Shalkode	3.50	252	Pg	Pb	06 04 19.3	-0.1
	7.6nm,0.1s						
SHLS				Lg	Lg	06 05 00.9	
	119nm,0.4s						
UZB	Uzynbulak	3.81	253	eP	Pg	06 04 30.6	+0.4
	2.7nm,0.4s						
UZB				eS	Sg	06 05 19.9	+0.4
	12nm,0.5s						
UZB	Uzynbulak	3.81	253	Pg	Pg	06 04 30.5	+0.4
	2.7nm,0.4s						
UZB				Lg	Lg	06 05 19.9	
	12nm,0.5s						
KPKS	Kokpek	3.94	259	eP	Pg	06 04 34.5	+1.6
	17nm,0.5s						
KPKS				eS	Sg	06 05 26.5	+2.5
	39nm,0.5s						
ARXS	Arharly	4.44	270	eP	Pg	06 04 41.2	-1.1
	10nm,0.6s						
ARXS				eS	Sg	06 05 38.7	-1.1
	16nm,0.4s						
ARXS	Arharly	4.44	270	Pg	Pg	06 04 41.2	-1.1
	10nm,0.6s						
ARXS				Lg	Lg	06 05 38.7	
	16nm,0.4s						
TKM2	Tokmak 2	6.27	260	⇑Pg	Pg	06 05 16.3	-1.0
	1.7nm,0.6s						
TKM2				⇑Lg	Lg	06 06 36.5	
	3.0nm,0.7s						
KURBB	Kurchatov Arra	7.28	331	⇓Lg	Lg	06 07 09.2	
	18nm,0.8s						
KURK	Kurchatov	7.33	332	⇑Lg	Lg	06 07 11.0	
	9.8nm,0.8s						

IDC ***16*** *06:07:29.5±1.9, 32.°58N×47.°64E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.5/54, mbtmp3.8/8, ML3.5/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/57, Error ellipse: s-maj=44.7km s-min=21.3km az=162.0*
TEH ***16*** *06:07:30.9, 32.°51N×47.°90E, h8km, ML3.8*
SGS ***16*** *06:07:32.7, 32.°53N×48.°08E, h8km, Ml3.4*
ISN ***16*** *06:07:32.3±1.3, 32.°56N×47.°86E, h15km±5km, ML3.6*
THR ***16*** *06:07:33.4±0.8, 32.°67N×47.°77E, h14km±7km, ML4.1*
OMAN ***16*** *06:07:58.6, 30.°91N×49.°65E, h11km, mb5.2/15, ms2.8/4*

ISC 16 06:07:31.2±1.1, 32°48N±0.°03×47°82E±0.°03, h14km±8km, n96, σ1s 65/102, mb3.7/7, 6C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	Dehloran	0.50	294	ePg	Pg	06 07 41.4	+0.3
DHL1				eSg	Sb	06 07 50.6	+1.7
IKMR	Kamar-syah	1.14	24	ePg	Pn	06 07 51.3	-1.4
IKMR				eSg	Sn	06 08 08.3	+0.1
IKMR				e		06 08 14.0	
IDOB	Doab	1.34	13	ePg	Pn	06 07 55.8	-0.1
AHWZ	Ahwaz	1.34	148	ePg	Pg	06 07 56.9	-0.1
AHWZ				eSg	Sg	06 08 15.9	+1.4
BMDN	Meydan	1.46	35	ePg	Pn	06 07 57.6	+0.3
BMDN				e		06 08 22.0	
IBDR	Badra	1.71	292	ePg	Pb	06 08 03.0	+0.5
IBDR				eSg	Sg	06 08 26.0	-0.3
IBDR				AML	AML	06 08 31.0	
	comp=N,1μm,0.5s						
IBDR				AML	AML	06 08 34.4	
	comp=E,698nm,0.4s						
IKOM	Komasi	1.71	351	ePg	Pb	06 08 02.7	+0.1
IKOM				e		06 08 32.9	
HSAM	Samen	1.85	21	e		06 08 07.2	
HSAM				ePg	Pb	06 08 04.5	-0.5
KCHF	Cheshme Sefid,	1.91	340	e		06 08 42.2	
KCHF				ePn	Pb	06 08 05.8	-0.1
IBZA	Bozab	1.99	1	e		06 08 10.8	
IBZA				ePn	Pb	06 08 06.5	-0.8
KER	Kermanshah	1.99	343	ePn	Pb	06 08 07.7	+0.4
NSR	Nassriya	2.05	225	ePn	Pb	06 08 08.0	-0.2
NSR				eSn	Sb	06 08 35.0	+1.5
IGHG	Ghaleghazi	2.12	331	e		06 08 57.2	
IGHG				ePn	Pb	06 08 08.8	-0.8
KHMZ	Khomeyn	2.19	54	ePn	Pb	06 08 10.5	-0.3
KHMZ				eSg	Sg	06 08 40.4	-1.3
KHMZ	Khomeyn	2.19	54	ePn	Pb	06 08 10.5	-0.3
IVIS	Veis	2.20	339	e		06 08 45.9	
IVIS				ePn	Pn	06 08 09.1	+1.7
IALM	Almabolaq	2.39	7	ePn	Pn	06 08 12.6	+2.3
JHBN	Jahan bin	2.42	95	ePn	Pn	06 08 11.9	+1.2
JHBN				e		06 08 53.1	
IDHR	Dehrash	2.52	332	ePn	Pn	06 08 13.8	+1.9
ILIN	Lien	2.54	344	ePn	Pn	06 08 14.0	+1.8
ILIN				e		06 09 08.6	
HAGD	Aghdareh	2.58	25	ePn	Pn	06 08 14.7	+1.8
HAGD				e		06 08 58.3	
IPIR	Pirpir	2.60	85	ePn	Pn	06 08 14.6	+1.4
IPIR				e		06 09 01.7	
SNGE	Sanandaj	2.64	352	ePn	Pn	06 08 15.2	+1.6
SNGE	Sanandaj	2.64	352	ePn	Pn	06 08 15.2	+1.6
ROKH	ROKH	2.72	92	ePn	Pn	06 08 16.0	+1.2
ROKH				e		06 09 08.4	
ASAO	Ashtian	2.77	41	ePn	Pn	06 08 17.9	+2.5
ASAO				eSg	Sb	06 08 56.6	+2.1
ASAO	Ashtian	2.77	41	ePn	Pn	06 08 17.9	+2.5
HSRG	Sareghieh	2.78	8	ePn	Pn	06 08 17.3	+1.6
HSRG				e		06 09 15.9	
BHD	Baghdad	3.00	286	ePn	Pn	06 08 21.0	+2.7
BHD				eSn	Sb	06 08 58.0	-2.9
IKLH	Kolahrood	3.27	74	ePn	Pn	06 08 24.4	+2.1
IKLH				e		06 09 25.4	
GHVR	GHOM	3.52	55	ePn	Pn	06 08 28.4	+2.8
GHVR				eS	Sn	06 09 09.3	+2.1
GHVR	GHOM	3.52	55	ePn	Pn	06 08 28.4	+2.8
KLNJ	Kolanjah	3.53	114	ePn	Pn	06 08 26.3	+0.3
KLNJ				e		06 09 58.6	
QABG	Abgarm-Qazvin	3.54	24	ePn	Pn	06 08 28.0	+2.0
IGAR	Gharneh	3.57	90	ePn	Pn	06 08 27.7	+1.3
IGAR				e		06 08 40.2	
IQOM	Qom	3.59	48	ePn	Pn	06 08 27.5	+0.8
IZEF	Zefreh	3.83	83	ePn	Pn	06 08 31.5	+1.6
KRSH	Karshahi	3.91	66	ePn	Pn	06 08 32.4	+1.4
IRAM	Ramesheh	3.93	99	ePn	Pn	06 08 32.0	+0.7
IVRN	Varamin	4.11	51	ePn	Pn	06 08 35.1	+1.4
QALM	Alamut, Qazvin	4.58	30	ePn	Pn	06 08 42.0	+1.6

MLR Muntele Rosu 21.32 314 ⇑P P 06 12 14.7 -3.1
VOIR 21.84 313 ⇑P P 06 12 22.0 -1.3
BIZ Bicaz 21.98 317 ⇑P P 06 12 26.7 +2.0
AKASG Malin Array Be 22.80 328 P P 06 12 32.7 -0.7
comp=E,0.9nm,0.4s,baz=141,slow=10,SNR=6.1
ARU Arti 25.08 14 LR LR 06 24 58.6
comp=E,43nm,18.7s,baz=280,slow=42
KURBB Kurchatov Arra 28.97 42 P P 06 13 31.2 +1.1
comp=E,0.4nm,0.6s,baz=246,slow=9.4,SNR=2.8
MKAR Makanchi Array 29.88 51 P P 06 13 38.7 +0.4
comp=E,0.9nm,0.7s,baz=249,slow=5.7,SNR=7.8
FINES FINESS Array B 32.23 341 P P 06 13 58.1 -0.6
comp=E,1.0nm,0.4s,baz=149,slow=8.8,SNR=7.7
ZALV Zalesovo Beam 33.89 40 P P 06 14 14.7 +1.3
comp=E,0.7nm,0.4s,baz=245,slow=7.4,SNR=4.3
EKA Eskdalemuir Ar 42.04 318 P P 06 15 19.6 -2.5
comp=E,0.7nm,0.5s,baz=98,slow=8.3,SNR=4.9
TORD Torodi Ar. Bea 46.26 256 P P 06 15 55.9 -0.5
comp=E,0.5nm,0.5s,baz=64,slow=7.3,SNR=6.9
BOSA Boshof 64.43 202 LR LR 06 46 07.2
comp=E,52nm,20.0s,baz=16,slow=36

ISK **16** *06:10:31.8,35°.86N×30°.96E,h11km,ML4.0/42*
NIC **16** *06:10:33.6±0.0,35°.88N×30°.94E,h12km±3km,MI4.3/7*
DDA **16** *06:10:33.0,35°.79N×30°.97E,h51km±7km,MW4.0*
IDC **16** *06:10:35.0-1.1,35°.89N×30°.91E,h49km±12km,mb3.8/12, mb1 4.0/19,mb1mx3.7/57,mbtmp4.1/19,ML4.2/7,MS3.0/4, Ms1 3.0/4,ms1mx2.6/58,Error ellipse: s-maj=12.7km s-min=10.1km az=3.0*
HLW **16** *06:10:34.0,35°.81N×31°.03E,h11km±21km,Md3.9,Ml4.4*
NEIC **16** *06:10:35.3±1.5,35°.85N±0°.06×30°.94E±0°.05,h51km±9km, Error ellipse: s-maj=8.9km s-min=5.6km az=191.0*
THE **16** *06:10:37.6,35°.89N×30°.68E,h6km±9km,MJ4.3/3,Error ellipse: s-maj=13.0km s-min=0.7km az=112.0*
GII **16** *06:10:38.7±0.3,35°.61N×31°.03E,h40km,mb4.3/4, MD4.1/4*
ISC 16 06:10:35.0±0.8,35°.86N±0°.03×30°.95E±0°.02,h52km±9km, n202,σ1ş35/255,mb3.9/13,2C-2D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKUM	Antalya-Kumluc	0.67	314	*i* P		Pn	06 10 48.0	-0.5
AKUM				*i* S		Sn	06 10 59.2	+1.0
AKUM				IAML			06 11 03.0	
	comp=N,4μm,0.5s							
AKUM				IAML			06 11 03.0	
	comp=E,6μm,0.4s							
KEMT	Kemer-ANTALYA	0.81	337	PG		Pn	06 10 48.3	-1.8
DEMR	Demre-Antalya	0.92	294	PG		Pn	06 10 50.5	-1.2
DEMR				SG		Sn	06 11 03.2	-0.8
ANTB	Antalya	1.06	347	PG		Pn	06 10 52.8	-0.8
ALAN	Alanya-ANTALYA	1.12	51	PN		Pn	06 10 53.3	-1.0
ALAN				SN		Sn	06 11 09.5	+0.8
KSL	Kastellorizon	1.14	285	P		Pn	06 10 55.1	+0.5
KSL				S		Sn	06 11 08.9	-0.3
	comp=E,1μm,0.6s							
KSL	Kastellorizon	1.14	285	P		Pn	06 10 55.0	+0.5
KSL				S		Sn	06 11 10.5	+1.3
AKAS	Kas	1.15	289	PN		Pn	06 10 54.7	-0.1
AKAS	Kas	1.15	289	*i* P		Pn	06 10 54.9	-0.1
AKAS				*i* S		Sn	06 11 15.4	+5.8
AKAS				IAML			06 11 30.0	
	comp=E,553nm,1.2s							
AKAS	Kas	1.15	289	Pn		Pn	06 10 54.8	-0.1
KEPZ	Antalya-Kepez	1.17	27	*i* P		Pn	06 10 54.2	-0.8
KEPZ				*i* S		Sn	06 11 07.7	-2.2
KEPZ				IAML			06 11 13.0	
	comp=E,2μm,0.6s							
KEPZ				IAML			06 11 14.0	
	comp=N,1μm,0.7s							
GAZI	Gazipasa	1.17	71	PN		Pn	06 10 54.3	-0.7
GAZI	Gazipasa	1.17	71	*i* P		Pn	06 10 54.7	-0.3
GAZI				*i* S		Sn	06 11 09.1	-0.9
GAZI				IAML			06 11 11.0	
	comp=E,3μm,0.3s							
GAZI				IAML			06 11 12.0	
	comp=N,5μm,0.4s							
ELL	Elmali	1.22	317	PN		Pn	06 10 55.4	-0.4
ELL	Elmali	1.22	317	P		Pn	06 10 56.3	+0.5
ELL				S		Sn	06 11 13.7	+2.3
ELL	Elmali	1.22	317	Pn		Pn	06 10 56.3	+0.5
KORT	Korkueli	1.24	337	PN		Pn	06 10 55.5	-0.5
KORT	Korkueli	1.24	337	*i* P		Pn	06 10 56.3	+0.2
KORT				*i* S		Sn	06 11 14.8	+3.1
KORT				IAML			06 11 27.0	
	comp=N,1μm,0.7s							
KORT				IAML			06 11 27.0	
	comp=E,2μm,0.8s							
AKMS	Akamas	1.41	126	P		Pn	06 10 58.9	+0.6
AKMS				S		Sn	06 11 18.4	+2.7
AKMS				AML	AML		06 11 29.3	
	comp=E,14nm,0.5s							
AKMS				AML	AML		06 11 29.3	
	comp=E,14nm,0.5s							
AKMS				AML	AML		06 11 33.0	
	comp=E,9.8nm,0.4s							
AKMS				AML	AML		06 11 33.0	
	comp=E,9.8nm,0.4s							
ALFC	Alefka	1.52	117	P		Pn	06 10 59.8	0.0
ALFC				S		Sn	06 11 20.3	+1.8
ALFC				AML	AML		06 11 29.2	
	comp=E,11nm,0.4s							
ALFC				AML	AML		06 11 29.2	
	comp=E,11nm,0.4s							
ALFC				AML	AML		06 11 31.2	
	comp=E,11nm,0.5s							
ALFC				AML	AML		06 11 31.2	
	comp=E,11nm,0.5s							
BCK	Bucak	1.62	350	PN		Pn	06 11 00.9	-0.3
BOZY	Bozyazi-Mersin	1.67	81	PN		Pn	06 11 01.4	-0.3
FETY	Fethiye	1.69	298	P		Pn	06 11 03.0	+0.9
FETY				S		Sn	06 11 22.8	+0.1
FETY	Fethiye	1.69	298	PN		Pn	06 11 02.7	+0.6
FETY	Fethiye	1.69	298	*i* P		Pn	06 11 02.7	+0.6
FETY				*i* S		Sn	06 11 22.2	-0.5
FETY				IAML			06 11 51.0	
	comp=N,236nm,1.2s							
SEYD	Seydisehir-KON	1.70	25	PN		Pn	06 11 02.4	+0.1
LEF	Lefka	1.75	114	⇓P		Pn	06 11 03.2	+0.3
LEF	Lefka	1.75	114	*i* P		Pn	06 11 02.6	-0.2
LEF				*i* S		Sn	06 11 22.2	-1.8
LEF				IAML			06 11 33.0	
	comp=E,862nm,0.4s							
LEF				IAML			06 11 37.0	
	comp=N,839nm,0.4s							
GOLH	Golhisar	1.77	321	*i* P		Pn	06 11 05.3	+2.0
GOLH				*i* S		Sn	06 11 28.6	+3.9
GOLH				IAML			06 11 46.0	
	comp=N,1μm,0.6s							
ERMK	Ermenek	1.77	63	*i* P		Pn	06 11 05.0	+1.7
ERMK				*i* S		Sn	06 11 26.7	+1.9
ERMK				IAML			06 11 31.0	
	comp=N,1μm,0.4s							
ERMK				IAML			06 11 35.0	
	comp=E,1μm,0.4s							
TEKE	Tekeli-Mersin	1.78	80	PN		Pn	06 11 03.4	+0.1
BERE	Bereket-Mersin	1.91	75	PN		Pn	06 11 05.5	+0.3
SZAC	Souni	1.93	124	P		Pn	06 11 08.6	+3.2
SZAC				AML	AML		06 11 41.5	
	comp=E,8.4nm,0.9s							
SZAC				AML	AML		06 11 41.6	
	comp=E,9.0nm,0.8s							
BRDR	BURDUR-Merkez	1.97	339	*i* P		Pn	06 11 07.2	+1.3
BRDR				*i* S		Sn	06 11 32.2	+2.8
BRDR				IAML			06 11 41.0	
	comp=E,564nm,0.6s							
BRDR				IAML			06 11 51.0	
	comp=N,314nm,0.6s							
ISP	Isparta	1.99	350	PN		Pn	06 11 06.6	+0.3
ISP	Isparta	1.99	350	Pn		Pn	06 11 07.4	+1.1
YORU	Yoruktepe-Mers	2.02	81	PN		Pn	06 11 06.7	+0.2
OREN	Orenkoy-Mersin	2.07	80	PN		Pn	06 11 07.3	+0.1
DALY	Dalyan (Mula)	2.08	298	PN		Pn	06 11 08.1	+0.7
DALY	Dalyan (Mula)	2.08	298	*i* P		Pn	06 11 08.2	+0.8
DALY				IAML			06 11 41.0	
	comp=N,387nm,0.9s							
DALY				IAML			06 11 55.0	
	comp=E,359nm,0.8s							
TEVE	Tevekalti-Mers	2.10	73	PN		Pn	06 11 07.7	-0.1
AKK1	Akkuyu-Mersin	2.12	82	PN		Pn	06 11 08.1	+0.1
ATHAL	Athalassa	2.12	109	P		Pn	06 11 09.9	+1.9
ATHAL				S		Sn	06 11 34.9	+1.7
ATHAL				AML	AML		06 11 50.1	
	comp=E,8.4nm,0.6s							
ATHAL				AML	AML		06 11 50.1	
	comp=E,8.4nm,0.6s							
ATHAL				AML	AML		06 11 53.0	
	comp=E,8.7nm,0.6s							
ATHAL				AML	AML		06 11 53.0	
	comp=E,8.7nm,0.6s							
AKK2	Akkuyu-Mersin	2.13	82	PN		Pn	06 11 07.9	-0.1
BAGO	Egridir - ISPA	2.13	357	*i* P		Pn	06 11 08.7	+0.6
BAGO				*i* S		Sn	06 11 37.0	+3.5
BAGO				IAML			06 11 42.0	
	comp=E,207nm,0.8s							
TEPK	Tepekoy-MERSIN	2.14	79	PN		Pn	06 11 08.7	+0.5
CSS	Mathiatis	2.14	114	PN		Pn	06 11 08.2	-0.1
CSS	Mathiatis	2.14	114	Pn		Pn	06 11 08.5	+0.2
CSS	Mathiatis	2.14	114	P		Pn	06 11 08.4	+0.2
CSS				S		Sn	06 11 36.2	+2.5
CSS				AML	AML		06 11 50.2	
	comp=E,1.6nm,0.8s							
CSS				AML	AML		06 11 50.2	
	comp=E,1.6nm,0.8s							
CSS				AML	AML		06 11 54.5	
	comp=E,1.4nm,0.6s							
CSS				AML	AML		06 11 54.5	
	comp=E,1.4nm,0.6s							
CSS	Mathiatis	2.14	114			Pn	06 11 08.3	0.0
ASGA	Asgata	2.17	119	P		Pn	06 11 11.4	+2.8
ASGA				AML	AML		06 11 49.2	
	comp=E,5.1nm,0.7s							
ASGA				AML	AML		06 11 51.5	
	comp=E,5.5nm,1.0s							
BASM	Basmaki-Afyon	2.18	341	PN		Pn	06 11 08.9	+0.1
YESI	Yesilovacik-Me	2.21	80	PN		Pn	06 11 09.6	+0.4
KMER	Konya-Meram	2.22	31	*i* P		Pn	06 11 11.1	+1.7
KMER				*i* S		Sn	06 11 37.9	+2.2
KMER				IAML			06 11 40.0	
	comp=E,555nm,0.7s							
KMER				IAML			06 11 44.0	
	comp=N,558nm,0.7s							
AKIN	Akıncılar- Kıb	2.22	112	PN		Pn	06 11 09.5	+0.1
KRMN	Karaman	2.28	54	PN		Pn	06 11 10.8	+0.5
TAVA	DENIZLI_Tavas	2.29	315	*i* P		Pn	06 11 11.2	+0.8
TAVA				*i* S		Sn	06 11 37.7	+0.3
TAVA				IAML			06 11 56.0	
	comp=N,485nm,0.5s							
TAVA				IAML			06 11 58.0	
	comp=E,654nm,0.8s							
ARG	Arkhangelos	2.31	280	P		Pn	06 11 11.2	+0.6
ARG				S		Sn	06 11 37.9	+0.1
	comp=E,485nm,0.3s							
ARG	Arkhangelos	2.31	280	PN		Pn	06 11 11.1	+0.6
ARG	Arkhangelos	2.31	280	P		Pn	06 11 11.1	+0.6
DOGA	KONYA_Doganhis	2.31	14	*i* P		Pn	06 11 12.6	+1.8
DOGA				*i* S		Sn	06 11 40.8	+2.7
DOGA				IAML			06 11 45.0	
	comp=E,786nm,0.7s							
DOGA				IAML			06 11 47.0	
	comp=N,1μm,0.6s							
KEBE	Keben-Mersin	2.31	75	PN		Pn	06 11 10.9	+0.2
MVOU	Mavrovouni	2.35	110	P		Pn	06 11 10.7	-0.4
MVOU				AML	AML		06 11 51.6	
	comp=N,3.9nm,0.4s							
MVOU				AML	AML		06 11 55.2	
	comp=N,6.4nm,0.5s							
TURN	Turunc	2.37	294	PN		Pn	06 11 11.8	+0.5
TURN	Turunc	2.37	294	*i* P		Pn	06 11 12.4	+1.2
TURN				*i* S		Sn	06 11 39.3	+0.2
TURN				IAML			06 11 57.0	
	comp=N,204nm,0.6s							
TURN				IAML			06 12 04.0	
	comp=E,161nm,0.4s							
OSC1	CSNet OBS 1	2.37	173	P		Pn	06 11 13.2	+1.9
OSC1				S		Sn	06 11 41.7	+2.5
KZIL	AFYON_Kizioren	2.48	345	*i* P		Pn	06 11 13.9	+0.9
KZIL				*i* S		Sn	06 11 44.7	+2.6
KZIL				IAML			06 11 50.0	
	comp=N,217nm,0.4s							
KZIL				IAML			06 11 50.0	
	comp=E,191nm,0.5s							
SLFK	Silifke-Mersin	2.49	77	PN		Pn	06 11 13.3	+0.4
YER	Yerkesik	2.50	301	P		Pn	06 11 14.5	+1.4
YER				S		Sn	06 11 42.3	-0.1
YER	Yerkesik	2.50	301	PN		Pn	06 11 13.7	+0.6
LADK	Ladik-KONYA	2.60	26	PN		Pn	06 11 15.1	+0.5
SHUT	Suhut-Afyon	2.71	353	PN		Pn	06 11 16.6	+0.5
KHL	Karahalli	2.71	336	PN		Pn	06 11 16.5	+0.4
DATC	Datca-Mugla	2.80	290	PN		Pn	06 11 17.7	+0.4
KDHN	Kadinhani	2.82	19	*i* P		Pn	06 11 18.0	+0.4
KDHN				*i* S		Sn	06 11 49.7	-0.7
KDHN				IAML			06 11 56.0	
	comp=N,153nm,0.5s							
KDHN				IAML			06 11 56.0	
	comp=E,198nm,0.5s							
DAT	Datca	2.86	289	P		Pn	06 11 18.8	+0.7
DAT				S		Sn	06 11 50.8	-0.5
DAT	Datca	2.86	289	PN		Pn	06 11 18.9	+0.8
DAT	Datca	2.86	289	*i* P		Pn	06 11 19.1	+0.9
DAT				*i* S		Sn	06 11 51.1	-0.2
DAT				IAML			06 11 59.0	
	comp=N,100nm,0.4s							
MLSB	Milas	2.93	300	PN		Pn	06 11 19.4	+0.4
AFYO	Afyonkarahisar	2.97	350	*i* P		Pn	06 11 20.3	+0.7
AFYO				*i* S		Sn	06 11 54.2	+0.2
AFYO				IAML			06 12 05.0	
	comp=N,534nm,1.0s							
AFYO				IAML			06 12 05.0	
	comp=E,490nm,0.9s							
OSC2	CSNet OBS 4	2.98	158	P		Pn	06 11 22.2	+2.4
OSC2				S		Sn	06 11 58.4	+4.0
AYDN	Tasoluk	3.05	307	*i* P		Pn	06 11 21.6	+0.8
AYDN				IAML			06 12 17.0	
	comp=E,187nm,0.6s							
AYDN				IAML			06 12 23.0	
	comp=N,169nm,0.7s							
KARP	Karpathos	3.10	265	P		Pn	06 11 22.7	+1.3
KARP				S		Sn	06 11 57.0	-0.1
	comp=N,692nm,0.2s							
KARP	Karpathos	3.10	265	PN		Pn	06 11 22.3	+0.9
KARP	Karpathos	3.10	265	P		Pn	06 11 22.6	+1.3
KARP				S		Sn	06 11 58.0	+0.9
KARP	Karpathos	3.10	265	Pn		Pn	06 11 22.6	+1.3
KARP				Sn		Sn	06 11 58.9	+1.7
KIZT	Kizilcal	3.10	14	PN		Pn	06 11 22.1	+0.5
CHBY	Cihanbeyli	3.13	29	PN		Pn	06 11 22.7	+0.8
NIS1	Nisyros Isl.	3.13	285	P		Pn	06 11 22.1	+0.2
NIS1	Nisyros Isl.	3.13	285	PN		Pn	06 11 22.5	+0.6
BODT	Bodrum	3.17	293	P		Pn	06 11 23.0	+0.7
BODT				S		Sn	06 11 58.6	-0.2
NISR	Nisiros	3.18	285	P		Pn	06 11 23.1	+0.7
YKAV	Yalikavak-Bodr	3.21	294	PN		Pn	06 11 23.2	+0.3
AYDB	Zeytinkoy-Aydi	3.21	311	PN		Pn	06 11 23.9	+0.8
KULA	Kula-Manisa	3.22	326	PN		Pn	06 11 23.6	+0.5
USAK	Uak-Merkez	3.24	332	*i* P		Pn	06 11 23.8	+0.5
USAK				*i* S		Sn	06 12 00.6	-0.1
USAK				IAML			06 12 10.0	
	comp=E,100nm,1.0s							
USAK				IAML			06 12 14.0	
	comp=N,134nm,0.7s							
MANT	Manisa	3.25	325	*i* P		Pn	06 11 23.6	+0.1
MANT				*i* S		Sn	06 11 60.0	-1.1
MANT				IAML			06 12 15.0	
	comp=E,141nm,0.5s							
MANT				IAML			06 12 17.0	
	comp=N,101nm,0.8s							
MANT	Manisa	3.25	325	Pn		Pn	06 11 23.7	+0.1
CIFT	Ciftеler, Eski	3.50	1	PN		Pn	06 11 27.5	+0.6
AUSIV	SIVRIHISAR	3.60	7	PN		Pn	06 11 28.6	+0.2
CMRD	Camardi-Nigde	3.71	60	PN		Pn	06 11 30.9	+1.0
ZKR	Zakros	3.93	260	P		Pn	06 11 34.1	+1.3
ZKR	Zakros	3.93	260	PN		Pn	06 11 34.0	+1.3
STIA	Sitia Lasithi	4.01	262	P		Pn	06 11 35.7	+1.8
BORA	Eskisehir	4.03	355	PN		Pn	06 11 35.4	+1.2
AUBOZ	BOZOYUK	4.11	350	PN		Pn	06 11 36.5	+1.2
ANAF	Anafi Island	4.22	278	P		Pn	06 11 37.3	+0.6
NPS	Neapolis	4.39	264	P		Pn	06 11 40.5	+1.4
BRTR	Keskin Array B	4.41	28	P		Pn	06 11 39.9	+0.5
	comp=N,3.3nm,0.3s,baz=340,slow=6.3,SNR=32							
BRTR				S		Sn	06 12 30.4	+0.8
	comp=N,6.2nm,0.3s,baz=206,slow=21,SNR=13							
BRTR				LR	LR		06 14 10.7	
	comp=N,62nm,18.3s,baz=171,slow=49							
BRTR	Keskin Array B	4.41	28			Pn	06 11 39.8	+0.3
BR131	Keskin Array S	4.41	28	P		Pn	06 11 40.0	-0.4
	SNR=15							
BR131	Keskin Array S	4.41	28	Pn		Pn	06 11 39.9	+0.5
BR131				Sn		Sn	06 12 31.8	+2.3
HNTI	Hanita	4.46	127	Pn		Pn	06 11 41.8	+1.8
HNTI				Sn		Sn	06 12 29.6	-1.0
SANT	Santorini	4.47	278	⇑P		Pn	06 11 40.3	+0.1
SANT	Santorini	4.47	278	PN		Pn	06 11 41.1	+0.9
SANT	Santorini	4.47	278	Pn		Pn	06 11 40.6	+0.4
THT2	Imerovigli	4.51	279	PN		Pn	06 11 42.3	+1.6
APE	Apeiranthos	4.53	287	P		Pn	06 11 42.1	+1.1
APE	Apeiranthos	4.53	287	⇓P		Pn	06 11 43.3	+2.3
APE	Apeiranthos	4.53	287	PN		Pn	06 11 42.2	+1.2
YUVA	Yuva-Kibriscik	4.56	7	PN		Pn	06 11 42.8	+1.3
MDUB	Mudurnu	4.61	2	Pn		Pn	06 11 43.9	+1.8
MMAI	Mount Meron Ar	4.65	126	P		Pn	06 11 43.5	+0.8
	comp=N,13nm,0.3s,baz=302,slow=12,SNR=19							
MMAI				S		Sn	06 12 36.2	+0.7
	comp=N,32nm,0.3s,baz=336,slow=28,SNR=3.8							
OFRI	Ofer	4.65	133	Pn		Pn	06 11 44.0	+1.3
CHOS	Chios island	4.65	304	PN		Pn	06 11 42.9	+0.2
GEM	Giv'at Ha'Em	4.71	123	Pn		Pn	06 11 44.9	+1.5
GEM				Sn		Sn	06 12 36.6	-0.1
SLTI	Sal'it	4.96	136	Pn		Pn	06 11 48.2	+1.3
IDI	Anoyia	4.97	265	P		Pn	06 11 47.8	+0.7
	comp=N,13nm,0.3s,baz=47,slow=3.8,SNR=85							
IDI				S		Sn	06 12 41.9	-1.3
	comp=N,16nm,0.3s,baz=338,slow=22,SNR=3.6							
IDI				LR	LR		06 14 41.9	
	comp=N,49nm,19.6s,baz=56,slow=50							
IDI	Anoyia	4.97	265	⇑P		Pn	06 11 47.8	+0.7
IDI	Anoyia	4.97	265	Pn		Pn	06 11 47.4	+0.3
MMLI	Mount Malkishu	5.04	131	Pn		Pn	06 11 49.4	+1.3
QRNJ	Al-Qirein	5.21	131	Pn		Pn	06 11 51.4	+1.2
HMDT	Nahal Hemdat	5.23	132	Pn		Pn	06 11 52.6	+2.0
HMDT				Sn		Sn	06 12 49.1	-0.6
YTIR	Yattir	5.67	141	Pn		Pn	06 11 58.1	+1.3
YTIR				Sn		Sn	06 13 00.4	-0.3
KZIT	Kziot	5.72	149	Pn		Pn	06 11 58.6	+1.2
KZIT				Sn		Sn	06 13 00.6	-1.1
KOT	Kottamia	5.96	173	P		Pn	06 12 02.3	+1.6
	baz=173							
KOT				AMP			06 13 00.0	
	baz=173							
KOT				S		Sn	06 13 06.3	-1.4
	baz=173							
HHAG	Hagoal	5.97	170	P		Pn	06 12 02.6	+1.8
	baz=170							
HHAG				AMP			06 13 00.0	
	baz=170							
HHAG				S		Sn	06 13 07.1	-0.7
	baz=170							
HMYD	Mayadein	6.05	181	P		Pn	06 12 03.5	+1.6
	baz=182							
KARJ	KARJ	6.15	139	Pn		Pn	06 11 55.0	-8.2
SUZ	Suez	6.21	165	P		Pn	06 12 05.5	+1.4
	baz=165							
HNAT	Natroun	6.22	183	P		Pn	06 12 06.4	+2.3
	baz=184							
HNAT				AMP			06 13 00.0	
	baz=184							
HSAF	As Saff	6.25	175	P		Pn	06 12 06.0	+1.5
	baz=175							
GLL	Jalalah	6.30	174	P		Pn	06 12 06.7	+1.4
	baz=174							
PRNI	Paran	6.46	147	Pn		Pn	06 12 08.2	+0.7
PRNI				Sn		Sn	06 13 17.9	-2.0
SLUM	Salum	6.47	229	P		Pn	06 12 08.1	+0.6
	baz=230							
KRMI	Paran Flat	6.55	150	Pn		Pn	06 12 09.3	+0.6
HRFI	Mount Harif	6.75	148	Pn		Pn	06 12 12.3	+0.8
HRFI				Sn		Sn	06 13 25.4	-1.6
MBRI	Mt Berech	6.91	150	Pn		Pn	06 12 14.4	+0.7
EIL	Elat	7.03	150	P		Pn	06 12 16.1	+0.8
	comp=N,5.0nm,0.3s,baz=323,slow=7.2,SNR=30							
EIL	Elat	7.03	150	Pn		Pn	06 12 16.1	+0.8
EIL				Sn		Sn	06 13 31.9	-2.0
NBNS	Bani Suef	7.22	178	P		Pn	06 12 19.4	+1.5
	baz=178							
ITM	Ithomi	7.38	283			Pn	06 12 21.0	+0.9
GRB	Gharib	7.73	168	P		Pn	06 12 25.0	+0.1
	baz=168							
SWA2		8.06	217	P		Pn	06 12 29.4	0.0
	baz=218							
SWA2				S		Sn	06 13 52.3	-6.9
	baz=218							
TAMRE	El Minia	8.15	180	P		Pn	06 12 32.2	+1.5
	baz=181							
HFRF	Wahat Farafira	8.97	195	P		Pn	06 12 42.5	+0.7
	baz=196							
KOLS	Kolonicke sedl	14.54	337	*e*P		P	06 14 04.0	+1.1
AKASG	Malin Array Be	14.89	356	P		Pn	06 14 03.1	+1.0
	comp=N,2.4nm,0.3s,baz=178,slow=10,SNR=15							
AKASG	Malin Array Be	14.89	356			P	06 14 06.1	-0.6
AKBB	Malin Array Si	14.89	356			P	06 14 04.8	-2.0
SOKA	Soboth	16.09	317	*e*P		P	06 14 21.2	+1.0
	comp=N,4.9nm,1.2s							
MYKA	Terra Mystica	16.85	315	*e*P		P	06 14 30.4	+1.7
	comp=N,3.7nm,0.9s							
KBA	Koelnbreinsper	17.27	316	*e*P		P	06 14 35.3	+1.9
	comp=N,7.0nm,0.6s							
CIMO	Cimolais	17.38	313	P		Pn	06 14 33.8	0.0
KEST	Kesra	17.52	276	P		P	06 14 38.6	+2.4
	comp=N,0.1nm,0.3s,baz=182,slow=18,SNR=4.8							
KEST	Kesra	17.52	276	P		Pn	06 14 34.0	-1.7
KEST				IAmb		IAmb	06 14 45.6	
	comp=Z,18nm,1.4s							
ABTA	Abfaltersbach	17.57	314	*e*P		P	06 14 37.8	+1.2
	comp=Z,4.2nm,0.7s							
CTI	Castel Tesino	17.73	311	P		P	06 14 38.9	+0.5
CTI				IAmb		IAmb	06 14 43.3	
	comp=Z,18nm,1.4s							
GERES	GERESS Array B	18.13	321	P		P	06 14 43.9	+1.1
	comp=Z,0.3nm,0.3s,baz=126,slow=8.8,SNR=5.4							
GERES	GERESS Array B	18

KURK	Kurchatov	37.07	51	P		P		06 17 39.2 -0.7
MK31	Makanchi Array	39.43	58	P		P		06 18 00.3 +0.4
MKAR	Makanchi Array	39.43	58	P		P		06 18 00.4 +0.5
	comp=Z,1.4nm,0.7s,baz=273,slow=7.4,SNR=9.3							
ZALV	Zalesovo Beam	41.10	47	P		P		06 18 13.1 -0.5
	comp=Z,1.7nm,0.4s,baz=253,slow=8.9,SNR=5.5							
ZALV	Zalesovo Beam	41.10	47	P		P		06 18 13.2 -0.4
NRIK	Noril'sk	45.26	25	P		P		06 18 47.2 +0.4
	comp=Z,3.9nm,0.6s,baz=216,slow=2.1,SNR=6.4							
SONM	Songino Array	55.36	52	P		P		06 20 03.8 +0.1
	comp=Z,0.7nm,0.6s,baz=280,slow=8.9,SNR=4.2							
SONM				LR		LR		06 46 34.2
	comp=Z,56nm,19.6s,baz=53,slow=39							
SONM	Songino Array	55.36	52	P		P		06 20 03.8 +0.1
ILAR	Eielson Array	79.69	359	P		P		06 22 36.9 +0.2
	comp=Z,0.6nm,0.8s,baz=344,slow=3.8,SNR=6.9							
ILAR	Eielson Array	79.69	359	P		P		06 22 37.3 +0.6

IDC ***16*** *06:20:21.7±1.1,6.72N×124.86E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.6/45,mbtmp3.8/6,MS3.1/8,Ms1 3.1/8, ms1mx2.8/47,Error ellipse: s-maj=22.7km s-min=10.3km az=142.0*

DJA ***16*** *06:20:21.6±0.9,7°N±7°×12°5E±°,h10km,M4.5/6,mB5.2/2, mb4.7/3,MLv4.4/6,Mw(mB)4.6/2*

MAN ***16*** *06:20:23.1,6.91N×124.96E,h18km,mb5.3,ML4.4,MS4.4*

MAN Intensity III - Makilala North Cotabato; Intensity II - Kidapawan City; Tulunan North Cotabato.

NEIC ***16*** *06:20:26.8±1.3,6.8N±0.1°×125.15E±0.07,h36km±10km, mb4.2/4,Error ellipse: s-maj=21.9km s-min=7.2km az=158.0*

ISC 16 06:20:23.6±0.9,6°90N±0.03°×124°95E±0.04,h16km±6km, n29,σ1s57/30,mb3.8/7,MS3.0/5,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	0.17	52	*iP*	Pg	06 20 28.1	+0.2
KCP				*i* S	Sg	06 20 33.4	+2.5
SKMP	Bagumbayan, Su	0.56	227	*eP*	Pg	06 20 34.1	-0.5
SKMP				*eS*	Sg	06 20 41.8	-0.2
DAV	Davao City (W)	0.65	75	Pg	Pn	06 20 37.2	-0.9
	264nm,0.3s,baz=235,slow=3.4,SNR=28						
DAV				Lg	Lg	06 20 47.9	
	725nm,0.3s,baz=344,slow=21,SNR=8.6						
BUKP	Musuan	0.98	6	*eP*	Pb	06 20 41.0	-1.2
BUKP				*eS*	Sn	06 20 56.4	+0.1
DDMP	Don Marcelino,	1.09	136	*eP*	Pb	06 20 41.9	-2.3
DDMP				*eS*	Sg	06 20 59.6	+0.5
MATI	Mati	1.30	88	*eP*	Pn	06 20 45.3	-1.7
MATI				*eS*	Sn	06 21 02.9	-1.3
CGP	Cagayan de Oro	1.56	351	*iP*	Pb	06 20 51.6	-0.5
CGP				*i* S	Sg	06 21 12.6	-1.4
PAGZ	Pagadian	1.82	301	*eP*	Pn	06 20 53.2	-1.1
PAGZ				*eS*	Sb	06 21 19.8	+0.7
TBP	Tagbilaran	2.97	339	*eP*	Pb	06 21 14.4	-1.8
SGSI	Sangihe	3.25	170	P	Pn	06 21 14.6	+0.7
SGSI				S	Sn	06 21 55.3	+3.0
LLP	Lapu-Lapu	3.53	344	*eP*	Pb	06 21 22.3	-3.4
LLP				*eS*	Sn	06 22 01.7	+2.4
GTOI	Gorontalo	6.52	197	P	Pn	06 21 57.4	-1.5
KAPI	Kappang	12.92	204	LR	LR	06 28 36.9	
	comp=Z,44nm,21.3s,baz=68,slow=39						
BATI	Baumata	17.04	160	LR	LR	06 33 25.9	
	comp=Z,92nm,18.1s,baz=298,slow=46						
JAY	Jayapura	18.30	120	LR	LR	06 32 06.0	
	comp=Z,62nm,18.6s,baz=137,slow=38						
GUMO	Guam	20.68	70	LR	LR	06 33 56.2	
	comp=Z,19nm,18.7s,baz=276,slow=39						
KNRA	Kununurra	22.75	170	P	P	06 25 25.8	+0.5
KNRA				IAmb	IAmb	06 25 27.0	
	comp=Z,11nm,0.7s						
FITZ	Fitzroy Crossi	24.85	178	P	P	06 25 45.1	-0.5
	comp=Z,1.7nm,0.6s,baz=8.3,slow=7.7,SNR=13						
FITZ	Fitzroy Crossi	24.85	178	P	P	06 25 45.7	+0.2
FITZ				IAmb	IAmb	06 26 07.8	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	28.23	161	P	P	06 26 14.7	-1.3
	comp=Z,1.4nm,0.8s,baz=330,slow=11,SNR=7.7						
JHJ	Hachijo jima 2	29.50	26	LR	LR	06 39 32.2	
	comp=Z,93nm,18.9s,baz=18,slow=39						
KSRS	Korea Array	30.53	5	LR	LR	06 38 28.8	
	comp=Z,11nm,20.5s,baz=200,slow=35						
ASAR	Alice Springs	31.61	164	P	P	06 26 45.2	-0.9
	comp=Z,0.5nm,0.6s,baz=344,slow=6.8,SNR=8.1						
MJAR	Matsushiro Arr	31.89	20	LR	LR	06 38 25.3	
	comp=Z,29nm,20.8s,baz=130,slow=34						
STKA	Stephens Creek	41.71	159	P	P	06 28 11.7	-0.2
	comp=Z,1.0nm,0.5s,baz=340,slow=6.8,SNR=3.9						
STKA				LR	LR	06 48 33.5	
	comp=Z,64nm,19.1s,baz=296,slow=41						
STKA	Stephens Creek	41.71	159	IAmb	IAmb	06 28 37.6	
	comp=Z,2.2nm,1.4s						
MKAR	Makanchi Array	53.96	325	P	P	06 29 48.4	+1.6
	comp=Z,0.5nm,0.5s,baz=123,slow=7.3,SNR=5.8						
KKAR	Karatay Array	59.73	316	P	P	06 30 28.9	+1.2
ILAR	Eielson Array	83.02	26	P	P	06 32 49.3	+1.3
	comp=Z,0.3nm,0.7s,baz=264,slow=2.4,SNR=4.3						

HLW ***16*** *06:48:23.7,35.69N×26.91E,h23km±16km,Md5.0,Ml5.3*

MOS ***16*** *06:48:26.1±1.3,35.48N×26.51E,h74km,mb4.7/19,Error ellipse: s-maj=6.5km s-min=3.7km az=94.1*

NEIC ***16*** *06:48:26.9±2.8,35.48N±0.08°×26.52E±0.05,h69km±5km, Error ellipse: s-maj=11.3km s-min=5.9km az=192.0*

ISK ***16*** *06:48:27.6,35.63N×26.59E,h77km,ML4.5/42*

ATH ***16*** *06:48:28.2,35.64N×26.58E,h64km±2km,ML4.5/39,Error ellipse: s-maj=2.5km s-min=0.7km az=146.0*

PDG ***16*** *06:48:28.1±0.6,35.58N×26.63E,h36km±11km,ML5.0/13, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0*

NIC ***16*** *06:48:28.4±0.0,35.32N×26.82E,h76km±3km,Ml5.1/8*

IDC ***16*** *06:48:29.0±0.9,35.78N×26.47E,h71km±10km,mb4.1/23, mb1 4.2/27,mb1mx4.0/57,mbtmp4.4/27,MS2.7/4, Ms1 2.8/4,ms1mx2.6/44,Error ellipse: s-maj=16.7km s-min=8.8km az=156.0*

MED_RC ***16*** *06:48:29.0±0.4,35.65N×26.58E,h75km±8km,MW4.5/16, Moment Tensor Solution.Mantle waves: s16,c22; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr1.07±.49; Mθθ4.60±.41; Mϕϕ-5.68±.44; Mrθ-0.03±.35; Mrϕ2.44±.50; Mθϕ1.59±.31; Best double couple: M05.86000×10¹⁵ NP1:ϕs122.00000°,δ78.00000°, λ-5.00000°. NP2:ϕs213.00000°,δ85.00000°, λ-168.00000°. Principal axes: T 5.1800, Plg5.0000°, Azm347.0000°; N 1.3600, Plg77.0000°, Azm235.0000°; P -6.5500, Plg12.0000°, Azm78.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

THE ***16*** *06:48:29.8,35.64N×26.58E,h58km±2km,ML4.5/20 Error ellipse: s-maj=2.4km s-min=0.4km az=138.0*

DDA ***16*** *06:48:29.2,35.75N×26.67E,h42km±4km,MW4.6*

GII ***16*** *06:48:32.4±0.5,35.18N×27.11E,h40km,mb4.7/4, MD4.7/4*

ISC 16 06:48:26.7±0.5,35°52N±0.03°×26°63E±0.03,h69km±4km, h72km:pP-P,n696,σ2s20/816,mb4.6/68,39C-8D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.43	86	P	Pn	06 48 41.0	+2.1
KARP				S	Sn	06 48 49.6	+1.8
	126μm,0.3s						
KARP	Karpathos	0.43	86	P	Pn	06 48 40.8	+2.0
KARP				S	Sn	06 48 49.5	+1.8
KARP				AML	AML	06 48 49.9	
KARP				AML	AML	06 48 50.1	
KARP	Karpathos	0.43	86	PG	Pn	06 48 40.7	+1.8
KARP				SG	Sn	06 48 50.1	+2.3
KARP	Karpathos	0.43	86	P	Pn	06 48 40.9	+2.1
KARP				S	Sn	06 48 49.7	+1.8
KARP	Karpathos	0.43	86	Pn	Pn	06 48 40.3	+1.4
KARP				Sn	Sn	06 48 49.9	+2.1
ZKR	Zakros	0.52	220	P	Pn	06 48 42.0	+2.3
ZKR				S	Sn	06 48 52.5	+3.3
	48μm,0.4s						
ZKR	Zakros	0.52	220	P	Pn	06 48 42.6	+3.0
ZKR				S	Sn	06 48 52.9	+3.8
ZKR				AML	AML	06 48 53.8	
ZKR				AML	AML	06 48 56.9	
	comp=N,57886μm,0.4s						
ZKR	Zakros	0.52	220	PG	Pn	06 48 42.7	+3.0
ZKR				SG	Sn	06 48 53.4	+4.2
STIA	Sitia Lasithi	0.54	235	P	Pn	06 48 42.2	+2.4
NPS	Neapolis	0.87	253	P	Pn	06 48 45.7	+2.2
NPS				S	Sn	06 48 57.5	+1.5
	comp=N,44μm,0.4s						
NPS	Neapolis	0.87	253	P	Pn	06 48 45.6	+2.0
NPS				S	Sn	06 48 57.8	+1.8
NPS				AML	AML	06 48 58.1	
	comp=N,68881μm,0.3s						
NPS				AML	AML	06 48 58.2	
FRMA	Ierapetra Chan	0.89	236	P	Pn	06 48 44.9	+1.2
LAST	Lasithi	1.00	250	P	Pn	06 48 47.8	+2.5
LAST				S	Sn	06 49 01.5	+2.4
	comp=N,11μm,0.5s						
LAST	Lasithi	1.00	250	P	Pn	06 48 47.7	+2.5
LAST				AML	AML	06 49 04.0	
	comp=E,18299μm,0.5s						
LAST				AML	AML	06 49 07.5	
	comp=N,24872μm,0.5s						
ANAF	Anafi Island	1.09	321	P	Pn	06 48 47.2	+0.9
ANAF				S	Sn	06 49 00.6	-0.3
	comp=N,571μm,0.4s						
ANAF	Anafi Island	1.09	321	P	Pn	06 48 47.2	+0.9
ANAF				S	Sn	06 49 00.3	-0.7
ANAF				AML	AML	06 49 01.2	
ANAF				AML	AML	06 49 01.4	
NISR	Nisiros	1.17	20	P	Pn	06 48 48.1	+0.8
NISR				S	Sn	06 49 02.1	-0.5
	comp=N,33μm,0.3s						
NISR	Nisiros	1.17	20	P	Pn	06 48 48.1	+0.8
NISR				S	Sn	06 49 02.2	-0.4
NISR				AML	AML	06 49 03.2	
	comp=E,80466μm,0.3s						
NISR				AML	AML	06 49 04.2	
	comp=N,52244μm,0.5s						
NIS1	Nisyros Isl.	1.17	22	P	Pn	06 48 48.3	+0.9
NIS1				S	Sn	06 49 03.1	+0.3
	comp=N,27μm,0.4s						
NIS1	Nisyros Isl.	1.17	22	P	Pn	06 48 48.5	+1.1
NIS1				AML	AML	06 49 07.7	
	comp=E,68372μm,0.4s						
NIS1				AML	AML	06 49 17.3	
	comp=N,30918μm,0.4s						
NIS1	Nisyros Isl.	1.17	22	PN	Pn	06 48 48.5	+1.1
HRKL	Herakleio	1.26	261	P	Pn	06 48 50.4	+1.9
HRKL	Herakleio	1.26	261	PN	Pn	06 48 50.4	+1.9
KOSK	Kos Island	1.27	13	P	Pn	06 48 49.4	+0.8
KOSK				S	Sn	06 49 04.7	-0.2
	comp=N,19μm,0.3s						
KOSK	Kos Island	1.27	13	PN	Pn	06 48 49.2	+0.6
KOSK				SN	Sn	06 49 05.3	+0.4
SANT	Santorini	1.28	312	P	Pn	06 48 48.5	-0.3
SANT	Santorini	1.28	312	P	Pn	06 48 49.5	+0.8
SANT				S	Sn	06 49 04.7	-0.7
SANT				AML	AML	06 49 05.1	
	comp=N,61244μm,0.2s						
SANT				AML	AML	06 49 05.6	
SANT	Santorini	1.28	312	PN	Pn	06 48 49.6	+0.8
SANT	Santorini	1.28	312		Pn	06 48 49.5	+0.8
SANT				Sn	Sn	06 49 04.6	-0.7
IACM	Heraklion	1.29	261	P	Pn	06 48 50.4	+1.8
IACM	Heraklion	1.29	261	P	Pn	06 48 50.6	+1.8
KSTL	Kastelli Herak	1.29	261	P	Pn	06 48 48.5	-0.4
THR8	Santorini-Mono	1.29	314	P	Pn	06 48 49.7	+0.8
THR6	Thira Island,	1.30	310	P	Pn	06 48 50.2	+1.1
THT1	Athinios (Pele	1.30	312	P	Pn	06 48 50.0	+0.9
SAP1	Santorini-Akro	1.31	310	P	Pn	06 48 50.2	+1.1
SAP1	Santorini-Akro	1.31	310	P	Pn	06 48 50.1	+1.1
SAP1				S	Sn	06 49 05.6	-0.3
SAP2K	Karterados	1.31	313	P	Pn	06 48 50.2	+1.0
SAP2K	Karterados	1.31	313	P	Pn	06 48 50.2	+1.0
SAP2K				S	Sn	06 49 05.5	-0.5
SNT1	Gialos, Santor	1.33	313	P	Pn	06 48 50.3	+1.0
SFIR	Foira Santorin	1.33	313	P	Pn	06 48 50.5	+1.1
THR7	Fira-Santorini	1.33	313	P	Pn	06 48 50.6	+1.2
THR9	Santorini-Faro	1.33	310	P	Pn	06 48 50.7	+1.2
THR9	Santorini-Faro	1.33	310	P	Pn	06 48 50.6	+1.2
SNT5	Nea Kammeni, S	1.34	312	P	Pn	06 48 49.4	-0.1
THR3	Thira Island,	1.34	312	P	Pn	06 48 50.5	+1.0
THR2	Thira Island,	1.34	314	P	Pn	06 48 50.7	+1.1
THT2	Imerovigli	1.34	314	P	Pn	06 48 50.7	+1.1
THT2	Imerovigli	1.34	314	PN	Pn	06 48 50.7	+1.1
THR5	Thira Island,	1.38	311	P	Pn	06 48 50.8	+0.8
CMBO	Columbo, Santo	1.38	314	P	Pn	06 48 51.0	+1.0
CMBO	Columbo, Santo	1.38	314	P	Pn	06 48 51.0	+1.0
CMBO				S	Sn	06 49 06.8	-0.7
CMBO				AML	AML	06 49 07.5	
CMBO				AML	AML	06 49 07.8	
SAP3	Santorini-Thir	1.39	312	P	Pn	06 48 51.0	+0.8
SAP3	Santorini-Thir	1.39	312	P	Pn	06 48 51.2	+1.0
SAP3				S	Sn	06 49 07.7	-0.1
SAP4	Santorini-Oia	1.40	314	P	Pn	06 48 51.3	+1.0
SAP4	Santorini-Oia	1.40	314	P	Pn	06 48 51.2	+1.0
SAP4				S	Sn	06 49 07.7	-0.3
ARG	Arkhangelos	1.40	60	P	Pn	06 48 52.7	+2.3
ARG				S	Sn	06 49 09.5	+1.4
	comp=N,14μm,0.3s						
ARG	Arkhangelos	1.40	60	P	Pn	06 48 52.5	+2.2
ARG				S	Sn	06 49 09.6	+1.4
ARG				AML	AML	06 49 12.5	
	comp=E,35600μm,0.3s						
ARG				AML	AML	06 49 13.2	
	comp=N,20111μm,0.3s						
ARG	Arkhangelos	1.40	60	PN	Pn	06 48 52.6	+2.2
ARG				SN	Sn	06 49 09.9	+1.7
ARG	Arkhangelos	1.40	60	P	Pn	06 48 52.6	+2.3
ARG				S	Sn	06 49 09.8	+1.7
DAT	Datca	1.44	32	P	Pn	06 48 52.7	+1.1
DAT				S	Sn	06 49 08.9	-0.2
DAT	Datca	1.44	32	PN	Pn	06 48 51.9	+1.1
DAT	Datca	1.44	32	*i* P	Pn	06 48 52.1	+1.2
DAT				*i* S	Sn	06 49 08.6	-0.5
DAT				IAML		06 49 10.0	
	comp=N,3μm,0.5s						
DAT				IAML		06 49 10.0	
	comp=E,2μm,0.5s						
IDI	Anoyia	1.44	261	P	Pn	06 48 52.4	+1.5
	comp=E,585nm,0.3s,baz=19,slow=5.1,SNR=1249						
IDI				S	Sn	06 49 10.1	+1.0
	comp=E,458nm,0.3s,baz=292,slow=21,SNR=20						
IDI	Anoyia	1.44	261	P	Pn	06 48 52.6	+1.7
IDI				S	Sn	06 49 10.9	+1.8
	comp=E,11μm,0.4s						
IDI	Anoyia	1.44	261	P	Pn	06 48 52.5	+1.5
IDI				S	Sn	06 49 11.1	+2.1
IDI				AML	AML	06 49 11.8	
	comp=N,17894μm,0.3s						
IDI				AML	AML	06 49 13.2	
	comp=E,28147μm,0.5s						
IDI	Anoyia	1.44	261	PN	Pn	06 48 52.4	+1.5
IDI	Anoyia	1.44	261		Pn	06 48 52.1	+1.2
AMGA	Amorgos Island	1.44	336	P	Pn	06 48 51.5	+0.6
AMGA				S	Sn	06 49 07.6	-1.5
	comp=E,29μm,0.5s						
AMGA	Amorgos Island	1.44	336	P	Pn	06 48 51.3	+0.4
AMGA				S	Sn	06 49 08.0	-1.1
AMGA				AML	AML	06 49 09.3	
	comp=E,40875μm,0.2s						
AMGA				AML	AML	06 49 09.6	
	comp=N,66083μm,0.3s						
DATC	Datca-Mugla	1.50	34	PN	Pn	06 48 53.1	+1.5
DATC				SN	Sn	06 49 10.6	+0.3
SIVA	Sivas	1.57	252	P	Pn	06 48 55.7	+3.2
SIVA	Sivas	1.57	252	P	Pn	06 48 55.7	+3.2
SIVA				AML	AML	06 49 21.5	
	comp=N,19579μm,0.7s						
SIVA				AML	AML	06 49 21.5	
	comp=E,31571μm,0.5s						
TMBK	Timbaki Herakl	1.59	254	P	Pn	06 48 55.8	+3.0
IOSP	Ios island	1.62	318	P	Pn	06 48 54.1	+0.8
IOSP				S	Sn	06 49 12.5	-0.9
	comp=E,81μm,0.4s						
IOSP	Ios island	1.62	318	P	Pn	06 48 54.0	+0.8
IOSP				S	Sn	06 49 12.3	-1.0
IOSP				AML	AML	06 49 12.8	
IOSP				AML	AML	06 49 12.8	
BODT	Bodrum	1.64	19	P	Pn	06 48 54.4	+0.9
BODT				S	Sn	06 49 13.7	-0.1
BODT	Bodrum	1.64	19	PN	Pn	06 48 54.4	+0.9
BDRM	Kayabasi	1.68	23	*i* P	Pn	06 48 55.3	+1.2
BDRM				*i* S	Sn	06 49 13.5	-1.3
BDRM				IAML		06 49 15.0	
	comp=E,2μm,0.4s						
YKAV	Yalikavak-Bodr	1.69	18	PN	Pn	06 48 54.9	+0.7
PRNS	Prines Rethymn	1.74	266	P	Pn	06 48 56.7	+1.8
APE	Apeiranthos	1.79	331	P	Pn	06 48 56.3	+0.8
APE				S	Sn	06 49 16.7	-0.7
	comp=E,23μm,0.4s						
APE	Apeiranthos	1.79	331	P	Pn	06 48 56.2	+0.6
APE				S	Sn	06 49 16.5	-0.9
APE				AML	AML	06 49 17.1	
	comp=E,44730μm,0.5s						
APE				AML	AML	06 49 18.1	
	comp=N,46332μm,0.2s						
APE	Apeiranthos	1.79	331	PN	Pn	06 48 56.5	+1.0
APE				SN	Sn	06 49 16.6	-0.8
APE	Apeiranthos	1.79	331	*c iP*	Pn	06 48 56.0	+0.5
APE	Apeiranthos	1.79	331	P	Pn	06 48 56.3	+0.8
TURN	Turunc	1.81	46	PN	Pn	06 48 57.4	+1.6
DIDI	Didim-Aydin	1.92	15	PN	Pn	06 48 58.5	+1.2
VAM	Vamos	1.99	268	P	Pn	06 48 59.7	+1.6
VAM				S	Sn	06 49 23.6	+1.5
	comp=N,5μm,0.2s						
VAM	Vamos	1.99	268	P	Pn	06 48 59.5	+1.4
VAM				AML	AML	06 49 26.9	
	comp=N,13543μm,0.2s						
VAM				AML	AML	06 49 36.6	
	comp=E,9551μm,0.3s						
MLSB	Milas	2.00	27	PN	Pn	06 48 59.8	+1.4
MLSB				SN	Sn	06 49 22.9	+0.4
DALY	Dalyan (Mula)	2.09	51	PN	Pn	06 49 01.5	+2.0
DALY	Dalyan (Mula)	2.09	51	*i* P	Pn	06 49 02.1	+2.6
DALY				*i* S	Sn	06 49 27.1	+2.5
DALY				IAML		06 49 30.0	
	comp=N,3μm,0.7s						
DALY				IAML		06 49 32.0	
	comp=E,4μm,0.7s						
YER	Yerkesik	2.10	39	P	Pn	06 49 02.1	+2.4
YER				S	Sn	06 49 25.5	+0.7
YER	Yerkesik	2.10	39	PN	Pn	06 49 01.5	+1.8
YER				SN	Sn	06 49 26.0	+1.2
CHAN	Chania	2.11	271	P	Pn	06 49 01.5	+1.7
MHLO	Agia Marina, M	2.15	304	P	Pn	06 49 02.1	+1.8
MHLO				AML	AML	06 49 37.2	
	comp=E,25870μm,0.4s						
MHLO				AML	AML	06 49 38.1	
	comp=N,36252μm,0.8s						
IMMV	Iera Moni Meta	2.16	269	P	Pn	06 49 02.1	+1.6
IMMV				S	Sn	06 49 28.2	+1.9
	comp=N,5μm,0.6s						
IMMV	Iera Moni Meta	2.16	269	P	Pn	06 49 02.0	+1.4
IMMV				AML	AML	06 49 34.0	
	comp=N,10925μm,0.5s						
IMMV				AML	AML	06 49 41.5	
	comp=E,8869μm,0.4s						
IMMV	Iera Moni Meta	2.16	269	PN	Pn	06 49 02.2	+1.7
MHLA	Plaka, Milos I	2.17	305	P	Pn	06 49 02.0	+1.4
MHLA				AML	AML	06 49 41.0	
	comp=N,9145μm,0.5s						
MHLA				AML	AML	06 49 45.5	
	comp=E,11349μm,1.1s						
GVDS	Gavdos	2.19	253	P	Pn	06 49 04.0	+3.2
GVDS	Gavdos	2.19	253	PN	Pn	06 49 03.8	+3.0
GVD	Gavdhos	2.19	253	P	Pn	06 49 03.2	+2.3
GVD				S	Sn	06 49 29.8	+2.8
	comp=E,5μm,0.4s						
GVD	Gavdhos	2.19	253	P	Pn	06 49 03.8	+2.9
GVD				AML	AML	06 49 33.6	
	comp=N,11438μm,0.4s						
GVD				AML	AML	06 49 35.1	
	comp=E,8914μm,0.4s						
GVD	Gavdhos	2.19	253	PN	Pn	06 49 03.7	+2.8
GVD				SN	Sn	06 49 30.5	+3.5
SMG	Samos	2.20	4	P	Pn	06 49 01.7	+0.7
SMG				S	Sn	06 49 26.1	-1.1
	comp=E,4μm,0.3s						
SMG	Samos	2.20	4	P	Pn	06 49 01.6	+0.7
SMG				S	Sn	06 49 26.3	-0.9
SMG				AML	AML	06 49 26.9	
	comp=E,9006μm,0.3s						
SMG				AML	AML	06 49 27.0	
	comp=N,8548μm,0.3s						
FETY	Fethiye	2.28	60	P	Pn	06 49 04.2	+2.0
FETY	Fethiye	2.28	60	PN	Pn	06 49 04.1	+1.9
FETY	Fethiye	2.28	60	*i* P	Pn	06 49 04.2	+2.0
FETY				*i* S	Sn	06 49 31.1	+1.9
FETY				IAML		06 49 39.0	
	comp=N,1μm,0.8s						
FETY				IAML		06 49 39.0	
	comp=E,945nm,0.6s						
TNSA	Tinos	2.34	330	P	Pn	06 49 04.1	+1.2
RODP	Rodopos	2.34	272	PN	Pn	06 49 04.9	+1.9
AYDN	Tasoluk	2.37	25	*i* P	Pn	06 49 05.5	+2.1
AYDN				IAML		06 49 33.0	
	comp=N,2μm,0.5s						
AYDN				IAML		06 49 37.0	
	comp=E,892nm,0.4s						
SERI	Serifos	2.39	314	P	Pn	06 49 04.9	+1.3
SERI				S	Sn	06 49 30.4	-1.4
SERI	Serifos	2.39	314	P	Pn	06 49 04.7	+1.1
SERI				AML	AML	06 49 30.8	
	comp=E,5447μm,0.6s						
SERI				AML	AML	06 49 30.9	
	comp=N,6444μm,0.5s						
KNDR	Palaiochora Ch	2.42	264	P	Pn	06 49 07.9	+3.9
KNDR	Palaiochora Ch	2.42	264	PN	Pn	06 49 07.4	+3.4
KSL	Kastellorizon	2.48	74	P	Pn	06 49 07.2	+2.4
KSL	Kastellorizon	2.48	74	P	Pn	06 49 07.1	+2.2
KSL				AML	AML	06 49 37.3	
	comp=E,5680μm,0.4s						
KSL				AML	AML	06 49 41.0	
	comp=N,4175μm,0.7s						
KSL	Kastellorizon	2.48	74	P	Pn	06 49 07.2	+2.4
KSL				S	Sn	06 49 34.9	+0.8
AKAS	Kas	2.52	73	PN	Pn	06 49 07.8	+2.3
AKAS	Kas	2.52	73	*i* P	Pn	06 49 07.9	+2.3
AKAS				*i* S	Sn	06 49 33.8	-1.5
AKAS				IAML		06 49 40.0	
	comp=E,616nm,0.5s						
AKAS	Kas	2.52	73	Pn	Pn	06 49 07.2	+1.7
DGB	zmir	2.54	5	*i* P	Pn	06 49 06.3	+0.7
DGB				IAML		06 49 35.0	
	comp=E,725nm,0.6s						
DGB				IAML		06 49 52.0	
	comp=N,313nm,0.5s						
AYDB	Zeytinkoy-Aydi	2.63	22	PN	Pn	06 49 08.5	+1.5
TAVA	DENIZLI_Tavas	2.68	43	*i* P	Pn	06 49 10.0	+2.4
TAVA				*i* S	Sn	06 49 39.8	+0.8

KARY	**Karystos**	**3.07**	**326**		P	**Pn**	**06 49 14.6**	**+1.8**
KARY	comp=E,3942µm,0.4s				AML	AML	06 49 49.9	
KARY	comp=N,3248µm,0.5s				AML	AML	06 49 59.4	
AKUM	**Antalya-Kumluc**	**3.12**	**74**	*i*	P	**Pn**	**06 49 16.1**	**+2.6**
AKUM				*i*	S	**Sn**	**06 49 50.6**	**+1.0**
AKUM	comp=N,610nm,0.6s				IAML		06 49 52.0	
AKUM	comp=E,714nm,0.3s				IAML		06 49 56.0	
PSRA	**Psara**	**3.14**	**345**		P	**Pn**	**06 49 15.0**	**+1.2**
VLI	**Veliai**	**3.22**	**293**		P	**Pn**	**06 49 16.5**	**+1.6**
VLI					S	**Sn**	**06 49 51.8**	**-0.3**
VLI	comp=E,2µm,0.6s **Veliai**	**3.22**	**293**		P	**Pn**	**06 49 16.5**	**+1.6**
VLI	comp=N,5130µm,0.4s				AML	AML	06 49 55.1	
VLI	comp=E,4351µm,0.5s				AML	AML	06 49 60.0	
VLY	**Voula,Athens**	**3.26**	**317**		P	**Pn**	**06 49 17.4**	**+2.0**
VLY	comp=N,3844µm,0.4s				AML	AML	06 49 54.2	
VLY	comp=E,6569µm,0.5s				AML	AML	06 49 54.5	
ATHU	**Athens Univers**	**3.35**	**318**		P	**Pn**	**06 49 18.8**	**+2.1**
ATHU	**Athens Univers**	**3.35**	**318**		P	**Pn**	**06 49 18.7**	**+2.1**
ATHU	comp=N,1729µm,0.4s				AML	AML	06 49 55.1	
ATHU	comp=E,2912µm,0.4s				AML	AML	06 49 57.5	
MANT	**Manisa**	**3.35**	**27**		Pn	**Pn**	**06 49 18.8**	**+2.0**
DION	**Dionisos Attik**	**3.35**	**321**		P	**Pn**	**06 49 18.9**	**+2.2**
DION	**Dionisos Attik**	**3.35**	**321**		P	**Pn**	**06 49 18.7**	**+2.0**
DION	comp=N,9922µm,0.5s				AML	AML	06 49 56.1	
DION	comp=E,6048µm,0.5s				AML	AML	06 50 14.3	
KORT	**Korkueli**	**3.35**	**63**		PN	**Pn**	**06 49 19.8**	**+3.0**
KORT	**Korkueli**	**3.35**	**63**	*i*	P	**Pn**	**06 49 19.7**	**+2.8**
KORT				*i*	S	**Sn**	**06 49 57.3**	**+1.8**
KORT	comp=E,1µm,0.5s				IAML		06 50 03.0	
KORT	comp=N,806nm,0.7s				IAML		06 50 14.0	
PTL	**Penteli**	**3.37**	**320**		P	**Pn**	**06 49 19.1**	**+2.2**
PTL	comp=N,1820µm,0.7s				AML	AML	06 49 54.9	
PTL	comp=E,2795µm,0.6s				AML	AML	06 50 06.7	
KRND	**KRANIDI**	**3.37**	**305**		P	**Pn**	**06 49 19.4**	**+2.5**
KRND	**KRANIDI**	**3.37**	**305**		P	**Pn**	**06 49 19.4**	**+2.5**
ATH	**Athens Observa**	**3.39**	**317**		P	**Pn**	**06 49 19.6**	**+2.4**
ATH	**Athens Observa**	**3.39**	**317**		P	**Pn**	**06 49 19.6**	**+2.4**
ATH	comp=E,6153µm,0.8s				AML	AML	06 49 56.0	
ATH	comp=N,4655µm,0.4s				AML	AML	06 49 58.3	
KULA	**Kula-Manisa**	**3.41**	**28**		P	**Pn**	**06 49 19.8**	**+2.3**
KULA	**Kula-Manisa**	**3.41**	**28**		PN	**Pn**	**06 49 19.2**	**+1.7**
AKS	**Akhisar**	**3.49**	**15**		PN	**Pn**	**06 49 20.2**	**+1.6**
BRDR	**BURDUR-Merkez**	**3.52**	**51**	*i*	P	**Pn**	**06 49 21.0**	**+2.0**
BRDR				*i*	S	**Sn**	**06 49 58.3**	**-1.1**
BRDR	comp=N,491nm,0.5s				IAML		06 50 11.0	
BRDR	comp=E,401nm,0.5s				IAML		06 50 14.0	
EPID	**Epidavros**	**3.52**	**308**		P	**Pn**	**06 49 21.4**	**+2.4**
EPID	**Epidavros**	**3.52**	**308**		P	**Pn**	**06 49 21.3**	**+2.4**
ANTB	**Antalya**	**3.54**	**66**		PN	**Pn**	**06 49 22.3**	**+3.1**
DKL	**Dikili**	**3.56**	**3**		PN	**Pn**	**06 49 20.9**	**+1.4**
BASM	**Basmaki-Afyon**	**3.65**	**48**		PN	**Pn**	**06 49 22.5**	**+1.7**
USAK	**Uak-Merkez**	**3.72**	**30**	*i*	P	**Pn**	**06 49 24.2**	**+2.5**
USAK	comp=N,178nm,0.7s				IAML		06 50 06.0	
USAK	comp=E,334nm,0.5s				IAML		06 50 06.0	
BCK	**Bucak**	**3.73**	**58**		PN	**Pn**	**06 49 24.7**	**+2.7**
PRK	**Paraskevi**	**3.74**	**356**		P	**Pn**	**06 49 23.6**	**+1.7**
PRK	**Paraskevi**	**3.74**	**356**		P	**Pn**	**06 49 23.8**	**+1.9**
SIGR	**SIGRI**	**3.74**	**351**		P	**Pn**	**06 49 22.9**	**+0.9**
SIGR	**SIGRI**	**3.74**	**351**		P	**Pn**	**06 49 22.9**	**+0.9**
SIGR	comp=N,2164µm,0.6s				AML	AML	06 50 05.5	
SIGR	comp=E,1304µm,0.6s				AML	AML	06 50 06.1	
SIGR	**SIGRI**	**3.74**	**351**		PN	**Pn**	**06 49 22.9**	**+0.9**
SKY	**Skiros Island**	**3.75**	**334**		P	**Pn**	**06 49 24.0**	**+1.9**
VILL	**Villia**	**3.75**	**316**		P	**Pn**	**06 49 24.5**	**+2.3**
VIL2	**Platees**	**3.81**	**316**		P	**Pn**	**06 49 24.4**	**+1.4**
LTK	**Loutraki**	**3.86**	**311**		P	**Pn**	**06 49 26.0**	**+2.3**
LTK	**Loutraki**	**3.86**	**311**		P	**Pn**	**06 49 26.2**	**+2.5**
ISP	**Isparta**	**3.89**	**53**		P	**Pn**	**06 49 25.7**	**+1.7**
ISP	**Isparta**	**3.89**	**53**		PN	**Pn**	**06 49 25.8**	**+1.7**
ISP	**Isparta**	**3.89**	**53**		P	**Pn**	**06 49 25.9**	**+1.8**
ISP	**Isparta**	**3.89**	**53**		Pn	**Pn**	**06 49 25.9**	**+1.8**
VLX	**Vlachokerasia**	**3.90**	**300**		P	**Pn**	**06 49 26.2**	**+2.0**
VLX	**Vlachokerasia**	**3.90**	**300**		P	**Pn**	**06 49 26.3**	**+2.0**
KZIL	**AFYON_Kizioren**	**3.93**	**45**	*i*	P	**Pn**	**06 49 25.9**	**+1.3**
KZIL				*i*	S	**Sn**	**06 50 07.0**	**-2.6**
KZIL	comp=N,216nm,0.8s				IAML		06 50 34.0	
KZIL	comp=E,287nm,0.8s				IAML		06 50 35.0	
SIMA	**Simav-Kutahya**	**4.03**	**27**		PN	**Pn**	**06 49 27.9**	**+1.9**
TRIP	**Tripoli**	**4.04**	**301**		P	**Pn**	**06 49 29.2**	**+3.0**
TRIP	**Tripoli**	**4.04**	**301**		P	**Pn**	**06 49 28.2**	**+1.9**
TRIP	comp=E,2441µm,0.8s				AML	AML	06 50 17.4	
TRIP	comp=N,1448µm,0.9s				AML	AML	06 50 18.8	
THAL	**Thalero**	**4.06**	**309**		P	**Pn**	**06 49 28.9**	**+2.6**
THAL	comp=E,4023µm,0.3s				AML	AML	06 50 27.1	
THAL	comp=N,3486µm,0.4s				AML	AML	06 50 32.9	
ITM	**Ithomi**	**4.14**	**295**		Pn	**Pn**	**06 49 26.1**	**-1.5**
BAGO	**Egridir - ISPA**	**4.15**	**52**	*i*	P	**Pn**	**06 49 29.3**	**+1.6**
BAGO	comp=N,64nm,0.7s				IAML		06 50 31.0	
BAGO	comp=E,82nm,0.9s				IAML		06 50 43.0	
GEDZ	**Gediz**	**4.16**	**31**		PN	**Pn**	**06 49 30.0**	**+2.2**
SLUM	**Salum**	**4.18**	**197**		P	**Pn**	**06 49 29.8**	**+1.7**
SLUM	baz=200				AMP		06 50 00.0	
SLUM	baz=200				S	**Sn**	**06 50 13.4**	**-2.3**
PYL	baz=200 **PYLOS**	**4.18**	**291**		P	**Pn**	**06 49 29.3**	**+1.2**
PYL	**PYLOS**	**4.18**	**291**		P	**Pn**	**06 49 29.1**	**+1.1**
MATC	**Matruh**	**4.19**	**173**		P	**Pn**	**06 49 29.5**	**+1.4**
GUR	baz=176 **Goura**	**4.21**	**306**		P	**Pn**	**06 49 30.8**	**+2.3**
GUR	**Goura**	**4.21**	**306**		P	**Pn**	**06 49 30.3**	**+1.9**
GDZ	**Gediz**	**4.23**	**32**	*i*	P	**Pn**	**06 49 31.1**	**+2.3**
GDZ	comp=N,103nm,1.0s				IAML		06 50 18.0	
GDZ	comp=E,76nm,1.0s				IAML		06 50 18.0	
BALB	**Balikesir**	**4.24**	**13**		PN	**Pn**	**06 49 29.9**	**+1.2**
KEPZ	**Antalya-Kepez**	**4.25**	**70**	*i*	P	**Pn**	**06 49 31.8**	**+2.7**
KEPZ				*i*	S	**Sn**	**06 50 19.1**	**+1.6**
KEPZ	comp=N,346nm,0.5s				IAML		06 50 24.0	
KEPZ	comp=E,292nm,0.9s				IAML		06 50 27.0	
AOS	**Alonnisos**	**4.26**	**330**		P	**Pn**	**06 49 30.9**	**+1.9**
AOS	**Alonnisos**	**4.26**	**330**		PN	**Pn**	**06 49 30.4**	**+1.4**
LKR	**Lokris**	**4.27**	**318**		P	**Pn**	**06 49 31.6**	**+2.4**
LKR	**Lokris**	**4.27**	**318**		P	**Pn**	**06 49 31.5**	**+2.3**
ATAL	**Atalanti**	**4.29**	**319**		P	**Pn**	**06 49 31.9**	**+2.4**
ATAL	**Atalanti**	**4.29**	**319**		P	**Pn**	**06 49 31.8**	**+2.4**
ATAL	comp=N,1640µm,0.7s				AML	AML	06 50 18.0	
ATAL	comp=E,1065µm,1.0s				AML	AML	06 50 18.0	
EZN	**Ezine**	**4.31**	**357**		P	**Pn**	**06 49 30.9**	**+1.1**
EZN	**Ezine**	**4.31**	**357**		PN	**Pn**	**06 49 30.9**	**+1.1**
OSC1	**CSNet OBS 1**	**4.33**	**116**		P	**Pn**	**06 49 29.9**	**-0.1**
OSC1					S	**Sn**	**06 50 16.6**	**-2.7**
BOZC	**Bozcaada**	**4.34**	**354**		PN	**Pn**	**06 49 31.0**	**+0.8**
SHUT	**Suhut-Afyon**	**4.36**	**45**		PN	**Pn**	**06 49 31.9**	**+1.3**
KLV	**Kalavryta, Ach**	**4.39**	**306**		P	**Pn**	**06 49 33.8**	**+2.8**
KLV	**Kalavryta, Ach**	**4.39**	**306**		P	**Pn**	**06 49 33.2**	**+2.2**
KLV	comp=N,1483µm,1.0s				AML	AML	06 50 23.1	
KLV	comp=E,2122µm,1.0s				AML	AML	06 50 27.1	
LIA	**Limnos Island**	**4.52**	**346**		P	**Pn**	**06 49 34.0**	**+1.3**
LIA	**Limnos Island**	**4.52**	**346**		P	**Pn**	**06 49 34.0**	**+1.3**
TVSB	**Tavsanli**	**4.53**	**29**		PN	**Pn**	**06 49 34.9**	**+2.1**
AXAR	**Agios Charalam**	**4.54**	**317**		P	**Pn**	**06 49 35.9**	**+3.0**
AXAR	**Agios Charalam**	**4.54**	**317**		P	**Pn**	**06 49 35.7**	**+2.8**
ALIK	**Aliki, Aigiali**	**4.54**	**308**		P	**Pn**	**06 49 36.1**	**+3.2**
KALE	**Kalithea**	**4.60**	**310**		P	**Pn**	**06 49 36.5**	**+2.7**
KALE	**Kalithea**	**4.60**	**310**		P	**Pn**	**06 49 36.7**	**+2.9**
KALE	comp=E,930µm,0.3s				AML	AML	06 50 37.1	
KALE	comp=N,1249µm,0.4s				AML	AML	06 50 37.7	
TRIZ	**Trizonia**	**4.63**	**309**		P	**Pn**	**06 49 37.4**	**+3.3**
TRIZ	**Trizonia**	**4.63**	**309**		P	**Pn**	**06 49 37.4**	**+3.3**
DRO	**Drossia**	**4.64**	**303**		P	**Pn**	**06 49 37.8**	**+3.5**
DRO	**Drossia**	**4.64**	**303**		P	**Pn**	**06 49 37.6**	**+3.3**
DRO	comp=N,2866µm,0.8s				AML	AML	06 50 31.2	
DRO	comp=E,1848µm,0.5s				AML	AML	06 50 34.2	
NEO	**Neokhori**	**4.66**	**325**		P	**Pn**	**06 49 37.0**	**+2.5**
NEO	**Neokhori**	**4.66**	**325**		P	**Pn**	**06 49 36.8**	**+2.3**
SERG	**Sergoula**	**4.67**	**310**		P	Pn	06 49 43.8	+9.1
GAZI	**Gazipasa**	**4.67**	**80**	*i*	P	**Pn**	**06 49 35.2**	**+0.5**
GAZI				*i*	S	**Sn**	**06 50 24.1**	**-3.6**
GAZI	comp=E,563nm,0.4s				IAML		06 50 29.0	
GAZI	comp=N,582nm,0.5s				IAML		06 50 30.0	
AKMS	**Akamas**	**4.70**	**94**		P	**Pn**	**06 49 35.1**	**+0.1**
AKMS					S	**Sn**	**06 50 26.6**	**-1.6**
AKMS	comp=N,16nm,0.2s				AML	AML	06 50 27.6	
AKMS	comp=N,16nm,0.2s				AML	AML	06 50 27.6	
AKMS	comp=N,20nm,0.3s				AML	AML	06 50 30.5	
AKMS	comp=N,20nm,0.3s				AML	AML	06 50 30.5	
GADA	**Gvkgeada**	**4.70**	**353**		P	**Pn**	**06 49 36.2**	**+1.1**
GADA	**Gvkgeada**	**4.70**	**353**		PN	**Pn**	**06 49 36.2**	**+1.1**
XOR	**Xorichti**	**4.72**	**326**		P	**Pn**	**06 49 37.6**	**+2.2**
XOR	**Xorichti**	**4.72**	**326**		P	**Pn**	**06 49 37.6**	**+2.2**
EFP	**Efpalio**	**4.77**	**309**		P	**Pn**	**06 49 39.4**	**+3.4**
EFP	**Efpalio**	**4.77**	**309**		P	**Pn**	**06 49 39.5**	**+3.4**
DOGA	**KONYA_Doganhis**	**4.80**	**56**	*i*	P	**Pn**	**06 49 39.0**	**+2.4**
DOGA	comp=E,290nm,0.6s				IAML		06 50 35.0	
DOGA	comp=N,450nm,0.7s				IAML		06 50 36.0	
VOL2	**Volos**	**4.83**	**324**		P	**Pn**	**06 49 41.3**	**+4.4**
LPK	**Lapseki**	**4.85**	**1**		PN	**Pn**	**06 49 38.4**	**+1.2**
RLS	**Riolos of Patr**	**4.86**	**303**		P	**Pn**	**06 49 40.5**	**+3.2**
RLS	**Riolos of Patr**	**4.86**	**303**		P	**Pn**	**06 49 40.4**	**+3.2**
ANX	**Ano Chora**	**4.86**	**311**		P	**Pn**	**06 49 40.3**	**+2.9**
ANX	**Ano Chora**	**4.86**	**311**		P	**Pn**	**06 49 40.7**	**+3.3**
GELI	**Tayfur-Gelibol**	**4.88**	**359**		PN	**Pn**	**06 49 38.8**	**+1.3**
ALFC	**Alefka**	**4.89**	**92**		P	**Pn**	**06 49 38.0**	**+0.2**
ALFC					S	**Sn**	**06 50 30.2**	**-2.9**
ALFC	comp=N,12nm,0.2s				AML	AML	06 50 32.3	
ALFC	comp=N,12nm,0.2s				AML	AML	06 50 32.3	
ALFC	comp=N,19nm,0.4s				AML	AML	06 50 32.7	
ALFC	comp=N,19nm,0.4s				AML	AML	06 50 32.7	
KRBG	**Karabiga-Canak**	**4.90**	**6**		PN	**Pn**	**06 49 39.4**	**+1.6**
AGG	**Agios Georgios**	**4.90**	**317**		P	**Pn**	**06 49 41.2**	**+3.3**
AGG	**Agios Georgios**	**4.90**	**317**		P	**Pn**	**06 49 40.9**	**+3.0**
AGG	**Agios Georgios**	**4.90**	**317**		P	**Pn**	**06 49 41.1**	**+3.2**
AGG	**Agios Georgios**	**4.90**	**317**			**Pn**	**06 49 41.0**	**+3.2**
NATA	**Nata**	**4.92**	**97**		P	**Pn**	**06 49 38.5**	**+0.3**
NATA	comp=N,40nm,0.4s				AML	AML	06 50 34.3	
NATA	comp=N,22nm,0.5s				AML	AML	06 50 39.5	
PAIG	**Paliouri**	**4.99**	**333**		P	**Pn**	**06 49 40.8**	**+1.8**
PAIG	**Paliouri**	**4.99**	**333**		P	**Pn**	**06 49 40.9**	**+1.8**
AXS	**Araxos**	**4.99**	**304**		P	**Pn**	**06 49 42.2**	**+3.2**
AXS	**Araxos**	**4.99**	**304**		P	**Pn**	**06 49 42.2**	**+3.2**
MAKR	**Makrakomi, Fth**	**5.01**	**316**		P	**Pn**	**06 49 43.0**	**+3.7**
MAKR	**Makrakomi, Fth**	**5.01**	**316**		P	**Pn**	**06 49 42.4**	**+3.0**
SMTH	**Samothraki Isl**	**5.02**	**350**		P	**Pn**	**06 49 40.3**	**+0.8**
SMTH	**Samothraki Isl**	**5.02**	**350**		P	**Pn**	**06 49 40.4**	**+0.9**
EVR	**Evrytania**	**5.13**	**313**		P	**Pn**	**06 49 44.6**	**+3.5**
EVR	**Evrytania**	**5.13**	**313**		P	**Pn**	**06 49 44.3**	**+3.2**
KMER	**Konya-Meram**	**5.13**	**62**	*i*	P	**Pn**	**06 49 43.9**	**+2.7**
KMER	comp=N,116nm,0.8s				IAML		06 50 47.0	
KMER	comp=E,104nm,0.5s				IAML		06 50 49.0	
LEF	**Lefka**	**5.13**	**93**	⇓	P	**Pn**	**06 49 40.6**	**-0.5**
LEF	**Lefka**	**5.13**	**93**	*i*	P	**Pn**	**06 49 40.6**	**-0.5**
LEF	comp=E,764nm,0.4s				IAML		06 50 39.0	
LEF	comp=N,917nm,0.2s				IAML		06 50 40.0	
MRMT	**Marmara Adasi**	**5.14**	**8**		PN	**Pn**	**06 49 42.4**	**+1.3**
AUBOZ	**BOZOYUK**	**5.15**	**31**		PN	**Pn**	**06 49 42.7**	**+1.4**
SZAC	**Souni**	**5.18**	**97**		P	**Pn**	**06 49 41.9**	**+0.2**
SZAC	comp=N,19nm,0.3s				AML	AML	06 50 40.4	
SZAC	comp=N,15nm,0.3s				AML	AML	06 50 42.0	
ERMK	**Ermenek**	**5.21**	**76**	*i*	P	**Pn**	**06 49 45.7**	**+3.4**
ERMK	comp=E,453nm,0.3s				IAML		06 50 47.0	
ERMK	comp=N,443nm,0.4s				IAML		06 50 52.0	
ENEZ	**Enez**	**5.23**	**356**		P	**Pn**	**06 49 44.1**	**+1.8**
OUR	**Ouranopolis**	**5.25**	**337**		P	**Pn**	**06 49 44.4**	**+1.9**
OUR	**Ouranopolis**	**5.25**	**337**		P	**Pn**	**06 49 44.4**	**+1.9**
OSC2	**CSNet OBS 4**	**5.26**	**116**		P	**Pn**	**06 49 43.3**	**+0.5**
THAS	**Thassos island**	**5.30**	**344**		P	**Pn**	**06 49 44.4**	**+1.1**
ALN	**Alexandroupoli**	**5.39**	**355**		P	**Pn**	**06 49 45.3**	**+1.3**
ALN	**Alexandroupoli**	**5.39**	**355**		P	**Pn**	**06 49 45.6**	**+1.1**
ALN	**Alexandroupoli**	**5.39**	**355**		P	**Pn**	**06 49 45.8**	**+1.2**
ALN	**Alexandroupoli**	**5.39**	**355**		Pn	**Pn**	**06 49 45.8**	**+1.2**
THL	**Klokotos Trika**	**5.46**	**319**		P	**Pn**	**06 49 48.5**	**+3.1**
THL	**Klokotos Trika**	**5.46**	**319**		P	**Pn**	**06 49 48.2**	**+2.8**
PLG	**Polygyros**	**5.46**	**334**		P	**Pn**	**06 49 47.5**	**+1.9**
PLG	**Polygyros**	**5.46**	**334**		P	**Pn**	**06 49 47.8**	**+2.3**
ASGA	**Asgata**	**5.47**	**96**		P	**Pn**	**06 49 45.7**	**+0.1**
ASGA	comp=N,6.4nm,0.3s				AML	AML	06 50 47.1	
ASGA	comp=N,12nm,0.4s				AML	AML	06 50 47.8	
CSS	**Mathiatis**	**5.51**	**94**		Pn	**Pn**	**06 49 46.3**	**+0.1**
CSS	**Mathiatis**	**5.51**	**94**		P	**Pn**	**06 49 46.5**	**+0.3**
CSS	comp=N,1.9nm,0.3s				AML	AML	06 50 49.0	
CSS	**Mathiatis**	**5.51**	**94**		Pn	**Pn**	**06 49 46.2**	**0.0**
ATHAL	**Athalassa**	**5.54**	**92**		P	**Pn**	**06 49 47.5**	**+0.8**
LIT	**Litokhoron**	**5.63**	**326**		P	**Pn**	**06 49 50.3**	**+2.5**
LIT	**Litokhoron**	**5.63**	**326**		P	**Pn**	**06 49 50.3**	**+2.5**
LIT	**Litokhoron**	**5.63**	**326**		Pn	**Pn**	**06 49 50.3**	**+2.5**
FSK	**Fiskardo**	**5.68**	**303**		P	**Pn**	**06 49 50.1**	**+1.7**
RDO	**Rodhopi**	**5.69**	**352**		P	**Pn**	**06 49 50.1**	**+1.5**
EVGI	**Lefkada island**	**5.69**	**305**		P	**Pn**	**06 49 50.1**	**+1.4**
KAVA	**Kavala**	**5.72**	**344**		P	**Pn**	**06 49 50.5**	**+1.5**
MVOU	**Mavrovouni**	**5.75**	**93**		P	**Pn**	**06 49 49.9**	**+0.5**
MVOU	comp=N,2.8nm,0.4s				AML	AML	06 50 59.6	
LKD2	**Lefkada island**	**5.78**	**306**		P	**Pn**	**06 49 49.8**	**-0.1**
HORT	**Hortiatis**	**5.79**	**332**		P	**Pn**	**06 49 52.8**	**+2.8**
THE	**Thessaloniki**	**5.87**	**332**		P	**Pn**	**06 49 54.1**	**+3.0**
SOH	**Sokhos**	**5.89**	**335**		P	**Pn**	**06 49 54.0**	**+2.6**
SRS	**Serrai**	**6.08**	**338**		P	**Pn**	**06 49 56.0**	**+2.0**
PARAL	**Paralimni**	**6.09**	**93**		P	**Pn**	**06 49 55.7**	**+1.7**
PARAL	comp=N,4.6nm,0.8s				AML	AML	06 51 11.2	
PARAL	comp=N,3.7nm,0.6s				AML	AML	06 51 11.8	
MDUB	**Mudurnu**	**6.12**	**35**			**Pn**	**06 49 57.8**	**+3.1**
KZN	**Kozani**	**6.13**	**323**		P	**Pn**	**06 49 58.5**	**+3.7**
KZN	**Kozani**	**6.13**	**323**		P	**Pn**	**06 49 58.2**	**+3.4**
NVR	**Nevrokopi**	**6.22**	**340**		P	**Pn**	**06 49 57.9**	**+2.0**
SWA2		**6.33**	**189**		P	**Pn**	**06 49 58.6**	**+1.2**
SWA2	baz=192				AMP		06 51 00.0	
RZN	baz=192 **Rozhen**	**6.34**	**347**		P	**Pn**	**06 49 59.5**	**+1.8**
KNT	**Kendrikon**	**6.35**	**334**		P	**Pn**	**06 50 00.8**	**+3.1**
IGT	**Igoumenitsa**	**6.41**	**311**		P	**Pn**	**06 49 59.7**	**+1.2**
MMB	**Musomiste**	**6.48**	**340**		P	**Pn**	**06 50 01.1**	**+1.7**
BR231	**Keskin MP Arra**	**6.51**	**47**			**Pn**	**06 50 02.1**	**+2.1**
VAV	**Valandovo**	**6.61**	**332**	*i*	P	**Pn**	**06 50 04.6**	**+3.3**
LSK	**Leskovik**	**6.64**	**316**		P	**Pn**	**06 50 06.1**	**+4.3**
HMYD	**Mayadein**	**6.70**	**147**		P	**Pn**	**06 50 02.7**	**+0.2**
PLD	baz=149 **Plovdiv**	**6.75**	**348**		P	**Pn**	**06 50 05.9**	**+2.8**
HNAT	**Natroun**	**6.76**	**149**		P	**Pn**	**06 50 03.5**	**+0.1**
KEK	baz=151 **Kerkira**	**6.85**	**310**		P	**Pn**	**06 50 04.6**	**+0.1**
HLW	**Helwan**	**6.90**	**144**		P	**Pn**	**06 50 05.2**	**0.0**
HLW	baz=146				S	**Sn**	**06 51 18.3**	**-3.9**
KKB	baz=146 **Krupnik**	**6.92**	**337**		P	**Pn**	**06 50 07.8**	**+2.3**
BR131	**Keskin Array S**	**6.97**	**51**	*i*	P	**Pn**	**06 50 07.9**	**+1.6**
BR131	**Keskin Array S**	**6.97**	**51**			**Pn**	**06 50 07.9**	**+1.6**
BRTR	**Keskin Array B**	**6.97**	**51**		P	**Pn**	**06 50 07.3**	**+1.0**
BRTR	comp=N,3.4nm,0.3s,baz=222,slow=14,SNR=46				S	**Sn**	**06 51 24.4**	**+0.3**
BRTR	comp=N,2.2nm,0.3s,baz=215,slow=24,SNR=7.3				LR	LR	06 53 10.4	
BRTR	comp=N,9.9nm,18.2s,baz=247,slow=41 **Keskin Array B**	**6.97**	**51**	*i*	P	**Pn**	**06 50 07.9**	**+1.6**
BRTR	comp=Z,16nm,0.5s				pmax	pmax		
BRTR	**Keskin Array B**	**6.97**	**51**			**Pn**	**06 50 07.7**	**+1.5**
STIP	**Stip**	**7.08**	**332**	*i*	P	**Pn**	**06 50 10.6**	**+3.0**
KOT	**Kottamia**	**7.09**	**140**		P	**Pn**	**06 50 07.0**	**-0.8**
KOT	baz=142				S	**Sn**	**06 51 22.5**	**-4.4**
HSAF	baz=142 **As Saff**	**7.20**	**143**		P	**Pn**	**06 50 08.9**	**-0.4**
HHAG	baz=145 **Hagoal**	**7.21**	**139**		P	**Pn**	**06 50 08.1**	**-1.4**
HHAG	baz=141				S	**Sn**	**06 51 24.8**	**-5.2**
OHR	baz=141 **Ohrid**	**7.22**	**322**	*i*	P	**Pn**	**06 50 14.2**	**+4.5**
PGB	**Panagyurishte**	**7.28**	**345**		P	**Pn**	**06 50 12.7**	**+2.3**
GLL	**Jalalah**	**7.31**	**143**		P	**Pn**	**06 50 10.1**	**-0.7**
HNTI	baz=145 **Hanita**	**7.47**	**106**		Pn	**Pn**	**06 50 13.6**	**+0.5**
HNTI					Sn	**Sn**	**06 51 31.9**	**-4.5**
OFRI	**`Ofer**	**7.51**	**110**		Pn	**Pn**	**06 50 13.3**	**-0.3**
OFRI					Sn	**Sn**	**06 51 32.9**	**-4.4**
VTS	**Vitosha**	**7.57**	**341**		P	**Pn**	**06 50 17.7**	**+3.3**
DQRL	**Deir Qamar**	**7.59**	**101**	*eP*		**Pn**	**06 50 14.8**	**0.0**
BHL	**Bhannes**	**7.60**	**100**	*eP*		**Pn**	**06 50 13.6**	**-1.3**
SKO	**Skopje**	**7.62**	**329**	*i*	P	**Pn**	**06 50 19.0**	**+4.0**
BLGI	**Bet Lehem HaGe**	**7.62**	**109**		Pn	**Pn**	**06 50 14.3**	**-0.8**
BLGI					Sn	**Sn**	**06 51 35.7**	**-4.2**
MMA0B	**Mount Meron ar**	**7.68**	**106**		Pn	**Pn**	**06 50 15.4**	**-0.5**
MMA0B					Sn	**Sn**	**06 51 38.0**	**-3.5**
MMAI	**Mount Meron Ar**	**7.68**	**106**		P	**Pn**	**06 50 14.9**	**-1.0**
MMAI	comp=Z,35nm,0.3s,baz=306,slow=12,SNR=51				S	**Sn**	**06 51 37.9**	**-3.6**
PRD	comp=Z,225nm,0.3s,baz=292,slow=24,SNR=16 **Provadia**	**7.70**	**4**		P	**Pn**	**06 50 17.6**	**+1.6**
SUZ	**Suez**	**7.70**	**136**		P	**Pn**	**06 50 15.9**	**-0.3**
SLTI	baz=137 **Sal'it**	**7.72**	**113**		Pn	**Pn**	**06 50 16.7**	**+0.3**
SLTI					Sn	**Sn**	**06 51 38.0**	**-4.3**
HWQ	**Hawqa**	**7.75**	**96**	*eP*		**Pn**	**06 50 16.6**	**-0.4**
HWQ				*eP*			06 50 16.7	
NEF	**NEVSHA**	**7.75**	**3**		P	**Pn**	**06 50 19.4**	**+2.5**
PVL	**Pavlikeni**	**7.76**	**353**		P	**Pn**	**06 50 17.9**	**+1.1**
SZH	**Strazhica**	**7.76**	**356**		P	**Pn**	**06 50 19.2**	**+2.3**
GEM	**Giv'at Ha'Em**	**7.81**	**105**		Pn	**Pn**	**06 50 17.0**	**-0.7**
GEM					Sn	**Sn**	**06 51 40.6**	**-4.1**
ILGA	**Ilgaz**	**7.85**	**43**			**Pn**	**06 50 18.5**	**+0.1**
NATI	**Neve Ativ**	**7.86**	**104**		Pn	**Pn**	**06 50 17.5**	**-0.8**
NATI					Sn	**Sn**	**06 51 42.2**	**-3.4**
RCY	**Rachaya**	**7.86**	**102**	*eP*		**Pn**	**06 50 17.7**	**-0.8**
TIR	**Tirane**	**7.88**	**320**		P	**Pn**	**06 50 18.0**	**-0.5**
TIR	**Tirane**	**7.88**	**320**		Pn	**Pn**	**06 50 17.9**	**-0.5**
SCTE	**Santa Cesarea**	**7.90**	**308**		Pn	**Pn**	**06 50 18.0**	**-0.8**
MMLI	**Mount Malkishu**	**7.92**	**110**		Pn	**Pn**	**06 50 19.1**	**-0.1**
NBNS	**Bani Suef**	**7.93**	**149**		P	**Pn**	**06 50 18.7**	**-0.6**
ZAF	baz=151 **Zafarana**	**7.98**	**140**		P

NKME *i* Sn **Sn** **06 52 17.2 -5.7**
HCY Herceg Novi 9.38 320 *e*Pn **Pn** **06 50 39.7 +0.7**
HCY *i* Sn **Sn** **06 52 16.2 -6.6**
HCY Herceg Novi 9.38 320 *e*Pn **Pn** **06 50 36.2 -2.8**
NKY Niksic 9.39 323 *e*Pn **Pn** **06 50 40.1 +0.8**
NKY *i* Sn **Sn** **06 52 17.8 -5.5**
SG1 Sgolgore (BA) 9.46 307 *e*P **Pn** **06 50 39.1 -1.1**
SG1 S Sn 06 52 14.9 -10
BAI Bari 9.48 309 *e*P **Pn** **06 50 42.8 +2.5**
BAI S **Sn** **06 52 20.0 -5.2**
PLE Pljevlja 9.60 327 *e*Pn **Pn** **06 50 43.1 +0.9**
PLE *i* Sn **Sn** **06 52 22.7 -5.8**
BRY Bratogost 9.68 322 *e*Pn **Pn** **06 50 44.2 +0.9**
BRY *i* Sn **Sn** **06 52 24.8 -5.6**
BRY Bratogost 9.68 322 *e*Pn **Pn** **06 50 43.8 +0.5**
CFR Carcaliu 9.72 6 ⇑P **Pn** **06 50 45.4 +1.8**
UPM Unac-Piva 9.73 324 *e*Pn **Pn** **06 50 44.7 +0.7**
UPM *i* Sn **Sn** **06 52 25.9 -5.7**
UPM Unac-Piva 9.73 324 *e*Pn **Pn** **06 50 44.5 +0.5**
TR1 Tor 1 9.74 138 P **Pn** **06 50 42.6 -1.4**
baz=140
TLCR 9.80 9 ⇑P **Pn** **06 50 46.3 +1.5**
HERR Herculane 9.89 342 ⇑P **Pn** **06 50 47.1 +1.1**
ARR Arges 9.96 352 ⇑P **Pn** **06 50 48.2 +1.2**
DIVS Divibare 9.97 331 *e*Pn **Pn** **06 50 48.7 +1.5**
DIVS Divibare 9.97 331 **Pn** **06 50 47.3 +0.1**
MLR Muntele Rosu 9.98 357 P **Pn** **06 50 49.7 +2.4**
comp=Z,0.6nm,0.3s,baz=198,slow=4.4,SNR=24
MLR LR LR 06 55 19.8
comp=Z,115nm,19.8s,baz=184,slow=42
MLR Muntele Rosu 9.98 357 ⇑P **Pn** **06 50 49.7 +2.4**
MLR Muntele Rosu 9.98 357 P **Pn** **06 50 49.2 +1.9**
MLR Muntele Rosu 9.98 357 **Pn** **06 50 49.2 +1.9**
VOIR 9.98 354 ⇑P **Pn** **06 50 48.8 +1.5**
MDVR Moldovita 9.99 339 ⇑P **Pn** **06 50 50.2 +2.8**
BBLS Lazići 10.02 328 *e*Pn **Pn** **06 50 48.1 +0.2**
VAE Valguarnera 10.03 285 S **Sn** **06 52 32.2 -6.7**
comp=Z,5.4nm,0.3s,baz=146,slow=21,SNR=2.3
RAFF Raffo Rosso 10.04 283 **Pn** **06 50 46.9 -1.2**
HHRG Al Ghardaqah 10.17 142 P **Pn** **06 50 51.1 +1.1**
baz=144
HDK1 Dakhla 10.22 166 P **Pn** **06 50 51.1 +0.4**
baz=167
GZR Gura Zlata 10.29 345 ⇑P **Pn** **06 50 52.7 +1.1**
PLOR Plostina 10.33 0 ⇑P **Pn** **06 50 54.4 +2.4**
VRI Vrincioaia 10.34 0 ⇑P **Pn** **06 50 54.1 +1.9**
HAPS Han Pijesak,BI 10.39 328 *e*Pn **Pn** **06 50 51.0 -2.0**
DOPR Dopca 10.48 355 ⇑P **Pn** **06 50 55.4 +1.3**
GTR Jabal at Tayr 10.53 160 P **Pn** **06 50 54.7 -0.2**
baz=161
TEKS Tekeris 10.53 331 *e*Pn **Pn** **06 50 57.1 +2.3**
OZUR 10.59 357 ⇑P **Pn** **06 50 57.7 +2.2**
BZS Buzias 10.78 341 ⇓P **Pn** **06 50 60.0 +1.8**
FRGS Fruska Gora 10.94 334 *e*Pn **Pn** **06 51 03.3 +2.9**
SIRR Siria 11.38 342 ⇑P **Pn** **06 51 08.3 +2.0**
BIZ Bicaz 11.42 358 ⇑P **Pn** **06 51 08.8 +1.9**
BLY Banja Luka 11.71 325 *e*Pn **Pn** **06 51 09.8 -1.0**
BURAR Bucovina Array 12.14 355 ⇑P **Pn** **06 51 20.1 +3.3**
BURAR Bucovina Array 12.14 355 **Pn** **06 51 16.4 -0.4**
MORH Mrgy, Hungar 12.27 333 *e*Pn **Pn** **06 51 17.2 -1.2**
NRCA Norcia 12.77 309 **Pn** **06 51 24.6 -0.8**
RIY Rijeka 13.46 320 *e*Pn **Pn** **06 51 34.8 +0.3**
UZH Uzhgorod 13.49 348 ⇑*i*P **Pn** **06 51 37.6 +2.7**
CEY Cerknica 13.77 322 *e*Pn **Pn** **06 51 35.6 -3.1**
KOLS Kolonicke sedl 13.79 348 *e*P **Pn** **06 51 40.2 +1.3**
KOLS Kolonicke sedl 13.79 348 *e*PN **Pn** **06 51 40.2 +1.3**
CRVS Cervenica-Dubn 13.91 346 *e*P **P** **06 51 44.0 -2.5**
CRVS Cervenica-Dubn 13.91 346 *e*PN **P** **06 51 43.9 -2.5**
KEST Kesra 14.06 276 P **Pn** **06 51 43.9 +1.2**
comp=Z,0.3nm,0.3s,baz=208,slow=22,SNR=8.8
SOKA Soboth 14.15 326 *e*Pn **Pn** **06 51 44.8 +1.0**
comp=Z,7.3nm,0.3s,SNR=6.2
SOKA Sn **Sn** **06 54 10.6 -8.7**
comp=Z,4.6nm,0.7s
VYHS Vyhne 14.19 338 *e*P **P** **06 51 50.6 +1.0**
VYHS Vyhne 14.19 338 *e*PN **P** **06 51 50.6 +1.0**
CASP Castiglione de 14.21 305 Pn **Pn** **06 51 43.8 -0.7**
OBKA Obir 14.26 324 *e*Pn **Pn** **06 51 45.6 +0.4**
comp=Z,3.3nm,0.4s
OBKA *e*Sn Sn 06 54 11.9 -10
comp=Z,7.9nm,0.6s
ARSA Arzberg 14.37 328 *e*Pn **Pn** **06 51 47.1 +0.6**
comp=Z,1.6nm,0.4s
KWP Kalwaria Pacla 14.40 350 *e*P **P** **06 51 51.4 -0.5**
MODS Modra-Piesok 14.60 335 *e*P **P** **06 51 52.9 -1.2**
MODS Modra-Piesok 14.60 335 *e*PN **P** **06 51 52.9 -1.2**
NIE Niedzica 14.65 343 *e*P **Pn** **06 51 51.9 +1.7**
PRED Cave del Predi 14.69 322 **Pn** **06 51 49.4 -1.4**
CONA Conrad Observa 14.76 330 *e*Pn **Pn** **06 51 52.9 +1.2**
comp=Z,3.7nm,0.6s
MYKA Terra Mystica 14.78 323 *e*Pn **P** **06 51 55.9 -0.3**
comp=Z,9.4nm,0.4s
SHA1 Shidzhatmaz 14.81 52 *i* P **P** **06 51 55.7 -1.1**
JAVC Velka Javorina 14.88 336 *e*P **Pn** **06 51 54.7 +1.5**
KIV Kislovodsk 14.94 51 *e*P **P** **06 51 58.4 +0.4**
KIV pmax pmax
comp=Z,80nm,1.1s
KIV Kislovodsk 14.94 51 **Pn** **06 51 55.4 +1.5**
KBZ Khabaz 14.96 52 P **P** **06 51 59.7 +1.5**
comp=Z,1.5nm,0.3s,baz=236,slow=7.5,SNR=49
KBZ Khabaz 14.96 52*c e*P **P** **06 52 00.0 +1.9**
KBZ pmax pmax
comp=Z,7.0nm,0.5s
TEOL Teolo 15.03 315 **Pn** **06 51 53.3 -1.7**
ZOU Zoufplan 15.07 321 **Pn** **06 51 55.1 -0.6**
CIMO Cimolais 15.19 320 **Pn** **06 51 55.4 -1.7**
CIMO IAmb IAmb 06 52 02.1
comp=Z,23nm,0.6s
ZEI Tsey 15.23 56 *e*P **P** **06 52 00.6 -0.7**
ZEI pmax pmax
comp=Z,21nm,1.1s
KBA Koelnbreinsper 15.24 323 *e*Pn **Pn** **06 51 58.1 +0.2**
comp=Z,5.7nm,0.3s,SNR=9.5
KBA Sn **Sn** **06 54 37.4 -8.5**
comp=Z,1.4nm,0.4s
AKASG Malin Array Be 15.29 6 P **Pn** **06 51 58.8 +0.4**
comp=Z,20nm,0.3s,baz=196,slow=11,SNR=26
AKASG Malin Array Be 15.29 6*c i*P **Pn** **06 51 59.7 +1.3**
AKASG pmax pmax
comp=Z,44nm,0.5s
AKBB Malin Array Si 15.29 6 P **Pn** **06 51 58.0 -0.4**
AKBB pmax pmax
comp=Z,27nm,0.7s
AKBB Malin Array Si 15.29 6 **Pn** **06 51 58.0 -0.4**
AKBB IAmb IAmb 06 52 02.9
comp=Z,27nm,0.7s
MOA Molln 15.38 327 *e*Pn **P** **06 52 02.7 0.0**
comp=Z,13nm,0.7s,SNR=7.4
MOA Sn **Sn** **06 54 41.5 -7.3**
comp=Z,5.4nm,0.9s
ABTA Abfaltersbach 15.43 321 *i* Pn **Pn** **06 52 00.2 -0.1**
comp=Z,14nm,0.5s
ABTA Sn Sn 06 54 39.2 -11
comp=Z,6.5nm,0.5s
CTI Castel Tesino 15.45 317 P **Pn** **06 51 58.8 -1.7**
CTI pmax pmax
comp=Z,18nm,0.7s
CTI Castel Tesino 15.45 317 **Pn** **06 51 58.8 -1.7**
OJC Ojcow 15.52 343 *e*P **P** **06 52 04.6 +0.4**
OJC Ojcow 15.52 343 P **Pn** **06 52 00.3 -0.9**
OJC pmax pmax
comp=Z,23nm,0.9s
OJC Ojcow 15.52 343 **Pn** **06 52 00.3 -0.9**
OKC Ostrava-Krasne 15.60 339 *e*P **P** **06 52 05.4 +0.2**
OKC *ex* x 06 52 12.9
OKC Ostrava-Krasne 15.60 339 *e*P **P** **06 52 05.4 +0.2**
VRAC Vranov 15.63 335 P **Pn** **06 52 04.0 +1.3**
comp=Z,1.4nm,0.3s,baz=146,slow=9.8,SNR=13
MORC Moravsky Berou 15.72 338 *e*P **P** **06 52 07.1 +0.5**
MORC Moravsky Berou 15.72 338 P **Pn** **06 52 04.0 0.0**
MORC pmax pmax
comp=Z,26nm,0.7s
MORC Moravsky Berou 15.72 338 **Pn** **06 52 04.0 0.0**
MORC IAmb IAmb 06 52 07.8
comp=Z,26nm,0.7s
KRLC Kraliky 16.23 337 *e*P **P** **06 52 11.3 -0.9**
KRLC Kraliky 16.23 337 *e*P **P** **06 52 11.3 -0.9**
WTTA Wattenberg 16.23 321 *e*Pn **Pn** **06 52 11.1 +0.7**
comp=Z,14nm,0.4s,SNR=10
WTTA *e*Sn **Sn** **06 55 00.1 -10**
comp=Z,4.0nm,0.4s
WATA Walderalm 16.30 321 *e*Pn **Pn** **06 52 11.2 -0.1**
comp=Z,16nm,0.5s,SNR=7.3

GEC2 GERESS Array S 16.38 328 **Pn** **06 52 12.3 +0.1**
GEC2 IAmb IAmb 06 52 16.0
comp=Z,29nm,0.7s
GERES GERESS Array B 16.38 328 P **Pn** **06 52 12.3 +0.1**
comp=Z,3.3nm,0.3s,baz=138,slow=12,SNR=81
SQTA Sankt Quirin 16.42 320 *e*Pn **Pn** **06 52 13.2 +0.5**
comp=Z,16nm,0.4s,SNR=5.0
FETA Feichten 16.55 319 *e*Pn **P** **06 52 15.5 -0.4**
comp=Z,11nm,0.5s,SNR=10
FETA Sn **Sn** **06 55 07.2 -10**
comp=Z,7.1nm,0.9s
MOTA Moosalm 16.55 320 *e*Pn **Pn** **06 52 14.9 +0.4**
comp=Z,5.4nm,0.4s
MOTA *e*Sn **Sn** **06 55 07.4 -10**
comp=Z,5.6nm,0.7s
FUORN Ofenpass-Fuorn 16.56 317 P **Pn** **06 52 15.1 +0.4**
DPC Dobruska-Polom 16.61 336 *e*P **P** **06 52 15.9 -0.5**
DPC Dobruska-Polom 16.61 336 *e*P **P** **06 52 15.9 -0.5**
KHC Kasperske Hory 16.65 329 *e*P **P** **06 52 16.2 -0.6**
KHC *ex* x 06 52 18.3
KHC Kasperske Hory 16.65 329*c e*P **P** **06 52 16.3 -0.6**
KHC pmax pmax
comp=Z,79nm,0.6s
KHC Kasperske Hory 16.65 329 P **Pn** **06 52 15.5 0.0**
GOPC GO Pecny, Ondr 16.79 333 *e*P **Pn** **06 52 17.4 +0.2**
GOPC GO Pecny, Ondr 16.79 333 *e*P **Pn** **06 52 17.4 +0.2**
RETA Reutte 16.82 320 *e*Pn **P** **06 52 18.3 -0.5**
comp=Z,5.7nm,0.3s
RETA *e*Sn **Sn** **06 55 13.2 -11**
comp=Z,5.4nm,0.5s
OSTC Ostas 16.82 337 *e*P **Pn** **06 52 18.0 +0.3**
UPC Upice 16.85 336 *e*P **Pn** **06 52 18.3 +0.3**
UPC Upice 16.85 336 *e*P **Pn** **06 52 18.3 +0.3**
CHVC Chvalec 16.90 336 *e*P **Pn** **06 52 19.0 +0.3**
PBCC Pribram 16.91 331 *e*P **P** **06 52 19.8 +0.1**
PRU Pruhonice 16.94 332 *e*P **Pn** **06 52 19.2 +0.2**
PRU *ex* x 06 52 20.6
PRU Pruhonice 16.94 332 *e*P **Pn** **06 52 19.2 +0.2**
TUE Stuetta 16.99 315 P **Pn** **06 52 19.7 -0.3**
PRA Prague 17.05 332 *e*P **P** **06 52 22.4 +1.2**
PRA Prague 17.05 332 *e*P **P** **06 52 22.4 +1.2**
KSP Ksiaz 17.05 337 *e*P **Pn** **06 52 20.8 +0.4**
DAVA Damuels 17.17 318 *e*Pn **Pn** **06 52 22.1 +0.1**
comp=Z,26nm,0.5s,SNR=8.6
PVCC Panska Ves 17.37 333 *e*P **P** **06 52 26.1 +1.4**
PVCC Panska Ves 17.37 333 *e*P **P** **06 52 26.1 +1.4**
BRG Berggiesshubel 17.88 333 *i* P **Pn** **06 52 31.2 +0.6**
comp=Z,19nm,0.7s
BRG Berggiesshubel 17.88 333 *i* P **Pn** **06 52 31.2 +0.6**
BRG pmax pmax
comp=Z,19nm,0.7s
BNI Bardonecchia 17.92 308 P **P** **06 52 29.2 -1.8**
BNI pmax pmax
comp=Z,8.0nm,0.8s
BNI Bardonecchia 17.92 308 P **P** **06 52 29.2 -1.8**
VORD Divnogorie 17.95 27 *e*P **Pn** **06 52 32.0 +0.6**
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 18.11 26 *e*P **Pn** **06 52 33.7 +0.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
SENIN Lac Senin/Sane 18.14 313 P **P** **06 52 33.3 -0.1**
CLL Collm 18.58 332 *e*P **P** **06 52 38.0 -0.1**
CLL ⇓*i*Pmax 06 52 39.4
comp=Z,20nm,0.5s
CLL *i* pP **pP** **06 52 48.9 -3.2**
CLL Collm 18.58 332 ⇓*i*P **Pn** **06 52 39.4 +0.4**
CLL pmax pmax
comp=Z,20nm,0.5s
CLL Collm 18.58 332 P **P** **06 52 37.6 -0.5**
BFO Black Forest 18.63 319 P **P** **06 52 38.4 -0.3**
BFO pmax pmax
comp=Z,11nm,0.6s
BFO Black Forest 18.63 319 P **P** **06 52 38.4 -0.3**
SUW Suwalki 18.65 354 *e*P **Pn** **06 52 39.5 -0.4**
GKP Gorka Klasztor 18.95 342 *e*P **Pn** **06 52 42.8 -0.5**
VRH Novokhopyorsk 19.08 30 *e*P **P** **06 52 44.1 +0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 19.18 23 *e*P **Pn** **06 52 46.5 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ECH Echery 19.20 317 P **P** **06 52 44.7 -0.2**
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 19.20 317 P **P** **06 52 44.7 -0.2**
SSB Saint Sauveur 19.39 307 P **P** **06 52 46.7 -0.4**
SSB pmax pmax
comp=Z,12nm,0.6s
SSB Saint Sauveur 19.39 307 P **P** **06 52 46.6 -0.4**
OBN Obninsk 20.77 16*d e*P **P** **06 53 02.3 +0.6**
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,78nm,20.0s
BHOU Houvegnez 21.06 321 ⇑P **P** **06 53 06.2 +1.2**
BHOU *x* x 06 53 08.6
BHOU pP **pP** **06 53 18.7 -0.5**
BTNL Ternell 21.14 322 P **P** **06 53 06.4 +0.5**
BTNL *x* x 06 53 09.3
BSD Bornholm Skovb 21.20 341 *e* **P** **06 53 03.8 -2.6**
baz=140,slow=10
BSD *i* P **P** **06 53 05.0 -1.4**
MEM Membach 21.22 322 ⇑P **P** **06 53 07.2 +0.5**
MEM *x* x 06 53 10.0
BCLA Clavier 21.46 321 ⇑P **P** **06 53 09.8 +0.5**
BCLA pP **pP** **06 53 23.8 +0.2**
BCLA sP **sP** **06 53 33.4 +1.3**
BGES Gesves 21.55 320 ⇑P **P** **06 53 11.0 +0.8**
BGES *x* x 06 53 13.4
BGES pP **pP** **06 53 24.9 +0.3**
DOU Dourbes 21.65 319 ⇑P **P** **06 53 11.1 -0.1**
comp=Z,22nm,0.7s
BMRD Maredsous 21.68 320 ⇑P **P** **06 53 12.0 +0.5**
CLF Chambon-Foret 21.95 312 P **P** **06 53 14.1 -0.5**
CLF IAmb IAmb 06 53 41.7
comp=Z,18nm,0.8s
SNF Seneffe 22.05 320 *x* P **P** **06 53 16.2 +0.7**
ESBB Sonseca Array 24.53 289 P **P** **06 53 40.4 +0.6**
ESDC Sonseca Array 24.53 289 P **P** **06 53 41.0 +1.2**
comp=Z,7.2nm,0.6s,baz=80,slow=9.8,SNR=42
ESDC Sonseca Array 24.53 289 P **P** **06 53 38.7 -1.1**
GEYT Alibeck 25.30 75 P **P** **06 53 49.5 +2.7**
comp=Z,22nm,0.4s,baz=289,slow=9.2,SNR=27
GEYT Alibeck 25.30 75 P **P** **06 53 47.4 +0.7**
GYA0B ALIBECK ARRAY 25.30 75 P **P** **06 53 49.6 +2.9**
FINES FINESS Array B 25.95 359 P **P** **06 53 51.8 -0.6**
comp=Z,3.7nm,0.6s,baz=162,slow=11,SNR=15
FIA1 FINESS Array S 25.95 359 P **P** **06 53 52.1 -0.3**
HFS Hagfors 26.02 345 P **P** **06 53 51.8 -1.3**
comp=Z,4.5nm,0.5s,baz=161,slow=9.4,SNR=12
KLMR Klimovskoe 26.67 14 P **P** **06 53 55.2 -3.6**
KLMR pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 26.67 14 P **P** **06 53 55.3 -3.6**
KLMR AMP 06 53 58.6
comp=Z,5.0nm,0.8s
NC602 NORSAR Array S 27.04 344 P **P** **06 54 01.0 -1.2**
NC602 IAmb IAmb 06 54 12.4
comp=Z,17nm,1.2s
NC602 NORSAR Array S 27.04 344 *e*P **P** **06 54 00.6 -1.6**
AKTO Aktyubinsk 27.13 47 P **P** **06 54 04.8 +1.6**
comp=Z,1.9nm,0.4s,baz=289,slow=7.5,SNR=3.8
AKTO Aktyubinsk 27.13 47 P **P** **06 54 05.5 +2.4**
NAO01 NORSAR Array S 27.28 343 P **P** **06 54 03.5 -0.9**
NAO01 IAmb IAmb 06 54 09.1
comp=Z,34nm,1.4s
NC405 NORSAR Array S 27.33 344 P **P** **06 54 02.9 -1.9**
NC405 IAmb IAmb 06 54 16.9
comp=Z,28nm,1.4s
NB201 NORSAR Array S 27.37 344 P **P** **06 54 03.8 -1.4**
NB2 NORSAR Subarra 27.38 344 P **P** **06 54 03.2 -2.1**
comp=Z,0.6nm,0.4s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.38 344 P **P** **06 54 03.2 -2.1**
baz=156,slow=9.3
NOA NORSAR Array B 27.38 344 P **P** **06 54 03.9 -1.4**
comp=Z,0.4nm,0.5s,baz=147,slow=7.5,SNR=4.2
NOA LR LR 07 05 32.1
comp=Z,22nm,21.3s,baz=300,slow=38
NBO00 NORSAR Array S 27.47 343 P **P** **06 54 05.2 -1.0**
NBO00 NORSAR Array S 27.47 343 *e*P **P** **06 54 04.4 -1.7**
NC204 NORSAR Array S 27.69 343 P **P** **06 54 07.4 -0.7**
NC204 IAmb IAmb 06 54 18.7
comp=Z,17nm,0.9s

NC204 NORSAR Array S 27.69 343 *e*P **P** **06 54 06.8 -1.3**
AB31 Akbulak array 27.92 50 *i* P **P** **06 54 11.9 +1.7**
ABKAR Akbulak array 27.92 50 P **P** **06 54 10.8 +0.6**
EKA Eskdalemuir Ar 28.46 323 P **P** **06 54 14.4 -0.5**
comp=Z,2.8nm,0.3s,baz=118,slow=10.0,SNR=15
ESK Eskdalemuir 28.47 323 P **P** **06 54 13.5 -1.5**
ESK pmax pmax
comp=Z,11nm,0.9s
ESK Eskdalemuir 28.47 323 P **P** **06 54 13.5 -1.5**
ESK IAmb IAmb 06 54 35.6
comp=Z,11nm,0.8s
DOMB Dombas 28.76 343 *e*P **P** **06 54 16.9 -0.7**
ARU Arti 30.06 36 P **P** **06 54 29.8 +0.7**
comp=Z,1.4nm,0.3s,baz=228,slow=14,SNR=2.9
ARU Arti 30.06 36*c i*P **P** **06 54 29.6 +0.5**
ARU *PP **pwP** **06 54 46.7 -0.7**
ARU 06 55 25.2
ARU S **S** **06 59 24.4 +2.1**
ARU SS **SnSn** **07 00 59.7 -1.2**
ARU pmax pmax
comp=Z,7.0nm,1.5s
ARU Arti 30.06 36 P **P** **06 54 30.2 +1.1**
MOR8 Moi Rana 31.52 351 *e*P **P** **06 54 41.4 -0.5**
TOA0 Torodi Ar. Sit 31.64 232 P **P** **06 54 44.0 +0.5**
TOA0 IAmb IAmb 06 55 04.2
comp=Z,5.5nm,0.7s
TORD Torodi Ar. Bea 31.64 232 P **P** **06 54 45.9 +2.4**
comp=Z,3.5nm,0.5s,baz=32,slow=8.9,SNR=41
TORD LR LR 07 10 22.3
comp=Z,36nm,21.7s,baz=330,slow=41
TORD Torodi Ar. Bea 31.64 232 P **P** **06 54 45.8 +2.4**
STEI Steigen 33.10 352 *e*P **P** **06 54 55.3 -0.3**
CHGR Chuyangaron 33.85 72 P **P** **06 55 02.0 -0.7**
ARCES ARCESS Array B 34.08 359 P **P** **06 55 03.2 -1.0**
comp=Z,1.5nm,0.4s,baz=178,slow=8.9,SNR=29
KK31 Karatay Array 34.47 64 *i* P **P** **06 55 10.4 +2.5**
KK31 Karatay Array 34.47 64 P **P** **06 55 07.3 -0.6**
KK31 IAmb IAmb 06 55 11.9
comp=Z,8.6nm,0.8s
KKAR Karatay Array 34.47 64 P **P** **06 55 08.0 +0.1**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 34.47 64 P **P** **06 55 09.1 +1.2**
KKAR IAmb IAmb 06 55 11.9
comp=Z,8.6nm,0.8s
KKAR Karatay Array 34.47 64 P **P** **06 55 08.0 +0.1**
GAR Garm 34.70 71 P **P** **06 55 09.8 -0.2**
BTK Batken 34.95 69 P **P** **06 55 11.8 -0.3**
BTK pmax pmax
comp=Z,10.0nm,1.2s
BTK Batken 34.95 69 P **P** **06 55 11.8 -0.3**
BTK IAmb IAmb 06 55 15.7
comp=Z,10.0nm,1.1s
AML Almayashu 36.88 65 P **P** **06 55 32.1 +3.1**
SNR=9.7
EKS2 Erkin-Say 36.89 64 P **P** **06 55 32.1 +3.4**
SNR=16
MACI Morro de la Ar 37.11 271 P **P** **06 55 29.1 -1.7**
AAK Ala-Archa 37.42 64 P **P** **06 55 36.8 +3.4**
SNR=20
AAK Ala-Archa 37.42 64*ce*P **P** **06 55 36.4 +3.1**
AAK pmax pmax
comp=Z,12nm,0.4s
UCH Uchtor 37.48 65 P **P** **06 55 37.2 +3.1**
SNR=14
CHMS Chumysh 37.58 64 P **P** **06 55 37.7 +3.2**
SNR=6.4
KBK Karagaybulak 37.75 64 P **P** **06 55 39.7 +3.6**
SNR=6.3
TKM2 Tokmak 2 38.20 64 P **P** **06 55 42.9 +2.9**
SNR=16
BOOM Boomskoye usch 38.50 64 P **P** **06 55 42.1 -0.3**
BOOM pmax pmax
comp=Z,8.0nm,0.7s
BOOM Boomskoye usch 38.50 64 P **P** **06 55 42.1 -0.3**
BOOM IAmb IAmb 06 55 47.5
comp=Z,8.3nm,0.7s
ULHL Ulahol 38.75 65 P **P** **06 55 48.2 +3.7**
SNR=20
KDJ Kajisay 39.46 65 P **P** **06 55 50.4 0.0**
KDJ pmax pmax
comp=Z,14nm,0.7s
KDJ Kajisay 39.46 65 P **P** **06 55 50.4 0.0**
KURBB Kurchatov Arra 39.96 51 P **P** **06 55 55.4 +1.2**
TARG Taragay, Kyrgy 39.97 65 IAmb IAmb 06 55 58.8
comp=Z,10nm,1.2s
KURK Kurchatov 40.02 51*ce*P **P** **06 55 55.7 +1.0**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 40.02 51 P **P** **06 55 55.1 +0.4**
DBIC Dimbokro 40.73 233 P **P** **06 56 02.9 +2.0**
comp=Z,1.9nm,0.4s,baz=31,slow=10.0,SNR=5.5
DBIC Dimbokro 40.73 233 IAmb IAmb 06 56 25.0
comp=Z,18nm,1.5s
TIC Toumodi 40.86 233 *e*P **P** **06 56 03.0 +1.0**
KIC Kosan Boka 40.89 232 *e*P **P** **06 56 04.2 +1.9**
comp=Z,3.0nm,0.5s
LIC Lamto 41.18 232 *e*P **P** **06 56 06.5 +1.9**
comp=Z,5.0nm,0.4s
MAKZ Makanchi 42.36 57 P **P** **06 56 14.7 +0.7**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 42.36 57 P **P** **06 56 14.7 +0.7**
MK31 Makanchi Array 42.58 57*ce*P **P** **06 56 18.2 +2.4**
MK31 Makanchi Array 42.58 57 P **P** **06 56 15.2 -0.5**
MK31 IAmb IAmb 06 56 19.0
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 42.58 57 P **P** **06 56 18.3 +2.5**
comp=Z,9.0nm,0.5s,baz=275,slow=7.7,SNR=84
MKAR Makanchi Array 42.58 57 P **P** **06 56 16.9 +1.1**
MKAR Makanchi Array 42.58 57 P **P** **06 56 16.9 +1.1**
ZAA0 Zalesovo Array 43.89 46 P **P** **06 56 26.3 +0.1**
ZAA0 IAmb IAmb 06 56 28.6
comp=Z,4.7nm,0.5s
ZALV Zalesovo Beam 43.89 46 P **P** **06 56 27.7 +1.5**
comp=Z,4.2nm,0.3s,baz=271,slow=8.5,SNR=22
DGZ Jazzator, Alta 45.71 52 *i* P **P** **06 56 43.2 +2.2**
DGZ pmax pmax
comp=Z,3.0nm,0.4s
WMQ Urumqi 46.79 60 *e*P **P** **06 56 51.6 +2.3**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,100nm,5.3s
NRIK Noril'sk 47.05 25 P **P** **06 56 52.5 +1.6**
comp=Z,4.5nm,0.4s,baz=219,slow=4.2,SNR=12
NRIK Noril'sk 47.05 25*ce*P **P** **06 56 52.5 +1.6**
NRIK pmax pmax
comp=Z,3.0nm,0.4s
SONM Songino Array 58.33 51 P **P** **06 58 16.5 +1.9**
comp=Z,1.0nm,0.4s,baz=290,slow=7.9,SNR=6.0
SONM Songino Array 58.33 51 IAmb IAmb 06 58 19.1
comp=Z,1.0nm,0.6s
TIXI Tiksi 60.41 21*ce*P **P** **06 58 29.3 +0.9**
TIXI pmax pmax
comp=Z,28nm,1.7s
LZH Lanzhou 60.96 65 *e*P **P** **06 58 32.9 -0.1**
LZH pP pwP 06 58 51.9 -1.2
LZH sP sP 06 58 59.4 +1.7
LZH PP PP 07 00 58.0 +10
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,97nm,5.4s
RES Resolute Bay 63.63 345 P **P** **06 58 50.2 +0.3**
comp=Z,1.7nm,0.4s,baz=108,slow=2.5,SNR=4.5
RES Resolute Bay 63.63 345 IAmb IAmb 06 58 55.9
comp=Z,11nm,1.2s
SCHQ Schefferville 63.69 320 P **P** **06 58 51.2 +0.6**
comp=Z,21nm,0.5s,baz=63,slow=4.7,SNR=13
SCHQ Schefferville 63.69 320 P **P** **06 58 48.7 -2.0**
HHC Hu-ho-hao-te 64.44 57 *e*P **P** **06 58 57.8 +1.8**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,69nm,7.8s
CMAR Chiang Mai Arr 65.34 84 P **P** **06 59 04.0 +2.0**
comp=Z,1.2nm,0.4s,baz=301,slow=7.9,SNR=11
CMAR Chiang Mai Arr 65.34 84*ce*P **P** **06 59 04.4 +2.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
D62A Allapoint, All 68.47 313 P **P** **06 59 19.4 -2.0**
BILL Bilibino 72.42 15⇑*e*P **P** **06 59 44.9 -0.2**
BILL *e* 06 59 59.1
BILL *e* 07 02 33.4

BILL				pmax	pmax			
	comp=Z,7.0nm,1.1s							
VLDQ	**Val d'Or**	**72.77**	**317**	P	**P**	**06 59 49.5**	**+1.9**
VLDQ				IAmb	IAmb	06 59 50.5	
	comp=Z,7.5nm,0.6s							
SEY	**Seymchan**	**72.77**	**23**	P	**P**	**06 59 49.0**	**+1.7**
	comp=Z,1.5nm,0.4s,baz=336,slow=3.7,SNR=7.6							
SEY	**Seymchan**	**72.77**	**23**	P	**P**	**06 59 49.0**	**+1.7**
QIZ	**Qiongzhong**	**73.82**	**78**	P	**P**	**06 59 53.1**	**-1.1**
QIZ				pP	**pP**	**07 00 11.5**	**-1.0**
QIZ				S	**S**	**07 09 19.5**	**-1.0**
QIZ				pmax	pmax			
	comp=Z,17nm,1.4s							
NJ2	**Nanjing**	**73.83**	**62**	*e*P	**P**	**06 59 53.6**	**-0.4**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
DELO	**Deloro Mine**	**74.90**	**314**	P	**P**	**07 00 01.9**	**+1.9**
DELO				IAmb	IAmb	07 00 07.0		
	comp=Z,8.7nm,1.1s							
J56A	**Wolcott**	**75.16**	**313**	P	**P**	**07 00 03.7**	**+2.1**
J56A				IAmb	IAmb	07 00 05.0		
	comp=Z,11nm,1.0s							
SADO	**Sadowa**	**75.64**	**315**	P	**P**	**07 00 05.8**	**+1.4**
N59A	**State Game Lan**	**75.84**	**310**	P	**P**	**07 00 07.9**	**+2.3**
N59A				IAmb	IAmb	07 00 11.4		
	comp=Z,19nm,1.4s							
L56A	**Greenwood**	**76.24**	**312**	P	**P**	**07 00 10.0**	**+2.2**
L56A				IAmb	IAmb	07 00 19.5		
	comp=Z,16nm,1.3s							
M57A	**Sunshine Farm,**	**76.44**	**311**	P	**P**	**07 00 11.3**	**+2.4**
BMAR	**Burnt Mountain**	**77.16**	**357**	P	**P**	**07 00 14.3**	**+1.7**
YKA	**Yellowknife Ar**	**77.47**	**343**	P	**P**	**07 00 14.7**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=42,slow=5.4,SNR=6.5							
COLD	**Coldfoot**	**77.55**	**359**	P	**P**	**07 00 15.6**	**+1.0**
IMAR	**Indian Mountai**	**78.83**	**0**	P	**P**	**07 00 22.9**	**+1.1**
E43A	**Lone Tree Farm**	**78.99**	**320**	P	**P**	**07 00 24.2**	**+1.2**
E43A				IAmb	IAmb	07 00 29.8		
	comp=Z,13nm,1.1s							
G45A	**Suttons Bay**	**79.13**	**318**	P	**P**	**07 00 25.4**	**+1.6**
MDM	**Murphy Dome**	**79.78**	**358**	IAmb	IAmb	07 00 28.6		
	comp=Z,5.3nm,0.6s							
FFC	**Flin Flon**	**79.88**	**333**	P	**P**	**07 00 28.7**	**+1.0**
FFC				pmax	pmax			
	comp=Z,15nm,1.3s							
FFC	**Flin Flon**	**79.88**	**333**	P	**P**	**07 00 28.7**	**+1.0**
FFC				IAmb	IAmb	07 00 31.2		
	comp=Z,15nm,1.3s							
ILAR	**Eielson Array**	**79.91**	**357**	P	**P**	**07 00 27.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=338,slow=3.5,SNR=23							
ILAR	**Eielson Array**	**79.91**	**357**	P	**P**	**07 00 28.4**	**+0.7**
ILAR	**Eielson Array**	**79.91**	**357**	P	**P**	**07 00 28.4**	**+0.7**
CCB	**Clear Creek Bu**	**80.07**	**358**	P	**P**	**07 00 29.1**	**+0.6**
DAWY	**Dawson**	**80.14**	**354**	P	**P**	**07 00 30.1**	**+1.1**
DAWY				IAmb	IAmb	07 00 30.2		
	comp=Z,3.9nm,0.6s							
HDA	**Harding Lake**	**80.28**	**357**	P	**P**	**07 00 30.1**	**+0.4**
HDA				IAmb	IAmb	07 00 30.7		
	comp=Z,5.3nm,0.6s							
ULM	**Lac du Bonnet**	**80.68**	**327**	P	**P**	**07 00 32.5**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=33,slow=5.0,SNR=9.7							
ULM	**Lac du Bonnet**	**80.68**	**327**	IAmb	IAmb	07 00 33.2		
	comp=Z,9.0nm,1.1s							
DHY	**Denali Highway**	**81.63**	**357**	IAmb	IAmb	07 00 54.2		
	comp=Z,6.8nm,1.1s							
SUA	**Susitna One**	**83.34**	**359**	IAmb	IAmb	07 00 47.1		
	comp=Z,4.7nm,0.6s							
ECSD	**EROS Data Cent**	**85.74**	**323**	P	**P**	**07 00 59.6**	**+1.3**
ECSD				IAmb	IAmb	07 00 59.9		
	comp=Z,4.3nm,0.6s							
WVT	**Waverly**	**86.21**	**312**	P	**P**	**07 01 01.2**	**+0.5**
WVT				pmax	pmax			
	comp=Z,4.0nm,0.6s							
WVT	**Waverly**	**86.21**	**312**	P	**P**	**07 01 01.1**	**+0.5**
WVT				IAmb	IAmb	07 01 01.9		
	comp=Z,3.5nm,0.6s							
CCM	**Cathedral Cave**	**86.91**	**316**	P	**P**	**07 01 05.4**	**+1.3**
CCM				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CCM	**Cathedral Cave**	**86.91**	**316**	P	**P**	**07 01 05.4**	**+1.3**
PDAR	**Pinedale Array**	**92.42**	**329**	P	**P**	**07 01 29.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=64,slow=2.1,SNR=2.6							

DJA ***16*** *06:55:36.9±1.8,8˚N±13˚×12˚7E±˚, h41km±11km, M4.6/12, mb4.7/12, mB5.0/6, MLv4.8/5, Mw(mB)4.3/6*

IDC ***16*** *06:55:40.3±1.6, 7˚.25N×126˚.98E, h47km±14km, mb4.1/17, mb1 4.2/19, mb1mx3.9/51, mbtmp4.4/19, ML4.3/2, MS3.7/23, Ms1 3.7/23, ms1mx3.6/39, Error ellipse: s-maj=22.0km s-min=10.9km az=82.0*

NEIC ***16*** *06:55:40.0±2.0, 7˚.31N±0˚.10×127˚.05E±0˚.08, h48km±6km, mb4.6/43, Error ellipse: s-maj=14.6km s-min=10.9km az=190.0*

ISC 16 06:55:39.8±1.0, 7˚34N±0˚05×127˚15E±0˚07, h48km±9km, n140, σ1s67/125, mb4.6/44, MS3.7/22, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.97**	**246**	*e*P	Pn	06 55 51.0	-6.1
BIP	**Bislig**	**1.25**	**315**	⇓*i*P	**Pn**	**06 55 58.4**	**-2.5**
BIP				*i* S	**Sn**	**06 56 14.0**	**-2.6**
DAV	**Davao City (W)**	**1.58**	**260**	P	**Pn**	**06 56 03.9**	**-1.5**
	814nm,0.3s,baz=99,slow=2.7,SNR=55						
DAV				S	**Sn**	**06 56 25.7**	**+1.0**
	416nm,0.3s,baz=263,slow=23,SNR=5.0						
DAV				LR	LR	06 56 40.1	
	comp=Z,10μm,19.4s,baz=312,slow=42						
DAV	**Davao City (W)**	**1.58**	**260**	Pn	**Pn**	**06 56 03.9**	**-1.5**
DAV					**Sn**	**06 56 26.0**	**+1.4**
DDMP	**Don Marcelino,**	**1.89**	**229**	*e*P	**Pn**	**06 56 05.0**	**-4.6**
KCP	**Kidapawan**	**2.07**	**261**	⇓*e*P	**Pn**	**06 56 11.9**	**-0.2**
BUKP	**Musuan**	**2.14**	**285**	*e*P	**Pn**	**06 56 11.9**	**-1.2**
GLSP	**General Luna,**	**2.63**	**337**	*e*P	**Pn**	**06 56 19.3**	**-0.5**
CGP	**Cagayan de Oro**	**2.67**	**295**	⇑*e*P	**Pn**	**06 56 20.9**	**+0.5**
CGP				*e*S	**Sn**	**06 56 53.8**	**+2.3**
SKMP	**Bagumbayan, Su**	**2.71**	**253**	*e*P	**Pn**	**06 56 17.6**	**-3.3**
SKMP				*e*S	**Sn**	**06 56 50.5**	**-2.0**
MSLP	**Maasin**	**3.58**	**321**	*e*P	**Pn**	**06 56 34.0**	**+1.3**
PAGZ	**Pagadian**	**3.77**	**278**	*e*P	**Pn**	**06 56 33.6**	**-1.8**
SGSI	**Sangihe**	**3.98**	**204**	P	**Pn**	**06 56 40.2**	**+2.0**
TBP	**Tagbilaran**	**4.00**	**306**	*e*P	**Pn**	**06 56 41.6**	**+3.0**
LLP	**Lapu-Lapu**	**4.32**	**313**	⇑*e*P	**Pn**	**06 56 44.4**	**+1.5**
LLP				*e*S	Sn	06 57 05.1	-27
OCLP	**Ormoc**	**4.46**	**326**	*e*P	Pn	06 56 51.5	+6.7
CNOP	**Candoni, Negro**	**5.10**	**299**	*e*P	**Pn**	**06 56 53.5**	**-0.2**
GUIM	**Jordan**	**5.56**	**306**	*e*P	**Pn**	**06 56 59.5**	**-0.5**
JAP	**San Jose, Anti**	**6.15**	**304**	⇓*e*P	**Pn**	**06 57 11.6**	**+3.5**
TNTI	**Ternate**	**6.53**	**178**	P	**Pn**	**06 57 14.2**	**+0.9**
	0.6nm58nm,0.5s						
GTOI	**Gorontalo**	**7.84**	**212**	P	**Pn**	**06 57 31.2**	**-0.1**
	627nm82nm,0.8s						
ENPP	**El Nido**	**8.53**	**297**	*e*P	**Pn**	**06 57 36.7**	**-4.1**
MYLDM	**Lahad Datu**	**8.86**	**256**	Pn	**Pn**	**06 57 44.9**	**-0.4**
TGY	**Tagaytay City**	**9.07**	**318**	LR	LR	07 01 37.3	
	comp=Z,1μm,19.4s,baz=138,slow=40						
SIJI	**Sorong**	**9.13**	**153**	P	**Pn**	**06 57 49.1**	**+0.1**
	5.3nm,0.3s,baz=174,slow=22,SNR=6.5						
SIJI				LR	LR	07 02 53.3	
	comp=Z,407nm,18.7s,baz=348,slow=47						
SANI	**Sanana**	**9.40**	**187**	P	**Pn**	**06 57 53.0**	**+0.3**
	682nm26nm,1.2s						
LUWI	**Luwuk**	**9.40**	**208**	Pn	**Pn**	**06 57 55.7**	**+3.0**
MPSI	**Mapaga**	**10.04**	**226**	P	**Pn**	**06 58 04.0**	**+2.6**
	570nm8.8nm,0.7s						
FAKI	**Fak Fak**	**11.39**	**153**	Pn	**Pn**	**06 58 19.9**	**-0.1**
TTSI	**Tana Toraja**	**12.65**	**216**	P	**Pn**	**06 58 39.0**	**+1.9**
	45nm,1.1s						
KAPI	**Kappang**	**14.32**	**211**	P	**Pn**	**06 58 59.0**	**-0.9**
	0.8nm,0.3s,baz=58,slow=7.8,SNR=3.9						
KAPI	**Kappang**	**14.32**	**211**	P	**P**	**06 59 09.9**	**+4.0**
SBUM	**Sibu**	**15.64**	**253**		**P**	**06 59 19.8**	**-0.8**
BBKI	**Banjar Baru**	**16.31**	**229**	P	P	06 59 43.9	+16
EDFI	**Ende, Flores**	**16.89**	**199**	P	**P**	**06 59 34.9**	**+0.5**
	230nm14nm,0.7s						
TPUB	**Ta-pu**	**17.06**	**339**	P	**P**	**06 59 39.0**	**+2.8**
KSM	**Kuching**	**17.77**	**252**	P	**P**	**06 59 44.4**	**+0.3**
BATI	**Baumata**	**17.78**	**191**	LR	LR	07 07 34.4	
	comp=Z,282nm,20.8s,baz=20,slow=40						
GUMO	**Guam**	**18.49**	**69**	LR	LR	07 05 52.5	
	comp=Z,231nm,19.8s,baz=246,slow=33						
GUMO	**Guam**	**18.49**	**69**	IAmb	IAmb	07 00 33.0	
	comp=Z,112nm,1.3s						
PLAI	**Plampang**	**18.58**	**210**	P	**Pn**	**06 59 54.2**	**+0.5**
	comp=Z,50nm,1.2s						
DLV	**T Lat**	**18.95**	**285**	P	**Pn**	**06 59 59.0**	**+0.7**
DLV				IAmb	IAmb	07 00 01.7	
	comp=Z,36nm,1.1s						
MTN	**Manton Dam**	**20.44**	**169**	P	P	07 00 02.6	-11
KNRA	**Kununurra**	**22.93**	**176**	P	**P**	**07 00 33.3**	**-6.6**
KNRA				IAmb	IAmb	07 00 49.7	
	comp=Z,40nm,0.9s						
JCJ	**Chichijima**	**24.28**	**34**	LR	LR	07 09 51.0	
	comp=Z,89nm,21.1s,baz=154,slow=35						
FITZ	**Fitzroy Crossi**	**25.32**	**183**	P	**P**	**07 01 01.5**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=12,slow=7.2,SNR=18						
FITZ	**Fitzroy Crossi**	**25.32**	**183**	P	**P**	**07 01 01.1**	**-1.1**
FITZ				IAmb	IAmb	07 01 18.9	
	comp=Z,11nm,0.9s						
JNU	**Nakatsue**	**25.88**	**7**	LR	LR	07 10 08.5	
	comp=Z,101nm,21.1s,baz=175,slow=33						
JNU	**Nakatsue**	**25.88**	**7**	P	**P**	**07 01 07.7**	**+0.4**
JNU				IAmb	IAmb	07 01 12.2	
	comp=Z,29nm,1.0s						
PMG	**Port Moresby**	**25.97**	**130**	LR	LR	07 12 43.2	
	comp=Z,151nm,19.3s,baz=264,slow=39						
COEN	**Coen**	**26.47**	**143**	P	**P**	**07 01 10.1**	**-2.6**
COEN				IAmb	IAmb	07 01 10.7	
	comp=Z,19nm,1.1s						
WB0	**Warramunga Arr**	**27.87**	**165**	P	**P**	**07 01 24.9**	**-0.3**
WB0				IAmb	IAmb	07 01 48.4	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**28.02**	**165**	P	**P**	**07 01 26.2**	**-0.3**
WRAB				IAmb	IAmb	07 01 46.6	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**28.02**	**165**	P	**P**	**07 01 25.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=345,slow=11,SNR=23						
WRA				ScP	**ScP**	**07 08 17.5**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=340,slow=2.9,SNR=4.8						
WRA				LR	LR	07 14 34.5	
	comp=Z,132nm,21.0s,baz=350,slow=40						
WRA	**Warramunga Arr**	**28.02**	**165**	P	**P**	**07 01 26.5**	**-0.1**
WB2	**Warramunga Arr**	**28.02**	**165**	P	**P**	**07 01 26.3**	**-0.3**
WB2				IAmb	IAmb	07 01 46.1	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**28.09**	**165**	P	**P**	**07 01 26.9**	**-0.2**
WR0				IAmb	IAmb	07 01 47.1	
	comp=Z,14nm,1.2s						
JHJ	**Hachijo jima 2**	**28.20**	**23**	LR	LR	07 12 39.2	
	comp=Z,156nm,20.2s,baz=200,slow=36						
PSI	**Prapat**	**28.47**	**262**	LR	LR	07 15 45.5	
	comp=Z,189nm,20.1s,baz=83,slow=43						
JWT	**Wachi**	**28.82**	**14**	P	**P**	**07 01 33.8**	**+0.3**
JWT				IAmb	IAmb	07 01 37.4	
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.58**	**295**	LR	LR	07 14 04.8	
	comp=Z,456nm,18.4s,baz=163,slow=38						
PSA00	**Pilbara Seismi**	**29.62**	**194**	P	**P**	**07 01 40.2**	**-0.4**
PSA00				IAmb	IAmb	07 02 04.6	
	comp=Z,7.9nm,0.7s						
KSRS	**Korea Array**	**29.98**	**1**	P	**P**	**07 01 45.7**	**+2.0**
	comp=Z,3.1nm,0.7s,baz=177,slow=10,SNR=8.0						
KSRS				LR	LR	07 16 35.1	
	comp=Z,140nm,18.5s,baz=188,slow=42						
MJAR	**Matsushiro Arr**	**30.77**	**18**	P	**P**	**07 01 51.8**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=195,slow=9.3,SNR=6.3						
MJAR				LR	LR	07 13 30.5	
	comp=Z,186nm,21.0s,baz=195,slow=35						
MJAR	**Matsushiro Arr**	**30.77**	**18**	P	**P**	**07 01 49.4**	**-1.4**
AS31	**Alice Springs**	**31.52**	**168**	P	**P**	**07 01 56.8**	**-0.7**
ASAR	**Alice Springs**	**31.52**	**168**	P	**P**	**07 01 56.3**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=340,slow=7.3,SNR=29						
ASAR				PcP	**PcP**	**07 04 50.1**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=350,slow=2.3,SNR=8.3						
ASAR				ScP	**ScP**	**07 08 28.7**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=337,slow=2.0,SNR=4.3						
ASAR				LR	LR	07 16 37.1	
	comp=Z,108nm,19.8s,baz=349,slow=40						
ASAR	**Alice Springs**	**31.52**	**168**	P	**P**	**07 01 56.5**	**-1.0**
USRK	**Ussuriysk Ar.**	**36.96**	**6**	P	**P**	**07 02 46.3**	**+2.0**
	comp=Z,7.0nm,0.7s,baz=191,slow=6.8,SNR=12						
USRK				LR	LR	07 20 55.3	
	comp=Z,69nm,18.1s,baz=179,slow=41						
USRK	**Ussuriysk Ar.**	**36.96**	**6**	P	**P**	**07 02 45.5**	**+1.2**
ASAJ	**Asahikawa**	**39.04**	**18**	LR	LR	07 18 22.6	
	comp=Z,217nm,21.8s,baz=210,slow=35						
H11N1	**WAKE ISLAND Hy**	**40.44**	**68**	T	T	07 47 31.9	
	baz=265,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.45**	**68**	T	T	07 47 28.6	
	baz=265,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**40.45**	**68**	T	T	07 47 28.8	
	baz=265,slow=74,SNR=19						
BBOO	**Buckleboo**	**40.82**	**168**	P	**P**	**07 03 17.2**	**+0.4**
BBOO				IAmb	IAmb	07 03 25.2	
	comp=Z,13nm,1.2s						
NWAO	**Narrogin (SRO)**	**41.14**	**193**	P	**P**	**07 03 19.3**	**-0.1**
	comp=Z,13nm,0.8s,baz=35,slow=8.2,SNR=5.6						
NWAO	**Narrogin (SRO)**	**41.14**	**193**	P	**P**	**07 03 18.8**	**-0.6**
STKA	**Stephens Creek**	**41.37**	**161**	P	**P**	**07 03 21.8**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=347,slow=9.8,SNR=3.1						
STKA				LR	LR	07 23 08.5	
	comp=Z,106nm,21.0s,baz=14,slow=40						
STKA	**Stephens Creek**	**41.37**	**161**	P	**P**	**07 03 21.9**	**+0.6**
DZM	**Mont Dzumac**	**48.35**	**128**	*e*LR	LR	07 18 27.5	
	comp=Z,208nm,23.4s						
PETK	**Petropavlovsk-**	**51.95**	**23**	LR	LR	07 28 46.4	
	comp=Z,53nm,18.7s,baz=198,slow=38						
YAK	**Yakutsk**	**54.61**	**1**	LR	LR	07 31 59.9	
	comp=Z,91nm,18.1s,baz=210,slow=40						
MK31	**Makanchi Array**	**54.88**	**324**	P	**P**	**07 05 05.0**	**-0.5**
MKAR	**Makanchi Array**	**54.88**	**324**	P	**P**	**07 05 04.7**	**-0.8**
	comp=Z,4.7nm,0.8s,baz=125,slow=8.1,SNR=16						
MKAR				PcP	**PcP**	**07 06 07.4**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=104,slow=6.1,SNR=4.1						
MKAR				ScP	**ScP**	**07 10 02.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=99,slow=6.4,SNR=1.5						
MKAR				LR	LR	07 28 24.9	
	comp=Z,165nm,21.6s,baz=118,slow=36						
MKAR	**Makanchi Array**	**54.88**	**324**	P	**P**	**07 05 04.2**	**-1.3**
MAKZ	**Makanchi**	**55.07**	**324**	P	**P**	**07 05 06.3**	**-0.5**
MA2	**Magadan**	**55.12**	**14**	LR	LR	07 31 26.4	
	comp=Z,36nm,18.5s,baz=160,slow=39						
ZALV	**Zalesovo Beam**	**57.60**	**332**	P	**P**	**07 05 24.6**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=112,slow=6.6,SNR=3.9						
KURK	**Kurchatov**	**58.96**	**326**	P	**P**	**07 05 34.2**	**-0.1**
KURK				IAmb	IAmb	07 05 46.9	
	comp=Z,10nm,1.4s						
KBL	**Kabul**	**59.72**	**306**	P	**P**	**07 05 38.5**	**-1.6**
KBL				IAmb	IAmb	07 05 46.2	
	comp=Z,3.5nm,0.7s						
BTK	**Batken**	**59.77**	**312**	P	**P**	**07 05 38.9**	**-1.3**
BTK				IAmb	IAmb	07 05 40.3	
	comp=Z,5.8nm,1.1s						
KK31	**Karatay Array**	**60.92**	**316**	P	**P**	**07 05 46.3**	**-1.6**
KK31				IAmb	IAmb	07 05 47.9	
	comp=Z,4.6nm,0.7s						
KKAR	**Karatay Array**	**60.92**	**316**	P	**P**	**07 05 46.5**	**-1.4**
KKAR				IAmb	IAmb	07 05 47.9	
	comp=Z,4.6nm,0.7s						
KKAR	**Karatay Array**	**60.92**	**316**	P	**P**	**07 05 46.4**	**-1.6**
TIXI	**Tiksi**	**64.25**	**1**	P	**P**	**07 06 10.0**	**+0.5**
TIXI				IAmb	IAmb	07 06 11.1	
	comp=Z,12nm,1.4s						
BRVK	**Borovoye**	**64.63**	**326**	P	**P**	**07 06 11.8**	**-0.6**
GEYT	**Alibeck**	**69.00**	**308**	P	**P**	**07 06 40.8**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=242,slow=3.2,SNR=3.8						
GEYT	**Alibeck**	**69.00**	**308**	P	**P**	**07 06 39.8**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**69.00**	**308**	P	**P**	**07 06 39.1**	**-1.4**
GYA0B				IAmb	IAmb	07 06 41.8	
	comp=Z,6.1nm,0.8s						
ABKAR	**Akbulak array**	**69.65**	**320**	P	**P**	**07 06 42.6**	**-1.6**
ABKAR	**Akbulak array**	**69.65**	**320**	P	**P**	**07 06 41.7**	**-2.6**
CASY	**Casey**	**74.43**	**187**	P	**P**	**07 07 13.2**	**+0.8**
CASY				IAmb	IAmb	07 07 13.5	
	comp=Z,5.1nm,0.8s						
KIRV	**Kirov**	**77.38**	**328**	P	**P**	**07 07 29.6**	**+0.2**
	comp=Z,15nm,0.8s,baz=68,slow=3.4,SNR=3.9						
IMAR	**Indian Mountai**	**78.90**	**24**	P	**P**	**07 07 37.1**	**-0.7**
SKT	**Skwentna**	**79.48**	**28**	P	**P**	**07 07 42.0**	**+0.9**
SUA	**Susitna One**	**79.82**	**29**	P	**P**	**07 07 44.6**	**+1.5**
SUA				IAmb	IAmb	07 07 47.3	
	comp=Z,9.0nm,0.8s						
KTH	**Kantishna Hill**	**79.87**	**27**	P	**P**	**07 07 46.5**	**+3.2**
BPAW	**Bear Paw Mtn.**	**79.88**	**26**	P	**P**	**07 07 46.0**	**+2.8**
TRF	**Thorofare Moun**	**80.15**	**27**	P	**P**	**07 07 45.6**	**+0.7**
TRF				IAmb	IAmb	07 07 48.1	
	comp=Z,12nm,1.2s						
COLD	**Coldfoot**	**80.42**	**23**	P	**P**	**07 07 45.5**	**-0.6**
COLD				IAmb	IAmb	07 07 50.4	
	comp=Z,4.2nm,0.7s						
MDM	**Murphy Dome**	**81.11**	**25**	P	**P**	**07 07 51.5**	**+1.7**
WRH	**Wood River Hil**	**81.16**	**26**	P	**P**	**07 07 52.9**	**+2.9**
WRH				IAmb	IAmb	07 07 54.6	
	comp=Z,6.0nm,0.8s						
COLA	**College**	**81.27**	**25**	P	**P**	**07 07 51.6**	**+1.0**
COLA				IAmb	IAmb	07 07 54.7	
	comp=Z,6.0nm,0.9s						
CCB	**Clear Creek Bu**	**81.29**	**26**	P	**P**	**07 07 52.9**	**+2.2**
CCB				IAmb	IAmb	07 08 13.7	
	comp=Z,10nm,1.4s						
HDA	**Harding Lake**	**81.65**	**26**	P	**P**	**07 07 53.5**	**+0.8**
HDA				IAmb	IAmb	07 07 56.7	
	comp=Z,5.3nm,0.8s						
IL31		**81.68**	**26**	P	**P**	**07 07 54.2**	**+1.5**
IL31				IAmb	IAmb	07 07 57.9	
	comp=Z,7.9nm,1.4s						
ILAR	**Eielson Array**	**81.68**	**26**	P	**P**	**07 07 54.2**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=234,slow=5.3,SNR=25						
ILAR	**Eielson Array**	**81.68**	**26**	P	**P**	**07 07 53.5**	**+0.7**
PAX	**Paxson**	**82.32**	**27**	P	**P**	**07 07 56.8**	**+0.5**
PAX				IAmb	IAmb	07 07 59.5	
	comp=Z,8.2nm,1.4s						
KLMR	**Klimovskoe**	**82.48**	**330**	*e*P	**P**	**07 07 55.6**	**-1.4**
KLMR				AMP		07 08 12.0	
	comp=Z,18nm,1.5s						
RIDG	**Independent Ri**	**82.58**	**27**	P	**P**	**07 07 58.2**	**+0.6**
GLB	**Gilahina Butte**	**83.15**	**29**	P	**P**	**07 07 58.2**	**-2.3**
TGL	**Tana Glacier**	**83.66**	**30**	P	**P**	**07 08 04.7**	**+1.4**
BCAR	**Beaver Creek A**	**83.99**	**27**	P	**P**	**07 08 06.4**	**+1.5**
EGAK	**Eagle**	**84.14**	**26**	P	**P**	**07 08 06.5**	**+1.0**
BARN	**Barnard Glacie**	**84.21**	**29**	P	**P**	**07 08 05.6**	**-0.6**
CTGM	**Chitina Glacie**	**84.38**	**29**	P	**P**	**07 08 09.1**	**+2.1**
PPT2	**Papeete2**	**85.83**	**108**	*e*LR	LR	07 35 48.0	
	comp=Z,104nm,24.5s						
INK	**Inuvik**	**86.67**	**22**	P	**P**	**07 08 20.2**	**+2.2**
	comp=Z,2.0nm,0.6s,baz=327,slow=5.3,SNR=5.5						
INK	**Inuvik**	**86.67**	**22**	P	**P**	**07 08 19.4**	**+1.4**
VNDA	**Vanda**	**86.94**	**173**	P	**P**	**07 08 19.9**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=306,slow=5.9,SNR=8.8						
VNDA				LR	LR	07 49 17.9	
	comp=Z,28nm,18.2s,baz=340,slow=37						
MAW	**Mawson**	**87.27**	**200**	P	**P**	**07 08 22.3**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=25,slow=4.2,SNR=4.4						
MAW	**Mawson**	**87.27**	**200**	P	**P**	**07 08 19.1**	**-1.7**
FINES	**FINESS Array B**	**88.86**	**332**	P	**P**	**07 08 28.3**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=73,slow=4.7,SNR=5.7						
TAOE	**Nuku Hiva Isla**	**93.76**	**98**	*e*LR	LR	07 39 31.3	
	comp=Z,196nm,24.1s						
JMIC	**Jan Mayen**	**96.46**	**347**	LR	LR	07 56 54.5	
	comp=Z,44nm,19.2s,baz=64,slow=38						
TXAR	**Lajitas Array**	**119.03**	**51**	PKP	**PKiKP**	**07 14 26.2**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=239,slow=0.8,SNR=9.5						
TXAR	**Lajitas Array**	**119.03**	**51**	PKPdf	**PKiKP**	**07 14 25.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**122.12**	**290**	PKP	**PKPdf**	**07 14 30.1**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=20,slow=2.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**122.12**	**290**	PKPdf	**PKiKP**	**07 14 30.6**	**+0.2**

IDC ***16*** *06:56:14.4±1.8, 82˚.44N×118˚.37E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.6/62, mbtmp3.8/8, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/53, Error ellipse: s-maj=64.5km s-min=20.4km az=174.0*

ISC 16 06:56:15.9±1.1, 82˚.4N±0˚.2×118˚.3E±0˚.1, h10km, n8, σ1s11/8, mb3.9/7, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRIK	**No

CNP	**Catarman**	**0.84**	**66**	*eP*	**Pb**	**07 00 15.2**	**+0.6**
CNP				*eS*	**Sn**	**07 00 28.4**	**-0.7**
OCLP	**Ormoc**	**1.31**	**147**	*eP*	**Pb**	**07 00 24.3**	**+1.6**
OCLP				*eS*	**Sn**	**07 00 44.1**	**+3.2**
PVCP	**Virac**	**1.45**	**11**	*eP*	**Pn**	**07 00 23.5**	**-1.1**
PVCP				*eS*	**Sb**	**07 00 43.8**	**-0.2**
BESP	**Borongan**	**1.62**	**110**	*eP*	**Pb**	**07 00 27.4**	**-0.6**
BESP				*eS*	**Sg**	**07 00 49.4**	**-0.1**
OTRP	**Odiongan**	**1.83**	**276**	*eP*	**Pn**	**07 00 30.5**	**+0.7**
OTRP				*eS*	**Sb**	**07 00 54.7**	**-0.2**
LLP	**Lapu-Lapu**	**1.84**	**177**⇑	*iP*	**Pb**	**07 00 31.6**	**0.0**
LLP				*i S*	**Pg**	**07 00 35.9**	**+3.4**
GQP	**Guinayangan**	**2.23**	**321**⇑	*eP*	**Pn**	**07 00 36.2**	**+0.9**
GQP				*eS*	**Sb**	**07 01 05.2**	**-1.2**
MSLP	**Maasin**	**2.23**	**154**	*eP*	**Pb**	**07 00 38.0**	**-0.4**
JAP	**San Jose, Anti**	**2.36**	**234**⇓	*eP*	**Pg**	**07 00 42.3**	**-0.3**
BOAC	**Boac**	**2.37**	**303**	*eP*	**Pn**	**07 00 37.4**	**+0.2**
BOAC				*eS*	**Sn**	**07 01 08.4**	**+1.5**
CNOP	**Candoni, Negro**	**2.62**	**208**	*eP*	**Pb**	**07 00 43.1**	**-1.9**
CNOP				*eS*	**Sg**	**07 01 19.6**	**-2.0**
LQP	**Lukban**	**2.99**	**311**⇑	*eP*	**Pn**	**07 00 47.8**	**+1.7**
LQP				*eS*	**Sn**	**07 01 24.2**	**+1.5**
POLP	**Polilio Island**	**3.17**	**324**	*eP*	**Pn**	**07 00 50.8**	**+2.4**
MYLDM	**Lahad Datu**	**8.74**	**218**	Pn	Pn	07 02 12.2	+7.4
KKM	**Kota Kinabalu**	**9.71**	**232**	Pn	Pn	07 02 29.2	+11
FAKI	**Fak Fak**	**17.14**	**150**	Pn	**Pn**	**07 03 51.9**	**-6.3**
FAKI				IAmb	IAmb	07 04 07.8	
	comp=Z,44nm,1.3s						
JCJ	**Chichijima**	**22.71**	**46**	P	P	07 04 50.1	-11
JGF	**Kuroka**	**26.33**	**25**	P	P	07 05 26.7	-8.1
JGF				IAmb	IAmb	07 05 33.7	
	comp=Z,8.4nm,1.1s						
WRA	**Warramunga Arr**	**33.52**	**162**	P	**P**	**07 06 39.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=344,slow=8.6,SNR=2.6						
WB2	**Warramunga Arr**	**33.53**	**162**	P	**P**	**07 06 36.2**	**-2.4**
WB2				IAmb	IAmb	07 06 43.6	
	comp=Z,3.8nm,0.9s						
WR0	**Warramunga Arr**	**33.60**	**162**	P	**P**	**07 06 36.3**	**-3.0**
WR0				IAmb	IAmb	07 06 42.7	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**33.76**	**187**	P	**P**	**07 06 41.9**	**+1.3**
PSA00				IAmb	IAmb	07 07 01.9	
	comp=Z,26nm,1.4s						
ERM	**Erimo**	**34.16**	**26**	P	P	07 06 37.6	-6.4
AS31	**Alice Springs**	**36.93**	**165**	P	**P**	**07 07 07.1**	**-0.9**
ASAR	**Alice Springs**	**36.93**	**165**	P	**P**	**07 07 09.2**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=343,slow=6.8,SNR=6.1						
ASAR	**Alice Springs**	**36.93**	**165**	P	**P**	**07 07 04.8**	**-3.2**
BBOO	**Buckleboo**	**46.21**	**166**	P	**P**	**07 08 24.5**	**+0.6**
BBOO				IAmb	IAmb	07 08 33.5	
	comp=Z,13nm,1.4s						
PETK	**Petropavlovsk-**	**48.94**	**26**	P	P	07 08 39.0	-6.0
MK31	**Makanchi Array**	**49.11**	**323**	P	**P**	**07 08 46.4**	**0.0**
MKAR	**Makanchi Array**	**49.11**	**323**	P	**P**	**07 08 49.5**	**+3.0**
	comp=Z,0.6nm,0.7s,baz=127,slow=8.4,SNR=3.5						
MKAR				PcP	**PcP**	**07 10 12.4**	**+2.4**
	comp=Z,1.1nm,1.0s,baz=138,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**49.11**	**323**	P	**P**	**07 08 48.2**	**+1.7**
MA2	**Magadan**	**51.39**	**17**	P	**P**	**07 08 58.8**	**-4.6**
MA2				IAmb	IAmb	07 09 08.5	
	comp=Z,18nm,1.2s						
KK31	**Karatay Array**	**55.26**	**314**	P	**P**	**07 09 33.7**	**+1.5**
KKAR	**Karatay Array**	**55.26**	**314**	P	**P**	**07 09 33.1**	**+0.8**
ATKA	**Atka Island**	**63.37**	**37**	P	P	07 10 21.2	-6.9
ABKAR	**Akbulak array**	**63.92**	**319**	P	**P**	**07 10 32.6**	**+0.7**
ABKAR				IAmb	IAmb	07 10 34.2	
	comp=Z,3.3nm,1.3s						
ABKAR	**Akbulak array**	**63.92**	**319**	P	**P**	**07 10 33.0**	**+1.1**

IDC **16** *07:10:55.9±3.3,29.°50N×137.°35E,h306km±151km, mb3.2/2,mb1 3.3/4,mb1mx2.8/39,mbtmp3.9/4,Error ellipse: s-maj=295.5km s-min=22.7km az=48.0*

JMA **16** *07:10:55.9±0.4,30.°81N×139.°13E,h400km,M3.3*

ISC 16 07:10:54.5±1.0,30.°75N±0.°08×139.°1E±0.°1,h400km,n10, σ1§77/12,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**4.15**	**332**	P	**Pn**	**07 12 10.0**	**+2.1**
BSO1	**Boso 1**	**4.21**	**22**	P	**Pn**	**07 12 10.4**	**+2.5**
CBIJ	**Chichi jima**	**4.54**	**142**	*eS*	**S**	**07 13 14.1**	**-0.7**
JCJ	**Chichijima**	**4.55**	**142**	P	**Pn**	**07 12 12.2**	**+0.2**
	6.0nm,0.3s,baz=3.2,slow=20,SNR=9.9						
JCJ				S	**S**	**07 13 14.5**	**-0.3**
	22nm,0.3s,baz=288,slow=19,SNR=10						
JRY	**Ryogami san**	**5.26**	**358**	P	**Pn**	**07 12 21.2**	**+2.1**
JAG	**Ashikaga**	**5.67**	**3**	P	**Pn**	**07 12 24.2**	**+0.8**
JAG				*eS*	**S**	**07 13 33.1**	**-2.9**
JHO	**Hitachi**	**5.98**	**12**	*eS*	**S**	**07 13 40.3**	**-1.7**
KSRS	**Korea Array**	**11.40**	**309**	P	**Pn**	**07 13 28.2**	**-0.4**
	0.4nm,0.3s,baz=138,slow=4.2						
WRA	**Warramunga Arr**	**50.60**	**186**	P	**P**	**07 19 14.4**	**-0.2**
	1.0nm,0.4s,baz=1.7,slow=8.0,SNR=30						
ASAR	**Alice Springs**	**54.33**	**186**	P	**P**	**07 19 41.2**	**-0.4**
	0.5nm,0.5s,baz=360,slow=6.5,SNR=10						

JMA **16** *07:19:20.9±0.2,34.°78N×140.°92E,h50km±2km,M2.9*

IDC **16** *07:19:22.7±4.2,34.°75N×140.°92E,h38km±38km,mb3.4/4, mb1 3.6/5,mb1mx3.2/41,mbtmp3.5/5,ML2.1/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/33,Error ellipse: s-maj=44.6km s-min=18.7km az=93.0*

ISC 16 07:19:23.0±1.0,34.°78N±0.°05×140.°85E±0.°07,h48km,n21, σ1§05/22,mb3.7/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.17**	**139**	P	**Pn**	**07 19 28.7**	**-1.6**
BSO1				X		07 19 34.5	
BSO3	**Boso 3**	**0.28**	**274**	P	**Pn**	**07 19 30.4**	**-1.0**
BSO4	**Boso 4**	**0.47**	**297**	P	**Pn**	**07 19 32.8**	**-0.8**
BSO4				*eX*		07 19 41.2	
KTR	**Katsuura**	**0.57**	**310**	P	**Pn**	**07 19 33.5**	**-1.5**
KTR				S	**Sn**	**07 19 42.6**	**-1.0**
JKUC	**kamogawauchiur**	**0.65**	**306**	P	**Pn**	**07 19 34.8**	**-1.2**
JKUC				*eS*	**Sn**	**07 19 45.0**	**-0.4**
JCN	**Nagara**	**0.83**	**321**	P	**Pn**	**07 19 37.5**	**-0.8**
JCN				*eS*	**Sn**	**07 19 48.9**	**-0.6**
CHOJ	**Chosi**	**0.92**	**1**	P	**Pn**	**07 19 38.3**	**-1.3**
JIM2	**Oshima 3**	**1.17**	**267**	P	**Pn**	**07 19 41.6**	**-1.4**
JIM2				*eS*	**Sn**	**07 19 56.4**	**-1.4**
JMKN	**Mikurajimanish**	**1.36**	**230**	P	**Pn**	**07 19 44.8**	**-0.8**
JHJ	**Hachijo jima 2**	**1.88**	**208**	Pn	**Pn**	**07 19 52.6**	**0.0**
	28nm,0.3s,baz=89,slow=22,SNR=6.2						
JHJ				Sn	**Sn**	**07 20 14.6**	**-0.6**
	80nm,0.3s,baz=115,slow=22,SNR=6.9						
MJAR	**Matsushiro Arr**	**2.77**	**310**	Pn	**Pn**	**07 20 04.6**	**-0.4**
	0.3nm,0.3s,baz=150,slow=12,SNR=7.8						
MAT	**Matsushiro**	**2.77**	**310**	P	**Pn**	**07 20 06.0**	**+1.0**
MAT				*eS*	**Sn**	**07 20 37.4**	**+0.1**
KSRS	**Korea Array**	**10.79**	**288**	LR	LR	07 25 18.6	
	comp=Z,33nm,19.2s,baz=340,slow=33						
H11S3	**WAKE ISLAND Hy**	**28.11**	**119**	T	T	07 55 09.5	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.11**	**119**	T	T	07 55 04.6	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.12**	**119**	T	T	07 55 06.3	
	baz=314						
JAY	**Jayapura**	**37.10**	**180**	LR	LR	07 41 31.1	
	comp=Z,58nm,18.1s,baz=160,slow=36						
KURBB	**Kurchatov Arra**	**47.05**	**310**	P	**P**	**07 27 50.7**	**+1.1**
	0.4nm,0.5s,baz=84,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**51.65**	**31**	P	**P**	**07 28 24.9**	**+0.4**
	0.6nm,0.7s,baz=262,slow=5.8,SNR=9.2						
WRA	**Warramunga Arr**	**54.77**	**187**	P	**P**	**07 28 47.6**	**-0.4**
	0.8nm,0.6s,baz=5.6,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**58.50**	**187**	P	**P**	**07 29 15.6**	**+1.2**
	0.4nm,0.6s,baz=10,slow=7.2,SNR=7.0						

MAN **16** *07:39:11.4,6.°38N×126.°40E,h39km,mb4.9,ML3.8,MS3.8*

IDC **16** *07:39:14.5±3.0,6.°53N×126.°35E,h76km±24km,mb3.8/9, mb1 3.9/9,mb1mx3.5/47,mbtmp4.1/9,MS3.0/1,Ms1 3.0/1, ms1mx2.4/42,Error ellipse: s-maj=80.4km s-min=13.2km az=68.0*

NEIC **16** *07:39:14.9±1.9,6.°41N±0.°08×126.°1E±0.°2,h81km±9km, mb4.2/17,Error ellipse: s-maj=28.4km s-min=7.7km az=70.0*

ISC 16 07:39:12.9±1.0,6.°38N±0.°05×126.°38E±0.°07,h56km±10km, n38,σ1§42/47,mb4.1/17,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**348**	*eP*	**Pn**	**07 39 24.7**	**-0.8**
MATI				*eS*	**Sn**	**07 39 33.6**	**-0.9**
DDMP	**Don Marcelino,**	**0.72**	**248**	*eP*	**Pn**	**07 39 26.8**	**-0.4**
DDMP				*eS*	**Sn**	**07 39 36.8**	**-0.8**
DAV	**Davao City (W)**	**1.05**	**311**	P	**Pn**	**07 39 32.2**	**+0.7**
	243nm,0.3s,baz=313,slow=3.1,SNR=12						
DAV				S	**Sn**	**07 39 46.9**	**+1.6**
	483nm,0.3s,baz=269,slow=23,SNR=5.6						
DAV	**Davao City (W)**	**1.05**	**311**		**Pn**	**07 39 31.6**	**+0.1**
DAV				Sn	**Sn**	**07 39 46.4**	**+1.2**
KCP	**Kidapawan**	**1.43**	**296**⇑	*iP*	**Pn**	**07 39 36.5**	**-0.1**
KCP				*i S*	**Sn**	**07 39 58.9**	**+4.6**
SKMP	**Bagumbayan, Su**	**1.83**	**274**	*eP*	**Pn**	**07 39 40.6**	**-1.4**
SKMP				*eS*	**Sn**	**07 40 04.0**	**-0.1**
BUKP	**Musuan**	**1.98**	**319**	*eP*	**Pn**	**07 39 43.6**	**-0.6**
BUKP				*eS*	**Sn**	**07 40 07.8**	**-0.1**
CGP	**Cagayan de Oro**	**2.66**	**321**⇓	*eP*	**Pn**	**07 39 54.9**	**+1.7**
CGP				*eS*	**Sn**	**07 40 26.4**	**+2.1**
PAGZ	**Pagadian**	**3.31**	**296**	*eP*	**Pn**	**07 40 01.3**	**-1.0**
PAGZ				*eS*	Sn	07 40 25.3	-15
GLSP	**General Luna,**	**3.39**	**356**	*eP*	**Pn**	**07 40 03.6**	**+0.2**
GLSP				*eS*	**Sn**	**07 40 42.4**	**0.0**
GUMO	**Guam**	**19.55**	**67**	LR	LR	07 53 02.3	
	comp=Z,37nm,18.1s,baz=184,slow=42						
KNRA	**Kununurra**	**22.04**	**174**	P	**P**	**07 44 04.8**	**+1.8**
KNRA				IAmb	IAmb	07 44 28.2	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.33**	**182**	P	**P**	**07 44 26.9**	**+1.4**
	comp=Z,2.4nm,0.5s,baz=329,slow=5.4,SNR=12						
FITZ	**Fitzroy Crossi**	**24.33**	**182**	P	**P**	**07 44 26.6**	**+1.1**
COEN	**Coen**	**26.19**	**141**	P	**P**	**07 44 44.4**	**+1.9**
COEN				IAmb	IAmb	07 44 58.7	
	comp=Z,26nm,1.5s						
WB0	**Warramunga Arr**	**27.15**	**163**	P	**P**	**07 44 51.6**	**+0.5**
WB0				IAmb	IAmb	07 45 21.0	
	comp=Z,3.5nm,0.7s						
WRAB	**Tennant Creek**	**27.30**	**163**	P	**P**	**07 44 51.5**	**-0.9**
WRAB				IAmb	IAmb	07 45 13.9	
	comp=Z,7.5nm,1.3s						
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**07 44 52.7**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=343,slow=10,SNR=21						
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**07 44 52.0**	**-0.4**
WB2	**Warramunga Arr**	**27.31**	**163**	P	**P**	**07 44 52.7**	**+0.2**
WB2				IAmb	IAmb	07 44 54.3	
	comp=Z,8.8nm,1.4s						
WR0	**Warramunga Arr**	**27.38**	**163**	P	**P**	**07 44 53.2**	**0.0**
WR0				IAmb	IAmb	07 44 59.2	
	comp=Z,3.6nm,0.9s						
PSA00	**Pilbara Seismi**	**28.51**	**193**	P	**P**	**07 45 03.6**	**+0.5**
PSA00				IAmb	IAmb	07 45 26.8	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**30.75**	**166**	P	**P**	**07 45 23.5**	**+0.5**
ASAR	**Alice Springs**	**30.75**	**166**	P	**P**	**07 45 23.8**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=341,slow=6.9,SNR=35						
ASAR				PcP	**PcP**	**07 48 19.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=346,slow=2.4,SNR=5.3						
ASAR	**Alice Springs**	**30.75**	**166**	P	**P**	**07 45 23.5**	**+0.4**
FORT	**Forrest**	**36.98**	**178**	P	**P**	**07 46 18.1**	**+1.1**
BBOO	**Buckleboo**	**40.05**	**167**	P	**P**	**07 46 44.2**	**+1.6**
NWAO	**Narrogin (SRO)**	**40.05**	**192**	P	**P**	**07 46 40.3**	**-2.4**
STKA	**Stephens Creek**	**40.72**	**160**	P	**P**	**07 46 49.6**	**+1.3**
	comp=Z,3.9nm,0.5s,baz=330,slow=9.0,SNR=17						
STKA	**Stephens Creek**	**40.72**	**160**	P	**P**	**07 46 49.7**	**+1.4**
MK31	**Makanchi Array**	**55.20**	**324**	P	**P**	**07 48 38.2**	**-1.9**
MKAR	**Makanchi Array**	**55.20**	**324**	P	**P**	**07 48 37.9**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=116,slow=7.0,SNR=10						
MKAR	**Makanchi Array**	**55.20**	**324**	P	**P**	**07 48 38.3**	**-1.8**
KURBB	**Kurchatov Arra**	**59.34**	**327**	P	**P**	**07 49 07.2**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=122,slow=6.8,SNR=5.7						
KURK	**Kurchatov**	**59.34**	**327**	P	**P**	**07 49 06.8**	**-2.3**
KURK				IAmb	IAmb	07 49 10.5	
	comp=Z,2.1nm,1.0s						
NRIK	**Noril'sk**	**67.79**	**346**	P	**P**	**07 50 03.7**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=81,slow=4.5,SNR=3.6						
VNDA	**Vanda**	**86.08**	**173**	P	**P**	**07 51 47.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=316,slow=7.7,SNR=6.3						
ARCES	**ARCESS Array B**	**87.86**	**340**	P	**P**	**07 51 55.2**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=64,slow=6.1,SNR=3.7						

JMA 16 07:44:40.6,33.°84N×132.°66E,h42km,M2.3,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHM	**Kurahashi**	**0.32**	**340**	P	Pn	07 44 49.1	-0.1
JHM				S	Sn	07 44 55.3	0.0
JNA	**Nagahama**	**0.32**	**208**	P	Pn	07 44 48.9	-0.4
JNA				S	Sn	07 44 54.9	-0.4
JET	**Tanbara**	**0.33**	**101**	P	Pn	07 44 49.2	-0.2
JET				S	Sn	07 44 55.5	0.0
UWA2	**Uwa jima 2**	**0.62**	**183**	P	Pn	07 44 53.0	-0.1
UWA2				S	Sn	07 45 01.9	-0.1
JKU	**Kubokawa**	**0.63**	**147**	P	Pn	07 44 52.9	-0.2
JHT	**Toyohira**	**0.84**	**347**	P	Pn	07 44 56.1	0.0
JHT				S	Sn	07 45 07.6	+0.2
JTO	**Tosashimizu**	**0.98**	**173**	P	Pn	07 44 57.9	-0.1
JMN	**Monobe**	**1.02**	**96**	P	Pn	07 44 58.8	+0.3
JMN	**Monobe**	**1.02**	**96**	P	Pn	07 44 59.0	+0.5

IDC **16** *07:50:19.8±1.3,34.°81N×141.°09E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/33,mbtmp3.4/4,ML2.1/1,Error ellipse: s-maj=41.6km s-min=23.4km az=104.0*

JMA **16** *07:50:22.9±0.2,34.°78N×140.°93E,h51km±2km,M3.0*

NEIC **16** *07:50:23.8±1.6,34.°63N±0.°05×141.°2E±0.°1,h35km±2km, mb4.2/2,Error ellipse: s-maj=14.2km s-min=8.5km az=283.0*

ISC 16 07:50:24.0±1.4,34.°77N±0.°04×140.°95E±0.°09,h38km±2km, n38,σ1§57/36,mb3.7/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.12**	**167**	P	Pn	07 50 30.8	-4.7
BSO1				X		07 50 36.7	
BSO3	**Boso 3**	**0.36**	**275**	P	**Pn**	**07 50 32.5**	**+0.3**
BSO3				X		07 50 40.6	
BSO4	**Boso 4**	**0.55**	**294**	P	**Pn**	**07 50 35.0**	**-0.3**
BSO4				*eX*		07 50 44.8	
KTR	**Katsuura**	**0.64**	**306**	P	**Pn**	**07 50 35.7**	**-1.0**
KTR				S	**Sn**	**07 50 44.7**	**-0.9**
JKUC	**kamogawauchiur**	**0.73**	**303**	P	**Pn**	**07 50 36.9**	**-0.8**
JKUC				*eS*	**Sn**	**07 50 47.1**	**-0.5**
JCN	**Nagara**	**0.89**	**317**	P	**Pn**	**07 50 39.6**	**-0.3**
JCN				S	**Sn**	**07 50 51.8**	**+0.2**
JSMT	**Sammumatsuo**	**0.96**	**335**	*eS*	**Sn**	**07 50 53.8**	**+0.4**
JIM2	**Oshima 3**	**1.25**	**268**	P	**Pn**	**07 50 43.8**	**-1.1**
JIM2				S	**Sn**	**07 50 58.7**	**-1.8**
JMKN	**Mikurajimanish**	**1.42**	**232**	P	**Pn**	**07 50 46.8**	**-0.5**
JYT	**Yasato**	**1.58**	**337**	Pn	**Pn**	**07 50 50.5**	**+1.1**
JHJ2	**Mitsune**	**1.90**	**210**	Pn	**Pn**	**07 50 54.7**	**+0.9**
JHJ2				Sn	**Sn**	**07 51 16.7**	**+0.2**
JHJ	**Hachijo jima 2**	**1.91**	**211**	Pn	**Pn**	**07 50 55.0**	**+1.1**
	31nm,0.3s,baz=50,slow=22,SNR=6.6						
JHJ				Sn	**Sn**	**07 51 16.7**	**0.0**
	91nm,0.3s,baz=345,slow=22,SNR=8.3						
JSG	**Sagara**	**2.28**	**268**	Pn	**Pn**	**07 51 02.4**	**+3.4**
MJAR	**Matsushiro Arr**	**2.84**	**309**	Pn	**Pn**	**07 51 07.0**	**+0.2**
	0.3nm,0.3s,baz=149,slow=13,SNR=5.1						
MJAR	**Matsushiro Arr**	**2.84**	**309**		**Pn**	**07 51 09.6**	**+2.7**
MAJO	**Matsushiro**	**2.85**	**309**	Pn	**Pn**	**07 51 09.9**	**+3.0**
MAT	**Matsushiro**	**2.85**	**309**	P	**Pn**	**07 51 08.4**	**+1.5**
MAT				*eS*	**Sn**	**07 51 38.8**	**-1.1**
JGF	**Kuroka**	**3.06**	**287**		Pn	07 51 15.1	+5.4
JMM	**Marumori**	**3.09**	**358**	Pn	**Pn**	**07 51 11.9**	**+1.7**
INU	**Inuyama**	**3.27**	**281**	Pn	**Pn**	**07 51 15.0**	**+2.3**
JWT	**Wachi**	**4.58**	**278**	Pn	**Pn**	**07 51 34.0**	**+3.4**
JCJ	**Chichijima**	**7.72**	**172**	Pn	**Pn**	**07 52 10.8**	**-3.1**
JNU	**Nakatsue**	**8.53**	**262**	Pn	**Pn**	**07 52 26.0**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**27.40**	**116**	T	T	08 25 18.8	
	baz=309,slow=75,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**27.41**	**116**	T	T	08 25 16.6	
	baz=309,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**27.42**	**116**	T	T	08 25 20.3	
	baz=309,slow=75,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	08 26 07.3	
	baz=312,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	08 26 04.4	
	baz=312,slow=75,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	08 26 12.0	
	baz=312,slow=75,SNR=4.2						

KDAK	**Kodiak Island**	**49.05**	**41**	P	**P**	**07 59 07.3**	**+0.4**
ILAR	**Eielson Array**	**51.61**	**31**	P	**P**	**07 59 26.8**	**+0.5**
	0.5nm,0.7s,baz=270,slow=6.2,SNR=7.4						
ILAR	**Eielson Array**	**51.61**	**31**	P	**P**	**07 59 27.1**	**+0.8**
WR0	**Warramunga Arr**	**54.77**	**187**	P	**P**	**07 59 49.5**	**-0.4**
WR0				IAmb	IAmb	07 59 56.7	
	comp=Z,2.4nm,1.0s						
WB2	**Warramunga Arr**	**54.77**	**188**	P	**P**	**07 59 48.2**	**-1.7**
WRA	**Warramunga Arr**	**54.77**	**188**	P	**P**	**07 59 50.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=5.3,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**54.77**	**188**	P	**P**	**07 59 49.3**	**-0.7**
ASAR	**Alice Springs**	**58.50**	**188**	P	P	08 00 19.4	+3.0
	comp=Z,0.3nm,0.7s,baz=14,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**58.50**	**188**	P	**P**	**08 00 15.5**	**-0.9**

BJI **16** *08:34:46.6±0.0,3.°57N×93.°40E,h26km,mB5.4/60, mb4.8/63,Ms5.6/76,Ms7 5.4/71*

IDC **16** *08:34:47.4±0.5,3.°99N×93.°44E,h0km,mb4.4/23, mb1 4.5/25,mb1mx4.4/42,mbtmp4.4/25,ML4.5/1,MS4.8/38, Ms1 4.8/38,ms1mx4.7/47,Error ellipse: s-maj=17.2km s-min=11.6km az=50.0*

NEIC **16** *08:34:48.3±2.0,3.°95N±0.°07×93.°44E±0.°03,h12km±1km, mb5.0/90,Ms_20 5.2/213,Mwb5.3/46,Mwc5.3(GCMT), Error ellipse: s-maj=12.1km s-min=5.4km az=176.0*

DJA **16** *08:34:49.0±0.3,4.°N±3.°×9.°3E±.°,h10km,M5.2/32,mb5.1/32, mB5.6/27,MLv5.4/12,Mw(mB)5.2/27,Mwp5.4/17*

MOS **16** *08:34:50.3±1.1,3.°99N×93.°49E,h34km,mb5.2/63, MS5.1/19,Error ellipse: s-maj=7.7km s-min=4.1km az=109.6*

NEIC **16** *08:34:51,3.°85N×93.°22E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.17; Mθθ-0.14; Mφφ-1.03; Mrθ 0.19; Mθφ 0.44; Mφr-0.33; Fault plane solution: M0 1.25000×10^17 NP1:φs340.00000°, δ36.00000°,λ94.00000°. NP2:φs155.00000°,δ54.00000°, λ87.00000°. Principal axes: T 1.2305, Plg81.0000°, Azm53.0000°; N 0.0396, Plg2.0000°, Azm157.0000°; P -1.2701, Plg9.0000°, Azm247.0000°;*

GCMT **16** *08:34:51.3±0.1,3.°92N±0.°01×93.°22E±0.°01,h12km, MW5.3/142,Moment Tensor Solution. s91,c134; s142,c252; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr1.01±.01; Mθθ-0.07±.01; Mφφ-0.93±.01; Mrθ-0.13±.03; Mθφ 0.38±.01; Mφr-0.31±.03; Best double couple: M0 1.09800×10^17 NP1:φs327.00000°,δ40.00000°, λ71.00000°. NP2:φs172.00000°,δ53.00000°,λ105.00000°. Principal axes: T 1.0880, Plg76.0000°, Azm133.0000°; N 0.0240, Plg12.0000°, Azm342.0000°; P -1.1070, Plg7.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **16** *08:34:51.3,3.°96N×93.°45E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.02; Mθθ-0.24; Mφφ-0.78; Mrθ-0.14; Mθφ 0.38; Mφr-0.27; Fault plane solution: M0 1.04000×10^17 NP1:φs165.22000°, δ51.43000°,λ105.79000°. NP2:φs320.82000°,δ41.21000°, λ71.15000°. Principal axes: T 1.0904, Plg77.0000°, Azm131.0000°; N -0.1011, Plg12.0000°, Azm335.0000°; P -0.9893, Plg5.0000°, Azm244.0000°;*

KLM **16** *08:34:52.0,3.°96N×93.°31E,h40km,mb5.1*

ISC 16 08:34:51.1±0.6,3.°89N±0.°04×93.°35E±0.°04,h30km±3km, h29km:pP-P,n539,σ1§81/492,mb5.0/126,MS5.2/168, 49C-9D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.07**	**83**	P	**Pn**	**08 35 36.5**	**-1.0**
LHMI	**Lhok Sumawe**	**3.82**	**69**	P	**Pn**	**08 35 48.8**	**+0.9**
LHMI	**Lhok Sumawe**	**3.82**	**69**	Pn	**Pn**	**08 35 47.8**	**-0.1**
TPTI		**3.87**	**99**	P	**Pn**	**08 35 48.1**	**-0.5**
GSI	**Gunungsitoli**	**4.94**	**121**	P	**Pn**	**08 36 01.2**	**-2.1**
GSI	**Gunungsitoli**	**4.94**	**121**	Pn	**Pn**	**08 36 01.8**	**-1.5**
TSI	**Tuntungan**	**5.21**	**

MYLAV IVmB_BB 08 39 06.6
comp=Z,391nm,3.0s
MYLAV IVMs_BB IVMs_BB 09 01 19.9
comp=Z,1μm,10.0s
BWNR Bhubaneshwar 17.89 336 *e*P **Pn** **08 38 54.6 -3.1**
BWNR IAmb IAmb 08 38 57.5
comp=Z,77nm,0.6s
JCJI Jatiwangi 18.11 125 P **Pn** **08 39 00.2 -0.4**
comp=Z,220nm,0.7s
STKI Sintang 18.50 101 P **Pn** **08 39 06.4 +1.0**
NJS Nagarjunasagar 18.67 313 *e*P **Pn** **08 39 07.5 0.0**
NJS IVmB_BB 08 39 09.8
comp=Z,435nm,4.5s
NJS IVMs_BB IVMs_BB 08 53 14.5
comp=Z,2μm,13.9s
SRLM Srisailam 18.69 311 *e*P **Pn** **08 39 08.3 +0.6**
SRLM IVmB_BB 08 39 09.8
comp=Z,462nm,4.6s
SRLM IVMs_BB IVMs_BB 08 56 14.8
comp=Z,2μm,10.8s
SBUM Sibu 18.89 94 **P** **08 39 06.7 -2.6**
GGR Gangavaram 18.91 318 *e*P **Pn** **08 39 10.4 0.0**
GGR IVmB_BB 08 39 13.2
comp=Z,674nm,3.9s
GGR IVMs_BB IVMs_BB 08 48 52.5
comp=Z,991nm,12.3s
KPJI Karang Pucung 19.13 126 P **Pn** **08 39 12.6 -0.4**
comp=Z,33nm,1.9s
URV Uravakonda 19.29 306 *e*P **Pn** **08 39 15.1 +0.2**
URV IVmB_BB 08 39 17.1
comp=Z,629nm,3.8s
URV IVMsBB 08 57 54.1
comp=Z,2μm,10.4s
BELO BELONIA 19.33 355 *e*P **Pn** **08 39 15.6 +0.3**
CUPL Choutuppal 19.44 314 *e*P **Pn** **08 39 15.9 -0.7**
CUPL IVmB_BB 08 39 18.6
comp=Z,742nm,3.7s
CUPL IVMs_BB IVMs_BB 08 55 22.2
comp=Z,1μm,10.6s
PBKI Pangkalan Bun 19.44 109 P **Pn** **08 39 16.1 -0.6**
comp=Z,168nm,1.0s
HYB Hyderabad 19.78 314 *i* P **Pn** **08 39 20.0 -0.8**
HYB *e*S **Sn** **08 43 04.0 +1.7**
HYBB Hyderabad (bro 19.78 314 *e*P **P** **08 39 19.5 +0.4**
HYBB IVmB_BB 08 39 22.7
comp=Z,839nm,3.7s
HYBB IVMs_BB IVMs_BB 08 54 10.3
comp=Z,1μm,12.1s
AGT Agartala 19.98 354 *e*P **P** **08 39 21.5 +0.4**
SLVN Son La 20.14 30 P **P** **08 39 20.2 -2.9**
SLVN IAmb IAmb 08 39 34.1
comp=Z,53nm,1.0s
RPR Rampur 20.25 318 *e*P **P** **08 39 24.7 +0.6**
RPR IVmB_BB 08 39 28.7
comp=Z,517nm,3.2s
RPR IVMs_BB IVMs_BB 09 03 45.4
comp=Z,1μm,10.3s
SILR SILCHAR 20.78 359 *e*P **P** **08 39 29.7 -0.1**
BOK Bokaro 21.06 341 *e*P **P** **08 39 34.2 +1.3**
BOK IAmb IAmb 08 39 40.3
comp=Z,94nm,1.3s
SHL Shillong 21.60 356 *e*P **P** **08 39 37.0 -1.9**
SHL IAmb IAmb 08 39 40.2
comp=Z,45nm,0.5s
SHL Shillong 21.60 356 P **P** **08 39 36.3 -2.5**
SHL pmax pmax
comp=Z,73nm,0.9s
SHL MLR MLR
comp=Z,2μm,21.0s
SHL Shillong 21.60 356 P **P** **08 39 36.3 -2.5**
SHL IAmb IAmb 08 39 48.7
comp=Z,73nm,0.9s
KLRI Killari 21.63 312 *e*P **P** **08 39 39.7 +0.7**
KLRI IVmB_BB 08 39 45.1
comp=Z,673nm,2.4s
KLRI IVMs_BB IVMs_BB 08 54 53.9
comp=Z,2μm,11.7s
KOHI KOHIMA 21.72 2 *e*P **P** **08 39 38.0 -2.1**
QIZ Qiongzhong 22.05 46 P **P** **08 39 42.4 -1.1**
QIZ S **S** **08 43 44.5 -0.8**
QIZ pmax pmax
comp=Z,730nm,8.2s
QIZ LR LR
comp=Z,11μm,11.8s
QIZ LR LR
comp=Z,4μm,14.5s
QIZ LR LR
comp=Z,13μm,12.2s
QIZ Qiongzhong 22.05 46 IAMs_20 IAMs_20 08 49 35.9
comp=Z,9μm,19.0s
MTKI Muara Teweh, K 22.06 102 P **P** **08 39 44.0 +0.3**
NGP Nagpur 22.08 322 *e*P **P** **08 39 44.7 +0.7**
NGP IAmb IAmb 08 39 53.4
comp=Z,83nm,1.6s
NGP *ex* x 08 43 46.6
GUWA GUWAHATI 22.23 356 *e*P **P** **08 39 43.9 -1.5**
GUWA IAmb IAmb 08 39 48.1
comp=Z,32nm,0.5s
MOKO MOKOCHONG 22.33 3 *e*P **P** **08 39 43.8 -2.9**
MOKO *i* x x 08 43 33.1
GOA Goa 22.41 302 *e*P **P** **08 39 48.9 +1.4**
TEZP TEZPUR 22.61 359 *e*P **P** **08 39 46.7 -2.7**
BBKI Banjar Baru 22.68 109 P **P** **08 39 50.9 +0.5**
comp=Z,66nm,1.2s
JORH JORHAT 22.74 2 *e*P **P** **08 39 48.9 -2.0**
KKM Kota Kinabalu 22.88 84 P **P** **08 39 49.5 -3.0**
KKM IAmb IAmb 08 40 08.2
comp=Z,90nm,1.3s
KMI Kunming 22.96 22⇓ *e*P **P** **08 39 56.0 +2.6**
KMI PP **PnPn** **08 40 27.1 +8.4**
KMI S **S** **08 43 52.3 -10**
KMI sS pS 08 44 11.3 +0.2
KMI SS **SnSn** **08 44 41.1 +5.8**
KMI pmax pmax
comp=Z,48nm,1.5s
KMI pmax pmax
comp=Z,1μm,4.6s
KMI LR LR
comp=Z,8μm,10.2s
KMI LR LR
comp=Z,7μm,11.6s
KMI LR LR
comp=Z,8μm,10.1s
SPMM Sapulut 23.06 87 P **P** **08 39 56.0 +1.6**
ZIRO ZIRO 23.51 1 *e*P **P** **08 39 57.1 -1.8**
DGAR Diego Garcia 23.69 242 *i* P **P** **08 39 58.1 -2.4**
DGAR pmax pmax
comp=Z,378nm,2.2s
GTK Tadong 23.74 349 *e*P **P** **08 39 58.9 -2.1**
GTK IAmb IAmb 08 40 05.1
comp=Z,34nm,0.4s
H08S3 Diego Garcia H 23.76 241 T T 09 04 53.0
baz=61,slow=75,SNR=4643
H08S2 Diego Garcia H 23.76 241 T T 09 04 56.8
baz=61,slow=75,SNR=4282
H08S1 Diego Carcia H 23.78 241 T T 09 04 55.9
baz=61,slow=75,SNR=4636
POO Poona 23.99 309 *e*P **P** **08 40 04.2 +0.8**
POO IAmb IAmb 08 40 09.2
comp=Z,9.7nm,0.8s
BKB Balikpapan 24.08 102 IAMs_20 IAMs_20 08 50 48.3
comp=Z,6μm,18.0s
SMKI Samarinda 24.23 100 P **P** **08 40 05.7 +0.2**
comp=Z,5μmcomp=Z,9μmcomp=Z,98nm,0.4s
BHPL Bhopal 24.64 323 *e*P **P** **08 40 10.8 +1.5**
BHPL IAmb IAmb 08 40 14.2
comp=Z,54nm,1.6s
MYLDM Lahad Datu 25.10 86 P **P** **08 40 11.8 -1.7**
MYLDM IAMs_20 IAMs_20 08 50 08.4
comp=Z,7μm,20.0s
LSA Lhasa 25.75 356 P **P** **08 40 21.5 +1.7**
LSA pmax pmax
comp=Z,140nm,0.6s
LSA Lhasa 25.75 356 P **P** **08 40 18.9 -0.9**
LSA pmax pmax
comp=Z,56nm,0.7s
LSA MLR MLR
comp=Z,900nm,19.0s
LSA Lhasa 25.75 356 P **P** **08 40 18.9 -0.9**
GYA Guiyang 25.81 28 ⇑P **P** **08 40 20.3 +0.4**
GYA SS 08 45 49.9
GYA pmax pmax
comp=Z,16nm,0.7s
GYA pmax pmax
comp=Z,600nm,4.4s
GYA LR LR
comp=Z,5μm,16.1s
GYA LR LR
comp=Z,6μm,15.6s
GYA LR LR
comp=Z,5μm,13.5s
MPSI Mapaga 26.76 97 P **P** **08 40 29.7 +1.2**
HKPS Hong Kong Po S 27.20 46 IAMs_20 IAMs_20 08 53 01.6
comp=Z,7μm,18.0s
KAPI Kappang 27.82 108 P **P** **08 40 35.5 -2.5**
KAPI pmax pmax
comp=Z,28nm,1.4s
KAPI MLR MLR
comp=Z,5μm,18.0s
KAPI Kappang 27.82 108 P **P** **08 40 35.5 -2.5**
KAPI IAmb IAmb 08 40 44.9
comp=Z,28nm,1.4s
KAPI Kappang 27.82 108 IAMs_20 IAMs_20 08 53 12.2
comp=Z,5μm,18.0s
CD2 Chengdu 28.61 19 P **P** **08 40 45.3 +0.3**
CD2 pP sP 08 40 55.0 -1.0
CD2 S **S** **08 45 32.8 +1.1**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,410nm,5.9s
CD2 LR LR
comp=Z,9μm,11.6s
CD2 LR LR
comp=Z,15μm,11.2s
CD2 LR LR
comp=Z,14μm,11.4s
ENH Enshi 30.35 28 P **P** **08 40 59.5 -0.9**
ENH IAmb IAmb 08 41 07.5
comp=Z,32nm,1.2s
ENH IAMs_20 IAMs_20 08 53 50.3
comp=Z,4μm,18.0s
SMLA Simla 31.09 332 *e*P **P** **08 41 06.8 0.0**
KNMB Chin-men Tao 31.62 47 IAMs_20 IAMs_20 08 56 17.6
comp=Z,5μm,18.0s
QZH Quanzhou 32.05 47⇑ *i*P **P** **08 41 15.1 -0.3**
QZH S **S** **08 46 34.6 +8.9**
QZH LR LR
comp=Z,7μm,15.6s
QZH LR LR
comp=Z,3μm,16.1s
QZH LR LR
comp=Z,10μm,11.3s
DHRM DHARAMSHALA 32.43 332 *e*P **P** **08 41 19.7 +0.8**
TPUB Ta-pu 32.67 51 IAMs_20 IAMs_20 08 55 59.3
comp=Z,6μm,18.0s
TWG Pinlang 32.77 52 IAMs_20 IAMs_20 08 56 24.0
comp=Z,4μm,18.0s
WHN Wuhan 33.10 34 P **P** **08 41 25.9 +1.4**
WHN pP **pwP** **08 41 36.8 +1.5**
WHN S **S** **08 46 43.5 +1.6**
WHN LR LR
comp=Z,15μm,8.9s
WHN LR LR
comp=Z,12μm,10.9s
WHN LR LR
comp=Z,18μm,12.0s
SSLB Suanglung 33.18 51 IAMs_20 IAMs_20 08 56 23.8
comp=Z,5μm,18.0s
YULB Yu-li 33.24 52 IAMs_20 IAMs_20 08 56 18.4
comp=Z,4μm,18.0s
XAN Xi'an 33.32 24⇑ P **P** **08 41 25.4 -1.0**
XAN PP **PP** **08 42 41.8 -0.3**
XAN S **S** **08 46 44.5 -0.8**
XAN PcS **PcS** **08 47 49.5 -4.3**
XAN pmax pmax
comp=Z,34nm,1.4s
XAN pmax pmax
comp=Z,500nm,6.7s
XAN LR LR
comp=Z,5μm,15.7s
XAN LR LR
comp=Z,9μm,16.1s
XAN LR LR
comp=Z,7μm,11.8s
XAN Xi'an 33.32 24 P **P** **08 41 24.7 -1.7**
XAN pmax pmax
comp=Z,44nm,1.1s
XAN MLR MLR
comp=Z,3μm,18.0s
XAN Xi'an 33.32 24 P **P** **08 41 24.6 -1.7**
XAN Xi'an 33.32 24 IAMs_20 IAMs_20 08 57 22.5
comp=Z,3μm,18.0s
LZH Lanzhou 33.47 16⇑ P **P** **08 41 27.9 0.0**
LZH pP sP 08 41 37.8 -1.2
LZH sP pwP 08 41 41.8 +2.2
LZH S **S** **08 46 48.1 +0.3**
LZH sS sS 08 47 00.1 -1.4
LZH pmax pmax
comp=Z,48nm,1.2s
LZH pmax pmax
comp=Z,300nm,4.3s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,5μm,16.8s
LZH LR LR
comp=Z,3μm,14.1s
TATO Taipei 34.23 50 IAMs_20 IAMs_20 08 57 32.8
comp=Z,4μm,19.0s
NIL Nilore 35.04 330 P **P** **08 41 40.6 -0.8**
NIL pmax pmax
comp=Z,24nm,0.8s
NIL MLR MLR
comp=Z,2μm,18.0s
NIL Nilore 35.04 330 P **P** **08 41 40.6 -0.8**
NIL IAmb IAmb 08 41 57.8
comp=Z,24nm,0.8s
YOJ Yonaguni jima 35.13 52 IAMs_20 IAMs_20 08 56 50.6
comp=Z,4μm,18.0s
GTA Gaotai 35.84 9 P **P** **08 41 49.0 +0.7**
GTA pP sP 08 41 57.8 -1.7
GTA sP pwP 08 42 01.9 +2.0
GTA S **S** **08 47 24.8 +0.6**
GTA SS **SnSn** **08 49 49.1 +0.5**
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,410nm,6.5s
GTA LR LR
comp=Z,2μm,15.3s
GTA LR LR
comp=Z,2μm,12.4s
GTA LR LR
comp=Z,2μm,13.4s
PSAD1 Pilbara Seismi 36.15 135 IAMs_20 IAMs_20 08 58 48.5
comp=Z,3μm,19.0s
PSAC1 Pilbara Seismi 36.19 135 IAMs_20 IAMs_20 08 58 28.5
comp=Z,3μm,19.0s
PSAB2 Pilbara Seismi 36.24 135 IAMs_20 IAMs_20 08 58 50.8
comp=Z,3μm,19.0s
PSAD3 Pilbara Seismi 36.24 136 IAMs_20 IAMs_20 08 58 30.9
comp=Z,3μm,20.0s
PSAA3 Pilbara Seismi 36.25 135 IAMs_20 IAMs_20 08 58 51.1
comp=Z,3μm,19.0s
PSAB3 Pilbara Seismi 36.26 135 IAMs_20 IAMs_20 08 58 30.4
comp=Z,3μm,19.0s
PSAC3 Pilbara Seismi 36.26 135 IAMs_20 IAMs_20 08 58 50.4
comp=Z,3μm,20.0s
NJ2 Nanjing 36.84 38 *e*P **P** **08 41 56.4 -0.4**
NJ2 pP **pP** **08 42 04.9 -0.1**
NJ2 sP **pwP** **08 42 10.4 +2.8**
NJ2 PP **PnPn** **08 43 21.8 +0.6**
NJ2 S **S** **08 47 39.8 +0.4**
NJ2 sS **sS** **08 47 52.1 -1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,450nm,6.4s
NJ2 LR LR
comp=Z,10μm,11.4s
NJ2 LR LR
comp=Z,8μm,9.9s
NJ2 LR LR
comp=Z,13μm,10.2s
SSE Sheshan 37.67 41 P **P** **08 42 04.6 +0.8**
SSE PP **PnPn** **08 43 34.5 +3.2**
SSE S **S** **08 47 54.6 +2.5**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,160nm,7.4s
SSE LR LR
comp=Z,3μm,17.1s
KBL Kabul 37.94 326 P **P** **08 42 04.4 -1.9**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL MLR MLR
comp=Z,2μm,20.0s
KBL Kabul 37.94 326 P **P** **08 42 04.4 -1.9**
SIJI Sorong 38.18 96 P **P** **08 42 08.0 -0.4**
comp=Z,36nm,0.8s,baz=296,slow=7.8,SNR=14
FITZ Fitzroy Crossi 38.61 125 P **P** **08 42 11.8 -0.1**
baz=39,SNR=3.6
FITZ Fitzroy Crossi 38.61 125 P **P** **08 42 10.7 -1.2**
TIA Tai'an 38.91 31 P **P** **08 42 14.3 +0.1**
TIA S S 08 48 00.6 -10
TIA pmax pmax
comp=Z,13nm,1.1s
TIA pmax pmax
comp=Z,250nm,3.5s
TIA LR LR
comp=Z,2μm,14.2s
TIA LR LR
comp=Z,5μm,15.0s
TIA LR LR
comp=Z,2μm,18.5s
MEEK Meekatharra 38.96 143 P **P** **08 42 16.3 +1.5**
baz=39,SNR=4.0
BTO Baotou 39.52 20 *e*P **P** **08 42 17.8 -1.5**
SAUI Saumlaki 39.65 107 IAMs_20 IAMs_20 09 00 37.8
comp=Z,2μm,19.0s
SOCY Socotra 39.80 284 P **P** **08 42 20.4 -1.6**
SOCY IAmb IAmb 08 42 27.0
comp=Z,35nm,1.4s
KNRA Kununurra 40.07 120 P **P** **08 42 22.1 -2.0**
WMQ Urumqi 40.08 354 *e*P **P** **08 42 24.6 +0.7**
WMQ sP pwP 08 42 36.8 +1.5
WMQ PP **PnPn** **08 44 01.3 +1.3**
WMQ S **S** **08 48 28.0 -0.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,310nm,3.9s
WMQ LR LR
comp=Z,970nm,13.7s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,570nm,18.1s
HHC Hu-ho-hao-te 40.28 22 *e*P **P** **08 42 25.8 +0.1**
HHC PP **PnPn** **08 44 03.0 +0.5**
HHC S **S** **08 48 30.4 -1.0**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC LR LR
comp=Z,2μm,13.7s
HHC LR LR
comp=Z,10μm,14.7s
HHC LR LR
comp=Z,3μm,16.9s
PRZ Przheval'sk 40.68 343 P **P** **08 42 31.2 +2.2**
PRZ pmax pmax
comp=Z,80nm,1.3s
PRZ Przheval'sk 40.68 343 P **P** **08 42 31.1 +2.2**
KDJ Kajisay 40.73 341 P **P** **08 42 30.3 +0.8**
KDJ pmax pmax
comp=Z,26nm,0.8s
KDJ Kajisay 40.73 341 P **P** **08 42 30.3 +0.8**
KDJ IAmb IAmb 08 42 40.3
comp=Z,26nm,0.8s
GAR Garm 40.74 332 P **P** **08 42 29.6 0.0**
GAR IAMs_20 IAMs_20 09 01 44.5
comp=Z,2μm,19.0s
SHLS Shalkode 41.00 344⇑ *e*P **P** **08 42 32.0 +0.3**
comp=Z,69nm,2.1s
SHLS *e*PP **PP** **08 44 06.2 -0.3**
SHLS *e*S **S** **08 48 36.2 -5.9**
SHLS Shalkode 41.00 344 *ce*P **P** **08 42 31.9 +0.3**
SHLS *e* 08 44 06.2
SHLS *e*S **S** **08 48 36.2 -5.9**
SHLS pmax pmax
comp=Z,69nm,2.1s
CHGR Chuyangaron 41.02 331 P **P** **08 42 31.1 -0.7**
CHGR IAmb IAmb 08 42 41.2
comp=Z,44nm,0.9s
CHGR IAMs_20 IAMs_20 09 02 13.0
comp=Z,3μm,18.0s
MTN Manton Dam 41.04 115 P **P** **08 42 31.8 -0.4**
baz=41,SNR=5.0
UZB Uzunbulak 41.11 344⇑ *i*P **P** **08 42 33.4 +0.8**
comp=Z,73nm,2.9s
UZB *e*PP **PP** **08 44 08.0 +0.2**
UZB *e*S **S** **08 48 45.5 +1.6**
UZB Uzunbulak 41.11 344 *c i*P **P** **08 42 33.3 +0.8**
UZB *e* 08 44 08.0
UZB *e*S **S** **08 48 45.4 +1.6**
UZB pmax pmax
comp=Z,73nm,2.9s
ULHL Ulahol 41.13 341 P **P** **08 42 33.7 +0.9**
SNR=14
SATY Saty 41.20 343⇑ *i*P **P** **08 42 34.4 +1.1**
comp=Z,58nm,2.2s
SATY *e*PP **PP** **08 44 06.2 -2.6**
SATY *e*S **S** **08 48 47.5 +2.4**
SATY Saty 41.20 343 *c i*P **P** **08 42 34.4 +1.1**
SATY *e* 08 44 06.1
SATY *e*S **S** **08 48 47.5 +2.4**
SATY pmax pmax
comp=Z,57nm,2.2s
BTK Batken 41.37 334 P **P** **08 42 36.2 +1.6**
BTK pmax pmax
comp=Z,57nm,1.1s
BTK MLR MLR
comp=Z,2μm,19.0s
BTK Batken 41.37 334 P **P** **08 42 36.2 +1.6**
BTK IAMs_20 IAMs_20 09 01 52.0
comp=Z,2μm,19.0s
BOOM Boomskoye usch 41.45 340 P **P** **08 42 35.5 +0.1**
BOOM pmax pmax
comp=Z,27nm,0.9s
BOOM Boomskoye usch 41.45 340 P **P** **08 42 35.5 +0.1**
BOOM IAmb IAmb 08 42 45.8
comp=Z,27nm,0.8s
BJT Baijiatuau 41.46 27 P **P** **08 42 34.7 -0.6**
BJT pmax pmax
comp=Z,30nm,1.1s
BJT MLR MLR
comp=Z,2μm,19.0s
BJT Baijiatuau 41.46 27 P **P** **08 42 34.7 -0.6**
BJT IAmb IAmb 08 42 48.5
comp=Z,30nm,1.1s
KPKS Kokpek 41.50 344⇑ *i*P **P** **08 42 36.5 +0.8**
comp=Z,100nm,2.5s
KPKS *e*PP **PP** **08 44 12.2 +0.3**
KPKS *e*S **S** **08 48 50.4 +0.9**
KPKS Kokpek 41.50 344 *c i*P **P** **08 42 36.5 +0.8**
KPKS *e* 08 44 12.2
KPKS *e*S **S** **08 48 50.3 +0.8**
KPKS pmax pmax
comp=Z,100nm,2.5s
TNSS Tian-Shan 41.62 342 *e*P **P** **08 42 37.4 +0.4**
TNSS Tian-Shan 41.62 342 *e*P **P** **08 42 37.4 +0.4**
MDOK Medeo 41.70 342 *i* P **P** **08 42 38.7 +1.2**
MDOK *e*PP **PP** **08 44 13.8 -0.4**
MDOK *e*S **S** **08 48 55.5 +2.9**
MDOK Medeo 41.70 342 *i* P **P** **08 42 38.6 +1.2**
MDOK *e* 08 44 13.7
MDOK *e*S **S** **08 48 55.4 +2.9**
UCH Uchtor 41.72 339 P **P** **08 42 38.9 +1.0**
SNR=17
HRA Herat 41.90 320 P **P** **08 42 40.0 +0.8**
AML Almayashu 41.93 338 P **P** **08 42 40.9 +1.3**
SNR=22
KBK Karagaybulak 41.94 340 P **P** **08 42 40.9 +1.5**
SNR=7.7
TKM2 Tokmak 2 41.95 340 P **P** **08 42 40.5 +1.0**
SNR=12
AAK Ala-Archa 42.08 339 *ce*P **P** **08 42 39.6 -0.9**
AAK pmax pmax
comp=Z,33nm,1.5s
FRU1 Bishkek 42.19 339 IAMs_20 IAMs_20 09 03 01.2
comp=Z,2μm,18.0s
EKS2 Erkin-Say 42.36 338 P **P** **08 42 44.1 +1.4**
SNR=8.5
KUU Kurty 42.58 342⇑ *i*P **P** **08 42 44.7 +0.2**

KUU comp=Z,153nm,2.6s
KUU eS S 08 49 07.1 +1.8
KUU Kurty 42.58 342*c* iP P 08 42 44.6 +0.2
KUU eS S 08 49 07.1 +1.8
KUU pmax pmax
SGDS comp=Z,153nm,2.6s
SGDS Sogindy 42.75 340 *e*P **P 08 42 46.3 +0.4**
SGDS comp=Z,80nm,2.6s
SGDS eS S 08 49 13.5 +5.6
SGDS Sogindy 42.75 340 *e*P **P 08 42 46.2 +0.4**
SGDS eS S 08 49 13.4 +5.6
SGDS pmax pmax
TDK Taldyqorghan 43.00 344 *e*P **P 08 42 48.0 +0.2**
TDK Taldyqorghan 43.00 344 *e*P **P 08 42 47.9 +0.2**
H01W3 Cape Leeuwin H 43.24 155 T T 09 28 57.6
H01W2 baz=330,slow=76,SNR=657
Cape Leeuwin H 43.25 155 T T 09 28 58.6
H01W1 baz=330,slow=76,SNR=633
Cape Leeuwin H 43.25 155 T T 09 28 59.3
DL2 baz=330,slow=76,SNR=534
DL2 Dalian 43.30 33 P **P 08 42 52.4 +2.1**
DL2 PP PP 08 44 34.5 +3.2
DL2 S S 08 49 21.3 +5.4
DL2 pmax pmax
DL2 comp=Z,51nm,1.3s
DL2 pmax pmax
DL2 comp=Z,570nm,5.8s
DL2 LR LR
DL2 comp=Z,2μm,14.0s
DL2 LR LR
DL2 comp=Z,4μm,14.6s
DL2 LR LR
IUG luzhnay 43.41 335 *e*P **P 08 42 51.5 +0.2**
IUG luzhnay 43.41 335 *e*P **P 08 42 51.4 +0.2**
MK31 Makanchi Array 43.80 349*ce*P **P 08 42 54.8 +0.6**
MK31 Makanchi Array 43.80 349 P P **08 42 54.8 +0.6**
MK31 comp=Z,22nm,1.1s
IAmb IAmb 08 43 10.8
MKAR Makanchi Array 43.80 349 P **P 08 42 54.9 +0.6**
MKAR comp=Z,7.1nm,0.6s,baz=168,slow=8.2,SNR=52
LR LR 09 03 57.4
comp=Z,1μm,21.7s,baz=163,slow=40
MKAR Makanchi Array 43.80 349 P **P 08 42 54.1 -0.1**
MKAR Makanchi Array 43.80 349 P **P 08 42 54.1 -0.1**
MAKZ Makanchi 43.88 349 P **P 08 42 54.7 -0.1**
MAKZ Makanchi 43.88 349 P **P 08 42 55.1 +0.3**
KK31 Karatay Array 44.00 336 P **P 08 42 56.1 +0.2**
KK31 comp=Z,15nm,1.0s
pmax pmax
KK31 Karatay Array 44.00 336 P **P 08 42 56.1 +0.2**
KKAR Karatay Array 44.00 336 P **P 08 42 55.8 -0.1**
KKAR Karatay Array 44.00 336 P **P 08 42 56.0 +0.1**
KKAR comp=Z,15nm,0.9s
IAmb IAmb 08 43 06.1
KKAR Karatay Array 44.00 336 P **P 08 42 55.8 -0.1**
ZSN Zaisan 44.01 352⇑*i*P **P 08 42 57.0 +1.1**
ZSN comp=Z,197nm,2.6s
*e*PP **PcP 08 44 40.1 -1.1**
ZSN eS S 08 49 29.4 +3.4
ZSN Zaisan 44.01 352*c* iP **P 08 42 56.9 +1.1**
ZSN *e* 08 44 40.1
ZSN eS S 08 49 29.4 +3.4
ZSN pmax pmax
BTLS Baital 44.35 340⇑*i*P **P 08 42 58.9 +0.3**
BTLS comp=Z,35nm,2.4s
*e*PP **PP 08 44 40.6 -1.8**
BTLS eS S 08 49 29.1 -1.9
BTLS Baital 44.35 340*c* iP **P 08 42 58.9 +0.3**
BTLS *e* 08 44 40.6
BTLS eS S 08 49 29.1 -1.9
BTLS pmax pmax
WRKA Warakurna 44.48 132 P **P 08 43 00.9 +0.9**
SONM baz=44,SNR=7.0
Songino Array 45.20 12 P **P 08 43 05.7 +0.3**
SONM comp=Z,2.5nm,0.6s,baz=191,slow=9.5,SNR=9.1
LR LR 09 03 38.8
comp=Z,2μm,20.6s,baz=187,slow=38
SONM Songino Array 45.20 12 P **P 08 43 05.5 0.0**
SONM pmax pmax
SONM Songino Array 45.20 12 P **P 08 43 05.5 0.0**
ULN Ulaanbaatar 45.37 13*ce*P **P 08 43 06.9 0.0**
ULN comp=Z,5.0nm,1.1s
pmax pmax
ULN Ulaanbaatar 45.37 13 P **P 08 43 06.8 0.0**
DGZ Jazzator, Alta 45.92 355*c* iP **P 08 43 11.8 +0.6**
DGZ comp=Z,28nm,2.5s
pmax pmax
KSRS Korea Array 46.00 39 LR LR 09 04 58.2
comp=Z,39nm,2.1s
comp=Z,2μm,18.1s,baz=232,slow=40
WB0 Warramunga Arr 46.68 122 P **P 08 43 17.2 -0.3**
WB0 comp=Z,17nm,0.9s
IAmb IAmb 08 43 18.8
WRA Warramunga Arr 46.71 122 P **P 08 43 17.4 -0.3**
WRA comp=Z,10nm,0.8s,baz=299,slow=9.0,SNR=45
LR LR 09 05 39.1
comp=Z,1μm,19.1s,baz=295,slow=40
WRA Warramunga Arr 46.71 122 P **P 08 43 17.2 -0.5**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 46.71 122 P **P 08 43 17.2 -0.5**
GEYT Alibeck 46.71 321 P **P 08 43 18.8 +1.2**
GEYT comp=Z,8.2nm,0.7s,baz=140,slow=7.8,SNR=12
LR LR 09 05 55.9
comp=Z,1μm,19.2s,baz=155,slow=40
GEYT Alibeck 46.71 321 P **P 08 43 16.9 -0.6**
GYA0 ALIBECK ARRAY 46.71 321 P **P 08 43 15.6 -1.9**
GYA0B ALIBECK ARRAY 46.71 321 P **P 08 43 17.4 -0.1**
GYA0B comp=Z,16nm,0.8s
IAmb IAmb 08 43 31.1
WRAB Tennant Creek 46.72 122*ce*P **P 08 43 17.6 -0.1**
WRAB comp=Z,41nm,1.7s
pmax pmax
WRAB Tennant Creek 46.72 122 P **P 08 43 16.9 -0.8**
WB2 Warramunga Arr 46.72 122 P **P 08 43 17.4 -0.3**
WR0 Warramunga Arr 46.89 122 P **P 08 43 18.8 -0.3**
ZAK Zakamensk 47.08 9 *e*P **P 08 43 19.7 -0.5**
ZAK comp=Z,10.0nm,1.9s
pmax pmax
ASAR Alice Springs 48.07 127 P **P 08 43 28.0 -0.3**
ASAR comp=Z,4.8nm,0.9s,baz=304,slow=7.4,SNR=25
PcP **PcP 08 44 57.1 +1.2**
comp=Z,2.4nm,0.9s,baz=304,slow=3.5,SNR=5.1
ASAR Alice Springs 48.07 127 P **P 08 43 27.2 -1.1**
ASAR Alice Springs 48.07 127 P **P 08 43 27.2 -1.1**
AS31 Alice Springs 48.07 127 P **P 08 43 26.3 -2.0**
JHS Saijyo 48.08 45 IAMs_20 IAMs_20 09 06 51.4
comp=Z,3μm,21.0s
KURBB Kurchatov Arra 48.22 347 P **P 08 43 29.0 +0.1**
KURK Kurchatov 48.28 347*ce*P **P 08 43 30.3 +0.9**
KURK comp=Z,60nm,2.3s
pmax pmax
KURK Kurchatov 48.28 347 P **P 08 43 29.8 +0.4**
TLY Talaya 48.40 9 LR LR 09 05 07.9
comp=Z,382nm,20.0s,baz=172,slow=38
TLY Talaya 48.40 9*c* iP **P 08 43 31.3 +1.0**
TLY *e* 08 45 22.9
TLY eS S 08 50 28.8 -0.2
TLY *e* 08 53 23.2
TLY pmax pmax
comp=Z,36nm,2.3s
TLY MLR MLR
comp=Z,3μm,11.0s
TLY Talaya 48.40 9 P **P 08 43 27.8 -2.5**
TLY IAMs_20 IAMs_20 09 07 50.3
comp=Z,2μm,18.0s
CN2 Changchun 48.81 31 *e*P **P 08 43 35.4 +1.8**
CN2 eS S 08 50 35.0 0.0
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,1μm,13.2s
IRK Irkutsk 49.04 9 *e*P **P 08 43 37.2 +2.0**
IRK pmax pmax
comp=Z,87nm,2.6s

BRZS Berezniki 49.15 342⇑*i*P **P 08 43 36.5 +0.3**
BRZS comp=Z,116nm,2.6s
*e*PP **PP 08 45 30.1 +0.1**
BRZS Berezniki 49.15 342*c* iP **P 08 43 36.4 +0.3**
BRZS *e* 08 45 30.1
BRZS pmax pmax
comp=Z,116nm,2.6s
DAMY Dhamar 49.37 286 P **P 08 43 37.5 -1.3**
ZAA0 Zalesovo Array 50.39 353 P **P 08 43 45.5 0.0**
ZALV Zalesovo Beam 50.39 353 P **P 08 43 46.4 +0.9**
comp=Z,5.4nm,0.4s,baz=193,slow=6.8,SNR=17
ZALV LR LR 09 09 42.5
comp=Z,793nm,18.4s,baz=192,slow=42
ZALV Zalesovo Beam 50.39 353 P **P 08 43 45.7 +0.3**
ZALV Zalesovo Beam 50.39 353 P **P 08 43 45.7 +0.3**
HIA Hailar 50.48 22 P **P 08 43 44.4 -1.9**
HIA pmax pmax
comp=Z,44nm,1.3s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 50.48 22 P **P 08 43 44.4 -1.9**
HIA Hailar 50.48 22 IAMs_20 IAMs_20 09 06 53.0
comp=Z,3μm,20.0s
MDJ Mudanjiang 51.55 33 IAMs_20 IAMs_20 09 07 59.2
comp=Z,2μm,20.0s
MAJO Matsushiro 52.44 46 IAMs_20 IAMs_20 09 08 30.9
comp=Z,3μm,19.0s
MJAR Matsushiro Arr 52.44 46 P **P 08 44 00.7 -0.5**
comp=Z,1.0nm,0.6s,baz=238,slow=7.2,SNR=4.7
MJAR PcP **PcP 08 45 13.0 +1.3**
comp=Z,2.9nm,0.8s,baz=247,slow=4.1,SNR=6.5
MJAR LR LR 09 08 24.5
comp=Z,2μm,18.7s,baz=260,slow=38
MJAR Matsushiro Arr 52.44 46 P **P 08 44 00.1 -1.1**
COEN Coen 52.50 111 IAMs_20 IAMs_20 09 07 15.5
comp=Z,1μm,20.0s
BRVK Borovoye 52.57 343*ce*P **P 08 44 01.8 0.0**
BRVK pmax pmax
comp=Z,30nm,2.5s
BRVK Borovoye 52.57 343 P **P 08 44 01.5 -0.3**
BRVK IAmb IAmb 08 44 11.1
comp=Z,35nm,1.4s
BRVK Borovoye 52.57 343 IAMs_20 IAMs_20 09 08 52.8
comp=Z,1μm,19.0s
USA0B Ussuriysk Arra 52.60 34 IAMs_20 IAMs_20 09 08 34.0
comp=Z,2μm,19.0s
USRK Ussuriysk Ar. 52.60 34 P **P 08 44 03.1 +0.9**
comp=Z,1.8nm,0.6s,baz=264,slow=8.4,SNR=5.5
USRK LR LR 09 08 45.2
comp=Z,2μm,18.0s,baz=214,slow=39
USRK Ussuriysk Ar. 52.60 34 P **P 08 44 00.5 -1.7**
USRK Ussuriysk Ar. 52.60 34 P **P 08 44 00.5 -1.7**
JSD Sado 53.18 44 IAMs_20 IAMs_20 09 09 08.4
comp=Z,3μm,18.0s
AB31 Akbulak array 53.37 333 *i* P **P 08 44 06.6 -1.2**
ABKAR Akbulak array 53.37 333 P **P 08 44 07.3 -0.5**
ABKAR IAmb IAmb 08 44 17.3
comp=Z,43nm,1.5s
ABKAR Akbulak array 53.37 333 P **P 08 44 07.1 -0.7**
FURI Furi 54.52 278 IAMs_20 IAMs_20 09 04 45.9
comp=Z,1μm,18.0s
JMM Marumori 54.88 45 IAMs_20 IAMs_20 09 11 35.5
comp=Z,2μm,18.0s
AKTO Aktyubinsk 55.09 333 LR LR 09 10 29.6
comp=Z,508nm,18.8s,baz=138,slow=39
PMG Port Moresby 55.22 104 LR LR 09 11 35.7
comp=Z,706nm,18.3s,baz=252,slow=40
BOD Bodaibo 56.18 13 *e*P **P 08 44 27.2 -0.8**
BOD pmax pmax
comp=Z,21nm,1.0s
MAK Makhachkala 56.22 321 *e*P **P 08 44 29.6 +1.1**
MAK *e* 08 46 38.1
MAK eS S 08 52 20.2 +3.8
MAK pmax pmax
comp=Z,264nm,1.6s
KMBO Kilima Mbogo 56.29 266 LR LR 09 06 29.5
comp=Z,1μm,18.7s,baz=92,slow=34
KMBO Kilima Mbogo 56.29 266 P **P 08 44 30.1 +0.3**
KMBO pmax pmax
comp=Z,15nm,1.5s
KMBO Kilima Mbogo 56.29 266 P **P 08 44 30.1 +0.3**
KMBO IAmb IAmb 08 44 41.0
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 56.29 266 IAMs_20 IAMs_20 09 06 16.2
comp=Z,1μm,19.0s
HTT Hallett 56.83 134 P **P 08 44 34.6 +1.5**
baz=57,SNR=3.4
ZEA Zeya 56.89 23 *e*P **P 08 44 34.2 +1.1**
ZEA eS S 08 52 15.4 -9.5
ZEA pmax pmax
comp=Z,200nm,4.6s
ZEA pmax pmax
comp=Z,100nm,6.0s
ZEA smax smax
comp=E,200nm,6.4s
ZEA MLR MLR
comp=E,900nm,13.0s
ZEA MLR MLR
comp=N,2μm,12.0s
ZEA MLR MLR
comp=Z,2μm,13.0s
CTA Charters Tower 57.14 117 P **P 08 44 36.3 +0.8**
comp=Z,5.2nm,0.9s,baz=295,slow=5.7,SNR=4.9
CTAO Charters Tower 57.14 117 P **P 08 44 32.3 -3.1**
CTAO pmax pmax
comp=Z,20nm,1.4s
CTAO MLR MLR
comp=Z,1μm,22.0s
CTAO Charters Tower 57.14 117 P **P 08 44 32.3 -3.1**
CTAO IAmb IAmb 08 44 36.4
comp=Z,20nm,1.4s
GROC Groznyy 57.43 320 *e*P **P 08 44 38.3 +1.2**
GROC *e* 08 46 50.1
GROC eS S 08 52 31.1 -1.2
GROC pmax pmax
comp=Z,65nm,1.3s
STKA Stephens Creek 58.00 132 P **P 08 44 42.0 +0.7**
comp=Z,1.7nm,0.4s,baz=294,slow=7.2,SNR=5.4
STKA LR LR 09 11 55.1
comp=Z,690nm,19.5s,baz=309,slow=38
STKA Stephens Creek 58.00 132 P **P 08 44 42.2 +0.9**
baz=58,SNR=4.7
STKA Stephens Creek 58.00 132 P **P 08 44 41.6 +0.3**
STKA pmax pmax
comp=Z,6.0nm,1.5s
STKA Stephens Creek 58.00 132 P **P 08 44 41.6 +0.3**
ERM Erimo 58.34 42 IAMs_20 IAMs_20 09 09 47.1
comp=Z,2μm,20.0s
JEM Erimo 58.35 42 IAMs_20 IAMs_20 09 09 46.9
comp=Z,2μm,20.0s
MARD Mardin 58.39 312 P **P 08 44 44.6 +0.5**
MARD IAmb IAmb 08 45 01.6
comp=Z,26nm,1.3s
ZEI Tsey 58.46 319 *e*P **P 08 44 45.7 +1.1**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
SVE Sverdlovsk 58.82 340 *e*P **P 08 44 47.4 +0.8**
SVE eS S 08 52 46.1 -3.9
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=Z,2μm,17.0s
ASAJ Asahikawa 58.94 40 LR LR 09 11 02.5
comp=Z,μm,18.4s,baz=247,slow=37
JKA Kamikawa-asahi 58.94 40 IAMs_20 IAMs_20 09 10 50.9
comp=Z,2μm,18.0s
GRNR Gornyy 59.01 30⇑*i*P **P 08 44 47.2 -0.9**
GRNR pmax pmax
comp=N,4.0nm,1.0s
GRNR pmax pmax
comp=Z,3.0nm,0.9s
GRNR MLR MLR
comp=N,2μm,11.0s
GRNR MLR MLR
comp=E,1μm,11.0s
GRNR MLR MLR
comp=Z,3μm,11.0s
ARTV Artvin 59.09 317 P **P 08 44 47.6 -1.4**
KRVT Keravat (AS076 59.19 97 LR LR 09 12 20.0
comp=Z,327nm,18.6s,baz=258,slow=38
ARU Arti 59.25 338 LR LR 09 14 07.2
comp=Z,648nm,18.1s,baz=144,slow=40
ARU Arti 59.25 338*c* iP **P 08 44 49.6 0.0**
ARU 08 45 33.2
ARU 08 46 55.9
ARU S S **08 52 56.3 +0.7**

ARU SS **SS 08 56 53.3 +2.8**
ARU pmax pmax
comp=Z,30nm,2.6s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 59.25 338 P **P 08 44 49.4 -0.2**
ARU IAMs_20 IAMs_20 09 13 31.9
comp=Z,1μm,19.0s
KBZ Khabaz 59.54 320 P **P 08 44 52.2 +0.4**
comp=Z,5.0nm,0.9s,baz=140,slow=4.8,SNR=8.9
KBZ Khabaz 59.54 320*ce*P **P 08 44 51.8 0.0**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KOPT Kop Dagi 59.61 315 P **P 08 44 52.2 -0.6**
SHA1 Shidzhatmaz 59.70 319 *i* P **P 08 44 53.1 -0.1**
KIV Kislovodsk 59.78 320 *e*P **P 08 44 52.7 -0.9**
KIV eS S 08 53 01.5 -1.6
KIV pmax pmax
comp=Z,27nm,1.1s
KIV Kislovodsk 59.78 320 P **P 08 44 54.1 +0.5**
KIV IAmb IAmb 08 45 02.9
comp=Z,18nm,1.3s
YSS Yuzh-Sakhalins 60.41 37 *e*P **P 08 44 56.2 -1.5**
YSS *e* 08 47 14.9
YSS eS S 08 53 05.6 -5.2
YSS eSSS SSS 08 59 37.7
YSS pmax pmax
comp=Z,600nm,8.8s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=E,800nm,14.0s
YSS Yuzh-Sakhalins 60.41 37 IAMs_20 IAMs_20 09 10 10.7
comp=Z,1μm,19.0s
CMSA Cobar Meteorol 60.96 129 P **P 08 45 03.7 +1.9**
baz=61,SNR=7.1
GAZ Gaziantep 61.02 311 P **P 08 45 03.1 +0.9**
GAZ IAMs_20 IAMs_20 09 13 13.8
comp=Z,1μm,18.0s
BELG Belogornoye 61.31 330 *i* P **P 08 45 03.2 -0.5**
RMQ Roma 61.46 123 P **P 08 45 04.5 -0.8**
baz=61,SNR=4.4
SOC Sochi 61.56 318 *e*P **P 08 45 03.1 -2.5**
SOC *e* 08 47 18.2
SOC eS S 08 53 21.9 -3.8
SOC eSS SS 08 57 21.1 -6.2
SOC MLR MLR
comp=Z,386nm,22.0s
NKL Nikolayevsk 62.54 30 *e*P **P 08 45 10.8 -1.2**
NKL pmax pmax
comp=N,10.0nm,0.9s
NKL pmax pmax
comp=Z,34nm,1.5s
NKL MLR MLR
comp=N,55nm,12.0s
NKL MLR MLR
comp=Z,2μm,13.0s
TOKA Tokat 62.59 314 P **P 08 45 14.2 +1.5**
MBAR Mbarara 62.73 267 IAMs_20 IAMs_20 09 07 21.9
comp=Z,2μm,22.0s
KUR Kuril'sk 62.81 40 *e*P **P 08 45 14.5 +0.6**
KUR S S **08 53 44.6 +3.3**
KUR MLR MLR
comp=Z,968nm,15.0s
KUR MLR MLR
comp=N,847nm,13.0s
EIDS Eidsvold 63.05 121 IAMs_20 IAMs_20 09 16 30.4
comp=Z,2μm,20.0s
CSS Mathiatis 63.39 307 IAMs_20 IAMs_20 09 14 46.9
comp=Z,1μm,19.0s
ANN Anapa 63.55 319 *e*P **P 08 45 17.4 -1.5**
ANN *e* 08 47 39.4
ANN eS S 08 53 49.2 -1.4
ANN pmax pmax
comp=Z,31nm,0.8s
ANN MLR MLR
comp=Z,625nm,16.0s
YAK Yakutsk 64.00 18 *e*P **P 08 45 20.4 -1.1**
YAK pmax pmax
comp=Z,20nm,1.4s
YAK MLR MLR
comp=Z,2μm,15.0s
KIRV Kirov 64.30 336 LR LR 09 16 41.0
comp=Z,735nm,18.2s,baz=79,slow=39
KIRV Kirov 64.30 336 *i* P **P 08 45 23.7 +0.2**
BR131 Keskin Array S 64.47 312 P **P 08 45 24.1 -1.1**
BR131 Keskin Array S 64.47 312 P **P 08 45 24.1 -1.1**
BRTR Keskin Array B 64.47 312 P **P 08 45 25.1 -0.2**
comp=Z,3.6nm,0.7s,baz=136,slow=6.0,SNR=12
BRTR LR LR 09 15 19.1
comp=Z,265nm,19.7s,baz=112,slow=38
ILGA Ilgaz 64.82 314 P **P 08 45 26.2 -1.4**
BZK Bozkurt 64.90 315⇑P **P 08 45 28.5 +0.8**
VSR Storozhevoye 65.19 326 *e*P **P 08 45 28.5 -1.0**
VSR pmax pmax
comp=Z,6.0nm,0.6s
NRIK Noril'sk 65.46 358 P **P 08 45 31.4 +0.4**
comp=Z,4.6nm,0.7s,baz=167,slow=6.0,SNR=9.4
NRIK LR LR 09 18 45.7
comp=Z,1μm,18.4s,baz=194,slow=40
NRIK Noril'sk 65.46 358*ce*P **P 08 45 31.3 +0.4**
NRIK pmax pmax
comp=Z,19nm,1.5s
LPSR Galich'ya Gora 65.96 327 *e*P **P 08 45 35.1 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ELL Elmali 66.52 308 P **P 08 45 39.0 +0.4**
ELL pmax pmax
comp=Z,41nm,0.8s
ELL Elmali 66.52 308 P **P 08 45 39.0 +0.4**
LSZ Lusaka 67.25 252 P **P 08 45 43.7 +0.2**
LSZ pmax pmax
comp=Z,9.0nm,1.2s
LSZ Lusaka 67.25 252 P **P 08 45 43.7 +0.2**
LSZ IAmb IAmb 08 45 52.5
comp=Z,8.7nm,1.1s
HNR Honiara 67.66 102 LR LR 09 17 56.5
comp=Z,315nm,20.3s,baz=246,slow=38
PRGR Permogore 67.68 338 *e*P **P 08 45 43.8 -1.4**
PRGR pmax pmax
comp=Z,11nm,0.5s
MOS Moscow 68.08 330 *e*P **P 08 45 46.1 -1.7**
MOS *e* 08 46 20.5
OBN Obninsk 68.34 329 LR LR 09 19 25.9
comp=Z,180nm,20.3s,baz=131,slow=39
OBN Obninsk 68.34 329*ce*P **P 08 45 49.4 0.0**
OBN *e* 08 46 17.3
OBN *e* 08 48 26.2
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,711nm,20.0s
OBN Obninsk 68.34 329 IAMs_20 IAMs_20 09 17 23.8
comp=Z,975nm,21.0s
KARP Karpathos 68.44 307 P **P 08 45 51.5 +0.9**
KLMR Klimovskoe 69.70 335 *e*P **P 08 45 54.9 -2.8**
KLMR eS S 08 55 00.3 -4.1
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 69.70 335 *e*P **P 08 45 55.0 -2.8**
KLMR AMP 08 46 06.5
comp=Z,23nm,1.4s
KLMR eS S 08 55 00.3 -4.1
KLMR eS S 08 55 00.3 -4.1
KLMR LQ LQ 09 10 01.4
KLMR LQ LQ 09 10 01.4
KLMR LR LR 09 15 12.2
CFR Carcaliu 69.91 317⇓P **P 08 46 02.7 +3.3**
CFR Carcaliu 69.91 317⇓P **P 08 46 02.7 +3.3**
SKR Severo-Kuril's 69.97 37 *e*P **P 08 46 04.3 +4.6**
SKR pmax pmax
comp=Z,300nm,4.2s
SKR pmax pmax
comp=Z,700nm,4.2s
SKR MLR MLR
comp=Z,1μm,16.0s
SKR MLR MLR
comp=Z,800nm,14.0s
IDI Anoyia 70.22 306⇑P **P 08 46 03.4 +1.8**
IDI Anoyia 70.22 306 P **P 08 46 02.9 +1.2**
IDI IAmb IAmb 08 46 06.0
comp=Z,8.4nm,0.8s
SORM Soroca 70.58 320⇓P **P 08 46 03.7 +0.2**

SORM	**Soroca**	**70.58**	**320**	⇓P		**P**	**08 46 03.7**	**+0.2**
AKASG	**Malin Array Be**	**70.80**	**323**	P		**P**	**08 46 04.0**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=90,slow=4.8,SNR=9.2							
AKASG				LR		LR	09 19 42.6	
	comp=Z,444nm,21.1s,baz=115,slow=38							
AKASG	**Malin Array Be**	**70.80**	**323**	P		**P**	**08 46 03.8**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,2.0nm,1.0s							
AKASG	**Malin Array Be**	**70.80**	**323**	P		**P**	**08 46 03.8**	**-1.0**
AKBB	**Malin Array Si**	**70.80**	**323**	P		**P**	**08 46 04.5**	**-0.2**
AKBB				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKBB	**Malin Array Si**	**70.80**	**323**	P		**P**	**08 46 04.5**	**-0.2**
VRI	**Vrincioaia**	**71.05**	**317**	⇑P		**P**	**08 46 07.7**	**+1.3**
VRI	**Vrincioaia**	**71.05**	**317**	⇑P		**P**	**08 46 07.7**	**+1.3**
PLOR	**Plostina**	**71.10**	**317**	⇓P		**P**	**08 46 08.3**	**+1.6**
PLOR	**Plostina**	**71.10**	**317**	⇓P		**P**	**08 46 08.3**	**+1.6**
TIXI	**Tiksi**	**71.27**	**11**	*c iP*		**P**	**08 46 06.0**	**-1.2**
TIXI	**Tiksi**	**71.27**	**11**	P		**P**	**08 46 06.6**	**-0.6**
TIXI				IAMs_20	IAMs_20		09 19 00.4	
	comp=Z,1μm,20.0s							
MLR	**Muntele Rosu**	**71.49**	**317**	⇑P		**P**	**08 46 11.0**	**+1.7**
MLR	**Muntele Rosu**	**71.49**	**317**	⇑P		**P**	**08 46 11.0**	**+1.7**
MLR	**Muntele Rosu**	**71.49**	**317**	P		**P**	**08 46 08.7**	**-0.6**
LBTB	**Lobatse**	**71.68**	**242**	P		**P**	**08 46 11.4**	**+0.7**
LBTB				pmax		pmax		
	comp=Z,23nm,1.2s							
LBTB	**Lobatse**	**71.68**	**242**	P		**P**	**08 46 11.4**	**+0.7**
LBTB				IAmb	IAmb		08 46 20.0	
	comp=Z,23nm,1.1s							
PEA0B	**Petropavlovsk-**	**71.69**	**35**	IAMs_20	IAMs_20		09 17 55.0	
	comp=Z,2μm,19.0s							
PETK	**Petropavlovsk-**	**71.69**	**35**	LR	LR		09 20 42.3	
	comp=Z,776nm,18.2s,baz=242,slow=38							
BIZ	**Bicaz**	**71.73**	**318**	⇑P		**P**	**08 46 10.7**	**+0.2**
VOIR		**72.09**	**317**	⇓P		**P**	**08 46 14.6**	**+1.8**
VOIR		**72.09**	**317**	⇓P		**P**	**08 46 14.6**	**+1.8**
PET	**Petropavlovsk**	**72.21**	**35**	*eP*		**P**	**08 46 14.4**	**+1.2**
PET				*eS*		**S**	**08 55 33.0**	**-0.9**
PET				pmax		pmax		
	comp=Z,300nm,14.4s							
BURAR	**Bucovina Array**	**72.48**	**319**	⇑P		**P**	**08 46 16.3**	**+1.2**
BURAR	**Bucovina Array**	**72.48**	**319**	⇑P		**P**	**08 46 16.3**	**+1.2**
BURAR	**Bucovina Array**	**72.48**	**319**	P		**P**	**08 46 15.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**72.50**	**319**	P		**P**	**08 46 15.7**	**+0.5**
BUR08				IAmb	IAmb		08 46 28.0	
	comp=Z,20nm,1.3s							
BOSA	**Boshof**	**72.83**	**239**	P		**P**	**08 46 19.8**	**+2.2**
	comp=Z,4.9nm,0.8s,baz=119,slow=6.5,SNR=8.8							
BOSA				LR	LR		09 13 06.5	
	comp=Z,773nm,20.6s,baz=72,slow=32							
BOSA	**Boshof**	**72.83**	**239**	P		**P**	**08 46 19.1**	**+1.5**
BOSA				pmax	pmax			
	comp=Z,18nm,1.1s							
BOSA	**Boshof**	**72.83**	**239**	P		**P**	**08 46 19.1**	**+1.5**
BOSA				IAmb	IAmb		08 46 26.5	
	comp=Z,18nm,1.1s							
SEY	**Seymchan**	**72.85**	**24**	LR	LR		09 22 51.8	
	comp=Z,950nm,18.1s,baz=246,slow=40							
ITM	**Ithomi**	**72.88**	**308**	P		**P**	**08 46 18.2**	**+0.6**
ITM				IAmb	IAmb		08 46 37.1	
	comp=Z,22nm,1.2s							
LIT	**Litokhoron**	**72.89**	**311**	P		**P**	**08 46 17.4**	**-0.2**
LIT				pmax	pmax			
	comp=Z,19nm,1.3s							
LIT	**Litokhoron**	**72.89**	**311**	P		**P**	**08 46 17.4**	**-0.2**
LIT				IAmb	IAmb		08 46 28.7	
	comp=Z,19nm,1.3s							
NACGM	**Naroch**	**73.49**	**326**	*e*LR		LR	09 21 45.0	
NACGM	**Naroch**	**73.49**	**326**	*e*		**P**	**08 46 24.0**	**+3.2**
NACGM	**Naroch**	**73.49**	**326**	*e*LQ		LQ	09 19 24.0	
MAW	**Mawson**	**74.50**	**192**	P		**P**	**08 46 28.2**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=52,slow=3.6,SNR=12							
MAW				LR	LR		09 13 32.7	
	comp=Z,269nm,20.1s,baz=36,slow=31							
MAW	**Mawson**	**74.50**	**192**	P		**P**	**08 46 29.1**	**+2.8**
KWP	**Kalwaria Pacla**	**74.56**	**320**	P		**P**	**08 46 28.7**	**+1.5**
KWP				pmax	pmax			
	comp=Z,31nm,1.4s							
KWP	**Kalwaria Pacla**	**74.56**	**320**	P		**P**	**08 46 28.7**	**+1.5**
KWP				IAmb	IAmb		08 46 43.3	
	comp=Z,31nm,1.4s							
KOLS	**Kolonicke sedl**	**74.69**	**320**	*eP*		**P**	**08 46 28.9**	**+0.9**
KOLS				pmax	pmax			
	comp=Z,18nm,1.4s							
KOLS	**Kolonicke sedl**	**74.69**	**320**	*eP*		**P**	**08 46 28.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**75.21**	**320**	*eP*		**P**	**08 46 32.5**	**+1.5**
CRVS				pmax	pmax			
	comp=Z,77nm,1.6s							
CRVS	**Cervenica-Dubn**	**75.21**	**320**	*eP*		**P**	**08 46 32.5**	**+1.5**
FINES	**FINESS Array B**	**75.86**	**333**	P		**P**	**08 46 34.4**	**0.0**
	comp=Z,4.2nm,0.8s,baz=119,slow=12,SNR=6.2							
FINES	**FINESS Array B**	**75.86**	**333**	*ceP*		**P**	**08 46 36.5**	**+2.1**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
DZM	**Mont Dzumac**	**75.88**	**114**	*eP*		**P**	**08 46 39.3**	**+3.9**
	comp=Z,50nm,1.4s							
DZM				*eS*		**S**	**08 56 14.3**	**-2.2**
	comp=Z,1μm,31.7s							
DZM	**Mont Dzumac**	**75.88**	**114**	*e*LR		LR	09 10 08.7	
	comp=Z,915nm,22.2s							
NIE	**Niedzica**	**76.06**	**320**	*eP*		**P**	**08 46 37.5**	**+1.7**
NIE				*eS*		**S**	**08 56 21.5**	**+4.1**
PSZ	**Piszkesteto**	**76.06**	**318**	P		**P**	**08 46 36.8**	**+0.9**
PSZ				pmax	pmax			
	comp=Z,34nm,1.5s							
PSZ	**Piszkesteto**	**76.06**	**318**	P		**P**	**08 46 36.8**	**+0.9**
PSZ				IAmb	IAmb		08 46 45.8	
	comp=Z,34nm,1.5s							
OJC	**Ojcow**	**76.52**	**321**	*eP*		**P**	**08 46 39.6**	**+1.2**
OJC				*eS*		**S**	**08 56 16.5**	**-5.9**
OJC	**Ojcow**	**76.52**	**321**	P		**P**	**08 46 38.0**	**-0.4**
OJC				pmax	pmax			
	comp=Z,33nm,1.5s							
OJC	**Ojcow**	**76.52**	**321**	P		**P**	**08 46 38.0**	**-0.4**
OJC				IAmb	IAmb		08 46 48.3	
	comp=Z,33nm,1.5s							
VYHS	**Vyhne**	**76.85**	**319**	*eP*		**P**	**08 46 41.5**	**+1.2**
VYHS				pmax	pmax			
	comp=Z,46nm,2.1s							
VYHS	**Vyhne**	**76.85**	**319**	*eP*		**P**	**08 46 41.5**	**+1.2**
MODS	**Modra-Piesok**	**77.86**	**319**	*eP*		**P**	**08 46 46.6**	**+0.6**
MODS	**Modra-Piesok**	**77.86**	**319**	*eP*		**P**	**08 46 46.6**	**+0.6**
MORC	**Moravsky Berou**	**77.89**	**320**	P		**P**	**08 46 46.9**	**+0.8**
MORC				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MORC	**Moravsky Berou**	**77.89**	**320**	P		**P**	**08 46 46.9**	**+0.8**
TSUM	**Tsumeb**	**77.89**	**250**	IAMs_20	IAMs_20		09 18 02.9	
	comp=Z,1μm,20.0s							
GOLS	**Golise**	**78.69**	**316**	*eP*		**P**	**08 46 51.3**	**+0.6**
ARCES	**ARCESS Array B**	**78.73**	**341**	P		**P**	**08 46 51.7**	**+1.4**
	comp=Z,5.0nm,1.0s,baz=69,slow=4.0,SNR=7.8							
ARCES				LR	LR		09 25 25.0	
	comp=Z,1μm,19.4s,baz=80,slow=39							
KSP	**Ksiaz**	**78.83**	**321**	*eP*		**P**	**08 46 51.8**	**+0.5**
KSP				*eS*		**S**	**08 56 49.7**	**+2.4**
PDKS	**Podkum**	**79.13**	**316**	*eP*		**P**	**08 46 53.8**	**+0.7**
TARA	**Tarawa**	**79.50**	**89**	IAMs_20	IAMs_20		09 26 59.5	
	comp=Z,1μm,21.0s							
CADS	**Cadrg**	**80.02**	**316**	*eP*		**P**	**08 46 58.2**	**+0.3**
BILL	**Bilibino**	**80.06**	**21**	⇑*eP*		**P**	**08 46 57.2**	**-0.4**
BILL				*e*			08 47 06.3	
BILL				*e*			08 49 54.4	
BILL				*eS*		**S**	**08 56 59.9**	**+0.2**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.1s							
PRED	**Cave del Predi**	**80.15**	**316**	P		**P**	**08 46 57.6**	**-1.1**
PRED				IAmb	IAmb		08 47 08.5	
	comp=Z,34nm,1.4s							
GEC2	**GERESS Array S**	**80.27**	**319**	P		**P**	**08 46 59.9**	**+0.6**
GEC2				IAmb	IAmb		08 47 14.6	
	comp=Z,28nm,1.4s							
GERES	**GERESS Array B**	**80.27**	**319**	P		**P**	**08 46 60.0**	**+0.7**
	comp=Z,4.5nm,0.8s,baz=89,slow=6.8,SNR=18							
GERES	**GERESS Array B**	**80.27**	**319**	P		**P**	**08 47 00.0**	**+0.7**
BRG	**Berggiesshubel**	**80.31**	**321**	*eP*		**P**	**08 47 00.9**	**+1.6**
	comp=Z,54nm,2.1s							
BRG	**Berggiesshubel**	**80.31**	**321**	*eP*		**P**	**08 47 00.9**	**+1.6**
BRG				pmax	pmax			
	comp=Z,54nm,2.1s							
ZOU	**Zoufplan**	**80.57**	**316**	P		**P**	**08 47 00.9**	**-0.2**
ZOU				IAmb	IAmb		08 47 16.1	
	comp=Z,34nm,1.3s							
CIMO	**Cimolais**	**80.92**	**316**	P		**P**	**08 47 03.4**	**+0.6**
CIMO				IAmb	IAmb		08 47 18.4	
	comp=Z,19nm,1.1s							
CLL	**Collm**	**80.94**	**321**	*eP*		**P**	**08 47 04.0**	**+1.3**
CLL				*i*			08 47 10.6	
	comp=Z,19nm,1.5s							
CLL				*eS*		**S**	**08 57 08.0**	**-1.6**
CLL				*e*SS		**SS**	**09 02 30.0**	**+6.1**
CLL				*e*SSS		SSS	09 05 54.0	
CLL				*e*SSSS			09 08 30.0	
CLL	**Collm**	**80.94**	**321**	*eP*		**P**	**08 47 04.0**	**+1.3**
CLL				*i*			08 47 10.6	
CLL				*eS*		**S**	**08 57 05.0**	**-4.6**
CLL	**Collm**	**80.94**	**321**	P		**P**	**08 47 02.3**	**-0.4**
SYO	**Syowa Base**	**81.39**	**197**	⇑*eP*		**P**	**08 47 06.0**	**+1.4**
SYO	**Syowa Base**	**81.39**	**197**	⇑*e*X		P	08 47 18.6	+14
CTI	**Castel Tesino**	**81.45**	**316**	P		**P**	**08 47 06.6**	**+0.9**
CTI				pmax	pmax			
	comp=Z,13nm,1.1s							
CTI	**Castel Tesino**	**81.45**	**316**	P		**P**	**08 47 06.5**	**+0.9**
CTI				IAmb	IAmb		08 47 18.1	
	comp=Z,13nm,1.1s							
ZCCA	**Zocca**	**81.84**	**314**	IAMs_20	IAMs_20		09 12 03.6	
	comp=Z,1μm,21.0s							
FUORN	**Ofenpass-Fuorn**	**82.44**	**316**	P		**P**	**08 47 10.5**	**-0.5**
FUORN				IAmb	IAmb		08 47 24.5	
	comp=Z,12nm,1.1s							
NOA	**NORSAR Array B**	**82.80**	**331**	LR	LR		09 26 41.7	
	comp=Z,275nm,21.6s,baz=85,slow=38							
KEST	**Kesra**	**82.88**	**305**	LR	LR		09 31 14.9	
	comp=Z,205nm,18.1s,baz=36,slow=41							
KONO	**Kongsberg**	**83.50**	**329**	IAMs_20	IAMs_20		09 31 38.7	
	comp=Z,683nm,20.0s							
KBS	**Kingsbay**	**84.55**	**349**	IAMs_20	IAMs_20		09 31 39.7	
	comp=Z,1μm,18.0s							
VNDA	**Vanda**	**89.21**	**168**	P		**P**	**08 47 45.4**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=317,slow=5.5,SNR=4.8							
VNDA				LR	LR		09 25 08.2	
	comp=Z,272nm,18.3s,baz=306,slow=34							
VNDA	**Vanda**	**89.21**	**168**	P		**P**	**08 47 44.2**	**+0.6**
VNDA				pmax	pmax			
	comp=Z,9.0nm,1.5s							
VNDA	**Vanda**	**89.21**	**168**	P		**P**	**08 47 44.2**	**+0.6**
VNDA				IAmb	IAmb		08 47 55.0	
	comp=Z,9.0nm,1.4s							
TNA	**Tin City**	**90.10**	**24**	IAMs_20	IAMs_20		09 34 09.3	
	comp=Z,881nm,18.0s							
EKA	**Eskdalemuir Ar**	**90.54**	**325**	LR	LR		09 34 55.6	
	comp=Z,225nm,18.1s,baz=70,slow=40							
TOC2	**Torodi Ar. Sit**	**90.71**	**283**	IAMs_20	IAMs_20		09 25 54.7	
	comp=Z,853nm,21.0s							
TOC3	**Torodi Ar. Sit**	**90.72**	**283**	IAMs_20	IAMs_20		09 28 51.8	
	comp=Z,758nm,19.0s							
TOB3	**Torodi Ar. Sit**	**90.73**	**283**	IAMs_20	IAMs_20		09 27 10.2	
	comp=Z,742nm,20.0s							
TOC1	**Torodi Ar. Sit**	**90.73**	**283**	IAMs_20	IAMs_20		09 25 55.2	
	comp=Z,1μm,20.0s							
TOA2	**Torodi Ar. Sit**	**90.73**	**283**	IAMs_20	IAMs_20		09 25 54.3	
	comp=Z,897nm,21.0s							
TOC4	**Torodi Ar. Sit**	**90.74**	**283**	IAMs_20	IAMs_20		09 27 09.3	
	comp=Z,752nm,20.0s							
TOA0	**Torodi Ar. Sit**	**90.74**	**283**	IAMs_20	IAMs_20		09 25 55.4	
	comp=Z,834nm,21.0s							
TOB1	**Torodi Ar. Sit**	**90.74**	**283**	IAMs_20	IAMs_20		09 25 54.4	
	comp=Z,870nm,21.0s							
TORD	**Torodi Ar. Bea**	**90.74**	**283**	P		**P**	**08 47 53.5**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=90,slow=3.9,SNR=5.8							
TORD				LR	LR		09 25 56.8	
	comp=Z,671nm,21.5s,baz=85,slow=34							
TOA3	**Torodi Ar. Sit**	**90.74**	**283**	IAMs_20	IAMs_20		09 25 54.5	
	comp=Z,820nm,21.0s							
TOB4	**Torodi Ar. Sit**	**90.75**	**283**	IAMs_20	IAMs_20		09 26 57.7	
	comp=Z,781nm,20.0s							
TOB5	**Torodi Ar. Sit**	**90.75**	**283**	IAMs_20	IAMs_20		09 25 56.8	
	comp=Z,850nm,20.0s							
TOC7	**Torodi Ar. Sit**	**90.75**	**283**	IAMs_20	IAMs_20		09 25 55.8	
	comp=Z,798nm,20.0s							
TOC5	**Torodi Ar. Sit**	**90.76**	**283**	IAMs_20	IAMs_20		09 25 55.9	
	comp=Z,936nm,20.0s							
RAO	**Raoul Island**	**90.77**	**119**	LR	LR		09 29 26.8	
	comp=Z,312nm,19.2s,baz=90,slow=36							
NVL	**N'lazarevskaya**	**90.85**	**199**	*eP*		**P**	**08 47 53.9**	**+2.6**
NVL				*eS*		**SKSac**	**08 58 20.9**	**+0.2**
NVL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ANM	**Nome**	**91.34**	**25**	IAMs_20	IAMs_20		09 34 32.4	
	comp=Z,1μm,18.0s							
ESDC	**Sonseca Array**	**93.17**	**310**	P		**P**	**08 48 04.5**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=42,slow=4.0,SNR=4.5							
ESDC				LR	LR		09 34 51.0	
	comp=Z,217nm,18.9s,baz=120,slow=39							
ESDC	**Sonseca Array**	**93.17**	**310**	P		**P**	**08 48 02.9**	**0.0**
ES15	**SONSECA Array**	**93.19**	**310**	IAMs_20	IAMs_20		09 32 15.5	
	comp=Z,1μm,21.0s							
QSPA	**South Pole Qui**	**93.82**	**180**	IAMs_20	IAMs_20		09 28 05.3	
	comp=Z,869nm,20.0s							
SNAA	**Sanae**	**95.62**	**198**	*ceP*		**P**	**08 48 14.5**	**+1.2**
SNAA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SNAA	**Sanae**	**95.62**	**198**	P		**P**	**08 48 14.6**	**+1.2**
SNAA				IAmb	IAmb		08 48 25.1	
	comp=Z,7.7nm,1.5s							
TTA	**Tatalina**	**95.79**	**25**	IAMs_20	IAMs_20		09 37 17.0	
	comp=Z,778nm,20.0s							
TOLK	**Toolik Lake Re**	**95.95**	**19**	IAMs_20	IAMs_20		09 32 01.9	
	comp=Z,997nm,19.0s							
BPAW	**Bear Paw Mtn.**	**97.42**	**24**	IAMs_20	IAMs_20		09 37 15.0	
	comp=Z,975nm,19.0s							
PPLA	**Purkeypile**	**97.43**	**25**	IAMs_20	IAMs_20		09 31 36.2	
	comp=Z,795nm,19.0s							
DBIC	**Dimbokro**	**97.69**	**277**	LR	LR		09 29 47.6	
	comp=Z,742nm,20.3s,baz=66,slow=34							
TRF	**Thorofare Moun**	**97.98**	**24**	IAMs_20	IAMs_20		09 37 40.8	
	comp=Z,788nm,18.0s							
SKT	**Skwentna**	**98.08**	**26**	IAMs_20	IAMs_20		09 35 23.5	
	comp=Z,699nm,19.0s							
MDM	**Murphy Dome**	**98.11**	**22**	IAMs_20	IAMs_20		09 36 50.1	
	comp=Z,620nm,20.0s							
COLA	**College**	**98.29**	**22**	IAMs_20	IAMs_20		09 39 40.9	
	comp=Z,742nm,19.0s							
WRH	**Wood River Hil**	**98.39**	**23**	IAMs_20	IAMs_20		09 39 34.5	
	comp=Z,792nm,19.0s							
CCB	**Clear Creek Bu**	**98.42**	**22**	IAMs_20	IAMs_20		09 33 12.3	
	comp=Z,668nm,20.0s							
RND	**Reindeer**	**98.58**	**24**	IAMs_20	IAMs_20		09 37 59.5	
	comp=Z,676nm,18.0s							
SUA	**Susitna One**	**98.64**	**26**	IAMs_20	IAMs_20		09 38 12.2	
	comp=Z,835nm,18.0s							
ILAR	**Eielson Array**	**98.71**	**22**	LR	LR		09 37 37.5	
	comp=Z,582nm,18.5s,baz=303,slow=38							
GHO	**Glory Hole Cre**	**99.29**	**25**	IAMs_20	IAMs_20		09 33 35.3	
	comp=Z,756nm,20.0s							
DHY	**Denali Highway**	**99.33**	**24**	IAMs_20	IAMs_20		09 37 05.3	
	comp=Z,585nm,19.0s							
KNK	**Knik Glacier**	**99.65**	**25**	IAMs_20	IAMs_20		09 33 47.9	
	comp=Z,639nm,20.0s							
SEW	**Seward**	**99.79**	**27**	IAMs_20	IAMs_20		09 39 43.8	
	comp=Z,745nm,20.0s							
DOT	**Dot Lake**	**100.34**	**22**	IAMs_20	IAMs_20		09 33 18.0	
	comp=Z,524nm,21.0s							
GLI	**Glacier Island**	**100.48**	**26**	IAMs_20	IAMs_20		09 34 30.9	
	comp=Z,540nm,20.0s							
EGAK	**Eagle**	**100.80**	**21**	IAMs_20	IAMs_20		09 38 41.0	
	comp=Z,739nm,20.0s							
INK	**Inuvik**	**101.01**	**16**	IAMs_20	IAMs_20		09 37 04.7	
	comp=Z,975nm,21.0s							
EYAK	**Cordova Ski Ar**	**101.22**	**26**	IAMs_20	IAMs_20		09 40 09.5	
	comp=Z,946nm,21.0s							
RAGM	**Ragged Mountai**	**101.76**	**25**	IAMs_20	IAMs_20		09 35 01.8	
	comp=Z,925nm,20.0s							
VRDI	**Verde Repeater**	**101.85**	**24**	IAMs_20	IAMs_20		09 36 28.0	
	comp=Z,671nm,19.0s							
MCARA	**McCarthy VSAT**	**101.94**	**24**	IAMs_20	IAMs_20		09 38 47.5	
	comp=Z,746nm,18.0s							
CRQM	**Cirque**	**102.22**	**25**	IAMs_20	IAMs_20		09 37 09.4	
	comp=Z,774nm,19.0s							
BARN	**Barnard Glacie**	**102.67**	**24**	IAMs_20	IAMs_20		09 39 03.8	
	comp=Z,727nm,19.0s							
TBI	**Tubuai**	**116.46**	**114**	*e*LR		LR	09 28 48.7	
	comp=Z,674nm,26.8s							
PPT2	**Papeete2**	**116.96**	**108**	*e*PS		PS	09 04 27.0	-0.6
	comp=Z,170nm,23.2s							
PPT2	**Papeete2**	**116.96**	**108**	*e*LR		LR	09 29 06.2	
	comp=Z,845nm,29.5s							
AFDM	**Forest Hills D**	**126.89**	**33**	IAMs_20	IAMs_20		10 00 36.2	
	comp=Z,376nm,18.0s							
REDW	**Red Top Meadow**	**128.14**	**22**			**PKPdf**	**08 53 52.4**	**-2.7**
NVAR	**Mina Array Bea**	**128.71**	**32**	PKP		**PKiKP**	**08 53 57.7**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=316,slow=2.5,SNR=7.2							
NVAR	**Mina Array Bea**	**128.71**	**32**	PKPdf		**PKPdf**	**08 53 56.0**	**-0.2**
PDAR	**Pinedale Array**	**129.14**	**22**	PKP		**PKiKP**	**08 53 57.9**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=304,slow=2.9,SNR=5.3							
PDAR	**Pinedale Array**	**129.14**	**22**	PKPdf		**PKPdf**	**08 53 56.2**	**-0.8**
R11A	**Troy Canyon, C**	**130.16**	**30**			**PKPdf**	**08 53 57.4**	**-1.6**
PHWY	**Pilot Hill**	**131.86**	**19**	IAMs_20	IAMs_20		09 59 42.4	
	comp=Z,433nm,22.0s							
PV15	**Paradox Valley**	**133.37**	**24**	IAMs_20	IAMs_20		10 01 14.7	
	comp=Z,474nm,19.0s							
SFX	**San Felipe**	**136.07**	**36**	IAMs_20	IAMs_20		09 51 37.2	
	comp=Z,550nm,21.0s							
ANMO	**Albuquerque**	**137.11**	**24**	*c i*PKIKP		**PKiKP**	**08 54 13.1**	**-0.9**
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.7s							
TXAR	**Lajitas Array**	**143.15**	**25**	PKP		**PKPdf**	**08 54 21.7**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=26,slow=2.1,SNR=7.7							
TXAR	**Lajitas Array**	**143.15**	**25**	PKIKP	PKPbc		08 54 20.2	+0.2
TXAR	**Lajitas Array**	**143.15**	**25**		PKPbc		08 54 20.2	+0.2
JCT	**Junction City**	**143.58**	**19**	PKIKP	PKPdf		**08 54 23.2**	**-0.6**
JCT	**Junction City**	**143.58**	**19**	PKPdf	PKPdf		**08 54 23.2**	**-0.6**
CPUP	**Villa Florida**	**144.14**	**229**	PKP	PKPdf		**08 54 26.2**	**+1.4**
	comp=Z,6.6nm,0.8s,baz=93,slow=2.9,SNR=11							
CPUP	**Villa Florida**	**144.14**	**229**	PKIKP	PKPdf		**08 54 23.8**	**-0.9**
CPUP	**Villa Florida**	**144.14**	**229**	PKPdf	PKPdf		**08 54 23.8**	**-0.9**
BI02	**San Fabin de**	**144.45**	**202**	PKPdf	PKPdf		**08 54 24.8**	**-0.4**
BI02				IAMs_20	IAMs_20		09 58 27.5	
	comp=Z,464nm,20.0s							
342A	**Flagon Creek P**	**144.52**	**8**	PKPdf	PKPab		**08 54 23.5**	**-0.1**
344A	**Westbrook Farm**	**144.64**	**6**	PKPdf	PKPab		**08 54 23.6**	**-0.5**
HKT	**Hockley**	**145.22**	**14**	PKIKP	PKPbc		**08 54 25.0**	**-1.1**
HKT	**Hockley**	**145.22**	**14**		PKPbc		**08 54 25.0**	**-1.1**
BO02	**Sierra Bellavi**	**145.91**	**204**	PKPbc	PKPab		**08 54 29.5**	**+0.7**
VA03	**San Esteban**	**147.56**	**206**	PKPbc	PKPbc		**08 54 33.5**	**+0.3**
VA03				IAMs_20	IAMs_20		10 02 34.5	
	comp=Z,406nm,22.0s							
VA01	**Torpederas**	**147.80**	**204**	IAMs_20	IAMs_20		10 13 25.4	
	comp=Z,467nm,21.0s							
AC02	**Maricunga**	**151.69**	**215**	PKPbc	PKPbc		**08 54 44.3**	**+0.1**
SAML	**Samuel**	**156.16**	**257**	PKP2	PKPab		**08 55 09.4**	**-2.1**
SAML	**Samuel**	**156.16**	**257**		PKPab		**08 55 09.4**	**-2.1**
LPAZ	**La Paz**	**158.03**	**235**	PKP	PKPdf		**08 54 48.4**	**+1.5**
	comp=Z,1.8nm,1.1s,baz=131,slow=1.5,SNR=4.0							
LPAZ				PKPab	PKPab		**08 55 23.8**	**+3.6**
	comp=Z,2.4nm,1.0s,baz=170,slow=1.7,SNR=6.4							
LPAZ	**La Paz**	**158.03**	**235**	PKPdf	PKPdf		**08 54 48.6**	**+1.7**
LPAZ					pPKPab		**08 55 24.0**	**-4.5**

*PRU **16** 08:44:03.2±0.0,49.14N×17.89E,h0km, Explosion Vrbetice Mining explosion.*

IPEC 16 08:44:01.8±0.1,49.12N×17.91E,h0km,ML1.5/5,Error ellipse: s-maj=1.0km s-min=1.0km az=1.0,Mining explosion.,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.30**	**212**	*e*Pg	Pg	08 44 07.8	+0.2
JAVC				*e*SG	Sg	08 44 11.4	-0.1
JAVC	**Velka Javorina** baz=31	**0.30**	**212**	*e*Pg	Pg	08 44 07.7	+0.1
JAVC				*e*Sg	Sg	08 44 11.3	-

s-maj=19.8km s-min=15.2km az=90.0
NEIC ***16*** *09:04:46.8±1.3, 14°.94N±0°.07×145°.7E±0°.1, h106km±6km, mb4.4/44, Error ellipse: s-maj=17.8km s-min=8.8km az=105.0*

ISC 16 09:04:46.8±0.6, 14°.95N±0°.07×145°.7E±0°.1, h106km, n77, σ0s81/70, mb4.4/38, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**1.38**	**360**	Pn	**Pn**	**09 05 12.6**	**+0.6**
GUMO	**Guam**	**1.59**	**212**	P	**Pn**	**09 05 14.7**	**+0.2**
	481nm,0.3s,baz=20,slow=22,SNR=147						
GUMO				S	**Sn**	**09 05 34.8**	**-0.7**
	725nm,0.3s,baz=26,slow=21,SNR=27						
PATS	**Pohnpei**	**14.75**	**122**	Pn	**Pn**	**09 08 10.0**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**20.38**	**77**	T	T	09 30 34.7	
	baz=263,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**20.40**	**77**	T	T	09 30 36.1	
	baz=263,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**20.40**	**77**	T	T	09 30 36.3	
	baz=263,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**20.75**	**74**	T	T	09 31 00.8	
	baz=260,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**20.76**	**74**	T	T	09 30 44.3	
	baz=260,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**20.77**	**74**	T	T	09 31 04.2	
	baz=260,slow=75,SNR=18						
WB0	**Warramunga Arr**	**36.26**	**198**	P	**P**	**09 11 40.0**	**+0.1**
WB0				IAmb	IAmb	09 11 59.3	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**36.39**	**198**	P	**P**	**09 11 41.2**	**+0.1**
WR0				IAmb	IAmb	09 11 56.0	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**36.43**	**198**	P	**P**	**09 11 42.0**	**+0.5**
WB2				IAmb	IAmb	09 11 43.4	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**36.44**	**198**	P	**P**	**09 11 42.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=0.4,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**36.44**	**198**	IAmb	IAmb	09 11 43.3	
	comp=Z,0.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**38.34**	**212**	P	**P**	**09 11 57.6**	**0.0**
	comp=Z,0.6nm,0.4s,baz=32,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**40.08**	**197**	P	**P**	**09 12 12.4**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=12,slow=6.5,SNR=5.4						
ASAR				PcP	**PcP**	**09 14 15.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=44,slow=2.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**44.85**	**281**	P	**P**	**09 12 52.4**	**+1.5**
	comp=Z,2.9nm,0.6s,baz=84,slow=5.6,SNR=12						
SONM	**Songino Array**	**46.12**	**324**	P	**P**	**09 13 01.0**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=140,slow=7.8,SNR=5.1						
SONM	**Songino Array**	**46.12**	**324**	IAmb	IAmb	09 13 02.0	
	comp=Z,0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**61.01**	**324**	P	**P**	**09 14 48.4**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=95,slow=8.4,SNR=7.3						
MK31	**Makanchi Array**	**61.10**	**315**	P	**P**	**09 14 50.1**	**+0.3**
MKAR	**Makanchi Array**	**61.10**	**315**	P	**P**	**09 14 50.0**	**+0.2**
	comp=Z,5.9nm,0.4s,baz=91,slow=8.6,SNR=68						
MKAR	**Makanchi Array**	**61.10**	**315**	P	**P**	**09 14 50.0**	**+0.2**
SII	**Sitkinak Islan**	**61.29**	**33**	P	**P**	**09 14 51.2**	**+0.2**
MAKZ	**Makanchi**	**61.31**	**315**	P	**P**	**09 14 51.5**	**+0.2**
SVW2	**Sparrevohn**	**62.09**	**28**	P	**P**	**09 14 57.0**	**+0.8**
SVW2				IAmb	IAmb	09 15 13.3	
	comp=Z,8.2nm,1.4s						
CNPM	**China Poot**	**63.65**	**30**	P	**P**	**09 15 05.8**	**-0.7**
CNPM				IAmb	IAmb	09 15 07.0	
	comp=Z,8.3nm,1.2s						
BRLK	**Bradley Lake**	**63.88**	**30**	P	**P**	**09 15 07.7**	**-0.4**
KURK	**Kurchatov**	**64.09**	**319**	P	**P**	**09 15 09.2**	**-0.3**
KURBB	**Kurchatov Arra**	**64.13**	**319**	P	**P**	**09 15 09.5**	**-0.4**
	comp=Z,13nm,0.6s,baz=99,slow=6.9,SNR=115						
PPLA	**Purkeypile**	**64.20**	**27**	P	**P**	**09 15 10.6**	**+0.3**
PPLA				IAmb	IAmb	09 15 20.2	
	comp=Z,8.6nm,1.3s						
SKT	**Skwentna**	**64.21**	**28**	P	**P**	**09 15 09.6**	**-0.7**
SKT				IAmb	IAmb	09 15 12.2	
	comp=Z,6.3nm,1.2s						
SUA	**Susitna One**	**64.42**	**28**	P	**P**	**09 15 11.2**	**-0.5**
SUA				IAmb	IAmb	09 15 14.8	
	comp=Z,8.9nm,1.5s						
IMAR	**Indian Mountai**	**64.62**	**23**	P	**P**	**09 15 12.5**	**-0.3**
KTH	**Kantishna Hill**	**64.95**	**26**	P	**P**	**09 15 15.2**	**+0.1**
KTH				IAmb	IAmb	09 15 33.0	
	comp=Z,6.1nm,1.2s						
BPAW	**Bear Paw Mtn.**	**65.09**	**26**	P	**P**	**09 15 15.6**	**-0.4**
TRF	**Thorofare Moun**	**65.20**	**26**	P	**P**	**09 15 15.9**	**-0.8**
TRF				IAmb	IAmb	09 15 16.3	
	comp=Z,9.0nm,1.4s						
RND	**Reindeer**	**65.80**	**27**	P	**P**	**09 15 19.6**	**-1.0**
RND				IAmb	IAmb	09 15 21.5	
	comp=Z,4.7nm,1.2s						
SCM	**Sheep Creek Mo**	**66.09**	**29**	P	**P**	**09 15 22.7**	**+0.2**
FID	**Port Fidalgo**	**66.25**	**30**	P	**P**	**09 15 23.4**	**+0.1**
COLD	**Coldfoot**	**66.38**	**22**	P	**P**	**09 15 24.5**	**+0.4**
WRH	**Wood River Hil**	**66.41**	**26**	P	**P**	**09 15 23.4**	**-0.9**
MDM	**Murphy Dome**	**66.48**	**25**	P	**P**	**09 15 25.4**	**+0.6**
CCB	**Clear Creek Bu**	**66.58**	**25**	P	**P**	**09 15 24.1**	**-1.3**
CCB				IAmb	IAmb	09 15 27.9	
	comp=Z,5.4nm,1.4s						
M24K	**Tolsona, Glenn**	**66.69**	**28**	P	**P**	**09 15 25.9**	**-0.3**
HDA	**Harding Lake**	**66.88**	**26**	P	**P**	**09 15 25.7**	**-1.6**
HDA				IAmb	IAmb	09 15 26.0	
	comp=Z,6.8nm,1.5s						
IL31		**66.99**	**25**	P	**P**	**09 15 26.6**	**-1.3**
ILAR	**Eielson Array**	**66.99**	**25**	P	**P**	**09 15 26.1**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=249,slow=5.8,SNR=39						
ILAR	**Eielson Array**	**66.99**	**25**	P	**P**	**09 15 26.4**	**-1.6**
TOLK	**Toolik Lake Re**	**67.06**	**21**	P	**P**	**09 15 28.7**	**+0.3**
TOLK				IAmb	IAmb	09 15 35.5	
	comp=Z,10nm,1.4s						
PAX	**Paxson**	**67.19**	**28**	P	**P**	**09 15 29.3**	**-0.1**
PAX				IAmb	IAmb	09 15 29.9	
	comp=Z,2.7nm,0.7s						
RIDG	**Independent Ri**	**67.62**	**27**	P	**P**	**09 15 31.6**	**-0.5**
RIDG				IAmb	IAmb	09 15 37.5	
	comp=Z,3.5nm,1.0s						
GLB	**Gilahina Butte**	**67.66**	**29**	P	**P**	**09 15 32.3**	**0.0**
VRDI	**Verde Repeater**	**67.79**	**30**	P	**P**	**09 15 33.7**	**+0.4**
VRDI				IAmb	IAmb	09 15 33.9	
	comp=Z,5.5nm,1.0s						
CRQM	**Cirque**	**67.87**	**30**	P	**P**	**09 15 33.4**	**-0.5**
DOT	**Dot Lake**	**67.95**	**27**	IAmb	IAmb	09 15 34.9	
	comp=Z,5.9nm,1.2s						
TABL	**Table Mountain**	**68.80**	**31**	P	**P**	**09 15 40.4**	**+0.7**
BCAR	**Beaver Creek A**	**68.86**	**28**	P	**P**	**09 15 39.7**	**-0.1**
KKAR	**Karatay Array**	**69.19**	**311**	P	**P**	**09 15 42.2**	**0.0**
BVAR	**Borovoye Array**	**69.38**	**321**	P	**P**	**09 15 42.8**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=75,slow=11,SNR=13						
EGAK	**Eagle**	**69.40**	**26**	P	**P**	**09 15 43.0**	**0.0**
BRVK	**Borovoye**	**69.45**	**321**	P	**P**	**09 15 43.6**	**0.0**
HYT	**Haines Junctio**	**70.62**	**30**	P	**P**	**09 15 51.7**	**+1.0**
HYT				IAmb	IAmb	09 15 52.4	
	comp=Z,4.3nm,0.8s						
DLBC	**Dease Lake**	**74.40**	**33**	P	**P**	**09 16 14.2**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=238,slow=4.2,SNR=5.0						
DLBC	**Dease Lake**	**74.40**	**33**	P	**P**	**09 16 13.8**	**+0.7**
DLBC				IAmb	IAmb	09 16 15.3	
	comp=Z,9.2nm,1.4s						
ABKAR	**Akbulak array**	**76.10**	**318**	P	**P**	**09 16 22.2**	**-0.7**
ABKAR	**Akbulak array**	**76.10**	**318**	P	**P**	**09 16 20.4**	**-2.6**
AKTO	**Aktyubinsk**	**77.18**	**319**	P	**P**	**09 16 29.3**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=97,slow=10,SNR=3.7						
YKA	**Yellowknife Ar**	**81.28**	**28**	P	**P**	**09 16 50.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=290,slow=4.4,SNR=4.4						
YBH	**Yreka Blue Hor**	**81.36**	**49**	P	**P**	**09 16 53.3**	**+1.3**
YBH				IAmb	IAmb	09 16 59.3	
	comp=Z,8.0nm,1.5s						
PINE	**Pine Mountain**	**82.18**	**47**	P	**P**	**09 16 56.8**	**+0.4**
PINE				IAmb	IAmb	09 17 08.5	
	comp=Z,9.5nm,1.4s						
NVAR	**Mina Array Bea**	**85.43**	**52**	P	**P**	**09 17 13.9**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=274,slow=5.7,SNR=9.5						
NVAR	**Mina Array Bea**	**85.43**	**52**	P	**P**	**09 17 12.9**	**-0.3**
ARCES	**ARCESS Array B**	**86.05**	**342**	P	**P**	**09 17 13.8**	**-1.5**
	comp=Z,6.3nm,1.1s,baz=60,slow=7.2,SNR=6.5						
FINES	**FINESS Array B**	**90.28**	**335**	P	**P**	**09 17 33.4**	**-2.1**
	comp=Z,2.4nm,0.5s,baz=67,slow=5.3,SNR=16						
PDAR	**Pinedale Array**	**90.42**	**45**	P	**P**	**09 17 36.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=6.8,slow=1.7,SNR=5.0						
LPAZ	**La Paz**	**147.39**	**97**	PKPbc	**PKPbc**	**09 24 20.9**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=319,slow=4.5,SNR=5.5						

NEIC ***16*** *09:06:09.2±1.6, 53°.1N±0°.2×173°.1W±0°.1, h227km±9km, Error ellipse: s-maj=32.9km s-min=9.5km az=165.0*
AEIC ***16*** *09:06:09.4±1.4, 53°.0N±0°.3×173°.0W±0°.2, h234km±7km, mb4.1/7(NEIC), Error ellipse: s-maj=39.8km s-min=9.4km az=164.0*
IDC ***16*** *09:06:26.0±46.0, 53°.61N×172°.22W, h360km±325km, mb2.7/3, mb1 3.2/4, mb1mx2.7/61, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=447.5km s-min=153.9km az=64.0*

ISC 16 09:06:09.0±0.8, 53°.0N±0°.2×173°.03W±0°.08, h250km, n44, σ1s84/51, mb3.0/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.95**	**224**		**Pn**	**09 06 42.6**	**-1.2**
KOWE	**Korovin West**	**0.95**	**232**		**Pn**	**09 06 42.6**	**-1.3**
ATKA	**Atka Island**	**1.04**	**224**		**Pn**	**09 06 43.0**	**-1.3**
ATKA					**S**	**09 07 08.2**	**-3.7**
GSTR	**Great Sitkin T**	**2.04**	**246**		**Pn**	**09 06 50.7**	**-1.2**
GSMY	**Great Sitkin M**	**2.07**	**245**		**Pn**	**09 06 50.6**	**-1.4**
GSTD	**Great Sitkin T**	**2.11**	**246**		**Pn**	**09 06 51.3**	**-1.2**
GSTD					**S**	**09 07 23.5**	**-3.3**
ETKA	**Kagalaska Isla**	**2.34**	**243**		**Pn**	**09 06 53.5**	**-1.1**
ADAG	**Mount Adagdak**	**2.40**	**247**		**Pn**	**09 06 54.7**	**-0.5**
ADK	**Adak**	**2.48**	**246**		**Pn**	**09 06 55.2**	**-0.9**
NIKH	**Nikolski High**	**2.52**	**88**		**Pn**	**09 06 54.8**	**-1.6**
NIKH					**S**	**09 07 30.3**	**-3.6**
KIRH	**Kanaga Island**	**2.71**	**249**		**Pn**	**09 06 57.9**	**-0.5**
KIKV	**Kanaga Island**	**2.76**	**249**		**Pn**	**09 06 58.1**	**-0.8**
KIMD	**Kanaga Island**	**2.84**	**247**		**Pn**	**09 06 59.1**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**3.03**	**80**		**Pn**	**09 07 00.9**	**-0.9**
OKFG	**Magazine Ridge**	**3.11**	**80**		**S**	**09 07 43.4**	**-1.7**
TAFP	**Tanaga Falls P**	**3.21**	**253**		**Pn**	**09 07 03.3**	**-0.5**
TASE	**Tanaga Southea**	**3.27**	**252**		**Pn**	**09 07 04.1**	**-0.4**
TANO	**Tanaga North**	**3.29**	**253**		**Pn**	**09 07 04.6**	**0.0**
MAPS	**Pakushin South**	**3.74**	**74**		**Pn**	**09 07 09.2**	**-0.5**
MAPS					**S**	**09 07 54.3**	**-3.6**
MGOD	**Makushin Gods**	**3.78**	**75**		**Pn**	**09 07 09.1**	**-1.1**
MGOD					**S**	**09 07 55.6**	**-3.2**
MSW	**Makushin Switc**	**3.86**	**73**		**Pn**	**09 07 10.1**	**-0.9**
MREP	**Makushin Rep't**	**3.86**	**75**		**Pn**	**09 07 10.8**	**-0.3**
MNAT	**Makushin Natee**	**3.91**	**74**		**Pn**	**09 07 10.7**	**-0.9**
MNAT					**S**	**09 07 59.2**	**-2.1**
UNV	**Unalaska Valle**	**4.00**	**75**		**Pn**	**09 07 11.7**	**-1.0**
UNV					**S**	**09 08 00.3**	**-3.1**
ZRO	**Akutan Zero**	**4.36**	**72**		**Pn**	**09 07 16.4**	**-0.6**
AMKA	**Amchitka**	**4.98**	**255**		**Pn**	**09 07 23.3**	**-1.1**
WESP	**Westdahl Peak**	**5.17**	**69**		**Pn**	**09 07 25.0**	**-1.8**
WESE	**West Dahl East**	**5.24**	**70**		**Pn**	**09 07 26.6**	**-1.1**
SSBA	**Shishaldin**	**5.57**	**67**		**Pn**	**09 07 30.2**	**-1.5**
FALS	**False Pass**	**5.99**	**68**		**Pn**	**09 07 36.2**	**-0.7**
SDPT	**Sand Point**	**7.75**	**67**		**Pn**	**09 07 56.8**	**-2.2**
CNBA	**Chernabura Isl**	**8.16**	**71**		**Pn**	**09 08 01.4**	**-2.6**
DHY	**Denali Highway**	**16.82**	**43**	P	**Pn**	**09 09 49.7**	**-0.8**
DHY				IAmb	IAmb	09 09 51.0	
	comp=Z,3.6nm,0.6s						
KLU	**Klutina**	**16.86**	**49**	P	**P**	**09 09 49.6**	**+0.6**
KLU				IAmb	IAmb	09 09 50.3	
	comp=Z,7.7nm,1.3s						
HDA	**Harding Lake**	**17.59**	**39**	P	**Pn**	**09 09 58.1**	**-1.4**
IL31		**17.79**	**38**	P	**Pn**	**09 10 00.6**	**-1.1**
ILAR	**Eielson Array**	**17.79**	**38**	P	**Pn**	**09 10 01.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=228,slow=11,SNR=41						
ILAR	**Eielson Array**	**17.79**	**38**	P	**Pn**	**09 10 00.7**	**-1.0**
RIDG	**Independent Ri**	**18.13**	**42**	P	**P**	**09 10 03.6**	**+0.8**
RIDG				IAmb	IAmb	09 10 05.3	
	comp=Z,4.2nm,0.5s						
DOT	**Dot Lake**	**18.42**	**43**	P	**P**	**09 10 06.8**	**+1.0**
DOT				IAmb	IAmb	09 10 07.6	
	comp=Z,6.0nm,0.8s						
NVAR	**Mina Array Bea**	**39.89**	**89**	P	**P**	**09 13 22.3**	**+3.4**
	comp=Z,0.1nm,0.5s,baz=317,slow=7.7,SNR=4.3						
PDAR	**Pinedale Array**	**42.47**	**77**	P	**P**	**09 13 42.0**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=320,slow=2,SNR=7.7						
TMUT	**Trail Mountain**	**43.62**	**83**	P	**P**	**09 13 52.5**	**+3.5**
TXAR	**Lajitas Array**	**54.95**	**87**	P	**P**	**09 15 16.9**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=299,slow=4.6,SNR=4.1						

IDC ***16*** *09:15:33.2±3.3, 53°.65N×87°.96E, h0km, mb1 3.1/2, mb1mx3.0/53, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=33.0km s-min=18.0km az=52.0*
NNC ***16*** *09:15:35.1±1.8, 53°.52N×87°.86E, h5km±12km, mb3.2, mpv2.8, Error ellipse: s-maj=15.7km s-min=6.3km az=62.0, Suspected Mining explosion.*

ISC 16 09:15:35.6±3.8, 53°.6N±0°.1×87°.7E±0°.2, h0km, n9, σ0s78/11, 4C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**284**	*i*		09 26 03.4	
	baz=97,slow=333,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.75**	**284**	⇓P	**Pn**	**09 16 06.9**	**-0.2**
	0.3nm,0.3s						
ZAA0				⇓S	**Sg**	**09 16 32.1**	**+0.5**
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**1.75**	**284**	Pn	**Pn**	**09 16 06.9**	**-0.2**
	2.9nm,0.3s,baz=102,slow=9.3,SNR=14						
ZALV				Lg	Lg	09 16 33.2	
	7.3nm,0.3s,baz=98,slow=29,SNR=16						
KURK	**Kurchatov**	**6.27**	**247**	⇓Pn	**Pn**	**09 17 09.4**	**+0.2**
	1.8nm,1.0s						
KURK				⇓Lg	Lg	09 18 57.9	
	4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**6.37**	**246**	Pn	**Pn**	**09 17 10.8**	**+0.3**
	0.1nm,0.3s,baz=62,slow=14,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.37**	**246**	⇑Pn	**Pn**	**09 17 11.3**	**+0.7**
	1.4nm,0.5s						
KURBB				⇓Lg	Lg	09 19 00.2	
	4.7nm,0.7s						
MK31	**Makanchi Array**	**7.61**	**209**	⇓Pn	**Pn**	**09 17 28.0**	**+0.2**
	0.2nm,0.3s,baz=30,slow=13,SNR=12						
MK31				⇑Sn	**Sn**	**09 18 54.9**	**+0.3**
	0.6nm,0.7s						
MK31				⇑Lg	Lg	09 19 34.3	
	0.9nm,0.7s,baz=26,slow=30						
MKAR	**Makanchi Array**	**7.61**	**209**	Pn	**Pn**	**09 17 28.7**	**+1.0**
	0.3nm,0.3s,baz=27,slow=13,SNR=8.0						
MAKZ	**Makanchi**	**7.69**	**211**	⇑Pn	**Pn**	**09 17 28.7**	**-0.1**
	0.9nm,0.9s						
MAKZ				⇓Sn	**Sn**	**09 18 54.9**	**-1.7**
	0.5nm,0.6s						
MAKZ				⇓Lg	Lg	09 19 39.7	
	1.7nm,0.9s						

DJA ***16*** *09:16:55.9±0.3, 9°.3×10°.7E±°, h10km, M4.1/14, mB5.3/1, mb4.3/3, MLv4.0/14, Mw(mB)4.8/1*
IDC ***16*** *09:16:56.2±1.0, 9°.22S×106°.90E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/46, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=36.1km s-min=20.0km az=72.0*

ISC 16 09:16:57.6±0.9, 9°.12S±0°.09×106°.97E±0°.08, h10km, n23, σ0s99/20, mb3.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.77**	**28**	P	**Pn**	**09 17 29.7**	**+1.3**
CNJI	**Cibinong**	**1.81**	**5**	P	**Pn**	**09 17 30.0**	**+1.1**
CMJI	**Cimerak**	**1.98**	**48**	P	**Pn**	**09 17 32.5**	**+1.3**
SKJI	**Sukabumi**	**2.14**	**349**	P	**Pn**	**09 17 34.6**	**+1.1**
LEM	**Lembang**	**2.37**	**16**	Pn	**Pb**	**09 17 39.6**	**-0.9**
	23nm,0.3s,baz=17,slow=9.1,SNR=14						
LEM	**Lembang**	**2.37**	**16**	P	**Pb**	**09 17 39.4**	**-1.1**
DBJI	**Dramaga**	**2.56**	**355**	P	**Pn**	**09 17 40.8**	**+1.6**
KPJI	**Karang Pucung**	**2.64**	**48**	P	**Pn**	**09 17 43.2**	**-1.7**
CGJI	**Cibinong**	**2.80**	**333**	P	**Pn**	**09 17 43.0**	**+0.6**
PWJI	**Pagerwojo**	**4.91**	**77**	P	**Pn**	**09 18 12.3**	**+0.8**
	0.3nm59nm,0.7s						
KLSI		**4.93**	**333**	P	**Pn**	**09 18 11.7**	**-0.1**
	0.0nm8.3nm,0.9s						
MDSI	**Maura Dua**	**5.38**	**329**	P	**Pn**	**09 18 17.3**	**-0.6**
JAGI	**Jagaj, Banyuwa**	**7.13**	**85**	P	**Pn**	**09 18 42.9**	**+0.8**
H01W3	**Cape Leeuwin H**	**26.47**	**167**	T	T	09 50 57.4	
	baz=341,slow=76,SNR=5.1						
H01W1	**Cape Leeuwin H**	**26.48**	**167**	T	T	09 50 56.1	
	baz=341,slow=76,SNR=3.6						
H01W2	**Cape Leeuwin H**	**26.48**	**167**	T	T	09 50 57.1	
	baz=341,slow=76,SNR=4.3						
CMAR	**Chiang Mai Arr**	**28.53**	**344**	P	**P**	**09 22 54.1**	**+0.5**
	0.7nm,0.3s,baz=172,slow=7.3,SNR=1.1						
WRA	**Warramunga Arr**	**28.55**	**115**	P	**P**	**09 22 53.7**	**-0.2**
	0.5nm,1.0s,baz=288,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**29.53**	**123**	P	**P**	**09 23 02.4**	**-0.2**
	0.1nm,0.5s,baz=290,slow=8.8,SNR=1.3						
SONM	**Songino Array**	**56.71**	**360**	P	**P**	**09 26 41.1**	**-0.4**
	0.3nm,0.4s,baz=168,slow=7.4,SNR=2.0						
MKAR	**Makanchi Array**	**59.86**	**341**	P	**P**	**09 27 03.9**	**+0.4**
	1.7nm,0.6s,baz=143,slow=7.8,SNR=19						
MAW	**Mawson**	**65.34**	**197**	P	**P**	**09 27 39.6**	**-0.1**
	0.6nm,0.6s,baz=39,slow=4.9,SNR=6.6						
TXAR	**Lajitas Array**	**144.96**	**51**	PKPbc	**PKPdf**	**09 36 36.2**	**+0.2**
	0.2nm,0.6s,baz=311,slow=1.7,SNR=4.1						

IDC ***16*** *09:22:35.5±6.5, 20°.08S×177°.50W, h502km±75km, mb3.4/11, mb1 3.6/12, mb1mx3.4/40, mbtmp4.2/12, Error ellipse: s-maj=33.8km s-min=24.2km az=11.0*
NEIC ***16*** *09:22:38.7±1.0, 20°.18S±0°.09×177°.6W±0°.2, h543km±8km, mb4.3/14, Error ellipse: s-maj=24.8km s-min=13.1km az=97.0*

ISC 16 09:22:35.1±0.9, 20°.2S±0°.2×177°.4W±0°.1, h500km, n31, σ1s46/29, mb4.1/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.00**	**299**	P	**P**	**09 24 06.4**	**+4.1**
URZ	**Urewera**	**18.59**	**194**	P	**P**	**09 26 21.6**	**+0.9**
	1.4nm,0.3s,baz=300,slow=3.6,SNR=14						
CTA	**Charters Tower**	**34.12**	**264**	P	**P**	**09 28 37.7**	**-0.1**
	3.2nm,0.4s,baz=101,slow=11,SNR=8.8						
STKA	**Stephens Creek**	**38.45**	**244**	P	**P**	**09 29 13.9**	**+0.5**
	1.2nm,0.4s,baz=114,slow=11,SNR=3.4						
WR0	**Warramunga Arr**	**45.05**	**262**	P	**P**	**09 30 04.7**	**-1.2**
WR0				IAmb	IAmb	09 30 05.8	
	comp=Z,4.0nm,0.4s						
AS31	**Alice Springs**	**45.17**	**256**	P	**P**	**09 30 05.9**	**-0.9**
ASAR	**Alice Springs**	**45.17**	**256**	P	**P**	**09 30 06.2**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=93,slow=7.6,SNR=122						
ASAR	**Alice Springs**	**45.17**	**256**	P	**P**	**09 30 05.2**	**-1.7**
WB0	**Warramunga Arr**	**45.21**	**262**	P	**P**	**09 30 06.1**	**-1.2**
WB0				IAmb	IAmb	09 30 06.6	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**45.22**	**262**	P	**P**	**09 30 06.2**	**-1.1**
WB2				IAmb	IAmb	09 30 06.8	
	comp=Z,9.9nm,1.1s						
WRAB	**Tennant Creek**	**45.23**	**262**	P	**P**	**09 30 05.7**	**-1.6**
WRAB				IAmb	IAmb	09 30 06.7	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**45.23**	**262**	P	**P**	**09 30 06.1**	**-1.3**
	comp=Z,3.6nm,0.4s,baz=97,slow=7.8,SNR=142						
WRA	**Warramunga Arr**	**45.23**	**262**	P	**P**	**09 30 05.9**	**-1.5**
MTN	**Manton Dam**	**49.76**	**270**	P	**P**	**09 30 39.8**	**-1.7**
FORT	**Forrest**	**49.95**	**246**	P	**P**	**09 30 41.7**	**-1.0**
KNRA	**Kununurra**	**51.28**	**266**	P	**P**	**09 30 51.0**	**-1.6**
KNRA				IAmb	IAmb	09 30 54.9	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.66**	**262**	P	**P**	**09 31 08.7**	**-1.0**
MJAR	**Matsushiro Arr**	**70.35**	**323**	P	**P**	**09 32 56.7**	**-1.4**
	comp=Z,3.2nm,0.5s,baz=161,slow=6.0,SNR=9.8						
MJAR	**Matsushiro Arr**	**70.35**	**323**	IAmb	IAmb	09 32 57.6	
	comp=Z,2.2nm,0.7s						
MAT	**Matsushiro**	**70.36**	**323**	P	**P**	**09 32 56.7**	**-1.4**
PETK	**Petropavlovsk-**	**76.17**	**345**	P	**P**	**09 33 29.8**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=117,slow=7.5,SNR=1.8						
USRK	**Ussuriysk Ar.**	**79.08**	**325**	P	**P**	**09 33 47.4**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=140,slow=3.4,SNR=6.9						
TXAR	**Lajitas Array**	**86.40**	**57**	P	**P**	**09 34 26.1**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=208,slow=5.1,SNR=6.6						
CCB	**Clear Creek Bu**	**87.62**	**12**	P	**P**	**09 34 28.0**	**-1.2**

KMRM Mail Ridge 71.97 38 P P 09 35 55.3 +0.9
MWC Mount Wilson 72.07 46 P P 09 35 55.9 +0.6
VES Vestal, Richgr 72.27 44 P P 09 35 56.4 +0.2
baz=236,SNR=5.6
MURC Murrieta 72.33 47 P P 09 35 56.9 +0.2
baz=237
BFSC Mount Baldy Ra 72.36 46 P P 09 35 57.0 +0.1
baz=237
ESJX Sierra Juarez 72.38 49 P P 09 35 58.0 +0.7
PETK Petropavlovsk- 72.44 342 P P 09 35 58.0 +1.1
comp=Z,11nm,0.7s,baz=137,slow=9.1,SNR=9.8
PETK LR LR 10 02 29.2
comp=Z,45nm,21.4s,baz=98,slow=32
PETK Petropavlovsk- 72.44 342 P P 09 35 55.1 -1.7
EDW2 Edwards Air Fo 72.47 45 P P 09 35 57.9 +0.4
baz=236,SNR=6.2
O02D Mt. Diablo Mer 72.49 38 P P 09 35 58.8 +1.2
baz=232
MONP2 Monument Peak 72.50 48 P P 09 35 58.4 +0.4
baz=238,SNR=5.1
ISA Isabella, Lake 72.58 44 P P 09 35 58.6 +0.4
baz=236,SNR=7.2
ISA Isabella, Lake 72.58 44 P P 09 35 58.3 +0.1
IKP In-Ko-Pah, Jac 72.60 48 P P 09 35 58.5 +0.1
baz=238
CMB Columbia Colle 72.68 41 P P 09 35 58.9 +0.1
AFDM Forest Hills D 72.86 40 P P 09 36 00.0 +0.3
PFO Pinyon Flats O 72.86 47 P P 09 36 00.3 +0.3
baz=238,SNR=5.1
PFO Pinyon Flats O 72.86 47 P P 09 36 00.2 +0.3
TPFO Pinon Flats 72.86 47 P P 09 36 00.2 +0.2
baz=238,SNR=5.3
BBRC Big Bear Solar 72.88 46 P P 09 36 00.5 +0.2
baz=237
WDC Whiskeytown Da 72.89 38 P P 09 36 00.6 +0.7
WDC IAmb IAmb 09 36 01.9
comp=Z,35nm,1.5s
ORV Oroville 72.89 40 P P 09 36 00.7 +0.8
SWSC Sam W. Stewart 72.98 48 P P 09 36 01.0 +0.4
baz=238
N02D Trinity Center 73.03 38 P P 09 36 02.0 +1.2
baz=231
O03E Paynes Creek 73.16 39 P P 09 36 01.8 +0.3
baz=232
M02C Callahan 73.21 37 P P 09 36 02.7 +0.9
baz=231
L02E Cave Junction 73.26 36 P P 09 36 02.7 +0.7
baz=230
CWC Cottonwood Cre 73.28 44 P P 09 36 02.9 +0.4
baz=236
MDPB Devils Postpil 73.29 42 P P 09 36 03.5 +0.8
OMMB Old Mammoth Mi 73.33 42 P P 09 36 03.8 +0.8
BELC Belle Mtn. Jos 73.39 47 P P 09 36 03.3 +0.2
baz=238,SNR=6.8
MLAC Mammoth, Mammo 73.45 42 P P 09 36 04.2 +0.7
baz=235
MPMC Manual Prospec 73.47 44 P P 09 36 04.1 +0.5
baz=237,SNR=15
YBH Yreka Blue Hor 73.50 37 P P 09 36 04.6 +1.1
comp=Z,13nm,0.8s,baz=208,slow=1.5,SNR=28
YBH Yreka Blue Hor 73.50 37 P P 09 36 04.1 +0.5
YBH IAmb IAmb 09 36 05.8
comp=Z,24nm,1.0s
GSC Goldstone, Bar 73.52 45 P P 09 36 04.1 +0.3
baz=237,SNR=6.8
GSC Goldstone, Bar 73.52 45 IAmb IAmb 09 36 05.3
comp=Z,20nm,1.3s
WAKR Walker 73.56 41 P P 09 36 04.2 +0.1
WAKR P 09 36 05.2 +1.1
K02D Willamette Mer 73.56 36 P P 09 36 04.6 +0.7
baz=230
HEC Hector,Ludlow 73.59 46 P P 09 36 04.4 +0.1
baz=238,SNR=8.1
BC3 Big Chuckawall 73.59 48 P P 09 36 04.7 +0.4
baz=239,SNR=6.0
J01E Myrtle Point 73.71 35 P P 09 36 05.2 +0.6
baz=230
GLA Glamis 73.73 48 P P 09 36 05.5 +0.4
baz=239
GLA Glamis 73.73 48 P P 09 36 06.0 +0.9
GLA IAmb IAmb 09 36 06.9
comp=Z,34nm,1.4s
PNTR Pine Nut 73.80 41 P P 09 36 05.3 -0.2
PNTR P 09 36 06.5 +1.0
PNTR IAmb IAmb 09 36 07.3
comp=Z,23nm,1.0s
VCNR Virginia City 73.89 41 P P 09 36 06.1 +0.1
VCNR P 09 36 07.0 +1.0
HUMO Hull Mountain 73.91 36 IAmb IAmb 09 36 08.2
comp=Z,24nm,1.2s
YERR Yerington 73.97 41 P P 09 36 06.6 +0.1
YERR P 09 36 07.3 +0.8
YERR IAmb IAmb 09 36 08.1
comp=Z,27nm,1.4s
LHV Little Huntoon 74.02 42 P P 09 36 07.0 +0.5
LHV P 09 36 07.4 +0.9
LHV IAmb IAmb 09 36 13.8
comp=Z,20nm,1.3s
GMRC Granite Mounta 74.04 46 P P 09 36 07.1 +0.2
baz=238,SNR=8.8
L04D Klamath Falls 74.05 37 P P 09 36 07.4 +0.6
baz=231
M04C Macdoel 74.05 38 P P 09 36 07.6 +0.8
baz=232
IRM Iron Mountain 74.08 47 P P 09 36 07.5 +0.5
baz=239,SNR=13
FURC Furnace Creek, 74.11 44 P P 09 36 07.5 +0.4
baz=237,SNR=6.6
TUQ Turquoise Moun 74.20 46 P P 09 36 08.2 +0.3
baz=238,SNR=8.1
SHOC Shoshone, Teco 74.21 45 P P 09 36 08.2 +0.4
baz=238
RYN Ryan 74.22 42 P P 09 36 07.7 -0.3
RYN P 09 36 08.8 +0.8
NVAR Mina Array Bea 74.25 42 P P 09 36 08.7 +0.5
comp=Z,7.4nm,0.8s,baz=228,slow=10,SNR=48
NVAR Mina Array Bea 74.25 42 P P 09 36 08.1 -0.1
PAHR Pah Rah Range 74.30 40 P P 09 36 08.6 +0.3
PAHR P 09 36 09.2 +0.9
PAHR IAmb IAmb 09 36 10.1
comp=Z,17nm,1.1s
NV11 Mina Array Sit 74.35 42 P P 09 36 09.1 +0.4
NV11 IAmb IAmb 09 36 10.4
comp=Z,24nm,1.2s
113A Mohawk Valley, 74.36 49 P P 09 36 08.5 -0.1
113A P 09 36 08.9 +0.3
I02D Swisshome 74.37 35 P P 09 36 09.6 +1.2
baz=230
I03D Drain, OR 74.38 35 P P 09 36 09.3 +0.8
baz=230
K04D Chiloquin, OR 74.62 37 P P 09 36 10.7 +0.6
baz=232
214A Organ Pipe Nat 74.66 50 P P 09 36 11.0 +0.5
baz=241
214A Organ Pipe Nat 74.66 50 P P 09 36 10.3 -0.2
214A P 09 36 10.9 +0.4
214A IAmb IAmb 09 36 12.2
comp=Z,36nm,1.5s
KVN Kaiserville 74.73 42 P P 09 36 10.9 -0.1
KVN P 09 36 11.4 +0.5
KVN IAmb IAmb 09 36 12.5
comp=Z,21nm,1.2s
TPH Tonopah 74.76 43 P P 09 36 11.6 +0.5
TPH P 09 36 12.0 +0.9
NEE2 Needles Airpor 74.76 47 P P 09 36 11.6 +0.6
baz=239
TPNV Topopah Spring 74.79 44 P P 09 36 11.7 +0.4
baz=237,SNR=9.4
TPNV Topopah Spring 74.79 44 P P 09 36 11.7 +0.4
TPNV P 09 36 12.2 +0.9
J04D Umpqua Nationa 74.80 36 P P 09 36 11.9 +0.7
baz=231
QSPA South Pole Qui 74.82 180 P P 09 36 10.7 -0.3
QSPA IAmb IAmb 09 36 13.3
comp=Z,32nm,1.1s
PDMCI Parker Dam,Lak 74.86 48 P P 09 36 11.9 +0.3
baz=239
I04A Tendick Farm, 74.97 36 P P 09 36 12.6 +0.6
baz=231
MOD Modoc Plateau 75.03 38 P P 09 36 12.3 -0.2
MOD P 09 36 13.1 +0.5
MOD IAmb IAmb 09 36 14.3
comp=Z,28nm,1.1s
K05A Summer Lake 75.18 37 P P 09 36 13.6 +0.1
H04D Lebanon 75.25 35 P P 09 36 14.3 +0.7
baz=231

SHPR Sheep Range 75.29 45 P P 09 36 14.0 -0.2
SHPR P 09 36 14.8 +0.6
SHPR IAmb IAmb 09 36 16.1
comp=Z,24nm,1.4s
J05D Fort Rock, OR 75.32 37 P P 09 36 15.2 +1.0
baz=232
G03D McMinnville, O 75.40 34 P P 09 36 15.5 +1.1
baz=230
W13A Hualapai Mount 75.45 47 P P 09 36 15.1 -0.1
Y14A Wickenburg 75.49 48 P P 09 36 15.3 +0.1
Y14A IAmb IAmb 09 36 16.8
comp=Z,16nm,1.0s
PRN Pahroc Range 75.84 44 IAmb IAmb 09 36 19.4
comp=Z,32nm,1.4s
I05D Terrebonne, OR 75.91 36 P P 09 36 18.2 +0.8
baz=232
KSRS Korea Array 75.97 316 LR LR 10 06 11.2
comp=Z,36nm,18.4s,baz=28,slow=33
R11A Troy Canyon, C 75.99 43 P P 09 36 18.4 +0.2
baz=237,SNR=13
TUC Tucson 76.34 51 P P 09 36 20.8 +0.6
baz=242
TUC Tucson 76.34 51 P P 09 36 20.2 0.0
TUC IAmb IAmb 09 36 22.1
comp=Z,24nm,1.1s
G05D Wamic, OR 76.49 35 P P 09 36 21.4 +0.8
baz=232
E04D Cinebar 76.63 33 P P 09 36 22.3 +0.9
baz=230
I07A Izee 76.81 37 P P 09 36 23.3 +0.7
I07A IAmb IAmb 09 36 24.5
comp=Z,28nm,1.2s
I07A PcP 09 36 34.2 +0.4
F05D White Salmon 76.81 34 P P 09 36 22.7 +0.3
baz=231
X16A Lo Mia Camp, P 76.86 49 IAmb IAmb 09 36 25.3
comp=Z,19nm,0.9s
LON Longmire 77.16 34 IAmb IAmb 09 36 32.1
comp=Z,39nm,1.9s
SPR3 Spring Creek 3 77.16 43 P P 09 36 25.2 +0.2
SPR3 IAmb IAmb 09 36 26.2
comp=Z,36nm,1.5s
USRK Ussuriysk Ar. 77.19 323 P P 09 36 26.4 +1.9
comp=Z,7.8nm,1.1s,baz=127,slow=12,SNR=5.1
USRK Ussuriysk Ar. 77.19 323 P P 09 36 26.6 +2.0
WUAZ Wupatki 77.44 48 P P 09 36 27.2 +0.8
baz=241
WUAZ Wupatki 77.44 48 P P 09 36 26.8 +0.3
WUAZ IAmb IAmb 09 36 27.8
comp=Z,17nm,1.1s
ELK Elko 77.50 41 P P 09 36 26.4 -0.4
ELK IAmb IAmb 09 36 28.2
comp=Z,16nm,1.1s
G08A Pilot Rock 77.84 36 P P 09 36 28.6 +0.3
G08A IAmb IAmb 09 36 30.0
comp=Z,27nm,1.2s
E07A Sunnyside 78.10 35 IAmb IAmb 09 36 32.2
comp=Z,40nm,1.7s
TCRU Three Creeks R 78.22 44 P P 09 36 31.8 +1.0
MSU Marysvale 78.36 45 P P 09 36 32.1 +0.6
RC01 Rabbit Creek A 78.38 12 P P 09 36 30.8 -0.1
baz=203
W18A Petrified Fore 78.43 49 P P 09 36 32.7 +0.7
baz=242
BMO Blue Mountains 78.53 37 IAmb IAmb 09 36 33.5
comp=Z,16nm,1.1s
MFID Camas Ranch 78.60 39 IAmb IAmb 09 36 34.0
comp=Z,20nm,1.1s
121A Cookes Peak, D 78.70 52 P P 09 36 34.4 +0.9
baz=244
121A Cookes Peak, D 78.70 52 P P 09 36 33.6 +0.1
121A IAmb IAmb 09 36 35.6
comp=Z,26nm,0.9s
GLI Glacier Island 78.73 13 IAmb IAmb 09 36 33.0
comp=Z,25nm,1.2s
DUG Dugway, Tooele 78.78 43 P P 09 36 33.9 +0.2
baz=239,SNR=13
DUG Dugway, Tooele 78.78 43 IAmb IAmb 09 36 35.2
comp=Z,17nm,1.1s
D08A Wolman Farm, 78.91 35 IAmb IAmb 09 36 35.8
comp=Z,20nm,1.2s
ZAIG Zacatecas 78.99 63 P P 09 36 35.6 +0.2
E09A Wood Farm, Sta 79.02 35 IAmb IAmb 09 36 36.0
comp=Z,25nm,1.4s
F10A Beach Ranch, E 79.22 36 IAmb IAmb 09 36 37.0
comp=Z,22nm,1.2s
CUT Chulitna 79.50 11 P P 09 36 36.7 -0.2
baz=203,SNR=5.4
CRQM Cirque 79.53 15 IAmb IAmb 09 36 38.6
comp=Z,33nm,1.3s
HLID Hailey 79.54 39 P P 09 36 38.5 +0.7
baz=237,SNR=41
HLID Hailey 79.54 39 P P 09 36 38.0 +0.2
HLID IAmb IAmb 09 36 39.7
comp=Z,27nm,1.0s
TGL Tana Glacier 79.60 15 IAmb IAmb 09 36 39.0
comp=Z,23nm,1.3s
HVU Hansel Valley 79.63 42 P P 09 36 38.6 +0.3
VRDI Verde Repeater 79.86 14 IAmb IAmb 09 36 40.4
comp=Z,26nm,1.4s
JLU Jordanelle 79.89 43 P P 09 36 39.8 -0.1
N25K Chitina, Valde 79.93 14 P P 09 36 39.6 +0.2
baz=208
GLB Gilahina Butte 79.97 14 IAmb IAmb 09 36 40.8
comp=Z,32nm,1.7s
NJ2 Nanjing 79.99 307 eP P 09 36 40.4 +0.1
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
M24K Tolsona, Glenn 80.03 13 P P 09 36 40.3 +0.4
baz=207
M24K Tolsona, Glenn 80.03 13 IAmb IAmb 09 36 41.1
comp=Z,27nm,1.0s
MCARA McCarthy VSAT 80.10 14 IAmb IAmb 09 37 11.0
comp=Z,32nm,1.4s
BARN Barnard Glacie 80.15 15 P P 09 36 39.2 -1.6
BARN IAmb IAmb 09 36 42.2
comp=Z,28nm,1.3s
TCUT Toone Canyon 80.17 43 P P 09 36 41.9 +0.5
MNTX Cornudas Mount 80.18 53 P P 09 36 41.9 +0.5
baz=245
MNTX Cornudas Mount 80.18 53 IAmb IAmb 09 36 43.1
comp=Z,24nm,1.2s
BNM Barren Site 80.28 51 P P 09 36 42.6 +0.5
MVCO Mesa Verde 80.28 47 P P 09 36 42.5 +0.4
baz=243
PV10 Paradox Valley 80.44 46 IAmb IAmb 09 36 44.3
comp=Z,28nm,1.0s
PV19 Morning Glory 80.45 46 IAmb IAmb 09 36 44.6
comp=Z,32nm,1.1s
PV14 Lion Creek, Pa 80.45 46 IAmb IAmb 09 36 44.6
comp=Z,30nm,1.1s
PV17 East Wray Mesa 80.45 46 P P 09 36 43.0 0.0
PV17 IAmb IAmb 09 36 44.6
comp=Z,40nm,1.3s
PV18 Skein Mesa, Pa 80.47 46 IAmb IAmb 09 36 44.7
comp=Z,24nm,1.2s
PV20 West Nyswonger 80.48 46 IAmb IAmb 09 36 44.7
comp=Z,29nm,1.1s
PV13 Radium Mtn., P 80.50 46 IAmb IAmb 09 36 44.9
comp=Z,29nm,1.2s
PV16 Nyswonger Mesa 80.50 46 IAmb IAmb 09 36 45.0
comp=Z,29nm,1.3s
PV23 Carpenter Ridg 80.50 46 IAmb IAmb 09 36 45.0
comp=Z,25nm,1.0s
PV03 Paradox Valley 80.52 46 IAmb IAmb 09 36 45.0
comp=Z,31nm,1.3s
PV11 David Mesa, Pa 80.52 46 IAmb IAmb 09 36 45.1
comp=Z,37nm,1.2s
PV04 Paradox Valley 80.55 46 P P 09 36 43.6 +0.2
PV04 IAmb IAmb 09 36 45.2
comp=Z,23nm,1.1s
BCYI Bear Canyon 80.56 39 P P 09 36 43.4 0.0
PV02 Paradox Valley 80.58 46 IAmb IAmb 09 36 45.3
comp=Z,31nm,1.3s
PV21 Cone Mtn., Par 80.58 46 IAmb IAmb 09 36 45.4
comp=Z,35nm,1.3s
TX31 Lajitas Ar. Si 80.58 56 P P 09 36 43.9 +0.2
TX32 Lajitas Array 80.58 56 IAmb IAmb 09 36 45.7
comp=Z,40nm,1.4s
TXAR Lajitas Array 80.58 56 P P 09 36 44.0 +0.3
comp=Z,11nm,1.0s,baz=228,slow=4.9,SNR=63
TXAR Lajitas Array 80.58 56 P P 09 36 43.2 -0.5
TNA Tin City 80.65 2 P P 09 36 44.0 +0.9
baz=186
PV01 Paradox Valley 80.66 46 P P 09 36 43.3 -0.8
PV07 Paradox Valley 80.75 46 IAmb IAmb 09 36 45.4
comp=Z,21nm,1.4s

ANMO Albuquerque 80.75 50 P P 09 36 45.2 +0.6
baz=244
ANMO Albuquerque 80.75 50 P P 09 36 44.8 +0.1
PV15 Paradox Valley 80.82 46 IAmb IAmb 09 36 46.5
comp=Z,24nm,1.2s
PAX Paxson 80.95 13 IAmb IAmb 09 36 45.5
comp=Z,29nm,1.8s
MCK McKinley 80.96 11 P P 09 36 44.5 -0.3
baz=204,SNR=15
GDL2 Guadalupe Moun 81.18 53 P P 09 36 47.1 +0.2
AHID Auburn Hatcher 81.20 41 IAmb IAmb 09 36 48.2
comp=Z,23nm,1.1s
MSO Missoula 81.59 37 P P 09 36 48.0 -0.7
baz=237,SNR=14
MSO Missoula 81.59 37 IAmb IAmb 09 36 49.4
comp=Z,29nm,1.3s
DLMT Dillon 81.60 39 IAmb IAmb 09 36 50.5
comp=Z,21nm,1.2s
REDW Red Top Meadow 81.65 41 P P 09 36 48.7 -0.6
TPAW Teton Pass 81.65 41 IAmb IAmb 09 36 51.0
comp=Z,29nm,1.1s
S22A 4UR Ranch, Cre 81.71 47 P P 09 36 50.7 +0.9
baz=244
NEA2 Nenana 81.73 10 P P 09 36 48.9 0.0
baz=204
WRH Wood River Hil 81.79 11 P P 09 36 48.1 -1.1
O20A White River Ci 81.81 45 P P 09 36 50.2 +0.1
baz=242
BCAR Beaver Creek A 81.85 14 P P 09 36 49.6 0.0
MLY Manley 81.86 10 P P 09 36 49.0 -0.6
baz=202,SNR=14
IMW Indian Meadow 81.87 40 P P 09 36 50.2 -0.3
IMW IAmb IAmb 09 36 52.2
comp=Z,25nm,1.1s
MOOW Moose Ponds 81.91 41 P P 09 36 50.9 +0.2
MOOW IAmb IAmb 09 36 52.2
comp=Z,21nm,1.4s
LOHW Long Hollow 81.93 41 IAmb IAmb 09 36 52.3
comp=Z,28nm,1.3s
HDA Harding Lake 81.95 11 P P 09 36 49.7 -0.3
baz=206,SNR=18
HDA Harding Lake 81.95 11 IAmb IAmb 09 36 51.7
comp=Z,15nm,0.9s
CCB Clear Creek Bu 82.00 11 IAmb IAmb 09 36 51.0
comp=Z,20nm,0.8s
YPP Pitchstone Pla 82.14 40 P P 09 36 53.0 +1.1
SCRK Sand Creek 82.16 13 P P 09 36 51.4 +0.1
baz=209,SNR=10
BW06 Boulder Array 82.19 42 P P 09 36 51.9 -0.2
baz=241,SNR=12
BW06 Boulder Array 82.19 42 P P 09 36 51.8 -0.3
BW06 IAmb IAmb 09 36 53.1
comp=Z,15nm,1.1s
PD31 Pinedale Array 82.19 42 IAmb IAmb 09 36 53.1
comp=Z,14nm,1.1s
PDAR Pinedale Array 82.19 42 P P 09 36 51.5 -0.6
comp=Z,7.0nm,0.9s,baz=214,slow=3.1,SNR=47
PDAR Pinedale Array 82.19 42 P P 09 36 51.1 -1.0
TCOL CIGO, UAF Yank 82.20 11 P P 09 36 51.0 -0.3
baz=205,SNR=6.3
COLA College 82.20 11 P P 09 36 51.5 +0.2
MDM Murphy Dome 82.21 11 IAmb IAmb 09 36 52.2
comp=Z,12nm,1.0s
ILAR Eielson Array 82.29 11 P P 09 36 51.2 -0.6
comp=Z,3.6nm,0.8s,baz=216,slow=5.9,SNR=34
ILAR Eielson Array 82.29 11 P P 09 36 50.8 -1.0
IL18 Eielson Array 82.29 11 P P 09 36 51.1 -0.7
BOZ Bozeman (W) 82.30 39 P P 09 36 53.0 +0.5
baz=239,SNR=14
BOZ Bozeman (W) 82.30 39 IAmb IAmb 09 36 54.2
comp=Z,26nm,1.4s
IMAR Indian Mountai 82.31 8 P P 09 36 50.9 -0.9
SEY Seymchan 82.33 345 P P 09 36 52.5 +0.5
comp=Z,10nm,1.0s,baz=122,slow=4.1,SNR=10
H17A Grant Village 82.34 40 P P 09 36 54.1 +1.2
baz=240,SNR=6.0
H17A Grant Village 82.34 40 P P 09 36 53.9 +1.0
H17A IAmb IAmb 09 36 55.6
comp=Z,15nm,1.1s
YNR Norris Junctio 82.44 40 P P 09 36 54.2 +0.8
POKR Poker Plat Res 82.50 11 P P 09 36 52.7 -0.2
baz=205,SNR=9.5
K27K Chicken 82.62 13 P P 09 36 54.3 +0.7
baz=210
SDCO Great Sand Dun 82.65 48 P P 09 36 54.9 +0.1
baz=244
SDCO Great Sand Dun 82.65 48 IAmb IAmb 09 36 56.3
comp=Z,14nm,1.2s
MSTX Muleshoe 83.11 52 P P 09 36 56.9 0.0
baz=247
MSTX Muleshoe 83.11 52 P P 09 36 56.9 0.0
T25A Trinidad 83.18 49 P P 09 36 57.5 +0.1
baz=245
T25A Trinidad 83.18 49 IAmb IAmb 09 36 58.7
comp=Z,18nm,1.3s
RWWY Rawlins 83.22 44 P P 09 36 56.5 -1.1
DAWY Dawson 83.27 14 IAmb IAmb 09 36 57.9
comp=Z,9.7nm,0.9s
Q24A Davide 83.43 47 P P 09 36 59.0 +0.2
baz=245
ISCO Idaho Springs 83.46 46 P P 09 36 58.9 0.0
baz=244
RLMT Red Lodge 83.51 40 P P 09 36 59.3 +0.4
baz=241
833A Chaparral WMA, 83.67 59 P P 09 36 59.8 -0.1
baz=249
833A Chaparral WMA, 83.67 59 IAmb IAmb 09 37 00.8
comp=Z,17nm,1.2s
N23A Red Feather La 83.72 45 P P 09 37 00.5 +0.4
baz=244
N23A Red Feather La 83.72 45 IAmb IAmb 09 37 01.7
comp=Z,20nm,1.2s
COLD Coldfoot 83.98 9 P P 09 37 01.4 +0.9
baz=203,SNR=9.0
COLD Coldfoot 83.98 9 IAmb IAmb 09 37 02.7
comp=Z,11nm,1.0s
K22A Casper 84.11 43 P P 09 37 01.5 -0.4
baz=243
JCT Junction City 84.12 56 P P 09 37 01.7 -0.4
baz=249
BELA Belgrano 2 84.19 172 P P 09 37 00.7 -0.9
AMTX Amarillo 84.30 52 P P 09 37 02.8 -0.2
baz=247
PMSA Palmer Station 84.37 156 P P 09 37 03.9 +1.2
comp=Z,6.4nm,0.9s,baz=229,slow=7.4,SNR=4.5
PMSA Palmer Station 84.37 156 P P 09 37 03.4 +0.7
PMSA IAmb IAmb 09 37 04.6
comp=Z,22nm,1.2s
ABTX Abilene, Hawle 85.02 54 P P 09 37 06.5 -0.1
baz=248
KSCO Kaye Shedlock' 85.23 48 P P 09 37 07.4 -0.3
baz=246
TOLK Toolik Lake Re 85.38 9 P P 09 37 07.9 +0.3
baz=203
435B Jarrell 86.01 57 P P 09 37 11.4 -0.2
baz=250
435B Jarrell 86.01 57 P P 09 37 11.2 -0.4
RSSD Black Hills 86.38 43 P P 09 37 12.6 -0.8
baz=245
RSSD Black Hills 86.38 43 P P 09 37 12.9 -0.5
WMOK Wichita Mounta 86.46 53 P P 09 37 12.8 -0.9
baz=249
WHTX Lake Whitney, 86.53 56 P P 09 37 13.9 -0.2
baz=250
Z35A Perchaven, San 87.15 55 P P 09 37 16.8 -0.4
HKT Hockley 87.16 58 P P 09 37 17.8 +0.7
CBKS Cedar Bluff 87.24 49 P P 09 37 17.6 +0.1
baz=248
MAW Mawson 87.94 199 P P 09 37 20.6 +0.4
comp=Z,9.5nm,1.0s,baz=106,slow=4.6,SNR=18
MAW LR LR 10 14 06.6
comp=Z,136nm,20.1s,baz=60,slow=34
MAW Mawson 87.94 199 P P 09 37 20.6 +0.4
INK Inuvik 88.11 14 P P 09 37 20.8 0.0
comp=Z,8.4nm,1.1s,baz=189,slow=14,SNR=4.5
INK Inuvik 88.11 14 IAmb IAmb 09 37 21.8
comp=Z,14nm,1.1s
DGMT Dagmar 88.14 39 P P 09 37 21.7 +0.2
baz=245
DGMT Dagmar 88.14 39 P P 09 37 21.5 0.0
DGMT IAmb IAmb 09 37 22.6
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 88.85 313 eP P 09 37 24.6 -0.5
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,280nm,7.2s

TUL1	Leonard	89.16	52	P		P	09 37 26.1	-0.5
	baz=251							
YKA	Yellowknife Ar	89.97	23	P		P	09 37 29.8	+0.1
	comp=Z,3.0nm,0.8s,baz=232,slow=5.0,SNR=4.8							
BI02	San Fabin de	90.52	128	P		P	09 37 34.2	+1.0
BI02				IAmb		IAmb	09 37 34.9	
	comp=Z,16nm,1.1s							
GO05	Huala	90.56	126	P		P	09 37 34.1	+0.8
KMI	Kunming	90.88	296	eP		P	09 37 36.1	+1.0
KMI				pP		sP	09 37 39.3	+0.4
KMI				sP		pwP	09 37 42.4	+2.1
KMI				pmax		pmax		
	comp=Z,14nm,0.5s							
JTS	Las Juntas de	91.26	80	P		P	09 37 38.1	+1.2
BO02	Sierra Bellavi	91.52	127	P		P	09 37 38.1	+0.2
U40A	Yellville	91.55	53	P		P	09 37 37.1	-0.7
	baz=252							
CD2	Chengdu	91.65	301	eP		P	09 37 37.5	-0.9
W41B	Gary Mavity, V	91.67	54	P		P	09 37 37.6	-0.7
	baz=253							
PEL	Peldehue	92.15	125	P		P	09 37 41.5	+0.8
CMAR	Chiang Mai Arr	92.48	288	LR		LR	10 14 36.1	
	comp=Z,20nm,21.4s,baz=25,slow=32							
R40A	Maddies Statio	92.58	51	IAmb		IAmb	09 37 42.6	
	comp=Z,9.7nm,1.1s							
SYO	Syowa Base	92.76	191	eP		P	09 37 40.9	-1.8
VNA3	Neumayer Olymp	93.04	175	P		P	09 37 44.1	+0.1
LZH	Lanzhou	93.05	306	eP		P	09 37 45.4	+0.5
LZH				pP		pwP	09 37 49.8	-1.1
LZH				sP		sP	09 37 52.0	+3.7
LZH				PP		PP	09 41 33.3	+5.1
LZH				pmax		pmax		
	comp=Z,16nm,1.0s							
LZH				pmax		pmax		
	comp=Z,54nm,4.3s							
LZH				LR		LR		
	comp=Z,130nm,17.0s							
LZH				LR		LR		
	comp=Z,130nm,16.8s							
LZH				LR		LR		
	comp=Z,220nm,19.6s							
SNAA	Sanae	93.09	177	P		P	09 37 44.3	0.0
SNAA	Sanae	93.09	177	P		P	09 37 44.1	-0.2
	comp=Z,7.1nm,1.1s,baz=200,slow=5.8,SNR=13							
SNAA	Sanae	93.09	177	P		P	09 37 43.9	-0.5
SNAA				IAmb		IAmb	09 37 45.6	
	comp=Z,11nm,1.2s							
CCM	Cathedral Cave	93.28	52	P		P	09 37 44.7	-1.0
	baz=253							
VNA2	Neumayer--Watz	93.54	175	P		P	09 37 46.8	+0.4
VNA1	Neumayer--Stat	93.73	175	P		P	09 37 47.4	+0.2
SPMN	Marine on St.	94.25	44	P		P	09 37 49.3	-0.7
	baz=253							
ARCES	ARCESS Array B	124.42	352	PKP		PKPdf	09 43 28.9	-0.4
	comp=Z,5.9nm,0.9s,baz=2.9,slow=4.9,SNR=5.6							
AKASG	Malin Array Be	140.14	337	PKP		PKPdf	09 43 59.0	-0.4
	comp=Z,1.2nm,0.6s,baz=30,slow=2.3,SNR=10							
AKASG	Malin Array Be	140.14	337	PKPdf		PKPdf	09 43 59.6	+0.2
OJC	Ojcow	143.47	346	ePKP		PKPbc	09 44 02.8	+0.2
KSP	Ksiaz	143.60	350	ePKP		PKPbc	09 44 03.3	+0.4
CLL	Collm	143.63	353	ePKPpre		PKPbc	09 44 03.0	+0.1
CLL				ePKPdf		PKPdf	09 44 05.0	-0.6
OSTC	Ostas	143.89	349	ePKP		PKPbc	09 44 04.6	+0.8
DPC	Dobruska-Polom	144.07	349	ePKP		PKPbc	09 44 04.9	+0.5
BURAR	Bucovina Array	144.17	338	⇓P		PKPbc	09 44 05.4	+0.5
BURAR	Bucovina Array	144.17	338	PKPdf		PKPbc	09 44 04.8	-0.1
KRLC	Kraliky	144.25	349	ePKP		PKPab	09 44 04.5	-0.1
MORC	Moravsky Berou	144.38	348	⇑P		PKPbc	09 44 05.7	+0.3
MORC	Moravsky Berou	144.38	348	ePKP		PKPbc	09 44 05.6	+0.2
MORC	Moravsky Berou	144.38	348	PKPdf		PKPbc	09 44 05.4	0.0
BIZ	Bicaz	144.41	337	⇑P		PKPbc	09 44 05.8	+0.2
MEM	Membach	144.70	1	PKPdf		PKPbc	09 44 06.5	+0.2
PRU	Pruhonice	144.72	351	ePKP		PKPdf	09 44 07.6	+0.1
BSTI	Sart Tilman	144.72	1	PKPdf		PKPab	09 44 06.1	-0.1
BTNL	Ternell	144.72	0	PKPdf		PKPab	09 44 06.4	0.0
GOPC	GO Pecny, Ondr	144.75	351	ePKP		PKPab	09 44 06.4	0.0
SNF	Seneffe	144.76	2	PKPdf		PKPab	09 44 06.2	-0.1
BCLA	Clavier	144.88	1	PKPdf		PKPbc	09 44 07.0	+0.1
BGES	Gesves	144.91	2	PKPdf		PKPab	09 44 06.6	-0.3
BHOU	Houvegnez	144.96	1	PKPdf		PKPdf	09 44 07.7	-0.3
BMRD	Maredsous	144.98	2	PKPdf		PKPab	09 44 07.0	-0.2
VRAC	Vranov	145.02	348	PKPbc		PKPab	09 44 07.7	+0.3
	baz=12,slow=3.6							
VRAC	Vranov	145.02	348	⇑P		PKPab	09 44 07.7	+0.3
VRAC	Vranov	145.02	348	ePKP		PKPab	09 44 07.6	+0.2
VRI	Vrincioaia	145.05	335	⇑P		PKPab	09 44 07.7	+0.1
PLOR	Plostina	145.09	335	⇑P		PKPab	09 44 08.0	+0.1
RCHB	Rochefort	145.14	1	PKPdf		PKPab	09 44 07.8	0.0
DOU	Dourbes	145.18	2	PKPdf		PKPbc	09 44 07.3	-0.5
OZUR		145.24	336	⇑P		PKPdf	09 44 09.2	+0.5
KRUC	Moravsky	145.29	349	ePKP		PKPbc	09 44 08.2	-0.1
PSZ	Piszkesteto	145.57	344	⇑P		PKPab	09 44 10.5	+1.0
PSZ	Piszkesteto	145.57	344	PKPdf		PKPdf	09 44 09.0	-0.2
WLF	Walferdange	145.65	0	PKPdf		PKPab	09 44 10.2	+0.6
WLF	Walferdange	145.65	0	PKPdf		PKPab	09 44 09.9	+0.3
MLR	Muntele Rosu	145.67	335	PKPbc		PKPab	09 44 10.2	+0.1
	comp=Z,37nm,1.0s,baz=32,slow=3.2,SNR=29							
MLR	Muntele Rosu	145.67	335	⇓P		PKPab	09 44 10.3	+0.2
KHC	Kasperske Hory	145.69	352	ePKP		PKPdf	09 44 09.4	+0.1
KHC				ex		x	09 44 27.2	
ISR	Istrita	145.73	334	⇓P		PKPab	09 44 10.7	+0.4
GERES	GERESS Array B	145.95	352	PKPbc		PKPdf	09 44 10.1	+0.3
	comp=Z,10nm,0.8s,baz=29,slow=3.0,SNR=52							
GERES	GERESS Array B	145.95	352	PKPdf		PKPdf	09 44 09.8	0.0
BRTR	Keskin Array B	145.97	321	PKPbc		PKPab	09 44 11.2	-0.2
	comp=Z,12nm,0.9s,baz=117,slow=1.4,SNR=22							
BRTR	Keskin Array B	145.97	321	PKPdf		PKPdf	09 44 09.8	-0.4
SECR		146.00	335	⇑P		PKPab	09 44 11.6	+0.4
VOIR		146.07	336	⇓P		PKPab	09 44 11.4	-0.2
ARR	Arges	146.29	337	⇑P		PKPab	09 44 12.5	+0.2
CONA	Conrad Observa	146.48	349	eP		PKPbc	09 44 12.5	+0.4
	comp=Z,24nm,1.0s,SNR=8.0							
SIRR	Siria	146.55	341	⇑P		PKPbc	09 44 12.5	+0.2
MOA	Molln	146.84	350	eP		PKPbc	09 44 13.2	+0.1
	comp=Z,18nm,1.1s,SNR=8.6							
BFO	Black Forest	146.95	358			PKPbc	09 44 13.2	-0.2
CLF	Chambon-Foret	147.10	5			PKPbc	09 44 14.2	+0.5
BZS	Buzias	147.14	340	⇑P		PKPab	09 44 14.8	-0.7
ARSA	Arzberg	147.20	349	eP		PKPbc	09 44 13.9	-0.2
	comp=Z,16nm,1.1s,SNR=7.0							
HERR	Herculane	147.52	339	⇑P		PKPbc	09 44 15.0	0.0
RETA	Reutte	147.63	355	eP		PKPbc	09 44 15.3	0.0
	comp=Z,22nm,1.1s							
WATA	Walderalm	147.70	354	eP		PKPbc	09 44 15.4	-0.3
	comp=Z,22nm,1.3s,SNR=5.5							
KBA	Koelnbreinsper	147.73	351	eP		PKPbc	09 44 15.1	-0.6
	comp=Z,15nm,1.1s,SNR=5.8							
MOTA	Moosalm	147.74	354	eP		PKPbc	09 44 15.6	-0.1
	comp=Z,18nm,1.0s,SNR=5.6							
WTTA	Wattenberg	147.77	353	eP		PKPbc	09 44 15.9	0.0
	comp=Z,16nm,0.7s,SNR=5.8							
SOKA	Soboth	147.84	349	eP		PKPbc	09 44 14.9	-1.1
	comp=Z,35nm,1.1s,SNR=13							
SQTA	Sankt Quirin	147.86	354	eP		PKPbc	09 44 16.1	+0.1
	comp=Z,14nm,0.9s							
DAVA	Damuels	147.91	356	eP		PKPbc	09 44 16.1	-0.2
	comp=Z,34nm,1.1s,SNR=5.7							
OBKA	Obir	148.09	349	eP		PKPbc	09 44 16.0	-0.7
	comp=Z,11nm,1.4s							
FETA	Feichten	148.10	355	eP		PKPbc	09 44 16.6	-0.2
	comp=Z,16nm,1.1s,SNR=5.8							
MYKA	Terra Mystica	148.12	351	eP		PKPbc	09 44 15.8	-0.9
	comp=Z,14nm,1.0s,SNR=6.8							
ABTA	Abfaltersbach	148.17	352	eP		PKPbc	09 44 16.4	-0.5
	comp=Z,23nm,1.0s,SNR=7.9							
MMAI	Mount Meron Ar	148.39	309	PKPbc		PKPbc	09 44 18.6	+0.7
	comp=Z,1.2nm,0.4s,baz=64,slow=5.7,SNR=5.8							
DAVOX	Davos/Dischmat	148.41	356	PKPbc		PKPbc	09 44 17.3	-0.3
	comp=Z,11nm,0.8s,baz=334,slow=2.4,SNR=13							
FUORN	Ofenpass-Fuorn	148.54	355			PKPbc	09 44 17.8	-0.3
LJU	Ljubljana	148.54	349	i PKPbc		PKPbc	09 44 17.6	-0.2
VOJS	Vojsko	148.67	350	ePKPbc		PKPbc	09 44 17.3	-0.9
EIL	Elat	150.15	304	PKPbc		PKPbc	09 44 21.9	-0.4
	comp=Z,5.2nm,0.9s,baz=82,slow=22,SNR=3.7							
BNI	Bardonecchia	150.26	360			PKPbc	09 44 22.2	0.0
ESDC	Sonseca Array	153.97	19	PKPab		PKPab	09 44 44.2	+0.4
	comp=Z,5.2nm,1.1s,baz=324,slow=3.0,SNR=11							
ESDC	Sonseca Array	153.97	19	PKPab		PKPab	09 44 44.1	+0.3
LIC	Lamto	165.57	127	ePKP2		PKPab	09 45 33.9	-1.0
	comp=Z,0.8nm,0.2s							
TIC	Toumodi	165.83	126	ePKP2		PKPab	09 45 34.8	-1.3
KIC	Kosan Boka	165.87	127	ePKP2		PKPab	09 45 35.2	-1.1
	comp=Z,30nm,1.1s							
TOA0	Torodi Ar. Sit	174.89	113			PKPdf	09 44 40.8	-0.9
TORD	Torodi Ar. Bea	174.89	113	PKP		PKPdf	09 44 39.8	-1.9
	comp=Z,5.2nm,1.2s,baz=305,slow=2.0,SNR=11							
TORD				PKPab		PKPab	09 46 14.8	-1.5
	comp=Z,1.9nm,0.8s,baz=251,slow=4.8,SNR=7.3							
TORD				PP		PP	09 50 05.1	-3.7
	comp=Z,0.7nm,1.1s,baz=222,slow=1.9,SNR=2.8							
TORD	Torodi Ar. Bea	174.89	113			PKPdf	09 44 40.2	-1.5

REY ***16*** *09:25:30.1, 64.67°N×17.48°W, h8km*
IDC ***16*** *09:25:31.1±1.0, 64.63°N×17.80°W, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/51, mbtmp3.6/6, MS3.9/1, Ms1 3.8/1, ms1mx2.9/47, Error ellipse: s-maj=35.8km s-min=16.6km az=17.0*

ISC 16 09:25:29.6±0.8, 64.68°N±0.02×17.51°W±0.03, h12km±5km, n36, σ1°§49/42, mb3.6/6, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.11	265	P		P	Pg	09 25 32.8	+0.1
	baz=272								
IVON				S		Sg	Sg	09 25 35.0	+0.2
	baz=272								
IDYN	Dyngjuhals	0.12	29	P		Pb	Pb	09 25 33.1	-0.9
	baz=22								
IURH	Urdarhals	0.21	48	P		Pb	Pb	09 25 34.4	-1.0
	baz=43								
IURH				S		Sb	Sb	09 25 37.7	+0.4
	baz=43								
IDJK	Dyngjujokull	0.21	147	P		Pg	Pg	09 25 34.1	-0.2
	baz=148								
IGRF	Grimsfjall	0.30	159	P		Pg	Pg	09 25 35.5	-0.3
	baz=161								
IGRF				S		Sg	Sg	09 25 39.9	0.0
	baz=161								
IHUS	Husbondi	0.39	190	P		Pb	Pb	09 25 37.6	-1.1
	baz=192								
IHUS				S		Sb	Sb	09 25 43.0	-1.7
	baz=192								
ISKR	Skrokkalda	0.40	252	P		Pb	Pb	09 25 37.7	-1.0
	baz=255								
ISKR				S		Sb	Sb	09 25 43.7	-1.1
	baz=255								
IVOT	Vottur	0.44	161	P		Pb	Pb	09 25 38.1	-1.3
	baz=162								
IJOK	Jokulheimar	0.48	220	P		Pb	Pb	09 25 39.0	-1.1
	baz=223								
IKRE	Kreppuhraun	0.49	78	P		Pg	Pg	09 25 38.8	-0.5
	baz=76								
IMKO	Mokollar	0.58	59	P		Pb	Pb	09 25 40.6	-1.2
	baz=57								
IMKO				S		Sb	Sb	09 25 49.2	-0.8
	baz=57								
IIEY	Innrieyrar	0.65	205	P		Pb	Pb	09 25 41.7	-1.2
	baz=206								
ISVA	Svartarkot	0.67	9	P		Pb	Pb	09 25 42.3	-0.9
	baz=8.0								
ISVA				S		Sb	Sb	09 25 52.0	-0.5
	baz=8.0								
IKSK	Karasker	0.69	139	P		Pg	Pg	09 25 41.7	-1.3
	baz=139								
IKAL	Kalfafell	0.74	186	P		Pg	Pg	09 25 43.2	-0.7
	baz=187								
IVSH	V-Sauoahnukur	0.77	80	P		Pb	Pb	09 25 43.5	-1.6
	baz=79								
IVSH				S		Sb	Sb	09 25 54.0	-1.6
	baz=79								
IVAT	Vatnsfell	0.79	232	S		Sg	Sg	09 25 55.1	-0.1
	baz=233								
IADA	Aoalbol	0.89	67	P		Pb	Pb	09 25 45.4	-1.6
	baz=66								
IMEL	Melhnausar	0.96	22	P		Pb	Pb	09 25 47.0	-1.2
	baz=21								
IMEL				S		Sg	Sg	09 26 00.2	-0.4
	baz=21								
IREN	Reynihlio	1.00	14	P		Pb	Pb	09 25 47.8	-1.1
	baz=14								
IKVO	Krokottuvotn	1.07	14	P		Pb	Pb	09 25 48.9	-1.2
	baz=13								
ISNB	Snabyli	1.07	208	P		Pn	Pb	09 25 48.8	-1.6
	baz=209								
IGRS	Grimsstaoir	1.12	31	P		Pn	Pb	09 25 49.8	-1.4
	baz=30								
ISKI	Skildingahlsh	1.21	9	P		Pb	Pb	09 25 51.2	-1.2
	baz=8.8								
IGHA	Grjothals	1.22	17	P		Pb	Pb	09 25 51.3	-1.3
	baz=16								
IGRA	Granastaoir	1.24	359	P		Pb	Pb	09 25 51.6	-1.4
	baz=358								
IDIM	Dimmadalss	1.31	10	P		Pb	Pb	09 25 52.6	-1.5
	baz=9.8								
IHLA	Hella	1.32	344	P		Pb	Pb	09 25 53.2	-1.1
	baz=344								
IHLA				S		Sg	Sg	09 26 11.2	-0.9
	baz=344								
BORG	Borgarnes	1.64	274	Pn		Pb	Pb	09 25 58.3	-1.5
	15nm,0.3s,baz=102,slow=8.3,SNR=48								
BORG				Sn		Sg	Sg	09 26 22.1	-0.3
	5.8nm,0.3s,baz=41,slow=15,SNR=2.9								
GERES	GERESS Array B	22.97	119	P		P	P	09 30 39.2	+5.5
	0.3nm,0.2s,baz=357,slow=8.1,SNR=3.7								
BRTR	Keskin Array B	38.49	105	P		P	P	09 32 55.4	+3.9
	0.9nm,0.8s,baz=309,slow=6.9,SNR=2.8								
KBZ	Khabaz	39.12	92	LR		LR	LR	09 48 22.9	
	comp=Z,162nm,18.4s,baz=18,slow=35								
ILAR	Eielson Array	45.67	332	P		P	P	09 33 52.9	+3.4
	1.3nm,1.2s,baz=41,slow=4.1,SNR=5.6								
MKAR	Makanchi Array	52.72	58	P		P	P	09 34 47.0	+3.3
	0.6nm,0.8s,baz=342,slow=7.6,SNR=4.6								
TORD	Torodi Ar. Bea	53.16	156	P		P	P	09 34 49.8	+2.6
	0.6nm,0.7s,baz=341,slow=9.0,SNR=3.5								
PDAR	Pinedale Array	53.17	293	P		P	P	09 34 50.6	+3.3
	0.9nm,0.9s,baz=35,slow=3.3,SNR=5.1								

IDC ***16*** *09:43:48.0±0.9, 49.03°N×28.15°W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.6/61, mbtmp3.9/7, ML4.0/2, MS3.6/3, Ms1 3.7/3, ms1mx3.1/57, Error ellipse: s-maj=33.6km s-min=21.4km az=7.0*

ISC 16 09:43:49.4±0.9, 49.0°N±0.2×28.2°W±0.1, h10km, n12, σ0§47/9, mb3.9/5, MS3.6/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	16.55	58	Pn		Pn	Pn	09 47 41.8	+0.5
	baz=265,slow=10.0,SNR=7.0								
ESDC	Sonseca Array	19.59	109	P		P	P	09 48 17.6	+0.1
	0.1nm,0.3s,baz=303,slow=10.0,SNR=6.7								
NOA	NORSAR Array B	25.16	47	LR		LR	LR	09 57 48.6	
	comp=Z,114nm,18.4s,baz=25,slow=34								
FINES	FINESS Array B	32.35	47	P		P	P	09 50 18.0	-0.4
	5.3nm,1.0s,baz=258,slow=6.5,SNR=4.5								
TORD	Torodi Ar. Bea	43.41	135	P		P	P	09 51 52.1	-0.1
	1.3nm,0.9s,baz=330,slow=8.6,SNR=5.9								
BRTR	Keskin Array B	44.03	78	LR		LR	LR	10 10 43.3	
	comp=Z,64nm,18.7s,baz=20,slow=37								
AKTO	Aktyubinsk	52.66	53	P		P	P	09 53 03.6	+0.2
	1.5nm,0.7s,baz=315,slow=10,SNR=4.8								
PDAR	Pinedale Array	54.43	296	P		P	P	09 53 16.6	-0.2
	1.1nm,0.9s,baz=54,slow=7.7,SNR=6.0								
TXAR	Lajitas Array	59.29	280	P		P	P	09 53 51.7	+0.4
	0.6nm,0.8s,baz=66,slow=7.6,SNR=6.7								
MKAR	Makanchi Array	67.14	44	LR		LR	LR	10 23 04.1	
	comp=Z,63nm,20.3s,baz=42,slow=35								
ASAR	Alice Springs	151.03	36	PKPbc		PKPbc	PKPbc	10 03 41.7	-0.8
	0.5nm,0.8s,baz=330,slow=2.1,SNR=4.0								
VNDA	Vanda	151.11	184	PKPbc		PKiKP	PKiKP	10 03 41.8	+0.3
	0.9nm,1.0s,baz=202,slow=0.7,SNR=4.7								

IDC ***16*** *09:44:50.7±2.3, 12.93°N×142.80°E, h181km±21km, mb3.6/6, mb1 3.8/7, mb1mx3.3/55, mbtmp4.1/7, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=42.9km s-min=14.3km az=108.0*
NEIC ***16*** *09:44:51.0±0.9, 12.87°N±0.10°×142.8°E±0.1, h183km±8km, mb4.3/11, Error ellipse: s-maj=16.3km s-min=11.7km az=47.0*

ISC 16 09:44:52.2±0.7, 12.9°N±0.1°×143.0°E±0.1, h200km, n21, σ0§85/21, mb4.1/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.98	69	P		Pn	Pn	09 45 29.8	-0.7
	74nm,0.3s,baz=289,slow=7.9,SNR=61								
GUMO				S		Sn	Sn	09 45 59.1	-1.1
	63nm,0.3s,baz=172,slow=23,SNR=7.3								

FAKI	Fak Fak	18.96	215	P		P	09 48 57.4	-1.2
JHJ	Hachijo jima 2	20.37	352	LR		LR	09 56 05.6	
	comp=Z,179nm,21.3s,baz=85,slow=33							
COEN	Coen	26.65	180	P		P	09 50 13.2	+0.5
CTAO	Charters Tower	32.91	174	P		P	09 51 07.4	-0.4
CTAO				IAmb		IAmb	09 51 10.7	
	comp=Z,13nm,1.2s							
WB0	Warramunga Arr	33.51	195	P		P	09 51 11.7	-1.4
WB0				IAmb		IAmb	09 51 13.8	
	comp=Z,4.9nm,0.8s							
WR0	Warramunga Arr	33.66	194	P		P	09 51 14.3	+0.1
WR0				IAmb		IAmb	09 51 15.6	
	comp=Z,4.3nm,0.9s							
WRAB	Tennant Creek	33.68	195	P		P	09 51 14.3	-0.2
WRAB				IAmb		IAmb	09 51 15.4	
	comp=Z,6.7nm,0.7s							
WB2	Warramunga Arr	33.69	195	P		P	09 51 14.2	-0.4
WB2				IAmb		IAmb	09 51 15.5	
	comp=Z,4.5nm,0.8s							
WRA	Warramunga Arr	33.70	195	P		P	09 51 14.7	+0.1
	comp=Z,4.4nm,0.7s,baz=14,slow=9.4,SNR=53							
WRA				PcP		PcP	09 53 50.8	+1.1
	comp=Z,0.6nm,0.8s,baz=18,slow=3.3,SNR=5.1							
WRA	Warramunga Arr	33.70	195	P		P	09 51 15.1	+0.5
WC3	Warramunga Arr	33.70	195	P		P	09 51 14.4	-0.2
AS31	Alice Springs	37.38	194	P		P	09 51 45.9	0.0
ASAR	Alice Springs	37.38	194	P		P	09 51 46.3	+0.4
	comp=Z,0.6nm,0.3s,baz=20,slow=11,SNR=18							
STKA	Stephens Creek	44.51	182	P		P	09 52 44.3	+0.4
	comp=Z,2.3nm,0.4s,baz=21,slow=6.6,SNR=13							
STKA	Stephens Creek	44.51	182	IAmb		IAmb	09 52 51.8	
	comp=Z,0.2nm,0.8s							
ZALV	Zalesovo Beam	61.14	325	P		P	09 54 45.0	-0.3
	comp=Z,0.5nm,0.4s,baz=113,slow=10,SNR=1.8							
KURK	Kurchatov	63.95	320	P		P	09 55 03.8	-0.2
KURK				IAmb		IAmb	09 55 05.0	
	comp=Z,2.8nm,0.8s							
ILAR	Eielson Array	70.00	25	P		P	09 55 41.7	-0.1
	comp=Z,0.6nm,0.7s,baz=246,slow=5.8,SNR=9.1							
ABKAR	Akbulak array	75.84	318	P		P	09 56 15.8	-0.6
NVAR	Mina Array Bea	88.80	51	P		P	09 57 26.3	+2.3
	comp=Z,0.4nm,0.5s,baz=263,slow=6.1,SNR=6.2							

MIRAS ***16*** *09:46:30.0±0.0, 54.47°N×59.55°E, h0km, ML2.6/5*

ISC 16 09:46:28.5±1.3, 54.66°N±0.05°×59.28°E±0.08, h10km, n7, σ2§07/12, 2C-2D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARU	Arti	1.82	347	eP		P	Pg	09 47 03.8	+0.5
	63nm,0.6s,baz=344								
ARU				eS		Sg	Sg	09 47 30.9	+4.0
	baz=344								
KAUR	Kamensk Uralsk	2.18	35	eP		P	Pb	09 47 08.0	+0.1
	42nm,1.4s,baz=29								
KAUR				eS		Sg	Sg	09 47 37.7	-0.7
	baz=29								
SVE	Sverdlovsk	2.31	19	eP		P	Pb	09 47 11.0	+0.9
	45nm,0.3s,baz=14								
SVE				eS		Sg	Sg	09 47 42.5	+0.1
	baz=14								
PR3R	Kungur	3.07	336	eP		Pb	Pb	09 47 23.2	+0.1
	34nm,0.4s,baz=335								
PR3R				eS		Sg	Sg	09 48 04.0	-2.9
	baz=335								
PR7R	Sarany	3.91	356	eP		Pb	Pb	09 47 35.0	-2.5
	81nm,15.4s,baz=354								
PR7R				eS		Sb	Sb	09 48 25.0	+0.1
	baz=354								
AKTO	Aktyubinsk	4.30	191	⇓Pn		Pb	Pb	09 47 45.2	+1.1
	1.2nm,0.8s								
AKTO				⇑Lg		Lg	Lg	09 48 37.1	
	3.7nm,0.7s								
AB31	Akbulak array	5.43	175	⇓Pn		Pb	Pb	09 48 01.0	-2.3
	0.2nm,0.3s,baz=5.2,slow=15								
AB31				⇑Lg		Lg	Lg	09 49 11.4	
	2.0nm,0.6s,baz=1.8,slow=27,SNR=7.7								

WEL 16 09:48:38.6, 38°S±12°×17°8E±°, h11km±2km, M2.2/9, ML2.4/9, MLv2.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=166.4, Off east coast of North Island

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

BMDN **Meydan** 1.52 42 *e*Pg Pb **10 05 41.7 -0.1**
BMDN *e* 10 06 07.2
IKOM **Komasi** 1.62 357 *e*Pg Pg **10 05 43.7 -1.1**
IKOM *e* 10 06 11.2
KCHF **Cheshme Sefid,** 1.78 345 *e*Pg Pb **10 05 45.7 -0.6**
KCHF *e* 10 06 13.2
HSAM **Samen** 1.86 27 *e*Pg Pg **10 05 47.7 -1.6**
HSAM *e* 10 06 19.7
KER **Kermanshah** 1.87 348 *e*Pn Pb **10 05 47.1 -0.7**
IBZA **Bozab** 1.93 6 *e*Pg Pb **10 05 48.6 -0.2**
IBZA *e* 10 06 18.8
IGHG **Ghaleghazi** 1.97 334 *e*Pg Pb **10 05 48.7 -0.9**
IGHG *e* 10 06 28.9
NSR **Nassriya** 1.98 219 *e*Pn Pn **10 05 48.0 +1.1**
NSR *e*Sn Sn **10 06 13.0 +1.5**
IVIS **Veis** 2.07 343 *e*Pn Pb **10 05 49.6 -1.6**
IVIS *e* 10 06 28.2
KHMZ **Khomeyn** 2.31 58 *e*Pn Pb **10 05 54.4 -0.9**
KHMZ **Khomeyn** 2.31 58 *e*Pn Pb **10 05 54.4 -0.9**
IALM **Almabolaq** 2.35 11 *e*Pn Pb **10 05 54.9 -1.2**
IDHR **Dehrash** 2.37 335 *e*Pn Pb **10 05 53.7 -2.7**
IDHR *e* 10 05 57.8
ILIN **Lien** 2.42 347 *e*Pn Pb **10 05 54.6 -2.7**
ILIN *e* 10 06 35.5
SNGE **Sanandaj** 2.54 355 *e*Pn Pb **10 05 56.4 -2.9**
SNGE *e*Sg Sb **10 06 29.2 -1.5**
SNGE **Sanandaj** 2.54 355 *e*Pn Pb **10 05 56.4 -2.9**
HAGD **Aghdareh** 2.60 29 *e*Pn Pb **10 05 58.1 -2.3**
HAGD *e* 10 06 41.2
JHBN **Jahan bin** 2.61 96 *e*Pn Pn **10 05 58.1 +2.2**
JHBN *e* 10 06 46.4
HSRG **Sareghieh** 2.74 12 *e*Pn Pb **10 06 00.7 -2.1**
HSRG *e* 10 06 47.7
IPIR **Pirpir** 2.78 86 *e*Pn Pn **10 06 00.5 +2.3**
IPIR *e* 10 06 11.1
BHD **Baghdad** 2.80 286 *e*Pn Pn **10 05 59.0 +0.8**
BHD *e*Sn Sn **10 06 32.0 0.0**
ASAO **Ashtian** 2.84 45 *e*Pn Pb **10 06 01.5 -2.9**
ASAO *e*Sg Sb **10 06 38.2 -1.0**
ASAO IAML 10 06 56.7
comp=N,611nm,0.6s
ASAO **Ashtian** 2.84 45 *e*Pn Pb **10 06 01.5 -2.9**
ROKH **ROKH** 2.91 93 *e*Pn Pn **10 06 02.1 +2.1**
IKLH **Kolahrood** 3.43 76 *e* 10 06 11.7
IKLH *e*Pn Pn **10 06 09.6 +2.4**
QABG **Abgarm-Qazvin** 3.55 27 *e*Pn Pn **10 06 10.4 +1.6**
GHVR **GHOM** 3.64 57 *e*Pn Pn **10 06 12.7 +2.9**
GHVR *e*S Sn **10 06 51.9 -0.8**
GHVR **GHOM** 3.64 57 *e*Pn Pn **10 06 12.7 +2.9**
IQOM **Qom** 3.69 51 *e*Pn Pn **10 06 12.1 +1.4**
KLNJ **Kolanjah** 3.73 113 *e*Pn Pn **10 06 13.6 +2.3**
IGAR **Gharneh** 3.76 91 *e*Pn Pn **10 06 13.6 +2.0**
IGAR *e* 10 07 06.6
IZEF **Zefreh** 4.00 84 *e*Pn Pn **10 06 17.4 +2.4**
KRSH **Karshahi** 4.05 68 *e*Pn Pn **10 06 17.9 +2.3**
IRAM **Ramesheh** 4.12 99 *e*Pn Pn **10 06 17.6 +1.0**
IHSB **Hasanabad** 4.20 46 *e*Pn Pn **10 06 17.9 +0.4**
IVRN **Varamin** 4.21 54 *e*Pn Pn **10 06 20.2 +2.5**
MAHB **Mahabad** 4.49 340 *e*Pn Pn **10 06 22.7 +1.2**
QALM **Alamut, Qazvin** 4.62 32 *e*Pn Pn **10 06 24.9 +1.5**
IDMV **Damavand** 4.76 49 *e*Pn Pn **10 06 27.3 +1.9**
IDMV *e* 10 07 22.7
ISAD **Sadrabad** 5.20 95 *e*Pn Pn **10 06 33.1 +1.7**
ANAR **Anarak** 5.20 81 *e*Pn Pn **10 06 32.3 +1.0**
ISRB **Sarab** 5.26 1 *e*Pn Pn **10 06 33.7 +1.4**
ILAS **Lasjerd** 5.27 56 *e*Pn Pn **10 06 34.5 +2.1**
MSL **Mosul** 5.34 317 *e*Pn Pn **10 06 34.0 +0.9**
MSL *e*Sn Sn **10 07 33.0 -1.5**
IPRN **Peran** 5.38 45 *e*Pn Pn **10 06 36.1 +2.4**
IALA **Alasht** 5.57 49 *e*Pn Pn **10 06 38.2 +1.7**
ISHM **Shahmirzad** 5.73 54 *e*Pn Pn **10 06 40.5 +1.8**
ICHK **Chekchek** 5.76 91 *e*Pn Pn **10 06 40.2 +1.0**
IHRS **Heris** 5.77 356 *e*Pn Pn **10 06 40.7 +1.4**
IANJ **Anjilo** 6.00 59 *e*Pn Pn **10 06 43.1 +0.7**
IMEH **Mehriz** 6.07 99 *e*Pn Pn **10 06 44.6 +1.2**
IKIA **Kiasar** 6.21 52 *e*Pn Pn **10 06 47.4 +2.1**
IGLO **Ghaloghah** 6.48 51 *e*Pn Pn **10 06 52.0 +3.0**
GEVA **Gevas** 6.84 328 Pn Pn **10 06 55.1 +1.2**
MARD **Mardin** 7.34 312 Pn Pn **10 07 00.9 +0.1**
TPRV **Parvadeh(Tabas** 7.67 84 *e*Pn Pn **10 07 05.8 +0.6**
TKDS **Koohdasht(Taba** 8.06 80 *e*Pn Pn **10 07 11.2 +0.6**
NGRK **Negar Kerman** 8.35 108 *e*Pn Pn **10 07 15.9 +1.1**
AKT **Akhty** 8.91 1 *i*P Pn **10 07 25.0 +2.7**
ASF **Jabal al Asfar** 9.06 270 Pn Pn **10 07 22.6 -1.7**
comp=N,0.8nm,0.3s,baz=46,slow=3.2,SNR=9.6
SBZV **Sabzevar** 9.11 62 *e*Pn Pn **10 07 26.8 +1.7**
ISFR **Sfrayin** 9.66 59 *e*Pn Pn **10 07 34.7 +2.0**
SHME **Shamm** 9.87 129 P Pn **10 07 33.6 -1.8**
BANOM **Banah** 10.06 129 *i*P Pn **10 07 36.8 -1.2**
SNR=19
BANOM S Sn **10 09 24.3 -6.6**
BANOM **Banah** 10.06 129 P Pn **10 07 37.5 -0.5**
SNR=19
BANOM S Sn **10 09 26.0 -4.9**
GEYT **Alibeck** 10.13 55 LR LR 10 12 00.9
comp=N,187nm,18.1s,baz=335,slow=40
IPAY **Payeh** 10.18 64 *e*Pn Pn **10 07 41.0 +1.3**
MMAI **Mount Meron Ar** 10.28 276 LR LR 10 12 22.1
comp=N,124nm,18.1s,baz=180,slow=42
NAZ **Nazwa, Dubai** 10.33 135 *i*P Pn **10 07 40.9 -0.7**
SNR=6.9
NAZ **Nazwa, Dubai** 10.33 135 P Pn **10 07 42.2 +0.6**
SNR=6.9
NAZ S Sn **10 09 33.1 -4.3**
ASUD **Al Ashush, Dub** 10.41 137 *i*P Pn **10 07 42.1 -0.6**
SNR=22
ASUD **Al Ashush, Dub** 10.41 137 P Pn **10 07 43.0 +0.2**
SNR=22
ASUD S Sn **10 09 35.2 -4.1**
FAQ **Al Faqa, Dubai** 10.47 136 P Pn **10 07 43.0 -0.6**
FAQ **Al Faqa, Dubai** 10.47 136 P Pn **10 07 43.5 -0.1**
FAQ S Sn **10 09 37.2 -3.6**
MDH **Madha** 10.50 131 P Pn **10 07 41.3 -2.6**
MDH **Madha** 10.50 131 P Pn **10 07 42.9 -1.0**
MDH S Sn **10 09 36.6 -4.8**
ZEI **Tsey** 10.63 345 *e*P Pn 10 07 51.5 +5.6
ZEI pmax pmax
comp=Z,5.0nm,1.3s
UOSS **Minazif** 10.69 133 *i*P Pn **10 07 45.5 -1.1**
SNR=6.1
UOSS **Minazif** 10.69 133 P Pn **10 07 45.5 -1.1**
UOSS S Sn **10 09 40.1 -6.2**
UOSS **Minazif** 10.69 133 Pn Pn **10 07 45.9 -0.7**
HATD **Hatta, Dubai** 10.73 134 *i*P Pn **10 07 46.3 -0.9**
SNR=7.8
HATD **Hatta, Dubai** 10.73 134 P Pn **10 07 47.1 -0.1**
SNR=7.8
HATD S Sn **10 09 42.3 -5.0**
IMYA **Miami** 10.99 66 *e*Pn Pn **10 07 53.3 +2.5**
SOHO **SOHO** 11.49 135 *i*P Pn **10 07 55.7 -1.8**
SNR=5.6
KBZ **Khabaz** 11.76 343 Pn Pn 10 08 06.1 +5.0
comp=Z,0.2nm,0.3s,baz=183,slow=7.9,SNR=3.7
KBZ **Khabaz** 11.76 343 *ce*P Pn 10 08 05.5 +4.5
KBZ pmax pmax
comp=Z,2.0nm,0.9s
SHA1 **Shidzhatmaz** 11.82 342 *i*P Pn **10 08 05.5 +3.3**
KIV **Kislovodsk** 12.02 343 *e*P Pn **10 08 08.3 +3.5**
KIV pmax pmax
comp=Z,28nm,1.0s
ARQ **Araqi** 12.09 137 P Pn **10 08 04.7 -1.1**
SNR=7.3
ARQ S Sn **10 10 15.0 -5.7**
BSY **Bisya** 12.94 137 P Pn **10 08 16.3 -1.2**
SNR=10
BSY S Sn **10 10 35.8 -5.7**
SMDO **Samad** 13.21 133 P Pn **10 08 20.4 -0.8**
SNR=9.1
SMDO S Sn **10 10 43.8 -4.4**
BRTR **Keskin Array B** 13.36 306 Pn P 10 08 27.6 -5.2
comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=4.2
BRTR **Keskin Array B** 13.36 306 *ce*P P 10 08 27.6 -5.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
WSAR **Wadi Sarin** 13.45 131 Pn Pn **10 08 23.1 -1.2**
comp=Z,1.9nm,0.3s,baz=327,slow=10.0,SNR=15
WSAR Sn Sn **10 10 48.5 -5.3**
comp=Z,0.7nm,0.3s,baz=200,slow=23,SNR=7.9
MHTO **MHTO** 14.77 139 P Pn **10 08 40.1 -2.2**
SNR=8.0
MHTO S Sn 10 11 17.2 -8.7
DQM **DQM** 15.40 142 P Pn **10 08 48.2 -2.6**
SNR=5.4
DQM S Sn 10 11 29.4 -12
WHFO **Wadi Hawf** 15.59 158 P Pn **10 08 49.1 -4.3**
SNR=9.7
WHFO S Sn 10 11 36.1 -10
RBK **Rabkut** 16.12 157 P Pn **10 08 56.4 -3.8**
SNR=6.6
RBK S Sn 10 11 48.1 -11
SHAO **Shalim** 16.17 152 P Pn **10 08 57.7 -3.1**
SNR=8.7
SHAO S Sn **10 11 51.5 -8.6**
DMTO **DMTO** 16.19 154 P Pn **10 08 57.4 -3.6**
SNR=12
DMTO S Sn 10 11 48.0 -13
KBL **Kabul** 17.98 78 P Pn **10 09 23.9 +0.2**
KBL pmax pmax
comp=Z,15nm,1.0s
KBL **Kabul** 17.98 78 P Pn **10 09 23.9 +0.2**
CHGR **Chuyangaron** 18.54 65 P P **10 09 30.0 -0.2**
CHGR IAmb IAmb 10 09 32.4
comp=Z,14nm,1.0s
IDI **Anoyia** 19.04 284 P Pn **10 09 36.3 -0.1**
comp=Z,1.1nm,0.3s,baz=97,slow=13,SNR=6.3
IDI **Anoyia** 19.04 284 ⇑P Pn **10 09 37.1 +0.7**
IDI **Anoyia** 19.04 284 P P **10 09 35.4 -0.2**
IDI IAmb IAmb 10 09 38.8
comp=Z,14nm,1.1s
ABKAR **Akbulak array** 19.08 25 P Pn **10 09 36.5 -0.2**
ABKAR **Akbulak array** 19.08 25 P Pn **10 09 36.3 -0.3**
VRH **Novokhopyorsk** 19.13 349 *e*P P **10 09 35.3 -1.1**
VRH pmax pmax
comp=Z,20nm,1.4s
AKTO **Aktyubinsk** 19.46 20 P Pn **10 09 40.5 -0.8**
comp=Z,0.5nm,0.3s,baz=199,slow=13,SNR=4.4
VSR **Storozhevoye** 19.66 344 *e*P P **10 09 40.8 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.4s
BELG **Belogornoye** 19.83 0 *i*P Pn **10 09 45.0 -0.6**
BTK **Batken** 20.12 62 P P **10 09 48.1 +0.6**
BTK pmax pmax
comp=Z,10.0nm,1.0s
BTK **Batken** 20.12 62 P **10 09 48.1 +0.6**
BTK IAmb IAmb 10 09 53.0
comp=Z,10.0nm,0.9s
ISR **Istrita** 20.58 314 ⇑P Pn 10 09 56.9 +2.3
ISR **Istrita** 20.58 314 ⇑P Pn 10 09 56.9 +2.3
KK31 **Karatay Array** 20.88 53 P Pn 10 09 56.7 -1.4
KK31 pmax pmax
comp=Z,10.0nm,1.3s
KK31 **Karatay Array** 20.88 53 P Pn 10 09 56.7 -1.4
KKAR **Karatay Array** 20.88 53 P P **10 09 55.9 +0.3**
KKAR **Karatay Array** 20.88 53 P P **10 09 55.9 +0.3**
LPSR **Galich'ya Gora** 21.00 345 *e*P P **10 09 55.8 -1.0**
LPSR pmax pmax
comp=Z,110nm,1.2s
MLR **Muntele Rosu** 21.13 314 ⇓P P **10 10 03.6 +5.2**
MLR **Muntele Rosu** 21.13 314 ⇓P P **10 10 03.6 +5.2**
MLR **Muntele Rosu** 21.13 314 P P **10 09 59.0 +0.5**
NIL **Nilore** 21.50 80 P P **10 10 02.0 -0.4**
NIL pmax pmax
comp=Z,14nm,0.9s
NIL **Nilore** 21.50 80 P P **10 10 01.9 -0.4**
ITM **Ithomi** 21.54 290 P P **10 10 01.9 -0.8**
VOIR 21.66 313 ⇑P P **10 10 06.3 +2.3**
VOIR 21.66 313 ⇑P P **10 10 06.3 +2.3**
DOPR **Dopca** 21.71 315 ⇑P P **10 10 06.0 +1.5**
BIZ **Bicaz** 21.81 317 ⇓P P **10 10 08.2 +2.8**
AKASG **Malin Array Be** 22.64 329 P P **10 10 15.8 +1.5**
comp=Z,1.1nm,0.3s,baz=131,slow=8.1,SNR=8.5
AKASG **Malin Array Be** 22.64 329 P P **10 10 12.8 -1.6**
AKASG pmax pmax
comp=Z,2.0nm,1.1s
AKASG **Malin Array Be** 22.64 329 P P **10 10 12.8 -1.6**
AKBB **Malin Array Si** 22.64 329 P P **10 10 14.7 +0.3**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB **Malin Array Si** 22.64 329 P P **10 10 14.7 +0.3**
AKBB IAmb IAmb 10 10 21.2
comp=Z,7.1nm,0.7s
BURAR **Bucovina Array** 22.68 318 ⇑P P **10 10 18.7 +3.7**
BURAR **Bucovina Array** 22.68 318 ⇑P P **10 10 18.7 +3.7**
BURAR **Bucovina Array** 22.68 318 P P **10 10 15.5 +0.6**
BUR08 **Bucovina Ar. S** 22.71 318 P P **10 10 15.8 +0.5**
BUR08 IAmb IAmb 10 10 22.8
comp=Z,5.0nm,0.8s
GZR **Gura Zlata** 23.07 311 ⇑P P **10 10 19.5 +0.6**
MDVR **Moldovita** 23.51 309 ⇓P P **10 10 23.9 +0.5**
OBN **Obninsk** 23.86 344 LR LR 10 20 42.2
comp=Z,29nm,19.5s,baz=203,slow=39
OBN **Obninsk** 23.86 344 ⇑*e*P P **10 10 28.0 +1.4**
OBN *e* 10 10 58.1
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,96nm,16.0s
BOOM **Boomskoye usch** 24.47 58 P P **10 10 31.5 -1.1**
BOOM pmax pmax
comp=Z,5.0nm,1.0s
BOOM **Boomskoye usch** 24.47 58 P P **10 10 31.5 -1.1**
BOOM IAmb IAmb 10 10 40.7
comp=Z,4.9nm,0.9s
KOLS **Kolonicke sedl** 25.05 318 *e*P P **10 10 39.7 +2.1**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS **Kolonicke sedl** 25.05 318 *e*P P **10 10 39.7 +2.1**
ARU **Arti** 25.06 14 P P **10 10 40.5 +2.9**
ARU 10 11 11.6
ARU S S **10 15 05.5 +4.0**
KWP **Kalwaria Pacla** 25.18 320 P P **10 10 38.9 +0.1**
KWP pmax pmax
comp=Z,12nm,0.9s
KWP **Kalwaria Pacla** 25.18 320 P P **10 10 38.9 +0.1**
KDJ **Kajisay** 25.28 59 P P **10 10 41.1 +1.1**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
KDJ **Kajisay** 25.28 59 P P **10 10 41.1 +1.1**
KDJ IAmb IAmb 10 10 42.9
comp=Z,5.3nm,0.8s
CRVS **Cervenica-Dubn** 25.49 318 *e*P P **10 10 45.5 +3.9**
CRVS pmax pmax
comp=Z,11nm,0.8s
CRVS **Cervenica-Dubn** 25.49 318 *e*P P **10 10 45.5 +3.9**
KECS **Kecovo** 25.86 316 *e*P P **10 10 48.6 +3.7**
KECS pmax pmax
comp=Z,11nm,0.7s
KECS **Kecovo** 25.86 316 *e*P P **10 10 48.6 +3.7**
PSZ **Piszkesteto** 25.95 314 P P **10 10 45.6 -0.3**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ **Piszkesteto** 25.95 314 P P **10 10 45.5 -0.3**
BRVK **Borovoye** 26.20 32 *i*P P **10 10 48.5 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,1.6s
NACGM **Naroch** 26.74 333 *e* P **10 10 55.0 +2.2**
LANS **Liptovska Anna** 26.76 317 *e*P P **10 10 55.8 +2.6**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS **Liptovska Anna** 26.76 317 *e*P P **10 10 55.8 +2.6**
VYHS **Vyhne** 26.84 315 *e*P P **10 10 55.3 +1.5**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS **Vyhne** 26.84 315 *e*P P **10 10 55.3 +1.5**
KLMR **Klimovskoe** 28.81 352 *e*P P **10 11 09.7 -1.5**
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR **Klimovskoe** 28.81 352 *e*P P **10 11 09.8 -1.5**
KLMR AMP 10 11 27.2
comp=Z,17nm,1.3s
KURBB **Kurchatov Arra** 29.04 42 P P **10 11 14.8 +1.3**
comp=Z,2.8nm,0.7s,baz=246,slow=9.3,SNR=14
KURK **Kurchatov** 29.14 42 *ce*P P **10 11 15.5 +1.2**
KURK pmax pmax
comp=Z,2.0nm,0.7s
VSU **Vasula** 29.50 338 *i*P P 10 11 21.9 +4.5
VSU pmax pmax
comp=Z,33nm,0.9s
MK31 **Makanchi Array** 29.98 51 *ce*P P **10 11 22.7 +0.8**
MK31 **Makanchi Array** 29.98 51 P P **10 11 22.5 +0.6**
MK31 IAmb IAmb 10 11 23.4
comp=Z,3.7nm,0.7s
MKAR **Makanchi Array** 29.98 51 P P **10 11 22.6 +0.8**
comp=Z,3.8nm,0.6s,baz=248,slow=7.8,SNR=46
MKAR **Makanchi Array** 29.98 51 P P **10 11 22.3 +0.4**
GERES **GERESS Array B** 30.11 313 P P **10 11 25.7 +2.7**
comp=Z,0.3nm,0.5s,baz=98,slow=7.0,SNR=2.7
CLL **Collm** 31.44 317 *e*(sP) sP 10 11 38.0 -1.8
CLL **Collm** 31.44 317 *e*P sP 10 11 38.0 -1.8
FINES **FINESS Array B** 32.10 341 P P **10 11 40.0 -0.4**
comp=Z,2.3nm,0.6s,baz=150,slow=8.5,SNR=6.6
FINES **FINESS Array B** 32.10 341 P P **10 11 39.8 -0.5**
FINES **FINESS Array B** 32.10 341 P P **10 11 39.8 -0.5**
BNI **Bardonecchia** 33.90 304 P P **10 11 57.3 +0.9**
BNI pmax pmax
comp=Z,8.0nm,0.9s
BNI **Bardonecchia** 33.90 304 P P **10 11 57.2 +0.9**
ZAA0 **Zalesovo Array** 33.96 40 P P **10 11 56.4 -0.2**
ZAA0 IAmb IAmb 10 11 57.9
comp=Z,4.4nm,1.1s
ZALV **Zalesovo Beam** 33.96 40 P P **10 11 56.5 -0.2**
comp=Z,2.2nm,0.5s,baz=249,slow=8.1,SNR=10
DGZ **Jazzator, Alta** 34.07 48 *i*P P **10 11 58.6 +0.7**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
HFS **Hagfors** 35.47 331 P P **10 12 09.3 -0.3**
comp=Z,2.6nm,0.4s,baz=104,slow=18,SNR=2.5
ARCES **ARCESS Array B** 39.06 348 P P **10 12 39.4 -0.6**
comp=Z,1.6nm,0.7s,baz=136,slow=5.9,SNR=6.6
EKA **Eskdalemuir Ar** 41.87 318 P P **10 13 04.4 +1.0**
comp=Z,3.3nm,0.8s,baz=104,slow=9.2,SNR=4.5
NRIK **Noril'sk** 43.08 19 *i*P P **10 13 15.6 +2.5**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
TLY **Talaya** 44.54 47 *i*P P **10 13 26.8 +1.7**
TLY pmax pmax
comp=Z,3.0nm,0.9s
TORD **Torodi Ar. Bea** 46.09 256 P P **10 13 37.5 -0.3**
comp=Z,0.6nm,0.6s,baz=46,slow=8.0,SNR=4.5
ULN **Ulaanbaatar** 46.77 53 *ce*P P **10 13 44.6 +1.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SPITS **Spitsbergen Ar** 47.71 352 P P **10 13 50.0 +0.3**
comp=Z,7.5nm,0.8s,baz=136,slow=11,SNR=6.2
SPITS **Spitsbergen Ar** 47.71 352 P P **10 13 50.0 +0.3**
CMAR **Chiang Mai Ar** 47.99 94 P P **10 13 52.4 -0.2**
comp=Z,0.6nm,0.3s,baz=308,slow=8.4,SNR=6.3
TIXI **Tiksi** 56.73 22 *i*P P **10 14 58.9 +2.1**
TGY **Tagaytay City** 68.61 87 LR LR 10 51 50.5
comp=Z,391nm,18.4s,baz=123,slow=41
BILL **Bilibino** 69.90 21 ⇑*e*P P 10 16 29.5 +5.5
BILL *e* 10 16 50.9
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,565nm,19.0s

VIE 16 10:08:44.3±0.2, 46°21N×11°18E, h0km, mb1.5/2, ml1.4/11, 4C, Error ellipse: s-maj=3.1km s-min=1.5km az=119.0
10 km NW of Salurn Suspected Mining explosion., Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANI	**Panarotta**	**0.19**	**145**	⇑*e*P	Pg	10 08 47.5	-0.4
PANI				*e*Sg	Sg	10 08 50.5	+0.1
GAGG	**Gaggia**	**0.20**	**230**	⇑*e*P	Pg	10 08 48.1	+0.1
GAGG				*e*Sg	Sg	10 08 51.5	+1.0
OZOL	**Ozolo**	**0.21**	**336**	*e*Pg	Pg	10 08 48.9	+0.6
OZOL				*e*Sg	Sg	10 08 52.9	+1.8
DOSS	**Dosso del Somm**	**0.33**	**178**	⇑*e*Pg	Pg	10 08 50.1	-0.4
DOSS				*e*Sg	Sg	10 08 55.0	+0.2
CARE	**Lago del Cares**	**0.40**	**303**	⇑*e*Pg	Pg	10 08 52.3	+0.4
MARN	**Marana (Italy)**	**0.57**	**178**	*e*Pg	Pg	10 08 54.5	-0.7
VARN	**Col Varnada, M**	**0.68**	**108**	*e*Pg	Pg	10 08 56.8	-0.5
FETA	**Feichten**	**0.87**	**339**	*e*Pg	Pg	10 09 00.9	0.0
	0.5nm,0.1s						
FETA				Sg	Sg	10 09 12.7	+0.5
	0.2nm,0.1s						
SQTA	**Sankt Quirin**	**1.01**	**1**	*e*Pg	Pg	10 09 03.7	+0.1
	1.4nm,0.1s						
ABTA	**Abfaltersbach**	**1.07**	**59**	*e*Pg	Pg	10 09 04.1	-0.7
	0.4nm,0.1s						
WTTA	**Wattenberg**	**1.10**	**17**	*e*Pg	Pg	10 09 05.3	0.0
	0.8nm,0.1s						
MOTA	**Moosalm**	**1.14**	**358**	*e*Pg	Pg	10 09 06.0	0.0
	0.2nm,0.1s						
WATA	**Walderalm**	**1.16**	**14**	*e*Pg	Pg	10 09 06.5	0.0
	0.8nm,0.1s						

IDC 16 10:13:29.6±3.3, 54°46N×86°97E, h0km, mb1 2.9/2, mb1mx2.9/39, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=30.5km s-min=18.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**249**	*i*		10 23 00.7	
	baz=68,slow=343,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.36**	**249**	Pg	Pg	10 13 53.4	-2.3
	1.1nm,0.3s,baz=68,slow=16,SNR=9.9						
ZALV				Lg	Lg	10 14 13.1	
	1.5nm,0.3s,baz=68,slow=27,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.42**	**237**	Pn	Pn	10 15 06.4	+1.0
	0.1nm,0.3s,baz=53,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**8.23**	**203**	Pn	Pn	10 15 31.6	+1.4
	0.1nm,0.3s,baz=24,slow=14,SNR=5.7						

IDC 16 10:25:24.4±20.0, 23°36S×70°87E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/41, mbtmp3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/34, Error ellipse: s-maj=658.0km s-min=41.6km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**15.70**	**6**	T	T	10 46 09.5	
	baz=189,slow=76,SNR=46						
H08S2	**Diego Garcia H**	**15.70**	**6**	T	T	10 46 06.4	
	baz=189,slow=76,SNR=68						
H08S3	**Diego Garcia H**	**15.72**	**6**	T	T	10 46 11.2	
	baz=189,slow=76,SNR=54						
LEM	**Lembang**	**38.94**	**71**	LR	LR	10 47 33.9	
	comp=Z,44nm,19.2s,baz=8.5,slow=34						
ASAR	**Alice Springs**	**57.35**	**104**	P	P	10 35 14.3	-0.6
	0.5nm,0.8s,baz=251,slow=6.5,SNR=7.2						
WRA	**Warramunga Arr**	**58.68**	**100**	P	P	10 35 24.9	+0.7
	0.2nm,0.8s,baz=261,slow=7.3,SNR=2.4						
DAV	**Davao City (W)**	**61.39**	**67**	LR	LR	10 58 01.4	
	comp=Z,19nm,20.6s,baz=157,slow=32						
MKAR	**Makanchi Array**	**70.58**	**8**	P	P	10 36 41.2	0.0
	1.0nm,0.9s,baz=188,slow=8.3,SNR=5.4						

IDC 16 10:33:40.1±2.3, 2°04N×126°94E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=180.1km s-min=26.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**162**	P	P	10 38 46.8	-0.2
	0.8nm,0.3s,baz=341,slow=12,SNR=23						
ASAR	**Alice Springs**	**26.44**	**166**	P	P	10 39 19.3	+0.4
	0.3nm,0.4s,baz=345,slow=8.0,SNR=7.6						
MKAR	**Makanchi Array**	**59.06**	**326**	P	P	10 43 41.8	-0.3
	0.3nm,0.6s,baz=120,slow=8.4,SNR=3.8						

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*NNC **16** 11:26:44.3±2.7, 40°77N×79°64E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=18.3km s-min=14.1km az=145.0
*SOME **16** 11:26:45.5, 40°90N×79°68E, h0km*
*KRNET **16** 11:26:47.8±0.1, 40°78N×79°59E, mb2.6*

ISC 16 11:26:40.9±3.5, 40°7N±0°1×79°80E±0°09, h11km±20km, n30, σ1°21/46, 11C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**2.05**	**330**	⇑*i*P	**Pg**	**11 27 23.2**	**+3.1**
	baz=33						
PRZ				⇑*i*S	**Sg**	**11 27 49.9**	**+3.2**
	baz=33						
KDJ	**Kajisay**	**2.42**	**306**	⇑*i*P	**Pg**	**11 27 28.8**	**+1.6**
	baz=8.0						
KDJ				⇑*i*S	**Sg**	**11 27 58.0**	**-0.6**
	baz=8.0						
SHLS	**Shalkode**	**2.44**	**354**	*e*P	**Pg**	**11 27 28.1**	**+0.4**
	12nm,0.2s						
SHLS				*e*S	**Sg**	**11 27 59.3**	**-0.2**
	32nm,0.4s						

SHLS	**Shalkode**	**2.44**	**354**	Pg	**Pg**	**11 27 28.1**	**+0.4**
	12nm,0.2s						
SHLS				Lg	Lg	11 27 59.3	
	32nm,0.4s						
UZB	**Uzynbulak**	**2.49**	**347**	*eP*	**Pg**	**11 27 28.4**	**-0.2**
	4.9nm,0.4s						
UZB				*eS*	**Sg**	**11 27 59.5**	**-1.4**
	15nm,0.7s						
UZB	**Uzynbulak**	**2.49**	**347**	Pg	**Pg**	**11 27 28.4**	**-0.2**
	4.9nm,0.4s						
UZB				Lg	Lg	11 27 59.5	
	15nm,0.7s						
SATY	**Saty**	**2.56**	**336**	*eP*	**Pg**	**11 27 30.4**	**+0.6**
	5.2nm,0.4s						
SATY				*eS*	**Sg**	**11 28 03.2**	**+0.2**
	15nm,0.3s						
SATY	**Saty**	**2.56**	**336**	Pg	**Pg**	**11 27 30.4**	**+0.6**
	5.2nm,0.4s						
SATY				Lg	Lg	11 28 03.2	
	15nm,0.3s						
ANVS	**Anan'yevo**	**2.60**	**323**	⇓*iP*	**Pg**	**11 27 31.8**	**+1.0**
	baz=25						
ANVS				⇓*iS*	**Sg**	**11 28 04.1**	**-0.4**
	baz=25						
PDGK	**Podgornoye**	**2.61**	**355**	Pg	**Pg**	**11 27 31.2**	**+0.3**
	3.3nm,0.4s						
PDGK				Lg	Lg	11 28 04.6	
	11nm,0.6s						
PDGK	**Podgornoye**	**2.61**	**355**	⇑Pg	**Pg**	**11 27 30.9**	**-0.1**
	3.0nm,0.4s						
PDGK				⇑Lg	Lg	11 28 03.8	
	20nm,0.6s						
ZHN	**Zhinishke**	**2.65**	**338**	*eP*	**Pg**	**11 27 31.4**	**-0.2**
	137nm,0.4s						
ZHN				*eS*	**Sg**	**11 28 04.5**	**-1.3**
	8.0nm,0.2s						
ZHN	**Zhinishke**	**2.65**	**338**	Pg	**Pg**	**11 27 31.4**	**-0.2**
	137nm,0.4s						
ZHN				Lg	Lg	11 28 04.5	
	8.0nm,0.2s						
KPKS	**Kokpek**	**2.86**	**344**	*eP*	**Pg**	**11 27 35.5**	**-0.3**
	12nm,0.3s						
KPKS				*eS*	**Sg**	**11 28 11.8**	**-1.1**
	26nm,0.4s						
KURS	**Kuram**	**3.02**	**337**	*eP*	**Pg**	**11 27 39.0**	**+0.3**
	4.3nm,0.5s						
KURS				*eS*	**Sg**	**11 28 17.5**	**-0.3**
	6.8nm,0.5s						
KURS	**Kuram**	**3.02**	**337**	Pg	**Pg**	**11 27 39.0**	**+0.3**
	4.3nm,0.5s						
KURS				Lg	Lg	11 28 17.5	
	6.8nm,0.5s						
ULHL	**Ulahol**	**3.07**	**301**	⇑*eP*	**Pb**	**11 27 38.3**	**+2.6**
	baz=1.0						
ULHL				⇑*iS*	**Sb**	**11 28 14.3**	**+1.0**
	baz=1.0						
TNSS	**Tian-Shan**	**3.14**	**318**	*eP*	**Pg**	**11 27 41.0**	**-0.1**
	3.4nm,0.5s						
TNSS				*eS*	**Sg**	**11 28 21.1**	**-0.7**
	5.3nm,0.4s						
TNSS	**Tian-Shan**	**3.14**	**318**	Pg	**Pg**	**11 27 41.0**	**-0.1**
	3.4nm,0.5s						
TNSS				Lg	Lg	11 28 21.1	
	5.3nm,0.4s						
MDOK	**Medeo**	**3.19**	**321**	*eP*	**Pg**	**11 27 42.5**	**+0.6**
	4.4nm,0.5s						
MDOK				*eS*	**Sg**	**11 28 23.6**	**+0.5**
	7.6nm,0.5s						
MDOK	**Medeo**	**3.19**	**321**	Pg	**Pg**	**11 27 42.5**	**+0.6**
	4.4nm,0.5s						
MDOK				Lg	Lg	11 28 23.7	
	7.6nm,0.5s						
BOOM	**Boomskoye usch**	**3.39**	**303**	⇑*eP*	**Pb**	**11 27 42.5**	**+1.5**
	baz=3.0						
BOOM				⇑*eS*	**Sb**	**11 28 22.6**	**+0.3**
	baz=3.0						
KST	**Kastek**	**3.68**	**310**	*eP*	**Pg**	**11 27 50.8**	**-0.7**
	1.7nm,0.3s						
KST				*eS*	**Sg**	**11 28 37.6**	**-1.5**
	3.6nm,0.4s						
KST	**Kastek**	**3.68**	**310**	Pg	**Pg**	**11 27 50.7**	**-0.7**
	1.7nm,0.3s						
KST				Lg	Lg	11 28 37.6	
	3.6nm,0.4s						
KTBS	**Karatobe**	**3.78**	**323**	*eP*	**Pg**	**11 27 52.4**	**-0.9**
	1.5nm,0.6s						
KTBS				*eS*	**Sg**	**11 28 40.6**	**-1.5**
	7.7nm,0.5s						
KTBS	**Karatobe**	**3.78**	**323**	Pg	**Pg**	**11 27 52.4**	**-0.9**
	1.5nm,0.6s						
KTBS				Lg	Lg	11 28 40.6	
	7.7nm,0.5s						
TKM2	**Tokmak 2**	**3.83**	**306**	⇑Pg	**Pb**	**11 27 46.7**	**-1.9**
	0.5nm,0.3s						
TKM2				⇓Lg	Lg	11 28 44.9	
	1.4nm,0.7s						
DGS	**Degeres**	**3.92**	**311**	*eP*	**Pg**	**11 27 54.9**	**-1.1**
	1.6nm,0.4s						
DGS				*eS*	**Sg**	**11 28 44.8**	**-1.8**
	4.1nm,0.5s						
DGS	**Degeres**	**3.92**	**311**	Pg	**Pg**	**11 27 54.8**	**-1.1**
	2.0nm,0.4s						
DGS				Lg	Lg	11 28 45.7	
	4.1nm,0.5s						
AAK	**Ala-Archa**	**4.41**	**297**	⇓Pg	**Pb**	**11 27 56.5**	**-1.9**
	0.8nm,0.6s						
AAK				⇓Lg	Lg	11 29 02.5	
	1.2nm,0.6s						

*IDC **16** 11:43:40.6±2.8, 33°.92N×137°.24E, h266km±56km, mb3.1/5, mb1 3.4/6, mb1mx3.0/48, mbtmp3.8/6, Error ellipse: s-maj=122.1km s-min=17.1km az=64.0*
*JMA **16** 11:43:41.0±0.2, 34°.20N×137°.89E, h305km±2km, M2.9*
ISC 16 11:43:41.8±0.9, **34°.26N**±0°.10×**137°.88E**±0°.06, **h300**km±7km, **n27**, **σ0°90/37**, **mb3.2/5**, **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHMK	**Hamakita**	**0.56**	**350**	*eS*	**S**	**11 44 51.1**	**0.0**
HMMJ	**Hamamatsu 2**	**0.61**	**348**	P	**Pn**	**11 44 21.0**	**+0.4**
HMMJ				*eS*	**S**	**11 44 51.4**	**-0.1**
JNY	**Yasuok**	**1.10**	**359**	P	**Pn**	**11 44 23.2**	**+0.5**
JNY				*eS*	**S**	**11 44 54.8**	**-0.4**
JAO	**Obara**	**1.13**	**333**	P	**Pn**	**11 44 23.2**	**+0.4**
JAO				*eS*	**S**	**11 44 56.0**	**+0.6**
JKN2	**Miekihoku**	**1.33**	**270**	P	**Pn**	**11 44 23.6**	**-0.3**
JYN	**Shimob**	**1.35**	**24**	P	**Pn**	**11 44 25.1**	**+1.0**
JEG	**Eigenji**	**1.50**	**306**	P	**Pn**	**11 44 25.2**	**+0.2**
JYTA	**Yamagatataniai**	**1.63**	**325**	P	**Pn**	**11 44 25.8**	**+0.1**
JWY	**Kouya**	**1.89**	**269**	P	**Pn**	**11 44 27.5**	**-0.3**
JRY	**Ryogami san**	**1.94**	**25**	P	**Pn**	**11 44 29.1**	**+1.0**
JRY				S	**S**	**11 45 05.9**	**+0.9**
JHU	**Hanno**	**1.96**	**36**	P	**Pn**	**11 44 28.8**	**+0.6**
JHU				*eS*	**S**	**11 45 03.6**	**-1.6**
BSO4	**Boso 4**	**2.16**	**70**	P	**Pn**	**11 44 30.4**	**+0.7**
BSO4				S	**S**	**11 45 07.9**	**0.0**
BSO3	**Boso 3**	**2.24**	**75**	*eS*	**S**	**11 45 09.3**	**+0.5**
JWT	**Wachi**	**2.28**	**297**	P	**Pn**	**11 44 30.7**	**-0.1**
JWT				*eS*	**S**	**11 45 08.0**	**-1.9**
MJAR	**Matsushiro Arr**	**2.29**	**7**	P	**Pn**	**11 44 31.2**	**+0.3**
	1.8nm,0.3s,baz=189,slow=10,SNR=96						
MAT	**Matsushiro**	**2.29**	**7**	P	**Pn**	**11 44 31.2**	**+0.3**
MAT				S	**S**	**11 45 09.6**	**-0.6**
MAT	**Matsushiro**	**2.29**	**7**	P	**Pn**	**11 44 31.3**	**+0.3**
MAT				*eS*	**S**	**11 45 09.9**	**-0.3**
JKG	**Kaga**	**2.38**	**328**	P	**Pn**	**11 44 31.7**	**+0.1**
JAG	**Ashikaga**	**2.52**	**30**	P	**Pn**	**11 44 32.6**	**-0.3**
BSO1	**Boso 1**	**2.59**	**80**	P	**Pn**	**11 44 32.7**	**-0.3**
JYT	**Yasato**	**2.73**	**43**	P	**Pn**	**11 44 34.3**	**-0.5**
JYT				*eS*	**S**	**11 45 13.8**	**-3.4**
JHO	**Hitachi**	**3.22**	**42**	P	**Pn**	**11 44 39.3**	**-0.3**
MKAR	**Makanchi Array**	**43.22**	**304**	P	**P**	**11 51 13.9**	**+0.1**
	0.6nm,0.4s,baz=92,slow=10,SNR=5.1						
KURBB	**Kurchatov Arra**	**45.50**	**310**	P	**P**	**11 51 31.9**	**+0.3**
	0.8nm,0.6s,baz=84,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	**54.01**	**184**	P	**P**	**11 52 34.8**	**-0.8**
	0.3nm,0.3s,baz=0.2,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**57.73**	**184**	P	**P**	**11 53 01.4**	**-0.4**
	0.2nm,0.3s,baz=4.4,slow=4.1,SNR=5.8						
KBZ	**Khabaz**	**70.50**	**310**	P	**P**	**11 54 25.3**	**+1.1**
	1.1nm,0.5s,baz=76,slow=1.2,SNR=4.0						

IDC 16 12:13:05.3±1.6, **3°.40S**×**150°.94E**, **h0km**, **mb3.7/4, mb1 4.0/4, mb1mx3.5/38, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/42, Error ellipse: s-maj=36.9km s-min=27.6km az=157.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.41**	**130**	Pn	Pn	12 13 32.2	-0.1
	3.6nm,0.3s,baz=132,slow=6.1,SNR=3.0						
HNR	**Honiara**	**10.77**	**124**	LR	LR	12 19 51.8	
	comp=Z,127nm,18.9s,baz=282,slow=38						
WRA	**Warramunga Arr**	**23.08**	**223**	P	P	12 18 12.9	+0.1
	2.0nm,0.9s,baz=48,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**26.02**	**218**	P	P	12 18 40.9	+0.6
	0.6nm,0.8s,baz=55,slow=8.3,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**26.72**	**35**	T	T	12 46 13.4	
	baz=218,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**26.73**	**35**	T	T	12 46 11.4	
	baz=218,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**26.74**	**35**	T	T	12 46 12.0	
	baz=218,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.81**	**34**	T	T	12 47 37.5	
	baz=218,slow=76,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**27.82**	**34**	T	T	12 47 35.5	
	baz=218,slow=76,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**27.83**	**34**	T	T	12 47 38.3	
	baz=218,slow=76,SNR=21						
FITZ	**Fitzroy Crossi**	**28.76**	**238**	P	P	12 19 04.3	-0.7
	2.3nm,1.1s,baz=45,slow=10.0,SNR=3.5						
ILAR	**Eielson Array**	**81.58**	**23**	P	P	12 25 24.8	+0.1
	0.6nm,1.1s,baz=243,slow=6.0,SNR=2.1						

*IDC **16** 12:22:22.8±1.9, 7°.44S×115°.52E, h310km±18km, mb3.9/11, mb1 3.9/14, mb1mx3.6/41, mbtmp4.5/14, Error ellipse: s-maj=20.7km s-min=9.6km az=72.0*
*DJA **16** 12:22:22.0±0.2, 8°.3S×111°.5E±°, h285km±3km, M4.2/19, mb4.6/18, mB4.7/13, MLv4.4/19, Mw(mB)4.0/13*
*NEIC **16** 12:22:22.1±1.8, 7°.47S±0°.08×115°.44E±0°.06, h307km±3km, mb4.4/27, Error ellipse: s-maj=12.2km s-min=9.0km az=169.0*
ISC 16 12:22:21.2±0.6, **7°.59S**±0°.05×**115°.47E**±0°.05, **h294**km±5km, **n100**, **σ1§34/108**, **mb4.4/23**, **1C**, **Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.57**	**236**	P	**Pn**	**12 23 04.2**	**-0.1**
JAGI				S	**S**	**12 23 35.8**	**-2.8**
JAGI	**Jajag, Banyuwa**	**1.57**	**236**		**Pn**	**12 23 04.1**	**-0.1**
KMMI	**Kalianget**	**1.58**	**290**	P	**Pn**	**12 23 06.4**	**+2.0**
KMMI				S	**S**	**12 23 39.5**	**+0.8**
TWSI	**Taliwang, Sumb**	**1.81**	**129**	P	**Pn**	**12 23 06.0**	**0.0**
TWSI				S	**S**	**12 23 40.3**	**-1.3**
BLJI	**Banyuglugur**	**1.86**	**265**	P	**Pn**	**12 23 07.7**	**+1.3**
GMJI	**Gumukmas**	**2.12**	**251**	P	**Pn**	**12 23 08.9**	**+0.5**
GMJI				S	**S**	**12 23 44.2**	**-1.8**
PLAI	**Plampang**	**2.60**	**118**	P	**Pn**	**12 23 12.5**	**-0.2**
PLAI				S	**S**	**12 23 51.8**	**-1.9**
PWJI	**Pagerwojo**	**3.66**	**263**	P	**Pn**	**12 23 21.3**	**-0.3**
PWJI				S	**S**	**12 24 12.5**	**-0.6**
BBKI	**Banjar Baru**	**4.15**	**351**	P	**Pn**	**12 23 31.0**	**+2.1**
KBKI	**Kotabaru**	**4.32**	**9**	P	**Pn**	**12 23 32.5**	**+1.7**
UGM	**Wanagama**	**4.91**	**266**	Pn	**Pn**	**12 23 38.0**	**+0.5**
KAPI	**Kappang**	**4.97**	**59**	P	**Pn**	**12 23 40.0**	**+1.8**
	1.7nm,0.3s,baz=244,slow=18,SNR=3.9						
BKSI	**Bulukumba**	**5.14**	**64**	P	**Pn**	**12 23 42.8**	**+2.5**
	0.3nm797nm88nm,0.8s						
SPSI	**Sidrap Palu**	**5.59**	**50**	P	**Pn**	**12 23 48.0**	**+2.4**
	0.2nm626nm44nm,0.9s						
BASI	**Baing, Sumba**	**5.69**	**118**	P	**Pn**	**12 23 46.5**	**-0.1**
	2.0nm7µm353nm,0.5s						
TTSI	**Tana Toraja**	**6.26**	**44**	P	**Pn**	**12 23 56.3**	**+2.8**
	0.1nm2µm25nm,0.7s						
EDFI	**Ende, Flores**	**6.27**	**101**	P	**Pn**	**12 23 52.5**	**-1.3**
KPJI	**Karang Pucung**	**6.49**	**272**	P	**Pn**	**12 23 57.6**	**+1.3**
	0.2nm26nm,0.7s						
MTKI	**Muara Teweh, K**	**6.63**	**355**	P	**Pn**	**12 23 59.5**	**+1.4**
	0.5nm62nm,0.7s						
MMRI	**Maumere**	**6.78**	**99**	P	**Pn**	**12 23 59.7**	**-0.2**
	0.6nm3µm135nm,0.7s						
MMRI	**Maumere**	**6.78**	**99**	Pn	**Pn**	**12 23 59.7**	**-0.2**
CISI	**Cisompet, Garu**	**7.59**	**270**	P	**Pn**	**12 24 10.0**	**+0.2**
	0.3nm2µm46nm,0.7s						
CISI	**Cisompet, Garu**	**7.59**	**270**	Pn	**Pn**	**12 24 09.7**	**-0.1**
BATI	**Baumata**	**8.51**	**108**	P	**Pn**	**12 24 20.7**	**-0.3**
	38nm,0.3s,baz=320,slow=1.2,SNR=27						
BATI	**Baumata**	**8.51**	**108**	P	**Pn**	**12 24 20.8**	**-0.3**
	875nm41nm,0.4s						
SOEI	**Soe**	**8.96**	**105**	P	**Pn**	**12 24 26.3**	**-0.5**
	71nm,0.8s						
SOEI	**Soe**	**8.96**	**105**	Pn	**Pn**	**12 24 26.2**	**-0.6**
MPSI	**Mapaga**	**9.03**	**29**	P	**P**	**12 24 30.5**	**-2.0**
	459nm53nm,0.9s						
KLSI		**11.06**	**284**	P	**P**	**12 24 54.2**	**-0.8**
	13nm,1.7s						
KASI	**Kota Agung**	**11.09**	**280**	P	**P**	**12 24 55.5**	**+0.1**
	2µm125nm,0.5s						
GTOI	**Gorontalo**	**11.11**	**43**	P	**P**	**12 24 55.5**	**-0.1**
	326nm35nm,0.6s						
LWLI	**Liwa**	**11.62**	**282**	P	**P**	**12 25 01.7**	**+0.2**
	106nm,0.6s						
MDSI	**Maura Dua**	**11.64**	**285**	P	**Pn**	**12 25 00.6**	**+1.0**
	798nm13nm,1.0s						
LHSI	**Lahat**	**12.46**	**287**	P	**P**	**12 25 11.4**	**+0.8**
	149nm,0.9s						
MNAI	**Manna**	**12.85**	**284**		**P**	**12 25 15.1**	**+0.1**
DSRI	**Dabo**	**12.95**	**303**	P	**P**	**12 25 17.7**	**+1.6**
	608nm17nm,1.0s						
MYLDM	**Lahad Datu**	**13.04**	**14**		**P**	**12 25 18.0**	**+1.0**
KSI	**Kapahiang**	**13.39**	**286**	P	**P**	**12 25 22.3**	**+1.2**
KKM	**Kota Kinabalu**	**13.56**	**3**		**P**	**12 25 22.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.39**	**137**	P	**Pn**	**12 25 33.7**	**+1.0**
	1.4nm,0.3s,baz=328,slow=6.2,SNR=53						
FITZ	**Fitzroy Crossi**	**14.39**	**137**		**Pn**	**12 25 33.5**	**+0.8**
PSA00	**Pilbara Seismi**	**14.53**	**164**		**Pn**	**12 25 34.9**	**+0.6**
PSA00					**S**	**12 28 19.4**	**+6.3**
GIRL	**Giralia**	**15.01**	**184**	P	**Pn**	**12 25 39.7**	**-0.3**
KNRA	**Kununurra**	**15.29**	**123**		**Pn**	**12 25 43.5**	**+0.1**
MTN	**Manton Dam**	**16.27**	**110**	P	**Pn**	**12 25 54.0**	**-0.8**
FAKI	**Fak Fak**	**17.34**	**75**	P	**P**	**12 26 04.7**	**+0.5**
FAKI				IAmb	IAmb	12 26 11.9	
	comp=Z,43nm,1.4s						
IPM	**Ipoh**	**18.75**	**309**	P	**P**	**12 26 20.1**	**+0.8**
IPM				IAmb	IAmb	12 26 22.5	
	comp=Z,9.1nm,0.7s						
RPSI	**Rantau Prapat**	**19.41**	**301**	P	**P**	**12 26 27.2**	**+0.8**
KULM	**Kulim**	**19.55**	**310**	P	**P**	**12 26 28.7**	**+0.8**
MORW	**Morawa**	**21.37**	**179**	P	**P**	**12 26 48.4**	**+2.5**
MORW				IAmb	IAmb	12 26 48.5	
	comp=Z,28nm,1.2s						
WB0	**Warramunga Arr**	**21.98**	**125**	P	**P**	**12 26 52.2**	**+0.6**
WRA	**Warramunga Arr**	**22.03**	**126**	P	**P**	**12 26 53.0**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=298,slow=12,SNR=152						
WRA				S	**S**	**12 30 31.2**	**-2.4**
	comp=Z,1.2nm,0.7s,baz=298,slow=18,SNR=5.0						
WRA	**Warramunga Arr**	**22.03**	**126**	P	**P**	**12 26 52.1**	**0.0**
WRAB	**Tennant Creek**	**22.03**	**126**	P	**P**	**12 26 53.4**	**+1.3**
WRAB				IAmb	IAmb	12 26 53.9	
	comp=Z,9.2nm,0.8s						
WB2	**Warramunga Arr**	**22.04**	**126**	P	**P**	**12 26 52.0**	**-0.1**
WR0	**Warramunga Arr**	**22.20**	**126**	P	**P**	**12 26 54.3**	**+0.7**
WR0				IAmb	IAmb	12 26 56.5	
	comp=Z,18nm,1.1s						
AS31	**Alice Springs**	**23.84**	**134**	P	**P**	**12 27 09.3**	**+0.8**
ASAR	**Alice Springs**	**23.84**	**134**	P	**P**	**12 27 09.1**	**+0.6**
	comp=Z,8.5nm,0.6s,baz=310,slow=8.5,SNR=103						
ASAR				PcP	**PcP**	**12 30 42.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=307,slow=2.0,SNR=4.5						
ASAR				ScP	**ScP**	**12 33 50.6**	**-2.4**
	comp=Z,1.0nm,0.5s,baz=321,slow=2.5,SNR=6.0						
ASAR	**Alice Springs**	**23.84**	**134**	P	**P**	**12 27 09.6**	**+1.1**
FORT	**Forrest**	**25.91**	**155**	P	**P**	**12 27 27.9**	**+0.9**
FORT				IAmb	IAmb	12 27 31.8	
	comp=Z,22nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.59**	**328**	P	**P**	**12 28 08.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=152,slow=7.2,SNR=9.4						
BBOO	**Buckleboo**	**31.54**	**146**	P	**P**	**12 28 17.0**	**+0.3**
BBOO				IAmb	IAmb	12 28 32.5	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**34.29**	**138**	P	**P**	**12 28 41.6**	**+1.3**
	comp=Z,5.9nm,0.5s,baz=311,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**34.29**	**138**	P	**P**	**12 28 41.7**	**+1.3**
XAN	**Xi'an**	**41.86**	**352**	⇑P	**P**	**12 29 42.5**	**-0.7**
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
XAN				pmax	pmax		
	comp=Z,96nm,7.9s						
XAN	**Xi'an**	**41.86**	**352**	P	**P**	**12 29 43.3**	**+0.1**
XAN				IAmb	IAmb	12 29 43.4	
	comp=Z,11nm,0.5s						
LZH	**Lanzhou**	**44.80**	**347**	*eP*	**P**	**12 30 07.6**	**+1.0**
LZH				pP	pP	12 31 07.3	0.0
LZH				sP	sP	12 31 38.9	-1.6
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,82nm,4.9s						
KSRS	**Korea Array**	**46.30**	**14**	P	**P**	**12 30 16.7**	**-1.3**
	comp=Z,4.8nm,1.1s,baz=192,slow=8.1,SNR=6.2						
JWT	**Wachi**	**46.61**	**23**	P	**P**	**12 30 19.5**	**-0.9**
JWT				IAmb	IAmb	12 30 31.8	
	comp=Z,47nm,1.5s						
HHC	**Hu-ho-hao-te**	**48.33**	**356**	*eP*	**P**	**12 30 35.6**	**+1.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,60nm,7.0s						
MAT	**Matsushiro**	**48.81**	**24**	P	**P**	**12 30 35.5**	**-1.8**
MJAR	**Matsushiro Arr**	**48.81**	**24**	P	**P**	**12 30 35.7**	**-1.6**
	comp=Z,6.1nm,0.8s,baz=200,slow=8.6,SNR=15						
MJAR	**Matsushiro Arr**	**48.81**	**24**	P	**P**	**12 30 35.3**	**-2.1**
GTA	**Gaotai**	**48.96**	**344**	*eP*	**P**	**12 30 39.1**	**+0.6**
GTA				pP	pP	12 31 40.8	+0.4
GTA				sP	sP	12 32 06.9	-6.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,41nm,4.7s						
GTA				LR	LR		
	comp=N,88nm,17.4s						
GTA				LR	LR		
	comp=E,70nm,17.1s						
GTA				LR	LR		
	comp=Z,100nm,20.7s						
MDJ	**Mudanjiang**	**53.51**	**13**	P	**P**	**12 31 11.4**	**-0.4**
MDJ				IAmb	IAmb	12 31 11.9	
	comp=Z,17nm,0.7s						
USA0B	**Ussuriysk Arra**	**53.67**	**15**	P	**P**	**12 31 12.2**	**-0.8**
USA0B				IAmb	IAmb	12 31 13.2	
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.67**	**15**	P	**P**	**12 31 12.4**	**-0.6**
	comp=Z,9.5nm,0.5s,baz=190,slow=7.0,SNR=30						
USRK	**Ussuriysk Ar.**	**53.67**	**15**	P	**P**	**12 31 11.9**	**-1.1**
SONM	**Songino Array**	**55.76**	**353**	P	**P**	**12 31 27.4**	**-0.7**
	comp=Z,12nm,0.7s,baz=171,slow=9.3,SNR=54						
SONM	**Songino Array**	**55.76**	**353**	P	**P**	**12 31 27.6**	**-0.5**
WMQ	**Urumqi**	**57.02**	**336**	*eP*	**P**	**12 31 38.4**	**+1.5**
SOCY	**Socotra**	**64.20**	**287**	P	**P**	**12 32 24.2**	**-1.5**
ZALV	**Zalesovo Beam**	**66.53**	**341**	P	**P**	**12 32 37.5**	**-2.2**
	comp=Z,1.7nm,0.3s,baz=138,slow=4.3,SNR=9.6						
MAW	**Mawson**	**69.39**	**199**	P	**P**	**12 32 58.1**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=63,slow=6.7,SNR=8.4						
MAW	**Mawson**	**69.39**	**199**	P	**P**	**12 32 58.3**	**+1.2**
ABKAR	**Akbulak array**	**74.42**	**326**	P	**P**	**12 33 25.2**	**-2.0**
LSZ	**Lusaka**	**85.42**	**255**	P	**P**	**12 34 26.8**	**0.0**
BOSA	**Boshof**	**86.60**	**242**	P	**P**	**12 34 32.4**	**+0.1**
	comp=Z,4.3nm,1.1s,baz=98,slow=3.4,SNR=6.3						
BOSA	**Boshof**	**86.60**	**242**	IAmb	IAmb	12 34 32.7	
	comp=Z,6.4nm,0.8s						
SNAA	**Sanae**	**91.39**	**196**	P	**P**	**12 34 54.4**	**+0.7**
VNA2	**Neumayer--Watz**	**93.03**	**196**	P	**P**	**12 35 01.7**	**+0.5**
	baz=103,slow=4.3						
TORD	**Torodi Ar. Bea**	**114.77**	**281**	PKP	PKPdf	12 40 26.4	-1.4
	comp=Z,0.5nm,0.5s,baz=44,slow=1.9,SNR=4.3						
DBIC	**Dimbokro**	**120.82**	**273**	PKP	**PKPdf**	**12 40 38.3**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=62,slow=3.3,SNR=6.8						
NVAR	**Mina Array Bea**	**122.78**	**49**	PKP	**PKPdf**	**12 40 42.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=257,slow=1.7,SNR=6.8						
WVT	**Waverly**	**144.50**	**33**		**PKPab**	**12 41 21.2**	**-1.2**
CLTN	**Cedars of Leba**	**145.34**	**32**	PKPdf	**PKPdf**	**12 41 23.9**	**-0.7**
T50A	**Nancy**	**145.37**	**29**		**PKPdf**	**12 41 23.2**	**-1.3**
CPUP	**Villa Florida**	**145.56**	**191**	PKPbc	**PKPbc**	**12 41 26.3**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=149,slow=3.7,SNR=6.5						
BDFB	**Brasilia**	**151.71**	**215**	PKPbc	**PKPbc**	**12 41 42.1**	**0.0**
	comp=Z,3.2nm,0.5s,baz=70,slow=3.4,SNR=3.8						
LPAZ	**La Paz**	**156.01**	**171**	PKPab	**PKPab**	**12 42 11.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=154,slow=5.6,SNR=3.8						

*IDC **16** 12:22:22.5±1.1, 3°.55S×151°.00E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/40, mbtmp3.9/5, MS3.8/22, Ms1 3.8/22, ms1mx3.6/39, Error ellipse: s-maj=27.1km s-min=24.2km az=23.0*
*NEIC **16** 12:22:28.4±2.2, 3°.57S±0°.07×151°.01E±0°.06, h38km±8km, m

comp=Z,141nm,18.6s,baz=11,slow=38
JHJ Hachijo jima 2 38.02 345 LR LR 12 42 58.5
comp=Z,100nm,18.9s,baz=194,slow=33
MJAR Matsushiro Arr 41.66 344 LR LR 12 45 57.7
comp=Z,47nm,20.5s,baz=195,slow=34
URZ Urewera 41.94 149 LR LR 12 44 18.0
comp=Z,116nm,21.4s,baz=30,slow=31
LEM Lembang 43.35 264 LR LR 12 52 50.1
comp=Z,58nm,18.6s,baz=180,slow=42
RPZ Rata Peaks 43.73 159 LR LR 12 47 09.2
comp=Z,240nm,19.2s,baz=324,slow=34
RAR Rarotonga 50.89 114 LR LR 12 50 02.6
comp=Z,105nm,21.5s,baz=294,slow=33
CMAR Chiang Mai Arr 55.77 295 P **P 12 32 01.7 -0.8**
comp=Z,0.5nm,0.3s,baz=116,slow=6.1,SNR=2.7
CMAR LR LR 12 56 36.1
comp=Z,28nm,18.2s,baz=355,slow=37
PETK Petropavlovsk- 56.75 5 LR LR 12 53 07.3
comp=Z,63nm,20.1s,baz=157,slow=32
TBI Tubuai 60.67 115 *e*LR LR 12 50 33.8
comp=Z,141nm,23.8s
SONM Songino Array 64.36 328 LR LR 12 59 12.9
comp=Z,101nm,20.8s,baz=121,slow=34
SONM Songino Array 64.36 328 P **P 12 33 00.3 -0.8**
VNDA Vanda 74.12 178 P **P 12 34 01.6 +0.7**
comp=Z,0.8nm,0.9s,baz=328,slow=6.3,SNR=2.6
VNDA LR LR 13 03 18.6
comp=Z,38nm,18.7s,baz=340,slow=33
MKAR Makanchi Array 78.25 319 LR LR 13 07 35.5
comp=Z,48nm,20.2s,baz=85,slow=35
ILAR Eielson Array 81.70 23 P **P 12 34 42.2 -1.0**
comp=Z,1.0nm,0.7s,baz=245,slow=6.6,SNR=5.3
IL18 Eielson Array 81.73 23 P **P 12 34 44.5 +1.0**
KKAR Karatay Array 85.51 314 P **P 12 35 03.6 +0.3**
MAW Mawson 86.02 203 LR LR 13 11 04.0
comp=Z,55nm,20.8s,baz=60,slow=34
NVAR Mina Array Bea 92.72 52 LR LR 13 14 53.3
comp=Z,30nm,18.4s,baz=280,slow=34
PDAR Pinedale Array 99.32 47 LR LR 13 12 13.3
comp=Z,76nm,22.0s,baz=306,slow=30
TORD Torodi Ar. Bea 148.25 289 PKPbc **PKPdf 12 42 10.9 +2.1**
comp=Z,0.9nm,0.7s,baz=65,slow=2.2,SNR=5.0

NNC ***16*** *12:26:57.9±0.5, 42.86N×70.03E, h6km±3km, mb4.0, mpv3.8, Error ellipse: s-maj=4.1km s-min=2.2km az=152.0*
SOME ***16*** *12:26:58.0, 42.90N×70.00E, h10km*
KRNET ***16*** *12:27:01.7±0.1, 42.96N×70.38E, mb3.4*

ISC 16 12:26:58.9±0.8, 42.92N±0.03×70.08E±0.03, h15km±7km, n50, σ2s01/80, 33C-16D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Boroldaу**	**0.21**	**302**	*e*P	**Pg**	**12 27 03.4**	**-0.4**
	354nm,0.1s						
BRLS				*e*S	**Sg**	**12 27 06.9**	**-0.2**
	10μm,0.2s						
BRLS	**Boroldaу**	**0.21**	**302**	P	**Pg**	**12 27 03.4**	**-0.4**
	354nm,0.1s						
BRLS				S	**Sg**	**12 27 06.9**	**-0.2**
	10μm,0.2s						
KK08	**Karatay Array**	**0.35**	**58**	⇑P	**Pb**	**12 27 06.9**	**0.0**
KK08				⇑S	**Sb**	**12 27 12.8**	**+0.6**
KK07	**Karatay Array**	**0.35**	**61**	⇑P	**Pb**	**12 27 06.7**	**-0.1**
KK07				⇑S	**Sb**	**12 27 12.9**	**+0.6**
KK03	**Karatay Array**	**0.36**	**59**	⇑P	**Pb**	**12 27 07.0**	**0.0**
KK03				⇑S	**Sb**	**12 27 13.0**	**+0.6**
KK01	**Karatay Array**	**0.36**	**59**	⇑P	**Pb**	**12 27 07.0**	**-0.1**
KK01				⇑S	**Sb**	**12 27 13.2**	**+0.7**
KK02	**Karatay Array**	**0.37**	**59**	⇑P	**Pb**	**12 27 07.1**	**0.0**
KK02				⇑S	**Sb**	**12 27 13.2**	**+0.6**
KK04	**Karatay Array**	**0.37**	**58**	⇑P	**Pb**	**12 27 07.1**	**0.0**
KK04				⇑S	**Sb**	**12 27 13.3**	**+0.7**
KK31	**Karatay Array**	**0.37**	**59**	⇑P	**Pb**	**12 27 07.1**	**0.0**
	42nm,0.3s,baz=142,slow=12,SNR=6870						
KK31				⇓S	**Sb**	**12 27 13.0**	**+0.4**
	116nm,0.3s,baz=234,slow=42,SNR=17						
KK09	**Karatay Array**	**0.37**	**56**	⇑P	**Pb**	**12 27 07.1**	**0.0**
KK09				⇑S	**Sb**	**12 27 13.4**	**+0.6**
KK06	**Karatay Array**	**0.37**	**61**	⇑P	**Pb**	**12 27 07.1**	**0.0**
KK06				⇑S	**Sb**	**12 27 13.2**	**+0.5**
KK05	**Karatay Array**	**0.38**	**58**	⇑P	**Pb**	**12 27 07.3**	**0.0**
KK05				⇓S	**Sb**	**12 27 13.7**	**+0.7**
CHM	**Chimkent**	**0.69**	**211**	*e*P	**Pg**	**12 27 10.5**	**-2.0**
	3.1nm,0.1s						
CHM				*e*S	**Sg**	**12 27 19.0**	**-2.6**
	1μm,0.2s						
IUG	**Iuzhnay**	**0.77**	**183**	*e*P	**Pg**	**12 27 12.0**	**-1.9**
	244nm,0.1s						
IUG				*e*S	**Sg**	**12 27 22.3**	**-1.7**
	2μm,0.2s						
IUG	**Iuzhnay**	**0.77**	**183**	P	**Pg**	**12 27 12.0**	**-1.9**
	244nm,0.1s						
IUG				S	**Sg**	**12 27 22.3**	**-1.7**
	2μm,0.2s						
DZA	**Taraz**	**0.92**	**91**	*e*P	**Pb**	**12 27 16.6**	**+0.1**
	118nm,0.2s						
DZA				*e*S	**Sb**	**12 27 29.5**	**+1.0**
	2μm,0.2s						
DZA	**Taraz**	**0.92**	**91**	P	**Pb**	**12 27 16.6**	**+0.1**
	118nm,0.2s						
DZA				S	**Sb**	**12 27 29.5**	**+1.0**
	2μm,0.2s						
MNAS	**Manas**	**1.84**	**103**	⇓*i*P	**Pb**	**12 27 32.0**	**-0.2**
	baz=6.0						
MNAS				⇓*i*S	**Sn**	**12 27 54.8**	**+1.8**
	baz=6.0						
MRKS	**Merke**	**2.32**	**93**	*e*P	**Pb**	**12 27 41.3**	**+0.8**
	20nm,0.3s						
MRKS				*e*S	**Sb**	**12 28 11.8**	**+2.8**
	74nm,0.3s						
MRKS	**Merke**	**2.32**	**93**	Pg	**Pb**	**12 27 41.3**	**+0.8**
	20nm,0.3s						
MRKS				Lg	Lg	12 28 11.7	
	74nm,0.3s						
EKS2	**Erkin-Say**	**2.73**	**94**	P	**Pb**	**12 27 49.3**	**+1.8**
	SNR=21						
AML	**Almayashu**	**2.78**	**105**	P	**Pg**	**12 27 50.5**	**-1.7**
	SNR=11						
BTK	**Batken**	**2.91**	**169**	⇑*i*P	**Pb**	**12 27 51.4**	**+0.9**
	baz=73						
BTK				⇑*i*S	**Sb**	**12 28 27.5**	**+1.6**
	baz=73						
USP	**Ospenovka**	**3.25**	**82**	P	**Pb**	**12 27 58.1**	**+1.8**
	SNR=10						
AAK	**Ala-Archa**	**3.26**	**93**	P	**Pb**	**12 27 58.4**	**+1.9**
	SNR=6.8						
AAK	**Ala-Archa**	**3.26**	**93**	⇓Pg	**Pb**	**12 27 57.6**	**+1.1**
	9.8nm,0.4s						
AAK				⇓Lg	Lg	12 28 41.8	
	84nm,1.1s						
ARLS	**Aral**	**3.31**	**107**	⇓*i*P	**Pn**	**12 27 54.1**	**+3.8**
	baz=9.0						
ARLS				⇓*i*S	**Sn**	**12 28 32.2**	**+2.7**
	baz=9.0						
UCH	**Uchtor**	**3.34**	**100**	P	**Pg**	**12 28 01.9**	**-1.0**
	SNR=13						
SGDS	**Sogindy**	**3.37**	**79**	Pg	**Pb**	**12 27 59.7**	**+1.4**
	22nm,0.3s						
SGDS				Lg	Lg	12 28 43.2	
	35nm,0.3s						
BTLS	**Baital**	**3.56**	**52**	*e*P	**Pb**	**12 28 04.3**	**+2.8**
	15nm,0.3s						
BTLS				*e*S	**Sg**	**12 28 51.2**	**-2.0**
	10.0nm,0.5s						
BTLS	**Baital**	**3.56**	**52**	Pg	**Pb**	**12 28 04.3**	**+2.8**
	15nm,0.3s						
BTLS				Lg	Lg	12 28 51.2	
	10.0nm,0.5s						
TKM2	**Tokmak 2**	**4.05**	**88**	P	**Pg**	**12 28 14.4**	**-2.0**
	SNR=6.4						
TKM2	**Tokmak 2**	**4.05**	**88**	⇑Pn	**Pn**	**12 28 02.7**	**+2.2**
	2.1nm,0.7s						
TKM2				⇑Pg	**Pg**	**12 28 14.0**	**-2.5**
	14nm,0.6s						
TKM2				⇓Lg	Lg	12 29 06.6	
	30nm,0.8s						
KST	**Kastek**	**4.32**	**86**	*e*P	**Pg**	**12 28 19.2**	**-2.4**
	14nm,0.5s						
KST				*e*S	**Sg**	**12 29 17.4**	**0.0**
	42nm,0.4s						
KST	**Kastek**	**4.32**	**86**	Pg	**Pg**	**12 28 19.2**	**-2.4**
	14nm,0.5s						
KST				Lg	Lg	12 29 17.4	
	42nm,0.4s						
BOOM	**Boomskoye usch**	**4.34**	**94**	⇓*i*P	**Pn**	**12 28 08.3**	**+3.9**
	baz=95						
BOOM				⇓*i*S	**Sn**	**12 28 56.6**	**+1.8**
	baz=95						
KUU	**Kurty**	**4.66**	**76**	*e*P	**Pb**	**12 28 24.3**	**+4.0**
	6.6nm,0.3s						
KUU				*e*S	**Sg**	**12 29 25.8**	**-2.7**
	151nm,0.6s						
KUU	**Kurty**	**4.66**	**76**	Pg	**Pb**	**12 28 24.3**	**+4.0**
	6.6nm,0.3s						
KUU				Lg	Lg	12 29 25.8	
	151nm,0.6s						
TNSS	**Tian-Shan**	**5.04**	**86**	*e*P	**Pg**	**12 28 31.3**	**-4.1**
	7.9nm,0.5s						
TNSS				*e*S	**Sg**	**12 29 37.4**	**-3.2**
	14nm,0.5s						
TNSS	**Tian-Shan**	**5.04**	**86**	Pg	**Pg**	**12 28 31.3**	**-4.1**
	7.9nm,0.5s						
TNSS				Lg	Lg	12 29 37.4	
	14nm,0.5s						
MDOK	**Medeo**	**5.11**	**85**	*e*P	**Pg**	**12 28 33.3**	**-3.4**
	5.8nm,0.3s						
MDOK				*e*S	**Sg**	**12 29 40.8**	**-2.1**
	24nm,0.7s						
MDOK	**Medeo**	**5.11**	**85**	Pg	**Pg**	**12 28 33.3**	**-3.4**
	5.8nm,0.3s						
MDOK				Lg	Lg	12 29 40.8	
	24nm,0.7s						
PDGK	**Podgornoye**	**6.90**	**83**	⇑Pn	**Pn**	12 28 45.8	+6.3
	0.5nm,0.3s						
PDGK				⇑Lg	Lg	12 30 35.8	
	17nm,0.9s						
MAKZ	**Makanchi**	**9.30**	**61**	⇓Pn	**Pn**	**12 29 12.9**	**+0.5**
	0.4nm,0.3s						
MAKZ				⇓Sn	**Sn**	**12 30 56.6**	**0.0**
	0.9nm,0.5s						
MAKZ				⇑Lg	Lg	12 31 50.0	
	10nm,1.0s						
AB31	**Akbulak array**	**9.47**	**316**	⇑Pn	**Pn**	**12 29 13.7**	**-0.9**
	0.2nm,0.3s,baz=262,slow=36,SNR=11						
AB31				⇑Sn	**Sn**	**12 30 57.5**	**-3.3**
	0.5nm,0.4s						
MK31	**Makanchi Array**	**9.50**	**62**	Pn	**Pn**	**12 29 16.1**	**+1.1**
	0.6nm,0.4s,baz=239,slow=14,SNR=16						
MK31				⇓Sn	**Sn**	**12 31 02.0**	**+0.6**
	0.7nm,0.5s						
MK31				⇓Lg	Lg	12 31 58.8	
	4.8nm,0.6s,baz=245,slow=28,SNR=5.2						
KURBB	**Kurchatov Arra**	**9.64**	**34**	⇑Lg	Lg	12 32 03.7	
	15nm,0.6s						
KURK	**Kurchatov**	**9.75**	**34**	⇑Lg	Lg	12 32 05.8	
	10nm,0.9s						
BRVK	**Borovoye**	**10.15**	**1**	⇑Pn	**Pn**	**12 29 26.7**	**+2.8**
	1.7nm,0.7s						
BRVK				⇑Sn	**Sn**	**12 31 14.0**	**-3.4**
	1.7nm,0.4s						
BRVK				⇓Lg	Lg	12 32 18.3	
	2.7nm,0.9s						
AKTO	**Aktyubinsk**	**11.18**	**316**	⇑Pn	**Pn**	**12 29 36.2**	**-1.8**
	1.5nm,0.8s						
AKTO				⇑Sn	**Sn**	**12 31 39.3**	**-3.4**
	1.8nm,0.8s						

MAN ***16*** *12:30:52.0, 13.69N×119.83E, h4km, mb4.9, ML3.8, MS3.8*
NEIC ***16*** *12:30:56.3±1.0, 14.0N±0.1×119.98E±0.09, h67km±13km, mb4.5/7, Error ellipse: s-maj=17.4km s-min=9.6km az=150.0*
IDC ***16*** *12:30:57.8±1.8, 13.90N×120.16E, h63km±20km, mb3.6/8, mb1 3.9/8, mb1mx3.5/73, mbtmp3.9/8, MS3.4/2, Ms1 3.4/2, ms1mx2.7/43, Error ellipse: s-maj=34.6km s-min=14.2km az=65.0*

ISC 16 12:30:50.1±1.8, 13.75N±0.05×119.80E±0.06, h4km±11km, n33, σ1s31/36, mb4.2/11, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.43**	**92**	*e*P	**Pb**	**12 31 00.4**	**0.0**
LUBP				*e*S	**Sb**	**12 31 06.3**	**-0.9**
TGY	**Tagaytay City**	**1.16**	**72**	P	**Pg**	**12 31 13.8**	**+1.5**
	851nm,0.3s,baz=285,slow=1.5,SNR=29						
TGY	**Tagaytay City**	**1.16**	**72**	⇓*i*P	**Pg**	**12 31 13.9**	**+1.5**
LQP	**Lukban**	**1.73**	**78**	⇑*e*P	**Pn**	**12 31 21.7**	**+0.5**
LQP				*i* S	**Sg**	**12 31 46.1**	**+0.4**
BUSP	**Coron**	**1.77**	**167**	*e*P	**Pb**	**12 31 23.4**	**+0.1**
BUSP				*e*S	**Sg**	**12 31 46.1**	**-1.1**
SJMP	**San Jose**	**1.81**	**135**	*e*P	**Pg**	**12 31 24.5**	**-0.4**
SJMP				*e*S	**Sb**	**12 31 46.3**	**-0.7**
BOAC	**Boac**	**2.01**	**98**	*e*P	**Pb**	**12 31 26.7**	**-0.5**
ENPP	**El Nido**	**2.55**	**188**	*e*P	**Pn**	**12 31 33.7**	**+1.4**
ENPP				*e*S	**Sn**	**12 32 04.7**	**+0.8**
OTRP	**Odiongan**	**2.56**	**122**	*e*P	**Pg**	**12 31 38.9**	**-0.4**
OTRP				*e*S	**Sn**	**12 32 05.2**	**+0.9**
GQP	**Guinayangan**	**2.57**	**86**	⇑*e*P	**Pb**	**12 31 35.1**	**-1.9**
GQP				*e*S	**Sn**	**12 32 06.1**	**+1.6**
CUYO	**Cuyo Island**	**3.11**	**157**	*e*P	**Pn**	**12 31 41.4**	**+1.3**
MYLDM	**Lahad Datu**	**8.61**	**189**	Pn	Pn	12 33 01.9	+6.2
DAV	**Davao City (W)**	**8.73**	**139**	LR	LR	12 37 17.2	
	comp=Z,308nm,18.3s,baz=282,slow=44						
CMAR	**Chiang Mai Arr**	**20.58**	**286**	P	Pn	12 35 33.7	+1.2
	1.6nm,0.3s,baz=95,slow=9.2,SNR=21						
CMAR	**Chiang Mai Arr**	**20.58**	**286**	P	**P**	**12 35 29.7**	**-0.6**
JNU	**Nakatsue**	**21.77**	**26**	LR	LR	12 45 34.7	
	comp=Z,69nm,18.8s,baz=100,slow=41						
BATI	**Baumata**	**24.10**	**171**	P	**P**	**12 36 09.1**	**+1.9**
	22nm,0.5s,baz=163,slow=1.7,SNR=6.8						
KSRS	**Korea Array**	**24.70**	**16**	P	**P**	**12 36 09.7**	**-2.7**
	1.9nm,0.9s,baz=206,slow=8.3,SNR=4.8						
WB0	**Warramunga Arr**	**36.27**	**156**	P	**P**	**12 37 53.6**	**-1.3**
WB0				IAmb	IAmb	12 37 55.2	
	comp=Z,5.6nm,0.6s						
WRAB	**Tennant Creek**	**36.40**	**157**	P	**P**	**12 37 55.6**	**-0.4**
WRA	**Warramunga Arr**	**36.41**	**157**	P	**P**	**12 37 55.9**	**-0.1**
	comp=Z,4.9nm,0.5s,baz=336,slow=9.6,SNR=50						
WRA	**Warramunga Arr**	**36.41**	**157**	P	**P**	**12 37 55.4**	**-0.6**
WB2	**Warramunga Arr**	**36.41**	**157**	P	**P**	**12 37 55.6**	**-0.5**
WR0	**Warramunga Arr**	**36.50**	**156**	P	**P**	**12 37 56.7**	**-0.1**
WR0				IAmb	IAmb	12 37 57.2	
	comp=Z,4.8nm,0.7s						
AS31	**Alice Springs**	**39.66**	**160**	P	**P**	**12 38 23.5**	**-0.1**
ASAR	**Alice Springs**	**39.66**	**160**	P	**P**	**12 38 23.9**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=339,slow=7.0,SNR=52						
ASAR	**Alice Springs**	**39.66**	**160**	P	**P**	**12 38 23.6**	**0.0**
MKAR	**Makanchi Array**	**45.48**	**324**	P	**P**	**12 39 13.2**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=112,slow=1.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**48.62**	**333**	P	**P**	**12 39 34.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=100,slow=6.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**48.62**	**333**	P	**P**	**12 39 31.4**	**-3.6**
KURBB	**Kurchatov Arra**	**49.67**	**327**	P	**P**	**12 39 43.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=124,slow=8.0,SNR=6.6						
KURK	**Kurchatov**	**49.67**	**327**	P	**P**	**12 39 41.7**	**-1.4**
KURK				IAmb	IAmb	12 39 57.6	
	comp=Z,2.5nm,0.8s						
STKA	**Stephens Creek**	**49.94**	**156**	P	**P**	**12 39 45.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=331,slow=18,SNR=3.0						

ISK ***16*** *12:40:06.9, 35.89N×31.02E, h5km, ML4.0/32*
NIC ***16*** *12:40:07.4±0.0, 35.82N×30.93E, h9km±2km, Ml4.4/6*
HLW ***16*** *12:40:07.2, 35.87N×30.86E, h12km±31km, Md4.3, Ml4.4*
THE ***16*** *12:40:08.2, 35.74N×31.15E, h22km±27km, ML3.5/3, Error ellipse: s-maj=33.0km s-min=2.3km az=109.0*
DDA ***16*** *12:40:08.6, 35.95N×31.08E, h36km±1km, MW3.8*
IDC ***16*** *12:40:09.1±1.3, 35.91N×30.87E, h48km±23km, mb3.8/7, mb1 3.9/12, mb1mx3.6/60, mbtmp4.0/12, ML4.0/5, MS3.2/8, Ms1 3.2/8, ms1mx2.9/50, Error ellipse: s-maj=24.6km s-min=11.7km az=18.0*
NEIC ***16*** *12:40:10.1±1.4, 35.85N±0.06×30.92E±0.07, h56km±12km, Error ellipse: s-maj=9.2km s-min=7.1km az=212.0*
GII ***16*** *12:40:12.2±0.9, 35.68N×30.97E, h60km, mb4.1/4, MD3.9/4*

ISC 16 12:40:10.1±0.9, 35.86N±0.03×30.98E±0.02, h51km±11km, n174, σ1s20/203, mb4.0/10, MS3.2/3, 3C-3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.69**	**312**	*i* P	**Pn**	**12 40 22.6**	**-1.2**
AKUM				*i* S	**Sn**	**12 40 33.8**	**+0.1**
AKUM				IAML		12 40 35.0	
	comp=N,4μm,0.7s						
AKUM				IAML		12 40 38.0	
	comp=E,4μm,0.6s						
KEMT	**Kemer-ANTALYA**	**0.82**	**336**	PG	**Pn**	**12 40 23.2**	**-2.2**
DEMR	**Demre-Antalya**	**0.95**	**294**	PG	**Pn**	**12 40 25.8**	**-1.3**
ANTB	**Antalya**	**1.07**	**346**	PG	**Pn**	**12 40 27.8**	**-1.0**
ALAN	**Alanya-ANTALYA**	**1.10**	**50**	PG	**Pn**	**12 40 27.7**	**-1.5**
GAZI	**Gazipasa**	**1.15**	**70**	PN	**Pn**	**12 40 28.3**	**-1.6**
GAZI				SN	**Sn**	**12 40 43.8**	**-0.7**
GAZI	**Gazipasa**	**1.15**	**70**	*i* P	**Pn**	**12 40 28.6**	**-1.2**
GAZI				*i* S	**Sn**	**12 40 42.7**	**-1.8**
GAZI				IAML		12 40 46.0	
	comp=N,4μm,0.4s						
GAZI				IAML		12 40 46.0	
	comp=E,3μm,0.3s						
KEPZ	**Antalya-Kepez**	**1.16**	**26**	*i* P	**Pn**	**12 40 28.4**	**-1.6**
KEPZ				*i* S	**Sn**	**12 40 43.0**	**-1.8**
KSL	**Kastellorizon**	**1.17**	**285**	P	**Pn**	**12 40 30.0**	**-0.1**
KSL				S	**Sn**	**12 40 47.4**	**+2.5**
	comp=E,1μm,0.7s						
AKAS	**Kas**	**1.17**	**289**	*i* P	**Pn**	**12 40 29.9**	**-0.5**
AKAS	**Kas**	**1.17**	**289**	Pg	**Pn**	**12 40 29.6**	**-0.7**
ELL	**Elmali**	**1.24**	**316**	PN	**Pn**	**12 40 31.1**	**-0.1**
ELL	**Elmali**	**1.24**	**316**	P	**Pn**	**12 40 30.6**	**-0.6**
ELL				S	**Sn**	**12 40 48.6**	**+1.7**
ELL	**Elmali**	**1.24**	**316**	Pn	**Pn**	**12 40 30.7**	**-0.5**
KORT	**Korkueli**	**1.25**	**336**	PN	**Pn**	**12 40 29.8**	**-1.5**
KORT				SN	**Sn**	**12 40 48.5**	**+1.4**
KORT	**Korkueli**	**1.25**	**336**	*i* P	**Pn**	**12 40 30.8**	**-0.5**
KORT				*i* S	**Sn**	**12 40 48.4**	**+1.2**
KORT				IAML		12 40 58.0	
	comp=E,1μm,0.6s						
KORT				IAML		12 41 01.0	
	comp=N,904nm,0.6s						
AKMS	**Akamas**	**1.39**	**127**	P	**Pn**	**12 40 33.3**	**+0.2**
AKMS				S	**Sn**	**12 40 52.2**	**+1.9**
AKMS				AML	AML	12 40 58.5	
	comp=N,15nm,0.7s						
AKMS				AML	AML	12 40 58.5	
	comp=N,15nm,0.7s						
AKMS				AML	AML	12 41 00.5	
	comp=N,18nm,0.4s						
AKMS				AML	AML	12 41 00.5	
	comp=N,18nm,0.4s						
ALFC	**Alefka**	**1.50**	**117**	P	**Pn**	**12 40 34.2**	**-0.4**
ALFC				S	**Sn**	**12 40 54.9**	**+1.9**
ALFC				AML	AML	12 41 01.4	
	comp=N,17nm,0.4s						
ALFC				AML	AML	12 41 01.4	
	comp=N,17nm,0.4s						
BCK	**Bucak**	**1.63**	**349**	PN	**Pn**	**12 40 36.5**	**0.0**
BOZY	**Bozyazi-Mersin**	**1.64**	**81**	PN	**Pn**	**12 40 36.1**	**-0.4**
NATA	**Nata**	**1.69**	**129**	P	**Pn**	**12 40 39.0**	**+1.7**
SEYD	**Seydisehir-KON**	**1.69**	**24**	PN	**Pn**	**12 40 37.1**	**-0.3**
SEYD				SN	**Sn**	**12 40 59.4**	**+1.4**
FETY	**Fethiye**	**1.72**	**297**	P	**Pn**	**12 40 37.1**	**-0.5**
FETY				S	**Sn**	**12 41 00.1**	**+1.7**
FETY	**Fethiye**	**1.72**	**297**	*i* P	**Pn**	**12 40 37.5**	**-0.1**
LEF	**Lefka**	**1.73**	**115**	PN	**Pn**	**12 40 36.9**	**-0.8**
LEF	**Lefka**	**1.73**	**115**	*i* P	**Pn**	**12 40 37.2**	**-0.5**
ERMK	**Ermenek**	**1.75**	**63**	*i* P	**Pn**	**12 40 39.3**	**+1.1**
ERMK				IAML		12 41 13.0	
	comp=E,1μm,0.4s						
ERMK				IAML		12 41 13.0	
	comp=N,1μm,0.6s						
TEKE	**Tekeli-Mersin**	**1.76**	**80**	PN	**Pn**	**12 40 37.8**	**-0.3**
GOLH	**Golhisar**	**1.79**	**321**	*i* P	**Pn**	**12 40 39.8**	**+1.2**
BERE	**Bereket-Mersin**	**1.88**	**74**	PN	**Pn**	**12 40 40.3**	**+0.3**
SZAC	**Souni**	**1.91**	**125**	P	**Pn**	**12 40 41.6**	**+1.4**
SZAC				AML	AML	12 41 17.3	
	comp=N,13nm,0.7s						
SZAC				AML	AML	12 41 20.7	
	comp=N,15nm,0.6s						
BRDR	**BURDUR-Merkez**	**1.98**	**338**	*i* P	**Pn**	**12 40 42.2**	**+1.0**
YORU	**Yoruktepe-Mers**	**1.99**	**81**	PN	**Pn**	**12 40 41.7**	**+0.4**
ISP	**Isparta**	**2.00**	**350**	PN	**Pn**	**12 40 41.8**	**+0.3**
ISP				SN	**Sn**	**12 41 07.4**	**+2.1**
ISP	**Isparta**	**2.00**	**350**		**Pn**	**12 40 42.0**	**+0.6**
DREN	**Drenkoy-Mersin**	**2.04**	**79**	PN	**Pn**	**12 40 42.5**	**+0.5**
TEVE	**Tevekalti-Mers**	**2.08**	**73**	PN	**Pn**	**12 40 42.8**	**+0.2**
AKK1	**Akkuyu-Mersin**	**2.10**	**81**	PN	**Pn**	**12 40 42.9**	**+0.2**
AKK2	**Akkuyu-Mersin**	**2.10**	**82**	PN	**Pn**	**12 40 43.2**	**+0.4**
TEPK	**Tepekoy-MERSIN**	**2.11**	**79**	PN	**Pn**	**12 40 43.1**	**+0.1**
CSS	**Mathiatis**	**2.12**	**114**	P	**Pn**	**12 40 42.8**	**-0.3**
CSS				AML	AML	12 41 24.3	
	comp=N,2.4nm,1.1s						
CSS	**Mathiatis**	**2.12**	**114**	Pn	**Pn**	**12 40 42.4**	**-0.7**
BAGO	**Egridir - ISPA**	**2.13**	**356**	*i* P	**Pn**	**12 40 43.8**	**+0.4**
BAGO				*i* S	**Sn**	**12 41 12.0**	**+3.3**
ASGA	**Asgata**	**2.14**	**119**	P	**Pn**	**12 40 45.6**	**+2.2**
ASGA				AML	AML	12 41 24.6	
	comp=N,7.7nm,0.5s						
ASGA				AML	AML	12 41 26.1	
	comp=N,7.9nm,0.6s						
YESI	**Yesilovacik-Me**	**2.19**	**80**	PN	**Pn**	**12 40 44.5**	**+0.5**
AKIN	**Akıncılar- Kıb**	**2.20**	**112**	PN	**Pn**	**12 40 44.5**	**+0.3**
KMER	**Konya-Meram**	**2.21**	**30**	*i* P	**Pn**	**12 40 45.3**	**+0.9**
TISA	**Tisan-Mersin**	**2.21**	**81**	PN	**Pn**	**12 40 44.9**	**+0.6**
IKL	**Isikli**	**2.23**	**79**	PN	**Pn**	**12 40 45.2**	**+0.7**
KARG	**Kargicak-Mersi**	**2.24**	**80**	PN	**Pn**	**12 40 45.4**	**+0.7**
KRMN	**Karaman**	**2.26**	**54**	PN	**Pn**	**12 40 45.4**	**+0.3**
KEBE	**Keben-Mersin**	**2.29**	**74**	PN	**Pn**	**12 40 45.8**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.31**	**315**	*i* P	**Pn**	**12 40 46.3**	**+0.5**
DOGA	**KONYA_Doganhis**	**2.31**	**14**	*i* P	**Pn**	**12 40 46.8**	**+0.9**
DOGA				*i* S	**Sn**	**12 41 13.4**	**+0.2**
DOGA				IAML		12 41 19.0	
	comp=N,774nm,0.5s						
DOGA				IAML		12 41 21.0	
	comp=E,442nm,0.8s						
**MV

YURE	YUREGIR	3.88	74	PN		Pn	12 41 08.1	+0.9
CEYT	Ceyhan	4.01	72	PN		Pn	12 41 10.3	+1.3
BORA	Eskisehir	4.04	354	*i* P		Pn	12 41 09.5	0.0
AUBOZ	BOZOYUK	4.12	350	*i* P		Pn	12 41 10.6	+0.1
YAHY	KAYSERI_Yahyal	4.16	56	*i* P		Pn	12 41 13.9	+2.7
YAYL	Yayladag	4.17	86	PN		Pn	12 41 12.2	+1.0
YAYL	Yayladag	4.17	86	*i* P		Pn	12 41 12.9	+1.6
KOZT	Kozan	4.22	66	PN		Pn	12 41 13.1	+1.2
TAHT	Tahtakopru-Hat	4.25	81	PN		Pn	12 41 14.2	+1.9
BRTR	Keskin Array B	4.40	28	P		Pn	12 41 14.0	-0.4
	comp=N,3.3nm,0.3s,baz=193,slow=16,SNR=48							
BRTR				S		Sn	12 42 06.9	+2.4
	comp=N,3.6nm,0.3s,baz=204,slow=26,SNR=8.9							
BRTR				LR		LR	12 43 22.2	
	comp=N,128nm,20.3s,baz=204,slow=44							
BRTR	Keskin Array B	4.40	28	Pn		Pn	12 41 13.8	-0.6
BR131	Keskin Array S	4.40	28	Pn		Pn	12 41 14.3	-0.1
HNTI	Hanita	4.43	127	Pn		Pn	12 41 16.1	+1.3
SANT	Santorini	4.50	278	Pn		Pn	12 41 15.2	-0.5
THR6	Thira Island,	4.54	278	P		Pn	12 41 16.2	-0.1
THR3	Thira Island,	4.55	279	P		Pn	12 41 16.1	-0.2
MDUB	Mudurnu	4.61	2			Pn	12 41 17.4	+0.1
CDAG	Cicekdag	4.62	35	*i* P		Pn	12 41 18.7	+1.2
MMA0B	Mount Meron ar	4.63	127	Pn		Pn	12 41 18.8	+1.3
MMAI	Mount Meron Ar	4.63	127	P		Pn	12 41 17.9	+0.4
	comp=N,22nm,0.3s,baz=304,slow=12,SNR=36							
MMAI				S		Sn	12 42 10.7	+0.7
	comp=N,14nm,0.3s,baz=315,slow=24,SNR=2.0							
OFRI	`Ofer	4.63	133	Pn		Pn	12 41 18.0	+0.5
ANDN	Andirin	4.64	67	*i* P		Pn	12 41 18.9	+1.1
BLGI	Bet Lehem HaGe	4.68	131	Sn		Sn	12 42 10.3	-0.8
GEM	Giv'at Ha'Em	4.68	123	Pn		Pn	12 41 19.8	+1.6
GEM				Sn		Sn	12 42 11.1	-0.2
DELI	KIRIKKALE	4.74	28	*i* P		Pn	12 41 18.7	-0.4
KAMA	Osmaniye	4.77	72	*i* P		Pn	12 41 19.9	+0.3
SLTI	Sal'it	4.94	136	Pn		Pn	12 41 22.7	+1.0
SLTI				Sn		Sn	12 42 17.6	0.0
IDI	Anoyia	4.99	265	P		Pn	12 41 22.3	-0.2
	comp=N,8.6nm,0.3s,baz=127,slow=8.1,SNR=37							
IDI				S		Sn	12 42 15.7	-3.3
	comp=N,8.0nm,0.3s,baz=316,slow=17,SNR=2.6							
IDI	Anoyia	4.99	265	Pn		Pn	12 41 22.8	+0.2
HCB	Kahramanmara	5.00	71	*i* P		Pn	12 41 23.1	+0.6
HCB				IAML			12 42 38.0	
	comp=E,44nm,0.6s							
HCB				IAML			12 42 41.0	
	comp=N,41nm,0.9s							
KUZU	Kuzuini	5.01	78	*i* P		Pn	12 41 24.1	+1.4
MMLI	Mount Malkishu	5.02	132	Pn		Pn	12 41 24.3	+1.4
BCAM	Yenicaga	5.02	9	*i* P		Pn	12 41 22.8	-0.2
HMDT	Nahal Hemdat	5.21	132	Pn		Pn	12 41 26.4	+0.9
HMDT				Sn		Sn	12 42 24.4	+0.1
MATC	Matruh	5.48	216	P		Pn	12 41 28.9	-0.2
	baz=215							
DSI	Dead Sea	5.63	138	Pn		Pn	12 41 32.3	+1.0
YTIR	Yattir	5.66	141	Pn		Pn	12 41 32.9	+1.2
YTIR				Sn		Sn	12 42 35.6	+0.2
KOT	Kottamia	5.96	173	P		Pn	12 41 36.3	+0.6
	baz=171							
KOT				AMP			12 42 00.0	
	baz=171							
KOT				S		Sn	12 42 41.1	-1.5
	baz=171							
HHAG	Hagoal	5.96	171	P		Pn	12 41 36.3	+0.5
	baz=169							
HHAG				AMP			12 42 00.0	
	baz=169							
HHAG				S		Sn	12 42 42.0	-0.8
	baz=169							
HMYD	Mayadein	6.05	181	P		Pn	12 41 38.3	+1.4
	baz=181							
ASF	Jabal al Asfar	6.14	125	P		Pn	12 41 40.5	+2.3
	comp=N,1.0nm,0.3s,baz=277,slow=7.0,SNR=8.1							
SUZ	Suez	6.20	165	P		Pn	12 41 40.0	+0.9
	baz=164							
HNAT	Natroun	6.21	183	P		Pn	12 41 40.5	+1.3
	baz=182							
HSAF	As Saff	6.24	175	P		Pn	12 41 40.1	+0.5
	baz=174							
GLL	Jalalah	6.29	174	P		Pn	12 41 40.8	+0.4
	baz=173							
ALN	Alexandroupoli	6.35	324	Pn		Pn	12 41 42.6	+1.6
ZFRI	Zfri	6.35	145	Pn		Pn	12 41 41.0	-0.1
ZFRI				Sn		Sn	12 42 51.9	-0.4
PRNI	Paran	6.45	147	Pn		Pn	12 41 42.2	-0.2
PRNI				Sn		Sn	12 42 52.9	-1.8
SLUM	Salum	6.48	229	P		Pn	12 41 43.1	+0.2
	baz=229							
SLUM				S		Sn	12 42 52.1	-3.4
	baz=229							
KRMI	Paran Flat	6.53	150	Pn		Pn	12 41 43.4	-0.2
KRMI				Sn		Sn	12 42 56.9	+0.1
MBRI	Mt Berech	6.89	150	Pn		Pn	12 41 48.8	+0.2
EIL	Elat	7.02	150	P		Pn	12 41 50.4	+0.1
	comp=N,3.9nm,0.3s,baz=342,slow=4.9,SNR=41							
EIL				S		Sn	12 43 06.4	-2.3
	comp=N,2.6nm,0.3s,baz=48,slow=18,SNR=2.3							
EIL				LR		LR	12 45 22.0	
	comp=N,38nm,21.6s,baz=279,slow=44							
EIL	Elat	7.02	150	Pn		Pn	12 41 50.4	+0.1
EIL				Sn		Sn	12 43 06.6	-2.1
ITM	Ithomi	7.41	283	Pn		Pn	12 41 56.7	+1.1
SWA2		8.07	217	P		Pn	12 42 04.2	-0.5
	baz=217							
TAMRE	El Minia	8.15	180	P		Pn	12 42 06.3	+0.5
	baz=179							
HFRF	Wahat Farafira	8.97	195	P		Pn	12 42 17.1	0.0
	baz=195							
MLR	Muntele Rosu	10.35	340	⇑P		Pn	12 42 43.4	+7.4
VRI	Vrincioaia	10.50	343	⇓P		Pn	12 42 42.6	+4.7
PLOR	Plostina	10.51	343	⇓P		Pn	12 42 42.9	+4.9
VOIR		10.57	337	⇓P		Pn	12 42 43.3	+4.4
MDVR	Moldovita	11.37	324	⇑P		Pn	12 42 55.6	+5.8
TIP	Timpagrande	11.77	291	Pn		Pn	12 42 52.7	-2.6
BURAR	Bucovina Array	12.51	342	⇑P		P	12 43 18.0	+2.4
VRAC	Vranov	17.07	326	LR		LR	12 52 35.6	
	comp=N,89nm,18.0s,baz=144,slow=44							
GERES	GERESS Array B	18.15	321	P		Pn	12 44 18.5	+0.2
	comp=N,0.2nm,0.3s,baz=142,slow=12,SNR=5.8							
GERES				LR		LR	12 52 24.7	
	comp=N,121nm,18.5s,baz=105,slow=41							
DAVOX	Davos/Dischmat	19.18	311	LR		LR	12 53 13.5	
	comp=N,224nm,20.3s,baz=84,slow=41							
AKTO	Aktyubinsk	24.35	45	P		P	12 45 22.8	-0.3
	comp=N,2.8nm,0.6s,baz=240,slow=12,SNR=7.7							
ABKAR	Akbulak array	25.01	49	P		P	12 45 28.9	-0.1
ABKAR	Akbulak array	25.01	49	P		P	12 45 28.9	-0.1
ABKAR				IAmb		IAmb	12 45 57.2	
	comp=Z,2.2nm,0.9s							
FIA1	FINESS Array S	25.80	355	P		P	12 45 34.2	-1.8
FINES	FINESS Array B	25.80	355	P		P	12 45 34.2	-1.8
	comp=Z,1.9nm,0.4s,baz=158,slow=11,SNR=18							
FINES				LR		LR	12 55 29.0	
	comp=Z,79nm,20.2s,baz=198,slow=36							
HFS	Hagfors	26.73	341	LR		LR	12 57 44.8	
	comp=Z,112nm,20.3s,baz=146,slow=40							
NOA	NORSAR Array B	28.17	340	P		P	12 45 55.7	-1.7
	comp=Z,0.4nm,0.4s,baz=141,slow=9.1,SNR=1.9							
NOA				LR		LR	12 59 17.7	
	comp=Z,50nm,18.9s,baz=150,slow=41							
ARCES	ARCESS Array B	33.87	357	P		P	12 46 45.4	-2.0
	comp=Z,2.4nm,0.8s,baz=114,slow=2.9,SNR=6.6							
KDJ	Kajisay	36.10	66	IAmb		IAmb	12 47 09.1	
	comp=Z,4.0nm,1.1s							
KURBB	Kurchatov Arra	36.99	51	P		P	12 47 14.2	-0.2
	comp=Z,1.0nm,0.5s,baz=282,slow=9.6,SNR=13							
KURBB				PcP		PcP	12 49 34.7	+0.2
	comp=Z,0.3nm,0.7s,baz=266,slow=3.7,SNR=5.4							
KURK	Kurchatov	37.05	51	P		P	12 47 14.2	-0.7
KURK	Kurchatov	37.05	51	IAmb		IAmb	12 47 16.7	
	comp=Z,1.7nm,0.6s							
MK31	Makanchi Array	39.41	58	P		P	12 47 34.9	0.0
MKAR	Makanchi Array	39.41	58	P		P	12 47 34.6	-0.2
	comp=Z,0.8nm,0.7s,baz=266,slow=9.7,SNR=8.8							
MKAR	Makanchi Array	39.41	58	P		P	12 47 34.8	-0.1
ZALV	Zalesovo Beam	41.09	47	P		P	12 47 47.2	-1.4
	comp=Z,1.4nm,0.3s,baz=266,slow=8.9,SNR=7.8							

IDC ***16*** *12:40:49.8±2.7, 22.62N×12.37W, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.6/55, mbtmp3.9/7, ML3.7/3, Error ellipse: s-maj=83.7km s-min=26.9km az=79.0*

ISC 16 12:40:53.0±1.4, 22.7N±0.1×12.0W±0.2, h10km, n13, σ1§45/14, mb4.0/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOWA	Kowa	11.09	136	Pn	Pn	12 43 33.6	+1.9
	0.8nm,0.3s,baz=321,slow=11,SNR=11						
KOWA				Sn	Sn	12 45 36.3	+0.5
	0.5nm,0.3s,baz=162,slow=15,SNR=9.7						
TORD	Torodi Ar. Bea	16.07	124	Pn	Pn	12 44 40.1	+0.8
	0.1nm,0.3s,baz=315,slow=12,SNR=6.8						
TORD				Sn	Sn	12 47 34.6	-3.1
	0.3nm,0.3s,baz=314,slow=21,SNR=11						
TIC	Toumodi	17.29	156	*e*P	P	12 44 57.7	+1.6
DBIC	Dimbokro	17.33	156	P	Pn	12 44 54.5	-0.6
	0.3nm,0.3s,baz=322,slow=13,SNR=4.2						
KIC	Kosan Boka	17.65	156	*e*P	Pn	12 44 57.6	-1.5
	13nm,1.0s						
LIC	Lamto	17.67	157	*e*P	P	12 45 00.6	+0.3
	11nm,0.6s						
I48TN	KESRA INFRASON	22.66	50	*i*		15 04 30.0	
	baz=245,slow=306,SNR=1.7						
GERES	GERESS Array B	33.10	32	P	P	12 47 29.0	-0.1
	0.5nm,0.5s,baz=231,slow=8.3,SNR=4.9						
FINES	FINESS Array B	46.71	24	P	P	12 49 21.8	0.0
	1.2nm,0.6s,baz=235,slow=8.4,SNR=3.6						
KURBB	Kurchatov Arra	73.12	42	P	P	12 52 24.2	+0.7
	0.8nm,0.5s,baz=289,slow=6.7,SNR=6.7						
MKAR	Makanchi Array	76.62	45	P	P	12 52 44.5	+0.6
	0.7nm,0.6s,baz=280,slow=4.6,SNR=6.3						
WRA	Warramunga Arr	148.53	91	PKPbc	PKPbc	13 00 39.5	-1.3
	0.5nm,0.7s,baz=291,slow=2.7,SNR=5.3						
ASAR	Alice Springs	148.65	99	PKPbc	PKPbc	13 00 40.0	-1.1
	0.9nm,0.7s,baz=283,slow=2.3,SNR=9.1						

IDC 16 12:53:20.3±19.0, 1.38N×127.26E, h119km±188km, mb3.5/4, mb1 3.6/5, mb1mx3.2/35, mbtmp3.8/5, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/32, Error ellipse: s-maj=114.2km s-min=32.5km az=57.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	9.83	230	LR	LR	12 59 17.5	
	comp=Z,51nm,19.2s,baz=118,slow=36						
FITZ	Fitzroy Crossi	19.42	185	P	P	12 57 38.3	+0.9
	0.2nm,0.3s,baz=9.1,slow=8.9,SNR=10						
WRA	Warramunga Arr	22.30	162	P	P	12 58 07.8	-0.3
	2.4nm,0.4s,baz=340,slow=11,SNR=41						
ASAR	Alice Springs	25.72	166	P	P	12 58 39.5	-0.3
	0.9nm,0.5s,baz=344,slow=8.2,SNR=39						
STKA	Stephens Creek	35.76	159	P	P	13 00 08.0	0.0
	1.6nm,0.6s,baz=331,slow=9.4,SNR=5.8						
MKAR	Makanchi Array	59.78	326	P	P	13 03 12.8	-0.1
	0.2nm,0.4s,baz=121,slow=8.5,SNR=4.3						

IDC ***16*** *13:09:05.0±1.0, 3.65S×150.87E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/29, mbtmp3.8/6, MS3.4/14, Ms1 3.4/14, ms1mx3.2/33, Error ellipse: s-maj=24.4km s-min=22.1km az=170.0*

NEIC ***16*** *13:09:14.4±1.3, 3.6S±0.1×150.32E±0.10, h61km±23km, mb4.2/8, Error ellipse: s-maj=20.1km s-min=10.7km az=211.0*

ISC 16 13:09:10.7±0.9, 3.5S±0.1×150.4E±0.1, h27km, n38, σ1§19/19, mb3.9/11, MS3.4/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.84	117	Pn	Pn	13 09 29.9	-11
	2.0nm,0.3s,baz=95,slow=5.0,SNR=17						
RABL	Rabaul	1.91	112		Pb	13 09 45.1	+0.1
PMG	Port Moresby	6.71	208	LR	LR	13 13 35.2	
	comp=Z,112nm,19.0s,baz=136,slow=40						
PMG	Port Moresby	6.71	208		Pn	13 10 48.7	+1.2
JAY	Jayapura	9.71	275	LR	LR	13 14 46.5	
	comp=Z,186nm,19.2s,baz=62,slow=33						
HNR	Honiara	11.19	122	LR	LR	13 16 00.4	
	comp=Z,226nm,19.4s,baz=336,slow=39						
GUMO	Guam	17.81	342	LR	LR	13 18 36.3	
	comp=Z,92nm,20.6s,baz=152,slow=32						
MTN	Manton Dam	21.19	243	P	P	13 13 54.6	+0.3
MTN				IAmb	IAmb	13 13 56.8	
	comp=Z,12nm,1.0s						
WB0	Warramunga Arr	22.49	223	P	P	13 14 07.7	-0.6
WB0				IAmb	IAmb	13 14 16.3	
	comp=Z,15nm,1.4s						
WR0	Warramunga Arr	22.52	222	P	P	13 14 08.0	-0.7
WR0				IAmb	IAmb	13 14 11.9	
	comp=Z,9.0nm,1.2s						
WB2	Warramunga Arr	22.64	222	P	P	13 14 10.7	+0.8
WB2				IAmb	IAmb	13 14 20.0	
	comp=Z,6.2nm,0.8s						
WRA	Warramunga Arr	22.65	222	P	P	13 14 10.5	+0.5
	comp=Z,4.7nm,1.0s,baz=49,slow=10,SNR=20						
WRA	Warramunga Arr	22.65	222	P	P	13 14 07.1	-2.9
DZM	Mont Dzumac	24.18	141	LR	LR	13 22 27.5	
	comp=Z,124nm,21.0s,baz=259,slow=34						
KNRA	Kununurra	24.49	239	P	P	13 14 27.1	-0.8
KNRA				IAmb	IAmb	13 14 36.5	
	comp=Z,19nm,0.8s						
AS31	Alice Springs	25.62	217	P	P	13 14 37.0	-1.2
ASAR	Alice Springs	25.62	217	P	P	13 14 38.6	+0.3
	comp=Z,1.6nm,0.6s,baz=52,slow=8.3,SNR=23						
ASAR				LR	LR	13 26 50.8	
	comp=Z,71nm,18.0s,baz=101,slow=41						
ASAR	Alice Springs	25.62	217	P	P	13 14 37.9	-0.3
H11S3	WAKE ISLAND Hy	27.10	36	T	T	13 42 07.8	
	baz=218,slow=75,SNR=18						
H11S2	WAKE ISLAND Hy	27.11	36	T	T	13 42 08.5	
	baz=218,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy	27.12	36	T	T	13 42 09.4	
	baz=218,slow=75,SNR=18						
BATI	Baumata	27.34	254	LR	LR	13 26 07.6	
	comp=Z,96nm,19.2s,baz=73,slow=37						
H11N1	WAKE ISLAND Hy	28.18	35	T	T	13 43 30.6	
	baz=218,slow=77,SNR=7.9						
H11N3	WAKE ISLAND Hy	28.20	35	T	T	13 43 31.9	
	baz=218,slow=77,SNR=6.1						
H11N2	WAKE ISLAND Hy	28.20	35	T	T	13 43 27.2	
	baz=218,slow=77,SNR=20						
FITZ	Fitzroy Crossi	28.26	237	P	P	13 15 03.0	+1.1
	comp=Z,2.4nm,1.0s,baz=79,slow=8.2,SNR=5.1						
FITZ				LR	LR	13 27 09.9	
	comp=Z,93nm,21.1s,baz=62,slow=38						
FITZ	Fitzroy Crossi	28.26	237	P	P	13 15 02.1	+0.2
GIRL	Giralia	39.86	238	P	P	13 16 40.9	-1.4
MJAR	Matsushiro Arr	41.40	345	LR	LR	13 34 43.6	
	comp=Z,28nm,18.0s,baz=135,slow=37						
KSRS	Sea Array	45.76	335	LR	LR	13 37 19.4	
	comp=Z,26nm,18.5s,baz=130,slow=37						
CMAR	Chiang Mai Arr	55.13	295	P	P	13 18 43.1	+1.9
	comp=Z,0.7nm,0.5s,baz=119,slow=5.9,SNR=6.6						
PETK	Petropavlovsk-	56.71	5	LR	LR	13 41 21.9	
	comp=Z,26nm,18.5s,baz=165,slow=34						
SONM	Songino Array	63.93	329	LR	LR	13 48 13.1	
	comp=Z,40nm,18.3s,baz=79,slow=36						
YAK	Yakutsk	67.22	350	LR	LR	13 46 53.7	
	comp=Z,24nm,20.2s,baz=91,slow=34						
MKAR	Makanchi Array	77.75	319	P	P	13 21 04.7	-0.8
	comp=Z,0.5nm,0.8s,baz=116,slow=8.4,SNR=4.1						
ILAR	Eielson Array	81.86	23	P	P	13 21 27.7	+0.4
	comp=Z,0.5nm,0.9s,baz=251,slow=5.0,SNR=3.5						
PDAR	Pinedale Array	99.73	47	LR	LR	13 59 30.4	
	comp=Z,31nm,20.9s,baz=318,slow=30						
TORD	Torodi Ar. Bea	147.60	289	PKPbc	PKPbc	13 28 52.6	-1.2
	comp=Z,0.3nm,0.7s,baz=344,slow=3.6,SNR=1.8						

DRS ***16*** *13:24:31.6±0.0, 42.01N×45.89E, h14km*
TIF ***16*** *13:24:31.1, 41.98N×46.08E, h36km±1km*
NORS ***16*** *13:24:33.0±0.0, 41.97N×46.12E, h16km, MPVA3.8*

ISC 16 13:24:32.1±1.2, 41.96N±0.03×46.07E±0.03, h20km±4km, n21, σ0§83/41, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDFL	Dedoflistskaro	0.52	176	P	Pn	13 24 44.5	0.0
BTLR	Botlikh	0.71	9	*i* Pg	Pb	13 24 45.7	-0.2
	151nm,0.4s						
BTLR				*e*Sg	Sb	13 24 55.8	+0.6
	536nm,0.3s						
XNZR	Khunzakh	0.74	39	*e*Pg	Pn	13 24 47.0	-0.8
XNZR				*e*Sg	Sn	13 24 57.8	-0.8
KMKR	Kumukh	0.78	77	*i* Pg	Pn	13 24 48.0	-0.3
	77nm,0.1s						
KMKR				*e*Sg	Sn	13 25 00.0	+0.4
	652nm,0.2s						
GNBR	Gunib	0.79	57	*e*Pg	Pn	13 24 47.7	-0.5
	62nm,0.4s						
GNBR				*e*Sg	Sn	13 24 59.4	-0.1
	580nm,0.7s						
UNCR	Uncukul	0.92	35	*i* Pg	Pn	13 24 50.0	-0.1
	84nm,0.1s						
UNCR				*e*Sg	Sn	13 25 02.5	-0.3
	252nm,0.5s						
BTNK	Botanikuri	0.99	254	P	Pb	13 24 50.0	-0.7
BTNK				S	Sb	13 25 03.9	+0.6
DVE	Vedeno	0.99	2	*i* Pg	Pn	13 24 50.8	-0.3
DVE				*e*Sg	Sn	13 25 05.2	+0.6
KRNR	Karanay	1.06	35	*i* Pg	Pg	13 24 52.0	-0.8
KRNR				*e*Sg	Sn	13 25 06.5	+0.2
	129nm,0.2s						
BUJR	Buynaksk	1.15	41	*e*Pg	Pg	13 24 54.8	+0.3
	69nm,0.4s						
BUJR				*e*Sg	Sg	13 25 11.3	+1.6
	296nm,0.4s						
DBC	Dubki	1.20	28	*i* Pg	Pg	13 24 54.6	-0.7
	41nm,0.6s						
DBC				*e*Sg	Sg	13 25 11.3	+0.3
	126nm,0.7s						
GROC	Groznyy	1.26	351	*e*Pg	Pg	13 24 56.0	-0.5
GROC				*e*Sg	Sg	13 25 15.1	+2.2
GUDG	Gudauri	1.29	293	P	Pn	13 24 55.0	-0.2
GUDG				S	Sb	13 25 12.1	0.0
AKT	Akhty	1.33	111	*e*Pg	Pg	13 24 57.6	-0.3
	29nm,0.6s						
AKT				*e*Sg	Sg	13 25 16.2	+0.9
	152nm,0.6s						
TRLG	Trialeti	1.53	255	P	Pn	13 24 58.6	0.0
TRLG				S	Sn	13 25 18.8	+0.7
DMNI	Dmanisi	1.55	246	P	Pn	13 24 58.4	-0.3
DMNI				S	Sn	13 25 18.6	+0.3
LACR	Lac	1.57	304	*e*Pg	Pb	13 24 59.9	-0.8
LACR				*e*Sg	Sb	13 25 19.8	-0.4
ZEI	Tsey	1.81	298	*e*Pg	Pb	13 25 04.6	0.0
ZEI				*e*Sg	Sb	13 25 28.0	+1.0
KORR	Kora	1.86	308	*e*Pg	Pg	13 25 07.0	-0.8
KORR				*e*Sg	Sg	13 25 31.7	-0.4
DIGR	Digorskoe uzhe	2.07	298	*e*Pg	Pb	13 25 08.9	-0.2
DIGR				*e*Sg	Sb	13 25 35.0	+0.5
TKB	Tkibuli	2.32	281	P	Pb	13 25 11.6	-1.8
TKB				S	Sn	13 25 39.6	+2.3

ISC 16 13:26:08.5±1.1, 49.86N±0.06×16.82E±0.06, h12km, n5, σ0§57/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	Moravsky Berou	0.47	99	*e*PG	Pg	13 26 17.5	-0.3
MORC				*e*SG	Sg	13 26 23.6	-0.5
VRAC	Vranov	0.57	195	*e*PG	Pg	13 26 19.4	-0.2
VRAC				*e*SG	Sg	13 26 28.8	-0.3
KRUC	Moravsky	0.84	199	*e*PG	Pg	13 26 24.5	-0.3
KSP	Ksiaz	1.04	341	*e*Pg	Pb	13 26 28.7	+0.1
KSP				*e*Sg	Sn	13 26 43.9	+0.3
JAVC	Velka Javorina	1.14	151	*e*PG	Pg	13 26 31.4	+0.9

IDC 16 13:43:12.6±3.1, 11.38S×118.97E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.2/35, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=234.4km s-min=26.6km az=49.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	9.28	137	Pn	Pn	13 45 26.2	-1.6
	0.2nm,0.3s,baz=322,slow=14,SNR=25						
FITZ				Sn	Sn	13 47 08.7	-4.3
	0.2nm,0.3s,baz=172,slow=20,SNR=6.1						
WRA	Warramunga Arr	17.06	122	Pn	Pn	13 47 12.8	+0.1
	0.0nm,0.3s,baz=299,slow=13,SNR=1.9						
ASAR	Alice Springs	18.74	133	P	Pn	13 47 34.3	+0.8
	0.1nm,0.3s,baz=308,slow=13,SNR=17						
MKAR	Makanchi Array	66.56	333	P	P	13 54 04.5	-0.1
	0.1nm,0.4s,baz=156,slow=6.2,SNR=4.5						

IDC 16 13:43:18.5±2.9, 5.87S×130.79E, h198km±42km, mb3.1/1, mb1 2.7/4, mb1mx2.6/34, mbtmp3.2/4, Error ellipse: s-maj=96.9km s-min=18.5km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	4.99	5	P	Pn	13 44 32.4	-0.4
	0.7nm,0.3s,baz=116,slow=23,SNR=1.6						
SIJI				S	Sn	13 45 32.1	+0.7
	0.3nm,0.3s,baz=224,slow=23,SNR=1.6						
WRA	Warramunga Arr	14.41	166	P	Pn	13 46 34.0	+0.3
	0.0nm,0.3s,baz=347,slow=11,SNR=8.2						
ASAR	Alice Springs	17.95	171	P	P	13 47 13.9	-0.1
	0.1nm,0.3s,baz=350,slow=11,SNR=7.8						
MKAR	Makanchi Array	67.72	326	P	P	13 53 54.7	0.0
	0.3nm,0.5s,baz=143,slow=7.9,SNR=5.8						

NEIC ***16*** *14:09:33.9±2.2, 55.95S±0.1×28.21W±0.2, h131km±6km, mb4.2/13, Error ellipse: s-maj=19.5km s-min=13.1km az=212.0*

*IDC

smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.82**	**33**	Pg	Pn	14 28 14.8	+0.3
KZLR				Sg	Sb	14 28 24.8	+0.4
ERNS	**Erzin**	**1.19**	**129**	Pg	Pn	14 28 20.5	+1.0
ERNS				Sg	Sb	14 28 35.4	+0.5
ARDR	**Aradan**	**1.57**	**353**	Pg	Pg	14 28 29.2	+2.9
ARDR				Sg	Sg	14 28 49.2	+2.5
TDJR	**Todzha**	**2.02**	**46**	Pg	Pg	14 28 35.5	+0.5
TDJR				Sg	Sg	14 29 00.3	-0.9
DJOS	**Djoyskaya Sosn**	**2.29**	**322**	Pg	Pg	14 28 43.4	+3.4
DJOS				Sg	Sg	14 29 11.8	+2.2
CERR	**Cheremushki**	**2.33**	**323**	Pg	Pg	14 28 41.8	+1.1
CERR				Sg	Sg	14 29 13.9	+3.1
DJO	**Djoy, Khakassi**	**2.35**	**320**	Pg	Pg	14 28 43.7	+2.5
DJO				Sg	Sg	14 29 14.6	+3.0
KNGR	**Kungurtug, Tuv**	**2.44**	**98**	Pg	Pg	14 28 42.6	-0.3
KNGR				Sg	Sg	14 29 13.2	-1.4
TBTR	**Tabat**	**2.67**	**317**	Pg	Pg	14 28 46.4	-0.9
TBTR				Sg	Sg	14 29 23.3	+1.5
CUR	**Chagan-Uzun**	**3.55**	**257**	Pn	Pb	14 28 58.7	-0.8
CUR				Pg	Pg	14 29 06.2	+2.0
CUR				Sg	Sg	14 29 50.8	+0.7
ULGR	**Ulagan, Altay**	**3.68**	**266**	Pn	Pb	14 29 00.9	-0.8
ULGR				Pg	Pg	14 29 08.8	+2.2
ULGR				Sg	Sg	14 29 54.4	+0.2
AKAR	**Aktash**	**3.95**	**262**	Pn	Pb	14 29 04.4	-1.9
AKAR				Pg	Pg	14 29 13.7	+1.9
AKAR				Sg	Sg	14 30 05.4	+2.5
TASR	**Tashtagol**	**4.02**	**298**	Pg	Pg	14 29 13.0	-0.1
TASR				Sg	Sg	14 30 07.0	+1.9
CHBI	**Chibit, Altay**	**4.02**	**262**	Pn	Pb	14 29 05.4	-2.1
CHBI				Pg	Pg	14 29 14.7	+1.6
CHBI				Sg	Sg	14 30 07.0	+1.7
ORL	**Orlik**	**4.07**	**66**	Pg	Pg	14 29 13.7	-0.5
ORL				Sg	Sb	14 30 00.6	+2.7
ORY	**Orie**	**4.08**	**11**	Pg	Pg	14 29 12.5	-1.7
ORY				Sg	Sg	14 30 04.1	-2.9
SHRR	**Shira**	**4.10**	**329**	Sg	Sg	14 30 10.0	+2.4
ARTR	**Artybash**	**4.11**	**283**	Pg	Pg	14 29 16.1	+1.3
ARTR				Sg	Sg	14 30 11.6	+3.5
DGZ	**Jazzator, Alta**	**4.24**	**254**	Pg	Pg	14 29 18.6	+1.2
DGZ				Sg	Sg	14 30 17.6	+5.3
TUNR	**Tungur**	**4.79**	**262**	Pg	Pg	14 29 29.4	+1.5
TUNR				Sg	Sg	14 30 33.1	+3.1
ELT	**Eltsovka**	**5.13**	**299**	Pg	Pg	14 29 30.9	-3.4
ELT				Sg	Sg	14 30 39.1	-1.6
GZLN	**Zheleznogorsk**	**5.37**	**0**	Sg	Sg	14 30 43.5	-5.0
POMOR	**Pomortsevo, Ku**	**5.54**	**311**	Sg	Sg	14 31 00.4	+6.6
SALR	**Pechorkino, Sa**	**5.94**	**308**	Sg	Sg	14 31 11.7	+4.9

*IDC **16** 14:46:06.1±4.1,5°.21S×102°.96E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/42, mbtmp3.6/5, Error ellipse: s-maj=162.2km s-min=22.3km az=56.0*
*DJA **16** 14:46:10.7±0.3,5°.S±3°×10°.3E±°, h10km, M3.8/12, MLv3.8/12*
ISC 16 14:46:05.6±1.9,**5°.37S**±0°.07×**102°.90E**±0°.06,**h2**km±11km, **n18**,σ1°**50**/21,**mb3.6**/5,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.01**	**3**	P	**Pn**	**14 46 28.7**	**+1.9**
MNAI				S	**Sn**	**14 46 41.9**	**+0.4**
LWLI	**Liwa**	**1.21**	**73**	P	**Pn**	**14 46 31.4**	**+1.7**
LWLI				S	**Sn**	**14 46 45.9**	**-0.8**
MDSI	**Maura Dua**	**1.55**	**56**	P	**Pg**	**14 46 36.3**	**+0.9**
MDSI				S	**Sg**	**14 46 54.9**	**-0.6**
KASI	**Kota Agung**	**1.60**	**95**	P	**Pg**	**14 46 38.1**	**+1.8**
KASI				S	**Sg**	**14 46 57.8**	**+0.7**
LHSI	**Lahat**	**1.66**	**22**	P	**Pg**	**14 46 38.1**	**+0.7**
LHSI				S	**Sg**	**14 46 58.4**	**-0.5**
KSI	**Kapahiang**	**1.73**	**350**	P	**Pg**	**14 46 40.7**	**+1.8**
KSI				S	**Sg**	**14 47 02.8**	**+1.4**
KLSI		**1.95**	**70**	P	**Pg**	**14 46 42.3**	**-0.7**
MASI	**Maura Aman, Be**	**2.31**	**344**	P	**Pg**	**14 46 49.0**	**-0.9**
CGJI	**Cibinong**	**3.04**	**114**	P	**Pb**	**14 46 57.6**	**-2.9**
KRJI	**Kerinci**	**3.56**	**336**	P	**Pb**	**14 47 06.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**24.00**	**351**	P	**P**	**14 51 20.5**	**-1.3**
	0.8nm,0.3s,baz=183,slow=9.0,SNR=6.4						
H08S2	**Diego Garcia H**	**30.29**	**264**	T	T	15 23 26.9	
	baz=87,slow=75,SNR=8.3						
H08S3	**Diego Garcia H**	**30.30**	**264**	T	T	15 23 28.0	
	baz=87,slow=75,SNR=5.9						
H08S1	**Diego Carcia H**	**30.30**	**264**	T	T	15 23 29.0	
	baz=87,slow=75,SNR=5.5						
WRA	**Warramunga Arr**	**33.83**	**118**	P	**P**	**14 52 50.3**	**+0.6**
	0.2nm,0.3s,baz=287,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**34.96**	**124**	P	**P**	**14 53 00.7**	**+1.2**
	0.4nm,0.8s,baz=302,slow=9.1,SNR=5.3						
SONM	**Songino Array**	**53.07**	**3**	P	**P**	**14 55 24.7**	**+0.3**
	0.5nm,0.5s,baz=183,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**55.06**	**343**	P	**P**	**14 55 38.5**	**-0.3**
	0.3nm,0.5s,baz=162,slow=8.4,SNR=5.5						

*IDC **16** 15:05:03.8±1.1,51°.61N×175°.70W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/48, mbtmp3.5/6, ML3.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/51, Error ellipse: s-maj=41.0km s-min=25.1km az=157.0*
*AEIC **16** 15:05:08.3±2.5,51°.43N±0°.06×175°.50W±0°.06, h26km±5km, Error ellipse: s-maj=8.4km s-min=5.9km az=175.0*
*NEIC **16** 15:05:10.1±2.4,51°.54N±0°.09×175°.59W±0°.02, h43km±8km, mb3.8/24, ML3.4/21(AEIC), Error ellipse: s-maj=12.9km s-min=1.8km az=181.0*
ISC 16 15:05:10.0±0.8,**51°.49N**±0°.09×**175°.59W**±0°.05,**h47**km,**n76**, σ1°**37**/66,**mb3.6**/6,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.62**	**332**		**Pn**	**15 05 21.9**	**-0.7**
GSTD	**Great Sitkin T**	**0.66**	**329**		**Pn**	**15 05 22.6**	**-0.6**
GSTD					**Sn**	**15 05 32.1**	**-0.6**
GSTR	**Great Sitkin T**	**0.67**	**334**		**Pn**	**15 05 22.8**	**-0.4**
GSSP	**Great Sitkin S**	**0.70**	**329**		**Pn**	**15 05 23.3**	**-0.4**
ADK	**Adak**	**0.79**	**300**		**Pn**	**15 05 23.8**	**-1.0**
ADK	**Adak**	**0.79**	**300**	Sn	**Sn**	**15 05 33.5**	**-1.9**
ADAG	**Mount Adagdak**	**0.80**	**308**		**Pn**	**15 05 24.8**	**-0.1**
KINC	**Kanaga Island**	**1.05**	**295**		**Pn**	**15 05 28.0**	**-0.4**
KIKV	**Kanaga Island**	**1.06**	**292**		**Pn**	**15 05 27.8**	**-0.6**
KIMD	**Kanaga Island**	**1.06**	**285**		**Pn**	**15 05 27.7**	**-0.8**
KICM	**Kanaga Island**	**1.09**	**294**		**Pn**	**15 05 28.4**	**-0.4**
ATKA	**Atka Island**	**1.12**	**50**		**Pn**	**15 05 27.5**	**-1.8**
ATKA					**Sn**	**15 05 41.2**	**-2.3**
KOWE	**Korovin West**	**1.20**	**43**		**Sn**	**15 05 45.1**	**-0.5**
KOFP	**Korovin Flat P**	**1.21**	**49**		**Pn**	**15 05 29.4**	**-1.1**
KOSE	**Korovin Southe**	**1.28**	**48**		**Pn**	**15 05 30.7**	**-0.8**
TAFP	**Tanaga Falls P**	**1.54**	**286**		**Pn**	**15 05 35.3**	**+0.2**
TAFP					**Sn**	**15 05 55.4**	**+1.4**
TASE	**Tanaga Southea**	**1.56**	**284**		**Pn**	**15 05 35.6**	**+0.2**
TANO	**Tanaga North**	**1.63**	**286**		**Pn**	**15 05 36.8**	**+0.6**
AMKA	**Amchitka**	**3.20**	**270**	Pn	**Pn**	**15 05 59.8**	**+2.1**
NIKH	**Nikolski High**	**4.40**	**168**	Pn	**Pn**	**15 06 14.2**	**+0.1**
UNV	**Unalaska Valle**	**6.01**	**63**	Pn	**Pn**	**15 06 37.9**	**+1.7**
SPIA	**Saint Paul Isl**	**6.49**	**27**	Pn	**Pn**	**15 06 45.5**	**+2.7**
AKUT	**Akutan**	**6.51**	**62**	Pn	**Pn**	**15 06 45.7**	**+2.6**
FALS	**False Pass**	**8.05**	**61**	Pn	**Pn**	**15 07 07.5**	**+3.4**
SDPT	**Sand Point**	**9.81**	**61**	Pn	**Pn**	**15 07 29.2**	**+1.0**
CNBA	**Chernabura Isl**	**10.17**	**65**	Pn	**Pn**	**15 07 32.0**	**-1.1**
CHGN	**Chignik**	**11.21**	**58**	Pn	**Pn**	**15 07 48.3**	**+1.0**
CHIR	**Chirikof Islan**	**12.60**	**62**	Pn	**Pn**	**15 08 07.1**	**+0.8**
ANM	**Nome**	**14.15**	**18**	Pn	**Pn**	**15 08 30.2**	**+2.8**
OHAK	**Old Harbor**	**14.18**	**57**	Pn	**Pn**	**15 08 24.7**	**-3.1**
SVW2	**Sparrevohn**	**14.63**	**41**	Pn	**Pn**	**15 08 31.8**	**-2.0**
KDAK	**Kodiak Island**	**14.69**	**56**	Pn	**Pn**	**15 08 32.0**	**-2.6**
CNPM	**China Poot**	**15.89**	**50**	Pn	**Pn**	**15 08 50.9**	**+0.7**
BRLK	**Bradley Lake**	**16.14**	**50**	Pn	**Pn**	**15 08 54.1**	**+0.8**
BRLK				IAmb	IAmb	15 09 18.1	
	comp=Z,13nm,1.3s						
PETK	**Petropavlovsk-**	**16.39**	**286**	LR	LR	15 14 42.8	
	comp=Z,30nm,20.4s,baz=18,slow=36						
SKT	**Skwentna**	**16.75**	**42**	P	**P**	**15 09 03.6**	**+1.0**
SKT				IAmb	IAmb	15 09 31.7	
	comp=Z,8.9nm,1.6s						
SUA	**Susitna One**	**16.86**	**44**	P	**Pn**	**15 09 03.3**	**+0.9**
SUA				IAmb	IAmb	15 09 36.1	
	comp=Z,13nm,1.5s						
SEW	**Seward**	**16.93**	**49**	P	**Pn**	**15 09 01.5**	**-1.7**
PPLA	**Purkeypile**	**16.94**	**39**	P	**P**	**15 09 05.2**	**+0.3**
KTH	**Kantishna Hill**	**17.77**	**38**	P	**P**	**15 09 15.1**	**+1.1**
GHO	**Glory Hole Cre**	**17.78**	**44**	P	**Pn**	**15 09 13.9**	**+0.1**
GHO				IAmb	IAmb	15 09 38.8	
	comp=Z,8.1nm,1.2s						
KNK	**Knik Glacier**	**17.84**	**46**	P	**P**	**15 09 15.7**	**+0.9**
KNK				IAmb	IAmb	15 09 32.5	
	comp=Z,9.3nm,1.2s						
TRF	**Thorofare Moun**	**17.97**	**39**	P	**P**	**15 09 16.3**	**+0.1**
TRF				IAmb	IAmb	15 09 43.5	
	comp=Z,12nm,1.5s						
BPAW	**Bear Paw Mtn.**	**18.04**	**36**	P	**P**	**15 09 19.0**	**+2.1**
BPAW				IAmb	IAmb	15 09 38.4	
	comp=Z,8.0nm,1.4s						
SCM	**Sheep Creek Mo**	**18.50**	**45**	P	**P**	**15 09 20.4**	**-1.6**
RND	**Reindeer**	**18.51**	**40**	P	**P**	**15 09 21.8**	**-0.3**
RND				IAmb	IAmb	15 09 41.1	
	comp=Z,7.4nm,1.3s						
FID	**Port Fidalgo**	**18.54**	**49**	P	**P**	**15 09 22.3**	**0.0**
DHY	**Denali Highway**	**18.96**	**41**	P	**P**	**15 09 26.0**	**-1.2**
DHY				IAmb	IAmb	15 10 00.5	
	comp=Z,12nm,1.6s						
KLU	**Klutina**	**19.02**	**47**	P	**P**	**15 09 26.0**	**-1.7**
KLU				IAmb	IAmb	15 09 33.2	
	comp=Z,11nm,1.5s						
WRH	**Wood River Hil**	**19.32**	**37**	P	**P**	**15 09 29.8**	**-1.0**
MDM	**Murphy Dome**	**19.51**	**36**	P	**P**	**15 09 33.2**	**+0.2**
CCB	**Clear Creek Bu**	**19.51**	**37**	P	**P**	**15 09 33.4**	**+0.5**
HDA	**Harding Lake**	**19.72**	**38**	P	**P**	**15 09 33.5**	**-1.8**
HDA				IAmb	IAmb	15 09 50.2	
	comp=Z,2.8nm,0.5s						
IL31		**19.92**	**37**	P	**P**	**15 09 35.3**	**-2.0**
IL31				IAmb	IAmb	15 09 44.7	
	comp=Z,6.0nm,1.6s						
ILAR	**Eielson Array**	**19.92**	**37**	P	**P**	**15 09 36.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=231,slow=10,SNR=14						
ILAR	**Eielson Array**	**19.92**	**37**	P	**P**	**15 09 37.0**	**-0.4**
TOLK	**Toolik Lake Re**	**21.24**	**26**	P	**P**	**15 09 53.0**	**+1.2**
EGAK	**Eagle**	**22.16**	**40**	P	**P**	**15 10 01.4**	**0.0**
EGAK				IAmb	IAmb	15 10 26.1	
	comp=Z,3.4nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**34.56**	**210**	T	T	15 48 41.4	
	baz=18,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**34.57**	**210**	T	T	15 48 42.1	
	baz=18,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**34.58**	**210**	T	T	15 48 59.8	
	baz=18,slow=76,SNR=24						
USRK	**Ussuriysk Ar.**	**35.27**	**279**	P	**P**	**15 11 59.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=72,slow=11,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**35.77**	**210**	T	T	15 50 38.1	
	baz=19,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**35.78**	**210**	T	T	15 50 39.1	
	baz=19,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**35.79**	**210**	T	T	15 50 38.0	
	baz=19,slow=76,SNR=6.5						
JCJ	**Chichijima**	**39.98**	**249**	LR	LR	15 27 28.8	
	comp=Z,36nm,21.7s,baz=104,slow=34						
PDAR	**Pinedale Array**	**44.35**	**74**	P	**P**	**15 13 16.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=332,slow=3.0,SNR=5.5						
MKAR	**Makanchi Array**	**61.52**	**310**	P	**P**	**15 15 21.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=42,slow=7.3,SNR=6.5						
WRA	**Warramunga Arr**	**83.52**	**227**	P	**P**	**15 17 32.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=33,slow=5.7,SNR=2.9						
WRA	**Warramunga Arr**	**83.52**	**227**	IAmb	IAmb	15 17 36.2	
	comp=Z,0.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**86.14**	**235**	LR	LR	15 55 44.1	
	comp=Z,16nm,19.9s,baz=24,slow=35						
ASAR	**Alice Springs**	**86.96**	**225**	P	**P**	**15 17 50.9**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=18,slow=4.8,SNR=5.7						
H03N2	**Juan Fernandez**	**119.25**	**108**	T	T	17 34 53.7	
	baz=317,slow=77,SNR=3.9						
H03N1	**Juan Fernandez**	**119.27**	**108**	T	T	17 34 40.9	
	baz=317,slow=77,SNR=5.2						
H03N3	**Juan Fernandez**	**119.27**	**108**	T	T	17 34 45.8	
	baz=317,slow=77,SNR=3.9						
MAW	**Mawson**	**147.80**	**218**	PKPbc	**PKPbc**	**15 24 48.9**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=84,slow=5.1,SNR=3.6						

*KRNET **16** 15:14:12.9±0.1, 40°.38N×70°.15E, h12km, mb3.2*
*SOME **16** 15:14:13.0, 40°.42N×70°.15E, h5km*
*NNC **16** 15:14:16.3±1.7, 40°.50N×70°.27E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.7km s-min=6.9km az=25.0*
ISC 16 15:14:12.7±0.9,**40°.41N**±0°.02×**70°.16E**±0°.04,**h10**km,**n24**, σ2°**33**/41,**15C-9D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.61**	**125**	⇓*iP*	**Pg**	**15 14 24.2**	**-0.4**
BTK				⇓*iS*	**Sb**	**15 14 33.5**	**-0.8**
	baz=22						
GAR	**Garm**	**1.42**	**175**	⇑*iP*	**Pb**	**15 14 38.5**	**-0.8**
GAR				⇑*iS*	**Sg**	**15 14 57.2**	**-1.0**
	baz=74						
IUG	**Iuzhnay**	**1.74**	**357**	*eP*	**Pg**	**15 14 46.2**	**+0.1**
	70nm,0.2s						
IUG				*eS*	**Sg**	**15 15 09.8**	**+1.2**
	156nm,0.3s						
IUG	**Iuzhnay**	**1.74**	**357**	P	**Pg**	**15 14 45.5**	**-0.5**
	70nm,0.2s						
IUG				S	**Sg**	**15 15 09.8**	**+1.2**
	156nm,0.3s						
CHGR	**Chuyangaron**	**1.92**	**204**	⇑*iP*	**Pg**	**15 14 47.8**	**-1.7**
	baz=4.0						
CHGR				⇑*iS*	**Sg**	**15 15 12.7**	**-1.6**
	baz=4.0						
BRLS	**Borolday**	**2.63**	**355**	*eP*	**Pb**	**15 14 57.6**	**-2.3**
	12nm,0.3s						
BRLS				*eS*	**Sb**	**15 15 29.9**	**-2.4**
	70nm,0.2s						
BRLS	**Borolday**	**2.63**	**355**	Pg	**Pb**	**15 14 57.6**	**-2.3**
	12nm,0.3s						
BRLS				Lg	Lg	15 15 29.9	
	70nm,0.2s						
KK31	**Karatay Array**	**2.70**	**5**	⇓Pn	**Pb**	**15 15 00.4**	**-0.7**
	0.7nm,0.4s,baz=174,slow=9.9,SNR=73						
KK31				⇑Pg	**Pg**	**15 15 03.2**	**-1.3**
	4.4nm,0.3s,baz=183,slow=16						
KK31				⇓Lg	Lg	15 15 39.0	
	9.2nm,0.4s,baz=184,slow=24,SNR=13						
MNAS	**Manas**	**2.72**	**40**	⇑*iP*	**Pb**	**15 14 59.1**	**-2.4**
	baz=39						
MNAS				⇑*iS*	**Sb**	**15 15 33.6**	**-1.4**
	baz=39						
AML	**Almayashu**	**3.17**	**56**	⇓*iP*	**Pn**	**15 15 05.9**	**+2.9**
	baz=56						
AML				⇓*iS*	**Sn**	**15 15 44.5**	**+3.5**
	baz=56						
MRKS	**Merke**	**3.27**	**44**	*eP*	**Pg**	**15 15 13.2**	**-2.2**
	4.1nm,0.3s						
MRKS				*eS*	**Sg**	**15 15 57.0**	**-0.9**
	43nm,0.4s						
MRKS	**Merke**	**3.27**	**44**	Pg	**Pg**	**15 15 13.2**	**-2.2**
	4.1nm,0.3s						
MRKS				Lg	Lg	15 15 57.0	
	43nm,0.4s						
ARLS	**Aral**	**3.46**	**64**	⇑*iP*	**Pn**	**15 15 09.7**	**+2.9**
	baz=63						
ARLS				⇑*iS*	**Sn**	**15 15 51.0**	**+3.1**
	baz=63						
EKS2	**Erkin-Say**	**3.52**	**49**	⇑*iP*	**Pn**	**15 15 10.9**	**+3.3**
	baz=49						
EKS2				⇑*iS*	**Sn**	**15 15 52.8**	**+3.4**
	baz=49						
UCH	**Uchtor**	**3.75**	**60**	⇑*iP*	**Pn**	**15 15 14.1**	**+3.1**
	baz=59						
UCH				⇑*iS*	**Sn**	**15 15 58.5**	**+3.1**
	baz=59						
AAK	**Ala-Archa**	**3.94**	**54**	⇓Pg	**Pg**	**15 15 27.0**	**-1.2**
	2.1nm,0.4s						
AAK				⇓Lg	Lg	15 16 16.4	
	3.5nm,0.5s						
SGDS	**Sogindy**	**4.51**	**46**	Pg	**Pg**	**15 15 35.6**	**-3.5**
	1.3nm,0.2s						
SGDS				Lg	Lg	15 16 34.9	
	10nm,0.6s						
TKM2	**Tokmak 2**	**4.78**	**57**	⇓Pn	**Pn**	**15 15 28.0**	**+3.0**
	1.4nm,0.7s						
TKM2				⇑Pg	**Pg**	**15 15 44.1**	**-0.1**
	1.4nm,0.4s						
TKM2				⇑Lg	Lg	15 16 44.0	
	5.5nm,0.7s						
KST	**Kastek**	**5.07**	**57**	*eP*	**Pg**	**15 15 46.6**	**-3.3**
	2.2nm,0.2s						
KST				*eS*	**Sg**	**15 16 54.0**	**-1.6**
	8.5nm,0.4s						
KST	**Kastek**	**5.07**	**57**	Pg	**Pg**	**15 15 46.6**	**-3.3**
	2.2nm,0.2s						
KST				Lg	Lg	15 16 54.0	
	8.5nm,0.4s						
BTLS	**Baital**	**5.44**	**30**	*eP*	**Pg**	**15 15 53.9**	**-2.9**
	1.4nm,0.2s						
BTLS				*eS*	**Sg**	**15 17 06.6**	**-0.7**
	4.6nm,0.6s						
BTLS	**Baital**	**5.44**	**30**	Pg	**Pg**	**15 15 53.9**	**-2.9**
	1.4nm,0.2s						
BTLS				Lg	Lg	15 17 06.6	
	4.6nm,0.6s						
TNSS	**Tian-Shan**	**5.71**	**60**	*eP*	**Pg**	**15 15 59.5**	**-2.6**
	0.7nm,0.3s						
TNSS				*eS*	**Sg**	**15 17 15.8**	**-0.4**
	2.2nm,0.6s						
TNSS	**Tian-Shan**	**5.71**	**60**	Pg	**Pg**	**15 15 59.5**	**-2.6**
	0.7nm,0.3s						
TNSS				Lg	Lg	15 17 15.8	
	2.2nm,0.6s						

IDC 16 15:19:07.0±24.0,**12°.97S**×**178°.60W**,**h0**km,**mb4.0**/4, **mb1 4.0**/4,**mb1mx3.6**/35,**mbtmp4.1**/4,**Error ellipse: s-maj=448.6km s-min=79.8km az=57.0**,**North of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**21.34**	**277**	P	P	15 23 56.1	+0.2
	24nm,0.4s,baz=80,slow=8.3,SNR=6.6						
STKA	**Stephens Creek**	**41.04**	**236**	P	P	15 26 51.6	-0.7
	1.1nm,0.5s,baz=68,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**45.55**	**255**	P	P	15 27 29.3	+0.3
	0.4nm,0.8s,baz=87,slow=8.1,SNR=8.1						
ASAR	**Alice Springs**	**46.14**	**250**	P	P	15 27 33.5	-0.2
	1.3nm,0.8s,baz=82,slow=8.5,SNR=36						

*JMA **16** 15:22:34.2±0.5, 31°.60N×138°.37E, h434km, M3.0*
*IDC **16** 15:22:43.9±2.4, 32°.11N×137°.89E, h366km±37km, mb2.8/3, mb1 2.9/4, mb1mx2.5/51, mbtmp3.5/4, Error ellipse: s-maj=87.0km s-min=23.7km az=72.0*
ISC 16 15:22:43.8±1.2,**32°.3N**±0°.1×**138°.2E**±0°.1,**h376**km,**n15**, σ1°**45**/16,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**2.42**	**330**	P	**Pn**	**15 23 41.1**	**+0.8**
JTNC	**Tanabenakahech**	**2.64**	**306**	P	**Pn**	**15 23 42.0**	**-0.1**
JWY	**Kouya**	**2.89**	**312**	P	**Pn**	**15 23 44.7**	**+0.5**
JOD2	**Odawara 2**	**3.04**	**14**	P	**Pn**	**15 23 46.4**	**+1.0**
JYN	**Shimob**	**3.20**	**5**	P	**Pn**	**15 23 48.7**	**+1.9**
BSO1	**Boso 1**	**3.30**	**44**	*eS*	**S**	**15 24 36.7**	**-1.6**
JAI	**Aioi**	**3.47**	**296**	P	**Pn**	**15 23 49.0**	**-0.2**
JYTA	**Yamagatataniai**	**3.49**	**340**	P	**Pn**	**15 23 50.5**	**+1.1**
JRY	**Ryogami san**	**3.75**	**9**	P	**Pn**	**15 23 53.1**	**+1.3**
JWT	**Wachi**	**3.77**	**323**	P	**Pn**	**15 23 52.6**	**+0.6**
MJAR	**Matsushiro Arr**	**4.22**	**0**	P	**Pn**	**15 23 57.9**	**+1.4**
	0.1nm,0.3s,baz=179,slow=11,SNR=6.4						
JAG	**Ashikaga**	**4.24**	**14**	P	**Pn**	**15 23 56.5**	**-0.1**
JAG				*eS*	**S**	**15 24 52.2**	**-3.4**
MKAR	**Makanchi Array**	**44.55**	**306**	P	**P**	**15 30 20.0**	**+0.3**
	0.3nm,0.5s,baz=94,slow=7.4,SNR=4.8						
WRA	**Warramunga Arr**	**52.08**	**185**	P	**P**	**15 31 16.2**	**-0.6**
	0.2nm,0.6s,baz=0.2,slow=7.7,SNR=6.1						
FINES	**FINESS Array B**	**71.74**	**332**	P	**P**	**15 33 26.9**	**+1.2**
	1.8nm,0.9s,baz=62,slow=6.5,SNR=3.7						

*IDC **16** 15:27:18.9±11.0, 34°.95N×73°.36E, h96km±108km, mb3.3/5, mb1 3.5/6, mb1mx3.0/46, mbtmp3.7/6, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/32, Error ellipse: s-maj=78.9km s-min=24.8km az=46.0*
*NNC **16** 15:27:18.3±9.8, 35°.32N×72°.87E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=88.4km s-min=72.9km az=114.0*
ISC 16 15:27:09.0±1.1,**34°.78N**±0°.10×**73°.4E**±0°.2,**h10**km,**n11**, σ1°**01**/12,**mb3.4**/4,**1C-3D**,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.05**	**139**	*eP*	**Pb**	**15 28 03.5**	**+0.1**
THN				*eS*	**Sg**	**15 28 46.5**	**-0.6**
AAK	**Ala-Archa**	**7.90**	**6**	P	Pn	15 29 09.5	+5.5
	0.7nm,0.5s						
AAK				S	**Sn**	**15 30 34.5**	**+1.0**
	1.5nm,0.5s						
TKM2	**Tokmak 2**	**8.32**	**11**	⇓P	Pn	15 29 14.6	+4.9
	1.7nm,1.1s						
TKM2				⇓S	**Sn**	**15 30 42.4**	**-1.4**
	2.3nm,0.8s						
KK31	**Karatay Array**	**8.60**	**346**	⇑P	**P

H03S2	**Juan Fernandez**	**5.63**	**311**	Pn	**Pn**	**15 43 53.5**	**-0.1**
H03S2				T	T	15 49 41.1	
	baz=132,slow=75,SNR=294						
H03N3	**Juan Fernandez**	**5.90**	**314**	Pn	**Pn**	**15 43 58.6**	**+1.2**
	SNR=7.1						
H03N3				T	T	15 49 57.5	
	baz=131,slow=20,SNR=18						
H03N1	**Juan Fernandez**	**5.90**	**314**	Pn	**Pn**	**15 43 58.0**	**+0.7**
	SNR=12						
H03N1				T	T	15 49 57.7	
	baz=131,slow=20,SNR=7.4						
H03N2	**Juan Fernandez**	**5.92**	**314**	Pn	**Pn**	**15 43 58.3**	**+0.8**
	SNR=5.3						
H03N2				T	T	15 49 58.4	
	baz=131,slow=20,SNR=6.7						
ARCO	**CERRO ARCO**	**6.25**	**41**	*i* P	**Pn**	**15 44 04.3**	**+1.8**
ARCO				IAML		15 45 57.8	
	comp=Z,20nm,0.6s						
ASAL	**Salagasta**	**6.50**	**40**	*i* P	**Pn**	**15 44 06.4**	**+0.6**
ASAL				IAML		15 46 05.1	
	comp=Z,16nm,1.2s						
AUSP	**Uspallata**	**6.53**	**35**	*i* P	**Pn**	**15 44 06.9**	**+0.4**
RTLS	**Leoncito**	**6.92**	**34**	*i* P	**Pn**	**15 44 12.5**	**+0.6**
RTLS				IAML		15 46 17.0	
	comp=Z,10.0nm,1.1s						
RTLL	**Cerro Villicun**	**7.70**	**37**	*i* P	**Pn**	**15 44 21.8**	**-0.6**
ACCO	**Cerro Coronel**	**8.07**	**31**	*i* P	**Pn**	**15 44 26.9**	**-0.9**
AROD	**Rodeo**	**8.29**	**27**	*i* P	**Pn**	**15 44 31.5**	**+0.8**
AGUA	**GUANDACOL**	**9.28**	**30**	*i* P	**Pn**	**15 44 43.2**	**-0.8**
LVC	**Limon Verde**	**15.58**	**17**	LR	LR	15 51 24.2	
	comp=Z,17nm,19.8s,baz=241,slow=34						
CPUP	**Villa Florida**	**17.95**	**56**	P	**Pn**	**15 46 37.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=3.3						
CPUP				LR	LR	15 54 15.5	
	comp=Z,66nm,19.7s,baz=216,slow=40						
LPAZ	**La Paz**	**21.87**	**15**	P	**P**	**15 47 24.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=180,slow=11,SNR=2.7						

*TEH **16** 15:56:43.1,32°.51N×47°.91E,h10km,ML2.8*
*ISN **16** 15:56:43.1±0.9,32°.58N×47°.91E,h15km±6km,ML2.0*
ISC 16 15:56:43.3±1.9**,32°.49N**±0°.07×**47°.87E**±0°.06**,h4**km±15km**,**
n8,σ1§**03**/15**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKMR	**Kamar-syah**	**1.11**	**23**	*e*		15 57 22.9	
IKMR				*e*Pg	**Pg**	**15 57 03.5**	**-1.1**
IDOB	**Doab**	**1.31**	**11**	*e*Sg	**Sn**	**15 57 27.3**	**+0.4**
IDOB				*e*Pg	**Pg**	**15 57 09.3**	**+0.7**
IDOB				*e*		15 57 32.7	
BMDN	**Meydan**	**1.42**	**34**	*e*Sg	**Sg**	**15 57 30.4**	**+1.3**
BMDN				*e*Pg	**Pg**	**15 57 09.8**	**-0.8**
BMDN				*e*		15 57 32.6	
IKOM	**Komasi**	**1.70**	**350**	*e*Pg	**Pg**	**15 57 15.2**	**-0.8**
IKOM				*e*		15 57 24.7	
IKOM				*e*Sg	**Sg**	**15 57 40.0**	**+1.9**
IBDR	**Badra**	**1.74**	**291**	*e*Pg	**Pb**	**15 57 15.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**15 57 38.0**	**-0.2**
IBDR				AML	AML	15 57 51.3	
	comp=E,10nm,0.8s						
IBDR				AML	AML	15 57 52.3	
	comp=N,8.9nm,0.8s						
HSAM	**Samen**	**1.82**	**20**	*e*Pg	**Pb**	**15 57 16.5**	**-0.9**
HSAM				*e*Sg	**Sg**	**15 57 42.5**	**+0.7**
HSAM				*e*		15 57 45.6	
NSR	**Nassriya**	**2.09**	**225**	*e*Pn	**Pn**	**15 57 20.0**	**+0.9**
NSR				*e*Sn	**Sn**	**15 57 46.0**	**+0.4**
BHD	**Baghdad**	**3.03**	**286**	*e*Pn	**Pn**	**15 57 32.0**	**-0.2**
BHD				*e*Sn	**Sn**	**15 58 09.0**	**0.0**
BHD				AML	AML	15 58 10.0	
	comp=E,34nm,0.7s						

IDC 16 15:59:42.3±20.0**,24°.81S**×**176°.08W**,**h398**km±91km**,**
mb3.0/3,mb1 3.2/5,mb1mx2.9/26,mbtmp4.0/5,Error ellipse: s-maj=270.5km s-min=54.1km az=63.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.61**	**202**	P	P	16 02 50.3	-0.1
	1.9nm,0.3s,baz=14,slow=7.4,SNR=19						
DZM	**Mont Dzumac**	**16.27**	**276**	P	P	16 03 09.1	+0.4
	0.6nm,0.3s,baz=103,slow=9.6,SNR=7.6						
STKA	**Stephens Creek**	**37.73**	**249**	P	P	16 06 21.3	-0.8
	0.8nm,0.5s,baz=94,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**45.42**	**261**	P	P	16 07 23.5	-0.2
	0.5nm,0.4s,baz=90,slow=7.1,SNR=22						
WRA	**Warramunga Arr**	**45.91**	**266**	P	P	16 07 27.8	+0.2
	0.7nm,0.5s,baz=104,slow=7.8,SNR=16						

*IDC **16** 16:10:35.8±0.5,64°.62N×17°.66W,h0km,mb4.1/23, mb1 4.2/25,mb1mx4.1/53,mbtmp4.1/25,ML3.6/2,MS3.2/11, Ms1 3.2/11,ms1mx2.9/55,Error ellipse: s-maj=16.1km s-min=10.1km az=12.0*
*REY **16** 16:10:35.6,64°.67N×17°.45W,h5km*
*MOS **16** 16:10:35.9±0.9,64°.62N×17°.61W,h10km,mb4.6/49,Error ellipse: s-maj=10.7km s-min=6.9km az=109.0*
*NEIC **16** 16:10:37.4±1.5,64°.66N±0°.09×17°.5W±0°.1,h8km±4km, mb4.6/122,Error ellipse: s-maj=12.3km s-min=7.2km az=185.0*
ISC 16 16:10:37.5±0.3**,64°.65N**±0°.03×**17°.49W**±0°.02**,h10**km**,n299,**
σ1§**45**/281**,mb4.5**/129**,MS3.4**/9**,19C-1D,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**283**	P	**Pg**	**16 10 38.3**	**-2.0**
	baz=272						
IDYN	**Dyngjuhals**	**0.15**	**21**	P	**Pg**	**16 10 38.5**	**-2.5**
	baz=16						
IDJK	**Dyngjujokull**	**0.18**	**142**	P	**Pg**	**16 10 39.6**	**-1.8**
	baz=151						
IHUS	**Husbondi**	**0.36**	**191**	P	**Pg**	**16 10 43.1**	**-1.5**
	baz=194						
IVOT	**Vottur**	**0.40**	**160**	P	**Pg**	**16 10 43.0**	**-2.3**
	baz=164						
IJOK	**Jokulheimar**	**0.46**	**224**	P	**Pg**	**16 10 44.4**	**-2.0**
	baz=224						
IKRE	**Kreppuhraun**	**0.50**	**74**	P	**Pg**	**16 10 44.1**	**-3.0**
	baz=75						
IKRE				S	**Sg**	**16 10 51.0**	**-2.6**
	baz=75						
IMKO	**Mokollar**	**0.59**	**56**	P	**Pg**	**16 10 45.9**	**-3.1**
	baz=56						
IMKO				S	**Sg**	**16 10 54.4**	**-2.4**
	baz=56						
IIEY	**Innrieyrar**	**0.62**	**207**	P	**Pg**	**16 10 47.1**	**-2.3**
	baz=207						
IKSK	**Karasker**	**0.66**	**137**	P	**Pg**	**16 10 46.9**	**-3.3**
	baz=140						
ISVA	**Svartarkot**	**0.70**	**8**	P	**Pg**	**16 10 47.6**	**-3.3**
	baz=6.9						
IKAL	**Kalfafell**	**0.71**	**187**	P	**Pg**	**16 10 48.7**	**-2.4**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.78**	**77**	P	**Pg**	**16 10 48.7**	**-3.6**
	baz=78						
IADA	**Aoalbol**	**0.90**	**65**	P	Pg	16 10 50.7	-4.1
	baz=65						
IHVE	**Hveravellir**	**0.92**	**285**	P	**Pg**	**16 10 51.6**	**-3.5**
	baz=284						
IHVE				S	**Sg**	**16 11 04.7**	**-2.3**
	baz=284						
IMEL	**Melhnausar**	**0.99**	**21**	P	Pg	16 10 52.4	-4.1
	baz=20						
IREN	**Reynihlio**	**1.03**	**14**	P	Pg	16 10 53.2	-4.1
	baz=13						
ISNB	**Snabyli**	**1.04**	**209**	P	**Pg**	**16 10 54.3**	**-3.2**
	baz=210						
ISNB				S	**Sn**	**16 11 11.8**	**-0.9**
	baz=210						
ISLY	**Slysaalda**	**1.09**	**221**	P	**Pg**	**16 10 55.3**	**-3.1**
	baz=222						
IKVO	**Krokottuvotn**	**1.10**	**13**	P	Pb	16 10 54.1	-4.5
	baz=13						
IFED	**Fedgar**	**1.14**	**238**	P	**Pb**	**16 10 56.5**	**-2.8**
	baz=238						
IGRS	**Grimsstaoir**	**1.15**	**30**	P	Pb	16 10 55.0	-4.4
	baz=29						
IGRS				S	**Sb**	**16 11 11.3**	**-3.1**
	baz=29						
IRJU	**Rjupnafell**	**1.16**	**207**	P	**Pb**	**16 10 56.3**	**-3.1**
	baz=208						
ISKI	**Skildingahlsh**	**1.24**	**9**	P	Pn	16 10 56.6	-4.3
	baz=8.2						
ISKI				S	**Sb**	**16 11 14.3**	**-2.7**
	baz=8.2						
BORG	**Borgarnes**	**1.65**	**275**	Pn	**Pn**	**16 11 03.5**	**-3.0**
	58nm,0.3s,baz=86,slow=6.4,SNR=130						
BORG				Sn	**Sn**	**16 11 27.1**	**-0.5**
	40nm,0.3s,baz=241,slow=19,SNR=10						
BORG	**Borgarnes**	**1.65**	**275**	Pn	**Pn**	**16 11 03.6**	**-2.9**
JMIC	**Jan Mayen**	**7.21**	**24**	LR	LR	16 14 39.5	
	comp=Z,133nm,18.4s,baz=213,slow=34						
SUMG	**Summit**	**10.96**	**325**	P	**Pn**	**16 13 14.4**	**0.0**
SUMG	**Summit**	**10.96**	**325**	Pn	**Pn**	**16 13 14.4**	**0.0**
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn	**Pn**	**16 13 24.5**	**-0.3**
	baz=322,slow=14,SNR=12						
ESK	**Eskdalemuir**	**11.74**	**136**	P	**Pn**	**16 13 23.9**	**-0.9**
ESK	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**16 13 23.9**	**-0.9**
DSB	**Dublin**	**12.77**	**148**	Pn	**Pn**	**16 13 39.5**	**+0.7**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**16 13 42.3**	**-2.8**
NBO00	**NORSAR Array S**	**13.35**	**93**	Pn	**Pn**	**16 13 44.5**	**-2.2**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**16 13 46.2**	**-3.0**
	0.0nm,0.3s,baz=299,slow=13,SNR=4.4						
NOA				LR	LR	16 18 57.5	
	comp=Z,50nm,19.3s,baz=310,slow=37						
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	16 18 13.6	
	comp=Z,134nm,20.7s,baz=78,slow=34						
SFJD	**Kangerlussuaq**	**13.68**	**295**	P	**Pn**	**16 13 51.2**	**+0.1**
SFJD	**Kangerlussuaq**	**13.68**	**295**	Pn	**Pn**	**16 13 51.2**	**+0.1**
NC405	**NORSAR Array S**	**13.71**	**91**	Pn	**Pn**	**16 13 51.0**	**-0.7**
NC602	**NORSAR Array S**	**13.82**	**93**	Pn	**Pn**	**16 13 52.8**	**-0.2**
HFS	**Hagfors**	**15.04**	**93**	LR	LR	16 19 19.1	
	comp=Z,72nm,18.6s,baz=262,slow=35						
SPITS	**Spitsbergen Ar**	**16.88**	**23**	LR	LR	16 19 19.5	
	comp=Z,50nm,18.4s,baz=145,slow=31						
ARCES	**ARCESS Array B**	**17.13**	**55**	LR	LR	16 19 37.0	
	comp=Z,56nm,20.8s,baz=300,slow=32						
KEV	**Kevo**	**17.63**	**54**	P	**P**	**16 14 44.7**	**+1.0**
KEV				pmax	pmax		
	comp=Z,164nm,1.9s						
KEV	**Kevo**	**17.63**	**54**	P	**P**	**16 14 44.7**	**+1.0**
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**	**16 15 06.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=7.6,SNR=5.4						
FINES				LR	LR	16 22 23.6	
	comp=Z,80nm,18.8s,baz=296,slow=36						
FINES	**FINESS Array B**	**19.71**	**79**	*i* P	**Pn**	**16 15 09.3**	**+1.3**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**16 15 17.5**	**+0.1**
	comp=Z,16nm,1.1s						
CLL				*i*		16 15 26.7	
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**16 15 17.5**	**+0.1**
CLL				pmax	pmax		
	comp=Z,16nm,1.1s						
CLL	**Collm**	**20.69**	**116**	P	**P**	**16 15 17.2**	**-0.2**
ECH	**Echery**	**21.14**	**129**	P	**P**	**16 15 22.5**	**+0.3**
ECH				pmax	pmax		
	comp=Z,13nm,1.0s						
ECH	**Echery**	**21.14**	**129**	P	**P**	**16 15 22.5**	**+0.3**
GRA1	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**16 15 26.0**	**+1.8**
GRA1				IAmb	IAmb	16 15 28.3	
	comp=Z,22nm,1.0s						
GRF	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**16 15 26.0**	**+1.8**
GRF				pmax	pmax		
	comp=Z,23nm,1.0s						
STU	**Stuttgart**	**21.36**	**125**	P	**P**	**16 15 24.7**	**+0.1**
STU				pmax	pmax		
	comp=Z,39nm,1.3s						
STU	**Stuttgart**	**21.36**	**125**	P	**P**	**16 15 24.7**	**+0.1**
STU				IAmb	IAmb	16 15 29.5	
	comp=Z,39nm,1.3s						
BRG	**Berggiesshubel**	**21.40**	**115**⇑	*i* P	**P**	**16 15 25.4**	**+0.4**
	comp=Z,24nm,1.1s						
BRG	**Berggiesshubel**	**21.40**	**115**⇑	*i* P	**P**	**16 15 25.4**	**+0.4**
BRG				pmax	pmax		
	comp=Z,24nm,1.1s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**16 15 25.7**	**+0.3**
BFO				pmax	pmax		
	comp=Z,18nm,1.1s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**16 15 25.7**	**+0.3**
VSU	**Vasula**	**21.57**	**86**	*e*P	**P**	**16 15 26.6**	**0.0**
VSU	**Vasula**	**21.57**	**86**	*i* P	**P**	**16 15 28.9**	**+2.2**
VSU				pmax	pmax		
	comp=Z,53nm,0.8s						
PABE	**Paberze**	**22.21**	**95**	*e*P	**P**	**16 15 33.8**	**+0.2**
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**16 15 37.0**	**+1.9**
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**16 15 37.0**	**+1.9**
KSP	**Ksiaz**	**22.35**	**112**	*e*P	**P**	**16 15 35.2**	**0.0**
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**	**16 15 37.9**	**+1.5**
OSTC	**Ostas**	**22.55**	**113**	*e*P	**P**	**16 15 39.5**	**+2.2**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**16 15 38.5**	**0.0**
KHC	**Kasperske Hory**	**22.66**	**118**	*ce*P	**P**	**16 15 39.0**	**+0.4**
KHC				pmax	pmax		
	comp=Z,22nm,1.0s						
KHC	**Kasperske Hory**	**22.66**	**118**	P	**P**	**16 15 38.6**	**0.0**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**16 15 41.0**	**+1.5**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**16 15 41.0**	**+1.5**
DAVA	**Damuels**	**22.87**	**126**	*e*P	**P**	**16 15 41.3**	**+0.5**
	comp=Z,8.0nm,1.1s						
SUW	**Suwalki**	**22.88**	**98**	P	**P**	**16 15 39.4**	**-1.3**
SUW				pmax	pmax		
	comp=Z,28nm,1.1s						
SUW	**Suwalki**	**22.88**	**98**	P	**P**	**16 15 39.4**	**-1.3**
SUW				IAmb	IAmb	16 15 59.3	
	comp=Z,28nm,1.1s						
SSB	**Saint Sauveur**	**22.93**	**137**	P	**P**	**16 15 39.3**	**-2.1**
SSB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SSB	**Saint Sauveur**	**22.93**	**137**	P	**P**	**16 15 39.3**	**-2.1**
GEC2	**GERESS Array S**	**22.94**	**119**	P	**P**	**16 15 41.3**	**-0.3**
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**16 15 41.6**	**0.0**
	comp=Z,2.8nm,0.9s,baz=330,slow=7.7,SNR=12						
RETA	**Reutte**	**23.00**	**125**	*e*P	**P**	**16 15 42.6**	**+0.4**
	comp=Z,5.5nm,1.3s						
ISAL	**Salakas**	**23.09**	**92**	*e*P	**P**	**16 15 43.3**	**+0.4**
KRLC	**Kraliky**	**23.15**	**113**	*e*P	**P**	**16 15 43.4**	**-0.2**
KRLC	**Kraliky**	**23.15**	**113**	*e*P	**P**	**16 15 43.4**	**-0.2**
MOTA	**Moosalm**	**23.25**	**124**	*e*P	**P**	**16 15 46.5**	**+1.7**
	comp=Z,4.6nm,1.1s						
IIGN	**Ignalina**	**23.28**	**93**	*e*P	**P**	**16 15 45.2**	**+0.4**
DAVOX	**Davos/Dischmat**	**23.30**	**127**	P	**P**	**16 15 45.9**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=322,slow=15,SNR=4.2						
DAVOX				LR	LR	16 24 02.1	
	comp=Z,60nm,20.7s,baz=80,slow=34						
SQTA	**Sankt Quirin**	**23.39**	**124**	*e*P	**P**	**16 15 48.2**	**+2.0**
	comp=Z,7.9nm,0.8s						
TUE	**Stuetta**	**23.39**	**128**	P	**P**	**16 15 46.0**	**-0.3**
FETA	**Feichten**	**23.39**	**125**	*e*P	**P**	**16 15 47.6**	**+1.4**
	comp=Z,9.2nm,1.3s						
WATA	**Walderalm**	**23.42**	**124**	*e*P	**P**	**16 15 47.5**	**+0.9**
	comp=Z,10nm,1.4s						
WTTA	**Wattenberg**	**23.51**	**124**	*e*P	**P**	**16 15 48.3**	**+0.9**
	comp=Z,7.7nm,1.1s						
IDID	**Didziasalis**	**23.52**	**92**	*e*P	**P**	**16 15 47.7**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**23.58**	**127**	P	**P**	**16 15 48.4**	**+0.2**
FUORN				IAmb	IAmb	16 16 13.2	
	comp=Z,18nm,1.4s						
VRAC	**Vranov**	**23.68**	**114**	P	**P**	**16 15 49.6**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=334,slow=14,SNR=3.5						
VRAC				LR	LR	16 25 42.9	
	comp=Z,58nm,20.8s,baz=317,slow=38						
VRAC	**Vranov**	**23.68**	**114**	*e*P	**P**	**16 15 49.3**	**+0.4**
EUNU	**Eureka**	**23.69**	**336**	P	**P**	**16 15 49.1**	**+0.3**
EUNU				IAmb	IAmb	16 15 53.6	
	comp=Z,54nm,1.9s						
MORC	**Moravsky Berou**	**23.69**	**112**	*e*P	**P**	**16 15 48.9**	**-0.1**
MORC	**Moravsky Berou**	**23.69**	**112**	P	**P**	**16 15 48.4**	**-0.6**
MORC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MORC	**Moravsky Berou**	**23.69**	**112**	P	**P**	**16 15 48.4**	**-0.6**
BNI	**Bardonecchia**	**23.78**	**134**	P	**P**	**16 15 51.4**	**+1.3**
BNI				pmax	pmax		
	comp=Z,12nm,1.3s						
BNI	**Bardonecchia**	**23.78**	**134**	P	**P**	**16 15 51.4**	**+1.3**
KRUC	**Moravsky**	**23.80**	**115**	*e*P	**P**	**16 15 49.9**	**-0.2**
OJC	**Ojcow**	**24.25**	**109**	*e*P	**P**	**16 15 54.2**	**-0.1**
ABTA	**Abfaltersbach**	**24.26**	**123**	*e*P	**P**	**16 15 57.1**	**+2.7**
	comp=Z,6.6nm,1.3s						
CONA	**Conrad Observa**	**24.52**	**117**	*e*P	**P**	**16 15 57.4**	**+0.5**
	comp=Z,7.8nm,1.0s						
CTI	**Castel Tesino**	**24.55**	**125**	P	**P**	**16 15 58.1**	**+0.9**
CTI				pmax	pmax		
	comp=Z,12nm,1.2s						
CTI	**Castel Tesino**	**24.55**	**125**	P	**P**	**16 15 58.1**	**+0.9**
ZOU	**Zoufplan**	**24.59**	**123**	P	**P**	**16 15 59.8**	**+2.2**
ZOU				IAmb	IAmb	16 16 26.6	
	comp=Z,22nm,1.5s						
CIMO	**Cimolais**	**24.61**	**124**	P	**P**	**16 15 58.2**	**+0.6**
CIMO				IAmb	IAmb	16 16 09.3	
	comp=Z,22nm,1.6s						
SMOL	**Smolenice**	**24.65**	**114**	*e*P	**P**	**16 15 58.5**	**+0.6**
SMOL	**Smolenice**	**24.65**	**114**	*e*P	**P**	**16 15 58.5**	**+0.6**
MODS	**Modra-Piesok**	**24.70**	**115**	*e*P	**P**	**16 15 59.0**	**+0.6**
MODS				pmax	pmax		
	comp=Z,13nm,1.3s						
MODS	**Modra-Piesok**	**24.70**	**115**	*e*P	**P**	**16 15 59.0**	**+0.6**
PRED	**Cave del Predi**	**24.90**	**122**	P	**P**	**16 16 00.8**	**+0.6**
PRED				IAmb	IAmb	16 16 03.5	
	comp=Z,18nm,1.4s						
ARSA	**Arzberg**	**24.95**	**118**	*e*P	**P**	**16 16 01.5**	**+0.9**
	comp=Z,3.2nm,0.8s						
LANS	**Liptovska Anna**	**24.95**	**111**	*e*P	**P**	**16 16 02.0**	**+1.3**
LANS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LANS	**Liptovska Anna**	**24.95**	**111**	*e*P	**P**	**16 16 02.0**	**+1.3**
NIE	**Niedzica**	**25.08**	**109**	*e*P	**P**	**16 16 01.6**	**-0.2**
OBKA	**Obir**	**25.21**	**121**	*e*P	**P**	**16 16 03.1**	**+0.1**
	comp=Z,6.4nm,1.2s						
VYHS	**Vyhne**	**25.22**	**112**	*e*P	**P**	**16 16 03.8**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,14nm,1.3s						
VYHS	**Vyhne**	**25.22**	**112**	*e*P	**P**	**16 16 03.8**	**+0.7**
SOKA	**Soboth**	**25.25**	**120**	*e*P	**P**	**16 16 03.2**	**-0.1**
	comp=Z,4.2nm,1.0s						
KLMR	**Klimovskoe**	**25.61**	**72**	*e*P	**P**	**16 16 05.3**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,22nm,1.5s						
KLMR	**Klimovskoe**	**25.61**	**72**	*e*P	**P**	**16 16 05.4**	**-1.0**
KLMR				AMP		16 16 08.7	
	comp=Z,22nm,1.5s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**16 16 09.5**	**+0.3**
KWP				pmax	pmax		
	comp=Z,18nm,0.9s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**16 16 09.5**	**+0.3**
KWP				IAmb	IAmb	16 16 15.7	
	comp=Z,18nm,0.9s						
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**16 16 10.5**	**0.0**
	comp=Z,13nm,1.0s,baz=43,slow=10,SNR=5.6						
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**16 16 10.6**	**+0.2**
SCHQ				IAmb	IAmb	16 16 12.9	
	comp=Z,16nm,1.1s						
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**16 16 11.5**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,12nm,1.2s						
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**16 16 11.5**	**+0.3**
PSZ				IAmb	IAmb	16 16 23.0	
	comp=Z,12nm,1.2s						
ESDC	**Sonseca Array**	**26.23**	**156**	P	**P**	**16 16 12.8**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=353,slow=9.7,SNR=9.9						
ESDC	**Sonseca Array**	**26.23**	**156**	IAmb	IAmb	16 16 17.5	
	comp=Z,18nm,1.4s						
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**	**16 16 12.7**	**+0.2**
KOLS				pmax	pmax		
	comp=Z,12nm,1.2s						
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**	**16 16 12.7**	**+0.2**
LVV	**L'vov**	**26.31**	**104**	*e*P	**P**	**16 16 12.9**	**0.0**
LVV				*e*S	**S**	**16 20 41.3**	**-4.0**
LVV				pmax	pmax		
	comp=Z,70nm,1.2s						
LVV				smax	smax		
	comp=N,40nm,1.5s						
RES	**Resolute Bay**	**26.48**	**324**	LR	LR	16 27 01.9	
	comp=N,66nm,18.3s,baz=77,slow=37						
UZH	**Uzhgorod**	**26.51**	**108**	*e*P	**P**	**16 16 12.7**	**-2.0**
UZH				*e*		16 16 20.4	
UZH				*i* S	**S**	**16 20 41.7**	**-6.8**
UZH				*i*		16 21 59.5	
OSSC	**Osservatorio P**	**26.62**	**129**	P	**P**	**16 16 18.1**	**+2.3**
OSSC				IAmb	IAmb	16 16 47.4	
	comp=Z,16nm,1.1s						
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**16 16 26.4**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=324,slow=9.6,SNR=5.0						
AKASG	**Malin Array Be**	**27.84**	**98**	*ce*P	**P**	**16 16 30.2**	**+3.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**16 16 25.1**	**-1.5**
AKBB	**Malin Array Si**	**27.84**	**98**	*ce*P	**P**	**16 16 26.6**	**0.0**
AKBB	**Malin Array Si**	**27.84**	**98**	P	**P**	**16 16 24.9**	**-1.7**
AKBB				IAmb	IAmb	16 16 32.7	
	comp=Z,12nm,1.4s						
OBN	**Obninsk**	**27.88**	**84**⇑	*e*P	**P**	**16 16 26.2**	**-0.7**
OBN				*e*		16 17 13.6	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,71nm,17.0s						
BURAR	**Bucovina Array**	**28.52**	**106**	P	**P**	**16 16 32.1**	**-0.8**
KIRV	**Kirov**	**30.98**	**69**	*ce*P	**P**	**16 16 54.5**	**+0.1**
CORL	**Corleone**	**32.37**	**131**	P	**P**	**16 17 08.3**	**+1.5**
ARU	**Arti**	**36.09**	**66**	P	**P**	**16 17 39.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=307,slow=10,SNR=3.1						
ARU	**Arti**	**36.09**	**66***d*	*i*P	**P**	**16 17

M54A Oil Creek Stat 41.68 267 P P 16 18 26.6 +0.7
ABKAR Akbulak array 41.99 73 P P 16 18 28.1 -0.2
ABKAR Akbulak array 41.99 73 P P 16 18 27.9 -0.4
TIXI Tiksi 42.05 15 *ce* P P 16 18 30.2 +1.7
TIXI pmax pmax
comp=Z,52nm,1.3s
TIXI Tiksi 42.05 15 P P 16 18 29.0 +0.6
TOLK Toolik Lake Re 42.77 336 P P 16 18 35.5 +1.1
BRVK Borovoye 43.14 62 *ce* P P 16 18 38.6 +1.1
BRVK pmax pmax
comp=Z,8.0nm,2.5s
BRVK Borovoye 43.14 62 P P 16 18 38.0 +0.4
G40A Rib Lake 43.16 280 P P 16 18 39.1 +1.3
BVAR Borovoye Array 43.20 62 P P 16 18 38.8 +0.7
comp=Z,1.5nm,0.9s,baz=259,slow=22,SNR=8.5
MARD Mardin 43.51 100 P P 16 18 40.9 +0.1
MARD IAmb IAmb 16 18 46.0
comp=Z,14nm,1.1s
FYU Fort Yukon 43.79 333 P P 16 18 43.9 +1.3
N49A Columbus Grove 44.11 271 P P 16 18 46.1 +0.7
ACSO Alum Creek Sta 44.16 269 P P 16 18 46.7 +0.8
ACSO IAmb IAmb 16 18 51.8
comp=Z,7.8nm,0.8s
EGAK Eagle 44.50 329 P P 16 18 48.8 +0.4
EGAK IAmb IAmb 16 18 49.9
comp=Z,6.6nm,1.1s
DAWY Dawson 44.72 328 P P 16 18 50.8 +0.6
IL31 45.70 332 P P 16 18 58.6 +0.8
IL31 IAmb IAmb 16 19 02.2
comp=Z,14nm,1.6s
ILAR Eielson Array 45.70 332 P P 16 18 58.9 +0.9
comp=Z,3.6nm,1.1s,baz=25,slow=6.2,SNR=21
ILAR PcP **PcP 16 20 35.6 +0.1**
comp=Z,1.4nm,1.0s,baz=1.6,slow=4.0,SNR=5.8
ILAR Eielson Array 45.70 332 P P 16 18 58.6 +0.7
ILAR **PcP 16 20 34.3 -1.2**
MDM Murphy Dome 45.80 333 P P 16 18 59.9 +1.2
MDM IAmb IAmb 16 19 02.5
comp=Z,12nm,1.2s
COLA College 45.80 333 *i* P P 16 18 58.6 0.0
COLA pmax pmax
comp=Z,14nm,1.3s
CCB Clear Creek Bu 46.00 333 P P 16 19 01.2 +1.0
CCB IAmb IAmb 16 19 02.3
comp=Z,12nm,1.6s
PAX Paxson 47.01 331 P P 16 19 09.2 +0.9
PAX pmax pmax
comp=Z,7.0nm,1.2s
PAX Paxson 47.01 331 P P 16 19 09.2 +0.9
PAX IAmb IAmb 16 19 10.9
comp=Z,6.6nm,1.2s
BPAW Bear Paw Mtn. 47.10 334 P P 16 19 09.9 +1.0
BPAW IAmb IAmb 16 19 11.1
comp=Z,7.1nm,1.1s
BILL Bilibino 47.57 358⇑ *eP* P 16 19 13.6 +1.1
BILL *e* 16 20 46.0
BILL *e* 16 21 08.0
BILL pmax pmax
comp=Z,11nm,1.4s
BILL MLR MLR
comp=Z,61nm,17.0s
ZAA0 Zalesovo Array 47.64 51 P P 16 19 12.7 -0.5
ZAA0 IAmb IAmb 16 19 15.7
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 47.64 51 *i* P P 16 19 13.5 +0.3
comp=Z,0.8nm,0.6s,baz=337,slow=7.1,SNR=6.9
ZALV Zalesovo Beam 47.64 51 *i* P P 16 19 13.6 +0.4
ZALV pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 48.12 58 *ce* P P 16 19 17.1 +0.2
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 48.12 58 P P 16 19 16.3 -0.7
KURK IAmb IAmb 16 19 17.8
comp=Z,6.3nm,0.9s
KURBB Kurchatov Arra 48.16 58 P P 16 19 17.3 0.0
comp=Z,3.4nm,0.7s,baz=323,slow=7.3,SNR=19
T47A Sharon Grove 48.64 270 P P 16 19 21.6 +0.4
SKT Skwentna 49.14 333 P P 16 19 24.8 +0.1
SKT IAmb IAmb 16 19 25.7
comp=Z,12nm,1.3s
W50A Signal Mountai 49.38 268 P P 16 19 28.1 +1.2
T42A Van Buren 50.32 274 IAmb IAmb 16 19 38.3
comp=Z,8.1nm,1.2s
KOWA Kowa 50.95 163 P P 16 19 39.2 +0.4
KOWA IAmb IAmb 16 19 41.5
comp=Z,23nm,1.8s
RLMT Red Lodge 51.10 295 IAmb IAmb 16 19 48.4
comp=Z,24nm,1.8s
KK31 Karatay Array 51.28 70 P P 16 19 41.7 +0.5
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KK31 Karatay Array 51.28 70 P P 16 19 41.7 +0.5
KKAR Karatay Array 51.28 70 P P 16 19 42.1 +0.9
KKAR pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 51.28 70 P P 16 19 42.1 +0.9
KKAR Karatay Array 51.28 70 P P 16 19 41.8 +0.7
BOZ Bozeman (W) 51.62 297 P P 16 19 44.4 +0.6
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 51.62 297 P P 16 19 44.4 +0.6
BOZ IAmb IAmb 16 19 46.9
comp=Z,8.2nm,1.1s
YMP Mirror Lake Pl 51.76 295 P P 16 19 46.3 +1.2
YHL Hebgen Lake 52.07 296 P P 16 19 48.0 +0.6
DGZ Jazzator, Alta 52.09 53 *i* P P 16 19 47.7 +0.4
DGZ pmax pmax
comp=Z,4.0nm,1.1s
H17A Grant Village 52.22 295 IAmb IAmb 16 19 53.3
comp=Z,11nm,1.2s
SEY Seymchan 52.50 6 *i* P P 16 19 50.8 +0.9
MAKZ Makanchi 52.60 59 P P 16 19 51.0 0.0
MAKZ pmax pmax
comp=Z,8.0nm,1.7s
MAKZ Makanchi 52.60 59 P P 16 19 51.0 0.0
MK31 Makanchi Array 52.73 58 *ce* P P 16 19 52.3 +0.4
MK31 Makanchi Array 52.73 58 P P 16 19 51.7 -0.2
MKAR Makanchi Array 52.73 58 P P 16 19 51.8 -0.1
comp=Z,1.8nm,0.9s,baz=324,slow=6.0,SNR=14
MKAR Makanchi Array 52.73 58 *ce* P P 16 19 52.0 +0.1
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MOOW Moose Ponds 52.83 295 P P 16 19 54.1 +1.2
LOHW Long Hollow 52.89 295 IAmb IAmb 16 20 10.1
comp=Z,13nm,1.7s
TOA0 Torodi Ar. Sit 53.12 156 P P 16 19 54.6 -0.4
TORD Torodi Ar. Bea 53.12 156 P P 16 19 54.5 -0.6
comp=Z,2.4nm,0.8s,baz=336,slow=7.5,SNR=12
TORD Torodi Ar. Bea 53.12 156 P P 16 19 54.5 -0.6
TPAW Teton Pass 53.12 295 P P 16 19 55.9 +0.7
TPAW IAmb IAmb 16 20 03.4
comp=Z,10nm,1.4s
BW06 Boulder Array 53.19 293 P P 16 19 55.5 -0.1
BW06 IAmb IAmb 16 19 57.6
comp=Z,16nm,1.4s
PD31 Pinedale Array 53.19 293 IAmb IAmb 16 19 57.6
comp=Z,13nm,1.4s
PDAR Pinedale Array 53.19 293 P P 16 19 55.3 -0.3
comp=Z,7.8nm,1.1s,baz=54,slow=6.3,SNR=17
BTK Batken 53.96 72 P P 16 20 01.8 +0.7
BTK pmax pmax
comp=Z,13nm,1.1s
BTK Batken 53.96 72 P P 16 20 01.8 +0.7
CHGR Chuyangaron 54.47 74 P P 16 20 05.2 +0.4
MOY Mondy 54.67 42 *eP* P 16 20 07.4 +1.2
MOY pmax pmax
comp=Z,15nm,1.4s
HWUT Hardware Ranch 54.96 294 IAmb IAmb 16 20 10.7
comp=Z,11nm,1.2s
TLY Talaya 55.41 40 *i* P P 16 20 11.5 +0.1
TLY pmax pmax
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 55.55 279 IAmb IAmb 16 20 15.8
comp=Z,6.7nm,1.1s
MTP Monte Pirata 56.47 238 P P 16 20 20.1 +0.8
ZAK Zakamensk 56.47 41 *eP* P 16 20 19.1 0.0
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 56.50 68 P P 16 20 21.3 +1.8
KSH S S **16 28 10.9 +0.3**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,92nm,3.8s
KSH LR LR
comp=N,60nm,6.3s
KSH LR LR
comp=E,110nm,6.7s
KSH LR LR
comp=Z,130nm,6.1s
PV23 Carpenter Ridg 56.63 290 IAmb IAmb 16 20 21.9
comp=Z,9.8nm,1.1s
PV14 Lion Creek, Pa 56.70 290 IAmb IAmb 16 20 22.5
comp=Z,8.6nm,1.1s
PV16 Nyswonger Mesa 56.72 290 IAmb IAmb 16 20 24.4
comp=Z,7.1nm,1.2s
PV01 Paradox Valley 56.73 289 IAmb IAmb 16 20 22.9
comp=Z,8.2nm,1.1s
PV02 Paradox Valley 56.73 290 IAmb IAmb 16 20 23.4
comp=Z,8.6nm,0.9s
PV03 Paradox Valley 56.74 290 IAmb IAmb 16 20 23.3
comp=Z,7.5nm,1.1s
PV17 East Wray Mesa 56.76 290 IAmb IAmb 16 20 23.0
comp=Z,7.8nm,1.1s
PV18 Skein Mesa, Pa 56.77 290 IAmb IAmb 16 20 23.0
comp=Z,11nm,1.1s
WMQ Urumqi 57.24 56 *eP* P 16 20 27.5 +2.9
WMQ pP sP 16 20 30.8 +1.0
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,55nm,5.1s
MVU Marysvale 57.87 293 P P 16 20 30.6 +1.3
DBIC Dimbokro 58.57 165 P P 16 20 34.0 -0.1
comp=Z,4.8nm,1.0s,baz=332,slow=4.3,SNR=3.1
DBIC Dimbokro 58.57 165 P P 16 20 34.0 -0.1
TIC Toumodi 58.58 165 *eP* P 16 20 33.7 -0.5
ANMO Albuquerque 58.60 286 *ce* P P 16 20 34.4 0.0
ANMO pmax pmax
comp=Z,4.0nm,1.7s
KIC Kosan Boka 58.89 165 *eP* P 16 20 35.1 -1.2
comp=Z,16nm,1.0s
LIC Lanto 58.99 166 *eP* P 16 20 32.6 -4.4
comp=Z,5.5nm,0.5s
BNM Barren Site 59.35 285 P P 16 20 40.4 +0.7
JCT Junction City 59.65 278 P P 16 20 42.7 +1.2
JCT pmax pmax
comp=Z,12nm,1.1s
JCT Junction City 59.65 278 P P 16 20 42.7 +1.2
SONM Songino Array 59.65 40 P P 16 20 41.7 +0.2
comp=Z,0.5nm,0.5s,baz=329,slow=7.9,SNR=5.4
SONM Songino Array 59.65 40 IAmb IAmb 16 20 42.7
comp=Z,1.7nm,1.1s
U15A North Rim 59.70 291 IAmb IAmb 16 20 43.7
comp=Z,5.1nm,1.1s
ULN Ulaanbaatar 59.81 40 *ce* P P 16 20 43.8 +1.3
ULN pmax pmax
comp=Z,4.0nm,1.7s
WUAZ Wupatki 60.12 290 P P 16 20 45.6 +0.8
WUAZ IAmb IAmb 16 20 47.2
comp=Z,5.1nm,0.9s
NVAR Mina Array Bea 60.31 297 P P 16 20 44.8 -1.4
comp=Z,0.9nm,0.9s,baz=50,slow=7.2,SNR=5.1
NIL Nilore 60.45 73 P P 16 20 47.5 +0.5
NIL pmax pmax
comp=Z,15nm,1.3s
NIL Nilore 60.45 73 P P 16 20 47.5 +0.5
MNTX Cornudas Mount 60.96 283 P P 16 20 51.4 +0.9
MNTX IAmb IAmb 16 20 52.7
comp=Z,4.3nm,1.2s
X16A Lo Mia Camp, P 61.10 290 IAmb IAmb 16 20 54.3
comp=Z,5.1nm,1.1s
OMMB Old Mammoth Mi 61.29 297 P P 16 20 54.3 +1.3
OMMB IAmb IAmb 16 20 57.1
comp=Z,5.7nm,1.3s
MDPB Devils Postpil 61.31 298 IAmb IAmb 16 20 56.9
comp=Z,4.5nm,1.1s
TXAR Lajitas Array 62.29 280 P P 16 20 59.4 -0.1
comp=Z,1.8nm,1.0s,baz=59,slow=4.8,SNR=10
GTA Gaotai 65.31 49 P P 16 21 19.8 +0.4
GTA pP pP 16 21 23.5 +0.5
GTA sP sP 16 21 25.8 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.4s
HHC Hu-ho-hao-te 67.53 40 *eP* P 16 21 34.6 +1.1
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,65nm,6.6s
LZH Lanzhou 69.64 48 *eP* P 16 21 46.8 0.0
LZH pP pP 16 21 49.5 -1.0
LZH sP sP 16 21 52.6 +0.8
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,89nm,4.8s
XAN Xi'an 73.10 44 P P 16 22 08.3 +0.7
XAN pP sP 16 22 15.8 +3.1
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN LR LR
comp=N,180nm,13.0s
NJ2 Nanjing 77.75 37 *eP* P 16 22 35.6 +1.3
NJ2 pmax pmax
comp=Z,13nm,0.5s
SAML Samuel 80.93 226 P P 16 22 52.0 +0.3
SAML pmax pmax
comp=Z,12nm,1.8s
SAML Samuel 80.93 226 P P 16 22 52.0 +0.3
SAML IAmb IAmb 16 23 02.3
comp=Z,12nm,1.8s
CHTO Chiang Mai 83.81 59 P P 16 23 06.7 -0.2
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO Chiang Mai 83.81 59 P P 16 23 06.7 -0.2
CHTO IAmb IAmb 16 23 07.6
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 84.14 59 P P 16 23 08.4 -0.2
comp=Z,1.1nm,0.9s,baz=321,slow=6.4,SNR=12
WRA Warramunga Arr 131.54 36 PKP PKPdf 16 29 49.5 -0.4
comp=Z,1.0nm,1.1s,baz=328,slow=2.3,SNR=4.1
ASAR Alice Springs 134.98 38 PKP PKPdf 16 29 56.4 +0.1
comp=Z,0.8nm,1.0s,baz=316,slow=3.5,SNR=4.3
SNAA Sanae 136.42 173 *c* i PKIKP **PKiKP 16 29 59.3 +0.1**
SNAA pmax pmax
comp=Z,5.0nm,1.7s

IDC 16 16:45:26.2±6.1, 7.97S×128.67E, h211km±65km, mb3.0/1, mb1 2.9/5, mb1mx2.7/53, mbtmpg3.4/5, Error ellipse: s-maj=64.5km s-min=22.2km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.42**	**245**	P	Pn	16 46 45.5	-0.7
	2.5nm,0.3s,baz=200,slow=4.0,SNR=5.1			S			
BATI				S		16 47 50.9	+1.5
	4.8nm,0.3s,baz=327,slow=23,SNR=15						
FITZ	**Fitzroy Crossi**	**10.49**	**196**	P	Pn	16 47 51.4	-0.2
	0.1nm,0.3s,baz=11,slow=11,SNR=11						
FITZ				S	S	16 49 48.0	-1.2
	0.4nm,0.3s,baz=139,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	**13.11**	**156**	P	Pn	16 48 24.2	-0.6
	0.1nm,0.3s,baz=328,slow=14,SNR=16						
WRA				S	S	16 50 45.8	-4.4
	0.3nm,0.3s,baz=336,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**16.39**	**163**	P	Pn	16 49 05.3	+0.5
	0.0nm,0.3s,baz=341,slow=9.8,SNR=5.3						
MKAR	**Makanchi Array**	**68.32**	**328**	P	P	16 56 04.6	0.0
	0.2nm,0.4s,baz=117,slow=6.5,SNR=4.9						

IDC ***16*** *16:45:28.8±0.7, 17.93N×81.70W, h0km, mb4.1/12, mb1 4.3/16, mb1mx4.0/43, mbtmpg4.1/16, ML3.9/4, MS3.6/23, Ms1 3.6/23, ms1mx3.5/37, Error ellipse: s-maj=20.4km s-min=15.7km az=43.0*

NEIC ***16*** *16:45:32.7±1.9, 18.00N×0.06×81.75W×0.06, h25km±5km, mb4.6/94, Error ellipse: s-maj=9.3km s-min=8.3km az=146.0*

JSN ***16*** *16:46:21.7±0.4, 18.17N×77.92W, h19km±5km*

ISC 16 16:45:31.9±0.5, 18.02N±0.06×81.78W±0.06, h21km, n150, σ1.24/130, mb4.5/31, MS3.5/16, 1C-1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSCY	**Frank Sound, G**	**1.40**	**24**	Pn	**Pn**	**16 45 54.0**	**-2.3**
LCCY	**Blossom Villag**	**2.29**	**44**	Pn	**Pn**	**16 46 06.1**	**-2.5**
CBCY	**The Bluff, Cay**	**2.56**	**48**	Pn	**Pn**	**16 46 09.6**	**-2.7**

MCJ Malvern 3.90 91 *i* P **Pn 16 46 28.4 -2.2**
MTDJ Mount Denham 4.04 86 Pn Pn 16 46 29.8 -2.9
BBJ Bamboo Saint A 4.30 85⇓ *i* P **Pn 16 46 33.8 -2.5**
BNJ Bonny Gate 4.60 86 *i* P **Pn 16 46 38.2 -2.2**
STH Stony Hill 4.73 89⇑ *i* P **Pn 16 46 40.4 -1.7**
CMJ Castle Mountai 5.14 88 *i* P **Pn 16 46 46.0 -1.8**
ESPN Las Esperanzas 6.28 203 Pn 16 47 03.7 +0.2
MATN Matagalpa 6.45 219 Pn Pn 16 47 05.7 -0.1
TEIG Tepich 6.52 291 Pn Pn 16 47 05.9 -0.8
23nm,0.3s,baz=76,slow=2.7,SNR=47
TEIG Sn **Sn 16 48 16.3 -4.3**
5.4nm,0.3s,baz=336,slow=24,SNR=6.3
TEIG LR LR 16 49 26.8
comp=Z,1μm,20.9s,baz=120,slow=36
GTBY Guantanamo Bay 6.59 72 Pn Pn 16 47 06.2 -1.4
TGUH Tegucigalpa,Un 6.59 234 Pn Pn 16 47 07.3 -0.5
ACON Acoyapa 6.86 209 Pn 16 47 11.1 -0.2
061Z Ochoppi 7.85 6 Pn Pn 16 47 26.1 +1.3
ESQI Esquipulas 8.04 246 Pn Pn 16 47 28.3 +0.7
MTO3 Montecristo 8.12 245 Pn 16 47 27.9 -1.0
JTS Las Juntas de 8.28 202 LR LR 16 50 49.8
comp=Z,600nm,18.1s,baz=93,slow=39
JTS Las Juntas de 8.28 202 Pn Pn 16 47 34.0 +3.1
LGNH Logne 8.73 85 Pn Pn 16 47 36.1 -0.9
APG El Apazote 8.85 251 Pn Pn 16 47 39.3 +0.3
0.9nm,0.3s,baz=292,slow=24,SNR=6.9
APG LR LR 16 50 48.5
comp=Z,307nm,19.7s,baz=98,slow=36
SDDR Presa de Saban 10.00 83 Pn Pn 16 47 54.5 0.0
CCIG Comitan 10.05 262 Pn Pn 16 47 55.6 +0.2
SC01 Santiago de lo 10.56 81 Pn 16 48 02.9 +0.7
BANI BANI 10.86 86 Pn Pn 16 48 09.3 +2.9
DR12 Loma Pena Alta 11.79 84 Pn 16 48 20.4 +1.3
CMIG Matias Romero 12.53 268 Pn Pn 16 48 28.6 -0.6
0.8nm,0.3s,baz=88,slow=9.4,SNR=5.4
CMIG LR LR 16 53 06.4
comp=Z,452nm,21.6s,baz=70,slow=36
SDV Santo Domingo 14.13 129 LR LR 16 55 20.1
comp=Z,265nm,18.2s,baz=271,slow=42
SJG San Juan 14.86 87 LR LR 16 54 26.9
comp=Z,411nm,21.5s,baz=272,slow=36
ROSC El Rosal 14.99 150 LR LR 16 55 03.3
comp=Z,269nm,19.8s,baz=310,slow=39
Z51A Franklin 15.53 349 P P 16 49 15.8 +1.9
Z51A IAmb IAmb 16 49 49.6
comp=Z,27nm,0.7s
TLIG Tlapa 16.00 271 Pn Pn 16 49 16.0 +0.1
TLIG IAmb IAmb 16 49 25.4
comp=Z,60nm,1.6s
X51A Calhoun 16.70 351 P 16 49 27.9 +1.0
X51A IAmb IAmb 16 49 54.6
comp=Z,32nm,0.9s
PAULI Pauline 16.73 360 P P 16 49 27.8 +0.6
FPAL Fort Paine 16.80 349 P P 16 49 28.1 0.0
FPAL IAmb IAmb 16 49 40.0
comp=Z,45nm,1.2s
BG3 Lake Jocassee 16.93 357 P P 16 49 28.9 -0.6
X48A Hartselle 17.02 345 P P 16 49 29.8 -0.7
KMSC Kings Mountain 17.06 1 P P 16 49 30.4 -0.4
W50A Signal Mountai 17.40 350 P P 16 49 35.1 +0.5
W50A IAmb IAmb 16 49 44.9
comp=Z,53nm,1.3s
HKT Hockley 17.47 315 P Pn 16 49 33.8 -0.5
SWET Sewanee 17.52 349 P P 16 49 36.2 +0.2
CPCT Cooper Cave 17.53 353 P P 16 49 37.1 +1.1
V53A Saluda 17.60 357 P P 16 49 37.1 +0.2
V53A IAmb IAmb 16 49 49.4
comp=Z,36nm,1.1s
TKL Tuckaleechee C 17.66 355 Pn P 16 49 39.5 +2.0
comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=3.9
TKL LR LR 16 56 18.5
comp=Z,121nm,21.0s,baz=172,slow=37
TKL Tuckaleechee C 17.66 355 P P 16 49 38.2 +0.7
TKL IAmb IAmb 16 49 49.2
comp=Z,42nm,1.2s
V52A Sevierville 17.82 355 P Pn 16 49 38.7 0.0
V52A IAmb IAmb 16 49 49.5
comp=Z,88nm,1.8s
U54A Nelsons Funny 18.43 360 P Pn 16 49 47.4 +1.2
CLTN Cedars of Leba 18.44 348 P Pn 16 49 47.7 +1.4
TZTN Tazewell 18.52 356 P Pn 16 49 48.6 +1.4
TZTN IAmb IAmb 16 50 00.0
comp=Z,40nm,1.2s
WLAR White Oak Lake 18.61 329 P Pn 16 49 49.0 +0.6
WLAR IAmb IAmb 16 49 59.8
comp=Z,42nm,1.0s
WVT Waverly 18.82 345 Pn 16 49 50.6 -0.2
T50A Nancy 19.12 353 P Pn 16 49 54.1 -0.4
T50A IAmb IAmb 16 50 06.5
comp=Z,60nm,1.6s
X40A Basin Creek Fa 19.14 331 P P 16 49 53.6 -0.2
833A Chaparral WMA, 19.14 306 P Pn 16 49 54.5 -0.4
833A IAmb IAmb 16 50 06.2
comp=Z,26nm,1.1s
W41B Gary Mavity, V 19.45 333 P Pn 16 49 58.7 +0.2
W41B IAmb IAmb 16 50 14.1
comp=Z,47nm,1.7s
T47A Sharon Grove 19.47 347 P Pn 16 49 58.3 -0.4
MIAR Mount Ida 19.53 330 Pn 16 49 59.7 +0.2
WHAR Wooly Hollow 19.57 334 P Pn 16 50 00.0 +0.1
WHAR IAmb IAmb 16 50 26.2
comp=Z,58nm,1.6s
S51A Beattyville 19.61 356 P P 16 49 58.7 -0.2
S51A IAmb IAmb 16 50 09.2
comp=Z,52nm,1.6s
LCAR Lake Charles 19.80 337 Pn 16 50 02.6 0.0
S57A Dark Hollow, R 19.82 7 P Pn 16 50 03.7 +0.9
S57A IAmb IAmb 16 50 13.4
comp=Z,44nm,1.6s
WHTX Lake Whitney, 19.85 317 Pn 16 50 03.8 +0.5
FCAR Ozark Folk Cen 20.02 335 P P 16 50 00.2 -3.2
FCAR IAmb IAmb 16 50 11.2
comp=Z,33nm,1.3s
ZAIG Zacatecas 20.04 287 P Pn 16 50 06.0 +0.1
ZAIG IAmb IAmb 16 50 17.9
comp=Z,48nm,1.8s
FDF Fort de France 20.06 96 P P 16 50 02.4 -1.6
FDF IAmb IAmb 16 50 14.7
comp=Z,46nm,1.2s
PBMO Poplar Bluff 20.18 340 Pn 16 50 06.7 -0.5
R53A Hurricane 20.23 360 P P 16 50 06.0 +0.3
R53A IAmb IAmb 16 50 18.1
comp=Z,54nm,1.6s
R50A Paris 20.31 354 P Pn 16 50 07.6 -1.0
R50A IAmb IAmb 16 50 20.1
comp=Z,31nm,1.4s
R49A Shelbyville 20.41 352 P Pn 16 50 08.8 -1.1
R49A IAmb IAmb 16 50 23.6
comp=Z,32nm,1.3s
WCI Wyandotte Cave 20.52 350 P Pn 16 50 10.3 -0.7
USIN University of 20.53 347 P Pn 16 50 10.1 -1.1
JCT Junction City 20.55 310 P Pn 16 50 10.6 -1.0
JCT IAmb IAmb 16 50 20.2
comp=Z,36nm,1.3s
T42A Van Buren 20.64 338 P P 16 50 10.8 +0.7
T42A IAmb IAmb 16 50 22.9
comp=Z,25nm,1.1s
S44A Carbondale 20.67 343 P P 16 50 10.9 +0.5
S44A IAmb IAmb 16 50 24.4
comp=Z,22nm,1.1s
U40A Yellville 20.72 334 P P 16 50 10.8 -0.2
U40A IAmb IAmb 16 50 58.0
comp=Z,19nm,0.6s
Q51A Peebles 20.97 357 P Pn 16 50 15.3 -1.1
HHAR Hobbs 21.13 332 P P 16 50 17.2 +1.8
MGMO Mountain Grove 21.18 336 P P 16 50 18.0 +2.0
MGMO IAmb IAmb 16 50 22.5
comp=Z,27nm,1.0s
FVM French Village 21.28 341 P P 16 50 17.1 0.0
FVM IAmb IAmb 16 50 23.7
comp=Z,19nm,0.9s
OLIL Olney 21.36 346 P P 16 50 18.4 +0.5
P53A Whipple 21.39 1 P P 16 50 19.8 +1.5
P52A Corning 21.54 359 P P 16 50 20.5 +0.7
P48A Milroy 21.60 352 P P 16 50 21.1 +0.7
CCM Cathedral Cave 21.61 339 P P 16 50 21.5 +0.9
CCM IAmb IAmb 16 50 26.3
comp=Z,17nm,1.1s
Q44A Meyer Farm, Va 21.74 345 P P 16 50 22.2 +0.3
Q44A IAmb IAmb 16 50 36.5
comp=Z,40nm,1.1s
S39A Bolivar 22.06 335 P P 16 50 26.3 +0.9
S39A IAmb IAmb 16 50 30.7
comp=Z,23nm,1.2s

O53A	New Philadelph	22.16	1	P	P	16 50 26.6	+0.1
R40A	Maddies Statio	22.18	338	P	P	16 50 26.2	-0.5
R40A				IAmb	IAmb	16 50 40.0	
	comp=Z,19nm,0.8s						
BCOK	Bluff Creek, N	22.48	324		P	16 50 32.1	+2.1
P43A	Skaggs, Pawnee	22.57	344	P	P	16 50 30.2	-0.6
TX32	Lajitas Array	22.95	303	P	P	16 50 35.4	+0.3
TX32				IAmb	IAmb	16 50 48.0	
	comp=Z,12nm,0.9s						
TXAR	Lajitas Array	22.95	303	P	P	16 50 37.1	+2.1
	comp=Z,5.2nm,0.9s,baz=115,slow=8.4,SNR=11						
TXAR				LR	LR	17 01 14.2	
	comp=Z,103nm,18.8s,baz=0.0,slow=41						
TXAR	Lajitas Array	22.95	303	P	P	16 50 35.4	+0.3
TX31	Lajitas Ar. Si	22.95	303	P	P	16 50 35.1	0.0
P38A	Dawn	23.82	337	P	P	16 50 44.4	+0.9
AMTX	Amarillo	24.41	317	P	P	16 50 50.0	+0.9
AMTX				IAmb	IAmb	16 51 10.9	
	comp=Z,21nm,0.9s						
MSTX	Muleshoe	24.59	314	P	P	16 50 51.8	+1.0
MSTX				IAmb	IAmb	16 51 02.2	
	comp=Z,23nm,1.1s						
ATAH	Atahualpa	25.22	172	LR	LR	17 01 45.3	
	comp=Z,47nm,21.6s,baz=22,slow=39						
L40A	Anamosa	25.28	343	P	P	16 50 57.7	+0.8
SADO	Sadowa	26.76	4	LR	LR	17 02 55.1	
	comp=Z,94nm,18.4s,baz=209,slow=39						
LPIG	La Paz	27.27	288	LR	LR	17 02 24.5	
	comp=Z,142nm,18.6s,baz=88,slow=37						
ANMO	Albuquerque	27.67	312	LR	LR	17 03 34.6	
	comp=Z,6.3nm,19.3s,baz=110,slow=39						
SDCO	Great Sand Dun	28.59	318	P	P	16 51 29.5	+2.5
F36A	Milaca	29.43	343	P	P	16 51 34.3	+0.3
F62A	Pittston Farm,	29.48	17	P	P	16 51 34.1	-0.3
WUAZ	Wupatki	31.48	310	P	P	16 51 52.8	+0.3
WUAZ				IAmb	IAmb	16 52 03.0	
	comp=Z,10.0nm,0.9s						
E28A	Huff	32.48	335	P	P	16 52 00.5	-0.5
SAML	Samuel	32.49	144	P	P	16 52 00.6	-0.7
SRU	San Rafael Swe	32.62	316	P	P	16 52 01.9	-0.5
ULM	Lac du Bonnet	34.08	344	P	P	16 52 15.0	+0.2
	comp=Z,5.5nm,0.8s,baz=187,slow=3.2,SNR=4.4						
ULM	Lac du Bonnet	34.08	344	P	P	16 52 14.9	+0.1
PD31	Pinedale Array	34.11	322	P	P	16 52 15.2	-0.3
PDAR	Pinedale Array	34.11	322	P	P	16 52 16.3	+0.8
	comp=Z,1.5nm,0.9s,baz=120,slow=13,SNR=5.2						
PDAR				LR	LR	17 08 33.4	
	comp=Z,71nm,19.1s,baz=131,slow=40						
PDAR	Pinedale Array	34.11	322	P	P	16 52 16.2	+0.7
PSUT	Pine Spring	34.60	313	P	P	16 52 17.3	-2.5
LPAZ	La Paz	36.65	158	P	P	16 52 37.6	-0.3
	comp=Z,0.8nm,0.6s,baz=351,slow=6.5,SNR=4.3						
LPAZ				LR	LR	17 11 12.2	
	comp=Z,52nm,18.1s,baz=316,slow=42						
BOZ	Bozeman (W)	37.02	325	P	P	16 52 41.6	+1.2
BOZ				IAmb	IAmb	16 52 43.5	
	comp=Z,13nm,1.8s						
NVAR	Mina Array Bea	37.73	310	P	P	16 52 49.3	+2.8
	comp=Z,0.3nm,0.5s,baz=122,slow=8.6,SNR=2.2						
NVAR				LR	LR	17 08 45.9	
	comp=Z,48nm,22.0s,baz=112,slow=37						
NVAR	Mina Array Bea	37.73	310	P	P	16 52 47.7	+1.2
PB16	IPOC Station P	38.09	161	P	P	16 52 50.4	+0.3
PB12	IPOC Station P	38.11	162	P	P	16 52 49.6	0.0
PB12				IAmb	IAmb	16 52 52.4	
	comp=Z,13nm,0.9s						
SCHQ	Scheffer ville	38.49	14	P	P	16 52 53.7	+1.3
	comp=Z,5.6nm,0.7s,baz=232,slow=7.6,SNR=4.7						
SCHQ				LR	LR	17 08 10.7	
	comp=Z,112nm,18.8s,baz=272,slow=35						
PSGCX	Pisagua	39.10	162	P	P	16 52 58.4	+0.4
PSGCX				IAmb	IAmb	16 52 59.4	
	comp=Z,8.8nm,0.9s						
PB11	IPOC Station P	39.39	162	P	P	16 53 00.7	+0.2
PB11				IAmb	IAmb	16 53 10.9	
	comp=Z,21nm,1.1s						
GO01	Chusmiza	39.44	161	P	P	16 53 02.4	+1.1
SIV	San Ignacio	39.48	148	P	P	16 53 00.0	-1.1
	comp=Z,11nm,0.8s,baz=343,slow=8.1,SNR=30						
PB08	IPOC Station P	39.90	161	IAmb	IAmb	16 53 07.3	
	comp=Z,22nm,1.1s						
PB01	IPOC Station P	40.65	162	P	P	16 53 10.9	0.0
PB01				IAmb	IAmb	16 53 12.7	
	comp=Z,12nm,0.9s						
PB09	IPOC Station P	41.43	162	P	P	16 53 16.6	-0.9
PB09				IAmb	IAmb	16 53 19.2	
	comp=Z,14nm,1.0s						
LVC	Limon Verde	42.30	162	P	P	16 53 25.0	+0.3
LVC				IAmb	IAmb	16 53 27.1	
	comp=Z,11nm,0.9s						
CPUP	Villa Florida	50.08	151	LR	LR	17 18 23.7	
	comp=Z,48nm,18.9s,baz=35,slow=40						
SFJD	Kangerlussuaq	52.93	15	LR	LR	17 17 57.0	
	comp=Z,84nm,18.2s,baz=208,slow=37						
ILAR	Eielson Array	63.29	334	P	P	16 55 59.3	+0.4
	comp=Z,0.6nm,0.8s,baz=90,slow=6.4,SNR=5.3						
ILAR				LR	LR	17 24 08.1	
	comp=Z,49nm,18.4s,baz=134,slow=37						
RND	Reindeer	63.80	332	P	P	16 56 02.6	+0.2
TRF	Thorofare Moun	64.45	332	P	P	16 56 07.4	+0.6
BPAW	Bear Paw Mtn.	64.87	333	P	P	16 56 09.3	-0.1
BPAW				IAmb	IAmb	16 56 33.8	
	comp=Z,12nm,1.5s						
ESDC	Sonseca Array	69.48	54	P	P	16 56 39.8	+0.7
	comp=Z,3.3nm,0.9s,baz=287,slow=5.9,SNR=10						
ESDC				LR	LR	17 22 39.7	
	comp=Z,58nm,19.0s,baz=185,slow=32						
ESDC	Sonseca Array	69.48	54	P	P	16 56 40.3	+1.2
DBIC	Dimbokro	75.56	88	LR	LR	17 25 42.9	
	comp=Z,37nm,21.4s,baz=296,slow=32						
NOA	NORSAR Array B	75.85	30	LR	LR	17 26 42.9	
	comp=Z,35nm,20.7s,baz=340,slow=33						
ARCES	ARCESS Array B	79.14	20	P	P	16 57 35.0	+0.3
	comp=Z,0.9nm,0.6s,baz=297,slow=4.0,SNR=4.4						
TORD	Torodi Ar. Bea	79.93	79	P	P	16 57 39.7	-0.3
	comp=Z,1.1nm,0.8s,baz=300,slow=3.9,SNR=6.3						
TORD				LR	LR	17 32 08.3	
	comp=Z,75nm,18.7s,baz=330,slow=35						
TORD	Torodi Ar. Bea	79.93	79	P	P	16 57 39.0	-1.1
FINES	FINESS Array B	82.56	27	P	P	16 57 53.5	+0.3
	comp=Z,1.0nm,0.6s,baz=294,slow=6.1,SNR=3.6						
LZH	Lanzhou	125.92	354	*e*PKP	PKPdf	17 04 30.3	-2.8
LZH				pPKP	sPKPdf	17 04 41.9	+1.2
LZH				sPKP		17 04 45.8	
CMAR	Chiang Mai Arr	143.74	359	PKP	PKPdf	17 05 05.5	-0.9
	comp=Z,0.4nm,0.3s,baz=344,slow=3.0,SNR=4.8						
WRA	Warramunga Arr	145.83	261	PKPbc	PKPbc	17 05 10.5	0.0
	comp=Z,1.6nm,0.8s,baz=88,slow=3.7,SNR=19						
ASAR	Alice Springs	146.24	254	PKPbc	PKPdf	17 05 10.7	+0.1
	comp=Z,5.4nm,0.9s,baz=96,slow=3.6,SNR=26						
ASAR	Alice Springs	146.24	254		PKPdf	17 05 10.6	0.0

NEIC ***16*** *16:53:17.2±1.9,31.°62S±0.°06×179.°6W±0.°2, h188km±9km, mb4.4/15, Error ellipse: s-maj=21.9km s-min=5.6km az=108.0*

IDC ***16*** *16:53:19.1±9.5,31.°84S×179.°39W, h219km±98km, mb3.7/3, mb1 3.8/4, mb1mx3.4/29, mbtmp4.2/4, Error ellipse: s-maj=95.7km s-min=38.4km az=179.0*

WEL ***16*** *16:53:22.0±0.6,32.°3S×17.°9W±2.°2, h128km±20km, M4.2/26, mB4.7/12, ML4.5/6, MLv4.8/26, Mw(mB)3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6*

ISC 16 16:53:18.7±0.7,31.°69S±0.°06×179.°6W±0.°1, h200km, n92, σ2ᵎ11/105, mb4.1/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	2.82	31	P	Pn	16 54 05.2	-1.0
GLKZ				S	Sn	16 54 41.8	-1.6
MXZ	Matakaoa Point	6.11	196	P	Pn	16 54 53.3	+6.0
MXZ				S	Sn	16 55 57.0	-0.4
MXZ	Matakaoa Point	6.11	196	Pn	Pn	16 54 50.1	+2.9
WMGZ	Waiomatatini S	6.33	194	P	Pn	16 54 54.4	+4.2
WMGZ				S	Sn	16 56 01.5	-1.2
HAZ	Te Kaha	6.42	199	P	Pn	16 54 53.2	+1.9
HAZ				S	Sn	16 56 05.2	+0.4
PUZ	Puketiti	6.61	195	P	Pn	16 54 54.1	+0.3
PUZ				S	Sn	16 56 09.6	+0.5
RUGZ	Raukumara Rang	6.65	199	P	Pn	16 54 56.0	+1.6
RUGZ				S	Sn	16 56 06.2	-4.1
OUZ	Omahuta	6.69	236	Pn	Pn	16 54 56.3	+1.4
TWGZ	Tauwhareparae	6.77	196	P	Pn	16 54 58.2	+2.2
TWGZ				S	Sn	16 56 14.7	+1.6
CNGZ	Carnagh Station	7.01	194	P	Pn	16 54 59.6	+0.6
MWZ	Matawai	7.04	199	P	Pn	16 55 00.0	+0.7
MWZ				S	Sn	16 56 15.9	-3.4
TKGZ	Te Karaka	7.05	197	P	Pn	16 54 59.3	-0.2
TKGZ				S	Sn	16 56 19.5	-0.1
URZ	Urewera	7.09	202	P	Pn	16 55 00.7	+0.7
	3.0nm,0.3s,baz=272,slow=4.9,SNR=17						
URZ				S	Sn	16 56 18.3	-2.2
	8.6nm,0.3s,baz=212,slow=23,SNR=14						
URZ	Urewera	7.09	202	P	Pn	16 55 02.6	+2.6
URZ				S	Sn	16 56 16.6	-3.9
URZ	Urewera	7.09	202		Sn	16 56 19.4	-1.0
RIGZ	Rimuhau	7.33	196	P	Pn	16 55 05.2	+2.0
RIGZ				S	Sn	16 56 20.6	-5.6
MUGZ	Murupara	7.40	203	P	Pn	16 55 08.9	+4.9
MUGZ				S	Sn	16 56 25.2	-2.6
PRGZ	Paritu Road	7.50	195	P	Pn	16 55 10.7	+5.2
SNGZ	Shannon Statio	7.51	199	P	Pn	16 55 07.4	+1.9
SNGZ				S	Sn	16 56 29.3	-1.1
KNZ	Kokohu	7.65	196	P	Pn	16 55 09.9	+2.7
KNZ				S	Sn	16 56 29.7	-4.0
MTHZ	Maungataniwha	7.72	201	P	Pn	16 55 12.1	+3.9
MTHZ				S	Sn	16 56 35.0	-0.4
MHGZ	Mahia Peninsul	7.72	195	P	Pn	16 55 12.2	+4.0
MHGZ				S	Sn	16 56 31.4	-4.0
NMHZ	Naumai	7.95	201	P	Pn	16 55 15.6	+4.3
ARHZ	Aropaoanui	8.05	199	P	Pn	16 55 13.8	+1.2
ARHZ				S	Sn	16 56 41.4	-1.8
BKZ	Black Stump Fm	8.11	202	P	Pn	16 55 14.3	+0.9
BKZ				S	Sn	16 56 42.7	-2.1
BKZ	Black Stump Fm	8.11	202	Pn	Pn	16 55 12.6	-0.7
HIZ	Hauiti	8.18	212	P	Pn	16 55 21.5	+7.3
TMVZ	Te Maari	8.34	206	P	Pn	16 55 20.2	+3.7
KRVZ	Karewarewa	8.35	206	P	Pn	16 55 20.5	+4.0
ETVZ	East Tongariro	8.36	206	P	Pn	16 55 20.2	+3.6
KWHZ	Kaweka Forest	8.37	202	P	Pn	16 55 18.4	+1.7
WTVZ	West Tongariro	8.38	207	P	Pn	16 55 21.1	+4.1
OTVZ	Oturere	8.40	206	P	Pn	16 55 20.2	+3.0
TWVZ	Taurewa	8.40	207	P	Pn	16 55 20.9	+3.7
FWVZ	Far West T-bar	8.52	206	P	Pn	16 55 22.1	+3.2
BHHZ	Black Hill Sta	8.55	203	P	Pn	16 55 20.5	+1.5
WNVZ	Wahianoa	8.57	206	P	Pn	16 55 22.1	+2.7
KAHZ	Kahuranaki	8.58	199	P	Pn	16 55 18.6	-0.9
KRHZ	Kereru	8.59	201	P	Pn	16 55 21.7	+2.2
VRZ	Vera Road	8.73	210	P	Pn	16 55 25.6	+4.2
PXZ	Pawanui	8.80	198	P	Pn	16 55 23.3	+1.0
PNHZ	Pukenui	8.89	201	P	Pn	16 55 24.9	+1.5
PRHZ	Porangahau	9.09	199	P	Pn	16 55 26.2	+0.2
TSZ	Takapari Road	9.09	202	P	Pn	16 55 25.5	-0.6
NEZ	North Egmont	9.14	212	P	Pn	16 55 33.1	+6.2
WAZ	Wanganui	9.17	207	P	Pn	16 55 30.1	+3.0
DVHZ	Dannevirke	9.25	201	P	Pn	16 55 28.8	+0.6
ANWZ	Angora Road	9.31	199	P	Pn	16 55 31.0	+2.2
POWZ	Post Office Ro	9.46	202	P	Pn	16 55 32.3	+1.5
PRWZ	Pori Road	9.54	201	P	Pn	16 55 32.5	+0.5
BFZ	Birch Farm	9.58	199	Pn	Pn	16 55 32.5	+0.1
CPWZ	Castlepoint	9.80	199	P	Pn	16 55 37.5	+2.2
MSWZ	Moikau Station	10.55	202	Pn	Pn	16 55 43.5	-1.5
SNZO	South Karori	10.64	204	Pn	Pn	16 55 44.6	-1.4
BHW	Baring Head	10.67	203	Pn	Pn	16 55 44.4	-2.0
PLWZ	Palliser	10.69	201	Pn	Pn	16 55 46.2	-0.6
TUWZ	Tuamarina	11.02	206	Pn	Pn	16 55 49.0	-1.9
NNZ	Nelson	11.06	209	Pn	Pn	16 55 51.2	-0.2
QRZ	Quartz Range	11.11	213	Pn	Pn	16 55 53.0	+0.9
BSWZ	Blackbirch Sta	11.29	206	Pn	Pn	16 55 53.1	-1.3
THZ	Tophouse	11.71	209	Pn	Pn	16 55 59.3	-0.6
KHZ	Kahutara	12.02	205	Pn	Pn	16 56 02.4	-1.3
LTZ	Lake Taylor	12.82	208	Pn	Pn	16 56 13.3	-0.5
OXZ	Oxford	13.37	207	Pn	Pn	16 56 18.3	-2.4
MQZ	McQueen's Vall	13.46	205	Pn	Pn	16 56 19.8	-2.0
MSVF	Nonsavu	14.06	351		Pn	16 56 29.3	-0.3
RPZ	Rata Peaks	14.09	209	Pn	Pn	16 56 29.1	-0.5
ODZ	Otahua Downs	15.36	207		P	16 56 44.8	-0.6
ODZ				IAmb	IAmb	16 56 50.0	
	comp=Z,63nm,1.8s						
WKZ	Wanaka	15.85	211	P	P	16 56 49.3	-1.6
STKA	Stephens Creek	32.87	259	P	P	16 59 35.5	+1.7
	comp=Z,1.2nm,0.5s,baz=100,slow=12,SNR=3.7						
STKA	Stephens Creek	32.87	259	P	P	16 59 34.4	+0.6
BBOO	Buckleboo	37.32	256	P	P	17 00 12.0	+0.2
AS31	Alice Springs	41.70	269	P	P	17 00 48.0	-0.1
ASAR	Alice Springs	41.70	269	P	P	17 00 47.8	-0.3
	comp=Z,2.0nm,0.5s,baz=107,slow=7.3,SNR=72						
ASAR	Alice Springs	41.70	269	P	P	17 00 47.3	-0.8
WR0	Warramunga Arr	42.62	275	P	P	17 00 55.0	-0.6
WR0				IAmb	IAmb	17 02 04.6	
	comp=Z,13nm,1.6s						
WB2	Warramunga Arr	42.79	274	P	P	17 00 56.5	-0.5
WRA	Warramunga Arr	42.80	274	P	P	17 00 56.5	-0.6
	comp=Z,2.1nm,0.3s,baz=111,slow=8.1,SNR=88						
WRA	Warramunga Arr	42.80	274	IAmb	IAmb	17 00 57.1	
	comp=Z,0.3nm,0.6s						
WB0	Warramunga Arr	42.83	275	P	P	17 00 56.8	-0.5
WB0				IAmb	IAmb	17 00 57.4	
	comp=Z,5.1nm,0.6s						
KNRA	Kununurra	49.46	276	P	P	17 01 48.5	-0.4
KNRA				IAmb	IAmb	17 03 02.2	
	comp=Z,31nm,1.6s						
FITZ	Fitzroy Crossi	51.01	272	P	P	17 02 00.3	-0.2
FITZ				IAmb	IAmb	17 02 16.9	
	comp=Z,7.3nm,1.4s						
HUH	Hualalai	55.94	27	P	P	17 02 35.8	-0.7
QSPA	South Pole Qui	58.42	180	P	P	17 02 55.8	+2.6
QSPA				IAmb	IAmb	17 02 56.4	
	comp=Z,7.4nm,0.7s						
BELA	Belgrano 2	68.69	173	P	P	17 04 01.1	+1.1
SNAA	Sanae	76.90	179	P	P	17 04 49.4	+1.0
SNAA	Sanae	76.90	179	P	P	17 04 49.1	+0.7
SNAA				IAmb	IAmb	17 04 49.9	
	comp=Z,3.9nm,0.9s						
VNA3	Neumayer Olymp	77.11	177	P	P	17 04 50.3	+0.8
VNA2	Neumayer--Watz	77.52	177	P	P	17 04 52.9	+1.0
	baz=175,slow=5.1						
VNA1	Neumayer--Stat	77.76	177	P	P	17 04 54.4	+1.3
FINES	FINESS Array B	145.86	338	PKPbc	PKPdf	17 12 31.6	-1.1
	comp=Z,1.4nm,0.5s,baz=60,slow=4.2,SNR=11						
CLL	Collm	158.31	338	*e*PKPab	PKPab	17 13 27.0	+0.3

IDC ***16*** *17:01:43.1±6.5,20.°44S×177.°81W, h503km±77km, mb3.5/12, mb1 3.7/13, mb1mx3.4/33, mbtmp4.3/13, Error ellipse: s-maj=32.5km s-min=22.6km az=1.0*

NEIC ***16*** *17:01:46.5±0.7,20.°4S±0.°1×177.°9W±0.°2, h546km±9km, mb4.2/15, Error ellipse: s-maj=23.6km s-min=12.3km az=114.0*

ISC 16 17:01:45.7±0.8,20.°5S±0.°1×177.°9W±0.°1, h534km, n34, σ0ᵎ73/33, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.72	305	P	P	17 03 16.2	+0.8
URZ	Urewera	18.23	193	P	P	17 05 25.6	-0.7
	1.3nm,0.3s,baz=240,slow=2.1,SNR=8.3						
URZ	Urewera	18.23	193	P	P	17 05 25.7	-0.6
CTAO	Charters Tower	33.60	264	P	P	17 07 41.8	-0.2
STKA	Stephens Creek	37.89	244	P	P	17 08 18.0	+0.6
	1.6nm,0.5s,baz=84,slow=9.1,SNR=8.8						
STKA	Stephens Creek	37.89	244	P	P	17 08 17.7	+0.3
BBOO	Buckleboo	42.65	244	P	P	17 08 55.2	-0.2
JAY	Jayapura	44.14	288	P	P	17 09 07.6	+0.2
	13nm,0.5s,baz=119,slow=5.6,SNR=7.5						
WR0	Warramunga Arr	44.52	262	P	P	17 09 09.6	-0.6
WR0				IAmb	IAmb	17 09 12.3	
	comp=Z,8.7nm,1.4s						
AS31	Alice Springs	44.62	257	P	P	17 09 10.8	-0.1
AS31				IAmb	IAmb	17 09 11.6	
	comp=Z,1.9nm,0.6s						
ASAR	Alice Springs	44.63	257	P	P	17 09 10.9	-0.1
	comp=Z,7.2nm,0.5s,baz=87,slow=8.0,SNR=139						
ASAR	Alice Springs	44.63	257	P	P	17 09 10.4	-0.6
WB0	Warramunga Arr	44.69	262	P	P	17 09 11.0	-0.4
WB0				IAmb	IAmb	17 09 11.6	
	comp=Z,7.3nm,0.6s						
WB2	Warramunga Arr	44.70	262	P	P	17 09 11.1	-0.4
WB2				IAmb	IAmb	17 09 11.2	
	comp=Z,4.8nm,0.7s						
WRAB	Tennant Creek	44.70	262	P	P	17 09 10.7	-0.8
WRAB				IAmb	IAmb	17 09 11.7	
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	44.71	262	P	P	17 09 10.9	-0.7
	comp=Z,2.4nm,0.3s,baz=96,slow=7.7,SNR=143						
WRA	Warramunga Arr	44.71	262	P	P	17 09 10.2	-1.4
MTN	Manton Dam	49.27	270	P	P	17 09 45.4	-0.6
MTN				IAmb	IAmb	17 09 46.0	
	comp=Z,9.5nm,0.7s						
FITZ	Fitzroy Crossi	53.14	262	P	P	17 10 14.1	+0.1
	comp=Z,1.5nm,0.4s,baz=73,slow=4.4,SNR=25						
FITZ	Fitzroy Crossi	53.14	262	P	P	17 10 13.5	-0.5
PSA00	Pilbara Seismi	57.77	257	P	P	17 10 45.5	-0.7
PSA00				IAmb	IAmb	17 10 46.3	
	comp=Z,8.5nm,0.8s						
QSPA	South Pole Qui	69.58	180	P	P	17 12 02.2	+1.2
MJAR	Matsushiro Arr	70.27	324	P	P	17 12 04.7	-0.6
	comp=Z,3.6nm,0.6s,baz=161,slow=6.6,SNR=10						
MJAR	Matsushiro Arr	70.27	324	P	P	17 12 04.5	-0.8
PETK	Petropavlovsk-	76.29	345	P	P	17 12 39.0	-0.3
	comp=Z,3.6nm,0.9s,baz=136,slow=11,SNR=3.7						
USRK	Ussuriysk Ar.	79.02	326	P	P	17 12 55.7	+1.4
	comp=Z,3.5nm,0.8s,baz=112,slow=3.6,SNR=7.5						
NVAR	Mina Array Bea	80.94	43	P	P	17 13 05.5	+0.7
	comp=Z,0.6nm,0.6s,baz=225,slow=8.2,SNR=5.2						
ILAR	Eielson Array	88.28	13	P	P	17 13 38.6	-1.2
	comp=Z,0.8nm,0.9s,baz=252,slow=4.2,SNR=4.9						
PDAR	Pinedale Array	88.88	43	P	P	17 13 43.2	-0.2
	comp=Z,0.5nm,0.6s,baz=174,slow=3.0,SNR=5.4						
PDAR	Pinedale Array	88.88	43	P	P	17 13 43.1	-0.3
CMAR	Chiang Mai Arr	90.21	290	P	P	17 13 51.1	+1.3
	comp=Z,1.1nm,0.8s,baz=123,slow=3.1,SNR=9.5						
AKASG	Malin Array Be	143.06	331	PKhKP	PKPab	17 20 15.0	-1.1
	comp=Z,2.9nm,0.5s,baz=44,slow=4.3,SNR=16						
CLL	Collm	148.08	347	*i* PKPbc	PKPbc	17 20 30.6	-0.5
	comp=Z,7.0nm,0.8s						
GERES	GERESS Array B	150.22	345	PKPbc	PKPbc	17 20 36.1	-0.4
	comp=Z,1.2nm,0.9s,baz=329,slow=2.3,SNR=7.0						

UPP ***16*** *17:02:57.3±0.1,67.°08N×20.°93E, h0km, ML1.7, Explosion*
NAO ***16*** *17:03:09.1±1.3,67.°05N×21.°39E, ML2.8*
BER ***16*** *17:03:11.3±2.8,67.°03N×21.°16E, h0km, ML2.8(NAO), Suspected explosion*

ISC 16 17:02:54.5±0.8, 66.°99N±0.°03×20.°89E±0.°04, h0km, n22, σ2ᵎ70/27, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	Masugnsbyn	0.64	42	P	Pb	17 03 07.9	-0.6
HARU	Harads	0.83	178	P	Pn	17 03 14.6	+1.1
HARU				S	Sn	17 03 26.4	+0.1
PAJU	Pajala	0.87	87	P	Pn	17 03 13.1	-1.0
PAJU				S	Sb	17 03 24.8	0.0
RATU	Laukkuluspa	0.98	330	P	Pg	17 03 14.0	+0.8
KUA	Kurravaara	0.99	348	P	Pg	17 03 14.5	+1.0
KUA				S	Sg	17 03 25.5	-0.9
SALU	Saltoluokta	1.01	294	P	Pg	17 03 15.6	+1.8
LANU	Lannavaara	1.15	21	P	Pb	17 03 17.0	-0.2
KOVU	Salmi	1.27	348	P	Pb	17 03 20.1	+0.7
KALU	Kalix	1.51	138	P	Pb	17 03 27.1	+3.8
SJUU	Sjulsmark	1.52	169	P	Pg	17 03 26.7	+3.2
KIF	Kilpisjarvi	2.02	359	Pn	Pg	17 03 43.7	+10
KIF				Sn	Sg	17 04 10.7	+11
KIF	Kilpisjarvi	2.02	359	*e*P	Pb	17 03 32.7	+0.5
KIF	Kilpisjarvi	2.02	359	Pn	Pg	17 03 43.7	+10
KIF				Sn	Sg	17 04 10.7	+11
STEI	Steigen	2.37	296	*e*P	Pb	17 03 39.1	+1.0
ARA0	ARCESS Array S	3.08	32	Pn	Pg	17 03 57.6	+4.2
	baz=210,slow=16						
ARA0				Sn	Sg	17 04 33.5	+0.2
	baz=217,slow=28						
ARA0	ARCESS Array S	3.08	32	Pn	Pg	17 03 57.6	+4.2
	baz=210,slow=16						
ARA0				Sn	Sg	17 04 33.5	+0.2
	baz=217,slow=28						
APA0	Apatity Array	4.73	77	Pn	Pb	17 04 16.9	-1.3
	baz=274,slow=10						
APA0				Sn	Sb	17 05 13.3	-2.3
	baz=268,slow=22						
APA0	Apatity Array	4.73	77	Pn	Pb	17 04 16.9	-1.3
	baz=274,slow=10						
APA0				Sn	Sb	17 05 13.3	-2.3
	baz=268,slow=22						
FIA0	FINESS Array S	6.01	155	Pn	Pb	17 04 39.6	-0.4
	baz=346,slow=16						
FIA0				Sn	Sb	17 05 45.6	-6.8
	baz=346,slow=28						
FIA0	FINESS Array S	6.01	155	Pn	Pb	17 04 39.6

GUIM **Jordan** 6.38 324 *e*P Pn 17 09 50.7 +1.0
JAP **San Jose, Anti** 6.87 320⇑*e*P Pn 17 10 01.9 +5.5
LUWI **Luwuk** 7.42 210 P **Pn** **17 10 05.7 +1.7**
2.4nm2µm6µm620nm,1.2s
LUWI **Luwuk** 7.42 210 Pn **Pn** **17 10 05.6 +1.6**
SANI **Sanana** 7.48 183 P **Pn** **17 10 04.3 -0.4**
0.6nm2µm99nm,1.2s
MYLDM **Lahad Datu** 7.90 268 Pn **Pn** **17 10 10.6 +0.1**
SIJI **Sorong** 7.93 142 Pn **Pn** **17 10 11.3 +0.3**
9.6nm,0.3s,baz=333,slow=16,SNR=22
MPSI **Mapaga** 8.27 232 P **Pn** **17 10 16.4 +0.7**
2µm556nm44nm,0.5s
NLAI **Namlea** 8.67 176 P **Pn** **17 10 21.1 0.0**
2µm123nm,0.8s
MSAI **Masohi** 9.10 164 P **Pn** **17 10 28.6 +1.6**
592nm30nm,0.9s
LQP **Lukban** 9.85 331 *e*P **Pn** **17 10 40.0 +2.6**
FAKI **Fak Fak** 10.16 145 P **Pn** **17 10 42.2 +0.7**
FAKI **Fak Fak** 10.16 145 Pn **Pn** **17 10 41.9 +0.4**
KKM **Kota Kinabalu** 10.18 274 Pn **Pn** **17 10 44.0 +2.2**
TTSI **Tana Toraja** 10.72 218 P **Pn** **17 10 51.5 +2.2**
3µm112nm,1.2s
SPSI **Sidrap Palu** 11.49 216 P **Pn** **17 11 00.7 +1.0**
532nm42nm,0.8s
BAKI **Biak** 11.71 124 P **Pn** **17 11 05.2 +2.4**
145nm,1.0s
SRPI **Serui, Papua** 12.21 126 P **Pn** **17 11 12.0 +2.4**
5µm94nm,0.8s
KAPI **Kappang** 12.36 213 Pn **Pn** **17 11 14.9 +3.3**
1.8nm,0.3s,baz=22,slow=10.0,SNR=4.2
KAPI LR LR 17 16 51.6
comp=Z,632nm,18.5s,baz=42,slow=42
MTKI **Muara Teweh, K** 13.16 241 P **Pn** **17 11 23.6 +1.0**
56nm,0.6s
KBKI **Kotabaru** 13.45 230 P **Pn** **17 11 29.3 +2.8**
387nm46nm,1.1s
SBUM **Sibu** 14.49 259 Pn **Pn** **17 11 43.2 +2.6**
SBUM **Sibu** 14.49 259 P **P** **17 11 45.0 -1.4**
BBKI **Banjar Baru** 14.58 233 P **Pn** **17 11 44.1 +2.3**
35nm,0.8s
MMRI **Maumere** 14.62 197 **Pn** **17 11 43.6 +1.3**
EDFI **Ende, Flores** 14.89 199 P **Pn** **17 11 47.0 +1.0**
30nm,0.8s
SOEI **Soe** 15.27 188 P **Pn** **17 11 52.9 +1.8**
100nm,0.8s
SOEI **Soe** 15.27 188 **Pn** **17 11 51.4 +0.3**
SOEI IAmb IAmb 17 12 16.3
comp=Z,70nm,0.7s
BATI **Baumata** 15.81 190 Pn **P** **17 12 01.1 0.0**
comp=Z,4.5nm,0.3s,baz=293,slow=1.9,SNR=9.7
BATI LR LR 17 19 27.3
comp=Z,211nm,19.1s,baz=2.0,slow=42
BATI **Baumata** 15.81 190 P **P** **17 11 59.8 -1.4**
comp=Z,666nmcomp=Z,59nm,0.8s
JAY **Jayapura** 16.32 119 LR LR 17 18 28.4
comp=Z,388nm,20.2s,baz=313,slow=37
KSM **Kuching** 16.57 257 Pn **Pn** **17 12 07.1 -0.4**
JAGI **Jajag, Banyuwa** 18.48 222 P **Pn** **17 12 31.0 -0.1**
MTN **Manton Dam** 18.78 166 P **P** **17 12 32.8 -1.1**
baz=19,SNR=17
MTN **Manton Dam** 18.78 166 P **P** **17 12 32.4 -1.6**
DLV **T Lat** 18.86 291 P **P** **17 12 35.1 +0.1**
DLV IAmb IAmb 17 12 52.5
comp=Z,128nm,1.3s
SSLB **Suanglung** 18.96 344 P **P** **17 12 35.4 -0.6**
KDU **Kakadu** 19.01 162 P **P** **17 12 36.7 +0.3**
baz=19,SNR=11
GUMO **Guam** 19.88 65 LR LR 17 19 06.2
comp=Z,410nm,21.5s,baz=203,slow=33
QIZ **Qiongzhong** 21.05 311 P **P** **17 12 59.4 +0.7**
QIZ S **S** **17 16 52.9 +2.0**
QIZ LR LR
comp=Z,300nm,16.0s
QIZ LR LR
comp=Z,350nm,13.2s
QIZ LR LR
comp=Z,450nm,20.1s
KNRA **Kununurra** 21.13 174 P **P** **17 12 59.9 +0.3**
baz=21,SNR=70
KNRA **Kununurra** 21.13 174 P **P** **17 12 59.7 +0.2**
KNRA IAmb IAmb 17 13 19.2
comp=Z,88nm,0.8s
UBPT **Khong Chiam** 22.78 297 P **P** **17 13 18.1 +0.8**
MYKOM **Kota Tinggi** 22.82 262 P **P** **17 13 18.6 +0.9**
MYKOM **Kota Tinggi** 22.82 262 P **P** **17 13 20.0 +2.3**
FITZ **Fitzroy Crossi** 23.43 182 P **P** **17 13 23.7 +0.1**
comp=Z,6.9nm,0.4s,baz=12,slow=8.5,SNR=32
FITZ **Fitzroy Crossi** 23.43 182 P **P** **17 13 23.6 +0.1**
baz=24,SNR=52
FITZ **Fitzroy Crossi** 23.43 182 P **P** **17 13 22.9 -0.7**
FITZ IAmb IAmb 17 13 41.5
comp=Z,72nm,1.4s
IPM **Ipoh** 25.32 269 P **P** **17 13 41.3 +0.1**
IPM **Ipoh** 25.32 269 P **P** **17 13 42.0 +0.8**
PMG **Port Moresby** 25.40 125 LR LR 17 25 32.9
comp=Z,108nm,18.5s,baz=268,slow=41
COEN **Coen** 25.47 139 P **P** **17 13 42.1 -0.3**
baz=26,SNR=9.3
KULM **Kulim** 25.66 271 P **P** **17 13 44.3 0.0**
KULM **Kulim** 25.66 271 P **P** **17 13 45.0 +0.7**
JCJ **Chichijima** 26.23 33 P **P** **17 13 46.4 -2.9**
comp=Z,53nm,0.4s,baz=255,slow=4.1,SNR=12
JCJ **Chichijima** 26.23 33 P **P** **17 13 46.5 -2.8**
WB0 **Warramunga Arr** 26.27 163 P **P** **17 13 49.3 -0.3**
WB0 IAmb IAmb 17 14 02.2
comp=Z,80nm,0.9s
WRAB **Tennant Creek** 26.41 163 *ce*P **P** **17 13 50.2 -0.8**
WRAB pmax pmax
comp=Z,30nm,1.0s
WRAB **Tennant Creek** 26.41 163 P **P** **17 13 50.7 -0.3**
WRAB IAmb IAmb 17 14 03.8
comp=Z,52nm,1.1s
WRA **Warramunga Arr** 26.42 163 P **P** **17 13 50.7 -0.3**
comp=Z,8.6nm,0.5s,baz=343,slow=10,SNR=83
WRA PcP **PcP** **17 17 16.2 +0.3**
comp=Z,4.7nm,0.6s,baz=338,slow=2.4,SNR=4.8
WRA ScP **ScP** **17 20 53.8 +1.3**
comp=Z,5.2nm,0.8s,baz=339,slow=3.4,SNR=12
WRA P3KPbc 17 46 35.9
comp=Z,1.2nm,0.8s,baz=160,slow=3.9,SNR=8.8
WRA **Warramunga Arr** 26.42 163 P **P** **17 13 50.5 -0.6**
WRA **PcP** **17 17 16.2 +0.3**
WRA **ScP** **17 20 52.4 -0.2**
WB2 **Warramunga Arr** 26.42 163 P **P** **17 13 50.9 -0.2**
WB2 IAmb IAmb 17 14 18.3
comp=Z,49nm,0.9s
WR0 **Warramunga Arr** 26.50 163 P **P** **17 13 50.7 -1.0**
WR0 IAmb IAmb 17 14 04.5
comp=Z,48nm,0.9s
KRVT **Keravat (AS076** 27.35 110 LR LR 17 23 01.3
comp=Z,319nm,21.0s,baz=293,slow=32
NJ2 **Nanjing** 27.38 346 *e*P **P** **17 14 01.3 +1.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WHN **Wuhan** 27.42 337 ⇑P **P** **17 14 03.3 +3.4**
WHN pP **sP** **17 14 15.8 +0.2**
WHN *e*S **S** **17 18 42.4 +5.0**
WHN LR LR
comp=Z,1µm,24.0s
PSI **Prapat** 27.56 266 P **P** **17 14 01.7 +0.2**
comp=Z,10nm,0.5s,baz=93,slow=1.2,SNR=6.6
PSI LR LR 17 26 53.3
comp=Z,83nm,20.0s,baz=87,slow=40
RPSI **Rantau Prapat** 27.57 265 P **P** **17 14 00.8 -0.7**
PSA00 **Pilbara Seismi** 27.63 193 P **P** **17 14 02.0 +0.1**
PSA00 IAmb IAmb 17 14 03.3
comp=Z,26nm,0.8s
PSA00 **Pilbara Seismi** 27.63 193 P **P** **17 14 01.4 -0.5**
PSA00 IAmb IAmb 17 14 03.3
comp=Z,20nm,0.8s
JNU **Nakatsue** 27.83 8 P **P** **17 14 02.6 -1.0**
comp=Z,13nm,0.8s,baz=152,slow=2.2,SNR=6.6
JNU LR LR 17 23 54.2
comp=Z,140nm,20.3s,baz=172,slow=34
JNU **Nakatsue** 27.83 8 P **P** **17 14 02.6 -1.0**
GYA **Guiyang** 28.14 320 ⇓P **P** **17 14 07.0 +0.4**
GYA PP **PnPn** **17 14 59.9 +4.0**
GYA PcP **PcP** **17 17 20.8 +0.7**
GYA S S 17 18 37.1 -12
GYA pmax pmax
comp=Z,7.0nm,1.0s
GYA LR LR
comp=Z,260nm,17.5s
QIS **Mount Isa** 28.92 154 P **P** **17 14 13.8 +0.4**
baz=29,SNR=22
GSI **Gunungsitoli** 29.09 263 P **P** **17 14 14.1 -0.9**
GSI IAmb IAmb 17 14 16.8
comp=Z,42nm,0.8s
MTSU **Mount Surprise** 29.35 143 P **P** **17 14 17.5 +0.3**
baz=29,SNR=9.6
CM31 **Chiang Mai Arr** 29.77 298 P **P** **17 14 21.3 +0.3**
CMAR **Chiang Mai Arr** 29.77 298 P **P** **17 14 21.0 0.0**
comp=Z,4.8nm,0.7s,baz=108,slow=7.1,SNR=35
CMAR PcP **PcP** **17 17 24.8 +0.7**
comp=Z,6.7nm,0.8s,baz=139,slow=8.9,SNR=25
CMAR ScP **ScP** **17 21 04.7 +1.7**
comp=Z,3.8nm,0.9s,baz=123,slow=1.5,SNR=14
CMAR LR LR 17 26 38.2
comp=Z,190nm,18.3s,baz=160,slow=37
AS31 **Alice Springs** 29.86 166 P **P** **17 14 21.7 0.0**
ASAR **Alice Springs** 29.86 166 P **P** **17 14 21.7 0.0**
comp=Z,3.0nm,0.5s,baz=350,slow=7.0,SNR=30
ASAR PcP **PcP** **17 17 24.6 +0.3**
comp=Z,9.5nm,0.5s,baz=352,slow=2.2,SNR=21
ASAR ScP **ScP** **17 21 04.2 +1.1**
comp=Z,3.9nm,0.6s,baz=344,slow=2.7,SNR=15
ASAR P3KPbc 17 46 21.0
comp=Z,0.8nm,0.9s,baz=147,slow=4.1,SNR=6.0
ASAR **Alice Springs** 29.86 166 P **P** **17 14 20.9 -0.8**
ASAR **PcP** **17 17 24.4 +0.1**
CHTO **Chiang Mai** 29.90 299 P **P** **17 14 21.4 -0.8**
CHTO **PcP** **17 17 24.7 +0.2**
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO **Chiang Mai** 29.90 299 P **P** **17 14 21.4 -0.8**
CHTO **PcP** **17 17 24.7 +0.2**
KMI **Kunming** 29.96 313⇓*e*P **P** **17 14 24.4 +1.5**
KMI sP sP 17 14 40.5 +1.9
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,83nm,4.7s
KMI LR LR
comp=Z,200nm,17.8s
KMI LR LR
comp=Z,200nm,16.8s
KMI LR LR
comp=Z,360nm,26.1s
WRKA **Warakurna** 30.37 177 P **P** **17 14 26.2 -0.1**
baz=30,SNR=19
GIRL **Giralia** 30.38 203 P **P** **17 14 28.3 +2.0**
baz=30,SNR=3.8
TIA **Tai'an** 31.77 346 P **P** **17 14 40.1 +1.7**
TIA pmax pmax
comp=Z,11nm,0.7s
KSRS **Korea Array** 31.87 2 P **P** **17 14 39.2 0.0**
comp=Z,6.1nm,0.7s,baz=188,slow=8.2,SNR=22
KSRS PcP **PcP** **17 17 29.7 +0.4**
comp=Z,2.4nm,0.6s,baz=183,slow=2.7,SNR=6.2
KSRS LR LR 17 30 02.0
comp=Z,99nm,18.1s,baz=198,slow=41
KS19 **Wonju Array Si** 31.91 2 P **P** **17 14 38.3 -1.4**
KS19 IAmb IAmb 17 14 57.9
comp=Z,39nm,1.4s
CTAO **Charters Tower** 32.01 143 P **P** **17 14 41.3 +0.5**
CTAO pmax pmax
comp=Z,11nm,0.9s
CTAO **Charters Tower** 32.01 143 P **P** **17 14 41.3 +0.5**
XAN **Xi'an** 32.74 332 P **P** **17 14 45.8 -1.3**
XAN PP **PP** **17 16 02.3 +0.6**
XAN PcP **PcP** **17 17 32.3 +0.4**
XAN S **S** **17 20 04.0 +3.0**
XAN PcS **PcS** **17 21 16.8 -0.4**
XAN ScS **ScS** **17 25 12.3 -0.3**
XAN pmax pmax
comp=Z,42nm,0.8s
XAN pmax pmax
comp=Z,100nm,3.4s
XAN LR LR
comp=Z,300nm,24.9s
XAN LR LR
comp=Z,250nm,23.9s
XAN LR LR
comp=Z,490nm,28.2s
MJAR **Matsushiro Arr** 32.76 18 P **P** **17 14 45.4 -1.7**
comp=Z,3.9nm,0.8s,baz=194,slow=10.0,SNR=6.4
MJAR ScP **ScP** **17 21 14.1 +1.4**
comp=Z,4.0nm,0.9s,baz=176,slow=4.0,SNR=4.9
MJAR LR LR 17 27 07.4
comp=Z,190nm,21.5s,baz=200,slow=35
MJAR **Matsushiro Arr** 32.76 18 P **P** **17 14 44.5 -2.6**
MAJO **Matsushiro** 32.76 18 *i*P **P** **17 14 46.6 -0.6**
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MAT **Matsushiro** 32.76 18 P **P** **17 14 45.2 -2.0**
MEEK **Meekatharra** 32.80 193 P **P** **17 14 46.9 -0.7**
baz=33,SNR=15
CD2 **Chengdu** 33.08 323 P **P** **17 14 49.8 -0.3**
CD2 S **S** **17 20 07.3 +1.0**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 LR LR
comp=Z,390nm,15.2s
CD2 LR LR
comp=Z,210nm,17.2s
CD2 LR LR
comp=Z,370nm,12.3s
DL2 **Dalian** 33.57 353 P **P** **17 14 55.3 +1.2**
DL2 pmax pmax
comp=Z,100nm,0.8s
JMM **Marumori** 34.81 20 P **P** **17 15 03.8 -1.0**
MORW **Morawa** 35.76 196 P **P** **17 15 12.8 -0.3**
baz=36,SNR=5.2
MORW **Morawa** 35.76 196 P **P** **17 15 13.0 -0.1**
MORW IAmb IAmb 17 15 14.8
comp=Z,24nm,1.2s
FORT **Forrest** 36.07 178 P **P** **17 15 17.6 +1.8**
baz=36,SNR=8.6
QLP **Quilpie** 36.23 152 P **P** **17 15 17.0 -0.2**
baz=36,SNR=3.2
LZH **Lanzhou** 36.87 329 ⇑P **P** **17 15 23.8 +1.0**
LZH pP pwP 17 15 36.1 -0.6
LZH sP sP 17 15 41.9 +3.3
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,89nm,4.9s
LZH LR LR
comp=Z,270nm,16.3s
LZH LR LR
comp=Z,290nm,17.4s
LZH LR LR
comp=Z,310nm,15.2s
KMBL **Kambalda** 36.88 186 P **P** **17 15 22.7 0.0**
baz=37,SNR=9.4
BLDU **Ballidu** 37.06 194 P **P** **17 15 24.0 -0.2**
baz=37,SNR=7.5
HHC **Hu-ho-hao-te** 37.67 341 *e*P **P** **17 15 30.9 +1.5**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,120nm,7.1s
HHC LR LR
comp=Z,100nm,17.7s
HHC LR LR
comp=Z,140nm,13.7s
HHC LR LR
comp=Z,100nm,19.0s
KLBR **Kellerberrin** 37.77 192 P **P** **17 15 30.3 +0.1**
baz=38,SNR=7.0
CN2 **Changchun** 38.19 359 *e*P **P** **17 15 34.5 +0.9**
CN2 *e*S **S** **17 21 27.4 +3.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,200nm,14.1s
RMQ **Roma** 38.43 147 P **P** **17 15 37.6 +1.7**
baz=38,SNR=4.4
MUN **Mundaring** 38.49 194 P **P** **17 15 36.2 -0.1**
baz=39,SNR=6.2
SHL **Shillong** 38.63 305 P **P** **17 15 37.1 -0.7**
SHL pmax pmax
comp=Z,99nm,0.7s
SHL **Shillong** 38.63 305 P **P** **17 15 37.1 -0.7**
USA0B **Ussuriysk Arra** 38.89 6 *i*P **P** **17 15 38.0 -1.5**
USA0B **Ussuriysk Arra** 38.89 6 P **P** **17 15 37.1 -2.4**
USA0B IAmb IAmb 17 15 43.0
comp=Z,18nm,0.8s
USRK **Ussuriysk Ar.** 38.89 6 P **P** **17 15 39.2 -0.3**
comp=Z,15nm,0.7s,baz=194,slow=7.9,SNR=26
USRK LR LR 17 29 32.8
comp=Z,81nm,21.6s,baz=181,slow=33
USRK **Ussuriysk Ar.** 38.89 6 P **P** **17 15 38.9 -0.6**
EIDS **Eidsvold** 38.90 143 P **P** **17 15 40.6 +0.7**
baz=39,SNR=3.6
EIDS **Eidsvold** 38.90 143 P **P** **17 15 39.4 -0.5**
MDJ **Mudanjiang** 39.09 4 P **P** **17 15 42.3 +1.1**
MDJ pmax pmax
comp=Z,12nm,0.8s
MDJ pmax pmax
comp=Z,79nm,3.6s
BBOO **Buckleboo** 39.15 167 P **P** **17 15 42.8 +1.0**
baz=39,SNR=16
BBOO **Buckleboo** 39.15 167 P **P** **17 15 42.5 +0.7**
BBOO IAmb IAmb 17 15 45.3
comp=Z,21nm,0.8s
NWAO **Narrogin (SRO)** 39.17 192 P **P** **17 15 42.2 +0.3**
baz=39,SNR=10
STKA **Stephens Creek** 39.85 160 P **P** **17 15 48.1 +0.5**
comp=Z,22nm,0.8s,baz=337,slow=7.9,SNR=36
STKA PcP **PcP** **17 17 53.3 +0.3**
comp=Z,13nm,0.7s,baz=346,slow=5.6,SNR=4.4
STKA ScP **ScP** **17 21 40.1 +1.4**
comp=Z,3.0nm,0.8s,baz=3.0,slow=5.3,SNR=4.7
STKA LR LR 17 33 32.7
comp=Z,88nm,21.6s,baz=340,slow=38
STKA **Stephens Creek** 39.85 160 P **P** **17 15 48.4 +0.8**
baz=40,SNR=25
STKA **Stephens Creek** 39.85 160 P **P** **17 15 47.0 -0.7**
STKA **PcP** **17 17 53.0 0.0**
HTT **Hallett** 40.45 164 P **P** **17 15 54.1 +1.4**
baz=41,SNR=4.7
RKGY **Rocky Gully** 40.84 192 P **P** **17 15 57.2 +1.4**
baz=41,SNR=5.3
ASAJ **Asahikawa** 41.04 18 P **P** **17 15 57.2 -0.1**
ASAJ pmax pmax
comp=Z,22nm,0.9s
JKA **Kamikawa-asahi** 41.04 18 P **P** **17 15 57.2 -0.1**
JKA IAmb IAmb 17 16 08.9
comp=Z,22nm,0.9s
LSA **Lhasa** 41.09 310 P **P** **17 15 58.3 -0.2**
LSA pmax pmax
comp=Z,23nm,1.3s
CMSA **Cobar Meteorol** 41.13 155 P **P** **17 15 58.9 +0.6**
baz=41,SNR=11
H11S3 **WAKE ISLAND Hy** 41.34 68 T T 17 59 54.4
baz=247
H11S1 **WAKE ISLAND Hy** 41.36 68 T T 17 59 55.7
baz=247
H11S2 **WAKE ISLAND Hy** 41.36 68 T T 17 59 58.0
baz=247
GTA **Gaotai** 41.47 328 ⇓P **P** **17 16 01.1 0.0**
GTA pP sP 17 16 16.8 -0.3
GTA sP pwP 17 16 23.8 +8.6
GTA PcP **PcP** **17 17 59.3 +0.9**
GTA ScS ScS 17 26 01.4 -0.1
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,60nm,5.1s
GTA LR LR
comp=Z,200nm,20.4s
GTA LR LR
comp=Z,160nm,18.9s
GTA LR LR
comp=Z,200nm,17.8s
H11N1 **WAKE ISLAND Hy** 41.82 66 T T 18 00 29.2
baz=255,slow=75,SNR=41
H11N2 **WAKE ISLAND Hy** 41.83 66 T T 18 00 32.7
baz=255,slow=75,SNR=33
H11N3 **WAKE ISLAND Hy** 41.84 66 T T 18 00 30.5
baz=255,slow=75,SNR=30
ARMA **Armidale** 43.08 147 P **P** **17 16 15.1 +0.8**
baz=43,SNR=10
ARMA **Armidale** 43.08 147 P **P** **17 16 14.9 +0.6**
YSS **Yuzh-Sakhalins** 43.67 16 *i*P **P** **17 16 17.2 -1.4**
YSS pmax pmax
comp=Z,19nm,1.1s
ARPS **Mount Arapiles** 44.42 162 P **P** **17 16 26.1 +1.3**
baz=45,SNR=17
ULN **Ulaanbaatar** 45.39 342 *ce*P **P** **17 16 32.3 -0.3**
ULN pmax pmax
comp=Z,29nm,0.9s
ULN **Ulaanbaatar** 45.39 342 P **P** **17 16 32.7 +0.1**
ULN IAmb IAmb 17 16 34.0
comp=Z,26nm,0.9s
ULN **PcP** **17 18 11.8 +0.4**
SONM **Songino Array** 45.57 341 P **P** **17 16 33.8 -0.2**
comp=Z,10nm,0.8s,baz=158,slow=9.1,SNR=56
SONM PcP **PcP** **17 18 12.3 +0.2**
comp=Z,14nm,0.8s,baz=159,slow=3.6,SNR=17
SONM ScP **ScP** **17 22 02.0 +0.3**
comp=Z,1.2nm,0.9s,baz=176,slow=3.0,SNR=4.0
SONM LR LR 17 37 17.7
comp=Z,134nm,21.6s,baz=155,slow=38
SONM **Songino Array** 45.57 341 P **P** **17 16 33.4 -0.6**
SONM **PcP** **17 18 12.3 +0.2**
CAN **Canberra** 45.79 154 P **P** **17 16 37.2 +1.4**
CAN pmax pmax
comp=Z,32nm,1.2s
CAN **Canberra** 45.79 154 P **P** **17 16 37.2 +1.4**
CAN IAmb IAmb 17 17 05.6
comp=Z,32nm,1.2s
GRNR **Gornyy** 45.92 9⇑*i*P **P** **17 16 37.6 +1.0**
GRNR pmax pmax
comp=E,2.0nm,0.8s
GRNR pmax pmax
comp=N,5.0nm,1.0s
GRNR pmax pmax
comp=Z,6.0nm,0.8s
GRNR MLR MLR
comp=E,70nm,14.0s
GRNR MLR MLR
comp=N,60nm,20.0s
GRNR MLR MLR
comp=Z,110nm,18.0s
TOO **Toolangi** 46.35 159 P **P** **17 16 42.3 +2.1**
baz=46,SNR=4.3
DZM **Mont Dzumac** 47.79 126 *e*P P 17 16 57.0 +5.3
comp=Z,40nm,1.0s
DZM *e*S **S** **17 23 49.0 +3.3**
comp=Z,108nm,28.9s
DZM *e*LR LR 17 30 26.8
comp=Z,312nm,27.9s
DZM **Mont Dzumac** 47.79 126 LR LR 17 34 56.0
comp=Z,151nm,21.6s,baz=10,slow=33
DZM **Mont Dzumac** 47.79 126 P **P** **17 16 50.2 -1.5**
DZM IAmb IAmb 17 17 00.2
comp=Z,18nm,0.9s
ZEA **Zeya** 48.13 1 *e*P **P** **17 16 53.7 -0.1**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
HYB **Hyderabad** 48.27 288 *i*P **P** **17 16 57.0 +1.5**
ZAK **Zakamensk** 48.80 340 *e*P **P** **17 16 58.1 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY **Talaya** 49.80 342 *e*P **P** **17 17 07.1 +0.5**
TLY pmax pmax
comp=Z,34nm,0.9s
TLY MLR MLR
comp=Z,315nm,16.0s
TLY **Talaya** 49.80 342 P **P** **17 17 06.9 +0.3**
TLY IAmb IAmb 17 17 08.3
comp=Z,13nm,0.9s
MOY **Mondy** 50.66 340 *e*P **P** **17 17 13.8 +0.5**
MOY pmax pmax
comp=Z,29nm,1.6s
WMQ **Urumqi** 51.14 324 *e*P **P** **17 17 17.1 +0.1**
WMQ sP sP 17 17 37.3 +4.1
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,46nm,5.1s
WMQ LR LR
comp=Z,130nm,17.1s
WMQ LR LR
comp=Z,160nm,25.1s
WMQ LR LR
comp=Z,97nm,25.7s
BOD **Bodaibo** 53.12 352 *e*P **P** **17 17 32.0 +0.7**

BOD pmax pmax
comp=Z,66nm,1.0s
PETK Petropavlovsk- 53.95 23 P **P 17 17 37.2 -0.3**
comp=Z,6.4nm,0.6s,baz=198,slow=5.7,SNR=9.1
PETK Petropavlovsk- 53.95 23 P **P 17 17 37.6 +0.1**
PETK Petropavlovsk- 53.95 23 P **P 17 17 37.6 +0.1**
PET Petropavlovsk 54.26 23 *eP* **P 17 17 40.9 +1.2**
PET pmax pmax
comp=Z,30nm,1.3s
ZSN Zaisan 54.90 327 *eP* **P 17 17 42.1 -2.4**
ZSN Zaisan 54.90 327 *eP* **P 17 17 42.1 -2.4**
DGZ Jazzator, Alta 54.95 330 *i* P **P 17 17 44.1 -0.9**
DGZ pmax pmax
comp=Z,10.0nm,0.8s
SHLS Shalkode 55.83 320 *eP* **P 17 17 47.2 -4.3**
SHLS Shalkode 55.83 320 *eP* **P 17 17 47.1 -4.3**
MK31 Makanchi Array 55.97 325 P **P 17 17 51.1 -1.2**
MK31 pmax pmax
comp=Z,19nm,0.7s
MK31 Makanchi Array 55.97 325 P **P 17 17 51.1 -1.2**
MK31 lAmb lAmb 17 17 52.3
comp=Z,19nm,0.7s
MKAR Makanchi Array 55.97 325 P **P 17 17 51.2 -1.1**
comp=Z,24nm,0.5s,baz=121,slow=8.1,SNR=346
MKAR PcP **PcP 17 18 49.5 -0.9**
comp=Z,13nm,0.7s,baz=116,slow=4.2,SNR=8.1
MKAR ScP **ScP 17 22 45.5 -0.8**
comp=Z,3.4nm,0.8s,baz=104,slow=5.1,SNR=7.8
MKAR LR LR 17 42 46.3
comp=Z,153nm,21.8s,baz=96,slow=37
MKAR PKP2bc 17 48 03.7
comp=Z,0.8nm,0.9s,baz=313,slow=2.3,SNR=5.4
UZB Uzynbulak 56.11 320⇑ *iP* **P 17 17 52.4 -1.1**
comp=Z,9.7nm,0.6s
UZB Uzynbulak 56.11 320*c i*P **P 17 17 52.4 -1.1**
UZB pmax pmax
comp=Z,10.0nm,0.6s
MAKZ Makanchi 56.16 325 P **P 17 17 52.4 -1.2**
MAKZ pmax pmax
comp=Z,24nm,0.7s
MAKZ Makanchi 56.16 325 P **P 17 17 52.4 -1.2**
MAKZ ScP **ScP 17 22 48.3 +1.2**
PRZ Przheval'sk 56.21 319 P **P 17 17 54.4 +0.1**
PRZ pmax pmax
comp=Z,37nm,0.8s
PRZ Przheval'sk 56.21 319 P **P 17 17 54.4 +0.1**
SATY Saty 56.47 319⇑ *iP* **P 17 17 54.9 -1.1**
comp=Z,15nm,0.8s
SATY Saty 56.47 319*c i*P **P 17 17 54.9 -1.1**
SATY pmax pmax
comp=Z,15nm,0.8s
KPKS Kokpek 56.48 320⇑ *iP* **P 17 17 55.0 -1.1**
comp=Z,26nm,0.9s
KPKS Kokpek 56.48 320*c i*P **P 17 17 54.9 -1.1**
KPKS pmax pmax
comp=Z,26nm,0.9s
YAK Yakutsk 56.49 2 *eP* **P 17 17 55.5 -0.1**
YAK *e**PP **pP 17 18 07.2 0.0**
YAK *e* 17 18 51.4
YAK *e* 17 20 05.1
YAK *eS* **S 17 25 44.3 +0.6**
YAK *e**SS **pS 17 25 58.8 +1.3**
YAK pmax pmax
comp=Z,167nm,1.4s
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=E,15nm,1.5s
YAK pmax pmax
comp=Z,99nm,4.2s
YAK pmax pmax
comp=N,196nm,3.6s
YAK pmax pmax
comp=E,112nm,3.8s
YAK smax smax
comp=E,91nm,4.0s
YAK smax smax
comp=N,87nm,3.8s
YAK Yakutsk 56.49 2 P **P 17 17 55.3 -0.4**
KSH Kashi 56.62 314 P **P 17 17 57.6 +0.5**
KSH S **S 17 25 49.3 +2.9**
KSH pmax pmax
comp=N,33nm,1.2s
KSH pmax pmax
comp=N,66nm,4.0s
KSH LR LR
comp=N,100nm,6.6s
KSH LR LR
comp=N,97nm,6.0s
KSH LR LR
comp=N,290nm,5.5s
NIL Nilore 56.64 307 P **P 17 17 56.5 -0.8**
NIL pmax pmax
comp=Z,78nm,1.0s
NIL Nilore 56.64 307 P **P 17 17 56.5 -0.8**
KDJ Kajisay 56.86 318 P **P 17 17 58.4 -0.5**
KDJ pmax pmax
comp=Z,21nm,0.7s
KDJ Kajisay 56.86 318 P **P 17 17 58.4 -0.5**
KDJ lAmb lAmb 17 17 59.4
comp=Z,21nm,0.7s
TDK Taldyqorghan 57.38 321 *eP* **P 17 18 01.1 -1.2**
TDK Taldyqorghan 57.38 321 *eP* **P 17 18 01.1 -1.2**
MDOK Medeo 57.40 319 *eP* **P 17 18 01.6 -1.2**
MDOK Medeo 57.40 319 *eP* **P 17 18 01.5 -1.2**
TNSS Tian-Shan 57.41 319⇑ *iP* **P 17 18 02.3 -0.8**
TNSS Tian-Shan 57.41 319⇑ *iP* **P 17 18 02.3 -0.8**
ULHL Ulahol 57.54 317 P **P 17 18 03.3 -0.4**
SNR=6.8
CHKK Chushkaly 57.75 319 *eP* **P 17 18 02.8 -2.1**
CHKK Chushkaly 57.75 319 *eP* **P 17 18 02.8 -2.1**
MTBS Maitube 57.80 318 *eP* **P 17 18 04.5 -0.9**
MTBS Maitube 57.80 318 *eP* **P 17 18 04.4 -0.9**
BOOM Boomskoye usch 57.85 318 P **P 17 18 05.2 -0.7**
BOOM pmax pmax
comp=Z,8.0nm,0.9s
BOOM Boomskoye usch 57.85 318 P **P 17 18 05.2 -0.7**
KUU Kurty 58.19 319⇑ *iP* **P 17 18 06.9 -1.1**
comp=Z,60nm,1.0s
KUU Kurty 58.19 319*c i*P **P 17 18 06.9 -1.1**
KUU pmax pmax
comp=Z,60nm,1.0s
TKM2 Tokmak 2 58.26 318 P **P 17 18 08.0 -0.8**
SNR=22
KBK Karagaybulak 58.59 317 P **P 17 18 11.0 0.0**
SNR=10
UCH Uchtor 58.71 317 P **P 17 18 11.9 -0.3**
SNR=31
CHMS Chumysh 58.86 318 P **P 17 18 11.8 -0.9**
SNR=9.3
AAK Ala-Archa 58.88 317 P **P 17 18 12.4 -0.7**
SNR=8.6
AAK Ala-Archa 58.88 317 *i* P **P 17 18 11.8 -1.3**
AAK pmax pmax
comp=Z,7.0nm,0.7s
ZAA0 Zalesovo Array 58.92 333 P **P 17 18 10.9 -1.9**
ZAA0 lAmb lAmb 17 18 24.9
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 58.92 333 P **P 17 18 11.2 -1.6**
comp=Z,8.3nm,0.6s,baz=129,slow=6.0,SNR=36
ZALV PcP **PcP 17 19 00.3 -1.4**
comp=Z,12nm,0.8s,baz=151,slow=3.4,SNR=6.7
ZALV LR LR 17 45 23.4
comp=Z,54nm,21.1s,baz=153,slow=38
ZALV PKP2bc 17 47 56.3
comp=Z,1.3nm,0.7s,baz=306,slow=3.5,SNR=5.8
ZALV Zalesovo Beam 58.92 333 *i* P **P 17 18 11.5 -1.3**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
SGDS Sogindy 59.12 318 *eP* **P 17 18 12.3 -2.3**
SGDS Sogindy 59.12 318 *eP* **P 17 18 12.2 -2.3**
AML Almayashu 59.23 316 P **P 17 18 15.4 -0.3**
SNR=36
EKS2 Erkin-Say 59.38 317 P **P 17 18 16.0 -0.4**
SNR=27
KURBB Kurchatov Arra 60.13 327 P **P 17 18 19.9 -1.3**
KURK Kurchatov 60.13 327*ceP* **P 17 18 20.0 -1.2**
KURK pmax pmax
comp=Z,40nm,0.6s
KURK Kurchatov 60.13 327 P **P 17 18 20.1 -1.2**
BTLS Baital 60.16 320⇑ *iP* **P 17 18 19.9 -1.7**
comp=Z,5.2nm,0.7s
BTLS Baital 60.16 320*c i*P **P 17 18 19.9 -1.7**
BTLS pmax pmax
comp=Z,5.0nm,0.7s

KBL Kabul 60.24 307 P **P 17 18 21.3 -1.3**
KBL pmax pmax
comp=Z,26nm,0.8s
KBL Kabul 60.24 307 P **P 17 18 21.3 -1.3**
SEY Seymchan 60.42 13 *i* P **P 17 18 22.1 -0.9**
BTK Batken 60.51 313 P **P 17 18 23.2 -1.0**
BTK pmax pmax
comp=Z,29nm,1.1s
BTK Batken 60.51 313 P **P 17 18 23.2 -1.0**
GAR Garm 60.54 312 P **P 17 18 23.5 -0.9**
DZA Taraz 61.13 317 *eP* **P 17 18 26.7 -1.7**
DZA Taraz 61.13 317 *eP* **P 17 18 26.6 -1.7**
CHGR Chuyangaron 61.30 311 P **P 17 18 28.2 -1.4**
KK31 Karatay Array 61.77 316 *i* P **P 17 18 31.5 -1.1**
KK31 Karatay Array 61.77 316 P **P 17 18 31.3 -1.3**
KK31 lAmb lAmb 17 18 32.4
comp=Z,22nm,0.9s
KKAR Karatay Array 61.77 316 P **P 17 18 31.3 -1.3**
KKAR Karatay Array 61.77 316 P **P 17 18 31.3 -1.3**
KKAR lAmb lAmb 17 18 32.4
comp=Z,22nm,0.9s
KKAR Karatay Array 61.77 316 P **P 17 18 31.3 -1.3**
IUG luzhnay 61.77 315⇑ *iP* **P 17 18 31.7 -1.0**
comp=Z,11nm,0.8s
IUG luzhnay 61.77 315*c i*P **P 17 18 31.7 -1.0**
IUG pmax pmax
comp=Z,11nm,0.8s
BRZS Berezniki 63.11 324⇑ *iP* **P 17 18 40.1 -1.4**
comp=Z,9.2nm,0.6s
BRZS Berezniki 63.11 324*c i*P **P 17 18 40.0 -1.4**
BRZS pmax pmax
comp=Z,9.0nm,0.6s
HRA Herat 65.69 305 P **P 17 18 57.1 -1.7**
HRA lAmb lAmb 17 18 58.3
comp=Z,8.1nm,0.8s
BVAR Borovoye Array 65.71 327 P **P 17 18 57.2 -1.1**
comp=Z,7.3nm,0.7s,baz=188,slow=18,SNR=59
BRVK Borovoye 65.78 327*ceP* **P 17 18 57.5 -1.3**
BRVK pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 65.78 327 P **P 17 18 57.5 -1.3**
TIXI Tiksi 66.12 1*ceP* **P 17 18 59.8 -0.8**
TIXI pmax pmax
comp=Z,121nm,0.8s
TIXI Tiksi 66.12 1 P **P 17 18 59.5 -1.2**
BILL Bilibino 67.97 15⇓ *eP* **P 17 19 08.7 -3.7**
BILL *i* *PP **PcP 17 19 41.1 +2.6**
BILL *i* 17 21 40.8
BILL pmax pmax
comp=Z,9.0nm,1.3s
NRIK Noril'sk 68.68 346 P **P 17 19 17.0 +0.2**
comp=Z,63nm,0.7s,baz=121,slow=6.6,SNR=85
NRIK LR LR 17 51 46.5
comp=Z,46nm,18.3s,baz=200,slow=38
NRIK Noril'sk 68.68 346*ceP* **P 17 19 16.8 -0.1**
NRIK pmax pmax
comp=Z,70nm,0.7s
GEYT Alibeck 69.58 308 P **P 17 19 22.5 -0.6**
comp=Z,7.4nm,0.7s,baz=142,slow=5.1,SNR=18
GEYT LR LR 17 53 37.4
comp=Z,50nm,20.6s,baz=5.0,slow=39
GYA0B ALIBECK ARRAY 69.58 308 P **P 17 19 21.8 -1.4**
GYA0B lAmb lAmb 17 19 23.5
comp=Z,15nm,0.9s
AB31 Akbulak array 70.63 320 *i* P **P 17 19 27.9 -1.3**
ABKAR Akbulak array 70.63 320 P **P 17 19 27.9 -1.3**
ABKAR lAmb lAmb 17 19 28.8
comp=Z,18nm,0.7s
ABKAR Akbulak array 70.63 320 P **P 17 19 27.5 -1.7**
AKTO Aktyubinsk 72.12 321 P **P 17 19 37.0 -1.2**
comp=Z,22nm,0.7s,baz=96,slow=7.7,SNR=90
SVE Sverdlovsk 72.34 328*deP* **P 17 19 38.2 -1.2**
SVE pmax pmax
comp=Z,40nm,1.0s
CASY Casey 72.49 187 P **P 17 19 40.6 +0.6**
ARU Arti 73.32 328*c i*P **P 17 19 43.4 -1.8**
ARU *PP **pP 17 19 53.9 -3.1**
ARU 17 22 25.7
ARU S **S 17 29 11.0 +0.2**
ARU SS **SS 17 33 48.8 -4.4**
ARU pmax pmax
comp=Z,26nm,0.7s
ARU Arti 73.32 328 P **P 17 19 43.5 -1.7**
KIRV Kirov 78.59 329*ceP* **P 17 20 12.5 -2.7**
GROC Groznyy 79.45 313 *eP* **P 17 20 19.4 -0.9**
GROC *e* 17 20 28.9
GROC *e* 17 23 20.0
GROC pmax pmax
comp=Z,22nm,0.7s
TTA Tatalina 79.50 27 P **P 17 20 20.3 +0.1**
TTA pmax pmax
comp=Z,6.0nm,1.1s
TTA Tatalina 79.50 27 P **P 17 20 20.3 +0.1**
SII Sitkinak Islan 79.61 34 P **P 17 20 20.7 -0.2**
SII lAmb lAmb 17 20 31.3
comp=Z,15nm,0.8s
OHAK Old Harbor 80.17 33 P **P 17 20 24.9 +1.1**
OHAK lAmb lAmb 17 20 32.4
comp=Z,10nm,0.7s
KDAK Kodiak Island 80.59 32 P **P 17 20 26.1 0.0**
KDAK pmax pmax
comp=Z,15nm,0.7s
KDAK Kodiak Island 80.59 32 P **P 17 20 26.1 0.0**
KDAK lAmb lAmb 17 20 34.4
comp=Z,15nm,0.7s
ZEI Tsey 80.83 312 *eP* **P 17 20 26.2 -1.8**
ZEI pmax pmax
comp=Z,19nm,1.0s
PRGR Permogore 80.84 331 *eP* **P 17 20 25.3 -2.0**
PRGR pmax pmax
comp=Z,34nm,0.8s
PPLA Purkeypile 81.23 27 P **P 17 20 29.8 +0.2**
PPLA lAmb lAmb 17 20 33.6
comp=Z,15nm,1.1s
CNPM China Poot 81.43 31 P **P 17 20 31.6 +1.0**
CNPM lAmb lAmb 17 20 50.3
comp=Z,13nm,0.8s
SKT Skwentna 81.46 28 P **P 17 20 29.7 -1.0**
KBZ Khabaz 81.58 313 P **P 17 20 30.4 -1.2**
comp=Z,6.4nm,0.9s,baz=47,slow=1.4,SNR=15
KBZ LR LR 18 01 45.1
comp=Z,53nm,19.8s,baz=58,slow=39
KBZ Khabaz 81.58 313*ceP* **P 17 20 29.8 -1.8**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
BRLK Bradley Lake 81.62 30 P **P 17 20 30.3 -1.3**
BRLK lAmb lAmb 17 20 51.6
comp=Z,10nm,0.8s
KIV Kislovodsk 81.73 313 *eP* **P 17 20 30.9 -1.7**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,133nm,19.0s
KIV Kislovodsk 81.73 313 P **P 17 20 31.6 -1.0**
KIV lAmb lAmb 17 20 44.8
comp=Z,12nm,0.7s
SHA1 Shidzhatmaz 81.75 313 *i* P **P 17 20 31.3 -1.6**
SUA Susitna One 81.80 29 P **P 17 20 31.1 -1.5**
SUA lAmb lAmb 17 20 41.4
comp=Z,16nm,0.9s
KTH Kantishna Hill 81.86 27 P **P 17 20 32.5 -0.3**
BPAW Bear Paw Mtn. 81.87 26 P **P 17 20 31.4 -1.4**
BPAW lAmb lAmb 17 20 55.1
comp=Z,11nm,0.8s
MLY Manley 82.05 25 P **P 17 20 33.8 0.0**
baz=266
TRF Thorofare Moun 82.14 27 P **P 17 20 34.1 -0.3**
TRF lAmb lAmb 17 20 55.6
comp=Z,12nm,1.0s
O22K Cooper Landing 82.24 30 P **P 17 20 34.5 -0.3**
baz=267
RC01 Rabbit Creek A 82.26 29 P **P 17 20 33.7 -1.2**
baz=267
ARTV Artvin 82.30 311 P **P 17 20 34.7 -1.1**
SEW Seward 82.36 30 P **P 17 20 35.0 -0.4**
SEW lAmb lAmb 17 20 37.9
comp=Z,29nm,1.4s
COLD Coldfoot 82.42 23 P **P 17 20 36.3 +0.7**
baz=266
COLD Coldfoot 82.42 23 P **P 17 20 36.3 +0.7**
COLD lAmb lAmb 17 20 45.1
comp=Z,11nm,0.8s
VRH Novokhopyorsk 82.45 321 *eP* **P 17 20 34.2 -1.9**
VRH *e**PP **PcP 17 20 44.0 +2.9**
VRH pmax pmax
comp=Z,30nm,0.7s
NEA2 Nenana 82.73 26 P **P 17 20 36.6 -0.7**
baz=267
TOLK Toolik Lake Re 82.75 22 P **P 17 20 36.7 -0.6**
baz=266
TOLK Toolik Lake Re 82.75 22 P **P 17 20 37.6 +0.2**
TOLK lAmb lAmb 17 20 46.8
comp=Z,12nm,0.7s
MCK McKinley 82.75 27 P **P 17 20 36.7 -0.7**
baz=268
RND Reindeer 82.78 27 P **P 17 20 36.5 -1.2**
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 82.78 27 P **P 17 20 36.5 -1.2**
KNK Knik Glacier 82.89 29 P **P 17 20 37.2 -1.0**
KNK lAmb lAmb 17 20 58.5
comp=Z,12nm,0.8s
SML Sawmill 82.97 28 P **P 17 20 38.0 -0.6**
SML lAmb lAmb 17 20 58.4
comp=Z,16nm,0.8s
MDM Murphy Dome 83.11 25 P **P 17 20 38.9 -0.3**
WRH Wood River Hil 83.15 26 P **P 17 20 39.0 -0.5**
MARD Mardin 83.26 307 P **P 17 20 39.6 -1.2**
MARD lAmb lAmb 17 20 41.2
comp=Z,7.8nm,0.7s
COLA College 83.27 25 *i* P **P 17 20 39.5 -0.5**
COLA pmax pmax
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 83.28 26 P **P 17 20 38.6 -1.4**
KOPT Kop Dagi 83.41 310 P **P 17 20 39.9 -1.7**
KOPT lAmb lAmb 17 20 46.6
comp=Z,12nm,0.8s
DHY Denali Highway 83.44 27 P **P 17 20 41.6 +0.5**
SCM Sheep Creek Mo 83.44 28 P **P 17 20 40.1 -1.0**
SCM pmax pmax
comp=Z,29nm,1.2s
SCM Sheep Creek Mo 83.44 28 P **P 17 20 40.1 -1.0**
SCM lAmb lAmb 17 20 45.5
comp=Z,30nm,1.2s
POKR Poker Plat Res 83.45 25 P **P 17 20 39.8 -1.1**
baz=269
HDA Harding Lake 83.65 26 P **P 17 20 41.0 -1.0**
baz=269
HDA Harding Lake 83.65 26 P **P 17 20 40.7 -1.3**
HDA lAmb lAmb 17 20 43.7
comp=Z,9.0nm,0.7s
IL31 83.68 25 P **P 17 20 41.9 -0.2**
ILAR Eielson Array 83.68 25 P **P 17 20 40.8 -1.3**
comp=Z,4.0nm,0.8s,baz=244,slow=5.4,SNR=34
ILAR Eielson Array 83.68 25 P **P 17 20 41.3 -0.9**
ILAR Eielson Array 83.68 25 P **P 17 20 41.3 -0.9**
KLMR Klimovskoe 83.76 331 *eP* **P 17 20 40.9 -1.6**
KLMR pmax pmax
comp=Z,76nm,1.2s
KLMR Klimovskoe 83.76 331 *eP* **P 17 20 41.0 -1.6**
KLMR AMP 17 20 43.1
comp=Z,76nm,1.2s
HIN Hinchinbrook I 83.84 30 P **P 17 20 41.1 -2.0**
FID Port Fidalgo 83.85 30 P **P 17 20 41.4 -1.7**
Q23K Middleton Isla 83.92 31 P **P 17 20 43.1 -0.3**
baz=270
M24K Tolsona, Glenn 83.99 28 P **P 17 20 42.3 -1.6**
baz=270
M24K Tolsona, Glenn 83.99 28 P **P 17 20 44.9 +1.1**
VORD Divnogorie 83.99 321 *eP* **P 17 20 41.7 -2.3**
VORD *e**PP **pP 17 20 52.9 -2.9**
VORD pmax pmax
comp=Z,10.0nm,0.4s
VSR Storozhevoye 84.06 321 *eP* **P 17 20 42.4 -2.0**
VSR *e**PP **pP 17 20 53.4 -2.8**
VSR pmax pmax
comp=Z,20nm,0.6s
KLU Klutina 84.11 29 P **P 17 20 44.1 -0.5**
KLU lAmb lAmb 17 20 53.1
comp=Z,10nm,0.8s
LPSR Galich'ya Gora 84.18 322 *eP* **P 17 20 43.4 -1.5**
LPSR *e**PP **pP 17 20 54.0 -2.7**
LPSR pmax pmax
comp=Z,20nm,0.7s
PAX Paxson 84.31 27 P **P 17 20 44.8 -0.7**
PAX pmax pmax
comp=Z,13nm,1.3s
PAX Paxson 84.31 27 P **P 17 20 44.8 -0.7**
PAX lAmb lAmb 17 20 50.5
comp=Z,13nm,1.3s
FYU Fort Yukon 84.36 24 P **P 17 20 43.9 -1.7**
FYU lAmb lAmb 17 20 56.6
comp=Z,18nm,0.9s
RIDG Independent Ri 84.57 27 P **P 17 20 45.4 -1.4**
RIDG lAmb lAmb 17 20 50.8
comp=Z,14nm,1.0s
N25K Chitina, Valde 84.74 29 P **P 17 20 47.7 0.0**
baz=272
MOS Moscow 84.85 325 *eP* **P 17 20 44.3 -3.9**
MOS *e* 17 20 55.3
MOS pmax pmax
comp=Z,52nm,0.8s
DOT Dot Lake 84.92 27 P **P 17 20 48.3 -0.3**
SCRK Sand Creek 84.95 26 P **P 17 20 48.3 -0.5**
baz=272
MENT Mentasta 85.11 27 P **P 17 20 48.0 -1.4**
MENT lAmb lAmb 17 21 12.9
comp=Z,7.6nm,0.9s
GLB Gilahina Butte 85.13 29 P **P 17 20 49.3 -0.3**
GLB lAmb lAmb 17 20 58.3
comp=Z,13nm,0.8s
VNDA Vanda 85.17 173 P **P 17 20 49.6 +0.2**
comp=Z,9.1nm,0.9s,baz=313,slow=6.1,SNR=50
VNDA LR LR 17 58 38.7
comp=Z,51nm,20.6s,baz=346,slow=35
VNDA Vanda 85.17 173 P **P 17 20 49.5 +0.1**
VNDA lAmb lAmb 17 20 51.5
comp=Z,9.1nm,0.9s
MAW Mawson 85.27 200 P **P 17 20 50.2 +0.2**
comp=Z,7.7nm,0.9s,baz=41,slow=5.9,SNR=24
MAW LR LR 17 59 07.5
comp=Z,39nm,18.2s,baz=246,slow=36
MAW Mawson 85.27 200 P **P 17 20 49.9 -0.1**
VRDI Verde Repeater 85.31 29 P **P 17 20 49.2 -1.5**
VRDI lAmb lAmb 17 20 59.2
comp=Z,9.9nm,0.8s
OBN Obninsk 85.48 325*ceP* **P 17 20 50.1 -1.3**
OBN *i* S **SKSac 17 31 05.6 -7.5**
OBN pmax pmax
comp=Z,75nm,1.0s
OBN Obninsk 85.48 325 P **P 17 20 50.7 -0.7**
CRQM Cirque 85.48 30 P **P 17 20 50.3 -1.3**
CRQM lAmb lAmb 17 21 09.2
comp=Z,17nm,1.0s
TGL Tana Glacier 85.64 30 P **P 17 20 50.7 -1.6**
TGL lAmb lAmb 17 21 11.0
comp=Z,11nm,0.9s
LVZ Lovozero 85.65 338 P **P 17 20 50.6 -1.5**
LVZ pmax pmax
comp=Z,35nm,1.2s
LVZ Lovozero 85.65 338 P **P 17 20 50.6 -1.5**
K27K Chicken 85.78 26 P **P 17 20 53.6 +0.8**
baz=274
BALM Baldy 85.86 29 P **P 17 20 52.1 -1.2**
BALM lAmb lAmb 17 21 02.3
comp=Z,11nm,1.0s
MESA MESA 86.11 30 P **P 17 20 53.0 -1.7**
GAZ Gaziantep 86.11 307 P **P 17 20 54.1 -1.0**
EGAK Eagle 86.13 25 P **P 17 20 54.8 +0.3**
BARN Barnard Glacie 86.19 29 P **P 17 20 54.5 -0.5**
BARN lAmb lAmb 17 21 04.9
comp=Z,11nm,1.0s
YAH Yahtse 86.20 30 P **P 17 20 55.1 -0.1**
CTGM Chitina Glacie 86.35 29 P **P 17 20 56.0 +0.2**
CTGM lAmb lAmb 17 21 05.8
comp=Z,16nm,1.0s
KEV Kevo 88.17 340 P **P 17 21 03.4 -0.8**
KEV pmax pmax
comp=Z,24nm,1.1s
KEV Kevo 88.17 340 P **P 17 21 03.4 -0.8**
HYT Haines Junctio 88.23 29 P **P 17 21 05.0 +0.1**
HYT lAmb lAmb 17 21 13.8
comp=Z,9.2nm,1.3s
BR131 Keskin Array S 88.69 310 P **P 17 21 05.9 -1.6**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 88.69 310 P **P 17 21 05.9 -1.6**
BR131 lAmb lAmb 17 21 09.2
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 88.69 310 P **P 17 21 05.5 -2.0**

comp=Z,4.0nm,0.8s,baz=79,slow=6.4,SNR=9.1
BRTR LR LR 18 06 44.2
comp=Z,62nm,18.6s,baz=248,slow=40
BRTR Keskin Array B 88.69 310 P **P 17 21 05.7 -1.9**
ARCES ARCESS Array B 88.73 340 P **P 17 21 06.2 -0.6**
comp=Z,34nm,0.7s,baz=78,slow=6.3,SNR=70
ARCES LR LR 18 04 16.1
comp=Z,91nm,18.3s,baz=230,slow=38
SPA0 Spitsbergen Ar 88.73 349 *eP* **P 17 21 07.3 +0.5**
HAMF Hammerfest 89.09 341 *eP* **P 17 21 07.3 -1.2**
FIA1 FINESS Array S 90.17 332 P **P 17 21 12.4 -1.3**
FINES FINESS Array B 90.17 332 P **P 17 21 12.3 -1.5**
comp=Z,12nm,0.6s,baz=44,slow=5.7,SNR=44
FINES LR LR 18 05 37.8
comp=Z,136nm,19.3s,baz=66,slow=38
FINES FINESS Array B 90.17 332 *i* P **P 17 21 12.6 -1.2**
FINES pmax pmax
comp=Z,12nm,0.6s
AKASG Malin Array Be 90.36 321 P **P 17 21 12.5 -2.4**
comp=Z,4.5nm,0.7s,baz=72,slow=4.2,SNR=14
AKASG Malin Array Be 90.36 321 P **P 17 21 13.1 -1.8**
AKASG Malin Array Be 90.36 321 P **P 17 21 13.1 -1.8**
AKBB Malin Array Si 90.36 321 *ce*P **P 17 21 12.5 -2.4**
AKBB Malin Array Si 90.36 321 P **P 17 21 12.6 -2.4**
AKBB IAmb IAmb 17 21 24.8
comp=Z,16nm,1.4s
VSU Vasula 90.44 329 *eP* **P 17 21 13.8 -1.2**
VSU Vasula 90.44 329 *i* P **P 17 21 13.4 -1.6**
VSU pmax pmax
comp=Z,57nm,0.8s
TRO Tromso 90.93 340 *eP* **P 17 21 15.8 -1.3**
IDID Didziasalis 91.04 326 *eP* **P 17 21 16.6 -1.3**
NACGM Naroch 91.09 325 *e* **P 17 21 17.0 -1.2**
NACGM eLR LR 17 56 04.0
IIGN Ignalina 91.32 326 *eP* **P 17 21 18.2 -1.1**
ISAL Salakas 91.33 326 *eP* **P 17 21 17.7 -1.6**
NOR Nord 91.35 355 *i* P **P 17 21 19.1 +0.2**
NOR pmax pmax
comp=Z,7.0nm,0.8s
NOR Nord 91.35 355 *i* P **P 17 21 19.1 +0.2**
comp=Z,6.9nm,0.8s
NOR Nord 91.35 355 *i* P **P 17 21 19.1 +0.2**
NOR IAmb IAmb 17 21 19.4
comp=Z,6.9nm,0.8s
CFR Carcaliu 91.99 316 ⇓P **P 17 21 21.9 -0.6**
CFR Carcaliu 91.99 316 ⇓P **P 17 21 21.9 -0.6**
PABE Paberze 92.55 326 *eP* **P 17 21 23.6 -1.3**
STEI Steigen 92.77 339 *eP* **P 17 21 24.5 -1.1**
VRI Vrincioaia 92.84 316 ⇓P **P 17 21 25.5 -1.0**
VRI Vrincioaia 92.84 316 ⇓P **P 17 21 25.5 -1.0**
PLOR Plostina 92.89 316 ⇓P **P 17 21 25.9 -0.9**
PLOR Plostina 92.89 316 ⇓P **P 17 21 25.9 -0.9**
FAUS Fauske 92.96 339 *eP* **P 17 21 25.2 -1.3**
NEHR Nehoiu 93.22 316 ⇓P **P 17 21 27.6 -0.7**
SUW Suwalki 93.34 325 *eP* **P 17 21 27.2 -1.4**
SUW Suwalki 93.34 325 P **P 17 21 26.3 -2.3**
SUW pmax pmax
comp=Z,47nm,0.8s
SUW Suwalki 93.34 325 P **P 17 21 26.3 -2.3**
MLR Muntele Rosu 93.45 316 ⇓P **P 17 21 28.3 -1.2**
MLR Muntele Rosu 93.45 316 ⇓P **P 17 21 28.3 -1.2**
MLR Muntele Rosu 93.45 316 P **P 17 21 27.7 -1.8**
BURAR Bucovina Array 93.51 318 ⇑P **P 17 21 28.4 -1.3**
BURAR Bucovina Array 93.51 318 ⇑P **P 17 21 28.4 -1.3**
BURAR Bucovina Array 93.51 318 P **P 17 21 28.2 -1.5**
BUR08 Bucovina Ar. S 93.52 318 P **P 17 21 28.2 -1.5**
BUR08 IAmb IAmb 17 21 29.3
comp=Z,5.4nm,0.9s
MOR8 Moi Rana 93.73 338 *eP* **P 17 21 27.9 -2.3**
SYO Syowa Base 93.92 201 ⇑ *iP* **P 17 21 30.0 -0.9**
SYO Syowa Base 93.92 201 ⇓ *e*PcP **PcP 17 21 32.4 +1.1**
VOIR 94.08 316 ⇓P P 17 21 27.3 -5.0
VOIR 94.08 316 ⇓P P 17 21 27.3 -5.0
ARR Arges 94.38 316 ⇑P **P 17 21 34.8 +1.1**
KWP Kalwaria Pacla 94.68 321 P **P 17 21 33.8 -1.1**
KWP pmax pmax
comp=Z,7.0nm,0.5s
KWP Kalwaria Pacla 94.68 321 P **P 17 21 33.8 -1.1**
CJR Cluj-Napoca 94.79 318 ⇓P **P 17 21 33.2 -2.3**
CJR Cluj-Napoca 94.79 318 ⇓P **P 17 21 33.2 -2.3**
KOLS Kolonicke sedl 95.13 320 *eP* **P 17 21 36.8 -0.2**
KOLS Kolonicke sedl 95.13 320 *eP* **P 17 21 36.8 -0.2**
UZH Uzhgorod 95.19 320 ⇓ *iP* **P 17 21 36.4 -0.8**
UZH *e* 17 21 44.9
UZH *e* 17 21 54.5
QSPA South Pole Qui 95.36 180 P **P 17 21 38.0 +0.3**
QSPA IAmb IAmb 17 21 40.0
comp=Z,9.9nm,1.1s
DAG Danmarks Havn 95.50 352 *i* P **P 17 21 37.0 -1.1**
DAG pmax pmax
comp=Z,9.0nm,0.8s
DAG Danmarks Havn 95.50 352 *i* P **P 17 21 37.0 -1.1**
comp=Z,9.0nm,0.8s
DAG Danmarks Havn 95.50 352 *i* P **P 17 21 37.0 -1.1**
DAG IAmb IAmb 17 21 38.0
comp=Z,9.0nm,0.8s
GZR Gura Zlata 95.65 317 ⇓P **P 17 21 37.1 -2.4**
GZR Gura Zlata 95.65 317 ⇓P **P 17 21 37.1 -2.4**
CRVS Cervenica-Dubn 95.66 320 *eP* **P 17 21 38.9 -0.5**
CRVS Cervenica-Dubn 95.66 320 *eP* **P 17 21 38.9 -0.5**
HERR Herculane 96.02 316 P **P 17 21 39.0 -2.0**
SIRR Siria 96.19 318 ⇑P **P 17 21 40.5 -1.4**
HFS Hagfors 96.35 332 LR LR 18 09 37.5
comp=Z,86nm,18.4s,baz=72,slow=38
BZS Buzias 96.39 317 ⇑P P 17 21 37.1 -5.6
BZS Buzias 96.39 317 ⇑P P 17 21 37.1 -5.7
MDVR Moldovita 96.53 316 ⇑P **P 17 21 39.9 -3.6**
NC405 NORSAR Array S 96.86 334 P **P 17 21 43.1 -1.5**
NC303 NORSAR Array S 96.96 334 P **P 17 21 43.4 -1.6**
LIT Litokhoron 97.08 311 P **P 17 21 43.5 -2.6**
LIT pmax pmax
comp=Z,9.0nm,1.2s
LIT Litokhoron 97.08 311 P **P 17 21 43.5 -2.6**
LIT IAmb IAmb 17 21 55.1
comp=Z,8.6nm,1.2s
NB2 NORSAR Subarra 97.11 334 P **P 17 21 43.8 -1.9**
comp=Z,3.2nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 97.11 334 P **P 17 21 43.8 -1.9**
baz=65,slow=4.6
NOA NORSAR Array B 97.11 334 P **P 17 21 43.5 -2.2**
comp=Z,5.2nm,0.8s,baz=66,slow=4.6,SNR=21
NOA LR LR 18 09 36.2
comp=Z,97nm,21.6s,baz=65,slow=38
NC204 NORSAR Array S 97.21 334 P **P 17 21 44.4 -1.8**
NAO01 NORSAR Array S 97.34 334 P **P 17 21 45.2 -1.6**
DOMB Dombas 97.60 335 *eP* **P 17 21 46.1 -1.8**
DIVS Divibare 97.89 316 P **P 17 21 48.2 -1.5**
DIVS IAmb IAmb 17 21 50.1
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 98.05 24 LR LR 18 09 07.6
comp=Z,24nm,20.3s,baz=0.0,slow=37
KSP Ksiaz 98.29 323 *eP* **P 17 21 50.7 -0.6**
SKAR Skarslia 98.55 334 *e*Pdif **P 17 21 51.2 -1.0**
VRAC Vranov 98.60 321 LR LR 18 08 45.7
comp=Z,138nm,19.6s,baz=189,slow=37
BRG Berggiesshubel 99.67 324 *i* P **Pdif 17 21 56.6 -0.8**
comp=Z,6.9nm,0.8s
BRG Berggiesshubel 99.67 324 *i* P **Pdif 17 21 56.6 -0.8**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BLS5 Blasjo 99.96 333 *eP* **Pdif 17 21 57.6 -0.9**
CLL Collm 100.07 324 *e*Pdif **Pdif 17 21 58.0 -1.1**
CLL Collm 100.07 324 *eP* **Pdif 17 21 58.0 -1.1**
GERES GERESS Array B 100.55 322 P **Pdif 17 22 00.4 -1.1**
comp=Z,1.5nm,0.8s,baz=73,slow=4.5,SNR=12
NVAR Mina Array Bea 105.97 48 PKKPbc PKKPbc 17 38 01.3 -0.4
comp=Z,0.4nm,0.6s,baz=132,slow=3.4,SNR=4.6
NVAR PKKPab **PKKPab 17 38 16.2 -2.0**
comp=Z,1.0nm,0.9s,baz=111,slow=4.7,SNR=5.2
VNA2 Neumayer--Watz 108.42 194 P **PKiKP 17 26 41.7 +0.2**
VNA1 Neumayer--Stat 108.82 194 P **PKiKP 17 26 43.3 +1.1**
PDAR Pinedale Array 110.25 41 PKKPab PKKPab 17 37 56.5 -2.8
comp=Z,1.3nm,0.9s,baz=126,slow=6.1,SNR=8.5
TXAR Lajitas Array 120.77 51 PKP **PKPdf 17 27 06.4 -0.1**
comp=Z,0.6nm,0.7s,baz=242,slow=1.7,SNR=8.3
TXAR PKKPab **PKKPbc 17 37 11.1 -0.3**
comp=Z,0.9nm,0.8s,baz=123,slow=5.5,SNR=10.0
TXAR Lajitas Array 120.77 51 PKPdf **PKPdf 17 27 06.4 -0.1**
TXAR **PKKPbc 17 37 10.8 -0.6**
E46A Sault Ste Mari 121.62 25 PKPdf **PiKiKP 17 27 07.8 +0.1**
TOA0 Torodi Ar. Sit 122.08 289 PKPdf **PKPdf 17 27 08.8 -0.4**
TORD Torodi Ar. Bea 122.08 289 PKP **PKPdf 17 27 08.5 -0.7**
comp=Z,5.3nm,0.7s,baz=43,slow=1.9,SNR=27

JCT Junction City 123.15 48 PKIKP **PKiKP 17 27 11.3 +0.1**
JCT Junction City 123.15 48 PKPdf **PKiKP 17 27 11.3 +0.1**
S39A Bolivar 123.34 37 PKPdf **PKPdf 17 27 10.7 -0.3**
U40A Yellville 124.49 38 PKPdf **PKPdf 17 27 13.0 -0.3**
MIAR Mount Ida 125.17 40 PKIKP **PKPdf 17 27 14.7 +0.1**
MIAR Mount Ida 125.17 40 PKPdf **PKPdf 17 27 14.7 +0.1**
KIC Kosan Boka 129.86 283 *e*PKIKP **PKiKP 17 27 25.5 +0.6**
comp=Z,11nm,0.8s
DBIC Dimbokro 129.91 283 SKPbc SKPab 17 30 43.5 +0.4
comp=Z,11nm,0.9s,baz=27,slow=3.3,SNR=7.3
TIC Toumodi 130.07 283 *e*PKIKP **PKiKP 17 27 25.8 +0.4**
LIC Lamto 130.17 283 *e*PKIKP **PKiKP 17 27 26.0 +0.5**
comp=Z,18nm,0.6s
PLCA Paso Flores 141.72 159 PKhKP **PKPdf 17 27 40.9 -4.7**
comp=Z,1.5nm,0.6s,baz=196,slow=12,SNR=3.8
PLCA Paso Flores 141.72 159 PKIKP **PKPdf 17 27 41.3 -4.2**
PLCA Paso Flores 141.72 159 **PKPdf 17 27 41.3 -4.2**
LC01 Cunco 142.81 156 PKPdf **PKPdf 17 27 44.7 -2.7**
BI02 San Fabin de 144.97 155 **PKPdf 17 27 51.5 +0.1**
JTS Las Juntas de 145.05 63 PKIKP **PKPdf 17 27 52.3 +0.3**
JTS Las Juntas de 145.05 63 PKPdf **PKPdf 17 27 52.3 +0.3**
BO02 Sierra Bellavi 146.76 154 PKPab **PKPab 17 27 57.1 -0.3**
PEL Peldehue 148.18 152 PKP2 **PKPbc 17 28 00.8 +0.7**
PEL Peldehue 148.18 152 **PKPbc 17 28 00.8 +0.7**
VA03 San Esteban 148.56 152 **PKPbc 17 28 01.9 +0.7**
CO03 El Peregal 150.06 150 **PKPbc 17 28 05.2 +0.2**
SDDR Presa de Saban 150.09 35 **PKPbc 17 28 04.4 -0.9**
GO04 Tololo Observa 150.54 149 **PKiKP 17 28 07.0 -0.1**
CO01 Juntas del Tor 151.06 149 **PKiKP 17 28 08.2 0.0**
AC05 El Transito 151.88 148 **PKiKP 17 28 10.4 +0.7**
SDV Santo Domingo 157.81 50 PKP **PKPdf 17 28 11.7 +0.2**
comp=Z,4.7nm,0.5s,baz=315,slow=1.7,SNR=5.0
ITAB Concordia 158.31 183 *eP* **PKPdf 17 28 14.5 +3.0**
CPUP Villa Florida 158.94 171 PKP **PKPdf 17 28 12.9 +0.6**
comp=Z,2.7nm,0.8s,baz=227,slow=4.7,SNR=4.1
CPUP PKPab **PKPab 17 28 49.1 +0.8**
comp=Z,5.7nm,0.8s,baz=185,slow=4.3,SNR=7.9
CPUP Villa Florida 158.94 171 PKIKP **PKPdf 17 28 12.5 +0.2**
CPUP 17 28 48.5
CPUP Villa Florida 158.94 171 **PKPdf 17 28 12.5 +0.2**
CPUP **PKPab 17 28 48.5 +0.2**
LPAZ La Paz 162.13 128 PKP **PKPdf 17 28 17.6 +0.8**
comp=Z,2.1nm,0.8s,baz=236,slow=3.8,SNR=8.0
ETMB Extrema 166.75 110 *eP* **PKPdf 17 28 24.1 +3.9**
JANB Januaria 166.82 223 *eP* **PKPdf 17 28 23.6 +3.3**
SIV San Ignacio 167.21 145 PKP **PKPdf 17 28 21.0 +0.5**
comp=Z,6.1nm,0.9s,baz=189,slow=1.3,SNR=22
BDFB Brasilia 168.51 208 PKP **PKPdf 17 28 21.4 -0.1**
comp=Z,2.8nm,0.6s,baz=281,slow=2.0,SNR=3.6
BDFB PKPab **PKPab 17 29 31.6 +0.8**
comp=Z,6.7nm,1.1s,baz=172,slow=0.6,SNR=3.3
BDFB Brasilia 168.51 208 PKIKP **PKPdf 17 28 21.1 -0.4**
BDFB Brasilia 168.51 208 **PKPdf 17 28 21.1 -0.4**
PTLB Pontes e Lacer 168.67 152 *eP* **PKPdf 17 28 25.1 +3.6**
SAML Samuel 169.86 111 *eP* **PKPdf 17 28 26.4 +4.1**
SMTB Santa Maria do 173.17 240 *eP* **PKPdf 17 28 26.8 +2.9**

TAP 16 17:11:59.4, 21.83N×121.91E, h99km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
LAY	**Lan-yu**	**0.39**	**302**	*e*P		Pn	17 12 14.3	-0.1
	baz=299							
LAY				*e*S		Sn	17 12 25.2	-0.4
	baz=299							
LDUT	**Ludao**	**0.93**	**334**	*e*P		Pn	17 12 18.1	-0.9
	baz=340							
LDUT				*e*S		Sn	17 12 34.3	+0.5
	baz=340							
TWKBT	**Hengchun**	**1.02**	**276**	*e*P		Pn	17 12 20.5	+0.5
	baz=281							
TWK1	**Hengchun**	**1.03**	**276**	*e*P		Pn	17 12 20.5	+0.4
	baz=280							
TAW	**Tawu**	**1.08**	**299**	*e*P		Pn	17 12 20.7	+0.1
	baz=299							
SLIU	**Shizi**	**1.10**	**291**	P		Pn	17 12 19.8	-1.1
	baz=295							
HEN	**Hengchun**	**1.10**	**279**	*e*P		Pn	17 12 21.2	+0.3
	baz=281							
EAST	**Anshuo**	**1.13**	**299**	*e*P		Pn	17 12 21.8	+0.6
	baz=306							
ECL	**Taimali**	**1.17**	**311**	*e*P		Pn	17 12 21.8	+0.2
	baz=306							
TWG	**Pinlang**	**1.25**	**322**	*e*P		Pn	17 12 23.0	+0.4
	baz=314							
LONT	**Longtian**	**1.29**	**326**	*e*P		Pn	17 12 23.3	+0.2
	baz=317							
MASBT	**Mashibuluo**	**1.42**	**304**	*e*P		Pn	17 12 24.2	-0.4
	baz=303							
TSMG	**Majia**	**1.46**	**307**	*e*P		Pn	17 12 25.0	-0.2
	baz=303							
FULB	**Fuli**	**1.48**	**337**	*e*P		Pn	17 12 25.6	+0.3
	baz=341							
SSD	**Sandimen**	**1.49**	**308**	*e*P		Pn	17 12 26.1	+0.6
	baz=305							
ELDTW	**Lidau**	**1.58**	**329**	*e*P		Pn	17 12 27.8	+1.0
	baz=329							
TWF1	**Yuli**	**1.62**	**340**	*e*P		Pn	17 12 28.0	+0.9
	baz=342							
SLGT	**Liugui**	**1.65**	**315**	P		Pn	17 12 30.1	+2.6
	baz=315							
YULB	**Yu-li**	**1.66**	**340**	*e*P		Pn	17 12 29.2	+1.6
	baz=333							
SCST	**Cishan**	**1.68**	**309**	*e*P		Pn	17 12 27.9	+0.1
	baz=300							
STYT	**Tauyuan**	**1.70**	**321**	*e*P		Pn	17 12 28.4	+0.2
	baz=325							
HGSD	**Ruisui**	**1.71**	**345**	*e*P		Pn	17 12 29.1	+0.7
	baz=348							
SGST	**Jiashian**	**1.75**	**316**	*e*P		Pn	17 12 29.2	+0.4
	baz=316							
EHY	**Hungye**	**1.75**	**342**	*e*P		Pn	17 12 29.7	+0.9
	baz=335							
WTP	**Ta-pu**	**1.85**	**320**	*e*P		Pn	17 12 31.0	+1.0
	baz=309							
CHN1	**Nanshi**	**1.86**	**317**	*e*P		Pn	17 12 31.4	+1.3
	baz=317							
TPUB	**Ta-pu**	**1.88**	**321**	P		Pn	17 12 31.4	+1.0
	baz=310							
TPUB	**Ta-pu**	**1.88**	**321**	P		Pn	17 12 31.0	+0.5
CHN4	**Tsaushan**	**1.94**	**321**	*e*P		Pn	17 12 30.8	-0.5
	baz=311							
TWK	**Hsinying**	**1.94**	**318**	*e*P		Pn	17 12 31.1	-0.2
	baz=308							
ALS	**Alishan**	**1.96**	**329**	P		Pn	17 12 33.5	+1.7
	baz=317							
VWDT	**VWDT**	**2.04**	**340**	*e*P		Pn	17 12 35.2	+2.7
	baz=342							
CHN5	**Tsauling**	**2.09**	**327**	*e*P		Pn	17 12 33.1	-0.1
	baz=317							
SSLB	**Suanglung**	**2.14**	**336**	*e*P		Pn	17 12 36.3	+2.5
	baz=323							
SMLT	**Sun Moon Lake**	**2.25**	**336**	*e*P		Pn	17 12 36.8	+1.5
	baz=325							
CHGB	**Renai**	**2.32**	**343**	*e*P		Pn	17 12 38.9	+2.6
	baz=348							
NACB	**Ninganchiao**	**2.35**	**353**	*e*P		Pn	17 12 35.5	-1.0
	baz=357							
WHF	**Hehuan Shan**	**2.38**	**346**	*e*P		Pn	17 12 37.9	+0.6
	baz=346							
ETLH	**Xiulin Townshi**	**2.40**	**351**	*e*P		Pn	17 12 38.1	+0.9
	baz=357							
FUSS	**Fushou**	**2.48**	**346**	*e*P		Pn	17 12 39.9	+1.4
	baz=352							
WHP	**Taichung City**	**2.59**	**340**	*e*P		Pn	17 12 44.0	+4.2
	baz=329							
NNSB	**Datong**	**2.63**	**349**	*e*P		Pn	17 12 40.9	+0.5
	baz=357							
NNSH	**Datong**	**2.63**	**349**	*e*P		Pn	17 12 40.9	+0.5
	baz=356							
NDT	**Datong Townshi**	**2.78**	**353**	*e*P		Pn	17 12 45.0	+2.8
	baz=352							
ENTT	**Nioudou**	**2.81**	**354**	*e*P		Pn	17 12 45.6	+2.9
	baz=354							
NSK	**Sanguang**	**2.88**	**350**	*e*P		Pn	17 12 44.7	+1.1
	baz=358							
TIPB	**Shuangxi**	**3.13**	**359**	*e*P		Pn	17 12 47.8	+0.9
	baz=9.0							
YM01	**YM01**	**3.32**	**355**	*e*P		Pn	17 12 48.8	-0.6
	baz=355							
YM10	**YM10**	**3.33**	**355**	*e*P		Pn	17 12 49.2	-0.3
	baz=355							
YM05	**YM05**	**3.33**	**355**	*e*P		Pn	17 12 49.0	-0.7
	baz=355							

JMA 16 17:20:51.4±0.3, 25.01N×123.63E, h12km, M1.3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
IRIF	**Iriomote-Funau**	**0.68**	**172**	P		Pg	17 21 04.5	-0.1
IRIF				*e*S		Sg	17 21 12.7	-0.8
JISG	**Ishigakijimahi**	**0.75**	**124**	P		Pg	17 21 05.8	-0.1
JISG				S		Sg	17 21 16.0	+0.3
YOJ	**Yonaguni jima**	**0.78**	**226**	P		Pg	17 21 06.5	-0.1
YOJ				*e*S		Sg	17 21 16.3	-0.6
JIJ	**Ishigaki jima**	**0.80**	**144**	P		Pg	17 21 06.1	-0.7
JIJ				S		Sg	17 21 16.7	-0.5
JKRS	**Kuro-shima**	**0.84**	**156**	P		Pg	17 21 07.3	-0.4
JKRS				S		Sg	17 21 18.6	-0.1
HATJ	**Hateruma jima**	**0.96**	**170**	P		Pg	17 21 09.8	-0.2
HATJ				S		Sg	17 21 22.2	-0.3

TAP 16 17:21:19.1, 24.30N×121.71E, h17km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
ENA	**Nanau**	**0.13**	**11**	*e*P		Pb	17 21 23.3	+0.1
	baz=14							
ENA				S		Sb	17 21 26.1	+0.1
	baz=14							
NACB	**Ninganchiao**	**0.16**	**222**	P		Pg	17 21 23.3	-0.2
	baz=222							
NACB				S		Sg	17 21 26.2	-0.1
	baz=222							
ENAH	**Nanao**	**0.18**	**30**	*e*P		Pb	17 21 23.9	-0.1
	baz=28							
ETLH	**Xiulin Townshi**	**0.23**	**247**	P		Pg	17 21 24.5	0.0
	baz=248							
ETLH				*e*S		Sg	17 21 28.1	0.0
	baz=248							
TWD	**Chiawan**	**0.24**	**206**	*e*P		Pg	17 21 24.5	-0.1
	baz=210							
NNSB	**Datong**	**0.33**	**294**	P		Pg	17 21 26.4	+0.2
	baz=294							
NNSB				S		Sg	17 21 31.1	+0.2
	baz=294							
NNS	**Nan Shan**	**0.34**	**295**	P		Pb	17 21 26.6	-0.2
	baz=295							
NNS				S		Sg	17 21 31.7	+0.3
	baz=295							
NDT	**Datong Townshi**	**0.36**	**329**	*e*P		Pg	17 21 26.6	0.0
	baz=336							
NDT				*e*S		Sb	17 21 32.2	-0.2
	baz=336							
ENTT	**Nioudou**	**0.37**	**339**	P		Pb	17 21 27.1	-0.1
	baz=339							
ENTT				S		Sg	17 21 32.2	+0.2
	baz=339							
FUSS	**Fushou**	**0.43**	**264**	*e*P		Pb	17 21 28.3	-0.1
	baz=264							
FUSS				*e*S		Sg	17 21 34.2	+0.2
	baz=264							
WHF	**Hehuan Shan**	**0.44**	**250**	*e*P		Pg	17 21 27.8	-0.3
	baz=259							
WHF				*e*S		Sb	17 21 34.7	-0.3
	baz=259							

DRS **16** *17:57:32.2±0.0, 41.19N×45.36E, h12km*
MOS **16** *17:57:34.5±0.9, 41.09N×45.42E, h5km, mb3.6/1, Error ellipse: s-maj=6.9km s-min=4.4km az=86.3*
NORS **16** *17:57:34.2±0.0, 41.09N×45.52E, h7km, MPVA3.8*
ISK **16** *17:57:35.3, 41.25N×45.72E, h17km, ML2.9/5*
TIF **16** *17:57:35.2, 41.25N×45.39E, h5km±1km*
DDA **16** *17:57:38.1, 41.10N×45.36E, h7km±2km, ML2.4*

ISC 16 17:57:35.7±1.1, 41.19N±0.02×45.43E±0.02, h10km±9km, n80, σ1°06/130, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
DDFL	**Dedoflistskaro**	**0.58**	**64**	PG		**Pb**	**17 57 47.5**	**-0.5**
DDFL				S		**Sg**	**17 57 55.2**	**+0.7**
DDFL	**Dedoflistskaro**	**0.58**	**64**	P		**Pb**	**17 57 47.5**	**-0.5**
DDFL				S		**Sg**	**17 57 55.2**	**+0.7**
DMNI	**Dmanisi**	**0.94**	**279**	PG		**Pg**	**17 57 53.6**	**-0.3**
DMNI				S		**Sb**	**17 58 06.9**	**0.0**
DMNI	**Dmanisi**	**0.94**	**279**	P		**Pg**	**17 57 53.6**	**-0.3**
DMNI				S		**Sb**	**17 58 06.9**	**0.0**
TRLG	**Trialeti**	**1.06**	**290**	PG		**Pg**	**17 57 55.0**	**-1.0**
TRLG				S		**Sg**	**17 58 09.8**	**+0.1**
TRLG	**Trialeti**	**1.06**	**290**	P		**Pg**	**17 57 55.0**	**-1.0**
TRLG				S		**Sg**	**17 58 09.8**	**+0.1**
GUDG	**Gudauri**	**1.46**	**331**	*e*PG		**Pn**	**17 58 01.9**	**-0.4**
GUDG				*e*S		**Sg**	**17 58 23.3**	**+0.8**
GUDG	**Gudauri**	**1.46**	**331**	P		**Pn**	**17 58 01.8**	**-0.4**
GUDG				S		**Sg**	**17 58 22.1**	**-0.4**
EAK	**Akyaka**	**1.47**	**250**	*i* P		**Pg**	**17 58 03.7**	**-0.2**
EAK				*i* S		**Sg**	**17 58 24.3**	**+1.3**
EAK				IAML			17 58 28.0	
	comp=E,98nm,0.6s							
EAK				IAML			17 58 29.0	
	comp=N,138nm,0.4s							
TASB	**TASBURUN-IGDIR**	**1.51**	**217**	PN		**Pg**	**17 58 05.0**	**+0.4**
TASB				SN		**Sg**	**17 58 26.2**	**+2.0**
KMKR	**Kumukh**	**1.56**	**53**	*i* Pg		**Pn**	**17 58 03.0**	**-0.8**
	comp=N,35nm,0.2s							
KMKR				*i* Sg		**Sn**	**17 58 23.0**	**-1.2**
	comp=N,289nm,0.4s							
KMKR	**Kumukh**	**1.56**	**53**	*i* PN		**Pn**	**17 58 03.0**	**-0.8**
KMKR				pmax	pmax			
	comp=Z,35nm,0.2s							
BTLR	**Botlikh**	**1.58**	**22**	*e*Pg		**Pn**	**17 58 03.8**	**-0.2**
	comp=Z,36nm,0.5s							
BTLR				*e*Sg		**Sb**	**17 58 24.9**	**-0.3**
	comp=Z,100nm,0.8s							
BTLR	**Botlikh**	**1.58**	**22**	*e*PN		**Pn**	**17 58 04.4**	**+0.5**
XNZR	**Khunzakh**	**1.65**	**35**	*e*Pg		**Pn**	**17 58 03.9**	**-1.1**
XNZR				*e*Sg		**Sn**	**17 58 24.8**	**-1.5**
XNZR	**Khunzakh**	**1.65**	**35**	*e*PN		**Pn**	**17 58 04.4**	**-0.5**
GNBR	**Gunib**	**1.66**	**43**	*e*Pg		**Pn**	**17 58 05.0**	**+0.1**
	comp=Z,32nm,0.6s							
GNBR				*e*Sg		**Sn**	**17 58 26.1**	**-0.2**
	comp=Z,167nm,0.5s							
GNBR	**Gunib**	**1.66**	**43**	*e*PN		**Pn**	**17 58 05.0**	**+0.1**
GNBR				pmax	pmax			
	comp=Z,32nm,0.6s							
IGDI	**IGDIR**	**1.68**	**218**	*i* P		**Pg**	**17 58 07.8**	**0.0**
IGDI				*i* S		**Sg**	**17 58 30.5**	**+0.9**
IGDI				IAML			17 58 31.0	
	comp=N,68nm,0.3s							
IGDI				IAML			17 58 31.0	
	comp=E,64nm,0.3s							
DIGO	**Kars**	**1.74**	**244**	*i* P		**Pg**	**17 58 09.3**	**+0.2**
DIGO				*i* S		**Sg**	**17 58 32.8**	**+1.1**
DIGO				IAML			17 58 33.0	
	comp=E,64nm,0.5s							
DIGO				IAML			17 58 42.0	
	comp=N,78nm,0.7s							
AKT	**Akhty**	**1.76**	**80**	*i* Pg		**Pn**	**17 58 05.6**	**-0.7**
	comp=N,34nm,0.5s							
AKT				*e*Sg		**Sn**	**17 58 28.1**	**-0.8**
	comp=N,197nm,0.5s							
AKT	**Akhty**	**1.76**	**80**	⇓ *i* PN		**Pn**	**17 58 05.7**	**-0.7**
UNCR	**Uncukul**	**1.83**	**33**	*e*Pg		**Pb**	**17 58 09.0**	**-0.3**
	comp=N,36nm,0.2s							
UNCR				*e*Sg		**Sg**	**17 58 34.0**	**-0.5**
	comp=N,252nm,0.5s							
UNCR

ZEI	**Tsey**	**1.96**	**325**	*e*Pg	**Pb**	**17 58 10.8**	**-0.8**
ZEI				*e*Sg	**Sg**	**17 58 37.9**	**-0.8**
ZEI	**Tsey**	**1.96**	**325**	*e*PN	**Pb**	**17 58 10.8**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,39nm,0.4s						
KRNR	**Karanay**	**1.97**	**34**	*e*Pg	**Pb**	**17 58 12.0**	**+0.3**
KRNR				*e*Sg	**Sg**	**17 58 38.0**	**-1.0**
	comp=Z,21nm,0.2s						
KRNR	**Karanay**	**1.97**	**34**	*e*PN	**Pb**	**17 58 12.0**	**+0.3**
GROC	**Groznyy**	**2.03**	**8**	*e*Pg	**Pb**	**17 58 13.0**	**+0.4**
GROC				*e*Sg	**Sg**	**17 58 41.5**	**+0.7**
GROC	**Groznyy**	**2.03**	**8**	*e*PN	**Pb**	**17 58 13.0**	**+0.4**
GROC				*e*S	**Sg**	**17 58 41.5**	**+0.7**
BUJR	**Buynaksk**	**2.06**	**37**	*e*PN	**Pg**	**17 58 14.7**	**-0.4**
BUJR				*e*S	**Sb**	**17 58 38.2**	**-0.6**
EPOS	**Posof**	**2.06**	**280**	*i* P	**Pb**	**17 58 13.6**	**+0.3**
KSMR	**Kasumkent**	**2.07**	**78**	*e*Pg	**Pb**	**17 58 13.0**	**-0.4**
KSMR				*e*Sg	**Sb**	**17 58 39.0**	**-0.3**
	comp=Z,131nm,0.2s						
KSMR	**Kasumkent**	**2.07**	**78**	*e*PN	**Pb**	**17 58 13.0**	**-0.4**
KSMR				*e*S	**Sb**	**17 58 39.0**	**-0.3**
DLMR	**Dylym**	**2.08**	**25**	*e*Pg	**Pb**	**17 58 13.0**	**-0.5**
DLMR				*e*Sg	**Sb**	**17 58 40.0**	**+0.6**
	comp=Z,130nm,0.3s						
DLMR	**Dylym**	**2.08**	**25**	*e*PN	**Pb**	**17 58 13.0**	**-0.5**
DLMR				*e*S	**Sb**	**17 58 40.0**	**+0.6**
DBC	**Dubki**	**2.10**	**29**	*e*Pg	**Pb**	**17 58 13.0**	**-0.9**
	comp=Z,14nm,0.3s						
DBC				*e*Sg	**Sb**	**17 58 40.9**	**+0.7**
	comp=Z,95nm,0.5s						
DBC	**Dubki**	**2.10**	**29**	*e*PN	**Pb**	**17 58 13.0**	**-0.9**
DBC				*e*S	**Sb**	**17 58 40.8**	**+0.7**
DBC				pmax	pmax		
	comp=Z,14nm,0.3s						
KORR	**Kora**	**2.15**	**332**	*e*PN	**Pb**	**17 58 14.3**	**-0.4**
KORR				*e*S	**Sn**	**17 58 39.0**	**+0.7**
TKB	**Tkibuli**	**2.16**	**303**	P	**Pb**	**17 58 13.6**	**-1.3**
TKB				S	**Sb**	**17 58 42.2**	**+0.5**
TKB	**Tkibuli**	**2.16**	**303**	P	**Pb**	**17 58 13.6**	**-1.3**
TKB				S	**Sb**	**17 58 42.2**	**+0.5**
DIGR	**Digorskoe uzhe**	**2.19**	**322**	*e*Pn	**Pb**	**17 58 15.0**	**-0.6**
DIGR				*e*Sn	**Sg**	**17 58 44.6**	**-1.5**
DIGR	**Digorskoe uzhe**	**2.19**	**322**	*e*PN	**Pb**	**17 58 15.0**	**-0.6**
DIGR				*e*S	**Sg**	**17 58 44.6**	**-1.5**
BTKR	**Batakoyurt**	**2.27**	**343**	*e*PN	**Pn**	**17 58 15.0**	**+1.6**
BTKR				*e*S	**Sg**	**17 58 48.2**	**-0.6**
DRN	**Derbent**	**2.33**	**68**	*e*PN	**Pb**	**17 58 16.6**	**-1.2**
DRN				*e*S	**Sb**	**17 58 47.1**	**+0.5**
MAK	**Makhachkala**	**2.35**	**40**	*e*PN	Pn	17 58 07.7	-6.6
MAK				*e*S	**Sb**	**17 58 46.3**	**-0.8**
CLDR	**Caldiran**	**2.35**	**210**	PN	**Pb**	**17 58 17.0**	**-1.3**
STDR	**Stavd-Durt**	**2.40**	**335**	*e*PN	**Pb**	**17 58 18.7**	**-0.3**
STDR				*e*S	**Sg**	**17 58 52.9**	**+0.2**
LSNR	**Lesken**	**2.40**	**331**	*e*PN	**Pb**	**17 58 17.6**	**-1.4**
LSNR				*e*S	**Sb**	**17 58 49.6**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.42**	**256**	PN	**Pb**	**17 58 18.7**	**-0.7**
ARTV	**Artvin**	**2.64**	**271**	*i* P	**Pb**	**17 58 23.2**	**0.0**
ARTV				*i* S	**Sg**	**17 58 59.1**	**-1.4**
ARTV				IAML		17 59 00.0	
	comp=E,8.5nm,0.3s						
DAGI	**Agillar**	**2.66**	**269**	*i* P	**Pb**	**17 58 24.4**	**+0.9**
DAGI				IAML		17 59 11.0	
	comp=N,12nm,0.8s						
DBAD	**Bademkaya**	**2.83**	**268**	*i* P	**Pg**	**17 58 28.2**	**-1.6**
DBAD				*i* S	**Sg**	**17 59 05.9**	**-0.5**
BATM	**Batumi**	**2.84**	**280**	PN	**Pb**	**17 58 24.5**	**-2.0**
BATM				SN	**Sb**	**17 58 59.8**	**-1.5**
DBDC	**Borcka**	**2.84**	**274**	*i* P	**Pb**	**17 58 26.8**	**+0.3**
DBOC				IAML		17 59 08.0	
	comp=E,18nm,0.8s						
BCA	**Borcka**	**2.88**	**276**	PN	**Pb**	**17 58 25.0**	**-2.1**
BCA				SN	**Sb**	**17 59 00.9**	**-1.5**
KOPR	**Koprukoy-ERZUR**	**2.98**	**247**	PN	**Pb**	**17 58 26.6**	**-2.3**
KBZ	**Khabaz**	**3.15**	**324**	*e*PN	**Pb**	**17 58 30.8**	**-1.0**
KBZ				*e*S	**Sb**	**17 59 09.4**	**-0.8**
SHA1	**Shidzhatmaz**	**3.27**	**322**	*e*PN	**Pb**	**17 58 33.6**	**-0.3**
SHA1				*e*S	**Sn**	**17 59 05.4**	**-0.9**
KIV	**Kislovodsk**	**3.42**	**325**	PN	**Pn**	**17 58 30.9**	**+1.7**
KIV	**Kislovodsk**	**3.42**	**325**	*i* PN	**Pn**	**17 58 29.9**	**+0.7**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SOC	**Sochi**	**4.86**	**301**	*e*PN	**Pn**	**17 58 48.0**	**-0.8**
SOC				*e*		17 59 46.0	
SOC				MLR	MLR		
	comp=Z,33nm,8.0s						
LPK	**Lapseki**	**14.17**	**273**	*e*P	**P**	**18 01 06.0**	**+2.0**
DKL	**Dikili**	**14.33**	**268**	*e*P	**Pn**	**18 01 01.5**	**+2.9**
GELI	**Tayfur-Gelibol**	**14.38**	**273**	*e*P	**P**	**18 01 03.2**	**-3.1**
BLCB	**Balcova**	**14.41**	**265**	*e*P	**Pn**	**18 01 02.9**	**+3.2**
BODT	**Bodrum**	**14.65**	**260**	*e*P	**P**	**18 01 06.3**	**-3.1**
DIM	**Dimitrovgrad**	**14.91**	**280**	*e*P	**P**	**18 01 14.6**	**+2.4**
KARP	**Karpathos**	**15.39**	**254**	*e*P	**Pn**	**18 01 12.8**	**-0.1**
ARU	**Arti**	**17.48**	**25**	*i* P	**P**	**18 01 41.1**	**+0.5**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC **16** *17:59:25.6±1.2,32°.36N×47°.76E,h0km,mb4.1/17, mb1 4.1/19,mb1mx3.9/51,mbtmp4.0/19,ML3.9/2,MS3.0/2, Ms1 3.0/2,ms1mx2.5/54,Error ellipse: s-maj=27.7km s-min=16.6km az=23.0*

MOS **16** *17:59:28.5±1.0,32°.57N×47°.81E,h27km,mb4.5/11,Error ellipse: s-maj=9.9km s-min=6.4km az=83.0*

TEH **16** *17:59:28.4,32°.55N×47°.89E,h8km,ML4.0*

NEIC **16** *17:59:28.6±1.3,32°.3N±0°.1×47°.7E±0°.1,h26km±7km,Error ellipse: s-maj=20.4km s-min=10.1km az=217.0*

ISN **16** *17:59:28.5±1.5,32°.56N×47°.84E,h15km±8km,ML3.5*

OMAN **16** *17:59:35.0±1.6,31°.95N×47°.95E,h26km,ms2.7/1,Error ellipse: s-maj=16.1km s-min=14.0km az=96.0*

ISC 16 17:59:26.8±0.4,**32°.37N**±0°.04×**47°.70E**±0°.03,**h10**km,**n169,**
σ2s02/190,**mb4.2**/31,**9C,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.47**	**311**	*e*Pg	**Pb**	**17 59 38.3**	**+1.1**
DHL1				*e*Sg	**Sb**	**17 59 47.5**	**+3.3**
IKMR	**Kamar-syah**	**1.28**	**26**	*e*Pg	**Pn**	**17 59 47.9**	**-2.8**
IKMR				*e*		18 00 10.5	
AHWZ	**Ahwaz**	**1.31**	**142**	*e*Pg	**Pg**	**17 59 55.0**	**+3.1**
AHWZ				*e*Sg	**Sg**	**18 00 15.2**	**+6.2**
IDOB	**Doab**	**1.47**	**16**	*e*Pg	**Pn**	**17 59 52.9**	**-0.6**
BMDN	**Meydan**	**1.60**	**36**	*e*Pg	**Pn**	**17 59 55.4**	**+0.1**
BMDN				*e*		18 00 24.4	
IBDR	**Badra**	**1.67**	**297**	*e*Pg	**Pg**	**17 59 59.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**18 00 22.0**	**+1.6**
IBDR				AML	AML	18 00 32.1	
	comp=E,590nm,0.8s						
IBDR				AML	AML	18 00 39.4	
	comp=N,466nm,0.7s						
IKOM	**Komasi**	**1.81**	**355**	*e*Pg	**Pb**	**18 00 00.1**	**+0.1**
IKOM				*e*		18 00 29.7	
NSR	**Nassriya**	**1.90**	**225**	*e*Pn	**Pg**	**18 00 05.0**	**+1.8**
NSR				*e*Sn	**Sg**	**18 00 30.0**	**+2.1**
NSR				AML	AML	18 00 35.6	
	comp=E,640nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.98**	**344**	*e*Pn	**Pn**	**18 00 02.5**	**+2.0**
KCHF				*e*		18 00 33.7	
HSAM	**Samen**	**1.98**	**22**	*e*Pg	**Pn**	**18 00 02.2**	**+1.5**
HSAM				*e*		18 00 32.6	
KER	**Kermanshah**	**2.06**	**347**	*e*Pn	**Pb**	**18 00 04.1**	**-0.3**
IBZA	**Bozab**	**2.10**	**4**	*e*		18 00 35.8	
IBZA				*e*Pg	**Pn**	**18 00 04.0**	**+1.8**
IGHG	**Ghaleghazi**	**2.17**	**334**	*e*		18 00 44.8	
IGHG				*e*Pn	**Pb**	**18 00 06.2**	**-0.1**
IVIS	**Veis**	**2.26**	**342**	*e*		18 00 42.8	
IVIS				*e*Pn	**Pn**	**18 00 06.2**	**+1.8**
IALM	**Almabolaq**	**2.51**	**9**	*e*Pn	**Pn**	**18 00 10.0**	**+2.1**
JHBN	**Jahan bin**	**2.51**	**92**	*e*Pn	**Pn**	**18 00 10.2**	**+2.2**
JHBN				*e*		18 00 57.0	
IDHR	**Dehrash**	**2.57**	**335**	*e*Pn	**Pn**	**18 00 10.7**	**+2.0**
IDHR				*e*		18 01 02.2	
ILIN	**Lien**	**2.61**	**347**	*e*Pn	**Pn**	**18 00 11.7**	**+2.4**
IPIR	**Pirpir**	**2.71**	**83**	*e*Pn	**Pn**	**18 00 13.0**	**+2.3**
IPIR				*e*		18 00 59.2	
HAGD	**Aghdareh**	**2.72**	**26**	*e*Pn	**Pn**	**18 00 12.5**	**+1.7**
HAGD				*e*		18 00 58.6	
ROKH	**ROKH**	**2.82**	**90**	*e*Pn	**Pn**	**18 00 14.5**	**+2.4**
ROKH				*e*		18 01 12.4	
HSRG	**Sareghieh**	**2.90**	**9**	*e*Pn	**Pn**	**18 00 16.3**	**+3.0**
HSRG				*e*		18 01 03.9	

BHD	**Baghdad**	**2.94**	**289**	*e*Pn	**Pb**	**18 00 17.0**	**-2.2**
BHD				*e*Sn	**Sb**	**18 00 54.0**	**-1.2**
BHD				AML	AML	18 01 05.3	
	comp=E,362nm,0.4s						
IBRJ	**Brojen**	**3.05**	**98**	*e*Pn	**Pn**	**18 00 17.5**	**+2.1**
IKLH	**Kolahrood**	**3.40**	**73**	*e*Pn	**Pn**	**18 00 22.5**	**+2.4**
IKLH				*e*		18 01 21.8	
KLNJ	**Kolanjah**	**3.58**	**111**	*e*Pn	**Pn**	**18 00 25.2**	**+2.5**
KLNJ				*e*		18 01 43.5	
IGAR	**Gharneh**	**3.67**	**88**	*e*Pn	**Pn**	**18 00 25.8**	**+2.0**
IGAR				*e*		18 00 32.1	
QABG	**Abgarm-Qazvin**	**3.68**	**25**	*e*Pn	**Pn**	**18 00 24.9**	**+1.0**
IZEF	**Zefreh**	**3.94**	**81**	*e*Pn	**Pn**	**18 00 29.7**	**+2.2**
IRAM	**Ramesheh**	**4.01**	**97**	*e*Pn	**Pn**	**18 00 29.8**	**+1.3**
KRSH	**Karshahi**	**4.04**	**66**	*e*Pn	**Pn**	**18 00 30.8**	**+1.9**
IHSB	**Hasanabad**	**4.26**	**43**	*e*Pn	**Pn**	**18 00 32.8**	**+0.9**
QSDN	**Sirdan**	**4.30**	**16**	*e*Pn	**Pn**	**18 00 34.6**	**+2.2**
MAHB	**Mahabad**	**4.68**	**340**	*e*Pn	**Pn**	**18 00 39.2**	**+1.5**
QALM	**Alamut, Qazvin**	**4.72**	**30**	*e*Pn	**Pn**	**18 00 38.3**	**0.0**
IDMV	**Damavand**	**4.81**	**47**	*e*Pn	**Pn**	**18 00 40.6**	**+1.0**
ISAD	**Sadrabad**	**5.09**	**94**	*e*Pn	**Pn**	**18 00 45.2**	**+1.8**
ANAR	**Anarak**	**5.14**	**79**	*e*Pn	**Pn**	**18 00 44.9**	**+1.0**
ILAS	**Lasjerd**	**5.30**	**54**	*e*Pn	**Pn**	**18 00 47.6**	**+1.3**
IFIR	**Firoozkooh**	**5.31**	**51**	*e*Pn	**Pn**	**18 00 47.6**	**+1.2**
IPRN	**Peran**	**5.44**	**44**	*e*Pn	**Pn**	**18 00 50.5**	**+2.4**
ISRB	**Sarab**	**5.44**	**360**	*e*Pn	**Pn**	**18 00 50.3**	**+2.2**
IALA	**Alasht**	**5.62**	**47**	*e*Pn	**Pn**	**18 00 52.4**	**+1.7**
ISHM	**Shahmirzad**	**5.76**	**52**	*e*Pn	**Pn**	**18 00 53.7**	**+1.0**
IHRS	**Heris**	**5.96**	**355**	*e*Pn	**Pn**	**18 00 58.2**	**+3.0**
IMEH	**Mehriz**	**5.96**	**98**	*e*Pn	**Pn**	**18 00 55.9**	**+0.6**
IANJ	**Anjilo**	**6.02**	**57**	*e*Pn	**Pn**	**18 00 56.3**	**+0.2**
IGLO	**Ghaloghah**	**6.53**	**49**	*e*Pn	**Pn**	**18 01 05.2**	**+2.2**
IBAF	**Bafgh**	**6.73**	**95**	*e*Pn	**Pn**	**18 01 06.9**	**+1.1**
MARD	**Mardin**	**7.53**	**313**		**Pn**	**18 01 16.7**	**0.0**
TPRV	**Parvadeh(Tabas**	**7.60**	**83**	*e*Pn	**Pn**	**18 01 18.7**	**+1.0**
TNSJ	**Nastanj**	**7.63**	**76**	*e*Pn	**Pn**	**18 01 19.7**	**+1.5**
TKDS	**Koohdasht(Taba**	**8.01**	**79**	*e*Pn	**Pn**	**18 01 23.8**	**+0.5**
AKT	**Akhty**	**9.09**	**0**	*i* P	**Pn**	**18 01 36.4**	**-1.7**
SBZV	**Sabzevar**	**9.12**	**61**	*e*Pn	**Pn**	**18 01 39.9**	**+1.3**
ITEG	**Tejag**	**9.33**	**84**	*e*Pn	**Pn**	**18 01 42.9**	**+1.4**
IKOO	**Kooshah**	**9.56**	**87**	*e*Pn	**Pn**	**18 01 45.5**	**+0.8**
AFRZ	**Afriz**	**9.57**	**81**	*e*Pn	**Pn**	**18 01 45.7**	**+0.9**
KOPT	**Kop Dagi**	**9.60**	**325**	Pn	**Pn**	**18 01 44.5**	**-0.7**
ISFR	**Sfrayin**	**9.68**	**58**	*e*Pn	**Pn**	**18 01 48.5**	**+2.2**
BANOM	**Banah**	**9.88**	**128**	P	**Pn**	**18 01 49.2**	**+0.2**
BANOM				S	**Sn**	**18 03 35.7**	**-4.3**
IMON	**Monand**	**10.11**	**82**	*e*Pn	**Pn**	**18 01 53.4**	**+1.2**
NAZ	**Nazwa, Dubai**	**10.14**	**134**	P	**Pn**	**18 01 53.4**	**+1.0**
NAZ				S	**Sn**	**18 03 42.9**	**-3.4**
GYB4	**ALIBECK ARRAY**	**10.16**	**54**	Pn	**Pn**	**18 01 53.8**	**+1.2**
GEYT	**Alibeck**	**10.17**	**54**	LR	LR	18 06 19.0	
	comp=E,70nm,18.1s,baz=120,slow=41						
ASUD	**Al Ashush, Dub**	**10.22**	**137**	P	**Pn**	**18 01 55.4**	**+1.9**
	SNR=12						
ASUD				S	**Sn**	**18 03 45.9**	**-2.3**
FAQ	**Al Faqa, Dubai**	**10.28**	**136**	P	**Pn**	**18 01 55.8**	**+1.4**
FAQ				S	**Sn**	**18 03 46.9**	**-2.8**
MDH	**Madha**	**10.31**	**131**	P	**Pn**	**18 01 55.1**	**+0.3**
MDH				S	**Sn**	**18 03 45.5**	**-5.0**
UOSS	**Minazif**	**10.51**	**133**	P	**Pn**	**18 01 58.8**	**+1.3**
UOSS				S	**Sn**	**18 03 49.7**	**-5.6**
UOSS	**Minazif**	**10.51**	**133**	Pn	**Sn**	**18 01 56.5**	**-1.0**
UOSS					**Sn**	**18 03 52.0**	**-3.3**
HATD	**Hatta, Dubai**	**10.55**	**133**	P	**Pn**	**18 01 59.3**	**+1.3**
HATD				S	**Sn**	**18 03 53.9**	**-2.5**
SOHO	**SOHO**	**11.31**	**134**	P	**Pn**	**18 02 09.7**	**+1.3**
SOHO				S	**Sn**	**18 04 10.2**	**-4.7**
ARQ	**Araqi**	**11.90**	**137**	P	**Pn**	**18 02 18.1**	**+1.4**
	SNR=10						
ARQ				S	**Sn**	**18 04 25.1**	**-4.5**
HOQ	**Hoqain**	**12.19**	**134**	P	**Pn**	**18 02 21.8**	**+1.2**
HOQ				S	**Sn**	**18 04 30.2**	**-6.3**
BSY	**Bisya**	**12.76**	**136**	P	**Pn**	**18 02 29.0**	**+0.7**
	SNR=10						
BSY				S	**Sn**	**18 04 44.6**	**-5.9**
SMDO	**Samad**	**13.03**	**133**	P	**Pn**	**18 02 33.1**	**+1.0**
SMDO				S	**Sn**	**18 04 52.0**	**-5.3**
WSAR	**Wadi Sarin**	**13.27**	**131**	Pn	**Pn**	**18 02 34.4**	**-0.9**
	comp=E,1.0nm,0.3s,baz=340,slow=7.8,SNR=15						
WSAR	**Wadi Sarin**	**13.27**	**131**	P	**Pn**	**18 02 35.9**	**+0.6**
	SNR=9.1						
WSAR				S	**Sn**	**18 04 57.2**	**-5.7**
JMDO	**Jabal Madar**	**13.58**	**135**	P	**Pn**	**18 02 39.6**	**+0.1**
WBK	**Wadi Bani Khal**	**13.94**	**131**	P	**Pn**	**18 02 45.0**	**+0.6**
	SNR=6.4						
JLN	**Jalan Bani Buh**	**14.55**	**132**	P	**Pn**	**18 02 52.0**	**-0.8**
MHTO	**MHTO**	**14.57**	**139**	P	**Pn**	**18 02 52.2**	**-0.9**
	SNR=5.9						
MHTO				S	**Sn**	**18 05 26.4**	**-8.4**
DQM	**DQM**	**15.20**	**142**	P	**Pn**	**18 03 00.8**	**-0.8**
WHFO	**Wadi Hawf**	**15.40**	**158**	P	**Pn**	**18 03 02.9**	**-1.4**
	SNR=6.0						
ABTO	**Aybut**	**15.79**	**160**	P	**Pn**	**18 03 08.3**	**-1.0**
RBK	**Rabkut**	**15.93**	**157**	P	**Pn**	**18 03 11.5**	**+0.4**
SHAO	**Shalim**	**15.97**	**152**	P	**Pn**	**18 03 12.7**	**+1.0**
	SNR=10.0						
DMTO	**DMTO**	**15.99**	**154**	P	**Pn**	**18 03 11.2**	**-0.7**
	SNR=10						
KBL	**Kabul**	**17.94**	**77**	P	**Pn**	**18 03 36.6**	**+0.1**
KBL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KBL	**Kabul**	**17.94**	**77**	P	**Pn**	**18 03 36.6**	**+0.1**
CHGR	**Chuyangaron**	**18.54**	**64**	P	**P**	**18 03 44.0**	**+0.3**
CHGR				IAmb	IAmb	18 03 47.6	
	comp=E,6.1nm,0.6s						
ABKAR	**Akbulak array**	**19.20**	**25**	P	**P**	**18 03 48.9**	**-1.8**
VRH	**Novokhopyorsk**	**19.32**	**349**	*e*P	**P**	**18 03 52.3**	**+0.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GAR	**Garm**	**19.50**	**64**	P	**P**	**18 03 53.5**	**-0.7**
GAR				IAmb	IAmb	18 03 59.5	
	comp=Z,10nm,1.1s						
VORD	**Divnogorie**	**19.59**	**344**	*e*P	**P**	**18 03 55.0**	**+0.2**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKTO	**Aktyubinsk**	**19.60**	**20**	P	**P**	**18 03 53.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=6.0						
VSR	**Storozhevoye**	**19.85**	**344**	*e*P	**P**	**18 03 56.8**	**-0.9**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
BTK	**Batken**	**20.13**	**61**	P	**P**	**18 04 01.2**	**+0.2**
BTK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BTK	**Batken**	**20.13**	**61**	P	**P**	**18 04 01.2**	**+0.2**
KK31	**Karatay Array**	**20.92**	**53**	P	**P**	**18 04 09.8**	**+0.4**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KK31	**Karatay Array**	**20.92**	**53**	P	**P**	**18 04 09.8**	**+0.4**
KK31				IAmb	IAmb	18 04 13.6	
	comp=Z,8.1nm,1.1s						
KKAR	**Karatay Array**	**20.92**	**53**	P	**P**	**18 04 09.1**	**-0.3**
KKAR	**Karatay Array**	**20.92**	**53**	P	**P**	**18 04 10.0**	**+0.6**
KKAR				IAmb	IAmb	18 04 13.6	
	comp=Z,8.1nm,1.1s						
KKAR	**Karatay Array**	**20.92**	**53**	P	**P**	**18 04 09.1**	**-0.3**
LPSR	**Galich'ya Gora**	**21.20**	**345**	*e*P	**P**	**18 04 11.7**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,20nm,0.6s						
NIL	**Nilore**	**21.45**	**80**	P	**P**	**18 04 16.1**	**+0.8**
NIL				pmax	pmax		
	comp=Z,18nm,1.2s						
NIL	**Nilore**	**21.45**	**80**	P	**P**	**18 04 16.1**	**+0.8**
NIL				IAmb	IAmb	18 04 21.7	
	comp=Z,18nm,1.1s						
AKASG	**Malin Array Be**	**22.84**	**329**	P	**P**	**18 04 29.1**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=136,slow=8.9,SNR=8.0						
AKASG	**Malin Array Be**	**22.84**	**329**	*ce*P	**P**	**18 04 29.1**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**22.84**	**329**	P	**P**	**18 04 28.9**	**-0.9**
AKBB	**Malin Array Si**	**22.84**	**329**	P	**P**	**18 04 28.2**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKBB	**Malin Array Si**	**22.84**	**329**	P	**P**	**18 04 28.2**	**-1.7**
BURAR	**Bucovina Array**	**22.87**	**318**	P	**P**	**18 04 31.4**	**+0.9**
OBN	**Obninsk**	**24.06**	**344**	LR	LR	18 15 25.1	
	comp=Z,29nm,18.3s,baz=36,slow=40						
OBN	**Obninsk**	**24.06**	**344**	*e*P	**P**	**18 04 41.5**	**-0.4**
OBN				*e*		18 05 07.1	
OBN				pmax	pmax		
	comp=Z,20nm,0.6s						
OBN				MLR	MLR		
	comp=Z,67nm,17.0s						

ARU	**Arti**	**25.21**	**14**	P	**P**	**18 04 53.9**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=193,slow=9.8,SNR=8.1						
ARU	**Arti**	**25.21**	**14**	*c i*P	**P**	**18 04 53.0**	**+0.6**
ARU						18 05 22.0	
ARU				S	**S**	**18 09 19.1**	**+1.5**
ARU				SS	**SnSn**	**18 10 05.2**	**-2.7**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARU	**Arti**	**25.21**	**14**	P	**P**	**18 04 53.6**	**+1.2**
KOLS	**Kolonicke sedl**	**25.24**	**318**	*e*P	**P**	**18 04 55.0**	**+2.2**
KOLS	**Kolonicke sedl**	**25.24**	**318**	*e*P	**P**	**18 04 55.0**	**+2.2**
KDJ	**Kajisay**	**25.30**	**59**	P	**P**	**18 04 51.4**	**-2.2**
KDJ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDJ	**Kajisay**	**25.30**	**59**	P	**P**	**18 04 51.4**	**-2.2**
KDJ				IAmb	IAmb	18 05 03.0	
	comp=Z,3.3nm,0.9s						
CRVS	**Cervenica-Dubn**	**25.68**	**318**	*e*P	**P**	**18 05 00.3**	**+3.5**
CRVS	**Cervenica-Dubn**	**25.68**	**318**	*e*P	**P**	**18 05 00.3**	**+3.5**
PSZ	**Piszkesteto**	**26.14**	**315**	P	**P**	**18 05 01.2**	**+0.2**
PSZ	**Piszkesteto**	**26.14**	**315**	P	**P**	**18 05 01.2**	**+0.2**
KIRV	**Kirov**	**26.24**	**2**	*ce*P	**P**	**18 05 00.8**	**-0.9**
BRVK	**Borovoye**	**26.30**	**32**	*ce*P	**P**	**18 05 01.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**26.30**	**32**	P	**P**	**18 05 02.7**	**+0.3**
BRVK				IAmb	IAmb	18 05 03.5	
	comp=Z,5.2nm,1.1s						
BVAR	**Borovoye Array**	**26.33**	**32**	P	**P**	**18 05 02.8**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=218,slow=26,SNR=19						
KURBB	**Kurchatov Arra**	**29.12**	**42**	P	**P**	**18 05 28.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=245,slow=9.3,SNR=12						
KURK	**Kurchatov**	**29.21**	**42**	*ce*P	**P**	**18 05 27.2**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**29.21**	**42**	P	**P**	**18 05 28.9**	**+0.5**
KURK				IAmb	IAmb	18 05 30.2	
	comp=Z,2.2nm,0.9s						
MK31	**Makanchi Array**	**30.02**	**51**	*ce*P	**P**	**18 05 35.6**	**-0.1**
MK31	**Makanchi Array**	**30.02**	**51**	P	**P**	**18 05 36.5**	**+0.7**
MK31				IAmb	IAmb	18 05 37.2	
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**30.02**	**51**	P	**P**	**18 05 36.5**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=247,slow=8.6,SNR=37						
MKAR	**Makanchi Array**	**30.02**	**51**	P	**P**	**18 05 36.1**	**+0.4**
CLL	**Collm**	**31.63**	**317**	*e*P	**P**	**18 05 52.0**	**+2.2**
CLL	**Collm**	**31.63**	**317**	P	**P**	**18 05 49.9**	**+0.1**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
CLL	**Collm**	**31.63**	**317**	P	**P**	**18 05 49.9**	**+0.1**
FINES	**FINESS Array B**	**32.30**	**341**	P	**P**	**18 05 55.9**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=141,slow=8.6,SNR=8.4						
ZAA0	**Zalesovo Array**	**34.04**	**40**	P	**P**	**18 06 10.9**	**+0.1**
ZALV	**Zalesovo Beam**	**34.04**	**40**	P	**P**	**18 06 10.6**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=236,slow=7.9,SNR=15						
BNI	**Bardonecchia**	**34.07**	**304**	P	**P**	**18 06

WHVZ	Whangaehu Hut	2.37	202	P	Pn	18 00 27.8 +0.4
WNVZ	Wahianoa	2.41	201	P	Pn	18 00 27.8 +0.1
MOVZ	Moawhango	2.44	198	P	Pn	18 00 27.6 -0.3
BHHZ	Black Hill Sta	2.46	192	P	Pn	18 00 27.9 -0.1
VRZ	Vera Road	2.56	217	P	Pn	18 00 30.2 +1.3
KRHZ	Kereru	2.57	186	P	Pn	18 00 28.8 -0.3
CKHZ	Cape Kidnapper	2.59	174	P	Pn	18 00 29.3 +0.1
KAHZ	Kahuranaki	2.71	177	P	Pn	18 00 30.4 -0.1
PNHZ	Pukenui	2.86	188	P	Pn	18 00 31.3 -0.6
PXZ	Pawanui	2.95	178	P	Pn	18 00 32.4 -0.4
TSZ	Takapari Road	3.03	191	P	Pn	18 00 33.0 -0.8
OUZ	Omahuta	3.13	305	P	Pn	18 00 34.9 0.0
PRHZ	Porangahau	3.18	181	P	Pn	18 00 35.0 -0.3
DVHZ	Dannevirke	3.24	187	P	Pn	18 00 35.2 -0.8
POWZ	Post Office Ro	3.39	192	P	Pn	18 00 36.6 -1.0
PRWZ	Pori Road	3.52	189	P	Pn	18 00 38.4 -0.6
BFZ	Birch Farm	3.62	186	P	Pn	18 00 39.2 -0.9
MRZ	Mangatainoka R	3.68	194	P	Pn	18 00 39.3 -1.6
OGWZ	Otaki Gorge	3.92	197	P	Pn	18 00 42.1 -1.4
KIW	Kapiti Island	4.03	200	P	Pn	18 00 43.3 -1.5
CAW	Cannon Point	4.22	197	P	Pn	18 00 45.6 -1.4
DUWZ	D'Urville Isla	4.31	210	P	Pn	18 00 46.3 -1.8
TCW	Tory Channel	4.54	204	P	Pn	18 00 49.2 -1.6
PLWZ	Palliser	4.62	194	P	Pn	18 00 49.9 -1.9
TUWZ	Tuamarina	4.85	206	P	Pn	18 00 52.2 -2.2
NNZ	Nelson	4.88	211	P	Pn	18 00 52.6 -2.1
QRZ	Quartz Range	4.96	220	P	Pn	18 00 53.4 -2.4
BSWZ	Blackbirch Sta	5.12	205	P	Pn	18 00 56.3 -1.4
THZ	Tophouse	5.53	211	P	Pn	18 01 01.0 -1.7
KHZ	Kahutara	5.86	204	P	Pn	18 01 04.9 -1.8
LTZ	Lake Taylor	6.64	210	P	Pn	18 01 13.8 -2.5

IDC ***16*** *17:59:50.3±0.8,38˚.06N×21˚.45E, h0km, mb4.0/12, mb1 4.0/17,mb1mx3.8/52,mbtmp3.9/17,ML3.7/5,MS3.0/1, Ms1 3.0/1,ms1mx2.4/60,Error ellipse: s-maj=18.2km s-min=14.9km az=20.0*

ATH ***16*** *17:59:51.6,37˚.88N×21˚.43E,h27km,ML3.9/28,Error ellipse: s-maj=1.2km s-min=0.7km az=1.0*

UPSL ***16*** *17:59:51.0,37˚.88N×21˚.43E,h27km,Mw4.0,Moment Tensor Solution. s8 Moment tensor: Mrr0.28; Mθθ0.94; Mφφ-1.23; Mrθ0.14; Mθφ0.24; Mφr-0.00; Fault plane solution: NP1:φs38.00000°,δ82.00000°,λ173.00000°. NP2:φs129.00000°,δ83.00000°,λ8.00000°.*

THE ***16*** *17:59:52.7,37˚.88N×21˚.44E,h22km,ML4.2/10 Error ellipse: s-maj=0.8km s-min=0.4km az=5.0*

PDG ***16*** *17:59:52.6±0.4,38˚.03N×21˚.37E,h9km,3km,ML4.0/13, Error ellipse: s-maj=3.7km s-min=1.9km az=90.0*

MED_RC ***16*** *17:59:52.0±0.4,37˚.88N×21˚.44E,h36km±2km,MW4.4/11, Moment Tensor Solution.Mantle waves: s11,c16; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr0.72±.98; Mθθ4.25±.64; Mφφ-4.97±.55; Mrθ0.59±.37; Mθφ0.34±.30; Mφr-0.47±.43; Best double couple: Mo4.69000×1015 NP1:φs43.00000°,δ80.00000°, λ177.00000°. NP2:φs133.00000°,δ87.00000°,λ10.00000°. Principal axes: T 4.3500, Plg9.0000°, Azm358.0000°; N 0.6700, Plg80.0000°, Azm149.0000°; P -5.0200, Plg5.0000°, Azm268.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

NEIC ***16*** *17:59:54.8±1.5,37˚.90N±0˚.07×21˚.46E±0˚.07, h39km±8km Error ellipse: s-maj=9.9km s-min=8.1km az=199.0*

ISC 16 17:59:52.3±0.8,37˚.90N±0˚.02×21˚.44E±0˚.02, h17km±5km, n244,σ1s83/281,mb4.3/20,10C-12D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.16**	**8**	P	**Pb**	**17 59 57.5**	**+0.7**
RLS				S	**Sb**	**18 00 01.4**	**+1.5**
	231μm,0.2s						
RLS	**Riolos of Patr**	**0.16**	**8**	P	**Pb**	**17 59 57.5**	**+0.7**
RLS				S	**Sb**	**18 00 01.3**	**+1.5**
RLS				AML	AML	18 00 01.6	
RLS				AML	AML	18 00 01.7	
VTN	**Vitineika**	**0.20**	**275**	P	**Pb**	**17 59 58.6**	**+1.1**
VTN				S	**Sg**	**18 00 01.8**	**+1.4**
VTN	**Vitineika**	**0.20**	**275**	P	**Pb**	**17 59 58.3**	**+0.8**
DRO	**Drossia**	**0.22**	**76**	P	**Pb**	**17 59 58.0**	**+0.1**
DRO				S	**Sb**	**18 00 02.6**	**+0.9**
	110μm,0.3s						
DRO	**Drossia**	**0.22**	**76**	P	**Pb**	**17 59 58.0**	**+0.1**
DRO				S	**Sb**	**18 00 02.6**	**+0.9**
DRO				AML	AML	18 00 05.9	
DRO				AML	AML	18 00 12.0	
AXS	**Araxos**	**0.30**	**351**	P	**Pb**	**17 59 59.5**	**+0.3**
AXS				S	**Sb**	**18 00 05.2**	**+1.3**
	55μm,0.4s						
AXS	**Araxos**	**0.30**	**351**	P	**Pb**	**17 59 59.5**	**+0.3**
AXS				S	**Sb**	**18 00 04.9**	**+1.0**
AXS				AML	AML	18 00 05.8	
AXS				AML	AML	18 00 05.8	
	comp=E,91244μm,0.3s						
ZAK2	**Zakynthos**	**0.44**	**255**	P	**Pg**	**18 00 01.6**	**+0.4**
KRI1	**kERI**	**0.55**	**244**	P	**Pg**	**18 00 03.3**	**+0.1**
LAKA	**Lakka**	**0.55**	**51**	P	**Pg**	**18 00 03.0**	**-0.2**
KLV	**Kalavryta, Ach**	**0.58**	**75**	P	**Pg**	**18 00 03.4**	**-0.5**
KLV				S	**Sb**	**18 00 12.6**	**+0.5**
	comp=E,7μm,0.5s						
KLV	**Kalavryta, Ach**	**0.58**	**75**	P	**Pg**	**18 00 03.3**	**-0.5**
KLV				AML	AML	18 00 17.9	
	comp=N,13753μm,0.5s						
KLV				AML	AML	18 00 19.1	
	comp=E,11828μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.61**	**268**	P	**Pg**	**18 00 04.0**	**-0.5**
VLMS				AML	AML	18 00 21.5	
	comp=E,30099μm,0.3s						
VLMS				AML	AML	18 00 28.7	
	comp=N,33576μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.64**	**56**	P	**Pg**	**18 00 04.8**	**-0.2**
ALIK				S	**Sb**	**18 00 14.7**	**+1.0**
EFP	**Efpalio**	**0.64**	**35**	P	**Pb**	**18 00 04.9**	**-0.2**
EFP				S	**Sn**	**18 00 15.1**	**-1.3**
	comp=N,20μm,0.4s						
EFP	**Efpalio**	**0.64**	**35**	P	**Pb**	**18 00 04.8**	**-0.2**
EFP				S	**Sb**	**18 00 15.0**	**+1.2**
EFP				AML	AML	18 00 15.8	
	comp=N,40174μm,0.6s						
EFP				AML	AML	18 00 16.9	
	comp=E,34868μm,0.3s						
TRIZ	**Trizonia**	**0.68**	**47**	P	**Pg**	**18 00 05.4**	**-0.3**
TRIZ				S	**Sn**	**18 00 16.6**	**-0.8**
	comp=E,20μm,0.4s						
TRIZ	**Trizonia**	**0.68**	**47**	P	**Pg**	**18 00 05.5**	**-0.3**
AST1	**Astakos**	**0.70**	**337**	P	**Pb**	**18 00 06.5**	**+0.5**
GUR	**Goura**	**0.72**	**87**	P	**Pg**	**18 00 05.6**	**-0.8**
GUR				S	**Sb**	**18 00 16.6**	**+0.6**
	comp=E,20μm,0.4s						
GUR	**Goura**	**0.72**	**87**	P	**Pg**	**18 00 05.6**	**-0.8**
VLS	**Valsamata**	**0.72**	**293**	P	**Pg**	**18 00 05.8**	**-0.7**
VLS				S	**Sb**	**18 00 17.6**	**+1.5**
	comp=E,8μm,0.6s						
VLS	**Valsamata**	**0.72**	**293**	P	**Pg**	**18 00 05.8**	**-0.7**
VLS				AML	AML	18 00 27.3	
	comp=N,17785μm,0.4s						
VLS				AML	AML	18 00 28.0	
	comp=E,13528μm,0.6s						
KALE	**Kalithea**	**0.74**	**48**	P	**Pg**	**18 00 06.5**	**-0.3**
KALE	**Kalithea**	**0.74**	**48**	P	**Pg**	**18 00 06.4**	**-0.4**
KALE				AML	AML	18 00 19.2	
	comp=N,43190μm,0.5s						
KALE				AML	AML	18 00 20.0	
	comp=E,39717μm,0.6s						
TRIP	**Tripoli**	**0.76**	**119**	P	**Pg**	**18 00 06.9**	**-0.3**
TRIP	**Tripoli**	**0.76**	**119**	P	**Pg**	**18 00 06.6**	**-0.6**
TRIP				AML	AML	18 00 21.2	
	comp=N,34675μm,0.4s						
TRIP				AML	AML	18 00 22.2	
	comp=E,19806μm,0.8s						
ANX	**Ano Chora**	**0.79**	**29**	P	**Pg**	**18 00 07.3**	**-0.5**
ANX				S	**Sn**	**18 00 19.6**	**-0.7**
	comp=E,27μm,0.6s						
ANX	**Ano Chora**	**0.79**	**29**	P	**Pg**	**18 00 07.3**	**-0.5**
ANX				S	**Sn**	**18 00 19.5**	**-0.7**
ANX				AML	AML	18 00 23.2	
	comp=N,58916μm,0.5s						
ANX				AML	AML	18 00 23.4	
	comp=E,49760μm,0.4s						
ARG2	**Argostoli**	**0.80**	**291**	P	**Pg**	**18 00 07.4**	**-0.5**
ITM	**Ithomi**	**0.82**	**151**	P	**Pg**	**18 00 07.5**	**-0.8**
ITM	**Ithomi**	**0.82**	**151**	P	**Pg**	**18 00 07.3**	**-0.9**
ITM				AML	AML	18 00 27.3	
	comp=N,10102μm,0.6s						
ITM				AML	AML	18 00 32.9	
	comp=E,11012μm,0.8s						
ITM	**Ithomi**	**0.82**	**151**	P	**Pg**	**18 00 07.4**	**-0.8**
ITM	**Ithomi**	**0.82**	**151**		**Pg**	**18 00 07.3**	**-0.9**
KEF5	**Kardakata, Kep**	**0.85**	**297**	P	**Pg**	**18 00 08.1**	**-0.9**
VSK1	**VASILIKIADES**	**0.86**	**307**	P	**Pg**	**18 00 08.9**	**-0.1**
KEF4	**Livadi, Kephal**	**0.88**	**294**	P	**Pg**	**18 00 08.7**	**-0.6**
FSK	**Fiskardo**	**0.89**	**309**	P	**Pg**	**18 00 09.0**	**-0.6**
FSK	**Fiskardo**	**0.89**	**309**	P	**Pg**	**18 00 08.8**	**-0.8**
FSK				AML	AML	18 00 23.6	
	comp=N,15190μm,0.4s						
FSK				AML	AML	18 00 24.6	
	comp=E,29145μm,0.3s						
DMLN	**Damoulianata-K**	**0.91**	**292**	P	**Pg**	**18 00 09.2**	**-0.8**
DMLN	**Damoulianata-K**	**0.91**	**292**	P	**Pg**	**18 00 09.2**	**-0.8**
MGNA	**Meganis**	**0.91**	**326**	P	**Pg**	**18 00 09.3**	**-0.7**
VLX	**Vlachokerasia**	**0.92**	**125**	P	**Pg**	**18 00 09.7**	**-0.4**
VLX				S	**Sg**	**18 00 22.7**	**+0.5**
	comp=E,12μm,0.5s						
VLX	**Vlachokerasia**	**0.92**	**125**	P	**Pg**	**18 00 09.6**	**-0.6**
VLX				AML	AML	18 00 26.1	
	comp=E,23676μm,0.4s						
VLX				AML	AML	18 00 28.0	
	comp=N,21316μm,0.6s						
EVGI	**Lefkada island**	**0.95**	**320**	P	**Pg**	**18 00 10.2**	**-0.5**
EVGI				S	**Sn**	**18 00 24.0**	**0.0**
EVGI	**Lefkada island**	**0.95**	**320**	P	**Pg**	**18 00 10.0**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.00**	**325**	P	**Pb**	**18 00 10.7**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.00**	**325**	P	**Pb**	**18 00 10.8**	**-0.3**
DLFA	**Delphi**	**1.01**	**55**	P	**Pb**	**18 00 10.8**	**-0.6**
PYL	**PYLOS**	**1.03**	**166**	P	**Pb**	**18 00 10.7**	**-1.0**
EVR	**Evrytania**	**1.06**	**16**	P	**Pb**	**18 00 12.1**	**-0.1**
EVR				AML	AML	18 00 34.0	
	comp=E,7805μm,0.5s						
EVR				AML	AML	18 00 37.3	
	comp=N,9331μm,0.7s						
TSLK	**Tsoukalades, L**	**1.11**	**327**	P	**Pb**	**18 00 12.9**	**-0.1**
LTK	**Loutraki**	**1.22**	**84**	P	**Pn**	**18 00 14.5**	**-0.1**
LOUT	**Loutraki**	**1.22**	**85**	P	**Pn**	**18 00 14.7**	**+0.2**
LOUT				AML	AML	18 00 44.6	
	comp=N,1339μm,0.7s						
LOUT				AML	AML	18 00 46.4	
	comp=E,1685μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.24**	**26**	P	**Pb**	**18 00 15.4**	**+0.2**
MAKR				AML	AML	18 00 36.9	
	comp=E,11142μm,0.7s						
MAKR				AML	AML	18 00 40.0	
	comp=N,10204μm,0.7s						
AGG	**Agios Georgios**	**1.32**	**32**	P	**Pn**	**18 00 16.2**	**+0.2**
AGG				AML	AML	18 00 43.2	
	comp=E,6759μm,0.5s						
AGG				AML	AML	18 00 44.8	
	comp=N,7042μm,0.9s						
AGG	**Agios Georgios**	**1.32**	**32**	P	**Pb**	**18 00 16.8**	**+0.1**
AGG	**Agios Georgios**	**1.32**	**32**		**Pn**	**18 00 16.2**	**+0.2**
EPID	**Epidavros**	**1.36**	**102**	P	**Pn**	**18 00 17.3**	**+0.8**
LKR	**Lokris**	**1.44**	**58**	P	**Pn**	**18 00 18.2**	**+0.6**
LKR				AML	AML	18 00 45.4	
	comp=E,5652μm,0.8s						
LKR				AML	AML	18 00 46.9	
	comp=N,4974μm,0.6s						
KRND	**KRANIDI**	**1.45**	**110**	P	**Pn**	**18 00 18.7**	**+0.9**
KRND				AML	AML	18 00 44.6	
	comp=N,9268μm,0.6s						
KRND				AML	AML	18 00 47.2	
	comp=E,7162μm,0.8s						
ATAL	**Atalanti**	**1.48**	**57**	P	**Pn**	**18 00 17.5**	**-0.6**
ATAL	**Atalanti**	**1.48**	**57**	P	**Pn**	**18 00 18.8**	**+0.7**
ATAL				AML	AML	18 00 46.4	
	comp=E,4592μm,0.7s						
ATAL				AML	AML	18 00 46.4	
	comp=N,7116μm,0.8s						
VIL2	**Platees**	**1.48**	**77**	P	**Pn**	**18 00 19.0**	**+0.8**
VIL2				AML	AML	18 00 48.6	
	comp=N,4802μm,0.5s						
VIL2				AML	AML	18 01 01.6	
	comp=E,6727μm,0.7s						
THL	**Klokotos Trika**	**1.72**	**15**	P	**Pb**	**18 00 23.0**	**-0.5**
THL				AML	AML	18 00 56.8	
	comp=E,3002μm,0.5s						
THL				AML	AML	18 01 02.0	
	comp=N,2665μm,0.7s						
ATH	**Athens Observa**	**1.80**	**87**	P	**Pn**	**18 00 23.6**	**+1.0**
ATH				AML	AML	18 00 55.5	
	comp=N,4104μm,0.8s						
ATH				AML	AML	18 00 58.8	
	comp=E,3499μm,0.8s						
VLY	**Voula,Athens**	**1.86**	**91**	P	**Pn**	**18 00 23.8**	**+0.3**
VLY				AML	AML	18 00 60.0	
	comp=N,2975μm,0.7s						
VLY				AML	AML	18 01 00.3	
	comp=E,3186μm,0.8s						
DION	**Dionisos Attik**	**1.98**	**84**	P	**Pn**	**18 00 26.0**	**+0.9**
DION				AML	AML	18 00 59.8	
	comp=E,5771μm,0.6s						
DION				AML	AML	18 01 02.1	
	comp=N,5141μm,0.8s						
NEO	**Neokhori**	**1.98**	**44**	P	**Pn**	**18 00 26.3**	**+1.2**
NEO				AML	AML	18 01 03.4	
	comp=N,3019μm,0.8s						
NEO				AML	AML	18 01 06.8	
	comp=E,3126μm,0.6s						
XOR	**Xorichti**	**2.01**	**43**	P	**Pn**	**18 00 26.7**	**+1.2**
XOR				AML	AML	18 01 03.9	
	comp=N,2617μm,0.6s						
XOR				AML	AML	18 01 05.4	
	comp=E,1664μm,0.5s						
KTHA	**Kythira Island**	**2.09**	**141**	*e*P	**Pb**	**18 00 30.2**	**+0.4**
KEK	**Kerkira**	**2.22**	**325**	P	**Pn**	**18 00 29.4**	**+1.1**
KEK				AML	AML	18 01 07.6	
	comp=E,2598μm,0.5s						
KEK				AML	AML	18 01 08.7	
	comp=N,2969μm,0.6s						
AOS	**Alonnisos**	**2.30**	**56**	P	**Pn**	**18 00 30.8**	**+1.4**
HORT	**Hortiatis**	**2.99**	**25**	*e*P	**Pn**	**18 00 41.6**	**+2.6**
RODP	**Rodopos**	**2.99**	**141**	*e*P	**Pn**	**18 00 42.1**	**+3.2**
OUR	**Ouranopolis**	**3.13**	**38**	*e*P	**Pn**	**18 00 42.1**	**+1.2**
SCTE	**Santa Cesarea**	**3.17**	**314**	Pn	**Pn**	**18 00 43.0**	**+1.6**
IMMV	**Iera Moni Meta**	**3.18**	**139**	*e*P	**Pn**	**18 00 44.2**	**+2.7**
KNDR	**Palaiochora Ch**	**3.22**	**145**	*e*P	**Pn**	**18 00 44.4**	**+2.4**
OHR	**Ohrid**	**3.25**	**351**	*i* Pn	**Pb**	**18 00 48.2**	**-1.3**
APE	**Apeiranthos**	**3.36**	**103**	P	**Pn**	**18 00 45.0**	**+0.9**
APE	**Apeiranthos**	**3.36**	**103**	⇑P	**Pn**	**18 00 46.7**	**+2.6**
APE	**Apeiranthos**	**3.36**	**103**	⇑S	**Sn**	**18 01 27.7**	**+4.2**
APE	**Apeiranthos**	**3.36**	**103**	*e*P	**Pn**	**18 00 46.2**	**+2.2**
KNT	**Kendrikon**	**3.45**	**19**	*e*P	**Pn**	**18 00 47.9**	**+2.7**
VAY	**Valandovo**	**3.53**	**14**	*i* Pn	**Pb**	**18 00 53.9**	**-0.3**
SANT	**Santorini**	**3.56**	**114**	Pn	**Pn**	**18 00 45.9**	**-0.9**
TIR	**Tirane**	**3.65**	**341**		**Pn**	**18 00 48.9**	**+0.9**
CHOS	**Chios island**	**3.67**	**81**	*e*P	**Pn**	**18 00 50.7**	**+2.3**
GVDS	**Gavdos**	**3.73**	**144**	*e*P	**Pn**	**18 00 52.3**	**+3.3**
GVD	**Gavdhos**	**3.73**	**144**	*e*P	**Pn**	**18 00 52.3**	**+3.2**
IDI	**Anoyia**	**3.81**	**132**	Pn	**Pn**	**18 00 53.5**	**+3.3**
	comp=N,2.5nm,0.3s,baz=327,slow=11,SNR=21						
IDI				LR	LR	18 02 22.2	
	comp=N,205nm,19.2s,baz=264,slow=39						
IDI	**Anoyia**	**3.81**	**132**	⇓P	**Pn**	**18 00 51.9**	**+1.6**
IDI	**Anoyia**	**3.81**	**132**	*e*P	**Pn**	**18 00 52.6**	**+2.4**
IDI	**Anoyia**	**3.81**	**132**	Pn	**Pn**	**18 00 51.1**	**+0.9**
STIP	**Stip**	**3.83**	**8**	*i* Pn	**Pn**	**18 00 53.8**	**+3.3**
TIP	**Timpagrande**	**3.88**	**291**	⇓P	**Pn**	**18 00 51.2**	**-0.1**
TIP	**Timpagrande**	**3.88**	**291**		**Pn**	**18 00 52.2**	**+0.9**
HRKL	**Herakleio**	**3.92**	**130**	*e*P	**Pn**	**18 00 54.9**	**+3.2**
SKO	**Skopje**	**4.07**	**0**	*i* Pn	**Pn**	**18 00 56.9**	**+3.1**
MMB	**Musomiste**	**4.09**	**25**	*e*P	**Pn**	**18 00 56.3**	**+2.3**
BOZC	**Bozcaada**	**4.09**	**60**	*e*P	**Pn**	**18 00 55.9**	**+1.9**
URLA	**Izmir**	**4.09**	**82**	*e*P	**Pn**	**18 00 55.9**	**+1.8**
GADA	**Gvkgeada**	**4.16**	**55**	*e*P	**Pn**	**18 00 56.6**	**+1.6**
KKB	**Krupnik**	**4.16**	**17**	*e*P	**Pn**	**18 00 57.5**	**+2.5**
EZN	**Ezine**	**4.27**	**62**	*e*P	**Pn**	**18 00 59.3**	**+2.8**
CEL	**Celeste**	**4.39**	**276**	Pn	**Pn**	**18 00 59.1**	**+0.9**
ULC	**Ulcinj**	**4.39**	**338**	⇓Pn	**Pn**	**18 00 59.2**	**+1.0**
ULC				*i* Sn	**Sn**	**18 01 49.3**	**+0.3**
RDO	**Rodhopi**	**4.53**	**43**	*e*P	**Pn**	**18 01 04.4**	**+4.3**
RZN	**Rozhen**	**4.55**	**33**	*e*P	**Pn**	**18 01 03.6**	**+3.1**
MATE	**Matera**	**4.58**	**308**	⇓P	**Pn**	**18 01 01.0**	**+0.2**
MATE	**Matera**	**4.58**	**308**	⇓S	**Sn**	**18 01 54.2**	**+0.6**
DRME	**Dracevica, Mon**	**4.62**	**339**	⇑*i* Pn	**Pn**	**18 01 02.3**	**+1.0**
DRME				*i* Sn	**Sn**	**18 01 54.7**	**+0.2**
DRME	**Dracevica, Mon**	**4.62**	**339**	*e*Pn	**Pn**	**18 01 02.2**	**+1.0**
ALN	**Alexandroupoli**	**4.66**	**49**	*e*P	**Pn**	**18 01 04.4**	**+2.6**
ALN	**Alexandroupoli**	**4.66**	**49**	P	**Pn**	**18 01 03.3**	**+0.5**
ALN	**Alexandroupoli**	**4.66**	**49**	Pn	**Pn**	**18 01 03.3**	**+1.5**
ZKR	**Zakros**	**4.75**	**124**	*e*P	**Pn**	**18 01 06.9**	**+3.8**
BUM	**Brajici-Budva**	**4.81**	**337**	⇑*i* Pn	**Pn**	**18 01 04.3**	**+0.3**
BUM				*i* Sn	**Sn**	**18 01 59.3**	**0.0**
PDG	**Podgorica**	**4.82**	**340**	⇑P	**Pn**	**18 01 05.4**	**+1.3**
PDG	**Podgorica**	**4.82**	**340**	*e*Pn	**Pn**	**18 01 04.5**	**+0.4**
PDG	**Podgorica**	**4.82**	**340**	Pn	**Pn**	**18 01 04.9**	**+0.9**
PVY	**Plav**	**4.82**	**347**	*e*Pn	**Pn**	**18 01 05.3**	**+1.1**
PVY				*i* Sn	**Sn**	**18 01 59.6**	**-0.1**
TTG	**Podgorica**	**4.82**	**340**	⇓*i* Pn	**Pn**	**18 01 05.1**	**+1.0**
TTG				*i* Sn	**Sn**	**18 01 59.7**	**+0.2**
VTS	**Vitosha**	**4.91**	**16**	*e*P	**Pn**	**18 01 09.6**	**+4.2**
CEME	**Cevo**	**5.03**	**338**	⇑*i* Pn	**Pn**	**18 01 07.3**	**+0.4**
CEME				*i* Sn	**Sn**	**18 02 04.5**	**-0.1**
HCY	**Herceg Novi**	**5.07**	**335**	*e*Pn	**Pn**	**18 01 07.8**	**+0.3**
HCY				*i* Sn	**Sn**	**18 02 05.6**	**-0.1**
HCY	**Herceg Novi**	**5.07**	**335**	*e*Pn	**Pn**	**18 01 06.8**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**5.10**	**87**	*e*P	**Pn**	**18 01 11.3**	**+3.2**
IVA	**Berane**	**5.11**	**347**	⇓*i* Pn	**Pn**	**18 01 09.2**	**+1.1**
IVA				*i* Sn	**Sn**	**18 02 06.4**	**-0.2**
UKOP	**Uzunkopru-Edir**	**5.15**	**50**	*e*P	**Pn**	**18 01 11.1**	**+2.5**
KOME	**Kolasin**	**5.16**	**344**	*e*Pn	**Pn**	**18 01 09.9**	**+1.1**
KOME				*i* Sn	**Sn**	**18 02 07.6**	**-0.3**
KARP	**Karpathos**	**5.16**	**115**	Pn	**Pn**	**18 01 09.4**	**+0.6**
NKME	**Niksic**	**5.22**	**339**	*e*Pn	**Pn**	**18 01 10.8**	**+1.2**
NKME				*i* Sn	**Sn**	**18 02 09.1**	**-0.3**
NKY	**Niksic**	**5.25**	**340**	⇓*i* Pn	**Pn**	**18 01 11.0**	**+0.9**
NKY				*i* Sn	**Sn**	**18 02 09.8**	**-0.4**
BALB	**Balikesir**	**5.33**	**69**	*e*P	**Pn**	**18 01 15.0**	**+4.0**
BRY	**Bratogost**	**5.46**	**337**	⇑*i* Pn	**Pn**	**18 01 12.9**	**-0.1**
BRY				*i* Sn	**Sn**	**18 02 14.9**	**-0.6**
BRY	**Bratogost**	**5.46**	**337**	*e*Pn	**Pn**	**18 01 12.6**	**-0.4**
TURN	**Turunc**	**5.54**	**100**	*e*P	**Pn**	**18 01 17.8**	**+3.9**
ARG	**Arkhangelos**	**5.61**	**105**	*e*P	**Pn**	**18 01 19.0**	**+4.1**
UPM	**Unac-Piva**	**5.64**	**341**	⇓*i* Pn	**Pn**	**18 01 16.5**	**+1.1**
UPM				*i* Sn	**Sn**	**18 02 19.0**	**-0.9**
UPM	**Unac-Piva**	**5.64**	**341**	*e*Pn	**Pn**	**18 01 16.6**	**+1.1**
PLE	**Pljevlja**	**5.64**	**345**	*e*Pn	**Pn**	**18 01 16.5**	**+1.0**
PLE				*i* Sn	**Sn**	**18 02 19.1**	**-0.8**
RAFF	**Raffo Rosso**	**5.66**	**265**		**Pn**	**18 01 15.1**	**-0.6**
BLKB	**Belogradchik**	**5.79**	**9**	⇑S	**Sn**	**18 02 31.6**	**+8.1**
SGRT	**San Giovanni R**	**5.83**	**313**		**Pn**	**18 01 18.9**	**+0.9**
DALY	**Dalyan (Mula)**	**5.85**	**98**	*e*P	**Pn**	**18 01 22.1**	**+3.9**
BBLS	**Lazići**	**6.16**	**346**	*e*Pn	**Pn**	**18 01 21.1**	**-1.4**
PAOL	**Paolisi**	**6.17**	**303**		**Pn**	**18 01 23.7**	**+1.1**
DIVS	**Divibare**	**6.29**	**350**	*e*Pn	**Pn**	**18 01 24.3**	**0.0**
DIVS	**Divibare**	**6.29**	**350**	Pn	**Pn**	**18 01 24.9**	**+0.6**
CORL	**Corleone**	**6.43**	**272**	Pn	**Pn**	**18 01 27.7**	**+1.4**
HAPS	**Han Pijesak,Bl**	**6.46**	**344**	*e*Pn	**Pn**	**18 01 25.4**	**-1.3**
TVSB	**Tavsanli**	**6.47**	**74**	*e*P	**Pn**	**18 01 31.1**	**+4.3**
CLTB	**Caltabellotta**	**6.52**	**270**	Pn	**Pn**	**18 01 28.0**	**+0.4**
AKAS	**Kas**	**6.74**	**102**	Pn	**Pn**	**18 01 32.2**	**+1.7**
TEKS	**Tekeris**	**6.80**	**348**	*e*Pn	**Pn**	**18 01 30.7**	**-0.5**
ELL	**Elmali**	**6.85**	**97**		**Pn**	**18 01 33.4**	**+1.3**
MDVR	**Moldovita**	**6.88**	**2**	⇑P	**Pn**	**18 01 34.7**	**+2.3**
INTR	**Introdacqua**	**7.09**	**308**	Pn	**Pn**	**18 01 38.0**	**+2.6**
FRGS	**Fruska Gora**	**7.35**	**351**	*e*Pn	**Pn**	**18 01 37.5**	**-1.4**
BLY	**Banja Luka**	**7.55**	**336**	*e*Pn	**Pn**	**18 01 40.1**	**-1.5**
AQU	**L'Aquila**	**7.59**	**308**	*e*Pn	Pn	18 01 48.1	+5.9
VOIR		**8.00**	**19**	⇓P	**Pn**	**18 01 51.9**	**+4.1**
MDUB	**Mudurnu**	**8.00**	**68**	Pn	**Pn**	**18 01 47.7**	**-0.1**
NRCA	**Norcia**	**8.04**	**310**		**Pn**	**18 01 48.5**	**+0.2**
MLR	**Muntele Rosu**	**8.30**	**23**	⇓P	**Pn**	**18 01 56.3**	**+4.3**
MLR	**Muntele Rosu**	**8.30**	**23**	Pn	**Pn**	**18 01 53.4**	**+1.4**
MORH	**Mrgy,

KLMR **Klimovskoe** 25.64 21 pmax pmax
comp=Z,12nm,0.9s
TORD **Torodi Ar. Bea** 30.28 221 P **P** 18 06 03.4 +0.8
comp=Z,0.9nm,0.5s,baz=29,slow=8.5,SNR=5.1
TORD **Torodi Ar. Bea** 30.28 221 P **P** 18 06 00.7 -1.9
ARCES **ARCESS Array B** 31.77 3 P **P** 18 06 14.7 -0.5
comp=Z,4.2nm,0.8s,baz=185,slow=8.1,SNR=16
KKAR **Karatay Array** 37.25 66 P **P** 18 07 03.0 0.0
KURBB **Kurchatov Arra** 41.81 53 P **P** 18 07 40.5 -0.4
comp=Z,2.4nm,0.6s,baz=278,slow=8.7,SNR=24
KURK **Kurchatov** 41.86 53 P **P** 18 07 41.3 +0.1
MK31 **Makanchi Array** 44.83 58 P **P** 18 08 04.9 -0.4
MKAR **Makanchi Array** 44.83 58 P **P** 18 08 04.9 -0.4
comp=Z,2.8nm,0.5s,baz=272,slow=7.2,SNR=42
MKAR **Makanchi Array** 44.83 58 P **P** 18 08 05.0 -0.3
ZAA0 **Zalesovo Array** 45.34 48 P **P** 18 08 09.3 +0.1
ZAA0 IAmb IAmb 18 08 16.8
comp=Z,4.1nm,0.6s
ZALV **Zalesovo Beam** 45.34 48 P **P** 18 08 08.9 -0.3
comp=Z,2.5nm,0.5s,baz=276,slow=9.1,SNR=8.5
WMQ **Urumqi** 49.26 61 *e*P **P** 18 08 42.4 +2.4
GTA **Gaotai** 59.32 62 P **P** 18 09 52.8 -0.6
GTA pP pP 18 09 58.0 -1.0
GTA sP sP 18 10 02.8 +1.7
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,49nm,4.5s
GTA LR LR
comp=N,56nm,17.8s
GTA LR LR
comp=E,70nm,17.1s
GTA LR LR
comp=Z,53nm,17.8s
LZH **Lanzhou** 63.68 64 *e*P **P** 18 10 22.3 -0.6
LZH pP pP 18 10 28.9 +0.3
LZH sP sP 18 10 33.5 +2.8
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,69nm,4.9s
LZH LR LR
comp=N,140nm,16.5s
LZH LR LR
comp=E,150nm,16.7s
LZH LR LR
comp=Z,210nm,18.9s
HHC **Hu-ho-hao-te** 66.59 56 *e*P **P** 18 10 43.1 +1.4
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,110nm,7.0s
CMAR **Chiang Mai Arr** 69.21 82 P **P** 18 10 57.3 -1.0
comp=Z,0.7nm,0.8s,baz=316,slow=6.3,SNR=6.0
NJ2 **Nanjing** 76.33 60 *e*P **P** 18 11 39.1 -1.3
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ILAR **Eielson Array** 77.25 355 P **P** 18 11 46.4 +1.3
comp=Z,0.2nm,0.7s,baz=357,slow=3.9,SNR=2.4
ILAR **Eielson Array** 77.25 355 P **P** 18 11 46.4 -2.7
ASAR **Alice Springs** 121.42 97 PKP **PKPdf** 18 18 46.2 +1.2
comp=Z,0.1nm,0.5s,baz=317,slow=1.4,SNR=1.6
ASAR **Alice Springs** 121.42 97 **PKPdf** 18 18 44.0 -1.0

*IDC **16** 18:29:23.1±2.9, 30.21S×177.43W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/24, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=60.1km s-min=26.4km az=102.0*
*NEIC **16** 18:29:29.3±1.2, 30.07S±0.06×177.7W±0.1, h43km±8km, mb4.6/16, Error ellipse: s-maj=15.4km s-min=9.0km az=85.0*
ISC 16 18:29:28.3±0.8, **30.16S**±0.07×**177.6W**±0.1, **h35**km, **n26**, σ1**9**/**22**/**28**, **mb4.5**/12, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.94**	**344**	Pn	**Pn**	**18 29 45.0**	**0.0**
	248nm,0.3s,baz=19,slow=20,SNR=8.9						
RAO				Sn	**Sn**	**18 29 55.9**	**-1.3**
	2µm,0.3s,baz=72,slow=21,SNR=17						
RAO	**Raoul Island**	**0.94**	**344**		**Pn**	**18 29 44.8**	**-0.2**
OUZ	**Omahuta**	**8.95**	**233**	Pn	**Pn**	**18 31 36.3**	**+1.3**
URZ	**Urewera**	**9.18**	**207**	Pn	**Pn**	**18 31 36.0**	**-2.2**
	0.3nm,0.3s,baz=40,slow=23,SNR=1.8						
URZ				Sn	**Sn**	**18 33 18.6**	**-1.6**
	1.1nm,0.3s,baz=207,slow=22,SNR=12						
KHZ	**Kahutara**	**14.14**	**208**		**Pn**	**18 32 47.4**	**+1.4**
CAN	**Canberra**	**28.45**	**251**	P	**P**	**18 35 19.6**	**-0.4**
CAN				IAmb	IAmb	18 35 31.1	
	comp=Z,33nm,1.3s						
CTAO	**Charters Tower**	**34.08**	**279**	P	**P**	**18 36 09.5**	**-0.1**
CTAO				IAmb	IAmb	18 36 31.3	
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**34.84**	**257**	P	**P**	**18 36 18.6**	**+2.4**
	comp=Z,1.2nm,0.5s,baz=93,slow=9.4,SNR=5.0						
STKA	**Stephens Creek**	**34.84**	**257**	P	**P**	**18 36 16.6**	**+0.4**
BBOO	**Buckleboo**	**39.34**	**254**	P	**P**	**18 36 54.6**	**+0.3**
BBOO				IAmb	IAmb	18 37 08.7	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**43.44**	**267**	P	**P**	**18 37 25.4**	**-2.7**
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**18 37 29.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**18 37 25.8**	**-2.3**
WR0	**Warramunga Arr**	**44.23**	**272**	P	**P**	**18 37 34.0**	**-0.4**
WB2	**Warramunga Arr**	**44.40**	**272**	P	**P**	**18 37 35.9**	**+0.1**
WB2				IAmb	IAmb	18 37 37.4	
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**18 37 36.9**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=112,slow=7.9,SNR=26						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**18 37 36.0**	**+0.1**
WB0	**Warramunga Arr**	**44.43**	**272**	P	**P**	**18 37 35.5**	**-0.6**
WB0				IAmb	IAmb	18 37 44.0	
	comp=Z,4.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.68**	**270**	P	**P**	**18 38 38.3**	**-1.2**
CASY	**Casey**	**55.50**	**208**	P	**P**	**18 39 00.2**	**+0.8**
CASY				IAmb	IAmb	18 39 22.9	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**18 39 30.3**	**-0.5**
QSPA				IAmb	IAmb	18 39 32.6	
	comp=Z,6.4nm,1.5s						
AC04	**Llanos de Chal**	**89.02**	**122**	P	**P**	**18 42 21.0**	**+1.1**
B08A	**Colville Reser**	**93.95**	**35**	P	**P**	**18 42 41.9**	**-0.3**
B08A				IAmb	IAmb	18 42 44.1	
	comp=Z,2.4nm,0.7s						
KNK	**Knik Glacier**	**94.27**	**14**	P	**P**	**18 42 44.0**	**+0.7**
KNK				IAmb	IAmb	18 42 49.1	
	comp=Z,15nm,1.4s						
BCPM	**Bancas Point**	**95.08**	**18**	P	**P**	**18 42 46.8**	**-0.3**
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	**PKPdf**	**18 49 00.7**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=46,slow=3.5,SNR=10.0						

*IDC **16** 18:51:06.7±0.7, 52.24N×175.20W, h83km±6km, mb3.8/18, mb1 4.0/19, mb1mx3.7/65, mbtmp4.1/19, Error ellipse: s-maj=18.7km s-min=10.7km az=168.0*
*AEIC **16** 18:51:06±3.6, 51.9N±0.1×175.03W±0.07, h74km±4km, ML4.1/29, mb4.4/91(NEIC), Error ellipse: s-maj=15.4km s-min=5.0km az=164.0*
*NEIC **16** 18:51:06.7±2.5, 52.0N±0.1×175.04W±0.06, h81km±4km, Error ellipse: s-maj=15.7km s-min=4.5km az=169.0*
ISC 16 18:51:06.3±0.6, **52.00N**±0.10×**175.04W**±0.04, **h85**km±4km, **h84**km:**pP-P**, **n294**, σ1**9**/**05**/297, **mb4.3**/43, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.56**	**68**		**Pn**	**18 51 20.6**	**-0.3**
ATKA	**Atka Island**	**0.56**	**68**		**Sn**	**18 51 31.3**	**-0.6**
KOWE	**Korovin West**	**0.61**	**52**		**Pn**	**18 51 22.1**	**+0.6**
GSMY	**Great Sitkin M**	**0.63**	**275**		**Pn**	**18 51 21.9**	**+0.2**
GSTR	**Great Sitkin T**	**0.64**	**279**		**Pn**	**18 51 22.3**	**+0.5**
KOFP	**Korovin Flat P**	**0.64**	**64**		**Pn**	**18 51 22.2**	**+0.4**
GSTD	**Great Sitkin T**	**0.69**	**275**		**Pn**	**18 51 22.6**	**+0.3**
KOSE	**Korovin Southe**	**0.70**	**60**		**Pn**	**18 51 22.9**	**+0.5**
GSSP	**Great Sitkin S**	**0.71**	**278**		**Pn**	**18 51 22.9**	**+0.5**
GSSP					**Sn**	**18 51 35.1**	**+0.7**
ADAG	**Mount Adagdak**	**0.97**	**270**		**Pn**	**18 51 26.0**	**+0.8**
ADK	**Adak**	**1.03**	**264**		**Pn**	**18 51 25.9**	**+0.1**
KIKV	**Kanaga Island**	**1.33**	**266**		**Pn**	**18 51 30.3**	**+0.8**
KICM	**Kanaga Island**	**1.34**	**268**		**Pn**	**18 51 30.5**	**+0.8**
KICM					**Sn**	**18 51 48.4**	**+1.1**
KIMD	**Kanaga Island**	**1.38**	**261**		**Pn**	**18 51 30.8**	**+0.5**
TAFP	**Tanaga Falls P**	**1.83**	**268**		**Pn**	**18 51 36.6**	**+0.7**
TAFP					**Sn**	**18 51 59.8**	**+1.2**
TASE	**Tanaga Southea**	**1.86**	**266**		**Pn**	**18 51 37.3**	**+0.8**
TANO	**Tanaga North**	**1.91**	**269**		**Pn**	**18 51 38.3**	**+1.2**
GAEA	**Gareloi East**	**2.31**	**266**		**Pn**	**18 51 43.4**	**+1.0**
GALAA	**Gareloi Lava P**	**2.33**	**266**		**Pn**	**18 51 43.7**	**+1.1**
CERAA	**Semis' Rag'd T**	**3.27**	**271**		**Pn**	**18 51 56.1**	**+0.9**
AMKA	**Amchitka**	**3.58**	**262**	Pn	**Pn**	**18 51 57.6**	**-1.8**
NIKH	**Nikolski High**	**3.90**	**73**	Pn	**Pn**	**18 52 05.5**	**+1.7**
MAPS	**Pakushin South**	**5.23**	**66**		**Pn**	**18 52 23.5**	**+1.7**
MREP	**Makushin Rep't**	**5.34**	**67**		**Pn**	**18 52 25.2**	**+1.8**
MSW	**Makushin Switc**	**5.35**	**66**		**Pn**	**18 52 25.4**	**+2.0**
UNV	**Unalaska Valle**	**5.48**	**67**		**Pn**	**18 52 26.9**	**+1.6**
SPIA	**Saint Paul Isl**	**5.89**	**26**	Pn	**Pn**	**18 52 33.6**	**+2.8**
AKUT	**Akutan**	**5.98**	**65**	Pn	**Pn**	**18 52 34.8**	**+2.7**
FALS	**False Pass**	**7.51**	**63**	Pn	**Pn**	**18 52 55.3**	**+2.5**
SDPT	**Sand Point**	**9.27**	**63**	Pn	**Pn**	**18 53 16.9**	**0.0**
CNBA	**Chernabura Isl**	**9.65**	**67**	Pn	**Pn**	**18 53 21.7**	**-0.4**
CHGN	**Chignik**	**10.65**	**60**	Pn	**Pn**	**18 53 36.2**	**+0.5**
CHIR	**Chirikof Islan**	**12.06**	**64**	Pn	**Pn**	**18 53 53.9**	**-0.9**
SII	**Sitkinak Islan**	**12.99**	**61**	Pn	**Pn**	**18 54 06.2**	**-1.2**
OHAK	**Old Harbor**	**13.62**	**59**	Pn	**Pn**	**18 54 13.1**	**-2.4**
SVW2	**Sparrevohn**	**14.02**	**42**	P	**P**	**18 54 23.2**	**-2.8**
KDAK	**Kodiak Island**	**14.12**	**57**	Pn	**Pn**	**18 54 20.2**	**-1.8**
TTA	**Tatalina**	**14.92**	**35**	P	**P**	**18 54 35.2**	**-0.7**
CNPM	**China Poot**	**15.30**	**51**		**Pn**	**18 54 37.0**	**-0.3**
CNPM				IAmb	IAmb	18 54 40.6	
	comp=Z,64nm,1.7s						
BRLK	**Bradley Lake**	**15.55**	**51**	Pn	**Pn**	**18 54 39.7**	**-0.7**
BRLK				IAmb	IAmb	18 54 47.5	
	comp=Z,10.0nm,0.5s						
SKT	**Skwentna**	**16.15**	**43**	P	**P**	**18 54 51.4**	**+1.9**
SUA	**Susitna One**	**16.25**	**45**		**P**	**18 54 50.9**	**+0.1**
PPLA	**Purkeypile**	**16.33**	**39**	P	**P**	**18 54 52.9**	**+1.2**
O22K	**Cooper Landing**	**16.34**	**49**	P	**Pn**	**18 54 49.6**	**-0.6**
	baz=249						
SEW	**Seward**	**16.34**	**50**		**Pn**	**18 54 49.1**	**-1.1**
PETK	**Petropavlovsk-**	**16.59**	**285**	P	**P**	**18 54 55.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=91,slow=14,SNR=13						
PETK	**Petropavlovsk-**	**16.59**	**285**	P	**P**	**18 54 55.0**	**+0.6**
KTH	**Kantishna Hill**	**17.17**	**38**		**P**	**18 55 02.4**	**+1.6**
KTH				IAmb	IAmb	18 55 05.4	
	comp=Z,32nm,1.0s						
GHO	**Glory Hole Cre**	**17.18**	**45**		**P**	**18 55 01.2**	**+0.2**
KNK	**Knik Glacier**	**17.25**	**47**	P	**P**	**18 55 01.3**	**-0.3**
TRF	**Thorofare Moun**	**17.36**	**39**		**P**	**18 55 04.5**	**+1.5**
BPAW	**Bear Paw Mtn.**	**17.43**	**37**		**P**	**18 55 05.9**	**+2.2**
BPAW				IAmb	IAmb	18 55 08.4	
	comp=Z,9.1nm,0.4s						
SML	**Sawmill**	**17.45**	**45**	P	**P**	**18 55 04.6**	**+0.6**
SML				IAmb	IAmb	18 55 24.4	
	comp=Z,36nm,1.8s						
GLI	**Glacier Island**	**17.70**	**49**	P	**P**	**18 55 05.4**	**-1.1**
GLI				IAmb	IAmb	18 55 20.6	
	comp=Z,24nm,1.0s						
HIN	**Hinchinbrook I**	**17.84**	**51**	P	**Pn**	**18 55 07.8**	**-0.7**
SCM	**Sheep Creek Mo**	**17.90**	**46**	P	**P**	**18 55 08.2**	**-0.7**
RND	**Reindeer**	**17.91**	**40**	P	**Pn**	**18 55 09.1**	**-0.3**
RND				IAmb	IAmb	18 55 11.4	
	comp=Z,20nm,0.5s						
FID	**Port Fidalgo**	**17.95**	**50**	P	**P**	**18 55 07.8**	**-1.5**
FID				IAmb	IAmb	18 55 16.1	
	comp=Z,64nm,1.6s						
MCK	**McKinley**	**18.03**	**39**	P	**Pn**	**18 55 10.6**	**-0.2**
	baz=241,SNR=9.5						
BWN	**Browne**	**18.04**	**38**	P	**Pn**	**18 55 12.0**	**+1.1**
BWN				IAmb	IAmb	18 55 18.2	
	comp=Z,19nm,0.8s						
MLY	**Manley**	**18.04**	**34**	P	**Pn**	**18 55 12.1**	**+1.1**
	baz=235,SNR=16						
DHY	**Denali Highway**	**18.36**	**42**	P	**Pn**	**18 55 14.5**	**-0.5**
DHY				IAmb	IAmb	18 55 16.5	
	comp=Z,17nm,0.7s						
NEA2	**Nenana**	**18.40**	**37**	P	**Pn**	**18 55 14.6**	**-0.8**
	baz=238,SNR=7.6						
KLU	**Klutina**	**18.42**	**48**	P	**P**	**18 55 14.2**	**-0.5**
KLU				IAmb	IAmb	18 56 03.8	
	comp=Z,37nm,1.8s						
M24K	**Tolsona, Glenn**	**18.51**	**46**	P	**Pn**	**18 55 15.9**	**-0.8**
	baz=249						
M24K	**Tolsona, Glenn**	**18.51**	**46**	P	**Pn**	**18 55 16.5**	**-0.2**
WRH	**Wood River Hil**	**18.71**	**38**	P	**Pn**	**18 55 17.6**	**-1.3**
MDM	**Murphy Dome**	**18.90**	**36**	P	**Pn**	**18 55 20.3**	**-1.0**
CCB	**Clear Creek Bu**	**18.90**	**37**	P	**P**	**18 55 19.3**	**-0.4**
N25K	**Chitina, Valde**	**19.06**	**48**	P	**Pn**	**18 55 22.1**	**-1.1**
	baz=253						
HDA	**Harding Lake**	**19.11**	**39**	P	**Pn**	**18 55 22.7**	**-1.1**
	baz=242,SNR=16						
HDA	**Harding Lake**	**19.11**	**39**	P	**Pn**	**18 55 22.5**	**-1.3**
HDA				IAmb	IAmb	18 55 29.3	
	comp=Z,16nm,0.4s						
PAX	**Paxson**	**19.12**	**43**	P	**Pn**	**18 55 23.4**	**-0.5**
POKR	**Poker Plat Res**	**19.27**	**36**	P	**Pn**	**18 55 24.5**	**-1.2**
	baz=240						
IL31		**19.31**	**38**	P	**P**	**18 55 23.8**	**-0.4**
ILAR	**Eielson Array**	**19.31**	**38**	P	**P**	**18 55 22.1**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=236,slow=9.8,SNR=25						
ILAR				ScP	**ScP**	**19 03 10.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=286,slow=3.6,SNR=5.9						
ILAR	**Eielson Array**	**19.31**	**38**	P	**P**	**18 55 24.0**	**-0.2**
GLB	**Gilahina Butte**	**19.38**	**49**	P	**P**	**18 55 24.4**	**-0.7**
GLB				IAmb	IAmb	18 55 31.0	
	comp=Z,34nm,1.8s						
COLD	**Coldfoot**	**19.54**	**29**	P	**Pn**	**18 55 28.5**	**-0.3**
	baz=230,SNR=7.4						
COLD	**Coldfoot**	**19.54**	**29**	P	**Pn**	**18 55 29.0**	**+0.2**
COLD				IAmb	IAmb	18 55 32.6	
	comp=Z,13nm,0.7s						
RIDG	**Independent Ri**	**19.67**	**42**	P	**P**	**18 55 28.1**	**-0.1**
RIDG				IAmb	IAmb	18 55 33.8	
	comp=Z,14nm,0.9s						
MENT	**Mentasta**	**19.86**	**44**	P	**Pn**	**18 55 32.1**	**-0.5**
MENT				IAmb	IAmb	18 55 56.5	
	comp=Z,20nm,1.5s						
DOT	**Dot Lake**	**19.96**	**42**	P	**P**	**18 55 31.5**	**+0.2**
DOT				IAmb	IAmb	18 55 32.4	
	comp=Z,22nm,1.1s						
SCRK	**Sand Creek**	**20.11**	**41**	P	**P**	**18 55 32.8**	**-0.3**
	baz=247,SNR=43						
SEY	**Seynchan**	**20.41**	**315**	P	Pn	18 55 37.3	-1.6
	comp=Z,5.3nm,0.8s,baz=124,slow=12,SNR=13						
TOLK	**Toolik Lake Re**	**20.64**	**27**	P	Pn	18 55 40.5	-1.1
	baz=228,SNR=12						
TOLK	**Toolik Lake Re**	**20.64**	**27**	P	Pn	18 55 40.5	-1.1
TOLK				IAmb	IAmb	18 55 42.9	
	comp=Z,16nm,0.6s						
K27K	**Chicken**	**20.92**	**42**	P	**P**	**18 55 42.3**	**+0.7**
	baz=250,SNR=13						
EGAK	**Eagle**	**21.55**	**41**	P	**P**	**18 55 48.5**	**+0.2**
EGAK				IAmb	IAmb	18 55 50.6	
	comp=Z,12nm,0.8s						
INK	**Inuvik**	**25.61**	**35**	P	**P**	**18 56 26.9**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=214,slow=6.1,SNR=15						
INK				PcP	**PcP**	**18 59 55.9**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=340,slow=2.7,SNR=4.3						
INK	**Inuvik**	**25.61**	**35**	P	**P**	**18 56 27.4**	**+0.2**
INK					**PcP**	**18 59 56.1**	**+0.6**
C36M	**Paulatuk**	**29.19**	**34**	P	**P**	**18 56 59.4**	**+0.3**
	baz=260						
TIXI	**Tiksi**	**31.27**	**330**	P	**P**	**18 57 17.3**	**-0.2**
YKA	**Yellowknife Ar**	**33.09**	**48**	P	**P**	**18 57 34.1**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=280,slow=8.0,SNR=2.4						
YKA				PcP	**PcP**	**19 00 15.5**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=286,slow=2.2,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**35.17**	**210**	T	T	19 35 05.0	
	baz=17						
H11N3	**WAKE ISLAND Hy**	**35.17**	**210**	T	T	19 34 53.0	
	baz=17						
H11N1	**WAKE ISLAND Hy**	**35.19**	**210**	T	T	19 35 06.4	
	baz=17,slow=74						
USRK	**Ussuriysk Ar.**	**35.53**	**279**	P	**P**	**18 57 53.4**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=56,slow=9.6,SNR=7.3						
USRK				PcP	**PcP**	**19 00 22.9**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=47,slow=2.0,SNR=4.5						
MJAR	**Matsushiro Arr**	**36.19**	**263**	P	**P**	**18 58 01.4**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=54,slow=4.5,SNR=7.2						
MJAR	**Matsushiro Arr**	**36.19**	**263**	P	**P**	**18 58 00.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**36.19**	**263**	P	**P**	**18 57 58.5**	**-2.0**
MAT	**Matsushiro**	**36.19**	**263**	P	**P**	**18 58 01.1**	**+0.6**
NEW	**Newport**	**36.47**	**72**	P	**P**	**18 58 04.5**	**+1.7**
	comp=Z,1.8nm,0.4s,baz=295,slow=9.5,SNR=4.1						
NEW	**Newport**	**36.47**	**72**	P	**P**	**18 58 03.4**	**+0.6**
	baz=298						
NEW	**Newport**	**36.47**	**72**	P	**P**	**18 58 05.1**	**+2.3**
KMRM	**Mail Ridge**	**36.74**	**88**	P	**P**	**18 58 08.3**	**+3.1**
N02D	**Trinity Center**	**36.92**	**86**	P	**P**	**18 58 07.3**	**+0.6**
	baz=305						
M04C	**Macdoel**	**36.99**	**84**	P	**P**	**18 58 06.3**	**-1.1**
	baz=304						
O02D	**Mt. Diablo Mer**	**37.34**	**87**	P	**P**	**18 58 10.9**	**+0.6**
	baz=306						
O03E	**Paynes Creek**	**37.88**	**86**	P	**P**	**18 58 15.1**	**+0.3**
	baz=306						
PNTR	**Pine Nut**	**39.96**	**86**	P	**P**	**18 58 34.2**	**+1.8**
WAKR	**Walker**	**40.41**	**87**	P	**P**	**18 58 38.3**	**+2.1**
WAKR				IAmb	IAmb	18 59 41.6	
	comp=Z,16nm,1.8s						
HLID	**Hailey**	**40.52**	**77**	P	**P**	**18 58 36.9**	**-0.1**
	baz=304						
BCYI	**Bear Canyon**	**40.71**	**76**	P	**P**	**18 58 40.1**	**+1.5**
MCMT	**McKenzie Canyo**	**40.76**	**75**	P	**P**	**18 58 40.4**	**+1.4**
EGMT	**Eagleton**	**40.88**	**69**	P	**P**	**18 58 39.3**	**-0.4**
	baz=301						
BOZ	**Bozeman (W)**	**41.06**	**73**	P	**P**	**18 58 41.4**	**+0.1**
	baz=302						
BOZ	**Bozeman (W)**	**41.06**	**73**	P	**P**	**18 58 42.2**	**+0.8**
BOZ				IAmb	IAmb	18 58 45.9	
	comp=Z,14nm,1.9s						
NVAR	**Mina Array Bea**	**41.16**	**86**	P	**P**	**18 58 44.3**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=296,slow=7.7,SNR=12						
NVAR	**Mina Array Bea**	**41.16**	**86**	P	**P**	**18 58 44.2**	**+1.9**
MDPB	**Devils Postpil**	**41.18**	**88**	P	**P**	**18 58 44.6**	**+2.1**
NV11	**Mina Array Sit**	**41.25**	**86**	P	**P**	**18 58 44.6**	**+1.6**
NV11				IAmb	IAmb	18 58 45.5	
	comp=Z,5.7nm,1.4s						
ELK	**Elko**	**41.64**	**81**		**P**	**18 58 48.1**	**+1.8**
KSRS	**Korea Array**	**41.96**	**273**	P	**P**	**18 58 49.2**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=63,slow=7.3,SNR=4.5						
KSRS				PcP	**PcP**	**19 00 43.3**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=77,slow=3.7,SNR=4.4						
YHH	**Holmes Hill**	**41.97**	**73**		**P**	**18 58 50.1**	**+1.2**
CWC	**Cottonwood Cre**	**42.55**	**88**	P	**P**	**18 58 53.7**	**+0.1**
	baz=310						
RLMT	**Red Lodge**	**42.72**	**72**	P	**P**	**18 58 54.9**	**0.0**
	baz=304						
ISA	**Isabella, Lake**	**42.81**	**89**	P	**P**	**18 58 55.6**	**0.0**
	baz=310						
R11A	**Troy Canyon, C**	**42.88**	**84**	P	**P**	**18 58 56.8**	**+0.5**
	baz=308,SNR=7.7						
R11A	**Troy Canyon, C**	**42.88**	**84**	P	**P**	**18 58 58.0**	**+1.7**
MPMC	**Manual Prospec**	**43.16**	**88**	P	**P**	**18 58 58.5**	**-0.1**
	baz=310						
SCZ2	**Santa Cruz Isl**	**43.19**	**92**	P	**P**	**18 58 58.4**	**-0.2**
	baz=312						
FURC	**Furnace Creek,**	**43.29**	**87**	P	**P**	**18 59 00.2**	**+0.9**
	baz=310						
TPNV	**Topopah Spring**	**43.36**	**86**	P	**P**	**18 59 00.5**	**+0.5**
	baz=309,SNR=6.5						
TPNV	**Topopah Spring**	**43.36**	**86**		**P**	**18 59 01.7**	**+1.6**
TPNV				IAmb	IAmb	18 59 08.7	
	comp=Z,4.9nm,0.7s						
DUG	**Dugway, Tooele**	**43.45**	**80**	P	**P**	**18 59 00.6**	**-0.2**
	baz=307						
DUG	**Dugway, Tooele**	**43.45**	**80**		**P**	**18 59 02.5**	**+1.7**
DUG				IAmb	IAmb	18 59 04.3	
	comp=Z,5.8nm,1.0s						
PRN	**Pahroc Range**	**43.80**	**85**	P	**P**	**18 59 05.8**	**+2.1**
PRN				IAmb	IAmb	18 59 11.3	
	comp=Z,6.4nm,0.7s						
PSUT	**Pine Spring**	**43.83**	**83**		**P**	**18 59 04.2**	**+0.3**
BW06	**Boulder Array**	**43.89**	**75**	P	**P**	**18 59 04.1**	**-0.3**
	baz=306						
BW06	**Boulder Array**	**43.89**	**75**	P	**P**	**18 59 05.6**	**+1.2**
BW06				IAmb	IAmb	18 59 06.1	
	comp=Z,7.1nm,1.4s						
PD31	**Pinedale Array**	**43.89**	**75**	P	**P**	**18 59 05.2**	**+0.9**
PD31				IAmb	IAmb	18 59 06.1	
	comp=Z,5.8nm,1.4s						
PDAR	**Pinedale Array**	**43.89**	**75**	P	**P**	**18 59 05.3**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=315,slow=3.4,SNR=20						
PDAR				pP	**pP**	**18 59 25.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=306,slow=4.4,SNR=3.8						
GSC	**Goldstone, Bar**	**44.08**	**89**	P	**P**	**18 59 04.8**	**-1.0**
	baz=311						
GSC	**Goldstone, Bar**	**44.08**	**89**		**P**	**18 59 07.1**	**+1.3**
MVU	**Marysvale**	**44.86**	**82**	P	**P**	**18 59 13.3**	**+1.1**
MSU	**Marysvale**	**44.87**	**82**	P	**P**	**18 59 13.6**	**+1.3**
TMUT	**Trail Mountain**	**44.98**	**80**	P	**P**	**18 59 14.9**	**+1.7**
MTPU	**Mount Pierson**	**45.17**	**82**	P	**P**	**18 59 16.2**	**+1.4**
LCMT	**Little Creek M**	**45.17**	**84**	P	**P**	**18 59 15.9**	**+1.4**
RDMU	**Red Mountain**	**45.19**	**78**	P	**P**	**18 59 17.4**	**+2.7**
Q16A	**Castle Valley**	**45.24**	**81**	P	**P**	**18 59 17.6**	**+2.5**
IRM	**Iron Mountain**	**45.86**	**89**	P	**P**	**18 59 19.1**	**-0.8**
	baz=312						
U15A	**North Rim**	**46.13**	**84**	P	**P**	**18 59 23.8**	**+1.5**
U15A				IAmb	IAmb	18 59 28.6	
	comp=Z,6.3nm,1.2s						
PV22	**Blue Mesa, Par**	**46.93**	**79**	P	**P**

	baz=313							
LSQQ	**Lebel-sur-Quev**	57.66	50	P		**P**	19 00 46.9	-0.4
	baz=313							
ARCES	**ARCESS Array B**	57.85	352	P		**P**	19 00 47.4	-1.0
	comp=Z,4.1nm,1.0s,baz=46,slow=3.5,SNR=5.9							
ARCES				PcP		**PcP**	19 01 38.9	-1.0
	comp=Z,12nm,1.2s,baz=20,slow=4.3,SNR=4.7							
U40A	**Yellville**	57.88	71	P		**P**	19 00 48.4	-0.6
	baz=314							
W39A	**Magazine**	58.13	72	P		**P**	19 00 49.8	-1.0
	baz=314							
FVM	**French Village**	58.16	68	P		**P**	19 00 50.7	-0.3
CHGQ	**Chibougamau**	58.29	48	P		**P**	19 00 50.4	-1.3
	baz=314							
Q44A	**Meyer Farm, Va**	58.33	66	P		**P**	19 00 52.4	+0.2
SFIN	**Lafayette**	58.39	64	P		**P**	19 00 52.0	-0.6
	baz=313							
T42A	**Van Buren**	58.43	69	P		**P**	19 00 51.6	-1.3
T42A				IAmb		IAmb	19 00 52.1	
	comp=Z,3.1nm,0.9s							
FCAR	**Ozark Folk Cen**	58.62	71	P		**P**	19 00 53.5	-0.8
MIAR	**Mount Ida**	58.70	73	P		**P**	19 00 54.1	-0.7
	baz=314							
MIAR	**Mount Ida**	58.70	73	P		**P**	19 00 55.8	+0.9
WHAR	**Wooly Hollow**	58.94	71	P		**P**	19 00 56.3	-0.2
W41B	**Gary Mavity, V**	59.05	71	P		**P**	19 00 57.1	-0.1
	baz=314							
NRS	**Narsarsuaq**	60.25	25	P		**P**	19 01 04.7	-0.4
KURK	**Kurchatov**	60.26	315	P		**P**	19 01 04.1	-1.2
KURK				IAmb		IAmb	19 02 02.7	
	comp=Z,5.2nm,1.4s							
E56A	**St. Veronique**	60.36	51	P		**P**	19 01 05.1	-0.9
	baz=315							
J54A	**Appleton**	60.89	56	P		**P**	19 01 09.2	-0.5
	baz=315							
WVT	**Waverly**	60.94	68	P		**P**	19 01 10.0	-0.1
	baz=315							
WMQ	**Urumqi**	60.94	305	*e*P		P	19 01 15.5	+5.3
L53A	**Girard**	60.98	58	P		**P**	19 01 10.3	0.0
	baz=315							
ERPA	**Erie**	61.01	58	P		**P**	19 01 10.0	-0.6
	baz=315							
O51A	**Pataskala**	61.01	61	P		**P**	19 01 10.4	-0.2
	baz=315							
M53A	**WI Miller and**	61.13	59	P		**P**	19 01 11.0	-0.3
	baz=315							
P51A	**Williamsport**	61.23	62	P		**P**	19 01 12.5	+0.4
	baz=315							
K54A	**Basiliko Farm,**	61.33	57	P		**P**	19 01 12.9	+0.2
	baz=315							
O52A	**Adamsville**	61.45	61	P		**P**	19 01 13.2	-0.3
	baz=315							
MKAR	**Makanchi Array**	61.45	310	P		**P**	19 01 11.7	-1.8
MKAR				pP		**pwP**	19 01 34.5	-0.3
	comp=Z,0.2nm,0.3s,baz=47,slow=5.4,SNR=2.7							
MKAR	**Makanchi Array**	61.45	310			pP	19 01 34.4	-0.5
CLTN	**Cedars of Leba**	61.82	67	P		**P**	19 01 16.5	+0.4
K56A	**Middlesex**	61.97	56	P		**P**	19 01 17.4	+0.4
	baz=316							
P53A	**Whipple**	62.14	61	P		**P**	19 01 18.2	0.0
	baz=316							
L56A	**Greenwood**	62.26	56	P		**P**	19 01 19.4	+0.4
	baz=316							
K57A	**Scipio Center**	62.36	55	P		**P**	19 01 20.0	+0.4
	baz=316							
M56A	**Emporium**	62.41	57	P		**P**	19 01 20.1	+0.2
	baz=316							
N55A	**Marion Center**	62.49	58	P		**P**	19 01 20.3	-0.3
	baz=316							
Q53A	**Leroy**	62.51	61	P		**P**	19 01 20.8	+0.1
	baz=316							
R53A	**Hurricane**	62.66	62	P		**P**	19 01 22.0	+0.3
	baz=316							
L57A	**Andrews Acres**	62.72	56	P		**P**	19 01 22.3	+0.3
	baz=316							
J59A	**Piesco**	62.84	54	P		**P**	19 01 22.1	-0.7
	baz=317							
TZTN	**Tazewell**	63.06	65	P		**P**	19 01 24.2	-0.1
	baz=316							
SSPA	**Standing Stone**	63.17	58	P		**P**	19 01 25.1	0.0
	baz=316							
Q55A	**Buckhannon**	63.20	60	P		**P**	19 01 25.2	-0.1
	baz=316							
L58A	**Harry Jones Me**	63.20	55	P		**P**	19 01 25.8	+0.6
	baz=317							
R54A	**Victor**	63.29	62	P		**P**	19 01 26.6	+0.7
	baz=316							
T53A	**Wise**	63.31	64	P		**P**	19 01 25.9	-0.2
	baz=316							
H61A	**Lyndonville**	63.32	51	P		**P**	19 01 27.3	+1.3
	baz=318							
FPAL	**Fort Paine**	63.34	67	P		**P**	19 01 26.2	0.0
FPAL				IAmb		IAmb	19 01 26.7	
	comp=Z,6.5nm,0.8s							
M58A	**Price's Panora**	63.38	56	P		**P**	19 01 26.7	+0.3
	baz=317							
S54A	**Dingess, Beckl**	63.39	62	P		**P**	19 01 26.7	+0.1
	baz=316							
P56A	**Dayton Farm, R**	63.49	59	P		**P**	19 01 27.1	0.0
	baz=316							
O57A	**Amberson**	63.61	58	P		**P**	19 01 28.3	+0.3
	baz=317							
R55A	**Marlinton**	63.69	61	P		**P**	19 01 28.7	+0.2
	baz=316							
M59A	**Waymart**	63.78	56	P		**P**	19 01 29.3	+0.3
	baz=317							
T54A	**Tazewell**	63.78	63	P		**P**	19 01 29.7	+0.5
	baz=316							
S55A	**Lewisburg**	63.85	62	P		**P**	19 01 29.7	+0.1
	baz=316							
P57A	**Homestead Farm**	63.94	59	P		**P**	19 01 30.4	+0.3
	baz=317							
R56A	**Bull Pasture M**	63.99	60	P		**P**	19 01 30.7	+0.2
	baz=317							
U54A	**Nelsons Funny**	64.04	63	P		**P**	19 01 31.5	+0.6
	baz=316							
T55A	**Pulaski**	64.18	62	P		**P**	19 01 32.6	+0.8
	baz=317							
BLA	**Blacksburg**	64.31	62	P		**P**	19 01 33.3	+0.7
	baz=317							
S56A	**Natural Bridge**	64.43	61	P		**P**	19 01 34.4	+1.0
	baz=317							
N60A	**Cedar Hill Far**	64.44	56	P		**P**	19 01 33.8	+0.5
	baz=317							
U55A	**TA2, Sparta**	64.48	63	P		**P**	19 01 34.4	+0.6
	baz=317							
L61B	**Northampton**	64.49	53	P		**P**	19 01 34.3	+0.6
	baz=318							
V54A	**Nebo**	64.51	64	P		**P**	19 01 34.3	+0.4
	baz=317							
Q58A	**Fox Den Farm,**	64.52	59	P		**P**	19 01 33.9	0.0
	baz=317							
R57A	**Stanardsville**	64.54	60	P		**P**	19 01 34.1	+0.1
	baz=317							
J63A	**Strafford**	64.66	52	P		**P**	19 01 35.1	+0.4
	baz=318							
V55A	**Taylorsville**	64.86	64	P		**P**	19 01 36.7	+0.6
	baz=317							
W54A	**Cherokee Point**	64.88	65	P		**P**	19 01 36.4	+0.1
	baz=317							
U56A	**King**	64.96	63	P		**P**	19 01 37.0	+0.2
	baz=317							
T57A	**Hurt**	65.10	61	P		**P**	19 01 37.9	+0.2
	baz=317							
X54A	**Belton**	65.17	65	P		**P**	19 01 38.6	+0.4
	baz=317							
V56A	**Mocksville**	65.29	63	P		**P**	19 01 39.5	+0.6
	baz=317							
KMSC	**Kings Mountain**	65.31	64	P		**P**	19 01 39.6	+0.5
	baz=317							
GOGA	**Godfrey**	65.38	67	P		**P**	19 01 40.0	+0.4
	baz=317							
U57A	**Blanch**	65.47	62	P		**P**	19 01 40.2	+0.1
	baz=317							
T58A	**Grand View Acr**	65.53	61	P		**P**	19 01 40.3	-0.1
	baz=317							
X55A	**Gracelyn & Ava**	65.64	65	P		**P**	19 01 41.8	+0.6
	baz=317							
FINES	**FINESS Array B**	65.66	349	P		**P**	19 01 39.4	-1.5
	comp=Z,5.1nm,1.1s,baz=15,slow=6.9,SNR=6.2							
W56A	**Indian Trail**	65.74	64	P		**P**	19 01 42.7	+0.9
	baz=317							
X56A	**White Oak**	65.96	64	P		**P**	19 01 43.7	+0.5
	baz=317							
T59A	**Double "B" Far**	66.03	60	P		**P**	19 01 44.2	+0.5
	baz=318							
W57A	**Gilead**	66.05	63	P		**P**	19 01 44.1	+0.3
	baz=318							
V58A	**Windy Hill, Pi**	66.06	62	P		**P**	19 01 43.9	0.0
	baz=318							
S61A	**Accomac**	66.51	59	P		**P**	19 01 47.1	+0.4
	baz=318							
V59A	**Middlesex**	66.56	62	P		**P**	19 01 47.1	+0.1
	baz=318							
Z57A	**Bowman**	67.03	65	P		**P**	19 01 50.5	+0.4
	baz=318							
NB2	**NORSAR Subarra**	67.20	357	P		**P**	19 01 50.1	-0.7
	comp=Z,0.8nm,0.5s,baz=5.8,slow=6.5							
NOA	**NORSAR Array B**	67.20	357	P		**P**	19 01 49.8	-1.0
	comp=Z,1.9nm,0.7s,baz=6.0,slow=6.5,SNR=9.2							
ABKAR	**Akbulak array**	68.82	325	P		**P**	19 02 00.5	-0.6
KK31	**Karatay Array**	69.65	315	P		**P**	19 02 05.2	-1.1
KKAR	**Karatay Array**	69.65	315	P		**P**	19 02 05.2	-1.1
KKAR	**Karatay Array**	69.65	315	P		**P**	19 02 05.3	-1.1
KKAR				IAmb		IAmb	19 02 08.0	
	comp=Z,5.0nm,1.8s							
CMAR	**Chiang Mai Arr**	73.26	279	P		**P**	19 02 28.9	+0.6
	comp=Z,1.1nm,0.6s,baz=28,slow=6.3,SNR=11							
CHGR	**Chuyangaron**	73.85	313	P		**P**	19 02 30.9	-0.8
CHGR				IAmb		IAmb	19 02 31.4	
	comp=Z,4.3nm,0.8s							
AKASG	**Malin Array Be**	75.63	344	P		**P**	19 02 40.3	-1.3
	comp=Z,0.6nm,0.3s,baz=16,slow=5.9,SNR=4.9							
AKASG	**Malin Array Be**	75.63	344	P		**P**	19 02 41.0	-0.6
BUR08	**Bucovina Ar. S**	79.24	346	P		**P**	19 03 01.2	-0.7
BUR08				IAmb		IAmb	19 03 43.4	
	comp=Z,20nm,1.9s							
GERES	**GERESS Array B**	79.26	354	P		**P**	19 03 01.2	-0.8
	comp=Z,0.6nm,0.7s,baz=27,slow=9.0,SNR=4.9							
BURAR	**Bucovina Array**	79.26	346	P		**P**	19 03 00.3	-1.7
WRA	**Warramunga Arr**	84.12	227	P		**P**	19 03 27.4	-0.3
	comp=Z,0.6nm,0.7s,baz=33,slow=5.8,SNR=5.6							
WRA	**Warramunga Arr**	84.12	227	P		**P**	19 03 26.7	-1.0
ASAR	**Alice Springs**	87.56	226	P		**P**	19 03 45.0	+0.4
	comp=Z,0.9nm,0.7s,baz=26,slow=4.6,SNR=9.9							
ASAR				pP		**pP**	19 04 07.5	+0.4
	comp=Z,0.6nm,0.6s,baz=28,slow=4.7,SNR=3.6							
ASAR	**Alice Springs**	87.56	226	P		**P**	19 03 44.7	+0.1
ASAR						**pP**	19 04 05.3	-1.8
TORD	**Torodi Ar. Bea**	115.07	4	PKP		**PKiKP**	19 09 36.5	-1.1
	comp=Z,0.5nm,0.4s,baz=18,slow=3.4,SNR=8.3							
H03N2	**Juan Fernandez**	119.08	108	T		T	21 19 53.9	
	baz=317,slow=77,SNR=33							
H03N1	**Juan Fernandez**	119.09	108	T		T	21 19 55.2	
	baz=317,slow=77,SNR=37							
H03N3	**Juan Fernandez**	119.10	108	T		T	21 19 54.5	
	baz=317,slow=77,SNR=27							
DBIC	**Dimbokro**	120.96	11	PKP		**PKPdf**	19 09 48.1	-0.8
	comp=Z,1.3nm,0.4s,baz=16,slow=2.8,SNR=7.8							
MAW	**Mawson**	148.41	218	PKPbc		**PKPbc**	19 10 42.0	+0.6
	comp=Z,1.6nm,0.6s,baz=72,slow=6.6,SNR=5.4							
MAW	**Mawson**	148.41	218			**PKPbc**	19 10 40.6	-0.7
BOSA	**Boshof**	152.17	319	PKPbc		**PKPbc**	19 10 51.7	-0.1
	comp=Z,5.2nm,0.5s,baz=36,slow=1.5,SNR=26							

DJA ***16*** *18:53:16.7±2.0,5°N±18°×12°6E±°, h196km±9km, M4.3/7, mb4.3/5, mB5.1/3, MLv4.2/7, Mw(mB)4.4/3*
NEIC ***16*** *18:53:17.3±1.4, 5°.07N±0°.07×125°.4E±0°.1, h193km±7km, mb4.5/24, Error ellipse: s-maj=15.2km s-min=9.7km az=84.0*
MAN ***16*** *18:53:17.7, 5°.13N×125°.51E, h182km, mb4.7, ML3.6, MS3.5*
IDC ***16*** *18:53:19.8±3.2, 4°.89N×125°.34E, h200km±33km, mb3.5/7, mb1 3.8/11, mb1mx3.4/52, mbtmp4.3/11, Error ellipse: s-maj=29.7km s-min=15.4km az=58.0*

ISC 16 18:53:16.7±0.7, **4°.99N**±0°.05×**125°.47E**±0°.07, **h181**km±7km, **n54**, σ1§**22**/60, **mb4.4**/16, **1D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	1.13	12	*e*P		**Pn**	18 53 45.3	-0.2
DDMP				*e*S		**Sn**	18 54 07.5	-0.5
SKMP	**Bagumbayan, Su**	1.78	329	*e*P		**Pn**	18 53 51.1	-0.3
SKMP				*e*S		**Sn**	18 54 15.0	-3.5
KCP	**Kidapawan**	2.04	349	*e*P		**Pn**	18 53 55.7	+1.4
DAV	**Davao City (W)**	2.07	3	Pn		**Pn**	18 53 55.8	+1.2
DAV				Sn		**Sn**	18 54 23.9	-0.3
MATI	**Mati**	2.10	22	*e*P		**Pn**	18 53 54.3	-0.6
MATI				*e*S		**Sn**	18 54 23.7	-1.0
BUKP	**Musuan**	2.90	352	*e*P		**Pn**	18 54 04.5	+0.2
BUKP				*e*S		**Sn**	18 54 41.9	+0.5
TNTI	**Ternate**	4.60	156	P		**Pn**	18 54 24.9	-0.6
TNTI	**Ternate**	4.60	156	Pn		**Pn**	18 54 25.9	+0.4
TNTI				Sn		**Sn**	18 55 16.4	-3.2
GLSP	**General Luna,**	4.81	8	*e*P		**Pn**	18 54 28.7	+0.5
GLSP				*e*S		**Sn**	18 55 22.2	-2.3
GTOI	**Gorontalo**	4.97	210	P		**Pn**	18 54 30.3	0.0
LUWI	**Luwuk**	6.57	204	Pn		**Pn**	18 54 52.7	+1.5
SANI	**Sanana**	7.01	176	P		**Pn**	18 54 54.9	-2.1
	0.4nm3µm103nm,0.8s							
SIJI	**Sorong**	8.21	135	P		**Pn**	18 55 15.5	+2.7
	1.2nm,0.3s,baz=150,slow=23,SNR=2.0							
NLAI	**Namlea**	8.34	169	P		**Pn**	18 55 13.7	-0.7
	2µm33nm,0.5s							
KAPI	**Kappang**	11.46	210	P		**Pn**	18 55 56.8	+1.6
	1.0nm,0.3s,baz=12,slow=14,SNR=4.1							
KAPI	**Kappang**	11.46	210			**Pn**	18 55 56.1	+0.9
SAUI	**Saumlaki**	14.14	156	Pn		**Pn**	18 56 30.5	+1.3
SOEI	**Soe**	14.70	185			**P**	18 56 38.2	+0.6
BATI	**Baumata**	15.20	187	P		**P**	18 56 44.4	+1.3
	8.5nm,0.3s,baz=290,slow=1.4,SNR=18							
KSM	**Kuching**	15.53	258	P		**Pn**	18 56 46.3	0.0
JAY	**Jayapura**	16.95	116	P		**Pn**	18 57 06.0	+2.4
	1.7nm,0.3s,baz=131,slow=14,SNR=4.3							
JAGI	**Jajag, Banyuwa**	17.50	220	P		**P**	18 57 07.9	-0.5
JAGI				IAmb		IAmb	18 57 31.3	
	comp=Z,18nm,1.1s							
MTN	**Manton Dam**	18.59	162	P		**P**	18 57 21.6	+1.3
MTN				IAmb		IAmb	18 57 40.0	
	comp=Z,8.2nm,0.8s							
KNRA	**Kununurra**	20.79	171	P		**P**	18 57 43.9	0.0
KNRA				IAmb		IAmb	18 57 48.1	
	comp=Z,19nm,0.9s							
MYKOM	**Kota Tinggi**	21.81	262	P		**P**	18 57 53.9	-0.9
MYKOM				IAmb		IAmb	18 57 57.0	
	comp=Z,8.6nm,0.7s							
FITZ	**Fitzroy Crossi**	22.94	180	P		**P**	18 58 05.9	+0.7
	comp=Z,8.4nm,0.4s,baz=5.4,slow=6.4,SNR=128							
FITZ	**Fitzroy Crossi**	22.94	180	P		**P**	18 58 05.7	+0.5
WB0	**Warramunga Arr**	26.12	161	P		**P**	18 58 34.2	+0.1
WB0				IAmb		IAmb	18 58 35.6	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	26.27	161	P		**P**	18 58 35.3	0.0
	comp=Z,0.9nm,0.5s,baz=332,slow=11,SNR=39							
WRA	**Warramunga Arr**	26.27	161	P		**P**	18 58 34.8	-0.6
WB2	**Warramunga Arr**	26.27	161	P		**P**	18 58 35.2	-0.2
WB2				IAmb		IAmb	18 58 50.6	
	comp=Z,13nm,1.5s							
WR0	**Warramunga Arr**	26.35	160	P		**P**	18 58 36.4	+0.3
WR0				IAmb		IAmb	18 59 00.5	
	comp=Z,6.2nm,1.3s							
PSA00	**Pilbara Seismi**	26.97	192	P		**P**	18 58 41.4	-0.2
PSA00				IAmb		IAmb	18 58 42.6	
	comp=Z,11nm,0.8s							
GSI	**Gunungsitoli**	28.08	263	P		**P**	18 58 51.5	-0.1
CMAR	**Chiang Mai Arr**	29.16	300	P		**P**	18 59 02.9	+1.8
	comp=Z,0.4nm,0.6s,baz=116,slow=6.5,SNR=4.2							
AS31	**Alice Springs**	29.65	164	P		**P**	18 59 06.1	+0.7
ASAR	**Alice Springs**	29.65	164	P		**P**	18 59 06.0	+0.5
	comp=Z,1.0nm,0.3s,baz=340,slow=6.9,SNR=98							
ASAR	**Alice Springs**	29.65	164	P		**P**	18 59 05.8	+0.4
MORW	**Morawa**	35.05	194	P		**P**	18 59 52.1	-0.3
MORW				IAmb		IAmb	19 00 20.1	
	comp=Z,21nm,1.4s							
FORT	**Forrest**	35.65	176	P		**P**	18 59 57.9	+0.4
NWAO	**Narrogin (SRO)**	38.51	191	P		**P**	19 00 21.8	+0.3
	comp=Z,7.9nm,0.6s,baz=34,slow=7.7,SNR=9.7							
NWAO	**Narrogin (SRO)**	38.51	191	P		**P**	19 00 21.8	+0.3
NWAO				IAmb		IAmb	19 00 24.0	
	comp=Z,30nm,1.2s							
NWAO	**Narrogin (SRO)**	38.51	191	P		**P**	19 00 21.7	+0.3
NWAO				IAmb		IAmb	19 00 24.0	
	comp=Z,38nm,1.2s							
BBOO	**Buckleboo**	38.91	166	P		**P**	19 00 25.9	+1.1
BBOO				IAmb		IAmb	19 00 26.3	
	comp=Z,9.8nm,0.5s							
STKA	**Stephens Creek**	39.75	158	P		**P**	19 00 33.5	+1.7
	comp=Z,0.8nm,0.4s,baz=342,slow=9.5,SNR=5.0							
STKA	**Stephens Creek**	39.75	158	P		**P**	19 00 31.6	-0.2
JEM	**Erimo**	40.10	21			P	19 00 46.3	+12

MKAR	**Makanchi Array**	55.81	325	P		**P**	19 02 35.7	+0.6
	comp=Z,0.5nm,0.5s,baz=118,slow=7.6,SNR=4.9							
MKAR	**Makanchi Array**	55.81	325	P		**P**	19 02 35.3	+0.2
MIDW	**Midway**	58.84	60	P		**P**	19 02 54.9	-1.6
KURK	**Kurchatov**	60.01	328	P		**P**	19 03 03.0	-1.2
SOCY	**Socotra**	70.88	281	P		**P**	19 04 12.9	-1.8
SOCY				IAmb		IAmb	19 04 24.0	
	comp=Z,24nm,1.3s							
CASY	**Casey**	71.92	186	P		**P**	19 04 18.8	-0.9
BRLK	**Bradley Lake**	82.51	30	P		**P**	19 05 18.4	-0.6
BRLK				IAmb		IAmb	19 05 30.2	
	comp=Z,20nm,1.5s							

KRSC ***16*** *18:58:05.2±2.0, 49°.26N×155°.78E, h64km±24km, ML5.2, FELT [III-IV] at RNS Podgornay.*
IDC ***16*** *18:58:08.0±0.7, 49°.33N×155°.54E, h51km±6km, mb3.8/11, mb1 4.1/15, mb1mx3.8/50, mbtmp4.1/15, MS3.4/9, Ms1 3.5/9, ms1mx3.2/27, Error ellipse: s-maj=20.1km s-min=12.5km az=137.0*
MOS ***16*** *18:58:07.1±1.0, 49°.29N×155°.64E, h61km, mb4.2/12, MS3.5/4, Error ellipse: s-maj=9.1km s-min=3.4km az=71.8*
NEIC ***16*** *18:58:10.2±1.4, 49°.43N±0°.10×155°.5E±0°.1, h68km±3km, mb4.6/110, Error ellipse: s-maj=16.9km s-min=9.3km az=142.0*

ISC 16 18:58:06.0±0.4, **49°.17N**±0°.05×**155°.87E**±0°.05, **h35**km, **n273**, σ1§**73**/293, **mb4.6**/80, **MS3.8**/9, **9C-3D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	1.53	6	*e*P		**Pn**	18 58 30.7	0.0
SKR				*e*S		**Sn**	18 58 48.7	-0.6
SKR	**Severo-Kuril's**	1.53	6	PN		**Pn**	18 58 30.7	0.0
SKR				S		**Sn**	18 58 48.7	-0.6
PAU	**Pauzhetka**	2.38	14	*e*P		**Pn**	18 58 43.0	+0.5
PAU				*e*S		**Sn**	18 59 10.3	-0.1
PAU	**Pauzhetka**	2.38	14	PN		**Pn**	18 58 43.0	+0.5
PAU				S		**Sn**	18 59 10.3	-0.1
KDTR	**Khodutka, Kamc**	3.00	27	*e*P		**Pn**	18 58 51.1	+0.2
KDTR				*e*S		**Sn**	18 59 24.3	-1.3
KDTR	**Khodutka, Kamc**	3.00	27	PN		**Pn**	18 58 51.1	+0.2
KDTR				S		**Sn**	18 59 24.3	-1.3
ASAK	**Asacha**	3.47	21	*i* P		**Pn**	18 58 59.2	+1.7
ASAK	**Asacha**	3.47	21	PN		**Pn**	18 58 59.2	+1.7
MTVR	**Mutnovka**	3.63	23	*e*P		**Pn**	18 59 01.3	+1.5
MTVR				*e*S		**Sn**	18 59 42.8	+1.4
MTVR	**Mutnovka**	3.63	23	PN		**Pn**	18 59 01.3	+1.5
MTVR				S		**Sn**	18 59 42.8	+1.4
GRL	**Gorelyy**	3.67	22	*i* P		**Pn**	18 59 01.7	+1.5
GRL	**Gorelyy**	3.67	22	PN		**Pn**	18 59 01.7	+1.5
RUS	**Russkaya**	3.68	26	*i* P		**Pn**	18 59 01.3	+1.1
RUS				*e*S		**Sn**	18 59 42.1	-0.2
RUS	**Russkaya**	3.68	26	PN		**Pn**	18 59 01.3	+1.1
RUS				S		**Sn**	18 59 42.1	-0.2
APC	**Apacha**	3.85	12	*e*P		**Pn**	18 59 05.0	+2.4
APC	**Apacha**	3.85	12	PN		**Pn**	18 59 05.0	+2.4
KRMR	**Karymshinskiy**	3.94	20	*e*P		**Pn**	18 59 06.9	+3.1
KRMR	**Karymshinskiy**	3.94	20	PN		**Pn**	18 59 06.9	+3.1
PEA0B	**Petropavlovsk-**	4.11	16	PN		**Pn**	18 59 08.1	+1.9
PEA0B	**Petropavlovsk-**	4.11	16	Pn		**Pn**	18 59 08.1	+1.9
PETK	**Petropavlovsk-**	4.11	16	P		**Pn**	18 59 08.2	+2.0
	19nm,0.3s,baz=180,slow=9.4,SNR=347							
PETK	**Petropavlovsk-**	4.11	16	PN		**Pn**	18 59 07.7	+1.4
PETK	**Petropavlovsk-**	4.11	16			**Pn**	18 59 07.7	+1.4
PET	**Petropavlovsk**	4.24	23	*e*P		**Pn**	18 59 09.7	+1.7
PET				*e*S		**Sn**	18 59 57.8	+1.5
PET	**Petropavlovsk**	4.24	23	*i* PN		**Pn**	18 59 09.8	+1.7
PET				*e*S		**Sn**	18 59 57.6	+1.3
PET				pmax		pmax		
	comp=Z,230nm,0.6s							
PET				smax		smax		
	comp=N,783nm,0.6s							
PET				smax		smax		
	comp=E,666nm,0.7s							
PET				MLR		MLR		
	comp=Z,500nm,15.0s							
PET	**Petropavlovsk**	4.24	23			**Pn**	18 59 09.7	+1.7
DALK	**Dalny**	4.28	24	*e*P		**Pn**	18 59 10.5	+2.0
DALK				*e*S		**Sn**	18 59 58.8	+1.7
DALK	**Dalny**	4.28	24	PN		**Pn**	18 59 10.5	+2.0
DALK				S		**Sn**	18 59 58.8	+1.7
UGLR	**Uglovaya**	4.46	24	*i* P		**Pn**	18 59 13.8	+2.8
UGLR	**Uglovaya**	4.46	24	PN		**Pn**	18 59 13.8	+2.8
KOK	**Koryaka**	4.48	22	*e*P		**Pn**	18 59 14.6	+3.2
KOK	**Koryaka**	4.48	22	PN		**Pn**	18 59 14.6	+3.2

GLVR pmax pmax
comp=Z,476nm,0.7s
GLVR pmax pmax
comp=N,165nm,0.4s
GLVR pmax pmax
comp=E,150nm,0.4s
UGL Uglegorsk 9.05 275 *e*PN **Pn 19 00 17.2 +3.2**
UGL pmax pmax
comp=Z,180nm,0.8s
UGL MLR MLR
comp=Z,1µm,15.0s
YSS Yuzh-Sakhalins 9.06 261 *e*PN **Pn 19 00 17.1 +3.0**
YSS *e*S **Sn 19 01 56.8 +2.1**
YSS pmax pmax
comp=Z,40nm,0.5s
YSS smax smax
comp=N,40nm,0.7s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzh-Sakhalins 9.06 261 Pn **Pn 19 00 15.8 +1.7**
JKA Kamikawa-asahi 10.42 246 Pn **Pn 19 00 35.7 +2.9**
ASAJ Asahikawa 10.42 246 P **Pn 19 00 36.3 +3.5**
comp=Z,12nm,0.3s,baz=0.9,slow=7.1,SNR=88
ASAJ Asahikawa 10.42 246 PN **Pn 19 00 35.7 +2.9**
MA2 Magadan 10.84 346 P **Pn 19 00 38.8 +0.4**
comp=Z,3.0nm,0.3s,baz=159,slow=11,SNR=18
MA2 LR LR 19 04 50.0
comp=Z,151nm,20.1s,baz=156,slow=38
MA2 Magadan 10.84 346 *i* PN **Pn 19 00 37.8 -0.7**
MA2 pmax pmax
comp=Z,13nm,0.9s
MA2 Magadan 10.84 346 **Pn 19 00 38.5 0.0**
ERM Erimo 11.41 236 PN **Pn 19 00 46.0 -0.3**
ERM Erimo 11.41 236 **Pn 19 00 46.0 -0.3**
SEY Seymchan 13.93 353 P **Pn 19 01 22.6 +2.0**
comp=Z,0.7nm,0.3s,baz=161,slow=12,SNR=13
SEY LR LR 19 07 02.4
comp=Z,110nm,20.0s,baz=165,slow=39
SEY Seymchan 13.93 353 *i* P **Pn 19 01 22.5 +1.9**
JMM Marumori 15.69 230 Pn **Pn 19 01 39.4 -4.7**
USA0B Ussuriysk Arra 17.09 262 *i* P **Pn 19 02 02.4 +0.5**
USA0B Ussuriysk Arra 17.09 262 P **P 19 02 03.3 -0.1**
USRK Ussuriysk Ar. 17.09 262 P **Pn 19 02 02.6 +0.7**
baz=68,slow=14,SNR=12
USRK LR LR 19 07 45.2
comp=Z,88nm,20.6s,baz=58,slow=34
USRK Ussuriysk Ar. 17.09 262 P **Pn 19 02 02.5 +0.6**
KIWB Kanaga Island 17.34 71 Pn **P 19 02 07.5 +1.5**
MAJO Matsushiro 18.02 232 *i* P **Pn 19 02 13.0 -0.5**
MAJO pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 18.02 232 **Pn 19 02 12.5 -1.0**
MAT Matsushiro 18.02 232 P **Pn 19 02 12.8 -0.7**
MJAR Matsushiro Arr 18.02 232 P **Pn 19 02 13.4 -0.1**
comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=10
MJAR Matsushiro Arr 18.02 232 **Pn 19 02 12.4 -1.1**
JGF Kuroka 19.18 232 **P 19 02 27.1 +0.6**
YAK Yakutsk 19.43 321 *e*P **P 19 02 27.1 -1.9**
YAK *e*S **S 19 06 06.3 -0.2**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 19.43 321 P **P 19 02 27.7 -1.3**
YAK IAmb IAmb 19 02 32.7
comp=Z,28nm,0.8s
INU Inuyama 19.55 232 P **P 19 02 29.9 -0.6**
INU IAmb IAmb 19 02 35.7
comp=Z,28nm,1.0s
BILL Bilibino 19.63 12⇑ *e*P **P 19 02 31.1 0.0**
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,176nm,18.0s
BILL Bilibino 19.63 12 P **P 19 02 32.4 +1.2**
JWT Wachi 20.46 235 P **P 19 02 41.1 +0.8**
KSRS Korea Array 23.32 250 P **P 19 03 11.7 +1.0**
comp=Z,2.2nm,0.7s,baz=52,slow=10,SNR=6.7
KSRS LR LR 19 11 28.0
comp=Z,65nm,20.0s,baz=35,slow=34
TIXI Tiksi 25.73 341 *ce*P **P 19 03 31.5 -1.1**
TIXI pmax pmax
comp=Z,12nm,0.6s
TIXI Tiksi 25.73 341 P **P 19 03 29.7 -2.9**
TTA Tatalina 29.39 44 P **P 19 04 06.9 +1.4**
TTA pmax pmax
comp=Z,4.0nm,0.8s
TTA Tatalina 29.39 44 P **P 19 04 06.9 +1.4**
SVW2 Sparrevohn 29.48 48 P **P 19 04 07.8 +1.5**
OHAK Old Harbor 30.85 55 P **P 19 04 18.8 +0.4**
OHAK IAmb IAmb 19 04 38.5
comp=Z,10.0nm,1.0s
KDAK Kodiak Island 31.16 54 P **P 19 04 21.6 +0.4**
KDAK pmax pmax
comp=Z,12nm,1.0s
KDAK Kodiak Island 31.16 54 P **P 19 04 21.6 +0.4**
KDAK IAmb IAmb 19 04 22.1
comp=Z,12nm,1.0s
SKT Skwentna 31.43 46 P **P 19 04 25.0 +1.4**
CNPM China Poot 31.69 51 P **P 19 04 26.2 +0.4**
CNPM IAmb IAmb 19 04 27.0
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 31.71 42 P **P 19 04 26.9 +0.9**
KTH Kantishna Hill 31.73 43 P **P 19 04 27.1 +1.0**
KTH IAmb IAmb 19 04 27.8
comp=Z,8.8nm,1.1s
H11S1 WAKE ISLAND Hy 31.81 160 T T 19 38 39.0
baz=346,slow=76,SNR=2097
SUA Susitna One 31.82 47 P **P 19 04 27.2 +0.2**
SUA IAmb IAmb 19 04 45.9
comp=Z,7.4nm,1.0s
H11S3 WAKE ISLAND Hy 31.82 160 T T 19 38 17.0
baz=346,slow=76,SNR=3347
H11S2 WAKE ISLAND Hy 31.83 160 T T 19 38 12.3
baz=346,slow=76,SNR=1452
BRLK Bradley Lake 31.85 50 P **P 19 04 27.3 +0.1**
BRLK IAmb IAmb 19 04 31.2
comp=Z,6.8nm,1.0s
ULN Ulaanbaatar 31.92 287 *i* P **P 19 04 26.7 -1.4**
ULN pmax pmax
comp=Z,1.0nm,0.8s
TRF Thorofare Moun 32.01 43 P **P 19 04 29.6 +0.8**
TRF IAmb IAmb 19 04 32.9
comp=Z,7.3nm,1.0s
HHC Hu-ho-hao-te 32.02 272 *e*P **P 19 04 30.0 +1.0**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,71nm,6.3s
COLD Coldfoot 32.29 36 P **P 19 04 31.5 +0.5**
SONM Songino Array 32.34 287 LR LR 19 18 12.4
comp=Z,95nm,19.3s,baz=64,slow=38
NJ2 Nanjing 32.49 252 *e*P **P 19 04 31.0 -2.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
RND Reindeer 32.65 43 P **P 19 04 34.4 +0.1**
RND pmax pmax
comp=Z,10.0nm,0.9s
RND Reindeer 32.65 43 P **P 19 04 34.4 +0.1**
RND IAmb IAmb 19 04 35.2
comp=Z,10nm,0.9s
TOLK Toolik Lake Re 32.71 34 P **P 19 04 34.9 +0.2**
TLY Talaya 32.78 295 *i* P **P 19 04 33.5 -2.0**
TLY pmax pmax
comp=Z,2.0nm,1.0s
KNK Knik Glacier 32.92 47 P **P 19 04 37.2 +0.6**
MDM Murphy Dome 32.94 40 P **P 19 04 37.4 +0.7**
SML Sawmill 32.95 46 P **P 19 04 37.8 +0.9**
WRH Wood River Hil 32.99 41 P **P 19 04 37.9 +0.8**
WRH IAmb IAmb 19 04 42.8
comp=Z,8.6nm,1.1s
COLA College 33.09 41 *i* P **P 19 04 38.4 +0.4**
COLA pmax pmax
comp=Z,15nm,1.0s
CCB Clear Creek Bu 33.11 41 P **P 19 04 39.0 +0.9**
CCB IAmb IAmb 19 04 39.6
comp=Z,6.8nm,1.0s
DHY Denali Highway 33.33 44 P **P 19 04 40.7 +0.5**
DHY IAmb IAmb 19 04 42.0
comp=Z,8.9nm,1.1s
SCM Sheep Creek Mo 33.43 46 P **P 19 04 42.0 +0.9**
SCM pmax pmax
comp=Z,31nm,1.4s

SCM Sheep Creek Mo 33.43 46 P **P 19 04 42.0 +0.9**
HDA Harding Lake 33.48 41 P **P 19 04 41.5 +0.1**
HDA IAmb IAmb 19 04 43.0
comp=Z,6.8nm,1.0s
IL31 33.51 41 P **P 19 04 41.9 +0.3**
IL31 IAmb IAmb 19 04 42.6
comp=Z,6.5nm,1.0s
ILAR Eielson Array 33.51 41 P **P 19 04 41.7 +0.1**
comp=Z,3.0nm,0.7s,baz=256,slow=7.7,SNR=22
ILAR LR LR 19 19 05.2
comp=Z,43nm,18.3s,baz=280,slow=38
DOT Dot Lake 34.79 43 P **P 19 04 52.5 -0.2**
GLB Gilahina Butte 35.14 47 P **P 19 04 56.7 +0.9**
VRDI Verde Repeater 35.34 47 P **P 19 04 58.8 +1.1**
VRDI IAmb IAmb 19 04 59.5
comp=Z,5.2nm,0.9s
CRQM Cirque 35.56 48 P **P 19 05 01.1 +1.5**
TGL Tana Glacier 35.71 48 P **P 19 05 02.0 +1.2**
TGL IAmb IAmb 19 05 20.1
comp=Z,14nm,1.3s
EGAK Eagle 35.96 41 **P 19 05 02.9 +0.2**
EGAK IAmb IAmb 19 05 03.2
comp=Z,5.8nm,0.8s
ISLE Juniper Island 35.98 48 P **P 19 05 04.4 +1.3**
BARN Barnard Glacie 36.22 47 P **P 19 05 07.1 +1.8**
YAH Yahtse 36.31 48 P **P 19 05 08.0 +1.9**
CTGM Chitina Glacie 36.40 47 P **P 19 05 08.3 +1.6**
PCA Pinnacle 37.09 48 P **P 19 05 13.8 +1.2**
NRIK Noril'sk 37.68 327 *ce*P **P 19 05 17.4 0.0**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
HYT Haines Junctio 38.26 47 P **P 19 05 23.1 +0.6**
HYT IAmb IAmb 19 05 25.3
comp=Z,8.5nm,0.9s
INK Inuvik 38.61 34 P **P 19 05 26.0 +0.8**
INK pmax pmax
comp=Z,12nm,1.2s
INK Inuvik 38.61 34 P **P 19 05 26.0 +0.8**
INK IAmb IAmb 19 05 28.7
comp=Z,12nm,1.2s
LZH Lanzhou 39.68 271 *e*P **P 19 05 34.8 +0.1**
LZH pP sP 19 05 49.3 +0.3
LZH sP pP 19 05 54.8 +10
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,88nm,4.9s
LZH LR LR
comp=N,140nm,16.3s
LZH LR LR
comp=E,140nm,15.2s
LZH LR LR
comp=Z,170nm,16.8s
GTA Gaotai 40.45 278 *e*P P 19 05 36.6 -4.4
GTA pP pP 19 05 52.9 +1.8
GTA sP sP 19 06 00.8 +5.5
GTA pmax pmax
comp=Z,1.0nm,1.0s
GTA pmax pmax
comp=Z,25nm,5.3s
GTA LR LR
comp=N,53nm,15.6s
GTA LR LR
comp=E,120nm,14.9s
GTA LR LR
comp=Z,130nm,14.9s
DGZ Jazzator, Alta 43.08 298 *i* P **P 19 06 02.3 -0.1**
DGZ pmax pmax
comp=Z,5.0nm,2.9s
WMQ Urumqi 45.80 290 *e*P **P 19 06 24.3 +0.2**
MK31 Makanchi Array 47.49 297 *i* P **P 19 06 35.0 -2.3**
MKAR Makanchi Array 47.49 297 P **P 19 06 34.6 -2.7**
comp=Z,0.6nm,0.7s,baz=65,slow=8.4,SNR=7.5
MKAR Makanchi Array 47.49 297 *ce*P **P 19 06 36.5 -0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.49 297 P **P 19 06 34.7 -2.6**
KURK Kurchatov 47.59 303 *i* P **P 19 06 36.4 -1.5**
KURK pmax pmax
comp=Z,1.0nm,1.0s
ARU Arti 54.48 317 *d* iP **P 19 07 27.1 -2.5**
ARU 19 08 25.9
ARU S **S 19 15 04.0 -1.7**
ARU SS **SS 19 18 49.1 +1.4**
ARU pmax pmax
comp=Z,3.0nm,1.2s
CMAR Chiang Mai Arr 54.73 257 P **P 19 07 32.0 +0.2**
comp=Z,1.1nm,0.7s,baz=37,slow=7.3,SNR=16
CMAR pP **pP 19 07 44.2 +1.9**
comp=Z,1.8nm,0.7s,baz=33,slow=6.9,SNR=10
CMAR LR LR 19 32 04.2
comp=Z,39nm,18.0s,baz=238,slow=37
CMAR Chiang Mai Arr 54.73 257 P **P 19 07 30.3 -1.6**
E09A Wood Farm, Sta 54.74 58 P **P 19 07 32.8 +1.2**
YBH Yreka Blue Hor 55.00 65 P **P 19 07 35.4 +1.7**
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 55.00 65 P **P 19 07 35.4 +1.7**
WALA Waterton Lakes 55.49 53 P **P 19 07 38.3 +1.1**
WALA IAmb IAmb 19 07 39.0
comp=Z,5.4nm,0.7s
JTMT Jette 56.09 54 P **P 19 07 43.0 +1.4**
JTMT IAmb IAmb 19 07 43.2
comp=Z,4.6nm,0.7s
ARCES ARCESS Array B 56.17 341 LR LR 19 35 05.6
comp=Z,93nm,19.3s,baz=285,slow=40
PLID Pearl Lake 56.80 58 P **P 19 07 48.0 +1.3**
MSO Missoula 56.84 55 P **P 19 07 47.9 +1.0**
MSO IAmb IAmb 19 07 48.8
comp=Z,6.1nm,1.1s
HRY Holter Researc 58.04 54 P **P 19 07 56.3 +1.0**
ABKAR Akbulak array 58.29 310 P **P 19 07 54.1 -2.8**
HLID Hailey 58.64 58 P **P 19 08 01.3 +1.7**
BCYI Bear Canyon 58.72 57 P **P 19 08 01.2 +1.0**
BOZ Bozeman (W) 58.86 55 P **P 19 08 02.8 +1.7**
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 58.86 55 P **P 19 08 02.8 +1.7**
KVN Kaiserville 59.42 64 P **P 19 08 06.4 +1.3**
KVN pmax pmax
comp=Z,14nm,1.5s
KVN Kaiserville 59.42 64 P **P 19 08 06.4 +1.3**
QLMT Earthquake Lak 59.47 56 P **P 19 08 07.2 +1.9**
YHL Hebgen Lake 59.59 55 P **P 19 08 08.0 +1.8**
YHH Holmes Hill 59.81 55 P **P 19 08 09.8 +2.0**
ELK Elko 59.99 61 P **P 19 08 11.1 +2.0**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 59.99 61 **P 19 08 11.1 +2.0**
H17A Grant Village 60.21 56 P **P 19 08 13.7 +3.2**
IMW Indian Meadow 60.34 56 P **P 19 08 13.9 +2.4**
IMW IAmb IAmb 19 08 14.5
comp=Z,6.4nm,1.2s
RLMT Red Lodge 60.44 54 P **P 19 08 13.9 +1.9**
MOOW Moose Ponds 60.55 56 P **P 19 08 15.0 +2.2**
MOOW IAmb IAmb 19 08 41.9
comp=Z,5.2nm,1.5s
TPAW Teton Pass 60.60 57 P **P 19 08 15.9 +2.6**
LOHW Long Hollow 60.71 56 P **P 19 08 16.3 +2.4**
LOHW IAmb IAmb 19 08 17.1
comp=Z,8.5nm,1.2s
REDW Red Top Meadow 60.74 57 P **P 19 08 16.5 +2.4**
R11A Troy Canyon, C 61.37 64 P **P 19 08 19.2 +0.9**
R11A IAmb IAmb 19 08 20.5
comp=Z,5.7nm,1.2s
HWUT Hardware Ranch 61.51 58 P **P 19 08 20.8 +1.5**
HWUT IAmb IAmb 19 08 21.4
comp=Z,3.4nm,0.8s
DUG Dugway, Tooele 61.74 60 P **P 19 08 22.8 +1.9**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 61.74 60 P **P 19 08 22.8 +1.9**
DUG IAmb IAmb 19 08 23.5
comp=Z,5.1nm,0.9s
BW06 Boulder Array 61.85 56 P **P 19 08 22.5 +0.9**
BW06 IAmb IAmb 19 08 23.8
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 61.85 56 P **P 19 08 22.5 +0.9**
PD31 IAmb IAmb 19 08 23.8
comp=Z,4.9nm,0.9s
PDAR Pinedale Array 61.85 56 P **P 19 08 22.8 +1.2**
comp=Z,4.5nm,0.8s,baz=327,slow=2.5,SNR=28
PDAR pP **sP 19 08 37.4 +1.8**
comp=Z,2.2nm,1.0s,baz=318,slow=4.2,SNR=3.5

PDAR Pinedale Array 61.85 56 **P 19 08 22.6 +0.9**
TPNV Topopah Spring 61.90 65 P **P 19 08 22.9 +0.9**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 61.90 65 P **P 19 08 22.9 +0.9**
TPNV IAmb IAmb 19 08 38.4
comp=Z,3.5nm,0.8s
FINES FINESS Array B 62.63 335 P **P 19 08 23.0 -3.2**
comp=Z,2.3nm,0.8s,baz=90,slow=4.0,SNR=9.2
FINES FINESS Array B 62.63 335 *ce*P **P 19 08 25.7 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
GSC Goldstone, Bar 62.67 67 P **P 19 08 28.5 +1.4**
GSC pmax pmax
comp=Z,5.0nm,1.2s
GSC Goldstone, Bar 62.67 67 P **P 19 08 28.5 +1.4**
GSC IAmb IAmb 19 08 29.1
comp=Z,5.0nm,1.1s
SHPR Sheep Range 62.85 65 P **P 19 08 30.0 +1.7**
CCUT Cedar City 63.20 63 P **P 19 08 32.6 +1.8**
MVU Marysvale 63.23 61 P **P 19 08 32.8 +1.9**
TMUT Trail Mountain 63.26 60 P **P 19 08 32.9 +1.7**
RDMU Red Mountain 63.32 58 P **P 19 08 33.3 +1.8**
MTPU Mount Pierson 63.56 62 P **P 19 08 35.0 +1.8**
LCMT Little Creek M 63.64 63 P **P 19 08 35.0 +1.4**
SRU San Rafael Swe 63.78 60 P **P 19 08 36.0 +1.5**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 63.78 60 **P 19 08 36.0 +1.5**
RSSD Black Hills 63.86 52 P **P 19 08 36.2 +1.2**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 63.86 52 P **P 19 08 36.2 +1.2**
KNB Kanab 63.88 63 P **P 19 08 36.7 +1.5**
KNB pmax pmax
comp=Z,4.0nm,0.8s
KNB Kanab 63.88 63 P **P 19 08 36.7 +1.5**
OBN Obninsk 64.34 326⇑ *e*P **P 19 08 37.0 -0.6**
OBN *e* 19 09 06.7
OBN *e* 19 10 59.1
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,44nm,13.0s
W13A Hualapai Mount 64.56 65 P **P 19 08 41.1 +1.4**
PV21 Cone Mtn., Par 65.03 59 P **P 19 08 44.2 +1.5**
PV21 IAmb IAmb 19 08 44.9
comp=Z,5.1nm,0.7s
N23A Red Feather La 65.09 56 P **P 19 08 44.2 +1.1**
N23A IAmb IAmb 19 08 45.5
comp=Z,5.6nm,0.7s
PV22 Blue Mesa, Par 65.16 59 P **P 19 08 46.1 +2.6**
PV22 IAmb IAmb 19 08 46.6
comp=Z,7.3nm,0.9s
PV18 Skein Mesa, Pa 65.29 60 P **P 19 08 46.0 +1.6**
PV18 IAmb IAmb 19 08 48.1
comp=Z,11nm,1.1s
PV03 Paradox Valley 65.32 60 P **P 19 08 45.5 +0.9**
PV03 IAmb IAmb 19 08 46.7
comp=Z,8.4nm,1.0s
PV13 Radium Mtn., P 65.40 60 P **P 19 08 46.7 +1.6**
PV13 IAmb IAmb 19 08 47.2
comp=Z,8.1nm,0.8s
ISCO Idaho Springs 66.04 56 P **P 19 08 50.8 +1.5**
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 66.04 56 P **P 19 08 50.8 +1.5**
ISCO IAmb IAmb 19 08 51.8
comp=Z,8.2nm,0.9s
MVCO Mesa Verde 66.25 60 P **P 19 08 52.1 +1.6**
MVCO IAmb IAmb 19 08 52.7
comp=Z,4.4nm,0.8s
NOA NORSAR Array B 66.52 342 P **P 19 08 50.4 -1.3**
comp=Z,0.8nm,0.8s,baz=29,slow=6.6,SNR=4.1
S22A 4UR Ranch, Cre 66.81 59 P **P 19 08 56.3 +2.0**
S22A IAmb IAmb 19 08 57.0
comp=Z,6.1nm,1.0s
SDCO Great Sand Dun 67.56 58 P **P 19 09 00.5 +1.6**
ECSD EROS Data Cent 67.89 48 P **P 19 09 00.9 +0.4**
ANMO Albuquerque 69.01 61 *ce*P **P 19 09 07.0 -1.0**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 69.01 61 P **P 19 09 09.6 +1.6**
LENM Lemitar 69.28 62 P **P 19 09 11.9 +2.3**
LEM Lembang 69.82 232 P **P 19 09 11.9 -1.2**
KIV Kislovodsk 70.41 315 *e*P **P 19 09 15.4 -1.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 70.54 327 LR LR 19 42 03.2
comp=Z,47nm,18.1s,baz=275,slow=38
WRA Warramunga Arr 71.42 201 P **P 19 09 22.2 -0.2**
comp=Z,1.3nm,0.9s,baz=17,slow=6.7,SNR=7.1
WRA Warramunga Arr 71.42 201 *ce*P **P 19 09 21.7 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 71.42 201 P **P 19 09 22.0 -0.5**
MNTX Cornudas Mount 71.98 62 P **P 19 09 27.3 +1.4**
FITZ Fitzroy Crossi 72.15 210 pP pP 19 09 40.8 +3.7
comp=Z,3.7nm,0.8s,baz=36,slow=4.6,SNR=6.8
FITZ Fitzroy Crossi 72.15 210 P **P 19 09 27.4 +0.5**
FITZ IAmb IAmb 19 09 41.9
comp=Z,5.6nm,0.9s
P38A Dawn 72.49 49 P **P 19 09 29.1 +0.2**
P38A IAmb IAmb 19 09 29.5
comp=Z,9.3nm,1.1s
R40A Maddies Statio 74.15 49 P **P 19 09 38.4 -0.2**
R40A IAmb IAmb 19 09 40.0
comp=Z,4.6nm,0.8s
TX31 Lajitas Ar. Si 74.72 63 P **P 19 09 43.5 +1.3**
TX32 Lajitas Array 74.72 63 P **P 19 09 43.5 +1.3**
TX32 IAmb IAmb 19 09 44.0
comp=Z,7.7nm,1.0s
TXAR Lajitas Array 74.72 63 P **P 19 09 43.2 +1.0**
comp=Z,4.8nm,0.8s,baz=301,slow=4.4,SNR=36
TXAR Lajitas Array 74.72 63 P **P 19 09 43.3 +1.1**
ASAR Alice Springs 75.11 201 P **P 19 09 45.0 +0.9**
comp=Z,0.8nm,0.6s,baz=15,slow=5.6,SNR=15
ASAR pP **sP 19 09 58.8 +0.4**
comp=Z,1.8nm,0.6s,baz=15,slow=5.0,SNR=8.7
ASAR Alice Springs 75.11 201 P **P 19 09 44.2 0.0**
ASAR Alice Springs 75.11 201 P **P 19 09 44.2 0.0**
FVM French Village 75.30 48 P **P 19 09 45.4 +0.1**
FVM pmax pmax
comp=Z,7.0nm,0.6s
FVM French Village 75.30 48 P **P 19 09 45.4 +0.1**
U40A Yellville 75.35 51 P **P 19 09 45.5 -0.1**
U40A IAmb IAmb 19 09 45.7
comp=Z,6.1nm,0.6s
SOKA Soboth 78.66 334 *e*P **P 19 10 02.4 -1.7**
comp=Z,3.3nm,1.3s
KBA Koelnbreinsper 78.77 335 *e*P **P 19 10 02.2 -2.7**
comp=Z,4.6nm,0.6s
PRED Cave del Predi 79.29 335 P **P 19 10 05.8 -1.8**
PRED IAmb IAmb 19 10 13.8
comp=Z,8.9nm,1.3s
ESDC Sonseca Array 89.76 345 P **P 19 11 00.8 +0.2**
comp=Z,0.6nm,0.5s,baz=355,slow=3.7,SNR=8.1
ESDC Sonseca Array 89.76 345 P **P 19 10 59.7 -0.9**
H03N2 Juan Fernandez 136.90 90 T T 21 49 45.8
baz=312,slow=77,SNR=44
H03N1 Juan Fernandez 136.92 90 T T 21 49 40.1
baz=312,slow=77,SNR=46
H03N3 Juan Fernandez 136.92 90 T T 21 49 40.1
baz=312,slow=77,SNR=44
CPUP Vila Florida 145.66 61 PKPbc **PKPdf 19 17 40.6 +0.2**
comp=Z,3.2nm,0.8s,baz=307,slow=5.1,SNR=4.1

GCG ***16*** *19:00:37.8±1.3, 14°.90N×89°.11W, h4km±24km, MD4.2*
SNET ***16*** *19:00:44.4±1.3, 15°.29N×89°.88W, h3km±6km, ML3.8*
UCR ***16*** *19:00:44.6±1.4, 15°.30N×89°.88W, h3km±6km, ML3.8, mb4.2(NEIC)*
IDC ***16*** *19:00:45.5±1.5, 15°.45N×90°.12W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.4/38, mbtmp3.8/3, ML3.8/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=20.7km s-min=10.6km az=118.0*
NEIC ***16*** *19:00:45.3±2.1, 15°.30N±0°.04×89°.86W±0°.04, h10km±1km, mb4.2/14, Error ellipse: s-maj=6.8km s-min=6.0km az=117.0*
INET ***16*** *19:00:46.0, 15°.29N×89°.92W, h8km, MW4.0*
ISC 16 19:00:45.0±1.4, 15°.33N±0°.03×89°.88W±0°.03, h5km±9km, n72, σ1§53/80, mb4.3/4, MS3.3/4, 1C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.31**	**143**	⇓*iP*	**Pg**	**19 00 50.4**	**-0.8**
APG	**El Apazote**	**0.65**	**240**	Pg	**Pg**	**19 00 55.6**	**-2.0**
	559nm,0.3s,baz=53,slow=16,SNR=3945						
APG				Lg	Lg	19 01 04.3	
	3μm,0.3s,baz=86,slow=16,SNR=54						
APG				LR	LR	19 01 11.5	
	comp=Z,673nm,19.7s,baz=280,slow=47						
NBG	**Las Nubes**	**0.87**	**212**	⇓*eP*	**Pg**	**19 01 00.6**	**-1.0**
ESQI	**Esquipulas**	**0.93**	**146**	*eP*	**Pg**	**19 01 01.2**	**-1.6**
ESQI				*eS*	**Sb**	**19 01 16.3**	**-0.1**
ESQI	**Esquipulas**	**0.93**	**146**		**Pg**	**19 01 01.0**	**-1.8**
MTO3	**Montecristo**	**1.05**	**152**	*eP*	**Pg**	**19 01 03.7**	**-1.6**
MTO3				*eS*	**Sb**	**19 01 19.8**	**-0.3**
MTO3				IAML		19 01 21.7	
	comp=Z,2μm,0.4s						
MTO3	**Montecristo**	**1.05**	**152**	*eP*	**Pg**	**19 01 03.7**	**-1.6**
MTO3				*eS*	**Sb**	**19 01 19.8**	**-0.3**
MTO3				IAML		19 01 21.7	
	comp=Z,2μm,0.4s						
MTO3	**Montecristo**	**1.05**	**152**		**Pg**	**19 01 03.2**	**-2.0**
PCG	**Pacaya**	**1.17**	**217**	⇑*eP*	**Pg**	**19 01 06.8**	**-0.7**
FUG	**Fuego 3**	**1.28**	**227**	⇓*eP*	**Pg**	**19 01 08.2**	**-1.3**
RTR	**El Retiro**	**1.44**	**171**	*eP*	**Pn**	**19 01 10.8**	**-1.2**
RTR	**El Retiro**	**1.44**	**171**	*eP*	**Pn**	**19 01 10.8**	**-1.2**
TACO	**Tacachico**	**1.45**	**159**	*eP*	**Pn**	**19 01 10.2**	**-1.7**
TACO				*eS*	**Sb**	**19 01 29.9**	**-1.3**
TACO				IAML		19 01 39.1	
	comp=Z,1μm,0.8s						
TACO	**Tacachico**	**1.45**	**159**	*eP*	**Pn**	**19 01 10.2**	**-1.7**
TACO				*eS*	**Sb**	**19 01 29.9**	**-1.3**
TACO				IAML		19 01 39.1	
	comp=Z,1μm,0.8s						
SNJE	**San Jose**	**1.48**	**170**	*eP*	**Pn**	**19 01 11.1**	**-1.4**
SNJE				*eS*	**Sn**	**19 01 32.4**	**+0.1**
SNJE	**San Jose**	**1.48**	**170**	*eP*	**Pn**	**19 01 11.1**	**-1.4**
SNJE				*eS*	**Sn**	**19 01 32.4**	**+0.1**
SBLS	**San Blas**	**1.50**	**170**	*eP*	**Pn**	**19 01 11.8**	**-1.1**
SBLS	**San Blas**	**1.50**	**170**	*eP*	**Pn**	**19 01 11.8**	**-1.1**
HUEH	**Huehuetenango**	**1.57**	**270**	*eP*	**Pn**	**19 01 12.3**	**-1.4**
HUEH				*eS*	**Sg**	**19 01 35.4**	**0.0**
HUEH	**Huehuetenango**	**1.57**	**270**		**Pn**	**19 01 12.5**	**-1.3**
HUEH				Sn	**Sn**	**19 01 34.2**	**-0.3**
PETF	**Flores**	**1.58**	**0**	*eP*	**Pn**	**19 01 13.7**	**0.0**
PETF	**Flores**	**1.58**	**0**	Pn	**Pn**	**19 01 13.8**	**+0.1**
PETF				Sn	**Sn**	**19 01 34.5**	**0.0**
BOQS	**Boqueron**	**1.69**	**160**	*eP*	**Pn**	**19 01 14.8**	**-0.6**
BOQS	**Boqueron**	**1.69**	**160**	*eP*	**Pn**	**19 01 14.8**	**-0.6**
UEES	**Universidad Ev**	**1.72**	**159**	IAML		19 01 42.8	
	comp=Z,1μm,0.4s						
UEES	**Universidad Ev**	**1.72**	**159**	IAML		19 01 42.8	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**1.75**	**159**	*eP*	**Pn**	**19 01 15.1**	**-1.1**
SNET				IAML		19 01 46.5	
	comp=Z,794nm,0.4s						
SNET	**Serv Nac Est T**	**1.75**	**159**	*eP*	**Pn**	**19 01 15.1**	**-1.1**
SNET				IAML		19 01 46.5	
	comp=Z,794nm,0.4s						
SNET	**Serv Nac Est T**	**1.75**	**159**		**Pn**	**19 01 14.9**	**-1.2**
PAVA	**Las Pavas**	**1.85**	**150**	*eP*	**Pn**	**19 01 17.2**	**-0.3**
PAVA				*eS*	**Sn**	**19 01 41.5**	**+0.1**
PAVA				IAML		19 01 51.2	
	comp=Z,2μm,0.6s						
PAVA	**Las Pavas**	**1.85**	**150**	*eP*	**Pn**	**19 01 17.2**	**-0.3**
PAVA				*eS*	**Sn**	**19 01 41.5**	**+0.1**
PAVA				IAML		19 01 51.2	
	comp=Z,2μm,0.6s						
ERG	**Entre ros, C**	**1.86**	**242**	*eP*	**Pn**	**19 01 18.6**	**+1.1**
ERG				*eS*	**Sg**	**19 01 49.2**	**+4.4**
LFRS	**El Faro**	**1.87**	**155**	*eP*	**Pn**	**19 01 17.4**	**-0.5**
LFRS	**El Faro**	**1.87**	**155**	*eP*	**Pn**	**19 01 17.4**	**-0.5**
RTAL	**Retalhuleu**	**1.93**	**246**	*eP*	**Pn**	**19 01 18.6**	**+0.1**
RTAL				*eS*	**Sn**	**19 01 43.4**	**+0.2**
RTAL	**Retalhuleu**	**1.93**	**246**	Pn	**Pn**	**19 01 18.3**	**-0.3**
CCIG	**Comitan**	**2.37**	**294**		**Pn**	**19 01 23.9**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.82**	**116**	Pn	**Pn**	**19 01 30.1**	**-0.9**
CRIN	**San Cristobal**	**3.79**	**133**	Pn	**Pn**	**19 01 45.2**	**+0.9**
MATN	**Matagalpa**	**4.52**	**121**		**Pn**	**19 01 53.3**	**-0.9**
TEIG	**Tepich**	**5.10**	**17**		**Pn**	**19 02 01.4**	**-0.8**
CMIG	**Matias Romero**	**5.12**	**291**	Pn	**Pn**	**19 02 00.9**	**-1.4**
	comp=Z,4.0nm,0.3s,baz=99,slow=11,SNR=13						
CMIG				Sn	**Sn**	**19 02 58.1**	**-3.8**
	comp=Z,9.4nm,0.3s,baz=344,slow=20,SNR=8.4						
CMIG				Lg	Lg	19 03 21.9	
	comp=Z,9.3nm,0.3s,baz=33,slow=15,SNR=9.5						
CMIG				LR	LR	19 04 09.9	
	comp=Z,505nm,19.7s,baz=103,slow=42						
ACON	**Acoyapa**	**5.67**	**126**		**Pn**	**19 02 09.2**	**-0.7**
ESPN	**Las Esperanzas**	**6.25**	**119**	Pn	**Pn**	**19 02 16.6**	**-1.4**
JTS	**Las Juntas de**	**6.94**	**136**	LR	LR	19 05 50.9	
	comp=Z,294nm,21.1s,baz=10,slow=42						
833A	**Chaparral WMA,**	**15.65**	**327**	P	**P**	**19 04 31.0**	**+0.4**
833A				IAmb	IAmb	19 04 35.5	
	comp=Z,21nm,1.1s						
WHTX	**Lake Whitney,**	**17.97**	**339**	P	**P**	**19 04 58.7**	**+2.5**
WHTX				IAmb	IAmb	19 05 05.3	
	comp=Z,13nm,0.8s						
TXAR	**Lajitas Array**	**18.86**	**320**	Pn	**Pn**	**19 05 09.0**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=145,slow=13,SNR=39						
TXAR	**Lajitas Array**	**18.86**	**320**		**Pn**	**19 05 07.5**	**+0.7**
TX31	**Lajitas Ar. Si**	**18.86**	**320**	Pn	**Pn**	**19 05 08.3**	**+1.5**
TX32	**Lajitas Array**	**18.86**	**320**	P	**Pn**	**19 05 07.5**	**+0.7**
TX32				IAmb	IAmb	19 05 24.0	
	comp=Z,18nm,1.4s						
MIAR	**Mount Ida**	**19.42**	**351**		**Pn**	**19 05 14.1**	**+0.8**
X37A	**Clayton**	**19.80**	**347**	P	**P**	**19 05 17.6**	**+1.2**
X37A				IAmb	IAmb	19 05 34.9	
	comp=Z,10nm,0.8s						
W35A	**Tecumseh**	**20.71**	**344**	P	**P**	**19 05 27.0**	**+0.7**
WMOK	**Wichita Mounta**	**20.92**	**339**	P	**P**	**19 05 28.7**	**+0.1**
WMOK				IAmb	IAmb	19 05 32.9	
	comp=Z,13nm,1.3s						
TKL	**Tuckaleechee C**	**20.97**	**14**	LR	LR	19 13 25.2	
	comp=Z,96nm,20.6s,baz=189,slow=36						
U40A	**Yellville**	**21.11**	**353**		**P**	**19 05 31.9**	**+1.4**
HHAR	**Hobbs**	**21.18**	**351**	P	**P**	**19 05 35.0**	**+3.7**
HHAR				IAmb	IAmb	19 05 36.3	
	comp=Z,16nm,1.1s						
MNTX	**Cornudas Mount**	**21.58**	**322**	P	**P**	**19 05 35.9**	**+0.2**
MSTX	**Muleshoe**	**21.91**	**330**		**P**	**19 05 39.1**	**-0.2**
S39A	**Bolivar**	**22.48**	**353**		**P**	**19 05 45.7**	**+0.4**
S39A				IAmb	IAmb	19 06 02.8	
	comp=Z,19nm,1.4s						
ATAH	**Atahualpa**	**25.05**	**152**	P	**P**	**19 06 14.9**	**+4.0**
	comp=Z,5.2nm,0.7s,baz=328,slow=12,SNR=3.8						
SADO	**Sadowa**	**30.72**	**15**	LR	LR	19 19 32.8	
	comp=Z,89nm,18.1s,baz=226,slow=37						
PDAR	**Pinedale Array**	**32.14**	**332**	P	**P**	**19 07 11.4**	**-2.4**
	comp=Z,0.2nm,0.6s,baz=137,slow=9.4,SNR=2.0						
PDAR	**Pinedale Array**	**32.14**	**332**	P	**P**	**19 07 11.5**	**-2.3**
REDW	**Red Top Meadow**	**33.19**	**332**	P	**P**	**19 07 22.9**	**-0.2**
YNE	**Yellowstone No**	**34.12**	**334**	P	**P**	**19 07 31.4**	**+0.3**
LPAZ	**La Paz**	**38.05**	**145**	LR	LR	19 24 21.7	
	comp=Z,35nm,18.8s,baz=301,slow=37						
YKA	**Yellowknife Ar**	**50.24**	**345**	LR	LR	19 34 38.6	
	comp=Z,37nm,19.8s,baz=0.0,slow=41						
LZH	**Lanzhou**	**127.24**	**346**	*e*PKP	**PKPdf**	**19 19 46.6**	**-4.8**
LZH				pPKP	sPKPdf	19 19 57.4	+3.2
LZH				sPKP		19 20 01.3	
WRA	**Warramunga Arr**	**137.70**	**257**	PKP	**PKPdf**	**19 20 12.4**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=90,slow=2.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**145.32**	**345**	PKPbc	**PKPdf**	**19 20 25.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=327,slow=1.5,SNR=3.0						

NNC 16 19:28:51.6±3.9, 38°.50N×69°.12E, h0km, mb3.8, mpv3.4, 2C-5D, Error ellipse: s-maj=37.2km s-min=28.1km az=160.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.72**	**13**	⇑Pn	Pn	19 30 04.8	+0.7
	1.9nm,0.7s,baz=180,slow=10,SNR=16						
KK31				⇓Pg	Pb	19 30 17.5	+2.3
	3.8nm,0.5s,baz=192,slow=19,SNR=26						
KK31				⇓Lg	Lg	19 31 20.3	
	3.6nm,0.5s,baz=195,slow=29,SNR=6.8						
AAK	**Ala-Archa**	**5.82**	**43**	Pn	Pn	19 30 19.8	+0.5
	1.5nm,0.3s						
AAK				Pg	Pb	19 30 35.4	+1.4
	5.2nm,1.0s						
AAK				⇓Lg	Lg	19 31 53.7	
	6.1nm,0.8s						
TKM2	**Tokmak 2**	**6.61**	**46**	⇑Pn	Pn	19 30 28.8	-1.5
	2.6nm,0.9s						
TKM2				⇓Sn	Sn	19 31 49.8	+3.3
	1.9nm,0.7s						
TKM2				⇓Lg	Lg	19 32 19.2	
	1.5nm,0.6s						

KRSC 16 19:36:20.2±1.8, 49°.01N×153°.74E, h508km±11km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.94**	**43**	*eP*	P	19 37 40.5	+2.1
KDTR				*eS*	S	19 38 40.7	-1.8
ASAK	**Asacha**	**4.29**	**36**	*eP*	P	19 37 42.9	+1.6
RUS	**Russkaya**	**4.57**	**40**	*eS*	S	19 38 51.2	-0.8
DALK	**Dalny**	**5.12**	**36**	*eP*	P	19 37 50.5	+2.1
KOK	**Koryaka**	**5.28**	**34**	*eP*	P	19 37 52.9	+2.9
SMAR	**Somma**	**5.32**	**35**	*eP*	P	19 37 53.0	+2.5
KRER	**Koryakskii**	**5.33**	**34**	*eP*	P	19 37 52.9	+2.3
KRX	**Arik**	**5.33**	**33**	*eP*	P	19 37 52.2	+1.7
SPN	**Mys Shipunski**	**5.69**	**42**	*eP*	P	19 37 56.3	+2.6
SPN				*eS*	S	19 39 10.0	-0.4
KZV	**Kizimen**	**7.32**	**31**	*eP*	P	19 38 11.4	+1.6
TUMR	**Tumrok**	**7.41**	**30**	*eP*	P	19 38 13.1	+2.5
MKZ	**Mys Kozlova**	**7.44**	**39**	*eP*	P	19 38 13.4	+2.7
KBTR	**Krutoberegovo**	**9.07**	**34**	*eP*	P	19 38 28.4	+0.8

*IDC **16** 19:51:47.0±3.9, 23°.81S×179°.87E, h508km±27km, mb3.7/5, mb1 4.0/5, mb1mx3.3/33, mbtmp4.5/5, Error ellipse: s-maj=149.6km s-min=20.9km az=162.0*
*NEIC **16** 19:51:48.2±2.0, 24°.14S±0°.06×179°.8E±0°.2, h525km±11km, mb4.4/17, Error ellipse: s-maj=21.3km s-min=8.4km az=91.0*
ISC 16 19:51:48.2±0.8, 24°.1S±0°.1×179°.9E±0°.1, h526km, n29, σ1°29/32, mb4.4/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.60**	**344**	P	**P**	**19 53 30.8**	**-0.9**
DZM	**Mont Dzumac**	**12.58**	**277**	P	**P**	**19 54 34.8**	**+1.9**
	1.2nm,0.3s,baz=84,slow=15,SNR=14						
DZM	**Mont Dzumac**	**12.58**	**277**	P	**P**	**19 54 33.8**	**+0.9**
HIZ	**Hauiti**	**14.98**	**196**	P	**P**	**19 54 59.0**	**+1.3**
EIDS	**Eidsvold**	**26.20**	**261**	P	**P**	**19 56 41.3**	**+0.3**
EIDS				IAmb	IAmb	19 56 41.7	
	comp=Z,6.3nm,0.7s						
CTA	**Charters Tower**	**31.41**	**271**	P	**P**	**19 57 26.7**	**+0.3**
	comp=Z,16nm,0.4s,baz=97,slow=11,SNR=27						
CTAO	**Charters Tower**	**31.41**	**271**	P	**P**	**19 57 26.5**	**+0.1**
STKA	**Stephens Creek**	**34.58**	**248**	P	**P**	**19 57 50.6**	**-2.4**
COEN	**Coen**	**36.08**	**279**	P	**P**	**19 58 05.9**	**+0.2**
BBOO	**Buckleboo**	**39.29**	**247**	P	**P**	**19 58 31.0**	**-0.7**
BBOO				IAmb	IAmb	19 58 59.9	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**41.93**	**261**	P	**P**	**19 58 52.2**	**-0.7**
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**19 58 52.5**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=99,slow=6.9,SNR=50						
ASAR				ScP	**ScP**	**20 03 37.9**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=108,slow=4.2,SNR=11						
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**19 58 51.6**	**-1.4**
ASAR					**ScP**	**20 03 37.8**	**+1.2**
WR0	**Warramunga Arr**	**42.14**	**266**	P	**P**	**19 58 53.6**	**-1.0**
WR0				IAmb	IAmb	19 58 53.9	
	comp=Z,5.1nm,0.6s						
WB2	**Warramunga Arr**	**42.31**	**266**	P	**P**	**19 58 54.7**	**-1.3**
WB2				IAmb	IAmb	19 58 55.7	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**42.32**	**266**	P	**P**	**19 58 54.4**	**-1.6**
WRAB				IAmb	IAmb	19 59 12.5	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**42.32**	**267**	P	**P**	**19 58 55.0**	**-1.0**
WRA	**Warramunga Arr**	**42.32**	**266**	P	**P**	**19 58 55.0**	**-1.1**
	comp=Z,11nm,0.6s,baz=102,slow=8.3,SNR=121						
WRA				ScP	**ScP**	**20 03 40.2**	**+2.0**
	comp=Z,1.7nm,0.9s,baz=97,slow=3.7,SNR=11						
MTN	**Manton Dam**	**47.40**	**275**	P	**P**	**19 59 33.7**	**-1.4**
KNRA	**Kununurra**	**48.62**	**270**	P	**P**	**19 59 43.3**	**-0.9**
KNRA				IAmb	IAmb	19 59 44.4	
	comp=Z,9.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**19 59 59.6**	**-0.2**
SOEI	**Soe**	**54.80**	**275**	P	**P**	**20 00 30.0**	**+1.0**
SOEI				IAmb	IAmb	20 00 39.5	
	comp=Z,16nm,0.9s						
QSPA	**South Pole Qui**	**65.96**	**180**	P	**P**	**20 01 42.0**	**0.0**
NVAR	**Mina Array Bea**	**84.96**	**44**	P	**P**	**20 03 27.2**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=224,slow=8.8,SNR=5.1						
WUAZ	**Wupatki**	**87.95**	**50**	P	**P**	**20 03 45.4**	**+3.1**
WUAZ				IAmb	IAmb	20 03 46.4	
	comp=Z,14nm,1.5s						
TMUT	**Trail Mountain**	**90.04**	**46**	P	**P**	**20 03 52.7**	**+0.6**
TXAR	**Lajitas Array**	**90.61**	**58**	P	**P**	**20 03 54.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=202,slow=6.5,SNR=6.0						
MT02	**Curacav**	**151.52**	**128**	P	**P**	**20 03 57.1**	**-1.8**
CLL	**Collm**	**151.05**	**343**	*e*PKPbc	**PKPbc**	**20 10 41.0**	**-0.4**

*IDC **16** 20:03:44.8±1.6, 43°.80N×105°.55W, h0km, mb3.9/2, mb1 3.9/6, mb1mx3.6/40, mbtmp3.7/6, ML2.9/3, Error ellipse: s-maj=51.9km s-min=8.9km az=150.0*
*ANF **16** 20:03:44.7±0.8, 43°.58N×105°.13W, h11km±8km, ML3.7/12, ML3.7/13, Error ellipse: s-maj=7.8km s-min=2.5km az=114.0*
*NEIC **16** 20:03:45.4±1.0, 43°.79N±0°.05×105°.27W±0°.06, h0km±2km, ML3.4/65, Error ellipse: s-maj=8.9km s-min=6.2km az=135.0*
ISC 16 20:03:45.2±0.8, 43°.71N±0°.04×105°.27W±0°.04, h0km, n88, σ1°40/95, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**65**	P	**Pg**	**20 04 03.6**	**-0.5**
	baz=236						
RSSD	**Black Hills**	**0.99**	**65**	Pg	**Pg**	**20 04 03.5**	**-0.6**
K22A	**Casper**	**1.40**	**221**	P	**Pn**	**20 04 10.7**	**-1.5**
	baz=47,SNR=146						
K22A				S	**Sg**	**20 04 30.8**	**+0.7**
	baz=47						
PHWY	**Pilot Hill**	**2.41**	**183**		**Pn**	**20 04 26.7**	**+0.6**
RWWY	**Rawlins**	**2.47**	**216**		**Pn**	**20 04 28.0**	**+1.0**
RWWY				IAML		20 05 04.0	
	207nm,0.4s						
RWWY				IAML		20 05 05.3	
	208nm,0.4s						
N23A	**Red Feather La**	**2.85**	**190**	Pb	**Pn**	**20 04 33.4**	**+1.1**
	baz=12,SNR=51						
N23A				S	**Sn**	**20 05 02.7**	**-4.7**
	baz=12						
N23A	**Red Feather La**	**2.85**	**190**	Pn	**Pn**	**20 04 33.4**	**+1.1**
N23A				IAML		20 05 18.9	
	comp=N,132nm,0.6s						
N23A				IAML		20 05 24.3	
	comp=E,84nm,0.7s						
LAO	**LASA Array**	**3.06**	**348**	P	**Pn**	**20 04 34.8**	**-0.1**
	baz=166						
LAO				S	**Sb**	**20 05 14.5**	**-4.0**
	baz=166						
LAO	**LASA Array**	**3.06**	**348**	Pn	**Pn**	**20 04 33.6**	**-1.3**
LAO				IAML		20 05 28.8	
	comp=E,179nm,0.7s						
RLMT	**Red Lodge**	**3.19**	**298**	P	**Pn**	**20 04 36.0**	**-0.9**
	baz=116,SNR=22						
RLMT				S	**Sn**	**20 05 17.9**	**+2.1**
	baz=116						
RLMT	**Red Lodge**	**3.19**	**298**	Pn	**Pn**	**20 04 36.1**	**-0.9**
RLMT				IAML		20 05 25.8	
	comp=E,81nm,0.7s						
RLMT				IAML		20 05 30.2	
	comp=E,82nm,0.7s						
BW06	**Boulder Array**	**3.27**	**255**	P	**Pn**	**20 04 37.6**	**-0.4**
	baz=74,SNR=57						
BW06	**Boulder Array**	**3.27**	**255**		**Pn**	**20 04 37.8**	**-0.2**
BW06				IAML		20 05 25.8	
	comp=E,68nm,0.3s						
BW06				IAML		20 05 29.0	
	comp=E,73nm,0.4s						
PD31	**Pinedale Array**	**3.27**	**255**		**Pn**	**20 04 37.7**	**-0.3**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**20 04 37.6**	**-0.3**
	comp=E,6.6nm,0.3s,baz=68,slow=16,SNR=78						
PDAR				Lg	Lg	20 05 21.9	
	comp=E,26nm,0.3s,baz=73,slow=31,SNR=13						
PDAR	**Pinedale Array**	**3.27**	**255**		**Pn**	**20 04 37.9**	**-0.1**
YNE	**Yellowstone No**	**3.64**	**293**		**Pn**	**20 04 42.0**	**-1.0**
OGNE	**Ogallala**	**3.66**	**138**	Pb	**Pn**	**20 04 44.3**	**+1.1**
	baz=320,SNR=8.9						
OGNE	**Ogallala**	**3.66**	**138**		**Pn**	**20 04 44.5**	**+1.3**
OGNE				IAML		20 05 49.3	
	comp=E,136nm,0.7s						
YMP	**Mirror Lake Pl**	**3.66**	**288**		**Pn**	**20 04 42.8**	**-0.6**
GCMT	**Greycliff**	**3.76**	**305**		**Pn**	**20 04 43.8**	**-0.8**
LOHW	**Long Hollow**	**3.87**	**270**		**Pn**	**20 04 46.3**	**+0.1**
H17A	**Grant Village**	**3.88**	**282**	P	**Pn**	**20 04 46.1**	**-0.4**
	baz=100						
H17A	**Grant Village**	**3.88**	**282**		**Pn**	**20 04 46.3**	**-0.2**
H17A				IAML		20 05 49.9	
	comp=N,42nm,0.7s						
ISCO	**Idaho Springs**	**3.91**	**184**	Pb	**Pn**	**20 04 48.2**	**+1.4**
	baz=5.3						
ISCO	**Idaho Springs**	**3.91**	**184**	Pn	**Pn**	**20 04 48.1**	**+1.3**
FLWY	**Flagg Ranch**	**3.94**	**277**		**Pn**	**20 04 46.6**	**-0.6**
FLWY				IAML		20 05 55.5	
	comp=N,76nm,2.0s						
FLWY				IAML		20 06 00.5	
	comp=N,46nm,1.3s						
MOOW	**Moose Ponds**	**3.97**	**273**	Pn	**Pn**	**20 04 47.9**	**+0.4**
SNOW	**Snow King Moun**	**3.99**	**268**		**Pn**	**20 04 48.3**	**+0.4**
SNOW				IAML		20 05 53.0	
	comp=N,52nm,1.2s						
SNOW				IAML		20 06 09.8	
	comp=N,63nm,1.0s						
YNR	**Norris Junctio**	**4.02**	**286**		**Pn**	**20 04 47.8**	**-0.5**
YPP	**Pitchstone Pla**	**4.03**	**280**		**Pn**	**20 04 48.9**	**+0.4**
REDW	**Red Top Meadow**	**4.07**	**267**		**Pn**	**20 04 49.5**	**+0.5**
REDW				IAML		20 05 55.4	
	comp=N,58nm,0.8s						
REDW				IAML		20 05 58.2	
	comp=N,62nm,0.7s						
IMW	**Indian Meadow**	**4.11**	**275**		**Pn**	**20 04 50.4**	**+0.9**
IMW				IAML		20 05 20.4	
	comp=N,48nm,0.5s						
IMW				IAML		20 06 01.0	
	comp=N,34nm,0.6s						
TPAW	**Teton Pass**	**4.13**	**269**	Pn	**Pn**	**20 04 50.1**	**+0.3**
TPAW				IAML		20 06 09.8	
	comp=N,34nm,1.1s						
TPAW				IAML		20 06 10.3	
	comp=N,51nm,1.1s						
YHH	**Holmes Hill**	**4.15**	**287**	Pn	**Pn**	**20 04 49.7**	**-0.4**
O20A	**White River Ci**	**4.20**	**213**	P	**Pn**	**20 04 48.4**	**-2.3**
	baz=33						
O20A	**White River Ci**	**4.20**	**213**	Pn	**Pn**	**20 04 51.6**	**+0.9**
O20A				IAML		20 06 04.9	
	comp=E,57nm,0.7s						
O20A				IAML		20 06 13.6	
	comp=N,47nm,2.5s						
E28A	**Huff**	**4.33**	**47**		**Pn**	**20 04 52.4**	**+0.1**
AHID	**Auburn Hatcher**	**4.36**	**260**		**Pn**	**20 04 53.5**	**+0.6**
AHID				IAML		20 06 45.9	
	comp=N,66nm,0.8s						
YHB	**Horse Butte**	**4.38**	**286**		**Pn**	**20 04 53.2**	**-0.1**
YHL	**Hebgen Lake**	**4.40**	**287**		**Pn**	**20 04 53.1**	**-0.4**
RDMU	**Red Mountain**	**4.47**	**227**		**Pn**	**20 04 55.7**	**+1.2**
ECR	**Eagle Creek**	**4.49**	**264**		**Pn**	**20 04 55.3**	**+0.5**
QLMT	**Earthquake Lak**	**4.56**	**286**		**Pn**	**20 04 55.1**	**-0.6**
SUSD	**Miller**	**4.61**	**79**	Sg	**Sg**	**20 06 13.8**	**+0.5**
	baz=261						
DGMT	**Dagmar**	**4.82**	**9**	P	**Pn**	**20 04 59.1**	**0.0**
	baz=188						
DGMT				Sb	**Sb**	**20 06 12.8**	**+3.6**
	baz=188						
DGMT	**Dagmar**	**4.82**	**9**	Pn	**Pn**	**20 04 58.7**	**-0.5**
BOZ	**Bozeman (W)**	**4.91**	**295**	P	**Pn**	**20 05 00.0**	**-0.4**
	baz=111						
BOZ				Sb	**Sb**	**20 06 16.2**	**+4.2**
	baz=111						
BOZ	**Bozeman (W)**	**4.91**	**295**	Pn	**Pn**	**20 05 00.1**	**-0.4**
BOZ				IAML		20 06 26.9	
	comp=N,19nm,1.2s						
HWUT	**Hardware Ranch**	**5.09**	**248**	Pn	**Pn**	**20 05 03.7**	**+0.7**
TCUT	**Toone Canyon**	**5.23**	**242**		**Pn**	**20 05 05.6**	**+0.7**
EGMT	**Eagleton**	**5.33**	**326**	P	**Pn**	**20 05 04.6**	**-1.6**
	baz=142						
EGMT				S	**Sn**	**20 06 09.0**	**+0.7**
	baz=142						
EGMT	**Eagleton**	**5.33**	**326**	Pn	**Pn**	**20 05 05.0**	**-1.1**
DLMT	**Dillon**	**5.49**	**290**		**Pn**	**20 05 09.0**	**+0.6**
HRY	**Holter Researc**	**5.52**	**305**		**Pn**	**20 05 08.1**	**-0.7**
LRM	**Limekiln Ridge**	**5.53**	**295**		**Pn**	**20 05 08.3**	**-0.7**
MCMT	**McKenzie Canyo**	**5.55**	**284**		**Pn**	**20 05 12.5**	**+3.1**
MDND	**Maddock**	**5.73**	**42**	Sb	**Sb**	**20 06 39.6**	**+4.3**
	baz=224						
PV22	**Blue Mesa, Par**	**5.81**	**208**		**Pn**	**20 05 14.9**	**+2.1**
PV07	**Paradox

DUWZ S S 20 05 49.9 -1.2
TSZ Takapari Road 1.34 111 P Pn 20 05 26.0 +0.4
BHHZ Black Hill Sta 1.34 86 P Pn 20 05 25.2 -0.4
BHHZ S S 20 05 49.4 -2.8
KIW Kapiti Island 1.34 161 P Pn 20 05 25.9 +0.3
POWZ Post Office Ro 1.36 127 P Pn 20 05 26.1 +0.4
OGWZ Otaki Gorge 1.38 153 P Pn 20 05 26.4 +0.5
OGWZ S S 20 05 51.9 -0.8
WATZ Wairara 1.40 51 P Pn 20 05 26.0 -0.1
MRZ Mangatainoka R 1.43 139 P Pn 20 05 26.5 +0.3
PNHZ Pukenui 1.47 103 P Pn 20 05 27.0 +0.3
KRHZ Kereru 1.57 93 P Pn 20 05 27.6 +0.2
DVHZ Dannevirke 1.57 117 P Pn 20 05 27.8 +0.3
PRWZ Pori Road 1.58 128 P Pn 20 05 28.2 +0.7
HOWZ Holdsworth Sta 1.59 146 P Pn 20 05 27.8 +0.2
CAW Cannon Point 1.62 160 P Pn 20 05 28.2 +0.3
KWHZ Kaweka Forest 1.62 85 P Pn 20 05 28.3 +0.3
TCW Tory Channel 1.62 182 P Pn 20 05 28.2 +0.4
TIWZ Tintock 1.68 136 P Pn 20 05 28.8 +0.4
WPHZ Waipukurau 1.69 107 P Pn 20 05 29.0 +0.5
BKZ Black Stump Fm 1.72 77 P Pn 20 05 28.4 -0.4
NNZ Nelson 1.78 204 P Pn 20 05 29.3 0.0
BFZ Birch Farm 1.83 127 P Pn 20 05 30.0 +0.3
MCHZ McNeill Hill 1.83 86 P Pn 20 05 30.6 +0.8
QRZ Quartz Range 1.86 228 P Pn 20 05 29.0 -1.0
ANWZ Angora Road 1.86 119 P Pn 20 05 30.3 +0.3
TUWZ Tuamarina 1.86 189 P Pn 20 05 28.2 -1.8
PRHZ Porangahau 1.89 112 P Pn 20 05 31.0 +0.6
TMWZ Te Maipa 1.93 142 P Pn 20 05 30.9 +0.3
CPWZ Castlepoint 1.94 133 P Pn 20 05 30.6 -0.1
MSWZ Moikau Station 1.95 159 P Pn 20 05 30.9 0.0
KAHZ Kahuranaki 1.97 97 P Pn 20 05 31.8 +0.7
PAWZ Paruwai Farm 1.98 155 P Pn 20 05 31.2 0.0
NMHZ Naumai 1.98 76 P Pn 20 05 31.7 +0.5
PXZ Pawanui 1.99 104 P Pn 20 05 31.8 +0.5
TOZ Tahuroa Road 2.07 27 P Pn 20 05 30.7 -1.3
MTHZ Maungataniwha 2.08 70 P Pn 20 05 31.7 -0.5
TRWZ Traveller 2.08 151 P Pn 20 05 32.4 +0.2
ARHZ Aropaoanui 2.08 82 P Pn 20 05 32.6 +0.4
PLWZ Palliser 2.10 161 P Pn 20 05 32.2 -0.2
CKHZ Cape Kidnapper 2.12 93 P Pn 20 05 33.2 +0.7
THZ Tophouse 2.43 206 P Pn 20 05 35.4 -0.4
AWAZ Awhitu Peninsu 2.53 6 P Pn 20 05 35.9 -1.0
URZ Urewera 2.54 59 P Pn 20 05 35.2 -1.8
KNZ Kokohu 2.65 79 P Pn 20 05 37.8 -0.3
WTAZ Waiatarua 2.66 4 P Pn 20 05 37.5 -0.9
MWZ Matawai 2.78 64 P Pn 20 05 38.4 -1.4
RIGZ Rimuhau 2.81 73 P Pn 20 05 39.5 -0.4
PRGZ Paritu Road 2.83 78 P Pn 20 05 40.0 -0.2
KHZ Kahutara 2.89 192 P Pn 20 05 40.8 +0.1
TKGZ Te Karaka 2.97 68 P Pn 20 05 41.1 -0.5
RUGZ Raukumara Rang 3.07 59 P Pn 20 05 40.7 -2.4
TWGZ Tauwhareparae 3.17 65 P Pn 20 05 43.5 -0.7
HAZ Te Kaha 3.26 57 P Pn 20 05 42.6 -2.4
PKGZ Pakihiroa 3.38 61 P Pn 20 05 44.2 -2.4
PUZ Puketiti 3.42 65 P Pn 20 05 45.3 -1.6
GVZ Greta Valley S 3.52 196 P Pn 20 05 47.3 -0.7
LTZ Lake Taylor 3.55 205 P Pn 20 05 47.8 -0.7
MXZ Matakaoa Point 3.71 58 P Pn 20 05 48.6 -1.8
OXZ Oxford 4.12 204 P Pn 20 05 53.7 -1.5
MQZ McQueen's Vall 4.30 196 P Pn 20 05 56.5 -1.1
ARCZ Arundel 4.96 207 P Pn 20 06 03.9 -1.8
ODZ Otahua Downs 6.10 205 P Pn 20 06 18.9 -1.3

*BJI **16** 20:38:59.6±0.0,51°.85N×178°.02E,h107km,mB4.9/26, mb4.6/36*
*NEIC **16** 20:38:60.0±1.8,51°.83N±0°.09×178°.59E±0°.09, h107km±3km,Error ellipse: s-maj=12.7km s-min=7.8km az=177.0*
*MOS **16** 20:38:59.9±1.1,51°.92N×178°.66E,h116km,mb4.5/15, Error ellipse: s-maj=7.4km s-min=6.7km az=83.1*
*AEIC **16** 20:38:59±1.9,51°.79N±0°.09×178°.64E±0°.07,h106km±3km, ML4.3/37,mb4.9/346(NEIC),Error ellipse: s-maj=12.5km s-min=6.1km az=178.0*
*IDC **16** 20:39:01.6±0.8,51°.96N×178°.60E,h115km±6km,mb4.1/34, mb1 4.3/35,mb1mx4.2/54,mbtmp4.5/35,MS3.2/9, Ms1 3.2/9,ms1mx3.0/35,Error ellipse: s-maj=14.2km s-min=7.3km az=169.0*

ISC 16 20:39:00.4±0.5,51°.80N±0°.07×178°.64E±0°.04,h109km±4km, n780,n0s97/798,mb4.8/218,16C-10D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
LSSE	**Little Sitkin**	**0.14**	**343**		**Pn**	**20 39 11.2**	**-0.3**
LSPA	**Little Sitkin**	**0.16**	**346**		**Pn**	**20 39 15.2**	**-0.4**
LSSA	**Little Sitkin**	**0.17**	**333**		**Pn**	**20 39 15.1**	**-0.6**
LSNW	**Little Sitkin**	**0.18**	**337**		**Pn**	**20 39 14.9**	**-0.7**
CETU	**Semis' Tuman**	**0.56**	**72**		**Pn**	**20 39 17.8**	**+0.3**
CESW	**Semis' Southwe**	**0.58**	**80**		**Pn**	**20 39 17.4**	**-0.3**
AMKA	**Amchitka**	**0.59**	**135**		**Pn**	**20 39 17.5**	**-0.2**
AMKA	**Amchitka**	**0.59**	**135**		**Sn**	**20 39 30.5**	**-0.3**
CEAP	**Semis' Anvil P**	**0.62**	**71**		**Pn**	**20 39 18.0**	**+0.1**
CERB	**Semis' Cerberu**	**0.63**	**78**		**Pn**	**20 39 18.2**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.66**	**80**		**Pn**	**20 39 18.2**	**-0.1**
GALAA	**Gareloi Lava P**	**1.61**	**90**		**Pn**	**20 39 29.3**	**+0.9**
TANO	**Tanaga North**	**2.02**	**85**		**Pn**	**20 39 34.3**	**+0.8**
TANO					**Sn**	**20 39 59.6**	**+0.9**
TASE	**Tanaga Southea**	**2.06**	**88**		**Pn**	**20 39 34.4**	**+0.2**
TAFP	**Tanaga Falls P**	**2.10**	**86**		**Pn**	**20 39 34.5**	**0.0**
TAFP					**Sn**	**20 40 00.9**	**+0.2**
KIMD	**Kanaga Island**	**2.56**	**89**		**Pn**	**20 39 40.7**	**+0.1**
KICM	**Kanaga Island**	**2.59**	**86**		**Pn**	**20 39 41.4**	**+0.6**
KIKV	**Kanaga Island**	**2.60**	**87**		**Pn**	**20 39 41.3**	**+0.3**
ADK	**Adak**	**2.90**	**87**	P	**Pn**	**20 39 44.6**	**-0.4**
ADK	**Adak**	**2.90**	**87**	Pn	**Pn**	**20 39 44.6**	**-0.4**
ADAG	**Mount Adagdak**	**2.96**	**85**		**Pn**	**20 39 46.4**	**+0.6**
GSTD	**Great Sitkin T**	**3.24**	**83**		**Sn**	**20 40 28.4**	**+0.9**
GSMY	**Great Sitkin M**	**3.29**	**84**		**Pn**	**20 39 50.5**	**+0.2**
ATKA	**Atka Island**	**4.45**	**82**	Pn	**Pn**	**20 40 05.3**	**-0.4**
KOFP	**Korovin Flat P**	**4.51**	**81**		**Pn**	**20 40 08.2**	**+1.7**
NIKH	**Nikolski High**	**7.75**	**76**		**Pn**	**20 40 50.5**	**+0.3**
OKSP	**Okmok Steeple**	**8.11**	**75**		**Pn**	**20 40 57.4**	**+2.2**
SPIA	**Saint Paul Isl**	**8.41**	**46**		**Pn**	**20 41 00.6**	**+1.4**
MAPS	**Pakushin South**	**8.97**	**71**		**Pn**	**20 41 09.1**	**+2.3**
MSW	**Makushin Switc**	**9.07**	**71**		**Pn**	**20 41 10.6**	**+2.4**
MREP	**Makushin Rep't**	**9.08**	**71**		**Pn**	**20 41 10.0**	**+1.5**
MNAT	**Makushin Natee**	**9.13**	**71**		**Pn**	**20 41 10.9**	**+1.9**
UNV	**Unalaska Valle**	**9.22**	**71**		**Pn**	**20 41 12.0**	**+1.7**
AKUT	**Akutan**	**9.69**	**70**		**Pn**	**20 41 19.4**	**+2.8**
WEBT	**Westdahl Beart**	**10.35**	**68**		**Pn**	**20 41 28.3**	**+2.8**
PEA0B	**Petropavlovsk-**	**12.83**	**284**	*ce*P	**Pn**	**20 41 58.1**	**-0.5**
PEA0B	**Petropavlovsk-**	**12.83**	**284**		**Pn**	**20 41 59.0**	**+0.4**
PETK	**Petropavlovsk-**	**12.83**	**284**	P	**Pn**	**20 41 58.7**	**+0.1**
	0.9nm,0.3s,baz=95,slow=19,SNR=26						
PETK				LR	LR	20 46 30.6	
	comp=Z,52nm,21.6s,baz=115,slow=35						
SDPT	**Sand Point**	**12.90**	**66**	Pn	**Pn**	**20 41 57.6**	**-1.8**
CNBA	**Chernabura Isl**	**13.35**	**68**	Pn	**Pn**	**20 42 02.8**	**-2.5**
SKR	**Severo-Kuril's**	**14.14**	**274**	*e*P	**P**	**20 42 18.1**	**-1.6**
SKR				MLR	MLR		
	comp=Z,300nm,13.0s						
CHGN	**Chignik**	**14.19**	**62**		**Pn**	**20 42 14.9**	**-1.1**
SVW2	**Sparrevohn**	**16.91**	**47**	P	**P**	**20 42 51.5**	**+1.3**
OHAK	**Old Harbor**	**17.11**	**60**	P	**Pn**	**20 42 49.4**	**-3.0**
BILL	**Bilibino**	**17.36**	**344**	*ce*P	**Pn**	**20 42 56.2**	**+0.7**
BILL				pmax	pmax		
	comp=Z,47nm,1.7s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
BILL	**Bilibino**	**17.36**	**344**	P	**Pn**	**20 42 57.4**	**+2.0**
MA2	**Magadan**	**17.42**	**307**	*i* P	**P**	**20 42 54.8**	**-1.1**
MA2				pmax	pmax		
	comp=Z,13nm,1.0s						
TTA	**Tatalina**	**17.50**	**41**	P	**Pn**	**20 42 58.1**	**+0.9**
TTA				pmax	pmax		
	comp=Z,27nm,0.8s						
TTA	**Tatalina**	**17.50**	**41**	P	**Pn**	**20 42 58.1**	**+0.9**
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**20 42 55.2**	**-2.1**
KDAK				pmax	pmax		
	comp=Z,37nm,0.8s						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**20 42 55.2**	**-2.1**
SEY	**Seymchan**	**17.87**	**319**	*i* P	**P**	**20 42 58.9**	**-1.8**
HOM	**Homer**	**18.36**	**53**	P	**Pn**	**20 43 06.0**	**-1.5**
	baz=258						
CNPM	**China Poot**	**18.54**	**54**	P	**Pn**	**20 43 08.1**	**-1.5**
RDOG	**Red Dog Mine**	**18.60**	**22**	P	**Pn**	**20 43 09.8**	**-0.5**
RDOG				IAmb	IAmb	20 43 16.1	
	comp=Z,36nm,0.7s						
BRLK	**Bradley Lake**	**18.76**	**53**	P	**P**	**20 43 10.4**	**-0.2**
BRLK				IAmb	IAmb	20 43 11.3	
	comp=Z,58nm,0.8s						
SKT	**Skwentna**	**19.04**	**46**	P	**Pn**	**20 43 13.8**	**-1.6**
SKT				IAmb	IAmb	20 43 19.8	
	comp=Z,52nm,0.9s						
PPLA	**Purkeypile**	**19.07**	**43**	Pn	**Pn**	**20 43 15.9**	**-0.1**
PPLA				IAmb	IAmb	20 43 20.7	
	comp=Z,47nm,0.8s						
SUA	**Susitna One**	**19.24**	**48**	P	**Pn**	**20 43 16.6**	**-1.3**
SUA				IAmb	IAmb	20 43 19.1	
	comp=Z,37nm,0.7s						
O22K	**Cooper Landing**	**19.48**	**51**	P	**P**	**20 43 18.1**	**-0.2**
	baz=258,SNR=24						
SEW	**Seward**	**19.53**	**52**	P	**P**	**20 43 18.3**	**-0.6**
SEW				IAmb	IAmb	20 43 22.1	
	comp=Z,80nm,1.0s						
RC01	**Rabbit Creek A**	**19.61**	**49**	P	**P**	**20 43 19.8**	**0.0**
	baz=256,SNR=16						
CUT	**Chulitna**	**19.73**	**45**	P	**Pn**	**20 43 21.6**	**-1.9**
	baz=252						
KTH	**Kantishna Hill**	**19.85**	**42**	P	**Pn**	**20 43 23.3**	**-1.7**
KTH				IAmb	IAmb	20 43 27.0	
	comp=Z,58nm,1.0s						
IMAR	**Indian Mountai**	**19.88**	**34**	P	**Pn**	**20 43 23.3**	**-2.0**
PMR	**Palmer**	**20.02**	**48**	P	**P**	**20 43 24.2**	**+0.1**
PMR				pmax	pmax		
	comp=Z,15nm,0.7s						
PMR	**Palmer**	**20.02**	**48**	P	**P**	**20 43 24.2**	**+0.1**
BPAW	**Bear Paw Mtn.**	**20.04**	**40**	P	**Pn**	**20 43 25.4**	**-1.7**
BPAW				IAmb	IAmb	20 43 29.0	
	comp=Z,39nm,1.0s						
TRF	**Thorofare Moun**	**20.07**	**43**	P	**Pn**	**20 43 25.8**	**-2.0**
TRF				IAmb	IAmb	20 43 28.6	
	comp=Z,45nm,0.7s						
GHO	**Glory Hole Cre**	**20.16**	**48**	P	**P**	**20 43 25.5**	**-0.2**
GHO				IAmb	IAmb	20 43 28.2	
	comp=Z,26nm,0.6s						
KNK	**Knik Glacier**	**20.29**	**49**	P	**P**	**20 43 25.0**	**-2.1**
KNK				IAmb	IAmb	20 43 28.5	
	comp=Z,59nm,1.0s						
SML	**Sawmill**	**20.44**	**48**	P	**P**	**20 43 28.4**	**-0.3**
SML				IAmb	IAmb	20 43 32.3	
	comp=Z,55nm,0.8s						
MLY	**Manley**	**20.52**	**38**	P	Pn	20 43 30.2	-2.5
	baz=244,SNR=29						
RND	**Reindeer**	**20.67**	**43**	P	**P**	**20 43 31.4**	**+0.2**
RND				pmax	pmax		
	comp=Z,18nm,0.5s						
RND	**Reindeer**	**20.67**	**43**	P	**P**	**20 43 31.4**	**+0.2**
BWN	**Browne**	**20.68**	**41**	P	Pn	20 43 33.0	-1.6
BWN				IAmb	IAmb	20 43 59.8	
	comp=Z,113nm,1.3s						
MCK	**McKinley**	**20.74**	**42**	P	**P**	**20 43 32.1**	**+0.2**
	baz=250,SNR=19						
GLI	**Glacier Island**	**20.82**	**51**	P	**P**	**20 43 32.1**	**-0.7**
Q23K	**Middleton Isla**	**20.99**	**55**	P	**P**	**20 43 34.6**	**0.0**
	baz=264						
NEA2	**Nenana**	**21.00**	**40**	P	**P**	**20 43 34.6**	**-0.1**
	baz=248,SNR=29						
HIN	**Hinchinbrook I**	**21.03**	**52**	P	**P**	**20 43 34.5**	**-0.6**
HIN				IAmb	IAmb	20 43 37.7	
	comp=Z,62nm,0.9s						
FID	**Port Fidalgo**	**21.10**	**51**	P	**P**	**20 43 35.1**	**-0.6**
DHY	**Denali Highway**	**21.20**	**45**	P	**P**	**20 43 36.9**	**-0.2**
DHY				IAmb	IAmb	20 43 39.1	
	comp=Z,86nm,1.2s						
WRH	**Wood River Hil**	**21.35**	**41**	P	**P**	**20 43 37.3**	**-1.1**
EYAK	**Cordova Ski Ar**	**21.42**	**52**	P	**P**	**20 43 38.7**	**-0.5**
EYAK				IAmb	IAmb	20 43 41.9	
	comp=Z,69nm,1.0s						
MDM	**Murphy Dome**	**21.47**	**39**	P	**P**	**20 43 39.7**	**0.0**
KLU	**Klutina**	**21.49**	**49**	P	**P**	**20 43 39.5**	**-0.6**
KLU				IAmb	IAmb	20 43 43.0	
	comp=Z,42nm,1.0s						
M24K	**Tolsona, Glenn**	**21.50**	**48**	P	**P**	**20 43 40.5**	**+0.4**
	baz=257,SNR=15						
M24K	**Tolsona, Glenn**	**21.50**	**48**	P	**P**	**20 43 40.5**	**+0.4**
M24K				IAmb	IAmb	20 43 47.7	
	comp=Z,54nm,0.7s						
CCB	**Clear Creek Bu**	**21.52**	**40**	P	**P**	**20 43 39.9**	**-0.3**
TCOL	**CIGO, UAF Yank**	**21.58**	**40**	P	**P**	**20 43 41.2**	**+0.3**
	baz=249						
COLA	**College**	**21.59**	**40**	P	**P**	**20 43 41.2**	**+0.3**
COLA				pmax	pmax		
	comp=Z,23nm,0.8s						
COLA	**College**	**21.59**	**40**	P	**P**	**20 43 41.1**	**+0.3**
COLD	**Coldfoot**	**21.74**	**33**	P	**P**	**20 43 43.0**	**+0.4**
	baz=240						
COLD	**Coldfoot**	**21.74**	**33**	P	**P**	**20 43 42.4**	**-0.2**
HDA	**Harding Lake**	**21.79**	**41**	P	**P**	**20 43 42.8**	**-0.3**
	baz=251,SNR=22						
HDA	**Harding Lake**	**21.79**	**41**	P	**P**	**20 43 42.5**	**-0.6**
POKR	**Poker Flat Res**	**21.84**	**39**	P	**P**	**20 43 43.9**	**+0.3**
	baz=249,SNR=10						
RAGM	**Ragged Mountai**	**21.93**	**53**	P	**P**	**20 43 45.0**	**+0.4**
IL31		**21.94**	**40**	P	**P**	**20 43 43.2**	**-1.4**
ILAR	**Eielson Array**	**21.94**	**40**	P	**P**	**20 43 42.5**	**-2.2**
	comp=Z,9.0nm,0.7s,baz=244,slow=9.4,SNR=58						
ILAR				PcP	**PcP**	**20 47 37.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=277,slow=2.9,SNR=4.3						
ILAR				ScP	**ScP**	**20 51 04.6**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=284,slow=3.4,SNR=13						
ILAR				LR	LR	20 51 39.9	
	comp=Z,58nm,20.5s,baz=303,slow=35						
ILAR	**Eielson Array**	**21.94**	**40**	P	**P**	**20 43 44.4**	**-0.2**
ILAR						20 47 37.8	
ILAR	**Eielson Array**	**21.94**	**40**	P		**20 43 44.4**	**-0.2**
ILAR					**PcP**	**20 47 37.8**	**-1.0**
KAIM	**Kayak Island**	**22.01**	**54**	P	**P**	**20 43 45.8**	**+0.4**
HMT	**Hamilton**	**22.13**	**53**	P	**P**	**20 43 46.8**	**+0.1**
HMT				IAmb	IAmb	20 43 49.0	
	comp=Z,62nm,0.8s						
N25K	**Chitina, Valde**	**22.14**	**49**	P	**P**	**20 43 46.5**	**-0.3**
	baz=260,SNR=13						
SUCK	**Suckling Hills**	**22.34**	**54**	P	**P**	**20 43 49.4**	**+0.5**
RIDG	**Independent Ri**	**22.48**	**44**	P	**P**	**20 43 49.8**	**-0.5**
RIDG				IAmb	IAmb	20 43 52.3	
	comp=Z,24nm,0.5s						
GLB	**Gilahina Butte**	**22.49**	**50**	P	**P**	**20 43 50.5**	**+0.1**
GLB				IAmb	IAmb	20 43 53.3	
	comp=Z,66nm,1.2s						
VRDI	**Verde Repeater**	**22.63**	**51**	P	**P**	**20 43 51.8**	**-0.2**
VRDI				IAmb	IAmb	20 43 54.1	
	comp=Z,59nm,0.9s						
TOLK	**Toolik Lake Re**	**22.68**	**30**	P	**P**	**20 43 52.4**	**+0.2**
	baz=238,SNR=27						
TOLK	**Toolik Lake Re**	**22.68**	**30**	P	**P**	**20 43 52.7**	**+0.5**
CRQM	**Cirque**	**22.73**	**52**	P	**P**	**20 43 53.3**	**+0.4**
MENT	**Mentasta**	**22.79**	**46**	P	**P**	**20 43 54.3**	**+0.9**
DOT	**Dot Lake**	**22.80**	**44**	P	**P**	**20 43 52.6**	**-0.9**
DOT				IAmb	IAmb	20 43 54.9	
	comp=Z,40nm,0.8s						
MCARA	**McCarthy VSAT**	**22.85**	**50**	P	**P**	**20 43 54.2**	**+0.2**
TGL	**Tana Glacier**	**22.88**	**52**	P	**P**	**20 43 53.9**	**-0.4**
TGL				IAmb	IAmb	20 43 56.3	
	comp=Z,60nm,0.8s						
SCRK	**Sand Creek**	**22.91**	**43**	P	**P**	**20 43 52.9**	**-1.8**
	baz=256,SNR=19						
ISLE	**Juniper Island**	**23.10**	**52**	P	**P**	**20 43 56.4**	**-0.2**
ISLE				IAmb	IAmb	20 44 04.3	
	comp=Z,36nm,0.9s						
BALM	**Baldy**	**23.14**	**51**	P	**P**	**20 43 57.0**	**+0.1**
BALM				IAmb	IAmb	20 43 58.7	
	comp=Z,27nm,0.8s						
FYU	**Fort Yukon**	**23.22**	**37**	P	**P**	**20 43 57.8**	**+0.4**
FYU				IAmb	IAmb	20 43 59.9	
	comp=Z,30nm,0.8s						
MESA	**MESA**	**23.26**	**53**	P	**P**	**20 43 58.4**	**+0.3**
YAH	**Yahtse**	**23.38**	**53**	P	**P**	**20 43 59.3**	**+0.1**
YAH				IAmb	IAmb	20 44 00.9	
	comp=Z,47nm,0.8s						
BARN	**Barnard Glacie**	**23.47**	**51**	P	**P**	**20 44 00.1**	**+0.1**
CTGM	**Chitina Glacie**	**23.62**	**52**	P	**P**	**20 44 01.7**	**+0.3**
PCA	**Pinnacle**	**24.11**	**54**	P	**P**	**20 44 05.5**	**0.0**
EGAK	**Eagle**	**24.29**	**42**	P	**P**	**20 44 06.9**	**-0.3**
BCPM	**Bancas Point**	**24.42**	**54**	P	**P**	**20 44 08.1**	**-0.2**
BCPM				IAmb	IAmb	20 44 09.8	
	comp=Z,49nm,0.8s						
DAWY	**Dawson**	**24.91**	**44**	P	**P**	**20 44 12.8**	**0.0**
DAWY				IAmb	IAmb	20 44 15.9	
	comp=Z,37nm,0.7s						
ASAJ	**Asahikawa**	**25.12**	**267**	P	**P**	**20 44 16.0**	**+1.1**
	comp=Z,11nm,0.9s,baz=67,slow=13,SNR=3.6						
ASAJ	**Asahikawa**	**25.12**	**267**	P	**P**	**20 44 16.0**	**+1.1**
HYT	**Haines Junctio**	**25.49**	**52**	P	**P**	**20 44 18.1**	**0.0**
HYT				IAmb	IAmb	20 44 22.4	
	comp=Z,54nm,1.0s						
BESE	**Bessie Mountai**	**26.93**	**57**	P	**P**	**20 44 31.2**	**+0.1**
BESE				IAmb	IAmb	20 44 32.6	
	comp=Z,26nm,1.1s						
JIS	**Juneau Island**	**27.21**	**58**	P	**P**	**20 44 34.3**	**+0.8**
JIS				IAmb	IAmb	20 44 35.1	
	comp=Z,25nm,0.9s						
YAK	**Yakutsk**	**27.93**	**311**	*i* P	**P**	**20 44 41.6**	**+1.7**
INK	**Inuvik**	**28.04**	**36**	P	**P**	**20 44 41.1**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=254,slow=11,SNR=9.9						
INK	**Inuvik**	**28.04**	**36**	P	**P**	**20 44 41.0**	**+0.3**
DLBC	**Dease Lake**	**29.46**	**57**	P	**P**	**20 44 54.9**	**+1.4**
	comp=Z,7.0nm,0.8s,baz=288,slow=9.8,SNR=9.7						
DLBC	**Dease Lake**	**29.46**	**57**	P	**P**	**20 44 54.6**	**+1.1**
TIXI	**Tiksi**	**29.48**	**331**	*ce*P	**P**	**20 44 55.4**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,22nm,2.5s						
ZEA	**Zeya**	**30.60**	**294**	*e*P	**P**	**20 45 02.3**	**-1.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**31.66**	**275**	P	**P**	**20 45 12.9**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=64,slow=6.7,SNR=3.1						
USRK				PcP	**PcP**	**20 48 03.1**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=175,slow=4.8,SNR=4.4						
MAJO	**Matsushiro**	**32.29**	**258**	*i* P	**P**	**20 45 18.8**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s						
MAT	**Matsushiro**	**32.29**	**258**	P	**P**	**20 45 19.1**	**+0.5**
MJAR	**Matsushiro Arr**	**32.29**	**258**	P	**P**	**20 45 19.4**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=54,slow=6.2,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**33.30**	**200**	T	T	21 20 57.6	
	baz=11,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**33.31**	**200**	T	T	21 20 48.5	
	baz=11,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	21 21 01.3	
	baz=11,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**34.53**	**200**	T	T	21 22 29.8	
	baz=11,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**34.55**	**200**	T	T	21 22 30.0	
	baz=11,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**34.55**	**200**	T	T	21 22 17.9	
	baz=11,slow=76,SNR=11						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**20 45 51.2**	**0.0**
	comp=Z,9.0nm,0.8s,baz=281,slow=8.0,SNR=12						
YKA				pP	**pP**	**20 46 17.5**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=283,slow=8.6,SNR=3.4						
YKA				LR	LR	21 00 25.1	
	comp=Z,68nm,20.2s,baz=0.0,slow=36						
D03D	**Eldon**	**37.09**	**73**	P	**P**	**20 46 00.2**	**+0.4**
	baz=299						
B05A	**Bryant**	**37.33**	**71**	P	**P**	**20 46 01.9**	**+0.2**
	baz=298						
E04D	**Cinebar**	**37.88**	**74**	P	**P**	**20 46 06.5**	**+0.1**
	baz=300						
KSRS	**Korea Array**	**38.04**	**268**	P	**P**	**20 46 09.0**	**+1.1**
	comp=Z,4.1nm,1.1s,baz=53,slow=8.3,SNR=4.7						
KSRS	**Korea Array**	**38.04**	**268**	P	**P**	**20 46 09.0**	**+1.1**
KSRS	**Korea Array**	**38.04**	**268**	P	**P**	**20 46 09.0**	**+1.1**
LON	**Longmire**	**38.23**	**73**	P	**P**	**20 46 09.9**	**+0.4**
LON				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LON	**Longmire**	**38.23**	**73**	P	**P**	**20 46 09.9**	**+0.4**
LTY	**Liberty**	**38.66**	**72**	P	**P**	**20 46 12.9**	**-0.2**
H04D	**Lebanon**	**38.83**	**77**	P	**P**	**20 46 15.2**	**+0.8**
	baz=302						
B08A	**Colville Reser**	**38.90**	**70**	P	**P**	**20 46 14.8**	**-0.2**
JNU	**Nakatsue**	**39.05**	**260**	P	**P**	**20 46 17.1**	**+0.7**
	comp=Z,8.7nm,0.8s,baz=49,slow=5.6,SNR=3.8						
H04A	**Detroit Lake**	**39.08**	**76**	P	**P**	**20 46 17.2**	**+0.6**
H04A				IAmb	IAmb	20 46 19.0	
	comp=Z,27nm,1.4s						
K02D	**Willamette Mer**	**39.27**	**80**	P	**P**	**20 46 18.7**	**+0.5**
	baz=304						
G05D	**Wamic, OR**	**39.31**	**75**	P	**P**	**20 46 18.6**	**+0.2**
	baz=302						
I04A	**Tendick Farm,**	**39.42**	**78**	P	**P**	**20 46 19.9**	**+0.5**
	baz=303						
E07A	**Sunnyside**	**39.49**	**72**	P	**P**	**20 46 20.2**	**+0.2**
L02E	**Cave Junction**	**39.61**	**81**	P	**P**	**20 46 21.4**	**+0.5**
	baz=304						
HUMO	**Hull Mountain**	**39.75**	**80**	P	**P**	**20 46 23.5**	**+1.4**
HAWA	**Hanford**	**39.77**	**73**	P	**P**	**20 46 22.4**	**+0.3**
HAWA				IAmb	IAmb	20 46 22.7	
	comp=Z,9.0nm,0.6s						
I05D	**Terrebonne, OR**	**39.77**	**76**	P	**P**	**20 46 22.5**	**+0.2**
	baz=303						
D08A	**Wollman Farm,**	**39.79**	**71**	P	**P**	**20 46 21.6**	**-0.8**

ORV IAmb IAmb 20 46 45.4
comp=Z,15nm,0.8s
PLID Pearl Lake 42.56 72 P P 20 46 44.4 -0.9
MSO Missoula 42.81 69 P P 20 46 46.0 -1.2
baz=302,SNR=6.5
MSO Missoula 42.81 69 P P 20 46 46.4 -0.9
MSO IAmb IAmb 20 46 47.1
comp=Z,21nm,1.3s
AFDM Forest Hills D 43.12 83 P P 20 46 50.2 +0.6
NRIK Noril'sk 43.23 329 *ce* **P P 20 46 50.0 -0.1**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
MFID Camas Ranch 43.60 74 P P 20 46 53.5 -0.1
PAHR Pah Rah Range 43.63 81 P P 20 46 54.6 +0.7
PAHR IAmb IAmb 20 46 55.7
comp=Z,15nm,0.7s
VCNR Virginia City 43.72 81 P P 20 46 55.7 +1.0
VCNR IAmb IAmb 20 46 58.9
comp=Z,18nm,0.7s
PNTR Pine Nut 43.88 82 P P 20 46 57.0 +1.0
HRY Holter Researc 44.10 68 P P 20 46 57.0 -0.6
YERR Yerington 44.16 81 P P 20 46 59.4 +1.2
YERR IAmb IAmb 20 47 00.2
comp=Z,18nm,0.8s
LRM Limekiln Ridge 44.23 69 P P 20 46 58.3 -0.5
WAKR Walker 44.34 82 P P 20 47 00.9 +1.3
WAKR IAmb IAmb 20 47 01.9
comp=Z,20nm,0.8s
HLID Hailey 44.36 73 P P 20 46 58.9 -0.8
baz=305,SNR=7.6
HLID Hailey 44.36 73 P P 20 46 59.5 -0.2
TLY Talaya 44.48 301 *i* **P P 20 47 02.2 +1.8**
TLY pmax pmax
comp=Z,2.0nm,0.9s
BCYI Bear Canyon 44.52 72 P P 20 47 00.4 -0.7
MCMT McKenzie Canyo 44.56 71 P P 20 47 00.3 -1.0
EGMT Eagleton 44.56 65 P P 20 47 00.2 -1.0
baz=303
EGMT Eagleton 44.56 65 P P 20 47 00.3 -0.8
ULN Ulaanbaatar 44.63 295 *ce* **P P 20 47 02.1 +0.2**
ULN pmax pmax
comp=Z,8.0nm,2.5s
ULN Ulaanbaatar 44.63 295 P P 20 47 02.0 +0.2
KVN Kaiserville 44.82 81 P P 20 47 04.2 +0.8
KVN pmax pmax
comp=Z,9.0nm,0.6s
KVN Kaiserville 44.82 81 P P 20 47 04.2 +0.8
KVN IAmb IAmb 20 47 05.1
comp=Z,8.8nm,0.6s
RYN Ryan 44.82 81 P P 20 47 04.5 +1.1
RYN IAmb IAmb 20 47 05.2
comp=Z,18nm,0.7s
BOZ Bozeman (W) 44.83 69 P P 20 47 02.5 -0.9
baz=304,SNR=20
BOZ Bozeman (W) 44.83 69 P P 20 47 02.5 -0.9
BOZ pmax pmax
comp=Z,15nm,0.6s
BOZ Bozeman (W) 44.83 69 P P 20 47 02.5 -0.9
BOZ IAmb IAmb 20 47 03.5
comp=Z,14nm,0.6s
PMPB Monarch Peak 44.94 86 P P 20 47 05.7 +1.5
SONM Songino Array 45.02 295 P P 20 47 05.0 +0.2
comp=Z,2.5nm,0.6s,baz=65,slow=8.2,SNR=26
SONM pP **pP 20 47 30.5 +0.3**
comp=Z,2.5nm,0.7s,baz=64,slow=7.7,SNR=8.0
SONM PcP **PcP 20 48 44.4 +0.5**
comp=Z,1.5nm,0.6s,baz=76,slow=2.9,SNR=6.8
SONM ScP **ScP 20 52 26.8 +0.8**
comp=Z,1.8nm,1.0s,baz=50,slow=2.3,SNR=6.7
SONM LR LR 21 06 35.3
comp=Z,94nm,20.2s,baz=167,slow=37
SONM Songino Array 45.02 295 P P 20 47 05.2 +0.3
SONM **pP 20 47 30.4 +0.3**
SONM **PcP 20 48 44.3 +0.5**
SONM ScP **ScP 20 52 26.2 +0.2**
LHV Little Huntoon 45.07 82 P P 20 47 06.7 +1.6
LHV IAmb IAmb 20 47 07.7
comp=Z,30nm,1.3s
NVAR Mina Array Bea 45.08 81 P P 20 47 06.4 +0.8
comp=Z,14nm,0.6s,baz=297,slow=7.3,SNR=108
NVAR PcP **PcP 20 48 45.4 +1.0**
comp=Z,2.3nm,0.8s,baz=280,slow=4.7,SNR=4.4
NVAR ScP **ScP 20 52 26.5 0.0**
comp=Z,0.5nm,0.6s,baz=300,slow=3.6,SNR=3.5
NVAR Mina Array Bea 45.08 81 P P 20 47 06.2 +0.6
NVAR **PcP 20 48 45.0 +0.6**
NVAR **ScP 20 52 26.3 -0.2**
MDPB Devils Postpil 45.10 83 P P 20 47 07.0 +1.2
MDPB IAmb IAmb 20 47 08.1
comp=Z,21nm,0.8s
OMMB Old Mammoth Mi 45.16 83 P P 20 47 07.6 +1.3
NV11 Mina Array Sit 45.17 81 P P 20 47 07.0 +0.8
NV11 IAmb IAmb 20 47 07.9
comp=Z,10nm,0.7s
QLMT Earthquake Lak 45.38 70 P P 20 47 07.7 -0.2
YHL Hebgen Lake 45.52 70 P P 20 47 08.4 -0.6
ELK Elko 45.53 77 P P 20 47 09.5 +0.4
comp=Z,7.3nm,0.5s,baz=309,slow=7.7,SNR=46
ELK Elko 45.53 77 P P 20 47 09.3 +0.3
ELK IAmb IAmb 20 47 10.2
comp=Z,8.6nm,0.6s
YHB Horse Butte 45.57 70 P P 20 47 08.7 -0.6
PAGB Antelope Grade 45.59 86 P P 20 47 10.1 +0.8
PAGB IAmb IAmb 20 47 11.6
comp=Z,19nm,1.0s
YHH Holmes Hill 45.75 70 P P 20 47 10.1 -0.7
YMR Madison River 45.75 70 P P 20 47 10.2 -0.5
YNR Norris Junctio 45.89 70 P P 20 47 12.0 +0.1
TPH Tonopah 45.96 81 P P 20 47 13.3 +0.8
TPH pmax pmax
comp=Z,89nm,0.7s
TPH Tonopah 45.96 81 P P 20 47 13.3 +0.8
TIN Tinemaha, Big 45.99 83 P P 20 47 13.3 +0.8
baz=310,SNR=6.0
HHC Hu-ho-hao-te 46.03 284 *eP* **P 20 47 12.9 0.0**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,84nm,6.4s
HHC LR LR
comp=Z,210nm,12.0s
HHC LR LR
comp=Z,170nm,9.6s
HHC LR LR
comp=Z,230nm,11.3s
YPP Pitchstone Pla 46.07 70 P P 20 47 13.6 +0.2
YNE Yellowstone No 46.11 69 P P 20 47 12.7 -0.9
H17A Grant Village 46.13 70 P P 20 47 13.8 0.0
baz=306,SNR=11
H17A Grant Village 46.13 70 P P 20 47 14.6 +0.8
H17A IAmb IAmb 20 47 15.5
comp=Z,9.6nm,0.7s
YMP Mirror Lake Pl 46.18 69 P P 20 47 13.7 -0.6
IMW Indian Meadow 46.21 71 P P 20 47 14.0 -0.5
VES Vestal, Richgr 46.24 85 P P 20 47 15.2 +0.8
baz=310
FLWY Flagg Ranch 46.24 70 P P 20 47 14.7 +0.1
FLWY IAmb IAmb 20 47 15.6
comp=Z,12nm,0.7s
HVU Hansel Valley 46.38 74 P P 20 47 15.6 0.0
HVU pmax pmax
comp=Z,15nm,0.6s
HVU Hansel Valley 46.38 74 P P 20 47 15.6 0.0
PKM Mcpherson Peak 46.41 86 P P 20 47 16.7 +0.8
baz=311
MOOW Moose Ponds 46.41 71 P P 20 47 15.6 -0.3
TPAW Teton Pass 46.44 71 P P 20 47 16.1 -0.2
RLMT Red Lodge 46.47 68 P P 20 47 15.8 -0.6
baz=305,SNR=7.6
RLMT Red Lodge 46.47 68 P P 20 47 16.1 -0.3
RLMT IAmb IAmb 20 47 17.0
comp=Z,20nm,1.2s
CWC Cottonwood Cre 46.48 83 P P 20 47 17.1 +0.6
baz=310
ISA Isabella, Lake 46.73 85 P P 20 47 18.4 +0.1
baz=311,SNR=5.5
ISA Isabella, Lake 46.73 85 P P 20 47 18.3 -0.1
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA Isabella, Lake 46.73 85 P P 20 47 18.3 -0.1
BGU Big Grassy Mou 46.75 75 P P 20 47 18.5 -0.1
R11A Troy Canyon, C 46.79 80 P P 20 47 19.0 0.0
baz=309,SNR=24
R11A Troy Canyon, C 46.79 80 P P 20 47 19.2 +0.2
R11A IAmb IAmb 20 47 20.2
comp=Z,8.5nm,0.7s
MPMC Manual Prospec 47.09 83 P P 20 47 21.7 +0.5
baz=310,SNR=11
FURC Furnace Creek, 47.21 83 P P 20 47 22.7 +0.8
baz=310,SNR=8.1
NJ2 Nanjing 47.21 269 *eP* **P 20 47 21.4 -0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
HWUT Hardware Ranch 47.21 74 P P 20 47 22.0 -0.1
TPNV Topopah Spring 47.27 82 P P 20 47 23.3 +0.7
baz=310,SNR=32
TPNV Topopah Spring 47.27 82 P P 20 47 23.4 +0.7
TPNV pmax pmax
comp=Z,27nm,0.8s
TPNV Topopah Spring 47.27 82 P P 20 47 23.4 +0.7
DUG Dugway, Tooele 47.33 76 P P 20 47 23.0 0.0
baz=308,SNR=18
DUG Dugway, Tooele 47.33 76 P P 20 47 23.4 +0.4
DUG pmax pmax
comp=Z,13nm,0.6s
DUG Dugway, Tooele 47.33 76 P P 20 47 23.4 +0.4
DUG IAmb IAmb 20 47 24.2
comp=Z,13nm,0.6s
LRMC Laurel Mtn Rad 47.34 84 P P 20 47 23.7 +0.5
baz=311,SNR=7.5
EDW2 Edwards Air Fo 47.54 85 P P 20 47 25.1 +0.5
baz=311,SNR=5.6
TCUT Toone Canyon 47.60 74 P P 20 47 25.3 +0.1
BW06 Boulder Array 47.69 71 P P 20 47 25.2 -0.7
baz=307,SNR=15
BW06 Boulder Array 47.69 71 P P 20 47 25.2 -0.7
BW06 IAmb IAmb 20 47 26.1
comp=Z,9.1nm,0.7s
PD31 Pinedale Array 47.69 71 P P 20 47 25.2 -0.7
PDAR Pinedale Array 47.69 71 P P 20 47 25.2 -0.7
comp=Z,8.0nm,0.6s,baz=306,slow=3.5,SNR=76
PRN Pahroc Range 47.72 80 P P 20 47 26.6 +0.5
PRN IAmb IAmb 20 47 27.8
comp=Z,14nm,0.7s
PSUT Pine Spring 47.73 78 P P 20 47 26.6 +0.4
NLU North Lily Min 47.92 76 P P 20 47 27.9 +0.2
MWC Mount Wilson 47.94 86 P P 20 47 28.6 +0.8
MWC pmax pmax
comp=Z,61nm,1.5s
MWC Mount Wilson 47.94 86 P P 20 47 28.6 +0.8
SHOC Shoshone, Teco 47.94 83 P P 20 47 28.3 +0.7
baz=311
GSC Goldstone, Bar 48.00 84 P P 20 47 29.2 +1.0
baz=311,SNR=7.6
GSC Goldstone, Bar 48.00 84 P P 20 47 29.1 +0.9
GSC pmax pmax
comp=Z,31nm,1.0s
GSC Goldstone, Bar 48.00 84 P P 20 47 29.1 +0.9
RRX Edison Barstow 48.16 84 P P 20 47 29.4 +0.1
baz=311
BFSC Mount Baldy Ra 48.17 85 P P 20 47 29.8 +0.2
baz=312,SNR=5.2
SHPR Sheep Range 48.23 81 P P 20 47 30.6 +0.5
CIS Catalina Islan 48.26 87 P P 20 47 31.5 +1.3
baz=312
TUQ Turquoise Moun 48.46 83 P P 20 47 32.1 +0.3
baz=311,SNR=6.7
TCRU Three Creeks R 48.54 77 P P 20 47 33.5 +1.0
HEC Hector,Ludlow 48.60 84 P P 20 47 33.4 +0.5
baz=311
CCUT Cedar City 48.66 79 P P 20 47 33.8 +0.4
MVU Marysvale 48.75 77 P P 20 47 34.4 +0.3
MSU Marysvale 48.76 77 P P 20 47 34.6 +0.4
MSU Marysvale 48.76 77 P P 20 47 34.6 +0.4
TMUT Trail Mountain 48.85 76 P P 20 47 35.3 +0.3
MURC Murrieta 48.88 86 P P 20 47 35.6 +0.7
baz=312
P17A Butcher Ranch, 49.02 75 P P 20 47 36.3 +0.2
RDMU Red Mountain 49.03 73 P P 20 47 36.2 0.0
GMRC Granite Mounta 49.05 83 P P 20 47 36.8 +0.6
baz=312,SNR=16
MTPU Mount Pierson 49.06 78 P P 20 47 37.1 +0.5
LCMT Little Creek M 49.08 79 P P 20 47 37.3 +0.8
Q16A Castle Valley 49.11 76 P P 20 47 37.9 +1.1
KNB Kanab 49.33 79 P P 20 47 39.3 +0.8
KNB pmax pmax
comp=Z,7.0nm,0.7s
KNB Kanab 49.33 79 P P 20 47 39.3 +0.8
PFO Pinyon Flats O 49.33 85 P P 20 47 38.7 +0.3
comp=Z,3.6nm,0.6s,baz=314,slow=6.4,SNR=5.0
PFO Pinyon Flats O 49.33 85 P P 20 47 39.0 +0.5
baz=312
PFO Pinyon Flats O 49.33 85 P P 20 47 38.8 +0.3
PFO pmax pmax
comp=Z,8.0nm,1.1s
PFO Pinyon Flats O 49.33 85 P P 20 47 38.8 +0.3
TPFO Pinon Flats 49.34 85 P P 20 47 39.0 +0.5
baz=312
BELC Belle Mtn. Jos 49.36 84 P P 20 47 38.7 0.0
baz=312,SNR=8.2
PKCU Pink Cliffs 49.37 78 P P 20 47 39.2 +0.3
SRU San Rafael Swe 49.38 76 P P 20 47 39.2 +0.3
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael Swe 49.38 76 P P 20 47 39.2 +0.3
K22A Casper 49.54 69 P P 20 47 38.9 -1.1
baz=308
IRM Iron Mountain 49.78 84 P P 20 47 42.3 +0.6
baz=312,SNR=6.8
BAR Barrett 49.83 86 P P 20 47 42.8 +0.7
MONP2 Monument Peak 49.84 86 P P 20 47 43.2 +0.7
baz=313
BC3 Big Chuckawall 49.92 84 P P 20 47 42.7 -0.2
baz=312,SNR=6.3
W13A Hualapai Mount 49.93 82 P P 20 47 43.5 +0.4
W13A IAmb IAmb 20 47 44.4
comp=Z,7.0nm,0.8s
U15A North Rim 50.04 79 P P 20 47 44.8 +0.9
U15A IAmb IAmb 20 47 45.6
comp=Z,12nm,0.8s
RSSD Black Hills 50.07 66 P P 20 47 42.1 -1.9
baz=308
O20A White River Ci 50.10 73 P P 20 47 43.2 -1.1
baz=309,SNR=5.3
O20A White River Ci 50.10 73 P P 20 47 43.9 -0.4
O20A IAmb IAmb 20 47 44.5
comp=Z,12nm,0.7s
SWSC Sam W. Stewart 50.19 85 P P 20 47 45.3 +0.5
baz=313
IKP In-Ko-Pah, Jac 50.20 86 P P 20 47 45.6 +0.7
baz=313
PDMCI Parker Dam,Lak 50.30 83 P P 20 47 46.2 +0.6
baz=312
PV21 Cone Mtn., Par 50.66 75 P P 20 47 48.1 -0.5
PV21 IAmb IAmb 20 47 50.7
comp=Z,9.0nm,0.7s
PV23 Carpenter Ridg 50.71 75 P P 20 47 48.7 -0.3
PV23 IAmb IAmb 20 47 54.5
comp=Z,11nm,0.6s
GLA Glamis 50.72 84 P P 20 47 49.7 +0.9
baz=313
GLA Glamis 50.72 84 P P 20 47 49.6 +0.8
GLA pmax pmax
comp=Z,16nm,0.7s
GLA Glamis 50.72 84 P P 20 47 49.6 +0.8
ESJX Sierra Juarez 50.73 86 P P 20 47 49.5 +0.3
PV10 Paradox Valley 50.74 75 P P 20 47 49.3 +0.1
PV14 Lion Creek, Pa 50.76 75 P P 20 47 48.8 -0.5
PV14 IAmb IAmb 20 47 50.3
comp=Z,10nm,0.6s
ULM Lac du Bonnet 50.78 56 P P 20 47 48.1 -0.9
comp=Z,6.3nm,0.6s,baz=321,slow=9.1,SNR=9.1
ULM LR LR 21 07 60.0
comp=Z,24nm,21.6s,baz=174,slow=34
ULM Lac du Bonnet 50.78 56 P P 20 47 48.1 -0.9
ULM pmax pmax
comp=Z,21nm,1.5s
ULM Lac du Bonnet 50.78 56 P P 20 47 48.1 -0.9
ULM IAmb IAmb 20 48 14.7
comp=Z,21nm,1.4s
PV22 Blue Mesa, Par 50.79 75 P P 20 47 50.3 +0.8
PV22 IAmb IAmb 20 47 51.5
comp=Z,10nm,0.8s
PV20 West Nyswonger 50.81 75 P P 20 47 49.4 -0.2
PV20 IAmb IAmb 20 47 51.2
comp=Z,11nm,0.8s
PV19 Morning Glory 50.82 75 P P 20 47 49.4 -0.3
PV19 IAmb IAmb 20 47 50.2
comp=Z,10nm,0.6s
PV17 East Wray Mesa 50.85 75 P P 20 47 49.5 -0.4
PV16 Nyswonger Mesa 50.86 75 P P 20 47 49.9 -0.1
PV16 IAmb IAmb 20 47 50.5
comp=Z,9.9nm,0.6s
PV11 David Mesa, Pa 50.89 75 P P 20 47 50.1 -0.2
PV18 Skein Mesa, Pa 50.91 75 P P 20 47 50.2 -0.2
PV18 IAmb IAmb 20 47 52.5
comp=Z,13nm,0.8s
PV12 Saucer Basin, 50.92 75 P P 20 47 50.7 +0.2
PV12 IAmb IAmb 20 47 51.2
comp=Z,10nm,0.6s
PV03 Paradox Valley 50.94 75 P P 20 47 50.3 -0.3
PV03 IAmb IAmb 20 47 51.0
comp=Z,14nm,0.8s
PV07 Paradox Valley 50.94 75 P P 20 47 50.6 0.0
PV07 IAmb IAmb 20 47 53.1
comp=Z,6.9nm,0.7s
N23A Red Feather La 50.97 71 P P 20 47 51.0 +0.1
baz=309
PV13 Radium Mtn., P 51.02 75 P P 20 47 50.9 -0.3
PV02 Paradox Valley 51.03 75 P P 20 47 51.0 -0.3
PV01 Paradox Valley 51.18 75 P P 20 47 52.6 +0.2
PV01 IAmb IAmb 20 47 53.0
comp=Z,7.2nm,0.8s
WUAZ Wupatki 51.19 80 P P 20 47 53.0 +0.5
baz=312,SNR=6.2
WUAZ Wupatki 51.19 80 P P 20 47 53.1 +0.5
WUAZ IAmb IAmb 20 47 53.7
comp=Z,6.6nm,0.6s
Y14A Wickenburg 51.25 82 P P 20 47 53.2 +0.4
SPX San Pedro Mart 51.70 87 P P 20 47 56.0 -0.5
ISCO Idaho Springs 51.87 72 P P 20 47 57.4 -0.2
baz=310
ISCO Idaho Springs 51.87 72 P P 20 47 57.8 +0.1
ISCO pmax pmax
comp=Z,7.0nm,1.3s
ISCO Idaho Springs 51.87 72 P P 20 47 57.8 +0.1
X16A Lo Mia Camp, P 51.88 81 P P 20 47 58.5 +0.8
X16A IAmb IAmb 20 47 59.6
comp=Z,7.7nm,0.8s
AGMN Agassiz Nation 51.98 58 P P 20 47 56.8 -1.1
baz=308
AGMN Agassiz Nation 51.98 58 P P 20 47 57.2 -0.8
AGMN IAmb IAmb 20 47 57.5
comp=Z,19nm,1.1s
XAN Xi'an 52.01 279 P P 20 47 58.5 0.0
XAN pmax pmax
comp=Z,5.0nm,1.3s
XAN pmax pmax
comp=Z,120nm,4.4s
W18A Petrified Fore 52.46 79 P P 20 48 02.4 +0.4
baz=312
S22A 4UR Ranch, Cre 52.48 74 P P 20 48 02.3 +0.2
baz=311,SNR=5.8
S22A 4UR Ranch, Cre 52.48 74 P P 20 48 02.1 0.0
ZALV Zalesovo Beam 52.57 312 P P 20 48 01.4 -0.9
comp=Z,0.4nm,0.3s,baz=60,slow=8.5,SNR=2.5
ZALV PcP **PcP 20 49 11.7 +0.8**
comp=Z,2.6nm,0.6s,baz=25,slow=3.1,SNR=9.7
ZALV ScP **ScP 20 52 58.1 +0.3**
comp=Z,1.1nm,0.8s,baz=67,slow=5.0,SNR=4.0
ZALV LR LR 21 10 20.3
comp=Z,26nm,18.6s,baz=29,slow=36
214A Organ Pipe Nat 52.71 84 P P 20 48 04.1 +0.5
baz=314,SNR=6.3
214A Organ Pipe Nat 52.71 84 P P 20 48 04.2 +0.6
214A IAmb IAmb 20 48 05.2
comp=Z,12nm,1.1s
B35A Bob, Littlefor 53.05 56 P P 20 48 04.9 -1.0
B35A IAmb IAmb 20 48 05.5
comp=Z,11nm,0.8s
SUMG Summit 53.26 13 P P 20 48 07.5 0.0
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 53.26 13 P P 20 48 07.5 0.0
SUMG IAmb IAmb 20 48 08.5
comp=Z,12nm,0.9s
SDCO Great Sand Dun 53.27 74 P P 20 48 08.0 0.0
baz=311,SNR=6.5
SDCO Great Sand Dun 53.27 74 P P 20 48 08.1 0.0
TUC Tucson 53.72 82 P P 20 48 11.9 +0.9
baz=314
LZH Lanzhou 53.73 284 *eP* **P 20 48 09.0 -2.2**
LZH pP pP 20 48 36.3 -0.9
LZH sP sP 20 48 47.3 -2.1
LZH PP **PP 20 50 12.1 -0.8**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,51nm,4.8s
GTA Gaotai 53.92 290 *i* P **P 20 48 13.0 +0.5**
GTA pP pP 20 48 38.5 -0.1
GTA sP sP 20 48 54.4 +3.7
GTA pmax pmax
comp=Z,6.0nm,0.8s
DGZ Jazzator, Alta 54.01 307 *i* **P P 20 48 15.1 +2.1**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ENH Enshi 54.24 275 P P 20 48 14.8 0.0
T25A Trinidad 54.32 73 P P 20 48 16.0 +0.4
baz=312
T25A Trinidad 54.32 73 P P 20 48 15.7 +0.1
T25A IAmb IAmb 20 48 16.8
comp=Z,15nm,1.1s
EYMN Ely 54.46 56 P P 20 48 15.1 -1.1
baz=310
EYMN Ely 54.46 56 P P 20 48 15.6 -0.6
ECSD EROS Data Cent 54.47 62 P P 20 48 15.0 -1.2
baz=311
ANMO Albuquerque 54.56 77 P P 20 48 17.4 0.0
comp=Z,0.1nm,0.3s,baz=277,slow=7.8,SNR=4.3
ANMO Albuquerque 54.56 77 P P 20 48 17.3 0.0
baz=313
ANMO Albuquerque 54.56 77 *ce* **P P 20 48 16.5 -0.8**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 54.56 77 P P 20 48 17.3 0.0
F36A Milaca 54.76 59 P P 20 48 17.4 -0.9
F36A IAmb IAmb 20 48 17.8
comp=Z,12nm,1.1s
LENM Lemitar 54.78 78 P P 20 48 20.2 +1.4
BNM Barren Site 55.00 78 P P 20 48 20.6 +0.1
E38A The Farm, Brul 55.31 57 P P 20 48 21.4 -0.8
121A Cookes Peak, D 55.40 80 P P 20 48 24.3 +1.0
baz=314
121A Cookes Peak, D 55.40 80 P P 20 48 24.4 +1.0
SPMN Marine on St. 55.56 59 P P 20 48 23.1 -0.9
baz=311
SPMN Marine on St. 55.56 59 P P 20 48 23.7 -0.4
CBKS Cedar Bluff 55.95 69 P P 20 48 26.6 -0.4
baz=312
D41A Chassel 56.54 55 P P 20 48 30.6 -0.4
COWI Conover 56.89 56 P P 20 48 32.8 -0.8
COWI IAmb IAmb 20 48 33.4
comp=Z,7.7nm,0.8s
G40A Rib Lake 56.90 57 P P 20 48 32.8 -0.8
G40A IAmb IAmb 20 48 34.6
comp=Z,18nm,1.4s
CD2 Chengdu 57.32 280 *eP* **P 20 48 34.5 -2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 57.39 349 P P 20 48 35.4 -1.3
comp=Z,1.2nm,0.6s,baz=42,slow=7.4,SNR=6.4
ARCES LR LR 21 13 05.6
comp=Z,34nm,20.8s,baz=245,slow=36
MNTX Cornudas Mount 57.45 79 P P 20 48 38.3 +0.6
baz=314,SNR=13
MNTX Cornudas Mount 57.45 79 P P 20 48 38.2 +0.6
MNTX IAmb IAmb 20 48 39.2
comp=Z,8.9nm,0.8s
AMTX Amarillo 57.47 74 P P 20 48 35.1 -2.8
baz=314
SCIA State Center 57.55 62 P P 20 48 36.9 -1.3
baz=313
SCIA State Center 57.55 62 P P 20 48 38.0 -0.2
KURK Kurchatov 57.56 312 *ce* **P P 20 48 38.3 +0.2**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 57.56 312 P P 20 48 38.0 -0.1
KURK **ScP 20 53 20.8 +1.0**
I40A Norwalk 57.61 59 P P 20 48 37.7 -0.9
KURBB Kurchatov Arra 57.67 312 ScP **ScP 20 53 20.7 +0.5**
comp=Z,0.9nm,0.9s,baz=44,slow=4.5,SNR=7.1
WMQ Urumqi 57.76 301 *eP* **P 20 48 41.1 +1.3**
WMQ pmax pmax
comp=Z,12nm,0.7s

WMQ pmax pmax
comp=Z,53nm,4.9s
E43A Lone Tree Farm 57.80 55 P P 20 48 39.6 -0.3
JFWS Jewell Farm 58.47 60 P P 20 48 43.2 -1.4
baz=313
JFWS Jewell Farm 58.47 60 P P 20 48 43.7 -1.0
JFWS pmax pmax
comp=Z,16nm,0.6s
JFWS Jewell Farm 58.47 60 P P 20 48 43.7 -1.0
KAN13 South Haven SW 58.48 69 P P 20 48 43.9 -0.9
MK31 Makanchi Array 58.51 307ceP P 20 48 44.3 -0.6
MK31 Makanchi Array 58.51 307 P P 20 48 44.1 -0.7
MKAR Makanchi Array 58.51 307 P P 20 48 43.9 -1.0
comp=Z,2.9nm,0.5s,baz=50,slow=6.1,SNR=43
MKAR Makanchi Array 58.51 307 P P 20 48 44.2 -0.7
MKAR Makanchi Array 58.51 307 P P 20 48 44.1 -0.7
I42A Draeger Farm, 58.51 58 P P 20 48 44.1 -0.8
L40A Anamosa 58.53 61 P P 20 48 43.9 -1.1
MAKZ Makanchi 58.65 307 P P 20 48 45.1 -0.8
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 58.65 307 P P 20 48 45.1 -0.8
MAKZ IAmb IAmb 20 48 46.0
comp=Z,4.4nm,0.6s
H43A Windswept, Lux 58.71 57 P P 20 48 45.5 -0.7
P38A Dawn 58.93 64 P P 20 48 46.4 -1.5
E46A Sault Ste Mari 59.16 53 P P 20 48 48.9 -0.4
WMOK Wichita Mounta 59.29 72 P P 20 48 50.1 -0.4
baz=314,SNR=5.9
WMOK Wichita Mounta 59.29 72 P P 20 48 50.1 -0.4
WMOK pmax pmax
comp=Z,7.0nm,0.8s
WMOK Wichita Mounta 59.29 72 P P 20 48 50.1 -0.4
WMOK IAmb IAmb 20 48 51.1
comp=Z,6.6nm,0.8s
OK029 Liberty Lake 59.34 70 P P 20 48 50.8 0.0
BRVK Borovoye 59.54 318ceP P 20 48 52.2 +0.4
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 59.54 318 P P 20 48 51.9 +0.1
N41A Harden Midland 59.66 62 P P 20 48 51.6 -1.3
P40A Paris 59.83 63 P P 20 48 52.7 -1.3
MATQ Matagami 59.93 47 P P 20 48 52.6 -1.9
baz=316
W35A Tecumseh 60.12 70 P P 20 48 55.8 -0.3
TX31 Lajitas Ar. Si 60.16 80 P P 20 48 56.7 +0.2
TX32 Lajitas Array 60.16 80 P P 20 48 56.6 0.0
TX32 IAmb IAmb 20 48 57.8
comp=Z,10nm,0.9s
TXAR Lajitas Array 60.16 80 P P 20 48 56.7 +0.1
comp=Z,6.4nm,0.7s,baz=295,slow=4.8,SNR=40
TXAR ScP ScP 20 53 31.6 -0.2
comp=Z,0.4nm,0.7s,baz=305,slow=4.4,SNR=3.7
TUL1 Leonard 60.22 69 P P 20 48 56.2 -0.6
baz=315
L44A Lake County Fo 60.23 59 P P 20 48 55.2 -1.4
baz=314
ABTX Abilene, Hawle 60.26 74 P P 20 48 57.1 0.0
baz=315
HDIL Hopedale 60.62 61 P P 20 48 58.4 -1.0
baz=315
HDIL Hopedale 60.62 61 P P 20 48 58.4 -1.0
SCHQ Schefferville 60.65 37 P P 20 48 59.1 -0.3
comp=Z,8.2nm,0.5s,baz=325,slow=5.5,SNR=11
SCHQ Schefferville 60.65 37 P P 20 48 59.0 -0.4
U38A Gravette 60.66 67 P P 20 48 58.4 -1.4
U38A IAmb IAmb 20 48 59.0
comp=Z,9.4nm,0.6s
M44A Midewin, Midew 60.71 59 P P 20 48 59.1 -0.9
LSQQ Lebel-sur-Quev 60.73 47 P P 20 48 57.8 -2.2
baz=316
HHAR Hobbs 61.03 67 P P 20 49 00.7 -1.6
HHAR IAmb IAmb 20 49 01.4
comp=Z,10nm,0.6s
P43A Skaggs, Pawnee 61.14 62 P P 20 49 01.7 -1.3
VLDQ Val d'Or 61.20 48 P P 20 49 00.5 -2.7
VLDQ IAmb IAmb 20 49 01.3
comp=Z,8.9nm,0.9s
CHGQ Chibougamau 61.27 45 P P 20 49 01.9 -1.8
baz=317
CCM Cathedral Cave 61.30 64 P P 20 49 01.6 -2.4
baz=315
MGMO Mountain Grove 61.37 66 P P 20 49 02.4 -2.2
MGMO IAmb IAmb 20 49 03.2
comp=Z,6.8nm,0.6s
ARU Arti 61.39 327d iP P 20 49 04.9 +0.5
ARU 20 49 43.9
ARU 20 51 18.2
ARU S S 20 57 27.6 +11
ARU SS SS 21 01 19.4 +1.9
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU Arti 61.39 327 P P 20 49 04.8 +0.5
X37A Clayton 61.40 70 P P 20 49 04.5 -0.2
X37A IAmb IAmb 20 49 05.3
comp=Z,16nm,0.9s
U40A Yellville 61.60 67 P P 20 49 04.4 -1.7
baz=315,SNR=8.1
U40A Yellville 61.60 67 P P 20 49 04.5 -1.6
U40A IAmb IAmb 20 49 05.9
comp=Z,12nm,0.9s
FVM French Village 61.81 64 P P 20 49 06.3 -1.2
FVM pmax pmax
comp=Z,5.0nm,0.7s
FVM French Village 61.81 64 P P 20 49 06.3 -1.2
FVM IAmb IAmb 20 49 07.9
comp=Z,5.4nm,0.7s
W39A Magazine 61.89 68 P P 20 49 07.2 -0.8
baz=315,SNR=5.2
W39A Magazine 61.89 68 P P 20 49 07.2 -0.8
W39A IAmb IAmb 20 49 07.7
comp=Z,9.4nm,0.8s
SFIN Lafayette 61.93 60 P P 20 49 07.5 -0.7
baz=316,SNR=12
SFIN Lafayette 61.93 60 P P 20 49 07.5 -0.7
WHTX Lake Whitney, 62.01 73 P P 20 49 08.5 -0.4
baz=316
WHTX Lake Whitney, 62.01 73 P P 20 49 08.4 -0.5
FCAR Ozark Folk Cen 62.34 66 P P 20 49 09.6 -1.5
P46A Rosedale 62.41 60 P P 20 49 10.6 -0.9
MIAR Mount Ida 62.47 68 P P 20 49 11.3 -0.6
baz=316,SNR=6.5
MIAR Mount Ida 62.47 68 P P 20 49 11.2 -0.7
MIAR pmax pmax
comp=Z,16nm,0.8s
MIAR Mount Ida 62.47 68 P P 20 49 11.2 -0.7
ALGO Algonquin Park 62.49 50 P P 20 49 09.8 -2.1
baz=317
OLIL Olney 62.56 62 P P 20 49 11.7 -0.7
Z38A Mt. Pleasant 62.57 70 P P 20 49 12.3 -0.2
I51A Listowel 62.62 53 P P 20 49 12.3 -0.5
baz=317
PBMO Poplar Bluff 62.67 65 P P 20 49 11.9 -1.3
PBMO IAmb IAmb 20 49 12.6
comp=Z,14nm,0.8s
WHAR Wooly Hollow 62.68 67 P P 20 49 11.7 -1.5
WHAR IAmb IAmb 20 49 12.7
comp=Z,16nm,1.1s
W41B Gary Mavity, V 62.78 67 P P 20 49 12.8 -1.2
baz=316,SNR=5.6
W41B Gary Mavity, V 62.78 67 P P 20 49 12.8 -1.2
W41B IAmb IAmb 20 49 13.6
comp=Z,12nm,0.7s
G54A Lake Saint Pet 62.88 50 P P 20 49 12.8 -1.7
baz=317
D55A Sainte-Anne-du 62.91 48 P P 20 49 13.1 -1.6
baz=318,SNR=6.8
X40A Basin Creek Fa 62.94 68 P P 20 49 14.7 -0.3
baz=316
X40A Basin Creek Fa 62.94 68 P P 20 49 14.9 -0.1
D56A ZEC Mazanza, M 63.22 47 P P 20 49 15.1 -1.6
baz=318
H53A Bobcaygeon 63.25 51 P P 20 49 15.4 -1.5
baz=317
USIN University of 63.35 62 P P 20 49 16.9 -0.8
WLAR White Oak Lake 63.35 69 P P 20 49 17.4 -0.3
E56A St. Veronique 63.47 48 P P 20 49 16.7 -1.7
baz=318
P48A Milroy 63.48 59 P P 20 49 17.1 -1.4
P48A pP pP 20 49 43.6 -1.7
O49A Covington 63.54 58 P P 20 49 19.0 +0.1
DELO Deloro Mine 63.76 51 P P 20 49 19.3 -1.0
DELO IAmb IAmb 20 49 45.8
comp=Z,15nm,1.3s
WCI Wyandotte Cave 63.91 61 P P 20 49 20.5 -0.9
baz=317
WCI Wyandotte Cave 63.91 61 P P 20 49 19.9 -1.5
WCI pmax pmax
comp=Z,11nm,1.0s
WCI Wyandotte Cave 63.91 61 P P 20 49 19.9 -1.5
WCI IAmb IAmb 20 49 21.3
comp=Z,11nm,1.0s
E57A Chemin Saint G 63.98 47 P P 20 49 19.9 -1.8
baz=319
N51A Ashland 64.03 56 P P 20 49 20.8 -1.3
baz=317
D58A Chemin du LacG 64.03 46 P P 20 49 20.1 -1.9
baz=319
T47A Sharon Grove 64.36 62 P P 20 49 23.7 -0.7
E58A La Victoria 64.40 47 P P 20 49 22.8 -1.6
baz=319
HKT Hockley 64.45 74 P P 20 49 25.4 +0.5
HKT pmax pmax
comp=Z,6.0nm,0.9s
HKT Hockley 64.45 74 P P 20 49 25.4 +0.5
G57A Newington 64.57 49 P P 20 49 23.6 -1.9
baz=319
WVT Waverly 64.59 63 P P 20 49 24.5 -1.3
baz=317
WVT Waverly 64.59 63 P P 20 49 25.0 -0.8
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 64.59 63 P P 20 49 25.0 -0.8
J55A Hilton 64.59 52 P P 20 49 25.1 -0.6
L54A Sinclairville 64.62 54 P P 20 49 25.1 -0.9
baz=318
K54A Basiliko Farm, 64.65 53 P P 20 49 25.3 -0.9
baz=318
BOOM Boomskoye usch 64.75 307 P P 20 49 27.2 +0.2
BOOM pmax pmax
comp=Z,4.0nm,0.7s
BOOM Boomskoye usch 64.75 307 P P 20 49 27.2 +0.2
WVNY West Valley, N 64.84 53 P P 20 49 26.9 -0.5
WVNY IAmb IAmb 20 49 34.6
comp=Z,15nm,1.1s
H57A Richville 64.86 50 P P 20 49 26.0 -1.5
baz=319
Q51A Peebles 64.91 58 P P 20 49 27.7 -0.2
R50A Paris 64.93 60 P P 20 49 27.4 -0.6
R50A IAmb IAmb 20 49 40.5
comp=Z,11nm,0.7s
MMNY Mt. Morris Dam 64.94 52 P P 20 49 27.2 -0.8
MMNY IAmb IAmb 20 49 28.1
comp=Z,12nm,0.7s
G58A Ormstown 64.97 48 P P 20 49 26.1 -2.0
baz=319
FINES FINESS Array B 65.00 346 P P 20 49 26.5 -1.5
comp=Z,1.4nm,0.6s,baz=22,slow=6.2,SNR=8.8
FINES FINESS Array B 65.00 346 P P 20 49 26.2 -1.8
F59A Saint Guilaume 65.02 47 P P 20 49 27.0 -1.5
baz=320
D60A Saint Jean D'O 65.04 45 P P 20 49 27.2 -1.4
baz=320
J56A Wolcott 65.05 51 P P 20 49 27.6 -1.1
baz=318
J56A Wolcott 65.05 51 P P 20 49 27.7 -1.0
J56A IAmb IAmb 20 49 28.4
comp=Z,12nm,0.6s
LONY Lake Ozonia 65.12 49 P P 20 49 27.3 -1.8
baz=319
I57A Carthage 65.13 50 P P 20 49 28.1 -1.2
baz=319
D61A St Aubert, Com 65.14 44 P P 20 49 28.1 -1.1
baz=320
N54A Moraine State 65.22 55 P P 20 49 28.2 -1.7
baz=318
N54A Moraine State 65.22 55 P P 20 49 28.8 -1.0
E60A Ste Agathe de 65.22 46 P P 20 49 28.2 -1.6
baz=320
K56A Middlesex 65.26 52 P P 20 49 29.0 -1.1
baz=318,SNR=5.4
PLAL Pickwick Lake 65.28 64 P P 20 49 29.1 -1.3
PLAL IAmb IAmb 20 49 29.6
comp=Z,10.0nm,0.6s
F60A Warwick 65.31 46 P P 20 49 28.6 -1.7
baz=320
J57A Williamstown 65.36 51 P P 20 49 28.8 -1.9
baz=319
G59A Clarenceville 65.42 48 P P 20 49 29.2 -1.9
baz=320
V48A Smith Brothers 65.43 63 P P 20 49 30.2 -1.0
V48A IAmb IAmb 20 49 31.0
comp=Z,6.1nm,0.6s
U49A Red Boiling Sp 65.44 62 P P 20 49 30.5 -0.8
CLTN Cedars of Leba 65.44 63 P P 20 49 30.8 -0.6
CLTN IAmb IAmb 20 49 31.6
comp=Z,18nm,0.9s
H58A Gabriels 65.47 49 P P 20 49 28.8 -2.6
baz=319
H59A Cadyville 65.52 48 P P 20 49 30.2 -1.5
baz=320
L56A Greenwood 65.56 53 P P 20 49 31.4 -0.7
baz=319,SNR=6.1
L56A Greenwood 65.56 53 P P 20 49 31.5 -0.7
T50A Nancy 65.58 61 P P 20 49 31.3 -0.9
T50A IAmb IAmb 20 49 31.9
comp=Z,9.2nm,0.6s
O54A Avella 65.60 56 P P 20 49 31.5 -0.8
baz=318
K57A Scipio Center 65.62 51 P P 20 49 31.1 -1.3
baz=319
I58A Old Forge 65.64 50 P P 20 49 31.2 -1.4
baz=319
MOQ Mont Orford 65.67 47 P P 20 49 30.4 -2.3
D62A Allapoint, All 65.72 44 P P 20 49 31.9 -1.1
baz=321
D62A Allapoint, All 65.72 44 P P 20 49 31.6 -1.3
D62A IAmb IAmb 20 49 32.5
comp=Z,9.1nm,0.7s
F61A St Evariste 65.73 46 P P 20 49 32.0 -1.1
baz=320
M56A Emporium 65.74 53 P P 20 49 31.8 -1.4
baz=318
M56A Emporium 65.74 53 P P 20 49 32.4 -0.9
M56A IAmb IAmb 20 49 32.9
comp=Z,8.8nm,0.6s
J58A Remsen 65.74 50 P P 20 49 32.4 -0.8
baz=319
E62A Clayton Lake 65.88 45 P P 20 49 32.8 -1.2
baz=321
E62A Clayton Lake 65.88 45 P P 20 49 33.2 -0.8
E62A IAmb IAmb 20 49 59.6
comp=Z,18nm,1.3s
Q53A Leroy 65.99 57 P P 20 49 33.8 -1.0
baz=318
L57A Andrews Acres 66.01 52 P P 20 49 33.9 -1.1
baz=319
K58A Earlville 66.02 51 P P 20 49 34.0 -1.0
baz=319
G61A St-Isidore-de- 66.02 47 P P 20 49 33.2 -1.8
baz=320
J59A Piesco 66.03 50 P P 20 49 33.7 -1.4
baz=320
J59A Piesco 66.03 50 P P 20 49 33.6 -1.5
J59A IAmb IAmb 20 49 49.5
comp=Z,25nm,1.4s
H60A Morristown 66.04 48 P P 20 49 34.0 -1.1
baz=320
I59A Olmsteadville 66.08 49 P P 20 49 34.1 -1.2
baz=320
O55A Ligonier 66.13 55 P P 20 49 33.9 -1.8
baz=318
R53A Hurricane 66.16 58 P P 20 49 35.0 -0.9
baz=318
D63A Stockholm 66.16 43 P P 20 49 34.4 -1.4
baz=322
F62A Pittston Farm, 66.25 45 P P 20 49 35.2 -1.1
baz=321
X48A Hartselle 66.25 64 P P 20 49 35.0 -1.5
X48A IAmb IAmb 20 49 35.7
comp=Z,6.5nm,0.4s
BINY Binghamton 66.28 51 P P 20 49 35.7 -0.9
baz=319
BINY Binghamton 66.28 51 P P 20 49 35.8 -0.9
BINY IAmb IAmb 20 50 03.1
comp=Z,22nm,1.4s
SWET Sewanee 66.31 63 P P 20 49 35.7 -1.3
SWET IAmb IAmb 20 49 36.3
comp=Z,9.8nm,0.5s
I60A Shoreham 66.32 49 P P 20 49 35.3 -1.5
baz=320
M57A Sunshine Farm, 66.37 53 P P 20 49 36.6 -0.7
baz=319
M57A Sunshine Farm, 66.37 53 P P 20 49 36.8 -0.4
M57A IAmb IAmb 20 49 37.3
comp=Z,11nm,0.7s
K59A Cooperstown 66.39 50 P P 20 49 36.3 -1.1
baz=320
H61A Lyndonville 66.42 47 P P 20 49 36.2 -1.2
baz=320
L58A Harry Jones Me 66.47 52 P P 20 49 36.9 -0.9
baz=319
ACCN Adirondack Com 66.49 49 P P 20 49 36.5 -1.5
ACCN IAmb IAmb 20 49 37.4
comp=Z,8.6nm,0.8s
E63A Oxbow 66.51 44 P P 20 49 37.0 -1.0
baz=322
E63A Oxbow 66.51 44 P P 20 49 36.4 -1.6
E63A IAmb IAmb 20 49 58.0
comp=Z,34nm,1.5s
G62A West of Eustis 66.52 46 P P 20 49 37.2 -0.9
baz=321
G62A West of Eustis 66.52 46 P P 20 49 36.9 -1.2
G62A IAmb IAmb 20 49 37.8
comp=Z,8.8nm,0.7s
SSPA Standing Stone 66.52 54 P P 20 49 37.5 -0.7
baz=319
SSPA Standing Stone 66.52 54 P P 20 49 37.3 -0.9
Z47A Carrollton 66.59 66 P P 20 49 37.8 -0.9
N57A Milroy 66.60 53 P P 20 49 37.7 -1.0
baz=319
ABKAR Akbulak array 66.62 321 P P 20 49 39.0 +0.3
ABKAR IAmb IAmb 20 49 39.7
comp=Z,5.6nm,0.6s
ABKAR Akbulak array 66.62 321 P P 20 49 38.9 +0.3
TZTN Tazewell 66.63 60 P P 20 49 38.2 -0.7
baz=318
TZTN Tazewell 66.63 60 P P 20 49 38.5 -0.5
TZTN IAmb IAmb 20 50 06.2
comp=Z,13nm,1.2s
LBNH Lisbon 66.64 48 P P 20 49 37.5 -1.4
baz=320
W50A Signal Mountai 66.66 62 P P 20 49 38.3 -0.9
W50A IAmb IAmb 20 49 38.6
comp=Z,8.6nm,0.7s
M58A Price's Panora 66.68 52 P P 20 49 38.1 -1.2
baz=319
J60A Lant Hill Farm 66.72 49 P P 20 49 38.2 -1.2
baz=320
H62A Milan 66.74 47 P P 20 49 38.2 -1.3
baz=321
H62A Milan 66.74 47 P P 20 49 38.4 -1.1
L59A Walton 66.75 51 P P 20 49 38.7 -1.0
baz=320
L59A Walton 66.75 51 P P 20 49 38.9 -0.7
L59A IAmb IAmb 20 49 39.5
comp=Z,14nm,0.9s
E64A Bridgewater 66.77 44 P P 20 49 38.6 -1.1
baz=322
F63A Nahmakanta, Br 66.78 45 P P 20 49 38.7 -1.0
baz=321
F63A Nahmakanta, Br 66.78 45 P P 20 49 39.0 -0.7
F63A IAmb IAmb 20 49 40.2
comp=Z,27nm,1.4s
T53A Wise 66.85 59 P P 20 49 39.2 -1.2
baz=318
NC204 NORSAR Array S 66.86 354 P P 20 49 39.2 -0.8
NC204 IAmb IAmb 20 49 45.3
comp=Z,19nm,1.4s
KK31 Karatay Array 66.91 311 P P 20 49 40.8 +0.2
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 66.91 311 P P 20 49 40.8 +0.2
KKAR Karatay Array 66.91 311 P P 20 49 41.0 +0.4
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 66.91 311 P P 20 49 41.0 +0.4
KKAR Karatay Array 66.91 311 P P 20 49 40.7 0.0
CPCT Cooper Cave 66.91 62 P P 20 49 39.7 -1.0
CPCT IAmb IAmb 20 49 40.3
comp=Z,6.2nm,0.5s
N58A Sunbury 66.95 53 P P 20 49 39.6 -1.3
baz=319
N58A Sunbury 66.95 53 P P 20 49 40.2 -0.7
N58A IAmb IAmb 20 49 41.0
comp=Z,14nm,1.1s
O57A Amberson 66.97 54 P P 20 49 40.0 -1.1
baz=319
F64A Sherman 66.98 44 P P 20 49 39.9 -1.1
baz=322
F64A Sherman 66.98 44 P P 20 49 39.9 -1.1
F64A IAmb IAmb 20 49 40.6
comp=Z,9.3nm,0.7s
FPAL Fort Paine 66.98 63 P P 20 49 40.0 -1.3
FPAL IAmb IAmb 20 49 40.8
comp=Z,9.5nm,0.6s
G63A Kingsbury 67.01 46 P P 20 49 39.9 -1.3
baz=321
Y49A Blount Mountai 67.04 64 P P 20 49 40.3 -1.4
Y49A IAmb IAmb 20 49 40.7
comp=Z,14nm,1.1s
NB201 NORSAR Array S 67.04 353 P P 20 49 40.4 -0.8
M59A Waymart 67.05 52 P P 20 49 40.4 -1.2
baz=320
NB2 NORSAR Subarra 67.06 353 P P 20 49 40.3 -1.0
comp=Z,0.4nm,0.5s,baz=7.9,slow=6.5
NOA NORSAR Array B 67.06 353 P P 20 49 40.5 -0.9
comp=Z,0.3nm,0.4s,baz=8.2,slow=6.2,SNR=10.0
NOA pP pwP 20 50 10.0 +1.9
comp=Z,2.4nm,1.0s,baz=9.2,slow=6.5,SNR=4.7
TKL Tuckaleechee C 67.16 61 P P 20 49 41.6 -0.7
comp=Z,5.3nm,0.6s,baz=170,slow=4.7,SNR=4.7
TKL Tuckaleechee C 67.16 61 P P 20 49 41.5 -0.9
H63A New Sharon 67.17 46 P P 20 49 40.5 -1.7
baz=321
G64A Maxfield 67.28 45 P P 20 49 42.1 -0.8
baz=322
T54A Tazewell 67.30 59 P P 20 49 42.9 -0.4
baz=318
LRAL Lakeview Retre 67.32 65 P P 20 49 41.6 -1.8
baz=318
N59A State Game Lan 67.36 52 P P 20 49 43.0 -0.6
baz=320
N59A State Game Lan 67.36 52 P P 20 49 43.0 -0.6
N59A IAmb IAmb 20 49 43.6
comp=Z,12nm,0.8s
O58A Lewisberry 67.39 54 P P 20 49 43.0 -0.7
baz=319
I63A Otisfield 67.40 47 P P 20 49 43.0 -0.7
baz=321
I63A Otisfield 67.40 47 P P 20 49 42.8 -1.0
I63A IAmb IAmb 20 49 42.9
comp=Z,17nm,1.1s
R56A Bull Pasture M 67.43 56 P P 20 49 42.8 -1.3
baz=319
L61A Hillsdale 1, H 67.46 50 P P 20 49 42.8 -1.3
baz=320
O59A Robesonia 67.62 53 P P 20 49 43.8 -1.4
baz=320
V53A Saluda 67.67 61 P P 20 49 45.2 -0.5
N60A Cedar Hill Far 67.72 52 P P 20 49 45.0 -0.7
baz=320
G65A Princeton 67.84 44 P P 20 49 45.6 -0.8
baz=322
G65A Princeton 67.84 44 P P 20 49 45.5 -0.9
G65A IAmb IAmb 20 50 13.3
comp=Z,17nm,1.2s
S56A Natural Bridge 67.89 57 P P 20 49 46.2 -0.7
baz=319
Q58A Fox Den Farm, 67.91 55 P P 20 49 45.5 -1.4
baz=319
H65A Eastbrook 67.94 45 P P 20 49 46.1 -0.9
baz=322
R57A Stanardsville 67.96 56 P P 20 49 46.7 -0.6
baz=319
U55A TA2, Sparta 68.00 59 P P 20 49 46.9 -0.8
baz=319
P59A Jarrettsville 68.03 54 P P 20 49 46.8 -0.9
baz=320
V54A Nebo 68.06 60 P P 20 49 47.6 -0.5
baz=319
BG3 Lake Jocassee 68.12 61 P P 20 49 47.8 -0.5
BG3 IAmb IAmb 20 49 48.1
comp=Z,6.7nm,0.6s
GGN Saint George 68.22 44 P P 20 49 48.0 -0.7
GGN IAmb IAmb 20 49 48.7
comp=Z,11nm,0.8s
EMMW East Machias 68.28 45 P P 20 49 48.5 -0.6
H66A Whiting 68.28 44 P P 20 49 48.3 -0.9

baz=322
SHL Shillong 68.39 284 P P 20 49 50.4 0.0
SHL pmax pmax
comp=Z,11nm,1.0s
SHL Shillong 68.39 284 P P 20 49 50.4 0.0
SHL lAmb lAmb 20 49 51.6
comp=Z,11nm,1.0s
V55A Taylorsville 68.40 59 P P 20 49 49.6 -0.4
baz=319
V55A Taylorsville 68.40 59 P P 20 49 49.5 -0.6
W54A Cherokee Point 68.45 61 P P 20 49 49.7 -0.7
baz=319
U56A King 68.47 58 P P 20 49 50.0 -0.5
baz=319
LMN Caledonia Moun 68.50 42 P P 20 49 49.4 -1.1
LMN lAmb lAmb 20 49 49.9
comp=Z,9.9nm,0.7s
T57A Hurt 68.57 57 P P 20 49 50.3 -0.9
baz=319
O61A Allentown 68.59 52 P P 20 49 50.3 -0.9
baz=320
S58A Poland Farm, P 68.73 56 P P 20 49 51.0 -1.1
baz=320
X54A Belton 68.75 61 P P 20 49 51.9 -0.4
baz=319
V56A Mocksville 68.81 59 P P 20 49 51.9 -0.8
baz=319
KMSC Kings Mountain 68.87 60 P P 20 49 51.9 -1.1
baz=319
KMSC Kings Mountain 68.87 60 P P 20 49 52.2 -0.8
KMSC lAmb lAmb 20 49 52.9
comp=Z,9.7nm,0.5s
T58A Grand View Acr 68.98 57 P P 20 49 52.3 -1.4
baz=320
GOGA Godfrey 69.01 63 P P 20 49 52.6 -1.2
baz=319
HODGE Hodges 69.05 61 P P 20 49 53.7 -0.5
HODGE lAmb lAmb 20 49 54.1
comp=Z,12nm,0.5s
BTK Batken 69.11 309 P P 20 49 55.1 +0.6
BTK pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 69.11 309 P P 20 49 55.1 +0.6
CHTO Chiang Mai 69.11 274 P P 20 49 54.9 +0.1
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO Chiang Mai 69.11 274 P P 20 49 54.9 +0.1
X55A Gracelyn & Ava 69.21 61 P P 20 49 54.3 -0.9
baz=319,SNR=6.7
S60A Water View 69.37 55 P P 20 49 53.8 -2.2
baz=320
CM31 Chiang Mai Arr 69.38 274 P P 20 49 56.7 +0.3
CMAR Chiang Mai Arr 69.38 274 P P 20 49 56.8 +0.3
comp=Z,3.0nm,0.7s,baz=27,slow=7.0,SNR=27
CMAR LR LR 21 23 17.0
comp=Z,5.2nm,18.3s,baz=180,slow=38
T59A Double "B" Far 69.47 56 P P 20 49 56.1 -0.6
baz=320
X56A White Oak 69.52 60 P P 20 49 56.4 -0.7
baz=319
JSC Jenkinsville 69.56 60 P P 20 49 56.7 -0.6
JSC pmax pmax
comp=Z,5.0nm,0.5s
JSC Jenkinsville 69.56 60 P P 20 49 56.7 -0.6
W57A Gilead 69.58 59 P P 20 49 56.9 -0.5
baz=320
W57A Gilead 69.58 59 P P 20 49 56.5 -0.8
W57A lAmb lAmb 20 50 18.4
comp=Z,18nm,1.4s
HAL Halifax 69.98 42 P P 20 49 58.6 -1.1
HAL pmax pmax
comp=Z,32nm,1.4s
HAL Halifax 69.98 42 P P 20 49 58.6 -1.1
HAL lAmb lAmb 20 50 07.8
comp=Z,32nm,1.4s
V59A Middlesex 70.04 57 P P 20 49 59.3 -0.9
baz=320
W58A Raeford 70.08 59 P P 20 49 59.8 -0.6
baz=320
GAR Garm 70.17 308 P P 20 50 01.5 +0.3
GAR lAmb lAmb 20 50 03.3
comp=Z,23nm,1.1s
X58A Rowland 70.38 59 P P 20 50 01.1 -1.1
baz=320
Z57A Bowman 70.60 61 P P 20 50 03.9 +0.2
baz=320
CHGR Chuyangaron 71.00 309 P P 20 50 06.6 +0.5
CHGR lAmb lAmb 20 50 08.0
comp=Z,22nm,0.9s
NIL Nilore 72.85 303 P P 20 50 17.9 +0.7
NIL pmax pmax
comp=Z,7.0nm,0.6s
NIL Nilore 72.85 303 P P 20 50 17.9 +0.7
KBL Kabul 74.31 306 P P 20 50 25.7 -0.2
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 74.31 306 P P 20 50 25.7 -0.2
AKASG Malin Array Be 74.63 340 P P 20 50 26.0 -1.2
comp=Z,1.4nm,0.3s,baz=21,slow=6.5,SNR=7.7
AKASG LR LR 21 26 15.3
comp=Z,9.3nm,18.4s,baz=5.0,slow=38
AKASG Malin Array Be 74.63 340 P P 20 50 26.4 -0.8
AKASG pmax pmax
comp=Z,1.0nm,1.2s
AKASG Malin Array Be 74.63 340 P P 20 50 26.4 -0.8
AKBB Malin Array Si 74.63 340 *ce* P P 20 50 27.6 +0.4
MTN Manton Dam 76.35 228 P P 20 50 38.2 +0.8
GEYT Alibeck 76.68 316 P P 20 50 39.8 +0.7
comp=Z,2.7nm,0.7s,baz=13,slow=9.4,SNR=8.4
SORM Soroca 77.25 340 ⇓P P 20 50 40.7 -1.4
SORM Soroca 77.25 340 ⇓P P 20 50 40.7 -1.4
KIV Kislovodsk 77.30 329 *eP* P 20 50 44.8 +2.2
KIV pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 77.44 329 P P 20 50 43.9 +0.7
comp=Z,2.2nm,0.8s,baz=67,slow=3.0,SNR=8.8
KBZ Khabaz 77.44 329 *ce* P P 20 50 44.8 +1.6
ZEI Tsey 77.95 328 *eP* P 20 50 45.8 -0.6
ZEI pmax pmax
comp=Z,4.0nm,0.6s
BUR08 Bucovina Ar. S 78.35 342 P P 20 50 48.3 -0.1
BURAR Bucovina Array 78.38 342 ⇓P P 20 50 48.5 0.0
BURAR Bucovina Array 78.38 342 ⇓P P 20 50 48.5 0.0
BURAR Bucovina Array 78.38 342 P P 20 50 48.1 -0.4
VYHS Vyhne 78.60 346 *eP* P 20 50 49.8 +0.2
VYHS Vyhne 78.60 346 *eP* P 20 50 49.8 +0.2
VRI Vrincioaia 79.75 340 ⇓P P 20 50 55.7 -0.2
VRI Vrincioaia 79.75 340 ⇓P P 20 50 55.7 -0.2
KNRA Kununurra 79.92 228 P P 20 50 57.7 +0.6
KNRA lAmb lAmb 20 50 58.4
comp=Z,11nm,0.8s
ARTV Artvin 80.03 328 P P 20 50 58.2 +0.4
MLR Muntele Rosu 80.27 341 ⇑P P 20 51 00.4 +1.5
MLR Muntele Rosu 80.27 341 ⇑P P 20 51 00.4 +1.5
VOIR 80.50 341 ⇑P P 20 51 00.2 +0.1
VOIR 80.50 341 ⇑P P 20 51 00.2 +0.1
GZR Gura Zlata 80.97 343 ⇓P P 20 51 02.3 -0.3
GZR Gura Zlata 80.97 343 ⇓P P 20 51 02.3 -0.3
WB0 Warramunga Arr 81.06 222 P P 20 51 03.3 +0.2
WR0 Warramunga Arr 81.17 221 P P 20 51 04.0 +0.3
WR0 lAmb lAmb 20 51 04.6
comp=Z,9.5nm,0.8s
WRAB Tennant Creek 81.22 222 *ce* P P 20 51 04.5 +0.5
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRAB Tennant Creek 81.22 222 P P 20 51 04.4 +0.4
WRAB lAmb lAmb 20 51 19.8
comp=Z,9.2nm,0.7s
WB2 Warramunga Arr 81.23 222 P P 20 51 04.3 +0.2
WB2 lAmb lAmb 20 51 05.1
comp=Z,11nm,0.8s
WRA Warramunga Arr 81.24 222 P P 20 51 04.1 +0.1
comp=Z,7.4nm,0.7s,baz=31,slow=6.3,SNR=68
WRA PKKPbc **PKKPbc** 21 09 38.6 +1.0
comp=Z,0.2nm,0.5s,baz=214,slow=2.3,SNR=5.9
WRA Warramunga Arr 81.24 222 P P 20 51 03.7 -0.3
FITZ Fitzroy Crossi 83.49 230 P P 20 51 16.9 +1.1
FITZ lAmb lAmb 20 51 17.6
comp=Z,15nm,0.9s
BRTR Keskin Array B 83.88 334 P P 20 51 17.6 -0.2
comp=Z,1.0nm,0.5s,baz=43,slow=2.9,SNR=5.9
BRTR Keskin Array B 83.88 334 P P 20 51 16.8 -1.0
AS31 Alice Springs 84.74 220 P P 20 51 22.9 +0.8
ASAR Alice Springs 84.75 220 P P 20 51 22.8 +0.7
comp=Z,5.1nm,0.8s,baz=22,slow=5.5,SNR=50
ASAR Alice Springs 84.75 220 P P 20 51 22.7 +0.6
STKA Stephens Creek 89.44 211 P P 20 51 46.2 +1.8
comp=Z,8.1nm,0.7s,baz=342,slow=5.9,SNR=17
STKA Stephens Creek 89.44 211 P P 20 51 46.3 +1.8
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 89.44 211 P P 20 51 46.3 +1.8
TORD Torodi Ar. Bea 115.27 357 PKP PKiKP 20 57 28.0 -1.1
comp=Z,1.0nm,0.5s,baz=354,slow=2.1,SNR=22
TORD Torodi Ar. Bea 115.27 357 PKiKP 20 57 27.8 -1.3
SIV San Ignacio 121.05 76 PKP PKPdf 20 57 39.8 -0.3
comp=Z,1.2nm,0.4s,baz=306,slow=4.2,SNR=6.7
DBIC Dimbokro 121.68 4 PKP PKPdf 20 57 41.1 -0.4
comp=Z,1.6nm,0.5s,baz=357,slow=1.7,SNR=5.5
DBIC Dimbokro 121.68 4 PKPdf 20 57 39.3 -2.2
CPUP Villa Florida 131.12 81 SKPbc SKPbc 21 01 13.4 -0.2
comp=Z,2.1nm,0.7s,baz=282,slow=4.6,SNR=4.7
CPUP Villa Florida 131.12 81 SKPbc 21 01 13.0 -0.6
MAW Mawson 145.84 218 PKPbc PKPbc 20 58 25.6 +0.3
comp=Z,6.4nm,0.7s,baz=72,slow=5.4,SNR=22
MAW Mawson 145.84 218 PKPbc 20 58 25.5 +0.1
BOSA Boshof 149.49 309 PKPbc PKiKP 20 58 37.3 -0.4
comp=Z,4.7nm,0.6s,baz=17,slow=2.5,SNR=16
BOSA Boshof 149.49 309 PKP2 PKPbc 20 58 36.2 -0.4
BOSA Boshof 149.49 309 PKPbc 20 58 36.2 -0.4
VNA3 Neumayer Olymp 160.13 172 PKPab PKPab 20 59 26.4 +0.5
VNA2 Neumayer--Watz 160.61 174 PKPab PKPab 20 59 28.5 +0.5

*BJI **16** 20:51:02.7±0.0,24.°93N×97.°93E,h6km,mB4.2/4, mb4.1/17,ML3.9/7,Ms3.9/10,Ms7 3.8/13*
*NEIC **16** 20:51:03.1±1.7,24.°79N±0.°07×97.°69E±0.°08,h10km±1km, mb4.3/12,Error ellipse: s-maj=16.2km s-min=5.0km az=227.0*
*IDC **16** 20:51:04.0±5.4,24.°86N×97.°75E,h20km±38km, mb3.5/6, mb1 3.8/7,mb1mx3.5/34,mbtmp3.7/7,ML4.5/1,MS3.4/4, Ms1 3.5/4,ms1mx3.0/33,Error ellipse: s-maj=53.4km s-min=17.8km az=66.0*

ISC 16 20:51:03.0±0.5,24.°76N±0.°04×97.°68E±0.°05,h10km,n64, σ1§67/69,mb4.0/12,MS3.5/4,1C-1D,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**3.05**	**328**	*eP*		**Pn**		**20 51 51.5**	**+0.3**
MOKO	**MOKOCHONG**	**3.26**	**299**	*eP*		**Pn**		**20 51 56.7**	**+2.5**
KOHI	**KOHIMA**	**3.38**	**287**	*eP*		**Pn**		**20 51 59.1**	**+3.2**
JORH	**JORHAT**	**3.67**	**303**	*eP*		**Pn**		**20 52 02.3**	**+2.5**
DIBR	**DIBRUGARH**	**3.67**	**318**	*eP*		**Pn**		**20 51 59.3**	**-0.5**
DIBR				*ex*		x		20 52 32.9	
ZIRO	**ZIRO**	**4.41**	**309**	*eP*		**Pn**		**20 52 09.4**	**-0.8**
ZIRO				*ex*		x		20 52 25.2	
SILR	**SILCHAR**	**4.43**	**271**	*eP*		**Pn**		**20 52 14.4**	**+4.0**
KMI	**Kunming**	**4.61**	**84**	*i*	*Pg*	**Pb**		**20 52 24.5**	**+0.5**
KMI					Sg	**Sb**		**20 53 21.9**	**+2.2**
KMI					smax	smax			
	comp=N,150nm,0.9s								
KMI					smax	smax			
	comp=E,160nm,1.1s								
KMI					LR	LR			
	comp=E,930nm,6.8s								
KMI					LR	LR			
	comp=Z,1μm,12.7s								
KMI	**Kunming**	**4.61**	**84**		Pn	**Pn**		**20 52 13.5**	**+0.6**
KMI					Pg	**Pb**		**20 52 24.2**	**+0.1**
TEZP	**TEZPUR**	**4.78**	**294**	*eP*		**Pn**		**20 52 15.4**	**+0.4**
CRAI	**Chiangrai**	**5.15**	**151**		P	**Pn**		**20 52 20.3**	**+0.2**
CRAI					S	**Sg**		**20 53 46.9**	**-1.5**
SHL	**Shillong**	**5.32**	**280**	*eP*		**Pn**		**20 52 23.6**	**+1.0**
SHL					lAmb	lAmb		20 52 26.1	
	comp=Z,10.0nm,0.5s								
SHL	**Shillong**	**5.32**	**280**		Pn	**Pn**		**20 52 23.4**	**+0.8**
GUWA	**GUWAHATI**	**5.60**	**286**	*eP*		**Pn**		**20 52 26.9**	**+0.6**
GUWA					lAmb	lAmb		20 52 29.9	
	comp=Z,12nm,0.8s								
PAYA	**Payao**	**5.74**	**159**		P	**Pn**		**20 52 29.4**	**+1.1**
PAYA					S	**Sg**		**20 54 07.5**	**0.0**
CHTO	**Chiang Mai**	**6.03**	**169**		Pn	**Pn**		**20 52 33.7**	**+1.4**
CMMT	**Chiang Mai**	**6.03**	**169**		P	**Pn**		**20 52 33.7**	**+1.4**
CMMT					S	**Sg**		**20 54 15.5**	**-1.2**
CM31	**Chiang Mai Arr**	**6.38**	**169**			**Pn**		**20 52 38.9**	**+1.8**
CMAR	**Chiang Mai Arr**	**6.38**	**169**		Pn	**Pn**		**20 52 39.0**	**+1.9**
	comp=Z,2.4nm,0.3s,baz=345,slow=13,SNR=75								
CMAR					Pg	**Pg**		**20 53 01.7**	**-3.4**
	comp=Z,2.2nm,0.3s,baz=344,slow=18,SNR=21								
CMAR					Lg	Lg		20 54 29.4	
	comp=Z,4.7nm,0.3s,baz=355,slow=30,SNR=4.9								
CMAR	**Chiang Mai Arr**	**6.38**	**169**		Pn	**Pn**		**20 52 38.8**	**+1.7**
CM15	**Chiang Mai Arr**	**6.38**	**169**		P	**Pn**		**20 52 38.8**	**+1.7**
CM09	**Chiang Mai Arr**	**6.40**	**169**		P	**Pn**		**20 52 39.5**	**+2.2**
CM02	**Chiang Mai Arr**	**6.40**	**169**		P	**Pn**		**20 52 39.2**	**+1.8**
CM02					S	**Sg**		**20 54 26.9**	**-1.7**
CM13	**Chiang Mai Arr**	**6.41**	**170**		P	**Pn**		**20 52 39.4**	**+1.9**
CM01	**Chiang Mai Arr**	**6.42**	**169**		P	**Pn**		**20 52 39.7**	**+2.0**
CM05	**Chiang Mai Arr**	**6.43**	**169**		P	**Pn**		**20 52 39.5**	**+1.7**
CM04	**Chiang Mai Arr**	**6.44**	**169**		P	**Pn**		**20 52 39.9**	**+2.0**
PHRA	**Phrae**	**6.66**	**159**		P	**Pn**		**20 52 42.9**	**+2.0**
LSA	**Lhasa**	**7.62**	**312**			**Pn**		**20 52 55.1**	**+0.7**
GYA	**Guiyang**	**8.28**	**76**	⇓	P	**Pn**		**20 53 00.8**	**-2.5**
GYA					S	**Sn**		**20 54 40.3**	**+3.3**
GYA					smax	smax			
	comp=Z,13nm,1.9s								
GYA					smax	smax			
	comp=Z,7.0nm,2.1s								
GYA					LR	LR			
	comp=Z,480nm,6.9s								
GYA					LR	LR			
	comp=Z,630nm,7.3s								
GTK	**Tadong**	**8.55**	**289**	*eP*		**Pn**		**20 53 06.8**	**-0.3**
LZH	**Lanzhou**	**12.47**	**24**	*eP*		**Pn**		**20 54 01.6**	**+0.9**
LZH					pP			20 54 08.0	
LZH					sP			20 54 09.8	
LZH					PP	**PnPn**		**20 54 11.3**	**+2.6**
LZH					pmax	pmax			
	comp=Z,19nm,1.0s								
LZH					LR	LR			
	comp=Z,410nm,10.8s								
LZH					LR	LR			
	comp=Z,390nm,11.4s								
QIZ	**Qiongzhong**	**12.64**	**114**		P	**Pn**		**20 54 03.4**	**+0.4**
QIZ					S	**Sn**		**20 56 25.6**	**+1.7**
QIZ					LR	LR			
	comp=Z,230nm,6.0s								
QIZ					LR	LR			
	comp=Z,280nm,11.6s								
QIZ					LR	LR			
	comp=Z,360nm,9.2s								
GTA	**Gaotai**	**14.72**	**7**	*eP*		**Pn**		**20 54 27.3**	**-4.1**
GTA					pP	P		20 54 30.4	-7.2
GTA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
GTA					LR	LR			
	comp=Z,210nm,10.2s								
GTA					LR	LR			
	comp=Z,450nm,11.3s								
GTA					LR	LR			
	comp=Z,270nm,11.3s								
NGP	**Nagpur**	**17.53**	**262**	*ex*		**P**		**20 55 12.1**	**+3.4**
BHPL	**Bhopal**	**18.57**	**270**	*eP*		**Pn**		**20 55 22.5**	**+2.1**
BHPL					lAmb	lAmb		20 55 26.3	
	comp=Z,43nm,1.6s								
SMLA	**Simla**	**19.19**	**294**	*eP*		**P**		**20 55 27.2**	**+0.3**
HHC	**Hu-ho-hao-te**	**19.80**	**33**	*eP*		**Pn**		**20 55 35.8**	**+0.6**
HHC					pmax	pmax			
	comp=Z,13nm,0.9s								
HHC					pmax	pmax			
	comp=Z,93nm,7.2s								
HHC					LR	LR			
	comp=Z,190nm,9.7s								
HHC					LR	LR			
	comp=Z,220nm,8.1s								
HHC					LR	LR			
	comp=Z,270nm,12.0s								
DHRM	**DHARAMSHALA**	**20.20**	**297**	*eP*		**P**		**20 55 38.6**	**+0.4**
DHRM					lAmb	lAmb		20 55 43.0	
	comp=Z,27nm,1.1s								
WMQ	**Urumqi**	**20.70**	**339**	*eP*		Pn		20 55 45.9	+0.2
WMQ					pmax	pmax			
	comp=Z,10.0nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,37nm,3.7s								
NIL	**Nilore**	**23.05**	**298**		P	**P**		**20 56 08.3**	**-0.3**
NIL					lAmb	lAmb		20 56 11.6	
	comp=Z,7.9nm,0.8s								
SONM	**Songino Array**	**24.05**	**15**		P	**P**		**20 56 16.6**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=186,slow=13,SNR=5.1								
SONM	**Songino Array**	**24.05**	**15**		P	**P**		**20 56 16.8**	**-1.5**
BOOM	**Boomskoye usch**	**25.19**	**320**		P	**P**		**20 56 29.5**	**+0.6**
BOOM					lAmb	lAmb		20 56 31.4	
	comp=Z,9.3nm,1.0s								
MK31	**Makanchi Array**	**25.20**	**335**		P	**P**		**20 56 28.4**	**-0.2**
MK31					lAmb	lAmb		20 56 43.4	
	comp=Z,3.3nm,0.9s								
MKAR	**Makanchi Array**	**25.20**	**335**		P	**P**		**20 56 27.9**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=144,slow=9.6,SNR=17								
MKAR	**Makanchi Array**	**25.20**	**335**		P	**P**		**20 56 28.1**	**-0.6**
MAKZ	**Makanchi**	**25.33**	**334**		P	**P**		**20 56 30.7**	**+0.8**
MAKZ					lAmb	lAmb		20 56 32.7	
	comp=Z,4.0nm,1.1s								
KBL	**Kabul**	**26.65**	**298**		P	**P**		**20 56 42.9**	**+0.7**
KBL					lAmb	lAmb		20 56 47.9	
	comp=Z,8.7nm,0.9s								
GAR	**Garm**	**27.11**	**308**		P	**P**		**20 56 46.7**	**+0.5**
BTK	**Batken**	**27.20**	**311**		P	**P**		**20 56 46.9**	**0.0**
BTK					lAmb	lAmb		20 56 53.4	
	comp=Z,10.0nm,1.1s								
ZAA0	**Zalesovo Array**	**30.70**	**345**		P	**P**		**20 57 18.4**	**+0.6**
ZALV	**Zalesovo Beam**	**30.70**	**345**		P	**P**		**20 57 16.7**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=163,slow=7.9,SNR=6.4								
ZALV	**Zalesovo Beam**	**30.70**	**345**		P	**P**		**20 57 17.6**	**-0.2**
ABKAR	**Akbulak array**	**38.22**	**320**		P	**P**		**20 58 22.0**	**-0.8**
ABKAR	**Akbulak array**	**38.22**	**320**		P	**P**		**20 58 22.2**	**-0.7**
ABKAR					lAmb	lAmb		20 58 23.5	
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**55.11**	**302**		LR	LR		21 29 37.4	
	comp=Z,18nm,19.4s,baz=8.5,slow=42								
WRA	**Warramunga Arr**	**56.98**	**138**		P	**P**		**21 00 48.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=328,slow=7.5,SNR=6.4								
ASAR	**Alice Springs**	**59.59**	**141**		P	**P**		**21 01 06.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=330,slow=7.3,SNR=2.3								
SPITS	**Spitsbergen Ar**	**64.16**	**347**		LR	LR		21 36 11.1	
	comp=Z,31nm,18.1s,baz=215,slow=42								
NOA	**NORSAR Array B**	**66.98**	**328**		LR	LR		21 32 47.1	
	comp=Z,21nm,19.2s,baz=325,slow=37								
GERES	**GERESS Array B**	**67.94**	**315**		P	**P**		**21 02 00.9**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=76,slow=5.6,SNR=6.0								
STU	**Stuttgart**	**70.84**	**316**		P	**P**		**21 02 19.5**	**-0.5**
DAVOX	**Davos/Dischmat**	**70.94**	**313**		LR	LR		21 39 44.1	
	comp=Z,66nm,18.0s,baz=66,slow=41								

*SJA **16** 21:05:51.4±0.3,24.°09S×64.°84W,h13km±4km,ML4.3, MW4.0*
*NEIC **16** 21:05:54.5±4.4,24.°18S±0.°04×64.°81W±0.°08,h48km±15km, Error ellipse: s-maj=11.2km s-min=6.1km az=97.0*

ISC 16 21:05:51.5±0.9,24.°15S±0.°06×64.°78W±0.°05,h10km,n34, σ1§70/35,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.27**	**255**	*eP*		**Pg**		**21 05 57.8**	**+0.6**
AZAP				*eS*		**Sg**		**21 06 02.1**	**+1.2**
AZAP					IAML			21 06 02.9	
	comp=Z,91μm,0.3s								
ASTB	**Santa Barbara**	**0.36**	**56**	*eP*		**Pg**		**21 05 59.6**	**+0.9**
SLA	**San Lorenzo**	**0.87**	**229**	*eP*		**Pg**		**21 06 08.6**	**+0.3**
SLA				*eS*		**Sb**		**21 06 21.3**	**+0.7**
SLA					IAML			21 06 23.4	
	comp=Z,4μm,0.5s								
YJA	**Yavi**	**2.08**	**341**	*eP*		**Pn**		**21 06 28.2**	**+1.3**
YJA				*eS*		**Sn**		**21 06 55.3**	**+2.2**
LVC	**Limon Verde**	**4.09**	**291**		Pn	**Pn**		**21 06 52.9**	**-1.6**
LVC					Pg	**Pg**		**21 07 09.5**	**-0.5**
PB15	**IPOC Station P**	**4.40**	**281**		Pn	**Pn**		**21 07 01.6**	**+3.0**
GO02	**Mina Guanaco**	**4.49**	**256**		Pn	**Pn**		**21 06 58.7**	**-1.2**
GO02					Pg	**Pg**		**21 07 16.9**	**-0.8**
PB06	**IPOC Station P**	**4.63**	**287**		Pn	**Pn**		**21 07 01.9**	**+0.2**
PB09	**IPOC Station P**	**4.73**	**299**		Pn	**Pn**		**21 07 06.1**	**+2.9**
PB14	**IPOC Station P**	**5.15**	**264**			**Pn**		**21 07 10.7**	**+1.7**
PB04	**IPOC Station P**	**5.26**	**289**		Pg	Pb		21 07 29.7	+6.0
PB07	**IPOC Station P**	**5.29**	**296**			**Pn**		**21 07 12.1**	**+1.3**
PB10	**IPOC Station P**	**5.33**	**276**		Pn	**Pn**		**21 07 12.4**	**+1.3**
PB01	**IPOC Station P**	**5.34**	**305**			**Pn**		**21 07 14.2**	**+2.8**
AC01	**Pan de Azucar**	**5.63**	**248**		Pn	**Pn**		**21 07 14.1**	**-1.3**
PB08	**IPOC Station P**	**5.69**	**314**			**Pn**		**21 07 14.0**	**-2.5**
PATCX	**Punta Patache**	**5.97**	**303**		Pn	**Pn**		21 07 15.9	-4.2
GO01	**Chusmiza**	**6.06**	**317**			**Pn**		**21 07 19.9**	**-1.7**
TA01	**Diego Aracena**	**6.14**	**304**		Pn	**Pn**		**21 07 21.1**	**-1.2**
PB11	**IPOC Station P**	**6.29**	**313**			**Pn**		**21 07 23.4**	**-1.1**
MNMC	**Minye Minye**	**6.71**	**317**			**Pn**		**21 07 32.6**	**+2.2**
PSGCX	**Pisagua**	**6.72**	**311**		Pn	**Pn**		**21 07 30.6**	**+0.2**
AC05	**El Transito**	**6.78**	**225**		Pn	**Pn**		**21 07 32.5**	**+1.2**
CPUP	**Villa Florida**	**7.08**	**109**			**Pn**		**21 07 34.7**	**-0.6**
PB16	**IPOC Station P**	**7.28**	**322**			**Pn**		**21 07 41.5**	**+3.1**
AP01	**Chacalluta**	**7.75**	**317**		Pn	Pn		21 07 41.5	-2.8
GO04	**Tololo Observa**	**8.04**	**220**		Pn	**Pn**		**21 07 49.8**	**+1.1**
LPAZ	**La Paz**	**8.43**	**337**		Pn	**Pn**		**21 07 53.1**	**-1.2**
CO03	**El Pedregal**	**8.48**	**217**		Pn	**Pn**		**21 07 53.7**	**-0.8**
CO02	**Combarbal**	**8.93**	**217**		Pn	**Pn**		**21 08 01.4**	**+0.7**
SAML	**Samuel**	**15.20**	**6**		Pn	**Pn**		**21 09 22.8**	**-3.5**
LC01	**Cunco**	**15.89**	**201**		Pn	Pn		21 09 27.2	-8.0
LC01					lAmb	lAmb		21 09 37.3	
	comp=Z,5.8nm,1.1s								
BDFB	**Brasilia**	**17.88**	**65**		P	**Pn**		**21 10 01.6**	**+0.9**
OTAV	**Otavalo**	**27.64**	**329**		P	**P**		**21 11 39.4**	**-0.7**
OTAV					lAmb	lAmb		21 11 47.2	
	comp=Z,2.0nm,0.6s								

*NEIC **16** 21:21:52.4±1.3,11.°7N±0.°1×144.°0E±0.°1,h52km±8km, mb4.8/21,Error ellipse: s-maj=21.1km s-min=14.7km az=106.0*
*IDC **16** 21:21:59.6±1.2,12.°28N×143.°97E,h95km±7km,mb3.8/8, mb1 4.0/8,mb1mx3.6/39,mbtmp4.1/8,MS3.0/2,Ms1 3.0/2, ms1mx2.6/36,Error ellipse: s-maj=27.2km s-min=11.1km az=137.0*

ISC 16 21:21:51.1±0.9,11.°7N±0.°1×144.°0E±0.°1,h35km,n37, σ1§49/38,mb4.7/18,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.07**	**24**		P	**Pn**		**21 22 24.8**	**+1.4**
	44nm,0.3s,baz=153,slow=4.6,SNR=24								
GUMO					S	**Sn**		**21 22 47.5**	**-0.6**
	57nm,0.3s,baz=36,slow=23,SNR=6.0								
GUMO					LR	LR		21 23 14.4	
	comp=Z,143nm,21.2s,baz=240,slow=48								
GUMO	**Guam**	**2.07**	**24**			**Pn**		**21 22 24.9**	**+1.4**
GUMO						**Sn**		**21 22 49.2**	**+1.2**
ANA2	**Anatahan**	**4.92**	**20**		Pn	**Pn**		**21 23 02.4**	**-0.2**
PATS	**Pohnpei**	**14.92**	**108**		Pn	**Pn**		**21 25 20.1**	**+0.6**
JNU	**Nakatsue**	**24.50**	**333**		P	**P**		**21 27 05.5**	**-1.7**
JNU					lAmb	lAmb		21 28 04.6	
	comp=Z,94nm,1.9s								
JGF	**Kuroka**	**24.56**	**347**		P	**P**		**21 27 08.8**	**+1.1**
JGF					lAmb	lAmb		21 27 22.3	
	comp=Z,55nm,1.6s								
MJAR	**Matsushiro Arr**	**25.30**	**349**		LR	LR		21 35 57.0	
	comp=Z,16nm,18.1s,baz=165,slow=34								
WRA	**Warramunga Arr**	**32.84**	**197**		P	P		21 28 30.1	+8.5
	comp=Z,0.5nm,0.5s,baz=20,slow=9.8,SNR=8.1								
CMAR	**Chiang Mai Arr**	**43.94**	**284**		P	**P**		**21 29

	comp=Z,12nm,1.2s							
SVW2	**Sparrevohn**	65.74	28	P		P	21 32 31.5	-0.7
SVW2				IAmb		IAmb	21 33 19.8	
	comp=Z,12nm,1.5s							
CNPM	**China Poot**	67.29	30	P		P	21 32 41.0	-1.2
BRLK	**Bradley Lake**	67.53	30	P		P	21 32 42.3	-1.4
PPLA	**Purkeypile**	67.86	26	P		P	21 32 45.9	+0.1
BPAW	**Bear Paw Mtn.**	68.74	25	P		P	21 32 50.9	-0.4
BPAW				IAmb		IAmb	21 33 50.5	
	comp=Z,20nm,2.0s							
WRH	**Wood River Hil**	70.06	25	P		P	21 32 58.0	-1.3
WRH				IAmb		IAmb	21 34 28.5	
	comp=Z,17nm,1.8s							
KKAR	**Karatay Array**	70.07	312	P		P	21 32 58.8	-1.0
GAR	**Garm**	70.09	307	P		P	21 32 59.7	-0.4
GAR				IAmb		IAmb	21 34 36.7	
	comp=Z,16nm,0.9s							
KLU	**Klutina**	70.32	29	P		P	21 33 00.7	-0.3
KLU				IAmb		IAmb	21 34 09.0	
	comp=Z,28nm,2.0s							
IL31		70.64	25	P		P	21 33 00.9	-1.9
ILAR	**Eielson Array**	70.64	25	P		P	21 33 00.7	-2.1
	comp=Z,1,1nm,0.7s,baz=255,slow=5.3,SNR=12							
ILAR	**Eielson Array**	70.64	25	P		P	21 33 01.1	-1.7
VRDI	**Verde Repeater**	71.44	29	P		P	21 33 07.8	-0.2
VRDI				IAmb		IAmb	21 35 22.5	
	comp=Z,37nm,2.0s							
ARCES	**ARCESS Array B**	88.62	342	P		P	21 34 39.1	-1.2
	comp=Z,0.8nm,0.4s,baz=77,slow=7.4,SNR=17							
FINES	**FINESS Array B**	92.52	335	P		P	21 34 56.2	-2.3
	comp=Z,2.2nm,0.9s,baz=72,slow=4.5,SNR=6.7							
MVU	**Marysvale**	93.34	50	P		P	21 35 04.1	+0.9
MTPU	**Mount Pierson**	93.51	50	P		P	21 35 02.8	-1.3
AKASG	**Malin Array Be**	96.07	325	LR		LR	22 21 13.2	
	comp=Z,15nm,19.2s,baz=330,slow=37							

*REY **16** 21:25:02.9, 64.67N × 17.48W, h7km*
*IDC **16** 21:25:04.1±0.7, 64.58N × 17.73W, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/41, mbtmp3.8/13, ML3.3/2, Error ellipse: s-maj=21.5km s-min=14.0km az=18.0*
*NEIC **16** 21:25:04.2±2.2, 64.5N±0.1×17.8W±0.1, h7km±4km, mb4.6/75, Error ellipse: s-maj=15.1km s-min=8.0km az=193.0*

ISC 16 21:25:04.5±0.4, **64.69N**±0.03×**17.57W**±0.03, **h10**km, **n153,** σ 19 **94**/157, **mb4.5**/51, **1C, Iceland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	0.09	256	P		P	Pg	21 25 05.6	-1.4
	baz=272								
IVON				S		Sg		21 25 08.0	-0.8
	baz=272								
IDYN	**Dyngjuhals**	0.13	41	P		P	Pg	21 25 06.0	-1.7
	baz=21								
IDJK	**Dyngjujokull**	0.24	143	P		P	Pg	21 25 06.9	-2.5
	baz=148								
IGRF	**Grimsfjall**	0.32	156	P		P	Pg	21 25 08.4	-2.5
	baz=161								
IVOT	**Vottur**	0.46	159	P		P	Pg	21 25 10.9	-2.5
	baz=162								
IJOK	**Jokulheimar**	0.48	217	P		P	Pg	21 25 12.0	-1.8
	baz=223								
IKRE	**Kreppuhraun**	0.52	79	P		P	Pg	21 25 11.7	-2.9
	baz=76								
IKRE				S		Sg		21 25 19.0	-2.3
	baz=76								
IMKO	**Mokollar**	0.60	61	P		P	Pg	21 25 13.4	-2.6
	baz=57								
ISVA	**Svartarkot**	0.66	11	P		P	Pg	21 25 15.1	-2.1
	baz=7.9								
IKAL	**Kalfafell**	0.75	184	P		P	Pg	21 25 15.9	-3.1
	baz=187								
IHVE	**Hveravellir**	0.88	283	P		P	Pg	21 25 19.2	-2.2
	baz=284								
IADA	**Aoalbol**	0.91	68	P		P	Pg	21 25 18.3	-3.7
	baz=66								
IADA				S		Sg		21 25 30.8	-3.0
	baz=66								
IMEL	**Melhnausar**	0.96	23	P		P	Pg	21 25 19.9	-3.1
	baz=21								
IKVO	**Krokottuvotn**	1.06	15	P		P	Pb	21 25 21.6	-3.4
	baz=13								
ISLY	**Slysaalda**	1.11	219	P		P	Pg	21 25 22.7	-3.0
	baz=221								
IGRS	**Grimsstaoir**	1.13	32	P		P	Pb	21 25 22.6	-3.5
	baz=30								
IGRS				S		Sb		21 25 39.1	-1.7
	baz=30								
IRJU	**Rjupnafell**	1.19	205	P		P	Pb	21 25 24.0	-3.0
	baz=207								
IMJO	**Mjoaskard**	1.20	231	P		P	Pb	21 25 24.7	-2.6
	baz=233								
IGHA	**Grjothals**	1.22	18	P		P	Pn	21 25 24.2	-3.4
	baz=16								
IGRA	**Granastaoir**	1.23	360	P		P	Pn	21 25 24.6	-3.1
	baz=358								
IDIM	**Dimmadalss**	1.30	12	P		P	Pn	21 25 25.5	-3.2
	baz=9.8								
IHVO	**Lagu-Hvolar**	1.30	206	P		P	Pn	21 25 26.1	-2.6
	baz=208								
IHLA	**Hella**	1.30	345	P		P	Pn	21 25 26.0	-2.7
	baz=344								
BORG	**Borgarnes**	1.62	274	Pn		Pn		21 25 31.1	-1.9
	11nm,0.3s,baz=107,slow=7.5,SNR=39								
BORG				Sn		Sg		21 25 55.4	-1.0
	12nm,0.3s,baz=286,slow=19,SNR=7.1								
EKA	**Eskdalemuir Ar**	11.80	136	Pn		Pn		21 27 52.4	-0.2
	baz=322,slow=13,SNR=7.8								
ESK	**Eskdalemuir**	11.80	136	Pn		Pn		21 27 52.7	+0.1
NC204	**NORSAR Array S**	13.26	92	Pn		Pn		21 28 11.2	-1.4
RGN	**Rugen**	18.42	109	P		Pn		21 29 20.2	+0.6
FINES	**FINESS Array B**	19.73	79	P		Pn		21 29 36.6	+1.3
	0.1nm,0.3s,baz=325,slow=8.8,SNR=2.3								
FINES	**FINESS Array B**	19.73	79	P		Pn		21 29 36.3	+1.0
FIA1	**FINESS Array S**	19.73	79	P		Pn		21 29 35.9	+0.6
FIA1				IAmb		IAmb		21 29 38.6	
	comp=Z,35nm,1.5s								
CLL	**Collm**	20.74	116	*i* P		Pn		21 29 45.8	-1.5
	comp=Z,22nm,1.7s								
CLL				*i*				21 29 48.2	
	comp=Z,25nm,1.6s								
CLL				*i*				21 29 59.2	
CLL	**Collm**	20.74	116	P		Pn		21 29 46.3	-1.0
ECH	**Echery**	21.19	129	P		P		21 29 51.0	+1.1
STU	**Stuttgart**	21.41	125	P		P		21 29 53.1	+0.9
STU				IAmb		IAmb		21 29 55.1	
	comp=Z,16nm,0.8s								
BRG	**Berggiesshubel**	21.45	115	⇑*i* P		P		21 29 53.5	+0.9
	comp=Z,12nm,1.1s								
BFO	**Black Forest**	21.49	127	P		P		21 29 54.0	+0.9
VSU	**Vasula**	21.59	86	*e*P		P		21 29 55.5	+1.4
PABE	**Paberze**	22.24	95	*e*P		P		21 30 02.5	+1.5
PRU	**Pruhonice**	22.39	116	*e*P		P		21 30 05.6	+3.0
CHVC	**Chvalec**	22.50	113	*e*P		P		21 30 06.2	+2.3
OSTC	**Ostas**	22.59	113	*e*P		P		21 30 07.1	+2.2
KHC	**Kasperske Hory**	22.71	118	*e*P		P		21 30 06.9	+0.7
KHC	**Kasperske Hory**	22.71	118	P		P		21 30 07.4	+1.2
DPC	**Dobruska-Polom**	22.80	113	*e*P		P		21 30 08.9	+1.8
SUW	**Suwalki**	22.92	98	*e*P		P		21 30 08.4	+0.2
SUW	**Suwalki**	22.92	98	P		P		21 30 08.7	+0.5
SUW				IAmb		IAmb		21 30 12.7	
	comp=Z,10nm,0.7s								
GEC2	**GERESS Array S**	22.99	119	P		P		21 30 10.8	+1.6
GERES	**GERESS Array B**	22.99	119	P		P		21 30 10.0	+0.9
	comp=Z,1.8nm,1.0s,baz=342,slow=8.4,SNR=9.3								
GERES	**GERESS Array B**	22.99	119	P		P		21 30 10.3	+1.2
ISAL	**Salakas**	23.12	92	*e*P		P		21 30 11.5	+1.2
MOTA	**Moosalm**	23.30	124	*e*P		P		21 30 16.0	+3.6
	comp=Z,8.1nm,1.5s								
IIGN	**Ignalina**	23.31	93	*e*P		P		21 30 13.8	+1.6
WATA	**Walderalm**	23.48	124	*e*P		P		21 30 15.3	+1.2
	comp=Z,5.6nm,1.2s								
IDID	**Didziasalis**	23.55	92	*e*P		P		21 30 15.0	+0.4
VRAC	**Vranov**	23.73	114	*e*P		P		21 30 16.5	0.0
MORC	**Moravsky Berou**	23.73	112	*e*P		P		21 30 15.7	-0.8
MORC	**Moravsky Berou**	23.73	112	P		P		21 30 17.7	+1.2
KRUC	**Moravsky**	23.85	115	*e*P		P		21 30 17.0	-0.6
OJC	**Ojcow**	24.30	109	P		P		21 30 23.5	+1.8
OJC				IAmb		IAmb		21 30 25.1	
	comp=Z,12nm,1.5s								
CTI	**Castel Tesino**	24.61	125	P		P		21 30 26.2	+1.5
PRED	**Cave del Predi**	24.95	122	P		P		21 30 29.5	+1.7
PRED				IAmb		IAmb		21 30 33.1	
	comp=Z,11nm,1.3s								
NIE	**Niedzica**	25.12	109	*e*P		P		21 30 30.3	+1.1
SOKA	**Soboth**	25.30	120	*e*P		P		21 30 31.9	+1.0
	comp=Z,3.2nm,1.0s								
KLMR	**Klimovskoe**	25.62	72	*e*		P		21 30 33.4	-0.2
KLMR				AMP				21 30 37.2	
	comp=Z,17nm,1.4s								
KWP	**Kalwaria Pacla**	25.95	106	P		P		21 30 38.6	+1.9
KWP				IAmb		IAmb		21 30 43.7	
	comp=Z,9.7nm,0.9s								
PSZ	**Piszkesteto**	26.15	112	P		P		21 30 40.0	+1.3
ESDC	**Sonseca Array**	26.29	156	P		P		21 30 40.8	+0.9
	comp=Z,1.6nm,0.9s,baz=351,slow=9.8,SNR=7.0								
ESDC	**Sonseca Array**	26.29	156	P		P		21 30 40.0	+0.1
AKASG	**Malin Array Be**	27.87	98	P		P		21 30 54.5	+0.5
OBN	**Obninsk**	27.91	84	P		P		21 30 55.2	+1.0
OBN				IAmb		IAmb		21 30 57.2	
	comp=Z,23nm,1.4s								
BURAR	**Bucovina Array**	28.56	106	P		P		21 31 01.2	+0.9
LIT	**Litokhoron**	33.73	117	P		P		21 31 46.7	+0.9
LIT				IAmb		IAmb		21 31 49.8	
	comp=Z,12nm,1.5s								
MOQ	**Mont Orford**	35.40	264	P		P		21 31 57.6	-2.6
ITM	**Ithomi**	36.08	120	P		P		21 32 05.5	-0.5
ARU	**Arti**	36.10	66	P		P		21 32 08.5	+2.5
ARU				IAmb		IAmb		21 32 11.9	
	comp=Z,10nm,1.5s								
MACI	**Morro de la Ar**	36.46	178	P		P		21 32 07.0	-2.5
BRTR	**Keskin Array B**	38.51	105	P		P		21 32 29.5	+2.6
	comp=Z,1.1nm,0.8s,baz=312,slow=5.2,SNR=3.8								
BRTR	**Keskin Array B**	38.51	105	P		P		21 32 27.5	+0.7
KIV	**Kislovodsk**	38.87	92	P		P		21 32 28.4	-1.3
KBZ	**Khabaz**	39.15	92	P		P		21 32 34.4	+2.6
	comp=Z,3.4nm,0.9s,baz=332,slow=11,SNR=8.2								
WSPT	**Westport, CT**	39.23	261	P		P		21 32 29.6	-3.0
PAL	**Palisades**	39.61	261	P		P		21 32 34.1	-1.6
PAL				IAmb		IAmb		21 32 38.9	
	comp=Z,23nm,1.0s								
MEDO	**Medina**	39.78	267	P		P		21 32 34.5	-2.7
MEDO				IAmb		IAmb		21 32 42.9	
	comp=Z,13nm,1.0s								
ARTV	**Artvin**	40.80	96	P		P		21 32 46.9	+1.0
I49A	**Point Hope**	41.04	272	P		P		21 32 44.0	-3.6
G45A	**Suttons Bay**	41.37	276	P		P		21 32 47.5	-2.8
ABKAR	**Akbulak array**	42.01	73	P		P		21 32 57.0	+1.5
ABKAR	**Akbulak array**	42.01	73	P		P		21 32 56.5	+1.0
TIXI	**Tiksi**	42.01	15	P		P		21 32 57.9	+2.7
BMAR	**Burnt Mountain**	42.86	333	P		P		21 33 03.8	+1.5
BRVK	**Borovoye**	43.14	62	P		P		21 33 04.4	-0.2
BRVK				IAmb		IAmb		21 33 05.0	
	comp=Z,4.4nm,0.5s								
L48A	**N Adams**	43.34	272	P		P		21 33 04.6	-1.8
L48A				IAmb		IAmb		21 33 17.6	
	comp=Z,26nm,1.4s								
MARD	**Mardin**	43.54	100	P		P		21 33 09.1	+0.8
MARD				IAmb		IAmb		21 33 11.5	
	comp=Z,5.1nm,0.8s								
O52A	**Adamsville**	43.73	268	P		P		21 33 05.9	-3.6
O52A				IAmb		IAmb		21 33 10.4	
	comp=Z,15nm,1.1s								
L44A	**Lake County Fo**	44.65	275	P		P		21 33 13.0	-3.8
DAWY	**Dawson**	44.66	328	P		P		21 33 18.5	+1.7
DAWY				IAmb		IAmb		21 33 20.0	
	comp=Z,6.1nm,1.3s								
V60A	**Jim Taylor Roa**	45.43	260	P		P		21 33 21.8	-1.4
ILAR	**Eielson Array**	45.65	332	P		P		21 33 27.5	+3.0
	comp=Z,1.4nm,1.0s,baz=34,slow=4.0,SNR=9.5								
ILAR	**Eielson Array**	45.65	332	P		P		21 33 26.5	+1.9
MDM	**Murphy Dome**	45.74	333	P		P		21 33 25.4	+0.1
MDM				IAmb		IAmb		21 33 29.2	
	comp=Z,5.7nm,1.2s								
IMAR	**Indian Mountai**	45.82	337	P		P		21 33 28.0	+2.1
BCAR	**Beaver Creek A**	46.07	328	P		P		21 33 29.8	+1.8
R50A	**Paris**	46.33	269	P		P		21 33 30.1	-0.1
R50A				IAmb		IAmb		21 33 49.0	
	comp=Z,7.9nm,1.3s								
ZAA0	**Zalesovo Array**	47.64	51	P		P		21 33 41.6	+1.4
ZAA0				IAmb		IAmb		21 33 42.4	
	comp=Z,4.3nm,1.3s								
ZALV	**Zalesovo Beam**	47.64	51	P		P		21 33 41.6	+1.4
	comp=Z,0.5nm,0.4s,baz=330,slow=8.6,SNR=4.7								
KURK	**Kurchatov**	48.12	58	P		P		21 33 45.2	+1.2
KURK				IAmb		IAmb		21 33 46.3	
	comp=Z,5.2nm,0.9s								
EGMT	**Eagleton**	48.84	297	P		P		21 33 50.5	+0.8
EGMT				IAmb		IAmb		21 33 53.8	
	comp=Z,12nm,1.1s								
SUA	**Susitna One**	49.40	333	P		P		21 33 54.4	+0.5
SUA				IAmb		IAmb		21 33 56.1	
	comp=Z,15nm,1.2s								
GEYT	**Alibeck**	50.45	84			S		21 41 19.1	+3.7
GYA0B	**ALIBECK ARRAY**	50.45	84	P		S		21 34 03.2	+1.2
KK31	**Karatay Array**	51.29	70	P		P		21 34 09.9	+1.6
KKAR	**Karatay Array**	51.29	70	P		P		21 34 10.2	+1.9
KKAR	**Karatay Array**	51.29	70	P		P		21 34 09.9	+1.6
KKAR				IAmb		IAmb		21 34 11.1	
	comp=Z,4.6nm,1.3s								
BOZ	**Bozeman (W)**	51.57	297	P		P		21 34 09.6	-0.9
OGNE	**Ogallala**	51.62	286	P		P		21 34 09.4	-1.4
MAKZ	**Makanchi**	52.61	58	P		P		21 34 18.7	+0.7
MK31	**Makanchi Array**	52.73	58	P		P		21 34 19.5	+0.5
MKAR	**Makanchi Array**	52.73	58	P		P		21 34 20.1	+1.1
	comp=Z,1.2nm,0.9s,baz=330,slow=7.0,SNR=8.6								
MKAR	**Makanchi Array**	52.73	58	P		P		21 34 20.3	+1.3
BW06	**Boulder Array**	53.14	293	P		P		21 34 21.7	-0.6
BW06				IAmb		IAmb		21 34 27.7	
	comp=Z,12nm,1.2s								
PD31	**Pinedale Array**	53.14	293	P		P		21 34 22.0	-0.3
PD31				IAmb		IAmb		21 34 27.7	
	comp=Z,11nm,1.2s								
PDAR	**Pinedale Array**	53.14	293	P		P		21 34 22.4	+0.1
TORD	**Torodi Ar. Bea**	53.18	156	P		P		21 34 22.4	-0.1
	comp=Z,1.6nm,0.9s,baz=345,slow=7.7,SNR=8.0								
TORD	**Torodi Ar. Bea**	53.18	156	P		P		21 34 21.8	-0.7
BTK	**Batken**	53.98	72	P		P		21 34 30.2	+1.9
BTK				IAmb		IAmb		21 34 31.4	
	comp=Z,5.5nm,0.8s								
CHGR	**Chuyangaron**	54.48	74	P		P		21 34 32.6	+0.6
CHGR				IAmb		IAmb		21 34 34.9	
	comp=Z,10nm,1.1s								
Q24A	**Divide**	54.58	287	P		P		21 34 31.0	-1.9
Q24A				IAmb		IAmb		21 34 31.8	
	comp=Z,11nm,1.1s								
GAR	**Garm**	54.67	73	P		P		21 34 35.1	+1.7
HWUT	**Hardware Ranch**	54.91	294	P		P		21 34 31.3	-3.9
SDCO	**Great Sand Dun**	55.76	287	P		P		21 34 38.5	-3.0
SDCO				IAmb		IAmb		21 34 39.7	
	comp=Z,5.3nm,1.1s								
CTU	**Camp Tracy**	55.77	293	P		P		21 34 38.5	-2.8
CBYP	**Canovanas**	56.42	238	P		P		21 34 44.2	-1.8
KSH	**Kashi**	56.52	68	P		P		21 34 49.8	+3.2
KSH				S		S		21 42 37.8	0.0
KSH				pmax		pmax			
	comp=Z,78nm,4.4s								
KSH				LR		LR			
	comp=N,120nm,6.0s								
KSH				LR		LR			
	comp=E,75nm,5.1s								
KSH				LR		LR			
	comp=Z,270nm,12.7s								
WMQ	**Urumqi**	57.24	56	*e*P		P		21 34 56.1	+4.4
MVU	**Marysvale**	57.83	292	P		P		21 34 54.4	-1.7
KBL	**Kabul**	57.95	76	P		P		21 34 58.3	+1.3
KBL				IAmb		IAmb		21 35 00.6	
	comp=Z,4.9nm,1.4s								
MTPU	**Mount Pierson**	58.21	292	P		P		21 34 57.7	-1.2
MTPU				IAmb		IAmb		21 35 17.1	
	comp=Z,7.1nm,1.0s								
SONM	**Songino Array**	59.64	40	P		P		21 35 09.8	+1.4
	comp=Z,0.7nm,0.9s,baz=324,slow=10.0,SNR=5.1								
SONM	**Songino Array**	59.64	40	P		P		21 35 09.6	+1.1
NIL	**Nilore**	60.47	73	P		P		21 35 16.0	+1.8
NIL				IAmb		IAmb		21 35 17.6	
	comp=Z,9.5nm,1.1s								
TXAR	**Lajitas Array**	62.25	280	P		P		21 35 28.2	+1.8
	comp=Z,0.7nm,1.0s,baz=72,slow=4.1,SNR=4.6								
SAO	**San Andreas Ge**	62.92	299	P		P		21 35 31.0	+0.4
SAO				IAmb		IAmb		21 35 33.1	
	comp=Z,5.9nm,0.8s								
XPFO	**Pion Flat**	63.77	293	P		P		21 35 37.6	+1.2
XPFO				IAmb		IAmb		21 35 45.3	
	comp=Z,2.5nm,1.1s								
PFO	**Pinyon Flats O**	63.77	293	P		P		21 35 38.2	+1.8
PFO				IAmb		IAmb		21 35 45.3	
	comp=Z,2.7nm,1.1s								
MWC	**Mount Wilson**	63.85	295	P		P		21 35 34.7	-2.4
GTA	**Gaotai**	65.30	49	*e*P		P		21 35 48.0	+1.6
GTA				pP		sP		21 35 51.1	-0.3
GTA				sP		pP		21 35 54.1	+4.0
GTA				pmax		pmax			
	comp=Z,1.0nm,1.2s								
HHC	**Hu-ho-hao-te**	67.51	40	*e*P		P		21 36 03.4	+2.9
HHC				pmax		pmax			
	comp=Z,36nm,0.7s								
HHC				pmax		pmax			
	comp=Z,47nm,7.0s								
LZH	**Lanzhou**	69.63	48	*e*P		P		21 36 14.5	+0.7
LZH				pP		sP		21 36 19.3	+0.4
LZH				sP		pP		21 36 20.8	+3.3
LZH				PP		PP		21 38 50.6	+3.4
LZH				pmax		pmax			
	comp=Z,16nm,1.1s								
LZH				pmax		pmax			
	comp=Z,64nm,4.9s								
CHTO	**Chiang Mai**	83.82	58	P		P		21 37 34.3	+0.3
CHTO				IAmb		IAmb		21 37 35.0	
	comp=Z,4.0nm,1.3s								
CMAR	**Chiang Mai Arr**	84.14	59	P		P		21 37 36.6	+1.0
	comp=Z,0.6nm,0.8s,baz=321,slow=6.9,SNR=7.5								
WRMHI	**West Rim**	90.11	321	P		P		21 38 05.2	+0.5
RIM	**Rim**	90.12	321	P		P		21 38 04.8	0.0

*SOME **16** 21:35:06.4, 39.77N × 75.63E, h0km*
*NNC **16** 21:35:13.0±1.9, 39.96N × 75.73E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=14.4km s-min=9.2km az=169.0*
*KRNET **16** 21:35:14.0±0.1, 39.76N × 75.72E, mb3.5*

ISC 16 21:35:16.9±1.0, **40.06N**±0.04×**75.75E**±0.03, **h10**km, **n56,** σ 2 **06**/83, **18C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	0.57	162	Pg		Pn		21 35 31.9	+0.7
KSH				Sg		Sn		21 35 44.9	+4.3
KSH				smax		smax			
	comp=N,320nm,0.6s								
KSH				smax		smax			
	comp=E,350nm,0.5s								
ARLS	**Aral**	2.10	330	⇑*i* P		Pb		21 35 55.6	+0.4
	baz=34								
ARLS				⇑*i* S		Sg		21 36 25.7	+1.3
	baz=34								
ULHL	**Ulahol**	2.22	10	P		Pb		21 35 58.0	+0.7
	SNR=21								
KDJ	**Kajisay**	2.34	27	⇑*i* P		Pb		21 35 59.3	+0.1
	baz=25								
KDJ				⇑*i* S		Sg		21 36 32.2	+0.2
	baz=25								
UCH	**Uchtor**	2.36	337	P		Pg		21 36 01.2	-0.9
	SNR=20								
BOOM	**Boomskoye usch**	2.44	3	⇓*i* P		Pb		21 36 00.7	-0.2
	baz=3.0								
BOOM				⇓*i* S		Sg		21 36 35.1	0.0
	baz=3.0								
AML	**Almayashu**	2.59	324	P		Pb		21 36 03.1	-0.5
	SNR=75								
KBK	**Karagaybulak**	2.67	347	P		Pg		21 36 06.5	-1.5
	SNR=56								
AAK	**Ala-Archa**	2.75	340	P		Pb		21 36 05.2	-1.0
	SNR=27								
AAK	**Ala-Archa**	2.75	340	Pg		Pb		21 36 05.1	-1.0
	comp=E,16nm,0.6s								
AAK				Lg		Lg		21 36 44.1	
	comp=E,114nm,1.0s								
TKM2	**Tokmak 2**	2.86	358	P		Pb		21 36 07.1	-1.1
	SNR=22								
TKM2	**Tokmak 2**	2.86	358	⇑Pg		Pb		21 36 06.6	-1.6
	comp=E,18nm,1.1s								
TKM2				⇑Lg		Lg		21 36 48.8	
	comp=E,49nm,0.6s								
FRU1	**Bishkek**	2.88	343	⇓*i* P		Pb		21 36 06.8	-1.5
	baz=45								
FRU1				⇓*i* S		Sb		21 36 45.0	+1.4
	baz=45								
KST	**Kastek**	2.99	3	*e*P		Pb		21 36 08.8	-1.5
	comp=E,15nm,0.6s								
KST				*e*S		Sg		21 36 53.7	+0.9
	comp=E,58nm,0.8s								
KST	**Kastek**	2.99	3	Pg		Pn		21 36 07.1	+2.6
	comp=E,15nm,0.6s								
KST				Lg		Lg		21 36 51.2	
	comp=E,58nm,0.8s								
EKS2	**Erkin-Say**	3.00	331	P		Pb		21 36 09.6	-0.8
	SNR=12								
CHMS	**Chumysh**	3.03	346	P		Pb		21 36 09.1	-1.9
	SNR=6.5								
ANVS	**Anan'yevo**	3.08	27	⇑*i* P		Pb		21 36 09.5	-2.4
	baz=25								
ANVS				⇑*i* S		Sb		21 36 50.1	+0.4
	baz=25								
TNSS	**Tian-Shan**	3.11	16	*e*P		Pb		21 36 10.5	-2.0
	comp=E,16nm,0.7s								
TNSS				*e*S	

KUU					*e*S		**Sg**	**21 37 20.1**	**-0.7**
	comp=E,63nm,1.2s								
KUU	**Kurty**	**3.86**	**6**	Pg			**Pb**	**21 36 24.0**	**-1.0**
	comp=E,1.4nm,0.1s								
KUU					Lg		Lg	21 37 20.1	
	comp=E,63nm,1.2s								
KURS	**Kuram**	**3.88**	**27**	*e*P			**Pb**	**21 36 23.7**	**-1.7**
	comp=E,4.7nm,0.7s								
KURS					*e*S		**Sg**	**21 37 19.4**	**-1.9**
	comp=E,32nm,1.0s								
KURS	**Kuram**	**3.88**	**27**	Pg			**Pb**	**21 36 23.7**	**-1.7**
	comp=E,4.7nm,0.7s								
KURS					Lg		Lg	21 37 19.4	
	comp=E,32nm,1.0s								
UZB	**Uzynbulak**	**3.94**	**37**	*e*P			**Pb**	**21 36 25.6**	**-1.0**
	comp=E,2.8nm,0.8s								
UZB					*e*S		**Sg**	**21 37 22.6**	**-1.0**
	comp=E,27nm,0.9s								
UZB	**Uzynbulak**	**3.94**	**37**	Pg			**Pb**	**21 36 25.6**	**-1.0**
	comp=E,2.8nm,0.8s								
UZB					Lg		Lg	21 37 22.6	
	comp=E,27nm,0.9s								
KPKS	**Kokpek**	**4.05**	**32**	*e*P			**Pb**	**21 36 26.9**	**-1.5**
	comp=E,3.3nm,0.1s								
KPKS					*e*S		**Sg**	**21 37 24.6**	**-2.4**
	comp=E,73nm,0.6s								
SHLS	**Shalkode**	**4.17**	**41**	*e*P			**Pg**	**21 36 34.5**	**-2.2**
	comp=E,17nm,0.1s								
SHLS					*e*S		**Sg**	**21 37 37.8**	**+7.2**
	comp=E,39nm,0.9s								
SHLS	**Shalkode**	**4.17**	**41**	Pg			**Pg**	**21 36 34.5**	**-2.2**
	comp=E,17nm,0.1s								
SHLS					Lg		Lg	21 37 37.8	
	comp=E,39nm,0.9s								
PDGK	**Podgornoye**	**4.30**	**39**	Pg			**Pb**	**21 36 31.2**	**-1.5**
	comp=E,2.0nm,0.8s								
PDGK					Lg		Lg	21 37 32.2	
	comp=E,20nm,1.0s								
PDGK	**Podgornoye**	**4.30**	**39**	⇑Pn			**Pn**	**21 36 26.4**	**+3.9**
	comp=E,1.6nm,0.6s								
PDGK					⇑Pg		**Pg**	**21 36 35.9**	**-3.5**
	comp=E,5.4nm,0.7s								
PDGK					⇓Lg		Lg	21 37 30.7	
	comp=E,38nm,1.1s								
IUG	**Iuzhnay**	**4.80**	**298**	*e*P			**Pb**	**21 36 37.2**	**-3.9**
	comp=E,2.7nm,0.5s								
IUG					*e*S		**Sb**	**21 37 42.5**	**+3.7**
	comp=E,31nm,1.0s								
IUG	**Iuzhnay**	**4.80**	**298**	Pg			**Pb**	**21 36 37.2**	**-3.9**
	comp=E,2.7nm,0.5s								
IUG					Lg		Lg	21 37 42.5	
	comp=E,31nm,1.0s								
KK31	**Karatay Array**	**4.97**	**309**	⇓Pn			**Pn**	**21 36 33.7**	**+2.2**
	comp=E,0.3nm,0.3s,baz=118,slow=14,SNR=11								
KK31					⇓Pg		**Pb**	**21 36 46.1**	**+2.1**
	comp=E,2.6nm,0.6s,baz=124,slow=18,SNR=10								
KK31					⇑Lg		Lg	21 37 54.3	
	comp=E,6.9nm,0.7s,baz=125,slow=28,SNR=4.0								
BTLS	**Baital**	**5.14**	**346**	*e*P			**Pb**	**21 36 47.3**	**+0.5**
	comp=E,0.7nm,0.2s								
BTLS					*e*S		**Sg**	**21 37 59.6**	**-2.2**
	comp=E,12nm,1.0s								
BTLS	**Baital**	**5.14**	**346**	Pg			**Pb**	**21 36 47.3**	**+0.5**
	comp=E,0.7nm,0.2s								
BTLS					Lg		Lg	21 37 59.6	
	comp=E,12nm,1.0s								
DJR	**Jarkent**	**5.22**	**34**	*e*P			**Pb**	**21 36 47.5**	**-0.8**
	comp=E,1.2nm,0.4s								
DJR					*e*S		**Sg**	**21 38 00.3**	**-4.1**
	comp=E,7.1nm,1.0s								
DJR	**Jarkent**	**5.22**	**34**	Pg			**Pb**	**21 36 47.5**	**-0.8**
	comp=E,1.2nm,0.4s								
DJR					Lg		Lg	21 38 00.3	
	comp=E,7.1nm,1.0s								
TDK	**Taldyqorghan**	**5.32**	**21**	*e*P			**Pb**	**21 36 51.1**	**+1.2**
	comp=E,25nm,0.2s								
TDK					*e*S		**Sg**	**21 38 06.2**	**-1.4**
	comp=E,33nm,0.2s								
TDK	**Taldyqorghan**	**5.32**	**21**	Pg			**Pb**	**21 36 51.1**	**+1.2**
	comp=E,25nm,0.2s								
TDK					Lg		Lg	21 38 06.2	
	comp=E,33nm,0.2s								

HLW **16** *21:42:37.4,26˚.76N×34˚.79E,h11km±4km,Md3.5,Ml3.6*
GII **16** *21:42:40.0±0.0,27˚.08N×34˚.58E,h1km,MD3.1/2*
SGS **16** *21:42:41.0,26˚.99N×35˚.04E,h18km,Ml2.9*

ISC 16 21:42:35.5±1.0, 26˚.80N±0˚.03×34˚.90E±0˚.04, h10km, n40, σ1°70/48, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDEBA	**Dheba**	**0.94**	**45**	S	**Sg**	**21 43 04.6**	**-1.4**
NDEBA				P	**Pg**	**21 42 54.1**	**+0.5**
MWLHS	**Almuwaylih**	**1.09**	**30**	P	**Pb**	**21 42 56.2**	**-0.2**
MWLHS	**Almuwaylih**	**1.09**	**30**	S	**Sg**	**21 43 08.2**	**-2.4**
HHRG	**Al Ghardaqah**	**1.26**	**290**	P	**Pn**	**21 42 58.3**	**-0.9**
	baz=286						
HHRG				AMP		21 43 00.0	
	baz=286						
HHRG				S	**Sb**	**21 43 12.9**	**-2.7**
	baz=286						
DESA	**DESA**	**1.33**	**58**	P	**Pn**	**21 43 00.5**	**+0.3**
KRABS	**KRABS**	**1.33**	**14**	P	**Pn**	**21 42 59.6**	**-0.6**
RSHS		**1.50**	**357**	P	**Pn**	**21 43 02.0**	**-0.4**
NADB	**Abo Dabab**	**1.50**	**194**	P	**Pn**	**21 43 02.9**	**+0.5**
	baz=191						
NADB				AMP		21 43 00.0	
	baz=191						
NADB				S	**Sn**	**21 43 22.6**	**+0.5**
	baz=191						
WTBKS	**WTBKS**	**1.56**	**35**	P	**Pn**	**21 43 03.9**	**+0.5**
SHQRE	**Shigry**	**1.57**	**46**	P	**Pn**	**21 43 04.5**	**+0.9**
BDAS	**Al Bad`**	**1.63**	**6**	P	**Pn**	**21 43 05.0**	**+0.7**
BDAS	**Al Bad`**	**1.63**	**6**	S	**Sn**	**21 43 22.1**	**-3.4**
EWJHS	**Al Wajh**	**1.70**	**112**	P	**Pn**	**21 43 05.1**	**-0.1**
BIDS	**Bi'r al Bayda'**	**1.84**	**87**	P	**Pn**	**21 43 07.9**	**+0.7**
JLOS		**2.00**	**15**	P	**Pn**	**21 43 10.0**	**+0.5**
TBKS	**Tabuk**	**2.03**	**45**	P	**Pn**	**21 43 11.5**	**+1.7**
HAQS	**Haql**	**2.24**	**0**	P	**Pn**	**21 43 13.4**	**+0.7**
HRDS	**Abu Rudays**	**2.38**	**324**	P	**Pn**	**21 43 16.0**	**+1.4**
	baz=327						
GRB	**Gharib**	**2.38**	**308**	P	**Pn**	**21 43 15.9**	**+1.2**
	baz=311						
HAGS	**Hagol**	**2.41**	**178**	P	**Pn**	**21 43 15.9**	**+0.9**
	baz=175						
HBST	**Basata**	**2.41**	**357**	P	**Pn**	**21 43 17.2**	**+2.1**
	baz=359						
HQLS		**2.50**	**3**	P	**Pn**	**21 43 17.4**	**+1.2**
EIL	**Elat**	**2.86**	**1**	Pn	**Pn**	**21 43 22.6**	**+1.4**
EIL				Sn	**Sn**	**21 43 56.4**	**+0.7**
AQBJ	**Aqaba**	**2.92**	**3**	Pn	**Pn**	**21 43 24.4**	**+2.4**
MBRI	**Mt Berech**	**2.98**	**0**	Pn	**Pn**	**21 43 24.9**	**+2.0**
BRNS	**Bernies**	**3.02**	**194**	P	**Pn**	**21 43 25.1**	**+1.7**
	baz=193						
KRMI	**Paran Flat**	**3.31**	**357**	Pn	**Pn**	**21 43 28.9**	**+1.5**
KRMI				Sn	**Sn**	**21 44 06.6**	**-0.2**
SUZ	**Suez**	**3.54**	**329**	P	**Pn**	**21 43 32.8**	**+2.4**
	baz=332						
PRNI	**Paran**	**3.54**	**1**	Pn	**Pn**	**21 43 32.3**	**+1.8**
PRNI				Sn	**Sn**	**21 44 12.9**	**+0.4**
TAMRE	**El Minia**	**3.65**	**285**	P	**Pn**	**21 43 32.9**	**+0.8**
	baz=286						
NBNS	**Bani Suef**	**3.68**	**300**	P	**Pn**	**21 43 33.3**	**+0.9**
	baz=302						
ZFRI	**Zfri**	**3.75**	**4**	Pn	**Pn**	**21 43 35.9**	**+2.5**
ZFRI				Sn	**Sn**	**21 44 17.6**	**+0.1**
AKRG	**Al Kharijah**	**4.16**	**253**	P	**Pn**	**21 43 40.3**	**+1.2**
	baz=253						
YTIR	**Yattir**	**4.55**	**2**	Pn	**Pn**	**21 43 47.6**	**+3.1**
DSI	**Dead Sea**	**4.77**	**5**	Pn	**Pn**	**21 43 49.5**	**+2.1**
HDK1	**Dakhla**	**5.10**	**257**	P	**Pn**	**21 43 52.7**	**+0.8**
	baz=258						
SLTI	**Sal'it**	**5.42**	**1**	Pn	**Pn**	**21 43 59.0**	**+2.6**
HMDT	**Nahal Hemdat**	**5.46**	**6**	Pn	**Pn**	**21 44 00.1**	**+3.2**
HMDT				Sn	**Sn**	**21 45 00.9**	**+1.1**
HFRF	**Wahat Farafira**	**5.89**	**275**	P	**Pn**	**21 44 04.5**	**+1.7**
	baz=276						
SHMJ	**Saham**	**5.95**	**7**	Pn	**Pn**	**21 44 07.4**	**+3.7**

GUC 16 21:56:28.4±0.9, 20˚.70S×71˚.00W, h10km±2km, ML2.6, 9C-1D, Off coast of northern Chile

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

TA01	**Diego Aracena**	**0.78**	**81**	⇑*i*P			Pg	21 56 43.4	-0.1
TA01				*i* S			Sb	21 56 54.2	-0.4
TA01				IAML				21 56 55.8	
	comp=N,456nm,0.4s								
TA01	**Diego Aracena**	**0.78**	**81**	⇑*i*P			Pg	21 56 43.4	-0.1
TA01				*e*S			Sg	21 56 53.8	+0.2
PATCX	**Punta Patache**	**0.80**	**99**	*i* P			Pg	21 56 44.0	0.0
PATCX				*i* S			Sb	21 56 55.3	-0.2
PATCX				IAML				21 56 57.1	
	comp=N,431nm,0.3s								
PATCX	**Punta Patache**	**0.80**	**99**	⇑*i*P			Pg	21 56 43.9	0.0
PATCX				*e*S			Sg	21 56 54.5	0.0
PATCX				IAML				21 56 57.1	
	comp=N,434nm,0.4s								
TA02	**Huaiquique**	**0.92**	**63**	*e*P			Pg	21 56 45.3	-0.8
TA02				*i* S			Sb	21 56 58.4	-0.3
TA02	**Huaiquique**	**0.92**	**63**	*e*P			Pg	21 56 45.2	-0.9
TA02				*e*S			Sg	21 56 57.8	-0.2
PB02	**IPOC Station P**	**1.21**	**121**	⇑*i*P			Pb	21 56 50.1	-1.3
PB02				*i* S			Sb	21 57 04.8	-2.3
PB02				IAML				21 57 09.1	
	comp=E,448nm,0.2s								
PB02	**IPOC Station P**	**1.21**	**121**	⇑*i*P			Pb	21 56 50.0	-1.4
PB02				IAML				21 57 09.2	
	comp=E,455nm,0.4s								
PSGC	**Pisagua**	**1.37**	**37**	*e*P			Pn	21 56 52.2	-1.4
PSGC				*i* S			Sb	21 57 09.5	-2.3
PSGC	**Pisagua**	**1.37**	**37**	*e*P			Pn	21 56 52.2	-1.5
PSGC				IAML				21 57 13.8	
	comp=E,81nm,0.6s								
PB01	**IPOC Station P**	**1.46**	**104**	⇓*e*P			Pn	21 56 53.7	-1.2
PB01				*i* S			Sn	21 57 12.5	-1.6
PB01				IAML				21 57 16.7	
	comp=N,247nm,0.5s								
PB01	**IPOC Station P**	**1.46**	**104**	*i* P			Pn	21 56 53.7	-1.2
PB01				IAML				21 57 16.8	
	comp=N,245nm,0.4s								
PB07	**IPOC Station P**	**1.46**	**135**	⇑*i*P			Pn	21 56 53.4	-1.6
PB07				*i* S			Sn	21 57 10.7	-3.7
PB07	**IPOC Station P**	**1.46**	**135**	⇑*i*P			Pn	21 56 53.3	-1.7
PB11	**IPOC Station P**	**1.57**	**54**	*e*P			Pn	21 56 54.9	-1.6
PB11				*i* S			Sn	21 57 14.9	-2.0
PB11				IAML				21 57 20.5	
	comp=N,199nm,0.2s								
PB11	**IPOC Station P**	**1.57**	**54**	*e*P			Pn	21 56 54.9	-1.6
PB11				IAML				21 57 20.5	
	comp=N,198nm,0.2s								
PB03	**IPOC Station P**	**1.78**	**139**	*i* P			Pn	21 56 57.6	-1.8
PB03	**IPOC Station P**	**1.78**	**139**	*e*P			Pn	21 56 57.7	-1.7
PB03				IAML				21 57 34.4	
	comp=N,42nm,0.5s								
PB04	**IPOC Station P**	**1.81**	**154**	*e*P			Pn	21 56 57.8	-2.1
PB04				IAML				21 57 22.9	
	comp=N,88nm,0.2s								
PB04	**IPOC Station P**	**1.81**	**154**	*e*P			Pn	21 56 57.7	-2.2
PB04				IAML				21 57 22.8	
	comp=N,84nm,0.3s								
PB08	**IPOC Station P**	**1.82**	**73**	*e*P			Pn	21 56 59.5	-0.6
PB08				IAML				21 57 29.1	
	comp=N,51nm,0.3s								
PB08	**IPOC Station P**	**1.82**	**73**	*e*P			Pn	21 56 59.6	-0.6
PB08				IAML				21 57 27.3	
	comp=E,50nm,0.3s								
PB09	**IPOC Station P**	**1.97**	**124**	⇑*i*P			Pn	21 57 01.9	-0.1
PB09				IAML				21 57 36.1	
	comp=E,49nm,0.3s								
PB09	**IPOC Station P**	**1.97**	**124**	⇑*i*P			Pn	21 57 01.9	-0.1
PB09				IAML				21 57 38.8	
	comp=N,50nm,0.5s								
GO01	**Chusmiza**	**1.98**	**59**	*e*P			Pn	21 57 01.3	-1.2
GO01				*i* S			Sn	21 57 26.6	-1.0
GO01	**Chusmiza**	**1.98**	**59**	*e*P			Pn	21 57 03.1	+0.7
GO01				IAML				21 57 33.1	
	comp=N,129nm,0.2s								
MNMC	**Minye Minye**	**2.04**	**41**	*e*P			Pn	21 57 02.3	-0.8
MNMC				IAML				21 57 36.4	
	comp=E,124nm,0.5s								
MNMC	**Minye Minye**	**2.04**	**41**	*e*P			Pn	21 57 03.0	-0.1
MNMC				IAML				21 57 36.1	
	comp=N,122nm,0.4s								
PB05	**IPOC Station P**	**2.27**	**161**	*i* P			Pn	21 57 03.6	-2.5
PB05				IAML				21 57 35.4	
	comp=E,24nm,0.4s								
PB05	**IPOC Station P**	**2.27**	**161**	*e*P			Pn	21 57 03.6	-2.5
PB05				IAML				21 57 35.4	
	comp=E,24nm,0.3s								
PB06	**IPOC Station P**	**2.40**	**147**	*e*P			Pn	21 57 07.0	-0.9
PB06				IAML				21 57 50.7	
	comp=N,34nm,0.3s								
PB06	**IPOC Station P**	**2.40**	**147**	*e*P			Pn	21 57 07.1	-0.9
PB06				IAML				21 57 50.7	
	comp=N,33nm,0.4s								
PB16	**IPOC Station P**	**2.74**	**31**	*e*P			Pb	21 57 15.8	-2.1
PB10	**IPOC Station P**	**2.83**	**172**	*e*P			Pn	21 57 10.8	-2.9
PB10	**IPOC Station P**	**2.83**	**172**	*e*P			Pn	21 57 10.8	-3.0
PB15	**IPOC Station P**	**2.88**	**151**	*e*P			Pn	21 57 15.2	+0.7

IDC **16** *22:14:06.4±1.0,44˚.96N×106˚.86W,h0km,mb1 3.7/3, mb1mx3.3/56,mbtmp3.5/3,ML3.4/3,Error ellipse: s-maj=37.1km s-min=7.8km az=137.0*
NEIC **16** *22:14:08.2±2.5,45˚.18N±0˚.05×106˚.80W±0˚.04,h0km±1km, ML3.5/16,Error ellipse: s-maj=8.6km s-min=4.5km az=159.0*

ISC 16 22:14:07.9±1.1, 45˚.23N±0˚.06×106˚.87W±0˚.05, h0km, n50, σ1°56/48, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.52**	**17**	Pn	**Pb**	**22 14 37.2**	**+0.1**
RLMT	**Red Lodge**	**1.70**	**267**		**Pn**	**22 14 37.3**	**-1.7**
RLMT				IAML		22 15 08.4	
	401nm,0.8s						
RLMT				IAML		22 15 09.6	
	502nm,0.7s						
YNE	**Yellowstone No**	**2.23**	**265**		**Pn**	**22 14 44.9**	**-1.4**
RSSD	**Black Hills**	**2.31**	**118**		**Pn**	**22 14 47.1**	**-0.3**
RSSD				IAML		22 15 22.3	
	308nm,0.7s						
YMP	**Mirror Lake Pl**	**2.38**	**259**		**Pn**	**22 14 47.0**	**-1.5**
K22A	**Casper**	**2.59**	**174**		**Pn**	**22 14 49.0**	**-2.3**
K22A				IAML		22 15 28.0	
	comp=E,232nm,0.8s						
LKWY	**Lake**	**2.59**	**256**		**Pn**	**22 14 52.6**	**+1.2**
LKWY				IAML		22 15 40.0	
	comp=E,194nm,1.5s						
LKWY				IAML		22 15 45.2	
	comp=E,262nm,1.5s						
YUF	**Upper Falls**	**2.63**	**260**		**Pn**	**22 14 52.9**	**+1.0**
YNR	**Norris Junctio**	**2.75**	**261**		**Pn**	**22 14 54.4**	**+0.9**
H17A	**Grant Village**	**2.77**	**254**		**Pn**	**22 14 54.2**	**+0.5**
YNM	**Yellowstone No**	**2.77**	**261**	Pn	**Pn**	**22 14 54.6**	**+0.9**
YHH	**Holmes Hill**	**2.86**	**262**		**Pn**	**22 14 54.9**	**-0.1**
YMR	**Madison River**	**2.96**	**260**		**Pn**	**22 14 57.3**	**+0.9**
YPP	**Pitchstone Pla**	**2.96**	**252**		**Pn**	**22 14 58.0**	**+1.5**
FLWY	**Flagg Ranch**	**2.96**	**249**		**Pn**	**22 14 56.4**	**0.0**
YHL	**Hebgen Lake**	**3.08**	**264**		**Pn**	**22 14 58.9**	**+0.9**
YHB	**Horse Butte**	**3.10**	**263**		**Pn**	**22 15 00.0**	**+1.7**
LOHW	**Long Hollow**	**3.13**	**240**	Pn	**Pn**	**22 15 00.7**	**+2.0**
BW06	**Boulder Array**	**3.13**	**219**		**Pn**	**22 14 57.3**	**-1.5**
PDAR	**Pinedale Array**	**3.13**	**219**	Pn	**Pn**	**22 14 57.9**	**-0.9**
	comp=E,6.0nm,0.3s,baz=59,slow=17,SNR=102						
PDAR				Lg	Lg	22 15 37.5	
	comp=E,11nm,0.3s,baz=43,slow=29,SNR=17						
PDAR	**Pinedale Array**	**3.13**	**219**		**Pn**	**22 14 56.9**	**-1.9**
MOOW	**Moose Ponds**	**3.14**	**243**		**Pn**	**22 14 58.8**	**-0.1**
IMW	**Indian Meadow**	**3.20**	**247**		**Pn**	**22 15 00.3**	**+0.6**
SNOW	**Snow King Moun**	**3.30**	**239**		**Pn**	**22 15 02.5**	**+1.4**
TPAW	**Teton Pass**	**3.40**	**241**	Pn	**Pn**	**22 15 05.0**	**+2.5**
REDW	**Red Top Meadow**	**3.41**	**238**		**Pn**	**22 15 06.3**	**+3.7**
EGMT	**Eagleton**	**3.43**	**326**	Pn	**Pn**	**22 15 02.2**	**+0.5**
RWWY	**Rawlins**	**3.55**	**184**		**Pn**	**22 15 06.3**	**+1.8**
DGMT	**Dagmar**	**3.72**	**29**		**Pn**	**22 15 08.4**	**+1.7**
ECR	**Eagle Creek**	**3.90**	**238**		**Pn**	**22 15 10.8**	**+1.5**
PHWY	**Pilot Hill**	**4.06**	**165**		**Pn**	**22 15 12.8**	**+1.3**
E28A	**Huff**	**4.52**	**71**	Pn	**Pn**	**22 15 17.1**	**-0.5**
BCYI	**Bear Canyon**	**4.74**	**261**	Pn	**Pn**	**22 15 21.1**	**+0.2**
HWUT	**Hardware Ranch**	**4.98**	**225**	Pn	**Pn**	**22 15 25.3**	**+1.2**
RDMU	**Red Mountain**	**5.06**	**204**		**Pn**	**22 15 26.1**	**+0.8**
MSO	**Missoula**	**5.17**	**290**	Pn	**Pn**	**22 15 26.4**	**-0.3**
O20A	**White River Ci**	**5.19**	**192**	Pn	**Pn**	**22 15 27.1**	**+0.1**
TCUT	**Toone Canyon**	**5.28**	**220**		**Pn**	**22 15 29.5**	**+1.2**
ISCO	**Idaho Springs**	**5.51**	**170**		**Pn**	**22 15 33.4**	**+1.9**

OGNE	**Ogallala**	**5.56**	**139**				Pb	22 15 41.7	-4.2
SPUT	**South Promonto**	**5.65**	**228**	Pn			**Pn**	**22 15 35.9**	**+2.6**
HLID	**Hailey**	**5.66**	**255**	Pn			**Pn**	**22 15 35.9**	**+2.5**
MDND	**Maddock**	**5.66**	**60**	Pn			**Pn**	**22 15 36.4**	**+3.2**
TMUT	**Trail Mountain**	**6.75**	**210**	Pn			**Pn**	**22 15 49.5**	**+1.0**
PV04	**Paradox Valley**	**7.00**	**193**	Pn			**Pn**	**22 15 52.8**	**+1.0**
PV14	**Lion Creek, Pa**	**7.04**	**194**	Pn			**Pn**	**22 15 51.8**	**-0.7**
ELK	**Elko**	**7.60**	**237**	Pn			**Pn**	**22 15 57.4**	**-2.7**
	comp=E,0.1nm,0.3s,baz=65,slow=19,SNR=1.7								
ELK					Lg		Lg	22 18 01.3	
	comp=E,0.1nm,0.3s,baz=81,slow=18,SNR=3.4								
NEW	**Newport**	**7.67**	**297**	Pg			**Pb**	**22 16 21.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=119,slow=19,SNR=2.0								
NEW					Lg		Lg	22 18 06.0	
	comp=E,0.3nm,0.3s,baz=26,slow=23,SNR=4.1								
I10CA	**LAC DU BONNET**	**8.84**	**52**	*i*				23 09 10.0	
	baz=234,slow=317,SNR=4.0								
ULM	**Lac du Bonnet**	**8.95**	**52**	Pn			**Pn**	**22 16 16.9**	**-1.5**
	comp=E,1.7nm,0.3s,baz=237,slow=13,SNR=18								
ULM					Lg		Lg	22 18 49.1	
	comp=E,0.5nm,0.3s,baz=129,slow=16,SNR=3.4								

IDC **16** *22:16:17.5±1.5,6˚.54S×154˚.96E,h74km±13km,mb3.9/15, mb1 4.1/20,mb1mx4.0/41,mbtmp4.2/20,MS3.2/7, Ms1 3.2/7,ms1mx2.9/43,Error ellipse: s-maj=14.2km s-min=9.7km az=44.0*
NEIC **16** *22:16:19.1±1.6,6˚.63S±0˚.08×155˚.02E±0˚.08,h89km±7km, mb4.4/53,Error ellipse: s-maj=12.3km s-min=9.9km az=224.0*

ISC 16 22:16:20.1±0.4, 6˚.62S±0˚.06×154˚.94E±0˚.06, h100km, n90, σ1°09/91, mb4.3/42, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.67**	**311**	Pn	**Pn**	**22 17 14.5**	**-0.4**
KRVT	**Keravat (AS076**	**3.70**	**308**	P	**Pn**	**22 17 12.0**	**-3.3**
	10nm,0.3s,baz=118,slow=1.2,SNR=5.1						
KRVT				S	**Sn**	**22 17 54.0**	**-4.0**
	75nm,0.3s,baz=185,slow=22,SNR=11						
KRVT				LR	LR	22 18 18.7	
	comp=Z,112nm,20.1s,baz=98,slow=33						
HNR	**Honiara**	**5.69**	**120**	P	**Pn**	**22 17 40.3**	**-1.9**
	17nm,0.3s,baz=211,slow=5.9,SNR=2.5						
HNR				S	**Sn**	**22 18 45.1**	**-1.2**
	34nm,0.3s,baz=185,slow=7.0,SNR=2.1						
HNR				LR	LR	22 19 41.3	
	comp=Z,270nm,20.6s,baz=304,slow=36						
PMG	**Port Moresby**	**8.19**	**250**	P	**Pn**	**22 18 14.9**	**-1.3**
	7.3nm,0.3s,baz=80,slow=4.4,SNR=12						
PMG				S	**Sn**	**22 19 47.7**	**+0.7**
	1.9nm,0.3s,baz=58,slow=19,SNR=3.4						
PMG				LR	LR	22 21 17.2	
	comp=Z,177nm,21.7s,baz=67,slow=36						
PMG	**Port Moresby**	**8.19**	**250**		**Pn**	**22 18 15.3**	**-0.8**
COEN	**Coen**	**13.67**	**237**	Pn	**Pn**	**22 19 27.4**	**-2.5**
PATS	**Pohnpei**	**13.79**	**14**	Pn	Pn	22 19 26.0	-5.3
CTA	**Charters Tower**	**15.82**	**211**	P	**Pn**	**22 19 56.9**	**-0.3**
	0.3nm,0.3s,baz=33,slow=13,SNR=7.6						
CTAO	**Charters Tower**	**15.82**	**211**	Pn	**Pn**	**22 19 57.1**	**-0.1**
DZM	**Mont Dzumac**	**18.95**	**145**	P	**P**	**22 20 33.2**	**-0.4**
	1.0nm,0.3s,baz=303,slow=13,SNR=11						
DZM	**Mont Dzumac**	**18.95**	**145**	P	**P**	**22 20 31.1**	**-2.5**
KWAJ	**Kwajalein Atol**	**19.86**	**40**	P	**P**	**22 20 44.0**	**+0.6**
GUMO	**Guam**	**22.43**	**334**	LR	LR	22 27 46.3	
	comp=Z,76nm,21.4s,baz=200,slow=31						
GUMO	**Guam**	**22.43**	**334**	P	**P**	**22 21 12.1**	**+1.3**
FAKI	**Fak Fak**	**22.91**	**278**	P	**P**	**22 21 13.0**	**-2.7**
FAKI				IAmb	IAmb	22 21 24.2	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**23.83**	**234**	P	**P**	**22 21 24.9**	**+0.7**
WR0				IAmb	IAmb	22 21 39.5	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**23.85**	**235**	P	**P**	**22 21 25.5**	**+1.1**
WB0				IAmb	IAmb	22 21 40.2	
	comp=Z,12nm,1.1s						
ARMA	**Armidale**	**23.88**	**187**	P	**P**	**22 21 25.2**	**+0.6**
ARMA				IAmb	IAmb	22 21 27.5	
	comp=Z,14nm,1.1s						
WC3	**Warramunga Arr**	**23.96**	**234**	P	**P**	**22 21 26.0**	**+0.6**
WRAB	**Tennant Creek**	**23.97**	**235**	P	**P**	**22 21 26.9**	**+1.5**
WRAB				I

HMT	Hamilton	81.86	26	P		P		22 28 28.8	+0.7	
M24K	Tolsona, Glenn	81.94	24	P		P		22 28 28.9	+0.5	
M24K				IAmb		IAmb		22 28 48.8		
	comp=Z,7.6nm,0.8s									
DHY	Denali Highway	81.97	23	P		P		22 28 27.2	-1.6	
DHY				IAmb		IAmb		22 28 39.3		
	comp=Z,4.8nm,1.1s									
WRH	Wood River Hil	82.45	21	P		P		22 28 30.5	-0.6	
CRQM	Cirque	82.54	26	P		P		22 28 32.5	+0.6	
CRQM				IAmb		IAmb		22 28 38.2		
	comp=Z,6.7nm,0.9s									
GLB	Gilahina Butte	82.58	25	P		P		22 28 31.9	0.0	
GLB				IAmb		IAmb		22 28 33.0		
	comp=Z,4.5nm,0.8s									
VRDI	Verde Repeater	82.63	25	P		P		22 28 32.7	+0.4	
VRDI				IAmb		IAmb		22 28 37.5		
	comp=Z,4.8nm,1.1s									
CCB	Clear Creek Bu	82.65	21	P		P		22 28 31.5	-0.5	
HDA	Harding Lake	82.84	22	P		P		22 28 32.8	-0.2	
BALM	Baldy	83.02	26	P		P		22 28 34.6	+0.4	
BALM				IAmb		IAmb		22 28 37.2		
	comp=Z,4.1nm,0.9s									
IL31		83.05	22	P		P		22 28 33.4	-0.6	
ILAR	Eielson Array	83.05	22	P		P		22 28 33.0	-1.2	
	comp=Z,0.7nm,0.5s,baz=238,slow=4.7,SNR=7.7									
MK31	Makanchi Array	83.09	319	P		P		22 28 35.4	+0.6	
MKAR	Makanchi Array	83.09	319	P		P		22 28 34.2	-0.6	
	comp=Z,1.2nm,0.7s,baz=111,slow=5.3,SNR=12									
MKAR	Makanchi Array	83.09	319	P		P		22 28 34.7	-0.1	
TABL	Table Mountain	83.28	27	P		P		22 28 36.0	+0.4	
BARN	Barnard Glacie	83.33	26	P		P		22 28 36.6	+0.7	
BARN				IAmb		IAmb		22 28 39.4		
	comp=Z,4.7nm,0.8s									
QSPA	South Pole Qui	83.35	180	P		P		22 28 36.8	+0.9	
QSPA				IAmb		IAmb		22 28 37.5		
	comp=Z,4.5nm,0.8s									
CTGM	Chitina Glacie	83.43	26	P		P		22 28 36.9	+0.6	
CTGM				IAmb		IAmb		22 28 49.4		
	comp=Z,5.8nm,0.8s									
DOT	Dot Lake	83.55	23	P		P		22 28 36.0	-0.7	
DOT				IAmb		IAmb		22 28 37.5		
	comp=Z,3.1nm,0.8s									
ZALV	Zalesovo Beam	83.84	326	P		P		22 28 37.1	-1.3	
	comp=Z,0.5nm,0.5s,baz=76,slow=6.3,SNR=3.7									
BCAR	Beaver Creek A	84.18	24	P		P		22 28 41.2	+1.2	
MAW	Mawson	84.72	203	P		P		22 28 42.9	+0.3	
	comp=Z,2.0nm,0.7s,baz=94,slow=8.5,SNR=10									
MAW	Mawson	84.72	203	P		P		22 28 43.9	+1.3	
HYT	Haines Junctio	85.07	27	P		P		22 28 45.1	+0.4	
EGAK	Eagle	85.20	23	P		P		22 28 45.4	+0.4	
EGAK				IAmb		IAmb		22 28 46.0		
	comp=Z,4.7nm,1.1s									
NVAR	Mina Array Bea	91.53	52	P		P		22 29 16.4	+0.3	
	comp=Z,0.6nm,0.6s,baz=253,slow=6.6,SNR=6.8									
PDAR	Pinedale Array	98.49	48	P		P		22 29 47.2	-0.6	
	comp=Z,0.4nm,0.8s,baz=288,slow=4.6,SNR=2.6									
BDFB	Brasília	148.28	134	PKPbc		PKiKP		22 35 57.9	+0.5	
	comp=Z,4.0nm,0.6s,baz=279,slow=2.8,SNR=6.7									
TORD	Torodi Ar. Bea	152.87	286	PKPbc		PKPbc		22 36 06.0	-0.7	
	comp=Z,2.6nm,0.6s,baz=64,slow=2.4,SNR=17									
TORD				PKPab		PKPab		22 36 18.3	+0.2	
	comp=Z,1.0nm,0.5s,baz=81,slow=3.8,SNR=6.0									

*SNET **16** 22:18:46.7±1.9, 15°.33N×89°.85W, h10km, ML3.1*
*GCG **16** 22:18:47.6±0.7, 15°.11N×89°.79W, h14km±23km, MD3.8*

ISC 16 22:18:46.4±1.5, **15°.27N**±0°.06×**89°.85W**±0°.04, **h12**km±11km, **n16**, σ0°**73**/21, **1D**, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	Marmol	0.24	140	||iP	Pg	22 18 51.9	+0.2
NBG	Las Nubes	0.83	216	eP	Pg	22 19 01.9	-0.6
ESQI	Esquipulas	0.86	145	eP	Pn	22 19 03.8	-0.6
ESQI				eS	Sn	22 19 18.0	+1.0
MTO3	Montecristo	0.98	151	eP	Pg	22 19 04.6	-0.8
MTO3				IAML		22 19 22.6	
	comp=Z,276nm,0.3s						
PCG	Pacaya	1.14	220	eP	Pb	22 19 07.9	-0.3
FUG	Fuego 3	1.26	230	eP	Pn	22 19 09.4	-0.6
FUG				eS	Sb	22 19 26.6	0.0
TACO	Tacachico	1.38	160	eP	Pn	22 19 11.0	-0.5
TACO				eS	Sg	22 19 31.7	+0.9
TACO				IAML		22 19 43.6	
	comp=Z,172nm,0.6s						
RTR	El Retiro	1.38	172	eP	Pg	22 19 12.7	-0.2
SNJE	San Jose	1.41	170	eP	Pb	22 19 12.5	-0.4
SBLS	San Blas	1.44	171	eP	Pb	22 19 13.4	+0.1
HUEH	Huehuetenango	1.60	272	eP	Pn	22 19 14.2	-0.5
HUEH				eS	Sb	22 19 38.0	+1.7
PETF	Flores	1.64	359	eP	Pn	22 19 14.6	-0.5
LFIJ	La Fuente	1.67	155	eP	Pn	22 19 17.1	-0.1
PAVA	Las Pavas	1.78	150	eP	Pb	22 19 18.5	-0.6
PAVA				eS	Sg	22 19 44.3	+0.5
PAVA				IAML		22 19 49.0	
	comp=Z,381nm,0.6s						
LFRS	El Faro	1.80	155	eP	Pb	22 19 18.9	-0.6
RTAL	Retalhuleu	1.93	248	eS	Sb	22 19 46.4	+0.7

*IDC **16** 22:21:14.1±1.5, 1°.38N×126°.96E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4, Error ellipse: s-maj=153.1km s-min=22.1km az=69.0*
*NEIC **16** 22:21:22.3±1.4, 1°.2N±0°.1×126°.9E±0°.1, h72km±7km, mb4.6/12, Error ellipse: s-maj=25.2km s-min=11.7km az=223.0*

ISC 16 22:21:22.1±0.7, **1°.2N**±0°.1×**126°.9E**±0°.1, **h72**km, **n22**, σ1**944**/22, **mb4.2**/10, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.64	131		Pn	22 21 36.8	+0.2
FAKI	Fak Fak	6.75	127	Pn	Pn	22 22 58.3	-0.3
MYLDM	Lahad Datu	9.25	295	Pn	Pn	22 23 34.0	+1.1
KNRA	Kununurra	16.87	174		P	22 25 14.3	-0.4
WB0	Warramunga Arr	22.10	161	P	P	22 26 11.9	+0.3
WRA	Warramunga Arr	22.25	161	P	P	22 26 12.8	-0.4
	1.0nm,0.5s,baz=340,slow=11,SNR=7.2						
WB2	Warramunga Arr	22.25	161	P	P	22 26 13.8	+0.5
WC3	Warramunga Arr	22.27	161	P	P	22 26 13.4	-0.1
WR0	Warramunga Arr	22.33	161	P	P	22 26 15.8	+1.7
NACB	Ninganchiao	23.41	348	P	P	22 26 22.0	-3.0
NACB				IAmb	IAmb	22 26 28.9	
	comp=Z,19nm,0.8s						
ASAR	Alice Springs	25.64	165	P	P	22 26 48.4	+3.1
	comp=Z,0.6nm,0.4s,baz=345,slow=11,SNR=5.2						
GIRL	Giralia	26.71	207	P	P	22 26 54.1	-0.7
GIRL				IAmb	IAmb	22 27 07.2	
	comp=Z,40nm,1.1s						
FORT	Forrest	31.82	178	P	P	22 27 38.3	-1.7
FORT				IAmb	IAmb	22 27 39.3	
	comp=Z,23nm,1.1s						
SONM	Songino Array	49.73	342	P	P	22 30 07.6	+0.3
	comp=Z,0.2nm,0.5s,baz=147,slow=8.6,SNR=2.3						
THZ	Tophouse	59.63	141	P	P	22 31 19.2	+0.3
THZ				IAmb	IAmb	22 31 36.3	
	comp=Z,19nm,1.2s						
MK31	Makanchi Array	59.72	326	P	P	22 31 19.6	+0.2
MKAR	Makanchi Array	59.72	326	P	P	22 31 19.5	+0.1
	comp=Z,0.5nm,0.4s,baz=119,slow=7.8,SNR=9.3						
KDJ	Kajisay	60.34	319	P	P	22 31 24.4	+0.5
KDJ				IAmb	IAmb	22 31 41.4	
	comp=Z,1.8nm,0.9s						
KHZ	Kahutara	60.38	142	P	P	22 31 24.2	+0.3
BFZ	Birch Farm	61.20	139	P	P	22 31 33.0	+3.4
KNTN	Kanton	61.51	94	P	P	22 31 32.2	+0.1
KURK	Kurchatov	63.95	328	P	P	22 31 47.8	+0.1
KURK				IAmb	IAmb	22 31 49.0	
	comp=Z,2.0nm,0.7s						

IDC 16 22:26:28.9±2.5, **6°.85N×93°.46E, h0**km, **mb3.6**/4, **mb1 3.7**/5, **mb1mx3.4**/47, **mbtmp3.5**/5, **ML3.7**/1, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.6**/33, **Error ellipse: s-maj=95.5km s-min=25.2km az=62.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.72	24	Pn	Pn	22 29 31.8	+0.6
	0.1nm,0.3s,baz=319,slow=31,SNR=1.9						
LEM	Lembang	19.60	134	LR	LR	22 39 41.7	
	comp=Z,109nm,19.0s,baz=198,slow=40						
H08S3	Diego Garcia H	25.38	236	T	T	22 58 44.7	
	baz=55,slow=75						
H08S2	Diego Garcia H	25.38	236	T	T	22 59 00.7	
	baz=55,slow=75						
H08S1	Diego Carcia H	25.40	236	T	T	22 58 53.6	
	baz=55,slow=75						
MKAR	Makanchi Array	40.94	348	P	P	22 34 13.1	-0.2
	1.4nm,0.8s,baz=161,slow=7.7,SNR=10						
ZALV	Zalesovo Beam	47.48	353	P	P	22 35 05.4	-0.2
	0.5nm,0.5s,baz=162,slow=6.1,SNR=3.6						
WRA	Warramunga Arr	48.23	124	P	P	22 35 11.3	-0.6
	0.4nm,0.7s,baz=306,slow=8.7,SNR=2.4						
ASAR	Alice Springs	49.79	129	P	P	22 35 24.2	+0.4
	0.3nm,0.8s,baz=300,slow=7.4,SNR=2.0						

*NEIC **16** 22:37:07.5±1.8, 34°.99S±0°.04×179°.0W±0°.2, h6km±6km, mb4.8/30, ML5.2(WEL), Error ellipse: s-maj=19.0km s-min=4.5km az=105.0*
*WEL **16** 22:37:19.5±1.3, 35°.5S±12°×18°.0W±1°.4, h57km±211km, M5.2/22, ML5.4/22, MLv5.2/22, Error ellipse: s-maj=0.0km s-min=0.0km az=106.8*
*IDC **16** 22:37:22.2±2.7, 34°.95S×179°.95E, h72km±20km, mb4.3/12, mb1 4.4/13, mb1mx4.2/37, mbtmp4.6/13, MS3.9/14, Ms1 3.9/14, ms1mx3.8/19, Error ellipse: s-maj=19.9km s-min=15.6km az=62.0*

ISC 16 22:37:16.9±0.5, **34°.95S**±0°.06×**179°.69W**±0°.07, **h35**km, **n158**, σ1**987**/146, **mb4.7**/25, **MS4.1**/16, **1C**, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.07	211	P	Pn	22 38 03.3	+0.4
MXZ				S	Sn	22 38 37.0	-1.4
MXZ	Matakaoa Point	3.07	211	Pn	Pn	22 38 02.4	-0.5
WMGZ	Waiomatatini S	3.25	208	P	Pn	22 38 07.4	+2.1
PKGZ	Pakihiroa	3.45	211	P	Pn	22 38 09.6	+1.5
PKGZ				S	Sn	22 38 48.0	+0.3
HAZ	Te Kaha	3.47	215	P	Pn	22 38 10.4	+2.1
HAZ				S	Sn	22 38 50.9	+2.8
PUZ	Puketiti	3.53	207	P	Pn	22 38 10.7	+1.5
WIZ	White Island	3.61	224	P	Pn	22 38 10.9	+0.6
RUGZ	Raukumara Rang	3.69	214	P	Pn	22 38 13.7	+2.2
RUGZ				S	Sn	22 38 53.4	-0.3
TWGZ	Tauwhareparae	3.73	210	P	Pn	22 38 13.1	+1.1
CNGZ	Carnagh Statio	3.92	205	P	Pn	22 38 15.6	+1.1
WHRZ	Whale Island	3.96	222	P	Pn	22 38 17.6	+2.5
TKGZ	Te Karaka	4.01	209	P	Pn	22 38 16.5	+0.7
MYRZ	Mayor Island	4.04	234	P	Pn	22 38 18.7	+2.6
MWZ	Matawai	4.06	213	P	Pn	22 38 17.0	+0.6
KUZ	Kuaotunu	4.14	243	P	Pn	22 38 18.7	+1.2
GRZ	Great Barrier	4.17	250	P	Pn	22 38 18.6	+0.7
OPRZ	Ohinepanea	4.19	225	P	Pn	22 38 19.6	+1.3
URZ	Urewera	4.19	217	P	Pn	22 38 19.7	+1.5
	39nm,0.3s,baz=278,slow=3.5,SNR=129						
URZ				S	Sn	22 39 05.6	-0.4
	77nm,0.3s,baz=178,slow=12,SNR=8.2						
URZ	Urewera	4.19	217	P	Pn	22 38 19.1	+0.9
URZ	Urewera	4.19	217	Pn	Pn	22 38 18.4	+0.1
MARZ	Manawahe	4.22	223	P	Pn	22 38 19.5	+0.8
RAGZ	Rawiri	4.24	212	P	Pn	22 38 19.7	+0.7
RIGZ	Rimuhau	4.27	208	P	Pn	22 38 20.5	+1.1
TGRZ	Tauranga	4.29	228	P	Pn	22 38 20.9	+1.3
PRGZ	Paritu Road	4.42	205	P	Pn	22 38 21.7	+0.3
MKRZ	Makatiti	4.44	223	P	Pn	22 38 24.2	+2.4
OMRZ	Omania	4.47	224	P	Pn	22 38 24.3	+2.1
TARZ	Mount Tarawera	4.49	222	P	Pn	22 38 24.7	+2.2
SNGZ	Shannon Statio	4.51	211	P	Pn	22 38 23.3	+0.6
RTZ	Ruatahuna	4.54	215	P	Pn	22 38 24.0	+0.9
KNZ	Kokohu	4.58	207	P	Pn	22 38 23.0	-0.7
BKZ	Black Stump Fm	5.20	215	Pn	Pn	22 38 31.5	-0.7
OUZ	Omahuta	5.51	265	Pn	Pn	22 38 38.1	+1.6
HIZ	Hauiti	5.65	229	Pn	Pn	22 38 40.0	+1.7
RAO	Raoul Island	5.87	15	Pn	Pn	22 38 34.1	-7.2
BFZ	Birch Farm	6.57	208	Pn	Pn	22 38 47.9	-3.0
MSWZ	Moikau Station	7.59	210	Pn	Pn	22 39 01.9	-3.0
PLWZ	Palliser	7.72	210	Pn	Pn	22 39 03.1	-3.6
SNZO	South Karori	7.74	213	Pn	Pn	22 39 05.4	-1.5
BHW	Baring Head	7.74	212	Pn	Pn	22 39 04.9	-2.1
TUWZ	Tuamarina	8.19	216		Pn	22 39 09.1	-4.0
NNZ	Nelson	8.31	219	Pn	Pn	22 39 15.2	+0.5
CMWZ	Cape Campbell	8.31	213	Pn	Pn	22 39 14.6	-0.2
BSWZ	Blackbirch Sta	8.44	215	Pn	Pn	22 39 15.4	-1.2
QRZ	Quartz Range	8.50	224	Pn	Pn	22 39 16.9	-0.5
THZ	Tophouse	8.95	218	Pn	Pn	22 39 23.3	-0.3
KHZ	Kahutara	9.14	213		Pn	22 39 24.0	-2.2
LTZ	Lake Taylor	10.02	216	Pn	Pn	22 39 35.7	-2.6
OXZ	Oxford	10.54	215		Pn	22 39 43.7	-1.7
MQZ	McQueen's Vall	10.56	212	Pn	Pn	22 39 41.2	-4.4
RPZ	Rata Peaks	11.31	217	P	Pn	22 39 54.2	-1.7
	2.3nm,0.3s,baz=47,slow=17,SNR=2.6						
RPZ				S	Sn	22 41 48.5	-12
	4.7nm,0.3s,baz=358,slow=20,SNR=9.0						
RPZ	Rata Peaks	11.31	217	Pn	Pn	22 39 55.0	-0.9
FOZ	Fox Glacier	11.81	220	Pn	Pn	22 40 02.8	+0.1
LBZ	Lake Benmore	12.23	217	Pn	Pn	22 40 05.8	-2.6
ODZ	Otahua Downs	12.51	213	Pn	Pn	22 40 06.6	-2.6
WKZ	Wanaka	13.12	218	Pn	Pn	22 40 18.8	-1.9
MLZ	Mavora Lakes	13.96	218	Pn	Pn	22 40 30.8	-1.2
WHZ	Wether Hill Ro	14.41	217	Pn	Pn	22 40 35.4	-2.8
DZM	Mont Dzumac	17.67	313	eP	P	22 41 24.9	+3.9
	14nm,0.8s						
DZM				eS	Sn	22 44 33.3	-2.9
	167nm,23.9s						
DZM				eLR	LR	22 45 22.6	
	comp=Z,2μm,24.6s						
DZM	Mont Dzumac	17.67	313	P	Pn	22 41 16.1	-4.3
	0.1nm,0.3s,baz=126,slow=19,SNR=1.8						
DZM				LR	LR	22 47 00.2	
	comp=Z,1μm,18.6s,baz=215,slow=33						
DZM	Mont Dzumac	17.67	313	P	Pn	22 41 20.4	0.0
LHI	Lord Howe Isla	18.10	275	P	P	22 41 28.3	+2.7
LHI				IAmb	IAmb	22 41 43.7	
	comp=Z,77nm,1.1s						
RAR	Rarotonga	22.21	57	LR	LR	22 48 58.1	
	comp=Z,357nm,19.6s,baz=248,slow=31						
SANVU	Saraoutou	22.71	325	P	P	22 42 16.8	+1.2
ARMA	Armidale	24.52	273	P	P	22 42 33.8	+0.6
ARMA				IAmb	IAmb	22 42 39.3	
	comp=Z,16nm,1.0s						
MCQ	Macquarie Isla	24.57	211	P	P	22 42 31.9	-1.4
MCQ				IAmb	IAmb	22 42 36.6	
	comp=Z,25nm,0.9s						
CAN	Canberra	25.56	260	P	P	22 42 43.6	+1.1
CAN				IAmb	IAmb	22 42 50.8	
	comp=Z,20nm,1.0s						
TAU	Tasmania Unive	26.74	243	P	P	22 42 51.4	-1.6
TAU				IAmb	IAmb	22 43 04.0	
	comp=Z,19nm,1.1s						
EIDS	Eidsvold	26.94	283	P	P	22 42 56.8	+1.8
EIDS				IAmb	IAmb	22 43 14.5	
	comp=Z,10.0nm,1.1s						
TOO	Toolangi	28.11	254	P	P	22 43 05.7	+0.3
TBI	Tubuai	28.71	74	eLR	LR	22 50 11.0	
	comp=Z,710nm,26.5s						
TBI	Tubuai	28.71	74	eT	T	23 11 51.1	
	comp=Z,32nm,0.4s						
HNR	Honiara	31.49	319	LR	LR	22 54 53.2	
	comp=Z,136nm,18.5s,baz=149,slow=34						
PAE	Paea	31.84	65	eT	T	23 15 26.6	
	comp=Z,4.0nm,0.3s						
PPT2	Papeete2	31.89	65	eLR	LR	22 51 34.5	
	comp=Z,779nm,25.5s						
PPT	Papeete	31.90	65	LR	LR	22 54 11.6	
	comp=Z,189nm,21.8s,baz=186,slow=31						
STKA	Stephens Creek	32.33	264	P	P	22 43 43.6	+0.8
	comp=Z,5.3nm,0.8s,baz=101,slow=10,SNR=11						
STKA				LR	LR	22 55 34.9	
	comp=Z,351nm,19.8s,baz=60,slow=34						
STKA	Stephens Creek	32.33	264	P	P	22 43 46.5	+3.8
MEH	Mehetia	32.84	67	eT	T	23 16 45.6	
	comp=Z,9.8nm,0.2s						
CTA	Charters Tower	33.45	287	P	P	22 43 53.4	+0.7
	comp=Z,15nm,0.9s,baz=111,slow=12,SNR=13						
CTAO	Charters Tower	33.45	287	P	P	22 43 55.0	+2.4
CTAO				IAmb	IAmb	22 43 56.9	
	comp=Z,16nm,0.8s						
VAH	Vaihoa	34.82	64	eT	T	23 19 06.4	
	comp=Z,9.2nm,0.3s						
BBOO	Buckleboo	36.58	260	P	P	22 44 19.6	0.0
BBOO				IAmb	IAmb	22 44 24.6	
	comp=Z,13nm,1.1s						
COEN	Coen	39.42	293	P	P	22 44 45.9	+2.2
COEN				IAmb	IAmb	22 44 47.7	
	comp=Z,19nm,0.9s						
RKT	Rikitea	40.53	85	eLR	LR	22 55 46.8	
	comp=Z,577nm,23.0s						
AS31	Alice Springs	41.67	273	P	P	22 45 02.4	+0.2
ASAR	Alice Springs	41.67	273	P	P	22 45 01.8	-0.4
	comp=Z,17nm,0.7s,baz=115,slow=7.6,SNR=57						
ASAR				ScP	ScP	22 50 39.3	-6.8
	comp=Z,1.2nm,0.9s,baz=115,slow=6.2,SNR=4.4						
ASAR				LR	LR	23 01 48.0	
	comp=Z,503nm,20.2s,baz=124,slow=35						
ASAR	Alice Springs	41.67	273	P	P	22 45 03.2	+1.0
XMAS	Kiritimati	42.30	34	P	P	22 44 59.6	-7.6
XMAS				IAmb	IAmb	22 45 06.9	
	comp=Z,21nm,0.9s						
WR0	Warramunga Arr	42.90	278	P	P	22 45 11.8	-0.4
WR0				IAmb	IAmb	22 45 13.7	
	comp=Z,9.3nm,0.9s						
WC3	Warramunga Arr	43.04	278	P	P	22 45 13.3	0.0
WB2	Warramunga Arr	43.07	278	P	P	22 45 13.2	-0.3
WRAB	Tennant Creek	43.07	278	P	P	22 45 16.0	+2.4
WRAB				IAmb	IAmb	22 45 16.5	
	comp=Z,20nm,0.6s						
WRA	Warramunga Arr	43.08	278	P	P	22 45 12.7	-0.9
	comp=Z,15nm,0.6s,baz=120,slow=7.6,SNR=50						
WRA				ScP	ScP	22 50 46.6	-5.1
	comp=Z,0.4nm,0.5s,baz=114,slow=3.4,SNR=2.4						
WRA				LR	LR	23 03 36.1	
	comp=Z,444nm,18.3s,baz=125,slow=37						
WB0	Warramunga Arr	43.12	278	P	P	22 45 13.4	-0.5
VNDA	Vanda	43.44	186	P	P	22 45 18.4	+2.6
	comp=Z,0.8nm,0.8s,baz=360,slow=8.5,SNR=3.1						
VNDA				LR	LR	22 59 47.2	
	comp=Z,82nm,19.9s,baz=9.5,slow=31						
FORT	Forrest	43.68	260	P	P	22 45 18.1	-0.3
FORT				IAmb	IAmb	22 45 18.6	
	comp=Z,20nm,0.8s						
CASY	Casey	50.48	209	P	P	22 46 10.9	+0.1
CASY				IAmb	IAmb	22 46 27.8	
	comp=Z,7.6nm,0.9s						
FITZ	Fitzroy Crossi	51.11	274	P	P	22 46 15.4	-0.9
	comp=Z,5.2nm,0.7s,baz=143,slow=6.9,SNR=14						
FITZ	Fitzroy Crossi	51.11	274	P	P	22 46 15.8	-0.4
FITZ				IAmb	IAmb	22 46 16.8	
	comp=Z,7.8nm,1.1s						
NWAO	Narrogin (SRO)	51.59	253	P	P	22 46 17.2	-2.5
NWAO	Narrogin (SRO)	51.59	253	P	P	22 46 17.3	-2.5
NWAO				IAmb	IAmb	22 46 23.7	
	comp=Z,1.8nm,0.7s						
MORW	Morawa	54.00	257	P	P	22 46 35.9	-1.7
MORW				IAmb	IAmb	22 46 36.8	
	comp=Z,8.8nm,1.1s						
PSAD2	Pilbara Seismi	54.06	267	P	P	22 46 37.2	-0.9
PSAC2	Pilbara Seismi	54.13	267	P	P	22 46 37.5	-1.2
PSAB3	Pilbara Seismi	54.16	267	P	P	22 46 37.8	-1.0
PSAA3	Pilbara Seismi	54.16	267	P	P	22 46 38.0	-0.9
PSAC3	Pilbara Seismi	54.16	267	P	P	22 46 38.1	-0.7
PSAB2	Pilbara Seismi	54.17	267	P	P	22 46 37.9	-1.0
PSA00	Pilbara Seismi	54.17	267	P	P	22 46 37.8	-1.2
PSAA2	Pilbara Seismi	54.18	267	P	P	22 46 38.0	-1.0
PSAA1	Pilbara Seismi	54.18	267	P	P	22 46 37.1	-1.9
PSAB1	Pilbara Seismi	54.19	267	P	P	22 46 38.2	-0.9
PSAD3	Pilbara Seismi	54.19	267	P	P	22 46 37.8	-1.3
PSAC1	Pilbara Seismi	54.22	267	P	P	22 46 38.4	-0.9
PSAD1	Pilbara Seismi	54.24	267	P	P	22 46 38.7	-0.7
FAKI	Fak Fak	54.75	295	P	P	22 46 42.3	-0.9
QSPA	South Pole Qui	55.17	180	P	P	22 46 48.6	+2.9
	comp=Z,7.2nm,0.8s,baz=347,slow=0.4,SNR=33						
GIRL	Giralia	58.27	263	P	P	22 47 07.5	-0.6
MAW	Mawson	67.57	202	P	P	22 48 10.6	+1.4
	comp=Z,8.5nm,1.1s,baz=105,slow=7.7,SNR=15						
MAW				LR	LR	23 17 18.5	
	comp=Z,123nm,18.8s,baz=68,slow=36						
MAW	Mawson	67.57	202	P	P	22 48 11.1	+1.9
SYO	Syowa Base	72.38	194	ePcP	PcP	22 48 52.0	-4.5
SNAA	Sanae	73.66	179	P	P	22 48 48.8	+2.4
VNA3	Neumayer Olymp	73.87	177	P	P	22 48 48.9	+1.4
VNA2	Neumayer--Watz	74.28	177	P	P	22 48 51.6	+1.6
	baz=179,slow=6.0						
VNA1	Neumayer--Stat	74.52	177	P	P	22 48 53.1	+1.8
H03S2	Juan Fernandez	79.14	124	T	T	00 17 28.6	
	baz=233,slow=74						
H03S1	Juan Fernandez	79.15	124	T	T	00 17 28.9	
	baz=233,slow=74						
H03S3	Juan Fernandez	79.16	124	T	T	00 17 25.8	
	baz=233,slow=74						
H03N3	Juan Fernandez	79.36	123	T	T	00 17 38.0	
	baz=238,slow=72						
H03N2	Juan Fernandez	79.36	123	T	T	00 17 36.8	
	baz=238,slow=72						
H03N1	Juan Fernandez	79.38	123	T	T	00 17 50.6	
	baz=238,slow=72		

ISC 16 22:43:39.7±0.4, 62.03N±0.04×2.31E±0.04, h10km, n353, σ2.01/418, mb4.2/19, MS3.5/8, 7C-19D, Norwegian Sea

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Code  Station Name        Δ°   AZ°    Phase ID        Time        Res
                                    Op    ISC      h  m  s      ISC
FOO   Floro              1.37 107    Pg    Pn     22 44 05.8 +1.0
FOO                                  Lg    Lg     22 44 23.0
FOO   Floro              1.37 107   eP     Pn     22 44 05.7 +1.0
FOO                                  IAML         22 44 25.4
      comp=N,469nm,0.4s
FOO                                  IAML         22 44 25.6
      comp=E,473nm,0.3s
FOO   Floro              1.37 107   eP     Pn     22 44 05.7 +1.0
FOO                                  IAML         22 44 25.4
      comp=N,469nm,0.4s
FOO                                  IAML         22 44 25.6
      comp=E,473nm,0.3s
FOO   Floro              1.37 107⇓ iP      Pn     22 44 05.7 +1.0
FOO                                 eS     Sb     22 44 23.3 +0.5
FOO                                  IAML         22 44 24.9
      comp=Z,1μm,0.2s
SUE   Sulen              1.52 129⇓ iP      Pn     22 44 08.1 +1.1
SUE                                 eS     Sn     22 44 26.9 +0.2
SUE                                  IAML         22 44 28.5
      comp=Z,1μm,0.4s
HYA   Hoyanger           2.04 113    Pn    Pn     22 44 15.5 +1.5
HYA                                  Sn    Sn     22 44 40.0 +0.4
HYA   Hoyanger           2.04 113⇓ iP      Pn     22 44 15.6 +1.5
HYA                                 e             22 44 22.8
HYA                                 eS     Sn     22 44 40.6 +1.0
HYA                                  IAML         22 44 44.5
      comp=Z,681nm,0.2s
ASK   Askoy              2.08 137⇓ iP      Pn     22 44 16.1 +1.4
ASK                                 eS     Sn     22 44 40.6 +0.1
ASK                                  IAML         22 44 42.9
      comp=Z,384nm,0.1s
BER   Bergen             2.20 137    Pn    Pn     22 44 17.5 +1.3
BER                                  Sn    Sn     22 44 43.4 -0.1
BER   Bergen             2.20 137⇓ iP      Pn     22 44 17.6 +1.3
BER                                 eS     Sn     22 44 43.4 -0.1
BER                                  IAML         22 44 45.1
      comp=N,171nm,0.3s
BER                                  IAML         22 44 45.2
      comp=E,240nm,0.3s
BER   Bergen             2.20 137⇓ iP      Pn     22 44 17.6 +1.3
BER                                 eS     Sn     22 44 43.4 -0.1
BER                                  IAML         22 44 45.1
      comp=N,171nm,0.3s
BER                                  IAML         22 44 45.2
      comp=E,240nm,0.3s
BER   Bergen             2.20 137⇓ iP      Pn     22 44 17.6 +1.3
BER                                 eS     Sn     22 44 43.4 -0.1
BER                                  IAML         22 44 50.7
      comp=Z,438nm,0.3s
YEL1  Yell               2.21 229   eP     Pn     22 44 17.1 +0.7
YEL1  Yell               2.21 229   eP     Pn     22 44 17.1 +0.7
YEL1  Yell               2.21 229   eP     Pn     22 44 17.1 +0.7
AKN   Aaknes             2.21  84    Pn    Pn     22 44 17.9 +1.5
AKN                                  Sn    Sn     22 44 43.6 -0.2
AKN   Aaknes             2.21  84    Pn    Pn     22 44 17.9 +1.5
AKN                                  Sn    Sn     22 44 43.6 -0.2
MOL   Molde              2.51  75    Pn    Pn     22 44 21.5 +1.0
MOL                                  Sn    Sn     22 44 48.8 -2.3
MOL   Molde              2.51  75   eP     Pn     22 44 21.4 +1.0
MOL                                 eS     Sn     22 44 48.7 -2.3
MOL                                  IAML         22 44 52.6
      comp=N,2μm,0.2s
MOL                                  IAML         22 44 53.6
      comp=E,929nm,0.2s
MOL   Molde              2.51  75   eP     Pn     22 44 21.4 +1.0
MOL                                 eS     Sn     22 44 48.7 -2.3
MOL                                  IAML         22 44 52.6
      comp=N,2μm,0.2s
MOL                                  IAML         22 44 53.6
      comp=E,929nm,0.2s
MOL   Molde              2.51  75   eP     Pn     22 44 21.4 +1.0
MOL                                 eS     Sn     22 44 48.8 -2.3
MOL                                  IAML         22 44 55.3
      comp=Z,1μm,0.3s
LRW   Lerwick            2.54 223   eP     Pn     22 44 21.9 +0.9
LRW                                  IAML         22 44 55.4
      comp=N,234nm,0.7s
LRW                                  IAML         22 45 06.7
      comp=E,304nm,0.3s
LRW   Lerwick            2.54 223   eP     Pn     22 44 21.9 +0.9
LRW                                  IAML         22 44 55.4
      comp=N,234nm,0.7s
LRW                                  IAML         22 45 06.7
      comp=E,304nm,0.3s
LRW   Lerwick            2.54 223   eP     Pn     22 44 21.9 +0.9
LRW                                  IAML         22 44 55.4
      comp=N,234nm,0.7s
LRW                                  IAML         22 45 06.7
      comp=E,304nm,0.3s
WAL1  Walls              2.60 229   eP     Pn     22 44 22.7 +0.9
WAL1  Walls              2.60 229   eP     Pn     22 44 22.7 +0.9
WAL1  Walls              2.60 229   eP     Pn     22 44 22.7 +0.9
ODD1  Odda               2.99 133   eP     Pn     22 44 28.7 +1.6
ODD1                                eS     Sn     22 45 02.6 -0.4
ODD1                                 IAML         22 45 04.2
      comp=Z,913nm,0.3s
KMY   Karmoy             3.17 152⇓ iP      Pn     22 44 30.7 +1.1
KMY                                 eS     Sn     22 45 06.2 -1.2
KMY                                  IAML         22 45 10.7
      comp=Z,514nm,0.3s
DOMB  Dombas             3.18  87   eP     Pn     22 44 31.6 +1.8
DOMB                                eS     Sn     22 45 07.1 -0.7
DOMB                                 IAML         22 45 09.9
      comp=Z,417nm,0.2s
SKAR  Skarslia           3.19 112⇓ iP      Pn     22 44 31.6 +1.7
SKAR                                eS     Sn     22 45 07.8 -0.1
SKAR                                 IAML         22 45 09.2
      comp=Z,460nm,0.4s
BLS5  Blasjo             3.31 140⇓ iP      Pn     22 44 33.1 +1.5
BLS5                                eS     Sn     22 45 09.5 -1.4
BLS5                                 IAML         22 45 11.2
      comp=Z,545nm,0.1s
STAV  Stavanger          3.53 150    Pn    Pn     22 44 35.1 +0.7
STAV                                 Sn    Sn     22 45 14.6 -1.5
TBLU  Trondheim          3.87  68   eP     Pn     22 44 41.4 +2.2
TBLU                                eS     Sn     22 45 23.4 -1.3
TBLU                                 IAML         22 45 29.6
      comp=Z,156nm,0.3s
NC204 NORSAR Array S     4.10  97    Pn    Pn     22 44 43.6 +1.2
NC2   NORSAR Subarra     4.13  97    Pn    Pn     22 44 44.3 +1.4
NC2                                  Sn    Sn     22 45 29.2 -2.1
NC2   NORSAR Subarra     4.13  97    Pn    Pn     22 44 44.3 +1.4
NC2                                  Sn    Sn     22 45 29.2 -2.1
NBO   NORSAR Subarra     4.17 100    Pn    Pn     22 44 44.6 +1.2
NBO   NORSAR Subarra     4.17 100    Pn    Pn     22 44 44.6 +1.2
NBO00 NORSAR Array S     4.17 100          Pn     22 44 44.7 +1.2
NAO   NORSAR Subarra     4.27 103    Pn    Pn     22 44 45.9 +1.3
NAO   NORSAR Subarra     4.27 103    Pn    Pn     22 44 45.9 +1.3
NAO01 NORSAR Array S     4.29 102    Pn    Pn     22 44 46.0 +1.1
KONO  Kongsberg          4.29 121   eP     Pn     22 44 46.1 +1.2
KONO  Kongsberg          4.29 121   eP     Pn     22 44 46.1 +1.2
KONO  Kongsberg          4.29 121    Pn    Pn     22 44 45.9 +1.0
KONO  Kongsberg          4.29 121   eP     Pn     22 44 45.9 +1.0
KONO                                eS     Sn     22 45 33.7 -1.2
KONO                                 IAML         22 45 36.1
      comp=Z,143nm,0.5s
NB2   NORSAR Subarra     4.38  99    Pn    Pn     22 44 47.1 +0.9
      baz=289,slow=14
NB2                                  Sn    Sn     22 45 36.3 -0.9
      baz=291,slow=28
NB2   NORSAR Subarra     4.38  99    Pn    Pn     22 44 47.1 +0.9
      baz=289,slow=14
NB2                                  Sn    Sn     22 45 36.3 -0.9
      baz=291,slow=28
NOA   NORSAR Array B     4.38  99    Pn    Pn     22 44 46.5 +0.3
      comp=Z,1.4nm,0.3s,baz=259,slow=19,SNR=199
NOA                                  Sn    Sn     22 45 32.6 -4.6
      comp=Z,4.4nm,0.3s,baz=312,slow=18,SNR=3.8
NOA                                  Lg    Lg     22 45 51.3
      comp=Z,6.8nm,0.3s,baz=296,slow=15,SNR=4.7
NOA                                  LR    LR     22 46 47.7
      comp=Z,164nm,18.9s,baz=285,slow=43
NC303 NORSAR Array S     4.40  97          Pn     22 44 47.5 +1.0
NB201 NORSAR Array S     4.41  99          Pn     22 44 47.6 +1.0
NC3   NORSAR Subarra     4.41  96    Pn    Pn     22 44 47.7 +1.1
NC3   NORSAR Subarra     4.41  96    Pn    Pn     22 44 47.7 +1.1
SNART Snartemo           4.43 144   eP     Pn     22 44 47.9 +1.0
SNART                               eS     Sn     22 45 36.8 -1.7
SNART                                IAML         22 45 41.4
      comp=Z,257nm,0.3s
SNART Snartemo           4.43 144   iP     Pn     22 44 48.0 +1.0
SNART                                IAML         22 45 54.6
      comp=Z,220nm,0.3s
NC605 NORSAR Array S     4.55 102    Pn    Pn     22 44 49.4 +0.9
NC6   NORSAR Subarra     4.58 102    Pn    Pn     22 44 49.8 +0.9
NC6   NORSAR Subarra     4.58 102    Pn    Pn     22 44 49.8 +0.9
NC405 NORSAR Array S     4.59  97    Pn    Pn     22 44 49.7 +0.6
NC4   NORSAR Subarra     4.60  98    Pn    Pn     22 44 50.0 +0.8
NC4                                  Sn    Sn     22 45 41.4 -1.3
NC4   NORSAR Subarra     4.60  98    Pn    Pn     22 44 50.0 +0.8
NC4                                  Sn    Sn     22 45 41.4 -1.3
OSL   Oslo               4.60 113   eP     Pn     22 44 50.6 +1.4
OSL                                 eS     Sn     22 45 41.5 -1.1
NC602 NORSAR Array S     4.62 102          Pn     22 44 50.2 +0.7
NRA0  NORESS Array S     4.62 102    Pn    Pn     22 44 50.2 +0.7
      baz=304,slow=12
NRA0                                 Sn    Sn     22 45 41.5 -1.7
      baz=296,slow=22
NRA0  NORESS Array S     4.62 102    Pn    Pn     22 44 50.2 +0.7
      baz=304,slow=12
NRA0                                 Sn    Sn     22 45 41.5 -1.7
      baz=296,slow=22
MLA1  Latheron           4.69 220   eP     Pn     22 44 50.7 +0.3
MLA1  Latheron           4.69 220   eP     Pn     22 44 50.7 +0.3
MLA1  Latheron           4.69 220   eP     Pn     22 44 50.7 +0.3
HOMB  Homborsund         4.88 138   eP     Pn     22 44 54.3 +1.4
HOMB                                eS     Sn     22 45 46.5 -2.8
HOMB                                 IAML         22 45 51.4
      comp=Z,128nm,0.6s
HOMB  Homborsund         4.88 138   iP     Pn     22 44 54.4 +1.4
HOMB                                iS     Sn     22 45 48.1 -1.3
HOMB                                 IAML         22 45 52.7
      comp=Z,104nm,0.4s
NSS   Namsos             5.03  56   eP     Pn     22 44 54.9 -0.1
NSS                                 eS     Sn     22 45 46.8 -6.4
NSS                                  IAML         22 45 52.9
      comp=Z,216nm,0.3s
MCD   Coleburn Disti     5.27 215   eP     Pn     22 44 59.1 +0.7
MCD                                 eS     Sn     22 45 55.6 -3.4
MCD                                  IAML         22 45 56.5
      comp=E,138nm,0.5s
MCD                                  IAML         22 45 58.9
      comp=N,145nm,0.3s
MCD   Coleburn Disti     5.27 215   eP     Pn     22 44 59.1 +0.7
MCD                                 eS     Sn     22 45 55.6 -3.4
MCD                                  IAML         22 45 56.5
      comp=E,138nm,0.5s
MCD                                  IAML         22 45 58.9
      comp=N,145nm,0.3s
MCD   Coleburn Disti     5.27 215   eP     Pn     22 44 59.1 +0.7
MCD                                 eS     Sn     22 45 55.6 -3.4
MCD                                  IAML         22 45 56.5
      comp=E,138nm,0.5s
MCD                                  IAML         22 45 58.9
      comp=N,145nm,0.3s
STRU  Stroemstad         5.31 120   eP     Pn     22 44 59.1 +0.2
STRU                                iS     Sn     22 45 55.4 -4.6
DRUM  Mains of Drumt     5.68 208   eP     Pn     22 45 04.9 +0.8
DRUM                                eS     Sn     22 46 05.4 -3.9
DRUM                                 IAML         22 46 07.2
      comp=E,257nm,0.6s
DRUM                                 IAML         22 46 07.8
      comp=N,224nm,0.3s
DRUM  Mains of Drumt     5.68 208   eP     Pn     22 45 04.9 +0.8
DRUM                                eS     Sn     22 46 05.4 -3.9
DRUM                                 IAML         22 46 07.2
      comp=E,257nm,0.6s
DRUM                                 IAML         22 46 07.8
      comp=N,224nm,0.3s
DRUM  Mains of Drumt     5.68 208   eP     Pn     22 45 04.9 +0.8
DRUM                                eS     Sn     22 46 05.4 -3.9
DRUM                                 IAML         22 46 07.2
      comp=E,257nm,0.6s
DRUM                                 IAML         22 46 07.8
      comp=N,224nm,0.3s
MDO   Dochfour           5.70 219   eP     Pn     22 45 05.4 +1.1
MDO   Dochfour           5.70 219   eP     Pn     22 45 05.4 +1.1
MDO   Dochfour           5.70 219   eP     Pn     22 45 05.4 +1.1
UDD   Uddeholm           5.82 104    P     Pn     22 45 06.9 +1.0
UDD                                  S     Sn     22 46 09.2 -3.4
HFS   Hagfors            5.84 104    Pn    Pn     22 45 06.9 +0.7
      baz=282,slow=14
HFS                                  Sn    Sn     22 46 09.9 -3.3
      baz=298,slow=37
HFS   Hagfors            5.84 104    Pn    Pn     22 45 07.1 +0.9
      comp=N,12nm,0.3s,baz=291,slow=12,SNR=328
HFS                                  Sn    Sn     22 46 08.1 -5.1
      comp=N,30nm,0.3s,baz=292,slow=21,SNR=11
HFS                                  Lg    Lg     22 46 37.4
      comp=N,18nm,0.3s,baz=306,slow=16,SNR=2.3
HFS   Hagfors            5.84 104    Pn    Pn     22 45 06.9 +0.7
      baz=282,slow=14
HFS                                  Sn    Sn     22 46 09.9 -3.3
      baz=298,slow=37
NOD   Norderasen         5.94  71   eP     Pn     22 45 08.4 +0.8
NOD                                 eS     Sn     22 46 12.2 -3.5
VANU  Vaenersborg        6.01 122    P     Pn     22 45 09.0 +0.4
VANU                                 S     Sn     22 46 13.2 -4.1
LEWI  Lewis, Hebride     6.02 234   eP     Pn     22 45 09.3 +0.7
LEWI                                eS     Sn     22 46 13.0 -4.6
LEWI                                 IAML         22 46 14.4
      comp=E,46nm,0.5s
LEWI                                 IAML         22 46 15.1
      comp=N,43nm,0.4s
LEWI  Lewis, Hebride     6.02 234   eP     Pn     22 45 09.3 +0.7
LEWI                                eS     Sn     22 46 13.0 -4.6
LEWI                                 IAML         22 46 14.4
      comp=E,46nm,0.5s
LEWI                                 IAML         22 46 15.1
      comp=N,43nm,0.4s
LEWI  Lewis, Hebride     6.02 234   eP     Pn     22 45 09.3 +0.7
LEWI                                eS     Sn     22 46 13.0 -4.6
LEWI                                 IAML         22 46 14.4
      comp=E,46nm,0.5s
LEWI                                 IAML         22 46 15.1
      comp=N,43nm,0.4s
GOET  G??ttrup           6.12 142   iP     Pn     22 45 12.0 +2.0
GOET                                i             22 45 13.8
GOET                                 IAML         22 46 25.4
      comp=Z,57nm,0.4s
GOET  G??ttrup           6.12 142   iP     Pn     22 45 11.9 +2.0
GOET                                i             22 45 13.8
GOET  G??ttrup           6.12 142   iP     Pn     22 45 12.0 +2.0
GOET                                i             22 45 13.8
GOET                                 IAML         22 46 25.4
      comp=Z,57nm,0.4s
TJOU  Tjoern             6.15 126    P     Pn     22 45 10.8 +0.4
TJOU  Tjoern             6.15 126   iP     Pn     22 45 11.0 +0.6
TJOU                                iS     Sn     22 46 15.4 -5.3
NASU  Vaermlandsnaes     6.21 115    P     Pn     22 45 11.5 +0.2
STOK  Stokkvaagen        6.36  43   eP     Pn     22 45 12.4 -1.0
STOK                                eS     Sn     22 46 16.6 -9.3
STOK                                 IAML         22 46 24.6
      comp=Z,45nm,0.2s
ROTU  Roteberg           6.45  89    P     Pn     22 45 15.3 +0.8
NBB40 Tonnes             6.47  41   eP     Pn     22 45 12.2 -2.7
NBB40                               eS     Sn     22 46 18.5  -10
NBB40                                IAML         22 46 25.5
      comp=Z,87nm,0.3s
INVG  Invergeldie, C     6.49 213   eP     Pn     22 45 15.4 +0.3
INVG                                eS     Sn     22 46 23.8 -5.4
INVG                                 IAML         22 46 25.3
      comp=E,54nm,0.4s
INVG                                 IAML         22 46 45.0
      comp=N,38nm,0.4s
INVG  Invergeldie, C     6.49 213   eP     Pn     22 45 15.4 +0.3
INVG                                eS     Sn     22 46 23.8 -5.4
INVG                                 IAML         22 46 25.3
      comp=E,54nm,0.4s
INVG                                 IAML         22 46 45.0
      comp=N,38nm,0.4s
INVG  Invergeldie, C     6.49 213   eP     Pn     22 45 15.4 +0.3
INVG                                eS     Sn     22 46 23.8 -5.4
INVG                                 IAML         22 46 25.3
      comp=E,54nm,0.4s
INVG                                 IAML         22 46 45.0
      comp=N,38nm,0.4s
KONS  Konsvik            6.50  42   eP     Pn     22 45 12.7 -2.5
KONS                                e             22 46 13.9
MUD   Monsted U'grnd     6.60 145   eP     Pn     22 45 18.0 +1.4
MUD                                 iP     Pn     22 45 18.0 +1.4
MUD                                 eS     Sn     22 46 29.2 -2.6
MUD                                  IAML         22 46 43.0
      comp=Z,33nm,0.3s
MUD   Monsted U'grnd     6.60 145   iP     Pn     22 45 18.0 +1.4
MUD   Monsted U'grnd     6.60 145   iP     Pn     22 45 18.0 +1.4
MUD                                  IAML         22 46 43.0
      comp=Z,33nm,0.3s
ESY   Stoneypath         6.63 205   eP     Pn     22 45 17.8 +0.6
ESY   Stoneypath         6.63 205   eP     Pn     22 45 17.8 +0.6
ESY   Stoneypath         6.63 205   eP     Pn     22 45 17.8 +0.6
NRAU  Nora               6.70 106    P     Pn     22 45 19.1 +1.1
FALU  Falun              6.70  97    P     Pn     22 45 18.8 +0.8
ONAU  Onsala             6.72 129    P     Pn     22 45 18.5 +0.2
ONAU  Onsala             6.72 129   iP     Pn     22 45 18.6 +0.4
EDI   Edinburgh          6.75 207   eP     Pn     22 45 20.3 +1.6
EDI                                 eS     Sn     22 46 31.5 -4.0
EDI   Edinburgh          6.75 207   eP     Pn     22 45 20.3 +1.6
EDI                                 eS     Sn     22 46 31.5 -4.0
EDI   Edinburgh          6.75 207   eP     Pn     22 45 20.3 +1.6
EDI                                 eP     Pn     22 45 20.3 +1.6
EDI                                 eS     Sn     22 46 30.6 -4.8
EAB   Aberfoyle          6.78 213   eP     Pn     22 45 19.3 +0.2
EAB   Aberfoyle          6.78 213   eP     Pn     22 45 19.3 +0.2
EAB   Aberfoyle          6.78 213   eP     Pn     22 45 19.3 +0.2
EBL   Broad Law          6.86 206   eP     Pn     22 45 21.3 +1.1
EBL   Broad Law          6.86 206   eP     Pn     22 45 21.3 +1.1
EBL   Broad Law          6.86 206   eP     Pn     22 45 21.3 +1.1
BORU  Boraas             6.87 125    P     Pn     22 45 20.6 +0.3
BORU  Boraas             6.87 125   iP     Pn     22 45 20.7 +0.4
BORU                                iS     Sn     22 46 33.7 -4.7
N2RO  R¸st               6.92  33   eP     Pn     22 45 18.0 -3.0
N2RO                                eS     Sn     22 46 26.5  -13
N2RO                                 IAML         22 46 32.6
      comp=Z,68nm,0.4s
ASKU  Askersund          6.94 111    P     Pn     22 45 21.7 +0.4
NBB17 Glomfjord B¥r      6.96  41   eP     Pn     22 45 19.8 -1.7
NBB17                               eS     Sn     22 46 30.6  -10
NBB30 Finnes             6.99  40   eP     Pn     22 45 19.8 -2.1
NBB30                               eS     Sn     22 46 30.4  -11
NBB30                                IAML         22 46 36.4
      comp=Z,80nm,0.3s
LAWE  Loch Awe, Argy     7.01 218   eP     Pn     22 45 22.6 +0.4
LAWE                                eS     Sn     22 46 36.1 -5.7
LAWE  Loch Awe, Argy     7.01 218   eP     Pn     22 45 22.6 +0.4
LAWE                                eS     Sn     22 46 36.1 -5.7
LAWE  Loch Awe, Argy     7.01 218   eP     Pn     22 45 22.6 +0.4
LAWE                                eS     Sn     22 46 36.1 -5.7
NBB05 Inndyr             7.12  40   eP     Pn     22 45 22.0 -1.7
NBB05 Inndyr             7.12  40   eS     Sn     22 46 33.6  -11
NBB05                                IAML         22 46 41.0
      comp=Z,98nm,0.2s
N2VA  Vr¸y               7.17  33   eP     Pn     22 45 21.2 -3.3
N2VA                                eS     Sn     22 46 32.4  -13
N2VA                                 IAML         22 46 40.1
      comp=Z,57nm,0.3s
EKB10 Eskdalemuir Ar     7.24 205    Pn    Pn     22 45 25.9 +0.4
EKB9  Eskdalemuir Ar     7.25 205    Pn    Pn     22 45 26.0 +0.4
EKB8  Eskdalemuir Ar     7.26 205    Pn    Pn     22 45 26.2 +0.5
EKB7  Eskdalemuir Ar     7.27 205    Pn    Pn     22 45 26.3 +0.4
EKB6  Eskdalemuir Ar     7.28 205    Pn    Pn     22 45 26.3 +0.4
EKB5  Eskdalemuir Ar     7.28 205    Pn    Pn     22 45 26.6 +0.5
EKA   Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.5 +0.3
EKA                                  Sn    Sn     22 46 43.2 -5.7
EKA   Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.6 +0.5
      baz=13,slow=12,SNR=46
EKA                                  Sn    Sn     22 46 44.2 -4.6
      baz=24,slow=23,SNR=11
EKA   Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.5 +0.3
EKA                                  Sn    Sn     22 46 43.2 -5.7
EKR1  Eskdalemuir Ar     7.29 206    Pn    Pn     22 45 26.6 +0.4
EKR2  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.6 +0.5
EKR3  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 27.0 +0.8
EKR4  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.4 +0.3
EKR5  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.7 +0.5
EKR6  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.6 +0.4
EKR7  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.4 +0.3
EKR8  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.9 +0.7
EKR9  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.8 +0.7
EKB4  Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.3 +0.1
EKR10 Eskdalemuir Ar     7.29 205    Pn    Pn     22 45 26.7 +0.5
EKB   Eskdalemuir        7.30 206    Pn    Pn     22 45 27.0 +0.8
EKB3  Eskdalemuir Ar     7.30 205    Pn    Pn     22 45 26.9 +0.7
EKB2  Eskdalemuir Ar     7.31 205    Pn    Pn     22 45 27.1 +0.7
ESK   Eskdalemuir        7.32 206    Pn    Pn     22 45 27.6 +1.2
EKB1  Eskdalemuir Ar     7.32 205    Pn    Pn     22 45 27.5 +1.0
HEMU  Hemsoen            7.35  78   eP     Pn     22 45 27.6 +0.7
HEMU                                eS     Sn     22 46 44.7 -5.5
HEMU  Hemsoen            7.35  78   eP     Pn     22 45 27.6 +0.7
HEMU                                eS     Sn     22 46 44.7 -5.5
N2SV  S¸rv¥gen           7.42  33   eP     Pn     22 45 24.5 -3.4
N2SV                                eS     Sn     22 46 37.9  -14
N2SV                                 IAML         22 46 46.7
      comp=Z,58nm,0.2s
NBB08 Skaug oppvekst     7.53  39   eP     Pn     22 45 28.4 -0.9
EDMD  Edmundbyers        7.55 199   eP     Pn     22 45 29.7 -0.1
EDMD                                eS     Sn     22 46 49.2 -6.2
FAUS  Fauske             7.72  40   eP     Pn     22 45 30.3 -1.6
FAUS                                eS     Sn     22 46 49.3  -10
FAUS                                 IAML         22 46 57.0
      comp=Z,127nm,0.3s
NEWG  New Galloway       7.72 209   eP     Pn     22 45 32.9 +0.9
NEWG  New Galloway       7.72 209   eP     Pn     22 45 32.9 +0.9
NEWG  New Galloway       7.72 209   eP     Pn     22 45 32.9 +0.9
LOF   Lofoten            7.74  33   eP     Pn     22 45 28.6 -3.6
LOF                                 eS     Sn     22 46 45.3  -14
LOF                                  IAML         22 46 58.9
      comp=Z,62nm,0.3s
N2TV  T¥rnvik            7.79  39   eP     Pn     22 45 31.9 -0.9
N2TV                                eS     Sn     22 46 51.1  -10
N2TV                                 IAML         22 46 59.0
      comp=Z,105nm,0.4s
N2ST  Straumen           7.79  41   eP     Pn     22 45 32.7 -0.3
N2ST                                eS     Sn     22 46 53.2 -7.8
N2ST                                 IAML         22 46 59.3
      comp=Z,109nm,0.3s
GDLE  Glaisdale, N Y     7.80 194   eP     Pn     22 45 34.0 +0.8
GDLE                                eS     Sn     22 46 55.9 -5.5
HUSU  Husum              7.89  73   eP     Pn     22 45 34.7 +0.4
HUSU                                eS     Sn     22 46 56.0 -7.4
HUSU  Husum              7.89  73   eP     Pn     22 45 34.7 +0.4
HUSU                                eS     Sn     22 46 56.0 -7.4
KESW  Keswick, Cumbr     7.98 203   eP     Pn     22 45 36.2 +0.6
KESW  Keswick, Cumbr     7.98 203   eP     Pn     22 45 36.2 +0.6
KESW  Keswick, Cumbr     7.98 203   eP     Pn     22 45 36.2 +0.6
N2VI  Vinje              8.04  33   eP     Pn     22 45 34.5 -1.9
N2VI                                eS     Sn     22 46 52.8  -14
N2VI                                 IAML         22 47 03.0
      comp=Z,59nm,0.4s
STEI  Steigen            8.06  37   eP     Pn     22 45 34.4 -2.2
STEI                                e             22 46 56.2
DEL   Delary             8.12 128   iP     Pn     22 45 37.8 +0.3
COP   Copenhagen         8.23 136   iP     Pn     22 45 39.9 +0.8
COP                                  IAML         22 47 11.6
      comp=Z,17nm,0.3s
COP   Copenhagen         8.23 136   iP     Pn     22 45 39.8 +0.8
COP   Copenhagen         8.23 136   iP     Pn     22 45 39.9 +0.8
COP                                  IAML         22 47 11.6
      comp=Z,17nm,0.3s
N2IH  Innhavet           8.28  38   eP     Pn     22 45 39.1 -0.5
N2IH                                eS     Sn     22 47 04.6 -8.4
N2IH                                 IAML         22 47 11.5
      comp=Z,82nm,0.5s
UMAU  Umeaa              8.57  69   eP     Pn     22 45 43.8 +0.2
UMAU                                eS     Sn     22 47 11.9 -8.2
UMAU  Umeaa              8.57  69   eP     Pn     22 45 43.8 +0.2
UMAU                                eS     Sn     22 47 11.9 -8.2
SALU  Saltoluokta        8.75  45   eP     Pn     22 45 44.5 -1.6
RAF   Rauma              9.34  88   eP     Pn     22 45 54.8 +0.6
RAF                                 eS     Sn     22 47 33.0 -6.1
RAF                                  MSN          22 47 36.7
      comp=Z,9.1nm,0.1s
RAF   Rauma              9.34  88   eP     Pn     22 45 54.8 +0.6
RAF                                 eS     Sn     22 47 33.0 -6.1
RAF                                  MSN          22 47 36.7
      comp=Z,9.1nm,0.1s
VAF   Ylistaro           9.46  75   eP     Pn     22 45 56.0 +0.2
VAF                                 eS     Sn     22 47 34.0 -7.9
VAF                                  MSN          22 47 38.7
      comp=Z,8.5nm,0.1s
VAF   Ylistaro           9.46  75   eP     Pn     22 45 56.0 +0.2
VAF                                 eS     Sn     22 47 34.0 -7.9
VAF                                  MSN          22 47 38.7
      comp=Z,8.5nm,0.1s
```

RGN	**Rugen**	**9.46**	**137**	Pn		**Pn**	**22 45 56.9**	**+1.0**
BSD	**Bornholm Skovb**	**9.54**	**131**	*e*		**Pn**	**22 45 54.0**	**-2.9**
	baz=317,slow=9.3							
BSD				*i* P		**Pn**	**22 45 56.4**	**-0.6**
BSD				IAML			22 48 07.4	
	comp=Z,11nm,0.3s							
BSD	**Bornholm Skovb**	**9.54**	**131**	*e*		**Pn**	**22 45 54.0**	**-2.9**
	baz=317,slow=9.3							
BSD				*i* P		**Pn**	**22 45 56.4**	**-0.6**
BSD				IAML			22 48 07.4	
	comp=Z,11nm,0.3s							
DSB	**Dublin**	**9.95**	**212**	Pn		**Pn**	**22 46 03.0**	**+0.5**
JMIC	**Jan Mayen**	**9.96**	**339**	Pn		Pn	22 45 55.2	-7.3
JMIC				Sn		Sn	22 47 41.0	-13
JMIC	**Jan Mayen**	**9.96**	**339**	Pn		**Pn**	**22 46 01.2**	**-1.3**
	baz=134,slow=13,SNR=1.9							
JMIC				Sn		Sn	22 47 41.1	-13
	baz=153,slow=11,SNR=2.4							
OBF0	**Syolatti, Pyha**	**10.17**	**66**	*e*P		**Pn**	**22 46 04.3**	**-1.2**
OBF0				*e*S		Sn	22 47 48.9	-10
OBF0	**Syolatti, Pyha**	**10.17**	**66**	*e*P		**Pn**	**22 46 04.3**	**-1.2**
OBF0				*e*S		Sn	22 47 48.9	-10
TRO	**Tromso**	**10.19**	**34**	*e*P		**Pn**	**22 46 04.2**	**-1.6**
TRO				*e*S		Sn	22 47 46.9	-13
TRO	**Tromso**	**10.19**	**34**	*e*P		**Pn**	**22 46 04.7**	**-1.0**
TRO				*e*S		Sn	22 47 46.9	-13
LANU	**Lannavaara**	**10.24**	**45**	*e*P		**Pn**	**22 46 04.8**	**-1.7**
LANU				*e*S		Sn	22 47 48.9	-12
LANU	**Lannavaara**	**10.24**	**45**	*e*P		**Pn**	**22 46 04.8**	**-1.7**
LANU				*e*S		Sn	22 47 48.9	-12
KIF	**Kilpisjarvi**	**10.34**	**40**	*e*P		**Pn**	**22 46 05.7**	**-2.1**
KIF				*e*S		Sn	22 47 51.9	-12
KIF				MSN			22 48 01.7	
	comp=Z,4.4nm,0.1s							
KIF	**Kilpisjarvi**	**10.34**	**40**	*e*P		**Pn**	**22 46 05.7**	**-2.1**
KIF				*e*S		Sn	22 47 51.9	-12
KIF				MSN			22 48 01.7	
	comp=Z,4.4nm,0.1s							
OUF	**Merijarvi**	**10.37**	**67**	*e*P		**Pn**	**22 46 07.3**	**-1.0**
OUF				*e*S		Sn	22 47 53.4	-11
OUF	**Merijarvi**	**10.37**	**67**	*e*P		**Pn**	**22 46 07.3**	**-1.0**
OUF				*e*S		Sn	22 47 53.4	-11
TOF	**Tornio**	**10.44**	**58**	*e*P		**Pn**	**22 46 07.1**	**-2.0**
TOF				*e*S		Sn	22 47 54.4	-11
TOF	**Tornio**	**10.44**	**58**	*e*P		**Pn**	**22 46 07.1**	**-2.0**
TOF				*e*S		Sn	22 47 54.4	-11
MCH1	**Michaelchurch**	**10.46**	**198**	*e*P		**Pn**	**22 46 11.2**	**+1.6**
MCH1	**Michaelchurch**	**10.46**	**198**	*e*P		**Pn**	**22 46 11.2**	**+1.6**
MCH1	**Michaelchurch**	**10.46**	**198**	*e*P		**Pn**	**22 46 11.2**	**+1.6**
KEF	**Keuruu**	**10.56**	**79**	*e*P		**Pn**	**22 46 10.7**	**-0.1**
KEF				*e*S		Sn	22 47 59.2	-10
KEF	**Keuruu**	**10.56**	**79**	*e*P		**Pn**	**22 46 10.7**	**-0.1**
KEF				*e*S		Sn	22 47 59.2	-10
OBF4	**Vikkela, Lumij**	**10.56**	**65**	*e*P		**Pn**	**22 46 09.4**	**-1.5**
OBF4				*e*S		Sn	22 47 57.6	-11
OBF4	**Vikkela, Lumij**	**10.56**	**65**	*e*P		**Pn**	**22 46 09.4**	**-1.5**
OBF4				*e*S		Sn	22 47 57.6	-11
MONM	**Monmouth**	**10.58**	**198**	*e*P		**Pn**	**22 46 12.6**	**+1.3**
MONM	**Monmouth**	**10.58**	**198**	*e*P		**Pn**	**22 46 12.6**	**+1.3**
MONM	**Monmouth**	**10.58**	**198**	*e*P		**Pn**	**22 46 12.6**	**+1.3**
MEF	**Metsahovi**	**10.82**	**90**	*e*P		**Pn**	**22 46 14.2**	**-0.2**
MEF				*e*S		**Sn**	**22 48 08.2**	**-7.2**
MEF	**Metsahovi**	**10.82**	**90**	*e*P		**Pn**	**22 46 14.2**	**-0.2**
MEF				*e*S		**Sn**	**22 48 08.2**	**-7.2**
BORG	**Borgarnes**	**10.92**	**295**	LR		LR	22 50 00.0	
	comp=Z,78nm,20.1s,baz=77,slow=35							
BORG	**Borgarnes**	**10.92**	**295**	Pn		**Pn**	**22 46 14.5**	**-1.3**
OUL	**Oulu**	**10.92**	**63**	*e*P		**Pn**	**22 46 14.9**	**-0.9**
OUL				*e*S		Sn	22 48 06.5	-11
OUL	**Oulu**	**10.92**	**63**	*e*P		**Pn**	**22 46 14.9**	**-0.9**
OUL				*e*S		Sn	22 48 06.5	-11
SUF	**Sumiainen**	**11.07**	**76**	*e*P		**Pn**	**22 46 17.3**	**-0.6**
SUF				*e*S		Sn	22 48 11.6	-10
SUF	**Sumiainen**	**11.07**	**76**	*e*P		**Pn**	**22 46 17.3**	**-0.6**
SUF				*e*S		Sn	22 48 11.6	-10
RNF	**Rovaniemi**	**11.22**	**56**	*e*P		**Pn**	**22 46 17.1**	**-2.7**
RNF				*e*S		Sn	22 48 12.5	-13
RNF	**Rovaniemi**	**11.22**	**56**	*e*P		**Pn**	**22 46 17.1**	**-2.7**
RNF				*e*S		Sn	22 48 12.5	-13
KAF	**Kangasniemi**	**11.23**	**79**	*e*P		**Pn**	**22 46 19.6**	**-0.5**
KAF				*e*S		Sn	22 48 15.8	-10
KAF	**Kangasniemi**	**11.23**	**79**	*e*P		**Pn**	**22 46 19.6**	**-0.5**
KAF				*e*S		Sn	22 48 15.8	-10
FIA0	**FINESS Array S**	**11.27**	**82**	Pn		**Pn**	**22 46 20.5**	**0.0**
	baz=288,slow=11							
FIA0				Sn		Sn	22 48 18.4	-7.9
	baz=287,slow=28							
FIA0	**FINESS Array S**	**11.27**	**82**	*e*P		**Pn**	**22 46 20.3**	**-0.2**
FIA0				*e*S		Sn	22 48 16.7	-10
FIA0	**FINESS Array S**	**11.27**	**82**	Pn		**Pn**	**22 46 20.5**	**0.0**
	baz=288,slow=11							
FIA0				Sn		Sn	22 48 18.4	-7.9
	baz=287,slow=28							
FINES	**FINESS Array B**	**11.27**	**82**	Pn		**Pn**	**22 46 18.7**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=287,slow=12,SNR=51							
FINES				Sn		Sn	22 48 18.1	-8.1
	comp=Z,6.2nm,0.3s,baz=286,slow=22,SNR=15							
FINES				LR		LR	22 50 52.3	
	comp=Z,95nm,20.7s,baz=276,slow=38							
FINES	**FINESS Array B**	**11.27**	**82**	Pn		**Pn**	**22 46 20.6**	**+0.1**
FIA1	**FINESS Array S**	**11.27**	**82**	*e*P		**Pn**	**22 46 20.3**	**-0.2**
FIA1				*e*S		Sn	22 48 16.7	-10
FIA1	**FINESS Array S**	**11.27**	**82**	Pn		**Pn**	**22 46 21.7**	**+1.2**
FIA1	**FINESS Array S**	**11.27**	**82**	*e*P		**Pn**	**22 46 20.3**	**-0.2**
FIA1				*e*S		Sn	22 48 16.7	-10
UCC	**Uccle**	**11.31**	**173**	Pn		**Pn**	**22 46 22.0**	**+0.8**
ARA0	**ARCESS Array S**	**12.06**	**42**	Pn		**Pn**	**22 46 28.5**	**-2.8**
	baz=232,slow=14							
ARA0	**ARCESS Array S**	**12.06**	**42**	Pn		**Pn**	**22 46 28.5**	**-2.8**
	baz=232,slow=14							
ARCES	**ARCESS Array B**	**12.06**	**42**	Pn		**Pn**	**22 46 28.7**	**-2.6**
	baz=234,slow=14,SNR=98							
ARCES				Sn		Sn	22 48 32.5	-13
	baz=242,slow=20,SNR=7.4							
ARCES				LR		LR	22 51 56.0	
	comp=Z,127nm,18.7s,baz=280,slow=42							
HAMF	**Hammerfest**	**12.10**	**35**	*e*P		**Pn**	**22 46 30.4**	**-1.4**
CLL	**Collm**	**12.22**	**147**	*e*P		**Pn**	**22 46 33.0**	**-0.7**
CLL				*e*			22 47 26.0	
CLL				*e*			22 48 41.0	
CLL	**Collm**	**12.22**	**147**	Pn		**Pn**	**22 46 33.0**	**-0.7**
WLF	**Walferdange**	**12.57**	**168**	Pn		**Pn**	**22 46 39.1**	**+0.6**
KEV	**Kevo**	**12.62**	**42**			**Pn**	**22 46 36.6**	**-2.4**
GRA1	**Grafenberg Arr**	**13.32**	**154**	Pn		**Pn**	**22 46 48.3**	**-0.3**
SUW	**Suwalki**	**13.61**	**117**	Pn		**Pn**	**22 46 51.2**	**-1.4**
CHVC	**Chvalec**	**13.73**	**140**	*e*PN		**Pn**	**22 46 53.0**	**-1.2**
CHVC				*e*SN		**Sn**	**22 49 20.6**	**-6.0**
OSTC	**Ostas**	**13.80**	**140**	*e*PN		**Pn**	**22 46 53.7**	**-1.6**
OSTC				*e*SN		**Sn**	**22 49 22.1**	**-6.4**
PRU	**Pruhonice**	**13.83**	**145**	*e*PN		**Pn**	**22 46 55.3**	**-0.3**
STU	**Stuttgart**	**13.84**	**161**	Pn		**Pn**	**22 46 56.2**	**+0.5**
DPC	**Dobruska-Polom**	**14.02**	**140**	*e*SN		**Sn**	**22 49 28.2**	**-5.5**
CLF	**Chambon-Foret**	**14.03**	**180**	Pn		**Pn**	**22 46 58.4**	**0.0**
APA0	**Apatity Array**	**14.09**	**53**	Pn		Pn	22 46 55.0	-4.0
	baz=256,slow=11							
APA0	**Apatity Array**	**14.09**	**53**	Pn		Pn	22 46 55.0	-4.0
	baz=256,slow=11							
ECH	**Echery**	**14.11**	**167**	Pn		**Pn**	**22 47 01.5**	**+2.0**
BFO	**Black Forest**	**14.14**	**163**	Pn		**Pn**	**22 47 00.4**	**+0.6**
KHC	**Kasperske Hory**	**14.38**	**149**	*e*PN		**Pn**	**22 47 03.7**	**+0.6**
KHC				*e*SN		**Sn**	**22 49 43.6**	**+1.2**
KHC	**Kasperske Hory**	**14.38**	**149**	Pn		**Pn**	**22 47 03.3**	**+0.2**
GEC2	**GERESS Array S**	**14.67**	**149**	Pn		**Pn**	**22 47 07.2**	**0.0**
GERES	**GERESS Array B**	**14.67**	**149**	Pn		**Pn**	**22 47 06.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=348,slow=13,SNR=11							
GERES	**GERESS Array B**	**14.67**	**149**				**22 47 07.6**	**+0.4**
MORC	**Moravsky Berou**	**14.90**	**139**	Pn		**Pn**	**22 47 10.9**	**+0.7**
VRAC	**Vranov**	**15.03**	**141**	LR		LR	22 53 51.9	
	comp=Z,61nm,20.6s,baz=348,slow=41							
OJC	**Ojcow**	**15.26**	**133**	Pn		**Pn**	**22 47 14.1**	**-0.9**
OJC				IAmb		IAmb	22 47 16.0	
	comp=Z,5.5nm,0.5s							
SENIN	**Lac Senin/Sane**	**15.96**	**167**	Pn		**Pn**	**22 47 25.7**	**+1.4**
SENIN				IAmb		IAmb	22 47 38.2	
	comp=Z,5.7nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**16.10**	**160**	Pn		**Pn**	**22 47 26.1**	**0.0**
TUE	**Stuetta**	**16.10**	**162**	Pn		**Pn**	**22 47 27.9**	**+1.8**
VYHS	**Vyhne**	**16.43**	**138**	*e*P		**P**	**22 47 36.4**	**+3.5**
ZOU	**Zoufplan**	**16.66**	**154**	Pn		**Pn**	**22 47 34.5**	**+1.3**
CIMO	**Cimolais**	**16.79**	**155**			**Pn**	**22 47 36.5**	**+1.8**
SPB3	**Spitsbergen Ar**	**16.82**	**10**			**Pn**	**22 47 36.5**	**+1.7**
SPB2	**Spitsbergen Ar**	**16.82**	**10**			**Pn**	**22 47 35.5**	**+0.7**
SPA3	**Spitsbergen Ar**	**16.82**	**10**			**Pn**	**22 47 36.5**	**+1.7**
SPA0	**Spitsbergen Ar**	**16.82**	**10**			**Pn**	**22 47 36.3**	**+1.4**
SPA0				IAmb		IAmb	22 47 46.9	
	comp=Z,26nm,1.1s							
SPB4	**Spitsbergen Ar**	**16.82**	**10**	Pn		**Pn**	**22 47 34.4**	**-0.4**
SPITS	**Spitsbergen Ar**	**16.82**	**10**	Pn		**Pn**	**22 47 34.0**	**-0.9**
	baz=162,slow=16,SNR=1.3							
SPA1	**Spitsbergen Ar**	**16.82**	**10**	Pn		**Pn**	**22 47 34.6**	**-0.3**
SPB1	**Spitsbergen Ar**	**16.82**	**10**			**Pn**	**22 47 36.5**	**+1.5**
SPB5	**Spitsbergen Ar**	**16.82**	**10**			**Pn**	**22 47 36.5**	**+1.5**
SSB	**Saint Sauveur**	**16.83**	**175**	Pn		**Pn**	**22 47 35.5**	**+0.3**
CTI	**Castel Tesino**	**16.89**	**157**	Pn		**Pn**	**22 47 34.1**	**-2.0**
CTI				IAmb		IAmb	22 47 44.9	
	comp=Z,5.7nm,1.1s							
PRED	**Cave del Predi**	**16.90**	**152**			**P**	**22 47 38.6**	**+0.4**
BNI	**Bardonecchia**	**17.20**	**169**			**Pn**	**22 47 41.8**	**+1.8**
KOLS	**Kolonicke sedl**	**17.21**	**130**	*e*P		**P**	**22 47 43.0**	**+1.4**
KBS	**Kingsbay**	**17.24**	**6**			**Pn**	**22 47 40.1**	**0.0**
KBS				IAmb		IAmb	22 47 40.6	
	comp=Z,44nm,1.1s							
KLMR	**Klimovskoe**	**17.67**	**77**	*e*P		**Pn**	**22 47 44.4**	**-1.1**
	comp=Z,30nm,1.8s							
KLMR				*e*S		Sn	22 50 38.6	-24
KLMR	**Klimovskoe**	**17.67**	**77**	*e*Pn		**Pn**	**22 47 44.5**	**-1.1**
KLMR				AMP			22 47 58.7	
	comp=Z,8.0nm,1.0s							
KLMR				*e*Sn		**Sn**	**22 50 59.9**	**-2.3**
KLMR				*e*Sn		**Sn**	**22 50 59.9**	**-2.3**
KLMR				⇓Lg		Lg	22 52 41.9	
KLMR				⇓Lg		Lg	22 52 41.9	
KLMR				⇓Lg		Lg	22 52 41.9	
AKASG	**Malin Array Be**	**18.57**	**115**	P		**P**	**22 47 54.9**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=316,slow=12,SNR=4.9							
AKASG	**Malin Array Be**	**18.57**	**115**	IAmb		IAmb	22 48 00.6	
	comp=Z,1.1nm,0.7s							
AKBB	**Malin Array Si**	**18.57**	**115**	P		**P**	**22 47 56.3**	**-0.1**
AKBB				IAmb		IAmb	22 48 10.5	
	comp=Z,4.2nm,0.8s							
LSH	**Leshukonskoye**	**19.32**	**62**	*e*P		**P**	**22 48 05.0**	**+0.4**
	comp=Z,47nm,2.0s							
LSH				*e*S		Sn	22 51 24.7	-17
BUR08	**Bucovina Ar. S**	**19.37**	**128**	IAmb		IAmb	22 48 20.8	
	comp=Z,3.0nm,0.8s							
BURAR	**Bucovina Array**	**19.40**	**128**	⇑P		**P**	**22 48 06.9**	**+1.2**
BURAR	**Bucovina Array**	**19.40**	**128**			**P**	**22 48 07.5**	**+1.8**
MURB	**Monte Urbino**	**19.74**	**157**	P		**P**	**22 48 09.9**	**+0.5**
MURB				IAmb		IAmb	22 48 16.2	
	comp=Z,15nm,1.1s							
BZS	**Buzias**	**19.86**	**137**	⇓P		**P**	**22 48 12.1**	**+1.4**
SORM	**Soroca**	**20.19**	**122**	⇑P		**P**	**22 48 15.8**	**+1.6**
BIZ	**Bicaz**	**20.29**	**127**	⇓P		**P**	**22 48 17.3**	**+2.0**
MDVR	**Moldovita**	**20.64**	**138**	⇑P		**P**	**22 48 19.2**	**+0.1**
HERR	**Herculane**	**20.78**	**136**	⇓P		**P**	**22 48 22.1**	**+1.6**
VOIR		**21.19**	**131**	⇓P		**P**	**22 48 26.3**	**+1.2**
INTR	**Introdacqua**	**21.21**	**156**	P		**P**	**22 48 27.0**	**+1.6**
INTR				IAmb		IAmb	22 48 37.1	
	comp=Z,5.3nm,1.1s							
PLOR	**Plostina**	**21.41**	**128**	⇑P		**P**	**22 48 29.0**	**+1.6**
VRI	**Vrincioaia**	**21.43**	**128**	⇑P		**P**	**22 48 28.8**	**+1.2**
MLR	**Muntele Rosu**	**21.46**	**130**	⇑P		**P**	**22 48 29.8**	**+1.7**
PDG	**Podgorica**	**22.07**	**145**	⇑P		**P**	**22 48 35.5**	**+0.8**
CFR	**Carcaliu**	**22.54**	**127**	⇓P		**P**	**22 48 40.7**	**+1.2**
ESDC	**Sonseca Array**	**22.71**	**193**	P		**P**	**22 48 43.6**	**+2.2**
	comp=Z,0.7nm,0.9s,baz=1.4,slow=11,SNR=2.6							
HARR	**Harsova**	**22.88**	**128**	⇓P		**P**	**22 48 44.6**	**+1.5**
VSL	**Villasalto**	**22.97**	**166**	P		**P**	**22 48 46.7**	**+2.6**
VSL				IAmb		IAmb	22 48 56.4	
	comp=Z,6.2nm,0.9s							
KIRV	**Kirov**	**23.17**	**77**	LR		LR	22 57 58.7	
	comp=Z,79nm,20.3s,baz=306,slow=37							
TIP	**Timpagrande**	**24.53**	**152**	P		**P**	**22 49 02.3**	**+3.1**
TIP				IAmb		IAmb	22 49 17.4	
	comp=Z,5.4nm,1.0s							
ARU	**Arti**	**28.50**	**75**	P		**P**	**22 49 35.3**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=310,slow=12,SNR=5.0							
KBZ	**Khabaz**	**29.89**	**109**	LR		LR	23 03 07.0	
	comp=Z,45nm,18.5s,baz=315,slow=39							
IDI	**Anoyia**	**30.31**	**142**	LR		LR	23 03 44.1	
	comp=Z,20nm,18.8s,baz=260,slow=40							
PMOZ	**Porto Moniz, M**	**31.79**	**212**	P		**P**	**22 50 03.3**	**-0.8**
KURBB	**Kurchatov Arra**	**41.29**	**70**	P		**P**	**22 51 25.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=302,slow=8.2,SNR=13							
ZAA0	**Zalesovo Array**	**41.61**	**62**	P		**P**	**22 51 28.9**	**+1.5**
ZAA0				IAmb		IAmb	22 51 29.6	
	comp=Z,4.5nm,0.8s							
ZALV	**Zalesovo Beam**	**41.61**	**62**	P		**P**	**22 51 28.7**	**+1.3**
	comp=Z,3.9nm,0.5s,baz=321,slow=9.0,SNR=19							
KKAR	**Karatay Array**	**43.23**	**83**	P		**P**	**22 51 42.8**	**+2.1**
MAKZ	**Makanchi**	**45.65**	**71**	P		**P**	**22 52 01.6**	**+1.5**
MAKZ				IAmb		IAmb	22 52 02.3	
	comp=Z,3.0nm,0.8s							
MK31	**Makanchi Array**	**45.80**	**71**	IAmb		IAmb	22 52 03.4	
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**45.80**	**71**	P		**P**	**22 52 02.6**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=321,slow=6.3,SNR=34							
MKAR	**Makanchi Array**	**45.80**	**71**	P		**P**	**22 52 03.0**	**+1.7**
GAR	**Garm**	**46.34**	**87**	P		**P**	**22 52 07.9**	**+2.2**
GAR				IAmb		IAmb	22 52 20.4	
	comp=Z,2.9nm,0.7s							
TOLK	**Toolik Lake Re**	**48.07**	**347**	P		**P**	**22 52 19.0**	**+0.3**
J55A	**Hilton**	**48.60**	**286**	P		**P**	**22 52 23.2**	**+0.2**
TOA0	**Torodi Ar. Sit**	**48.81**	**181**	P		**P**	**22 52 26.4**	**+1.6**
TOA0				IAmb		IAmb	22 52 37.5	
	comp=Z,3.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**48.81**	**181**	P		**P**	**22 52 26.4**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=349,slow=9.2,SNR=8.4							
ULM	**Lac du Bonnet**	**50.73**	**305**	LR		LR	23 15 43.1	
	comp=Z,51nm,19.0s,baz=285,slow=38							
IMAR	**Indian Mountai**	**51.08**	**348**	P		**P**	**22 52 41.9**	**+0.3**
ILAR	**Eielson Array**	**51.45**	**344**	P		**P**	**22 52 44.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=10,slow=5.4,SNR=5.1							
BCAR	**Beaver Creek A**	**52.33**	**340**	P		**P**	**22 52 52.1**	**+1.1**
SCM	**Sheep Creek Mo**	**54.33**	**343**	P		**P**	**22 53 06.7**	**+1.0**
SKT	**Skwentna**	**54.73**	**345**	P		**P**	**22 53 07.8**	**-0.8**
SKT				IAmb		IAmb	22 53 10.9	
	comp=Z,2.4nm,1.1s							
SONM	**Songino Array**	**54.95**	**53**	P		**P**	**22 53 12.1**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=310,slow=7.9,SNR=8.9							
SONM	**Songino Array**	**54.95**	**53**	IAmb		IAmb	22 53 13.1	
	comp=Z,1.9nm,1.0s							
FID	**Port Fidalgo**	**55.24**	**342**	P		**P**	**22 53 11.1**	**-1.2**
DBIC	**Dimbokro**	**55.49**	**189**	LR		LR	23 18 34.6	
	comp=Z,46nm,21.7s,baz=334,slow=38							
SVW2	**Sparrevohn**	**56.04**	**347**	P		**P**	**22 53 18.6**	**+0.5**
CNPM	**China Poot**	**57.08**	**344**	P		**P**	**22 53 25.2**	**-0.2**
TKL	**Tuckaleechee C**	**57.45**	**285**	LR		LR	23 15 43.6	
	comp=Z,67nm,18.5s,baz=350,slow=34							
PETK	**Petropavlovsk-**	**63.57**	**16**	P		**P**	**22 54 09.5**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=31,slow=15,SNR=3.6							
USRK	**Ussuriysk Ar.**	**66.66**	**37**	P		**P**	**22 54 30.5**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=273,slow=3.2,SNR=4.8							
GTBY	**Guantanamo Bay**	**66.71**	**269**	P		**P**	**22 54 29.3**	**-1.4**
JCJ	**Chichijima**	**85.52**	**35**	LR		LR	23 36 55.4	
	comp=Z,56nm,20.1s,baz=34,slow=37							
BOSA	**Boshof**	**92.20**	**160**	LR		LR	23 43 06.8	
	comp=Z,34nm,18.9s,baz=162,slow=39							
ASAR	**Alice Springs**	**129.72**	**63**	PKP		**PKPdf**	**23 02 49.1**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=328,slow=1.4,SNR=3.0							

IDC 16 23:18:42.6±5.3, 23.52N×93.53E, h65km±49km, mb3.2/4, mb1 3.6/5, mb1mx3.2/39, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=111.6km s-min=20.5km az=55.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.14**	**134**	P	Pn	23 20 24.4	0.0
	0.7nm,0.3s,baz=310,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**24.92**	**341**	P	P	23 23 59.6	0.0
	0.6nm,0.6s,baz=160,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**58.73**	**134**	P	P	23 28 33.8	-0.2
	0.2nm,0.5s,baz=323,slow=7.4,SNR=2.3						
ASAR	**Alice Springs**	**61.13**	**137**	P	P	23 28 50.5	+0.1
	0.5nm,0.6s,baz=320,slow=6.7,SNR=7.3						
GERES	**GERESS Array B**	**66.11**	**315**	P	P	23 29 23.0	0.0
	0.3nm,0.4s,baz=81,slow=6.1,SNR=4.0						

*IDC **16** 23:33:41.2±1.2, 31.61N×91.84E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/44, mbtmp3.4/7, ML3.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=48.3km s-min=22.6km az=64.0*

ISC 16 23:33:42.6±1.2, 31.7N±0.2×91.9E±0.2, h10km, n8, σ0.6s67/7, mb3.4/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.79**	**337**	Pn	**Pn**	**23 37 37.1**	**-0.7**
	0.0nm,0.3s,baz=153,slow=14,SNR=3.2						
SONM	**Songino Array**	**19.53**	**30**	P	**Pn**	**23 38 11.3**	**-0.3**
	0.1nm,0.3s,baz=214,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**21.35**	**336**	P	**P**	**23 38 30.3**	**+0.5**
	0.3nm,0.3s,baz=145,slow=11,SNR=1.8						
ZALV	**Zalesovo Beam**	**22.81**	**349**	P	**P**	**23 38 46.3**	**+0.9**
	0.6nm,0.5s,baz=165,slow=12,SNR=4.4						
BRTR	**Keskin Array B**	**47.26**	**297**	LR	LR	00 03 41.4	
	comp=Z,37nm,19.0s,baz=112,slow=38						
WRA	**Warramunga Arr**	**65.51**	**136**	P	**P**	**23 44 26.7**	**+0.3**
	0.8nm,0.9s,baz=328,slow=6.2,SNR=4.8						
ASAR	**Alice Springs**	**68.16**	**139**	P	**P**	**23 44 42.9**	**-0.3**
	0.4nm,0.7s,baz=327,slow=6.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**83.39**	**281**	P	**P**	**23 46 10.5**	**-0.1**
	0.2nm,0.7s,baz=50,slow=3.5,SNR=1.5						

SKO 17 00:05:13.7, 41.38N×23.24E, h0km, 1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.51**	**264**	*i* Pg	Pg	00 05 24.0	+0.6
VAY				*i* Sg	Sg	00 05 30.2	+0.3
VAY				*e*Lg	Lg	00 05 30.5	
	comp=E,4.1nm,0.9s						
STIP	**Stip**	**0.85**	**292**	⇓*i* Pg	Pg	00 05 26.5	-3.5
STIP				*i* Sg	Sg	00 05 36.2	-4.8
STIP				*e*Lg	Lg	00 05 36.7	
	comp=N,2.5nm,0.2s						

ATH 17 00:05:55.8, 40.08N×24.50E, h24km±3km, ML1.6/5, Error ellipse: s-maj=3.6km s-min=0.8km az=120.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.47**	**303**	P	Pb	00 06 05.8	+0.4
THAS	**Thassos island**	**0.56**	**18**	P	Pb	00 06 06.9	0.0
THAS				S	Sb	00 06 15.0	+0.5
THAS				AML	AML	00 06 17.4	
	comp=E,208μm,0.2s						
THAS				AML	AML	00 06 17.6	
	comp=N,313μm,0.3s						
LIA	**Limnos Island**	**0.56**	**108**	P	Pb	00 06 06.9	+0.1
LIA				S	Sb	00 06 14.8	+0.3
PAIG	**Paliouri**	**0.64**	**257**	P	Pb	00 06 08.6	+0.3
PAIG				S	Sb	00 06 17.7	+0.8
P

CAW	**Cannon Point**	**9.72**	**201**	P		**Pn**	**00 29 38.1**	**+0.6**
TRWZ	**Traveller**	**9.81**	**198**	P		**Pn**	**00 29 40.1**	**+1.5**
MSWZ	**Moikau Station**	**9.95**	**199**			**Pn**	**00 29 41.6**	**+1.3**
SNZO	**South Karori**	**10.02**	**202**	Pn		**Pn**	**00 29 42.5**	**+1.4**
BHW	**Baring Head**	**10.05**	**201**			**Pn**	**00 29 41.9**	**+0.3**
PLWZ	**Palliser**	**10.09**	**199**			**Pn**	**00 29 42.8**	**+0.7**
TUWZ	**Tuamarina**	**10.38**	**204**			**Pn**	**00 29 45.9**	**+0.4**
NNZ	**Nelson**	**10.40**	**207**			**Pn**	**00 29 47.0**	**+1.2**
QRZ	**Quartz Range**	**10.42**	**211**			**Pn**	**00 29 47.7**	**+1.6**
CMWZ	**Cape Campbell**	**10.57**	**203**			**Pn**	**00 29 49.4**	**+1.5**
BSWZ	**Blackbirch Sta**	**10.65**	**204**			**Pn**	**00 29 50.7**	**+1.8**
THZ	**Tophouse**	**11.05**	**207**			**Pn**	**00 29 54.8**	**+0.9**
KHZ	**Kahutara**	**11.39**	**203**			**Pn**	**00 29 58.3**	**+0.4**
LTZ	**Lake Taylor**	**12.16**	**207**			**Pn**	**00 30 07.4**	**0.0**
OXZ	**Oxford**	**12.72**	**206**	P		**Pn**	**00 30 14.8**	**+0.7**
MQZ	**McQueen's Vall**	**12.83**	**203**	P		**Pn**	**00 30 14.5**	**-0.9**
RPZ	**Rata Peaks**	**13.43**	**208**	P		**P**	**00 30 23.4**	**+0.8**
	6.0nm,0.3s,baz=19,slow=3.4,SNR=9.4							
RPZ				S		S	00 32 41.3	-10
	8.7nm,0.3s,baz=122,slow=23,SNR=12							
RPZ	**Rata Peaks**	**13.43**	**208**			**P**	**00 30 22.4**	**-0.1**
FOZ	**Fox Glacier**	**13.80**	**211**	P		**P**	**00 30 27.1**	**+0.5**
LBZ	**Lake Benmore**	**14.33**	**208**	P		**P**	**00 30 32.7**	**+0.2**
MSVF	**Nonsavu**	**14.37**	**354**	Pn		**Pn**	**00 30 36.7**	**+2.6**
ODZ	**Otahua Downs**	**14.71**	**206**			**P**	**00 30 37.2**	**+0.6**
WKZ	**Wanaka**	**15.18**	**210**	P		**P**	**00 30 42.6**	**+0.8**
WKZ				IAmb		IAmb	00 30 57.3	
	comp=Z,31nm,1.0s							
DZM	**Mont Dzumac**	**15.40**	**307**	P		**Pn**	**00 30 46.8**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=167,slow=20,SNR=18							
DZM	**Mont Dzumac**	**15.40**	**307**			**Pn**	**00 30 48.1**	**+1.8**
MLZ	**Mavora Lakes**	**15.99**	**211**	P		**P**	**00 30 51.3**	**+0.6**
MLZ				IAmb		IAmb	00 30 59.6	
	comp=Z,26nm,1.0s							
WHZ	**Wether Hill Ro**	**16.48**	**210**	P		**P**	**00 30 56.5**	**+0.4**
WHZ				IAmb		IAmb	00 30 59.4	
	comp=Z,7.8nm,0.7s							
LHI	**Lord Howe Isla**	**17.50**	**266**	P		**Pn**	**00 31 12.2**	**+1.6**
AFI	**Afiamalu**	**19.73**	**25**	P		**P**	**00 31 31.8**	**+0.5**
RAR	**Rarotonga**	**21.32**	**65**	P		**P**	**00 31 51.6**	**+4.7**
ARMA	**Armidale**	**23.98**	**267**	P		**P**	**00 32 13.2**	**+2.1**
CAN	**Canberra**	**25.64**	**254**	P		**P**	**00 32 28.1**	**+2.2**
EIDS	**Eidsvold**	**25.87**	**278**	P		**P**	**00 32 29.6**	**+1.6**
EIDS				IAmb		IAmb	00 32 30.6	
	comp=Z,7.9nm,0.6s							
TAU	**Tasmania Unive**	**27.66**	**238**	P		**P**	**00 32 45.6**	**+1.9**
TAU				IAmb		IAmb	00 32 58.7	
	comp=Z,25nm,1.1s							
TOO	**Toolangi**	**28.46**	**249**	P		**P**	**00 32 53.0**	**+2.2**
KNTN	**Kanton**	**30.27**	**17**	P		**P**	**00 33 06.5**	**-0.4**
KNTN				IAmb		IAmb	00 33 06.6	
	comp=Z,49nm,1.1s							
PPTF	**Pamatai, Papee**	**31.32**	**70**	P		**P**	**00 33 15.2**	**-1.1**
PPTF				IAmb		IAmb	00 33 28.0	
	comp=Z,49nm,1.0s							
CTA	**Charters Tower**	**32.15**	**284**	P		**P**	**00 33 24.9**	**+1.7**
	comp=Z,9.2nm,0.4s,baz=107,slow=11,SNR=13							
CTAO	**Charters Tower**	**32.15**	**284**	P		**P**	**00 33 25.0**	**+1.7**
CTAO				IAmb		IAmb	00 33 25.5	
	comp=Z,12nm,0.6s							
STKA	**Stephens Creek**	**32.16**	**260**	P		**P**	**00 33 25.2**	**+1.9**
	comp=Z,12nm,0.6s,baz=101,slow=11,SNR=27							
STKA	**Stephens Creek**	**32.16**	**260**	P		**P**	**00 33 25.2**	**+1.9**
BBOO	**Buckleboo**	**36.59**	**257**	P		**P**	**00 34 01.6**	**+0.5**
COEN	**Coen**	**37.87**	**290**	P		**P**	**00 34 12.8**	**+0.9**
XMAS	**Kiritimati**	**40.31**	**37**	P		**P**	**00 34 33.8**	**+1.9**
XMAS				IAmb		IAmb	00 34 43.6	
	comp=Z,27nm,0.9s							
AS31	**Alice Springs**	**41.04**	**270**	P		**P**	**00 34 38.1**	**+0.2**
AS31				IAmb		IAmb	00 34 38.5	
	comp=Z,8.1nm,0.4s							
ASAR	**Alice Springs**	**41.04**	**270**	P		**P**	**00 34 38.0**	**+0.1**
	comp=Z,14nm,0.4s,baz=105,slow=7.5,SNR=210							
ASAR				ScP		**ScP**	**00 39 43.2**	**-8.9**
	comp=Z,0.5nm,0.5s,baz=119,slow=4.0,SNR=4.1							
ASAR				S		**S**	**00 40 23.6**	**-3.9**
	comp=Z,4.1nm,1.0s,baz=108,slow=16,SNR=16							
ASAR	**Alice Springs**	**41.04**	**270**	P		**P**	**00 34 37.8**	**-0.1**
WR0	**Warramunga Arr**	**42.01**	**275**	P		**P**	**00 34 45.9**	**+0.1**
WR0				IAmb		IAmb	00 34 46.2	
	comp=Z,24nm,0.4s							
WB2	**Warramunga Arr**	**42.18**	**275**	P		**P**	**00 34 47.2**	**+0.1**
WRAB	**Tennant Creek**	**42.18**	**275**	P		**P**	**00 34 47.2**	**0.0**
WRA	**Warramunga Arr**	**42.19**	**275**	P		**P**	**00 34 47.1**	**-0.1**
	comp=Z,31nm,0.3s,baz=112,slow=8.0,SNR=535							
WRA				ScP		**ScP**	**00 39 49.4**	**-7.3**
	comp=Z,1.4nm,0.8s,baz=108,slow=3.7,SNR=8.8							
WRA				S		**S**	**00 40 40.4**	**-4.0**
	comp=Z,0.8nm,0.7s,baz=112,slow=13,SNR=3.8							
WRA	**Warramunga Arr**	**42.19**	**275**	P		**P**	**00 34 47.2**	**0.0**
WB0	**Warramunga Arr**	**42.22**	**276**	P		**P**	**00 34 47.5**	**+0.1**
FORT	**Forrest**	**43.68**	**258**	P		**P**	**00 34 58.6**	**-0.4**
FORT				IAmb		IAmb	00 34 59.2	
	comp=Z,15nm,0.8s							
KNRA	**Kununurra**	**48.86**	**277**	P		**P**	**00 35 38.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.37**	**272**	P		**P**	**00 35 50.3**	**-0.1**
SAUI	**Saumlaki**	**50.82**	**287**	P		**P**	**00 35 51.4**	**-2.4**
NWAO	**Narrogin (SRO)**	**51.92**	**251**	P		**P**	**00 36 00.2**	**-1.5**
NWAO				IAmb		IAmb	00 36 13.4	
	comp=Z,9.5nm,1.0s							
NWAO	**Narrogin (SRO)**	**51.92**	**251**	P		**P**	**00 36 01.1**	**-0.6**
NWAO				IAmb		IAmb	00 36 13.4	
	comp=Z,7.6nm,1.0s							
PSA00	**Pilbara Seismi**	**53.79**	**266**	P		**P**	**00 36 14.1**	**-1.3**
MORW	**Morawa**	**54.13**	**255**	P		**P**	**00 36 16.6**	**-1.1**
QSPA	**South Pole Qui**	**58.02**	**180**	P		**P**	**00 36 45.0**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=342,slow=0.6,SNR=61							
QSPA	**South Pole Qui**	**58.02**	**180**	P		**P**	**00 36 44.9**	**+0.2**
QSPA				IAmb		IAmb	00 36 47.3	
	comp=Z,12nm,1.1s							
GIRL	**Giralia**	**58.08**	**262**	P		**P**	**00 36 45.0**	**-0.6**
GIRL				IAmb		IAmb	00 36 50.6	
	comp=Z,32nm,1.1s							
BELA	**Belgrano 2**	**68.38**	**173**	P		**P**	**00 37 50.9**	**-1.1**
SNAA	**Sanae**	**76.51**	**179**	P		**P**	**00 38 38.4**	**-1.4**
SNAA	**Sanae**	**76.51**	**179**	P		**P**	**00 38 38.6**	**-1.2**
VNA3	**Neumayer Olymp**	**76.74**	**177**	P		**P**	**00 38 39.7**	**-1.4**
VNA2	**Neumayer--Watz**	**77.15**	**178**	P		**P**	**00 38 42.2**	**-1.2**
	baz=173,slow=5.8							
VNA1	**Neumayer--Stat**	**77.39**	**177**	P		**P**	**00 38 43.6**	**-1.0**
EFI	**East Falkland**	**82.45**	**148**	P		**P**	**00 39 10.9**	**-1.1**
EFI				IAmb		IAmb	00 39 23.6	
	comp=Z,12nm,0.8s							
PLCA	**Paso Flores**	**82.82**	**134**	P		**P**	**00 39 13.6**	**-0.5**
	comp=Z,6.2nm,0.9s,baz=240,slow=5.1,SNR=12							
PLCA	**Paso Flores**	**82.82**	**134**	P		**P**	**00 39 13.7**	**-0.4**
PLCA				IAmb		IAmb	00 39 14.1	
	comp=Z,5.7nm,0.7s							
LC01	**Cunco**	**83.07**	**132**	P		**P**	**00 39 14.8**	**-0.6**
LC01				IAmb		IAmb	00 39 15.3	
	comp=Z,12nm,0.8s							
NJ2	**Nanjing**	**85.84**	**312**	*eP*		**P**	**00 39 31.3**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BO02	**Sierra Bellavi**	**86.20**	**129**	P		**P**	**00 39 30.4**	**-0.7**
BO02				IAmb		IAmb	00 39 31.0	
	comp=Z,7.6nm,0.8s							
MT02	**Curacav**	**86.88**	**128**	P		**P**	**00 39 33.3**	**-1.0**
MT02				IAmb		IAmb	00 39 39.1	
	comp=Z,15nm,1.1s							
PETK	**Petropavlovsk-**	**86.97**	**347**	P		**P**	**00 39 33.5**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=98,slow=6.6,SNR=5.0							
PETK	**Petropavlovsk-**	**86.97**	**347**	P		**P**	**00 39 33.7**	**-0.3**
HOPE	**Hope Point**	**88.49**	**160**	P		**P**	**00 39 40.0**	**-1.5**
SPIA	**Saint Paul Isl**	**89.33**	**5**	P		**P**	**00 39 46.5**	**+1.6**
PIX	**Pinacate**	**89.49**	**52**	P		**P**	**00 39 47.7**	**+1.3**
PIX				IAmb		IAmb	00 40 00.7	
	comp=Z,3.4nm,1.0s							
CHGN	**Chignik**	**90.01**	**12**	P		**P**	**00 39 47.7**	**-0.4**
AC05	**El Transito**	**90.12**	**125**	P		**P**	**00 39 49.1**	**-0.6**
WAKR	**Walker**	**90.24**	**43**	P		**P**	**00 39 49.6**	**-0.3**
WAKR				IAmb		IAmb	00 39 49.7	
	comp=Z,2.6nm,0.9s							
YBH	**Yreka Blue Hor**	**90.61**	**39**	P		**P**	**00 39 51.2**	**-0.2**
YBH				IAmb		IAmb	00 39 56.1	
	comp=Z,4.1nm,1.0s							
NVAR	**Mina Array Bea**	**90.85**	**44**	P		**P**	**00 39 51.6**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=218,slow=7.5,SNR=10							
HUMO	**Hull Mountain**	**91.09**	**38**	P		**P**	**00 39 53.6**	**0.0**
HUMO				IAmb		IAmb	00 40 01.4	
	comp=Z,5.1nm,1.1s							
TPNV	**Topopah Spring**	**91.12**	**46**	P		**P**	**00 39 53.5**	**-0.5**
KVN	**Kaiserville**	**91.38**	**44**	P		**P**	**00 39 54.0**	**-1.2**
AC02	**Maricunga**	**92.14**	**124**	P		**P**	**00 39 57.6**	**-2.0**
AC02				IAmb		IAmb	00 40 01.7	
	comp=Z,5.1nm,1.1s							
K05A	**Summer Lake**	**92.27**	**39**	P		**P**	**00 39 58.9**	**-0.3**
K05A				IAmb		IAmb	00 39 59.5	
	comp=Z,8.5nm,1.0s							
X16A	**Lo Mia Camp, P**	**92.58**	**51**	P		**P**	**00 39 60.0**	**-0.9**
X16A				IAmb		IAmb	00 40 00.8	
	comp=Z,1.7nm,0.6s							
PINE	**Pine Mountain**	**92.97**	**39**	P		**P**	**00 40 01.9**	**-0.5**
PINE				IAmb		IAmb	00 40 02.8	
	comp=Z,5.4nm,0.8s							
U15A	**North Rim**	**93.26**	**49**	P		**P**	**00 40 04.2**	**+0.1**
U15A				IAmb		IAmb	00 40 04.5	
	comp=Z,3.8nm,1.1s							
TXAR	**Lajitas Array**	**95.00**	**59**	P		**P**	**00 40 10.6**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=154,slow=3.7,SNR=2.9							
HHC	**Hu-ho-hao-te**	**95.97**	**315**	*eP*		**P**	**00 40 15.9**	**-0.2**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,70nm,7.0s							
LZH	**Lanzhou**	**98.12**	**308**	*eP*		**PKiKP**	**00 40 29.4**	**+3.4**
LZH				pP		sP	00 41 58.9	-8.5
LZH				sP		pwP	00 42 37.4	+57
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,130nm,5.4s							
WMQ	**Urumqi**	**112.68**	**308**	*eP*		**PKiKP**	**00 45 23.3**	**-0.5**
MKAR	**Makanchi Array**	**117.31**	**310**	PKP		**PKPdf**	**00 45 28.6**	**-3.8**
	comp=Z,0.3nm,0.6s,baz=264,slow=1.2,SNR=3.7							
MKAR				PKKPbc		**PKKPbc**	**00 55 55.5**	**-2.1**
	comp=Z,0.5nm,0.9s,baz=286,slow=4.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**117.94**	**318**	PKP		**PKPdf**	**00 45 30.9**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=218,slow=42,SNR=1.7							
ARCES	**ARCESS Array B**	**139.78**	**346**	PKhKP		PKPpre	00 46 03.6	
	comp=Z,1.4nm,0.7s,baz=45,slow=2.2,SNR=4.1							
ARCES				PP		**PP**	**00 49 12.2**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=61,slow=3.5,SNR=3.7							
KBZ	**Khabaz**	**144.32**	**302**	PKP		**PKPab**	**00 46 20.6**	**-1.6**
	comp=Z,2.4nm,0.9s,baz=191,slow=3.3,SNR=5.4							
FINES	**FINESS Array B**	**145.98**	**338**	PKPbc		**PKPdf**	**00 46 24.2**	**-1.2**
	comp=Z,7.0nm,0.4s,baz=45,slow=4.4,SNR=72							
FINES	**FINESS Array B**	**145.98**	**338**			**PKPdf**	**00 46 24.6**	**-0.8**
NB2	**NORSAR Subarra**	**150.06**	**349**	PKP		**PKPbc**	**00 46 35.1**	**-2.4**
	comp=Z,1.7nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.06**	**349**	PKPbc		**PKPbc**	**00 46 34.9**	**-2.6**
	comp=Z,3.4nm,0.7s,baz=16,slow=4.2,SNR=16							
AKASG	**Malin Array Be**	**151.33**	**319**	PKPbc		**PKPbc**	**00 46 37.9**	**-2.8**
	comp=Z,0.8nm,0.4s,baz=62,slow=2.3,SNR=8.5							
TORD	**Torodi Ar. Bea**	**161.05**	**186**	PKPab		**PKPab**	**00 47 31.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=205,slow=3.2,SNR=17							

BEO ***17*** *00:32:23.7±0.6,42.°51N×18.°58E,h0km,ML2.4/10*
PDG ***17*** *00:32:23.4±0.0,42.°55N×18.°62E,h13km,MD2.8/5,*
ML2.7/13,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
RHSSO ***17*** *00:32:24.3±0.3,42.°54N×18.°59E,h5km±1km,ML2.5/9*

ISC 17 00:32:24.0±1.0,42.°56N±0.°02×18.°61E±0.°02,h5km±8km,
n67,σ0°93/109,13C-14D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HCY	**Herceg Novi**	**0.14**	**218**	↑	*iPg*	**Pg**	**00 32 26.7**	**-0.1**
HCY					*i* Sg	**Sg**	**00 32 29.6**	**+0.9**
HCY	**Herceg Novi**	**0.14**	**218**	↓	*iPg*	**Pg**	**00 32 27.0**	**+0.2**
HCY					*e*Sg	**Sg**	**00 32 29.0**	**+0.3**
CEME	**Cevo**	**0.23**	**93**	↓	*iPg*	**Pg**	**00 32 28.0**	**-0.5**
CEME					*i* Sg	**Sg**	**00 32 32.0**	**+0.5**
NKME	**Niksic**	**0.33**	**50**		*ePg*	**Pg**	**00 32 29.8**	**-0.6**
NKME					*i* Sg	**Sg**	**00 32 35.3**	**+0.5**
BUM	**Brajici-Budva**	**0.33**	**141**	↑	*iPg*	**Pg**	**00 32 29.7**	**-0.8**
BUM					*i* Sg	**Sg**	**00 32 35.2**	**+0.4**
BRY	**Bratogost**	**0.35**	**352**	↓	*iPg*	**Pg**	**00 32 30.2**	**-0.6**
BRY					*i* Sg	**Sg**	**00 32 36.0**	**+0.6**
BRY	**Bratogost**	**0.35**	**352**	↓	*iPg*	**Pg**	**00 32 30.4**	**-0.4**
BRY					*e*Sg	**Sg**	**00 32 37.0**	**+1.6**
DBRK	**Dubrovnik**	**0.36**	**288**		*ePg*	**Pg**	**00 32 30.2**	**-0.7**
NKY	**Niksic**	**0.38**	**48**	↑	*iPg*	**Pg**	**00 32 30.7**	**-0.7**
NKY					*i* Sg	**Sg**	**00 32 36.8**	**+0.3**
PDG	**Podgorica**	**0.49**	**105**		*ePg*	**Pg**	**00 32 33.5**	**0.0**
PDG					*e*Sg	**Sg**	**00 32 38.9**	**-1.1**
PDG	**Podgorica**	**0.49**	**105**	↑	*iPg*	**Pg**	**00 32 33.7**	**+0.1**
PDG				↑	*i*S	**Sg**	**00 32 40.7**	**+0.7**
PDG	**Podgorica**	**0.49**	**105**	↓	*iPg*	**Pg**	**00 32 32.7**	**-0.8**
PDG					*e*Sg	**Sg**	**00 32 41.2**	**+1.2**
TTG	**Podgorica**	**0.49**	**105**	↓	*iPg*	**Pg**	**00 32 32.7**	**-0.8**
TTG					*i* Sg	**Sg**	**00 32 40.5**	**+0.5**
DRME	**Dracevica, Mon**	**0.56**	**131**		*ePg*	**Pg**	**00 32 33.9**	**-1.0**
DRME					*i* Sg	**Sg**	**00 32 42.9**	**+0.7**
DRME	**Dracevica, Mon**	**0.56**	**131**		*ePg*	**Pg**	**00 32 34.8**	**-0.1**
DRME					*e*Sg	**Sb**	**00 32 43.6**	**-1.2**
UPM	**Unac-Piva**	**0.68**	**19**	↑	*iPg*	**Pg**	**00 32 36.2**	**-0.9**
UPM					*i* Sg	**Sg**	**00 32 47.1**	**+1.1**
UPM	**Unac-Piva**	**0.68**	**19**	↓	*iPg*	**Pg**	**00 32 36.1**	**-1.0**
UPM					*e*Sg	**Sg**	**00 32 46.8**	**+0.8**
KOME	**Kolasin**	**0.73**	**66**	↓	*iPg*	**Pg**	**00 32 36.9**	**-1.1**
KOME					*i* Sg	**Sg**	**00 32 46.7**	**+1.1**
STON	**Ston**	**0.74**	**295**		*iPg*	**Pg**	**00 32 36.8**	**-1.2**
STON					Sg	**Sg**	**00 32 48.1**	**+0.3**
ULC	**Ulcinj**	**0.76**	**141**	↓	*iPg*	**Pg**	**00 32 37.4**	**-1.2**
ULC					*i* Sg	**Sb**	**00 32 49.2**	**-1.2**
PLE	**Pljevlja**	**0.96**	**36**	↑	*iPg*	**Pg**	**00 32 41.3**	**-1.2**
PLE					*i* Sg	**Sb**	**00 32 56.4**	**0.0**
IVA	**Berane**	**1.00**	**71**	↓	*iPg*	**Pg**	**00 32 41.8**	**-1.4**
IVA					*i* Sg	**Sb**	**00 32 57.5**	**+0.2**
PVY	**Plav**	**1.00**	**87**	↑	*iPg*	**Pg**	**00 32 41.8**	**-1.4**
PVY					*i* Sg	**Sb**	**00 32 57.4**	**0.0**
RUDO	**Rudo**	**1.20**	**27**		*ePg*	**Pg**	**00 32 45.6**	**-1.4**
RUDO					*e*Sg	**Sb**	**00 33 03.2**	**+0.1**
SJES	**Sjenica**	**1.23**	**54**		*ePg*	**Pg**	**00 32 47.3**	**-0.2**
SJES					*e*Sg	**Sn**	**00 33 04.7**	**-0.3**
LSTV	**Lastovo**	**1.28**	**280**		*ePg*	**Pg**	**00 32 47.3**	**-1.4**
LSTV					Sg	**Sn**	**00 33 05.6**	**-0.6**
MAKA	**Makarska**	**1.38**	**303**		*ePn*	**Pn**	**00 32 49.4**	**-0.5**
MAKA					Sg	**Sn**	**00 33 08.6**	**0.0**
RICI	**Ricice**	**1.43**	**311**		*iPn*	**Pg**	**00 32 51.3**	**-0.2**
RICI					Sn	**Sg**	**00 33 11.1**	**+1.1**
BBLS	**Lazići**	**1.43**	**24**		*ePg*	**Pb**	**00 32 51.2**	**-0.1**
BBLS					*e*Sg	**Sb**	**00 33 09.9**	**+0.1**
BBLS	**Lazići**	**1.43**	**24**		*ePg*	**Pn**	**00 32 50.2**	**-0.6**
BBLS					*e*Sg	**Sg**	**00 33 10.4**	**+0.4**
IVAS	**Ivanjica**	**1.52**	**47**		*ePg*	**Pn**	**00 32 51.5**	**-0.5**
IVAS					*e*Sg	**Sg**	**00 33 13.9**	**+1.0**
TIR	**Tirane**	**1.53**	**142**	↑	S	**Sg**	**00 33 16.2**	**+3.1**
HAPS	**Han Pijesak,Bl**	**1.55**	**9**		*ePg*	**Pn**	**00 32 52.2**	**-0.2**
HAPS					*e*Sg	**Sg**	**00 33 15.1**	**+1.3**
HAPS	**Han Pijesak,Bl**	**1.55**	**9**		*ePg*	**Pn**	**00 32 52.2**	**-0.2**
HAPS					*e*Sg	**Sg**	**00 33 14.3**	**+0.5**
DIVS	**Divibare**	**1.84**	**33**		*ePn*	**Pn**	**00 32 57.0**	**+0.6**
DIVS					*e*Sg	**Sg**	**00 33 24.0**	**+0.8**
DIVS	**Divibare**	**1.84**	**33**		*ePn*	**Pn**	**00 32 56.7**	**+0.3**
DIVS					*e*Sn	**Sb**	**00 33 21.2**	**-0.4**
SELS	**Selova**	**1.96**	**69**		*ePn*	**Pn**	**00 32 58.4**	**+0.4**
GRUS	**Gruza**	**2.04**	**48**		*ePn*	**Pn**	**00 32 59.8**	**+0.8**
TEKS	**Tekeris**	**2.10**	**18**		*ePn*	**Pn**	**00 32 59.8**	**-0.1**
TEKS					*e*Sn	**Sn**	**00 33 26.4**	**0.0**
TRUS	**Trudelj**	**2.12**	**38**		*ePn*	**Pn**	**00 33 00.6**	**+0.5**
TRUS					*e*Sg	**Sg**	**00 33 32.2**	**+0.1**
KIJV	**Kijevo**	**2.16**	**313**		*iPn*	**Pn**	**00 33 01.8**	**+1.0**
KIJV					Sn	**Sb**	**00 33 30.7**	**-0.2**
BARS	**Barje**	**2.38**	**83**		*ePn*	**Pn**	**00 33 04.9**	**+1.2**
BLY	**Banja Luka**	**2.42**	**335**		*ePn*	**Pn**	**00 33 05.2**	**+0.9**
BLY					*e*Sn	**Sn**	**00 33 35.2**	**+0.9**
BOVS	**Bovan**	**2.51**	**64**		*ePn*	**Pn**	**00 33 05.8**	**+0.3**
FRGS	**Fruska Gora**	**2.74**	**18**		*ePn*	**Pn**	**00 33 08.6**	**-0.1**
FRGS	**Fruska Gora**	**2.74**	**18**		*ePn*	**Pn**	**00 33 08.7**	**0.0**
FRGS					*e*Sn	**Sn**	**00 33 43.4**	**+1.2**
STIP	**Stip**	**2.80**	**107**		*i* Pn	**Pb**	**00 33 12.9**	**-1.6**
BOSS	**Bosilegrad**	**2.86**	**90**		*ePn*	**Pn**	**00 33 10.9**	**+0.5**
ZAPS	**Zavoj**	**3.04**	**75**		*ePn*	**Pn**	**00 33 14.3**	**+1.4**
MDVR	**Moldovita**	**3.16**	**44**	↓	P	**Pn**	**00 33 15.2**	**+0.7**
HERR	**Herculane**	**3.61**	**49**	↑	P	**Pn**	**00 33 21.7**	**+1.1**
HERR	**Herculane**	**3.61**	**49**	↓	S	**Sn**	**00 34 04.6**	**+1.0**
MORH	**Mrgy, Hungar**	**3.66**	**0**		*ePn*	**Pn**	**00 33 21.1**	**-0.2**
MORH					*e*Sn	**Sn**	**00 34 04.8**	**0.0**
BZS	**Buzias**	**3.75**	**34**		*ePn*	**Pn**	**00 33 22.3**	**-0.2**
BZS	**Buzias**	**3.75**	**34**	↑	P	**Pn**	**00 33 22.6**	**+0.1**
BZS	**Buzias**	**3.75**	**34**	↓	S	**Sn**	**00 34 07.3**	**+0.3**
GZR	**Gura Zlata**	**4.13**	**45**	↓	P	**Pn**	**00 33 28.6**	**+0.7**
GZR	**Gura Zlata**	**4.13**	**45**	↑	S	**Sn**	**00 34 17.1**	**+0.4**
CEY	**Cerknica**	**4.38**	**318**	*e*	Pn	**Pn**	**00 33 31.5**	**+0.3**
CEY				*e*	Sn	**Sn**	**00 34 21.6**	**-1.0**
LOT	**Lotru**	**4.71**	**50**	↑	P	**Pn**	**00 33 37.9**	**+2.0**
SOKA	**Soboth**	**4.85**	**329**	*e*	Pn	**Pn**	**00 33 38.3**	**+0.6**
	0.8nm,0.2s							
OBKA	**Obir**	**4.90**	**325**	*e*	Pn	**Pn**	**00 33 39.5**	**+1.0**
	0.3nm,0.2s							
OBKA				*e*	Sn	**Sn**	**00 34 39.4**	**+3.8**
	1.7nm,0.3s							
ARSA	**Arzberg**	**5.18**	**336**	*e*	Pn	**Pn**	**00 33 42.3**	**+0.1**
	0.8nm,0.3s							
ABTA	**Abfaltersbach**	**6.04**	**316**	Pn		**Pn**	**00 33 53.1**	**-1.0**
	0.5nm,0.3s							
MOA	**Molln**	**6.12**	**331**	*e*	Pn	**Pn**	**00 33 55.8**	**+0.7**
	0.4nm,0.2s							
WTTA	**Wattenberg**	**6.83**	**316**	*e*	Pn	**Pn**	**00 34 04.2**	**-0.8**
	0.6nm,0.2s							
SQTA	**Sankt Quirin**	**7.02**	**314**	*e*	Pn	**Pn**	**00 34 08.4**	**+0.8**
	0.6nm,0.2s							

OTT 17 01:00:15.3±0.4,77.°04N×105.°96W,h18km,ML3.8/5,
203km south from Isachsen, Nu Gustaf-Lougheed Arch Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RES	**Resolute Bay**	**3.60**	**126**	PN		Pn	01 01 10.1	+0.1
RES				SN		Sn	01 01 50.4	-1.5
RES				Trac			01 02 04.4	
	comp=Z,24nm,0.2s							
EUNU	**Eureka**	**4.90**	**43**	PN		Pn	01 01 28.8	+0.8
EUNU				SN		Sn	01 02 20.2	-3.9
EUNU				Trac			01 02 25.4	
	comp=Z,7.0nm,0.1s							
TULEG	**Thule**	**8.41**	**75**	PN		Pn	01 02 15.3	-0.7
TULEG				SN		Sn

SHME				S	Sn	01 40 19.4	+0.5	
SHME	**Shamm**	**1.99**	**222**	*e*Pn	Pn	**01 39 55.1**	**+1.2**	
BANOM	**Banah**	**2.00**	**217**	*e*P	Pn	**01 39 54.4**	**+0.4**	
	SNR=8.2							
BANOM				S	Sn	01 40 20.5	+1.4	
BANOM	**Banah**	**2.00**	**217**	P	Pn	**01 39 54.4**	**+0.4**	
BANOM				S	Sn	01 40 19.7	+0.6	
BANOM	**Banah**	**2.00**	**217**	*e*Pn	Pn	**01 39 55.0**	**+1.0**	
NGRK	**Negar Kerman**	**2.24**	**340**	*e*Pn	Pn	**01 39 57.6**	**-0.1**	
CHMN	**Cheshme madani**	**2.32**	**358**	*e*	**Pg**	**01 40 04.1**	**-0.6**	
MDH	**Madha**	**2.53**	**208**	P	Pn	**01 40 00.4**	**-0.9**	
MDH	**Madha**	**2.53**	**208**	*e*Pn	Pn	**01 40 00.1**	**-1.2**	
TVBK	**TV Kerman**	**2.56**	**343**	*e*	**Sg**	**01 40 43.9**	**+1.5**	
UMQ	**Umm Al-Quwin**	**2.67**	**222**	P	Pn	**01 40 03.0**	**-0.2**	
UMQ	**Umm Al-Quwin**	**2.67**	**222**	P	Pn	**01 40 03.9**	**+0.8**	
UMQ	**Umm Al-Quwin**	**2.67**	**222**	*e*Pn	Pn	**01 40 03.3**	**+0.1**	
UOSS	**Minazif**	**2.88**	**207**	*e*P	Pn	**01 40 05.3**	**-0.9**	
	SNR=12							
UOSS	**Minazif**	**2.88**	**207**	P	Pn	**01 40 05.3**	**-0.9**	
UOSS	**Minazif**	**2.88**	**207**	*e*Pn	Pn	**01 40 05.2**	**-0.9**	
LAR1	**LAR**	**2.89**	**273**	*e*	**Sg**	**01 40 57.4**	**+4.4**	
KHGB	**Koh Gabri**	**3.00**	**341**	*e*		01 40 57.9		
KHGB				*e*Pn	Pn	**01 40 08.7**	**+0.7**	
HATD	**Hatta, Dubai**	**3.01**	**207**	*e*P	Pn	**01 40 07.5**	**-0.5**	
	SNR=12							
HATD	**Hatta, Dubai**	**3.01**	**207**	P	Pn	**01 40 08.0**	**0.0**	
	SNR=12							
HATD	**Hatta, Dubai**	**3.01**	**207**	*e*Pn	Pn	**01 40 07.4**	**-0.6**	
NAZ	**Nazwa, Dubai**	**3.09**	**215**	*i* P	Pn	**01 40 10.4**	**+1.4**	
	SNR=21							
NAZ	**Nazwa, Dubai**	**3.09**	**215**	P	Pn	**01 40 10.2**	**+1.2**	
	SNR=20							
NAZ	**Nazwa, Dubai**	**3.09**	**215**	*e*Pn	Pn	**01 40 09.8**	**+0.8**	
FAQ	**Al Faqa, Dubai**	**3.33**	**214**	*i* P	Pn	**01 40 12.6**	**+0.3**	
	SNR=8.4							
FAQ	**Al Faqa, Dubai**	**3.33**	**214**	P	Pn	**01 40 13.0**	**+0.7**	
	SNR=9.1							
FAQ				S	Sn	**01 40 52.9**	**+1.0**	
FAQ	**Al Faqa, Dubai**	**3.33**	**214**	*e*Pn	Pn	**01 40 12.5**	**+0.3**	
SOHO	**SOHO**	**3.53**	**196**	*i* P	Pn	**01 40 13.6**	**-1.5**	
	SNR=8.7							
SOHO	**SOHO**	**3.53**	**196**	P	Pn	**01 40 14.0**	**-1.0**	
SOHO	**SOHO**	**3.53**	**196**	*e*Pn	Pn	**01 40 13.5**	**-1.5**	
ASUD	**Al Ashush, Dub**	**3.56**	**216**	*i* P	Pn	**01 40 16.2**	**+0.7**	
	SNR=25							
ASUD	**Al Ashush, Dub**	**3.56**	**216**	P	Pn	**01 40 16.7**	**+1.2**	
	SNR=26							
ASUD	**Al Ashush, Dub**	**3.56**	**216**	*e*Pn	Pn	**01 40 16.6**	**+1.2**	
HOQ	**Hoqain**	**3.95**	**184**	P	Pn	**01 40 20.2**	**-0.6**	
	SNR=19							
BIDO	**Bidbid**	**4.02**	**173**	P	Pn	**01 40 22.0**	**+0.1**	
ARQ	**Araqi**	**4.30**	**194**	P	Pn	**01 40 27.6**	**+2.0**	
	SNR=16							
ARQ				S	Sn	**01 41 16.8**	**+0.9**	
WSAR	**Wadi Sarin**	**4.37**	**168**	P	Pn	**01 40 28.1**	**+1.4**	
	SNR=7.7							
WSAR				S	Sn	**01 41 15.7**	**-2.0**	
SMDO	**Samad**	**4.47**	**175**	P	Pn	**01 40 29.0**	**+0.8**	
	SNR=12							
BSY	**Bisya**	**4.79**	**185**	P	Pn	**01 40 33.8**	**+1.4**	
	SNR=9.5							
WBK	**Wadi Bani Khal**	**5.05**	**166**	P	Pn	**01 40 37.0**	**+0.9**	
	SNR=11							
WBK				S	Sn	**01 41 33.3**	**-1.3**	
JMDO	**Jabal Madar**	**5.16**	**175**	P	Pn	**01 40 38.7**	**+1.1**	
UMZA	**Um Al Zommool**	**5.30**	**205**	*e*Pn	Pn	**01 40 39.2**	**-0.1**	
JLN	**Jalan Bani Buh**	**5.60**	**163**	P	Pn	**01 40 44.7**	**+1.1**	
	SNR=8.6							
JLN				S	Sn	**01 41 46.6**	**-1.4**	

IDC 17 01:57:08.1±62.0, **20°16S**×**175°48W**, **h0**km, **mb4.1**/3, **mb1 4.3**/3, **mb1mx3.8**/28, **mbtmp4.1**/3, **Error ellipse: s-maj=1154.0km s-min=175.9km az=83.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.06**	**244**	P	P	02 04 44.7	-0.6
	1.0nm,0.5s,baz=54,slow=9.8,SNR=3.8						
ASAR	**Alice Springs**	**46.89**	**256**	P	P	02 05 40.4	-0.2
	1.3nm,0.4s,baz=98,slow=6.7,SNR=17						
WRA	**Warramunga Arr**	**46.98**	**261**	P	P	02 05 41.6	+0.3
	0.8nm,0.3s,baz=96,slow=8.2,SNR=40						

REY ***17*** *01:58:44.2, 64°.66N×17°.39W, h2km*
IDC ***17*** *01:58:53.4±0.5, 64°.63N×17°.45W, h0km, mb4.1/20, mb1 4.3/23, mb1mx4.1/45, mbtmp4.1/23, ML2.7/2, MS3.7/30, Ms1 3.7/30, ms1mx3.5/45, Error ellipse: s-maj=17.6km s-min=8.5km az=11.0*
MOS ***17*** *01:58:53.8±1.0, 64°.63N×17°.32W, h10km, mb4.7/39, Error ellipse: s-maj=11.3km s-min=8.2km az=117.8*
NEIC ***17*** *01:58:55.6±1.7, 64°.6N±0°.1×17°.2W±0°.1, h8km, 4km, mb4.5/92, Error ellipse: s-maj=17.4km s-min=8.3km az=193.0*

ISC 17 01:58:45.1±0.7, **64°.67N**±0°.02×**17°.41W**±0°.03, **h10**km, **n288,** *α***2°32**/60, **mb4.5**/99, **MS3.6**/27, **25C-6D, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.13**	**8**	P	**Pg**	**01 58 47.2**	**-1.0**
	baz=4.0						
IVON	**Vonarskard**	**0.15**	**273**	P	**Pg**	**01 58 47.6**	**-0.9**
	baz=275						
IDJK	**Dyngjujokull**	**0.18**	**155**	P	**Pg**	**01 58 47.9**	**-1.2**
	baz=157						
IURH	**Urdarhals**	**0.19**	**36**	P	**Pg**	**01 58 48.6**	**-0.6**
	baz=32						
IGRF	**Grimsfjall**	**0.27**	**167**	P	**Pg**	**01 58 49.6**	**-1.0**
	baz=168						
IVOT	**Vottur**	**0.41**	**166**	P	**Pg**	**01 58 52.2**	**-1.0**
	baz=167						
ISKR	**Skrokkalda**	**0.43**	**256**	P	**Pg**	**01 58 52.6**	**-1.1**
	baz=258						
IKRE	**Kreppuhraun**	**0.46**	**75**	P	**Pg**	**01 58 52.6**	**-1.5**
	baz=73						
IKRE				S	**Sg**	**01 58 59.2**	**-0.8**
	baz=73						
IJOK	**Jokulheimar**	**0.50**	**225**	P	**Pg**	**01 58 53.4**	**-1.4**
	baz=227						
IMKO	**Mokollar**	**0.55**	**55**	P	**Pg**	**01 58 54.4**	**-1.5**
	baz=54						
IMKO				S	**Sg**	**01 59 02.8**	**-0.4**
	baz=54						
IKSK	**Karasker**	**0.65**	**141**	P	**Pg**	**01 58 55.2**	**-2.5**
	baz=141						
IKSK				S	**Sg**	**01 59 04.6**	**-1.6**
	baz=141						
IIEY	**Innrieyrar**	**0.65**	**209**	P	**Pg**	**01 58 56.1**	**-1.6**
	baz=210						
IIEY				S	**Sg**	**01 59 04.7**	**-1.6**
	baz=210						
ISVA	**Svartarkot**	**0.68**	**5**	P	**Pg**	**01 58 56.5**	**-1.6**
	baz=4.7						
ISVA				S	**Sg**	**01 59 05.8**	**-1.2**
	baz=4.7						
IKAL	**Kalfafell**	**0.73**	**190**	P	**Pg**	**01 58 57.4**	**-1.9**
	baz=190						
IKAL				S	**Sg**	**01 59 07.2**	**-1.6**
	baz=190						
IVSH	**V-Sauoahnukur**	**0.73**	**78**	P	**Pg**	**01 58 57.2**	**-2.1**
	baz=77						
IVAT	**Vatnsfell**	**0.81**	**234**	P	**Pg**	**01 58 58.9**	**-1.8**
	baz=235						
IADA	**Aoalbol**	**0.86**	**65**	P	**Pg**	**01 58 59.2**	**-2.5**
	baz=64						
IMEL	**Melhnausar**	**0.96**	**19**	P	**Pg**	**01 59 01.4**	**-2.2**
	baz=18						
IREN	**Reynihlio**	**1.01**	**12**	P	**Pg**	**01 59 02.3**	**-2.1**
	baz=11						
IKVO	**Krokottuvotn**	**1.07**	**12**	P	**Pg**	**01 59 03.2**	**-2.6**
	baz=11						
ISNB	**Snabyli**	**1.08**	**210**	P	**Pg**	**01 59 03.5**	**-2.3**
	baz=211						
IGRS	**Grimsstaoir**	**1.12**	**29**	P	**Pb**	**01 59 04.0**	**-2.5**
	baz=28						
ISLY	**Slysaalda**	**1.13**	**222**	P	**Pb**	**01 59 04.8**	**-1.9**
	baz=223						
IFED	**Fedgar**	**1.18**	**238**	P	**Pb**	**01 59 05.5**	**-2.1**
	baz=239						
IRJU	**Rjupnafell**	**1.19**	**208**	P	**Pb**	**01 59 05.7**	**-2.1**
	baz=209						
IGHA	**Grjothals**	**1.22**	**15**	P	**Pn**	**01 59 05.9**	**-2.4**
	baz=14						
IMJO	**Mjoaskard**	**1.23**	**234**	P	**Pn**	**01 59 06.5**	**-1.9**
	baz=235						
IGRA	**Granastaoir**	**1.26**	**357**	P	**Pn**	**01 59 06.4**	**-2.3**
	baz=356						
IHVO	**Lagu-Hvolar**	**1.31**	**210**	P	**Pn**	**01 59 08.2**	**-1.2**
	baz=210						
IDIM	**Dimmadalss**	**1.32**	**9**	P	**Pn**	**01 59 07.4**	**-2.1**
	baz=8.1						
IHAU	**Haukadalur**	**1.32**	**239**	P	**Pn**	**01 59 07.6**	**-1.9**
	baz=240						
IHLA	**Hella**	**1.35**	**343**	P	**Pn**	**01 59 08.0**	**-1.9**
	baz=342						
IALF	**Alftagrof**	**1.42**	**214**	P	**Pn**	**01 59 09.2**	**-1.6**
	baz=215						
IHED	**Heoinshofoi**	**1.42**	**2**	P	**Pn**	**01 59 09.1**	**-1.9**
	baz=1.3						
IESK	**Eystri-Skogar**	**1.46**	**219**	P	**Pn**	**01 59 09.8**	**-1.6**
	baz=219						
ISAU	**Saurbar**	**1.48**	**244**	P	**Pn**	**01 59 09.5**	**-2.2**
	baz=244						
IBRE	**Brettingsstaoi**	**1.48**	**352**	P	**Pn**	**01 59 09.9**	**-1.8**
	baz=352						
IGIL	**Gilhagi**	**1.48**	**17**	P	**Pn**	**01 59 09.8**	**-2.0**
	baz=16						
IMID	**Miomork**	**1.48**	**228**	P	**Pn**	**01 59 10.7**	**-1.1**
	baz=229						
ISIG	**Siglufjorour**	**1.60**	**337**	P	**Pn**	**01 59 11.8**	**-1.7**
	baz=337						
BORG	**Borgarnes**	**1.69**	**275**	Pg	Pg	01 59 22.4	+5.0
	27nm,0.3s,baz=103,slow=13,SNR=33						
BORG				Lg	Lg	01 59 45.1	
	20nm,0.3s,baz=220,slow=22,SNR=10						
BORG	**Borgarnes**	**1.69**	**275**	P	Pg	01 59 23.4	+6.0
BORG	**Borgarnes**	**1.69**	**275**	Pn	Pg	01 59 23.4	+6.0
ISOL	**Solvholt**	**1.71**	**246**	P	**Pn**	**01 59 13.5**	**-1.4**
	baz=246						
IKRO	**Krur**	**1.71**	**252**	P	**Pn**	**01 59 13.4**	**-1.5**
	baz=252						
IHEI	**Heioarbar**	**1.73**	**256**	P	**Pn**	**01 59 13.8**	**-1.3**
	baz=256						
IHRN	**Hraun**	**1.84**	**323**	P	**Pn**	**01 59 15.9**	**-0.8**
	baz=323						
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	Pn	02 01 40.4	+8.1
	baz=322,slow=14,SNR=14						
ESK	**Eskdalemuir**	**11.73**	**136**	P	Pn	02 01 41.4	+9.1
ESK	**Eskdalemuir**	**11.73**	**136**	Pn	Pn	02 01 41.4	+9.1
NC204	**NORSAR Array S**	**13.19**	**92**	Pn	**P**	**02 02 01.9**	**-0.5**
NBO00	**NORSAR Array S**	**13.31**	**93**	Pn	**P**	**02 02 00.9**	**-2.8**
NOA	**NORSAR Array B**	**13.49**	**92**	Pn	**P**	**02 02 03.0**	**-2.7**
	0.0nm,0.3s,baz=139,slow=15,SNR=5.3						
NOA				LR	LR	02 07 16.7	
	comp=Z,164nm,21.6s,baz=300,slow=37						
NOA	**NORSAR Array B**	**13.49**	**92**	P	**P**	**02 02 03.0**	**-2.7**
NC405	**NORSAR Array S**	**13.68**	**92**	Pn	**P**	**02 02 07.5**	**-0.2**
SFJD	**Kangerlussuaq**	**13.70**	**295**	LR	LR	02 07 08.5	
	comp=Z,533nm,18.5s,baz=84,slow=36						
HFS	**Hagfors**	**15.01**	**93**	Pn	P	02 02 30.8	+8.4
	0.2nm,0.3s,baz=297,slow=6.5,SNR=9.7						
HFS				LR	LR	02 07 50.7	
	comp=Z,248nm,21.9s,baz=274,slow=36						
SPITS	**Spitsbergen Ar**	**16.85**	**23**	LR	LR	02 07 34.7	
	comp=Z,206nm,21.1s,baz=175,slow=31						
ARCES	**ARCESS Array B**	**17.09**	**55**	LR	LR	02 08 14.7	
	comp=Z,344nm,20.9s,baz=275,slow=33						
MEM	**Membach**	**18.68**	**128**	Pn	Pn	02 03 10.6	+7.1
MEM	**Membach**	**18.68**	**128**	P	Pn	02 03 19.1	+16
FIA1	**FINESS Array S**	**19.67**	**79**	P	Pn	02 03 23.1	+7.9
FINES	**FINESS Array B**	**19.67**	**79**	P	Pn	02 03 23.3	+8.2
	0.1nm,0.3s,baz=318,slow=10,SNR=8.0						
FINES	**FINESS Array B**	**19.67**	**79**	P	Pn	02 03 24.6	+9.4
FINES	**FINESS Array B**	**19.67**	**79**	P	Pn	02 03 24.6	+9.4
CLL	**Collm**	**20.67**	**116**	*i* P	Pn	02 03 33.3	+6.2
	comp=Z,36nm,1.6s						
CLL				*i*		02 03 39.2	
CLL				*i*		02 03 45.0	
CLL				*e*		02 07 54.0	
CLL				LmV		02 10 00.0	
	comp=Z,200nm,21.6s						
CLL	**Collm**	**20.67**	**116**	*i* P	Pn	02 03 33.3	+6.2
CLL				*i*		02 03 39.2	
CLL				pmax	pmax		
	comp=Z,36nm,1.6s						
CLL	**Collm**	**20.67**	**116**	P	Pn	02 03 34.0	+6.9
CLL				lAmb	lAmb	02 03 40.2	
	comp=Z,24nm,1.3s						
PBUR	**Paburge**	**20.96**	**96**	*e*P	Pn	02 03 38.4	+8.0
ECH	**Echery**	**21.12**	**130**	P	P	02 03 38.8	+9.1
ECH				pmax	pmax		
	comp=Z,11nm,1.1s						
ECH	**Echery**	**21.12**	**130**	P	P	02 03 38.8	+9.1
STU	**Stuttgart**	**21.34**	**126**	P	P	02 03 42.2	+10
STU				pmax	pmax		
	comp=Z,22nm,1.1s						
STU	**Stuttgart**	**21.34**	**126**	P	P	02 03 42.2	+10
STU				lAmb	lAmb	02 03 47.4	
	comp=Z,22nm,1.1s						
BRG	**Berggiesshubel**	**21.38**	**115**	⇑*i* P	P	02 03 41.0	+8.6
	comp=Z,40nm,1.4s						
BRG	**Berggiesshubel**	**21.38**	**115**	⇑*i* P	P	02 03 41.0	+8.6
BRG				pmax	pmax		
	comp=Z,40nm,1.4s						
BFO	**Black Forest**	**21.42**	**127**	P	P	02 03 43.1	+10
BFO				pmax	pmax		
	comp=Z,26nm,1.5s						
BFO	**Black Forest**	**21.42**	**127**	P	P	02 03 43.1	+10
BFO				lAmb	lAmb	02 03 59.3	
	comp=Z,26nm,1.5s						
VSU	**Vasula**	**21.53**	**86**	*e*P	P	02 03 42.9	+9.0
VSU	**Vasula**	**21.53**	**86**	*i* P	P	02 03 44.9	+11
VSU				pmax	pmax		
	comp=Z,94nm,0.9s						
FRB	**Frobisher Bay**	**21.78**	**291**	LR	LR	02 11 41.8	
	comp=Z,265nm,20.4s,baz=52,slow=35						
PABE	**Paberze**	**22.17**	**95**	*e*P	P	02 03 51.4	+11
CHVC	**Chvalec**	**22.43**	**113**	*e*P	P	02 03 54.6	+11
CHVC				*ex*	x	02 03 58.0	
GOPC	**GO Pecny, Ondr**	**22.47**	**116**	*e*P	P	02 03 53.5	+9.3
GOPC	**GO Pecny, Ondr**	**22.47**	**116**	*e*P	P	02 03 53.5	+9.3
UPC	**Upice**	**22.48**	**113**	*e*P	P	02 03 56.0	+12
UPC	**Upice**	**22.48**	**113**	*e*P	P	02 03 56.0	+12
KHC	**Kasperske Hory**	**22.64**	**119**	*e*P	P	02 03 56.0	+10
KHC	**Kasperske Hory**	**22.64**	**119**	*e*P	P	02 03 56.0	+10
KHC	**Kasperske Hory**	**22.64**	**119**	P	P	02 03 56.4	+10
DAVA	**Damuels**	**22.85**	**127**	*e*P	P	02 03 57.0	+8.6
	comp=Z,11nm,1.4s						
GEC2	**GERESS Array S**	**22.92**	**119**	P	P	02 03 59.6	+11
GEC2				lAmb	lAmb	02 04 06.5	
	comp=Z,18nm,1.4s						
GERES	**GERESS Array B**	**22.92**	**119**	P	P	02 03 59.0	+10
	comp=Z,2.7nm,0.9s,baz=340,slow=7.4,SNR=8.3						
GERES				LR	LR	02 13 05.4	
	comp=Z,246nm,21.4s,baz=322,slow=37						
GERES	**GERESS Array B**	**22.92**	**119**	P	P	02 03 57.7	+8.6
RETA	**Reutte**	**22.99**	**125**	P	P	02 03 59.9	+10
	comp=Z,16nm,1.4s						
ISAL	**Salakas**	**23.05**	**93**	*e*P	P	02 04 00.2	+10
MOTA	**Moosalm**	**23.23**	**125**	*e*P	P	02 04 03.6	+11
	comp=Z,11nm,1.1s						
IIGN	**Ignalina**	**23.24**	**93**	*e*P	P	02 04 01.7	+10
DAVOX	**Davos/Dischmat**	**23.29**	**127**	P	P	02 04 03.5	+11
	comp=Z,3.5nm,0.8s,baz=337,slow=11,SNR=5.1						
DAVOX				LR	LR	02 13 54.4	
	comp=Z,108nm,18.5s,baz=76,slow=39						
SQTA	**Sankt Quirin**	**23.37**	**125**	P	P	02 04 03.6	+10
	comp=Z,15nm,1.4s						
FETA	**Feichten**	**23.37**	**126**	P	P	02 04 05.7	+12
	comp=Z,9.3nm,1.3s						
WATA	**Walderalm**	**23.41**	**124**	P	P	02 04 05.4	+11
	comp=Z,12nm,1.7s						
IDID	**Didziasalis**	**23.49**	**92**	*e*P	P	02 04 03.5	+9.0
WTTA	**Wattenberg**	**23.49**	**124**	P	P	02 04 04.7	+10
	comp=Z,13nm,1.5s						
VRAC	**Vranov**	**23.66**	**114**	P	P	02 04 05.5	+9.1
	comp=Z,1.6nm,0.7s,baz=321,slow=8.4,SNR=12						
VRAC				LR	LR	02 13 00.3	
	comp=Z,226nm,21.0s,baz=330,slow=36						
VRAC	**Vranov**	**23.66**	**114**	*e*P	P	02 04 06.0	+10
MORC	**Moravsky Berou**	**23.66**	**112**	⇓P	P	02 04 07.1	+11
MORC	**Moravsky Berou**	**23.66**	**112**	*e*P	P	02 04 05.6	+9.2
MORC	**Moravsky Berou**	**23.66**	**112**	⇓P	P	02 04 07.1	+11
MORC	**Moravsky Berou**	**23.66**	**112**	P	P	02 04 05.5	+9.1
MORC				lAmb	lAmb	02 04 17.0	
	comp=Z,15nm,1.2s						
EUNU	**Eureka**	**23.68**	**336**	P	P	02 04 06.8	+10
NACGM	**Naroch**	**23.78**	**93**	*e*	P	02 04 14.0	+17
KRUC	**Moravsky**	**23.78**	**115**	*e*P	P	02 04 06.8	+9.3
MOA	**Molln**	**23.96**	**119**	P	P	02 04 09.1	+10
	comp=Z,6.4nm,1.6s						
OJC	**Ojcow**	**24.22**	**109**	P	P	02 04 11.1	+9.4
OJC				pmax	pmax		
	comp=Z,10.0nm,1.5s						
OJC	**Ojcow**	**24.22**	**109**	P	P	02 04 11.1	+9.5
ABTA	**Abfaltersbach**	**24.24**	**123**	P	P	02 04 12.6	+11
	comp=Z,12nm,1.3s						
KBA	**Koelnbreinsper**	**24.26**	**122**	*e*P	P	02 04 14.9	+13
	comp=Z,13nm,1.8s						
JAVC	**Velka Javorina**	**24.44**	**113**	*e*P	P	02 04 13.4	+10
CONA	**Conrad Observa**	**24.50**	**117**	*e*P	P	02 04 15.0	+11
	comp=Z,5.0nm,1.1s						
CTI	**Castel Tesino**	**24.54**	**125**	P	P	02 04 13.9	+9.2
CTI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTI	**Castel Tesino**	**24.54**	**125**	P	P	02 04 13.9	+9.2
CIMO	**Cimolais**	**24.59**	**124**	P	P	02 04 15.4	+10
SMOL	**Smolenice**	**24.63**	**114**	*e*P	P	02 04 16.0	+11
SMOL	**Smolenice**	**24.63**	**114**	*e*P	P	02 04 16.0	+11
MODS	**Modra-Piesok**	**24.68**	**115**	*e*P	P	02 04 15.5	+10
MODS	**Modra-Piesok**	**24.68**	**115**	*e*P	P	02 04 15.5	+10
PRED	**Cave del Predi**	**24.88**	**122**	P	P	02 04 18.3	+11
PRED				lAmb	lAmb	02 04 31.7	
	comp=Z,15nm,1.4s						
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P	P	02 04 19.7	+12
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P	P	02 04 19.7	+12
ARSA	**Arzberg**	**24.93**	**119**	P	P	02 04 17.5	+9.4
	comp=Z,5.8nm,1.0s						
VYHS	**Vyhne**	**25.20**	**113**	*e*P	P	02 04 20.7	+10
VYHS	**Vyhne**	**25.20**	**113**	*e*P	P	02 04 20.7	+10
SOKA	**Soboth**	**25.22**	**120**	*e*P	P	02 04 20.6	+10
	comp=Z,8.1nm,1.2s						
KLMR	**Klimovskoe**	**25.57**	**72**	*e*P	P	02 04 21.8	+8.1
KLMR				pmax	pmax		
	comp=Z,22nm,1.5s						
KLMR	**Klimovskoe**	**25.57**	**72**	*e*P	P	02 04 21.9	+8.2
KLMR				AMP		02 04 38.4	
	comp=Z,22nm,1.5s						
SCHQ	**Schefferville**	**26.08**	**271**	P	P	02 04 28.1	+10
	comp=Z,6.6nm,0.9s,baz=60,slow=9.2,SNR=4.2						
SCHQ				LR	LR	02 13 35.6	
	comp=Z,177nm,20.6s,baz=76,slow=34						
PSZ	**Piszkesteto**	**26.08**	**112**	P	P	02 04 28.6	+10
PSZ				pmax	pmax		
	comp=Z,14nm,1.2s						
PSZ	**Piszkesteto**	**26.08**	**112**	P	P	02 04 28.6	+10
PSZ				lAmb	lAmb	02 04 42.4	
	comp=Z,14nm,1.2s						
ESDC	**Sonseca Array**	**26.24**	**156**	P	P	02 04 30.3	+10
	comp=Z,2.0nm,0.8s,baz=348,slow=9.1,SNR=15						
ESDC				LR	LR	02 13 47.9	
	comp=Z,72nm,19.1s,baz=205,slow=34						
KOLS	**Kolonicke sedl**	**26.24**	**108**	*e*P	P	02 04 30.5	+11
KOLS	**Kolonicke sedl**	**26.24**	**108**	*e*P	P	02 04 30.5	+11
LVV	**L'vov**	**26.28**	**104**	*e*P	P	02 04 28.7	+8.4
UZH	**Uzhgorod**	**26.48**	**108**	*e*P	P	02 04 30.7	+8.6
RES	**Resolute Bay**	**26.49**	**324**	LR	LR	02 14 05.8	
	comp=Z,78nm,18.1s,baz=74,slow=34						
AKASG	**Malin Array Be**	**27.80**	**98**	P	P	02 04 42.8	+8.8
	comp=Z,1.8nm,0.7s,baz=322,slow=9.6,SNR=8.7						
AKASG				LR	LR	02 15 50.9	
	comp=Z,106nm,21.3s,baz=285,slow=37						
AKASG	**Malin Array Be**	**27.80**	**98***ce*P		P	02 04 44.0	+10
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**27.80**	**98***ce*P		P	02 04 45.3	+11
AKBB	**Malin Array Si**	**27.80**	**98**	P	P	02 04 43.6	+10
OBN	**Obninsk**	**27.84**	**84**	P	P	02 04 44.2	+10
	comp=Z,4.1nm,0.4s,baz=134,slow=23,SNR=4.9						
OBN				LR	LR	02 14 38.9	
	comp=Z,29nm,21.1s,baz=352,slow=34						
OBN	**Obninsk**	**27.84**	**84***d*	*i*P	P	02 04 42.6	+8.4
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN				MLR	MLR		
	comp=Z,86nm,16.0s						
OBN	**Obninsk**	**27.84**	**84**	P	P	02 04 44.2	+10
MOS	**Moscow**	**27.88**	**82**	*e*P	**P**	**02 04 40.8**	**+6.2**
BUR08	**Bucovina Ar. S**	**28.46**	**106**	P	P	02 04 51.4	+11
BURAR	**Bucovina Array**	**28.49**	**106**	⇑P	P	02 04 55.4	+15
BURAR	**Bucovina Array**	**28.49**	**106**	⇑P	P	02 04 55.4	+15
BURAR	**Bucovina Array**	**28.49**	**106**	P	P	02 04 50.9	+11
BZS	**Buzias**	**28.64**	**113**	⇑P	P	02 04 50.1	+8.6
BZS	**Buzias**	**28.64**	**113**	⇑P	P	02 04 50.1	+8.6
GZR	**Gura Zlata**	**29.29**	**112**	⇑P	P	02 04 56.5	+9.1
GZR	**Gura Zlata**	**29.29**	**112**	⇑P	P	02 04 56.5	+9.2
ARR	**Arges**	**30.06**	**110**	⇑P	P	02 05 05.5	+11
VOIR		**30.17**	**109**	⇑P	P	02 05 06.5	+11
VOIR		**30.17**	**109**	⇑P	P	02 05 06.5	+11
MLR	**Muntele Rosu**	**30.49**	**108**	⇑P	P	02 05 10.0	+12
MLR	**Muntele Rosu**	**30.49**	**108**	⇑P	P	02 05 10.0

	comp=Z,88nm,1.3s								
TIXI	**Tiksi**	**42.02**	**15**		P		P	02 06 46.1	+10
TOLK	**Toolik Lake Re**	**42.76**	**336**		P		P	02 06 53.9	+12
BMAR	**Burnt Mountain**	**42.91**	**333**		P		P	02 06 55.0	+12
BRVK	**Borovoye**	**43.10**	**62**	*ceP*			P	02 06 56.2	+11
BRVK					pmax		pmax		
	comp=Z,5.0nm,0.8s								
BRVK	**Borovoye**	**43.10**	**62**		P		P	02 06 54.7	+10
MARD	**Mardin**	**43.47**	**100**		P		P	02 06 59.5	+11
MARD					IAmb		IAmb	02 07 04.3	
	comp=Z,11nm,1.0s								
EGAK	**Eagle**	**44.50**	**329**		P		P	02 07 07.8	+12
EGAK					IAmb		IAmb	02 07 08.4	
	comp=Z,9.7nm,1.2s								
DAWY	**Dawson**	**44.72**	**328**		P		P	02 07 09.4	+12
DAWY					IAmb		IAmb	02 07 12.9	
	comp=Z,14nm,1.4s								
ILAR	**Eielson Array**	**45.70**	**332**		P		P	02 07 16.3	+11
	comp=Z,5.5nm,1.1s,baz=22,slow=6.0,SNR=27								
ILAR					PcP		**PP**	**02 08 53.1**	**+1.0**
	comp=Z,2.0nm,1.0s,baz=351,slow=2.4,SNR=9.5								
ILAR					LR		LR	02 28 31.2	
	comp=Z,98nm,18.3s,baz=51,slow=39								
ILAR	**Eielson Array**	**45.70**	**332**		P		P	02 07 17.2	+12
COLA	**College**	**45.80**	**333**	*i*	P		P	02 07 14.0	+7.7
COLA					pmax		pmax		
	comp=Z,17nm,1.3s								
IMAR	**Indian Mountai**	**45.87**	**337**		P		P	02 07 19.1	+12
DOT	**Dot Lake**	**46.11**	**330**		IAmb		IAmb	02 07 22.3	
	comp=Z,9.5nm,1.2s								
BILL	**Bilibino**	**47.55**	**358**	*i*	P		P	02 07 30.8	+11
BILL				*i*				02 09 17.1	
BILL					pmax		pmax		
	comp=Z,9.0nm,1.5s								
ZAA0	**Zalesovo Array**	**47.60**	**51**		P		P	02 07 32.0	+11
ZAA0					IAmb		IAmb	02 07 32.2	
	comp=Z,2.8nm,0.7s								
ZALV	**Zalesovo Beam**	**47.60**	**51**		P		P	02 07 31.0	+10
	comp=Z,1.2nm,0.7s,baz=339,slow=3.7,SNR=5.3								
ZALV					LR		LR	02 30 21.7	
	comp=Z,43nm,18.3s,baz=324,slow=40								
ZALV	**Zalesovo Beam**	**47.60**	**51**		P		P	02 07 31.0	+10
ZALV	**Zalesovo Beam**	**47.60**	**51**		P		P	02 07 31.3	+11
KURK	**Kurchatov**	**48.08**	**58**	*ceP*			P	02 07 34.4	+10
KURK					pmax		pmax		
	comp=Z,8.0nm,0.8s								
KURK	**Kurchatov**	**48.08**	**58**		P		P	02 07 33.2	+8.9
T47A	**Sharon Grove**	**48.67**	**271**		P		P	02 07 40.2	+11
GEYT	**Alibeck**	**50.39**	**84**		P		P	02 07 53.0	+11
	comp=Z,2.3nm,0.6s,baz=255,slow=11,SNR=4.7								
GEYT					LR		LR	02 31 35.6	
	comp=Z,62nm,18.6s,baz=240,slow=39								
GYA0B	**ALIBECK ARRAY**	**50.39**	**84**		P		P	02 07 53.9	+12
GYA0B					IAmb		IAmb	02 07 55.5	
	comp=Z,5.9nm,1.0s								
KK31	**Karatay Array**	**51.24**	**70**		P		P	02 07 59.1	+11
KK31					pmax		pmax		
	comp=Z,4.0nm,1.1s								
KK31	**Karatay Array**	**51.24**	**70**		P		P	02 07 59.1	+11
KKAR	**Karatay Array**	**51.24**	**70**		P		P	02 07 58.5	+10
KKAR	**Karatay Array**	**51.24**	**70**		P		P	02 07 58.5	+10
BOZ	**Bozeman (W)**	**51.64**	**297**		IAmb		IAmb	02 08 04.3	
	comp=Z,12nm,1.2s								
DGZ	**Jazzator, Alta**	**52.05**	**53**	*i*	P		P	02 08 06.1	+11
DGZ					pmax		pmax		
	comp=Z,17nm,2.2s								
H17A	**Grant Village**	**52.24**	**295**		IAmb		IAmb	02 08 10.8	
	comp=Z,6.5nm,1.1s								
MAKZ	**Makanchi**	**52.56**	**59**		P		P	02 08 08.7	+10
MAKZ					pmax		pmax		
	comp=Z,4.0nm,1.2s								
MAKZ	**Makanchi**	**52.56**	**59**		P		P	02 08 08.7	+10
MK31	**Makanchi Array**	**52.69**	**58**	*ceP*			P	02 08 09.5	+10
MKAR	**Makanchi Array**	**52.69**	**58**		P		P	02 08 09.0	+10
	comp=Z,2.0nm,0.8s,baz=328,slow=4.3,SNR=13								
MKAR	**Makanchi Array**	**52.69**	**58**	*ceP*			P	02 08 09.0	+10
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**52.69**	**58**		P		P	02 08 09.3	+10
TORD	**Torodi Ar. Bea**	**53.13**	**157**		P		P	02 08 12.2	+10
	comp=Z,1.9nm,1.0s,baz=342,slow=8.5,SNR=8.4								
TORD	**Torodi Ar. Bea**	**53.13**	**157**		P		P	02 08 12.9	+10
BW06	**Boulder Array**	**53.21**	**293**		IAmb		IAmb	02 08 15.1	
	comp=Z,7.1nm,1.1s								
PD31	**Pinedale Array**	**53.21**	**293**		IAmb		IAmb	02 08 15.1	
	comp=Z,6.5nm,1.1s								
PDAR	**Pinedale Array**	**53.21**	**293**		P		P	02 08 13.6	+10
	comp=Z,4.0nm,1.0s,baz=53,slow=5.7,SNR=17								
PDAR					LR		LR	02 30 40.6	
	comp=Z,121nm,18.7s,baz=23,slow=36								
PDAR	**Pinedale Array**	**53.21**	**293**		P		P	02 08 14.2	+11
REDW	**Red Top Meadow**	**53.22**	**295**		IAmb		IAmb	02 08 16.7	
	comp=Z,6.1nm,1.1s								
BOOM	**Boomskoye usch**	**53.92**	**66**		P		P	02 08 18.8	+10
BOOM					pmax		pmax		
	comp=Z,7.0nm,1.3s								
BOOM	**Boomskoye usch**	**53.92**	**66**		P		P	02 08 18.8	+10
BOOM					IAmb		IAmb	02 08 28.9	
	comp=Z,6.8nm,1.2s								
BTK	**Batken**	**53.92**	**72**		P		P	02 08 19.0	+11
BTK					pmax		pmax		
	comp=Z,12nm,1.2s								
BTK	**Batken**	**53.92**	**72**		P		P	02 08 19.0	+11
CHGR	**Chuyangaron**	**54.43**	**74**		P		P	02 08 22.4	+10
O20A	**White River Ci**	**54.91**	**290**		IAmb		IAmb	02 08 31.6	
	comp=Z,7.9nm,1.2s								
HWUT	**Hardware Ranch**	**54.98**	**294**		IAmb		IAmb	02 08 33.9	
	comp=Z,9.0nm,1.2s								
TLY	**Talaya**	**55.37**	**40**	*i*	P		P	02 08 31.1	+12
TLY					pmax		pmax		
	comp=Z,7.0nm,1.0s								
WMOK	**Wichita Mounta**	**55.58**	**279**		P		P	02 08 32.5	+12
WMOK					pmax		pmax		
	comp=Z,6.0nm,1.3s								
WMOK	**Wichita Mounta**	**55.58**	**279**		P		P	02 08 32.5	+12
WMOK					IAmb		IAmb	02 08 33.1	
	comp=Z,5.7nm,1.2s								
ZAK	**Zakamensk**	**56.43**	**41**	*eP*			P	02 08 36.7	+10
ZAK					pmax		pmax		
	comp=Z,6.0nm,1.2s								
KSH	**Kashi**	**56.46**	**68**		P		P	02 08 39.8	+13
KSH					pmax		pmax		
	comp=Z,14nm,1.2s								
PV21	**Cone Mtn., Par**	**56.55**	**290**		IAmb		IAmb	02 08 39.7	
	comp=Z,4.8nm,1.0s								
PV23	**Carpenter Ridg**	**56.66**	**290**		P		P	02 08 40.2	+12
PV23					IAmb		IAmb	02 08 40.4	
	comp=Z,8.0nm,0.9s								
WMQ	**Urumqi**	**57.20**	**56**	*eP*			P	02 08 43.8	+12
KBL	**Kabul**	**57.90**	**77**		P		P	02 08 47.2	+10
KBL					pmax		pmax		
	comp=Z,3.0nm,0.9s								
KBL	**Kabul**	**57.90**	**77**		P		P	02 08 47.2	+10
TIC	**Toumodi**	**58.59**	**166**	*eP*			P	02 08 51.3	+9.4
ANMO	**Albuquerque**	**58.63**	**286**	*ceP*			**P**	**02 08 46.3**	**+4.1**
ANMO					pmax		pmax		
	comp=Z,2.0nm,1.0s								
KIC	**Kosan Boka**	**58.90**	**165**	*eP*			P	02 08 52.7	+8.7
	comp=Z,9.0nm,0.8s								
LIC	**Lamto**	**59.00**	**166**	*eP*			P	02 08 50.1	+5.4
	comp=Z,4.0nm,0.4s								
CCUT	**Cedar City**	**59.18**	**293**		P		P	02 08 57.8	+12
R11A	**Troy Canyon, C**	**59.36**	**295**		IAmb		IAmb	02 09 00.1	
	comp=Z,6.2nm,1.3s								
SONM	**Songino Array**	**59.62**	**40**		P		P	02 08 58.9	+10
	comp=Z,1.7nm,0.8s,baz=331,slow=8.2,SNR=7.2								
SONM					LR		LR	02 36 07.3	
	comp=Z,73nm,20.5s,baz=20,slow=37								
SONM	**Songino Array**	**59.62**	**40**		P		P	02 08 58.7	+10
JCT	**Junction City**	**59.68**	**278**		P		P	02 09 00.5	+11
JCT					pmax		pmax		
	comp=Z,12nm,1.2s								
JCT	**Junction City**	**59.68**	**278**		P		P	02 09 00.5	+11
KVN	**Kaiserville**	**59.72**	**298**		P		P	02 09 01.7	+12
KVN					pmax		pmax		
	comp=Z,3.0nm,1.0s								
KVN	**Kaiserville**	**59.72**	**298**		P		P	02 09 01.7	+12
KVN					IAmb		IAmb	02 09 03.2	
	comp=Z,2.8nm,1.0s								
ULN	**Ulaanbaatar**	**59.77**	**40**	*ceP*			P	02 09 00.7	+11
ULN					pmax		pmax		
	comp=Z,7.0nm,2.5s								
ULN	**Ulaanbaatar**	**59.77**	**40**		P		P	02 09 00.3	+10
ULN					IAmb		IAmb	02 09 01.9	
	comp=Z,6.5nm,1.1s								
YERR	**Yerington**	**60.21**	**298**		IAmb		IAmb	02 09 05.9	
	comp=Z,7.9nm,1.2s								
NVAR	**Mina Array Bea**	**60.34**	**297**		P		P	02 09 04.7	+11
	comp=Z,1.0nm,1.0s,baz=49,slow=6.1,SNR=5.3								
NVAR					LR		LR	02 34 26.6	
	comp=Z,172nm,18.2s,baz=29,slow=35								
NIL	**Nilore**	**60.41**	**74**		P		P	02 09 05.5	+11
NIL					pmax		pmax		
	comp=Z,11nm,1.0s								
NIL	**Nilore**	**60.41**	**74**		P		P	02 09 05.5	+11
SHPR	**Sheep Range**	**60.79**	**294**		P		P	02 09 08.8	+12
SHPR					IAmb		IAmb	02 09 10.3	
	comp=Z,4.2nm,1.2s								
TX32	**Lajitas Array**	**62.32**	**280**		IAmb		IAmb	02 09 19.9	
	comp=Z,3.0nm,1.2s								
TXAR	**Lajitas Array**	**62.32**	**280**		P		P	02 09 17.7	+10
	comp=Z,1.3nm,0.9s,baz=72,slow=5.4,SNR=10								
TXAR					LR		LR	02 35 46.1	
	comp=Z,114nm,19.7s,baz=0.0,slow=36								
TXAR	**Lajitas Array**	**62.32**	**280**		P		P	02 09 18.7	+11
TXAR	**Lajitas Array**	**62.32**	**280**		P		P	02 09 18.7	+11
TUC	**Tucson**	**62.69**	**288**		P		P	02 09 21.1	+11
TUC					pmax		pmax		
	comp=Z,5.0nm,1.2s								
TUC	**Tucson**	**62.69**	**288**		P		P	02 09 21.1	+11
TUC					IAmb		IAmb	02 09 23.0	
	comp=Z,5.4nm,1.2s								
GTA	**Gaotai**	**65.27**	**49**	*eP*			P	02 09 38.1	+11
GTA					pP		sP	02 09 42.5	+11
GTA					sP		PcP	02 09 45.0	-14
GTA					pmax		pmax		
	comp=Z,5.0nm,1.3s								
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*eP*			P	02 09 51.1	+10
HHC					pmax		pmax		
	comp=Z,19nm,0.8s								
HHC					pmax		pmax		
	comp=Z,82nm,5.8s								
ZAIG	**Zacatecas**	**67.61**	**276**		P		P	02 09 54.0	+12
ZAIG					IAmb		IAmb	02 09 55.4	
	comp=Z,3.5nm,0.9s								
BJT	**Baijiatuan**	**69.49**	**36**		P		P	02 10 03.0	+10
BJT					pmax		pmax		
	comp=Z,12nm,1.2s								
BJT	**Baijiatuan**	**69.49**	**36**		P		P	02 10 03.0	+10
LZH	**Lanzhou**	**69.60**	**48**	*eP*			P	02 10 02.5	+8.3
LZH					pP		sP	02 10 06.8	+7.5
LZH					sP		PcP	02 10 08.8	-8.4
LZH					PP		PP	02 12 38.6	+11
LZH					pmax		pmax		
	comp=Z,18nm,1.1s								
LZH					pmax		pmax		
	comp=Z,57nm,4.3s								
ERM	**Erimo**	**72.56**	**15**	*ceP*			P	02 10 22.0	+10
ERM					pmax		pmax		
	comp=Z,87nm,1.1s								
KSRS	**Korea Array**	**74.63**	**28**		LR		LR	02 45 33.6	
	comp=Z,15nm,19.0s,baz=322,slow=38								
CMAR	**Chiang Mai Arr**	**84.10**	**59**		P		P	02 11 25.6	+10
	comp=Z,1.0nm,0.3s,baz=319,slow=6.5,SNR=8.0								
CMAR					LR		LR	02 51 55.6	
	comp=Z,62nm,18.0s,baz=336,slow=38								
CMAR	**Chiang Mai Arr**	**84.10**	**59**		P		P	02 11 26.1	+10
CMAR	**Chiang Mai Arr**	**84.10**	**59**		P		P	02 11 26.1	+10
PSI	**Prapat**	**98.44**	**65**		LR		LR	03 00 44.6	
	comp=Z,108nm,18.7s,baz=268,slow=38								
BOSA	**Boshof**	**98.74**	**143**		LR		LR	03 01 50.4	
	comp=Z,26nm,18.4s,baz=355,slow=38								
ASAR	**Alice Springs**	**134.94**	**38**		PKP		PKiKP	02 18 14.3	+9.0
	comp=Z,0.6nm,0.8s,baz=325,slow=1.5,SNR=4.8								

IDC ***17*** *02:07:55.7±1.2, 6.°60N×127.°07E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/26, mbtmp3.6/4, MS2.5/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=68.4km s-min=25.2km az=73.0*

NEIC ***17*** *02:08:04.3±1.6, 6.°45N±0.°10×127.°0E±0.°2, h72km±10km, mb4.0/6, Error ellipse: s-maj=24.9km s-min=6.5km az=58.0*

MAN ***17*** *02:08:06.8, 6.°46N×126.°66E, h17km, mb4.6, ML3.5, MS3.3*
ISC 17 02:07:58.0±1.8, 6.°54N±0.°05×127.°13E±0.°07, h17km±11km, n24, σ1°83/30, mb3.6/5, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.96**	**295**	*eP*			**Pn**	**02 08 18.5**	**+1.7**
MATI				*eS*			**Sn**	**02 08 31.1**	**+1.1**
DDMP	**Don Marcelino,**	**1.47**	**253**	*eP*			**Pb**	**02 08 24.3**	**-0.7**
DDMP				*eS*			**Sn**	**02 08 40.0**	**-2.7**
DAV	**Davao City (W)**	**1.63**	**289**	Pn			**Pg**	**02 08 30.8**	**+1.4**
BIP	**Bislig**	**1.89**	**333**	*eP*	↑		**Pg**	**02 08 32.8**	**-1.7**
BIP				*eS*			**Sn**	**02 08 53.7**	**+0.5**
KCP	**Kidapawan**	**2.08**	**283**	*iP*			**Pb**	**02 08 35.6**	**+0.2**
KCP				*i*	S		**Sg**	**02 09 04.0**	**-1.0**
BUKP	**Musuan**	**2.45**	**303**	*eP*			**Pb**	**02 08 42.0**	**+0.3**
BUKP				*eS*			**Sn**	**02 09 08.6**	**+1.7**
SKMP	**Bagumbayan, Su**	**2.57**	**270**	*eP*			**Pn**	**02 08 40.3**	**+1.4**
SKMP				*eS*			**Sn**	**02 09 07.8**	**-2.0**
CGP	**Cagayan de Oro**	**3.08**	**308**	*iP*			**Pb**	**02 08 51.5**	**-0.9**
CGP				*i*	S		**Sb**	**02 09 27.7**	**-2.0**
PAGZ	**Pagadian**	**3.94**	**290**	*eP*			**Pn**	**02 09 01.7**	**+3.9**
TNTI	**Ternate**	**5.73**	**178**	Pn			**Pn**	**02 09 25.9**	**+3.4**
MYLDM	**Lahad Datu**	**8.69**	**262**	Pn			**Pn**	**02 10 06.1**	**+3.0**
BKB	**Balikpapan**	**12.82**	**233**	Pn			**Pn**	**02 10 59.2**	**-0.4**
SBUM	**Sibu**	**15.40**	**255**	Pn			**Pn**	**02 11 36.6**	**+1.8**
MMRI	**Maumere**	**15.84**	**198**	Pn			**P**	**02 11 41.8**	**-2.4**
KSM	**Kuching**	**17.51**	**254**	P			**P**	**02 12 02.7**	**0.0**
KSM					IAmb		IAmb	02 12 52.6	
	comp=Z,5.1nm,0.6s								
WRA	**Warramunga Arr**	**27.25**	**165**	P			**P**	**02 13 44.4**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=344,slow=10,SNR=2.0								
CMAR	**Chiang Mai Arr**	**29.90**	**296**	LR			LR	02 28 21.2	
	comp=Z,7.4nm,18.2s,baz=300,slow=41								
ASAR	**Alice Springs**	**30.74**	**168**	P			**P**	**02 14 11.7**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=339,slow=7.2,SNR=1.9								
XAN	**Xi'an**	**32.14**	**331**	P			**P**	**02 14 24.1**	**-0.8**
MK31	**Makanchi Array**	**55.51**	**324**	P			**P**	**02 17 31.8**	**-0.5**
MK31					IAmb		IAmb	02 19 20.9	
	comp=Z,3.3nm,1.6s								
MKAR	**Makanchi Array**	**55.51**	**324**	P			**P**	**02 17 32.2**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=118,slow=7.7,SNR=24								
MKAR	**Makanchi Array**	**55.51**	**324**	P			**P**	**02 17 31.8**	**-0.6**
IL31		**82.42**	**26**	P			**P**	**02 20 18.6**	**-0.5**
ILAR	**Eielson Array**	**82.42**	**26**	P			**P**	**02 20 19.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=245,slow=4.7,SNR=6.7								

GUC 17 02:10:57.6±0.4, 23.°03S×66.°82W, h275km±9km, ML3.9, 8C-5D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**2.45**	**265**	*iP*	↓		Pn	02 11 46.3	-0.1
PB15				*i*	S		S	02 12 23.9	-1.1
PB09	**IPOC Station P**	**2.56**	**298**	*eP*			Pn	02 11 48.0	+0.5
PB09				*i*	S		S	02 12 26.9	-0.1
PB09				IAML				02 12 32.0	
	comp=E,95nm,0.2s								
PB06	**IPOC Station P**	**2.56**	**277**	*iP*	↑		Pn	02 11 47.5	+0.1
PB06				*i*	S		S	02 12 25.3	-1.6
PB06				IAML				02 12 28.4	
	comp=E,207nm,0.1s								
PB03	**IPOC Station P**	**2.88**	**289**	*iP*	↑		Pn	02 11 50.9	+0.3
PB03				*i*	S		S	02 12 31.3	-1.5
PB07	**IPOC Station P**	**3.12**	**294**	*iP*	↑		Pn	02 11 53.5	+0.4
PB07				*i*	S		S	02 12 35.7	-1.6
PB05	**IPOC Station P**	**3.12**	**273**	*iP*	↓		Pn	02 11 53.4	+0.3
PB05				*i*	S		S	02 12 35.7	-1.4
PB04	**IPOC Station P**	**3.15**	**282**	*eP*			Pn	02 11 54.0	+0.6
PB04				*eS*			S	02 12 36.3	-1.5
PB01	**IPOC Station P**	**3.17**	**308**	*iP*	↓		Pn	02 11 53.9	+0.3
PB01				*i*	S		S	02 12 37.2	-0.8
GO02	**Mina Guanaco**	**3.30**	**229**	*iP*	↓		Pn	02 11 54.1	-1.0
GO02				*i*	S		S	02 12 38.9	-2.0
PB10	**IPOC Station P**	**3.47**	**261**	*iP*	↓		Pn	02 11 57.1	+0.5
PB10				*i*	S		S	02 12 42.5	-1.2
PB08	**IPOC Station P**	**3.60**	**323**	*iP*	↑		Pn	02 11 59.5	+0.9
PB08				*i*	S		S	02 12 47.0	-0.2
PATCX	**Punta Patache**	**3.80**	**305**	*iP*	↑		Pn	02 12 00.8	+0.4
PATCX				*i*	S		S	02 12 48.8	-1.6
TA01	**Diego Aracena**	**3.97**	**308**	*eP*			Pn	02 12 02.2	-0.1
TA01				*i*	S		S	02 12 52.0	-1.9
GO01	**Chusmiza**	**4.01**	**326**	*iP*	↑		Pn	02 12 03.6	+0.4
PB11	**IPOC Station P**	**4.19**	**320**	*iP*	↑		Pn	02 12 04.7	-0.2
PB11				*i*	S		S	02 12 57.1	-1.7
MNMC	**Minye Minye**	**4.67**	**326**	*eP*	↑		Pn	02 12 10.8	+0.2
MNMC				*eS*			S	02 13 07.8	-1.2
GO03	**Copiap**	**5.49**	**214**	*eP*			Pn	02 12 17.8	-2.3

ROM ***17*** *02:38:60.0±0.1, 43.°760N±0.°005×11.°925E±0.°005, h13km±1km, ML3.5/102, Mw3.5, Error ellipse: s-maj=0.6km s-min=0.1km az=212.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.06; Mθθ0.28; Mϕϕ-0.35; Mrθ0.86; Mrϕ-1.62; Mθϕ-0.36; Fault plane solution: M₀1.87604×10¹⁴ NP1:ϕ₁177.00000°, δ65.00000°, λ11.00000°. NP2:ϕ₂83.00000°, δ80.00000°, λ155.00000°.*

STR ***17*** *02:38:59.1±0.7, 44.°N±3.°×1.°2E±.°, h0km±6km, mb3.6/5, MLv3.6/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

IDC ***17*** *02:39:00.2±1.3, 43.°90N×12.°15E, h0km, mb3.6/2, mb1 3.6/7, mb1mx3.5/50, mbtmp3.6/7, ML3.3/5, MS2.5/2, Ms1 2.5/2, ms1mx2.1/53, Error ellipse: s-maj=30.5km s-min=13.3km az=105.0*

PRU ***17*** *02:39:01.0±0.0, 43.°82N×12.°23E, h3km*

LDG ***17*** *02:39:01.4±0.1, 43.°69N×11.°99E, h14km, Ml3.3/34, Error ellipse: s-maj=2.6km s-min=1.7km az=15.0*

ISC 17 02:39:00.1±0.7, 43.°73N±0.°02×11.°90E±0.°01, h16km±4km, n257, σ1°55/358, 31C-33D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASQU	**Asqua**	**0.10**	**307**		↓	P	**Pg**	**02 39 03.4**	**-0.3**
ASQU						S	**Sg**	**02 39 06.0**	**-0.1**
ASQU						AML	AML		
ASQU						AML	AML		
CRE	**Caprese Michel**	**0.12**	**163**		↑	P	**Pg**	**02 39 04.0**	**+0.1**
CRE						S	**Sg**	**02 39 07.0**	**+0.7**
CRE						AML	AML		
CRE						AML	AML		
SFI	**Santa Sofia**	**0.18**	**347**		↓	P	**Pg**	**02 39 03.8**	**-0.8**
SFI						S	**Sg**	**02 39 06.7**	**-0.9**
SFI						AML	AML		
	comp=E,45600μm,0.3s								
SFI						AML	AML		
	comp=N,28150μm,0.9s								
SFI						AML	AML		
	comp=E,43250μm,0.5s								
SFI						AML	AML		
	comp=N,29950μm,0.9s								
SFI						AML	AML		
	comp=N,29950μm,0.9s								
SFI						AML	AML		
	comp=N,28150μm,0.9s								
SFI						AML	AML		
	comp=E,45600μm,0.3s								
SFI						AML	AML		
	comp=E,43250μm,0.5s								
SSP9	**Sansepolcro**	**0.23**	**134**		↓	P	**Pb**	**02 39 05.3**	**-0.6**
SSP9						S	**Sg**	**02 39 09.6**	**+0.7**
SSP9						AML	AML		
	comp=E,42300μm,1.4s								
SSP9						AML	AML		
	comp=E,42350μm,1.4s								
SSP9						AML	AML		
	comp=N,31450μm,1.5s								
SSP9						AML	AML		
	comp=N,31450μm,1.5s								
SSP9						AML	AML		
	comp=E,42350μm,1.4s								
PARC	**Parchiule**	**0.26**	**109**		↓	P	**Pg**	**02 39 05.3**	**-0.5**
PARC						S	**Sg**	**02 39 09.7**	**0.0**
PARC						AML	AML		
	comp=E,14450μm,0.7s								
PARC						AML	AML		
	comp=N,15950μm,0.3s								
RUFI	**Rufina**	**0.30**	**291**		↓	P	**Pg**	**02 39 06.6**	**0.0**
RUFI						S	**Sb**	**02 39 11.6**	**-0.3**
RUFI						AML	AML		
	comp=E,19300μm,0.5s								
RUFI						AML	AML		
	comp=N,23700μm,0.5s								
RUFI						AML	AML		
	comp=E,19350μm,0.5s								
RUFI						AML	AML		
	comp=N,23700μm,0.5s								
RUFI						AML	AML		
	comp=N,23750μm,0.5s								
RUFI						AML	AML		
	comp=E,19300μm,0.5s								
CDCA	**Citt' di Caste**	**0.36**	**139**		↓	P	**Pb**	**02 39 07.4**	**-0.8**
CDCA						S	**Sb**	**02 39 13.8**	**+0.2**
CDCA						AML	AML		
	comp=E,23500μm,0.4s								
CDCA						AML	AML		
	comp=E,23550μm,0.4s								
CDCA						AML	AML		
	comp=E,23550μm,0.4s								
CDCA						AML	AML		
	comp=N,47500μm,0.6s								
LMD	**Lutirano**	**0.37**	**338**	*e*		Pg	**Pg**	**02 39 06.9**	**-0.8**
LMD				*eS*		g	**Sg**	**02 39 12.5**	**-0.5**
LMD	**Lutirano**	**0.37**	**338**		↓	P	**Pg**	**02 39 07.0**	**-0.8**
LMD						S	**Sg**	**02 39 12.5**	**-0.5**
LMD						AML	AML		
	comp=N,16050μm,0

PIEI S **Sb** 02 39 17.1 -0.5
PIEI AML AML
comp=N,6035µm,0.4s
PIEI AML AML
comp=E,5740µm,0.4s
BRIS BRISIGHELLA 0.50 326 P **Pg** 02 39 09.6 -0.6
BRIS S **Sg** 02 39 17.7 +0.8
ATVO AVT- Monte Val 0.51 134 P **Pg** 02 39 09.9 -0.3
ATVO S **Sb** 02 39 18.2 +0.4
NARO Abbazia di Nar 0.51 104 ⇓P **Pg** 02 39 09.2 -1.0
NARO S **Sg** 02 39 17.1 +0.1
NARO AML AML
comp=N,6040µm,0.4s
NARO AML AML
comp=E,4755µm,0.3s
NARO AML AML
comp=N,6035µm,0.4s
CSNT Castellina Chi 0.52 240 P **Pb** 02 39 10.6 -0.1
CSNT S **Sb** 02 39 19.1 +1.1
CSNT AML AML
comp=E,5760µm,0.8s
CSNT AML AML
comp=N,7325µm,0.5s
OSSC Osservatorio P 0.52 246 P **Pb** 02 39 11.0 +0.1
OSSC AML AML
comp=E,6090µm,0.8s
OSSC AML AML
comp=E,6085µm,0.8s
OSSC AML AML
comp=N,7455µm,1.1s
OSSC AML AML
comp=N,7420µm,1.2s
OSSC AML AML
comp=E,5935µm,0.8s
BLLA Bellaria 0.58 45 P **Pg** 02 39 10.9 -0.7
BLLA AML AML
comp=E,6190µm,0.4s
BLLA AML AML
comp=N,10095µm,0.4s
BLLA AML AML
comp=E,6175µm,0.4s
BLLA AML AML
comp=N,10040µm,0.4s
ATFO Monte Foce - G 0.61 127 ⇓P **Pg** 02 39 11.5 -0.7
ATFO S **Sb** 02 39 21.1 +0.4
ATFO AML AML
comp=N,8930µm,0.4s
ATFO AML AML
comp=E,9205µm,0.4s
ATTE AVT- Monte Tez 0.63 148 P **Pb** 02 39 12.2 -0.5
ATTE S **Sb** 02 39 21.4 +0.1
ATTE AML AML
comp=N,12550µm,0.3s
ATTE AML AML
comp=E,14250µm,0.4s
MPAG Monte Paganucc 0.63 99 P **Pg** 02 39 11.5 -1.0
MPAG S **Sg** 02 39 21.1 +0.2
MPAG AML AML
comp=N,7340µm,0.7s
MPAG AML AML
comp=E,2850µm,0.4s
MPAG AML AML
comp=N,7550µm,0.7s
MPAG AML AML
comp=E,2935µm,0.4s
MPAG AML AML
comp=E,2855µm,0.4s
FRON Frontone 0.64 110 P **Pg** 02 39 11.6 -1.0
FRON S **Sb** 02 39 21.9 +0.5
FRON AML AML
comp=E,4205µm,0.5s
FRON AML AML
comp=E,4200µm,0.5s
FRON AML AML
comp=N,4480µm,0.6s
FSSB Fossombrone 0.64 93 P **Pg** 02 39 11.5 -1.1
FSSB S **Sg** 02 39 21.1 +0.1
FSSB AML AML
comp=E,12050µm,0.3s
FSSB AML AML
comp=N,12400µm,0.4s
IMOL Imola, Italy 0.64 350 P **Pg** 02 39 13.1 +0.5
PTF Prato 0.64 291 P **Pg** 02 39 12.4 -0.4
MURB Monte Urbino 0.65 136 P **Pg** 02 39 10.5 -2.4
MURB S **Sn** 02 39 24.0 -0.7
MURB AML AML
comp=E,20500µm,1.5s
MURB AML AML
comp=N,32650µm,0.3s
MURB AML AML
comp=E,21350µm,1.5s
MURB AML AML
comp=N,35350µm,0.3s
MURB AML AML
comp=N,35350µm,0.3s
MURB AML AML
comp=E,21350µm,1.5s
MURB AML AML
comp=N,32650µm,0.3s
CRMI Carmignano 0.68 275 P **Pb** 02 39 13.7 +0.1
CRMI AML AML
comp=N,2685µm,0.6s
CRMI AML AML
comp=E,4450µm,1.0s
CRMI AML AML
comp=N,6455µm,0.6s
CRMI AML AML
comp=E,1820µm,1.0s
SSFR Montelago di S 0.70 115 P **Pg** 02 39 13.1 -0.8
SSFR AML AML
comp=E,7785µm,0.2s
SSFR AML AML
comp=N,8320µm,0.2s
SSFR AML AML
comp=E,7915µm,0.2s
SSFR AML AML
comp=N,6955µm,0.6s
SSFR AML AML
comp=E,7910µm,0.2s
SSFR AML AML
comp=N,8320µm,0.3s
SSFR AML AML
comp=E,7785µm,0.2s
SSFR AML AML
comp=N,6960µm,0.6s
PESA Pesaro 0.71 73 P **Pg** 02 39 12.9 -1.0
PESA AML AML
comp=N,6530µm,0.3s
PESA AML AML
comp=E,10970µm,0.5s
FNVD Fontana Vidola 0.71 308 P **Pg** 02 39 13.7 -0.3
FNVD AML AML
comp=N,4520µm,0.6s
FNVD AML AML
comp=E,2380µm,0.8s
MTRZ Monterenzio 0.72 334 P **Pg** 02 39 13.4 -0.7
MTRZ AML AML
comp=E,9780µm,1.4s
MTRZ AML AML
comp=E,10085µm,1.4s
MTRZ AML AML
comp=N,8260µm,0.3s
MTRZ AML AML
comp=E,9790µm,1.4s
MTRZ AML AML
comp=N,8080µm,0.3s
MTCR Monte La Croce 0.72 294 P **Pg** 02 39 13.8 -0.3
MTCR AML AML
comp=E,3300µm,0.5s
MTCR AML AML
comp=N,3760µm,0.9s
MTCR AML AML
comp=N,3765µm,0.9s
MTCR AML AML
comp=E,3290µm,0.5s
FROS Frosini 0.76 226 ⇑P **Pn** 02 39 15.5 -0.5
FROS AML AML
comp=E,3970µm,0.7s
FROS AML AML
comp=N,3625µm,0.7s
FROS AML AML
comp=E,3970µm,0.7s
FOSV Fossato di Vic 0.76 125 P **Pg** 02 39 14.3 -0.7
FOSV AML AML
comp=E,2865µm,0.6s
FOSV AML AML
comp=N,3390µm,0.4s
FOSV AML AML
comp=E,2860µm,0.6s
ATCC AVT- Casa Cast 0.77 135 ⇓P **Pb** 02 39 14.7 -0.4
ATCC S **Sn** 02 39 27.0 -0.5
ATCC AML AML
comp=E,11110µm,0.4s
ATCC AML AML
comp=N,10735µm,0.4s
ATCC AML AML
comp=E,11140µm,0.4s
ATCC AML AML
comp=N,10730µm,0.4s
ARVD Arcevia 0.79 107 P **Pg** 02 39 14.7 -0.8
ARVD S **Sb** 02 39 26.6 +0.7
ARVD AML AML
comp=N,4730µm,0.3s
ARVD AML AML
comp=E,4225µm,0.3s
MGAB Montegabbione 0.83 169 P **Pn** 02 39 16.5 -0.7
MGAB S **Sn** 02 39 29.2 0.0
MGAB AML AML
comp=E,14150µm,0.4s
MGAB AML AML
comp=N,13400µm,1.5s
MGAB AML AML
comp=E,14150µm,0.4s
MGAB AML AML
comp=E,14700µm,0.5s
MGAB AML AML
comp=N,13900µm,0.6s
MGAB AML AML
comp=N,13450µm,1.5s
MGAB AML AML
comp=E,14150µm,0.4s
ASSB Assisi San Ben 0.88 141 P **Pg** 02 39 16.4 -0.8
ASSB S **Sn** 02 39 29.9 -0.5
ASSB AML AML
comp=N,4760µm,0.8s
ASSB AML AML
comp=E,4185µm,1.1s
SACS San Casciano d 0.88 180 P **Pn** 02 39 17.2 -0.7
SACS S **Sn** 02 39 30.8 +0.4
SACS AML AML
comp=E,3585µm,0.4s
SACS AML AML
comp=N,4005µm,0.4s
SACS AML AML
comp=E,3790µm,0.4s
SACS AML AML
comp=N,3855µm,0.4s
POPM Popiglio 0.89 291 P **Pg** 02 39 16.7 -0.6
POPM S **Sb** 02 39 29.4 +0.7
POPM Popiglio 0.89 291 P **Pg** 02 39 16.9 -0.4
POPM AML AML
comp=E,2500µm,0.9s
POPM AML AML
comp=N,2620µm,0.4s
SNTG Esanatoglia 0.89 122 P **Pg** 02 39 16.7 -0.7
SNTG AML AML
comp=E,415µm,1.0s
SNTG AML AML
comp=E,415µm,1.0s
SNTG AML AML
comp=N,328µm,0.7s
SNTG AML AML
comp=N,3360µm,0.9s
SNTG AML AML
comp=E,3065µm,0.3s
ZCCA Zocca 0.91 313 P **Pn** 02 39 18.7 +0.4
ZCCA AML AML
comp=E,1185µm,0.5s
ZCCA AML AML
comp=N,1410µm,0.9s
ZCCA AML AML
comp=E,1085µm,0.5s
ZCCA AML AML
comp=N,1290µm,0.8s
FIU Minerbio Fiu 0.95 342 P **Pn** 02 39 19.3 +0.5
FIU AML AML
comp=N,5700µm,1.6s
FIU AML AML
comp=E,13700µm,0.8s
TRIF Trifonti 0.96 230 P **Pn** 02 39 18.5 -0.3
TRIF AML AML
comp=E,1220µm,1.1s
TRIF AML AML
comp=N,1385µm,0.9s
MCIV Monte Civitell 0.97 190 P **Pn** 02 39 18.9 -0.2
MCIV AML AML
comp=E,873µm,0.3s
MCIV AML AML
comp=N,990µm,0.9s
PII Pisa 1.00 270 P **Pb** 02 39 18.9 -0.1
PII S **Sb** 02 39 32.2 +0.4
PII AML AML
comp=N,7495µm,0.3s
PII AML AML
comp=E,7010µm,0.9s
BDI Bagni Di Lucca 1.00 290 P **Pg** 02 39 18.4 -1.1
BDI AML AML
comp=N,1615µm,0.6s
BDI AML AML
comp=E,1735µm,1.0s
BDI AML AML
comp=E,1925µm,0.3s
BDI AML AML
comp=N,2005µm,0.6s
CING Cingoli 1.00 110 ⇑P **Pb** 02 39 18.6 -0.5
CING AML AML
comp=N,2700µm,0.6s
CING AML AML
comp=E,2800µm,1.1s
CESI CESI - Serrava 1.03 135 P **Pb** 02 39 19.0 -0.6
CESI AML AML
comp=E,439µm,0.4s
CESI AML AML
comp=N,1435µm,0.5s
MAIM Mastiano 1.04 280 P **Pb** 02 39 19.2 -0.5
MAIM S **Sb** 02 39 32.8 -0.2
MAIM Mastiano 1.04 280 P **Pb** 02 39 19.0 -0.7
MAIM S **Sb** 02 39 32.9 -0.1
MAIM AML AML
comp=E,1600µm,0.7s
MAIM AML AML
comp=N,1630µm,0.4s
CARD Cardoso 1.07 286 P **Pb** 02 39 19.4 -0.8
CARD S **Sb** 02 39 33.5 -0.4
CARD Cardoso 1.07 286 P **Pb** 02 39 19.4 -0.8
CARD AML AML
comp=N,2265µm,0.7s
CARD AML AML
comp=E,1420µm,0.5s
FDMO Fiordimonte 1.11 129 P **Pb** 02 39 20.4 -0.5
FDMO AML AML
comp=N,2140µm,0.6s
FDMO AML AML
comp=E,1605µm,0.7s
SARO Sassorosso 1.18 293 P **Pb** 02 39 20.8 -1.2
SARO Sassorosso 1.18 293 P **Pb** 02 39 21.1 -1.0
SARO AML AML
comp=N,1120µm,0.5s
SARO AML AML
comp=E,722µm,0.5s
VLC Villacollemand 1.18 292 P **Pb** 02 39 21.1 -1.0
VLC AML AML
comp=N,938µm,0.7s
VLC AML AML
comp=E,756µm,0.5s
VLC AML AML
comp=N,912µm,0.7s
VLC AML AML
comp=E,744µm,0.5s
CASP Castiglione de 1.21 219 P **Pb** 02 39 21.6 -1.0
CASP AML AML
comp=E,444µm,0.5s
CASP AML AML
comp=N,486µm,0.8s
CESX Cesi 1.23 156 P **Pn** 02 39 22.1 -0.5
CESX AML AML
comp=N,3380µm,0.8s
CESX AML AML
comp=E,3125µm,0.8s
NRCA Norcia 1.26 135 P **Pn** 02 39 22.8 -0.3
NRCA AML AML
comp=E,1185µm,0.7s
NRCA AML AML
comp=E,1160µm,0.7s
NRCA AML AML
comp=N,1165µm,0.7s
NRCA AML AML
comp=N,1285µm,0.7s
ERBM Eremo 1.27 303 P **Pg** 02 39 25.4 +0.7
ERBM AML AML
comp=N,616µm,0.7s
ERBM AML AML
comp=E,966µm,1.2s
PP3 Marolino 1.29 105 P **Pg** 02 39 24.8 -0.1
PP3 AML AML
comp=N,6685µm,0.7s
PP3 AML AML
comp=N,5200µm,0.7s
PP3 AML AML
comp=E,5165µm,1.0s
PP3 AML AML
comp=E,3960µm,1.3s
CAVE Cavezzo 1.30 331 ⇑P **Pg** 02 39 26.5 +1.2
CAVE AML AML
comp=N,3095µm,1.3s
CAVE AML AML
comp=E,3095µm,0.8s
ARRO Arrone 1.31 151 P **Pn** 02 39 23.2 -0.6
ARRO AML AML
comp=N,2645µm,1.0s
ARRO AML AML
comp=E,1840µm,0.8s
EQUI Equi 1.34 289 P **Pn** 02 39 23.1 -0.9
EQUI Equi 1.34 289 P **Pn** 02 39 23.1 -0.9
EQUI AML AML
comp=E,584µm,0.6s
EQUI AML AML
comp=N,696µm,0.8s
SERM Sermide 1.35 341 ⇓P **Pg** 02 39 26.5 +0.4
SERM AML AML
comp=N,1118µm,1.6s
SERM AML AML
comp=E,2462µm,0.5s
SERM AML AML
comp=E,1510µm,0.5s
SERM AML AML
comp=N,1940µm,0.4s
LNSS Leonessa 1.40 143 P **Pn** 02 39 24.7 -0.4
LNSS AML AML
comp=N,2160µm,1.5s
LNSS AML AML
comp=E,2280µm,1.1s
SMA1 SAN MARTINO 1.52 136 P **Pn** 02 39 27.1 +0.4
SMA1 AML AML
comp=N,2280µm,0.6s
SMA1 AML AML
comp=E,2550µm,0.6s
OFFI Offida 1.53 121 ⇓P **Pg** 02 39 29.0 -0.4
OFFI AML AML
comp=N,4625µm,0.6s
OFFI AML AML
comp=E,4915µm,0.7s
RM33 Pellescritta (1.56 141 P **Pn** 02 39 26.7 -0.5
RM33 AML AML
comp=E,1395µm,0.7s
RM33 AML AML
comp=N,1490µm,0.7s
CAMP Campotosto 1.63 137 ⇓P **Pb** 02 39 29.5 -0.3
CAMP AML AML
comp=N,1107µm,0.6s
CAMP AML AML
comp=E,982µm,0.7s
TEOL Teolo 1.64 354 P **Pn** 02 39 28.3 +0.1
TEOL AML AML
comp=E,3465µm,0.5s
TEOL AML AML
comp=N,2150µm,1.1s
TERO Teramo 1.67 131 P **Pn** 02 39 29.0 +0.3
TERO AML AML
comp=E,1425µm,0.5s
TERO AML AML
comp=N,1098µm,0.6s
TERO AML AML
comp=N,452µm,0.6s
TERO AML AML
comp=E,596µm,0.5s
TOLF Tolfa 1.67 178 P **Pn** 02 39 28.8 +0.1
TOLF AML AML
comp=E,622µm,0.7s
TOLF AML AML
comp=N,496µm,0.9s
FIAM Fiamignano 1.71 148 P **Pn** 02 39 27.0 -2.4
FIAM AML AML
comp=E,1013µm,0.7s
FIAM AML AML
comp=N,1155µm,0.8s
AQU L'Aquila 1.76 141 *e*Pn **Pn** 02 39 29.8 -0.2
MSSA Maissana 1.82 290 ⇑P **Pg** 02 39 34.6 -0.4
MTCE Montecelio 1.82 160 P **Pn** 02 39 30.3 -0.3
MTCE AML AML
comp=E,592µm,0.8s
MTCE AML AML
comp=N,403µm,0.7s
FAGN Fagnano 1.92 139 P **Pn** 02 39 33.2 +1.1
FAGN AML AML
comp=E,1705µm,0.6s
FAGN AML AML
comp=N,1355µm,0.6s
ROVR Rover Verones 2.00 343 ⇑P **Pn** 02 39 34.1 +0.7
ROVR AML AML
comp=E,271µm,0.3s
ROVR AML AML
comp=E,1076µm,1.6s
ROVR AML AML
comp=N,1675µm,0.3s
ROVR AML AML
comp=N,683µm,0.3s
PTQR Pietraquaria 2.03 147 ⇓P **Pb** 02 39 35.0 -1.7
PTQR AML AML
comp=N,334µm,0.8s
PTQR AML AML
comp=E,245µm,0.8s
SALO Salr 2.13 333 ⇓P **Pn** 02 39 36.3 +1.3
SALO AML AML
comp=N,1048µm,0.8s
SALO AML AML
comp=N,1082µm,0.8s
SALO AML AML
comp=E,1045µm,0.6s
SALO AML AML
comp=E,1046µm,0.7s
MAGA Magasa 2.23 336 ⇓P **Pn** 02 39 37.0 +0.5
MAGA AML AML
comp=N,1093µm,1.6s
MAGA AML AML
comp=E,1625µm,0.6s
VVLD Villa Vallelon 2.25 145 P **Pn** 02 39 38.2 +1.5
VVLD AML AML
comp=E,176µm,0.8s
VVLD AML AML
comp=N,128µm,0.8s
INTR Introdacqua 2.26 139 ⇑P **Pn** 02 39 37.9 +1.0
INTR AML AML
comp=N,853µm,0.8s
INTR AML AML
comp=E,740µm,0.8s
NVLJ Novalja 2.29 68 *e*Pn **Pn** 02 39 37.2 +0.1
NVLJ *e*Sn **Sn** 02 40 03.7 -1.3
DUGI Dugi Otok 2.30 82 *i* Pn **Pn** 02 39 37.9 +0.6
POLC Polcenigo 2.33 10 ⇑P **Pn** 02 39 38.1 +0.3
POLC AML AML
comp=N,2560µm,0.5s
POLC AML AML
comp=E,1730µm,0.8s
SKDS Skadanscina 2.36 39 *e*Pn **Pn** 02 39 37.2 -0.9
SKDS *e*Sn **Sn** 02 40 05.7 -1.0
comp=Z,110nm,0.3s
PGF Pioggiola 2.43 242 Pn **Pn** 02 39 39.3 +0.1
PGF Sn **Sn** 02 40 09.2 +0.5
PGF Pioggiola 2.43 242 *e*Pn **Pn** 02 39 39.3 +0.1
PGF *e*Sn **Sn** 02 40 08.2 -0.5
comp=Z,34nm,0.4s
RIY Rijeka 2.44 48 *i* Pn **Pn** 02 39 38.6 -0.6
RIY Sn **Sn** 02 40 07.0 -1.6
RIY Rijeka 2.44 48 *e*Pn **Pn** 02 39 39.0 -0.2
MABI Malga Bissina 2.52 337 ⇓P **Pn** 02 39 41.8 +1.2
MABI AML AML
comp=E,182µm,0.5s
MABI AML AML

	comp=N,147µm,0.8s								
SMPL	**Sampolo**	**2.53**	**230**		Pn	**Pn**	**02 39 41.8**	**+1.4**
SMPL					Sn	**Sn**	**02 40 11.3**	**+0.4**
PCP	**Piancastagn**	**2.55**	**290**		P	**Pn**	**02 39 39.7**	**-1.1**
SABO	**M.te Sabotino**	**2.55**	**28**	⇑	P	**Pn**	**02 39 40.2**	**-0.6**
SABO					AML	AML		
	comp=N,1045µm,0.7s								
SABO					AML	AML			
	comp=E,754µm,0.5s								
FINB	**Finale Ligure**	**2.62**	**281**	⇑	P	**Pn**	**02 39 41.3**	**-0.4**
FINB					AML	AML			
	comp=E,103µm,1.3s								
FINB					AML	AML			
	comp=N,150µm,1.0s								
CERA	**Filignano**	**2.64**	**143**	⇓	P	**Pn**	**02 39 43.2**	**+1.1**
CERA					AML	AML			
	comp=N,426µm,1.6s								
CERA					AML	AML			
	comp=E,340µm,0.8s								
GEPF	**Gemona**	**2.69**	**19**	⇑	P	**Pn**	**02 39 42.1**	**-0.5**
GEPF					AML	AML			
	comp=N,332µm,0.7s								
GEPF					AML	AML			
	comp=E,334µm,1.1s								
CEY	**Cerknica**	**2.69**	**41**	*e*	Pn	**Pn**	**02 39 41.9**	**-0.8**
VINO	**Villanova**	**2.71**	**21**	⇑	P	**Pn**	**02 39 42.3**	**-0.6**
KOSI	**Kohlern**	**2.75**	**352**	⇓	P	**Pn**	**02 39 45.3**	**+1.6**
KOSI					AML	AML			
	comp=E,525µm,0.9s								
KOSI					AML	AML			
	comp=N,465µm,0.5s								
MORI	**Morici**	**2.76**	**86**	*i*	Pn	**Pn**	**02 39 44.5**	**+0.9**
CADS	**Cadrg**	**2.81**	**27**	*i*	Pn	**Pn**	**02 39 43.6**	**-0.8**
CADS					eSn	**Sn**	**02 40 18.0**	**0.0**
	comp=Z,100nm,0.5s								
UDBI	**Udbina**	**2.89**	**73**	*e*	Pn	**Pn**	**02 39 48.1**	**+2.6**
UDBI					Sn	**Sn**	**02 40 21.5**	**+1.6**
FVI	**Forni Avoltri**	**2.93**	**12**		P	**Pn**	**02 39 47.1**	**+1.0**
FVI					AML	AML			
	comp=E,328µm,0.5s								
FVI					AML	AML			
	comp=N,274µm,0.5s								
LJU	**Ljubljana**	**2.97**	**38**	⇑	P	**Pn**	**02 39 46.3**	**-0.2**
LJU					AML	AML			
	comp=E,716µm,0.4s								
LJU					AML	AML			
	comp=N,845µm,0.7s								
LJU	**Ljubljana**	**2.97**	**38**	*e*	Pn	**Pn**	**02 39 46.1**	**-0.4**
BOJS	**Bojanci**	**2.98**	**52**	⇑	P	**Pn**	**02 39 46.7**	**+0.2**
BOJS					AML	AML			
	comp=E,194µm,0.6s								
BOJS					AML	AML			
	comp=N,191µm,0.8s								
GBOS	**Grotte di Boss**	**2.98**	**281**	⇓	P	**Pn**	**02 39 46.7**	**0.0**
GBOS					AML	AML			
	comp=N,100µm,0.7s								
GBOS					AML	AML			
	comp=E,83µm,0.8s								
MGRO	**Montegrosso**	**2.98**	**277**		P	**Pn**	**02 39 46.6**	**-0.1**
MGRO					AML	AML			
	comp=E,165µm,1.6s								
MGRO					AML	AML			
	comp=N,143µm,1.3s								
MUGIO	**Muggio**	**2.99**	**318**	⇓	P	**Pn**	**02 39 47.9**	**+1.1**
MUGIO					AML	AML			
	comp=E,124µm,1.4s								
MUGIO					AML	AML			
	comp=N,151µm,1.5s								
ABSI	**Aberstueckl**	**3.02**	**352**	⇑	P	**Pn**	**02 39 48.6**	**+1.2**
ABSI					AML	AML			
	comp=E,705µm,0.7s								
ABSI					AML	AML			
	comp=N,605µm,0.7s								
MOSI	**Grossmontoni**	**3.04**	**342**	⇓	P	**Pn**	**02 39 50.5**	**+2.9**
ABTA	**Abfaltersbach**	**3.04**	**8**	*e*	Pn	**Pn**	**02 39 48.2**	**+0.6**
	comp=N,12nm,0.3s,SNR=8.1								
ABTA					eSn	**Sn**	**02 40 24.6**	**+0.9**
	comp=N,145nm,0.7s								
FUORN	**Ofenpass-Fuorn**	**3.11**	**339**		P	**Pn**	**02 39 50.9**	**+2.2**
FUORN					AML	AML			
	comp=N,169µm,0.8s								
FUORN					AML	AML			
	comp=E,168µm,1.3s								
MYKA	**Terra Mystica**	**3.15**	**22**	*e*	Pn	**Pn**	**02 39 49.3**	**+0.3**
	comp=E,16nm,0.5s,SNR=5.8								
MYKA					eSn	**Sn**	**02 40 25.2**	**-1.1**
	comp=E,16nm,0.4s								
SAOF	**Saorge**	**3.15**	**276**		Pn	**Pn**	**02 39 49.7**	**+0.6**
SAOF					Sn	**Sn**	**02 40 25.1**	**-1.3**
OZLJ	**Ozalj**	**3.16**	**52**	*e*	Pn	**Pn**	**02 39 49.7**	**+0.5**
OZLJ					Sn	**Sn**	**02 40 25.1**	**-1.3**
ROSI	**Rosskopf**	**3.21**	**354**	⇑	P	**Pn**	**02 39 52.5**	**+2.5**
RISI	**Rein**	**3.22**	**2**	⇓	P	**Pn**	**02 39 51.1**	**+1.1**
RISI					AML	AML			
	comp=N,662µm,0.4s								
RISI					AML	AML			
	comp=E,556µm,0.5s								
SBF	**Sospel**	**3.24**	**274**	*e*	Pn	**Pn**	**02 39 50.3**	**0.0**
SBF					eSn	**Sn**	**02 40 27.4**	**-1.1**
	comp=E,73nm,0.4s								
KIJV	**Kijevo**	**3.27**	**84**	*e*	Pn	**Pn**	**02 39 54.1**	**+3.5**
TURF	**col de Turini**	**3.27**	**276**		Pn	**Pn**	**02 39 51.1**	**+0.3**
TURF					Sn	**Sn**	**02 40 28.3**	**-1.2**
ESCA	**l'Escarene**	**3.28**	**273**		Pn	**Pn**	**02 39 52.3**	**+1.5**
ESCA					Sn	**Sn**	**02 40 28.7**	**-0.8**
TUE	**Stuetta**	**3.28**	**327**	⇓	P	**Pn**	**02 39 53.4**	**+2.4**
TUE					AML	AML			
	comp=E,165µm,0.6s								
TUE					AML	AML			
	comp=E,146µm,0.6s								
TUE					AML	AML			
	comp=N,162µm,1.1s								
TUE					AML	AML			
	comp=N,153µm,1.1s								
OBKA	**Obir**	**3.35**	**33**	*e*	Pn	**Pn**	**02 39 51.3**	**-0.5**
	comp=N,8.1nm,0.4s								
DAVOX	**Davos/Dischmat**	**3.37**	**336**		Pn	**Pn**	**02 39 54.8**	**+2.7**
	comp=N,4.6nm,0.3s,baz=76,slow=19,SNR=31								
DAVOX					Sn	**Sn**	**02 40 34.8**	**+3.0**
	comp=N,3.8nm,0.3s,baz=184,slow=18,SNR=4.1								
DAVOX					LR	LR	02 40 58.3		
	comp=N,48nm,19.7s,baz=84,slow=36								
DAVOX	**Davos/Dischmat**	**3.37**	**336**	⇓	P	**Pn**	**02 39 54.8**	**+2.7**
FETA	**Feichten**	**3.39**	**346**	*i*	Pn	**Pn**	**02 39 54.6**	**+2.1**
	comp=N,17nm,0.5s,SNR=13								
FETA					Sn	**Sn**	**02 40 31.6**	**-0.8**
	comp=N,28nm,0.8s								
TRAV	**Traversella**	**3.46**	**302**	⇑	P	**Pn**	**02 39 54.3**	**+1.0**
TRAV					AML	AML			
	comp=N,97µm,0.5s								
TRAV					AML	AML			
	comp=E,106µm,0.9s								
KBA	**Koelnbreinsper**	**3.50**	**16**	*i*	Pn	**Pn**	**02 39 54.4**	**+0.5**
	comp=E,16nm,0.3s,SNR=8.1								
KBA					eSn	**Sn**	**02 40 35.0**	**0.0**
	comp=E,22nm,0.5s								
SQTA	**Sankt Quirin**	**3.52**	**352**	*e*	Pn	**Pn**	**02 39 56.8**	**+2.6**
	comp=E,15nm,0.2s,SNR=11								
SQTA					eSn	**Sn**	**02 40 36.7**	**+1.1**
	comp=E,152nm,0.6s								
ISO	**Isola**	**3.53**	**279**		Pn	**Pn**	**02 39 55.3**	**+1.0**
ISO					Sn	**Sn**	**02 40 35.0**	**-0.8**
PZZ	**Stroppo**	**3.53**	**284**	⇑	P	**Pn**	**02 39 56.2**	**+1.8**
PZZ					AML	AML			
	comp=E,107µm,0.6s								
PZZ					AML	AML			
	comp=N,114µm,0.7s								
WTTA	**Wattenberg**	**3.54**	**357**	*e*	Pn	**Pn**	**02 39 55.9**	**+1.5**
	comp=N,4.3nm,0.2s								
WTTA					eSn	**Sn**	**02 40 39.4**	**+3.4**
	comp=N,45nm,0.5s								
WTTA	**Wattenberg**	**3.54**	**357**	⇓	P	**Pn**	**02 39 56.4**	**+1.9**
WTTA					AML	AML			
	comp=E,308µm,0.7s								
WTTA					AML	AML			
	comp=N,244µm,0.7s								
FUSIO	**Fusio**	**3.56**	**321**	⇑	P	**Pn**	**02 39 56.4**	**+1.6**
FUSIO					AML	AML			
	comp=N,121µm,0.7s								
FUSIO					AML	AML			
	comp=E,118µm,0.7s								
MSAG	**Monte S. Angel**	**3.58**	**123**	⇑	P	**Pn**	**02 39 55.9**	**+0.9**
MSAG					AML	AML			
	comp=E,170µm,0.7s								
MSAG					AML	AML			
	comp=N,224µm,0.8s								

ZAG	**Zagreb**	**3.58**	**53**	*e*	Pn	**Pn**	**02 39 55.3**	**+0.4**
CALF	**Calern**	**3.61**	**272**		Pn	**Pn**	**02 39 55.9**	**+0.5**
CALF					Sn	**Sn**	**02 40 35.9**	**-1.9**
WATA	**Walderalm**	**3.61**	**356**	*i*	Pn	**Pn**	**02 39 57.9**	**+2.5**
	comp=N,6.7nm,0.2s,SNR=9.9								
WATA					eSn	**Sn**	**02 40 41.6**	**+3.9**
	comp=N,100nm,0.6s								
MOTA	**Moosalm**	**3.66**	**351**	*e*	Pn	**Pn**	**02 39 57.8**	**+1.8**
	comp=N,11nm,0.4s,SNR=9.0								
MOTA					eSn	**Sn**	**02 40 41.4**	**+2.5**
	comp=N,76nm,0.7s								
SOKA	**Soboth**	**3.68**	**36**	*e*	Pn	**Pn**	**02 39 54.8**	**-1.6**
	comp=N,1.4nm,0.4s								
SOKA					eSn	**Sn**	**02 40 39.1**	**-0.4**
	comp=N,27nm,1.0s								
SURF	**Saint Ours**	**3.74**	**283**		Pn	**Pn**	**02 39 57.9**	**+0.6**
PLONS	**Plons/SG**	**3.76**	**333**	⇑	P	**Pn**	**02 40 00.8**	**+3.3**
FRF	**La Foret Royal**	**3.82**	**269**	*e*	Pn	**Pn**	**02 39 58.6**	**+0.4**
FRF					eSn	**Sn**	**02 40 41.5**	**-1.2**
	comp=N,59nm,0.5s								
MBDF	**Montbardon**	**3.82**	**287**	*e*	Pn	**Pn**	**02 39 57.9**	**-0.4**
MBDF					eSn	**Sn**	**02 40 41.8**	**-1.2**
	comp=N,41nm,0.6s								
DAVA	**Damuels**	**3.83**	**339**	*e*	Pn	**Pn**	**02 40 01.3**	**+2.9**
	comp=N,3.7nm,0.2s								
DAVA					eSn	**Sn**	**02 40 45.4**	**+2.2**
	comp=N,77nm,0.9s								
RETA	**Reutte**	**3.84**	**348**	*i*	Pn	**Pn**	**02 40 01.0**	**+2.5**
	comp=N,6.9nm,0.2s								
RETA					eSn	**Sn**	**02 40 45.9**	**+2.6**
	comp=N,24nm,0.4s								
VULT	**Monte Vulture**	**3.91**	**134**		S	**Sb**	**02 40 58.0**	**+2.2**
BLY	**Banja Luka**	**3.93**	**73**	⇓	P	**Pn**	**02 40 00.9**	**+1.2**
BLY					AML	AML			
	comp=E,225µm,0.9s								
BLY					AML	AML			
	comp=N,180µm,1.0s								
BLY					AML	AML			
	comp=E,196µm,0.9s								
BLY					AML	AML			
	comp=N,152µm,1.0s								
BLY	**Banja Luka**	**3.93**	**73**	*e*	Pn	**Pn**	**02 40 00.4**	**+0.7**
LMR	**La Mourre**	**3.94**	**266**	*e*	Pn	**Pn**	**02 39 59.9**	**0.0**
LMR					eSn	**Sn**	**02 40 43.6**	**-2.2**
	comp=N,8.0nm,0.2s								
BNALP	**Bannalp**	**3.98**	**323**		P	**Pn**	**02 40 03.7**	**+3.2**
OGMO	**Fort Saint-Gob**	**4.02**	**293**		Pn	**Pn**	**02 40 01.2**	**+0.2**
KALN	**Kalnik**	**4.02**	**52**	*e*	Pn	**Pn**	**02 40 00.4**	**-0.7**
LPG	**La Plagne**	**4.08**	**297**	*e*	Pn	**Pn**	**02 40 03.2**	**+1.2**
LPG					eSn	**Sn**	**02 40 48.7**	**-0.9**
	comp=N,12nm,0.6s								
LPL	**La Plagne**	**4.10**	**298**	*e*	Pn	**Pn**	**02 40 02.9**	**+0.7**
LPL					eSn	**Sn**	**02 40 49.0**	**-0.9**
	comp=N,16nm,0.4s								
KOGS	**Kog**	**4.10**	**47**	⇓	P	**Pn**	**02 40 01.0**	**-1.1**
BLAF	**les Blancs**	**4.24**	**275**		Pn	**Pn**	**02 40 05.4**	**+1.3**
ARSA	**Arzberg**	**4.34**	**35**	*e*	Pn	**Pn**	**02 40 04.1**	**-1.3**
	comp=N,1.8nm,0.2s								
ARSA	**Arzberg**	**4.34**	**35**	⇑	P	**Pn**	**02 40 04.1**	**-1.3**
BEHE	**Becsehely**	**4.40**	**50**	*e*	Pn	**Pn**	**02 40 08.8**	**+2.6**
ARTF	**Artigues**	**4.43**	**270**		Pn	**Pn**	**02 40 07.5**	**+0.9**
ARTF					Sn	**Sn**	**02 40 56.1**	**-1.6**
MOA	**Molln**	**4.43**	**21**	*i*	Pn	**Pn**	**02 40 07.3**	**+0.6**
	comp=N,7.2nm,0.3s,SNR=9.6								
MOA					eSn	**Sn**	**02 40 55.7**	**-2.2**
	comp=N,9.6nm,0.4s								
MCEL	**Monticello**	**4.47**	**138**		P	**Pb**	**02 40 15.4**	**-2.9**
ORIF	**Oris-en-Rattie**	**4.48**	**287**		Pn	**Pn**	**02 40 08.6**	**+1.3**
ORIF	**Oris-en-Rattie**	**4.48**	**287**	*e*	Pn	**Pn**	**02 40 08.0**	**+0.6**
ORIF					eSn	**Sn**	**02 40 57.5**	**-1.7**
	comp=N,32nm,0.6s								
AMUR	**Altamura**	**4.49**	**127**		P	**Pn**	**02 40 08.6**	**+1.2**
BSTF	**la Bastide-des**	**4.53**	**274**		Pn	**Pn**	**02 40 08.9**	**+0.9**
BSTF					Sn	**Sn**	**02 40 58.1**	**-2.3**
SMRF	**Simiane la Rot**	**4.58**	**275**	*e*	Pn	**Pn**	**02 40 09.7**	**+1.0**
SMRF					eSn	**Sn**	**02 40 59.8**	**-1.8**
	comp=N,16nm,0.4s								
RUSF	**Rustrel**	**4.65**	**275**		Pn	**Pn**	**02 40 10.6**	**+1.0**
GRN	**Grenoble**	**4.66**	**291**		Pn	**Pn**	**02 40 11.3**	**+1.5**
ARBF	**Arbois**	**4.78**	**269**		Pn	**Pn**	**02 40 12.6**	**+1.2**
OGSM	**Saint Maurice**	**4.81**	**295**		Pn	**Pn**	**02 40 13.3**	**+1.5**
BRY	**Bratogost**	**4.91**	**97**	*e*	Pn	**Pn**	**02 40 14.8**	**+1.5**
HCY	**Herceg Novi**	**5.00**	**103**	*e*	Pn	**Pn**	**02 40 16.0**	**+1.7**
CABF	**La Chapelle**	**5.02**	**307**	*e*	Pn	**Pn**	**02 40 15.3**	**+0.6**
CABF					eSn	**Sn**	**02 41 10.6**	**-1.8**
	comp=N,17nm,0.6s								
CONA	**Conrad Observa**	**5.02**	**32**	*i*	Pn	**Pn**	**02 40 14.7**	**-0.1**
	comp=N,3.7nm,0.4s								
CONA					eSn	**Sn**	**02 41 12.7**	**+0.1**
	comp=N,13nm,0.4s								
OG35	**Corcelles**	**5.06**	**299**		Pn	**Pn**	**02 40 16.6**	**+1.4**
KIZ	**Kirchzarten**	**5.06**	**328**		Pn	**Pn**	**02 40 16.3**	**+1.1**
KIZ					Sn	**Sn**	**02 41 10.7**	**-2.6**
CHMF	**Charmoille**	**5.10**	**315**		Pn	**Pn**	**02 40 17.0**	**+1.2**
CHMF					Sn	**Sn**	**02 41 11.1**	**-3.3**
HAPS	**Han Pijesak,BI**	**5.10**	**84**	*e*	Pn	**Pn**	**02 40 17.4**	**+1.5**
UPM	**Unac-Piva**	**5.12**	**94**	*e*	Pn	**Pn**	**02 40 18.6**	**+2.3**
GERES	**GERESS Array B**	**5.26**	**13**		Pn	**Pn**	**02 40 17.5**	**-0.6**
	comp=N,1.1nm,0.3s,baz=194,slow=14,SNR=28								
GERES					Sn	**Sn**	**02 41 17.3**	**-1.1**
	comp=N,3.5nm,0.3s,baz=198,slow=25,SNR=9.9								
MOF	**Molkenrain**	**5.30**	**323**		Pn	**Pn**	**02 40 20.0**	**+1.4**
VIVF	**Saint-Julien-l**	**5.31**	**285**	*e*	Pn	**Pn**	**02 40 18.9**	**+0.2**
VIVF					eSn	**Sn**	**02 41 17.2**	**-2.3**
	comp=N,5.7nm,0.5s								
MORH	**Mrgy, Hungar**	**5.39**	**60**	*e*	Pn	**Pn**	**02 40 16.2**	**-3.5**
HINF	**Hinteralfeld**	**5.40**	**321**	*e*	Pn	**Pn**	**02 40 20.5**	**+0.6**
HINF					eSn	**Sn**	**02 41 18.8**	**-2.9**
	comp=N,16nm,0.4s								
OPP	**Oppenau**	**5.42**	**333**		Pn	**Pn**	**02 40 21.1**	**+0.9**
BBLS	**Lazići**	**5.43**	**86**	*e*	Pn	**Pn**	**02 40 22.6**	**+2.2**
KHC	**Kasperske Hory**	**5.52**	**12**	*e*	PN	**Pn**	**02 40 21.1**	**-0.5**
KHC				*ex*		x	02 40 56.0		
KHC					eSN	**Sn**	**02 41 22.4**	**-2.3**
KHC				*ex*		x	02 41 53.5		
PDG	**Podgorica**	**5.54**	**101**	⇑	P	**Pn**	**02 40 23.1**	**+1.3**
PDG	**Podgorica**	**5.54**	**101**	⇓	S	**Sn**	**02 41 26.2**	**+1.1**
PDG	**Podgorica**	**5.54**	**101**	*e*	Pn	**Pn**	**02 40 23.0**	**+1.2**
DRME	**Dracevica, Mon**	**5.56**	**104**	*e*	Pn	**Pn**	**02 40 23.3**	**+1.2**
ECH	**Echery**	**5.57**	**325**		Pn	**Pn**	**02 40 23.4**	**+1.1**
ECH					Sn	**Sn**	**02 41 23.1**	**-2.7**
WLS	**Welschbruch**	**5.65**	**328**		Pn	**Pn**	**02 40 24.6**	**+1.3**
CDF	**Champ du Feu**	**5.68**	**327**	*e*	Pn	**Pn**	**02 40 24.3**	**+0.5**
CDF					eSn	**Sn**	**02 41 26.3**	**-2.4**
	comp=N,13nm,0.4s								
HAU	**Haudompre**	**5.77**	**320**	*e*	Pn	**Pn**	**02 40 25.4**	**+0.4**
HAU					eSn	**Sn**	**02 41 28.6**	**-2.2**
	comp=N,44nm,0.4s								
LASF	**Ste Croix**	**5.82**	**276**	*e*	Pn	**Pn**	**02 40 25.9**	**+0.2**
LASF					eSn	**Sn**	**02 41 29.4**	**-2.8**
	comp=N,4.0nm,0.4s								
FRGS	**Fruska Gora**	**5.84**	**73**	*e*	Pn	**Pn**	**02 40 25.6**	**-0.3**
DIVS	**Divibare**	**5.85**	**84**	*e*	Pn	**Pn**	**02 40 26.7**	**+0.5**
MODS	**Modra-Piesok**	**5.96**	**37**	*e*	PN	**Pn**	**02 40 25.9**	**-1.7**
MODS					eSN	**Sn**	**02 41 31.0**	**-4.5**
TREC	**Trest**	**6.09**	**23**	*e*	PN	**Pn**	**02 40 28.5**	**-0.8**
TREC					eSN	**Sn**	**02 41 34.5**	**-4.1**
KRUC	**Moravsky**	**6.17**	**29**	*e*	PN	**Pn**	**02 40 29.7**	**-0.7**
KRUC					eSN	**Sn**	**02 41 37.5**	**-3.1**
TIR	**Tirane**	**6.35**	**109**	⇑	P	**Pn**	**02 40 32.8**	**-0.1**
TIR	**Tirane**	**6.35**	**109**	⇑	S	**Sn**	**02 41 46.9**	**+1.9**
SMF	**Signal de Mont**	**6.40**	**300**	*e*	Pn	**Pn**	**02 40 34.0**	**+0.4**
SMF					eSn	**Sn**	**02 41 43.3**	**-3.0**
	comp=N,7.8nm,0.4s								
VRAC	**Vranov**	**6.45**	**28**	*e*	Pn	**Pn**	**02 40 33.0**	**-1.3**
	comp=N,0.6nm,0.3s,baz=216,slow=15,SNR=2.5								
VRAC					Sn	**Sn**	**02 41 44.8**	**-2.6**
	comp=N,0.6nm,0.3s,baz=133,slow=19,SNR=1.7								
VRAC					LR	LR	02 43 08.2		
	comp=N,62nm,19.1s,baz=236,slow=40								
VRAC	**Vranov**	**6.45**	**28**	*e*	PN	**Pn**	**02 40 31.5**	**-2.8**
VRAC					eSN	**Sn**	**02 41 45.1**	**-2.3**
PAGF	**Fort de Pagny**	**6.45**	**320**	*e*	Pn	**Pn**	**02 40 35.4**	**+1.0**
	baz=139								
PAGF					eSn	**Sn**	**02 41 44.7**	**-2.9**
	comp=N,22nm,0.6s,baz=150								
GOPC	**GO Pecny, Ondr**	**6.49**	**17**	*e*	PN	**Pn**	**02 40 34.3**	**-0.6**
PRU	**Pruhonice**	**6.51**	**15**	*e*	SN	**Sn**	**02 41 45.8**	**-3.2**
SFTF	**Sexfontaines**	**6.55**	**315**	*e*	Pn	**Pn**	**02 40 36.3**	**+0.7**
	baz=126								
SFTF					eSn	**Sn**	**02 41 46.9**	**-3.0**
	comp=N,10nm,0.4s								
LOR	**Lormes**	**6.67**	**305**	*e*	Pn	**Pn**	**02 40 38.0**	**+0.7**
	baz=125								
LOR					eSn	**Sn**	**02 41 49.3**	**-3.6**
	comp=N,15nm,0.5s								
MEZF	**Maizieres J'vi**	**6.74**	**317**	*e*	Pn	**Pn**	**02 40 37.9**	**-0.3**
	baz=137								
MEZF					eSn	**Sn**	**02 41 51.3**	**-3.3**
	comp=N,8.6nm,0.3s								
AVF	**Avril sur Loir**	**6.76**	**300**	*e*	Pn	**Pn**	**02 40 38.7**	**+0.1**
AVF					eSn	**Sn**	**02 41 52.1**	**-3.1**
	comp=N,1.3nm,0.3s								
VYHS	**Vyhne**	**6.77**	**43**	*e*	PN	**Pn**	**02 40 37.5**	**-1.2**
VYHS					eSN	**Sn**	**02 41 51.7**	**-3.8**
SSF	**Saint Saulge**	**6.78**	**302**	*e*	Pn	**Pn**	**02 40 39.2**	**+0.3**
SSF					eSn	**Sn**	**02 41 52.6**	**-3.1**
	comp=N,6.9nm,0.5s								
BGF	**Bois d'Agland**	**7.00**	**297**	*e*	Sn	**Sn**	**02 41 57.2**	**-3.8**
	comp=N,9.6nm,0.4s								
MTLF	**Montolieu**	**7.05**	**270**	*e*	Pn	**Pn**	**02 40 42.6**	**0.0**
MTLF					eSn	**Sn**	**02 41 58.9**	**-3.4**
	comp=N,4.7nm,0.5s								
MDVR	**Moldovita**	**7.12**	**78**	⇓	P	**Pn**	**02 40 44.6**	**+1.0**
CAF	**Calviac**	**7.16**	**283**	*e*	Pn	**Pn**	**02 40 44.3**	**+0.2**
CAF					eSn	**Sn**	**02 42 01.5**	**-3.5**
	comp=N,1.1nm,0.3s								
BZS	**Buzias**	**7.18**	**71**	⇑	P	**Pn**	**02 40 46.0**	**+1.7**
BRG	**Berggiesshubel**	**7.28**	**10**		PN	**Pn**	**02 40 45.5**	**-0.2**
BRG					SN	**Sn**	**02 42 04.4**	**-3.4**
BRG				*e*			02 42 31.3		
BRG				*e*			02 42 44.7		
	comp=N,11nm,1.3s								
TCF	**Toulx Ste Croi**	**7.33**	**294**	*e*	Pn	**Pn**	**02 40 46.7**	**+0.3**
TCF					eSn	**Sn**	**02 42 05.6**	**-3.6**
	comp=N,0.6nm,0.2s								
HYF	**Humbligny**	**7.41**	**302**	*e*	Pn	**Pn**	**02 40 47.7**	**+0.3**
CHVC	**Chvalec**	**7.42**	**21**	*e*	PN	**Pn**	**02 40 46.1**	**-1.5**
RJF	**Les Rejaudoux**	**7.59**	**286**	*e*	Pn	**Pn**	**02 40 49.9**	**-0.1**
CLL	**Collm**	**7.62**	**5**	*e*	Pn	**Pn**	**02 40 49.0**	**-1.3**
CLL					eSn	Sn	02 41 59.0	-17	
CLL					eSb	Sb	02 42 28.0	-14	
CLL					eSg		02 43 07.0		
	comp=Z,18nm,1.0s								
HERR	**Herculane**	**7.63**	**78**	⇑	P	**Pn**	**02 40 51.2**	**+0.7**
GZR	**Gura Zlata**	**7.94**	**74**	⇑	P	**Pn**	**02 40 56.2**	**+1.3**
GIVF	**Givet**	**8.00**	**325**	*e*	P	Pn	02 41 01.2	+5.6	
BAIF	**Baives**	**8.23**	**323**	*e*	P	Pn	02 41 04.3	+5.6	
KEST	**Kesra**	**8.23**	**195**		Pn	Pn	02 41 05.4	+6.6	
	comp=Z,0.2nm,0.3s,baz=355,slow=11,SNR=2.4								
EPF	**Esparros**	**8.45**	**269**	*e*	Pn	**Pn**	**02 41 01.8**	**-0.1**
EPF					eSn	**Sn**	**02 42 33.0**	**-3.9**
	comp=Z,0.7nm,0.3s								
MFF	**Saint Martin d**	**8.98**	**293**	*e*	Pn	**Pn**	**02 41 09.3**	**+0.3**
ETSF	**Etsaut**	**9.13**	**269**	*e*	Pn	**Pn**	**02 41 11.0**	**-0.1**
ETSF					eSn	**Sn**	**02 42 49.0**	**-4.5**
	comp=Z,0.6nm,0.4s								
VOIR		**9.54**	**75**	⇓	P	**Pn**	**02 41 18.8**	**+2.1**
SJPF	**Ste Jean**	**9.57**	**271**	*e*	Pn	**Pn**	**02 41 17.0**	**-0.2**
SJPF					eSn	**Sn**	**02 42 58.9**	**-5.5**
	comp=Z,0.4nm,0.3s								
LDF	**La Druitiere**	**9.65**	**304**	*e*	P	Pn	02 41 23.4	+5.2	
FLN	**La Foliniere**	**9.94**	**305**	*e*	P	Pn	02 41 27.7	+5.5	
FLN					eSn	**Sn**	**02 43 07.4**	**-5.9**
	comp=Z,5.2nm,0.5s								
GRR	**Gorron**	**10.01**	**302**	*e*	Pn	**Pn**	**02 41 23.6**	**+0.4**
SGMF	**Saint Gilles**	**11.03**	**299**	*e*	Pn	**Pn**	**02 41 37.0**	**0.0**
ROSF	**Rostrenen**	**11.51**	**299**	*e*	Pn	**Pn**	**02 41 42.9**	**-0.7**
FINES	**FINESS Array B**	**19.64**	**20**		P	**Pn**	**02 43 29.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=4.0								
TORD	**Torodi Ar. Bea**	**31.72**	**199**		P	**P**	**02 45 26.7**	**+3.6**
	comp=Z,0.5nm,0.6s,baz=12,slow=8.2,SN

IFIR	**Firoozkooh**	**1.95**	**54**	*e*Pn	**Pg**	**03 06 28.0**	**-0.8**
ILAS	**Lasjerd**	**1.96**	**63**	*e*Pn	**Pb**	**03 06 27.9**	**+0.2**
ILAS				*e*		03 06 58.7	
IZEF	**Zefreh**	**2.05**	**142**	*e*Pn	**Pg**	**03 06 30.4**	**-0.3**
IPRN	**Peran**	**2.13**	**35**	*e*Pn	**Pb**	**03 06 30.4**	**0.0**
IPRN				*e*		03 07 03.9	
HSRG	**Sareghieh**	**2.21**	**290**	*e*Pn	**Pg**	**03 06 33.2**	**-0.7**
HSRG				*e*		03 07 05.0	
IALM	**Almabolaq**	**2.21**	**280**	*e*Pn	**Pg**	**03 06 32.7**	**-1.2**
IKMR	**Kamar-syah**	**2.25**	**245**	*e*Pn	**Pg**	**03 06 33.7**	**-1.0**
IKMR				*e*		03 07 11.3	
IALA	**Alasht**	**2.26**	**46**	*e*Pn	**Pb**	**03 06 32.3**	**-0.5**
IALA				*e*		03 07 06.9	
JHBN	**Jahan bin**	**2.28**	**183**	*e*Pn	**Pg**	**03 06 34.3**	**-0.9**
IDOB	**Doab**	**2.31**	**252**	*e*Pn	**Pb**	**03 06 34.4**	**+0.9**
QSDN	**Sirdan**	**2.40**	**326**	*e*Pn	**Pb**	**03 06 33.9**	**-1.2**
QSDN				*e*		03 06 36.3	
ISHM	**Shahmirzad**	**2.40**	**57**	*e*Pn	**Pb**	**03 06 34.6**	**-0.7**
ISHM				*e*		03 07 10.4	
IANJ	**Anjilo**	**2.71**	**69**	*e*Pn	**Pb**	**03 06 38.0**	**-2.5**
IANJ				*e*		03 07 24.9	
IKOM	**Komasi**	**2.76**	**264**	*e*Pn	**Pb**	**03 06 39.2**	**-2.0**
IKOM				*e*		03 07 35.0	
ANAR	**Anarak**	**2.76**	**118**	*e*Pn	**Pb**	**03 06 39.7**	**-1.5**
IRAM	**Ramesheh**	**3.00**	**154**	*e*Pn	**Pb**	**03 06 43.9**	**-1.5**
IGLO	**Ghaloghah**	**3.16**	**50**	*e*Pn	**Pb**	**03 06 45.0**	**-3.1**
ISRB	**Sarab**	**4.17**	**323**	*e*Pn	**Pn**	**03 06 58.6**	**+2.8**
TNSJ	**Nastanj**	**4.83**	**95**	*e*Pn	**Pn**	**03 07 07.0**	**+2.3**
TPRV	**Parvadeh(Tabas**	**5.11**	**105**	*e*Pn	**Pn**	**03 07 11.3**	**+2.8**
TKDS	**Koohdasht(Taba**	**5.31**	**98**	*e*Pn	**Pn**	**03 07 14.2**	**+2.9**

WEL 17 03:15:09.2, 44°S±1°×172°2E±0°.8, h9km±2km, M2.2/7, ML2.2/6, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=167.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.20**	**335**	P	Pg	03 15 14.7	+1.5
RACZ	**Rakaia**	**0.22**	**182**	P	Pg	03 15 15.6	+1.8
MQZ	**McQueen's Vall**	**0.42**	**119**	P	Pb	03 15 18.8	+0.1
MHCZ	**Mount Hutt**	**0.42**	**266**	P	Pb	03 15 19.2	+0.3
WACZ	**Wakanui South**	**0.49**	**207**	P	Pb	03 15 20.8	+0.7
AKCZ	**Akaroa Harbour**	**0.66**	**124**	P	Pb	03 15 23.6	+0.7
OKCZ	**Okains Bay**	**0.69**	**109**	P	Pn	03 15 24.5	-0.7
LTZ	**Lake Taylor**	**0.73**	**7**	P	Pn	03 15 24.9	-0.7
RPZ	**Rata Peaks**	**0.82**	**255**	P	Pn	03 15 26.6	-0.4
ARCZ	**Arundel**	**0.83**	**238**	P	Pn	03 15 26.7	-0.4
GVZ	**Greta Valley S**	**0.84**	**51**	P	Pn	03 15 27.3	+0.1

JMA 17 03:34:18.5±0.1, 36°43N×140°66E, h53km±1km, M3.5, 3C-3D Broadband fault plane solution: P waves. NP1: ϕs173.00000°, δ25.00000°, λ66.00000°. NP2: ϕb19.00000°, δ68.00000°, λ101.00000°. Principal axes: T Plg66.0000°, Azm308.0000°; N Plg10.0000°, Azm195.0000°; P Plg22.0000°, Azm101.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.11**	**213**	⇑P	Pn	03 34 26.7	0.0
JHYU				*e*S	Sn	03 34 32.5	0.0
JHO	**Hitachi**	**0.20**	**338**	⇑P	Pn	03 34 27.2	0.0
JHO				*e*S	Sn	03 34 33.1	-0.2
JYT	**Yasato**	**0.43**	**242**	⇓P	Pn	03 34 29.2	+0.1
JYT				*e*S	Sn	03 34 36.5	-0.2
JIHU	**Itakohorinouch**	**0.48**	**193**	P	Pn	03 34 30.1	+0.4
JIHU				*e*S	Sn	03 34 38.6	+0.9
ONAJ	**Iwakimizuishiy**	**0.68**	**9**	⇑P	Pn	03 34 31.5	-0.7
ONAJ				*e*S	Sn	03 34 41.1	-1.0
JSB	**Shiboa**	**0.80**	**312**	⇓P	Pn	03 34 34.0	+0.3
JSB				*e*S	Sn	03 34 44.9	+0.1
JFK	**Kawauchi**	**0.95**	**10**	P	Pn	03 34 34.9	-0.8
JFK				*e*S	Sn	03 34 46.7	-1.6
JAG	**Ashikaga**	**0.97**	**270**	⇓P	Pn	03 34 36.2	+0.3
JFT	**Otama**	**1.12**	**347**	P	Pn	03 34 38.1	+0.2
JFT				*e*S	Sn	03 34 52.3	0.0
JKT	**Katashina**	**1.18**	**287**	P	Pn	03 34 39.3	+0.4
JKT				*e*S	Sn	03 34 54.8	+0.8
MAT	**Matsushiro**	**1.98**	**274**	P	Pn	03 34 50.2	+0.6
MAT				S	Sn	03 35 16.9	+3.6

TAP 17 03:36:55.4, 24°.91N×122°.22E, h14km, ML3.1, C
JMA 17 03:36:56.1±0.1, 24°.83N×122°.24E, h9km, M2.8
ISC 17 03:36:55.6±0.9, 24°87N±0°02×122°24E±0°02, h12km±7km, n64, σ0§64/126, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.26**	**301**	*i*P	**Pg**	**03 37 00.9**	**-0.2**
	baz=295						
TWB1				S	**Sg**	**03 37 04.3**	**-0.5**
	baz=295						
NTC	**Toucheng**	**0.37**	**267**	P	**Pg**	**03 37 03.6**	**+0.5**
	baz=269						
NTC				*e*S	**Sg**	**03 37 08.8**	**+0.7**
	baz=269						
TIPB	**Shuangxi**	**0.39**	**285**	P	**Pg**	**03 37 03.4**	**0.0**
	baz=280						
TIPB				S	**Sg**	**03 37 08.9**	**+0.3**
	baz=280						
TWC	**Suao**	**0.44**	**233**	P	**Pg**	**03 37 04.2**	**-0.1**
	baz=223						
TWC				*e*S	**Sg**	**03 37 09.5**	**-0.8**
	baz=223						
NWF	**Wu-fen Shan**	**0.46**	**296**	P	**Pg**	**03 37 05.0**	**+0.3**
	baz=291						
NWF				S	**Sg**	**03 37 10.8**	**-0.1**
	baz=291						
WFSB	**Wu-fen Shan**	**0.46**	**296**	P	**Pg**	**03 37 05.0**	**+0.2**
	baz=291						
WFSB				S	**Sg**	**03 37 10.8**	**0.0**
	baz=291						
TWE	**Neicheng**	**0.54**	**254**	*e*P	**Pg**	**03 37 06.2**	**0.0**
	baz=242						
TWE				S	**Sb**	**03 37 14.2**	**-0.6**
	baz=242						
ENAH	**Nanao**	**0.57**	**223**	*e*P	**Pg**	**03 37 07.1**	**+0.2**
	baz=211						
ENAH				*e*S	**Sg**	**03 37 14.6**	**+0.1**
	baz=211						
TWA	**Mucha**	**0.60**	**280**	P	**Pb**	**03 37 08.4**	**+0.3**
	baz=277						
TWA				S	**Sb**	**03 37 16.4**	**-0.2**
	baz=277						
NWRT	**Kuosheng**	**0.62**	**302**	*e*P	**Pg**	**03 37 08.0**	**+0.3**
	baz=304						
NWRT				*e*S	**Sg**	**03 37 15.8**	**-0.1**
	baz=304						
ENA	**Nanau**	**0.63**	**226**	*e*P	**Pb**	**03 37 08.7**	**+0.1**
	baz=216						
ENA				*e*S	**Sb**	**03 37 17.1**	**-0.3**
	baz=216						
ENTT	**Nioudou**	**0.65**	**249**	*e*P	**Pb**	**03 37 08.7**	**-0.3**
	baz=239						
ENTT				*e*S	**Sb**	**03 37 19.4**	**+1.4**
	baz=239						
YM01	**YM01**	**0.66**	**294**	P	**Pb**	**03 37 09.1**	**-0.1**
	baz=291						
YM01				*e*S	**Sg**	**03 37 17.6**	**+0.2**
	baz=291						
YM08	**YM08**	**0.67**	**298**	P	**Pg**	**03 37 08.8**	**+0.2**
	baz=295						
YM08				S	**Sb**	**03 37 18.1**	**-0.3**
	baz=295						
NWLT	**Wulai**	**0.68**	**262**	*e*P	**Pb**	**03 37 09.9**	**+0.6**
	baz=259						
NWLT				*e*S	**Sb**	**03 37 19.1**	**+0.4**
	baz=259						
YM05	**YM05**	**0.68**	**296**	P	**Pg**	**03 37 09.2**	**+0.4**
	baz=292						
YM05				S	**Sg**	**03 37 18.3**	**+0.5**
	baz=292						
YM10	**YM10**	**0.68**	**295**	*e*P	**Pb**	**03 37 09.3**	**-0.1**
	baz=291						
YM10				*e*S	**Sb**	**03 37 19.0**	**+0.3**
	baz=291						
TATO	**Taipei**	**0.69**	**279**	*e*P	**Pb**	**03 37 09.8**	**+0.3**
	baz=275						
TATO				*e*S	**Sg**	**03 37 18.4**	**+0.3**
	baz=275						
YM04	**YM04**	**0.69**	**294**	P	**Pb**	**03 37 09.6**	**-0.2**
	baz=291						
YM04				*e*S	**Sb**	**03 37 19.1**	**-0.1**
	baz=291						
YM03	**YM03**	**0.70**	**296**	*e*P	**Pb**	**03 37 09.7**	**-0.1**
	baz=293						
YM03				*e*S	**Sb**	**03 37 20.7**	**+1.2**
	baz=293						
TWY	**Chenhua**	**0.70**	**305**	P	**Pb**	**03 37 09.8**	**-0.1**
	baz=289						
TWY				S	**Sb**	**03 37 19.7**	**+0.2**
	baz=289						
NDT	**Datong Townshi**	**0.71**	**248**	*e*P	**Pb**	**03 37 10.1**	**+0.1**
	baz=245						
NDT				*e*S	**Sb**	**03 37 20.8**	**+1.1**
	baz=245						
NSM	**Shimen**	**0.72**	**305**	*e*P	**Pb**	**03 37 10.2**	**+0.1**
	baz=290						
NSM				*e*S	**Sb**	**03 37 20.8**	**+0.9**
	baz=290						
ANP	**Anpu**	**0.72**	**296**	*e*P	**Pb**	**03 37 10.1**	**-0.1**
	baz=293						
ANP				*e*S	**Sb**	**03 37 20.2**	**+0.1**
	baz=293						
PCYT	**Pengchaiyu**	**0.77**	**349**	P	**Pg**	**03 37 10.8**	**+0.2**
	baz=348						
PCYT				S	**Sb**	**03 37 21.4**	**+0.1**
	baz=348						
JYNG	**Yonagunijimaku**	**0.77**	**123**	P	**Pg**	**03 37 10.2**	**-0.3**
JYNG				S	**Sb**	**03 37 21.3**	**0.0**
TWS1	**Kuangyinshan**	**0.78**	**287**	*e*P	**Pb**	**03 37 11.3**	**+0.2**
	baz=294						
TWS1				*e*S	**Sb**	**03 37 21.7**	**+0.1**
	baz=294						
YHNB	**Yeheng**	**0.81**	**256**	*e*P	**Pg**	**03 37 11.5**	**+0.2**
	baz=262						
YHNB				*e*S	**Sn**	**03 37 24.1**	**-0.9**
	baz=262						
YOJ	**Yonaguni jima**	**0.81**	**120**	P	**Pg**	**03 37 11.4**	**0.0**
	baz=109						
YOJ				S	**Sb**	**03 37 22.6**	**0.0**
	baz=109						
YOJ	**Yonaguni jima**	**0.81**	**120**	P	**Pg**	**03 37 11.0**	**-0.4**
YOJ				S	**Sg**	**03 37 22.2**	**+0.1**
NSK	**Sanguang**	**0.82**	**256**	*e*P	**Pg**	**03 37 11.6**	**-0.1**
	baz=269						
NSK				*e*S	**Sn**	**03 37 24.6**	**-0.6**
	baz=269						
NNSB	**Datong**	**0.90**	**241**	*e*P	**Pg**	**03 37 12.8**	**-0.2**
	baz=229						
NNSB				*e*S	**Sb**	**03 37 25.8**	**+0.7**
	baz=229						
NNSH	**Datong**	**0.90**	**241**	*e*P	**Pb**	**03 37 13.5**	**+0.3**
	baz=229						
NNSH				*e*S	**Sn**	**03 37 26.4**	**-0.7**
	baz=229						
NACB	**Ninganchiao**	**0.91**	**220**	P	**Pg**	**03 37 12.8**	**-0.4**
	baz=209						
NACB				S	**Sg**	**03 37 24.5**	**-0.6**
	baz=209						
ETLH	**Xiulin Townshi**	**0.96**	**226**	*e*P	**Pb**	**03 37 14.2**	**0.0**
	baz=214						
ETLH				*e*S	**Sg**	**03 37 25.9**	**-0.8**
	baz=214						
TWD	**Chiawan**	**0.98**	**217**	*e*P	**Pg**	**03 37 14.3**	**-0.3**
	baz=215						
TWD				*e*S	**Sg**	**03 37 27.4**	**-0.1**
	baz=215						
FUSS	**Fushou**	**1.10**	**236**	*e*P	**Pg**	**03 37 16.8**	**0.0**
	baz=225						
FUSS				*e*S	**Sb**	**03 37 31.5**	**+0.4**
	baz=225						
WHF	**Hehuan Shan**	**1.15**	**231**	*e*P	**Pb**	**03 37 17.6**	**-0.1**
	baz=229						
WHF				*e*S	**Sn**	**03 37 33.6**	**-0.1**
	baz=229						
TWT	**Tachien**	**1.15**	**238**	*e*P	**Pn**	**03 37 18.0**	**+0.3**
	baz=227						
TWT				*e*S	**Sn**	**03 37 33.5**	**+0.2**
	baz=227						
NSTT	**Nanjuang**	**1.15**	**258**	*e*P	**Pb**	**03 37 17.1**	**-0.3**
	baz=255						
NSTT				*e*S	**Sn**	**03 37 34.7**	**+1.5**
	baz=255						
TDCB	**Techi**	**1.16**	**238**	*e*P	**Pg**	**03 37 17.9**	**-0.1**
	baz=228						
TDCB				*e*S	**Sg**	**03 37 32.9**	**-0.3**
	baz=228						
CHGB	**Renai**	**1.26**	**230**	P	**Pg**	**03 37 19.9**	**-0.1**
	baz=229						
CHGB				S	**Sn**	**03 37 37.3**	**+1.0**
	baz=229						
ESL	**Shilin**	**1.28**	**215**	*e*P	**Pb**	**03 37 20.0**	**+0.2**
	baz=230						
ESL				*e*S	**Sg**	**03 37 37.7**	**+0.6**
	baz=230						
WHP	**Taichung City**	**1.32**	**244**	*e*P	**Pg**	**03 37 21.2**	**+0.2**
	baz=242						
WHP				*e*S	**Sg**	**03 37 38.0**	**-0.1**
	baz=242						
IRIF	**Iriomote-Funau**	**1.46**	**111**	S	**Sb**	**03 37 41.8**	**+0.6**
VWDT	**VWDT**	**1.50**	**222**	*e*P	**Pb**	**03 37 23.4**	**+0.1**
	baz=228						
VWDT				*e*S	**Sg**	**03 37 44.2**	**+0.3**
	baz=228						
HGSD	**Ruisui**	**1.56**	**209**	*e*P	**Pn**	**03 37 23.9**	**+0.7**
	baz=193						
HGSD				*e*S	**Sg**	**03 37 45.5**	**-0.5**
	baz=193						
SMLT	**Sun Moon Lake**	**1.57**	**231**	*e*P	**Pn**	**03 37 24.0**	**+0.6**
	baz=229						
SMLT				*e*S	**Sb**	**03 37 44.6**	**+0.1**
	baz=229						
TYC	**Yuchr**	**1.59**	**233**	*e*P	**Pg**	**03 37 25.7**	**-0.5**
	baz=231						
TYC				*e*S	**Sg**	**03 37 46.0**	**-0.8**
	baz=231						
SSLB	**Suanglung**	**1.59**	**228**	*e*P	**Pg**	**03 37 25.8**	**-0.5**
	baz=226						
SSLB				*e*S	**Sg**	**03 37 47.0**	**0.0**
	baz=226						
EHY	**Hungye**	**1.60**	**212**	*e*P	**Pn**	**03 37 24.2**	**+0.5**
	baz=211						
EHY				*e*S	**Sb**	**03 37 44.9**	**-0.3**
	baz=211						
HATJ	**Hateruma jima**	**1.64**	**119**	P	**Pn**	**03 37 24.9**	**+0.6**
HATJ				S	**Sb**	**03 37 46.7**	**+0.2**
YULB	**Yu-li**	**1.71**	**210**	*e*P	**Pn**	**03 37 25.1**	**-0.1**
	baz=209						
YULB				*e*S	**Sb**	**03 37 49.1**	**+0.7**
	baz=209						
JKRS	**Kuro-shima**	**1.73**	**111**	P	**Pn**	**03 37 26.3**	**+0.8**
JKRS				*e*S	**Sb**	**03 37 49.4**	**+0.3**
JIJ	**Ishigaki jima**	**1.81**	**106**	P	**Pn**	**03 37 27.3**	**+0.7**
JIJ				S	**Sn**	**03 37 50.6**	**+1.2**
FULB	**Fuli**	**1.88**	**208**	*e*P	**Pn**	**03 37 28.4**	**+0.9**
	baz=221						
FULB				*e*S	**Sb**	**03 37 52.7**	**-0.6**
	baz=221						
ALS	**Alishan**	**1.89**	**224**	*e*P	**Pn**	**03 37 28.5**	**+0.6**
	baz=209						
ALS				*e*S	**Sg**	**03 37 55.1**	**-1.2**
	baz=209						
JISG	**Ishigakijimahi**	**1.91**	**98**	P	**Pb**	**03 37 29.6**	**-0.7**
CHN5	**Tsauling**	**1.91**	**229**	*e*P	**Pb**	**03 37 30.2**	**-0.3**
	baz=227						
CHN5				*e*S	**Sg**	**03 37 55.7**	**-1.4**
	baz=227						
CHN4	**Tsaushan**	**2.13**	**225**	*e*P	**Pb**	**03 37 33.2**	**-1.0**
	baz=211						
CHN4				*e*S	**Sb**	**03 37 60.0**	**-0.7**
	baz=211						
TPUB	**Ta-pu**	**2.15**	**224**	*e*P	**Pn**	**03 37 32.4**	**+1.1**
	baz=206						
TPUB				*e*S	**Sb**	**03 38 01.2**	**+0.2**
	baz=206						
WTP	**Ta-pu**	**2.20**	**223**	*e*P	**Pn**	**03 37 33.8**	**+1.8**
	baz=205						
WTP				*e*S	**Sb**	**03 38 02.3**	**-0.2**
	baz=205						
CHN1	**Nanshi**	**2.29**	**223**	*e*P	**Pn**	**03 37 35.0**	**+1.7**
	baz=205						
CHN1				*e*S	**Sb**	**03 38 05.0**	**-0.4**
	baz=205						
LYJJ	**Jianjiangzhen**	**2.79**	**307**	*e*P	**Pn**	**03 37 38.3**	**-1.8**
	baz=306						
LYJJ				*e*S	**Sn**	**03 38 10.7**	**-3.0**
	baz=306						

IDC 17 03:37:43.0±0.7, 12°.82S×166°.98E, h203km±6km, mb4.0/20, mb1 4.2/21, mb1mx4.1/29, mbtmp4.5/21, MS3.3/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=12.7km s-min=9.2km az=101.0
NEIC 17 03:37:43.2±1.3, 12°.82S±0°.08×167°.0E±0°.1, h208km±4km, mb4.4/71, Error ellipse: s-maj=14.4km s-min=12.1km az=75.0
ISC 17 03:37:42.1±0.3, 12°81S±0°05×167°04E±0°09, h200km, n126, σ1§06/134, mb4.4/50, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.62**	**176**	Pn	**Pn**	**03 38 28.7**	**+1.3**
SANVU				Sn	**Sn**	**03 39 04.0**	**+1.0**
DZM	**Mont Dzumac**	**9.23**	**183**	P	**Pn**	**03 39 52.9**	**+1.4**
	4.1nm,0.3s,baz=45,slow=21,SNR=29						
DZM				S	**Sn**	**03 41 36.9**	**+2.0**
	0.8nm,0.3s,baz=158,slow=19,SNR=2.3						
DZM	**Mont Dzumac**	**9.23**	**183**	Pn	**Pn**	**03 39 53.0**	**+1.6**
EIDS	**Eidsvold**	**19.55**	**228**	P	**Pn**	**03 41 55.3**	**-3.3**
CTA	**Charters Tower**	**21.19**	**247**	P	**P**	**03 42 12.7**	**+0.3**
	13nm,0.7s,baz=77,slow=12,SNR=14						
CTAO	**Charters Tower**	**21.19**	**247**	P	**P**	**03 42 12.6**	**+0.3**
CTAO				IAmb	IAmb	03 42 15.5	
	comp=Z,14nm,0.7s						
PATS	**Pohnpei**	**21.36**	**336**	P	**P**	**03 42 14.5**	**+0.5**
OUZ	**Omahuta**	**23.09**	**166**	P	**P**	**03 42 31.5**	**+1.3**
URZ	**Urewera**	**26.89**	**162**	P	**P**	**03 43 05.3**	**+0.9**
	comp=Z,3.4nm,0.3s,baz=259,slow=2.9,SNR=9.5						
URZ				LR	LR	03 52 19.2	
	comp=Z,75nm,21.3s,baz=214,slow=33						
URZ	**Urewera**	**26.89**	**162**	IAmb	IAmb	03 43 17.3	
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**30.10**	**227**	P	**P**	**03 43 33.9**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=42,slow=8.8,SNR=7.9						
STKA				PcP	**PcP**	**03 46 29.2**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=112,slow=6.2,SNR=6.3						
STKA	**Stephens Creek**	**30.10**	**227**	P	**P**	**03 43 34.2**	**+1.1**
STKA				PcP	**PcP**	**03 46 29.6**	**0.0**
RPZ	**Rata Peaks**	**30.99**	**174**	P	**P**	**03 43 41.6**	**+0.9**
	comp=Z,11nm,0.5s,baz=7.4,slow=3.5,SNR=9.9						
RPZ	**Rata Peaks**	**30.99**	**174**	IAmb	IAmb	03 43 44.3	
	comp=Z,25nm,0.8s						
WR0	**Warramunga Arr**	**31.93**	**253**	P	**P**	**03 43 48.7**	**-0.6**
WR0				IAmb	IAmb	03 44 04.7	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**32.05**	**253**	P	**P**	**03 43 49.8**	**-0.5**
WB0				IAmb	IAmb	03 43 50.4	
	comp=Z,5.9nm,0.8s						
WRAB	**Tennant Creek**	**32.11**	**253**	P	**P**	**03 43 48.6**	**-2.2**
WRAB				IAmb	IAmb	03 43 49.1	
	comp=Z,20nm,1.3s						
WB2	**Warramunga Arr**	**32.11**	**253**	P	**P**	**03 43 50.2**	**-0.7**
WRA	**Warramunga Arr**	**32.12**	**253**	P	**P**	**03 43 50.2**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=85,slow=9.1,SNR=38						
WRA				pP	**pwP**	**03 44 32.3**	**-2.2**
	comp=Z,2.1nm,0.9s,baz=83,slow=8.9,SNR=4.4						
WRA				PcP	**PcP**	**03 46 34.7**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=86,slow=3.4,SNR=5.0						
WRA				ScP	**ScP**	**03 49 59.4**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=81,slow=4.1,SNR=6.3						
AS31	**Alice Springs**	**33.19**	**246**	P	**P**	**03 43 59.9**	**-0.3**
ASAR	**Alice Springs**	**33.19**	**246**	P	**P**	**03 43 59.6**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=73,slow=9.7,SNR=49						
ASAR				pP	**pP**	**03 44 40.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=72,slow=9.6,SNR=3.1						
ASAR				PcP	**PcP**	**03 46 37.8**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=78,slow=2.4,SNR=8.3						
ASAR				ScP	**ScP**	**03 50 03.4**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=87,slow=3.1,SNR=8.4						
ASAR	**Alice Springs**	**33.19**	**246**	P	**P**	**03 43 59.3**	**-0.9**
ASAR	**Alice Springs**	**33.19**	**246**	PcP	**PcP**	**03 46 37.9**	**-0.4**
ASAR					**ScP**	**03 50 03.7**	**0.0**
NWAO	**Narrogin (SRO)**	**49.56**	**238**	P	**P**	**03 46 13.1**	**+0.1**
NWAO				IAmb	IAmb	03 46 23.8	
	comp=Z,26nm,1.1s						
MORW	**Morawa**	**49.91**	**243**	P	**P**	**03 46 16.0**	**+0.2**
MORW				IAmb	IAmb	03 46 29.2	
	comp=Z,24nm,1.4s						
JGF	**Kuroka**	**55.74**	**331**	P	**P**	**03 46 58.6**	**+0.4**
JGF				IAmb	IAmb	03 47 06.8	
	comp=Z,18nm,1.4s						
MJAR	**Matsushiro Arr**	**56.11**	**332**	P	**P**	**03 47 00.6**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=171,slow=8.5,SNR=8.9						
MJAR	**Matsushiro Arr**	**56.11**	**332**	P	**P**	**03 47 00.8**	**0.0**
MAT	**Matsushiro**	**56.11**	**332**	P	**P**	**03 47 00.3**	**-0.5**
KSM	**Kuching**	**58.04**	**280**	P	**P**	**03 47 14.8**	**+0.1**
KSRS	**Korea Array**	**62.04**	**325**	P	**P**	**03 47 41.5**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=135,slow=8.3,SNR=6.5						
NJ2	**Nanjing**	**64.16**	**315**	*e*P	**P**	**03 47 55.1**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VNDA	**Vanda**	**64.76**	**181**	P	**P**	**03 47 59.6**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=351,slow=7.8,SNR=30						
VNDA	**Vanda**	**64.76**	**181**	P	**P**	**03 47 59.0**	**+0.3**
VNDA				IAmb	IAmb	03 48 01.3	
	comp=Z,6.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**65.08**	**333**	P	**P**	**03 48 02.7**	**+1.5**
	comp=Z,2.3nm,0.8s,baz=72,slow=6.2,SNR=4.5						
USRK	**Ussuriysk Ar.**	**65.08**	**333**	P	**P**	**03 48 02.4**	**+1.2**
CASY	**Casey**	**65.21**	**202**	P	**P**	**03 48 01.3**	**-0.5**
CASY				IAmb	IAmb	03 48 02.6	
	comp=Z,11nm,1.3s						
PEA0B	**Petropavlovsk-**	**66.14**	**354**	P	**P**	**03 48 09.2**	**+1.4**
PETK	**Petropavlovsk-**	**66.14**	**354**	P	**P**	**03 48 09.3**	**+1.5**
	comp=Z,5.8nm,0.7s,baz=150,slow=8.1,SNR=11						
ENH	**Enshi**	**69.98**	**309**	P	**P**	**03 48 30.9**	**-1.3**
XAN	**Xi'an**	**72.24**	**312**	P	**P**	**03 48 46.3**	**+0.5**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,100nm,4.7s						
XAN	**Xi'an**	**72.24**	**312**	P	**P**	**03 48 44.5**	**-1.3**
KMI	**Kunming**	**73.11**	**301**	⇓P	**P**	**03 48 53.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	**P**	**03 48 57.9**	**+1.7**
	comp=Z,2.9nm,0.7s,baz=128,slow=4.4,SNR=12						
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	**P**	**03 48 56.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**73.99**	**319**	*e*P	**P**	**03 48 56.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,46nm,6.8s						
CHTO	**Chiang Mai**	**74.09**

	comp=Z,1.6nm,0.6s,baz=125,slow=7.6,SNR=7.3								
MAW	**Mawson**	**83.57**	**202**		P	**P**	**03 49 47.8**	**+0.4**
IMAR	**Indian Mountai**	**83.78**	**15**		P	**P**	**03 49 49.0**	**+0.5**
WRH	**Wood River Hil**	**84.21**	**18**		P	**P**	**03 49 50.7**	**+0.1**
ORV	**Oroville**	**84.26**	**47**		IAmb	IAmb	03 49 52.9	
	comp=Z,5.7nm,1.0s							
TLY	**Talaya**	**84.28**	**326**		P	**P**	**03 49 51.6**	**+0.2**
TLY					IAmb	IAmb	03 49 52.6	
	comp=Z,6.7nm,1.0s							
AFDM	**Forest Hills D**	**84.42**	**48**		P	**P**	**03 49 52.4**	**0.0**
AFDM					IAmb	IAmb	03 49 53.8	
	comp=Z,6.7nm,0.9s							
COLA	**College**	**84.57**	**18**		P	**P**	**03 49 51.9**	**-0.5**
RIDG	**Independent Ri**	**84.70**	**19**		IAmb	IAmb	03 49 54.8	
	comp=Z,13nm,1.1s							
ILAR	**Eielson Array**	**84.78**	**18**		P	**P**	**03 49 53.2**	**-0.3**
	comp=Z,6.0nm,0.4s,baz=231,slow=5.2,SNR=127							
ILAR					pP	**pwP**	**03 50 43.0**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=225,slow=6.1,SNR=5.3							
ILAR	**Eielson Array**	**84.78**	**18**		P	**P**	**03 49 53.5**	**-0.1**
DOT	**Dot Lake**	**84.90**	**20**		P	**P**	**03 49 53.8**	**-0.3**
DOT					IAmb	IAmb	03 49 55.7	
	comp=Z,6.0nm,0.9s							
BEKR	**Beckworth**	**85.19**	**47**		IAmb	IAmb	03 49 57.4	
	comp=Z,4.1nm,0.7s							
PAHR	**Pah Rah Range**	**85.84**	**48**		P	**P**	**03 50 00.3**	**+0.8**
PAHR					IAmb	IAmb	03 50 01.2	
	comp=Z,5.7nm,1.0s							
NVAR	**Mina Array Bea**	**86.20**	**49**		P	**P**	**03 50 01.8**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=234,slow=8.6,SNR=23							
NVAR					pP	**pwP**	**03 50 52.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=236,slow=9.7,SNR=3.2							
PINE	**Pine Mountain**	**86.21**	**44**		P	**P**	**03 50 02.6**	**+1.3**
EGAK	**Eagle**	**86.60**	**20**		P	**P**	**03 50 02.8**	**+0.3**
DAWY	**Dawson**	**86.74**	**21**		IAmb	IAmb	03 50 05.1	
	comp=Z,6.1nm,1.1s							
BELA	**Belgrano 2**	**88.64**	**176**		P	**P**	**03 50 11.9**	**-0.2**
F10A	**Beach Ranch, E**	**89.44**	**43**		P	**P**	**03 50 17.1**	**+0.6**
MFID	**Camas Ranch**	**89.58**	**45**		P	**P**	**03 50 17.1**	**-0.1**
MFID					IAmb	IAmb	03 50 18.9	
	comp=Z,5.8nm,0.8s							
SYO	**Syowa Base**	**90.47**	**197**	*e*	P	**P**	**03 50 19.2**	**-1.5**
WMQ	**Urumqi**	**91.23**	**315**	*e*	P	**P**	**03 50 25.8**	**+1.0**
HRY	**Holter Researc**	**93.23**	**43**		P	**P**	**03 50 34.3**	**+0.2**
PMSA	**Palmer Station**	**93.64**	**160**		P	**P**	**03 50 36.1**	**+0.7**
PDAR	**Pinedale Array**	**93.82**	**47**		P	**P**	**03 50 36.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=192,slow=3.4,SNR=5.6							
SNAA	**Sanae**	**95.44**	**183**		P	**P**	**03 50 42.7**	**-1.0**
TXAR	**Lajitas Array**	**95.56**	**61**		P	**P**	**03 50 45.3**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=231,slow=5.7,SNR=2.4							
TXAR					pP	**pwP**	**03 51 37.1**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=205,slow=2.6,SNR=2.5							
MK31	**Makanchi Array**	**95.67**	**317**		P	**P**	**03 50 45.8**	**+0.8**
MKAR	**Makanchi Array**	**95.67**	**317**		P	**P**	**03 50 45.0**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=90,slow=6.2,SNR=27							
MKAR					PKKPbc	**PKKPbc**	**04 07 33.5**	**-3.1**
	comp=Z,0.8nm,0.8s,baz=338,slow=2.9,SNR=5.7							
MKAR	**Makanchi Array**	**95.67**	**317**		P	**P**	**03 50 45.6**	**+0.5**
ZALV	**Zalesovo Beam**	**95.72**	**324**		P	**P**	**03 50 44.6**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=115,slow=4.8,SNR=11							
ZALV	**Zalesovo Beam**	**95.72**	**324**		P	**P**	**03 50 44.1**	**-1.0**
MAKZ	**Makanchi**	**95.88**	**317**		P	**P**	**03 50 45.9**	**-0.1**
VNA3	**Neumayer Olymp**	**96.12**	**181**		P	**P**	**03 50 45.8**	**-0.9**
VNA2	**Neumayer--Watz**	**96.38**	**182**		P	**P**	**03 50 47.3**	**-0.5**
	baz=180,slow=3.9							
VNA1	**Neumayer--Stat**	**96.68**	**182**		P	**P**	**03 50 48.7**	**-0.5**
LPAZ	**La Paz**	**118.27**	**116**		PKP	**PKiKP**	**03 56 07.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=225,slow=4.2,SNR=5.2							
ARCES	**ARCESS Array B**	**118.35**	**346**		PKP	**PKiKP**	**03 56 04.9**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=72,slow=1.7,SNR=48							
TRO	**Tromso**	**119.76**	**348**	*e*	PKPdf	**PKiKP**	**03 56 07.7**	**-0.2**
CPUP	**Villa Florida**	**121.91**	**132**		PKP	**PKiKP**	**03 56 12.4**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=239,slow=5.9,SNR=3.0							
STEI	**Steigen**	**121.93**	**348**	*e*	PKPdf	**PKiKP**	**03 56 11.7**	**-0.5**
FAUS	**Fauske**	**122.38**	**347**	*e*	PKPdf	**PKiKP**	**03 56 12.4**	**-0.7**
MOR8	**Moi Rana**	**123.58**	**347**	*e*	PKPdf	**PKiKP**	**03 56 14.2**	**-1.4**
KONS	**Konsvik**	**123.58**	**348**	*e*	PKPdf	**PKiKP**	**03 56 15.0**	**-0.5**
FINES	**FINESS Array B**	**123.87**	**339**		PKP	**PKiKP**	**03 56 15.7**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=79,slow=1.1,SNR=11							
BOSA	**Boshof**	**124.67**	**221**		PKP	**PKiKP**	**03 56 18.3**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=177,slow=1.5,SNR=6.3							
NSS	**Namsos**	**125.53**	**347**	*e*	PKPdf	**PKiKP**	**03 56 18.9**	**-0.5**
TBLU	**Trondheim**	**127.02**	**347**	*e*	PKPdf	**PKiKP**	**03 56 21.4**	**-1.0**
DOMB	**Dombas**	**128.35**	**347**	*e*	PKPdf	**PKiKP**	**03 56 24.8**	**-0.4**
NB2	**NORSAR Subarra**	**128.72**	**345**		PKP	**PKiKP**	**03 56 25.6**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=43,slow=2.9							
NB2	**NORSAR Subarra**	**128.72**	**345**		PKPab	**PKiKP**	**03 56 25.6**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=43,slow=2.9							
NOA	**NORSAR Array B**	**128.72**	**345**		PKP	**PKiKP**	**03 56 25.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=31,slow=2.0,SNR=8.5							
AKASG	**Malin Array Be**	**129.02**	**327**		PKP	**PKiKP**	**03 56 26.7**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=55,slow=3.5,SNR=2.4							
BDFB	**Brasilia**	**135.26**	**128**		PKP	**PKiKP**	**03 56 39.0**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=225,slow=2.9,SNR=3.0							
GERES	**GERESS Array B**	**137.84**	**334**		PKP	**PKiKP**	**03 56 42.9**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=37,slow=3.3,SNR=5.7							
AQU	**L'Aquila**	**142.72**	**327**		PKPdf	**PKPdf**	**03 56 49.6**	**-2.2**
RAFF	**Raffo Rosso**	**145.53**	**320**			**PKPab**	**03 56 57.3**	**-0.5**
CLTB	**Caltabellotta**	**146.02**	**321**		PKPbc	**PKPab**	**03 56 58.4**	**-1.4**
KEST	**Kesra**	**149.58**	**322**		PKPbc	**PKiKP**	**03 57 08.8**	**-0.6**
	comp=Z,6.4nm,0.6s,baz=65,slow=1.2,SNR=11							
KEST	**Kesra**	**149.58**	**322**		PKPbc	**PKiKP**	**03 57 08.3**	**-1.0**
ESDC	**Sonseca Array**	**152.09**	**345**		PKPbc	**PKiKP**	**03 57 14.5**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=360,slow=3.6,SNR=14							
ESDC					PKPab	**PKPab**	**03 57 25.1**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=13,slow=3.6,SNR=12							
ESDC	**Sonseca Array**	**152.09**	**345**			**PKiKP**	**03 57 14.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.71**	**273**		PKP	**PKPdf**	**03 57 23.1**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=2.5,slow=1.4,SNR=6.5							
TORD					PKPab	**PKPab**	**03 58 23.9**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=104,slow=4.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**165.71**	**273**			**PKPdf**	**03 57 23.5**	**-0.3**

***WEL* 17 03:37:58.7,39°S±1°×17°6E±°, h16km±1km, M1.7/11, ML1.9/11, MLv1.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=125.3, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATZ	**Hinemaiaia**	**0.01**	**144**	P	Pg	03 38 01.7	+0.2
HATZ				S	Sg	03 38 03.1	-0.3
RITZ	**Rihia Road**	**0.20**	**241**	P	Pb	03 38 04.7	+0.6
RITZ				S	Sb	03 38 08.3	+0.7
MRHZ	**Matea Rd**	**0.27**	**80**	P	Pg	03 38 03.6	-0.9
MRHZ				S	Sg	03 38 08.6	+0.1
KATZ	**Kakaramea**	**0.32**	**252**	P	Pb	03 38 06.6	+0.5
KATZ				S	Sb	03 38 11.3	+0.3
ALRZ	**Allen Road**	**0.38**	**33**	P	Pb	03 38 07.2	+0.2
ALRZ				S	Sb	03 38 12.4	-0.2
TMVZ	**Te Maari**	**0.38**	**231**	P	Pb	03 38 07.3	+0.2
ETVZ	**East Tongariro**	**0.39**	**228**	P	Pb	03 38 07.5	+0.2
ETVZ				S	Sb	03 38 13.1	0.0
BKZ	**Black Stump Fm**	**0.43**	**132**	P	Pb	03 38 08.0	0.0
BKZ				S	Sb	03 38 14.0	-0.2
OTVZ	**Oturere**	**0.43**	**229**	P	Pb	03 38 08.3	+0.2
WTVZ	**West Tongariro**	**0.45**	**238**	P	Pb	03 38 08.6	+0.2
WTVZ				S	Sb	03 38 14.9	0.0
NGZ	**Ngauruhoe**	**0.48**	**231**	P	Pb	03 38 09.1	+0.2
WHVZ	**Whangaehu Hut**	**0.56**	**223**	P	Pb	03 38 10.4	+0.1
WNVZ	**Wahianoa**	**0.58**	**220**	P	Pb	03 38 10.8	+0.1
MOVZ	**Moawhango**	**0.59**	**206**	P	Pg	03 38 09.9	-0.3
MTHZ	**Maungataniwha**	**0.59**	**88**	P	Pb	03 38 11.1	+0.4
KWHZ	**Kaweka Forest**	**0.61**	**154**	P	Pb	03 38 11.5	+0.6
BHHZ	**Black Hill Sta**	**0.61**	**181**	P	Pb	03 38 11.1	+0.1
TARZ	**Mount Tarawera**	**0.72**	**28**	P	Pn	03 38 19.3	+4.9
PREZ	**Palmer Road**	**1.56**	**252**	P	Pb	03 38 26.9	-0.4
TMWZ	**Te Maipa**	**2.23**	**184**	P	Pb	03 38 37.6	-1.1
INZ	**Inchbonnie**	**5.21**	**221**	P	Pn	03 39 16.2	+0.3

DDA ***17*** *03:41:46.3, 36°.89N×42°.34E, h7km±2km, MW3.8*
ISK ***17*** *03:41:46.3, 36°.87N×42°.27E, h5km, ML3.8/19*
GII ***17*** *03:42:23.1±0.0, 36°.86N×42°.33E, h1km*

ISC 17 03:41:45.4±1.9, 36°.83N±0°.04×42°.33E±0°.04, h0km±14km, n39, σ0°.94/51, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRTM	**Siirt_Merkez**	**1.21**	**344**	*i* P	**Pb**	**03 42 08.2**	**-1.0**
SRTM				*i* S	**Sg**	**03 42 24.4**	**+0.2**
SRTM				IAML		03 42 28.0	
	comp=N,1μm,0.5s						
SRTM				IAML		03 42 29.0	
	comp=E,840nm,0.5s						
HAKT	**HAKKARI**	**1.32**	**56**	*i* P	**Pn**	**03 42 10.5**	**-0.7**
HAKT				IAML		03 42 32.0	
	comp=E,1μm,0.3s						
HAKT				IAML		03 42 33.0	
	comp=N,619nm,0.3s						
MARD	**Mardin**	**1.33**	**292**	*i* P	**Pn**	**03 42 11.3**	**-0.1**
MARD				*i* S	**Sn**	**03 42 30.6**	**+0.7**
BTMN	**Batman**	**1.36**	**322**	*i* P	**Pn**	**03 42 11.4**	**-0.2**
BTMN				*i* S	**Sb**	**03 42 29.6**	**0.0**
BTMN				IAML		03 42 32.0	
	comp=N,2μm,0.8s						
AKDM	**Akdamar-Van**	**1.58**	**19**	PN	**Pn**	**03 42 15.0**	**+0.1**
AKDM				SN	**Sg**	**03 42 36.3**	**+0.1**
GEVA	**Gevas**	**1.59**	**21**	*i* P	**Pn**	**03 42 15.1**	**+0.2**
GEVA				IAML		03 42 37.0	
	comp=E,557nm,0.5s						
GEVA				*i* S	**Sg**	**03 42 37.0**	**+0.6**
GEVA				IAML		03 42 40.0	
	comp=N,607nm,0.3s						
BLIS	**Bitlis-Merkez**	**1.59**	**354**	*i* P	**Pn**	**03 42 14.3**	**-0.7**
BLIS				*i* S	**Sb**	**03 42 36.5**	**-0.1**
BLIS				IAML		03 42 41.0	
	comp=E,496nm,0.4s						
BLIS				IAML		03 42 42.0	
	comp=N,390nm,0.7s						
SVAN	**Silvan-Diyarba**	**1.60**	**326**	PN	**Pn**	**03 42 14.9**	**-0.1**
SVAN				SN	**Sn**	**03 42 36.1**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.60**	**326**	*i* P	**Pn**	**03 42 14.6**	**-0.4**
SVAN				*i* S	**Sb**	**03 42 36.6**	**0.0**
MAZI	**Mazidag**	**1.63**	**293**	PN	**Pn**	**03 42 15.0**	**-0.5**
MAZI				SN	**Sn**	**03 42 36.8**	**-0.5**
GURO	**Guroymak-BITLI**	**1.73**	**352**	PN	**Pn**	**03 42 16.6**	**-0.3**
GURO				SN	**Sn**	**03 42 39.4**	**-0.5**
YOVA	**Hakkari_Yksek**	**1.73**	**64**	*i* P	**Pn**	**03 42 17.4**	**+0.4**
YOVA				*i* S	**Sb**	**03 42 40.7**	**0.0**
YOVA				IAML		03 42 43.0	
	comp=N,549nm,0.6s						
YOVA				IAML		03 42 44.0	
	comp=E,648nm,0.7s						
BASK	**Baskale_VAN**	**1.81**	**47**	*i* P	**Pn**	**03 42 18.9**	**+1.0**
BASK				IAML		03 42 46.0	
	comp=E,245nm,0.7s						
TVAN	**Van**	**1.90**	**26**	*i* P	**Pn**	**03 42 20.5**	**+1.3**
TVAN				*i* S	**Sg**	**03 42 47.2**	**+0.9**
TVAN				IAML		03 42 56.0	
	comp=E,311nm,1.4s						
TVAN				IAML		03 42 58.0	
	comp=N,308nm,0.6s						
VANB	**Van**	**1.95**	**25**	PN	**Pn**	**03 42 19.9**	**0.0**
MUSM	**Mu-Merkez**	**2.00**	**341**	*i* P	**Pn**	**03 42 20.0**	**-0.5**
MUSM				*i* S	**Sn**	**03 42 45.3**	**-1.1**
DIYA	**Diyarbakir**	**2.07**	**302**	*i* P	**Pn**	**03 42 22.1**	**+0.6**
MLAZ	**Malazgirt-MUS**	**2.31**	**4**	PN	**Pn**	**03 42 26.0**	**+1.1**
VRTB	**Varto-Mus**	**2.43**	**344**	PN	**Pn**	**03 42 27.1**	**+0.6**
VRTB	**Varto-Mus**	**2.43**	**344**	*i* P	**Pn**	**03 42 27.1**	**+0.6**
BNGB	**Bingl**	**2.52**	**329**	PN	**Pn**	**03 42 28.2**	**+0.4**
CLDR	**Caldiran**	**2.63**	**28**	PN	**Pn**	**03 42 30.3**	**+1.0**
KARO	**Karliova-Bingo**	**2.67**	**338**	PN	**Pn**	**03 42 30.6**	**+0.7**
AGRB	**Hanur-Agry**	**2.79**	**11**	PN	**Pn**	**03 42 32.4**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.86**	**304**	PN	**Pn**	**03 42 32.7**	**+0.3**
URFA	**Urfa**	**2.87**	**283**	PN	**Pn**	**03 42 33.0**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.96**	**332**	PN	**Pn**	**03 42 35.0**	**+1.2**
PTK	**Pertek**	**3.11**	**312**	PN	**Pn**	**03 42 36.5**	**+0.6**
ERZN	**Erzincan**	**3.44**	**324**	PN	**Pn**	**03 42 40.7**	**+0.4**
MALT	**Malatya**	**3.44**	**297**	PN	**Pn**	**03 42 41.7**	**+1.4**
ILIC	**ilic-Erzincan**	**3.96**	**313**	PN	**Pn**	**03 42 48.3**	**+0.8**
DARE	**Darende-Malaty**	**4.22**	**296**	PN	**Pn**	**03 42 52.4**	**+1.3**
SARI	**SarD1z-Kayseri**	**4.95**	**290**	PN	**Pn**	**03 43 03.5**	**+2.3**
TAHT	**Tahtakopru-Hat**	**4.97**	**267**	PN	**Pn**	**03 43 03.1**	**+1.9**
SVSK	**Karacayir**	**5.20**	**308**	PN	**Pn**	**03 43 05.8**	**+1.4**
GEM	**Giv'at Ha'Em**	**6.56**	**239**	Sn	**Sg**	**03 45 17.1**	**+1.1**
MMA0B	**Mount Meron ar**	**6.85**	**238**	Sn	**Sg**	**03 45 25.6**	**+0.3**
HMDT	**Nahal Hemdat**	**7.24**	**233**	Sn	**Sg**	**03 45 34.9**	**-2.9**
PRNI	**Paran**	**8.89**	**226**	Sn	Sg	03 46 15.9	-15

SKHL ***17*** *03:43:51.9±0.1, 44°.01N×147°.16E, h90km±8km, mb4.5/2, msh5.5/3*
JMA ***17*** *03:43:52.7±0.2, 43°.74N×147°.11E, h85km±3km, M3.4*
MOS ***17*** *03:43:53.6±1.4, 44°.03N×146°.80E, h96km, mb4.1/3, Error ellipse: s-maj=18.3km s-min=15.3km az=74.1*

ISC 17 03:43:51.4±1.3, 43°.88N±0°.07×147°.19E±0°.08, h87km±9km, n32, σ1°38/47, mb4.1/3, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.97**	**280**	*i* P	**Pn**	**03 44 10.7**	**+0.2**
YUK				AMB	AMB	03 44 11.0	
	260nm,0.2s						
YUK				*i* S	**Sn**	**03 44 24.9**	**0.0**
YUK				A	A	03 44 25.0	
	1μm,0.2s						
YUK				A	A	03 44 25.0	
	1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.97**	**280**	*d* iPN	**Pn**	**03 44 11.0**	**+0.5**
YUK				*e*S	**Sn**	**03 44 24.8**	**-0.1**
GRPR	**Tuman**	**1.03**	**277**	*i* P	**Pn**	**03 44 11.0**	**-0.2**
GRPR				AMB	AMB	03 44 11.0	
	70nm,0.2s						
GRPR				*i* S	**Sn**	**03 44 25.3**	**-0.8**
GRPR				A	A	03 44 27.5	
	414nm,0.2s						
GRPR				A	A	03 44 27.5	
	805nm,0.2s						
GRPR	**Tuman**	**1.03**	**277**	*i* iPN	**Pn**	**03 44 11.7**	**+0.5**
GRPR				*i* S	**Sn**	**03 44 25.8**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,675nm,0.2s						
GRPR				pmax	pmax		
	comp=N,164nm,0.1s						
GRPR				pmax	pmax		
	comp=E,69nm,0.1s						
GRPR				smax	smax		
	comp=N,414μm,0.1s						
GRPR				smax	smax		
	comp=E,805μm,0.1s						
NEM2	**Nemuro 2**	**1.17**	**244**	P	**Pn**	**03 44 13.0**	**+0.1**
NEM2				*e*S	**Sn**	**03 44 28.1**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.18**	**245**	*i* P	**Pn**	**03 44 13.0**	**0.0**
NMR	**Nemuro--Hokkai**	**1.18**	**245**	‖*i* PN	**Pn**	**03 44 13.0**	**0.0**
RUSJ	**Misakicho**	**1.42**	**280**	‖*i* PN	**Pn**	**03 44 17.1**	**+1.2**
RUSJ				*i* S	**Sn**	**03 44 36.0**	**+1.5**
KUR	**Kuril'sk**	**1.44**	**19**	*e*P	**Pn**	**03 44 15.1**	**-1.1**
KUR				*e*S	**Sn**	**03 44 32.4**	**-2.5**
KUR				A	A	03 44 37.0	
	comp=E,198nm,0.2s						
KUR				A	A	03 44 37.0	
	comp=E,188nm,0.2s						
KUR	**Kuril'sk**	**1.44**	**19**	PN	**Pn**	**03 44 20.9**	**+4.7**
KUR				*e*S	**Sn**	**03 44 34.2**	**-0.7**
KUR				pmax	pmax		
	comp=Z,31nm,0.3s						
KUR				smax	smax		
	comp=N,138nm,0.2s						
KUR				smax	smax		
	comp=E,149nm,0.2s						
JRA	**Rausu**	**1.50**	**273**	P	**Pn**	**03 44 17.9**	**+1.0**
JRA				*e*S	**Sn**	**03 44 37.1**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.59**	**267**	P	**Pn**	**03 44 19.1**	**+1.0**
JNSB				*e*S	**Sn**	**03 44 39.0**	**+0.7**
JKHN	**Kushirohamanak**	**1.68**	**242**	P	**Pn**	**03 44 19.7**	**+0.5**
JKHN				*e*S	**Sn**	**03 44 39.5**	**-0.9**
JNK	**Nakash**	**1.82**	**262**	*e*S	**Sn**	**03 44 43.0**	**-0.6**
JAK	**Akkeshi**	**2.02**	**245**	P	**Pn**	**03 44 23.9**	**+0.2**
JAK				*e*S	**Sn**	**03 44 46.9**	**-1.5**
JTKR	**Abashiri--Toko**	**2.37**	**273**	P	**Pn**	**03 44 29.4**	**+1.0**
JAR	**Ashorobuto**	**2.55**	**258**	P	**Pn**	**03 44 32.0**	**+1.2**
JAR				*e*S	**Sn**	**03 45 01.1**	**0.0**
JOB	**Onbets**	**2.63**	**249**	P	**Pn**	**03 44 32.7**	**+0.8**
JOB				*e*S	**Sn**	**03 45 02.0**	**-1.0**
JMP	**Maruseppu**	**2.77**	**274**	P	**Pn**	**03 44 34.8**	**+1.1**
JCH	**Churui**	**3.07**	**247**	P	**Pn**	**03 44 38.4**	**+0.7**
JCH				*e*S	**Sn**	**03 45 12.4**	**-1.1**
ERM	**Erimo**	**3.50**	**239**	*i* PN	**Pn**	**03 44 45.5**	**+2.0**
JNBK	**Urakawa-nobuka**	**3.62**	**245**	P	**Pn**	**03 44 45.2**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.38**	**316**	*e*P	**Pn**	**03 44 54.6**	**-0.9**
YSS	**Yuzh-Sakhalins**	**4.38**	**316**	*e*PN	**Pn**	**03 44 54.6**	**-0.9**
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
MA2	**Magadan**	**15.87**	**7**	*e*P	**Pn**	**03 47 28.7**	**-0.7**
MA2	**Magadan**	**15.87**	**7**	*i* P	**Pn**	**03 47 28.7**	**-0.7**
MA2				pmax	pmax		
	comp=Z,13nm,1.1s						
ULN	**Ulaanbaatar**	**28.00**	**292**	*e*P	**P**	**03 49 33.1**	**-0.9**
ULN	**Ulaanbaatar**	**28.00**	**292**	*i* P	**P**	**03 49 33.1**	**-0.9**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY	**Talaya**	**29.91**	**301**	*e*P	**P**	**03 49 51.0**	**+0.3**
TLY	**Talaya**	**29.91**	**301**	*i* P	**P**	**03 49 51.0**	**+0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAK	**Zakamensk**	**30.22**	**298**	*e*P	**P**	**03 49 49.3**	**-4.2**
DGZ	**Jazzator, Alta**	**40.38**	**300**	*i* P	**P**	**03 51 23.0**	**+2.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NEIC ***17*** *04:08:11.1±1.2, 7°.0S±0°.2×155°.30E±0°.06, h92km±8km, mb4.3/7, Error ellipse: s-maj=25.5km s-min=7.6km az=191.0*
IDC ***17*** *04:08:13.4±4.5, 7°.03S×155°.37E, h110km±34km, mb3.5/5, mb1 3.7/7, mb1mx3.4/37, mbtmp3.9/7, MS3.2/5, Ms1 3.2/5, ms1mx2.9/16, Error ellipse: s-maj=36.5km s-min=21.1km az=100.0*

ISC 17 04:08:11.8±0.8, 7°.1S±0°.1×155°.3E±0°.1, h100km, n27, σ1°27/21, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.33**	**310**	P	**Pn**	**04 09 15.9**	**+0.5**
	14nm,0.3s,baz=180,slow=2.0,SNR=1.7						
KRVT				S	**Sn**	**04 10 06.9**	**+2.1**
	14nm,0.3s,baz=31,slow=19,SNR=1.3						
KRVT				LR	LR	04 10 56.2	
	comp=Z,133nm,21.0s,baz=54,slow=38						
HNR	**Honiara**	**5.10**	**117**	LR	LR	04 11 36.3	
	comp=Z,234nm,18.5s,baz=289,slow=40						
PMG	**Port Moresby**	**8.41**	**254**	LR	LR	04 12 59.0	
	comp=Z,107nm,19.3s,baz=104,slow=34						
PMG	**Port Moresby**	**8.41**	**254**	Pn	**Pn**	**04 10 10.1**	**-0.8**
SANVU	**Saraoutou**	**14.27**	**126**	Pn	**Pn**	**04 11 30.1**	**+0.8**
CTA	**Charters Tower**	**15.61**	**213**	P	**P**	**04 11 50.2**	**+1.8**
	0.2nm,0.3s,baz=53,slow=9.7,SNR=4.8						
WRAB	**Tennant Creek**	**24.02**	**236**	P	**P**	**04 13 16.7**	**-0.8**
WRAB				IAmb	IAmb	04 13 18.1	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**24.03**	**236**	P	**P**	**04 13 18.9**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=59,slow=9.3,SNR=21						
ASAR	**Alice Springs**	**26.35**	**229**	P	**P**	**04 13 39.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=61,slow=8.3,SNR=4.7						
STKA	**Stephens Creek**	**27.77**	**206**	LR	LR	04 24 42.2	
	comp=Z,66nm,18.1s,baz=23,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.81**	**24**	T	T	04 42 17.6	
	baz=202,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**27.81**	**24**	T	T	04 42 12.4	
	baz=202,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**27.82**	**24**	T	T	04 42 11.8	
	baz=202,slow=75,SNR=8.1						
CM31	**Chiang Mai Arr**	**61.15**	**295**	P	**P**	**04 18 15.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**61.15**	**295**	P	**P**	**04 18 16.9**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=116,slow=5.2,SNR=17						
CMAR	**Chiang Mai Arr**	**61.15

WAT6					Sn	04 49 41.4	+0.3
SLKM	**Skilak Lake**	1.72	162		Pn	04 49 18.5	-1.0
NCT	**North Crescent**	1.77	207		Pn	04 49 19.6	-0.5
REF	**Redoubt East F**	1.80	203		Pn	04 49 20.1	-0.4
CHUM	**Lake Minchumin**	1.81	346		Pn	04 49 20.4	0.0
RDWB	**Redoubt West**	1.82	205		Pn	04 49 20.4	-0.4
O22K	**Cooper Landing**	1.83	155	P	Pn	04 49 20.0	-0.9
	baz=336						
O22K				S	Sn	04 49 46.1	+2.6
	baz=336						
SCM	**Sheep Creek Mo**	1.90	98		Pn	04 49 21.2	-0.5
PWL	**Port Wells**	1.92	131		Pn	04 49 20.6	-1.3
MCK	**McKinley**	1.92	33	P	Pn	04 49 22.5	+0.5
	baz=215,SNR=25						
MCK				S	Sn	04 49 45.7	0.0
	baz=215						
MCK	**McKinley**	1.92	33		Pn	04 49 22.5	+0.5
BPAW	**Bear Paw Mtn.**	1.97	4		Pn	04 49 22.4	-0.2
DHY	**Denali Highway**	2.04	61		Pn	04 49 23.9	+0.2
BWN	**Browne**	2.20	21		Pn	04 49 26.5	+0.9
SEW	**Seward**	2.24	156		Pn	04 49 25.5	-0.6
IVE	**Iliamna Volcan**	2.29	202		Pn	04 49 26.4	-0.7
SVW2	**Sparrevohn**	2.30	245		Pn	04 49 26.1	-0.9
TT01	**Tatalina**	2.32	291		Pn	04 49 26.7	-0.6
TTA	**Tatalina**	2.32	292		Pn	04 49 26.7	-0.7
GLI	**Glacier Island**	2.38	120		Pn	04 49 26.2	-1.8
BRLK	**Bradley Lake**	2.40	175		Pn	04 49 28.9	+0.6
M24K	**Tolsona, Glenn**	2.41	89	P	Pn	04 49 28.5	+0.1
	baz=273,SNR=36						
M24K				S	Sn	04 49 58.0	+0.8
	baz=273						
M24K	**Tolsona, Glenn**	2.41	89		Pn	04 49 28.5	+0.1
BRSE	**Bradley Lake S**	2.43	173		Pn	04 49 29.2	+0.5
JPK	**Jack Peak**	2.50	114		Pn	04 49 28.4	-1.3
CNPM	**China Poot**	2.63	179		Pn	04 49 31.6	+0.2
KLU	**Klutina**	2.63	102		Pn	04 49 30.5	-1.0
NEA2	**Nenana**	2.65	21	P	Pn	04 49 31.4	-0.3
	baz=203,SNR=18						
NEA2				S	Sn	04 50 01.4	-1.6
	baz=203						
NEA2	**Nenana**	2.65	21		Pn	04 49 31.4	-0.3
FID	**Port Fidalgo**	2.70	119		Pn	04 49 30.2	-2.1
PS11	**TAPS Pump St11**	2.74	89		Pn	04 49 32.5	-0.3
WRH	**Wood River Hil**	2.75	30		Pn	04 49 32.8	-0.1
PAX	**Paxson**	2.82	70		Pn	04 49 34.3	+0.3
DIV	**Divide**	2.83	109		Pn	04 49 32.8	-1.2
HIN	**Hinchinbrook I**	2.91	125		Pn	04 49 33.4	-1.7
MLY	**Manley**	2.91	5	P	Pn	04 49 34.9	-0.2
	baz=185,SNR=28						
MLY				S	Sn	04 50 07.3	-1.8
	baz=185						
MLY	**Manley**	2.91	5		Pn	04 49 35.1	0.0
CCB	**Clear Creek Bu**	2.96	30		Pn	04 49 35.9	+0.2
AUW	**Augustine West**	2.98	202		Pn	04 49 35.9	-0.2
PS12	**TAPS Pump St12**	3.00	100		Pn	04 49 35.3	-1.0
HDA	**Harding Lake**	3.00	39	P	Pn	04 49 36.4	+0.1
	baz=223,SNR=44						
HDA				S	Sn	04 50 10.5	-0.9
	baz=223						
HDA	**Harding Lake**	3.00	39		Pn	04 49 36.4	+0.1
EYAK	**Cordova Ski Ar**	3.12	118		Pn	04 49 36.0	-1.8
MDM	**Murphy Dome**	3.14	25		Pn	04 49 38.4	+0.2
PS08	**TAPS Pump Stn8**	3.14	38		Pn	04 49 38.3	+0.1
TCOL	**CIGO, UAF Yank**	3.14	28	P	Pn	04 49 38.4	+0.2
	baz=211,SNR=6.1						
TCOL	**CIGO, UAF Yank**	3.14	28		Pn	04 49 37.9	-0.3
COLA	**College**	3.14	28		Pn	04 49 38.2	0.0
N25K	**Chitina, Valde**	3.22	97	P	Pn	04 49 38.5	-0.8
	baz=282,SNR=15						
N25K				S	Sn	04 50 15.1	-1.7
	baz=282						
N25K	**Chitina, Valde**	3.22	97		Pn	04 49 38.5	-0.8
IL31		3.30	35		Pn	04 49 40.4	+0.1
ILAR	**Eielson Array**	3.30	35	P	Pn	04 49 40.2	-0.1
	4.2nm,0.3s,baz=221,slow=14,SNR=161						
ILAR				S	Sn	04 50 16.6	-1.8
	5.2nm,0.3s,baz=238,slow=17,SNR=6.3						
ILAR	**Eielson Array**	3.30	35	Pn	Pn	04 49 39.9	-0.4
RIDG	**Independent Ri**	3.35	59		Pn	04 49 42.1	+1.0
BMRM	**Bremner River**	3.41	107		Pn	04 49 40.2	-1.8
POKR	**Poker Plat Res**	3.44	28	P	Pn	04 49 42.5	+0.2
	baz=212,SNR=6.8						
POKR				S	Sn	04 50 20.9	-1.2
	baz=212						
POKR	**Poker Plat Res**	3.44	28		Pn	04 49 42.8	+0.5
PS07	**TAPS Pump Stn7**	3.45	22		Pn	04 49 43.1	+0.7
GOAT	**Goat Mountain**	3.53	113		Pn	04 49 41.8	-1.7
MENT	**Mentasta**	3.60	74		Pn	04 49 44.3	-0.1
GLB	**Gilahina Butte**	3.62	98		Pn	04 49 43.8	-1.0
DOT	**Dot Lake**	3.64	62		Pn	04 49 44.9	-0.1
Q23K	**Middleton Isla**	3.65	136	P	Pn	04 49 45.0	-0.1
	baz=320						
Q23K	**Middleton Isla**	3.65	136		Pn	04 49 44.0	-1.0
MID	**Middleton Isla**	3.65	136		Pn	04 49 44.2	-0.9
RAGM	**Ragged Mountai**	3.65	116	Pn	Pn	04 49 44.0	-1.2
PS06	**TAPS Pump Stn6**	3.79	10		Pn	04 49 47.5	+0.5
SCRK	**Sand Creek**	3.80	58	P	Pn	04 49 47.2	0.0
	baz=244,SNR=10						
SCRK				S	Sn	04 50 29.2	-1.6
	baz=244						
SCRK	**Sand Creek**	3.80	58		Pn	04 49 47.2	0.0
VRDI	**Verde Repeater**	3.85	100		Pn	04 49 46.8	-1.2
HMT	**Hamilton**	3.85	115		Pn	04 49 45.8	-2.1
KAHC	**Katmai Hardscr**	3.96	209		Pn	04 49 49.4	-0.1
IM03		4.00	345		Pn	04 49 50.0	+0.2
IMAR	**Indian Mountai**	4.00	345		Pn	04 49 49.6	-0.2
MCARA	**McCarthy VSAT**	4.00	97		Pn	04 49 49.5	-0.4
KAIM	**Kayak Island**	4.02	121		Pn	04 49 48.9	-1.2
NICHA	**Nichawak Mount**	4.03	115		Pn	04 49 48.4	-1.9
BERG	**Berg Lake**	4.07	112		Pn	04 49 48.7	-2.0
CRQM	**Cirque**	4.16	106		Pn	04 49 51.3	-0.9
SUCK	**Suckling Hills**	4.20	116	Pn	Pn	04 49 52.4	-0.1
KHIT	**Khitrov Hills**	4.24	110		Pn	04 49 51.6	-1.6
KAKN	**Katmai Knife C**	4.29	208		Pn	04 49 53.4	-0.6
TGL	**Tana Glacier**	4.30	105		Pn	04 49 52.9	-1.1
PTPK	**Patty Peak**	4.32	99		Pn	04 49 53.3	-1.1
BALM	**Baldy**	4.42	101		Pn	04 49 54.5	-1.1
KDAK	**Kodiak Island**	4.42	189	Pn	Pn	04 49 56.1	+0.5
KIAG	**Kiagna River**	4.45	102		Pn	04 49 54.6	-1.5
BC03		4.49	74		Pn	04 49 56.0	-0.5
BCAR	**Beaver Creek A**	4.49	74	Pn	Pn	04 49 55.3	-1.2
KULT	**Kultieth River**	4.56	111		Pn	04 49 56.5	-1.1
ISLE	**Juniper Island**	4.58	106		Pn	04 49 56.6	-1.2
BARK	**Barkley Ridge**	4.59	108		Pn	04 49 56.9	-1.1
K27K	**Chicken**	4.60	62	P	Pn	04 49 57.5	-0.4
	baz=250						
PS05	**TAPS Pump Stn5**	4.69	3		Pn	04 49 59.4	+0.1
BARN	**Barnard Glacie**	4.73	99		Pn	04 49 59.8	-0.1
GRNC	**Granite Creek**	4.79	103		Pn	04 49 59.7	-1.2
CTGM	**Chitina Glacie**	4.91	100		Pn	04 50 01.8	-0.6
MESA	**MESA**	4.94	109		Pn	04 50 01.8	-0.9
YAH	**Yahtse**	4.95	107		Pn	04 50 02.1	-0.8
YUK2	**White River**	4.95	90		Pn	04 50 02.2	-0.6
LOGN	**Logan Glacier**	5.11	100		Pn	04 50 04.5	-0.6
COLD	**Coldfoot**	5.12	5	P	Pn	04 50 06.0	+0.9
	baz=186,SNR=11						
COLD				S	Sn	04 51 01.9	-0.9
	baz=186						
COLD	**Coldfoot**	5.12	5		Pn	04 50 05.7	+0.6
YUK3	**Moose Creek**	5.13	89		Pn	04 50 04.9	-0.5
RKAV	**Rock Avalanche**	5.15	107		Pn	04 50 04.8	-0.9
FYU	**Fort Yukon**	5.16	28	Pn	Pn	04 50 06.0	+0.5
TABL	**Table Mountain**	5.19	105		Pn	04 50 05.4	-0.8
EGAK	**Eagle**	5.26	55		Pn	04 50 06.6	-0.2
CHX	**Chaix Hills**	5.36	108		Pn	04 50 08.2	-0.8
SAMH	**Samovar Hills**	5.48	107		Pn	04 50 09.8	-0.3
PCA	**Pinnacle**	5.73	106		Pn	04 50 12.5	-1.0
DAWY	**Dawson**	5.74	65		Pn	04 50 13.6	+0.1
BM03	**Burnt Mountain**	6.01	25		Pn	04 50 17.7	+0.4
BMAR	**Burnt Mountain**	6.03	25		Pn	04 50 17.8	+0.4
YUK4	**Talbot Arm**	6.06	92		Pn	04 50 17.8	-0.3
BCPM	**Bancas Point**	6.08	106	Pn	Pn	04 50 17.3	-0.8
YUK6	**Outpost Mounta**	6.30	95		Pn	04 50 20.4	-0.9
PNL	**Peninsula**	6.31	108		Pn	04 50 19.9	-1.4
TOLK	**Toolik Lake Re**	6.56	6	S	Sn	04 51 38.5	+0.6
	baz=187						
TOLK	**Toolik Lake Re**	6.56	6	Pn	Pn	04 50 25.9	+1.2
HYT	**Haines Junctio**	6.74	95		Pn	04 50 26.0	-1.2
INK	**Inuvik**	9.65	43	P	Pn	04 51 07.0	+0.3
	0.2nm,0.3s,baz=226,slow=15,SNR=7.5						
TXAR	**Lajitas Array**	45.03	114	P	P	04 56 58.8	+1.1
	0.1nm,0.6s,baz=322,slow=3.8,SNR=2.5						
ZALV	**Zalesovo Beam**	56.13	324	P	P	04 58 20.4	-0.3
	1.0nm,0.5s,baz=46,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	63.26	322	P	P	04 59 08.5	-1.3
	0.4nm,0.4s,baz=34,slow=5.6,SNR=4.9						

SKO ***17*** *04:57:36.0, 40.71N×22.61E, h15km*
ATH ***17*** *04:57:36.4, 40.69N×22.62E, h27km, ML2.6/16, Error ellipse: s-maj=1.1km s-min=0.7km az=137.0*
BEO ***17*** *04:57:37.1±1.4, 40.73N×22.76E, h10km±5km, ML2.7/13*
THE ***17*** *04:57:37.0, 40.70N×22.60E, h9km, ML2.6/11, Error ellipse: s-maj=0.9km s-min=0.4km az=352.0*

ISC 17 04:57:37.1±0.9, 40.70N±0.02×22.61E±0.02, h15km±7km, n71, σ0 9 60/103, 7C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	0.28	104	P	**Pg**	04 57 43.0	0.0
THE				S	**Sg**	04 57 47.3	+0.2
	2μm,0.4s						
THE	**Thessaloniki**	0.28	104	P	**Pg**	04 57 43.0	0.0
THE				S	**Sg**	04 57 47.5	+0.4
THE				AML	AML	04 57 48.2	
	comp=E,1473μm,0.3s						
THE				AML	AML	04 57 48.3	
	comp=N,4837μm,0.3s						
GRG	**Griva**	0.30	328	P	**Pg**	04 57 43.0	-0.5
HORT	**Hortiatis**	0.39	105	P	**Pg**	04 57 44.8	-0.2
HORT				S	**Sg**	04 57 50.0	-0.3
	comp=N,592nm,0.3s						
HORT	**Hortiatis**	0.39	105	P	**Pg**	04 57 44.8	-0.2
HORT				S	**Sg**	04 57 50.8	+0.4
HORT				AML	AML	04 57 51.6	
	comp=E,1153μm,0.3s						
HORT				AML	AML	04 57 52.3	
	comp=N,1173μm,0.4s						
KTI	**Kastanea**	0.49	231	P	**Pg**	04 57 46.3	-0.5
KNT	**Kendrikon**	0.51	25	P	**Pg**	04 57 47.1	-0.1
KNT				S	**Sg**	04 57 53.9	-0.2
	comp=N,932nm,0.2s						
KNT	**Kendrikon**	0.51	25	P	**Pg**	04 57 47.1	-0.1
KNT				AML	AML	04 57 54.2	
	comp=E,1518μm,0.3s						
KNT				S	**Sb**	04 57 54.3	-0.7
KNT				AML	AML	04 57 55.2	
	comp=N,2225μm,0.2s						
SOH	**Sokhos**	0.58	78	P	**Pg**	04 57 48.5	0.0
SOH				S	**Sb**	04 57 57.1	+0.2
	comp=N,772nm,0.6s						
SOH	**Sokhos**	0.58	78	P	**Pg**	04 57 48.5	0.0
SOH				S	**Sb**	04 57 57.0	+0.1
SOH				AML	AML	04 58 03.0	
	comp=N,1810μm,0.3s						
SOH				AML	AML	04 58 03.7	
	comp=E,1624μm,0.4s						
LIT	**Litokhoron**	0.61	189	P	**Pg**	04 57 48.7	-0.3
LIT				S	**Sg**	04 57 57.0	-0.1
	comp=E,752nm,0.3s						
LIT	**Litokhoron**	0.61	189	P	**Pg**	04 57 48.6	-0.3
LIT				S	**Sg**	04 57 57.1	+0.1
LIT				AML	AML	04 58 01.4	
	comp=N,1219μm,0.3s						
LIT				AML	AML	04 58 03.9	
	comp=E,1569μm,0.2s						
VAY	**Valandovo**	0.62	357	*e*Pg	**Pg**	04 57 48.8	-0.5
VAY				*e*Sg	**Sb**	04 57 57.5	-0.6
VAY	**Valandovo**	0.62	357	⇑*i* Pg	**Pg**	04 57 48.5	-0.8
VAY				*i* Sg	**Sb**	04 57 57.5	-0.6
VAY				*e*Lg	Lg	04 57 59.4	
	comp=N,343nm,0.5s						
PLG	**Polygyros**	0.71	117	P	**Pg**	04 57 50.9	-0.1
PLG				S	**Sb**	04 58 00.9	+0.1
	comp=N,538nm,0.5s						
PLG	**Polygyros**	0.71	117	P	**Pg**	04 57 50.9	-0.1
PLG				S	**Sg**	04 58 00.5	0.0
PLG				AML	AML	04 58 07.7	
	comp=N,1027μm,0.4s						
PLG				AML	AML	04 58 08.6	
	comp=E,1000μm,0.3s						
KZN	**Kozani**	0.75	239	P	**Pg**	04 57 50.5	-1.2
KZN				S	**Sg**	04 58 01.5	-0.2
	comp=E,735nm,0.5s						
KZN	**Kozani**	0.75	239	P	**Pg**	04 57 50.6	-1.1
KZN				S	**Sb**	04 58 02.2	+0.3
KZN				AML	AML	04 58 06.3	
	comp=E,1955μm,0.4s						
KZN				AML	AML	04 58 07.6	
	comp=N,1020μm,0.6s						
SRS	**Serrai**	0.85	60	P	**Pb**	04 57 52.9	-0.6
SRS	**Serrai**	0.85	60	P	**Pb**	04 57 53.0	-0.6
SRS				S	**Sb**	04 58 05.1	+0.3
SRS				AML	AML	04 58 10.3	
	comp=N,475μm,0.5s						
SRS				AML	AML	04 58 10.6	
	comp=E,384μm,0.4s						
STIP	**Stip**	1.04	342	*i* Pg	**Pb**	04 57 56.4	-0.4
STIP				*i* Sg	**Sn**	04 58 12.2	+0.8
STIP				*e*Lg	Lg	04 58 13.8	
	comp=E,69nm,0.5s						
OUR	**Ouranopolis**	1.11	109	P	**Pn**	04 57 57.9	0.0
OUR				S	**Sn**	04 58 13.7	+0.8
	comp=E,570nm,0.4s						
OUR	**Ouranopolis**	1.11	109	P	**Pn**	04 57 58.0	0.0
OUR				S	**Sn**	04 58 13.0	+0.1
OUR				AML	AML	04 58 16.6	
	comp=E,890μm,0.4s						
OUR				AML	AML	04 58 17.5	
	comp=N,1424μm,0.4s						
PAIG	**Paliouri**	1.12	133	P	**Pb**	04 57 57.9	-0.2
PAIG				S	**Sg**	04 58 14.1	+0.6
	comp=N,650nm,0.7s						
PAIG	**Paliouri**	1.12	133	P	**Pb**	04 57 58.0	-0.2
PAIG				S	**Sg**	04 58 13.6	+0.1
PAIG				AML	AML	04 58 15.4	
	comp=N,1140μm,0.9s						
PAIG				AML	AML	04 58 15.8	
	comp=E,1454μm,0.4s						
NVR	**Nevrokopi**	1.15	55	P	**Pb**	04 57 58.4	-0.2
NVR				S	**Sg**	04 58 14.8	+0.6
	comp=E,162nm,0.6s						
NVR	**Nevrokopi**	1.15	55	P	**Pb**	04 57 58.4	-0.2
NVR				S	**Sg**	04 58 14.1	-0.2
NVR				AML	AML	04 58 17.1	
	comp=E,276μm,0.3s						
NVR				AML	AML	04 58 23.7	
	comp=N,300μm,0.7s						
NEST	**Nestorio**	1.22	257	P	**Pn**	04 57 59.8	+0.2
NEST				S	**Sn**	04 58 15.9	-0.1
NEST				AML	AML	04 58 23.7	
	comp=N,418μm,0.6s						
NEST				AML	AML	04 58 25.1	
	comp=E,267μm,0.6s						
THL	**Klokotos Trika**	1.22	202	P	**Pb**	04 58 00.0	+0.2
THL				S	**Sg**	04 58 16.9	+0.3
	comp=E,292nm,0.6s						
THL	**Klokotos Trika**	1.22	202	P	**Pn**	04 57 59.8	+0.3
THL				S	**Sn**	04 58 15.9	+0.1
THL				AML	AML	04 58 18.8	
	comp=N,353μm,0.8s						
THL				AML	AML	04 58 19.2	
	comp=E,832μm,0.7s						
PENT	**Pentalofos**	1.23	246	P	**Pb**	04 58 00.1	0.0
XOR	**Xorichti**	1.41	161	P	**Pn**	04 58 01.5	-0.6
XOR	**Xorichti**	1.41	161	P	**Pn**	04 58 01.4	-0.6
XOR				S	**Sn**	04 58 20.3	-0.1
XOR				AML	AML	04 58 21.1	
	comp=E,205μm,0.3s						
XOR				AML	AML	04 58 23.5	
	comp=N,460μm,0.3s						
OHR	**Ohrid**	1.43	287	⇓*i* Pg	**Pb**	04 58 03.7	+0.2
OHR				*i* Sg	**Sg**	04 58 23.5	+0.2
OHR				*e*Lg	Lg	04 58 30.1	
	comp=N,69nm,0.6s						
NEO	**Neokhori**	1.47	161	P	**Pn**	04 58 02.5	-0.5
NEO	**Neokhori**	1.47	161	P	**Pn**	04 58 02.5	-0.5
KAVA	**Kavala**	1.47	78	P	**Pb**	04 58 03.5	-0.6
KAVA	**Kavala**	1.47	78	P	**Pb**	04 58 03.6	-0.6
KAVA				S	**Sb**	04 58 22.5	-0.2
KAVA				AML	AML	04 58 27.8	
	comp=N,267μm,0.6s						
KAVA				AML	AML	04 58 28.2	
	comp=E,244μm,0.6s						
SKO	**Skopje**	1.55	326	*e*Pn	**Pb**	04 58 05.0	-0.4
SKO				*e*Sg	**Sg**	04 58 27.2	+0.3
SKO	**Skopje**	1.55	326	*i* Pn	**Pb**	04 58 05.3	0.0
THAS	**Thassos island**	1.61	93	P	**Pn**	04 58 04.8	0.0
THAS	**Thassos island**	1.61	93	P	**Pn**	04 58 05.1	+0.2
THAS				S	**Sb**	04 58 26.5	0.0
THAS				AML	AML	04 58 36.5	
	comp=E,184μm,0.3s						
THAS				AML	AML	04 58 37.8	
	comp=N,164μm,0.5s						
AGG	**Agios Georgios**	1.69	187	P	**Pn**	04 58 06.1	+0.1
AGG	**Agios Georgios**	1.69	187	P	**Pn**	04 58 06.3	+0.3
MAKR	**Makrakomi, Fth**	1.73	192	P	**Pn**	04 58 07.0	+0.5
BOSS	**Bosilegrad**	1.80	357	*e*Pn	**Pn**	04 58 08.2	+0.7
IGT	**Igoumenitsa**	2.10	237	P	**Pn**	04 58 12.4	+0.7
ANX	**Ano Chora**	2.17	194	P	**Pn**	04 58 13.6	+0.9
ANX	**Ano Chora**	2.17	194	P	**Pn**	04 58 13.7	+1.0
BARS	**Barje**	2.20	345	*e*Pn	**Pn**	04 58 14.0	+1.0
RDO	**Rodhopi**	2.26	78	P	**Pn**	04 58 14.3	+0.5
KALE	**Kalithea**	2.33	189	P	**Pn**	04 58 15.3	+0.3
ZAPS	**Zavoj**	2.57	0	*e*Pn	**Pn**	04 58 18.9	+0.7
ALN	**Alexandroupoli**	2.62	85	P	**Pn**	04 58 19.2	+0.5
SELS	**Selova**	2.75	337	*e*Pn	**Pn**	04 58 21.1	+0.5
BLKB	**Belogradchik**	2.92	1	⇑S	**Sn**	04 58 56.1	-1.7
BOVS	**Bovan**	3.01	347	*e*Pn	**Pn**	04 58 23.1	-1.0
PDG	**Podgorica**	3.05	306	*e*Pn	**Pn**	04 58 26.7	+2.0
ZAGS	**Zajecar**	3.12	355	*e*Pn	**Pn**	04 58 25.9	+0.2
SJES	**Sjenica**	3.23	323	*e*Pn	**Pn**	04 58 28.6	+1.4
IVAS	**Ivanjica**	3.41	328	*e*Pn	**Pn**	04 58 30.4	+0.7
GRUS	**Gruza**	3.48	337	*e*Pn	**Pn**	04 58 31.3	+0.7
TRUS	**Trudelj**	3.88	336	*e*Pn	**Pn**	04 58 37.0	+0.9
DIVS	**Divibare**	3.91	331	*e*Pn	**Pn**	04 58 37.8	+1.2
BBLS	**Lazići**	3.96	324	*e*Pn	**Pn**	04 58 38.9	+1.7
MDVR	**Moldovita**	4.13	351	⇑P	**Pn**	04 58 39.9	+0.2
HERR	**Herculane**	4.18	358	⇑P	**Pn**	04 58 40.4	+0.2
GZR	**Gura Zlata**	4.69	1	⇑P	**Pn**	04 58 47.4	+0.1
ARR	**Arges**	4.89	17	⇓P	**Pn**	04 58 50.8	+0.7
VOIR		5.06	20	⇑P	**Pn**	04 58 53.2	+0.8
MLR	**Muntele Rosu**	5.37	26	⇑P	**Pn**	04 58 57.9	+1.1

IDC 17 04:58:21.3±1.3, 53.14N×85.47E, h0km, mb1 3.1/2, mb1mx3.0/37, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=13.2km s-min=8.0km az=95.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	0.90	335	*i*		05 04 35.8	
	baz=154,slow=320,SNR=2.1						
ZALV	**Zalesovo Beam**	0.90	335	Pg	Pg	04 58 38.2	-0.2
	1.0nm,0.3s,baz=156,slow=17,SNR=10						
ZALV				Lg	Lg	04 58 50.1	
	5.6nm,0.3s,baz=155,slow=30,SNR=28						
KURBB	**Kurchatov Arra**	4.98	242	Pn	Pn	04 59 38.8	+1.6
	0.2nm,0.3s,baz=58,slow=13,SNR=12						
KURBB				Lg	Lg	05 00 58.9	
	0.1nm,0.3s,baz=64,slow=36,SNR=4.6						
MKAR	**Makanchi Array**	6.67	199	Pn	Pn	05 00 02.0	+1.5
	0.5nm,0.3s,baz=23,slow=13,SNR=13						
MKAR				Sn	Sn	05 01 15.6	-1.7
	0.1nm,0.3s,baz=16,slow=20,SNR=2.1						
MKAR				Lg	Lg	05 01 50.3	
	0.2nm,0.3s,baz=24,slow=30,SNR=5.0						

NEIC ***17*** *05:23:43.6±0.7, 9.08S±0.09×120.66E±0.08, h112km±10km, mb4.1/3, Error ellipse: s-maj=14.4km s-min=8.7km az=216.0*
DJA ***17*** *05:23:45.4±0.4, 9.3S±7.2°×12.1E±°, h95km±8km, M4.3/12, mB5.0/2, mb4.5/1, MLv4.2/12, Mw(mB)4.3/2*
IDC ***17*** *05:23:45.0±2.5, 8.96S×120.82E, h122km±22km, mb3.9/3, mb1 3.8/8, mb1mx3.5/38, mbtmp4.2/8, MS3.3/1, Ms1 3.3/1, ms1mx2.3/42, Error ellipse: s-maj=51.5km s-min=9.0km az=55.0*

ISC 17 05:23:42.6±0.7, 9.10S±0.05×120.71E±0.04, h100km, n34, σ2 8 28/41, mb4.2/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	0.70	216	P	**Pn**	05 24 03.7	+3.6
EDFI	**Ende, Flores**	1.02	70	P	**Pn**	05 24 05.2	+1.8
EDFI				S	**Sn**	05 24 20.4	+1.3
BASI	**Baing, Sumba**	1.12	187	P	**Pn**	05 24 07.9	+3.5
MMRI	**Maumere**	1.57	73	P	**Pn**	05 24 12.0	+2.2
MMRI	**Maumere**	1.57	73		**Pn**	05 24 12.1	+2.3
MMRI				Sn	**Sn**	05 24 33.8

BAHB	**Baha de los**	**2.31**	**325**	*e*P	Pn	05 29 33.0	-7.7
BAHB				*e*S	Sn	05 29 55.5	-13

IDC 17 05:32:08.7±1.6,0°97S×130°29E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/45, mbtmp3.5/3, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/32, Error ellipse: s-maj=28.0km s-min=13.1km az=171.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.98**	**84**	Pg	Pg	05 32 26.3	-1.2
	45nm,0.3s,baz=230,slow=15,SNR=104						
SIJI				Lg	Lg	05 32 42.2	
	53nm,0.3s,baz=308,slow=23,SNR=20						
WRA	**Warramunga Arr**	**19.26**	**168**	P	P	05 36 34.3	-0.7
	0.1nm,0.3s,baz=353,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**22.83**	**171**	P	P	05 37 14.1	+0.6
	1.2nm,0.7s,baz=354,slow=10,SNR=9.1						
MJAR	**Matsushiro Arr**	**38.05**	**10**	LR	LR	05 53 36.9	
	comp=Z,10nm,19.9s,baz=265,slow=34						
MKAR	**Makanchi Array**	**63.42**	**325**	P	P	05 42 40.5	+0.2
	0.4nm,0.5s,baz=128,slow=7.8,SNR=4.4						

IDC 17 05:40:20.2±1.4, 32°.40N×47°.79E, h0km, mb3.9/9, mb1 4.0/13, mb1mx3.8/45, mbtmp4.0/13, ML3.7/4, MS2.8/6, Ms1 2.8/6, ms1mx2.5/40, Error ellipse: s-maj=32.8km s-min=17.6km az=160.0
NEIC 17 05:40:22.1±1.9, 32°.58N±0°.04×47°.85E±0°.08, h10km±2km, Error ellipse: s-maj=11.0km s-min=6.8km az=275.0
TEH 17 05:40:22.6, 32°.58N×47°.84E, h12km, ML3.9
THR 17 05:40:24.4±0.3, 32°.51N×47°.92E, h18km±19km, ML3.8
ISN 17 05:40:24.3±1.7, 32°.71N×47°.78E, h16km±11km, ML3.4
OMAN 17 05:40:28.3, 31°.88N×47°.75E, h40km, ms3.0/6

ISC 17 05:40:22.1±1.2, 32°.53N±0°.03×47°.85E±0°.03, h15km±8km, n120, σ2§24/130, mb3.9/14, 7C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.50**	**288**	*e*Pg	**Pg**	**05 40 31.7**	**-0.4**
DHL1				*e*Sg	**Sb**	**05 40 40.4**	**+0.6**
IKMR	**Kamar-syah**	**1.09**	**24**	*e*Pg	**Pb**	**05 40 42.1**	**-0.5**
IKMR	**Kamar-syah**	**1.09**	**24**	Pg	**Pb**	**05 40 42.0**	**-0.5**
IDOB	**Doab**	**1.29**	**12**	*e*Pg	**Pg**	**05 40 46.4**	**-0.6**
IDOB	**Doab**	**1.29**	**12**		**Pg**	**05 40 46.4**	**-0.6**
AHWZ	**Ahwaz**	**1.37**	**150**	*e*Pg	**Pb**	**05 40 49.4**	**+2.0**
AHWZ	**Ahwaz**	**1.37**	**150**		**Pb**	**05 40 49.3**	**+1.9**
BMDN	**Meydan**	**1.41**	**35**	*e*Pg	**Pg**	**05 40 48.8**	**-0.4**
BMDN				*e*		05 41 20.5	
BMDN	**Meydan**	**1.41**	**35**		**Pg**	**05 40 48.8**	**-0.4**
IKOM	**Komasi**	**1.67**	**350**	*e*Pg	**Pb**	**05 40 52.9**	**+0.3**
IKOM				*e*		05 41 21.7	
IBDR	**Badra**	**1.72**	**290**	*e*Pg	**Pb**	**05 40 53.0**	**-0.3**
	baz=104						
IBDR				*e*Sg	**Sg**	**05 41 16.0**	**-1.4**
IBDR				AML	AML	05 41 33.9	
	comp=N,858nm,0.5s						
IBDR				AML	AML	05 41 36.5	
	comp=E,744nm,0.6s						
HSAM	**Samen**	**1.80**	**20**	*e*Pg	**Pg**	**05 40 55.5**	**-1.2**
HSAM				*e*		05 41 36.7	
KCHF	**Cheshme Sefid,**	**1.87**	**339**	*e*Pg	**Pb**	**05 40 55.8**	**-0.3**
KCHF				*e*		05 41 27.4	
IBZA	**Bozab**	**1.94**	**0**	*e*Pg	**Pb**	**05 40 57.6**	**+0.3**
IBZA				*e*		05 41 37.4	
KER	**Kermanshah**	**1.95**	**342**	*e*Pn	**Pb**	**05 40 56.7**	**-0.7**
IGHG	**Ghaleghazi**	**2.09**	**330**	*e*Pn	**Pb**	**05 40 58.9**	**-1.0**
IGHG				*e*		05 41 35.9	
KHMZ	**Khomeyn**	**2.15**	**55**	*e*Pn	**Pb**	**05 41 01.0**	**+0.2**
KHMZ				*e*Sg	**Sg**	**05 41 31.0**	**-0.2**
KHMZ	**Khomeyn**	**2.15**	**55**	*e*Pn	**Pb**	**05 41 01.0**	**+0.2**
IVIS	**Veis**	**2.16**	**338**	*e*Pn	**Pb**	**05 41 00.0**	**-1.0**
IVIS				*e*		05 41 36.3	
JHBN	**Jahan bin**	**2.40**	**96**	*e*Pn	**Pn**	**05 41 03.9**	**+2.8**
JHBN				*e*		05 41 58.9	
IDHR	**Dehrash**	**2.49**	**331**	*e*Pn	**Pn**	**05 41 04.2**	**+2.0**
IDHR				*e*		05 41 45.8	
ILIN	**Lien**	**2.50**	**343**	*e*Pn	**Pn**	**05 41 03.6**	**+1.2**
ILIN				*e*		05 41 53.0	
HAGD	**Aghdareh**	**2.53**	**25**	*e*		05 41 48.3	
HAGD				*e*Pn	**Pb**	**05 41 05.2**	**-2.2**
IPIR	**Pirpir**	**2.57**	**86**	*e*		05 41 49.3	
IPIR				*e*Pn	**Pn**	**05 41 06.3**	**+2.8**
SNGE	**Sanandaj**	**2.59**	**351**	*e*Pn	**Pb**	**05 41 08.1**	**-0.3**
SNGE				IAML		05 41 51.3	
	comp=N,186nm,0.6s						
SNGE	**Sanandaj**	**2.59**	**351**	*e*Pn	**Pb**	**05 41 08.1**	**-0.3**
ROKH	**ROKH**	**2.70**	**93**	*e*Pn	**Pn**	**05 41 08.0**	**+2.8**
ASAO	**Ashtian**	**2.72**	**41**	*e*Pn	**Pb**	**05 41 09.0**	**-1.5**
ASAO				*e*Sg	**Sg**	**05 41 48.7**	**-0.8**
ASAO	**Ashtian**	**2.72**	**41**	*e*Pn	**Pb**	**05 41 09.0**	**-1.5**
HSRG	**Sareghieh**	**2.73**	**7**	*e*		05 41 56.7	
HSRG				*e*Pn	**Pb**	**05 41 08.7**	**-2.2**
BHD	**Baghdad**	**3.01**	**285**	*e*Pn	**Pn**	**05 41 11.0**	**+1.8**
BHD				*e*Sn	**Sn**	**05 41 47.0**	**+2.0**
BHD				AML	AML	05 42 15.9	
	comp=E,74nm,1.0s						
IKLH	**Kolahrood**	**3.24**	**75**	*e*Pn	**Pn**	**05 41 15.2**	**+2.6**
IKLH				*e*		05 42 21.5	
GHVR	**GHOM**	**3.48**	**55**	*e*Pn	**Pn**	**05 41 18.9**	**+3.2**
GHVR	**GHOM**	**3.48**	**55**	*e*Pn	**Pn**	**05 41 18.9**	**+3.2**
QABG	**Abgarm-Qazvin**	**3.49**	**24**	*e*Pn	**Pn**	**05 41 18.4**	**+2.4**
KLNJ	**Kolanjah**	**3.53**	**114**	*e*Pn	**Pn**	**05 41 18.8**	**+2.1**
KLNJ				*e*		05 42 31.5	
IQOM	**Qom**	**3.54**	**48**	*e*Pn	**Pn**	**05 41 19.9**	**+3.1**
IGAR	**Gharneh**	**3.55**	**91**	*e*Pn	**Pn**	**05 41 19.2**	**+2.4**
IGAR				*e*		05 42 21.1	
IZEF	**Zefreh**	**3.80**	**83**	*e*Pn	**Pn**	**05 41 23.0**	**+2.7**
IRAM	**Rameshеh**	**3.91**	**99**	*e*Pn	**Pn**	**05 41 23.5**	**+1.7**
IVRN	**Varamin**	**4.06**	**52**	*e*Pn	**Pn**	**05 41 26.0**	**+2.2**
QSDN	**Sirdan**	**4.12**	**15**	*e*Pn	**Pn**	**05 41 27.6**	**+2.9**
QALM	**Alamut, Qazvin**	**4.53**	**30**	*e*Pn	**Pn**	**05 41 33.4**	**+3.0**
IDMV	**Damavand**	**4.62**	**48**	*e*Pn	**Pn**	**05 41 34.0**	**+2.4**
ANAR	**Anarak**	**4.99**	**81**	*e*Pn	**Pn**	**05 41 39.0**	**+2.4**
IFIR	**Firoozkooh**	**5.12**	**51**	*e*Pn	**Pn**	**05 41 41.6**	**+3.1**
IPRN	**Peran**	**5.25**	**44**	*e*Pn	**Pn**	**05 41 43.6**	**+3.5**
IALA	**Alasht**	**5.43**	**48**	*e*Pn	**Pn**	**05 41 46.3**	**+3.6**
ISHM	**Shahmirzad**	**5.58**	**53**	*e*Pn	**Pn**	**05 41 47.3**	**+2.6**
IANJ	**Anjilo**	**5.83**	**58**	*e*Pn	**Pn**	**05 41 49.5**	**+1.3**
TPHV	**Parvadeh(Tabas**	**7.48**	**84**	*e*Pn	**Pn**	**05 42 12.7**	**+2.2**
TNSJ	**Nastanj**	**7.48**	**77**	*e*Pn	**Pn**	**05 42 12.0**	**+1.3**
MARD	**Mardin**	**7.52**	**311**	Pn	**Pn**	**05 42 11.6**	**+0.4**
TKDS	**Koohdasht(Taba**	**7.86**	**80**	*e*Pn	**Pn**	**05 42 17.7**	**+1.7**
SBZV	**Sabzevar**	**8.94**	**62**	*e*Pn	**Pn**	**05 42 33.7**	**+2.9**
ASF	**Jabal al Asfar**	**9.27**	**271**	Pn	**Pn**	**05 42 35.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=40,slow=15,SNR=1.9						
ASF				Sn	**Sn**	**05 44 13.6**	**-5.8**
	comp=E,0.3nm,0.3s,baz=79,slow=5.2,SNR=1.8						
ASF				Lg	Lg	05 45 23.8	
	comp=E,0.2nm,0.3s,baz=60,slow=20,SNR=2.4						
AFRZ	**Afriz**	**9.43**	**82**	*e*Pn	**Pn**	**05 42 39.5**	**+2.0**
BANOM	**Banah**	**9.88**	**130**	P	**Pn**	**05 42 42.6**	**-1.1**
BANOM				S	**Sn**	**05 44 30.3**	**-4.1**
NAZ	**Nazwa, Dubai**	**10.16**	**136**	P	**Pn**	**05 42 48.8**	**+1.3**
	SNR=6.6						
NAZ				S	**Sn**	**05 44 39.4**	**-1.9**
ASUD	**Al Ashush, Dub**	**10.25**	**138**	P	**Pn**	**05 42 49.1**	**+0.5**
	SNR=5.3						
ASUD				S	**Sn**	**05 44 40.4**	**-2.9**
FAQ	**Al Faqa, Dubai**	**10.31**	**137**	P	**Pn**	**05 42 49.7**	**+0.3**
FAQ				S	**Sn**	**05 44 43.9**	**-0.9**
MDH	**Madha**	**10.32**	**132**	P	**Pn**	**05 42 49.0**	**-0.7**
MDH				S	**Sn**	**05 44 40.1**	**-5.1**
MMAI	**Mount Meron Ar**	**10.49**	**276**	LR	LR	05 47 40.9	
	comp=E,27nm,20.3s,baz=180,slow=42						
UOSS	**Minazif**	**10.52**	**134**	Pn	**Pn**	**05 42 51.3**	**-1.1**
HATD	**Hatta, Dubai**	**10.57**	**134**	P	**Pn**	**05 42 53.0**	**0.0**
	SNR=8.1						
HATD				S	**Sn**	**05 44 48.3**	**-2.8**
SOHO	**SOHO**	**11.33**	**135**	P	**Pn**	**05 43 01.8**	**-1.6**
SOHO				S	**Sn**	**05 45 05.1**	**-4.6**
EIL	**Elat**	**11.41**	**259**	LR	LR	05 48 16.7	
	comp=E,15nm,21.1s,baz=271,slow=42						
KBZ	**Khabaz**	**11.84**	**342**	LR	LR	05 48 31.2	
	comp=E,69nm,19.2s,baz=147,slow=41						
ARQ	**Araqi**	**11.94**	**138**	P	**Pn**	**05 43 10.9**	**-0.8**
	SNR=6.2						
ARQ				S	**Sn**	**05 45 23.6**	**-1.0**
KVAR	**Kislovodsk Arr**	**12.11**	**342**	LR	LR	05 48 36.8	
	comp=E,76nm,18.1s,baz=88,slow=41						

HOQ	**Hoqain**	**12.21**	**134**	P	**Pn**	**05 43 14.9**	**-0.5**
HOQ				S	**Sn**	**05 45 27.3**	**-4.1**
BIDO	**Bidbid**	**12.75**	**132**	P	**Pn**	**05 43 20.1**	**-2.9**
BIDO				S	**Sn**	**05 45 45.0**	**+0.3**
BSY	**Bisya**	**12.78**	**137**	P	**Pn**	**05 43 22.3**	**-1.0**
	SNR=9.4						
SMDO	**Samad**	**13.05**	**134**	P	**Pn**	**05 43 25.6**	**-1.4**
SMDO				S	**Sn**	**05 45 46.6**	**-5.4**
WSAR	**Wadi Sarin**	**13.28**	**131**	Pn	**Pn**	**05 43 28.2**	**-1.9**
	comp=E,0.8nm,0.3s,baz=315,slow=10,SNR=10.0						
BRTR	**Keskin Array B**	**13.54**	**306**	LR	LR	05 49 53.4	
	comp=E,22nm,21.0s,baz=123,slow=42						
MHTO	**MHTO**	**14.61**	**139**	P	**Pn**	**05 43 47.0**	**-1.2**
MHTO				S	Sn	05 46 21.7	-8.2
DQM	**DQM**	**15.25**	**143**	P	**Pn**	**05 43 52.9**	**-4.0**
DQM				S	Sn	05 46 36.1	-9.5
WHFO	**Wadi Hawf**	**15.49**	**158**	P	**Pn**	**05 43 57.4**	**-2.7**
	SNR=6.3						
WHFO				S	Sn	05 46 42.7	-8.9
ABTO	**Aybut**	**15.89**	**161**	P	**Pn**	**05 44 04.9**	**-0.4**
	SNR=6.2						
RBK	**Rabkut**	**16.02**	**157**	P	**Pn**	**05 44 04.3**	**-2.7**
RBK				S	Sn	05 46 55.8	-8.6
SHAO	**Shalim**	**16.05**	**152**	P	**Pn**	**05 44 07.7**	**+0.4**
	SNR=7.6						
SHAO				S	Sn	05 46 56.6	-8.5
DMTO	**DMTO**	**16.08**	**155**	P	**Pn**	**05 44 04.5**	**-3.1**
DMTO				S	Sn	05 46 54.1	-12
KBL	**Kabul**	**17.79**	**78**		**P**	**05 44 30.5**	**+0.5**
CHGR	**Chuyangaron**	**18.36**	**65**	P	**Pn**	**05 44 36.6**	**+0.3**
CHGR				IAmb	IAmb	05 44 39.1	
	comp=Z,9.6nm,1.0s						
ABKAR	**Akbulak array**	**19.01**	**25**	P	**Pn**	**05 44 45.1**	**+1.2**
IDI	**Anoyia**	**19.25**	**285**	P	**P**	**05 44 46.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=94,slow=11,SNR=3.9						
IDI	**Anoyia**	**19.25**	**285**	⇑P	**Pn**	**05 44 47.9**	**+0.9**
IDI	**Anoyia**	**19.25**	**285**	P	**P**	**05 44 45.8**	**-0.2**
GAR	**Garm**	**19.32**	**64**	P	**P**	**05 44 47.1**	**+0.3**
GAR				IAmb	IAmb	05 45 01.0	
	comp=Z,7.0nm,0.5s						
AKTO	**Aktyubinsk**	**19.41**	**20**	P	**Pn**	**05 44 49.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=6.3						
BTK	**Batken**	**19.95**	**61**	P	**P**	**05 44 54.0**	**+0.4**
KK31	**Karatay Array**	**20.73**	**53**	P	Pn	05 45 04.4	+0.1
KKAR	**Karatay Array**	**20.73**	**53**	P	**P**	**05 45 02.8**	**+0.8**
SOCY	**Socotra**	**21.01**	**163**	P	**P**	**05 45 00.1**	**-5.2**
SOCY				IAmb	IAmb	05 45 06.3	
	comp=Z,13nm,1.1s						
MLR	**Muntele Rosu**	**21.30**	**314**	P	**P**	**05 45 14.0**	**+5.8**
	comp=Z,7.1nm,0.8s,baz=137,slow=3.2,SNR=14						
MLR	**Muntele Rosu**	**21.30**	**314**	⇑P	**P**	**05 45 15.1**	**+6.9**
MLR	**Muntele Rosu**	**21.30**	**314**	P	**P**	**05 45 08.8**	**+0.6**
MLR				IAmb	IAmb	05 45 16.7	
	comp=Z,9.2nm,0.9s						
NIL	**Nilore**	**21.30**	**80**	P	**P**	**05 45 08.0**	**-0.3**
SORM	**Soroca**	**21.45**	**322**	⇑P	**P**	**05 45 06.9**	**-2.7**
VOIR		**21.83**	**313**	⇑P	**P**	**05 45 16.0**	**+2.2**
DOPR	**Dopca**	**21.88**	**314**	⇑P	**P**	**05 45 16.4**	**+2.1**
BIZ	**Bicaz**	**21.96**	**317**	⇑P	**P**	**05 45 16.2**	**+1.0**
AKASG	**Malin Array Be**	**22.77**	**328**	P	**P**	**05 45 20.5**	**-3.2**
	comp=Z,2.6nm,0.8s,baz=128,slow=10,SNR=8.5						
BURAR	**Bucovina Array**	**22.84**	**318**	⇑P	**P**	**05 45 27.4**	**+2.7**
BURAR	**Bucovina Array**	**22.84**	**318**	P	**P**	**05 45 25.6**	**+0.9**
BOOM	**Boomskoye usch**	**24.31**	**58**	P	**P**	**05 45 40.0**	**+0.8**
BOOM				IAmb	IAmb	05 45 44.0	
	comp=Z,3.9nm,1.1s						
ARU	**Arti**	**25.03**	**14**	P	**P**	**05 45 46.5**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=189,slow=8.7,SNR=6.4						
ARU	**Arti**	**25.03**	**14**	P	**P**	**05 45 47.2**	**+1.9**
KIRV	**Kirov**	**26.09**	**2**	LR	LR	05 58 30.8	
	comp=Z,60nm,19.9s,baz=148,slow=42						
BRVK	**Borovoye**	**26.11**	**32**	P	**P**	**05 45 55.2**	**0.0**
BRVK				IAmb	IAmb	05 46 00.7	
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**26.14**	**32**	P	**P**	**05 45 56.9**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=224,slow=24,SNR=11						
KURBB	**Kurchatov Arra**	**28.92**	**42**	P	**P**	**05 46 22.6**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=247,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**29.83**	**51**	P	**P**	**05 46 30.4**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=242,slow=4.9,SNR=10						
MKAR	**Makanchi Array**	**29.83**	**51**	P	**P**	**05 46 28.5**	**0.0**
FINES	**FINESS Array B**	**32.19**	**340**	P	**P**	**05 46 49.6**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=130,slow=9.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**05 47 05.6**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=234,slow=6.9,SNR=3.2						
ARCES	**ARCESS Array B**	**39.13**	**348**	P	**P**	**05 47 50.3**	**+1.7**
	comp=Z,3.0nm,1.1s,baz=155,slow=11,SNR=2.0						
ESDC	**Sonseca Array**	**41.98**	**295**	P	**P**	**05 48 12.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=80,slow=7.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**46.29**	**256**	P	**P**	**05 48 47.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=54,slow=8.3,SNR=6.0						

BER 17 05:46:57.0±0.5, 71°.35N×9°.49W, h0km±136km, ML2.7
ISC 17 05:46:53.9±1.2, 71°.4N±0°.1×10°.0W±0°.2, h10km, n6, σ1§63/13, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.63**	**140**	⇑*i*P	**Pb**	**05 47 07.2**	**+0.3**
JMI				*e*S	**Sb**	**05 47 14.9**	**-0.8**
JMI				IAML		05 47 15.2	
	comp=Z,263nm,0.2s						
JNW	**Jan Mayen West**	**0.63**	**127**	⇑*i*P	**Pb**	**05 47 07.2**	**+0.3**
JNW				*e*S	**Sg**	**05 47 14.0**	**-0.2**
JMIC	**Jan Mayen**	**0.64**	**131**	⇑*i*P	**Pb**	**05 47 07.1**	**0.0**
JMIC				*e*S	**Sg**	**05 47 14.5**	**0.0**
JMIC				IAML		05 47 16.8	
	comp=Z,368nm,0.4s						
JNE	**Jan Mayen East**	**0.69**	**127**	*e*P	**Pb**	**05 47 07.9**	**0.0**
JNE				*e*S	**Sg**	**05 47 15.4**	**-0.7**
JNE				IAML		05 47 16.2	
	comp=Z,504nm,0.4s						
DBG	**Daneborg**	**4.20**	**319**	*e*	**Pn**	**05 47 59.4**	**+1.5**
	baz=119,slow=16						
DBG				*i*P	Pb	05 48 00.0	-7.8
DBG				*i*S	**Sn**	**05 48 44.5**	**-2.5**
DBG				IAML		05 48 49.0	
	comp=Z,3.0nm,0.3s						
DAG	**Danmarks Havn**	**5.89**	**340**	*e*	**Pn**	**05 48 22.8**	**+1.8**
	baz=145,slow=18						
DAG				*i*P	**Pn**	**05 48 23.6**	**+2.6**
DAG				*i*S	**Sn**	**05 49 25.7**	**-2.7**
DAG				IAML		05 49 28.3	
	comp=Z,3.1nm,0.4s						

KRNET 17 06:07:50.4±0.1, 39°.04N×70°.62E, h12km, mb3.2
NNC 17 06:07:52.0±2.4, 38°.89N×70°.50E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=17.8km s-min=12.7km az=20.0
ISC 17 06:07:52.3±1.4, 39°.00N±0°.09×70°.48E±0°.07, h17km, n12, σ2§55/25, 19C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.13**	**270**	⇓*i*P	**Pg**	**06 07 55.1**	**-1.3**
	baz=61						
GAR				⇓*i*S	**Sg**	**06 07 58.8**	**-0.3**
	baz=61						
BTK	**Batken**	**1.09**	**14**	⇑*e*P	**Pb**	**06 08 10.0**	**-2.8**
	baz=9.0						
BTK				⇑*i*S	**Sb**	**06 08 24.0**	**-2.7**
	baz=9.0						
CHGR	**Chuyangaron**	**1.09**	**252**	⇑*i*P	**Pn**	**06 08 12.9**	**0.0**
	baz=52						
CHGR				⇑*i*S	**Sg**	**06 08 29.2**	**+1.4**
	baz=52						
OHH	**Osh**	**2.34**	**49**	⇑*i*P	**Pn**	**06 08 29.7**	**-0.4**
	baz=48						
OHH				⇑*i*S	**Sn**	**06 08 58.4**	**0.0**
	baz=48						
MNAS	**Manas**	**3.81**	**23**	⇑*i*P	**Pn**	**06 08 50.6**	**+0.3**
	baz=22						
MNAS				⇑*i*S	**Sn**	**06 09 34.7**	**-0.1**
	baz=22						
AML	**Almayashu**	**3.97**	**37**	⇑*i*P	**Pn**	**06 08 53.0**	**+0.2**
	baz=36						
AML				⇑*i*S	**Sn**	**06 09 38.5**	**-0.6**
	baz=36						
ARLS	**Aral**	**4.09**	**44**	⇑*e*P	**Pn**	**06 08 54.2**	**-0.1**
	baz=44						
ARLS				⇑*i*S	**Sn**	**06 09 41.1**	**-0.7**
	baz=44						
KK31	**Karatay Array**	**4.10**	**0**	⇓Pn	**Pn**	**06 08 57.5**	**+3.2**
	0.7nm,0.3s,baz=183,slow=14,SNR=18						
KK31				⇑Pg	**Pb**	**06 09 07.7**	**+3.7**
	0.8nm,0.4s,baz=176,slow=12,SNR=5.7						
KK31				⇑Sn	**Sb**	**06 09 49.1**	**-4.2**
	1.1nm,0.3s						
KK31				⇑Lg	Lg	06 10 04.1	
	2.3nm,0.5s,baz=175,slow=27,SNR=4.3						
EKS2	**Erkin-Say**	**4.43**	**33**	⇑*e*P	**Pn**	**06 08 59.2**	**+0.3**
	baz=33						
EKS2				⇑*i*S	**Sn**	**06 09 49.1**	**-1.0**
	baz=33						
UCH	**Uchtor**	**4.45**	**42**	⇓*i*P	**Pn**	**06 08 59.5**	**+0.1**
	baz=42						
UCH				⇓*e*S	**Sn**	**06 09 49.8**	**-1.2**
	baz=42						
AAK	**Ala-Archa**	**4.74**	**39**	⇓Pn	**Pn**	**06 09 06.2**	**+3.1**
	3.4nm,0.5s						
AAK				⇑Sn	**Sn**	**06 10 03.1**	**+5.4**
	1.5nm,0.5s						
TKM2	**Tokmak 2**	**5.50**	**43**	⇓Pn	**Pn**	**06 09 16.4**	**+2.6**
	2.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**06 10 22.6**	**+5.8**
	1.9nm,0.7s						

BJI 17 06:20:26.0±0.0, 23°.35N×100°.43E, h10km, ML3.6/5, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.75**	**50**	⇑Pg	Pb	06 21 16.5	+1.1
KMI				Sg	Sg	06 21 53.8	-0.6
KMI				smax	smax		
	comp=N,170nm,0.8s						
KMI				smax	smax		
	comp=E,110nm,1.0s						
XAN	**Xi'an**	**12.99**	**33**	P	Pn	06 23 37.4	+6.7
WHN	**Wuhan**	**14.33**	**57**	P	Pn	06 23 46.3	-2.6
WMQ	**Urumqi**	**22.96**	**336**	*e*P	P	06 25 30.3	-0.3

NNC 17 06:21:27.3±1.5, 53°.72N×90°.37E, h0km, mb3.8, mpv3.5, 8C-6D, Error ellipse: s-maj=11.2km s-min=8.1km az=58.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.30**	**276**	⇑Pg	Pb	06 22 27.2	+0.5
	1.8nm,1.0s						
ZAA0				⇓Lg	Lg	06 23 13.2	
	9.8nm,0.9s						
KURK	**Kurchatov**	**7.82**	**252**	⇓Pn	Pn	06 23 22.6	+0.4
	5.2nm,1.2s						
KURK				⇓Sn	Sn	06 24 51.1	-0.2
	14nm,0.9s						
KURK				⇑Lg	Lg	06 25 37.9	
	34nm,1.1s						
KURBB	**Kurchatov Arra**	**7.92**	**252**	⇑Pn	Pn	06 23 24.4	+0.9
	6.5nm,0.9s						
KURBB				⇑Sn	Sn	06 24 54.6	+0.9
	35nm,0.8s						
KURBB				⇑Lg	Lg	06 25 40.2	
	75nm,1.2s						
MK31	**Makanchi Array**	**8.65**	**220**	⇓Pn	Pn	06 23 33.6	0.0
	4.5nm,1.1s,baz=36,slow=12,SNR=17						
MK31				⇑Sn	Sn	06 25 13.4	+1.5
	4.7nm,1.1s,baz=30,slow=26,SNR=3.9						
MK31				⇓Lg	Lg	06 26 02.9	
	11nm,0.9s						
MAKZ	**Makanchi**	**8.76**	**221**	⇓Pn	Pn	06 23 34.5	-0.6
	3.2nm,1.2s						
MAKZ				⇑Sn	Sn	06 25 16.1	+1.5
	4.8nm,0.8s						
MAKZ				⇑Lg	Lg	06 26 06.5	
	9.0nm,1.1s						

IDC 17 06:30:32.0±2.6, 54°.18N×86°.35E, h0km, mb1 3.0/2, mb1mx2.9/41, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.6km s-min=12.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**256**	*i*		06 37 50.0	
	baz=73,slow=328,SNR=2.0						
ZALV	**Zalesovo Beam**	**0.93**	**256**	Pg	Pg	06 30 48.5	-1.4
	2.2nm,0.3s,baz=72,slow=18,SNR=24						
ZALV				Lg	Lg	06 31 03.2	
	1.7nm,0.3s,baz=79,slow=29,SNR=4.0						
ZALV				Rg	Rg	06 31 08.6	
	39nm,1.0s,baz=72,slow=23,SNR=10.0						
KURBB	**Kurch

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.39**	**205**	P	P	07 19 42.6	+0.5
	2.5nm,0.3s,baz=55,slow=12,SNR=2.9						
CTA	**Charters Tower**	**15.81**	**191**	P	P	07 21 27.3	-0.5
	0.2nm,0.3s,baz=10,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**21.28**	**223**	P	P	07 22 17.6	-0.5
	0.1nm,0.3s,baz=46,slow=9.3,SNR=4.7						
ILAR	**Eielson Array**	**83.14**	**23**	P	P	07 29 38.6	-0.6
	0.3nm,0.6s,baz=249,slow=4.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**147.04**	**287**	PKPbc	PKPbc	07 36 53.7	+0.2
	0.3nm,0.6s,baz=81,slow=3.4,SNR=1.3						

NEIC ***17*** *07:36:58.4±2.2, 10.7°S×161.9°E±0.1, h75km±12km, mb4.2/9, Error ellipse: s-maj=24.9km s-min=9.8km az=214.0*

IDC ***17*** *07:37:01.1±2.9, 10.88°S×161.57°E, h63km×22km, mb3.6/5, mb1 3.8/7, mb1mx3.5/35, mbtmp3.9/7, MS3.2/6, Ms1 3.1/6, ms1mx2.8/27, Error ellipse: s-maj=29.1km s-min=18.5km az=70.0*

ISC 17 07:36:57.6±0.7, 10.86S±0.08°×161.81E±0.08, h36km, n23, σ1s82/24, mb4.1/8, MS3.2/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.32**	**308**	P	**Pn**	**07 37 35.8**	**+2.7**
	42nm,0.3s,baz=159,slow=14,SNR=8.2						
HNR				S	**Sn**	**07 38 00.5**	**+0.1**
	56nm,0.3s,baz=183,slow=12,SNR=5.4						
HNR				LR	LR	07 38 35.8	
	comp=Z,201nm,19.8s,baz=60,slow=44						
HNR	**Honiara**	**2.32**	**308**		**Pn**	**07 37 34.9**	**+1.7**
HNR					**Sn**	**07 38 01.3**	**+0.8**
SANVU	**Saraoutou**	**6.96**	**132**	Pn	**Pn**	**07 38 38.3**	**+1.3**
SANVU				Sn	**Sn**	**07 39 57.5**	**+2.6**
DZM	**Mont Dzumac**	**12.00**	**159**	P	**Pn**	**07 39 49.1**	**+2.9**
	0.2nm,0.3s,baz=77,slow=11,SNR=6.5						
DZM				S	**Sn**	**07 41 55.2**	**-3.8**
	0.1nm,0.3s,baz=205,slow=19,SNR=1.8						
DZM				LR	LR	07 43 45.9	
	comp=Z,51nm,20.6s,baz=30,slow=34						
DZM	**Mont Dzumac**	**12.00**	**159**		**Pn**	**07 39 47.9**	**+1.7**
TARA	**Tarawa**	**16.41**	**43**	P	**Pn**	**07 40 42.5**	**-2.8**
MANU	**Manus Island**	**16.80**	**300**	P	**Pn**	**07 40 48.8**	**-1.4**
MANU				IAmb	IAmb	07 40 51.0	
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**17.56**	**237**	P	**Pn**	**07 40 60.0**	**+0.3**
WB0	**Warramunga Arr**	**27.85**	**248**	P	**P**	**07 42 41.8**	**-2.2**
WB0				IAmb	IAmb	07 43 04.9	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Arr**	**27.93**	**248**	P	**P**	**07 42 44.7**	**0.0**
WB2				IAmb	IAmb	07 43 03.3	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**27.94**	**248**	P	**P**	**07 42 44.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=74,slow=9.1,SNR=11						
WRA				LR	LR	07 53 10.8	
	comp=Z,72nm,18.9s,baz=85,slow=35						
WRA	**Warramunga Arr**	**27.94**	**248**	P	**P**	**07 42 44.4**	**-0.5**
STKA	**Stephens Creek**	**28.04**	**219**	LR	LR	07 54 14.7	
	comp=Z,43nm,18.3s,baz=26,slow=37						
AS31	**Alice Springs**	**29.46**	**241**	P	**P**	**07 42 57.4**	**-1.0**
ASAR	**Alice Springs**	**29.46**	**241**	P	**P**	**07 42 57.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=64,slow=10.0,SNR=15						
GUMO	**Guam**	**29.54**	**325**	LR	LR	07 54 34.9	
	comp=Z,27nm,18.1s,baz=93,slow=36						
KNRA	**Kununurra**	**32.50**	**258**	P	**P**	**07 43 22.5**	**-2.6**
MSWZ	**Moikau Station**	**32.65**	**161**	P	**P**	**07 43 25.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**35.70**	**254**	P	**P**	**07 43 51.9**	**-1.0**
FITZ				IAmb	IAmb	07 43 56.5	
	comp=Z,9.0nm,1.5s						
BATI	**Baumata**	**37.49**	**267**	LR	LR	07 59 26.8	
	comp=Z,115nm,18.7s,baz=290,slow=36						
SONM	**Songino Array**	**76.27**	**325**	P	**P**	**07 48 42.8**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=142,slow=5.2,SNR=5.3						
ILAR	**Eielson Array**	**84.60**	**20**	P	**P**	**07 49 27.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=245,slow=4.9,SNR=4.9						
MKAR	**Makanchi Array**	**90.76**	**317**	P	**P**	**07 49 56.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=92,slow=6.0,SNR=6.0						

ASRS ***17*** *07:59:58.6±0.9, 47°N±4°×8°E±°, h5km, MLh3.1/5, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 17 07:59:58.4±2.7, 46.5N±0.1°×86.84E±0.09, h10km, n14, σ2s98/18, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.15**	**278**	⇑Pn	**Pn**	**08 00 46.8**	**-1.3**
	4.7nm,0.7s,baz=91,slow=17,SNR=27						
MK31				⇑Lg	Lg	08 01 26.1	
	2.7nm,0.6s,baz=94,slow=28,SNR=8.4						
DGZ	**Jazzator, Alta**	**3.27**	**7**	Pg	Pn	08 00 47.7	-2.1
DGZ				Sg	**Sn**	**08 01 23.3**	**-5.4**
MAKZ	**Makanchi**	**3.37**	**278**	⇓Pn	**Pn**	**08 00 51.1**	**0.0**
	2.4nm,0.6s						
MAKZ				⇓Lg	Lg	08 01 34.4	
	5.2nm,0.8s						
CUR	**Chagan-Uzun**	**3.78**	**15**	Pg	**Pn**	**08 00 57.8**	**+1.0**
CUR				Sg	**Sn**	**08 01 39.9**	**-1.4**
CHBI	**Chibit, Altay**	**3.88**	**6**	Pg	**Pn**	**08 00 59.1**	**+1.0**
CHBI				Sg	**Sn**	**08 01 43.2**	**-0.6**
AKAR	**Aktash**	**3.90**	**7**	Pg	**Pn**	**08 00 59.5**	**+1.1**
AKAR				Sg	**Sn**	**08 01 43.9**	**-0.3**
ULGR	**Ulagan, Altay**	**4.23**	**10**	Pg	**Pn**	**08 01 05.6**	**+2.6**
ULGR				Sg	**Sn**	**08 01 55.1**	**+2.7**
UKR	**Ust'-Kan**	**4.68**	**344**	Pg	Pn	08 01 14.1	+4.9
UKR				Sg	**Sn**	**08 02 07.5**	**+4.0**
TEL	**Teeli**	**5.07**	**25**	Pg	Pn	08 01 23.7	+9.2
TEL				Sg	**Sb**	**08 02 25.9**	**-2.4**
ARTR	**Artybash**	**5.35**	**3**	Pg	Pn	08 01 27.0	+8.8
ARTR				Sg	**Sb**	**08 02 30.8**	**-5.3**
TASR	**Tashtagol**	**6.34**	**6**	Sg	**Sb**	**08 03 03.1**	**-1.5**
ELT	**Eltsovka**	**6.82**	**357**	Sg	**Sb**	**08 03 15.8**	**-2.5**
KURK	**Kurchatov**	**6.92**	**311**	Sg	**Sb**	**08 03 23.4**	**+2.4**
TBTR	**Tabat**	**6.94**	**20**	Sg	**Sb**	**08 03 26.4**	**+4.5**

AUST ***17*** *08:13:42.4±0.9, 38.30S×146.25E, h10km±7km, Error ellipse: s-maj=5.1km s-min=3.4km az=109.0*

IDC ***17*** *08:13:44.8±5.7, 37.53S×146.94E, h0km, mb2.6/1, mb1 3.3/3, mb1mx3.3/22, mbtmp3.1/3, ML4.1/1, Error ellipse: s-maj=249.5km s-min=52.2km az=49.0*

ISC 17 08:13:42.3±1.1, 38.27S±0.06×146.24E±0.06, h10km, n14, σ1s27/18, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**0.92**	**319**	P	**Pg**	**08 14 00.1**	**+0.2**
	baz=0.9,SNR=620						
TOO				S	**Sg**	**08 14 12.1**	**+0.3**
	baz=0.9						
AURSC	**Rosebud Second**	**1.07**	**264**	P	**Pn**	**08 14 03.4**	**+0.1**
	baz=1.1						
AURSC				S	**Sg**	**08 14 18.1**	**+1.4**
	baz=1.1						
CAN	**Canberra**	**3.68**	**38**	P	**Pn**	**08 14 40.3**	**+1.0**
	baz=3.7						
AUMHS	**Melrose High S**	**3.69**	**39**	P	**Pn**	**08 14 39.8**	**+0.3**
	baz=3.7						
ARPS	**Mount Arapiles**	**3.81**	**292**	P	**Pn**	**08 14 41.8**	**+0.8**
	baz=3.8,SNR=17						
CNB	**Canberra Magne**	**3.87**	**41**	P	**Pn**	**08 14 43.1**	**+1.2**
	baz=3.9						
MOO	**Moorlands**	**4.23**	**170**	P	**Pn**	**08 14 46.8**	**0.0**
	baz=4.2						
MOO				S	**Sn**	**08 15 35.1**	**-1.1**
	baz=4.2						
YNG	**Young**	**4.33**	**24**	P	**Pn**	**08 14 48.5**	**+0.4**
	baz=4.4,SNR=7.5						
CMSA	**Cobar Meteorol**	**6.73**	**356**	P	**Pn**	**08 15 22.0**	**+0.8**
	baz=6.8,SNR=8.4						
STKA	**Stephens Creek**	**7.43**	**328**	Pn	**Pn**	**08 15 31.6**	**+0.8**
	1.8nm,0.3s,baz=143,slow=16,SNR=26						
STKA				Sn	**Sn**	**08 16 51.2**	**-3.8**
	1.4nm,0.3s,baz=221,slow=19,SNR=4.7						
STKA				Lg	Lg	08 17 33.0	
	0.8nm,0.3s,baz=356,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**7.43**	**328**	P	**Pn**	**08 15 31.6**	**+0.8**
	baz=7.5,SNR=12						
HTT	**Hallett**	**7.66**	**307**	P	**Pn**	**08 15 34.8**	**+0.9**
	baz=7.7,SNR=4.0						
ASAR	**Alice Springs**	**17.97**	**321**	P	**P**	**08 17 53.2**	**+0.4**
	0.0nm,0.3s,baz=146,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**20.98**	**327**	P	**P**	**08 18 26.4**	**+0.6**
	0.2nm,0.7s,baz=148,slow=9.0,SNR=4.9						

IDC ***17*** *08:34:46.7±1.6, 4.60N×125.97E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/55, mbtmp3.9/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/46, Error ellipse: s-maj=105.1km s-min=21.9km az=67.0*

MAN ***17*** *08:35:00.0, 4.41N×125.78E, h45km, mb4.5, ML3.4, MS3.2*

ISC 17 08:34:54.7±0.9, 4.06N±0.07×125.6E±0.2, h35km, n12, σ2s73/16, mb3.8/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.04**	**4**	*e*P	**Pn**	**08 35 27.6**	**+1.0**
DDMP				*e*S	**Sn**	**08 35 47.8**	**-3.1**
SKMP	**Bagumbayan, Su**	**2.65**	**337**	*e*P	**Pn**	**08 35 38.3**	**+3.3**
SKMP				*e*S	**Sn**	**08 36 06.3**	**+0.4**
KCP	**Kidapawan**	**2.97**	**351**	⇑*e*P	**Pn**	**08 35 42.3**	**+2.8**
KCP				*i* S	**Sn**	**08 36 18.9**	**+5.0**
BUKP	**Musuan**	**3.83**	**353**	*e*P	**Pn**	**08 35 53.4**	**+2.1**
BUKP				*e*S	**Sn**	**08 36 35.5**	**+0.3**
PAGZ	**Pagadian**	**4.35**	**330**	*e*P	**Pn**	**08 36 00.1**	**+1.7**
PAGZ				*e*S	**Sn**	**08 36 45.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**22.02**	**180**	P	**P**	**08 39 48.0**	**+1.8**
	1.5nm,0.5s,baz=14,slow=9.6,SNR=3.2						
WRA	**Warramunga Arr**	**25.36**	**160**	P	**P**	**08 40 19.0**	**+0.2**
	3.1nm,0.7s,baz=343,slow=10,SNR=30						
PSI	**Prapat**	**26.62**	**268**	LR	LR	08 52 25.3	
	comp=Z,77nm,18.3s,baz=209,slow=39						
ASAR	**Alice Springs**	**28.73**	**164**	P	**P**	**08 40 49.8**	**+0.7**
	0.6nm,0.4s,baz=341,slow=7.0,SNR=26						
STKA	**Stephens Creek**	**38.86**	**158**	P	**P**	**08 42 17.5**	**+0.7**
	2.8nm,0.7s,baz=330,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**56.63**	**326**	P	**P**	**08 44 30.6**	**-3.8**
	0.5nm,0.5s,baz=120,slow=9.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**121.71**	**288**	PKP	**PKPdf**	**08 53 42.6**	**-3.4**
	0.2nm,0.4s,baz=103,slow=2.1,SNR=2.1						

OTT ***17*** *08:38:29.5±1.1, 65.82N×52.42W, h18km, ML3.0/2, Western Greenland. 548km east from Qikiqtarjuaq, Nu*

DNK ***17*** *08:38:32.5±3.4, 65.90N×52.55W, h12km±30km, ML3.1*

ISC 17 08:38:28.0±0.9, 65.88N±0.05×52.75W±0.07, h10km, n12, σ2s97/23, 1C, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**1.41**	**36**	PG	**Pg**	**08 38 55.1**	**0.0**
SFJD				SG	**Sb**	**08 39 11.8**	**-0.7**
SFJD				Trac		08 39 12.9	
	comp=Z,10nm,0.1s						
SFJD	**Kangerlussuaq**	**1.41**	**36**	*e*	**Pg**	**08 38 54.9**	**-0.3**
	baz=206,slow=22						
SFJD				⇑*i*P	**Pg**	**08 38 55.2**	**0.0**
SFJD				IAML		08 39 13.8	
	comp=Z,15nm,0.3s						
NUUK	**Nuuk**	**1.76**	**165**	*i* P	**Pg**	**08 39 02.9**	**+1.2**
NUUK				IAML		08 39 28.7	
	comp=Z,190nm,0.4s						
ILULI	**Ilulissat**	**3.41**	**10**	PN	**Pn**	**08 39 23.1**	**+1.9**
ILULI				SN	**Sn**	**08 40 01.7**	**0.0**
ILULI				Trac		08 40 08.9	
	comp=Z,2.1nm,0.0s						
ILULI	**Ilulissat**	**3.41**	**10**	*i* P	**Pn**	**08 39 25.6**	**+4.4**
ILULI				*i* S	**Sn**	**08 40 02.4**	**+0.8**
ILULI	**Ilulissat**	**3.41**	**10**	*i* P	**Pn**	**08 39 24.9**	**+3.7**
ILULI				*e*P	**Pn**	**08 39 25.6**	**+4.4**
ILULI				*i* S	**Sn**	**08 40 02.5**	**+0.8**
ILULI				IAML		08 40 21.8	
	comp=Z,28nm,0.4s						
ICESG	**Greenland Ices**	**5.97**	**51**	*i* P	**Pn**	**08 40 00.3**	**+3.6**
ICESG				*i* S	**Sn**	**08 41 05.9**	**+0.7**
ICESG				IAML		08 41 33.3	
	comp=Z,11nm,0.4s						
ANGG	**Ammassalik, Gr**	**6.23**	**85**	*i* P	Pn	08 40 06.0	+6.2
ANGG				*e*S	**Sn**	**08 41 07.3**	**-3.7**
ANGG				IAML		08 41 43.1	
	comp=Z,25nm,0.4s						
FRB	**Frobisher Bay**	**7.07**	**260**	PN	**Pn**	**08 40 12.6**	**+1.3**
FRB				SN	**Sn**	**08 41 28.9**	**-2.7**
FRB				Trac		08 41 39.4	
	comp=Z,82nm,1.6s						
SUMG	**Summit**	**8.40**	**31**	*i* P	**Pn**	**08 40 30.7**	**+0.7**
SUMG				*e*S	**Sn**	**08 41 59.3**	**-5.6**
SUMG	**Summit**	**8.40**	**31**	*i* P	**Pn**	**08 40 30.8**	**+0.7**
SUMG				*e*S	**Sn**	**08 41 59.3**	**-5.6**
SUMG				IAML		08 42 07.9	
	comp=Z,11nm,0.3s						
KAJQ	**Kangiqsualujju**	**9.45**	**227**	PN	**Pn**	**08 40 45.5**	**+1.6**
KAJQ				SN	**Sn**	**08 42 26.4**	**-3.6**

SKO ***17*** *08:49:42.1, 40.91N×20.03E, h0km*

TIR ***17*** *08:49:43.1, 41.12N×20.15E, h9km±1km, Md2.5*

BEO ***17*** *08:49:46.6±0.3, 41.17N×20.12E, h0km, ML2.1/5*

ISC 17 08:49:44.4±1.1, 41.15N±0.03×20.15E±0.04, h12km±11km, n15, σ1s32/23, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**313**	*e*Pg	**Pg**	**08 49 49.6**	**-0.8**
TIR				*e*Sg	**Sg**	**08 49 55.0**	**+0.6**
TIR	**Tirane**	**0.29**	**313**	P	**Pg**	**08 49 49.7**	**-0.7**
	baz=318						
TIR				S	**Sg**	**08 49 54.9**	**+0.4**
	baz=318						
OHR	**Ohrid**	**0.49**	**94**	*i* Pg	**Pg**	**08 49 53.5**	**-0.7**
OHR				*i* Sg	**Sg**	**08 50 01.4**	**+0.6**
OHR				*e*Lg	Lg	08 50 02.0	
	comp=N,131nm,0.3s						
PHP	**Peshkopia**	**0.58**	**22**	P	**Pg**	**08 49 55.2**	**-0.6**
	baz=20						
PHP				S	**Sg**	**08 50 04.7**	**+1.2**
	baz=20						
PUK	**Puka**	**0.91**	**348**	P	**Pg**	**08 50 01.7**	**-0.4**
	baz=349						
PUK				S	**Sn**	**08 50 16.1**	**-0.2**
	baz=349						
LSK	**Leskovik**	**1.05**	**161**	P	**Pb**	**08 50 03.5**	**-1.2**
	baz=160						
BCI	**Bajram Curri**	**1.22**	**357**	P	**Pg**	**08 50 07.9**	**0.0**
	baz=358						
BCI				S	**Sg**	**08 50 25.8**	**+2.0**
	baz=358						
PDG	**Podgorica**	**1.44**	**333**	*e*Pg	**Pg**	**08 50 12.1**	**-0.1**
PDG				*e*Sg	**Sg**	**08 50 32.2**	**+1.3**
IGT	**Igoumenitsa**	**1.62**	**175**	*e*Pg	**Pg**	**08 50 14.9**	**-0.6**
IGT				*e*Sg	**Sg**	**08 50 39.9**	**+3.4**
SJES	**Sjenica**	**2.12**	**357**	*e*Pn	**Pb**	**08 50 23.2**	**+0.4**
SELS	**Selova**	**2.19**	**19**	*e*Pn	**Pb**	**08 50 23.4**	**-0.6**
BOSS	**Bosilegrad**	**2.20**	**52**	*e*Pn	**Pb**	**08 50 25.4**	**+1.2**
IVAS	**Ivanjica**	**2.43**	**0**	*e*Pn	**Pb**	**08 50 27.8**	**-0.2**
BBLS	**Lazići**	**2.77**	**349**	*e*Pn	**Pb**	**08 50 32.9**	**-1.0**
ZAPS	**Zavoj**	**2.82**	**40**	*e*Pn	**Pb**	**08 50 32.1**	**-2.5**

NEIC ***17*** *08:53:55.5±2.0, 13.98S±0.09×165.4E±0.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=19.6km s-min=14.0km az=60.0*

IDC ***17*** *08:54:05.5±12.0, 14.93S×164.37E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/28, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=219.2km s-min=35.1km az=48.0*

ISC 17 08:53:58.8±0.8, 14.02S±0.09×165.4E±0.1, h35km, n18, σ1s06/19, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.25**	**130**	Pn	**Pn**	**08 54 33.0**	**-0.4**
DZM	**Mont Dzumac**	**8.07**	**173**	Pn	**Pn**	**08 55 54.0**	**+0.4**
	0.4nm,0.3s,baz=60,slow=20,SNR=0.9						
DZM				Sn	**Sn**	**08 57 23.0**	**-0.8**
	0.2nm,0.3s,baz=190,slow=18,SNR=2.0						
RABL	**Rabaul**	**16.31**	**306**	Pn	**Pn**	**08 57 44.5**	**-0.7**
RABL				IAmb	IAmb	08 57 55.5	
	comp=Z,77nm,0.8s						
STKA	**Stephens Creek**	**28.12**	**227**	P	**P**	**08 59 46.6**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=45,slow=12,SNR=7.5						
STKA	**Stephens Creek**	**28.12**	**227**	P	**P**	**08 59 46.0**	**-1.5**
MSWZ	**Moikau Station**	**28.61**	**164**	P	**P**	**08 59 52.4**	**+0.6**
PLWZ	**Palliser**	**28.76**	**165**	P	**P**	**08 59 53.9**	**+0.7**
WB0	**Warramunga Arr**	**30.19**	**255**	P	**P**	**09 00 07.7**	**+1.6**
WB0				IAmb	IAmb	09 00 18.2	
	comp=Z,6.3nm,1.4s						
WB2	**Warramunga Arr**	**30.25**	**254**	P	**P**	**09 00 08.1**	**+1.4**
WB2				IAmb	IAmb	09 00 09.5	
	comp=Z,5.5nm,1.4s						
WRA	**Warramunga Arr**	**30.26**	**254**	P	**P**	**09 00 08.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=84,slow=9.0,SNR=8.1						
WRA	**Warramunga Arr**	**30.26**	**254**	P	**P**	**09 00 07.2**	**+0.4**
ASAR	**Alice Springs**	**31.26**	**247**	P	**P**	**09 00 16.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=86,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**31.26**	**247**	P	**P**	**09 00 15.5**	**0.0**
FORT	**Forrest**	**38.13**	**238**	P	**P**	**09 01 13.4**	**-1.3**
CASY	**Casey**	**63.51**	**202**	P	**P**	**09 04 24.5**	**-0.7**
CASY				IAmb	IAmb	09 04 47.0	
	comp=Z,4.6nm,1.2s						
VNDA	**Vanda**	**63.54**	**181**	P	**P**	**09 04 26.7**	**+1.5**
CHGN	**Chignik**	**76.30**	**20**	P	**P**	**09 05 44.2**	**+0.6**
H04A	**Detroit Lake**	**87.67**	**43**	P	**P**	**09 06 43.1**	**-0.7**
H04A				IAmb	IAmb	09 06 57.3	
	comp=Z,10nm,1.3s						

IDC 17 09:06:10.1±2.5, 6.65S×131.14E, h47km±37km, mb3.3/1, mb1 4.0/5, mb1mx3.4/41, mbtmp3.9/5, ML3.9/4, Error ellipse: s-maj=76.4km s-min=25.0km az=89.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.74**	**1**	P	Pn	09 07 32.7	-0.1
	5.5nm,0.3s,baz=148,slow=19,SNR=5.8						
SIJI				S	Sn	09 08 31.8	-5.7
	5.3nm,0.3s,baz=180,slow=20,SNR=2.8						
FITZ	**Fitzroy Crossi**	**12.58**	**205**	P	Pn	09 09 07.7	+1.2
	1.1nm,0.3s,baz=32,slow=12,SNR=22						
FITZ				S	Sn	09 11 18.6	-6.7
	3.1nm,0.3s,baz=175,slow=18,SNR=14						
WRA	**Warramunga Arr**	**13.57**	**167**	P	Pn	09 09 18.6	-1.5
	0.5nm,0.3s,baz=349,slow=13,SNR=29						
WRA				S	Sn	09 11 41.1	-8.4
	0.8nm,0.3s,baz=356,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.13**	**171**	P	Pn	09 10 06.3	+0.1
	0.3nm,0.3s,baz=340,slow=9.0,SNR=13						
ASAR				S	Sn	09 13 09.2	-6.7
	0.3nm,0.3s,baz=101,slow=30,SNR=5.6						
MKAR	**Makanchi Array**	**68.56**	**326**	P	P	09 17 08.0	0.0
	0.2nm,0.3s,baz=126,slow=6.0,SNR=2.4						

IDC 17 09:14:43.8±2.7, 54.09N×86.53E, h0km, mb1 3.1/2, mb1mx3.0/49, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=22.6km s-min=12.9km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**262**	*i*		09 22 30.0	
	baz=82,slow=333,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.02**	**262**	Pg	Pg	09 15 01.9	-1.3
	1.4nm,0.3s,baz=82,slow=17,SNR=11						
ZALV				Lg	Lg	09 15 17.7	
	2.8nm,0.3s,baz=78,slow=28,SNR=9.2						
ZALV				Rg	Rg	09 15 23.6	
	3.0nm,0.3s,baz=96,slow=25,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	09 16 15.0	+1.2
	0.2nm,0.3s,baz=56,slow=14,SNR=9.3						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	09 16 39.3	+0.9
	0.3nm,0.3s,baz=24,slow=14,SNR=11						
MKAR				Sn	Sn	09 18 06.5	-0.7
	0.1nm,0.3s,baz=21,slow=26,SNR=2.3						

IDC 17 09:16:59.3±2.5, 54.08N×86.50E, h0km, mb1 3.2/2, mb1mx3.0/50, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=21.9km s-min=12.9km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**263**	*i*		09 24 36.3	
	baz=83,slow=339						
ZALV	**Zalesovo Beam**	**1.00**	**263**	Pg	Pg	09 17 17.1	-1.4
	1.0nm,0.3s,baz=81,slow=17,SNR=8.4						
ZALV				Lg	Lg	09 17 32.2	
	2.3nm,0.3s,baz=86,slow=27,SNR=7.2						
ZALV				Rg	Rg	09 17 38.7	
	22nm,1.0s,baz=81,slow=27,SNR=18						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn	09 18 30.3	+1.2
	0.2nm,0.3s,baz=56,slow=14,SNR=11						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	09 18 54.5	+0.8
	0.3nm,0.3s,baz=26,slow=14,SNR=15						
MKAR				Lg	Lg	09 21 10.0	
	0.0nm,0.3s,baz=22,slow=31,SNR=3.8						

MAN ***17*** *09:25:21.8, 5.52N×126.41E, h1km, mb5.0, ML3.9, MS3.9*

IDC ***17*** *09:25:26.6±2.4, 5.25N×125.79E, h60km±21km, mb3.7/14, mb1 3.8/14, mb1mx3.6/58, mbtmp4.0/14, Error ellipse: s-maj=49.6km s-min=12.5km az=72.0*

NEIC ***17*** *09:25:28.1±1.6, 5.52N±0.08×126.0E±0.2, h71km±6km, mb4.5/9, Error ellipse: s-maj=23.1km s-min=11.3km az=86.0*

ISC 17 09:25:20.3±0.6, 5.35N±0.05×126.01E±0.09, h10km, n42, σ1s54/44, mb4.3/17, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.81**	**339**	*e*P	**Pn**	**09 25 39.3**	**+1.5**
DDMP				*e*S	**Sn**	**09 25 52.9**	**+3.0**
MATI	**Mati**	**1.61**	**9**	*e*P	**Pn**	**09 25 48.4**	**-0.4**
DAV	**Davao City (W)**	**1.76**	**346**	P	**Pg**	**09 25 56.8**	**+2.6**
	136nm,0.3s,baz=264,slow=9.3,SNR=5.1			

comp=Z,3.9nm,0.6s,baz=115,slow=5.9,SNR=8.3
ABKAR **Akbulak array** 70.45 321 P **P** 09 36 34.4 -0.5
ABKAR **Akbulak array** 70.45 321 P **P** 09 36 34.5 -0.4
AKTO **Aktyubinsk** 71.95 321 P **P** 09 36 43.5 -0.5
comp=Z,1.8nm,0.6s,baz=127,slow=5.1,SNR=7.6
ILAR **Eielson Array** 83.96 25 P **P** 09 37 52.8 +2.3
comp=Z,0.2nm,0.6s,baz=231,slow=5.7,SNR=4.8
ILAR **Eielson Array** 83.96 25 P **P** 09 37 50.9 +0.4
ARCES **ARCESS Array B** 88.69 340 P **P** 09 38 12.5 -1.2
comp=Z,1.9nm,0.8s,baz=82,slow=6.5,SNR=4.2
FINES **FINESS Array B** 90.08 332 P **P** 09 38 18.4 -1.8
comp=Z,1.5nm,0.6s,baz=120,slow=7.7,SNR=4.0
FINES **FINESS Array B** 90.08 332 P **P** 09 38 18.7 -1.6
ELL **Elmali** 91.71 307 P **P** 09 38 27.5 -1.1
VA03 **San Esteban** 148.65 153 **PKiKP** 09 45 10.4 +0.4
PATCX **Punta Patache** 158.03 136 **PKPab** 09 45 52.7 +0.9

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*MOS **17** 09:25:58.9±1.4, 6.31S×107.12E, h149km, mb4.9/43, Error ellipse: s-maj=8.3km s-min=4.7km az=117.9*
*DJA **17** 09:26:00.3±0.1, 7.2S×107.1E±*, h159km±2km, M5.0/48, mb5.2/48, mB5.5/40, MLv5.6/29, Mw(mB)4.9/40, Mwp5.2/7*
*NEIC **17** 09:26:00.2±2.1, 6.50S±0.06×107.17E±0.06, h152km±4km, mb5.2/120, Error ellipse: s-maj=9.8km s-min=7.4km az=217.0*
*IDC **17** 09:26:00.7±0.3, 6.42S×107.26E, h150km±2km, mb4.4/46, mb1 4.5/49, mb1mx4.4/64, mbtmp4.9/49, MS3.8/9, Ms1 3.8/9, ms1mx3.4/44, Error ellipse: s-maj=8.2km s-min=5.4km az=50.0*
*GCMT **17** 09:26:02.2±0.2, 6.75S±0.01×107.20E±0.01, h157km±1km, MW5.3/119, Moment Tensor Solution. s98,c136; s119,c205; Duration: 1!1 Moment tensor: Scale 10^17 Nm; Mrr0.49±.01; Mθθ-0.43±.02; Mφφ-0.05±.02; Mrθ-0.65±.01; Mrφ-0.59±.02; Mθφ0.20±.01; Best double couple: Mo1.01500×10^17 NP1:φ±21.00000°, δ41.00000°, λ29.00000°. NP2:φ±268.00000°, δ71.00000°, λ128.00000°. Principal axes: T 1.0300, Plg49.0000°, Azm219.0000°; N -0.0310, Plg35.0000°, Azm74.0000°; P -0.9990, Plg18.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **17** 09:26:02.0, 6.74S×107.00E, h161km, mb5.3*
ISC 17 09:26:00.9±0.3, 6.56S±0.03×107.12E±0.03, h158km±2km, h159km; pP-P, n808, σ1.9 40/891, mb5.0/128, 38C-18D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBJI	**Dramaga**	**0.37**	**271**	P	**Pn**	**09 26 23.1**	**+0.5**
DBJI				S	**Sn**	**09 26 39.4**	**+0.2**
LEM	**Lembang**	**0.56**	**118**	P	**Pn**	**09 26 23.6**	**-0.1**
	2µm,0.3s,baz=348,slow=2.1,SNR=1073						
LEM				S	**Sn**	**09 26 39.6**	**-1.4**
	788nm,0.3s,baz=61,slow=19,SNR=11						
TNG	**Tangerang**	**0.61**	**309**	P	**Pn**	**09 26 24.8**	**+1.1**
SKJI	**Sukabumi**	**0.71**	**232**	P	**Pn**	**09 26 24.0**	**-0.4**
CNJI	**Cibinong**	**0.74**	**179**	P	**Pn**	**09 26 23.3**	**-1.2**
CNJI				S	**Sn**	**09 26 39.9**	**-2.8**
JCJI	**Jatiwangi**	**1.14**	**87**	P	**Pn**	**09 26 27.8**	**+0.2**
CISI	**Cisompet, Garu**	**1.20**	**145**	Pn	**Pn**	**09 26 26.9**	**-1.4**
CISI				Sn	**Sn**	**09 26 46.9**	**-2.4**
CGJI	**Cibinong**	**1.42**	**268**	P	**Pn**	**09 26 30.7**	**+0.4**
CMJI	**Cimerak**	**1.79**	**133**	P	**Pn**	**09 26 32.8**	**-1.4**
KPJI	**Karang Pucung**	**1.95**	**113**	P	**Pn**	**09 26 36.0**	**0.0**
BLSI	**Bandar Lampung**	**2.21**	**302**	P	**Pn**	**09 26 40.9**	**+1.9**
KASI	**Kota Agung**	**2.81**	**291**	P	**Pn**	**09 26 47.8**	**+1.6**
SMRI	**Semarang**	**3.33**	**99**		**Pn**	**09 26 53.2**	**+0.4**
SMRI				Sn	**Sn**	**09 27 35.5**	**+2.5**
LWLI	**Liwa**	**3.41**	**297**	P	**Pn**	**09 26 55.9**	**+2.0**
MDSI	**Maura Dua**	**3.58**	**305**	P	**Pn**	**09 26 58.6**	**+2.6**
UGM	**Wanagama**	**3.63**	**112**	Pn	**Pn**	**09 26 56.0**	**-0.6**
UGM				Sn	**Sn**	**09 27 36.9**	**-3.1**
TPI	**Tanjungpandan**	**3.82**	**8**	P	**Pn**	**09 27 01.4**	**+2.4**
WOJI	**Wonogiri, Jawa**	**3.98**	**109**	P	**Pn**	**09 27 00.0**	**-1.1**
XMIS	**Christmas Isla**	**4.16**	**200**	Pn	Pn	09 26 58.6	-4.9
PMBI	**Palembang**	**4.30**	**327**		**Pn**	**09 27 09.4**	**+4.0**
PPBI	**Pangkal Pinang**	**4.48**	**347**	P	**Pn**	**09 27 11.1**	**+3.4**
LHSI	**Lahat**	**4.50**	**307**	P	**Pn**	**09 27 10.1**	**+2.2**
MNAI	**Manna**	**4.69**	**298**	Pn	**Pn**	**09 27 10.9**	**+0.5**
TBJI	**Tambak Boyo**	**4.70**	**93**	P	**Pn**	**09 27 12.3**	**+1.8**
PWJI	**Pagerwojo**	**4.87**	**108**	P	**Pn**	**09 27 12.7**	**0.0**
GRJI	**Gresik**	**5.33**	**94**	P	**Pn**	**09 27 20.3**	**+1.4**
	2.9nm461nm8µm1µm,1.0s						
KSI	**Kapahiang**	**5.36**	**302**	P	**Pn**	**09 27 20.3**	**+1.0**
	7.6nm5µm29µm3µm,1.0s						
MASI	**Maura Aman, Be**	**5.93**	**305**	P	**Pn**	**09 27 28.3**	**+1.4**
	12nm35µm4µm,1.1s						
PBKI	**Pangkalan Bun**	**5.93**	**50**	P	**Pn**	**09 27 29.2**	**+2.3**
	2.9nm8µm836nm,1.1s						
GMJI	**Gumukmas**	**6.50**	**106**	P	**Pn**	**09 27 34.7**	**+0.4**
	3.5nm6µm14µm923nm,1.1s						
BLJI	**Banyuglugur**	**6.53**	**101**	P	**Pn**	**09 27 35.3**	**+0.6**
	6.7nm32µm961nm,0.7s						
DSRI	**Dabo**	**6.55**	**337**	P	**Pn**	**09 27 38.0**	**+2.9**
	1.4nm3µm5µm377nm,1.4s						
KMMI	**Kalianget**	**6.81**	**94**	P	**Pn**	**09 27 38.8**	**+0.3**
	1.9nm7µm631nm,1.2s						
ABJI	**Asem Bagus**	**7.16**	**100**	P	**Pn**	**09 27 43.8**	**+0.6**
	8.5nm28µm3µm,0.9s						
KRJI	**Kerinci**	**7.18**	**308**	P	**Pn**	**09 27 44.7**	**+1.2**
	9.5nm26µm3µm,1.1s						
JAGI	**Jajag, Banyuwa**	**7.22**	**106**	Pn	**Pn**	**09 27 42.3**	**-1.7**
RGRI	**Rengat**	**7.80**	**322**	P	**Pn**	**09 27 54.9**	**+3.2**
	3.8nm267nm,1.0s						
STKI	**Sintang**	**7.89**	**34**	P	**Pn**	**09 27 56.5**	**+3.6**
SDSI	**Sungai Dareh**	**7.97**	**314**	P	**Pn**	**09 27 54.5**	**+0.6**
	4µm296nm,1.1s						
BBKI	**Banjar Baru**	**8.28**	**69**	P	**Pn**	**09 27 59.5**	**+1.4**
	5µm98nm,1.2s						
KSM	**Kuching**	**8.59**	**22**	Pn	**Pn**	**09 28 04.7**	**+2.5**
KSM	**Kuching**	**8.59**	**22**	P	**Pn**	**09 28 05.0**	**+2.8**
MYKOM	**Kota Tinggi**	**8.92**	**338**	Pn	**Pn**	**09 28 09.0**	**+2.5**
MYKOM	**Kota Tinggi**	**8.92**	**338**	P	**Pn**	**09 28 09.0**	**+2.5**
BKNI	**Bangkinang**	**9.15**	**318**		**Pn**	**09 28 10.9**	**+1.3**
SISI	**Saibi**	**9.55**	**303**	P	**Pn**	**09 28 13.8**	**-1.1**
	8µm624nm,1.1s						
TWSI	**Taliwang, Sumb**	**9.91**	**103**	P	**Pn**	**09 28 18.7**	**-1.0**
	2µm109nm,0.5s						
SBUM	**Sibu**	**10.30**	**30**	Pn	**Pn**	**09 28 28.5**	**+3.8**
SBUM	**Sibu**	**10.30**	**30**	P	**Pn**	**09 28 29.0**	**+4.2**
MNSI	**Mandailing Nat**	**10.49**	**314**	P	**Pn**	**09 28 25.9**	**-1.4**
	5µm237nm,0.9s						
PLAI	**Plampang**	**10.79**	**103**	P	**Pn**	**09 28 28.6**	**-2.7**
	4µm400nm,1.2s						
PBSI	**Pulau Batu**	**10.94**	**306**	P	**Pn**	**09 28 31.1**	**-2.1**
	10µm1µm,1.2s						
COCO	**West Island**	**11.59**	**240**	P	**Pn**	**09 28 41.1**	**-0.6**
COCO	**West Island**	**11.59**	**240**		**Pn**	**09 28 41.1**	**-0.6**
RPSI	**Rantau Prapat**	**12.31**	**318**		**Pn**	**09 28 49.3**	**-1.8**
RPSI	**Rantau Prapat**	**12.31**	**318**	Pn	**Pn**	**09 28 48.1**	**-2.9**
GSI	**Gunungsitoli**	**12.32**	**309**	Pn	**Pn**	**09 28 48.2**	**-3.1**
PSI	**Prapat**	**12.39**	**318**	P	**Pn**	**09 28 49.3**	**-2.9**
	9.5nm,0.3s,baz=170,slow=11,SNR=29						
PSI	**Prapat**	**12.39**	**318**	P	**Pn**	**09 28 48.1**	**-4.1**
IPM	**Ipoh**	**12.54**	**331**		**Pn**	**09 28 55.1**	**+1.0**
IPM	**Ipoh**	**12.54**	**331**	P	**P**	**09 28 57.0**	**-2.4**
KAPI	**Kappang**	**12.66**	**84**	P	**Pn**	**09 28 54.5**	**-1.0**
	baz=127,slow=15,SNR=1.3						
KAPI				LR	LR	09 34 44.4	
	comp=Z,332nm,18.6s,baz=264,slow=42						
SPSI	**Sidrap Palu**	**12.85**	**79**	P	**P**	**09 29 00.6**	**-2.2**
	26nm,1.2s						
BKSI	**Bulukumba**	**12.99**	**85**	P	**Pn**	**09 29 01.3**	**+1.5**
	1µm43nm,1.1s						
TTSI	**Tana Toraja**	**13.12**	**75**	P	**P**	**09 29 04.2**	**-1.6**
	31nm,1.1s						
KULM	**Kulim**	**13.43**	**331**	Pn	**Pn**	**09 29 06.3**	**+0.9**
KULM	**Kulim**	**13.43**	**331**	P	**Pn**	**09 29 06.0**	**+0.6**
BASI	**Baing, Sumba**	**13.80**	**106**	P	**Pn**	**09 29 06.0**	**-4.0**
	2µm5µm390nm,1.3s						
MPSI	**Mapaga**	**14.47**	**62**	P	**P**	**09 29 21.9**	**+1.1**
	932nm64nm,1.1s						
SPMM	**Sapulut**	**14.57**	**40**	P	P	09 29 27.0	+5.0
EDFI	**Ende, Flores**	**14.60**	**99**	P	**Pn**	**09 29 17.6**	**-2.6**
	1µm50nm,0.5s						
MMRI	**Maumere**	**15.12**	**99**	P	**Pn**	**09 29 26.4**	**-0.2**
	4µm312nm,1.2s						
MMRI	**Maumere**	**15.12**	**99**	Pn	**Pn**	**09 29 24.0**	**-2.6**
MLSI	**Meulaboh, Aceh**	**15.17**	**315**	P	**Pn**	**09 29 25.2**	**-2.0**
	4µm124nm,0.7s						
KKM	**Kota Kinabalu**	**15.46**	**36**		**P**	**09 29 31.9**	**0.0**
LHMI	**Lhok Sumawe**	**15.50**	**319**	Pn	**Pn**	**09 29 28.2**	**-3.1**
LHMI					IAmb	IAmb	09 29 36.0
	comp=Z,105nm,1.0s						
BATI	**Baumata**	**16.76**	**104**	P	**P**	**09 29 45.9**	**-0.3**
	comp=Z,57nm,0.3s,baz=266,slow=6.6,SNR=14						
BATI				S	**S**	**09 32 49.5**	**-3.1**
	comp=Z,17nm,0.3s,baz=72,slow=20,SNR=2.9						
BATI	**Baumata**	**16.76**	**104**	P	**Pn**	**09 29 46.4**	**-0.2**
	comp=Z,3µmcomp=Z,175nm,0.7s						
SOEI	**Soe**	**17.26**	**102**	P	**P**	**09 29 50.8**	**-1.0**
	comp=Z,4µmcomp=Z,447nm,1.0s						
SOEI	**Soe**	**17.26**	**102**	P	**P**	**09 29 49.0**	**-2.8**
GTOI	**Gorontalo**	**17.39**	**66**	P	**P**	**09 29 53.0**	**-0.1**
	comp=Z,864nmcomp=Z,27nm,1.6s						
GIRL	**Giralia**	**17.40**	**158**	P	**Pn**	**09 29 55.4**	**+1.2**
	baz=17,SNR=158						
GIRL	**Giralia**	**17.40**	**158**		**Pn**	**09 29 54.4**	**+0.3**
DLV	**T Lat**	**18.43**	**4**	P	**Pn**	**09 30 08.1**	**+1.4**
BATP	**Bataraza**	**18.60**	**35**	*eP*	**Pn**	**09 30 09.6**	**+1.2**
MBWA	**Marble Bar**	**18.96**	**141**	P	**P**	**09 30 10.7**	**+0.5**
PSAD1	**Pilbara Seismi**	**19.24**	**142**	P	**P**	**09 30 13.9**	**+0.7**
PSAC1	**Pilbara Seismi**	**19.29**	**142**	P	**P**	**09 30 14.4**	**+0.7**
PSAB1	**Pilbara Seismi**	**19.32**	**142**	P	**P**	**09 30 14.6**	**+0.5**
PSAA2	**Pilbara Seismi**	**19.33**	**142**	P	**P**	**09 30 14.8**	**+0.6**
SANI	**Sanana**	**19.33**	**77**	P	**P**	**09 30 13.9**	**-0.4**
	comp=Z,1µmcomp=Z,18nm,1.1s						
PSAA1	**Pilbara Seismi**	**19.34**	**142**	P	**P**	**09 30 14.4**	**+0.1**
PSA00	**Pilbara Seismi**	**19.34**	**142**	P	**P**	**09 30 14.7**	**+0.4**
PSA00	**Pilbara Seismi**	**19.34**	**142**	P	**P**	**09 30 14.0**	**-0.3**
PSA00				IAmb	IAmb	09 30 25.8	
	comp=Z,81nm,0.9s						
PSAB3	**Pilbara Seismi**	**19.36**	**142**	P	**P**	**09 30 15.2**	**+0.7**
PSAC2	**Pilbara Seismi**	**19.37**	**142**	P	**P**	**09 30 15.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.39**	**124**	P	**P**	**09 30 36.9**	**+0.6**
	comp=Z,39nm,0.8s,baz=305,slow=6.4,SNR=76						
FITZ				S	**S**	**09 34 22.1**	**-2.0**
	comp=Z,5.1nm,0.5s,baz=335,slow=22,SNR=9.8						
FITZ				ScP	**ScP**	**09 37 56.0**	**-0.1**
	comp=Z,7.9nm,0.7s,baz=328,slow=7.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**21.39**	**124**	P	**P**	**09 30 36.4**	**+0.2**
	baz=21,SNR=39						
FITZ	**Fitzroy Crossi**	**21.39**	**124**	P	**P**	**09 30 32.4**	**-3.9**
TNTI	**Ternate**	**21.48**	**71**	P	**P**	**09 30 38.8**	**+1.5**
	comp=Z,2µmcomp=Z,56nm,1.1s						
TNTI	**Ternate**	**21.48**	**71**	P	**P**	**09 30 38.0**	**+0.8**
TNTI				IAmb	IAmb	09 31 16.0	
	comp=Z,122nm,1.1s						
ENPP	**El Nido**	**21.48**	**35**	*eP*	**P**	**09 30 38.2**	**+1.0**
PAGZ	**Pagadian**	**21.63**	**49**	*eP*	**P**	**09 30 43.4**	**+4.5**
SKMP	**Bagumbayan, Su**	**21.70**	**54**	*eP*	**P**	**09 30 40.8**	**+1.2**
UBPT	**Khong Chiam**	**21.76**	**356**	P	**P**	**09 30 39.5**	**-0.7**
UBPT				IAmb	IAmb	09 31 17.1	
	comp=Z,197nm,1.6s						
CUYO	**Cuyo Island**	**22.15**	**39**	*eP*	**P**	**09 30 46.8**	**+2.6**
DDMP	**Don Marcelino,**	**22.41**	**56**	*eP*	**P**	**09 30 49.5**	**+2.8**
KCP	**Kidapawan**	**22.43**	**53**	*eP*	**P**	**09 30 50.6**	**+3.7**
CNOP	**Candoni, Negro**	**22.45**	**44**	*eP*	**P**	**09 30 48.6**	**+1.6**
BUSP	**Coron**	**22.57**	**35**	*eP*	**P**	**09 30 49.7**	**+1.6**
MEEK	**Meekatharra**	**22.77**	**153**	P	**P**	**09 30 50.3**	**+0.4**
	baz=23,SNR=28						
BUKP	**Musuan**	**22.93**	**52**	*eP*	**P**	**09 30 53.5**	**+1.9**
GUIM	**Jordan**	**22.99**	**42**	*eP*	**P**	**09 30 54.7**	**+2.7**
KNRA	**Kununurra**	**23.06**	**115**	P	**P**	**09 30 52.5**	**-0.2**
	baz=23,SNR=29						
KNRA	**Kununurra**	**23.06**	**115**	P	**P**	**09 30 52.2**	**-0.4**
KNRA				IAmb	IAmb	09 31 22.0	
	comp=Z,126nm,1.0s						
MORW	**Morawa**	**23.92**	**160**	P	**P**	**09 31 00.7**	**+0.4**
	baz=24,SNR=28						
MORW	**Morawa**	**23.92**	**160**	P	**P**	**09 31 01.0**	**+0.6**
MORW				IAmb	IAmb	09 31 01.3	
	comp=Z,51nm,0.7s						
OTRP	**Odiongan**	**23.93**	**38**	*eP*	**P**	**09 31 02.3**	**+1.7**
MSLP	**Maasin**	**24.23**	**47**	*eP*	**P**	**09 31 00.4**	**-3.0**
MTN	**Manton Dam**	**24.46**	**107**	P	**P**	**09 31 05.8**	**+0.4**
	baz=24,SNR=22						
MTN	**Manton Dam**	**24.46**	**107**	P	**P**	**09 31 06.0**	**+0.6**
SIJI	**Sorong**	**24.74**	**78**	P	**P**	**09 31 07.4**	**-0.6**
	comp=Z,30nm,0.8s,baz=228,slow=4.6,SNR=6.5						
GLSP	**General Luna,**	**24.94**	**50**	*eP*	P	09 31 40.6	+31
LQP	**Lukban**	**25.03**	**35**	*eP*	**P**	**09 31 13.7**	**+2.9**
FAKI	**Fak Fak**	**25.30**	**83**	P	**P**	**09 31 13.3**	**+0.2**
BLDU	**Ballidu**	**25.57**	**161**	P	**P**	**09 31 15.4**	**+0.1**
	baz=26,SNR=22						
QIZ	**Qiongzhong**	**25.57**	**6**	P	**P**	**09 31 17.6**	**+2.2**
QIZ				pP	**pP**	**09 31 46.9**	**-1.3**
QIZ				S	**S**	**09 35 36.8**	**+5.2**
QIZ				LR	LR		
	comp=Z,430nm,13.4s						
QIZ				LR	LR		
	comp=Z,370nm,11.4s						
QIZ				LR	LR		
	comp=Z,240nm,12.5s						
KDU	**Kakadu**	**25.71**	**106**	P	**P**	**09 31 16.6**	**-0.2**
	baz=26,SNR=15						
CM31	**Chiang Mai Arr**	**26.14**	**342**	P	**P**	**09 31 20.7**	**+0.1**
	SNR=9.3						
CM31	**Chiang Mai Arr**	**26.14**	**342**	P	**P**	**09 31 20.0**	**-0.6**
CM31				IAmb	IAmb	09 32 00.3	
	comp=Z,56nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.14**	**342**	P	**P**	**09 31 20.1**	**-0.4**
	comp=Z,10.0nm,0.9s,baz=179,slow=8.8,SNR=62						
CMAR				ScP	**ScP**	**09 38 09.1**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=196,slow=3.1,SNR=20						
CMAR	**Chiang Mai Arr**	**26.14**	**342**	*ceP*	**P**	**09 31 20.3**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.14**	**342**	P	**P**	**09 31 19.8**	**-0.7**
CHTO	**Chiang Mai**	**26.47**	**342**	P	**P**	**09 31 23.5**	**0.0**
CHTO				pmax	pmax		
	comp=Z,56nm,1.3s						
CHTO	**Chiang Mai**	**26.47**	**342**	P	**P**	**09 31 23.5**	**0.0**
CHTO				IAmb	IAmb	09 32 02.0	
	comp=Z,56nm,1.3s						
MUN	**Mundaring**	**26.67**	**163**	P	**P**	**09 31 25.7**	**+0.5**
	baz=27,SNR=17						
KLBR	**Kellerberrin**	**26.82**	**160**	P	**P**	**09 31 26.6**	**+0.1**
	baz=27,SNR=62						
WRKA	**Warakurna**	**27.35**	**135**	P	**P**	**09 31 31.6**	**+0.1**
	baz=27,SNR=43						
NWAO	**Narrogin (SRO)**	**27.87**	**162**	P	**P**	**09 31 36.0**	**+0.1**
	comp=Z,41nm,0.6s,baz=332,slow=9.4,SNR=37						
NWAO				LR	LR	09 42 12.5	
	comp=Z,155nm,21.9s,baz=20,slow=35						
NWAO	**Narrogin (SRO)**	**27.87**	**162**	P	**P**	**09 31 36.0**	**+0.1**
	baz=28,SNR=20						
NWAO	**Narrogin (SRO)**	**27.87**	**162**	P	**P**	**09 31 36.0**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,36nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.87**	**162**	P	**P**	**09 31 36.0**	**+0.1**
NWAO				IAmb	IAmb	09 31 36.9	
	comp=Z,36nm,0.7s						
KMBL	**Kambalda**	**28.28**	**153**	P	**P**	**09 31 39.5**	**-0.1**
	baz=28,SNR=38						
RKGY	**Rocky Gully**	**29.36**	**163**	P	**P**	**09 31 50.4**	**+1.4**
	baz=29,SNR=51						
WB0	**Warramunga Arr**	**29.56**	**119**	P	**P**	**09 31 50.8**	**-0.2**
WB0				IAmb	IAmb	09 32 44.2	
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**29.58**	**119**	P	**P**	**09 31 51.2**	**0.0**
	comp=Z,12nm,0.7s,baz=295,slow=10,SNR=62						
WRA				pP	**pP**	**09 32 22.8**	**-2.0**
	comp=Z,20nm,0.8s,baz=290,slow=11,SNR=5.9						
WRA				PcP	**PcP**	**09 34 53.0**	**+0.7**
	comp=Z,11nm,0.4s,baz=314,slow=2.2,SNR=23						
WRA				S	**S**	**09 36 31.4**	**-3.5**
	comp=Z,18nm,1.1s,baz=297,slow=17,SNR=7.8						
WRA				ScP	**ScP**	**09 38 20.3**	**+0.7**
	comp=Z,9.8nm,0.9s,baz=305,slow=3.3,SNR=9.5						
WRA				LR	LR	09 43 29.7	
	comp=Z,142nm,21.7s,baz=345,slow=36						
WRAB	**Tennant Creek**	**29.58**	**119**	*cP*	**P**	**09 31 51.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s						
WRAB	**Tennant Creek**	**29.58**	**119**	P	**P**	**09 31 50.7**	**-0.5**
WRAB				IAmb	IAmb	09 32 44.3	
	comp=Z,34nm,1.0s						
WB2	**Warramunga Arr**	**29.59**	**119**	P	**P**	**09 31 51.2**	**-0.1**
WB2				IAmb	IAmb	09 32 50.1	
	comp=Z,29nm,0.9s						
WC3	**Warramunga Arr**	**29.61**	**119**	P	**P**	**09 31 51.0**	**-0.5**
WC3				IAmb	IAmb	09 32 27.9	
	comp=Z,36nm,0.9s						
PALK	**Pallekele**	**29.72**	**297**	P	**P**	**09 31 52.3**	**-0.3**
PALK				pmax	pmax		
	comp=Z,41nm,1.1s						
PALK	**Pallekele**	**29.72**	**297**	P	**P**	**09 31 52.3**	**-0.3**
PALK				IAmb	IAmb	09 31 56.1	
	comp=Z,41nm,1.1s						
WR0	**Warramunga Arr**	**29.76**	**119**	P	**P**	**09 31 52.8**	**0.0**
WR0				IAmb	IAmb	09 32 46.1	
	comp=Z,49nm,1.1s						
AS31	**Alice Springs**	**30.85**	**126**	P	**P**	**09 32 02.0**	**-0.4**
ASAR	**Alice Springs**	**30.85**	**126**	P	**P**	**09 32 02.8**	**+0.4**
	comp=Z,14nm,0.5s,baz=301,slow=8.5,SNR=201						
ASAR				pP	**pP**	**09 32 34.6**	**-1.4**
	comp=Z,19nm,0.9s,baz=301,slow=8.6,SNR=5.8						
ASAR				PcP	**PcP**	**09 34 56.2**	**+0.6**
	comp=Z,8.4nm,0.9s,baz=296,slow=2.5,SNR=8.0						
ASAR				S	**S**	**09 36 52.5**	**-2.2**
	comp=Z,56nm,1.0s,baz=293,slow=15,SNR=32						
ASAR				ScP	**ScP**	**09 38 24.6**	**+0.8**
	comp=Z,13nm,0.8s,baz=307,slow=2.7,SNR=16						
ASAR				LR	LR	09 45 20.3	
	comp=Z,131nm,19.8s,baz=275,slow=38						
ASAR	**Alice Springs**	**30.85**	**126**	P	**P**	**09 32 02.6**	**+0.2**
ASAR	**Alice Springs**	**30.85**	**126**	P	**P**	**09 32 02.6**	**+0.2**
FORT	**Forrest**	**31.08**	**143**	P	**P**	**09 32 04.9**	**+0.6**
	baz=31,SNR=12						
FORT	**Forrest**	**31.08**	**143**	P	**P**	**09 32 04.8**	**+0.5**
GYA	**Guiyang**	**32.83**	**359**	⇑P	**P**	**09 32 21.3**	**+1.6**
GYA				pP	pP	09 32 55.3	+2.1
GYA				S	**S**	**09 37 25.4**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,3.9s						
GYA				LR	LR		
	comp=Z,250nm,6.8s						
GYA				LR	LR		
	comp=Z,160nm,5.9s						
GYA				LR	LR		
	comp=Z,260nm,10.9s						
H08S2	**Diego Garcia H**	**34.38**	**266**	P	**P**	**09 32 36.7**	**+3.8**
	baz=60,slow=9.1,SNR=6.7						
H08S3	**Diego Garcia H**	**34.38**	**266**	P	**P**	**09 32 36.5**	**+3.5**
	baz=60,slow=9.1,SNR=5.1						
H08S1	**Diego Garcia H**	**34.39**	**266**	P	**P**	**09 32 36.6**	**+3.6**
	baz=60,slow=9.1,SNR=6.5						
QIS	**Mount Isa**	**34.41**	**117**	P	**P**	**09 32 33.9**	**+0.5**
	baz=34,SNR=55						
DGAR	**Diego Garcia**	**34.42**	**266**	⇑*eP*	**P**	**09 32 32.2**	**-1.3**
DGAR				pmax	pmax		
	comp=Z,88nm,0.8s						
SHL	**Shillong**	**35.20**	**336**	P	**P**	**09 32 39.0**	**-1.3**
SHL				pmax	pmax		
	comp=Z,19nm,0.9s						
SHL	**Shillong**	**35.20**	**336**	P	**P**	**09 32 39.0**	**-1.3**
COEN	**Coen**	**36.19**	**105**	P	**P**	**09 32 49.0**	**+0.3**
	baz=36,SNR=32						
COEN	**Coen**	**36.19**	**105**	P	**P**	**09 32 48.2**	**-0.5**
COEN				IAmb	IAmb	09 33 22.4	
	comp=Z,40nm,1.0s						
ENH	**Enshi**	**36.69**	**3**	P	**P**	**09 32 52.6**	**-0.1**
ENH				IAmb	IAmb	09 33 33.1	
	comp=Z,66nm,1.4s						
HYB	**Hyderabad**	**36.94**	**311**	*i*P	**P**	**09 32 54.0**	**-1.0**
CD2	**Chengdu**	**37.40**	**355**	P	**P**	**09 33 00.6**	**+1.9**
CD2				pP	pP	09 33 35.6	+2.8
CD2				PP	**PnPn**	**09 34 34.5**	**+4.3**
CD2				S	**S**	**09 38 40.0**	**+4.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,350nm,10.2s						
CD2				LR	LR		
	comp=Z,220nm,8.0s						
BBOO	**Buckleboo**	**37.49**	**138**	P	**P**	**09 32 59.7**	**+0.2**
	baz=37,SNR=25						
BBOO	**Buckleboo**	**37.49**	**138**	P	**P**	**09 32 58.9**	**-0.6**
BBOO				IAmb	IAmb	09 33 00.2	
	comp=Z,33nm,0.7s						
MTSU	**Mount Surprise**	**38.03**	**111**	P	**P**	**09 33 05.1**	**+0.9**
	baz=38,SNR=88						
LSA	**Lhasa**	**39.19**	**338**	P	**P**	**09 33 13.3**	**-0.9**
LSA				pmax	pmax		
	comp=Z,39nm,1.3s						
LSA	**Lhasa**	**39.19**	**338**	P	**P**	**09 33 13.3**	**-0.9**
LSA				IAmb	IAmb	09 33 52.4	
	comp=Z,39nm,1.3s						
PMG	**Port Moresby**	**39.73**	**97**	P	**P**	**09 33 19.3**	**+0.9**
	comp=Z,16nm,0.4s,baz=124,slow=11,SNR=11						
PMG				ScP	**ScP**	**09 38 56.3**	**+0.3**
	comp=Z,16nm,0.7s,baz=0.0,slow=0.0,SNR=3.0						
PMG	**Port Moresby**	**39.73**	**97**	*deP*	**P**	**09 33

EIDS	**Eidsvold**	**45.94**	**119**		P		**P**	**09 34 09.5 +1.2**
EIDS					IAmb		IAmb	09 34 45.0
	comp=Z,54nm,1.4s							
GTA	**Gaotai**	**46.24**	**352**	⇑	P		**P**	**09 34 11.8 +1.4**
GTA					ScP		**ScP**	**09 39 25.1 +3.1**
GTA					S		**S**	**09 40 44.3 -0.8**
GTA					sS		sS	09 41 45.6 -1.1
GTA					ScS		**ScS**	**09 43 45.1 -4.3**
GTA					pmax		pmax	
	comp=Z,17nm,1.2s							
GTA					pmax		pmax	
	comp=Z,91nm,5.6s							
GTA					LR		LR	
	comp=Z,940nm,11.6s							
GTA					LR		LR	
	comp=Z,320nm,11.3s							
GTA					LR		LR	
	comp=Z,1μm,10.9s							
TOO	**Toolangi**	**46.54**	**137**		P		**P**	**09 34 15.3 +2.6**
	baz=46,SNR=22							
TOO	**Toolangi**	**46.54**	**137**		P		**P**	**09 34 15.1 +2.3**
TOO					pmax		pmax	
	comp=Z,61nm,1.3s							
TOO	**Toolangi**	**46.54**	**137**		P		**P**	**09 34 15.1 +2.3**
TOO					IAmb		IAmb	09 34 16.5
	comp=Z,61nm,1.3s							
TJN	**Taejon**	**46.74**	**23**	⇓	*eP*		**P**	**09 34 14.5 +0.3**
TJN					*i* *PP		**pP**	**09 34 50.0 +0.4**
BTO	**Baotou**	**47.01**	**3**		*eP*		**P**	**09 34 15.9 -0.5**
YNG	**Young**	**47.01**	**132**		P		**P**	**09 34 18.0 +1.5**
	baz=47,SNR=28							
HHC	**Hu-ho-hao-te**	**47.35**	**5**		*eP*		**P**	**09 34 21.8 +2.8**
HHC					PP		**PP**	**09 36 14.4 +2.6**
HHC					S		**S**	**09 41 04.0 +3.1**
HHC					SS		**SS**	**09 44 28.5 -2.3**
HHC					pmax		pmax	
	comp=Z,28nm,0.9s							
HHC					pmax		pmax	
	comp=Z,94nm,6.3s							
HHC					LR		LR	
	comp=Z,690nm,11.3s							
HHC					LR		LR	
	comp=Z,400nm,11.8s							
HHC					LR		LR	
	comp=Z,820nm,12.2s							
KSAR	**Wonju Array Be**	**47.88**	**22**		P		**P**	**09 34 23.7 +0.7**
KSAR	**Wonju Array Be**	**47.88**	**22**		P		**P**	**09 34 23.7 +0.7**
KSRS	**Korea Array**	**47.90**	**22**		P		**P**	**09 34 23.9 +0.8**
	comp=Z,6.4nm,0.8s,baz=209,slow=9.6,SNR=20							
KSRS					pP		**pP**	**09 34 57.9 -0.9**
	comp=Z,13nm,0.9s,baz=207,slow=9.2,SNR=11							
KSRS	**Korea Array**	**47.90**	**22**		P		**P**	**09 34 24.0 +0.8**
CAN	**Canberra**	**47.91**	**133**		P		**P**	**09 34 25.2 +1.7**
	baz=48							
CAN	**Canberra**	**47.91**	**133**		P		**P**	**09 34 24.3 +0.8**
CAN					pmax		pmax	
	comp=Z,83nm,1.3s							
CAN	**Canberra**	**47.91**	**133**		P		**P**	**09 34 24.3 +0.8**
CAN					IAmb		IAmb	09 34 26.3
	comp=Z,83nm,1.3s							
KS19	**Wonju Array Si**	**47.92**	**22**		P		**P**	**09 34 24.0 +0.6**
KS19					IAmb		IAmb	09 35 03.4
	comp=Z,41nm,1.4s							
ARMA	**Armidale**	**47.99**	**125**		P		**P**	**09 34 26.2 +2.0**
	baz=48,SNR=5.6							
ARMA	**Armidale**	**47.99**	**125**		P		**P**	**09 34 26.2 +2.0**
JHS	**Saijyo**	**48.06**	**29**		P		**P**	**09 34 25.0 +0.5**
JHS					IAmb		IAmb	09 35 02.7
	comp=Z,53nm,0.9s							
MGCD	**Mangrove Creek**	**48.61**	**129**		P		**P**	**09 34 30.9 +2.1**
	baz=48,SNR=5.8							
JWT	**Wachi**	**49.41**	**31**		P		**P**	**09 34 34.5 -0.3**
MOO	**Moorlands**	**50.27**	**142**		P		**P**	**09 34 43.3 +2.1**
	baz=50,SNR=9.6							
TAU	**Tasmania Unive**	**50.61**	**142**		P		**P**	**09 34 45.2 +1.5**
TAU					pmax		pmax	
	comp=Z,33nm,0.8s							
TAU	**Tasmania Unive**	**50.61**	**142**		P		**P**	**09 34 45.2 +1.5**
TAU					IAmb		IAmb	09 34 46.2
	comp=Z,33nm,0.8s							
NIL	**Nilore**	**51.28**	**323**		P		**P**	**09 34 46.5 -2.4**
NIL					pmax		pmax	
	comp=Z,21nm,0.9s							
NIL	**Nilore**	**51.28**	**323**		P		**P**	**09 34 46.5 -2.4**
RER	**Riviere de l'E**	**51.71**	**248**		P		**P**	**09 34 52.5 +0.1**
MAJO	**Matsushiro**	**51.84**	**32**	⇓	*eP*		**P**	**09 34 51.2 -1.7**
MAJO					pmax		pmax	
	comp=Z,7.0nm,1.1s							
MAT	**Matsushiro**	**51.84**	**32**		P		**P**	**09 34 52.9 0.0**
MAT					*e*S		**S**	**09 42 04.2 +1.0**
MJAR	**Matsushiro Arr**	**51.84**	**32**		P		**P**	**09 34 51.8 -1.2**
	comp=Z,2.1nm,0.8s,baz=216,slow=6.0,SNR=2.5							
MJAR					pP		**pP**	**09 35 27.8 -1.2**
	comp=Z,16nm,1.1s,baz=213,slow=8.6,SNR=9.9							
MJAR	**Matsushiro Arr**	**51.84**	**32**		P		**P**	**09 34 51.4 -1.5**
MJAR					pmax		pmax	
	comp=Z,14nm,1.2s							
MJAR	**Matsushiro Arr**	**51.84**	**32**		P		**P**	**09 34 51.4 -1.5**
HNR	**Honiara**	**52.35**	**97**		P		**P**	**09 34 56.8 -0.3**
	comp=Z,34nm,0.5s,baz=217,slow=5.1,SNR=2.4							
HNR	**Honiara**	**52.35**	**97**		P		**P**	**09 34 57.0 -0.1**
HNR					pmax		pmax	
	comp=Z,64nm,0.9s							
HNR	**Honiara**	**52.35**	**97**		P		**P**	**09 34 57.0 -0.1**
HNR					IAmb		IAmb	09 34 58.7
	comp=Z,64nm,0.9s							
CN2	**Changchun**	**52.80**	**17**		*eP*		**P**	**09 34 59.8 0.0**
CN2					*e*pP		pP	09 35 37.3 +1.3
CN2					*e*S		**S**	**09 42 15.9 -0.1**
CN2					pmax		pmax	
	comp=Z,30nm,1.0s							
CN2					pmax		pmax	
	comp=Z,200nm,3.0s							
WMQ	**Urumqi**	**53.14**	**342**		*eP*		**P**	**09 35 04.6 +2.2**
WMQ					pmax		pmax	
	comp=Z,22nm,0.9s							
WMQ					pmax		pmax	
	comp=Z,56nm,5.3s							
WMQ					LR		LR	
	comp=Z,190nm,28.9s							
WMQ					LR		LR	
	comp=Z,400nm,29.3s							
WMQ					LR		LR	
	comp=Z,67nm,25.7s							
KSH	**Kashi**	**54.14**	**330**		P		**P**	**09 35 13.4 +3.5**
KSH					pmax		pmax	
	comp=Z,38nm,3.7s							
SONM	**Songino Array**	**54.16**	**359**		P		**P**	**09 35 10.6 +0.7**
	comp=Z,11nm,0.8s,baz=177,slow=8.9,SNR=39							
SONM					pP		**pP**	**09 35 48.7 +2.4**
	comp=Z,53nm,1.2s,baz=181,slow=8.0,SNR=14							
SONM					ScP		**ScP**	**09 39 53.8 -2.0**
	comp=Z,2.1nm,0.5s,baz=171,slow=4.2,SNR=4.0							
SONM					LR		LR	09 59 04.6
	comp=Z,446nm,18.5s,baz=172,slow=37							
SONM	**Songino Array**	**54.16**	**359**		P		**P**	**09 35 10.6 +0.7**
SONM					pmax		pmax	
	comp=Z,77nm,1.3s							
SONM	**Songino Array**	**54.16**	**359**		P		**P**	**09 35 10.6 +0.7**
ULN	**Ulaanbaatar**	**54.19**	**360**	*d*	*iP*		**P**	**09 35 10.6 +0.5**
ULN					*i* *PP		**pP**	**09 35 47.7 +1.2**
ULN					pmax		pmax	
	comp=Z,23nm,1.0s							
ULN	**Ulaanbaatar**	**54.19**	**360**		P		**P**	**09 35 11.0 +0.9**
ULN					IAmb		IAmb	09 35 50.3
	comp=Z,72nm,1.2s							
KBL	**Kabul**	**54.44**	**321**		P		**P**	**09 35 09.6 -2.7**
KBL					pmax		pmax	
	comp=Z,7.0nm,0.8s							
KBL	**Kabul**	**54.44**	**321**		P		**P**	**09 35 09.6 -2.7**
JLN	**Jalan Bani Buh**	**54.75**	**303**		P		**P**	**09 35 15.2 +0.8**
	SNR=6.9							
JLN					P		**P**	**09 35 15.2 +0.8**
	SNR=6.9							
USA0B	**Ussuriysk Arra**	**55.28**	**22**	⇑	*eP*		**P**	**09 35 17.2 -0.7**
USA0B	**Ussuriysk Arra**	**55.28**	**22**		P		**P**	**09 35 18.1 +0.3**
USA0B					IAmb		IAmb	09 35 56.8
	comp=Z,86nm,1.5s							
USRK	**Ussuriysk Ar.**	**55.28**	**22**		P		**P**	**09 35 18.1 +0.2**
	comp=Z,4.2nm,0.5s,baz=207,slow=3.5,SNR=15							
USRK					pP		**pP**	**09 35 54.6 +0.2**
	comp=Z,8.0nm,0.8s,baz=219,slow=4.9,SNR=5.5							
USRK	**Ussuriysk Ar.**	**55.28**	**22**		P		**P**	**09 35 18.2 +0.4**
USRK	**Ussuriysk Ar.**	**55.28**	**22**		P		**P**	**09 35 18.2 +0.4**
WBK	**Wadi Bani Khal**	**55.31**	**303**		P		**P**	**09 35 19.0 +0.5**
	SNR=6.3							
WBK					P		**P**	**09 35 19.0 +0.5**
	SNR=6.3							
DQM	**DQM**	**55.42**	**300**		P		**P**	**09 35 20.3 +1.0**
	SNR=6.4							
MHTO	**MHTO**	**55.47**	**301**		P		**P**	**09 35 19.8 +0.1**
	SNR=11							
MHTO					P		**P**	**09 35 19.8 +0.1**
	SNR=11							
SHLS	**Shalkode**	**55.49**	**336**		*eP*		**P**	**09 35 16.5 -3.1**
SHLS	**Shalkode**	**55.49**	**336**		*eP*		**P**	**09 35 16.4 -3.1**
KDJ	**Kajisay**	**55.63**	**333**		P		**P**	**09 35 19.2 -1.4**
KDJ	**Kajisay**	**55.63**	**333**		P		**P**	**09 35 19.2 -1.4**
UZB	**Uzynbulak**	**55.66**	**335**		*eP*		**P**	**09 35 18.6 -2.2**
UZB	**Uzynbulak**	**55.66**	**335**		*eP*		**P**	**09 35 18.6 -2.2**
SATY	**Saty**	**55.85**	**335**		*eP*		**P**	**09 35 20.0 -2.1**
SATY	**Saty**	**55.85**	**335**		*eP*		**P**	**09 35 20.0 -2.1**
WSAR	**Wadi Sarin**	**55.87**	**304**		P		**P**	**09 35 22.9 +0.5**
	comp=Z,22nm,1.2s,baz=148,slow=7.6,SNR=14							
WSAR	**Wadi Sarin**	**55.87**	**304**		P		**P**	**09 35 23.5 +1.0**
	SNR=8.5							
JMDO	**Jabal Madar**	**55.93**	**302**		P		**P**	**09 35 23.4 +0.5**
	SNR=7.6							
SOCY	**Socotra**	**56.02**	**289**		P		**P**	**09 35 24.9 +1.2**
SOCY					IAmb		IAmb	09 37 08.8
	comp=Z,24nm,1.3s							
KPKS	**Kokpek**	**56.06**	**335**		*eP*		**P**	**09 35 21.1 -2.5**
KPKS	**Kokpek**	**56.06**	**335**		*eP*		**P**	**09 35 21.0 -2.5**
SMDO	**Samad**	**56.27**	**303**		P		**P**	**09 35 25.8 +0.4**
	SNR=10							
SMDO					P		**P**	**09 35 25.8 +0.4**
	SNR=10							
SHAO	**Shalim**	**56.38**	**297**	*i*	P		**P**	**09 35 27.0 +0.8**
	SNR=6.7							
BIDO	**Bidbid**	**56.41**	**304**		P		**P**	**09 35 26.9 +0.7**
	SNR=13							
TNSS	**Tian-Shan**	**56.46**	**334**		*eP*		**P**	**09 35 24.5 -2.2**
TNSS	**Tian-Shan**	**56.46**	**334**		*eP*		**P**	**09 35 24.5 -2.2**
BOOM	**Boomskoye usch**	**56.48**	**333**		P		**P**	**09 35 24.9 -1.7**
BOOM					pmax		pmax	
	comp=Z,7.0nm,1.0s							
BOOM	**Boomskoye usch**	**56.48**	**333**		P		**P**	**09 35 24.9 -1.7**
MDOK	**Medeo**	**56.51**	**334**		*eP*		**P**	**09 35 24.4 -2.5**
MDOK	**Medeo**	**56.51**	**334**		*eP*		**P**	**09 35 24.3 -2.5**
HIA	**Hailar**	**56.68**	**10**		P		**P**	**09 35 27.4 -0.3**
HIA					pmax		pmax	
	comp=Z,45nm,1.4s							
HIA	**Hailar**	**56.68**	**10**		P		**P**	**09 35 27.4 -0.3**
HIA					IAmb		IAmb	09 36 06.8
	comp=Z,45nm,1.4s							
GAR	**Garm**	**56.72**	**326**		P		**P**	**09 35 25.6 -2.7**
ZAK	**Zakamensk**	**56.81**	**357**		*eP*		**P**	**09 35 28.4 -0.3**
ZAK					pmax		pmax	
	comp=Z,9.0nm,1.2s							
BSY	**Bisya**	**56.85**	**302**		P		**P**	**09 35 30.1 +0.6**
	SNR=8.8							
BSY					P		**P**	**09 35 30.1 +0.6**
	SNR=8.8							
CHKK	**Chushkaly**	**57.09**	**334**		*eP*		**P**	**09 35 27.1 -3.7**
CHKK	**Chushkaly**	**57.09**	**334**		*eP*		**P**	**09 35 27.9 -2.9**
HOQ	**Hoqain**	**57.11**	**303**		P		**P**	**09 35 31.9 +0.7**
	SNR=11							
HOQ					P		**P**	**09 35 31.9 +0.7**
	SNR=11							
CHGR	**Chuyangaron**	**57.13**	**325**		P		**P**	**09 35 27.7 -3.5**
CHGR					IAmb		IAmb	09 36 25.7
	comp=Z,17nm,0.9s							
BTK	**Batken**	**57.20**	**327**		P		**P**	**09 35 29.5 -2.1**
BTK					pmax		pmax	
	comp=Z,10.0nm,0.6s							
BTK	**Batken**	**57.20**	**327**		P		**P**	**09 35 29.5 -2.1**
BTK					IAmb		IAmb	09 35 51.3
	comp=Z,9.8nm,0.6s							
ZSN	**Zaisan**	**57.27**	**342**		*eP*		**P**	**09 35 30.5 -1.4**
ZSN	**Zaisan**	**57.27**	**342**		*eP*		**P**	**09 35 30.5 -1.4**
KUU	**Kurty**	**57.41**	**334**		*eP*		**P**	**09 35 30.3 -2.6**
KUU	**Kurty**	**57.41**	**334**		*eP*		**P**	**09 35 30.3 -2.6**
RBK	**Rabkut**	**57.47**	**295**		P		**P**	**09 35 35.3 +1.4**
	SNR=10							
RBK					P		**P**	**09 35 35.3 +1.4**
	SNR=10							
MK31	**Makanchi Array**	**57.52**	**340**	*d*	*iP*		**P**	**09 35 32.1 -1.6**
MK31	**Makanchi Array**	**57.52**	**340**		P		**P**	**09 35 31.6 -2.1**
MKAR	**Makanchi Array**	**57.52**	**340**		P		**P**	**09 35 32.4 -1.3**
	comp=Z,1.7nm,0.3s,baz=153,slow=8.1,SNR=17							
MKAR					ScP		**ScP**	**09 40 09.2 -1.2**
	comp=Z,1.0nm,0.7s,baz=142,slow=5.3,SNR=3.6							
MKAR	**Makanchi Array**	**57.52**	**340**		P		**P**	**09 35 31.6 -2.1**
MAKZ	**Makanchi**	**57.64**	**340**		P		**P**	**09 35 32.8 -1.7**
MAKZ					pmax		pmax	
	comp=Z,6.0nm,1.1s							
MAKZ	**Makanchi**	**57.64**	**340**		P		**P**	**09 35 32.8 -1.7**
ARQ	**Araqi**	**57.66**	**303**		P		**P**	**09 35 35.7 +0.6**
	SNR=6.8							
ARQ					P		**P**	**09 35 35.7 +0.6**
	SNR=6.8							
SGDS	**Sogindy**	**57.83**	**332**		*eP*		**P**	**09 35 32.9 -3.1**
SGDS	**Sogindy**	**57.83**	**332**		*eP*		**P**	**09 35 32.8 -3.1**
SOHO	**SOHO**	**57.99**	**304**	*i*	P		**P**	**09 35 37.2 -0.1**
	SNR=10							
SOHO	**SOHO**	**57.99**	**304**		P		**P**	**09 35 37.5 +0.2**
WHFO	**Wadi Hawf**	**58.00**	**296**		P		**P**	**09 35 38.2 +0.6**
	SNR=14							
WHFO					P		**P**	**09 35 38.2 +0.6**
	SNR=14							
TLY	**Talaya**	**58.09**	**357**		P		**P**	**09 35 37.6 +0.1**
	comp=Z,5.5nm,0.7s,baz=225,slow=4.3,SNR=3.4							
TLY	**Talaya**	**58.09**	**357**	*d*	*eP*		**P**	**09 35 37.7 +0.1**
TLY					pmax		pmax	
	comp=Z,11nm,1.0s							
TLY	**Talaya**	**58.09**	**357**		P		**P**	**09 35 36.9 -0.6**
TLY					IAmb		IAmb	09 36 20.3
	comp=Z,35nm,1.2s							
MOY	**Mondy**	**58.24**	**356**		*eP*		P	09 35 55.2 +17
MOY					pmax		pmax	
	comp=Z,60nm,2.0s							
ABTO	**Aybut**	**58.24**	**295**		P		**P**	**09 35 40.3 +1.0**
	SNR=12							
ABTO					P		**P**	**09 35 40.3 +1.0**
	SNR=12							
DGZ	**Jazzator, Alta**	**58.60**	**345**	*d*	*iP*		**P**	**09 35 40.8 -0.5**
DGZ					pmax		pmax	
	comp=Z,15nm,0.9s							
UOSS	**Minazif**	**58.60**	**304**	*i*	P		**P**	**09 35 41.5 -0.1**
	SNR=10							
UOSS	**Minazif**	**58.60**	**304**		P		**P**	**09 35 42.5 +0.9**
UOSS					P		**P**	**09 35 42.5 +0.9**
UOSS	**Minazif**	**58.60**	**304**		P		**P**	**09 35 41.6 -0.1**
UOSS					IAmb		IAmb	09 35 43.2
	comp=Z,38nm,1.2s							
HATD	**Hatta, Dubai**	**58.61**	**304**	*i*	P		**P**	**09 35 42.3 +0.6**
	SNR=19							
HATD	**Hatta, Dubai**	**58.61**	**304**		P		**P**	**09 35 42.8 +1.1**
	SNR=6.0							
HATD					P		**P**	**09 35 42.8 +1.1**
	SNR=6.0							
FAQ	**Al Faqa, Dubai**	**59.02**	**304**	*i*	P		**P**	**09 35 44.7 +0.3**
	SNR=19							
FAQ	**Al Faqa, Dubai**	**59.02**	**304**		P		**P**	**09 35 44.8 +0.3**
	SNR=18							
FAQ					P		**P**	**09 35 44.8 +0.3**
	SNR=18							
NAZ	**Nazwa, Dubai**	**59.06**	**304**	*i*	P		**P**	**09 35 45.0 +0.2**
	SNR=6.6							
NAZ	**Nazwa, Dubai**	**59.06**	**304**		P		**P**	**09 35 46.0 +1.2**
	SNR=11							
IUG	**Iuzhnay**	**59.10**	**328**		*eP*		**P**	**09 35 42.3 -2.6**
IUG	**Iuzhnay**	**59.10**	**328**		*eP*		**P**	**09 35 42.2 -2.6**
DZM	**Mont Dzumac**	**59.16**	**112**		P		**P**	**09 35 46.7 +1.0**
	comp=Z,13nm,1.0s,baz=225,slow=3.2,SNR=4.0							
DZM	**Mont Dzumac**	**59.16**	**112**		P		**P**	**09 35 47.0 +1.3**
DZM					IAmb		IAmb	09 35 47.5
	comp=Z,19nm,1.0s							
ASUD	**Al Ashush, Dub**	**59.19**	**304**	*i*	P		**P**	**09 35 46.3 +0.7**
	SNR=11							
ASUD	**Al Ashush, Dub**	**59.19**	**304**		P		**P**	**09 35 46.6 +1.0**
	SNR=7.5							
ASUD					P		**P**	**09 35 46.6 +1.0**
	SNR=7.5							
ABPO	**Ambohimpanom**	**59.45**	**252**		P		**P**	**09 35 49.6 +1.8**
ABPO					pmax		pmax	
	comp=Z,36nm,1.1s							
ABPO	**Ambohimpanom**	**59.45**	**252**		P		**P**	**09 35 49.6 +1.8**
ABPO					IAmb		IAmb	09 35 51.3
	comp=Z,36nm,1.1s							
OPO	**Ambohidratompo**	**59.46**	**252**		P		**P**	**09 35 50.3 +2.4**
	comp=Z,21nm,0.8s,baz=71,slow=5.9,SNR=19							
OPO					ScP		**ScP**	**09 40 20.7 +0.7**
	comp=Z,4.9nm,1.0s,baz=97,slow=11,SNR=3.6							
KKAR	**Karatay Array**	**59.55**	**330**		P		**P**	**09 35 46.0 -1.8**
KKAR	**Karatay Array**	**59.55**	**330**		P		**P**	**09 35 46.0 -1.8**
CASY	**Casey**	**59.67**	**178**		P		**P**	**09 35 49.2 +1.1**
ASAJ	**Asahikawa**	**59.73**	**29**		P		**P**	**09 35 48.8 -0.2**
	comp=Z,8.1nm,0.8s,baz=299,slow=13,SNR=3.0							
ASAJ					pP		**pP**	**09 36 23.6 -2.4**
	comp=Z,17nm,1.0s,baz=241,slow=10,SNR=4.4							
ASAJ	**Asahikawa**	**59.73**	**29**		P		**P**	**09 35 47.6 -1.4**
ASAJ					pmax		pmax	
	comp=Z,27nm,1.1s							
JKA	**Kamikawa-asahi**	**59.73**	**29**		P		**P**	**09 35 47.6 -1.4**
JKA					IAmb		IAmb	09 36 27.4
	comp=Z,27nm,1.1s							
YSS	**Yuzh-Sakhalins**	**61.93**	**27**	⇓	*eP*		**P**	**09 36 03.3 -0.5**
YSS					*i* *PP		**pP**	**09 36 40.6 -0.5**
YSS					pmax		pmax	
	comp=Z,31nm,1.0s							
KURBB	**Kurchatov Arra**	**62.08**	**340**		P		**P**	**09 36 03.4 -1.3**
	comp=Z,4.3nm,0.8s,baz=146,slow=6.0,SNR=4.8							
KURBB					pP		**pP**	**09 36 41.4 -0.6**
	comp=Z,5.7nm,0.8s,baz=158,slow=5.7,SNR=2.9							
KURK	**Kurchatov**	**62.13**	**340**	*d*	*iP*		**P**	**09 36 03.7 -1.3**
KURK					pmax		pmax	
	comp=Z,13nm,1.0s							
KURK	**Kurchatov**	**62.13**	**340**		P		**P**	**09 36 04.0 -1.0**
KURK					IAmb		IAmb	09 36 48.5
	comp=Z,18nm,0.9s							
ZAA0	**Zalesovo Array**	**63.14**	**345**		P		**P**	**09 36 09.9 -1.7**
ZALV	**Zalesovo Beam**	**63.14**	**345**		P		**P**	**09 36 09.9 -1.7**
	comp=Z,5.5nm,0.3s,baz=155,slow=6.5,SNR=26							
ZALV					S		**S**	**09 44 24.8 -5.3**
	comp=Z,0.6nm,0.5s,baz=146,slow=10,SNR=2.4							
ZALV					LR		LR	10 04 58.2
	comp=Z,51nm,18.3s,baz=169,slow=37							
ZALV	**Zalesovo Beam**	**63.14**	**345**	*i*	P		**P**	**09 36 10.3 -1.3**
ZALV					pmax		pmax	
	comp=Z,6.0nm,0.3s							
ZALV	**Zalesovo Beam**	**63.14**	**345**		P		**P**	**09 36 10.0 -1.7**
MCQ	**Macquarie Isla**	**63.23**	**149**		P		**P**	**09 36 12.7 +0.4**
	baz=63							
GEYT	**Alibeck**	**63.52**	**318**		P		**P**	**09 36 13.7 -0.9**
	comp=Z,1.5nm,0.3s,baz=214,slow=10,SNR=4.5							
GEYT					LR		LR	10 07 39.3
	comp=Z,49nm,19.1s,baz=30,slow=39							
GEYT	**Alibeck**	**63.52**	**318**		P		**P**	**09 36 12.0 -2.6**
GYA0B	**ALIBECK ARRAY**	**63.52**	**318**		P		**P**	**09 36 13.8 -0.8**
BRZS	**Berezniki**	**63.75**	**336**		*eP*		**P**	**09 36 13.8 -2.0**
BRZS	**Berezniki**	**63.75**	**336**		*eP*		**P**	**09 36 13.7 -2.0**
RPZ	**Rata Peaks**	**66.75**	**135**		P		**P**	**09 36 35.9 +0.5**
BVAR	**Borovoye Array**	**67.01**	**337**		P		**P**	**09 36 35.7 -1.0**
	comp=Z,1.8nm,0.6s,baz=179,slow=22,SNR=4.4							
BRVK	**Borovoye**	**67.08**	**337**	*ce*	P		**P**	**09 36 36.7 -0.4**
BRVK					pmax		pmax	
	comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**67.08**	**337**		P		**P**	**09 36 35.6 -1.4**
QRZ	**Quartz Range**	**67.19**	**132**		P		**P**	**09 36 38.9 +0.8**
OXZ	**Oxford**	**67.36**	**134**		P		**P**	**09 36 38.7 -0.4**
OXZ					IAmb		IAmb	09 36 41.1
	comp=Z,76nm,1.2s							
LTZ	**Lake Taylor**	**67.40**	**134**		P		**P**	**09 36 39.4 -0.1**
LTZ					IAmb		IAmb	09 36 40.5
	comp=Z,87nm,1.5s							
THZ	**Tophouse**	**67.65**	**132**		P		**P**	**09 36 42.6 +1.5**
THZ					IAmb		IAmb	09 36 43.1
	comp=Z,40nm,0.7s							
MAW	**Mawson**	**67.82**	**197**		P		**P**	**09 36 43.6 +2.2**
	comp=Z,58nm,0.6s,baz=52,slow=6.1,SNR=252							
MAW	**Mawson**	**67.82**	**197**		P		**P**	**09 36 43.7 +2.2**
	baz=68,SNR=116							
MAW	**Mawson**	**67.82**	**197**		P		**P**	**09 36 43.3 +1.8**
MAW					pmax		pmax	
	comp=Z,40nm,1.3s							
MAW	**Mawson**	**67.82**	**197**		P		**P**	**09 36 43.3 +1.8**
MAW					IAmb		IAmb	09 36 44.7
	comp=Z,40nm,1.3s							
BSWZ	**Blackbirch Sta**	**68.36**	**132**		P		**P**	**09 36 45.8 +0.4**
KMBO	**Kilima Mbogo**	**68.89**	**271**		P		**P**	**09 36 59.0 +3.5**
	comp=Z,3.9nm,0.5s,baz=65,slow=7.9,SNR=15							
KMBO					pP		**pP**	**09 37 34.8 +1.0**
	comp=Z,1.4nm,0.3s,baz=74,slow=7.8,SNR=1.9							
KMBO	**Kilima Mbogo**	**69.88**	**271**	*i*	P		**P**	**09 36 55.6 0.0**
	SNR=6.9							
KMBO	**Kilima Mbogo**	**69.88**	**271**		P		**P**	**09 36 55.1 -0.5**
KMBO					pmax		pmax	
	comp=Z,14nm,1.1s							
KMBO	**Kilima Mbogo**	**69.88**	**271**		P		**P**	**09 36 55.1 -0.5**
MSVF	**Nonsavu**	**69.89**	**106**		P		**P**	**09 36 55.3 -0.1**
MSVF					pmax		pmax	
	comp=Z,57nm,1.4s							
MSVF	**Nonsavu**	**69.89**	**106**		P		**P**	**09 36 55.3 -0.1**
MSVF					IAmb		IAmb	09 36 57.6
	comp=Z,57nm,1.4s							
BKZ	**Black Stump Fm**	**69.91**	**129**		P		**P**	**09 36 55.4 +0.3**
BFZ	**Birch Farm**	**69.94**	**131**		P		**P**	**09 36 54.2 -1

KBZ **Khabaz** 76.41 318 P **P** 09 37 33.9 +0.9
comp=Z,6.2nm,1.0s,baz=112,slow=7.6,SNR=8.5
KBZ S **S** 09 47 03.8 -1.5
comp=Z,0.5nm,0.4s,baz=82,slow=22,SNR=5.6
KBZ Khabaz 76.41 318 *ce*P **P** 09 37 34.5 +1.5
KOPT Kop Dagi 76.70 314 P **P** 09 37 36.9 +1.8
NRIK Noril'sk 76.93 353 P **P** 09 37 34.8 -0.6
comp=Z,15nm,1.0s,baz=156,slow=3.8,SNR=13
ASF Jabal al Asfar 77.00 305 P **P** 09 37 38.2 +1.5
comp=Z,13nm,0.6s,baz=62,slow=4.7,SNR=29
ASF pP **pP** 09 38 15.1 -0.4
comp=Z,14nm,1.1s,baz=56,slow=3.4,SNR=3.7
MATP Matopo 77.10 251 P **P** 09 37 39.4 +1.8
comp=Z,30nm,0.5s,baz=105,slow=6.8
MATP S **S** 09 47 14.0 -0.1
comp=Z,1.5nm,0.8s,baz=220,slow=16,SNR=3.7
SEY Seymchan 77.35 19 P **P** 09 37 37.8 0.0
comp=Z,1.6nm,0.6s,baz=222,slow=6.2,SNR=5.2
LSZ Lusaka 77.66 256 P **P** 09 37 42.4 +1.6
comp=Z,13nm,0.6s,baz=87,slow=5.9,SNR=7.1
LSZ Lusaka 77.66 256 P **P** 09 37 42.4 +1.6
LSZ pmax pmax
comp=Z,19nm,0.8s
LSZ Lusaka 77.66 256 P **P** 09 37 42.4 +1.6
EIL Elat 77.95 302 P **P** 09 37 43.1 +1.2
comp=Z,24nm,0.9s,baz=6.9,slow=2.4,SNR=9.8
GAZ Gaziantep 78.21 310 P **P** 09 37 43.2 -0.1
MMAI Mount Meron Ar 78.45 305 P **P** 09 37 46.2 +1.6
comp=Z,4.9nm,0.3s,baz=94,slow=8.4,SNR=20
TIXI Tiksi 79.36 7 *ce*P **P** 09 37 47.4 -1.3
TIXI pmax pmax
comp=Z,33nm,0.8s
TIXI Tiksi 79.36 7 P **P** 09 37 47.2 -1.5
KIRV Kirov 79.55 333 P **P** 09 37 49.3 -0.7
comp=Z,9.8nm,0.5s,baz=131,slow=9.3,SNR=8.3
KIRV Kirov 79.55 333 *ce*P **P** 09 37 49.9 -0.1
LBTB Lobatse 79.60 246 P **P** 09 37 52.9 +1.7
LBTB pmax pmax
comp=Z,41nm,0.8s
LBTB Lobatse 79.60 246 P **P** 09 37 52.9 +1.7
LBTB IAmb IAmb 09 37 53.8
comp=Z,41nm,0.8s
BOSA Boshof 79.77 242 P **P** 09 37 53.7 +1.6
comp=Z,12nm,0.4s,baz=107,slow=3.8,SNR=52
BOSA Boshof 79.77 242 P **P** 09 37 53.6 +1.6
BOSA pmax pmax
comp=Z,28nm,1.0s
BOSA Boshof 79.77 242 P **P** 09 37 53.6 +1.6
BOSA IAmb IAmb 09 37 54.1
comp=Z,28nm,0.9s
VRH Novokhopyorsk 80.10 325 *e*P **P** 09 37 50.8 -2.3
VRH pmax pmax
comp=Z,10.0nm,0.8s
CSS Mathiatis 80.62 307 P **P** 09 37 55.6 -0.7
CSS IAmb IAmb 09 37 58.1
comp=Z,66nm,1.0s
VORD Divnogorie 81.42 324 *e*P **P** 09 37 58.6 -1.5
VORD pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 81.59 324 *e*P **P** 09 38 00.2 -0.8
VSR pmax pmax
comp=Z,30nm,1.6s
BR131 Keskin Array S 81.63 312 P **P** 09 38 01.4 -0.3
SNR=7.0
BR131 P **P** 09 38 01.4 -0.3
SNR=7.0
BR131 Keskin Array S 81.63 312 *d i*P **P** 09 38 01.1 -0.7
BR131 Keskin Array S 81.63 312 P **P** 09 38 01.6 -0.1
BRTR Keskin Array B 81.63 312 P **P** 09 38 01.0 -0.7
comp=Z,12nm,0.9s,baz=120,slow=7.3,SNR=32
BRTR LR LR 10 17 36.8
comp=Z,22nm,18.5s,baz=106,slow=38
BRTR Keskin Array B 81.63 312 *i*P **P** 09 38 01.3 -0.4
BRTR pmax pmax
comp=Z,12nm,0.9s
BRTR Keskin Array B 81.63 312 P **P** 09 38 00.7 -1.1
ILGA Ilgaz 81.93 313 P **P** 09 38 04.3 +1.0
PRGR Permogore 82.72 335 *e*P **P** 09 38 02.8 -3.9
PRGR pmax pmax
comp=Z,17nm,1.1s
SUR Sutherland 83.42 238 P **P** 09 38 13.1 +1.9
QSPA South Pole Qui 83.42 180 P **P** 09 38 11.5 +1.0
comp=Z,32nm,0.7s,baz=136,slow=0.8,SNR=243
QSPA South Pole Qui 83.42 180 P **P** 09 38 10.9 +0.4
QSPA IAmb IAmb 09 38 12.1
comp=Z,50nm,0.9s
ISP Isparta 83.51 309 P **P** 09 38 10.3 -1.2
ISP pmax pmax
comp=Z,10.0nm,0.9s
ISP Isparta 83.51 309 P **P** 09 38 10.3 -1.2
MDUB Mudurnu 83.63 312 P **P** 09 38 12.7 +0.7
ELL Elmali 83.74 308 P **P** 09 38 12.7 0.0
ELL pmax pmax
comp=Z,140nm,1.5s
ELL Elmali 83.74 308 P **P** 09 38 12.7 0.0
MOS Moscow 84.08 328 *e*P **P** 09 38 11.9 -1.8
MOS *e* 09 48 18.6
OBN Obninsk 84.43 327 *i*P **P** 09 38 15.3 -0.2
OBN *i* *PP **pP** 09 38 53.8 -1.1
OBN *i* 09 41 38.2
OBN pmax pmax
comp=Z,6.0nm,0.6s
NVL N'lazarevskaya 85.60 199 ⇑*i*P **P** 09 38 22.4 +1.3
NVL *e*S **S** 09 48 35.0 -4.5
NVL pmax pmax
comp=Z,29nm,0.8s
JURR Jurilovca 86.30 316 ⇓P P 09 38 32.5 +7.4
TIRR Tirgusor 86.56 315 ⇓P **P** 09 38 26.9 +0.6
TIRR Tirgusor 86.56 315 ⇑P **P** 09 38 26.9 +0.6
TIRR Tirgusor 86.56 315 P **P** 09 38 26.7 +0.4
TIRR IAmb IAmb 09 38 28.1
comp=Z,42nm,1.0s
CFR Carcaliu 86.90 316 ⇑P **P** 09 38 28.7 +0.7
CFR Carcaliu 86.90 316 ⇑P **P** 09 38 28.7 +0.7
HARR Harsova 86.94 315 ⇑P **P** 09 38 28.9 +0.7
HARR Harsova 86.94 315 ⇑P **P** 09 38 28.9 +0.7
SORM Soroca 87.40 319 ⇑P **P** 09 38 30.1 -0.2
SORM Soroca 87.40 319 ⇑P **P** 09 38 30.1 -0.2
AKASG Malin Array Be 87.43 322 P **P** 09 38 29.6 -0.8
comp=Z,0.8nm,0.3s,baz=80,slow=5.0,SNR=8.1
AKASG Malin Array Be 87.43 322 *ce*P **P** 09 38 30.3 -0.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 87.43 322 P **P** 09 38 29.3 -1.0
AKBB Malin Array Si 87.43 322 *ce*P **P** 09 38 30.1 -0.3
AKBB Malin Array Si 87.43 322 P **P** 09 38 28.8 -1.6
TSUM Tsumeb 87.44 251 P **P** 09 38 29.9 -1.4
TSUM IAmb IAmb 09 38 34.4
comp=Z,40nm,1.1s
ALN Alexandroupoli 87.55 311 P **P** 09 38 31.3 +0.2
ALN pmax pmax
comp=Z,32nm,1.1s
ALN Alexandroupoli 87.55 311 P **P** 09 38 31.3 +0.2
ALN IAmb IAmb 09 38 32.6
comp=Z,32nm,1.1s
VRI Vrincioaia 88.02 316 ⇑P **P** 09 38 34.5 +1.2
VRI Vrincioaia 88.02 316 ⇑P **P** 09 38 34.5 +1.2
PLOR Plostina 88.07 316 ⇑P **P** 09 38 34.7 +1.1
PLOR Plostina 88.07 316 ⇑P **P** 09 38 34.7 +1.1
NEHR Nehoiu 88.23 316 ⇑P **P** 09 38 36.7 +2.3
MLR Muntele Rosu 88.48 316 P **P** 09 38 35.8 +0.1
MLR pmax pmax
comp=Z,35nm,1.1s
MLR Muntele Rosu 88.48 316 P **P** 09 38 35.8 +0.1
MLR IAmb IAmb 09 38 38.1
comp=Z,35nm,1.1s
VOIR 89.09 316 ⇑P **P** 09 38 39.7 +1.2
VOIR 89.09 316 ⇑P **P** 09 38 39.7 +1.2
BURAR Bucovina Array 89.37 318 ⇑P **P** 09 38 41.0 +1.3
BURAR Bucovina Array 89.37 318 ⇑P **P** 09 38 41.0 +1.3
BURAR Bucovina Array 89.37 318 P **P** 09 38 38.9 -0.9
ARR Arges 89.37 316 ⇓P **P** 09 38 39.9 +0.2
BUR08 Bucovina Ar. S 89.38 318 P **P** 09 38 39.1 -0.7
APA Apatity 89.88 338 ⇓*i*P P 09 38 25.2 -16
APA pmax pmax
comp=Z,7.0nm,1.3s
APA MLR MLR
comp=Z,300nm,23.0s
SNAA Sanae 89.98 197 P **P** 09 38 44.2 +2.1
SNAA Sanae 89.98 197 P **P** 09 38 43.2 +1.1
SNAA pmax pmax
comp=Z,64nm,1.0s
SNAA Sanae 89.98 197 P **P** 09 38 43.2 +1.1
LIT Litokhoron 90.09 310 P **P** 09 38 42.3 -0.9
LIT pmax pmax
comp=Z,38nm,0.9s
LIT Litokhoron 90.09 310 P **P** 09 38 42.3 -0.9
LVV L'vov 90.52 320 *e*P **P** 09 38 33.9 -11
HERR Herculane 90.84 315 ⇓P **P** 09 38 46.8 +0.3
MDVR Moldovita 91.32 315 ⇓P **P** 09 38 49.0 +0.2
FINES FINESS Array B 91.45 332 P **P** 09 38 48.3 -0.6
comp=Z,1.6nm,0.8s,baz=134,slow=6.0,SNR=2.0
FINES PKKP **PKKPdf** 09 56 09.8 +1.3
comp=Z,0.8nm,0.4s,baz=245,slow=3.6,SNR=4.2
BZS Buzias 91.50 316 ⇑P **P** 09 38 49.6 0.0
BZS Buzias 91.50 316 ⇑P **P** 09 38 49.6 0.0
KOLS Kolonicke sedl 91.52 319 *e*P **P** 09 38 50.4 +0.8
KOLS Kolonicke sedl 91.52 319 *e*P **P** 09 38 50.4 +0.8
VNA2 Neumayer--Watz 91.62 197 P **P** 09 38 51.8 +2.1
baz=109,slow=5.1
VNA1 Neumayer--Stat 92.00 198 P **P** 09 38 53.6 +2.3
VNA3 Neumayer Olymp 92.15 197 P **P** 09 38 53.9 +1.8
DIVS Divibare 92.46 314 P **P** 09 38 53.5 -0.7
DIVS IAmb IAmb 09 38 56.1
comp=Z,11nm,1.1s
PDG Podgorica 92.81 312 ⇑P **P** 09 38 55.4 -0.3
BELA Belgrano 2 93.09 188 P **P** 09 38 56.3 -0.1
ARCES ARCESS Array B 93.17 340 P **P** 09 38 57.0 +0.3
comp=Z,2.7nm,1.0s,baz=96,slow=5.5,SNR=1.5
ARCES LR LR 10 26 48.7
comp=Z,66nm,18.3s,baz=330,slow=39
ILAR Eielson Array 102.70 25 PKKPbc PKKPbc 09 55 39.1 -2.1
comp=Z,1.2nm,0.8s,baz=122,slow=2.1,SNR=8.7
TORD Torodi Ar. Bea 106.45 282 PKiKP **PKiKP** 09 44 07.8 -0.1
comp=Z,0.6nm,0.5s,baz=72,slow=1.6,SNR=7.7
TORD PKKPbc **PKKPbc** 09 55 28.4 +0.3
comp=Z,0.3nm,0.4s,baz=248,slow=1.4,SNR=4.4
INK Inuvik 106.64 20 PKKPbc PKKPbc 09 55 26.6 -2.7
comp=Z,2.0nm,1.0s,baz=135,slow=3.7,SNR=3.7
YKA Yellowknife Ar 116.41 20 PKP **PKPdf** 09 44 25.4 -0.1
comp=Z,1.7nm,0.8s,baz=342,slow=2.5,SNR=5.1
J08A Circle Bar Ran 125.78 40 **PKPdf** 09 44 43.3 -0.9
AFDM Forest Hills D 126.05 46 **PKiKP** 09 44 45.7 +0.5
BEKR Beckworth 126.10 45 **PKiKP** 09 44 46.9 +1.4
PAHR Pah Rah Range 126.85 44 **PKiKP** 09 44 47.7 +0.7
PNTR Pine Nut 126.97 45 **PKiKP** 09 44 48.2 +0.9
KVN Kaiserville 128.03 45 PKiKP **PKiKP** 09 44 50.1 +0.7
KVN Kaiserville 128.03 45 **PKiKP** 09 44 50.1 +0.7
NVAR Mina Array Bea 128.16 45 PKP **PKiKP** 09 44 51.4 +1.6
comp=Z,1.1nm,0.8s,baz=262,slow=2.7,SNR=8.6
NVAR pPKP **pPKPdf** 09 45 31.1 +0.2
comp=Z,1.5nm,0.9s,baz=293,slow=0.8,SNR=5.0
NVAR SKPbc SKPbc 09 47 54.0
comp=Z,1.7nm,0.7s,baz=273,slow=4.9,SNR=7.1
NVAR Mina Array Bea 128.16 45 **PKPdf** 09 44 48.8 -0.3
DLMT Dillon 128.26 35 **PKiKP** 09 44 50.9 +1.3
ELK Elko 129.17 41 PKiKP **PKiKP** 09 44 51.4 -0.3
ELK Elko 129.17 41 **PKiKP** 09 44 51.4 -0.3
YHH Holmes Hill 129.60 35 **PKiKP** 09 44 54.6 +2.1
PDAR Pinedale Array 131.57 36 PKP **PKiKP** 09 44 56.3 -0.2
comp=Z,0.3nm,0.4s,baz=93,slow=1.5,SNR=5.2
PDAR SKPbc **SKPbc** 09 48 04.8 -1.6
comp=Z,1.4nm,0.6s,baz=204,slow=1.1,SNR=12
PDAR Pinedale Array 131.57 36 PKPdf **PKPdf** 09 44 56.0 +0.5
SCHQ Schefferville 131.62 355 SKPbc **SKPbc** 09 48 04.7 -1.2
comp=Z,11nm,0.5s,baz=359,slow=2.1,SNR=13
ULM Lac du Bonnet 132.39 20 SKPab **SKPbc** 09 48 06.4 -2.2
comp=Z,14nm,0.9s,baz=344,slow=4.9,SNR=12
PLCA Paso Flores 132.89 182 SKPbc **SKPbc** 09 48 11.6 +0.7
comp=Z,13nm,0.9s,baz=168,slow=4.1,SNR=14
O20A Wks River Ci 133.95 38 **PKiKP** 09 45 02.4 +1.1
LC01 Cunco 134.76 181 **PKPdf** 09 45 00.1 -1.3
BI02 San Fabin de 136.98 182 **PKPdf** 09 45 05.1 -0.5
ANMO Albuquerque 138.13 43 *c i*PKiKP **PKiKP** 09 45 11.6 +1.6
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 138.13 43 **PKiKP** 09 45 10.2 +0.3
MNTX Cornudas Mount 140.68 46 **PKPdf** 09 45 12.0 -0.4
P38A Dawn 142.20 26 PKPdf **PKPdf** 09 45 12.3 -2.6
TX31 Lajitas Ar. Si 143.19 48 PKPdf **PKPdf** 09 45 15.7 -1.3
TX32 Lajitas Array 143.19 48 PKPdf **PKPdf** 09 45 15.9 -1.1
TXAR Lajitas Array 143.19 48 PKP PKPbc 09 45 15.2 +0.8
comp=Z,1.2nm,0.7s,baz=269,slow=0.9,SNR=20
TXAR pPKP pPKPdf 09 45 57.0 -1.9
comp=Z,2.8nm,0.8s,baz=270,slow=1.3,SNR=3.6
TXAR SKPbc **SKPbc** 09 48 40.9 +0.1
comp=Z,3.0nm,0.5s,baz=232,slow=1.3,SNR=18
TXAR Lajitas Array 143.19 48 PKiKP PKPbc 09 45 15.7 +1.3
TXAR Lajitas Array 143.19 48 PKPdf PKPbc 09 45 15.7 +1.2
J63A Strafford 143.40 358 P PKPbc 09 45 14.9 +0.5
baz=3.1
CO01 Juntas del Tor 143.57 184 PKPdf **PKPdf** 09 45 16.8 -1.1
K57A Scipio Center 143.84 5 P PKPbc 09 45 15.9 +0.2
baz=354
K58A Earlville 143.86 3 P PKPbc 09 45 15.7 -0.1
baz=355
S39A Bolivar 143.87 28 PKPdf PKPbc 09 45 16.5 +0.5
CPUP Villa Florida 143.99 204 PKP **PKPdf** 09 45 18.0 -0.4
comp=Z,53nm,0.8s,baz=152,slow=2.4,SNR=80
CPUP SKPbc **SKiKP** 09 48 43.2 -0.3
comp=Z,12nm,1.1s,baz=164,slow=2.8,SNR=6.2
CPUP Villa Florida 143.99 204 PKiKP **PKPdf** 09 45 17.7 -0.7
CPUP Villa Florida 143.99 204 PKPdf **PKPdf** 09 45 17.7 -0.7
SFIN Lafayette 144.00 19 P PKPab 09 45 15.8 +0.1
baz=336
L54A Sinclairville 144.02 8 P **PKPab** 09 45 15.6 -0.1
baz=349
K62A Royalston 144.04 359 P **PKPab** 09 45 15.7 -0.1
baz=1.2
L53A Girard 144.15 9 P PKPbc 09 45 16.6 -0.1
baz=348
L61B Northampton 144.26 360 P **PKPab** 09 45 16.7 +0.1
baz=0.4
L56A Greenwood 144.33 6 P PKPbc 09 45 17.2 -0.1
baz=352
U38A Gravette 144.34 30 **PKPab** 09 45 17.1 -0.1
BINY Binghamton 144.40 4 P **PKPab** 09 45 16.6 -0.6
baz=355
L59A Walton 144.47 3 P **PKPab** 09 45 16.3 -1.2
baz=356
CCM Cathedral Cave 144.49 25 P **PKPab** 09 45 17.0 -0.6
baz=328
CCM Cathedral Cave 144.49 25 PKiKP **PKPab** 09 45 17.6 0.0
CCM Cathedral Cave 144.49 25 PKPdf **PKPab** 09 45 17.6 0.0
L61A Hallsdale 1, H 144.51 1 P **PKPab** 09 45 17.0 -0.5
baz=359
L57A Andrews Acres 144.53 5 P **PKPab** 09 45 17.2 -0.5
baz=353
L58A Harry Jones Me 144.57 4 P **PKPab** 09 45 17.2 -0.6
baz=355
M53A WI Miller and 144.58 10 P **PKPab** 09 45 17.3 -0.6
baz=347
P46A Rosedale 144.65 19 **PKPab** 09 45 17.9 -0.3
M54A Oil Creek Stat 144.68 9 P **PKPab** 09 45 17.5 -0.8
baz=348
HHAR Hobbs 144.69 30 PKPdf **PKPab** 09 45 18.0 -0.4
AC05 El Transito 144.72 184 PKPbc **PKPdf** 09 45 20.4 +0.6
L64A Middleborough 144.73 357 P **PKPab** 09 45 17.1 -1.2
baz=3.6
N51A Ashland 144.75 13 P **PKPab** 09 45 17.6 -0.9
baz=344
MGMO Mountain Grove 144.79 27 **PKPab** 09 45 18.0 -0.8
M56A Emporium 144.91 7 P PKPbc 09 45 18.0 -1.0
baz=351
M56A Emporium 144.91 7 PKPbc 09 45 18.9 -0.2
O49A Covington 144.97 15 PKPbc 09 45 19.0 -0.3
N52A McGinn's Farm, 145.00 12 P PKPbc 09 45 18.6 -0.8
baz=345
KSPA Keystone Colle 145.06 4 **PKPbc** 09 45 19.5 0.0
Z35A Perchaven, San 145.06 37 **PKPdf** 09 45 20.2 +0.2
M59A Waymart 145.09 3 P **PKPbc** 09 45 18.9 -0.7
baz=356
OLIL Olney 145.14 21 **PKPbc** 09 45 19.3 -0.5
N54A Moraine State 145.16 9 P **PKPbc** 09 45 19.1 -0.8
baz=348
U40A Yellville 145.16 29 P **PKPbc** 09 45 19.4 -0.6
baz=324
U40A Yellville 145.16 29 **PKPbc** 09 45 19.1 -0.9
M57A Sunshine Farm, 145.16 6 P **PKPbc** 09 45 19.1 -0.8
baz=353,SNR=5.3
M57A Sunshine Farm, 145.16 6 PKPbc **PKPbc** 09 45 19.5 -0.3
N53A Lisbon 145.17 11 P **PKPbc** 09 45 19.4 -0.5
baz=346,SNR=5.9
N53A Lisbon 145.17 11 PKPbc **PKPbc** 09 45 19.0 -0.9
M58A Price's Panora 145.19 5 P **PKPbc** 09 45 19.6 -0.4
baz=354,SNR=5.3
X37A Clayton 145.23 34 PKPbc **PKPbc** 09 45 19.4 -0.9
ACSO Alum Creek Sta 145.27 14 P **PKPdf** 09 45 19.7 -0.5
baz=342
ACSO Alum Creek Sta 145.27 14 PKPbc **PKPdf** 09 45 19.4 -0.8
BLO Bloomington 145.28 19 PKIKP **PKPab** 09 45 20.5 0.0
BLO Bloomington 145.28 19 PKPbc **PKPab** 09 45 20.5 0.0
JCT Junction City 145.29 43 P **PKPab** 09 45 21.5 +0.6
baz=308
JCT Junction City 145.29 43 PKIKP **PKPab** 09 45 21.5 +0.6
JCT Junction City 145.29 43 PKPbc **PKPab** 09 45 21.5 +0.6
M60A Port Jervis 145.35 2 P **PKPdf** 09 45 19.9 -0.4
baz=357
P48A Milroy 145.35 17 **PKPdf** 09 45 19.7 -0.7
M61A Granite Spring 145.39 1 P **PKPdf** 09 45 19.8 -0.6
baz=358
AC04 Llanos de Chal 145.39 183 **PKPdf** 09 45 20.5 -0.3
T42A Van Buren 145.42 26 **PKPdf** 09 45 20.5 0.0
O51A Pataskala 145.44 13 P **PKPdf** 09 45 20.3 -0.2
baz=343,SNR=8.0
N56A West Decatur 145.45 7 P **PKPdf** 09 45 20.2 -0.3
baz=351
P49A Miami Univ. Ec 145.48 16 P **PKPdf** 09 45 20.3 -0.3
baz=339,SNR=7.8
P49A Miami Univ. Ec 145.48 16 **PKPbc** 09 45 20.8 -0.1
N55A Marion Center 145.49 8 P **PKPdf** 09 45 20.1 -0.5
baz=349,SNR=6.1
W39A Magazine 145.62 31 P **PKPbc** 09 45 21.2 -0.3
baz=321
W39A Magazine 145.62 31 **PKPbc** 09 45 21.1 -0.3
S44A Carbondale 145.62 23 **PKPdf** 09 45 21.0 +0.1
O53A New Philadelph 145.63 11 P **PKPdf** 09 45 20.7 -0.1
baz=345
O53A New Philadelph 145.63 11 **PKPdf** 09 45 20.2 -0.6
O52A Adamsville 145.64 12 P **PKPdf** 09 45 21.0 +0.1
baz=344
O52A Adamsville 145.64 12 **PKPbc** 09 45 21.1 -0.2
PAL Palisades 145.69 1 P **PKPdf** 09 45 20.9 +0.1
baz=358
N59A State Game Lan 145.69 4 P **PKPbc** 09 45 21.3 -0.2
baz=355,SNR=7.1
N59A State Game Lan 145.69 4 **PKPbc** 09 45 21.7 +0.1
N57A Milroy 145.70 6 P **PKPdf** 09 45 20.9 0.0
baz=352,SNR=7.0
N58A Sunbury 145.70 5 P **PKPdf** 09 45 21.1 +0.2
baz=353,SNR=6.8
N58A Sunbury 145.70 5 **PKPdf** 09 45 20.7 -0.2
SSPA Standing Stone 145.78 7 P **PKPdf** 09 45 21.3 +0.2
baz=351
SSPA Standing Stone 145.78 7 **PKPbc** 09 45 21.7 -0.1
N60A Cedar Hill Far 145.78 3 P **PKPdf** 09 45 21.3 +0.2
baz=356
WHTX Lake Whitney, 145.85 39 P **PKPbc** 09 45 22.5 +0.2
baz=313
WHTX Lake Whitney, 145.85 39 PKPbc **PKPab** 09 45 22.9 0.0
O54A Avella 145.85 10 P **PKPbc** 09 45 21.7 -0.3
baz=347
O54A Avella 145.85 10 **PKPdf** 09 45 21.1 -0.1
FCAR Ozark Folk Cen 145.88 29 **PKPdf** 09 45 21.2 -0.2
PBMO Poplar Bluff 145.92 26 **PKPdf** 09 45 21.2 -0.2
N61A South Mountain 145.93 2 P **PKPbc** 09 45 22.2 0.0
baz=358
GO03 Copiap 145.95 184 **PKPdf** 09 45 22.1 +0.3
P51A Williamsport 145.96 14 P **PKPdf** 09 45 21.6 +0.2
baz=342
P51A Williamsport 145.96 14 **PKPdf** 09 45 21.2 -0.2
O55A Ligonier 146.01 9 P **PKPdf** 09 45 21.9 +0.4
baz=349
P52A Corning 146.03 13 P **PKPdf** 09 45 21.6 +0.1
baz=344,SNR=5.8
P52A Corning 146.03 13 PKPbc **PKPbc** 09 45 22.1 -0.5
LUPA Lehigh Univers 146.03 3 PKPbc **PKPbc** 09 45 22.2 -0.3
O56A Blue Knob Stat 146.05 8 P **PKPbc** 09 45 22.3 -0.3
baz=350,SNR=5.4
O56A Blue Knob Stat 146.05 8 PKPbc **PKPbc** 09 45 22.4 -0.3
LCAR Lake Charles 146.19 27 **PKPbc** 09 45 22.9 -0.2
WCI Wyandotte Cave 146.21 19 P **PKPbc** 09 45 22.7 -0.4
baz=336
WCI Wyandotte Cave 146.21 19 PKP2 **PKPbc** 09 45 22.9 -0.2
WCI Wyandotte Cave 146.21 19 PKPbc **PKPbc** 09 45 22.9 -0.2
O57A Amberson 146.23 7 P **PKPbc** 09 45 22.7 -0.5
baz=352
MIAR Mount Ida 146.23 32 P **PKPbc** 09 45 23.5 +0.2
baz=321
MIAR Mount Ida 146.23 32 PKP2 **PKPbc** 09 45 23.6 +0.3
MIAR Mount Ida 146.23 32 **PKPbc** 09 45 23.6 +0.3
O59A Robesonia 146.26 5 P **PKPbc** 09 45 22.9 -0.4
baz=354
O60A Telford 146.31 3 P **PKPbc** 09 45 23.2 -0.2
baz=356
Q51A Peebles 146.32 15 PKPbc **PKPdf** 09 45 22.2 +0.1
P53A Whipple 146.33 12 P **PKPbc** 09 45 23.1 -0.3
baz=345,SNR=6.2
P53A Whipple 146.33 12 PKPbc **PKPdf** 09 45 22.6 +0.6
O58A Lewisberry 146.39 6 P **PKPbc** 09 45 23.0 -0.6
baz=353,SNR=5.8
P54A Burton 146.40 11 P **PKPbc** 09 45 23.4 -0.3
baz=346
W41B Gary Mavity, V 146.40 29 P **PKPbc** 09 45 23.2 -0.6
baz=324
MCWV Mont Chateau 146.46 10 P **PKPbc** 09 45 23.6 -0.2
baz=348
MCWV Mont Chateau 146.46 10 PKPbc **PKPbc** 09 45 23.8 -0.1
R49A Shelbyville 146.50 18 PKPbc **PKPbc** 09 45 23.9 -0.1
MVL Millersville 146.56 5 PKPbc **PKPbc** 09 45 23.7 -0.4
AC02 Maricunga 146.60 186 **PKPbc** 09 45 25.3 0.0
P55A Reedsville 146.61 10 P **PKPbc** 09 45 23.9 -0.4
baz=348
Q52A Bidwell 146.65 13 P **PKPbc** 09 45 23.6 -0.8
baz=343,SNR=6.9
X40A Basin Creek Fa 146.66 31 P **PKPbc** 09 45 24.4 -0.1
baz=322
PSUB Penn St. - Bra 146.70 4 PKPbc **PKPdf** 09 45 23.5 +0.9
R50A Paris 146.76 17 PKPbc **PKPbc** 09 45 24.1 -0.6
P56A Dayton Farm, R 146.76 8 P **PKPbc** 09 45 24.6 -0.1
baz=349
P60A Greenville 146.80 4 P **PKPbc** 09 45 24.4 -0.4
baz=355
P60A Greenville 146.80 4 PKPbc **PKPbc** 09 45 23.8 -1.0
237A Washetta, Mont 146.85 37 **PKPbc** 09 45 25.5 +0.3
833A Chaparral WMA, 146.86 46 P **PKPbc** 09 45 25.1 -0.3
baz=306
833A Chaparral WMA, 146.86 46 **PKPdf** 09 45 23.2 0.0
P57A Homestead Farm 146.90 7 P **PKPbc** 09 45 24.6 -0.4
baz=351
P57A Homestead Farm 146.90 7 PKPbc **PKPab** 09 45 25.9 -0.8
Q53A Leroy 146.91 12 P **PKPbc** 09 45 24.9 -0.3
baz=344
Q54A Coxs Mills 146.93 11 P **PKPbc** 09 45 24.9 -0.3
baz=346
Q54A Coxs Mills 146.93 11 PKPbc **PKPbc** 09 45 25.1 -0.1
BDFB Brasilia 146.94 228 PKPbc **PKPab** 09 45 27.6 0.0
comp=Z,20nm,0.3s,baz=125,slow=3.1,SNR=32
BDFB Brasilia 146.94 228 PKP2 **PKPbc** 09 45 25.9 -0.1
BDFB Brasilia 146.94 228 **PKPbc** 09 45 25.9 -0.1
P59A Jarrettsville 146.94 5 P **PKPbc** 09 45 24.8 -0.4
baz=354
P58A Pank, Wackersv 146.98 6 P **PKPbc** 09 45 25.0 -0.3
baz=352
T47A Sharon Grove 147.05 21 PKPbc **PKPbc** 09 45 25.4 -0.1
Q55A Buckhannon 147.06 10 P **PKPbc** 09 45 25.1 -0.5
baz=347
SDMD Soldier's Deli 147.10 6 **PKPbc** 09 45 24.9 -0.8
WLAR White Oak Lake 147.13 32 **PKPbc** 09 45 26.5 +0.6
Q56A Snyder Ridge, 147.17 9 P **PKPbc** 09 45 25.5 -0.3
baz=345
Q56A Snyder Ridge, 147.17 9 PKPbc **PKPbc** 09 45 25.5 -0.3
ZAIG Zacatecas 147.17 57 **PKPbc** 09 45 27.1 +0.4
Q57A Strasburg 147.29 8 P **PKPbc** 09 45 25.8 -0.3
baz=350
R53A Hurricane 147.32 13 P **PKPbc** 09 45 26.1 -0.2
baz=343,SNR=6.9
R53A Hurricane 147.32 13 PKPbc **PKPbc** 09 45 25.4 -0.9
AC01 Pan de Azucar 147.41 184 **PKPbc** 09 45 27.4 +0.5
Q58A Fox Den Farm, 147.47 7 P **PKPbc** 09 45 26.5 -0.2
baz=351
WVT Waverly 147.54 23 P **PKPbc** 09 45 26.7 -0.2
baz=332
WVT Waverly 147.54 23 PKP2 **PKPbc** 09 45 26.9 -0.1
WVT Waverly 147.54 23 **PKPbc** 09 45 26.9 -0.1
S51A Beattyville 147.56 16 PKPbc **PKPbc** 09 45 26.4 -0.5
X43A Marvell 147.59 28 P **PKPbc** 09 45 27.3 +0.2
baz=325
Q60A Greensboro 147.59 4 P **PKPbc** 09 45 26.8 -0.2
baz=355
Z41A Richland Creek 147.63 32 P **PKPbc** 09 45 27.9 +0.7
baz=321
R56A Bull Pasture M 147.75 10 P **PKPbc** 09 45 27.5 -0.1
baz=348

T50A	Nancy	147.78	18	PKPbc	PKPdf	09 45 25.7	+1.2	
W45A	Hickory Valley	147.82	26		PKPbc	09 45 27.8	0.0	
U49A	Red Boiling Sp	147.94	20		PKPbc	09 45 27.1	-0.9	
R57A	Stanardsville	148.00	8	P	PKPbc	09 45 28.1	+0.1	
	baz=350							
R58A	Rapidan	148.06	8	P	PKPbc	09 45 28.2	-0.1	
	baz=350							
CLTN	Cedars of Leba	148.13	21					
HKT	Hockley	148.25	40	PKP2	PKPbc	09 45 28.2	-0.7	
HKT	Hockley	148.25	40		PKPbc	09 45 28.2	-0.7	
V48A	Smith Brothers	148.26	22		PKPbc	09 45 28.3	-0.6	
GO02	Mina Guanaco	148.31	186		PKPbc	09 45 30.2	+0.5	
R58B	Mineral	148.41	8	P	PKPbc	09 45 28.8	-0.3	
	baz=351							
S56A	Natural Bridge	148.43	10	P	PKPbc	09 45 29.2	-0.1	
	baz=347							
PLAL	Pickwick Lake	148.44	24		PKPbc	09 45 28.6	-0.7	
S57A	Dark Hollow, R	148.46	9	P	PKPbc	09 45 29.1	-0.2	
	baz=348							
T53A	Wise	148.46	15	P	PKPbc	09 45 29.2	-0.2	
	baz=342							
TZTN	Tazewell	148.60	17	P	PKPbc	09 45 29.4	-0.3	
	baz=340							
TZTN	Tazewell	148.60	17		PKPbc	09 45 29.3	-0.4	
T54A	Tazewell	148.62	13	P	PKPbc	09 45 29.5	-0.3	
	baz=343							
S59A	Mechanicsville	148.68	7	P	PKPbc	09 45 29.9	+0.1	
	baz=352							
BLA	Blacksburg	148.72	12	P	PKPbc	09 45 29.5	-0.6	
	baz=346							
S58A	Poland Farm, P	148.73	8	P	PKPbc	09 45 29.9	-0.1	
	baz=350							
S58A	Poland Farm, P	148.73	8		PKPbc	09 45 29.0	-1.0	
T55A	Pulaski	148.74	12	P	PKPbc	09 45 29.8	-0.3	
	baz=345							
Y45A	Yeager Farm, C	148.75	27		PKiKP	09 45 30.9	-0.7	
S60A	Water View	148.81	6	P	PKPbc	09 45 30.1	-0.1	
	baz=353							
PB14	IPOC Station P	148.91	184		PKPbc	09 45 31.5	+0.2	
T56A	Rocky Mt	148.98	11	P	PKPbc	09 45 30.4	-0.2	
	baz=346							
SWET	Sewanee	149.05	21		PKPbc	09 45 30.5	-0.5	
T57A	Hurt	149.15	10	P	PKPbc	09 45 30.9	-0.2	
	baz=348							
V52A	Sevierville	149.24	17		PKPbc	09 45 31.4	0.0	
U55A	TA2, Sparta	149.28	13	P	PKPbc	09 45 31.2	-0.3	
	baz=344							
W50A	Signal Mountai	149.28	20		PKPbc	09 45 30.7	-0.8	
X48A	Hartselle	149.31	23		PKPbc	09 45 30.9	-0.7	
T58A	Grand View Acr	149.32	9	P	PKPbc	09 45 31.5	0.0	
	baz=349							
CPCT	Cooper Cave	149.32	19		PKPbc	09 45 31.9	+0.3	
TKL	Tuckaleechee C	149.36	18	PKP2	PKPbc	09 45 31.5	-0.2	
TKL	Tuckaleechee C	149.36	18		PKPbc	09 45 31.5	-0.2	
T59A	Double "B" Far	149.43	7	P	PKPbc	09 45 32.1	+0.3	
	baz=351							
T59A	Double "B" Far	149.43	7		PKPbc	09 45 31.9	+0.2	
U56A	King	149.57	12	P	PKPbc	09 45 31.8	-0.4	
	baz=345							
V53A	Saluda	149.63	16		PKPbc	09 45 32.1	-0.3	
VBMS	Vicksburg	149.63	31		PKPbc	09 45 32.2	-0.1	
U57A	Blanch	149.69	10	P	PKPbc	09 45 32.1	-0.4	
	baz=347							
V54A	Nebo	149.75	15	P	PKPbc	09 45 32.5	-0.1	
	baz=342							
W52A	Murphy	149.84	18		PKPbc	09 45 32.6	-0.3	
U58A	Oxford	149.86	9	P	PKPbc	09 45 32.6	-0.2	
	baz=349							
V55A	Taylorsville	149.86	14	P	PKPbc	09 45 32.7	-0.2	
	baz=344							
V55A	Taylorsville	149.86	14		PKPbc	09 45 32.3	-0.5	
Z47A	Carrollton	149.97	26		PKiKP	09 45 33.7	-0.4	
U60A	Pendleton	149.97	7	P	PKPbc	09 45 33.2	+0.1	
	baz=352							
146A	Union	150.00	28		PKiKP	09 45 34.0	-0.1	
U59A	Littleton	150.01	8	P	PKPbc	09 45 32.9	-0.2	
	baz=350							
U59A	Littleton	150.01	8		PKPbc	09 45 32.7	-0.5	
PB10	IPOC Station P	150.02	184		PKiKP	09 45 34.1	-0.4	
V56A	Mocksville	150.06	12	P	PKPbc	09 45 33.1	-0.2	
	baz=345							
Y49A	Blount Mountai	150.08	23		PKPbc	09 45 33.3	-0.2	
V57A	Coltrane Farms	150.13	11	P	PKPbc	09 45 33.2	-0.3	
	baz=346							
U61A	Possum Corner	150.19	6	P	PKPbc	09 45 33.4	-0.2	
	baz=353							
BG3	Lake Jocassee	150.23	17		PKPbc	09 45 32.9	-0.9	
W54A	Cherokee Point	150.34	16	P	PKPbc	09 45 33.9	-0.2	
	baz=341							
V58A	Windy Hill, Pi	150.35	10	P	PKPbc	09 45 33.8	-0.2	
	baz=348							
KMSC	Kings Mountain	150.51	14	P	PKPbc	09 45 34.2	-0.2	
	baz=343							
KMSC	Kings Mountain	150.51	14		PKPbc	09 45 34.5	0.0	
V59A	Middlesex	150.52	9	P	PKPbc	09 45 34.4	0.0	
	baz=349							
LRAL	Lakeview Retre	150.57	25	P	PKPbc	09 45 34.5	-0.1	
	baz=331							
LRAL	Lakeview Retre	150.57	25		PKPbc	09 45 34.1	-0.5	
V60A	Jim Taylor Roa	150.66	7	P	PKPbc	09 45 34.5	-0.2	
	baz=351							
W56A	Indian Trail	150.69	13	P	PKPbc	09 45 34.7	-0.2	
	baz=344							
PAULI	Pauline	150.69	15		PKPbc	09 45 34.2	-0.7	
V61A	Roper	150.71	6	P	PKPbc	09 45 35.1	+0.3	
	baz=353							
LVC	Limon Verde	150.75	188	PKP	PKPdf	09 45 32.4	+2.3	
	comp=Z,10nm,1.1s,baz=196,slow=10.0,SNR=3.6							
LVC				PKPbc	PKiKP	09 45 37.8	+1.4	
	comp=Z,43nm,0.9s,baz=268,slow=1.2,SNR=38							
LVC				PKPab	PKPab	09 45 45.4	+2.2	
	comp=Z,38nm,0.8s,baz=225,slow=2.1,SNR=14							
LVC	Limon Verde	150.75	188	PKIKP	PKiKP	09 45 36.2	-0.2	
LVC	Limon Verde	150.75	188		PKiKP	09 45 36.2	-0.2	
W57A	Gilead	150.80	12	P	PKPbc	09 45 35.1	0.0	
	baz=346							
W57A	Gilead	150.80	12		PKPbc	09 45 32.8	-2.3	
X54A	Belton	150.80	16	P	PKPbc	09 45 35.4	+0.2	
	baz=340							
Y52A	Lilburn	150.92	19		PKiKP	09 45 35.8	-0.3	
Z51A	Franklin	151.03	22		PKPbc	09 45 35.7	-0.1	
X55A	Gracelyn & Ava	151.07	15	P	PKPbc	09 45 35.8	0.0	
	baz=342							
W58A	Raeford	151.08	11	P	PKPbc	09 45 35.8	0.0	
	baz=347							
HODGE	Hodges	151.13	16		PKiKP	09 45 36.2	-0.2	
PB04	IPOC Station P	151.16	185		PKPbc	09 45 36.7	+0.2	
BIRD	Birdtown, Kers	151.19	13		PKPbc	09 45 36.2	+0.1	
X56A	White Oak	151.20	14	P	PKPbc	09 45 36.0	0.0	
	baz=343							
W60A	Pink Hill	151.30	8	P	PKPbc	09 45 36.4	+0.2	
	baz=350							
JSC	Jenkinsville	151.35	15	PKIKP	PKPbc	09 45 35.6	-0.8	
JSC	Jenkinsville	151.35	15		PKPbc	09 45 35.6	-0.8	
GOGA	Godfrey	151.53	19	P	PKPbc	09 45 36.8	0.0	
	baz=338							
GOGA	Godfrey	151.53	19	PKIKP	PKPbc	09 45 36.9	0.0	
GOGA	Godfrey	151.53	19		PKPbc	09 45 36.9	0.0	
X60A	Albert Glenn T	151.72	9	P	PKPbc	09 45 37.2	0.0	
	baz=349							
PB07	IPOC Station P	151.74	186	PKPbc	PKiKP	09 45 39.4	+1.1	
152A	Waverly Hall	151.78	21		PKPbc	09 45 36.4	-1.1	
Y58A	Scranton	152.07	12	P	PKPbc	09 45 37.0	-1.0	
	baz=346							
PB01	IPOC Station P	152.37	187		PKPdf	09 45 30.8	-1.5	
PB01					PKiKP	09 45 40.6	+1.1	
PB01				PKPab	PKPab	09 45 50.3	+0.7	
Z57A	Bowman	152.42	14	P	PKiKP	09 45 39.1	0.0	
	baz=343							
Z58A	St. Stephen	152.59	13	P	PKPbc	09 45 39.3	+0.1	
	baz=345							
Z59A	Georgetown, SC	152.79	12	P	PKiKP	09 45 40.0	+0.1	
	baz=346							
157A	Early Branch	152.94	15	P	PKPbc	09 45 39.7	-0.3	
	baz=342							
158A	Hollywood	153.08	14	P	PKiKP	09 45 40.4	0.0	
	baz=344							
PB08	IPOC Station P	153.21	188	PKPdf	PKPdf	09 45 32.8	-1.1	
PB08					PKiKP	09 45 42.9	+1.3	
PB08					PKPab	09 45 54.7	+1.1	
PB11	IPOC Station P	153.65	187		PKiKP	09 45 42.8	+0.6	
PB11				PKPab	PKPab	09 45 56.3	+1.1	
GO01	Chusmiza	153.69	188	PKPbc	PKPbc	09 45 42.5	-0.1	
GO01				PKPab	PKPab	09 45 57.7	+2.0	
PRPB	Parauapebas	153.74	242	*eP*	PKPab	09 46 01.3	+5.6	
PSGCX	Pisagua	153.87	186	PKPdf	PKPdf	09 45 33.9	-0.6	
PSGCX				PKPbc	PKiKP	09 45 42.9	+0.3	
PSGCX					PKPab	09 45 57.0	+1.0	
PTLB	Pontes e Lacer	154.24	212	*eP*	PKPab	09 46 02.6	+5.0	
MNMC	Minye Minye	154.27	187		PKPdf	09 45 34.3	-1.0	
MNMC				PKPbc	PKiKP	09 45 45.1	+1.4	
MNMC				PKPab	PKPab	09 45 59.5	+1.6	
PB16	IPOC Station P	155.04	188	PKPdf	PKPdf	09 45 35.5	-1.2	
PB16					PKPab	09 45 47.5	-14	
PB16				PKPab	PKPab	09 46 02.6	+1.0	
CLDB	Colider	155.73	225	*eP*	PKPab	09 46 05.8	+1.7	
LPAZ	La Paz	156.82	192	PKP	PKPdf	09 45 40.2	+1.0	
	comp=Z,2.3nm,1.0s,baz=54,slow=3.9,SNR=8.0							
LPAZ				PKPab	PKPab	09 46 11.3	+2.0	
	comp=Z,16nm,0.8s,baz=157,slow=4.2,SNR=29							
LPAZ	La Paz	156.82	192	PKIKP	PKPdf	09 45 39.0	-0.2	
LPAZ	La Paz	156.82	192	PKPdf	PKPdf	09 45 39.0	-0.2	
LPAZ					PKPab	09 46 10.7	+1.4	
LPAZ	La Paz	156.82	192	*eP*	PKPab	09 46 06.8	-2.5	
VILB	Vilhena	156.88	213	*eP*	PKPab	09 46 06.1	-2.9	
NPGB	Novo Progresso	157.91	233	*eP*	PKPab	09 46 09.5	-4.0	
MCPB	Macapa, AP	158.12	252	*eP*	PKPab	09 46 07.3	-7.3	
ITTB	Itaituba	159.73	238	*eP*	PKPab	09 46 10.2	-11	
SAML	Samuel	161.81	212	PKP2	PKPab	09 46 31.6	+1.2	
SAML						10 45 45.1		
SAML	Samuel	161.81	212		PKPdf	09 45 45.0	+0.8	
SAML					PKPab	09 46 31.6	+1.2	
PTGA	Pitinga	165.22	241		PKPdf	09 45 47.3	-0.2	
PTGA					sPKPdf	09 46 46.1	+0.1	
BANI	BANI	167.99	348		PKPdf	09 45 51.5	+2.0	
BANI					PKPab	09 46 55.7	-1.7	
OTAV	Otavalo	171.61	138	PKIKP	PKPdf	09 45 52.4	+0.1	
OTAV						09 47 15.6		
OTAV	Otavalo	171.61	138		PKPdf	09 45 52.4	+0.1	
OTAV				PKPab	PKPab	09 47 15.6	+1.3	

IDC 17 09:37:09.0±3.1, 49°44'S×124°52'E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/40, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/27, Error ellipse: s-maj=118.8km s-min=27.9km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	Cape Leeuwin H	16.42	328	T	T	09 58 15.1	
	baz=153						
H01W2	Cape Leeuwin H	16.42	328	T	T	09 58 16.7	
	baz=153						
H01W3	Cape Leeuwin H	16.43	328	T	T	09 58 21.2	
	baz=153						
STKA	Stephens Creek	21.72	42	P	P	09 42 01.7	0.0
	8.2nm,0.8s,baz=211,slow=11,SNR=7.3						
ASAR	Alice Springs	26.76	19	P	P	09 42 50.1	-0.3
	1.4nm,0.8s,baz=189,slow=11,SNR=5.9						
WRA	Warramunga Arr	30.46	18	P	P	09 43 23.8	+0.4
	0.5nm,0.8s,baz=200,slow=9.7,SNR=2.3						
WRA				LR	LR	09 54 34.9	
	comp=Z,122nm,20.4s,baz=285,slow=34						
VNDA	Vanda	31.54	165	P	P	09 43 32.3	0.0
	1.0nm,0.7s,baz=308,slow=11,SNR=3.5						

IDC 17 09:37:34.6±0.8, 0°.49N×98°.39E, h0km, mb4.3/16, mb1 4.3/18, mb1mx4.0/66, mbtmp4.2/18, ML4.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/54, Error ellipse: s-maj=25.3km s-min=16.2km az=62.0

NEIC 17 09:37:40.0±1.5, 0°.53N±0°.07×98°.23E±0°.06, h35km±2km, mb4.5/19, Error ellipse: s-maj=14.2km s-min=8.6km az=217.0

DJA 17 09:37:40.3±0.4, 1°N±3°×9°8E±°, h10km, M4.5/15, mb4.6/3, ML4.5/15

ISC 17 09:37:40.9±0.6, 0°.61N±0°.07×98°.27E±0°.06, h43km, n68, σ1s25/63, mb4.4/25, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	0.98	315	P	Pn	09 37 58.2	0.0
GSI	Gunungsitoli	0.98	315	Pn	Pn	09 37 57.7	-0.5
MNSI	Mandailing Nat	1.33	82	P	Pn	09 38 02.9	-0.1
SISI	Saibi	2.09	157	P	Pn	09 38 16.2	+2.7
RPSI	Rantau Prapat	2.18	18		Pn	09 38 12.2	-2.5
RPSI	Rantau Prapat	2.18	18	Pn	Pn	09 38 14.2	-0.4
PSI	Prapat	2.28	17	Pn	Pn	09 38 12.2	-4.0
	19nm,0.3s,baz=191,slow=6.9,SNR=22						
PSI				LR	LR	09 39 21.7	
	comp=Z,856nm,18.4s,baz=165,slow=47						
BKNI	Bangkinang	2.79	96	P	Pn	09 38 25.2	+2.1
BKNI	Bangkinang	2.79	96		Pn	09 38 23.4	+0.4
TPTI		2.85	338	P	Pn	09 38 25.3	+1.4
TSI	Tuntungan	2.89	6	P	Pn	09 38 26.2	+1.7
SDSI	Sungai Dareh	3.51	116	P	Pn	09 38 34.4	+1.4
MLSI	Meulaboh, Aceh	4.08	333	P	Pn	09 38 42.7	+1.8
KRJI	Kerinci	4.17	130	P	Pn	09 38 45.0	+2.8
IPM	Ipoh	4.73	36	Pn	Pn	09 38 50.5	+0.6
KULM	Kulim	5.23	27	Pn	Pn	09 38 57.1	+0.5
MNAI	Manna	6.80	137	Pn	Pn	09 39 17.4	-0.9
MDSI	Maura Dua	7.78	131	P	Pn	09 39 30.9	-0.7
SBUM	Sibu	14.07	82	Pn	Pn	09 40 59.9	+2.1
CMAR	Chiang Mai Arr	17.75	2	P	Pn	09 41 44.2	-0.8
	0.9nm,0.3s,baz=186,slow=12,SNR=6.5						
CMAR	Chiang Mai Arr	17.75	2	P	Pn	09 41 43.8	-1.3
KKM	Kota Kinabalu	18.71	73	P	Pn	09 41 56.0	-0.8
H08S2	Diego Garcia H	26.98	252	T	T	10 10 43.5	
	baz=73,slow=75,SNR=18						
H08S3	Diego Garcia H	26.98	252	T	T	10 10 46.6	
	baz=73,slow=75,SNR=20						
H08S1	Diego Garcia H	26.99	252	T	T	10 10 46.6	
	baz=73,slow=75,SNR=25						
DAV	Davao City (W)	27.98	76	LR	LR	09 55 23.8	
	comp=Z,82nm,20.8s,baz=253,slow=38						
WRA	Warramunga Arr	40.82	122	P	P	09 45 15.8	-2.9
	0.6nm,0.4s,baz=303,slow=9.0,SNR=5.9						
WRA				PcP	PcP	09 47 19.7	+0.5
	0.6nm,0.7s,baz=308,slow=2.5,SNR=2.2						
WRAB	Tennant Creek	40.83	122	P	P	09 45 16.9	-1.9
WB2	Warramunga Arr	40.83	122	P	P	09 45 16.6	-2.2
WR0	Warramunga Arr	41.00	122	P	P	09 45 18.4	-1.7
WR0				IAmb	IAmb	09 45 40.7	
	comp=Z,7.6nm,1.1s						
AS31	Alice Springs	42.19	127	P	P	09 45 28.0	-1.9
ASAR	Alice Springs	42.19	127	P	P	09 45 27.7	-2.2
	comp=Z,0.7nm,0.3s,baz=299,slow=7.8,SNR=12						
ASAR				PcP	PcP	09 47 24.4	+0.7
	comp=Z,0.7nm,0.9s,baz=283,slow=2.6,SNR=3.8						
ASAR	Alice Springs	42.19	127	P	P	09 45 28.2	-1.7
KDJ	Kajisay	45.49	338	P	P	09 45 57.9	+1.6
KDJ				IAmb	IAmb	09 46 01.0	
	comp=Z,6.7nm,1.1s						
KSAR	Wonju Array Be	45.71	33	P	P	09 45 58.1	+0.3
KSRS	Korea Array	45.74	33	P	P	09 45 58.3	+0.2
	comp=Z,3.4nm,0.6s,baz=221,slow=8.2,SNR=15						
KS19	Wonju Array Si	45.75	33	P	P	09 45 58.3	+0.1
CHGR	Chuyangaron	46.33	328	P	P	09 46 03.6	+0.8
CHGR				IAmb	IAmb	09 46 17.3	
	comp=Z,7.6nm,0.8s						
SONM	Songino Array	47.57	7	P	P	09 46 14.0	+1.6
	comp=Z,1.6nm,0.4s,baz=187,slow=10,SNR=6.3						
SONM	Songino Array	47.57	7	P	P	09 46 13.3	+0.9
MK31	Makanchi Array	48.08	345	P	P	09 46 16.9	+0.7
MK31				IAmb	IAmb	09 46 18.8	
	comp=Z,2.4nm,0.7s						
MKAR	Makanchi Array	48.08	345	P	P	09 46 17.3	+1.1
	comp=Z,3.2nm,0.6s,baz=157,slow=7.7,SNR=20						
MKAR	Makanchi Array	48.08	345	P	P	09 46 17.2	+0.9
MAKZ	Makanchi	48.17	345	P	P	09 46 17.7	+0.8
MAKZ				IAmb	IAmb	09 46 18.9	
	comp=Z,3.1nm,0.9s						
BBOO	Buckleboo	48.72	137	P	P	09 46 19.6	-1.8
KKAR	Karatay Array	49.06	333	P	P	09 46 24.9	+1.0
KKAR				IAmb	IAmb	09 46 27.8	
	comp=Z,3.7nm,1.3s						
KURBB	Kurchatov Arra	52.58	344	P	P	09 46 51.7	+1.5
	comp=Z,1.4nm,0.2s,baz=166,slow=7.2,SNR=12						
KURK	Kurchatov	52.64	344	P	P	09 46 51.4	+0.8
KURK				IAmb	IAmb	09 46 52.8	
	comp=Z,5.6nm,1.0s						
USRK	Ussuriysk Ar.	52.74	30	P	P	09 46 52.0	+0.6
	comp=Z,3.0nm,0.6s,baz=236,slow=5.4,SNR=9.3						
USRK	Ussuriysk Ar.	52.74	30	P	P	09 46 51.8	+0.4
ZAA0	Zalesovo Array	54.31	350	P	P	09 47 03.2	+0.4
ZALV	Zalesovo Beam	54.31	350	P	P	09 47 03.8	+0.9
	comp=Z,3.9nm,0.5s,baz=169,slow=6.3,SNR=14						
ZALV	Zalesovo Beam	54.31	350	P	P	09 47 03.4	+0.5
BVAR	Borovoye Array	57.16	340	P	P	09 47 24.0	+0.7
	comp=Z,2.0nm,0.7s,baz=192,slow=21,SNR=8.6						
BRVK	Borovoye	57.22	340	P	P	09 47 24.2	+0.4
BRVK				IAmb	IAmb	09 47 31.7	
	comp=Z,4.2nm,0.6s						
ABKAR	Akbulak array	58.54	332	P	P	09 47 32.7	-0.3
ABKAR				IAmb	IAmb	09 47 34.3	
	comp=Z,3.0nm,0.8s						
AKTO	Aktyubinsk	60.26	332	P	P	09 47 45.0	+0.2
	comp=Z,1.0nm,0.5s,baz=134,slow=3.6,SNR=2.6						
BRTR	Keskin Array B	70.30	312	P	P	09 48 50.8	+0.4
	comp=Z,0.8nm,0.5s,baz=127,slow=5.9,SNR=2.6						
BRTR	Keskin Array B	70.30	312	P	P	09 48 50.2	-0.1
BOSA	Boshof	75.41	240	P	P	09 49 22.6	+1.7
	comp=Z,9.1nm,1.1s,baz=62,slow=4.6,SNR=3.7						
BOSA	Boshof	75.41	240	P	P	09 49 19.8	-1.1
FINES	FINESS Array B	81.01	332	P	P	09 49 51.1	+0.1
	comp=Z,2.0nm,0.8s,baz=102,slow=4.7,SNR=8.2						
FINES	FINESS Array B	81.01	332	P	P	09 49 50.1	-0.9
ARCES	ARCESS Array B	83.45	340	P	P	09 50 04.4	+0.8
	comp=Z,2.0nm,0.8s,baz=98,slow=5.0,SNR=6.8						
HFS	Hagfors	86.76	330	P	P	09 50 21.2	+0.9
	comp=Z,3.3nm,0.8s,baz=104,slow=6.3,SNR=6.7						
NOA	NORSAR Array B	88.04	331	P	P	09 50 26.6	0.0
	comp=Z,0.7nm,0.7s,baz=90,slow=4.8,SNR=3.6						
TXAR	Lajitas Array	143.59	33	PKP	PKPdf	09 57 10.1	-1.9
	comp=Z,0.2nm,0.5s,baz=324,slow=0.8,SNR=5.5						
TXAR	Lajitas Array	143.59	33		PKPdf	09 57 10.7	-1.3

NEIC 17 09:44:50.8±1.5, 27°.17N±0°.07×97°.07E±0°.06, h10km±1km, mb4.7/56, Error ellipse: s-maj=12.1km s-min=8.2km az=337.0

BJI 17 09:44:51.2±0.0, 27°.26N×97°.03E, h8km, mB4.7/21, mb4.5/40, ML4.2/5, Ms4.3/29, Ms7 4.2/26

IDC 17 09:44:52.0±0.4, 27°.22N×97°.12E, h16km±2km, mb4.3/29, mb1 4.4/29, mb1mx4.2/62, mbtmp4.4/29, MS3.8/8, Ms1 3.8/8, ms1mx3.3/56, Error ellipse: s-maj=16.4km s-min=8.9km az=47.0

ISC 17 09:44:51.9±0.5, 27°.19N±0°.05×97°.01E±0°.03, h15km±2km, n210, σ1s54/213, mb4.6/53, MS3.8/8, 1C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	Lekhapani	1.05	278	*i* x	x	09 45 32.2	
LKP	Lekhapani	1.05	278	*i* P	Pg	09 45 14.8	+2.7
LKP	Lekhapani	1.05	278	*i* Sg	Sn	09 45 30.3	+3.9
LKP	Lekhapani	1.05	278	*eS*	Sn	09 45 30.6	+4.3
LKP	Lekhapani	1.05	278	*eP*	Pg	09 45 13.3	+1.2
LKP	Lekhapani	1.05	278	*i* Pg	Pg	09 45 13.7	+1.6
LKP	Lekhapani	1.05	278	*eP*	Pg	09 45 14.0	+1.9
DIBR	DIBRUGARH	1.89	279	*i* S	Sg	09 45 54.7	+2.1
DIBR	DIBRUGARH	1.89	279	*eP*	Pb	09 45 26.3	+0.3
DIBR	DIBRUGARH	1.89	279	*i* P	Pg	09 45 27.7	-0.4
DIBR	DIBRUGARH	1.89	279	*ex*	x	09 45 27.9	
DIBR	DIBRUGARH	1.89	279	IAmb	IAmb	09 45 32.4	
	comp=Z,1μm,0.8s						
DIBR	DIBRUGARH	1.89	279	*ex*	x	09 45 52.0	
DIBR	DIBRUGARH	1.89	279	*eS*	Sg	09 45 52.9	+0.2
MOKO	MOKOCHONG	2.39	249	*eP*	Pb	09 45 34.1	-0.6
MOKO	MOKOCHONG	2.39	249	*i* P	Pb	09 45 35.2	+0.5
MOKO	MOKOCHONG	2.39	249	*i* x	x	09 46 10.8	
JORH	JORHAT	2.50	260	*i* S	Sb	09 46 07.8	+0.8
JORH	JORHAT	2.50	260	*i* P	Pb	09 45 35.4	-1.1
ZIRO	ZIRO	2.83	278	*eS*	Sn	09 46 12.9	+2.3
ZIRO	ZIRO	2.83	278	*i* S	Sn	09 46 07.2	-3.5
ZIRO	ZIRO	2.83	278	*i* P	Pn	09 45 35.7	-1.0
ZIRO	ZIRO	2.83	278	*eP*	Pn	09 45 38.7	+1.9
KOHI	KOHIMA	2.98	241	*eP*	Pb	09 45 42.9	-2.0
KOHI	KOHIMA	2.98	241	*i* P	Pn	09 45 41.5	+2.7
TEZP	TEZPUR	3.80	262	*i* S	Sn	09 46 37.8	+3.4
TEZP	TEZPUR	3.80	262	*eS*	Sn	09 46 36.4	+2.0
TEZP	TEZPUR	3.80	262	*i* P	Pn	09 45 51.3	+1.4
TEZP	TEZPUR	3.80	262	*eP*	Pn	09 45 52.0	+2.1
SILR	SILCHAR	4.48	239	*eS*	Sn	09 46 54.7	+3.6
SILR	SILCHAR	4.48	239	*eP*	Pn	09 46 02.1	+2.9
GUWA	GUWAHATI	4.86	259	*i* S	Sn	09 47 00.9	+0.4
GUWA	GUWAHATI	4.86	259	*eP*	Pn	09 46 05.7	+1.2
GUWA	GUWAHATI	4.86	259	*i* P	Pn	09 46 05.9	+1.4
SHL	Shillong

GTA					pmax	pmax			
	comp=Z,59nm,4.8s								
GTA					LR	LR			
	comp=Z,940nm,10.9s								
GTA					LR	LR			
	comp=Z,320nm,9.8s								
GTA					LR	LR			
	comp=Z,1μm,11.6s								
WHN	**Wuhan**	**15.56**	**74**		P	**Pn**	**09 48 28.9**	**-1.8**	
WHN					S	**Sn**	**09 51 26.9**	**+4.1**	
WHN					pmax	pmax			
	comp=Z,30nm,0.9s								
WHN					LR	LR			
	comp=Z,630nm,7.4s								
WHN					LR	LR			
	comp=Z,2μm,9.9s								
WHN					LR	LR			
	comp=Z,3μm,11.9s								
BTO	**Baotou**	**17.17**	**35**	*eP*	**Pn**		**09 48 49.1**	**-2.2**	
BHPL	**Bhopal**	**18.15**	**262**	IAmb	IAmb		09 49 07.1		
	comp=Z,22nm,0.7s								
BHPL	**Bhopal**	**18.15**	**262**	*ex*	**Pn**		**09 49 01.7**	**-1.8**	
HHC	**Hu-ho-hao-te**	**18.16**	**38**	*eP*	**P**		**09 49 05.6**	**+1.7**	
HHC					pmax	pmax			
	comp=Z,36nm,1.4s								
HHC					pmax	pmax			
	comp=Z,140nm,6.4s								
WMQ	**Urumqi**	**18.23**	**338**	*eP*	**P**		**09 49 06.5**	**+2.0**	
WMQ					pmax	pmax			
	comp=Z,11nm,1.3s								
WMQ					pmax	pmax			
	comp=Z,75nm,3.7s								
WMQ					LR	LR			
	comp=Z,190nm,29.3s								
WMQ					LR	LR			
	comp=Z,530nm,29.0s								
NJ2	**Nanjing**	**19.59**	**70**	*eP*	**Pn**		**09 49 21.8**	**+1.0**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
NJ2					LR	LR			
	comp=Z,460nm,10.9s								
NJ2					LR	LR			
	comp=Z,630nm,16.1s								
NJ2					LR	LR			
	comp=Z,600nm,16.6s								
HYB	**Hyderabad**	**19.63**	**244**	*i* P		**Pn**	**09 49 21.0**	**-0.4**	
KSH	**Kashi**	**21.39**	**310**	P		**P**	**09 49 40.9**	**+1.8**	
KSH					pmax	pmax			
	comp=Z,37nm,1.3s								
NIL	**Nilore**	**21.45**	**293**	P		**P**	**09 49 38.2**	**-1.5**	
NIL				IAmb	IAmb		09 49 54.8		
	comp=Z,18nm,0.8s								
SSE	**Sheshan**	**21.46**	**74**	P		**P**	**09 49 38.3**	**-1.5**	
SSE				S		**S**	**09 53 36.3**	**-1.1**	
SSE				pmax	pmax				
	comp=Z,11nm,0.5s								
SSE				pmax	pmax				
	comp=Z,87nm,3.2s								
SSE				LR	LR				
	comp=Z,240nm,14.2s								
SSE				LR	LR				
	comp=Z,200nm,13.4s								
PRZ	**Przheval'sk**	**21.52**	**320**	P		**P**	**09 49 41.4**	**+0.9**	
PRZ				IAmb	IAmb		09 49 43.0		
	comp=Z,29nm,0.9s								
SONM	**Songino Array**	**21.88**	**17**	P		**P**	**09 49 43.8**	**-0.5**	
	comp=Z,5.4nm,0.6s,baz=202,slow=11,SNR=12								
SONM	**Songino Array**	**21.88**	**17**	P		**P**	**09 49 43.7**	**-0.6**	
KDJ	**Kajisay**	**22.02**	**318**	P		**P**	**09 49 45.5**	**-0.4**	
ULJ	**Ulaanbaatar**	**22.09**	**18**	P		**P**	**09 49 45.7**	**-0.8**	
MK31	**Makanchi Array**	**22.76**	**333**	P		**P**	**09 49 53.1**	**-0.4**	
MKAR	**Makanchi Array**	**22.76**	**333**	P		**P**	**09 49 53.0**	**-0.6**	
	comp=Z,9.3nm,0.7s,baz=146,slow=12,SNR=27								
MKAR				PcP		**PcP**	**09 53 45.5**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=174,slow=1.8,SNR=4.3								
MKAR	**Makanchi Array**	**22.76**	**333**	P		**P**	**09 49 52.8**	**-0.8**	
MKAR						**PcP**	**09 53 44.8**	**-0.3**	
MAKZ	**Makanchi**	**22.90**	**333**	P		**P**	**09 49 54.8**	**-0.2**	
MAKZ				IAmb	IAmb		09 50 00.4		
	comp=Z,19nm,1.0s								
BOOM	**Boomskoye usch**	**22.98**	**317**	P		**P**	**09 49 55.2**	**-0.9**	
BOOM				IAmb	IAmb		09 50 03.2		
	comp=Z,11nm,0.8s								
KBL	**Kabul**	**25.05**	**294**	P		**P**	**09 50 16.2**	**+0.3**	
GAR	**Garm**	**25.18**	**305**	P		**P**	**09 50 16.8**	**-0.1**	
GAR				IAmb	IAmb		09 50 27.7		
	comp=Z,31nm,0.9s								
BTK	**Batken**	**25.20**	**307**	P		**P**	**09 50 17.4**	**+0.4**	
BTK				IAmb	IAmb		09 50 43.3		
	comp=Z,14nm,0.7s								
CHGR	**Chuyangaron**	**25.93**	**303**	P		**P**	**09 50 23.1**	**-0.6**	
CHGR				IAmb	IAmb		09 50 40.0		
	comp=Z,30nm,1.2s								
KK06	**Karatay Array**	**26.70**	**313**	P		**P**	**09 50 30.1**	**-0.4**	
KK05	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 27.6**	**-3.0**	
KK02	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 30.1**	**-0.5**	
KK07	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 30.4**	**-0.2**	
KK31	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 30.3**	**-0.3**	
KKAR	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 29.2**	**-1.4**	
KKAR	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 30.3**	**-0.3**	
KKAR				IAmb	IAmb		09 50 43.0		
	comp=Z,3.7nm,1.1s								
KKAR						**PcP**	**09 53 53.9**	**0.0**	
KK01	**Karatay Array**	**26.71**	**313**	P		**P**	**09 50 29.2**	**-1.4**	
KK03	**Karatay Array**	**26.72**	**313**	P		**P**	**09 50 30.2**	**-0.4**	
KK04	**Karatay Array**	**26.72**	**313**	P		**P**	**09 50 31.8**	**+1.1**	
KK08	**Karatay Array**	**26.73**	**313**	P		**P**	**09 50 30.7**	**0.0**	
KK09	**Karatay Array**	**26.73**	**313**	P		**P**	**09 50 31.1**	**+0.4**	
KURBB	**Kurchatov Arra**	**27.32**	**334**	P		**P**	**09 50 36.2**	**+0.3**	
	comp=Z,14nm,0.7s,baz=147,slow=11,SNR=50								
KURBB				PcP		**PcP**	**09 53 55.0**	**0.0**	
	comp=Z,1.6nm,0.7s,baz=150,slow=1.8,SNR=6.7								
KURK	**Kurchatov**	**27.36**	**334**	P		**P**	**09 50 36.3**	**+0.1**	
KURK				IAmb	IAmb		09 50 41.0		
	comp=Z,22nm,0.8s								
KURK						**PcP**	**09 53 54.0**	**-1.2**	
KSRS	**Korea Array**	**27.95**	**61**	LR		LR	10 02 54.5		
	comp=Z,227nm,19.2s,baz=252,slow=39								
ZAA0	**Zalesovo Array**	**28.21**	**345**	P		**P**	**09 50 43.8**	**0.0**	
ZALV	**Zalesovo Beam**	**28.21**	**345**	P		**P**	**09 50 44.0**	**+0.1**	
	comp=Z,2.7nm,0.5s,baz=162,slow=11,SNR=11								
ZALV	**Zalesovo Beam**	**28.21**	**345**	P		**P**	**09 50 43.2**	**-0.7**	
JNU	**Nakatsue**	**29.79**	**70**	LR		LR	10 02 23.2		
	comp=Z,62nm,18.4s,baz=270,slow=35								
HRA	**Herat**	**30.61**	**292**	P		**P**	**09 51 05.2**	**-0.4**	
BVAR	**Borovoye Array**	**32.52**	**330**	P		**P**	**09 51 22.4**	**+0.5**	
	comp=Z,2.3nm,0.8s,baz=196,slow=20,SNR=9.1								
BRVK	**Borovoye**	**32.59**	**330**	P		**P**	**09 51 23.0**	**+0.4**	
BRVK				IAmb	IAmb		09 51 24.0		
	comp=Z,5.3nm,0.7s								
USRK	**Ussuriysk Ar.**	**32.79**	**50**	P		**P**	**09 51 24.3**	**-0.1**	
	comp=Z,5.5nm,0.9s,baz=244,slow=8.4,SNR=7.4								
USRK	**Ussuriysk Ar.**	**32.79**	**50**	P		**P**	**09 51 23.3**	**-1.1**	
GYA2	**ALIBECK ARRAY**	**34.26**	**298**	P		**P**	**09 51 36.9**	**-0.6**	
GEYT	**Alibeck**	**34.27**	**298**	P		**P**	**09 51 39.2**	**+1.8**	
	comp=Z,2.8nm,0.6s,baz=104,slow=6.3,SNR=3.7								
GEYT				pP		**sP**	**09 51 44.9**	**+0.2**	
	comp=Z,4.4nm,0.8s,baz=166,slow=13,SNR=3.2								
GYA0	**ALIBECK ARRAY**	**34.27**	**298**	P		**P**	**09 51 38.1**	**+0.7**	
GYA0B	**ALIBECK ARRAY**	**34.27**	**298**	P		**P**	**09 51 38.1**	**+0.7**	
GYA0B				IAmb	IAmb		09 51 52.1		
	comp=Z,11nm,1.0s								
GYB4	**ALIBECK ARRAY**	**34.28**	**298**	P		**P**	**09 51 38.9**	**+1.3**	
AB07	**Akbulak array**	**35.98**	**318**	P		**P**	**09 51 53.0**	**+1.0**	
MJAR	**Matsushiro Arr**	**35.98**	**65**	P		**P**	**09 51 51.1**	**-1.1**	
	comp=Z,3.0nm,0.9s,baz=261,slow=9.1,SNR=5.4								
MJAR				LR		LR	10 07 45.8		
	comp=Z,119nm,20.2s,baz=280,slow=38								
AB06	**Akbulak array**	**35.98**	**318**	P		**P**	**09 51 53.0**	**+1.0**	
AB03	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 53.0**	**+0.9**	
AB02	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 53.1**	**+1.0**	
AB01	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 52.9**	**+0.7**	
AB31	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 53.1**	**+1.0**	
ABKAR	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 53.2**	**+1.0**	
ABKAR				IAmb	IAmb		09 51 54.1		
	comp=Z,12nm,0.7s								
AB08	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 53.0**	**+0.8**	
AB04	**Akbulak array**	**36.00**	**318**	P		**P**	**09 51 53.2**	**+1.0**	
AKTO	**Aktyubinsk**	**37.62**	**319**	P		**P**	**09 52 06.8**	**+0.8**	
	comp=Z,7.5nm,0.8s,baz=117,slow=9.2,SNR=19								
ARU	**Arti**	**40.05**	**328**	P		**P**	**09 52 27.0**	**+0.8**	
	comp=Z,3.1nm,0.7s,baz=147,slow=7.2,SNR=12								
ARU	**Arti**	**40.05**	**328**	P		**P**	**09 52 26.8**	**+0.5**	
ARU				IAmb	IAmb		09 52 27.7		
	comp=Z,12nm,0.8s								
ASAJ	**Asahikawa**	**40.16**	**53**	P		**P**	**09 52 28.1**	**+0.7**	
	comp=Z,22nm,1.0s,baz=263,slow=8.5,SNR=5.1								
JKA	**Kamikawa-asahi**	**40.16**	**53**	P		**P**	**09 52 28.1**	**+0.7**	
JKA	**Kamikawa-asahi**	**40.16**	**53**	IAmb		IAmb	09 52 28.8		
	comp=Z,36nm,1.1s								
NRIK	**Noril'sk**	**42.55**	**355**	P		**P**	**09 52 46.5**	**-0.1**	
	comp=Z,4.6nm,0.8s,baz=158,slow=6.7,SNR=6.4								
GUMO	**Guam**	**46.59**	**97**	LR		LR	10 13 24.6		
	comp=Z,67nm,19.6s,baz=292,slow=37								
TIXI	**Tiksi**	**47.88**	**13**	P		**P**	**09 53 27.7**	**-1.2**	
TIXI				IAmb		IAmb	09 53 33.7		
	comp=Z,8.8nm,1.5s								
SEY	**Seymchan**	**50.53**	**29**	LR		LR	10 17 09.9		
	comp=Z,334nm,19.7s,baz=252,slow=38								
ASF	**Jabal al Asfar**	**51.88**	**291**	P		**P**	**09 54 00.6**	**+0.6**	
	comp=Z,2.0nm,0.6s,baz=64,slow=5.3,SNR=4.2								
FITZ	**Fitzroy Crossi**	**52.89**	**145**	P		**P**	**09 54 06.9**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=315,slow=7.1,SNR=2.0								
FITZ	**Fitzroy Crossi**	**52.89**	**145**	P		**P**	**09 54 07.1**	**-0.3**	
BRTR	**Keskin Array B**	**53.33**	**301**	P		**P**	**09 54 10.2**	**-0.5**	
	comp=Z,1.7nm,0.7s,baz=116,slow=9.3,SNR=6.2								
BRTR	**Keskin Array B**	**53.33**	**301**	P		**P**	**09 54 10.4**	**-0.3**	
AKASG	**Malin Array Be**	**55.60**	**314**	P		**P**	**09 54 25.9**	**-1.0**	
	comp=Z,3.3nm,0.6s,baz=75,slow=7.2,SNR=14								
AKASG				pP		**pP**	**09 54 31.3**	**-0.8**	
	comp=Z,3.7nm,0.5s,baz=77,slow=6.9,SNR=10								
AKASG	**Malin Array Be**	**55.60**	**314**	P		**P**	**09 54 26.7**	**-0.1**	
AKBB	**Malin Array Si**	**55.60**	**314**	P		**P**	**09 54 26.3**	**-0.5**	
AKBB				IAmb		IAmb	09 54 27.0		
	comp=Z,7.8nm,1.0s								
ELL	**Elmali**	**56.69**	**298**	P		**P**	**09 54 35.0**	**-0.1**	
NACGM	**Naroch**	**56.97**	**320**	*e*		**P**	**09 54 36.0**	**-0.5**	
FIA1	**FINESS Array S**	**57.42**	**327**	P		**P**	**09 54 39.7**	**+0.1**	
FIA1				IAmb		IAmb	09 54 55.9		
	comp=Z,9.6nm,1.1s								
FINES	**FINESS Array B**	**57.43**	**327**	P		**P**	**09 54 39.9**	**+0.2**	
	comp=Z,2.5nm,0.6s,baz=92,slow=8.1,SNR=17								
FINES				pP		**pP**	**09 54 45.2**	**+0.3**	
	comp=Z,2.2nm,0.5s,baz=100,slow=8.0,SNR=3.9								
MLR	**Muntele Rosu**	**58.24**	**309**	P		**P**	**09 54 46.6**	**+0.8**	
ARCES	**ARCESS Array B**	**58.34**	**337**	P		**P**	**09 54 46.3**	**+0.3**	
	comp=Z,3.9nm,0.9s,baz=81,slow=7.8,SNR=4.2								
BURAR	**Bucovina Array**	**58.47**	**311**	P		**P**	**09 54 45.8**	**-1.6**	
BUR08	**Bucovina Ar. S**	**58.48**	**311**	P		**P**	**09 54 46.8**	**-0.6**	
WB0	**Warramunga Arr**	**59.08**	**138**	P		**P**	**09 54 51.5**	**-0.3**	
WRAB	**Tennant Creek**	**59.19**	**138**	P		**P**	**09 54 51.8**	**-0.7**	
WRA	**Warramunga Arr**	**59.19**	**138**	P		**P**	**09 54 52.4**	**-0.1**	
	comp=Z,3.0nm,0.3s,baz=328,slow=7.5,SNR=75								
WRA				pP		**pP**	**09 54 58.0**	**0.0**	
	comp=Z,6.3nm,0.6s,baz=328,slow=7.6,SNR=22								
WB2	**Warramunga Arr**	**59.19**	**138**	P		**P**	**09 54 51.9**	**-0.6**	
WC3	**Warramunga Arr**	**59.22**	**138**	P		**P**	**09 54 52.4**	**-0.3**	
WR0	**Warramunga Arr**	**59.32**	**138**	P		**P**	**09 54 52.7**	**-0.7**	
WR0				IAmb		IAmb	09 54 59.3		
	comp=Z,5.5nm,0.7s								
KWP	**Kalwaria Pacla**	**59.87**	**314**	P		**P**	**09 54 57.1**	**+0.2**	
AS31	**Alice Springs**	**61.85**	**141**	P		**P**	**09 55 10.5**	**-0.1**	
ASAR	**Alice Springs**	**61.85**	**141**	P		**P**	**09 55 10.2**	**-0.5**	
	comp=Z,1.3nm,0.4s,baz=325,slow=6.1,SNR=24								
ASAR				pP		**pP**	**09 55 15.9**	**-0.3**	
	comp=Z,6.1nm,0.8s,baz=325,slow=6.7,SNR=27								
ASAR	**Alice Springs**	**61.85**	**141**	P		**P**	**09 55 09.2**	**-1.5**	
HFS	**Hagfors**	**63.55**	**326**	P		**P**	**09 55 22.1**	**+0.5**	
	comp=Z,7.1nm,0.7s,baz=87,slow=10,SNR=8.4								
KMBO	**Kilima Mbogo**	**63.92**	**254**	P		**P**	**09 55 26.9**	**+2.0**	
	comp=Z,2.9nm,0.5s,baz=39,slow=11,SNR=6.1								
KMBO	**Kilima Mbogo**	**63.92**	**254**	P		**P**	**09 55 24.8**	**-0.1**	
KMBO				IAmb		IAmb	09 55 30.8		
	comp=Z,4.9nm,0.8s								
NC405	**NORSAR Array S**	**64.36**	**328**	P		**P**	**09 55 26.8**	**-0.1**	
NC605	**NORSAR Array S**	**64.56**	**327**	P		**P**	**09 55 27.7**	**-0.5**	
NB2	**NORSAR Subarra**	**64.61**	**328**	P		**P**	**09 55 27.9**	**-0.6**	
	comp=Z,4.3nm,0.7s,baz=80,slow=6.5								
NOA	**NORSAR Array B**	**64.61**	**328**	P		**P**	**09 55 28.0**	**-0.5**	
	comp=Z,3.7nm,0.8s,baz=80,slow=6.5,SNR=16								
NOA				pP		**pP**	**09 55 33.5**	**-0.3**	
	comp=Z,0.8nm,0.5s,baz=78,slow=8.7,SNR=4.9								
NC204	**NORSAR Array S**	**64.78**	**328**	P		**P**	**09 55 29.3**	**-0.4**	
GEC2	**GERESS Array S**	**65.81**	**314**	P		**P**	**09 55 36.2**	**-0.4**	
GEC2				IAmb		IAmb	09 55 37.8		
	comp=Z,4.8nm,1.0s								
GEC2B	**GERESS ARRAY S**	**65.81**	**314**	P		**P**	**09 55 36.9**	**+0.3**	
GERES	**GERESS Array B**	**65.81**	**314**	P		**P**	**09 55 35.2**	**-1.4**	
	comp=Z,1.6nm,0.7s,baz=55,slow=7.0,SNR=9.9								
GERES	**GERESS ARRAY B**	**65.81**	**314**	P		**P**	**09 55 35.4**	**-1.2**	
CTA	**Charters Tower**	**66.96**	**129**	P		**P**	**09 55 43.0**	**-1.1**	
	comp=Z,4.5nm,0.8s,baz=321,slow=5.7,SNR=5.1								
CTA				pP		**pP**	**09 55 48.5**	**-1.2**	
	comp=Z,3.4nm,0.7s,baz=300,slow=16,SNR=2.3								
DAVOX	**Davos/Dischmat**	**68.85**	**313**	LR		LR	10 29 07.3		
	comp=Z,73nm,21.4s,baz=159,slow=38								
STKA	**Stephens Creek**	**72.49**	**141**	P		**P**	**09 56 16.9**	**-1.1**	
	comp=Z,2.0nm,0.7s,baz=306,slow=2.8,SNR=5.7								
STKA				pP		**pP**	**09 56 22.9**	**-0.6**	
	comp=Z,5.8nm,0.7s,baz=345,slow=7.9,SNR=6.5								
STKA	**Stephens Creek**	**72.49**	**141**	IAmb		IAmb	09 56 23.6		
	comp=Z,1.4nm,0.8s								
BPAW	**Bear Paw Mtn.**	**74.83**	**25**	P		**P**	**09 56 31.1**	**-0.3**	
BPAW				IAmb		IAmb	09 56 32.8		
	comp=Z,4.2nm,0.9s								
PPLA	**Purkeypile**	**74.98**	**26**	P		**P**	**09 56 32.3**	**-0.2**	
BMAR	**Burnt Mountain**	**75.19**	**21**	P		**P**	**09 56 34.2**	**+0.7**	
MDM	**Murphy Dome**	**75.38**	**24**	P		**P**	**09 56 34.3**	**-0.2**	
MDM				IAmb		IAmb	09 56 35.4		
	comp=Z,6.4nm,0.9s								
SKT	**Skwentna**	**75.72**	**27**	P		**P**	**09 56 36.7**	**+0.1**	
SKT				IAmb		IAmb	09 56 43.6		
	comp=Z,10.0nm,1.2s								
ILAR	**Eielson Array**	**75.96**	**23**	P		**P**	**09 56 36.2**	**-1.6**	
	comp=Z,1.3nm,0.8s,baz=312,slow=4.4,SNR=11								
ILAR	**Eielson Array**	**75.96**	**23**	P		**P**	**09 56 36.8**	**-1.0**	
SUMG	**Summit**	**75.99**	**347**	P		**P**	**09 56 37.8**	**-0.6**	
PMR	**Palmer**	**76.89**	**27**	P		**P**	**09 56 43.0**	**-0.1**	
PMR				IAmb		IAmb	09 56 43.9		
	comp=Z,7.2nm,1.0s								
BRLK	**Bradley Lake**	**77.15**	**29**	P		**P**	**09 56 43.9**	**-0.9**	
OHAK	**Old Harbor**	**77.41**	**32**	P		**P**	**09 56 45.1**	**+1.1**	
SCM	**Shep Creek Mo**	**77.47**	**26**	P		**P**	**09 56 48.0**	**+1.5**	
INK	**Inuvik**	**77.80**	**17**	P		**P**	**09 56 47.9**	**-0.2**	
	comp=Z,3.5nm,0.8s,baz=358,slow=6.6,SNR=5.5								
INK	**Inuvik**	**77.80**	**17**	P		**P**	**09 56 47.4**	**-0.7**	
INK				IAmb		IAmb	09 57 00.3		
	comp=Z,8.6nm,1.2s								
EGAK	**Eagle**	**77.92**	**22**	P		**P**	**09 56 47.8**	**-1.1**	
EGAK				IAmb		IAmb	09 56 56.3		
	comp=Z,4.7nm,1.1s								
KLU	**Klutina**	**78.21**	**26**	P		**P**	**09 56 51.0**	**+0.3**	
KLU				IAmb		IAmb	09 56 52.3		
	comp=Z,7.3nm,0.9s								
BCAR	**Beaver Creek A**	**78.79**	**23**	P		**P**	**09 56 54.6**	**+0.8**	
DAWY	**Dawson**	**78.96**	**22**	P		**P**	**09 56 55.0**	**+0.3**	
SKAG	**Skagway**	**83.52**	**24**	P		**P**	**09 57 18.6**	**-0.4**	
MDT	**Midelt**	**84.60**	**304**	LR		LR	10 44 08.5		
	comp=Z,54nm,18.5s,baz=290,slow=42								
TORD	**Torodi Ar. Bea**	**88.72**	**284**	P		**P**	**09 57 45.4**	**-0.1**	
	comp=Z,2.7nm,0.7s,baz=66,slow=3.9,SNR=14								
TORD				pP		**pP**	**09 57 51.0**	**0.0**	
	comp=Z,3.6nm,0.8s,baz=57,slow=4.3,SNR=12								
TORD	**Torodi Ar. Bea**	**88.72**	**284**	P		P	**09 57 45.1**	**-0.3**	
TXAR	**Lajitas Array**	**120.41**	**21**	PKP		**PKPdf**	**10 03 42.5**	**-0.8**	
	comp=Z,0.6nm,0.6s,baz=161,slow=0.3,SNR=10								
TXAR				pPKP		**pPKPdf**	**10 03 48.1**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=120,slow=0.4,SNR=7.9								
TXAR	**Lajitas Array**	**120.41**	**21**			**PKPdf**	**10 03 42.0**	**-1.3**	
BDFB	**Brasilia**	**145.59**	**282**	PKPbc		**PKPdf**	**10 04 30.1**	**-0.3**	
	comp=Z,3.9nm,0.6s,baz=360,slow=7.8,SNR=5.3								
BDFB	**Brasilia**	**145.59**	**282**			**PKPbc**	**10 04 30.7**	**+0.1**	
PTGA	**Pitinga**	**145.64**	**316**	PKPbc		**PKPdf**	**10 04 30.4**	**-0.1**	
	comp=Z,2.2nm,0.5s,baz=48,slow=3.0,SNR=9.2								
ROSC	**El Rosal**	**147.08**	**344**	PKPbc		**PKPbc**	**10 04 35.8**	**+0.3**	
	comp=Z,32nm,0.6s,baz=230,slow=5.5,SNR=10.0								
ROSC	**El Rosal**	**147.08**	**344**			**PKPbc**	**10 04 35.5**	**0.0**	

IDC ***17*** *09:44:54.4±6.1,21.°10S×178.°22W,h431km±62km, mb3.3/9, mb1 3.5/10,mb1mx3.3/51,mbtmp4.1/10,Error ellipse: s-maj=117.5km s-min=21.7km az=156.0*
NEIC ***17*** *09:44:54.1±1.5,21.°15S±0.°1×178.°2W±0.°2, h440km±8km, mb4.1/14,Error ellipse: s-maj=21.1km s-min=19.5km az=94.0*

ISC 17 09:44:55.1±0.6,21.°1S±0.°1×178.°3W±0.°1,h450km,n40,
σ1§10/38,mb3.9/16,Fiji Islands region

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

MSVF	**Nonsavu**	**4.81**	**313**	P		**P**	**09 46 14.8**	**-3.1**	
DZM	**Mont Dzumac**	**14.28**	**263**	P		**P**	**09 47 58.5**	**-0.2**	
	0.3nm,0.3s,baz=82,slow=19,SNR=1.6								
DZM	**Mont Dzumac**	**14.28**	**263**	P		**P**	**09 47 58.9**	**+0.2**	
LTZ	**Lake Taylor**	**23.07**	**198**	P		**P**	**09 49 23.9**	**-0.3**	
WHZ	**Wether Hill Ro**	**27.23**	**201**	P		**P**	**09 50 01.3**	**+0.2**	
CAN	**Canberra**	**32.01**	**237**	P		**P**	**09 50 44.0**	**+1.1**	
CAN				IAmb		IAmb	09 50 44.0		
	comp=Z,17nm,1.2s								
CTA	**Charters Tower**	**33.21**	**265**	P		**P**	**09 50 54.4**	**+1.0**	
	comp=Z,2.0nm,0.6s,baz=84,slow=10,SNR=1.9								
CTAO	**Charters Tower**	**33.21**	**265**	P		**P**	**09 50 55.0**	**+1.7**	
CTAO				IAmb		IAmb	09 51 03.2		
	comp=Z,8.7nm,1.1s								
BBOO	**Buckleboo**	**42.09**	**244**	P		**P**	**09 52 07.0**	**+0.8**	
BBOO				IAmb		IAmb	09 52 21.2		
	comp=Z,25nm,1.4s								
WR0	**Warramunga Arr**	**44.10**	**263**	P		**P**	**09 52 22.6**	**+0.3**	
WR0				IAmb		IAmb	09 52 31.8		
	comp=Z,9.7nm,1.5s								
ASAR	**Alice Springs**	**44.17**	**257**	P		**P**	**09 52 23.6**	**+0.9**	
	comp=Z,2.2nm,0.8s,baz=87,slow=8.4,SNR=18								
ASAR	**Alice Springs**	**44.17**	**257**	P		**P**	**09 52 22.9**	**+0.2**	
WC3	**Warramunga Arr**	**44.26**	**263**	P		**P**	**09 52 24.4**	**+0.9**	
WB0	**Warramunga Arr**	**44.27**	**263**	P		**P**	**09 52 24.4**	**+0.8**	
WB0				IAmb		IAmb	09 52 46.6		
	comp=Z,5.7nm,1.2s								
WB2	**Warramunga Arr**	**44.28**	**263**	P		**P**	**09 52 22.5**	**-1.1**	
WB2				IAmb		IAmb	09 52 26.7		
	comp=Z,2.8nm,0.9s								
WRA	**Warramunga Arr**	**44.30**	**263**	P		**P**	**09 52 23.7**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=97,slow=8.7,SNR=4.7								
FORT	**Forrest**	**48.86**	**247**	P		**P**	**09 52 57.4**	**-1.0**	
FAKI	**Fak Fak**	**51.40**	**284**	P		**P**	**09 53 17.8**	**+0.4**	
FAKI				IAmb		IAmb	09 53 40.9		
	comp=Z,9.6nm,1.0s								
FITZ	**Fitzroy Crossi**	**52.72**	**263**	P		**P**	**09 53 27.5**	**+0.6**	
	comp=Z,2.1nm,1.1s,baz=106,slow=7.4,SNR=1.8								
FITZ	**Fitzroy Crossi**	**52.72**	**263**	P		**P**	**09 53 26.7**	**-0.2**	
QSPA	**South Pole Qui**	**69.01**	**180**	P		**P**	**09 55 13.2**	**-0.9**	
YBH	**Yreka Blue Hor**	**80.87**	**39**	P		**P**	**09 56 22.9**	**+1.7**	
	comp=Z,1.9nm,0.6s,baz=174,slow=5.3,SNR=12								
YBH	**Yreka Blue Hor**	**80.87**	**39**	P		**P**	**09 56 20.6**	**-0.6**	
NVAR	**Mina Array Bea**	**81.59**	**43**	P		**P**	**09 56 26.4**

PB10	**IPOC Station P**	**5.20**	**180**	Pn		**Pn**	**09 50 43.6**	**-0.8**
PB14	**IPOC Station P**	**6.30**	**179**	Pn		**Pn**	**09 50 58.3**	**-1.6**
GO02	**Mina Guanaco**	**6.90**	**173**	Pn		**Pn**	**09 51 06.8**	**-1.1**
AC01	**Pan de Azucar**	**7.82**	**180**	Pn		**Pn**	**09 51 18.2**	**-2.1**
AC02	**Maricunga**	**8.61**	**171**	Pn		**Pn**	**09 51 31.8**	**+0.3**
GO03	**Copiap**	**9.26**	**178**	Pn		**Pn**	**09 51 39.6**	**-0.5**
SIV	**San Ignacio**	**9.35**	**77**	P		**Pn**	**09 51 40.8**	**-0.5**
	comp=E,6.9nm,0.3s,baz=280,slow=11,SNR=47							
SIV				LR		LR	09 55 55.4	
	comp=E,73nm,18.8s,baz=147,slow=42							
ETMB	**Extrema**	**9.42**	**27**	*eP*		**Pn**	**09 51 42.3**	**+0.1**
AC04	**Llanos de Chal**	**9.88**	**183**			**Pn**	**09 51 45.3**	**-3.1**
AC05	**El Transito**	**10.50**	**179**	Pn		**Pn**	**09 51 55.5**	**-1.5**
PTLB	**Pontes e Lacer**	**11.29**	**77**	*eP*		**Pn**	**09 52 07.2**	**-0.5**
VILB	**Vilhena**	**11.30**	**63**	*eP*		**Pn**	**09 52 07.9**	**0.0**
CO01	**Juntas del Tor**	**11.64**	**178**	Pn		**Pn**	**09 52 11.1**	**-1.6**
CO03	**El Pedregal**	**12.49**	**181**	Pn		**Pn**	**09 52 23.1**	**-1.0**
MT02	**Curacav**	**14.91**	**182**	Pn		**Pn**	**09 52 55.7**	**-0.5**
CLDB	**Colider**	**16.07**	**65**	*eP*		**Pn**	**09 53 09.7**	**-1.3**
H03N1	**Juan Fernandez**	**16.84**	**205**	T		T	10 10 25.2	
	baz=29,slow=73,SNR=155							
H03N2	**Juan Fernandez**	**16.85**	**205**	T		T	10 10 26.3	
	baz=29,slow=73,SNR=162							
H03N3	**Juan Fernandez**	**16.86**	**205**	T		T	10 10 25.2	
	baz=29,slow=73,SNR=234							
MACA	**Manacapuru-AM**	**17.88**	**34**	*eP*		**Pn**	**09 53 33.2**	**-0.1**
PTGB	**Pitanga**	**18.35**	**114**	*eP*		**Pn**	**09 53 38.9**	**-0.2**
NPGB	**Novo Progresso**	**18.55**	**55**	*eP*		**P**	**09 53 39.8**	**-0.8**
ITTB	**Itaituba**	**20.04**	**48**	*eP*		**P**	**09 53 55.7**	**-1.2**
PTGA	**Pitinga**	**20.32**	**32**	P		**P**	**09 53 58.8**	**-1.1**
	comp=E,6.1nm,0.3s,baz=218,slow=19,SNR=28							
PTGA	**Pitinga**	**20.32**	**32**	P		**P**	**09 53 58.7**	**-1.1**
PTGA				IAmb		IAmb	09 53 59.3	
	comp=Z,7.5nm,0.3s							
SMTB	**Santa Maria do**	**24.19**	**70**	*eP*		**P**	**09 54 38.3**	**-1.2**
ESAR	**Angra dos Reis**	**24.87**	**105**	*eP*		**P**	**09 54 45.1**	**-0.5**
MCPB	**Macapa, AP**	**25.45**	**48**	*eP*		**P**	**09 54 49.8**	**-1.6**
MAN01	**Guarapari, ES**	**28.92**	**94**	*eP*		**P**	**09 55 20.8**	**-1.2**
MLPR	**Magueyes Islan**	**36.20**	**6**	P		**P**	**09 56 24.3**	**-1.2**
MLPR				IAmb		IAmb	09 56 29.3	
	comp=Z,6.3nm,0.9s							
MTP	**Monte Pirata**	**36.49**	**8**	P		**P**	**09 56 26.2**	**-1.8**
MTP				IAmb		IAmb	09 56 33.4	
	comp=Z,6.0nm,1.1s							
CBYP	**Canovanas**	**36.63**	**7**	P		**P**	**09 56 27.7**	**-1.5**
CBYP				IAmb		IAmb	09 56 27.9	
	comp=Z,6.4nm,0.7s							
PCDR	**Punta Cana, DR**	**36.64**	**3**	P		**P**	**09 56 29.6**	**+0.4**
BIRD	**Birdtown, Kers**	**53.48**	**350**	P		**P**	**09 58 43.4**	**+0.9**
BIRD				IAmb		IAmb	09 58 44.3	
	comp=Z,5.9nm,0.7s							
W57A	**Gilead**	**53.90**	**350**	P		**P**	**09 58 44.2**	**-1.4**
V55A	**Taylorsville**	**54.78**	**349**	P		**P**	**09 58 54.0**	**+1.9**
V55A				IAmb		IAmb	09 58 54.4	
	comp=Z,5.9nm,0.8s							
U49A	**Red Boiling Sp**	**56.37**	**345**	P		**P**	**09 59 04.0**	**+0.6**
WVT	**Waverly**	**56.54**	**343**	P		**P**	**09 59 04.3**	**-0.3**
R55A	**Marlinton**	**56.98**	**351**	P		**P**	**09 59 09.4**	**+1.6**
W41B	**Gary Mavity, V**	**57.02**	**339**	P		**P**	**09 59 08.0**	**0.0**
Q56A	**Snyder Ridge,**	**57.60**	**352**	P		**P**	**09 59 12.5**	**+0.5**
Q54A	**Coxs Mills**	**57.78**	**351**	P		**P**	**09 59 12.8**	**-0.5**
Q54A				IAmb		IAmb	09 59 17.8	
	comp=Z,7.0nm,1.1s							
L56A	**Greenwood**	**60.47**	**354**	P		**P**	**09 59 32.8**	**+1.0**
K58A	**Earlville**	**60.93**	**356**	P		**P**	**09 59 35.3**	**+0.4**
K58A				IAmb		IAmb	09 59 35.6	
	comp=Z,4.8nm,0.9s							
G65A	**Princeton**	**63.24**	**2**	P		**P**	**09 59 51.8**	**+1.4**
PKME	**Peaks-Kenny Pk**	**63.26**	**1**	P		**P**	**09 59 51.5**	**+1.1**
PKME				IAmb		IAmb	09 59 58.9	
	comp=Z,7.7nm,1.0s							
F64A	**Sherman**	**63.88**	**2**	P		**P**	**09 59 56.1**	**+1.6**
F64A				IAmb		IAmb	10 00 10.3	
	comp=Z,7.0nm,1.1s							
LMN	**Caledonia Moun**	**64.05**	**4**	P		**P**	**09 59 56.1**	**+0.4**
E62A	**Clayton Lake**	**64.61**	**1**	P		**P**	**10 00 00.8**	**+1.4**
E62A				IAmb		IAmb	10 00 01.0	
	comp=Z,6.5nm,0.9s							
BATG	**Bathurst New B**	**65.39**	**3**	P		**P**	**10 00 05.1**	**+0.8**
BATG				IAmb		IAmb	10 00 17.6	
	comp=Z,11nm,1.2s							
SNAA	**Sanae**	**65.80**	**161**	P		**P**	**10 00 09.0**	**+2.1**
DBIC	**Dimbokro**	**69.37**	**75**	P		**P**	**10 00 29.4**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=206,slow=4.9,SNR=1.8							
DBIC	**Dimbokro**	**69.37**	**75**	P		**P**	**10 00 29.7**	**-0.5**
ULM	**Lac du Bonnet**	**71.81**	**343**	P		**P**	**10 00 46.2**	**+1.9**
	comp=Z,4.2nm,0.8s,baz=186,slow=7.2,SNR=2.5							
ULM	**Lac du Bonnet**	**71.81**	**343**	P		**P**	**10 00 46.0**	**+1.8**
ULM				IAmb		IAmb	10 00 51.4	
	comp=Z,6.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**77.78**	**72**	P		**P**	**10 01 18.6**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=260,slow=4.8,SNR=11							
TORD	**Torodi Ar. Bea**	**77.78**	**72**	P		**P**	**10 01 19.1**	**-0.5**
ESDC	**Sonseca Array**	**84.67**	**45**	P		**P**	**10 01 56.1**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=247,slow=4.3,SNR=4.9							
ESDC	**Sonseca Array**	**84.67**	**45**	P		**P**	**10 01 57.7**	**+2.1**

*IDC **17** 09:58:26.1±1.4,36˚.02N×141˚.02E,h0km,mb3.8/6, mb1 3.9/10,mb1mx3.7/58,mbtmp3.9/10,ML3.6/4, Error ellipse: s-maj=40.2km s-min=16.9km az=74.0*
*JMA **17** 09:58:28.8±0.1,35˚.94N×141˚.06E,h17km±2km,M4.1 JMA Felt II J1.*
*NIED **17** 09:58:28.9,35˚.94N×141˚.06E,h17km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.02; Mθθ-3.86; Mϕϕ3.84; Mrθ1.59; Mθϕ1.70; Mϕr1.25; Fault plane solution: M₀4.67000×10¹⁴ NP1:ϕs57.00000°, δ88.00000°,λ26.00000°. NP2:ϕs326.00000°,δ64.00000°, λ178.00000°.*
*NEIC **17** 09:58:31.8±2.3,36˚.02N±0˚.05×140˚.94E±0˚.08, h37km±10km,mb4.6/5 Error ellipse: s-maj=9.2km s-min=6.7km az=63.0*

ISC 17 09:58:28.6±1.3,35˚.97N±0˚.04×141˚.05E±0˚.06,h17km±8km, n45,σ1ϟ19/48,mb4.1/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.31**	**210**	P	**Pg**	**09 58 35.0**	**-0.1**
CHOJ				S	**Sg**	**09 58 39.5**	**0.0**
JIHU	**Itakohorinouch**	**0.42**	**270**	P	**Pb**	**09 58 38.0**	**+0.3**
JIHU				S	**Sb**	**09 58 44.6**	**+0.8**
JHYU	**Hitachinakayam**	**0.53**	**315**	P	**Pb**	**09 58 39.7**	**+0.3**
JSMT	**Sammumatsuo**	**0.59**	**237**	P	**Pg**	**09 58 40.6**	**+0.4**
JSMT				S	**Sb**	**09 58 48.7**	**+0.3**
JYT	**Yasato**	**0.74**	**291**	P	**Pb**	**09 58 42.8**	**-0.2**
JYT				S	**Sb**	**09 58 52.7**	**-0.2**
JYT	**Yasato**	**0.74**	**291**	Pn	**Pb**	**09 58 42.9**	**-0.2**
JYT				Sn	**Sb**	**09 58 52.6**	**-0.2**
JHO	**Hitachi**	**0.75**	**329**	P	**Pn**	**09 58 43.4**	**-1.1**
JHO				S	**Sn**	**09 58 53.9**	**-1.6**
BSO4	**Boso 4**	**1.13**	**211**	P	**Pg**	**09 58 51.2**	**+0.7**
BSO4				S	**Sb**	**09 59 04.7**	**+0.5**
JMM	**Marumori**	**1.91**	**354**		**Pn**	**09 59 00.2**	**-0.2**
MJAR	**Matsushiro Arr**	**2.37**	**285**	Pn	**Pn**	**09 59 06.2**	**-0.6**
	4.7nm,0.3s,baz=196,slow=9.2,SNR=208						
MJAR	**Matsushiro Arr**	**2.37**	**285**		**Pn**	**09 59 06.0**	**-0.7**
MAJO	**Matsushiro**	**2.37**	**285**		**Pn**	**09 59 07.1**	**+0.4**
MAT	**Matsushiro**	**2.37**	**285**	P	**Pn**	**09 59 07.0**	**+0.3**
MAT				*eS*	**Sn**	**09 59 36.5**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.37**	**285**	Pn	**Pn**	**09 59 06.8**	**+0.1**
JSG	**Sagara**	**2.67**	**242**	Pn	**Pb**	**09 59 14.4**	**-1.6**
JGF	**Kuroka**	**3.02**	**264**		**Pn**	**09 59 18.4**	**+2.6**
JHJ2	**Mitsune**	**3.02**	**200**	Pn	**Pn**	**09 59 16.7**	**+1.0**
JHJ	**Hachijo jima 2**	**3.03**	**201**	Pn	**Pn**	**09 59 15.5**	**-0.3**
	16nm,0.3s,baz=236,slow=23,SNR=9.2						
JHJ				Sn	**Sn**	**09 59 52.1**	**+0.4**
	29nm,0.3s,baz=233,slow=20,SNR=2.0						
JSD	**Sado**	**3.04**	**314**		**Pn**	**09 59 16.9**	**+0.9**
INU	**Inuyama**	**3.34**	**261**		**Pn**	**09 59 22.4**	**+2.3**
JWT	**Wachi**	**4.65**	**263**		**Pn**	**09 59 40.9**	**+2.8**
JTM	**Tenmabayashi**	**4.81**	**0**	Pn	**Pn**	**09 59 43.3**	**+3.0**
ASAJ	**Asahikawa**	**8.23**	**8**	Pn	**Pn**	**10 00 25.8**	**-1.4**
	0.6nm,0.3s,baz=229,slow=7.4,SNR=6.2						
JKA	**Kamikawa-asahi**	**8.23**	**8**		**Pn**	**10 00 28.4**	**+1.2**
JCJ	**Chichijima**	**8.90**	**173**	Pn	**Pn**	**10 00 35.0**	**-1.5**
	5.9nm,0.3s,baz=75,slow=22,SNR=6.3						
JCJ	**Chichijima**	**8.90**	**173**		**Pn**	**10 00 35.3**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**27.88**	**119**	T	T	10 33 24.0	
	baz=311,slow=75,SNR=264						
H11N1	**WAKE ISLAND Hy**	**27.88**	**119**	T	T	10 33 22.5	
	baz=311,slow=75,SNR=212						
H11N3	**WAKE ISLAND Hy**	**27.89**	**119**	T	T	10 33 23.3	
	baz=311,slow=75,SNR=283						
H11S1	**WAKE ISLAND Hy**	**28.55**	**121**	T	T	10 34 09.7	
	baz=313,slow=75,SNR=114						
H11S3	**WAKE ISLAND Hy**	**28.55**	**121**	T	T	10 34 10.2	
	baz=313,slow=75,SNR=143						
H11S2	**WAKE ISLAND Hy**	**28.56**	**121**	T	T	10 34 10.0	
	baz=313,slow=75,SNR=124						
ZALV	**Zalesovo Beam**	**42.42**	**313**	P	**P**	**10 06 23.0**	**+0.8**
	0.5nm,0.4s,baz=90,slow=7.2,SNR=1.7						
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**10 06 36.2**	**-2.4**
	0.5nm,0.7s,baz=82,slow=11,SNR=2.1						
KURBB	**Kurchatov Arra**	**46.43**	**309**	P	**P**	**10 06 53.5**	**-0.8**
	0.4nm,0.4s,baz=82,slow=7.9,SNR=2.4						
KNRA	**Kununurra**	**52.66**	**195**	P	**P**	**10 07 43.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**55.72**	**198**	P	**P**	**10 08 05.4**	**+1.1**
	0.9nm,0.5s,baz=45,slow=7.1,SNR=5.3						
FITZ	**Fitzroy Crossi**	**55.72**	**198**	P	**P**	**10 08 05.8**	**+1.6**
WB0	**Warramunga Arr**	**55.79**	**188**	P	**P**	**10 08 05.6**	**+0.8**
WB0				IAmb	IAmb	10 08 06.0	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**55.96**	**187**	P	**P**	**10 08 07.0**	**+0.9**
WR0				IAmb	IAmb	10 08 07.2	
	comp=Z,5.5nm,1.0s						
WB2	**Warramunga Arr**	**55.97**	**188**	P	**P**	**10 08 06.4**	**+0.3**
WB2				IAmb	IAmb	10 08 07.7	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**55.97**	**188**	P	**P**	**10 08 06.7**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=4.6,slow=7.4,SNR=28						
ABKAR	**Akbulak array**	**58.40**	**311**	P	**P**	**10 08 22.7**	**-0.4**
ASAR	**Alice Springs**	**59.69**	**188**	P	**P**	**10 08 32.8**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=22,slow=11,SNR=14						
ASAR	**Alice Springs**	**59.69**	**188**	P	**P**	**10 08 32.4**	**+0.1**

*REY **17** 10:09:48.5,64˚.67N×17˚.47W,h8km*
*MOS **17** 10:09:48.9±0.9,64˚.54N×17˚.56W,h10km,mb4.6/24,Error ellipse: s-maj=13.9km s-min=9.7km az=106.3*
*IDC **17** 10:09:49.4±0.6,64˚.58N×17˚.59W,h0km,mb4.0/17, mb1 4.2/20,mb1mx4.0/52,mbtmp4.0/20,ML3.2/3,MS3.3/2, Ms1 3.3/2,ms1mx2.6/43,Error ellipse: s-maj=18.0km s-min=11.1km az=10.0*
*NEIC **17** 10:09:50.4±1.4,64˚.60N±0˚.10×17˚.5W±0˚.1,h7km±4km, mb4.6/52,Error ellipse: s-maj=14.0km s-min=8.3km az=191.0*

ISC 17 10:09:50.4±0.3,64˚.65N±0˚.02×17˚.50W±0˚.02,h9km,n178, σ1ϟ44/183,mb4.5/60,MS3.2/3,13C-3D,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**283**	P	**Pg**	**10 09 51.2**	**-1.9**
	baz=270						
IDYN	**Dyngjuhals**	**0.15**	**22**	P	**Pg**	**10 09 51.5**	**-2.3**
	baz=21						
IDYN				S	**Sg**	**10 09 54.3**	**-1.9**
	baz=21						
IURH	**Urdarhals**	**0.23**	**41**	P	**Pg**	**10 09 52.8**	**-2.3**
	baz=43						
IURH				S	**Sg**	**10 09 55.9**	**-2.4**
	baz=43						
IGRF	**Grimsfjall**	**0.26**	**157**	P	**Pg**	**10 09 54.1**	**-1.7**
	baz=162						
IKVE	**Kverkfjoll**	**0.36**	**85**	P	**Pg**	**10 09 55.2**	**-2.3**
	baz=89						
IKVE				S	**Sg**	**10 10 00.1**	**-2.2**
	baz=89						
IHUS	**Husbondi**	**0.36**	**191**	P	**Pg**	**10 09 56.0**	**-1.6**
	baz=192						
ISKR	**Skrokkalda**	**0.39**	**257**	P	**Pg**	**10 09 56.3**	**-1.8**
	baz=254						
IVOT	**Vottur**	**0.40**	**160**	P	**Pg**	**10 09 56.7**	**-1.7**
	baz=163						
IJOK	**Jokulheimar**	**0.46**	**223**	P	**Pg**	**10 09 57.5**	**-1.9**
	baz=222						
IKRE	**Kreppuhraun**	**0.50**	**74**	P	**Pg**	**10 09 57.1**	**-3.0**
	baz=76						
IKRE				S	**Sg**	**10 10 04.2**	**-2.5**
	baz=76						
IMKO	**Mokollar**	**0.60**	**56**	P	**Pg**	**10 09 59.0**	**-3.0**
	baz=57						
IMKO				S	**Sg**	**10 10 07.6**	**-2.2**
	baz=57						
IIEY	**Innrieyrar**	**0.62**	**206**	P	**Pg**	**10 10 00.2**	**-2.1**
	baz=206						
IIEY				S	**Sb**	**10 10 09.5**	**-2.6**
	baz=206						
IKSK	**Karasker**	**0.66**	**137**	P	**Pg**	**10 10 00.0**	**-3.2**
	baz=140						
IKSK				S	**Sg**	**10 10 09.5**	**-2.4**
	baz=140						
ISVA	**Svartarkot**	**0.70**	**9**	P	**Pg**	**10 10 00.6**	**-3.3**
	baz=7.8						
IKAL	**Kalfafell**	**0.71**	**187**	P	**Pg**	**10 10 01.7**	**-2.3**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.78**	**77**	S	**Sg**	**10 10 12.3**	**-3.2**
	baz=79						
IVSH				P	Pg	10 10 01.8	-3.6
	baz=79						
IADA	**Aoalbol**	**0.90**	**65**	P	Pg	10 10 03.8	-4.0
	baz=66						
IADA				S	**Sg**	**10 10 16.1**	**-3.5**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**285**	P	**Pg**	**10 10 04.5**	**-3.4**
	baz=283						
IHVE				S	**Sg**	**10 10 17.5**	**-2.3**
	baz=283						
IMEL	**Melhnausar**	**0.99**	**21**	P	Pg	10 10 05.4	-4.1
	baz=21						
IREN	**Reynihlio**	**1.03**	**14**	P	Pg	10 10 06.0	-4.2
	baz=14						
ISLY	**Slysaalda**	**1.09**	**221**	P	**Pg**	**10 10 08.3**	**-3.0**
	baz=221						
IKVO	**Krokottuvotn**	**1.10**	**14**	P	Pb	10 10 07.3	-4.4
	baz=13						
IGRS	**Grimsstaoir**	**1.15**	**30**	P	Pn	10 10 08.2	-4.5
	baz=30						
IRJU	**Rjupnafell**	**1.16**	**207**	P	**Pg**	**10 10 09.5**	**-3.1**
	baz=207						
IMJO	**Mjoaskard**	**1.19**	**234**	P	**Pg**	**10 10 10.2**	**-3.0**
	baz=233						
IGRA	**Granastaoir**	**1.27**	**359**	P	Pn	10 10 10.2	-4.2
	baz=358						
IGIL	**Gilhagi**	**1.51**	**18**	P	Pn	10 10 13.6	-4.0
	baz=18						
BORG	**Borgarnes**	**1.65**	**275**	Pn	**Pn**	**10 10 17.1**	**-2.4**
	28nm,0.3s,baz=94,slow=6.9,SNR=60						
BORG				Sn	**Sn**	**10 10 40.1**	**-0.5**
	11nm,0.3s,baz=202,slow=24,SNR=8.0						
BORG	**Borgarnes**	**1.65**	**275**	Pn	**Pn**	**10 10 16.5**	**-3.0**
BORG				Sn	**Sb**	**10 10 41.3**	**-0.4**
SUMG	**Summit**	**10.96**	**325**	P	**Pn**	**10 12 26.4**	**-1.0**
SUMG	**Summit**	**10.96**	**325**	Pn	**Pn**	**10 12 26.4**	**-1.0**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**10 12 37.1**	**-0.9**
	baz=329,slow=14,SNR=10						
ESK	**Eskdalemuir**	**11.75**	**136**	P	**Pn**	**10 12 38.3**	**+0.3**
ESK	**Eskdalemuir**	**11.75**	**136**	Pn	**Pn**	**10 12 38.3**	**+0.3**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**10 12 55.4**	**-2.9**
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**10 12 59.8**	**-2.6**
	0.0nm,0.3s,baz=299,slow=13,SNR=3.6						
HFS	**Hagfors**	**15.05**	**93**	Pn	**P**	**10 13 27.9**	**-0.4**
	0.1nm,0.3s,baz=326,slow=7.5,SNR=10						
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**10 14 21.2**	**+0.1**
	0.1nm,0.3s,baz=334,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**	**10 14 19.5**	**-0.2**
CLL	**Collm**	**20.70**	**116**	*i*P	**P**	**10 14 31.1**	**+0.6**
	comp=Z,20nm,1.3s						
CLL				*e*PP	**PnPn**	**10 14 48.0**	**-0.2**
CLL	**Collm**	**20.70**	**116**	*i*P	**P**	**10 14 31.1**	**+0.6**
CLL				pmax	pmax		
	comp=Z,20nm,1.3s						
CLL	**Collm**	**20.70**	**116**	P	**P**	**10 14 30.8**	**+0.2**
ECH	**Echery**	**21.14**	**129**	P	**P**	**10 14 36.2**	**+0.8**
ECH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ECH	**Echery**	**21.14**	**129**	P	**P**	**10 14 36.2**	**+0.8**
BRG	**Berggiesshubel**	**21.41**	**115**	*i*P	**P**	**10 14 38.8**	**+0.6**
	comp=Z,15nm,1.1s						
BRG	**Berggiesshubel**	**21.41**	**115**	*i*P	**P**	**10 14 38.8**	**+0.6**
BRG				pmax	pmax		
	comp=Z,15nm,1.1s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**10 14 39.3**	**+0.7**
BFO				pmax	pmax		
	comp=Z,11nm,1.0s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**10 14 39.3**	**+0.7**
VSU	**Vasula**	**21.57**	**86**	*ce*P	**P**	**10 14 39.4**	**-0.4**
VSU				pmax	pmax		
	comp=Z,54nm,0.9s						
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**	**10 14 51.8**	**+2.3**
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**	**10 14 53.0**	**+3.1**
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**	**10 14 53.0**	**+3.1**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**10 14 51.4**	**-0.3**
KHC	**Kasperske Hory**	**22.67**	**118**	‖*e*P	**P**	**10 14 54.3**	**+2.6**
KHC				pmax	pmax		
	comp=Z,15nm,1.0s						
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**10 14 52.1**	**+0.4**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**10 14 52.2**	**-0.5**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**10 14 52.2**	**-0.5**
GEC2	**GERESS Array S**	**22.95**	**119**	P	**P**	**10 14 55.9**	**+1.1**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**10 14 55.0**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=330,slow=7.7,SNR=11						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**10 14 54.5**	**-0.2**
PRED	**Cave del Predi**	**24.91**	**122**	P	**P**	**10 15 13.1**	**-0.3**
PRED				IAmb	IAmb	10 15 19.0	
	comp=Z,15nm,1.5s						
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**	**10 15 15.4**	**-0.8**
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**	**10 15 15.4**	**-0.8**
KWP	**Kalwaria Pacla**	**25.91**	**106**	P	**P**	**10 15 23.0**	**+0.6**
KWP				pmax	pmax		
	comp=Z,19nm,1.1s						
KWP	**Kalwaria Pacla**	**25.91**	**106**	P	**P**	**10 15 23.0**	**+0.6**
KWP				IAmb	IAmb	10 15 26.6	
	comp=Z,19nm,1.1s						
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**10 15 24.7**	**+1.2**
	comp=Z,6.5nm,0.9s,baz=46,slow=10,SNR=3.9						
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**10 15 23.6**	**0.0**
SCHQ				IAmb	IAmb	10 15 26.6	
	comp=Z,18nm,1.1s						
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**10 15 26.1**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=352,slow=9.0,SNR=8.3						
ESDC	**Sonseca Array**	**26.24**	**156**	IAmb	IAmb	10 15 30.7	
	comp=Z,8.9nm,1.4s						
RES	**Resolute Bay**	**26.48**	**324**	LR	LR	10 25 40.8	
	comp=Z,58nm,20.2s,baz=326,slow=36						
UZH	**Uzhgorod**	**26.52**	**108**	*e*P	**P**	**10 15 27.4**	**-0.5**
AKBB	**Malin Array Si**	**27.84**	**98**	*e*P	**P**	**10 15 39.3**	**-0.4**
OBN	**Obninsk**	**27.89**	**84**	*i* P	**P**	**10 15 38.7**	**-1.4**
OBN				*i*		10 16 26.3	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BURAR	**Bucovina Array**	**28.52**	**106**	P	**P**	**10 15 46.2**	**+0.2**
KIRV	**Kirov**	**30.99**	**69**	LR	LR	10 27 36.5	
	comp=Z,48nm,18.8s,baz=145,slow=34						
KIRV	**Kirov**	**30.99**	**69**	*e*P	**P**	**10 16 07.1**	**-0.4**
VTS	**Vitosha**	**31.82**	**114**	*i* Pg	P	10 16 01.1	-14
NRIK	**Noril'sk**	**36.47**	**35**	*e*P	**P**	**10 16 56.3**	**+1.2**
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BR131	**Keskin Array S**	**38.48**	**105**	*e*P	**P**	**10 17 14.0**	**+1.4**
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**	**10 17 12.4**	**-0.1**
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**	**10 17 12.4**	**-0.1**
KIV	**Kislovodsk**	**38.84**	**92**	*e*P	**P**	**10 17 17.9**	**+2.4**
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
KIV				MLR	MLR		
	comp=Z,41nm,16.0s						
KBZ	**Khabaz**	**39.12**	**92**	P	**P**	**10 17 19.5**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=316,slow=12,SNR=7.4						
KBZ	**Khabaz**	**39.12**	**92**	*e*P	**P**	**10 17 19.0**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKTO	**Aktyubinsk**	**40.29**	**73**	P	**P**	**10 17 28.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=309,slow=13,SNR=4.0						
ABKAR	**Akbulak array**	**42.00**	**73**	P	**P**	**10 17 41.6**	**+0.2**
TIXI	**Tiksi**	**42.05**	**15**	*e*P	**P**	**10 17 43.4**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,41nm,1.3s						
TIXI	**Tiksi**	**42.05**	**15**		**P**	**10 17 43.2**	**+1.6**
TOLK	**Toolik Lake Re**	**

N23A	**Red Feather La**	**53.31**	**289**	P	**P**	**10 19 09.4**	**-0.3**
N23A				IAmb	IAmb	10 19 12.4		
	comp=Z,10nm,1.2s							
BTK	**Batken**	**53.97**	**72**	P	**P**	**10 19 14.8**	**+0.5**
BTK				pmax	pmax			
	comp=Z,13nm,1.2s							
BTK	**Batken**	**53.97**	**72**	P	**P**	**10 19 14.8**	**+0.5**
GAR	**Garm**	**54.66**	**73**	P	**P**	**10 19 20.4**	**+1.0**
HWUT	**Hardware Ranch**	**54.96**	**294**	P	**P**	**10 19 22.2**	**+0.6**
HWUT				IAmb	IAmb	10 19 23.3		
	comp=Z,5.3nm,1.1s							
MA2	**Magadan**	**55.78**	**7**⇓	*eP*	**P**	**10 19 27.4**	**+0.4**
MA2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
P17A	**Butcher Ranch,**	**56.45**	**292**	P	**P**	**10 19 31.8**	**-0.5**
SRU	**San Rafael Swe**	**56.67**	**292**	P	**P**	**10 19 34.4**	**+0.5**
SRU				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SRU	**San Rafael Swe**	**56.67**	**292**	P	**P**	**10 19 34.4**	**+0.5**
PV14	**Lion Creek, Pa**	**56.70**	**290**	P	**P**	**10 19 33.9**	**-0.3**
PV14				IAmb	IAmb	10 19 36.1		
	comp=Z,7.5nm,1.1s							
PDPR	**Patillas Dam,**	**56.71**	**239**	P	**P**	**10 19 32.0**	**-2.1**
PV01	**Paradox Valley**	**56.72**	**289**	P	**P**	**10 19 34.0**	**-0.3**
PV01				IAmb	IAmb	10 19 36.7		
	comp=Z,7.0nm,1.1s							
PV03	**Paradox Valley**	**56.73**	**290**	P	**P**	**10 19 34.3**	**0.0**
PV03				IAmb	IAmb	10 19 36.0		
	comp=Z,12nm,1.4s							
PV13	**Radium Mtn., P**	**56.80**	**290**	P	**P**	**10 19 34.9**	**0.0**
WMQ	**Urumqi**	**57.24**	**56**	*eP*	**P**	**10 19 40.6**	**+2.9**
MVU	**Marysvale**	**57.87**	**293**	P	**P**	**10 19 42.7**	**+0.3**
TCRU	**Three Creeks R**	**57.87**	**293**	P	**P**	**10 19 43.9**	**+1.5**
PSUT	**Pine Spring**	**58.49**	**294**	P	**P**	**10 19 47.3**	**+0.6**
DBIC	**Dimbokro**	**58.57**	**165**	*e*PKP1	**P**	**10 19 46.5**	**-0.7**
	comp=Z,5.3nm,1.0s,baz=7,3,slow=5.8,SNR=3.3							
TIC	**Toumodi**	**58.58**	**165**	*e*PKP1	**P**	**10 19 50.4**	**+3.1**
KIC	**Kosan Boka**	**58.89**	**165**	*e*PKP1	**P**	**10 19 49.0**	**-0.5**
	comp=Z,34nm,1.4s							
LIC	**Lamto**	**58.99**	**165**	*e*PKP1	**P**	**10 19 49.7**	**-0.5**
	comp=Z,24nm,0.9s							
BNM	**Barren Site**	**59.35**	**285**	P	**P**	**10 19 53.2**	**+0.4**
JCT	**Junction City**	**59.65**	**278**	P	**P**	**10 19 55.1**	**+0.5**
JCT				pmax	pmax			
	comp=Z,4.0nm,0.8s							
JCT	**Junction City**	**59.65**	**278**	P	**P**	**10 19 55.1**	**+0.5**
JCT				IAmb	IAmb	10 19 56.2		
	comp=Z,3.7nm,0.8s							
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**10 19 55.1**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=336,slow=8.5,SNR=4.8							
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**10 19 54.2**	**-0.4**
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**10 19 55.9**	**+0.9**
KVN				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**10 19 55.9**	**+0.9**
WUAZ	**Wupatki**	**60.11**	**290**	P	**P**	**10 19 58.0**	**0.0**
WUAZ				IAmb	IAmb	10 19 59.9		
	comp=Z,6.0nm,1.1s							
NVAR	**Mina Array Bea**	**60.31**	**297**	P	**P**	**10 20 00.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=53,slow=2.6,SNR=4.5							
NVAR	**Mina Array Bea**	**60.31**	**297**	P	**P**	**10 19 59.9**	**+0.5**
NIL	**Nilore**	**60.46**	**73**	P	**P**	**10 20 00.8**	**+0.7**
NIL				pmax	pmax			
	comp=Z,11nm,1.0s							
NIL	**Nilore**	**60.46**	**73**	P	**P**	**10 20 00.8**	**+0.7**
TX31	**Lajitas Ar. Si**	**62.28**	**280**	P	**P**	**10 20 12.4**	**-0.3**
TX31				IAmb	IAmb	10 20 20.8		
	comp=Z,8.4nm,1.4s							
TX32	**Lajitas Array**	**62.28**	**280**	P	**P**	**10 20 12.4**	**-0.3**
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**10 20 13.4**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=42,slow=3.8,SNR=8.9							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**10 20 12.9**	**+0.3**
GTA	**Gaotai**	**65.31**	**49**	*e*P	**P**	**10 20 32.5**	**0.0**
GTA				pP	pP	10 20 35.9	-0.1
GTA				sP	sP	10 20 38.4	+1.1
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**67.53**	**40**	*e*P	**P**	**10 20 48.3**	**+1.7**
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC				pmax	pmax			
	comp=Z,83nm,6.3s							
LZH	**Lanzhou**	**69.64**	**48**	*e*P	**P**	**10 21 01.3**	**+1.3**
LZH				pP	sP	10 21 05.1	+0.3
LZH				sP	pP	10 21 07.8	+4.3
LZH				PP	**PP**	**10 23 37.0**	**+3.7**
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
LZH				pmax	pmax			
	comp=Z,82nm,4.9s							
NJ2	**Nanjing**	**77.75**	**37**	*e*P	**P**	**10 21 48.3**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**10 22 21.9**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=317,slow=6.7,SNR=7.3							
CMAR	**Chiang Mai Arr**	**84.14**	**59**	*i* P	**P**	**10 22 22.1**	**+0.4**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**10 22 21.4**	**-0.3**
ASAR	**Alice Springs**	**134.98**	**38**	PKP	**PKPdf**	**10 29 09.9**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=343,slow=4.1,SNR=4.5							

*IDC **17** 10:10:02.8±1.1,5.°84S×128.°65E,h341km±14km,mb3.0/2, mb1 3.2/6,mb1mx2.9/43,mbtmp3.9/6, Error ellipse: s-maj=18.0km s-min=10.7km az=87.0*
*NEIC **17** 10:10:03.2±1.4,5.°84S±0.°10×128.°61E±0.°10, h358km±12km, mb4.2/5, Error ellipse: s-maj=15.0km s-min=12.8km az=139.0*

ISC 17 10:10:01.7±0.7,5.°89S±0.°06×128.°61E±0.°08,h322km,n23, σ2s16/27,mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.67**	**51**		**Pn**	**10 11 19.5**	**+2.9**
SIJI	**Sorong**	**5.64**	**28**	P	**Pn**	**10 11 30.5**	**+2.9**
	3.9nm,0.3s,baz=210,slow=23,SNR=10						
SIJI				S	**S**	**10 12 36.5**	**-0.5**
	6.7nm,0.3s,baz=83,slow=24,SNR=14						
SOEI	**Soe**	**5.77**	**228**		**Pn**	**10 11 32.0**	**+2.8**
BATI	**Baumata**	**6.51**	**228**	P	**Pn**	**10 11 41.0**	**+3.2**
	45nm,0.3s,baz=90,slow=3.0,SNR=13						
BATI				S	**S**	**10 12 57.0**	**+1.4**
	4.2nm,0.3s,baz=24,slow=20,SNR=1.4						
MTN	**Manton Dam**	**7.35**	**160**	Pn	**Pn**	**10 11 48.0**	**+0.3**
KNRA	**Kununurra**	**9.73**	**179**	P	**P**	**10 12 19.4**	**0.0**
FITZ	**Fitzroy Crossi**	**12.48**	**193**	P	**P**	**10 12 51.3**	**+1.4**
	0.5nm,0.3s,baz=38,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**12.48**	**193**	P	**Pn**	**10 12 50.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**14.57**	**259**		**P**	**10 13 13.3**	**+0.2**
WRA	**Warramunga Arr**	**15.04**	**159**	P	**P**	**10 13 20.1**	**+1.9**
	0.7nm,0.3s,baz=336,slow=12,SNR=35						
WRA				S	**S**	**10 15 56.2**	**-5.1**
	0.1nm,0.3s,baz=337,slow=21,SNR=2.9						
WB2	**Warramunga Arr**	**15.04**	**159**	P	**Pn**	**10 13 23.0**	**+2.9**
WB2				IAmb	IAmb	10 13 28.5	
	comp=Z,9.4nm,1.4s						
MBWA	**Marble Bar**	**17.45**	**209**	P	**Pn**	**10 13 49.2**	**+1.2**
ASAR	**Alice Springs**	**18.40**	**164**	P	**P**	**10 13 56.1**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=345,slow=12,SNR=19						
ASAR				S	**S**	**10 17 06.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=345,slow=23,SNR=20						
ASAR	**Alice Springs**	**18.40**	**164**	P	**P**	**10 13 54.1**	**-0.4**
PMG	**Port Moresby**	**18.71**	**102**	P	**P**	**10 13 57.6**	**-0.3**
PMG				IAmb	IAmb	10 14 24.1	
	comp=Z,34nm,1.2s						
CISI	**Cisompet, Garu**	**20.72**	**264**	P	**P**	**10 14 17.6**	**-1.0**
MORW	**Morawa**	**25.94**	**206**	P	**P**	**10 15 03.1**	**-2.6**
MORW				IAmb	IAmb	10 15 25.8	
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**37.96**	**310**	P	**P**	**10 16 49.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=136,slow=6.9,SNR=7.7						
CMAR	**Chiang Mai Arr**	**37.96**	**310**	P	**P**	**10 16 47.1**	**-2.6**
MKAR	**Makanchi Array**	**66.55**	**327**	P	**P**	**10 20 16.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=119,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**66.55**	**327**	P	**P**	**10 20 15.6**	**-2.2**
ZAA0	**Zalesovo Array**	**69.98**	**334**	P	**P**	**10 20 36.5**	**-2.3**
ZALV	**Zalesovo Beam**	**69.98**	**334**	P	**P**	**10 20 37.1**	**-1.7**

*SOME **17** 10:56:36.3, 40.°83N×70.°32E, h15km*
*KRNET **17** 10:56:46.3±0.1, 39.°89N×72.°10E, mb2.7*

NNC 17 10:56:36.9±5.5,40.°85N×70.°33E,h0km,mb3.3,mpv3.4,

10C-4D, Error ellipse: s-maj=41.3km s-min=27.4km az=34.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.88**	**155**	⇓*iP*	**Pn**	**10 57 05.4**	**+8.9**
	baz=80						
BTK				⇓*iS*	Sn	10 57 19.9	+10
	baz=80						
IUG	**luzhnay**	**1.31**	**350**	*eP*	**Pn**	**10 57 02.7**	**+0.1**
	16nm,0.1s						
IUG				*eS*	Sn	10 57 21.4	+0.5
	40nm,0.3s						
IUG	**luzhnay**	**1.31**	**350**	P	**Pb**	**10 57 02.3**	**-0.2**
	16nm,0.1s						
IUG				S	Sn	10 57 21.4	+0.5
	40nm,0.3s						
GAR	**Garm**	**1.85**	**180**⇑	*eP*	Pg	10 57 17.4	+5.1
	baz=38						
GAR				⇑*iS*	Sg	10 57 39.8	+3.6
	baz=38						
BRLS	**Borolday**	**2.21**	**351**	*eP*	Pn	10 57 12.3	-2.6
	6.6nm,0.1s						
BRLS				*eS*	Sn	10 57 37.9	-5.0
	8.1nm,0.2s						
BRLS	**Borolday**	**2.21**	**351**	P	Pn	10 57 12.7	-2.1
	6.6nm,0.1s						
BRLS				S	Sn	10 57 37.9	-5.0
	8.1nm,0.2s						
KK31	**Karatay Array**	**2.25**	**3**	⇑Pg	Pn	10 57 15.9	+0.5
	1.0nm,0.3s,baz=190,slow=16,SNR=13						
KK31				⇑Lg	Lg	10 57 45.4	
	1.2nm,0.3s,baz=196,slow=28,SNR=6.6						
AML	**Almayashu**	**2.83**	**62**⇑	*i*P	Pg	10 57 31.0	-0.2
	baz=28						
AML				⇑*iS*	Sb	10 58 03.5	-0.4
	baz=28						
MRKS	**Merke**	**2.88**	**48**	*eP*	Pb	10 57 29.7	+0.6
	4.1nm,0.2s						
MRKS				*eS*	Sg	10 58 07.7	-1.6
	4.8nm,0.4s						
MRKS	**Merke**	**2.88**	**48**	Pg	Pb	10 57 29.7	+0.6
	4.1nm,0.2s						
MRKS				Lg	Lg	10 58 07.7	
	4.8nm,0.4s						
EKS2	**Erkin-Say**	**3.15**	**54**⇑	*i*P	Pg	10 57 38.1	+0.9
	baz=24						
EKS2				⇑*iS*	Sg	10 58 15.7	-2.4
	baz=24						
ARLS	**Aral**	**3.17**	**70**⇓	*i*P	Pb	10 57 31.8	-2.4
	baz=40						
ARLS				⇓*iS*	Sn	10 58 05.6	-1.2
	baz=40						
UCH	**Uchtor**	**3.43**	**65**⇑	*i*P	Pb	10 57 37.2	-1.5
	baz=37						
UCH				⇑*iS*	Sn	10 58 14.3	+0.8
	baz=37						

IDC 17 11:15:48.5±7.2,30.°73S×178.°57W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.6/32,mbtmp3.8/2, Error ellipse: s-maj=294.2km s-min=60.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.60**	**268**	P	P	11 23 46.5	-0.2
	0.6nm,0.4s,baz=104,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**43.62**	**273**	P	P	11 23 54.8	-0.1
	0.6nm,0.4s,baz=112,slow=8.0,SNR=21						
FINES	**FINESS Array B**	**145.28**	**339**	PKPbc	PKPbc	11 35 26.5	-0.7
	3.0nm,1.0s,baz=7.6,slow=4.2,SNR=3.9						

IDC 17 11:26:10.4±5.7,30.°22S×177.°93W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/34,mbtmp3.7/3,MS3.4/1,Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=218.3km s-min=53.1km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.58**	**257**	P	P	11 33 01.9	+1.0
	0.6nm,0.4s,baz=78,slow=10,SNR=1.5						
KRVT	**Keravat (AS076**	**38.33**	**306**	LR	LR	11 45 52.7	
	comp=Z,48nm,18.4s,baz=86,slow=31						
ASAR	**Alice Springs**	**43.18**	**267**	P	P	11 34 12.5	-0.7
	0.2nm,0.3s,baz=107,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**44.15**	**272**	P	P	11 34 20.4	-0.7
	0.7nm,0.3s,baz=110,slow=8.1,SNR=34						
H03S2	**Juan Fernandez**	**80.51**	**124**	T	T	13 08 15.9	
	baz=242,slow=74,SNR=26						
H03S1	**Juan Fernandez**	**80.52**	**124**	T	T	13 08 17.1	
	baz=242,slow=74,SNR=24						
H03S3	**Juan Fernandez**	**80.53**	**124**	T	T	13 08 15.9	
	baz=242,slow=74,SNR=26						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	11 45 48.1	-0.1
	0.9nm,0.6s,baz=35,slow=5.1,SNR=6.0						

*NEIC **17** 11:49:31.9±1.5,56.°68N±0.°05×153.°32W±0.°09,h23km±8km, Error ellipse: s-maj=9.2km s-min=4.6km az=141.0*
*AEIC **17** 11:49:33.3±1.5,56.°69N±0.°05×153.°39W±0.°09,h25km±6km, ML3.4,mb4.1/3(NEIC), Error ellipse: s-maj=9.1km s-min=4.7km az=141.0*
*IDC **17** 11:49:33.2±1.5,57.°04N×154.°73W,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.4/62,mbtmp3.7/8,ML3.3/2, Error ellipse: s-maj=29.4km s-min=20.3km az=136.0*

ISC 17 11:49:29.3±2.4,56.°67N±0.°06×153.°36W±0.°05,h4km±16km, n107,σ0s91/111,mb4.0/9,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.47**	**257**		**Pn**	**11 49 42.4**	**-0.4**
SII					**Sb**	**11 49 49.3**	**+2.0**
OHAK	**Old Harbor**	**0.56**	**4**		**Pn**	**11 49 43.1**	**-0.8**
OHAK					**Sb**	**11 49 51.0**	**+1.0**
KDAK	**Kodiak Island**	**1.20**	**20**		**Pn**	**11 49 52.9**	**+0.2**
KDAK				Sn	**Sg**	**11 50 07.2**	**-0.6**
CHIR	**Chirikof Islan**	**1.52**	**237**		**Pb**	**11 49 57.4**	**-0.5**
KABR	**Katmai Barrier**	**1.71**	**330**		**Pn**	**11 49 59.6**	**-0.3**
CAHL	**Cahill**	**1.74**	**324**		**Pn**	**11 50 00.0**	**-0.3**
KJL	**Kajulik**	**1.84**	**320**		**Pn**	**11 50 01.5**	**-0.1**
KAKN	**Katmai Knife C**	**1.88**	**331**		**Pn**	**11 50 02.3**	**+0.1**
KAKN					**Sn**	**11 50 25.0**	**-1.3**
PLK3	**Peulik 3**	**1.89**	**304**		**Pn**	**11 50 02.6**	**+0.4**
PLK3					**Sn**	**11 50 25.3**	**-1.2**
KAWH	**Katmai**	**1.89**	**336**		**Pn**	**11 50 02.3**	**0.0**
KCG	**Knife Ck. Glac**	**1.90**	**331**		**Pn**	**11 50 02.5**	**+0.1**
KABU	**Katmai Buttres**	**1.92**	**328**		**Pn**	**11 50 03.1**	**+0.4**
ANCK	**Angle Creek**	**1.92**	**324**		**Pn**	**11 50 03.2**	**+0.4**
PLK1	**Peulik 1**	**2.10**	**304**		**Pn**	**11 50 05.6**	**+0.5**
KAHC	**Katmai Hardscr**	**2.18**	**337**		**Pn**	**11 50 06.6**	**+0.2**
KELA	**Mount Kelaz**	**2.19**	**325**		**Pn**	**11 50 06.4**	**-0.1**
AUQ	**Augustine Qik'**	**2.70**	**359**		**Pn**	**11 50 14.3**	**+0.9**
AU22	**Augustine Moun**	**2.71**	**0**		**Pn**	**11 50 12.9**	**-0.6**
CHGN	**Chignik**	**2.83**	**265**		**Pn**	**11 50 15.5**	**+0.4**
OPT	**Oil Point**	**3.00**	**1**		**Pn**	**11 50 19.1**	**+1.6**
CNPM	**China Poot**	**3.08**	**21**		**Pn**	**11 50 19.3**	**+0.6**
HOM	**Homer**	**3.14**	**16**		**Pn**	**11 50 20.3**	**+1.0**
VNHG	**Veniaminof 1**	**3.25**	**265**		**Pn**	**11 50 22.0**	**+0.9**
IVE	**Iliamna Volcan**	**3.37**	**3**		**Pn**	**11 50 23.7**	**+1.0**
BRLK	**Bradley Lake**	**3.37**	**22**		**Pn**	**11 50 22.8**	**+0.1**
BRSE	**Bradley Lake S**	**3.38**	**23**		**Pn**	**11 50 22.9**	**+0.1**
RDWB	**Redoubt West**	**3.84**	**4**		**Pn**	**11 50 29.9**	**+0.6**
NCT	**North Crescent**	**3.92**	**3**		**Pn**	**11 50 30.9**	**+0.8**
DFR	**Drift River**	**3.95**	**5**		**Pn**	**11 50 31.4**	**+0.7**
CNBA	**Chernabura Isl**	**3.98**	**245**	Pn	**Pn**	**11 50 29.4**	**-1.5**
SEW	**Seward**	**4.01**	**29**		**Pn**	**11 50 30.6**	**-0.9**
SLKM	**Skilak Lake**	**4.19**	**22**		**Pn**	**11 50 33.7**	**-0.1**
SDPT	**Sand Point**	**4.21**	**255**	Pn	**Pn**	**11 50 34.6**	**+0.6**
O22K	**Cooper Landing**	**4.27**	**25**		**Pn**	**11 50 35.8**	**+0.8**
SVW2	**Sparrevohn**	**4.59**	**346**		**Pn**	**11 50 39.7**	**+0.3**
SPCP	**Crater Peak Br**	**4.66**	**7**		**Pn**	**11 50 40.5**	**+0.1**
SPCG	**Spurr Capps Gl**	**4.69**	**8**		**Pn**	**11 50 41.6**	**+0.7**
SPNN	**North Nagishla**	**4.73**	**4**		**Pn**	**11 50 42.3**	**+0.9**
RC01	**Rabbit Creek A**	**4.82**	**21**		**Pn**	**11 50 42.4**	**-0.1**
PWL	**Port Wells**	**4.95**	**30**		**Pn**	**11 50 43.8**	**-0.6**
SUA	**Susitna One**	**5.00**	**15**		**Pn**	**11 50 45.0**	**0.0**
HIN	**Hinchinbrook I**	**5.19**	**41**		**Pn**	**11 50 48.4**	**+0.8**
GLI	**Glacier Island**	**5.33**	**35**		**Pn**	**11 50 49.0**	**-0.6**
KNK	**Knik Glacier**	**5.39**	**26**		**Pn**	**11 50 50.4**	**+0.1**
PMR	**Palmer**	**5.40**	**22**		**Pn**	**11 50 49.9**	**-0.6**
SKT	**Skwentna**	**5.41**	**9**		**Pn**	**11 50 52.5**	**+1.8**
FID	**Port Fidalgo**	**5.44**	**38**		**Pn**	**11 50 49.3**	**-1.7**
EYAK	**Cordova Ski Ar**	**5.56**	**42**		**Pn**	**11 50 52.3**	**-0.4**
GHO	**Glory Hole Cre**	**5.61**	**22**		**Pn**	**11 50 52.8**	**-0.5**
JPK	**Jack Peak**	**5.63**	**36**		**Pn**	**11 50 53.1**	**-0.6**
KAIM	**Kayak Island**	**5.74**	**52**	Pn	**Pn**	**11 50 57.0**	**+2.0**
SML	**Sawmill**	**5.77**	**24**	Pn	**Pn**	**11 50 59.0**	**+3.5**
RAGM	**Ragged Mountai**	**5.88**	**47**	Pn	**Pn**	**11 50 58.3**	**+1.1**
GOAT	**Goat Mountain**	**5.98**	**45**		**Pn**	**11 50 58.2**	**-0.3**
SCM	**Sheep Creek Mo**	**6.04**	**28**		**Pn**	**11 50 59.6**	**+0.3**
SUCK	**Suckling Hills**	**6.09**	**52**	Pn	**Pn**	**11 51 00.3**	**+0.4**
KLU	**Klutina**	**6.17**	**35**		**Pn**	**11 51 01.1**	**0.0**
BMRM	**Bremner River**	**6.27**	**43**		**Pn**	**11 51 02.0**	**-0.3**
PPLA	**Purkeypile**	**6.28**	**5**	Pn	**Pn**	**11 51 04.2**	**+1.5**
TT01	**Tatalina**	**6.40**	**349**		**Pn**	**11 51 04.8**	**+0.6**
TTA	**Tatalina**	**6.42**	**349**		**Pn**	**11 51 04.2**	**-0.4**
SNH	**Sunshine Point**	**6.55**	**53**		**Pn**	**11 51 06.8**	**+0.5**
M24K	**Tolsona, Glenn**	**6.57**	**31**		**Pn**	**11 51 07.0**	**+0.3**
KULT	**Kultieth River**	**6.64**	**53**		**Pn**	**11 51 07.7**	**+0.2**
N25K	**Chitina, Valde**	**6.70**	**39**		**Pn**	**11 51 08.1**	**-0.2**
TGL	**Tana Glacier**	**6.84**	**49**	Pn	**Pn**	**11 51 10.9**	**+0.5**
GLB	**Gilahina Butte**	**6.87**	**42**		**Pn**	**11 51 10.3**	**-0.3**
VRDI	**Verde Repeater**	**6.87**	**44**	Pn	**Pn**	**11 51 10.7**	**-0.1**
ISLE	**Juniper Island**	**6.97**	**51**	Pn	**Pn**	**11 51 13.7**	**+1.5**
TRF	**Thorofare Moun**	**6.98**	**11**		**Pn**	**11 51 12.3**	**0.0**
KTH	**Kantishna Hill**	**7.02**	**9**	Pn	**Pn**	**11 51 13.3**	**+0.6**
DHY	**Denali Highway**	**7.10**	**23**		**Pn**	**11 51 13.9**	**0.0**
YAH	**Yahtse**	**7.12**	**54**		**Pn**	**11 51 14.2**	**-0.1**
MCARA	**McCarthy VSAT**	**7.13**	**44**	Pn	**Pn**	**11 51 14.7**	**+0.6**
RND	**Reindeer**	**7.13**	**17**		**Pn**	**11 51 14.1**	**-0.2**
KIAG	**Kiagna River**	**7.13**	**49**		**Pn**	**11 51 13.8**	**-0.6**
BALM	**Baldy**	**7.20**	**48**		**Pn**	**11 51 15.1**	**-0.2**
TABL	**Table Mountain**	**7.42**	**54**	Pn	**Pn**	**11 51 18.7**	**+0.3**
PAX	**Paxson**	**7.46**	**29**	Pn	**Pn**	**11 51 18.5**	**-0.2**
BARN	**Barnard Glacie**	**7.49**	**49**	Pn	**Pn**	**11 51 19.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**7.55**	**8**	Pn	**Pn**	**11 51 21.0**	**+1.0**
CTGM	**Chitina Glacie**	**7.58**	**50**	Pn	**Pn**	**11 51 22.3**	**+1.8**
PCA	**Pinnacle**	**7.70**	**58**	Pn	**Pn**	**11 51 23.9**	**+1.9**
BCPM	**Bancas Point**	**7.94**	**60**	Pn	**Pn**	**11 51 26.1**	**+0.8**
WRH	**Wood River Hil**	**8.25**	**16**	Pn	**Pn**	**11 51 28.2**	**-1.3**
RIDG	**Independent Ri**	**8.26**	**27**	Pn	**Pn**	**11 51 31.6**	**+1.9**
HDA	**Harding Lake**	**8.38**	**19**	Pn	**Pn**	**11 51 31.8**	**+0.5**
CCB	**Clear Creek Bu**	**8.46**	**16**	Pn	**Pn**	**11 51 33.8**	**+1.5**
BCAR	**Beaver Creek A**	**8.65**	**37**	Pn	**Pn**	**11 51 37.0**	**+1.8**
MDM	**Murphy Dome**	**8.69**	**15**	Pn	**Pn**	**11 51 36.8**	**+1.2**
IL31		**8.72**	**19**	Pn	**Pn**	**11 51 35.6**	**-0.4**
ILAR	**Eielson Array**	**8.72**	**19**	Pn	**Pn**	**11 51 35.0**	**-1.0**
	0.3nm,0.3s,baz=206,slow=14,SNR=11						
ILAR				Sn	Sn	11 53 05.7	-9.0
	0.1nm,0.3s,baz=202,slow=16,SNR=1.0						
ILAR	**Eielson Array**	**8.72**	**19**		**Pn**	**11 51 36.2**	**+0.2**
IMAR	**Indian Mountai**	**9.35**	**359**	Pn	**Pn**	**11 51 45.4**	**+0.8**
INK	**Inuvik**	**14.74**	**30**	Pn	**P**	**11 53 04.5**	**+0.1**
	0.1nm,0.3s,baz=245,slow=8.4,SNR=3.0						
INK	**Inuvik**	**14.74**	**30**	Pn	**Pn**	**11 52 59.0**	**+0.9**
PETK	**Petropavlovsk-**	**27.89**	**284**	P	**P**	**11 55 21.2**	**+1.4**
	4.0nm,1.2s,baz=68,slow=13,SNR=4.5						
TXAR	**Lajitas Array**	**44.09**	**107**	P	P	11 57 49.4	+11
	0.2nm,0.7s,baz=334,slow=8.3,SNR=3.9						
SONM	**Songino Array**	**56.63**	**307**	P	**P**	**11 59 13.3**	**+0.1**
	0.3nm,0.7s,baz=44,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**56.63**	**307**	P	**P**	**11 59 13.4**	**+0.2**
ZALV	**Zalesovo Beam**	**59.97**	**325**	P	**P**	**11 59 36.2**	**0.0**
	0.5nm,0.4s,baz=29,slow=7.1,SNR=4.1						
KURK	**Kurchatov**	**64.70**	**326**	P	**P**	**12 00 07.8**	**-0.1**
KURK				IAmb	IAmb	12 00 16.4	
	comp=Z,1.6nm,1.1s						
KURBB	**Kurchatov Arra**	**64.81**	**326**	P	**P**	**12 00 07.1**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.4,SNR=2.6						
BVAR	**Borovoye Array**	**64

PBDV					A	A	12 19 52.3			
	59nm,0.3s									
MORF	**Marmelete**	**1.01**	**345**		*e*P	**Pb**	**12 19 26.7**	**-0.3**		
MORF					*e*S	**Sn**	**12 19 40.6**	**+0.3**		
MORF					AML	AML	12 19 41.2			
	comp=E,440nm,0.2s									
MORF	**Marmelete**	**1.01**	**345**		P	**Pb**	**12 19 26.7**	**-0.3**		
MORF					S	**Sn**	**12 19 40.6**	**+0.3**		
	comp=E,440nm,0.2s									
MORF	**Marmelete**	**1.01**	**345**		*e*P	**Pb**	**12 19 26.7**	**-0.3**		
MORF					*e*S	**Sn**	**12 19 41.0**	**+0.7**		
MORF					A	A	12 19 41.6			
	comp=E,312nm,0.1s									
PVAQ	**Vaqueiros**	**1.19**	**24**		P	**Pb**	**12 19 30.1**	**+0.3**		
PVAQ					S	**Sb**	**12 19 46.3**	**+1.5**		
	comp=E,70nm,0.1s									
PVAQ	**Vaqueiros**	**1.19**	**24**		P	Pn	12 19 20.6	-8.4		
PVAQ					S	**Sn**	**12 19 38.3**	**-6.1**		
PVAQ	**Vaqueiros**	**1.19**	**24**		*e*P	**Pb**	**12 19 30.1**	**+0.3**		
PVAQ					*e*S	**Sb**	**12 19 46.3**	**+1.5**		
PVAQ					A	A	12 19 48.0			
	comp=E,70nm,0.1s									
PTEO	**Sao Teotonio**	**1.26**	**346**		P	**Pn**	**12 19 30.2**	**+0.1**		
PTEO					S	**Sb**	**12 19 47.0**	**+0.1**		
	comp=E,38nm,0.3s									
PTEO	**Sao Teotonio**	**1.26**	**346**	⇓	*e*P	**Pn**	**12 19 30.2**	**+0.1**		
PTEO					*e*S	**Sb**	**12 19 47.0**	**+0.1**		
PTEO					A	A	12 19 49.6			
	comp=E,77nm,0.3s									
PCVE	**Castro Verde**	**1.33**	**10**		P	**Pb**	**12 19 32.2**	**-0.1**		
PCVE					S	**Sb**	**12 19 49.7**	**+0.8**		
	comp=E,50nm,0.1s									
PCVE	**Castro Verde**	**1.33**	**10**	⇓	*e*P	**Pb**	**12 19 32.2**	**-0.1**		
PCVE					*e*S	**Sb**	**12 19 49.7**	**+0.8**		
PCVE					A	A	12 19 51.5			
	comp=E,50nm,0.1s									
EGRO	**El Granado**	**1.39**	**29**	⇓	P	**Pb**	**12 19 33.2**	**0.0**		
	comp=E,9.3nm,0.3s,SNR=18									
EGRO					S	**Sb**	**12 19 50.8**	**+0.3**		
	comp=E,179nm,0.1s									
PBEJ	**Beja**	**1.74**	**12**		P	**Pb**	**12 19 38.6**	**-0.7**		
PBEJ					S	**Sb**	**12 19 59.6**	**-1.1**		
	comp=E,21nm,0.2s									
PBEJ	**Beja**	**1.74**	**12**		*e*Pn	**Pb**	**12 19 38.6**	**-0.7**		
PBEJ					*e*Sn	**Sb**	**12 19 59.6**	**-1.1**		
PBEJ					A	A	12 20 00.7			
	comp=E,42nm,0.2s									
PNCL	**Nicolau / Gran**	**1.79**	**355**		P	**Pn**	**12 19 37.8**	**+0.4**		
PNCL					S	**Sn**	**12 19 59.9**	**+0.6**		
	comp=E,72nm,0.2s									
PNCL	**Nicolau / Gran**	**1.79**	**355**		*e*Pn	**Pn**	**12 19 37.8**	**+0.4**		
PNCL					*e*Sn	**Sn**	**12 19 59.9**	**+0.6**		
PNCL					A	A	12 20 03.0			
	comp=E,72nm,0.2s									
EMIN	**Mina Concepcio**	**1.96**	**42**		P	**Pn**	**12 19 40.6**	**+0.9**		
	comp=E,3.5nm,0.1s,SNR=14									
EMIN					S	**Sn**	**12 20 04.0**	**+0.5**		
	comp=E,20nm,0.1s,SNR=6.8									
ESPR	**Espera**	**2.06**	**74**		P	**Pn**	**12 19 42.0**	**+0.9**		
	comp=E,6.0nm,0.3s,SNR=4.6									
ESPR					S	**Sn**	**12 20 06.7**	**+0.7**		
	comp=E,60nm,0.2s,SNR=5.6									
PBAR	**Barrancos**	**2.12**	**29**		P	**Pb**	**12 19 44.3**	**-1.4**		
PBAR					S	**Sn**	**12 20 09.1**	**+1.8**		
PBAR	**Barrancos**	**2.12**	**29**		*e*Pn	**Pb**	**12 19 44.3**	**-1.4**		
PBAR					*e*Sn	**Sn**	**12 20 09.1**	**+1.8**		
EVO	**Evora**	**2.22**	**6**		P	**Pn**	**12 19 44.0**	**+0.8**		
EVO					S	**Sn**	**12 20 09.7**	**-0.2**		
EVO	**Evora**	**2.22**	**6**		*e*P	**Pn**	**12 19 44.0**	**+0.8**		
EVO					*e*S	**Sn**	**12 20 09.7**	**-0.2**		
EVO	**Evora**	**2.22**	**6**		*e*Pn	**Pn**	**12 19 44.0**	**+0.8**		
EVO					*e*Sn	**Sn**	**12 20 10.7**	**+0.8**		
EVO					A	A	12 20 11.9			
	comp=E,63nm,0.1s									
EJIF	**Jimena Fronter**	**2.31**	**86**		P	**Pn**	**12 19 46.2**	**+1.7**		
	comp=E,922nm,0.2s,SNR=7.9									
EJIF					S	**Sn**	**12 20 12.4**	**+0.3**		
	SNR=7.9									
CEU	**Ceuta**	**2.43**	**99**		P	**Pn**	**12 19 47.1**	**+1.0**		
CEU					S	**Sn**	**12 20 14.9**	**-0.1**		
CEU	**Ceuta**	**2.43**	**99**		*e*P	**Pn**	**12 19 47.1**	**+1.0**		
CEU					*e*S	**Sn**	**12 20 14.9**	**-0.1**		
LIS	**Lisbon**	**2.48**	**345**		S	**Sn**	**12 20 18.4**	**+2.2**		
LIS	**Lisbon**	**2.48**	**345**		*e*Sn	**Sn**	**12 20 18.4**	**+2.2**		
RSA	**Sarsar**	**2.50**	**124**		P	Pn	12 19 33.3	-14		
RSA					S	Sn	12 20 04.4	-12		
PMAFR	**Mafra**	**2.73**	**344**		P	**Pn**	**12 19 50.8**	**+0.5**		
	comp=E,8.8nm,0.1s,SNR=7.9									
PMAFR					S	**Sn**	**12 20 23.1**	**+0.5**		
	comp=E,68nm,0.1s,SNR=9.1									
PMAFR	**Mafra**	**2.73**	**344**		*e*Pn	**Pn**	**12 19 51.2**	**+0.8**		
PMAFR					*e*Sn	**Sn**	**12 20 23.1**	**+0.5**		
PMAFR					A	A	12 20 24.9			
	comp=E,68nm,0.3s									
HORN	**Hornachuelos**	**2.89**	**57**		S	Sn	12 20 12.7	-14		
ECAB	**El Cabril**	**2.91**	**52**		P	**Pn**	**12 19 53.7**	**+1.0**		
	comp=E,3.5nm,0.1s,SNR=7.9									
ECAB					S	**Sn**	**12 20 26.3**	**-0.7**		
	comp=E,6.5nm,0.2s,SNR=7.9									
ZHG	**ZHG**	**3.19**	**154**		P	Pn	12 19 49.6	-7.0		
ZHG					S	Sn	12 20 27.3	-6.6		
PMRV	**Marv??o**	**3.19**	**13**		P	**Pn**	**12 19 57.4**	**+0.8**		
PMRV					S	**Sn**	**12 20 34.2**	**+0.4**		
	comp=E,17nm,0.4s									
PMRV	**Marv??o**	**3.19**	**13**	⇓	*e*Pn	**Pn**	**12 19 57.4**	**+0.8**		
PMRV					*e*Sn	**Sn**	**12 20 34.2**	**+0.4**		
PMRV					A	A	12 20 36.2			
	comp=E,17nm,0.4s									
PSBE	**So Bento**	**3.21**	**354**		*e*Pn	**Pn**	**12 19 57.8**	**+0.9**		
PSBE					*e*Sn	**Sn**	**12 20 34.7**	**+0.4**		
PSBE					A	A	12 20 57.4			
	comp=E,16nm,0.6s									
SICH	**Sidi Chahed**	**3.31**	**131**		P	Pn	12 19 47.9	-10		
SICH					S	Sn	12 20 22.8	-14		
EGOR	**Sierra Gorda,**	**3.48**	**76**		P	**Pn**	**12 20 02.1**	**+1.4**		
	comp=E,0.3nm,0.2s,SNR=7.9									
EGOR					S	**Sn**	**12 20 40.4**	**-0.7**		
	comp=E,6.0nm,0.3s,SNR=7.9									
EADA	**Adamuz**	**3.51**	**57**	⇓	P	**Pn**	**12 20 02.1**	**+1.0**		
	comp=E,2.3nm,0.1s,SNR=18									
EADA					S	**Sn**	**12 20 41.2**	**-0.7**		
	comp=E,13nm,0.1s,SNR=7.9									
PCBR	**Castelo Branco**	**3.58**	**11**		P	**Pn**	**12 20 03.2**	**+1.3**		
PCBR					S	**Sn**	**12 20 43.8**	**+0.5**		
	comp=E,12nm,0.4s									
PCBR	**Castelo Branco**	**3.58**	**11**		*e*Pn	**Pn**	**12 20 03.2**	**+1.3**		
PCBR					*e*Sn	**Sn**	**12 20 43.8**	**+0.5**		
PCBR					A	A	12 20 45.2			
	comp=E,24nm,0.4s									
PCAS	**Casmilo, Conde**	**3.73**	**358**		P	**Pn**	**12 20 04.9**	**+0.9**		
PCAS					S	**Sn**	**12 20 47.4**	**+0.3**		
	comp=E,22nm,0.3s									
PCAS	**Casmilo, Conde**	**3.73**	**358**		*e*Pn	**Pn**	**12 20 04.9**	**+0.9**		
PCAS					*e*Sn	**Sn**	**12 20 47.4**	**+0.3**		
PCAS					A	A	12 20 49.5			
	comp=E,22nm,0.3s									
ELGU	**Los Guajares,**	**3.82**	**80**		S	**Sn**	**12 20 51.4**	**+1.8**		
	comp=E,7.2nm,0.2s,SNR=7.9									
COI	**Coimbra**	**3.88**	**359**		P	**Pn**	**12 20 07.2**	**+1.1**		
COI					S	**Sn**	**12 20 50.6**	**-0.2**		
COI	**Coimbra**	**3.88**	**359**		*e*Pn	**Pn**	**12 20 07.2**	**+1.1**		
COI					*e*Sn	**Sn**	**12 20 50.6**	**-0.2**		
EQUE	**Quentar**	**4.02**	**76**		P	**Pn**	**12 20 09.3**	**+1.1**		
	comp=E,0.4nm,0.1s,SNR=7.9									
EQUE					S	**Sn**	**12 20 54.4**	**-0.1**		
	comp=E,5.5nm,0.3s,SNR=7.9									
AKLM	**AKL**	**4.07**	**115**		P	Pn	12 19 55.0	-14		
AKLM					S	Sn	12 20 39.5	-16		
MTE	**Manteigas**	**4.12**	**8**		S	**Sn**	**12 20 56.2**	**-0.6**		
	comp=E,7.3nm,0.3s									
MTE	**Manteigas**	**4.12**	**8**		*e*Sn	**Sn**	**12 20 56.2**	**-0.6**		
MTE					A	A	12 20 59.6			
	comp=E,15nm,0.3s									
CZD	**Col de Zad**	**4.26**	**140**		P	Pn	12 20 01.6	-10		
CZD					S	Sn	12 20 51.5	-9.0		
EALB	**Alboran**	**4.30**	**94**		S	**Sn**	**12 20 57.7**	**-3.6**		
	comp=E,4.3nm,0.4s,SNR=7.9									
PVIS	**Viseu**	**4.40**	**4**		S	**Sn**	**12 21 02.4**	**-1.3**		
	comp=E,5.4nm,0.4s									
PVIS	**Viseu**	**4.40**	**4**		*e*Sn	**Sn**	**12 21 02.4**	**-1.3**		
PVIS					A	A	12 21 06.4			
	comp=E,11nm,0.4s									
EQES	**Quesada**	**4.46**	**69**		P	**Pn**	**12 20 15.4**	**+1.2**		
	comp=E,0.7nm,0.2s,SNR=7.9									
EQES					S	**Sn**	**12 21 05.4**	**+0.2**		
	comp=E,3.4nm,0.3s,SNR=7.9									
PAB	**San Pablo**	**4.50**	**43**		P	**Pn**	**12 20 15.9**	**+1.2**		
	comp=E,1.7nm,0.1s,SNR=7.9									
PAB					S	**Sn**	**12 21 04.0**	**-2.3**		
	comp=E,6.6nm,0.1s,SNR=7.9									
MD31	**MD31**	**4.53**	**138**		P	Pn	12 20 05.4	-10		
MD31					S	Sn	12 20 59.2	-7.8		
MDT	**Midelt**	**4.66**	**138**		P	Pn	12 20 05.6	-11		
MDT					S	Sn	12 21 01.0	-9.1		
ESDC	**Sonseca Array**	**4.80**	**45**		P	**Pn**	**12 20 20.0**	**+1.2**		
	comp=E,0.4nm,0.2s,baz=230,slow=13,SNR=6.4									
ESDC					S	**Sn**	**12 21 10.7**	**-3.0**		
	comp=E,1.7nm,0.3s,baz=228,slow=23,SNR=8.0									
MVO	**Moncorvo**	**4.94**	**11**		P	**Pn**	**12 20 21.3**	**+0.6**		
	comp=E,7.4nm,0.8s,SNR=6.7									
MVO					S	**Sn**	**12 21 15.8**	**-1.2**		
	comp=E,7.7nm,0.1s,SNR=7.5									
MVO	**Moncorvo**	**4.94**	**11**		*e*Pn	**Pn**	**12 20 21.6**	**+0.9**		
MVO					*e*Sn	**Sn**	**12 21 16.3**	**-0.8**		
MVO					A	A	12 21 18.8			
	comp=E,12nm,0.5s									
SESP	**Santiago Espad**	**4.95**	**67**		S	**Sn**	**12 21 16.6**	**-0.9**		
	comp=E,5.6nm,0.1s,SNR=7.9									
PVRL	**Vila Real**	**4.97**	**5**		S	**Sn**	**12 21 17.2**	**-0.5**		
	comp=E,5.9nm,0.3s									
PVRL	**Vila Real**	**4.97**	**5**		*e*Sn	**Sn**	**12 21 17.2**	**-0.5**		
PVRL					A	A	12 21 18.7			
	comp=E,12nm,0.3s									
OUK	**Oukaimeden**	**5.12**	**176**		P	Pn	12 20 19.0	-4.4		
OUK					S	Sn	12 21 18.4	-3.5		
PCAB	**Cabril**	**5.38**	**2**		P	**Pn**	**12 20 27.9**	**+1.1**		
PCAB					S	**Sn**	**12 21 26.4**	**-1.6**		
	comp=E,6.4nm,0.6s									
PCAB	**Cabril**	**5.38**	**2**		*e*Pn	**Pn**	**12 20 27.9**	**+1.1**		
PCAB					*e*Sn	**Sn**	**12 21 26.4**	**-1.6**		
PCAB					A	A	12 21 29.0			
	comp=E,13nm,0.6s									
ELOB	**Lobios**	**5.54**	**2**		P	**Pn**	**12 20 29.1**	**+0.1**		
	comp=E,4.8nm,0.3s,SNR=6.0									
ELOB					S	**Sn**	**12 21 28.9**	**-3.0**		
	comp=E,10nm,0.2s,SNR=12									
OUZM	**OUZ**	**5.55**	**166**		P	Pn	12 20 24.2	-5.0		
OUZM					S	Sn	12 21 27.3	-5.1		
PBRG	**Braganca**	**5.61**	**12**		P	**Pn**	**12 20 31.0**	**+1.1**		
PBRG					S	**Sn**	**12 21 32.1**	**-1.5**		
	comp=E,2.5nm,0.4s									
PBRG	**Braganca**	**5.61**	**12**		*e*Pn	**Pn**	**12 20 31.0**	**+1.1**		
PBRG					*e*Sn	**Sn**	**12 21 32.1**	**-1.5**		
PBRG					A	A	12 21 33.9			
	comp=E,5.0nm,0.4s									
PGAV	**Gavieira, Arco**	**5.63**	**0**		P	**Pn**	**12 20 31.3**	**+1.0**		
PGAV					S	**Sn**	**12 21 32.8**	**-1.4**		
	comp=E,7.5nm,0.5s									
PGAV	**Gavieira, Arco**	**5.63**	**0**		*e*Pn	**Pn**	**12 20 31.3**	**+1.0**		
PGAV					*e*Sn	**Sn**	**12 21 32.8**	**-1.4**		
PGAV					A	A	12 21 36.7			
	comp=E,7.5nm,0.5s									
ECAL	**Calabor**	**5.75**	**12**		P	**Pn**	**12 20 33.4**	**+1.6**		
	comp=E,5.8nm,0.7s,SNR=5.5									
ECAL					S	**Sn**	**12 21 34.8**	**-2.1**		
	comp=E,19nm,0.4s,SNR=6.2									
TTIG	**Tnine Tigouga,**	**5.76**	**181**		P	Pn	12 20 26.8	-5.3		
TTIG					S	Sn	12 21 34.1	-3.3		
EZAM	**Zamans**	**5.83**	**357**		S	**Sn**	**12 21 35.0**	**-3.8**		
	comp=E,20nm,0.4s,SNR=7.9									
ETOB	**Tobarra**	**5.87**	**65**		S	**Sn**	**12 21 37.3**	**-2.7**		
	comp=E,2.3nm,0.3s,SNR=7.9									
TZRR	**Tazzarine**	**5.98**	**157**		P	Pn	12 20 26.1	-9.0		
TZRR					S	Sn	12 21 37.9	-5.0		
TDRA	**Tendrara**	**6.14**	**120**		P	Pn	12 20 23.0	-14		
TDRA					S	Sn	12 21 33.2	-14		
ZGR	**Zagora**	**6.59**	**159**		P	Pn	12 20 33.6	-10		
ETOR	**Torete**	**6.66**	**46**		S	**Sn**	**12 21 56.1**	**-3.3**		
	comp=E,12nm,0.2s,SNR=7.1									

MOS ***17*** *12:23:16.7±0.0, 42°.00N×46°.08E, h6km, MPVA3.5*
TIF ***17*** *12:23:17.3, 42°.13N×45°.99E, h24km±2km*
NORS ***17*** *12:23:18.0±0.0, 41°.97N×46°.09E, h22km, MPVA3.6*
DRS ***17*** *12:23:19.9±0.0, 41°.98N×46°.04E, h16km*
ISC 17 12:23:18.0±1.2**, 41°.97N**±0°.03×**45°.99E**±0°.02**, h10**km±10km**, n26,** σ0°.79/47**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.53**	**170**		*e*Pg	**Pn**	**12 23 31.1**	**-0.4**
DDFL	**Dedoflistskaro**	**0.53**	**170**		P	**Pn**	**12 23 31.1**	**-0.4**
DDFL					S	**Sn**	**12 23 43.2**	**+2.6**
DGRG	**David-gareji**	**0.69**	**222**		*e*Pg	**Pn**	**12 23 33.1**	**-0.7**
DGRG					*e*Sg	**Sn**	**12 23 45.3**	**+0.7**
DGRG	**David-gareji**	**0.69**	**222**		P	**Pn**	**12 23 33.1**	**-0.7**
DGRG					S	**Sn**	**12 23 45.3**	**+0.7**
BTLR	**Botlikh**	**0.72**	**14**		*e*Pg	**Pb**	**12 23 32.2**	**-0.4**
BTLR					*e*Sg	**Sb**	**12 23 42.4**	**-0.1**
XNZR	**Khunzakh**	**0.78**	**42**		*e*Pg	**Pb**	**12 23 33.6**	**-0.2**
XNZR					*e*Sg	**Sb**	**12 23 43.7**	**-0.8**
GNBR	**Gunib**	**0.84**	**59**		*e*Pg	**Pb**	**12 23 34.2**	**-0.4**
GNBR					*e*Sg	**Sb**	**12 23 45.9**	**-0.1**
KMKR	**Kumukh**	**0.84**	**78**		*e*Pg	**Pb**	**12 23 35.0**	**+0.2**
KMKR					*e*Sg	**Sb**	**12 23 45.5**	**-0.7**
BTNK	**Botanikuri**	**0.93**	**253**		*e*Pg	**Pb**	**12 23 36.5**	**+0.2**
BTNK	**Botanikuri**	**0.93**	**253**		P	**Pb**	**12 23 36.5**	**+0.2**
BTNK					S	**Sn**	**12 23 50.4**	**-0.2**
UNCR	**Uncukul**	**0.96**	**38**		*e*Pg	**Pb**	**12 23 36.5**	**-0.2**
UNCR					*e*Sg	**Sb**	**12 23 49.5**	**+0.1**
DVE	**Vedeno**	**1.00**	**6**		*e*Pg	**Pb**	**12 23 37.4**	**0.0**
DVE					*e*Sg	**Sn**	**12 23 51.4**	**-0.8**
KRNR	**Karanay**	**1.10**	**38**		*e*Pg	**Pn**	**12 23 39.0**	**-0.5**
KRNR					*e*Sg	**Sn**	**12 23 54.0**	**-0.7**
DLMR	**Dylym**	**1.20**	**23**		*e*Pg	**Pg**	**12 23 42.0**	**+0.9**
DLMR					*e*Sg	**Sn**	**12 23 59.5**	**+2.3**
DBC	**Dubki**	**1.22**	**30**		*e*Pg	**Pg**	**12 23 41.2**	**-0.3**
DBC					*e*Sg	**Sn**	**12 23 57.8**	**0.0**
GUDG	**Gudauri**	**1.23**	**294**		*e*Pg	**Pg**	**12 23 41.8**	**+0.2**
GUDG	**Gudauri**	**1.23**	**294**		P	**Pg**	**12 23 41.8**	**+0.2**
GUDG					S	**Sn**	**12 23 58.3**	**+0.1**
GROC	**Groznyy**	**1.25**	**353**		*e*Pg	**Pg**	**12 23 42.9**	**+1.0**
GROC					*e*Sg	**Sn**	**12 24 00.1**	**+1.9**
AKT	**Akhty**	**1.39**	**110**		*e*Pg	**Pb**	**12 23 43.8**	**-0.3**
AKT					*e*Sg	**Sg**	**12 24 02.6**	**-0.1**
TRLG	**Trialeti**	**1.48**	**254**		*e*Pg	**Pb**	**12 23 45.3**	**-0.3**
TRLG	**Trialeti**	**1.48**	**254**		P	**Pb**	**12 23 45.3**	**-0.3**
TRLG					S	**Sg**	**12 24 05.3**	**-0.1**
DMNI	**Dmanisi**	**1.49**	**245**		P	**Pn**	**12 23 44.7**	**-0.1**
DMNI					S	**Sn**	**12 24 04.1**	**-0.3**
LACR	**Lac**	**1.52**	**305**		*e*Pg	**Pg**	**12 23 47.4**	**+0.2**
ZEI	**Tsey**	**1.75**	**299**		*e*Pg	**Pg**	**12 23 51.2**	**-0.5**
ZEI					*e*Sg	**Sg**	**12 24 14.6**	**+0.2**
KORR	**Kora**	**1.81**	**309**		*e*Pg	**Pg**	**12 23 52.6**	**0.0**
KORR					*e*Sg	**Sg**	**12 24 17.2**	**+1.1**
DIGR	**Digorskoe uzhe**	**2.01**	**298**		*e*Pg	**Pb**	**12 23 55.3**	**+0.6**
DIGR					*e*Sg	**Sg**	**12 24 21.5**	**-1.2**

PRU ***17*** *12:25:25.6±0.0, 50°.39N×18°.83E, h0km*
VIE ***17*** *12:25:26.1±1.3, 50°.45N×18°.72E, h0km, mb2.1/2, ml2.9/3, Error ellipse: s-maj=10.3km s-min=8.1km az=22.0 29 km NW of Katowice Suspected Mining induced.*
ISC 17 12:25:25.4±0.9**, 50°.31N**±0°.04×**18°.85E**±0°.03**, h0**km**, n19,** σ0°.81/33**, Poland**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.62**	**98**		*e*Pg	**Pg**	**12 25 37.2**	**0.0**
OJC					*e*Sg	**Sg**	**12 25 46.1**	**+0.8**
OKC	**Ostrava-Krasne**	**0.66**	**224**		*e*PG	**Pb**	**12 25 39.4**	**-0.4**
OKC					*e*SG	**Sb**	**12 25 49.6**	**+0.2**
	comp=Z,79nm,0.3s							
MORC	**Moravsky Berou**	**1.00**	**238**		*e*PG	**Pb**	**12 25 45.3**	**-0.3**
MORC					*e*SG	**Sb**	**12 25 58.8**	**-0.5**
LANS	**Liptovska Anna**	**1.23**	**161**		*e*PG	**Pn**	**12 25 50.0**	**0.0**
LANS					*e*SG	**Sn**	**12 26 07.5**	**+0.2**
LANS					eLG	Lg	12 26 13.5	
NIE	**Niedzica**	**1.30**	**133**		*e*Pg	**Pn**	**12 25 50.7**	**-0.2**
NIE					*e*Sg	**Sn**	**12 26 08.4**	**-0.6**
KRLC	**Kraliky**	**1.35**	**261**		*e*PG	**Pg**	**12 25 50.6**	**-0.7**
KRLC					*e*SG	**Sg**	**12 26 08.0**	**-0.8**
	comp=Z,76nm,0.4s							
DPC	**Dobruska-Polom**	**1.62**	**272**		*e*PG	**Pn**	**12 25 55.2**	**-0.1**
DPC					*e*SG	**Sn**	**12 26 16.9**	**0.0**
	comp=Z,41nm,0.6s							
OSTC	**Ostas**	**1.70**	**279**		*e*PG	**Pn**	**12 25 56.2**	**-0.2**
OSTC					*e*SG	**Sb**	**12 26 19.2**	**-0.3**
	comp=Z,31nm,0.4s							
KSP	**Ksiaz**	**1.71**	**289**		*e*Pg	**Pb**	**12 25 58.0**	**+0.2**
KSP					*e*Sg	**Sg**	**12 26 20.6**	**+0.1**
VRAC	**Vranov**	**1.77**	**236**		*e*PN	**Pb**	**12 25 58.3**	**-0.5**
VRAC					*e*SG	**Sg**	**12 26 22.3**	**-0.1**
CHVC	**Chvalec**	**1.81**	**280**		*e*PG	**Pn**	**12 25 57.7**	**-0.1**
CHVC					*e*SG	**Sn**	**12 26 21.8**	**+0.3**
VYHS	**Vyhne**	**1.82**	**180**		*e*PN	**Pn**	**12 25 58.3**	**+0.3**
VYHS					*e*SN	**Sn**	**12 26 21.5**	**-0.3**
UPC	**Upice**	**1.82**	**277**		*e*SG	**Sn**	**12 26 21.9**	**0.0**
	comp=Z,26nm,0.7s							
KRUC	**Moravsky**	**2.03**	**233**		*e*PN	**Pb**	**12 26 02.3**	**-0.8**
KRUC					*e*SG	**Sb**	**12 26 29.0**	**+0.1**
SMOL	**Smolenice**	**2.03**	**208**		*e*SG	**Sg**	**12 26 29.3**	**-1.2**
CONA	**Conrad Observa**	**3.09**	**221**		*i* Pn	**Pn**	**12 26 16.9**	**+1.4**
	0.4nm,0.2s							
CONA					Sn	**Sn**	**12 26 53.9**	**+0.7**
	11nm,0.4s							
WATA	**Walderalm**	**5.65**	**241**		Sg	**Sg**	**12 28 28.4**	**+1.5**
	comp=N,4.5nm,0.2s							
WTTA	**Wattenberg**	**5.66**	**240**		*e*Sg	**Sg**	**12 28 30.1**	**+3.0**
	comp=E,6.8nm,0.4s							
MOTA	**Moosalm**	**5.91**	**243**		Sg	**Sg**	**12 28 35.9**	**+0.6**
	comp=N,7.2nm,0.5s							

WEL 17 12:25:58.7±0.9**, 35°.5**±5°×**18°.0W**±°**, h33**km**, M4.0**/19**, ML4.2**/19**, MLv4.0**/19**, Error ellipse: s-maj=0.0km s-min=0.0km az=88.9, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.00**	**209**	P	Pn	12 26 43.8	-0.1
MXZ				S	Sn	12 27 20.0	+1.3
WMGZ	**Waiomatatini S**	**3.18**	**205**	P	Pn	12 26 47.3	+0.8
WMGZ				S	Sn	12 27 24.8	+1.5
PKGZ	**Pakihiroa**	**3.37**	**209**	P	Pn	12 26 50.2	+1.1
PKGZ				S	Sn	12 27 29.4	+1.4
HAZ	**Te Kaha**	**3.38**	**213**	P	Pn	12 26 49.3	+0.1
HAZ				S	Sn	12 27 31.8	+3.6
PUZ	**Puketiti**	**3.46**	**205**	P	Pn	12 26 50.1	-0.3
PUZ				S	Sn	12 27 32.6	+2.3
RUGZ	**Raukumara Rang**	**3.60**	**212**	P	Pn	12 26 52.0	-0.3
RUGZ				S	Sn	12 27 35.0	+1.2
TWGZ	**Tauwhareparae**	**3.66**	**207**	P	Pn	12 26 53.0	0.0
TWGZ				S	Sn	12 27 37.6	+2.6
CNGZ	**Carnagh Statio**	**3.85**	**203**	P	Pn	12 26 55.3	-0.3
TKGZ	**Te Karaka**	**3.94**	**207**	P	Pn	12 26 57.2	+0.4
TKGZ				S	Sn	12 27 41.4	-0.5
MWZ	**Matawai**	**3.98**	**211**	P	Pn	12 26 56.8	-0.5
MWZ				S	Sn	12 27 43.0	+0.1
KUZ	**Kuaotunu**	**4.00**	**242**	P	Pn	12 26 59.4	+1.8
KUZ				S	Sn	12 27 44.2	+0.9
GRZ	**Great Barrier**	**4.01**	**250**	P	Pn	12 26 58.1	+0.3
OPRZ	**Ohinepanea**	**4.08**	**224**	P	Pn	12 26 59.3	+0.6
RAGZ	**Rawiri**	**4.16**	**211**	P	Pn	12

ISKI	**Skildingahlsh**	**1.21**	**9**	P		**Pn**	**12 31 07.4**	**-2.8**
	baz=8.5							
IGHA	**Grjothals**	**1.22**	**16**	P		**Pn**	**12 31 07.3**	**-3.0**
	baz=16							
BORG	**Borgarnes**	**1.65**	**274**	Pn		**Pn**	**12 31 14.4**	**-1.8**
	33nm,0.3s,baz=96,slow=11,SNR=62							
BORG					Sn	**Sg**	**12 31 38.5**	**-1.6**
	28nm,0.3s,baz=42,slow=22,SNR=13							
JMIC	**Jan Mayen**	**7.18**	**24**	LR		LR	12 34 35.8	
	comp=Z,52nm,19.4s,baz=212,slow=31							
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn		**Pn**	**12 32 49.2**	**-1.4**
SUMG	**Summit**	**10.93**	**325**	Pn		**Pn**	**12 33 23.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn		**Pn**	**12 33 35.3**	**+0.4**
	baz=319,slow=13,SNR=10							
ESK	**Eskdalemuir**	**11.77**	**136**	Pn		**Pn**	**12 33 35.6**	**+0.7**
NRS	**Narsarsuaq**	**13.14**	**267**	Pn		**Pn**	**12 33 52.3**	**-1.3**
NAO01	**NORSAR Array S**	**13.48**	**93**	Pn		**Pn**	**12 33 57.3**	**-1.0**
NOA	**NORSAR Array B**	**13.53**	**92**	LR		LR	12 39 03.8	
	comp=Z,43nm,18.4s,baz=285,slow=36							
SFJD	**Kangerlussuaq**	**13.66**	**295**	LR		LR	12 38 58.8	
	comp=Z,81nm,21.3s,baz=87,slow=36							
KBS	**Kingsbay**	**16.63**	**19**			**P**	**12 34 41.4**	**-1.0**
ARCES	**ARCESS Array B**	**17.11**	**55**	P		**P**	**12 34 50.1**	**+2.4**
	baz=300,slow=6.1,SNR=3.6							
ARCES					LR	LR	12 39 47.8	
	comp=Z,50nm,19.1s,baz=255,slow=31							
FINES	**FINESS Array B**	**19.70**	**79**	LR		LR	12 41 09.0	
	comp=Z,35nm,21.4s,baz=166,slow=31							
CLL	**Collm**	**20.71**	**116**	*e*(P)		Pn	12 35 32.0	+2.4
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**	**12 35 39.8**	**+4.9**
	6.2nm,1.0s							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**12 35 53.3**	**+1.8**
	1.0nm,0.9s,baz=299,slow=8.9,SNR=3.1							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**12 35 49.2**	**-2.3**
ESDC	**Sonseca Array**	**26.26**	**156**	P		**P**	**12 36 24.4**	**+1.9**
	1.0nm,0.8s,baz=338,slow=9.4,SNR=4.0							
ESDC					LR	LR	12 45 49.4	
	comp=Z,46nm,18.1s,baz=190,slow=34							
ESDC	**Sonseca Array**	**26.26**	**156**	P		**P**	**12 36 21.1**	**-1.3**
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**	**12 38 12.2**	**+2.9**
	0.6nm,0.5s,baz=355,slow=8.7,SNR=2.2							
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**	**12 38 12.4**	**+3.2**
KBZ	**Khabaz**	**39.11**	**92**	LR		LR	12 54 37.8	
	comp=Z,34nm,19.9s,baz=344,slow=36							
ERPA	**Erie**	**41.33**	**268**	P		**P**	**12 38 31.6**	**-1.1**
TIXI	**Tiksi**	**42.02**	**15**	P		**P**	**12 38 39.2**	**+1.3**
TIXI					IAmb	IAmb	12 38 49.8	
	comp=Z,7.0nm,1.4s							
BVAR	**Borovoye Array**	**43.19**	**62**	P		**P**	**12 38 50.1**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=166,slow=13,SNR=4.3							
IL31		**45.67**	**332**	P		**P**	**12 39 07.0**	**-0.4**
IL31					IAmb	IAmb	12 39 10.2	
	comp=Z,8.6nm,1.5s							
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**12 39 09.9**	**+2.5**
	comp=Z,0.8nm,1.0s,baz=47,slow=6.2,SNR=7.4							
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**12 39 09.2**	**+1.7**
ZAA0	**Zalesovo Array**	**47.62**	**51**	P		**P**	**12 39 23.1**	**+0.2**
ZAA0					IAmb	IAmb	12 39 27.6	
	comp=Z,0.9nm,0.7s							
ZALV	**Zalesovo Beam**	**47.62**	**51**	P		**P**	**12 39 24.2**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=330,slow=8.3,SNR=1.8							
ZALV	**Zalesovo Beam**	**47.62**	**51**	P		**P**	**12 39 24.0**	**+1.2**
KURK	**Kurchatov**	**48.10**	**58**	P		**P**	**12 39 27.5**	**+1.0**
KURK					IAmb	IAmb	12 39 32.4	
	comp=Z,5.1nm,1.1s							
KURBB	**Kurchatov Arra**	**48.15**	**58**	P		**P**	**12 39 28.2**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=324,slow=7.3,SNR=9.3							
MK31	**Makanchi Array**	**52.71**	**58**	P		**P**	**12 40 00.6**	**-1.0**
MKAR	**Makanchi Array**	**52.71**	**58**	P		**P**	**12 40 03.8**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=330,slow=7.0,SNR=4.8							
MKAR	**Makanchi Array**	**52.71**	**58**	P		**P**	**12 40 02.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P		**P**	**12 40 05.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=341,slow=8.4,SNR=4.5							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P		**P**	**12 40 05.4**	**+0.4**
PD31	**Pinedale Array**	**53.17**	**293**	P		**P**	**12 40 05.4**	**+0.1**
PDAR	**Pinedale Array**	**53.17**	**293**	P		**P**	**12 40 06.1**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=63,slow=6.8,SNR=8.3							
PDAR					LR	LR	13 03 12.8	
	comp=Z,40nm,21.0s,baz=103,slow=37							
PDAR	**Pinedale Array**	**53.17**	**293**	P		**P**	**12 40 05.5**	**+0.3**
TLY	**Talaya**	**55.38**	**40**	LR		LR	13 07 03.9	
	comp=Z,14nm,21.0s,baz=9.0,slow=39							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**12 41 11.4**	**+2.1**
	comp=Z,0.3nm,0.9s,baz=248,slow=3.4,SNR=3.5							
TXAR					LR	LR	13 10 44.1	
	comp=Z,25nm,18.0s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**12 41 10.6**	**+1.3**

IDC 17 12:48:36.1±1.5, 34.22N×25.16E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=53.9km s-min=26.5km az=141.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B**	**16.91**	**333**	Pn	P	12 52 35.5	-0.7
	0.1nm,0.3s,baz=153,slow=8.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**29.89**	**231**	P	P	12 54 45.6	0.0
	0.3nm,0.5s,baz=30,slow=8.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**41.72**	**50**	P	P	12 56 26.5	-0.1
	0.5nm,0.7s,baz=278,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**44.30**	**56**	P	P	12 56 47.4	-0.2
	0.5nm,0.7s,baz=280,slow=8.6,SNR=4.8						

*PAS **17** 13:03:48.8±1.7, 35.02N±0.01×116.51W±0.01, h2km±5km, Me3.1/81, ML3.1/126, Error ellipse: s-maj=1.6km s-min=1.5km az=159.0*
*SCEDC **17** 13:03:48.8, 35.02N×116.51W, h2km, ML3.1, ML3.1, ML3.1*
*NEIC **17** 13:03:48.5±1.5, 35.02N±0.01×116.51W±0.01, h12km±2km, Error ellipse: s-maj=1.8km s-min=1.3km az=181.0*
*ANF **17** 13:03:48.0±0.1, 35.02N×116.50W, h17km, ML3.0/34, Error ellipse: s-maj=0.9km s-min=0.7km az=35.0*

ISC 17 13:03:48.6±0.8, 35.02N±0.01×116.51W±0.01, h16km±6km, n132, σ0963/179, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEC	**Hector,Ludlow**	**0.23**	**143**	P	**Pg**	**13 03 53.8**	**-0.1**
	baz=323,SNR=1000						
HEC				S	**Sg**	**13 03 57.3**	**-0.1**
	baz=323						
HEC	**Hector,Ludlow**	**0.23**	**143**		**Pg**	**13 03 53.8**	**-0.1**
DSCC	**Desert Studies**	**0.35**	**69**		**Pg**	**13 03 55.7**	**-0.2**
DSCC					**Sg**	**13 04 01.0**	**+0.1**
GSC	**Goldstone, Bar**	**0.38**	**319**	P	**Pg**	**13 03 56.2**	**-0.2**
	baz=140,SNR=1000						
GSC				S	**Sg**	**13 04 01.4**	**-0.2**
	baz=140						
GSC	**Goldstone, Bar**	**0.38**	**319**		**Pg**	**13 03 55.9**	**-0.5**
GSC	**Goldstone, Bar**	**0.38**	**319**		**Sg**	**13 04 01.5**	**-0.2**
RRX	**Edison Barstow**	**0.43**	**251**	P	**Pg**	**13 03 57.0**	**-0.2**
	baz=70,SNR=15						
RRX				S	**Sg**	**13 04 03.3**	**+0.2**
	baz=70						
RRX	**Edison Barstow**	**0.43**	**251**		**Pg**	**13 03 57.0**	**-0.2**
RRX					**Sb**	**13 04 03.5**	**-0.5**
FLSC	**Flash Two Peak**	**0.44**	**264**		**Pg**	**13 03 57.2**	**-0.3**
TUQ	**Turquoise Moun**	**0.63**	**48**	P	**Pg**	**13 04 00.7**	**-0.5**
	baz=229,SNR=78						
TUQ				S	**Sg**	**13 04 09.2**	**-0.4**
	baz=229						
TUQ	**Turquoise Moun**	**0.63**	**48**		**Pg**	**13 04 00.7**	**-0.5**
TUQ					**Sg**	**13 04 09.4**	**-0.2**
GTM	**Goat Mountain**	**0.73**	**170**		**Pg**	**13 04 02.4**	**-0.5**
GTM					**Sg**	**13 04 12.6**	**+0.1**
GMRC	**Granite Mounta**	**0.73**	**108**	P	**Pg**	**13 04 02.5**	**-0.4**
	baz=289,SNR=232						
GMRC				S	**Sg**	**13 04 12.3**	**-0.3**
	baz=289						
GMRC	**Granite Mounta**	**0.73**	**108**		**Pg**	**13 04 02.5**	**-0.4**
GMRC					**Sg**	**13 04 12.7**	**0.0**
VTV	**Victorville**	**0.82**	**236**		**Sg**	**13 04 14.9**	**-0.4**
BBRC	**Big Bear Solar**	**0.83**	**205**	P	**Pg**	**13 04 04.2**	**-0.5**
	baz=24,SNR=49						
BBRC				S	**Sg**	**13 04 15.6**	**-0.1**
	baz=24						
BBRC	**Big Bear Solar**	**0.83**	**205**		**Pg**	**13 04 04.3**	**-0.5**
BTL	**Butler Peak**	**0.86**	**209**		**Pg**	**13 04 05.0**	**-0.4**
CCCA	**Chr Cany lake**	**0.87**	**306**		**Pg**	**13 04 05.1**	**-0.4**
HYS	**Haystack Butte**	**0.89**	**260**		**Pg**	**13 04 05.0**	**-0.8**
HYS					**Sg**	**13 04 16.9**	**-0.6**
ADO	**Adelanto Recei**	**0.89**	**239**		**Pg**	**13 04 05.7**	**-0.3**
ADO					**Sn**	**13 04 18.8**	**-0.5**
SHOC	**Shoshone, Teco**	**0.90**	**12**	P	**Pg**	**13 04 05.5**	**-0.7**
	baz=192,SNR=16						
SHOC					Sn	**Sn**	**13 04 19.5**	**0.0**
	baz=192						
SHOC	**Shoshone, Teco**	**0.90**	**12**		**Pg**	**13 04 05.5**	**-0.7**
MTPC	**Mountain Pass**	**0.91**	**59**		**Pg**	**13 04 05.8**	**-0.5**
BLAC	**Blackrock camp**	**0.95**	**174**		**Pg**	**13 04 06.5**	**-0.6**
BLAC					**Sn**	**13 04 20.4**	**-0.3**
TPC	**Twentynine Pal**	**0.98**	**157**		**Pg**	**13 04 07.3**	**-0.4**
QSM	**Queen of Sheba**	**0.99**	**343**		**Pb**	**13 04 07.1**	**-0.4**
DANC	**Danby, Needles**	**1.00**	**112**		**Pb**	**13 04 07.8**	**+0.2**
DANC					**Sn**	**13 04 22.1**	**+0.3**
SVD	**Seven Oaks Dam**	**1.03**	**209**		**Pb**	**13 04 08.1**	**0.0**
LRMC	**Laurel Mtn Rad**	**1.07**	**296**	P	**Pb**	**13 04 08.5**	**-0.4**
	baz=116,SNR=54						
LRMC				S	**Sb**	**13 04 22.6**	**-0.1**
	baz=116						
LRMC	**Laurel Mtn Rad**	**1.07**	**296**		**Pb**	**13 04 08.6**	**-0.3**
EW2	**E Wide Canyon**	**1.07**	**176**		**Pb**	**13 04 08.8**	**-0.1**
EW2					**Sn**	**13 04 23.9**	**+0.2**
BELC	**Belle Mtn. Jos**	**1.09**	**157**	P	**Pb**	**13 04 08.9**	**-0.4**
	baz=338,SNR=57						
BELC				S	**Sb**	**13 04 23.9**	**+0.4**
	baz=338						
BELC	**Belle Mtn. Jos**	**1.09**	**157**		**Pb**	**13 04 09.4**	**+0.2**
BELC					**Sn**	**13 04 25.0**	**+0.6**
CFT	**Crafton Hills**	**1.10**	**207**		**Pb**	**13 04 09.5**	**+0.2**
DTP	**Desert Tortois**	**1.13**	**283**		**Pb**	**13 04 09.3**	**-0.5**
SBB	**Saddle Back Bu**	**1.13**	**254**		**Pb**	**13 04 09.3**	**-0.6**
SBB					**Sb**	**13 04 24.2**	**-0.2**
SS2	**San Sevaine**	**1.15**	**226**		**Pb**	**13 04 10.2**	**+0.1**
CLC	**China Lake**	**1.20**	**312**		**Pn**	**13 04 10.0**	**-0.8**
CLC					**Sb**	**13 04 26.4**	**+0.1**
SRTC	**Snort**	**1.22**	**304**		**Pn**	**13 04 10.8**	**-0.3**
BFSC	**Mount Baldy Ra**	**1.23**	**231**	P	**Pn**	**13 04 11.1**	**-0.2**
	baz=50						
BFSC				S	**Sb**	**13 04 27.2**	**+0.1**
	baz=50						
BFSC	**Mount Baldy Ra**	**1.23**	**231**		**Pn**	**13 04 11.4**	**+0.2**
BFSC					**Sg**	**13 04 27.9**	**-0.5**
EDW2	**Edwards Air Fo**	**1.23**	**264**	P	**Pn**	**13 04 10.5**	**-0.7**
	baz=83						
EDW2				S	**Sb**	**13 04 27.0**	**-0.2**
	baz=83						
EDW2	**Edwards Air Fo**	**1.23**	**264**		**Pn**	**13 04 10.8**	**-0.5**
EDW2					**Sb**	**13 04 27.4**	**+0.2**
PEC	**Perris**	**1.25**	**206**		**Pn**	**13 04 11.6**	**+0.2**
CCAC	**Calif City Air**	**1.25**	**277**		**Pb**	**13 04 11.9**	**+0.1**
RVR	**Riverside**	**1.25**	**215**		**Pn**	**13 04 11.7**	**+0.3**
SSK	**Sunset Peak**	**1.27**	**231**		**Pn**	**13 04 12.1**	**+0.2**
TOW	**Tower One**	**1.30**	**308**		**Pb**	**13 04 12.9**	**+0.2**
TOW					**Sg**	**13 04 31.7**	**+1.1**
MPMC	**Manual Prospec**	**1.31**	**323**	P	**Pn**	**13 04 12.0**	**-0.6**
	baz=142,SNR=37						
MPMC					Sb	**Sn**	**13 04 30.1**	**+0.3**
	baz=142						
MPMC	**Manual Prospec**	**1.31**	**323**		**Pn**	**13 04 12.2**	**-0.4**
MPMC					**Sn**	**13 04 30.4**	**+0.5**
JNH	**Juniper Hills**	**1.32**	**245**		**Pn**	**13 04 12.8**	**+0.2**
JNH					**Sn**	**13 04 30.5**	**+0.6**
XTL	**Crystal Lake,**	**1.33**	**238**		**Pn**	**13 04 12.9**	**+0.2**
LRRC	**Littlerock Res**	**1.34**	**249**		**Pn**	**13 04 13.2**	**+0.5**
LRRC					**Sg**	**13 04 31.3**	**-0.8**
HMTC	**Hemet**	**1.37**	**198**		**Pn**	**13 04 13.2**	**+0.1**
HMTC					**Sg**	**13 04 32.1**	**-0.7**
PMD	**Palm Desert**	**1.37**	**176**		**Pn**	**13 04 12.7**	**-0.4**
POB	**Polly Butte**	**1.37**	**195**		**Pn**	**13 04 13.4**	**+0.2**
POB					**Sg**	**13 04 32.9**	**0.0**
SME	**Santa Rosa Min**	**1.38**	**211**		**Pn**	**13 04 13.3**	**0.0**
PFO	**Pinyon Flats O**	**1.40**	**178**	P	**Pn**	**13 04 13.3**	**-0.3**
	baz=358,SNR=48						
PFO				S	**Sn**	**13 04 31.8**	**-0.1**
	baz=358						
PFO	**Pinyon Flats O**	**1.40**	**178**		**Pn**	**13 04 13.3**	**-0.3**
PFO	**Pinyon Flats O**	**1.40**	**178**		**Pn**	**13 04 13.5**	**-0.2**
XPFO	**Pion Flat**	**1.40**	**178**		**Pn**	**13 04 13.4**	**-0.3**
TPFO	**Pinon Flats**	**1.41**	**178**	P	**Pn**	**13 04 13.4**	**-0.4**
	baz=358,SNR=55						
TPFO				S	**Sn**	**13 04 31.9**	**-0.1**
	baz=358						
PEM	**Pine Mountain**	**1.41**	**233**		**Pb**	**13 04 14.7**	**+0.2**
IRM	**Iron Mountain**	**1.41**	**127**	P	**Pn**	**13 04 12.6**	**-1.1**
	baz=308,SNR=48						
IRM					Sb	**Sb**	**13 04 33.3**	**+0.9**
	baz=308						
IRM	**Iron Mountain**	**1.41**	**127**		**Pn**	**13 04 12.6**	**-1.1**
IRM					**Sg**	**13 04 34.4**	**+0.2**
PSRC	**Puddingstone R**	**1.42**	**230**		**Pn**	**13 04 14.2**	**+0.3**
CTCC	**Cactus City**	**1.42**	**162**		**Pb**	**13 04 15.8**	**-0.3**
TPO	**Tropico Hills**	**1.42**	**265**		**Pb**	**13 04 15.1**	**+0.2**
DGR	**Domenigoni Val**	**1.42**	**197**		**Pn**	**13 04 14.2**	**+0.3**
CHFC	**Chilao Flat St**	**1.43**	**242**		**Pb**	**13 04 14.7**	**-0.2**
CJV	**Casa Juvan**	**1.43**	**251**		**Pb**	**13 04 15.4**	**+0.4**
CTW	**Cottonwood Mou**	**1.43**	**158**		**Pg**	**13 04 15.8**	**-0.4**
JRC2	**Joshua Ridge**	**1.44**	**313**		**Pn**	**13 04 14.5**	**+0.3**
JRC2					**Sg**	**13 04 34.6**	**-0.4**
AMDNV	**Amargosa**	**1.45**	**7**		**Pn**	**13 04 13.7**	**-0.4**
DNR	**Dunn Ranch,Anz**	**1.45**	**184**		**Pn**	**13 04 14.6**	**+0.3**
CRY	**Cary Ranch**	**1.46**	**188**		**Pn**	**13 04 14.8**	**+0.4**
SNDA	**J Saunders Pla**	**1.46**	**184**		**Pg**	**13 04 16.4**	**-0.4**
BACC	**Bachelor Mtn.**	**1.47**	**198**		**Pn**	**13 04 14.9**	**+0.4**
HAY	**Hayfield**	**1.47**	**152**		**Pg**	**13 04 16.8**	**-0.1**
FURC	**Furnace Creek,**	**1.48**	**349**	Sb	**Sb**	**13 04 35.1**	**+0.8**
	baz=169						
MWC	**Mount Wilson**	**1.50**	**239**		**Pn**	**13 04 15.5**	**+0.4**
FRD	**Ford Ranch, An**	**1.52**	**183**		**Pg**	**13 04 17.3**	**-0.5**
FRD	**Ford Ranch, An**	**1.52**	**183**		**Pn**	**13 04 15.2**	**-0.1**
MURC	**Murrieta**	**1.52**	**202**	P	**Pn**	**13 04 15.2**	**-0.1**
	baz=22						
MURC					Sb	**Sb**	**13 04 36.4**	**+0.8**
	baz=22						
MURC	**Murrieta**	**1.52**	**202**		**Pb**	**13 04 16.9**	**+0.4**
BZNA	**Buzz No.'s Pla**	**1.53**	**185**		**Pn**	**13 04 15.5**	**+0.1**
LEOC	**Leona Valley**	**1.53**	**256**		**Pb**	**13 04 16.9**	**+0.2**
WCHM	**Chimney Peak**	**1.55**	**304**		**Pn**	**13 04 15.4**	**-0.4**
MFS	**McCloud Flat S**	**1.56**	**315**		**Pn**	**13 04 15.7**	**-0.2**
ELS	**Elsinore Mount**	**1.56**	**209**		**Pb**	**13 04 17.7**	**+0.4**
NEE2	**Needles Airpor**	**1.57**	**99**	P	**Pn**	**13 04 14.7**	**-1.1**
	baz=280						
NEE2					Sb	**Sb**	**13 04 37.8**	**+0.8**
	baz=280						
NEE2	**Needles Airpor**	**1.57**	**99**		**Pb**	**13 04 17.5**	**+0.2**
BC3	**Big Chuckawall**	**1.61**	**147**	P	**Pn**	**13 04 15.7**	**-0.9**
	baz=328,SNR=23						
BC3					Sb	**Sb**	**13 04 39.5**	**+1.2**
	baz=328						
PASC	**Pasadena Art C**	**1.62**	**239**		**Pb**	**13 04 18.1**	**-0.1**
WHFM	**Hanning Flat**	**1.65**	**295**		**Pb**	**13 04 18.5**	**-0.3**
PLM	**Palomar**	**1.68**	**190**		**Pb**	**13 04 20.1**	**+0.8**
BTPC	**Burnt Peak**	**1.73**	**260**		**Pg**	**13 04 21.2**	**-0.8**
ISA	**Isabella, Lake**	**1.73**	**292**	P	**Pn**	**13 04 17.6**	**-0.6**
	baz=111,SNR=41						
ISA					Sb	**Sb**	**13 04 42.8**	**+1.0**
	baz=111						
ISA	**Isabella, Lake**	**1.73**	**292**		**Pn**	**13 04 17.7**	**-0.6**
FRK	**Frink**	**1.76**	**156**		**Pg**	**13 04 21.7**	**-0.7**
THC	**Tehachapi Micr**	**1.77**	**267**		**Pg**	**13 04 21.8**	**-0.9**
TEJ	**El Tejon**	**1.80**	**277**		**Pb**	**13 04 21.9**	**+0.6**
WASM	**Alta Sierra Ca**	**1.82**	**294**		**Pn**	**13 04 19.2**	**-0.4**
SLH	**Sleepy Hollow**	**1.83**	**173**		**Pg**	**13 04 23.0**	**-0.7**
SHPR	**Sheep Range**	**1.85**	**36**		**Pn**	**13 04 20.1**	**+0.3**
WLHM	**Little Horse**	**1.86**	**308**		**Pb**	**13 04 23.0**	**+0.6**
OSI	**Osito Audit: C**	**1.87**	**258**	Sb	**Sb**	**13 04 46.9**	**+1.3**
	baz=77						
OSI	**Osito Audit: C**	**1.87**	**258**		**Pb**	**13 04 21.4**	**-1.0**
PYR	**Pyramid**	**1.89**	**257**		**Pb**	**13 04 23.5**	**+0.6**
ARVC	**Arvin**	**1.91**	**274**	Sb	**Sb**	**13 04 47.8**	**+1.0**
	baz=93						
ARVC	**Arvin**	**1.91**	**274**		**Pb**	**13 04 23.7**	**+0.6**
CWC	**Cottonwood Cre**	**1.91**	**318**	Sb	**Sb**	**13 04 48.4**	**+1.4**
	baz=138						
TPNV	**Topopah Spring**	**1.94**	**6**	P	**Pn**	**13 04 21.2**	**0.0**
	baz=186,SNR=25						
TPNV					Sb	**Sb**	**13 04 49.0**	**+1.2**
	baz=186						
TPNV	**Topopah Spring**	**1.94**	**6**		**Pn**	**13 04 21.1**	**0.0**
FMP	**Fort Macarthur**	**1.97**	**229**	Sb	**Sb**	**13 04 49.6**	**+1.2**
	baz=48						
DPP	**Dos Picos Cty**	**2.04**	**190**		**Pb**	**13 04 25.6**	**+0.2**
BLYC	**Blythe**	**2.07**	**127**		**Pn**	**13 04 21.9**	**-0.8**
PDMCI	**Parker Dam,Lak**	**2.07**	**109**	Sb	**Sb**	**13 04 53.1**	**+1.6**
	baz=291						
MONP2	**Monument Peak**	**2.12**	**178**	P	**Pn**	**13 04 23.6**	**0.0**
	baz=358						
MONP2					Sb	**Sb**	**13 04 54.8**	**+1.8**
	baz=358						
SWSC	**Sam W. Stewart**	**2.15**	**164**	Pb	**Pb**	**13 04 27.3**	**+0.2**
	baz=344						
SWSC					Sb	**Sb**	**13 04 55.6**	**+2.0**
	baz=344						
109C	**Camp Elliot, M**	**2.18**	**193**	Pb	**Pb**	**13 04 27.6**	**-0.1**
	baz=13						
109C					Sb	**Sb**	**13 04 56.0**	**+1.5**
	baz=13						
SPG2	**Springville 2**	**2.19**	**303**		**Pn**	**13 04 25.1**	**+0.6**
CIS	**Catalina Islan**	**2.26**	**225**	Sb	**Sb**	**13 04 58.4**	**+1.7**
	baz=44						
BAR	**Barrett**	**2.33**	**183**		**Pn**	**13 04 26.5**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**2.38**	**172**	Sb	**Sg**	**13 05 03.4**	**-1.8**
	baz=352						
GLA	**Glamis**	**2.40**	**144**	P	**Pn**	**13 04 26.4**	**-0.9**
	baz=325						
GLA					Sb	**Sg**	**13 05 03.9**	**-2.0**
	baz=325						
PKM	**Mcpherson Peak**	**2.72**	**268**	Pb	**Pb**	**13 04 37.1**	**+0.1**
	baz=86						
MDPB	**Devils Postpil**	**3.34**	**322**		**Pn**	**13 04 41.4**	**+1.0**
PSUT	**Pine Spring**	**4.11**	**30**		**Pn**	**13 04 50.9**	**-0.1**
214A	**Organ Pipe Nat**	**4.34**	**134**	P	**Pn**	**13 04 52.7**	**-1.3**
	baz=316						
TUC	**Tucson**	**5.48**	**118**	P	**Pn**	**13 05 09.1**	**-0.6**
	baz=301						

*SJA **17** 13:15:16.9±0.6, 20.14S×69.06W, h111km±3km, ML4.1, MW4.0*
*NEIC **17** 13:15:17.0±2.6, 20.13S±0.03×68.95W±0.09, h102km±8km, Error ellipse: s-maj=12.5km s-min=2.8km az=106.0*
*VAO **17** 13:15:18.0±0.6, 20.16S×69.12W, h148km±6km, mb4.1*
*GUC **17** 13:15:18.5±0.7, 20.18S×68.98W, h104km±2km, ML4.2*
*IDC **17** 13:15:19.2±1.8, 20.21S×68.72W, h114km±13km, mb3.7/5, mb1 3.7/9, mb1mx3.5/29, mbtmp4.1/9, MS2.6/2, Ms1 2.6/2, ms1mx2.4/29, Error ellipse: s-maj=33.4km s-min=13.0km az=111.0*

ISC 17 13:15:16.7±0.6, 20.16S±0.03×69.09W±0.05, h109km±5km, n113, σ1891/136, mb4.0/5, 6C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.06**	**285**	↓*i*P	**Pn**	**13 15 33.2**	**+1.0**
PB08				*i* S	**Sn**	**13 15 44.6**	**+0.8**
PB08				IAML		13 15 45.3	
	comp=E,18μm,0.4s						
PB08	**IPOC Station P**	**0.06**	**285**		**Pn**	**13 15 32.3**	**+0.1**
PB08	**IPOC Station P**	**0.06**	**285**	*e*P	**Pn**	**13 15 33.2**	**+1.0**
PB08				*e*S	**Sn**	**13 15 45.3**	**+1.5**
PB08				IAML		13 15 46.5	
	comp=Z,8μm,0.3s						
GO01	**Chusmiza**	**0.50**	**349**	↓*i*P	**Pn**	**13 15 35.2**	**+1.2**
GO01				*i* S	**Sn**	**13 15 48.0**	**+1.1**
GO01				IAML		13 15 51.8	
	comp=E,15μm,0.1s						
GO01	**Chusmiza**	**0.50**	**349**		**Pn**	**13 15 35.0**	**+1.0**
PB11	**IPOC Station P**	**0.66**	**307**	↓*i*P	**Pn**	**13 15 36.2**	**+1.4**
PB11				*i* S	**Sn**	**13 15 50.3**	**+1.9**
PB11				IAML		13 15 51.5	
	comp=E,15μm,0.2s						
PB11	**IPOC Station P**	**0.66**	**307**		**Pn**	**13 15 35.5**	**+0.7**
PB11	**IPOC Station P**	**0.66**	**307**	*e*P	**Pn**	**13 15 36.0**	**+1.2**
PB11				*e*S	**Sn**	**13 15 50.5**	**+2.1**
PB11				IAML		13 15 54.4	
	comp=Z,4μm,0.3s						
PB01	**IPOC Station P**	**0.96**	**203**	*e*P	**Pn**	**13 15 38.8**	**+1.3**
PB01				*e*S	**Sn**	**13 15 54.3**	**+1.2**
PB01				IAML		13 15 58.4	
	comp=N,8μm,0.2s						
PB01	**IPOC Station P**	**0.96**	**203**		**Pn**	**13 15 38.3**	**+0.8**
PB01	**IPOC Station P**	**0.96**	**203**	*e*P	**Pn**	**13 15 38.7**	**+1.3**
PB01				*e*S	**Sn**	**13 15 55.1**	**+2.0**
PB01				IAML		13 15 56.4	
	comp=Z,4μm,0.2s						
TA02	**Huaiquique**	**0.98**	**263**	↑*i*P	**Pn**	**13 15 39.3**	**+1.7**
T

PB06	**IPOC Station P**	**2.58**	**190**	*eP*	**Pn**	**13 15 59.1**	**+1.9**
PB06				*eS*	**Sn**	**13 16 26.9**	**-1.4**
PB06				IAML		13 17 01.8	
	comp=Z,468nm,0.5s						
PB05	**IPOC Station P**	**2.88**	**201**	*eP*	**Pn**	**13 16 02.0**	**+0.8**
PB05				IAML		13 16 46.3	
	comp=E,642nm,0.5s						
PB05	**IPOC Station P**	**2.88**	**201**	*eP*	**Pn**	**13 16 02.5**	**+1.4**
PB05				*eS*	**Sn**	**13 16 42.9**	**+7.6**
PB05				IAML		13 16 46.5	
	comp=Z,375nm,0.6s						
PB15	**IPOC Station P**	**3.06**	**187**	*eP*	**Pn**	**13 16 05.2**	**+1.6**
PB15	**IPOC Station P**	**3.06**	**187**		**Pn**	**13 16 06.3**	**+2.7**
PB15	**IPOC Station P**	**3.06**	**187**	*eP*	**Pn**	**13 16 05.8**	**+2.2**
PB15				*eS*	**Sn**	**13 16 41.3**	**+1.5**
PB15				IAML		13 16 53.4	
	comp=Z,1μm,0.2s						
PB10	**IPOC Station P**	**3.61**	**202**	*eP*	**Pn**	**13 16 10.7**	**0.0**
PB10	**IPOC Station P**	**3.61**	**202**		**Pn**	**13 16 10.8**	**0.0**
PB10	**IPOC Station P**	**3.61**	**202**	*eP*	**Pn**	**13 16 11.7**	**+1.0**
PB10				*eS*	Sn	13 17 06.9	+14
PB10				IAML		13 17 10.2	
	comp=Z,218nm,0.5s						
YJA	**Yavi**	**3.90**	**122**	*eP*	**Pn**	**13 16 18.0**	**+3.0**
YJA				*eS*	**Sn**	**13 17 05.1**	**+5.0**
LPAZ	**La Paz**	**3.96**	**14**	P	**Pn**	**13 16 19.4**	**+3.4**
	comp=Z,8.9nm,0.3s,baz=193,slow=5.0,SNR=100						
LPAZ				LR	LR	13 17 37.2	
	comp=Z,37nm,21.7s,baz=154,slow=35						
LPAZ	**La Paz**	**3.96**	**14**	*eP*	**Pn**	**13 16 19.4**	**+3.4**
HJA	**Humahuaca**	**4.58**	**132**	*eP*	**Pn**	**13 16 26.9**	**+2.8**
HJA				*eS*	**Sn**	**13 17 20.9**	**+4.4**
PB14	**IPOC Station P**	**4.61**	**195**		**Pn**	**13 16 25.4**	**+0.9**
PB14	**IPOC Station P**	**4.61**	**195**	*eP*	**Pn**	**13 16 26.5**	**+2.0**
PB14				*eS*	Sn	13 17 33.2	+16
PB14				IAML		13 17 37.8	
	comp=Z,152nm,0.6s						
GO02	**Mina Guanaco**	**5.00**	**185**		**Pn**	**13 16 30.7**	**+0.9**
AZAP	**Zapla**	**5.50**	**138**	*eP*	**Pn**	**13 16 37.4**	**+0.9**
AC01	**Pan de Azucar**	**6.12**	**193**	Pn	**Pn**	**13 16 43.1**	**-1.6**
AC02	**Maricunga**	**6.65**	**180**	Pn	**Pn**	**13 16 52.8**	**+0.5**
SIV	**San Ignacio**	**8.68**	**63**	P	**Pn**	**13 17 17.2**	**-2.3**
	comp=Z,3.9nm,0.3s,baz=260,slow=11,SNR=72						
ETMB	**Extrema**	**10.65**	**16**	*eP*	**Pn**	**13 17 45.4**	**-0.8**
VILB	**Vilhena**	**11.13**	**51**	*eP*	**Pn**	**13 17 52.0**	**-0.7**
CPUP	**Villa Florida**	**12.43**	**122**	P	**Pn**	**13 18 09.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=308,slow=11,SNR=7.6						
CPUP	**Villa Florida**	**12.43**	**122**		**Pn**	**13 18 07.3**	**-2.6**
CPUP	**Villa Florida**	**12.43**	**122**	*eP*	**Pn**	**13 18 09.3**	**-0.6**
SAML	**Samuel**	**12.52**	**28**		**Pn**	**13 18 09.4**	**-1.7**
AQDB	**Aquidauana**	**12.57**	**94**	*eP*	**Pn**	**13 18 12.2**	**+0.4**
MT02	**Curacav**	**13.18**	**188**	Pn	**Pn**	**13 18 18.1**	**-1.5**
CLDB	**Colider**	**15.78**	**56**	*eP*	**Pn**	**13 18 52.8**	**-0.1**
H03N1	**Juan Fernandez**	**15.86**	**211**	T	T	13 34 24.1	
	baz=35,slow=74,SNR=17						
H03N2	**Juan Fernandez**	**15.87**	**212**	T	T	13 34 24.4	
	baz=35,SNR=7.5						
H03N3	**Juan Fernandez**	**15.88**	**211**	T	T	13 34 22.9	
	baz=35,slow=74,SNR=14						
PTGB	**Pitanga**	**16.38**	**109**	*eP*	**Pn**	**13 19 00.6**	**+0.2**
PCMB	**Pacaembu**	**16.73**	**98**	*eP*	**Pn**	**13 19 03.4**	**-1.2**
ARAG	**Araguaiana, MT**	**17.02**	**78**	*eP*	**Pn**	**13 19 08.5**	**+0.2**
ITAB	**Concordia**	**17.05**	**118**	*eP*	**Pn**	**13 19 07.7**	**-0.7**
FRTB	**Fartura**	**18.41**	**103**	*eP*	**P**	**13 19 22.4**	**-1.2**
NPGB	**Novo Progresso**	**18.64**	**48**	*eP*	**P**	**13 19 24.0**	**-2.0**
MACA	**Manacapuru-AM**	**18.78**	**27**	*eP*	**P**	**13 19 26.3**	**-1.2**
SNDB	**Serra Nova Dou**	**18.93**	**67**	*eP*	**P**	**13 19 28.0**	**-1.2**
BB19B	**Bebedouro**	**19.27**	**96**	*eP*	**P**	**13 19 31.6**	**-1.4**
IPMB	**Ipameri, GO**	**19.85**	**87**	*eP*	**P**	**13 19 38.8**	**-0.5**
ITTB	**Itaituba**	**20.39**	**41**	*eP*	**P**	**13 19 43.6**	**-1.4**
PLCA	**Paso Flores**	**20.55**	**183**	P	Pn	13 19 48.6	-1.2
	comp=Z,3.1nm,0.7s,baz=8.2,slow=10,SNR=7.5						
PLCA	**Paso Flores**	**20.55**	**183**	P	**P**	**13 19 46.6**	**0.0**
PLCA				IAmb	IAmb	13 20 42.3	
	comp=Z,20nm,1.8s						
PLCA	**Paso Flores**	**20.55**	**183**	*eP*	**P**	**13 19 44.5**	**-2.1**
BDFB	**Brasilia**	**20.55**	**81**	P	**P**	**13 19 46.4**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=243,slow=9.1,SNR=3.7						
BDFB	**Brasilia**	**20.55**	**81**	P	**P**	**13 19 44.7**	**-2.2**
BDFB				IAmb	IAmb	13 20 19.0	
	comp=Z,27nm,1.8s						
PTGA	**Pitinga**	**21.27**	**26**	P	**P**	**13 19 52.8**	**-1.7**
	comp=Z,2.7nm,0.4s,baz=201,slow=15,SNR=9.5						
PTGA	**Pitinga**	**21.27**	**26**	P	**P**	**13 19 52.8**	**-1.7**
PEXB	**Peixe**	**21.50**	**71**	*eP*	**P**	**13 19 55.5**	**-1.4**
SMTB	**Santa Maria do**	**23.62**	**65**	*eP*	**P**	**13 20 15.3**	**-2.8**
JANB	**Januaria**	**24.14**	**82**	*eP*	**P**	**13 20 20.9**	**-1.9**
MCPB	**Macapa, AP**	**25.79**	**42**	*eP*	**P**	**13 20 36.2**	**-1.6**
ICMP	**Isla Caja de M**	**37.89**	**4**	P	**P**	**13 22 24.6**	**+1.2**
ICMP				IAmb	IAmb	13 22 43.3	
	comp=Z,17nm,0.9s						
DBIC	**Dimbokro**	**68.52**	**74**	P	**P**	**13 26 07.7**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=191,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.07**	**71**	P	**P**	**13 26 58.2**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=255,slow=5.4,SNR=16						
YBH	**Yreka Blue Hor**	**79.05**	**322**	LR	LR	14 00 53.2	
	comp=Z,8.6nm,20.5s,baz=337,slow=34						
MAW	**Mawson**	**85.66**	**163**	P	**P**	**13 27 45.0**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=270,slow=9.1,SNR=5.7						
MAW	**Mawson**	**85.66**	**163**	IAmb	IAmb	13 30 05.7	
	comp=Z,2.9nm,1.9s						
H11S2	**WAKE ISLAND Hyd**	**27.53**	**278**	T	T	15 54 07.0	
	baz=102,slow=74,SNR=98						
H11S1	**WAKE ISLAND Hyd**	**27.54**	**278**	T	T	15 54 05.2	
	baz=102,slow=74,SNR=83						
H11S3	**WAKE ISLAND Hyd**	**27.55**	**278**	T	T	15 54 06.0	
	baz=102,slow=74,SNR=73						
H11N3	**WAKE ISLAND Hyd**	**27.58**	**280**	T	T	15 54 06.1	
	baz=101,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hyd**	**27.59**	**280**	T	T	15 54 07.8	
	baz=101,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hyd**	**27.59**	**280**	T	T	15 54 08.8	
	baz=101,slow=75,SNR=32						
ASAR	**Alice Springs**	**131.01**	**208**	PKP	**PKiKP**	**13 34 17.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=137,slow=1.7,SNR=6.0						
WRA	**Warramunga Arr**	**134.03**	**211**	PKP	**PKiKP**	**13 34 23.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=167,slow=1.7,SNR=8.2						

JMA 17 13:17:15.0±0.2, 24.79N×123.22E, h23km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.38**	**210**	P	Pb	13 17 22.7	-0.4
YOJ				*eS*	Sb	13 17 28.1	-0.5
JYNG	**Yonagunijimaku**	**0.42**	**217**	P	Pb	13 17 23.6	-0.2
JYNG				*eS*	Sb	13 17 29.6	-0.2
IRIF	**Iriomote-Funau**	**0.65**	**134**	P	Pb	13 17 27.6	-0.1
JKRS	**Kuro-shima**	**0.91**	**127**	P	Pb	13 17 31.8	-0.2
JIJ	**Ishigaki jima**	**0.94**	**117**	P	Pb	13 17 31.9	-0.7
JIJ				*eS*	Sb	13 17 43.6	-1.1
JISG	**Ishigakijimahi**	**1.01**	**101**	P	Pn	13 17 32.9	-0.9

TAP 17 13:17:26.1, 24.61N×121.76E, h65km±1km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.09**	**89**	P	Pn	13 17 35.6	0.0
	baz=89						
TWC				*eS*	Sn	13 17 42.9	+0.4
	baz=89						
TWE	**Neicheng**	**0.14**	**324**	*eP*	Pn	13 17 36.0	+0.2
	baz=328						
TWE				*eS*	Sn	13 17 43.8	+1.0
	baz=328						
ENTT	**Nioudou**	**0.18**	**280**	P	Pn	13 17 36.7	+0.7
	baz=280						
ENTT				*eS*	Sn	13 17 44.0	+0.8
	baz=280						
ENA	**Nanau**	**0.18**	**184**	*eP*	Pn	13 17 36.6	+0.6
	baz=182						
ENA				*eS*	Sn	13 17 44.3	+1.2
	baz=182						
NDT	**Datong Townshi**	**0.22**	**269**	*eP*	Pn	13 17 36.5	+0.3
	baz=268						
NDT				*eS*	Sn	13 17 44.2	+0.7
	baz=268						
YHNB	**Yeheng**	**0.35**	**280**	P	Pn	13 17 37.3	+0.2
	baz=280						
YHNB				S	Sn	13 17 45.6	+0.3
	baz=280						
NSK	**Sanguang**	**0.37**	**281**	P	Pn	13 17 37.5	+0.2
	baz=280						
NSK				S	Sn	13 17 45.5	+0.1
	baz=280						
TIPB	**Shuangxi**	**0.37**	**10**	P	Pn	13 17 37.5	+0.2
	baz=9.0						
TIPB				*eS*	Sn	13 17 45.9	+0.5
	baz=9.0						
NNSB	**Datong**	**0.38**	**242**	P	Pn	13 17 37.8	+0.4
	baz=242						
NNSB				*eS*	Sn	13 17 46.2	+0.4
	baz=242						
NNSH	**Datong**	**0.38**	**242**	P	Pn	13 17 37.8	+0.3
	baz=242						
NNSH				*eS*	Sn	13 17 46.0	+0.3
	baz=242						
NNS	**Nan Shan**	**0.39**	**244**	*eP*	Pn	13 17 38.1	+0.6
	baz=243						
NNS				*eS*	Sn	13 17 46.5	+0.7
	baz=243						
NACB	**Ninganchiao**	**0.46**	**199**	*eP*	Pn	13 17 38.1	+0.1
	baz=198						
NACB				*eS*	Sn	13 17 45.9	-0.8
	baz=198						
ETLH	**Xiulin Townshi**	**0.47**	**212**	*eP*	Pn	13 17 38.0	-0.2
	baz=212						
ETLH				*eS*	Sn	13 17 46.4	-0.7
	baz=212						
YM10	**YM10**	**0.57**	**342**	P	Pn	13 17 39.5	+0.3
	baz=341						
YM04	**YM04**	**0.58**	**340**	*eP*	Pn	13 17 39.6	+0.3
	baz=339						
FUSS	**Fushou**	**0.59**	**233**	*eS*	Sn	13 17 50.2	+0.7
	baz=232						
NWRT	**Kuosheng**	**0.60**	**352**	*eP*	Pn	13 17 40.6	+1.1
	baz=351						
NWRT				*eS*	Sn	13 17 50.5	+1.3
	baz=351						
WHF	**Hehuan Shan**	**0.64**	**224**	*eS*	Sn	13 17 50.9	+0.1
	baz=223						
TDCB	**Techi**	**0.65**	**237**	*eS*	Sn	13 17 51.1	+0.6
	baz=237						
LIOB	**Emei**	**0.68**	**273**	P	Pn	13 17 40.8	+0.5
	baz=273						
LIOB				*eS*	Sn	13 17 51.5	+0.7
	baz=273						
TWY	**Chenhua**	**0.68**	**348**	*eS*	Sn	13 17 51.5	+0.6
	baz=348						
NSTT	**Nanjuang**	**0.69**	**272**	*eP*	Pn	13 17 40.8	+0.4
	baz=271						
NSTT				*eS*	Sn	13 17 51.8	+0.8
	baz=271						
CHGB	**Renai**	**0.76**	**224**	P	Pn	13 17 41.9	+0.3
	baz=224						
CHGB				*eS*	Sn	13 17 53.3	+0.4
	baz=224						
WHP	**Taichung City**	**0.81**	**246**	*eP*	Pn	13 17 42.9	+0.9
	baz=246						
WHP				*eS*	Sn	13 17 55.1	+1.4
	baz=246						
ESL	**Shilin**	**0.84**	**201**	*eP*	Pn	13 17 43.3	+0.9
	baz=199						
SSLB	**Suanglung**	**1.10**	**222**	*eS*	Sn	13 18 01.3	+1.2
	baz=221						

IDC 17 13:19:13.4±2.3, 4.05S×129.45E, h192km±30km, mb3.4/2, mb1 3.4/6, mb1mx3.1/31, mbtmp3.8/6, Error ellipse: s-maj=42.0km s-min=12.9km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.64**	**30**	P	Pn	13 20 10.4	-0.1
	9.5nm,0.3s,baz=67,slow=5.9,SNR=86						
SIJI				S	Sn	13 20 55.2	0.0
	10nm,0.3s,baz=100,slow=23,SNR=18						
FITZ	**Fitzroy Crossi**	**14.45**	**195**	P	Pn	13 22 29.9	+0.6
	0.1nm,0.3s,baz=30,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**16.50**	**164**	P	P	13 22 52.9	-0.5
	0.5nm,0.3s,baz=340,slow=13,SNR=41						
WRA				S	S	13 25 50.5	-5.7
	0.1nm,0.3s,baz=334,slow=20,SNR=1.7						
ASAR	**Alice Springs**	**19.97**	**168**	P	P	13 23 32.9	+1.7
	0.6nm,0.3s,baz=350,slow=12,SNR=65						
ASAR				S	S	13 27 04.3	-0.9
	0.1nm,0.3s,baz=350,slow=22,SNR=4.1						
CMAR	**Chiang Mai Arr**	**37.47**	**308**	P	P	13 26 07.6	-1.1
	0.9nm,0.3s,baz=140,slow=7.1,SNR=1.6						
MKAR	**Makanchi Array**	**65.48**	**326**	P	P	13 29 36.5	+0.5
	0.5nm,0.4s,baz=137,slow=7.9,SNR=7.1						

IDC 17 13:26:28.7±3.0, 6.30N×92.31E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/42, mbtmp3.3/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/17, Error ellipse: s-maj=99.2km s-min=31.1km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.71**	**28**	Pn	Pn	13 29 45.3	+0.9
	baz=219,slow=13,SNR=4.6						
LEM	**Lembang**	**20.09**	**130**	LR	LR	13 39 43.7	
	comp=Z,74nm,19.5s,baz=222,slow=40						
H08S3	**Diego Garcia H**	**24.13**	**235**	T	T	13 58 57.7	
	baz=55,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**24.14**	**235**	T	T	13 58 55.0	
	baz=55,slow=75,SNR=10						
H08S1	**Diego Garcia H**	**24.15**	**235**	T	T	13 58 57.4	
	baz=55,slow=75,SNR=5.6						
KAPI	**Kappang**	**29.62**	**112**	LR	LR	13 46 09.3	
	comp=Z,39nm,18.4s,baz=284,slow=40						
MKAR	**Makanchi Array**	**41.25**	**350**	P	P	13 34 15.2	-0.3
	0.2nm,0.5s,baz=157,slow=7.7,SNR=2.9						
WRA	**Warramunga Arr**	**48.88**	**123**	P	P	13 35 15.4	-1.2
	0.2nm,0.7s,baz=304,slow=8.9,SNR=2.1						
ASAR	**Alice Springs**	**50.35**	**128**	P	P	13 35 28.9	+1.0
	0.2nm,0.8s,baz=297,slow=8.1,SNR=2.1						

IDC 17 13:34:42.4±9.6, 51.05S×162.45E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/27, mbtmp3.9/4, MS3.4/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=639.9km s-min=98.6km az=55.0, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.57**	**313**	P	P	13 40 05.0	+1.1
	2.3nm,0.7s,baz=130,slow=14,SNR=6.2						
STKA				LR	LR	13 48 23.6	
	comp=Z,65nm,18.4s,baz=204,slow=33						
VNDA	**Vanda**	**26.57**	**180**	LR	LR	13 48 35.0	
	comp=Z,40nm,18.0s,baz=7.0,slow=31						
ASAR	**Alice Springs**	**35.12**	**310**	P	P	13 41 37.2	-0.3
	2.1nm,0.7s,baz=148,slow=8.1,SNR=34						
ASAR				LR	LR	13 54 56.6	
	comp=Z,91nm,18.7s,baz=134,slow=35						
H01W1	**Cape Leeuwin H**	**38.10**	**276**	T	T	14 21 49.9	
	baz=131,slow=76,SNR=215						
H01W2	**Cape Leeuwin H**	**38.11**	**276**	T	T	14 21 50.6	
	baz=131,slow=76,SNR=211						
WRA	**Warramunga Arr**	**38.12**	**314**	P	P	13 42 02.1	-1.0
	1.3nm,1.0s,baz=155,slow=8.3,SNR=5.7						
H01W3	**Cape Leeuwin H**	**38.12**	**276**	T	T	14 21 51.3	
	baz=131,slow=76,SNR=128						
CMAR	**Chiang Mai Arr**	**88.67**	**302**	P	P	13 47 37.5	+0.1
	0.3nm,0.5s,baz=168,slow=4.6,SNR=5.0						

IDC 17 13:37:29.0±2.9, 12.39S×123.24E, h43km±37km, mb3.1/1, mb1 3.4/5, mb1mx3.2/29, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=55.8km s-min=9.5km az=80.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.21**	**11**	P	Pn	13 38 03.6	+0.4
	11nm,0.3s,baz=180,slow=7.1,SNR=6.4						
BATI				S	Sn	13 38 29.6	+0.3
	20nm,0.3s,baz=128,slow=18,SNR=10						
FITZ	**Fitzroy Crossi**	**6.13**	**158**	P	Pn	13 38 58.3	+1.2
	0.2nm,0.3s,baz=341,slow=12,SNR=8.1						
FITZ				S	Sn	13 40 06.4	+0.5
	2.6nm,0.3s,baz=220,slow=22,SNR=22						
WRA	**Warramunga Arr**	**13.03**	**127**	P	Pn	13 40 32.7	+1.1
	0.1nm,0.3s,baz=298,slow=13,SNR=7.0						
WRA				S	Sn	13 42 52.7	-2.7
	0.3nm,0.3s,baz=291,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**15.11**	**139**	P	Pn	13 41 00.9	+1.3
	0.1nm,0.3s,baz=315,slow=12,SNR=13						
ASAR				S	Sn	13 43 42.5	-3.4
	0.1nm,0.3s,baz=310,slow=21,SNR=3.6						
MKAR	**Makanchi Array**	**69.39**	**331**	P	P	13 48 32.4	0.0
	0.2nm,0.4s,baz=145,slow=8.8,SNR=2.3						

*VAO **17** 13:57:37.5±0.5, 20.61S×69.29W, h144km±6km, mb4.1*
*NEIC **17** 13:57:37.2±2.0, 20.56S±0.05×69.14W±0.04, h104km±7km, Error ellipse: s-maj=6.9km s-min=5.7km az=198.0*
*GUC **17** 13:57:38.4±0.6, 20.55S×69.05W, h93km±3km, ML4.1*
*IDC **17** 13:57:39.0±1.3, 20.55S×68.86W, h108km±14km, mb3.4/5, mb1 3.7/9, mb1mx3.5/25, mbtmp3.9/9, Error ellipse: s-maj=25.1km s-min=13.3km az=104.0*

ISC 17 13:57:36.9±0.6, 20.55S±0.03×69.11W±0.05, h100km±6km, n85,σ1°31/89, mb3.7/6, 6C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.41**	**354**	⇓*iP*	**Pn**	**13 57 53.2**	**+0.7**
PB08				*i* S	**Sn**	**13 58 04.6**	**+0.5**
PB08				IAML		13 58 05.6	
	comp=E,7μm,0.3s						
PB08	**IPOC Station P**	**0.41**	**354**		**Pn**	**13 57 52.6**	**+0.1**
PB01	**IPOC Station P**	**0.61**	**215**	⇓*iP*	**Pn**	**13 57 54.0**	**+0.4**
PB01				*i* S	**Sn**	**13 58 06.3**	**+0.2**
PB01	**IPOC Station P**	**0.61**	**215**		**Pn**	**13 57 53.4**	**-0.2**
GO01	**Chusmiza**	**0.88**	**355**	*eP*	**Pn**	**13 57 57.0**	**+0.4**
GO01				*i* S	**Sn**	**13 58 11.6**	**+0.3**
GO01				IAML		13 58 14.7	
	comp=N,6μm,0.4s						
GO01	**Chusmiza**	**0.88**	**355**		**Pn**	**13 57 57.6**	**+1.0**
PB11	**IPOC Station P**	**0.93**	**327**	⇓*iP*	**Pn**	**13 57 57.6**	**+0.8**
PB11				*i* S	**Sn**	**13 58 12.8**	**+1.1**
PB11				IAML		13 58 14.6	
	comp=E,12μm,0.4s						
PB11	**IPOC Station P**	**0.93**	**327**		**Pn**	**13 57 56.8**	**0.0**
TA02	**Huaiquique**	**0.99**	**286**	*eP*	**Pn**	**13 57 58.1**	**+0.9**
TA02				*i* S	**Sn**	**13 58 13.5**	**+0.9**
TA02				IAML		13 58 18.0	
	comp=N,10μm,0.1s						
TA01	**Diego Aracena**	**1.00**	**269**	⇑*iP*	**Pn**	**13 57 57.8**	**+0.5**
TA01				*i* S	**Sn**	**13 58 13.0**	**+0.4**
TA01	**Diego Aracena**	**1.00**	**269**		**Pn**	**13 57 57.9**	**+0.5**
PATCX	**Punta Patache**	**1.01**	**254**	⇑*iP*	**Pn**	**13 57 58.2**	**+0.7**
PATCX				*i* S	**Sn**	**13 58 13.9**	**+0.9**
PATCX				IAML		13 58 18.4	
	comp=E,7μm,0.3s						
PATCX	**Punta Patache**	**1.01**	**254**	Pn	**Pn**	**13 57 58.3**	**+0.7**
PB02	**IPOC Station P**	**1.06**	**223**	⇑*iP*	**Pn**	**13 57 58.9**	**+0.8**
PB02				*i* S	**Sn**	**13 58 14.9**	**+0.8**
PB09	**IPOC Station P**	**1.25**	**186**	⇓*iP*	**Pn**	**13 58 01.4**	**+1.1**
PB09				*i* S	**Sn**	**13 58 19.1**	**+1.2**
PB09				IAML		13 58 22.8	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**1.25**	**186**		**Pn**	**13 58 01.4**	**+1.1**
PSGC	**Pisagua**	**1.34**	**315**	⇑*iP*	**Pn**	**13 58 02.0**	**+0.7**
PSGC				*i* S	**Sn**	**13 58 20.6**	**+0.8**
PSGC				IAML		13 58 24.3	
	comp=E,3μm,0.8s						
PSGCX	**Pisagua**	**1.34**	**315**	Pn	**Pn**	**13 58 00.4**	**-0.9**
PB07	**IPOC Station P**	**1.38**	**211**	⇑*iP*	**Pn**	**13 58 02.4**	**+0.6**
PB07				*i* S	**Sn**	**13 58 21.0**	**+0.3**
PB07				IAML		13 58 23.1	
	comp=E,4μm,0.1s						
PB07	**IPOC Station P**	**1.38**	**211**		**Pn**	**13 58 02.1**	**+0.3**
MNMC	**Minye Minye**	**1.48**	**342**	⇓*iP*	**Pn**	**13 58 04.8**	**+1.5**
MNMC				*i* S	**Sn**	**13 58 26.0**	**+3.0**
MNMC				IAML		13 58 30.9	
	comp=E,4μm,0.4s						
MNMC	**Minye Minye**	**1.48**	**342**		**Pn**	**13 58 04.7**	**+1.5**
PB03	**IPOC Station P**	**1.61**	**202**	⇑*iP*	**Pn**	**13 58 05.1**	**+0.5**
PB03				IAML		13 58 33.1	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**2.02**	**208**	⇓*iP*	**Pn**	**13 58 10.7**	**+0.8**
PB04				IAML		13 58 46.9	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**2.02**	**208**		**Pn**	**13 58 10.8**	**+0.8**
LVC	**Limon Verde**	**2.06**	**175**	P	**Pn**	**13 58 12.3**	**+1.7**
	comp=E,38nm,0.3s,baz=37,slow=12,SNR=307						
LVC				S	**Sn**	**13 58 39.3**	**+3.0**
	comp=E,219nm,0.3s,baz=264,slow=22,SNR=29						
LVC	**Limon Verde**	**2.06**	**175**	*eP*	**Pn**	**13 58 12.2**	**+1.6**
LVC				*eS*	**Sn**	**13 58 38.0**	**+1.7**
LVC	**Limon Verde**	**2.06**	**175**	*eP*	**Pn**	**13 58 12.4**	**+1.7**
PB06	**IPOC Station P**	**2.19**	**191**	IAML		13 58 45.0	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**2.19**	**191**		**Pn**	**13 58 12.5**	**+0.4**
PB16	**IPOC Station P**	**2.23**	**350**	Pn	**Pn**	**13 58 15.3**	**+2.3**
AP01	**Chacalluta**	**2.46**	**332**	*eP*	**Pn**	**13 58 16.6**	**+1.2**
PB05	**IPOC Station P**	**2.51**	**204**	*eP*	**Pn**	**13 58 16.6**	**+0.4**
PB05				IAML		13 58 55.2	
	comp=E,2μm,0.5s						
PB15	**IPOC Station P**	**2.67**	**187**	*eP*	**Pn**	**13 58 19.2**	**+0.7**
PB15	**IPOC Station P**	**2.67**	**187**	Pn	**Pn**	**13 58 20.3**	**+1.9**
PB10	**IPOC Station P**	**3.24**	**204**	*eP*	**Pn**	**13 58 25.4**	**-0.4**
PB10				IAML		13 59 17.6	
	comp=E,422nm,0.6s						
PB10	**IPOC Station P**	**3.24**	**204**	Pn	**Pn**	**13 58 25.5**	**-0.4**
PB14	**IPOC Station P**	**4.23**	**196

comp=Z,0.2nm,0.8s,baz=130,slow=1.7,SNR=2.2
WRA Warramunga Arr 133.67 211 PKP **PKPdf 14 16 43.7 +0.9**
comp=Z,0.4nm,0.9s,baz=160,slow=2.0,SNR=2.5
MKAR Makanchi Array 144.97 35 PKP **PKPdf 14 17 03.0 +0.5**
comp=Z,0.8nm,0.4s,baz=328,slow=3.3,SNR=8.3
MKAR Makanchi Array 144.97 35 PKPdf 14 17 03.2 +0.8
SONM Songino Array 152.53 7 PKPbc **PKiKP 14 17 23.5 +1.5**
comp=Z,0.6nm,0.5s,baz=333,slow=1.5,SNR=3.5

IDC 17 14:17:17.1±2.5, 6°40'N×92°70'E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/59, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=96.6km s-min=23.5km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.44**	**26**	Pn	Pn	14 20 29.3	0.0
	0.1nm,0.3s,baz=222,slow=13,SNR=1.2						
H08S3	**Diego Garcia H**	**24.51**	**236**	T	T	14 49 36.7	
	baz=54,slow=75,SNR=30						
H08S2	**Diego Garcia H**	**24.51**	**236**	T	T	14 49 45.0	
	baz=54,slow=75,SNR=7.6						
H08S1	**Diego Garcia H**	**24.53**	**236**	T	T	14 49 42.4	
	baz=54,slow=75,SNR=8.7						
MKAR	**Makanchi Array**	**41.24**	**349**	P	P	14 25 03.2	-0.7
	1.1nm,0.7s,baz=176,slow=8.0,SNR=7.8						
ZALV	**Zalesovo Beam**	**47.84**	**354**	P	P	14 25 57.0	+0.4
	0.6nm,0.4s,baz=178,slow=5.2,SNR=3.9						
WRA	**Warramunga Arr**	**48.60**	**124**	P	P	14 26 02.6	-0.3
	0.3nm,0.7s,baz=301,slow=9.7,SNR=8.8						
ASAR	**Alice Springs**	**50.10**	**128**	P	P	14 26 14.6	+0.2
	0.4nm,0.9s,baz=299,slow=8.1,SNR=6.4						

DJA ***17*** *14:24:41.3±0.3, 9°S±3°×107°E±°, h10km, M4.2/17, mb4.4/6, MLv4.0/17*
IDC ***17*** *14:24:46.5±3.0, 8°53'S×109°77'E, h71km±34km, mb3.3/4, mb1 3.4/6, mb1mx3.2/47, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=102.9km s-min=18.3km az=46.0*
ISC 17 14:24:43.1±1.9, 9°2'S±0.1'×109°35'E±0.0', h52km±20km, n23, σ1°66/33, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOGI	**Yogyakarta**	**1.64**	**35**	P	**Pn**	**14 25 08.9**	**-0.7**
YOGI				S	**Sn**	**14 25 28.4**	**-1.2**
CMJI	**Cimerak**	**1.65**	**327**	P	**Pn**	**14 25 08.5**	**-1.1**
CMJI				S	**Sn**	**14 25 27.5**	**-2.2**
UGM	**Wanagama**	**1.71**	**43**	P	**Pn**	**14 25 10.4**	**-0.1**
UGM				S	**Sn**	**14 25 30.4**	**-0.9**
KPJI	**Karang Pucung**	**1.88**	**347**	P	**Pn**	**14 25 13.3**	**+0.5**
KPJI				S	**Sn**	**14 25 39.2**	**+3.9**
WOJI	**Wonogiri, Jawa**	**2.05**	**50**	P	**Pn**	**14 25 15.3**	**+0.2**
WOJI				S	**Sn**	**14 25 39.2**	**-0.3**
CISI	**Cisompet, Garu**	**2.21**	**317**	P	**Pn**	**14 25 16.5**	**-0.9**
SMRI	**Semarang**	**2.37**	**27**	P	**Pn**	**14 25 18.8**	**-0.8**
PWJI	**Pagerwojo**	**2.68**	**65**	P	**Pn**	**14 25 24.2**	**+0.4**
PWJI				S	**Sn**	**14 25 53.9**	**-1.2**
CNJI	**Cibinong**	**2.88**	**310**	P	**Pn**	**14 25 26.0**	**-0.5**
CNJI				S	**Sn**	**14 25 57.2**	**-2.7**
LEM	**Lembang**	**2.90**	**324**	P	**Pn**	**14 25 28.3**	**+1.4**
	15nm,0.3s,baz=311,slow=19,SNR=7.2						
LEM				S	**Sn**	**14 26 05.2**	**+4.6**
	11nm,0.3s,baz=345,slow=22,SNR=4.4						
LEM	**Lembang**	**2.90**	**324**	P	**Pn**	**14 25 27.1**	**+0.2**
CGJI	**Cibinong**	**4.43**	**305**	P	**Pn**	**14 25 47.1**	**-0.7**
CGJI				S	**Sn**	**14 26 37.0**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.80**	**82**	P	**Pn**	**14 25 53.3**	**+0.5**
KASI	**Kota Agung**	**6.03**	**307**	P	**Pn**	**14 26 10.6**	**+0.9**
	0.3nm38nm,1.7s						
KLSI		**6.39**	**314**	P	**Pn**	**14 26 15.7**	**+0.9**
	0.0nm4.3nm,2.9s						
TWSI	**Taliwang, Sumb**	**7.45**	**87**	P	**Pn**	**14 26 29.9**	**+0.6**
	0.1nm13nm,0.5s						
MNAI	**Manna**	**7.95**	**307**	P	**Pn**	**14 26 35.6**	**-0.5**
	1.2nm226nm,1.1s						
PLAI	**Plampang**	**8.33**	**88**	P	**Pn**	**14 26 41.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.13**	**121**	P	**P**	**14 28 51.5**	**+0.5**
	0.2nm,0.3s,baz=304,slow=8.5,SNR=12						
FITZ				S	Sn	14 31 59.8	-13
	0.0nm,0.3s,baz=117,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**26.41**	**117**	P	**P**	**14 30 16.0**	**+0.9**
	0.3nm,0.6s,baz=288,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**27.54**	**125**	P	**P**	**14 30 28.1**	**+2.8**
	0.3nm,0.8s,baz=299,slow=9.5,SNR=4.2						
ASAR				PcP	**PcP**	**14 33 43.4**	**+1.0**
	0.3nm,0.4s,baz=302,slow=2.1,SNR=6.7						
MKAR	**Makanchi Array**	**60.72**	**339**	P	**P**	**14 34 47.5**	**-1.7**
	0.7nm,0.6s,baz=147,slow=3.3,SNR=10						
ZALV	**Zalesovo Beam**	**66.22**	**344**	P	**P**	**14 35 23.0**	**-2.3**
	0.7nm,0.4s,baz=151,slow=6.8,SNR=2.8						

MOS ***17*** *14:50:56.4±1.0, 19°.25S×175°.76W, h186km, mb4.8/20, Error ellipse: s-maj=13.3km s-min=9.1km az=145.4*
BJI ***17*** *14:50:57.0±0.0, 19°.30S×175°.70W, h190km, mB5.1/22, mb4.9/31*
NEIC ***17*** *14:50:59.0±2.0, 19°.21S±0°.10×175°.79W±0°.10, h197km±6km, mb5.0/90, Error ellipse: s-maj=14.7km s-min=13.2km az=161.0*
IDC ***17*** *14:51:02.2±0.7, 19°.31S×175°.88W, h222km±6km, mb4.4/23, mb1 4.5/24, mb1mx4.4/35, mbtmp5.0/24, Error ellipse: s-maj=9.9km s-min=8.9km az=142.0*
GCMT ***17*** *14:51:05.0±0.3, 19°.23S±0°.03×175°.45W±0°.02, h235km±2km, MW5.1/82, Moment Tensor Solution. s43,c49; s82,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.02±.17; Mθθ-0.46±.23; Mφφ-1.56±.18; Mrθ-1.29±.17; Mrφ3.51±.14; Mθφ-2.74±.13; Best double couple: M=4.97900×10^16 NP1:ϕs283.00000°, δ51.00000°, λ25.00000°. NP2:ϕs177.00000°, δ70.00000°, λ138.00000°. Principal axes: T 5.1280, Plg43.0000°, Azm133.0000°; N -0.3000, Plg45.0000°, Azm336.0000°; P -4.8290, Plg12.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 14:51:00.9±0.5, 19°.35S±0°.05×175°.75W±0°.05, h217km±4km, h217km:pP-P, n484, σ1°53/498, mb4.9/98, 15C-28D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.51**	**88**	P	**Pn**	**14 52 21.0**	**-1.2**
	baz=5.4,SNR=58						
NIUE				S	**S**	**14 53 22.0**	**-4.3**
	baz=5.4						
NIUE	**Niue**	**5.51**	**88**		**Pn**	**14 52 20.9**	**-1.2**
MSVF	**Nonsavu**	**6.10**	**284**		Pn	14 52 35.3	+5.5
AFI	**Afiamalu**	**6.62**	**36**	P	Pn	14 52 31.1	-5.4
AFI	**Afiamalu**	**6.62**	**36**	Pn	Pn	14 52 31.1	-5.4
GLKZ	**Green Lake**	**10.06**	**191**	S	**S**	**14 55 08.2**	**-5.4**
SANVU	**Saraoutou**	**16.73**	**281**		**P**	**14 54 40.4**	**-1.4**
DZM	**Mont Dzumac**	**16.88**	**258**	*eP*	**Pn**	**14 54 47.6**	**+2.5**
	497nm,1.1s						
DZM	**Mont Dzumac**	**16.88**	**258**	P	**Pn**	**14 54 47.5**	**+2.4**
	8.4nm,0.3s,baz=83,slow=17,SNR=51						
DZM	**Mont Dzumac**	**16.88**	**258**	P	**Pn**	**14 54 47.3**	**+2.2**
OUZ	**Omahuta**	**18.40**	**209**	P	**P**	**14 55 00.5**	**+0.6**
OUZ	**Omahuta**	**18.40**	**209**	P	**Pn**	**14 55 02.6**	**-0.2**
OUZ				IAmb	IAmb	14 55 05.8	
	comp=Z,48nm,0.8s						
GRZ	**Great Barrier**	**18.53**	**203**	P	**P**	**14 55 00.1**	**-1.1**
WCZ	**Waipu Caves**	**18.69**	**206**	P	**Pn**	**14 55 04.8**	**-1.2**
MXZ	**Matakaoa Point**	**18.87**	**195**	P	**Pn**	**14 55 08.2**	**0.0**
MXZ	**Matakaoa Point**	**18.87**	**195**	P	**Pn**	**14 55 07.6**	**-0.6**
MXZ				IAmb	IAmb	14 55 09.5	
	comp=Z,95nm,1.0s						
KUZ	**Kuaotunu**	**18.88**	**202**	P	**P**	**14 55 06.2**	**+1.2**
WIAZ	**Waiheke Island**	**19.13**	**203**	P	**Pn**	**14 55 12.7**	**+1.5**
HAZ	**Te Kaha**	**19.19**	**196**	P	**Pn**	**14 55 11.8**	**-0.1**
PKGZ	**Pakihiroa**	**19.24**	**195**	P	**Pn**	**14 55 11.7**	**-0.9**
ETAZ	**East Tamaki Re**	**19.35**	**203**	P	**Pn**	**14 55 12.9**	**-0.9**
PUZ	**Puketiti**	**19.37**	**194**	P	**P**	**14 55 12.4**	**+2.0**
PUZ				S	**S**	**14 58 29.4**	**-8.2**
URZ	**Urewera**	**19.84**	**197**	P	**P**	**14 55 14.9**	**-0.4**
	comp=Z,20nm,0.3s,baz=266,slow=4.3,SNR=116						
URZ				S	**S**	**14 58 43.0**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=54,slow=19,SNR=2.4						
URZ	**Urewera**	**19.84**	**197**		**P**	**14 55 14.9**	**-0.4**
URZ				IAmb	IAmb	14 55 18.4	
	comp=Z,93nm,0.8s						

UTU	**Utuhina**	**20.03**	**199**	P	Pn	14 55 21.3 -0.7
HLRZ	**Highlands Stat**	**20.05**	**198**	P	**P**	**14 55 19.1 +1.5**
RRRZ	**Republican Roa**	**20.08**	**198**	P	Pn	14 55 20.7 -2.0
HRRZ	**Handcock Road**	**20.20**	**198**	P	Pn	14 55 22.5 -1.6
WPRZ	**Whakapapataran**	**20.35**	**199**	P	**P**	**14 55 23.6 +2.8**
KUTZ	**Kaahu Road**	**20.43**	**199**	P	Pn	14 55 25.2 -1.7
WHHZ	**Waihua**	**20.57**	**196**	P	**P**	**14 55 25.1 +1.9**
WATZ	**Wairara**	**20.66**	**199**	P	**P**	**14 55 26.9 +2.8**
NMHZ	**Naumai**	**20.71**	**197**	P	**P**	**14 55 25.7 +1.0**
HATZ	**Hinemaiaia**	**20.72**	**198**	P	**P**	**14 55 24.0 -0.7**
HIZ	**Hauiti**	**20.77**	**201**	P	**P**	**14 55 27.7 +2.5**
HIZ	**Hauiti**	**20.77**	**201**		**P**	**14 55 27.6 +2.5**
ARHZ	**Aropaoanui**	**20.81**	**196**	P	**P**	**14 55 26.2 +0.6**
ARHZ				S	**S**	**14 59 03.4 -1.5**
BKZ	**Black Stump Fm**	**20.86**	**197**		**P**	**14 55 24.9 -1.3**
BKZ				IAmb	IAmb	14 55 35.9
	comp=Z,29nm,0.4s					
KATZ	**Kakaramea**	**20.91**	**199**	P	**P**	**14 55 27.2 +0.3**
MCHZ	**McNeill Hill**	**21.06**	**196**	P	**P**	**14 55 29.0 +0.7**
WTVZ	**West Tongariro**	**21.07**	**199**	P	**P**	**14 55 29.1 +0.6**
TWVZ	**Taurewa**	**21.08**	**199**	P	**P**	**14 55 30.4 +1.8**
OTVZ	**Oturere**	**21.09**	**199**	P	**P**	**14 55 30.0 +1.2**
KWHZ	**Kaweka Forest**	**21.12**	**197**	P	**P**	**14 55 28.4 -0.5**
KWHZ				S	**S**	**14 59 00.3 -10**
CKHZ	**Cape Kidnapper**	**21.16**	**195**	P	**P**	**14 55 31.5 +2.2**
FWVZ	**Far West T-bar**	**21.21**	**199**	P	**P**	**14 55 29.5 -0.6**
WNVZ	**Wahianoa**	**21.27**	**199**	P	**P**	**14 55 29.7 -0.9**
BHHZ	**Black Hill Sta**	**21.28**	**198**	P	**P**	**14 55 29.2 -1.3**
BHHZ				S	**S**	**14 59 07.3 -5.7**
MOVZ	**Moawhango**	**21.29**	**198**	P	**P**	**14 55 31.1 +0.4**
KRHZ	**Kereru**	**21.34**	**197**	P	**P**	**14 55 31.2 +0.1**
KRHZ				S	**S**	**14 59 11.0 -2.9**
KAHZ	**Kahuranaki**	**21.34**	**196**	P	**P**	**14 55 32.8 +1.6**
KAHZ				S	**S**	**14 59 16.0 +2.1**
VRZ	**Vera Road**	**21.35**	**201**	P	**P**	**14 55 33.9 +2.7**
VRZ				S	**S**	**14 59 18.0 +4.1**
PXZ	**Pawanui**	**21.57**	**196**	P	**P**	**14 55 34.0 +0.7**
PXZ				S	**S**	**14 59 16.5 -1.0**
PNHZ	**Pukenui**	**21.63**	**197**	P	**P**	**14 55 34.5 +0.4**
PNHZ				S	**S**	**14 59 22.1 +3.5**
PKE	**Pukeiti**	**21.68**	**202**	P	**P**	**14 55 37.4 +2.8**
NEZ	**North Egmont**	**21.70**	**202**	P	**P**	**14 55 37.6 +2.7**
WPHZ	**Waipukurau**	**21.71**	**196**	P	**P**	**14 55 36.6 +1.8**
WPHZ				S	**S**	**14 59 20.8 +1.0**
PREZ	**Palmer Road**	**21.75**	**202**	P	**P**	**14 55 37.7 +2.5**
TSZ	**Takapari Road**	**21.84**	**197**	P	**P**	**14 55 35.4 -0.6**
TSZ				S	**S**	**14 59 21.4 -0.5**
WAZ	**Wanganui**	**21.85**	**199**	P	**P**	**14 55 37.0 +0.9**
WAZ				S	**S**	**14 59 30.0 +8.0**
PRHZ	**Porangahau**	**21.85**	**196**	P	**P**	**14 55 34.4 -1.8**
NMEZ	**Namu Road**	**21.91**	**202**	P	**P**	**14 55 40.5 +3.8**
DVHZ	**Dannevirke**	**22.00**	**197**	P	**P**	**14 55 38.5 +0.9**
DVHZ				S	**S**	**14 59 26.2 +1.7**
ANWZ	**Angora Road**	**22.07**	**196**	P	**P**	**14 55 40.0 +1.8**
ANWZ				S	**S**	**14 59 29.4 +3.9**
PRWZ	**Pori Road**	**22.30**	**197**	P	**P**	**14 55 39.6 -0.7**
PRWZ				S	**S**	**14 59 37.8 +8.7**
BFZ	**Birch Farm**	**22.34**	**196**	P	**P**	**14 55 41.6 +0.9**
BFZ				S	**S**	**14 59 34.5 +4.7**
BFZ	**Birch Farm**	**22.34**	**196**	P	**P**	**14 55 41.4 +0.6**
BFZ				IAmb	IAmb	14 55 45.3
	comp=Z,79nm,1.1s					
MRZ	**Mangatainoka R**	**22.50**	**197**	P	**P**	**14 55 41.7 -0.5**
MRZ				S	**S**	**14 59 32.8 +0.3**
HOWZ	**Holdsworth Sta**	**22.74**	**197**	P	**P**	**14 55 44.8 +0.4**
OGWZ	**Otaki Gorge**	**22.76**	**198**	P	**P**	**14 55 43.9 -0.7**
TMWZ	**Te Maipa**	**22.83**	**196**	P	**P**	**14 55 46.0 +0.8**
KIW	**Kapiti Island**	**22.88**	**198**	P	**P**	**14 55 46.0 +0.4**
CAW	**Cannon Point**	**23.06**	**198**	P	**P**	**14 55 47.6 +0.4**
TRWZ	**Traveller**	**23.16**	**197**	P	**P**	**14 55 49.4 +1.3**
MSWZ	**Moikau Station**	**23.30**	**197**	P	**P**	**14 55 49.7 +0.4**
MSWZ	**Moikau Station**	**23.30**	**197**	P	**P**	**14 55 49.2 -0.2**
SNZO	**South Karori**	**23.36**	**198**	P	**P**	**14 55 49.1 -0.7**
TCW	**Tory Channel**	**23.39**	**199**	P	**P**	**14 55 50.4 +0.2**
BHW	**Baring Head**	**23.40**	**198**	P	**P**	**14 55 51.2 +1.0**
BHW	**Baring Head**	**23.40**	**198**	P	**P**	**14 55 50.5 +0.3**
PLWZ	**Palliser**	**23.44**	**197**	P	**P**	**14 55 51.2 +0.5**
PLWZ	**Palliser**	**23.44**	**197**	P	**P**	**14 55 51.1 +0.4**
QRZ	**Quartz Range**	**23.64**	**203**	P	**P**	**14 55 54.1 +1.7**
QRZ	**Quartz Range**	**23.64**	**203**	P	**P**	**14 55 54.1 +1.7**
NNZ	**Nelson**	**23.69**	**201**	P	**P**	**14 55 53.1 +0.2**
NNZ	**Nelson**	**23.69**	**201**	P	**P**	**14 55 53.1 +0.2**
TUWZ	**Tuamarina**	**23.70**	**200**	P	**P**	**14 55 52.8 -0.2**
TUWZ	**Tuamarina**	**23.70**	**200**	P	**P**	**14 55 52.5 -0.4**
BSWZ	**Blackbirch Sta**	**23.98**	**199**	P	**P**	**14 55 57.4 +1.8**
THZ	**Tophouse**	**24.34**	**201**	P	**P**	**14 55 59.1 +0.2**
THZ				IAmb	IAmb	14 56 05.0
	comp=Z,48nm,0.9s					
KHZ	**Kahutara**	**24.72**	**199**	P	**P**	**14 56 03.2 +1.0**
KHZ				IAmb	IAmb	14 56 09.3
	comp=Z,63nm,0.9s					
PAE	**Paea**	**24.86**	**90**	*eP*	**P**	**14 56 03.9 +0.1**
	comp=Z,13nm,0.9s					
PPT2	**Papeete2**	**24.88**	**90**	*eP*	**P**	**14 56 04.4 +0.3**
	comp=Z,72nm,0.8s					
PPT	**Papeete**	**24.88**	**90**	P	**P**	**14 56 04.4 +0.4**
	comp=Z,91nm,0.8s,baz=178,slow=2.5,SNR=8.9					
PPTF	**Pamatai, Papee**	**24.89**	**90**	P	**P**	**14 56 02.1 -2.0**
TIAR	**Tiarei**	**25.10**	**90**	*eP*	**P**	**14 56 06.3 +0.3**
	comp=Z,20nm,0.9s					
LTZ	**Lake Taylor**	**25.46**	**201**	P	**P**	**14 56 09.6 +0.6**
HNR	**Honiara**	**25.49**	**289**	P	**P**	**14 56 08.1 -1.4**
	comp=Z,94nm,0.8s,baz=201,slow=8.4,SNR=7.2					
HNR	**Honiara**	**25.49**	**289**	P	**P**	**14 56 08.4 -1.1**
HNR				pmax	pmax	
	comp=Z,91nm,0.8s					
HNR	**Honiara**	**25.49**	**289**	P	**P**	**14 56 08.4 -1.1**
OXZ	**Oxford**	**26.02**	**201**	P	**P**	**14 56 14.2 +0.2**
RPZ	**Rata Peaks**	**26.70**	**202**	P	**P**	**14 56 19.9 -0.2**
	comp=Z,54nm,0.5s,baz=334,slow=2.4,SNR=21					
RPZ	**Rata Peaks**	**26.70**	**202**	P	**P**	**14 56 19.8 -0.2**
MLZ	**Mavora Lakes**	**29.19**	**204**	P	**P**	**14 56 41.0 -1.1**
MLZ				IAmb	IAmb	14 56 46.9
	comp=Z,20nm,0.8s					
WHZ	**Wether Hill Ro**	**29.70**	**203**	P	**P**	**14 56 47.2 +0.7**
EIDS	**Eidsvold**	**31.20**	**253**	P	**P**	**14 57 00.6 +0.6**
	baz=31,SNR=15					
EIDS	**Eidsvold**	**31.20**	**253**	P	**P**	**14 57 00.6 +0.6**
EIDS				IAmb	IAmb	14 57 02.3
	comp=Z,27nm,0.6s					
ARMA	**Armidale**	**31.47**	**243**	P	**P**	**14 57 03.9 +1.4**
	baz=32,SNR=19					
ARMA	**Armidale**	**31.47**	**243**	P	**P**	**14 57 03.3 +0.8**
ARMA				IAmb	IAmb	14 57 05.9
	comp=Z,16nm,0.7s					
MGCD	**Mangrove Creek**	**32.61**	**238**	P	**P**	**14 57 13.7 +1.5**
	baz=33,SNR=8.2					
RMQ	**Roma**	**33.38**	**251**	P	**P**	**14 57 20.3 +1.3**
	baz=34,SNR=33					
CNB	**Canberra Magne**	**34.62**	**235**	P	**P**	**14 57 30.6 +0.9**
	baz=35,SNR=21					
KRVT	**Keravat (AS076**	**34.81**	**291**	P	**P**	**14 57 31.7 +0.3**
	comp=Z,37nm,0.7s,baz=28,slow=3.5,SNR=4.3					
CAN	**Canberra**	**34.91**	**236**	P	**P**	**14 57 32.5 +0.4**
CAN				pmax	pmax	
	comp=Z,30nm,1.0s					
CAN	**Canberra**	**34.91**	**236**	P	**P**	**14 57 32.5 +0.4**
CAN				IAmb	IAmb	14 57 34.4
	comp=Z,30nm,1.0s					
YNG	**Young**	**35.09**	**238**	P	**P**	**14 57 34.7 +1.1**
	baz=35,SNR=4.8					
CTA	**Charters Tower**	**35.73**	**262**	P	**P**	**14 57 40.0 +0.9**
	comp=Z,192nm,0.7s,baz=97,slow=13					
CTAO	**Charters Tower**	**35.73**	**262**	P	**P**	**14 57 40.1 +0.9**
CTAO				pmax	pmax	
	comp=Z,238nm,0.9s					
CTAO	**Charters Tower**	**35.73**	**262**	P	**P**	**14 57 40.1 +0.9**
TAOE	**Nuku Hiva Isla**	**35.99**	**78**	P	**P**	**14 57 41.0 -0.6**
TAOE				IAmb	IAmb	14 57 54.6
	comp=Z,67nm,1.0s					
CMSA	**Cobar Meteorol**	**36.69**	**243**	P	**P**	**14 57 47.1 -0.1**
	baz=37,SNR=92					
PMG	**Port Moresby**	**37.19**	**280**	*dP*	**P**	**14 57 51.4 -0.2**
PMG				pmax	pmax	
	comp=Z,97nm,0.9s					
PMG	**Port Moresby**	**37.19**	**280**	P	**P**	**14 57 50.6 -1.0**
QLP	**Quilpie**	**37.43**	**251**	P	**P**	**14 57 53.6 +0.2**
	baz=38,SNR=39					
MTSU	**Mount Surprise**	**37.78**	**265**	P	**P**	**14 57 56.9 +0.3**
	baz=38,SNR=87					
TOO	**Toolangi**	**38.28**	**233**	P	**P**	**14 58 01.0 +0.5**
	baz=38,SNR=11					
TOO	**Toolangi**	**38.28**	**233**	P	**P**	**14 58 00.3 -0.2**
TOO				pmax	pmax	
	comp=Z,18nm,0.7s					
TOO	**Toolangi**	**38.28**	**233**	P	**P**	**14 58 00.3 -0.2**
TOO				IAmb	IAmb	14 58 04.1
	comp=Z,18nm,0.7s					
TAU	**Tasmania Unive**	**38.93**	**225**	P	**P**	**14 58 05.8 +0.1**
TAU				pmax	pmax	
	comp=Z,10.0nm,0.8s					
TAU	**Tasmania Unive**	**38.93**	**225**	P	**P**	**14 58 05.8 +0.1**
COEN	**Coen**	**39.65**	**271**	P	**P**	**14 58 12.6 +0.6**
	baz=40,SNR=28					
COEN	**Coen**	**39.65**	**271**	P	**P**	**14 58 10.7 -1.4**
COEN				IAmb	IAmb	14 58 13.8
	comp=Z,42nm,0.8s					
MANU	**Manus Island**	**39.97**	**291**	P	**P**	**14 58 15.9 +1.2**
MANU				IAmb	IAmb	14 58 17.0
	comp=Z,70nm,0.8s					
STKA	**Stephens Creek**	**40.20**	**243**	P	**P**	**14 58 17.3 +0.9**
	comp=Z,37nm,0.8s,baz=86,slow=9.0,SNR=75					
STKA	**Stephens Creek**	**40.20**	**243**	P	**P**	**14 58 16.9 +0.5**
	baz=40,SNR=28					
STKA	**Stephens Creek**	**40.20**	**243**	P	**P**	**14 58 16.9 +0.5**
STKA				pmax	pmax	
	comp=Z,8.0nm,0.9s					
STKA	**Stephens Creek**	**40.20**	**243**	P	**P**	**14 58 16.9 +0.5**
ARPS	**Mount Arapiles**	**40.88**	**236**	P	**P**	**14 58 22.6 +0.7**
	baz=41,SNR=5.1					
QIS	**Mount Isa**	**41.89**	**261**	P	**P**	**14 58 30.7 +0.4**
	baz=42,SNR=9.6					
HTT	**Hallett**	**42.63**	**241**	P	**P**	**14 58 36.4 +0.2**
	baz=43,SNR=18					
KIP	**Kipapa**	**44.08**	**24**	*eP*	**P**	**14 58 45.4 -2.3**
KIP				pmax	pmax	
	comp=Z,35nm,1.5s					
BBOO	**Buckleboo**	**44.95**	**243**	P	**P**	**14 58 54.3 -0.3**
	baz=45,SNR=24					
BBOO	**Buckleboo**	**44.95**	**243**	P	**P**	**14 58 54.5 -0.2**
BBOO				IAmb	IAmb	14 58 55.9
	comp=Z,62nm,1.1s					
JAY	**Jayapura**	**45.73**	**286**	P	P	14 58 55.8 -5.1
GENI	**Genyem**	**46.19**	**286**	P	**P**	**14 59 02.9 -1.5**
	comp=Z,2μmcomp=Z,245nm,0.8s					
WR0	**Warramunga Arr**	**46.68**	**261**	P	**P**	**14 59 07.8 -0.4**
WR0				IAmb	IAmb	14 59 08.9
	comp=Z,27nm,0.7s					
WB0	**Warramunga Arr**	**46.84**	**261**	P	**P**	**14 59 09.4 -0.1**
WB0				IAmb	IAmb	14 59 10.7
	comp=Z,91nm,0.6s					
AS31	**Alice Springs**	**46.85**	**255**	P	**P**	**14 59 09.9 +0.3**
AS31				IAmb	IAmb	14 59 12.0
	comp=Z,95nm,0.6s					
ASAR	**Alice Springs**	**46.85**	**255**	P	**P**	**14 59 09.4 -0.2**
	comp=Z,316nm,0.6s,baz=93,slow=8.5,SNR=754					
ASAR				S	**S**	**15 05 38.6 -5.0**
	comp=Z,4.9nm,0.8s,baz=95,slow=15,SNR=19					
ASAR	**Alice Springs**	**46.85**	**255**	P	**P**	**14 59 09.6 0.0**
ASAR	**Alice Springs**	**46.85**	**255**	P	**P**	**14 59 09.6 0.0**
WB2	**Warramunga Arr**	**46.86**	**260**	P	**P**	**14 59 09.4 -0.3**
WB2				IAmb	IAmb	14 59 10.8
	comp=Z,69nm,0.6s					
WRAB	**Tennant Creek**	**46.86**	**261**	*deP*	**P**	**14 59 09.2 -0.5**
WRAB				pmax	pmax	
	comp=Z,46nm,0.6s					
WRAB	**Tennant Creek**	**46.86**	**261**	P	**P**	**14 59 06.9 -2.8**
WRAB				IAmb	IAmb	14 59 10.8
	comp=Z,56nm,0.7s					
WRA	**Warramunga Arr**	**46.87**	**260**	P	**P**	**14 59 09.4 -0.4**
	comp=Z,47nm,0.6s,baz=97,slow=8.7,SNR=184					
WRA				pP	**pP**	**14 59 56.4 +0.4**
	comp=Z,3.7nm,0.5s,baz=93,slow=6.8,SNR=1.5					
WRA				ScP	**ScP**	**15 04 11.5 -0.4**
	comp=Z,1.0nm,0.9s,baz=91,slow=5.0,SNR=3.3					
WRA				S	**S**	**15 05 37.6 -6.3**
	comp=Z,3.9nm,0.9s,baz=94,slow=14,SNR=11					
KDU	**Kakadu**	**50.06**	**269**	P	**P**	**14 59 33.9 -0.2**
	baz=50,SNR=27					
MTN	**Manton Dam**	**51.29**	**269**	P	**P**	**14 59 42.7 -0.5**
	baz=51,SNR=34					
MTN	**Manton Dam**	**51.29**	**269**	IAmb	IAmb	14 59 44.1
	comp=Z,72nm,0.8s					
FORT	**Forrest**	**51.70**	**246**	P	**P**	**14 59 45.7 -0.4**
	baz=52,SNR=86					
WRKA	**Warakurna**	**51.82**	**253**	P	**P**	**14 59 46.7 -0.4**
	baz=52,SNR=92					
KNRA	**Kununurra**	**52.86**	**265**	P	**P**	**14 59 54.7 -0.1**
	baz=53,SNR=81					
FAKI	**Fak Fak**	**53.33**	**281**	P	**P**

MPSI	Mapaga	66.00	279	P		P		15 01 24.6	-0.1	
	comp=Z,1µmcomp=Z,27nm,1.0s									
OCLP	Ormoc	66.06	292	eP		P		15 01 23.6	-1.4	
JHJ2	Mitsune	67.25	320	P		P		15 01 31.7	-0.4	
CNOP	Candoni, Negro	67.26	290	eP		P		15 01 29.5	-3.0	
JAGI	Jajag, Banyuwa	68.52	268	P		P		15 01 40.6	+0.1	
	comp=Z,49nm,0.9s									
JAGI	Jajag, Banyuwa	68.52	268	P		P		15 01 38.8	-1.7	
JAGI				IAmb		IAmb		15 01 40.1		
	comp=Z,42nm,0.9s									
JYT	Yasato	69.22	323	P		P		15 01 44.6	+0.4	
MJAR	Matsushiro Arr	70.58	322	P		P		15 01 52.7	+0.1	
	comp=Z,18nm,0.7s,baz=164,slow=6.2,SNR=41									
MJAR	Matsushiro Arr	70.58	322	P		P		15 01 52.4	-0.2	
MJAR				pmax		pmax				
	comp=Z,7.0nm,0.7s									
MJAR	Matsushiro Arr	70.58	322	P		P		15 01 52.4	-0.2	
MAJO	Matsushiro	70.58	322	ceP		P		15 01 52.8	+0.2	
MAJO				pmax		pmax				
	comp=Z,22nm,0.7s									
MAJO	Matsushiro	70.58	322	P		P		15 01 51.9	-0.7	
MAJO				IAmb		IAmb		15 01 53.4		
	comp=Z,22nm,0.8s									
MAT	Matsushiro	70.58	322	P		P		15 01 52.5	-0.1	
MAT				eS		S		15 10 42.2	-6.2	
QSPA	South Pole Qui	70.71	180	P		P		15 01 55.1	+2.0	
	comp=Z,31nm,0.8s,baz=41,slow=2.5									
QSPA	South Pole Qui	70.71	180	P		P		15 01 55.0	+2.0	
SPMM	Sapulut	70.80	282	P		P		15 01 55.0	+0.6	
PWJI	Pagerwojo	70.88	268	P		P		15 01 59.2	+4.4	
LUBP	Lubang	71.07	293	eP		P		15 01 50.8	-5.2	
BATP	Bataraza	71.17	287	eP		P		15 01 55.4	-1.2	
KKM	Kota Kinabalu	71.53	283	P		P		15 01 58.9	0.0	
KKM				IAmb		IAmb		15 01 59.7		
	comp=Z,11nm,0.7s									
JSD	Sado	71.59	323	P		P		15 01 58.8	+0.3	
JSD				IAmb		IAmb		15 02 07.1		
	comp=Z,43nm,0.9s									
WOJI	Wonogiri, Jawa	71.76	268	P		P		15 02 01.8	+1.7	
	comp=Z,36nm,1.0s									
SMPP	San Manuel, Pa	71.77	295	eP		P		15 01 58.8	-1.4	
KPJI	Karang Pucung	73.80	268	P		P		15 02 27.1	+15	
SBUM	Sibu	73.92	278	P		P		15 02 14.0	+1.2	
YULB	Yu-li	74.67	302	P		P		15 02 15.2	-1.7	
YULB				IAmb		IAmb		15 02 17.4		
	comp=Z,22nm,1.0s									
SSLB	Suanglung	75.14	302	P		P		15 02 18.0	-1.6	
SSLB				IAmb		IAmb		15 02 24.4		
	comp=Z,13nm,0.7s									
TPUB	Ta-pu	75.16	302	P		P		15 02 18.5	-1.3	
TPUB				IAmb		IAmb		15 02 19.4		
	comp=Z,44nm,0.7s									
LEM	Lembang	75.19	268	P		P		15 02 20.8	+0.4	
	comp=Z,69nm,0.8s,baz=100,slow=6.8,SNR=14									
SCZ2	Santa Cruz Isl	75.28	45	P		P		15 02 21.1	+0.9	
	baz=234									
PKM	Mcpherson Peak	75.69	45	P		P		15 02 23.8	+1.1	
	baz=234									
PEA0B	Petropavlovsk-	75.74	344	⇑eP		P		15 02 19.6	-2.7	
PETK	Petropavlovsk-	75.74	344	P		P		15 02 22.2	-0.2	
	comp=Z,4.2nm,0.8s,baz=118,slow=7.1,SNR=7.8									
CIS	Catalina Islan	75.77	47	P		P		15 02 23.9	+0.9	
	baz=235									
SMMC	Simmler	75.82	44	P		P		15 02 24.6	+1.3	
	baz=234									
ESJX	Sierra Juarez	76.72	49	P		P		15 02 28.8	+0.3	
MURC	Murrieta	76.72	47	P		P		15 02 29.7	+1.4	
	baz=236									
VES	Vestal, Richgr	76.73	44	P		P		15 02 29.3	+1.0	
	baz=234									
BFSC	Mount Baldy Ra	76.76	46	P		P		15 02 29.4	+0.7	
	baz=236									
MONP2	Monument Peak	76.86	48	P		P		15 02 30.3	+0.9	
	baz=237									
EDW2	Edwards Air Fo	76.90	46	P		P		15 02 30.1	+0.7	
	baz=235,SNR=12									
IKP	In-Ko-Pah, Jac	76.95	48	P		P		15 02 30.8	+1.0	
	baz=237									
ISA	Isabella, Lake	77.03	45	P		P		15 02 31.2	+1.1	
	baz=235,SNR=8.5									
ISA	Isabella, Lake	77.03	45	P		P		15 02 30.0	-0.1	
ISA				pmax		pmax				
	comp=Z,12nm,1.1s									
ISA	Isabella, Lake	77.03	45	P		P		15 02 30.0	-0.1	
O02D	Mt. Diablo Mer	77.05	39	P		P		15 02 31.5	+1.4	
	baz=231									
PFO	Pinyon Flats O	77.24	47	P		P		15 02 32.1	+0.8	
	baz=236									
PFO	Pinyon Flats O	77.24	47	⇓eP		P		15 02 31.7	+0.3	
PFO				pmax		pmax				
	comp=Z,5.0nm,0.8s									
LRMC	Laurel Mtn Rad	77.45	45	P		P		15 02 33.3	+0.7	
	baz=235,SNR=7.4									
KSRS	Korea Array	77.46	317	P		P		15 02 33.5	+1.2	
	comp=Z,3.4nm,1.0s,baz=143,slow=5.8,SNR=7.8									
N02D	Trinity Center	77.60	38	P		P		15 02 34.9	+1.8	
	baz=231									
O03E	Paynes Creek	77.71	39	P		P		15 02 34.4	+0.6	
	baz=232									
CWC	Cottonwood Cre	77.74	44	P		P		15 02 35.1	+1.0	
	baz=235									
BELC	Belle Mtn. Jos	77.77	47	P		P		15 02 35.3	+0.9	
	baz=237,SNR=6.9									
M02C	Callahan	77.78	38	P		P		15 02 35.5	+1.3	
	baz=230									
MPMC	Manual Prospec	77.91	45	P		P		15 02 35.9	+0.8	
	baz=235,SNR=12									
GSC	Goldstone, Bar	77.94	46	P		P		15 02 36.0	+0.8	
	baz=236,SNR=5.2									
BC3	Big Chuckawall	77.96	48	P		P		15 02 36.1	+0.7	
	baz=237									
TIN	Tinemaha, Big	77.99	44	P		P		15 02 36.9	+1.5	
	baz=235									
HEC	Hector,Ludlow	78.00	46	P		P		15 02 36.4	+0.9	
	baz=236,SNR=6.9									
WAKR	Walker	78.07	42	P		P		15 02 34.8	-1.1	
GLA	Glamis	78.08	49	P		P		15 02 37.3	+1.4	
	baz=238									
GMRC	Granite Mounta	78.43	47	P		P		15 02 39.2	+1.3	
	baz=237									
IRM	Iron Mountain	78.45	48	P		P		15 02 38.9	+1.0	
	baz=237,SNR=7.0									
FURC	Furnace Creek,	78.56	45	P		P		15 02 39.1	+0.7	
	baz=236									
TUQ	Turquoise Moun	78.61	46	P		P		15 02 39.6	+0.7	
	baz=236,SNR=6.3									
M04C	Macdoel	78.62	38	P		P		15 02 39.2	+0.4	
	baz=231									
L04D	Klamath Falls	78.62	37	P		P		15 02 39.5	+0.7	
	baz=231									
SHOC	Shoshone, Teco	78.63	46	P		P		15 02 39.5	+0.6	
	baz=236									
NVAR	Mina Array Bea	78.75	42	P		P		15 02 40.5	+0.9	
	comp=Z,7.3nm,0.8s,baz=225,slow=9.1,SNR=59									
NVAR				pP		pwP		15 03 36.9	+3.4	
	comp=Z,4.7nm,1.0s,baz=228,slow=8.9,SNR=4.0									
214A	Organ Pipe Nat	78.95	50	P		P		15 02 41.7	+1.0	
	baz=239									
MDSI	Maura Dua	79.17	269	P		P		15 02 41.6	-0.7	
	comp=Z,17nm,0.7s									
PDMCI	Parker Dam,Lak	79.23	48	P		P		15 02 42.9	+0.9	
	baz=238									
KDAK	Kodiak Island	79.23	12	P		P		15 02 40.6	-0.9	
KDAK				pmax		pmax				
	comp=Z,9.0nm,0.7s									
KDAK	Kodiak Island	79.23	12	P		P		15 02 40.6	-0.9	
TPNV	Topopah Spring	79.23	45	P		P		15 02 43.3	+1.0	
	baz=236,SNR=9.3									
TPNV	Topopah Spring	79.23	45	P		P		15 02 43.3	+1.0	
TPNV				pmax		pmax				
	comp=Z,8.0nm,0.8s									
TPNV	Topopah Spring	79.23	45	P		P		15 02 43.3	+1.0	
USRK	Usuriysk Ar.	79.23	325	P		P		15 02 43.6	+1.8	
	comp=Z,2.5nm,0.8s,baz=120,slow=2.6,SNR=5.7									
J04D	Umpqua Nationa	79.38	37	P		P		15 02 44.3	+1.3	
	baz=231									
MOD	Modoc Plateau	79.59	39	P		P		15 02 44.7	+0.6	
K05A	Summer Lake	79.76	38	P		P		15 02 46.0	+1.0	
J05D	Fort Rock, OR	79.91	37	P		P		15 02 46.9	+1.1	
	baz=231									
BELA	Belgrano 2	80.41	172	P		P		15 02 48.5	+0.7	
R11A	Troy Canyon, C	80.45	44	P		P		15 02 49.6	+0.8	
	baz=236									
TUC	Tucson	80.61	51	P		P		15 02 51.5	+1.8	
	baz=240									
NJ2	Nanjing	80.80	309	eP		P		15 02 51.9	+1.3	
NJ2				pmax		pmax				
	comp=Z,15nm,0.5s									
MDJ	Mudanjiang	80.82	324	P		P		15 02 52.0	+1.6	
MDJ				sP		sP		15 03 58.8	-5.7	
MDJ				pmax		pmax				
	comp=Z,22nm,1.0s									
MDJ				pmax		pmax				
	comp=Z,65nm,3.6s									
PMSA	Palmer Station	81.49	156	P		P		15 02 54.9	+1.3	
	comp=Z,13nm,0.8s,baz=245,slow=3.3,SNR=8.9									
MYKOM	Kota Tinggi	81.54	275	P		P		15 02 56.0	+1.1	
WUAZ	Wupatki	81.80	48	P		P		15 02 57.4	+1.4	
	baz=239									
BBB	Bella Bella	82.40	27	P		P		15 02 57.9	-0.5	
BBB				IAmb		IAmb		15 02 59.3		
	comp=Z,38nm,1.1s									
G08A	Pilot Rock	82.43	37	P		P		15 02 58.7	-0.2	
B05A	Bryant	82.60	33	P		P		15 03 00.7	+1.1	
	baz=230									
CN2	Changchun	82.71	321	eP		P		15 03 00.9	+0.7	
CN2				pmax		pmax				
	comp=Z,10.0nm,1.1s									
W18A	Petrified Fore	82.76	49	P		P		15 03 02.2	+1.2	
	baz=240,SNR=6.2									
121A	Cookes Peak, D	82.94	52	P		P		15 03 03.6	+1.7	
	baz=242,SNR=9.9									
121A	Cookes Peak, D	82.94	52	P		P		15 03 03.5	+1.6	
121A				IAmb		IAmb		15 03 04.8		
	comp=Z,16nm,0.8s									
DUG	Duguay, Tooele	83.26	43	P		P		15 03 04.0	+0.6	
	baz=236									
MAW	Mawson	83.35	199	P		P		15 03 04.5	+1.3	
	comp=Z,1.3nm,0.5s,baz=259,slow=3.3,SNR=14									
MAW	Mawson	83.35	199	P		P		15 03 04.7	+1.5	
	baz=83,SNR=10									
MAW	Mawson	83.35	199	P		P		15 03 04.4	+1.3	
HLID	Hailey	84.08	40	P		P		15 03 08.5	+1.0	
	baz=236,SNR=11									
HLID	Hailey	84.08	40	P		P		15 03 07.8	+0.2	
MNTX	Cornudas Mount	84.36	54	P		P		15 03 10.5	+1.5	
	baz=243,SNR=30									
MNTX	Cornudas Mount	84.36	54	P		P		15 03 10.0	+1.0	
MNTX				IAmb		IAmb		15 03 11.5		
	comp=Z,26nm,1.1s									
N25K	Chitina, Valde	84.44	14	P		P		15 03 08.9	+0.1	
	baz=210									
TX31	Lajitas Ar. Si	84.66	57	IAmb		IAmb		15 03 13.3		
	comp=Z,43nm,1.1s									
TXAR	Lajitas Array	84.66	57	P		P		15 03 12.1	+1.4	
	comp=Z,7.8nm,0.9s,baz=214,slow=7.8,SNR=65									
TXAR	Lajitas Array	84.66	57	P		P		15 03 12.2	+1.6	
TXAR	Lajitas Array	84.66	57	P		P		15 03 12.2	+1.6	
TRF	Thorofare Moun	84.90	11	IAmb		IAmb		15 03 12.0		
	comp=Z,13nm,0.7s									
ANMO	Albuquerque	85.04	50	P		P		15 03 13.6	+1.0	
	baz=242									
ANMO	Albuquerque	85.04	50	c iP		P		15 03 13.5	+1.0	
ANMO				pmax		pmax				
	comp=Z,11nm,0.9s									
IPM	Ipoh	85.10	276	P		P		15 03 14.0	+0.9	
MCK	McKinley	85.41	12	P		P		15 03 13.2	-0.2	
	baz=205									
SEY	Seymchan	85.76	346	⇓eP		P		15 03 15.4	+0.3	
S22A	4UR Ranch, Cre	86.08	48	P		P		15 03 18.3	+0.6	
	baz=242,SNR=6.2									
NEA2	Nenana	86.17	11	P		P		15 03 16.6	-0.6	
	baz=205									
O20A	White River Ci	86.25	45	P		P		15 03 18.1	-0.2	
	baz=241									
MLY	Manley	86.28	10	P		P		15 03 17.4	-0.3	
	baz=204									
DOT	Dot Lake	86.34	14	P		P		15 03 18.1	+0.1	
HDA	Harding Lake	86.41	12	P		P		15 03 18.2	-0.1	
	baz=207									
PSI	Prapat	86.51	274	P		P		15 03 19.4	-0.8	
	comp=Z,5.8nm,0.3s,baz=9.6,slow=22,SNR=3.7									
SCRK	Sand Creek	86.64	13	P		P		15 03 19.0	-0.6	
	baz=210									
TCOL	CIGO, UAF Yank	86.65	12	P		P		15 03 19.4	0.0	
	baz=206									
COLA	College	86.65	12	d iP		P		15 03 19.1	-0.3	
COLA				pmax		pmax				
	comp=Z,10.0nm,0.7s									
PDAR	Pinedale Array	86.68	42	P		P		15 03 20.1	-0.3	
	comp=Z,1.4nm,0.6s,baz=208,slow=3.4,SNR=14									
PDAR	Pinedale Array	86.68	42	P		P		15 03 19.7	-0.8	
ILAR	Eielson Array	86.74	12	P		P		15 03 19.3	-0.6	
	comp=Z,1.4nm,0.7s,baz=234,slow=6.2,SNR=27									
ILAR				pP		pwP		15 04 16.2	+0.9	
	comp=Z,3.3nm,1.1s,baz=218,slow=5.5,SNR=4.8									
ILAR	Eielson Array	86.74	12	P		P		15 03 19.7	-0.2	
ILAR	Eielson Array	86.74	12	P		P		15 03 19.7	-0.2	
BOZ	Bozeman (W)	86.86	39	P		P		15 03 21.9	+0.8	
	baz=238									
H17A	Grant Village	86.87	41	P		P		15 03 23.3	+1.9	
	baz=239									
POKR	Poker Plat Res	86.95	12	P		P		15 03 20.5	-0.4	
	baz=207									
SDCO	Great Sand Dun	87.01	48	P		P		15 03 22.9	+0.7	
	baz=243									
MSTX	Muleshoe	87.33	53	P		P		15 03 24.5	+0.9	
	baz=245									
T25A	Trinidad	87.51	49	P		P		15 03 25.3	+0.8	
	baz=244									
GYA	Guiyang	87.94	299	eP		P		15 03 27.6	+0.9	
GYA				pmax		pmax				
	comp=Z,6.0nm,0.8s									
SYO	Syowa Base	88.30	192	⇓eP		P		15 03 26.0	-1.4	
SYO	Syowa Base	88.30	192	⇑iPcP		P		15 03 27.6	+0.2	
SYO	Syowa Base	88.30	192	epP		pP		15 04 15.0	-4.8	
COLD	Coldfoot	88.38	10	P		P		15 03 28.8	+1.2	
	baz=204									
PLCA	Paso Flores	88.51	133	P		P		15 03 30.4	+1.3	
	comp=Z,3.2nm,0.7s,baz=245,slow=4.8,SNR=7.6									
PLCA	Paso Flores	88.51	133	P		P		15 03 27.7	-1.4	
PLCA				pmax		pmax				
	comp=Z,10.0nm,1.2s									
PLCA	Paso Flores	88.51	133	P		P		15 03 27.7	-1.4	
AMTX	Amarillo	88.53	52	P		P		15 03 30.1	+0.9	
	baz=245									
SNAA	Sanae	89.08	178	P		P		15 03 31.5	+0.4	
SNAA	Sanae	89.08	178	c iP		P		15 03 31.3	+0.1	
SNAA				i *PP		pP		15 04 21.6	-2.0	
SNAA				pmax		pmax				
	comp=Z,12nm,0.8s									
SNAA	Sanae	89.08	178	P		P		15 03 31.6	+0.5	
SNAA				IAmb		IAmb		15 03 32.6		
	comp=Z,11nm,0.8s									
VNA3	Neumayer Olymp	89.13	176	P		P		15 03 31.8	+0.5	
XAN	Xi'an	89.14	307	P		P		15 03 33.1	+1.1	
XAN				pmax		pmax				
	comp=Z,21nm,1.2s									
XAN				pmax		pmax				
	comp=Z,110nm,3.9s									
ABTX	Abilene, Hawle	89.16	55	P		P		15 03 33.1	+1.0	
	baz=247									
VNA2	Neumayer--Watz	89.60	176	P		P		15 03 34.3	+0.8	
VNA1	Neumayer--Stat	89.81	176	P		P		15 03 35.3	+0.9	
NVL	N'lazarevskaya	89.97	183	eP		P		15 03 34.5	-0.7	
NVL				pmax		pmax				
	comp=Z,11nm,0.7s									
HHC	Hu-ho-hao-te	90.08	314	eP		P		15 03 35.8	-0.6	
HHC				pmax		pmax				
	comp=Z,12nm,0.8s									
HHC				pmax		pmax				
	comp=Z,93nm,6.4s									
LAO	LASA Array	90.66	40	P		P		15 03 40.0	+1.2	
	baz=242									
HKT	Hockley	91.15	59	⇑eP		P		15 03 39.3	-2.0	
HKT				pmax		pmax				
	comp=Z,4.0nm,1.3s									
CMAR	Chiang Mai Arr	91.74	289	P		P		15 03 46.0	+1.6	
	comp=Z,5.5nm,0.9s,baz=116,slow=2.9,SNR=46									
CMAR	Chiang Mai Arr	91.74	289	P		P		15 03 45.3	+0.9	
CMAR	Chiang Mai Arr	91.74	289	P		P		15 03 45.3	+0.9	
CD2	Chengdu	91.97	302	eP		P		15 03 45.0	-0.2	
LZH	Lanzhou	93.77	307	eP		P		15 03 55.5	+1.9	
LZH				pP		pP		15 04 41.5	-4.6	
LZH				sP		sP		15 05 01.6	-6.9	
LZH				PP		PP		15 07 41.8	-0.5	
LZH				pmax		pmax				
	comp=Z,22nm,1.1s									
LZH				pmax		pmax				
	comp=Z,98nm,4.3s									
ECSD	EROS Data Cent	95.62	46	P		P		15 04 01.9	+0.2	
	baz=249									
U40A	Yellville	95.75	54	P		P		15 04 02.9	+0.6	
	baz=250									
ULN	Ulaanbaatar	95.89	319	⇑eP		P		15 04 03.6	+0.6	
ULN				pmax		pmax				
	comp=Z,2.0nm,1.0s									
SONM	Songino Array	96.29	318	P		P		15 04 05.1	+0.4	
	comp=Z,0.4nm,0.3s,baz=116,slow=6.8,SNR=4.5									
GTA	Gaotai	97.90	309	eP		Pdif		15 04 19.8	+7.6	
GTA				pP		pwP		15 05 11.3	+2.9	
GTA				sP		sP		15 05 32.0	+4.9	
GTA				pmax		pmax				
	comp=Z,1.0nm,1.2s									
TIXI	Tiksi	98.19	345	⇑eP		P		15 04 10.5	-2.0	
TIXI				pmax		pmax				
	comp=Z,18nm,2.5s									
ZALV	Zalesovo Beam	110.93	321	PKKPbc		PKKPbc		15 20 06.5	-1.3	
	comp=Z,0.9nm,0.5s,baz=268,slow=4.0,SNR=5.4									
MKAR	Makanchi Array	111.95	314	PKiKP		PKiKP		15 09 09.6	-0.5	
	comp=Z,0.4nm,0.5s,baz=171,slow=0.8,SNR=9.7									
MKAR				PKKPbc		PKKPbc		15 20 03.8	-0.4	
	comp=Z,1.3nm,0.6s,baz=293,slow=2.7,SNR=17									
MKAR	Makanchi Array	111.95	314	c iPKiKP		PKiKP		15 09 10.0	-0.1	
KURK	Kurchatov	114.58	318	⇓iPKiKP		PKPdf		15 09 14.5	-0.5	
KURK				pmax		pmax				
	comp=Z,2.0nm,1.3s									
ARU	Arti	125.44	326	i PKiKP		PKPdf		15 09 35.8	+0.1	
ARU								15 11 30.4		
ARU								15 16 27.7		
ARU				SS		SS		15 28 17.3	+7.0	
ARCES	ARCESS Array B	128.16	351	PKP		PKPdf		15 09 40.3	-0.3	
	comp=Z,1.8nm,0.4s,baz=24,slow=1.7,SNR=28									
FINES	FINESS Array B	135.24	345	PKhKP		PKPpre		15 09 46.3		
	comp=Z,3.5nm,1.1s,baz=18,slow=5.8,SNR=2.1									
FINES				PKP		PKPdf		15 09 52.6	-1.5	
	comp=Z,1.9nm,0.8s,baz=26,slow=3.5,SNR=9.1									
FINES	FINESS Array B	135.24	345	c iPKiKP		PKPdf		15 09 54.5	+0.4	
FINES				pmax		pmax				
	comp=Z,2.0nm,0.8s									
NB2	NORSAR Subarra	138.06	355	PKP		PKiKP		15 10 01.1	-0.4	
	comp=Z,0.3nm,0.4s,baz=28,slow=2.3									
NOA	NORSAR Array B	138.06	355	PKP		PKPdf		15 09 59.5	+0.1	
	comp=Z,0.5nm,0.6s,baz=14,slow=3.8,SNR=4.1									
AKASG	Malin Array Be	142.99	334	PKhKP		PKPpre		15 10 04.9		
	comp=Z,1.2nm,0.5s,baz=40,slow=4.1,SNR=5.3									
EDMD	Edmundbyers	144.27	6	eP		PKPab		15 10 07.7	-1.5	
BSEG	Bad Segeberg	145.16	354	ePKPbc		PKPab		15 10 13.3	+0.7	
	baz=11,slow=2.7									
SORM	Soroca	145.28	331	⇓P		PKPab		15 10 13.7	+0.5	
SORM	Soroca	145.28	331	⇓PKP2		PKPab		15 10 13.7	+0.5	
WLF1	Llynfaes	145.47	9	eP		PKPdf		15 10 12.5	-0.3	
LVV	L'vov	145.74	337	ePKP2		PKPbc		15 10 13.9	-0.3	
FOEL	Foel Wylfa	146.03	8	eP		PKPdf		15 10 12.4	-1.3	
RUE	Ruedersdorf	146.11	350	ePKPbc		PKPab		15 10 16.1	0.0	
	baz=11,slow=2.7									
HLM1	Long Mynd	146.43	8	eP		PKPbc		15 10 15.9	-0.3	
MCH1	Michaelchurch	146.93	8	eP		PKPbc		15 10 17.1	-0.5	
MONM	Monmouth	147.11	8	eP		PKPbc		15 10 17.8	-0.3	
KSP	Ksiaz	147.16	346	ePKP		PKPbc		15 10 19.0	+0.8	
BIZ	Bicaz	147.18	332	⇓P		PKPbc		15 10 19.3	+0.8	
CLZ	Clausthal	147.22	353	ePKPbc		PKiKP		15 10 19.6	-0.9	
	baz=11,slow=2.7									
MBAR	Mbarara	147.31	236	⇓iPKP2		PKPbc		15 10 21.0	+1.0	
NIE	Niedzica	147.36	340	ePKP		PKPab		15 10 31.1	+10	
CLL	Collm	147.37	350	i PKPbc		PKPbc		15 10 19.3	+0.5	
	comp=Z,18nm,0.8s									
CLL				e				15 11 17.0		
CLL	Collm	147.37	350	i PKP2		PKPbc		15 10 19.3	+0.5	
CLL				pmax		pmax				
	comp=Z,18nm,0.8s									
CLL	Collm	147.37	350	ePKPbc		PKPbc		15 10 19.8	+1.0	
	baz=11,slow=2.7									
CLL	Collm	147.37	350			PKPbc		15 10 19.5	+0.8	
CHVC	Chvalec	147.45	346	ePKP		PKPab		15 10 23.8	+2.2	
GTTG	Gottingen	147.56	353	ePKPbc		PKiKP		15 10 20.4	-0.9	
	baz=11,slow=2.7									
BR131	Keskin Array S	147.58	315	c iPKP2		PKPbc		15 10 20.5	+0.6	
BRTR	Keskin Array B	147.58	315	PKPbc		PKPbc		15 10 20.2	+0.2	
	comp=Z,4.4nm,0.9s,baz=106,slow=1.9,SNR=11									
BRTR				pPKPbc		pPKPab		15 11 16.0	0.0	
	comp=Z,0.9nm,0.8s,baz=53,slow=5.6,SNR=1.3									
BRTR	Keskin Array B	147.58	315	c iPKP2		PKPab		15 10 23.8	+1.1	
BRTR				pmax		pmax				
	comp=

ARSA	**Arzberg**	**150.69**	**344**	*e*P	**PKPbc**	**15 10 27.2**	**-0.1**
	comp=Z,3.7nm,0.8s						
FUR	**Furstenfeldbru**	**150.70**	**350**	*e*PKPbc	**PKiKP**	**15 10 28.2**	**+0.4**
	baz=11,slow=2.7						
MDVR	**Moldovita**	**150.77**	**334**	⇓P	**PKiKP**	**15 10 27.9**	**-0.3**
UBR	**Ueberruh**	**151.34**	**352**	*e*PKPbc	**PKiKP**	**15 10 29.6**	**+0.4**
	baz=11,slow=2.7						
SOKA	**Soboth**	**151.34**	**344**	*i* P	**PKPbc**	**15 10 28.6**	**-0.2**
	comp=Z,5.8nm,1.2s						
KBA	**Koelnbreinsper**	**151.36**	**347**	*i* P	**PKPbc**	**15 10 28.9**	**-0.1**
	comp=Z,5.1nm,0.5s						
WATA	**Walderalm**	**151.45**	**350**	*e*P	**PKPbc**	**15 10 29.1**	**-0.1**
	comp=Z,7.5nm,0.6s,SNR=4.3						
WTTA	**Wattenberg**	**151.51**	**349**	*i* P	**PKiKP**	**15 10 29.6**	**-0.2**
	comp=Z,14nm,0.5s,SNR=14						
MOTA	**Moosalm**	**151.52**	**350**	*i* P	**PKPbc**	**15 10 29.0**	**-0.3**
	comp=Z,5.1nm,0.9s						
SQTA	**Sankt Quirin**	**151.63**	**350**	*e*P	**PKPbc**	**15 10 29.5**	**0.0**
	comp=Z,6.8nm,0.7s						
MYKA	**Terra Mystica**	**151.72**	**346**	*i* P	**PKPbc**	**15 10 29.1**	**-0.6**
	comp=Z,3.8nm,0.6s						
DAVA	**Damuels**	**151.76**	**352**	*i* P	**PKPbc**	**15 10 29.9**	**0.0**
	comp=Z,6.9nm,0.7s						
ABTA	**Abfaltersbach**	**151.85**	**348**	*e*P	**PKPbc**	**15 10 29.7**	**-0.3**
	comp=Z,8.4nm,0.5s,SNR=6.7						
FETA	**Feichten**	**151.90**	**351**	*e*P	**PKPbc**	**15 10 30.3**	**+0.1**
	comp=Z,7.9nm,0.8s						
VNDS	**Vrh nad Dolski**	**151.96**	**344**	*i* PKPbc	**PKPbc**	**15 10 30.1**	**-0.1**
GBAS	**Gorenja Brezov**	**152.19**	**345**	*i* PKPbc	**PKPbc**	**15 10 30.7**	**0.0**
ESDC	**Sonseca Array**	**158.54**	**18**	PKP	**PKPdf**	**15 10 33.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=342,slow=4.4,SNR=2.1						
ESDC				PKPab	**PKPab**	**15 11 09.0**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=330,slow=4.4,SNR=6.3						
LIC	**Lamto**	**164.13**	**144**	*e*PKP1	**PKPab**	**15 11 33.7**	**0.0**
	comp=Z,21nm,0.5s						
KIC	**Kosan Boka**	**164.40**	**145**	*e*PKP1	**PKPab**	**15 11 34.4**	**-0.5**
	comp=Z,35nm,1.1s						
TIC	**Toumodi**	**164.48**	**143**	*e*PKP1	**PKPab**	**15 11 35.0**	**-0.2**
DBIC	**Dimbokro**	**164.59**	**144**	PKP	**PKPdf**	**15 10 38.9**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=196,slow=5.9,SNR=3.9						
DBIC				PKPab	**pPKPdf**	**15 11 35.5**	**+0.4**
	comp=Z,12nm,0.9s,baz=181,slow=5.3,SNR=10						
TORD	**Torodi Ar. Bea**	**173.36**	**158**	PKP	**PKPdf**	**15 10 44.3**	**-0.7**
	comp=Z,3.4nm,0.9s,baz=89,slow=0.1,SNR=12						
TORD				PKPab	**PKPab**	**15 12 15.2**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=227,slow=3.7,SNR=12						

IDC 17 14:51:45.0±5.6, 8.65S×119.29E, h261km±71km, mb2.8/3, mb1 2.7/4, mb1mx2.5/35, mbtmpb3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/7, Error ellipse: s-maj=160.5km s-min=13.4km az=47.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.39**	**129**	P	P	14 55 40.1	-1.2
	0.1nm,0.3s,baz=304,slow=12,SNR=7.4						
WRA				S	S	14 58 58.1	+0.7
	0.1nm,0.3s,baz=297,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**20.46**	**139**	P	P	14 56 04.4	+1.0
	0.1nm,0.3s,baz=330,slow=13,SNR=5.5						
PMG	**Port Moresby**	**27.53**	**94**	LR	LR	15 11 58.3	
	comp=Z,90nm,18.2s,baz=92,slow=44						
MKAR	**Makanchi Array**	**64.28**	**333**	P	P	15 01 53.2	+0.5
	0.5nm,0.5s,baz=153,slow=6.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**68.82**	**339**	P	P	15 02 20.6	-0.5
	0.5nm,0.4s,baz=133,slow=6.1,SNR=3.1						

IDC 17 15:00:03.8±3.0, 6.21N×92.20E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/51, mbtmpb3.3/5, ML3.5/1, Error ellipse: s-maj=99.7km s-min=28.6km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.84**	**28**	Pn	Pn	15 03 21.9	+0.5
	0.1nm,0.3s,baz=222,slow=15,SNR=4.8						
H08S3	**Diego Garcia H**	**23.99**	**235**	T	T	15 32 30.0	
	baz=54,slow=75,SNR=8.9						
H08S2	**Diego Garcia H**	**24.00**	**235**	T	T	15 32 27.6	
	baz=54,slow=75,SNR=4.1						
H08S1	**Diego Carcia H**	**24.01**	**235**	T	T	15 32 21.3	
	baz=54,slow=75,SNR=5.2						
FITZ	**Fitzroy Crossi**	**40.90**	**127**	P	P	15 07 48.0	-0.1
	3.2nm,1.0s,baz=0.0,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**41.33**	**350**	P	P	15 07 51.3	-0.1
	0.2nm,0.5s,baz=161,slow=8.5,SNR=2.5						
WRA	**Warramunga Arr**	**48.92**	**123**	P	P	15 08 50.6	-1.5
	0.1nm,0.5s,baz=306,slow=8.9,SNR=1.8						
ASAR	**Alice Springs**	**50.38**	**128**	P	P	15 09 04.4	+1.1
	0.1nm,0.4s,baz=293,slow=7.3,SNR=1.1						

DDA 17 15:07:45.5, 40.27N×29.15E, h4km±1km, ML1.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGD	**Bursa**	**0.04**	**91**	*i* P	Pg	15 07 47.0	+0.4
IGD				*i* S	Sg	15 07 47.9	+0.6
IGD				IAML		15 07 49.0	
	comp=N,326nm,0.8s						
ULDT	**Uludag**	**0.12**	**184**	*i* P	Pg	15 07 49.0	+1.0
ULDT				*i* S	Sg	15 07 50.9	+1.2

IDC 17 15:09:50.5±6.4, 36.13N×68.22E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/42, mbtmpb3.4/3, ML2.8/1, Error ellipse: s-maj=181.7km s-min=39.8km az=102.0
NNC 17 15:10:15.9±5.3, 37.02N×70.37E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=42.5km s-min=33.6km az=167.0
ISC 17 15:10:05.8±1.7, 36.2N±0.1×70.4E±0.1, h35km, n7, σ2s87/10, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.92**	**1**	⇓P	**Pn**	**15 11 47.1**	**+2.4**
	0.6nm,0.3s,baz=165,slow=12,SNR=14						
KK31				⇓S	**Sn**	**15 13 00.1**	**-2.1**
	0.5nm,0.2s,baz=191,slow=22,SNR=4.2						
AAK	**Ala-Archa**	**7.21**	**25**	⇓P	Pn	15 11 54.6	+5.9
	1.2nm,0.5s						
AAK				⇑S	**Sn**	**15 13 07.0**	**-2.4**
	8.7nm,0.6s						
TKM2	**Tokmak 2**	**7.86**	**29**	⇓P	**Pn**	**15 12 01.1**	**+3.3**
	1.9nm,0.7s						
TKM2				⇑S	**Sn**	**15 13 23.3**	**-2.2**
	6.3nm,0.8s						
MKAR	**Makanchi Array**	**13.86**	**36**	Pn	**Pn**	**15 13 21.7**	**+2.1**
	0.0nm,0.3s,baz=228,slow=15,SNR=3.2						
AB31	**Akbulak array**	**15.13**	**333**	⇑P	**Pn**	**15 13 38.3**	**+1.6**
	0.5nm,0.3s,baz=159,slow=13,SNR=21						
AB31				⇓S	**Sn**	**15 16 19.7**	**-3.3**
	1.4nm,0.8s,baz=152,slow=23,SNR=4.6						
ZALV	**Zalesovo Beam**	**20.43**	**25**	P	**P**	**15 14 37.9**	**-1.9**
	1.4nm,0.4s,baz=224,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**82.27**	**121**	P	**P**	**15 22 21.6**	**-2.2**
	0.2nm,0.8s,baz=331,slow=5.4,SNR=1.3						

NEIC 17 15:11:23.6±1.0, 35.83N±0.02×97.41W±0.03, h7km±6km, Error ellipse: s-maj=4.0km s-min=2.5km az=68.0
TUL 17 15:11:23.4±0.9, 35.82N±0.01×97.42W±0.04, h5km±6km, ML3.2, Error ellipse: s-maj=4.4km s-min=1.6km az=87.0
ANF 17 15:11:24.1±0.7, 35.83N×97.42W, h5km, ML3.8/9, Error ellipse: s-maj=11.6km s-min=6.6km az=164.0
ISC 17 15:11:23.5±1.0, 35.83N±0.03×97.41W±0.03, h5km±7km, n39, σ0s59/46, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.05**	**223**		**Pg**	**15 11 24.7**	**-0.1**
OK029				Sg	**Sg**	**15 11 25.8**	**+0.1**
BCOK	**Bluff Creek, N**	**0.24**	**222**	Pg	**Pg**	**15 11 28.1**	**-0.1**
BCOK				Sg	**Sg**	**15 11 31.6**	**+0.3**
OK009	**Oakdale Elemen**	**0.25**	**182**		**Pg**	**15 11 28.4**	**0.0**
OK025	**Westminster Rd**	**0.26**	**166**	Pg	**Pg**	**15 11 28.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.42**	**184**		**Pg**	**15 11 31.4**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.43**	**183**		**Pg**	**15 11 31.6**	**-0.1**
OK031	**S. Brethren Rd**	**0.48**	**75**		**Pg**	**15 11 33.2**	**+0.4**
OK030	**Cody Creek RV**	**0.52**	**79**		**Pg**	**15 11 33.9**	**+0.3**
FNO	**Franklin**	**0.57**	**179**		**Pg**	**15 11 34.6**	**+0.1**
QUOK	**Quay**	**0.66**	**59**		**Pg**	**15 11 36.6**	**+0.3**
W35A	**Tecumseh**	**0.81**	**147**		**Pg**	**15 11 38.3**	**-0.7**
CROK	**Carrier**	**0.81**	**326**		**Pg**	**15 11 39.1**	**0.0**
KAN13	**South Haven SW**	**1.18**	**357**		**Pg**	**15 11 45.9**	**-0.2**
T35A	**Sooner Cattle**	**1.30**	**34**		**Pn**	**15 11 47.8**	**-0.7**
KAN09	**Caldwell North**	**1.31**	**353**		**Pn**	**15 11 48.2**	**-0.4**
TUL1	**Leonard**	**1.32**	**86**	P	**Pn**	**15 11 47.5**	**-1.2**
	baz=267						
TUL1				S	**Sg**	**15 12 05.4**	**-0.5**
	baz=267						
TUL1	**Leonard**	**1.32**	**86**	Pn	**Pn**	**15 11 47.2**	**-1.5**
KAN05	**Bluff City Nor**	**1.33**	**344**		**Pn**	**15 11 48.0**	**-0.8**
U32A	**Winter Ranch,**	**1.40**	**293**		**Pn**	**15 11 49.0**	**-0.8**
KAN12	**Harper NE Stat**	**1.54**	**342**		**Pn**	**15 11 52.0**	**+0.3**
WMOK	**Wichita Mounta**	**1.56**	**226**	P	**Pn**	**15 11 51.8**	**-0.3**
	baz=45						
WMOK				S	**Sn**	**15 12 11.9**	**-0.8**
	baz=45						
WMOK	**Wichita Mounta**	**1.56**	**226**	Pn	**Pn**	**15 11 51.6**	**-0.5**
X37A	**Clayton**	**2.08**	**126**		**Pn**	**15 11 59.5**	**+0.4**
W39A	**Magazine**	**3.03**	**101**	P	**Pn**	**15 12 12.4**	**+0.2**
	baz=283						
W39A				S	**Sn**	**15 12 49.4**	**+0.5**
	baz=283						
W39A	**Magazine**	**3.03**	**101**		**Pn**	**15 12 12.6**	**+0.4**
KSU1	**Kansas State U**	**3.32**	**11**	P	**Pn**	**15 12 16.3**	**+0.1**
	baz=191						
KSU1				S	**Sn**	**15 12 56.3**	**+0.1**
	baz=191						
MIAR	**Mount Ida**	**3.39**	**111**	P	**Pn**	**15 12 17.4**	**+0.2**
	baz=293						
MIAR	**Mount Ida**	**3.39**	**111**	Pn	**Pn**	**15 12 18.2**	**+1.0**
CBKS	**Cedar Bluff**	**3.50**	**329**	P	**Pn**	**15 12 18.5**	**-0.3**
	baz=148						
CBKS				S	**Sn**	**15 13 01.1**	**+0.4**
	baz=148						
AMTX	**Amarillo**	**3.62**	**256**	P	**Pn**	**15 12 21.1**	**+0.8**
	baz=74						
ABTX	**Abilene, Hawle**	**3.70**	**211**	P	**Pn**	**15 12 22.2**	**+0.8**
	baz=29						
ABTX	**Abilene, Hawle**	**3.70**	**211**		**Pn**	**15 12 21.1**	**-0.3**
U40A	**Yellville**	**3.73**	**81**	P	**Pn**	**15 12 22.7**	**+0.8**
	baz=263						
U40A	**Yellville**	**3.73**	**81**		**Pn**	**15 12 23.0**	**+1.2**
X40A	**Basin Creek Fa**	**3.98**	**108**		**Pn**	**15 12 25.7**	**+0.4**
WHAR	**Wooly Hollow**	**4.21**	**96**		**Pn**	**15 12 28.6**	**+0.2**
W41B	**Gary Mavity, V**	**4.26**	**97**		**Pn**	**15 12 29.2**	**+0.1**
T25A	**Trinidad**	**5.79**	**285**		**Pn**	**15 12 49.6**	**-0.7**
SDCO	**Great Sand Dun**	**6.76**	**289**		**Pn**	**15 13 04.4**	**+0.6**

IDC 17 15:29:46.6±5.8, 2.36N×126.63E, h33km±45km, mb4.0/19, mb1 4.1/20, mb1mx4.0/39, mbtmpb4.2/20, ML4.0/1, MS3.4/4, Ms1 3.5/4, ms1mx2.9/36, Error ellipse: s-maj=32.4km s-min=11.6km az=75.0
DJA 17 15:29:46.7±0.8, 3.7N±3.3×12.7E±°, h34km±8km, M4.4/12, mb4.7/12, mB4.8/4, MLv4.3/9, Mw(mB)4.1/4
KLM 17 15:29:47.0, 2.53N×127.04E, h52km, mb4.5
NEIC 17 15:29:49.2±1.5, 2.44N±0.10×126.8E±0.1, h68km±8km, mb4.4/19, Error ellipse: s-maj=17.7km s-min=11.4km az=53.0
ISC 17 15:29:48.7±0.4, 2.51N±0.05×126.81E±0.06, h53km, n76, σ1s86/77, mb4.3/29, MS3.5/3, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.73**	**313**	P	Pn	15 30 11.2	-5.3
SGSI				S	**Sn**	**15 30 35.6**	**-1.9**
TNTI	**Ternate**	**1.81**	**162**	P	**Pn**	**15 30 15.7**	**-1.8**
TNTI	**Ternate**	**1.81**	**162**		**Pn**	**15 30 15.7**	**-1.8**
KMSI	**Cibinong**	**3.42**	**236**	P	**Pn**	**15 30 41.0**	**+1.5**
DDMP	**Don Marcelino,**	**3.74**	**343**	*e*P	**Pn**	**15 30 42.1**	**-1.9**
GTOI	**Gorontalo**	**4.22**	**244**	P	**Pn**	**15 30 51.0**	**+0.4**
MATI	**Mati**	**4.45**	**353**	*e*P	**Pn**	**15 30 53.2**	**-0.4**
SKMP	**Bagumbayan, Su**	**4.58**	**331**	*e*P	**Pn**	**15 30 56.3**	**+0.7**
SANI	**Sanana**	**4.60**	**190**	P	**Pn**	**15 30 53.4**	**-2.3**
KCP	**Kidapawan**	**4.79**	**339**	*e*P	**Pn**	**15 31 00.5**	**+2.0**
KCP				*i* S	**Sn**	**15 31 49.2**	**-3.6**
LUWI	**Luwuk**	**5.36**	**229**	P	**Pn**	**15 31 09.7**	**+3.6**
	0.8nm1μm169nm,0.7s						
LUWI	**Luwuk**	**5.36**	**229**	Pn	**Pn**	**15 31 09.8**	**+3.6**
SIJI	**Sorong**	**5.58**	**127**	Pn	**Pn**	**15 31 09.6**	**+0.4**
	4.2nm,0.3s,baz=330,slow=15,SNR=11						
SIJI				LR	LR	15 33 13.0	
	comp=Z,211nm,19.2s,baz=332,slow=37						
BUKP	**Musuan**	**5.62**	**342**	*e*P	**Pn**	**15 31 10.5**	**+0.8**
PAGZ	**Pagadian**	**6.31**	**327**	*e*P	**Pn**	**15 31 17.4**	**-1.8**
MPSI	**Mapaga**	**7.24**	**253**	P	**Pn**	**15 31 34.7**	**+2.8**
	0.1nm374nm34nm,0.7s						
GLSP	**General Luna,**	**7.26**	**355**	*e*P	**Pn**	**15 31 34.0**	**+1.7**
MSLP	**Maasin**	**7.82**	**346**	*e*P	**Pn**	**15 31 42.2**	**+2.3**
MYLDM	**Lahad Datu**	**8.70**	**288**	Pn	**Pn**	**15 31 53.4**	**+1.4**
TTSI	**Tana Toraja**	**8.90**	**232**	P	Pn	15 32 00.6	+5.9
KKM	**Kota Kinabalu**	**11.13**	**289**	Pn	**Pn**	**15 32 26.7**	**+1.3**
GENI	**Genyem**	**14.28**	**111**	P	**P**	**15 33 17.8**	**+3.8**
SBUM	**Sibu**	**14.57**	**270**		**P**	**15 33 16.0**	**-1.3**
SBUM	**Sibu**	**14.57**	**270**		**P**	**15 33 18.0**	**+0.7**
SMPP	**San Manuel, Pa**	**14.84**	**336**	*e*P	Pn	15 33 09.5	-6.0
TWSI	**Taliwang, Sumb**	**14.92**	**221**	P	**P**	**15 33 22.4**	**+1.3**
MTN	**Manton Dam**	**15.84**	**164**	P	**Pn**	**15 33 29.0**	**+0.6**
MTN				IAmb	IAmb	15 33 33.3	
	comp=Z,14nm,0.5s						
KSM	**Kuching**	**16.52**	**267**	P	**P**	**15 33 42.0**	**+3.1**
KNRA	**Kununurra**	**18.17**	**174**	P	**P**	**15 33 55.3**	**-1.7**
KNRA				IAmb	IAmb	15 33 57.5	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.50**	**183**	P	**P**	**15 34 21.1**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=28,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**20.50**	**183**	P	**P**	**15 34 21.4**	**-1.2**
TPUB	**Ta-pu**	**21.52**	**344**	P	**P**	**15 34 31.5**	**-2.0**
COEN	**Coen**	**23.04**	**136**	P	**P**	**15 34 48.2**	**-1.5**
COEN				IAmb	IAmb	15 34 55.9	
	comp=Z,21nm,1.3s						
KLSI		**23.19**	**252**	P	**P**	**15 34 54.3**	**+3.1**
	comp=Z,9.1nm,0.8s						
WB0	**Warramunga Arr**	**23.35**	**162**	P	**P**	**15 34 50.3**	**-2.4**
WB0				IAmb	IAmb	15 35 00.4	
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**23.50**	**162**	P	**P**	**15 34 51.3**	**-2.7**
WRAB				IAmb	IAmb	15 35 02.0	
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**23.50**	**162**	P	**P**	**15 34 52.0**	**-2.1**
	comp=Z,6.8nm,0.6s,baz=340,slow=11,SNR=75						
WRA	**Warramunga Arr**	**23.50**	**162**	P	**P**	**15 34 48.1**	**-6.0**
WB2	**Warramunga Arr**	**23.50**	**162**	P	**P**	**15 34 52.0**	**-2.1**
WB2				IAmb	IAmb	15 35 02.0	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**23.58**	**162**	P	**P**	**15 34 53.0**	**-1.8**
WR0				IAmb	IAmb	15 34 56.5	
	comp=Z,9.2nm,0.6s						
AS31	**Alice Springs**	**26.91**	**166**	P	**P**	**15 35 23.8**	**-1.3**
ASAR	**Alice Springs**	**26.91**	**166**	P	**P**	**15 35 23.8**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=344,slow=6.8,SNR=30						
ASAR				PcP	**PcP**	**15 38 46.8**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=353,slow=2.4,SNR=4.9						
ASAR	**Alice Springs**	**26.91**	**166**	P	**P**	**15 35 23.2**	**-1.9**
ASAR					**PcP**	**15 38 47.1**	**+0.8**
GSI	**Gunungsitoli**	**29.24**	**268**	P	**P**	**15 35 43.7**	**-2.3**
CMAR	**Chiang Mai Arr**	**31.57**	**302**	P	**P**	**15 36 06.0**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=128,slow=7.3,SNR=22						
CMAR				LR	LR	15 50 01.3	
	comp=Z,43nm,18.2s,baz=180,slow=39						
CMAR	**Chiang Mai Arr**	**31.57**	**302**	P	**P**	**15 36 07.4**	**+0.9**
CHTO	**Chiang Mai**	**31.73**	**303**	P	**P**	**15 36 06.8**	**-1.1**
CHTO				IAmb	IAmb	15 36 09.8	
	comp=Z,6.9nm,0.7s						
FORT	**Forrest**	**33.12**	**178**	P	**P**	**15 36 18.0**	**-1.9**
KSRS	**Korea Array**	**34.80**	**2**	P	**P**	**15 36 36.1**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=181,slow=9.9,SNR=5.3						
XAN	**Xi'an**	**35.54**	**334**	P	**P**	**15 36 41.6**	**+0.7**
XAN				pP	pP	15 36 51.4	-2.6
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
STKA	**Stephens Creek**	**36.97**	**159**	P	**P**	**15 36 51.1**	**-1.9**
	comp=Z,8.6nm,0.6s,baz=333,slow=9.0,SNR=34						
STKA	**Stephens Creek**	**36.97**	**159**	P	**P**	**15 36 51.4**	**-1.6**
USRK	**Ussuriysk Ar.**	**41.77**	**6**	P	**P**	**15 37 34.5**	**+1.7**
	comp=Z,4.2nm,0.8s,baz=179,slow=5.9,SNR=9.4						
GTA	**Gaotai**	**44.18**	**330**	*e*P	**P**	**15 37 52.3**	**-0.4**
GTA				pP	pP	15 37 57.3	-8.8
GTA				sP	pwP	15 38 00.3	-8.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**48.48**	**342**	P	**P**	**15 38 26.6**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=161,slow=7.9,SNR=12						
SONM				LR	LR	15 59 48.9	
	comp=Z,52nm,21.4s,baz=162,slow=37						
SONM	**Songino Array**	**48.48**	**342**	P	**P**	**15 38 24.5**	**-1.7**
MK31	**Makanchi Array**	**58.60**	**326**	P	**P**	**15 39 40.0**	**-0.3**
MK31				IAmb	IAmb	15 39 42.5	
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**58.60**	**326**	P	**P**	**15 39 39.9**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=122,slow=8.4,SNR=29						
MKAR				PcP	**PcP**	**15 40 33.1**	**+3.1**
	comp=Z,0.8nm,0.6s,baz=125,slow=4.5,SNR=2.1						
MKAR	**Makanchi Array**	**58.60**	**326**	P	**P**	**15 39 39.7**	**-0.6**
RPZ	**Rata Peaks**	**60.72**	**145**	LR	LR	16 05 37.0	
	comp=Z,72nm,20.1s,baz=1.5,slow=35						
ZALV	**Zalesovo Beam**	**61.71**	**333**	P	**P**	**15 40 00.7**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=116,slow=6.7,SNR=6.5						
KURK	**Kurchatov**	**62.81**	**328**	P	**P**	**15 40 08.5**	**-0.3**
KKAR	**Karatay Array**	**64.18**	**317**	P	**P**	**15 40 17.6**	**-0.5**
TIXI	**Tiksi**	**69.06**	**1**	P	**P**	**15 40 49.0**	**+0.5**
TIXI				IAmb	IAmb	15 40 51.5	
	comp=Z,2.4nm,0.8s						
NRIK	**Noril'sk**	**71.63**	**346**	P	**P**	**15 41 05.0**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=147,slow=4.9,SNR=5.5						
ABKAR	**Akbulak array**	**73.14**	**321**	P	**P**	**15 41 12.8**	**-0.9**
ABKAR	**Akbulak array**	**73.14**	**321**	P	**P**	**15 41 13.3**	**-0.5**
VNDA	**Vanda**	**82.21**	**173**	P	**P**	**15 42 03.6**	**0.0**
	comp=Z,0.9nm,0.4s,baz=307,slow=4.9,SNR=8.6						
MAW	**Mawson**	**82.64**	**200**	P	**P**	**15 42 05.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=95,slow=6.1,SNR=7.6						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**15 42 25.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=260,slow=5.4,SNR=1.8						
BRTR	**Keskin Array B**	**90.86**	**310**	P	**P**	**15 42 47.5**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=72,slow=4.4,SNR=5.1						
ARCES	**ARCESS Array B**	**91.62**	**340**	P	**P**	**15 42 49.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=77,slow=5.4,SNR=3.7						
QSPA	**South Pole Qui**	**92.42**	**180**	P	**P**	**15 42 54.9**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=324,slow=1.6,SNR=9.9						
AKASG	**Malin Array Be**	**92.89**	**321**	P	**P**	**15 42 56.1**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=87,slow=4.1,SNR=6.0						
FINES	**FINESS Array B**	**92.94**	**332**	P	**P**	**15 42 55.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=76,slow=8.0,SNR=4.1						
PMSA	**Palmer Station**	**117.37**	**175**	PKP	**PKPdf**	**15 48 26.1**	**-1.9**
	comp=Z,3.9nm,0.7s,baz=180,slow=5.1,SNR=4.9						

IDC 17 15:35:32.0±11.0, 41.02S±84.84E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/32, mbtmpb3.6/3, Error ellipse: s-maj=379.8km s-min=34.3km az=137.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**23.82**	**85**	T	T	16 05 34.3	
	baz=244,slow=74,SNR=13						
H01W3	**Cape Leeuwin H**	**23.83**	**85**	T	T	16 05 28.9	
	baz=244,slow=74,SNR=49						
H01W1	**Cape Leeuwin H**	**23.84**	**85**	T	T	16 05 32.2	
	baz=244,slow=74,SNR=36						
MAW	**Mawson**	**29.22**	**197**	P	P	15 41 35.0	+0.1
	1.0nm,1.0s,baz=31,slow=5.9,SNR=2.2						
H08S2	**Diego Garcia H**	**35.01**	**338**	T	T	16 19 10.0	
	baz=163,slow=74,SNR=104						
H08S1	**Diego Carcia H**	**35.01**	**338**	T	T	16 19 10.2	
	baz=163,slow=74,SNR=157						
H08S3	**Diego Garcia H**	**35.03**	**338**	T	T	16 19 14.8	
	baz=163						
ASAR	**Alice Springs**	**44.31**	**83**	P	P	15 43 43.4	-0.4
	0.6nm,0.9s,baz=232,slow=0.7,SNR=5.9						
WRA	**Warramunga Arr**	**46.84**	**79**	P	P	15 44 04.0	+0.2
	0.6nm,0.9s,baz=231,slow=7.4,SNR=5.3						

ISN 17 15:40:02.4±0.3, 37.36N×42.70E, h0km, ML2.7
ISK 17 15:40:03.6, 37.29N×42.59E, h5km, ML2.5/5
DDA 17 15:40:05.2, 37.34N×42.63E, h5km±4km, ML2.8
**ISC 17 15:40:05.0±1.2, 37.34N±0.03×42.65E±0.03,

σ1°38/16, **mb4.1**/6, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.64**	**64**		**Pn**	**16 08 33.2**	**-0.9**
NIUE	**Niue**	**5.46**	**144**		**Pn**	**16 09 25.7**	**-0.9**
KNTN	**Kanton**	**11.89**	**8**	Pn	**Pn**	**16 10 53.8**	**-1.2**
WB0	**Warramunga Arr**	**50.08**	**256**	P	**P**	**16 16 59.1**	**-0.6**
WB0				IAmb	IAmb	16 17 14.6	
	comp=Z,5.4nm,1.5s						
WB2	**Warramunga Arr**	**50.12**	**256**	P	**P**	**16 16 59.6**	**-0.3**
WRAB	**Tennant Creek**	**50.12**	**256**	P	**P**	**16 16 58.8**	**-1.1**
WRAB				IAmb	IAmb	16 17 15.8	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**50.13**	**256**	P	**P**	**16 16 58.3**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=90,slow=7.6,SNR=18						
WRA				PcP	**PcP**	**16 18 20.9**	**+1.6**
	comp=Z,0.5nm,1.0s,baz=90,slow=3.7,SNR=5.4						
AS31	**Alice Springs**	**50.45**	**251**	P	**P**	**16 17 01.1**	**-1.3**
ASAR	**Alice Springs**	**50.45**	**251**	P	**P**	**16 17 01.9**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=88,slow=7.8,SNR=92						
ASAR				PcP	**PcP**	**16 18 22.2**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=99,slow=5.7,SNR=1.2						
ASAR	**Alice Springs**	**50.45**	**251**	P	**P**	**16 17 01.4**	**-1.0**
NVAR	**Mina Array Bea**	**73.70**	**42**	P	**P**	**16 19 40.4**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=232,slow=10,SNR=5.2						
ILAR	**Eielson Array**	**81.69**	**11**	P	**P**	**16 20 22.7**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=232,slow=5.8,SNR=2.1						
GERES	**GERESS Array B**	**145.41**	**352**	PKPbc	**PKPdf**	**16 27 43.4**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=5.7,slow=2.7,SNR=7.5						
BRTR	**Keskin Array B**	**145.64**	**322**	PKPbc	**PKiKP**	**16 27 45.4**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=70,slow=4.0,SNR=5.2						

IDC 17 16:18:23.5±3.1, **5.33N**×**95.54E**, **h0**km, **mb3.3**/3, **mb1 3.5**/4, **mb1mx3.3**/46, **mbtmp3.3**/4, **ML3.6**/1, **Error ellipse: s-maj=117.1km s-min=27.4km az=62.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.47**	**14**	Pn	Pn	16 21 36.1	+0.1
	0.1nm,0.3s,baz=204,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**42.87**	**347**	P		16 26 23.4	-0.1
	0.4nm,0.6s,baz=174,slow=7.9,SNR=4.8						
WRA	**Warramunga Arr**	**45.67**	**125**	P	P	16 26 45.0	-1.4
	0.2nm,0.4s,baz=302,slow=9.0,SNR=7.9						
ASAR	**Alice Springs**	**47.23**	**129**	P	P	16 27 00.4	+1.7
	0.1nm,0.8s,baz=304,slow=6.6,SNR=1.9						

REY ***17*** *16:19:31.8, 64.62N*×*17.46W, h11km*
IDC ***17*** *16:19:32.9*±*0.7, 64.47N*×*17.69W, h0km, mb3.8/14, mb1 4.0/18, mb1mx3.8/49, mbtmp3.8/18, ML2.7/3, MS3.3/22, Ms1 3.4/22, ms1mx3.2/50, Error ellipse: s-maj=20.0km s-min=12.2km az=21.0*
MOS ***17*** *16:19:34.1*±*1.4, 64.50N*×*17.79W, h16km, mb4.3/12, Error ellipse: s-maj=14.1km s-min=11.4km az=114.1*

ISC 17 16:19:33.9±0.5, **64.63N**±0.02×**17.49W**±0.02, **h10**km, **n127,** σ2°60/120, **mb4.1**/34, **MS3.4**/21, **11C-4D, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**289**	P	**Pg**	**16 19 34.9**	**-2.0**
	baz=292						
IVON				S	**Sg**	**16 19 38.2**	**-0.8**
	baz=292						
IURH	**Urdarhals**	**0.24**	**38**	P	**Pg**	**16 19 36.6**	**-2.3**
	baz=34						
IGRF	**Grimsfjall**	**0.25**	**157**	P	**Pg**	**16 19 36.2**	**-2.8**
	baz=159						
IGRF				S	**Sg**	**16 19 40.2**	**-2.3**
	baz=159						
IHUS	**Husbondi**	**0.35**	**192**	P	**Pg**	**16 19 38.7**	**-2.2**
	baz=195						
IKVE	**Kverkfjoll**	**0.35**	**82**	P	**Pg**	**16 19 38.7**	**-2.3**
	baz=80						
IVOT	**Vottur**	**0.39**	**160**	P	**Pg**	**16 19 39.0**	**-2.6**
	baz=161						
ISKR	**Skrokkalda**	**0.39**	**260**	P	**Pg**	**16 19 39.2**	**-2.4**
	baz=262						
IJOK	**Jokulheimar**	**0.45**	**225**	P	**Pg**	**16 19 40.1**	**-2.6**
	baz=228						
IJOK				S	**Sg**	**16 19 47.0**	**-1.6**
	baz=228						
IKRE	**Kreppuhraun**	**0.50**	**72**	P	**Pg**	**16 19 40.8**	**-2.9**
	baz=70						
IKRE				S	**Sg**	**16 19 47.8**	**-2.4**
	baz=70						
IMKO	**Mokollar**	**0.60**	**54**	P	**Pg**	**16 19 42.6**	**-3.1**
	baz=53						
IIEY	**Innrieyrar**	**0.61**	**207**	P	**Pg**	**16 19 42.7**	**-3.0**
	baz=209						
IKSK	**Karasker**	**0.65**	**137**	P	**Pg**	**16 19 42.7**	**-3.8**
	baz=137						
IKSK				S	**Sg**	**16 19 52.0**	**-3.0**
	baz=137						
IKAL	**Kalfafell**	**0.69**	**187**	P	**Pg**	**16 19 44.0**	**-3.4**
	baz=188						
IKAL				S	**Sg**	**16 19 54.1**	**-2.2**
	baz=188						
ISVA	**Svartarkot**	**0.71**	**8**	P	**Pg**	**16 19 44.6**	**-3.1**
	baz=6.8						
ISVA				S	**Sg**	**16 19 54.7**	**-2.4**
	baz=6.8						
IVSH	**V-Sauoahnukur**	**0.78**	**76**	P	**Pg**	**16 19 45.2**	**-3.7**
	baz=75						
IADA	**Aoalbol**	**0.91**	**64**	P	**Pg**	**16 19 47.3**	**-4.0**
	baz=63						
IADA				S	**Sg**	**16 19 59.4**	**-3.8**
	baz=63						
IHVE	**Hveravellir**	**0.92**	**286**	P	**Pg**	**16 19 48.2**	**-3.5**
	baz=286						
IMEL	**Melhnausar**	**1.00**	**20**	P	**Pg**	**16 19 49.6**	**-3.7**
	baz=19						
ISNB	**Snabyli**	**1.03**	**209**	P	**Pg**	**16 19 49.9**	**-3.8**
	baz=210						
ISNB				S	**Sg**	**16 20 04.0**	**-3.1**
	baz=210						
IREN	**Reynihlio**	**1.05**	**13**	P	**Pg**	**16 19 50.1**	**-4.0**
	baz=12						
ISLY	**Slysaalda**	**1.08**	**222**	P	**Pg**	**16 19 50.7**	**-4.0**
	baz=223						
ISLY				S	**Sg**	**16 20 05.3**	**-3.4**
	baz=223						
IKVO	**Krokottuvotn**	**1.11**	**13**	P	**Pb**	**16 19 51.3**	**-4.0**
	baz=12						
IFED	**Fedgar**	**1.14**	**238**	P	**Pb**	**16 19 52.2**	**-3.5**
	baz=239						
IGRS	**Grimsstaoir**	**1.16**	**29**	P	**Pb**	**16 19 52.2**	**-3.9**
	baz=28						
IMJO	**Mjoaskard**	**1.18**	**234**	P	**Pb**	**16 19 53.0**	**-3.4**
	baz=235						
ISKI	**Skildingahlsh**	**1.26**	**9**	P	**Pn**	**16 19 53.6**	**-3.9**
	baz=8.0						
IHVO	**Lagu-Hvolar**	**1.26**	**209**	P	**Pn**	**16 19 54.0**	**-3.6**
	baz=210						
IGHA	**Grjothals**	**1.26**	**16**	P	**Pn**	**16 19 53.8**	**-3.9**
	baz=15						
IHAU	**Haukadalur**	**1.27**	**239**	P	**Pn**	**16 19 53.9**	**-3.8**
	baz=240						
IGRA	**Granastaoir**	**1.29**	**358**	P	**Pn**	**16 19 54.2**	**-3.7**
	baz=358						
IDIM	**Dimmadalss**	**1.35**	**10**	P	**Pn**	**16 19 55.3**	**-3.6**
	baz=9.1						
IALF	**Alftagrof**	**1.37**	**214**	P	**Pn**	**16 19 55.7**	**-3.3**
	baz=214						
IHLA	**Hella**	**1.37**	**344**	P	**Pn**	**16 19 55.6**	**-3.4**
	baz=344						
IESK	**Eystri-Skogar**	**1.41**	**219**	P	**Pn**	**16 19 56.4**	**-3.2**
	baz=219						
IMID	**Miomork**	**1.44**	**228**	P	**Pn**	**16 19 57.0**	**-3.0**
	baz=229						
IHED	**Heoinshofoi**	**1.46**	**3**	P	**Pn**	**16 19 56.9**	**-3.3**
	baz=2.4						
IBRE	**Brettingsstaoi**	**1.51**	**354**	P	**Pn**	**16 19 57.8**	**-3.2**
	baz=353						
ISIG	**Siglufjorour**	**1.62**	**339**	P	**Pn**	**16 19 59.6**	**-2.9**
	baz=339						
BORG	**Borgarnes**	**1.65**	**276**	Pn	**Pn**	**16 20 00.2**	**-2.8**
	71nm,0.3s,baz=95,slow=7.8,SNR=97						
BORG				Sn	**Sg**	**16 20 24.8**	**-2.1**
	32nm,0.3s,baz=45,slow=22,SNR=9.2						
ISOL	**Solvholt**	**1.66**	**246**	P	**Pn**	**16 20 00.3**	**-2.8**
	baz=247						
IKRO	**Krokur**	**1.67**	**253**	P	**Pn**	**16 20 00.3**	**-2.9**
	baz=253						
IHEI	**Heioarbar**	**1.68**	**257**	P	**Pn**	**16 20 00.4**	**-2.9**
	baz=257						
IHRN	**Hraun**	**1.85**	**325**	P	**Pn**	**16 20 03.3**	**-2.3**
	baz=324						
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**16 22 19.4**	**-1.8**
	baz=321,slow=13,SNR=17						
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**16 22 43.7**	**-2.0**
	0.0nm,0.3s,baz=299,slow=13,SNR=4.4						
NOA				LR	LR	16 28 10.6	
	comp=Z,79nm,19.9s,baz=300,slow=38						
KONO	**Kongsberg**	**13.54**	**99**↑	*eP*	**Pn**	**16 22 49.1**	**+3.3**
KONO				pmax	pmax		
	comp=Z,18nm,1.2s						
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	16 28 06.0	
	comp=Z,162nm,21.4s,baz=102,slow=38						
HFS	**Hagfors**	**15.04**	**93**	Pn	**P**	**16 23 11.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=344,slow=15,SNR=7.8						
SPITS	**Spitsbergen Ar**	**16.90**	**23**	LR	LR	16 29 11.6	
	comp=Z,30nm,20.3s,baz=230,slow=34						
ARCES	**ARCESS Array B**	**17.14**	**54**	P	**P**	**16 23 36.1**	**+1.4**
	baz=290,slow=10,SNR=2.0						
ARCES				LR	LR	16 28 55.1	
	comp=Z,143nm,20.1s,baz=280,slow=32						
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**16 24 04.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=297,slow=9.2,SNR=3.2						
FINES				LR	LR	16 31 14.7	
	comp=Z,87nm,19.9s,baz=302,slow=35						
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**16 24 13.8**	**0.0**
	comp=Z,12nm,1.2s						
CLL				*eS*	Sn	16 28 10.0	+0.8
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**16 24 13.8**	**0.0**
CLL				pmax	pmax		
	comp=Z,12nm,1.2s						
LVZ	**Lovozero**	**20.71**	**58**↑	*eP*	Pn	16 24 15.6	-0.7
LVZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P**	**16 24 21.4**	**0.0**
	comp=Z,67nm,1.8s						
	comp=N,207nm,15.4s						
	comp=E,220nm,10.7s						
	comp=Z,343nm,11.9s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P**	**16 24 21.4**	**0.0**
BRG				pmax	pmax		
	comp=Z,67nm,1.8s						
BRG				MLR	MLR		
	comp=N,207nm,15.4s						
BRG				MLR	MLR		
	comp=E,220nm,10.7s						
BRG				MLR	MLR		
	comp=Z,343nm,11.9s						
FRB	**Frobisher Bay**	**21.76**	**291**	LR	LR	16 31 55.8	
	comp=Z,117nm,21.0s,baz=72,slow=34						
PRA	**Prague**	**22.23**	**116**	AMS	AMS	16 35 30.0	
	comp=Z,100nm,11.1s						
PRU	**Pruhonice**	**22.33**	**116**	AMS	AMS	16 35 30.0	
	comp=Z,300nm,10.1s						
CHVC	**Chvalec**	**22.45**	**113**	*eP*	**P**	**16 24 35.0**	**+2.2**
GOPC	**GO Pecny, Ondr**	**22.49**	**115**	*eP*	**P**	**16 24 36.4**	**+3.2**
GOPC				AMS	AMS	16 35 30.0	
	comp=Z,300nm,9.0s						
GOPC	**GO Pecny, Ondr**	**22.49**	**115**	*eP*	**P**	**16 24 36.4**	**+3.2**
GOPC				MLR	MLR		
	comp=Z,300nm,9.0s						
KHC	**Kasperske Hory**	**22.66**	**118**	*eP*	**P**	**16 24 35.8**	**+0.8**
KHC				*ePP*	**sP**	**16 24 40.6**	**+0.8**
KHC	**Kasperske Hory**	**22.66**	**118**↓	*eP*	**P**	**16 24 37.6**	**+2.6**
KHC				pmax	pmax		
	comp=Z,14nm,1.0s						
DPC	**Dobruska-Polom**	**22.75**	**113**	*eP*	**P**	**16 24 37.5**	**+1.6**
DPC	**Dobruska-Polom**	**22.75**	**113**	*eP*	**P**	**16 24 37.5**	**+1.6**
DAVA	**Damuels**	**22.86**	**126**	*i* P	**P**	**16 24 40.5**	**+3.2**
	comp=Z,9.4nm,1.1s						
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**16 24 38.2**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=322,slow=8.5,SNR=9.1						
RETA	**Reutte**	**23.00**	**125**	*eP*	**P**	**16 24 41.8**	**+3.2**
	comp=Z,7.3nm,1.0s						
MOTA	**Moosalm**	**23.24**	**124**	*eP*	**P**	**16 24 43.3**	**+2.1**
	comp=Z,14nm,1.1s						
TREC	**Trest**	**23.26**	**116**	*eP*	**P**	**16 24 42.6**	**+1.4**
TREC	**Trest**	**23.26**	**116**	*eP*	**P**	**16 24 42.6**	**+1.4**
DAVOX	**Davos/Dischmat**	**23.30**	**127**	P	**P**	**16 24 42.1**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=311,slow=12,SNR=3.7						
SQTA	**Sankt Quirin**	**23.38**	**124**	*eP*	**P**	**16 24 43.2**	**+0.6**
	comp=Z,5.6nm,0.8s						
FETA	**Feichten**	**23.38**	**125**	*eP*	**P**	**16 24 46.9**	**+4.3**
	comp=Z,10.0nm,1.3s						
WATA	**Walderalm**	**23.42**	**124**	*eP*	**P**	**16 24 44.7**	**+1.8**
	comp=Z,9.4nm,1.5s						
WTTA	**Wattenberg**	**23.50**	**124**	*eP*	**P**	**16 24 43.7**	**-0.2**
	comp=Z,8.8nm,1.8s						
VRAC	**Vranov**	**23.68**	**114**	P	**P**	**16 24 45.4**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=328,slow=8.6,SNR=4.1						
VRAC				LR	LR	16 35 35.2	
	comp=Z,115nm,18.9s,baz=350,slow=41						
VRAC	**Vranov**	**23.68**	**114**	*eP*	**P**	**16 24 45.6**	**+0.2**
MORC	**Moravsky Berou**	**23.68**	**112**	*eP*	**P**	**16 24 45.4**	**0.0**
KRUC	**Moravsky**	**23.80**	**115**	*eP*	**P**	**16 24 46.2**	**-0.3**
MOA	**Molln**	**23.97**	**119**	P	**P**	**16 24 48.4**	**+0.2**
	comp=Z,14nm,1.4s						
CONA	**Conrad Observa**	**24.51**	**117**	*eP*	**P**	**16 24 54.6**	**+1.4**
	comp=Z,4.6nm,0.9s						
MICGM	**Minsk**	**24.56**	**93**	*e*	**P**	**16 24 56.0**	**+2.5**
MNK	**Minsk**	**24.56**	**93**	*eP*	**P**	**16 24 56.0**	**+2.5**
VYHS	**Vyhne**	**25.22**	**112**	*eP*	**P**	**16 25 00.5**	**+1.0**
VYHS	**Vyhne**	**25.22**	**112**	*eP*	**P**	**16 25 00.5**	**+1.0**
SOKA	**Soboth**	**25.24**	**120**	*eP*	**P**	**16 25 00.1**	**+0.3**
	comp=Z,4.4nm,1.3s						
SCHQ	**Schefferville**	**26.04**	**271**	LR	LR	16 34 01.1	
	comp=Z,77nm,20.1s,baz=352,slow=33						
ESDC	**Sonseca Array**	**26.22**	**156**	P	**P**	**16 25 09.4**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=337,slow=10,SNR=4.5						
ESDC				LR	LR	16 33 52.3	
	comp=Z,43nm,21.4s,baz=335,slow=33						
KOLS	**Kolonicke sedl**	**26.26**	**108**	*eP*	**P**	**16 25 11.8**	**+2.8**
KOLS	**Kolonicke sedl**	**26.26**	**108**	*eP*	**P**	**16 25 11.8**	**+2.8**
RES	**Resolute Bay**	**26.50**	**324**	LR	LR	16 35 01.0	
	comp=Z,35nm,18.3s,baz=74,slow=35						
UZH	**Uzhgorod**	**26.51**	**108**	*eP*	**P**	**16 25 12.2**	**+1.0**
UZH				*e*		16 25 15.7	
UZH				*e*		16 25 20.4	
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**16 25 27.0**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=314,slow=10.0,SNR=4.7						
AKASG	**Malin Array Be**	**27.84**	**98**	*ceP*	**P**	**16 25 27.7**	**+4.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**27.84**	**98**↑	*eP*	**P**	**16 25 26.5**	**+3.4**
OBN	**Obninsk**	**27.88**	**84**	LR	LR	16 36 21.2	
	comp=Z,14nm,21.3s,baz=18,slow=36						
OBN	**Obninsk**	**27.88**	**84**	*i* P	**P**	**16 25 26.6**	**+3.2**
OBN				*i*		16 25 36.9	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,39nm,13.0s						
KIRV	**Kirov**	**30.99**	**69**↑	*eP*	P	16 25 56.1	+5.2
NRIK	**Noril'sk**	**36.48**	**35**	P	P	16 26 42.1	+3.6
	comp=Z,0.9nm,0.4s,baz=333,slow=9.0,SNR=3.7						
NRIK	**Noril'sk**	**36.48**	**35**↑	*eP*	P	16 26 42.0	+3.5
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BR131	**Keskin Array S**	**38.47**	**105**↓	*eP*	**P**	**16 26 57.5**	**+1.6**
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**16 26 57.4**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=284,slow=7.3,SNR=4.1						
IDI	**Anoyia**	**38.80**	**118**	LR	LR	16 44 26.0	
	comp=Z,37nm,19.8s,baz=134,slow=38						
KIV	**Kislovodsk**	**38.84**	**92**	*eP*	P	16 27 03.4	+4.5
KIV				pmax	pmax		
	comp=Z,20nm,1.0s						
KIV				MLR	MLR		
	comp=Z,87nm,16.0s						
KBZ	**Khabaz**	**39.11**	**92**	LR	LR	16 43 34.2	
	comp=Z,55nm,20.4s,baz=328,slow=37						
KBZ	**Khabaz**	**39.11**	**92**↑	*eP*	**P**	**16 27 04.5**	**+3.5**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULM	**Lac du Bonnet**	**41.61**	**289**	LR	LR	16 42 51.4	
	comp=Z,46nm,18.2s,baz=81,slow=34						
TIXI	**Tiksi**	**42.06**	**15**↑	*eP*	P	16 27 28.3	+3.2
TIXI				pmax	pmax		
	comp=Z,27nm,1.3s						
BRVK	**Borovoye**	**43.15**	**62**↑	*eP*	**P**	**16 27 36.1**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ILAR	**Eielson Array**	**45.72**	**332**	P	**P**	**16 27 56.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=19,slow=6.6,SNR=6.7						
ILAR				PcP	**PcP**	**16 29 33.2**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=22,slow=3.1,SNR=4.3						
ILAR				LR	LR	16 50 44.5	
	comp=Z,24nm,19.8s,baz=16,slow=41						
COLA	**College**	**45.81**	**333**↓	*eP*	**P**	**16 27 57.8**	**+2.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**47.65**	**51**	P	**P**	**16 28 12.0**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=312,slow=8.7,SNR=4.0						
ZALV				LR	LR	16 48 15.7	
	comp=Z,20nm,21.8s,baz=188,slow=36						
ZALV	**Zalesovo Beam**	**47.65**	**51**	*i* P	P	16 28 13.8	+4.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**48.13**	**58**↑	*eP*	**P**	**16 28 14.0**	**+0.5**
KURK				pmax	pmax		
	comp=Z,13nm,2.5s						
MK31	**Makanchi Array**	**52.74**	**58**↓	*eP*	**P**	**16 28 50.8**	**+2.3**
MKAR	**Makanchi Array**	**52.74**	**58**	P	**P**	**16 28 48.5**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=333,slow=6.8,SNR=6.4						
MKAR	**Makanchi Array**	**52.74**	**58**	*ceP*	**P**	**16 28 51.0**	**+2.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**16 28 50.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=340,slow=8.9,SNR=5.7						
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**16 28 52.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=46,slow=5.5,SNR=13						
PDAR				LR	LR	16 50 18.0	
	comp=Z,81nm,18.7s,baz=78,slow=35						
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**16 29 39.5**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=0.0,slow=5.8,SNR=2.9						
SONM				LR	LR	16 57 42.3	
	comp=Z,50nm,18.2s,baz=342,slow=38						
NVAR	**Mina Array Bea**	**60.32**	**297**	LR	LR	16 54 54.6	
	comp=Z,95nm,21.4s,baz=89,slow=35						
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**16 29 57.1**	**+1.1**
	comp=Z,0.8nm,1.0s,baz=46,slow=5.4,SNR=4.9						
TXAR				LR	LR	16 56 12.7	
	comp=Z,71nm,18.1s,baz=0.0,slow=35						
CMAR	**Chiang Mai Arr**	**84.15**	**59**	P	**P**	**16 32 05.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=315,slow=7.1,SNR=6.9						
CMAR				LR	LR	17 11 55.8	
	comp=Z,14nm,19.4s,baz=190,slow=37						
BOSA	**Boshof**	**98.73**	**143**	LR	LR	17 23 35.5	
	comp=Z,32nm,19.0s,baz=352,slow=39						
ASAR	**Alice Springs**	**134.99**	**38**	PKP	**PKiKP**	**16 38 54.1**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=352,slow=0.3,SNR=4.8						

IDC 17 16:29:53.8±1.5, **5.72S**×**150.71E**, **h0**km, **mb3.3**/3, **mb1 3.6**/3, **mb1mx3.4**/30, **mbtmp3.4**/3, **Error ellipse: s-maj=92.7km s-min=18.6km az=135.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.92**	**43**	Pn	Pb	16 30 28.7	-0.9
	143nm,0.3s,baz=306,slow=0.6,SNR=80						
KRVT				Sn	Sn	16 30 53.1	+0.5
	75nm,0.3s,baz=148,slow=24,SNR=10						
KRVT				LR	LR	16 31 21.0	
	comp=Z,122nm,18.3s,baz=128,slow=46						
WRA	**Warramunga Arr**	**21.29**	**227**	P	P	16 34 42.5	+0.4
	0.4nm,0.4s,baz=53,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.09**	**221**	P	P	16 35 11.4	+0.2
	0.5nm,0.5s,baz=58,slow=9.0,SNR=19						
FITZ	**Fitzroy Crossi**	**27.39**	**241**	P	P	16 35 41.4	+0.2
	0.5nm,0.4s,baz=72,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.58**	**286**	PKPbc	PKPbc	16 49 42.0	-1.8
	0.7nm,0.6s,baz=67,slow=2.4,SNR=4.4						

IDC ***17*** *16:34:05.3*±*0.9, 7.91S*×*75.43W, h37km*±*8km, mb3.5/3, mb1 3.8/8, mb1mx3.6/36, mbtmp3.8/8, ML3.7/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/32, Error ellipse: s-maj=25.2km s-min=20.4km az=65.0*
VAO ***17*** *16:34:31.5*±*0.9, 8.59S*×*73.51W, h62km*±*8km, mbR3.8*
ISC 17 16:34:05.2±0.6, **7.90S**±0.07×**75.37W**±0.07, **h35**km, **n27,** σ1°28/26, **mb4.0**/4, **Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.65**	**87**	*eP*	Pn	16 34 50.1	+4.8
ATAH	**Atahualpa**	**3.09**	**284**	Pn	**Pn**	**16 34 51.1**	**-0.8**
	4.5nm,0.3s,baz=2.8,slow=3.9,SNR=56						
ATAH				Sn	**Sn**	**16 35 31.1**	**+3.3**
	45nm,0.3s,baz=81,slow=18,SNR=12						
ATAH				LR	LR	16 36 25.6	
	comp=Z,337nm,21.1s,baz=162,slow=46						
NNA	**Nana**	**4.32**	**200**	Pn	**Pn**	**16 35 08.8**	**+0.4**
	11nm,0.3s,baz=17,slow=3.9,SNR=16						
NNA				Sn	**Sn**	**16 35 56.1**	**-1.4**
	43nm,0.3s,baz=204,slow=16,SNR=14						
NNA				LR	LR	16 37 13.8	
	comp=Z,113nm,20.4s,baz=17,slow=44						
ETMB	**Extrema**	**9.25**	**103**	*eP*	**Pn**	**16 36 16.1**	**0.0**
LPAZ	**La Paz**	**10.94**	**140**	Pn	**Pn**	**16 36 40.7**	**+0.9**
	0.2nm,0.3s,baz=353,slow=8.1,SNR=2.4						
LPAZ				LR	LR	16 41 46.7	
	comp=Z,77nm,18.9s,baz=20,slow=42						
LPAZ	**La Paz**	**10.94**	**140**	*eP*	**Pn**	**16 36 42.5**	**+2.7**
SAML	**Samuel**	**12.10**	**96**	*eP*	**Pn**	**16 36 56.3**	**+1.1**
MACA	**Man

CUC				AML	AML		
	comp=N,95μm,1.0s						
CUC				AML	AML		
	comp=N,97μm,1.0s						
MGR	**Morigerati**	**0.20**	**338**	⇓P	**Pn**	**16 41 00.9**	**+0.7**
MGR				S	**S**	**16 41 28.1**	**+0.1**
MGR				AML	AML		
	comp=N,114μm,0.4s						
MGR				AML	AML		
	comp=E,82μm,0.6s						
MGR				AML	AML		
	comp=E,82μm,0.6s						
BULG	**Bulgheria - Ca**	**0.25**	**301**	P	**Pn**	**16 41 01.3**	**+0.9**
BULG				AML	AML		
	comp=N,219μm,0.4s						
BULG				AML	AML		
	comp=E,102μm,0.8s						
SIRI	**Monte Sirino -**	**0.28**	**35**	P	**Pn**	**16 41 01.5**	**+1.0**
SIRI				AML	AML		
	comp=E,172μm,0.4s						
SIRI				AML	AML		
	comp=N,128μm,0.4s						
SIRI				AML	AML		
	comp=N,134μm,1.0s						
SIRI				AML	AML		
	comp=E,183μm,0.4s						
MTSN	**Montesano sull**	**0.33**	**13**	P	**Pn**	**16 41 00.9**	**+0.3**
MTSN				AML	AML		
	comp=E,61μm,0.4s						
MTSN				AML	AML		
	comp=N,100μm,0.4s						
MTSN				AML	AML		
	comp=N,100μm,0.4s						
MTSN				AML	AML		
	comp=E,61μm,0.4s						
MCEL	**Monticello**	**0.39**	**17**	⇓P	**Pn**	**16 41 01.8**	**+1.2**
MCEL				AML	AML		
	comp=N,110μm,0.6s						
MCEL				AML	AML		
	comp=E,137μm,0.8s						
MCEL				AML	AML		
	comp=N,110μm,0.6s						
T0702	**Acquaformosa (**	**0.40**	**124**	⇓P	**Pn**	**16 41 00.9**	**+0.2**
T0702				S	**S**	**16 41 28.1**	**-0.7**
SCHR	**S. Chirico Rap**	**0.41**	**52**	⇓P	**Pn**	**16 41 01.4**	**+0.7**
SCHR				S	**S**	**16 41 29.7**	**+1.0**
SCHR				AML	AML		
	comp=E,65μm,0.4s						
SCHR				AML	AML		
	comp=N,62μm,0.3s						
SLCN	**Sala Consilina**	**0.44**	**358**	⇓P	**Pn**	**16 41 01.5**	**+0.7**
SLCN				AML	AML		
	comp=N,148μm,0.4s						
SLCN				AML	AML		
	comp=E,210μm,0.4s						
SLCN				AML	AML		
	comp=E,437μm,1.5s						
SLCN				AML	AML		
	comp=N,426μm,1.4s						
CMPR	**Campora**	**0.46**	**324**	P	**Pn**	**16 41 01.5**	**+0.7**
CMPR				P		16 41 10.2	
CMPR				AML	AML		
	comp=E,52μm,1.2s						
CMPR				AML	AML		
	comp=N,56μm,0.5s						
CMPR				AML	AML		
	comp=E,52μm,1.2s						
CET2	**Cetraro**	**0.48**	**151**	⇓P	**Pn**	**16 41 01.1**	**+0.1**
CET2				S	**S**	**16 41 28.0**	**-1.1**
CET2				AML	AML		
	comp=E,2375μm,0.7s						
CET2				AML	AML		
	comp=N,1440μm,0.4s						
CET2				AML	AML		
	comp=N,1445μm,0.4s						
SALB	**San Lorenzo Be**	**0.54**	**98**	⇓P	**Pn**	**16 41 01.4**	**+0.3**
SALB				S	**S**	**16 41 29.1**	**-0.3**
SALB				AML	AML		
	comp=E,420μm,0.3s						
SALB				AML	AML		
	comp=N,264μm,0.6s						
SALB				AML	AML		
	comp=E,450μm,0.3s						
SALB				AML	AML		
	comp=E,449μm,0.3s						
SALB				AML	AML		
	comp=N,277μm,1.5s						
CDRU	**Civita di Ruta**	**0.60**	**334**	⇓P	**Pn**	**16 41 02.0**	**+0.8**
CDRU				AML	AML		
	comp=N,49μm,0.9s						
CDRU				AML	AML		
	comp=E,51μm,1.3s						
CDRU				AML	AML		
	comp=N,49μm,0.9s						
ORI	**Oriolo Calabro**	**0.62**	**79**	P	**Pn**	**16 41 02.2**	**+1.0**
ORI				AML	AML		
	comp=E,492μm,0.3s						
ORI				AML	AML		
	comp=N,680μm,0.4s						
CAR1	**CAROLEI**	**0.82**	**148**	P	**Pn**	**16 41 02.1**	**0.0**
CAR1				S	**S**	**16 41 29.4**	**-1.7**
CAR1				AML	AML		
	comp=E,984μm,0.9s						
CAR1				AML	AML		
	comp=N,1225μm,0.7s						
CAR1				AML	AML		
	comp=E,987μm,0.9s						
CAR1				AML	AML		
	comp=N,1225μm,0.7s						
CAR1				AML	AML		
	comp=E,1290μm,0.9s						
CAR1				AML	AML		
	comp=N,1226μm,0.7s						
CAR1				AML	AML		
	comp=N,1038μm,0.8s						
CAR1				AML	AML		
	comp=E,984μm,0.9s						
CELI	**Celico**	**0.86**	**129**	⇓P	**Pn**	**16 41 03.6**	**+1.2**
CELI				S	**S**	**16 41 32.4**	**+0.8**
CELI				AML	AML		
	comp=E,1143μm,1.6s						
CELI				AML	AML		
	comp=E,427μm,1.6s						
CELI				AML	AML		
	comp=N,579μm,0.6s						
CELI				AML	AML		
	comp=E,1144μm,1.6s						
CELI				AML	AML		
	comp=N,1410μm,0.6s						
CELI				AML	AML		
	comp=E,1142μm,1.6s						
CELI				AML	AML		
	comp=N,1415μm,0.6s						
MIGL	**Miglionico**	**0.89**	**42**	P	**Pn**	**16 41 02.2**	**0.0**
MIGL				AML	AML		
	comp=E,330μm,1.6s						
MIGL				AML	AML		
	comp=N,364μm,0.5s						
MCRV	**Calabrutti - M**	**0.91**	**336**	⇓P	Pn	16 41 09.3	+6.8
PIPA	**Pietrapaola**	**1.01**	**117**	⇓P	**Pn**	**16 41 03.5**	**+0.6**
PIPA				AML	AML		
	comp=E,579μm,0.9s						
PIPA				AML	AML		
	comp=E,524μm,0.9s						
PIPA				AML	AML		
	comp=N,448μm,0.2s						
PIPA				AML	AML		
	comp=E,595μm,0.9s						
PIPA				AML	AML		
	comp=N,418μm,0.3s						
PIPA				AML	AML		
	comp=N,448μm,0.2s						
PIPA				AML	AML		
	comp=E,580μm,0.9s						
MATE	**Matera**	**1.06**	**49**	⇓P	**Pn**	**16 41 03.4**	**+0.3**
MATE				S	**S**	**16 41 32.4**	**-0.6**
MATE				AML	AML		
	comp=E,112μm,0.4s						
MATE				AML	AML		
	comp=N,158μm,0.7s						
TIP	**Timpagrande**	**1.15**	**132**	⇓P	**Pn**	**16 41 04.5**	**+0.7**
TIP				S	**S**	**16 41 32.5**	**-1.7**
TIP				AML	AML		
	comp=E,338μm,0.5s						
TIP				AML	AML		
	comp=N,145μm,1.0s						
TIP				AML	AML		
	comp=E,414μm,1.4s						
TIP				AML	AML		
	comp=N,172μm,0.6s						
TIP				AML	AML		
	comp=N,219μm,0.9s						
TIP				AML	AML		
	comp=E,418μm,1.4s						
TIP				AML	AML		
	comp=N,283μm,0.9s						
TIP				AML	AML		
	comp=E,337μm,0.5s						
AMUR	**Altamura**	**1.20**	**37**	⇓P	**Pn**	**16 41 04.3**	**+0.4**
AMUR				S	**S**	**16 41 33.9**	**-0.6**
AMUR				AML	AML		
	comp=E,88μm,1.6s						
AMUR				AML	AML		
	comp=N,81μm,0.6s						
SERS	**Sersale**	**1.22**	**138**	⇓P	**Pn**	**16 41 04.8**	**+0.6**
SERS				S	**S**	**16 41 34.4**	**-0.5**
SERS				AML	AML		
	comp=E,536μm,0.4s						
SERS				AML	AML		
	comp=N,303μm,1.1s						
SERS				AML	AML		
	comp=N,647μm,0.4s						
SERS				AML	AML		
	comp=E,498μm,1.0s						
GRI	**Girifalco**	**1.27**	**152**	P	**Pn**	**16 41 05.3**	**+0.9**
GRI				S	**S**	**16 41 35.3**	**-0.1**
GRI				AML	AML		
	comp=E,306μm,0.5s						
GRI				AML	AML		
	comp=N,824μm,1.4s						
GRI				AML	AML		
	comp=N,828μm,1.4s						
GRI				AML	AML		
	comp=E,886μm,0.4s						
JOPP	**Joppolo**	**1.35**	**172**	⇑P	**Pn**	**16 41 04.9**	**-0.1**
JOPP				S	**S**	**16 41 34.6**	**-1.8**
JOPP				AML	AML		
	comp=N,532μm,0.9s						
JOPP				AML	AML		
	comp=E,824μm,0.3s						
NOCI	**Noci**	**1.37**	**52**	⇓P	**Pn**	**16 41 05.3**	**+0.4**
NOCI				AML	AML		
	comp=E,111μm,1.3s						
NOCI				AML	AML		
	comp=N,158μm,1.4s						
PLAC	**Placanica**	**1.62**	**158**	P	**Pn**	**16 41 06.9**	**+0.1**
PLAC				S	**S**	**16 41 38.2**	**-1.5**
PLAC				AML	AML		
	comp=N,1170μm,0.5s						
PLAC				AML	AML		
	comp=E,732μm,0.6s						
PTRJ	**Pietraroja**	**1.65**	**329**	P	**Pn**	**16 41 05.9**	**-1.1**
VPL	**Vulcano Piano**	**1.65**	**199**	AML	AML		
	comp=E,452μm,0.9s						
VPL				AML	AML		
	comp=N,480μm,0.7s						
MSRU	**Castanea**	**1.69**	**184**	P	**Pn**	**16 41 07.1**	**-0.2**
MSRU				S	**S**	**16 41 38.7**	**-1.9**
MSAG	**Monte S. Angel**	**1.77**	**6**	P	**Pn**	**16 41 06.5**	**-1.3**
GMB	**Gambarie**	**1.79**	**176**	P	**Pn**	**16 41 08.1**	**-0.1**
GMB				AML	AML		
	comp=N,1505μm,0.5s						
GMB				AML	AML		
	comp=E,1465μm,0.2s						
SOI	**Samo**	**1.90**	**170**	P	**Pn**	**16 41 09.0**	**0.0**
SOI				AML	AML		
	comp=E,195μm,1.0s						
SOI				AML	AML		
	comp=N,236μm,0.5s						
MCSR	**Castroreale**	**1.91**	**190**	P	**Pn**	**16 41 09.4**	**+0.3**
MCSR				AML	AML		
	comp=E,356μm,0.3s						
MCSR				AML	AML		
	comp=N,420μm,0.3s						
AIO	**Antillo**	**2.00**	**190**	P	**Pn**	**16 41 10.6**	**+0.7**
MSFR	**San Fratello**	**2.09**	**204**	P	**Pn**	**16 41 11.9**	**+1.3**
MSFR				AML	AML		
	comp=N,61μm,1.0s						
MSFR				AML	AML		
	comp=E,46μm,0.4s						
SCTE	**Santa Cesarea**	**2.17**	**86**	⇓P	**Pn**	**16 41 11.5**	**+0.4**
SCTE				AML	AML		
	comp=E,115μm,0.7s						
SCTE				AML	AML		
	comp=N,135μm,0.8s						
GALF	**Gagliano Caste**	**2.39**	**201**	P	**Pn**	**16 41 15.4**	**+2.0**
GALF				AML	AML		
	comp=N,183μm,0.6s						
GALF				AML	AML		
	comp=E,190μm,0.5s						
ALJA	**Alia**	**2.65**	**215**	P	**Pn**	**16 41 18.3**	**+2.5**
VAE	**Valguarnera**	**2.65**	**202**	P	**Pn**	**16 41 18.6**	**+2.7**
	comp=E,6.1nm,0.3s,baz=111,slow=0.7,SNR=4.2						
HLNI	**Lentini**	**2.67**	**193**	P	**Pn**	**16 41 16.5**	**+0.5**
HLNI				AML	AML		
	comp=N,76μm,0.8s						
HLNI				AML	AML		
	comp=E,65μm,0.7s						
SSY	**Sortino**	**2.83**	**189**	P	**Pn**	**16 41 17.3**	**-0.3**
MEU	**Monte Lauro**	**2.90**	**191**	P	**Pn**	**16 41 19.1**	**+0.7**
RAFF	**Raffo Rosso**	**2.91**	**201**	P	**Pn**	**16 41 19.8**	**+1.5**
CRJA	**Costa Raja**	**2.98**	**225**	⇑P	**Pn**	**16 41 21.5**	**+2.4**
HAVL	**Avola**	**3.01**	**188**	⇑P	**Pn**	**16 41 19.4**	**-0.1**
MTGR	**Montagna Grand**	**3.05**	**229**	⇓P	**Pn**	**16 41 20.9**	**+1.0**
MMGO	**Monte Magaggia**	**3.10**	**223**	P	**Pn**	**16 41 21.6**	**+1.3**
SRN	**Sarande**	**3.34**	**90**	S	**S**	**16 42 13.0**	**+4.3**
PP3	**Marolino**	**3.75**	**337**	S	**S**	**16 42 16.0**	**-0.7**
OBKA	**Obir**	**6.61**	**353**	*e*Pn	**Pn**	**16 42 01.7**	**+0.4**
	comp=E,3.4nm,0.5s						
SOKA	**Soboth**	**6.74**	**356**	*e*Pn	**Pn**	**16 42 03.1**	**+0.2**
	comp=E,1.3nm,0.5s						
ABTA	**Abfaltersbach**	**7.17**	**342**	*e*Pn	**Pn**	**16 42 09.0**	**+0.7**
	comp=E,7.3nm,0.6s						
DAVOX	**Davos/Dischmat**	**8.02**	**330**	P	**Pn**	**16 42 20.3**	**+1.4**
	comp=E,0.4nm,0.3s,baz=337,slow=7.8,SNR=5.8						
GERES	**GERESS Array B**	**9.00**	**352**	P	**Pn**	**16 42 31.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=163,slow=13,SNR=19						
BRG	**Berggiesshubel**	**10.99**	**354**	*i* P	**P**	**16 43 00.6**	**+1.5**
	comp=E,7.5nm,1.0s						
AKASG	**Malin Array Be**	**14.35**	**37**	P	**Pn**	**16 43 36.8**	**+0.2**
	comp=E,1.3nm,0.3s,baz=230,slow=10,SNR=11						
ESDC	**Sonseca Array**	**15.08**	**275**	P	**Pn**	**16 43 47.6**	**+2.0**
	comp=E,0.2nm,0.3s,baz=74,slow=11,SNR=9.5						
HFS	**Hagfors**	**20.24**	**357**	P	**P**	**16 44 38.6**	**-1.4**
	comp=E,3.8nm,0.5s,baz=159,slow=9.5,SNR=11						
NB2	**NORSAR Subarra**	**21.29**	**354**	P	**P**	**16 44 48.5**	**-2.1**
	comp=Z,2.3nm,1.0s,baz=171,slow=11						
NOA	**NORSAR Array B**	**21.29**	**354**	P	**P**	**16 44 49.3**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=170,slow=7.7,SNR=4.1						
FINES	**FINESS Array B**	**22.45**	**13**	P	**P**	**16 45 00.3**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=194,slow=9.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**29.39**	**209**	P	**P**	**16 46 03.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=20,slow=9.7,SNR=6.0						
ARCES	**ARCESS Array B**	**30.11**	**7**	P	**P**	**16 46 08.2**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=190,slow=10,SNR=1.8						
DBIC	**Dimbokro**	**37.91**	**215**	P	**P**	**16 47 16.1**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=18,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**47.35**	**49**	P	**P**	**16 48 31.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=297,slow=9.5,SNR=1.7						
MKAR	**Makanchi Array**	**47.61**	**59**	P	**P**	**16 48 33.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=286,slow=6.7,SNR=8.9						

IDC 17 16:40:51.0±54.0, 16°.58S×176°.01W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/35, mbtmp3.9/3, Error ellipse: s-maj=1016.0km s-min=177.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.27**	**240**	P	P	16 48 38.6	+0.4
	0.6nm,0.3s,baz=102,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**47.14**	**258**	P	P	16 49 25.5	+0.1
	0.3nm,0.3s,baz=95,slow=7.2,SNR=9.7						
ASAR	**Alice Springs**	**47.36**	**253**	P	P	16 49 26.5	-0.7
	1.5nm,0.6s,baz=88,slow=8.6,SNR=35						

IDC 17 16:44:48.3±1.6, 2°.73S×126°.77E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/34, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=33.9km s-min=26.5km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.86**	**68**	Pn	Pn	16 46 04.5	+1.7
	3.2nm,0.3s,baz=263,slow=24,SNR=15						
SIJI				Sn	Sn	16 47 00.3	+0.5
	2.1nm,0.3s,baz=94,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**15.31**	**184**	Pn	P	16 48 30.8	-0.1
	0.1nm,0.3s,baz=19,slow=8.8,SNR=2.0						
WRA	**Warramunga Arr**	**18.64**	**157**	P	P	16 49 07.6	-0.1
	0.2nm,0.3s,baz=339,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.93**	**162**	P	P	16 49 43.0	-0.6
	0.5nm,0.3s,baz=345,slow=12,SNR=6.4						
MKAR	**Makanchi Array**	**62.92**	**327**	P	P	16 55 16.4	-0.1
	0.6nm,0.7s,baz=128,slow=7.9,SNR=5.1						

*IDC **17** 16:51:20.1±2.8, 39°.23N×142°.97E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/41, mbtmp3.4/4, ML2.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/33, Error ellipse: s-maj=68.4km s-min=35.8km az=60.0*

*JMA **17** 16:51:26.8±0.1, 39°.08N×142°.39E, h35km±1km, M3.1*

ISC 17 16:51:26.4±2.4, 39°.09N±0°.05×142°.4E±0°.1, h27km±14km, n19, σ0°.93/19, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**269**	P	**Pb**	**16 51 38.2**	**+0.3**
OFUJ				*e*S	**Sb**	**16 51 46.0**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.67**	**317**	P	**Pb**	**16 51 39.4**	**-0.1**
MIYJ				S	**Sb**	**16 51 48.2**	**-0.2**
JKMT	**Kesennumamotoy**	**0.78**	**249**	P	**Pb**	**16 51 40.9**	**-0.4**
JKMT				S	**Sb**	**16 51 50.7**	**-0.8**
JMK	**Ichinoseki**	**0.94**	**262**	P	**Pn**	**16 51 43.4**	**-0.3**
JMK				*e*S	**Sb**	**16 51 55.3**	**-0.7**
JOM	**Ohasama**	**0.95**	**294**	P	**Pn**	**16 51 43.8**	**-0.1**
JOM				S	**Sb**	**16 51 56.2**	**-0.1**
JTH	**Tanohata**	**0.95**	**334**	P	**Pn**	**16 51 43.6**	**-0.3**
JTH				*e*S	**Sb**	**16 51 56.9**	**+0.5**
JIO	**Ouri**	**1.04**	**233**	P	**Pn**	**16 51 44.3**	**-0.9**
JKZ	**Kuzumaki**	**1.22**	**317**	P	**Pn**	**16 51 48.2**	**+0.5**
JKZ				S	**Sn**	**16 52 03.6**	**+0.2**
MJAR	**Matsushiro Arr**	**4.18**	**234**	Pn	**Pn**	**16 52 31.4**	**+3.0**
	0.2nm,0.3s,baz=46,slow=9.4,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	17 27 45.1	
	baz=317,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	17 27 44.9	
	baz=317,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.63**	**125**	T	T	17 27 45.7	
	baz=317,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.40**	**127**	T	T	17 28 41.6	
	baz=319,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**29.40**	**127**	T	T	17 28 42.1	
	baz=319,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	17 28 44.9	
	baz=319,slow=76,SNR=6.8						
MKAR	**Makanchi Array**	**43.72**	**300**	P	**P**	**16 59 29.3**	**+0.2**
	1.3nm,1.1s,baz=91,slow=8.4,SNR=4.2						
ARU	**Arti**	**55.35**	**318**	LR	LR	17 25 36.8	
	comp=Z,59nm,21.6s,baz=190,slow=37						
WRA	**Warramunga Arr**	**59.20**	**189**	P	**P**	**17 01 24.1**	**-1.0**
	0.2nm,0.4s,baz=6.4,slow=7.2,SNR=8.7						
ASAR	**Alice Springs**	**62.93**	**189**	P	**P**	**17 01 50.1**	**-0.2**
	0.3nm,0.8s,baz=354,slow=5.6,SNR=2.2						

*ANF **17** 17:01:03.4±0.5, 37°.11N×104°.99W, h4km±4km, ML4.4/16, Error ellipse: s-maj=2.7km s-min=2.3km az=40.0*

*NEIC **17** 17:01:05.4±1.6, 37°.02N±0°.04×104°.92W±0°.05, h5km±6km, mb_Lg3.7/132, ML3.8/85, Error ellipse: s-maj=6.4km s-min=5.0km az=149.0*

ISC 17 17:01:05.7±0.7, 37°.09N±0°.02×104°.96W±0°.03, h10km, n135, σ1°.53/142, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.44**	**83**	P	**Pg**	**17 01 12.7**	**-1.7**
	baz=253						
T25A				S	**Sg**	**17 01 18.4**	**-1.8**
	baz=253						
T25A	**Trinidad**	**0.44**	**83**		**Pg**	**17 01 12.7**	**-1.7**
T25A				Sg	**Sg**	**17 01 18.9**	**-1.4**
SDCO	**Great Sand Dun**	**0.79**	**327**	Pb	**Pg**	**17 01 19.2**	**-1.7**
	baz=147,SNR=27						
SDCO				Sb	**Sg**	**17 01 30.5**	**-0.7**
	baz=147						
SDCO	**Great Sand Dun**	**0.79**	**327**	Pg	**Pb**	**17 01 21.0**	**-0.6**
S22A	**4UR Ranch, Cre**	**1.63**	**294**	Pg	**Pn**	**17 01 34.4**	**-0.3**
	baz=115,SNR=96						
S22A				Sb	**Sn**	**17 01 55.8**	**-0.1**
	baz=115						
S22A	**4UR Ranch, Cre**	**1.63**	**294**		**Pn**	**17 01 34.4**	**-0.3**
S22A				Sn	**Sn**	**17 01 55.6**	**-0.3**
S22A				IAML		17 01 56.7	
	comp=N,1μm,0.1s						
S22A				IAML		17 02 01.4	
	comp=E,902nm,0.7s						
Q24A	**Divide**	**1.88**	**355**	Pg	**Pb**	**17 01 39.3**	**-0.9**
	baz=174,SNR=22						
Q24A				Sg	**Sb**	**17 02 04.6**	**+0.6**
	baz=174						
Q24A	**Divide**	**1.88**	**355**		**Pb**	**17 01 39.4**	**-0.9**
Q24A				Sn	**Sb**	**17 02 04.5**	**+0.5**
Q24A				IAML		17 02 05.6	
	comp=N,713nm,0.2s						
ANMO	**Albuquerque**	**2.46**	**210**	P	**Pn**	**17 01 45.1**	**-0.9**
	baz=31						
ANMO				S	**Sn**	**17 02 16.3**	**+0.1**
	baz=31						
ANMO	**Albuquerque**	**2.46**	**210**	Pn	**Pn**	**17 01 45.0**	**-0.9**
KSCO	**Kaye Shedlock'**	**2.66**	**43**	Pb	**Pn**	**17 01 50.6**	**+1.8**
	baz=223,SNR=62						
KSCO				Sb	**Sb**	**17 02 27.2**	**+0.9**
	baz=223						
KSCO	**Kaye Shedlock'**	**2.66**	**43**		**Pn**	**17 01 50.3**	**+1.5**
KSCO				IAmb_Lg		17 02 37.6	
	comp=Z,214nm,0.7s						
ISCO	**Idaho Springs**	**2.76**	**349**	Pb	**Pb**	**17 01 52.5**	**-2.8**
	baz=168						
ISCO				Sb	**Sb**	**17 02 29.7**	**+0.4**
	baz=168						
ISCO	**Idaho Springs**	**2.76**	**349**	Pn	**Pb**	**17 01 52.4**	**-2.8**
MVCO	**Mesa Verde**	**2.83**	**274**	Pb	**Pb**	**17 01 54.0**	**-2.4**
	baz=93,SNR=58						
MVCO				Sb	**Sb**	**17 02 32.0**	**+0.7**
	baz=93						
MVCO	**Mesa Verde**	**2.83**	**274**		**Pn**	**17 01 52.4**	**+1.2**
PV01	**Paradox Valley**	**3.05**	**291**		**Pn**	**17 01 55.6**	**+1.4**
PV01				IAML		17 02 43.4	
	comp=E,215nm,0.8s						
PV01				IAML		17 02 44.6	
	comp=N,193nm,1.4s						
PV15	**Paradox Valley**	**3.06**	**295**	Pn	**Pn**	**17 01 55.3**	**+1.0**
PV15				IAML		17 02 47.4	
	comp=N,206nm,0.9s						
PV15				IAML		17 02 49.9	
	comp=E,282nm,0.8s						
PV02	**Paradox Valley**	**3.20**	**292**		**Pn**	**17 01 57.6**	**+1.4**
PV02				IAML		17 02 59.8	
	comp=E,200nm,1.2s						
PV07	**Paradox Valley**	**3.22**	**296**		**Pn**	**17 01 57.9**	**+1.4**
PV07				IAML		17 02 53.2	
	comp=N,162nm,0.8s						
BNM	**Barren Site**	**3.23**	**205**	Pn	**Pn**	**17 01 57.1**	**+0.4**
PV13	**Radium Mtn., P**	**3.25**	**290**	Pn	**Pn**	**17 01 58.5**	**+1.6**
PV13				IAML		17 02 52.9	
	comp=N,251nm,1.3s						
PV13				IAML		17 03 01.5	
	comp=E,223nm,0.9s						
PV12	**Saucer Basin,**	**3.29**	**293**		**Pn**	**17 01 59.4**	**+2.0**
PV03	**Paradox Valley**	**3.30**	**292**		**Pn**	**17 01 59.1**	**+1.5**
PV03				IAML		17 03 03.8	
	comp=N,163nm,1.6s						
PV11	**David Mesa, Pa**	**3.33**	**292**	Pn	**Pn**	**17 01 59.8**	**+1.8**
PV18	**Skein Mesa, Pa**	**3.34**	**291**		**Pn**	**17 01 59.7**	**+1.6**
PV18				IAML		17 02 59.4	
	comp=N,142nm,1.3s						
PV18				IAML		17 03 05.1	
	comp=E,130nm,1.1s						
LENM	**Lemitar**	**3.34**	**210**		**Pn**	**17 01 59.4**	**+1.2**
PV22	**Blue Mesa, Par**	**3.36**	**297**		**Pn**	**17 02 01.2**	**+2.8**
PV22				IAML		17 02 53.1	
	comp=E,151nm,0.8s						
PV22				IAML		17 02 55.5	
	comp=N,292nm,0.9s						

PV16	**Nyswonger Mesa**	**3.37**	**292**	Pn	**Pn**	**17 02 00.1**	**+1.6**
PV16				IAML		17 03 00.3	
	comp=E,221nm,1.6s						
PV04	**Paradox Valley**	**3.39**	**294**		**Pn**	**17 02 00.5**	**+1.7**
PV17	**East Wray Mesa**	**3.39**	**292**	Pn	**Pn**	**17 02 00.4**	**+1.6**
PV17				IAML		17 03 01.2	
	comp=E,133nm,1.3s						
PV17				IAML		17 03 02.7	
	comp=N,171nm,1.0s						
Y22D	**IRIS PASSCAL I**	**3.40**	**209**	Sb	**Sb**	**17 02 47.9**	**+0.2**
	baz=28						
Y22D	**IRIS PASSCAL I**	**3.40**	**209**		**Pn**	**17 01 58.4**	**-0.5**
PV20	**West Nyswonger**	**3.42**	**293**	Pn	**Pn**	**17 02 00.8**	**+1.6**
PV19	**Morning Glory**	**3.42**	**292**		**Pn**	**17 02 00.8**	**+1.6**
PV19				IAML		17 03 00.7	
	comp=N,159nm,1.8s						
PV05	**Paradox Valley**	**3.43**	**288**		**Pn**	**17 01 59.9**	**+0.5**
AMTX	**Amarillo**	**3.45**	**129**	P	**Pn**	**17 01 58.1**	**-1.4**
	baz=310						
AMTX				Sb	**Sb**	**17 02 48.5**	**-0.4**
	baz=310						
AMTX	**Amarillo**	**3.45**	**129**	Pn	**Pn**	**17 01 58.7**	**-0.8**
AMTX				IAmb_Lg		17 02 58.6	
	comp=Z,196nm,0.8s						
PV14	**Lion Creek, Pa**	**3.47**	**293**		**Pn**	**17 02 01.7**	**+1.7**
PV14				IAML		17 03 00.4	
	comp=N,252nm,1.3s						
PV14				IAML		17 03 06.2	
	comp=E,210nm,1.2s						
PV10	**Paradox Valley**	**3.48**	**293**	Pn	**Pn**	**17 02 01.7**	**+1.5**
PV10				IAML		17 03 07.5	
	comp=N,207nm,1.4s						
PV10				IAML		17 03 11.6	
	comp=E,166nm,1.0s						
PV23	**Carpenter Ridg**	**3.49**	**294**	Pn	**Pn**	**17 02 01.9**	**+1.6**
PV21	**Cone Mtn., Par**	**3.50**	**296**		**Pn**	**17 02 02.1**	**+1.7**
PV21				IAML		17 02 59.3	
	comp=N,149nm,1.3s						
PV21				IAML		17 03 03.8	
	comp=E,122nm,1.0s						
MSTX	**Muleshoe**	**3.58**	**150**	Pb	**Pb**	**17 02 08.4**	**-0.8**
	baz=331						
MSTX				Sb	**Sb**	**17 02 51.7**	**-1.1**
	baz=331						
MSTX	**Muleshoe**	**3.58**	**150**	Pn	**Pn**	**17 02 00.5**	**-0.9**
MSTX				IAmb_Lg		17 03 02.7	
	comp=Z,178nm,1.0s						
N23A	**Red Feather La**	**3.88**	**349**	Pn	**Pn**	**17 02 08.3**	**+2.7**
N23A				IAML		17 03 27.4	
	comp=E,92nm,0.7s						
O20A	**White River Ci**	**3.98**	**321**	Pn	**Pn**	**17 02 09.3**	**+2.3**
CPRX	**Cap Rock**	**4.14**	**167**		**Pn**	**17 02 09.1**	**0.0**
PHWY	**Pilot Hill**	**4.23**	**355**		**Pn**	**17 02 11.1**	**+0.7**
W18A	**Petrified Fore**	**4.34**	**244**	Pb	**Pb**	**17 02 21.6**	**-0.5**
	baz=63						
W18A	**Petrified Fore**	**4.34**	**244**		**Pn**	**17 02 12.5**	**+0.7**
W18A				IAML		17 03 24.9	
	comp=E,126nm,1.0s						
CBKS	**Cedar Bluff**	**4.47**	**66**	P	**Pn**	**17 02 12.8**	**-0.8**
	baz=248						
CBKS				Sb	**Sb**	**17 03 20.8**	**+2.5**
	baz=248						
CBKS	**Cedar Bluff**	**4.47**	**66**	Pn	**Pn**	**17 02 13.2**	**-0.3**
OGNE	**Ogallala**	**4.48**	**30**	P	**Pn**	**17 02 12.2**	**-1.4**
	baz=210,SNR=17						
OGNE				Sb	**Sb**	**17 03 21.3**	**+2.8**
	baz=210						
OGNE	**Ogallala**	**4.48**	**30**		**Pn**	**17 02 15.5**	**+1.8**
OGNE				IAmb_Lg		17 03 30.9	
	comp=Z,160nm,0.8s						
SRU	**San Rafael Swe**	**4.83**	**296**		**Pn**	**17 02 20.1**	**+1.4**
U32A	**Winter Ranch,**	**4.84**	**97**	Pn	**Pn**	**17 02 18.4**	**-0.1**
U32A				IAmb_Lg		17 03 50.3	
	comp=Z,170nm,0.8s						
CLNB	**Carlsbad**	**4.89**	**169**		**Pn**	**17 02 18.4**	**-1.0**
GDL2	**Guadalupe Moun**	**4.90**	**174**	Pn	**Pn**	**17 02 17.3**	**-2.2**
RWWY	**Rawlins**	**4.92**	**340**	Pn	**Pn**	**17 02 21.5**	**+1.6**
RWWY				IAML		17 03 54.6	
	comp=Z,44nm,0.8s						
RDMU	**Red Mountain**	**5.01**	**315**		**Pn**	**17 02 22.0**	**+1.0**
121A	**Cookes Peak, D**	**5.10**	**208**	P	**Pn**	**17 02 21.3**	**-1.1**
	baz=27						
121A				S	**Sn**	**17 03 21.5**	**+0.1**
	baz=27						
121A	**Cookes Peak, D**	**5.10**	**208**		**Pn**	**17 02 21.2**	**-1.1**
121A				IAML		17 03 50.5	
	comp=E,60nm,0.7s						
121A				IAML		17 03 51.0	
	comp=N,67nm,1.4s						
R32A	**Long Quarter,**	**5.13**	**73**	Pn	**Pn**	**17 02 22.5**	**0.0**
R32A				IAmb_Lg		17 03 57.3	
	comp=Z,142nm,0.9s						
P17A	**Butcher Ranch,**	**5.13**	**299**	Pn	**Pn**	**17 02 24.9**	**+2.1**
Q16A	**Castle Valley**	**5.24**	**292**		**Pn**	**17 02 26.9**	**+2.7**
MNTX	**Cornudas Mount**	**5.39**	**184**	Pb	**Pb**	**17 02 38.5**	**-1.4**
	baz=4.1						
MNTX				Sb	**Sb**	**17 03 48.3**	**+3.7**
	baz=4.1						
MNTX	**Cornudas Mount**	**5.39**	**184**	Pn	**Pn**	**17 02 25.1**	**-1.0**
TMUT	**Trail Mountain**	**5.39**	**296**	Pn	**Pn**	**17 02 27.6**	**+1.1**
WUAZ	**Wupatki**	**5.41**	**255**	P	**Pn**	**17 02 24.7**	**-1.9**
	baz=72						
WUAZ	**Wupatki**	**5.41**	**255**	Pn	**Pn**	**17 02 27.1**	**+0.6**
KAN10	**Anthony SW Sta**	**5.49**	**88**		**Pn**	**17 02 28.4**	**+0.9**
WMOK	**Wichita Mounta**	**5.53**	**113**	Sb	**Sb**	**17 03 52.6**	**+3.8**
	baz=296						
WMOK	**Wichita Mounta**	**5.53**	**113**	Pn	**Pn**	**17 02 27.5**	**-0.6**
KAN12	**Harper NE Stat**	**5.56**	**86**		**Pn**	**17 02 28.1**	**-0.4**
KAN08	**Anthony NE Sta**	**5.58**	**86**		**Pn**	**17 02 29.4**	**+0.6**
KAN14	**Manchester OK**	**5.60**	**89**		**Pn**	**17 02 27.6**	**-1.4**
CROK	**Carrier**	**5.63**	**94**		**Pn**	**17 02 28.9**	**-0.5**
CROK				IAmb_Lg		17 04 14.5	
	comp=Z,141nm,0.9s						
KAN05	**Bluff City Nor**	**5.67**	**88**		**Pn**	**17 02 29.1**	**-0.8**
MTPU	**Mount Pierson**	**5.82**	**282**		**Pn**	**17 02 34.6**	**+2.2**
KAN09	**Caldwell North**	**5.87**	**87**		**Pn**	**17 02 31.5**	**-1.2**
PKCU	**Pink Cliffs**	**5.88**	**276**		**Pn**	**17 02 34.4**	**+1.4**
MSU	**Marysvale**	**5.89**	**286**		**Pn**	**17 02 34.2**	**+1.0**
MVU	**Marysvale**	**5.92**	**286**	Pn	**Pn**	**17 02 35.4**	**+1.8**
KAN13	**South Haven SW**	**5.98**	**88**		**Pn**	**17 02 33.3**	**-1.0**
BCOK	**Bluff Creek, N**	**6.10**	**101**	Pn	**Pn**	**17 02 35.3**	**-0.6**
TCRU	**Three Creeks R**	**6.12**	**287**		**Pn**	**17 02 38.5**	**+2.1**
JLU	**Jordanelle**	**6.16**	**307**		**Pn**	**17 02 38.6**	**+1.7**
OK029	**Liberty Lake**	**6.18**	**100**		**Pn**	**17 02 36.9**	**-0.1**
ABTX	**Abilene, Hawle**	**6.24**	**134**	Sb	**Sb**	**17 04 14.1**	**+5.0**
	baz=317						
ABTX	**Abilene, Hawle**	**6.24**	**134**		**Pn**	**17 02 36.6**	**-1.2**
ABTX				IAmb_Lg		17 04 26.4	
	comp=Z,158nm,1.3s						
NLU	**North Lily Min**	**6.27**	**299**		Pn	17 02 44.6	+6.1
KNB	**Kanab**	**6.29**	**272**		**Pn**	**17 02 39.5**	**+0.8**
OKCFA	**Oklahoma City**	**6.29**	**103**	Pn	**Pn**	**17 02 40.1**	**+1.6**
OKCFA				IAmb_Lg		17 04 31.9	
	comp=Z,102nm,0.8s						
X34A	**Smith Ranch, M**	**6.30**	**111**	IAmb_Lg		17 04 40.4	
	comp=Z,94nm,0.8s						
OK025	**Westminster Rd**	**6.33**	**101**	Pn	**Pn**	**17 02 38.1**	**-0.9**
FNO	**Franklin**	**6.38**	**104**		**Pn**	**17 02 38.8**	**-0.9**
TCUT	**Toone Canyon**	**6.43**	**311**		**Pn**	**17 02 41.2**	**+0.6**
SZCU	**Shurtz Canyon**	**6.50**	**277**		**Pn**	**17 02 41.9**	**+0.3**
LCMT	**Little Creek M**	**6.63**	**272**		**Pn**	**17 02 43.3**	**0.0**
OK031	**S. Brethren Rd**	**6.64**	**97**		**Pn**	**17 02 41.9**	**-1.4**
BW06	**Boulder Array**	**6.68**	**330**	Sg	**Sg**	**17 04 43.2**	**+3.0**
	baz=147						
PDAR	**Pinedale Array**	**6.68**	**330**	Pn	**Pn**	**17 02 41.4**	**-2.7**
QUOK	**Quay**	**6.70**	**95**	Pn	**Pn**	**17 02 43.9**	**-0.2**
QUOK				IAmb_Lg		17 04 52.3	
	comp=Z,84nm,1.1s						
CCUT	**Cedar City**	**6.71**	**276**		**Pn**	**17 02 43.6**	**-0.9**
TUC	**Tucson**	**6.76**	**227**		**Pn**	**17 02 43.8**	**-1.2**
T35A	**Sooner Cattle**	**6.76**	**89**	Pn	**Pn**	**17 02 45.2**	**+0.2**
BGNE	**Belgrade**	**6.82**	**49**		**Pn**	**17 02 47.1**	**+1.3**
W35A	**Tecumseh**	**6.82**	**104**		**Pn**	**17 02 45.0**	**-0.8**
HWUT	**Hardware Ranch**	**6.82**	**313**		**Pn**	**17 02 48.2**	**+2.2**
KSU1	**Kansas State U**	**6.88**	**70**		**Pn**	**17 02 46.1**	**-0.5**
KSU1				IAmb_Lg		17 04 44.7	
	comp=Z,108nm,0.9s						
DUG	**Dugway, Tooele**	**6.89**	**299**		**Pn**	**17 02 48.2**	**+1.4**
N33A	**J Bar K, Exete**	**6.90**	**56**	Pn	**Pn**	**17 02 47.1**	**+0.3**
N33A				IAmb_Lg		17 04 56.5	
	comp=Z,142nm,1.0s						
RSSD	**Black Hills**	**7.06**	**5**		**Pn**	**17 02 50.4**	**+1.1**
SPUT	**South Promonto**	**7.18**	**308**	Pn	**Pn**	**17 02 52.7**	**+1.8**
PSUT	**Pine Spring**	**7.19**	**284**		**Pn**	**17 02 52.6**	**+1.6**
Z35A	**Perchaven, San**	**7.33**	**118**	IAmb_Lg		17 05 04.6	
	comp=Z,98nm,1.0s						
TUL1	**Leonard**	**7.48**	**96**		**Pn**	**17 02 55.7**	**+0.9**
TUL1				IAmb_Lg		17 05 05.8	
	comp=Z,98nm,0.8s						
TXAR	**Lajitas Array**	**7.81**	**172**		**Pn**	**17 03 00.3**	**+0.9**
LOHW	**Long Hollow**	**7.81**	**328**		**Pn**	**17 03 03.3**	**+3.7**
JCT	**Junction City**	**7.86**	**145**		**Pn**	**17 02 59.0**	**-1.1**
JCT				IAmb_Lg		17 05 27.1	
	comp=Z,81nm,1.0s						
WHTX	**Lake Whitney,**	**8.01**	**127**		**Pn**	**17 03 00.8**	**-1.3**
N35A	**Tabor**	**8.18**	**60**	Pn	**Pn**	**17 03 06.1**	**+1.7**
SHPR	**Sheep Range**	**8.21**	**269**	Pn	**Pn**	**17 03 07.0**	**+2.1**
L34A	**Svendsen Farm,**	**8.23**	**51**		**Pn**	**17 03 05.8**	**+0.7**
214A	**Organ Pipe Nat**	**8.26**	**234**		**Pn**	**17 03 05.4**	**-0.1**
U38A	**Gravette**	**8.51**	**91**		**Pn**	**17 03 08.6**	**-0.4**
U38A				IAmb_Lg		17 05 35.9	
	comp=Z,97nm,1.1s						
SUSD	**Miller**	**8.64**	**30**	IAmb_Lg		17 05 42.4	
	comp=Z,76nm,0.9s						
RLMT	**Red Lodge**	**8.66**	**339**	Pn	**Pn**	**17 03 12.0**	**+0.8**
435B	**Jarrell**	**8.78**	**134**	IAmb_Lg		17 05 59.0	
	comp=Z,85nm,0.8s						
HHAR	**Hobbs**	**8.89**	**92**	IAmb_Lg		17 05 45.8	
	comp=Z,63nm,0.8s						
ECSD	**EROS Data Cent**	**9.19**	**41**	P	**Pn**	**17 03 18.1**	**-0.2**
	baz=226						
S39A	**Bolivar**	**9.28**	**83**	IAmb_Lg		17 06 02.9	
	comp=Z,48nm,0.8s						
MIAR	**Mount Ida**	**9.59**	**102**	IAmb_Lg		17 06 27.9	
	comp=Z,90nm,1.0s						
U40A	**Yellville**	**9.75**	**91**	IAmb_Lg		17 06 20.8	
	comp=Z,86nm,0.8s						
NATX	**Nacogdoches**	**10.03**	**119**	IAmb_Lg		17 06 39.8	
	comp=Z,69nm,0.9s						

*IDC **17** 17:12:11.1±1.7,5.˚49S×140.˚40E,h0km,mb3.8/4, mb1 3.8/7,mb1mx3.6/38,mbtmp3.7/7,ML3.7/3,MS3.5/1, Ms1 3.5/1,ms1mx2.6/40,Error ellipse: s-maj=61.0km s-min=19.6km az=91.0*

*NEIC **17** 17:12:12.5±2.0,5.˚63S±0.˚08×141.˚26E±0.˚06,h36km±9km, mb4.1/9,Error ellipse: s-maj=13.6km s-min=5.1km az=214.0*

ISC 17 17:12:12.1±0.8,**5.˚76S**±0.˚06×**141.˚15E**±0.˚09,**h35**km,**n24,** σ1=**98**/24,**mb3.7**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.25**	**352**	Pn	**Pn**	**17 12 59.9**	**-0.8**
	5.2nm,0.3s,baz=172,slow=10.0,SNR=17						
JAY				Sn	**Sn**	**17 13 38.9**	**+0.5**
	20nm,0.3s,baz=122,slow=16,SNR=10						
PMG	**Port Moresby**	**6.97**	**122**	Pn	**Pn**	**17 13 52.4**	**+0.5**
COEN	**Coen**	**8.38**	**166**	Pn	**Pn**	**17 14 12.6**	**+1.4**
FAKI	**Fak Fak**	**9.31**	**287**	Pn	**Pn**	**17 14 25.4**	**+1.5**
MTN	**Manton Dam**	**12.13**	**234**		**Pn**	**17 15 06.7**	**+4.2**
WB0	**Warramunga Arr**	**15.39**	**205**	Pn	**Pn**	**17 15 47.4**	**+0.5**
WR0	**Warramunga Arr**	**15.51**	**204**	Pn	**Pn**	**17 15 49.1**	**+0.8**
WR0				IAmb	IAmb	17 16 10.3	
	comp=Z,7.4nm,0.6s						
WRAB	**Tennant Creek**	**15.56**	**205**		**P**	**17 15 51.7**	**-1.2**
WRAB				IAmb	IAmb	17 16 11.6	
	comp=Z,9.8nm,1.0s						
WB2	**Warramunga Arr**	**15.57**	**205**		**Pn**	**17 15 50.3**	**+1.1**
WB2				IAmb	IAmb	17 16 39.0	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**15.57**	**205**	Pn	**Pn**	**17 15 49.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=23						
WRA				Sn	**Sn**	**17 18 39.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=32,slow=24,SNR=5.0						
KNRA	**Kununurra**	**15.65**	**230**		**P**	**17 15 53.0**	**-0.9**
KNRA				IAmb	IAmb	17 16 14.2	
	comp=Z,15nm,0.6s						
SOEI	**Soe**	**17.19**	**256**	Pn	**Pn**	**17 16 08.9**	**-0.9**
LUWI	**Luwuk**	**18.93**	**284**	P	**P**	**17 16 29.7**	**-0.5**
ASAR	**Alice Springs**	**19.12**	**201**	P	**Pn**	**17 16 36.9**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=26,slow=12,SNR=17						
ASAR				S	**Sn**	**17 20 01.9**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=10,slow=26,SNR=5.7						
ASAR	**Alice Springs**	**19.12**	**201**		**Pn**	**17 16 35.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**19.48**	**230**	P	**Pn**	**17 16 40.8**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=15,SNR=2.5						
FITZ				S	**S**	**17 20 13.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=215,slow=18,SNR=3.6						
FITZ	**Fitzroy Crossi**	**19.48**	**230**	IAmb	IAmb	17 16 58.8	
	comp=Z,18nm,1.9s						
STKA	**Stephens Creek**	**25.98**	**179**	P	P	17 17 48.9	+7.2
	comp=Z,1.0nm,0.6s,baz=326,slow=16,SNR=1.8						
STKA	**Stephens Creek**	**25.98**	**179**	IAmb	IAmb	17 17 51.2	
	comp=Z,4.7nm,1.9s						
DZM	**Mont Dzumac**	**29.34**	**126**	LR	LR	17 29 21.2	
	comp=Z,76nm,18.3s,baz=24,slow=34						
CMAR	**Chiang Mai Arr**	**48.07**	**301**	P	**P**	**17 20 47.5**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=112,slow=9.8,SNR=2.2						
MKAR	**Makanchi Array**	**73.67**	**322**	P	**P**	**17 23 42.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=104,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**73.67**	**322**	P	**P**	**17 23 42.1**	**-0.2**
BVAR	**Borovoye Array**	**83.19**	**325**	P	**P**	**17 24 34.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=195,slow=16,SNR=5.1						

*NEIC **17** 17:20:53.5±1.7,26.˚74N×0.˚07×140.˚48E±0.˚09, h493km±6km,mb4.3/41,Error ellipse: s-maj=14.9km s-min=5.1km az=52.0*

*IDC **17** 17:20:54.1±1.1,26.˚76N×140.˚45E,h503km±14km, mb3.3/13,mb1 3.4/14,mb1mx3.1/57,mbtmp4.2/14,Error ellipse: s-maj=29.5km s-min=10.8km az=80.0*

*JMA **17** 17:20:54.9±0.2,27.˚03N×140.˚66E,h496km*

ISC 17 17:20:54.0±0.5,**26.˚82N**±0.˚06×**140.˚48E**±0.˚08,**h500**km,**n82,** σ1=**55**/89,**mb4.1**/31,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.53**	**97**	P	**P**	**17 21 57.8**	**+0.8**
JHH2				*e*S	**S**	**17 22 47.0**	**-1.1**
CBIJ	**Chichi jima**	**1.54**	**80**	P	**P**	**17 21 57.2**	**+0.2**
CBIJ				*e*S	**S**	**17 22 46.5**	**-1.8**
JCJ	**Chichijima**	**1.54**	**80**	P	**P**	**17 21 57.3**	**+0.3**
	88nm,0.3s,baz=284,slow=22,SNR=133						
JCJ				S	**S**	**17 22 45.4**	**-2.9**
	38nm,0.3s,baz=246,slow=22,SNR=6.9						
JCJ	**Chichijima**	**1.54**	**80**	P	**P**	**17 21 57.2**	**+0.1**
BSO4	**Boso 4**	**8.14**	**359**	*e*S	**S**	**17 24 25.9**	**-2.3**
JMZ	**Minamidaito 2**	**8.37**	**265**	P	**P**	**17 22 53.6**	**-0.6**
JMN	**Monobe**	**8.94**	**322**	P	**P**	**17 23 03.5**	**+3.4**
INU	**Inuyama**	**9.00**	**342**	P	**P**	**17 23 03.6**	**+3.0**
JHU	**Hanno**	**9.06**	**354**	*e*S	**S**	**17 24 42.8**	**-3.1**
JYT	**Yasato**	**9.38**	**359**	*e*S	**S**	**17 24 48.3**	**-3.7**
JAG	**Ashikaga**	**9.61**	**355**	P	**P**	**17 23 07.1**	**0.0**
JAG				*e*S	**S**	**17 24 52.4**	**-4.2**
JHO	**Hitachi**	**9.76**	**0**	P	**P**	**17 23 09.4**	**+0.8**
JHO				*e*S	**S**	**17 24 56.0**	**-3.4**
JSU	**Suzuyama**	**9.93**	**300**	P	**P**	**17 23 11.7**	**+1.1**
JHS	**Saijyo**	**10.31**	**324**	P	**P**	**17 23 16.9**	**+2.3**
JNU	**Nakatsue**	**10.42**	**309**	P	**P**	**17 23 17.8**	**+2.0**
JFK	**Kawauchi**	**10.52**	**2**	*e*S	**S**	**17 25 11.6**	**-2.6**
JMM	**Marumori**	**11.01**	**1**	P	**P**	**17 23 21.5**	**-0.4**
JMM					**S**	**17 25 25.3**	**+1.6**
KSRS	**Korea Array**	**15.00**	**318**	P	**P**	**17 24 08.2**	**+4.2**
	1.1nm,0.3s,baz=145,slow=8.9,SNR=29						
KSAR	**Wonju Array Be**	**15.02**	**318**	P	**P**	**17 24 08.6**	**+4.4**
KS19	**Wonju Array Si**	**15.06**	**318**	P	**P**	**17 24 08.6**	**+3.8**
KS19				IAmb	IAmb	17 24 10.2	
	comp=Z,29nm,1.4s						
JEW	**Eniwo**	**16.00**	**3**	P	**P**	**17 24 17.4**	**+3.0**
YULB	**Yu-li**	**17.70**	**263**	P	**P**	**17 24 31.2**	**-0.6**
SSLB	**Suanglung**	**17.91**	**265**	P	**P**	**17 24 32.2**	**-1.5**
TPUB	**Ta-pu**	**18.32**	**263**	P	**P**	**17 24 38.1**	**+0.6**
USA0B	**Ussuriysk Arra**	**18.64**	**341**		**P**	**17 24 41.4**	**+1.4**
USA0B				IAmb	IAmb	17 24 42.7	
	comp=Z,7.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**18.64**	**341**	P	**P**	**17 24 41.6**	**+1.6**
	baz=151,slow=9.2,SNR=9.5						
USRK	**Ussuriysk Ar.**	**18.64**	**341**	P	**P**	**17 24 41.5**	**+1.4**
SONM	**Songino Array**	**33.87**	**317**	P	**P**	**17 26 54.8**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=122,slow=7.5,SNR=18						
SONM	**Songino Array**	**33.87**	**317**	P	**P**	**17 26 54.4**	**0.0**
GTA	**Gaotai**	**36.01**	**301**	*e*P	**P**	**17 27 11.8**	**-0.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.09**	**267**	P	**P**	**17 27 36.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=51,slow=8.7,SNR=5.6						
MMRI	**Maumere**	**39.44**	**209**		**S**	**17 33 06.2**	**-0.1**
MTN	**Manton Dam**	**40.46**	**194**	P	**P**	**17 27 49.9**	**+1.1**
MTN				IAmb	IAmb	17 27 55.4	
	comp=Z,15nm,1.4s						
COEN	**Coen**	**40.62**	**176**	P	**P**	**17 27 49.9**	**-0.1**
COEN				IAmb	IAmb	17 27 58.8	
	comp=Z,36nm,1.6s						
SHL	**Shillong**	**43.41**	**280**	P	**P**	**17 28 11.7**	**-0.6**
SHL				IAmb	IAmb	17 28 12.3	
	comp=Z,5.8nm,0.9s						
TIXI	**Tiksi**	**45.33**	**355**	P	**P**	**17 28 26.4**	**+0.3**
CISI	**Cisompet, Garu**	**46.59**	**227**	P	**P**	**17 28 36.7**	**0.0**
WB0	**Warramunga Arr**	**46.69**	**188**	P	**P**	**17 28 36.7**	**-0.5**
WB0				IAmb	IAmb	17 28 40.8	
	comp=Z,13nm,1.6s						
WRAB	**Tennant Creek**	**46.86**	**188**	P	**P**	**17 28 38.0**	**-0.5**
WRAB				IAmb	IAmb	17 28 39.2	
	comp=Z,18nm,1.6s						
WR0	**Warramunga Arr**	**46.86**	**188**	P	**P**	**17 28 38.1**	**-0.5**
WB2	**Warramunga Arr**	**46.87**	**188**	P	**P**	**17 28 38.1**	**-0.5**
WB2				IAmb	IAmb	17 28 38.3	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**46.87**	**188**	P	**P**	**17 28 38.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=5.6,slow=7.7,SNR=30						
WRA	**Warramunga Arr**	**46.87**	**188**	IAmb	IAmb	17 28 40.4	
	comp=Z,0.3nm,1.4s						
WRA				PcP	**PcP**	**17 30 02.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**46.92**	**199**	P	**P**	**17 28 38.4**	**-0.5**
	baz=51,slow=13						
ZALV	**Zalesovo Beam**	**48.70**	**319**	P	**P**	**17 28 50.9**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=97,slow=8.2,SNR=4.5						
ZALV				PcP	**PcP**	**17 30 07.5**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=64,slow=3.4,SNR=4.3						
MK31	**Makanchi Array**	**49.48**	**310**	P	**P**	**17 28 57.8**	**-0.1**
MKAR	**Makanchi Array**	**49.48**	**310**	P	**P**	**17 28 58.0**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=92,slow=9.2,SNR=22						
MKAR				PcP	**PcP**	**17 30 10.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=86,slow=7.8,SNR=3.8						
MAKZ	**Makanchi**	**49.69**	**310**	P	**P**	**17 28 59.5**	**+0.1**
ASAR	**Alice Springs**	**50.59**	**188**	P	**P**	**17 29 05.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=359,slow=4.8,SNR=9.9						
KURK	**Kurchatov**	**52.09**	**315**	P	**P**	**17 29 16.7**	**-0.1**
CHGN	**Chignik**	**52.17**	**38**	P	**P**	**17 29 18.0**	**+0.8**
CHGN				IAmb	IAmb	17 29 34.4	
	comp=Z,47nm,1.2s						
KDJ	**Kajisay**	**53.23**	**304**	P	**P**	**17 29 24.7**	**-0.7**
OHAK	**Old Harbor**	**55.07**	**37**	P	**P**	**17 29 39.1**	**+1.3**
OHAK				IAmb	IAmb	17 30 03.2	
	comp=Z,39nm,1.5s						
KDAK	**Kodiak Island**	**55.49**	**37**	P	**P**	**17 29 40.9**	**+0.2**
KDAK				IAmb	IAmb	17 29 47.1	
	comp=Z,49nm,1.5s						
CNPM	**China Poot**	**56.31**	**35**	P	**P**	**17 29 47.6**	**+1.1**
CNPM				IAmb	IAmb	17 30 11.5	
	comp=Z,38nm,1.3s						
BRLK	**Bradley Lake**	**56.50**	**34**	P	**P**	**17 29 48.9**	**+1.1**
BRLK				IAmb	IAmb	17 29 57.7	
	comp=Z,26nm,1.5s						
BRVK	**Borovoye**	**57.28**	**318**		**P**	**17 29 53.5**	**+0.3**
SML	**Sawmill**	**57.87**	**32**	P	**P**	**17 29 57.6**	**+0.5**
SML				IAmb	IAmb	17 30 04.4	
	comp=Z,12nm,1.0s						
KK31	**Karatay Array**	**58.01**	**306**	P	**P**	**17 29 58.8**	**+0.4**
KK31				IAmb	IAmb	17 29 59.1	
	comp=Z,4.1nm,0.6s						
KKAR	**Karatay Array**	**58.01**	**306**	P	**P**	**17 29 58.8**	**+0.4**
KKAR				IAmb	IAmb	17 29 59.1	
	comp=Z,4.1nm,0.6s						
KKAR	**Karatay Array**	**58.01**	**306**	P	**P**	**17 29 58.6**	**+0.1**
CHGR	**Chuyangaron**	**59.78**	**301**	P	**P**	**17 30 10.8**	**+0.3**

JSJ	**Shimokoshiki**	**2.23**	**26**	P		**Pn**	**17 42 05.9**	**-2.4**
JTN	**Tanegashima 3**	**2.29**	**64**	⇓P		**Pn**	**17 42 07.9**	**-1.3**
JOKE	**Okinoerabujima**	**2.30**	**180**	P		**Pn**	**17 42 05.6**	**-3.6**
JSU	**Suzuyama**	**2.44**	**41**	P		**Pn**	**17 42 09.7**	**-1.5**
JSU	**Suzuyama**	**2.44**	**41**	Pn		**Pn**	**17 42 09.8**	**-1.5**
JTSR	**Tashiro 2**	**2.51**	**53**	P		**Pn**	**17 42 10.8**	**-1.4**
JYRO	**Yoronjima**	**2.63**	**183**	P		**Pn**	**17 42 09.7**	**-4.1**
JIH	**Iheya**	**2.68**	**192**	P		**Pn**	**17 42 12.9**	**-1.5**
JAGN	**Aguni-jima**	**3.29**	**201**	P		**Pn**	**17 42 23.9**	**+1.1**
JKE	**Kume jima 2**	**3.69**	**206**	P		**Pn**	**17 42 29.9**	**+1.6**
JNU	**Nakatsue**	**3.96**	**29**	Pn		**Pn**	**17 42 33.2**	**+1.0**
	1.5nm,0.3s,baz=198,slow=9.9,SNR=22							
JNU	**Nakatsue**	**3.96**	**29**	P		**Pn**	**17 42 33.6**	**+1.4**
JMZ	**Minamidaito 2**	**4.49**	**148**	Pn		**Pn**	**17 42 41.1**	**+1.8**
JTU	**Tsushima**	**4.89**	**8**	Pn		**Pn**	**17 42 45.7**	**+0.8**
JMN	**Monobe**	**6.06**	**47**	Pn		**Pn**	**17 43 02.6**	**+1.6**
JISG	**Ishigakijimahi**	**6.33**	**218**	P		**Pn**	**17 43 05.0**	**+0.3**
SSE	**Sheshan**	**6.55**	**284**	P		Pn	17 43 11.0	+3.4
SSE				S		**Sn**	**17 44 21.0**	**-0.1**
SSE				pmax	pmax			
	comp=Z,20nm,0.6s							
SSE				pmax	pmax			
	comp=Z,130nm,6.7s							
SSE				LR	LR			
	comp=N,2μm,15.5s							
SSE				LR	LR			
	comp=E,4μm,10.2s							
SSE	**Sheshan**	**6.55**	**284**	Pn		**Pn**	**17 43 08.1**	**+0.5**
JHS	**Saijyo**	**6.55**	**35**	Pn		**Pn**	**17 43 10.2**	**+2.5**
JIJ	**Ishigaki jima**	**6.60**	**218**	P		**Pn**	**17 43 09.1**	**+0.7**
TJN	**Taejon**	**6.77**	**352**⇑	*e*P		**Pn**	**17 43 12.8**	**+2.1**
IRIF	**Iriomote-Funau**	**6.85**	**220**	P		**Pn**	**17 43 13.4**	**+1.6**
YOJ	**Yonaguni jima**	**7.18**	**225**	P		**Pn**	**17 43 16.3**	**0.0**
YOJ	**Yonaguni jima**	**7.18**	**225**			**Pn**	**17 43 16.3**	**0.0**
KSAR	**Wonju Array Be**	**7.78**	**356**	P		**Pn**	**17 43 26.2**	**+1.7**
KSAR	**Wonju Array Be**	**7.78**	**356**			**Pn**	**17 43 26.2**	**+1.7**
KSRS	**Korea Array**	**7.79**	**356**	Pn		**Pn**	**17 43 24.7**	**+0.1**
	0.4nm,0.3s,baz=176,slow=15,SNR=20							
KSRS				LR		LR	17 46 38.1	
	comp=Z,9μm,18.2s,baz=172,slow=40							
KS19	**Wonju Array Si**	**7.84**	**356**			**Pn**	**17 43 25.4**	**+0.1**
TATO	**Taipei**	**7.85**	**235**	Pn		**Pn**	**17 43 24.8**	**-0.7**
INCN	**Inchon**	**7.96**	**349**	P		**Pn**	**17 43 28.1**	**+1.0**
INCN	**Inchon**	**7.96**	**349**	Pn		**Pn**	**17 43 28.1**	**+1.0**
JWT	**Wachi**	**8.03**	**44**	Pn		**Pn**	**17 43 28.9**	**+0.9**
YHNB	**Yeheng**	**8.12**	**234**	Pn		**Pn**	**17 43 27.6**	**-1.7**
NACB	**Ninganchiao**	**8.30**	**230**			**Pn**	**17 43 31.7**	**+0.1**
NJ2	**Nanjing**	**8.70**	**288**	*e*P		**Pn**	**17 43 37.4**	**+0.3**
NJ2				S		**Sn**	**17 45 15.9**	**+2.0**
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,260nm,10.9s							
NJ2				LR	LR			
	comp=N,29μm,14.7s							
NJ2				LR	LR			
	comp=E,14μm,10.9s							
NJ2				LR	LR			
	comp=Z,16μm,11.4s							
SSLB	**Suanglung**	**8.99**	**231**	Pn		**Pn**	**17 43 42.7**	**+1.5**
YULB	**Yu-li**	**9.03**	**228**	Pn		**Pn**	**17 43 42.2**	**+0.4**
INU	**Inuyama**	**9.10**	**49**	Pn		**Pn**	**17 43 44.3**	**+1.7**
JGF	**Kuroka**	**9.47**	**49**	Pn		**Pn**	**17 43 49.3**	**+1.6**
TPUB	**Ta-pu**	**9.54**	**230**	Pn		**Pn**	**17 43 50.5**	**+1.8**
JSG	**Sagara**	**9.54**	**56**	Pn		**Pn**	**17 43 50.4**	**+1.7**
TWG	**Pinlang**	**9.59**	**226**	Pn		**Pn**	**17 43 50.6**	**+1.3**
JHJ	**Hachijo jima 2**	**10.17**	**67**	Pn		**Pn**	**17 43 59.3**	**+2.0**
	18nm,0.3s,baz=219,slow=17,SNR=5.2							
JHJ2	**Mitsune**	**10.19**	**67**	Pn		**Pn**	**17 43 59.2**	**+1.6**
KNMB	**Chin-men Tao**	**10.46**	**243**	Pn		**Pn**	**17 44 00.8**	**-0.5**
MAJO	**Matsushiro**	**10.58**	**47**	*d* *i*P		**Pn**	**17 44 05.5**	**+2.5**
MAJO				pmax	pmax			
	comp=Z,24nm,1.0s							
MAJO	**Matsushiro**	**10.58**	**47**	Pn		**Pn**	**17 44 04.7**	**+1.7**
MAT	**Matsushiro**	**10.58**	**47**	P		**Pn**	**17 44 05.3**	**+2.3**
MAT				*e*S		**Sn**	**17 45 58.2**	**-2.1**
MJB9	**Matsu-Tunnel**	**10.58**	**47**	Pn		**Pn**	**17 44 04.6**	**+1.6**
MJAR	**Matsushiro Arr**	**10.59**	**47**	Pn		**Pn**	**17 44 05.3**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=239,slow=14,SNR=22							
MJAR	**Matsushiro Arr**	**10.59**	**47**	P		**Pn**	**17 44 04.9**	**+1.9**
MJAR	**Matsushiro Arr**	**10.59**	**47**			**Pn**	**17 44 04.9**	**+1.9**
DL2	**Dalian**	**10.86**	**330**	P		**Pn**	**17 44 08.8**	**+2.1**
DL2				sP			17 44 27.9	
DL2				S		**Sn**	**17 46 09.3**	**+2.3**
DL2				pmax	pmax			
	comp=Z,45nm,1.5s							
DL2				pmax	pmax			
	comp=Z,270nm,5.7s							
DL2				LR	LR			
	comp=Z,9μm,14.0s							
DL2				LR	LR			
	comp=Z,10μm,11.7s							
DL2				LR	LR			
	comp=Z,14μm,12.2s							
TIA	**Tai'an**	**11.63**	**307**	P		**Pn**	**17 44 18.6**	**+1.4**
TIA				LR	LR			
	comp=Z,11μm,13.3s							
TIA				LR	LR			
	comp=Z,6μm,11.0s							
TIA				LR	LR			
	comp=Z,8μm,14.1s							
JYT	**Yasato**	**11.74**	**53**	Pn		**Pn**	**17 44 18.0**	**-0.7**
JCJ	**Chichijima**	**12.24**	**99**	Pn		**Pn**	**17 44 26.7**	**+1.0**
WHN	**Wuhan**	**12.36**	**278**	P		**Pn**	**17 44 25.8**	**-1.5**
WHN				S		**Sn**	**17 46 40.6**	**-3.1**
WHN				LR	LR			
	comp=Z,27μm,10.5s							
WHN				LR	LR			
	comp=Z,4μm,6.4s							
WHN				LR	LR			
	comp=Z,16μm,12.4s							
SNY	**Shenyang**	**12.79**	**343**	⇓P		**Pn**	**17 44 34.1**	**+1.0**
SNY				pmax	pmax			
	comp=Z,370nm,9.3s							
SNY				LR	LR			
	comp=Z,14μm,11.4s							
SNY				LR	LR			
	comp=Z,14μm,10.7s							
SNY				LR	LR			
	comp=Z,17μm,14.2s							
JMM	**Marumori**	**13.03**	**48**	Pn		**Pn**	**17 44 36.6**	**+0.3**
VLA	**Vladivostok**	**13.69**	**10**⇓	*e*P		**Pn**	**17 44 45.4**	**+0.1**
CN2	**Changchun**	**14.33**	**351**	*e*P		**Pn**	**17 44 54.5**	**+0.4**
CN2				*e*S		**Sn**	**17 47 33.3**	**+1.6**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=Z,14μm,12.0s							
CN2				LR	LR			
	comp=Z,10μm,12.0s							
CN2				LR	LR			
	comp=Z,16μm,12.0s							
BJT	**Baijiatuau**	**14.50**	**319**	P		**P**	**17 44 57.9**	**-4.7**
BJT	**Baijiatuau**	**14.50**	**319**	P		**P**	**17 44 57.9**	**-4.7**
USA0B	**Ussuriysk Arra**	**14.76**	**10**⇑	*e*P		**Pn**	**17 45 01.0**	**+1.1**
USA0B	**Ussuriysk Arra**	**14.76**	**10**	P		**P**	**17 45 02.5**	**-2.9**
USRK	**Ussuriysk Ar.**	**14.76**	**10**	Pn		**P**	**17 45 04.6**	**-0.8**
	baz=163,slow=14,SNR=5.3							
USRK				LR		LR	17 50 15.9	
	comp=Z,2μm,18.8s,baz=177,slow=36							
USRK	**Ussuriysk Ar.**	**14.76**	**10**	P		**P**	**17 45 01.6**	**-3.9**
USRK	**Ussuriysk Ar.**	**14.76**	**10**			**P**	**17 45 01.6**	**-3.9**
HKPS	**Hong Kong Po S**	**14.92**	**244**	P		**Pn**	**17 45 01.3**	**-1.0**
MDJ	**Mudanjiang**	**14.94**	**3**	P		**P**	**17 45 03.6**	**-4.0**
JTM	**Tenmabayashi**	**15.05**	**39**	P		**Pn**	**17 45 05.0**	**+1.2**
TIY	**Taiyuan**	**15.64**	**305**	*e*P		**P**	**17 45 12.5**	**-2.9**
TIY				S		**Sn**	**17 47 59.3**	**-4.6**
TIY				pmax	pmax			
	comp=Z,310nm,5.9s							
TIY				LR	LR			
	comp=Z,4μm,9.0s							
TIY				LR	LR			
	comp=Z,6μm,12.0s							
TIY				LR	LR			
	comp=Z,6μm,13.2s							
ENH	**Enshi**	**16.57**	**277**	P		**P**	**17 45 23.1**	**-2.6**
TEY	**Ternei**	**16.60**	**20**⇑	*e*P		P	17 45 37.9	+12
TEY				pmax	pmax			
	comp=N,20nm,1.6s							
TEY				pmax	pmax			
	comp=Z,20nm,1.3s							
TEY				MLR	MLR			
	comp=E,500nm,14.0s							
TEY				MLR	MLR			
	comp=Z,300nm,13.0s							
TGY	**Tagaytay City**	**17.03**	**206**	Pn		**P**	**17 45 35.6**	**+4.7**
	baz=274,slow=6.3,SNR=4.4							
ERM	**Erimo**	**17.04**	**40**⇑	*e*P		**Pn**	**17 45 28.5**	**-0.8**
ERM				pmax	pmax			
	comp=Z,31nm,0.8s							
XAN	**Xi'an**	**17.26**	**290**	⇑P		**P**	**17 45 33.9**	**+0.5**
XAN				pP		sP	17 45 43.0	-3.6
XAN				sP		pP	17 45 47.5	+5.2
XAN				S		**S**	**17 48 45.8**	**-5.5**
XAN				pmax	pmax			
	comp=Z,16nm,0.9s							
XAN				pmax	pmax			
	comp=Z,450nm,8.2s							
XAN				LR	LR			
	comp=Z,11μm,13.2s							
XAN				LR	LR			
	comp=Z,6μm,15.2s							
XAN				LR	LR			
	comp=Z,6μm,12.8s							
XAN	**Xi'an**	**17.26**	**290**	P		**P**	**17 45 31.7**	**-1.7**
XAN				pmax	pmax			
	comp=Z,105nm,1.7s							
XAN	**Xi'an**	**17.26**	**290**	P		**P**	**17 45 31.7**	**-1.7**
HHC	**Hu-ho-hao-te**	**17.79**	**313**	*e*P		**P**	**17 45 39.8**	**+0.5**
HHC				PP		**sP**	**17 45 55.3**	**+2.8**
HHC				S		**Sn**	**17 48 53.1**	**-2.9**
HHC				pmax	pmax			
	comp=Z,38nm,0.9s							
HHC				LR	LR			
	comp=Z,5μm,13.7s							
HHC				LR	LR			
	comp=Z,6μm,13.6s							
HHC				LR	LR			
	comp=Z,4μm,11.7s							
ASAJ	**Asahikawa**	**18.23**	**34**	P		**Pn**	**17 45 45.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=245,slow=15,SNR=5.2							
ASAJ	**Asahikawa**	**18.23**	**34**	P		**Pn**	**17 45 45.1**	**+1.2**
ASAJ				pmax	pmax			
	comp=Z,444nm,2.0s							
JKA	**Kamikawa-asahi**	**18.23**	**34**	P		**Pn**	**17 45 45.1**	**+1.1**
JKA				IAmb	IAmb		17 45 54.7	
	comp=Z,444nm,2.0s							
BTO	**Baotou**	**18.66**	**311**	*e*P		**Pn**	**17 45 49.0**	**-0.3**
GYA	**Guiyang**	**19.61**	**266**	⇑P		**Pn**	**17 46 00.8**	**0.0**
GYA				S		S	17 49 24.8	-14
GYA				pmax	pmax			
	comp=Z,19nm,0.8s							
GYA				pmax	pmax			
	comp=Z,670nm,7.4s							
GYA				LR	LR			
	comp=Z,13μm,12.4s							
GYA				LR	LR			
	comp=Z,5μm,11.6s							
GYA				LR	LR			
	comp=Z,6μm,14.1s							
YUK	**Yuzh-Kuril'sk**	**19.86**	**39**	*e*P		**P**	**17 45 59.2**	**-2.6**
YUK				*i* S		**S**	**17 49 42.7**	**-0.7**
YUK				pmax	pmax			
	comp=Z,348nm,1.1s							
YUK				pmax	pmax			
	comp=N,251nm,1.0s							
YUK				pmax	pmax			
	comp=E,177nm,1.1s							
YUK				MLR	MLR			
	comp=Z,2μm,13.0s							
YUK				MLR	MLR			
	comp=E,3μm,14.0s							
QIZ	**Qiongzhong**	**20.07**	**242**	P		**Pn**	**17 46 04.5**	**-1.7**
QIZ				S		**Sn**	**17 49 48.5**	**-2.5**
QIZ				pmax	pmax			
	comp=E,470nm,6.9s							
QIZ				LR	LR			
	comp=E,5μm,13.5s							
QIZ				LR	LR			
	comp=E,4μm,11.6s							
QIZ				LR	LR			
	comp=E,5μm,11.8s							
YSS	**Yuzh-Sakhalins**	**20.48**	**29**	*e*P		Pn	17 46 16.8	+6.1
YSS				*e*			17 46 29.5	
YSS				*e*S		Sn	17 50 01.7	+1.3
YSS				pmax	pmax			
	comp=Z,30nm,1.2s							
YSS				MLR	MLR			
	comp=Z,4μm,13.0s							
HIA	**Hailar**	**20.70**	**343**	P		Pn	17 46 11.0	-2.4
HIA				pmax	pmax			
	comp=Z,53nm,1.2s							
HIA	**Hailar**	**20.70**	**343**			Pn	17 46 11.0	-2.4
CD2	**Chengdu**	**21.47**	**280**	P		**P**	**17 46 18.3**	**-1.0**
CD2				pP		pP	17 46 27.4	-0.9
CD2				sP		sP	17 46 32.8	+0.2
CD2				S		**S**	**17 50 15.1**	**-0.6**
CD2				pmax	pmax			
	comp=Z,70nm,0.9s							
CD2				pmax	pmax			
	comp=Z,450nm,4.9s							
LZH	**Lanzhou**	**21.71**	**294**	*e*P		**P**	**17 46 24.5**	**+2.4**
LZH				sP		sP	17 46 38.1	+2.7
LZH				PP		**PnPn**	**17 46 51.0**	**+7.5**
LZH				S		**S**	**17 50 19.8**	**-0.8**
LZH				sS		sS	17 50 35.6	+0.7
LZH				pmax	pmax			
	comp=Z,31nm,1.1s							
LZH				pmax	pmax			
	comp=Z,230nm,4.5s							
LZH				LR	LR			
	comp=Z,4μm,14.3s							
LZH				LR	LR			
	comp=Z,3μm,14.1s							
LZH				LR	LR			
	comp=Z,4μm,15.2s							
KUR	**Kuril'sk**	**21.73**	**39**	P		**P**	**17 46 22.2**	**+0.3**
KUR				*i* S		Sn	17 50 29.0	-1.5
KUR				pmax	pmax			
	comp=Z,2μm,4.6s							
KUR				pmax	pmax			
	comp=Z,227nm,1.5s							
KUR				MLR	MLR			
	comp=E,1μm,16.0s							
KUR				MLR	MLR			
	comp=Z,1μm,16.0s							
KUR				MLR	MLR			
	comp=N,2μm,15.0s							
GRNR	**Gornyy**	**21.89**	**13**⇑	*i*P		P	17 46 29.6	+6.0
GRNR				pmax	pmax			
	comp=E,3.0nm,0.9s							
GRNR				pmax	pmax			
	comp=N,4.0nm,1.0s							
GRNR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GRNR				MLR	MLR			
	comp=E,3μm,12.0s							
GRNR				MLR	MLR			
	comp=N,2μm,13.0s							
GRNR				MLR	MLR			
	comp=Z,3μm,13.0s							
GUMO	**Guam**	**21.98**	**133**	LR		LR	17 53 45.6	
	comp=Z,564nm,19.4s,baz=322,slow=33							
GUMO	**Guam**	**21.98**	**133**	P		**P**	**17 46 25.5**	**+0.7**
GUMO				pmax	pmax			
	comp=Z,369nm,1.8s							
GUMO	**Guam**	**21.98**	**133**	P		**P**	**17 46 25.5**	**+0.7**
DAV	**Davao City (W)**	**22.66**	**188**	LR		LR	17 57 30.8	
	comp=Z,2μm,18.4s,baz=42,slow=42							
KMI	**Kunming**	**23.37**	**265**	⇑P		**P**	**17 46 42.6**	**+3.0**
KMI				pP		sP	17 46 53.8	+0.7
KMI				S		**S**	**17 50 46.0**	**-4.4**
KMI				pmax	pmax			
	comp=Z,17nm,1.1s							
KMI				pmax	pmax			
	comp=Z,220nm,7.8s							
KMI				LR	LR			
	comp=Z,7μm,10.9s							
KMI				LR	LR			
	comp=Z,4μm,13.8s							
KMI				LR	LR			
	comp=Z,6μm,12.5s							
TYV	**Tymovskoe**	**23.66**	**23**	*e*P		P	17 46 50.2	+8.3
TYV				pmax	pmax			
	comp=Z,18nm,1.2s							
TYV				pmax	pmax			
	comp=Z,500nm,3.3s							
TYV				MLR	MLR			
	comp=Z,2μm,15.0s							
SLVN	**Son La**	**23.74**	**255**	P		**P**	**17 46 43.4**	**+0.4**
ZEA	**Zeya**	**24.07**	**358**	*e*P		**P**	**17 46 46.5**	**+0.8**
ZEA				pmax	pmax			
	comp=Z,200nm,3.1s							
ZEA				pmax	pmax			
	comp=Z,30nm,1.1s							
ZEA				MLR	MLR			
	comp=N,3μm,11.0s							
ZEA				MLR	MLR			
	comp=Z,3μm,10.0s							
ULN	**Ulaanbaatar**	**24.60**	**324**⇓	*e*P		**P**	**17 46 51.6**	**+0.8**
ULN				pmax	pmax			
	comp=Z,55nm,2.5s							
ULN	**Ulaanbaatar**	**24.60**	**324**	P		**P**	**17 46 50.4**	**-0.4**
SONM	**Songino Array**	**24.93**	**323**	P		**P**	**17 46 54.3**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=146,slow=7.8,SNR=13							
SONM				LR		LR	17 58 32.3	
	comp=Z,2μm,20.3s,baz=128,slow=41							
SONM	**Songino Array**	**24.93**	**323**	P		**P**	**17 46 53.5**	**-0.2**
SONM				pmax	pmax			
	comp=Z,23nm,1.4s							
SONM	**Songino Array**	**24.93**	**323**	P		**P**	**17 46 53.5**	**-0.2**
CIT	**Chita**	**24.96**	**338**	*e*P		**P**	**17 46 55.5**	**+1.6**
CIT				*e*			17 47 07.5	
CIT				*e*			17 47 36.6	
CIT				*e*			17 47 42.6	
CIT				pmax	pmax			
	comp=Z,93nm,2.3s							
NKL	**Nikolayevsk**	**25.09**	**17**	*e*P		**P**	**17 46 57.3**	**+2.4**
NKL				*e*S		**S**	**17 51 24.2**	**+7.3**
NKL				pmax	pmax			
	comp=N,12nm,0.7s							
NKL				pmax	pmax			
	comp=Z,25nm,1.5s							
NKL				smax	smax			
	comp=N,265nm,2.0s							
NKL				MLR	MLR			
	comp=N,117nm,10.0s							
NKL				MLR	MLR			
	comp=Z,2μm,14.0s							
GTA	**Gaotai**	**25.52**	**300**	P		**P**	**17 46 58.9**	**-0.3**
GTA				pP		sP	17 47 09.4	-3.7
GTA				sP		pP	17 47 13.3	+4.4
GTA				S		**S**	**17 51 20.9**	**-3.6**
GTA				SS		**SnSn**	**17 52 26.8**	**+7.6**
GTA				pmax	pmax			
	comp=Z,15nm,1.6s							
GTA				pmax	pmax			
	comp=Z,170nm,7.0s							
GTA				LR	LR			
	comp=Z,14μm,16.0s							
GTA				LR	LR			
	comp=Z,4μm,16.0s							
GTA				LR	LR			
	comp=Z,4μm,15.3s							
KKM	**Kota Kinabalu**	**26.24**	**209**	P		**P**	**17 47 07.0**	**+1.2**
TLY	**Talaya**	**28.75**	**327**	LR		LR	17 59 28.7	
	comp=Z,3μm,18.1s,baz=127,slow=38							
TLY	**Talaya**	**28.75**	**327**	*e*P		**P**	**17 47 26.9**	**-1.1**
TLY				*e*S		**S**	**17 52 14.2**	**-0.8**
TLY				*e*SS		**ScP**	**17 54 05.6**	**-11**
TLY				pmax	pmax			
	comp=Z,30nm,1.3s							
TLY				MLR	MLR			
	comp=Z,12μm,14.0s							
TLY	**Talaya**	**28.75**	**327**	P		**P**	**17 47 26.7**	**-1.3**
TNTI	**Ternate**	**28.76**	**183**	P		**P**	**17 47 28.8**	**+0.5**
TNTI				IAmb	IAmb		17 48 28.5	
	comp=Z,34nm,1.4s							
CHTO	**Chiang Mai**	**29.03**	**255**	P		**P**	**17 47 30.9**	**+0.2**
CHTO				pmax	pmax			
	comp=Z,15nm,0.9s							
CHTO	**Chiang Mai**	**29.03**	**255**	P		**P**	**17 47 30.9**	**+0.2**
CM31	**Chiang Mai Arr**	**29.19**	**254**	P		**P**	**17 47 32.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**29.19**	**254**	P		**P**	**17 47 32.7**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=51,slow=7.8,SNR=24							
CMAR				PcP		**PcP**	**17 50 40.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=323,slow=0.7,SNR=4.4							
CMAR				LR		LR	18 00 34.4	
	comp=Z,3μm,19.4s,baz=100,slow=39							
CMAR	**Chiang Mai Arr**	**29.19**	**254**	*ce*P		**P**	**17 47 33.0**	**+0.8**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**29.19**	**254**	P		**P**	**17 47 33.0**	**+0.8**
SIJI	**Sorong**	**30.47**	**175**	LR		LR	17 59 36.1	
	comp=Z,1μm,19.1s,baz=351,slow=36							
LUWI	**Luwuk**	**31.04**	**191**	P		**P**	**17 47 49.4**	**+0.9**
SBUM	**Sibu**	**31.21**	**213**	P		**P**	**17 47 49.7**	**-0.3**
PETK	**Petropavlovsk-**	**31.65**	**34**	LR		LR	18 01 16.1	
	comp=Z,874nm,19.1s,baz=224,slow=37							
YAK	**Yakutsk**	**32.38**	**1**	*e*P		**P**	**17 47 59.4**	**-0.4**
YAK				*e**PP		**pP**	**17 48 08.5**	**-1.1**
YAK				*e*S		**S**	**17 53 12.2**	**+0.8**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,102nm,3.0s							
YAK				pmax	pmax			
	comp=E,57nm,2.8s							
YAK				smax	smax			
	comp=E,50nm,15.6s							
YAK				smax	smax			
	comp=N,172nm,17.4s							
YAK				MLR	MLR			
	comp=Z,2μm,12.0s							
YAK				MLR	MLR			
	comp=N,2μm,11.0s							
YAK				MLR	MLR			
	comp=E,1μm,10.0s							
YAK	**Yakutsk**	**32.38**	**1**	P		**P**	**17 47 58.6**	**-1.2**
LSA	**Lhasa**	**32.43**	**280**	P		**P**	**17 48 01.1**	**-0.1**
LSA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
LSA	**Lhasa**	**32.43**	**280**	P		**P**	**17 48 01.1**	**-0.1**
FAKI	**Fak Fak**	**32.59**	**173**	P		**P**	**17 48 02.7**	**+0.6**
FAKI				IAmb	IAmb		17 48 08.8	
	comp=Z,55nm,1.4s							
SHL	**Shillong**	**32.69**	**272**	P		**P**	**17 48 01.5**	**-1.7**
SHL				pmax	pmax			
	comp=Z,9.0nm,0.7s							
SHL	**Shillong**	**32.69**	**272**	P		**P**	**17 48 01.5**	**-1.7**
KSM	**Kuching**	**32.99**	**215**	P		**P**	**17 48 05.7**	**+0.1**
JAY	**Jayapura**	**34.04**	**158**	LR		LR	17 59 15.7	
	comp=Z,1μm,21.8s,baz=339,slow=31							
WMQ	**Urumqi**	**35.31**	**305**	*e*P		**P**	**17 48 26.4**	**+0.8**
WMQ				pP		sP	17 48 38.3	-1.3
WMQ				sP		pP	17 48 42.3	+6.8
WMQ				S		**S**	**17 53 59.6**	**+2.2**
WMQ				ScS		**ScS**	**17 58 43.3**	**+0.4**
WMQ				pmax	pmax			
	comp=Z,26nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,23nm,3.6s							
WMQ				LR	LR			
	comp=Z,2μm,22.7s							
WMQ				LR	LR			
	comp=Z,1μm,19.5s							
WMQ				LR	LR			
	comp=Z,840nm,22.7s							
WMQ	**Urumqi**	**35.31**	**305**	P		**P**	**17 48 26.0**	**+0.4**
WMQ				pmax	pmax			
	comp=Z,53nm,1.2s							
WMQ	**Urumqi**	**35.31**	**305**	P		**P**	**17 48 26.0**	**+0.4**
KULM	**Kulim**	**35.83**	**233**	P		**P**	**17 48 31.3**	**+1.1**
KULM				IAmb	IAmb		17 48 37.3	
	comp=Z,37nm,1.3s							
PATS	**Pohnpei**	**36.03**	**123**	P		**P**

PSI Prapat 38.80 232 P **P** **17 48 56.1 +0.5**
PSI pmax pmax
comp=Z,14nm,1.1s
RPSI Rantau Prapat 38.88 232 P **P** **17 48 56.1 0.0**
SOEI Soe 39.41 187 P **P** **17 49 00.7 +0.1**
SOEI IAmb IAmb 17 49 32.7
comp=Z,39nm,1.2s
MK31 Makanchi Array 39.56 309⇑ *e*P **P** **17 49 00.6 -0.9**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 39.56 309 P **P** **17 48 59.4 -2.1**
MKAR Makanchi Array 39.56 309 P **P** **17 49 00.6 -0.9**
comp=Z,3.5nm,0.8s,baz=100,slow=9.7,SNR=28
MKAR LR LR 18 06 59.7
comp=Z,1μm,18.7s,baz=91,slow=39
MKAR Makanchi Array 39.56 309 *ce*P **P** **17 49 01.3 -0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 39.56 309 P **P** **17 48 59.7 -1.8**
ZAA0 Zalesovo Array 39.76 320 P **P** **17 49 01.3 -1.7**
ZALV Zalesovo Beam 39.76 320 P **P** **17 49 02.0 -1.0**
comp=Z,9.2nm,0.8s,baz=105,slow=8.0,SNR=35
ZALV LR LR 18 06 52.6
comp=Z,616nm,18.4s,baz=111,slow=38
ZALV Zalesovo Beam 39.76 320 P **P** **17 49 01.4 -1.6**
ZALV Zalesovo Beam 39.76 320 P **P** **17 49 01.4 -1.6**
MAKZ Makanchi 39.77 309 P **P** **17 49 01.8 -1.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
MAKZ Makanchi 39.77 309 P **P** **17 49 01.8 -1.5**
BATI Baumata 39.92 188 LR LR 18 05 42.5
comp=Z,342nm,21.4s,baz=332,slow=36
GSI Gunungsitoli 40.81 232 P **P** **17 49 12.1 0.0**
PDGK Podgornoye 41.19 303 P **P** **17 49 13.7 -1.4**
SHLS Shalkode 41.20 303 *e*P **P** **17 49 11.7 -3.5**
SHLS *e*LR LR 18 07 02.2
comp=Z,261nm,11.7s
SHLS Shalkode 41.20 303 *e*P **P** **17 49 11.7 -3.5**
SHLS MLR MLR
comp=Z,261nm,12.0s
UZB Uzynbulak 41.52 303 *e*P **P** **17 49 17.6 -0.3**
UZB *e*S **S** **17 55 36.1 +4.7**
UZB *e*LR LR 18 07 31.5
comp=Z,270nm,11.6s
UZB Uzynbulak 41.52 303 *e*P **P** **17 49 17.6 -0.3**
UZB *e*S **S** **17 55 36.0 +4.7**
UZB MLR MLR
comp=Z,270nm,12.0s
KPKS Kokpek 41.78 303 *e*P **P** **17 49 19.4 -0.6**
comp=Z,6.7nm,0.7s
KPKS *e*LR LR 18 08 23.1
comp=Z,669nm,14.1s
KPKS Kokpek 41.78 303 *e*P **P** **17 49 19.3 -0.6**
KPKS pmax pmax
comp=Z,7.0nm,0.7s
KPKS MLR MLR
comp=Z,669nm,14.0s
PRZ Przheval'sk 41.96 302 P **P** **17 49 20.8 -0.7**
PRZ pmax pmax
comp=Z,12nm,0.9s
PRZ Przheval'sk 41.96 302 P **P** **17 49 20.8 -0.7**
SATY Saty 41.97 303 *e*P **P** **17 49 19.8 -1.7**
SATY *e*S **S** **17 55 40.1 +2.2**
SATY *e*LR LR 18 07 45.5
SATY Saty 41.97 303 *e*P **P** **17 49 19.8 -1.7**
SATY *e*S **S** **17 55 40.1 +2.2**
TIXI Tiksi 42.03 0⇓ *e*P **P** **17 49 22.0 +0.5**
TIXI pmax pmax
comp=Z,73nm,1.7s
TIXI Tiksi 42.03 0 P **P** **17 49 21.0 -0.5**
TDK Taldyqorghan 42.06 306 *e*LR LR 18 08 18.3
comp=Z,964nm,12.4s
MTN Manton Dam 42.33 176 P **P** **17 49 23.6 -0.9**
KURK Kurchatov 42.61 314⇑ *e*P **P** **17 49 24.5 -1.9**
KURK pmax pmax
comp=Z,21nm,1.1s
KURK Kurchatov 42.61 314 P **P** **17 49 24.9 -1.6**
KDJ Kajisay 42.86 301 P **P** **17 49 28.3 -0.6**
KDJ pmax pmax
comp=Z,16nm,1.3s
KDJ Kajisay 42.86 301 P **P** **17 49 28.3 -0.6**
MDOK Medeo 42.97 303 *e*P **P** **17 49 27.1 -2.6**
MDOK *e*S **S** **17 55 56.0 +3.3**
MDOK *e*LR LR 18 09 28.0
comp=Z,995nm,13.1s
MDOK Medeo 42.97 303 *e*P **P** **17 49 27.0 -2.6**
MDOK *e*S **S** **17 55 55.9 +3.3**
MDOK MLR MLR
comp=Z,995nm,13.0s
CHKK Chushkaly 43.02 304 *e*P **P** **17 49 28.6 -1.4**
CHKK Chushkaly 43.02 304 *e*P **P** **17 49 28.6 -1.4**
KUU Kurty 43.49 304 *e*P **P** **17 49 32.1 -1.6**
comp=Z,67nm,2.3s
KUU *e*LR LR 18 10 26.3
comp=Z,554nm,11.3s
KUU Kurty 43.49 304 *e*P **P** **17 49 32.1 -1.6**
KUU pmax pmax
comp=Z,67nm,2.3s
BOOM Boomskoye usch 43.78 302 P **P** **17 49 35.5 -0.8**
BOOM pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 43.78 302 P **P** **17 49 35.5 -0.8**
KSH Kashi 43.87 298 P P 17 49 39.8 +2.8
KSH S **S** **17 56 11.1 +5.1**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,100nm,6.2s
KSH LR LR
comp=Z,5μm,17.1s
KSH LR LR
comp=Z,2μm,14.0s
KSH LR LR
comp=Z,1μm,15.9s
TKM2 Tokmak 2 44.03 302 P **P** **17 49 38.1 -0.3**
SNR=21
TKM2 Tokmak 2 44.03 302 *i* P **P** **17 49 37.8 -0.5**
TKM2 pmax pmax
comp=Z,12nm,0.7s
BILL Bilibino 44.33 19 *i* P **P** **17 49 35.9 -4.2**
BILL *i* 17 51 21.4
BILL *i* S **S** **17 56 06.4 -5.2**
BILL *i* SS **ScS** **17 59 37.4 +2.3**
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,1μm,17.0s
KBK Karagaybulak 44.51 302 P **P** **17 49 43.2 +1.1**
SNR=8.6
CHMS Chumysh 44.65 303 P **P** **17 49 42.8 -0.3**
SNR=8.4
SGDS Sogindy 44.73 303 *e*P **P** **17 49 42.5 -1.2**
SGDS *e*LR LR 18 09 18.1
comp=Z,346nm,11.9s
SGDS Sogindy 44.73 303 *e*P **P** **17 49 42.5 -1.2**
SGDS MLR MLR
comp=Z,346nm,12.0s
FRU1 Bishkek 44.74 302 P **P** **17 49 43.7 -0.1**
FRU1 pmax pmax
comp=Z,15nm,0.7s
FRU1 Bishkek 44.74 302 P **P** **17 49 43.7 -0.1**
FRU1 IAmb IAmb 17 49 45.1
comp=Z,15nm,0.7s
UCH Uchtor 44.84 301 P **P** **17 49 45.3 +0.2**
SNR=36
AAK Ala-Archa 44.84 302 P **P** **17 49 45.3 +0.5**
SNR=7.4
AAK Ala-Archa 44.84 302 *i* P **P** **17 49 43.0 -1.8**
AAK pmax pmax
comp=Z,7.0nm,1.0s
KNRA Kununurra 45.08 180 P **P** **17 49 45.7 -0.8**
KNRA IAmb IAmb 17 49 47.4
comp=Z,25nm,0.7s
BTLS Baital 45.15 305 *e*P **P** **17 49 45.5 -1.5**
BTLS *e*LR LR 18 09 41.1
BTLS Baital 45.15 305 *e*P **P** **17 49 45.5 -1.5**
EKS2 Erkin-Say 45.37 302 P **P** **17 49 49.8 +0.9**
SNR=5.0
AML Almayashu 45.46 301 P **P** **17 49 51.1 +1.2**
SNR=6.8
COEN Coen 45.60 160 P **P** **17 49 52.5 +1.8**
COEN IAmb IAmb 17 50 23.9
comp=Z,36nm,1.5s
NRIK Noril'sk 46.10 341 P **P** **17 49 54.9 +0.8**
comp=Z,12nm,0.8s,baz=122,slow=8.2,SNR=18
NRIK LR LR 18 12 04.4
comp=Z,887nm,19.7s,baz=154,slow=40
NRIK Noril'sk 46.10 341⇓ *e*P **P** **17 49 53.4 -0.7**
NRIK pmax pmax
comp=Z,25nm,0.9s
BRZS Berezniki 46.29 312 *e*LR LR 18 10 42.4
comp=Z,344nm,12.1s
NIL Nilore 46.80 290 P **P** **17 49 59.9 -0.3**
NIL pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 46.80 290 P **P** **17 49 59.9 -0.3**
NIL IAmb IAmb 17 50 03.5
comp=Z,12nm,0.8s
FITZ Fitzroy Crossi 47.57 184 P **P** **17 50 05.1 -1.0**
FITZ IAmb IAmb 17 50 11.9
comp=Z,16nm,0.8s
KK31 Karatay Array 47.75 303 P **P** **17 50 06.8 -0.6**
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 47.75 303 P **P** **17 50 06.8 -0.6**
KK31 IAmb IAmb 17 50 09.1
comp=Z,12nm,0.8s
KKAR Karatay Array 47.75 303 P **P** **17 50 06.5 -0.9**
KKAR Karatay Array 47.75 303 P **P** **17 50 07.0 -0.4**
KKAR IAmb IAmb 17 50 09.1
comp=Z,12nm,0.8s
KKAR Karatay Array 47.75 303 P **P** **17 50 06.5 -0.9**
BTK Batken 47.78 299 P **P** **17 50 07.6 -0.2**
BTK pmax pmax
comp=Z,6.0nm,0.9s
BTK Batken 47.78 299 P **P** **17 50 07.6 -0.2**
BRVK Borovoye 48.04 316 P **P** **17 50 08.8 -0.7**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 48.04 316 P **P** **17 50 08.8 -0.7**
BRVK IAmb IAmb 17 50 11.0
comp=Z,20nm,0.9s
IUG Iuzhnay 48.17 302 *e*LR LR 18 11 45.4
GAR Garm 48.29 297 P **P** **17 50 11.4 -0.4**
GAR IAmb IAmb 17 50 13.2
comp=Z,13nm,0.9s
CHGR Chuyangaron 49.24 297 P **P** **17 50 18.5 -0.5**
CHGR IAmb IAmb 17 50 31.2
comp=Z,14nm,0.8s
WB0 Warramunga Arr 49.46 173 P **P** **17 50 19.7 -1.0**
WB0 IAmb IAmb 17 50 27.5
comp=Z,12nm,1.1s
WRAB Tennant Creek 49.62 173⇑ *e*P **P** **17 50 22.4 +0.5**
WRAB pmax pmax
comp=Z,20nm,1.8s
WRAB Tennant Creek 49.62 173 P **P** **17 50 21.6 -0.3**
WRAB IAmb IAmb 17 50 25.2
comp=Z,42nm,1.8s
WRA Warramunga Arr 49.63 173 P **P** **17 50 21.6 -0.4**
comp=Z,3.1nm,0.8s,baz=353,slow=8.1,SNR=17
WB2 Warramunga Arr 49.63 173 P **P** **17 50 21.4 -0.6**
WB2 IAmb IAmb 17 50 48.3
comp=Z,11nm,1.0s
WR0 Warramunga Arr 49.67 173 P **P** **17 50 21.3 -1.0**
WR0 IAmb IAmb 17 50 49.4
comp=Z,13nm,1.1s
KBL Kabul 50.05 292 P **P** **17 50 25.1 -0.3**
KBL pmax pmax
comp=Z,18nm,1.0s
KBL Kabul 50.05 292 P **P** **17 50 25.1 -0.3**
KBL IAmb IAmb 17 50 29.6
comp=Z,18nm,0.9s
PSA00 Pilbara Seismi 51.63 190 P **P** **17 50 37.0 0.0**
PSA00 IAmb IAmb 17 50 49.1
comp=Z,20nm,0.9s
PSA00 Pilbara Seismi 51.63 190 P **P** **17 50 36.9 -0.1**
PSA00 IAmb IAmb 17 50 44.6
comp=Z,11nm,0.8s
CTAO Charters Tower 52.31 159 P **P** **17 50 42.9 +0.8**
CTAO pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 52.31 159 P **P** **17 50 42.9 +0.8**
CTAO IAmb IAmb 17 50 55.6
comp=Z,14nm,1.0s
AS31 Alice Springs 53.27 174 P **P** **17 50 49.4 +0.2**
ASAR Alice Springs 53.27 174 P **P** **17 50 50.4 +1.2**
comp=Z,2.2nm,0.7s,baz=0.9,slow=14,SNR=40
ASAR Alice Springs 53.27 174 P **P** **17 50 48.8 -0.4**
ASAR Alice Springs 53.27 174 P **P** **17 50 48.8 -0.4**
SVE Sverdlovsk 53.77 321 *e*P **P** **17 50 53.3 +0.8**
SVE pmax pmax
comp=Z,24nm,1.2s
SVE MLR MLR
comp=Z,2μm,12.0s
AB31 Akbulak array 54.57 312 P **P** **17 50 56.5 -2.0**
ABKAR Akbulak array 54.57 312 P **P** **17 50 57.2 -1.3**
ABKAR IAmb IAmb 17 51 13.7
comp=Z,26nm,1.6s
ABKAR Akbulak array 54.57 312 P **P** **17 50 56.9 -1.6**
ARU Arti 54.93 320 *d i* P **P** **17 51 01.0 +0.1**
ARU *PP **sP** **17 51 13.3 -1.9**
ARU 17 52 02.0
ARU 17 53 01.9
ARU S **S** **17 58 40.8 +0.8**
ARU SS **SS** **18 02 23.6 +0.3**
ARU pmax pmax
comp=Z,22nm,0.9s
ARU MLR MLR
comp=Z,2μm,16.0s
ARU Arti 54.93 320 P **P** **17 51 00.3 -0.6**
ARU IAmb IAmb 17 51 02.3
comp=Z,23nm,1.0s
SDPT Sand Point 55.49 41 P **P** **17 51 05.7 +0.7**
HRA Herat 55.55 293 P **P** **17 51 06.3 +0.3**
HRA IAmb IAmb 17 51 19.6
comp=Z,24nm,1.3s
GEYT Alibeck 57.89 298 P **P** **17 51 22.6 +0.2**
comp=Z,1.9nm,0.6s,baz=36,slow=5.5,SNR=6.3
GEYT Alibeck 57.89 298 P **P** **17 51 21.6 -0.8**
GYA0B ALIBECK ARRAY 57.89 298 P **P** **17 51 22.3 -0.2**
GYA0B IAmb IAmb 17 51 35.9
comp=Z,9.4nm,1.0s
CHIR Chirikof Islan 58.19 40 P **P** **17 51 24.5 +0.4**
SANVU Saraoutou 58.30 135 P **P** **17 51 24.7 -0.7**
IMAR Indian Mountai 58.30 28 P **P** **17 51 25.3 +0.5**
EIDS Eidsvold 58.83 156 P **P** **17 51 30.6 +1.8**
EIDS IAmb IAmb 17 51 47.0
comp=Z,28nm,1.5s
PPLA Purkeypile 59.18 32 P **P** **17 51 32.0 +0.9**
KDAK Kodiak Island 59.59 38 P **P** **17 51 34.8 +1.0**
KDAK pmax pmax
comp=Z,51nm,1.5s
KDAK Kodiak Island 59.59 38 P **P** **17 51 34.8 +1.0**
BPAW Bear Paw Mtn. 59.60 30 P **P** **17 51 35.0 +1.1**
BPAW IAmb IAmb 17 51 44.6
comp=Z,13nm,1.3s
MLY Manley 59.62 29 P **P** **17 51 35.1 +1.1**
baz=276
MORW Morawa 59.62 193 P **P** **17 51 34.0 -0.2**
KIRV Kirov 59.66 323 *ce*P **P** **17 51 34.8 +0.6**
KTH Kantishna Hill 59.69 31 P **P** **17 51 37.6 +3.1**
TRF Thorofare Moun 59.98 31 P **P** **17 51 38.0 +1.3**
TRF IAmb IAmb 17 52 11.9
comp=Z,17nm,1.3s
SUA Susitna One 60.02 33 P **P** **17 51 38.7 +1.8**
CNPM China Poot 60.04 35 P **P** **17 51 38.3 +1.3**
FORT Forrest 60.11 181 P **P** **17 51 38.2 +0.6**
BRLK Bradley Lake 60.19 35 P **P** **17 51 39.2 +1.3**
BWN Browne 60.26 30 P **P** **17 51 40.3 +2.0**
NEA2 Nenana 60.38 29 P **P** **17 51 39.7 +0.6**
baz=277
RND Reindeer 60.63 31 P **P** **17 51 41.1 +0.2**
RND pmax pmax
comp=Z,12nm,0.9s
RND Reindeer 60.63 31 P **P** **17 51 41.1 +0.2**
RND IAmb IAmb 17 52 01.9
comp=Z,12nm,0.9s
MDM Murphy Dome 60.69 29 P **P** **17 51 41.8 +0.5**
MDM IAmb IAmb 17 51 58.0
comp=Z,21nm,1.0s
PMR Palmer 60.77 33 P **P** **17 51 42.9 +1.1**
PMR pmax pmax
comp=Z,14nm,1.2s
PMR Palmer 60.77 33 P **P** **17 51 42.9 +1.1**
PMR IAmb IAmb 17 53 43.8
comp=Z,14nm,1.2s
WRH Wood River Hil 60.81 30 P **P** **17 51 42.8 +0.7**
WRH IAmb IAmb 17 53 09.0
comp=Z,29nm,1.8s
COLA College 60.86 29⇑ *e*P **P** **17 51 45.2 +2.8**
COLA pmax pmax
comp=Z,4.0nm,1.2s
CCB Clear Creek Bu 60.91 29 P **P** **17 51 43.1 +0.3**
CCB IAmb IAmb 17 52 55.0
comp=Z,16nm,1.6s
POKR Poker Plat Res 61.00 29 P **P** **17 51 44.4 +1.0**
baz=278
PRGR Permogore 61.08 327 *e*P **P** **17 51 43.0 -0.9**
PRGR pmax pmax
comp=Z,18nm,0.5s
SML Sawmill 61.11 33 P **P** **17 51 44.4 +0.2**
SML IAmb IAmb 17 52 17.7
comp=Z,13nm,1.0s
KNK Knik Glacier 61.11 33 P **P** **17 51 44.5 +0.2**
KNK IAmb IAmb 17 52 07.6
comp=Z,16nm,1.1s
IL31 61.28 29 P **P** **17 51 45.4 +0.2**
ILAR Eielson Array 61.28 29 P **P** **17 51 46.4 +1.1**
comp=Z,1.8nm,0.8s,baz=285,slow=6.2,SNR=9.4
ILAR LR LR 18 20 15.2
comp=Z,281nm,18.1s,baz=290,slow=38
ILAR Eielson Array 61.28 29 P **P** **17 51 45.9 +0.6**
ILAR Eielson Array 61.28 29 P **P** **17 51 45.9 +0.6**
HDA Harding Lake 61.31 30 P **P** **17 51 45.1 -0.4**
baz=279
HDA Harding Lake 61.31 30 P **P** **17 51 45.8 +0.3**
HDA IAmb IAmb 17 52 06.0
comp=Z,12nm,1.0s
DHY Denali Highway 61.34 31 P **P** **17 51 46.4 +0.5**
DHY IAmb IAmb 17 52 18.1
comp=Z,16nm,1.6s
SCM Sheep Creek Mo 61.57 32 P **P** **17 51 48.9 +1.5**
SCM pmax pmax
comp=Z,40nm,1.5s
SCM Sheep Creek Mo 61.57 32 P **P** **17 51 48.9 +1.5**
FYU Fort Yukon 61.67 27 P **P** **17 51 49.8 +2.0**
FYU IAmb IAmb 17 51 59.2
comp=Z,32nm,1.4s
FUNA Funafuti 61.72 120 P **P** **17 51 48.8 -0.1**
BMAR Burnt Mountain 61.78 26 P **P** **17 51 50.0 +1.3**
GLI Glacier Island 61.86 34 P **P** **17 51 50.2 +0.9**
GLI IAmb IAmb 17 52 12.4
comp=Z,18nm,1.0s
M24K Tolsona, Glenn 62.06 32 P **P** **17 51 50.3 -0.4**
FID Port Fidalgo 62.18 34 P **P** **17 51 51.3 -0.1**
KLU Klutina 62.30 33 P **P** **17 51 52.8 +0.6**
KLU IAmb IAmb 17 52 26.6
comp=Z,9.8nm,1.0s
RIDG Independent Ri 62.34 30 P **P** **17 51 52.9 +0.4**
RIDG IAmb IAmb 17 52 20.2
comp=Z,29nm,1.4s
STKA Stephens Creek 62.44 168 P **P** **17 51 53.6 +0.2**
comp=Z,4.1nm,0.9s,baz=17,slow=6.7,SNR=7.4
STKA Stephens Creek 62.44 168 P **P** **17 51 53.2 -0.2**
STKA Stephens Creek 62.44 168 P **P** **17 51 53.2 -0.2**
Q23K Middleton Isla 62.51 35 P **P** **17 51 55.2 +1.6**
SCRK Sand Creek 62.67 30 P **P** **17 51 55.3 +0.5**
baz=282
DOT Dot Lake 62.70 30 P **P** **17 51 55.1 +0.2**
DOT IAmb IAmb 17 52 15.2
comp=Z,8.6nm,0.9s
MENT Mentasta 63.00 31 P **P** **17 51 58.0 +1.0**
MENT IAmb IAmb 17 52 22.6
comp=Z,18nm,1.1s
DZM Mont Dzumac 63.03 140 *e*P P 17 52 02.7 +5.1
comp=Z,8.3nm,0.7s
DZM *e*S **S** **18 00 22.6 -3.4**
comp=Z,167nm,28.9s
DZM Mont Dzumac 63.03 140 *e*LR LR 18 10 27.7
comp=Z,810nm,26.0s
DZM Mont Dzumac 63.03 140 P **P** **17 51 57.2 -0.4**
NWAO Narrogin (SRO) 63.18 191 P **P** **17 51 59.8 +1.6**
NWAO pmax pmax
comp=Z,48nm,1.5s
NWAO Narrogin (SRO) 63.18 191 P **P** **17 51 59.8 +1.6**
NWAO Narrogin (SRO) 63.18 191 P **P** **17 51 59.9 +1.6**
NWAO IAmb IAmb 17 54 01.0
comp=Z,64nm,1.5s
GLB Gilahina Butte 63.30 33 P **P** **17 51 58.7 -0.2**
GLB IAmb IAmb 17 52 47.6
comp=Z,13nm,1.1s
K27K Chicken 63.48 29 P **P** **17 51 59.5 -0.4**
baz=284
VRDI Verde Repeater 63.52 33 P **P** **17 52 00.6 +0.1**
VRDI IAmb IAmb 17 52 24.7
comp=Z,12nm,1.1s
MCARA McCarthy VSAT 63.68 32 P **P** **17 52 02.8 +1.5**
MCARA IAmb IAmb 17 52 34.4
comp=Z,24nm,1.3s
EGAK Eagle 63.69 29 P **P** **17 52 02.2 +0.9**
EGAK IAmb IAmb 17 52 44.0
comp=Z,46nm,1.9s
CRQM Cirque 63.78 33 P **P** **17 52 02.0 -0.2**
CRQM IAmb IAmb 17 52 26.5
comp=Z,21nm,1.2s
BCAR Beaver Creek A 63.83 30 P **P** **17 52 02.9 +0.5**
TGL Tana Glacier 63.92 33 P **P** **17 52 03.6 +0.5**
TGL IAmb IAmb 17 52 31.3
comp=Z,19nm,1.1s
BALM Baldy 64.08 33 P **P** **17 52 03.3 -0.8**
BALM IAmb IAmb 17 53 26.0
comp=Z,38nm,1.7s
ISLE Juniper Island 64.20 33 P **P** **17 52 04.5 -0.5**
ISLE IAmb IAmb 17 53 23.7
comp=Z,31nm,1.3s
BARN Barnard Glacie 64.40 33 P **P** **17 52 05.4 -0.9**
BARN IAmb IAmb 17 52 49.4
comp=Z,28nm,1.6s
APA Apatity 64.88 335⇓ *i* P **P** **17 52 08.0 -1.1**
APA pmax pmax
comp=Z,13nm,0.8s
APA MLR MLR
comp=Z,1μm,13.0s
GROC Groznyy 65.43 307 *e*P **P** **17 52 13.7 +0.6**
GROC *e* 17 52 46.3
GROC *e* 17 54 35.0
GROC pmax pmax
comp=Z,10.0nm,0.4s
SPA0 Spitsbergen Ar 65.54 348 P **P** **17 52 13.4 +0.2**
VRH Novokhopyorsk 65.62 316 *e*P **P** **17 52 13.6 -0.6**
VRH pmax pmax
comp=Z,20nm,1.3s
VRH MLR MLR
comp=Z,850nm,14.0s
KEV Kevo 66.37 338 P **P** **17 52 19.3 +0.6**
KEV pmax pmax
comp=Z,137nm,1.9s
KEV Kevo 66.37 338 P **P** **17 52 19.3 +0.6**
MOS Moscow 66.56 322 *e*P **P** **17 52 19.9 -0.2**
MOS *e* 17 52 48.1
MOS *e*S **S** **18 01 11.1 +2.7**
MOS pmax pmax
comp=Z,36nm,1.0s
MOS MLR MLR
comp=Z,1μm,13.0s
MOS MLR MLR
comp=E,1μm,14.0s
LPSR Galich'ya Gora 66.83 318 *e*P **P** **17 52 21.2 -0.7**
LPSR pmax pmax
comp=Z,20nm,1.3s
LPSR MLR MLR
comp=Z,950nm,13.0s
ZEI Tsey 66.88 307 *e*P **P** **17 52 22.4 -0.3**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 66.94 338 P **P** **17 52 21.6 -0.7**
comp=Z,3.5nm,0.8s,baz=78,slow=8.4,SNR=6.5
ARCES LR LR 18 26 16.5
comp=Z,642nm,18.9s,baz=80,slow=40
VSR Storozhevoye 67.14 317 *e*P **P** **17 52 23.4 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR MLR MLR
comp=Z,1μm,15.0s
KBZ Khabaz 67.25 308 P **P** **17 52 25.7 +1.0**
comp=Z,14nm,0.9s,baz=126,slow=2.4,SNR=23
KBZ LR LR 18 23 56.7
comp=Z,1μm,18.2s,baz=74,slow=38
KBZ Khabaz 67.25 308⇓ *e*P **P** **17 52 25.9 +1.2**
KBZ pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 67.32 309 *e*P **P** **17 52 26.3 +1.0**
KIV *e*S **S** **18 01 18.2 -0.1**
KIV pmax pmax

comp=Z,59nm,1.0s
KIV pmax pmax
comp=Z,72nm,5.0s
KIV MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 67.32 309 P **P** **17 52 25.9 +0.6**
KIV IAmb IAmb 17 52 28.2
comp=Z,24nm,1.1s
OBN Obninsk 67.33 322 ⇓*i* P **P** **17 52 24.5 -0.5**
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 67.33 322 P **P** **17 52 24.8 -0.1**
OBN IAmb IAmb 17 52 36.6
comp=Z,30nm,1.3s
CAN Canberra 67.44 162 P **P** **17 52 27.2 +1.3**
CAN pmax pmax
comp=Z,35nm,1.5s
CAN Canberra 67.44 162 P **P** **17 52 27.2 +1.3**
CAN IAmb IAmb 17 53 24.1
comp=Z,35nm,1.5s
C36M Paulatuk 68.39 21 P **P** **17 52 33.4 +2.0**
MWH Moku'aweowe 68.62 79 P **P** **17 52 33.8 -0.6**
GEVA Gevas 69.06 303 P **P** **17 52 36.6 +0.2**
GEVA IAmb IAmb 17 52 38.6
comp=Z,16nm,1.0s
SOC Sochi 69.47 309 *e*P **P** **17 52 35.7 -2.9**
SOC *e* 17 55 15.1
SOC *e*PPP PPP 17 56 55.9
SOC *e*S **S** **18 01 40.2 -3.4**
SOC *e*SS **SS** **18 06 14.3 +3.5**
SOC MLR MLR
comp=Z,869nm,18.0s
FIA1 FINESS Array S 70.04 330 P **P** **17 52 42.0 +0.2**
FIA1 IAmb IAmb 17 52 43.1
comp=Z,14nm,0.8s
FINES FINESS Array B 70.05 330 P **P** **17 52 41.3 -0.5**
comp=Z,9.7nm,0.7s,baz=69,slow=6.5,SNR=29
FINES LR LR 18 27 55.9
comp=Z,986nm,18.0s,baz=62,slow=40
FINES FINESS Array B 70.05 330 P **P** **17 52 41.1 -0.7**
KOPT Kop Dagi 70.26 305 P **P** **17 52 43.1 -0.8**
KOPT IAmb IAmb 17 52 46.8
comp=Z,16nm,1.1s
ANN Anapa 70.53 311 *e*P P 17 52 48.6 +3.5
ANN *e**PP **PcP** **17 53 02.5 -3.7**
ANN *e*S **S** **18 02 00.6 +4.6**
ANN pmax pmax
comp=Z,30nm,0.7s
ANN MLR MLR
comp=Z,1µm,22.0s
ANN MLR MLR
comp=E,2µm,22.0s
ANN MLR MLR
comp=N,1µm,19.0s
SOCY Socotra 70.77 273 P **P** **17 52 45.2 -1.9**
SOCY IAmb IAmb 17 53 10.3
comp=Z,22nm,1.2s
DLBC Dease Lake 70.83 33 LR LR 18 24 41.2
comp=Z,296nm,19.6s,baz=304,slow=37
VSU Vasula 71.04 327 *e*P **P** **17 52 49.1 +1.2**
MARD Mardin 71.11 303 P **P** **17 52 48.4 -0.5**
MARD IAmb IAmb 17 52 50.9
comp=Z,13nm,0.8s
RES Resolute Bay 72.13 11 P **P** **17 52 54.4 +0.2**
RES pmax pmax
comp=Z,59nm,1.9s
RES Resolute Bay 72.13 11 P **P** **17 52 54.4 +0.2**
RES IAmb IAmb 17 54 22.7
comp=Z,59nm,1.9s
IDID Didziasalis 72.43 324 *e*P **P** **17 52 57.0 +0.7**
NACGM Naroch 72.59 324 *e* **P** **17 52 58.0 +0.7**
NACGM *e*LQ LQ 18 20 04.0
NACGM *e*LR LR 18 26 16.0
NACGM LRM MLR 18 29 13.0
comp=Z,2.6nm,14.0s
ISAL Salakas 72.62 324 *e*P **P** **17 52 59.1 +1.6**
IIGN Ignalina 72.67 324 *e*P **P** **17 52 58.2 +0.4**
TOKA Tokat 72.97 307 P **P** **17 53 00.8 +0.8**
TOKA IAmb IAmb 17 53 16.4
comp=Z,8.6nm,0.5s
AKASG Malin Array Be 73.14 319 P **P** **17 52 59.9 -0.8**
comp=Z,10.0nm,0.8s,baz=54,slow=6.2,SNR=24
AKASG LR LR 18 27 34.5
comp=Z,1µm,18.8s,baz=55,slow=38
AKASG Malin Array Be 73.14 319 P **P** **17 53 00.3 -0.4**
AKBB Malin Array Si 73.14 319⇓*e*P **P** **17 53 00.3 -0.4**
AKBB Malin Array Si 73.14 319 P **P** **17 53 00.0 -0.6**
PABE Paberze 73.74 325 *e*P **P** **17 53 04.7 +0.6**
GAZ Gaziantep 73.76 304 P **P** **17 53 05.0 +0.3**
GAZ IAmb IAmb 17 53 07.0
comp=Z,16nm,1.2s
PBUR Paburge 74.49 326 *e*P **P** **17 53 09.2 +0.8**
BBB Bella Bella 74.65 38 LR LR 18 24 28.4
comp=Z,166nm,18.4s,baz=292,slow=34
SUW Suwalki 74.87 324 *e*P **P** **17 53 11.5 +0.9**
KIS Kishinev 75.05 316 *e*P **P** **17 53 13.0 +1.1**
comp=Z,40nm,5.5s
KIS Kishinev 75.05 316 *e*PP PP 17 56 13.0 +13
KIS *e*LR LR 18 25 30.0
comp=Z,300nm,15.0s
KIS Kishinev 75.05 316 *e*P **P** **17 53 13.0 +1.1**
KIS MLR MLR
comp=Z,300nm,15.0s
BR131 Keskin Array S 75.19 307*d i*P **P** **17 53 13.5 +0.5**
BR131 Keskin Array S 75.19 307 P **P** **17 53 12.9 -0.1**
BRTR Keskin Array B 75.19 307 P **P** **17 53 13.3 +0.3**
comp=Z,5.5nm,0.8s,baz=100,slow=5.3,SNR=19
BRTR LR LR 18 31 09.6
comp=Z,269nm,20.0s,baz=62,slow=40
BRTR Keskin Array B 75.19 307 P **P** **17 53 12.6 -0.4**
BRTR Keskin Array B 75.19 307 P **P** **17 53 12.6 -0.4**
YKA Yellowknife Ar 75.29 25 LR LR 18 31 07.7
comp=Z,176nm,21.5s,baz=0.0,slow=40
NC405 NORSAR Array S 76.14 334 P **P** **17 53 16.9 -1.0**
NC405 IAmb IAmb 17 53 18.9
comp=Z,30nm,1.0s
NC303 NORSAR Array S 76.21 334 P **P** **17 53 16.9 -1.4**
NB201 NORSAR Array S 76.35 334 P **P** **17 53 18.0 -1.0**
NB2 NORSAR Subarra 76.38 334 P **P** **17 53 18.0 -1.3**
comp=Z,2.4nm,0.6s,baz=51,slow=5.9
NOA NORSAR Array B 76.38 334 P **P** **17 53 18.0 -1.3**
comp=Z,5.8nm,0.8s,baz=51,slow=5.6,SNR=24
NOA LR LR 18 30 12.2
comp=Z,956nm,18.6s,baz=45,slow=38
NC204 NORSAR Array S 76.41 334 P **P** **17 53 19.1 -0.4**
NBO00 NORSAR Array S 76.56 334 P **P** **17 53 19.6 -0.6**
BUR08 Bucovina Ar. S 76.91 318 P **P** **17 53 22.6 -0.1**
BURAR Bucovina Array 76.91 317 P **P** **17 53 21.9 -0.7**
KWP Kalwaria Pacla 77.33 320 *e*P **P** **17 53 25.9 +1.1**
KWP Kalwaria Pacla 77.33 320 P **P** **17 53 25.0 +0.1**
KWP pmax pmax
comp=Z,20nm,0.9s
KWP Kalwaria Pacla 77.33 320 P **P** **17 53 24.9 +0.1**
KWP IAmb IAmb 17 53 27.1
comp=Z,20nm,0.9s
MLR Muntele Rosu 77.52 315 P **P** **17 53 26.8 +0.7**
MLR pmax pmax
comp=Z,37nm,2.0s
MLR Muntele Rosu 77.52 315 P **P** **17 53 26.8 +0.7**
MLR IAmb IAmb 17 53 51.6
comp=Z,37nm,2.0s
KOLS Kolonicke sedl 77.94 320 *e*P **P** **17 53 27.8 -0.4**
KOLS Kolonicke sedl 77.94 320 *e*P **P** **17 53 27.8 -0.4**
UZH Uzhgorod 78.08 319 *e*P P 17 53 32.4 +3.4
UZH *e* 17 53 37.6
UZH *e*S **S** **18 03 21.4 +0.9**
UZH *e* 18 04 25.7
UZH MLR MLR
comp=N,350nm,18.0s
UZH MLR MLR
comp=E,250nm,18.0s
UZH MLR MLR
comp=Z,180nm,18.0s
OJC Ojcow 78.62 322 *e*P **P** **17 53 33.1 +1.1**
OJC Ojcow 78.62 322 P **P** **17 53 32.4 +0.4**
OJC pmax pmax
comp=Z,16nm,0.8s
OJC Ojcow 78.62 322 P **P** **17 53 32.4 +0.4**
OJC IAmb IAmb 17 53 34.0
comp=Z,16nm,0.8s
PSZ Piszkesteto 79.82 320 P **P** **17 53 38.8 +0.1**
PSZ pmax pmax
comp=Z,6.0nm,1.0s
PSZ Piszkesteto 79.82 320 P **P** **17 53 38.8 +0.1**
MORC Moravsky Berou 80.08 322 *e*P **P** **17 53 41.1 +1.1**
MORC Moravsky Berou 80.08 322 P **P** **17 53 39.5 -0.5**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 80.08 322 P **P** **17 53 39.5 -0.5**
VYHS Vyhne 80.09 321 *e*P **P** **17 53 41.4 +1.4**
VYHS Vyhne 80.09 321 *e*P **P** **17 53 41.4 +1.4**
KSP Ksiaz 80.12 323 *e*P **P** **17 53 41.3 +1.2**
KRLC Kraliky 80.31 323 *e*P **P** **17 53 41.4 +0.2**
KRLC AMS AMS 18 32 40.0
comp=Z,2µm,15.4s
KRLC Kraliky 80.31 323 *e*P **P** **17 53 41.4 +0.2**
KRLC MLR MLR
comp=Z,2µm,15.4s
OSTC Ostas 80.33 323 AMS AMS 18 32 20.0
comp=Z,1µm,14.2s
DPC Dobruska-Polom 80.39 323 *e*P **P** **17 53 43.1 +1.4**
DPC AMS AMS 18 32 30.0
comp=Z,1µm,18.1s
DPC Dobruska-Polom 80.39 323 *e*P **P** **17 53 43.1 +1.4**
DPC MLR MLR
comp=Z,1µm,18.1s
CHVC Chvalec 80.40 323 AMS AMS 18 33 20.0
comp=Z,1µm,18.2s
UPC Upice 80.47 323 *e*P **P** **17 53 43.3 +1.3**
UPC AMS AMS 18 32 20.0
comp=Z,1µm,15.0s
UPC Upice 80.47 323 *e*P **P** **17 53 43.3 +1.3**
UPC MLR MLR
comp=Z,1µm,15.0s
JAVC Velka Javorina 80.53 321 *e*P **P** **17 53 44.6 +2.2**
VRAC Vranov 80.85 322 *e*P **P** **17 53 45.6 +1.5**
KRUC Moravsky 81.10 322 *e*P **P** **17 53 46.7 +1.3**
PVCC Panska Ves 81.20 324 AMS AMS 18 33 50.0
comp=Z,2µm,15.4s
BRG Berggiesshubel 81.31 324 *e*P **P** **17 53 49.4 +2.9**
comp=Z,19nm,1.8s
comp=N,1µm,16.2s
comp=E,984nm,14.4s
comp=Z,2µm,14.6s
BRG Berggiesshubel 81.31 324 *e*P **P** **17 53 49.4 +2.9**
BRG pmax pmax
comp=Z,19nm,1.8s
BRG MLR MLR
comp=N,1µm,16.2s
BRG MLR MLR
comp=E,984nm,14.4s
BRG MLR MLR
comp=Z,2µm,14.6s
TREC Trest 81.45 322 AMS AMS 18 34 50.0
comp=Z,2µm,14.2s
GOPC GO Pecny, Ondr 81.45 323 AMS AMS 18 33 20.0
comp=Z,1µm,15.4s
CLL Collm 81.52 325 *i* P **P** **17 53 48.0 +0.4**
comp=Z,10.0nm,0.9s
CLL *e*S **S** **18 04 00.0 +3.2**
CLL *e*PS **PnS** **18 04 48.0 +0.8**
CLL *e*SS SS 18 09 24.0 +11
CLL *e*SSS SSS 18 12 42.0
CLL *e* 18 13 48.0
CLL Collm 81.52 325 P **P** **17 53 47.5 -0.1**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 81.52 325 P **P** **17 53 47.5 -0.1**
PRU Pruhonice 81.53 323 *e*P **P** **17 53 48.9 +1.2**
PRU AMS AMS 18 32 20.0
comp=Z,1µm,14.2s
PRU Pruhonice 81.53 323 *e*P **P** **17 53 48.9 +1.2**
PRU MLR MLR
comp=Z,1µm,14.2s
PRA Prague 81.54 324 AMS AMS 18 34 50.0
comp=Z,800nm,12.9s
DIVS Divibare 81.86 316 P **P** **17 53 49.9 +0.2**
CONA Conrad Observa 82.05 321 *e*P **P** **17 53 52.7 +2.1**
comp=Z,5.9nm,0.9s
LIT Litokhoron 82.48 312 P **P** **17 53 52.5 -0.4**
LIT pmax pmax
comp=Z,7.0nm,1.1s
LIT Litokhoron 82.48 312 P **P** **17 53 52.5 -0.4**
KHC Kasperske Hory 82.55 323 *e*P **P** **17 53 53.8 +0.7**
KHC *ex* x 17 54 02.1
KHC AMS AMS 18 34 10.0
comp=Z,1µm,15.9s
KHC Kasperske Hory 82.55 323 *e*P **P** **17 53 53.8 +0.7**
KHC *e* 17 54 02.1
KHC MLR MLR
comp=Z,1µm,15.9s
GERES GERESS Array B 82.66 323 P **P** **17 53 53.5 -0.2**
comp=Z,1.1nm,0.7s,baz=46,slow=4.4,SNR=7.6
GERES LR LR 18 34 13.3
comp=Z,1µm,18.6s,baz=64,slow=38
GERES GERESS Array B 82.66 323 P **P** **17 53 53.1 -0.6**
GERES GERESS Array B 82.66 323 P **P** **17 53 53.1 -0.6**
MOA Molln 82.96 322 *e*P **P** **17 53 57.1 +1.9**
comp=Z,3.9nm,0.9s
PDG Podgorica 83.24 315 P **P** **17 53 56.7 0.0**
SOKA Soboth 83.24 321 *e*P **P** **17 53 58.3 +1.5**
comp=Z,6.1nm,0.8s
GRA1 Grafenberg Arr 83.42 325 P **P** **17 53 58.3 +0.8**
GRA1 IAmb IAmb 17 53 59.9
comp=Z,24nm,1.2s
GRF Grafenberg Arr 83.42 325 P **P** **17 53 58.3 +0.8**
GRF pmax pmax
comp=Z,24nm,1.2s
OBKA Obir 83.61 321 *e*P **P** **17 53 59.4 +0.7**
comp=Z,5.1nm,0.9s
ABTA Abfaltersbach 84.58 322 *e*P **P** **17 54 03.5 -0.1**
comp=Z,8.4nm,1.0s
WATA Walderalm 84.71 323 *e*P **P** **17 54 05.6 +1.2**
comp=Z,6.2nm,0.9s
WTTA Wattenberg 84.73 322 *e*P **P** **17 54 04.4 -0.1**
comp=Z,6.7nm,0.8s
STAL STALIGIAL 84.77 321 P **P** **17 54 04.3 -0.2**
J08A Circle Bar Ran 84.87 42 P **P** **17 54 06.5 +1.3**
J08A IAmb IAmb 17 54 24.8
comp=Z,10nm,1.2s
CIMO Cimolais 84.89 321 P **P** **17 54 04.2 -0.9**
CIMO IAmb IAmb 17 54 09.3
comp=Z,7.3nm,0.9s
MOTA Moosalm 84.96 323 *e*P **P** **17 54 06.0 +0.4**
comp=Z,6.8nm,0.8s
SQTA Sankt Quirin 84.98 323 *e*P **P** **17 54 06.2 +0.6**
comp=Z,4.9nm,0.8s
FETA Feichten 85.36 323 *e*P **P** **17 54 08.9 +1.2**
comp=Z,3.5nm,0.8s
CTI Castel Tesino 85.48 321 P **P** **17 54 08.1 -0.1**
CTI pmax pmax
comp=Z,6.0nm,0.7s
CTI Castel Tesino 85.48 321 P **P** **17 54 08.1 -0.1**
CTI IAmb IAmb 17 54 09.1
comp=Z,5.5nm,0.7s
DAVA Damuels 85.64 323 *e*P **P** **17 54 09.9 +0.9**
comp=Z,6.2nm,1.2s
FUORN Ofenpass-Fuorn 85.86 323 P **P** **17 54 10.4 +0.2**
FUORN IAmb IAmb 17 54 12.2
comp=Z,12nm,0.8s
TUE Stuetta 86.44 323 P **P** **17 54 12.6 -0.5**
TUE IAmb IAmb 17 54 20.5
comp=Z,14nm,1.0s
HLID Hailey 87.08 40 P **P** **17 54 16.4 +0.2**
baz=309
BOZ Bozeman (W) 87.30 38 P **P** **17 54 17.5 +0.3**
baz=311
NVAR Mina Array Bea 87.91 46 P **P** **17 54 21.9 +1.5**
comp=Z,1.3nm,0.8s,baz=286,slow=4.3,SNR=5.1
NVAR LR LR 18 37 36.3
comp=Z,94nm,18.2s,baz=276,slow=38
NVAR Mina Array Bea 87.91 46 P **P** **17 54 20.9 +0.6**
H17A Grant Village 88.65 38 P **P** **17 54 26.5 +2.7**
baz=312
NRS Narsarsuaq 89.37 357 P **P** **17 54 27.1 +0.7**
NRS pmax pmax
comp=Z,54nm,0.8s
NRS Narsarsuaq 89.37 357 P **P** **17 54 27.1 +0.7**
R11A Troy Canyon, C 89.65 45 P **P** **17 54 28.1 -0.4**
baz=309
BW06 Boulder Array 90.29 39 P **P** **17 54 31.0 -0.5**
baz=312
PDAR Pinedale Array 90.29 39 P **P** **17 54 32.3 +0.8**
comp=Z,0.8nm,0.8s,baz=27,slow=0.3,SNR=6.3
PDAR LR LR 18 36 42.4
comp=Z,113nm,19.2s,baz=343,slow=37
PDAR Pinedale Array 90.29 39 P **P** **17 54 31.6 +0.2**
ULM Lac du Bonnet 91.22 27 LR LR 18 40 42.8
comp=Z,196nm,18.1s,baz=324,slow=39
PPT Papeete 91.71 109 LR LR 18 27 31.5
comp=Z,169nm,22.0s,baz=228,slow=30
KMBO Kilima Mbogo 91.71 270 LR LR 18 36 41.0
comp=Z,164nm,20.9s,baz=96,slow=36
PPT2 Papeete2 91.72 109 *e*LR LR 18 23 44.9
comp=Z,380nm,23.5s
KNB Kanab 92.19 45 P **P** **17 54 41.2 +0.9**
KNB pmax pmax
comp=Z,10.0nm,1.2s
KNB Kanab 92.19 45 P **P** **17 54 41.2 +0.9**
KEST Kesra 93.42 315 LR LR 18 42 09.8
comp=Z,307nm,18.9s,baz=336,slow=39
PV21 Cone Mtn., Par 93.46 42 P **P** **17 54 46.6 +0.4**
TBI Tubuai 94.71 114 *e*LR LR 18 25 09.8
comp=Z,206nm,23.8s
SCHQ Schefferville 94.81 9 LR LR 18 42 33.5
comp=Z,290nm,18.5s,baz=342,slow=39
TAOE Nuku Hiva Isla 95.41 97 *e*LR LR 18 25 25.0
comp=Z,487nm,25.2s
ESDC Sonseca Array 98.11 325 LR LR 18 44 43.1
comp=Z,685nm,18.0s,baz=25,slow=39
SYO Syowa Base 116.99 204⇑*e*PP PP 18 01 25.4 +1.3
QSPA South Pole Qui 119.43 180 PKP **PKiKP** **18 00 18.1 -0.8**
comp=Z,0.9nm,0.7s,baz=288,slow=3.2,SNR=6.4
BELA Belgrano 2 131.11 185 PKPpre 18 00 28.6
VNA2 Neumayer--Watz 132.13 198 PKiKP **PKiKP** **18 00 45.9 +2.0**

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*JMA **17** 17:53:26.9±0.3, 29.°62N×128.°44E, h30km, M3.5*
*IDC **17** 17:53:28.7±3.2, 29.°75N×128.°57E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.3/53, mbtmp3.4/7, ML2.7/3, Error ellipse: s-maj=62.7km s-min=26.7km az=140.0*
ISC 17 17:53:31.7±0.9, **29.°54N**±0.°06×**128.°71E**±0.°08, **h35**km, **n14,** σ1s**45**/16, **mb3.4**/4, **Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.57**	**131**	P	**Pn**	**17 53 42.0**	**-1.4**
JTAJ				S	**Sn**	**17 53 52.6**	**+1.0**
JNN	**Nakanoshima**	**1.06**	**73**	P	**Pn**	**17 53 49.4**	**-0.7**
JNN				*e*S	**Sn**	**17 54 05.5**	**+1.9**
JAMN	**Amaminishikomi**	**1.35**	**162**	P	**Pn**	**17 53 52.9**	**-1.2**
JKC	**Kuchinoerabu**	**1.59**	**54**	P	**Pn**	**17 53 55.5**	**-1.8**
JYAK	**Yakushimahirau**	**1.71**	**65**	P	**Pn**	**17 53 57.9**	**-1.1**
JTK	**Tokunoshima**	**1.76**	**173**	P	**Pn**	**17 53 58.0**	**-1.7**
JTN	**Tanegashima 3**	**2.26**	**60**	P	**Pn**	**17 54 06.0**	**-0.6**
JNU	**Nakatsue**	**4.03**	**27**	Pn	**Pn**	**17 54 31.2**	**+0.3**
	0.8nm,0.3s,baz=262,slow=3.0,SNR=6.8						
KSRS	**Korea Array**	**7.92**	**355**	Pn	**Pn**	**17 55 23.6**	**-0.7**
	0.1nm,0.3s,baz=180,slow=13,SNR=4.0						
MJAR	**Matsushiro Arr**	**10.60**	**46**	Pn	**Pn**	**17 55 59.9**	**-1.1**
	0.0nm,0.3s,baz=236,slow=15,SNR=5.4						
SONM	**Songino Array**	**25.09**	**323**	P	**P**	**17 58 53.7**	**+0.5**
	2.0nm,1.1s,baz=126,slow=7.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**29.26**	**255**	P	**P**	**17 59 33.1**	**+2.4**
	0.2nm,0.4s,baz=60,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**39.72**	**309**	P	**P**	**18 01 00.3**	**-0.4**
	0.4nm,0.8s,baz=106,slow=7.7,SNR=2.3						
BVAR	**Borovoye Array**	**48.14**	**316**	P	**P**	**18 02 06.5**	**-1.7**
	0.5nm,0.7s,baz=200,slow=12,SNR=3.0						

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*IDC **17** 17:53:43.7±0.6, 33.°49S×77.°66E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.0/48, mbtmp4.2/15, MS4.5/15, Ms1 4.5/15, ms1mx4.2/37, Error ellipse: s-maj=19.9km s-min=17.3km az=93.0*
*NEIC **17** 17:53:45.8±1.6, 33.°50S±0.°08×77.°67E±0.°07, h14km±3km, mb4.8/41, Error ellipse: s-maj=13.2km s-min=6.1km az=155.0*
*GCMT **17** 17:53:47.8±0.2, 33.°49S±0.°01×77.°58E±0.°01, h23km±1km, MW5.2/121, Moment Tensor Solution. s66,c87; s121,c198; Duration: 1s0 Moment tensor: Scale 10**17** Nm; Mrr~0.08±.02; Mθθ-0.86±.02; Mϕϕ0.94±.02; Mrθ0.19±.03; Mθϕ~0.04±.02; Mϕr~0.05±.03; Best double couple: M0 0.92700×10**17** NP1:ϕ1=223.00000°, δ79.00000°, λ-7.00000°. NP2:ϕ2=314.00000°, δ83.00000°, λ-168.00000°. Principal axes: T 0.9480, Plg3.0000°, Azm88.0000°; N -0.0420, Plg76.0000°, Azm346.0000°; P -0.9060, Plg13.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 17:53:46.1±0.4, **33.°50S**±0.°07×**77.°7E**±0.°1, **h16**km, **n82,** σ0s**81**/68, **mb4.7**/32, **MS4.5**/15, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**4.29**	**182**	Pn	**Pn**	**17 54 49.9**	**-0.7**
RER	**Riviere de l'E**	**23.01**	**297**	P	**P**	**17 58 52.1**	**+1.5**
H08S2	**Diego Garcia H**	**26.18**	**348**	T	T	18 26 24.6	
	baz=170,slow=76,SNR=414						
H08S1	**Diego Garcia H**	**26.18**	**348**	T	T	18 26 27.8	
	baz=170,slow=76,SNR=576						
H08S3	**Diego Garcia H**	**26.20**	**348**	T	T	18 26 27.1	
	baz=170,slow=76,SNR=1331						
H01W2	**Cape Leeuwin H**	**30.05**	**103**	T	T	18 31 28.9	
	baz=262,slow=75,SNR=80						
H01W3	**Cape Leeuwin H**	**30.05**	**103**	T	T	18 31 30.3	
	baz=262,slow=75,SNR=69						
H01W1	**Cape Leeuwin H**	**30.07**	**103**	T	T	18 31 31.5	
	baz=262,slow=75,SNR=151						
NWAO	**Narrogin (SRO)**	**32.93**	**100**	LR	LR	18 10 25.1	
	comp=Z,1µm,20.8s,baz=268,slow=30						
MAW	**Mawson**	**35.22**	**190**	P	**P**	**18 00 39.7**	**+0.5**
	1.7nm,0.7s,baz=342,slow=9.2,SNR=6.4						
MAW				LR	LR	18 11 32.6	
	comp=Z,289nm,20.8s,baz=37,slow=30						
MAW	**Mawson**	**35.22**	**190**	P	**P**	**18 00 39.6**	**+0.3**
CASY	**Casey**	**38.14**	**159**	P	**P**	**18 01 03.9**	**-0.2**
KULM	**Kulim**	**44.28**	**34**	P	**P**	**18 01 55.5**	**+0.3**
BOSA	**Boshof**	**44.82**	**262**	LR	LR	18 16 34.6	
	comp=Z,773nm,21.4s,baz=109,slow=31						
BOSA	**Boshof**	**44.82**	**262**	P	**P**	**18 01 58.7**	**-0.9**
MATP	**Matopo**	**45.38**	**274**	P	**P**	**18 02 03.0**	**-1.1**
	3.4nm,0.7s,baz=132,slow=7.4,SNR=6.1						
FITZ	**Fitzroy Crossi**	**45.39**	**83**	LR	LR	18 20 24.4	
	comp=Z,447nm,18.4s,baz=277,slow=35						
FITZ	**Fitzroy Crossi**	**45.39**	**83**	P	**P**	**18 02 03.2**	**-0.9**
FITZ				IAmb	IAmb	18 02 05.2	
	comp=Z,9.2nm,1.2s						
LBTB	**Lobatse**	**45.85**	**266**	P	**P**	**18 02 06.9**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=148,slow=9.5,SNR=4.9						
LBTB	**Lobatse**	**45.85**	**266**	IAmb	IAmb	18 02 25.2	
	comp=Z,32nm,1.6s						
LSZ	**Lusaka**	**48.15**	**280**	P	**P**	**18 02 24.9**	**-0.9**
KNRA	**Kununurra**	**49.19**	**82**	P	**P**	**18 02 33.9**	**+0.2**
KNRA				IAmb	IAmb	18 02 37.2	
	comp=Z,19nm,1.1s						
ASAR	**Alice Springs**	**49.79**	**94**	P	**P**	**18 02 37.8**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=242,slow=6.5,SNR=15						
ASAR				LR	LR	18 22 44.0	
	comp=Z,331nm,18.0s,baz=278,slow=35						
ASAR	**Alice Springs**	**49.79**	**94**	P	**P**	**18 02 38.4**	**+0.1**
AS31	**Alice Springs**	**49.79**	**94**	P	**P**	**18 02 38.9**	**+0.6**
WRA	**Warramunga Arr**	**51.77**	**90**	P	**P**	**18 02 53.4**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=246,slow=7.4,SNR=10						
WRA				LR	LR	18 21 47.4	
	comp=Z,511nm,21.6s,baz=250,slow=32						
WRA	**Warramunga Arr**	**51.77**	**90**	P	**P**	**18 02 53.7**	**+0.4**
WB2	**Warramunga Arr**	**51.78**	**90**	P	**P**	**18 02 54.0**	**+0.6**
WB2				IAmb	IAmb	18 03 03.0	
	comp=Z,13nm,1.2s						
WRAB	**Tennant Creek**	**51.79**	**90**	P	**P**	**18 02 52.5**	**-0.8**
WRAB				IAmb	IAmb	18 02 55.3	
	comp=Z,19nm,1.5s						
WB0	**Warramunga Arr**	**51.90**	**90**	P	**P**	**18 02 54.5**	**+0.3**
WB0				IAmb	IAmb	18 03 03.7	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**51.94**	**90**	P	**P**	**18 02 55.0**	**+0.5**
WR0				IAmb	IAmb	18 03 02.0	
	comp=Z,8.8nm,1.1s						
MTN	**Manton Dam**	**52.62**	**80**	P	**P**	**18 02 58.9**	**-0.7**
MTN				IAmb	IAmb	18 03 00.1	
	comp=Z,23nm,1.4s						
CM31	**Chiang Mai Arr**	**55.50**	**25**	P	**P**	**18 03 19.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**55.50**	**25**	P	**P**	**18 03 20.7**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=209,slow=6.8,SNR=12						
CMAR				LR	LR	18 22 15.6	
	comp=Z,293nm,21.9s,baz=224,slow=31						
CMAR	**Chiang Mai Arr**	**55.50**	**25**	P	**P**	**18 03 19.7**	**-0.7**
SNAA	**Sanae**	**55.63**	**202**	P	**P**	**18 03 21.3**	**+0.5**
SNAA	**Sanae**	**55.63**	**202**	P	**P**	**18 03 21.4**	**+0.5**
SNAA				IAmb	IAmb	18 03 21.8	
	comp=Z,19nm,1.8s						

VNDA	**Vanda**	**56.30**	**165**	P		**P**	**18 03 25.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=279,slow=5.7,SNR=6.0							
VNDA				LR		LR	18 25 15.3	
	comp=Z,543nm,19.6s,baz=282,slow=34							
VNDA	**Vanda**	**56.30**	**165**	P		**P**	**18 03 25.9**	**+0.4**
QSPA	**South Pole Qui**	**56.65**	**180**	P		**P**	**18 03 29.0**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=288,slow=2.0,SNR=26							
QSPA	**South Pole Qui**	**56.65**	**180**	P		**P**	**18 03 28.7**	**+0.4**
QSPA	**South Pole Qui**	**56.65**	**180**			**P**	**18 03 29.0**	**+0.7**
VNA2	**Neumayer--Watz**	**57.16**	**203**	P		**P**	**18 03 32.6**	**+0.9**
	baz=104,slow=7.7							
VNA1	**Neumayer--Stat**	**57.49**	**203**	P		**P**	**18 03 34.8**	**+0.9**
VNA3	**Neumayer Olymp**	**57.85**	**202**	P		**P**	**18 03 37.2**	**+0.7**
SLVN	**Son La**	**59.98**	**28**	P		**P**	**18 03 53.7**	**+1.8**
SLVN				IAmb		IAmb	18 04 01.5	
	comp=Z,8.1nm,1.2s							
SHL	**Shillong**	**60.27**	**15**	P		**P**	**18 03 53.4**	**-0.6**
SHL				IAmb		IAmb	18 03 56.9	
	comp=Z,17nm,1.3s							
BELA	**Belgrano 2**	**61.98**	**193**	P		**P**	**18 04 04.4**	**-0.4**
EIDS	**Eidsvold**	**63.22**	**104**	P		**P**	**18 04 14.3**	**+0.4**
LSA	**Lhasa**	**64.13**	**13**	P		**P**	**18 04 20.4**	**+0.2**
JAY	**Jayapura**	**66.23**	**77**	LR		LR	18 35 17.3	
	comp=Z,51nm,18.6s,baz=225,slow=38							
NIL	**Nilore**	**66.93**	**356**	P		**P**	**18 04 37.4**	**-0.2**
NIL				IAmb		IAmb	18 04 47.6	
	comp=Z,5.2nm,0.9s							
PMG	**Port Moresby**	**67.74**	**87**	LR		LR	18 33 34.7	
	comp=Z,607nm,19.0s,baz=221,slow=35							
PMG	**Port Moresby**	**67.74**	**87**	P		**P**	**18 04 41.5**	**-1.8**
GEYT	**Alibeck**	**73.37**	**344**	P		**P**	**18 05 16.0**	**-1.0**
BTK	**Batken**	**73.47**	**354**	P		**P**	**18 05 18.1**	**+0.4**
BTK				IAmb		IAmb	18 05 21.1	
	comp=Z,7.5nm,1.1s							
KRVT	**Keravat (AS076**	**74.55**	**85**	LR		LR	18 36 27.8	
	comp=Z,336nm,20.8s,baz=223,slow=34							
KDJ	**Kajisay**	**75.27**	**360**	P		**P**	**18 05 27.6**	**-0.5**
PRZ	**Przheval'sk**	**75.62**	**1**	P		**P**	**18 05 29.9**	**-0.3**
PRZ				IAmb		IAmb	18 05 40.6	
	comp=Z,14nm,1.4s							
BOOM	**Boomskoye usch**	**75.64**	**359**	P		**P**	**18 05 30.8**	**+0.5**
KK31	**Karatay Array**	**76.52**	**355**	P		**P**	**18 05 35.8**	**+0.7**
KK31				IAmb		IAmb	18 05 45.4	
	comp=Z,10nm,1.1s							
KKAR	**Karatay Array**	**76.52**	**355**	P		**P**	**18 05 35.4**	**+0.3**
KKAR				IAmb		IAmb	18 05 45.4	
	comp=Z,10nm,1.1s							
KKAR	**Karatay Array**	**76.52**	**355**	P		**P**	**18 05 35.2**	**+0.1**
MK31	**Makanchi Array**	**80.03**	**3**	P		**P**	**18 05 54.3**	**-0.2**
MKAR	**Makanchi Array**	**80.03**	**3**	P		**P**	**18 05 54.6**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=175,slow=5.8,SNR=11							
MKAR				LR		LR	18 38 23.5	
	comp=Z,287nm,22.0s,baz=155,slow=34							
MKAR	**Makanchi Array**	**80.03**	**3**	P		**P**	**18 05 53.9**	**-0.6**
BRTR	**Keskin Array B**	**83.50**	**327**	P		**P**	**18 06 14.6**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=188,slow=8.2,SNR=2.6							
BRTR	**Keskin Array B**	**83.50**	**327**	P		**P**	**18 06 14.3**	**+1.2**
KURBB	**Kurchatov Arra**	**83.76**	**1**	P		**P**	**18 06 14.6**	**+0.7**
	comp=Z,0.6nm,0.2s,baz=199,slow=5.2,SNR=8.1							
KURK	**Kurchatov**	**83.86**	**1**	P		**P**	**18 06 14.0**	**-0.4**
KURK				IAmb		IAmb	18 06 23.2	
	comp=Z,9.2nm,1.4s							
ABKAR	**Akbulak array**	**83.90**	**348**	P		**P**	**18 06 14.7**	**0.0**
SONM	**Songino Array**	**84.96**	**19**	P		**P**	**18 06 21.7**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=212,slow=5.3,SNR=5.1							
SONM	**Songino Array**	**84.96**	**19**	P		**P**	**18 06 19.4**	**-0.9**
AKTO	**Aktyubinsk**	**85.37**	**348**	P		**P**	**18 06 22.1**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=203,slow=2.5,SNR=6.5							
TORD	**Torodi Ar. Bea**	**85.85**	**289**	P		**P**	**18 06 24.5**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=93,slow=6.1,SNR=3.8							
TORD				LR		LR	18 43 33.0	
	comp=Z,490nm,18.5s,baz=110,slow=35							
TORD	**Torodi Ar. Bea**	**85.85**	**289**	P		**P**	**18 06 23.8**	**-1.6**
BRVK	**Borovoye**	**86.44**	**356**	P		**P**	**18 06 29.0**	**+1.6**
BRVK				IAmb		IAmb	18 06 36.8	
	comp=Z,7.5nm,1.2s							
ZAA0	**Zalesovo Array**	**87.31**	**4**	P		**P**	**18 06 32.0**	**+0.5**
ZALV	**Zalesovo Beam**	**87.31**	**4**	P		**P**	**18 06 31.4**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=191,slow=3.0,SNR=12							
ZALV				LR		LR	18 43 17.2	
	comp=Z,208nm,21.1s,baz=158,slow=34							
ZALV	**Zalesovo Beam**	**87.31**	**4**	P		**P**	**18 06 30.1**	**-1.4**
DBIC	**Dimbokro**	**87.49**	**280**	LR		LR	18 41 26.7	
	comp=Z,396nm,21.5s,baz=56,slow=33							
SCHQ	**Schefferville**	**147.34**	**322**	PKPbc		**PKiKP**	**18 13 31.3**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=7.9,slow=5.7,SNR=4.8							

*IDC **17** 17:55:24.5±27.0, 35.27N×71.36E, h102km±164km, mb3.4/4, mb1 3.4/6, mb1mx3.0/51, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=264.6km s-min=66.1km az=174.0*

ISC 17 17:55:26.4±2.9, 35.7N±0.3×71.6E±0.3, h99km, n9, σ0°78/8, mb3.6/3, 2C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.32**	**17**	⇑Pn			Pn	17 57 20.6	+10
	1.5nm,0.7s								
AAK				⇑Sn			**Sn**	**17 58 32.1**	**-0.2**
	6.7nm,0.6s								
KK31	**Karatay Array**	**7.47**	**354**	Pn			Pn	17 57 19.4	+6.8
	0.6nm,0.3s,baz=173,slow=11,SNR=30								
KK31				⇓Sn			Sn	17 58 29.2	-6.4
	3.7nm,0.5s,baz=182,slow=23,SNR=11								
MKAR	**Makanchi Array**	**13.72**	**33**	P			**P**	**17 58 41.5**	**-0.4**
	0.1nm,0.3s,baz=220,slow=14,SNR=5.0								
AKTO	**Aktyubinsk**	**17.72**	**331**	P			**P**	**17 59 26.1**	**0.0**
	0.2nm,0.3s,baz=164,slow=13,SNR=2.5								
ZALV	**Zalesovo Beam**	**20.49**	**23**	P			**P**	**17 59 57.9**	**+1.7**
	0.7nm,0.4s,baz=219,slow=11,SNR=4.1								
FINES	**FINESS Array B**	**38.42**	**327**	P			**P**	**18 02 38.0**	**+0.1**
	0.4nm,0.4s,baz=126,slow=9.8,SNR=6.0								
ARCES	**ARCESS Array B**	**42.08**	**338**	P			**P**	**18 03 08.0**	**-0.1**
	1.7nm,0.9s,baz=110,slow=7.9,SNR=4.7								
NB2	**NORSAR Subarra**	**45.31**	**323**	P			**P**	**18 03 33.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**45.31**	**323**	P			**P**	**18 03 33.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=103,slow=7.2,SNR=4.1								

IDC 17 17:58:58.0±1.9, 10.44S×124.68E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/33, mbtmp3.4/4, ML3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=43.8km s-min=19.8km az=34.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.03**	**283**	Pn			Pn	17 59 19.6	-0.2
	43nm,0.3s,baz=124,slow=3.3,SNR=49								
BATI				Sn			Sn	17 59 35.9	+0.9
	30nm,0.3s,baz=23,slow=21,SNR=8.7								
FITZ	**Fitzroy Crossi**	**7.67**	**173**	Pn			Pn	18 00 52.6	+1.5
	0.4nm,0.3s,baz=10,slow=11,SNR=23								
FITZ				Sn			Sn	18 02 15.1	-3.7
	0.6nm,0.3s,baz=288,slow=17,SNR=5.7								
WRA	**Warramunga Arr**	**13.26**	**137**	Pn			Pn	18 02 06.1	-1.7
	0.1nm,0.3s,baz=310,slow=15,SNR=9.8								
WRA				Sn			Sn	18 04 28.0	-8.2
	0.1nm,0.3s,baz=312,slow=27,SNR=3.1								
ASAR	**Alice Springs**	**15.82**	**147**	Pn			Pn	18 02 41.9	-0.4
	0.1nm,0.3s,baz=320,slow=11,SNR=11								
ASAR				Sn			Sn	18 05 32.1	-6.4
	0.1nm,0.3s,baz=314,slow=20,SNR=3.3								
PMG	**Port Moresby**	**22.16**	**89**	LR			LR	18 14 08.2	
	comp=Z,146nm,18.3s,baz=252,slow=41								
MKAR	**Makanchi Array**	**68.39**	**330**	P			P	18 10 01.8	+0.2
	0.4nm,0.8s,baz=143,slow=7.2,SNR=3.6								

*IDC **17** 18:00:20.5±1.1, 36.18N×139.56E, h138km±6km, mb3.4/7, mb1 3.5/9, mb1mx3.1/57, mbtmp3.9/9, Error ellipse: s-maj=22.8km s-min=8.2km az=69.0*

*NEIC **17** 18:00:22.1±1.8, 36.18N±0.05×139.35E±0.06, h149km±6km, mb4.3/15, Error ellipse: s-maj=7.5km s-min=6.4km az=201.0*

*JMA **17** 18:00:23.0±0.2, 36.13N×139.35E, h140km±2km, M3.4*

ISC 17 18:00:21.8±0.7, 36.20N±0.05×139.37E±0.06, h145km±5km, n64, σ1°17/68, mb4.0/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.24**	**17**	P			**Pn**	**18 00 42.5**	**+0.9**
JAG				S			**Sn**	**18 00 56.9**	**+0.2**
JHU	**Hanno**	**0.35**	**191**	P			**Pn**	**18 00 42.8**	**+0.8**
JHU				S			**Sn**	**18 00 57.8**	**+0.6**
JRY	**Ryogami san**	**0.42**	**244**	P			**Pn**	**18 00 43.0**	**+0.7**
JRY				S			**Sn**	**18 00 58.3**	**+0.6**
JKT	**Katashina**	**0.57**	**351**	P			**Pn**	**18 00 44.4**	**+1.3**
JKT				S			**Sn**	**18 01 00.5**	**+1.1**
JYT	**Yasato**	**0.67**	**87**				**Pn**	**18 00 44.6**	**+1.1**
JOD2	**Odawara 2**	**0.96**	**194**	P			**Pn**	**18 00 45.4**	**-0.4**
JOD2				S			**Sn**	**18 01 02.6**	**-1.5**
JYN	**Shimob**	**0.97**	**224**	P			**Pn**	**18 00 45.8**	**-0.1**
JYN				S			**Sn**	**18 01 03.7**	**-0.5**
MJAR	**Matsushiro Arr**	**0.99**	**290**	P			**Pn**	**18 00 46.2**	**+0.2**
	4.2nm,0.3s,baz=91,slow=27,SNR=236								
MJAR				S			**Sn**	**18 01 04.3**	**-0.2**
	4.6nm,0.3s,baz=127,slow=28,SNR=18								
MJAR	**Matsushiro Arr**	**0.99**	**290**				**Pn**	**18 00 46.0**	**-0.1**
MAJO	**Matsushiro**	**1.00**	**290**				**Pn**	**18 00 46.6**	**+0.5**
MAT	**Matsushiro**	**1.00**	**290**	P			**Pn**	**18 00 46.5**	**+0.4**
MAT				S			**Sn**	**18 01 04.2**	**-0.3**
MAT	**Matsushiro**	**1.00**	**290**	P			**Pn**	**18 00 46.5**	**+0.4**
MAT				S			**Sn**	**18 01 04.3**	**-0.3**
MJB9	**Matsu-Tunnel**	**1.00**	**291**	Pn			**Pn**	**18 00 46.5**	**+0.3**
JFNN	**Fujinakano**	**1.15**	**209**	P			**Pn**	**18 00 48.0**	**+0.5**
JFT	**Otama**	**1.53**	**30**	P			**Pn**	**18 00 53.5**	**+2.2**
JNS	**Sasagawa**	**1.62**	**359**	P			**Pn**	**18 00 54.0**	**+1.8**
JGF	**Kuroka**	**1.74**	**250**				**Pn**	**18 00 53.9**	**+0.3**
JSG	**Sagara**	**1.80**	**213**	Pn			**Pn**	**18 00 55.6**	**+1.3**
JMM	**Marumori**	**2.02**	**34**				**Pn**	**18 00 58.6**	**+1.8**
JSZ	**Suzu**	**2.03**	**308**	P			**Pn**	**18 00 57.4**	**+0.4**
JSD	**Sado**	**2.04**	**335**	P			**Pn**	**18 00 58.0**	**+1.0**
JSD	**Sado**	**2.04**	**335**				**Pn**	**18 00 58.0**	**+1.0**
INU	**Inuyama**	**2.09**	**247**	Pn			**Pn**	**18 00 57.9**	**+0.2**
JHJ	**Hachijo jima 2**	**3.09**	**173**	P			**Pn**	**18 01 09.8**	**-0.4**
	23nm,0.3s,baz=125,slow=22,SNR=8.2								
JHJ				S			**Sn**	**18 01 44.7**	**-2.9**
	47nm,0.3s,baz=113,slow=22,SNR=8.6								
JHJ2	**Mitsune**	**3.10**	**173**	Pn			**Pn**	**18 01 10.4**	**+0.1**
JWT	**Wachi**	**3.35**	**255**	Pn			**Pn**	**18 01 14.9**	**+1.4**
JTM	**Tenmabayashi**	**4.77**	**16**	Pn			**Pn**	**18 01 33.1**	**+1.1**
ERM	**Erimo**	**6.51**	**26**	Pn			**Pn**	**18 01 54.7**	**-0.5**
JEW	**Eniwo**	**6.82**	**13**	Pn			**Pn**	**18 02 00.2**	**+0.8**
ASAJ	**Asahikawa**	**8.29**	**16**	P			**Pn**	**18 02 17.8**	**-1.2**
	1.4nm,0.3s,baz=217,slow=12,SNR=20								
ASAJ				S			**Sn**	**18 03 47.9**	**-3.1**
	0.3nm,0.3s,baz=151,slow=19,SNR=1.5								
JKA	**Kamikawa-asahi**	**8.29**	**16**				**Pn**	**18 02 17.8**	**-1.2**
JKA							**Sn**	**18 03 47.9**	**-3.1**
JSU	**Suzuyama**	**8.76**	**240**	Pn			**Pn**	**18 02 23.7**	**-1.8**
JCJ	**Chichijima**	**9.39**	**164**	P			Pn	18 02 28.4	-5.4
	2.4nm,0.3s,baz=1.6,slow=22,SNR=7.9								
JCJ				S			Sn	18 04 07.5	-10
	6.9nm,0.3s,baz=278,slow=23,SNR=6.0								
YSS	**Yuzh-Sakhalins**	**11.04**	**12**	Pn			**Pn**	**18 02 54.2**	**-1.3**
PET	**Petropavlovsk**	**21.60**	**33**	P			**P**	**18 05 00.0**	**+0.1**
SONM	**Songino Array**	**26.91**	**306**	P			**P**	**18 05 48.3**	**-1.1**
	0.5nm,0.6s,baz=99,slow=9.1,SNR=2.8								
H11N2	**WAKE ISLAND Hy**	**29.19**	**117**	T			T	18 36 06.2	
	baz=308,slow=75,SNR=3.0								
H11N1	**WAKE ISLAND Hy**	**29.20**	**117**	T			T	18 36 06.6	
	baz=308,slow=75,SNR=4.0								
H11N3	**WAKE ISLAND Hy**	**29.21**	**117**	T			T	18 36 08.3	
	baz=308,slow=75,SNR=3.7								
H11S1	**WAKE ISLAND Hy**	**29.85**	**119**	T			T	18 37 36.6	
	baz=314,slow=74,SNR=3.3								
H11S3	**WAKE ISLAND Hy**	**29.85**	**119**	T			T	18 37 36.4	
	baz=314								
H11S2	**WAKE ISLAND Hy**	**29.86**	**119**	T			T	18 37 36.6	
	baz=314,slow=74,SNR=4.1								
CHTO	**Chiang Mai**	**39.49**	**255**	P			**P**	**18 07 38.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.69**	**255**	P			**P**	**18 07 43.6**	**+3.6**
ZALV	**Zalesovo Beam**	**41.27**	**313**	P			**P**	**18 07 53.2**	**+0.7**
	1.2nm,0.5s,baz=99,slow=7.4,SNR=2.8								
SBUM	**Sibu**	**41.92**	**223**	P			**P**	**18 07 58.9**	**+0.7**
MK31	**Makanchi Array**	**43.17**	**303**	P			**P**	**18 08 08.3**	**+0.2**
MKAR	**Makanchi Array**	**43.17**	**303**	P			**P**	**18 08 08.5**	**+0.4**
	0.7nm,0.5s,baz=85,slow=9.4,SNR=9.0								
KURK	**Kurchatov**	**45.16**	**309**	P			**P**	**18 08 24.7**	**+0.9**
KURK	**Kurchatov**	**45.16**	**309**	IAmb		IAmb	18 08 26.0		
	comp=Z,2.3nm,0.6s								
KURBB	**Kurchatov Arra**	**45.22**	**308**	P			**P**	**18 08 24.7**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=86,slow=8.2,SNR=8.8								
KDJ	**Kajisay**	**47.64**	**297**	P			**P**	**18 08 44.2**	**+0.6**
MTN	**Manton Dam**	**49.39**	**191**	P			**P**	**18 08 56.1**	**-0.7**
MTN				IAmb		IAmb	18 09 06.2		
	comp=Z,5.1nm,1.0s								
CHGR	**Chuyangaron**	**54.53**	**295**	P			**P**	**18 09 33.7**	**-1.2**
CHGR				IAmb		IAmb	18 09 35.4		
	comp=Z,3.6nm,0.7s								
FITZ	**Fitzroy Crossi**	**55.54**	**196**	P			**P**	**18 09 41.2**	**-0.8**
FITZ				IAmb		IAmb	18 10 07.5		
	comp=Z,4.3nm,1.2s								
WB0	**Warramunga Arr**	**55.86**	**186**	P			**P**	**18 09 43.6**	**-0.7**
WB0				IAmb		IAmb	18 09 46.5		
	comp=Z,8.3nm,1.5s								
ARU	**Arti**	**55.89**	**319**	P			**P**	**18 09 44.8**	**+0.6**
ARU				IAmb		IAmb	18 09 55.1		
	comp=Z,6.6nm,1.3s								
WB2	**Warramunga Arr**	**56.04**	**186**	P			**P**	**18 09 45.0**	**-0.6**
WB2				IAmb		IAmb	18 10 02.5		
	comp=Z,6.4nm,1.4s								
WRA	**Warramunga Arr**	**56.04**	**186**	P			**P**	**18 09 44.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=0.8,slow=7.6,SNR=24								
WR0	**Warramunga Arr**	**56.04**	**185**	P			**P**	**18 09 45.1**	**-0.5**
ABKAR	**Akbulak array**	**57.22**	**310**	P			**P**	**18 09 54.1**	**+0.5**
ABKAR	**Akbulak array**	**57.22**	**310**	P			**P**	**18 09 53.5**	**-0.1**
ABKAR				IAmb		IAmb	18 09 55.3		
	comp=Z,1.4nm,0.9s								
ASAR	**Alice Springs**	**59.77**	**186**	P			**P**	**18 10 11.2**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=2.4,slow=5.4,SNR=9.5								
FINES	**FINESS Array B**	**68.78**	**332**	P			**P**	**18 11 09.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=35,slow=4.7,SNR=4.2								

*IDC **17** 18:35:08.1±0.9, 5.23S×133.61E, h0km, mb3.6/5, mb1 4.0/11, mb1mx3.8/35, mbtmp3.9/11, ML4.0/6, MS3.4/1, Ms1 3.3/1, ms1mx2.7/37, Error ellipse: s-maj=35.2km s-min=17.4km az=66.0*

*NEIC **17** 18:35:08.1±3.0, 5.03S±0.07×134.02E±0.05, h10km±1km, mb4.5/11, Error ellipse: s-maj=13.6km s-min=5.6km az=30.0*

*DJA **17** 18:35:09.5±0.4, 5°S±3°×134°4E±°, h10km, M4.5/9, mb4.6/9, mB5.1/5, MLv4.5/6, Mw(mB)4.4/5*

ISC 17 18:35:10.2±0.5, 5.09S±0.05×133.88E±0.05, h28km, n52, σ2°30/54, mb4.4/16, MS4.8/3, 1C, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.71**	**323**	P			**Pn**	**18 35 50.0**	**-1.9**
FAKI				S			**Sn**	**18 36 20.6**	**-3.1**
FAKI	**Fak Fak**	**2.71**	**323**	Pn			**Pn**	**18 35 51.4**	**-0.5**
SAUI	**Saumlaki**	**3.85**	**222**	Pn			**Pn**	**18 36 10.1**	**+2.4**
BNDI	**Bandanaira**	**4.00**	**278**	P			**Pn**	**18 36 12.0**	**+2.2**
SIJI	**Sorong**	**4.94**	**328**	Pn			**Pn**	**18 36 22.2**	**-0.4**
	2.1nm,0.3s,baz=239,slow=23,SNR=13								
SIJI				Sn			**Sn**	**18 37 15.5**	**-3.4**
	5.2nm,0.3s,baz=321,slow=17,SNR=8.7								
WAMI	**Wamena**	**4.96**	**76**	P			Pn	18 36 28.8	+5.9
	2.8nm3µm340nm,0.7s								
JAY	**Jayapura**	**7.27**	**70**	Pn			**Pn**	**18 36 58.7**	**+4.0**
	1.4nm,0.3s,baz=182,slow=10,SNR=4.4								
JAY				Sn			**Sn**	**18 38 15.6**	**-0.9**
	0.6nm,0.3s,baz=139,slow=19,SNR=2.1								
MTN	**Manton Dam**	**8.17**	**199**	Pn			**Pn**	**18 37 08.1**	**+1.1**
SANI	**Sanana**	**8.44**	**291**	P			**Pn**	**18 37 09.7**	**-1.0**
	20nm,0.8s								
SOEI	**Soe**	**10.60**	**244**	P			**Pn**	**18 37 41.8**	**+1.3**
	16nm,0.6s								
SOEI	**Soe**	**10.60**	**244**	Pn			**Pn**	**18 37 42.3**	**+1.8**
SOEI							**Sn**	**18 39 41.0**	**+2.6**
BATI	**Baumata**	**11.33**	**243**	Pn			**Pn**	**18 37 51.1**	**+0.7**
	2.2nm,0.3s,baz=172,slow=3.5,SNR=5.5								
BATI				Sn			**Sn**	**18 39 51.1**	**-5.1**
	1.2nm,0.3s,baz=144,slow=19,SNR=1.7								
BATI	**Baumata**	**11.33**	**243**	P			**Pn**	**18 37 51.5**	**+1.1**
	12nm,1.0s								
KNRA	**Kununurra**	**11.66**	**205**	Pn			**Pn**	**18 37 55.2**	**+0.3**
LUWI	**Luwuk**	**11.80**	**290**	Pn			**Pn**	**18 37 56.8**	**0.0**
COEN	**Coen**	**12.71**	**135**	Pn			**Pn**	**18 38 07.1**	**-2.1**
WB0	**Warramunga Arr**	**14.60**	**178**	Pn			**Pn**	**18 38 32.6**	**-2.4**
WRA	**Warramunga Arr**	**14.77**	**178**	Pn			**Pn**	**18 38 34.6**	**-2.7**
	0.5nm,0.3s,baz=355,slow=13,SNR=45								
WRA				Sn			Sn	18 41 01.8	-18
	baz=7.0,slow=22,SNR=1.9								
WRA	**Warramunga Arr**	**14.77**	**178**				**Pn**	**18 38 33.6**	**-3.7**
WB2	**Warramunga Arr**	**14.77**	**178**	Pn			**Pn**	**18 38 34.7**	**-2.7**
WR0	**Warramunga Arr**	**14.79**	**178**	Pn			**Pn**	**18 38 34.9**	**-2.7**
FITZ	**Fitzroy Crossi**	**15.23**	**211**	Pn			**Pn**	**18 38 41.0**	**-2.5**
	1.4nm,0.3s,baz=41,slow=13,SNR=52								
FITZ				Sn			Sn	18 41 20.8	-11
	0.6nm,0.3s,baz=177,slow=17,SNR=7.1								
FITZ	**Fitzroy Crossi**	**15.23**	**211**	Pn			**Pn**	**18 38 41.1**	**-2.4**
RABL	**Rabaul**	**18.24**	**88**				**Pn**	**18 39 15.7**	**-5.9**
MYLDM	**Lahad Datu**	**18.44**	**303**				**Pn**	**18 39 25.1**	**+1.1**
MYLDM				IAmb			IAmb	18 39 58.6	
	comp=Z,31nm,1.5s								
AS31	**Alice Springs**	**18.47**	**180**	P			**P**	**18 39 23.4**	**-0.6**
ASAR	**Alice Springs**	**18.47**	**180**	P			**P**	**18 39 23.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=354,slow=15,SNR=43								
ASAR	**Alice Springs**	**18.47**	**180**	P			**P**	**18 39 23.6**	**-0.5**
CTA	**Charters Tower**	**19.16**	**142**	P			**Pn**	**18 39 35.6**	**+3.0**
	comp=Z,0.6nm,0.3s,baz=328,slow=12,SNR=7.1								
CTAO	**Charters Tower**	**19.16**	**142**	P			**P**	**18 39 31.6**	**0.0**
CTAO				IAmb		IAmb	IAmb	18 39 45.6	
	comp=Z,39nm,1.6s								
CISI	**Cisompet, Garu**	**26.02**	**263**	P			**P**	**18 40 43.1**	**+1.8**
EIDS	**Eidsvold**	**26.05**	**142**	P			**P**	**18 40 38.3**	**-3.1**
EIDS				IAmb		IAmb	IAmb	18 40 54.2	
	comp=Z,6.6nm,0.9s								
FORT	**Forrest**	**26.13**	**191**	P			**P**	**18 40 44.5**	**+2.4**
FORT				IAmb		IAmb	IAmb	18 41 16.0	
	comp=Z,23nm,1.0s								
STKA	**Stephens Creek**	**27.61**	**166**	P			**P**	**18 40 57.1**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=348,slow=13,SNR=3.9								
STKA				LR			LR	18 53 05.6	
	comp=Z,81nm,22.0s,baz=21,slow=39								
STKA	**Stephens Creek**	**27.61**	**166**	P			**P**	**18 40 57.0**	**+1.7**
BBOO	**Buckleboo**	**27.65**	**176**	P			**P**	**18 40 57.0**	**+1.3**
BBOO				IAmb		IAmb	IAmb	18 41 03.9	
	comp=Z,24nm,1.4s								
NWAO	**Narrogin (SRO)**	**31.75**	**207**	P			**P**	**18 41 31.5**	**-0.6**
NWAO				IAmb		IAmb	IAmb	18 42 01.9	
	comp=Z,36nm,1.6s								
QIZ	**Qiongzhong**	**33.69**	**316**	P			**P**	**18 41 48.1**	**-1.1**
QIZ				S			**S**	**18 47 12.3**	**+1.4**
QIZ				LR		LR			
	comp=N,1µm,13.1s								
QIZ				LR		LR			
	comp=E,1µm,12.6s								
QIZ				LR		LR			
	comp=Z,1µm,13.6s								
NJ2	**Nanjing**	**39.61**	**340**	*e*P			**P**	**18 42 38.9**	**-0.6**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**41.64**	**305**	P			**P**	**18 42 58.0**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=130,slow=8.0,SNR=4.6								

NIED ***17*** *18:45:05.5,29.6′64N×128.4′41E,h28km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.37; $M_{\theta\theta}$=0.91; $M_{\phi\phi}$=-0.54; $M_{r\theta}$=-1.27; $M_{r\phi}$=1.20; $M_{\theta\phi}$=0.64; Fault plane solution: $M_0$2.02000×10^{16} NP1: ϕ_s103.00000°,δ82.00000°,λ-45.00000°. NP2: ϕ_s201.00000°,δ46.00000°,λ-168.00000°.*

JMA ***17*** *18:45:05.5±0.2,29.6′64N×128.4′41E,h28km±3km,M4.6*

GCMT ***17*** *18:45:08.1±0.3,29.6′62N±0.0′1×128.5′3E±0.0′2,h12km, MW4.8/92,Moment Tension Solution. s18,c21; s92,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.09±.06; $M_{\theta\theta}$1.10±.06; $M_{\phi\phi}$-1.01±.07; $M_{r\theta}$-0.06±.17; $M_{r\phi}$1.64±.04; $M_{\theta\phi}$-0.08±.18; Best double couple: $M_0$1.95200×10^{16} NP1:ϕ_s286.00000°,δ87.00000°,λ1.00000°. NP2: ϕ_s196.00000°,δ89.00000°,λ177.00000°. Principal axes: T 1.9990, Plg3.0000°, Azm151.0000°; N -0.0900, Plg87.0000°, Azm358.0000°; P -1.9060, Plg1.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***17*** *18:45:10.0±0.0,29.6′56N×128.6′59E,h41km,mB4.7/39, mb4.3/47,Ms4.9/46,Ms7 4.6/43*

NEIC ***17*** *18:45:11.1±1.5,29.6′63N±0.0′05×128.7′2E±0.0′07,h46km±4km, mb4.5/51,Error ellipse: s-maj=9.0km s-min=7.4km az=66.0*

ISC 17 18:45:10.1±0.4,**29.6′64N**±0.0′04×**128.6′6E**±0.0′04,**h35**km,**n146,** σ1ᵖ**97**/143,**mb4.3**/45,**MS4.3**/26,**1C-1D,Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.68**	**136**	P	**Pn**	**18 45 21.0**	**-2.3**
JTAJ				S	**Sn**	**18 45 32.2**	**-0.4**
JNN	**Nakanoshima**	**1.07**	**79**	P	**Pn**	**18 45 27.9**	**-0.8**
JNN				S	**Sn**	**18 45 44.5**	**+2.1**
JAMN	**Amaminishikomi**	**1.47**	**162**	P	**Pn**	**18 45 31.7**	**-2.4**
JAM	**Amami Oshima**	**1.48**	**146**	P	**Pn**	**18 45 32.4**	**-1.9**
JAM				*e*S	**Sn**	**18 45 52.0**	**-0.4**
JKC	**Kuchinoerabu**	**1.56**	**58**	P	**Pn**	**18 45 34.8**	**-0.6**
JYAK	**Yakushimahirau**	**1.71**	**69**	P	**Pn**	**18 45 37.1**	**-0.3**
JZK	**Kikaishima**	**1.75**	**139**	P	**Pn**	**18 45 38.3**	**+0.3**
JTK	**Tokunoshima**	**1.87**	**172**	P	**Pn**	**18 45 37.0**	**-2.6**
JMTN	**Minamitane**	**2.08**	**68**	P	**Pn**	**18 45 42.8**	**+0.2**
JSJ	**Shimokoshiki**	**2.22**	**24**	P	**Pn**	**18 45 43.1**	**-1.4**
JTN	**Tanegashima 3**	**2.25**	**63**	P	**Pn**	**18 45 45.2**	**+0.4**
JOKE	**Okinoerabujima**	**2.27**	**182**	P	**Pn**	**18 45 41.9**	**-3.3**
JSU	**Suzuyama**	**2.42**	**39**	Pn	**Pn**	**18 45 46.8**	**-0.4**
JYRO	**Yoronjima**	**2.62**	**184**	P	**Pn**	**18 45 47.0**	**-2.9**
JAGN	**Aguni-jima**	**3.29**	**203**	P	**Pn**	**18 45 55.2**	**-4.0**
JNU	**Nakatsue**	**3.95**	**28**	Pn	**Pn**	**18 46 09.3**	**+1.0**
	1.2nm,0.3s,baz=207,slow=15,SNR=6.4						
JNU				LR	LR	18 47 48.8	
	comp=Z,2μm,20.2s,baz=193,slow=41						
JNU	**Nakatsue**	**3.95**	**28**	Pn	**Pn**	**18 46 09.5**	**+1.2**
JMZ	**Minamidaito 2**	**4.43**	**149**	P	**Pn**	**18 46 15.5**	**+0.6**
JTU	**Tsushima**	**4.91**	**7**	Pn	**Pn**	**18 46 23.3**	**+1.9**
JMN	**Monobe**	**6.03**	**46**	Pn	**Pn**	**18 46 37.7**	**+0.9**
JHS	**Saijyo**	**6.54**	**34**	Pn	**Pn**	**18 46 46.0**	**+2.2**
YOJ	**Yonaguni jima**	**7.21**	**226**	Pn	**Pn**	**18 46 54.7**	**+1.6**
KSAR	**Wonju Array Be**	**7.81**	**355**	Pn	**Pn**	**18 47 02.4**	**+1.2**
KSRS	**Korea Array**	**7.81**	**356**	Pn	**Pn**	**18 47 02.1**	**+0.8**
	0.2nm,0.3s,baz=176,slow=14,SNR=6.4						
KSRS				LR	LR	18 50 14.5	
	comp=Z,2μm,18.5s,baz=175,slow=40						
KS19	**Wonju Array Si**	**7.87**	**355**	Pn	**Pn**	**18 47 03.5**	**+1.5**
JWT	**Wachi**	**8.00**	**44**	Pn	**Pn**	**18 47 05.5**	**+1.6**
YHNB	**Yeheng**	**8.16**	**234**	Pn	**Pn**	**18 47 08.0**	**+1.7**
NACB	**Ninganchiao**	**8.33**	**231**	Pn	**Pn**	**18 47 10.9**	**+2.4**
NJ2	**Nanjing**	**8.77**	**288**	*e*P	**Pn**	**18 47 16.0**	**+1.6**
NJ2				S	**Sn**	**18 48 55.0**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,6.8s						
NJ2				LR	LR		
	comp=N,8μm,15.2s						
NJ2				LR	LR		
	comp=E,4μm,10.4s						
NJ2				LR	LR		
	comp=Z,5μm,14.7s						
SSLB	**Suanglung**	**9.03**	**232**	Pn	**Pn**	**18 47 19.1**	**+1.1**
INU	**Inuyama**	**9.06**	**49**		**Pn**	**18 47 20.9**	**+2.5**
YULB	**Yu-li**	**9.07**	**228**	Pn	**Pn**	**18 47 18.1**	**-0.5**
JGF	**Kuroka**	**9.43**	**49**		**Pn**	**18 47 26.2**	**+2.6**
JSG	**Sagara**	**9.50**	**56**	Pn	**Pn**	**18 47 24.8**	**+0.4**
TPUB	**Ta-pu**	**9.57**	**231**	Pn	**Pn**	**18 47 27.0**	**+1.5**
TWG	**Pinlang**	**9.62**	**227**	Pn	**Pn**	**18 47 27.4**	**+1.2**
JHJ	**Hachijo jima 2**	**10.12**	**67**	LR	LR	18 51 24.8	
	comp=Z,684nm,19.3s,baz=278,slow=37						
JHJ2	**Mitsune**	**10.14**	**67**	Pn	**Pn**	**18 47 30.7**	**-2.5**
KNMB	**Chin-men Tao**	**10.51**	**243**	Pn	**Pn**	**18 47 37.7**	**-0.6**
MAJO	**Matsushiro**	**10.55**	**47**	Pn	**Pn**	**18 47 39.9**	**+1.0**
MJAR	**Matsushiro Arr**	**10.55**	**47**	Pn	**Pn**	**18 47 41.4**	**+2.5**
	0.1nm,0.3s,baz=237,slow=14,SNR=10						
MJAR	**Matsushiro Arr**	**10.55**	**47**		**Pn**	**18 47 41.1**	**+2.2**
WHN	**Wuhan**	**12.43**	**278**	P	**Pn**	**18 48 03.4**	**-1.1**
WHN				S	**Sn**	**18 50 15.3**	**-6.4**
WHN				LR	LR		
	comp=N,8μm,10.0s						
WHN				LR	LR		
	comp=E,1μm,11.9s						
WHN				LR	LR		
	comp=Z,3μm,10.6s						
CN2	**Changchun**	**14.36**	**351**	*e*P	**P**	**18 48 35.9**	**-1.5**
CN2				*e*S	**Sn**	**18 51 04.1**	**-4.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,4μm,12.0s						
CN2				LR	LR		
	comp=E,5μm,12.0s						
CN2				LR	LR		
	comp=Z,5μm,12.0s						
USA0B	**Ussuriysk Arra**	**14.77**	**9**	P	**P**	**18 48 44.0**	**+2.1**
USRK	**Ussuriysk Ar.**	**14.77**	**9**	Pn	**P**	**18 48 43.4**	**+1.5**
	baz=190,slow=13,SNR=3.0						
USRK				LR	LR	18 53 42.9	
	comp=Z,403nm,20.5s,baz=179,slow=35						
USRK	**Ussuriysk Ar.**	**14.77**	**9**		**P**	**18 48 41.0**	**-0.9**
MDJ	**Mudanjiang**	**14.96**	**3**	P	**P**	**18 48 44.4**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,12nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.5s						
MDJ				LR	LR		
	comp=N,1μm,15.9s						
MDJ				LR	LR		
	comp=E,1μm,14.5s						
MDJ				LR	LR		
	comp=Z,2μm,10.7s						
TIY	**Taiyuan**	**15.71**	**305**	*e*P	P	18 49 01.8	+9.3
TIY				sP	sP	18 49 40.0	+34
TIY				S	**S**	**18 51 59.5**	**+3.6**
TIY				pmax	pmax		
	comp=Z,190nm,4.5s						
TIY				LR	LR		
	comp=N,1μm,8.9s						
TIY				LR	LR		
	comp=E,2μm,11.2s						
TIY				LR	LR		
	comp=Z,3μm,13.3s						
ENH	**Enshi**	**16.63**	**277**	P	**P**	**18 49 03.2**	**+0.4**
ERM	**Erimo**	**17.02**	**40**	P	**P**	**18 49 05.2**	**-1.6**
JEM	**Erimo**	**17.02**	**40**	P	P	18 49 18.4	+12
XAN	**Xi'an**	**17.33**	**290**	P	**P**	**18 49 13.6**	**+3.1**
XAN				pP	sP	18 49 21.3	-2.4
XAN				S	**Sn**	**18 52 23.8**	**+2.6**
XAN				pmax	pmax		
	comp=Z,11nm,1.3s						
XAN				pmax	pmax		
	comp=Z,150nm,3.5s						
XAN				LR	LR		
	comp=Z,2μm,14.1s						
XAN				LR	LR		
	comp=Z,1μm,12.9s						
XAN				LR	LR		
	comp=Z,2μm,11.4s						
XAN	**Xi'an**	**17.33**	**290**	P	**P**	**18 49 10.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**17.86**	**313**	*e*P	**P**	**18 49 18.3**	**+2.0**
HHC				PP	**sP**	**18 49 33.8**	**+4.3**
HHC				S	**Sn**	**18 52 33.5**	**-0.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,6.6s						
HHC				LR	LR		
	comp=Z,1μm,13.0s						
HHC				LR	LR		
	comp=Z,1μm,14.1s						
HHC				LR	LR		
	comp=Z,2μm,12.2s						
ASAJ	**Asahikawa**	**18.21**	**34**	P	**Pn**	**18 49 19.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=256,slow=4.2,SNR=2.9						
ASAJ				LR	LR	18 56 21.0	
	comp=Z,261nm,18.2s,baz=210,slow=37						
JKA	**Kamikawa-asahi**	**18.21**	**34**	P	**Pn**	**18 49 20.5**	**+0.5**
JKA				IAmb	IAmb	18 49 42.9	
	comp=Z,74nm,1.4s						
BTO	**Baotou**	**18.73**	**311**	*e*P	**Pn**	**18 49 27.3**	**+0.8**
BTO				S	**Sn**	**18 52 44.4**	**-11**
GYA	**Guiyang**	**19.67**	**266**	||P	**Pn**	**18 49 40.4**	**+2.5**
GYA				S	**Sn**	**18 53 17.1**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GYA				pmax	pmax		
	comp=Z,190nm,6.1s						
GYA				LR	LR		
	comp=Z,2μm,11.1s						
GYA				LR	LR		
	comp=Z,1μm,12.0s						
GYA				LR	LR		
	comp=Z,2μm,12.1s						
QIZ	**Qiongzhong**	**20.11**	**243**	P	Pn	18 49 44.5	+1.5
QIZ				IAmb	IAmb	18 50 09.1	
	comp=Z,53nm,1.4s						
HIA	**Hailar**	**20.75**	**343**	P	Pn	18 49 48.5	-1.8
LZH	**Lanzhou**	**21.78**	**294**	*e*P	**P**	**18 49 58.4**	**-0.7**
LZH				pP	pP	18 50 06.3	-1.9
LZH				sP	sP	18 50 11.6	-0.9
LZH				sS	Sn	18 54 06.4	-2.3
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,210nm,4.9s						
LZH				LR	LR		
	comp=Z,2μm,11.4s						
LZH				LR	LR		
	comp=Z,1μm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,11.9s						
GUMO	**Guam**	**21.91**	**133**	LR	LR	18 57 20.8	
	comp=Z,171nm,19.1s,baz=318,slow=34						
DAV	**Davao City (W)**	**22.64**	**188**	LR	LR	19 00 57.9	
	comp=Z,401nm,18.3s,baz=12,slow=42						
KMI	**Kunming**	**23.43**	**265**||	*e*P	**P**	**18 50 19.8**	**+3.2**
KMI				pP	sP	18 50 30.4	+0.3
KMI				sP	pP	18 50 34.8	+8.9
KMI				S	**S**	**18 54 24.9**	**-2.9**
KMI				sS	sS	18 54 43.6	-0.2
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,46nm,4.1s						
KMI				LR	LR		
	comp=Z,2μm,14.9s						
KMI				LR	LR		
	comp=Z,610nm,11.9s						
KMI				LR	LR		
	comp=Z,900nm,12.2s						
SLVN	**Son La**	**23.79**	**255**	P	**P**	**18 50 22.5**	**+2.6**
ULN	**Ulaanbaatar**	**24.66**	**324**	P	**P**	**18 50 24.7**	**-3.0**
SONM	**Songino Array**	**24.98**	**323**	P	**P**	**18 50 31.3**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=140,slow=6.6,SNR=5.5						
SONM				LR	LR	19 02 09.4	
	comp=Z,516nm,21.3s,baz=132,slow=41						
SONM	**Songino Array**	**24.98**	**323**	P	**P**	**18 50 29.8**	**-0.8**
GTA	**Gaotai**	**25.59**	**300**	P	**P**	**18 50 35.5**	**-0.7**
GTA				pP	pP	18 50 46.5	+0.6
GTA				sP	sP	18 50 52.8	+2.8
GTA				S	**S**	**18 55 00.9**	**-1.1**
GTA				SS	**SnSn**	**18 56 05.8**	**+8.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,60nm,5.7s						
GTA				LR	LR		
	comp=Z,3μm,16.7s						
GTA				LR	LR		
	comp=Z,1μm,13.8s						
GTA				LR	LR		
	comp=Z,1μm,13.1s						
TLY	**Talaya**	**28.81**	**327**	LR	LR	19 03 05.9	
	comp=Z,667nm,19.6s,baz=124,slow=38						
CHTO	**Chiang Mai**	**29.09**	**255**	P	**P**	**18 51 07.2**	**-0.4**
CHTO				IAmb	IAmb	18 51 12.5	
	comp=Z,7.2nm,1.0s						
CM31	**Chiang Mai Arr**	**29.25**	**254**	P	**P**	**18 51 08.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**29.25**	**254**	P	**P**	**18 51 09.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=51,slow=7.9,SNR=12						
CMAR				LR	LR	19 04 10.4	
	comp=Z,640nm,18.8s,baz=97,slow=39						
CMAR	**Chiang Mai Arr**	**29.25**	**254**	P	**P**	**18 51 08.8**	**-0.2**
LUWI	**Luwuk**	**31.03**	**191**	P	**P**	**18 51 24.7**	**0.0**
LUWI				IAmb	IAmb	18 52 04.2	
	comp=Z,13nm,0.8s						
PETK	**Petropavlovsk-**	**31.63**	**34**	LR	LR	19 04 52.8	
	comp=Z,240nm,19.0s,baz=229,slow=38						
YAK	**Yakutsk**	**32.40**	**1**	LR	LR	19 04 53.8	
	comp=Z,393nm,18.7s,baz=178,slow=37						
FAKI	**Fak Fak**	**32.56**	**173**	P	**P**	**18 51 38.0**	**-0.2**
FAKI				IAmb	IAmb	18 51 47.1	
	comp=Z,12nm,1.0s						
SHL	**Shillong**	**32.76**	**272**	P	**P**	**18 51 39.2**	**-0.9**
SHL				IAmb	IAmb	18 51 52.8	
	comp=Z,4.9nm,1.0s						
MA2	**Magadan**	**33.48**	**20**	LR	LR	19 05 25.8	
	comp=Z,234nm,18.9s,baz=210,slow=36						
WMQ	**Urumqi**	**35.38**	**305**	*e*P	**P**	**18 52 03.6**	**+1.1**
WMQ				pP	sP	18 52 16.8	+0.3
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,13nm,3.6s						
WMQ				LR	LR		
	comp=Z,400nm,18.1s						
WMQ				LR	LR		
	comp=Z,660nm,12.7s						
WMQ				LR	LR		
	comp=Z,220nm,19.1s						
WMQ	**Urumqi**	**35.38**	**305**	P	**P**	**18 52 01.6**	**-1.0**
MK31	**Makanchi Array**	**39.62**	**309**	P	**P**	**18 52 38.5**	**+0.1**
MKAR	**Makanchi Array**	**39.62**	**309**	P	**P**	**18 52 38.0**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=94,slow=8.7,SNR=8.7						
MKAR				LR	LR	19 10 37.6	
	comp=Z,404nm,19.9s,baz=92,slow=39						
MKAR	**Makanchi Array**	**39.62**	**309**	P	**P**	**18 52 38.4**	**0.0**
ZAA0	**Zalesovo Array**	**39.82**	**320**	P	**P**	**18 52 39.3**	**-0.5**
ZAA0				IAmb	IAmb	18 53 01.0	
	comp=Z,6.0nm,1.2s						
ZALV	**Zalesovo Beam**	**39.82**	**320**	P	**P**	**18 52 39.4**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=106,slow=8.5,SNR=9.0						
ZALV				LR	LR	19 08 42.0	
	comp=Z,101nm,20.1s,baz=109,slow=36						
ZALV	**Zalesovo Beam**	**39.82**	**320**	P	**P**	**18 52 39.9**	**0.0**
MAKZ	**Makanchi**	**39.84**	**309**	P	**P**	**18 52 41.1**	**+1.0**
PRZ	**Przheval'sk**	**42.03**	**302**	P	**P**	**18 52 59.2**	**+0.8**
PRZ				IAmb	IAmb	18 53 14.9	
	comp=Z,7.6nm,1.1s						
TIXI	**Tiksi**	**42.06**	**0**	P	**P**	**18 52 58.1**	**+0.1**
MTN	**Manton Dam**	**42.30**	**176**	P	**P**	**18 52 59.8**	**-0.8**
MTN				IAmb	IAmb	18 53 09.3	
	comp=Z,9.3nm,0.8s						
KURK	**Kurchatov**	**42.67**	**314**	P	**P**	**18 53 02.2**	**-1.1**
KURK				IAmb	IAmb	18 53 17.9	
	comp=Z,12nm,1.4s						
KURBB	**Kurchatov Arra**	**42.71**	**314**	P	**P**	**18 53 02.5**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=102,slow=8.6,SNR=13						
PMG	**Port Moresby**	**42.72**	**153**	LR	LR	19 08 51.0	
	comp=Z,343nm,20.6s,baz=339,slow=33						
KDJ	**Kajisay**	**42.93**	**301**	P	**P**	**18 53 05.4**	**-0.3**
BOOM	**Boomskoye usch**	**43.85**	**302**	P	**P**	**18 53 13.1**	**-0.1**
BOOM				IAmb	IAmb	18 53 43.9	
	comp=Z,9.6nm,1.6s						
KNRA	**Kununurra**	**45.05**	**180**	P	**P**	**18 53 21.9**	**-0.7**
NRIK	**Noril'sk**	**46.14**	**341**	P	**P**	**18 53 31.1**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=70,slow=4.9,SNR=5.5						
NRIK				LR	LR	19 13 34.8	
	comp=Z,262nm,19.1s,baz=174,slow=37						
NIL	**Nilore**	**46.87**	**290**	P	**P**	**18 53 37.7**	**+0.7**
NIL				IAmb	IAmb	18 53 41.0	
	comp=Z,5.6nm,0.8s						
ATKA	**Atka Island**	**47.27**	**45**	P	**P**	**18 53 39.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**47.55**	**184**	P	**P**	**18 53 42.4**	**+0.1**
	comp=Z,6.1nm,0.7s,baz=12,slow=8.0,SNR=16						
FITZ	**Fitzroy Crossi**	**47.55**	**184**	P	**P**	**18 53 42.0**	**-0.3**
FITZ				IAmb	IAmb	18 53 43.3	
	comp=Z,7.0nm,0.8s						
KK31	**Karatay Array**	**47.82**	**303**	P	**P**	**18 53 44.3**	**0.0**
KK31				IAmb	IAmb	18 54 01.1	
	comp=Z,11nm,1.4s						
KKAR	**Karatay Array**	**47.82**	**303**	P	**P**	**18 53 44.3**	**0.0**
KKAR				IAmb	IAmb	18 54 01.1	
	comp=Z,11nm,1.4s						
BTK	**Batken**	**47.85**	**299**	P	**P**	**18 53 45.8**	**+1.2**
BTK				IAmb	IAmb	18 54 24.2	
	comp=Z,4.3nm,0.9s						
BRVK	**Borovoye**	**48.10**	**316**	P	**P**	**18 53 46.0**	**-0.3**
GAR	**Garm**	**48.36**	**297**	P	**P**	**18 53 48.6**	**-0.1**
CHGR	**Chuyangaron**	**49.31**	**297**	P	**P**	**18 53 55.6**	**-0.2**
CHGR				IAmb	IAmb	18 54 01.8	
	comp=Z,6.5nm,0.9s						
WRAB	**Tennant Creek**	**49.59**	**173**	P	**P**	**18 53 57.1**	**-0.9**
WRAB				IAmb	IAmb	18 54 11.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**49.60**	**173**	P	**P**	**18 53 57.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=353,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**49.60**	**173**	P	**P**	**18 53 57.8**	**-0.2**
WR0	**Warramunga Arr**	**49.64**	**173**	P	**P**	**18 53 58.2**	**-0.2**
WR0				IAmb	IAmb	18 53 59.6	
	comp=Z,14nm,1.5s						
KBL	**Kabul**	**50.12**	**292**	P	**P**	**18 54 02.8**	**+0.5**
KBL				IAmb	IAmb	18 54 11.8	
	comp=Z,6.1nm,1.2s						
AS31	**Alice Springs**	**53.24**	**174**	P	**P**	**18 54 25.3**	**0.0**
ASAR	**Alice Springs**	**53.24**	**174**	P	**P**	**18 54 24.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=2.2,slow=13,SNR=9.8						
ASAR	**Alice Springs**	**53.24**	**174**	P	**P**	**18 54 24.5**	**-0.8**
ABKAR	**Akbulak array**	**54.64**	**312**	P	**P**	**18 54 35.7**	**+0.5**
ABKAR				IAmb	IAmb	18 54 45.2	
	comp=Z,2.8nm,0.9s						
ABKAR	**Akbulak array**	**54.64**	**312**	P	**P**	**18 54 35.2**	**-0.1**
RDOG	**Red Dog Mine**	**54.81**	**25**	P	**P**	**18 54 35.6**	**-0.6**
ARU	**Arti**	**54.99**	**320**	P	**P**	**18 54 38.4**	**+0.7**
ARU				IAmb	IAmb	18 54 47.3	
	comp=Z,12nm,1.3s						
HRA	**Herat**	**55.62**	**293**	P	**P**	**18 54 43.3**	**+0.4**
HRA				IAmb	IAmb	18 54 59.0	
	comp=Z,3.3nm,1.0s						
GEYT	**Alibeck**	**57.96**	**298**	P	**P**	**18 55 00.7**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=134,slow=12,SNR=1.9						
GEYT				LR	LR	19 22 28.7	
	comp=Z,255nm,18.6s,baz=55,slow=39						
KIRV	**Kirov**	**59.72**	**323**	LR	LR	19 24 23.2	
	comp=Z,477nm,19.0s,baz=93,slow=40						
RND	**Reindeer**	**60.62**	**31**	P	**P**	**18 55 17.7**	**+0.5**
RND				IAmb	IAmb	18 55 18.4	
	comp=Z,6.6nm,0.8s						
MDM	**Murphy Dome**	**60.68**	**29**	P	**P**	**18 55 18.1**	**+0.6**
SML	**Sawmill**	**61.09**	**33**	P	**P**	**18 55 20.7**	**+0.2**
ILAR	**Eielson Array**	**61.27**	**29**	P	**P**	**18 55 20.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=250,slow=6.3,SNR=5.1						
STKA	**Stephens Creek**	**62.40**	**168**	P	**P**	**18 55 28.6**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=349,slow=9.8,SNR=3.0						
BCAR	**Beaver Creek A**	**63.82**	**30**	P	**P**	**18 55 39.8**	**+1.1**
SPITS	**Spitsbergen Ar**	**65.58**	**348**	LR	LR	19 26 21.4	
	comp=Z,178nm,18.7s,baz=50,slow=38						
ARCES	**ARCESS Array B**	**66.99**	**338**	LR	LR	19 31 36.0	
	comp=Z,261nm,18.0s,baz=75,slow=42						
KBZ	**Khabaz**	**67.32**	**308**	P	**P**	**18 55 58.2**	**-3.2**
	comp=Z,2.5nm,0.9s,baz=20,slow=12,SNR=2.8						
KBZ				LR	LR	19 27 42.4	
	comp=Z,299nm,18.9s,baz=68,slow=38						
OBN	**Obninsk**	**67.39**	**322**	LR	LR	19 28 07.8	
	comp=Z,118nm,18.9s,baz=49,slow=38						
FINES	**FINESS Array B**	**70.10**	**330**	P	**P**	**18 56 18.4**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=57,slow=5.2,SNR=7.2						
FINES				LR	LR	19 30 18.3	
	comp=Z,352nm,19.0s,baz=47,slow=39						
AKASG	**Malin Array Be**	**73.20**	**319**	P	**P**	**18 56 37.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=53,slow=6.4,SNR=6.6						
AKASG	**Malin Array Be**	**73.20**	**319**	IAmb	IAmb	18 56 44.8	
	comp=Z,0.6nm,0.8s						
BRTR	**Keskin Array B**	**75.26**	**307**	P	**P**	**18 56 50.6**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=72,slow=9.3,SNR=3.8						
BRTR				LR	LR	19 34 45.8	
	comp=Z,91nm,19.7s,baz=66,slow=40						
HFS	**Hagfors**	**75.99**	**332**	LR	LR	19 35 05.4	
	comp=Z,186nm,19.3s,baz=46,slow=40						
NB2	**NORSAR Subarra**	**76.43**	**334**	P	**P**	**18 56 54.7**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**76.43**	**334**	P	**P**	**18 56 54.9**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=52,slow=5.6,SNR=5.9						
NOA				LR	LR	19 33 48.7	
	comp=Z,276nm,18.9s,baz=55,slow=38						
CLL	**Collm**	**81.58**	**325**	*e*P	**P**	**18 57 25.0**	**+0.8**
GERES	**GERESS Array B**	**82.72**	**323**	P	**P**	**18 57 30.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=38,slow=6.8,SNR=3.7						
NVAR	**Mina Array Bea**	**87.88**	**46**	P	**P**	**18 57 58.8**	**+2.3**
	comp=Z,2.2nm,0.3s,baz=301,slow=7.0,SNR=2.2						
PDAR	**Pinedale Array**	**90.27**	**39**	P	**P**	**18 58 07.8**	**0.0**
	comp=Z,0.1nm,0.4s,baz=202,slow=2.7,SNR=3.5						

IDC ***17*** *18:48:50.1±1.8,7.7′17N×93.7′86E,h0km,mb3.7/6,mb1 3.8/7, mb1mx3.5/43,mbtmp3.6/7,ML3.8/1,MS3.9/2,Ms1 3.9/2, ms1mx2.9/58,Error ellipse: s-maj=74.8km s-min=21.3km az=59.0*

NEIC ***17*** *18:48:55.9±2.0,7.4N±0.1′×94.3E±0.1′,h34km±5km, mb4.4/9,Error ellipse: s-ma

AKTO	**Aktyubinsk**	**52.47**	**332**	LR	LR	19 21 37.2	
	comp=Z,250nm,18.9s,baz=89,slow=38						
FINES	**FINESS Array B**	**73.24**	**332**	P	**P**	**19 00 21.5**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=163,slow=10,SNR=2.4						

KRSC 17 18:55:56.0±1.1, 60.79N×165.65E, h8km±18km, ML4.5, FELT [III-IV] at Tilichiki; [II] at Vivenka., Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.43**	**145**	*eP*	Pb	18 56 05.5	-0.2
TILK				*eS*	Sb	18 56 11.8	-0.5
KMSK	**Kamenskaya**	**1.70**	**9**	*eP*	Pb	18 56 26.8	-0.7
OSSR	**Ossora**	**2.02**	**221**	*eP*	Pb	18 56 31.6	-1.3
OSSR				*eS*	Sb	18 56 57.3	-0.9
PALN	**Palana**	**3.33**	**242**	*eP*	Pn	18 56 50.7	+2.4
SMKR	**Semkarok**	**4.75**	**209**	*eP*	Pn	18 57 11.5	+3.6
SRKR	**Sorokina**	**4.76**	**211**	*eP*	Pn	18 57 12.2	+4.2
KBTR	**Krutoberegovo**	**4.83**	**199**	*eP*	Pn	18 57 11.7	+2.8
TUMR	**Tumrok**	**6.25**	**210**	*eP*	Pn	18 57 35.1	+6.6

TRN 17 18:57:25.7, 11.63N×58.68W, h57km, MD4.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.65**	**333**	*eP*	Pn	18 57 53.8	+1.4
BBSP				*eS*	Sn	18 58 14.7	+2.1
BBGH	**Gun Hill**	**1.73**	**330**	*eP*	Pn	18 57 54.6	+1.1
BBGH				*eS*	Sn	18 58 16.0	+1.4
TOSP	**Speyside**	**1.85**	**260**	*eP*	Pn	18 57 57.1	+2.0
TOSP				*eS*	Sn	18 58 18.9	+1.5
TBH	**Brigand Hill**	**2.61**	**244**	*e*	Pn	18 58 09.0	+3.5
TBH				*eS*	Sn	18 58 38.4	+2.4
GCMP	**Grenada, Carri**	**2.82**	**288**	*eP*	Pn	18 58 09.1	+0.7
GCMP				*eS*	Sn	18 58 41.6	+0.4
TRN	**Trinidad (W)**	**2.85**	**250**	*eP*	Pn	18 58 10.9	+2.2
TRN				*eS*	Sn	18 58 42.2	+0.3
SVCV	**St. Vincent, C**	**2.91**	**304**	*eP*	Pn	18 58 10.6	+0.9
SVCV				*eS*	Sn	18 58 44.0	+0.6
GRSS	**Sisters**	**2.95**	**283**	*eP*	Pn	18 58 11.6	+1.4
GRSS				*eS*	Sn	18 58 45.0	+0.7
GRGR	**Grenville**	**2.96**	**280**	*eP*	Pn	18 58 11.4	+1.1
GRGR				*eS*	Sn	18 58 45.5	+1.0
GRHS	**Sauteurs**	**2.96**	**282**	*eP*	Pn	18 58 12.2	+2.0
GRHS				*eS*	Sn	18 58 45.6	+1.0
SVV	**Soufriere Volc**	**3.00**	**304**	*eP*	Pn	18 58 11.6	+0.8
SVV				*eS*	Sn	18 58 46.0	+0.5
SFAN	**Fancy Village**	**3.00**	**306**	*eP*	Pn	18 58 12.1	+1.3
SVB	**Belmont**	**3.00**	**303**	*eP*	Pn	18 58 11.4	+0.6
SVB				*eS*	Sn	18 58 47.0	+1.4
MCLT	**Moule a Chique**	**3.03**	**313**	*eP*	Pn	18 58 12.8	+1.6
MCLT				*eS*	Sn	18 58 46.4	+0.2
SLPA	**Patience**	**3.11**	**315**	*eP*	Pn	18 58 13.6	+1.3
SLB	**Belfond**	**3.18**	**314**	*eP*	Pn	18 58 15.3	+2.0
SLB				*eS*	Sn	18 58 51.2	+1.2
SLW	**Petit Monier**	**3.24**	**317**	*eP*	Pn	18 58 15.8	+1.6
MPOM	**Morne Pois Mar**	**3.51**	**323**	*eP*	Pn	18 58 19.0	+1.1
MPOM				*eS*	Sn	18 58 58.1	-0.1
MVM	**Montagne Vaucl**	**3.62**	**324**	*eP*	Pn	18 58 21.0	+1.6
LPMF	**Morne Lapointe**	**3.68**	**323**	*eP*	Pn	18 58 21.8	+1.6
BIM	**Bigot**	**3.70**	**321**	*eP*	Pn	18 58 21.9	+1.5
BIM				*eS*	Sn	18 59 04.0	+1.2
TRMF	**Trois Ilets**	**3.70**	**322**	*eP*	Pn	18 58 22.1	+1.7
ZAM	**Aeronautique**	**3.72**	**322**	*eP*	Pn	18 58 22.4	+1.7
ILAM	**Ilet Lapin Mar**	**3.79**	**326**	*eP*	Pn	18 58 23.0	+1.4
ILAM				*eS*	Sn	18 59 06.0	+1.1
FDF	**Fort de France**	**3.91**	**322**	*eP*	Pn	18 58 25.1	+1.7
FDF				*eS*	Sn	18 59 08.7	+0.6
PML	**Morne Lenard**	**3.97**	**322**	*eP*	Pn	18 58 26.4	+2.2
GBMF	**Grand Be**	**3.97**	**323**	*eP*	Pn	18 58 26.1	+1.9
BAMF	**Morne Balai**	**3.98**	**323**	*eP*	Pn	18 58 26.1	+1.8
CXM	**Morne La Croix**	**3.99**	**323**	*eP*	Pn	18 58 26.4	+1.9
SVN	**Savane Anatole**	**4.01**	**323**	*eP*	Pn	18 58 26.4	+1.7
PCM	**Pelee Case Pet**	**4.01**	**322**	*eP*	Pn	18 58 26.6	+1.8
MDN	**Morne-Daniel**	**4.52**	**325**	*eP*	Pn	18 58 33.8	+2.2
DSLB	**Salisbury**	**4.63**	**325**	*eP*	Pn	18 58 35.2	+2.1
DSLB	**Salisbury**	**4.63**	**325**	*eS*	Sn	18 59 25.9	+0.2
MAGL	**Barre de l'ile**	**4.98**	**330**	*eP*	Pn	18 58 38.8	+0.7
MAGL	**Barre de l'ile**	**4.98**	**330**	*eS*	Sn	18 59 33.7	-0.7
TDBA	**Terre de Bas,**	**5.08**	**326**	*eS*	Sn	18 59 36.9	0.0
TBG	**Guadaloupe-3**	**5.09**	**326**	*eP*	Pn	18 58 41.3	+1.8
TBG	**Guadaloupe-3**	**5.09**	**326**	*eS*	Sn	18 59 37.2	+0.2
CBE	**Ff, Capester**	**5.25**	**327**	*eP*	Pn	18 58 42.8	+1.1
CBE	**Ff, Capester**	**5.25**	**327**	*eS*	Sn	18 59 40.6	-0.4
ANBD	**Bethesda, Anti**	**6.16**	**331**	*eP*	Pn	18 58 55.6	+1.5
ANBD	**Bethesda, Anti**	**6.16**	**331**	*eS*	Sn	19 00 02.1	-1.2
BPA	**Boggy Peak**	**6.20**	**331**	*eP*	Pn	18 58 56.6	+1.8
BPA	**Boggy Peak**	**6.20**	**331**	*eS*	Sn	19 00 02.4	-2.0

*IDC **17** 19:00:56.5±0.6, 15.15S×173.70W, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.2/41, mbtmp4.2/15, MS4.0/21, Ms1 4.0/21, ms1mx3.9/35, Error ellipse: s-maj=27.9km s-min=15.6km az=132.0*
*NEIC **17** 19:01:00.3±2.1, 15.06S±0.06×173.56W±0.09, h19km±4km, mb4.8/73, Error ellipse: s-maj=12.2km s-min=8.9km az=102.0*
*GCMT **17** 19:01:07.3±0.2, 15.27S±0.02×173.24W±0.02, h72km±4km, MW5.0/117, Moment Tensor Solution. s31,c35; s117,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.57±.15; $M_{\theta\theta}$0.84±.20; $M_{\phi\phi}$-0.27±.18; $M_{r\theta}$-3.11±.08; $M_{\theta\phi}$1.22±.19; $M_{r\phi}$0.73±.07; Best double couple: M_o3.49400×10^{16} NP1:ϕ_s200.00000°, δ23.00000°, λ-168.00000°. NP2:ϕ_s99.00000°, δ85.00000°, λ-67.00000°. Principal axes: T 3.3960, Plg36.0000°, Azm170.0000°; N 0.1960, Plg23.0000°, Azm277.0000°; P -3.5930, Plg45.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 19:01:00.8±0.4, 15.08S±0.08×173.47W±0.08, h30km, n173, σ1§63/118, mb4.7/45, MS4.1/23, 6C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**55**		**Pn**	**19 01 32.2**	**-0.6**
AFI				Sn	**Sn**	**19 01 52.8**	**-4.2**
NIUE	**Niue**	**5.23**	**140**		**Pn**	**19 02 16.5**	**-0.5**
NIUE					Sn	19 03 08.2	-8.1
MSVF	**Nonsavu**	**8.55**	**251**	Pn	**Pn**	**19 03 06.0**	**+3.3**
KNTN	**Kanton**	**12.35**	**8**		**Pn**	**19 03 53.7**	**-1.0**
KNTN				Sn	Sn	19 06 03.3	-8.0
RAR	**Rarotonga**	**14.38**	**117**	LR	LR	19 09 31.1	
	comp=Z,130nm,18.8s,baz=318,slow=35						
DZM	**Mont Dzumac**	**20.26**	**247**	*eP*	Pn	19 05 38.0	+1.9
	89nm,1.4s						
DZM				*eLQ*	LQ	19 09 35.0	
	824nm,24.9s						
DZM				*eLR*	LR	19 10 26.3	
	comp=Z,2μm,26.6s						
DZM	**Mont Dzumac**	**20.26**	**247**	P	**P**	**19 05 31.7**	**-2.3**
	4.7nm,0.7s,baz=91,slow=16,SNR=2.0						
DZM				LR	LR	19 12 18.1	
	comp=Z,648nm,19.9s,baz=78,slow=34						
DZM	**Mont Dzumac**	**20.26**	**247**	P	Pn	19 05 34.9	-1.2
DZM				IAmb	IAmb	19 05 41.6	
	comp=Z,38nm,1.1s						
PPT	**Papeete**	**23.07**	**99**	LR	LR	19 12 29.9	
	comp=Z,86nm,19.9s,baz=191,slow=30						
PPT2	**Papeete2**	**23.07**	**100**	*eLR*	LR	19 11 20.3	
	comp=Z,291nm,28.5s						
PPT2	**Papeete2**	**23.07**	**100**	*eT*	T	19 29 57.0	
	comp=Z,11nm,0.3s						
PAE	**Paea**	**23.07**	**100**	*eT*	T	19 29 56.6	
	comp=Z,7.9nm,0.3s						
TIAR	**Tiarei**	**23.28**	**99**	*eT*	T	19 30 12.8	
	comp=Z,6.4nm,0.3s						
TVO	**Taravao**	**23.38**	**100**	*eT*	T	19 30 18.8	
	comp=Z,3.1nm,0.3s						
TBI	**Tubuai**	**24.10**	**114**	*eLQ*	LQ	19 11 10.9	
	comp=Z,340nm,27.0s						
TBI				*eLR*	LR	19 11 57.2	
	comp=Z,316nm,26.8s						
TBI	**Tubuai**	**24.10**	**114**	*eT*	T	19 31 14.2	
	comp=Z,37nm,0.3s						
MEH	**Mehetia**	**24.52**	**100**	*eT*	T	19 31 43.8	
	comp=Z,8.8nm,0.3s						
URZ	**Urewera**	**24.55**	**198**	P	**P**	**19 06 15.8**	**-2.0**
	comp=Z,3.3nm,0.4s,baz=278,slow=20,SNR=1.5						
URZ				LR	LR	19 15 03.5	
	comp=Z,836nm,19.1s,baz=36,slow=35						
URZ	**Urewera**	**24.55**	**198**	IAmb	IAmb	19 06 40.3	
	comp=Z,18nm,1.0s						
PMOR	**Pomariorio Ree**	**24.70**	**93**	*eT*	T	19 31 57.5	
	comp=Z,8.9nm,0.4s						
VAH	**Vaihoa**	**24.95**	**94**	*eT*	T	19 32 17.0	
	comp=Z,8.7nm,0.2s						
HNR	**Honiara**	**26.56**	**279**	LR	LR	19 16 36.5	
	comp=Z,60nm,18.2s,baz=20,slow=36						
THZ	**Tophouse**	**29.09**	**201**	P	**P**	**19 06 58.3**	**-0.4**
LTZ	**Lake Taylor**	**30.21**	**201**	P	**P**	**19 07 08.5**	**-0.1**
TAOE	**Nuku Hiva Isla**	**33.15**	**83**	*eLR*	LR	19 16 02.4	
	comp=Z,562nm,29.3s						
TAOE	**Nuku Hiva Isla**	**33.15**	**83**	*eT*	T	19 42 29.8	
	comp=Z,35nm,0.2s						
WHZ	**Wether Hill Ro**	**34.46**	**203**	P	**P**	**19 07 46.0**	**+0.1**
ARMA	**Armidale**	**35.45**	**238**	P	**P**	**19 07 53.0**	**-1.7**
H11S2	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	19 49 33.7	
	baz=148,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.66**	**329**	T	T	19 49 43.2	
	baz=148,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**38.67**	**329**	T	T	19 49 32.3	
	baz=148,slow=76,SNR=14						
CAN	**Canberra**	**39.17**	**232**	P	**P**	**19 08 24.2**	**-2.0**
CAN				IAmb	IAmb	19 09 03.4	
	comp=Z,27nm,1.5s						
H11N3	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	19 50 40.3	
	baz=149,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	19 50 40.6	
	baz=149,slow=76,SNR=54						
H11N2	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	19 50 41.6	
	baz=149,slow=76,SNR=70						
TOO	**Toolangi**	**42.62**	**230**	P	**P**	**19 08 53.4**	**-1.1**
TOO				IAmb	IAmb	19 09 20.8	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**19 09 05.5**	**-1.4**
	comp=Z,21nm,0.8s,baz=300,slow=9.8,SNR=3.2						
STKA	**Stephens Creek**	**44.14**	**240**		**P**	**19 09 06.5**	**-0.4**
JAY	**Jayapura**	**46.86**	**281**	LR	LR	19 26 44.0	
	comp=Z,129nm,19.2s,baz=100,slow=33						
BBOO	**Buckleboo**	**48.91**	**240**	P	**P**	**19 09 42.9**	**-1.5**
WR0	**Warramunga Arr**	**49.66**	**256**		**P**	**19 09 48.5**	**-1.7**
WR0				IAmb	IAmb	19 10 10.8	
	comp=Z,18nm,1.6s						
WB0	**Warramunga Arr**	**49.81**	**257**	P	**P**	**19 09 50.0**	**-1.4**
WB0				IAmb	IAmb	19 10 10.5	
	comp=Z,7.9nm,1.1s						
WB2	**Warramunga Arr**	**49.84**	**256**	P	**P**	**19 09 49.9**	**-1.6**
WB2				IAmb	IAmb	19 10 10.8	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**49.85**	**256**	P	**P**	**19 09 50.0**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=92,slow=7.4,SNR=79						
WRA	**Warramunga Arr**	**49.85**	**256**	P	**P**	**19 09 49.4**	**-2.2**
GUMO	**Guam**	**50.10**	**303**	LR	LR	19 28 15.0	
	comp=Z,62nm,19.0s,baz=120,slow=33						
AS31	**Alice Springs**	**50.14**	**252**	P	**P**	**19 09 51.4**	**-2.5**
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**19 09 52.0**	**-1.9**
	comp=Z,11nm,0.7s,baz=88,slow=7.6,SNR=98						
ASAR				LR	LR	19 29 43.6	
	comp=Z,200nm,21.5s,baz=88,slow=35						
ASAR	**Alice Springs**	**50.14**	**252**		**P**	**19 09 51.5**	**-2.4**
FITZ	**Fitzroy Crossi**	**58.21**	**258**	P	**P**	**19 10 51.3**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=124,slow=5.8,SNR=1.1						
JCJ	**Chichijima**	**60.08**	**314**	LR	LR	19 31 05.9	
	comp=Z,67nm,18.8s,baz=97,slow=30						
VNDA	**Vanda**	**63.69**	**186**	P	**P**	**19 11 28.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=2.4,slow=6.7,SNR=7.1						
VNDA				LR	LR	19 34 27.7	
	comp=Z,51nm,21.9s,baz=23,slow=32						
VNDA	**Vanda**	**63.69**	**186**	P	**P**	**19 11 30.1**	**+1.1**
MJAR	**Matsushiro Arr**	**68.65**	**320**	LR	LR	19 36 42.9	
	comp=Z,124nm,21.9s,baz=155,slow=31						
PETK	**Petropavlovsk-**	**72.30**	**342**	P	**P**	**19 12 23.4**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=138,slow=9.5,SNR=3.2						
MDPB	**Devils Postpil**	**73.18**	**42**	P	**P**	**19 12 28.0**	**-1.2**
WAKR	**Walker**	**73.45**	**41**	P	**P**	**19 12 33.0**	**+2.3**
WAKR				IAmb	IAmb	19 12 46.1	
	comp=Z,13nm,1.5s						
PNTR	**Pine Nut**	**73.69**	**41**	P	**P**	**19 12 33.7**	**+1.6**
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**19 12 36.4**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=227,slow=9.8,SNR=14						
NVAR				LR	LR	19 37 09.6	
	comp=Z,329nm,21.3s,baz=270,slow=29						
PAHR	**Pah Rah Range**	**74.18**	**40**	P	**P**	**19 12 36.0**	**+1.1**
PAHR				IAmb	IAmb	19 12 38.3	
	comp=Z,22nm,1.7s						
NV11	**Mina Array Sit**	**74.23**	**42**	P	**P**	**19 12 36.7**	**+1.5**
NV11				IAmb	IAmb	19 12 57.7	
	comp=Z,8.3nm,1.1s						
KVN	**Kaiserville**	**74.62**	**42**	P	**P**	**19 12 39.0**	**+1.4**
KVN				IAmb	IAmb	19 12 52.0	
	comp=Z,9.2nm,1.4s						
TPH	**Tonopah**	**74.64**	**43**	P	**P**	**19 12 39.8**	**+2.1**
TPNV	**Topopah Spring**	**74.68**	**44**	P	**P**	**19 12 39.2**	**+1.3**
K05A	**Summer Lake**	**75.06**	**37**	P	**P**	**19 12 42.0**	**+2.0**
SHPR	**Sheep Range**	**75.18**	**45**	P	**P**	**19 12 41.0**	**+0.2**
SHPR				IAmb	IAmb	19 12 55.6	
	comp=Z,13nm,1.7s						
PINE	**Pine Mountain**	**75.68**	**36**	P	**P**	**19 12 44.1**	**+0.6**
PINE				IAmb	IAmb	19 12 58.7	
	comp=Z,18nm,1.1s						
PRN	**Pahroc Range**	**75.73**	**44**	P	**P**	**19 12 45.7**	**+1.8**
R11A	**Troy Canyon, C**	**75.87**	**43**	P	**P**	**19 12 46.3**	**+1.6**
KSRS	**Korea Array**	**75.88**	**316**	LR	LR	19 39 44.2	
	comp=Z,68nm,21.8s,baz=102,slow=31						
I07A	**Izee**	**76.68**	**37**	P	**P**	**19 12 50.5**	**+1.3**
I07A				IAmb	IAmb	19 13 03.9	
	comp=Z,17nm,1.3s						
J08A	**Circle Bar Ran**	**76.86**	**38**	P	**P**	**19 12 51.6**	**+1.5**
KNB	**Kanab**	**77.06**	**46**	P	**P**	**19 12 52.9**	**+1.4**
PSUT	**Pine Spring**	**77.12**	**44**		**P**	**19 12 53.4**	**+1.5**
ELK	**Elko**	**77.39**	**41**		**P**	**19 12 55.0**	**+1.7**
PKCU	**Pink Cliffs**	**77.62**	**46**	P	**P**	**19 12 57.1**	**+2.3**
G08A	**Pilot Rock**	**77.72**	**36**	P	**P**	**19 12 58.0**	**+3.1**
G08A				IAmb	IAmb	19 13 11.9	
	comp=Z,8.4nm,1.2s						
MTPU	**Mount Pierson**	**78.01**	**45**	P	**P**	**19 12 59.7**	**+2.7**
MVU	**Marysvale**	**78.22**	**45**	P	**P**	**19 13 00.3**	**+2.3**
MSU	**Marysvale**	**78.25**	**45**	P	**P**	**19 13 00.9**	**+2.7**
BMO	**Blue Mountains**	**78.41**	**37**	P	**P**	**19 13 00.1**	**+1.4**
TMUT	**Trail Mountain**	**79.29**	**44**	P	**P**	**19 13 06.5**	**+2.5**
HLID	**Hailey**	**79.42**	**39**		**P**	**19 13 06.7**	**+2.2**
TCUT	**Toone Canyon**	**80.06**	**43**	P	**P**	**19 13 09.9**	**+1.8**
TRF	**Thorofare Moun**	**80.32**	**10**	P	**P**	**19 13 10.1**	**+1.3**
PV14	**Lion Creek, Pa**	**80.35**	**46**	P	**P**	**19 13 11.1**	**+1.4**
PV14				IAmb	IAmb	19 13 25.7	
	comp=Z,11nm,1.1s						
PV12	**Saucer Basin,**	**80.47**	**46**	P	**P**	**19 13 10.4**	**+0.1**
PV12				IAmb	IAmb	19 13 27.7	
	comp=Z,20nm,1.3s						
TX31	**Lajitas Ar. Si**	**80.49**	**56**		**P**	**19 13 11.8**	**+1.4**
TX31				IAmb	IAmb	19 13 33.1	
	comp=Z,11nm,1.1s						
TX32	**Lajitas Array**	**80.49**	**56**		**P**	**19 13 11.4**	**+1.0**
TXAR	**Lajitas Array**	**80.49**	**56**	P	**P**	**19 13 12.5**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=218,slow=7.9,SNR=5.0						
TXAR				LR	LR	19 43 06.0	
	comp=Z,152nm,19.3s,baz=0.0,slow=31						
PV22	**Blue Mesa, Par**	**80.58**	**46**	P	**P**	**19 13 12.8**	**+1.9**
PV22				IAmb	IAmb	19 13 26.8	
	comp=Z,9.9nm,1.4s						
MCMT	**McKenzie Canyo**	**81.05**	**39**	P	**P**	**19 13 14.2**	**+0.9**
MSO	**Missoula**	**81.47**	**37**	P	**P**	**19 13 16.3**	**+1.0**
MSO				IAmb	IAmb	19 13 17.8	
	comp=Z,12nm,1.4s						
REDW	**Red Top Meadow**	**81.54**	**41**		**P**	**19 13 17.5**	**+1.6**
REDW				IAmb	IAmb	19 13 31.9	
	comp=Z,11nm,1.2s						
TPAW	**Teton Pass**	**81.54**	**41**		**P**	**19 13 17.2**	**+1.2**
TPAW				IAmb	IAmb	19 13 33.0	
	comp=Z,9.1nm,1.1s						
WRH	**Wood River Hil**	**81.65**	**11**	P	**P**	**19 13 16.7**	**+1.1**
BCAR	**Beaver Creek A**	**81.71**	**14**	P	**P**	**19 13 17.5**	**+1.4**
HDA	**Harding Lake**	**81.80**	**11**	P	**P**	**19 13 17.8**	**+1.3**
LOHW	**Long Hollow**	**81.82**	**41**	P	**P**	**19 13 18.9**	**+1.6**
LOHW				IAmb	IAmb	19 13 48.5	
	comp=Z,15nm,1.6s						
CCB	**Clear Creek Bu**	**81.86**	**11**	P	**P**	**19 13 17.2**	**+0.5**
CCB				IAmb	IAmb	19 13 39.1	
	comp=Z,10nm,1.1s						
FLWY	**Flagg Ranch**	**81.99**	**40**	P	**P**	**19 13 21.0**	**+2.8**
YHB	**Horse Butte**	**82.02**	**40**	P	**P**	**19 13 20.8**	**+2.4**
MDM	**Murphy Dome**	**82.07**	**11**	P	**P**	**19 13 20.4**	**+2.5**
MDM				IAmb	IAmb	19 13 40.3	
	comp=Z,6.9nm,1.0s						
PD31	**Pinedale Array**	**82.07**	**42**	P	**P**	**19 13 20.1**	**+1.4**
PDAR	**Pinedale Array**	**82.07**	**42**	P	**P**	**19 13 19.9**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=207,slow=2.9,SNR=8.1						
PDAR				LR	LR	19 43 04.9	
	comp=Z,184nm,20.4s,baz=242,slow=31						
PDAR	**Pinedale Array**	**82.07**	**42**	P	**P**	**19 13 19.3**	**+0.6**
YHL	**Hebgen Lake**	**82.08**	**39**	P	**P**	**19 13 20.7**	**+1.9**
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**19 13 18.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=228,slow=6.6,SNR=9.0						
ILAR				LR	LR	19 42 40.2	
	comp=Z,111nm,21.3s,baz=200,slow=30						
IMAR	**Indian Mountai**	**82.16**	**8**	P	**P**	**19 13 20.2**	**+1.9**
BOZ	**Bozeman (W)**	**82.18**	**39**	P	**P**	**19 13 19.9**	**+0.8**
BOZ				IAmb	IAmb	19 13 56.0	
	comp=Z,16nm,1.7s						
SDCO	**Great Sand Dun**	**82.55**	**48**	P	**P**	**19 13 23.3**	**+1.9**
SDCO				IAmb	IAmb	19 13 46.2	
	comp=Z,12nm,1.6s						
YNE	**Yellowstone No**	**82.88**	**40**	P	**P**	**19 13 25.5**	**+2.7**
RWWY	**Rawlins**	**83.11**	**44**	P	**P**	**19 13 26.5**	**+2.3**
RWWY				IAmb	IAmb	19 13 40.9	
	comp=Z,12nm,1.1s						
RLMT	**Red Lodge**	**83.39**	**40**		**P**	**19 13 26.1**	**+0.6**
RLMT				IAmb	IAmb	19 13 42.2	
	comp=Z,9.9nm,1.2s						
N23A	**Red Feather La**	**83.61**	**45**		**P**	**19 13 28.7**	**+1.9**
N23A				IAmb	IAmb	19 13 45.4	
	comp=Z,13nm,1.2s						
K22A	**Casper**	**84.00**	**43**	P	**P**	**19 13 31.2**	**+2.6**
K22A				IAmb	IAmb	19 13 45.8	
	comp=Z,7.5nm,1.1s						
ABTX	**Abilene, Hawle**	**84.93**	**54**	P	**P**	**19 13 34.0**	**+0.6**
BMAR	**Burnt Mountain**	**84.95**	**11**	P	**P**	**19 13 34.5**	**+1.9**
H03S2	**Juan Fernandez**	**85.44**	**124**	T	T	20 48 17.4	
	baz=253,slow=75						
H03S1	**Juan Fernandez**	**85.45**	**124**	T	T	20 48 18.4	
	baz=253,slow=75						
H03S3	**Juan Fernandez**	**85.46**	**124**	T	T	20 48 18.9	
	baz=253,slow=75						
LAO	**LASA Array**	**86.00**	**40**	P	**P**	**19 13 39.5**	**+1.1**
RSSD	**Black Hills**	**86.27**	**43**	P	**P**	**19 13 41.4**	**+1.4**
RSSD				IAmb	IAmb	19 14 03.6	
	comp=Z,8.9nm,1.1s						
MAW	**Mawson**	**88.08**	**199**	P	**P**	**19 13 48.0**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=148,slow=4.2,SNR=29						
MAW				LR	LR	19 50 40.3	
	comp=Z,210nm,20.2s,baz=66,slow=34						
MAW	**Mawson**	**88.08**	**199**	P	**P**	**19 13 47.9**	**-0.2**
PLCA	**Paso Flores**	**89.78**	**132**	LR	LR	19 46 41.3	
	comp=Z,130nm,18.6s,baz=327,slow=30						
YKA	**Yellowknife Ar**	**89.83**	**23**	LR	LR	19 47 21.8	
	comp=Z,156nm,21.0s,baz=0.0,slow=31						
CMAR	**Chiang Mai Arr**	**92.45**	**288**	P	**P**	**19 14 08.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=99,slow=6.5,SNR=1.2						
VNA3	**Neumayer Olymp**	**93.18**	**175**	P	**P**	**19 14 12.3**	**+0.4**
SNAA	**Sanae**	**93.23**	**177**	P	**P**	**19 14 12.3**	**+0.1**
SNAA	**Sanae**	**93.23**	**177**	P	**P**	**19 14 12.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=200,slow=8.5						
SNAA	**Sanae**	**93.23**	**177**	P	**P**	**19 14 11.9**	**-0.3**
VNA2	**Neumayer--Watz**	**93.68**	**175**	P	**P**	**19 14 14.9**	**+0.7**
	baz=169,slow=3.7						
ULM	**Lac du Bonnet**	**93.73**	**39**	LR	LR	19 50 42.3	
	comp=Z,241nm,19.6s,baz=268,slow=32						
VNA1	**Neumayer--Stat**	**93.88**	**175**	P	**P**	**19 14 16.1**	**+1.1**
SONM	**Songino Array**	**94.56**	**318**	LR	LR	19 51 38.1	
	comp=Z,70nm,21.4s,baz=110,slow=32						
GTA	**Gaotai**	**96.92**	**309**	*eP*	**P**	**19 14 25.6**	**-4.1**
GTA				pP	pP	19 14 35.9	-2.8
GTA				sP	sP	19 14 40.8	-1.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**124

FAKI	**Fak Fak**	**7.91**	**110**	Pn	**Pn**	**19 11 24.7**	**+0.3**
MYLDM	**Lahad Datu**	**8.25**	**310**	Pn	**Pn**	**19 11 27.2**	**-1.8**
KNRA	**Kununurra**	**15.90**	**166**	Pn	**Pn**	**19 13 12.8**	**+0.4**
KNRA				IAmb	IAmb	19 13 32.2	
	comp=Z,19nm,1.5s						
FITZ	**Fitzroy Crossi**	**17.84**	**177**	P	**Pn**	**19 13 35.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=356,slow=12,SNR=2.7						
WB0	**Warramunga Arr**	**21.62**	**155**	P	**P**	**19 14 15.8**	**-1.9**
WRA	**Warramunga Arr**	**21.76**	**155**	P	**P**	**19 14 17.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=334,slow=11,SNR=6.2						
WRA				PcP	**PcP**	**19 18 18.0**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=336,slow=1.6,SNR=1.6						
WB2	**Warramunga Arr**	**21.76**	**155**	P	**P**	**19 14 19.3**	**0.0**
WB2				IAmb	IAmb	19 14 41.0	
	comp=Z,5.9nm,1.0s						
WR0	**Warramunga Arr**	**21.86**	**155**	P	**P**	**19 14 18.8**	**-1.5**
WR0				IAmb	IAmb	19 14 47.7	
	comp=Z,8.7nm,1.4s						
COEN	**Coen**	**22.76**	**128**	P	**P**	**19 14 29.1**	**-0.9**
COEN				IAmb	IAmb	19 14 43.7	
	comp=Z,17nm,1.2s						
ASAR	**Alice Springs**	**24.97**	**160**	P	**P**	**19 14 51.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=339,slow=8.7,SNR=8.0						
ASAR				PcP	**PcP**	**19 18 25.9**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=350,slow=1.9,SNR=14						
STKA	**Stephens Creek**	**35.31**	**155**	P	**P**	**19 16 22.8**	**+0.8**
	comp=Z,2.8nm,1.1s,baz=330,slow=9.0,SNR=2.2						
STKA	**Stephens Creek**	**35.31**	**155**	IAmb	IAmb	19 16 23.8	
	comp=Z,1.5nm,1.3s						
HNR	**Honiara**	**36.15**	**106**	P	**P**	**19 16 28.3**	**-1.1**
JWT	**Wachi**	**36.62**	**15**	P	**P**	**19 16 32.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**44.62**	**7**	P	**P**	**19 17 39.8**	**+0.7**
MK31	**Makanchi Array**	**59.72**	**327**	P	**P**	**19 19 30.1**	**-1.1**
MK31				IAmb	IAmb	19 19 33.1	
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**59.72**	**327**	P	**P**	**19 19 30.1**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=128,slow=7.6,SNR=15						
MKAR	**Makanchi Array**	**59.72**	**327**	P	**P**	**19 19 29.9**	**-1.2**
KDJ	**Kajisay**	**60.05**	**321**	P	**P**	**19 19 35.2**	**+1.5**
KDJ				IAmb	IAmb	19 19 56.9	
	comp=Z,2.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.03**	**329**	P	**P**	**19 19 58.7**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=138,slow=6.1,SNR=5.4						
KURK	**Kurchatov**	**64.03**	**329**	P	**P**	**19 19 58.7**	**-1.3**
KURK	**Kurchatov**	**64.03**	**329**	IAmb	IAmb	19 20 01.1	
	comp=Z,2.7nm,0.4s						
ABKAR	**Akbulak array**	**73.98**	**322**	P	**P**	**19 21 02.8**	**+1.0**
ABKAR	**Akbulak array**	**73.98**	**322**	P	**P**	**19 21 02.1**	**+0.4**
ABKAR				IAmb	IAmb	19 21 33.8	
	comp=Z,3.2nm,1.3s						
AKTO	**Aktyubinsk**	**75.54**	**323**	P	**P**	**19 21 10.8**	**0.0**
	comp=Z,1.3nm,0.4s,baz=97,slow=5.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**122.21**	**285**	PKP	**PKPdf**	**19 28 21.1**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=48,slow=2.1,SNR=1.9						

TAP ***17*** *19:14:10.9,23.92N×122.71E,h67km±1km, ML2.7, D*
JMA ***17*** *19:14:12.3±0.2,23.97N×122.59E,h28km, M2.1*

ISC 17 19:14:10.9±1.2**, 23.88N**±0.03**×122.62E**±0.02**, h20**km±5km**,**
n62,σ0.72/88,1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.64**	**27**	P	**Pg**	**19 14 23.7**	**-0.1**
JYNG				*eS*	**Sb**	**19 14 31.1**	**-1.0**
YOJ	**Yonaguni jima**	**0.68**	**31**	P	**Pg**	**19 14 24.7**	**+0.2**
	baz=31						
YOJ				*eS*	**Sb**	**19 14 32.8**	**-0.4**
	baz=31						
YOJ	**Yonaguni jima**	**0.68**	**31**	P	**Pg**	**19 14 24.5**	**0.0**
YOJ				S	**Sb**	**19 14 32.5**	**-0.7**
ENAH	**Nanao**	**0.94**	**308**	P	**Pb**	**19 14 28.8**	**+0.3**
	baz=309						
TWD	**Chiawan**	**0.96**	**282**	*eP*	**Pb**	**19 14 29.0**	**+0.1**
	baz=279						
TWD				*eS*	**Sb**	**19 14 41.2**	**0.0**
	baz=279						
ENA	**Nanau**	**0.97**	**304**	P	**Pg**	**19 14 30.1**	**+0.2**
	baz=307						
ENA				*eS*	**Sn**	**19 14 43.7**	**+0.9**
	baz=307						
NACB	**Ninganchiao**	**0.99**	**288**	P	**Pb**	**19 14 29.1**	**-0.2**
	baz=276						
NACB				*eS*	**Sb**	**19 14 42.1**	**+0.2**
	baz=276						
TWC	**Suao**	**1.02**	**316**	P	**Pb**	**19 14 29.8**	**-0.1**
	baz=311						
TWC				*eS*	**Sg**	**19 14 43.6**	**-0.6**
	baz=311						
ESL	**Shilin**	**1.09**	**267**	*eP*	**Pn**	**19 14 31.7**	**+0.6**
	baz=259						
ETLH	**Xiulin Townshi**	**1.09**	**288**	P	**Pb**	**19 14 31.2**	**0.0**
	baz=284						
ETLH				*eS*	**Sb**	**19 14 45.3**	**+0.1**
	baz=284						
HATJ	**Hateruma jima**	**1.10**	**80**	*eS*	**Sg**	**19 14 47.3**	**+0.6**
IRIF	**Iriomote-Funau**	**1.11**	**65**	P	**Pg**	**19 14 32.2**	**-0.3**
IRIF				*eS*	**Sn**	**19 14 46.6**	**+0.5**
EGFH	**Guangfu**	**1.11**	**260**	*eP*	**Pn**	**19 14 31.5**	**+0.1**
	baz=251						
HGSD	**Ruisui**	**1.16**	**251**	*eP*	**Pn**	**19 14 31.9**	**-0.2**
	baz=250						
HGSD				*eS*	**Sb**	**19 14 46.1**	**-0.9**
	baz=250						
TWE	**Neicheng**	**1.21**	**314**	*eP*	**Pn**	**19 14 32.9**	**+0.2**
	baz=310						
TWE				*eS*	**Sg**	**19 14 49.7**	**-0.6**
	baz=310						
ENTT	**Nioudou**	**1.23**	**308**	*eP*	**Pn**	**19 14 33.0**	**-0.1**
	baz=305						
ENTT				*eS*	**Sn**	**19 14 49.4**	**+0.4**
	baz=305						
NDT	**Datong Townshi**	**1.25**	**306**	*eP*	**Pn**	**19 14 33.3**	**+0.1**
	baz=295						
NDT				*eS*	**Sg**	**19 14 50.8**	**-0.6**
	baz=295						
EHY	**Hungye**	**1.25**	**253**	P	**Pn**	**19 14 33.5**	**+0.2**
	baz=251						
EHY				*eS*	**Sb**	**19 14 49.4**	**0.0**
	baz=251						
NNSB	**Datong**	**1.26**	**296**	*eP*	**Pn**	**19 14 33.5**	**0.0**
	baz=293						
NNSB				*eS*	**Sb**	**19 14 49.6**	**-0.3**
	baz=293						
NNSH	**Datong**	**1.26**	**296**	P	**Pn**	**19 14 33.4**	**-0.1**
	baz=292						
WHF	**Hehuan Shan**	**1.27**	**282**	P	**Pn**	**19 14 33.8**	**-0.1**
	baz=279						
WHF				*eS*	**Sb**	**19 14 49.8**	**-0.7**
	baz=279						
NNS	**Nan Shan**	**1.27**	**296**	P	**Pn**	**19 14 33.6**	**-0.1**
	baz=293						
NNS				*eS*	**Sb**	**19 14 50.1**	**-0.2**
	baz=293						
EYUL	**Yuli**	**1.31**	**247**	*eP*	**Pn**	**19 14 34.2**	**+0.1**
	baz=239						
YULB	**Yu-li**	**1.31**	**249**	*eP*	**Pn**	**19 14 34.3**	**+0.2**
	baz=242						
YULB				*eS*	**Sn**	**19 14 51.0**	**0.0**
	baz=242						
TIPB	**Shuangxi**	**1.31**	**327**	*eP*	**Pn**	**19 14 34.5**	**+0.3**
	baz=323						
FUSS	**Fushou**	**1.31**	**287**	P	**Pn**	**19 14 34.5**	**+0.1**
	baz=284						
FUSS				*eS*	**Sn**	**19 14 50.6**	**-0.9**
	baz=284						
JKRS	**Kuro-shima**	**1.32**	**74**	P	**Pb**	**19 14 35.6**	**+0.6**
TWF1	**Yuli**	**1.32**	**247**	*eP*	**Pn**	**19 14 34.6**	**+0.3**
	baz=245						
TWF1				*eS*	**Sn**	**19 14 51.5**	**+0.1**
	baz=245						
CHGB	**Renai**	**1.34**	**278**	P	**Pn**	**19 14 34.9**	**+0.2**
	baz=275						
CHGB				*eS*	**Sn**	**19 14 51.6**	**-0.5**
	baz=275						
VWDT	**VWDT**	**1.36**	**265**	P	**Pn**	**19 14 35.4**	**+0.6**
	baz=255						
VWDT				*eS*	**Sn**	**19 14 52.3**	**0.0**
	baz=255						
YHNB	**Yeheng**	**1.39**	**305**	⇓P	**Pn**	**19 14 35.8**	**+0.5**
	baz=294						
TDCB	**Techi**	**1.39**	**286**	*eP*	**Pn**	**19 14 35.9**	**+0.5**
	baz=283						
FULB	**Fuli**	**1.39**	**241**	*eP*	**Pn**	**19 14 36.1**	**+0.8**
	baz=233						
NSK	**Sanguang**	**1.40**	**305**	*eP*	**Pn**	**19 14 35.5**	**+0.1**
	baz=294						

JIJ	**Ishigaki jima**	**1.47**	**70**	P	**Pb**	**19 14 37.2**	**-0.4**
SSLB	**Suanglung**	**1.53**	**267**	*eP*	**Pn**	**19 14 37.6**	**+0.4**
	baz=264						
SMLT	**Sun Moon Lake**	**1.58**	**271**	*eP*	**Pn**	**19 14 39.0**	**+1.1**
	baz=262						
WHP	**Taichung City**	**1.58**	**285**	*eP*	**Pb**	**19 14 40.1**	**+0.5**
	baz=282						
YM01	**YM01**	**1.59**	**323**	*eP*	**Pn**	**19 14 38.2**	**+0.3**
	baz=320						
LDUT	**Ludao**	**1.60**	**222**	*eP*	**Pn**	**19 14 37.4**	**-0.7**
	baz=221						
YM05	**YM05**	**1.60**	**323**	*eP*	**Pn**	**19 14 37.8**	**-0.4**
	baz=320						
WHYT	**Xinyi Township**	**1.63**	**264**	*eP*	**Pn**	**19 14 39.7**	**+1.1**
	baz=266						
LIOB	**Emei**	**1.66**	**298**	*eP*	**Pn**	**19 14 40.1**	**+1.2**
	baz=295						
NSTT	**Nanjuang**	**1.66**	**297**	*eP*	**Pn**	**19 14 40.2**	**+1.2**
	baz=289						
NSTT				*eS*	**Sn**	**19 15 00.4**	**+0.7**
	baz=289						
JISG	**Ishigakijimahi**	**1.70**	**65**	P	**Pb**	**19 14 40.8**	**-0.6**
JISG				*eS*	**Sb**	**19 15 02.1**	**-0.3**
ALS	**Alishan**	**1.71**	**258**	*eP*	**Pn**	**19 14 41.1**	**+1.3**
	baz=251						
TWGBT	**Beinan**	**1.77**	**234**	*eP*	**Pn**	**19 14 41.1**	**+0.7**
	baz=229						
TWGBT				*eS*	**Sn**	**19 15 02.0**	**-0.3**
	baz=229						
CHN5	**Tsauling**	**1.80**	**262**	*eP*	**Pn**	**19 14 42.5**	**+1.5**
	baz=259						
STYT	**Tauyuan**	**1.85**	**248**	*eP*	**Pn**	**19 14 42.0**	**+0.3**
	baz=240						
TPUB	**Ta-pu**	**1.92**	**253**	*eP*	**Pn**	**19 14 43.7**	**+1.3**
	baz=251						
TPUB				*eS*	**Sb**	**19 15 09.1**	**+0.4**
	baz=251						
WTP	**Ta-pu**	**1.95**	**252**	*eP*	**Pn**	**19 14 44.3**	**+1.3**
	baz=243						
ECL	**Taimali**	**1.99**	**231**	*eP*	**Pn**	**19 14 43.6**	**+0.1**
	baz=238						
SLGT	**Liugui**	**2.02**	**245**	*eP*	**Pb**	**19 14 45.9**	**-1.0**
	baz=238						
SGST	**Jiashian**	**2.03**	**248**	*eP*	**Pb**	**19 14 46.1**	**-1.1**
	baz=246						
TWK	**Hsinying**	**2.05**	**253**	*eP*	**Pn**	**19 14 45.4**	**+1.0**
	baz=251						
WTK	**Tuku**	**2.06**	**265**	*eP*	**Pb**	**19 14 46.5**	**-1.1**
	baz=262						
RLNB	**Erlin**	**2.07**	**271**	*eP*	**Pn**	**19 14 46.5**	**+1.9**
	baz=279						
SSD	**Sandimen**	**2.15**	**239**	*eP*	**Pn**	**19 14 47.6**	**+2.0**
	baz=234						
EAST	**Anshuo**	**2.21**	**228**	*eP*	**Pn**	**19 14 47.0**	**+0.5**
	baz=233						
MASBT	**Masbuluo**	**2.22**	**236**	*eP*	**Pn**	**19 14 47.8**	**+1.1**
	baz=230						
SCZT	**Fangliau**	**2.38**	**231**	*eP*	**Pn**	**19 14 50.5**	**+1.7**
	baz=227						
PHUB	**P'eng-hu**	**2.82**	**263**	*eP*	**Pn**	**19 14 55.8**	**+0.9**
	baz=271						

IDC ***17*** *19:16:28.1±1.5,29.50N×128.85E,h0km, mb3.2/3, mb1 3.3/5, mb1mx3.1/60, mbtmp3.2/5, ML2.1/2, Error ellipse: s-maj=64.0km s-min=23.8km az=83.0*
JMA ***17*** *19:16:28.5±0.4,29.58N×128.45E,h30km±5km,M3.2*

ISC 17 19:16:32.4±1.2**, 29.52N**±0.05**×128.60E**±0.09**, h35**km**, n18,**
σ1.51/21, mb3.2/3, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.64**	**124**	P	**Pn**	**19 16 43.2**	**-1.8**
JTAJ				S	**Sn**	**19 16 53.3**	**-0.7**
JNN	**Nakanoshima**	**1.16**	**74**	P	**Pn**	**19 16 50.8**	**-1.3**
JNN				*eS*	**Sn**	**19 17 07.5**	**+0.8**
JAMN	**Amaminishikomi**	**1.37**	**158**	P	**Pn**	**19 16 53.5**	**-1.5**
JAM	**Amami Oshima**	**1.42**	**141**	P	**Pn**	**19 16 54.4**	**-1.2**
JKC	**Kuchinoerabu**	**1.68**	**56**	P	**Pn**	**19 16 58.7**	**-0.5**
JKC				*eS*	**Sn**	**19 17 20.5**	**+1.0**
JZK	**Kikaishima**	**1.70**	**135**	P	**Pn**	**19 17 00.0**	**+0.4**
JTK	**Tokunoshima**	**1.76**	**170**	P	**Pn**	**19 16 59.3**	**-1.1**
JYAK	**Yakushimahirau**	**1.81**	**66**	P	**Pn**	**19 16 59.2**	**-1.9**
JMTN	**Minamitane**	**2.18**	**66**	P	**Pn**	**19 17 04.9**	**-1.3**
JTN	**Tanegashima 3**	**2.35**	**61**	P	**Pn**	**19 17 07.3**	**-1.3**
JSJ	**Shimokoshiki**	**2.36**	**24**	P	**Pn**	**19 17 05.4**	**-3.2**
JYRO	**Yoronjima**	**2.49**	**183**	P	**Pn**	**19 17 10.3**	**-0.1**
JSU	**Suzuyama**	**2.55**	**39**	P	**Pn**	**19 17 09.7**	**-1.6**
JNU	**Nakatsue**	**4.09**	**28**	Pn	**Pn**	**19 17 31.1**	**-1.3**
	0.1nm,0.3s,baz=75,slow=20,SNR=2.5						
KSRS	**Korea Array**	**7.93**	**356**	Pn	**Pn**	**19 18 24.3**	**-0.9**
	0.1nm,0.3s,baz=178,slow=14,SNR=1.8						
SONM	**Songino Array**	**25.05**	**323**	P	**P**	**19 21 55.7**	**+2.3**
	0.3nm,0.4s,baz=134,slow=8.3,SNR=1.7						
WRA	**Warramunga Arr**	**49.49**	**173**	P	**P**	**19 25 19.9**	**+0.4**
	0.3nm,0.9s,baz=352,slow=8.0,SNR=1.3						
ASAR	**Alice Springs**	**53.13**	**174**	P	**P**	**19 25 47.2**	**+0.5**
	0.2nm,0.9s,baz=347,slow=7.0,SNR=1.9						

IDC ***17*** *19:17:20.2±1.0,29.79N×128.68E,h0km, mb3.5/9, mb1 3.6/12, mb1mx3.5/63, mbtmp3.5/12, ML2.7/3, MS4.4/1, Ms1 4.4/1, ms1mx3.0/36, Error ellipse: s-maj=26.1km s-min=19.3km az=88.0*
JMA ***17*** *19:17:22.6±0.3,29.62N×128.45E,h30km,M3.3*
NEIC ***17*** *19:17:26.5±3.0,29.79N±0.04×128.60E±0.08,h45km±6km, mb4.2/10, Error ellipse: s-maj=10.0km s-min=6.1km az=73.0*

ISC 17 19:17:25.9±0.6**, 29.78N**±0.07**×128.57E**±0.06**, h35**km**, n45,**
σ1.46/40, mb3.7/15, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.83**	**139**	P	**Pn**	19 17 37.5	-3.6
JTAJ				S	**Sn**	**19 17 48.1**	**-4.1**
JNN	**Nakanoshima**	**1.13**	**87**	P	**Pn**	**19 17 45.0**	**-0.2**
JNN				*eS*	**Sn**	**19 18 01.3**	**+1.7**
JAMN	**Amaminishikomi**	**1.62**	**161**	P	Pn	19 17 48.4	-3.6
JAM	**Amami Oshima**	**1.64**	**146**	P	Pn	19 17 48.8	-3.4
JYAK	**Yakushimahirau**	**1.74**	**74**	P	**Pn**	**19 17 53.3**	**-0.3**
JMTN	**Minamitane**	**2.11**	**73**	P	**Pn**	**19 17 58.7**	**+0.1**
JTN	**Tanegashima 3**	**2.26**	**67**	P	**Pn**	**19 18 01.1**	**+0.4**
JSU	**Suzuyama**	**2.36**	**43**	Pn	Pn	19 18 05.2	+3.1
JNU	**Nakatsue**	**3.87**	**30**	Pn	**Pn**	**19 18 21.4**	**-1.4**
	0.8nm,0.3s,baz=52,slow=9.4,SNR=1.2						
JMZ	**Minamidaito 2**	**4.59**	**149**	Pn	**Pn**	**19 18 31.3**	**-1.5**
JTU	**Tsushima**	**4.78**	**8**	Pn	**Pn**	**19 18 32.9**	**-2.5**
JMN	**Monobe**	**5.99**	**48**	Pn	**Pn**	**19 18 50.6**	**-1.4**
JHS	**Saijyo**	**6.46**	**35**	Pn	**Pn**	**19 18 57.2**	**-1.4**
SSE	**Sheshan**	**6.51**	**283**	Pn	**Pn**	**19 18 50.0**	**+0.8**
YOJ	**Yonaguni jima**	**7.26**	**224**	Pn	**Pn**	**19 19 10.7**	**+1.3**
KSRS	**Korea Array**	**7.67**	**356**	Pn	**Pn**	**19 19 13.7**	**-1.4**
	0.2nm,0.3s,baz=176,slow=16,SNR=2.1						
JWT	**Wachi**	**7.95**	**45**	Pn	Pn	19 19 22.1	+3.2
INU	**Inuyama**	**9.03**	**50**	Pn	**Pn**	**19 19 35.9**	**+2.3**
SSLB	**Suanglung**	**9.05**	**231**	Pn	**Pn**	**19 19 37.3**	**+3.2**
YULB	**Yu-li**	**9.10**	**227**	Pn	**Pn**	**19 19 34.3**	**-0.5**
JGF	**Kuroka**	**9.40**	**50**	Pn	**Pn**	**19 19 36.4**	**-2.4**
MJAR	**Matsushiro Arr**	**10.51**	**48**	Pn	**Pn**	**19 19 52.4**	**-1.7**
	0.0nm,0.3s,baz=219,slow=15,SNR=2.5						
SONM	**Songino Array**	**24.83**	**323**	P	**P**	**19 22 44.9**	**0.0**
	0.2nm,0.4s,baz=140,slow=7.6,SNR=1.8						
CHTO	**Chiang Mai**	**29.05**	**255**	P	**P**	**19 23 23.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**29.21**	**254**	P	**P**	**19 23 25.6**	**+1.2**
	0.5nm,0.8s,baz=45,slow=9.0,SNR=6.7						
MKAR	**Makanchi Array**	**39.48**	**309**	P	**P**	**19 24 52.9**	**+0.1**
	0.6nm,0.9s,baz=99,slow=8.9,SNR=3.7						
ZAA0	**Zalesovo Array**	**39.66**	**320**	P	**P**	**19 24 54.7**	**+0.5**
ZALV	**Zalesovo Beam**	**39.66**	**320**	P	**P**	**19 24 53.4**	**-0.9**
	0.4nm,0.5s,baz=111,slow=8.3,SNR=4.0						
KURK	**Kurchatov**	**42.52**	**314**	P	**P**	**19 25 16.9**	**-0.8**
KURK	**Kurchatov**	**42.52**	**314**	IAmb	IAmb	19 25 30.8	
	comp=Z,5.0nm,1.2s						
KURBB	**Kurchatov Arra**	**42.56**	**314**	P	**P**	**19 25 16.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=99,slow=7.8,SNR=3.2						
KNRA	**Kununurra**	**45.20**	**180**	P	**P**	**19 25 39.2**	**-0.4**
KNRA				IAmb	IAmb	19 25 39.9	
	comp=Z,18nm,1.6s						
KK31	**Karatay Array**	**47.68**	**303**	P	**P**	**19 25 58.5**	**-0.4**
KK31				IAmb	IAmb	19 26 09.1	
	comp=Z,3.2nm,1.4s						
KKAR	**Karatay Array**	**47.68**	**303**	P	**P**	**19 25 59.6**	**+0.7**
KKAR	**Karatay Array**	**47.68**	**303**	P	**P**	**19 25 59.8**	**+0.9**
KKAR				IAmb	IAmb	19 26 09.1	
	comp=Z,3.2nm,1.4s						
FITZ	**Fitzroy Crossi**	**47.69**	**184**	P	**P**	**19 25 58.4**	**-0.7**
FITZ				IAmb	IAmb	19 26 30.0	
	comp=Z,2.7nm,1.1s						
WB0	**Warramunga Arr**	**49.58**	**173**	P	**P**	**19 26 14.2**	**+0.6**
WB0				IAmb	IAmb	19 26 31.9	
	comp=Z,5.2nm,1.3s						
WRA	**Warramunga Arr**	**49.75**	**173**	P	**P**	**19 26 13.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=352,slow=7.7,SNR=2.4						
ASAR	**Alice Springs**	**53.39**	**174**	P	**P**	**19 26 41.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=1.4,slow=14,SNR=5.9						
IMAR	**Indian Mountai**	**58.21**	**28**	P	**P**	**19 27 18.1**	**+1.9**
KIRV	**Kirov**	**59.56**	**323**	LR	LR	19 57 07.8	
	comp=Z,295nm,19.3s,baz=258,slow=40						
RND	**Reindeer**	**60.53**	**31**	P	**P**	**19 27 33.9**	**+1.5**
ILAR	**Eielson Array**	**61.19**	**29**	P	**P**	**19 27 35.6**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=276,slow=6.2,SNR=2.6						
GLI	**Glacier Island**	**61.77**	**34**	P	**P**	**19 27 40.8**	**+0.2**
FINES	**FINESS Array B**	**69.94**	**330**	P	**P**	**19 28 33.0**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=54,slow=7.2,SNR=1.9						

IDC ***17*** *19:18:17.1±0.9,29.57N×128.45E,h0km,mb3.7/13, mb1 3.8/15,mb1mx3.7/62,mbtmp3.7/15,ML2.3/1,MS3.6/6, Ms1 3.6/6,ms1mx3.2/50,Error ellipse: s-maj=25.1km s-min=18.7km az=81.0*
JMA ***17*** *19:18:18.7±0.4,29.59N×128.45E,h34km±5km,M3.9*
NIED ***17*** *19:18:18.7,29.59N×128.45E,h34km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.45; Mθθ3.47; Mφφ-3.02; Mrθ-0.97; Mθφ1.16; Mφr1.18; Fault plane solution: Mo3.79000×10^15 NP1: φs123.00000°,δ82.00000°,λ-24.00000°. NP2: φs217.00000°,δ67.00000°,λ-171.00000°.*
NEIC ***17*** *19:18:20.4±1.7,29.58N±0.05×128.47E±0.08,h22km±6km, mb4.5/30 Error ellipse: s-maj=11.3km s-min=5.5km az=117.0*

ISC 17 19:18:21.8±0.5**, 29.56N**±0.05**×128.52E**±0.06**, h35**km**, n75,**
σ1.12/72, mb4.2/25, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.72**	**124**	P	**Pn**	**19 18 33.4**	**-2.1**
JTAJ				S	**Sn**	**19 18 43.7**	**-1.6**
JNN	**Nakanoshima**	**1.21**	**76**	P	**Pn**	**19 18 40.6**	**-1.7**
JNN				*eS*	**Sn**	**19 18 57.6**	**+0.1**
JAMN	**Amaminishikomi**	**1.43**	**156**	P	**Pn**	**19 18 43.6**	**-1.7**
JAM	**Amami Oshima**	**1.49**	**140**	P	**Pn**	**19 18 44.4**	**-1.7**
JZK	**Kikaishima**	**1.78**	**134**	P	**Pn**	**19 18 50.1**	**0.0**
JTK	**Tokunoshima**	**1.81**	**168**	P	**Pn**	**19 18 49.2**	**-1.3**
JYAK	**Yakushimahirau**	**1.85**	**68**	P	**Pn**	**19 18 50.0**	**-1.1**
JOKE	**Okinoerabujima**	**2.19**	**179**	P	**Pn**	**19 18 54.9**	**-0.9**
JMTN	**Minamitane**	**2.23**	**67**	P	**Pn**	**19 18 55.0**	**-1.2**
JSJ	**Shimokoshiki**	**2.35**	**26**	P	**Pn**	**19 18 56.2**	**-1.7**
JTN	**Tanegashima 3**	**2.39**	**62**	P	**Pn**	**19 18 57.5**	**-1.0**
JSU	**Suzuyama**	**2.56**	**40**	Pn	**Pn**	**19 18 59.4**	**-1.5**
JNU	**Nakatsue**	**4.08**	**29**	Pn	**Pn**	**19 19 21.6**	**-0.2**
	baz=287,slow=18,SNR=1.5						
JNU				Sn	Sn	19 20 21.8	+13
	4.3nm,0.3s,baz=251,slow=21,SNR=1.0						
JNU				LR	LR	19 21 12.1	
	comp=Z,460nm,20.1s,baz=222,slow=43						
JMZ	**Minamidaito 2**	**4.43**	**147**	Pn	**Pn**	**19 19 25.6**	**-0.9**
JTU	**Tsushima**	**5.00**	**8**	Pn	**Pn**	**19 19 32.7**	**-1.7**
JMN	**Monobe**	**6.17**	**46**	Pn	**Pn**	**19 19 51.3**	**+0.8**
JHS	**Saijyo**	**6.67**	**34**	Pn	**Pn**	**19 19 57.0**	**-0.4**
KSRS	**Korea Array**	**7.89**	**357**	Pn	**Pn**	**19 20 17.2**	**+3.3**
	0.4nm,0.3s,baz=176,slow=15,SNR=5.5						
KSRS				Sn	**Sn**	**19 21 39.0**	**-2.9**
	0.5nm,0.3s,baz=175,slow=32,SNR=4.0						
KSRS				Lg	Lg	19 22 28.8	
	1.2nm,0.3s,baz=232,slow=35,SNR=1.9						
JWT	**Wachi**	**8.15**	**44**	Pn	**Pn**	**19 20 18.0**	**+0.5**
SSLB	**Suanglung**	**8.88**	**231**	Pn	**Pn**	**19 20 29.1**	**+1.4**
YULB	**Yu-li**	**8.92**	**228**	Pn	**Pn**	**19 20 26.7**	**-1.5**
INU	**Inuyama**	**9.21**	**49**	Pn	**Pn**	**19 20 31.8**	**-0.3**
TPUB	**Ta-pu**	**9.42**	**230**	Pn	**Pn**	**19 20 34.3**	**-0.9**
JGF	**Kuroka**	**9.58**	**49**	Pn	**Pn**	**19 20 38.0**	**+0.7**
JHJ	**Hachijo jima 2**	**10.26**	**67**	LR	LR	19 24 26.3	
	comp=Z,238nm,20.5s,baz=268,slow=36						
MJAR	**Matsushiro Arr**	**10.70**	**47**	Pn	**Pn**	**19 20 53.4**	**+0.9**
	0.0nm,0.3s,baz=217,slow=15,SNR=1.0						
USRK	**Ussuriysk Ar.**	**14.87**	**10**	Pn	**P**	**19

comp=Z,0.2nm,0.3s,baz=295,slow=6.8,SNR=4.4
BCAR Beaver Creek A 63.95 30 P **P** **19 28 50.9 -0.3**
OBN Obninsk 67.37 322 LR LR 20 02 17.2
comp=Z,16nm,19.1s,baz=73,slow=39
FINES FINESS Array B 70.11 330 P **P** **19 29 30.2 0.0**
comp=Z,1.4nm,0.6s,baz=72,slow=4.5,SNR=5.4
AKASG Malin Array Be 73.18 319 P **P** **19 29 49.5 +0.6**
comp=Z,0.2nm,0.4s,baz=58,slow=5.9,SNR=1.5
NB2 NORSAR Subarra 76.45 334 P **P** **19 30 07.3 -0.4**
comp=Z,0.4nm,0.6s,baz=52,slow=5.9
NOA NORSAR Array B 76.45 334 P **P** **19 30 07.4 -0.3**
comp=Z,0.7nm,0.6s,baz=53,slow=5.8,SNR=4.5
BORG Borgarnes 83.09 347 LR LR 20 10 13.7
comp=Z,157nm,19.0s,baz=314,slow=38
KNB Kanab 92.30 45 P **P** **19 31 30.0 +1.2**

TAP 17 19:20:06.0, 24.33N×121.76E, h11km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.10**	**348**	*i* P	Pg	19 20 09.3	+0.6
	baz=352						
ENA				*i* S	Sg	19 20 10.9	+0.1
	baz=352						
ENAH	**Nanao**	**0.13**	**19**	P	Pg	19 20 09.1	0.0
	baz=16						
ENAH				S	Sg	19 20 11.1	-0.3
	baz=16						
NACB	**Ninganchiao**	**0.22**	**225**	P	Pg	19 20 10.4	-0.2
	baz=220						
NACB				S	Sg	19 20 14.2	+0.5
	baz=220						
ETLH	**Xiulin Townshi**	**0.28**	**245**	P	Pg	19 20 12.0	+0.2
	baz=245						
ETLH				S	Sg	19 20 16.2	+0.5
	baz=245						
TWC	**Suao**	**0.29**	**16**	*i* P	Pg	19 20 12.2	+0.3
	baz=12						
TWC				S	Sg	19 20 16.4	+0.5
	baz=12						
TWD	**Chiawan**	**0.29**	**212**	P	Pg	19 20 11.9	0.0
	baz=210						
TWD				*e*S	Sg	19 20 16.2	+0.3
	baz=210						
NDT	**Datong Townshi**	**0.36**	**320**	P	Pb	19 20 13.8	-0.5
	baz=320						
NDT				*e*S	Sb	19 20 19.6	-0.4
	baz=320						
ENTT	**Nioudou**	**0.36**	**330**	*i* P	Pg	19 20 13.8	+0.6
	baz=331						
ENTT				*e*S	Sg	19 20 18.0	0.0
	baz=331						
NNSB	**Datong**	**0.36**	**286**	P	Pg	19 20 13.6	+0.3
	baz=286						
NNSB				S	Sg	19 20 18.5	+0.4
	baz=286						
NNSH	**Datong**	**0.36**	**286**	*e*P	Pg	19 20 13.5	+0.2
	baz=286						
NNS	**Nan Shan**	**0.37**	**287**	P	Pg	19 20 13.8	+0.3
	baz=287						
NNS				*e*S	Sg	19 20 18.8	+0.3
	baz=287						
TWE	**Neicheng**	**0.40**	**347**	P	Pb	19 20 14.7	-0.4
	baz=349						
TWE				*e*S	Sg	19 20 19.6	+0.4
	baz=349						
FUSS	**Fushou**	**0.48**	**260**	*e*P	Pg	19 20 15.8	+0.3
	baz=260						
YHNB	**Yeheng**	**0.49**	**314**	P	Pb	19 20 16.4	-0.3
	baz=314						
YHNB				*e*S	Sb	19 20 23.8	-0.1
	baz=314						
YHNB	**Yeheng**	**0.49**	**314**	Pn	Pb	19 20 16.6	0.0
WHF	**Hehuan Shan**	**0.49**	**248**	*e*P	Pg	19 20 15.7	0.0
	baz=248						
WHF				*e*S	Sg	19 20 22.7	+0.4
	baz=248						
NSK	**Sanguang**	**0.51**	**313**	*e*P	Pb	19 20 16.5	-0.5
	baz=313						
TDCB	**Techi**	**0.56**	**262**	*e*P	Pb	19 20 17.7	-0.1
	baz=262						
ESL	**Shilin**	**0.59**	**211**	P	Pg	19 20 17.3	-0.3
	baz=210						
CHGB	**Renai**	**0.60**	**244**	P	Pb	19 20 18.3	-0.4
	baz=236						
CHGB				S	Sb	19 20 27.2	0.0
	baz=236						
TIPB	**Shuangxi**	**0.64**	**5**	*e*P	Pb	19 20 19.1	-0.2
	baz=5.0						
TIPB				*e*S	Sb	19 20 27.8	-0.5
	baz=5.0						
EGFH	**Guangfu**	**0.73**	**205**	*e*P	Pg	19 20 20.0	0.0
	baz=219						
WHP	**Taichung City**	**0.75**	**266**	*e*P	Pb	19 20 21.0	-0.1
	baz=266						
WHP				S	Sb	19 20 31.2	-0.1
	baz=266						
LIOB	**Emei**	**0.75**	**295**	*e*P	Pb	19 20 21.1	+0.1
	baz=295						
NSTT	**Nanjuang**	**0.76**	**294**	*e*P	Pg	19 20 20.6	-0.1
	baz=293						
VWDT	**VWDT**	**0.81**	**225**	*e*P	Pg	19 20 21.4	-0.2
	baz=230						
SSLB	**Suanglung**	**0.92**	**234**	P	Pg	19 20 23.4	-0.3
	baz=234						
SSLB				*e*S	Sg	19 20 35.8	+0.2
	baz=234						
YULB	**Yu-li**	**1.03**	**205**	*e*P	Pg	19 20 25.1	-0.7
	baz=216						
TWF1	**Yuli**	**1.06**	**204**	*e*P	Pn	19 20 26.7	-0.1
	baz=214						

*IDC **17** 19:29:06.7±1.2, 19.92S×168.24E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/33, mbtmp4.0/10, ML3.2/2, MS3.4/3, Ms1 3.3/3, ms1mx3.0/25, Error ellipse: s-maj=29.1km s-min=24.6km az=87.0*
*NEIC **17** 19:29:10.2±2.5, 20.01S±0.07×168.2E±0.1, h21km±7km, mb4.5/14, Error ellipse: s-maj=20.0km s-min=8.0km az=113.0*
ISC 17 19:29:11.0±0.9, 20.00S±0.07×168.1E±0.1, h27km, n25, σ1@27/23, mb4.3/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.59**	**217**	Pn	**Pn**	**19 29 50.4**	**-0.9**
	3.8nm,0.3s,baz=112,slow=14,SNR=124						
DZM				Sn	**Sn**	**19 30 19.6**	**-2.4**
	17nm,0.3s,baz=131,slow=23,SNR=7.5						
DZM				LR	LR	19 30 31.1	
	comp=Z,333nm,21.0s,baz=12,slow=31						
SANVU	**Saraoutou**	**4.61**	**349**	Pn	**Pn**	**19 30 17.4**	**-1.6**
URZ	**Urewera**	**19.80**	**159**	P	**P**	**19 33 39.1**	**-0.2**
	0.1nm,0.3s,baz=356,slow=16,SNR=2.9						
URZ				LR	LR	19 40 27.2	
	comp=Z,179nm,19.4s,baz=28,slow=34						
URZ	**Urewera**	**19.80**	**159**	IAmb	IAmb	19 34 01.8	
	comp=Z,30nm,1.2s						
CTA	**Charters Tower**	**20.55**	**266**	P	**P**	**19 33 48.1**	**+0.5**
	comp=Z,3.9nm,1.1s,baz=68,slow=11,SNR=1.4						
CTAO	**Charters Tower**	**20.55**	**266**	P	**P**	**19 33 47.3**	**-0.4**
STKA	**Stephens Creek**	**26.55**	**238**	P	**P**	**19 34 47.8**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=53,slow=10,SNR=1.6						
STKA				LR	LR	19 45 37.5	
	comp=Z,79nm,18.5s,baz=25,slow=37						
BBOO	**Buckleboo**	**31.30**	**239**	P	**P**	**19 35 28.5**	**-0.5**
WR0	**Warramunga Arr**	**31.53**	**264**	P	**P**	**19 35 32.8**	**+1.6**
WR0				IAmb	IAmb	19 35 51.0	
	comp=Z,9.0nm,1.4s						
WB0	**Warramunga Arr**	**31.69**	**265**	P	**P**	**19 35 34.4**	**+1.8**
WB0				IAmb	IAmb	19 35 43.2	
	comp=Z,6.9nm,1.3s						
WB2	**Warramunga Arr**	**31.71**	**264**	P	**P**	**19 35 34.3**	**+1.5**
WRA	**Warramunga Arr**	**31.72**	**264**	P	**P**	**19 35 33.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=98,slow=8.3,SNR=6.3						
AS31	**Alice Springs**	**31.93**	**257**	P	**P**	**19 35 36.1**	**+1.4**
ASAR	**Alice Springs**	**31.93**	**257**	P	**P**	**19 35 36.3**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=87,slow=8.9,SNR=37						
MCQ	**Macquarie Isla**	**35.15**	**189**	P	**P**	**19 36 01.7**	**-0.5**
MTN	**Manton Dam**	**36.13**	**276**	P	**P**	**19 36 10.8**	**-0.4**
KNRA	**Kununurra**	**37.66**	**270**	P	**P**	**19 36 24.4**	**+0.3**
KNRA				IAmb	IAmb	19 36 31.0	
	comp=Z,8.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.13**	**265**	P	**P**	**19 36 47.3**	**+2.5**
FITZ				IAmb	IAmb	19 36 51.4	
	comp=Z,7.2nm,0.8s						

QSPA South Pole Qui 70.06 180 P **P** **19 40 21.4 +0.9**
comp=Z,1.8nm,0.9s,baz=3.1,slow=4.4
QSPA South Pole Qui 70.06 180 IAmb IAmb 19 41 09.0
comp=Z,5.9nm,1.4s
PETK Petropavlovsk- 73.36 353 P **P** **19 40 39.4 -0.8**
comp=Z,3.2nm,0.8s,baz=190,slow=7.3,SNR=2.7
CMAR Chiang Mai Arr 77.86 295 P **P** **19 41 07.3 +0.6**
comp=Z,0.4nm,0.8s,baz=124,slow=4.5,SNR=1.3
SONM Songino Array 87.20 324 P **P** **19 41 55.2 +0.3**
comp=Z,1.0nm,0.8s,baz=126,slow=5.6,SNR=5.7
SONM Songino Array 87.20 324 IAmb IAmb 19 41 56.4
comp=Z,1.4nm,1.0s
GERES GERESS Array B 144.64 330 PKP **PKPab** **19 48 44.1 +0.2**
comp=Z,0.6nm,0.8s,baz=48,slow=4.7,SNR=3.6

*IDC **17** 19:58:04.1±0.6, 46.84S×33.57E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/35, mbtmp4.1/15, ML4.2/2, MS3.8/5, Ms1 3.8/5, ms1mx3.2/28, Error ellipse: s-maj=29.1km s-min=14.6km az=65.0*
*NEIC **17** 19:58:05.8±2.0, 46.8S±0.1×33.4E±0.3, h10km±4km, mb4.4/16, Error ellipse: s-maj=27.5km s-min=16.1km az=65.0*
ISC 17 19:58:05.7±0.5, 46.80S±0.09×33.3E±0.1, h10km, n44, σ1@73/28, mb4.0/15, MS3.5/5, 2C-1D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.26**	**322**	P	**Pn**	**20 02 06.9**	**0.0**
	0.7nm,0.3s,baz=314,slow=20,SNR=11						
SUR				S	**Sn**	**20 05 12.6**	**-6.5**
	0.3nm,0.3s,baz=316,slow=23,SNR=1.9						
SUR	**Sutherland**	**17.26**	**322**	IAmb	IAmb	20 02 38.6	
	comp=Z,45nm,1.4s						
BOSA	**Boshof**	**19.20**	**338**	P	**Pn**	**20 02 30.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=166,slow=13,SNR=12						
BOSA	**Boshof**	**19.20**	**338**	IAmb	IAmb	20 02 37.7	
	comp=Z,11nm,0.9s						
SYO	**Syowa Base**	**22.50**	**174**	‖ *e*P	**P**	**20 03 04.0**	**-1.0**
SYO	**Syowa Base**	**22.50**	**174**	‖ *e*P	P	20 03 14.4	+9.4
SYO	**Syowa Base**	**22.50**	**174**	‖ *e*P	P	20 03 16.3	+11
LBTB	**Lobatse**	**22.58**	**342**	P	**P**	**20 03 07.9**	**+1.6**
	comp=Z,6.7nm,0.8s,baz=153,slow=10.0,SNR=7.2						
LBTB				LR	LR	20 10 37.4	
	comp=Z,168nm,18.9s,baz=156,slow=33						
LBTB	**Lobatse**	**22.58**	**342**	*i* P	**P**	**20 03 07.5**	**+1.2**
LBTB	**Lobatse**	**22.58**	**342**	IAmb	IAmb	20 03 25.2	
	comp=Z,20nm,1.1s						
LBTB	**Lobatse**	**22.58**	**342**	*i* P	**P**	**20 03 07.5**	**+1.2**
MAW	**Mawson**	**25.84**	**154**	P	**P**	**20 03 35.5**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=282,slow=7.3,SNR=2.9						
MAW				LR	LR	20 12 23.5	
	comp=Z,81nm,18.3s,baz=241,slow=33						
MATP	**Matopo**	**26.59**	**350**	*i* P	P	20 03 52.5	+8.4
MATP	**Matopo**	**26.59**	**350**	*i* P	P	20 03 52.5	+8.4
BLWY	**Bulawayo**	**26.86**	**350**	*i* P	P	20 03 57.3	+11
BLWY	**Bulawayo**	**26.86**	**350**	*i* P	P	20 03 57.3	+11
SNAA	**Sanae**	**30.12**	**202**	P	**P**	**20 04 16.3**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=45,slow=8.1,SNR=5.7						
SNAA	**Sanae**	**30.12**	**202**	IAmb	IAmb	20 04 44.9	
	comp=Z,8.1nm,1.6s						
BELA	**Belgrano 2**	**40.10**	**198**	P	**P**	**20 05 41.5**	**+0.6**
QSPA	**South Pole Qui**	**43.42**	**180**	P	**P**	**20 06 06.6**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=274,slow=5.2,SNR=4.8						
QSPA	**South Pole Qui**	**43.42**	**180**	IAmb	IAmb	20 06 18.9	
	comp=Z,4.4nm,1.1s						
VNDA	**Vanda**	**51.98**	**168**	P	**P**	**20 07 14.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=246,slow=6.7,SNR=5.8						
VNDA				LR	LR	20 27 38.6	
	comp=Z,40nm,21.2s,baz=192,slow=34						
H10S2	**ASCENSION HYDR**	**55.42**	**297**	T	T	21 08 09.5	
	baz=139,slow=74,SNR=33						
H10S3	**ASCENSION HYDR**	**55.44**	**297**	T	T	21 08 10.7	
	baz=81,slow=74,SNR=126						
USHA	**Ushuaia**	**59.19**	**221**	LR	LR	20 30 03.5	
	comp=Z,379nm,18.6s,baz=90,slow=32						
DBIC	**Dimbokro**	**63.05**	**317**	P	**P**	**20 08 34.9**	**+1.8**
	comp=Z,4.1nm,0.8s,baz=124,slow=11,SNR=2.4						
MORW	**Morawa**	**64.74**	**106**	P	**P**	**20 08 44.5**	**+0.3**
TOA0	**Torodi Ar. Sit**	**66.04**	**326**	P	**P**	**20 08 54.7**	**+2.1**
TORD	**Torodi Ar. Bea**	**66.04**	**326**	P	**P**	**20 08 53.8**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=155,slow=4.5,SNR=7.5						
TORD				LR	LR	20 36 51.3	
	comp=Z,112nm,20.6s,baz=320,slow=35						
TORD	**Torodi Ar. Bea**	**66.04**	**326**	P	**P**	**20 08 54.9**	**+2.3**
STKA	**Stephens Creek**	**78.59**	**125**	P	**P**	**20 10 06.9**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=231,slow=4.9,SNR=11						
STKA	**Stephens Creek**	**78.59**	**125**	IAmb	IAmb	20 10 07.9	
	comp=Z,1.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**78.63**	**104**	P	**P**	**20 10 08.0**	**+0.1**
FITZ				IAmb	IAmb	20 10 08.9	
	comp=Z,4.1nm,0.7s						
ASAR	**Alice Springs**	**80.00**	**114**	P	**P**	**20 10 14.2**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=223,slow=5.1,SNR=22						
AS31	**Alice Springs**	**80.01**	**114**	P	**P**	**20 10 15.6**	**+0.1**
WRA	**Warramunga Arr**	**82.99**	**112**	P	**P**	**20 10 30.0**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=214,slow=3.7,SNR=13						
HRA	**Herat**	**84.92**	**24**	P	**P**	**20 10 41.0**	**+0.2**
HRA				IAmb	IAmb	20 10 42.5	
	comp=Z,4.9nm,0.9s						
BRTR	**Keskin Array B**	**86.14**	**0**	P	**P**	**20 10 46.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=174,slow=5.8,SNR=2.5						
GEYT	**Alibeck**	**87.24**	**19**	P	**P**	**20 10 52.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=186,slow=2.8,SNR=5.3						
GEYT	**Alibeck**	**87.24**	**19**	IAmb	IAmb	20 10 54.3	
	comp=Z,2.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**87.72**	**60**	P	**P**	**20 10 53.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=232,slow=5.4,SNR=1.7						
TXAR	**Lajitas Array**	**142.40**	**258**	PKhKP	PKPpre	20 17 34.9	
	comp=Z,0.8nm,0.8s,baz=132,slow=5.4,SNR=7.1						
ULM	**Lac du Bonnet**	**146.66**	**295**	PKPbc	**PKPbc**	**20 17 46.6**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=90,slow=5.1,SNR=2.2						
PDAR	**Pinedale Array**	**153.46**	**275**	PKPbc	**PKPbc**	**20 18 03.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=95,slow=4.8,SNR=2.2						

IDC 17 20:17:30.2±7.1, 18.60S×176.26W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/30, mbtmp3.6/2, Error ellipse: s-maj=374.9km s-min=55.8km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.52**	**260**	P	P	20 25 58.6	-1.2
	0.4nm,1.0s,baz=98,slow=6.8,SNR=4.8						
ASAR	**Alice Springs**	**46.57**	**255**	P	P	20 26 00.8	+0.6
	0.9nm,0.5s,baz=89,slow=8.2,SNR=32						
GERES	**GERESS Array B**	**148.77**	**347**	PKPbc	PKPbc	20 37 19.3	-0.5
	0.2nm,0.4s,baz=40,slow=3.2,SNR=2.1						

*NEIC **17** 20:24:07.6±1.7, 55.29S±0.1×28.2W±0.2, h124km±6km, mb4.4/12, Error ellipse: s-maj=19.9km s-min=14.4km az=200.0*
*IDC **17** 20:24:10.8±7.2, 55.92S×28.22W, h155km±64km, mb3.7/3, mb1 3.7/4, mb1mx3.4/22, mbtmp4.1/4, Error ellipse: s-maj=35.9km s-min=26.1km az=79.0*
ISC 17 20:24:09.6±0.6, 55.90S±0.10×28.52W±0.09, h150km, n25, σ1@34/24, mb4.1/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.86**	**286**	Pn	**Pn**	**20 25 21.4**	**+0.4**
HOPE				Sn	**Sn**	**20 26 13.2**	**-3.4**
VNA3	**Neumayer Olymp**	**17.39**	**160**	P	**Pn**	**20 28 01.8**	**-0.9**
VNA2	**Neumayer--Watz**	**17.62**	**157**	P	P	**20 28 03.8**	**-0.4**
	baz=314,slow=13						
SNAA	**Sanae**	**19.18**	**155**	P	**P**	**20 28 20.7**	**-0.7**
SNAA	**Sanae**	**19.18**	**155**	P	**P**	**20 28 20.5**	**-0.8**
	0.7nm,0.3s,baz=324,slow=12,SNR=78						
SNAA	**Sanae**	**19.18**	**155**	P	**P**	**20 28 20.4**	**-0.9**
BELA	**Belgrano 2**	**22.18**	**183**	P	**P**	**20 28 54.0**	**+1.0**
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**20 30 42.8**	**+1.1**
	1.5nm,0.5s,baz=212,slow=11,SNR=11						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**20 30 43.5**	**+1.8**
BOSA	**Boshof**	**46.66**	**77**	P	**P**	**20 32 20.2**	**-2.8**
VNDA	**Vanda**	**46.69**	**183**	P	**P**	**20 32 22.1**	**-0.3**
LPAZ	**La Paz**	**49.69**	**307**	P	**P**	**20 32 48.6**	**+1.8**
	0.6nm,0.4s,baz=146,slow=7.3,SNR=2.5						
LPAZ	**La Paz**	**49.69**	**307**	IAmb	IAmb	20 32 50.6	
	comp=Z,6.1nm,1.6s						
LSZ	**Lusaka**	**59.02**	**70**	P	**P**	**20 33 53.4**	**-0.3**
LSZ				IAmb	IAmb	20 34 19.3	
	comp=Z,6.5nm,1.1s						

FOMA Nahampoana Res 61.64 93 P **P** **20 34 11.0 -0.3**
DBIC Dimbokro 65.35 26 P **P** **20 34 36.4 +0.8**
DBIC IAmb IAmb 20 34 36.8
comp=Z,16nm,1.4s
KOWA Kowa 73.09 25 P **P** **20 35 25.4 +2.2**
KOWA IAmb IAmb 20 35 43.5
comp=Z,16nm,1.6s
TOA0 Torodi Ar. Sit 73.30 31 P **P** **20 35 25.2 +0.7**
TOA0 IAmb IAmb 20 35 26.0
comp=Z,3.9nm,1.1s
TORD Torodi Ar. Bea 73.30 31 P **P** **20 35 25.0 +0.5**
comp=Z,2.1nm,0.6s,baz=201,slow=6.3,SNR=18
TORD Torodi Ar. Bea 73.30 31 IAmb IAmb 20 35 26.0
comp=Z,1.8nm,0.9s
FINES FINESS Array B 124.60 28 PKP **PKPdf** **20 42 49.6 +0.1**
comp=Z,0.9nm,0.4s,baz=192,slow=1.3,SNR=13
ARCES ARCESS Array B 131.08 22 PKP **PKPdf** **20 43 01.6 -0.1**
comp=Z,1.1nm,0.6s,baz=238,slow=1.7,SNR=5.3
ILAR Eielson Array 149.46 312 PKPbc **PKPbc** **20 43 39.5 +0.1**
comp=Z,3.0nm,1.0s,baz=127,slow=1.4,SNR=17
SONM Songino Array 151.46 87 PKPbc **PKPbc** **20 43 44.9 +0.1**
comp=Z,2.0nm,0.5s,baz=220,slow=3.9,SNR=14
SONM Songino Array 151.46 87 **PKiKP** **20 43 45.1 -0.1**

IDC 17 20:39:44.6±3.1, 7.25N×93.90E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/41, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=102.5km s-min=29.5km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.18**	**23**	Pn	Pn	20 42 40.2	+0.6
	0.1nm,0.3s,baz=208,slow=14,SNR=2.2						
H08S3	**Diego Garcia H**	**25.97**	**236**	T	T	21 12 11.4	
	baz=54,slow=75,SNR=68						
H08S2	**Diego Garcia H**	**25.97**	**236**	T	T	21 12 08.6	
	baz=54,slow=75,SNR=34						
H08S1	**Diego Carcia H**	**25.99**	**236**	T	T	21 12 12.8	
	baz=54,slow=75,SNR=46						
ZALV	**Zalesovo Beam**	**47.15**	**353**	P	P	20 48 18.2	-0.4
	0.3nm,0.3s,baz=169,slow=6.9,SNR=2.4						
WRA	**Warramunga Arr**	**48.09**	**125**	P	P	20 48 27.1	+0.5
	0.2nm,0.5s,baz=306,slow=8.6,SNR=2.4						
ASAR	**Alice Springs**	**49.70**	**129**	P	P	20 48 38.4	-0.5
	0.3nm,0.6s,baz=304,slow=7.8,SNR=9.5						

IDC 17 20:48:14.6±338.0, 37.98N×117.82W, h0km, Error ellipse: s-maj=154.5km s-min=95.3km az=159.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.59**	**320**	*i*		20 46 38.7	
	3.8nm,0.3s,baz=237,slow=21,SNR=44						
I57US	**PINON FLAT INF**	**4.50**	**165**	*i*		21 17 30.0	
	baz=344,slow=314,SNR=3.5						
I56US	**NEWPORT INFRAS**	**10.30**	**3**	*i*		21 48 50.0	
	baz=179,slow=316,SNR=1.5						
I10CA	**LAC DU BONNET**	**19.77**	**45**	*i*		22 53 20.0	
	baz=236,slow=328,SNR=0.9						

*IDC **17** 20:57:16.2±4.5, 24.41S×113.55W, h0km, mb3.6/2, mb1 4.1/2, mb1mx3.5/27, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/22, Error ellipse: s-maj=328.9km s-min=58.7km az=107.0*
ISC 17 20:57:17.2±3.8, 24.5S±0.7×11°4W±°, h10km, n7, σ0@67/6, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**39.39**	**125**	LR	LR	21 18 00.7	
	comp=Z,52nm,19.1s,baz=336,slow=32						
NVAR	**Mina Array Bea**	**62.70**	**356**	P	**P**	**21 07 42.8**	**+0.3**
	1.0nm,0.8s,baz=185,slow=9.1,SNR=4.5						
PDAR	**Pinedale Array**	**67.00**	**3**	P	**P**	**21 08 10.6**	**+0.2**
	0.2nm,0.5s,baz=174,slow=9.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**147.44**	**340**	PKPbc	**PKPab**	**21 17 02.1**	**-0.9**
	1.9nm,0.9s,baz=20,slow=4.6,SNR=5.8						
CMAR	**Chiang Mai Arr**	**149.09**	**265**	PKPbc	**PKPbc**	**21 17 06.9**	**+0.5**
	0.2nm,0.6s,baz=93,slow=1.8,SNR=2.0						
KURBB	**Kurchatov Arra**	**152.21**	**343**	PKPbc	**PKiKP**	**21 17 13.4**	**+0.2**
	0.6nm,0.3s,baz=29,slow=1.4,SNR=1.8						
MKAR	**Makanchi Array**	**154.30**	**334**	PKPbc	**PKPbc**	**21 17 17.2**	**-0.4**
	0.3nm,0.7s,baz=32,slow=2.8,SNR=2.9						

*NEIC **17** 21:03:25.0±2.2, 12.13N±0.08×57.89E±0.08, h10km±1km, mb4.5/13, Error ellipse: s-maj=17.4km s-min=8.7km az=135.0*
*IDC **17** 21:03:24.3±1.3, 12.06N×58.05E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/46, mbtmp3.7/7, ML3.6/1, MS2.6/2, Ms1 2.7/2, ms1mx2.4/36, Error ellipse: s-maj=36.4km s-min=27.1km az=117.0*
ISC 17 21:03:26.1±0.7, 12.19N±0.08×57.86E±0.08, h16km, n29, σ1@62/27, mb4.3/11, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**3.78**	**270**		**Pn**	**21 04 24.3**	**+0.5**
SOCY				Sn	**Sn**	**21 05 06.4**	**-1.6**
WSAR	**Wadi Sarin**	**11.01**	**4**	Pn	**Pn**	**21 06 04.4**	**+1.4**
	0.4nm,0.3s,baz=235,slow=12,SNR=6.9						
WSAR				Sn	**Sn**	**21 08 01.4**	**-4.5**
	0.1nm,0.3s,baz=149,slow=19,SNR=1.3						
UOSS	**Minazif**	**12.78**	**353**	Pn	**Pn**	**21 06 28.7**	**+1.5**
FURI	**Furi**	**19.13**	**262**	P	**P**	**21 07 47.8**	**-1.3**
FURI				IAmb	IAmb	21 07 49.2	
	comp=Z,19nm,0.4s						
KMBO	**Kilima Mbogo**	**24.37**	**239**	P	**P**	**21 08 45.8**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=51,slow=12,SNR=1.6						
KMBO	**Kilima Mbogo**	**24.37**	**239**	P	**P**	**21 08 43.8**	**-0.2**
BTK	**Batken**	**30.02**	**20**	P	**P**	**21 09 34.4**	**0.0**
ARTV	**Artvin**	**32.08**	**337**	P	**P**	**21 09 54.2**	**+1.6**
ARTV				IAmb	IAmb	21 09 57.3	
	comp=Z,9.2nm,1.1s						
KKAR	**Karatay Array**	**32.69**	**17**	P	**P**	**21 09 59.3**	**+1.6**
ABPO	**Ambohimpanom**	**32.73**	**199**	P	**P**	**21 09 57.7**	**-0.7**
ABPO				IAmb	IAmb	21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**166**	P	P	21 26 50.1	+0.1
	0.6nm,0.3s,baz=346,slow=11,SNR=21						
ASAR	**Alice Springs**	**27.02**	**169**	P	P	21 27 22.0	-0.3
	0.4nm,0.6s,baz=356,slow=7.9,SNR=10						
CMAR	**Chiang Mai Arr**	**32.84**	**300**	P	P	21 28 14.2	+0.3
	0.2nm,0.4s,baz=125,slow=7.2,SNR=2.9						
KSRS	**Korea Array**	**34.27**	**359**	LR	LR	21 42 48.8	
	comp=Z,23nm,18.2s,baz=104,slow=37						
MKAR	**Makanchi Array**	**59.21**	**325**	P	P	21 31 41.1	-0.1
	0.2nm,0.4s,baz=108,slow=7.8,SNR=6.4						
AKASG	**Malin Array Be**	**93.62**	**321**	LR	LR	22 20 10.7	
	comp=Z,68nm,18.7s,baz=240,slow=38						

NEIC ***17*** *21:23:25.7±1.4, 17°.4S±0°.1×178°.9W±0°.1, h536km±8km, mb4.2/46, Error ellipse: s-maj=20.8km s-min=16.0km az=151.0*

IDC ***17*** *21:23:25.7±2.6, 17°.40S×178°.97W, h533km±25km, mb3.5/12, mb1 3.7/12, mb1mx3.4/36, mbtmp4.4/12, Error ellipse: s-maj=31.4km s-min=15.1km az=139.0*

ISC 17 21:23:25.9±0.5, **17°.4S**±0°.1×**178°.90W**±0°.09, **h539**km, **n110,** σ0**69**/108, **mb4.2**/34, **9C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.92**	**263**	P	P	21 24 42.7	+3.0
AFI	**Afiamalu**	**7.70**	**64**	P	P	21 25 19.9	-0.6
NIUE	**Niue**	**8.68**	**102**	P	P	21 25 30.3	+0.1
SANVU	**Saraoutou**	**13.48**	**276**	P	P	21 26 20.5	+0.6
DZM	**Mont Dzumac**	**14.55**	**249**	P	P	21 26 31.6	+0.6
QRZ	**Quartz Range**	**24.47**	**196**	P	P	21 28 02.9	+0.5
LTZ	**Lake Taylor**	**26.37**	**195**	P	P	21 28 18.2	-1.0
EIDS	**Eidsvold**	**29.00**	**249**	P	P	21 28 42.2	-0.3
EIDS				IAmb	IAmb	21 28 44.5	
	comp=Z,6.5nm,1.1s						
ARMA	**Armidale**	**29.78**	**239**	P	P	21 28 49.9	+0.6
ARMA				IAmb	IAmb	21 28 50.4	
	comp=Z,6.4nm,0.6s						
MLZ	**Mavora Lakes**	**29.90**	**199**	P	P	21 28 50.0	0.0
CTA	**Charters Tower**	**33.07**	**260**	P	P	21 29 16.4	-1.0
	comp=Z,1.8nm,0.3s,baz=82,slow=10,SNR=2.4						
CTAO	**Charters Tower**	**33.07**	**260**	P	P	21 29 16.2	-1.1
CTAO				IAmb	IAmb	21 29 22.0	
	comp=Z,9.6nm,1.1s						
CAN	**Canberra**	**33.63**	**232**	P	P	21 29 22.0	+0.1
CAN				IAmb	IAmb	21 29 40.6	
	comp=Z,6.4nm,1.1s						
COEN	**Coen**	**36.63**	**270**	P	P	21 29 47.3	+0.1
COEN				IAmb	IAmb	21 29 48.2	
	comp=Z,7.3nm,0.8s						
TOO	**Toolangi**	**37.12**	**230**	P	P	21 29 51.6	+0.7
TOO				IAmb	IAmb	21 29 52.5	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**38.46**	**240**	P	P	21 30 02.2	+0.3
	comp=Z,4.0nm,0.4s,baz=94,slow=10,SNR=17						
STKA	**Stephens Creek**	**38.46**	**240**	P	P	21 30 02.3	+0.5
BBOO	**Buckleboo**	**43.23**	**240**	P	P	21 30 39.7	-0.1
WR0	**Warramunga Arr**	**44.07**	**259**	P	P	21 30 45.6	-1.0
WB0	**Warramunga Arr**	**44.23**	**259**	P	P	21 30 46.6	-1.1
WB0				IAmb	IAmb	21 30 51.1	
	comp=Z,3.2nm,0.7s						
WB2	**Warramunga Arr**	**44.25**	**259**	P	P	21 30 46.9	-1.0
WRAB	**Tennant Creek**	**44.25**	**259**	P	P	21 30 46.9	-1.0
WRAB				IAmb	IAmb	21 30 48.0	
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**	**44.26**	**259**	P	P	21 30 46.6	-1.4
	comp=Z,1.7nm,0.3s,baz=94,slow=7.8,SNR=97						
WRA				PcP	PcP	21 32 20.6	-0.1
	comp=Z,0.8nm,0.7s,baz=94,slow=3.5,SNR=5.6						
WRA				ScP	ScP	21 35 21.2	-0.4
	comp=Z,0.3nm,1.0s,baz=91,slow=3.7,SNR=1.4						
AS31	**Alice Springs**	**44.47**	**254**	P	P	21 30 49.3	-0.4
ASAR	**Alice Springs**	**44.47**	**254**	P	P	21 30 49.2	-0.4
	comp=Z,17nm,0.4s,baz=88,slow=8.0,SNR=401						
ASAR				PcP	PcP	21 32 21.1	-0.3
	comp=Z,1.1nm,0.5s,baz=107,slow=3.7,SNR=6.3						
ASAR				ScP	ScP	21 35 23.2	+0.8
	comp=Z,0.5nm,0.8s,baz=93,slow=4.8,SNR=3.4						
ASAR	**Alice Springs**	**44.47**	**254**	P	P	21 30 48.9	-0.7
MTN	**Manton Dam**	**48.34**	**268**	P	P	21 31 18.6	-0.4
MTN				IAmb	IAmb	21 31 19.4	
	comp=Z,9.4nm,0.7s						
FORT	**Forrest**	**49.79**	**244**	P	P	21 31 29.0	-0.5
FORT				IAmb	IAmb	21 31 29.5	
	comp=Z,11nm,0.7s						
FAKI	**Fak Fak**	**50.02**	**281**	P	P	21 31 30.9	-0.5
FAKI				IAmb	IAmb	21 31 48.1	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**50.07**	**264**	P	P	21 31 31.3	-0.4
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	P	21 31 50.4	0.0
	comp=Z,3.3nm,0.4s,baz=84,slow=4.5,SNR=34						
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	P	21 31 50.5	+0.1
SOEI	**Soe**	**55.60**	**270**	P	P	21 32 11.9	+0.5
PSA00	**Pilbara Seismi**	**57.58**	**255**	P	P	21 32 24.3	-0.5
PSA00				IAmb	IAmb	21 32 25.8	
	comp=Z,10nm,1.1s						
NWAO	**Narrogin (SRO)**	**59.03**	**242**	P	P	21 32 33.5	-0.9
NWAO				IAmb	IAmb	21 32 36.6	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**59.03**	**242**	P	P	21 32 34.0	-0.3
NWAO				IAmb	IAmb	21 32 36.6	
	comp=Z,9.9nm,1.1s						
MORW	**Morawa**	**60.25**	**246**	P	P	21 32 41.9	-0.6
GIRL	**Giralia**	**62.59**	**253**	P	P	21 32 58.5	+0.6
JAGI	**Jajag, Banyuwa**	**65.58**	**268**	P	P	21 33 15.8	-1.3
MJAR	**Matsushiro Arr**	**67.24**	**324**	P	P	21 33 26.9	0.0
	comp=Z,2.8nm,0.7s,baz=164,slow=5.9,SNR=7.7						
MAJO	**Matsushiro**	**67.24**	**324**	P	P	21 33 27.3	+0.4
MAJO				IAmb	IAmb	21 33 27.6	
	comp=Z,12nm,1.1s						
KKM	**Kota Kinabalu**	**68.17**	**284**	P	P	21 33 32.7	-0.4
KKM				IAmb	IAmb	21 33 34.1	
	comp=Z,9.3nm,0.8s						
UGM	**Wanagama**	**69.19**	**268**	P	P	21 33 38.8	-0.5
JHS	**Saijyo**	**69.22**	**319**	P	P	21 33 39.8	+0.8
JHS				IAmb	IAmb	21 33 44.5	
	comp=Z,10nm,1.1s						
SSLB	**Suanglung**	**71.58**	**303**	P	P	21 33 52.8	-0.4
SSLB				IAmb	IAmb	21 33 59.8	
	comp=Z,7.0nm,1.0s						
TPUB	**Ta-pu**	**71.60**	**303**	P	P	21 33 52.6	-0.7
CISI	**Cisompet, Garu**	**71.87**	**268**	P	P	21 33 54.1	-1.0
LEM	**Lembang**	**72.26**	**268**	P	P	21 33 56.8	-0.7
	comp=Z,18nm,0.4s,baz=163,slow=19,SNR=3.5						
PETK	**Petropavlovsk-**	**73.09**	**346**	P	P	21 34 01.4	+0.2
	comp=Z,5.7nm,0.9s,baz=160,slow=4.6,SNR=2.6						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	P	21 34 37.2	+0.6
	comp=Z,0.7nm,0.7s,baz=229,slow=9.3,SNR=6.4						
SUA	**Susitna One**	**81.77**	**13**	P	P	21 34 48.5	+0.4
SUA				IAmb	IAmb	21 34 58.5	
	comp=Z,9.3nm,1.1s						
M24K	**Tolsona, Glenn**	**83.39**	**15**	P	P	21 34 57.2	+1.0
M24K				IAmb	IAmb	21 35 04.6	
	comp=Z,8.1nm,1.0s						
GLB	**Gilahina Butte**	**83.43**	**16**	P	P	21 34 56.7	+0.3
GLB				IAmb	IAmb	21 34 57.1	
	comp=Z,3.7nm,0.6s						
KTH	**Kantishna Hill**	**83.60**	**12**	P	P	21 34 56.7	-0.6
TRF	**Thorofare Moun**	**83.64**	**13**	P	P	21 34 57.4	-0.2
TRF				IAmb	IAmb	21 34 58.3	
	comp=Z,4.6nm,0.7s						
RND	**Reindeer**	**83.90**	**13**	P	P	21 34 59.1	+0.3
RND				IAmb	IAmb	21 34 59.6	
	comp=Z,3.3nm,0.6s						
DHY	**Denali Highway**	**83.94**	**14**	P	P	21 34 59.1	0.0
MAW	**Mawson**	**84.16**	**200**	P	P	21 35 00.0	0.0
	comp=Z,1.3nm,0.5s,baz=135,slow=6.9,SNR=10						
MAW	**Mawson**	**84.16**	**200**	P	P	21 35 01.3	+1.3
WRH	**Wood River Hil**	**85.00**	**13**	P	P	21 35 04.1	0.0
CCB	**Clear Creek Bu**	**85.22**	**13**	P	P	21 35 04.7	-0.3
IMAR	**Indian Mountai**	**85.28**	**10**	P	P	21 35 05.8	+0.4
IL31		**85.52**	**13**	P	P	21 35 06.5	0.0
ILAR	**Eielson Array**	**85.52**	**13**	P	P	21 35 06.5	-0.1
	comp=Z,0.5nm,0.4s,baz=230,slow=5.8,SNR=5.3						
EGAK	**Eagle**	**86.87**	**15**	P	P	21 35 13.4	+0.5
PDAR	**Pinedale Array**	**87.32**	**44**	P	P	21 35 16.1	+0.2
	comp=Z,0.6nm,0.6s,baz=207,slow=5.8,SNR=2.1						
CMAR	**Chiang Mai Arr**	**88.28**	**290**	P	P	21 35 20.5	-0.1
	comp=Z,0.8nm,0.7s,baz=101,slow=3.1,SNR=8.5						
CMAR	**Chiang Mai Arr**	**88.28**	**290**		P	21 35 21.8	+1.2
MKAR	**Makanchi Array**	**108.46**	**314**	PKiKP	**PKiKP**	21 40 52.0	-1.4
	comp=Z,0.2nm,0.5s,baz=121,slow=0.6,SNR=6.1						
ARCES	**ARCESS Array B**	**125.75**	**350**	PKP	**PKPdf**	**21 41 25.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**132.59**	**344**	PKP	**PKPdf**	**21 41 39.5**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=159,slow=5.9,SNR=4.0						
TLCR		**143.91**	**326**	⇑P	PKPbc	21 41 59.0	-0.3
BUR08	**Bucovina Ar. S**	**143.95**	**332**		**PKPdf**	**21 42 00.8**	**+0.5**
BURAR	**Bucovina Array**	**143.97**	**332**	⇑P	**PKPdf**	**21 42 00.8**	**+0.6**
BURAR	**Bucovina Array**	**143.97**	**332**		**PKPdf**	**21 42 00.5**	**+0.3**
BIZ	**Bicaz**	**144.06**	**330**	⇑P	**PKPdf**	**21 42 01.0**	**+0.7**
BRTR	**Keskin Array B**	**144.11**	**315**	PKP	PKPbc	21 41 59.7	-0.6
	comp=Z,1.3nm,0.5s,baz=108,slow=4.5,SNR=6.1						
BRTR	**Keskin Array B**	**144.11**	**315**		PKPbc	21 42 00.4	+0.1
CFR	**Carcaliu**	**144.27**	**327**	⇑P	**PKPab**	**21 42 00.7**	**0.0**
VRI	**Vrincioaia**	**144.52**	**329**	⇓P	**PKPdf**	**21 42 00.6**	**-0.6**
PLOR	**Plostina**	**144.57**	**329**	⇑P	PKPbc	21 42 01.6	+0.2
HARR	**Harsova**	**144.71**	**326**	⇓P	**PKPab**	**21 42 02.6**	**+0.2**
TLBR	**Topalu**	**144.74**	**326**	⇓P	PKPbc	21 42 02.2	+0.4
OSTC	**Ostas**	**144.79**	**343**	*e*PKP	**PKPab**	**21 42 02.6**	**0.0**
CHVC	**Chvalec**	**144.81**	**343**	*e*PKP	**PKPab**	**21 42 02.7**	**0.0**
CLL	**Collm**	**144.89**	**347**	⇓*i*PKPbc	PKPbc	21 42 02.4	+0.3
	comp=Z,8.0nm,0.7s						
DPC	**Dobruska-Polom**	**144.95**	**343**	*e*PKP	**PKPab**	**21 42 03.4**	**+0.2**
KRLC	**Kraliky**	**145.06**	**342**	*e*PKP	**PKPbc**	**21 42 02.7**	**-0.1**
DOPR	**Dopca**	**145.10**	**330**	⇓P	**PKPab**	**21 42 04.3**	**+0.4**
MLR	**Muntele Rosu**	**145.17**	**329**	⇑P	**PKPbc**	**21 42 03.5**	**+0.2**
PVCC	**Panska Ves**	**145.25**	**345**	*e*PKP	**PKPab**	**21 42 04.6**	**+0.3**
VOIR		**145.65**	**330**	⇑P	**PKPdf**	**21 42 03.0**	**-0.1**
PRU	**Pruhonice**	**145.75**	**345**	*e*PKP	**PKPbc**	**21 42 05.3**	**+0.6**
ARR	**Arges**	**145.90**	**330**	⇑P	**PKPab**	**21 42 06.8**	**-0.4**
KHC	**Kasperske Hory**	**146.79**	**345**	*e*PKP	**PKPdf**	**21 42 02.5**	**-2.4**
KHC				*ex*	x	21 42 08.5	
GERES	**GERESS Array B**	**147.02**	**345**	PKPbc	**PKPbc**	**21 42 08.2**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=24,slow=3.0,SNR=16						
BZS	**Buzias**	**147.09**	**333**	⇑P	**PKPbc**	**21 42 09.0**	**+0.5**
CONA	**Conrad Observa**	**147.25**	**342**	*i* P	**PKiKP**	**21 42 10.2**	**-0.6**
	comp=Z,4.3nm,0.7s						
MOA	**Molln**	**147.79**	**343**	*e*P	**PKPbc**	**21 42 09.5**	**-0.8**
	comp=Z,7.9nm,1.8s						
SOKA	**Soboth**	**148.63**	**341**	*e*P	**PKPbc**	**21 42 12.7**	**+0.2**
	comp=Z,3.4nm,1.2s						
OBKA	**Obir**	**148.92**	**342**	*e*P	**PKPbc**	**21 42 13.2**	**-0.1**
	comp=Z,9.7nm,1.8s						
WATA	**Walderalm**	**148.94**	**346**	*i* P	**PKPbc**	**21 42 13.8**	**+0.4**
	comp=Z,2.0nm,0.5s						
RETA	**Reutte**	**148.98**	**347**	*i* P	**PKiKP**	**21 42 13.9**	**-0.3**
	comp=Z,2.3nm,0.6s						
WTTA	**Wattenberg**	**149.00**	**346**	*i* P	**PKiKP**	**21 42 14.2**	**-0.3**
	comp=Z,4.4nm,0.4s						
MOTA	**Moosalm**	**149.04**	**347**	*e*P	**PKPbc**	**21 42 14.0**	**+0.4**
	comp=Z,1.6nm,0.4s,SNR=4.1						
SQTA	**Sankt Quirin**	**149.13**	**347**	*e*P	**PKiKP**	**21 42 14.4**	**-0.3**
	comp=Z,3.7nm,0.5s,SNR=4.8						
ABTA	**Abfaltersbach**	**149.27**	**345**	*e*P	**PKPbc**	**21 42 14.1**	**0.0**
	comp=Z,4.0nm,0.6s,SNR=5.1						
DAVA	**Damuels**	**149.35**	**348**	*e*P	**PKiKP**	**21 42 14.9**	**-0.2**
	comp=Z,11nm,1.3s						
FETA	**Feichten**	**149.43**	**347**	*i* P	**PKiKP**	**21 42 15.2**	**-0.1**
	comp=Z,4.2nm,1.0s						
CIMO	**Cimolais**	**149.69**	**344**		**PKPbc**	**21 42 15.0**	**0.0**

IDC ***17*** *21:38:34.8±1.9, 8°.32S×109°.00E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/39, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=136.4km s-min=24.8km az=43.0*

DJA ***17*** *21:38:38.9±0.7, 8°.S±4°×10°.9E±°, h29km±5km, M3.5/13, MLv3.5/13*

ISC 17 21:38:39.4±1.1, **8°.35S**±0°.09×**108°.71E**±0°.05, **h55**km, **n18,** σ0**91**/19, **mb3.2**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.62**	**336**	P	Pn	21 38 51.9	-0.5
CMJI				S	Sn	21 39 00.4	-1.4
KPJI	**Karang Pucung**	**1.03**	**12**	P	Pn	21 38 58.5	+0.7
KPJI				S	Sn	21 39 11.8	+0.5
CISI	**Cisompet, Garu**	**1.18**	**312**	P	Pn	21 38 59.6	-0.2
CISI				S	Sn	21 39 13.1	-1.9
YOGI	**Yogyakarta**	**1.66**	**72**	P	Pn	21 39 05.1	-1.1
UGM	**Wanagama**	**1.85**	**77**	P	Pn	21 39 09.0	+0.1
LEM	**Lembang**	**1.86**	**324**	Pn	Pn	21 39 10.2	+1.2
	16nm,0.3s,baz=77,slow=12,SNR=9.6						
LEM				Sn	Sn	21 39 32.5	+0.9
	10nm,0.3s,baz=132,slow=22,SNR=4.7						
LEM	**Lembang**	**1.86**	**324**	P	Pn	21 39 08.0	-1.1
CNJI	**Cibinong**	**1.87**	**303**	P	Pn	21 39 09.0	-0.1
SMRI	**Semarang**	**2.15**	**53**	P	Pn	21 39 12.3	-0.6
WOJI	**Wonogiri, Jawa**	**2.25**	**77**	P	Pn	21 39 13.3	-1.0
PWJI	**Pagerwojo**	**3.08**	**84**	P	Pn	21 39 26.1	+0.4
CGJI	**Cibinong**	**3.45**	**300**	P	Pn	21 39 30.9	+0.2
WRA	**Warramunga Arr**	**27.35**	**118**	P	P	21 44 19.9	+0.2
	0.1nm,0.5s,baz=291,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**28.53**	**125**	P	P	21 44 30.4	+0.2
	0.3nm,0.5s,baz=300,slow=8.8,SNR=8.4						
H08S2	**Diego Garcia H**	**35.86**	**268**	T	T	22 23 29.7	
	baz=95						
H08S3	**Diego Garcia H**	**35.87**	**269**	T	T	22 23 26.5	
	baz=95						
H08S1	**Diego Carcia H**	**35.88**	**268**	T	T	22 23 27.2	
	baz=95						
STKA	**Stephens Creek**	**38.49**	**132**	P	P	21 45 57.0	+0.5
	1.0nm,0.5s,baz=308,slow=7.5,SNR=5.2						

IDC 17 21:47:36.3±3.0, **7°.65N×93°.69E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/44, mbtmp3.2/3, ML3.6/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=89.5km s-min=34.9km az=64.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.10**	**132**	LR	LR	21 51 56.4	
	comp=Z,162nm,18.6s,baz=348,slow=36						
CMAR	**Chiang Mai Arr**	**11.90**	**25**	Pn	Pn	21 50 28.1	+0.8
	0.1nm,0.3s,baz=212,slow=14,SNR=2.5						
H08S3	**Diego Garcia H**	**26.03**	**235**	T	T	22 20 06.0	
	baz=54,slow=75,SNR=10						
H08S2	**Diego Garcia H**	**26.03**	**235**	T	T	22 20 01.8	
	baz=54,slow=75,SNR=6.5						
H08S1	**Diego Carcia H**	**26.05**	**235**	T	T	22 20 06.5	
	baz=54,slow=75,SNR=5.2						
MKAR	**Makanchi Array**	**40.21**	**348**	P	P	21 55 14.1	-0.5
	0.4nm,0.7s,baz=157,slow=7.7,SNR=3.7						
WRA	**Warramunga Arr**	**48.50**	**125**	P	P	21 56 21.3	0.0
	0.3nm,0.9s,baz=305,slow=8.7,SNR=2.3						
AKTO	**Aktyubinsk**	**51.93**	**332**	LR	LR	22 18 58.7	
	comp=Z,10nm,20.3s,baz=296,slow=36						

GII ***17*** *22:09:51.8±0.0, 36°.64N×21°.50E, h10km*

ATH ***17*** *22:09:51.9, 37°.23N×20°.97E, h26km±1km, ML3.5/10, Error ellipse: s-maj=2.4km s-min=0.8km az=43.0*

THE ***17*** *22:09:52.3, 37°.23N×20°.97E, h0km±1km, ML3.4/9, Error ellipse: s-maj=2.0km s-min=0.5km az=225.0*

IDC ***17*** *22:09:52.7±5.1, 37°.35N×21°.05E, h28km±40km, mb3.6/10, mb1 3.7/18, mb1mx3.5/56, mbtmp3.7/18, ML3.5/8, MS3.1/4, Ms1 3.1/4, ms1mx2.6/32, Error ellipse: s-maj=17.7km s-min=14.0km az=2.0*

ISC 17 22:09:53.3±1.1, **37°.22N**±0°.04×**20°.93E**±0°.04, **h38**km±2km, **n194,** σ1**972**/205, **mb3.7**/10, **8C-9D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	**Volimes, Zakyn**	**0.69**	**342**	P	Pn	22 10 05.7	-0.9
VLMS				S	Sn	22 10 16.3	+0.3
VTN	**Vitineika**	**0.72**	**16**	P	Pn	22 10 06.5	-0.5
VTN	**Vitineika**	**0.72**	**16**	P	Pn	22 10 06.4	-0.5
PYL	**PYLOS**	**0.73**	**116**	P	Pn	22 10 06.3	-0.7
PYL				S	Sn	22 10 15.9	-1.0
	5μm,0.4s						
PYL	**PYLOS**	**0.73**	**116**	P	Pn	22 10 06.1	-0.9
PYL				S	Sn	22 10 15.5	-1.4
PYL				AML	AML	22 10 19.6	
	comp=N,9959μm,0.4s						
PYL				AML	AML	22 10 19.8	
	comp=E,10181μm,0.5s						
ITM	**Ithomi**	**0.80**	**93**	P	Pn	22 10 06.7	-1.3
ITM				S	Sn	22 10 18.7	0.0
	comp=E,4μm,0.5s						
ITM	**Ithomi**	**0.80**	**93**	P	Pn	22 10 07.0	-1.0
ITM				AML	AML	22 10 22.5	
	comp=N,6188μm,0.3s						
ITM				AML	AML	22 10 23.6	
	comp=E,8624μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.93**	**343**	P	Pn	22 10 09.6	-0.2
PSDA				S	Sn	22 10 24.3	+2.3
	comp=E,582nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.93**	**343**	P	Pn	22 10 09.8	0.0
RLS	**Riolos of Patr**	**0.94**	**27**	P	Pn	22 10 09.4	-0.5
RLS	**Riolos of Patr**	**0.94**	**27**	P	Pn	22 10 09.7	-0.2
RLS				AML	AML	22 10 29.6	
	comp=E,4564μm,0.4s						
RLS				AML	AML	22 10 31.9	
	comp=N,3995μm,0.5s						
DRO	**Drossia**	**0.96**	**40**	P	Pn	22 10 09.6	-0.6
DRO	**Drossia**	**0.96**	**40**	P	Pn	22 10 09.6	-0.6
DRO				AML	AML	22 10 29.3	
	comp=N,10336μm,0.4s						
DRO				AML	AML	22 10 30.4	
	comp=E,8203μm,0.4s						
VLS	**Valsamata**	**0.99**	**344**	P	Pn	22 10 10.4	-0.3
VLS				S	Sn	22 10 25.5	+2.0
	comp=E,3μm,0.3s						
VLS	**Valsamata**	**0.99**	**344**	P	Pn	22 10 10.7	0.0
VLS				S	Sn	22 10 25.8	+2.3
VLS				AML	AML	22 10 30.2	
	comp=E,6256μm,0.3s						
VLS				AML	AML	22 10 41.7	
	comp=N,6983μm,0.6s						
AXS	**Araxos**	**1.04**	**20**	P	Pn	22 10 11.1	-0.2
AXS	**Araxos**	**1.04**	**20**	P	Pn	22 10 11.0	-0.2
DMLN	**Damoulianata-K**	**1.11**	**337**	P	Pn	22 10 13.0	+0.8
DMLN				S	Sn	22 10 28.8	+2.5
	comp=N,8μm,0.5s						
DMLN	**Damoulianata-K**	**1.11**	**337**	P	Pn	22 10 13.1	+0.8
DMLN				S	Sn	22 10 28.8	+2.5
TRIP	**Tripoli**	**1.11**	**74**	P	Pn	22 10 12.6	+0.2
TRIP	**Tripoli**	**1.11**	**74**	P	Pn	22 10 12.6	+0.2
TRIP				AML	AML	22 10 39.8	
	comp=E,2700μm,0.9s						
TRIP				AML	AML	22 10 47.9	
	comp=N,3281μm,0.8s						
KEF5	**Kardakata, Kep**	**1.12**	**341**	P	Pn	22 10 13.0	+0.7
VLX	**Vlachokerasia**	**1.17**	**82**	P	Pn	22 10 13.9	+0.8
VLX	**Vlachokerasia**	**1.17**	**82**	P	Pn	22 10 13.7	+0.5
VLX				AML	AML	22 10 41.3	
	comp=E,5953μm,0.6s						
VLX				AML	AML	22 10 42.0	
	comp=N,6409μm,0.6s						
VSK1	**VASILIKIADES**	**1.22**	**346**	P	Pn	22 10 14.9	+1.1
FSK	**Fiskardo**	**1.27**	**347**	P	Pn	22 10 15.6	+1.1
FSK				S	Sn	22 10 34.5	+4.2
	comp=N,2μm,0.6s						
FSK	**Fiskardo**	**1.27**	**347**	P	Pn	22 10 15.4	+0.9
KLV	**Kalavryta, Ach**	**1.27**	**49**	P	Pn	22 10 14.4	-0.1
KLV	**Kalavryta, Ach**	**1.27**	**49**	P	Pn	22 10 14.5	0.0
GUR	**Goura**	**1.33**	**57**	P	Pn	22 10 15.3	-0.1
GUR	**Goura**	**1.33**	**57**	P	Pn	22 10 15.4	0.0
GUR				AML	AML	22 10 50.1	
	comp=E,4464μm,0.5s						
GUR				AML	AML	22 10 50.5	
	comp=N,5675μm,0.4s						
EVGI	**Lefkada island**	**1.42**	**351**	P	Pn	22 10 18.1	+1.6
EVGI				S	Sn	22 10 39.0	+5.2
	comp=N,498nm,0.2s						
EVGI	**Lefkada island**	**1.42**	**351**	P	Pn	22 10 17.8	+1.3
EFP	**Efpalio**	**1.43**	**32**	P	Pn	22 10 17.5	+0.9
MGNA	**Meganis**	**1.44**	**356**	P	Pn	22 10 17.5	+0.7
TRIZ	**Trizonia**	**1.46**	**38**	P	Pn	22 10 18.9	+1.9
NYDR	**Nydri-Lefkada**	**1.50**	**353**	P	Pn	22 10 19.3	+1.7
NYDR				S	Sn	22 10 40.4	+4.5
	comp=N,1μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.50**	**353**	P	Pn	22 10 19.0	+1.4
KALE	**Kalithea**	**1.51**	**39**	P	Pn	22 10 19.1	+1.2
KALE	**Kalithea**	**1.51**	**39**	P	Pn	22 10 19.4	+1.5
ANX	**Ano Chora**	**1.58**	**30**	P	Pn	22 10 20.4	+1.6
ANX	**Ano Chora**	**1.58**	**30**	P	Pn	22 10 20.3	+1.5
TSLK	**Tsoukalades, L**	**1.62**	**352**	P	Pn	22 10 21.7	+2.5
TSLK	**Tsoukalades, L**	**1.62**	**352**	P	Pn	22 10 21.0	+1.8
VLI	**Veliai**	**1.69**	**107**	P	Pn	22

OUR	**Ouranopolis**	**3.92**	**37**	P		**Pn**	**22 10 51.7**	**+0.8**
AMGA	**Amorgos Island**	**3.99**	**94**	P		**Pn**	**22 10 52.6**	**+0.7**
SOH	**Sokhos**	**4.06**	**27**	P		**Pn**	**22 10 54.4**	**+1.5**
KNT	**Kendrikon**	**4.22**	**21**	P		**Pn**	**22 10 55.6**	**+0.6**
VAY	**Valandovo**	**4.29**	**17**	*i* Pn		**Pn**	**22 10 57.3**	**+1.3**
CGL1	**Ceglie Messapi**	**4.36**	**323**	⇑*i* Pn		**Pn**	**22 10 58.1**	**+1.2**
CGL1				Sn		**Sn**	**22 11 45.0**	**-1.4**
PHP	**Peshkopia**	**4.47**	**355**	P		**Pn**	**22 10 59.9**	**+1.4**
STIP	**Stip**	**4.57**	**12**	*i* Pn		**Pn**	**22 11 02.3**	**+2.4**
NVR	**Nevrokopi**	**4.71**	**28**	P		**Pn**	**22 11 02.9**	**+1.1**
SKO	**Skopje**	**4.76**	**5**	*i* Pn		**Pn**	**22 11 03.4**	**+1.0**
MMB	**Musomiste**	**4.87**	**26**	*i* P		**Pn**	**22 11 04.6**	**+0.6**
SG1	**Sgolgore (BA)**	**4.90**	**319**	⇑*i* Pn		**Pn**	**22 11 07.5**	**+3.1**
SG1				Sn		**Sn**	**22 11 57.2**	**-2.6**
KKB	**Krupnik**	**4.93**	**19**	*i* P		**Pn**	**22 11 05.7**	**+0.9**
BAI	**Bari**	**5.00**	**322**	⇑*i* Pn		**Pn**	**22 11 06.5**	**+0.9**
BAI				Sn		**Sn**	**22 11 58.9**	**-3.2**
DRME	**Dracevica, Mon**	**5.14**	**345**	*e*Pn		**Pn**	**22 11 07.9**	**+0.3**
VAE	**Valguarnera**	**5.20**	**275**	Pn		**Pn**	**22 11 10.9**	**+2.4**
	comp=E,2.8nm,0.3s,baz=133,slow=16,SNR=12							
VAE				Sn		**Sn**	**22 12 11.3**	**+4.1**
	comp=E,7.4nm,0.3s,baz=341,slow=10,SNR=6.0							
RZN	**Rozhen**	**5.34**	**32**	*i* P		**Pn**	**22 11 11.7**	**+1.2**
PDG	**Podgorica**	**5.36**	**347**	⇓P		**Pn**	**22 11 11.0**	**+0.3**
PDG	**Podgorica**	**5.36**	**347**	*e*Pn		**Pn**	**22 11 10.7**	**+0.1**
HCY	**Herceg Novi**	**5.55**	**341**	*e*Pn		**Pn**	**22 11 12.3**	**-0.9**
KDZ	**Kurdzhali**	**5.62**	**37**	*i* P		**Pn**	**22 11 14.4**	**+0.1**
VTS	**Vitosha**	**5.68**	**17**	*i* P		**Pn**	**22 11 16.3**	**+1.2**
BRY	**Bratogost**	**5.98**	**343**	*e*Pn		**Pn**	**22 11 18.7**	**-0.4**
UPM	**Unac-Piva**	**6.17**	**346**	*e*Pn		**Pn**	**22 11 22.3**	**+0.3**
MPEP	**Malo Peshtene**	**6.50**	**18**	*i* P		**Pn**	**22 11 27.7**	**+1.5**
BBLS	**Lazići**	**6.74**	**351**	*e*Pn		**Pn**	**22 11 28.2**	**-1.4**
DIVS	**Divibare**	**6.91**	**354**	*e*Pn		**Pn**	**22 11 31.4**	**-0.6**
HAPS	**Han Pijesak,Bl**	**7.02**	**348**	*e*Pn		**Pn**	**22 11 32.2**	**-1.4**
FRGS	**Fruska Gora**	**7.97**	**354**	*e*Pn		**Pn**	**22 11 45.7**	**-0.8**
BLY	**Banja Luka**	**8.04**	**341**	*e*Pn		**Pn**	**22 11 47.3**	**0.0**
GZR	**Gura Zlata**	**8.28**	**9**	⇑P		**Pn**	**22 11 49.6**	**-1.3**
BZS	**Buzias**	**8.41**	**3**	⇓P		**Pn**	**22 11 51.1**	**-1.3**
LOT	**Lotru**	**8.49**	**14**	⇓P		**Pn**	**22 11 53.0**	**-0.8**
ARR	**Arges**	**8.60**	**18**	⇓P		**Pn**	**22 11 53.9**	**-1.3**
VOIR		**8.77**	**19**	⇑P		**Pn**	**22 11 55.7**	**-1.9**
MLR	**Muntele Rosu**	**9.08**	**23**	Pn		**Pn**	**22 12 01.2**	**-0.6**
	comp=E,0.4nm,0.3s,baz=286,slon=21,SNR=2.6							
MLR				LR		LR	22 16 26.7	
	comp=E,184nm,19.2s,baz=165,slow=44							
MLR	**Muntele Rosu**	**9.08**	**23**	⇓P		**Pn**	**22 12 01.7**	**-0.1**
TLBR	**Topalu**	**9.09**	**34**	⇓P		**Pn**	**22 11 60.0**	**-1.8**
NEHR	**Nehoiu**	**9.14**	**25**	⇑P		**Pn**	**22 12 01.0**	**-1.4**
MORH	**Mrgy, Hungar**	**9.15**	**350**	*e*Pn		**Pn**	**22 12 01.9**	**-0.7**
KEST	**Kesra**	**9.45**	**264**	Pn		**Pn**	**22 12 08.5**	**+1.7**
	comp=E,0.2nm,0.3s,baz=171,slow=6.8,SNR=9.8							
KEST				Sn		**Sn**	**22 13 49.7**	**-2.0**
	comp=E,0.3nm,0.3s,baz=55,slow=22,SNR=7.5							
PLOR	**Plostina**	**9.63**	**25**	⇓P		**Pn**	**22 12 09.1**	**-0.1**
VRI	**Vrincioaia**	**9.67**	**25**	⇑P		**Pn**	**22 12 09.0**	**-0.8**
CEY	**Cerknica**	**9.81**	**12**	*e*Pn		**Pn**	**22 12 11.0**	**-0.6**
LJU	**Ljubljana**	**10.03**	**334**	*e*Pn		**Pn**	**22 12 14.4**	**-0.3**
BRTR	**Keskin Array B**	**10.28**	**72**	LR		LR	22 17 23.1	
	comp=E,34nm,18.2s,baz=253,slow=44							
SOKA	**Soboth**	**10.42**	**337**	*e*Pn		**Pn**	**22 12 19.5**	**-0.5**
	comp=E,0.8nm,0.3s							
SOKA				*e*Sn		Sn	22 14 06.6	-8.8
	comp=E,1.3nm,0.5s							
OBKA	**Obir**	**10.43**	**335**	*e*Pn		**Pn**	**22 12 20.8**	**+0.6**
	comp=E,0.7nm,0.2s							
OBKA				*e*Sn		**Sn**	**22 14 10.6**	**-5.0**
	comp=E,2.0nm,0.3s							
BURAR	**Bucovina Array**	**10.86**	**16**	⇓P		**Pn**	**22 12 25.6**	**-0.5**
ABTA	**Abfaltersbach**	**11.39**	**329**	*e*Pn		**Pn**	**22 12 34.8**	**+1.5**
	comp=E,0.3nm,0.2s							
ABTA				*e*Sn		**Sn**	**22 14 32.5**	**-6.7**
	comp=E,1.0nm,0.4s							
MOA	**Molln**	**11.70**	**337**	*e*Pn		**Pn**	**22 12 37.9**	**+0.4**
	comp=E,0.4nm,0.2s							
MOA				*i* Sn		**Sn**	**22 14 41.1**	**-5.6**
	comp=E,0.2nm,0.1s							
MMAI	**Mount Meron Ar**	**12.57**	**105**	Pn		**Pn**	**22 12 47.5**	**-2.1**
	comp=E,0.4nm,0.3s,baz=313,slow=13,SNR=1.4							
SLTI	**Sal'it**	**12.62**	**109**	Pn		Pn	22 12 43.6	-6.6
SLTI				Sn		Sn	22 14 57.8	-12
GEM	**Giv'at Ha'Em**	**12.70**	**104**	Pn		Pn	22 12 43.6	-7.6
GEM				Sn		Sn	22 14 59.6	-12
NATI	**Neve Ativ**	**12.73**	**104**	Sn		Sn	22 15 01.0	-11
GERES	**GERESS Array B**	**12.76**	**338**	Pn		**Pn**	**22 12 51.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=156,slow=15,SNR=3.8							
HMDT	**Nahal Hemdat**	**12.99**	**108**	Pn		Pn	22 12 48.0	-7.2
HMDT				Sn		Sn	22 15 06.5	-12
YTIR	**Yattir**	**13.10**	**112**	Pn		Pn	22 12 49.2	-7.6
YTIR				Sn		Sn	22 15 08.6	-13
DSI	**Dead Sea**	**13.19**	**111**	Pn		Pn	22 12 50.7	-7.3
DSI				Sn		Sn	22 15 11.0	-12
KRMI	**Paran Flat**	**13.49**	**118**	Sn		Sn	22 15 17.1	-14
PRNI	**Paran**	**13.56**	**116**	Pn		Pn	22 12 55.7	-7.3
PRNI				Sn		Sn	22 15 19.0	-13
ZFRI	**Zfri**	**13.57**	**115**	Pn		Pn	22 12 55.4	-7.7
ZFRI				Sn		Sn	22 15 18.7	-14
MBRI	**Mt Berech**	**13.81**	**118**	Pn		Pn	22 12 58.6	-7.9
MBRI				Sn		Sn	22 15 24.7	-14
EIL	**Elat**	**13.91**	**119**	Pn		**Pn**	**22 13 09.1**	**+1.2**
	comp=E,0.3nm,0.3s,baz=289,slow=11,SNR=2.4							
EIL	**Elat**	**13.91**	**119**	Pn		Pn	22 12 59.2	-8.6
EIL				Sn		Sn	22 15 26.4	-15
ESDC	**Sonseca Array**	**19.63**	**285**	P		**P**	**22 14 18.9**	**+0.3**
	comp=E,0.0nm,0.3s,baz=81,slow=9.7,SNR=3.0							
MDT	**Midelt**	**21.35**	**266**	P		**P**	**22 14 38.0**	**+0.7**
	comp=E,2.2nm,1.0s,baz=81,slow=11,SNR=2.3							
HFS	**Hagfors**	**23.39**	**351**	P		**P**	**22 14 57.2**	**-1.2**
	comp=E,2.8nm,0.6s,baz=163,slow=11,SNR=10							
EKA	**Eskdalemuir Ar**	**24.40**	**326**	P		**P**	**22 15 08.6**	**+0.8**
	comp=E,0.6nm,0.3s,baz=119,slow=8.8,SNR=6.1							
FINES	**FINESS Array B**	**24.46**	**6**	P		**P**	**22 15 07.9**	**-0.4**
	comp=E,1.5nm,0.6s,baz=204,slow=7.2,SNR=12							
FINES				LR		LR	22 25 46.3	
	comp=E,53nm,19.0s,baz=204,slow=39							
NB2	**NORSAR Subarra**	**24.62**	**349**	P		**P**	**22 15 10.3**	**+0.5**
	comp=E,2.0nm,0.3s,baz=161,slow=9.3							
NOA	**NORSAR Array B**	**24.62**	**349**	P		**P**	**22 15 09.5**	**-0.3**
	comp=E,0.3nm,0.5s,baz=158,slow=9.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**29.50**	**221**	P		**P**	**22 15 56.1**	**+2.1**
	comp=E,2.8nm,0.8s,baz=25,slow=9.8,SNR=2.3							
ARCES	**ARCESS Array B**	**32.47**	**3**	P		**P**	**22 16 19.6**	**-0.1**
	comp=E,0.9nm,0.4s,baz=190,slow=11,SNR=13							
ARCES				LR		LR	22 31 17.2	
	comp=E,48nm,18.2s,baz=200,slow=40							
KURBB	**Kurchatov Arra**	**42.55**	**53**	P		**P**	**22 17 44.1**	**-0.9**
	comp=E,1.0nm,0.6s,baz=280,slow=8.6,SNR=12							
MKAR	**Makanchi Array**	**45.53**	**58**	P		**P**	**22 18 08.0**	**-1.1**
	comp=E,0.5nm,0.4s,baz=280,slow=7.7,SNR=15							
ZALV	**Zalesovo Beam**	**46.09**	**47**	P		**P**	**22 18 12.3**	**-1.1**
	comp=E,0.9nm,0.3s,baz=282,slow=10,SNR=6.3							

IDC 17 22:10:37.8±4.9, 39°.01N×109°.94E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/54, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=105.8km s-min=24.1km az=86.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.19**	**345**	Pn	Pn	22 12 51.3	-0.3
	0.1nm,0.3s,baz=161,slow=14,SNR=14						
SONM				Lg	Lg	22 15 28.0	
	0.1nm,0.3s,baz=163,slow=29,SNR=4.4						
MKAR	**Makanchi Array**	**21.62**	**300**	P	P	22 15 29.0	-0.4
	0.6nm,1.0s,baz=105,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**22.60**	**208**	P	P	22 15 39.6	-0.4
	1.6nm,0.8s,baz=13,slow=9.9,SNR=14						
KURBB	**Kurchatov Arra**	**24.93**	**308**	P	P	22 16 03.4	+1.0
	0.3nm,0.6s,baz=112,slow=9.3,SNR=3.1						

*NEIC **17** 22:15:35.0±2.1, 7°.18S±0°.04×129°.25E±0°.05, h128km±8km, mb4.1/21, Error ellipse: s-maj=9.1km s-min=1.8km az=133.0*
*DJA **17** 22:15:34.9±0.4, 7°.3S±3°×12°.9E±°, h178km±10km, M4.7/9, mB5.2/7, mb4.7/7, MLv4.8/9, Mw(mB)4.6/7*
*IDC **17** 22:15:34.6±2.1, 7°.16S×129°.40E, h120km±20km, mb3.7/7, mb1 3.9/10, mb1mx3.6/35, mbtmp4.2/10, Error ellipse: s-maj=25.8km s-min=13.4km az=84.0*
ISC 17 22:15:35.8±0.5, 7°.21S±0°.05×129°.30E±0°.05, h139km, n70, σ1ŝ79/71, mb3.9/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.13**	**111**	P	**Pn**	**22 16 12.1**	**+0.3**
SAUI				S	**Sn**	**22 16 40.7**	**+1.2**
SAUI	**Saumlaki**	**2.13**	**111**	Pn	**Pn**	**22 16 11.6**	**-0.3**
SAUI					**Sn**	**22 16 37.7**	**-1.8**
BNDI	**Bandanaira**	**2.73**	**13**	P	**Pn**	**22 16 21.9**	**+2.5**
FAKI	**Fak Fak**	**5.17**	**35**	P	**Pn**	**22 16 50.5**	**-0.9**
	0.6nm3µm100nn,0.5s						
FAKI	**Fak Fak**	**5.17**	**35**	Pn	**Pn**	**22 16 50.5**	**-0.9**
FAKI				Sn	**Sn**	**22 17 47.6**	**-2.7**
SOEI	**Soe**	**5.58**	**243**	P	**Pn**	**22 16 57.4**	**+0.4**
	2.7nm4µm128nm,0.8s						
SOEI	**Soe**	**5.58**	**243**	Pn	**Pn**	**22 16 55.9**	**-1.1**
SOEI				Sn	**Sn**	**22 17 59.5**	**-0.8**
MTN	**Manton Dam**	**5.88**	**162**	Pn	**Pn**	**22 16 59.5**	**-1.5**
BATI	**Baumata**	**6.32**	**241**	P	**Pn**	**22 17 06.7**	**0.0**
	58nm,0.3s,baz=86,slow=4.5,SNR=32						
BATI				S	**Sn**	**22 18 14.6**	**-3.2**
	85nm,0.3s,baz=82,slow=23,SNR=27						
BATI	**Baumata**	**6.32**	**241**	P	**Pn**	**22 17 06.7**	**0.0**
	1.4nm2µm124nm,0.7s						
SIJI	**Sorong**	**6.59**	**17**	P	**Pn**	**22 17 08.6**	**-1.8**
	12nm,0.3s,baz=156,slow=22,SNR=42						
SIJI				S	**Sn**	**22 18 22.1**	**-2.4**
	6.1nm,0.3s,baz=250,slow=23,SNR=1.9						
MMRI	**Maumere**	**7.14**	**258**	Pn	**Pn**	**22 17 16.2**	**-1.5**
TNTI	**Ternate**	**8.16**	**346**	Pn	**Pn**	**22 17 30.6**	**-0.8**
KNRA	**Kununurra**	**8.43**	**184**	Pn	**Pn**	**22 17 32.3**	**-2.8**
BASI	**Baing, Sumba**	**9.12**	**250**	P	**Pn**	**22 17 43.0**	**-1.4**
KAPI	**Kappang**	**9.74**	**282**	Pn	**Pn**	**22 17 50.0**	**-2.6**
FITZ	**Fitzroy Crossi**	**11.40**	**198**	P	**Pn**	**22 18 10.7**	**-3.9**
	3.3nm,0.3s,baz=28,slow=10,SNR=91						
FITZ				S	Sn	22 20 08.7	-12
	11nm,0.3s,baz=78,slow=21,SNR=7.2						
WB0	**Warramunga Arr**	**13.43**	**159**		**Pn**	**22 18 36.7**	**-4.3**
WRAB	**Tennant Creek**	**13.57**	**159**	Pn	**Pn**	**22 18 40.3**	**-2.4**
WRA	**Warramunga Arr**	**13.57**	**159**	P	**Pn**	**22 18 38.7**	**-4.1**
	5.0nm,0.3s,baz=327,slow=14,SNR=78						
WRA				S	Sn	22 20 57.1	-16
	5.3nm,0.3s,baz=327,slow=23,SNR=13						
WRA	**Warramunga Arr**	**13.57**	**159**	P	Pn	22 18 37.6	-5.2
WB2	**Warramunga Arr**	**13.58**	**159**	Pn	**Pn**	**22 18 38.7**	**-4.2**
WC3	**Warramunga Arr**	**13.60**	**159**	Pn	**Pn**	**22 18 39.3**	**-3.9**
WR0	**Warramunga Arr**	**13.66**	**159**		**Pn**	**22 18 39.8**	**-4.1**
BKB	**Balikpapan**	**13.70**	**295**	Pn	**Pn**	**22 18 44.7**	**+0.3**
JAGI	**Jajag, Banyuwa**	**15.06**	**264**	Pn	**Pn**	**22 19 00.5**	**-1.1**
JAGI				IAmb	IAmb	22 19 04.5	
	comp=Z,12nm,0.8s						
COEN	**Coen**	**15.20**	**117**	Pn	**P**	**22 19 03.8**	**-1.2**
COEN				IAmb	IAmb	22 19 12.0	
	comp=Z,7.0nm,1.0s						
PSAD1	**Pilbara Seismi**	**16.86**	**212**	P	**Pn**	**22 19 23.3**	**-0.4**
PSAC2	**Pilbara Seismi**	**16.91**	**211**	P	**P**	**22 19 23.4**	**-0.6**
PSAD2	**Pilbara Seismi**	**16.93**	**211**	P	**Pn**	**22 19 24.3**	**-0.2**
PSAB2	**Pilbara Seismi**	**16.93**	**212**	P	**Pn**	**22 19 24.1**	**-0.4**
PSAC1	**Pilbara Seismi**	**16.94**	**212**	P	**Pn**	**22 19 24.1**	**-0.5**
PSAA2	**Pilbara Seismi**	**16.94**	**212**	P	**Pn**	**22 19 23.9**	**-0.8**
PSA00	**Pilbara Seismi**	**16.95**	**212**	P	**Pn**	**22 19 24.3**	**-0.5**
PSA00	**Pilbara Seismi**	**16.95**	**212**	P	**P**	**22 19 23.5**	**-0.9**
PSA00				IAmb	IAmb	22 19 26.1	
	comp=Z,6.3nm,0.7s						
PSAA3	**Pilbara Seismi**	**16.95**	**212**	P	**Pn**	**22 19 24.5**	**-0.2**
AS31	**Alice Springs**	**16.95**	**165**		**Pn**	**22 19 23.3**	**-1.5**
ASAR	**Alice Springs**	**16.95**	**165**	P	**Pn**	**22 19 23.4**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=340,slow=9.9,SNR=69						
ASAR				S	Sn	22 22 21.2	-13
	comp=Z,1.5nm,0.3s,baz=78,slow=18,SNR=7.0						
ASAR	**Alice Springs**	**16.95**	**165**	P	**Pn**	**22 19 24.5**	**-0.3**
PSAA1	**Pilbara Seismi**	**16.96**	**212**	P	**Pn**	**22 19 24.2**	**-0.7**
PSAB1	**Pilbara Seismi**	**16.96**	**212**	P	**Pn**	**22 19 24.4**	**-0.5**
PSAB3	**Pilbara Seismi**	**16.96**	**212**	P	**Pn**	**22 19 24.2**	**-0.7**
PSAC3	**Pilbara Seismi**	**17.00**	**212**	P	**Pn**	**22 19 24.7**	**-0.7**
PSAD3	**Pilbara Seismi**	**17.04**	**212**	P	**Pn**	**22 19 25.1**	**-0.8**
SBUM	**Sibu**	**19.56**	**299**	P	**P**	**22 19 55.4**	**+2.4**
SBUM				IAmb	IAmb	22 20 00.1	
	comp=Z,8.4nm,1.0s						
KSM	**Kuching**	**20.82**	**294**	P	**P**	**22 20 09.1**	**+2.6**
CTAO	**Charters Tower**	**20.84**	**130**	P	Pn	22 20 09.7	-1.1
CTAO				IAmb	IAmb	22 20 12.7	
	comp=Z,6.7nm,1.1s						
GIRL	**Giralia**	**21.12**	**222**	P	**P**	**22 20 10.4**	**+0.8**
FORT	**Forrest**	**23.48**	**183**	P	**P**	**22 20 33.8**	**+0.8**
MORW	**Morawa**	**25.08**	**208**	P	**P**	**22 20 48.6**	**+1.0**
MORW				IAmb	IAmb	22 20 50.5	
	comp=Z,9.9nm,0.8s						
BBOO	**Buckleboo**	**26.24**	**167**	P	**P**	**22 20 58.7**	**+0.8**
BBOO				IAmb	IAmb	22 20 59.6	
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**27.09**	**157**	P	**P**	**22 21 06.3**	**+0.7**
	comp=Z,2.7nm,0.4s,baz=336,slow=9.9,SNR=8.1						
STKA	**Stephens Creek**	**27.09**	**157**	IAmb	IAmb	22 21 12.8	
	comp=Z,1.1nm,1.1s						
KULM	**Kulim**	**31.17**	**293**	P	**P**	**22 21 43.2**	**+1.3**
KULM				IAmb	IAmb	22 21 49.7	
	comp=Z,5.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.33**	**311**	P	**P**	**22 22 53.2**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=143,slow=7.0,SNR=8.1						
OXZ	**Oxford**	**51.90**	**141**	P	**P**	**22 24 31.8**	**+1.6**
CASY	**Casey**	**60.39**	**189**	P	**P**	**22 25 31.1**	**+1.1**
CASY				IAmb	IAmb	22 25 31.9	
	comp=Z,1.3nm,0.9s						
MK31	**Makanchi Array**	**68.02**	**327**	P	**P**	**22 26 21.4**	**+1.3**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**22 26 21.4**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=115,slow=8.5,SNR=23						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**22 26 21.7**	**+1.6**
MAKZ	**Makanchi**	**68.20**	**327**	P	**P**	**22 26 22.7**	**+1.4**
MAKZ				IAmb	IAmb	22 26 23.5	
	comp=Z,2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**22 26 41.6**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=132,slow=6.5,SNR=3.6						
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	**P**	**22 26 46.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=131,slow=5.1,SNR=7.3						
VNDA	**Vanda**	**72.33**	**173**	P	**P**	**22 26 47.1**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=253,slow=4.9,SNR=3.6						
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**22 26 46.5**	**+0.2**
KURK	**Kurchatov**	**72.33**	**329**	IAmb	IAmb	22 26 49.9	
	comp=Z,1.3nm,0.7s						
MAW	**Mawson**	**74.50**	**201**	P	**P**	**22 27 00.5**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=69,slow=6.8,SNR=9.9						
MAW	**Mawson**	**74.50**	**201**	IAmb	IAmb	22 27 01.0	
	comp=Z,0.3nm,0.5s						
SOCY	**Socotra**	**77.30**	**284**	P	**P**	**22 27 15.6**	**-0.1**
SOCY				IAmb	IAmb	22 27 34.0	
	comp=Z,7.9nm,1.1s						
CPUP	**Villa Florida**	**146.05**	**169**	PKPbc	**PKPab**	**22 35 00.9**	**0.0**
	comp=Z,1.4nm,0.5s,baz=203,slow=7.7,SNR=4.3						

*MOS **17** 23:13:10.9±0.9, 55°.25N×113°.57E, h8km, mb4.5/14, MS3.8/12, Error ellipse: s-maj=7.0km s-min=5.4km az=80.4*
*BJI **17** 23:13:10.5±0.0, 55°.32N×113°.68E, h9km, mB4.3/9, mb4.1/16, Ms4.2/14, Ms7 4.1/14*
*IDC **17** 23:13:10.9±0.6, 55°.21N×113°.70E, h0km, mb3.9/20, mb1 4.1/23, mb1mx4.0/47, mbtmp3.9/23, ML3.1/3, MS3.5/16, Ms1 3.5/16, ms1mx3.3/55, Error ellipse: s-maj=14.0km s-min=12.6km az=156.0*
*NEIC **17** 23:13:12.9±1.5, 55°.25N±0°.07×113°.6E±0°.1, h10km±1km, mb4.5/56, Error ellipse: s-maj=11.9km s-min=11.5km az=120.0*
*BYKL **17** 23:13:12.6±0.2, 55°.29N×113°.61E, h18km±3km, FELT I=III-IV MSK at Uakit*
ISC 17 23:13:12.3±0.3, 55°.21N±0°.02×113°.53E±0°.02, h10km, n239, σ2ŝ13/277, mb4.3/60, MS3.6/25, 19C-8D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.28**	**11**	⇑*i* Pg	**Pg**	**23 13 17.3**	**-0.8**
UKT				Pmax		23 13 17.7	
	4µm,0.4s						
UKT				*e*Sg	**Sg**	**23 13 20.5**	**-1.4**
UKT				Smax		23 13 21.1	
	92µm,0.8s						
UKT	**Uakit**	**0.28**	**11**	⇑*i* PG	**Pg**	**23 13 17.3**	**-0.8**
UKT				*eS*	**Sg**	**23 13 20.1**	**-1.8**
SVKR	**Severomuysk**	**0.91**	**1**	*e*PG	**Pb**	**23 13 29.5**	**-0.7**
SVKR				*e*		23 13 42.0	
SVKR				pmax	pmax		
	comp=Z,4µm,1.7s						
SVKR				smax	smax		
	comp=N,55µm,0.6s						
YOA	**Uoyan**	**1.38**	**313**	⇑*i* Pg	**Pn**	**23 13 35.3**	**-2.3**
YOA				Pmax		23 13 45.3	
	comp=N,13µm,1.5s						
YOA				*e*Sg	**Sb**	**23 13 54.3**	**-1.5**
YOA				*e*		23 13 57.6	
YOA				max		23 14 23.5	
	comp=N,36µm,1.6s						
YOA	**Uoyan**	**1.38**	**313**	⇑*i* PG	**Pn**	**23 13 35.5**	**-2.1**
YOA				*i*		23 13 54.6	
YOA				pmax	pmax		
	comp=Z,10µm,0.3s						
YOA				smax	smax		
	comp=N,7µm,0.8s						
YLYR	**Ulyunkhan**	**1.40**	**257**	⇑*i* Pg	**Pg**	**23 13 39.3**	**+0.1**
YLYR				Pmax		23 13 39.9	
	comp=N,539nm,0.7s						
YLYR				*e*Sg	**Sg**	**23 13 58.9**	**+1.5**
YLYR				Smax		23 14 02.2	
	comp=N,9µm,0.3s						
YLYR	**Ulyunkhan**	**1.40**	**257**	⇑*i* PG	**Pg**	**23 13 39.1**	**-0.1**
YLYR				*e*		23 13 58.9	
YLYR				pmax	pmax		
	comp=Z,553nm,0.4s						
YLYR				smax	smax		
	comp=E,9µm,0.3s						
KMO	**Kumora**	**1.49**	**298**	⇑*i* Pg	**Pg**	**23 13 39.6**	**-1.2**
KMO				Pmax		23 13 41.2	
	comp=E,2µm,1.2s						
KMO				*e*		23 13 46.2	
KMO				*e*Sg	**Sg**	**23 13 59.6**	**-0.4**
KMO				Smax		23 14 02.9	
	comp=E,10µm,1.5s						
KMO	**Kumora**	**1.49**	**298**	⇑*i* PG	**Pg**	**23 13 39.6**	**-1.2**
KMO				*e*		23 13 58.9	
KMO				pmax	pmax		
	comp=Z,2µm,0.5s						
KMO				smax	smax		
	comp=E,7µm,1.0s						
NIZ	**Nizh Angarsk**	**2.34**	**286**	⇓*i* Pn	**Pb**	**23 13 52.3**	**-2.2**
NIZ				*e*Pg	**Pg**	**23 13 56.1**	**-0.9**
NIZ				*e*		23 13 58.6	
NIZ				max		23 13 59.7	
	comp=E,347nm,0.4s						
NIZ				*e*Sg	**Sg**	**23 14 27.0**	**-0.3**
NIZ				Smax		23 14 30.6	
	comp=E,3µm,1.4s						
NIZ	**Nizh Angarsk**	**2.34**	**286**	*e*PN	**Pb**	**23 13 52.1**	**-2.4**
NIZ				*e*S	**Sg**	**23 14 25.5**	**-1.8**
NIZ				smax	smax		
	comp=N,3µm,1.8s						
SYVR	**Suvo**	**2.58**	**234**	⇓*i* Pn	**Pn**	**23 13 55.7**	**+1.6**
SYVR				*e*Pg	**Pg**	**23 14 00.1**	**-1.6**
SYVR				*e*		23 14 04.5	
SYVR				max		23 14 04.8	
	comp=N,518nm,1.1s						
SYVR				*e*		23 14 18.4	
SYVR				*e*Sg	**Sg**	**23 14 35.9**	**+0.7**
SYVR				*e*		23 14 45.2	
SYVR				max		23 14 45.5	
	comp=N,3µm,1.3s						
SYVR	**Suvo**	**2.58**	**234**	*e*PN	**Pb**	**23 13 56.1**	**-2.5**
SYVR				*e*S	**Sg**	**23 14 35.8**	**+0.6**
SYVR				smax	smax		
	comp=E,3µm,0.8s						
BOD	**Bodaib

YKLR e 23 15 32.3
YKLR eSg Sg 23 15 38.6 -6.9
UUDB Ulan-Yde 4.84 229 ePn Pn **23 14 26.7 +1.5**
UUDB ePg Pb **23 14 40.2 +3.1**
UUDB e 23 14 45.9
UUDB max 23 14 46.4
comp=E,317nm,1.0s
UUDB eSg Sg **23 15 45.3 -2.3**
UUDB e 23 15 57.3
UUDB max 23 15 57.9
comp=E,2μm,1.1s
TRG Tyrgan 4.90 243 ePn Pn **23 14 27.3 +1.4**
TRG ePg Pb **23 14 41.1 +3.0**
TRG Pmax 23 14 49.4
comp=E,63nm,0.7s
TRG e 23 15 15.6
TRG eSg Sg **23 15 46.2 -3.2**
TRG Smax 23 15 50.9
comp=E,821nm,1.3s
TRG Tyrgan 4.90 243 ePN Pn **23 14 27.6 +1.7**
TRG e 23 14 41.8
TRG eS Sn **23 15 25.2 +2.6**
TRG e 23 15 46.4
TRG pmax pmax
comp=Z,63nm,0.7s
TRG smax smax
comp=E,820nm,1.1s
FFNB Fofonovo 5.12 235 e Pn **23 14 30.4 +1.4**
FFNB ePg Pg **23 14 46.2 -4.1**
FFNB eSg Sg **23 15 53.6 -3.0**
FFNB e 23 15 56.8
KAB Kabansk 5.17 235 ePn Pn **23 14 29.0 -0.7**
KAB ePg Pb **23 14 45.5 +2.8**
KAB Pmax 23 14 54.2
comp=E,137nm,0.7s
KAB Sg Sg **23 15 55.0 -3.2**
KAB e 23 16 00.0
KAB max 23 16 19.7
comp=E,5μm,1.7s
STDB Stepnoy Dvoret 5.23 237 e Pn 23 14 36.1 +5.6
STDB e 23 14 50.9
STDB e 23 14 55.4
STDB Sg Sg **23 15 59.7 -0.5**
STDB e 23 16 10.1
HRMR Khuramsha 5.32 230 ePn Pn **23 14 33.4 +1.6**
HRMR e 23 14 40.0
HRMR ePg Pg **23 14 49.4 -4.7**
HRMR Pmax 23 14 58.6
comp=E,209nm,0.6s
HRMR eSg Sg **23 16 00.3 -2.7**
HRMR Smax 23 16 12.4
comp=E,3μm,1.0s
KPC Khapcheranga 5.56 188 ePn Pn **23 14 35.3 +0.2**
KPC e 23 14 41.9
KPC ePg Pg **23 14 53.9 -4.8**
KPC Pmax 23 15 00.8
comp=E,67nm,0.7s
KPC e 23 15 55.0
KPC eSg Sg **23 16 07.3 -3.4**
KPC Smax 23 16 14.2
comp=E,2μm,1.7s
KPC Khapcheranga 5.56 188 ePN Pn **23 14 35.6 +0.5**
KPC e 23 14 53.4
KPC e 23 16 05.2
KPC pmax pmax
comp=Z,67nm,0.6s
KPC smax smax
comp=E,2μm,1.5s
BGT Bolshoye Golou 5.78 240 e Pb **23 14 53.0 -0.1**
BGT max 23 15 03.0
comp=E,41nm,0.8s
BGT eSg Sg **23 16 15.4 -2.2**
BGT Smax 23 16 25.6
comp=E,585nm,1.6s
LSTR Listvyanka 6.17 241 ePn Pn **23 14 43.7 +0.3**
LSTR e 23 14 59.5
LSTR max 23 15 11.1
comp=E,32nm,1.1s
LSTR e 23 15 56.3
LSTR e 23 16 13.1
LSTR eSg Sg **23 16 25.2 -5.0**
LSTR Smax 23 16 38.6
comp=E,416nm,1.7s
IRK Irkutsk 6.25 245 e Pb **23 14 58.5 -2.5**
IRK max 23 15 04.4
comp=E,194nm,0.1s
IRK e 23 16 19.8
IRK eSg Sg **23 16 28.8 -3.8**
IRK e 23 16 30.7
IRK max 23 16 38.9
comp=E,914nm,1.1s
IVK Ivanovka 6.42 242 e Pb 23 14 57.4 -6.6
IVK ePg Pg 23 15 08.2 -6.9
IVK Pmax 23 15 16.1
comp=E,40nm,1.2s
IVK e 23 16 30.5
IVK Sg Sg **23 16 32.8 -5.4**
IVK e 23 16 37.7
IVK max 23 16 48.5
comp=E,414nm,1.4s
IENR Iengra 6.48 76 eSg Sg **23 16 31.4 -8.8**
IENR e 23 16 34.8
CLNS Chul'man 6.58 71 ePn Pn **23 14 48.7 -0.3**
CLNS ePg Pb **23 15 08.6 +1.9**
CLNS e 23 16 08.4
CLNS eSg Sg 23 16 33.5 -10
TLY Talaya 6.88 243 Pn Pn **23 14 54.8 +1.7**
comp=E,0.0nm,0.3s,baz=22,slow=11,SNR=2.1
TLY Lg Lg 23 16 48.6
comp=E,0.1nm,0.3s,baz=252,slow=12,SNR=14
TLY LR LR 23 17 15.7
comp=E,26nm,19.1s,baz=42,slow=35
TLY Talaya 6.88 243 e Pn **23 14 50.6 -2.5**
TLY ePg Pb 23 15 17.2 +5.4
TLY Pmax 23 15 38.0
comp=E,44nm,1.6s
TLY e 23 16 17.8
TLY eSg Sg **23 16 48.5 -4.4**
TLY Smax 23 17 01.8
comp=E,315nm,1.3s
TLY Talaya 6.88 243 *ce*PN Pn **23 14 53.9 +0.8**
TLY Talaya 6.88 243 Pn **23 14 54.9 +1.8**
HIA Hailar 7.07 145 e Pn **23 14 57.9 +2.2**
HIA e 23 15 22.6
HIA e 23 16 14.9
HIA e 23 16 47.4
HIA eSg Sg **23 16 51.2 -7.8**
HIA Hailar 7.07 145 PN Pn **23 14 58.1 +2.4**
HIA 23 16 15.8
HIA Hailar 7.07 145 Pn **23 14 58.1 +2.4**
HIA Sn Sn **23 16 15.8 -0.3**
ARS Arshan 7.39 248 ePn Pn **23 15 01.6 +1.5**
ARS e 23 15 10.5
ARS ePg Pb 23 15 25.7 +5.2
ARS Pmax 23 15 35.1
comp=E,30nm,0.6s
ARS e 23 16 52.5
ARS eSg Sg **23 17 02.0 -7.2**
ARS Smax 23 17 11.2
comp=E,940nm,1.0s
ZAK Zakamensk 7.87 236 ePn Pn **23 15 09.3 +2.5**
ZAK e 23 15 16.9
ZAK e 23 15 40.1
ZAK max 23 15 41.3
comp=E,22nm,1.1s
ZAK e 23 16 31.6
ZAK eSg Sg **23 17 19.5 -5.1**
ZAK e 23 17 24.6
ZAK max 23 17 44.5
comp=E,626nm,1.5s
ZAK Zakamensk 7.87 236 ePG Pg 23 15 36.8 -6.0
ZAK pmax pmax
comp=Z,22nm,0.8s
ZEA Zeya 8.13 95 ePN Pn **23 15 12.1 +1.9**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MOY Mondy 8.28 250 ePn Pn **23 15 13.0 +0.6**
MOY e 23 16 57.0
MOY eSg Sg **23 17 30.9 -6.9**
MOY Smax 23 17 48.9
comp=Z,777nm,1.4s
MOY Mondy 8.28 250 ePN Pn 23 15 18.4 +6.0
ULN Ulaanbaatar 8.39 211 e Pn 23 15 24.9 +11
ULN *e*Pg Pg 23 15 46.7 -6.0
ULN e 23 17 07.7
ULN eSg Sg **23 17 35.2 -6.0**
ULN e 23 17 47.2
ULN Ulaanbaatar 8.39 211 PN Pn **23 15 16.4 +2.5**
ULN Ulaanbaatar 8.39 211 Pn Pn **23 15 16.4 +2.5**
ORL Orlik 8.54 257 ePn Pn **23 15 16.0 +0.1**
ORL e 23 15 44.8
ORL e 23 16 04.0
comp=Z,55nm,1.2s
ORL e 23 17 05.7
ORL eSg Sg **23 17 38.2 -7.8**
ORL Smax 23 17 51.9
comp=Z,464nm,2.0s
ORL Orlik 8.54 257 ePN Pn **23 15 18.0 +2.1**
ORL e 23 15 46.8
ORL e 23 17 36.7
ORL pmax pmax
comp=Z,60nm,0.8s
ORL smax smax
comp=N,463nm,1.8s
SONM Songino Array 8.62 214 Pn Pn **23 15 18.8 +1.7**
comp=N,0.9nm,0.3s,baz=23,slow=14,SNR=19
SONM Lg Lg 23 17 44.6
comp=N,5.4nm,0.3s,baz=27,slow=26,SNR=5.3
SONM Songino Array 8.62 214 PN Pn **23 15 19.8 +2.7**
SONM Songino Array 8.62 214 Pn **23 15 19.8 +2.7**
TDJR Todzha 10.68 262 e Pn 23 15 50.7 +5.4
TDJR e 23 18 07.3
TDJR eSg Sn 23 18 43.8 +59
KNGR Kungurtug, Tuv 10.71 251 ePn Pn **23 15 48.7 +3.1**
KNGR e 23 16 07.0
KNGR e 23 18 20.6
KNGR eSg 23 18 45.1
KNGR e 23 18 56.3
YAK Yakutsk 10.82 44 LR LR 23 19 59.3
comp=N,255nm,18.5s,baz=274,slow=38
YAK Yakutsk 10.82 44 eP Pn **23 15 47.8 +0.8**
YAK eS Sn **23 17 49.2 +1.2**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK smax smax
comp=E,24nm,1.1s
YAK smax smax
comp=N,10.0nm,0.8s
YAK MLR MLR
comp=Z,407nm,11.0s
YAK MLR MLR
comp=N,178nm,8.0s
YAK MLR MLR
comp=E,259nm,10.0s
YAK Yakutsk 10.82 44 Pn Pn **23 15 48.7 +1.7**
KRAR Krasnoyarsk 11.70 282 *ce*P Pn **23 16 00.9 +1.8**
CN2 Changchun 13.77 141 *e*P Pn **23 16 22.8 -4.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,600nm,8.0s
CN2 LR LR
comp=E,500nm,8.0s
CN2 LR LR
comp=Z,900nm,9.0s
MDJ Mudanjiang 14.78 129 Pn Pn **23 16 42.7 +1.6**
BTO Baotou 14.80 191 *e*P Pn 23 16 34.1 -7.5
BTO S Sn **23 19 28.8 +3.3**
BJT Baijiatuau 15.30 172 P P **23 16 52.4 -0.6**
BJT pmax pmax
comp=Z,7.0nm,1.0s
BJT Baijiatuau 15.30 172 P **23 16 52.4 -0.6**
USRK Ussuriysk Ar. 16.19 125 Lg Lg 23 21 43.9
baz=316,slow=26,SNR=6.6
USRK LR LR 23 23 55.8
comp=Z,148nm,18.7s,baz=315,slow=40
USRK Ussuriysk Ar. 16.19 125 P P **23 17 02.1 -0.8**
USRK Ussuriysk Ar. 16.19 125 P **23 17 02.0 -0.8**
ZAA0 Zalesovo Array 16.64 278 P **23 17 07.2 -0.6**
ZALV Zalesovo Beam 16.64 278 Pn P **23 17 07.9 +0.1**
comp=Z,0.2nm,0.3s,baz=57,slow=9.0,SNR=9.6
ZALV Lg Lg 23 21 58.7
comp=Z,0.2nm,0.3s,baz=79,slow=24,SNR=5.4
ZALV Zalesovo Beam 16.64 278 P P **23 17 06.9 -0.9**
DGZ Jazzator, Alta 16.78 262⇑ *e*P P **23 17 09.4 -0.1**
TIXI Tiksi 17.76 16⇑ *e*P Pn **23 17 16.6 -2.6**
TIXI Tiksi 17.76 16 P P **23 17 19.1 -0.9**
TIXI IAmb IAmb 23 17 31.3
comp=Z,33nm,0.8s
GTA Gaotai 18.28 216 P P **23 17 27.3 +1.2**
GTA pP sP 23 17 36.6 +5.9
GTA sP pP 23 17 41.0 +12
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,83nm,4.1s
GTA LR LR
comp=Z,350nm,9.5s
GTA LR LR
comp=Z,200nm,8.7s
GTA LR LR
comp=Z,460nm,9.8s
NRIK Noril'sk 18.38 330 P Pn **23 17 20.9 -6.0**
comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=6.4
NRIK S Sn 23 20 36.4 -16
comp=Z,0.3nm,0.3s,baz=330,slow=23,SNR=1.6
NRIK Lg Lg 23 22 47.0
comp=Z,0.4nm,0.3s,baz=228,slow=23,SNR=3.7
NRIK LR LR 23 25 06.1
comp=Z,334nm,21.9s,baz=199,slow=39
ZSN Zaisan 19.41 258 *e*P Pn **23 17 39.6 +0.1**
ZSN eLR LR 23 24 54.3
ZSN Zaisan 19.41 258 *e*P Pn **23 17 39.6 +0.1**
WMQ Urumqi 20.15 246 P Pn 23 17 48.0 -0.3
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ Urumqi 20.15 246 P Pn 23 17 48.0 -0.3
KSRS Korea Array 20.28 145 P P **23 17 46.5 -1.3**
comp=Z,0.5nm,0.3s,baz=335,slow=11,SNR=1.8
KSRS Lg Lg 23 23 53.0
comp=Z,0.6nm,0.3s,baz=309,slow=31,SNR=1.8
KSRS LR LR 23 26 38.6
comp=Z,144nm,19.7s,baz=340,slow=40
TJN Taejon 21.09 148⇑ *e*P P **23 17 53.3 -3.3**
SEY Seymchan 21.11 53 P P **23 17 57.6 +1.0**
comp=Z,9.9nm,0.9s,baz=279,slow=10,SNR=12
SEY Lg Lg 23 24 12.3
comp=Z,1.4nm,0.3s,baz=226,slow=12,SNR=4.1
SEY LR LR 23 26 15.2
comp=Z,207nm,18.3s,baz=310,slow=37
SEY Seymchan 21.11 53⇑ *e*P P **23 17 57.4 +0.7**
MK31 Makanchi Array 21.23 260 P P **23 17 59.4 +1.2**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 21.23 260 P P **23 17 59.4 +1.2**
MKAR Makanchi Array 21.23 260 P P **23 17 59.2 +1.1**
comp=Z,7.4nm,1.0s,baz=57,slow=9.5,SNR=24
MKAR Lg Lg 23 24 20.3
comp=Z,0.9nm,1.1s,baz=55,slow=26,SNR=2.5
MKAR Makanchi Array 21.23 260 P P **23 17 59.0 +0.8**
KURK Kurchatov 21.35 272 *de*P P **23 17 59.6 +0.3**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK MLR MLR
comp=Z,141nm,15.0s
KURK Kurchatov 21.35 272 P P **23 18 00.7 +1.3**
KURK IAmb IAmb 23 18 10.4
comp=Z,14nm,0.9s
MAKZ Makanchi 21.40 260 P P **23 18 01.1 +1.2**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 21.40 260 P P **23 18 01.1 +1.2**
XAN Xi'an 21.41 191 P P **23 18 01.6 +1.5**
XAN pmax pmax
comp=Z,11nm,1.2s
XAN pmax pmax
comp=Z,160nm,4.7s
XAN LR LR
comp=Z,520nm,10.8s
XAN LR LR
comp=Z,300nm,11.3s
XAN LR LR
comp=Z,580nm,12.3s
XAN Xi'an 21.41 191 P P **23 18 00.8 +0.7**
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN Xi'an 21.41 191 P P **23 18 00.8 +0.7**
KURBB Kurchatov Arra 21.45 272 P P **23 18 01.2 +0.9**
comp=Z,3.8nm,0.8s,baz=71,slow=11,SNR=14
KURBB Lg Lg 23 24 24.6
comp=Z,0.8nm,0.8s,baz=68,slow=32,SNR=4.1
ASAJ Asahikawa 21.68 109 LR LR 23 26 30.4
comp=Z,93nm,21.0s,baz=28,slow=37
WHN Wuhan 24.66 178 P P 23 18 40.1 +7.1
WHN S S 23 23 15.8 +22
WHN LR LR
comp=Z,540nm,10.4s
SHLS Shalkode 25.05 255 *e*P P **23 18 35.3 -1.3**
SHLS Shalkode 25.05 255 *e*P P **23 18 35.3 -1.3**
BRZS Berezniki 25.08 275 *e*P P **23 18 37.3 +0.6**
BRZS Berezniki 25.08 275 *e*P P **23 18 37.3 +0.6**
BVAR Borovoye Array 25.08 283 P P **23 18 37.8 +1.1**
comp=Z,1.8nm,0.7s,baz=186,slow=13,SNR=20
ENH Enshi 25.09 188 P P **23 18 38.2 +1.3**
ENH IAmb IAmb 23 18 40.6
comp=Z,8.3nm,1.0s
BRVK Borovoye 25.13 283 *c i*P P **23 18 38.0 +0.9**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK MLR MLR
comp=Z,171nm,17.0s
BRVK Borovoye 25.13 283 P P **23 18 38.2 +1.2**
BRVK IAmb IAmb 23 18 46.4
comp=Z,10nm,0.9s
MJB9 Matsu-Tunnel 25.14 128 P P **23 18 36.0 -1.3**
MJAR Matsushiro Arr 25.15 128 LR LR 23 28 49.5
comp=Z,133nm,18.4s,baz=310,slow=37
JNU Nakatsue 25.21 144 LR LR 23 28 19.1
comp=Z,52nm,20.9s,baz=337,slow=36
KPKS Kokpek 25.28 257 *e*P P **23 18 39.6 +1.0**
KPKS Kokpek 25.28 257 *e*P P **23 18 39.6 +1.0**
UZB Uzynbulak 25.30 256 *e*P P **23 18 39.6 +0.7**
comp=Z,4.5nm,0.9s
UZB Uzynbulak 25.30 256 *e*P P **23 18 39.6 +0.7**
UZB pmax pmax
comp=Z,5.0nm,0.9s
SATY Saty 25.70 256 *e*P P **23 18 43.3 +0.7**
SATY Saty 25.70 256 *e*P P **23 18 43.2 +0.7**
MDOK Medeo 26.39 258 *e*P P **23 18 48.3 -0.6**
MDOK *e*LR LR 23 29 06.6
comp=Z,182nm,10.3s
MDOK Medeo 26.39 258 *e*P P **23 18 48.2 -0.6**
MDOK MLR MLR
comp=Z,182nm,10.0s
JSU Suzuyama 26.56 146 P P **23 18 52.9 +2.7**
JSU IAmb IAmb 23 18 54.7
comp=Z,15nm,1.0s
BTLS Baital 26.93 264 *e*P P **23 18 53.7 +0.2**
BTLS *e*LR LR 23 29 01.3
BTLS Baital 26.93 264 *e*P P **23 18 53.7 +0.2**
KDJ Kajisay 26.99 256 P P **23 18 54.9 +0.7**
KDJ pmax pmax
comp=Z,5.0nm,1.1s
KDJ Kajisay 26.99 256 P P **23 18 54.9 +0.7**
BILL Bilibino 27.15 41 *i*P P **23 18 51.8 -3.4**
BILL *i* 23 19 37.0
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,518nm,21.0s
BOOM Boomskoye usch 27.45 258 P P **23 18 59.3 +0.9**
BOOM pmax pmax
comp=Z,5.0nm,1.1s
BOOM Boomskoye usch 27.45 258 P P **23 18 59.2 +0.9**
FRU1 Bishkek 27.98 260 P P **23 19 03.8 +0.9**
FRU1 pmax pmax
comp=Z,8.0nm,0.4s
FRU1 Bishkek 27.98 260 P P **23 19 03.8 +0.9**
AAK Ala-Archa 28.17 260 *de*P P **23 19 06.2 +1.5**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK MLR MLR
comp=Z,396nm,15.0s
JHJ Hachijo jima 2 28.72 129 LR LR 23 31 02.7
comp=Z,79nm,18.7s,baz=286,slow=37
JHJ2 Mitsune 28.74 129 P P **23 19 08.5 -1.2**
ARU Arti 30.21 295 *c i*P P **23 19 23.1 +0.5**
ARU 23 20 16.6
ARU S S **23 24 23.5 +1.9**
ARU SS SnSn **23 25 54.5 -0.3**
ARU pmax pmax
comp=Z,12nm,2.8s
ARU MLR MLR
comp=Z,375nm,16.0s
BTK Batken 31.95 260 P P **23 19 38.8 +0.7**
BTK pmax pmax
comp=Z,10.0nm,1.0s
BTK Batken 31.95 260 P P **23 19 38.8 +0.7**
BTK IAmb IAmb 23 19 40.5
comp=Z,10nm,1.0s
AB06 Akbulak array 32.63 282 P P **23 19 44.5 +0.7**
AB05 Akbulak array 32.64 282 P P **23 19 44.6 +0.6**
AB02 Akbulak array 32.65 282 P P **23 19 44.8 +0.8**
AB07 Akbulak array 32.65 282 P P **23 19 45.1 +1.1**
AB01 Akbulak array 32.65 282 P P **23 19 45.2 +1.1**
AB31 Akbulak array 32.65 282 P P **23 19 45.2 +1.1**
ABKAR Akbulak array 32.65 282 P P **23 19 45.1 +1.0**
ABKAR Akbulak array 32.65 282 P P **23 19 44.7 +0.6**
AB03 Akbulak array 32.65 282 P P **23 19 45.1 +1.0**
AB04 Akbulak array 32.66 282 P P **23 19 44.9 +0.8**
AB09 Akbulak array 32.66 282 P P **23 19 45.9 +1.7**
AB08 Akbulak array 32.67 282 P P **23 19 45.5 +1.3**
GAR Garm 32.95 259 P P **23 19 48.5 +1.5**
CHGR Chuyangaron 33.84 259 P P **23 19 55.0 +0.3**
PRGR Permogore 34.62 309 *e*P P **23 20 00.3 -0.7**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 38.34 203 P P **23 20 34.2 +1.1**
comp=Z,1.3nm,0.3s,baz=2.6,slow=7.6,SNR=6.4
CMAR Chiang Mai Arr 38.34 203 P P **23 20 33.8 +0.6**
ARCES ARCESS Array B 39.28 326 P P **23 20 42.5 +1.9**
comp=Z,2.6nm,0.9s,baz=39,slow=5.8,SNR=1.0
ARCES LR LR 23 39 03.4
comp=Z,56nm,20.9s,baz=115,slow=40
OBN Obninsk 41.84 303 *i*P P **23 21 03.1 +1.3**
OBN *i* 23 22 58.3
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,104nm,17.0s
TOLK Toolik Lake Re 42.50 33 P P **23 21 06.9 -0.3**
TOLK IAmb IAmb 23 21 15.5
comp=Z,6.2nm,1.0s
VSR Storozhevoye 42.76 297 *e*P P **23 21 10.0 +0.6**
VSR pmax pmax
comp=Z,7.0nm,0.9s
VORD Divnogorie 42.84 296 *e*P P **23 21 10.3 +0.3**
VORD pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 43.04 315 P P **23 21 12.4 +0.9**
comp=Z,3.5nm,0.7s,baz=79,slow=9.9,SNR=9.7
FINES LR LR 23 40 02.8
comp=Z,41nm,18.9s,baz=56,slow=37
FINES FINESS Array B 43.04 315 *i*P P **23 21 14.1 +2.6**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 43.04 315 P P **23 21 12.6 +1.0**
VSU Vasula 44.44 311⇑ *e*P P **23 21 23.1 +0.3**
VSU pmax pmax
comp=Z,22nm,1.0s
VSU MLR MLR
comp=Z,191nm,14.0s
BMAR Burnt Mountain 44.74 32 P P **23 21 25.9 +0.7**
KIV Kislovodsk 45.36 287 *e*P P **23 21 32.2 +1.7**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,102nm,16.0s
KIV Kislovodsk 45.36 287 P P **23 21 31.7 +1.2**
IL31 45.62 36 P P **23 21 32.8 +0.7**
IL31 IAmb IAmb 23 21 38.4
comp=Z,6.8nm,1.1s
ILAR Eielson Array 45.62 36 P P **23 21 32.4 +0.3**
comp=Z,2.0nm,0.9s,baz=296,slow=6.7,SNR=13
AKASG Malin Array Be 48.04 302 P P **23 21 50.7 -0.6**
comp=Z,0.4nm,0.4s,baz=44,slow=8.7,SNR=5.2
BCAR Beaver Creek A 48.44 36 P P **23 21 54.6 +0.4**
NC303 NORSAR Array S 48.80 321 P P **23 21 58.1 +1.1**
NC303 IAmb IAmb 23 22 13.8
comp=Z,7.9nm,1.0s

NB201	**NORSAR Array S**	**48.94**	**321**	P		**P**		**23 21 57.9**	**-0.2**
NB2	**NORSAR Subarra**	**48.98**	**321**	P		P		23 22 02.7	+4.3
	comp=Z,5.8nm,1.1s,baz=49,slow=7.9								
NOA	**NORSAR Array B**	**48.98**	**321**	P		**P**		**23 21 59.0**	**+0.6**
NOA				LR		LR		23 44 13.0	
	comp=Z,1.6nm,0.8s,baz=50,slow=7.5,SNR=5.3								
RES	**Resolute Bay**	**49.00**	**10**	P		P		23 22 02.2	+3.9
RES				pmax		pmax			
	comp=Z,7.0nm,1.2s								
RES	**Resolute Bay**	**49.00**	**10**	P		P		23 22 02.2	+3.8
RES				IAmb		IAmb		23 22 05.8	
	comp=Z,6.9nm,1.1s								
NBO00	**NORSAR Array S**	**49.14**	**321**	P		**P**		**23 22 03.1**	**+3.5**
NBO00				IAmb		IAmb		23 22 18.6	
	comp=Z,5.0nm,0.9s								
MCARA	**McCarthy VSAT**	**49.15**	**38**	P		**P**		**23 21 59.4**	**-0.3**
MYLDM	**Lahad Datu**	**50.05**	**174**	P		**P**		**23 22 06.3**	**-0.6**
UOSS	**Minazif**	**51.35**	**258**	P		**P**		**23 22 17.6**	**+0.8**
LHMI	**Lhok Sumawe**	**51.59**	**201**	P		**P**		**23 22 20.6**	**+2.0**
BUR08	**Bucovina Ar. S**	**52.05**	**301**	P		**P**		**23 22 23.0**	**+1.1**
BUR08				IAmb		IAmb		23 22 28.1	
	comp=Z,3.4nm,0.9s								
BURAR	**Bucovina Array**	**52.06**	**301**	P		**P**		**23 22 22.1**	**+0.1**
BR131	**Keskin Array S**	**53.19**	**288**	P		**P**		**23 22 31.0**	**+0.6**
BR131				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BR131	**Keskin Array S**	**53.19**	**288**	P		**P**		**23 22 31.0**	**+0.6**
BR131				IAmb		IAmb		23 22 32.5	
	comp=Z,3.1nm,0.8s								
BRTR	**Keskin Array B**	**53.19**	**288**	P		**P**		**23 22 31.6**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=69,slow=7.0,SNR=9.5								
BRTR				LR		LR		23 49 53.1	
	comp=Z,32nm,18.1s,baz=55,slow=41								
BRTR	**Keskin Array B**	**53.19**	**288**	P		**P**		**23 22 31.1**	**+0.6**
CLL	**Collm**	**55.10**	**311**	*eP*		**P**		**23 22 45.0**	**+1.0**
CLL	**Collm**	**55.10**	**311**	*eP*		**P**		**23 22 45.0**	**+1.0**
GERES	**GERESS Array B**	**56.59**	**309**	P		**P**		**23 22 54.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=8.5,SNR=2.2								
TEOL	**Teolo**	**60.13**	**307**	P		**P**		**23 23 20.7**	**+1.2**
AQU	**L'Aquila**	**61.62**	**304**	P		**P**		**23 23 30.3**	**+0.5**
AQU	**L'Aquila**	**61.62**	**304**	P		**P**		**23 23 30.3**	**+0.5**
INTR	**Introdacqua**	**61.64**	**303**	P		**P**		**23 23 31.2**	**+1.2**
INTR				IAmb		IAmb		23 23 34.4	
	comp=Z,4.9nm,1.0s								
C09A	**Chrisman Ranch**	**68.51**	**35**	P		**P**		**23 24 16.1**	**+1.7**
C09A				IAmb		IAmb		23 24 20.3	
	comp=Z,4.8nm,1.1s								
BMO	**Blue Mountains**	**71.43**	**36**	P		**P**		**23 24 32.5**	**0.0**
BMO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BMO	**Blue Mountains**	**71.43**	**36**	P		**P**		**23 24 32.5**	**0.0**
BMO				IAmb		IAmb		23 24 38.9	
	comp=Z,3.9nm,1.0s								
ESDC	**Sonseca Array**	**71.53**	**314**	P		**P**		**23 24 34.3**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=31,slow=6.4,SNR=3.3								
ULM	**Lac du Bonnet**	**72.08**	**19**	LR		LR		00 00 16.6	
	comp=Z,55nm,18.1s,baz=11,slow=39								
DLMT	**Dillon**	**72.48**	**32**	P		**P**		**23 24 39.6**	**+0.7**
DLMT				IAmb		IAmb		23 24 45.8	
	comp=Z,6.1nm,1.1s								
MCMT	**McKenzie Canyo**	**72.88**	**33**	P		**P**		**23 24 40.6**	**-0.8**
GCMT	**Greycliff**	**72.96**	**30**	P		**P**		**23 24 41.1**	**-0.6**
BCYI	**Bear Canyon**	**73.17**	**33**	P		**P**		**23 24 44.3**	**+1.2**
MFID	**Camas Ranch**	**73.19**	**35**	P		**P**		**23 24 43.7**	**+0.6**
TPAW	**Teton Pass**	**74.67**	**32**	P		**P**		**23 24 53.2**	**+1.2**
TPAW				IAmb		IAmb		23 24 53.7	
	comp=Z,3.9nm,1.0s								
PNTR	**Pine Nut**	**75.70**	**40**	P		**P**		**23 24 58.5**	**+0.6**
PNTR				IAmb		IAmb		23 25 04.3	
	comp=Z,4.3nm,1.0s								
PDAR	**Pinedale Array**	**75.75**	**31**	P		**P**		**23 24 57.5**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=352,slow=4.5,SNR=5.5								
PDAR				LR		LR		00 01 18.5	
	comp=Z,29nm,20.3s,baz=356,slow=38								
ELK	**Elko**	**75.77**	**36**	P		**P**		**23 24 59.5**	**+1.2**
ELK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ELK	**Elko**	**75.77**	**36**	P		**P**		**23 24 59.5**	**+1.2**
HWUT	**Hardware Ranch**	**76.19**	**33**	IAmb		IAmb		23 25 07.0	
	comp=Z,6.7nm,1.0s								
KVN	**Kaiserville**	**76.28**	**39**	P		**P**		**23 25 02.6**	**+1.4**
KVN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KVN	**Kaiserville**	**76.28**	**39**	P		**P**		**23 25 02.6**	**+1.4**
KVN				IAmb		IAmb		23 25 02.8	
	comp=Z,4.4nm,1.0s								
NVAR	**Mina Array Bea**	**76.76**	**39**	P		**P**		**23 25 04.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=301,slow=4.3,SNR=8.1								
WRAB	**Tennant Creek**	**76.92**	**160**⇑	*eP*		**P**		**23 25 02.7**	**-1.8**
WRAB				pmax		pmax			
	comp=Z,4.0nm,1.0s								
WRAB				MLR		MLR			
	comp=Z,75nm,16.0s								
WRA	**Warramunga Arr**	**76.93**	**160**	P		**P**		**23 25 04.3**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=347,slow=6.1,SNR=12								
WC3	**Warramunga Arr**	**76.95**	**160**	P		**P**		**23 25 04.5**	**-0.2**
WR0	**Warramunga Arr**	**76.98**	**160**	P		**P**		**23 25 04.8**	**-0.1**
WR0				IAmb		IAmb		23 25 05.3	
	comp=Z,5.6nm,1.1s								
MDPB	**Devils Postpil**	**77.18**	**40**	P		**P**		**23 25 02.0**	**-4.3**
MDPB				IAmb		IAmb		23 25 04.6	
	comp=Z,5.7nm,0.9s								
RDMU	**Red Mountain**	**77.75**	**32**	P		**P**		**23 25 09.8**	**+0.4**
P17A	**Butcher Ranch,**	**78.39**	**33**	P		**P**		**23 25 13.1**	**+0.2**
MSU	**Marysvale**	**78.81**	**35**	P		**P**		**23 25 16.3**	**+1.0**
MSU	**Marysvale**	**78.81**	**35**	P		**P**		**23 25 16.2**	**+1.0**
SADO	**Sadowa**	**79.81**	**9**	LR		LR		00 02 46.2	
	comp=Z,28nm,18.7s,baz=352,slow=37								
PV14	**Lion Creek, Pa**	**79.94**	**33**	P		**P**		**23 25 21.1**	**-0.4**
PV14				IAmb		IAmb		23 25 22.5	
	comp=Z,4.7nm,0.8s								
KNB	**Kanab**	**79.94**	**36**	P		**P**		**23 25 21.5**	**0.0**
KNB				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KNB	**Kanab**	**79.94**	**36**	P		**P**		**23 25 21.5**	**0.0**
ASAR	**Alice Springs**	**80.47**	**161**	P		**P**		**23 25 24.3**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=341,slow=3.9,SNR=9.0								
ASAR	**Alice Springs**	**80.47**	**161**	P		**P**		**23 25 23.9**	**-0.2**
SDCO	**Great Sand Dun**	**81.57**	**30**	IAmb		IAmb		23 25 38.2	
	comp=Z,3.2nm,1.1s								
KMBO	**Kilima Mbogo**	**83.11**	**258**	*i* P		**P**		**23 25 42.0**	**+3.5**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ANMO	**Albuquerque**	**83.89**	**32**⇑	*eP*		**P**		**23 25 42.9**	**+0.6**
ANMO				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ANMO				MLR		MLR			
	comp=Z,30nm,11.0s								
TXAR	**Lajitas Array**	**89.96**	**32**	P		**P**		**23 26 10.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=0.4,SNR=5.0								
TORD	**Torodi Ar. Bea**	**91.29**	**295**	P		**P**		**23 26 17.1**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=48,slow=3.7,SNR=2.9								
TORD	**Torodi Ar. Bea**	**91.29**	**295**	IAmb		IAmb		23 26 20.1	
	comp=Z,1.0nm,1.1s								

IDC ***17*** *23:22:59.1±2.5,31°.13S×68°.45W,h90km±22km, mb3.5/3, mb1 3.7/8, mb1mx3.5/24, mbtmp3.8/8, Error ellipse: s-maj=31.2km s-min=25.2km az=88.0*

ISC 17 23:22:59.8±0.9, 31°.01S×68°.5W±0°.2, h101km, n9, σ2.5 50/10, mb3.5/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.37**	**357**	P		**Pn**	**23 24 59.0**	**+0.2**
	1.1nm,0.3s,baz=151,slow=13,SNR=12							
LVC				S		**Sn**	**23 26 26.9**	**-4.9**
	0.6nm,0.3s,baz=282,slow=22,SNR=2.2							
PLCA	**Paso Flores**	**9.85**	**189**	P		**Pn**	**23 25 16.3**	**-2.2**
	0.2nm,0.3s,baz=351,slow=13,SNR=8.1							
CPUP	**Villa Florida**	**10.84**	**67**	P		**Pn**	**23 25 31.6**	**-0.3**
	0.4nm,0.3s,baz=221,slow=12,SNR=5.9							
LPAZ	**La Paz**	**14.66**	**1**	P		**Pn**	**23 26 26.1**	**+3.3**
	0.2nm,0.3s,baz=170,slow=5.3,SNR=5.3							
SIV	**San Ignacio**	**16.41**	**26**	P		**Pn**	**23 26 45.1**	**+0.9**
	0.3nm,0.3s,baz=224,slow=9.6,SNR=5.4							
TXAR	**Lajitas Array**	**68.73**	**327**	P		**P**	**23 33 54.1**	**+1.3**
	0.5nm,0.6s,baz=153,slow=8.0,SNR=8.5							
TORD	**Torodi Ar. Bea**	**80.33**	**68**	P		**P**	**23 35 01.0**	**+0.8**
	1.4nm,0.8s,baz=262,slow=5.1,SNR=9.8							
PDAR	**Pinedale Array**	**82.55**	**331**	P		**P**	**23 35 12.4**	**+0.9**
	0.4nm,0.8s,baz=134,slow=6.4,SNR=2.6							
ZALV	**Zalesovo Beam**	**150.09**	**32**	PKPbc		**PKPbc**	**23 42 38.6**	**+0.4**
	4.0nm,0.8s,baz=306,slow=3.0,SNR=3.6							

MAN 17 23:25:06.1, 5°.71N×125°.95E, h105km, mb4.5, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.46**	**329**	*eP*		23 25 23.8	+1.6
DDMP				*eS*		23 25 38.0	+3.7
MATI	**Mati**	**1.27**	**14**	*eP*		23 25 30.4	+0.5
MATI				*eS*		23 25 48.8	+0.9
KCP	**Kidapawan**	**1.55**	**327**⇓	*iP*		23 25 35.2	+1.8
SKMP	**Bagumbayan, Su**	**1.62**	**300**	*eP*		23 25 34.1	+0.1
SKMP				*eS*		23 25 51.4	-3.9
BUKP	**Musuan**	**2.33**	**338**	*eP*		23 25 43.7	+0.4
BUKP				*eS*		23 26 11.8	+0.1

NEIC ***17*** *23:32:49.2±1.5, 7°.55N±0°.04×94°.60E±0°.06, h43km±6km, mb4.7/50, Error ellipse: s-maj=9.5km s-min=6.2km az=101.0*

DJA ***17*** *23:32:49.5±0.5, 7°.N±4°×9°.5E±°, h53km±8km, M4.6/10, mb4.7/10, mB5.2/7, MLv4.6/8, Mw(mB)4.5/7*

IDC ***17*** *23:32:51.3±3.2, 7°.58N×94°.59E, h60km±29km, mb3.9/21, mb1 4.0/23, mb1mx3.9/44, mbtmp4.1/23, ML4.4/2, MS3.5/23, Ms1 3.5/23, ms1mx3.3/51, Error ellipse: s-maj=22.9km s-min=11.2km az=61.0*

ISC 17 23:32:47.1±0.4, 7°.43N±0°.05×94°.47E±0°.05, h24km, n139, σ1 75/122, mb4.6/52, MS3.6/28, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.29**	**131**	P		**Pn**	**23 33 38.0**	**+0.8**
LHMI	**Lhok Sumawe**	**3.29**	**131**	Pn		**Pn**	**23 33 38.8**	**+1.5**
MLSI	**Meulaboh, Aceh**	**3.68**	**148**	P		**Pn**	**23 33 45.2**	**+2.6**
PKDT	**Phuket**	**3.86**	**83**	P		**Pn**	**23 33 47.2**	**+2.1**
PBA	**Port Blair**	**4.53**	**338**	Pn		Pn	23 33 54.3	0.0
SURT	**Suratani**	**4.55**	**70**	P		**Pn**	**23 33 57.8**	**+3.3**
TPTI		**4.94**	**147**	P		**Pn**	**23 34 01.6**	**+1.7**
TRTT	**Trang**	**5.20**	**85**	P		**Pn**	**23 34 05.3**	**+1.9**
TRTT				S		**Sn**	**23 35 05.1**	**+2.5**
SRIT	**Nakonsritamara**	**5.22**	**77**	P		**Pn**	**23 34 06.5**	**+2.7**
SRIT				S		**Sn**	**23 35 05.1**	**+1.9**
SRIT	**Nakonsritamara**	**5.22**	**77**	Pn		**Pn**	**23 34 02.3**	**-1.4**
PSI	**Prapat**	**6.39**	**136**	P		**Pn**	**23 34 23.4**	**+3.5**
	3.6nm,0.3s,baz=338,slow=6.7,SNR=12							
PSI				S		**Sn**	**23 35 34.2**	**+1.9**
	1.4nm,0.3s,baz=174,slow=18,SNR=1.4							
PSI				LR		LR	23 37 13.8	
	comp=Z,380nm,18.5s,baz=277,slow=40							
RPSI	**Rantau Prapat**	**6.46**	**136**	Pn		**Pn**	**23 34 22.8**	**+1.9**
RPSI	**Rantau Prapat**	**6.46**	**136**			**Pn**	**23 34 23.4**	**+2.6**
RPSI						**Sn**	**23 35 34.2**	**+0.2**
KULM	**Kulim**	**6.50**	**109**	Pn		**Pn**	**23 34 21.6**	**+0.2**
GSI	**Gunungsitoli**	**6.83**	**153**	P		**Pn**	**23 34 25.9**	**+0.1**
	0.2nm48nm,0.9s							
GSI	**Gunungsitoli**	**6.83**	**153**	Pn		**Pn**	**23 34 26.8**	**+0.9**
IPM	**Ipoh**	**7.15**	**114**	Pn		**Pn**	**23 34 30.3**	**-0.1**
PHET	**Kaeng Krachan**	**7.45**	**43**	P		**Pn**	**23 34 35.8**	**+1.4**
SRDT	**SRDT**	**8.26**	**33**	P		**Pn**	**23 34 47.4**	**+1.9**
SRDT				S		**Sn**	**23 36 20.4**	**+2.2**
MNSI	**Mandailing Nat**	**8.33**	**142**	P		**Pn**	**23 34 47.7**	**+1.2**
	882nm28nm,0.5s							
CMAR	**Chiang Mai Arr**	**11.80**	**21**	P		**Pn**	**23 35 36.0**	**+2.0**
	1.1nm,0.3s,baz=214,slow=15,SNR=18							
CMAR				LR		LR	23 40 18.6	
	comp=Z,289nm,18.2s,baz=246,slow=38							
CHTO	**Chiang Mai**	**12.13**	**21**	Pn		**Pn**	**23 35 38.7**	**+0.2**
SLVN	**Son La**	**16.56**	**32**	P		**Pn**	**23 36 35.4**	**-2.6**
KOHI	**KOHIMA**	**18.20**	**359**	*ex*		**Pn**	**23 36 58.8**	**+0.4**
KOHI				IAmb		IAmb	23 37 04.1	
	comp=Z,19nm,0.8s							
BOK	**Bokaro**	**18.24**	**334**	*ex*		**Pn**	**23 37 01.5**	**+2.7**
BOK				IAmb		IAmb	23 37 04.3	
	comp=Z,11nm,0.9s							
SBUM	**Sibu**	**18.36**	**105**	P		**P**	**23 36 59.6**	**-0.7**
QIZ	**Qiongzhong**	**18.88**	**51**	P		**P**	**23 37 04.0**	**-1.9**
QIZ				S		**Sn**	**23 40 32.6**	**-4.7**
QIZ				LR		LR		
	comp=N,910nm,14.1s							
QIZ				LR		LR		
	comp=E,400nm,12.8s							
QIZ				LR		LR		
	comp=Z,170nm,7.3s							
KMI	**Kunming**	**19.29**	**23**	⇑P		**Pn**	**23 37 15.3**	**+3.5**
KMI				pP		pwP	23 37 30.0	+10
KMI				pmax		pmax		
	comp=Z,17nm,1.0s							
KMI				pmax		pmax		
	comp=Z,140nm,3.9s							
KMI				LR		LR		
	comp=N,220nm,16.4s							
KMI				LR		LR		
	comp=E,190nm,18.4s							
ZIRO	**ZIRO**	**20.00**	**358**	*ex*		x	23 37 18.9	
GYA	**Guiyang**	**22.20**	**30**	⇓P		**P**	**23 37 45.3**	**+3.3**
GYA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GYA				LR		LR		
	comp=N,220nm,16.1s							
GYA				LR		LR		
	comp=E,430nm,13.4s							
GYA				LR		LR		
	comp=Z,170nm,13.6s							
LSA	**Lhasa**	**22.38**	**352**	P		**P**	**23 37 44.1**	**-0.1**
LSA				pmax		pmax		
	comp=Z,20nm,0.7s							
LSA	**Lhasa**	**22.38**	**352**	P		**P**	**23 37 44.6**	**+0.4**
LSA				IAmb		IAmb	23 37 52.5	
	comp=Z,19nm,0.9s							
BHPL	**Bhopal**	**22.70**	**316**	*ex*		x	23 37 49.4	
BHPL				IAmb		IAmb	23 37 54.6	
	comp=Z,9.1nm,0.8s							
MYLDM	**Lahad Datu**	**23.99**	**94**	P		**P**	**23 37 59.1**	**-1.1**
MYLDM				IAmb		IAmb	23 38 15.6	
	comp=Z,21nm,0.9s							
CD2	**Chengdu**	**24.93**	**19**	*eP*		**P**	**23 38 08.0**	**-0.6**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
JAGI	**Jajag, Banyuwa**	**25.19**	**128**	P		**P**	**23 38 09.8**	**-1.3**
JAGI				IAmb		IAmb	23 38 27.9	
	comp=Z,43nm,1.3s							
MPSI	**Mapaga**	**26.32**	**104**	P		**P**	**23 38 19.6**	**-1.7**
	comp=Z,2µmcomp=Z,14nm,0.9s							
DGAR	**Diego Garcia**	**26.44**	**237**	P		**P**	**23 38 23.4**	**+1.0**
H08S3	**Diego Garcia H**	**26.54**	**236**	T		T	00 05 10.0	
	baz=55,slow=75,SNR=447							
H08S2	**Diego Garcia H**	**26.54**	**236**	T		T	00 05 13.8	
	baz=55,slow=75,SNR=131							
H08S1	**Diego Garcia H**	**26.55**	**236**	T		T	00 05 10.7	
	baz=55,slow=75,SNR=379							
ENH	**Enshi**	**26.74**	**30**	P		**P**	**23 38 24.2**	**-0.9**
ENH				IAmb		IAmb	23 38 39.7	
	comp=Z,11nm,1.0s							
TGY	**Tagaytay City**	**26.82**	**73**	LR		LR	23 49 23.8	
	comp=Z,98nm,19.2s,baz=47,slow=37							
KAPI	**Kappang**	**28.09**	**115**	P		**P**	**23 38 36.6**	**-0.7**
KAPI				IAmb		IAmb	23 38 43.9	
	comp=Z,23nm,1.1s							
KNMB	**Chin-men Tao**	**28.48**	**51**	P		**P**	**23 38 38.4**	**-2.2**
LUWI	**Luwuk**	**29.46**	**105**	P		**P**	**23 38 49.3**	**-0.1**
WHN	**Wuhan**	**29.60**	**36**	P		P	23 39 01.8	+11
WHN				S		**S**	**23 43 52.1**	**+7.6**
WHN				LR		LR		
	comp=Z,350nm,14.5s							
XAN	**Xi'an**	**29.66**	**25**	P		P	23 38 56.5	+5.4
XAN				pP		pwP	23 39 14.5	+13
XAN				sP		sP	23 39 22.3	+22
XAN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,98nm,4.1s							
XAN				LR		LR		
	comp=N,310nm,15.2s							
XAN				LR		LR		
	comp=E,280nm,15.2s							
XAN				LR		LR		
	comp=Z,390nm,17.3s							
LZH	**Lanzhou**	**29.79**	**15**	*eP*		**P**	**23 38 52.8**	**+0.5**
LZH				pP		pwP	23 39 05.8	+3.9
LZH				sP		sP	23 39 09.1	+7.6
LZH				PP		PnPn	23 39 36.5	-12
LZH				pmax		pmax		
	comp=Z,12nm,1.1s							
LZH				pmax		pmax		
	comp=Z,79nm,5.4s							
LZH				LR		LR		
	comp=N,150nm,11.4s							
LZH				LR		LR		
	comp=E,190nm,13.0s							
LZH				LR		LR		
	comp=Z,170nm,13.0s							
DAV	**Davao City (W)**	**30.86**	**89**	LR		LR	23 52 19.0	
	comp=Z,49nm,19.9s,baz=252,slow=38							
GTA	**Gaotai**	**32.21**	**8**	*eP*		**P**	**23 39 15.5**	**+1.9**
GTA				pP		pwP	23 39 28.8	+5.6
GTA				sP		sP	23 39 33.9	+11
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,31nm,6.1s							
GTA				LR		LR		
	comp=N,120nm,17.4s							
GTA				LR		LR		
	comp=E,560nm,18.5s							
GTA				LR		LR		
	comp=Z,92nm,17.1s							
NIL	**Nilore**	**32.65**	**326**	P		**P**	**23 39 16.0**	**-1.4**
NIL				IAmb		IAmb	23 39 23.0	
	comp=Z,14nm,0.9s							
NJ2	**Nanjing**	**33.41**	**40**	*eP*		**P**	**23 39 22.0**	**-2.0**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
BATI	**Baumata**	**33.94**	**121**	LR		LR	23 54 47.6	
	comp=Z,237nm,19.4s,baz=304,slow=39							
KBL	**Kabul**	**35.72**	**323**	P		**P**	**23 39 44.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**36.61**	**22**	*eP*		**P**	**23 39 50.9**	**-0.8**
HHC				pmax		pmax		
	comp=Z,22nm,1.0s							
HHC				pmax		pmax		
	comp=Z,99nm,7.3s							
HHC				LR		LR		
	comp=N,170nm,12.8s							
HHC				LR		LR		
	comp=E,260nm,12.7s							
HHC				LR		LR		
	comp=Z,100nm,15.1s							
WMQ	**Urumqi**	**36.73**	**352**	*eP*		**P**	**23 39 52.5**	**-0.1**
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,34nm,4.1s							
WMQ				LR		LR		
	comp=N,250nm,29.2s							
WMQ				LR		LR		
	comp=E,580nm,29.2s							
WMQ				LR		LR		
	comp=Z,40nm,29.0s							
KDJ	**Kajisay**	**37.80**	**339**	P		**P**	**23 40 01.3**	**-0.5**
WSAR	**Wadi Sarin**	**37.82**	**299**	LR		LR	23 56 25.6	
	comp=Z,40nm,18.1s,baz=125,slow=37							
GAR	**Garm**	**38.22**	**329**	P		**P**	**23 40 04.5**	**-0.9**
GAR				IAmb		IAmb	23 40 15.4	
	comp=Z,16nm,1.3s							
CHGR	**Chuyangaron**	**38.57**	**328**	P		**P**	**23 40 07.0**	**-1.3**
CHGR				IAmb		IAmb	23 40 19.3	
	comp=Z,12nm,0.7s							
BTK	**Batken**	**38.78**	**331**	P		**P**	**23 40 09.4**	**-0.6**
BTK				IAmb		IAmb	23 40 25.5	
	comp=Z,18nm,1.4s							
FITZ	**Fitzroy Crossi**	**39.88**	**130**	P		**P**	**23 40 18.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=323,slow=10.0,SNR=2.3							
MK31	**Makanchi Array**	**40.59**	**347**	P		**P**	**23 40 23.8**	**-1.2**
MKAR	**Makanchi Array**	**40.59**	**347**	P		**P**	**23 40 23.7**	**-1.2**
	comp=Z,4.6nm,0.7s,baz=164,slow=8.1,SNR=46							
MKAR				LR		LR	00 00 37.5	
	comp=Z,27nm,18.4s,baz=168,slow=41							
MKAR	**Makanchi Array**	**40.59**	**347**	P		**P**	**23 40 23.5**	**-1.5**
MAKZ	**Makanchi**	**40.68**	**347**	P		**P**	**23 40 24.5**	**-1.1**
KKAR	**Karatay Array**	**41.30**	**333**	P		**P**	**23 40 30.0**	**-0.9**
SONM	**Songino Array**	**41.53**	**12**	P		**P**	**23 40 32.0**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=192,slow=5.7,SNR=3.3							
SONM				LR		LR	00 00 00.8	
	comp=Z,41nm,19.7s,baz=173,slow=39							
SONM	**Songino Array**	**41.53**	**12**	P		**P**	**23 40 31.5**	**-1.2**
KSRS	**Korea Array**	**42.59**	**40**	LR		LR	23 59 54.3	
	comp=Z,47nm,18.3s,baz=233,slow=38							
GEYT	**Alibeck**	**44.75**	**318**	P		**P**	**23 40 59.3**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=142,slow=7.5,SNR=8.4							
GEYT				LR		LR	00 03 02.5	
	comp=Z,52nm,18.5s,baz=210,slow=40							
GEYT	**Alibeck**	**44.75**	**318**	P		**P**	**23 40 58.3**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**44.75**	**318**	P		**P**	**23 40 57.4**	**-1.4**
GYA0B				IAmb		IAmb	23 41 05.5	
	comp=Z,6.1nm,0.7s							
TLY	**Talaya**	**44.76**	**8**	P		**P**	**23 40 56.6**	**-2.1**
TLY				IAmb		IAmb	23 41 11.7	
	comp=Z,17nm,0.9s							
KURBB	**Kurchatov Arra**	**45.06**	**346**	P		**P**	**23 41 00.3**	**-0.7**
	comp=Z,8.1nm,0.8s,baz=165,slow=7.4,SNR=7.7							
KURK	**Kurchatov**	**45.12**	**346**	P		**P**	**23 40 59.9**	**-1.6**
KURK				IAmb		IAmb	23 41 07.3	
	comp

comp=Z,1.1nm,0.5s,baz=99,slow=5.1,SNR=17
VYHS Vyhne 74.95 318 *e*P **P 23 44 30.3 +3.9**
BOSA Boshof 75.62 238 P **P 23 44 30.1 -0.6**
comp=Z,7.0nm,1.1s,baz=84,slow=7.1,SNR=5.3
BOSA LR LR 00 13 55.8
comp=Z,18nm,19.2s,baz=36,slow=32
BOSA Boshof 75.62 238 IAmb IAmb 23 44 32.9
comp=Z,22nm,1.5s
ARCES ARCESS Array B 75.79 340 P **P 23 44 29.3 -1.5**
comp=Z,1.4nm,0.8s,baz=35,slow=4.4,SNR=4.5
ARCES LR LR 00 20 28.0
comp=Z,79nm,20.5s,baz=140,slow=38
KRLC Kraliky 76.44 320 *e*P **P 23 44 37.3 +2.4**
VRAC Vranov 76.50 319 LR LR 00 23 34.8
comp=Z,28nm,18.3s,baz=308,slow=40
DPC Dobruska-Polom 76.75 320 *e*P P 23 44 41.8 +5.1
MAW Mawson 78.17 192 P **P 23 44 45.5 +1.4**
comp=Z,1.9nm,0.8s,baz=29,slow=3.8,SNR=7.5
MAW Mawson 78.17 192 IAmb IAmb 23 44 47.1
comp=Z,0.4nm,0.8s
PBCC Pribram 78.21 319 *e*P **P 23 44 47.7 +2.9**
GERES GERESS Array B 78.37 318 P **P 23 44 45.6 -0.3**
comp=Z,1.9nm,0.6s,baz=86,slow=5.5,SNR=12
GERES GERESS Array B 78.37 318 P **P 23 44 46.4 +0.5**
PRED Cave del Predi 78.39 316 P **P 23 44 48.1 +2.2**
PRED IAmb IAmb 23 44 51.2
comp=Z,4.7nm,0.8s
KHC Kasperske Hory 78.47 319 *e*P **P 23 44 48.8 +2.5**
KHC Kasperske Hory 78.47 319 P **P 23 44 48.4 +2.2**
TEOL Teolo 79.70 315 P **P 23 44 53.4 +0.3**
TEOL IAmb IAmb 23 44 59.7
comp=Z,7.9nm,0.8s
NC405 NORSAR Array S 80.04 331 P **P 23 44 54.0 -0.6**
NC602 NORSAR Array S 80.11 330 P **P 23 44 54.5 -0.4**
NC303 NORSAR Array S 80.21 331 P **P 23 44 54.5 -1.0**
NB201 NORSAR Array S 80.24 331 P **P 23 44 55.2 -0.5**
NB201 IAmb IAmb 23 45 01.7
comp=Z,23nm,1.1s
NB2 NORSAR Subarra 80.28 331 P **P 23 44 54.0 -1.9**
comp=Z,2.9nm,0.8s,baz=90,slow=5.9
NOA NORSAR Array B 80.28 331 P **P 23 44 54.0 -1.9**
comp=Z,0.7nm,0.6s,baz=93,slow=5.5,SNR=3.2
NOA LR LR 00 22 36.9
comp=Z,17nm,21.1s,baz=300,slow=37
DAVOX Davos/Dischmat 80.93 316 LR LR 00 26 10.3
comp=Z,35nm,19.0s,baz=312,slow=40
TORD Torodi Ar. Bea 91.01 283 P **P 23 45 52.1 +1.9**
comp=Z,1.1nm,0.8s,baz=81,slow=4.0,SNR=6.1
TORD Torodi Ar. Bea 91.01 283 P P 23 45 55.1 +4.9
ESDC Sonseca Array 91.75 310 P **P 23 45 53.8 +0.5**
comp=Z,0.7nm,0.7s,baz=62,slow=4.7,SNR=4.1
ESDC Sonseca Array 91.75 310 IAmb IAmb 23 45 59.0
comp=Z,3.9nm,0.9s
VNDA Vanda 92.43 168 LR LR 00 22 04.8
comp=Z,28nm,19.5s,baz=18,slow=32
TXAR Lajitas Array 139.50 25 PKP **PKPdf 23 52 13.8 +0.3**
comp=Z,0.1nm,0.5s,baz=325,slow=1.1,SNR=2.1
PLCA Paso Flores 144.24 200 PKP PKPbc 23 52 20.5 +0.7
comp=Z,3.1nm,0.8s,baz=220,slow=5.8,SNR=5.4
CPUP Villa Florida 147.24 232 PKPbc **PKPbc 23 52 28.2 -1.1**
comp=Z,1.9nm,0.7s,baz=134,slow=18,SNR=4.1

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*DJA **17** 23:46:11.9±0.2,6°S±3°×10°5E±°, h10km, M4.8/17, mb5.2/3, mB6.8/1, MLv4.6/17, Mw(mB)6.7/1*
*NEIC **17** 23:46:15.1±2.4, 5.79S±0.04×104.62E±0.07, h55km±8km, mb4.3/19, Error ellipse: s-maj=9.9km s-min=5.7km az=94.0*
*IDC **17** 23:46:22.4±3.3, 5.50S×105.12E, h114km±29km, mb3.7/13, mb1 3.9/15, mb1mx3.7/40, mbtmp4.2/15, MS3.4/9, Ms1 3.4/9, ms1mx3.1/40, Error ellipse: s-maj=33.5km s-min=12.6km az=58.0*
ISC 17 23:46:13.3±0.5, 5.77S±0.05×104.64E±0.06, h35km, n84, σ1s78/67, mb4.2/23, MS3.3/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.28**	**329**	P	**Pn**	**23 46 17.6**	**-3.4**
BLSI	**Bandar Lampung**	**0.72**	**57**	P	Pn	23 46 20.4	-6.6
LWLI	**Liwa**	**0.94**	**322**	P	**Pn**	**23 46 29.7**	**-0.5**
KLSI		**1.07**	**5**	P	**Pn**	**23 46 28.8**	**-3.1**
CGJI	**Cibinong**	**1.34**	**129**	P	**Pn**	**23 46 33.4**	**-2.2**
MDSI	**Maura Dua**	**1.35**	**340**	P	**Pn**	**23 46 35.0**	**-0.7**
TNG	**Tangerang**	**2.04**	**102**	P	**Pn**	**23 46 44.9**	**-0.2**
MNAI	**Manna**	**2.18**	**310**	P	**Pn**	**23 46 50.9**	**+3.7**
MNAI	**Manna**	**2.18**	**310**	Pn	**Pn**	**23 46 49.4**	**+2.3**
LHSI	**Lahat**	**2.23**	**330**	P	**Pn**	**23 46 49.7**	**+2.0**
DBJI	**Dramaga**	**2.24**	**111**	P	**Pn**	**23 46 47.2**	**-0.7**
SKJI	**Sukabumi**	**2.27**	**123**	P	**Pn**	**23 46 49.6**	**+1.3**
CBJI	**Citeko**	**2.29**	**107**	P	**Pn**	**23 46 50.8**	**+2.2**
PMBI	**Palembang**	**2.82**	**3**	P	**Pn**	**23 46 58.6**	**+2.6**
PMBI	**Palembang**	**2.82**	**3**		**Pn**	**23 46 58.3**	**+2.3**
CNJI	**Cibinong**	**2.91**	**122**	P	**Pn**	**23 46 56.0**	**-1.1**
KSI	**Kapahiang**	**2.93**	**316**	P	**Pn**	**23 47 01.4**	**+3.9**
LEM	**Lembang**	**3.14**	**110**	P	Pn	23 47 06.8	+6.4
	42nm,0.3s,baz=180,slow=9.9,SNR=7.8			S			
LEM	42nm,0.3s,baz=160,slow=23,SNR=2.1			S	Sn	23 47 50.1	+13
LEM				LR	LR	23 48 19.4	
	comp=Z,501nm,21.6s,baz=258,slow=42						
LEM	**Lembang**	**3.14**	**110**	P	**Pn**	**23 47 04.6**	**+4.1**
MASI	**Maura Aman, Be**	**3.54**	**317**	P	**Pn**	**23 47 09.2**	**+3.3**
CISI	**Cisompet, Garu**	**3.62**	**120**	P	**Pn**	**23 47 06.7**	**-0.3**
CISI	**Cisompet, Garu**	**3.62**	**120**	Pn	**Pn**	**23 47 07.5**	**+0.5**
JCJI	**Jatiwangi**	**3.68**	**101**	P	Pn	23 47 19.6	+12
PPBI	**Pangkal Pinang**	**3.88**	**23**	P	**Pn**	**23 47 09.6**	**-0.9**
TPI	**Tanjungpandan**	**4.24**	**45**	P	**Pn**	**23 47 14.3**	**-1.1**
CMJI	**Cimerak**	**4.28**	**118**	P	**Pn**	**23 47 13.7**	**-2.3**
KPJI	**Karang Pucung**	**4.54**	**110**	P	**Pn**	**23 47 20.1**	**+0.5**
XMIS	**Christmas Isla**	**4.79**	**168**	Pn	**Pn**	**23 47 21.1**	**-2.0**
KRJI	**Kerinci**	**4.83**	**319**	P	Pn	23 47 29.0	+5.3
DSRI	**Dabo**	**5.25**	**359**	P	Pn	23 47 37.3	+7.9
SMRI	**Semarang**	**5.90**	**103**	Pn	**Pn**	**23 47 41.1**	**+2.7**
UGM	**Wanagama**	**6.22**	**110**	Pn	**Pn**	**23 47 45.0**	**+2.4**
PWJI	**Pagerwojo**	**7.46**	**108**	P	**Pn**	**23 48 02.4**	**+2.7**
JAGI	**Jajag, Banyuwa**	**9.81**	**106**	Pn	**Pn**	**23 48 34.1**	**+2.1**
PSI	**Prapat**	**10.25**	**326**	LR	LR	23 53 29.8	
	comp=Z,185nm,18.8s,baz=152,slow=42						
KAPI	**Kappang**	**15.06**	**88**	LR	LR	23 55 45.2	
	comp=Z,133nm,18.6s,baz=256,slow=39						
WSI	**Waingapu**	**15.99**	**105**	P	**Pn**	**23 49 52.9**	**-2.8**
	45µm2µm,0.4s						
GIRL	**Giralia**	**19.17**	**152**	P	**Pn**	**23 50 36.1**	**+1.1**
BATI	**Baumata**	**19.34**	**104**	P	**P**	**23 50 34.6**	**-1.3**
	9.5nm,0.3s,baz=243,slow=5.3,SNR=8.7						
BATI	**Baumata**	**19.34**	**104**	P	**Pn**	**23 50 36.4**	**-0.9**
	45nm,0.7s						
SOEI	**Soe**	**19.84**	**103**	P	Pn	23 50 56.3	+13
SOEI	**Soe**	**19.84**	**103**		**Pn**	**23 50 41.9**	**-1.4**
PSA00	**Pilbara Seismi**	**21.53**	**138**	P	**P**	**23 50 59.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.89**	**123**	P	**P**	**23 51 22.8**	**-1.1**
	4.2nm,0.7s,baz=331,slow=9.5,SNR=7.6						
FITZ				LR	LR	23 59 22.8	
	comp=Z,68nm,21.6s,baz=304,slow=33						
FITZ	**Fitzroy Crossi**	**23.89**	**123**	P	**P**	**23 51 23.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**24.72**	**347**	P	**P**	**23 51 30.5**	**-1.0**
	0.8nm,0.3s,baz=184,slow=9.2,SNR=7.2						
CMAR				LR	LR	00 02 51.8	
	comp=Z,74nm,20.2s,baz=198,slow=40						
KNRA	**Kununurra**	**25.64**	**115**	P	**P**	**23 51 38.3**	**-1.5**
KNRA				IAmb	IAmb	23 51 55.4	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**27.05**	**107**	P	**P**	**23 51 53.0**	**+0.2**
MTN				IAmb	IAmb	23 51 58.4	
	comp=Z,8.1nm,0.7s						
H01W3	**Cape Leeuwin H**	**30.27**	**164**	T	T	00 23 56.3	
	baz=342,slow=76,SNR=416						
H01W1	**Cape Leeuwin H**	**30.29**	**164**	T	T	00 23 57.5	
	baz=342,slow=76,SNR=642						
H01W2	**Cape Leeuwin H**	**30.29**	**164**	T	T	00 24 00.6	
	baz=342,slow=76,SNR=573						
H08S2	**Diego Garcia H**	**31.98**	**265**	T	T	00 26 04.2	
	baz=89,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**31.99**	**265**	T	T	00 26 05.0	
	baz=89,slow=75,SNR=35						
H08S1	**Diego Carcia H**	**32.00**	**265**	T	T	00 26 05.7	
	baz=89,slow=75,SNR=34						
WB0	**Warramunga Arr**	**32.10**	**118**	P	**P**	**23 52 36.4**	**-1.1**
WB0				IAmb	IAmb	23 52 48.5	
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**32.12**	**119**	P	**P**	**23 52 36.4**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=292,slow=10,SNR=19						
WB2	**Warramunga Arr**	**32.13**	**119**	P	**P**	**23 52 36.8**	**-1.0**
WB2				IAmb	IAmb	23 52 43.5	
	comp=Z,2.9nm,0.8s						
WR0	**Warramunga Arr**	**32.30**	**119**	P	**P**	**23 52 38.4**	**-0.9**
WR0				IAmb	IAmb	23 52 45.5	
	comp=Z,2.7nm,0.8s						
FORT	**Forrest**	**33.21**	**141**	P	**P**	**23 52 48.0**	**+0.9**
AS31	**Alice Springs**	**33.31**	**125**	P	**P**	**23 52 47.7**	**-0.4**
AS31				IAmb	IAmb	23 52 56.9	
	comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**33.31**	**125**	P	**P**	**23 52 47.8**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=299,slow=8.0,SNR=60						
BBOO	**Buckleboo**	**39.75**	**137**	P	**P**	**23 53 42.4**	**-0.5**
BBOO				IAmb	IAmb	23 53 52.0	
	comp=Z,4.4nm,0.8s						
STKA	**Stephens Creek**	**43.20**	**132**	P	**P**	**23 54 10.9**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=317,slow=9.8,SNR=8.1						
STKA	**Stephens Creek**	**43.20**	**132**	P	**P**	**23 54 11.9**	**+0.7**
JHS	**Saijyo**	**48.62**	**31**	P	**P**	**23 54 54.7**	**+0.9**
SONM	**Songino Array**	**53.39**	**1**	P	**P**	**23 55 29.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=175,slow=8.7,SNR=6.0						
SONM	**Songino Array**	**53.39**	**1**	IAmb	IAmb	23 55 35.2	
	comp=Z,1.1nm,0.8s						
KDJ	**Kajisay**	**53.84**	**335**	P	**P**	**23 55 32.1**	**-0.9**
KDJ				IAmb	IAmb	23 55 51.0	
	comp=Z,2.2nm,0.7s						
MK31	**Makanchi Array**	**55.96**	**342**	P	**P**	**23 55 48.9**	**+0.8**
MKAR	**Makanchi Array**	**55.96**	**342**	P	**P**	**23 55 48.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=157,slow=8.4,SNR=10.0						
MKAR				LR	LR	00 23 23.9	
	comp=Z,43nm,19.4s,baz=204,slow=40						
TLY	**Talaya**	**57.23**	**359**	LR	LR	00 22 56.4	
	comp=Z,31nm,18.9s,baz=162,slow=38						
ZALV	**Zalesovo Beam**	**61.78**	**347**	P	**P**	**23 56 27.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=156,slow=9.1,SNR=4.8						
ZALV				LR	LR	00 25 51.5	
	comp=Z,45nm,18.9s,baz=84,slow=38						
ZALV	**Zalesovo Beam**	**61.78**	**347**	P	**P**	**23 56 25.8**	**-2.6**
ABKAR	**Akbulak array**	**67.17**	**330**	P	**P**	**23 57 01.4**	**-2.2**
MAW	**Mawson**	**67.88**	**196**	P	**P**	**23 57 10.0**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=21,slow=2.4,SNR=5.0						
MAW	**Mawson**	**67.88**	**196**	P	**P**	**23 57 08.8**	**+1.0**
BKZ	**Black Stump Fm**	**72.32**	**129**	P	**P**	**23 57 35.3**	**-0.5**
BKZ				IAmb	IAmb	23 57 40.2	
	comp=Z,3.3nm,0.7s						
KBZ	**Khabaz**	**74.17**	**318**	P	**P**	**23 57 48.1**	**+1.6**
	comp=Z,4.1nm,1.0s,baz=141,slow=4.4,SNR=5.6						
VNDA	**Vanda**	**77.61**	**169**	P	**P**	**23 58 07.3**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=307,slow=6.8,SNR=3.1						
BRTR	**Keskin Array B**	**79.26**	**312**	LR	LR	00 35 12.8	
	comp=Z,12nm,19.7s,baz=142,slow=37						
AKASG	**Malin Array Be**	**85.28**	**322**	P	**P**	**23 58 47.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=83,slow=4.8,SNR=5.5						
BUR08	**Bucovina Ar. S**	**87.15**	**318**	P	**P**	**23 58 55.8**	**-0.2**
BUR08				IAmb	IAmb	23 59 03.5	
	comp=Z,3.2nm,1.1s						
FINES	**FINESS Array B**	**89.58**	**332**	P	**P**	**23 59 06.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=108,slow=4.2,SNR=5.2						
TXAR	**Lajitas Array**	**144.44**	**45**	PKP	**PKPab**	**00 05 44.6**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=270,slow=0.9,SNR=2.4						

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*REY **18** 00:11:18.4, 64.67N×17.44W, h0km*
*IDC **18** 00:11:19.1±0.5, 64.65N×17.59W, h0km, mb4.0/23, mb1 4.2/27, mb1mx4.0/59, mbtmp4.0/27, ML2.7/3, MS3.2/8, Ms1 3.1/8, ms1mx2.8/39, Error ellipse: s-maj=16.1km s-min=9.8km az=16.0*
*MOS **18** 00:11:19.1±0.9, 64.60N×17.61W, h11km, mb4.6/49, Error ellipse: s-maj=10.7km s-min=6.9km az=113.3*
*NEIC **18** 00:11:20.5±1.5, 64.62N±0.09×17.6W±0.1, h6km±4km, mb4.6/167, Error ellipse: s-maj=13.6km s-min=7.8km az=193.0*
ISC 18 00:11:20.5±0.3, 64.63N±0.03×17.51W±0.02, h9km, n373, σ1s27/361, mb4.5/139, MS3.3/8, 14C-3D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.11**	**291**	P	**Pg**	**00 11 21.6**	**-1.6**
	baz=272						
IDYN	**Dyngjuhals**	**0.17**	**22**	P	Pg	00 11 21.6	-2.6
	baz=15						
IURH	**Urdarhals**	**0.24**	**40**	P	Pg	00 11 23.0	-2.5
	baz=40						
IHUS	**Husbondi**	**0.35**	**190**	P	**Pg**	**00 11 26.4**	**-1.0**
	baz=194						
IKVE	**Kverkfjoll**	**0.36**	**83**	P	**Pg**	**00 11 25.4**	**-2.3**
	baz=88						
IKVE				S	**Sg**	**00 11 30.5**	**-2.0**
	baz=88						
ISKR	**Skrokkalda**	**0.38**	**259**	P	**Pg**	**00 11 26.6**	**-1.5**
	baz=255						
IVOT	**Vottur**	**0.39**	**158**	P	**Pg**	**00 11 26.7**	**-1.5**
	baz=164						
IJOK	**Jokulheimar**	**0.45**	**224**	P	**Pg**	**00 11 28.0**	**-1.2**
	baz=224						
IKRE	**Kreppuhraun**	**0.51**	**72**	P	**Pg**	**00 11 27.3**	**-3.0**
	baz=75						
IKRE				S	**Sg**	**00 11 34.4**	**-2.7**
	baz=75						
IIEY	**Innrieyrar**	**0.60**	**206**	P	**Pg**	**00 11 30.4**	**-1.8**
	baz=208						
IMKO	**Mokollar**	**0.61**	**55**	P	Pg	00 11 29.2	-3.1
	baz=56						
IMKO				S	**Sg**	**00 11 37.7**	**-2.5**
	baz=56						
IKSK	**Karasker**	**0.66**	**136**	P	**Pg**	**00 11 30.1**	**-3.0**
	baz=140						
IKAL	**Kalfafell**	**0.69**	**186**	P	**Pg**	**00 11 32.0**	**-1.8**
	baz=188						
IKAL				S	**Sn**	**00 11 44.0**	**-3.3**
	baz=188						
ISVA	**Svartarkot**	**0.71**	**9**	P	Pg	00 11 30.9	-3.4
	baz=6.7						
IVAT	**Vatnsfell**	**0.76**	**234**	P	**Pg**	**00 11 33.1**	**-2.0**
	baz=234						
IVAT				S	**Sg**	**00 11 41.7**	**-3.2**
	baz=234						
IHVE	**Hveravellir**	**0.91**	**286**	P	**Pg**	**00 11 34.8**	**-3.2**
	baz=284						
IADA	**Aoalbol**	**0.91**	**64**	P	Pg	00 11 34.0	-4.1
	baz=65						
IMEL	**Melhnausar**	**1.01**	**21**	P	Pg	00 11 35.7	-4.2
	baz=20						
ISLY	**Slysaalda**	**1.07**	**221**	P	**Pg**	**00 11 38.5**	**-2.6**
	baz=222						
IKVO	**Krokottuvotn**	**1.12**	**14**	P	Pn	00 11 37.4	-5.0
	baz=12						
IFED	**Fedgar**	**1.13**	**238**	P	**Pg**	**00 11 39.7**	**-2.5**
	baz=238						
IGRS	**Grimsstaoir**	**1.17**	**30**	P	Pn	00 11 38.3	-4.7
	baz=29						
IGRS				S	**Sb**	**00 11 54.5**	**-3.5**
	baz=29						
IMJO	**Mjoaskard**	**1.18**	**234**	P	**Pg**	**00 11 40.3**	**-2.7**
	baz=234						
IHVO	**Lagu-Hvolar**	**1.26**	**208**	P	**Pb**	**00 11 41.5**	**-2.8**
	baz=209						
ISKI	**Skildingahlsh**	**1.26**	**9**	P	Pn	00 11 39.8	-4.4
	baz=8.1						
ISKI				S	**Sb**	**00 11 56.8**	**-3.9**
	baz=8.1						
IHAU	**Haukadalur**	**1.26**	**239**	P	**Pb**	**00 11 41.3**	**-3.1**
	baz=238						
IDIM	**Dimmadalss**	**1.35**	**10**	P	Pn	00 11 41.3	-4.3
	baz=9.2						
IALF	**Alftagrof**	**1.36**	**213**	P	**Pn**	**00 11 43.3**	**-2.4**
	baz=214						
IHLA	**Hella**	**1.37**	**345**	P	Pn	00 11 41.9	-3.8
	baz=343						
IESK	**Eystri-Skogar**	**1.40**	**218**	P	**Pn**	**00 11 43.7**	**-2.5**
	baz=218						
ISAU	**Saurbar**	**1.42**	**244**	P	**Pn**	**00 11 43.5**	**-2.9**
	baz=244						
ISAU				S	**Sg**	**00 12 07.3**	**+1.2**
	baz=244						
IMID	**Miomork**	**1.43**	**228**	P	**Pn**	**00 11 44.4**	**-2.2**
	baz=228						
IMID				S	**Sg**	**00 12 07.6**	**+1.2**
	baz=228						
IHED	**Heoinshofoi**	**1.46**	**3**	P	Pn	00 11 42.7	-4.2
	baz=2.2						
IBRE	**Brettingsstaoi**	**1.50**	**354**	P	Pn	00 11 43.7	-3.9
	baz=353						
IGIL	**Gilhagi**	**1.53**	**18**	P	Pn	00 11 43.6	-4.3
	baz=17						
BORG	**Borgarnes**	**1.64**	**276**	Pn	**Pn**	**00 11 46.8**	**-2.7**
	30nm,0.3s,baz=91,slow=7.3,SNR=74						
BORG				Sn	**Sn**	**00 12 09.5**	**-1.2**
	20nm,0.3s,baz=268,slow=21,SNR=10						
BORG	**Borgarnes**	**1.64**	**276**	Pn	**Pn**	**00 11 46.8**	**-2.7**
BORG					**Sb**	**00 12 11.8**	**+0.1**
ISOL	**Solvholt**	**1.66**	**246**	P	**Pn**	**00 11 47.2**	**-2.5**
	baz=246						
IKRO	**Krokur**	**1.66**	**253**	P	**Pn**	**00 11 47.3**	**-2.4**
	baz=252						
JMIC	**Jan Mayen**	**7.22**	**24**	LR	LR	00 15 14.8	
	comp=Z,95nm,20.8s,baz=230,slow=33						
ANGG	**Ammassalik, Gr**	**8.53**	**286**	Pn	**Pn**	**00 13 22.6**	**-1.4**
EKB10	**Eskdalemuir Ar**	**11.71**	**136**	Pn	**Pn**	**00 14 09.1**	**+1.5**
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn	**Pn**	**00 14 07.8**	**-0.2**
	baz=323,slow=14,SNR=8.4						
ESK	**Eskdalemuir**	**11.74**	**136**	P	**Pn**	**00 14 07.2**	**-0.8**
ESK	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**00 14 07.2**	**-0.8**
DSB	**Dublin**	**12.76**	**148**	Pn	**Pn**	**00 14 22.2**	**+0.4**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**00 14 29.2**	**+0.8**
NC303	**NORSAR Array S**	**13.52**	**91**	Pn	**Pn**	**00 14 34.1**	**+1.9**
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**00 14 29.4**	**-3.1**
	0.0nm,0.3s,baz=299,slow=13,SNR=4.9						
NC405	**NORSAR Array S**	**13.72**	**91**	Pn	**Pn**	**00 14 36.5**	**+1.5**
HFS	**Hagfors**	**15.05**	**93**	Pn	**P**	**00 14 56.3**	**-2.1**
	0.1nm,0.3s,baz=353,slow=10,SNR=6.5						
HFS				LR	LR	00 20 14.0	
	comp=Z,63nm,18.6s,baz=280,slow=36						
KBS	**Kingsbay**	**16.67**	**19**	P	**Pn**	**00 15 15.9**	**+2.0**
KBS				pmax	pmax		
	comp=Z,36nm,1.5s						
KBS	**Kingsbay**	**16.67**	**19**		**Pn**	**00 15 15.9**	**+2.0**
ARCES	**ARCESS Array B**	**17.14**	**54**	P	**Pn**	**00 15 20.4**	**+0.5**
	baz=262,slow=12,SNR=2.8						
MEM	**Memba**	**18.70**	**128**	pPn	**Pn**	**00 15 41.3**	**+2.1**
BTNL	**Ternell**	**18.76**	**127**	PmP		00 15 38.5	
FIA1	**FINESS Array S**	**19.72**	**79**	P	**P**	**00 15 50.6**	**+0.7**
FINES	**FINESS Array B**	**19.72**	**79**	P	**P**	**00 15 49.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=297,slow=8.4,SNR=7.6						
FINES				LR	LR	00 23 12.3	
	comp=Z,48nm,18.7s,baz=19,slow=36						
APA	**Apatity**	**20.35**	**59**	*i* P	Pn	00 15 59.5	+0.8
APA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
APA				MLR	MLR		
	comp=Z,200nm,14.0s						
CLL	**Collm**	**20.70**	**116**	*i* P	**P**	**00 16 00.7**	**+0.1**
	comp=Z,17nm,1.2s						
CLL				*i*		00 16 08.1	
CLL				*e*PPP	PPP	00 16 24.0	
CLL	**Collm**	**20.70**	**116**	P	**P**	**00 16 01.1**	**+0.5**
CLL				pmax	pmax		
	comp=Z,14nm,1.1s						
CLL	**Collm**	**20.70**	**116**		**P**	**00 16 01.1**	**+0.5**
GKP	**Gorka Klasztor**	**20.91**	**106**	*e*P	Pn	00 16 04.8	-0.6
ECH	**Echery**	**21.14**	**129**	P	**P**	**00 16 05.7**	**+0.3**
ECH				pmax	pmax		
	comp=Z,11nm,1.0s						
ECH	**Echery**	**21.14**	**129**	P	**P**	**00 16 05.7**	**+0.3**
GRA1	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**00 16 08.5**	**+1.1**
GRA1				IAmb	IAmb	00 16 20.9	
	comp=Z,37nm,1.2s						
GRF	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**00 16 08.5**	**+1.1**
GRF				pmax	pmax		
	comp=Z,37nm,1.2s						
STU	**Stuttgart**	**21.36**	**125**	P	**P**	**00 16 06.7**	**-1.0**
STU				pmax	pmax		
	comp=Z,17nm,0.9s						
STU	**Stuttgart**	**21.36**	**125**	P	**P**	**00 16 06.7**	**-1.0**
STU				IAmb	IAmb	00 16 10.4	
	comp=Z,16nm,0.9s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P**	**00 16 08.6**	**+0.3**
	comp=Z,28nm,1.2s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P**	**00 16 08.6**	**+0.3**
BRG				pmax	pmax		
	comp=Z,28nm,1.2s						
BFO	**Black Forest**	**21.43**	**127**	P	**P**	**00 16 09.6**	**+1.0**
BFO				pmax	pmax		
	comp=Z,20nm,1.3s						
BFO	**Black Forest**	**21.43**	**127**	P	**P**	**00 16 09.6**	**+1.0**
VSU	**Vasula**	**21.57**	**86**	*e*P	**P**	**00 16 09.6**	**-0.4**
VSU	**Vasula**	**21.57**	**86**	*e*P	**P**	**00 16 09.0**	**-1.0**
PABE	**Paberze**	**22.21**	**95**	*e*P	**P**	**00 16 17.0**	**+0.1**
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**00 16 18.1**	**-0.2**
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**00 16 18.1**	**-0.2**
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**00 16 18.8**	**+0.3**
PBCC	**Pribram**	**22.37**	**117**	*e*P	**P**	**00 16 21.9**	**+3.3**
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**	**00 16 21.1**	**+1.5**
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P	**P**	**00 16 21.5**	**+1.5**
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P	**P**	**00 16 21.5**	**+1.5**
OSTC	**Ostas**	**22.55**	**113**	*e*P	**P**	**00 16 22.0**	**+1.5**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**00 16 22.0**	**+0.2**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**00 16 22.3**	**+0.5**
KHC				pmax	pmax		
	comp=Z,17nm,1.0s						
KHC	**Kasperske Hory**	**22.66**	**118**	P	**P**	**00 16 22.6**	**+0.8**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**00 16 23.0**	**+0.3**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P

MODS Modra-Piesok 24.71 114 *eP* **P 00 16 42.2 +0.6**
STAL STALIGIAL 24.75 123 P **P 00 16 42.6 +0.6**
MYKA Terra Mystica 24.77 122 *eP* **P 00 16 43.4 +1.1**
comp=Z,3.5nm,0.9s
PRED Cave del Predi 24.90 122 P **P 00 16 44.6 +1.1**
PRED IAmb IAmb 00 16 48.5
comp=Z,18nm,1.4s
ARSA Arzberg 24.95 118 *eP* **P 00 16 43.9 +0.1**
comp=Z,3.2nm,0.8s
LANS Liptovska Anna 24.96 111 *eP* **P 00 16 45.3 +1.3**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 24.96 111 *eP* **P 00 16 45.2 +1.3**
OBKA Obir 25.21 121 *eP* **P 00 16 48.8 +2.5**
comp=Z,9.1nm,1.3s
VYHS Vyhne 25.23 112 *eP* **P 00 16 46.7 +0.4**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 25.23 112 *eP* **P 00 16 46.7 +0.4**
SOKA Soboth 25.25 120 *eP* **P 00 16 48.0 +1.5**
comp=Z,4.5nm,1.1s
KWP Kalwaria Pacla 25.91 106 *eP* **P 00 16 53.2 +0.7**
KWP Kalwaria Pacla 25.91 106 P **P 00 16 53.6 +1.1**
KWP pmax pmax
comp=Z,26nm,1.1s
KWP Kalwaria Pacla 25.91 106 P **P 00 16 53.6 +1.1**
SCHQ Schefferville 26.03 271 P **P 00 16 53.4 -0.2**
comp=Z,4.3nm,0.7s,baz=56,slow=4.5,SNR=3.9
SCHQ Schefferville 26.03 271 IAmb IAmb 00 16 56.2
comp=Z,18nm,1.1s
PSZ Piszkesteto 26.11 112 P **P 00 16 56.0 +1.6**
PSZ pmax pmax
comp=Z,20nm,1.4s
PSZ Piszkesteto 26.11 112 P **P 00 16 56.0 +1.6**
PSZ IAmb IAmb 00 17 06.3
comp=Z,20nm,1.4s
ESDC Sonseca Array 26.23 156 P **P 00 16 56.0 +0.6**
comp=Z,3.2nm,0.9s,baz=348,slow=9.0,SNR=14
ESDC Sonseca Array 26.23 156 P **P 00 16 55.8 +0.3**
KOLS Kolonicke sedl 26.27 108 *eP* **P 00 16 55.5 -0.3**
KOLS pmax pmax
comp=Z,12nm,1.2s
KOLS Kolonicke sedl 26.27 108 *eP* **P 00 16 55.5 -0.3**
LVV L'vov 26.31 104 *eP* **P 00 16 53.0 -3.1**
RES Resolute Bay 26.49 324 LR LR 00 28 11.5
comp=Z,43nm,18.2s,baz=108,slow=38
UZH Uzhgorod 26.52 108 *eP* **P 00 16 58.3 +0.3**
UZH *e* 00 17 05.3
OSSC Osservatorio P 26.62 129 P **P 00 17 00.8 +1.8**
OSSC IAmb IAmb 00 17 11.2
comp=Z,12nm,1.0s
AKASG Malin Array Be 27.84 97 P **P 00 17 09.1 -0.8**
comp=Z,0.3nm,0.2s,baz=325,slow=9.7,SNR=5.9
AKASG Malin Array Be 27.84 97 IAmb IAmb 00 17 14.1
comp=Z,3.2nm,1.1s
AKBB Malin Array Si 27.84 97 P **P 00 17 09.9 0.0**
AKBB pmax pmax
comp=Z,12nm,1.4s
AKBB Malin Array Si 27.84 97 P **P 00 17 09.9 0.0**
AKBB IAmb IAmb 00 17 16.1
comp=Z,12nm,1.4s
NRCA Norcia 27.87 127 P **P 00 17 11.9 +1.7**
NRCA IAmb IAmb 00 17 31.0
comp=Z,10nm,1.2s
OBN Obninsk 27.89 84*ce*P **P 00 17 10.2 0.0**
OBN *e**PP **pP 00 17 12.1 -1.4**
OBN *e**SP **sP 00 17 15.3 +0.5**
OBN 00 17 56.0
OBN S **S 00 21 57.0 +3.6**
OBN SSS SSS 00 23 34.0
OBN pmax pmax
comp=Z,18nm,1.3s
OBN MLR MLR
comp=Z,26nm,15.0s
BUR08 Bucovina Ar. S 28.49 106 P **P 00 17 17.6 +1.8**
BURAR Bucovina Array 28.52 106 P **P 00 17 17.6 +1.5**
DIVS Divibare 29.30 116 P **P 00 17 23.4 +0.4**
SGRT San Giovanni R 29.74 124 P **P 00 17 27.1 +0.1**
MLR Muntele Rosu 30.53 108 P **P 00 17 34.2 +0.3**
MLR pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 30.53 108 P **P 00 17 34.2 +0.3**
MLR IAmb IAmb 00 17 49.5
comp=Z,6.0nm,1.0s
CORL Corleone 32.37 131 P **P 00 17 52.2 +2.2**
CLTB Caltabellotta 32.62 131 P **P 00 17 53.6 +1.3**
LIT Litokhoron 33.68 117 P **P 00 18 02.1 +0.6**
LIT pmax pmax
comp=Z,7.0nm,1.3s
LIT Litokhoron 33.68 117 P **P 00 18 02.1 +0.6**
LIT IAmb IAmb 00 18 13.9
comp=Z,6.6nm,1.3s
AGG Agios Georgios 34.56 118 P **P 00 18 09.3 +0.2**
AGG pmax pmax
comp=Z,32nm,1.5s
AGG Agios Georgios 34.56 118 P **P 00 18 09.3 +0.2**
ANN Anapa 35.91 97 *eP* **P 00 18 19.4 -1.2**
ANN pmax pmax
comp=Z,50nm,0.8s
ARU Arti 36.10 66*c i*P **P 00 18 22.6 +0.5**
ARU 00 19 41.7
ARU S **S 00 24 04.0 +2.8**
ARU SS **SnSn 00 26 25.4 -0.3**
ARU pmax pmax
comp=Z,10.0nm,1.5s
ARU Arti 36.10 66 P **P 00 18 22.3 +0.2**
ARU IAmb IAmb 00 18 27.0
comp=Z,13nm,1.5s
MACI Morro de la Ar 36.40 179 P **P 00 18 24.6 -0.6**
NRIK Noril'sk 36.49 35 P **P 00 18 25.1 -0.2**
comp=Z,2.3nm,0.7s,baz=291,slow=7.1,SNR=4.9
BR131 Keskin Array S 38.48 105 P **P 00 18 42.8 +0.2**
BR131 pmax pmax
comp=Z,3.0nm,1.1s
BR131 Keskin Array S 38.48 105 P **P 00 18 42.8 +0.2**
BRTR Keskin Array B 38.48 105 P **P 00 18 42.9 +0.2**
comp=Z,2.5nm,0.8s,baz=350,slow=6.3,SNR=13
BRTR Keskin Array B 38.48 105*ce*P **P 00 18 46.2 +3.5**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 38.48 105 P **P 00 18 43.5 +0.9**
PECO Prince Edward 38.55 267 P **P 00 18 43.4 +0.3**
PECO IAmb IAmb 00 18 45.1
comp=Z,14nm,1.0s
KIV Kislovodsk 38.85 92 *eP* **P 00 18 45.7 0.0**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,74nm,16.0s
KIV Kislovodsk 38.85 92 P **P 00 18 44.8 -0.9**
KBZ Khabaz 39.12 92 P **P 00 18 49.2 +1.4**
comp=Z,5.8nm,0.9s,baz=325,slow=11,SNR=8.6
KBZ LR LR 00 34 40.5
comp=Z,38nm,21.5s,baz=306,slow=36
YKA Yellowknife Ar 39.23 313 LR LR 00 34 34.7
comp=Z,45nm,18.6s,baz=0.0,slow=36
J55A Hilton 39.45 267 P **P 00 18 47.6 -2.9**
J55A IAmb IAmb 00 18 52.8
comp=Z,7.4nm,0.8s
ELL Elmali 39.49 112 P **P 00 18 52.7 +1.5**
ELL pmax pmax
comp=Z,73nm,1.4s
ELL Elmali 39.49 112 P **P 00 18 52.7 +1.5**
INK Inuvik 39.87 329 P **P 00 18 53.2 -0.6**
comp=Z,3.9nm,1.1s,baz=64,slow=13,SNR=3.1
AKTO Aktyubinsk 40.30 73 P **P 00 18 57.8 +0.2**
comp=Z,1.6nm,0.8s,baz=333,slow=6.8,SNR=4.0
ARTV Artvin 40.77 96 P **P 00 19 02.6 +0.8**
ABKAR Akbulak array 42.01 73 P **P 00 19 11.5 -0.1**
ABKAR Akbulak array 42.01 73 IAmb IAmb 00 19 14.5
comp=Z,4.6nm,1.2s
TIXI Tiksi 42.06 15*de*P **P 00 19 12.7 +0.9**
TIXI pmax pmax
comp=Z,68nm,1.3s
TIXI Tiksi 42.06 15 P **P 00 19 13.5 +1.7**
TOLK Toolik Lake Re 42.77 336 P **P 00 19 18.9 +1.2**
TOLK IAmb IAmb 00 19 20.5
comp=Z,15nm,1.1s
BRVK Borovoye 43.15 62⇑ *eP* **P 00 19 21.6 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BRVK Borovoye 43.15 62 P **P 00 19 21.6 +0.7**
BVAR Borovoye Array 43.22 62 P **P 00 19 20.8 -0.6**
comp=Z,2.5nm,0.9s,baz=179,slow=13,SNR=16
MARD Mardin 43.51 100 P **P 00 19 25.4 +1.3**
MARD IAmb IAmb 00 19 30.5
comp=Z,16nm,1.2s
FYU Fort Yukon 43.80 333 P **P 00 19 27.9 +1.9**
COLD Coldfoot 44.14 336 P **P 00 19 29.4 +0.7**
COLD IAmb IAmb 00 19 31.1
comp=Z,9.7nm,1.4s
S58A Poland Farm, P 44.22 263 P **P 00 19 28.5 -1.1**
S58A IAmb IAmb 00 19 30.8
comp=Z,18nm,1.4s
P52A Corning 44.28 268 P **P 00 19 29.9 -0.2**
O49A Covington 44.77 270 P **P 00 19 33.8 -0.2**
P51A Williamsport 44.80 269 P **P 00 19 34.9 +0.6**
Q51A Peebles 45.31 269 P **P 00 19 38.7 +0.4**
Q51A IAmb IAmb 00 19 40.8
comp=Z,12nm,1.1s
L42A Oliver, Polo 45.57 277 P **P 00 19 39.5 -0.8**
IL31 45.71 332 P **P 00 19 40.2 -0.9**
IL31 IAmb IAmb 00 19 43.6
comp=Z,7.4nm,1.2s
ILAR Eielson Array 45.71 332 P **P 00 19 41.1 -0.1**
comp=Z,3.6nm,1.1s,baz=24,slow=6.7,SNR=17
ILAR PcP **PcP 00 21 18.9 +0.1**
comp=Z,0.6nm,0.8s,baz=359,slow=3.1,SNR=5.0
ILAR Eielson Array 45.71 332 P **P 00 19 41.8 +0.6**
SFIN Lafayette 45.80 273 P **P 00 19 41.5 -0.6**
MDM Murphy Dome 45.81 333 P **P 00 19 42.7 +0.7**
MDM IAmb IAmb 00 19 45.2
comp=Z,12nm,1.2s
COLA College 45.81 333⇑ *eP* **P 00 19 43.7 +1.8**
COLA pmax pmax
comp=Z,7.0nm,1.0s
COLA College 45.81 333 P **P 00 19 43.2 +1.3**
COLA IAmb IAmb 00 19 44.5
comp=Z,11nm,1.1s
IMAR Indian Mountai 45.88 337 P **P 00 19 43.3 +0.8**
CCB Clear Creek Bu 46.00 333 P **P 00 19 44.8 +1.4**
CCB IAmb IAmb 00 19 45.6
comp=Z,6.9nm,1.4s
HDA Harding Lake 46.05 332 P **P 00 19 44.8 +1.0**
DOT Dot Lake 46.12 330 P **P 00 19 45.9 +1.4**
DOT IAmb IAmb 00 19 47.1
comp=Z,5.7nm,1.2s
BCAR Beaver Creek A 46.13 329 P **P 00 19 45.6 +1.0**
RIDG Independent Ri 46.21 331 P **P 00 19 46.8 +1.6**
RIDG IAmb IAmb 00 20 03.3
comp=Z,6.9nm,1.0s
R50A Paris 46.35 269 P **P 00 19 47.3 +0.8**
R50A IAmb IAmb 00 19 48.0
comp=Z,4.7nm,0.8s
ZAA0 Zalesovo Array 47.66 51 IAmb IAmb 00 19 59.4
comp=Z,8.5nm,1.5s
ZALV Zalesovo Beam 47.66 51 P **P 00 19 56.4 -0.2**
comp=Z,0.9nm,0.5s,baz=331,slow=8.5,SNR=6.2
ZALV Zalesovo Beam 47.66 51 *i* P **P 00 19 56.7 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
N38A Joes South For 48.09 279 P **P 00 19 59.7 -0.3**
KURK Kurchatov 48.13 58*ce*P **P 00 20 00.3 0.0**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 48.13 58 P **P 00 20 00.3 0.0**
KURK IAmb IAmb 00 20 01.1
comp=Z,7.6nm,1.1s
T47A Sharon Grove 48.63 270 P **P 00 20 04.3 0.0**
HODGE Hodges 48.88 264 P **P 00 20 06.0 -0.2**
HODGE IAmb IAmb 00 20 09.8
comp=Z,10.0nm,1.3s
EGMT Eagleton 48.88 297 P **P 00 20 06.6 +0.4**
NHSC New Hope 48.96 261 P **P 00 20 06.8 0.0**
CSU Charleston Sou 49.02 261 P **P 00 20 05.3 -1.9**
SKT Skwentna 49.15 333 P **P 00 20 07.6 -0.3**
W50A Signal Mountai 49.37 268 P **P 00 20 10.1 +0.1**
V48A Smith Brothers 49.56 269 P **P 00 20 12.4 +0.9**
V48A IAmb IAmb 00 20 16.8
comp=Z,6.3nm,1.1s
RSSD Black Hills 49.84 290 P **P 00 20 13.2 -0.5**
RSSD pmax pmax
comp=Z,5.0nm,1.4s
RSSD Black Hills 49.84 290 P **P 00 20 13.2 -0.5**
GOGA Godfrey 50.10 265 P **P 00 20 15.6 +0.1**
GOGA pmax pmax
comp=Z,7.0nm,1.1s
GOGA Godfrey 50.10 265 P **P 00 20 15.6 +0.1**
GOGA IAmb IAmb 00 20 19.0
comp=Z,6.6nm,1.1s
GYA0B ALIBECK ARRAY 50.43 84 P **P 00 20 18.6 +0.5**
GYA0B IAmb IAmb 00 20 31.4
comp=Z,4.2nm,0.8s
154A Montrose 50.63 264 P **P 00 20 18.4 -1.1**
S39A Bolivar 50.71 276 P **P 00 20 19.6 -0.5**
X48A Hartselle 50.75 269 P **P 00 20 19.9 -0.5**
X48A IAmb IAmb 00 20 21.4
comp=Z,7.5nm,1.1s
RLMT Red Lodge 51.10 295 P **P 00 20 24.2 +1.0**
RLMT IAmb IAmb 00 20 25.5
comp=Z,6.5nm,1.2s
KKAR Karatay Array 51.29 70 P **P 00 20 25.1 +0.6**
KKAR 00 20 25.8
KKAR pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 51.29 70 P **P 00 20 25.1 +0.6**
KKAR Karatay Array 51.29 70 P **P 00 20 25.8 +1.3**
KKAR IAmb IAmb 00 20 28.9
comp=Z,5.5nm,1.1s
YAK Yakutsk 51.30 19⇑ *eP* **P 00 20 24.6 +0.4**
YAK pmax pmax
comp=Z,5.0nm,0.7s
YNE Yellowstone No 51.48 295 P **P 00 20 26.7 +0.5**
BOZ Bozeman (W) 51.62 297 P **P 00 20 27.1 +0.1**
BOZ pmax pmax
comp=Z,10.0nm,1.3s
BOZ Bozeman (W) 51.62 297 P **P 00 20 27.1 +0.1**
BOZ IAmb IAmb 00 20 29.0
comp=Z,9.7nm,1.2s
U40A Yellville 51.64 275 P **P 00 20 26.7 -0.4**
U40A IAmb IAmb 00 20 28.1
comp=Z,5.5nm,1.1s
YMP Mirror Lake Pl 51.76 295 P **P 00 20 28.3 0.0**
DGZ Jazzator, Alta 52.10 53⇑ *eP* **P 00 20 31.7 +1.1**
DGZ pmax pmax
comp=Z,11nm,1.9s
H17A Grant Village 52.22 295 P **P 00 20 32.3 +0.7**
H17A IAmb IAmb 00 20 39.5
comp=Z,5.6nm,1.1s
YPP Pitchstone Pla 52.41 295 P **P 00 20 33.6 +0.5**
MAKZ Makanchi 52.62 58 P **P 00 20 34.6 +0.3**
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
MAKZ Makanchi 52.62 58 P **P 00 20 34.6 +0.3**
MCMT McKenzie Canyo 52.73 297 P **P 00 20 34.9 -0.5**
MKAR Makanchi Array 52.75 58 P **P 00 20 35.3 0.0**
comp=Z,1.9nm,0.9s,baz=347,slow=5.0,SNR=11
MKAR Makanchi Array 52.75 58*ce*P **P 00 20 35.4 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.75 58 P **P 00 20 35.1 -0.1**
PHWY Pilot Hill 52.77 289 P **P 00 20 35.8 0.0**
B06A Marblemount 52.77 306 P **P 00 20 33.7 -1.6**
B06A IAmb IAmb 00 20 33.8
comp=Z,13nm,1.1s
IMW Indian Meadow 52.77 295 P **P 00 20 36.4 +0.6**
MOOW Moose Ponds 52.82 295 P **P 00 20 36.2 +0.1**
SNOW Snow King Moun 53.07 295 P **P 00 20 38.8 +0.9**
SNOW IAmb IAmb 00 20 40.2
comp=Z,9.0nm,1.3s
TOA0 Torodi Ar. Sit 53.11 156 P **P 00 20 38.2 +0.1**
TORD Torodi Ar. Bea 53.11 156 P **P 00 20 37.8 -0.4**
comp=Z,3.3nm,1.1s,baz=341,slow=6.6,SNR=8.9
TORD LR LR 00 44 46.0
comp=Z,30nm,18.5s,baz=320,slow=38
TORD Torodi Ar. Bea 53.11 156 P **P 00 20 37.8 -0.4**
TPAW Teton Pass 53.12 295 P **P 00 20 38.7 +0.3**
BW06 Boulder Array 53.18 293 IAmb IAmb 00 20 39.9
comp=Z,6.0nm,1.0s
PD31 Pinedale Array 53.18 293 IAmb IAmb 00 20 39.8
comp=Z,5.8nm,1.1s
PDAR Pinedale Array 53.18 293 P **P 00 20 38.9 +0.1**
comp=Z,3.1nm,0.9s,baz=60,slow=7.0,SNR=17
PDAR Pinedale Array 53.18 293 P **P 00 20 38.5 -0.3**
REDW Red Top Meadow 53.19 295 P **P 00 20 38.8 0.0**
REDW IAmb IAmb 00 20 51.8
comp=Z,11nm,1.4s
AAK Ala-Archa 53.28 67*de*P **P 00 20 40.4 +1.0**
AAK pmax pmax
comp=Z,21nm,1.3s
N23A Red Feather La 53.31 289 P **P 00 20 39.5 -0.2**
N23A IAmb IAmb 00 20 47.4
comp=Z,8.9nm,1.1s
BCYI Bear Canyon 53.38 297 P **P 00 20 40.3 +0.1**
BOOM Boomskoye usch 53.97 66 P **P 00 20 44.9 +0.4**
BOOM pmax pmax
comp=Z,7.0nm,1.3s
BOOM Boomskoye usch 53.97 66 P **P 00 20 44.9 +0.4**
BOOM IAmb IAmb 00 20 46.9
comp=Z,6.6nm,1.2s
GAR Garm 54.66 73 P **P 00 20 50.3 +0.8**
KDJ Kajisay 54.76 65 P **P 00 20 50.8 +0.5**
KDJ pmax pmax
comp=Z,4.0nm,1.1s
KDJ Kajisay 54.76 65 P **P 00 20 50.8 +0.5**
HWUT Hardware Ranch 54.96 294 P **P 00 20 51.7 0.0**
HWUT IAmb IAmb 00 20 53.4
comp=Z,12nm,1.4s
RDMU Red Mountain 55.05 292 P **P 00 20 51.9 -0.5**
HRA Herat 55.20 82 P **P 00 20 54.1 +0.5**
HRA IAmb IAmb 00 20 57.8
comp=Z,6.6nm,1.4s
TCUT Toone Canyon 55.31 294 P **P 00 20 54.0 -0.3**
WMOK Wichita Mounta 55.54 279 P **P 00 20 56.1 +0.3**
WMOK pmax pmax
comp=Z,6.0nm,1.3s
WMOK Wichita Mounta 55.54 279 P **P 00 20 56.1 +0.3**
WMOK IAmb IAmb 00 21 01.4
comp=Z,5.6nm,1.2s
JLU Jordanelle 55.77 293 P **P 00 20 58.0 +0.4**
T25A Trinidad 55.86 285 P **P 00 20 58.5 +0.2**
T25A IAmb IAmb 00 21 00.5
comp=Z,15nm,1.5s
545A Edgard 56.02 269 P **P 00 20 58.6 -0.6**
P17A Butcher Ranch, 56.45 292 P **P 00 21 02.5 +0.1**
GCPR Guaynabo City 56.46 239 P **P 00 21 03.9 +1.5**
GCPR IAmb IAmb 00 21 06.7
comp=Z,4.9nm,0.9s
PV22 Blue Mesa, Par 56.47 290 P **P 00 21 03.3 +0.7**
PV22 IAmb IAmb 00 21 11.5
comp=Z,5.0nm,1.3s
PV21 Cone Mtn., Par 56.52 290 P **P 00 21 03.1 +0.1**
PV21 IAmb IAmb 00 21 08.0
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 56.66 294 P **P 00 21 03.5 -0.3**
DUG pmax pmax
comp=Z,8.0nm,1.5s
DUG Dugway, Tooele 56.66 294 P **P 00 21 03.5 -0.3**
DUG IAmb IAmb 00 21 11.7
comp=Z,7.9nm,1.4s
SRU San Rafael Swe 56.67 292 P **P 00 21 03.9 -0.1**
SRU pmax pmax
comp=Z,4.0nm,1.0s
SRU San Rafael Swe 56.67 292 P **P 00 21 03.9 -0.1**
PV14 Lion Creek, Pa 56.70 290 P **P 00 21 03.7 -0.6**
PV14 IAmb IAmb 00 21 05.8
comp=Z,7.2nm,1.1s
PV11 David Mesa, Pa 56.70 290 P **P 00 21 04.1 -0.1**
PV20 West Nyswonger 56.71 290 P **P 00 21 04.2 -0.1**
PV20 IAmb IAmb 00 21 05.8
comp=Z,7.4nm,1.2s
PV16 Nyswonger Mesa 56.71 290 P **P 00 21 04.3 0.0**
PV16 IAmb IAmb 00 21 05.9
comp=Z,8.5nm,1.3s
PV01 Paradox Valley 56.72 289 P **P 00 21 04.5 +0.1**
PV01 IAmb IAmb 00 21 12.5
comp=Z,4.5nm,0.8s
PV02 Paradox Valley 56.73 290 P **P 00 21 04.6 +0.1**
PV02 IAmb IAmb 00 21 06.2
comp=Z,10nm,1.1s
PV03 Paradox Valley 56.73 290 P **P 00 21 04.9 +0.4**
PV03 IAmb IAmb 00 21 06.0
comp=Z,14nm,1.5s
PV18 Skein Mesa, Pa 56.76 290 P **P 00 21 05.4 +0.7**
PV18 IAmb IAmb 00 21 06.2
comp=Z,8.2nm,1.0s
TMUT Trail Mountain 56.79 292 P **P 00 21 05.3 +0.3**
ELK Elko 57.13 296 P **P 00 21 06.7 -0.6**
comp=Z,0.6nm,0.4s,baz=343,slow=4.9,SNR=3.9
ELK Elko 57.13 296 IAmb IAmb 00 21 09.6
comp=Z,5.5nm,1.4s
WMQ Urumqi 57.26 56 *eP* **P 00 21 12.0 +4.1**
ABTX Abilene, Hawle 57.72 279 P **P 00 21 11.4 +0.1**
ABTX IAmb IAmb 00 21 18.9
comp=Z,9.6nm,1.4s
SDDR Presa de Saban 57.81 244 P **P 00 21 12.1 0.0**
MSU Marysvale 57.85 293 P **P 00 21 13.1 +0.7**
MSU Marysvale 57.85 293 P **P 00 21 13.1 +0.7**
MVU Marysvale 57.87 293 P **P 00 21 13.5 +1.0**
KBL Kabul 57.95 76 P **P 00 21 13.7 +0.6**
KBL Kabul 57.95 76 P **P 00 21 13.7 +0.6**
KBL IAmb IAmb 00 21 14.3
comp=Z,8.3nm,1.5s
MOD Modoc Plateau 58.04 301 P **P 00 21 14.5 +0.9**
MTPU Mount Pierson 58.26 292 P **P 00 21 15.9 +0.6**
HKT Hockley 58.40 274 P **P 00 21 16.2 +0.3**
HKT pmax pmax
comp=Z,8.0nm,1.4s
HKT Hockley 58.40 274 P **P 00 21 16.2 +0.3**
HKT IAmb IAmb 00 21 17.2
comp=Z,7.6nm,1.4s
PSUT Pine Spring 58.49 294 P **P 00 21 16.5 -0.4**
DBIC Dimbokro 58.56 165 P **P 00 21 17.5 +0.3**
comp=Z,8.0nm,1.0s,baz=18,slow=6.4,SNR=3.0
DBIC Dimbokro 58.56 165 IAmb IAmb 00 21 18.9
comp=Z,13nm,1.1s
TIC Toumodi 58.57 165 *eP* **P 00 21 16.9 -0.4**
ANMO Albuquerque 58.59 286⇑ *eP* **P 00 21 19.1 +1.5**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 58.59 286 P **P 00 21 17.4 -0.2**
ANMO IAmb IAmb 00 21 19.9
comp=Z,5.6nm,1.4s
PKCU Pink Cliffs 58.82 292 P **P 00 21 20.5 +1.2**
KIC Kosan Boka 58.88 165 *eP* **P 00 21 18.2 -1.3**
comp=Z,35nm,1.3s
LIC Lamto 58.98 165 *eP* **P 00 21 19.6 -0.6**
comp=Z,11nm,0.4s
CCUT Cedar City 59.15 293 P **P 00 21 23.2 +1.7**
R11A Troy Canyon, C 59.33 295 P **P 00 21 23.2 +0.5**
BNM Barren Site 59.35 285 P **P 00 21 23.3 +0.4**
KNB Kanab 59.40 292 P **P 00 21 23.2 +0.1**
KNB pmax pmax
comp=Z,7.0nm,1.3s
KNB Kanab 59.40 292 P **P 00 21 23.2 +0.1**
LCMT Little Creek M 59.57 293 P **P 00 21 24.5 +0.3**
JCT Junction City 59.64 278 P **P 00 21 25.1 +0.4**
JCT pmax pmax
comp=Z,5.0nm,0.9s
JCT Junction City 59.64 278 P **P 00 21 25.1 +0.4**
JCT IAmb IAmb 00 21 26.8
comp=Z,5.3nm,0.8s
SONM Songino Array 59.67 40 P **P 00 21 24.7 -0.1**
comp=Z,1.7nm,1.1s,baz=318,slow=4.2,SNR=5.9
SONM Songino Array 59.67 40 P **P 00 21 24.7 -0.1**
KVN Kaiserville 59.69 298 P **P 00 21 25.8 +0.7**
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 59.69 298 P **P 00 21 25.8 +0.7**
W18A Petrified Fore 59.79 289 P **P 00 21 26.0 +0.1**
W18A IAmb IAmb 00 21 28.9
comp=Z,3.5nm,0.9s
ULN Ulaanbaatar 59.82 40⇑ *eP* **P 00 21 26.4 +0.5**
ULN pmax pmax
comp=Z,4.0nm,1.7s
WUAZ Wupatki 60.11 290 P **P 00 21 29.1 +1.1**
NVAR Mina Array Bea 60.31 297 P **P 00 21 29.9 +0.5**
comp=Z,0.5nm,0.8s,baz=37,slow=4.6,SNR=3.0
NVAR Mina Array Bea 60.31 297 P **P 00 21 28.8 -0.6**
NIL Nilore 60.47 73 P **P 00 21 30.7 +0.4**
NIL pmax pmax
comp=Z,13nm,1.2s
NIL Nilore 60.47 73 P **P 00 21 30.7 +0.4**
SHPR Sheep Range 60.77 294 P **P 00 21 34.4 +1.9**
SHPR IAmb IAmb 00 21 35.0
comp=Z,5.1nm,1.3s
MNTX Cornudas Mount 60.95 283 P **P 00 21 34.1 +0.5**
121A Cookes Peak, D 61.23 285 P **P 00 21 36.1 +0.4**
121A IAmb IAmb 00 21 37.5
comp=Z,9.0nm,1.4s
TX31 Lajitas Ar. Si 62.28 280 P **P 00 21 42.1 -0.6**
TX32 Lajitas Array 62.28 280 P **P 00 21 41.9 -0.9**
TXAR Lajitas Array 62.28 280 P **P 00 21 43.1 +0.3**

comp=Z,1.4nm,1.0s,baz=46,slow=5.4,SNR=9.3

TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**00 21 42.8**	**+0.1**
TUC	**Tucson**	**62.66**	**288**	P	**P**	**00 21 45.3**	**+0.1**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TUC	**Tucson**	**62.66**	**288**	P	**P**	**00 21 45.3**	**+0.1**
TUC				IAmb	IAmb	00 21 47.7	
	comp=Z,5.4nm,1.4s						
GTA	**Gaotai**	**65.33**	**49**	*eP*	**P**	**00 22 03.8**	**+1.1**
GTA				pP	sP	00 22 08.3	+0.8
GTA				sP	pP	00 22 10.6	+4.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**67.54**	**40**	*eP*	**P**	**00 22 19.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,36nm,5.6s						
ZAIG	**Zacatecas**	**67.57**	**276**	P	**P**	**00 22 17.9**	**+0.5**
ZAIG				IAmb	IAmb	00 22 20.3	
	comp=Z,3.7nm,0.8s						
CN2	**Changchun**	**68.07**	**28**	*eP*	**P**	**00 22 19.9**	**0.0**
LZH	**Lanzhou**	**69.66**	**48**	*eP*	**P**	**00 22 30.4**	**+0.2**
LZH				pP	pP	00 22 33.3	-0.4
LZH				sP	sP	00 22 36.1	+1.1
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
KSRS	**Korea Array**	**74.68**	**28**	LR	LR	00 57 53.9	
	comp=Z,10nm,18.1s,baz=340,slow=37						
CMAR	**Chiang Mai Arr**	**84.15**	**59**	P	**P**	**00 23 52.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=316,slow=5.7,SNR=6.5						
CMAR	**Chiang Mai Arr**	**84.15**	**59**	*eP*	**P**	**00 23 53.5**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**134.99**	**38**	PKP	**PKPdf**	**00 30 38.1**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=336,slow=3.0,SNR=4.2						
STKA	**Stephens Creek**	**144.75**	**32**	PKP	**PKPab**	**00 30 55.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=300,slow=2.9,SNR=3.0						

*SNET **18** 00:18:52.8±0.7, 14°.02N×90°.72W, h100km±4km, ML3.6*
*UCR **18** 00:18:53.0±0.7, 14°.03N×90°.72W, h99km±4km, ML3.5*
*GCG **18** 00:18:55.0±0.5, 13°.96N×90°.68W, h78km±7km, MD3.7*

ISC 18 00:18:53.3±2.3, 13°.95N±0°.10×90.75W±0°.05, h101km±19km, n35, σ0°.56/41, 4C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCG	**Pacaya**	**0.46**	**17**	*eP*		**Pn**	**00 19 09.1**	**-0.2**
FUG	**Fuego 3**	**0.51**	**349**	*eP*		**Pn**	**00 19 09.2**	**-0.3**
NBG	**Las Nubes**	**0.74**	**31**	*eP*		**Pn**	**00 19 11.9**	**+0.3**
NBG				*eS*		**Sn**	**00 19 24.3**	**-1.0**
ERG	**Entre ros, C**	**0.94**	**302**	*eP*		**Pn**	**00 19 13.6**	**+0.4**
ERG				*eS*		**Sn**	**00 19 28.6**	**+0.5**
RTR	**El Retiro**	**1.07**	**93**	*eP*		**Pn**	**00 19 14.5**	**-0.3**
RTR	**El Retiro**	**1.07**	**93**	*eP*		**Pn**	**00 19 14.5**	**-0.3**
RTAL	**Retalhuleu**	**1.08**	**302**	*eP*		**Pn**	**00 19 14.3**	**-0.5**
RTAL				*eS*		**Sn**	**00 19 30.7**	**-0.3**
RTAL				IAML			00 19 35.7	
	comp=Z,339nm,0.3s							
SBLS	**San Blas**	**1.10**	**96**	⇑*iP*		**Pn**	**00 19 14.8**	**-0.3**
SBLS				*eS*		**Sn**	**00 19 32.8**	**+1.2**
SBLS	**San Blas**	**1.10**	**96**	⇑*iP*		**Pn**	**00 19 14.8**	**-0.3**
SBLS				*eS*		**Sn**	**00 19 32.8**	**+1.2**
SNJE	**San Jose**	**1.11**	**94**	*eP*		**Pn**	**00 19 14.7**	**-0.6**
SNJE	**San Jose**	**1.11**	**94**	*eP*		**Pn**	**00 19 14.7**	**-0.6**
UNIC	**Universidad Ca**	**1.16**	**88**	⇑*iP*		**Pn**	**00 19 15.0**	**-0.7**
UNIC				IAML			00 19 15.3	
	comp=Z,799nm,0.2s							
UNIC	**Universidad Ca**	**1.16**	**88**	⇑*iP*		**Pn**	**00 19 15.0**	**-0.7**
UNIC				IAML			00 19 15.3	
	comp=Z,799nm,0.2s							
TACO	**Tacachico**	**1.35**	**89**	⇓*iP*		**Pn**	**00 19 17.1**	**-0.8**
TACO	**Tacachico**	**1.35**	**89**	⇓*iP*		**Pn**	**00 19 17.1**	**-0.8**
MTO3	**Montecristo**	**1.42**	**71**	⇓*iP*		**Pn**	**00 19 17.9**	**-0.9**
MTO3	**Montecristo**	**1.42**	**71**	⇓*iP*		**Pn**	**00 19 17.9**	**-0.9**
BOQS	**Boqueron**	**1.44**	**98**	*eP*		**Pn**	**00 19 18.8**	**-0.4**
BOQS	**Boqueron**	**1.44**	**98**	*eP*		**Pn**	**00 19 18.8**	**-0.4**
UEES	**Universidad Ev**	**1.48**	**99**	*eP*		**Pn**	**00 19 19.4**	**-0.1**
UEES	**Universidad Ev**	**1.48**	**99**	*eP*		**Pn**	**00 19 19.4**	**-0.1**
ESQI	**Esquipulas**	**1.49**	**66**	⇓*iP*		**Pn**	**00 19 19.2**	**-0.4**
SNET	**Serv Nac Est T**	**1.49**	**100**	*eP*		**Pn**	**00 19 19.3**	**-0.3**
SNET				IAML			00 19 43.4	
	comp=Z,867nm,0.3s							
SNET	**Serv Nac Est T**	**1.49**	**100**	*eP*		**Pn**	**00 19 19.3**	**-0.3**
SNET				IAML			00 19 43.4	
	comp=Z,867nm,0.3s							
MRL	**Marmol**	**1.52**	**42**	*eP*		**Pn**	**00 19 20.8**	**+0.6**
MRL				*eS*		**Sn**	**00 19 41.1**	**+0.6**
LFU	**La Fuente**	**1.60**	**97**	*eP*		**Pn**	**00 19 20.8**	**-0.1**
LFU	**La Fuente**	**1.60**	**97**	*eP*		**Pn**	**00 19 20.8**	**-0.1**
LBRS	**Las Brisas**	**1.67**	**97**	*eP*		**Pn**	**00 19 21.6**	**-0.3**
LBRS	**Las Brisas**	**1.67**	**97**	*eP*		**Pn**	**00 19 21.6**	**-0.3**
LFRS	**El Faro**	**1.67**	**101**	*eP*		**Pn**	**00 19 21.6**	**-0.2**
LFRS	**El Faro**	**1.67**	**101**	*eP*		**Pn**	**00 19 21.6**	**-0.2**
PAVA	**Las Pavas**	**1.77**	**97**	⇓*eP*		**Pn**	**00 19 22.9**	**-0.3**
PAVA	**Las Pavas**	**1.77**	**97**	⇓*eP*		**Pn**	**00 19 22.9**	**-0.3**
COEG	**Centro de Oper**	**1.84**	**100**	*eP*		**Pn**	**00 19 23.8**	**-0.3**
COEG				IAML			00 19 57.6	
	comp=Z,589nm,0.3s							
COEG	**Centro de Oper**	**1.84**	**100**	*eP*		**Pn**	**00 19 23.8**	**-0.3**
COEG				IAML			00 19 57.6	
	comp=Z,589nm,0.3s							

IDC 18 00:40:22.1±1.8, 29°.66N×95°.42E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/30, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=82.2km s-min=23.4km az=66.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**19.93**	**333**	P		P	00 44 55.3	-0.1
	0.1nm,0.3s,baz=131,slow=12,SNR=4.6							
SONM	**Songino Array**	**20.03**	**22**	P		P	00 44 56.7	0.0
	0.4nm,0.6s,baz=209,slow=11,SNR=1.9							
ZALV	**Zalesovo Beam**	**25.47**	**345**	P		P	00 45 51.7	0.0
	2.0nm,0.6s,baz=157,slow=9.9,SNR=11							
WRA	**Warramunga Arr**	**61.95**	**138**	P		P	00 50 43.7	-0.3
	0.1nm,0.5s,baz=322,slow=8.1,SNR=2.3							
ASAR	**Alice Springs**	**64.64**	**141**	P		P	00 51 02.1	+0.3
	0.2nm,0.4s,baz=324,slow=6.5,SNR=1.5							

*NNC **18** 00:54:39.3±6.2, 37°.13N×71°.11E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=49.1km s-min=46.4km az=143.0*
*IDC **18** 00:54:49.1±70.0, 40°.37N×69.08E, h0km, mb4.0/2, mb1 3.9/3, mb1mx3.4/40, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=1231.0km s-min=65.2km az=164.0*

ISC 18 00:54:34.7±3.4, 38°.0N±0°.2×70.9E±0°.1, h10km, n12, σ2s85/12, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**4.64**	**27**	P		**Pg**	**00 56 02.0**	**-1.6**
	SNR=37							
UCH	**Uchtor**	**5.04**	**32**	P		**Pb**	**00 56 06.4**	**+3.1**
	SNR=14							
KK31	**Karatay Array**	**5.10**	**357**	P		**Pg**	**00 56 09.7**	**-2.7**
	0.3nm,0.3s,baz=198,slow=18,SNR=13							
KK31				S		**Sg**	**00 57 18.9**	**+0.6**
	2.1nm,0.5s,baz=184,slow=18,SNR=8.2							
EKS2	**Erkin-Say**	**5.14**	**24**	P		**Pb**	**00 56 09.0**	**+4.2**
	SNR=6.6							
AAK	**Ala-Archa**	**5.38**	**30**	P		**Pb**	**00 56 11.2**	**+2.4**
	SNR=6.7							
AAK	**Ala-Archa**	**5.38**	**30**	⇑P		**Pb**	**00 56 10.9**	**+2.1**
	2.8nm,0.6s							
AAK				⇓S		**Sg**	**00 57 24.0**	**-3.4**
	4.3nm,0.6s							
KBK	**Karagaybulak**	**5.58**	**32**	P		**Pb**	**00 56 14.2**	**+1.9**
	SNR=5.3							
TKM2	**Tokmak 2**	**6.08**	**35**	P		**Pb**	**00 56 19.4**	**-1.3**
	SNR=9.8							
TKM2	**Tokmak 2**	**6.08**	**35**	⇓P		Pb	00 56 18.6	-2.1
	6.1nm,0.7s							
TKM2				⇑S		**Sb**	**00 57 36.4**	**+2.8**
	2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**18.59**	**26**	P		**Pn**	**00 58 51.1**	**-0.9**
	0.2nm,0.3s,baz=224,slow=12,SNR=4.1							
FINES	**FINESS Array B**	**36.20**	**325**	P		P	01 01 29.6	-7.6
	1.2nm,0.8s,baz=126,slow=7.2,SNR=4.1							
ARCES	**ARCESS Array B**	**39.72**	**337**	P		P	01 01 59.6	-7.3
	2.6nm,1.0s,baz=114,slow=9.0,SNR=4.0							

*SOME **18** 00:59:42.7, 44°.60N×82°.23E, h20km*
*NNC **18** 00:59:44.0±1.4, 44°.60N×82°.12E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=16.0km s-min=5.7km az=127.0*

ISC 18 00:59:42.8±1.8, 44°.60N±0°.07×82°.23E±0°.09, h10km, n16, σ1s29/24, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DJR	**Jarkent**	**1.77**	**262**	*eP*		**Pb**	**01 00 15.8**	**+0.4**
	4.4nm,0.2s							
DJR				*eS*		**Sg**	**01 00 39.7**	**+0.1**
	10nm,0.3s							
DJR	**Jarkent**	**1.77**	**262**	P		**Pb**	**01 00 15.8**	**+0.4**
	4.4nm,0.2s							
DJR				S		**Sg**	**01 00 39.7**	**+0.1**
	10nm,0.3s							
MK31	**Makanchi Array**	**2.19**	**1**	Pn		**Pb**	**01 00 22.7**	**+0.2**
	9.0nm,0.2s,baz=181,slow=14,SNR=703							
MK31				⇓Lg		Lg	01 00 51.7	
	3.9nm,0.2s,baz=185,slow=28,SNR=17							
MAKZ	**Makanchi**	**2.21**	**356**	⇑Pn		**Pb**	**01 00 22.7**	**-0.1**
	3.0nm,0.2s							
MAKZ				⇓Lg		Lg	01 00 51.5	
	7.8nm,0.3s							
PDGK	**Podgornoye**	**2.35**	**238**	⇑Pg		**Pb**	**01 00 25.3**	**0.0**
	2.6nm,0.3s							
PDGK				⇓Lg		Lg	01 00 56.5	
	16nm,0.7s							
SHLS	**Shalkode**	**2.47**	**235**	*eP*		**Pn**	**01 00 23.6**	**+0.4**
	10nm,0.1s							
SHLS				*eS*		**Sn**	**01 00 53.0**	**-0.4**
	36nm,0.5s							
SHLS	**Shalkode**	**2.47**	**235**	Pg		**Pn**	**01 00 23.6**	**+0.4**
	10nm,0.1s							
SHLS				Lg		Lg	01 00 53.0	
	36nm,0.5s							
UZB	**Uzynbulak**	**2.74**	**239**	*eP*		**Pb**	**01 00 31.5**	**-0.4**
	5.4nm,0.2s							
UZB				*eS*		**Sb**	**01 01 06.5**	**+0.9**
	13nm,0.2s							
UZB	**Uzynbulak**	**2.74**	**239**	Pg		**Pb**	**01 00 31.5**	**-0.4**
	5.4nm,0.2s							
UZB				Lg		Lg	01 01 06.5	
	13nm,0.2s							
TDK	**Taldyqorghan**	**2.75**	**280**	*eP*		**Pb**	**01 00 32.7**	**+0.7**
	20nm,0.1s							
TDK				*eS*		**Sg**	**01 01 08.6**	**-2.5**
	39nm,0.2s							
TDK	**Taldyqorghan**	**2.75**	**280**	Pg		**Pb**	**01 00 32.7**	**+0.7**
	20nm,0.1s							
TDK				Lg		Lg	01 01 08.6	
	39nm,0.2s							
KPKS	**Kokpek**	**2.80**	**247**	*eP*		**Pb**	**01 00 33.3**	**+0.4**
	13nm,0.2s							
KPKS				*eS*		**Sg**	**01 01 09.6**	**-3.1**
	42nm,0.3s							
SATY	**Saty**	**3.17**	**242**	*eP*		**Pb**	**01 00 39.4**	**+0.1**
	2.4nm,0.2s							
SATY				*eS*		**Sb**	**01 01 20.2**	**+2.3**
	23nm,0.3s							
SATY	**Saty**	**3.17**	**242**	Pg		**Pb**	**01 00 39.4**	**+0.1**
	2.4nm,0.2s							
SATY				Lg		Lg	01 01 20.3	
	23nm,0.3s							
ARXS	**Arharly**	**3.18**	**264**	*eP*		**Pb**	**01 00 40.5**	**+1.1**
	5.8nm,0.2s							
ARXS				*eS*		**Sg**	**01 01 22.0**	**-2.8**
	12nm,0.3s							
ARXS	**Arharly**	**3.18**	**264**	Pg		**Pb**	**01 00 40.5**	**+1.1**
	5.8nm,0.2s							
ARXS				Lg		Lg	01 01 22.0	
	12nm,0.3s							

KRSC 18 01:03:38.1±1.6, 50°.04N×157°.00E, h69km±23km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**0.85**	**319**	*eP*		Pn	01 03 55.5	+0.9
SKR				*eS*		Sn	01 04 08.0	+1.1
ALID	**Alaid**	**1.24**	**312**	*eP*		Pn	01 04 00.5	+0.8
ALID				*eS*		Sn	01 04 17.0	+1.1
PAU	**Pauzhetka**	**1.43**	**355**	*eP*		Pn	01 04 04.3	+2.3
PAU				*eS*		Sn	01 04 23.5	+3.4
KDTR	**Khodutka, Kamc**	**1.90**	**21**	*eP*		Pn	01 04 10.4	+2.2
KDTR				*eS*		Sn	01 04 33.6	+2.4
ASAK	**Asacha**	**2.41**	**13**	*eP*		Pn	01 04 17.7	+2.4
RUS	**Russkaya**	**2.58**	**21**	*eP*		Pn	01 04 19.4	+2.0
RUS				*eS*		Sn	01 04 49.5	+1.9
GRL	**Gorelyy**	**2.60**	**15**	*eP*		Pn	01 04 21.0	+3.1
GRL				*eS*		Sn	01 04 52.5	+4.0
KRMR	**Karymshinskiy**	**2.88**	**14**	*eP*		Pn	01 04 24.4	+2.8
PET	**Petropavlovsk**	**3.16**	**18**	*eP*		Pn	01 04 28.1	+2.8
PET				*eS*		Sn	01 05 05.7	+3.9
DALK	**Dalny**	**3.19**	**19**	P		Pn	01 04 28.5	+2.8
KOK	**Koryaka**	**3.41**	**17**	*eP*		Pn	01 04 32.9	+4.0
SDLR	**Sedlovina**	**3.45**	**19**	*eP*		Pn	01 04 32.0	+2.6
KRX	**Arik**	**3.48**	**17**	*eP*		Pn	01 04 33.2	+3.4
SPN	**Mys Shipunski**	**3.59**	**31**	*eP*		Pn	01 04 33.7	+2.4
SPN				*eS*		Sn	01 05 13.2	+0.7
TUMR	**Tumrok**	**5.59**	**19**	*eP*		Pn	01 05 01.5	+2.9

*NEIC **18** 01:22:40.3±1.9, 7°.6N±0°.1×94°.7E±0°.1, h61km±8km, mb4.2/15, Error ellipse: s-maj=22.4km s-min=4.7km az=48.0*
*IDC **18** 01:22:42.6±3.8, 7°.55N×94°.59E, h75km±35km, mb3.6/10, mb1 3.7/12, mb1mx3.5/50, mbtmp3.9/12, ML4.1/2, MS3.2/11, Ms1 3.2/11, ms1mx3.0/30, Error ellipse: s-maj=40.0km s-min=15.7km az=59.0*

ISC 18 01:22:36.6±0.7, 7°.46N±0°.08×94°.43E±0°.07, h24km, n51, σ1s55/48, mb4.0/14, MS3.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LHMI	**Lhok Sumawe**	**3.35**	**131**	Pn		**Pn**	**01 23 27.7**	**+0.3**
PKDT	**Phuket**	**3.90**	**83**	P		**Pn**	**01 23 36.3**	**+1.4**
PKDT				S		**Sn**	**01 24 20.3**	**+0.3**
SURT	**Suratani**	**4.57**	**71**	P		**Pn**	**01 23 46.6**	**+2.4**
SURT				S		**Sn**	**01 24 36.7**	**0.0**
TRTT	**Trang**	**5.23**	**86**	P		**Pn**	**01 23 54.7**	**+1.4**
TRTT				S		**Sn**	**01 24 52.4**	**-0.6**
SRIT	**Nakonsritamara**	**5.25**	**77**	P		**Pn**	**01 23 55.2**	**+1.7**
SRIT				S		**Sn**	**01 24 51.9**	**-1.5**
PSI	**Prapat**	**6.44**	**136**	P		Pn	01 24 15.4	+5.3
	1.3nm,0.3s,baz=342,slow=6.9,SNR=5.8							
PSI				LR		LR	01 26 52.9	
	comp=Z,242nm,19.7s,baz=262,slow=39							
RPSI	**Rantau Prapat**	**6.52**	**136**			**Pn**	**01 24 13.9**	**+2.9**
KULM	**Kulim**	**6.55**	**109**	Pn		**Pn**	**01 24 11.6**	**+0.1**
IPM	**Ipoh**	**7.20**	**114**	Pn		**Pn**	**01 24 20.1**	**-0.4**
PHET	**Kaeng Krachan**	**7.45**	**43**	P		**Pn**	**01 24 24.5**	**+0.7**
PHET				S		**Sn**	**01 25 49.2**	**+1.5**
SRDT	**SRDT**	**8.25**	**34**	P		**Pn**	**01 24 36.1**	**+1.3**
CHAI	**Chaiyaphum**	**11.18**	**41**	P		**Pn**	**01 25 18.2**	**+3.1**
CMAR	**Chiang Mai Arr**	**11.78**	**21**	P		**Pn**	**01 25 25.8**	**+2.5**
	0.7nm,0.3s,baz=212,slow=14,SNR=5.0							
CMAR				LR		LR	01 29 42.2	
	comp=Z,54nm,21.1s,baz=244,slow=36							
CHTO	**Chiang Mai**	**12.11**	**21**	Pn		**Pn**	**01 25 29.4**	**+1.6**
SHL	**Shillong**	**18.17**	**353**	P		**Pn**	**01 26 46.2**	**-1.3**
BOK	**Bokaro**	**18.19**	**334**	*eP*		**P**	**01 26 51.4**	**+3.7**
BOK				IAmb		IAmb	01 26 55.8	
	comp=Z,14nm,0.5s							
KMI	**Kunming**	**19.28**	**23**	P		**P**	**01 26 56.5**	**-3.4**
LEM	**Lembang**	**19.36**	**137**	LR		LR	01 35 50.5	
	comp=Z,241nm,18.1s,baz=302,slow=41							
LSA	**Lhasa**	**22.34**	**352**	P		**P**	**01 27 33.3**	**+0.1**
BHPL	**Bhopal**	**22.65**	**316**	*eP*		**P**	**01 27 38.6**	**+2.4**
H08S3	**Diego Garcia H**	**26.52**	**236**	T		T	01 54 52.8	
	baz=55,slow=75,SNR=56							
H08S2	**Diego Garcia H**	**26.52**	**236**	T		T	01 54 50.0	
	baz=55,slow=75,SNR=23							
H08S1	**Diego Garcia H**	**26.54**	**236**	T		T	01 54 50.6	
	baz=55,slow=75,SNR=36							
CHGR	**Chuyangaron**	**38.52**	**328**	P		**P**	**01 29 56.8**	**-0.5**
BTK	**Batken**	**38.73**	**331**	P		**P**	**01 29 59.3**	**+0.3**
MK31	**Makanchi Array**	**40.55**	**347**	P		**P**	**01 30 13.2**	**-0.8**
MK31						IAmb	IAmb	01 30 19.4
	comp=Z,2.4nm,0.8s							
MKAR	**Makanchi Array**	**40.55**	**347**	P		**P**	**01 30 13.1**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=168,slow=8.1,SNR=10							
MKAR				LR		LR	01 51 39.5	
	comp=Z,22nm,18.4s,baz=147,slow=43							
MKAR	**Makanchi Array**	**40.55**	**347**	P		**P**	**01 30 12.7**	**-1.3**
MAKZ	**Makanchi**	**40.63**	**347**	P		**P**	**01 30 13.6**	**-1.1**
MAKZ				IAmb		IAmb	01 30 20.0	
	comp=Z,2.8nm,0.6s							
KK31	**Karatay Array**	**41.26**	**333**	P		**P**	**01 30 20.4**	**+0.6**
KKAR	**Karatay Array**	**41.26**	**333**	P		**P**	**01 30 19.5**	**-0.4**
SONM	**Songino Array**	**41.50**	**12**	P		**P**	**01 30 22.2**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=179,slow=8.9,SNR=4.8							
SONM				LR		LR	01 48 46.3	
	comp=Z,27nm,20.1s,baz=142,slow=38							
SONM	**Songino Array**	**41.50**	**12**	P		**P**	**01 30 20.4**	**-1.5**
ULN	**Ulaanbaatar**	**41.67**	**13**	P		**P**	**01 30 19.7**	**-3.7**
KSRS	**Korea Array**	**42.59**	**40**	LR		LR	01 49 15.9	
	comp=Z,36nm,18.3s,baz=218,slow=38							
GEYT	**Alibeck**	**44.69**	**318**	P		**P**	**01 30 49.7**	**+1.9**
	comp=Z,3.0nm,0.6s,baz=148,slow=8.5,SNR=5.7							
GEYT				LR		LR	01 50 54.7	
	comp=Z,19nm,20.3s,baz=30,slow=38							
GEYT	**Alibeck**	**44.69**	**318**	IAmb		IAmb	01 30 54.7	
	comp=Z,1.8nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**44.69**	**318**	P		**P**	**01 30 47.2**	**-0.7**
GYA0B				IAmb		IAmb	01 30 54.7	
	comp=Z,3.5nm,0.8s							
KURK	**Kurchatov**	**45.08**	**346**	P		**P**	**01 30 49.7**	**-0.9**
KURK				IAmb		IAmb	01 30 56.6	
	comp=Z,3.7nm,0.8s							
ZAA0	**Zalesovo Array**	**47.00**	**352**	P		**P**	**01 31 05.3**	**-0.3**
ZALV	**Zalesovo Beam**	**47.00**	**352**	P		**P**	**01 31 05.3**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=186,slow=7.5,SNR=7.7							
ZALV				LR		LR	01 52 59.0	
	comp=Z,18nm,19.7s,baz=52,slow=39							
WRA	**Warramunga Arr**	**47.79**	**125**	P		**P**	**01 31 12.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=308,slow=8.6,SNR=8.9							
ASAR	**Alice Springs**	**49.44**	**130**	P		**P**	**01 31 24.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=309,slow=6.3,SNR=6.5							
ABKAR	**Akbulak array**	**50.73**	**331**	P		**P**	**01 31 34.1**	**-0.3**
BRTR	**Keskin Array B**	**52.91**	**311**	P		**P**	**01 33 00.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=131,slow=6.7,SNR=4.8							
BRTR				LR		LR	02 02 14.9	
	comp=Z,7.1nm,19.6s,baz=242,slow=38							
FINES	**FINESS Array B**	**73.20**	**332**	P		**P**	**01 34 05.6**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=76,slow=8.0,SNR=5.4							
ARCES	**ARCESS Array B**	**75.75**	**340**	LR		LR	02 10 38.9	
	comp=Z,31nm,18.5s,baz=0.0,slow=38							
GERES	**GERESS Array B**	**78.32**	**318**	P		**P**	**01 34 35.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=49,slow=6.1,SNR=3.7							
NB2	**NORSAR Subarra**	**80.23**	**331**	P		**P**	**01 34 44.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=95,slow=5.1							
NOA	**NORSAR Array B**	**80.23**	**331**	P		**P**	**01 34 44.5**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=91,slow=5.7,SNR=2.7							
NOA				LR		LR	02 12 49.2	
	comp=Z,14nm,18.4s,baz=245,slow=38							
CPUP	**Villa Florida**	**147.23**	**232**	PKPbc		**PKPbc**	**01 42 17.8**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=131,slow=6.4,SNR=3.3							

*NEIC **18** 01:26:35.2±1.3, 2°.50N±0°.08×128°.34E±0°.08, h156km±7km, mb4.3/31, Error ellipse: s-maj=13.7km s-min=9.0km az=221.0*
*DJA **18** 01:26:35.7±0.6, 3°.N±6°×12°.8E±°, h128km±5km, M4.6/11, mB5.1/6, mb5.0/7, MLv4.5/11, Mw(mB)4.5/6*
*IDC **18** 01:26:35.4±1.6, 2°.49N×128°.34E, h158km±15km, mb3.8/14, mb1 3.9/16, mb1mx3.7/41, mbtmp4.3/16, Error ellipse: s-maj=22.1km s-min=9.6km az=74.0*

ISC 18 01:26:34.6±0.5, 2°.51N±0°.05×128°.31E±0°.07, h150km, n76, σ1s02/76, mb4.2/23, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.97**	**209**	P		**Pn**	**01 27 09.0**	**-0.4**
TNTI				S		**Sn**	**01 27 35.4**	**-0.7**
TNTI	**Ternate**	**1.97**	**209**			**Pn**	**01 27 08.8**	**-0.6**
SGSI	**Sangihe**	**3.01**	**293**	P		**Pn**	**01 27 21.1**	**-1.0**
DDMP	**Don Marcelino,**	**4.41**	**324**	*eP*		**Pn**	**01 27 39.1**	**-1.2**
SIJI	**Sorong**	**4.47**	**139**	P		**Pn**	**01 27 43.6**	**+2.5**
	8.7nm,0.3s,baz=262,slow=22,SNR=9.0							
SIJI				S		**Sn**	**01 28 33.0**	**+0.2**
	3.8nm,0.3s,baz=75,slow=20,SNR=1.9							
KMSI	**Cibinong**	**4.74**	**246**	P		**Pn**	**01 27 43.5**	**-1.0**

comp=Z,2.5nm,0.6s,baz=150,slow=8.1,SNR=12
SONM Songino Array 48.96 341 P **P** **01 35 06.4 +0.7**
WMQ Urumqi 54.62 325 P **P** **01 35 48.5 +0.7**
DHRM DHARAMSHALA 57.03 307 *ex* **P** **01 36 05.0 -0.3**
MK31 Makanchi Array 59.45 325 P **P** **01 36 22.0 +0.4**
MKAR Makanchi Array 59.45 325 P **P** **01 36 22.3 +0.6**
comp=Z,5.5nm,0.4s,baz=119,slow=8.3,SNR=59
MKAR PcP **PcP** **01 37 07.9 +0.1**
comp=Z,1.6nm,0.5s,baz=121,slow=5.5,SNR=6.2
MKAR Makanchi Array 59.45 325 P **P** **01 36 22.0 +0.4**
MKAR **PcP** **01 37 07.7 -0.1**
MAKZ Makanchi 59.64 325 P **P** **01 36 23.2 +0.3**
PRZ Przheval'sk 59.66 319 P **P** **01 36 23.4 +0.1**
KDJ Kajisay 60.30 318 P **P** **01 36 27.7 0.0**
KDJ IAmb IAmb 01 36 29.5
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 62.39 333 P **P** **01 36 40.5 -0.7**
ZAA0 IAmb IAmb 01 36 54.7
comp=Z,3.0nm,1.2s
ZALV Zalesovo Beam 62.39 333 P **P** **01 36 40.6 -0.6**
comp=Z,1.0nm,0.4s,baz=138,slow=7.1,SNR=7.0
KBL Kabul 63.51 308 P **P** **01 36 49.1 -0.3**
KBL IAmb IAmb 01 37 03.4
comp=Z,2.8nm,0.6s
KURK Kurchatov 63.61 327 P **P** **01 36 49.7 +0.3**
BTK Batken 63.90 314 P **P** **01 36 51.9 +0.2**
GAR Garm 63.91 313 P **P** **01 36 51.8 0.0**
KK31 Karatay Array 65.19 317 P **P** **01 37 00.1 +0.2**
KK31 IAmb IAmb 01 37 00.9
comp=Z,3.1nm,0.8s
KKAR Karatay Array 65.19 317 P **P** **01 37 00.0 +0.1**
HRA Herat 68.92 306 P **P** **01 37 23.5 -0.4**
TIXI Tiksi 69.04 0 P **P** **01 37 23.3 -0.3**
BRVK Borovoye 69.27 327 **P** **01 37 25.5 +0.1**
GEYT Alibeck 72.88 309 P **P** **01 37 48.0 +0.5**
GYA0B ALIBECK ARRAY 72.88 309 P **P** **01 37 48.1 +0.6**
GYA0B IAmb IAmb 01 37 49.1
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 74.09 321 **P** **01 37 54.0 -0.3**
ARU Arti 76.80 328 P **P** **01 38 08.8 -0.8**
VNDA Vanda 82.03 173 P **P** **01 38 36.8 -0.7**
comp=Z,1.1nm,0.9s,baz=320,slow=5.4,SNR=3.9
ARCES ARCESS Array B 92.13 340 P **P** **01 39 25.4 -1.2**
comp=Z,2.3nm,0.7s,baz=77,slow=5.5,SNR=12
FINES FINESS Array B 93.64 332 P **P** **01 39 31.8 -2.0**
comp=Z,2.1nm,0.9s,baz=46,slow=5.5,SNR=6.1
TORD Torodi Ar. Bea 124.80 288 PKP **PKPdf** **01 45 17.6 -0.1**
comp=Z,0.6nm,0.3s,baz=86,slow=1.8,SNR=19

*IDC **18** 01:56:00.6±1.8, 7.°05S×128.°99E, h191km±17km, mb3.8/4, mb1 4.2/9, mb1mx3.7/42, mbtmp4.7/9, Error ellipse: s-maj=20.1km s-min=12.9km az=77.0*
*NEIC **18** 01:56:01.7±1.4, 7.°02S±0.°08×128.°94E±0.°09, h206km±8km, mb4.2/18, Error ellipse: s-maj=12.8km s-min=11.3km az=68.0*
*DJA **18** 01:56:02.2±0.2, 7.°S±3.°×12.°9E±.°, h211km±4km, M4.5/13, mB5.0/10, mb4.5/12, MLv4.8/13, Mw(mB)4.3/10*
ISC 18 01:56:00.7±0.5, 7.°05S±0.°05×128.°96E±0.°06, h200km, n54, σ1°83/56, mb4.0/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.50**	**112**	P		**Pn**	**01 56 45.7**	**+1.0**
SAUI				S		**Sn**	**01 57 22.4**	**+3.5**
SAUI	**Saumlaki**	**2.50**	**112**	Pn		**Pn**	**01 56 46.7**	**+2.0**
BNDI	**Bandanaira**	**2.68**	**21**	P		**Pn**	**01 56 49.3**	**+2.6**
MSAI	**Masohi**	**3.68**	**360**	P		**Pn**	**01 57 01.3**	**+2.7**
FAKI	**Fak Fak**	**5.25**	**39**	P		**Pn**	**01 57 17.2**	**-1.2**
	1.0nm10µm206nm,0.4s							
FAKI	**Fak Fak**	**5.25**	**39**	Pn		**Pn**	**01 57 16.9**	**-1.6**
SOEI	**Soe**	**5.36**	**240**	P		**Pn**	**01 57 22.2**	**+2.3**
	2.3nm3µm87nm,0.5s							
SOEI	**Soe**	**5.36**	**240**			**Pn**	**01 57 21.1**	**+1.1**
SANI	**Sanana**	**5.78**	**329**	P		**Pn**	**01 57 28.3**	**+3.1**
	0.1nm17nm,0.6s							
BATI	**Baumata**	**6.10**	**239**	P		**Pn**	**01 57 31.4**	**+2.0**
	60nm,0.3s,baz=110,slow=1.8,SNR=33							
BATI				S		**Sn**	**01 58 38.9**	**-0.7**
	115nm,0.3s,baz=47,slow=7.1,SNR=15							
BATI	**Baumata**	**6.10**	**239**	P		**Pn**	**01 57 31.2**	**+1.8**
	1.0nm2µm179nm,0.6s							
MTN	**Manton Dam**	**6.14**	**160**	Pn		**Pn**	**01 57 30.8**	**+0.9**
SIJI	**Sorong**	**6.55**	**21**	P		**Pn**	**01 57 34.4**	**-0.9**
	10.0nm,0.3s,baz=121,slow=22,SNR=15							
SIJI				S		**Sn**	**01 58 43.7**	**-6.6**
	6.6nm,0.3s,baz=21,slow=24,SNR=6.7							
TNTI	**Ternate**	**7.93**	**348**	Pn		**Pn**	**01 57 54.5**	**+1.4**
KNRA	**Kununurra**	**8.58**	**181**	Pn		**Pn**	**01 58 01.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.45**	**196**	P		**Pn**	**01 58 37.5**	**-1.2**
	10nm,0.3s,baz=31,slow=11,SNR=262							
FITZ				S		**Sn**	**02 00 40.0**	**-6.4**
	6.9nm,0.3s,baz=99,slow=14,SNR=5.8							
FITZ	**Fitzroy Crossi**	**11.45**	**196**	Pn		**Pn**	**01 58 38.0**	**-0.7**
WB0	**Warramunga Arr**	**13.70**	**158**	Pn		**Pn**	**01 59 06.2**	**-0.8**
WRAB	**Tennant Creek**	**13.84**	**158**	Pn		**Pn**	**01 59 07.6**	**-1.1**
WRA	**Warramunga Arr**	**13.84**	**158**	P		**Pn**	**01 59 07.2**	**-1.5**
	1.4nm,0.3s,baz=340,slow=12,SNR=66							
WRA				S		S	02 01 32.2	-11
	1.2nm,0.3s,baz=331,slow=23,SNR=8.4							
WB2	**Warramunga Arr**	**13.85**	**158**	Pn		**Pn**	**01 59 07.6**	**-1.3**
WR0	**Warramunga Arr**	**13.93**	**158**	Pn		**Pn**	**01 59 10.1**	**+0.2**
BBKI	**Banjar Baru**	**14.50**	**284**	P		P	01 59 23.8	+5.6
COEN	**Coen**	**15.57**	**117**			**Pn**	**01 59 31.2**	**+1.2**
COEN				IAmb		IAmb	01 59 47.2	
	comp=Z,13nm,1.3s							
MYLDM	**Lahad Datu**	**16.01**	**319**	P		**P**	**01 59 35.1**	**+0.2**
MYLDM				IAmb		IAmb	01 59 51.8	
	comp=Z,14nm,0.9s							
PSA00	**Pilbara Seismi**	**16.91**	**210**	P		**Pn**	**01 59 45.4**	**-0.6**
AS31	**Alice Springs**	**17.19**	**164**	P		**Pn**	**01 59 49.1**	**-0.3**
ASAR	**Alice Springs**	**17.19**	**164**	P		**Pn**	**01 59 50.1**	**+0.7**
	comp=Z,9.5nm,0.3s,baz=338,slow=9.9,SNR=263							
ASAR				S		**S**	**02 02 55.6**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=340,slow=21,SNR=13							
ASAR	**Alice Springs**	**17.19**	**164**	P		**Pn**	**01 59 49.3**	**-0.1**
STKI	**Sintang**	**18.81**	**291**	P		**Pn**	**02 00 08.9**	**+0.4**
SBUM	**Sibu**	**19.18**	**299**	P		**Pn**	**02 00 11.9**	**-1.0**
MNAI	**Manna**	**26.01**	**274**	P		**P**	**02 01 13.2**	**-2.4**
BBOO	**Buckleboo**	**26.47**	**166**	P		**P**	**02 01 20.3**	**+0.8**
STKA	**Stephens Creek**	**27.37**	**156**	P		**P**	**02 01 29.1**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=318,slow=12,SNR=2.9							
STKA	**Stephens Creek**	**27.37**	**156**	IAmb		IAmb	02 01 29.7	
	comp=Z,0.7nm,0.9s							
RPSI	**Rantau Prapat**	**31.50**	**287**	P		**P**	**02 02 05.1**	**+1.0**
CM31	**Chiang Mai Arr**	**38.98**	**311**	P		**P**	**02 03 07.7**	**-0.2**
CM31				IAmb		IAmb	02 03 09.8	
	comp=Z,8.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**38.98**	**311**	P		**P**	**02 03 09.2**	**+1.4**
	comp=Z,3.0nm,0.8s,baz=142,slow=7.3,SNR=15							
CMAR	**Chiang Mai Arr**	**38.98**	**311**	P		**P**	**02 03 08.7**	**+0.8**
CHTO	**Chiang Mai**	**39.19**	**311**	P		**P**	**02 03 10.1**	**+0.4**
CHTO				IAmb		IAmb	02 03 12.1	
	comp=Z,6.7nm,0.9s							
SHL	**Shillong**	**48.48**	**313**	P		**P**	**02 04 23.6**	**-0.1**
SONM	**Songino Array**	**58.17**	**342**	P		**P**	**02 05 35.2**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=142,slow=7.3,SNR=1.9							
SONM	**Songino Array**	**58.17**	**342**	IAmb		IAmb	02 05 36.1	
	comp=Z,0.5nm,0.8s							
NIL	**Nilore**	**66.47**	**311**	P		**P**	**02 06 28.6**	**-0.4**
MK31	**Makanchi Array**	**67.70**	**327**	P		**P**	**02 06 36.9**	**+0.4**
MK31				IAmb		IAmb	02 06 37.9	
	comp=Z,1.7nm,0.7s							
MKAR	**Makanchi Array**	**67.70**	**327**	P		**P**	**02 06 37.3**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=127,slow=7.9,SNR=23							
MKAR	**Makanchi Array**	**67.70**	**327**	P		**P**	**02 06 37.1**	**+0.6**
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		**P**	**02 06 56.5**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=121,slow=5.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		**P**	**02 06 57.0**	**-0.5**
CHGR	**Chuyangaron**	**71.63**	**315**	P		**P**	**02 07 00.7**	**-0.1**
KK31	**Karatay Array**	**72.70**	**319**	P		**P**	**02 07 07.4**	**+0.5**
KKAR	**Karatay Array**	**72.70**	**319**	P		**P**	**02 07 07.4**	**+0.5**
ABKAR	**Akbulak array**	**81.91**	**322**	P		**P**	**02 07 57.7**	**-0.2**
CPUP	**Villa Florida**	**146.26**	**170**	PKPbc		**PKPbc**	**02 15 19.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=135,slow=2.9,SNR=3.2							

*IDC **18** 02:03:14.9±2.8, 39.°13N×142.°75E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/45, mbtmp3.7/4, ML2.6/1, Error ellipse: s-maj=68.7km s-min=31.2km az=72.0*
*NEIC **18** 02:03:25.0±1.8, 38.°85N±0.°03×142.°1E±0.°2, h64km±11km, mb4.2/6, Error ellipse: s-maj=19.4km s-min=4.6km az=88.0*
*JMA **18** 02:03:28.1, 38.°86N×141.°64E, h74km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs343.00000°, δ39.00000°, λ-16.00000°. NP2:ϕs85.00000°, δ80.00000°, λ-128.00000°. Principal axes: T Plg25.0000°, Azm204.0000°; N Plg38.0000°, Azm93.0000°; P Plg42.0000°, Azm319.0000°;*
JMA Felt I J1.
ISC 18 02:03:26.8±0.9, 38.°83N±0.°04×141.°80E±0.°07, h76km±6km, n38, σ0°99/46, mb4.1/6, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.25**	**265**	⇓P		**Pn**	**02 03 39.0**	**+0.7**
JKMT				S		**Sn**	**02 03 46.7**	**-0.1**
OFUJ	**Ofunato**	**0.27**	**338**	⇑P		**Pn**	**02 03 39.3**	**+0.9**
OFUJ				S		**Sn**	**02 03 47.4**	**+0.4**
JMK	**Ichinoseki**	**0.47**	**285**	⇑P		**Pn**	**02 03 39.8**	**0.0**
JMK				S		**Sn**	**02 03 48.3**	**-1.1**
JIO	**Ouri**	**0.52**	**223**	⇓P		**Pn**	**02 03 40.9**	**+0.6**
JIO				S		**Sn**	**02 03 50.2**	**0.0**
JOM	**Ohasama**	**0.75**	**329**	⇑P		**Pn**	**02 03 43.0**	**+0.3**
JOM				S		**Sn**	**02 03 54.2**	**-0.3**
JOU	**Okura**	**1.00**	**243**	⇑P		**Pn**	**02 03 45.8**	**+0.1**
JOU				S		**Sn**	**02 03 59.3**	**-0.4**
JRG	**Rokugo**	**1.07**	**302**	⇑P		**Pn**	**02 03 46.3**	**-0.1**
JRG				S		**Sn**	**02 04 00.0**	**-1.1**
JYK	**Kaneyama**	**1.13**	**275**	P		**Pn**	**02 03 47.2**	**0.0**
JYK				S		**Sn**	**02 04 01.6**	**-0.8**
JMM	**Marumori**	**1.25**	**220**	P		**Pn**	**02 03 48.8**	**+0.1**
JMM				S		**Sn**	**02 04 04.1**	**-1.0**
JMM	**Marumori**	**1.25**	**220**			**Pn**	**02 03 48.8**	**+0.1**
JYS	**Shirataka**	**1.49**	**246**	⇑P		**Pn**	**02 03 52.1**	**+0.3**
JYS				eS		**Sn**	**02 04 10.3**	**-0.4**
JANG	**Nango**	**1.56**	**352**	P		**Pn**	**02 03 53.0**	**+0.3**
JANG				S		**Sn**	**02 04 12.5**	**+0.2**
JAH	**Hinai**	**1.63**	**327**	P		**Pn**	**02 03 54.5**	**+0.9**
JAH				eS		**Sn**	**02 04 13.8**	**-0.1**
JFK	**Kawauchi**	**1.63**	**207**	⇑P		**Pn**	**02 03 54.5**	**+0.7**
JFK				S		**Sn**	**02 04 13.9**	**-0.2**
JYA	**Atsumi**	**1.65**	**262**	P		**Pn**	**02 03 53.9**	**0.0**
JYA				eS		**Sn**	**02 04 13.6**	**-0.8**
JTM	**Tenmabayashi**	**2.03**	**344**			**Pn**	**02 03 59.6**	**+0.6**
JYT	**Yasato**	**2.90**	**207**	Pn		**Pn**	**02 04 11.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.65**	**232**	Pn		**Pn**	**02 04 23.7**	**+2.8**
	0.3nm,0.3s,baz=49,slow=10,SNR=20							
MJAR	**Matsushiro Arr**	**3.65**	**232**			**Pn**	**02 04 23.2**	**+2.3**
MAJO	**Matsushiro**	**3.65**	**232**			**Pn**	**02 04 22.6**	**+1.6**
JGF	**Kuroka**	**4.79**	**229**	Pn		**Pn**	**02 04 38.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.10**	**309**	Pn		**Pn**	**02 05 37.0**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**28.86**	**124**	T		T	02 39 52.6	
	baz=317,slow=76,SNR=73							
H11N1	**WAKE ISLAND Hy**	**28.87**	**124**	T		T	02 39 53.4	
	baz=317,slow=76,SNR=94							
H11N3	**WAKE ISLAND Hy**	**28.87**	**124**	T		T	02 39 54.0	
	baz=317,slow=76,SNR=68							
H11S1	**WAKE ISLAND Hy**	**29.62**	**126**	T		T	02 40 44.0	
	baz=318,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy**	**29.63**	**126**	T		T	02 40 49.5	
	baz=318,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy**	**29.64**	**126**	T		T	02 40 44.6	
	baz=318,slow=76,SNR=30							
ZALV	**Zalesovo Beam**	**40.95**	**311**	P		**P**	**02 11 02.6**	**+0.9**
	1.2nm,0.4s,baz=94,slow=9.0,SNR=4.2							
RDOG	**Red Dog Mine**	**41.77**	**28**	P		**P**	**02 11 06.0**	**-2.2**
MK31	**Makanchi Array**	**43.44**	**301**	P		**P**	**02 11 22.7**	**+0.6**
MK31				IAmb		IAmb	02 12 08.0	
	comp=Z,6.3nm,1.8s							
MKAR	**Makanchi Array**	**43.44**	**301**	P		**P**	**02 11 22.7**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=89,slow=10.0,SNR=8.0							
MAKZ	**Makanchi**	**43.65**	**301**	P		**P**	**02 11 24.1**	**+0.3**
MAKZ				IAmb		IAmb	02 13 04.0	
	comp=Z,8.6nm,1.9s							
KURK	**Kurchatov**	**45.08**	**307**	P		**P**	**02 11 35.8**	**+0.7**
KURK				IAmb		IAmb	02 11 36.3	
	comp=Z,7.2nm,1.6s							
KK31	**Karatay Array**	**52.50**	**299**	P		**P**	**02 12 31.3**	**-0.8**
KKAR	**Karatay Array**	**52.50**	**299**	P		**P**	**02 12 31.2**	**-0.9**
WRAB	**Tennant Creek**	**58.87**	**188**	P		**P**	**02 13 18.8**	**+1.0**
WRA	**Warramunga Arr**	**58.88**	**188**	P		**P**	**02 13 18.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=5.4,slow=7.3,SNR=5.6							

*IDC **18** 02:17:39.9±0.8, 8.°52S×123.°52E, h148km±6km, mb4.2/13, mb1 4.2/16, mb1mx4.0/37, mbtmp4.6/16, MS3.0/6, Ms1 3.0/6, ms1mx2.7/35, Error ellipse: s-maj=19.4km s-min=8.6km az=70.0*
*NEIC **18** 02:17:40.2±1.8, 8.°64S±0.°05×123.°48E±0.°07, h161km±3km, mb4.5/49, Error ellipse: s-maj=10.2km s-min=6.8km az=66.0*
*KLM **18** 02:17:41.0, 8.°52S×123.°79E, h113km, mb4.7*
*DJA **18** 02:17:41.0±0.2, 9.°S±2.°×12.°3E±.°, h148km±2km, M4.6/30, mB5.1/12, mb4.7/30, MLv4.7/14, Mw(mB)4.5/12*
ISC 18 02:17:39.4±0.3, 8.°67S±0.°04×123.°52E±0.°06, h150km, n122, σ1°42/122, mb4.4/33, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.27**	**272**	P		**Pn**	**02 18 08.0**	**+1.3**
MMRI	**Maumere**	**1.27**	**272**	Pn		**Pn**	**02 18 08.0**	**+1.3**
SOEI	**Soe**	**1.30**	**146**	P		**Pn**	**02 18 08.8**	**+1.6**
SOEI	**Soe**	**1.30**	**146**	Pn		**Pn**	**02 18 08.8**	**+1.6**
BATI	**Baumata**	**1.53**	**175**	P		**Pn**	**02 18 11.3**	**+1.9**
	3µm,0.3s,baz=0.1,slow=1.0,SNR=1611							
BATI				S		**Sn**	**02 18 35.5**	**+3.1**
	733nm,0.3s,baz=86,slow=23,SNR=31							
BATI	**Baumata**	**1.53**	**175**	P		**Pn**	**02 18 10.8**	**+1.4**
EDFI	**Ende, Flores**	**1.81**	**267**	P		**Pn**	**02 18 14.2**	**+1.7**
BASI	**Baing, Sumba**	**3.29**	**242**	P		**Pn**	**02 18 31.2**	**+0.7**
BKSI	**Bulukumba**	**4.74**	**314**	P		**Pn**	**02 18 50.0**	**+0.6**
KDI	**Kendari**	**4.77**	**349**	P		**Pn**	**02 18 51.8**	**+1.9**
KAPI	**Kappang**	**5.22**	**314**	P		**Pn**	**02 18 56.7**	**+0.9**
	12nm,0.3s,baz=132,slow=7.6,SNR=26							
KAPI				LR		LR	02 21 18.0	
	comp=Z,65nm,19.9s,baz=127,slow=43							
PLAI	**Plampang**	**5.68**	**268**	P		**Pn**	**02 19 02.9**	**+1.0**
	1.8nm3µm183nm,0.7s							
SPSI	**Sidrap Palu**	**5.98**	**321**	P		**Pn**	**02 19 09.2**	**+3.3**
	0.2nm749nm36nm,0.9s							
TWSI	**Taliwang, Sumb**	**6.56**	**269**	P		**Pn**	**02 19 14.9**	**+1.2**
	0.7nm1µm34nm,0.5s							
TTSI	**Tana Toraja**	**6.69**	**326**	P		Pn	02 19 20.7	+5.2
	0.2nm2µm82nm,0.9s							
SANI	**Sanana**	**7.02**	**21**	P		**Pn**	**02 19 21.9**	**+2.0**
	0.1nm16nm,0.6s							
LUWI	**Luwuk**	**7.62**	**354**	Pn		**Pn**	**02 19 28.1**	**+0.3**
MTN	**Manton Dam**	**8.55**	**120**	Pn		**Pn**	**02 19 39.0**	**-1.3**
KNRA	**Kununurra**	**8.64**	**144**			**Pn**	**02 19 40.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**9.27**	**271**	Pn		**Pn**	**02 19 50.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**9.59**	**168**	P		**Pn**	**02 19 52.0**	**-2.2**
	6.9nm,0.3s,baz=359,slow=9.1,SNR=279							
FITZ				S		**Sn**	**02 21 33.2**	**-7.3**
	22nm,0.3s,baz=96,slow=6.1,SNR=13							
FITZ				LR		LR	02 23 56.3	
	comp=Z,82nm,21.9s,baz=345,slow=39							
FITZ	**Fitzroy Crossi**	**9.59**	**168**			**Pn**	**02 19 52.3**	**-1.8**
MPSI	**Mapaga**	**9.65**	**338**	P		Pn	02 19 59.5	+4.6
	3µm29nm,1.3s							
TNTI	**Ternate**	**10.13**	**22**	Pn		**Pn**	**02 20 00.8**	**-0.6**
FAKI	**Fak Fak**	**10.39**	**57**	Pn		**Pn**	**02 20 04.0**	**-0.8**
PWJI	**Pagerwojo**	**11.61**	**272**	P		**P**	**02 20 27.4**	**-0.7**
UGM	**Wanagama**	**12.88**	**272**	Pn		**Pn**	**02 20 37.1**	**-0.2**
PSA00	**Pilbara Seismi**	**13.31**	**195**	Pn		**Pn**	**02 20 41.2**	**-1.4**
MYLDM	**Lahad Datu**	**14.64**	**340**	Pn		**Pn**	**02 20 58.8**	**-0.7**
WB0	**Warramunga Arr**	**15.24**	**138**	Pn		**Pn**	**02 21 05.3**	**-1.7**
WRA	**Warramunga Arr**	**15.33**	**138**	P		**Pn**	**02 21 06.0**	**-2.1**
	2.2nm,0.3s,baz=316,slow=13,SNR=88							
WRA				S		Sn	02 23 45.9	-13
	3.1nm,0.3s,baz=313,slow=23,SNR=7.2							
WRA				LR		LR	02 27 46.6	
	comp=Z,59nm,18.3s,baz=205,slow=39							
WRAB	**Tennant Creek**	**15.33**	**138**	Pn		**Pn**	**02 21 06.8**	**-1.3**
WB2	**Warramunga Arr**	**15.34**	**138**	Pn		**Pn**	**02 21 06.9**	**-1.3**
WR0	**Warramunga Arr**	**15.48**	**138**	Pn		**Pn**	**02 21 08.4**	**-1.5**
CISI	**Cisompet, Garu**	**15.59**	**273**	Pn		**Pn**	**02 21 10.1**	**-1.3**
SBUM	**Sibu**	**15.78**	**314**			**P**	**02 21 14.5**	**+0.1**
SBUM				IAmb		IAmb	02 21 18.6	
	comp=Z,19nm,0.9s							
SBUM	**Sibu**	**15.78**	**314**	P		**P**	**02 21 18.0**	**+3.6**
LEM	**Lembang**	**15.87**	**276**	P		**Pn**	**02 21 14.8**	**-0.1**
	comp=Z,4.8nm,0.3s,baz=106,slow=21,SNR=8.9							

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**16.33**	**333**			**P**	**02 21 21.9**	**+1.2**
KSM	**Kuching**	**16.58**	**307**	P		**Pn**	**02 21 24.3**	**+0.8**
CBJI	**Citeko**	**16.68**	**277**	P		**P**	**02 21 23.7**	**-0.6**
	comp=Z,130nm,0.8s							
XMIS	**Christmas Isla**	**17.71**	**263**	P		**P**	**02 21 35.3**	**-0.5**
CGJI	**Cibinong**	**17.79**	**275**	P		**P**	**02 21 36.3**	**-0.2**
	comp=Z,48nm,0.8s							
AS31	**Alice Springs**	**17.92**	**148**	P		**Pn**	**02 21 38.8**	**-0.7**
AS31				IAmb		IAmb	02 21 47.2	
	comp=Z,10nm,0.6s							
ASAR	**Alice Springs**	**17.92**	**148**	P		**Pn**	**02 21 39.5**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=324,slow=12,SNR=137							
ASAR				S		S	02 24 45.0	-11
	comp=Z,0.3nm,0.3s,baz=309,slow=14,SNR=2.1							
ASAR				LR		LR	02 29 17.1	
	comp=Z,57nm,20.7s,baz=328,slow=39							
ASAR				ScP		**ScP**	**02 29 27.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=353,slow=2.3,SNR=9.0							
ASAR	**Alice Springs**	**17.92**	**148**			**Pn**	**02 21 39.4**	**-0.1**
ASAR						**ScP**	**02 29 28.1**	**-0.3**
COEN	**Coen**	**19.97**	**107**	P		**P**	**02 22 01.1**	**+0.8**
COEN				IAmb		IAmb	02 22 15.9	
	comp=Z,14nm,0.7s							
MORW	**Morawa**	**21.48**	**198**	P		**P**	**02 22 16.3**	**+0.1**
FORT	**Forrest**	**22.40**	**170**	P		**P**	**02 22 26.1**	**+0.5**
CTA	**Charters Tower**	**24.74**	**120**	P		**P**	**02 22 49.0**	**+1.8**
	comp=Z,6.6nm,0.9s,baz=318,slow=14,SNR=7.4							
CTAO	**Charters Tower**	**24.74**	**120**	P		**P**	**02 22 48.6**	**+1.4**
CTAO				IAmb		IAmb	02 22 51.2	
	comp=Z,8.2nm,0.8s							
NWAO	**Narrogin (SRO)**	**24.83**	**193**	P		**P**	**02 22 48.6**	**+0.7**
	comp=Z,16nm,0.4s,baz=28,slow=8.2,SNR=42							
NWAO	**Narrogin (SRO)**	**24.83**	**193**	P		**P**	**02 22 48.0**	**+0.2**
BBOO	**Buckleboo**	**26.68**	**156**	P		**P**	**02 23 04.8**	**+0.2**
STKA	**Stephens Creek**	**28.55**	**146**	P		**P**	**02 23 23.0**	**+1.8**
	comp=Z,5.2nm,0.3s,baz=320,slow=10,SNR=27							
STKA				LR		LR	02 36 14.8	
	comp=Z,49nm,19.8s,baz=19,slow=39							
STKA	**Stephens Creek**	**28.55**	**146**	P		**P**	**02 23 22.5**	**+1.3**
ARMA	**Armidale**	**34.02**	**133**	P		**P**	**02 24 10.2**	**+0.9**
ARMA				IAmb		IAmb	02 24 13.2	
	comp=Z,10nm,0.8s							
TOO	**Toolangi**	**34.97**	**149**	P		**P**	**02 24 17.0**	**-0.3**
CAN	**Canberra**	**35.30**	**143**	P		**P**	**02 24 20.4**	**+0.2**
CAN				IAmb		IAmb	02 24 23.2	
	comp=Z,20nm,1.4s							
CM31	**Chiang Mai Arr**	**36.26**	**318**	P		**P**	**02 24 28.7**	**+0.2**
CM31				IAmb		IAmb	02 24 30.4	
	comp=Z,6.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**36.26**	**318**	P		**P**	**02 24 29.5**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=147,slow=7.1,SNR=16							
CMAR	**Chiang Mai Arr**	**36.26**	**318**	P		**P**	**02 24 28.5**	**0.0**
CHTO	**Chiang Mai**	**36.52**	**319**	P		**P**	**02 24 29.6**	**-1.1**
CHTO				IAmb		IAmb	02 24 32.3	
	comp=Z,5.0nm,0.7s							
WHN	**Wuhan**	**39.97**	**348**	P		P	02 25 05.8	+6.4
NJ2	**Nanjing**	**40.74**	**354**	*eP*		**P**	**02 25 08.3**	**+2.7**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
XAN	**Xi'an**	**44.68**	**343**	P		**P**	**02 25 37.8**	**+0.3**
XAN				sP		pP	02 25 50.8	-19
XAN				pmax		pmax		
	comp=Z,6.0nm,0.8s							
JWT	**Wachi**	**45.13**	**14**	P		**P**	**02 25 40.7**	**-0.3**
JWT				IAmb		IAmb	02 25 41.6	
	comp=Z,8.

CPUP	**Villa Florida**	**145.20**	**179**			**PKPab**	**02 37 00.3**	**+0.2**
PB04	**IPOC Station P**	**146.40**	**157**			**PKPdf**	**02 37 02.1**	**-0.3**
SACV	**Santiago Islan**	**147.25**	**284**	PKPbc		**PKPbc**	**02 37 05.2**	**-1.1**
PB11	**IPOC Station P**	**148.91**	**155**	PKPbc		**PKPbc**	**02 37 10.8**	**+0.1**
GO01	**Chusmiza**	**149.18**	**156**	PKPbc		**PKiKP**	**02 37 13.3**	**+0.3**
MNMC	**Minye Minye**	**149.50**	**155**	PKPbc		**PKiKP**	**02 37 13.0**	**-0.3**
LPAZ	**La Paz**	**152.65**	**155**	PKPbc		**PKiKP**	**02 37 22.3**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=135,slow=1.4,SNR=3.8							
LPAZ				PKPab		**PKPab**	**02 37 33.0**	**+1.9**
	comp=Z,4.2nm,0.6s,baz=131,slow=2.3,SNR=17							

IDC ***18*** *02:46:21.3±0.9, 34°.00N×102°.99E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/50, mbtmp3.8/11, ML3.5/1, MS3.4/13, Ms1 3.4/13, ms1mx3.1/43, Error ellipse: s-maj=25.3km s-min=16.4km az=50.0*

NEIC ***18*** *02:46:23.4±1.2, 34°.02N±0°.10×103°.02E±0°.03, h11km±5km, mb4.1/22, Error ellipse: s-maj=13.8km s-min=3.5km az=178.0*

BJI ***18*** *02:46:23.2±0.0, 34°.13N×103°.03E, h16km, mb4.3/5, ML4.2/16*

ISC 18 02:46:23.3±0.5, 34°.11N±0°.03×103°.00E±0°.05, h10km, n61, σ1s59/60, mb4.0/13, MS3.4/10, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.09**	**19**	*e*Pg	**Pb**	**02 47 00.8**	**-0.7**
LZH				Pg	**Pg**	**02 47 04.0**	**+0.5**
LZH				Sn	**Sb**	**02 47 28.3**	**+0.7**
LZH				Sg	**Sg**	**02 47 31.9**	**+1.3**
CD2	**Chengdu**	**3.25**	**168**	Pn	**Pb**	**02 47 21.4**	**+0.2**
CD2				Pg	**Pg**	**02 47 26.9**	**+1.2**
CD2				Sg	**Sb**	**02 48 03.5**	**+2.6**
CD2				smax	smax		
	comp=N,400nm,1.5s						
CD2				smax	smax		
	comp=E,340nm,1.3s						
XAN	**Xi'an**	**4.92**	**89**	Pn	**Pn**	**02 47 36.9**	**-0.4**
XAN				Pg	**Pb**	**02 47 51.6**	**+2.0**
XAN				Sn	**Sn**	**02 48 29.4**	**-5.0**
XAN				Sg	**Sg**	**02 48 58.5**	**-2.8**
XAN				smax	smax		
	comp=E,570nm,0.9s						
XAN				smax	smax		
	comp=E,540nm,0.9s						
XAN	**Xi'an**	**4.92**	**89**		**Pn**	**02 47 37.0**	**-0.4**
GTA	**Gaotai**	**5.88**	**335**	*e*Pn	**Pn**	**02 47 52.6**	**+2.0**
ENH	**Enshi**	**6.70**	**123**		**Pn**	**02 48 00.7**	**-1.2**
GYA	**Guiyang**	**8.26**	**156**	*e*P	Pn	02 48 29.6	+6.3
GYA				smax	smax		
	comp=E,34nm,1.6s						
GYA				smax	smax		
	comp=E,47nm,0.9s						
BTO	**Baotou**	**8.56**	**39**	*e*P	**Pn**	**02 48 24.3**	**-3.1**
WHN	**Wuhan**	**10.24**	**107**	P	**Pn**	**02 48 53.5**	**+3.1**
WHN				S	**Sn**	**02 50 50.3**	**+5.0**
SHL	**Shillong**	**12.86**	**231**	Pn	**Pn**	**02 49 25.1**	**-1.3**
SONM	**Songino Array**	**13.95**	**10**	Pn	**Pn**	**02 49 41.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=193,slow=14,SNR=4.4						
SONM				Lg	Lg	02 53 45.1	
	comp=E,0.2nm,0.3s,baz=197,slow=23,SNR=3.1						
SONM				LR	LR	02 55 28.6	
	comp=E,114nm,19.5s,baz=178,slow=39						
ULN	**Ulaanbaatar**	**14.08**	**11**	Pn	**Pn**	**02 49 43.0**	**+0.1**
WMQ	**Urumqi**	**15.33**	**314**	*e*P	**Pn**	**02 49 58.3**	**-1.5**
WMQ	**Urumqi**	**15.33**	**314**	Pn	**Pn**	**02 49 58.4**	**-1.3**
CHTO	**Chiang Mai**	**15.66**	**194**	Pn	**Pn**	**02 50 01.6**	**-2.5**
CMAR	**Chiang Mai Arr**	**16.00**	**194**	Pn	**P**	**02 50 11.1**	**-1.0**
	comp=E,0.2nm,0.3s,baz=2.3,slow=11,SNR=4.1						
CMAR				LR	LR	02 56 30.6	
	comp=E,50nm,19.4s,baz=355,slow=38						
CMAR	**Chiang Mai Arr**	**16.00**	**194**		**Pn**	**02 50 06.1**	**-2.5**
QIZ	**Qiongzhong**	**16.21**	**156**	P	**Pn**	**02 50 09.5**	**-1.8**
QIZ				S	**Sn**	**02 53 10.9**	**-0.3**
TLY	**Talaya**	**17.57**	**1**	LR	LR	02 57 47.5	
	comp=E,122nm,20.0s,baz=170,slow=39						
HIA	**Hailar**	**19.57**	**34**	P	**P**	**02 50 50.2**	**-1.1**
HIA				IAmb	IAmb	02 50 57.5	
	comp=Z,7.4nm,0.5s						
MK31	**Makanchi Array**	**20.14**	**315**	P	**P**	**02 50 58.0**	**+0.5**
MKAR	**Makanchi Array**	**20.14**	**315**	P	**P**	**02 50 57.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=118,slow=12,SNR=8.1						
MKAR	**Makanchi Array**	**20.14**	**315**	P	**P**	**02 50 58.6**	**+1.0**
MAKZ	**Makanchi**	**20.34**	**315**	P	**P**	**02 51 00.7**	**+1.1**
MAKZ				IAmb	IAmb	02 51 03.2	
	comp=Z,8.3nm,1.3s						
KSAR	**Wonju Array Be**	**20.45**	**73**	P	**P**	**02 51 01.4**	**+0.5**
KSRS	**Korea Array**	**20.48**	**73**	P	**P**	**02 51 02.5**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=255,slow=9.1,SNR=8.3						
KSRS				LR	LR	02 59 58.4	
	comp=Z,87nm,20.4s,baz=267,slow=40						
PRZ	**Przheval'sk**	**20.98**	**301**	P	**P**	**02 51 07.8**	**+0.9**
KDJ	**Kajisay**	**21.77**	**299**	P	**P**	**02 51 16.2**	**+0.8**
KDJ				IAmb	IAmb	02 51 18.8	
	comp=Z,6.2nm,1.1s						
BOOM	**Boomskoye usch**	**22.75**	**300**	P	**P**	**02 51 26.5**	**+0.6**
BOOM				IAmb	IAmb	02 51 36.8	
	comp=Z,3.0nm,0.7s						
ZAA0	**Zalesovo Array**	**23.62**	**333**	P	**P**	**02 51 34.7**	**+0.3**
ZAA0				IAmb	IAmb	02 51 36.4	
	comp=Z,6.7nm,1.1s						
ZALV	**Zalesovo Beam**	**23.62**	**333**	P	**P**	**02 51 35.0**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=141,slow=9.6,SNR=7.6						
ZALV				LR	LR	03 01 27.0	
	comp=Z,76nm,19.8s,baz=122,slow=38						
ZALV	**Zalesovo Beam**	**23.62**	**333**	P	**P**	**02 51 35.4**	**+1.0**
KURBB	**Kurchatov Arra**	**24.31**	**320**	P	**P**	**02 51 41.2**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=125,slow=11,SNR=21						
KURK	**Kurchatov**	**24.31**	**320**	P	**P**	**02 51 41.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**24.52**	**57**	P	**P**	**02 51 43.6**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=255,slow=12,SNR=4.1						
NIL	**Nilore**	**24.66**	**277**	P	**P**	**02 51 43.8**	**-0.6**
BTK	**Batken**	**26.26**	**292**	P	**P**	**02 51 59.5**	**+0.7**
BTK				IAmb	IAmb	02 52 11.1	
	comp=Z,3.1nm,0.7s						
GAR	**Garm**	**26.61**	**290**	P	**P**	**02 52 03.7**	**+1.6**
KK31	**Karatay Array**	**26.79**	**299**	P	**P**	**02 52 04.5**	**+1.0**
KKAR	**Karatay Array**	**26.79**	**299**	P	**P**	**02 52 04.2**	**+0.7**
CHGR	**Chuyangaron**	**27.52**	**289**	P	**P**	**02 52 10.9**	**+0.7**
MJAR	**Matsushiro Arr**	**28.74**	**75**	LR	LR	03 05 20.1	
	comp=Z,35nm,20.2s,baz=265,slow=40						
ASAJ	**Asahikawa**	**32.04**	**60**	LR	LR	03 06 27.2	
	comp=Z,66nm,19.6s,baz=156,slow=38						
DAV	**Davao City (W)**	**34.05**	**137**	LR	LR	03 07 21.6	
	comp=Z,70nm,18.3s,baz=334,slow=37						
ABKAR	**Akbulak array**	**35.02**	**309**	P	**P**	**02 53 16.8**	**+0.8**
GEYT	**Alibeck**	**36.23**	**289**	P	**P**	**02 53 27.9**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=56,slow=16,SNR=3.5						
GEYT	**Alibeck**	**36.23**	**289**	IAmb	IAmb	02 53 29.0	
	comp=Z,1.5nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**36.23**	**289**	P	**P**	**02 53 27.0**	**+0.4**
ARU	**Arti**	**37.51**	**320**	P	**P**	**02 53 37.9**	**+0.8**
ARU				IAmb	IAmb	02 53 39.4	
	comp=Z,5.0nm,0.9s						
PETK	**Petropavlovsk-**	**42.75**	**46**	LR	LR	03 15 27.4	
	comp=Z,46nm,18.1s,baz=261,slow=41						
KBZ	**Khabaz**	**46.82**	**300**	LR	LR	03 16 31.5	
	comp=Z,45nm,21.6s,baz=53,slow=39						
ARCES	**ARCESS Array B**	**54.15**	**335**	LR	LR	03 20 02.9	
	comp=Z,32nm,19.8s,baz=340,slow=37						
FINES	**FINESS Array B**	**54.57**	**325**	P	**P**	**02 55 51.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=75,slow=8.1,SNR=5.9						
WRAB	**Tennant Creek**	**61.48**	**146**	P	**P**	**02 56 40.7**	**+0.4**
WRA	**Warramunga Arr**	**61.48**	**146**	P	**P**	**02 56 39.1**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=343,slow=7.1,SNR=9.8						
WB2	**Warramunga Ar**	**61.49**	**146**	P	**P**	**02 56 39.9**	**-0.4**
NOA	**NORSAR Array B**	**61.64**	**326**	LR	LR	03 25 03.1	
	comp=Z,38nm,18.4s,baz=245,slow=38						
ASAR	**Alice Springs**	**64.54**	**149**	P	**P**	**02 56 59.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=336,slow=6.8,SNR=7.7						
GERES	**GERESS Array B**	**64.80**	**313**	LR	LR	03 26 39.4	
	comp=Z,60nm,20.7s,baz=60,slow=37						
IL31		**67.54**	**26**	P	**P**	**02 57 19.4**	**0.0**
ILAR	**Eielson Array**	**67.54**	**26**	P	**P**	**02 57 18.9**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=246,slow=5.5,SNR=6.0						

IDC ***18*** *02:46:37.7±1.4, 4°.98S×152°.21E, h59km±11km, mb3.7/8, mb1 3.9/8, mb1mx3.6/40, mbtmp4.0/8, Error ellipse: s-maj=27.0km s-min=17.4km az=107.0*

NEIC ***18*** *02:46:38.0±1.4, 4°.93S±0°.09×152°.2E±0°.2, h69km±8km, mb4.2/8, Error ellipse: s-maj=23.5km s-min=12.8km az=101.0*

ISC 18 02:46:38.5±0.8, 4°.93S±0°.08×152°.2E±0°.1, h70km, n22, σ0s94/22, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.65**	**342**	P	**Pn**	**02 46 52.9**	**0.0**
	256nm,0.3s,baz=147,slow=1.8,SNR=79						
KRVT				S	**Sn**	**02 47 03.6**	**+0.2**
	654nm,0.3s,baz=90,slow=20,SNR=15						
KRVT				LR	LR	02 47 19.9	
	comp=Z,419nm,18.8s,baz=118,slow=61						
RABL	**Rabaul**	**0.73**	**355**	Pn	**Pn**	**02 46 53.4**	**-0.4**
PMG	**Port Moresby**	**6.71**	**228**	Pn	**Pn**	**02 48 14.6**	**+0.2**
DZM	**Mont Dzumac**	**21.91**	**142**	P	**P**	**02 51 26.9**	**+0.8**
	3.6nm,0.6s,baz=270,slow=5.1,SNR=5.9						
WB0	**Warramunga Ar**	**22.79**	**228**	P	**P**	**02 51 35.0**	**-0.5**
WRAB	**Tennant Creek**	**22.92**	**228**	P	**P**	**02 51 36.3**	**-0.6**
WB2	**Warramunga Arr**	**22.93**	**228**	P	**P**	**02 51 36.0**	**-0.9**
WRA	**Warramunga Arr**	**22.93**	**228**	P	**P**	**02 51 36.2**	**-0.8**
	3.4nm,0.5s,baz=52,slow=9.9,SNR=65						
AS31	**Alice Springs**	**25.67**	**222**	P	**P**	**02 52 01.7**	**-0.3**
ASAR	**Alice Springs**	**25.67**	**222**	P	**P**	**02 52 01.8**	**-0.3**
	2.6nm,0.6s,baz=58,slow=8.9,SNR=40						
ASAR	**Alice Springs**	**25.67**	**222**	P	**P**	**02 52 01.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**29.09**	**241**	P	**P**	**02 52 32.0**	**-0.8**
	2.0nm,0.5s,baz=72,slow=7.4,SNR=8.5						
FITZ	**Fitzroy Crossi**	**29.09**	**241**	IAmb	IAmb	02 53 22.5	
	comp=Z,10nm,1.4s						
MK31	**Makanchi Array**	**80.05**	**319**	P	**P**	**02 58 40.9**	**+0.3**
MK31				IAmb	IAmb	02 59 04.1	
	comp=Z,6.4nm,2.0s						
MKAR	**Makanchi Array**	**80.05**	**319**	P	**P**	**02 58 42.9**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=109,slow=5.3,SNR=4.5						
MKAR	**Makanchi Array**	**80.05**	**319**	P	**P**	**02 58 42.2**	**+1.6**
ZAA0	**Zalesovo Array**	**80.94**	**326**	P	**P**	**02 58 45.7**	**+0.5**
ZAA0				IAmb	IAmb	03 00 10.2	
	comp=Z,4.5nm,1.4s						
ZALV	**Zalesovo Beam**	**80.94**	**326**	P	**P**	**02 58 47.0**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=130,slow=6.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**80.94**	**326**	P	**P**	**02 58 45.7**	**+0.5**
ILAR	**Eielson Array**	**82.49**	**22**	P	**P**	**02 58 52.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=265,slow=4.8,SNR=4.3						
NVAR	**Mina Array Bea**	**92.61**	**52**	P	**P**	**02 59 42.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=250,slow=4.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.80**	**288**	PKPbc	**PKPbc**	**03 06 21.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=86,slow=2.8,SNR=3.7						

IDC ***18*** *03:03:57.8±0.7, 2°.74S×140°.41E, h0km, mb4.1/8, mb1 4.4/10, mb1mx4.0/35, mbtmp4.3/10, ML4.8/2, MS3.4/13, Ms1 3.4/13, ms1mx3.1/37, Error ellipse: s-maj=20.2km s-min=6.1km az=142.0*

NEIC ***18*** *03:03:58.6±2.0, 2°.80S±0°.09×140°.5E±0°.1, h11km±4km, mb4.4/31, Error ellipse: s-maj=15.6km s-min=12.6km az=57.0*

DJA ***18*** *03:03:59.2±0.4, 3°.S±4°×14°.1E±°, h10km±3km, M4.2/11, mb4.5/11, mB5.8/1, MLv4.1/4, Mw(mB)5.4/1*

ISC 18 03:03:58.0±0.5, 2°.85S±0°.04×140°.61E±0°.05, h10km, n82, σ1s76/69, mb4.2/18, MS3.4/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.34**	**16**	Pg	**Pb**	**03 04 05.5**	**-0.8**
	1μm,0.3s,baz=198,slow=9.2,SNR=3219						
JAY				Lg	Lg	03 04 09.6	
	4μm,0.3s,baz=345,slow=21,SNR=40						
JAY	**Jayapura**	**0.34**	**16**	P	**Pb**	**03 04 05.4**	**-0.8**
JAY				S	**Sg**	**03 04 09.0**	**-0.4**
GENI	**Genyem**	**0.51**	**300**	P	**Pb**	**03 04 09.8**	**+0.8**
GENI				S	**Sb**	**03 04 16.7**	**+0.2**
SMPI	**Sarmi**	**2.08**	**294**	P	**Pb**	**03 04 35.2**	**-0.7**
WAMI	**Wamena**	**2.16**	**241**	P	**Pb**	**03 04 36.9**	**-0.3**
FAKI	**Fak Fak**	**8.35**	**269**	P	Pb	03 06 15.5	-7.3
FAKI	**Fak Fak**	**8.35**	**269**	Pn	**Pn**	**03 06 00.3**	**+1.1**
PMG	**Port Moresby**	**9.21**	**135**	LR	LR	03 10 55.0	
	comp=Z,286nm,20.3s,baz=191,slow=44						
SAUI	**Saumlaki**	**10.58**	**241**	Pn	**Pn**	**03 06 27.4**	**-2.4**
COEN	**Coen**	**11.33**	**167**	Pn	**Pn**	**03 06 43.7**	**+3.6**
MTN	**Manton Dam**	**13.66**	**223**	Pn	**Pn**	**03 07 11.8**	**-0.2**
GUMO	**Guam**	**16.87**	**14**	LR	LR	03 14 05.4	
	comp=Z,78nm,18.6s,baz=212,slow=36						
KNRA	**Kununurra**	**17.28**	**222**	Pn	**Pn**	**03 07 57.8**	**-1.8**
SOEI	**Soe**	**17.63**	**246**	P	**P**	**03 08 05.5**	**+0.5**
	46nm,0.8s						
SOEI	**Soe**	**17.63**	**246**	P	**Pn**	**03 08 05.0**	**+0.9**
SOEI				IAmb	IAmb	03 08 19.5	
	comp=Z,32nm,0.8s						
WB0	**Warramunga Arr**	**17.88**	**199**		**Pn**	**03 08 07.9**	**+0.8**
WB0				IAmb	IAmb	03 08 12.0	
	comp=Z,35nm,1.1s						
LUWI	**Luwuk**	**17.92**	**275**		**Pn**	**03 08 07.8**	**+0.2**
LUWI				IAmb	IAmb	03 08 12.5	
	comp=Z,32nm,0.8s						
GTOI	**Gorontalo**	**17.93**	**281**	P	**P**	**03 08 12.4**	**+4.1**
CTAO	**Charters Tower**	**18.00**	**163**	Pn	**Pn**	**03 08 07.9**	**-0.6**
WR0	**Warramunga Arr**	**18.01**	**199**		**Pn**	**03 08 08.8**	**+0.2**
WR0				IAmb	IAmb	03 08 12.9	
	comp=Z,25nm,0.6s						
WRAB	**Tennant Creek**	**18.05**	**199**		**P**	**03 08 10.5**	**+0.9**
WRAB				IAmb	IAmb	03 08 13.4	
	comp=Z,34nm,0.8s						
WB2	**Warramunga Arr**	**18.06**	**199**		**Pn**	**03 08 09.9**	**+0.6**
WRA	**Warramunga Ar**	**18.06**	**199**	P	**P**	**03 08 10.7**	**+0.9**
	comp=Z,3.6nm,0.3s,baz=19,slow=12,SNR=154						
WRA				S	**Sn**	**03 11 22.8**	**-8.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=21,SNR=5.5						
WRA				LR	LR	03 16 06.3	
	comp=Z,166nm,19.2s,baz=15,slow=40						
BATI	**Baumata**	**18.34**	**246**	P	**Pn**	**03 08 12.3**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=288,slow=19,SNR=2.1						
TTSI	**Tana Toraja**	**20.76**	**269**	P	**P**	**03 08 39.7**	**+0.4**
KAPI	**Kappang**	**20.92**	**263**	LR	LR	03 16 39.2	
	comp=Z,51nm,20.5s,baz=78,slow=37						
FITZ	**Fitzroy Crossi**	**21.10**	**223**	P	**P**	**03 08 43.5**	**+0.6**
	comp=Z,4.3nm,0.6s,baz=52,slow=13,SNR=19						
FITZ				S	**S**	**03 12 33.1**	**-4.7**
	comp=Z,9.2nm,0.9s,baz=67,slow=23,SNR=5.6						
FITZ				LR	LR	03 18 20.7	
	comp=Z,171nm,18.3s,baz=46,slow=41						
FITZ	**Fitzroy Crossi**	**21.10**	**223**	P	**P**	**03 08 43.4**	**+0.5**
FITZ				IAmb	IAmb	03 08 51.6	
	comp=Z,7.2nm,0.7s						
AS31	**Alice Springs**	**21.69**	**197**	P	**P**	**03 08 50.4**	**+1.1**
ASAR	**Alice Springs**	**21.69**	**197**	P	**P**	**03 08 51.1**	**+1.9**
	comp=Z,6.8nm,0.6s,baz=30,slow=9.1,SNR=78						
ASAR				S	**S**	**03 12 46.1**	**-3.5**
	comp=Z,2.3nm,0.9s,baz=19,slow=24,SNR=5.9						
ASAR				LR	LR	03 17 48.3	
	comp=Z,126nm,19.1s,baz=12,slow=38						
ASAR	**Alice Springs**	**21.69**	**197**	P	**P**	**03 08 50.0**	**+0.8**
MYLDM	**Lahad Datu**	**23.48**	**290**	P	**P**	**03 09 09.0**	**+0.9**
MYLDM				IAmb	IAmb	03 09 14.3	
	comp=Z,19nm,1.1s						
KBKI	**Kotabaru**	**24.41**	**268**	P	**P**	**03 09 18.7**	**+1.7**
	comp=Z,3μmcomp=Z,23nm,0.7s						
STKA	**Stephens Creek**	**28.89**	**178**	P	**P**	**03 09 59.4**	**+2.3**
	comp=Z,1.4nm,0.8s,baz=330,slow=14,SNR=4.0						
STKA				LR	LR	03 22 41.4	
	comp=Z,71nm,19.4s,baz=353,slow=39						
STKA	**Stephens Creek**	**28.89**	**178**	P	**P**	**03 09 59.5**	**+2.3**
JCJ	**Chichijima**	**29.80**	**3**	LR	LR	03 20 24.4	
	comp=Z,71nm,21.0s,baz=98,slow=33						
BBOO	**Buckleboo**	**30.11**	**188**	P	**P**	**03 10 08.7**	**+0.7**
FORT	**Forrest**	**30.21**	**202**	P	**P**	**03 10 09.9**	**+1.1**
DZM	**Mont Dzumac**	**31.54**	**129**	LR	LR	03 23 07.7	
	comp=Z,109nm,21.5s,baz=38,slow=36						
H11S3	**WAKE ISLAND Hy**	**33.30**	**49**	T	T	03 45 15.5	
	baz=232,slow=75,SNR=198						
H11S2	**WAKE ISLAND Hy**	**33.31**	**49**	T	T	03 45 17.4	
	baz=232,slow=75,SNR=134						
H11S1	**WAKE ISLAND Hy**	**33.32**	**49**	T	T	03 45 18.0	
	baz=232,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy**	**34.19**	**48**	T	T	03 46 24.8	
	baz=229,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**34.21**	**48**	T	T	03 46 28.6	
	baz=229,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**34.21**	**48**	T	T	03 46 27.8	
	baz=229,slow=76,SNR=12						
MORW	**Morawa**	**35.01**	**219**	P	**P**	**03 10 52.0**	**+1.0**
JHJ	**Hachijo jima 2**	**35.78**	**359**	LR	LR	03 21 47.0	
	comp=Z,75nm,19.9s,baz=328,slow=30						
MDSI	**Maura Dua**	**36.39**	**266**	P	**P**	**03 11 02.9**	**-0.1**
	comp=Z,15nm,1.0s						

NWAO	**Narrogin (SRO)**	**37.09**	**214**	P	**P**		**03 11 08.4**	**-0.2**
MAJO	**Matsushiro**	**39.25**	**357**	P	**P**		**03 11 24.3**	**-2.5**
MAJO				IAmb	IAmb		03 11 25.0	
	comp=Z,9.5nm,1.1s							
MJB9	**Matsu-Tunnel**	**39.25**	**357**	P	**P**		**03 11 24.3**	**-2.5**
KULM	**Kulim**	**40.73**	**281**	P	**P**		**03 11 39.6**	**+0.1**
MNSI	**Mandailing Nat**	**41.17**	**274**	P	P		03 12 00.2	+17
KSRS	**Korea Array**	**41.79**	**345**	LR	LR		03 28 16.0	
	comp=Z,28nm,18.1s,baz=142,slow=35							
RPSI	**Rantau Prapat**	**42.03**	**277**	P	**P**		**03 11 48.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**46.16**	**299**	P	**P**		**03 12 22.9**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=122,slow=7.0,SNR=9.8							
PPT	**Papeete**	**69.91**	**108**	LR	LR		03 43 11.3	
	comp=Z,45nm,18.1s,baz=216,slow=34							
MK31	**Makanchi Array**	**71.06**	**322**	P	**P**		**03 15 15.5**	**-1.0**
MK31				IAmb	IAmb		03 15 32.3	
	comp=Z,2.3nm,1.1s							
MKAR	**Makanchi Array**	**71.06**	**322**	P	**P**		**03 15 16.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=106,slow=8.3,SNR=8.8							
MKAR	**Makanchi Array**	**71.06**	**322**	P	**P**		**03 15 15.5**	**-1.0**
MAKZ	**Makanchi**	**71.26**	**322**	P	**P**		**03 15 17.5**	**-0.2**
MAKZ				IAmb	IAmb		03 15 26.1	
	comp=Z,3.6nm,1.1s							
NIL	**Nilore**	**72.93**	**306**	P	**P**		**03 15 28.2**	**+0.2**
ZAA0	**Zalesovo Array**	**73.01**	**329**	P	**P**		**03 15 28.0**	**0.0**
ZAA0				IAmb	IAmb		03 15 34.2	
	comp=Z,4.6nm,1.4s							
ZALV	**Zalesovo Beam**	**73.01**	**329**	P	**P**		**03 15 29.3**	**+1.3**
KURK	**Kurchatov**	**74.92**	**324**	P	**P**		**03 15 39.9**	**+0.7**
KURK	**Kurchatov**	**74.92**	**324**	IAmb	IAmb		03 15 41.3	
	comp=Z,2.6nm,1.1s							
KURBB	**Kurchatov Arra**	**74.94**	**324**	P	**P**		**03 15 39.9**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=2.3							
VNDA	**Vanda**	**75.48**	**175**	P	**P**		**03 15 43.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=330,slow=5.0,SNR=3.8							
VNDA	**Vanda**	**75.48**	**175**	P	**P**		**03 15 42.4**	**+0.4**
KK31	**Karatay Array**	**77.56**	**315**	P	**P**		**03 15 55.1**	**+0.7**
KKAR	**Karatay Array**	**77.56**	**315**	P	**P**		**03 15 55.9**	**+1.5**
OHAK	**Old Harbor**	**79.71**	**30**	P	**P**		**03 16 06.1**	**+0.2**
KDAK	**Kodiak Island**	**80.27**	**30**	P	**P**		**03 16 09.2**	**+0.3**
BVAR	**Borovoye Array**	**80.51**	**325**	P	**P**		**03 16 10.2**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=186,slow=12,SNR=3.6							
BRVK	**Borovoye**	**80.58**	**325**	P	**P**		**03 16 11.9**	**+1.2**
BRVK				IAmb	IAmb		03 16 14.5	
	comp=Z,3.1nm,1.1s							
ILAR	**Eielson Array**	**85.17**	**24**	P	**P**		**03 16 32.1**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=248,slow=4.5,SNR=4.7							
ILAR				LR	LR		03 57 34.6	
	comp=Z,19nm,18.3s,baz=138,slow=38							
QSPA	**South Pole Qui**	**87.10**	**180**	P	**P**		**03 16 44.0**	**0.0**
DBIC	**Dimbokro**	**145.38**	**278**	PKPbc	**PKPbc**		**03 23 36.9**	**-0.4**
	comp=Z,11nm,1.0s,baz=98,slow=6.6,SNR=5.6							
LPAZ	**La Paz**	**145.82**	**125**	PKPbc	**PKPab**		**03 23 40.5**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=252,slow=4.2,SNR=9.7							
LPAZ	**La Paz**	**145.82**	**125**	PKHKP	PKPpre		03 23 40.5	
LPAZ	**La Paz**	**145.82**	**125**		**PKiKP**		**03 23 42.1**	**-0.9**
CPUP	**Villa Florida**	**146.20**	**150**	PKPbc	**PKiKP**		**03 23 42.2**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=213,slow=5.3,SNR=3.1							

MOS ***18*** *03:04:14.3±1.7, 55°.25N×113°.72E, h5km, mb4.5/6, Error ellipse: s-maj=10.5km s-min=6.5km az=83.5*

BYKL ***18*** *03

BOD				smax	smax				
	comp=E,878nm,0.4s								
SYVR	**Suvo**	**2.64**	**234**	*e*Pn	**Pn**	**03 05 00.7**	**+1.8**		
SYVR				*e*Pg	**Pb**	**03 05 05.0**	**+1.6**		
SYVR				*e*PgPg	**Pg**	**03 05 09.3**	**+3.2**		
SYVR				max		03 05 09.6			
	comp=E,92nm,0.5s								
SYVR				*e*Sg	**Sg**	**03 05 40.5**	**+0.3**		
SYVR				Smax		03 05 45.3			
	comp=E,376nm,0.3s								
SYVR	**Suvo**	**2.64**	**234**	*e*PN	**Pn**	**03 05 00.7**	**+1.8**		
SYVR				*e*		03 05 03.8			
SYVR				*e*		03 05 40.3			
SYVR				pmax	pmax				
	comp=Z,92nm,0.5s								
SYVR				smax	smax				
	comp=E,383nm,0.6s								
CRS	**Chara**	**3.10**	**56**	*e*Pn	**Pn**	**03 05 06.5**	**+1.2**		
CRS				*e*		03 05 14.8			
CRS				max		03 05 19.2			
	comp=E,142nm,1.0s								
CRS				*e*Sg	**Sg**	**03 05 53.6**	**-1.4**		
CRS				*e*SgSg	**SbSb**	**03 05 59.0**	**+4.5**		
CRS				max		03 06 00.3			
	comp=E,419nm,1.0s								
CRS	**Chara**	**3.10**	**56**	*e*PN	**Pn**	**03 05 06.5**	**+1.2**		
CRS				*e*		03 05 52.6			
CRS				pmax	pmax				
	comp=Z,142nm,0.7s								
CRS				smax	smax				
	comp=E,397nm,0.9s								
CIT	**Chita**	**3.24**	**180**	*e*Pg	**Pb**	**03 05 15.3**	**+1.5**		
CIT				Pmax		03 05 16.4			
	comp=E,104nm,0.2s								
CIT				*e*		03 05 42.6			
CIT				*e*Sg	**Sg**	**03 05 59.5**	**-0.2**		
CIT				Smax		03 06 00.9			
	comp=E,870nm,0.2s								
CIT	**Chita**	**3.24**	**180**	*e*PN	**Pn**	**03 05 09.2**	**+1.9**		
CIT				*e*		03 05 15.6			
CIT				*e*S	**Sn**	**03 05 46.4**	**0.0**		
CIT				*e*		03 05 57.8			
CIT				pmax	pmax				
	comp=Z,104nm,0.2s								
CIT				smax	smax				
	comp=E,1µm,0.4s								
MXMB	**Maximikha**	**3.47**	**237**	*e*Pn	**Pn**	**03 05 12.4**	**+2.0**		
MXMB				*e*		03 05 18.4			
MXMB				*e*		03 05 42.8			
MXMB				*e*Sg	**Sg**	**03 06 06.7**	**-0.3**		
TUP	**Tupik**	**3.78**	**100**	*e*Pn	**Pn**	**03 05 15.7**	**+1.2**		
TUP				*e*		03 05 22.0			
TUP				*e*Pg	**Pb**	**03 05 25.3**	**+2.5**		
TUP				Pmax		03 05 26.2			
	comp=E,106nm,0.6s								
TUP				*e*Sg	**Sg**	**03 06 14.1**	**-2.7**		
TUP				*e*		03 06 21.4			
TUP				*e*		03 06 30.0			
TUP				max		03 06 30.3			
	comp=E,867nm,1.0s								
TUP	**Tupik**	**3.78**	**100**	*e*PN	**Pn**	**03 05 15.8**	**+1.2**		
TUP				*e*		03 05 24.9			
TUP				*e*S	**Sn**	**03 06 00.1**	**+0.6**		
TUP				*e*		03 06 14.1			
TUP				pmax	pmax				
	comp=Z,106nm,0.6s								
TUP				smax	smax				
	comp=N,869nm,1.0s								
OGRR	**Ongureny**	**3.85**	**248**	⇑*i*Pn	**Pn**	**03 05 18.5**	**+2.9**		
OGRR				*e*Pg	**Pb**	**03 05 27.1**	**+3.0**		
OGRR				Pmax		03 05 38.2			
	comp=N,22nm,0.4s								
OGRR				*e*Sn	**Sn**	**03 05 58.8**	**-2.5**		
OGRR				*e*Sg	**Sg**	**03 06 18.1**	**-1.1**		
OGRR				Smax		03 06 30.1			
	comp=N,174nm,0.4s								
OGRR	**Ongureny**	**3.85**	**248**	⇑*i*PN	**Pn**	**03 05 18.5**	**+2.9**		
OGRR				*e*		03 05 27.8			
OGRR				*e*		03 06 17.1			
OGRR				pmax	pmax				
	comp=Z,39nm,1.8s								
OGRR				smax	smax				
	comp=E,198nm,1.3s								
KELR	**Kotokel**	**4.10**	**235**	*e*Sg	**Sg**	**03 06 26.7**	**-0.5**		
YKLR	**Yuktali**	**4.73**	**70**	*e*Pn	**Pn**	**03 05 29.0**	**+1.3**		
YKLR				*e*		03 05 36.8			
YKLR				*e*		03 05 46.4			
YKLR				*e*Sg	**Sg**	**03 06 43.4**	**-4.0**		
YKLR				*e*		03 06 44.8			
UUDB	**Ulan-Yde**	**4.90**	**229**	*e*Pg	**Pb**	**03 05 46.4**	**+4.5**		
UUDB				*e*		03 05 50.8			
UUDB				max		03 05 51.2			
	comp=E,61nm,0.8s								
UUDB				*e*Sg	**Sg**	**03 06 51.3**	**-1.5**		
UUDB				*e*		03 06 54.5			
UUDB				max		03 07 02.9			
	comp=E,282nm,1.2s								
TRG	**Tyrgan**	**4.95**	**243**	*e*Pn	**Pn**	**03 05 32.0**	**+1.3**		
TRG				*e*Pg	**Pb**	**03 05 46.6**	**+3.8**		
TRG				Pmax		03 05 53.5			
	comp=E,8.0nm,0.4s								
TRG				*e*Sn	**Sn**	**03 06 28.9**	**+0.5**		
TRG				*e*Sg	**Sg**	**03 06 51.3**	**-3.1**		
TRG				Smax		03 06 54.8			
	comp=E,99nm,0.3s								
FFNB	**Fofonovo**	**5.18**	**234**	*e*	Pn	03 05 41.4	+7.6		
FFNB				*e*		03 05 51.7			
FFNB				*e*Sg	**Sg**	**03 06 58.4**	**-3.3**		
KAB	**Kabansk**	**5.23**	**235**	*e*	Sn	03 06 45.1	+10		
KAB				Sg	**Sg**	**03 07 00.6**	**-2.7**		
KAB				Smax		03 07 24.8			
	comp=E,821nm,1.1s								
STDB	**Stepnoy Dvoret**	**5.29**	**237**	*e*	Pg	03 06 03.2	+6.4		
STDB				*e*Sg	**Sg**	**03 07 02.0**	**-3.3**		
HRMR	**Khuramsha**	**5.38**	**230**	*e*Pn	**Pn**	**03 05 38.9**	**+2.3**		
HRMR				*e*		03 05 45.7			
HRMR				*e*Pg	Pb	03 05 55.4	+5.3		
HRMR				Pmax		03 06 05.2			
	comp=E,4.0nm,0.5s								
HRMR				*e*Sg	**Sg**	**03 07 05.6**	**-2.6**		
HRMR				Smax		03 07 11.4			
	comp=E,636nm,0.6s								
KPC	**Khapcheranga**	**5.61**	**188**	*e*Pn	**Pn**	**03 05 40.2**	**+0.3**		
KPC				*e*		03 05 47.8			
KPC				*e*		03 05 57.3			
KPC				max		03 06 08.8			
	comp=E,12nm,0.6s								
KPC				*e*		03 06 51.7			
KPC				*e*Sg	**Sg**	**03 07 12.4**	**-3.3**		
KPC				*e*		03 07 16.7			
KPC				max		03 07 17.2			
	comp=E,227nm,0.7s								
KPC	**Khapcheranga**	**5.61**	**188**	*e*PN	**Pn**	**03 05 41.2**	**+1.3**		
KPC				*e*		03 05 57.8			
KPC				*e*		03 07 10.1			
KPC				pmax	pmax				
	comp=Z,14nm,0.5s								
KPC				smax	smax				
	comp=E,229nm,0.7s								
BGT	**Bolshoye Golou**	**5.83**	**240**	*e*	**Pg**	**03 06 08.5**	**+1.3**		
BGT				*e*		03 06 40.9			
BGT				*e*Sg	**Sg**	**03 07 20.3**	**-2.4**		
BGT				*e*		03 07 24.0			
BGT				max		03 07 31.3			
	comp=E,82nm,1.4s								
LSTR	**Listvyanka**	**6.22**	**241**	*e*Pn	**Pn**	**03 05 50.3**	**+2.1**		
LSTR				max		03 06 19.9			
	comp=E,3.0nm,0.4s								
LSTR				*e*		03 07 29.5			
LSTR				*e*Sg	**Sg**	**03 07 32.2**	**-3.1**		
LSTR				*e*		03 07 36.7			
LSTR				max		03 07 43.4			
	comp=E,59nm,0.8s								
IENR	**Iengra**	**6.44**	**77**	*e*		03 07 23.7			
IENR				*e*Sg	**Sg**	**03 07 38.1**	**-4.1**		
IVK	**Ivanovka**	**6.47**	**241**	*e*Pg	Pb	03 06 15.3	+6.6		
IVK				Pmax		03 06 18.9			
	comp=E,67nm,0.8s								
IVK				*e*		03 06 46.6			
IVK				*e*Sg	**Sg**	**03 07 38.7**	**-4.5**		
IVK				*e*		03 07 42.6			
IVK				max		03 07 46.2			
	comp=E,499nm,0.8s								

CLNS	**Chul'man**	**6.53**	**71**	*e*	**Pb**	**03 06 10.6**	**+0.9**		
CLNS				*e*		03 07 30.5			
CLNS				*e*Sg	**Sg**	**03 07 39.1**	**-6.0**		
TLY	**Talaya**	**6.93**	**243**	Lg	Lg	03 07 50.4			
	comp=E,0.0nm,0.3s,baz=203,slow=18,SNR=5.5								
TLY	**Talaya**	**6.93**	**243**	*e*	Pg	03 06 35.2	+6.9		
TLY				max		03 06 44.6			
	comp=E,7.0nm,0.7s								
TLY				*e*Sg	Sg	03 07 51.4	-6.6		
TLY				Smax		03 08 06.7			
	comp=E,55nm,0.7s								
TLY	**Talaya**	**6.93**	**243**	⇑*e*PN	**Pn**	**03 05 58.7**	**+0.8**		
HIA	**Hailar**	**7.09**	**145**	*e*	**Sn**	**03 07 20.6**	**-0.5**		
HIA				*e*		03 07 56.3			
HIA				*e*Sg	**Sg**	**03 08 00.1**	**-3.0**		
ARS	**Arshan**	**7.44**	**248**	*e*	Pn	03 06 14.0	+9.1		
ARS				*e*		03 06 19.1			
ARS				max		03 06 40.7			
	comp=E,15nm,0.5s								
ARS				*e*Sg	**Sg**	**03 08 08.6**	**-5.6**		
ARS				Smax		03 08 28.6			
	comp=E,185nm,0.6s								
ZAK	**Zakamensk**	**7.92**	**236**	*e*	Pb	03 06 25.8	-7.6		
ZAK				max		03 06 47.7			
	comp=E,2.0nm,0.1s								
ZAK				*e*Sn	**Sb**	**03 08 01.3**	**-6.8**		
ZAK				*e*Sg	Sg	03 08 23.4	-6.3		
ZAK				*e*		03 08 48.4			
ZAK				max		03 08 50.1			
	comp=E,76nm,1.7s								
ZEA	**Zeya**	**8.10**	**95**	*e*PG	**Pb**	**03 06 33.7**	**-2.7**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.4s								
MOY	**Mondy**	**8.33**	**250**	*e*	Pn	03 06 23.8	+6.6		
MOY				*e*		03 06 40.8			
MOY				*e*		03 06 57.4			
	comp=Z,16nm,1.0s			max					
MOY				*e*Sg	Sg	03 08 35.7	-7.1		
MOY				*e*		03 08 42.3			
MOY				max		03 08 53.8			
	comp=Z,84nm,1.2s								
ULN	**Ulaanbaatar**	**8.45**	**211**	⇑*e*PN	**Pn**	**03 06 19.0**	**+0.2**		
ORL	**Orlik**	**8.58**	**257**	*e*Pn	**Pn**	**03 06 22.3**	**+1.7**		
ORL				*e*		03 06 29.2			
ORL				*e*		03 06 48.9			
ORL				max		03 06 54.4			
	comp=Z,10.0nm,1.2s								
ORL				*e*		03 08 18.5			
ORL				*e*Sg	Sg	03 08 42.9	-7.9		
ORL				max		03 09 04.2			
	comp=Z,53nm,1.5s								
SONM	**Songino Array**	**8.68**	**214**	Pn	**Pn**	**03 06 23.7**	**+1.8**		
	comp=Z,0.5nm,0.3s,baz=26,slow=14,SNR=5.9								
SONM				Lg	Lg	03 08 49.2			
	comp=Z,2.8nm,0.3s,baz=30,slow=26,SNR=8.8								
TDJR	**Todzha**	**10.72**	**262**	*e*		03 09 34.7			
TDJR				*e*Sg	Sn	03 09 49.1	+59		
KNGR	**Kungurtug, Tuv**	**10.75**	**251**	*e*Sg	Sn	03 09 51.1	+60		
KNGR				*e*		03 10 04.1			
YAK	**Yakutsk**	**10.77**	**44**	⇑*e*P	**Pn**	**03 06 49.0**	**-1.3**		
YAK				pmax	pmax				
	comp=Z,7.0nm,1.0s								
DGZ	**Jazzator, Alta**	**16.82**	**262**	⇑*e*P	**Pn**	**03 08 12.3**	**+0.4**		
TIXI	**Tiksi**	**17.71**	**16**	⇑*e*P	**Pn**	**03 08 20.5**	**-2.2**		
YSS	**Yuzh-Sakhalins**	**19.99**	**102**	⇑*e*P	**P**	**03 08 47.7**	**-1.1**		
YSS				pmax	pmax				
	comp=Z,27nm,1.4s								
MKAR	**Makanchi Array**	**21.27**	**260**	P	**P**	**03 09 02.1**	**-0.7**		
	comp=Z,0.6nm,0.6s,baz=52,slow=11,SNR=5.0								
MKAR	**Makanchi Array**	**21.27**	**260**	*i* P	**P**	**03 09 05.0**	**+2.2**		
KURK	**Kurchatov**	**21.38**	**272**	⇑*e*P	**P**	**03 09 03.5**	**-0.4**		
KURBB	**Kurchatov Arra**	**21.48**	**272**	P	**P**	**03 09 06.7**	**+1.8**		
	comp=Z,0.9nm,0.4s,baz=65,slow=11,SNR=5.8								
BVAR	**Borovoye Array**	**25.11**	**283**	P	**P**	**03 09 43.0**	**+1.9**		
	comp=Z,0.5nm,0.6s,baz=165,slow=12,SNR=4.7								
BVAR	**Borovoye Array**	**25.11**	**283**	P	**P**	**03 09 43.0**	**+1.9**		
BRVK	**Borovoye**	**25.15**	**283**	⇑*e*P	**P**	**03 09 41.7**	**+0.2**		
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
BILL	**Bilibino**	**27.09**	**41**	⇑*e*P	**P**	**03 09 56.3**	**-2.7**		
BILL				pmax	pmax				
	comp=Z,8.0nm,1.1s								
AAK	**Ala-Archa**	**28.21**	**260**	⇑*e*P	**P**	**03 10 11.0**	**+1.6**		
AAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
ARU	**Arti**	**30.22**	**295**	*d i*P	**P**	**03 10 25.0**	**-1.9**		
ARU				S	**S**	**03 15 26.9**	**+0.3**		
ARU				SS	**SnSn**	**03 17 02.1**	**+2.6**		
ARU				pmax	pmax				
	comp=Z,5.0nm,1.2s								
FINES	**FINESS Array B**	**43.03**	**315**	P	P	03 12 20.4	+4.6		
	comp=Z,0.7nm,0.6s,baz=74,slow=10,SNR=1.7								
KIV	**Kislovodsk**	**45.38**	**287**	*e*P	P	03 12 27.2	-7.7		
KIV				pmax	pmax				
	comp=Z,16nm,1.1s								
KIV				MLR	MLR				
	comp=Z,41nm,16.0s								
AKASG	**Malin Array Be**	**48.04**	**302**	*i* P	**P**	**03 12 52.7**	**-2.9**		
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
CLL	**Collm**	**55.09**	**311**	*e*P	**P**	**03 13 48.0**	**-0.3**		
KHC	**Kasperske Hory**	**56.43**	**309**	⇓*e*P	**P**	**03 13 57.9**	**-0.1**		
KHC				pmax	pmax				
	comp=Z,4.0nm,1.2s								
WRAB	**Tennant Creek**	**76.96**	**160**	⇑*e*P	**P**	**03 16 10.7**	**+1.6**		
WRAB				pmax	pmax				
	comp=Z,6.0nm,1.2s								

IDC ***18*** *03:54:41.8±1.8, 0.°72N×28.°36W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/38, mbtmp4.1/7, ML3.9/1, MS3.6/19, Ms1 3.6/19, ms1mx3.4/30, Error ellipse: s-maj=67.8km s-min=31.3km az=147.0*

NEIC ***18*** *03:54:43.5±1.1, 0.°9N±0.°2×28.°4W±0.°2, h10km±2km, mb4.4/7, Error ellipse: s-maj=48.8km s-min=15.9km az=130.0*

ISC 18 03:54:42.4±0.7, **0.°9N**±0.°2×**28.°6W**±0.°2, **h7km**, **n33**, σ1°**89**/14, **mb4.1/7, MS3.6**/18, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.86**	**227**	Pn	**Pn**		**Pn**	**03 57 06.6**	**+1.9**
	1.0nm,0.3s,baz=23,slow=12,SNR=12								
RCBR				Sn			**Sn**	**03 58 51.1**	**-4.6**
	0.2nm,0.3s,baz=86,slow=15,SNR=1.2								
RCBR				LR		LR	LR	04 00 12.8	
	comp=Z,566nm,18.5s,baz=56,slow=33								
SACV	**Santiago Islan**	**14.86**	**19**	Pn			**Pn**	**03 58 12.5**	**-0.6**
H10N3	**ASCENSION HYDR**	**16.53**	**122**	T			T	04 15 17.8	
	baz=301,slow=74,SNR=274								
H10N2	**ASCENSION HYDR**	**16.53**	**122**	T			T	04 15 19.4	
	baz=301,slow=74,SNR=297								
H10N1	**ASCENSION HYDR**	**16.55**	**122**	T			T	04 15 20.6	
	baz=301,slow=74,SNR=262								
H10S3	**ASCENSION HYDR**	**16.99**	**125**	T			T	04 15 55.7	
	baz=303,slow=74,SNR=139								
H10S2	**ASCENSION HYDR**	**17.01**	**125**	T			T	04 15 56.9	
	baz=277,slow=74,SNR=52								
MDP	**Montagnes des**	**24.35**	**280**	LR			LR	04 07 25.7	
	comp=Z,59nm,20.5s,baz=102,slow=31								
DBIC	**Dimbokro**	**24.39**	**76**	P			**P**	**04 00 00.3**	**-1.3**
	5.7nm,0.8s,baz=243,slow=10,SNR=5.1								
DBIC				LR			LR	04 07 24.7	
	comp=Z,66nm,20.8s,baz=240,slow=32								
DBIC	**Dimbokro**	**24.39**	**76**	IAmb			IAmb	04 00 08.0	
	comp=Z,14nm,1.1s								
BDFB	**Brasilia**	**25.23**	**229**	LR			LR	04 09 24.0	
	comp=Z,266nm,18.2s,baz=337,slow=35								
KOWA	**Kowa**	**27.83**	**60**	P			**P**	**04 00 31.9**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=229,slow=7.6,SNR=6.6								
KOWA				LR			LR	04 10 14.1	
	comp=Z,228nm,18.2s,baz=254,slow=34								
TOA0	**Torodi Ar. Sit**	**32.41**	**67**	P			**P**	**04 01 12.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**32.41**	**67**	P			**P**	**04 01 12.1**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=254,slow=9.2,SNR=11								
TORD				LR			LR	04 12 25.8	
	comp=Z,87nm,19.6s,baz=285,slow=33								
TORD	**Torodi Ar. Bea**	**32.41**	**67**	P			**P**	**04 01 12.4**	**-0.8**
CPUP	**Villa Florida**	**38.71**	**224**	LR			LR	04 18 02.2	
	comp=Z,338nm,18.2s,baz=42,slow=36								
LPAZ	**La Paz**	**42.56**	**245**	LR			LR	04 20 17.7	
	comp=Z,122nm,18.7s,baz=72,slow=36								
ESDC	**Sonseca Array**	**44.69**	**27**	LR			LR	04 21 27.6	
	comp=Z,22nm,18.8s,baz=220,slow=36								

KEST	**Kesra**	**49.45**	**41**	P			**P**	**04 03 35.0**	**+1.5**
	comp=Z,3.9nm,1.0s,baz=237,slow=4.9,SNR=3.1								
KEST				LR			LR	04 23 42.6	
	comp=Z,100nm,21.7s,baz=296,slow=35								
KEST	**Kesra**	**49.45**	**41**	P			**P**	**04 03 33.6**	**+0.2**
TRQA	**Tornquist**	**49.46**	**215**	P			**P**	**04 03 35.6**	**+2.2**
PLCA	**Paso Flores**	**56.26**	**218**	LR			LR	04 28 41.1	
	comp=Z,73nm,18.4s,baz=353,slow=36								
BOSA	**Boshof**	**59.27**	**124**	LR			LR	04 25 08.9	
	comp=Z,52nm,21.4s,baz=338,slow=31								
GERES	**GERESS Array B**	**60.02**	**31**	P			**P**	**04 04 50.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=233,slow=6.5,SNR=3.8								
NOA	**NORSAR Array B**	**67.24**	**20**	LR			LR	04 30 41.7	
	comp=Z,24nm,20.7s,baz=225,slow=32								
BRTR	**Keskin Array B**	**68.37**	**47**	LR			LR	04 37 18.4	
	comp=Z,18nm,18.2s,baz=266,slow=37								
AKASG	**Malin Array Be**	**69.51**	**35**	P			**P**	**04 05 50.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=244,slow=6.7,SNR=4.4								
TXAR	**Lajitas Array**	**76.55**	**300**	LR			LR	04 43 51.1	
	comp=Z,9.5nm,18.0s,baz=0.0,slow=38								
ARCES	**ARCESS Array B**	**77.28**	**17**	LR			LR	04 38 12.7	
	comp=Z,25nm,18.1s,baz=65,slow=34								
BELA	**Belgrano 2**	**78.73**	**181**	P			**P**	**04 06 45.4**	**+0.3**
BELA				IAmb			IAmb	04 06 47.7	
	comp=Z,4.4nm,1.1s								
PDAR	**Pinedale Array**	**82.75**	**313**	LR			LR	04 38 41.5	
	comp=Z,29nm,20.3s,baz=126,slow=32								
YKA	**Yellowknife Ar**	**87.37**	**332**	LR			LR	04 45 26.6	
	comp=Z,29nm,18.5s,baz=0.0,slow=35								
NRIK	**Noril'sk**	**98.19**	**19**	LR			LR	04 53 00.9	
	comp=Z,26nm,18.6s,baz=202,slow=36								

NIED ***18*** *04:02:52.2, 29.°62N×128.°39E, h32km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.14; Mθθ 0.51; Mφφ=0.37; Mrθ=0.52; Mθφ 1.11; Mφr=0.05; Fault plane solution: M₀ 1.30000×10¹⁵ NP1: φs 281.00000°, δ 88.00000°, λ 22.00000°. NP2: φs 190.00000°, δ 68.00000°, λ 178.00000°.*

JMA 18 04:02:52.1±0.2, **29.°62N×128.°39E, h32km**±2km, **M3.6, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.85**	**123**	P			Pn	04 03 07.7	-0.1
JTAJ				*e*S			Sn	04 03 18.9	-0.2
JNN	**Nakanoshima**	**1.31**	**80**	P			Pn	04 03 14.8	+0.6
JNN				*e*S			Sn	04 03 31.1	+0.5
JAMN	**Amaminishikomi**	**1.54**	**153**	P			Pn	04 03 17.9	+0.6
JAM	**Amami Oshima**	**1.61**	**138**	P			Pn	04 03 18.8	+0.6
JKC	**Kuchinoerabu**	**1.78**	**61**	P			Pn	04 03 21.4	+0.8
JTK	**Tokunoshima**	**1.89**	**165**	P			Pn	04 03 23.5	+1.3
JTK				*e*S			Sn	04 03 46.1	+1.1
JZK	**Kikaishima**	**1.90**	**133**	P			Pb	04 03 24.4	-1.7
JYAK	**Yakushimahirau**	**1.94**	**71**	P			Pn	04 03 23.7	+0.9
JYAK				*e*S			Sn	04 03 47.1	+1.0
JMTN	**Minamitane**	**2.31**	**70**	P			Pn	04 03 29.4	+1.4
JSJ	**Shimokoshiki**	**2.35**	**29**	P			Pn	04 03 29.7	+1.2
JTN	**Tanegashima 3**	**2.47**	**65**	P			Pn	04 03 31.6	+1.5
JSU	**Suzuyama**	**2.59**	**43**	P			Pn	04 03 33.7	+1.9
JTSR	**Tashiro 2**	**2.68**	**54**	P			Pn	04 03 34.6	+1.6

IDC ***18*** *04:28:50.3±1.2, 7.°33N×94.°12E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/47, mbtmp3.8/12, ML4.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=49.8km s-min=20.6km az=57.0*

NEIC ***18*** *04:28:51.8±0.6, 7.°5N±0.°1×94.°3E±0.°1, h7km±6km, mb4.2/8, Error ellipse: s-maj=25.7km s-min=6.3km az=223.0*

ISC 18 04:28:54.2±0.9, **7.°4N**±0.°1×**94.°3E**±0.°1, **h24km**, **n33**, σ0°**80**/26, **mb4.0**/14, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.40**	**130**	Pn			**Pn**	**04 29 46.1**	**+0.2**
PBA	**Port Blair**	**4.48**	**340**	Pn			Pn	04 29 58.8	-1.9
KULM	**Kulim**	**6.63**	**108**				**Pn**	**04 30 29.9**	**-0.4**
IPM	**Ipoh**	**7.28**	**113**				**Pn**	**04 30 37.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn			**Pn**	**04 31 44.3**	**+2.6**
	1.0nm,0.3s,baz=224,slow=13,SNR=3.0								
CMAR	**Chiang Mai Arr**	**11.84**	**22**				**Pn**	**04 31 40.4**	**-1.3**
LSA	**Lhasa**	**22.35**	**353**	P			**P**	**04 33 50.3**	**-0.7**
LSA				IAmb			IAmb	04 34 10.1	
	comp=Z,6.9nm,0.5s								
H08S3	**Diego Garcia H**	**26.43**	**236**	T			T	05 01 09.8	
	baz=54,slow=75,SNR=35								
H08S2	**Diego Garcia H**	**26.43**	**236**	T			T	05 01 09.1	
	baz=54,slow=75,SNR=14								
H08S1	**Diego Garcia H**	**26.44**	**236**	T			T	05 01 09.2	
	baz=54,slow=75,SNR=17								
FITZ	**Fitzroy Crossi**	**39.99**	**130**	LR			LR	04 54 41.1	
	comp=Z,29nm,18.1s,baz=301,slow=39								
MK31	**Makanchi Array**	**40.55**	**347**	P			**P**	**04 36 31.3**	**-0.4**
MKAR	**Makanchi Array**	**40.55**	**347**	P			**P**	**04 36 31.4**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=169,slow=7.6,SNR=24								
MKAR	**Makanchi Array**	**40.55**	**347**	P			**P**	**04 36 31.1**	**-0.6**
MAKZ	**Makanchi**	**40.64**	**347**	P			**P**	**04 36 31.7**	**-0.7**
MAKZ				IAmb			IAmb	04 36 32.6	
	comp=Z,2.6nm,0.7s								
KKAR	**Karatay Array**	**41.24**	**333**	P			**P**	**04 36 37.4**	**0.0**
SONM	**Songino Array**	**41.55**	**12**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.00**	**131**	Pn	Pn	04 59 02.6	-2.2
	0.1nm,0.3s,baz=303,slow=11,SNR=5.8						
FITZ				Sn	Sn	05 01 08.5	-11
	0.0nm,0.3s,baz=37,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**19.98**	**120**	P	Pn	05 00 48.1	-0.2
	0.0nm,0.3s,baz=297,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**21.50**	**130**	P	P	05 01 03.1	0.0
	0.3nm,0.5s,baz=302,slow=9.7,SNR=6.8						
MKAR	**Makanchi Array**	**64.46**	**335**	P	P	05 06 50.7	-0.1
	0.3nm,0.4s,baz=152,slow=7.6,SNR=4.9						

IDC 18 05:14:59.6±3.3, 30.38S×138.30E, h0km, mb1 3.2/3, mb1mx3.1/23, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=69.9km s-min=15.9km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.20**	**119**	Pn	Pn	05 15 50.8	-0.4
	0.3nm,0.3s,baz=300,slow=13,SNR=3.1						
STKA				Pg	Pb	05 15 57.5	+0.1
	1.2nm,0.3s,baz=293,slow=14,SNR=10						
STKA				Sn	Sn	05 16 28.3	-1.7
	1.8nm,0.3s,baz=314,slow=11,SNR=3.4						
STKA				Lg	Lg	05 16 42.0	
	3.4nm,0.3s,baz=18,slow=8.1,SNR=5.9						
ASAR	**Alice Springs**	**7.75**	**329**	Pn	Pn	05 16 53.8	0.0
	0.1nm,0.3s,baz=150,slow=13,SNR=9.9						
ASAR				Sn	Sn	05 18 21.8	-0.5
	0.1nm,0.3s,baz=151,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**10.99**	**340**	Pn	Pn	05 17 39.2	+1.0
	0.1nm,0.3s,baz=158,slow=11,SNR=2.3						
WRA				Sn	Sn	05 19 42.9	+1.0
	0.1nm,0.3s,baz=160,slow=24,SNR=3.2						

INET 18 05:22:54.4, 13.03N×90.38W, h15km, ML4.1
SNET 18 05:22:58.9±0.7, 13.09N×90.04W, h23km±4km, ML3.9
UCR 18 05:22:58.9±0.7, 13.10N×90.05W, h24km±4km, ML3.9, mb4.0(NEIC)
IDC 18 05:23:00.9±5.7, 12.61N×91.24W, h0km, mb3.4/2, mb1 4.0/2, mb1mx3.6/29, mbtmp3.5/2, Error ellipse: s-maj=386.4km s-min=25.1km az=68.0
NEIC 18 05:23:00.1±1.2, 13.09N±0.03×90.02W±0.07, h29km±13km, Error ellipse: s-maj=10.1km s-min=2.4km az=63.0
GCG 18 05:23:03.5±0.4, 13.44N×90.17W, h3km±8km, MD4.0
ISC 18 05:23:00.1±1.9, 13.13N±0.07×90.02W±0.06, h24km±16km, n67, σ0983/75, 6C-15D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.81**	**28**	*iP*	**Pb**	**05 23 14.8**	**-0.8**
SBLS	**San Blas**	**0.81**	**28**	*iP*	**Pb**	**05 23 14.8**	**-0.8**
RTR	**El Retiro**	**0.85**	**25**	*eP*	**Pb**	**05 23 15.6**	**-0.7**
RTR	**El Retiro**	**0.85**	**25**	*eP*	**Pb**	**05 23 15.6**	**-0.7**
CEDA	**San Andres**	**0.91**	**42**	*iP*	**Pb**	**05 23 16.4**	**-0.8**
CEDA				*eS*	**Sb**	**05 23 30.0**	**+1.1**
CEDA				IAML		05 23 35.8	
	comp=Z,7μm,0.4s						
CEDA	**San Andres**	**0.91**	**42**	*iP*	**Pb**	**05 23 16.4**	**-0.8**
CEDA				*eS*	**Sb**	**05 23 30.0**	**+1.1**
CEDA				IAML		05 23 35.8	
	comp=Z,7μm,0.4s						
BOQS	**Boqueron**	**0.94**	**50**	*eP*	**Pb**	**05 23 17.2**	**-0.7**
BOQS				*eS*	**Sb**	**05 23 31.2**	**+1.2**
BOQS	**Boqueron**	**0.94**	**50**	*eP*	**Pb**	**05 23 17.2**	**-0.7**
BOQS				*eS*	**Sb**	**05 23 31.2**	**+1.2**
SNET	**Serv Nac Est T**	**0.95**	**54**	*iP*	**Pb**	**05 23 17.3**	**-0.6**
SNET				*eS*	**Sb**	**05 23 30.9**	**+0.8**
SNET				IAML		05 23 34.4	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**0.95**	**54**	*iP*	**Pb**	**05 23 17.3**	**-0.6**
SNET				*eS*	**Sb**	**05 23 30.9**	**+0.8**
SNET				IAML		05 23 34.4	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**0.95**	**54**		**Pb**	**05 23 17.5**	**-0.4**
UNIC	**Universidad Ca**	**0.96**	**28**	*eP*	**Pn**	**05 23 17.0**	**-1.2**
UNIC	**Universidad Ca**	**0.96**	**28**	*eP*	**Pn**	**05 23 17.0**	**-1.2**
AEIL	**Aeropuerto Ilo**	**1.04**	**57**	*eP*	**Pn**	**05 23 18.7**	**-0.5**
AEIL	**Aeropuerto Ilo**	**1.04**	**57**	*eP*	**Pn**	**05 23 18.7**	**-0.5**
LFRS	**El Faro**	**1.05**	**62**	*iP*	**Pn**	**05 23 18.3**	**-1.2**
LFRS	**El Faro**	**1.05**	**62**	*iP*	**Pn**	**05 23 18.3**	**-1.2**
TACO	**Tacachico**	**1.06**	**38**	*iP*	**Pn**	**05 23 18.5**	**-1.0**
TACO				*eS*	**Sb**	**05 23 33.8**	**+0.5**
TACO	**Tacachico**	**1.06**	**38**	*iP*	**Pn**	**05 23 18.5**	**-1.0**
TACO				*eS*	**Sb**	**05 23 33.8**	**+0.5**
LFU	**La Fuente**	**1.08**	**55**	*eP*	**Pn**	**05 23 18.9**	**-0.8**
LFU	**La Fuente**	**1.08**	**55**	*eP*	**Pn**	**05 23 18.9**	**-0.8**
LBRS	**Las Brisas**	**1.13**	**57**	*eP*	**Pn**	**05 23 19.7**	**-0.7**
LBRS	**Las Brisas**	**1.13**	**57**	*eP*	**Pn**	**05 23 19.7**	**-0.7**
PAVA	**Las Pavas**	**1.20**	**61**	*eP*	**Pn**	**05 23 21.1**	**-0.4**
PAVA	**Las Pavas**	**1.20**	**61**	*eP*	**Pn**	**05 23 21.1**	**-0.4**
COEG	**Centro de Oper**	**1.21**	**66**	*eP*	**Pn**	**05 23 20.5**	**-1.0**
COEG				IAML		05 23 44.6	
	comp=Z,3μm,0.4s						
COEG	**Centro de Oper**	**1.21**	**66**	*eP*	**Pn**	**05 23 20.5**	**-1.0**
COEG				IAML		05 23 44.6	
	comp=Z,3μm,0.4s						
PCG	**Pacaya**	**1.38**	**336**	*eP*	**Pn**	**05 23 23.7**	**-0.4**
MTO3	**Montecristo**	**1.42**	**27**	*eP*	**Pn**	**05 23 24.2**	**-0.3**
MTO3	**Montecristo**	**1.42**	**27**	*eP*	**Pn**	**05 23 24.2**	**-0.3**
MTO3	**Montecristo**	**1.42**	**27**		**Pn**	**05 23 24.4**	**-0.1**
LLGN	**La Laguna**	**1.47**	**45**	*eP*	**Pn**	**05 23 24.8**	**-0.3**
LLGN	**La Laguna**	**1.47**	**45**	*eP*	**Pn**	**05 23 24.8**	**-0.3**
NBG	**Las Nubes**	**1.49**	**348**	*eP*	**Pn**	**05 23 26.0**	**+0.4**
COEB	**Comit de Eme**	**1.50**	**76**	*eP*	**Pn**	**05 23 24.6**	**-0.9**
COEB				IAML		05 23 46.7	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**1.50**	**76**	*eP*	**Pn**	**05 23 24.6**	**-0.9**
COEB				IAML		05 23 46.7	
	comp=Z,1μm,0.4s						
TECA	**Tecapa**	**1.52**	**76**	*eP*	**Pn**	**05 23 25.5**	**-0.4**
TECA	**Tecapa**	**1.52**	**76**	*eP*	**Pn**	**05 23 25.5**	**-0.4**
FUG	**Fuego 3**	**1.54**	**329**	*eP*	**Pn**	**05 23 24.8**	**-1.3**
FUG				*eS*	**Sn**	**05 23 43.8**	**-1.7**
ESQI	**Esquipulas**	**1.57**	**25**	*eP*	**Pn**	**05 23 26.5**	**0.0**
ESQI	**Esquipulas**	**1.57**	**25**		**Pn**	**05 23 26.7**	**+0.2**
BLLM	**Bellamira**	**1.76**	**80**	*eP*	**Pn**	**05 23 28.9**	**-0.2**
BLLM	**Bellamira**	**1.76**	**80**	*eP*	**Pn**	**05 23 28.9**	**-0.2**
MRL	**Marmol**	**1.97**	**9**	*eP*	**Pn**	**05 23 34.4**	**+2.2**
ERG	**Entre ros, C**	**1.99**	**311**	*eP*	**Pn**	**05 23 33.5**	**+1.2**
LCND	**La Caada**	**2.08**	**85**	*eP*	**Pn**	**05 23 32.9**	**-0.6**
LCND	**La Caada**	**2.08**	**85**	*eP*	**Pn**	**05 23 32.9**	**-0.6**
RTAL	**Retalhuleu**	**2.14**	**311**		**Pn**	**05 23 34.3**	**0.0**
CSGN	**Cosiguina Volc**	**2.40**	**93**	Pn	**Pn**	**05 23 38.7**	**+0.8**
HUEH	**Huehuetenango**	**2.61**	**327**		**Pn**	**05 23 41.9**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.83**	**71**		**Pn**	**05 23 43.5**	**-0.3**
CRIN	**San Cristobal**	**2.93**	**98**		**Pn**	**05 23 44.6**	**-0.5**
CCIG	**Comitan**	**3.75**	**327**		**Pn**	**05 23 56.3**	**-0.3**
PETF	**Flores**	**3.77**	**2**		**Pn**	**05 23 56.8**	**+0.1**
MATN	**Matagalpa**	**3.99**	**92**		**Pn**	**05 23 59.1**	**-0.8**
ACON	**Acoyapa**	**4.87**	**103**	Pn	**Pn**	**05 24 10.6**	**-1.2**
ESPN	**Las Esperanzas**	**5.66**	**99**	Pn	**Pn**	**05 24 23.5**	**+0.8**
JTS	**Las Juntas de**	**5.71**	**119**		**Pn**	**05 24 23.7**	**+0.3**
TEIG	**Tepich**	**7.25**	**13**		**Pn**	**05 24 45.5**	**+0.9**
TLIG	**Tlapa**	**9.35**	**299**	Pn	**Pn**	**05 25 14.0**	**+0.5**
MOIG	**Morelia**	**12.54**	**303**	Pn	**Pn**	**05 25 57.4**	**+0.1**
TXAR	**Lajitas Array**	**20.51**	**324**	P	Pn	05 27 38.2	-0.7
	comp=Z,0.6nm,0.7s,baz=145,slow=11,SNR=12						
TXAR	**Lajitas Array**	**20.51**	**324**	P	**P**	**05 27 35.6**	**-1.1**
TX31	**Lajitas Ar. Si**	**20.51**	**324**	P	**P**	**05 27 36.2**	**-0.4**
TX31				IAmb	IAmb	05 28 00.7	
	comp=Z,6.6nm,1.1s						
121A	**Cookes Peak, D**	**25.25**	**323**	P	**P**	**05 28 24.2**	**-0.4**
121A				IAmb	IAmb	05 28 43.4	
	comp=Z,5.3nm,1.4s						
NVAR	**Mina Array Bea**	**35.56**	**320**	P	**P**	**05 29 57.2**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=138,slow=8.6,SNR=6.4						
WRA	**Warramunga Arr**	**137.04**	**255**	PKP	**PKiKP**	**05 42 24.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=90,slow=2.5,SNR=1.8						

IDC 18 05:30:18.9±6.7, 26.88N×94.37E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.4/50, mbtmp3.8/3, Error ellipse: s-maj=205.5km s-min=92.4km az=80.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.38**	**152**	Pn	Pn	05 32 36.4	+0.9
	baz=332,slow=13,SNR=9.6						
WRA	**Warramunga Arr**	**60.56**	**136**	P	P	05 40 31.1	-0.3
	0.9nm,0.4s,baz=321,slow=7.5,SNR=30						
ASAR	**Alice Springs**	**63.12**	**139**	P	P	05 40 48.8	+0.1
	0.5nm,0.4s,baz=323,slow=6.6,SNR=15						

MOS 18 05:31:59.8±0.8, 59.96N×151.31W, h51km, mb4.8/17, Error ellipse: s-maj=30.8km s-min=7.8km az=93.7
IDC 18 05:32:04.3±2.8, 60.40N×151.21W, h55km±27km, mb4.0/29, mb1 4.2/33, mb1mx4.2/53, mbtmp4.3/33, ML4.1/4, MS3.2/14, Ms1 3.2/14, ms1mx3.0/37, Error ellipse: s-maj=16.6km s-min=10.2km az=21.0
ANF 18 05:32:04.8±0.4, 60.10N×150.84W, h72km±4km, ML4.8/16, Error ellipse: s-maj=4.8km s-min=3.4km az=139.0
PMR 18 05:32:04±2.0, 60.10N±0.03×150.99W±0.06, h72km±1km, Error ellipse: s-maj=5.4km s-min=4.7km az=86.0
NEIC 18 05:32:04.8±1.5, 60.16N±0.03×151.02W±0.05, h67km±5km, Error ellipse: s-maj=4.6km s-min=3.8km az=180.0
NEIC 18 05:32:05, 60.14N×150.97W, h67km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.98; Mθθ -7.58; Mφφ 5.61; Mrθ -1.78; Mrφ 2.06; Mθφ 3.27; Fault plane solution: M0 8.03000×10^15 NP1: φ319.94000°, δ79.24000°, λ149.14000°. NP2: φ56.30000°, δ59.74000°, λ12.48000°. Principal axes: T 7.5863, Plg29.0000°, Azm274.0000°; N 0.8315, Plg57.0000°, Azm123.0000°; P -8.4178, Plg13.0000°, Azm11.0000°;
AEIC 18 05:32:05.4±1.4, 60.14N±0.03×150.98W±0.05, h65km±4km, ML4.3, mb4.5/69(NEIC), Mwr4.5/25(NEIC) Error ellipse: s-maj=4.7km s-min=3.3km az=159.0
ISC 18 05:32:05.0±0.5, 60.15N±0.03×150.97W±0.03, h71km±4km, n372, σ1°10/380, mb4.5/90, 13C-11D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.39**	**173**		**Pn**	**05 32 16.4**	**-0.7**
BRLK				Sn	**Sn**	**05 32 24.8**	**-1.1**
BRSE	**Bradley Lake S**	**0.43**	**164**		**Pn**	**05 32 16.5**	**-0.9**
BRSE					**Sn**	**05 32 24.9**	**-1.5**
SLKM	**Skilak Lake**	**0.52**	**46**		**Pn**	**05 32 17.6**	**-0.6**
SLKM					**Sn**	**05 32 26.9**	**-0.9**
HOM	**Homer**	**0.60**	**214**	P	Pn	05 32 18.6	-0.4
	baz=35,SNR=242						
HOM				S	**Sn**	**05 32 29.1**	**-0.1**
	baz=35						
HOM	**Homer**	**0.60**	**214**		Pn	05 32 18.6	-0.4
CAPN	**Captain Cook N**	**0.62**	**352**	P	**Pn**	**05 32 19.8**	**+0.7**
	baz=172,SNR=28						
CAPN				S	**Sn**	**05 32 31.9**	**+2.3**
	baz=172						
CAPN	**Captain Cook N**	**0.62**	**352**		**Pn**	**05 32 19.8**	**+0.7**
CNPM	**China Poot**	**0.64**	**192**		**Pn**	**05 32 18.9**	**-0.5**
CNPM					**Sn**	**05 32 28.9**	**-1.1**
O22K	**Cooper Landing**	**0.70**	**62**	P	**Pn**	**05 32 19.8**	**-0.3**
	baz=242,SNR=993						
O22K				S	**Sn**	**05 32 30.9**	**-0.2**
	baz=242						
O22K	**Cooper Landing**	**0.70**	**62**		**Pn**	**05 32 19.6**	**-0.4**
SEW	**Seward**	**0.76**	**93**		**Pn**	**05 32 20.1**	**-0.5**
DFR	**Drift River**	**0.96**	**298**		Pn	05 32 21.9	-1.2
DFR					**Sn**	**05 32 35.2**	**-1.4**
RDWB	**Redoubt West**	**0.99**	**291**		Pn	05 32 22.3	-1.2
RDWB					**Sn**	**05 32 35.5**	**-1.9**
NCT	**North Crescent**	**1.05**	**294**		Pn	05 32 23.3	-1.1
NCT					**Sn**	**05 32 37.4**	**-1.4**
FIS	**Fire Island**	**1.06**	**20**		**Pn**	**05 32 25.2**	**+0.9**
ILS	**Iliamna Low So**	**1.07**	**260**		Pn	05 32 23.6	-1.0
RC01	**Rabbit Creek A**	**1.12**	**32**	P	**Pn**	**05 32 24.8**	**-0.3**
	baz=213,SNR=1000						
RC01				S	**Sn**	**05 32 39.5**	**-0.5**
	baz=213						
RC01	**Rabbit Creek A**	**1.12**	**32**		**Pn**	**05 32 24.8**	**-0.3**
RC01					**Sn**	**05 32 39.6**	**-0.4**
SPCR	**Spurr Chakacha**	**1.21**	**330**		**Pn**	**05 32 25.6**	**-0.7**
SPCR					**Sn**	**05 32 41.7**	**-0.6**
SPCN	**Chakachatna No**	**1.23**	**332**		**Pn**	**05 32 26.1**	**-0.4**
SPCN					**Sn**	**05 32 42.7**	**+0.1**
OPT	**Oil Point**	**1.24**	**247**		Pn	05 32 26.1	-0.6
SPCG	**Spurr Capps Gl**	**1.25**	**336**		**Pn**	**05 32 26.5**	**-0.4**
SPBG	**Spurr Blockage**	**1.30**	**329**		**Pn**	**05 32 27.2**	**-0.3**
SUA	**Susitna One**	**1.32**	**5**		**Pn**	**05 32 27.5**	**-0.3**
AU22	**Augustine Moun**	**1.44**	**238**		Pn	05 32 29.0	-0.1
AUL	**Augustine Lava**	**1.47**	**239**		Pn	05 32 29.4	-0.2
AUQ	**Augustine Qik'**	**1.47**	**238**		Pn	05 32 29.5	-0.2
AUCH	**Augustine Cone**	**1.48**	**239**		Pn	05 32 29.6	-0.2
PWL	**Port Wells**	**1.48**	**60**		**Pn**	**05 32 29.5**	**-0.3**
PMR	**Palmer**	**1.70**	**31**		**Pn**	**05 32 32.2**	**-0.4**
PMR				Sn	**Sn**	**05 32 52.4**	**-1.1**
KNK	**Knik Glacier**	**1.77**	**43**		**Pn**	**05 32 33.3**	**-0.3**
SKT	**Skwentna**	**1.85**	**352**		**Pn**	**05 32 34.6**	**-0.1**
GHO	**Glory Hole Cre**	**1.91**	**31**	Pn	**Pn**	**05 32 35.3**	**-0.2**
GHO				Sn	**Sn**	**05 32 58.0**	**-0.7**
GLI	**Glacier Island**	**2.05**	**68**		**Pn**	**05 32 35.9**	**-1.5**
GLI				Sn	**Sn**	**05 33 00.2**	**-1.8**
SML	**Sawmill**	**2.10**	**37**		**Pn**	**05 32 37.8**	**-0.3**
SML				Sn	**Sn**	**05 33 01.8**	**-1.4**
HIN	**Hinchinbrook I**	**2.24**	**82**	Pn	**Pn**	**05 32 38.7**	**-1.2**
CUT	**Chulitna**	**2.28**	**8**	P	**Pn**	**05 32 40.0**	**-0.5**
	baz=189,SNR=88						
CUT	**Chulitna**	**2.28**	**8**		**Pn**	**05 32 40.1**	**-0.3**
FID	**Port Fidalgo**	**2.31**	**73**		**Pn**	**05 32 39.2**	**-1.6**
Q23K	**Middleton Isla**	**2.45**	**105**	P	**Pn**	**05 32 41.0**	**-1.7**
	baz=289						
Q23K				S	**Sn**	**05 33 09.0**	**-2.5**
	baz=289						
Q23K	**Middleton Isla**	**2.45**	**105**	Pn	**Pn**	**05 32 43.5**	**+0.9**
SCM	**Sheep Creek Mo**	**2.45**	**45**		**Pn**	**05 32 43.0**	**+0.2**
MID	**Middleton Isla**	**2.45**	**105**	Pn	**Pn**	**05 32 43.5**	**+0.8**
VMT	**TAPS Tl Valdez**	**2.46**	**66**		**Pn**	**05 32 42.1**	**-0.6**
SVW2	**Sparrevohn**	**2.46**	**295**		Pn	05 32 41.5	-1.4
KDAK	**Kodiak Island**	**2.52**	**200**	Pn	Pn	05 32 42.5	-1.2
EYAK	**Cordova Ski Ar**	**2.63**	**79**		**Pn**	**05 32 43.8**	**-1.3**
DIV	**Divide**	**2.74**	**67**		**Pn**	**05 32 46.0**	**-0.8**
KAKN	**Katmai Knife C**	**2.81**	**230**		Pn	05 32 47.3	-0.4
PPLA	**Purkeypile**	**2.81**	**349**	Pn	**Pn**	**05 32 47.6**	**-0.2**
KLU	**Klutina**	**2.81**	**59**		**Pn**	**05 32 47.5**	**-0.3**
WAT6	**Susitna Watana**	**2.89**	**31**		**Pn**	**05 32 49.0**	**+0.2**
HUR	**Hurricane**	**2.91**	**12**		**Pn**	**05 32 49.1**	**+0.2**
KABU	**Katmai Buttres**	**2.91**	**231**		Pn	05 32 49.1	0.0
WAT1	**Susitna Watana**	**2.93**	**22**		**Pn**	**05 32 49.1**	**-0.1**
WAT2	**Susitna Watana**	**3.04**	**21**		**Pn**	**05 32 51.1**	**+0.2**
ANCK	**Angle Creek**	**3.04**	**232**		Pn	05 32 50.5	-0.4
M24K	**Tolsona, Glenn**	**3.04**	**48**	P	**Pn**	**05 32 51.3**	**+0.4**
	baz=232,SNR=294						
M24K				S	**Sn**	**05 33 26.4**	**+0.3**
	baz=232						
M24K	**Tolsona, Glenn**	**3.04**	**48**		**Pn**	**05 32 51.1**	**+0.3**
CAHL	**Cahill**	**3.07**	**229**		Pn	05 32 51.0	-0.2
RAGM	**Ragged Mountai**	**3.15**	**83**		**Pn**	**05 32 50.6**	**-1.6**
KJL	**Kejulik**	**3.17**	**230**		Pn	05 32 52.7	+0.1
OHAK	**Old Harbor**	**3.18**	**203**	Pn	Pn	05 32 51.0	-1.6
BMRM	**Bremner River**	**3.25**	**73**		**Pn**	**05 32 52.3**	**-1.3**
PS11	**TAPS Pump St11**	**3.29**	**52**		**Pn**	**05 32 54.6**	**+0.4**
KAIM	**Kayak Island**	**3.30**	**91**	Pn	**Pn**	**05 32 53.5**	**-0.7**
CAST	**Castle Rocks**	**3.32**	**351**		**Pn**	**05 32 56.5**	**+1.9**
TRF	**Thorofare Moun**	**3.32**	**5**		**Pn**	**05 32 54.4**	**-0.3**
HMT	**Hamilton**	**3.35**	**84**		**Pn**	**05 32 53.6**	**-1.4**
DHY	**Denali Highway**	**3.40**	**29**		**Pn**	**05 32 55.5**	**-0.2**
KTH	**Kantishna Hill**	**3.41**	**0**		**Pn**	**05 32 55.6**	**-0.2**
RND	**Reindeer**	**3.42**	**16**		**Pn**	**05 32 56.8**	**+0.8**
N25K	**Chitina, Valde**	**3.44**	**62**	P	**Pn**	**05 32 55.8**	**-0.5**
	baz=248,SNR=77						
N25K				S	**Sn**	**05 33 34.4**	**-1.4**
	baz=248						
N25K	**Chitina, Valde**	**3.44**	**62**		**Pn**	**05 32 55.8**	**-0.5**
NICHA	**Nichawak Mount**	**3.50**	**86**		**Pn**	**05 32 55.4**	**-1.6**
SUCK	**Suckling Hills**	**3.60**	**88**		**Pn**	**05 32 57.0**	**-1.4**
BERG	**Berg Lake**	**3.63**	**83**		**Pn**	**05 32 56.8**	**-2.0**
TT01	**Tatalina**	**3.67**	**321**		**Pn**	**05 32 59.0**	**-0.2**
TTA	**Tatalina**	**3.68**	**321**	Pn	**Pn**	**05 32 58.8**	**-0.7**
MCK	**McKinley**	**3.72**	**14**	P	**Pn**	**05 33 01.0**	**+1.0**
	baz=196,SNR=765						
MCK				S	**Sn**	**05 33 41.1**	**-1.4**
	baz=196						
MCK	**McKinley**	**3.72**	**14**		**Pn**	**05 33 00.3**	**+0.4**
PLK5	**Peulik 5**	**3.74**	**237**		**Pn**	**05 33 00.5**	**+0.3**
GLB	**Gilahina Butte**	**3.74**	**67**		**Pn**	**05 32 59.5**	**-0.8**
PLK1	**Peulik 1**	**3.75**	**233**		Pn	05 33 00.3	0.0
VRDI	**Verde Repeater**	**3.85**	**71**		**Pn**	**05 33 01.0**	**-1.0**
KHIT	**Khitrov Hills**	**3.86**	**82**		**Pn**	**05 33 00.0**	**-1.9**
PAX	**Paxson**	**3.86**	**41**		**Pn**	**05 33 02.4**	**+0.4**
CRQM	**Cirque**	**3.93**	**78**		**Pn**	**05 33 01.7**	**-1.3**
BPAW	**Bear Paw Mtn.**	**3.96**	**360**		**Pn**	**05 33 02.8**	**-0.4**
SII	**Sitkinak Islan**	**3.98**	**207**	Pn	Pn	05 33 02.4	-1.2
TGL	**Tana Glacier**	**4.08**	**78**		**Pn**	**05 33 03.5**	**-1.5**
MCARA	**McCarthy VSAT**	**4.09**	**69**		**Pn**	**05 33 04.7**	**-0.4**
BWN	**Browne**	**4.09**	**9**		**Pn**	**05 33 05.8**	**+0.7**
KULT	**Kultieth River**	**4.12**	**85**		**Pn**	**05 33 03.9**	**-1.6**
BARK	**Barkley Ridge**	**4.23**	**83**		**Pn**	**05 33 05.5**	**-1.5**
CYK	**Cape Yakataga**	**4.25**	**87**		**Pn**	**05 33 06.5**	**-0.6**
ISLE	**Juniper Island**	**4.31**	**80**		**Pn**	**05 33 06.8**	**-1.4**
PTPK	**Patty Peak**	**4.31**	**72**		**Pn**	**05 33 07.5**	**-0.7**
KIAG	**Kiagna River**	**4.33**	**76**		**Pn**	**05 33 07.0**	**-1.4**
BALM	**Baldy**	**4.35**	**75**		**Pn**	**05 33 07.3**	**-1.4**
MENT	**Mentasta**	**4.45**	**48**		**Pn**	**05 33 09.8**	**-0.2**
MESA	**MESA**	**4.51**	**86**		**Pn**	**05 33 09.9**	**-1.0**
WRH	**Wood River Hil**	**4.54**	**16**		**Pn**	**05 33 11.3**	**+0.2**
NEA2	**Nenana**	**4.54**	**10**	P	**Pn**	**05 33 11.1**	**0.0**
	baz=192,SNR=260						
NEA2	**Nenana**	**4.54**	**10**		**Pn**	**05 33 11.2**	**0.0**
YAH	**Yahtse**	**4.60**	**83**		**Pn**	**05 33 11.3**	**-1.0**
GRNC	**Granite Creek**	**4.60**	**79**		**Pn**	**05 33 10.8**	**-1.4**
RIDG	**Independent Ri**	**4.62**	**36**		**Pn**	**05 33 12.6**	**+0.3**
HDA	**Harding Lake**	**4.67**	**22**	P	**Pn**	**05 33 13.3**	**+0.5**
	baz=206,SNR=525						
HDA				S	**Sn**	**05 34 04.5**	**-1.1**
	baz=206						
HDA	**Harding Lake**	**4.67**	**22**		**Pn**	**05 33 13.1**	**+0.2**
BARN	**Barnard Glacie**	**4.68**	**75**		**Pn**	**05 33 12.5**	**-0.8**
CCB	**Clear Creek Bu**	**4.74**	**17**		**Pn**	**05 33 13.9**	**0.0**
DOT	**Dot Lake**	**4.79**	**40**	Pn	**Pn**	**05 33 14.7**	**+0.1**
RKAV	**Rock Avalanche**	**4.80**	**84**		**Pn**	**05 33 14.3**	**-0.6**
PS08	**TAPS Pump Stn8**	**4.81**	**22**		**Pn**	**05 33 15.3**	**+0.4**
CTGM	**Chitina Glacie**	**4.83**	**76**		**Pn**	**05 33 14.9**	**-0.3**
MLY	**Manley**	**4.90**	**1**	P	**Pn**	**05 33 15.8**	**-0.2**
	baz=181,SNR=484						
MLY	**Manley**	**4.90**	**1**		**Pn**	**05 33 15.9**	**-0.2**
CHX	**Chaix Hills**	**4.93**	**87**		**Pn**	**05 33 16.4**	**-0.2**
TCOL	**CIGO, UAF Yank**	**4.95**	**16**	P	**Pn**	**05 33 17.1**	**+0.3**
	baz=198,SNR=144						
TCOL				S	**Sn**	**05 34 09.3**	**-3.2**
	baz=198						
TCOL	**CIGO, UAF Yank**	**4.95**	**16**		**Pn**	**05 33 17.1**	**+0.3**
COLA	**College**	**4.95**	**16**	*d iP*	**Pn**	**05 33 16.9**	**+0.2**
COLA	**College**	**4.95**	**16**		**Pn**	**05 33 16.9**	**+0.2**
LOGN	**Logan Glacier**	**4.98**	**78**		**Pn**	**05 33 16.0**	**-1.3**
MDM	**Murphy Dome**	**4.99**	**14**		**Pn**	**05 33 17.3**	**0.0**
CHIR	**Chirikof Islan**	**5.00**	**212**		Pn	05 33 15.8	-1.6
IL31		**5.01**	**20**		**Pn**	**05 33 17.7**	**+0.3**
ILAR	**Eielson Array**	**5.01**	**20**	P	**Pn**	**05 33 17.4**	**-0.1**
	28nm,0.3s,baz=204,slow=14,SNR=1871						
ILAR				S	**Sn**	**05 34 10.6**	**-3.4**
	50nm,0.3s,baz=230,slow=4.1,SNR=14						
ILAR	**Eielson Array**	**5.01**	**20**	Pn	**Pn**	**05 33 17.4**	**-0.1**
ILAR					**Sn**	**05 34 12.9**	**-1.1**
SCRK	**Sand Creek**	**5.05**	**38**	P	**Pn**	**05

MSO	Missoula	25.35	105	P		P		05 37 27.7	+2.5
	baz=315								
SEY	Seymchan	26.39	301	P		P		05 37 33.2	-1.0
	comp=Z,3.3nm,0.6s,baz=98,slow=12,SNR=6.3								
SEY	Seymchan	26.39	301	P		P		05 37 33.2	-1.0
HRY	Holter Researc	26.46	103	P		P		05 37 36.8	+1.6
EGMT	Eagleton	26.57	99	P		P		05 37 37.6	+1.4
	baz=313								
EUNU	Eureka	27.12	20	P		P		05 37 42.2	+1.5
EUNU				IAmb		IAmb		05 38 10.0	
	comp=Z,12nm,1.1s								
BOZ	Bozeman (W)	27.35	104	P		P		05 37 43.1	-0.2
HLID	Hailey	27.54	111	P		P		05 37 45.0	0.0
GCMT	Greycliff	28.17	102	P		P		05 37 51.6	+1.1
YHB	Horse Butte	28.18	105	P		P		05 37 51.7	+1.0
YHH	Holmes Hill	28.32	105	P		P		05 37 52.0	-0.1
MA2	Magadan	28.44	295	P		P		05 37 52.5	-0.1
	comp=Z,12nm,0.6s,baz=71,slow=8.8,SNR=5.8								
MA2	Magadan	28.44	295	P		P		05 37 53.1	+0.5
PETK	Petropavlovsk-	28.44	279	P		P		05 37 52.2	-0.5
	comp=Z,7.3nm,0.7s,baz=81,slow=9.2,SNR=6.0								
PETK				LR		LR		05 48 57.1	
	comp=Z,56nm,20.9s,baz=66,slow=36								
YNE	Yellowstone No	28.57	103	P		P		05 37 54.3	+0.1
TPAW	Teton Pass	29.24	107	P		P		05 38 02.1	+1.9
TPAW				IAmb		IAmb		05 38 03.7	
	comp=Z,4.6nm,0.8s								
SNOW	Snow King Moun	29.35	106	P		P		05 38 02.4	+1.3
SNOW				IAmb		IAmb		05 38 04.8	
	comp=Z,4.8nm,0.7s								
ELK	Elko	29.37	115	P		P		05 38 04.7	+3.4
	comp=Z,1.8nm,0.6s,baz=290,slow=8.0,SNR=12								
ELK	Elko	29.37	115	P		P		05 38 02.6	+1.2
NVAR	Mina Array Bea	29.92	122	P		P		05 38 09.4	+3.2
	comp=Z,0.9nm,0.7s,baz=315,slow=7.7,SNR=8.7								
NVAR	Mina Array Bea	29.92	122	P		P		05 38 07.7	+1.5
HWUT	Hardware Ranch	30.39	110	P		P		05 38 11.0	+0.7
PD31	Pinedale Array	30.45	106	P		P		05 38 11.6	+0.7
PDAR	Pinedale Array	30.45	106	P		P		05 38 12.8	+1.9
	comp=Z,1.7nm,0.8s,baz=324,slow=4.8,SNR=11								
PDAR				LR		LR		05 50 21.4	
	comp=Z,10nm,18.3s,baz=353,slow=36								
PDAR	Pinedale Array	30.45	106	P		P		05 38 11.1	+0.2
PSUT	Pine Spring	31.79	116	P		P		05 38 23.8	+1.2
ULM	Lac du Bonnet	32.04	83	P		P		05 38 25.7	+1.2
	comp=Z,2.8nm,0.7s,baz=286,slow=10,SNR=3.3								
ULM				LR		LR		05 50 31.8	
	comp=Z,100nm,18.2s,baz=290,slow=34								
ULM	Lac du Bonnet	32.04	83	P		P		05 38 24.4	-0.1
RDMU	Red Mountain	32.14	109	P		P		05 38 26.3	+0.6
SRU	San Rafael Swe	32.84	111	P		P		05 38 34.0	+2.2
O20A	White River Ci	33.11	108	P		P		05 38 36.2	+2.0
O20A				IAmb		IAmb		05 38 37.5	
	comp=Z,6.2nm,0.7s								
PKCU	Pink Cliffs	33.38	115	P		P		05 38 38.5	+1.9
PV21	Cone Mtn., Par	34.01	110	P		P		05 38 43.9	+1.8
PV21				IAmb		IAmb		05 38 57.9	
	comp=Z,13nm,1.4s								
PV23	Carpenter Ridg	34.08	110	P		P		05 38 43.6	+1.0
PV14	Lion Creek, Pa	34.13	111	P		P		05 38 44.7	+1.5
PV14				IAmb		IAmb		05 38 47.1	
	comp=Z,10.0nm,1.2s								
PV04	Paradox Valley	34.17	110	P		P		05 38 43.4	0.0
PV04				IAmb		IAmb		05 38 46.9	
	comp=Z,8.0nm,0.9s								
PV20	West Nyswonger	34.19	111	P		P		05 38 43.9	+0.4
PV20				IAmb		IAmb		05 38 46.8	
	comp=Z,5.9nm,0.9s								
PV19	Morning Glory	34.20	111	P		P		05 38 44.9	+1.2
PV19				IAmb		IAmb		05 38 47.0	
	comp=Z,4.7nm,0.7s								
PV16	Nyswonger Mesa	34.23	110	P		P		05 38 44.4	+0.5
PV16				IAmb		IAmb		05 38 47.3	
	comp=Z,12nm,1.1s								
PV17	East Wray Mesa	34.24	111	P		P		05 38 44.5	+0.5
PV17				IAmb		IAmb		05 38 47.4	
	comp=Z,9.5nm,0.8s								
PV07	Paradox Valley	34.26	110	P		P		05 38 44.1	-0.1
PV07				IAmb		IAmb		05 38 47.4	
	comp=Z,12nm,1.3s								
PV12	Saucer Basin,	34.28	110	P		P		05 38 44.1	-0.2
PV12				IAmb		IAmb		05 38 49.8	
	comp=Z,5.9nm,0.9s								
PV18	Skein Mesa, Pa	34.29	111	P		P		05 38 44.6	+0.2
PV18				IAmb		IAmb		05 38 47.8	
	comp=Z,9.4nm,0.9s								
PV03	Paradox Valley	34.31	110	P		P		05 38 45.7	+1.0
PV03				IAmb		IAmb		05 38 48.0	
	comp=Z,8.2nm,1.0s								
PV13	Radium Mtn., P	34.40	111	P		P		05 38 46.4	+1.0
PV15	Paradox Valley	34.41	110	P		P		05 38 46.0	+0.4
PV15				IAmb		IAmb		05 38 48.7	
	comp=Z,9.2nm,1.2s								
PV01	Paradox Valley	34.54	110	P		P		05 38 46.5	-0.1
MVCO	Mesa Verde	35.32	111	P		P		05 38 53.6	+0.3
MVCO				IAmb		IAmb		05 38 56.4	
	comp=Z,4.1nm,0.8s								
S22A	4UR Ranch, Cre	35.67	109	P		P		05 38 58.7	+2.3
EYMN	Ely	35.73	83	P		P		05 38 57.8	+1.4
ECSD	EROS Data Cent	36.12	92	P		P		05 39 00.5	+0.6
ECSD				IAmb		IAmb		05 39 17.9	
	comp=Z,9.0nm,1.2s								
YAK	Yakutsk	36.17	308	*i* P		P		05 38 58.8	-1.2
YAK				pmax		pmax			
	comp=Z,27nm,1.0s								
SDCO	Great Sand Dun	36.30	107	P		P		05 39 02.4	+0.6
SDCO				IAmb		IAmb		05 39 05.7	
	comp=Z,3.9nm,0.8s								
E38A	The Farm, Brul	36.62	84	P		P		05 39 05.3	+1.3
ANMO	Albuquerque	38.12	111	*i* P		P		05 39 15.3	-1.8
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.0s								
G40A	Rib Lake	38.23	85	P		P		05 39 19.0	+1.4
121A	Cookes Peak, D	39.51	115	P		P		05 39 32.2	+3.5
121A				IAmb		IAmb		05 39 32.5	
	comp=Z,3.9nm,0.9s								
SUMG	Summit	39.83	26	*i* P		P		05 39 32.0	+0.9
SUMG				pmax		pmax			
	comp=Z,49nm,0.7s								
SUMG	Summit	39.83	26	P		P		05 39 31.6	+0.5
SUMG	Summit	39.83	26	*i* P		P		05 39 32.0	+0.9
	comp=Z,49nm,0.7s								
SUMG	Summit	39.83	26	*i* P		P		05 39 32.0	+0.9
SUMG				IAmb		IAmb		05 39 33.0	
	comp=Z,49nm,0.7s								
DAG	Danmarks Havn	40.09	15	⇓*i* P		P		05 39 32.5	-0.2
DAG				pmax		pmax			
	comp=Z,22nm,0.7s								
DAG	Danmarks Havn	40.09	15	⇓*i* P		P		05 39 32.5	-0.2
	comp=Z,22nm,0.7s								
DAG	Danmarks Havn	40.09	15	⇓*i* P		P		05 39 32.6	-0.2
DAG				IAmb		IAmb		05 39 33.2	
	comp=Z,22nm,0.7s								
MNTX	Cornudas Mount	41.31	113	P		P		05 39 44.8	+1.4
DBG	Daneborg	41.90	18	⇓*i* P		P		05 39 47.7	0.0
DBG				IAmb		IAmb		05 39 48.3	
	comp=Z,23nm,0.7s								
WMOK	Wichita Mounta	41.95	103	P		P		05 39 50.4	+1.8
WMOK				IAmb		IAmb		05 39 51.4	
	comp=Z,4.4nm,1.0s								
ICESG	Greenland Ices	42.02	30	*i* P		P		05 39 49.3	+0.2
ICESG				IAmb		IAmb		05 39 50.8	
	comp=Z,30nm,1.1s								
ZEA	Zeya	42.35	299	*eP*		P		05 39 50.8	-0.7
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SCHQ	Schefferville	42.62	58	P		P		05 39 54.0	+0.2
	comp=Z,8.5nm,0.7s,baz=304,slow=10,SNR=4.6								
SCHQ				LR		LR		05 58 09.6	
	comp=Z,79nm,18.7s,baz=92,slow=37								
SCHQ	Schefferville	42.62	58	P		P		05 39 54.3	+0.5
SCHQ				IAmb		IAmb		05 39 55.1	
	comp=Z,10.0nm,0.8s								
TX31	Lajitas Ar. Si	44.09	113	P		P		05 40 07.7	+1.6
TX31				IAmb		IAmb		05 40 10.2	
	comp=Z,18nm,1.5s								
TX32	Lajitas Array	44.09	113	P		P		05 40 07.7	+1.7
TXAR	Lajitas Array	44.09	113	P		P		05 40 08.5	+2.5
	comp=Z,1.7nm,0.9s,baz=329,slow=6.3,SNR=15								
TXAR				LR		LR		06 00 06.3	
	comp=Z,18nm,21.7s,baz=0.0,slow=38								
TXAR	Lajitas Array	44.09	113	P		P		05 40 06.6	+0.5
NRIK	Noril'sk	44.20	334	P		P		05 40 03.8	-2.5
	comp=Z,2.3nm,0.5s,baz=48,slow=2.8,SNR=4.4								
NRIK	Noril'sk	44.20	334	P		P		05 40 03.8	-2.5
JCT	Junction City	44.95	108	P		P		05 40 14.4	+1.6
USRK	Ussuriysk Ar.	46.98	287	P		P		05 40 27.4	-1.1
	comp=Z,1.9nm,0.8s,baz=46,slow=6.6,SNR=4.6								
X48A	Hartselle	47.99	93	P		P		05 40 37.1	+0.7
X48A				IAmb		IAmb		05 40 37.7	
	comp=Z,5.8nm,0.6s								
Z47A	Carrollton	48.48	94	P		P		05 40 41.3	+1.1
FPAL	Fort Paine	48.63	91	P		P		05 40 42.4	+0.9
Y49A	Blount Mountai	48.78	92	P		P		05 40 43.4	+0.8
ODNJ	Ogdensburg	49.01	77	P		P		05 40 45.2	+1.0
V53A	Saluda	49.14	88	P		P		05 40 46.8	+1.5
V53A				IAmb		IAmb		05 40 47.1	
	comp=Z,4.9nm,0.8s								
MJAR	Matsushiro Arr	49.78	275	P		P		05 40 48.3	-1.9
	comp=Z,2.0nm,0.5s,baz=12,slow=7.5,SNR=5.9								
Z51A	Franklin	49.83	92	P		P		05 40 51.1	+0.6
ARCES	ARCESS Array B	50.58	2	P		P		05 40 54.5	-1.2
	comp=Z,3.9nm,0.8s,baz=4.6,slow=6.5,SNR=14								
ARCES				PcP		PcP		05 42 12.3	-0.1
	comp=Z,1.3nm,0.7s,baz=355,slow=6.3,SNR=1.6								
ARCES				LR		LR		06 02 28.8	
	comp=Z,11nm,20.1s,baz=100,slow=36								
ARCES	ARCESS Array B	50.58	2	P		P		05 40 54.5	-1.2
KSRS	Korea Array	54.13	284	P		P		05 41 23.3	+0.9
	comp=Z,5.9nm,0.8s,baz=36,slow=7.0,SNR=22								
KSRS				LR		LR		06 04 19.0	
	comp=Z,21nm,21.4s,baz=78,slow=36								
KSRS	Korea Array	54.13	284	P		P		05 41 23.3	+0.9
KSAR	Wonju Array Be	54.16	284	P		P		05 41 22.3	-0.3
ULN	Ulaanbaatar	55.23	307	*i* P		P		05 41 29.2	-1.2
ULN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ULN	Ulaanbaatar	55.23	307	P		P		05 41 31.3	+0.8
ULN				IAmb		IAmb		05 41 32.1	
	comp=Z,4.0nm,0.8s								
SONM	Songino Array	55.52	307	P		P		05 41 33.3	+0.9
	comp=Z,2.0nm,0.6s,baz=64,slow=6.7,SNR=4.3								
SONM	Songino Array	55.52	307	P		P		05 41 32.5	+0.1
ZALV	Zalesovo Beam	57.84	325	P		P		05 41 47.6	-1.0
	comp=Z,1.2nm,0.5s,baz=32,slow=6.5,SNR=6.2								
ZALV				LR		LR		06 08 19.9	
	comp=Z,14nm,19.4s,baz=88,slow=38								
PRGR	Permogore	57.87	351	*eP*		P		05 41 46.7	-2.0
PRGR				pmax		pmax			
	comp=Z,15nm,0.8s								
NB2	NORSAR Subarra	58.35	10	P		P		05 41 51.2	-1.0
	comp=Z,4.9nm,1.1s,baz=350,slow=7.4								
NOA	NORSAR Array B	58.35	10	P		P		05 41 51.5	-0.7
	comp=Z,1.7nm,0.9s,baz=351,slow=6.9,SNR=4.8								
FINES	FINESS Array B	58.71	2	P		P		05 41 54.1	-0.5
	comp=Z,4.1nm,0.7s,baz=2.5,slow=7.5,SNR=26								
HHC	Hu-ho-hao-te	59.01	299	*eP*		P		05 41 59.8	+2.7
HHC				pmax		pmax			
	comp=Z,20nm,1.1s								
HHC				pmax		pmax			
	comp=Z,68nm,5.6s								
DGZ	Jazzator, Alta	60.76	321	*i* P		P		05 42 07.9	-1.2
DGZ				pmax		pmax			
	comp=Z,1.0nm,1.1s								
ARU	Arti	61.43	342	LR		LR		06 10 39.4	
	comp=Z,31nm,19.4s,baz=119,slow=38								
ARU	Arti	61.43	342	*c i* P		P		05 42 12.2	-1.0
ARU				*PP		pP		05 42 31.5	-0.2
ARU				S		S		05 50 29.4	+1.1
ARU				SS		SS		05 54 27.3	-1.7
ARU				pmax		pmax			
	comp=Z,7.0nm,0.6s								
VSU	Vasula	61.71	1	*i* P		P		05 42 14.6	-0.5
VSU				pmax		pmax			
	comp=Z,26nm,0.9s								
BRVK	Borovoye	62.39	333	*ce*P		P		05 42 18.2	-1.6
BRVK				pmax		pmax			
	comp=Z,7.0nm,2.5s								
KURK	Kurchatov	62.46	327	*i* P		P		05 42 19.9	-0.4
KURK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
NJ2	Nanjing	62.87	287	*eP*		P		05 42 23.4	+0.2
NJ2				pmax		pmax			
	comp=Z,11nm,0.6s								
OBN	Obninsk	64.92	355	*de*P		P		05 42 36.1	-0.2
OBN				*e*PP		pP		05 42 55.3	+0.3
OBN				*SP		sP		05 43 04.0	+1.1
OBN				pmax		pmax			
	comp=Z,8.0nm,0.5s								
OBN				MLR		MLR			
	comp=Z,35nm,16.0s								
MKAR	Makanchi Array	64.94	323	P		P		05 42 34.7	-1.9
	comp=Z,0.7nm,0.7s,baz=27,slow=8.2,SNR=4.3								
MKAR	Makanchi Array	64.94	323	*ce*P		P		05 42 35.7	-0.9
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
GTA	Gaotai	65.16	306	*eP*		P		05 42 39.8	+1.4
GTA				pP		pP		05 42 58.8	+1.8
GTA				sP		sP		05 43 09.0	+4.1
GTA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
WMQ	Urumqi	65.84	317	*eP*		P		05 42 46.5	+3.9
CLL	Collm	68.14	11	*eP*		P		05 42 57.0	+0.1
CLL	Collm	68.14	11	*eP*		P		05 42 57.0	+0.1
BRG	Berggiesshubel	68.66	10	*i* P		P		05 43 00.3	+0.1
	comp=Z,6.0nm,1.1s								
BRG	Berggiesshubel	68.66	10	*i* P		P		05 43 00.3	+0.1
BRG				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CHVC	Chvalec	69.11	9	*eP*		P		05 43 03.9	+0.8
UPC	Upice	69.19	9	*eP*		P		05 43 04.4	+0.9
UPC	Upice	69.19	9	*eP*		P		05 43 04.4	+0.9
DPC	Dobruska-Polom	69.37	9	*eP*		P		05 43 05.5	+0.8
DPC	Dobruska-Polom	69.37	9	*eP*		P		05 43 05.5	+0.8
AKASG	Malin Array Be	69.50	360	P		P		05 43 04.9	-0.5
	comp=Z,27nm,0.8s,baz=3.7,slow=6.2,SNR=60								
PRU	Pruhonice	69.59	10	*eP*		P		05 43 06.1	+0.2
PRU	Pruhonice	69.59	10	*eP*		P		05 43 06.1	+0.2
KRLC	Kraliky	69.68	8	*eP*		P		05 43 07.1	+0.5
KRLC	Kraliky	69.68	8	*eP*		P		05 43 07.1	+0.5
PBCC	Pribram	69.84	10	*eP*		P		05 43 08.2	+0.7
MORC	Moravsky Berou	70.03	8	*eP*		P		05 43 09.1	+0.4
KHC	Kasperske Hory	70.35	11	*eP*		P		05 43 11.5	+0.8
KHC	Kasperske Hory	70.35	11	*ce*P		P		05 43 10.6	-0.1
KHC				pmax		pmax			
	comp=Z,7.0nm,0.7s								
VRAC	Vranov	70.43	9	⇓*eP*		P		05 43 11.9	+0.8
VRAC	Vranov	70.43	9	⇓*eP*		P		05 43 11.9	+0.8
VRAC	Vranov	70.43	9	⇓P		P		05 43 11.9	+0.8
GERES	GERESS Array B	70.65	11	P		P		05 43 13.1	+0.5
	comp=Z,1.5nm,0.7s,baz=347,slow=4.8,SNR=16								
KRUC	Moravsky	70.66	9	*eP*		P		05 43 12.9	+0.4
LANS	Liptovska Anna	70.78	7	*eP*		P		05 43 14.6	+1.3
LANS				pmax		pmax			
	comp=Z,4.0nm,0.8s								
LANS	Liptovska Anna	70.78	7	*eP*		P		05 43 14.6	+1.3
JAVC	Velka Javorina	70.95	8	*eP*		P		05 43 15.9	+1.5
AAK	Ala-Archa	71.00	326	*i* P		P		05 43 13.5	-1.4
AAK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KOLS	Kolonicke sedl	71.13	5	*eP*		P		05 43 15.6	+0.2
KOLS				pmax		pmax			
	comp=Z,7.0nm,1.4s								
KOLS	Kolonicke sedl	71.13	5	*eP*		P		05 43 15.6	+0.2
VYHS	Vyhne	71.39	7	*eP*		P		05 43 17.2	+0.2
VYHS				pmax		pmax			
	comp=Z,5.0nm,0.9s								
VYHS	Vyhne	71.39	7	*eP*		P		05 43 17.1	+0.1
RETA	Reutte	71.69	13	*eP*		P		05 43 20.0	+1.2
	comp=Z,8.6nm,1.5s								
CONA	Conrad Observa	71.74	9	*eP*		P		05 43 19.9	+0.7
	comp=Z,4.9nm,0.8s,SNR=5.3								
DAVA	Damuels	71.78	14	*eP*		P		05 43 19.1	-0.5
	comp=Z,2.2nm,0.5s								
MOTA	Moosalm	71.87	13	*eP*		P		05 43 20.5	+0.5
	comp=Z,5.4nm,0.9s								
WATA	Walderalm	71.93	12	*eP*		P		05 43 21.1	+0.7
	comp=Z,10nm,1.0s								
SQTA	Sankt Quirin	72.00	13	*i* P		P		05 43 21.9	+1.1
	comp=Z,8.3nm,0.8s								
WTTA	Wattenberg	72.00	12	*eP*		P		05 43 21.9	+1.0
	comp=Z,8.8nm,0.8s								
PSZ	Piszkesteto	72.03	6	⇓P		P		05 43 21.8	+0.9
PSZ	Piszkesteto	72.03	6	⇓P		P		05 43 21.8	+0.9
SORM	Soroca	72.07	0	⇑P		P		05 43 20.6	-0.4
SORM	Soroca	72.07	0	⇑P		P		05 43 20.6	-0.4
FETA	Feichten	72.14	13	*eP*		P		05 43 22.8	+1.1
	comp=Z,6.3nm,1.2s								
KBA	Koelnbreinsper	72.36	11	*eP*		P		05 43 23.8	+0.8
	comp=Z,10nm,0.7s								
SOKA	Soboth	72.92	10	*eP*		P		05 43 27.3	+1.1
	comp=Z,5.1nm,1.0s								
OBKA	Obir	73.04	10	*eP*		P		05 43 27.4	+0.4
	comp=Z,21nm,0.8s,SNR=19								
VASR	Vaslui	73.56	1	⇑P		P		05 43 29.9	+0.1
VRI	Vrincioaia	74.32	2	⇑P		P		05 43 33.9	-0.4
VRI	Vrincioaia	74.32	2	⇑P		P		05 43 33.9	-0.4
PLOR	Plostina	74.34	2	⇑P		P		05 43 35.2	+0.7
PLOR	Plostina	74.34	2	⇑P		P		05 43 35.2	+0.7
KIV	Kislovodsk	75.65	350	*eP*		P		05 43 41.5	-0.6
KIV				pmax		pmax			
	comp=Z,24nm,1.0s								
KIV				MLR		MLR			
	comp=Z,61nm,18.0s								
TIRR	Tirgusor	75.75	0	⇑P		P		05 43 31.5	-11
KBZ	Khabaz	75.85	350	P		P		05 43 43.4	+0.3
	comp=Z,2.0nm,0.8s,baz=358,slow=7.3,SNR=3.6								
KBZ				LR		LR		06 20 03.6	
	comp=Z,15nm,18.5s,baz=9.0,slow=38								
ESDC	Sonseca Array	76.89	26	P		P		05 43 49.4	+0.2
	comp=Z,1.8nm,0.8s,baz=346,slow=5.4,SNR=10								
PDG	Podgorica	77.46	7	⇓P		P		05 43 52.3	+0.1
BRTR	Keskin Array B	80.40	356	P		P		05 44 08.0	-0.6
	comp=Z,1.5nm,0.8s,baz=45,slow=8.4,SNR=4.9								
BRTR	Keskin Array B	80.40	356	*i* P		P		05 44 08.3	-0.3
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KEST	Kesra	83.09	16	P		P		05 44 23.1	+0.5
	comp=Z,5.2nm,0.8s,baz=267,slow=5.8,SNR=7.1								
CMAR	Chiang Mai Arr	83.72	296	P		P		05 44 25.0	-1.0
	comp=Z,2.4nm,0.3s,baz=7.7,slow=5.7,SNR=4.1								
CMAR				LR		LR		06 23 46.6	
	comp=Z,19nm,20.1s,baz=210,slow=37								
BOSA	Boshof	148.36	6	PKPbc		PKPdf		05 51 42.0	+2.7
	comp=Z,1.7nm,0.8s,baz=358,slow=4.3,SNR=4.0								

IDC ***18*** *05:36:50.2±1.3,59.99N×151.25W,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.4/42,mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=20.8km s-min=5.1km az=72.0*
NEIC ***18*** *05:36:56.0±1.8,60.13N±0.03×151.01W±0.06,h73km±6km, Error ellipse: s-maj=4.5km s-min=4.1km az=200.0*
AEIC ***18*** *05:36:57±1.5,60.14N±0.03×150.99W±0.05,h65km±5km, ML3.6,mb3.9/9(NEIC),Error ellipse: s-maj=4.8km s-min=3.8km az=171.0*
ANF ***18*** *05:36:57.0±0.4,60.13N×150.85W,h64km±5km,ML4.1/15, Error ellipse: s-maj=5.7km s-min=2.8km az=135.0*

ISC 18 05:36:56.5±0.8,60.13N±0.03×150.95W±0.03,h69km±7km, n151,σ0.84/170,mb3.8/7,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BRLK	Bradley Lake	0.37	175	Pn	Pn	05 37 08.3	+0.2
BRLK				Sn	Sn	05 37 16.5	-0.1
BRSE	Bradley Lake S	0.40	165		Pn	05 37 08.4	+0.1
BRSE					Sn	05 37 16.9	-0.1
SLKM	Skilak Lake	0.53	44		Pn	05 37 09.4	-0.1
SLKM					Sn	05 37 18.8	-0.2
HOM	Homer	0.59	217	P	Pn	05 37 10.3	+0.3
	baz=34,SNR=33						
HOM				S	Sn	05 37 20.8	+0.8
	baz=34						
CNPM	China Poot	0.62	193	Pn	Pn	05 37 10.6	+0.1
CNPM				Sn	Sn	05 37 20.7	-0.1
CAPN	Captain Cook N	0.65	351	P	Pn	05 37 11.6	+0.9
	baz=173,SNR=15						
CAPN	Captain Cook N	0.65	351		Pn	05 37 11.7	+0.9
O22K	Cooper Landing	0.71	60	P	Pn	05 37 11.5	+0.1
	baz=242,SNR=39						
O22K				S	Sn	05 37 22.0	-0.3
	baz=242						
O22K	Cooper Landing	0.71	60		Pn	05 37 11.5	+0.1
SEW	Seward	0.75	91	Pn	Pn	05 37 11.9	+0.1
SEW	Seward	0.75	91		Sn	05 37 23.5	+0.3
DFR	Drift River	0.98	299		Pn	05 37 13.7	-1.1
DFR					Sn	05 37 26.8	-1.4
RDWB	Redoubt West	1.00	292		Pn	05 37 14.0	-1.1
NCT	North Crescent	1.07	295		Pn	05 37 15.0	-0.9
NCT					Sn	05 37 29.1	-1.3
ILS	Iliamna Low So	1.07	262		Pn	05 37 15.3	-0.6
FIS	Fire Island	1.08	19		Pn	05 37 16.6	+0.8
RC01	Rabbit Creek A	1.14	31	P	Pn	05 37 16.6	-0.1
	baz

MCARA	McCarthy VSAT	4.09	69	Pn		Pn	05 37 56.3	-0.1
KULT	Kultieth River	4.11	85			Pn	05 37 56.8	-0.1
BWN	Browne	4.12	9			Pn	05 37 57.8	+0.9
BARK	Barkley Ridge	4.22	83			Pn	05 37 57.6	-0.8
PTPK	Patty Peak	4.31	72			Pn	05 37 59.4	-0.2
KIAG	Kiagna River	4.32	76			Pn	05 37 59.1	-0.7
BALM	Baldy	4.34	74	Pn		Pn	05 37 59.2	-0.8
MESA	MESA	4.50	85	Pn		Pn	05 38 02.2	-0.1
WRH	Wood River Hil	4.56	16	Pn		Pn	05 38 02.9	+0.1
NEA2	Nenana baz=192,SNR=16	4.56	10	P		Pn	05 38 02.8	-0.1
NEA2	Nenana	4.56	10			Pn	05 38 02.8	-0.1
YAH	Yahtse	4.60	83			Pn	05 38 03.4	-0.2
RIDG	Independent Ri	4.63	36	Pn		Pn	05 38 04.5	+0.6
BARN	Barnard Glacie	4.68	74	Pn		Pn	05 38 04.8	+0.2
HDA	Harding Lake baz=206,SNR=39	4.68	22	P		Pn	05 38 05.2	+0.6
HDA				S		Sn	05 38 57.3	-0.3
	baz=206							
HDA	Harding Lake	4.68	22	Pn		Pn	05 38 05.2	+0.6
CCB	Clear Creek Bu	4.76	17	Pn		Pn	05 38 05.7	+0.1
RKAV	Rock Avalanche	4.80	84			Pn	05 38 06.8	+0.5
DOT	Dot Lake	4.80	40	Pn		Pn	05 38 06.8	+0.5
CTGM	Chitina Glacie	4.82	76	Pn		Pn	05 38 06.3	-0.4
PS08	TAPS Pump Stn8	4.83	22			Pn	05 38 07.0	+0.4
TABL	Table Mountain	4.89	82	Pn		Pn	05 38 07.2	-0.4
MLY	Manley baz=181,SNR=17	4.92	1	P		Pn	05 38 08.2	+0.4
TCOL	CIGO, UAF Yank baz=198,SNR=34	4.97	15	P		Pn	05 38 08.7	+0.3
TCOL	CIGO, UAF Yank	4.97	15			Pn	05 38 08.7	+0.3
LOGN	Logan Glacier	4.97	78			Pn	05 38 08.9	+0.2
COLA	College	4.97	15			Pn	05 38 08.8	+0.3
CHIR	Chirikof Islan	4.98	212	Pn		Pn	05 38 07.5	-1.2
MDM	Murphy Dome	5.01	13	Pn		Pn	05 38 09.0	-0.1
IL31		5.03	20	Pn		Pn	05 38 09.4	+0.2
ILAR	Eielson Array 17nm,0.3s,baz=203,slow=14,SNR=39	5.03	20	Pn		Pn	05 38 09.4	+0.2
ILAR	Eielson Array	5.03	20			Pn	05 38 08.3	-0.9
SCRK	Sand Creek baz=224,SNR=7.2	5.06	37	P		Pn	05 38 09.5	-0.4
SCRK	Sand Creek	5.06	37			Pn	05 38 09.4	-0.5
I23K	Minto, Yukon-K baz=189	5.09	8	P		Pn	05 38 10.2	+0.1
YUK2	White River	5.20	67			Pn	05 38 11.7	0.0
POKR	Poker Plat Res baz=200,SNR=11	5.26	16	P		Pn	05 38 12.9	+0.4
POKR				S		Sn	05 39 11.1	-0.6
	baz=200							
BCAR	Beaver Creek A	5.28	52			Pn	05 38 12.4	-0.3
PCA	Pinnacle	5.35	86	Pn		Pn	05 38 13.6	-0.2
CHGN	Chignik	5.50	229	Pn		Pn	05 38 15.9	+0.2
BCPM	Bancas Point	5.68	87	Pn		Pn	05 38 17.7	-0.5
K27K	Chicken baz=231	5.72	43	P		Pn	05 38 18.4	-0.3
IMAR	Indian Mountai	6.01	349			Pn	05 38 22.7	0.0
EGAK	Eagle	6.51	40	Pn		Pn	05 38 29.1	-0.3
FYU	Fort Yukon	6.95	19	Pn		Pn	05 38 35.6	+0.1
CNBA	Chernabura Isl	7.07	225	Pn		Pn	05 38 37.5	+0.3
COLD	Coldfoot baz=183,SNR=8.9	7.13	2	P		Pn	05 38 37.9	-0.1
COLD	Coldfoot	7.13	2			Pn	05 38 38.2	+0.1
SKAG	Skagway	7.91	88	Pn		Pn	05 38 48.5	-0.1
WHY	Whitehorse	7.98	79	Pn		Pn	05 38 49.1	-0.6
TOLK	Toolik Lake Re baz=185	8.57	3	P		Pn	05 38 58.8	+1.2
SIT	Sitka	8.72	104	Pn		Pn	05 38 58.4	-1.3
UNV	Unalaska Valle	10.55	240	Pn		Pn	05 39 23.1	-1.6
DLBC	Dease Lake baz=273,slow=17	10.83	90	Pn		Pn	05 39 28.7	+0.1
DLBC	Dease Lake	10.83	90			Pn	05 39 29.2	+0.7
INK	Inuvik baz=237,slow=11	11.13	35	Pn		Pn	05 39 32.5	+0.1
INK	Inuvik	11.13	35	Pn		Pn	05 39 31.3	-1.1
C36M	Paulatuk	14.58	40	Pn		Pn	05 40 16.1	-2.7
YKA	Yellowknife Ar 0.1nm,0.3s,baz=275,slow=8.7,SNR=4.1	17.46	67	P		P	05 40 57.1	+1.8
H04A	Detroit Lake	23.12	119	P		P	05 41 57.0	+0.5
WALA	Waterton Lakes	23.81	101	P		P	05 42 03.1	+0.1
WALA				IAmb		IAmb	05 42 04.9	
	comp=Z,6.7nm,1.1s							
G08A	Pilot Rock	24.10	114	P		P	05 42 04.1	-1.4
G08A				IAmb		IAmb	05 42 30.7	
	comp=Z,5.8nm,1.4s							
PLID	Pearl Lake	25.62	110	P		P	05 42 17.0	-2.5
PLID				IAmb		IAmb	05 42 21.7	
	comp=Z,4.5nm,1.1s							
EGMT	Eagleton	26.56	99	P		P	05 42 26.2	-1.6
EGMT				IAmb		IAmb	05 42 40.4	
	comp=Z,4.8nm,1.1s							
MCMT	McKenzie Canyo	27.31	107	P		P	05 42 32.5	-2.2
QLMT	Earthquake Lak	27.99	105	P		P	05 42 38.5	-2.3
RLMT	Red Lodge	28.83	102	P		P	05 42 48.8	+0.6
IMW	Indian Meadow	28.92	106	P		P	05 42 49.9	+0.8
TPAW	Teton Pass	29.22	107	P		P	05 42 53.2	+1.5
ELK	Elko baz=297,slow=14	29.35	115	P		P	05 42 56.2	+3.3
ELK	Elko	29.35	115	IAmb		IAmb	05 43 01.9	
	comp=Z,3.1nm,1.4s							
PDAR	Pinedale Array	30.43	106	P		P	05 43 04.3	+1.8
	comp=Z,0.3nm,0.5s,baz=299,slow=9.2,SNR=3.0							
TXAR	Lajitas Array	44.08	113	P		P	05 44 59.6	+2.0
	comp=Z,0.4nm,0.5s,baz=328,slow=5.5,SNR=6.8							

NEIC ***18*** *05:45:08.5±0.7, 7.0S±0.1°×126.7E±0.2, h417km±12km, mb4.3/6, Error ellipse: s-maj=22.2km s-min=17.3km az=83.0*

IDC ***18*** *05:45:08.4±1.7, 6.99S×126.70E, h414km±22km, mb3.3/7, mb1 3.3/10, mb1mx3.1/42, mbtmp4.0/10, Error ellipse: s-maj=33.0km s-min=11.4km az=73.0*

ISC 18 05:45:07.8±0.6, 6.97S±0.07°×126.84E±0.09, h407km, n27, σ1♀23/30, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.75	222	P	P	05 46 18.3	+0.2
SOEI				S	S	05 47 17.6	+2.4
BATI	Baumata 76nm,0.3s,baz=77,slow=1.6,SNR=21	4.49	224	P	P	05 46 25.6	+0.7
BATI				S	S	05 47 27.5	-0.3
	13nm,0.3s,baz=260,slow=21,SNR=6.4						
SAUI	Saumlaki	4.54	103	P	P	05 46 28.1	+2.7
MTN	Manton Dam	7.21	144	P	P	05 46 55.5	+1.1
KNRA	Kununurra	8.85	168	P	P	05 47 13.7	+1.2
FITZ	Fitzroy Crossi 0.4nm,0.3s,baz=19,slow=7.1,SNR=12	11.12	186	P	P	05 47 38.2	+0.5
WRA	Warramunga Arr 0.4nm,0.3s,baz=326,slow=12,SNR=29	14.81	151	P	P	05 48 18.4	+0.4
WRA				S	S	05 50 51.8	-3.7
	0.1nm,0.3s,baz=325,slow=17,SNR=5.2						
WRA	Warramunga Arr	14.81	151	P	P	05 48 18.0	0.0
WR0	Warramunga Ar	14.92	151	P	P	05 48 19.9	+0.7
PSA00	Pilbara Seismi	16.01	204	P	P	05 48 30.5	-0.5
PSA00				IAmb	IAmb	05 48 31.2	
	comp=Z,7.9nm,0.6s						
ASAR	Alice Springs comp=Z,1.4nm,0.3s,baz=333,slow=8.5,SNR=49	17.93	159	P	P	05 48 52.5	+1.1
ASAR				S	S	05 51 57.6	+1.3
	comp=Z,0.1nm,0.3s,baz=339,slow=23,SNR=8.1						
ASAR	Alice Springs	17.93	159	P	P	05 48 51.7	+0.3
FORT	Forrest	23.71	177	P	P	05 49 45.6	+0.2
FORT				IAmb	IAmb	05 49 47.2	
	comp=Z,11nm,0.8s						
BBOO	Buckleboo	27.10	163	P	P	05 50 16.2	+0.6
BBOO				IAmb	IAmb	05 50 29.1	
	comp=Z,15nm,1.4s						
NWAO	Narrogin (SRO) comp=Z,5.8nm,0.8s,baz=12,slow=9.3,SNR=1.4	27.32	198	P	P	05 50 16.8	-0.7
MJAR	Matsushiro Arr comp=Z,1.2nm,0.7s,baz=169,slow=9.5,SNR=1.6	44.58	13	P	P	05 52 40.7	-1.0
USRK	Ussuriysk Ar. comp=Z,0.7nm,0.6s,baz=207,slow=7.0,SNR=1.9	51.15	5	P	P	05 53 31.3	+0.2
KHZ	Kahutara	54.18	138	P	P	05 53 51.9	-1.3
SONM	Songino Array comp=Z,0.6nm,0.5s,baz=144,slow=5.4,SNR=2.8	57.48	344	P	P	05 54 16.2	-0.1
SONM	Songino Array comp=Z,0.6nm,0.6s	57.48	344	IAmb	IAmb	05 54 17.0	
PETK	Petropavlovsk- comp=Z,1.6nm,0.5s,baz=198,slow=4.1,SNR=1.6	65.32	20	P	P	05 55 08.9	+1.1
PETK	Petropavlovsk-	65.32	20	P	P	05 55 07.8	-0.1
MKAR	Makanchi Array comp=Z,0.5nm,0.6s,baz=125,slow=8.2,SNR=6.6	66.52	328	P	P	05 55 15.6	+0.1
MKAR	Makanchi Array	66.52	328	P	P	05 55 14.9	-0.7
ZALV	Zalesovo Beam comp=Z,1.5nm,0.5s,baz=127,slow=6.4,SNR=4.9	70.20	335	P	P	05 55 37.0	-0.8
ZALV	Zalesovo Beam	70.20	335	P	P	05 55 37.3	-0.6
KURK	Kurchatov	70.89	330	P	P	05 55 42.1	+0.1

NEIC ***18*** *05:49:43.7±1.7, 25.08S±0.05°×177.2W±0.2, h122km±9km, mb4.4/10, Error ellipse: s-maj=20.3km s-min=6.0km az=104.0*

IDC ***18*** *05:49:46.7±16.0, 24.90S×177.43W, h141km±144km, mb3.3/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.8/3, Error ellipse: s-maj=59.3km s-min=44.9km az=149.0*

ISC 18 05:49:44.1±0.7, 25.07S±0.09°×177.2W±0.1, h126km, n25, σ0♀78/26, mb4.2/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.21	189	Pn	Pn	05 50 46.3	-0.2
MSVF	Nonsavu	8.54	328	Pn	Pn	05 51 45.0	0.0
NIUE	Niue	8.99	50	Pn	Pn	05 51 50.1	-0.9
URZ	Urewera	14.01	199		P	05 53 01.3	+0.4
CTAO	Charters Tower	34.05	271	P	P	05 56 17.9	+1.5
BBOO	Buckleboo	41.37	248	P	P	05 57 16.8	-1.0
BBOO				IAmb	IAmb	05 57 30.4	
	comp=Z,11nm,1.2s						
ASAR	Alice Springs comp=Z,0.5nm,0.4s,baz=96,slow=7.1,SNR=16	44.38	261	P	P	05 57 42.2	0.0
ASAR				PcP	PcP	05 59 23.6	-0.5
	comp=Z,0.5nm,0.8s,baz=98,slow=3.8,SNR=4.0						
ASAR	Alice Springs	44.38	261	P	P	05 57 41.9	-0.4
WB0	Warramunga Arr	44.89	267	P	P	05 57 46.0	-0.3
WB0				IAmb	IAmb	05 57 47.0	
	comp=Z,3.0nm,0.7s						
WRA	Warramunga Arr comp=Z,2.0nm,0.7s,baz=103,slow=8.0,SNR=20	44.89	266	P	P	05 57 45.3	-1.0
WRA	Warramunga Arr	44.89	266	P	P	05 57 45.6	-0.7
KNRA	Kununurra	51.24	270	P	P	05 58 35.6	+0.4
KNRA				IAmb	IAmb	05 58 36.2	
	comp=Z,9.2nm,1.1s						
FITZ	Fitzroy Crossi	53.30	266	P	P	05 58 50.7	+0.4
FITZ				IAmb	IAmb	05 59 00.6	
	comp=Z,5.4nm,1.4s						
MORW	Morawa	58.88	250	P	P	05 59 29.4	-0.6
CASY	Casey	60.19	206	P	P	05 59 38.2	0.0
CASY				IAmb	IAmb	05 59 38.8	
	comp=Z,5.3nm,0.8s						
SNAA	Sanae	83.44	178	P	P	06 01 56.4	-0.7
SNAA	Sanae	83.44	178	P	P	06 01 56.6	-0.5
VNA3	Neumayer Olymp	83.55	176	P	P	06 01 57.2	-0.4
NVAR	Mina Array Bea comp=Z,0.3nm,0.7s,baz=230,slow=5.6,SNR=2.0	83.84	43	P	P	06 02 00.8	+1.0
VNA2	Neumayer--Watz baz=173,slow=4.7	84.00	177	P	P	06 01 59.9	0.0
VNA1	Neumayer--Stat	84.22	176	P	P	06 02 01.0	0.0
J08A	Circle Bar Ran	86.83	39	P	P	06 02 15.8	+1.4
AKASG	Malin Array Be comp=Z,0.7nm,0.5s,baz=44,slow=4.3,SNR=2.4	147.32	328	PKPbc	PKPbc	06 09 11.8	-0.8
BRTR	Keskin Array B comp=Z,0.9nm,0.5s,baz=92,slow=4.5,SNR=2.9	150.33	307	PKPab	PKPab	06 09 27.6	0.0
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.7s,baz=190,slow=3.6,SNR=1.7	168.09	175	PKPab	PKPab	06 10 46.1	+1.6

IDC ***18*** *05:55:23.8±1.2, 82.54N×117.16E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/48, mbtmp3.8/6, ML3.6/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/44, Error ellipse: s-maj=40.3km s-min=22.1km az=162.0*

ISC 18 05:55:25.3±1.3, 82.6N±0.2°×116.9E±0.2, h10km, n8, σ1♀04/6, mb3.5/5, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRIK	Noril'sk	14.73	223	LR	LR	06 04 26.7	
	comp=Z,54nm,18.2s,baz=21,slow=37						
SPITS	Spitsbergen Ar baz=54,slow=14,SNR=1.9	15.12	309	Pn	Pn	05 58 57.3	-1.2
ARCES	ARCESS Array B 2.3nm,0.7s,baz=17,slow=8.9,SNR=5.8	22.01	290	P	P	06 00 20.3	+1.2
INK	Inuvik 0.8nm,0.7s,baz=330,slow=11,SNR=4.2	25.27	55	P	P	06 00 50.9	-0.1
INK				LR	LR	06 09 59.9	
	comp=Z,33nm,20.8s,baz=118,slow=35						
ILAR	Eielson Array 0.4nm,0.7s,baz=342,slow=11,SNR=7.2	27.15	69	P	P	06 01 08.1	0.0
YKA	Yellowknife Ar comp=Z,31nm,18.0s,baz=0.0,slow=37	32.78	42	LR	LR	06 15 41.2	
MKAR	Makanchi Array 0.7nm,0.7s,baz=358,slow=7.3,SNR=7.2	37.46	220	P	P	06 02 37.9	-0.5
TORD	Torodi Ar. Bea 0.8nm,0.9s,baz=356,slow=5.5,SNR=2.9	80.19	297	P	P	06 07 36.0	+0.5

TAP ***18*** *06:01:42.6, 24.80N×121.95E, h6km, ML2.7, B*
JMA ***18*** *06:01:44.1±0.1, 24.79N×121.86E, h27km, M2.4*

ISC 18 06:01:43.7±0.9, 24.80N±0.02°×121.95E±0.02, h9km±6km, n46, σ0♀64/83, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.05	340	P	Pg	06 01 45.3	-0.2
	baz=357						
NTC	Toucheng baz=298	0.12	297	P	Pg	06 01 46.3	-0.2
NTC				S	Sg	06 01 48.5	+0.1
	baz=298						
ILA	Ilan baz=258	0.19	260	eS	Sg	06 01 50.9	+0.7
TIPB	Shuangxi baz=327	0.21	327	*i* P	Pg	06 01 47.7	-0.2
TIPB				*i* S	Sg	06 01 50.6	-0.3
	baz=327						
TWC	Suao baz=202	0.21	206	*i* P	Pg	06 01 48.0	0.0
TWC				S	Sg	06 01 50.9	+0.1
	baz=202						
TWB1	Santiao Chiao baz=12	0.21	9	*i* P	Pg	06 01 47.7	-0.4
TWB1				*i* S	Sg	06 01 50.4	-0.5
	baz=12						
TWE	Neicheng baz=251	0.27	253	P	Pg	06 01 48.7	-0.4
TWE				S	Sg	06 01 52.5	-0.2
	baz=251						
NWF	Wu-fen Shan baz=331	0.31	330	*i* P	Pg	06 01 49.9	-0.1
NWF				eS	Sg	06 01 54.4	+0.3
	baz=331						
WFSB	Wu-fen Shan baz=331	0.31	330	P	Pg	06 01 49.8	-0.1
WFSB				eS	Sg	06 01 54.3	+0.3
	baz=331						
ENAH	Nanao baz=199	0.37	200	eP	Pg	06 01 51.2	+0.2
ENAH				eS	Sg	06 01 56.6	+0.7
	baz=199						
TWA	Mucha baz=299	0.38	299	*i* P	Pg	06 01 51.1	-0.1
TWA				*i* S	Sg	06 01 55.9	-0.2
	baz=299						
ENTT	Nioudou baz=244	0.38	246	*i* P	Pg	06 01 51.1	-0.2
ENTT				eS	Sb	06 01 57.6	-1.2
	baz=244						
ENA	Nanau baz=205	0.42	207	eP	Pb	06 01 52.9	-0.3
ENA				*i* S	Sg	06 01 58.4	+1.0
	baz=205						
NDT	Datong Townshi baz=243	0.44	244	*i* P	Pg	06 01 52.1	-0.3
NDT				eS	Sb	06 01 59.6	-0.9
	baz=243						
TATO	Taipei baz=293	0.46	293	P	Pg	06 01 52.5	0.0
TATO				S	Sg	06 01 58.3	-0.3
	baz=293						
YM01	YM01 baz=315	0.49	315	P	Pg	06 01 53.5	+0.2
YM01				S	Sb	06 02 02.0	+0.1
	baz=315						
YM11	YM11 baz=317	0.50	317	P	Pg	06 01 53.9	+0.5
YM10	YM10 baz=315	0.50	315	P	Pg	06 01 53.7	+0.2
YM05	YM05 baz=316	0.50	316	P	Pg	06 01 53.7	+0.2
YM05				eS	Sb	06 02 01.9	-0.5
	baz=316						
YM08	YM08 baz=320	0.51	320	P	Pg	06 01 53.5	-0.1
YM08				eS	Sb	06 02 02.9	+0.5
	baz=320						
YM04	YM04 baz=313	0.52	313	P	Pg	06 01 53.8	+0.1
YM04				eS	Sb	06 02 03.9	+1.3
	baz=313						
YM03	YM03 baz=315	0.53	316	eP	Pg	06 01 54.1	0.0
YHNB	Yeheng baz=256	0.54	256	*i* P	Pg	06 01 53.5	-0.6
YHNB				S	Sg	06 01 60.0	-1.3
	baz=256						
ANP	Anpu baz=315	0.55	315	eP	Pg	06 01 54.4	0.0
NSK	Sanguang baz=256	0.55	257	P	Pg	06 01 53.8	-0.7
NSK				eS	Sg	06 02 00.1	-1.6
	baz=256						
TWS1	Kuangyinshan baz=302	0.57	302	P	Pg	06 01 55.2	+0.5
TWS1				eS	Sn	06 02 06.1	-1.5
	baz=302						
TWY	Chenhua baz=327	0.57	326	P	Pg	06 01 54.9	+0.2
TWY				eS	Sb	06 02 04.4	+0.2
	baz=327						
NTST	Danshui baz=309	0.58	309	P	Pg	06 01 55.5	+0.5
NTST				eS	Sb	06 02 05.7	+1.2
	baz=309						
NNSB	Datong baz=234	0.64	235	P	Pg	06 01 55.4	-0.6
NNSB				eS	Sb	06 02 07.5	+1.3
	baz=234						
NNS	Nan Shan baz=235	0.64	236	eP	Pg	06 01 55.6	-0.4
NNS				eS	Sn	06 02 08.3	-1.1
	baz=235						
NACB	Ninganchiao baz=207	0.70	208	P	Pg	06 01 57.3	0.0
NACB				S	Sg	06 02 06.5	+0.1
	baz=207						
ETLH	Xiulin Townshi baz=215	0.73	216	eP	Pg	06 01 57.9	+0.1
ETLH				S	Sb	06 02 09.0	+0.2
	baz=215						
FUSS	Fushou baz=229	0.85	230	eP	Pg	06 01 59.7	-0.3
FUSS				eS	Sn	06 02 15.0	+0.2
	baz=229						
LIOB	Emei baz=259	0.86	260	eP	Pb	06 02 01.5	+0.6
LIOB				eS	Sn	06 02 15.0	+0.1
	baz=259						
NSTT	Nanjuang baz=258	0.88	259	P	Pb	06 02 01.5	+0.3
NSTT				eS	Sn	06 02 14.5	-0.8
	baz=258						
WHF	Hehuan Shan baz=223	0.90	224	eP	Pg	06 02 00.9	-0.2
WHF				eS	Sn	06 02 15.6	-0.9
	baz=223						
TDCB	Techi baz=232	0.90	233	eP	Pg	06 02 00.9	-0.2
TDCB				eS	Sb	06 02 13.7	-0.2
	baz=232						
JYNG	Yonagunijimaku	0.97	111	P	Pg	06 02 02.2	-0.1
JYNG				eS	Sg	06 02 15.7	+0.8
CHGB	Renai baz=223	1.02	224	eP	Pg	06 02 03.3	-0.1
CHGB				eS	Sb	06 02 17.6	+0.3
	baz=223						
YOJ	Yonaguni jima baz=108	1.02	109	eP	Pg	06 02 03.1	-0.3
YOJ				eS	Sg	06 02 16.9	+0.2
	baz=108						
YOJ	Yonaguni jima	1.02	109	P	Pg	06 02 03.2	-0.1
YOJ				eS	Sg	06 02 16.8	+0.2
WHP	Taichung City baz=240	1.05	241	eP	Pn	06 02 05.7	+0.9
VWDT	VWDT baz=215	1.28	216	eP	Pb	06 02 08.1	+0.1
VWDT				eS	Sn	06 02 26.0	+0.9
	baz=215						
YULB	Yu-li baz=202	1.52	203	eP	Pb	06 02 12.1	0.0
IRIF	Iriomote-Funau	1.69	106	eS	Sn	06 02 34.8	-0.3
JKRS	Kuro-shima	1.96	106	P	Pn	06 02 17.3	+0.2
JKRS				eS	Sn	06 02 39.4	-2.4

IDC 18 06:05:59.4±4.2, 6.13S×128.99E, h365km±46km, mb2.9/1, mb1 3.3/4, mb1mx3.0/28, mbtmp4.0/4, Error ellipse: s-maj=61.2km s-min=15.8km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.3nm,0.3s,baz=22,slow=9.2,SNR=9.8	12.33	195	P	P	06 08 42.6	-1.4
FITZ				S	S	06 10 59.1	-1.4
	0.1nm,0.3s,baz=299,slow=19,SNR=1.8						
WRA	Warramunga Arr 1.0nm,0.3s,baz=340,slow=12,SNR=64	14.68	160	P	P	06 09 10.3	+0.4
WRA				S	S	06 11 42.6	-5.1
	0.0nm,0.3s,baz=326,slow=20,SNR=3.0						
ASAR	Alice Springs 1.3nm,0.3s,baz=344,slow=11,SNR=90	18.06	165	P	P	06 09 46.8	+0.4
ASAR				S	S	06 12 55.2	+0.8
	0.1nm,0.3s,baz=346,slow=21,SNR=18						
MKAR	Makanchi Array 0.4nm,0.6s,baz=134,slow=7.0,SNR=3.9	66.96	327	P	P	06 16 13.8	0.0

NEIC ***18*** *06:10:38.5±1.4, 60.15N±0.03°×151.03W±0.06, h67km±7km, Error ellipse: s-maj=4.8km s-min=3.9km az=132.0*
ANF ***18*** *06:10:39.0±0.5, 60.15N×150.88W, h64km±6km, ML3.6/11, Error ellipse: s-maj=5.8km s-min=3.4km az=131.0*
AEIC ***18*** *06:10:39.1±2.1, 60.14N±0.03°×151.01W±0.06, h64km±4km, ML3.1, Error ellipse: s-maj=4.5km s-min=3.9km az=122.0*

ISC 18 06:10:37.9±1.1, 60.13N±0.04°×151.01W±0.03, h73km±8km, n130, σ0♀81/143, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	Bradley Lake	0.37	171		Pn	06 10 50.1	+0.2
BRLK	Bradley Lake	0.37	171		Sn	06 10 58.5	-0.2
BRSE	Bradley Lake S	0.41	161		Pn	06 10 50.3	+0.1
SLKM	Skilak Lake	0.55	45		Pn	06 10 51.2	-0.2
SLKM					Sn	06 11 00.6	-0.8
HOM	Homer baz=33,SNR=12	0.57	215	P	Pn	06 10 52.2	+0.6
HOM				S	Sn	06 11 02.4	+0.7
	baz=33						
CNPM	China Poot	0.61	191		Pn	06 10 52.6	+0.5
CNPM					Sn	06 11 02.5	-0.1
CAPN	Captain Cook N baz=173,SNR=9.4	0.65	354	P	Pn	06 10 53.4	+1.1
CAPN				S	Sn	06 11 02.6	-0.4
	baz=173						
CAPN	Captain Cook N	0.65	354		Pn	06 10 53.4	+1.1
O22K	Cooper Landing baz=242,SNR=37	0.73	60	P	Pn	06 10 53.4	+0.1
O22K				S	Sn	06 11 04.0	-0.7
	baz=242						
O22K	Cooper Landing	0.73	60		Pn	06 10 53.3	+0.1
O22K					Sn	06 11 04.0	-0.7
SEW	Seward	0.78	91		Pn	06 10 54.0	+0.2
SEW	Seward	0.78	91		Sn	06 11 05.3	-0.3
DFR	Drift River	0.96	300		Pn	06 10 55.5	-0.5
DFR					Sn	06 11 08.7	-0.9
RDWB	Redoubt West	0.98	292		Pn	06 10 55.9	-0.5
ILS	I

SPBG	Spurr Blockage	1.32	330			Pn	06 11 00.8	+0.1
SUA	Susitna One	1.35	5			Pn	06 11 01.2	+0.2
AUL	Augustine Lava	1.44	240			Pn	06 11 02.9	+0.8
AUQ	Augustine Qik'	1.44	239			Pn	06 11 03.2	+1.0
AUCH	Augustine Cone	1.45	239			Pn	06 11 03.4	+1.1
PWL	Port Wells	1.51	60			Pn	06 11 03.1	0.0
PMR	Palmer	1.73	31			Pn	06 11 06.0	0.0
KNK	Knik Glacier	1.80	43			Pn	06 11 07.2	+0.3
SKT	Skwentna	1.88	352			Pn	06 11 08.7	+0.8
GHO	Glory Hole Cre	1.94	31			Pn	06 11 09.1	+0.3
GLI	Glacier Island	2.08	67			Pn	06 11 09.7	-0.9
SML	Sawmill	2.13	37			Pn	06 11 11.8	+0.4
HIN	Hinchinbrook I	2.26	81			Pn	06 11 14.0	+0.9
FID	Port Fidalgo	2.33	72			Pn	06 11 12.8	-1.2
SVW2	Sparrevohn	2.46	295			Pn	06 11 15.1	-0.6
SCM	Sheep Creek Mo	2.48	45			Pn	06 11 16.9	+0.8
KDAK	Kodiak Island	2.49	200			Pn	06 11 16.4	+0.2
EYAK	Cordova Ski Ar	2.65	79	Pn		Pn	06 11 17.9	-0.3
DIV	Divide	2.77	66			Pn	06 11 19.6	-0.4
KAKN	Katmai Knife C	2.78	230			Pn	06 11 21.0	+0.8
PPLA	Purkeypile	2.84	349			Pn	06 11 21.8	+0.8
KLU	Klutina	2.84	59			Pn	06 11 21.4	+0.4
KABU	Katmai Buttres	2.88	232			Pn	06 11 22.7	+1.2
WAT6	Susitna Watana	2.92	31			Pn	06 11 22.7	+0.5
HUR	Hurricane	2.94	12			Pn	06 11 24.1	+2.0
WAT1	Susitna Watana	2.96	22			Pn	06 11 23.2	+0.7
CAHL	Cahill	3.04	229			Pn	06 11 24.6	+0.9
M24K	Tolsona, Glenn baz=232,SNR=40	3.07	48	P		Pn	06 11 24.8	+0.7
M24K				S		Sn	06 12 00.7	+1.0
	baz=232							
M24K	Tolsona, Glenn	3.07	48			Pn	06 11 25.1	+1.0
WAT2	Susitna Watana	3.07	21			Pn	06 11 25.0	+0.8
OHAK	Old Harbor	3.15	203			Pn	06 11 24.8	-0.2
RAGM	Ragged Mountai	3.17	83	Pn		Pn	06 11 26.8	+1.4
KAIM	Kayak Island	3.31	91	Pn		Pn	06 11 27.2	0.0
PS11	TAPS Pump St11	3.32	52			Pn	06 11 28.4	+1.0
TRF	Thorofare Moun	3.35	6			Pn	06 11 29.4	+1.4
HMT	Hamilton	3.37	84	Pn		Pn	06 11 28.7	+0.6
DHY	Denali Highway	3.43	29			Pn	06 11 30.1	+1.0
KTH	Kantishna Hill	3.44	1	Pn		Pn	06 11 31.2	+2.2
RND	Reindeer	3.45	16			Pn	06 11 30.5	+1.4
N25K	Chitina, Valde baz=248,SNR=8.4	3.47	62	P		Pn	06 11 29.4	-0.1
N25K				S		Sn	06 12 07.7	-1.7
	baz=248							
N25K	Chitina, Valde	3.47	62			Pn	06 11 29.4	-0.1
SUCK	Suckling Hills	3.62	88	Pn		Pn	06 11 32.6	+1.1
TT01	Tatalina	3.68	321			Pn	06 11 32.1	-0.2
TTA	Tatalina	3.69	322			Pn	06 11 32.5	0.0
MCK	McKinley baz=196,SNR=49	3.75	14	P		Pn	06 11 34.6	+1.3
MCK	McKinley	3.75	14			Pn	06 11 34.6	+1.3
GLB	Gilahina Butte	3.77	66			Pn	06 11 33.4	-0.1
VRDI	Verde Repeater	3.88	70			Pn	06 11 34.6	-0.5
PAX	Paxson	3.89	40			Pn	06 11 36.2	+0.9
CRQM	Cirque	3.95	77	Pn		Pn	06 11 36.4	+0.3
SII	Sitkinak Islan	3.95	206	Pn		Pn	06 11 35.6	-0.4
BPAW	Bear Paw Mtn.	3.99	0	Pn		Pn	06 11 37.2	+0.7
TGL	Tana Glacier	4.10	78			Pn	06 11 40.0	+1.9
MCARA	McCarthy VSAT	4.11	69	Pn		Pn	06 11 38.1	-0.1
BWN	Browne	4.12	9			Pn	06 11 39.7	+1.4
BARK	Barkley Ridge	4.25	83			Pn	06 11 40.6	+0.5
PTPK	Patty Peak	4.34	72			Pn	06 11 41.4	0.0
KIAG	Kiagna River	4.35	76			Pn	06 11 41.4	-0.2
BALM	Baldy	4.37	74			Pn	06 11 42.3	+0.5
MESA	MESA	4.53	85			Pn	06 11 44.8	+0.7
WRH	Wood River Hil	4.57	16			Pn	06 11 44.9	+0.5
NEA2	Nenana baz=192,SNR=9.8	4.57	11	P		Pn	06 11 44.8	+0.3
NEA2	Nenana	4.57	11			Pn	06 11 44.8	+0.3
YAH	Yahtse	4.62	83			Pn	06 11 44.6	-0.7
GRNC	Granite Creek	4.62	78			Pn	06 11 45.9	+0.6
RIDG	Independent Ri	4.65	36			Pn	06 11 46.6	+1.1
HDA	Harding Lake baz=206,SNR=47	4.70	22	P		Pn	06 11 47.0	+1.0
HDA				S		Sn	06 12 38.2	-1.0
	baz=206							
HDA	Harding Lake	4.70	22			Pn	06 11 47.1	+1.0
BARN	Barnard Glacie	4.70	74			Pn	06 11 48.2	+1.8
CCB	Clear Creek Bu	4.78	17			Pn	06 11 47.7	+0.6
DOT	Dot Lake	4.82	40			Pn	06 11 48.5	+0.7
PS08	TAPS Pump Stn8	4.84	22			Pn	06 11 49.0	+0.9
CTGM	Chitina Glacie	4.85	76			Pn	06 11 49.6	+1.2
TABL	Table Mountain	4.92	82	Pn		Pn	06 11 49.9	+0.5
MLY	Manley baz=192,SNR=9.6	4.92	1	P		Pn	06 11 50.1	+0.8
MLY	Manley	4.92	1			Pn	06 11 50.0	+0.8
CHX	Chaix Hills	4.95	86			Pn	06 11 50.3	+0.6
TCOL	CIGO, UAF Yank baz=198,SNR=21	4.98	16	P		Pn	06 11 50.7	+0.7
TCOL				S		Sn	06 12 46.1	-0.1
	baz=198							
TCOL	CIGO, UAF Yank	4.98	16			Pn	06 11 50.6	+0.7
COLA	College	4.98	16			Pn	06 11 50.9	+0.9
LOGN	Logan Glacier	5.00	78			Pn	06 11 50.9	+0.5
MDM	Murphy Dome	5.02	14			Pn	06 11 51.2	+0.7
IL31		5.04	21			Pn	06 11 51.5	+0.8
ILAR	Eielson Array	5.04	21			Pn	06 11 51.4	+0.7
SCRK	Sand Creek baz=224,SNR=9.9	5.08	38	P		Pn	06 11 51.4	-0.1
SCRK	Sand Creek	5.08	38			Pn	06 11 51.4	-0.1
I23K	Minto, Yukon-K baz=189	5.10	8	P		Pn	06 11 52.1	+0.6
POKR	Poker Plat Res baz=200,SNR=5.1	5.27	17	P		Pn	06 11 54.8	+0.8
POKR				S		Sn	06 12 51.8	-1.5
	baz=200							
POKR	Poker Plat Res	5.27	17			Pn	06 11 54.9	+0.8
BC03		5.30	52			Pn	06 11 54.7	+0.4
BCAR	Beaver Creek A	5.30	52			Pn	06 11 54.2	-0.2
PCA	Pinnacle	5.38	86	Pn		Pn	06 11 56.6	+1.1
CHGN	Chignik	5.48	229	Pn		Pn	06 11 56.3	-0.5
BCPM	Bancas Point	5.70	87	Pn		Pn	06 12 01.8	+1.9
K27K	Chicken baz=231	5.74	43	P		Pn	06 12 00.7	+0.4
K27K	Chicken	5.74	43			Pn	06 12 00.6	+0.4
PNL	Peninsula	5.86	89			Pn	06 12 01.5	-0.6
IMAR	Indian Mountai	6.01	349			Pn	06 12 05.0	+1.0
EGAK	Eagle	6.53	40			Pn	06 12 11.6	+0.5
FYU	Fort Yukon	6.96	19	Pn		Pn	06 12 18.2	+1.2
COLD	Coldfoot baz=183,SNR=5.6	7.14	3	P		Pn	06 12 19.7	+0.3
COLD	Coldfoot	7.14	3	Pn		Pn	06 12 20.2	+0.8
BM03	Burnt Mountain	7.84	18			Pn	06 12 29.1	-0.1
BMAR	Burnt Mountain	7.86	18			Pn	06 12 28.5	-0.8
TOLK	Toolik Lake Re	8.57	4	Pn		Pn	06 12 40.6	+1.6
UNV	Unalaska Valle	10.52	240	Pn		Pn	06 13 05.7	0.0
INK	Inuvik	11.14	35	Pn		Pn	06 13 13.7	-0.3

*NEIC **18** 06:29:44.6±1.7, 1.°02N±0.°09×96.°87E±0.°04, h10km±1km, mb4.5/7, Error ellipse: s-maj=16.1km s-min=3.0km az=160.0*

*IDC **18** 06:29:44.8±1.8, 1.°10N×97.°11E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.6/44, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=47.6km s-min=22.1km az=62.0*

*DJA **18** 06:29:48.6±0.9, 1.°1N±5.°×9.°7E±.°, h26km±4km, M3.7/7, mb4.0/1, MLv3.6/7*

ISC 18 06:29:47.7±0.8, 1.°14N±0.°06×97.°03E±0.°08, h25km, n37, σ0s83/35, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GSI	Gunungsitoli	0.57	74	P		Pn	06 29 59.7	-0.6
GSI				S		Sn	06 30 08.4	-0.5
GSI	Gunungsitoli	0.57	74			Pn	06 29 59.7	-0.6
GSI						Sn	06 30 09.2	+0.3
PBSI	Pulau Batu	1.73	133	P		Pn	06 30 16.4	+0.2
TPTI		2.11	4	P		Pn	06 30 21.0	-0.4
TPTI				S		Sn	06 30 47.1	+0.3
RPSI	Rantau Prapat	2.44	51			Pn	06 30 27.2	+1.2
RPSI	Rantau Prapat	2.44	51			Pn	06 30 26.2	+0.1
PSI	Prapat 2.7nm,0.3s,baz=233,slow=14,SNR=4.8	2.51	49	Pn		Pn	06 30 26.2	-0.9
MNSI	Mandailing Nat	2.58	98	P		Pn	06 30 28.2	+0.3
MNSI				S		Sn	06 30 58.1	-0.3
BKNI	Bangkinang	4.10	101	Pn		Pn	06 30 50.2	+1.4
KULM	Kulim	5.48	41	Pn		Pn	06 31 08.4	+0.6
RGRI	Rengat	5.51	106	S		Pn	06 31 09.2	+0.9
CMAR	Chiang Mai Arr	17.31	6	P		Pn	06 33 47.0	-0.8
	0.4nm,0.3s,baz=190,slow=10,SNR=1.2							
JAGI	Jajag, Banyuwa	19.56	120	P		P	06 34 12.6	-1.4
JAGI				IAmb		IAmb	06 34 30.3	
	comp=Z,50nm,1.5s							
H08S2	Diego Garcia H	25.98	250	T		T	07 02 16.8	
	baz=71,slow=75,SNR=255							
H08S3	Diego Garcia H	25.98	250	T		T	07 02 16.2	
	baz=71,slow=75,SNR=478							
H08S1	Diego Garcia H	26.00	250	T		T	07 02 17.5	
	baz=71,slow=75,SNR=272							
H01W3	Cape Leeuwin H	39.26	158	T		T	07 18 38.6	
	baz=333,slow=76,SNR=5.6							
H01W2	Cape Leeuwin H	39.27	158	T		T	07 18 43.3	
	baz=333,slow=76,SNR=5.9							
H01W1	Cape Leeuwin H	39.28	158	T		T	07 18 44.1	
	baz=333,slow=76,SNR=6.8							
WRA	Warramunga Arr	42.15	122	P		P	06 37 38.4	-0.2
	comp=Z,0.6nm,0.7s,baz=300,slow=9.2,SNR=7.7							
WR0	Warramunga Arr	42.33	122	P		P	06 37 39.9	-0.1
WR0				IAmb		IAmb	06 38 00.3	
	comp=Z,2.6nm,1.0s							
ASAR	Alice Springs	43.50	127	P		P	06 37 49.6	+0.2
	comp=Z,0.2nm,0.5s,baz=305,slow=8.6,SNR=2.8							
ASAR	Alice Springs	43.50	127	P		P	06 37 49.1	-0.4
JTU	Tsushima	44.90	39	P		P	06 38 01.2	+0.8
KSRS	Korea Array	45.99	35	P		P	06 38 09.2	+0.1
	comp=Z,1.5nm,0.8s,baz=218,slow=7.9,SNR=5.8							
SONM	Songino Array	47.21	9	P		P	06 38 19.7	+1.1
	comp=Z,0.5nm,0.4s,baz=189,slow=2.8,SNR=2.3							
MKAR	Makanchi Array	47.25	346	P		P	06 38 20.1	+1.2
	comp=Z,0.8nm,0.6s,baz=159,slow=9.0,SNR=7.9							
MKAR	Makanchi Array	47.25	346	P		P	06 38 19.6	+0.8
KKAR	Karatay Array	48.03	334	P		P	06 38 25.5	+0.5
BBOO	Buckleboo	49.96	136	P		P	06 38 38.8	-1.1
BBOO				IAmb		IAmb	06 38 57.8	
	comp=Z,11nm,1.2s							
KURK	Kurchatov	51.80	345	P		P	06 38 52.3	-1.1
USRK	Ussuriysk Ar.	52.91	31	P		P	06 39 03.0	+1.2
	comp=Z,7nm,0.6s,baz=153,slow=13,SNR=4.5							
USRK	Ussuriysk Ar.	52.91	31	P		P	06 39 01.8	0.0
ZALV	Zalesovo Beam	53.59	351	P		P	06 39 08.2	+1.7
	comp=Z,0.9nm,0.3s,baz=176,slow=6.7,SNR=7.6							
ZALV	Zalesovo Beam	53.59	351	P		P	06 39 07.0	+0.5
ABKAR	Akbulak array	57.48	332	P		P	06 39 34.4	-0.3
ABKAR				IAmb		IAmb	06 39 36.4	
	comp=Z,2.0nm,0.9s							
ARU	Arti	63.17	337	P		P	06 40 12.2	-1.2
ARU				IAmb		IAmb	06 40 14.9	
	comp=Z,12nm,1.2s							

IDC 18 06:33:59.0±3.1, 6.°47S×154.°73E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, Error ellipse: s-maj=99.6km s-min=52.0km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	23.90	234	P		P	06 39 14.5	-0.3
	1.0nm,0.8s,baz=58,slow=8.7,SNR=5.2							
ASAR	Alice Springs	26.33	227	P		P	06 39 36.0	-0.8
	0.6nm,0.8s,baz=60,slow=10,SNR=5.3							
STKA	Stephens Creek	28.10	204	P		P	06 39 53.0	+0.3
	2.9nm,0.9s,baz=24,slow=14,SNR=4.5							
TORD	Torodi Ar. Bea	152.63	286	PKPbc		PKiKP	06 53 59.4	+0.4
	0.3nm,0.5s,baz=66,slow=2.0,SNR=1.9							

*TAP **18** 06:38:24.8, 24.°36N×122.°85E, h90km±1km, ML2.5, C*

*JMA **18** 06:38:24.4±0.2, 24.°39N×122.°86E, h94km±2km, M1.5*

ISC 18 06:38:25.0±1.8, 24.°38N±0.°07×122.°87E±0.°03, h91km±12km, n28, σ0s56/49, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JYNG	Yonagunijimaku	0.10	47	P		Pn	06 38 37.8	0.0
JYNG				S		Sn	06 38 47.6	+0.3
YOJ	Yonaguni jima baz=51	0.15	59	P		Pn	06 38 37.7	-0.3
YOJ				S		Sn	06 38 47.6	+0.1
	baz=51							
YOJ	Yonaguni jima	0.15	59	P		Pn	06 38 37.8	-0.1
YOJ				eS		Sn	06 38 47.6	+0.1
IRIF	Iriomote-Funau	0.79	93	P		Pn	06 38 42.3	-0.1
IRIF				S		Sn	06 38 55.3	-0.2
HATJ	Hateruma jima	0.92	111	eS		Sn	06 38 58.6	+0.7
TWC	Suao baz=285	0.95	284	S		Sn	06 38 58.8	+0.1
ENAH	Nanao baz=275	0.97	274	eS		Sn	06 38 59.3	+0.4
ENA	Nanau baz=273	1.03	273	P		Pn	06 38 45.6	+0.6
ENA				eS		Sn	06 38 59.3	-0.8
	baz=273							
JKRS	Kuro-shima	1.05	98	P		Pn	06 38 45.8	+0.5
JKRS				S		Sn	06 39 01.0	+0.4
TIPB	Shuangxi baz=303	1.11	302	eP		Pn	06 38 46.1	0.0
TIPB				S		Sn	06 39 02.7	+0.7
	baz=303							
TWE	Neicheng baz=288	1.14	287	eP		Pn	06 38 46.3	-0.1
JIJ	Ishigaki jima	1.16	91	P		Pn	06 38 46.4	-0.2
JIJ				S		Sn	06 39 01.7	-1.2
NACB	Ninganchiao baz=260	1.18	260	P		Pn	06 38 46.8	0.0
NACB				S		Sn	06 39 02.9	-0.4
	baz=260							
TWD	Chiawan baz=256	1.20	256	eS		Sn	06 39 03.7	0.0
ENTT	Nioudou baz=283	1.21	282	P		Pn	06 38 48.1	+0.9
ENTT				S		Sn	06 39 03.4	-0.6
	baz=283							
NDT	Datong Townshi baz=281	1.25	280	eP		Pn	06 38 46.6	-1.2
NDT				eS		Sn	06 39 04.5	-0.4
	baz=281							
ETLH	Xiulin Townshi baz=263	1.28	262	eP		Pn	06 38 47.5	-0.6
ETLH				S		Sn	06 39 05.6	+0.1
	baz=263							
NSK	Sanguang baz=283	1.41	282	eP		Pn	06 38 49.5	-0.1
NSK				S		Sn	06 39 07.8	-0.5
	baz=283							
TDCB	Techi baz=266	1.56	266	P		Pn	06 38 52.2	+0.4
TDCB				S		Sn	06 39 11.9	-0.1
	baz=266							
CHGB	Renai baz=259	1.58	259	eP		Pn	06 38 52.9	+0.9
CHGB				eS		Sn	06 39 11.5	-1.0
	baz=259							
HGSD	Ruisui baz=236	1.59	236	P		Pn	06 38 52.9	+1.0
HGSD				eS		Sn	06 39 11.9	-0.4
	baz=236							
EHY	Hungye baz=238	1.66	239	P		Pn	06 38 52.9	+0.1
EHY				S		Sn	06 39 13.2	-0.9
	baz=238							
VWDT	VWDT baz=248	1.70	249	P		Pn	06 38 53.9	+0.6
VWDT				S		Sn	06 39 14.9	+0.1
	baz=248							
LIOB	Emei baz=279	1.71	279	eS		Sn	06 39 15.1	+0.1
YULB	Yu-li baz=235	1.74	236	P		Pn	06 38 53.7	-0.3
YULB				S		Sn	06 39 15.8	0.0
	baz=235							
WHP	Taichung City baz=267	1.76	267	P		Pn	06 38 55.4	+1.2
WHP				eS		Sn	06 39 15.8	-0.4
	baz=267							
TWF1	Yuli baz=234	1.77	235	*i* P		Pn	06 38 54.4	+0.2
TWF1				S		Sn	06 39 16.1	-0.3
	baz=234							
EDH	Donghe baz=225	2.01	226	eS		Sn	06 39 21.5	-0.5

*NEIC **18** 06:40:45.5±0.8, 24.°3N±0.°1×124.°0E±0.°1, h63km±8km, mb4.4/13, Error ellipse: s-maj=15.3km s-min=13.6km az=217.0*

*JMA **18** 06:40:45.3±0.1, 24.°41N×124.°11E, h43km±1km, M3.8*

JMA Felt I J1.

*IDC **18** 06:40:48.2±5.6, 24.°44N×124.°05E, h85km±51km, mb3.7/15, mb1 3.8/16, mb1mx3.7/44, mbtmp4.0/16, ML3.7/1, MS2.8/6, Ms1 2.9/6, ms1mx2.6/39, Error ellipse: s-maj=27.9km s-min=16.6km az=64.0*

ISC 18 06:40:44.0±0.7, 24.°40N±0.°07×124.°10E±0.°03, h48km±5km, n60, σ1s00/67, mb4.0/22, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JIJ	Ishigaki jima	0.05	128	P		Pn	06 40 51.9	+0.4
JIJ				S		Sn	06 40 56.4	-0.3
JKRS	Kuro-shima	0.18	207	P		Pn	06 40 52.8	+0.8
JKRS				S		Sn	06 40 58.0	+0.4
JISG	Ishigakijimahi	0.27	46	P		Pn	06 40 53.4	+0.7
JISG				S		Sn	06 40 59.0	+0.2
IRIF	Iriomote-Funau	0.34	260	P		Pn	06 40 54.2	+0.9
IRIF				S		Sn	06 41 00.6	+0.6
HATJ	Hateruma jima	0.43	218	P		Pn	06 40 55.1	+0.8
HATJ				S		Sn	06 41 03.1	+1.5
JTJ	Tarama	0.60	66	P		Pn	06 40 57.2	+0.8
JTJ				S		Sn	06 41 06.7	+1.4
YOJ	Yonaguni jima	0.99	274	P		Pn	06 41 02.6	+1.0
YOJ				S		Sn	06 41 15.5	+1.0
YOJ	Yonaguni jima	0.99	274			Pn	06 41 02.8	+1.2
JYNG	Yonagunijimaku	1.05	273	P		Pn	06 41 03.4	+1.0
JYNG				S		Sn	06 41 16.9	+0.9
JIRB	Irabujima	1.07	66	P		Pn	06 41 03.4	+0.8
JIRB				eS		Sn	06 41 17.3	+0.9
JIKM	Ikemajima	1.17	63	P		Pn	06 41 04.8	+0.8
JIKM				eS		Sn	06 41 20.0	+1.1
JMJ2	Miyako jima3	1.17	73	P		Pn	06 41 05.3	+1.3
JMJ2				eS		Sn	06 41 20.4	+1.5
JOGS	Gusukube	1.25	73	P		Pn	06 41 06.5	+1.5
NACB	Ninganchiao	2.29	265			Pn	06 41 20.2	+0.8
TATO	Taipei	2.44	284			Pn	06 41 22.9	+1.4
YHNB	Yeheng	2.49	277			Pn	06 41 24.7	+2.5
YULB	Yu-li	2.75	249	Pn		Pn	06 41 25.3	-0.4
SSLB	Suanglung	2.94	259	Pn		Pn	06 41 28.8	+0.5
TWG	Pinlang	3.19	241			Pn	06 41 30.9	-0.8
TPUB	Ta-pu	3.36	252			Pn	06 41 35.9	+1.9
KNMB	Chin-men Tao	5.20	272	Pn		Pn	06 42 00.1	+0.8
JNU	Nakatsue comp=Z,43nm,18.1s,baz=218,slow=39	10.53	33	LR		LR	06 47 41.3	
KSRS	Korea Array 0.4nm,0.3s,baz=196,slow=12,SNR=2.7	13.42	13	P		P	06 43 56.0	-3.9
KSRS				LR		LR	06 49 46.6	
	comp=Z,25nm,18.7s,baz=210,slow=40							
JCJ	Chichijima comp=Z,42nm,18.5s,baz=76,slow=34	16.52	77	LR		LR	06 50 08.5	
MJAR	Matsushiro Arr comp=Z,23nm,20.4s,baz=245,slow=38	17.14	42	LR		LR	06 51 35.3	
CMAR	Chiang Mai Arr comp=Z,19nm,18.5s,baz=170,slow=40	24.13	261	LR		LR	06 56 41.7	
SONM	Songino Array 0.7nm,0.5s,baz=159,slow=10.0,SNR=3.1	27.29	333	P		P	06 46 24.9	+0.8
SHL	Shillong	29.19	279	P		P	06 46 41.3	-0.1
SHL				IAmb		IAmb	06 47 05.8	
	comp=Z,4.4nm,0.3s							
MK31	Makanchi Array	40.06	315	P		P	06 48 14.6	0.0
MKAR	Makanchi Array comp=Z,1.9nm,0.6s,baz=99,slow=11,SNR=22	40.26	315	P		P	06 48 14.5	-0.1
MAKZ	Makanchi	40.27	315	P		P	06 48 16.4	+0.1
MAKZ				IAmb		IAmb	06 48 16.9	
	comp=Z,3.1nm,0.6s							
ZALV	Zalesovo Beam comp=Z,2.5nm,0.4s,baz=125,slow=8.6,SNR=11	41.54	326	P		P	06 48 26.0	-0.7
KURK	Kurchatov	43.66	319	P		P	06 48 43.3	-0.5
KURBB	Kurchatov Arra comp=Z,0.4nm,0.3s,baz=107,slow=8.6,SNR=5.2	43.68	319	P		P	06 48 43.3	-0.8
WRA	Warramunga Arr comp=Z,0.6nm,0.8s,baz=349,slow=8.9,SNR=5.3	45.19	166	P		P	06 48 56.8	+0.4
ASAR	Alice Springs comp=Z,0.5nm,0.5s,baz=351,slow=7.4,SNR=6.0	48.72	168	P		P	06 49 24.6	+0.6
ASAR	Alice Springs	48.72	168	P		P	06 49 23.5	-0.4
BRVK	Borovoye	49.28	320	P		P	06 49 27.9	0.0
BRVK				IAmb		IAmb	06 49 28.0	
	comp=Z,2.4nm,0.4s							
ABKAR	Akbulak array	55.20	314	P		P	06 50 12.1	+0.2
IMAR	Indian Mountai	64.80	27	P		P	06 51 18.2	+0.7
PPLA	Purkeypile	65.74	30	P		P	06 51 24.7	+0.9
COLD	Coldfoot	66.11	25	P		P	06 51 27.3	+1.4
COLD				IAmb		IAmb	06 51 38.7	
	comp=Z,5.0nm,1.4s							
RND	Reindeer	67.17	29	P		P	06 51 33.3	+0.4
MDM	Murphy Dome	67.20	27	P		P	06 51 33.3	+0.3
ILAR	Eielson Array comp=Z,0.5nm,0.5s,baz=255,slow=4.7,SNR=17	67.80	28	P		P	06 51 35.8	-0.9
HDA	Harding Lake	67.84	28	P		P	06 51 36.9	-0.1
HDA				IAmb		IAmb	06 51 57.6	
	comp=Z,4.2nm,1.2s							
SCM	Sheep Creek Mo	68.14	31	P		P	06 51 39.3	+0.3
SCM				IAmb		IAmb	06 51 45.0	
	comp=Z,8.6nm,1.1s							
DOT	Dot Lake	69.24	28	P		P	06 51 46.0	+0.3
DOT				IAmb		IAmb	06 51 46.8	
	comp=Z,3.2nm,0.8s							
GLB	Gilahina Butte	69.87	31	P		P	06 51 50.5	+0.8
ARCES	ARCESS Array B comp=Z,1.8nm,0.8s,baz=84,slow=8.4,SNR=4.7	70.33	338	P		P	06 51 51.5	-0.9
FINES	FINESS Array B comp=Z,0.8nm,0.4s,baz=54,slow=5.2,SNR=12	72.60	330	P		P	06 52 05.8	-0.2
FINES	FINESS Array B	72.60	330	P		P	06 52 06.6	+0.5
AKASG	Malin Array

ASAR	**Alice Springs**	**18.99**	**178**	P		P	06 46 34.0	-0.6	
	0.2nm,0.3s,baz=0.3,slow=10.0,SNR=11								
ASAR				S		Sn	06 50 06.4	-2.2	
	0.0nm,0.3s,baz=360,slow=28,SNR=2.8								
MKAR	**Makanchi Array**	**68.01**	**325**	P		P	06 53 12.8	+0.3	
	0.6nm,0.7s,baz=104,slow=7.8,SNR=3.4								

NNC ***18*** *06:47:46.8±4.7, 36.49N×69.75E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=40.8km s-min=37.3km az=151.0*

ISC 18 06:47:53.7±3.4, 36.5N±0.2×70.1E±0.2, h213km, n11, σ1§13/13, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.26**	**26**	P	**Pn**	**06 49 23.5**	**-1.3**
	SNR=28						
KK31	**Karatay Array**	**6.58**	**3**	⇑P	**Pn**	**06 49 26.9**	**-1.6**
	1.1nm,0.3s,baz=171,slow=13,SNR=15						
KK31				⇑S	**S**	**06 50 43.5**	**-0.3**
	0.7nm,0.3s,baz=187,slow=25,SNR=4.1						
UCH	**Uchtor**	**6.65**	**30**	P	**Pn**	**06 49 28.7**	**-1.2**
	SNR=15						
EKS2	**Erkin-Say**	**6.76**	**24**	P	**Pn**	**06 49 30.4**	**-0.6**
	SNR=13						
AAK	**Ala-Archa**	**6.99**	**28**	P	**Pn**	**06 49 33.5**	**-0.5**
	SNR=10.0						
AAK	**Ala-Archa**	**6.99**	**28**	⇑P	**Pn**	**06 49 33.0**	**-1.0**
	6.3nm,0.5s						
AAK				⇓S	**S**	**06 50 55.1**	**+1.3**
	4.8nm,0.7s						
CHMS	**Chumysh**	**7.40**	**28**	P	**Pn**	**06 49 38.8**	**-0.3**
	SNR=6.4						
USP	**Ospenovka**	**7.54**	**25**	P	**Pn**	**06 49 41.1**	**+0.1**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.67**	**32**	P	**Pn**	**06 49 41.9**	**-0.9**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.67**	**32**	⇑P	**Pn**	**06 49 41.5**	**-1.3**
	2.5nm,0.5s						
AB31	**Akbulak array**	**14.71**	**333**	⇓P	**P**	**06 51 13.5**	**+1.1**
	0.3nm,0.3s,baz=167,slow=12,SNR=15						

IDC ***18*** *07:27:54.8±1.1, 0.09N×98.39E, h0km, mb3.9/11, mb1 3.9/12, mb1mx3.7/52, mbtmp3.9/12, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/40, Error ellipse: s-maj=39.2km s-min=17.7km az=58.0*

DJA ***18*** *07:28:01.6±0.7, 0˚N±4˚×9˚9E±˚, h18km±9km, M3.9/9, MLv3.9/9*

NEIC ***18*** *07:28:02.4±0.8, 0.25N±0.09×98.55E±0.09, h53km±5km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=8.3km az=223.0*

ISC 18 07:28:01.8±0.7, 0.29N±0.05×98.53E±0.06, h43km, n41, σ0§91/40, mb4.1/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.42**	**216**	P	**Pn**	**07 28 12.2**	**+0.5**
MNSI	**Mandailing Nat**	**1.17**	**64**	P	**Pn**	**07 28 22.0**	**+0.3**
SBSI	**Sibolga**	**1.31**	**16**	P	**Pn**	**07 28 25.2**	**+1.6**
GSI	**Gunungsitoli**	**1.39**	**317**	P	**Pn**	**07 28 25.5**	**+0.7**
GSI				S	**Sn**	**07 28 42.8**	**+0.8**
GSI	**Gunungsitoli**	**1.39**	**317**		**Pn**	**07 28 26.3**	**+1.5**
SISI	**Saibi**	**1.70**	**161**	P	**Pn**	**07 28 30.8**	**+1.8**
RPSI	**Rantau Prapat**	**2.42**	**9**		**Pn**	**07 28 39.3**	**+0.3**
RPSI	**Rantau Prapat**	**2.42**	**9**		**Pn**	**07 28 40.1**	**+1.1**
BKNI	**Bangkinang**	**2.51**	**89**	P	**Pn**	**07 28 42.2**	**+2.1**
BKNI	**Bangkinang**	**2.51**	**89**		**Pn**	**07 28 41.2**	**+1.1**
PSI	**Prapat**	**2.53**	**9**	Pn	**Pn**	**07 28 40.1**	**-0.4**
	6.4nm,0.3s,baz=209,slow=14,SNR=9.5						
IPM	**Ipoh**	**4.85**	**31**		**Pn**	**07 29 13.1**	**+0.7**
KULM	**Kulim**	**5.40**	**23**		**Pn**	**07 29 20.9**	**+1.0**
MNAI	**Manna**	**6.39**	**136**	Pn	**Pn**	**07 29 33.0**	**-0.5**
SHL	**Shillong**	**25.94**	**346**	P	**P**	**07 33 30.1**	**-0.4**
SHL				IAmb	IAmb	07 33 44.7	
	comp=Z,8.0nm,0.7s						
H08S2	**Diego Garcia H**	**27.13**	**253**	T	T	08 01 16.9	
	baz=73,slow=75,SNR=46						
H08S3	**Diego Garcia H**	**27.14**	**253**	T	T	08 01 12.4	
	baz=73,slow=75,SNR=68						
H08S1	**Diego Carcia H**	**27.15**	**253**	T	T	08 01 13.5	
	baz=73,slow=75,SNR=46						
WB0	**Warramunga Arr**	**40.40**	**122**	P	**P**	**07 35 34.9**	**-1.2**
WB0				IAmb	IAmb	07 35 46.6	
	comp=Z,7.5nm,1.3s						
WRA	**Warramunga Arr**	**40.43**	**122**	P	**P**	**07 35 35.1**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=301,slow=9.0,SNR=7.3						
WB2	**Warramunga Arr**	**40.44**	**122**	P	**P**	**07 35 35.6**	**-0.8**
WB2				IAmb	IAmb	07 35 43.9	
	comp=Z,9.2nm,1.4s						
ASAR	**Alice Springs**	**41.79**	**127**	P	**P**	**07 35 46.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=295,slow=7.4,SNR=12						
ASAR				PcP	**PcP**	**07 37 43.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=296,slow=2.9,SNR=5.2						
ASAR	**Alice Springs**	**41.79**	**127**	P	**P**	**07 35 46.9**	**-0.6**
KSRS	**Korea Array**	**45.86**	**33**	P	**P**	**07 36 19.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=218,slow=8.4,SNR=5.0						
KSRS				LR	LR	07 55 34.8	
	comp=Z,9.2nm,20.4s,baz=220,slow=36						
SONM	**Songino Array**	**47.85**	**7**	P	**P**	**07 36 36.7**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=186,slow=9.7,SNR=5.4						
SONM	**Songino Array**	**47.85**	**7**	P	**P**	**07 36 34.9**	**-0.6**
MK31	**Makanchi Array**	**48.45**	**345**	P	**P**	**07 36 40.0**	**-0.1**
MK31				IAmb	IAmb	07 36 41.4	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**48.45**	**345**	P	**P**	**07 36 40.5**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=154,slow=7.7,SNR=16						
MAKZ	**Makanchi**	**48.55**	**345**	P	**P**	**07 36 40.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**52.88**	**30**	P	**P**	**07 37 13.8**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=248,slow=6.1,SNR=3.4						
USRK	**Ussuriysk Ar.**	**52.88**	**30**	P	**P**	**07 37 13.1**	**-0.3**
KURBB	**Kurchatov Arra**	**52.96**	**344**	P	**P**	**07 37 14.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=148,slow=7.3,SNR=2.3						
ZAA0	**Zalesovo Array**	**54.67**	**350**	P	**P**	**07 37 25.7**	**-0.6**
ZALV	**Zalesovo Beam**	**54.67**	**350**	P	**P**	**07 37 25.4**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=191,slow=6.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**54.67**	**350**	P	**P**	**07 37 26.4**	**+0.1**
BVAR	**Borovoye Array**	**57.55**	**340**	P	**P**	**07 37 46.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=194,slow=22,SNR=5.5						
ABKAR	**Akbulak array**	**58.94**	**332**	P	**P**	**07 37 56.0**	**-0.7**
BRTR	**Keskin Array B**	**70.71**	**312**	P	**P**	**07 39 13.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=128,slow=4.2,SNR=1.7						
FINES	**FINESS Array B**	**81.42**	**332**	P	**P**	**07 40 14.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=128,slow=12,SNR=3.4						
FINES	**FINESS Array B**	**81.42**	**332**	P	**P**	**07 40 14.4**	**+0.4**
TXAR	**Lajitas Array**	**143.71**	**34**	PKP	**PKPdf**	**07 47 34.0**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=132,slow=1.5,SNR=3.7						

BJI ***18*** *07:29:28.2±0.0, 31.29N×103.58E, h20km, ML3.8/17*

IDC ***18*** *07:29:29.1±1.2, 31.03N×103.91E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/56, mbtmp3.7/5, MS2.9/3, Ms1 3.0/3, ms1mx2.5/42, Error ellipse: s-maj=44.2km s-min=21.4km az=57.0*

ISC 18 07:29:30.4±0.8, 31.34N±0.04×103.89E±0.07, h14km, n13, σ2§58/15, mb3.6/4, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.44**	**195**	⇑*i*Pg	**Pg**	**07 29 36.9**	**-2.3**
CD2				Sg	**Sg**	**07 29 43.0**	**-2.1**
CD2				smax	smax		
	comp=N,6μm,0.7s						
CD2				smax	smax		
	comp=E,10μm,0.5s						
LZH	**Lanzhou**	**4.74**	**360**	*e*Pg	**Pb**	**07 30 53.5**	**+0.1**
LZH				Sg	**Sg**	**07 32 02.5**	**-0.1**
LZH				smax	smax		
	comp=N,51nm,1.1s						
LZH				smax	smax		
	comp=E,59nm,1.3s						
XAN	**Xi'an**	**5.03**	**56**	Pn	**Pn**	**07 30 46.8**	**+1.3**
XAN				Pg	**Pg**	**07 31 04.8**	**-1.9**
XAN				Sg	**Sg**	**07 32 07.8**	**-4.1**
XAN				smax	smax		
	comp=N,260nm,0.8s						
XAN				smax	smax		
	comp=E,250nm,1.0s						
GYA	**Guiyang**	**5.43**	**153**	*e*Pn	Pn	07 30 55.9	+4.7
GYA				Pg	Pg	07 31 23.8	+9.2
GYA				Sn	**Sn**	**07 31 53.5**	**-0.1**
GYA				Sg	**Sg**	**07 32 26.8**	**+1.8**
GYA				smax	smax		
	comp=N,100nm,1.1s						
GYA				smax	smax		
	comp=E,79nm,1.3s						
GYA				LR	LR		
	comp=N,140nm,3.8s						
GYA				LR	LR		
	comp=E,120nm,3.8s						
GYA				LR	LR		
	comp=Z,130nm,4.7s						
WHN	**Wuhan**	**9.02**	**92**	P	**Pn**	**07 31 44.1**	**+3.8**
CMAR	**Chiang Mai Arr**	**13.58**	**200**	LR	LR	07 38 54.1	
	comp=Z,45nm,18.4s,baz=202,slow=42						
WMQ	**Urumqi**	**17.85**	**319**	*e*P	**Pn**	**07 33 35.8**	**-2.6**
KSRS	**Korea Array**	**20.73**	**66**	P	Pn	07 34 12.2	-0.6
	comp=Z,2.9nm,0.7s,baz=260,slow=10,SNR=14						
MKAR	**Makanchi Array**	**22.68**	**319**	P	**P**	**07 34 34.5**	**+3.1**
	comp=Z,0.8nm,0.8s,baz=118,slow=10,SNR=4.0						
ZALV	**Zalesovo Beam**	**26.43**	**334**	P	**P**	**07 35 10.0**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=137,slow=9.3,SNR=2.8						
ZALV				LR	LR	07 46 31.8	
	comp=Z,16nm,20.9s,baz=11,slow=38						
WRA	**Warramunga Arr**	**58.77**	**146**	P	**P**	**07 39 27.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=338,slow=7.9,SNR=24						
ASAR	**Alice Springs**	**61.79**	**149**	P	**P**	**07 39 47.7**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=335,slow=6.8,SNR=6.4						
IDI	**Anoyia**	**64.45**	**297**	LR	LR	08 13 50.5	
	comp=Z,22nm,19.7s,baz=305,slow=41						

NEIC ***18*** *08:02:34.3±1.8, 6.02S±0.05×103.95E±0.06, h75km±5km, mb5.1/91, Error ellipse: s-maj=9.2km s-min=6.7km az=52.0*

MOS ***18*** *08:02:35.8±1.2, 5.40S×104.36E, h74km, mb5.2/45, Error ellipse: s-maj=9.0km s-min=4.7km az=117.4*

IDC ***18*** *08:02:35.7±0.5, 5.50S×104.31E, h63km±4km, mb4.7/31, mb1 4.8/33, mb1mx4.7/36, mbtmp5.0/33, MS3.6/31, Ms1 3.6/31, ms1mx3.5/47, Error ellipse: s-maj=12.0km s-min=8.9km az=58.0*

GCMT ***18*** *08:02:35.3±0.4, 5.90S±0.03×104.03E±0.03, h82km±3km, MW4.9/53, Moment Tensor Solution. s46,c57; s53,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.77±.11; $M_{\theta\theta}$-1.68±.12; $M_{\phi\phi}$-0.09±.13; $M_{r\theta}$-0.30±.10; $M_{r\phi}$-1.89±.09; $M_{\theta\phi}$-0.62±.10; Best double couple: M_o2.49900×10^{16} NP1:ϕ_{01}80.00000°, δ43.00000°, λ124.00000°. NP2: ϕ_{02}217.00000°, δ56.00000°, λ62.00000°. Principal axes: T 1.9890, Plg66.0000°, Azm72.0000°; N 1.0180, Plg23.0000°, Azm233.0000°; P -3.0090, Plg7.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***18*** *08:02:36.0±0.0, 5.80S×104.20E, h84km, mB5.0/34, mb4.9/48, Ms4.4/18, Ms7 4.1/13*

DJA ***18*** *08:02:36.2±0.2, 6˚S±2˚×10˚4E±˚, h82km±3km, M5.0/46, mb5.2/46, mB5.5/29, MLv5.4/36, Mw(mB)4.9/29*

KLM ***18*** *08:02:39.0, 5.90S×104.12E, h100km, mb5.1*

ISC 18 08:02:35.4±0.4, 5.88S±0.04×104.06E±0.04, h76km±3km, h76km:pP-P, n735, σ1§56/746, mb5.0/130, 32C-22D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.56**	**51**	P	**Pn**	**08 02 48.6**	**-0.7**
LWLI	**Liwa**	**0.86**	**360**	P	**Pn**	**08 02 53.0**	**+0.4**
BLSI	**Bandar Lampung**	**1.28**	**67**	P	**Pn**	**08 02 57.6**	**-0.2**
BLSI				S	**Sn**	**08 03 12.3**	**-2.3**
KLSI		**1.36**	**29**	P	**Pn**	**08 02 58.8**	**+0.1**
MDSI	**Maura Dua**	**1.39**	**5**	P	**Pn**	**08 02 59.7**	**+0.6**
CGJI	**Cibinong**	**1.78**	**114**	P	**Pn**	**08 03 04.4**	**+0.2**
MNAI	**Manna**	**1.87**	**324**	P	**Pn**	**08 03 07.1**	**+1.7**
MNAI	**Manna**	**1.87**	**324**		**Pn**	**08 03 06.7**	**+1.3**
MNAI				Sn	**Sn**	**08 03 27.4**	**-0.8**
LHSI	**Lahat**	**2.11**	**345**	P	**Pn**	**08 03 10.6**	**+1.9**
TNG	**Tangerang**	**2.59**	**97**	P	**Pn**	**08 03 16.1**	**+1.0**
KSI	**Kapahiang**	**2.65**	**327**	P	**Pn**	**08 03 17.6**	**+1.5**
SKJI	**Sukabumi**	**2.72**	**114**	P	**Pn**	**08 03 18.1**	**+1.2**
DBJI	**Dramaga**	**2.76**	**104**	P	**Pn**	**08 03 18.4**	**+1.0**
CBJI	**Citeko**	**2.83**	**101**	P	**Pn**	**08 03 22.1**	**+3.8**
PMBI	**Palembang**	**3.02**	**14**	P	**Pn**	**08 03 22.0**	**+1.0**
PMBI	**Palembang**	**3.02**	**14**		**Pn**	**08 03 21.9**	**+0.9**
PMBI				Sn	**Sn**	**08 03 59.3**	**+3.2**
MASI	**Maura Aman, Be**	**3.27**	**326**	P	**Pn**	**08 03 26.6**	**+2.2**
CNJI	**Cibinong**	**3.36**	**115**	P	**Pn**	**08 03 25.7**	**+0.1**
LEM	**Lembang**	**3.66**	**105**	P	**Pn**	**08 03 31.8**	**+1.9**
	89nm,0.3s,baz=217,slow=7.5,SNR=114						
LEM				LR	LR	08 05 06.9	
	comp=Z,2μm,20.5s,baz=308,slow=43						
LEM	**Lembang**	**3.66**	**105**	P	**Pn**	**08 03 32.5**	**+2.7**
CISI	**Cisompet, Garu**	**4.08**	**114**	P	**Pn**	**08 03 35.5**	**0.0**
CISI	**Cisompet, Garu**	**4.08**	**114**	Pn	**Pn**	**08 03 35.5**	**0.0**
CISI				Sn	**Sn**	**08 04 21.6**	**-0.6**
JCJI	**Jatiwangi**	**4.23**	**98**	P	**Pn**	**08 03 40.2**	**+2.8**
PPBI	**Pangkal Pinang**	**4.24**	**29**	P	**Pn**	**08 03 38.0**	**+0.5**
KRJI	**Kerinci**	**4.57**	**325**	P	**Pn**	**08 03 44.3**	**+2.1**
TPI	**Tanjungpandan**	**4.74**	**49**	P	**Pn**	**08 03 44.7**	**+0.3**
CMJI	**Cimerak**	**4.75**	**114**	P	**Pn**	**08 03 45.0**	**+0.5**
XMIS	**Christmas Isla**	**4.83**	**161**	Pn	**Pn**	**08 03 42.4**	**-3.3**
KPJI	**Karang Pucung**	**5.05**	**107**	P	**Pn**	**08 03 51.2**	**+2.6**
	2.1nm5μm683nm,0.9s						
DSRI	**Dabo**	**5.39**	**6**	P	**Pn**	**08 03 54.9**	**+1.6**
	2.0nm5μm666nm,0.7s						
SDSI	**Sungai Dareh**	**5.57**	**332**	P	**Pn**	**08 03 57.5**	**+1.7**
	3.0nm15μm330nm,0.9s						
RGRI	**Rengat**	**5.76**	**343**	P	**Pn**	**08 04 00.4**	**+2.1**
	4.8nm65μm382nm,0.6s						
SMRI	**Semarang**	**6.45**	**101**	P	**Pn**	**08 04 10.3**	**+2.6**
	1.7nm5μm313nm,0.9s						
SMRI	**Semarang**	**6.45**	**101**		**Pn**	**08 04 07.2**	**-0.6**
SMRI				Sn	**Sn**	**08 05 20.1**	**+0.2**
YOGI	**Yogyakarta**	**6.48**	**108**	P	**Pn**	**08 04 10.7**	**+2.5**
	1.1nm234nm,1.1s						
SISI	**Saibi**	**6.71**	**312**	P	**Pn**	**08 04 11.8**	**+0.4**
	1.3nm6μm237nm,0.7s						
UGM	**Wanagama**	**6.73**	**108**	P	**Pn**	**08 04 14.1**	**+2.5**
	1.8nm5μm410nm,0.6s						
UGM	**Wanagama**	**6.73**	**108**	Pn	**Pn**	**08 04 10.2**	**-1.4**
TPRI	**Tanjung Pinang**	**6.77**	**4**	P	**Pn**	**08 04 13.8**	**+1.6**
	1.8nm245nm,0.6s						
BKNI	**Bangkinang**	**6.86**	**334**	P	**Pn**	**08 04 14.4**	**+1.0**
	2.3nm6μm600nm,0.8s						
BKNI	**Bangkinang**	**6.86**	**334**	Pn	**Pn**	**08 04 13.9**	**+0.5**
WOJI	**Wonogiri, Jawa**	**7.09**	**106**	P	**Pn**	**08 04 17.9**	**+1.4**
	0.7nm4μm193nm,1.0s						
MYKOM	**Kota Tinggi**	**7.62**	**358**	Pn	**Pn**	**08 04 25.6**	**+1.8**
MYKOM	**Kota Tinggi**	**7.62**	**358**	P	**Pn**	**08 04 28.0**	**+4.2**
PWJI	**Pagerwojo**	**7.98**	**106**	P	**Pn**	**08 04 31.1**	**+2.5**
	0.9nm2μm193nm,0.7s						
MNSI	**Mandailing Nat**	**8.00**	**326**	P	**Pn**	**08 04 28.3**	**-0.7**
	0.7nm3μm180nm,0.7s						
PBSI	**Pulau Batu**	**8.17**	**315**	P	**Pn**	**08 04 31.3**	**0.0**
GRJI	**Gresik**	**8.43**	**97**	P	**Pn**	**08 04 36.3**	**+1.4**
	170nm,1.0s						
COCO	**West Island**	**9.50**	**228**		**Sn**	**08 06 28.8**	**-5.8**
KSM	**Kuching**	**9.61**	**41**	Pn	**Pn**	**08 04 51.3**	**+0.3**
GMJI	**Gumukmas**	**9.61**	**105**	P	**Pn**	**08 04 53.5**	**+2.5**
	2μm134nm,1.1s						
GSI	**Gunungsitoli**	**9.64**	**318**	P	**Pn**	**08 04 50.2**	**-1.1**
	8μm226nm,0.5s						
GSI	**Gunungsitoli**	**9.64**	**318**	Pn	**Pn**	**08 04 49.5**	**-1.8**
BLJI	**Banyuglugur**	**9.65**	**102**	P	**Pn**	**08 04 53.1**	**+1.6**
	3μm278nm,0.7s						
RPSI	**Rantau Prapat**	**9.94**	**329**	Pn	**Pn**	**08 04 54.2**	**-1.3**
RPSI	**Rantau Prapat**	**9.94**	**329**		**Pn**	**08 04 54.0**	**-1.5**
PSI	**Prapat**	**10.03**	**329**	P	**Pn**	**08 04 54.0**	**-2.8**
	5.6nm,0.3s,baz=193,slow=3.5,SNR=8.1						
PSI				LR	LR	08 09 23.4	
	comp=Z,684nm,21.5s,baz=126,slow=42						
PSI	**Prapat**	**10.03**	**329**	P	**Pn**	**08 04 54.3**	**-2.6**
JAGI	**Jajag, Banyuwa**	**10.34**	**105**	P	**Pn**	**08 05 00.9**	**0.0**
	4μm355nm,1.0s						
JAGI	**Jajag, Banyuwa**	**10.34**	**105**	Pn	**Pn**	**08 05 00.6**	**-0.3**
IPM	**Ipoh**	**10.73**	**344**	Pn	**Pn**	**08 05 06.5**	**+0.2**
IPM	**Ipoh**	**10.73**	**344**	P	**Pn**	**08 05 12.0**	**+5.8**
KULM	**Kulim**	**11.61**	**343**		**Pn**	**08 05 19.1**	**+0.9**
SBUM	**Sibu**	**11.61**	**45**		**Pn**	**08 05 19.2**	**+0.9**
SBUM	**Sibu**	**11.61**	**45**	P	**Pn**	**08 05 21.0**	**+2.7**
MLSI	**Meulaboh, Aceh**	**12.65**	**323**	P	**Pn**	**08 05 28.9**	**-3.5**
	143nm,0.5s						
TWSI	**Taliwang, Sumb**	**13.03**	**103**	P	**Pn**	**08 05 35.9**	**-1.7**
	879nm69nm,0.8s						
BKB	**Balikpapan**	**13.61**	**71**	Pn	**Pn**	**08 05 47.0**	**+1.8**
PLAI	**Plampang**	**13.91**	**103**	P	**Pn**	**08 05 46.5**	**-2.7**
	2μm292nm,0.9s						
KAPI	**Kappang**	**15.64**	**88**	P	**Pn**	**08 06 10.7**	**-0.8**
	2.8nm,0.3s,baz=268,slow=11,SNR=9.3						
KAPI				LR	LR	08 12 23.1	
	comp=Z,180nm,21.0s,baz=264,slow=38						
KAPI	**Kappang**	**15.64**	**88**		**Pn**	**08 06 11.3**	**-0.2**
SPSI	**Sidrap Palu**	**15.77**	**84**	P	**Pn**	**08 06 13.6**	**+0.5**
	53nm,0.8s						
TTSI	**Tana Toraja**	**15.96**	**81**	P	**P**	**08 06 17.4**	**-0.3**
	4μm75nm,1.2s						
BKSI	**Bulukumba**	**16.00**	**89**	P	**P**	**08 06 17.4**	**-0.7**
	2μm212nm,0.9s						
BASI	**Baing, Sumba**	**16.91**	**106**	P	**P**	**08 06 29.0**	**+0.8**
	2μm227nm,0.8s						
KKM	**Kota Kinabalu**	**16.96**	**46**	P	**Pn**	**08 06 28.3**	**+0.3**
MPSI	**Mapaga**	**16.98**	**69**	P	**P**	**08 06 29.7**	**+0.8**
	82nm,1.1s						
EDFI	**Ende, Flores**	**17.72**	**100**	P	**P**	**08 06 35.7**	**-1.5**
	39nm,0.9s						
MYLDM	**Lahad Datu**	**18.13**	**53**	P	**P**	**08 06 41.3**	**-0.3**
MMRI	**Maumere**	**18.24**	**100**	P	**P**	**08 06 42.6**	**-0.2**
	177nm,0.9s						
MMRI	**Maumere**	**18.24**	**100**	P	**P**	**08 06 41.2**	**-1.6**
MMRI				IAmb	IAmb	08 06 43.7	
	comp=Z,146nm,0.9s						
LUWI	**Luwuk**	**19.28**	**76**	P	**P**	**08 06 55.0**	**+0.7**
	comp=Z,3μmcomp=Z,218nm,0.9s						
LUWI	**Luwuk**	**19.28**	**76**	P	**P**	**08 06 54.2**	**-0.1**
LUWI				IAmb	IAmb	08 06 56.0	
	comp=Z,138nm,0.7s						
GIRL	**Giralia**	**19.34**	**150**	P	**Pn**	**08 06 57.0**	**+0.3**
	baz=20,SNR=26						
GIRL	**Giralia**	**19.34**	**150**	P	**P**	**08 06 51.5**	**-3.4**
GIRL				IAmb	IAmb	08 07 04.6	
	comp=Z,122nm,0.8s						
BATI	**Baumata**	**19.88**	**104**	P	**P**	**08 07 00.7**	**-0.1**
	comp=Z,61nm,0.3s,baz=317,slow=1.8,SNR=22						
BATI				S	**S**	**08 10 35.1**	**-5.6**
	comp=Z,9.6nm,0.3s,baz=291,slow=20,SNR=4.1						
BATI	**Baumata**	**19.88**	**104**	P	**P**	**08 07 01.8**	**+1.0**
	comp=Z,3μmcomp=Z,224nm,0.7s						
GTOI	**Gorontalo**	**20.00**	**72**	P	**Pn**	**08 07 03.4**	**-1.0**
	comp=Z,544nmcomp=Z,64nm,0.8s						
SOEI	**Soe**	**20.38**	**102**	P	**P**	**08 07 06.7**	**+0.3**
	comp=Z,3μmcomp=Z,416nm,0.8s						
SOEI	**Soe**	**20.38**	**102**	P	**P**	**08 07 05.4**	**-1.0**
PSA00	**Pilbara Seismi**	**21.84**	**137**	P	**P**	**08 07 19.6**	**-2.1**
SANI	**Sanana**	**22.20**	**81**	P	**P**	**08 07 25.2**	**-0.6**
	comp=Z,604nmcomp=Z,63nm,0.9s						
NLAI	**Namlea**	**23.11**	**84**	P	**P**	**08 07 33.5**	**-1.8**
	comp=Z,75nm,0.7s						
TNTI	**Ternate**	**24.19**	**75**	P	**P**	**08 07 44.3**	**-0.8**
TNTI				IAmb	IAmb	08 07 46.6	
	comp=Z,120nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.32**	**122**	P	**P**	**08 07 47.0**	**+0.9**
	comp=Z,39nm,0.9s,baz=306,slow=6.2,SNR=50						
FITZ				LR	LR	08 17 13.4	
	comp=Z,98nm,21.1s,baz=310,slow=36						
FITZ	**Fitzroy Crossi**	**24.32**	**122**	P	**P**	**08 07 47.0**	**+0.9**
	baz=24,SNR=50						
FITZ	**Fitzroy Crossi**	**24.32**	**122**	P	**P**	**08 07 45.7**	**-0.4**
CM31	**Chiang Mai Arr**	**24.70**	**348**	P	**P**	**08 07 49.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**24.70**	**348**	P	**P**	**08 07 48.0**	**-1.6**
	comp=Z,15nm,0.6s,baz=180,slow=9.5,SNR=45						
CMAR				PcP	**PcP**	**08 11 26.4**	**+1.2**
	comp=Z,3.1nm,0.4s,baz=201,slow=2.4,SNR=5.5						
CMAR				ScP	**ScP**	**08 14 59.1**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=193,slow=3.1,SNR=7.0						
CMAR				LR	LR	08 17 56.4	
	comp=Z,205nm,19.8s,baz=206,slow=38						
MEEK	**Meekatharra**	**24.88**	**148**	P	**P**	**08 07 53.5**	**+2.3**
	baz=25,SNR=13						
DAV	**Davao City (W)**	**25.03**	**59**	P	**P**	**08 07 53.1**	**+0.4**
CHTO	**Chiang Mai**	**25.05**	**348**	P	**P**	**08 07 51.4**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**25.05**	**348**	P	**P**	**08 07 51.4**	**-1.4**
QIZ	**Qiongzhong**	**25.40**	**13**	P	**P**	**08 07 57.9**	**+2.0**
QIZ				S	**S**	**08 12 22.6**

comp=Z,0.5nm,0.5s,baz=352,slow=1.1,SNR=6.7
ASAR P3KPbc 08 40 20.9

comp=Z,0.2nm,0.6s,baz=114,slow=3.8,SNR=6.5
ASAR Alice Springs 33.72 125 P **P** **08 09 09.7 -0.1**
AS31 Alice Springs 33.72 125 P **P** **08 09 09.6 -0.2**
TEZP TEZPUR 34.10 342 *e*P **P** **08 09 11.2 -1.7**
TEZP IAmb IAmb 08 09 12.7

comp=Z,8.4nm,0.4s
HYB Hyderabad 34.22 313 *i* P **P** **08 09 15.0 +0.9**
BOK Bokaro 34.42 330 *e*P **P** **08 09 15.9 +0.2**
BOK IAmb IAmb 08 09 18.4

comp=Z,25nm,0.3s
ZIRO ZIRO 34.65 344 *e*P **P** **08 09 16.4 -1.5**
ZIRO IAmb IAmb 08 09 18.4

comp=Z,18nm,0.4s
ENH Enshi 36.32 8 P **P** **08 09 31.4 -0.6**
ENH IAmb IAmb 08 09 33.7

comp=Z,11nm,0.7s
CD2 Chengdu 36.58 360 *e*P **P** **08 09 35.5 +1.3**
CD2 pmax pmax

comp=Z,10.0nm,0.5s
QIS Mount Isa 37.44 116 P **P** **08 09 42.4 +0.8**
baz=38,SNR=15
LSA Lhasa 37.49 341 P **P** **08 09 41.0 -1.4**
LSA pmax pmax

comp=Z,9.0nm,0.6s
LSA Lhasa 37.49 341 P **P** **08 09 41.0 -1.4**
LSA IAmb IAmb 08 09 44.7

comp=Z,9.5nm,0.6s
WHN Wuhan 37.53 15 P **P** **08 09 43.4 +1.2**
WHN S **S** **08 15 24.8 -1.1**
WHN LR LR

comp=Z,520nm,18.1s
POO Poona 38.41 310 *e*P **P** **08 09 50.0 +0.1**
BHPL Bhopal 38.92 319 *e*P **P** **08 09 55.2 +1.1**
BHPL IAmb IAmb 08 09 57.3

comp=Z,14nm,0.6s
COEN Coen 39.31 105 P **P** **08 09 57.0 -0.4**
baz=39,SNR=9.0
COEN Coen 39.31 105 P **P** **08 09 57.1 -0.3**
COEN IAmb IAmb 08 09 57.7

comp=Z,27nm,0.7s
XAN Xi'an 39.97 6 P **P** **08 10 01.3 -1.3**
XAN pmax pmax

comp=Z,20nm,0.8s
XAN pmax pmax

comp=Z,110nm,5.1s
XAN LR LR

comp=Z,200nm,16.3s
XAN LR LR

comp=Z,220nm,15.2s
XAN Xi'an 39.97 6 P **P** **08 10 01.4 -1.3**
XAN pmax pmax

comp=Z,12nm,0.7s
XAN Xi'an 39.97 6 P **P** **08 10 01.4 -1.3**
XAN IAmb IAmb 08 10 03.6

comp=Z,12nm,0.7s
BBOO Buckleboo 40.06 136 P **P** **08 10 05.2 +1.7**
baz=40,SNR=9.2
BBOO Buckleboo 40.06 136 P **P** **08 10 03.0 -0.4**
BBOO IAmb IAmb 08 10 06.1

comp=Z,16nm,0.9s
NJ2 Nanjing 40.27 20 *e*P **P** **08 10 07.6 +2.5**
NJ2 pmax pmax

comp=Z,14nm,0.5s
MTSU Mount Surprise 41.11 111 P **P** **08 10 13.3 +1.0**
baz=41,SNR=33
LZH Lanzhou 41.74 360 *e*P **P** **08 10 21.4 +4.0**
LZH pP pP 08 10 36.9 +1.2
LZH sP sP 08 10 43.3 -1.0
LZH pmax pmax

comp=Z,13nm,1.0s
HTT Hallett 42.40 135 P **P** **08 10 25.0 +2.3**
baz=42,SNR=14
PMG Port Moresby 42.84 97 LR LR 08 31 27.0
comp=Z,55nm,18.2s,baz=223,slow=41
PMG Port Moresby 42.84 97 *ce*P **P** **08 10 25.0 -1.4**
PMG pmax pmax

comp=Z,82nm,1.0s
PMG Port Moresby 42.84 97 P **P** **08 10 26.4 0.0**
NDI New Delhi 43.01 324 *e*P **P** **08 10 28.0 +0.5**
KUDL Kundal 43.03 323 *e*P **P** **08 10 28.6 +0.9**
CTA Charters Tower 43.33 113 P **P** **08 10 31.6 +1.3**
CTAO Charters Tower 43.33 113 P **P** **08 10 29.9 -0.4**
CTAO pmax pmax

comp=Z,23nm,0.9s
CTAO Charters Tower 43.33 113 P **P** **08 10 29.9 -0.4**
CTAO IAmb IAmb 08 10 37.1

comp=Z,23nm,0.8s
QLP Quilpie 43.45 123 P **P** **08 10 33.6 +2.4**
baz=44,SNR=11
STKA Stephens Creek 43.56 131 P **P** **08 10 34.3 +2.3**
comp=Z,56nm,0.7s,baz=303,slow=8.6,SNR=170
STKA PcP **PcP** **08 12 19.8 +1.2**
comp=Z,9.2nm,0.6s,baz=248,slow=4.1,SNR=3.0
STKA LR LR 08 29 25.7

comp=Z,80nm,21.5s,baz=291,slow=37
STKA Stephens Creek 43.56 131 P **P** **08 10 34.3 +2.3**
baz=44,SNR=121
STKA Stephens Creek 43.56 131 P **P** **08 10 32.1 +0.1**
SMLA Simla 44.89 327 *e*P **P** **08 10 42.8 +0.3**
SMLA IAmb IAmb 08 10 44.2

comp=Z,13nm,0.4s
JSU Suzuyama 44.91 33 P **P** **08 10 42.3 -0.5**
JSU IAmb IAmb 08 10 43.2

comp=Z,15nm,0.7s
GTA Gaotai 45.23 355 *e*P **P** **08 10 45.3 0.0**
GTA PcP **PcP** **08 12 25.4 +1.2**
GTA pmax pmax

comp=Z,10.0nm,0.9s
GTA pmax pmax

comp=Z,57nm,5.7s
GTA LR LR

comp=Z,130nm,20.4s
GTA LR LR

comp=Z,200nm,20.7s
GTA LR LR

comp=Z,180nm,21.4s
DHRM DHARAMSHALA 46.22 327 *e*P **P** **08 10 53.7 +0.4**
DHRM IAmb IAmb 08 10 54.9

comp=Z,20nm,0.4s
JNU Nakatsue 46.40 32 PcP **PcP** **08 12 28.4 0.0**
comp=Z,3.6nm,0.6s,baz=4.4,slow=7.8,SNR=2.1
JNU Nakatsue 46.40 32 P **P** **08 10 54.8 +0.4**
JNU IAmb IAmb 08 10 57.0

comp=Z,20nm,0.9s
CMSA Cobar Meteorol 46.54 129 P **P** **08 10 58.0 +2.3**
baz=47,SNR=31
JTU Tsushima 46.77 29 P **P** **08 10 57.6 +0.3**
JTU IAmb IAmb 08 11 09.7

comp=Z,25nm,1.3s
HHC Hu-ho-hao-te 47.01 8 *e*P **P** **08 11 01.0 +1.8**
HHC pmax pmax

comp=Z,21nm,1.1s
HHC pmax pmax

comp=Z,100nm,5.7s
HHC LR LR

comp=Z,130nm,20.0s
HHC LR LR

comp=Z,170nm,17.1s
RMQ Roma 47.24 121 P **P** **08 11 03.6 +2.4**
baz=47,SNR=6.5
JMN Monobe 48.47 34 P **P** **08 11 10.8 +0.3**
JMN IAmb IAmb 08 11 11.3

comp=Z,25nm,0.9s
KSAR Wonju Array Be 48.49 25 P **P** **08 11 11.0 +0.4**
KSAR Wonju Array Be 48.49 25 P **P** **08 11 11.0 +0.4**
KSRS Korea Array 48.52 25 P **P** **08 11 07.5 -3.2**
comp=Z,12nm,0.8s,baz=222,slow=7.5,SNR=48
KSRS PcP **PcP** **08 12 36.5 +0.8**
comp=Z,5.4nm,1.0s,baz=206,slow=3.2,SNR=8.0
KSRS LR LR 08 33 53.9

comp=Z,26nm,18.5s,baz=234,slow=39
KS19 Wonju Array Si 48.53 25 P **P** **08 11 10.8 -0.1**
KS19 IAmb IAmb 08 11 12.2

comp=Z,16nm,0.9s
EIDS Eidsvold 48.94 119 P **P** **08 11 16.2 +1.9**
baz=49,SNR=7.7
EIDS Eidsvold 48.94 119 P **P** **08 11 13.2 -1.1**
EIDS IAmb IAmb 08 11 17.1

comp=Z,50nm,1.4s
NIL Nilore 48.96 325 P **P** **08 11 13.4 -0.9**
NIL pmax pmax

comp=Z,17nm,0.9s
NIL Nilore 48.96 325 P **P** **08 11 13.4 -0.9**
NIL IAmb IAmb 08 11 31.8

comp=Z,17nm,0.8s
JHS Saijyo 49.02 32 P **P** **08 11 14.5 -0.2**
TOO Toolangi 49.12 136 P **P** **08 11 17.4 +1.8**
baz=49,SNR=7.2
TOO Toolangi 49.12 136 P **P** **08 11 14.4 -1.2**
TOO pmax pmax

comp=Z,6.0nm,0.8s
TOO Toolangi 49.12 136 P **P** **08 11 14.4 -1.2**
YNG Young 49.75 131 P **P** **08 11 22.3 +1.9**
baz=50,SNR=7.1
JWT Wachi 50.46 33 P **P** **08 11 24.9 -0.7**
JWT IAmb IAmb 08 11 25.6

comp=Z,21nm,0.6s
CAN Canberra 50.62 132 P **P** **08 11 25.2 -1.8**
CAN pmax pmax

comp=Z,20nm,0.9s
CAN Canberra 50.62 132 P **P** **08 11 25.2 -1.8**
CAN IAmb IAmb 08 11 30.8

comp=Z,20nm,0.9s
ARMA Armidale 50.87 125 P **P** **08 11 30.7 +1.6**
baz=51,SNR=4.5
ARMA Armidale 50.87 125 P **P** **08 11 27.8 -1.2**
ARMA IAmb IAmb 08 11 33.2

comp=Z,20nm,1.0s
INU Inuyama 51.41 35 P **P** **08 11 32.2 -0.6**
INU IAmb IAmb 08 11 33.8

comp=Z,9.1nm,0.7s
MGCD Mangrove Creek 51.41 128 P **P** **08 11 34.6 +1.7**
baz=52,SNR=8.2
WMQ Urumqi 51.63 345 *e*P **P** **08 11 35.3 +0.9**
WMQ pP pP 08 11 52.3 -0.7
WMQ sP sP 08 12 07.8 +6.4
WMQ pmax pmax

comp=Z,17nm,1.1s
WMQ pmax pmax

comp=Z,41nm,4.3s
WMQ LR LR

comp=Z,390nm,29.0s
WMQ LR LR

comp=Z,470nm,29.0s
WMQ LR LR

comp=Z,300nm,29.1s
JGF Kuroka 51.78 35 P **P** **08 11 34.6 -1.0**
KSH Kashi 52.09 333 P **P** **08 11 36.3 -1.6**
KSH S **S** **08 18 58.6 +2.1**
KSH pmax pmax

comp=Z,18nm,0.4s
KSH pmax pmax

comp=Z,65nm,3.7s
KSH LR LR

comp=Z,66nm,7.5s
KSH LR LR

comp=Z,100nm,4.7s
KSH LR LR

comp=Z,82nm,4.3s
MAJO Matsushiro 52.94 35 P **P** **08 11 42.6 -1.5**
MAJO pmax pmax

comp=Z,11nm,0.8s
MAJO Matsushiro 52.94 35 P **P** **08 11 42.6 -1.5**
MAJO IAmb IAmb 08 11 45.2

comp=Z,11nm,0.8s
MAT Matsushiro 52.94 35 P **P** **08 11 41.7 -2.4**
MJAR Matsushiro Arr 52.94 35 P **P** **08 11 42.0 -2.1**
comp=Z,9.3nm,0.8s,baz=214,slow=8.0,SNR=24
MJAR PcP **PcP** **08 12 53.2 +1.1**
comp=Z,5.9nm,0.7s,baz=205,slow=4.5,SNR=8.3
MJAR ScP **ScP** **08 16 41.8 -1.3**
comp=Z,0.8nm,0.4s,baz=182,slow=3.5,SNR=3.3
MJAR LR LR 08 33 30.1

comp=Z,20nm,21.4s,baz=210,slow=35
MJAR Matsushiro Arr 52.94 35 P **P** **08 11 42.0 -2.1**
CN2 Changchun 53.09 19 *e*P **P** **08 11 42.3 -2.8**
CN2 pmax pmax

comp=Z,10.0nm,0.9s
SONM Songino Array 53.52 2 P **P** **08 11 48.6 +0.3**
comp=Z,7.1nm,0.6s,baz=176,slow=8.5,SNR=27
SONM PcP **PcP** **08 12 55.1 +0.8**
comp=Z,16nm,0.6s,baz=184,slow=4.3,SNR=18
SONM ScP **ScP** **08 16 44.3 -1.2**
comp=Z,1.7nm,0.6s,baz=176,slow=4.9,SNR=5.7
SONM LR LR 08 38 28.1

comp=Z,64nm,18.5s,baz=172,slow=40
SONM Songino Array 53.52 2 P **P** **08 11 48.3 -0.1**
ULN Ulaanbaatar 53.58 3 *ce*P **P** **08 11 48.6 -0.2**
ULN pmax pmax

comp=Z,2.0nm,0.6s
SHLS Shalkode 53.66 338 *e*P **P** **08 11 49.2 -0.2**
comp=Z,2.3nm,0.3s
SHLS *e*S **S** **08 19 15.0 -2.8**
SHLS Shalkode 53.66 338 *e*P **P** **08 11 49.2 -0.2**
SHLS *e*S **S** **08 19 14.9 -2.8**
SHLS pmax pmax

comp=Z,2.0nm,0.3s
KDJ Kajisay 53.70 335 P **P** **08 11 49.7 -0.1**
KDJ pmax pmax

comp=Z,25nm,0.6s
KDJ Kajisay 53.70 335 P **P** **08 11 49.7 -0.1**
PDGK Podgornoye 53.80 338 P **P** **08 11 50.7 +0.3**
UZB Uzynbulak 53.82 337 *e*P **P** **08 11 50.8 +0.1**
comp=Z,2.3nm,0.4s
UZB *e*S **S** **08 19 18.1 -1.8**
UZB Uzynbulak 53.82 337 *e*P **P** **08 11 50.7 +0.1**
UZB *e*S **S** **08 19 18.1 -1.8**
UZB pmax pmax

comp=Z,2.0nm,0.4s
SATY Saty 53.98 337 *e*P **P** **08 11 51.9 +0.1**
comp=Z,4.3nm,0.6s
SATY *e*S **S** **08 19 20.4 -1.7**
SATY Saty 53.98 337 *e*P **P** **08 11 51.8 +0.1**
SATY *e*S **S** **08 19 20.4 -1.7**
SATY pmax pmax

comp=Z,4.0nm,0.6s
JSD Sado 54.04 33 P **P** **08 11 50.8 -1.3**
KPKS Kokpek 54.22 337 *e*P **P** **08 11 52.8 -0.7**
KPKS *e*S **S** **08 19 23.2 -2.1**
KPKS Kokpek 54.22 337 *e*P **P** **08 11 52.7 -0.7**
KPKS *e*S **S** **08 19 23.1 -2.1**
GAR Garm 54.49 328 P **P** **08 11 55.0 -0.6**
BOOM Boomskoye usch 54.52 335 P **P** **08 11 55.9 +0.1**
BOOM pmax pmax

comp=Z,7.0nm,0.8s
BOOM Boomskoye usch 54.52 335 P **P** **08 11 55.9 +0.1**
TNSS Tian-Shan 54.55 336 *e*P **P** **08 11 56.1 -0.2**
TNSS Tian-Shan 54.55 336 *e*P **P** **08 11 56.0 -0.2**
MDOK Medeo 54.61 336 *e*P **P** **08 11 56.8 +0.4**
MDOK *e*S **S** **08 19 28.3 -2.3**
MDOK Medeo 54.61 336 *e*P **P** **08 11 56.7 +0.4**
MDOK *e*S **S** **08 19 28.2 -2.3**
CHGR Chuyangaron 54.87 327 P **P** **08 11 58.1 -0.2**
UCH Uchtor 54.93 333 P **P** **08 11 59.5 +0.5**
SNR=10
TKM2 Tokmak 2 55.01 335 P **P** **08 11 59.8 +0.4**
SNR=42
TKM2 Tokmak 2 55.01 335 *i* P **P** **08 11 59.3 -0.1**
TKM2 pmax pmax

comp=Z,15nm,0.5s
BTK Batken 55.02 329 P **P** **08 11 59.8 +0.5**
BTK pmax pmax

comp=Z,22nm,0.5s
BTK Batken 55.02 329 P **P** **08 11 59.8 +0.5**
KBK Karagaybulak 55.08 334 P **P** **08 12 00.4 +0.6**
SNR=8.6
CHKK Chushkaly 55.21 336 *e*P **P** **08 11 59.7 -0.9**
CHKK Chushkaly 55.21 336 *e*P **P** **08 11 59.6 -0.9**
AML Almayashu 55.22 333 P **P** **08 12 01.6 +0.5**
SNR=6.9
AAK Ala-Archa 55.26 334 P **P** **08 12 02.0 +0.9**
SNR=6.0
AAK Ala-Archa 55.26 334 *i* P **P** **08 12 01.5 +0.4**
AAK pmax pmax

comp=Z,14nm,0.8s
JMM Marumori 55.34 35 P **P** **08 12 00.1 -1.3**
KUU Kurty 55.50 336 *e*P **P** **08 12 02.2 -0.4**
comp=Z,10nm,0.5s
KUU Kurty 55.50 336 *e*P **P** **08 12 02.2 -0.4**
KUU pmax pmax

comp=Z,10.0nm,0.5s
EKS2 Erkin-Say 55.60 333 P **P** **08 12 04.3 +0.9**
SNR=22
UOSS Minazif 55.72 305 P **P** **08 12 04.7 +0.2**
ZSN Zaisan 55.74 344 *e*P **P** **08 12 04.5 +0.2**
comp=Z,8.4nm,0.6s
ZSN Zaisan 55.74 344 *e*P **P** **08 12 04.5 +0.2**
ZSN pmax pmax

comp=Z,8.0nm,0.6s
USP Ospenovka 55.77 334 P **P** **08 12 04.9 +0.3**
SNR=6.1
USA0B Ussuriysk Arra 55.84 24 P **P** **08 12 04.9 -0.1**
USA0B pmax pmax

comp=Z,27nm,0.8s
USA0B Ussuriysk Arra 55.84 24 P **P** **08 12 04.9 -0.1**
USRK Ussuriysk Ar. 55.84 24 P **P** **08 12 04.6 -0.4**
comp=Z,23nm,0.6s,baz=215,slow=6.4,SNR=71
USRK Ussuriysk Ar. 55.84 24 P **P** **08 12 04.8 -0.2**
USRK Ussuriysk Ar. 55.84 24 P **P** **08 12 04.8 -0.2**
MK31 Makanchi Array 55.89 342 P **P** **08 12 04.9 -0.5**
MK31 pmax pmax

comp=Z,7.0nm,0.6s
MK31 Makanchi Array 55.89 342 P **P** **08 12 04.9 -0.5**
MKAR Makanchi Array 55.89 342 P **P** **08 12 04.8 -0.5**
comp=Z,1.1nm,0.5s,baz=147,slow=8.2,SNR=146
MKAR ScP **ScP** **08 16 54.9 -0.8**
comp=Z,0.9nm,0.7s,baz=153,slow=4.8,SNR=4.2
MKAR S **S** **08 19 45.9 -1.3**
comp=Z,1.1nm,0.8s,baz=146,slow=11,SNR=6.1
MKAR LR LR 08 39 59.0

comp=Z,37nm,18.8s,baz=150,slow=40
MKAR Makanchi Array 55.89 342 P **P** **08 12 04.6 -0.7**
MAKZ Makanchi 56.00 342 P **P** **08 12 06.1 0.0**
MAKZ pmax pmax

comp=Z,4.0nm,1.0s
MAKZ Makanchi 56.00 342 P **P** **08 12 06.1 0.0**
ABPO Ambohimpanom 56.78 251 P **P** **08 12 09.1 -3.3**
ABPO pmax pmax

comp=Z,7.0nm,1.1s
ABPO Ambohimpanom 56.78 251 P **P** **08 12 09.1 -3.3**
DGZ Jazzator, Alta 57.21 347 *c i* P **P** **08 12 14.7 -0.1**
DGZ pmax pmax

comp=Z,25nm,0.7s
TLY Talaya 57.34 360 LR LR 08 39 21.3
comp=Z,63nm,19.3s,baz=149,slow=39
KK31 Karatay Array 57.46 331 P **P** **08 12 15.8 -0.7**
KK31 pmax pmax

comp=Z,5.0nm,0.6s
KK31 Karatay Array 57.46 331 P **P** **08 12 15.8 -0.7**
KKAR Karatay Array 57.46 331 P **P** **08 12 16.2 -0.3**
KKAR pmax pmax

comp=Z,5.0nm,0.6s
KKAR Karatay Array 57.46 331 P **P** **08 12 16.2 -0.3**
JTM Tenmabayashi 57.52 33 P **P** **08 12 15.6 -1.4**
ERM Erimo 59.51 33 P **P** **08 12 30.1 -0.6**
ERM pmax pmax

comp=Z,75nm,1.3s
ERM Erimo 59.51 33 P **P** **08 12 30.1 -0.6**
KURBB Kurchatov Arra 60.44 342 S **S** **08 20 43.4 -2.9**
comp=Z,0.3nm,0.4s,baz=157,slow=12,SNR=5.7
KURBB PKPPKP 08 42 08.8
comp=Z,0.4nm,0.3s,baz=330,slow=2.2,SNR=5.6
KURK Kurchatov 60.49 342 *i* P **P** **08 12 36.9 -0.4**
KURK pmax pmax

comp=Z,5.0nm,0.9s
KURK Kurchatov 60.49 342 P **P** **08 12 37.4 0.0**
KURK IAmb IAmb 08 13 01.1

comp=Z,9.1nm,0.9s
ASAJ Asahikawa 60.67 31 P **P** **08 12 37.5 -1.2**
comp=Z,28nm,0.7s,baz=233,slow=8.4,SNR=17
JKA Kamikawa-asahi 60.67 31 P **P** **08 12 38.4 -0.3**
GEYT Alibeck 61.01 319 P **P** **08 12 42.3 +1.2**
comp=Z,8.0nm,0.5s,baz=179,slow=10,SNR=9.8
GEYT pP **pP** **08 12 58.0 -2.2**
comp=Z,5.7nm,0.6s,baz=110,slow=13,SNR=4.2
GEYT LR LR 08 41 30.1

comp=Z,55nm,19.6s,baz=10.0,slow=38
GEYT Alibeck 61.01 319 P **P** **08 12 40.8 -0.3**
GYA0B ALIBECK ARRAY 61.01 319 P **P** **08 12 41.3 +0.1**
GYA0B IAmb IAmb 08 12 44.2

comp=Z,23nm,1.2s
ZAA0 Zalesovo Array 61.76 347 P **P** **08 12 45.1 -0.8**
ZAA0 IAmb IAmb 08 12 46.8

comp=Z,11nm,0.5s
ZALV Zalesovo Beam 61.76 347 P **P** **08 12 45.0 -0.9**
comp=Z,16nm,0.4s,baz=157,slow=5.5,SNR=60
ZALV S **S** **08 21 00.2 -2.8**
comp=Z,1.3nm,0.6s,baz=137,slow=24,SNR=5.0
ZALV LR LR 08 42 14.8

comp=Z,103nm,20.1s,baz=132,slow=39
ZALV Zalesovo Beam 61.76 347 P **P** **08 12 44.9 -1.0**
DZM Mont Dzumac 62.24 112 P **P** **08 12 48.3 -1.6**
DZM IAmb IAmb 08 13 08.0

comp=Z,30nm,1.4s
ZEA Zeya 62.52 15 *e*P **P** **08 12 50.6 -0.4**
ZEA pmax pmax

comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 62.76 29 ⇑ *i*P **P** **08 12 52.0 -0.6**
YSS pmax pmax

comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 62.76 29 P **P** **08 12 52.4 -0.2**
BRVK Borovoye 65.29 338 *i* P **P** **08 13 08.8 -0.3**
BRVK pmax pmax

comp=Z,8.0nm,1.0s
BRVK Borovoye 65.29 338 P **P** **08 13 08.9 -0.3**
BRVK IAmb IAmb 08 13 09.7

comp=Z,11nm,0.5s
KMBO Kilima Mbogo 66.81 271 P **P** **08 13 23.9 +3.9**
comp=Z,1.7nm,0.2s,baz=250,slow=21,SNR=3.1
KMBO Kilima Mbogo 66.81 271 P **P** **08 13 24.0 +3.9**
AB31 Akbulak array 66.98 330 P P 08 13 11.5 -8.5
comp=Z,2.2nm,0.7s,baz=353,slow=12,SNR=21
AB31 Akbulak array 66.98 330 *i* P **P** **08 13 20.3 +0.3**
ABKAR Akbulak array 66.98 330 P **P** **08 13 20.6 +0.6**
ABKAR Akbulak array 66.98 330 P **P** **08 13 20.5 +0.4**
ABKAR IAmb IAmb 08 13 21.3

comp=Z,33nm,0.7s
MAW Mawson 67.61 196 P **P** **08 13 27.7 +4.0**
comp=Z,2.4nm,0.6s,baz=42,slow=4.0,SNR=23
MAW LR LR 08 38 41.9

comp=Z,60nm,19.3s,baz=58,slow=32
MAW Mawson 67.61 196 P **P** **08 13 26.7 +3.0**
baz=68,SNR=17
MAW Mawson 67.61 196 P **P** **08 13 23.4 -0.3**
RPZ Rata Peaks 69.39 135 LR LR 08 44 10.4
comp=Z,121nm,21.6s,baz=240,slow=36
YAK Yakutsk 70.54 12 P **P** **08 13 41.3 -0.6**
comp=Z,43nm,0.7s,baz=75,slow=0.6,SNR=17
YAK Yakutsk 70.54 12 *e*P **P** **08 13 40.6 -1.3**
YAK *e* 08 13 59.5
YAK *e**PP **PcP** **08 14 05.5 +2.9**
YAK *e* 08 16 15.2
YAK *e*S **S** **08 22 44.8 -4.4**
YAK *e**SS **sS** **08 23 28.5 +4.9**
YAK *e* 08 23 35.4
YAK *e*SS **SS** **08 27 13.1 -9.0**
YAK pmax pmax

comp=Z,70nm,0.8s
YAK pmax pmax

comp=E,7.0nm,1.0s
YAK pmax pmax

comp=N,12nm,1.0s
YAK pmax pmax

comp=Z,100nm,3.0s
YAK pmax pmax

comp=N,95nm,3.0s
YAK pmax pmax

comp=E,80nm,3.5s
YAK smax smax

comp=N,113nm,2.7s
YAK smax smax

comp=E,81nm,3.0s
YAK Yakutsk 70.54 12 P **P** **08 13 41.2 -0.6**
DUWZ D'Urville Isla 70.96 131 P P 08 13 55.3 +10
KIW Kapiti Island 71.71 131 P **P** **08 13 51.1 +1.5**
SVE Sverdlovsk 71.81 337 *de*P **P** **08 13 50.5 +0.8**
SVE pmax pmax

comp=Z,36nm,0.8s
CAW Cannon Point 71.86 131 P P 08 14 01.9 +11
OGWZ Otaki Gorge 71.90 131 P **P** **08 13 52.3 +1.7**
WNVZ Wahianoa 72.03 129 P **P** **08 13 54.0 +2.3**
MOVZ Moawhango 72.16 129 P **P** **08 13 53.1 +0.8**
ARU Arti 72.38 335 *c i* P **P** **08 13 53.5 +0.4**
ARU *PP **PcP** **08 14 11.3 +0.7**
ARU 08 16 32.6
ARU S **S** **08 23 15.4 +4.8**
ARU SS **SS** **08 27 55.7 +5.2**
ARU pmax pmax

comp=Z,35nm,1.1s
ARU Arti 72.38 335 P **P** **08 13 52.6 -0.5**
TSZ Takapari Road 72.40 130 P **P** **08 13 55.2 +1.5**
BHHZ Black Hill Sta 72.40 129 P **P** **08 13 55.4 +1.6**
TMWZ Te Maipa 72.48 131 P **P** **08 13 56.6 +2.5**
BFZ Birch Farm 72.69 131 P **P** **08 13 57.4 +2.0**

BKZ Black Stump Fm 72.70 129 P **P** **08 13 57.3 +1.8**
ZEI Tsey 72.81 318 *e*P **P** **08 13 57.5 +1.3**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
ANWZ Angora Road 72.84 130 P P 08 13 49.2 -7.1
PRHZ Porangahau 72.94 130 P **P** **08 13 59.1 +2.3**
KAHZ Kahuranaki 73.06 130 P **P** **08 14 00.3 +2.6**
URZ Urewera 73.08 128 LR LR 08 44 19.8
comp=Z,119nm,21.8s,baz=214,slow=34
KBZ Khabaz 73.87 319 P **P** **08 14 04.1 +2.0**
comp=Z,9.7nm,0.8s,baz=110,slow=7.0,SNR=16
SHA1 Shidzhatmaz 74.04 319 *e*P **P** **08 14 03.2 -0.3**
KOPT Kop Dagi 74.04 314 P **P** **08 14 01.3 -2.3**
KOPT IAmb IAmb 08 14 15.1
comp=Z,16nm,0.9s
PEA0B Petropavlovsk- 74.08 30 P **P** **08 14 02.1 -1.1**
PEA0B pmax pmax
comp=Z,81nm,1.4s
PEA0B Petropavlovsk- 74.08 30 P **P** **08 14 02.1 -1.1**
PETK Petropavlovsk- 74.08 30 P **P** **08 14 02.2 -1.0**
comp=Z,7.0nm,0.7s,baz=310,slow=1.5,SNR=16
PETK LR LR 08 48 48.6
comp=Z,14nm,18.4s,baz=208,slow=38
KIV Kislovodsk 74.11 319 *e*P **P** **08 14 02.8 -0.9**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,46nm,18.0s
GAZ Gaziantep 75.45 311 P **P** **08 14 09.4 -2.2**
GAZ IAmb IAmb 08 14 14.8
comp=Z,20nm,0.7s
SYO Syowa Base 75.56 200⇑ *e*pP pP 08 14 30.2 -0.7
SYO Syowa Base 75.56 200⇑ *es*P sP 08 14 37.2 -1.7
NRIK Noril'sk 75.91 354 P **P** **08 14 12.8 -0.7**
comp=Z,5.6nm,0.4s,baz=127,slow=5.1,SNR=20
BOSA Boshof 77.39 242 P **P** **08 14 26.3 +3.5**
comp=Z,6.5nm,0.7s,baz=95,slow=3.7,SNR=14
BOSA pP **pP** **08 14 42.4 0.0**
comp=Z,7.0nm,0.7s,baz=91,slow=4.7,SNR=5.1
BOSA LR LR 08 44 04.3
comp=Z,24nm,18.7s,baz=84,slow=32
VNDA Vanda 77.60 169 P **P** **08 14 26.5 +3.6**
comp=Z,11nm,0.9s,baz=308,slow=5.4,SNR=52
VNDA LR LR 08 43 57.9
comp=Z,29nm,20.3s,baz=342,slow=32
VNDA Vanda 77.60 169 P **P** **08 14 21.7 -1.2**
SEY Seymchan 77.75 20 P **P** **08 14 22.1 -1.8**
comp=Z,7.9nm,0.6s,baz=229,slow=6.6,SNR=22
CSS Mathiatis 77.78 308 P **P** **08 14 23.7 -1.0**
CSS IAmb IAmb 08 14 28.2
comp=Z,31nm,0.8s
VRH Novokhopyorsk 77.79 325 *e*P **P** **08 14 24.4 +0.1**
VRH pmax pmax
comp=Z,20nm,0.6s
BR131 Keskin Array S 78.91 312 P **P** **08 14 29.1 -1.9**
BR131 pmax pmax
comp=Z,9.0nm,0.8s
BR131 Keskin Array S 78.91 312 P **P** **08 14 29.1 -1.9**
BRTR Keskin Array B 78.91 312 P **P** **08 14 32.2 +1.2**
comp=Z,12nm,0.8s,baz=132,slow=7.2,SNR=40
BRTR pP **pP** **08 14 48.8 -1.9**
comp=Z,5.3nm,0.7s,baz=127,slow=6.7,SNR=6.6
BRTR LR LR 08 52 37.5
comp=Z,26nm,18.8s,baz=118,slow=38
BRTR Keskin Array B 78.91 312 P **P** **08 14 30.9 -0.1**
VSR Storozhevoye 79.26 325 *e*P **P** **08 14 32.5 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 79.95 326 *e*P **P** **08 14 35.4 -0.7**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
PRGR Permogore 80.83 336 *e*P **P** **08 14 40.6 -0.1**
PRGR *e**PP **pP** **08 14 57.4 -3.2**
PRGR *eS* **S** **08 24 40.2 -2.5**
PRGR pmax pmax
comp=Z,38nm,0.8s
OBN Obninsk 82.21 328⇓ *e*P **P** **08 14 49.8 +1.7**
OBN *e* 08 15 11.1
OBN PPP PPP 08 19 58.0
OBN SSS SSS 08 33 41.0
OBN pmax pmax
comp=Z,13nm,1.1s
TIRR Tirgusor 83.94 316 ⇓P **P** **08 14 58.0 +0.7**
TIRR Tirgusor 83.94 316 ⇓P **P** **08 14 58.0 +0.7**
TLBR Topalu 84.22 316 ⇓P **P** **08 15 00.4 +1.7**
MILM Milestii Mici 84.29 318 ⇑P **P** **08 15 00.2 +1.3**
APE Apeiranthos 84.42 308 ⇑P **P** **08 15 02.3 +2.3**
APE Apeiranthos 84.42 308 ⇑P **P** **08 15 02.3 +2.3**
IDI Anoyia 84.58 306 P **P** **08 15 02.2 +1.3**
comp=Z,19nm,0.7s,baz=80,slow=8.3,SNR=8.3
SORM Soroca 84.90 319 ⇑P **P** **08 15 03.6 +1.6**
SORM Soroca 84.90 319 ⇑P **P** **08 15 03.6 +1.6**
AKASG Malin Array Be 85.01 322 P **P** **08 15 03.5 +0.9**
comp=Z,5.8nm,0.5s,baz=83,slow=4.8,SNR=13
AKASG LR LR 08 58 59.7
comp=Z,16nm,18.2s,baz=30,slow=40
AKASG Malin Array Be 85.01 322 P **P** **08 15 02.8 +0.2**
AKBB Malin Array Si 85.01 322 P **P** **08 15 00.7 -1.8**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 85.01 322 P **P** **08 15 00.7 -1.8**
AKBB IAmb IAmb 08 15 04.2
comp=Z,9.6nm,0.7s
NVL N'lazarevskaya 85.23 199 *e*P P 08 14 57.4 -5.8
NVL *eS* **SKSac** **08 25 17.9 -3.2**
NVL pmax pmax
comp=Z,8.0nm,0.8s
BILL Bilibino 85.40 20⇓ *e*P **P** **08 15 03.8 -0.3**
BILL *e**PP **pP** **08 15 21.1 -3.4**
BILL *SP **sP** **08 15 35.0 +2.4**
BILL *eS* **SKSac** **08 25 15.0 -7.2**
BILL SS **SS** **08 31 07.0 +1.6**
BILL pmax pmax
comp=Z,9.0nm,1.1s
VRI Vrincioaia 85.43 317 ⇑P **P** **08 15 07.7 +2.9**
VRI Vrincioaia 85.43 317 ⇑P **P** **08 15 07.7 +2.9**
PLOR Plostina 85.48 317 ⇑P **P** **08 15 07.7 +2.6**
PLOR Plostina 85.48 317 ⇑P **P** **08 15 07.7 +2.6**
NEHR Nehoiu 85.63 316 ⇑P P 08 14 52.9 -13
MLR Muntele Rosu 85.88 316 P **P** **08 15 09.0 +1.8**
comp=Z,22nm,0.9s,baz=113,slow=2.8,SNR=10
MLR Muntele Rosu 85.88 316 ⇓P **P** **08 15 10.0 +2.8**
MLR Muntele Rosu 85.88 316 ⇓P **P** **08 15 10.0 +2.8**
MLR Muntele Rosu 85.88 316 P **P** **08 15 07.9 +0.7**
MLR IAmb IAmb 08 15 10.6
comp=Z,40nm,1.2s
BIZ Bicaz 86.09 318 ⇓P **P** **08 15 10.5 +2.5**
PRAR RASCA 86.11 318 ⇓P **P** **08 15 10.5 +2.5**
DOPR Dopca 86.37 317 ⇓P **P** **08 15 11.9 +2.5**
VOIR 86.49 316 ⇑P **P** **08 15 11.7 +1.6**
VOIR 86.49 316 ⇑P **P** **08 15 11.7 +1.6**
ARR Arges 86.76 316 ⇓P **P** **08 15 13.6 +2.2**
BURAR Bucovina Array 86.83 318 ⇓P **P** **08 15 14.9 +3.2**
BURAR Bucovina Array 86.83 318 ⇓P **P** **08 15 14.9 +3.2**
BURAR Bucovina Array 86.83 318 P **P** **08 15 12.7 +0.9**
BUR08 Bucovina Ar. S 86.85 318 P **P** **08 15 12.8 +0.9**
BUR08 IAmb IAmb 08 15 15.5
comp=Z,20nm,0.8s
ARCR ARCALIA 87.30 318 ⇑P **P** **08 15 17.5 +3.6**
LOT Lotru 87.37 316 ⇑P **P** **08 15 16.5 +2.0**
NACGM Naroch 87.51 326 *e* **P** **08 15 16.0 +1.3**
BMR Baia Mare 87.98 318 ⇓P **P** **08 15 20.1 +3.0**
BMR Baia Mare 87.98 318 ⇓P **P** **08 15 20.1 +3.0**
LVV L'vov 88.05 320 *e*P **P** **08 15 19.0 +1.6**
GZR Gura Zlata 88.05 316 ⇑P **P** **08 15 19.8 +2.2**
GZR Gura Zlata 88.05 316 ⇑P **P** **08 15 19.8 +2.2**
DEV Deva 88.05 316 ⇓P **P** **08 15 20.9 +3.4**
DEV Deva 88.05 316 ⇓P **P** **08 15 20.9 +3.4**
APA Apatity 88.14 339⇑ *i*P **P** **08 15 17.9 +0.5**
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,1μm,13.0s
HERR Herculane 88.21 315 ⇑P **P** **08 15 20.4 +2.1**
MDVR Moldovita 88.69 315 ⇑P **P** **08 15 23.1 +2.5**
BZS Buzias 88.89 316 ⇑P **P** **08 15 23.9 +2.4**
BZS Buzias 88.89 316 ⇑P **P** **08 15 23.9 +2.4**
SIRR Siria 88.97 317 ⇓P **P** **08 15 24.5 +2.7**
KOLS Kolonicke sedl 89.01 319 *e*P **P** **08 15 23.8 +1.8**
KOLS pmax pmax
comp=Z,27nm,0.9s
KOLS Kolonicke sedl 89.01 319 *e*P **P** **08 15 23.8 +1.8**
FINES FINESS Array B 89.41 332 P **P** **08 15 24.9 +1.4**
comp=Z,5.5nm,0.4s,baz=109,slow=4.9,SNR=99
FINES PKiKP **PKiKP** **08 20 23.0 +1.9**
comp=Z,1.0nm,0.7s,baz=127,slow=5.0,SNR=5.0
FINES LR LR 09 00 39.2
comp=Z,21nm,18.3s,baz=26,slow=39
FINES FINESS Array B 89.41 332 P **P** **08 15 21.4 -2.1**
CRVS Cervenica-Dubn 89.54 319 *e*P **P** **08 15 26.4 +2.0**
CRVS pmax pmax
comp=Z,8.0nm,0.9s
CRVS Cervenica-Dubn 89.54 319 *e*P **P** **08 15 26.4 +2.0**
SNAA Sanae 89.71 198 P P 08 15 29.7 +4.8
SNAA Sanae 89.71 198 P **P** **08 15 24.3 -0.6**
SNAA pmax pmax
comp=Z,17nm,1.0s
SNAA Sanae 89.71 198 P **P** **08 15 24.3 -0.6**
SNAA IAmb IAmb 08 15 30.8
comp=Z,18nm,1.0s
DIVS Divibare 89.80 314 P **P** **08 15 24.1 -1.8**
DIVS IAmb IAmb 08 15 29.3
comp=Z,15nm,0.8s
PDG Podgorica 90.10 312 ⇓P **P** **08 15 29.6 +2.4**
PDG Podgorica 90.10 312 P **P** **08 15 24.1 -3.0**
KECS Kecovo 90.11 319 *e*P **P** **08 15 29.0 +1.9**
KECS pmax pmax
comp=Z,5.0nm,0.7s
KECS Kecovo 90.11 319 *e*P **P** **08 15 29.0 +1.9**
PSZ Piszkesteto 90.42 318 ⇓P **P** **08 15 30.0 +1.3**
PSZ Piszkesteto 90.42 318 ⇓P **P** **08 15 30.0 +1.3**
PSZ Piszkesteto 90.42 318 P **P** **08 15 26.0 -2.6**
PSZ IAmb IAmb 08 15 31.5
comp=Z,8.7nm,1.0s
VYHS Vyhne 91.20 318 *e*P **P** **08 15 34.0 +1.8**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 91.20 318 *e*P **P** **08 15 34.0 +1.8**
VNA2 Neumayer--Watz 91.35 198 P P 08 15 37.3 +4.8
baz=96,slow=4.5
ARCES ARCESS Array B 91.48 340 P **P** **08 15 32.3 -0.7**
comp=Z,1.9nm,0.5s,baz=72,slow=3.6,SNR=16
ARCES LR LR 09 01 31.6
comp=Z,39nm,19.1s,baz=15,slow=39
VNA1 Neumayer--Stat 91.72 198 P P 08 15 39.2 +5.1
VNA3 Neumayer Olymp 91.90 197 P P 08 15 39.8 +4.7
MORC Moravsky Berou 92.19 320 ⇑P **P** **08 15 39.1 +2.3**
MORC Moravsky Berou 92.19 320 ⇑P **P** **08 15 39.1 +2.3**
KRLC Kraliky 92.72 320 *e*P **P** **08 15 41.6 +2.4**
KRLC Kraliky 92.72 320 *e*P **P** **08 15 41.6 +2.4**
VRAC Vranov 92.76 319 LR LR 09 03 59.9
comp=Z,12nm,18.1s,baz=102,slow=40
DPC Dobruska-Polom 93.04 320 *e*P **P** **08 15 43.1 +2.4**
DPC Dobruska-Polom 93.04 320 *e*P **P** **08 15 43.1 +2.4**
GOLS Golise 93.10 316 *i* P **P** **08 15 43.6 +2.6**
OSTC Ostas 93.12 320 *e*P **P** **08 15 42.3 +1.2**
GROS Grobnik 93.22 316 *i* P **P** **08 15 43.9 +2.2**
CHVC Chvalec 93.23 320 *e*P **P** **08 15 43.7 +2.1**
VISS Visnje 93.63 316 *i* P **P** **08 15 45.7 +2.2**
LJU Ljubljana 93.86 316 *e*P **P** **08 15 47.0 +2.5**
PRU Pruhonice 94.15 320 *e*P **P** **08 15 48.0 +2.3**
PRU Pruhonice 94.15 320 *e*P **P** **08 15 48.0 +2.3**
PRED Cave del Predi 94.56 316 P **P** **08 15 46.0 -1.8**
PRED IAmb IAmb 08 15 50.3
comp=Z,6.3nm,1.0s
GERES GERESS Array B 94.62 318 P **P** **08 15 50.0 +2.0**
comp=Z,1.3nm,0.6s,baz=105,slow=2.8,SNR=12
GERES LR LR 09 03 26.2
comp=Z,20nm,19.7s,baz=45,slow=39
GERES GERESS Array B 94.62 318 P **P** **08 15 48.1 +0.1**
KHC Kasperske Hory 94.72 319 *e*P **P** **08 15 50.2 +1.8**
KHC Kasperske Hory 94.72 319 *e*P **P** **08 15 50.2 +1.8**
HFS Hagfors 95.24 330 LR LR 09 02 59.9
comp=Z,32nm,19.9s,baz=76,slow=38
SPITS Spitsbergen Ar 95.24 348 LR LR 09 05 05.3
comp=Z,63nm,18.7s,baz=250,slow=40
CIMO Cimolais 95.33 316 P **P** **08 15 50.3 -1.0**
CIMO IAmb IAmb 08 15 54.8
comp=Z,4.4nm,0.8s
NB2 NORSAR Subarra 96.48 331 P **P** **08 15 56.7 +0.5**
comp=Z,1.1nm,0.7s,baz=93,slow=4.4
NOA NORSAR Array B 96.48 331 P **P** **08 15 55.5 -0.7**
comp=Z,0.7nm,0.7s,baz=90,slow=4.5,SNR=4.3
NOA LR LR 09 04 02.7
comp=Z,18nm,18.3s,baz=250,slow=38
TOLK Toolik Lake Re 101.39 21 P **Pdif** **08 16 18.1 +0.1**
baz=283
TORD Torodi Ar. Bea 103.33 282 PKiKP **PKiKP** **08 20 47.8 +1.0**
comp=Z,0.6nm,0.7s,baz=27,slow=1.0,SNR=3.8
ILAR Eielson Array 103.36 25 P **Pdif** **08 16 27.0 +0.2**
comp=Z,0.3nm,0.6s,baz=298,slow=4.6,SNR=2.4
ILAR PKiKP **PKiKP** **08 20 45.5 +0.1**
comp=Z,0.4nm,0.6s,baz=277,slow=3.6,SNR=6.9
ILAR PKKPbc **PKKPbc** **08 32 24.2 +0.6**
comp=Z,0.6nm,0.7s,baz=112,slow=1.4,SNR=7.0
INK Inuvik 107.02 19 PKiKP **PKiKP** **08 20 52.6 +0.5**
comp=Z,1.1nm,0.8s,baz=313,slow=4.2,SNR=4.5
ESDC Sonseca Array 107.59 310 PKiKP **PKiKP** **08 20 55.2 +1.1**
comp=Z,0.5nm,0.9s,baz=17,slow=4.1,SNR=4.2
YKA Yellowknife Ar 116.79 19 PKP **PKiKP** **08 21 11.3 +0.5**
comp=Z,1.7nm,0.8s,baz=222,slow=0.9,SNR=6.4
B05A Bryant 122.42 35 P **PKiKP** **08 21 23.9 +1.7**
baz=302
H04D Lebanon 123.94 39 P **PKiKP** **08 21 26.5 +1.1**
baz=299
I03D Drain, OR 123.94 40 P **PKiKP** **08 21 26.8 +1.4**
baz=298
K02D Willamette Mer 124.20 41 P **PKiKP** **08 21 27.3 +1.2**
baz=297
I04A Tendick Farm, 124.50 40 P **PKiKP** **08 21 27.1 +0.5**
baz=299
I05D Terrebonne, OR 124.90 39 P **PKiKP** **08 21 28.8 +1.4**
baz=300
J04D Umpqua Nationa 124.95 40 P **PKiKP** **08 21 29.0 +1.3**
baz=299
NEW Newport 125.17 33 P **PKiKP** **08 21 28.9 +1.1**
baz=307
L04D Klamath Falls 125.32 41 P **PKiKP** **08 21 28.9 +0.5**
baz=298
M02C Callahan 125.33 42 P **PKiKP** **08 21 29.7 +1.4**
baz=297
J05D Fort Rock, OR 125.49 40 P **PKiKP** **08 21 30.6 +1.9**
baz=300,SNR=6.1
N02D Trinity Center 125.62 43 P **PKiKP** **08 21 30.7 +1.7**
baz=297
M04C Macdoel 125.83 41 P **PKiKP** **08 21 30.8 +1.4**
baz=298
O02D Mt. Diablo Mer 125.92 44 P **PKiKP** **08 21 31.6 +2.0**
baz=296
O03E Paynes Creek 126.54 43 P **PKiKP** **08 21 31.4 +0.5**
baz=297
MSO Missoula 127.75 32 P **PKiKP** **08 21 33.4 +0.3**
baz=309
EGMT Eagleton 129.07 29 P **PKiKP** **08 21 36.4 +0.8**
baz=315
HLID Hailey 129.50 36 P **PKiKP** **08 21 38.4 +1.7**
baz=307
BOZ Bozeman (W) 129.77 32 P **PKiKP** **08 21 38.3 +1.1**
baz=311
NVAR Mina Array Bea 129.81 44 PKP **PKiKP** **08 21 39.1 +1.5**
comp=Z,2.0nm,0.6s,baz=303,slow=1.9,SNR=19
NVAR SKPbc SKPbc 08 24 52.6 -0.2
comp=Z,0.8nm,0.7s,baz=261,slow=5.1,SNR=5.0
PKM Mcpherson Peak 130.35 48 P **PKiKP** **08 21 40.7 +1.9**
baz=295
SCHQ Schefferville 130.64 353 PKP **PKiKP** **08 21 38.4 -0.1**
comp=Z,6.6nm,0.7s,baz=264,slow=14,SNR=5.1
CWC Cottonwood Cre 130.92 46 P **PKiKP** **08 21 41.2 +1.4**
baz=298
ISA Isabella, Lake 131.00 47 P **PKiKP** **08 21 41.9 +2.0**
baz=297
RLMT Red Lodge 131.33 31 P **PKiKP** **08 21 41.4 +0.9**
baz=313
MPMC Manual Prospec 131.52 46 P **PKiKP** **08 21 42.1 +1.0**
baz=298,SNR=8.1
R11A Troy Canyon, C 131.70 42 P **PKiKP** **08 21 42.1 +0.7**
baz=302,SNR=6.8
LAO LASA Array 131.70 28 P **PKiKP** **08 21 41.7 +0.7**
baz=318
GSC Goldstone, Bar 132.37 46 P **PKiKP** **08 21 43.8 +1.1**
baz=298,SNR=6.2
DUG Dugway, Tooele 132.46 39 P **PKiKP** **08 21 44.5 +1.7**
baz=306
SHOC Shoshone, Teco 132.46 45 P **PKiKP** **08 21 44.2 +1.4**
baz=299
ULM Lac du Bonnet 132.72 17 PKP **PKiKP** **08 21 43.2 +0.4**
comp=Z,9.2nm,0.7s,baz=5.1,slow=3.8,SNR=13
ULM pPKP **pPKPdf** **08 22 00.9 -2.0**
comp=Z,3.3nm,0.7s,baz=333,slow=7.0,SNR=2.7
ULM SKPbc **SKPbc** **08 25 01.9 -0.6**
comp=Z,6.1nm,0.5s,baz=336,slow=5.4,SNR=12
BW06 Boulder Array 132.76 34 P **PKiKP** **08 21 44.0 +0.6**
baz=312
PDAR Pinedale Array 132.76 34 PKP **PKiKP** **08 21 43.6 +0.2**
comp=Z,1.8nm,0.6s,baz=144,slow=1.4,SNR=23
PDAR SKPbc **SKPbc** **08 25 03.1 0.0**
comp=Z,1.8nm,0.7s,baz=318,slow=2.0,SNR=11
TUQ Turquoise Moun 132.94 46 P **PKiKP** **08 21 45.4 +1.5**
baz=299
PLCA Paso Flores 133.35 186 PKP **PKiKP** **08 21 47.2 +2.7**
comp=Z,2.4nm,0.6s,baz=183,slow=4.5,SNR=10
PFO Pinyon Flats O 133.41 48 P **PKiKP** **08 21 46.3 +1.4**
baz=297
GMRC Granite Mounta 133.44 46 P **PKiKP** **08 21 46.6 +1.7**
baz=299,SNR=9.6
MDND Maddock 133.55 22 P **PKiKP** **08 21 45.3 +0.7**
baz=327
BELC Belle Mtn. Jos 133.57 48 P **PKiKP** **08 21 46.6 +1.3**
baz=298,SNR=6.4
MONP2 Monument Peak 133.76 49 P **PKiKP** **08 21 46.7 +0.9**
baz=297
IRM Iron Mountain 134.12 47 P **PKiKP** **08 21 46.8 +0.6**
baz=299
BC3 Big Chuckawall 134.13 48 P **PKiKP** **08 21 47.6 +1.3**
baz=298
K22A Casper 134.47 32 P **PKPdf** **08 21 46.0 +0.6**
baz=315
RSSD Black Hills 134.64 28 P **PKiKP** **08 21 46.5 -0.7**
baz=319
O20A White River Ci 135.24 36 P **PKiKP** **08 21 48.2 -0.3**
baz=311
WUAZ Wupatki 136.06 43 P **PKiKP** **08 21 50.7 +0.4**
baz=304
MVCO Mesa Verde 136.94 39 P **PKiKP** **08 21 52.1 0.0**
baz=308
ISCO Idaho Springs 136.95 34 P **PKiKP** **08 21 52.2 +0.1**
baz=314
W18A Petrified Fore 137.39 42 P **PKiKP** **08 21 53.8 +0.8**
baz=305
S22A 4UR Ranch, Cre 137.63 37 P **PKiKP** **08 21 54.1 +0.6**
baz=311
SDCO Great Sand Dun 138.42 36 P **PKiKP** **08 21 54.2 -1.0**
baz=312
BGNE Belgrade 139.45 26 P **PKPdf** **08 21 55.5 +1.0**
baz=325
T25A Trinidad 139.47 36 P **PKiKP** **08 21 57.1 -0.1**
baz=313
E57A Chemin Saint G 139.59 358 P **PKiKP** **08 21 57.2 +0.2**
baz=2.9
ANMO Albuquerque 139.65 40 P **PKiKP** **08 21 57.7 +0.1**
baz=309
ANMO Albuquerque 139.65 40 *i* PKiKP **PKPdf** **08 21 55.6 +0.3**
121A Cookes Peak, D 140.20 44 P **PKiKP** **08 21 58.9 +0.1**
baz=305
AAGR Agrelo 140.66 189 *i* P **PKPdf** **08 21 54.0 -3.1**
CBKS Cedar Bluff 140.77 30 P **PKPdf** **08 21 51.6 -5.3**
baz=321
ASAL Salagasta 141.15 190 *i* P **PKPdf** **08 21 55.3 -2.7**
VA03 San Esteban 141.23 187 PKPdf **PKPdf** **08 21 56.3 -1.8**
LONY Lake Ozonia 141.40 358 P **PKPdf** **08 21 54.0 -3.9**
baz=2.4
AUSP Uspallata 141.60 189 *i* P **PKPdf** **08 21 57.1 -1.9**
KSU1 Kansas State U 142.01 27 P **PKPdf** **08 21 54.7 -4.5**
baz=325
MNTX Cornudas Mount 142.34 43 P **PKPdf** **08 21 57.0 -3.0**
baz=307
CPUP Villa Florida 143.24 209 PKP **PKPdf** **08 22 01.8 +0.1**
comp=Z,5.9nm,1.0s,baz=121,slow=3.2,SNR=8.6
CPUP pPKP **pPKPdf** **08 22 23.8 +1.2**
comp=Z,2.4nm,0.8s,baz=194,slow=4.2,SNR=2.5
CPUP Villa Florida 143.24 209 PKPdf **PKPdf** **08 22 01.6 -0.1**
K57A Scipio Center 143.30 1 P PKPbc 08 21 58.8 +0.3
baz=359
HDIL Hopedale 143.46 17 P PKPbc 08 21 59.1 +0.1
baz=338
BINY Binghamton 143.83 0 P PKPbc 08 22 00.2 +0.2
baz=0.1
T35A Sooner Cattle 143.83 29 PKPdf **PKPdf** **08 22 01.3 -1.1**
ACLC CERRO LA CRUZ 143.85 193 *i* P **PKPdf** **08 22 04.2 +1.3**
L56A Greenwood 143.87 2 P PKPbc 08 22 00.3 +0.1
baz=358
L56A Greenwood 143.87 2 PKPdf PKPbc 08 22 00.8 +0.6
L58A Harry Jones Me 143.99 360 P PKPbc 08 22 01.0 +0.4
baz=0.3
L57A Andrews Acres 144.02 1 P PKPbc 08 22 00.9 +0.3
baz=359
SFIN Lafayette 144.22 15 P PKPbc 08 22 01.7 +0.4
baz=341
SFIN Lafayette 144.22 15 PKPbc 08 22 01.9 +0.6
P43A Skaggs, Pawnee 144.23 18 **PKPdf** **08 22 02.4 -0.7**
QUOK Quay 144.34 29 PKPdf **PKPdf** **08 22 02.8 -0.6**
N49A Columbus Grove 144.34 11 PKPbc 08 22 02.1 +0.5
M53A WI Miller and 144.34 6 P PKPbc 08 22 01.7 0.0
baz=352
M53A WI Miller and 144.34 6 PKPdf PKPbc 08 22 02.1 +0.5
WMOK Wichita Mounta 144.37 33 P PKPbc 08 22 02.6 +0.6
baz=319,SNR=39
WMOK Wichita Mounta 144.37 33 PKiKP **PKPdf** **08 22 02.8 -0.7**
WMOK Wichita Mounta 144.37 33 PKPdf **PKPdf** **08 22 02.8 -0.7**
M54A Oil Creek Stat 144.37 5 P PKPbc 08 22 01.8 0.0
baz=354,SNR=6.2
M54A Oil Creek Stat 144.37 5 PKPbc 08 22 02.2 +0.5
OK031 S. Brethren Rd 144.44 30 **PKPdf** **08 22 02.9 -0.6**
KSPA Keystone Colle 144.47 360 **PKPdf** **08 22 02.8 -0.6**
OK025 Westminster Rd 144.49 31 **PKPdf** **08 22 03.2 -0.4**
M59A Waymart 144.49 359 P PKPbc 08 22 02.6 +0.5
baz=1.1
OK030 Cody Creek RV 144.49 30 **PKPdf** **08 22 03.0 -0.6**
M56A Emporium 144.49 3 P PKPbc 08 22 02.5 +0.3
baz=356,SNR=5.6
M56A Emporium 144.49 3 PKPdf PKPbc 08 22 02.6 +0.5
R40A Maddies Statio 144.49 22 PKPbc 08 22 02.3 +0.1
CYA Choya 144.50 195 *i* P **PKiKP** **08 22 05.9 -1.7**
S39A Bolivar 144.60 24 PKPdf **PKPdf** **08 22 03.8 +0.1**
N51A Ashland 144.64 8 P PKPbc 08 22 02.7 +0.1
baz=349,SNR=5.2
N51A Ashland 144.64 8 PKPbc 08 22 03.0 +0.4
M58A Price's Panora 144.66 1 P **PKPdf** **08 22 03.1 -0.6**
baz=359,SNR=15
M61A Granite Spring 144.67 357 P PKPbc 08 22 02.8 +0.2
baz=3.9
M57A Sunshine Farm, 144.68 2 P **PKPdf** **08 22 03.3 -0.6**
baz=358,SNR=9.0
M57A Sunshine Farm, 144.68 2 PKPdf **PKPdf** **08 22 03.2 -0.6**
M60A Port Jervis 144.69 358 P PKPbc 08 22 03.1 +0.4
baz=2.5
N52A McGinn's Farm, 144.84 8 P PKPbc 08 22 03.5 +0.2
baz=350,SNR=8.9
N54A Moraine State 144.88 5 P PKPbc 08 22 03.7 +0.3
baz=353,SNR=7.0
TXAR Lajitas Array 144.94 45 PKP **PKPdf** **08 22 05.4 +0.7**
comp=Z,28nm,0.7s,baz=278,slow=1.3,SNR=335
TXAR pPKP **pPKPdf** **08 22 23.6 -2.3**
comp=Z,3.6nm,0.6s,baz=254,slow=0.8,SNR=3.3
TXAR SKPbc **SKiKP** **08 25 38.5 +0.3**
comp=Z,0.4nm,0.6s,baz=221,slow=2.6,SNR=3.1
N53A Lisbon 144.95 6 P PKPbc 08 22 03.8 +0.2
baz=352,SNR=7.1
N53A Lisbon 144.95 6 PKPbc 08 22 03.8 +0.2
PAL Palisades 144.98 357 P **PKPdf** **08 22 03.9 -0.3**
baz=3.7,SNR=6.6
TUL1 Leonard 144.99 29 P **PKPdf** **08 22 04.5 0.0**
baz=324,SNR=25
TUL1 Leonard 144.99 29 **PKPab** **08 22 04.1 +0.2**
O49A Covington 145.02 11 **PKPab** **08 22 04.0 +0.2**
BDFB Brasilia 145.04 232 PKPbc **PKiKP** **08 22 08.3 -0.8**
comp=Z,29nm,0.6s,baz=123,slow=3.3,SNR=49
BDFB pPKPbc pPKPbc 08 22 25.7 +0.3
comp=Z,23nm,0.6s,baz=97,slow=3.7,SNR=9.2
N56A West Datur 145.05 3 P **PKPdf** **08 22 04.2 -0.2**
baz=356,SNR=10
W35A Tecumseh 145.06 31 **PKPdf** **08 22 04.4 -0.2**
Q44A Meyer Farm, Va 145.06 18 **PKPab** **08 22 04.1 +0.1**
CCM Cathedral Cave 145.08 21 P **PKPab** **08 22 04.2 0.0**
baz=333
CCM Cathedral Cave 145.08 21 PKiKP **PKPab** **08 22 04.1 0.0**
CCM Cathedral Cave 145.08 21 **PKPab** **08 22 04.1 -0.1**
N59A State Game Lan 145.11 360 P **PKPdf** **08 22 04.8 +0.3**
baz=0.5,SNR=17
N55A Marion Center 145.14 4 P **PKPdf** **08 22 04.5 -0.1**
baz=355,SNR=19
N60A Cedar Hill Far 145.15 359 P **PKPdf** **08 22 04.7 +0.1**
baz=1.7,SNR=5.2
N58A Sunbury 145.19 1 P **PKPdf** **08 22 04.9 +0.2**
baz=359,SNR=34
U38A Gravette 145.20 27 **PKPbc** **08 22 04.5 -0.1**

ACSO	Alum Creek Sta	145.22	9	P		PKPdf	08 22 04.8	+0.1
	baz=348,SNR=16							
ACSO	Alum Creek Sta	145.22	9			PKPbc	08 22 04.2	-0.2
N57A	Milroy	145.25	2	P		PKPdf	08 22 05.0	+0.3
	baz=357,SNR=27							
N61A	South Mountain	145.25	358	P		PKPdf	08 22 05.3	+0.6
	baz=3.1,SNR=6.1							
SSPA	Standing Stone	145.35	3	P		PKPab	08 22 05.3	+0.3
	baz=357							
SSPA	Standing Stone	145.35	3			PKPab	08 22 05.2	+0.2
O51A	Pataskala	145.36	9	P		PKPab	08 22 05.4	+0.3
	baz=348,SNR=47							
ABTX	Abilene, Hawle	145.41	37	P		PKPab	08 22 06.6	+1.0
	baz=315,SNR=21							
O53A	New Philadelph	145.46	7	P		PKPab	08 22 05.6	+0.2
	baz=351,SNR=17							
O53A	New Philadelph	145.46	7			PKPab	08 22 05.5	0.0
MGMO	Mountain Grove	145.48	23			PKPdf	08 22 05.2	-0.2
OLIL	Olney	145.49	17			PKPab	08 22 05.6	0.0
P48A	Milroy	145.49	13			PKPdf	08 22 05.1	-0.1
BLO	Bloomington	145.50	15	PKIKP		PKPab	08 22 05.6	-0.1
BLO	Bloomington	145.50	15			PKPab	08 22 05.6	-0.1
O52A	Adamsville	145.50	8	P		PKPab	08 22 05.6	-0.1
	baz=350,SNR=20							
O52A	Adamsville	145.50	8			PKPbc	08 22 05.4	+0.1
HHAR	Hobbs	145.53	26	PKPdf		PKPdf	08 22 05.4	0.0
P49A	Miami Univ. Ec	145.57	12	P		PKPab	08 22 05.8	-0.1
	baz=345,SNR=34							
P49A	Miami Univ. Ec	145.57	12	PKPdf		PKPbc	08 22 05.7	+0.1
O54A	Avella	145.62	6	P		PKPab	08 22 06.3	+0.3
	baz=352,SNR=16							
O56A	Blue Knob Stat	145.68	4	P		PKPab	08 22 06.7	+0.3
	baz=356,SNR=37							
O55A	Ligonier	145.69	5	P		PKPab	08 22 06.2	-0.2
	baz=354,SNR=8.9							
O60A	Telford	145.71	359	P		PKPab	08 22 06.4	+0.1
	baz=1.1,SNR=5.3							
O59A	Robesonia	145.72	0	P		PKPab	08 22 06.7	+0.2
	baz=360							
O57A	Amberson	145.79	2	P		PKPab	08 22 06.5	-0.1
	baz=357,SNR=15							
O58A	Lewisberry	145.90	1	P		PKPab	08 22 07.0	-0.1
	baz=358,SNR=19							
O61A	Allentown	145.91	358	P		PKPab	08 22 07.3	+0.2
	baz=2.7							
U40A	Yellville	145.93	25	P		PKPbc	08 22 07.0	+0.2
	baz=329,SNR=74							
U40A	Yellville	145.93	25	PKPdf		PKPbc	08 22 06.6	-0.2
P52A	Corning	145.94	9	P		PKPbc	08 22 06.9	+0.1
	baz=349,SNR=17							
P51A	Williamsport	145.94	10	P		PKPbc	08 22 06.8	+0.1
	baz=348,SNR=8.9							
AHML	Horco Molle	145.94	197	*i* P		PKiKP	08 22 10.8	+0.2
S44A	Carbondale	146.09	19			PKPbc	08 22 07.2	0.0
P54A	Burton	146.18	6	P		PKPab	08 22 08.2	0.0
	baz=352,SNR=16							
P53A	Whipple	146.18	8	P		PKPbc	08 22 07.7	+0.2
	baz=350,SNR=10							
P53A	Whipple	146.18	8			PKPbc	08 22 07.5	0.0
MCWV	Mont Chateau	146.19	5	P		PKPab	08 22 08.3	+0.1
	baz=353,SNR=8.0							
P60A	Greenville	146.22	360	P		PKPab	08 22 08.1	-0.2
	baz=0.8,SNR=14							
X37A	Clayton	146.25	30	PKPdf		PKPbc	08 22 07.5	-0.3
Q51A	Peebles	146.33	10	PKPdf		PKPbc	08 22 07.7	-0.2
P55A	Reedsville	146.34	5	P		PKPab	08 22 08.4	-0.5
	baz=353,SNR=9.3							
P61A	Hammonton	146.34	358	P		PKPab	08 22 08.3	-0.4
	baz=2.3							
P59A	Jarrettsville	146.42	1	P		PKPab	08 22 08.8	-0.3
	baz=359,SNR=11							
P56A	Dayton Farm, R	146.42	4	P		PKPab	08 22 08.7	-0.4
	baz=355,SNR=17							
WCI	Wyandotte Cave	146.45	15	P		PKPab	08 22 08.9	-0.4
	baz=341							
WCI	Wyandotte Cave	146.45	15	PKP2		PKPbc	08 22 08.1	-0.2
WCI	Wyandotte Cave	146.45	15	PKPdf		PKPbc	08 22 08.1	-0.2
P57A	Homestead Farm	146.49	3	P		PKPab	08 22 08.9	-0.4
	baz=356,SNR=16							
W39A	Magazine	146.51	27	P		PKPbc	08 22 08.6	+0.1
	baz=327							
W39A	Magazine	146.51	27			PKPbc	08 22 08.4	-0.1
PBMO	Poplar Bluff	146.51	21			PKPbc	08 22 08.3	-0.2
P58A	Pank, Wackersv	146.52	2	P		PKPbc	08 22 08.9	+0.4
	baz=358,SNR=16							
Q52A	Bidwell	146.57	9	P		PKPbc	08 22 08.9	+0.3
	baz=349,SNR=15							
SDMD	Soldier's Deli	146.61	1			PKPbc	08 22 08.8	+0.1
FCAR	Ozark Folk Cen	146.63	24			PKPbc	08 22 08.5	-0.4
R49A	Shelbyville	146.66	13			PKPbc	08 22 09.1	+0.2
Q54A	Coxs Mills	146.75	7	P		PKPbc	08 22 09.6	+0.5
	baz=351,SNR=16							
Q53A	Leroy	146.78	8	P		PKPbc	08 22 09.8	+0.5
	baz=350,SNR=14							
JCT	Junction City	146.80	40	P		PKPbc	08 22 10.0	+0.4
	baz=313,SNR=98							
Q55A	Buckhannon	146.82	6	P		PKPbc	08 22 09.9	+0.5
	baz=353,SNR=21							
Q56A	Snyder Ridge,	146.86	5	P		PKPbc	08 22 09.5	0.0
	baz=354,SNR=11							
Q56A	Snyder Ridge,	146.86	5			PKPbc	08 22 08.9	-0.5
R50A	Paris	146.86	12			PKPbc	08 22 09.2	-0.2
LCAR	Lake Charles	146.87	23	PKPdf		PKPbc	08 22 09.0	-0.6
Q57A	Strasburg	146.92	4	P		PKPab	08 22 10.4	-0.7
	baz=356,SNR=21							
Q60A	Greensboro	147.03	360	P		PKPab	08 22 10.7	-0.7
	baz=0.4							
Q58A	Fox Den Farm,	147.05	2	P		PKPbc	08 22 09.8	-0.2
	baz=357,SNR=11							
WHAR	Wooly Hollow	147.08	25			PKPbc	08 22 10.1	-0.1
MIAR	Mount Ida	147.14	27	P		PKPbc	08 22 10.6	+0.2
	baz=326,SNR=50							
MIAR	Mount Ida	147.14	27	PKP2		PKPbc	08 22 10.1	-0.3
MIAR	Mount Ida	147.14	27			PKPbc	08 22 10.1	-0.3
WHTX	Lake Whitney,	147.15	35	P		PKPbc	08 22 11.1	+0.6
	baz=318,SNR=18							
WHTX	Lake Whitney,	147.15	35	PKPab		PKPab	08 22 11.7	-0.5
Q59A	Harwood	147.16	1	P		PKPbc	08 22 11.0	+0.7
	baz=359							
W41B	Gary Mavity, V	147.20	25	P		PKPbc	08 22 10.5	0.0
	baz=329,SNR=12							
R53A	Hurricane	147.24	9	P		PKPbc	08 22 11.1	+0.5
	baz=349,SNR=19							
R56A	Bull Pasture M	147.47	5	P		PKPbc	08 22 10.6	-0.7
	baz=354,SNR=12							
R54A	Victor	147.52	7	P		PKPbc	08 22 11.0	-0.3
	baz=351,SNR=9.7							
X40A	Basin Creek Fa	147.53	27	P		PKiKP	08 22 12.7	-0.8
	baz=328,SNR=15							
X40A	Basin Creek Fa	147.53	27			PKiKP	08 22 13.1	-0.5
S51A	Beattyville	147.63	11			PKPbc	08 22 10.7	-0.9
R57A	Stanardsville	147.65	4	P		PKPbc	08 22 11.2	-0.5
	baz=355,SNR=9.9							
R58A	Rapidan	147.68	3	P		PKPbc	08 22 12.4	+0.7
	baz=356,SNR=15							
CBN	Corbin Frederi	147.80	2	P		PKPbc	08 22 12.6	+0.6
	baz=358,SNR=5.3							
R59A	King George, V	147.81	2	P		PKPbc	08 22 12.6	+0.5
	baz=358							
S53A	Williamson	147.85	9	P		PKPbc	08 22 12.8	+0.5
	baz=349,SNR=6.9							
S54A	Dingess, Beckl	147.85	8	P		PKPbc	08 22 12.6	+0.3
	baz=350,SNR=8.8							
S54A	Dingess, Beckl	147.85	8			PKPbc	08 22 11.7	-0.6
435B	Jarrell	147.95	37	P		PKPbc	08 22 13.2	+0.4
	baz=316							
435B	Jarrell	147.95	37	PKPab		PKiKP	08 22 14.8	+0.2
T50A	Nancy	147.96	13			PKPbc	08 22 12.4	-0.2
WVT	Waverly	147.98	18	P		PKPbc	08 22 13.3	+0.7
	baz=338							
S55A	Lewisburg	147.98	7	P		PKPbc	08 22 12.7	+0.1
	baz=352							
R58B	Mineral	148.01	3	P		PKPbc	08 22 13.3	+0.7
	baz=357,SNR=11							
S57A	Dark Hollow, R	148.15	5	P		PKPbc	08 22 13.6	+0.5
	baz=354,SNR=11							
S56A	Natural Bridge	148.18	5	P		PKPbc	08 22 13.6	+0.4
	baz=353,SNR=6.6							
S59A	Mechanicsville	148.24	2	P		PKiKP	08 22 14.3	-0.6
	baz=358,SNR=16							
X43A	Marvell	148.33	24	P		PKiKP	08 22 14.7	-0.5
	baz=331							
S58A	Poland Farm, P	148.36	3	P		PKPbc	08 22 13.9	+0.4
	baz=356,SNR=10							
W45A	Hickory Valley	148.41	21			PKPbc	08 22 13.3	-0.4
T53A	Wise	148.46	10	P		PKPbc	08 22 14.4	+0.5
	baz=348,SNR=10							
833A	Chaparral WMA,	148.50	42	P		PKPbc	08 22 13.3	-0.9
	baz=311							
833A	Chaparral WMA,	148.50	42			PKPbc	08 22 13.6	-0.7
T54A	Tazewell	148.54	9	P		PKPbc	08 22 14.6	+0.5
	baz=349,SNR=18							
BLA	Blacksburg	148.55	7	P		PKPbc	08 22 14.3	+0.1
	baz=352							
BLA	Blacksburg	148.55	7	PKP2		PKPbc	08 22 14.0	-0.2
BLA	Blacksburg	148.55	7			PKPbc	08 22 13.9	-0.2
Z41A	Richland Creek	148.57	28	P		PKiKP	08 22 15.5	-0.2
	baz=327							
T55A	Pulaski	148.59	7	P		PKPbc	08 22 14.7	+0.4
	baz=351,SNR=8.3							
V48A	Smith Brothers	148.64	17			PKPbc	08 22 14.4	0.0
TZTN	Tazewell	148.69	12	P		PKiKP	08 22 15.2	-0.7
	baz=346,SNR=15							
T56A	Rocky Mt	148.77	6	P		PKPbc	08 22 15.1	+0.4
	baz=352,SNR=11							
NATX	Nacogdoches	148.86	32	P		PKiKP	08 22 16.7	+0.3
	baz=322							
T60A	Surry	148.88	1	P		PKiKP	08 22 15.9	-0.4
	baz=359							
T57A	Hurt	148.88	5	P		PKPbc	08 22 15.5	+0.6
	baz=354,SNR=7.2							
PLAL	Pickwick Lake	148.95	20			PKPbc	08 22 15.2	+0.1
T58A	Grand View Acr	148.99	4	P		PKiKP	08 22 16.2	-0.3
	baz=355,SNR=12							
T59A	Double "B" Far	149.02	3	P		PKiKP	08 22 16.3	-0.2
	baz=357,SNR=19							
U54A	Nelsons Funny	149.03	9	P		PKPbc	08 22 16.0	+0.6
	baz=349,SNR=7.0							
U55A	TA2, Sparta	149.16	8	P		PKPbc	08 22 16.2	+0.5
	baz=350,SNR=14							
SWET	Sewanee	149.39	16			PKPbc	08 22 16.0	-0.3
U56A	King	149.41	7	P		PKiKP	08 22 16.9	-0.5
	baz=352,SNR=8.3							
U57A	Blanch	149.43	5	P		PKiKP	08 22 17.1	-0.3
	baz=354,SNR=11							
U60A	Pendleton	149.53	2	P		PKiKP	08 22 17.7	+0.1
	baz=358,SNR=14							
U58A	Oxford	149.54	4	P		PKiKP	08 22 17.7	0.0
	baz=355,SNR=13							
U59A	Littleton	149.62	3	P		PKiKP	08 22 17.8	0.0
	baz=357,SNR=5.8							
V54A	Nebo	149.74	10	P		PKPbc	08 22 17.5	+0.4
	baz=348,SNR=10							
V55A	Taylorsville	149.78	9	P		PKPbc	08 22 17.5	+0.3
	baz=350,SNR=8.4							
V56A	Mocksville	149.92	7	P		PKiKP	08 22 18.2	-0.3
	baz=351,SNR=8.3							
V57A	Coltrane Farms	149.93	6	P		PKPbc	08 22 17.9	+0.3
	baz=353,SNR=6.5							
V58A	Windy Hill, Pi	150.09	5	P		PKiKP	08 22 18.6	-0.2
	baz=354							
FPAL	Fort Paine	150.11	16			PKPbc	08 22 17.8	-0.3
V59A	Middlesex	150.18	4	P		PKiKP	08 22 19.0	0.0
	baz=356,SNR=8.1							
V61A	Roper	150.23	1	P		PKiKP	08 22 19.6	+0.5
	baz=359							
V60A	Jim Taylor Roa	150.23	2	P		PKiKP	08 22 19.2	+0.2
	baz=358							
W54A	Cherokee Point	150.37	10	P		PKiKP	08 22 19.4	-0.1
	baz=348,SNR=9.4							
KMSC	Kings Mountain	150.46	9	P		PKiKP	08 22 19.5	-0.1
	baz=349,SNR=12							
VBMS	Vicksburg	150.47	26	P		PKiKP	08 22 20.4	+0.7
	baz=330,SNR=9.8							
W56A	Indian Trail	150.57	8	P		PKiKP	08 22 20.0	+0.1
	baz=351,SNR=6.9							
W57A	Gilead	150.63	7	P		PKiKP	08 22 20.1	+0.1
	baz=352,SNR=6.0							
W58A	Raeford	150.84	6	P		PKiKP	08 22 20.3	-0.1
	baz=354							
X54A	Belton	150.86	11	P		PKiKP	08 22 20.9	+0.5
	baz=347,SNR=14							
W60A	Pink Hill	150.92	3	P		PKiKP	08 22 20.9	+0.4
	baz=357							
X55A	Gracelyn & Ava	151.07	10	P		PKiKP	08 22 21.1	+0.3
	baz=348,SNR=11							
LRAL	Lakeview Retre	151.09	19	P		PKiKP	08 22 21.1	+0.2
	baz=337,SNR=11							
X56A	White Oak	151.14	9	P		PKiKP	08 22 21.3	+0.3
	baz=350,SNR=6.8							
X58A	Rowland	151.29	6	P		PKiKP	08 22 21.6	+0.3
	baz=353							
X57A	Johnson Farm,	151.30	7	P		PKiKP	08 22 21.8	+0.5
	baz=352,SNR=5.6							
X59A	McDuffie Farm,	151.34	5	P		PKiKP	08 22 21.8	+0.4
	baz=355							
X60A	Albert Glenn T	151.38	4	P		PKiKP	08 22 22.2	+0.7
	baz=356							
Y57A	Sumter	151.70	8	P		PKiKP	08 22 22.7	+0.6
	baz=351							
GOGA	Godfrey	151.73	13	P		PKiKP	08 22 22.9	+0.6
	baz=344,SNR=9.2							
Y56A	Pelion	151.78	9	P		PKiKP	08 22 23.2	+0.9
	baz=349							
Y59A	Loris	151.90	5	P		PKiKP	08 22 23.1	+0.5
	baz=354							
Z56A	Williston	152.23	10	P		PKiKP	08 22 24.1	+0.8
	baz=349							
Z57A	Bowman	152.36	9	P		PKiKP	08 22 24.3	+0.8
	baz=350							
Z58A	St. Stephen	152.45	7	P		PKiKP	08 22 24.7	+1.0
	baz=352							
BRAL	Brewton	152.77	21	P		PKiKP	08 22 26.1	+1.6
	baz=336,SNR=13							
TIGA	Tifton	153.58	15	P		PKiKP	08 22 27.0	+0.9
	baz=343							
LPAZ	La Paz	156.66	199	PKP		PKPdf	08 22 26.3	+2.6
	comp=Z,2.1nm,0.8s,baz=150,slow=1.0,SNR=9.8							
LPAZ				PKPab		PKPab	08 22 57.2	+4.4
	comp=Z,3.6nm,0.8s,baz=58,slow=4.9,SNR=7.5							
MTDJ	Mount Denham	167.63	7	PKPab		PKPbc	08 23 39.3	-0.7

IDC 18 08:27:08.5±1.9, 1°49N×126°81E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, Error ellipse: s-maj=170.8km s-min=22.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.55	161	P	P	08 32 09.3	-1.1
	0.5nm,0.3s,baz=340,slow=11,SNR=19						
ASAR	Alice Springs	25.94	165	P	P	08 32 44.0	+1.1
	0.2nm,0.4s,baz=348,slow=13,SNR=4.4						
MKAR	Makanchi Array	59.43	326	P	P	08 37 12.8	-0.4
	0.3nm,0.4s,baz=127,slow=6.5,SNR=5.8						
KURBB	Kurchatov Arra	63.66	328	P	P	08 37 41.8	+0.3
	0.4nm,0.3s,baz=123,slow=6.8,SNR=2.7						

IDC 18 08:45:35.9±2.4, 4°08N×127°21E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/55, mbtmp3.3/3, Error ellipse: s-maj=169.2km s-min=29.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.88	164	P	P	08 51 01.1	+0.6
	0.4nm,0.6s,baz=344,slow=10,SNR=9.1						
ASAR	Alice Springs	28.34	167	P	P	08 51 30.9	-0.8
	0.1nm,0.5s,baz=350,slow=7.8,SNR=2.3						
MKAR	Makanchi Array	57.54	325	P	P	08 55 27.2	0.0
	0.2nm,0.3s,baz=106,slow=7.1,SNR=2.7						

*REY **18** 09:40:08.7, 64°.69N×17°.49W, h0km*
*BGS **18** 09:40:10.8±2.4, 64°.73N×17°.28W, h5km, MS5.1*
*IDC **18** 09:40:11.2±0.4, 64°.52N×17°.60W, h0km, mb4.3/28, mb1 4.4/33, mb1mx4.3/53, mbtmp4.3/33, ML3.3/4, MS4.8/45, Ms1 4.8/45, ms1mx4.7/55, Error ellipse: s-maj=13.9km s-min=8.9km az=16.0*
*MOS **18** 09:40:11.9±1.1, 64°.64N×17°.47W, h9km, mb5.2/77, MS4.9/25, Error ellipse: s-maj=7.5km s-min=5.2km az=99.3*
*BJI **18** 09:40:11.5±0.0, 64°.77N×17°.59W, h7km, mB5.6/44, mb4.9/42, Ms5.1/42, Ms7 4.7/38*
*NEIC **18** 09:40:13.7±1.6, 64°.73N±0°.08×17°.3W±0°.1, h9km±3km, mb5.0/313, Mww5.3, Mwc5.3(GCMT), Error ellipse: s-maj=11.7km s-min=7.9km az=188.0*
*NAO **18** 09:40:13.6±5.5, 64°.40N×16°.96W, ML4.8*
*GCMT **18** 09:40:15.7±0.1, 64°.62N±0°.01×17°.56W±0°.01, h12km, MW5.3/148, Moment Tensor Solution. s94,c144; s148,c292; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=1.22±.01; Mθθ=0.45±.01; Mϕϕ=0.77±.01; Mrθ=0.19±.04; Mrϕ=0.29±.01; Mθϕ=0.03±.04; Best double couple: M0=1.10000×10^17 NP1:ϕs=205.00000°, δ=42.00000°, λ=-98.00000°. NP2:ϕs=36.00000°, δ=49.00000°, λ=-83.00000°. Principal axes: T 0.9580, Plg3.0000°, Azm121.0000°; N 0.2880, Plg6.0000°, Azm211.0000°; P -1.2420, Plg83.0000°, Azm0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 09:40:16, 64°.61N×17°.55W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.20; Mθθ=0.43; Mϕϕ=0.77; Mrθ=-0.20; Mϕθ=0.31; Mϕr=-0.17; Fault plane solution: M0=1.13000×10^17 NP1:ϕs=208.00000°, δ=39.00000°, λ=-95.00000°. NP2:ϕs=34.00000°, δ=52.00000°, λ=-86.00000°. Principal axes: T 0.9767, Plg6.0000°, Azm122.0000°; N 0.2571, Plg3.0000°, Azm212.0000°; P -1.2338, Plg83.0000°, Azm328.0000°;*
*NEIC **18** 09:40:17, 64°.82N×17°.26W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.19; Mθθ=0.47; Mϕϕ=0.71; Mrθ=0.01; Mϕθ=0.27; Mϕr=0.78; Fault plane solution: M0=1.32000×10^17 NP1:ϕs=38.00000°, δ=29.00000°, λ=-69.00000°. NP2:ϕs=195.00000°, δ=63.00000°, λ=-100.00000°. Principal axes: T 1.0946, Plg18.0000°, Azm293.0000°; N 0.3751, Plg10.0000°, Azm200.0000°; P -1.4697, Plg70.0000°, Azm83.0000°;*
*DNK **18** 09:40:18.4±3.9, 64°.63N×17°.37W, h30km±317km, mb5.4, Ms5.1*

ISC 18 09:40:13.0±0.3, 64°.53N±0°.03×17°.60W±0°.02, h5km±2km, h5km:pP-P, n975, σ2s14/899, mb5.0/278, MS4.9/87, 41C-9D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVOT	Vottur	0.32	145	P	Pg	09 40 18.3	-0.8
	baz=163						
ISKR	Skrokalda	0.34	275	P	Pg	09 40 17.0	-2.6
	baz=252						
IJOK	Jokulheimar	0.35	232	P	Pg	09 40 18.2	-1.5
	baz=221						
IKVE	Kverkfjoll	0.42	69	P	Pg	09 40 16.4	-4.7
	baz=91						
IIEY	Innrieyrar	0.49	208	P	Pg	09 40 20.9	-1.5
	baz=206						
IKRE	Kreppuhraun	0.58	63	P	Pg	09 40 18.0	-6.1
	baz=78						
IKAL	Kalfafell	0.59	184	P	Pg	09 40 22.5	-1.7
	baz=187						
IKSK	Karasker	0.61	127	P	Pg	09 40 21.0	-3.7
	baz=140						
IVAT	Vatnsfell	0.67	240	P	Pg	09 40 24.2	-1.6
	baz=232						
IMKO	Mokollar	0.70	50	P	Pg	09 40 19.7	-6.7
	baz=58						
ISVA	Svartarkot	0.82	10	P	Pg	09 40 21.5	-7.2
	baz=8.3						
IVSH	V-Sauoahnukur	0.85	70	P	Pg	09 40 22.6	-6.6
	baz=80						
IHVE	Hveravellir	0.91	293	P	Pg	09 40 25.6	-4.9
	baz=283						
ISNB	Snabyli	0.92	210	P	Pg	09 40 28.4	-2.1
	baz=208						
ISLY	Slysaalda	0.97	224	P	Pg	09 40 29.2	-2.4
	baz=220						
IADA	Aoalbol	0.99	60	P	Pg	09 40 24.6	-7.4
	baz=67						
IFED	Fedgar	1.05	242	P	Pb	09 40 30.4	-3.1
	baz=236						
IMEL	Melhnausar	1.12	20	P	Pg	09 40 26.4	-8.0
	baz=21						
IREN	Reynihlio	1.16	14	P	Pg	09 40 26.9	-8.2
	baz=14						
IKVO	Krokottuvotn	1.23	14	P	Pb	09 40 28.2	-8.4
	baz=14						
IGRS	Grimsstaoir	1.27	29	P	Pb	09 40 29.1	-8.3
	baz=30						
IGHA	Grjothals	1.38	16	P	Pn	09 40 30.8	-8.1
	baz=16						
IGRA	Granastaoir	1.39	0	P	Pn	09 40 31.2	-7.8
	baz=358						
IHLA	Hella	1.46	347	P	Pn	09 40 32.9	-7.0
	baz=344						
IDIM	Dimmadalss	1.46	11	P	Pn	09 40 32.1	-7.9
	baz=9.9						
BORG	Borgarnes	1.62	279	Pg	Pn	09 40 38.6	-3.6
	134nm,0.3s,baz=78,slow=5.8,SNR=92						
BORG				Lg	Lg	09 41 03.3	
	284nm,0.3s,baz=247,slow=22,SNR=9.5						
BORG	Borgarnes	1.62	279	P	Pn	09 40 41.7	-0.5
BORG						09 41 06.5	
BORG	Borgarnes	1.62	279	Pn	Pn	09 40 41.7	-0.5
BORG				Sn	Sg	09 41 06.5	+1.5
JMIC	Jan Mayen	7.33	24	Pn	Pn	09 42 02.6	+2.0
JMIC	Jan Mayen	7.33	24	LR	LR	09 44 06.8	
	comp=Z,4μm,20.1s,baz=164,slow=32						
JMIC	Jan Mayen	7.33	24	Pn	Pn	09 42 02.6	+2.0
LEWI	Lewis, Hebride	8.21	136	*eP*	Pn	09 42 11.6	-1.0
LEWI				IAMs_20	IAMs_20	09 46 09.5	
	comp=Z,16μm,13.1s						
ANGG	Ammassalik, Gr	8.53	286	IAMs_20	IAMs_20	09 45 21.1	
	comp=Z,24μm,13.7s						
KAC	Achnashellach	9.22	134	*eP*	Pn	09 42 24.5	-2.0
KPL	Plockton	9.25	136	*eP*	Pn	09 42 25.0	-1.8
KPL				IAMs_20	IAMs_20	09 46 29.1	
	comp=Z,22μm,11.6s						
ICESG	Greenland Ices	9.79	308	*eP*	Pn	09 42 37.4	+2.9
DBG	Daneborg	9.87	356	*i* P	Pn	09 42 36.6	+1.4
DBG				IAMs_20	IAMs_20	09 47 47.2	
	comp=Z,10μm,7.3s						
LAWE	Loch Awe, Argy	10.24	138	*eP*	Pn	09 42 40.8	+0.5
LAWE				IAMs_20	IAMs_20	09 47 15.5	
	comp=Z,18μm,11.9s						
INVG	Invergeldie, C	10.50	134	*eP*	Pn	09 42 42.2	-1.7
INVG				IAMs_20	IAMs_20	09 47 01.3	
	comp=Z,21μm,12.8s						
EAB	Aberfoyle	10.61	136	*eP*	Pn	09 42 44.7	-0.7
PGBU	Glenifferbraes	10.89	137	*eP*	Pn	09 42 48.3	-1.0

NC303	NORSAR Array S	13.55	91			Pn		09 43 22.9	-2.8
STEI	Steigen	13.56	61	*e*	P			09 43 28.6	-6.3
NB2	NORSAR Subarra	13.57	92		Pn		Pn	09 43 21.3	-4.6
	comp=Z,399nm,3.3s,baz=298,slow=14								
NOA	NORSAR Array B	13.57	92		Pn		Pn	09 43 20.4	-5.6
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=2.6								
NOA					LR		LR	09 48 45.7	
	comp=Z,4μm,19.1s,baz=300,slow=38								
KONO	Kongsberg	13.57	99		P		Pn	09 43 23.8	-2.1
KONO	Kongsberg	13.57	99		Pn		Pn	09 43 23.8	-2.1
NB201	NORSAR Array S	13.60	92		Pn		Pn	09 43 25.1	-1.2
FAUS	Fauske	13.60	63	*e*	P		Pn	09 43 26.2	0.0
SFJD	Kangerlussuaq	13.69	295		LR		LR	09 48 15.5	
	comp=Z,17μm,21.6s,baz=88,slow=35								
SFJD	Kangerlussuaq	13.69	295		IAMs_20		IAMs_20	09 48 19.5	
	comp=Z,1μm,12.3s								
ILULI	Ilulissat	13.84	305		IAMs_20		IAMs_20	09 48 35.6	
	comp=Z,28μm,11.4s								
NUUK	Nuuk	14.68	284		IAMs_20		IAMs_20	09 48 40.4	
	comp=Z,11μm,15.2s								
TRO	Tromso	14.92	54		P		Pn	09 43 44.6	+0.4
TRO	Tromso	14.92	54	*e*	P		P	09 43 45.9	-4.1
HFS	Hagfors	15.08	92		P		Pn	09 43 44.1	-2.3
HFS	Hagfors	15.08	92		Pn		Pn	09 43 43.9	-2.5
	comp=Z,0.1nm,0.3s,baz=298,slow=3.1,SNR=2.4								
HFS					LR		LR	09 49 51.6	
	comp=Z,4μm,18.5s,baz=290,slow=38								
HFS	Hagfors	15.08	92		P		Pn	09 43 44.1	-2.3
MUD	Monsted U'grnd	15.36	109		IAMs_20		IAMs_20	09 52 34.9	
	comp=Z,5μm,11.2s								
KIF	Kilpisjarvi	15.59	56	*e*	P		Pn	09 43 52.7	-0.3
BJO1	Bjornoya	15.88	36	*e*	P		P	09 43 57.1	-3.5
UPNV	Upernavik	15.95	318	*e*	P		P	09 44 02.2	+0.8
UPNV					IAMs_20		IAMs_20	09 49 45.5	
	comp=Z,15μm,14.3s								
HSPB	Hornsund (broa	16.21	26		P		P	09 44 02.8	-1.4
HSPB	Hornsund (broa	16.21	26	*e*	P		P	09 44 02.6	-1.7
HSPB				*e*	L		L	09 48 28.9	
	comp=Z,3μm,16.0s								
HSPB	Hornsund (broa	16.21	26	*e*	P		P	09 44 02.9	-1.3
HAMF	Hammerfest	16.58	50		P		P	09 44 06.0	-2.3
HAMF	Hammerfest	16.58	50	*e*	P		P	09 44 05.9	-2.5
BRBB	Barentsburg B	16.60	23		P		P	09 44 08.7	+0.2
BRBB	Barentsburg B	16.60	23		P		P	09 44 08.7	+0.2
KBS	Kingsbay	16.78	19		P		P	09 44 10.9	+0.3
KBS	Kingsbay	16.78	19	*e*	P		P	09 44 12.3	+1.8
KBS	Kingsbay	16.78	19	*i*	P		P	09 44 10.7	+0.1
SPA0	Spitsbergen Ar	17.01	23		P		P	09 44 14.2	+1.1
	baz=260,slow=16								
SPA0	Spitsbergen Ar	17.01	23				P	09 44 11.0	-2.2
SPA0	Spitsbergen Ar	17.01	23	*e*	P		P	09 44 14.7	+1.6
SPITS	Spitsbergen Ar	17.01	23		Pn		Pn	09 44 09.7	-1.5
	baz=339,slow=9.3,SNR=11								
SPITS					LR		LR	09 48 42.3	
	comp=Z,2μm,21.1s,baz=250,slow=30								
NOR	Nord	17.16	0		P		P	09 44 12.7	-2.0
NOR	Nord	17.16	0	⇓*i*	P		P	09 44 12.8	-2.0
NOR					pmax		pmax		
	comp=Z,710nm,2.2s								
NOR	Nord	17.16	0		P		P	09 44 12.7	-2.0
NOR	Nord	17.16	0	⇓*i*	P		P	09 44 12.8	-2.0
	comp=Z,710nm,2.2s								
NOR	Nord	17.16	0	⇓*i*	P		P	09 44 12.8	-2.0
NOR					IAmb		IAmb	09 44 16.9	
	comp=Z,711nm,2.2s								
NOR					IAMs_20		IAMs_20	09 51 59.5	
	comp=Z,4μm,8.2s								
ARD8	ARCESS Array S	17.22	54		P		Pn	09 44 10.3	-3.5
ARD7	ARCESS Array S	17.22	54		P		Pn	09 44 10.5	-3.4
ARD9	ARCESS Array S	17.22	54		P		Pn	09 44 10.3	-3.6
ARC6	ARCESS Array S	17.23	54		P		Pn	09 44 10.4	-3.5
ARB5	ARCESS Array S	17.23	54		P		Pn	09 44 10.5	-3.5
ARA0	ARCESS Array S	17.23	54		P		P	09 44 13.2	-2.4
ARA0	ARCESS Array S	17.23	54		P		P	09 44 13.2	-2.4
ARCES	ARCESS Array B	17.23	54		P		P	09 44 14.4	-1.2
	baz=296,slow=8.9,SNR=9.8								
ARCES					LR		LR	09 49 57.3	
	comp=Z,1μm,18.7s,baz=275,slow=34								
BSEG	Bad Segeberg	17.62	114	*e*	P		P	09 44 19.8	-0.1
	comp=Z,228nm,1.7s,baz=326,slow=11								
KEV	Kevo	17.74	53		P		P	09 44 19.8	-1.4
KEV					pmax		pmax		
	comp=Z,40nm,1.1s								
KEV	Kevo	17.74	53				P	09 44 19.8	-1.4
IBBN	Ibbenburen	17.89	121	*e*	P		P	09 44 26.4	+3.4
	comp=Z,253nm,1.8s,baz=326,slow=11								
UCC	Uccle	17.94	130		P		P	09 44 23.2	-0.3
UCC					pmax		pmax		
	comp=Z,68nm,1.5s								
UCC	Uccle	17.94	130		P		P	09 44 23.2	-0.3
HOPEN	Hopen	17.97	31		P		P	09 44 24.5	+0.8
HOPEN	Hopen	17.97	31	*e*	P		P	09 44 24.7	+1.0
RGN	Rugen	18.38	108	*e*	P		P	09 44 28.2	-0.1
BUG	Bochum--Univer	18.42	124	*e*	P		Pn	09 44 32.5	+3.8
	comp=Z,1μm,3.7s,baz=326,slow=11								
BMRD	Maredsous	18.50	130		Pn		Pn	09 44 31.6	+1.8
BSTI	Sart Tilman	18.53	128		Pn		P	09 44 28.4	-1.6
BGES	Gesves	18.54	129		Pn		Pn	09 44 30.7	+0.4
	comp=Z,54nm,2.0s								
BGES					PnPn		PnPn	09 44 43.5	+1.8
BCLA	Clavier	18.58	129		Pn		Pn	09 44 31.1	+0.3
	comp=Z,43nm,2.2s								
DOU	Dourbes	18.62	130		Pn		Pn	09 44 31.2	0.0
	comp=Z,34nm,2.3s								
DOU					x		x	09 44 35.0	
BSD	Bornholm Skovb	18.65	105	⇑*i*	P		Pn	09 44 32.4	+0.9
BSD					MLR		MLR		
	comp=Z,3μm,17.0s								
BSD	Bornholm Skovb	18.65	105	⇑*i*	P		Pn	09 44 32.4	+0.9
	comp=Z,3μm,17.0s								
BSD	Bornholm Skovb	18.65	105	⇑*i*	P		Pn	09 44 32.4	+0.9
BSD					IAMs_20		IAMs_20	09 52 35.0	
	comp=Z,3μm,16.8s								
MEM	Membach	18.66	127		Pn		Pn	09 44 32.3	+0.5
MEM					x		x	09 44 33.1	
RCHB	Rochefort	18.78	129		x		Pn	09 44 35.1	+1.9
ASSE	Asse, Remlinge	19.14	117	*e*	P		Pn	09 44 38.4	+1.0
	comp=Z,133nm,1.8s,baz=326,slow=11								
CLZ	Clausthal	19.25	118	*e*	P		Pn	09 44 40.1	+1.2
	comp=Z,113nm,1.6s,baz=326,slow=11								
GTTG	Gottingen	19.33	119	*e*	P		Pn	09 44 41.2	+1.4
	comp=Z,182nm,1.8s,baz=326,slow=11								
WLF	Walferdange	19.51	128		PnPn		PnPn	09 44 54.2	-0.8
WLF	Walferdange	19.51	128		P		P	09 44 39.0	-1.8
WLF					pmax		pmax		
	comp=Z,64nm,1.5s								
WLF	Walferdange	19.51	128	*e*	P		Pn	09 44 44.4	+2.4
	comp=Z,218nm,2.1s,baz=326,slow=11								
WLF	Walferdange	19.51	128				P	09 44 39.0	-1.8
CLF	Chambon-Foret	19.72	138		P		Pn	09 44 43.7	-0.8
FIA0	FINESS Array S	19.77	79		P		P	09 44 40.7	-2.8
	baz=273,slow=28								
FIA0	FINESS Array S	19.77	79		P		P	09 44 40.7	-2.8
	baz=273,slow=28								
FINES	FINESS Array B	19.77	79		P		P	09 44 41.7	-1.8
	comp=Z,0.3nm,0.3s,baz=304,slow=8.5,SNR=13								
FINES					LR		LR	09 51 53.0	
	comp=Z,2μm,20.0s,baz=296,slow=36								
FINES	FINESS Array B	19.77	79		P		P	09 44 42.5	-1.0
FINES	FINESS Array B	19.77	79		P		P	09 44 42.5	-1.0
FIA1	FINESS Array S	19.77	79		P		P	09 44 41.4	-2.1
FIA1					IAmb		IAmb	09 44 49.1	
	comp=Z,111nm,1.4s								
TNS	Taunus Mts	19.84	124	*e*	P		Pn	09 44 48.8	+2.8
	comp=Z,356nm,2.6s,baz=326,slow=11								
UBBA	Unterbreizbach	19.93	120	*e*	P		Pn	09 44 49.4	+2.6
	comp=Z,236nm,2.0s,baz=326,slow=11								
RUE	Ruedersdorf	20.09	112	*e*	P		Pn	09 44 48.2	-0.6
SLIT	Slitere, Latvi	20.19	91	*e*	P		Pn	09 44 47.6	-2.2
NEUB	Neuenburg	20.29	117	*e*	P		Pn	09 44 52.8	+1.7
	comp=Z,450nm,1.8s,baz=326,slow=11								
APA	Apatity	20.43	59	⇑*i*	P		Pn	09 44 49.8	-3.0
APA					pmax		pmax		
	comp=Z,15nm,1.2s								
APA					MLR		MLR		
	comp=Z,1μm,10.0s								
MOX	Moxa	20.67	118	*e*	P		Pn	09 44 57.0	+1.3
	comp=Z,123nm,1.6s,baz=326,slow=11								
CLL	Collm	20.68	115	*e*	P		P	09 44 53.0	-0.5
CLL				*i*	Pmax			09 44 55.4	
	comp=Z,304nm,2.1s								
CLL				*e*	Pmax			09 45 00.0	
CLL				*i*				09 45 03.8	
CLL				*e*	S		Sn	09 48 50.0	+0.8
CLL					Lmax			09 54 00.0	
CLL	Collm	20.68	115	*e*	P		P	09 44 53.0	-0.5
CLL				*e*	S		Sn	09 48 50.0	+0.8
CLL					pmax		pmax		
	comp=Z,304nm,2.1s								
CLL	Collm	20.68	115	*e*	P		Pn	09 44 56.7	+0.9
	comp=Z,304nm,2.1s,baz=326,slow=11								
CLL	Collm	20.68	115		P		P	09 44 52.4	-1.1
CLL					lAmb		lAmb	09 44 59.8	
	comp=Z,104nm,1.5s								
LVZ	Lovozero	20.80	57	*ce*	P		P	09 44 53.6	-1.1
LVZ					pmax		pmax		
	comp=Z,126nm,2.5s								
LVZ	Lovozero	20.80	57		P		P	09 44 53.4	-1.3
PLN	Plauen	21.01	118	*e*	P		P	09 45 00.4	+3.4
	comp=Z,650nm,2.8s,baz=326,slow=11								
PBUR	Paburge	21.03	95	*e*	P		P	09 44 56.8	-0.3
WERD	Werda	21.10	118	*e*	P		P	09 45 01.2	+3.2
	comp=Z,307nm,3.0s,baz=326,slow=11								
GUNZ	Gunzen	21.17	118	*e*	P		P	09 45 01.9	+3.1
	comp=Z,571nm,2.8s,baz=326,slow=11								
TANN	Tannenbergstha	21.18	118	*e*	P		P	09 45 02.0	+3.0
	comp=Z,895nm,2.5s,baz=326,slow=11								
WERN	Wernitzgruen	21.25	118	*e*	P		P	09 45 02.8	+3.1
	comp=Z,110nm,1.4s,baz=326,slow=11								
GRA1	Grafenberg Arr	21.30	120		lAmb		lAmb	09 45 19.8	
	comp=Z,105nm,1.2s								
GRF	Grafenberg Arr	21.30	120	*e*	P		P	09 45 03.8	+3.6
	comp=Z,786nm,2.8s,baz=326,slow=11								
NKC	Novy Kostel	21.32	118	*e*	P		P	09 45 02.0	+1.6
NKC				*e*	pP		sP	09 45 06.8	+3.7
NKC				*e*	S		Sn	09 49 04.4	-0.2
NKC					AMS		AMS	09 55 00.0	
	comp=Z,7μm,14.9s								
NKC	Novy Kostel	21.32	118	*e*	P		P	09 45 02.0	+1.6
NKC				*e*				09 45 06.8	
NKC				*e*	S		Sn	09 49 04.4	-0.2
NKC					MLR		MLR		
	comp=Z,7μm,14.9s								
STU	Stuttgart	21.33	125		P		P	09 45 01.0	+0.5
STU					pmax		pmax		
	comp=Z,165nm,1.3s								
STU	Stuttgart	21.33	125	*e*	P		P	09 45 04.5	+4.1
	comp=Z,167nm,1.3s,baz=326,slow=11								
STU	Stuttgart	21.33	125		P		P	09 45 00.9	+0.5
MANZ	Manzenberg	21.39	119	*e*	P		P	09 45 04.4	+3.1
	comp=Z,62nm,1.4s,baz=326,slow=11								
BRG	Berggiesshubel	21.39	115	*i*	P		P	09 45 00.5	-0.7
	comp=Z,211nm,1.9s								
BRG				*e*				09 45 12.2	
	comp=Z,168nm,1.5s								
BRG					S		Sn	09 49 05.0	-1.2
	comp=N,6μm,18.3s								
	comp=E,4μm,14.7s								
	comp=Z,9μm,16.3s								
BRG	Berggiesshubel	21.39	115	*i*	P		P	09 45 00.5	-0.7
BRG					S		Sn	09 49 05.0	-1.2
BRG					pmax		pmax		
	comp=Z,211nm,1.9s								
BRG					pmax		pmax		
	comp=Z,168nm,1.5s								
BRG					MLR		MLR		
	comp=N,6μm,18.3s								
BRG					MLR		MLR		
	comp=E,4μm,14.7s								
BRG					MLR		MLR		
	comp=Z,9μm,16.3s								
BRG	Berggiesshubel	21.39	115	*e*	P		P	09 45 02.9	+1.7
	comp=Z,589nm,2.6s,baz=326,slow=11								
BFO	Black Forest	21.40	127		P		P	09 45 01.7	+0.4
BFO					pmax		pmax		
	comp=Z,88nm,1.3s								
BFO	Black Forest	21.40	127	*e*	P		P	09 45 05.2	+3.9
	comp=Z,589nm,2.6s,baz=326,slow=11								
BFO	Black Forest	21.40	127		P		P	09 45 01.7	+0.4
BFO					lAmb		lAmb	09 45 07.7	
	comp=Z,88nm,1.3s								
ROTZ	Rotzenmuhle	21.61	119	*e*	P		P	09 45 06.7	+3.3
	comp=Z,130nm,1.7s,baz=326,slow=11								
VSU	Vasula	21.62	86	*e*	P		P	09 45 02.1	-1.4
VSU	Vasula	21.62	86	*i*	P		P	09 45 03.2	-0.3
VSU					pmax		pmax		
	comp=Z,191nm,0.9s								
FRB	Frobisher Bay	21.76	291		LR		LR	09 53 05.6	
	comp=Z,6μm,19.0s,baz=65,slow=36								
PVCC	Panska Ves	21.91	114	*e*	P		P	09 45 11.9	+5.2
PVCC				*e*	S		Sn	09 49 14.3	-4.3
PVCC					AMS		AMS	09 55 00.0	
	comp=Z,7μm,16.8s								
PVCC	Panska Ves	21.91	114	*e*	P		P	09 45 11.9	+5.2
PVCC				*e*	S		Sn	09 49 14.3	-4.3
PVCC					MLR		MLR		
	comp=Z,7μm,16.8s								
PRA	Prague	22.22	115		AMS		AMS	09 55 10.0	
	comp=Z,3μm,16.3s								
PABE	Paberze	22.24	94	*e*	P		P	09 45 09.9	-0.3
PRU	Pruhonice	22.33	115	*e*	P		P	09 45 11.1	-0.1
PRU				*e*	S		Sn	09 49 23.2	-5.4
PRU					AMS		AMS	09 55 20.0	
	comp=Z,7μm,14.8s								
PRU	Pruhonice	22.33	115	*e*	P		P	09 45 11.1	-0.1
PRU					MLR		MLR		
	comp=Z,7μm,14.8s								
KSP	Ksiaz	22.35	112	*e*	P		P	09 45 13.1	+1.6
KSP				*e*	S		Sn	09 49 24.9	-4.3
KSP				*e*	L		L	09 57 22.8	
	comp=Z,4μm,12.8s								
PBCC	Pribram	22.36	117	*e*	P		P	09 45 13.8	+2.3
PBCC				*ex*			x	09 45 17.5	
WET	Wettzell	22.37	119	*e*	P		P	09 45 14.9	+3.2
	comp=Z,49nm,1.7s,baz=326,slow=11								
CHVC	Chvalec	22.45	112	*e*	S		Sn	09 49 26.7	-5.0
CHVC					AMS		AMS	09 54 50.0	
	comp=Z,6μm,18.0s								
GOPC	GO Pecny, Ondr	22.48	115	*e*	P		P	09 45 12.6	-0.3
GOPC				*e*	pP		sP	09 45 18.5	+3.0
GOPC				*e*	S		Sn	09 49 25.1	-7.3
GOPC					AMS		AMS	09 55 20.0	
	comp=Z,7μm,16.7s								
GOPC	GO Pecny, Ondr	22.48	115	*e*	P		P	09 45 12.6	-0.3
GOPC				*e*				09 45 18.5	
GOPC					MLR		MLR		
	comp=Z,7μm,16.7s								
UPC	Upice	22.50	113	*e*	P		P	09 45 13.3	+0.3
UPC				*e*	S		Sn	09 49 26.7	-6.0
UPC					AMS		AMS	09 55 00.0	
	comp=Z,7μm,17.9s								
UPC	Upice	22.50	113	*e*	P		P	09 45 13.3	+0.3
UPC					MLR		MLR		
	comp=Z,7μm,17.9s								
OSTC	Ostas	22.54	112	*e*	P		P	09 45 13.7	+0.2
OSTC				*e*	S		Sn	09 49 26.4	-7.4
OSTC					AMS		AMS	09 54 50.0	
	comp=Z,6μm,18.2s								
UBR	Ueberruh	22.58	125	*e*	P		P	09 45 18.9	+4.9
	comp=Z,119nm,1.4s,baz=326,slow=11								
KHC	Kasperske Hory	22.65	118	*e*	P		P	09 45 13.8	-0.9
KHC				*e*	pP		sP	09 45 18.2	+0.9
KHC				*e*	S		Sn	09 49 30.0	-6.3
KHC					AMS		AMS	09 54 30.0	
	comp=Z,6μm,18.7s								
KHC	Kasperske Hory	22.65	118	*e*	P		P	09 45 13.8	-0.9
KHC				*e*				09 45 18.2	
KHC					MLR		MLR		
	comp=Z,6μm,18.7s								
KHC	Kasperske Hory	22.65	118		P		P	09 45 15.2	+0.5
DPC	Dobruska-Polom	22.75	112	*e*	P		P	09 45 15.4	-0.3
DPC				*e*	S		Sn	09 49 31.3	-7.4
DPC					AMS		AMS	09 54 50.0	
	comp=Z,6μm,17.7s								
DPC	Dobruska-Polom	22.75	112	*e*	P		P	09 45 15.4	-0.3
DPC					MLR		MLR		
	comp=Z,6μm,17.7s								
SENIN	Lac Senin/Sane	22.77	131		P		P	09 45 17.3	+1.2
DAVA	Damuels	22.83	126	*e*	P		P	09 45 18.1	+1.3
	comp=Z,44nm,1.4s,SNR=7.6								
SSB	Saint Sauveur	22.88	137		P		P	09 45 16.9	-0.2
SSB					pmax		pmax		
	comp=Z,78nm,1.5s								
SSB	Saint Sauveur	22.88	137		P		P	09 45 16.9	-0.2
SSB					lAmb		lAmb	09 45 27.7	
	comp=Z,78nm,1.5s								
SUW	Suwalki	22.91	98	*e*	P		P	09 45 17.4	+0.1
SUW				*e*	S		S	09 49 32.4	+5.1
SUW				*e*	L		L	09 55 53.2	
	comp=Z,2μm,15.7s								
SUW	Suwalki	22.91	98		P		P	09 45 15.7	-1.6
SUW					pmax		pmax		
	comp=Z,101nm,1.1s								
SUW	Suwalki	22.91	98		P		P	09 45 15.7	-1.6
GEC2	GERESS Array S	22.93	118	*e*	P		P	09 45 21.8	+4.1
	comp=Z,110nm,1.8s,baz=326,slow=11								
GEC2	GERESS Array S	22.93	118		P		P	09 45 17.5	-0.2
GEC2					lAmb		lAmb	09 45 30.7	
	comp=Z,90nm,1.4s								
GERES	GERESS Array B	22.93	118		P		P	09 45 16.7	-0.9
	comp=Z,8.8nm,0.9s,baz=322,slow=8.5,SNR=17								
GERES					LR		LR	09 55 06.6	
	comp=Z,6μm,19.7s,baz=331,slow=39								
GERES	GERESS Array B	22.93	118		P		P	09 45 16.6	-1.1
GERES	GERESS Array B	22.93	118		P		P	09 45 16.6	-1.1
RETA	Reutte	22.97	124	*e*	P		P	09 45 18.3	+0.1
	comp=Z,55nm,1.4s,SNR=11								
ISAL	Salakas	23.13	92	*e*	P		P	09 45 19.6	0.0
KRLC	Kraliky	23.14	112	*e*	P		P	09 45 19.5	-0.4
KRLC				*e*	pP		sP	09 45 23.1	+0.6
KRLC				*e*	S		S	09 49 38.0	+6.3
KRLC					AMS		AMS	09 55 20.0	
	comp=Z,5μm,17.6s								
KRLC	Kraliky	23.14	112	*e*	P		P	09 45 19.5	-0.4
KRLC				*e*				09 45 23.1	
KRLC					MLR		MLR		
	comp=Z,5μm,17.6s								
MOTA	Moosalm	23.22	124	*e*	P		P	09 45 21.4	+0.6
	comp=Z,120nm,1.5s,SNR=9.2								
PGAV	Gavieira, Arco	23.23	162	*i*	LQ		LQ	09 49 44.9	
PGAV				*e*	LQ		LQ	09 51 31.4	
PGAV					A		A	09 53 34.7	
	comp=Z,3μm,20.0s								
TREC	Trest	23.25	115	*e*	P		P	09 45 22.5	+1.6
TREC				*e*	S		Sn	09 49 40.8	-10
TREC					AMS		AMS	09 56 10.0	
	comp=Z,6μm,14.1s								
TREC	Trest	23.25	115	*e*	P		P	09 45 22.5	+1.6
TREC					MLR		MLR		
	comp=Z,6μm,14.1s								
DAVOX	Davos/Dischmat	23.27	127		P		P	09 45 20.5	-0.8
	comp=Z,9.4nm,1.0s,baz=321,slow=13,SNR=7.8								
DAVOX					LR		LR	09 55 23.8	
	comp=Z,7μm,18.6s,baz=336,slow=39								
TUE	Stuetta	23.35	128		P		P	09 45 23.7	+1.5
FETA	Feichten	23.36	125	*e*	P		P	09 45 24.9	+2.7
	comp=Z,64nm,1.5s								
SQTA	Sankt Quirin	23.36	124		P		P	09 45 22.4	+0.2
	comp=Z,79nm,1.6s,SNR=10								
WATA	Walderalm	23.39	123	*e*	P		P	09 45 23.1	+0.6
	comp=Z,48nm,1.4s,SNR=9.7								
WTTA	Wattenberg	23.48	123	*e*	P		P	09 45 23.8	+0.4
	comp=Z,48nm,1.4s,SNR=11								
FUORN	Ofenpass-Fuorn	23.54	126		P		P	09 45 24.9	+0.8
FUORN					lAmb		lAmb	09 45 50.2	
	comp=Z,51nm,1.5s								
PBRG	Braganca	23.61	159	*e*	P		P	09 45 28.2	+3.6
	comp=Z,116nm,1.9s								
VRAC	Vranov	23.68	114		P		P	09 45 24.8	-0.3
	comp=Z,2.2nm,0.3s,baz=326,slow=11,SNR=20								
VRAC					LR		LR	09 56 09.6	
	comp=Z,7μm,18.0s,baz=326,slow=40								
VRAC	Vranov	23.68	114	⇑	P		P	09 45 27.9	+2.8
VRAC	Vranov	23.68	114	*e*	P		P	09 45 26.8	+1.6
VRAC				*e*	S		S	09 49 34.0	-6.2
VRAC	Vranov	23.68	114	⇑	P		P	09 45 27.9	+2.8
MORC	Moravsky Berou	23.68	112	⇑	P		P	09 45 27.5	+2.2
MORC	Moravsky Berou	23.68	112	*e*	P		P	09 45 26.9	+1.6
MORC				*e*	S		S	09 49 34.0	-6.4
MORC	Moravsky Berou	23.68	112	⇑	P		P	09 45 27.5	+2.2
MORC	Moravsky Berou	23.68	112		P		P	09 45 26.0	+0.8
MORC					lAmb		lAmb	09 45 37.4	
	comp=Z,81nm,1.5s								
EUNU	Eureka	23.78	336		P		P	09 45 24.4	-1.5
EUNU					lAmb		lAmb	09 45 52.5	
	comp=Z,79nm,1.5s								
KRUC	Moravsky	23.80	114	*e*	P		P	09 45 27.8	+1.5
KRUC				*e*	S		S	09 49 46.0	+3.9
NACGM	Naroch	23.85	93	*e*	P		P	09 45 26.0	-0.8
NACGM				*e*	pP		pP	09 45 27.0	-1.7
NACGM				*e*	S		S	09 49 40.0	-2.9
NACGM				*e*	SS		SnSn	09 50 40.0	+19
NACGM				*e*	SSS		SSS	09 51 17.0	
NACGM				*e*	LQ		LQ	09 54 17.0	
NACGM				*e*	LR		LR	09 55 16.0	
NACGM					LRM		MLR	09 56 20.0	
	comp=Z,5.7nm,14.0s								
OKC	Ostrava-Krasne	23.88	111	*e*	P		P	09 45 29.3	+2.2
OKC					AMS		AMS	09 54 30.0	
	comp=Z,3μm,22.5s								
OKC	Ostrava-Krasne	23

MTE Manteigas 24.87 162 *e*P **P** 09 45 42.1 +5.8
comp=Z,136nm,1.7s
MTE *i* LQ LQ 09 50 17.6
MTE *e* LQ LQ 09 52 24.1
MTE A A 09 54 43.8
comp=Z,3µm,18.0s
MTE Manteigas 24.87 162 P **P** **09 45 37.8 +1.5**
PRED Cave del Predi 24.88 122 IAmb IAmb 09 45 46.0
comp=Z,56nm,1.4s
COI Coimbra 24.95 163 P **P** **09 45 38.5 +1.6**
COI pmax pmax
comp=Z,98nm,1.4s
COI Coimbra 24.95 163 P **P** **09 45 38.5 +1.6**
LANS Liptovska Anna 24.95 110 *e*P **P** **09 45 37.3 +0.3**
LANS pmax pmax
comp=Z,16nm,0.9s
LANS Liptovska Anna 24.95 110 *e*P **P** **09 45 37.3 +0.3**
ROBS Robic 25.02 122 *e*P **P** **09 45 36.4 -1.2**
NIE Niedzica 25.08 109 *e*P **P** **09 45 39.6 +1.5**
NIE *e*L L 09 58 11.2
comp=Z,1µm,14.2s
PCAS Casmilo, Conde 25.09 163 *e*P **P** **09 45 43.7 +5.5**
comp=Z,177nm,1.7s
TEOL Teolo 25.12 126 P **P** **09 45 38.0 -0.5**
TEOL IAmb IAmb 09 46 05.4
comp=Z,38nm,1.3s
GORS Gorjuse 25.14 121 *e*P **P** **09 45 41.0 +2.3**
PRMA PARMA 25.18 128 P **P** **09 45 40.4 +1.4**
PRMA IAmb IAmb 09 45 42.5
comp=Z,38nm,0.9s
OBKA Obir 25.18 120 *e*P **P** **09 45 39.2 +0.1**
comp=Z,25nm,1.3s
VYHS Vyhne 25.22 112 *e*P **P** **09 45 38.9 -0.5**
VYHS pmax pmax
comp=Z,44nm,1.5s
VYHS Vyhne 25.22 112 *e*P **P** **09 45 38.9 -0.5**
VYHS *e*S S 09 50 16.8 +12
SOKA Soboth 25.23 119 *e*P **P** **09 45 39.4 -0.1**
comp=Z,32nm,1.4s,SNR=16
PCBR Castelo Branco 25.43 162 *e*P **P** **09 45 47.0 +5.7**
comp=Z,64nm,1.6s
LJU Ljubljana 25.57 121 *e*P **P** **09 45 44.9 +2.4**
UCM Universidad Co 25.66 154 *e*S S 09 50 25.4 +13
ZCCA Zocca 25.77 128 P **P** **09 45 45.6 +1.2**
PMRV Marv??o 25.85 162 *e*P **P** **09 45 51.4 +6.3**
comp=Z,102nm,1.9s
PMRV *i* LQ LQ 09 50 31.9
PMRV *e* LQ LQ 09 52 49.7
PMRV A A 09 55 12.1
comp=Z,3µm,20.0s
KECS Kecovo 25.89 110 *e*P **P** **09 45 48.3 +2.8**
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 25.89 110 *e*P **P** **09 45 48.3 +2.8**
CRVS Cervenica-Dubn 25.96 108 *e*P **P** **09 45 48.3 +2.2**
CRVS pmax pmax
comp=Z,151nm,1.7s
CRVS Cervenica-Dubn 25.96 108 *e*P **P** **09 45 48.3 +2.2**
CRVS *e*S **S** **09 50 25.0 +8.3**
SCHQ Schefferville 26.00 272 P **P** **09 45 46.3 -0.1**
comp=Z,18nm,0.7s,baz=59,slow=12,SNR=14
SCHQ LR LR 09 55 05.2
comp=Z,3µm,18.7s,baz=46,slow=34
SCHQ Schefferville 26.00 272 P **P** **09 45 46.8 +0.4**
SCHQ IAmb IAmb 09 45 50.3
comp=Z,25nm,0.8s
PSZ Piszkesteto 26.11 112 ⇑P **P** **09 45 49.5 +2.0**
PSZ Piszkesteto 26.11 112 P **P** **09 45 47.3 -0.2**
PSZ pmax pmax
comp=Z,70nm,1.3s
PSZ Piszkesteto 26.11 112 P **P** **09 45 47.2 -0.2**
ESBB Sonseca Array 26.14 156 P **P** **09 45 50.5 +2.7**
ESDC Sonseca Array 26.15 156 P **P** **09 45 46.3 -1.6**
comp=Z,1.9nm,0.9s,baz=347,slow=8.9,SNR=9.3
ESDC LR LR 09 55 59.5
comp=Z,3µm,18.2s,baz=345,slow=36
ESDC Sonseca Array 26.15 156 P **P** **09 45 50.1 +2.3**
PAB San Pablo 26.20 156 P **P** **09 45 51.0 +2.6**
PAB pmax pmax
comp=Z,26nm,1.5s
PAB San Pablo 26.20 156 P **P** **09 45 51.0 +2.6**
KOLS Kolonicke sedl 26.27 107 *e*P **P** **09 45 48.8 -0.1**
KOLS pmax pmax
comp=Z,98nm,1.9s
KOLS Kolonicke sedl 26.27 107 *e*P **P** **09 45 48.8 -0.1**
KOLS *e*S **S** **09 50 24.5 +2.9**
LVV L'vov 26.32 104 *e*P **P** **09 45 50.2 +0.9**
LVV *e* 09 46 36.1
LVV *e*S **S** **09 50 19.6 -2.8**
LVV *e*SS **SnSn** **09 51 34.1 +13**
LVV pmax pmax
comp=Z,200nm,1.7s
LVV MLR MLR
comp=N,2µm,14.0s
LVV MLR MLR
comp=E,3µm,14.0s
LVV MLR MLR
comp=Z,2µm,14.0s
UZH Uzhgorod 26.52 108 *e*P **P** **09 45 49.8 -1.3**
UZH *i* 09 45 52.3
UZH *i* S **S** **09 50 18.9 -6.5**
UZH *e* 09 51 36.6
UZH MLR MLR
comp=Z,260nm,16.0s
RES Resolute Bay 26.55 325 P **P** **09 45 53.0 +1.9**
comp=Z,7.1nm,1.1s,baz=80,slow=9.5,SNR=4.6
RES LR LR 09 56 13.8
comp=Z,4µm,19.4s,baz=73,slow=36
RES Resolute Bay 26.55 325 P **P** **09 45 51.5 +0.4**
RES pmax pmax
comp=Z,21nm,1.5s
RES Resolute Bay 26.55 325 P **P** **09 45 51.5 +0.4**
OSSC Osservatorio P 26.59 128 P **P** **09 45 53.8 +2.0**
OSSC IAmb IAmb 09 46 07.4
comp=Z,36nm,1.1s
MURB Monte Urbino 27.25 127 P **P** **09 45 58.5 +0.6**
LATE Laterza 27.58 128 P **P** **09 46 01.2 +0.5**
PRGR Permogore 27.72 66 *e*P **P** **09 46 02.4 +0.7**
PRGR pmax pmax
comp=Z,36nm,1.5s
PVAQ Vaqueiros 27.80 163 *i* LQ LQ 09 51 00.9
PVAQ *e* LQ LQ 09 53 41.2
PVAQ A A 09 55 47.2
comp=Z,2µm,20.0s
AKASG Malin Array Be 27.87 97 P **P** **09 46 00.6 -2.5**
comp=Z,3.2nm,0.8s,baz=322,slow=9.4,SNR=16
AKASG LR LR 09 56 49.2
comp=Z,3µm,20.9s,baz=315,slow=36
AKASG Malin Array Be 27.87 97*c i*P **P** **09 46 04.1 +0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 27.87 97 P **P** **09 46 01.9 -1.2**
AKBB Malin Array Si 27.87 97 P **P** **09 46 01.1 -2.0**
AKBB pmax pmax
comp=Z,31nm,1.4s
AKBB Malin Array Si 27.87 97 P **P** **09 46 01.1 -2.0**
AKBB IAmb IAmb 09 46 05.4
comp=Z,31nm,1.4s
OBN Obninsk 27.94 84 P **P** **09 46 03.6 -0.2**
comp=Z,4.4nm,0.3s,baz=319,slow=4.4,SNR=14
OBN LR LR 09 57 08.6
comp=Z,256nm,19.0s,baz=316,slow=36
OBN Obninsk 27.94 84*d e*P **P** **09 46 04.3 +0.6**
OBN *e**PP **pP** **09 46 06.4 +0.7**
OBN *e**SP **sP** **09 46 08.0 +1.5**
OBN *e*PPP PPP 09 46 56.2
OBN *e*S **S** **09 50 51.8 +4.1**
OBN SS **SnSn** **09 52 05.0 +4.2**
OBN pmax pmax
comp=Z,70nm,1.7s
OBN MLR MLR
comp=Z,992nm,14.0s
OBN Obninsk 27.94 84 P **P** **09 46 01.7 -2.1**
MOS Moscow 27.98 82 *e*P **P** **09 46 03.0 -1.1**
MOS *e* 09 46 50.8
MOS *e*S **S** **09 50 46.2 -2.1**
MOS *e*SS **SnSn** **09 52 07.0 +5.2**
MOS pmax pmax
comp=Z,66nm,1.4s
MOS MLR MLR
comp=Z,2µm,16.0s
AQU L'Aquila 28.36 127 P **P** **09 46 07.7 0.0**
AQU pmax pmax
comp=Z,20nm,1.0s
AQU L'Aquila 28.36 127 P **P** **09 46 07.7 0.0**
AQU IAmb IAmb 09 46 35.6
comp=Z,20nm,1.0s
BUR08 Bucovina Ar. S 28.50 106 P **P** **09 46 08.7 -0.2**
BURAR Bucovina Array 28.53 106 ⇑P **P** **09 46 11.8 +2.6**
BURAR Bucovina Array 28.53 106 ⇑P **P** **09 46 11.8 +2.6**
BURAR Bucovina Array 28.53 106 P **P** **09 46 09.3 0.0**
BZS Buzias 28.67 112 ⇑P **P** **09 46 10.3 0.0**
BZS Buzias 28.67 112 ⇑P **P** **09 46 10.3 0.0**
CART Cartagena 28.73 152 *e*P **P** **09 46 13.0 +2.0**
CART *e*S S 09 51 12.1 +12
INTR Introdacqua 28.84 126 P **P** **09 46 12.2 +0.2**
EMAL Malaga-Limoner 28.90 158 *e*S S 09 51 14.4 +11
DIVS Divibare 29.29 116 P **P** **09 46 17.0 +1.0**
GZR Gura Zlata 29.32 111 ⇑P **P** **09 46 15.9 -0.3**
GZR Gura Zlata 29.32 111 ⇑P **P** **09 46 15.9 -0.3**
BIZ Bicaz 29.43 106 ⇑P P 09 46 12.1 -5.0
HERR Herculane 29.59 112 ⇑P **P** **09 46 20.4 +1.8**
CEU Ceuta 29.60 160 *e*S S 09 51 25.1 +11
VSL Villasalto 29.61 135 P **P** **09 46 20.1 +1.2**
DOPR Dopca 29.91 108 ⇑P **P** **09 46 21.5 0.0**
ARR Arges 30.09 109 ⇑P **P** **09 46 20.7 -2.4**
VOIR 30.20 109 ⇑P **P** **09 46 26.6 +2.5**
VOIR 30.20 109 ⇑P **P** **09 46 26.6 +2.5**
PDG Podgorica 30.43 119 ⇑P **P** **09 46 24.1 -1.8**
PVLZ Peæn de 30.48 158 *e*S **S** **09 51 30.6 +2.7**
KIS Kishinev 30.52 103 *e*P **P** **09 46 26.0 -0.8**
KIS *e* 09 47 27.0
KIS *e* 09 51 33.0
KIS pmax pmax
comp=Z,40nm,5.5s
KIS MLR MLR
comp=Z,400nm,13.0s
KIS MLR MLR
comp=E,1µm,17.0s
KIS MLR MLR
comp=N,800nm,16.0s
MLR Muntele Rosu 30.53 107 ⇑P P 09 46 30.6 +3.6
MLR Muntele Rosu 30.53 107 P **P** **09 46 23.7 -3.3**
MLR Muntele Rosu 30.53 107 P **P** **09 46 23.7 -3.3**
PLOR Plostina 30.53 106 ⇑P **P** **09 46 28.4 +1.5**
PLOR Plostina 30.53 106 ⇑P **P** **09 46 28.4 +1.5**
MELI Melilla 30.59 156 *e*P **P** **09 46 31.0 +3.6**
MELI *e*S S 09 51 38.4 +8.7
LPSR Galich'ya Gora 30.68 86 *e*P **P** **09 46 28.3 +0.2**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,1µm,14.0s
NEHR Nehoiu 30.72 107 ⇑P P 09 46 33.0 +4.3
KIRV Kirov 31.07 69 P **P** **09 46 31.4 0.0**
comp=Z,13nm,0.7s,baz=310,slow=10,SNR=15
BATG Bathurst New B 31.18 260 P **P** **09 46 35.5 +2.9**
BATG IAmb IAmb 09 46 51.5
comp=Z,30nm,1.3s
CFR Carcaliu 31.69 105 ⇑P **P** **09 46 38.0 +0.9**
CFR Carcaliu 31.69 105 ⇑P **P** **09 46 38.0 +0.9**
VSR Storozhevoye 31.78 87 *e*P **P** **09 46 38.4 +0.6**
VSR *e*S **S** **09 51 46.9 -1.1**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR smax smax
comp=N,960nm,13.9s
VSR MLR MLR
comp=Z,1µm,12.0s
AVE Averroes 31.88 164 *e*S S 09 51 58.7 +8.8
IFR Ifrane 31.98 160 *e*S **S** **09 51 57.8 +6.1**
HARR Harsova 32.00 106 ⇑P P 09 46 32.7 -7.1
HARR Harsova 32.00 106 ⇑P P 09 46 32.7 -7.1
VORD Divnogorie 32.02 87 *e*P **P** **09 46 41.2 +1.3**
VORD *e*S **S** **09 51 54.5 +2.8**
VORD pmax pmax
comp=Z,40nm,0.6s
VORD smax smax
comp=N,40nm,3.8s
CORL Corleone 32.32 131 P **P** **09 46 43.8 +1.1**
CLTB Caltabellotta 32.58 131 P **P** **09 46 45.7 +0.6**
D62A Allapoint, All 32.61 263 S **S** **09 52 04.3 +3.3**
baz=38
CHGQ Chibougamau 32.75 271 P **P** **09 46 46.4 0.0**
baz=42
E63A Oxbow 32.85 261 S **S** **09 52 12.2 +7.4**
baz=38
VRH Novokhopyorsk 32.89 85 *e*P **P** **09 46 48.2 +0.7**
VRH *e*S **S** **09 52 07.8 +2.5**
VRH pmax pmax
comp=Z,60nm,1.4s
VRH smax smax
comp=N,760nm,8.8s
VRH MLR MLR
comp=Z,2µm,13.0s
KEST Kesra 33.09 138 P **P** **09 46 51.1 +1.6**
comp=Z,4.3nm,1.0s,baz=267,slow=4.9,SNR=12
KEST LR LR 10 00 01.0
comp=Z,3µm,18.7s,baz=302,slow=36
H66A Whiting 33.68 258 S **S** **09 52 17.9 +0.2**
baz=36
F63A Nahmakanta, Br 33.71 261 P **P** **09 46 57.6 +2.8**
baz=37
F63A Nahmakanta, Br 33.71 261 P **P** **09 46 55.6 +0.8**
G64A Maxfield 33.92 260 S S 09 52 30.4 +9.0
baz=37
LATQ La Tuque 33.98 267 P **P** **09 46 58.2 +1.1**
E60A Ste Agathe de 34.19 264 P **P** **09 47 00.7 +1.8**
baz=38
E60A S S 09 52 34.7 +9.1
baz=38
G63A Kingsbury 34.40 261 S S 09 52 37.4 +8.6
baz=37
AGG Agios Georgios 34.54 118 P **P** **09 47 01.1 -1.0**
AGG pmax pmax
comp=Z,54nm,1.3s
AGG Agios Georgios 34.54 118 P **P** **09 47 01.1 -1.0**
H64A Troy 34.61 260 S S 09 52 41.3 +9.3
baz=36
H63A New Sharon 34.94 261 S S 09 52 46.1 +9.0
baz=36
E58A La Victoria 34.98 266 S S 09 52 47.5 +10
baz=38
G61A St-Isidore-de- 35.08 263 S S 09 52 48.1 +8.7
baz=37
D56A ZEC Mazanza, M 35.09 268 P **P** **09 47 08.7 +2.0**
baz=39
D56A S **S** **09 52 46.7 +7.3**
baz=39
E57A Chemin Saint G 35.32 267 P **P** **09 47 08.6 -0.2**
baz=38
D55A Sainte-Anne-du 35.42 269 P **P** **09 47 11.3 +1.7**
baz=39
D55A S **S** **09 52 52.0 +7.4**
baz=39
VLDQ Val d'Or 35.44 272 P **P** **09 47 11.7 +2.1**
VLDQ IAmb IAmb 09 47 16.6
comp=Z,33nm,1.4s
H62A Milan 35.49 262 S S 09 52 54.9 +9.2
baz=36
H62A Milan 35.49 262 P **P** **09 47 12.2 +2.0**
H62A IAmb IAmb 09 47 13.8
comp=Z,32nm,1.4s
G60A Masonville 35.58 264 S S 09 52 56.3 +9.4
baz=37
E56A St. Veronique 35.60 268 P **P** **09 47 13.1 +2.0**
baz=38
E56A S S 09 52 56.4 +9.1
baz=38
H61A Lyndonville 35.85 263 S S 09 53 02.0 +11
baz=36
G59A Clarenceville 35.95 265 P **P** **09 47 14.4 +0.3**
baz=37
I62A Tamworth 36.13 262 S S 09 53 04.8 +9.4
baz=36
ARU Arti 36.17 66*d i*P **P** **09 47 16.7 +0.8**
ARU 09 48 35.7
ARU S **S** **09 52 58.9 +3.0**
ARU SS **SnSn** **09 55 11.0 -10**
ARU pmax pmax
comp=Z,56nm,2.2s
ARU MLR MLR
comp=Z,508nm,15.0s
ARU Arti 36.17 66 P **P** **09 47 15.0 -0.9**
ARU IAmb IAmb 09 47 17.5
comp=Z,31nm,1.5s
FRNY Flat Rock 36.33 265 P **P** **09 47 20.1 +2.8**
FRNY IAmb IAmb 09 47 24.3
comp=Z,44nm,1.4s
NRIK Noril'sk 36.59 35 P **P** **09 47 17.7 -1.6**
comp=Z,13nm,1.1s,baz=320,slow=8.6,SNR=22
NRIK LR LR 10 03 43.5
comp=Z,478nm,18.1s,baz=1.5,slow=39
SVE Sverdlovsk 36.71 64 *e*P **P** **09 47 21.5 +1.1**
SVE *e*S **S** **09 53 05.4 +1.4**
SVE pmax pmax
comp=Z,38nm,1.6s
G57A Newington 36.72 266 P **P** **09 47 20.8 +0.2**
baz=37
G57A S S 09 53 14.9 +11
baz=37
J62A Henniker 36.86 261 S S 09 53 16.3 +10
baz=35
H58A Gabriels 36.91 265 S S 09 53 17.9 +10
baz=36
C36M Paulatuk 36.91 325 P **P** **09 47 23.3 +1.3**
baz=43
C36M S S 09 53 14.4 +7.6
baz=43
I60A Shoreham 36.99 263 S S 09 53 18.2 +10
baz=36
K63A Dunstable 37.17 261 S S 09 53 22.7 +11
baz=35
I59A Olmsteadville 37.28 264 S S 09 53 21.4 +8.4
baz=36
H57A Richville 37.40 266 S S 09 53 24.0 +9.2
baz=37
J60A Lant Hill Farm 37.53 263 S S 09 53 28.9 +12
baz=36
G54A Lake Saint Pet 37.82 269 S S 09 53 29.4 +8.2
baz=38
L61B Northampton 37.86 261 S S 09 53 32.1 +10
baz=35
SOC Sochi 37.90 95 *e*P **P** **09 47 29.8 -0.8**
SOC *e* 09 48 54.3
SOC *e*S **S** **09 53 21.8 -0.5**
SOC pmax pmax
comp=Z,21nm,0.7s
SOC MLR MLR
comp=Z,1µm,16.0s
I57A Carthage 37.94 266 S S 09 53 34.6 +12
baz=36
GOF Gofitskoye 38.15 91⇑ *e*P **P** **09 47 34.2 +1.4**
GOF pmax pmax
comp=Z,142nm,1.3s
J58A Remsen 38.24 265 S S 09 53 37.6 +10
baz=36
L61A Hillsdale 1, H 38.44 262 S S 09 53 43.1 +12
baz=35
BR131 Keskin Array S 38.48 105 P **P** **09 47 35.2 -0.6**
BR131 pmax pmax
comp=Z,10.0nm,1.0s
BR131 Keskin Array S 38.48 105 P **P** **09 47 35.2 -0.6**
BRTR Keskin Array B 38.48 105 P **P** **09 47 35.2 -0.6**
comp=Z,3.4nm,0.7s,baz=312,slow=6.1,SNR=9.3
BRTR LR LR 10 05 07.7
comp=Z,373nm,19.6s,baz=313,slow=39
J57A Williamstown 38.51 266 S S 09 53 41.4 +10
baz=36
K59A Cooperstown 38.53 264 S S 09 53 42.1 +10
baz=35
H53A Bobcaygeon 38.69 269 S S 09 53 44.0 +10
baz=37
KIV Kislovodsk 38.88 92 *e*P **P** **09 47 38.6 -0.4**
KIV *e* 09 49 08.0
KIV *e*S **S** **09 53 37.2 -0.1**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,4µm,16.0s
L60A Shokan 38.90 263 S S 09 53 50.1 +13
baz=35
SHA1 Shidzhatmaz 39.04 92 *i* P **P** **09 47 39.8 -0.7**
KBZ Khabaz 39.15 92 P **P** **09 47 40.0 -1.2**
comp=Z,3.2nm,0.5s,baz=324,slow=15,SNR=3.7
KBZ LR LR 10 04 10.7
comp=Z,3µm,21.4s,baz=324,slow=37
KBZ Khabaz 39.15 92 P **P** **09 47 40.0 -1.2**
YKA Yellowknife Ar 39.28 313 P **P** **09 47 39.2 -2.8**
comp=Z,4.4nm,1.0s,baz=49,slow=7.5,SNR=5.1
YKA PcP **PcP** **09 49 49.0 -1.6**
comp=Z,1.6nm,0.8s,baz=33,slow=3.7,SNR=3.5
YKA LR LR 10 03 52.8
comp=Z,3µm,18.1s,baz=0.0,slow=36
ELL Elmali 39.49 111 P **P** **09 47 44.0 -0.2**
ELL pmax pmax
comp=Z,111nm,1.4s
ELL Elmali 39.49 111 P **P** **09 47 44.0 -0.2**
INK Inuvik 39.94 329 LR LR 10 05 35.8
comp=Z,2µm,18.9s,baz=24,slow=38
INK Inuvik 39.94 329 P **P** **09 47 45.8 -1.7**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 39.94 329 P **P** **09 47 45.8 -1.7**
L56A Greenwood 40.21 266 P **P** **09 47 53.0 +2.9**
baz=35
L56A Greenwood 40.21 266 IAmb IAmb 09 47 57.6
comp=Z,66nm,1.4s
N59A State Game Lan 40.44 263 S S 09 54 11.5 +11
baz=34
WVNY West Valley, N 40.44 267 P **P** **09 47 54.1 +2.1**
WVNY IAmb IAmb 09 47 55.0
comp=Z,42nm,1.2s
M57A Sunshine Farm, 40.68 265 P **P** **09 47 55.4 +1.5**
baz=34
O60A Telford 40.78 262 S S 09 54 15.9 +10
baz=34
ARTV Artvin 40.80 95 P **P** **09 47 53.7 -1.5**
GROC Groznyy 40.83 90 *e*P **P** **09 47 56.3 +1.2**
GROC *e* 09 49 55.3
GROC *e*S **S** **09 54 02.0 -4.3**
GROC pmax pmax
comp=Z,48nm,1.3s
GROC MLR MLR
comp=Z,1µm,12.0s
N58A Sunbury 40.91 264 P **P** **09 47 58.0 +2.2**
baz=34
M56A Emporium 41.01 266 S S 09 54 20.9 +12
baz=35
MVL Millersville 41.45 263 P **P** **09 48 02.0 +1.8**
MVL IAmb IAmb 09 48 07.6
comp=Z,32nm,1.5s
SSPA Standing Stone 41.58 265 P **P** **09 48 03.9 +2.5**
baz=34
SSPA Standing Stone 41.58 265 P **P** **09 48 03.0 +1.6**
O58A Lewisberry 41.59 263 P **P** **09 48 03.8 +2.3**
baz=34
O58A S S 09 54 28.6 +11
baz=34
ULM Lac du Bonnet 41.61 289 P **P** **09 48 01.2 -0.2**
comp=Z,2.4nm,0.8s,baz=51,slow=13,SNR=2.0
ULM LR LR 10 04 24.2
comp=Z,1µm,19.1s,baz=41,slow=35
MAK Makhachkala 41.76 89 *e*P **P** **09 47 58.5 -4.3**
MAK *e*PPP PPP 09 50 04.6
MAK *e*S **S** **09 54 13.6 -6.5**
MAK *e*SS **SS** **09 57 24.7 -0.6**
MAK pmax pmax
comp=Z,81nm,0.5s
MAK MLR MLR
comp=Z,2µm,19.0s
O57A Amberson 41.82 264 P P 09 48 09.1 +5.7
baz=34
O57A S S 09 54 30.9 +10
baz=34
N55A Marion Center 41.94 266 S S 09 54 31.3 +8.4
baz=34
ABKAR Akbulak array 42.07 73 P **P** **09 48 03.5 -1.7**
ABKAR Akbulak array 42.07 73 IAmb IAmb 09 48 08.8
comp=Z,23nm,1.4s
GAZ Gaziantep 42.14 103 P **P** **09 48 03.5 -2.5**
GAZ IAmb IAmb 09 48 17.9
comp=Z,46nm,1.4s
B35A Bob, Littlefor 42.19 285 P **P** **09 48 07.6 +1.4**
N54A Moraine State 42.22 267 P **P** **09 48 07.1 +0.5**
baz=34
P58A Pank, Wackersv 42.28 263 S S 09 54 37.5 +10
baz=33
N53A Lisbon 42.71 268 P **P** **09 48 12.5 +1.9**
N53A IAmb IAmb 09 48 18.0
comp=Z,43nm,1.3s
TOLK Toolik Lake Re 42.86 336 P **P** **09 48 10.5 -0.9**
baz=28,SNR=12
TOLK S S 09 54 45.5 +10
baz=28
TOLK Toolik Lake Re 42.86 336 P **P** **09 48 11.6 +0.1**

M51A Elyria 42.86 269 S S 09 54 47.3 +11
baz=35
Q58A Fox Den Farm, 42.90 263 S S 09 54 45.8 +8.8
baz=33
BMAR Burnt Mountain 43.00 333 P P **09 48 11.2 -1.5**
O54A Avella 43.03 267 P P **09 48 15.9 +2.8**
baz=34
O54A S S 09 54 49.5 +11
baz=34
AGMN Agassiz Nation 43.12 287 P P **09 48 16.4 +2.6**
baz=38
AGMN Agassiz Nation 43.12 287 P P **09 48 15.3 +1.5**
BRVK Borovoye 43.23 62 *ce*P P **09 48 13.2 -1.4**
BRVK pmax pmax
comp=Z,44nm,1.7s
BRVK Borovoye 43.23 62 P P **09 48 12.1 -2.5**
BRVK IAmb IAmb 09 48 16.6
comp=Z,35nm,1.5s
N51A Ashland 43.29 269 S S 09 54 52.3 +10
baz=34
P55A Reedsville 43.35 266 S S 09 54 55.8 +12
baz=34
P54A Burton 43.55 266 S S 09 54 57.5 +11
baz=34
R58A Rapidan 43.57 263 P P **09 48 20.7 +3.2**
baz=33
R58A S S 09 54 57.4 +10
baz=33
O52A Adamsville 43.71 268 P P **09 48 20.9 +2.2**
baz=34
O52A S S 09 54 59.1 +10
baz=34
S59A Mechanicsville 43.72 262 S S 09 54 59.4 +10
baz=32
O51A Pataskala 44.02 269 P P **09 48 23.2 +2.1**
baz=34
P53A Whipple 44.04 267 P P **09 48 22.1 +0.8**
baz=34
P53A S S 09 55 04.2 +10
baz=34
P53A Whipple 44.04 267 IAmb IAmb 09 48 24.8
comp=Z,27nm,1.1s
F36A Milaca 44.07 283 P P **09 48 21.9 +0.4**
F36A IAmb IAmb 09 48 31.8
comp=Z,24nm,1.4s
R56A Bull Pasture M 44.08 264 P P **09 48 24.9 +3.1**
baz=33
R56A S S 09 55 05.5 +11
baz=33
ACSO Alum Creek Sta 44.11 269 P P **09 48 23.8 +1.9**
baz=34
ACSO Alum Creek Sta 44.11 269 P P **09 48 22.3 +0.4**
ACSO IAmb IAmb 09 48 24.7
comp=Z,37nm,1.2s
COLD Coldfoot 44.23 336 P P **09 48 22.2 -0.2**
baz=27
COLD S S 09 55 07.1 +11
baz=27
COLD Coldfoot 44.23 336 P P **09 48 21.8 -0.6**
COLD IAmb IAmb 09 48 27.6
comp=Z,23nm,1.3s
P52A Corning 44.24 268 P P **09 48 25.3 +2.4**
baz=34
P52A S S 09 55 08.2 +12
baz=34
SPMN Marine on St. 44.28 282 P P **09 48 25.3 +2.1**
baz=36
SPMN Marine on St. 44.28 282 P P **09 48 22.6 -0.6**
SPMN IAmb IAmb 09 48 44.4
comp=Z,21nm,1.4s
S57A Dark Hollow, R 44.43 264 S S 09 55 10.7 +11
baz=32
R55A Marlinton 44.49 265 P P **09 48 25.7 +0.6**
baz=33
EGAK Eagle 44.58 329 P P **09 48 25.2 -0.1**
EGAK IAmb IAmb 09 48 26.8
comp=Z,25nm,1.4s
Q53A Leroy 44.62 267 P P **09 48 28.9 +2.9**
baz=33
Q53A S S 09 55 12.1 +10
baz=33
P51A Williamsport 44.77 269 P P **09 48 29.4 +2.3**
baz=34
P51A S S 09 55 14.4 +10
baz=34
Q52A Bidwell 44.85 268 S S 09 55 16.4 +11
baz=33
MDND Maddock 45.01 289 P P **09 48 32.0 +3.0**
baz=37
MDND Maddock 45.01 289 P P **09 48 30.5 +1.5**
MDND IAmb IAmb 09 48 35.8
comp=Z,36nm,1.4s
T57A Hurt 45.20 263 P P **09 48 31.4 +0.8**
baz=32
T57A Hurt 45.20 263 P P **09 48 31.8 +1.2**
T57A IAmb IAmb 09 48 58.0
comp=Z,25nm,1.5s
R53A Hurricane 45.24 267 P P **09 48 34.0 +3.1**
baz=33
R53A S S 09 55 23.6 +12
baz=33
R53A Hurricane 45.24 267 P P **09 48 32.5 +1.5**
F33A 5 Mile Ranch, 45.25 285 P P **09 48 30.5 -0.4**
F33A IAmb IAmb 09 48 37.9
comp=Z,15nm,1.1s
Q51A Peebles 45.27 269 P P **09 48 32.2 +1.1**
S54A Dingess, Beckl 45.41 266 P P **09 48 34.3 +2.0**
baz=33
S54A Dingess, Beckl 45.41 266 P P **09 48 34.2 +2.0**
S54A IAmb IAmb 09 48 38.8
comp=Z,15nm,1.0s
K27K Chicken 45.43 329 P P **09 48 31.0 -1.1**
baz=30
K27K S S 09 55 23.8 +10
baz=30
P49A Miami Univ. Ec 45.44 270 P P **09 48 34.5 +2.0**
baz=34
POKR Poker Plat Res 45.59 333 S S 09 55 27.8 +12
baz=27
T55A Pulaski 45.76 265 P P **09 48 37.8 +2.7**
baz=32
SFIN Lafayette 45.77 273 P P **09 48 36.9 +1.9**
baz=34
IL18 Eielson Array 45.78 332 P P **09 48 34.8 -0.1**
IL31 45.79 332 P P **09 48 34.7 -0.1**
ILAR Eielson Array 45.79 332 P P **09 48 34.3 -0.6**
comp=Z,4.3nm,0.9s,baz=303,slow=14,SNR=23
ILAR PcP PcP **09 50 10.1 -2.2**
comp=Z,3.5nm,1.0s,baz=356,slow=3.7,SNR=9.9
ILAR LR LR 10 10 12.0
comp=Z,2μm,18.1s,baz=32,slow=39
ILAR Eielson Array 45.79 332 P P **09 48 34.4 -0.5**
P48A Milroy 45.81 271 P P **09 48 37.1 +1.7**
COLA College 45.89 333 *eP* P **09 48 35.1 -0.5**
COLA pmax pmax
comp=Z,20nm,1.2s
COLA College 45.89 333 P P **09 48 34.8 -0.8**
SCRK Sand Creek 45.89 330 P P **09 48 36.8 +1.0**
baz=29
IMAR Indian Mountai 45.97 337 P P **09 48 35.8 -0.5**
CCB Clear Creek Bu 46.08 333 P P **09 48 35.5 -1.7**
CCB IAmb IAmb 09 48 42.2
comp=Z,25nm,1.4s
HDA Harding Lake 46.12 332 P P **09 48 39.7 +2.1**
baz=27,SNR=6.0
HDA S S 09 55 33.7 +10
baz=27
HDA Harding Lake 46.12 332 P P **09 48 37.8 +0.2**
HDA IAmb IAmb 09 48 49.0
comp=Z,15nm,1.3s
DOT Dot Lake 46.19 330 IAmb IAmb 09 48 43.5
comp=Z,28nm,1.5s
BCAR Beaver Creek A 46.20 329 P P **09 48 37.4 -0.8**
U56A King 46.23 264 S S 09 55 37.6 +12
baz=32
U56A King 46.23 264 P P **09 48 40.6 +1.8**
U56A IAmb IAmb 09 48 52.2
comp=Z,24nm,1.4s
RIDG Independent Ri 46.28 331 P P **09 48 39.3 +0.5**
MLY Manley 46.30 335 P P **09 48 38.4 -0.6**
baz=26,SNR=9.8
MLY S S 09 55 37.8 +12
baz=26
R50A Paris 46.31 269 P P **09 48 40.6 +1.2**
R50A IAmb IAmb 09 48 42.0
comp=Z,21nm,1.2s
K38A Parkersburg 46.35 280 P P **09 48 41.0 +1.4**

NEA2 Nenana 46.38 333 P P **09 48 39.4 -0.2**
baz=26
U55A TA2, Sparta 46.39 265 P P **09 48 40.2 +0.1**
baz=32
S51A Beattyville 46.53 268 P P **09 48 41.9 +0.8**
O44A Mansfield 46.55 274 P P **09 48 41.3 +0.1**
HDIL Hopedale 46.57 275 P P **09 48 43.2 +1.9**
HDIL IAmb IAmb 09 48 47.1
comp=Z,17nm,1.0s
BRZS Berezniki 46.58 63 *eP* P **09 48 39.0 -2.4**
BRZS comp=Z,97nm,2.2s *e*PP PP 09 50 30.1 -0.3
BRZS Berezniki 46.58 63 *eP* P **09 48 39.0 -2.4**
BRZS *e* 09 50 30.1
BRZS pmax pmax
comp=Z,97nm,2.2s
WHY Whitehorse 46.60 323 P P **09 48 41.4 -0.1**
T53A Wise 46.63 266 P P **09 48 42.1 +0.2**
baz=32
R49A Shelbyville 46.67 270 P P **09 48 43.6 +1.5**
V56A Mocksville 46.74 264 P P **09 48 43.5 +0.8**
baz=32
V56A S S 09 55 43.2 +10
baz=32
MENT Mentasta 46.74 330 P P **09 48 42.2 -0.3**
V55A Taylorsville 47.01 264 P P **09 48 47.5 +2.7**
baz=32
W57A Gilead 47.08 263 P P **09 48 48.3 +2.9**
baz=31
W57A Gilead 47.08 263 P P **09 48 47.4 +2.0**
ECSD EROS Data Cent 47.09 284 P P **09 48 45.4 0.0**
baz=35
PAX Paxson 47.09 331 P P **09 48 44.5 -0.8**
PAX pmax pmax
comp=Z,26nm,1.5s
PAX Paxson 47.09 331 P P **09 48 44.5 -0.8**
PAX IAmb IAmb 09 48 50.8
comp=Z,26nm,1.5s
MCK McKinley 47.12 333 P P **09 48 44.9 -0.5**
baz=26,SNR=5.7
HYT Haines Junctio 47.13 325 IAmb IAmb 09 48 55.2
comp=Z,18nm,1.5s
WCI Wyandotte Cave 47.21 271 P P **09 48 48.4 +2.1**
baz=33
WCI Wyandotte Cave 47.21 271 P P **09 48 47.9 +1.6**
WCI pmax pmax
comp=Z,16nm,0.7s
WCI Wyandotte Cave 47.21 271 P P **09 48 47.9 +1.6**
W56A Indian Trail 47.35 263 P P **09 48 49.4 +2.0**
baz=31
V54A Nebo 47.39 265 P P **09 48 50.2 +2.3**
baz=32,SNR=5.5
V54A S S 09 55 53.5 +11
baz=32
TZTN Tazewell 47.43 267 P P **09 48 49.5 +1.3**
T50A Nancy 47.59 268 P P **09 48 50.6 +1.3**
T50A IAmb IAmb 09 48 52.0
comp=Z,11nm,1.1s
KMSC Kings Mountain 47.66 264 P P **09 48 52.5 +2.5**
baz=31
KMSC S S 09 55 55.7 +10
baz=31
KMSC Kings Mountain 47.66 264 P P **09 48 51.5 +1.5**
X57A Johnson Farm, 47.71 262 S S 09 55 57.4 +11
baz=31
ZAA0 Zalesovo Array 47.75 51 P P **09 48 48.0 -2.4**
ZAA0 IAmb IAmb 09 48 53.6
comp=Z,13nm,1.2s
ZALV Zalesovo Beam 47.75 51 P P **09 48 48.0 -2.4**
comp=Z,3.2nm,0.7s,baz=328,slow=8.2,SNR=14
ZALV PcP **PcP** **09 50 18.1 -1.3**
comp=Z,1.5nm,0.7s,baz=338,slow=3.2,SNR=4.2
ZALV LR LR 10 11 13.4
comp=Z,228nm,19.3s,baz=320,slow=39
ZALV Zalesovo Beam 47.75 51 P P **09 48 48.3 -2.1**
ZALV Zalesovo Beam 47.75 51 P P **09 48 48.3 -2.1**
CTGM Chitina Glacie 47.94 327 P P **09 48 52.1 +0.2**
CTGM IAmb IAmb 09 48 58.4
comp=Z,12nm,1.3s
MCARA McCarthy VSAT 47.96 328 P P **09 48 50.9 -1.0**
MCARA IAmb IAmb 09 49 07.6
comp=Z,23nm,1.3s
USIN University of 48.02 272 P P **09 48 54.3 +1.6**
V52A Sevierville 48.05 266 P P **09 48 55.0 +2.1**
V52A IAmb IAmb 09 48 55.8
comp=Z,20nm,1.4s
W54A Cherokee Point 48.08 265 P P **09 48 56.0 +2.9**
baz=31,SNR=5.7
GLB Gilahina Butte 48.09 329 P P **09 48 52.3 -0.7**
GLB IAmb IAmb 09 49 01.1
comp=Z,14nm,1.4s
X56A White Oak 48.09 263 P P **09 48 55.4 +2.2**
baz=31
N25K Chitina, Valde 48.12 329 P P **09 48 55.2 +1.9**
baz=27
KURK Kurchatov 48.22 58 *i* P P **09 48 52.2 -1.8**
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 48.22 58 P P **09 48 52.0 -2.0**
TKL Tuckaleechee C 48.28 266 P P **09 48 55.6 +0.9**
TKL pmax pmax
comp=Z,27nm,1.4s
TKL Tuckaleechee C 48.28 266 P P **09 48 55.6 +0.9**
X55A Gracelyn & Ava 48.37 264 P P **09 48 58.2 +2.8**
baz=31
X55A S S 09 56 06.0 +10
baz=31
V51A Loudon 48.40 267 P P **09 48 57.5 +1.8**
V51A IAmb IAmb 09 48 58.8
comp=Z,20nm,1.1s
U49A Red Boiling Sp 48.42 269 P P **09 48 56.1 +0.3**
U49A IAmb IAmb 09 48 58.2
comp=Z,12nm,1.1s
BG3 Lake Jocassee 48.48 265 P P **09 48 58.1 +1.9**
CRQM Cirque 48.54 328 P P **09 48 57.0 +0.4**
CUT Chulitna 48.59 333 P P **09 48 58.1 +1.4**
baz=25
T47A Sharon Grove 48.60 270 P P **09 48 57.0 -0.1**
LAO LASA Array 48.61 293 P P **09 48 59.2 +1.9**
baz=35,SNR=5.7
LAO LASA Array 48.61 293 P P **09 48 58.5 +1.3**
CPCT Cooper Cave 48.78 267 P P **09 49 00.8 +2.2**
CPCT IAmb IAmb 09 49 04.9
comp=Z,18nm,1.5s
W52A Murphy 48.82 266 P P **09 48 59.9 +1.0**
W52A IAmb IAmb 09 49 01.8
comp=Z,22nm,1.4s
HODGE Hodges 48.84 264 P P **09 48 59.9 +0.9**
HODGE IAmb IAmb 09 49 01.9
comp=Z,20nm,1.1s
GHO Glory Hole Cre 48.89 332 P P **09 48 58.6 -0.6**
GHO IAmb IAmb 09 49 18.4
comp=Z,19nm,1.4s
K31A O'Neill 48.90 285 P P **09 49 00.1 +0.7**
K31A IAmb IAmb 09 49 04.4
comp=Z,18nm,1.1s
EGMT Eagleton 48.90 297 P P **09 48 59.3 -0.1**
baz=35,SNR=11
EGMT Eagleton 48.90 297 P P **09 48 59.4 -0.1**
CLTN Cedars of Leba 49.02 269 P P **09 49 01.8 +1.4**
CLTN IAmb IAmb 09 49 02.9
comp=Z,20nm,1.3s
PMR Palmer 49.10 332 P P **09 48 59.9 -0.7**
PMR pmax pmax
comp=Z,25nm,1.4s
PMR Palmer 49.10 332 P P **09 48 59.9 -0.7**
PMR IAmb IAmb 09 49 07.5
comp=Z,25nm,1.4s
TTA Tatalina 49.17 336 P P **09 49 00.6 -0.7**
TTA pmax pmax
comp=Z,21nm,1.4s
TTA Tatalina 49.17 336 P P **09 49 00.6 -0.7**
TTA IAmb IAmb 09 49 23.9
comp=Z,20nm,1.4s
FVM French Village 49.20 274 P P **09 49 02.9 +1.2**
FVM pmax pmax
comp=Z,10.0nm,1.0s
FVM French Village 49.20 274 P P **09 49 02.9 +1.2**
SKT Skwentna 49.22 333 P P **09 49 01.6 -0.1**
W50A Signal Mountai 49.33 268 P P **09 49 02.8 0.0**
CCM Cathedral Cave 49.49 275 P P **09 49 05.2 +1.3**
baz=33
CCM Cathedral Cave 49.49 275 P P **09 49 05.4 +1.4**
CCM pmax pmax
comp=Z,17nm,1.5s

CCM Cathedral Cave 49.49 275 P P **09 49 05.4 +1.4**
CCM IAmb IAmb 09 49 07.2
comp=Z,18nm,1.4s
V48A Smith Brothers 49.53 269 P P **09 49 05.8 +1.5**
V48A IAmb IAmb 09 49 06.8
comp=Z,19nm,1.2s
SWET Sewanee 49.58 268 P P **09 49 05.0 +0.2**
SWET IAmb IAmb 09 49 06.9
comp=Z,16nm,1.3s
WALA Waterton Lakes 49.62 301 P P **09 49 05.6 +0.6**
WVT Waverly 49.63 271 P P **09 49 06.1 +1.1**
WVT pmax pmax
comp=Z,8.0nm,1.3s
WVT Waverly 49.63 271 P P **09 49 06.1 +1.1**
X51A Calhoun 49.67 267 P P **09 49 06.8 +1.4**
X51A IAmb IAmb 09 49 08.3
comp=Z,24nm,1.1s
RSSD Black Hills 49.84 290 P P **09 49 07.2 +0.3**
baz=34
RSSD Black Hills 49.84 290 P P **09 49 07.2 +0.3**
RSSD pmax pmax
comp=Z,11nm,1.2s
RSSD Black Hills 49.84 290 P P **09 49 07.2 +0.3**
Y52A Lilburn 49.93 266 P P **09 49 08.0 +0.6**
Y52A IAmb IAmb 09 49 13.8
comp=Z,26nm,1.1s
FPAL Fort Paine 50.02 267 IAmb IAmb 09 49 20.8
comp=Z,17nm,1.3s
GOGA Godfrey 50.06 265 P P **09 49 10.2 +1.9**
baz=31
GOGA Godfrey 50.06 265 IAmb IAmb 09 49 14.6
comp=Z,17nm,1.1s
PBMO Poplar Bluff 50.21 273 P P **09 49 10.0 +0.6**
T42A Van Buren 50.28 274 P P **09 49 10.4 +0.4**
T42A IAmb IAmb 09 49 15.2
comp=Z,19nm,1.4s
GYB4 ALIBECK ARRAY 50.47 83 P P **09 49 10.4 -1.1**
GYA3 ALIBECK ARRAY 50.48 83 P P **09 49 09.9 -1.6**
GEYT Alibeck 50.48 83 P P **09 49 08.9 -2.7**
comp=Z,1.0nm,0.3s,baz=255,slow=16,SNR=2.1
GEYT LR LR 10 12 36.5
comp=Z,841nm,18.2s,baz=260,slow=38
GEYT Alibeck 50.48 83 P P **09 49 10.5 -1.1**
GYA0 ALIBECK ARRAY 50.48 83 P P **09 49 10.6 -0.9**
GYA0 ALIBECK ARRAY 50.48 83 P P **09 49 10.6 -0.9**
S39A Bolivar 50.69 276 P P **09 49 12.5 -0.6**
S39A IAmb IAmb 09 49 14.8
comp=Z,18nm,1.1s
X48A Hartselle 50.71 269 IAmb IAmb 09 49 15.1
comp=Z,18nm,1.1s
KOWA Kowa 50.85 163 P P **09 49 16.9 +2.5**
KOWA IAmb IAmb 09 49 20.0
comp=Z,14nm,1.0s
Z51A Franklin 50.87 266 IAmb IAmb 09 49 17.1
comp=Z,12nm,1.0s
255A Hazlehurst 50.91 263 P P **09 49 16.5 +1.8**
KSU1 Kansas State U 50.91 280 IAmb IAmb 09 49 20.6
comp=Z,14nm,1.0s
Y49A Blount Mountai 50.95 268 P P **09 49 16.1 +1.1**
RLMT Red Lodge 51.11 295 P P **09 49 19.0 +2.6**
baz=33,SNR=9.9
RLMT Red Lodge 51.11 295 IAmb IAmb 09 49 28.4
comp=Z,21nm,1.5s
BTLS Baital 51.16 65 *eP* P **09 49 14.9 -1.7**
comp=Z,43nm,2.3s
BTLS *e*PP PP **09 51 13.1 +0.3**
BTLS *e*S S **09 56 39.4 +4.6**
BTLS Baital 51.16 65 *eP* P **09 49 14.8 -1.7**
BTLS *e* 09 51 13.1
BTLS *e*S S **09 56 39.3 +4.6**
BTLS pmax pmax
comp=Z,43nm,2.3s
KK09 Karatay Array 51.34 70 P P **09 49 16.3 -1.7**
KK08 Karatay Array 51.35 70 P P **09 49 17.1 -1.0**
KK31 Karatay Array 51.36 70 P P **09 49 17.0 -1.1**
KK31 pmax pmax
comp=Z,32nm,1.5s
KK31 Karatay Array 51.36 70 P P **09 49 17.0 -1.1**
KK31 IAmb IAmb 09 49 20.7
comp=Z,32nm,1.4s
KKAR Karatay Array 51.36 70 P P **09 49 17.0 -1.1**
KKAR pmax pmax
comp=Z,32nm,1.5s
KKAR Karatay Array 51.36 70 P P **09 49 17.0 -1.1**
KKAR IAmb IAmb 09 49 20.7
comp=Z,32nm,1.4s
KKAR Karatay Array 51.36 70 P P **09 49 16.4 -1.7**
YAK Yakutsk 51.41 19 LR LR 10 10 08.5
comp=Z,424nm,21.6s,baz=328,slow=35
MSO Missoula 51.48 299 P P **09 49 20.3 +1.2**
baz=33
MSO Missoula 51.48 299 P P **09 49 20.0 +0.9**
MSO IAmb IAmb 09 49 20.7
comp=Z,17nm,1.4s
U40A Yellville 51.61 275 P P **09 49 21.3 +1.3**
baz=32,SNR=6.5
U40A Yellville 51.61 275 IAmb IAmb 09 49 21.9
comp=Z,16nm,1.1s
BOZ Bozeman (W) 51.63 297 P P **09 49 19.9 -0.4**
baz=33,SNR=18
FCAR Ozark Folk Cen 51.69 274 P P **09 49 20.9 +0.3**
LRM Limekiln Ridge 51.76 297 P P **09 49 20.3 -1.0**
DZA Taraz 51.87 69 *eP* P **09 49 20.8 -1.1**
DZA Taraz 51.87 69 *eP* P **09 49 20.8 -1.1**
LRAL Lakeview Retre 51.90 268 P P **09 49 22.1 -0.1**
baz=31
IUG Iuzhnay 51.97 71 *eP* P **09 49 23.8 +1.1**
comp=Z,60nm,1.9s
IUG *e*PP PP **09 51 22.4 +2.0**
IUG *e*S S 09 56 53.0 +6.8
IUG Iuzhnay 51.97 71 *eP* P **09 49 23.8 +1.1**
IUG *e* 09 51 22.3
IUG *e*S S 09 56 52.9 +6.8
IUG pmax pmax
comp=Z,60nm,1.9s
LKWY Lake 52.02 295 P P **09 49 23.3 0.0**
LKWY pmax pmax
comp=Z,9.0nm,1.3s
LKWY Lake 52.02 295 P P **09 49 23.3 0.0**
K22A Casper 52.07 291 P P **09 49 22.6 -1.0**
baz=33
K22A Casper 52.07 291 IAmb IAmb 09 49 28.6
comp=Z,16nm,1.1s
YHB Horse Butte 52.17 296 P P **09 49 24.3 -0.1**
B08A Colville Reser 52.18 304 P P **09 49 23.8 -0.3**
DGZ Jazzator, Alta 52.20 53 *i* P P **09 49 22.4 -2.0**
DGZ pmax pmax
comp=Z,14nm,1.4s
H17A Grant Village 52.23 295 P P **09 49 26.1 +1.2**
baz=33,SNR=9.3
H17A Grant Village 52.23 295 P P **09 49 25.0 +0.1**
H17A IAmb IAmb 09 49 29.3
comp=Z,19nm,1.2s
X43A Marvell 52.32 272 P P **09 49 25.7 +0.5**
W41B Gary Mavity, V 52.35 274 P P **09 49 26.4 +0.9**
baz=31
W41B Gary Mavity, V 52.35 274 P P **09 49 26.8 +1.2**
R32A Long Quarter, 52.38 282 P P **09 49 26.5 +0.7**
R32A IAmb IAmb 09 49 27.5
comp=Z,23nm,1.2s
YPP Pitchstone Pla 52.42 295 P P **09 49 27.4 +1.0**
CBKS Cedar Bluff 52.48 283 P P **09 49 25.8 -0.7**
baz=32
CBKS Cedar Bluff 52.48 283 P P **09 49 25.8 -0.7**
CBKS pmax pmax
comp=Z,41nm,1.5s
CBKS Cedar Bluff 52.48 283 P P **09 49 25.8 -0.7**
FLWY Flagg Ranch 52.54 295 P P **09 49 27.8 +0.7**
FLWY IAmb IAmb 09 49 30.1
comp=Z,20nm,1.4s
BOD Bodaibo 52.55 30 *eP* P **09 49 22.9 -3.8**
BOD pmax pmax
comp=Z,16nm,1.7s
SEY Seymchan 52.62 6 LR LR 10 09 56.1
comp=Z,249nm,20.6s,baz=354,slow=34
SEY Seymchan 52.62 6 *i* P P **09 49 27.5 +0.3**
MAKZ Makanchi 52.70 58 P P **09 49 26.4 -1.6**
MAKZ pmax pmax
comp=Z,9.0nm,1.5s
MAKZ Makanchi 52.70 58 P P **09 49 26.4 -1.6**
MCMT McKenzie Canyo 52.75 297 P P **09 49 28.6 0.0**
MK31 Makanchi Array 52.83 58 P P **09 49 27.0 -2.0**
MK31 pmax pmax
comp=Z,10.0nm,1.3s
MK31 Makanchi Array 52.83 58 P P **09 49 27.0 -2.0**

MKAR Makanchi Array 52.83 58 P **P** **09 49 26.1 -2.9**
comp=Z,4.4nm,1.0s,baz=329,slow=4.2,SNR=15
MKAR Makanchi Array 52.83 58 P **P** **09 49 26.8 -2.2**
MKAR Makanchi Array 52.83 58 P **P** **09 49 26.8 -2.2**
LOHW Long Hollow 52.90 295 P **P** **09 49 31.0 +1.3**
W39A Magazine 52.99 275 IAmb IAmb 09 49 31.9
comp=Z,16nm,1.2s
KUU Kurty 53.02 65 *e*P **P** **09 49 31.1 +0.6**
comp=Z,77nm,1.6s
KUU *e*PP **PP** **09 51 28.8 -0.9**
KUU *e*S **S** **09 57 05.2 +4.8**
KUU Kurty 53.02 65 *e*P **P** **09 49 31.0 +0.6**
KUU *e* 09 51 28.8
KUU *e*S **S** **09 57 05.1 +4.8**
KUU pmax pmax
comp=Z,77nm,1.6s
TOA0 Torodi Ar. Sit 53.03 156 P **P** **09 49 31.7 +1.0**
TOA0 IAmb IAmb 09 49 35.5
comp=Z,30nm,1.2s
TORD Torodi Ar. Bea 53.03 156 P **P** **09 49 28.6 -2.1**
comp=Z,9.5nm,1.0s,baz=342,slow=6.9,SNR=20
TORD LR LR 10 14 02.6
comp=Z,975nm,18.7s,baz=340,slow=38
TORD Torodi Ar. Bea 53.03 156 P **P** **09 49 29.2 -1.5**
EKS2 Erkin-Say 53.05 67 P **P** **09 49 33.7 +3.0**
SNR=11
SNOW Snow King Moun 53.08 295 IAmb IAmb 09 49 37.5
comp=Z,22nm,1.2s
TPAW Teton Pass 53.13 295 IAmb IAmb 09 49 37.9
comp=Z,14nm,1.1s
RWWY Rawlins 53.16 291 P **P** **09 49 32.7 +0.9**
RWWY IAmb IAmb 09 49 33.6
comp=Z,32nm,1.4s
X40A Basin Creek Fa 53.19 274 P **P** **09 49 33.0 +1.3**
baz=31
X40A Basin Creek Fa 53.19 274 IAmb IAmb 09 49 33.4
comp=Z,18nm,1.4s
BW06 Boulder Array 53.19 293 P **P** **09 49 30.3 -1.6**
baz=32,SNR=9.9
BW06 Boulder Array 53.19 293 IAmb IAmb 09 49 33.5
comp=Z,29nm,1.2s
PD31 Pinedale Array 53.19 293 IAmb IAmb 09 49 33.5
comp=Z,21nm,1.2s
PDAR Pinedale Array 53.19 293 P **P** **09 49 29.4 -2.6**
comp=Z,6.3nm,0.7s,baz=56,slow=6.2,SNR=26
PDAR LR LR 10 12 01.1
comp=Z,4μm,18.1s,baz=30,slow=36
PDAR Pinedale Array 53.19 293 P **P** **09 49 30.3 -1.7**
REDW Red Top Meadow 53.20 295 IAmb IAmb 09 49 34.6
comp=Z,18nm,1.3s
ZSN Zaisan 53.21 56 *e*P **P** **09 49 31.7 0.0**
comp=Z,141nm,4.4s
ZSN Zaisan 53.21 56 *e*P **P** **09 49 31.7 0.0**
ZSN pmax pmax
comp=Z,141nm,4.4s
CHKK Chushkaly 53.31 64 *e*P **P** **09 49 31.1 -1.4**
CHKK Chushkaly 53.31 64 *e*P **P** **09 49 31.1 -1.4**
N23A Red Feather La 53.31 289 P **P** **09 49 32.8 -0.1**
baz=32,SNR=7.2
N23A Red Feather La 53.31 289 IAmb IAmb 09 49 35.6
comp=Z,25nm,1.1s
AAK Ala-Archa 53.35 67 P **P** **09 49 35.8 +2.7**
SNR=6.9
AAK Ala-Archa 53.35 67 *i*P **P** **09 49 32.2 -0.8**
AAK pmax pmax
comp=Z,55nm,1.3s
BCYI Bear Canyon 53.40 297 P **P** **09 49 34.0 +0.5**
MIAR Mount Ida 53.46 275 P **P** **09 49 35.3 +1.6**
baz=31
AML Almayashu 53.46 68 P **P** **09 49 33.7 -0.5**
SNR=7.1
KSCO Kaye Shedlock' 53.53 285 P **P** **09 49 36.4 +2.0**
baz=32
KSCO Kaye Shedlock' 53.53 285 P **P** **09 49 36.0 +1.6**
KSCO IAmb IAmb 09 49 42.2
comp=Z,33nm,1.4s
TKM2 Tokmak 2 53.55 66 P **P** **09 49 37.1 +2.6**
SNR=7.2
ECR Eagle Creek 53.67 295 P **P** **09 49 35.9 +0.5**
UCH Uchtor 53.70 67 P **P** **09 49 35.8 -0.2**
SNR=7.4
PLID Pearl Lake 53.73 300 P **P** **09 49 35.4 -0.5**
PLID IAmb IAmb 09 49 47.5
comp=Z,22nm,1.4s
AHID Auburn Hatcher 53.80 294 P **P** **09 49 36.5 +0.1**
E07A Sunnyside 53.90 303 P **P** **09 49 36.9 +0.1**
MDOK Medeo 53.91 64 *e*P **P** **09 49 35.5 -1.6**
MDOK *e*PP **PP** **09 51 35.3 -2.6**
MDOK *e*S **S** **09 57 18.5 +5.7**
MDOK Medeo 53.91 64 *e*P **P** **09 49 35.5 -1.6**
MDOK *e* 09 51 35.3
MDOK *e*S **S** **09 57 18.5 +5.7**
TNSS Tian-Shan 53.98 65 *e*P **P** **09 49 37.0 -0.9**
TNSS Tian-Shan 53.98 65 *e*P **P** **09 49 37.0 -0.9**
BOOM Boomskoye usch 54.05 66 P **P** **09 49 37.3 -0.9**
BOOM pmax pmax
comp=Z,27nm,1.5s
BOOM Boomskoye usch 54.05 66 P **P** **09 49 37.3 -0.9**
BOOM IAmb IAmb 09 49 41.1
comp=Z,27nm,1.4s
ISCO Idaho Springs 54.10 288 P **P** **09 49 38.8 0.0**
baz=32
ISCO Idaho Springs 54.10 288 P **P** **09 49 39.4 +0.7**
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO Idaho Springs 54.10 288 P **P** **09 49 39.4 +0.7**
KPKS Kokpek 54.29 63 *e*P **P** **09 49 41.0 +1.1**
KPKS Kokpek 54.29 63 *e*P **P** **09 49 40.9 +1.1**
BMO Blue Mountains 54.41 300 IAmb IAmb 09 49 41.8
comp=Z,15nm,1.4s
HLID Hailey 54.42 297 P **P** **09 49 42.4 +1.5**
baz=32,SNR=5.4
HLID Hailey 54.42 297 P **P** **09 49 41.6 +0.7**
SATY Saty 54.53 64 *e*P **P** **09 49 40.0 -1.7**
comp=Z,38nm,2.0s
SATY *e*S S 09 57 28.6 +7.5
SATY Saty 54.53 64 *e*P **P** **09 49 39.9 -1.7**
SATY *e*S S 09 57 28.5 +7.5
SATY pmax pmax
comp=Z,38nm,2.0s
UZB Uzynbulak 54.69 63 *e*P **P** **09 49 41.0 -1.8**
comp=Z,59nm,2.3s
UZB *e*S **S** **09 57 25.5 +2.2**
UZB Uzynbulak 54.69 63 *e*P **P** **09 49 41.0 -1.8**
UZB *e*S **S** **09 57 25.5 +2.2**
UZB pmax pmax
comp=Z,59nm,2.3s
MOY Mondy 54.79 42 *e*P **P** **09 49 45.3 +2.0**
MOY pmax pmax
comp=Z,149nm,2.2s
KDJ Kajisay 54.84 65 P **P** **09 49 42.7 -1.3**
KDJ pmax pmax
comp=Z,21nm,1.5s
KDJ Kajisay 54.84 65 P **P** **09 49 42.7 -1.3**
KDJ IAmb IAmb 09 49 48.3
comp=Z,21nm,1.5s
SHLS Shalkode 54.85 63 *e*P **P** **09 49 46.2 +2.3**
comp=Z,74nm,2.0s
SHLS *e*S **S** **09 57 29.7 +4.3**
SHLS Shalkode 54.85 63 *e*P **P** **09 49 46.2 +2.3**
SHLS *e*S **S** **09 57 29.7 +4.3**
SHLS pmax pmax
comp=Z,74nm,2.0s
O20A White River Ci 54.89 290 P **P** **09 49 44.6 +0.2**
baz=32,SNR=5.8
HWUT Hardware Ranch 54.97 294 P **P** **09 49 44.6 -0.3**
TCUT Toone Canyon 55.32 294 P **P** **09 49 47.3 -0.3**
TLY Talaya 55.53 40 LR LR 10 16 22.0
comp=Z,590nm,19.2s,baz=334,slow=39
TLY Talaya 55.53 40 *e*P **P** **09 49 50.7 +2.1**
TLY *e* 09 51 58.7
TLY *e*PPP PPP 09 53 09.4
TLY *e*S S 09 57 41.3 +7.3
TLY pmax pmax
comp=Z,38nm,1.7s
TLY MLR MLR
comp=Z,1μm,15.0s
SPUT South Promonto 55.57 294 P **P** **09 49 50.1 +0.9**
JLU Jordanelle 55.78 293 P **P** **09 49 50.0 -0.8**
SDCO Great Sand Dun 55.79 287 P **P** **09 49 51.5 +0.5**
CTU Camp Tracy 55.82 294 P **P** **09 49 51.1 +0.1**
T25A Trinidad 55.86 285 P **P** **09 49 52.9 +1.5**
baz=31
T25A Trinidad 55.86 285 P **P** **09 49 52.0 +0.6**
MA2 Magadan 55.90 7 LR LR 10 14 34.2
comp=Z,249nm,18.2s,baz=322,slow=37
Z35A Perchaven, San 56.07 277 P **P** **09 49 51.6 -1.1**
BGU Big Grassy Mou 56.13 295 P **P** **09 49 54.1 +0.9**
CBYP Canovanas 56.32 238 P **P** **09 49 56.5 +1.9**
CBYP IAmb IAmb 09 49 57.5
comp=Z,25nm,1.3s
S22A 4UR Ranch, Cre 56.34 288 P **P** **09 49 56.6 +1.7**
baz=31,SNR=6.3
S22A 4UR Ranch, Cre 56.34 288 P **P** **09 49 55.7 +0.8**
MTP Monte Pirata 56.37 238 P **P** **09 49 56.1 +1.1**
MTP IAmb IAmb 09 49 58.3
comp=Z,24nm,1.1s
HUMP Col San Antoni 56.44 238 IAmb IAmb 09 50 06.4
comp=Z,24nm,1.3s
PV22 Blue Mesa, Par 56.47 290 P **P** **09 49 55.7 0.0**
PV22 IAmb IAmb 09 49 58.6
comp=Z,13nm,1.3s
PV07 Paradox Valley 56.50 290 P **P** **09 49 56.2 +0.2**
PV07 IAmb IAmb 09 49 57.9
comp=Z,17nm,1.4s
PV15 Paradox Valley 56.51 289 P **P** **09 49 56.2 +0.1**
PV15 IAmb IAmb 09 50 08.4
comp=Z,18nm,1.4s
PV21 Cone Mtn., Par 56.52 290 P **P** **09 49 56.4 +0.2**
PV21 IAmb IAmb 09 50 01.7
comp=Z,12nm,0.9s
KSH Kashi 56.59 68 P **P** 09 50 00.0 +3.5
KSH S **S** **09 57 50.8 +2.2**
KSH pmax pmax
comp=Z,150nm,1.8s
KSH pmax pmax
comp=Z,430nm,4.5s
KSH LR LR
comp=Z,870nm,12.2s
KSH LR LR
comp=Z,420nm,11.6s
KSH LR LR
comp=Z,2μm,17.6s
ZAK Zakamensk 56.59 41 *e*P **P** **09 49 54.6 -1.7**
ZAK pmax pmax
comp=Z,16nm,1.6s
PDPR Patillas Dam, 56.62 238 P **P** **09 49 58.5 +1.8**
PDPR IAmb IAmb 09 50 03.5
comp=Z,15nm,1.1s
PV23 Carpenter Ridg 56.63 290 IAmb IAmb 09 50 03.1
comp=Z,17nm,1.0s
PV04 Paradox Valley 56.64 290 P **P** **09 49 57.6 +0.7**
PV04 IAmb IAmb 09 49 58.9
comp=Z,27nm,1.4s
PV12 Saucer Basin, 56.66 290 IAmb IAmb 09 49 59.3
comp=Z,23nm,1.3s
DUG Dugway, Tooele 56.66 294 P **P** **09 49 59.3 +2.3**
baz=31,SNR=7.2
DUG Dugway, Tooele 56.66 294 IAmb IAmb 09 50 07.8
comp=Z,18nm,1.4s
SRU San Rafael Swe 56.68 292 P **P** **09 49 58.1 +0.9**
SRU pmax pmax
comp=Z,16nm,1.3s
SRU San Rafael Swe 56.68 292 P **P** **09 49 58.1 +0.9**
PV14 Lion Creek, Pa 56.70 290 P **P** **09 49 58.4 +1.0**
PV14 IAmb IAmb 09 50 03.0
comp=Z,17nm,0.9s
PV11 David Mesa, Pa 56.71 290 P **P** **09 49 57.9 +0.5**
PV11 IAmb IAmb 09 50 02.3
comp=Z,15nm,1.0s
PV10 Paradox Valley 56.71 290 P **P** **09 49 57.0 -0.5**
PV20 West Nyswonger 56.71 290 P **P** **09 49 56.8 -0.6**
PV20 IAmb IAmb 09 50 05.9
comp=Z,9.1nm,0.9s
PV16 Nyswonger Mesa 56.71 290 P **P** **09 49 57.5 0.0**
PV16 IAmb IAmb 09 49 59.6
comp=Z,15nm,1.2s
PV01 Paradox Valley 56.72 289 IAmb IAmb 09 49 59.9
comp=Z,25nm,1.3s
PV02 Paradox Valley 56.73 290 IAmb IAmb 09 50 03.4
comp=Z,17nm,1.0s
PV03 Paradox Valley 56.73 290 IAmb IAmb 09 49 59.7
comp=Z,20nm,1.2s
PV19 Morning Glory 56.74 290 P **P** **09 49 58.6 +0.9**
PV19 IAmb IAmb 09 49 59.7
comp=Z,17nm,1.2s
PV17 East Wray Mesa 56.76 290 P **P** **09 49 59.1 +1.4**
PV17 IAmb IAmb 09 50 03.4
comp=Z,20nm,1.1s
PV18 Skein Mesa, Pa 56.77 290 P **P** **09 49 57.3 -0.6**
PV13 Radium Mtn., P 56.80 290 P **P** **09 49 57.7 -0.4**
SPIA Saint Paul Isl 56.84 343 P **P** **09 49 56.8 -0.9**
PV05 Paradox Valley 56.99 290 P **P** **09 49 58.0 -1.4**
MLPR Magueyes Islan 57.04 240 P **P** **09 50 01.5 +1.8**
J05D Fort Rock, OR 57.21 302 P **P** **09 50 03.8 +3.0**
baz=30
WHTX Lake Whitney, 57.31 276 P **P** **09 50 01.8 +0.3**
WHTX IAmb IAmb 09 50 10.2
comp=Z,19nm,1.5s
WMQ Urumqi 57.34 56 *e*P **P** **09 50 03.3 +1.6**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,330nm,3.7s
WMQ LR LR
comp=Z,200nm,10.9s
WMQ LR LR
comp=Z,520nm,15.5s
MVCO Mesa Verde 57.48 289 P **P** **09 50 03.1 +0.2**
baz=30
K05A Summer Lake 57.57 302 P **P** **09 50 04.4 +1.0**
K05A IAmb IAmb 09 50 21.9
comp=Z,26nm,1.4s
ABTX Abilene, Hawle 57.70 279 P **P** **09 50 05.9 +1.6**
baz=30
ABTX Abilene, Hawle 57.70 279 P **P** **09 50 03.7 -0.7**
ABTX IAmb IAmb 09 50 10.8
comp=Z,25nm,1.4s
SDDR Presa de Saban 57.74 244 P **P** **09 50 05.4 +0.7**
SDDR IAmb IAmb 09 50 18.4
comp=Z,9.1nm,0.8s
MSTX Muleshoe 57.88 282 P **P** **09 50 05.5 -0.1**
MSTX IAmb IAmb 09 50 12.1
comp=Z,13nm,1.4s
MOD Modoc Plateau 58.06 301 P **P** **09 50 07.4 +0.5**
MOD IAmb IAmb 09 50 10.6
comp=Z,14nm,1.4s
MTPU Mount Pierson 58.26 292 P **P** **09 50 09.6 +1.0**
HKT Hockley 58.37 274 *e*P **P** **09 50 08.5 -0.4**
HKT pmax pmax
comp=Z,6.0nm,1.6s
HKT Hockley 58.37 274 P **P** **09 50 08.9 +0.1**
GTBY Guantanamo Bay 58.40 249 P **P** **09 50 09.0 -0.2**
DBIC Dimbokro 58.47 165 P **P** **09 50 08.1 -1.6**
comp=Z,8.2nm,0.9s,baz=347,slow=8.9,SNR=4.3
DBIC LR LR 10 15 58.6
comp=Z,672nm,20.0s,baz=352,slow=37
TIC Toumodi 58.48 165 *e*PKIKP **P** **09 50 11.4 +1.6**
PSUT Pine Spring 58.50 294 P **P** **09 50 10.1 0.0**
ANMO Albuquerque 58.59 286 P **P** **09 50 12.8 +2.2**
baz=30
ANMO Albuquerque 58.59 286 *c*e**P** **P** **09 50 11.0 +0.3**
ANMO pmax pmax
comp=Z,22nm,2.5s
KIC Kosan Boka 58.79 165 *e*PKIKP **P** **09 50 11.1 -0.9**
comp=Z,44nm,1.2s
LIC Lamto 58.89 165 *e*PKIKP **P** **09 50 11.1 -1.6**
comp=Z,28nm,0.8s
ZEA Zeya 58.98 24 *e*P **P** **09 50 14.1 +1.2**
ZEA *e*S **S** **09 58 19.7 +0.4**
ZEA pmax pmax
comp=N,200nm,8.3s
ZEA pmax pmax
comp=Z,300nm,6.6s
ZEA smax smax
comp=N,200nm,11.7s
ZEA MLR MLR
comp=E,100nm,16.0s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
R11A Troy Canyon, C 59.34 295 P **P** **09 50 15.6 -0.2**
baz=30,SNR=14
R11A Troy Canyon, C 59.34 295 IAmb IAmb 09 50 18.5
comp=Z,22nm,1.4s
Y22D IRIS PASSCAL I 59.53 286 P **P** **09 50 20.4 +3.2**
baz=30
JCT Junction City 59.62 278 P **P** **09 50 18.7 +1.0**
baz=29,SNR=8.5
KVN Kaiserville 59.71 298 IAmb IAmb 09 50 20.4
comp=Z,17nm,1.4s
SONM Songino Array 59.77 40 P **P** **09 50 16.8 -1.8**
comp=Z,0.8nm,0.4s,baz=347,slow=6.1,SNR=11
SONM LR LR 10 18 17.4
comp=Z,937nm,20.3s,baz=338,slow=38
SONM Songino Array 59.77 40 P **P** **09 50 16.7 -1.9**
ULN Ulaanbaatar 59.93 40 *c*e**P** **P** **09 50 20.0 +0.3**
ULN pmax pmax
comp=Z,13nm,1.0s
WUAZ Wupatki 60.12 290 P **P** **09 50 20.5 -0.7**
baz=30,SNR=7.7
YERR Yerington 60.20 298 P **P** **09 50 20.7 -1.0**
YERR IAmb IAmb 09 50 30.8
comp=Z,22nm,1.3s
TPH Tonopah 60.22 296 P **P** **09 50 21.6 -0.3**
NVAR Mina Array Bea 60.33 297 P **P** **09 50 21.4 -1.3**
comp=Z,1.4nm,0.8s,baz=60,slow=6.5,SNR=8.4
NVAR LR LR 10 16 34.3
comp=Z,6μm,19.6s,baz=28,slow=36
NIL Nilore 60.53 73 P **P** **09 50 21.7 -2.2**
NIL pmax pmax
comp=Z,35nm,1.3s
NIL Nilore 60.53 73 P **P** **09 50 21.7 -2.2**
WAKR Walker 60.70 298 P **P** **09 50 25.4 +0.2**
WAKR IAmb IAmb 09 50 34.2
comp=Z,9.9nm,1.2s
SHPR Sheep Range 60.78 294 IAmb IAmb 09 50 28.6
comp=Z,23nm,1.5s
TPNV Topopah Spring 60.82 295 P **P** **09 50 27.3 +1.3**
baz=29,SNR=5.6
TPNV Topopah Spring 60.82 295 P **P** **09 50 26.4 +0.4**
TPNV pmax pmax
comp=Z,15nm,1.4s
TPNV Topopah Spring 60.82 295 P **P** **09 50 26.4 +0.4**
TPNV IAmb IAmb 09 50 28.1
comp=Z,15nm,1.4s
AFDM Forest Hills D 60.89 300 P **P** **09 50 26.8 +0.5**
MNTX Cornudas Mount 60.94 283 P **P** **09 50 26.8 +0.1**
baz=29
MNTX Cornudas Mount 60.94 283 P **P** **09 50 27.1 +0.5**
121A Cookes Peak, D 61.23 285 P **P** **09 50 31.2 +2.4**
baz=29
121A Cookes Peak, D 61.23 285 P **P** **09 50 29.4 +0.6**
121A IAmb IAmb 09 50 35.3
comp=Z,12nm,1.1s
OMMB Old Mammoth Mi 61.31 297 P **P** **09 50 29.7 +0.2**
OMMB IAmb IAmb 09 50 38.9
comp=Z,12nm,1.3s
833A Chaparral WMA, 61.32 276 P **P** **09 50 31.4 +2.1**
baz=29
833A Chaparral WMA, 61.32 276 P **P** **09 50 28.9 -0.3**
MDPB Devils Postpil 61.32 298 P **P** **09 50 29.8 +0.3**
FURC Furnace Creek, 61.48 295 P **P** **09 50 32.9 +2.7**
baz=29
CWC Cottonwood Cre 61.98 296 P **P** **09 50 35.5 +1.6**
baz=28
TUQ Turquoise Moun 62.01 294 P **P** **09 50 36.0 +1.9**
baz=29
MPMC Manual Prospec 62.08 295 P **P** **09 50 36.6 +2.1**
baz=28
TX32 Lajitas Array 62.27 280 IAmb IAmb 09 50 59.4
comp=Z,11nm,1.5s
TXAR Lajitas Array 62.27 280 P **P** **09 50 34.9 -0.9**
comp=Z,2.0nm,0.9s,baz=46,slow=5.4,SNR=12
TXAR PcP **PcP** **09 51 15.8 +0.2**
comp=Z,2.0nm,1.0s,baz=67,slow=4.2,SNR=4.6
TXAR LR LR 10 17 17.5
comp=Z,4μm,18.2s,baz=0.0,slow=36
TXAR Lajitas Array 62.27 280 P **P** **09 50 34.6 -1.2**
PDMCI Parker Dam,Lak 62.29 292 P **P** **09 50 36.4 +0.7**
baz=29
GMRC Granite Mounta 62.48 293 P **P** **09 50 37.4 +0.2**
baz=28,SNR=7.2
PETK Petropavlovsk- 62.64 3 P **P** **09 50 38.2 +0.4**
comp=Z,13nm,1.1s,baz=96,slow=6.0,SNR=4.0
TUC Tucson 62.66 288 P **P** **09 50 38.0 -0.3**
baz=29
TUC Tucson 62.66 288 P **P** **09 50 38.7 +0.4**
TUC pmax pmax
comp=Z,20nm,1.5s
TUC Tucson 62.66 288 P **P** **09 50 38.7 +0.4**
TUC IAmb IAmb 09 50 41.4
comp=Z,20nm,1.4s
ISA Isabella, Lake 62.81 296 P **P** **09 50 41.5 +2.2**
baz=28
IRM Iron Mountain 62.82 292 P **P** **09 50 41.3 +2.0**
baz=28
BELC Belle Mtn. Jos 63.30 293 P **P** **09 50 44.9 +2.3**
baz=28,SNR=7.7
BC3 Big Chuckawall 63.38 292 P **P** **09 50 45.1 +2.0**
baz=28,SNR=6.7
URIC Uribia, Colomb 64.64 242 *e*P **P** **09 50 48.2 -3.2**
GTA Gaotai 65.42 49 P **P** **09 50 57.3 +0.9**
GTA pP sP 09 51 06.6 +7.3
GTA sP pP 09 51 10.8 +12
GTA S S 09 59 47.5 +6.3
GTA pmax pmax
comp=Z,15nm,1.7s
GTA pmax pmax
comp=Z,410nm,6.4s
GTA LR LR
comp=Z,360nm,16.4s
GTA LR LR
comp=Z,540nm,15.6s
GTA LR LR
comp=Z,510nm,17.8s
HSIG 65.61 286 P **P** **09 50 58.7 +1.1**
HSIG IAmb IAmb 09 50 59.9
comp=Z,10nm,1.0s
SDV Santo Domingo 66.72 239 *e*P **P** **09 51 03.7 -1.4**
ZAIG Zacatecas 67.55 276 P **P** **09 51 10.9 +0.5**
ZAIG IAmb IAmb 09 51 14.0
comp=Z,11nm,1.1s
HHC Hu-ho-hao-te 67.64 39 *e*P **P** **09 51 12.3 +1.7**
HHC S **S** **10 00 07.6 -0.4**
HHC pmax pmax
comp=Z,170nm,5.2s
HHC LR LR
comp=Z,310nm,16.5s
HHC LR LR
comp=Z,800nm,22.4s
HHC LR LR
comp=Z,300nm,17.8s
YSS Yuzh-Sakhalins 67.79 14 *e*P **P** **09 51 13.0 +1.7**
YSS *e* 09 53 43.1
YSS *e*PPP PPP 09 55 26.0
YSS *e*S **S** **10 00 10.4 +1.1**
YSS *e*PPS PPS 10 00 38.2
SMLC San Martn de 68.09 243 *e*P **P** **09 51 15.2 +1.7**
CN2 Changchun 68.18 28 *e*P **P** **09 51 13.0 -0.8**
CN2 *e*PP **PP** **09 53 43.8 +0.4**
CN2 *e*S **S** **10 00 09.6 -4.4**
CN2 *e*SS **SS** **10 04 31.5 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 LR LR
comp=Z,360nm,18.0s
CN2 LR LR
comp=Z,360nm,18.0s
CN2 LR LR
comp=Z,440nm,19.0s
USRK Ussuriysk Ar. 69.01 23 P **P** **09 51 18.2 -0.7**
comp=Z,0.4nm,0.4s,baz=336,slow=9.7,SNR=1.9
USRK LR LR 10 21 55.4
comp=Z,254nm,18.5s,baz=348,slow=36
BRRC Barranca, Sant 69.51 242 *e*P **P** **09 51 22.0 -0.4**
ZARC Zaragoza, Cauc 69.59 243 *e*P **P** **09 51 22.0 -0.9**
UREC San Jos de Ur 69.62 244 *e*P P 09 51 13.3 -10
LZH Lanzhou 69.75 47 *e*P **P** **09 51 23.3 -0.6**
LZH pP sP 09 51 30.9 +4.1
LZH PP **PP** **09 54 03.1 +5.6**
LZH S **S** **10 00 33.0 -0.3**
LZH sS sS 10 00 43.3 +6.6
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,530nm,4.9s
LZH LR LR
comp=Z,520nm,13.6s
LZH LR LR
comp=Z,580nm,12.5s
LZH LR LR
comp=Z,420nm,12.5s
PTBC PUERTO BERRIO, 70.31 242 *e*P **P** **09 51 28.7 +1.4**
SPBC San Pablo de B 70.98 241 *e*P **P** **09 51 32.6 +1.1**
HELC Santa Helena 71.05 243 *e*P **P** **09 51 34.1 +1.9**

BHPL	**Bhopal**	**71.40**	**75**	*eP*	**P**	**P**	**09 51 33.2**	**-0.7**
CBOC	**Ciudad Bolivar**	**71.53**	**243**	*eP*	**P**	**P**	**09 51 35.5**	**+0.6**
PTGC	**Puerto Gaitan,**	**71.59**	**239**	*eP*	**P**	**P**	**09 51 34.5**	**-0.6**
ROSC	**El Rosal**	**71.82**	**241**	LR	LR	LR	10 23 32.4	
	comp=Z,229nm,18.1s,baz=6.0,slow=36							
ROSC	**El Rosal**	**71.82**	**241**	*eP*	**P**	**P**	**09 51 37.4**	**+0.5**
ROSC	**El Rosal**	**71.82**	**241**	P	**P**	**P**	**09 51 38.0**	**+1.1**
DL2	**Dalian**	**72.03**	**32**	*iP*	**P**	**P**	**09 51 38.3**	**+0.9**
DL2				PP	**PP**	**PP**	**09 54 20.9**	**+4.2**
DL2				S	**SKiKP**	**10 01 04.4**		**-10**
DL2				pmax	pmax			
	comp=Z,27nm,1.2s							
DL2				pmax	pmax			
	comp=Z,390nm,6.9s							
DL2				LR	LR			
	comp=Z,240nm,18.9s							
DL2				LR	LR			
	comp=Z,560nm,26.0s							
DL2				LR	LR			
	comp=Z,580nm,19.4s							
PTGA	**Pitinga**	**72.06**	**225**	P	**P**	**P**	**09 51 38.9**	**+1.0**
PTGA				IAmb	IAmb	IAmb	09 51 43.8	
	comp=Z,14nm,1.3s							
RREF	**El Recreo**	**72.16**	**242**	*eP*	**P**	**P**	**09 51 36.5**	**-2.8**
GTK	**Tadong**	**72.28**	**64**	*eP*	**P**	**P**	**09 51 41.0**	**+1.6**
PRAC	**Prado**	**73.07**	**241**	*eP*	**P**	**P**	**09 51 44.2**	**+0.2**
XAN	**Xi'an**	**73.22**	**44**	P	**P**	**P**	**09 51 44.9**	**+0.2**
XAN				PP	**PP**	**PP**	**09 54 23.5**	**-3.6**
XAN				pmax	pmax			
	comp=Z,15nm,2.2s							
XAN				pmax	pmax			
	comp=Z,460nm,5.3s							
XAN				LR	LR			
	comp=Z,580nm,14.1s							
XAN				LR	LR			
	comp=Z,820nm,14.7s							
XAN				LR	LR			
	comp=Z,880nm,16.3s							
XAN	**Xi'an**	**73.22**	**44**	P	**P**	**P**	**09 51 44.2**	**-0.5**
XAN				pmax	pmax			
	comp=Z,16nm,1.3s							
XAN	**Xi'an**	**73.22**	**44**	P	**P**	**P**	**09 51 44.2**	**-0.5**
XAN				IAmb	IAmb	IAmb	09 51 45.8	
	comp=Z,16nm,1.3s							
NGP	**Nagpur**	**73.93**	**75**	*eP*	**P**	**P**	**09 51 50.1**	**+1.1**
NGP				IAmb	IAmb	IAmb	09 51 57.3	
	comp=Z,20nm,1.7s							
POO	**Poona**	**74.07**	**81**	*eP*	**P**	**P**	**09 51 50.1**	**+0.3**
ZIRO	**ZIRO**	**74.09**	**59**	IAmb	IAmb	IAmb	09 51 53.5	
	comp=Z,4μm,4.2s							
CD2	**Chengdu**	**74.48**	**50**	*eP*	**P**	**P**	**09 51 50.0**	**-2.1**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
GUWA	**GUWAHATI**	**74.48**	**62**	*eP*	**P**	**P**	**09 51 53.2**	**+1.1**
GUWA				IAmb	IAmb	IAmb	09 51 54.0	
	comp=Z,488nm,0.0s							
TEZP	**TEZPUR**	**74.52**	**61**	*eP*	**P**	**P**	**09 51 52.1**	**-0.2**
KSRS	**Korea Array**	**74.79**	**28**	P	**P**	**P**	**09 51 54.1**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=343,slow=5.8,SNR=5.4							
KSRS				LR	LR	LR	10 28 05.8	
	comp=Z,226nm,18.7s,baz=350,slow=38							
KSAR	**Wonju Array Be**	**74.79**	**28**	P	**P**	**P**	**09 51 52.2**	**-1.5**
KSAR	**Wonju Array Be**	**74.79**	**28**	P	**P**	**P**	**09 51 52.2**	**-1.5**
PCON	**Cinco Dias**	**74.92**	**242**	*eP*	**P**	**P**	**09 51 54.8**	**-0.6**
LKP	**Lekhapani**	**75.00**	**58**	*eP*	**P**	**P**	**09 51 54.7**	**-0.4**
LKP				IAmb	IAmb	IAmb	09 51 59.3	
	comp=Z,9μm,5.2s							
SHL	**Shillong**	**75.12**	**62**	P	**P**	**P**	**09 51 53.6**	**-2.5**
SHL				pmax	pmax			
	comp=Z,33nm,1.2s							
SHL	**Shillong**	**75.12**	**62**	P	**P**	**P**	**09 51 53.6**	**-2.5**
FLOC	**Florencia**	**75.32**	**241**	*eP*	**P**	**P**	**09 51 57.3**	**+0.2**
KOHI	**KOHIMA**	**75.82**	**60**	*eP*	**P**	**P**	**09 52 01.9**	**+1.9**
AGT	**Agartala**	**76.40**	**63**	*eP*	**P**	**P**	**09 52 05.2**	**+2.1**
KMBO	**Kilima Mbogo**	**76.63**	**123**	LR	LR	LR	10 29 15.4	
	comp=Z,672nm,19.4s,baz=279,slow=38							
ENH	**Enshi**	**76.90**	**45**	P	**P**	**P**	**09 52 05.3**	**-0.6**
ENH				IAmb	IAmb	IAmb	09 52 10.5	
	comp=Z,15nm,1.1s							
BELO	**BELONIA**	**77.05**	**63**	IAmb	IAmb	IAmb	09 52 11.3	
	comp=Z,12μm,3.1s							
HYB	**Hyderabad**	**77.05**	**77**	*iP*	P	P	09 52 01.0	-6.0
MJAR	**Matsushiro Arr**	**77.47**	**20**	P	**P**	**P**	**09 52 09.8**	**+0.7**
	comp=Z,5.9nm,1.2s,baz=351,slow=6.5,SNR=4.9							
MJAR				LR	LR	LR	10 25 21.9	
	comp=Z,102nm,21.9s,baz=0.0,slow=35							
MJAR	**Matsushiro Arr**	**77.47**	**20**	P	**P**	**P**	**09 52 07.4**	**-1.7**
MJAR				pmax	pmax			
	comp=Z,6.0nm,1.4s							
MJAR	**Matsushiro Arr**	**77.47**	**20**	P	**P**	**P**	**09 52 07.4**	**-1.7**
BWNR	**Bhubaneshwar**	**77.48**	**69**	*ex*	x	x	09 51 18.4	
BWNR				IAmb	IAmb	IAmb	09 51 20.0	
	comp=Z,12nm,0.2s							
OTAV	**Otavalo**	**77.63**	**243**	P	**P**	**P**	**09 52 11.2**	**+0.5**
OTAV				pmax	pmax			
	comp=Z,10.0nm,1.3s							
OTAV	**Otavalo**	**77.63**	**243**	P	**P**	**P**	**09 52 11.2**	**+0.5**
OTAV	**Otavalo**	**77.63**	**243**	*eP*	**P**	**P**	**09 52 11.7**	**+1.0**
NJ2	**Nanjing**	**77.87**	**37**	*eP*	**P**	**P**	**09 52 10.3**	**-1.0**
NJ2				S	**S**	**S**	**10 01 58.3**	**-6.2**
NJ2				sS	**sS**	**10 02 13.1**		**+5.1**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,440nm,6.4s							
NJ2				LR	LR			
	comp=Z,360nm,15.1s							
NJ2				LR	LR			
	comp=Z,350nm,14.1s							
NJ2				LR	LR			
	comp=Z,250nm,17.2s							
WHN	**Wuhan**	**78.08**	**41**	P	**P**	**P**	**09 52 12.3**	**-0.2**
WHN				PP	**PP**	**PP**	**09 55 10.8**	**+2.7**
WHN				S	**S**	**S**	**10 02 10.0**	**+3.2**
WHN				pmax	pmax			
	comp=Z,780nm,5.8s							
WHN				LR	LR			
	comp=Z,240nm,10.9s							
WHN				LR	LR			
	comp=Z,1μm,14.0s							
WHN				LR	LR			
	comp=Z,900nm,20.9s							
SSE	**Sheshan**	**79.37**	**35**	P	**P**	**P**	**09 52 16.9**	**-2.7**
SSE				S	**S**	**S**	**10 02 15.3**	**-5.3**
SSE				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SSE				pmax	pmax			
	comp=Z,130nm,3.7s							
SSE				LR	LR			
	comp=Z,210nm,13.0s							
SSE				LR	LR			
	comp=Z,210nm,14.1s							
KMI	**Kunming**	**79.47**	**53**	⇑P	P	P	09 52 14.3	-6.2
KMI				pP	pP	pP	09 52 18.6	-4.0
KMI				pmax	pmax			
	comp=Z,11nm,0.8s							
KMI				pmax	pmax			
	comp=Z,120nm,4.6s							
KMI				LR	LR			
	comp=N,250nm,13.0s							
KMI				LR	LR			
	comp=E,470nm,13.0s							
KMI				LR	LR			
	comp=Z,460nm,16.1s							
KMI	**Kunming**	**79.47**	**53**	⇑P	**P**	**P**	**09 52 20.4**	**-0.1**
KMI				pmax	pmax			
	comp=Z,19nm,0.6s							
KMI				LR	LR			
	comp=Z,230nm,15.3s							
KMI				LR	LR			
	comp=Z,290nm,14.7s							
KMI				LR	LR			
	comp=Z,250nm,19.8s							
KMI	**Kunming**	**79.47**	**53**	P	**P**	**P**	**09 52 18.0**	**-2.5**
KMI				pmax	pmax			
	comp=Z,31nm,1.2s							
KMI	**Kunming**	**79.47**	**53**	P	**P**	**P**	**09 52 18.0**	**-2.5**
GYA	**Guiyang**	**79.55**	**49**	⇑P	**P**	**P**	**09 52 22.3**	**+1.5**
GYA				pmax	pmax			
	comp=Z,15nm,1.2s							
SAML	**Samuel**	**80.82**	**226**	P	**P**	**P**	**09 52 27.6**	**+0.1**
SAML				pmax	pmax			
	comp=Z,12nm,1.4s							
SAML	**Samuel**	**80.82**	**226**	P	**P**	**P**	**09 52 27.6**	**+0.1**
SAML	**Samuel**	**80.82**	**226**	*eP*	**P**	**P**	**09 52 28.9**	**+1.5**
PAYG	**Puerto Ayora**	**83.22**	**254**	P	**P**	**P**	**09 52 40.9**	**+0.7**
BDFB	**Brasilia**	**83.24**	**209**	LR	LR	LR	10 25 21.3	
	comp=Z,248nm,18.1s,baz=326,slow=33							
CHTO	**Chiang Mai**	**83.91**	**58**	P	**P**	**P**	**09 52 42.7**	**-1.1**
CHTO				pmax	pmax			
	comp=Z,23nm,1.5s							
CHTO	**Chiang Mai**	**83.91**	**58**	P	**P**	**P**	**09 52 42.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**84.24**	**59**	P	**P**	**P**	**09 52 43.9**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=319,slow=5.4,SNR=8.5							
PSI	**Prapat**	**98.57**	**65**	LR	LR	LR	10 43 43.9	
	comp=Z,267nm,18.0s,baz=300,slow=39							
BOSA	**Boshof**	**98.68**	**143**	LR	LR	LR	10 41 23.4	
	comp=Z,950nm,18.2s,baz=348,slow=37							
TAOE	**Nuku Hiva Isla**	**111.58**	**296**	*e*LR	LR	LR	10 31 59.4	
RKT	**Rikitea**	**122.35**	**285**	*e*LR	LR	LR	10 37 00.7	
	comp=Z,463nm,29.8s							
PPT2	**Papeete2**	**123.14**	**302**	*e*LR	LR	LR	10 37 13.1	
	comp=Z,629nm,21.5s							
WRAB	**Tennant Creek**	**131.65**	**36**	*i* P	**Pdif**	**09 56 23.7**	**+4.1**
WRAB				pmax	pmax			
	comp=Z,5.0nm,1.3s							
WRA	**Warramunga Arr**	**131.66**	**36**	PKP	**PKiKP**	**09 59 25.6**	**-1.9**
	comp=Z,3.0nm,1.2s,baz=353,slow=2.4,SNR=4.9							
ASAR	**Alice Springs**	**135.10**	**38**	PKP	**PKPdf**	**09 59 30.8**	**-2.1**
	comp=Z,1.3nm,1.0s,baz=11,slow=0.9,SNR=4.1							
ASAR	**Alice Springs**	**135.10**	**38**		**PKiKP**	**09 59 33.6**	**-0.8**
SNAA	**Sanae**	**136.31**	**173**	PKP	**PKPdf**	**09 59 31.9**	**-1.8**
	comp=Z,2.6nm,1.1s,baz=16,slow=4.8,SNR=4.3							
SNAA	**Sanae**	**136.31**	**173**		**PKiKP**	**09 59 34.9**	**-0.5**
DZM	**Mont Dzumac**	**137.47**	**354**	*e*LR	LR	LR	10 43 54.2	
	comp=Z,563nm,24.0s							
MAW	**Mawson**	**143.65**	**140**	PKP	**PKPdf**	**09 59 46.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=337,slow=1.4,SNR=8.6							
STKA	**Stephens Creek**	**144.86**	**32**	PKP	**PKPdf**	**09 59 49.1**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=20,slow=3.5,SNR=4.5							
STKA	**Stephens Creek**	**144.86**	**32**		**PKPdf**	**09 59 50.5**	**+0.2**
HAZ	**Te Kaha**	**151.67**	**334**	P	**PKPab**	**10 00 15.4**	**-0.8**
RUGZ	**Raukumara Rang**	**151.89**	**334**	P	**PKPab**	**10 00 13.5**	**-3.8**
OPRZ	**Ohinepanea**	**151.98**	**336**	P	**PKPab**	**10 00 14.2**	**-3.4**
MWZ	**Matawai**	**152.28**	**334**	P	**PKPab**	**10 00 13.3**	**-5.6**
URZ	**Urewera**	**152.28**	**335**	PKPbc	**PKiKP**	**10 00 09.5**	**+0.4**
	comp=Z,13nm,0.4s,baz=268,slow=4.8,SNR=86							
URZ	**Urewera**	**152.28**	**335**		**PKiKP**	**10 00 11.2**	**+2.1**
NGRZ	**Ngongotaha**	**152.30**	**336**	P	**PKiKP**	**10 00 12.0**	**+2.8**
TARZ	**Mount Tarawera**	**152.37**	**336**	P	**PKPab**	**10 00 17.8**	**-1.5**
RRRZ	**Republican Roa**	**152.47**	**335**	P	**PKPdf**	**10 00 04.3**	**+1.9**
RIGZ	**Rimuhau**	**152.59**	**333**	P	**PKPab**	**10 00 18.4**	**-1.7**
RTZ	**Ruatahuna**	**152.66**	**335**	P	**PKPab**	**10 00 14.5**	**-6.0**
SNGZ	**Shannon Statio**	**152.75**	**334**	P	**PKPab**	**10 00 16.2**	**-4.6**
MHGZ	**Mahia Peninsul**	**153.00**	**333**	P	**PKPab**	**10 00 22.9**	**+1.1**
NMHZ	**Naumai**	**153.15**	**335**	P	**PKPab**	**10 00 22.2**	**-0.3**
BKZ	**Black Stump Fm**	**153.28**	**335**	P	**PKPab**	**10 00 23.0**	**0.0**
KWHZ	**Kaweka Forest**	**153.54**	**335**	P	**PKPab**	**10 00 26.5**	**+2.3**
TSZ	**Takapari Road**	**154.24**	**336**	P	PKPab	10 00 38.4	+11
QSPA	**South Pole Qui**	**154.45**	**180**	PKP	**PKPdf**	**10 00 01.6**	**-2.8**
	comp=Z,4.0nm,1.2s,baz=152,slow=1.2,SNR=3.1							
QSPA				PKPbc	**pPKPbc**	**10 00 13.9**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=192,slow=1.3,SNR=7.3							
QSPA	**South Pole Qui**	**154.45**	**180**		**PKPdf**	**10 00 05.4**	**+1.0**
QSPA					**pPKPbc**	**10 00 15.9**	**+1.1**
BFZ	**Birch Farm**	**154.79**	**335**	P	PKPab	10 00 44.0	+15
MRZ	**Mangatainoka R**	**154.89**	**336**	P	PKPab	10 00 42.2	+12
TIWZ	**Tintock**	**154.95**	**335**	P	PKPab	10 00 46.7	+17

BJI ***18*** *09:40:53.4±0.0,33.37S×178.97W,h15km,mB5.9/7, mb5.5/8,Ms6.6/2*

NEIC ***18*** *09:40:54.6±1.6,33.19S±0.06×179.2W±0.1,h10km±1km, mb5.0/49,Error ellipse: s-maj=18.4km s-min=9.0km az=111.0*

WEL ***18*** *09:40:55.5±0.7,33.5±6.5×17.8W±1.5,h33km,M5.1/35, mB5.6/30,ML5.7/35,MLv5.4/35,Mw(mB)5.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1*

IDC ***18*** *09:41:01.4±2.3,33.10S×179.17W,h63km±19km,mb4.3/18, mb1 4.4/18,mb1mx4.2/42,mbtmp4.5/18,MS3.9/10, Ms1 4.0/10,ms1mx3.7/34,Error ellipse: s-maj=16.2km s-min=13.2km az=45.0*

ISC 18 09:40:59.0±0.3,33.20S±0.04×179.06W±0.07,h45km, n207,σ1§63/207,mb4.9/39,MS4.1/13,1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.05**	**14**	P	**Pn**	**09 41 55.2**	**-3.2**
GLKZ				S	**Sn**	**09 42 40.7**	**-3.8**
RAO	**Raoul Island**	**4.06**	**14**	P	**Pn**	**09 41 55.9**	**-2.6**
	196nm,0.3s,baz=88,slow=18,SNR=5.3						
RAO				S	**Sn**	**09 42 43.5**	**-1.2**
	251nm,0.3s,baz=108,slow=23,SNR=2.6						
RAO	**Raoul Island**	**4.06**	**14**		**Pn**	**09 41 56.3**	**-2.2**
RAO				Sn	**Sn**	**09 42 43.4**	**-1.4**
RIZ	**Raoul Island**	**4.06**	**14**	P	**Pn**	**09 41 55.3**	**-3.3**
RIZ				S	**Sn**	**09 42 45.1**	**+0.2**
MXZ	**Matakaoa Point**	**4.85**	**206**	P	**Pn**	**09 42 08.4**	**-1.1**
MXZ				S	**Sn**	**09 43 04.8**	**+0.4**
MXZ	**Matakaoa Point**	**4.85**	**206**	Pn	**Pn**	**09 42 08.8**	**-0.7**
WMGZ	**Waiomatatini S**	**5.05**	**203**	P	**Pn**	**09 42 11.3**	**-0.8**
WMGZ				S	**Sn**	**09 43 10.1**	**+0.9**
HAZ	**Te Kaha**	**5.22**	**209**	P	**Pn**	**09 42 14.1**	**-0.4**
PKGZ	**Pakihiroa**	**5.23**	**206**	P	**Pn**	**09 42 13.3**	**-1.4**
PKGZ				S	**Sn**	**09 43 11.0**	**-2.6**
PUZ	**Puketiti**	**5.33**	**203**	P	**Pn**	**09 42 14.1**	**-1.9**
PUZ				S	**Sn**	**09 43 14.8**	**-1.3**
RUGZ	**Raukumara Rang**	**5.45**	**208**	P	**Pn**	**09 42 16.9**	**-0.8**
TWGZ	**Tauwhareparae**	**5.52**	**205**	P	**Pn**	**09 42 16.6**	**-2.1**
TWGZ				S	**Sn**	**09 43 21.7**	**+0.9**
WHRZ	**Whale Island**	**5.66**	**214**	P	**Pn**	**09 42 21.8**	**+1.3**
CNGZ	**Carnagh Statio**	**5.72**	**202**	P	**Pn**	**09 42 19.8**	**-1.6**
TKGZ	**Te Karaka**	**5.80**	**205**	P	**Pn**	**09 42 20.0**	**-2.5**
TKGZ				S	**Sn**	**09 43 26.8**	**-0.8**
MWZ	**Matawai**	**5.83**	**207**	P	**Pn**	**09 42 20.8**	**-2.1**
MWZ				S	**Sn**	**09 43 27.4**	**-0.9**
OPRZ	**Ohinepanea**	**5.85**	**216**	P	**Pn**	**09 42 23.4**	**+0.3**
OPRZ				S	**Sn**	**09 43 33.6**	**+4.7**
MARZ	**Manawahe**	**5.90**	**215**	P	**Pn**	**09 42 25.3**	**+1.4**
URZ	**Urewera**	**5.93**	**211**	P	**Pn**	**09 42 22.4**	**-1.8**
	22nm,0.3s,baz=283,slow=1.6,SNR=122						
URZ				S	**Sn**	**09 43 30.1**	**-0.8**
	28nm,0.3s,baz=223,slow=18,SNR=2.0						
URZ	**Urewera**	**5.93**	**211**	P	**Pn**	**09 42 22.4**	**-1.8**
URZ				S	**Sn**	**09 43 31.2**	**+0.3**
URZ	**Urewera**	**5.93**	**211**	Pn	**Pn**	**09 42 24.5**	**+0.3**
URZ				Sn	**Sn**	**09 43 33.3**	**+2.4**
RAGZ	**Rawiri**	**6.01**	**207**	P	**Pn**	**09 42 24.9**	**-0.5**
RAGZ				S	**Sn**	**09 43 32.7**	**-0.2**
LIRZ	**Lichensteins R**	**6.06**	**216**	P	**Pn**	**09 42 29.7**	**+3.7**
RIGZ	**Rimuhau**	**6.07**	**204**	P	**Pn**	**09 42 24.6**	**-1.6**
RIGZ				S	**Sn**	**09 43 34.8**	**+0.5**
KARZ	**Kaharoa**	**6.14**	**217**	P	**Pn**	**09 42 28.8**	**+1.6**
OMRZ	**Omania**	**6.15**	**216**	P	**Pn**	**09 42 29.3**	**+2.1**
KMRZ	**Kaimai**	**6.17**	**220**	P	**Pn**	**09 42 28.0**	**+0.5**
TARZ	**Mount Tarawera**	**6.18**	**214**	P	**Pn**	**09 42 29.2**	**+1.4**
PRGZ	**Paritu Road**	**6.22**	**203**	P	**Pn**	**09 42 25.5**	**-2.8**
PRGZ				S	**Sn**	**09 43 37.6**	**-0.5**
MUGZ	**Murupara**	**6.26**	**212**	P	**Pn**	**09 42 26.3**	**-2.5**
MUGZ				S	**Sn**	**09 43 37.4**	**-1.6**
RRRZ	**Republican Roa**	**6.26**	**214**	P	**Pn**	**09 42 29.9**	**+1.1**
HLRZ	**Highlands Stat**	**6.27**	**215**	P	**Pn**	**09 42 31.0**	**+2.0**
RTZ	**Ruatahuna**	**6.29**	**210**	P	**Pn**	**09 42 26.2**	**-3.0**
TOZ	**Tahuroa Road**	**6.33**	**223**	P	**Pn**	**09 42 32.1**	**+2.4**
HSRZ	**Hossack Road**	**6.37**	**215**	P	**Pn**	**09 42 33.6**	**+3.3**
KNZ	**Kokohu**	**6.38**	**204**	P	**Pn**	**09 42 27.8**	**-2.6**
WTAZ	**Waiatarua**	**6.41**	**233**	P	Pn	09 42 39.6	+8.7
HRRZ	**Handcock Road**	**6.41**	**215**	P	**Pn**	**09 42 32.7**	**+1.8**
MHGZ	**Mahia Peninsul**	**6.43**	**202**	P	**Pn**	**09 42 28.0**	**-3.1**
PRRZ	**Plateau Road**	**6.45**	**214**	P	**Pn**	**09 42 31.6**	**+0.2**
RAHZ	**Arahi**	**6.50**	**208**	P	**Pn**	**09 42 31.6**	**-0.5**
ALRZ	**Allen Road**	**6.52**	**214**	P	**Pn**	**09 42 31.7**	**-0.7**
MTHZ	**Maungataniwha**	**6.54**	**209**	P	**Pn**	**09 42 31.3**	**-1.4**
WPRZ	**Whakapapatarin**	**6.57**	**215**	P	**Pn**	**09 42 35.0**	**+1.9**
WHHZ	**Waihua**	**6.58**	**206**	P	**Pn**	**09 42 33.6**	**+0.4**
MRHZ	**Matea Rd**	**6.71**	**212**	P	**Pn**	**09 42 33.2**	**-1.8**
KUTZ	**Kaahu Road**	**6.71**	**217**	P	**Pn**	**09 42 36.2**	**+1.1**
TLZ	**Tolley Road**	**6.74**	**219**	P	**Pn**	**09 42 36.8**	**+1.4**
NMHZ	**Naumai**	**6.77**	**208**	P	**Pn**	**09 42 34.6**	**-1.2**
ARHZ	**Aropaoanui**	**6.84**	**207**	P	**Pn**	**09 42 34.3**	**-2.3**
WATZ	**Wairara**	**6.93**	**216**	P	**Pn**	**09 42 38.6**	**+0.6**
BKZ	**Black Stump Fm**	**6.95**	**210**	P	**Pn**	**09 42 35.7**	**-2.7**
BKZ	**Black Stump Fm**	**6.95**	**210**	Pn	**Pn**	**09 42 36.9**	**-1.4**
BKZ				Sn	**Sn**	**09 43 56.4**	**+0.3**
RATZ	**Rangitukua**	**7.03**	**215**	P	**Pn**	**09 42 39.6**	**+0.1**
CKHZ	**Cape Kidnapper**	**7.16**	**205**	P	**Pn**	**09 42 36.8**	**-4.3**
KWHZ	**Kaweka Forest**	**7.20**	**209**	P	**Pn**	**09 42 39.6**	**-2.1**
HIZ	**Hauiti**	**7.24**	**221**		**Pn**	**09 42 43.3**	**+1.1**
ETVZ	**East Tongariro**	**7.28**	**214**	P	**Pn**	**09 42 42.9**	**+0.1**
KAHZ	**Kahuranaki**	**7.35**	**205**	P	**Pn**	**09 42 39.2**	**-4.5**
BFZ	**Birch Farm**	**8.36**	**205**	Pn	**Pn**	**09 42 53.6**	**-3.9**
BFZ				Sn	**Sn**	**09 44 28.2**	**-2.3**
MSWZ	**Moikau Station**	**9.37**	**207**	Pn	**Pn**	**09 43 07.5**	**-3.8**
SNZO	**South Karori**	**9.49**	**210**	Pn	Pn	09 43 06.5	-6.6
RPZ	**Rata Peaks**	**13.04**	**214**	P	Pn	09 43 54.3	-7.2
	1.9nm,0.3s,baz=83,slow=3.0,SNR=11						
RPZ				S	Sn	09 46 10.9	-14
	2.7nm,0.3s,baz=322,slow=18,SNR=3.1						
MSVF	**Nonsavu**	**15.62**	**350**		**Pn**	**09 44 37.8**	**+1.6**
DZM	**Mont Dzumac**	**16.95**	**307**	*e*Pn	**P**	**09 44 54.8**	**+0.4**
	160nm,1.2s						
DZM				*e*LR	LR	09 48 48.0	
	comp=Z,3μm,24.8s						
DZM	**Mont Dzumac**	**16.95**	**307**	P	**P**	**09 44 55.7**	**+1.3**
	0.3nm,0.3s,baz=115,slow=15,SNR=14						
DZM				LR	LR	09 50 11.6	
	comp=Z,1μm,18.7s,baz=156,slow=33						
RAR	**Rarotonga**	**20.86**	**60**	LR	LR	09 54 26.0	
	comp=Z,104nm,18.2s,baz=251,slow=38						
EIDS	**Eidsvold**	**27.12**	**279**	P	**P**	**09 46 37.0**	**-0.9**
	baz=27,SNR=3.2						
EIDS	**Eidsvold**	**27.12**	**279**	P	**P**	**09 46 37.0**	**-0.9**
TBI	**Tubuai**	**27.77**	**77**	*e*LR	LR	09 53 49.4	
	comp=Z,898nm,28.2s,baz=240						
TBI	**Tubuai**	**27.77**	**77**	*e*T	T	10 15 36.6	
	50nm,0.3s						
RMQ	**Roma**	**28.63**	**275**	P	**P**	**09 46 50.8**	**-0.5**
	baz=28,SNR=5.5						
CMSA	**Cobar Meteorol**	**29.73**	**263**	P	**P**	**09 46 59.8**	**-1.2**
	baz=29,SNR=11						
HNR	**Honiara**	**30.56**	**316**	P	**P**	**09 47 07.7**	**-0.8**
PAE	**Paea**	**30.66**	**67**	*e*T	T	10 19 12.7	
	16nm,0.2s						
PPT2	**Papeete2**	**30.70**	**67**	*e*LR	LR	09 55 04.8	
	comp=Z,811nm,27.0s,baz=230						
PPT2	**Papeete2**	**30.70**	**67**	*e*T	T	10 19 16.8	
	12nm,0.2s						
PPT	**Papeete**	**30.71**	**67**	P	**P**	**09 47 10.7**	**+0.8**
	50nm,1.0s,baz=15,slow=5.0,SNR=3.8						
PPT				LR	LR	09 58 19.1	
	comp=Z,40nm,20.0s,baz=192,slow=34						
TIAR	**Tiarei**	**30.90**	**67**	*e*T	T	10 19 30.7	
	2.9nm,0.3s						
KNTN	**Kanton**	**31.04**	**14**	P	**P**	**09 47 12.3**	**-0.3**
MEH	**Mehetia**	**31.71**	**69**	*e*T	T	10 20 31.7	
	13nm,0.2s						
STKA	**Stephens Creek**	**33.06**	**261**	P	**P**	**09 47 31.3**	**+0.9**
	2.7nm,0.8s,baz=274,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**33.06**	**261**	P	**P**	**09 47 30.2**	**-0.2**
CTA	**Charters Tower**	**33.48**	**284**	P	**P**	**09 47 34.8**	**+0.7**
	5.6nm,0.4s,baz=112,slow=9.6,SNR=15						
CTAO	**Charters Tower**	**33.48**	**284**	P	**P**	**09 47 33.9**	**-0.2**
CTAO				IAmb	IAmb	09 47 41.1	
	comp=Z,36nm,1.4s						
PMOR	**Pomariorio Ree**	**33.54**	**65**	*e*T	T	10 22 49.0	
	comp=Z,7.6nm,0.3s						
VAH	**Vaihoa**	**33.60**	**65**	*e*T	T	10 22 53.6	
	comp=Z,46nm,0.2s						
BBOO	**Buckleboo**	**37.42**	**258**	P	**P**	**09 48 06.8**	**-1.0**
	baz=37,SNR=7.0						
BBOO	**Buckleboo**	**37.42**	**258**	P	**P**	**09 48 07.1**	**-0.8**
QIS	**Mount Isa**	**38.72**	**278**	P	**P**	**09 48 18.1**	**-0.8**
	baz=38,SNR=6.9						
PMG	**Port Moresby**	**39.09**	**300**	P	**P**	**09 48 20.4**	**-1.6**
PMG				IAmb	IAmb	09 48 42.2	

MAW	**Mawson**	**69.38 201**		P	**P**	**09 52 01.8**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=133,slow=5.2,SNR=24						
MAW	**Mawson**	**69.38 201**		P	**P**	**09 52 01.7**	**+0.1**
	baz=69,SNR=17						
MAW	**Mawson**	**69.38 201**		P	**P**	**09 52 01.8**	**+0.2**
PMSA	**Palmer Station**	**70.09 156**		P	**P**	**09 52 06.2**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=188,slow=1.7,SNR=5.2						
PMSA	**Palmer Station**	**70.09 156**		IAmb	IAmb	09 52 12.5	
	comp=Z,11nm,1.2s						
SYO	**Syowa Base**	**74.19 194**	‖	*e*P	**P**	**09 52 28.6**	**-1.9**
SNAA	**Sanae**	**75.39 179**		P	**P**	**09 52 37.7**	**+0.2**
SNAA	**Sanae**	**75.39 179**		P	**P**	**09 52 37.9**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=202,slow=6.3,SNR=25						
SNAA	**Sanae**	**75.39 179**		P	**P**	**09 52 37.9**	**+0.4**
SNAA				IAmb	IAmb	09 52 54.4	
	comp=Z,14nm,1.2s						
VNA3	**Neumayer Olymp**	**75.58 176**		P	**P**	**09 52 38.9**	**+0.3**
VNA2	**Neumayer--Watz**	**76.00 177**		P	**P**	**09 52 41.6**	**+0.7**
	baz=172,slow=5.8						
VNA1	**Neumayer--Stat**	**76.23 177**		P	**P**	**09 52 42.8**	**+0.6**
JHJ	**Hachijo jima 2**	**76.50 325**		LR	LR	10 21 23.1	
	comp=Z,1µm,21.1s,baz=328,slow=32						
H03S2	**Juan Fernandez**	**79.67 124**		T	T	11 21 28.6	
	baz=235,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**79.68 124**		T	T	11 21 29.8	
	baz=235,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**79.69 124**		T	T	11 21 29.3	
	baz=235,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**79.88 123**		T	T	11 21 41.1	
	baz=240,slow=72,SNR=77						
H03N2	**Juan Fernandez**	**79.88 123**		T	T	11 21 35.8	
	baz=240,slow=72,SNR=71						
H03N1	**Juan Fernandez**	**79.90 123**		T	T	11 21 40.3	
	baz=240,slow=72,SNR=158						
JWT	**Wachi**	**80.38 324**		P	**P**	**09 53 06.4**	**+0.8**
JWT				IAmb	IAmb	09 53 25.7	
	comp=Z,16nm,1.3s						
PLCA	**Paso Flores**	**81.26 133**		P	**P**	**09 53 11.8**	**+1.3**
	comp=Z,9.4nm,1.0s,baz=218,slow=7.2,SNR=8.3						
PLCA	**Paso Flores**	**81.26 133**		P	**P**	**09 53 12.5**	**+2.0**
PLCA				IAmb	IAmb	09 53 13.4	
	comp=Z,22nm,1.2s						
JHS	**Saijyo**	**81.32 322**		P	**P**	**09 53 12.0**	**+1.5**
JHS				IAmb	IAmb	09 53 32.4	
	comp=Z,17nm,1.5s						
LC01	**Cunco**	**81.52 131**		P	**P**	**09 53 13.6**	**+1.8**
LC01				IAmb	IAmb	09 53 14.2	
	comp=Z,15nm,0.9s						
IPM	**Ipoh**	**84.02 279**		P	P	09 53 31.1	+6.0
BO02	**Sierra Bellavi**	**84.66 128**		P	**P**	**09 53 29.8**	**+1.6**
MT02	**Curacav**	**85.34 127**		P	**P**	**09 53 33.1**	**+1.6**
MT02				IAmb	IAmb	09 53 35.7	
	comp=Z,9.0nm,1.1s						
QIZ	**Qiongzhong**	**85.39 296**		P	**P**	**09 53 32.8**	**+0.9**
QIZ				S	**S**	**10 04 04.4**	**+4.7**
QIZ				LR	LR		
	comp=Z,830nm,12.9s						
QIZ				LR	LR		
	comp=Z,400nm,11.8s						
KSRS	**Korea Array**	**85.91 320**		P	**P**	**09 53 33.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=128,slow=4.9,SNR=6.1						
NJ2	**Nanjing**	**87.39 311**		*e*P	**P**	**09 53 43.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
SPX	**San Pedro Mart**	**87.68 50**		P	**P**	**09 53 43.6**	**+0.4**
PETK	**Petropavlovsk-**	**88.30 346**		P	**P**	**09 53 45.0**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=106,slow=9.4,SNR=2.0						
PETK	**Petropavlovsk-**	**88.30 346**		P	**P**	**09 53 45.9**	**+0.7**
PFO	**Pinyon Flats O**	**88.76 48**		P	**P**	**09 53 48.8**	**+0.8**
PFO				IAmb	IAmb	09 53 50.1	
	comp=Z,6.5nm,1.1s						
ISA	**Isabella, Lake**	**88.91 45**		P	**P**	**09 53 49.6**	**+0.9**
ISA				IAmb	IAmb	09 54 05.7	
	comp=Z,6.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**89.00 327**		P	**P**	**09 53 50.0**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=143,slow=5.8,SNR=4.3						
USRK	**Ussuriysk Ar.**	**89.00 327**		P	**P**	**09 53 48.1**	**-0.6**
CMB	**Columbia Colle**	**89.44 42**		P	**P**	**09 53 51.6**	**+0.6**
CMB				IAmb	IAmb	09 53 53.1	
	comp=Z,6.9nm,1.1s						
GSC	**Goldstone, Bar**	**89.67 46**		P	**P**	**09 53 53.3**	**+1.1**
AFDM	**Forest Hills D**	**89.75 41**		P	**P**	**09 53 53.9**	**+1.5**
AFDM				IAmb	IAmb	09 54 20.6	
	comp=Z,8.9nm,1.3s						
WDC	**Whiskeytown Da**	**90.05 39**		P	**P**	**09 53 54.7**	**+1.0**
WDC				IAmb	IAmb	09 53 56.8	
	comp=Z,14nm,1.4s						
PNTR	**Pine Nut**	**90.61 42**		P	**P**	**09 53 57.8**	**+1.1**
PNTR				IAmb	IAmb	09 53 58.8	
	comp=Z,9.8nm,1.0s						
NVAR	**Mina Array Bea**	**90.90 43**		P	**P**	**09 53 59.4**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=216,slow=7.9,SNR=13						
NVAR	**Mina Array Bea**	**90.90 43**		P	**P**	**09 53 58.7**	**+0.7**
TPH	**Tonopah**	**91.28 44**		P	**P**	**09 54 00.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**93.48 290**		LR	LR	10 40 58.9	
	comp=Z,65nm,18.4s,baz=65,slow=38						
HHC	**Hu-ho-hao-te**	**97.53 314**		*e*P	Pdif	09 54 29.1	+0.8
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
LPAZ	**La Paz**	**97.80 115**		P	Pdif	09 54 32.1	+1.3
	comp=Z,0.7nm,0.6s,baz=239,slow=7.7,SNR=3.5						
PDAR	**Pinedale Array**	**98.77 44**		P	Pdif	09 54 34.2	+0.2
	comp=Z,0.1nm,0.3s,baz=298,slow=1.9,SNR=1.9						
LZH	**Lanzhou**	**99.67 307**		*e*P	**Pdif**	**09 54 38.9**	**+0.9**
LZH				pP	pP	09 54 44.5	-6.1
LZH				sP	pwP	09 54 47.3	-7.1
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
ILAR	**Eielson Array**	**100.85 13**		P	**Pdif**	**09 54 43.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=228,slow=6.3,SNR=7.7						
WMQ	**Urumqi**	**114.23 308**		*e*PKP	**PKiKP**	**09 59 34.9**	**+1.5**
MKAR	**Makanchi Array**	**118.86 309**		PKP	**PKPdf**	**09 59 40.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=169,slow=0.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**119.50 318**		PKP	**PKPdf**	**09 59 41.2**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=128,slow=3.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**122.34 313**		PKP	**PKPdf**	**09 59 47.0**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=111,slow=1.9,SNR=5.9						
ARCES	**ARCESS Array B**	**141.11 347**		PKhKP	PKPpre	10 00 18.3	
	comp=Z,0.3nm,0.3s,baz=44,slow=2.0,SNR=11						
KBZ	**Khabaz**	**145.83 300**		PKPbc	**PKPdf**	**10 00 31.4**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=135,slow=2.9,SNR=2.1						
FINES	**FINESS Array B**	**147.42 338**		PKPbc	**PKPbc**	**10 00 36.0**	**-1.1**
	comp=Z,14nm,0.6s,baz=144,slow=4.4,SNR=47						
FINES	**FINESS Array B**	**147.42 338**			**PKPdf**	**10 00 35.8**	**+1.2**
NB2	**NORSAR Subarra**	**151.36 350**		PKP	**PKPbc**	**10 00 46.1**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=26,slow=3.0						
NOA	**NORSAR Array B**	**151.36 350**		PKPbc	**PKPbc**	**10 00 46.2**	**-0.8**
	comp=Z,4.7nm,0.5s,baz=14,slow=4.1,SNR=24						
LIC	**Lamto**	**152.59 167**		*e*PKP1	**PKiKP**	**10 00 52.1**	**+0.7**
	comp=Z,26nm,0.7s						
KIC	**Kosan Boka**	**152.78 168**		*e*PKP1	**PKPbc**	**10 00 51.5**	**-0.1**
	comp=Z,5.0nm,0.4s						
AKASG	**Malin Array Be**	**152.89 319**		PKPbc	**PKPbc**	**10 00 49.4**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=64,slow=1.9,SNR=4.9						
AKASG	**Malin Array Be**	**152.89 319**			**PKPbc**	**10 00 49.7**	**-1.0**
TIC	**Toumodi**	**153.00 167**		*e*PKP1	**PKiKP**	**10 00 52.8**	**+0.5**
BRTR	**Keskin Array B**	**153.01 293**		PKPbc	**PKPbc**	**10 00 50.5**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=169,slow=3.6,SNR=7.4						
BRTR	**Keskin Array B**	**153.01 293**			**PKPbc**	**10 00 50.4**	**-1.1**
BRTR				PKPab	**PKPab**	**10 01 03.7**	**+0.6**
DBIC	**Dimbokro**	**153.06 167**		PKPbc	**PKiKP**	**10 00 52.5**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=119,slow=4.5,SNR=4.2						
DBIC	**Dimbokro**	**153.06 167**			**PKiKP**	**10 00 53.4**	**+1.0**
CLL	**Collm**	**159.87 338**		*e*PKPab	**PKPab**	**10 01 32.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**160.03 182**		PKP	**PKPdf**	**10 00 55.2**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=102,slow=2.9,SNR=4.1						
TORD				PKPab	**PKPab**	**10 01 33.9**	**+0.5**
	comp=Z,5.8nm,0.9s,baz=174,slow=3.2,SNR=11						
TORD	**Torodi Ar. Bea**	**160.03 182**			**PKPab**	**10 01 33.4**	**0.0**
ESDC	**Sonseca Array**	**172.43 30**		PKPab	**PKPab**	**10 02 27.7**	**0.0**
	comp=Z,1.1nm,1.0s,baz=305,slow=4.5,SNR=2.8						
ESDC	**Sonseca Array**	**172.43 30**			**PKPab**	**10 02 27.5**	**-0.2**

*IDC **18** 09:47:44.1±0.7, 7°.54N×94°.23E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.1/59, mbtmp4.2/19, ML4.0/1, MS4.1/10, Ms1 4.1/10, ms1mx3.7/56, Error ellipse: s-maj=36.1km s-min=14.6km az=54.0*

*NEIC **18** 09:47:45.6±1.7, 7°.66N±0°.08×94°.41E±0°.09, h10km±1km, mb4.7/34, Error ellipse: s-maj=17.8km s-min=9.4km az=227.0*

*DJA **18** 09:47:47.5±1.5, 7°N±5°×9°4E±1°7, h10km, M4.6/7, mb4.7/6,*

mB5.1/5, MLv4.7/7, Mw(mB)4.5/5, Mwp5.2/1

ISC 18 09:47:47.8±0.4, 7°.57N±0°.06×94°.38E±0°.07, h24km, n100, σ1s27°/95, mb4.5/39, MS4.1/10, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.45**	**132**	P	**Pn**	**09 48 39.1**	**-1.0**
LHMI	**Lhok Sumawe**	**3.45**	**132**		**Pn**	**09 48 40.0**	**-0.1**
MLSI	**Meulaboh, Aceh**	**3.85**	**148**	P	**Pn**	**09 48 45.2**	**-0.3**
PBA	**Port Blair**	**4.37**	**338**		Pn	09 48 51.3	-1.3
TPTI		**5.11**	**147**	P	**Pn**	**09 49 00.8**	**-2.1**
PSI	**Prapat**	**6.55**	**136**	Pn	**Pn**	**09 49 24.7**	**+1.9**
	2.9nm,0.3s,baz=307,slow=4.6,SNR=8.3						
PSI				LR	LR	09 52 07.0	
	comp=Z,1µm,21.3s,baz=282,slow=39						
RPSI	**Rantau Prapat**	**6.63**	**137**	Pn	**Pn**	**09 49 24.8**	**+1.0**
RPSI	**Rantau Prapat**	**6.63**	**137**		**Pn**	**09 49 24.7**	**+1.0**
KULM	**Kulim**	**6.63**	**110**	Pn	**Pn**	**09 49 23.3**	**-0.5**
KULM				Sn	**Sn**	**09 50 38.3**	**-0.4**
GSI	**Gunungsitoli**	**6.99**	**153**	P	**Pn**	**09 49 26.8**	**-2.0**
	0.3nm42nm,1.2s						
GSI	**Gunungsitoli**	**6.99**	**153**	Pn	**Pn**	**09 49 28.3**	**-0.5**
IPM	**Ipoh**	**7.29**	**115**	Pn	**Pn**	**09 49 32.1**	**-0.7**
IPM				Sn	**Sn**	**09 50 54.1**	**-0.9**
MNSI	**Mandailing Nat**	**8.50**	**142**	P	**Pn**	**09 49 49.6**	**+0.2**
BKNI	**Bangkinang**	**9.79**	**137**	Pn	**Pn**	**09 50 08.6**	**+1.4**
BKNI				Sn	**Sn**	**09 51 58.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**11.70**	**22**	Pn	**Pn**	**09 50 37.0**	**+3.7**
	1.7nm,0.3s,baz=216,slow=15,SNR=8.4						
CMAR				LR	LR	09 55 09.9	
	comp=Z,638nm,18.9s,baz=215,slow=38						
CHTO	**Chiang Mai**	**12.03**	**21**	Pn	Pn	09 50 32.2	-5.5
SLVN	**Son La**	**16.49**	**33**		**Pn**	**09 51 34.4**	**-3.3**
KSM	**Kuching**	**16.99**	**110**	P	**Pn**	**09 51 43.4**	**-0.6**
SBUM	**Sibu**	**18.48**	**105**		**P**	**09 52 01.1**	**-1.1**
LEM	**Lembang**	**19.46**	**137**	LR	LR	10 01 31.3	
	comp=Z,696nm,19.1s,baz=196,slow=42						
KKM	**Kota Kinabalu**	**21.74**	**93**	P	**P**	**09 52 36.6**	**-1.1**
KKM				IAmb	IAmb	09 52 43.2	
	comp=Z,36nm,1.3s						
GYA	**Guiyang**	**22.12**	**30**	*e*P	P	09 52 49.6	+7.8
GYA				S	Sn	09 56 54.8	-1.4
GYA				pmax	pmax		
	comp=Z,12nm,1.0s						
GYA				pmax	pmax		
	comp=Z,170nm,4.5s						
GYA				LR	LR		
	comp=N,560nm,14.2s						
GYA				LR	LR		
	comp=E,970nm,15.6s						
GYA				LR	LR		
	comp=Z,440nm,12.2s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**09 52 40.0**	**-3.2**
LSA				IAmb	IAmb	09 52 52.6	
	comp=Z,21nm,1.0s						
MYLDM	**Lahad Datu**	**24.09**	**94**	P	**P**	**09 53 00.1**	**-1.6**
MYLDM				IAmb	IAmb	09 53 11.9	
	comp=Z,55nm,1.4s						
H08S3	**Diego Garcia H**	**26.54**	**236**	T	T	10 20 09.6	
	baz=54,slow=75,SNR=277						
H08S2	**Diego Garcia H**	**26.54**	**236**	T	T	10 20 06.9	
	baz=54,slow=75,SNR=219						
H08S1	**Diego Garcia H**	**26.56**	**236**	T	T	10 20 11.0	
	baz=54,slow=75,SNR=209						
TGY	**Tagaytay City**	**26.86**	**74**	LR	LR	10 02 43.3	
	comp=Z,238nm,22.0s,baz=164,slow=33						
XAN	**Xi'an**	**29.57**	**25**	P	**P**	**09 53 53.1**	**+2.2**
XAN				pP	pwP	09 54 08.0	+7.0
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LZH	**Lanzhou**	**29.68**	**16**	*e*P	**P**	**09 53 55.3**	**+3.4**
LZH				pP	pP	09 53 59.6	+1.1
LZH				sP	sP	09 54 02.3	+1.1
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
GTA	**Gaotai**	**32.08**	**8**	P	**P**	**09 54 14.9**	**+1.8**
GTA				pP	pwP	09 54 23.3	+1.0
GTA				sP	sP	09 54 27.8	+5.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,68nm,4.2s						
GTA				LR	LR		
	comp=N,190nm,12.4s						
GTA				LR	LR		
	comp=E,280nm,12.4s						
GTA				LR	LR		
	comp=Z,310nm,15.6s						
NIL	**Nilore**	**32.48**	**326**	P	**P**	**09 54 15.4**	**-1.2**
NJ2	**Nanjing**	**33.35**	**40**	*e*P	**P**	**09 54 23.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SOEI	**Soe**	**34.39**	**120**	P	**P**	**09 54 32.8**	**-0.7**
HHC	**Hu-ho-hao-te**	**36.51**	**22**	*e*P	**P**	**09 54 51.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.5s						
WMQ	**Urumqi**	**36.58**	**352**	*e*P	**P**	**09 54 51.8**	**-0.1**
WMQ				sP	pwP	09 55 01.6	+0.2
WMQ				pmax	pmax		
	comp=Z,13nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,24nm,6.3s						
WMQ				LR	LR		
	comp=N,130nm,29.2s						
WMQ				LR	LR		
	comp=E,570nm,29.0s						
WMQ				LR	LR		
	comp=Z,140nm,29.0s						
KDJ	**Kajisay**	**37.63**	**339**	P	**P**	**09 54 59.4**	**-1.7**
KDJ				IAmb	IAmb	09 55 07.6	
	comp=Z,7.3nm,0.8s						
GAR	**Garm**	**38.06**	**329**	P	**P**	**09 55 04.4**	**-0.2**
GAR				IAmb	IAmb	09 55 10.2	
	comp=Z,28nm,1.1s						
PSA00	**Pilbara Seismi**	**38.25**	**140**	P	**P**	**09 55 06.0**	**-0.3**
CHGR	**Chuyangaron**	**38.41**	**328**	P	**P**	**09 55 06.4**	**-1.1**
BTK	**Batken**	**38.61**	**331**	P	**P**	**09 55 09.8**	**+0.6**
BTK				IAmb	IAmb	09 55 19.5	
	comp=Z,13nm,1.0s						
MK31	**Makanchi Array**	**40.44**	**347**	P	**P**	**09 55 23.6**	**-0.7**
MK31				IAmb	IAmb	09 55 30.2	
	comp=Z,9.0nm,0.8s						
MKAR	**Makanchi Array**	**40.44**	**347**	P	**P**	**09 55 24.2**	**0.0**
	comp=Z,4.5nm,0.7s,baz=165,slow=8.3,SNR=29						
MKAR	**Makanchi Array**	**40.44**	**347**	P	**P**	**09 55 24.0**	**-0.3**
MAKZ	**Makanchi**	**40.52**	**347**	P	**P**	**09 55 24.9**	**0.0**
MAKZ				IAmb	IAmb	09 55 30.7	
	comp=Z,9.7nm,0.7s						
KK31	**Karatay Array**	**41.14**	**333**	P	**P**	**09 55 29.4**	**-0.7**
KKAR	**Karatay Array**	**41.14**	**333**	P	**P**	**09 55 29.4**	**-0.7**
KKAR	**Karatay Array**	**41.14**	**333**	P	**P**	**09 55 30.4**	**+0.3**
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**09 55 32.8**	**+0.4**
	comp=Z,3.1nm,1.1s,baz=197,slow=7.0,SNR=6.1						
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**09 55 32.0**	**-0.4**
ULN	**Ulaanbaatar**	**41.58**	**13**	P	**P**	**09 55 33.1**	**-0.7**
GEYT	**Alibeck**	**44.58**	**318**	P	**P**	**09 55 57.9**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=156,slow=11,SNR=6.1						
GYA0B	**ALIBECK ARRAY**	**44.58**	**318**	P	**P**	**09 55 58.4**	**+0.3**
GYA0B				IAmb	IAmb	09 56 05.1	
	comp=Z,9.8nm,0.7s						
KURBB	**Kurchatov Arra**	**44.90**	**346**	P	**P**	**09 56 00.5**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=165,slow=7.2,SNR=30						
KURBB				PcP	**PcP**	**09 57 43.0**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=162,slow=3.5,SNR=2.0						
KURK	**Kurchatov**	**44.96**	**346**	P	**P**	**09 56 00.4**	**-0.5**
ZAA0	**Zalesovo Array**	**46.89**	**352**	P	**P**	**09 56 15.0**	**-1.0**
ZALV	**Zalesovo Beam**	**46.89**	**352**	P	**P**	**09 56 16.5**	**+0.5**
	comp=Z,6.0nm,0.4s,baz=176,slow=8.4,SNR=24						
WRA	**Warramunga Arr**	**47.90**	**125**	P	**P**	**09 56 23.7**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=306,slow=8.5,SNR=14						
WRA				LR	LR	10 18 10.4	
	comp=Z,181nm,20.1s,baz=355,slow=38						
WRA	**Warramunga Arr**	**47.90**	**125**	P	**P**	**09 56 24.2**	**-0.2**
BVAR	**Borovoye Array**	**49.35**	**341**	P	**P**	**09 56 35.2**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=194,slow=18,SNR=8.8						
BRVK	**Borovoye**	**49.41**	**341**	P	**P**	**09 56 34.6**	**-1.0**
BRVK				IAmb	IAmb	09 56 41.4	
	comp=Z,6.9nm,0.8s						
ASAR	**Alice Springs**	**49.54**	**130**	P	**P**	**09 56 38.5**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=307,slow=7.5,SNR=12						
ASAR				PcP	**PcP**	**09 57 59.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=305,slow=3.3,SNR=1.2						
ABKAR	**Akbulak array**	**50.61**	**331**	P	**P**	**09 56 44.1**	**-0.6**
ABKAR				IAmb	IAmb	09 56 51.2	
	comp=Z,9.4nm,1.0s						
ABKAR	**Akbulak array**	**50.61**	**331**	P	**P**	**09 56 43.6**	**-1.1**
ARU	**Arti**	**56.26**	**337**	LR	LR	10 23 30.5	
	comp=Z,341nm,18.8s,baz=172,slow=38						
ARU	**Arti**	**56.26**	**337**	P	**P**	**09 57 26.0**	**-0.1**
KBZ	**Khabaz**	**57.47**	**318**	P	**P**	**09 57 34.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=138,slow=16,SNR=2.1						
KMBO	**Kilima Mbogo**	**57.62**	**264**	P	**P**	**09 57 38.8**	**+2.0**
	comp=Z,1.7nm,0.5s,baz=93,slow=19,SNR=1.7						
KMBO	**Kilima Mbogo**	**57.62**	**264**	P	**P**	**09 57 37.1**	**+0.3**
KMBO				IAmb	IAmb	09 57 45.4	
	comp=Z,9.6nm,1.4s						
STKA	**Stephens Creek**	**59.73**	**134**	LR	LR	10 26 12.4	
	comp=Z,92nm,19.6s,baz=303,slow=39						
KIRV	**Kirov**	**61.39**	**335**	P	**P**	**09 58 01.9**	**+0.2**
	comp=Z,8.4nm,0.6s,baz=190,slow=9.1,SNR=3.0						
NRIK	**Noril'sk**	**61.85**	**357**	P	**P**	**09 58 06.0**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=104,slow=3.9,SNR=4.1						
NRIK				LR	LR	10 28 60.0	
	comp=Z,167nm,18.4s,baz=291,slow=40						
BRTR	**Keskin Array B**	**62.80**	**311**	P	**P**	**09 58 10.1**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=126,slow=7.3,SNR=3.4						
BRTR	**Keskin Array B**	**62.80**	**311**	P	**P**	**09 58 10.9**	**-0.9**
PLOR	**Plostina**	**69.13**	**316**	⇑P	**P**	**09 58 48.7**	**-3.5**
MLR	**Muntele Rosu**	**69.55**	**316**	⇑P	**P**	**09 58 55.1**	**+0.1**
VOIR		**70.16**	**316**	⇑P	**P**	**09 59 01.1**	**+2.4**
BURAR	**Bucovina Array**	**70.43**	**318**	P	**P**	**09 59 00.1**	**-0.1**
FINES	**FINESS Array B**	**73.09**	**332**	P	**P**	**09 59 15.5**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=111,slow=4.3,SNR=12						
FINES	**FINESS Array B**	**73.09**	**332**	P	**P**	**09 59 16.0**	**+0.2**
ARCES	**ARCESS Array B**	**75.63**	**340**	P	**P**	**09 59 30.6**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=96,slow=5.6,SNR=2.1						
ARCES				LR	LR	10 34 55.1	
	comp=Z,156nm,21.3s,baz=195,slow=37						
KRLC	**Kraliky**	**76.27**	**320**	*e*P	**P**	**09 59 35.3**	**+0.7**
KRLC				*ex*	x	09 59 40.6	
KRLC				*ex*	x	09 59 46.1	
DPC	**Dobruska-Polom**	**76.59**	**320**	*e*P	**P**	**09 59 39.7**	**+3.3**
GERES	**GERESS Array B**	**78.21**	**318**	P	**P**	**09 59 45.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=90,slow=3.1,SNR=10						
GERES	**GERESS Array B**	**78.21**	**318**	P	**P**	**09 59 45.3**	**-0.3**
PRED	**Cave del Predi**	**78.23**	**316**	P	**P**	**09 59 45.4**	**-0.3**
PRED				IAmb	IAmb	09 59 55.2	
	comp=Z,4.5nm,0.8s						
MAW	**Mawson**	**78.29**	**192**		**P**	**09 59 46.2**	**+0.9**
KHC	**Kasperske Hory**	**78.30**	**319**	*e*P	**P**	**09 59 45.7**	**-0.3**
CIMO	**Cimolais**	**79.01**	**316**	P	**P**	**09 59 49.1**	**-0.8**
CIMO				IAmb	IAmb	09 59 56.4	
	comp=Z,6.5nm,0.8s						
NB2	**NORSAR Subarra**	**80.11**	**331**	P	**P**	**09 59 54.8**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=97,slow=5.1						
NOA	**NORSAR Array B**	**80.11**	**331**	P	**P**	**09 59 54.8**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=94,slow=5.5,SNR=8.2						
NOA				LR	LR	10 39 32.1	
	comp=Z,55nm,18.2s,baz=90,slow=39						
MCQ	**Macquarie Isla**	**81.84**	**148**	P	**P**	**10 00 06.1**	**+1.3**
ESDC	**Sonseca Array**	**91.59**	**310**	P	**P**	**10 00 52.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=289,slow=40,SNR=2.6						
ESDC	**Sonseca Array**	**91.59**	**310**	P	**P**	**10 00 51.7**	**-1.4**
ILAR	**Eielson Array**	**94.94**	**22**	P	**P**	**10 01 07.6**	**-0.3**
	comp=Z,0.9nm,1.1s,baz=213,slow=6.5,SNR=2.4						
ILAR	**Eielson Array**	**94.94**	**22**	P	**P**	**10 01 06.9**	**-1.0**
PLCA	**Paso Flores**	**144.34**	**200**	PKP	**PKPdf**	**10 07 23.4**	**+1.0**
	comp=Z,3.3nm,1.0s,baz=108,slow=6.4,SNR=4.1						
PLCA	**Paso Flores**	**144.34**	**200**	PKPdf	**PKPdf**	**10 07 21.8**	**-0.6**
CPUP	**Villa Florida**	**147.26**	**232**	PKPbc	**PKPbc**	**10 07 30.6**	**+0.7**
	comp

CASY					IAmb	IAmb	10 05 16.8		
	comp=Z,4.1nm,1.1s								
SONM	**Songino Array**	**78.63**	**324**	P	**P**		**10 06 29.6**	**+0.8**	
	comp=Z,0.4nm,0.4s,baz=125,slow=7.2,SNR=1.9								
PAX	**Paxson**	**82.67**	**20**	P	**P**		**10 06 49.2**	**-0.9**	
PAX					IAmb	IAmb	10 06 49.6		
	comp=Z,2.4nm,0.6s								
ILAR	**Eielson Array**	**83.43**	**18**	P	**P**		**10 06 53.2**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=243,slow=5.3,SNR=7.3								
ILAR	**Eielson Array**	**83.43**	**18**	P	**P**		**10 06 53.7**	**-0.2**	
MAW	**Mawson**	**84.80**	**202**	P	**P**		**10 07 00.5**	**-0.3**	
	comp=Z,2.2nm,1.1s,baz=95,slow=5.3,SNR=4.5								
MAW	**Mawson**	**84.80**	**202**	P	**P**		**10 07 01.6**	**+0.8**	
MKAR	**Makanchi Array**	**93.49**	**317**	P	**P**		**10 07 41.6**	**-0.9**	
	comp=Z,0.4nm,0.7s,baz=97,slow=5.8,SNR=2.5								
MKAR	**Makanchi Array**	**93.49**	**317**	P	**P**		**10 07 41.1**	**-1.4**	

IDC 18 09:55:23.5±7.8, 7.70N×94.73E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/55, mbtmp3.3/4, Error ellipse: s-maj=428.6km s-min=26.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.39**	**347**	P	P	10 03 03.6	+0.3
	0.4nm,0.7s,baz=175,slow=8.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**44.86**	**345**	P	P	10 03 39.0	-0.5
	0.4nm,0.5s,baz=170,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**47.68**	**126**	P	P	10 04 00.7	-1.5
	0.3nm,0.8s,baz=304,slow=9.0,SNR=2.3						
ASAR	**Alice Springs**	**49.35**	**130**	P	P	10 04 16.4	+1.3
	0.3nm,0.8s,baz=300,slow=7.3,SNR=2.1						

*IDC **18** 09:57:05.3±1.2, 7.46N×94.09E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/58, mbtmp3.8/8, ML4.3/1, Error ellipse: s-maj=52.4km s-min=22.3km az=54.0*
*NEIC **18** 09:57:12.1±1.2, 7.66N±0.06×94.15E±0.1, h46km±9km, mb4.6/12, Error ellipse: s-maj=17.9km s-min=2.6km az=64.0*

ISC 18 09:57:09.7±0.7, 7.76N±0.1×94.46E±0.1, h24km, n32, σ1§36/30, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.54**	**137**	Pn	Pn	09 58 49.5	+4.8
	2.6nm,0.3s,baz=221,slow=14,SNR=3.6						
KULM	**Kulim**	**6.58**	**110**		**Pn**	**09 58 44.8**	**-0.2**
KULM				Sn	**Sn**	**09 59 58.1**	**-1.2**
RPSI	**Rantau Prapat**	**6.62**	**138**		**Pn**	**09 58 49.5**	**+3.9**
IPM	**Ipoh**	**7.24**	**115**		**Pn**	**09 58 53.1**	**-1.1**
IPM				Sn	**Sn**	**10 00 15.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.61**	**22**	Pn	**Pn**	**09 59 57.6**	**+3.7**
	0.6nm,0.3s,baz=211,slow=15,SNR=2.6						
CMAR	**Chiang Mai Arr**	**11.61**	**22**		**Pn**	**09 59 54.9**	**+1.0**
H08S3	**Diego Garcia H**	**26.65**	**236**	T	T	10 29 22.9	
	baz=55,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**26.65**	**236**	T	T	10 29 29.6	
	baz=55,slow=75,SNR=26						
H08S1	**Diego Carcia H**	**26.66**	**236**	T	T	10 29 29.1	
	baz=55,slow=75,SNR=20						
CHGR	**Chuyangaron**	**38.39**	**327**	P	**P**	**10 04 30.6**	**+1.2**
CHGR				IAmb	IAmb	10 04 33.6	
	comp=Z,12nm,1.0s						
BTK	**Batken**	**38.59**	**330**	P	**P**	**10 04 31.0**	**0.0**
BTK				IAmb	IAmb	10 04 51.4	
	comp=Z,8.1nm,0.4s						
MK31	**Makanchi Array**	**40.39**	**347**	P	**P**	**10 04 45.5**	**-0.3**
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**10 04 45.5**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=163,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**10 04 45.3**	**-0.5**
MAKZ	**Makanchi**	**40.47**	**347**	P	**P**	**10 04 46.1**	**-0.3**
KURK	**Kurchatov**	**44.92**	**346**	P	**P**	**10 05 22.4**	**-0.1**
KURK				IAmb	IAmb	10 05 29.4	
	comp=Z,8.5nm,1.4s						
ZAA0	**Zalesovo Array**	**46.83**	**352**	P	**P**	**10 05 37.6**	**+0.1**
ZALV	**Zalesovo Beam**	**46.83**	**352**	P	**P**	**10 05 38.0**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=171,slow=7.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**46.83**	**352**	P	**P**	**10 05 37.8**	**+0.2**
WRA	**Warramunga Arr**	**47.87**	**126**	P	**P**	**10 05 46.6**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=306,slow=8.5,SNR=2.8						
BRVK	**Borovoye**	**49.38**	**341**	P	**P**	**10 05 57.9**	**+0.7**
BRVK				IAmb	IAmb	10 06 02.8	
	comp=Z,4.9nm,0.9s						
ASAR	**Alice Springs**	**49.52**	**130**	P	**P**	**10 05 59.7**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=302,slow=7.3,SNR=4.5						
ASAR	**Alice Springs**	**49.52**	**130**	P	**P**	**10 05 57.0**	**-1.8**
ABKAR	**Akbulak array**	**50.59**	**331**	P	**P**	**10 06 07.8**	**+1.3**
KMBO	**Kilima Mbogo**	**57.71**	**264**	P	**P**	**10 06 59.4**	**0.0**
CTAO	**Charters Tower**	**57.92**	**119**	P	**P**	**10 06 59.5**	**-0.8**
STKA	**Stephens Creek**	**59.72**	**134**	P	**P**	**10 07 12.5**	**-0.1**
STKA				IAmb	IAmb	10 07 34.2	
	comp=Z,6.6nm,1.9s						
BRTR	**Keskin Array B**	**62.82**	**311**	P	**P**	**10 07 33.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=135,slow=12,SNR=3.1						
BRTR	**Keskin Array B**	**62.82**	**311**	P	**P**	**10 07 32.5**	**-1.4**
ILGA	**Ilgaz**	**63.08**	**312**	P	**P**	**10 07 34.7**	**-0.9**
FINES	**FINESS Array B**	**73.07**	**332**	P	**P**	**10 08 35.9**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=134,slow=18,SNR=2.2						
GERES	**GERESS Array B**	**78.21**	**318**	P	**P**	**10 09 05.9**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=138,slow=6.3,SNR=1.6						

*NEIC **18** 10:05:54.4±0.5, 17.78S±0.1×178.74W±0.2, h588km±15km, mb4.1/14, Error ellipse: s-maj=26.5km s-min=15.8km az=97.0*
*IDC **18** 10:05:55.4±6.1, 17.47S×178.85W, h599km±69km, mb3.1/5, mb1 3.3/6, mb1mx2.9/40, mbtmp4.1/6, Error ellipse: s-maj=83.3km s-min=33.0km az=147.0*

ISC 18 10:05:54.8±1.1, 17.78S±0.2×178.78W±0.2, h600km, n22, σ0§58/24, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.11**	**269**	P	**P**	**10 07 13.3**	**-1.4**
DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**10 09 01.1**	**+1.2**
	0.4nm,0.3s,baz=94,slow=15,SNR=2.0						
OUZ	**Omahuta**	**18.72**	**200**	P	**P**	**10 09 36.8**	**-0.5**
CTAO	**Charters Tower**	**33.22**	**260**	P	**P**	**10 11 44.3**	**+0.2**
CAN	**Canberra**	**33.62**	**232**	P	**P**	**10 11 47.0**	**-0.3**
TOO	**Toolangi**	**37.10**	**230**	P	**P**	**10 12 15.6**	**-0.4**
TOO				IAmb	IAmb	10 12 16.3	
	comp=Z,4.1nm,0.8s						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**10 12 27.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=84,slow=6.5,SNR=10						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**10 12 27.3**	**-0.1**
BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**10 13 04.7**	**-0.3**
BBOO				IAmb	IAmb	10 13 14.2	
	comp=Z,10nm,1.2s						
WR0	**Warramunga Arr**	**44.22**	**259**	P	**P**	**10 13 12.8**	**+0.3**
WR0				IAmb	IAmb	10 13 23.9	
	comp=Z,5.1nm,1.3s						
WB0	**Warramunga Arr**	**44.37**	**260**	P	**P**	**10 13 13.7**	**0.0**
WB2	**Warramunga Arr**	**44.40**	**259**	P	**P**	**10 13 13.7**	**-0.1**
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**10 13 13.4**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=95,slow=7.0,SNR=36						
WRA				PcP	**PcP**	**10 14 44.8**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=100,slow=3.4,SNR=2.1						
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**10 13 13.9**	**-0.1**
AS31	**Alice Springs**	**44.59**	**254**	P	**P**	**10 13 15.5**	**+0.1**
AS31				IAmb	IAmb	10 13 16.0	
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**10 13 15.4**	**0.0**
	comp=Z,10nm,0.6s,baz=88,slow=8.4,SNR=155						
ASAR				PcP	**PcP**	**10 14 45.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=92,slow=4.5,SNR=2.2						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**10 13 15.1**	**-0.3**
MTN	**Manton Dam**	**48.54**	**268**	P	**P**	**10 13 45.9**	**+0.8**
MTN				IAmb	IAmb	10 13 54.2	
	comp=Z,11nm,1.2s						
FORT	**Forrest**	**49.86**	**244**	P	**P**	**10 13 54.3**	**-0.3**
KNRA	**Kununurra**	**50.24**	**264**	P	**P**	**10 13 58.0**	**+0.5**
KNRA				IAmb	IAmb	10 14 09.2	
	comp=Z,7.4nm,1.1s						
ILAR	**Eielson Array**	**85.73**	**13**	P	**P**	**10 17 30.3**	**-0.7**
	comp=Z,0.7nm,1.1s,baz=214,slow=5.3,SNR=4.1						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**10 17 34.7**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=216,slow=5.6,SNR=1.7						

*IDC **18** 10:09:44.0±0.9, 49.32N×28.71W, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.7/58, mbtmp3.7/14, ML3.4/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/49, Error ellipse: s-maj=29.0km s-min=17.3km az=19.0*
*NEIC **18** 10:09:46.1±2.1, 49.35N±0.08×28.6W±0.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=20.2km s-min=8.6km az=234.0*

ISC 18 10:09:47.0±0.6, 49.4N±0.1×28.62W±0.09, h17km, n32, σ0§99/28, mb3.8/15, MS3.7/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.60**	**59**	Pn	**P**	**10 13 41.1**	**0.0**
	baz=258,slow=9.4,SNR=1.9						
ESDC	**Sonseca Array**	**20.00**	**110**	P	**P**	**10 14 18.7**	**0.0**
	0.8nm,0.7s,baz=309,slow=9.5,SNR=3.2						
MDT	**Midelt**	**24.36**	**124**	P	**P**	**10 15 05.2**	**+1.0**
	1.3nm,0.7s,baz=300,slow=7.9,SNR=2.6						
NOA	**NORSAR Array B**	**25.12**	**47**	LR	LR	10 23 08.8	
	comp=Z,40nm,20.8s,baz=130,slow=32						
DAVOX	**Davos/Dischmat**	**25.67**	**81**	P	**P**	**10 15 17.9**	**+1.9**
	2.0nm,0.9s,baz=282,slow=2.0,SNR=3.6						
DAVOX				LR	LR	10 24 18.6	
	comp=Z,212nm,18.4s,baz=245,slow=34						
GERES	**GERESS Array B**	**27.45**	**75**	P	**P**	**10 15 32.0**	**+0.1**
	0.2nm,0.5s,baz=301,slow=10,SNR=3.8						
GERES	**GERESS Array B**	**27.45**	**75**	P	**P**	**10 15 30.9**	**-1.0**
FINES	**FINESS Array B**	**32.30**	**47**	P	**P**	**10 16 13.2**	**-1.4**
	4.8nm,1.1s,baz=275,slow=15,SNR=3.1						
BURAR	**Bucovina Array**	**35.09**	**72**	P	**P**	**10 16 39.2**	**0.0**
AKASG	**Malin Array Be**	**36.36**	**65**	LR	LR	10 31 30.1	
	comp=Z,115nm,20.4s,baz=130,slow=36						
RCRC	**Randolf Colleg**	**38.00**	**271**	P	**P**	**10 17 03.3**	**-0.6**
CBYP	**Canovanas**	**43.09**	**237**	P	**P**	**10 17 45.8**	**-0.4**
CBYP				IAmb	IAmb	10 17 56.9	
	comp=Z,9.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**43.89**	**135**	P	**P**	**10 17 51.1**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=338,slow=8.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**43.89**	**135**	P	**P**	**10 17 53.2**	**+0.6**
INK	**Inuvik**	**50.20**	**332**	P	**P**	**10 18 41.0**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=45,slow=5.7,SNR=2.3						
INK	**Inuvik**	**50.20**	**332**	IAmb	IAmb	10 18 54.6	
	comp=Z,8.1nm,1.6s						
NRIK	**Noril'sk**	**52.75**	**24**	P	**P**	**10 19 01.2**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=358,slow=5.8,SNR=2.2						
N23A	**Red Feather La**	**52.96**	**292**	P	**P**	**10 19 04.2**	**+1.5**
N23A				IAmb	IAmb	10 19 04.7	
	comp=Z,4.6nm,0.8s						
PDAR	**Pinedale Array**	**53.99**	**296**	P	**P**	**10 19 09.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=60,slow=8.8,SNR=8.5						
PDAR	**Pinedale Array**	**53.99**	**296**	P	**P**	**10 19 09.2**	**-1.0**
HWUT	**Hardware Ranch**	**55.88**	**296**	P	**P**	**10 19 24.0**	**+0.2**
PV16	**Nyswonger Mesa**	**56.36**	**291**	P	**P**	**10 19 28.9**	**+1.6**
PV16				IAmb	IAmb	10 19 29.0	
	comp=Z,3.8nm,0.7s						
PV14	**Lion Creek, Pa**	**56.39**	**291**	P	**P**	**10 19 28.6**	**+1.1**
PV17	**East Wray Mesa**	**56.41**	**291**	P	**P**	**10 19 29.1**	**+1.5**
ILAR	**Eielson Array**	**56.55**	**333**	P	**P**	**10 19 28.5**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=47,slow=4.7,SNR=3.3						
TXAR	**Lajitas Array**	**58.92**	**280**	P	**P**	**10 19 45.6**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=60,slow=7.4,SNR=3.5						
KURK	**Kurchatov**	**62.54**	**43**	P	**P**	**10 20 09.3**	**-0.1**
KURBB	**Kurchatov Arra**	**62.57**	**43**	P	**P**	**10 20 09.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=318,slow=7.6,SNR=1.4						
ZALV	**Zalesovo Beam**	**62.82**	**38**	LR	LR	10 49 05.8	
	comp=Z,64nm,18.6s,baz=82,slow=38						
MKAR	**Makanchi Array**	**67.07**	**44**	P	**P**	**10 20 39.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=339,slow=3.6,SNR=3.9						
WRA	**Warramunga Arr**	**147.62**	**31**	PKPbc	**PKPbc**	**10 29 29.5**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=332,slow=2.8,SNR=3.2						
ASAR	**Alice Springs**	**150.89**	**34**	PKPbc	**PKPbc**	**10 29 37.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=345,slow=2.0,SNR=15						

*IDC **18** 10:10:50.7±0.6, 7.47N×94.28E, h0km, mb4.0/20, mb1 4.1/22, mb1mx3.9/65, mbtmp4.0/22, ML3.8/2, MS3.8/5, Ms1 3.8/5, ms1mx3.2/54, Error ellipse: s-maj=22.7km s-min=14.5km az=65.0*
*NEIC **18** 10:10:56.5±1.2, 7.62N±0.10×94.59E±0.06, h41km±7km, mb4.6/23, Error ellipse: s-maj=16.4km s-min=2.6km az=210.0*

ISC 18 10:10:54.1±0.5, 7.49N±0.07×94.39E±0.08, h24km, n71, σ1§18/69, mb4.3/29, MS4.0/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.39**	**131**	Pn	**Pn**	**10 11 46.6**	**+1.1**
LHMI				Sn	**Sn**	**10 12 26.7**	**+1.6**
PSI	**Prapat**	**6.49**	**136**	Pn	**Pn**	**10 12 30.1**	**+1.9**
	2.0nm,0.3s,baz=217,slow=16,SNR=2.6						
PSI				Sn	**Sn**	**10 13 41.3**	**-0.2**
	1.7nm,0.3s,baz=223,slow=16,SNR=1.6						
RPSI	**Rantau Prapat**	**6.56**	**136**		**Pn**	**10 12 28.6**	**-0.6**
RPSI	**Rantau Prapat**	**6.56**	**136**		**Pn**	**10 12 30.1**	**+0.9**
RPSI					**Sn**	**10 13 41.4**	**-1.9**
KULM	**Kulim**	**6.59**	**109**		**Pn**	**10 12 29.5**	**-0.1**
KULM				Sn	**Sn**	**10 13 43.1**	**-1.0**
IPM	**Ipoh**	**7.24**	**114**		**Pn**	**10 12 37.9**	**-0.7**
IPM					**Sn**	**10 13 59.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.77**	**22**	Pn	**Pn**	**10 13 39.1**	**-1.4**
	0.2nm,0.3s,baz=350,slow=13,SNR=4.2						
CMAR				LR	LR	10 18 15.6	
	comp=Z,275nm,18.1s,baz=80,slow=38						
CMAR	**Chiang Mai Arr**	**11.77**	**22**		**Pn**	**10 13 40.7**	**+0.2**
LEM	**Lembang**	**19.40**	**137**	LR	LR	10 24 06.0	
	comp=Z,294nm,19.0s,baz=101,slow=41						
LSA	**Lhasa**	**22.30**	**353**	P	**P**	**10 15 51.8**	**+1.4**
LSA				IAmb	IAmb	10 15 56.3	
	comp=Z,11nm,0.8s						
H08S3	**Diego Garcia H**	**26.51**	**236**	T	T	10 43 01.9	
	baz=55,slow=75,SNR=145						
H08S2	**Diego Garcia H**	**26.51**	**236**	T	T	10 43 11.2	
	baz=55,slow=75,SNR=119						
H08S1	**Diego Carcia H**	**26.53**	**236**	T	T	10 43 09.4	
	baz=55,slow=75,SNR=109						
KAPI	**Kappang**	**28.19**	**115**	P	**P**	**10 16 43.5**	**-1.6**
NIL	**Nilore**	**32.55**	**326**	P	**P**	**10 17 23.7**	**+0.2**
NIL				IAmb	IAmb	10 17 29.3	
	comp=Z,12nm,0.8s						
KDJ	**Kajisay**	**37.71**	**339**	P	**P**	**10 18 07.2**	**-0.8**
GAR	**Garm**	**38.13**	**329**	P	**P**	**10 18 11.4**	**-0.1**
CHGR	**Chuyangaron**	**38.48**	**328**	P	**P**	**10 18 14.4**	**0.0**
BTK	**Batken**	**38.69**	**331**	P	**P**	**10 18 14.8**	**-1.4**
BTK				IAmb	IAmb	10 18 23.6	
	comp=Z,6.2nm,0.8s						
MK31	**Makanchi Array**	**40.52**	**347**	P	**P**	**10 18 30.7**	**-0.5**
MKAR	**Makanchi Array**	**40.52**	**347**	P	**P**	**10 18 31.0**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=162,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**40.52**	**347**	P	**P**	**10 18 30.4**	**-0.8**
MAKZ	**Makanchi**	**40.60**	**347**	P	**P**	**10 18 32.2**	**+0.3**
KK31	**Karatay Array**	**41.22**	**333**	P	**P**	**10 18 37.0**	**-0.1**
KKAR	**Karatay Array**	**41.22**	**333**	P	**P**	**10 18 35.2**	**-1.8**
SONM	**Songino Array**	**41.48**	**12**	P	**P**	**10 18 40.3**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=190,slow=7.3,SNR=2.2						
SONM	**Songino Array**	**41.48**	**12**	P	**P**	**10 18 38.4**	**-0.9**
JNU	**Nakatsue**	**42.31**	**48**	P	**P**	**10 18 48.2**	**+2.0**
	comp=Z,7.2nm,1.1s,baz=253,slow=11,SNR=2.3						
JNU	**Nakatsue**	**42.31**	**48**	P	**P**	**10 18 48.8**	**+2.5**
KSRS	**Korea Array**	**42.59**	**41**	P	**P**	**10 18 50.4**	**+2.1**
	comp=Z,0.4nm,0.9s,baz=242,slow=12,SNR=1.4						
GEYT	**Alibeck**	**44.65**	**318**	P	**P**	**10 19 03.3**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=126,slow=7.3,SNR=1.3						
GEYT	**Alibeck**	**44.65**	**318**	P	**P**	**10 19 03.6**	**-1.4**
KURBB	**Kurchatov Arra**	**44.98**	**346**	P	**P**	**10 19 07.4**	**+0.1**
	comp=Z,7.7nm,0.9s,baz=164,slow=7.5,SNR=12						
KURK	**Kurchatov**	**45.04**	**346**	P	**P**	**10 19 08.2**	**+0.4**
KURK				IAmb	IAmb	10 19 14.4	
	comp=Z,15nm,1.2s						
ZAA0	**Zalesovo Array**	**46.97**	**352**	P	**P**	**10 19 22.5**	**-0.5**
ZAA0				IAmb	IAmb	10 19 32.3	
	comp=Z,8.7nm,1.2s						
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**10 19 23.0**	**0.0**
	comp=Z,1.3nm,0.4s,baz=173,slow=8.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**10 19 22.8**	**-0.1**
WB0	**Warramunga Arr**	**47.79**	**125**	P	**P**	**10 19 29.5**	**-0.4**
WB0				IAmb	IAmb	10 19 47.5	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**47.84**	**125**	P	**P**	**10 19 29.3**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=307,slow=8.3,SNR=8.5						
WRA	**Warramunga Arr**	**47.84**	**125**	P	**P**	**10 19 31.1**	**+0.9**
WB2	**Warramunga Arr**	**47.85**	**125**	P	**P**	**10 19 29.9**	**-0.4**
WB2				IAmb	IAmb	10 19 38.7	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**48.01**	**125**	P	**P**	**10 19 31.2**	**-0.4**
WR0				IAmb	IAmb	10 19 44.6	
	comp=Z,11nm,1.4s						
BVAR	**Borovoye Array**	**49.43**	**341**	P	**P**	**10 19 42.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=155,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**49.48**	**130**	P	**P**	**10 19 43.0**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=313,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**49.48**	**130**	P	**P**	**10 19 42.9**	**0.0**
ABKAR	**Akbulak array**	**50.69**	**331**	P	**P**	**10 19 52.2**	**+0.5**
ABKAR				IAmb	IAmb	10 19 57.7	
	comp=Z,8.2nm,1.2s						
ABKAR	**Akbulak array**	**50.69**	**331**	P	**P**	**10 19 51.8**	**+0.2**
AKTO	**Aktyubinsk**	**52.40**	**331**	P	**P**	**10 20 04.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=126,slow=8.7,SNR=2.7						
PMG	**Port Moresby**	**55.18**	**107**	LR	LR	10 47 33.6	
	comp=Z,58nm,18.5s,baz=10,slow=40						
ARU	**Arti**	**56.34**	**337**	P	**P**	**10 20 33.0**	**+0.1**
	comp=Z,1.5nm,0.2s,baz=108,slow=20,SNR=5.7						
BRTR	**Keskin Array B**	**62.87**	**311**	P	**P**	**10 21 20.1**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=108,slow=4.7,SNR=2.5						
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**10 22 22.2**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=33,slow=4.5,SNR=2.5						
BOSA	**Boshof**	**75.59**	**238**	P	**P**	**10 22 37.0**	**-0.6**
	comp=Z,5.1nm,1.1s,baz=108,slow=6.4,SNR=2.4						
BOSA	**Boshof**	**75.59**	**238**	P	**P**	**10 22 33.8**	**-3.8**
ARCES	**ARCESS Array B**	**75.71**	**340**	LR	LR	10 58 25.1	
	comp=Z,83nm,18.9s,baz=95,slow=38						
MAW	**Mawson**	**78.21**	**192**	P	**P**	**10 22 52.8**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=177,slow=4.9,SNR=8.9						
MAW	**Mawson**	**78.21**	**192**	P	**P**	**10 22 53.2**	**+1.9**
GERES	**GERESS Array B**	**78.28**	**318**	P	**P**	**10 22 52.6**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=101,slow=7.2,SNR=5.1						
HFS	**Hagfors**	**78.91**	**330**	P	**P**	**10 22 56.5**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=75,slow=14,SNR=1.7						
NOA	**NORSAR Array B**	**80.19**	**331**	P	**P**	**10 23 01.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=94,slow=5.4,SNR=3.6						
ESDC	**Sonseca Array**	**91.65**	**310**	P	**P**	**10 23 58.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=72,slow=4.2,SNR=1.7						
IMAR	**Indian Mountai**	**91.89**	**22**	P	**P**	**10 23 59.6**	**-0.5**
RES	**Resolute Bay**	**97.77**	**2**	LR	LR	11 13 10.6	
	comp=Z,47nm,18.5s,baz=121,slow=38						
NVAR	**Mina Array Bea**	**125.11**	**31**	PKP	**PKiKP**	**10 29 55.3**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=180,slow=0.7,SNR=3.1						
NVAR	**Mina Array Bea**	**125.11**	**31**		**PKiKP**	**10 29 55.7**	**+2.0**
PDAR	**Pinedale Array**	**125.43**	**22**	PKP	**PKPdf**	**10 29 53.6**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=86,slow=3.7,SNR=1.5						
PDAR	**Pinedale Array**	**125.43**	**22**		**PKPdf**	**10 29 51.6**	**-2.2**
TXAR	**Lajitas Array**	**139.47**	**25**	PKP	**PKiKP**	**10 30 22.1**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=90,slow=0.9,SNR=2.0						
TXAR	**Lajitas Array**	**139.47**	**25**		**PKPdf**	**10 30 20.3**	**-0.1**
CPUP	**Villa Florida**	**147.23**	**232**	PKPbc	**PKPbc**	**10 30 35.6**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=78,slow=6.0,SNR=3.9						
CPUP	**Villa Florida**	**147.23**	**232**		**PKPbc**	**10 30 36.8**	**+0.6**

IDC 18 10:22:03.4±5.5, 2.72N×127.52E, h99km±60km, mb3.0/4, mb1 3.2/5, mb1mx3.0/39, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=70.6km s-min=27.4km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.17**	**133**	P	Pn	10 23 19.6	+1.2
	2.1nm,0.3s,baz=32,slow=23,SNR=1.9						
SIJI				S	Sn	10 24 16.8	-0.2
	2.9nm,0.3s,baz=28,sl

PYZ				S	Sb	10 27 47.6	+1.6		
DCZ	**Deep Cove**	**1.10**	**47**	P	Pb	10 27 48.4	-1.4		
DCZ				S	Sb	10 28 03.5	-0.5		
WHZ	**Wether Hill Ro**	**1.39**	**77**	P	Pn	10 27 54.0	0.0		
WHZ				S	Sn	10 28 11.7	-0.6		
APZ	**The Paps**	**1.50**	**115**	P	Pn	10 27 54.8	-0.8		
APZ				S	Sn	10 28 13.9	-1.1		
MLZ	**Mavora Lakes**	**1.71**	**61**	P	Pb	10 27 59.5	-0.6		
MSZ	**Milford Sound**	**2.06**	**42**	P	Pn	10 28 03.1	+0.1		
SYZ	**Scrubby Hill**	**2.19**	**99**	P	Pn	10 28 05.1	+0.1		
WKZ	**Wanaka**	**2.54**	**58**	P	Pb	10 28 12.2	-2.0		
TUZ	**Tuapeka**	**2.54**	**85**	P	Pn	10 28 10.5	+0.8		
TUZ				S	Sn	10 28 41.2	+0.7		
JCZ	**Jackson Bay**	**2.91**	**43**	P	Pn	10 28 15.4	+0.4		
ODZ	**Otahua Downs**	**3.46**	**72**	P	Pn	10 28 21.9	-0.6		
LBZ	**Lake Benmore**	**3.47**	**60**	P	Pn	10 28 23.0	+0.4		
FOZ	**Fox Glacier**	**3.81**	**47**	P	Pn	10 28 27.3	0.0		
RPZ	**Rata Peaks**	**4.37**	**57**	P	Pn	10 28 34.6	-0.4		
RPZ				S	Sn	10 29 26.0	+0.2		
WVZ	**Waitaha Valley**	**4.61**	**49**	P	Pn	10 28 38.7	+0.4		
OXZ	**Oxford**	**5.18**	**58**	P	Pn	10 28 44.9	-1.1		
OXZ				S	Sn	10 29 41.5	-4.2		
INZ	**Inchbonnie**	**5.23**	**50**	P	Pn	10 28 46.4	-0.3		
INZ				S	Sn	10 29 45.3	-1.6		
LTZ	**Lake Taylor**	**5.65**	**55**	P	Pn	10 28 51.5	-1.0		
DSZ	**Denniston Nort**	**6.12**	**45**	P	Pn	10 28 58.6	-0.5		
DSZ				S	Sn	10 30 05.6	-3.5		
THZ	**Tophouse**	**6.68**	**51**	P	Pn	10 29 07.1	+0.4		
THZ				S	Sn	10 30 22.6	-0.1		
QRZ	**Quartz Range**	**7.18**	**44**	P	Pn	10 29 12.8	-0.7		

*ISK **18** 10:36:14.9, 36.00N×31.68E, h25km, ML2.4/10*
*DDA **18** 10:36:14.4, 35.82N×31.73E, h8km±5km, ML1.9*
*NIC **18** 10:36:15.3±0.0, 35.92N×31.34E, h91km±7km, MI2.9/3*

ISC 18 10:36:16.8±1.2, 36.11N±0.04×31.73E±0.04, h31km±11km, n20, σ2§03/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.49**	**75**	PG	**Pb**	**10 36 27.1**	**-0.1**
GAZI				SG	**Sn**	**10 36 35.8**	**+0.5**
GAZI	**Gazipasa**	**0.49**	**75**	*i* P	**Pb**	**10 36 27.3**	**+0.1**
GAZI				*i* S	**Sb**	**10 36 34.4**	**+0.1**
GAZI				IAML		10 36 36.0	
	comp=E,53nm,0.2s						
ALAN	**Alanya-ANTALYA**	**0.51**	**29**	PG	**Pb**	**10 36 27.8**	**+0.3**
ALAN				SG	**Sn**	**10 36 37.4**	**+1.7**
KEPZ	**Antalya-Kepez**	**0.80**	**353**	*i* P	**Pn**	**10 36 30.9**	**-1.1**
KEPZ				*i* S	**Sb**	**10 36 39.8**	**-3.0**
KEPZ				IAML		10 36 43.0	
	comp=N,26nm,0.7s						
KEPZ				IAML		10 36 44.0	
	comp=E,29nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.12**	**88**	PN	**Pn**	**10 36 36.2**	**-0.2**
TEKE				SN	**Sn**	**10 36 51.3**	**+0.5**
AKUM	**Antalya-Kumluc**	**1.14**	**281**	*i* P	**Pn**	**10 36 36.2**	**-0.4**
AKUM				*i* S	**Sn**	**10 36 52.5**	**+1.4**
AKUM				IAML		10 36 57.0	
	comp=N,27nm,0.5s						
AKUM				IAML		10 36 59.0	
	comp=E,44nm,0.5s						
ALFC	**Alefka**	**1.19**	**143**	P	**Pn**	**10 36 38.5**	**+1.2**
ALFC				AML	AML	10 36 51.1	
	comp=E,0.6nm,0.2s						
ALFC				AML	AML	10 36 52.3	
	comp=E,0.4nm,0.4s						
AKMS	**Akamas**	**1.20**	**155**	S	**Sb**	**10 36 55.6**	**+1.7**
AKMS				AML	AML	10 36 56.8	
	comp=E,0.8nm,0.4s						
AKMS				AML	AML	10 36 57.5	
	comp=E,0.6nm,1.0s						
BERE	**Bereket-Mersin**	**1.23**	**78**	PN	**Pn**	**10 36 38.1**	**+0.1**
SEYD	**Seydisehir-KON**	**1.30**	**4**	PN	**Pn**	**10 36 40.1**	**+1.2**
LEF	**Lefka**	**1.37**	**136**	PN	**Pn**	**10 36 37.5**	**-2.2**
LEF	**Lefka**	**1.37**	**136**	*i* P	**Pn**	**10 36 36.7**	**-3.1**
LEF				*i* S	**Sn**	**10 36 49.6**	**-7.2**
LEF				IAML		10 36 53.0	
	comp=N,22nm,0.2s						
LEF				IAML		10 36 56.0	
	comp=E,36nm,0.7s						
TEVE	**Tevekalti-Mers**	**1.43**	**76**	PN	**Pn**	**10 36 41.2**	**+0.6**
NATA	**Nata**	**1.49**	**152**	P	**Pn**	**10 36 41.9**	**+0.4**
NATA				S	**Sn**	**10 37 02.5**	**+2.5**
IKL	**Isikli**	**1.59**	**85**	PN	**Pn**	**10 36 42.9**	**+0.1**
KEBE	**Keben-Mersin**	**1.64**	**77**	PN	**Pn**	**10 36 43.9**	**+0.3**
SZAC	**Souni**	**1.65**	**145**	P	**Pn**	**10 36 44.1**	**+0.5**
SZAC				S	**Sb**	**10 37 07.6**	**+0.7**
SZAC				AML	AML	10 37 11.9	
	comp=E,0.3nm,0.6s						
SZAC				AML	AML	10 37 11.9	
	comp=E,0.3nm,0.6s						
SZAC				AML	AML	10 37 15.1	
	comp=E,0.2nm,0.4s						
SZAC				AML	AML	10 37 15.1	
	comp=E,0.2nm,0.4s						
CSS	**Mathiatis**	**1.74**	**131**	PN	**Pn**	**10 36 43.6**	**-1.3**
ASGA	**Asgata**	**1.81**	**136**	S	**Sb**	**10 37 11.7**	**+0.2**
MVOU	**Mavrovouni**	**1.90**	**124**	P	**Pn**	**10 36 49.5**	**+2.4**

*IDC **18** 10:37:41.6±2.0, 6.17S×148.62E, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.5/45, mbtmp3.8/7, ML3.3/3, Error ellipse: s-maj=49.5km s-min=22.6km az=107.0*

ISC 18 10:37:49.2±1.6, 6.18S±0.09×148.4E±0.2, h65km, n7, σ1§50/8, mb3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.44**	**201**	Pn	**Pn**	**10 38 39.7**	**-0.7**
	1.9nm,0.3s,baz=26,slow=15,SNR=2.0						
PMG				Sn	**Sn**	**10 39 22.0**	**+2.1**
	0.8nm,0.3s,baz=0.0,slow=20,SNR=1.1						
JAY	**Jayapura**	**8.50**	**295**	Pn	**Pn**	**10 39 48.9**	**-0.9**
	0.2nm,0.3s,baz=110,slow=19,SNR=3.6						
CTA	**Charters Tower**	**13.98**	**188**	Pn	**Pn**	**10 41 02.7**	**-1.6**
	0.1nm,0.3s,baz=342,slow=6.4,SNR=2.3						
WRA	**Warramunga Arr**	**19.34**	**224**	P	**P**	**10 42 10.2**	**+0.6**
	0.1nm,0.3s,baz=50,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.30**	**217**	P	**P**	**10 42 41.6**	**+0.2**
	0.2nm,0.5s,baz=58,slow=9.2,SNR=6.2						
FITZ	**Fitzroy Crossi**	**25.18**	**240**	P	**P**	**10 43 10.1**	**+1.3**
	0.7nm,0.7s,baz=56,slow=9.7,SNR=1.6						
PETK	**Petropavlovsk-**	**59.58**	**6**	P	**P**	**10 47 47.0**	**+1.0**
	6.6nm,1.0s,baz=135,slow=9.2,SNR=3.6						

*IDC **18** 10:42:09.2±0.9, 39.11N±0.1×106.3E±0.2, h10km, n10, σ1§05/10, mb3.6/6, Western Nei Mongol*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**8.71**	**0**	Pn	**Pn**	**10 44 17.5**	**+0.9**
	0.2nm,0.3s,baz=133,slow=6.1,SNR=2.6						
SONM				Pg	Pg	10 44 49.4	-7.8
	0.3nm,0.3s,baz=191,slow=15,SNR=4.6						
SONM				Lg	Lg	10 46 46.2	
	0.2nm,0.3s,baz=192,slow=27,SNR=2.4						
KSRS	**Korea Array**	**17.05**	**89**	P	**P**	**10 46 09.9**	**-0.8**
	0.2nm,0.3s,baz=19,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	**19.13**	**301**	P	**P**	**10 46 33.1**	**-0.5**
	0.1nm,0.3s,baz=105,slow=14,SNR=3.7						
ZALV	**Zalesovo Beam**	**20.82**	**322**	P	**P**	**10 46 49.6**	**-2.3**
	1.4nm,0.7s,baz=120,slow=12,SNR=5.2						
CMAR	**Chiang Mai Arr**	**21.56**	**199**	P	**P**	**10 47 00.0**	**-0.2**
	0.5nm,0.3s,baz=12,slow=9.3,SNR=1.6						
KURBB	**Kurchatov Arra**	**22.66**	**310**	P	**P**	**10 47 11.1**	**-0.6**
	0.7nm,0.6s,baz=117,slow=10.0,SNR=3.8						
BVAR	**Borovoye Array**	**28.19**	**311**	P	**P**	**10 48 03.3**	**+0.2**
	0.4nm,0.4s,baz=72,slow=13,SNR=2.0						
NOA	**NORSAR Array B**	**58.98**	**326**	P	**P**	**10 52 09.9**	**0.0**
	0.4nm,0.5s,baz=62,slow=6.9,SNR=1.9						
WRA	**Warramunga Arr**	**64.35**	**151**	P	**P**	**10 52 46.8**	**+0.3**
	0.2nm,0.4s,baz=341,slow=7.1,SNR=6.3						
ASAR	**Alice Springs**	**67.59**	**153**	P	**P**	**10 53 08.0**	**+0.6**
	1.0nm,0.6s,baz=337,slow=6.5,SNR=27						

IDC 18 10:54:13.6±5.0, 8.42S×129.28E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.5/28, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=78.0km s-min=35.3km az=25.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.82**	**252**	Pn	**Pn**	**10 55 41.1**	**-0.2**
	12nm,0.3s,baz=67,slow=0.9,SNR=7.4						
WRA	**Warramunga Arr**	**12.46**	**157**	Pn	**Pn**	**10 57 10.8**	**-1.5**
	0.5nm,0.3s,baz=341,slow=14,SNR=38						
WRA				Sn	Sn	10 59 33.0	+0.9
	0.5nm,0.3s,baz=336,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**15.80**	**164**	Pn	**Pn**	**10 57 57.0**	**-0.5**
	0.2nm,0.3s,baz=337,slow=9.1,SNR=10						
ASAR				Sn	Sn	11 00 56.2	+2.7
	0.2nm,0.3s,baz=336,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**26.00**	**156**	P	P	10 59 49.0	+0.6
	0.6nm,0.5s,baz=335,slow=12,SNR=1.5						

*IDC **18** 11:03:51.1±0.7, 6.77N×72.98W, h163km±11km, mb3.4/5, mb1 3.8/8, mb1mx3.3/35, mbtmp4.0/8, Error ellipse: s-maj=33.8km s-min=7.9km az=132.0*
*RSNC **18** 11:03:51.6±1.1, 6.83N×73.16W, h158km±4km, ML3.8, Mw4.0, Fault plane solution: NP1:φs38.00000°, δ49.00000°, λ18.00000°.*
*UPA **18** 11:03:52.2±0.6, 7.02N×73.25W, h1km±9km, MW4.8*
*NEIC **18** 11:03:53.0±2.3, 6.7N±0.1×72.9W±0.1, h182km±10km, mb4.2/27, Error ellipse: s-maj=22.6km s-min=6.6km az=137.0*

ISC 18 11:03:51.4±0.6, 6.85N±0.03×73.12W±0.03, h156km±5km, n100, σ1§48/134, mb4.2/17, 6C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**193**	⇑*i* P	**Pn**	**11 04 12.8**	**-0.1**
BARC				*e*S	**Sn**	**11 04 28.7**	**-0.6**
BARC				*i*		11 04 29.5	
	comp=Z,4μm,0.3s						
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*i* P	**Pn**	**11 04 14.6**	**+0.4**
BRRC				*e*S	**Sn**	**11 04 32.1**	**+0.5**
PAMC	**Pamplona, Colo**	**0.64**	**41**	⇑*i* P	**Pn**	**11 04 15.5**	**+0.7**
PAMC				*e*S	**Sn**	**11 04 33.0**	**+0.3**
PAMC				*i*		11 04 35.7	
	comp=Z,833nm,0.5s						
RUSC	**La Rusia**	**0.95**	**178**	⇓*i* P	**Pn**	**11 04 16.6**	**-0.3**
RUSC				*e*S	**Sn**	**11 04 35.1**	**-1.4**
RUSC				*i*		11 04 36.7	
	comp=Z,932nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*e*P	**Pn**	**11 04 19.2**	**-0.9**
PTBC				*e*S	**Sn**	**11 04 40.8**	**-1.2**
PTBC				*i*		11 04 43.2	
	comp=Z,604nm,0.6s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇑*i* P	**Pn**	**11 04 21.0**	**+0.7**
TAMC				*i*		11 04 41.9	
	comp=Z,566nm,0.4s						
TAMC				*e*S	**Sn**	**11 04 42.9**	**+0.4**
OCAC	**Ocana**	**1.39**	**352**	*e*P	**Pn**	**11 04 20.9**	**+0.4**
OCAC				*e*S	**Sn**	**11 04 43.0**	**0.0**
OCAC				*i*		11 04 46.2	
	comp=Z,594nm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**218**	⇓*i* P	**Pn**	**11 04 21.7**	**-0.1**
SPBC				*e*S	**Sn**	**11 04 44.3**	**-0.7**
SPBC				*i*		11 04 48.5	
	comp=Z,1μm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**11 04 25.3**	**+0.2**
ZARC				*e*S	**Sn**	**11 04 51.2**	**+0.2**
ZARC				*i*		11 04 57.1	
	comp=Z,758nm,0.4s						
CTAB	**Cerro Tablazo,**	**2.12**	**211**	*e*P	**Pn**	**11 04 31.8**	**+3.0**
SMLC	**San Martn de**	**2.15**	**334**	*e*P	**Pn**	**11 04 28.9**	**+0.1**
SMLC				*e*S	**Sn**	**11 04 56.7**	**-0.9**
SMLC				*i*		11 05 01.2	
	comp=Z,349nm,0.5s						
CHIC	**Chingaza**	**2.29**	**195**	⇓*i* P	**Pn**	**11 04 30.4**	**-0.3**
CHIC				*e*S	**Sn**	**11 05 00.2**	**-0.8**
CHIC				*i*		11 05 05.6	
	comp=Z,468nm,0.4s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**11 04 32.0**	**+0.9**
	comp=Z,158nm,0.3s,baz=340,slow=3.7,SNR=369						
ROSC				S	**Sn**	**11 05 02.4**	**+0.6**
	comp=Z,111nm,0.3s,baz=83,slow=22,SNR=8.0						
ROSC	**El Rosal**	**2.33**	**211**	⇓*i* P	**Pn**	**11 04 32.2**	**+1.1**
ROSC				*e*S	**Sn**	**11 05 03.2**	**+1.4**
ROSC				*i*		11 05 07.7	
	comp=Z,1μm,0.4s						
ROSC	**El Rosal**	**2.33**	**211**		**Pn**	**11 04 32.6**	**+1.4**
ROSC					**Sn**	**11 05 03.0**	**+1.3**
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**11 04 32.5**	**-0.4**
HELC				*e*S	**Sn**	**11 05 02.8**	**-2.2**
HELC				*i*		11 05 11.5	
	comp=Z,407nm,0.3s						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**11 04 33.1**	**+0.2**
HELC				*e*S	**Sn**	**11 05 04.0**	**-0.9**
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P	**Pn**	**11 04 32.4**	**-1.1**
UREC				*e*S	**Sn**	**11 05 04.4**	**-1.6**
UREC				*i*		11 05 11.0	
	comp=Z,308nm,0.3s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**11 04 35.8**	**-0.7**
VILC				*e*S	**Sn**	**11 05 10.2**	**-1.1**
VILC				*i*		11 05 19.9	
	comp=Z,581nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.81**	**159**	⇓*i* P	**Pn**	**11 04 35.7**	**-1.0**
PTGC				*e*S	**Sn**	**11 05 08.9**	**-2.8**
PTGC				*i*		11 05 11.1	
	comp=Z,243nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*e*P	**Pn**	**11 04 40.4**	**+0.7**
CBOC				*i*		11 05 35.2	
	comp=Z,142nm,0.4s						
DBBC	**Dabeiba**	**3.07**	**273**	⇑*i* P	**Pn**	**11 04 40.1**	**+0.1**
DBBC				*e*S	**Sn**	**11 05 12.8**	**-4.8**
DBBC				*i*		11 05 20.4	
	comp=Z,738nm,0.5s						
TOLC	**Tolima**	**3.14**	**224**	*e*P	**Pn**	**11 04 42.3**	**+1.1**
TOLC				*e*S	**Sn**	**11 05 19.8**	**+0.2**
MONA	**Monteria**	**3.16**	**307**	*e*P	**Pn**	**11 04 39.9**	**-1.2**
MONA				*e*S	**Sn**	**11 05 16.9**	**-2.7**
MOTC	**Monteria, Cord**	**3.17**	**307**	*e*P	**Pn**	**11 04 39.9**	**-1.2**
MOTC				*e*S	**Sn**	**11 05 18.4**	**-1.2**
MOTC				*i*		11 05 20.8	
	comp=Z,164nm,0.5s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**11 04 42.1**	**+0.5**
	comp=Z,97nm,0.3s,baz=217,slow=4.7,SNR=146						
SDV				S	**Sn**	**11 05 19.9**	**-0.6**
	comp=Z,24nm,0.3s,baz=52,slow=11,SNR=12						
SDV	**Santo Domingo**	**3.19**	**50**	*e*P	**Pn**	**11 04 42.0**	**+0.4**
SDV	**Santo Domingo**	**3.19**	**50**		**Pn**	**11 04 42.2**	**+0.5**
SDV				Sn	**Sn**	**11 05 19.3**	**-1.2**
ARGC	**Ariguani, Magd**	**3.19**	**340**	*e*P	**Pn**	**11 04 42.9**	**+1.5**
ARGC				*e*S	**Sn**	**11 05 19.1**	**-1.2**
ARGC				*i*		11 05 30.7	
	comp=Z,173nm,0.4s						
ANIL	**Santa Ana**	**3.26**	**224**	*e*P	**Pn**	**11 04 43.8**	**+1.1**
ANIL				*e*S	**Sn**	**11 05 23.4**	**+1.0**
ANIL				*i*		11 05 29.2	
	comp=Z,120nm,0.3s						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**11 04 45.7**	**-0.8**
PRAC				*e*S	**Sn**	**11 05 28.1**	**-1.1**
PRAC				*i*		11 05 34.5	
	comp=Z,456nm,0.4s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P	**Pn**	**11 04 46.9**	**-0.4**
SJCC	**San Jacinto, C**	**3.65**	**326**	*i* P	**Pn**	**11 04 47.0**	**-0.4**
SJCC				*e*S	**Sn**	**11 05 27.9**	**-2.9**
PLMC	**San Jos del P**	**3.69**	**239**	⇑*e*P	**Pn**	**11 04 48.1**	**+0.2**
PLMC				*e*S	**Sn**	**11 05 30.8**	**-1.1**
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P	**Pn**	**11 04 55.1**	**-0.6**
GUVC	**San Jose del G**	**4.30**	**173**	*e*P	**Pn**	**11 04 54.9**	**-1.0**
GUVC				*e*S	**Sn**	**11 05 43.7**	**-2.5**
GUVC				*i*		11 05 49.5	
	comp=Z,180nm,0.2s						
SOLC	**Bahia Solano**	**4.30**	**262**	*e*P	**Pn**	**11 04 55.6**	**-0.3**
SMRC	**Santa Marta, M**	**4.42**	**346**	*e*P	**Pn**	**11 04 57.2**	**-0.1**
CAPC	**Capurgana**	**4.55**	**293**	*e*P	**Pn**	**11 04 56.8**	**-2.3**
CAPC				*e*S	Sn	11 05 43.4	-8.4
CAPC				*i*		11 05 49.7	
	comp=Z,60nm,0.5s						
CAP2	**Capurgana**	**4.56**	**293**	*e*P	**Pn**	**11 04 59.8**	**+0.6**
CAP2				*e*S	**Sn**	**11 05 50.6**	**-1.6**
PTAC	**Punta Ardita,**	**4.66**	**274**	*e*P	**Pn**	**11 04 59.8**	**-0.7**
PTAC				*i*		11 06 01.4	
	comp=Z,104nm,0.3s						
MACC	**Macarena, Meta**	**4.73**	**189**	⇓*i* P	**Pn**	**11 04 59.3**	**-2.2**
MACC				*e*S	**Sn**	**11 05 49.2**	**-6.9**
MACC				*i*		11 05 57.2	
	comp=Z,77nm,0.4s						
BETC	**Betania**	**4.74**	**209**	*e*P	**Pn**	**11 05 00.5**	**-1.2**
MARP	**Paez Belalcaza**	**4.88**	**215**	*e*P	**Pn**	**11 05 03.2**	**-0.5**
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P	**Pn**	**11 05 03.1**	**-1.2**
URIC				*e*S	**Sn**	**11 05 58.1**	**-3.1**
URIC				*i*		11 06 09.4	
	comp=Z,29nm,0.4s						
UPD2	**Meteti**	**5.13**	**289**	*e*P	**Pn**	**11 05 07.4**	**+0.7**
UPD2				*e*S	**Sn**	**11 06 05.0**	**-0.5**
GARC	**Garzon, Huila**	**5.20**	**207**	*e*P	**Pn**	**11 05 06.7**	**-1.2**
PCON	**Cinco Dias**	**5.55**	**216**	*e*P	**Pn**	**11 05 13.7**	**+0.9**
POPC	**Popaya, Cauca**	**5.56**	**220**	*e*P	**Pn**	**11 05 12.1**	**-0.5**
FLOC	**Florencia**	**5.81**	**206**	*e*P	**Pn**	**11 05 15.0**	**-0.7**
BBAC	**Balboa, Cauca**	**6.32**	**221**	*e*P	**Pn**	**11 05 22.0**	**-0.7**
CHPO	**Chepo, Panama**	**6.37**	**292**	*e*P	**Pn**	**11 05 24.1**	**+1.0**
CHPO				*e*S	**Sn**	**11 06 34.1**	**-0.8**
UPA	**Univ. de Panam**	**6.70**	**289**	*e*S	**Sn**	**11 06 42.6**	**-0.2**
OTAV	**Otavalo**	**8.45**	**219**		**Pn**	**11 05 51.4**	**+0.1**
PCRV	**Puerto La Cruz**	**9.02**	**68**	P	**Pn**	**11 05 56.1**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=214,slow=9.8,SNR=3.6						
PLCV	**Puerto La Cruz**	**9.06**	**68**		**Pn**	**11 05 56.1**	**-2.8**
MTDJ	**Mount Denham**	**12.10**	**340**		**Pn**	**11 06 40.0**	**+1.1**
GTBY	**Guantanamo Bay**	**13.14**	**352**		**P**	**11 06 55.9**	**-0.7**
SAML	**Samuel**	**18.56**	**148**		pP	**11 08 23.0**	**-0.4**
LPAZ	**La Paz**	**23.51**	**168**		pP	**11 09 19.9**	**+1.3**
Y49A	**Blount Mountai**	**29.56**	**337**	P	**P**	**11 09 43.5**	**+1.9**
Y49A				IAmb	IAmb	11 10 10.7	
	comp=Z,14nm,1.5s						
X48A	**Hartselle**	**30.33**	**337**	P	**P**	**11 09 49.6**	**+1.3**
X48A				IAmb	IAmb	11 09 50.9	
	comp=Z,2.6nm,0.8s						
W50A	**Signal Mountai**	**30.36**	**340**	P	**P**	**11 09 50.6**	**+2.0**
W50A				IAmb	IAmb	11 10 12.3	
	comp=Z,18nm,1.5s						
V48A	**Smith Brothers**	**31.38**	**338**	P	**P**	**11 09 59.6**	**+2.1**
V48A				IAmb	IAmb	11 09 59.9	
	comp=Z,4.4nm,0.6s						
FVM	**French Village**	**34.74**	**336**	P	**P**	**11 10 27.8**	**+1.1**
FVM				IAmb	IAmb	11 10 28.2	
	comp=Z,4.6nm,0.6s						
M56A	**Emporium**	**34.78**	**353**	P	**P**	**11 10 29.2**	**+2.2**
CCM	**Cathedral Cave**	**35.14**	**335**	P	**P**	**11 10 31.4**	**+1.3**
CCM				IAmb	IAmb	11 10 31.7	
	comp=Z,7.7nm,0.7s						
HRV	**Adam Dziewonsk**	**35.54**	**2**	P	**P**	**11 10 36.1**	**+2.7**
SFIN	**Lafayette**	**35.65**	**342**	P	**P**	**11 10 35.9**	**+1.5**
LMN	**Caledonia Moun**	**39.52**	**9**	P	**P**	**11 11 07.6**	**+0.8**
BATG	**Bathurst New B**	**40.73**	**7**	P	**P**	**11 11 17.8**	**+1.0**
ECSD	**EROS Data Cent**	**42.12**	**334**	P	**P**	**11 11 28.6**	**+0.3**
ECSD				IAmb	IAmb	11 11 29.1	
	comp=Z,3.7nm,1.1s						
SUSD	**Miller**	**43.71**	**333**	P	**P**	**11 11 41.1**	**0.0**
EYMN	**Ely**	**43.84**	**342**	P	**P**	**11 11 42.0**	**0.0**
EYMN				IAmb	IAmb	11 11 57.1	
	comp=Z,23nm,1.4s						
MVCO	**Mesa Verde**	**44.13**	**318**	P	**P**	**11 11 46.3**	**+1.5**
PV13	**Radium Mtn., P**	**44.88**	**319**	P	**P**	**11 11 52.3**	**+1.6**
AGMN	**Agassiz Nation**	**45.60**	**339**	P	**P**	**11 11 56.7**	**+0.8**
AGMN				IAmb	IAmb	11 12 22.2	
	comp=Z,5.5nm,1.2s						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**11 12 08.0**	**-0.8**
	comp=Z,2.3nm,0.4s,baz=134,slow=8.4,SNR=9.4						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**11 12 08.4**	**-0.3**
ULM				IAmb	IAmb	11 12 35.7	
	comp=Z,12nm,1.4s						
MSU	**Marysvale**	**47.28**	**318**	P	**P**	**11 12 11.6**	**+2.1**
PDAR	**Pinedale Array**	**48.05**	**324**	P	**P**	**11 12 15.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=121,slow=8.3,SNR=4.5						
BGU	**Big Grassy Mou**	**49.12**	**320**	P	**P**	**11 12 24.5**	**+1.0**
REDW	**Red Top Meadow**	**49.17**	**324**	P	**P**	**11 12 24.7**	**+0.8**
LOHW	**Long Hollow**	**49.17**	**324**	P	**P**	**11 12 25.4**	**+1.5**
TPAW	**Teton Pass**	**49.30**	**324**	P	**P**	**11 12 26.0**	**+1.1**
MCMT	**McKenzie Canyo**	**51.20**	**324**	P	**P**	**11 12 41.0**	**+1.9**
HLID	**Hailey**	**51.41**	**322**	P	**P**	**11 12 42.2**	**+1.5**
NVAR	**Mina Array Bea**	**51.46**	**315**	P	**P**	**11 12 41.7**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=118,slow=7.2,SNR=2.6						
F10A	**Beach Ranch, E**	**54.40**	**323**	P	**P**	**11 13 02.9**	**+0.5**
F10A				IAmb	IAmb	11 13 11.4	
	comp=Z,5.9nm,1.3s						
I07A	**Izee**	**54.84**	**320**	P	**P**	**11 13 06.8**	**+1.1**
I07A				IAmb	IAmb	11 13 10.5	
	comp=Z,6.8nm,1.5s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**11 14 02.8**	**-0.1**
	comp=Z,1.

comp=Z,5.8nm,1.0s
SNAA **Sanae** 86.32 182 P **P** 11 30 00.2 **-1.3**
SNAA **Sanae** 86.32 182 P **P** 11 30 00.6 **-0.9**
SNAA IAmb IAmb 11 30 01.0
comp=Z,3.5nm,0.8s
VNA3 Neumayer Olymp 86.84 180 P **P** **11 30 02.4 -1.6**
VNA2 Neumayer--Watz 87.16 181 P **P** **11 30 04.1 -1.4**
baz=170,slow=5.3
VNA1 Neumayer--Stat 87.44 180 P **P** **11 30 05.5 -1.3**
NVAR Mina Array Bea 89.48 48 P **P** **11 30 16.6 -0.6**
comp=Z,0.6nm,0.8s,baz=219,slow=8.1,SNR=4.5
NVAR Mina Array Bea 89.48 48 P **P** **11 30 15.9 -1.3**
SONM Songino Array 90.57 322 P **P** **11 30 18.6 -3.4**
comp=Z,0.3nm,0.4s,baz=132,slow=6.4,SNR=1.9

IDC 18 11:38:50.8±12.0, 19.64S×175.91W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.8/5/21, mbtmp3.7/3, Error ellipse: s-maj=380.9km s-min=42.6km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.63**	**256**	P	P	11 47 21.6	+0.4
	0.6nm,0.8s,baz=89,slow=8.0,SNR=6.4						
WRA	**Warramunga Arr**	**46.67**	**261**	P	P	11 47 20.9	-0.7
	0.1nm,0.3s,baz=98,slow=6.6,SNR=9.3						
PETK	**Petropavlovsk-**	**75.97**	**344**	P	P	11 50 39.6	+0.2
	2.1nm,0.8s,baz=106,slow=8.4,SNR=5.2						

*IDC **18** 12:14:09.7±1.1,58.42S×26.63W,h162km±9km,mb4.6/16, mb1 4.6/18,mb1mx4.5/25,mbtmp5.1/18,MS3.8/11, Ms1 3.8/11,ms1mx3.7/18,Error ellipse: s-maj=11.6km s-min=10.9km az=47.0*
*NEIC **18** 12:14:09.7±1.1,58.44S±0.09×26.5W±0.2,h162km±2km, mb5.0/66,Error ellipse: s-maj=15.6km s-min=11.2km az=46.0*
*GCMT **18** 12:14:10.7±0.2,58.79S±0.01×26.16W±0.02,h145km±1km, MW5.2/109,Moment Tensor Solution. s66,c77; s109,c169; Duration: 1!0 Moment tensor: Scale 10^16 Nm; Mrr=0.80±.15; Mθθ=5.29±.18; Mφφ6.09±.17; Mrθ3.08±.12; Mrφ2.36±.16; Mθr-3.60±.12; Best double couple: M07.80000×10^16 NP1:φ=234.00000°,δ53.00000°, λ=-7.00000°. NP2:φ=328.00000°,δ85.00000°, λ=-142.00000°. Principal axes: T 7.7080, Plg21.0000°, Azm95.0000°; N 0.1890, Plg52.0000°, Azm335.0000°; P -7.8920, Plg30.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 12:14:10.4±0.3, 58.51S±0.05×26.49W±0.07, h172km, n228, σ1!05/252, mb5.0/43, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.98**	**303**		**Pn**	**12 15 48.1**	**-1.9**
VNA1	**Neumayer--Stat**	**14.38**	**155**	P	**Pn**	**12 17 24.6**	**-1.1**
VNA3	**Neumayer Olymp**	**14.55**	**158**	P	**Pn**	**12 17 25.7**	**-2.2**
VNA2	**Neumayer--Watz**	**14.78**	**155**	P	**Pn**	**12 17 28.6**	**-2.1**
	baz=313,slow=13						
SNAA	**Sanae**	**16.35**	**153**	P	**P**	**12 17 49.8**	**+0.1**
SNAA	**Sanae**	**16.35**	**153**	P	**Pn**	**12 17 49.9**	**0.0**
	4.8nm,0.3s,baz=308,slow=10,SNR=165						
SNAA				S	**S**	**12 20 43.3**	**-7.3**
	4.9nm,0.3s,baz=306,slow=21,SNR=8.5						
SNAA				ScP	**ScP**	**12 25 51.1**	**+1.9**
	0.2nm,0.3s,baz=4.5,slow=1.7,SNR=6.7						
SNAA	**Sanae**	**16.35**	**153**	P	**P**	**12 17 49.6**	**-0.1**
SNAA				IAmb	IAmb	12 17 52.1	
	comp=Z,45nm,0.7s						
PMSA	**Palmer Station**	**18.68**	**235**	P	**P**	**12 18 16.0**	**+1.0**
	comp=Z,3.0nm,0.3s,baz=87,slow=8.8,SNR=64						
PMSA				ScP	**ScP**	**12 25 55.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=201,slow=2.0,SNR=4.4						
PMSA	**Palmer Station**	**18.68**	**235**	P	**P**	**12 18 15.8**	**+0.9**
PMSA	**Palmer Station**	**18.68**	**235**	*eP*	**P**	**12 18 16.0**	**+1.0**
EFI	**East Falkland**	**19.18**	**277**	P	**P**	**12 18 20.8**	**+0.2**
EFI				IAmb	IAmb	12 18 22.4	
	comp=Z,107nm,1.1s						
BELA	**Belgrano 2**	**19.65**	**185**	P	**P**	**12 18 25.4**	**-0.1**
MG01	**Puerto William**	**22.59**	**261**	P	**P**	**12 18 56.3**	**+0.2**
USHA	**Ushuaia**	**23.06**	**261**	P	**P**	**12 19 00.7**	**+0.4**
	comp=Z,39nm,0.8s,baz=91,slow=9.1,SNR=14						
SYO	**Syowa Base**	**29.47**	**138**	*eP*	**P**	**12 19 56.2**	**-1.3**
SYO	**Syowa Base**	**29.47**	**138**	*ePP*	pP	12 20 30.2	-1.6
QSPA	**South Pole Qui**	**31.74**	**180**	P	**P**	**12 20 18.9**	**+1.1**
	comp=Z,118nm,0.5s,baz=204,slow=1.5,SNR=1679						
QSPA				PcP	**PcP**	**12 23 05.8**	**+1.2**
	comp=Z,10nm,0.7s,baz=10,slow=5.6,SNR=2.7						
QSPA				ScP	**ScP**	**12 26 32.7**	**+1.4**
	comp=Z,24nm,1.0s,baz=180,slow=3.2,SNR=15						
QSPA				LR	LR	12 32 01.3	
	comp=Z,134nm,18.5s,baz=193,slow=34						
QSPA	**South Pole Qui**	**31.74**	**180**	P	**P**	**12 20 18.6**	**+0.9**
PLTB	**Pedras Altas**	**32.45**	**314**	*eP*	**P**	**12 20 22.9**	**-1.3**
PLCA	**Paso Flores**	**32.87**	**283**	P	**P**	**12 20 27.4**	**-0.4**
	comp=Z,30nm,1.1s,baz=143,slow=8.0,SNR=20						
PLCA				LR	LR	12 31 58.2	
	comp=Z,168nm,22.0s,baz=138,slow=33						
PLCA	**Paso Flores**	**32.87**	**283**	P	**P**	**12 20 27.3**	**-0.4**
PLCA				IAmb	IAmb	12 20 29.0	
	comp=Z,76nm,1.4s						
PLCA	**Paso Flores**	**32.87**	**283**	*eP*	**P**	**12 20 27.6**	**-0.2**
CNLB	**Canela**	**33.67**	**319**	*eP*	**P**	**12 20 34.7**	**-0.1**
LC01	**Cunco**	**34.92**	**284**	P	**P**	**12 20 43.8**	**-1.6**
LC01				IAmb	IAmb	12 20 48.1	
	comp=Z,41nm,0.9s						
ITAB	**Concordia**	**36.02**	**319**	*eP*	**P**	**12 20 54.5**	**-0.3**
BI03	**Tigo**	**37.07**	**285**	P	**P**	**12 21 03.7**	**0.0**
BO02	**Sierra Bellavi**	**37.56**	**289**	P	**P**	**12 21 07.2**	**-0.7**
BO02				IAmb	IAmb	12 21 10.3	
	comp=Z,18nm,0.8s						
MAN01	**Angra dos Reis**	**37.75**	**333**	*eP*	**P**	**12 21 10.3**	**+0.8**
SPB	**Sao Paulo**	**37.95**	**328**	*eP*	**P**	**12 21 10.3**	**-0.8**
GO05	**Huala**	**37.96**	**288**	P	**P**	**12 21 10.6**	**-0.6**
MAW	**Mawson**	**37.96**	**141**	P	**P**	**12 21 11.9**	**+1.2**
	comp=Z,7.2nm,0.7s,baz=230,slow=7.2,SNR=33						
MAW				ScP	**ScP**	**12 26 54.6**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=207,slow=5.4,SNR=4.8						
MAW	**Mawson**	**37.96**	**141**	P	**P**	**12 21 11.8**	**+1.1**
PTGB	**Pitanga**	**38.32**	**321**	*eP*	**P**	**12 21 12.8**	**-1.6**
PTGB				*ePP*	**pP**	**12 21 50.2**	**+0.1**
VAO	**Valinhos**	**38.38**	**329**	*eP*	**P**	**12 21 14.9**	**0.0**
VAO				*ePP*	**pP**	**12 21 51.1**	**+0.5**
ASAL	**Salagasta**	**38.39**	**294**	*iP*	**P**	**12 21 14.7**	**-0.2**
MT05	**Renca**	**38.66**	**291**	P	**P**	**12 21 17.0**	**-0.1**
CPUP	**Villa Florida**	**38.74**	**313**	P	**P**	**12 21 16.0**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=167,slow=6.9,SNR=4.4						
CPUP				ScP	**ScP**	**12 26 56.4**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=176,slow=3.6,SNR=3.3						
CPUP	**Villa Florida**	**38.74**	**313**	P	**P**	**12 21 16.5**	**-1.2**
CPUP	**Villa Florida**	**38.74**	**313**	*eP*	**P**	**12 21 16.5**	**-1.2**
RTCV	**Cerro Valdivia**	**38.85**	**295**	*iP*	**P**	**12 21 18.1**	**-0.5**
AUSP	**Uspallata**	**38.96**	**293**	*iP*	**P**	**12 21 19.9**	**+0.1**
MT02	**Curacav**	**38.97**	**291**	P	**P**	**12 21 19.6**	**+0.1**
VA03	**San Esteban**	**39.08**	**292**	P	**P**	**12 21 21.1**	**+0.5**
APLL	**PUNTA DE LOS L**	**39.13**	**298**	*iP*	**P**	**12 21 20.6**	**-0.3**
ROC1	**El Roble**	**39.13**	**291**	P	**P**	**12 21 21.0**	**-0.3**
ACLC	**CERRO LA CRUZ**	**40.14**	**299**	*iP*	**P**	**12 21 29.6**	**0.0**
ACCO	**Cerro Coronel**	**40.16**	**295**	*iP*	**P**	**12 21 30.7**	**+0.9**
TRCB	**Terra Rica**	**40.29**	**321**	*eP*	**P**	**12 21 30.4**	**-0.3**
TRCB				*ePP*	**pP**	**12 22 06.3**	**-0.3**
RIB01	**Linhares ES**	**40.44**	**340**	*eP*	**P**	**12 21 32.5**	**+0.6**
CO02	**Combarbal**	**40.57**	**293**	P	**P**	**12 21 32.8**	**-0.2**
CO02				IAmb	IAmb	12 21 34.0	
	comp=Z,44nm,1.1s						
BB19B	**Bebedouro**	**40.66**	**327**	*eP*	**P**	**12 21 33.6**	**0.0**
BB19B				*ePP*	**pP**	**12 22 10.2**	**+0.5**
AROD	**Rodeo**	**40.70**	**295**	*iP*	**P**	**12 21 35.2**	**+0.9**
CO03	**El Pedregal**	**40.72**	**293**	P	**P**	**12 21 34.4**	**+0.2**
CO03				IAmb	IAmb	12 21 35.4	
	comp=Z,35nm,1.2s						
PCMB	**Pacaembu**	**40.96**	**324**	*eP*	**P**	**12 21 36.8**	**+0.7**
PCMB				*ePP*	**pP**	**12 22 12.1**	**0.0**
SUR	**Sutherland**	**40.99**	**71**	P	**P**	**12 21 37.7**	**+1.3**
	comp=Z,15nm,0.7s,baz=229,slow=5.6,SNR=4.8						
BSFB	**Barra de Sao F**	**41.00**	**339**	*eP*	**P**	**12 21 36.6**	**+0.3**
BSFB				*ePP*	**pP**	**12 22 13.5**	**+0.9**
CO01	**Juntas del Tor**	**41.15**	**295**	P	**P**	**12 21 38.6**	**+0.8**
CO01				IAmb	IAmb	12 21 40.6	
	comp=Z,32nm,1.0s						
SJMB	**Sao Joao De Ma**	**41.19**	**339**	*eP*	**P**	**12 21 37.7**	**-0.2**
GO04	**Tololo Observa**	**41.33**	**294**	P	**P**	**12 21 38.2**	**-1.1**
GO04				IAmb	IAmb	12 21 43.8	
	comp=Z,41nm,1.2s						
AC05	**El Transito**	**42.19**	**295**	P	**P**	**12 21 46.9**	**+0.7**
AC05				IAmb	IAmb	12 21 49.1	
	comp=Z,37nm,0.7s						
LCO	**Las Campanas**	**42.25**	**295**	P	**P**	**12 21 45.2**	**-1.5**
LCO				IAmb	IAmb	12 21 47.5	
	comp=Z,30nm,1.3s						
ITRB	**Iturama**	**42.48**	**326**	*eP*	**P**	**12 21 47.8**	**-0.6**
ITRB				*ePP*	**pP**	**12 22 24.3**	**-0.4**
VA04	**Juan Fernndez**	**42.53**	**282**	P	**P**	**12 21 48.3**	**-0.4**
GO03	**Copiap**	**43.22**	**296**	P	**P**	**12 21 54.3**	**-0.1**
GO03				IAmb	IAmb	12 21 55.3	
	comp=Z,28nm,1.2s						
AC02	**Maricunga**	**43.34**	**298**	P	**P**	**12 21 56.2**	**+0.3**
AQDB	**Aquidauana**	**43.48**	**318**	*eP*	**P**	**12 21 55.0**	**-1.4**
AQDB				*ePP*	**pP**	**12 22 32.2**	**-0.7**
IPMB	**Ipameri, GO**	**43.50**	**329**	*eP*	**P**	**12 21 56.8**	**+0.1**
IPMB				*ePP*	**pP**	**12 22 32.9**	**-0.3**
VNDA	**Vanda**	**44.13**	**183**	P	**P**	**12 22 02.5**	**+1.6**
	comp=Z,86nm,0.6s,baz=186,slow=7.2,SNR=891						
VNDA				ScP	**ScP**	**12 27 20.1**	**+2.2**
	comp=Z,4.2nm,1.0s,baz=200,slow=4.7,SNR=4.2						
VNDA	**Vanda**	**44.13**	**183**	P	**P**	**12 22 02.5**	**+1.6**
GO02	**Mina Guanaco**	**44.99**	**299**	P	**P**	**12 22 08.2**	**-0.5**
SHEL	**Horse Pasture**	**45.19**	**29**	P	**P**	**12 22 09.2**	**-0.8**
JANB	**Januaria**	**45.37**	**335**	*eP*	**P**	**12 22 10.9**	**-0.5**
JANB				*ePP*	**pP**	**12 22 47.5**	**-1.0**
BDFB	**Brasilia**	**45.69**	**330**	P	**P**	**12 22 14.5**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=142,slow=15,SNR=3.8						
BDFB				LR	LR	12 40 00.9	
	comp=Z,101nm,19.3s,baz=309,slow=34						
BOSA	**Boshof**	**46.27**	**73**	P	**P**	**12 22 19.0**	**+0.4**
	comp=Z,48nm,0.9s,baz=215,slow=7.0,SNR=63						
BOSA				ScP	**ScP**	**12 27 29.8**	**+2.2**
	comp=Z,7.5nm,1.0s,baz=151,slow=4.0,SNR=4.7						
BOSA				LR	LR	12 37 23.0	
	comp=Z,132nm,20.0s,baz=217,slow=30						
BOSA	**Boshof**	**46.27**	**73**	P	**P**	**12 22 18.1**	**-0.5**
BOSA				IAmb	IAmb	12 22 19.8	
	comp=Z,60nm,0.9s						
ARAG	**Araguaiana, MT**	**46.69**	**326**	*eP*	**P**	**12 22 21.6**	**-0.1**
ARAG				*ePP*	**pP**	**12 22 58.0**	**-0.6**
LVC	**Limon Verde**	**46.89**	**301**	*eP*	**P**	**12 22 29.9**	**+0.2**
SDBA	**SAO DESIDERIO**	**48.06**	**335**	*eP*	**P**	**12 22 32.2**	**-0.2**
SDBA				*ePP*	**pP**	**12 23 09.2**	**-0.5**
PEXB	**Peixe**	**49.15**	**331**	*eP*	**P**	**12 22 41.0**	**+0.3**
PTLB	**Pontes e Lacer**	**49.34**	**317**	*eP*	**P**	**12 22 40.7**	**-1.4**
LBTB	**Lobatse**	**49.41**	**70**	P	**P**	**12 22 43.0**	**+0.3**
	comp=Z,30nm,0.7s,baz=215,slow=8.4,SNR=9.9						
LBTB				ScP	**ScP**	**12 27 42.9**	**+1.9**
	comp=Z,7.2nm,1.2s,baz=323,slow=2.2,SNR=3.9						
LBTB	**Lobatse**	**49.41**	**70**	IAmb	IAmb	12 22 44.0	
	comp=Z,42nm,0.8s						
SNDB	**Serra Nova Dou**	**50.08**	**328**	*eP*	**P**	**12 22 47.6**	**0.0**
SNDB				*ePP*	**pP**	**12 23 24.8**	**-0.4**
MNMC	**Minye Minye**	**50.24**	**303**	P	**P**	**12 22 49.0**	**-0.1**
H10S2	**ASCENSION HYDR**	**50.26**	**15**	T	T	13 17 27.2	
	baz=33,slow=74,SNR=1.5						
H10S3	**ASCENSION HYDR**	**50.27**	**15**	T	T	13 17 27.1	
	baz=187,slow=74,SNR=23						
H10N1	**ASCENSION HYDR**	**51.38**	**15**	T	T	13 18 52.2	
H10N3	**ASCENSION HYDR**	**51.38**	**15**	T	T	13 18 51.6	
	baz=188,slow=74,SNR=3.4						
H10N2	**ASCENSION HYDR**	**51.40**	**15**	T	T	13 18 51.8	
	baz=266,slow=74,SNR=5.2						
CASY	**Casey**	**51.47**	**159**	P	**P**	**12 22 58.5**	**+1.1**
CASY				IAmb	IAmb	12 22 59.9	
	comp=Z,33nm,0.8s						
VILB	**Vilhena**	**52.03**	**317**	*eP*	**P**	**12 23 01.6**	**-0.6**
VILB				*ePP*	**pP**	**12 23 38.9**	**-1.0**
SMTB	**Santa Maria do**	**52.10**	**333**	*eP*	**P**	**12 23 03.5**	**+0.7**
SMTB				*ePP*	**pP**	**12 23 40.5**	**-0.2**
LPAZ	**La Paz**	**52.12**	**306**	P	**P**	**12 23 02.9**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=158,slow=7.0,SNR=9.8						
LPAZ	**La Paz**	**52.12**	**306**	P	**P**	**12 23 03.0**	**-0.6**
LPAZ	**La Paz**	**52.12**	**306**	*eP*	**P**	**12 23 02.9**	**-0.6**
LPAZ				*ePP*	**pP**	**12 23 40.8**	**-0.5**
CLDB	**Colider**	**52.47**	**323**	*eP*	**P**	**12 23 03.2**	**-2.2**
RCBR	**Riachuelo**	**53.05**	**348**	*eP*	**P**	**12 23 08.9**	**-0.8**
PRPB	**Paraupebas**	**55.23**	**331**	*eP*	**P**	**12 23 26.3**	**+0.8**
NPGB	**Novo Progresso**	**55.94**	**325**	*eP*	**P**	**12 23 29.6**	**-0.9**
SAML	**Samuel**	**56.81**	**315**	P	**P**	**12 23 35.1**	**-1.5**
SAML	**Samuel**	**56.81**	**315**	*eP*	**P**	**12 23 35.1**	**-1.5**
ROSB	**Rosario**	**57.15**	**339**	*eP*	**P**	**12 23 39.3**	**+0.3**
ETMB	**Extrema**	**57.17**	**311**	*eP*	**P**	**12 23 38.0**	**-1.2**
TMAB	**Tom-Au,PA,Br**	**58.49**	**334**	*eP*	**P**	**12 23 48.5**	**+0.2**
TMAB				*ePP*	**pP**	**12 24 27.6**	**+0.4**
ITTB	**Itaituba**	**58.59**	**325**	*eP*	**P**	**12 23 48.7**	**-0.3**
LSZ	**Lusaka**	**58.95**	**67**	P	**P**	**12 23 52.0**	**+0.3**
MALB	**Monte Alegre**	**60.56**	**328**	*eP*	**P**	**12 24 02.5**	**0.0**
MCPB	**Macapa, AP**	**61.39**	**331**	*eP*	**P**	**12 24 07.6**	**-0.5**
LIC	**Lamto**	**66.79**	**23**	*eP*	**P**	**12 24 43.5**	**+0.3**
	comp=Z,23nm,0.7s						
KIC	**Kosan Boka**	**66.99**	**24**	*eP*	**P**	**12 24 44.6**	**+0.2**
	comp=Z,25nm,1.0s						
TIC	**Toumodi**	**67.20**	**23**	*eP*	**P**	**12 24 45.8**	**0.0**
DBIC	**Dimbokro**	**67.26**	**23**	P	**P**	**12 24 46.5**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=165,slow=5.1,SNR=10						
DBIC				LR	LR	12 47 52.6	
	comp=Z,65nm,20.0s,baz=165,slow=30						
DBIC	**Dimbokro**	**67.26**	**23**	P	**P**	**12 24 46.2**	**+0.1**
DBIC				IAmb	IAmb	12 25 11.0	
	comp=Z,21nm,1.4s						
OTAV	**Otavalo**	**71.34**	**304**	P	**P**	**12 25 12.1**	**+0.2**
OTAV	**Otavalo**	**71.34**	**304**	*eP*	**P**	**12 25 11.8**	**0.0**
OTAV				*ePP*	**pP**	**12 25 51.8**	**-0.1**
TOSP	**Speyside**	**74.87**	**325**	P	**P**	**12 25 30.9**	**-0.9**
TOA0	**Torodi Ar. Sit**	**75.03**	**28**	P	**P**	**12 25 33.3**	**+0.6**
TOA0				IAmb	IAmb	12 25 34.4	
	comp=Z,18nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.03**	**28**	P	**P**	**12 25 33.4**	**+0.6**
	comp=Z,18nm,0.7s,baz=196,slow=6.1,SNR=78						
TORD				LR	LR	12 52 20.9	
	comp=Z,52nm,20.6s,baz=205,slow=31						
TORD	**Torodi Ar. Bea**	**75.03**	**28**	P	**P**	**12 25 33.1**	**+0.3**
KOWA	**Kowa**	**75.04**	**23**	P	**P**	**12 25 33.6**	**+0.7**
PYZ	**Puysegur Point**	**75.12**	**189**	P	**P**	**12 25 34.7**	**+1.6**
WHZ	**Wether Hill Ro**	**75.28**	**190**	P	**P**	**12 25 34.5**	**+0.5**
WHZ				IAmb	IAmb	12 25 35.8	
	comp=Z,44nm,0.9s						
KMBO	**Kilima Mbogo**	**75.59**	**68**	LR	LR	12 56 12.5	
	comp=Z,56nm,18.3s,baz=90,slow=33						
DCZ	**Deep Cove**	**75.78**	**190**	P	**P**	**12 25 37.2**	**+0.4**
DCZ				IAmb	IAmb	12 25 43.4	
	comp=Z,49nm,1.1s						
MLZ	**Mavora Lakes**	**75.78**	**191**	P	**P**	**12 25 37.5**	**+0.6**
MLZ				IAmb	IAmb	12 25 38.8	
	comp=Z,42nm,1.1s						
SDV	**Santo Domingo**	**76.02**	**315**	P	**P**	**12 25 37.8**	**-0.9**
SDV	**Santo Domingo**	**76.02**	**315**	*eP*	**P**	**12 25 38.3**	**-0.4**
WKZ	**Wanaka**	**76.23**	**191**	P	**P**	**12 25 39.7**	**+0.3**
WKZ				IAmb	IAmb	12 25 46.3	
	comp=Z,38nm,0.9s						
RPZ	**Rata Peaks**	**77.10**	**193**	P	**P**	**12 25 44.8**	**+0.5**
RPZ				IAmb	IAmb	12 25 46.3	
	comp=Z,53nm,1.0s						
OXZ	**Oxford**	**77.37**	**194**	P	**P**	**12 25 46.5**	**+0.8**
OXZ				IAmb	IAmb	12 25 51.6	
	comp=Z,53nm,1.4s						
FOZ	**Fox Glacier**	**77.42**	**192**	P	**P**	**12 25 47.1**	**+1.1**
FOZ				IAmb	IAmb	12 25 48.9	
	comp=Z,29nm,1.1s						
LTZ	**Lake Taylor**	**77.88**	**194**	P	**P**	**12 25 49.3**	**+0.7**
LTZ				IAmb	IAmb	12 25 51.8	
	comp=Z,66nm,1.1s						
THZ	**Tophouse**	**78.80**	**195**	P	**P**	**12 25 54.1**	**+0.4**
THZ				IAmb	IAmb	12 26 00.2	
	comp=Z,32nm,0.7s						
TAU	**Tasmania Unive**	**78.82**	**175**	P	**P**	**12 25 54.2**	**+0.5**
TUWZ	**Tuamarina**	**78.98**	**196**	P	**P**	**12 25 55.4**	**+0.8**
BKZ	**Black Stump Fm**	**80.81**	**198**	P	**P**	**12 26 05.8**	**+1.2**
BKZ				IAmb	IAmb	12 26 06.8	
	comp=Z,50nm,1.4s						
CUPR	**Culebra, Puert**	**82.94**	**323**	P	**P**	**12 26 16.7**	**+1.0**
CUPR				IAmb	IAmb	12 26 30.4	
	comp=Z,29nm,1.2s						
NWAO	**Narrogin (SRO)**	**84.00**	**150**	P	**P**	**12 26 21.4**	**+0.2**
	comp=Z,4.0nm,0.5s,baz=273,slow=15,SNR=1.2						
NWAO	**Narrogin (SRO)**	**84.00**	**150**	P	**P**	**12 26 21.4**	**+0.2**
NWAO				IAmb	IAmb	12 26 37.9	
	comp=Z,37nm,1.4s						
TOO	**Toolangi**	**84.05**	**174**	P	**P**	**12 26 21.7**	**+0.4**
OUZ	**Omahuta**	**85.12**	**196**	P	**P**	**12 26 27.4**	**+0.7**
CAN	**Canberra**	**86.45**	**176**	P	**P**	**12 26 34.5**	**+1.1**
CAN				IAmb	IAmb	12 26 34.9	
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**87.33**	**148**	P	**P**	**12 26 38.2**	**+0.6**
BBOO	**Buckleboo**	**87.86**	**165**	P	**P**	**12 26 40.2**	**+0.1**
BBOO				IAmb	IAmb	12 26 40.9	
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**88.54**	**158**	P	**P**	**12 26 44.7**	**+1.4**
STKA	**Stephens Creek**	**89.41**	**170**	P	**P**	**12 26 48.1**	**+0.7**
	comp=Z,16nm,0.8s,baz=156,slow=5.7,SNR=39						
STKA				PP	**PP**	**12 30 17.8**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=168,slow=12,SNR=3.4						
STKA				LR	LR	13 03 56.5	
	comp=Z,57nm,19.3s,baz=205,slow=33						
STKA	**Stephens Creek**	**89.41**	**170**	P	**P**	**12 26 48.5**	**+1.1**
PPT	**Papeete**	**91.03**	**233**	LR	LR	12 59 10.9	
	comp=Z,69nm,21.1s,baz=180,slow=30						
ASAR	**Alice Springs**	**96.53**	**162**	P	**P**	**12 27 20.3**	**0.0**
	comp=Z,12nm,0.7s,baz=188,slow=4.0,SNR=95						
ASAR				PP	**PP**	**12 31 10.8**	**-4.9**
	comp=Z,1.3nm,0.7s,baz=187,slow=5.5,SNR=5.8						
ASAR				PKKP	**PKKPbc**	**12 44 04.8**	**+4.3**
	comp=Z,0.2nm,0.6s,baz=41,slow=2.6,SNR=4.1						
ASAR				LR	LR	13 07 28.5	
	comp=Z,56nm,19.9s,baz=194,slow=33						
ASAR	**Alice Springs**	**96.53**	**162**	P	**P**	**12 27 20.4**	**+0.2**
AS31	**Alice Springs**	**96.53**	**162**	P	**P**	**12 27 20.4**	**+0.2**
AS31				IAmb	IAmb	12 27 21.4	
	comp=Z,3.9nm,0.8s						
ESDC	**Sonseca Array**	**99.61**	**17**	LR	LR	13 08 51.4	
	comp=Z,40nm,18.5s,baz=285,slow=33						
WRA	**Warramunga Arr**	**100.25**	**162**	P	**Pdif**	**12 27 36.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=196,slow=4.1,SNR=12						
WRA				PP	**PP**	**12 31 44.0**	**0.0**
	comp=Z,2.7nm,1.2s,baz=190,slow=6.3,SNR=5.0						
GERES	**GERESS Array B**	**111.97**	**27**	PP	**PP**	**12 33 06.6**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=181,slow=6.7,SNR=4.3						
PDAR	**Pinedale Array**	**121.95**	**301**	PKP	**PKPdf**	**12 32 42.0**	**-1.5**
	comp=Z,12nm,0.3s,baz=124,slow=6.3,SNR=5.0						
NVAR	**Mina Array Bea**	**122.68**	**291**	PKP	**PKPdf**	**12 32 45.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=158,slow=4.9,SNR=3.7						
NVAR	**Mina Array Bea**	**122.68**	**291**		**PKiKP**	**12 32 45.5**	**+0.3**
NB2	**NORSAR Subarra**	**122.78**	**21**	PKPdf	**PKPdf**	**12 32 44.2**	**0.0**
	comp=Z,3.3nm,1.0s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**122.78**	**21**	PKP	**PKiKP**	**12 32 44.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=195,slow=1.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**123.83**	**111**	PKP	**PKiKP**	**12 32 48.4**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=233,slow=3.3,SNR=12						
CMAR	**Chiang Mai Arr**	**123.83**	**111**		**PKPdf**	**12 32 46.2**	**-1.3**
FINES	**FINESS Array B**	**126.38**	**28**	PKP	**PKPdf**	**12 32 50.4**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=188,slow=1.0,SNR=12						
ABKAR	**Akbulak array**	**128.43**	**57**	PKPdf	**PKiKP**	**12 32 55.7**	**-0.3**
ABKAR	**Akbulak array**	**128.43**	**57**	PKPdf	**PKPdf**	**12 32 55.6**	**+0.2**
AKTO	**Aktyubinsk**	**128.48**	**54**	PKP	**PKiKP**	**12 32 56.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=143,slow=2.5						
AKTO				SKPbc	SKPbc	12 35 58.5	
	comp=Z,1.9nm,0.9s,baz=206,slow=6.9,SNR=4.5						
KIRV	**Kirov**	**131.15**	**42**	SKPbc	**SKPab**	**12 36 08.9**	**-0.1**
	comp=Z,12nm,0.5s,baz=261,slow=8.4,SNR=5.8						
**AR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.77**	**128**	Pn	Pn	12 18 51.5	-1.3
	0.1nm,0.3s,baz=320,slow=13,SNR=11						
FITZ				Sn	Sn	12 21 10.5	-16
	0.2nm,0.3s,baz=183,slow=18,SNR=8.3						
WRA	**Warramunga Arr**	**21.82**	**120**	P	P	12 20 30.4	+0.2
	0.3nm,0.4s,baz=295,slow=12,SNR=10						
ASAR	**Alice Springs**	**23.28**	**129**	P	P	12 20 45.5	-0.1
	0.4nm,0.4s,baz=306,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**63.10**	**336**	P	P	12 26 05.7	+0.2
	0.3nm,0.5s,baz=148,slow=8.4,SNR=3.2						

IDC ***18*** *12:34:56.6±2.2,42.27N×45.20E,h0km,mb3.4/6, mb1 3.6/10,mb1mx3.4/48,mbtmp3.5/10,ML3.7/4,MS2.4/1, Ms1 2.3/1,ms1mx2.0/38,Error ellipse: s-maj=39.1km s-min=9.4km az=17.0*
NORS ***18*** *12:34:58.3±0.0,42.49N×45.48E,h4km,MPVA4.9*
DDA ***18*** *12:34:58.2,42.82N×45.68E,h6km±5km,MW3.8*
TIF ***18*** *12:34:58.9,42.63N×45.49E,h14km±1km*
MOS ***18*** *12:34:59.5±0.9,42.63N×45.48E,h5km,mb4.0/2,Error ellipse: s-maj=4.6km s-min=4.0km az=36.3*
DRS ***18*** *12:35:00.2±0.0,42.52N×45.55E,h14km*
ISC 18 12:34:59.4±1.0,42.61N±0.02×45.48E±0.01,h11km±7km, n117,σ1§77/207,mb3.5/8,8C-6D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.55**	**85**	*e*Pg	**Pg**	**12 35 10.0**	**-0.1**
	829nm,0.5s						
BTLR				*e*Sg	**Sb**	**12 35 18.4**	**-0.7**
	8μm,0.5s						
BTLR	**Botlikh**	**0.55**	**85**	*e*PG	**Pg**	**12 35 10.0**	**-0.1**
BTLR				*e*S	**Sb**	**12 35 18.3**	**-0.7**
BTLR				pmax	pmax		
	comp=Z,829nm,0.5s						
DVE	**Vedeno**	**0.58**	**54**	*e*Pg	**Pb**	**12 35 11.1**	**-0.6**
DVE				*e*Sg	**Sb**	**12 35 19.8**	**-0.3**
DVE	**Vedeno**	**0.58**	**54**	*e*PG	**Pb**	**12 35 11.1**	**-0.6**
DVE				*e*S	**Sb**	**12 35 19.8**	**-0.3**
GROC	**Groznyy**	**0.63**	**21**	*i* Pg	**Pn**	**12 35 13.4**	**-1.0**
GROC				*e*Sg	**Sn**	**12 35 24.1**	**-0.4**
GROC	**Groznyy**	**0.63**	**21**	⇑*i*PG	**Pn**	**12 35 13.4**	**-1.0**
GROC				*e*S	**Sn**	**12 35 24.1**	**-0.4**
KMGR	**Komgaron**	**0.63**	**314**	*i* Pg	**Pb**	**12 35 12.9**	**+0.3**
KMGR				*e*Sg	**Sn**	**12 35 23.6**	**-1.0**
KMGR	**Komgaron**	**0.63**	**314**	⇑*i*PG	**Pb**	**12 35 12.9**	**+0.3**
KMGR				*e*S	**Sn**	**12 35 23.6**	**-1.0**
VLKR	**Vladikavkaz**	**0.73**	**306**	*i* Pg	**Pb**	**12 35 14.7**	**+0.4**
VLKR				*e*Sg	**Sb**	**12 35 25.6**	**+1.2**
VLKR	**Vladikavkaz**	**0.73**	**306**	⇑*i*PG	**Pb**	**12 35 14.7**	**+0.4**
VLKR				*e*S	**Sb**	**12 35 25.6**	**+1.2**
GUDG	**Gudauri**	**0.76**	**259**	*e*PG	**Pg**	**12 35 13.5**	**-0.6**
GUDG				*e*S	**Sg**	**12 35 23.1**	**-1.0**
GUDG	**Gudauri**	**0.76**	**259**	P	**Pg**	**12 35 12.6**	**-1.5**
GUDG				S	**Sg**	**12 35 23.2**	**-0.8**
LACR	**Lac**	**0.90**	**284**	*i* Pg	**Pg**	**12 35 15.7**	**-1.1**
LACR				*e*Sg	**Sg**	**12 35 27.6**	**-1.0**
LACR	**Lac**	**0.90**	**284**	*i* PG	**Pg**	**12 35 15.7**	**-1.1**
LACR				pmax	pmax		
	comp=Z,2μm,0.3s						
XNZR	**Khunzakh**	**0.91**	**94**	*e*Pg	**Pb**	**12 35 16.7**	**-0.6**
XNZR				*e*Sg	**Sb**	**12 35 28.9**	**-0.5**
XNZR	**Khunzakh**	**0.91**	**94**	*e*PG	**Pb**	**12 35 16.7**	**-0.6**
XNZR				*e*S	**Sb**	**12 35 28.9**	**-0.5**
DLMR	**Dylym**	**0.96**	**61**	*i* Pg	**Pb**	**12 35 18.0**	**-0.1**
	comp=Z,535nm,0.2s						
DLMR				*e*Sg	**Sn**	**12 35 32.0**	**-0.6**
DLMR	**Dylym**	**0.96**	**61**	⇓*i*PG	**Pb**	**12 35 18.0**	**-0.1**
DLMR				*e*S	**Sn**	**12 35 32.0**	**-0.6**
DLMR				pmax	pmax		
	comp=Z,535nm,0.2s						
UNCR	**Uncukul**	**0.97**	**84**	*i* Pg	**Pb**	**12 35 18.0**	**-0.4**
	comp=Z,1μm,0.2s						
UNCR				*e*Sg	**Sn**	**12 35 32.5**	**-0.5**
	comp=Z,2μm,0.3s						
UNCR	**Uncukul**	**0.97**	**84**	*i* PG	**Pb**	**12 35 18.0**	**-0.4**
UNCR				*e*S	**Sn**	**12 35 32.5**	**-0.5**
UNCR				pmax	pmax		
	comp=Z,1μm,0.2s						
SEAG	**Tbilisi Sea**	**0.99**	**211**	PG	**Pb**	**12 35 18.6**	**0.0**
SEAG	**Tbilisi Sea**	**0.99**	**211**	P	**Pb**	**12 35 18.6**	**0.0**
BTKR	**Batakoyurt**	**1.02**	**318**	*e*PG	**Pn**	**12 35 20.8**	**+1.0**
BTKR				*e*S	**Sn**	**12 35 38.0**	**+3.7**
BTNK	**Botanikuri**	**1.06**	**209**	PG	**Pg**	**12 35 19.6**	**-0.2**
BTNK				S	**Sn**	**12 35 35.4**	**+0.3**
BTNK	**Botanikuri**	**1.06**	**209**	P	**Pg**	**12 35 19.6**	**-0.2**
BTNK				S	**Sn**	**12 35 35.4**	**+0.3**
KRNR	**Karanay**	**1.07**	**78**	*i* Pg	**Pb**	**12 35 20.0**	**-0.1**
	comp=Z,329nm,0.1s						
KRNR				*i* Sg	**Sn**	**12 35 35.0**	**-0.5**
	comp=Z,1μm,0.2s						
KRNR	**Karanay**	**1.07**	**78**	*i* PG	**Pb**	**12 35 20.0**	**-0.1**
KRNR				*i* S	**Sn**	**12 35 35.0**	**-0.5**
KRNR				pmax	pmax		
	comp=Z,329nm,0.1s						
DBC	**Dubki**	**1.07**	**67**	*e*Pg	**Pn**	**12 35 20.4**	**0.0**
	comp=Z,206nm,0.3s						
DBC				*e*Sg	**Sn**	**12 35 36.3**	**+0.8**
	comp=Z,2μm,0.3s						
DBC	**Dubki**	**1.07**	**67**	*e*PG	**Pn**	**12 35 20.5**	**0.0**
DBC				*e*S	**Sn**	**12 35 37.0**	**+1.6**
ARKR	**Arakani**	**1.12**	**90**	*i* Pg	**Pg**	**12 35 20.0**	**-0.9**
	comp=Z,815nm,0.1s						
ARKR				*e*Sg	**Sb**	**12 35 35.0**	**-0.4**
	comp=Z,3μm,0.2s						
ARKR	**Arakani**	**1.12**	**90**	⇓*i*PG	**Pg**	**12 35 20.0**	**-0.9**
ARKR				*e*S	**Sb**	**12 35 35.0**	**-0.4**
ARKR				pmax	pmax		
	comp=Z,815nm,0.1s						
GNBR	**Gunib**	**1.12**	**101**	*e*Pg	**Pg**	**12 35 20.3**	**-0.6**
	comp=Z,1μm,0.5s						
GNBR				*e*Sg	**Sb**	**12 35 35.3**	**-0.1**
	comp=Z,5μm,0.5s						
GNBR	**Gunib**	**1.12**	**101**	⇑*i*PG	**Pg**	**12 35 20.3**	**-0.6**
GNBR				*e*		12 35 35.2	
GNBR				pmax	pmax		
	comp=Z,1μm,0.5s						
GNBR				smax	smax		
	comp=N,4μm,0.5s						
KORR	**Kora**	**1.14**	**295**	*e*Pg	**Pn**	**12 35 22.0**	**+0.5**
KORR				*e*Sg	**Sn**	**12 35 40.2**	**+3.0**
KORR	**Kora**	**1.14**	**295**	*e*PG	**Pn**	**12 35 22.0**	**+0.5**
KORR				*e*S	**Sn**	**12 35 40.2**	**+3.0**
DGRG	**David-gareji**	**1.17**	**184**	⇓*i*PG	**Pn**	**12 35 22.6**	**+0.8**
DGRG				*e*S	**Sg**	**12 35 36.4**	**-0.6**
ZEI	**Tsey**	**1.18**	**279**	*i* Pg	**Pg**	**12 35 20.6**	**-1.5**
ZEI				*e*Sg	**Sn**	**12 35 39.3**	**+1.0**
ZEI	**Tsey**	**1.18**	**279**	⇑*i*PG	**Pg**	**12 35 20.6**	**-1.5**
ZEI				*e*S	**Sn**	**12 35 39.3**	**+1.0**
BUJR	**Buynaksk**	**1.22**	**79**	*e*Pg	**Pn**	**12 35 23.8**	**+1.4**
	comp=N,463nm,0.6s						
BUJR				*e*Sg	**Sn**	**12 35 41.1**	**+2.1**
	comp=N,5μm,0.4s						
BUJR	**Buynaksk**	**1.22**	**79**	*e*PG	**Pn**	**12 35 23.8**	**+1.4**
BUJR				*e*S	**Sn**	**12 35 41.0**	**+2.1**
BUJR				pmax	pmax		
	comp=Z,463nm,0.6s						
TRKR	**Terskaya**	**1.24**	**334**	*e*Pg	**Pn**	**12 35 24.2**	**+1.5**
TRKR				*e*Sg	**Sn**	**12 35 43.1**	**+3.7**
TRKR	**Terskaya**	**1.24**	**334**	*e*PG	**Pn**	**12 35 24.2**	**+1.5**
TRKR				*e*S	**Sn**	**12 35 43.1**	**+3.7**
DDFL	**Dedoflistskaro**	**1.26**	**158**	PG	**Pg**	**12 35 25.5**	**+1.9**
DDFL				S	**Sn**	**12 35 46.0**	**+5.9**
DDFL	**Dedoflistskaro**	**1.26**	**158**	P	**Pg**	**12 35 25.5**	**+1.9**
DDFL				S	**Sn**	**12 35 46.0**	**+5.9**
STDR	**Stavd-Durt**	**1.29**	**306**	*e*Pg	**Pg**	**12 35 25.0**	**+0.9**
STDR				*e*Sg	**Sn**	**12 35 45.5**	**+4.8**
STDR	**Stavd-Durt**	**1.29**	**306**	*e*PG	**Pg**	**12 35 25.0**	**+0.9**
STDR				*e*S	**Sn**	**12 35 45.5**	**+4.8**
KMKR	**Kumukh**	**1.29**	**111**	*i* Pg	**Pb**	**12 35 24.0**	**+0.1**
	comp=Z,822nm,0.2s						
KMKR				*e*Sg	**Sn**	**12 35 41.0**	**0.0**
	comp=Z,2μm,0.3s						
KMKR	**Kumukh**	**1.29**	**111**	⇓*i*PG	**Pb**	**12 35 24.0**	**+0.1**
KMKR				*e*S	**Sn**	**12 35 41.0**	**0.0**
KMKR				pmax	pmax		
	comp=Z,822nm,0.2s						
LSNR	**Lesken**	**1.39**	**299**	*e*Pg	**Pg**	**12 35 26.7**	**+0.6**
LSNR				*e*Sg	**Sn**	**12 35 46.6**	**+3.4**
LSNR	**Lesken**	**1.39**	**299**	*e*PG	**Pg**	**12 35 26.7**	**+0.6**
LSNR				*e*S	**Sn**	**12 35 46.6**	**+3.4**
DIGR	**Digorskoe uzhe**	**1.43**	**282**	*e*Pg	**Pn**	**12 35 25.2**	**-0.3**
DIGR				*e*Sg	**Sg**	**12 35 45.2**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.43**	**282**	*i* PG	**Pn**	**12 35 25.2**	**-0.3**
DIGR				pmax	pmax		
	comp=Z,384nm,0.3s						
PRTR	**Priterechnaya**	**1.44**	**323**	*e*Pg	**Pg**	**12 35 27.3**	**+0.3**
PRTR				*e*Sg	**Sg**	**12 35 49.2**	**+3.6**
PRTR	**Priterechnaya**	**1.44**	**323**	*e*PG	**Pg**	**12 35 27.3**	**+0.3**
PRTR				*e*S	**Sg**	**12 35 49.2**	**+3.6**
TRLG	**Trialeti**	**1.49**	**224**	PG	**Pn**	**12 35 26.6**	**+0.3**
TRLG				S	**Sg**	**12 35 47.4**	**+0.1**
TRLG	**Trialeti**	**1.49**	**224**	P	**Pn**	**12 35 26.6**	**+0.3**
TRLG				S	**Sg**	**12 35 47.4**	**+0.1**
ONI	**Oni**	**1.50**	**270**	PG	**Pb**	**12 35 27.0**	**-0.3**
ONI				S	**Sg**	**12 35 47.3**	**-0.4**
ONI	**Oni**	**1.50**	**270**	P	**Pb**	**12 35 27.0**	**-0.3**
ONI				S	**Sg**	**12 35 47.3**	**-0.4**
MAK	**Makhachkala**	**1.53**	**76**	*e*Pg	**Pg**	**12 35 30.1**	**+1.3**
MAK				*e*Sg	**Sg**	**12 35 52.5**	**+3.9**
MAK	**Makhachkala**	**1.53**	**76**	*e*PG	**Pg**	**12 35 29.7**	**+0.9**
MAK				*e*		12 35 52.0	
MAK				pmax	pmax		
	comp=Z,370nm,0.3s						
MAK				smax	smax		
	comp=N,4μm,0.5s						
MAK				smax	smax		
	comp=N,5μm,0.4s						
DMNI	**Dmanisi**	**1.61**	**217**	PG	**Pn**	**12 35 28.1**	**+0.2**
DMNI				S	**Sb**	**12 35 49.8**	**+0.2**
DMNI	**Dmanisi**	**1.61**	**217**	P	**Pn**	**12 35 28.1**	**+0.2**
DMNI				S	**Sb**	**12 35 49.8**	**+0.2**
SGKR	**Sergokala**	**1.61**	**95**	*e*Pg	**Pg**	**12 35 29.5**	**-0.9**
	comp=N,653nm,0.2s						
SGKR				*e*Sg	**Sg**	**12 35 51.0**	**-0.4**
	comp=N,2μm,0.3s						
SGKR	**Sergokala**	**1.61**	**95**	*e*PG	**Pg**	**12 35 29.5**	**-0.9**
SGKR				*e*S	**Sg**	**12 35 51.0**	**-0.4**
SGKR				pmax	pmax		
	comp=Z,653nm,0.2s						
URKR	**Urkarakh**	**1.66**	**105**	*e*Pg	**Pg**	**12 35 30.5**	**-0.6**
	comp=Z,441nm,0.3s						
URKR				*e*Sg	**Sg**	**12 35 52.7**	**0.0**
	comp=Z,1μm,0.8s						
URKR	**Urkarakh**	**1.66**	**105**	⇓*i*PN	**Pg**	**12 35 30.3**	**-0.9**
URKR				*e*		12 35 54.2	
URKR				pmax	pmax		
	comp=Z,441nm,0.5s						
URKR				smax	smax		
	comp=N,1μm,0.8s						
TKB	**Tkibuli**	**1.86**	**263**	PN	**Pb**	**12 35 33.3**	**-0.2**
TKB				S	**Sg**	**12 35 57.9**	**-1.3**
TKB	**Tkibuli**	**1.86**	**263**	P	**Pb**	**12 35 33.3**	**-0.2**
TKB				S	**Sg**	**12 35 57.9**	**-1.3**
SEKA	**Sheki**	**1.90**	**137**	PN	**Pb**	**12 35 34.1**	**-0.1**
BGD	**Bogdanovka**	**1.95**	**227**	PN	**Pb**	**12 35 34.4**	**-0.7**
BGD	**Bogdanovka**	**1.95**	**227**	P	**Pb**	**12 35 34.4**	**-0.7**
BGD				S	**Sg**	**12 36 00.9**	**-1.2**
AKT	**Akhty**	**2.02**	**123**	*e*Pg	**Pb**	**12 35 35.6**	**-0.7**
AKT				*e*Sg	**Sg**	**12 36 05.1**	**+0.7**
AKT	**Akhty**	**2.02**	**123**	⇓*i*PN	**Pb**	**12 35 35.6**	**-0.7**
AKT				*e*S	**Sg**	**12 36 03.0**	**-1.4**
GANJ	**Ganja**	**2.06**	**162**	PN	**Pb**	**12 35 35.6**	**-1.4**
DRN	**Derbent**	**2.19**	**105**	*e*Pg	**Pg**	**12 35 40.5**	**-0.9**
DRN				*e*Sg	**Sg**	**12 36 11.3**	**+1.5**
DRN	**Derbent**	**2.19**	**105**	*e*PN	**Pb**	**12 35 39.1**	**0.0**
DRN				*e*S	**Sg**	**12 36 09.6**	**-0.2**
KBZ	**Khabaz**	**2.19**	**301**	Pn	**Pb**	**12 35 37.3**	**-1.9**
	comp=N,18nm,0.3s,baz=104,slow=5.3,SNR=113						
KBZ				Pg	**Pg**	**12 35 40.0**	**-1.5**
	comp=N,27nm,0.3s,baz=149,slow=8.9,SNR=57						
KBZ				Lg	Lg	12 36 08.1	
	comp=N,51nm,0.3s,baz=274,slow=23,SNR=14						
KBZ				LR	LR	12 36 46.0	
	comp=N,90nm,19.5s,baz=126,slow=49						
KBZ	**Khabaz**	**2.19**	**301**	*e*PN	**Pb**	**12 35 38.2**	**-1.0**
KBZ				*e*S	**Sg**	**12 36 07.7**	**-2.3**
MNGR	**Mingechevir, A**	**2.20**	**146**	PN	**Pn**	**12 35 37.5**	**+1.6**
EPOS	**Posof**	**2.33**	**243**	*i* P	**Pb**	**12 35 40.3**	**-1.3**
EPOS				*i* S	**Sb**	**12 36 10.8**	**+0.3**
SHA1	**Shidzhatmaz**	**2.35**	**299**	*e*Pn	**Pb**	**12 35 41.6**	**-0.3**
SHA1				*e*Sn	**Sb**	**12 36 12.3**	**+1.1**
SHA1	**Shidzhatmaz**	**2.35**	**299**	*e*PN	**Pb**	**12 35 41.7**	**-0.3**
SHA1				*e*S	**Sb**	**12 36 12.3**	**+1.1**
EAK	**Akyaka**	**2.38**	**217**	*i* P	**Pb**	**12 35 41.5**	**-1.0**
EAK				*i* S	**Sb**	**12 36 12.0**	**0.0**
BEYR	**Belyy Ugol+**	**2.40**	**307**	*e*PN	**Pn**	**12 35 37.6**	**-1.1**
BEYR				*e*S	**Sn**	**12 36 08.6**	**+0.5**
KVAR	**Kislovodsk Arr**	**2.44**	**304**	Pn	**Pn**	**12 35 40.3**	**+1.0**
	baz=288,slow=22,SNR=9.6						
KVAR				Pg	**Pg**	**12 35 45.4**	**-0.7**
	baz=287,slow=23,SNR=19						
KVAR				Lg	Lg	12 36 16.0	
	baz=354,slow=18,SNR=12						
KIV	**Kislovodsk**	**2.44**	**304**	*i* PN	**Pn**	**12 35 40.5**	**+1.1**
KARS	**Kars**	**2.68**	**223**	PN	**Pb**	**12 35 48.6**	**+1.0**
DIGO	**Kars**	**2.71**	**216**	*i* P	**Pn**	**12 35 45.6**	**+2.4**
DIGO				*i* S	**Sn**	**12 36 17.8**	**+1.7**
ALER	**Alexandrovskoy**	**2.84**	**320**	*e*PN	**Pn**	**12 35 46.5**	**+1.7**
ALER				*e*S	**Sn**	**12 36 19.7**	**+0.6**
BATM	**Batumi**	**3.00**	**252**	PN	**Pb**	**12 35 50.4**	**-2.4**
BATM				S	**Sb**	**12 36 30.9**	**+1.5**
BATM	**Batumi**	**3.00**	**252**	P	**Pb**	**12 35 50.4**	**-2.4**
BATM				S	**Sb**	**12 36 30.9**	**+1.5**
ARTV	**Artvin**	**3.01**	**243**	*i* P	**Pn**	**12 35 48.5**	**+1.2**
ARTV				*i* S	**Sb**	**12 36 30.1**	**-0.1**
GOF	**Gofitskoye**	**3.01**	**325**	*e*PN	**Pn**	**12 35 48.7**	**+1.6**
GOF				*e*S	**Sn**	**12 36 24.9**	**+1.6**
DAGI	**Agillar**	**3.08**	**241**	*i* P	**Pb**	**12 35 51.2**	**-3.1**
DAGI				*i* S	**Sb**	**12 36 30.3**	**-1.6**
DBOC	**Borcka**	**3.12**	**247**	*i* P	**Pn**	**12 35 50.9**	**+2.3**
DBOC				*i* S	**Sb**	**12 36 30.0**	**-2.9**
ARXR	**Arkhyz**	**3.23**	**289**	*e*PN	**Pg**	**12 35 59.9**	**-1.3**
ARXR				*e*S	**Sn**	**12 36 26.9**	**-1.8**
NVNR	**Nevinnomyssk**	**3.25**	**309**	*e*PN	**Pb**	**12 35 58.3**	**+1.2**
NVNR				*e*S	**Sb**	**12 36 33.8**	**-2.8**
DBAD	**Bademkaya**	**3.25**	**242**	*i* P	**Pb**	**12 35 55.8**	**-1.4**
DDEM	**Demirkent**	**3.28**	**240**	*i* P	**Pn**	**12 35 49.5**	**-1.4**
NAX	**Nakhchivan**	**3.44**	**180**	PN	**Pn**	**12 35 55.1**	**+2.1**
GUZR	**Guzeripl'**	**4.15**	**291**	*e*PN	**Pn**	**12 36 07.0**	**+4.2**
GUZR				*e*S	**Sn**	**12 36 51.9**	**+0.5**
BAYB	**BAYBURT**	**4.58**	**241**	*i* P	**Pb**	**12 36 14.4**	**-1.5**
BAYB				*i* S	**Sb**	**12 37 13.5**	**-1.7**
ERBR	**Yeremizino-Bor**	**4.75**	**312**	*e*PN	**Pn**	**12 36 09.7**	**-1.3**
ERBR				*e*S	**Sn**	**12 37 06.2**	**+0.2**
AKTO	**Aktyubinsk**	**11.64**	**43**	Pn	**Pn**	**12 37 45.6**	**+0.2**
	comp=N,0.7nm,0.3s,baz=223,slow=13,SNR=5.4						
AKTO				Sn	**Sn**	**12 39 49.2**	**-6.0**
	comp=N,0.6nm,0.3s,baz=52,slow=18,SNR=4.1						
AKTO	**Aktyubinsk**	**11.64**	**43**	⇑Pn	**Pn**	**12 37 46.4**	**+1.0**
	comp=N,3.7nm,0.6s						
AKTO				⇑Sn	**Sn**	**12 39 49.8**	**-5.5**
	comp=N,4.4nm,0.6s						
AB31	**Akbulak array**	**12.05**	**52**	Pn	**Pn**	**12 37 51.4**	**+0.3**
	comp=N,0.5nm,0.3s,baz=243,slow=12,SNR=22						
AB31				⇑Sn	**Sn**	**12 39 57.8**	**-7.6**
	comp=N,3.9nm,0.7s,baz=242,slow=25,SNR=4.1						
BRVK	**Borovoye**	**19.55**	**49**	*i* P	**Pn**	**12 39 28.4**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**19.60**	**49**	P	**Pn**	**12 39 30.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=151,slow=43,SNR=1.9						
AAK	**Ala-Archa**	**21.31**	**80**	*i* P	**P**	**12 39 47.9**	**+1.6**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FINES	**FINESS Array B**	**22.16**	**335**	P	**P**	**12 39 55.3**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=198,slow=12,SNR=2.0						
GERES	**GERESS Array B**	**22.93**	**297**	P	**P**	**12 40 00.7**	**-2.8**
	comp=Z,0.2nm,0.5s,baz=118,slow=10,SNR=1.7						
KHC	**Kasperske Hory**	**23.03**	**297**	*i* P	**P**	**12 40 02.2**	**-2.3**
KHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURBB	**Kurchatov Arra**	**23.91**	**59**	P	**P**	**12 40 15.6**	**+2.5**
	comp=Z,0.5nm,0.2s,baz=272,slow=10,SNR=8.2						
KURK	**Kurchatov**	**23.98**	**59**	P	**P**	**12 40 15.6**	**+1.8**
MKAR	**Makanchi Array**	**26.33**	**68**	P	**P**	**12 40 37.7**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=285,slow=5.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**28.16**	**53**	P	**P**	**12 40 55.5**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=261,slow=5.5,SNR=1.5						
ARCES	**ARCESS Array B**	**28.90**	**346**	P	**P**	**12 41 00.8**	**+2.8**
	comp=Z,3.3nm,1.0s,baz=25,slow=4.0,SNR=2.6						

IDC 18 12:42:20.1±1.9,2.13N×126.63E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/37,mbtmp3.5/4,Error ellipse: s-maj=121.7km s-min=24.0km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.12**	**183**	P	Pn	12 46 57.2	-0.4
	0.9nm,0.8s,baz=331,slow=10,SNR=1.7						
WRA	**Warramunga Arr**	**23.21**	**161**	P	P	12 47 27.2	-1.7
	1.4nm,0.7s,baz=338,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.60**	**165**	P	P	12 48 01.3	+0.9
	0.6nm,0.8s,baz=339,slow=8.3,SNR=8.6						
MKAR	**Makanchi Array**	**58.81**	**326**	P	P	12 52 20.2	-0.1
	0.2nm,0.3s,baz=120,slow=6.0,SNR=6.3						

MEX ***18*** *13:08:08.3±0.8,14.58N×92.70W,h52km±21km,MD3.7*
GCG ***18*** *13:08:10.8±0.3,14.82N×92.49W,h32km,MD3.8*
ISC 18 13:08:07.2±3.0,14.6N±0.1×92.8W±0.1,h33km±8km,n7, σ0§66/12,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.59**	**58**	*e*P	**Pb**	**13 08 18.8**	**-0.3**
THIG				*e*S	**Sb**	**13 08 27.6**	**+0.2**
PCIG		**1.18**	**339**	*e*P	**Pn**	**13 08 27.7**	**+0.3**
PCIG				*e*S	**Sn**	**13 08 42.6**	**+0.2**
ERG	**Entre ros, C**	**1.18**	**97**	*e*P	**Pn**	**13 08 28.0**	**+0.5**
CCIG	**Comitan**	**1.79**	**20**	*e*P	**Pn**	**13 08 36.4**	**+0.5**
CCIG				*e*S	**Sn**	**13 08 57.9**	**+0.3**
FUG	**Fuego 3**	**1.88**	**94**	*e*P	**Pn**	**13 08 37.8**	**+0.6**
FUG				*e*S	**Sn**	**13 08 58.8**	**-1.1**
PCG	**Pacaya**	**2.11**	**95**	*e*S	**Sn**	**13 09 05.5**	**-0.3**
TGIG		**2.19**	**351**	*e*P	**Pn**	**13 08 41.6**	**+0.2**
TGIG				*i* S	**Sn**	**13 09 06.6**	**-0.9**

TEH ***18*** *13:10:17.5,36.67N×54.79E,h8km,ML3.6*
THR ***18*** *13:10:19.5±0.7,36.71N×54.85E,h18km±9km,ML3.7*
ISC 18 13:10:19.3±0.9,36.72N±0.05×54.75E±0.03,h10km,n44, σ1§23/47,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.75**	**44**	*e*Pg	**Pg**	**13 10 31.0**	**-2.8**
IGLO	**Ghaloghah**	**0.77**	**254**	*e*Pg	**Pg**	**13 10 33.3**	**-0.9**
IGLO				*e*		13 10 58.5	
IKIA	**Kiasar**	**1.00**	**239**	*e*Pg	**Pg**	**13 10 37.5**	**-1.0**
IKIA				*e*Sg	**Sb**	**13 10 52.4**	**+0.3**
IKIA				*e*		13 11 04.4	
IANJ	**Anjilo**	**1.42**	**209**	*e*Pg	**Pn**	**13 10 43.9**	**-1.5**
IANJ				*e*		13 11 09.1	
ISHM	**Shahmirzad**	**1.49**	**233**	*e*Pg	**Pn**	**13 10 46.3**	**-0.1**
ISHM				*e*		13 11 12.1	
IALA	**Alasht**	**1.69**	**248**	*e*Pn	**Pn**	**13 10 49.6**	**+0.5**
IALA				*e*		13 11 19.9	
IFIR	**Firoozkooh**	**1.94**	**237**	*e*Pn	**Pb**	**13 10 54.2**	**-0.7**
ILAS	**Lasjerd**	**1.97**	**228**	*e*Pg	**Pb**	**13 10 54.8**	**-0.6**
ILAS				*e*		13 11 26.9	
IPRN	**Peran**	**2.00**	**257**	*e*Pn	**Pn**	**13 10 54.6**	**+1.3**
SBZV	**Sabzevar**	**2.33**	**97**	*e*Pn	**Pn**	**13 10 58.0**	**+0.1**
BJRD	**Bojnurd**	**2.34**	**64**	*e*Pn	**Pn**	**13 10 58.3**	**+0.4**
BJRD	**Bojnurd**	**2.34**	**64**	*e*Pn	**Pn**	**13 10 58.3**	**+0.4**
IDMV	**Damavand**	**2.48**	**243**	*e*Pn	**Pb**	**13 11 02.4**	**-1.6**
IDMV				*e*		13 11 45.1	
DAMV	**Damavand**	**2.50**	**245**	*e*Pn	**Pb**	**13 11 03.0**	**-1.3**
DAMV				*e*Sg	**Sg**	**13 11 40.0**	**+0.5**
DAMV				IAML		13 11 50.0	
	comp=E,163nm,0.5s						
DAMV	**Damavand**	**2.50**	**245**	*e*Pn	**Pb**	**13 11 03.0**	**-1.3**
ISFR	**Sfray

IPIR e 13 24 52.5
IDHR Derash 2.57 331 *e*Pn **Pn 13 24 03.5 +1.3**
HAGD Aghdareh 2.58 23 *e*Pn **Pn 13 24 03.3 +1.0**
HAGD e 13 24 50.8
SNGE Sanandaj 2.67 350 *e*Pn **Pn 13 24 05.0 +1.4**
SNGE IAML 13 24 54.8
comp=N,83nm,0.6s
SNGE Sanandaj 2.67 350 *e*Pn **Pn 13 24 05.0 +1.4**
ASAO Ashtian 2.74 40 *e*Pn **Pn 13 24 06.5 +1.9**
ASAO Ashtian 2.74 40 *e*Pn **Pn 13 24 06.5 +1.9**
HSRG Sareghieh 2.80 6 *e* 13 24 51.9
HSRG *e*Pn **Pn 13 24 07.1 +1.7**
BHD Baghdad 3.07 286 *e*Pn **Pn 13 24 11.0 +2.1**
BHD *e*Sn **Sn 13 24 46.0 +0.7**
IKLH Kolahrood 3.21 73 *e*Pn **Pn 13 24 12.8 +1.7**
IKLH *e* 13 25 17.8
KLNJ Kolanjah 3.46 114 *e*Pn **Pn 13 24 15.6 +1.0**
KLNJ *e* 13 25 00.2
GHVR GHOM 3.48 54 *e*Pn **Pn 13 24 16.2 +1.6**
GHVR GHOM 3.48 54 *e*Pn **Pn 13 24 16.2 +1.6**
QABG Abgarm-Qazvin 3.53 23 *e*Pn **Pn 13 24 16.4 +0.9**
IQOM Qom 3.56 47 *e*Pn **Pn 13 24 15.3 -0.5**
IZEF Zefreh 3.76 82 *e*Pn **Pn 13 24 19.7 +1.1**
KRSH Karshahi 3.86 66 *e*Pn **Pn 13 24 20.7 +0.8**
IVRN Varamin 4.07 51 *e*Pn **Pn 13 24 23.7 +1.0**
QALM Alamut, Qazvin 4.57 29 *e*Pn **Pn 13 24 29.5 -0.2**
IDMV Damavand 4.63 47 *e*Pn **Pn 13 24 31.0 +0.3**
QYSM Um Kedad 4.67 191 P **Pn 13 24 32.0 +1.0**
ANAR Anarak 4.96 80 *e*Pn **Pn 13 24 35.5 +0.5**
RQBS RQBS 5.37 199 S **Sn 13 25 40.7 -1.5**
RQBS P **Pn 13 24 40.7 +0.2**
SMAN Sihmah 6.26 179 P **Pn 13 24 52.4 -0.3**
SMAN S **Sn 13 26 00.8 -3.2**

IDC ***18*** *13:33:26.8±0.6,55˚.05N×158˚.58W, h0km, mb4.4/32, mb1 4.5/34,mb1mx4.4/56,mbtmp4.4/34,ML4.1/2,MS3.7/27, Ms1 3.7/27,ms1mx3.6/37,Error ellipse: s-maj=19.2km s-min=11.0km az=11.0*

BJI ***18*** *13:33:27.1±0.0,55˚.09N×158˚.92W, h12km, mB4.9/22, mb4.8/32,Ms4.8/5,Ms7 4.5/1*

AEIC ***18*** *13:33:30.3±2.3,54˚.86N±0˚.06×158˚.28W±0˚.06, h12km±3km, ML4.2,mb4.7/20(NEIC),Error ellipse: s-maj=8.4km s-min=4.9km az=171.0*

MOS ***18*** *13:33:30.1±1.1,55˚.39N×158˚.63W, h23km, mb5.0/18, MS4.0/4,Error ellipse: s-maj=23.8km s-min=9.3km az=101.1*

NEIC ***18*** *13:33:31.1±2.1,54˚.97N±0˚.07×158˚.32W±0˚.07, h28km±5km, Error ellipse: s-maj=10.5km s-min=5.3km az=172.0*

ISC 18 13:33:31.1±0.4, 55˚.04N±0˚.05×158˚.38W±0˚.04, h30km, n245, σ1s31/231, mb4.6/74, MS3.8/31, 10C-1D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.73**	**253**	Pg	**Pb**	**13 33 43.6**	**-1.7**
CNBA	**Chernabura Isl**	**0.73**	**253**		**Sb**	**13 33 54.5**	**-0.4**
SDPT	**Sand Point**	**1.24**	**285**	Pn	**Pn**	**13 33 52.3**	**-0.1**
CHGN	**Chignik**	**1.27**	**359**		**Pn**	**13 33 53.9**	**+1.2**
CHGN	**Chignik**	**1.27**	**359**		**Sb**	**13 34 13.0**	**+2.8**
VNHG	**Veniaminof 1**	**1.27**	**340**		**Pb**	**13 33 54.6**	**+0.2**
VNWF	**Veniaminof 8**	**1.30**	**330**		**Pb**	**13 33 54.8**	**-0.2**
VNFG	**Fog Glacier, M**	**1.42**	**332**		**Pb**	**13 33 57.0**	**+0.1**
CHIR	**Chirikof Islan**	**1.76**	**62**	Pn	**Pn**	**13 33 59.3**	**-0.1**
CHIR	**Chirikof Islan**	**1.76**	**62**		**Sn**	**13 34 19.3**	**-1.5**
SII	**Sitkinak Islan**	**2.82**	**55**	Pn	**Pn**	**13 34 14.4**	**+0.3**
FALS	**False Pass**	**2.91**	**268**		**Pn**	**13 34 15.4**	**+0.2**
PLK1	**Peulik 1**	**2.94**	**19**		**Pn**	**13 34 17.4**	**+1.7**
SSLN	**Shishaldin Nor**	**3.25**	**268**		**Pn**	**13 34 21.6**	**+1.6**
SSLS	**Shishaldin Sou**	**3.26**	**267**		**Pn**	**13 34 21.4**	**+1.2**
SSLW	**Shishaldin Wes**	**3.33**	**268**		**Pn**	**13 34 21.7**	**+0.7**
SSLW					**Sn**	**13 35 02.9**	**+3.4**
CAHL	**Cahill**	**3.47**	**28**		**Pn**	**13 34 23.9**	**+0.8**
ANCK	**Angle Creek**	**3.55**	**26**		**Pn**	**13 34 25.4**	**+1.2**
OHAK	**Old Harbor**	**3.59**	**50**	Pn	**Pn**	**13 34 24.9**	**+0.3**
KABU	**Katmai Buttres**	**3.67**	**27**		**Pn**	**13 34 27.4**	**+1.6**
WEBT	**Westdahl Beart**	**3.71**	**266**		**Pn**	**13 34 27.2**	**+0.8**
KAKN	**Katmai Knife C**	**3.75**	**28**		**Pn**	**13 34 28.7**	**+1.8**
KDAK	**Kodiak Island**	**4.24**	**47**	Pn	**Pn**	**13 34 33.8**	**+0.3**
AKSA	**Akutan Strait**	**4.35**	**261**		**Pn**	**13 34 36.1**	**+1.0**
AKUT	**Akutan**	**4.39**	**261**	Pn	**Pn**	**13 34 35.2**	**-0.4**
AKBBA	**Akutan Broad B**	**4.50**	**261**		**Pn**	**13 34 37.4**	**+0.3**
AKMO	**Akutan Morgan**	**4.54**	**261**		**Pn**	**13 34 38.1**	**+0.4**
UNV	**Unalaska Valle**	**4.89**	**259**	Pn	**Pn**	**13 34 41.2**	**-0.6**
MNAT	**Makushin Natee**	**4.98**	**260**		**Pn**	**13 34 43.5**	**-0.2**
MSW	**Makushin Switc**	**5.03**	**261**		**Pn**	**13 34 44.2**	**-0.2**
MREP	**Makushin Rep't**	**5.04**	**259**		**Pn**	**13 34 44.4**	**-0.2**
MGOD	**Makushin Gods**	**5.11**	**259**		**Pn**	**13 34 45.4**	**-0.2**
MAPS	**Pakushin South**	**5.15**	**260**		**Pn**	**13 34 45.8**	**-0.3**
CNPM	**China Poot**	**5.94**	**38**		**Pn**	**13 34 57.8**	**+0.9**
BRLK	**Bradley Lake**	**6.23**	**37**	Pn	**Pn**	**13 35 00.7**	**-0.2**
SVW2	**Sparrevohn**	**6.26**	**13**		**Pn**	**13 35 01.7**	**+0.5**
BRSE	**Bradley Lake S**	**6.27**	**38**		**Pn**	**13 35 01.3**	**-0.1**
SUA	**Susitna One**	**7.59**	**29**		**Pn**	**13 35 21.0**	**+1.3**
SKT	**Skwentna**	**7.83**	**24**		**Pn**	**13 35 25.3**	**+2.5**
TTA	**Tatalina**	**8.01**	**8**	Pn	**Pn**	**13 35 27.9**	**+2.5**
PMR	**Palmer**	**8.17**	**33**		**Pn**	**13 35 27.7**	**+0.2**
KNK	**Knik Glacier**	**8.26**	**35**		**Pn**	**13 35 30.0**	**+1.4**
HIN	**Hinchinbrook I**	**8.32**	**45**		**Pn**	**13 35 29.6**	**+0.1**
GHO	**Glory Hole Cre**	**8.37**	**32**		**Pn**	**13 35 31.3**	**+1.0**
PPLA	**Purkeypile**	**8.50**	**20**		**Pn**	**13 35 35.1**	**+3.0**
FID	**Port Fidalgo**	**8.53**	**43**		**Pn**	**13 35 32.7**	**+0.3**
EYAK	**Cordova Ski Ar**	**8.71**	**46**		**Pn**	**13 35 34.3**	**-0.5**
SCM	**Sheep Creek Mo**	**8.94**	**36**		**Pn**	**13 35 39.7**	**+1.7**
KAIM	**Kayak Island**	**8.97**	**51**	Pn	**Pn**	**13 35 40.0**	**+1.6**
RAGM	**Ragged Mountai**	**9.08**	**48**		**Pn**	**13 35 40.6**	**+0.7**
KLU	**Klutina**	**9.21**	**40**		**Pn**	**13 35 41.6**	**-0.1**
HMT	**Hamilton**	**9.23**	**49**	Pn	**Pn**	**13 35 42.8**	**+0.8**
SUCK	**Suckling Hills**	**9.32**	**51**		**Pn**	**13 35 45.2**	**+2.0**
KTH	**Kantishna Hill**	**9.35**	**21**	Pn	**Pn**	**13 35 44.5**	**+0.8**
TRF	**Thorofare Moun**	**9.39**	**23**	Pn	**Pn**	**13 35 45.1**	**+0.7**
RND	**Reindeer**	**9.70**	**26**	Pn	**Pn**	**13 35 49.3**	**+0.9**
ATKA	**Atka Island**	**9.82**	**260**	Pn	**Pn**	**13 35 49.0**	**-1.0**
BPAW	**Bear Paw Mtn.**	**9.82**	**19**	Pn	**Pn**	**13 35 51.4**	**+1.2**
DHY	**Denali Highway**	**9.84**	**31**		**Pn**	**13 35 51.8**	**+1.4**
CRQM	**Cirque**	**9.92**	**49**		**Pn**	**13 35 51.9**	**+0.3**
GLB	**Gilahina Butte**	**9.99**	**44**		**Pn**	**13 35 53.2**	**+0.7**
VRDI	**Verde Repeater**	**10.02**	**46**		**Pn**	**13 35 53.4**	**+0.4**
TGL	**Tana Glacier**	**10.05**	**49**		**Pn**	**13 35 53.9**	**+0.6**
ISLE	**Juniper Island**	**10.20**	**50**	Pn	**Pn**	**13 35 56.7**	**+1.4**
MCARA	**McCarthy VSAT**	**10.28**	**46**	Pn	**Pn**	**13 35 58.7**	**+2.3**
PAX	**Paxson**	**10.35**	**35**		**Pn**	**13 35 58.4**	**+1.0**
YAH	**Yahtse**	**10.36**	**52**		**Pn**	**13 35 58.9**	**+1.2**
BALM	**Baldy**	**10.39**	**48**		**Pn**	**13 35 58.9**	**+0.9**
BARN	**Barnard Glacie**	**10.70**	**49**		**Pn**	**13 36 03.2**	**+1.0**
WRH	**Wood River Hil**	**10.77**	**24**		**Pn**	**13 36 05.1**	**+2.0**
CTGM	**Chitina Glacie**	**10.80**	**50**		**Pn**	**13 36 04.6**	**+1.0**
MENT	**Mentasta**	**10.93**	**38**		**Pn**	**13 36 07.5**	**+2.3**
PCA	**Pinnacle**	**10.96**	**55**		**Pn**	**13 36 07.3**	**+1.6**
CCB	**Clear Creek Bu**	**10.99**	**24**		**Pn**	**13 36 04.7**	**-1.3**
HDA	**Harding Lake**	**11.01**	**27**	Pn	**Pn**	**13 36 05.3**	**-1.0**
RIDG	**Independent Ri**	**11.10**	**33**	Pn	**Pn**	**13 36 08.2**	**+0.6**
MDM	**Murphy Dome**	**11.15**	**23**		**Pn**	**13 36 07.0**	**-1.3**
COLA	**College**	**11.17**	**24**	*i* P	**Pn**	**13 36 06.2**	**-2.2**
BCPM	**Bancas Point**	**11.21**	**56**	Pn	**Pn**	**13 36 10.9**	**+1.9**
IMAR	**Indian Mountai**	**11.21**	**10**		**Pn**	**13 36 11.2**	**+2.1**
DOT	**Dot Lake**	**11.28**	**34**		**Pn**	**13 36 11.5**	**+1.4**
KL31		**11.32**	**26**		**Pn**	**13 36 09.6**	**-0.8**
ILAR	**Eielson Array**	**11.32**	**26**	Pn	**Pn**	**13 36 07.5**	**-3.0**
	0.7nm,0.3s,baz=218,slow=13,SNR=28						
ILAR				Sn	**Sn**	**13 38 08.2**	**-7.5**
	baz=196,slow=15,SNR=0.8						
ILAR				LR	LR	13 40 42.3	
	comp=Z,222nm,18.8s,baz=236,slow=38						
ILAR	**Eielson Array**	**11.32**	**26**		**Pn**	**13 36 08.8**	**-1.7**
ADK	**Adak**	**11.35**	**261**	Pn	**Pn**	**13 36 11.3**	**+0.2**
KIWB	**Kanaga Island**	**11.63**	**262**	Pn	**Pn**	**13 36 16.7**	**+1.9**
BCAR	**Beaver Creek A**	**11.70**	**40**		**Pn**	**13 36 16.0**	**+0.2**
HYT	**Haines Junctio**	**12.48**	**54**		**Pn**	**13 36 29.0**	**+2.4**
EGAK	**Eagle**	**12.98**	**34**		**Pn**	**13 36 33.7**	**+0.5**
SIT	**Sitka**	**13.03**	**72**	Pn	**Pn**	**13 36 32.2**	**-1.7**
SKAG	**Skagway**	**13.21**	**61**	Pn	**Pn**	**13 36 38.8**	**+2.4**
BESE	**Bessie Mountai**	**13.34**	**65**	Pn	**Pn**	**13 36 36.5**	**-1.8**
JIS	**Juneau Island**	**13.56**	**66**		**Pn**	**13 36 42.0**	**+0.8**
WHY	**Whitehorse**	**13.68**	**56**		**Pn**	**13 36 43.2**	**+0.4**
AMKA	**Amchitka**	**13.85**	**264**		**Pn**	**13 36 41.8**	**-3.3**
TOLK	**Toolik Lake Re**	**14.24**	**13**	P	**P**	**13 36 57.7**	**+0.2**
DLBC	**Dease Lake**	**15.87**	**66**	Pn	**Pn**	**13 37 13.7**	**+1.6**
	0.4nm,0.3s,baz=130,slow=16,SNR=4.4						
DLBC	**Dease Lake**	**15.87**	**66**	P	**P**	**13 37 14.2**	**-1.2**
INK	**Inuvik**	**17.58**	**31**	P	**Pn**	**13 37 33.4**	**-0.1**
	0.6nm,0.3s,baz=201,slow=9.7,SNR=21						
INK	**Inuvik**	**17.58**	**31**		**Pn**	**13 37 33.6**	**+0.1**
BILL	**Bilibino**	**20.89**	**322**	*ce*P	**P**	**13 38 10.1**	**-0.4**
BILL				*SP	**sP**	**13 38 21.0**	**-1.2**
BILL				*e*		13 38 23.9	
BILL				*e*		13 42 23.1	
BILL				pmax	pmax		
	comp=Z,26nm,1.3s						
BILL				MLR	MLR		
	comp=Z,760nm,17.0s						
C36M	**Paulatuk**	**21.06**	**34**	P	**P**	**13 38 12.9**	**+0.6**
C36M				IAmb	IAmb	13 38 24.9	
	comp=Z,35nm,0.8s						
YKA	**Yellowknife Ar**	**23.48**	**54**	P	**P**	**13 38 38.0**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=263,slow=7.3,SNR=8.3						
YKA				LR	LR	13 48 13.8	
	comp=Z,182nm,20.7s,baz=0.0,slow=38						
PET	**Petropavlovsk**	**25.03**	**283**	*ce*P	**P**	**13 38 52.7**	**+0.6**
PET				pmax	pmax		
	comp=Z,289nm,1.3s						
PETK	**Petropavlovsk-**	**25.53**	**284**	P	**P**	**13 38 55.5**	**-1.2**
	comp=Z,19nm,0.8s,baz=91,slow=12,SNR=18						
PETK				LR	LR	13 48 32.7	
	comp=Z,91nm,21.4s,baz=69,slow=36						
PETK	**Petropavlovsk-**	**25.53**	**284**	P	**P**	**13 38 56.1**	**-0.6**
SEY	**Seymchan**	**25.96**	**308**	P	**P**	**13 38 59.4**	**-1.1**
	comp=Z,15nm,0.8s,baz=109,slow=8.4,SNR=18						
SEY	**Seymchan**	**25.96**	**308**	*i* P	**P**	**13 38 59.2**	**-1.3**
NEW	**Newport**	**26.17**	**88**	P	**P**	**13 39 02.7**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=297,slow=8.7,SNR=6.8						
YBH	**Yreka Blue Hor**	**26.84**	**105**	P	**P**	**13 39 09.7**	**+0.9**
	comp=Z,2.4nm,1.0s,baz=197,slow=6.1,SNR=3.7						
JTMT	**Jette**	**28.07**	**87**	P	**P**	**13 39 19.3**	**-0.5**
PNTR	**Pine Nut**	**30.38**	**105**	P	**P**	**13 39 41.7**	**+1.3**
PNTR				IAmb	IAmb	13 39 50.2	
	comp=Z,8.8nm,0.8s						
KVN	**Kaiserville**	**31.24**	**104**	P	**P**	**13 39 48.5**	**+0.6**
NVAR	**Mina Array Bea**	**31.56**	**105**	P	**P**	**13 39 52.7**	**+1.9**
	comp=Z,2.8nm,0.7s,baz=304,slow=8.6,SNR=29						
NVAR				LR	LR	13 50 20.1	
	comp=Z,288nm,20.7s,baz=312,slow=32						
NVAR	**Mina Array Bea**	**31.56**	**105**	P	**P**	**13 39 52.4**	**+1.5**
YHH	**Holmes Hill**	**31.69**	**89**	P	**P**	**13 39 54.1**	**+2.1**
PDAR	**Pinedale Array**	**33.66**	**91**	P	**P**	**13 40 10.8**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=306,slow=4.8,SNR=18						
PDAR				LR	LR	13 52 39.0	
	comp=Z,40nm,18.3s,baz=318,slow=34						
TPNV	**Topopah Spring**	**33.76**	**105**	P	**P**	**13 40 10.7**	**+0.7**
TPNV				IAmb	IAmb	13 40 12.8	
	comp=Z,5.3nm,0.8s						
RSSD	**Black Hills**	**36.01**	**85**	P	**P**	**13 40 28.1**	**-1.3**
RSSD				IAmb	IAmb	13 40 38.4	
	comp=Z,5.1nm,0.7s						
YAK	**Yakutsk**	**36.36**	**311**	*e*P	**P**	**13 40 30.5**	**-1.5**
YAK				*e**PP	**pP**	**13 40 41.8**	**+1.1**
YAK				*e*		13 42 55.6	
YAK				*e*S	**S**	**13 46 10.3**	**-0.5**
YAK				*e**SS	**sS**	**13 46 25.8**	**+0.6**
YAK				*e*		13 50 44.4	
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,203nm,4.0s						
YAK				pmax	pmax		
	comp=E,162nm,4.4s						
YAK				pmax	pmax		
	comp=N,177nm,4.0s						
YAK				smax	smax		
	comp=N,122nm,2.6s						
YAK				smax	smax		
	comp=E,90nm,3.0s						
YAK				MLR	MLR		
	comp=Z,223nm,19.0s						
YAK				MLR	MLR		
	comp=N,64nm,25.0s						
YAK				MLR	MLR		
	comp=E,167nm,23.0s						
YAK	**Yakutsk**	**36.36**	**311**	P	**P**	**13 40 30.4**	**-1.5**
ULM	**Lac du Bonnet**	**37.10**	**71**	LR	LR	13 55 54.5	
	comp=E,186nm,18.1s,baz=301,slow=36						
ANMO	**Albuquerque**	**40.72**	**98**	*ce*P	**P**	**13 41 12.0**	**+2.9**
ANMO				pmax	pmax		
	comp=Z,6.0nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**43.94**	**231**	T	T	14 28 28.6	
	baz=28,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**43.94**	**231**	T	T	14 28 29.0	
	baz=28,slow=76,SNR=47						
H11N1	**WAKE ISLAND Hy**	**43.95**	**231**	T	T	14 28 35.9	
	baz=28,slow=76,SNR=46						
USRK	**Ussuriysk Ar.**	**44.59**	**286**	P	**P**	**13 41 39.7**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=169,slow=26,SNR=3.3						
USRK				LR	LR	14 00 48.8	
	comp=Z,59nm,21.3s,baz=0.9,slow=37						
H11S1	**WAKE ISLAND Hy**	**45.10**	**230**	T	T	14 30 01.2	
	baz=28,slow=76,SNR=161						
H11S2	**WAKE ISLAND Hy**	**45.11**	**230**	T	T	14 29 56.5	
	baz=28,slow=76,SNR=181						
H11S3	**WAKE ISLAND Hy**	**45.12**	**230**	T	T	14 30 02.5	
	baz=28,slow=76,SNR=101						
BOD	**Bodaibo**	**45.29**	**311**	*e*P	**P**	**13 41 44.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,13nm,1.4s						
DAG	**Danmarks Havn**	**46.01**	**12**	*i* P	**P**	**13 41 51.2**	**+0.3**
DAG				pmax	pmax		
	comp=Z,14nm,0.8s						
DAG	**Danmarks Havn**	**46.01**	**12**	*i* P	**P**	**13 41 51.2**	**+0.3**
	comp=Z,14nm,0.8s						
DAG	**Danmarks Havn**	**46.01**	**12**	*i* P	**P**	**13 41 51.3**	**+0.3**
DAG				IAmb	IAmb	13 41 52.6	
	comp=Z,14nm,0.8s						
SUMG	**Summit**	**46.12**	**21**	*i* P	P	13 42 04.5	+12
SUMG	**Summit**	**46.12**	**21**	*i* P	P	13 42 04.5	+12
MAJO	**Matsushiro**	**46.19**	**274**	*i* P	**P**	**13 41 52.6**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,17nm,1.0s						
MAT	**Matsushiro**	**46.19**	**274**	P	**P**	**13 41 52.7**	**-0.2**
MJAR	**Matsushiro Arr**	**46.19**	**274**	P	**P**	**13 41 52.3**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=45,slow=5.3,SNR=7.9						
MJAR				LR	LR	13 59 31.5	
	comp=Z,40nm,21.9s,baz=55,slow=34						
TX31	**Lajitas Ar. Si**	**46.46**	**100**	P	**P**	**13 41 56.8**	**+1.6**
TX32	**Lajitas Array**	**46.46**	**100**	P	**P**	**13 41 56.7**	**+1.6**
TX32				IAmb	IAmb	13 42 05.5	
	comp=Z,7.2nm,1.1s						
TXAR	**Lajitas Array**	**46.46**	**100**	P	**P**	**13 41 56.7**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=307,slow=5.5,SNR=39						
TXAR				PcP	**PcP**	**13 43 29.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=254,slow=0.9,SNR=1.4						
TXAR				LR	LR	14 00 23.7	
	comp=Z,189nm,18.3s,baz=0.0,slow=35						
NRIK	**Noril'sk**	**47.06**	**334**	P	**P**	**13 41 59.4**	**+0.1**
	comp=Z,17nm,0.8s,baz=58,slow=6.8,SNR=29						
NRIK				LR	LR	14 05 06.9	
	comp=Z,156nm,18.0s,baz=21,slow=40						
JGF	**Kuroka**	**47.34**	**273**	P	**P**	**13 42 02.4**	**+0.4**
JGF				IAmb	IAmb	13 42 04.4	
	comp=Z,8.8nm,0.8s						
DBG	**Daneborg**	**47.92**	**14**	*i* P	**P**	**13 42 06.4**	**+0.4**
DBG				IAmb	IAmb	13 42 07.0	
	comp=Z,13nm,0.9s						
CN2	**Changchun**	**48.42**	**290**	*e*P	**P**	**13 42 08.5**	**-1.7**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
JWT	**Wachi**	**48.69**	**275**	P	**P**	**13 42 13.0**	**+0.7**
SCHQ	**Schefferville**	**48.85**	**50**	LR	LR	14 04 30.1	
	comp=Z,125nm,18.3s,baz=36,slow=38						
WVT	**Waverly**	**50.57**	**81**	P	**P**	**13 42 27.0**	**+0.4**
WVT				IAmb	IAmb	13 42 34.6	
	comp=Z,8.2nm,0.8s						
KSRS	**Korea Array**	**51.41**	**282**	P	**P**	**13 42 33.0**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=50,slow=7.0,SNR=32						
KSRS				LR	LR	14 05 38.3	
	comp=Z,38nm,18.3s,baz=15,slow=38						
TJN	**Taejon**	**52.49**	**282**	*ce*P	**P**	**13 42 40.2**	**-0.8**
FPAL	**Fort Paine**	**52.97**	**81**	P	**P**	**13 42 44.2**	**-0.4**
FPAL				IAmb	IAmb	13 42 52.4	
	comp=Z,9.9nm,1.1s						
TLY	**Talaya**	**53.83**	**310**	LR	LR	14 07 31.5	
	comp=Z,52nm,18.9s,baz=42,slow=38						
TLY	**Talaya**	**53.83**	**310**	*e*P	**P**	**13 42 50.8**	**+0.1**
TLY				pmax	pmax		
	comp=Z,18nm,0.6s						
TLY				MLR	MLR		
	comp=Z,247nm,16.0s						
ULN	**Ulaanbaatar**	**54.99**	**305**	*ce*P	**P**	**13 42 58.7**	**-0.7**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM	**Songino Array**	**55.32**	**305**	P	**P**	**13 43 01.5**	**-0.2**
	comp=Z,9.3nm,0.7s,baz=47,slow=7.2,SNR=44						
SONM				PcP	**PcP**	**13 44 02.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=67,slow=1.7,SNR=4.0						
SONM				LR	LR	14 08 40.3	
	comp=Z,219nm,18.4s,baz=42,slow=38						
SONM	**Songino Array**	**55.32**	**305**	P	**P**	**13 43 01.9**	**+0.2**
SONM				P	**PcP**	**13 44 03.2**	**+1.2**
ARCES	**ARCESS Array B**	**55.70**	**358**	P	**P**	**13 43 04.4**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=22,slow=6.9,SNR=8.0						
ARCES				LR	LR	14 08 35.9	
	comp=Z,48nm,18.3s,baz=90,slow=38						
HHC	**Hu-ho-hao-te**	**57.84**	**296**	*e*P	**P**	**13 43 21.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,29nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
ZALV	**Zalesovo Beam**	**59.59**	**322**	P	**P**	**13 43 30.4**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=38,slow=7.5,SNR=8.4						
ZALV				LR	LR	14 11 21.9	
	comp=Z,215nm,19.5s,baz=51,slow=38						
DGZ	**Jazzator, Alta**	**62.05**	**318**	*i* P	**P**	**13 43 47.4**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PRGR	**Permogore**	**62.14**	**347**	*e*P	**P**	**13 43 48.0**	**-0.6**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FINES	**FINESS Array B**	**63.81**	**358**	P	**P**	**13 43 59.3**	**-0.4**
	comp=Z,5.7nm,0.9s,baz=15,slow=8.5,SNR=11						
FINES	**FINESS Array B**	**63.81**	**358**	P	**P**	**13 44 00.0**	**+0.3**
NB2	**NORSAR Subarra**	**63.97**	**6**	P	**P**	**13 44 01.3**	**+0.4**
	comp=Z,13nm,1.2s,baz=354,slow=6.9						
NOA	**NORSAR Array B**	**63.97**	**6**	P	**P**	**13 44 00.4**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=355,slow=6.6,SNR=5.1						
NOA				LR	LR	14 14 40.7	
	comp=Z,24nm,18.1s,baz=250,slow=39						
XAN	**Xi'an**	**64.33**	**293**	P	**P**	**13 44 02.9**	**-0.8**
XAN				pP	pP	13 44 14.3	+1.3
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KURK	**Kurchatov**	**64.41**	**324**	*ce*P	**P**	**13 44 03.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIRV	**Kirov**	**64.54**	**344**	P	**P**	**13 44 04.6**	**+0.1**
	comp=Z,10nm,0.5s,baz=257,slow=2.6,SNR=3.9						
GTA	**Gaotai**	**64.80**	**303**	P	**P**	**13 44 06.8**	**0.0**
GTA				pP	pP	13 44 13.9	-2.1
GTA				sP	sP	13 44 17.8	-1.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARU	**Arti**	**64.89**	**338**	P	**P**	**13 44 07.2**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=19,slow=5.0,SNR=10.0						
ARU	**Arti**	**64.89**	**338**	*c i*P	**P**	**13 44 06.8**	**-0.1**
ARU				S	**S**	**13 52 47.8**	**+2.0**
ARU				SS	**SS**	**13 56 54.4**	**-2.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HFS	**Hagfors**	**65.00**	**4**	P	**P**	**13 44 07.5**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=219,slow=1.9,SNR=4.6						
BRVK	**Borovoye**	**65.01**	**330**	*ce*P	**P**	**13 44 07.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TAOE	**Nuku Hiva Isla**	**65.47**	**160**	*e*LR	LR	14 03 50.9	
	comp=Z,83nm,27.5s						
MKAR	**Makanchi Array**	**66.40**	**319**	P	**P**	**13 44 16.5**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=47,slow=6.5,SNR=34						
MKAR				LR	LR	14 15 49.6	
	comp=Z,148nm,18.4s,baz=30,slow=38						
MKAR	**Makanchi Array**	**66.40**	**319**	P	**P**	**13 44 16.2

KBA	**Koelnbreinsper**	**78.02**	**6**	*e*P		**P**	**13 45 28.0**	**+1.6**
	comp=Z,3.6nm,0.6s							
DAVOX	**Davos/Dischmat**	**78.07**	**8**	P		**P**	**13 45 28.1**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=322,slow=14,SNR=3.9							
ABTA	**Abfaltersbach**	**78.30**	**6**	*i* P		**P**	**13 45 29.6**	**+1.7**
	comp=Z,5.0nm,1.1s							
TBI	**Tubuai**	**78.44**	**172**	*e*T		T	15 11 10.5	
	comp=Z,21nm,0.3s							
SOKA	**Soboth**	**78.50**	**5**	*e*P		**P**	**13 45 30.6**	**+1.5**
	comp=Z,9.2nm,1.4s							
ZOU	**Zoufplan**	**78.52**	**6**	P		**P**	**13 45 28.5**	**-0.8**
OBKA	**Obir**	**78.65**	**5**	*e*P		**P**	**13 45 31.0**	**+1.2**
	comp=Z,16nm,0.8s,SNR=14							
KIV	**Kislovodsk**	**79.77**	**345**	*e*P		**P**	**13 45 36.7**	**+0.7**
KIV				pmax		pmax		
	comp=Z,37nm,1.1s							
KBZ	**Khabaz**	**79.96**	**345**	P		**P**	**13 45 37.2**	**+0.3**
KBZ	comp=Z,5.0nm,0.9s,baz=356,slow=4.4,SNR=5.2			LR		LR	14 26 38.1	
	comp=Z,42nm,18.2s,baz=36,slow=40							
CMAR	**Chiang Mai Arr**	**82.10**	**291**	P		**P**	**13 45 48.7**	**0.0**
	comp=Z,8.2nm,0.8s,baz=21,slow=5.0,SNR=45							
CMAR				LR		LR	14 25 52.5	
	comp=Z,35nm,19.1s,baz=205,slow=38							
CMAR	**Chiang Mai Arr**	**82.10**	**291**	P		**P**	**13 45 47.2**	**-1.5**
GEYT	**Alibeck**	**82.26**	**332**	P		**P**	**13 45 51.0**	**+1.7**
	comp=Z,4.6nm,0.8s,baz=299,slow=6.1,SNR=7.6							
GEYT				LR		LR	14 27 12.2	
	comp=Z,67nm,18.7s,baz=215,slow=39							
ESDC	**Sonseca Array**	**83.15**	**20**	P		**P**	**13 45 54.6**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=340,slow=4.6,SNR=15							
ESDC				LR		LR	14 26 37.3	
	comp=Z,13nm,18.3s,baz=275,slow=38							
BRTR	**Keskin Array B**	**85.05**	**351**	P		**P**	**13 46 04.2**	**+0.5**
	comp=Z,5.0nm,0.9s,baz=50,slow=1.9,SNR=4.6							
BRTR				LR		LR	14 30 31.8	
	comp=Z,12nm,19.4s,baz=20,slow=40							
ATAH	**Atahualpa**	**90.09**	**102**	LR		LR	14 28 39.8	
	comp=Z,18nm,18.0s,baz=158,slow=37							
WRA	**Warramunga Arr**	**93.91**	**240**	P		**P**	**13 46 44.2**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=37,slow=5.0,SNR=8.2							
ASAR	**Alice Springs**	**97.25**	**239**	P		**P**	**13 46 59.7**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=38,slow=4.6,SNR=2.7							
ASAR				LR		LR	14 27 25.7	
	comp=Z,27nm,21.7s,baz=56,slow=33							
H03N2	**Juan Fernandez**	**111.12**	**118**	T		T	15 52 34.8	
	baz=325,slow=78,SNR=26							
H03N1	**Juan Fernandez**	**111.13**	**118**	T		T	15 52 36.1	
	baz=325,slow=78,SNR=45							
H03N3	**Juan Fernandez**	**111.14**	**118**	T		T	15 52 37.1	
	baz=325,slow=78,SNR=36							

IDC 18 13:37:03.6±13.0, **15°45S**×**165°58E**, **h0**km, **mb3.6**/3, **mb1 3.9**/4, **mb1mx3.6**/23, **mbtmp3.8**/4, **ML4.1**/1, **Error ellipse: s-maj=231.1km s-min=36.5km az=54.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.64**	**173**	Pn	Pn	13 38 42.9	+0.8
	3.6nm,0.3s,baz=42,slow=5.7,SNR=124						
DZM				Sn	Sn	13 39 58.2	-0.8
	0.7nm,0.3s,baz=314,slow=22,SNR=1.4						
STKA	**Stephens Creek**	**27.29**	**229**	P	P	13 42 50.0	0.0
	1.3nm,0.6s,baz=45,slow=8,SNR=5.0						
WRA	**Warramunga Arr**	**30.07**	**257**	P	P	13 43 14.7	-0.2
	0.4nm,1.0s,baz=84,slow=8.5,SNR=1.9						
ASAR	**Alice Springs**	**30.89**	**250**	P	P	13 43 22.2	+0.1
	0.4nm,0.6s,baz=78,slow=9.3,SNR=7.7						

NEIC ***18*** *13:41:32.9±2.7, 35°.83N±0°.05×31°.00E±0°.05, h10km±1km, mb4.0/9, ML4.0(ISK), ML3.6(THE), Error ellipse: s-maj=9.2km s-min=5.8km az=208.0*
NIC ***18*** *13:41:34.8±0.0, 35°.83N×30°.91E, h9km±4km, Ml4.2/6*
ISK ***18*** *13:41:34.6, 35°.93N×30°.96E, h20km, ML4.0/57*
DDA ***18*** *13:41:35.2, 35°.83N×31°.00E, h21km±2km, MW4.0*
IDC ***18*** *13:41:35.1±1.1, 35°.83N×30°.93E, h47km±12km, mb3.8/12, mb1 4.0/19, mb1mx3.8/40, mbtmp4.1/19, ML4.0/7, MS2.7/4, Ms1 2.7/4, ms1mx2.5/35, Error ellipse: s-maj=11.1km s-min=9.4km az=16.0*
HLW ***18*** *13:41:35.9, 35°.80N×30°.92E, h22km±15km, Md4.2, Ml4.2*
THE ***18*** *13:41:36.6, 35°.84N×30°.85E, h5km±7km, ML3.5/6, Error ellipse: s-maj=11.5km s-min=1.4km az=107.0*
GII ***18*** *13:41:39.7±0.8, 35°.64N×31°.01E, h60km, mb4.2/3, MD4.0/3*

ISC 18 13:41:35.9±0.9, **35°.92N**±0°.03×**30°.95E**±0°.02, **h48**km±9km, **n229**, σ1s**81**/294, **mb4.0**/16, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.64**	**309**	*i* P	**Pn**	**13 41 48.8**	**+0.1**
AKUM				*i* S	**Sn**	**13 41 57.6**	**-0.4**
AKUM				IAML		13 42 02.0	
	comp=N,5μm,0.4s						
AKUM				IAML		13 42 04.0	
	comp=E,3μm,0.3s						
KEMT	**Kemer-ANTALYA**	**0.75**	**335**	PG	**Pn**	**13 41 49.5**	**-0.7**
DEMR	**Demre-Antalya**	**0.91**	**291**	PG	**Pn**	**13 41 53.1**	**+0.8**
DEMR				SG	**Sn**	**13 42 06.2**	**+1.9**
ANTB	**Antalya**	**1.01**	**346**	PG	**Pn**	**13 41 53.6**	**0.0**
ANTB				SG	**Sn**	**13 42 08.5**	**+1.8**
ALAN	**Alanya-ANTALYA**	**1.08**	**54**	PG	**Pn**	**13 41 54.7**	**+0.1**
ALAN				SG	**Sn**	**13 42 10.2**	**+1.7**
KEPZ	**Antalya-Kepez**	**1.11**	**28**	*i* P	**Pn**	**13 41 54.3**	**-0.8**
KEPZ				*i* S	**Sn**	**13 42 06.9**	**-2.5**
KEPZ				IAML		13 42 13.0	
	comp=E,1μm,0.5s						
KEPZ				IAML		13 42 15.0	
	comp=N,1μm,0.7s						
KSL	**Kastellorizon**	**1.13**	**282**	P	**Pn**	**13 41 55.8**	**+0.4**
KSL				S	**Sn**	**13 42 10.6**	**+0.8**
	comp=N,1μm,0.6s						
KSL	**Kastellorizon**	**1.13**	**282**	P	**Pn**	**13 41 56.2**	**+0.9**
KSL				S	**Sn**	**13 42 11.0**	**+1.2**
AKAS	**Kas**	**1.14**	**286**	PN	**Pn**	**13 41 56.3**	**+0.8**
AKAS	**Kas**	**1.14**	**286**	*i* P	**Pn**	**13 41 55.8**	**+0.3**
AKAS				*i* S	**Sn**	**13 42 11.9**	**+1.9**
AKAS				IAML		13 42 30.0	
	comp=E,968nm,0.7s						
AKAS	**Kas**	**1.14**	**286**	Pn	**Pn**	**13 41 56.0**	**+0.5**
GAZI	**Gazipasa**	**1.15**	**74**	PN	**Pn**	**13 41 55.3**	**-0.3**
GAZI	**Gazipasa**	**1.15**	**74**	*i* P	**Pn**	**13 41 55.0**	**-0.5**
GAZI				*i* S	**Sn**	**13 42 05.6**	**-4.5**
GAZI				IAML		13 42 12.0	
	comp=N,4μm,0.4s						
GAZI				IAML		13 42 12.0	
	comp=E,3μm,0.4s						
ELL	**Elmali**	**1.18**	**315**	PN	**Pn**	**13 41 56.9**	**+0.8**
ELL	**Elmali**	**1.18**	**315**	P	**Pn**	**13 41 57.4**	**+1.3**
ELL				S	**Sn**	**13 42 15.5**	**+4.3**
ELL	**Elmali**	**1.18**	**315**	Pn	**Pn**	**13 41 57.1**	**+0.9**
KORT	**Korkueli**	**1.18**	**336**	PN	**Pn**	**13 41 56.7**	**+0.5**
KORT	**Korkueli**	**1.18**	**336**	*i* P	**Pn**	**13 41 57.6**	**+1.5**
KORT				*i* S	**Sn**	**13 42 14.4**	**+3.2**
KORT				IAML		13 42 27.0	
	comp=N,1μm,0.6s						
KORT				IAML		13 42 28.0	
	comp=E,2μm,0.9s						
AKMS	**Akamas**	**1.44**	**128**	P	**Pn**	**13 41 60.0**	**+0.4**
AKMS				S	**Sn**	**13 42 19.9**	**+2.5**
AKMS				AML	AML	13 42 25.0	
	comp=E,9.7nm,0.7s						
AKMS				AML	AML	13 42 25.0	
	comp=E,9.7nm,0.7s						
AKMS				AML	AML	13 42 26.6	
	comp=E,12nm,0.5s						
AKMS				AML	AML	13 42 26.6	
	comp=E,12nm,0.5s						
ALFC	**Alefka**	**1.54**	**119**	P	**Pn**	**13 42 00.6**	**-0.4**
ALFC				S	**Sn**	**13 42 22.9**	**+3.0**
ALFC				AML	AML	13 42 31.5	
	comp=E,10nm,0.5s						
ALFC				AML	AML	13 42 31.5	
	comp=E,10nm,0.5s						
BCK	**Bucak**	**1.56**	**349**	PN	**Pn**	**13 42 02.3**	**+1.0**
SEYD	**Seydisehir-KON**	**1.64**	**25**	PN	**Pn**	**13 42 03.6**	**+1.1**
BOZY	**Bozyazi-Mersin**	**1.65**	**83**	PN	**Pn**	**13 42 03.4**	**+1.0**
FETY	**Fethiye**	**1.67**	**296**	P	**Pn**	**13 42 03.7**	**+1.0**
FETY				S	**Sn**	**13 42 26.4**	**+3.4**
FETY	**Fethiye**	**1.67**	**296**	PN	**Pn**	**13 42 03.8**	**+1.0**
FETY	**Fethiye**	**1.67**	**296**	*i* P	**Pn**	**13 42 04.1**	**+1.3**
FETY				*i* S	**Sn**	**13 42 20.5**	**-2.5**
FETY				IAML		13 42 31.0	
	comp=E,214nm,0.6s						
FETY				IAML		13 42 44.0	
	comp=N,187nm,0.7s						
CAME	**Cameli-Denizli**	**1.68**	**308**	PN	**Pn**	**13 42 04.6**	**+1.7**
GOLH	**Golhisar**	**1.73**	**320**	*i* P	**Pn**	**13 42 06.4**	**+2.8**
GOLH				IAML		13 42 43.0	
	comp=N,868nm,1.0s						
GOLH				IAML		13 43 19.0	
	comp=E,1μm,2.8s						
ERMK	**Ermenek**	**1.74**	**65**	*i* P	**Pn**	**13 42 05.6**	**+1.8**
ERMK				IAML		13 42 36.0	
	comp=E,1μm,0.4s						
ERMK				IAML		13 42 37.0	
	comp=N,1μm,0.7s						
NATA	**Nata**	**1.74**	**130**	P	**Pn**	**13 42 06.1**	**+2.4**
NATA				AML	AML	13 42 41.8	
	comp=N,38nm,0.7s						
NATA				AML	AML	13 42 43.2	
	comp=N,34nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.77**	**82**	PN	**Pn**	**13 42 05.1**	**+1.1**
LEF	**Lefka**	**1.77**	**116**	PN	**Pn**	**13 42 03.8**	**-0.3**
LEF	**Lefka**	**1.77**	**116**	*i* P	**Pn**	**13 42 02.5**	**-1.6**
LEF				IAML		13 42 36.0	
	comp=E,888nm,0.6s						
LEF				IAML		13 42 37.0	
	comp=N,889nm,0.4s						
BERE	**Bereket-Mersin**	**1.89**	**76**	PN	**Pn**	**13 42 07.3**	**+1.5**
BRDR	**BURDUR-Merkez**	**1.91**	**338**	*i* P	**Pn**	**13 42 07.7**	**+1.6**
BRDR				IAML		13 42 42.0	
	comp=E,486nm,0.5s						
BRDR				IAML		13 42 43.0	
	comp=N,253nm,0.8s						
ISP	**Isparta**	**1.93**	**350**	PN	**Pn**	**13 42 07.8**	**+1.4**
ISP	**Isparta**	**1.93**	**350**		**Pn**	**13 42 08.1**	**+1.8**
ISP				Sn	**Sn**	**13 42 34.1**	**+4.6**
SZAC	**Souni**	**1.96**	**126**	P	**Pn**	**13 42 09.2**	**+2.5**
SZAC				AML	AML	13 42 42.1	
	comp=N,8.1nm,0.8s						
SZAC				AML	AML	13 42 42.4	
	comp=N,7.1nm,0.6s						
YORU	**Yoruktepe-Mers**	**2.00**	**83**	PN	**Pn**	**13 42 08.6**	**+1.4**
OREN	**Orenkoy-Mersin**	**2.05**	**81**	PN	**Pn**	**13 42 08.9**	**+1.0**
DALY	**Dalyan (Mula)**	**2.06**	**296**	PN	**Pn**	**13 42 09.3**	**+1.2**
DALY	**Dalyan (Mula)**	**2.06**	**296**	*i* P	**Pn**	**13 42 09.2**	**+1.2**
DALY				*i* S	**Sn**	**13 42 27.2**	**-5.3**
DALY				IAML		13 42 56.0	
	comp=E,313nm,1.2s						
DALY				IAML		13 43 02.0	
	comp=N,352nm,1.2s						
BAGO	**Egridir - ISPA**	**2.07**	**356**	*i* P	**Pn**	**13 42 09.6**	**+1.3**
BAGO				IAML		13 42 43.0	
	comp=E,150nm,0.9s						
TEVE	**Tevekalti-Mers**	**2.08**	**75**	PN	**Pn**	**13 42 09.6**	**+1.2**
AKK1	**Akkuyu-Mersin**	**2.11**	**83**	PN	**Pn**	**13 42 10.1**	**+1.4**
AKK2	**Akkuyu-Mersin**	**2.12**	**83**	PN	**Pn**	**13 42 10.5**	**+1.8**
TEPK	**Tepekoy-MERSIN**	**2.12**	**81**	PN	**Pn**	**13 42 10.5**	**+1.6**
BASM	**Basmaki-Afyon**	**2.12**	**340**	PN	**Pn**	**13 42 10.0**	**+1.0**
ATHAL	**Athalassa**	**2.14**	**111**	P	**Pn**	**13 42 09.0**	**-0.1**
ATHAL				S	**Sn**	**13 42 38.2**	**+3.7**
CSS	**Mathiatis**	**2.16**	**116**	PN	**Pn**	**13 42 09.4**	**-0.1**
CSS	**Mathiatis**	**2.16**	**116**	P	**Pn**	**13 42 09.1**	**-0.4**
CSS				AML	AML	13 42 50.7	
	comp=E,1.8nm,0.9s						
CSS				AML	AML	13 42 55.1	
	comp=E,1.3nm,0.5s						
CSS	**Mathiatis**	**2.16**	**116**		**Pn**	**13 42 08.9**	**-0.6**
CSS				Sn	**Sn**	**13 42 34.5**	**-0.6**
KMER	**Konya-Meram**	**2.17**	**31**	*i* P	**Pn**	**13 42 11.7**	**+2.1**
KMER				IAML		13 42 41.0	
	comp=E,494nm,0.4s						
KMER				IAML		13 42 42.0	
	comp=N,643nm,0.5s						
YESI	**Yesilovacik-Me**	**2.20**	**82**	PN	**Pn**	**13 42 11.4**	**+1.5**
LFK	**Lefkose**	**2.20**	**106**	PN	**Pn**	**13 42 10.7**	**+0.7**
TISA	**Tisan-Mersin**	**2.22**	**83**	PN	**Pn**	**13 42 11.8**	**+1.6**
IKL	**Isikli**	**2.24**	**81**	PN	**Pn**	**13 42 12.0**	**+1.6**
AKIN	**Akıncılar- Kıb**	**2.24**	**113**	PN	**Pn**	**13 42 10.8**	**+0.3**
KRMN	**Karaman**	**2.24**	**55**	PN	**Pn**	**13 42 13.7**	**+3.1**
KARG	**Kargicak-Mersi**	**2.25**	**82**	PN	**Pn**	**13 42 12.4**	**+1.8**
TAVA	**DENİZLİ_Tavas**	**2.25**	**314**	*i* P	**Pn**	**13 42 12.2**	**+1.5**
TAVA				*i* S	**Sn**	**13 42 37.0**	**-0.4**
TAVA				IAML		13 42 54.0	
	comp=N,380nm,0.8s						
TAVA				IAML		13 42 59.0	
	comp=E,612nm,1.0s						
DOGA	**KONYA_Doganhis**	**2.25**	**14**	*i* P	**Pn**	**13 42 13.2**	**+2.4**
DOGA				*i* S	**Sn**	**13 42 37.6**	**0.0**
DOGA				IAML		13 42 43.0	
	comp=E,806nm,0.7s						
DOGA				IAML		13 42 47.0	
	comp=N,1μm,0.8s						
KEBE	**Keben-Mersin**	**2.29**	**76**	PN	**Pn**	**13 42 13.2**	**+1.9**
ARG	**Arkhangelos**	**2.31**	**278**	P	**Pn**	**13 42 12.2**	**+0.8**
ARG				S	**Sn**	**13 42 40.9**	**+2.3**
	comp=N,358nm,0.3s						
ARG	**Arkhangelos**	**2.31**	**278**	PN	**Pn**	**13 42 12.0**	**+0.6**
ARG	**Arkhangelos**	**2.31**	**278**	P	**Pn**	**13 42 12.4**	**+1.0**
TURN	**Turunc**	**2.35**	**292**	PN	**Pn**	**13 42 13.5**	**+1.6**
TURN	**Turunc**	**2.35**	**292**	*i* P	**Pn**	**13 42 12.3**	**+0.4**
TURN				IAML		13 42 44.0	
	comp=E,127nm,0.2s						
TURN				IAML		13 43 04.0	
	comp=N,172nm,0.6s						
MVOU	**Mavrovouni**	**2.37**	**112**	P	**Pn**	**13 42 11.5**	**-0.7**
MVOU				AML	AML	13 42 52.0	
	comp=N,3.8nm,0.5s						
MVOU				AML	AML	13 42 56.0	
	comp=N,5.6nm,0.8s						
KZIL	**AFYON_Kizioren**	**2.42**	**345**	*i* P	**Pn**	**13 42 14.7**	**+1.6**
KZIL				IAML		13 42 50.0	
	comp=N,156nm,0.5s						
KZIL				IAML		13 43 03.0	
	comp=E,179nm,1.1s						
OSC1	**CSNet OBS 1**	**2.43**	**174**	P	**Pn**	**13 42 14.0**	**+1.0**
OSC1				S	**Sn**	**13 42 41.6**	**0.0**
SILI	**Silifke-Mersin**	**2.44**	**79**	PN	**Pn**	**13 42 14.8**	**+1.5**
YER	**Yerkesik**	**2.47**	**300**	P	**Pn**	**13 42 15.5**	**+1.8**
YER				S	**Sn**	**13 42 44.9**	**+2.2**
YER	**Yerkesik**	**2.47**	**300**	PN	**Pn**	**13 42 14.6**	**+0.9**
LADK	**Ladik-KONYA**	**2.54**	**26**	PN	**Pn**	**13 42 16.4**	**+1.7**
KIZK	**Mersin**	**2.64**	**77**	PN	**Pn**	**13 42 18.2**	**+2.2**
KIZK	**Mersin**	**2.64**	**77**	*i* P	**Pn**	**13 42 19.2**	**+3.2**
KIZK				*i* S	**Sn**	**13 42 50.8**	**+4.0**
EREN	**Erenkoy**	**2.65**	**98**	PN	**Pn**	**13 42 17.9**	**+1.9**
EREN	**Erenkoy**	**2.65**	**98**	*i* P	**Pn**	**13 42 17.6**	**+1.5**
EREN				*i* S	**Sn**	**13 42 46.7**	**-0.2**
EREN				IAML		13 42 54.0	
	comp=N,756nm,0.6s						
EREN				IAML		13 42 55.0	
	comp=E,609nm,0.9s						
SHUT	**Suhut-Afyon**	**2.65**	**353**	PN	**Pn**	**13 42 17.6**	**+1.4**
KHL	**Karahalli**	**2.66**	**335**	PN	**Pn**	**13 42 17.4**	**+1.1**
KDHN	**Kadinhani**	**2.76**	**19**	*i* P	**Pn**	**13 42 18.7**	**+1.0**
KDHN				IAML		13 42 56.0	
	comp=N,124nm,0.8s						
KDHN				IAML		13 42 56.0	
	comp=E,164nm,0.4s						
DATC	**Datca-Mugla**	**2.79**	**288**	PN	**Pn**	**13 42 19.1**	**+1.1**
DAT	**Datca**	**2.84**	**287**	PN	**Pn**	**13 42 20.0**	**+1.1**
MLSB	**Milas**	**2.90**	**299**	PN	**Pn**	**13 42 21.0**	**+1.4**
AFYO	**Afyonkarahisar**	**2.91**	**350**	*i* P	**Pn**	**13 42 21.5**	**+1.7**
AFYO				*i* S	**Sn**	**13 42 54.9**	**+1.3**
AFYO				IAML		13 43 05.0	
	comp=N,294nm,0.9s						
AFYO				IAML		13 43 06.0	
	comp=E,286nm,0.9s						
YESY	**Yesilyurt**	**2.91**	**49**	PN	**Pn**	**13 42 21.5**	**+1.7**
KERG	**Konya-Eregli**	**2.95**	**59**	*i* P	**Pn**	**13 42 22.5**	**+2.1**
KERG				IAML		13 43 03.0	
	comp=N,235nm,0.5s						
KERG				IAML		13 43 04.0	
	comp=E,406nm,0.5s						
AYDN	**Tasoluk**	**3.02**	**306**	*i* P	**Pn**	**13 42 22.1**	**+0.9**
AYDN				*i* S	**Sn**	**13 42 50.2**	**-6.0**
AYDN				IAML		13 43 22.0	
	comp=N,168nm,0.7s						
AYDN				IAML		13 43 29.0	
	comp=E,132nm,0.9s						
MERS	**Mersin**	**3.03**	**71**	PN	**Pn**	**13 42 23.2**	**+1.8**
OSC2	**CSNet OBS 4**	**3.04**	**159**	P	**Pn**	**13 42 23.4**	**+1.9**
KIZT	**Kizilcal**	**3.04**	**14**	PN	**Pn**	**13 42 22.8**	**+1.1**
SULT	**Sultanhani-AKS**	**3.06**	**41**	PN	**Pn**	**13 42 23.8**	**+1.9**
CHBY	**Cihanbeyli**	**3.07**	**30**	PN	**Pn**	**13 42 23.7**	**+1.7**
KARP	**Karpathos**	**3.11**	**264**	P	**Pn**	**13 42 23.6**	**+1.2**
KARP				S	**Sn**	**13 42 59.4**	**+1.1**
	comp=E,835nm,0.2s						
KARP	**Karpathos**	**3.11**	**264**	PN	**Pn**	**13 42 24.1**	**+1.7**
KARP	**Karpathos**	**3.11**	**264**	P	**Pn**	**13 42 23.9**	**+1.4**
KARP				S	**Sn**	**13 42 59.8**	**+1.5**
KARP	**Karpathos**	**3.11**	**264**	Pn	**Pn**	**13 42 23.2**	**+0.8**
KARP				Sn	**Sn**	**13 42 59.4**	**+1.1**
NIS1	**Nisyros Isl.**	**3.13**	**284**	PN	**Pn**	**13 42 23.3**	**+0.6**
BODT	**Bodrum**	**3.15**	**292**	P	**Pn**	**13 42 24.1**	**+1.1**
BODT				S	**Sn**	**13 43 01.1**	**+1.8**
BODT	**Bodrum**	**3.15**	**292**	PN	**Pn**	**13 42 24.5**	**+1.5**
KULA	**Kula-Manisa**	**3.17**	**325**	P	**Pn**	**13 42 24.4**	**+1.1**
KULA	**Kula-Manisa**	**3.17**	**325**	PN	**Pn**	**13 42 25.5**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**3.18**	**310**	PN	**Pn**	**13 42 24.8**	**+1.3**
YKAV	**Yalikavak-Bodr**	**3.19**	**293**	PN	**Pn**	**13 42 24.5**	**+0.9**
MANT	**Manisa**	**3.20**	**324**	*i* P	**Pn**	**13 42 22.4**	**-1.4**
MANT				*i* S	**Sn**	**13 43 01.3**	**+0.4**
GEDZ	**Gediz**	**3.35**	**339**	PN	**Pn**	**13 42 27.6**	**+1.8**
GULE	**Gulek**	**3.36**	**65**	*i* P	**Pn**	**13 42 29.3**	**+3.2**
AUKIR	**Kırka- Seyitga**	**3.37**	**354**	*i* P	**Pn**	**13 42 27.9**	**+1.8**
AUKIR				IAML		13 43 14.0	
	comp=N,104nm,0.3s						
AUKIR				IAML		13 43 19.0	
	comp=E,152nm,0.6s						
GDZ	**Gediz**	**3.37**	**340**	*i* P	**Pn**	**13 42 27.7**	**+1.5**
GDZ				*i* S	**Sn**	**13 43 03.2**	**-1.8**
CIFT	**Cifteler, Eski**	**3.44**	**1**	PN	**Pn**	**13 42 28.7**	**+1.7**
SIMA	**Simav-Kutahya**	**3.52**	**334**	PN	**Pn**	**13 42 29.5**	**+1.3**
AKSY	**AKSARAY - Alti**	**3.53**	**39**	*i* P	**Pn**	**13 42 29.6**	**+1.4**
AUSIV	**SIVRIHISAR**	**3.54**	**7**	PN	**Pn**	**13 42 29.8**	**+1.3**
AUSIV	**SIVRIHISAR**	**3.54**	**7**	*i* P	**Pn**	**13 42 28.9**	**+0.4**
AUSIV				*i* S	**Sn**	**13 43 07.4**	**-1.7**
AUSIV				IAML		13 43 42.0	
	comp=E,56nm,0.7s						
AUSIV				IAML		13 43 50.0	
	comp=N,46nm,1.5s						
SVRH	**Sivrihisar-ESK**	**3.55**	**7**	PN	**Pn**	**13 42 29.8**	**+1.2**
KARA	**Karaisali**	**3.56**	**67**	PN	**Pn**	**13 42 30.6**	**+2.0**
GULA	**Gulagac**	**3.57**	**46**	PN	**Pn**	**13 42 30.5**	**+1.7**
KKUL	**Konya-Kulu**	**3.60**	**25**	*i* P	**Pn**	**13 42 31.2**	**+1.9**
KKUL				IAML		13 43 34.0	
	comp=E,74nm,0.8s						
KKUL				IAML		13 43 37.0	
	comp=N,54nm,0.7s						
KRTS	**Karatas**	**3.63**	**78**	PN	**Pn**	**13 42 31.7**	**+2.1**
SERE	**Sereflikochisa**	**3.67**	**34**	PN	**Pn**	**13 42 32.2**	**+2.0**
CMRD	**Camardi-Nigde**	**3.68**	**61**	PN	**Pn**	**13 42 32.5**	**+2.2**
TVSB	**Tavsanli**	**3.72**	**342**	PN	**Pn**	**13 42 32.6**	**+1.7**
SMG	**Samos**	**3.75**	**300**	P	**Pn**	**13 42 31.8**	**+0.5**
SMG				S	**Sn**	**13 43 15.3**	**+1.1**
	comp=N,168nm,0.6s						
YAYX	**Yaylak**	**3.77**	**36**	PN	**Pn**	**13 42 33.0**	**+1.3**
AKHS	**Akhisar**	**3.87**	**321**	*i* P	**Pn**	**13 42 31.5**	**-1.4**
DGB	**zmir**	**3.89**	**304**	*i* P	**Pn**	**13 42 32.8**	**-0.3**
DGB				*i* S	**Sn**	**13 43 11.4**	**-6.2**
ZKR	**Zakros**	**3.95**	**260**	P	**Pn**	**13 42 35.3**	**+1.4**
ZKR				S	**Sn**	**13 43 18.6**	**-0.4**
	comp=N,185nm,0.3s						
BORA	**Eskisehir**	**3.97**	**354**	PN	**Pn**	**13 42 36.4**	**+2.0**
BORA	**Eskisehir**	**3.97**	**354**	*i* P	**Pn**	**13 42 36.1**	**+1.7**
BORA				*i* S	**Sn**	**13 43 15.8**	**-3.9**
KIRS	**Kırehir-Merke**	**3.98**	**35**	*i* P	**Pn**	**13 42 35.9**	**+1.5**
BBAL	**Bala**	**4.00**	**25**	*i* P	**Pn**	**13 42 37.0**	**+2.2**
BBAL				*i* S	**Sn**	**13 43 18.9**	**-1.7**
BBAL				IAML		13 43 26.0	
	comp=N,44nm,0.6s						
BBAL				IAML		13 43 27.0	
	comp=E,50nm,0.5s						
STIA	**Sitia Lasithi**	**4.03**	**261**	P	**Pn**	**13 42 36.6**	**+1.6**
STIA				S	**Sn**	**13 43 22.3**	**+1.4**
AUBOZ	**BOZOYUK**	**4.05**	**350**	PN	**Pn**	**13 42 37.4**	**+2.0**
AUBOZ	**BOZOYUK**	**4.05**	**350**	*i* P	**Pn**	**13 42 35.2**	**-0.2**
AUBOZ				*i* S	**Sn**	**13 43 21.0**	**-0.6**
AUBOZ				IAML		13 43 26.0	
	comp=E,113nm,0.4s						
AUBOZ				IAML		13 43 31.0	
	comp=N,70nm,0.5s						
SRCK	**Saricakaya, Es**	**4.12**	**356**	PN	**Pn**	**13 42 38.0**	**+1.7**
YAYL	**Yayladag**	**4.18**	**87**	*i* P	**Pn**	**13 42 39.9**	**+2.7**
AMGA	**Amorgos Island**	**4.18**	**284**	P	**Pn**	**13 42 38.3**	**+1

baz=153
MATC Matruh 5.52 215 P **Pn** 13 42 55.6 +0.2
baz=216
MATC S **Sn** 13 43 54.1 -3.6
baz=216
DSI Dead Sea 5.69 138 Pn **Pn** 13 42 58.3 +0.4
YTIR Yattir 5.72 141 Pn **Pn** 13 42 59.4 +1.1
YTIR Sn **Sn** 13 44 01.4 -1.3
KOT Kottamia 6.02 173 P **Pn** 13 43 03.0 +0.5
baz=172
KOT AMP 13 44 00.0
baz=172
KOT S **Sn** 13 44 06.7 -3.4
baz=172
HHAG Hagoal 6.03 170 P **Pn** 13 43 03.5 +0.9
baz=169
HHAG AMP 13 44 00.0
baz=169
HHAG S **Sn** 13 44 07.1 -3.2
baz=169
ASF Jabal al Asfar 6.19 125 P **Pn** 13 43 06.5 +1.7
comp=N,0.5nm,0.3s,baz=317,slow=5.7,SNR=2.5
ASF S **Sn** 13 44 16.9 +2.6
comp=N,1.0nm,0.3s,baz=270,slow=24,SNR=1.5
KARJ KARJ 6.19 139 Pn Pn 13 42 55.8 -8.9
SUZ Suez 6.26 165 P **Pn** 13 43 06.8 +1.0
baz=164
HNAT Natroun 6.28 183 P **Pn** 13 43 07.1 +1.2
baz=183
HSAF As Saff 6.30 175 P **Pn** 13 43 06.8 +0.5
baz=174
GLL Jalalah 6.36 174 P **Pn** 13 43 07.5 +0.5
baz=173
PRNI Paran 6.51 147 Pn **Pn** 13 43 09.8 +0.7
PRNI Sn **Sn** 13 44 20.9 -1.2
SLUM Salum 6.51 229 P **Pn** 13 43 10.8 +1.7
baz=230
KRMI Paran Flat 6.60 150 Pn **Pn** 13 43 10.1 -0.2
KRMI Sn **Sn** 13 44 21.4 -2.8
ZAF Zafarana 6.75 168 P **Pn** 13 43 13.0 +0.5
baz=167
MBRI Mt Berech 6.96 150 Pn **Pn** 13 43 15.5 +0.2
AQBJ Aqaba 7.07 150 Pn **Pn** 13 43 17.5 +0.7
EIL Elat 7.08 151 P **Pn** 13 43 17.2 +0.3
comp=N,4.2nm,0.3s,baz=335,slow=8.7,SNR=37
EIL S **Sn** 13 44 32.7 -3.4
comp=N,2.5nm,0.3s,baz=3.0,slow=16,SNR=4.5
EIL LR LR 13 46 37.2
comp=N,51nm,19.6s,baz=276,slow=43
EIL Elat 7.08 151 Pn **Pn** 13 43 16.9 -0.1
EIL Sn **Sn** 13 44 33.2 -2.9
NBNS Bani Suef 7.28 178 P **Pn** 13 43 20.4 +0.7
baz=177
HDHB Dhahab 7.82 156 P **Pn** 13 43 28.2 +1.2
baz=155
TAMRE El Minia 8.21 180 P **Pn** 13 43 32.9 +0.4
baz=179
MLR Muntele Rosu 10.29 340 P **Pn** 13 44 02.6 +1.7
comp=N,0.2nm,0.3s,baz=267,slow=9.1,SNR=2.0
RAFF Raffo Rosso 13.40 280 **Pn** 13 44 42.9 -0.4
CONA Conrad Observa 16.40 322 *e*Pn **P** 13 45 23.9 -1.0
comp=N,3.7nm,1.1s
MYKA Terra Mystica 16.81 315 *e*Pn **P** 13 45 30.6 +1.1
comp=N,2.7nm,0.5s
ZOU Zoufplan 17.16 314 P **P** 13 45 35.3 +1.9
ZOU IAmb IAmb 13 45 35.7
comp=Z,3.9nm,0.7s
CIMO Cimolais 17.35 312 P **P** 13 45 35.3 0.0
CIMO IAmb IAmb 13 45 36.9
comp=Z,12nm,1.5s
GERES GERESS Array B 18.09 321 P **Pn** 13 45 44.6 +0.9
comp=Z,0.2nm,0.3s,baz=120,slow=7.9,SNR=7.3
SQTA Sankt Quirin 18.54 314 *e*Pn **Pn** 13 45 50.8 +1.6
comp=Z,4.5nm,0.6s
FETA Feichten 18.72 313 *e*Pn **Pn** 13 45 53.1 +1.7
comp=Z,9.7nm,1.2s
DAVOX Davos/Dischmat 19.12 311 P **Pn** 13 45 56.2 -0.1
comp=Z,0.5nm,0.3s,baz=115,slow=9.6,SNR=15
DAVA Damuels 19.36 312 *i* Pn **Pn** 13 45 58.6 -0.4
comp=Z,8.3nm,0.5s,SNR=7.8
SENIN Lac Senin/Sane 20.57 308 P **P** 13 46 10.9 +0.1
BFO Black Forest 20.77 314 Pn 13 46 16.4 +0.7
BFO IAmb IAmb 13 46 19.4
comp=Z,12nm,1.3s
AKTO Aktyubinsk 24.32 45 P **P** 13 46 48.0 -0.9
comp=Z,4.9nm,0.7s,baz=243,slow=9.5,SNR=7.4
ABKAR Akbulak array 24.98 49 P **P** 13 46 55.1 +0.1
ABKAR Akbulak array 24.98 49 P **P** 13 46 55.0 +0.1
ABKAR IAmb IAmb 13 47 24.0
comp=Z,7.1nm,1.5s
FINES FINESS Array B 25.73 355 P **P** 13 47 00.8 -0.7
comp=Z,1.6nm,0.4s,baz=161,slow=10,SNR=22
FIA1 FINESS Array S 25.73 355 P **P** 13 47 00.6 -1.0
HFS Hagfors 26.67 341 P **P** 13 47 09.8 -0.2
comp=Z,2.9nm,0.7s,baz=158,slow=12,SNR=6.6
ESDC Sonseca Array 27.74 288 P **P** 13 47 20.4 +0.4
comp=Z,0.9nm,0.6s,baz=81,slow=9.7,SNR=7.3
ESDC Sonseca Array 27.74 288 P **P** 13 47 20.8 +0.9
NB2 NORSAR Subarra 28.11 340 P **P** 13 47 21.5 -1.5
comp=Z,0.8nm,0.6s,baz=150,slow=9.3
NOA NORSAR Array B 28.11 340 P **P** 13 47 22.0 -1.0
comp=Z,0.6nm,0.5s,baz=127,slow=10,SNR=3.5
NOA LR LR 14 00 43.7
comp=Z,29nm,18.1s,baz=345,slow=41
KKAR Karatay Array 31.13 64 P **P** 13 47 50.9 +1.0
ARCES ARCESS Array B 33.80 357 P **P** 13 48 11.8 -1.2
comp=Z,2.0nm,0.6s,baz=153,slow=6.8,SNR=11
ARCES PcP **PcP** 13 50 50.8 -0.3
comp=Z,1.8nm,1.1s,baz=207,slow=3.2,SNR=5.3
TORD Torodi Ar. Bea 34.73 237 P **P** 13 48 20.3 -1.3
comp=Z,0.2nm,0.7s,baz=37,slow=9.3,SNR=1.6
MAKZ Makanchi 39.18 58 P **P** 13 48 59.5 +0.4
MK31 Makanchi Array 39.39 58 P **P** 13 49 01.0 +0.1
MK31 IAmb IAmb 13 49 35.7
comp=Z,5.9nm,1.8s
MKAR Makanchi Array 39.39 58 P **P** 13 49 00.6 -0.3
comp=Z,1.2nm,0.7s,baz=269,slow=8.5,SNR=11
MKAR Makanchi Array 39.39 58 P **P** 13 49 00.9 0.0
ZALV Zalesovo Beam 41.06 47 P **P** 13 49 13.8 -0.7
comp=Z,1.5nm,0.4s,baz=262,slow=9.1,SNR=7.5
NRIK Noril'sk 45.20 25 P **P** 13 49 48.1 +0.4
comp=Z,2.1nm,0.4s,baz=222,slow=5.0,SNR=5.4
GTA Gaotai 53.41 64 *e*P **P** 13 50 51.9 +0.9
GTA pP pP 13 50 56.8 -6.6
GTA sP pwP 13 51 00.0 -6.7
GTA pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 55.31 52 P **P** 13 51 04.6 -0.1
comp=Z,0.7nm,0.5s,baz=289,slow=9.3,SNR=3.9
CMAR Chiang Mai Arr 61.80 87 P **P** 13 51 48.8 -1.4
comp=Z,0.8nm,0.4s,baz=296,slow=7.8,SNR=6.1
ILAR Eielson Array 79.62 359 P **P** 13 53 38.0 +0.2
comp=Z,0.3nm,0.6s,baz=350,slow=2.5,SNR=4.5

BJI ***18*** *13:59:35.9±0.0,6.°93N×92.°30E, h8km, mB4.8/28, mb4.6/37, Ms4.1/14, Ms7 4.0/11*
IDC ***18*** *13:59:37.5±0.5, 7.°12N×92.°44E, h0km, mb4.3/23, mb1 4.4/24, mb1mx4.3/44, mbtmp4.3/24, ML3.9/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/35, Error ellipse: s-maj=22.8km s-min=11.4km az=52.0*
DJA ***18*** *13:59:39.7±0.3, 7.°N±4.°×9.°2E±.°, h10km, M4.5/10, mb4.5/10, mB4.7/3, MLv4.6/5, Mw(mB)4.0/3, Mwp5.5/1*
NEIC ***18*** *13:59:41.9±1.8, 6.°96N±0.°06×92.°37E±0.°08, h32km±4km, mb4.7/22, Error ellipse: s-maj=12.2km s-min=8.5km az=73.0*
ISC 18 13:59:40.9±0.4, 7.°06N±0.°07×92.°37E±0.°06, h23km, n133, σ1s27/121, mb4.6/45, MS3.6/13, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**4.58**	**5**	*e*P		Pn	14 00 49.3	+0.4
PBA				IAmb	IAmb	IAmb	14 00 57.7	
	comp=Z,45nm,0.5s							
PBA				*e*S		Sn	14 01 38.6	-2.8
PBA	**Port Blair**	**4.58**	**5**	Pn		Pn	14 00 51.4	+2.5
MLSI	**Meulaboh, Aceh**	**4.88**	**124**	P		**Pn**	**14 00 51.9**	**-1.0**
TPTI		**6.10**	**128**	P		**Pn**	**14 01 07.5**	**-2.2**
	comp=Z,0.2nmcomp=Z,51nm,0.8s							
GSI	**Gunungsitoli**	**7.72**	**138**	P		**Pn**	**14 01 29.6**	**-2.4**
	comp=Z,0.3nmcomp=Z,23nm,1.0s							
PSI	**Prapat**	**7.78**	**123**	Pn		**Pn**	**14 01 32.3**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=258,slow=7.7,SNR=4.1							
RPSI	**Rantau Prapat**	**7.84**	**123**	Pn		**Pn**	**14 01 31.4**	**-2.2**
KULM	**Kulim**	**8.42**	**102**	Pn		**Pn**	**14 01 41.7**	**+0.2**
IPM	**Ipoh**	**8.98**	**106**	Pn		**Pn**	**14 01 49.2**	**-0.2**
PALK	**Pallekele**	**11.58**	**272**	Pn		**Pn**	**14 02 25.8**	**+0.8**
MYKOM	**Kota Tinggi**	**12.58**	**114**	Pn		**Pn**	**14 02 36.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**13.01**	**29**	Pn		**Pn**	**14 02 45.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=231,slow=15,SNR=78							
CMAR				LR		LR	14 07 42.1	
	comp=Z,121nm,19.2s,baz=205,slow=38							
CMAR	**Chiang Mai Arr**	**13.01**	**29**			**Pn**	**14 02 48.0**	**+3.5**
CHTO	**Chiang Mai**	**13.32**	**28**	Pn		**Pn**	**14 02 51.9**	**+3.2**
MDRS	**Chennai**	**13.35**	**298**	*e*P		**Pn**	**14 02 48.7**	**-0.3**
MDRS				IAmb		IAmb	14 02 50.6	
	comp=Z,28nm,0.8s							
DSRI	**Dabo**	**14.30**	**121**	P		**P**	**14 03 12.1**	**+3.0**
BWNR	**Bhubaneshwar**	**14.62**	**335**	*e*P		**Pn**	**14 03 02.4**	**-4.0**
BWNR				*ex*		x	14 05 32.8	
UBPT	**Khong Chiam**	**15.22**	**56**			**P**	**14 03 19.9**	**+0.6**
UBPT				IAmb		IAmb	14 03 33.7	
	comp=Z,40nm,0.9s							
LHSI	**Lahat**	**15.52**	**134**	P		**P**	**14 03 24.6**	**+1.9**
DLV	**T Lat**	**16.61**	**72**	P		**P**	**14 03 34.4**	**-0.7**
DLV				IAmb		IAmb	14 03 42.5	
	comp=Z,42nm,1.2s							
HYB	**Hyderabad**	**16.97**	**309**	*i* P		**Pn**	**14 03 37.0**	**0.0**
KLSI		**16.98**	**133**	P		P	14 03 47.7	+8.8
BOK	**Bokaro**	**17.77**	**340**	*e*P		**P**	**14 03 47.3**	**-0.2**
BOK				IAmb		IAmb	14 03 51.6	
	comp=Z,19nm,0.8s							
SHL	**Shillong**	**18.41**	**359**	*e*P		**P**	**14 03 53.8**	**-1.0**
SHL				IAmb		IAmb	14 04 04.0	
	comp=Z,12nm,0.7s							
KOHI	**KOHIMA**	**18.63**	**5**	*e*P		**P**	**14 03 55.2**	**-2.0**
KOHI				IAmb		IAmb	14 04 05.3	
	comp=Z,142nm,0.8s							
NGP	**Nagpur**	**19.03**	**319**	*ex*		x	14 04 04.8	
NGP				IAmb		IAmb	14 04 08.6	
	comp=Z,25nm,0.7s							
MOKO	**MOKOCHONG**	**19.26**	**6**	*e*P		**P**	**14 04 02.8**	**-1.3**
MOKO				IAmb		IAmb	14 04 13.7	
	comp=Z,54nm,0.8s							
TEZP	**TEZPUR**	**19.45**	**1**	*e*P		**P**	**14 04 03.9**	**-2.2**
TEZP				IAmb		IAmb	14 04 12.7	
	comp=Z,12nm,0.5s							
SBUM	**Sibu**	**20.30**	**102**	P		**P**	**14 04 12.3**	**-3.1**
ZIRO	**ZIRO**	**20.40**	**4**	*e*P		**P**	**14 04 15.5**	**-1.1**
GTK	**Tadong**	**20.46**	**350**	*ex*		**P**	**14 04 18.9**	**+1.7**
GTK				IAmb		IAmb	14 04 20.2	
	comp=Z,42nm,0.5s							
GTK				*i* x		x	14 04 25.9	
KMI	**Kunming**	**20.52**	**28**	⇑P		**P**	**14 04 16.4**	**-1.5**
KMI				pP		Pn	14 04 20.6	+0.4
KMI				sP		pP	14 04 23.3	0.0
KMI				pmax		pmax		
	comp=Z,18nm,0.7s							
KMI				pmax		pmax		
	comp=Z,50nm,3.5s							
KMI				LR		LR		
	comp=Z,210nm,14.8s							
KMI				LR		LR		
	comp=Z,240nm,9.5s							
LEM	**Lembang**	**20.53**	**132**	LR		LR	14 14 00.5	
	comp=Z,120nm,19.2s,baz=268,slow=42							
QIZ	**Qiongzhong**	**20.74**	**53**	P		Pn	14 04 24.3	+1.7
QIZ				LR		LR		
	comp=Z,370nm,10.2s							
QIZ				LR		LR		
	comp=Z,620nm,11.4s							
QIZ				LR		LR		
	comp=Z,790nm,11.7s							
LSA	**Lhasa**	**22.55**	**357**	P		**P**	**14 04 40.6**	**+0.5**
LSA				IAmb		IAmb	14 04 50.5	
	comp=Z,18nm,0.7s							
GYA	**Guiyang**	**23.61**	**34**	*e*P		**P**	**14 04 51.4**	**+0.9**
GYA				pmax		pmax		
	comp=Z,12nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,3.5s							
H08S3	**Diego Garcia H**	**24.62**	**234**	T		T	14 31 09.3	
	baz=53,slow=75,SNR=592							
H08S2	**Diego Garcia H**	**24.62**	**234**	T		T	14 31 09.4	
	baz=53,slow=75,SNR=443							
H08S1	**Diego Garcia H**	**24.64**	**234**	T		T	14 31 23.8	
	baz=53,slow=75,SNR=307							
MYLDM	**Lahad Datu**	**26.04**	**93**	P		**P**	**14 05 14.2**	**+1.4**
MYLDM				IAmb		IAmb	14 05 31.7	
	comp=Z,31nm,0.9s							
KAPI	**Kappang**	**29.84**	**113**	LR		LR	14 19 06.9	
	comp=Z,102nm,19.0s,baz=308,slow=39							
XAN	**Xi'an**	**30.90**	**27**	P		**P**	**14 05 55.1**	**-0.9**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
XAN				LR		LR		
	comp=Z,160nm,20.6s							
XAN				LR		LR		
	comp=Z,140nm,19.5s							
XAN				LR		LR		
	comp=Z,220nm,14.1s							
WHN	**Wuhan**	**31.15**	**39**	P		P	14 06 06.3	+8.2
WHN				S		S	14 11 20.1	+17
WHN				LR		LR		
	comp=N,430nm,10.0s							
WHN				LR		LR		
	comp=E,410nm,7.0s							
WHN				LR		LR		
	comp=Z,520nm,13.0s							
GTA	**Gaotai**	**32.90**	**11**	P		**P**	**14 06 14.4**	**+0.9**
GTA				pP		sP	14 06 22.0	+0.4
GTA				sP		pwP	14 06 25.8	+1.5
GTA				pmax		pmax		
	comp=Z,11nm,0.8s							
GTA				pmax		pmax		
	comp=Z,83nm,4.1s							
GTA				LR		LR		
	comp=Z,120nm,16.0s							
GTA				LR		LR		
	comp=Z,98nm,17.5s							
BATI	**Baumata**	**35.57**	**118**	P		**P**	**14 06 36.0**	**-1.0**
	comp=Z,18nm,0.5s,baz=105,slow=19,SNR=1.7							
BOOM	**Boomskoye usch**	**38.16**	**340**	P		**P**	**14 07 00.0**	**+1.2**
BOOM				IAmb		IAmb	14 07 08.2	
	comp=Z,8.2nm,0.8s							
UCH	**Uchtor**	**38.43**	**339**	P		**P**	**14 07 03.1**	**+1.7**
	SNR=13							
KBK	**Karagaybulak**	**38.65**	**339**	P		**P**	**14 07 05.2**	**+2.3**
	SNR=11							
AML	**Almayashu**	**38.65**	**338**	P		**P**	**14 07 05.1**	**+1.9**
	SNR=34							
AAK	**Ala-Archa**	**38.79**	**339**	P		**P**	**14 07 06.4**	**+2.4**
	SNR=6.4							
EKS2	**Erkin-Say**	**39.07**	**338**	P		**P**	**14 07 08.4**	**+2.0**
	SNR=8.3							
USP	**Ospenovka**	**39.34**	**339**	P		**P**	**14 07 10.0**	**+1.5**
	SNR=13							
SIJI	**Sorong**	**39.60**	**100**	P		**P**	**14 07 10.1**	**-0.9**
	comp=Z,7.7nm,0.8s,baz=207,slow=7.2,SNR=3.9							
MK31	**Makanchi Array**	**40.52**	**349**	P		**P**	**14 07 18.6**	**+0.3**
MKAR	**Makanchi Array**	**40.52**	**349**	P		**P**	**14 07 18.7**	**+0.4**
	comp=Z,6.3nm,0.6s,baz=168,slow=8.0,SNR=77							
MAKZ	**Makanchi**	**40.60**	**349**	P		**P**	**14 07 19.6**	**+0.7**
MAKZ				IAmb		IAmb	14 07 27.3	
	comp=Z,5.3nm,0.7s							
KKAR	**Karatay Array**	**40.73**	**335**	P		**P**	**14 07 21.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**41.27**	**128**	P		**P**	**14 07 24.5**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=324,slow=6.1,SNR=14							
FITZ	**Fitzroy Crossi**	**41.27**	**128**	P		**P**	**14 07 24.8**	**+0.1**
	baz=41,SNR=7.4							
FITZ	**Fitzroy Crossi**	**41.27**	**128**	P		**P**	**14 07 24.6**	**-0.1**
FITZ				IAmb		IAmb	14 07 32.8	
	comp=Z,7.6nm,0.8s							
SONM	**Songino Array**	**42.35**	**14**	P		**P**	**14 07 33.5**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=192,slow=9.0,SNR=12							
SONM				PcP		**PcP**	**14 09 27.1**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=198,slow=3.9,SNR=4.2							
SONM				LR		LR	14 25 18.9	
	comp=Z,43nm,18.3s,baz=184,slow=36							
SONM	**Songino Array**	**42.35**	**14**	PcP		**PcP**	**14 09 26.5**	**-0.2**
KNRA	**Kununurra**	**42.54**	**122**	P		**P**	**14 07 34.6**	**-0.6**
	baz=43,SNR=4.4							
MTN	**Manton Dam**	**43.29**	**117**	P		**P**	**14 07 40.3**	**-1.0**
	baz=43,SNR=5.3							
KURBB	**Kurchatov Arra**	**44.93**	**348**	P		**P**	**14 07 54.7**	**+0.8**
	comp=Z,8.7nm,0.7s,baz=170,slow=6.9,SNR=89							
KURBB				PcP		**PcP**	**14 09 36.0**	**+0.9**
	comp=Z,2.5nm,1.0s,baz=182,slow=2.2,SNR=1.5							
KURK	**Kurchatov**	**45.00**	**348**	P		**P**	**14 07 55.2**	**+0.7**
KURK				IAmb		IAmb	14 08 03.1	
H01W3	**Cape Leeuwin H**	**46.51**	**155**	T		T	14 58 09.4	
	baz=331,slow=76,SNR=6.2							
H01W2	**Cape Leeuwin H**	**46.52**	**155**	T		T	14 58 08.4	
	baz=331,slow=76,SNR=7.4							
H01W1	**Cape Leeuwin H**	**46.52**	**155**	T		T	14 58 09.1	
	baz=331,slow=76,SNR=5.6							
ZAA0	**Zalesovo Array**	**47.15**	**354**	P		**P**	**14 08 11.3**	**0.0**
ZAA0				IAmb		IAmb	14 08 20.3	
	comp=Z,17nm,1.4s							
ZALV	**Zalesovo Beam**	**47.15**	**354**	P		**P**	**14 08 11.6**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=164,slow=8.9,SNR=20							
ZALV				LR		LR	14 32 45.7	
	comp=Z,38nm,18.4s,baz=150,slow=42							
WRKA	**Warakurna**	**47.34**	**134**	P		**P**	**14 08 14.1**	**+0.7**
	baz=47,SNR=5.1							
WB0	**Warramunga Arr**	**49.20**	**124**	P		**P**	**14 08 27.3**	**-0.5**
WRA	**Warramunga Arr**	**49.24**	**124**	P		**P**	**14 08 27.9**	**-0.2**
	comp=Z,7.0nm,0.8s,baz=303,slow=8.9,SNR=45							
WRA	**Warramunga Arr**	**49.24**	**124**	P		**P**	**14 08 28.1**	**0.0**
WRAB	**Tennant Creek**	**49.25**	**124**	P		**P**	**14 08 28.2**	**+0.1**
WB2	**Warramunga Arr**	**49.25**	**124**	P		**P**	**14 08 28.7**	**+0.5**
BRVK	**Borovoye**	**49.27**	**343**	P		**P**	**14 08 26.7**	**-1.1**
BRVK				IAmb		IAmb	14 08 36.3	
	comp=Z,4.9nm,0.8s							
WR0	**Warramunga Arr**	**49.42**	**124**	P		**P**	**14 08 29.5**	**+0.1**
ABKAR	**Akbulak array**	**50.12**	**333**	P		**P**	**14 08 34.9**	**+0.6**
ABKAR				IAmb		IAmb	14 08 43.7	
	comp=Z,18nm,1.4s							
ABKAR	**Akbulak array**	**50.12**	**333**	P		**P**	**14 08 35.2**	**+0.9**
ASAR	**Alice Springs**	**50.77**	**128**	P		**P**	**14 08 39.8**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=308,slow=7.6,SNR=47							
MJAR	**Matsushiro Arr**	**51.00**	**48**	P		**P**	**14 08 41.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=232,slow=7.2,SNR=2.8							
MJAR				PcP		**PcP**	**14 09 57.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=244,slow=2.1,SNR=2.9							
MJAR				LR		LR	14 31 57.8	
	comp=Z,53nm,19.0s,baz=235,slow=38							
MJAR	**Matsushiro Arr**	**51.00**	**48**	IAmb		IAmb	14 08 49.1	
	comp=Z,1.9nm,1.2s							
QIS	**Mount Isa**	**53.92**	**122**	P		**P**	**14 09 03.5**	**+0.4**
	baz=54,SNR=7.3							
KMBO	**Kilima Mbogo**	**55.59**	**264**	LR		LR	14 28 43.4	
	comp=Z,50nm,21.7s,baz=90,slow=31							
KBZ	**Khabaz**	**56.52**	**319**	P		**P**	**14 09 21.6**	**+0.1**
	comp=Z,5.6nm,1.1s,baz=136,slow=5.9,SNR=4.3							
STKA	**Stephens Creek**	**60.84**	**132**	P		**P**	**14 09 51.0**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=314,slow=7.9,SNR=8.7							
STKA	**Stephens Creek**	**60.84**	**132**	P		**P**	**14 09 52.8**	**+1.0**
	baz=61,SNR=5.3							
STKA	**Stephens Creek**	**60.84**	**132**	IAmb		IAmb	14 10 00.7	
	comp=Z,1.2nm,0.8s							
BRTR	**Keskin Array B**	**61.64**	**311**	P		**P**	**14 09 56.7**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=148,slow=9.6,SNR=4.0							
NRIK	**Noril'sk**	**62.28**	**358**	P		**P**	**14 10 00.1**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=146,slow=5.9,SNR=6.2							
CMSA	**Cobar Meteorol**	**63.73**	**130**	P		**P**	**14 10 12.4**	**+1.3**
	baz=64,SNR=17							
RMQ	**Roma**	**64.01**	**124**	P		**P**	**14 10 15.5**	**+2.4**
	baz=64,SNR=4.2							
AKASG	**Malin Array Be**	**67.71**	**322**	P		**P**	**14 10 35.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=87,slow=4.3,SNR=4.2							
BURAR	**Bucovina Array**	**69.47**	**318**	P		**P**	**14 10 47.3**	**-0.4**
KOLS	**Kolonicke sedl**	**71.66**	**319**	*e*P		**P**	**14 11 01.5**	**+0.6**
FINES	**FINESS Array B**	**72.61**	**333**	P		**P**	**14 11 06.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=256,slow=15,SNR=7.1							
BOSA	**Boshof**	**73.67**	**238**	LR		LR	14 36 54.3	
	comp=Z,41nm,20.7s,baz=334,slow=30							
VYHS	**Vyhne**	**73.84**	**318**	*e*P		**P**	**14 11 14.5**	**+0.6**
KRLC	**Kraliky**	**75.37**	**320**	*e*P		**P**	**14 11 23.9**	**+1.1**
KRLC				*ep*P		**sP**	**14 11 31.1**	**-0.1**
ARCES	**ARCESS Array B**	**75.44**	**340**	P		**P**	**14 11 22.3**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=84,slow=5.0,SNR=1.7							
DPC	**Dobruska-Polom**	**75.70**	**320**	*e*P		**P**	**14 11 25.6**	**+1.0**
DPC				*ep*P		**sP**	**14 11 33.1**	**+0.1**
ARSA	**Arzberg**	**75.92**	**317**	*e*P		**P**	**14 11 26.9**	**+0.9**
	comp=Z,8.0nm,1.2s							
SOKA	**Soboth**	**76.21**	**316**	*e*P		**P**	**14 11 28.8**	**+1.1**
	comp=Z,7.9nm,1.4s							
GERES	**GERESS Array B**	**77.26**	**318**	P		**P**	**14 11 34.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=90,slow=5.3,SNR=19							
GERES	**GERESS Array B**	**77.26**	**318**	P		**P**	**14 11 33.0**	**-0.6**
KHC	**Kasperske Hory**	**77.36**	**319**	*e*P		**P**	**14 11 34.7**	**+0.6**
KHC				*ep*P		**sP**	**14 11 42.1**	**-0.4**
MAW	**Mawson**	**77.39**	**191**	P		**P**	**14 11 35.9**	**+2.2**
	comp=Z,2.3nm,0.8s,baz=16,slow=7.5,SNR=7.6							
MAW	**Mawson**	**77.39**	**191**	P		**P**	**14 11 33.8**	**+0.1**
CLL	**Collm**	**77.88**	**321**	*e*P		**P**	**14 11 39.0**	**+2.2**
ABTA	**Abfaltersbach**	**77.95**	**316**	*e*P		**P**	**14 11 37.3**	**-0.1**
	comp=Z,5.1nm,1.1s							
WTTA	**Wattenberg**	**78.57**	**317**	*e*P		**P**	**14 11 40.3**	**-0.7**
	comp=Z,4.1nm,0.7s							
SQTA	**Sankt Quirin**	**78.86**	**317**	*e*P		**P**	**14 11 42.7**	**+0.2**
	comp=Z,6.6nm,0.9s							
MOTA	**Moosalm**	**78.93**	**317**	*i* P		**P**	**14 11 43.1**	**+0.2**
	comp=Z,5.0nm,0.8s							
RETA	**Reutte**	**79.17**	**317**	*e*P		**P**	**14 11 44.6**	**+0.4**
	comp=Z,5.9nm,0.8s							
FETA	**Feichten**	**79.18**	**316**	*e*P		**P**	**14 11 44.9**	**+0.6**
	comp=Z,3.5nm,0.9s							
NOA	**NORSAR Array B**	**79.58**	**331**	P		**P**	**14 11 44.8**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=95,slow=5.6,SNR=2.0							
NOA				LR		LR	14 50 46.0	
	comp=Z,23nm,19.0s,baz=255,slow=39							
DAVA	**Damuels**	**79.76**	**317**	*i* P		**P**	**14 11 48.4**	**+0.9**
	comp=Z,9.2nm,1.1s							
SYO	**Syowa Base**	**84.12**	**197⇑**	*e*P		**P**	**14 12 10.0**	**+0.4**
NOR	**Nord**	**85.81**	**352**	*i* P		**P**	**14 12 17.0**	**-1.0**
	comp=Z,5.8nm,0.9s							
NOR	**Nord**	**85.81**	**352**	*i* P		**P**	**14 12 17.0**	**-1.0**
NOR				IAmb		IAmb	14 12 18.9	
	comp=Z,5.8nm,0.9s							
DAG	**Danmarks Havn**	**87.89**	**348**	*i* P		**P**	**14 12 27.0**	**-1.2**
	comp=Z,2.7nm,0.7s							
DAG	**Danmarks Havn**	**87.89**	**348**	*i* P		**P**	**14 12 27.0**	**-1.2**
DAG				IAmb		IAmb	14 12 28.5	
	comp=Z,2.7nm,0.7s							
**TOR

KMNR eS Sn 14 34 57.6 +0.4
KMNR Kamenistaya 0.46 325 PN Pn 14 34 42.5 +0.2
KMNR S Sn 14 34 57.6 +0.4
BZGR Bezymyannyi-Gr 0.56 360 eP Pn 14 34 42.2 -0.6
BZGR Bezymyannyi-Gr 0.56 360 PN Pn 14 34 42.2 -0.6
BZMR Bezymyannaya 0.57 348 eP Pn 14 34 42.7 -0.2
BZMR Bezymyannaya 0.57 348 PN Pn 14 34 42.7 -0.2
BZWR Bezymyannyi-We 0.59 349 eP Pn 14 34 42.9 -0.2
BZWR Bezymyannyi-We 0.59 349 PN Pn 14 34 42.9 -0.2
KIRR Kirishev 0.61 341 eP Pn 14 34 43.1 -0.1
KIRR eS Sn 14 34 58.1 -0.7
KIRR Kirishev 0.61 341 PN Pn 14 34 43.1 -0.1
KIRR S Sn 14 34 58.1 -0.7
ZLN Zelenaya 0.64 5 eP Pn 14 34 43.5 +0.2
ZLN Zelenaya 0.64 5 PN Pn 14 34 43.5 +0.2
LGNR Loginova 0.70 360 eP Pn 14 34 44.0 0.0
LGNR eS Sn 14 35 00.4 +0.2
LGNR Loginova 0.70 360 PN Pn 14 34 44.0 0.0
LGNR S Sn 14 35 00.4 +0.2
KOZ Kozyrevsk 0.82 326 eP Pn 14 34 44.6 +0.1
KOZ eS Sn 14 35 02.2 +1.0
KOZ Kozyrevsk 0.82 326 PN Pn 14 34 44.6 +0.1
KOZ S Sn 14 35 02.2 +1.0
KRSR Krestovskiy 0.84 355 eP Pn 14 34 44.8 0.0
KRSR eS Sn 14 35 01.6 -0.1
KRSR Krestovskiy 0.84 355 PN Pn 14 34 44.8 0.0
KRSR S Sn 14 35 01.6 -0.1
KLY Klyuchi 0.93 358 eP Pn 14 34 45.5 +0.1
KLY eS Sn 14 35 03.2 +0.4
KLY Klyuchi 0.93 358 PN Pn 14 34 45.5 +0.1
KLY S Sn 14 35 03.2 +0.4
MKZ Mys Kozlova 1.02 144 eP Pn 14 34 45.2 -1.0
MKZ Mys Kozlova 1.02 144 PN Pn 14 34 45.2 -1.0
SRDR Sredinnyy 1.09 330 eP Pn 14 34 46.8 -0.1
SRDR Sredinnyy 1.09 330 PN Pn 14 34 46.8 -0.1
BDR Baidarnaya 1.22 13 eP Pn 14 34 48.5 +0.3
BDR Baidarnaya 1.22 13 PN Pn 14 34 48.5 +0.3
ESO Esso 1.26 296 eP Pn 14 34 49.1 +0.6
ESO eS Sn 14 35 09.5 +1.2
ESO Esso 1.26 296 PN Pn 14 34 49.1 +0.6
ESO S Sn 14 35 09.5 +1.2
SMKR Semkarok 1.28 19 eP Pn 14 34 48.5 -0.3
SMKR eS Sn 14 35 09.0 +0.2
SMKR Semkarok 1.28 19 PN Pn 14 34 48.5 -0.3
SMKR S Sn 14 35 09.0 +0.2
SRKR Sorokina 1.30 11 eP Pn 14 34 49.2 +0.2
SRKR eS Sn 14 35 09.6 +0.4
SRKR Sorokina 1.30 11 PN Pn 14 34 49.2 +0.2
SRKR S Sn 14 35 09.6 +0.4
KBG Krutoberegovo 1.43 51 eP Pn 14 34 49.9 -0.4
KBG eS Sn 14 35 11.0 -0.4
KBG Krutoberegovo 1.43 51 PN Pn 14 34 49.9 -0.4
KBG S Sn 14 35 11.0 -0.4
KBTR Krutoberegovo 1.45 54 eP Pn 14 34 49.9 -0.7
KBTR Krutoberegovo 1.45 54 PN Pn 14 34 49.9 -0.7
KII Karymskiy 1.53 209 eP Pn 14 34 52.1 +0.5
KII Karymskiy 1.53 209 PN Pn 14 34 52.1 +0.5
SPN Mys Shipunski 2.32 190 eP Pn 14 34 59.8 -1.0
SPN eS Sn 14 35 28.6 -1.6
SPN Mys Shipunski 2.32 190 PN Pn 14 34 59.8 -1.0
SPN S Sn 14 35 28.6 -1.6
GNL Ganaly 2.33 225 eP Pn 14 35 02.1 +1.0
GNL Ganaly 2.33 225 PN Pn 14 35 02.1 +1.0
NLC Nalytchevo 2.35 200 eP Pn 14 35 02.8 +1.6
NLC Nalytchevo 2.35 200 PN Pn 14 35 02.8 +1.6
KRX Arik 2.36 211 eP Pn 14 35 02.6 +1.2
KRX Arik 2.36 211 PN Pn 14 35 02.6 +1.2
SDLR Sedlovina 2.36 208 eP Pn 14 35 02.3 +0.8
SDLR Sedlovina 2.36 208 PN Pn 14 35 02.3 +0.8
KRER Koryakskii 2.38 210 eP Pn 14 35 03.1 +1.4
KRER Koryakskii 2.38 210 PN Pn 14 35 03.1 +1.4
SMAR Somma 2.40 208 eP Pn 14 35 03.2 +1.2
SMAR Somma 2.40 208 PN Pn 14 35 03.2 +1.2
AVH Avacha 2.41 209 eP Pn 14 35 03.6 +1.6
AVH Avacha 2.41 209 PN Pn 14 35 03.6 +1.6
KOK Koryaka 2.42 211 eP Pn 14 35 03.4 +1.3
KOK Koryaka 2.42 211 PN Pn 14 35 03.4 +1.3
UGLR Uglovaya 2.44 208 eP Pn 14 35 03.8 +1.4
UGLR Uglovaya 2.44 208 PN Pn 14 35 03.8 +1.4
DALK Dalny 2.62 207 eP Pn 14 35 05.2 +0.7
DALK Dalny 2.62 207 PN Pn 14 35 05.2 +0.7
PET Petropavlovsk 2.65 208 eP Pn 14 35 05.8 +0.8
PET eS Sn 14 35 38.7 +1.2
PET Petropavlovsk 2.65 208 *ce*PN Pn 14 35 04.9 0.0
PET pmax pmax
comp=Z,889nm,1.3s
PET Petropavlovsk 2.65 208 Pn 14 35 05.8 +0.8
PEA0B Petropavlovsk- 2.88 219 PN Pn 14 35 08.7 +0.8
PEA0B Petropavlovsk- 2.88 219 Pn Pn 14 35 08.7 +0.8
PETK Petropavlovsk- 2.88 219 P Pn 14 35 08.7 +0.8
comp=Z,8.1nm,0.3s,baz=66,slow=15,SNR=167
PETK S Sn 14 35 42.4 -0.3
comp=Z,8.1nm,0.3s,baz=75,slow=18,SNR=3.6
PETK LR LR 14 36 04.3
comp=Z,121nm,18.0s,baz=98,slow=35
PETK Petropavlovsk- 2.88 219 Pn 14 35 09.0 +1.1
KRMR Karymshinskiy 2.97 212 eP Pn 14 35 10.8 +1.8
KRMR Karymshinskiy 2.97 212 PN Pn 14 35 10.8 +1.8
BKI Bering 3.02 91 eP Pn 14 35 11.4 +1.8
BKI eS Sn 14 35 45.3 -0.6
BKI Bering 3.02 91 PN Pn 14 35 11.4 +1.8
BKI S Sn 14 35 45.3 -0.6
RUS Russkaya 3.23 205 eP Pn 14 35 11.1 -1.2
RUS Russkaya 3.23 205 PN Pn 14 35 11.1 -1.2
GRL Gorelyy 3.23 210 eP Pn 14 35 13.8 +1.2
GRL Gorelyy 3.23 210 PN Pn 14 35 13.8 +1.2
ASAK Asacha 3.43 210 eP Pn 14 35 16.0 +0.9
ASAK Asacha 3.43 210 PN Pn 14 35 16.0 +0.9
PALN Palana 3.74 354 eP Pn 14 35 19.3 +0.4
PALN Palana 3.74 354 PN Pn 14 35 19.3 +0.4
KDTR Khodutka, Kamc 3.91 205 eP Pn 14 35 23.6 +2.4
KDTR Khodutka, Kamc 3.91 205 PN Pn 14 35 23.6 +2.4
OSSR Ossora 4.08 17 eP Pn 14 35 25.2 +1.7
OSSR Ossora 4.08 17 PN Pn 14 35 25.2 +1.7
PAU Pauzhetka 4.56 212 eP Pn 14 35 32.5 +2.6
PAU Pauzhetka 4.56 212 PN Pn 14 35 32.5 +2.6
MA2 Magadan 6.80 312 P Pn 14 35 59.6 -0.2
comp=Z,0.9nm,0.3s,baz=128,slow=9.2,SNR=8.8
MA2 Magadan 6.80 312 *i* PN Pn 14 36 00.0 +0.2
MA2 Magadan 6.80 312 Pn Pn 14 36 01.3 +1.5
KMSK Kamenskaya 7.65 20 eP Pn 14 36 13.2 +2.1
KMSK Kamenskaya 7.65 20 PN Pn 14 36 13.2 +2.1
SEY Seymchan 8.69 334 P Pn 14 36 27.1 +2.1
comp=Z,0.0nm,0.3s,baz=123,slow=5.4,SNR=3.5
SEY LR LR 14 40 07.8
comp=Z,76nm,18.8s,baz=156,slow=41
SEY Seymchan 8.69 334 *i* PN Pn 14 36 23.8 -1.2
TYV Tymovskoe 11.74 255 *e*PN Pn 14 37 05.7 0.0
TYV eS Sn 14 39 14.2 -0.8
TYV pmax pmax
comp=Z,11nm,1.3s
TYV pmax pmax
comp=Z,200nm,5.3s
TYV smax smax
comp=N,21nm,1.7s
BILL Bilibino 12.96 9 *e*PN Pn 14 37 18.9 -2.6
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,550nm,20.0s
YSS Yuzh-Sakhalins 14.04 240 *i* P Pn 14 37 36.4 +1.1
ATKA Atka Island 15.14 92 Pn Pn 14 37 49.8 +0.6
ASAJ Asahikawa 16.19 233 P P 14 38 04.8 +2.0
comp=Z,1.7nm,0.3s,baz=72,slow=8.3,SNR=21
YAK Yakutsk 17.30 305 P Pn 14 38 14.8 -0.7
comp=Z,0.1nm,0.3s,baz=289,slow=8.2,SNR=23
YAK Yakutsk 17.30 305 *e*P Pn 14 38 14.1 -1.4
YAK eS Sn 14 41 26.2 -2.3
YAK pmax pmax
comp=Z,66nm,1.0s
YAK pmax pmax
comp=E,33nm,1.3s
YAK pmax pmax
comp=N,11nm,1.1s
YAK smax smax
comp=E,145nm,3.5s
YAK smax smax
comp=N,114nm,3.3s
YAK Yakutsk 17.30 305 P Pn 14 38 14.7 -0.7
UNV Unalaska Valle 18.96 81 P Pn 14 38 34.6 -0.6
ZEA Zeya 19.36 279 *e*P P 14 38 36.9 -0.5

ZEA pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 21.49 251 P P 14 39 00.9 +0.6
comp=Z,1.6nm,0.6s,baz=51,slow=11,SNR=4.4
USRK PcP PcP 14 42 57.5 +0.2
comp=Z,1.6nm,0.6s,baz=319,slow=0.2,SNR=5.2
MDJ Mudanjiang 22.52 254 P P 14 39 08.6 -2.2
MDJ sP pP 14 39 21.3 -15
MDJ S S 14 43 07.3 -0.3
MDJ sS Sn 14 43 20.4 -13
MDJ SS SnSn 14 43 32.3 -20
MDJ ScP ScP 14 46 43.0 +19
TTA Tatalina 23.04 53 P P 14 39 16.4 +0.7
TTA pmax pmax
comp=Z,29nm,1.2s
TTA Tatalina 23.04 53 P P 14 39 16.4 +0.7
TTA IAmb IAmb 14 39 17.6
comp=Z,29nm,1.2s
SVW2 Sparrevohn 23.34 58 P P 14 39 19.7 +1.3
SVW2 IAmb IAmb 14 39 20.7
comp=Z,17nm,1.1s
MAJO Matsushiro 24.30 228 *i* P P 14 39 27.4 +0.2
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO Matsushiro 24.30 228 P P 14 39 26.2 -1.0
MAJO IAmb IAmb 14 39 31.3
comp=Z,14nm,0.9s
MAT Matsushiro 24.30 228 P P 14 39 27.4 +0.2
MJAR Matsushiro Arr 24.30 228 P P 14 39 27.5 +0.2
comp=Z,5.1nm,0.8s,baz=22,slow=6.0,SNR=14
MJAR PcP PcP 14 43 03.0 -0.3
comp=Z,2.2nm,0.8s,baz=55,slow=1.3,SNR=5.1
MJAR LR LR 14 51 35.5
comp=Z,11nm,19.2s,baz=250,slow=43
MJAR Matsushiro Arr 24.30 228 P P 14 39 27.4 +0.1
MJAR PcP PcP 14 43 03.7 +0.4
PPLA Purkeypile 24.79 53 P P 14 39 32.6 +1.0
PPLA IAmb IAmb 14 39 41.2
comp=Z,9.6nm,0.9s
SKT Skwentna 25.18 55 P P 14 39 35.3 +0.3
KTH Kantishna Hill 25.31 52 P P 14 39 37.0 +0.7
BOD Bodaibo 25.42 295 *e*P P 14 39 37.6 +0.4
BOD pmax pmax
comp=Z,11nm,1.7s
KDAK Kodiak Island 25.44 65 P P 14 39 37.5 +0.1
KDAK pmax pmax
comp=Z,15nm,0.8s
KDAK Kodiak Island 25.44 65 P P 14 39 37.5 +0.1
KDAK IAmb IAmb 14 39 43.1
comp=Z,15nm,0.8s
TRF Thorofare Moun 25.60 52 P P 14 39 40.0 +1.0
TRF IAmb IAmb 14 39 40.6
comp=Z,13nm,1.0s
CNPM China Poot 25.72 61 P P 14 39 40.0 +0.1
CNPM IAmb IAmb 14 39 46.3
comp=Z,23nm,1.1s
TOLK Toolik Lake Re 25.94 40 P P 14 39 42.5 +0.7
SEW Seward 26.48 59 P P 14 39 44.9 -1.8
WRH Wood River Hil 26.49 49 P P 14 39 45.5 -1.3
WRH IAmb IAmb 14 39 47.7
comp=Z,7.2nm,0.9s
COLA College 26.57 48 *i* P P 14 39 46.4 -1.0
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 26.60 49 P P 14 39 47.9 +0.1
CCB IAmb IAmb 14 39 52.3
comp=Z,6.5nm,0.6s
SML Sawmill 26.70 55 P P 14 39 49.2 +0.4
SML IAmb IAmb 14 39 50.0
comp=Z,16nm,0.9s
KNK Knik Glacier 26.71 56 P P 14 39 49.6 +0.7
KNK IAmb IAmb 14 39 50.0
comp=Z,16nm,1.0s
DHY Denali Highway 26.95 52 P P 14 39 50.6 -0.5
IL31 26.98 48 P P 14 39 50.8 -0.3
ILAR Eielson Array 26.98 48 P P 14 39 51.2 0.0
comp=Z,2.2nm,0.7s,baz=255,slow=6.7,SNR=45
ILAR pP pP 14 40 20.4 +0.4
comp=Z,1.6nm,0.9s,baz=269,slow=9.2,SNR=2.9
ILAR Eielson Array 26.98 48 P P 14 39 51.6 +0.4
ILAR Eielson Array 26.98 48 P P 14 39 51.6 +0.4
HDA Harding Lake 26.99 49 P P 14 39 51.3 0.0
SCM Sheep Creek Mo 27.17 55 P P 14 39 53.6 +0.6
SCM pmax pmax
comp=Z,11nm,0.7s
SCM Sheep Creek Mo 27.17 55 P P 14 39 53.5 +0.6
SCM IAmb IAmb 14 39 54.3
comp=Z,11nm,0.7s
M24K Tolsona, Glenn 27.66 54 P P 14 39 57.8 +0.5
M24K IAmb IAmb 14 39 59.0
comp=Z,11nm,0.7s
BMAR Burnt Mountain 27.78 43 P P 14 39 59.4 +1.1
KLU Klutina 27.89 55 P P 14 39 59.5 +0.1
KLU IAmb IAmb 14 40 12.6
comp=Z,8.5nm,1.1s
DOT Dot Lake 28.35 51 P P 14 40 02.4 -0.9
KSRS Korea Array 28.47 245 P P 14 40 04.9 -0.3
comp=Z,1.0nm,0.8s,baz=38,slow=8.9,SNR=4.6
KSRS PcP PcP 14 43 14.6 +1.7
comp=Z,4.6nm,0.8s,baz=15,slow=2.0,SNR=25
KSRS LR LR 14 51 40.0
comp=Z,24nm,18.1s,baz=40,slow=36
MCARA McCarthy VSAT 29.27 55 P P 14 40 11.8 +0.3
MCARA IAmb IAmb 14 40 15.4
comp=Z,6.4nm,0.8s
EGAK Eagle 29.42 48 P P 14 40 12.4 -0.4
EGAK IAmb IAmb 14 40 13.1
comp=Z,6.2nm,0.7s
BCAR Beaver Creek A 29.46 51 P P 14 40 14.0 +0.7
BARN Barnard Glacie 30.00 55 P P 14 40 18.9 +0.7
BARN IAmb IAmb 14 40 20.3
comp=Z,7.6nm,0.7s
PCA Pinnacle 30.94 57 P P 14 40 25.1 -1.1
BCPM Bancas Point 31.28 57 P P 14 40 30.1 +0.9
BCPM PcP 14 43 21.0 +1.1
INK Inuvik 31.86 40 P P 14 40 34.8 +0.7
comp=Z,2.0nm,0.7s,baz=274,slow=7.0,SNR=6.8
INK Inuvik 31.86 40 P P 14 40 34.2 +0.1
HYT Haines Junctio 32.01 55 P P 14 40 37.2 +1.5
HYT IAmb IAmb 14 40 38.1
comp=Z,7.2nm,0.7s
WHY Whitehorse 33.28 54 P P 14 40 48.2 +1.5
WHY IAmb IAmb 14 40 49.5
comp=Z,7.3nm,0.7s
SKAG Skagway 33.50 56 P P 14 40 50.6 +2.1
SKAG IAmb IAmb 14 40 51.5
comp=Z,7.4nm,0.8s
SONM Songino Array 33.78 280 P P 14 40 51.9 +0.5
comp=Z,0.7nm,0.6s,baz=344,slow=42,SNR=3.5
SONM PcP PcP 14 43 27.2 0.0
comp=Z,4.1nm,0.6s,baz=84,slow=1.3,SNR=17
SONM ScP ScP 14 47 00.1 +1.2
comp=Z,1.9nm,1.0s,baz=124,slow=3.1,SNR=6.6
NRIK Noril'sk 34.27 323 P P 14 40 54.0 -1.0
comp=Z,1.0nm,0.4s,baz=45,slow=15,SNR=2.6
NRIK PcP PcP 14 43 27.9 -0.1
comp=Z,1.8nm,0.6s,baz=83,slow=6.6,SNR=3.9
HHC Hu-ho-hao-te 35.09 266 *e*P P 14 41 03.8 +1.2
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.5s
DLBC Dease Lake 36.42 56 P P 14 41 15.6 +1.8
NJ2 Nanjing 37.38 249 *e*P P 14 41 21.1 -0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
EUNU Eureka 39.64 15 P P 14 41 41.2 +0.8
RES Resolute Bay 41.07 23 P P 14 41 52.6 +0.5
comp=Z,3.0nm,0.8s,baz=316,slow=4.3,SNR=5.2
YKA Yellowknife Ar 41.25 45 P P 14 41 54.0 +0.3
comp=Z,2.6nm,0.7s,baz=305,slow=7.3,SNR=6.6
YKA PcP PcP 14 43 50.4 +0.6
comp=Z,1.2nm,0.5s,baz=319,slow=2.0,SNR=5.6
ZALV Zalesovo Beam 41.87 301 P P 14 41 57.0 -1.9
comp=Z,0.3nm,0.3s,baz=76,slow=6.7,SNR=3.7
ZALV PcP PcP 14 43 51.6 -0.3
comp=Z,3.0nm,0.7s,baz=44,slow=4.5,SNR=9.8
ZALV LR LR 15 00 33.3
comp=Z,20nm,18.1s,baz=124,slow=38
GTA Gaotai 42.75 274 P P 14 42 07.6 +1.2
GTA pP pP 14 42 39.3 +2.5
GTA sP sP 14 42 53.9 +1.8
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,47nm,6.6s
GTA LR LR
comp=N,88nm,16.7s
GTA LR LR
comp=E,74nm,17.1s
GTA LR LR
comp=Z,86nm,15.6s
DGZ Jazzator, Alta 43.01 294 *i* P P 14 42 07.3 -1.1
DGZ pmax pmax
comp=Z,4.0nm,0.8s
KBS Kingsbay 44.66 352 *ce*P P 14 42 20.0 -0.9
KBS pmax pmax
comp=Z,21nm,1.7s
ZSN Zaisan 45.74 293 *e*P P 14 42 29.5 -0.5
ZSN Zaisan 45.74 293 *e*P P 14 42 29.4 -0.5
WMQ Urumqi 46.58 288 *e*P P 14 42 38.3 +1.7
KURK Kurchatov 46.85 300 P P 14 42 37.8 -0.7
KURK 14 44 08.3
KURK Kurchatov 46.85 300 P P 14 42 37.5 -1.0
KURK IAmb IAmb 14 42 38.3
comp=Z,9.8nm,0.7s
KURBB Kurchatov Arra 46.96 300 P P 14 42 37.8 -1.6
comp=Z,5.9nm,0.6s,baz=55,slow=7.8,SNR=16
KURBB PcP PcP 14 44 08.3 -1.2
comp=Z,3.1nm,0.6s,baz=50,slow=3.4,SNR=13
B08A Colville Reser 47.30 63 P P 14 42 41.2 -0.9
MKAR Makanchi Array 47.51 294 P P 14 42 41.7 -2.0
comp=Z,1.4nm,0.6s,baz=54,slow=6.2,SNR=14
MKAR PcP PcP 14 44 10.4 -1.1
comp=Z,0.8nm,0.7s,baz=66,slow=5.2,SNR=4.2
MKAR Makanchi Array 47.51 294 P P 14 42 42.7 -1.0
MKAR 14 44 11.2
MKAR Makanchi Array 47.51 294 P P 14 42 42.7 -1.0
MKAR PcP 14 44 11.2 -0.4
NEW Newport 48.48 62 P P 14 42 51.7 +0.5
comp=Z,1.4nm,0.6s,baz=125,slow=20,SNR=1.8
NEW Newport 48.48 62 P P 14 42 51.2 0.0
BRVK Borovoye 49.29 307 *ce*P P 14 42 55.2 -2.0
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 49.29 307 P P 14 42 55.1 -2.0
BRVK IAmb IAmb 14 42 57.0
comp=Z,6.4nm,0.7s
BRZS Berezniki 50.22 303 *e*P P 14 43 02.5 -1.8
BRZS Berezniki 50.22 303 *e*P P 14 43 02.5 -1.8
JTMT Jette 50.25 61 P P 14 43 05.3 +0.6
JTMT IAmb IAmb 14 43 07.0
comp=Z,8.6nm,0.9s
BMO Blue Mountains 50.67 66 P P 14 43 08.3 +0.4
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 50.67 66 P P 14 43 08.3 +0.4
MOD Modoc Plateau 51.12 70 IAmb IAmb 14 43 13.9
comp=Z,3.9nm,0.7s
ARCES ARCESS Array B 51.22 341 P P 14 43 10.7 -0.8
comp=Z,2.8nm,1.0s,baz=316,slow=6.8,SNR=3.5
ARCES PcP PcP 14 44 24.2 -0.4
comp=Z,1.6nm,0.7s,baz=42,slow=5.7,SNR=4.0
SHLS Shalkode 51.44 292 *e*P P 14 43 11.7 -2.1
SHLS Shalkode 51.44 292 *e*P P 14 43 11.6 -2.1
KPKS Kokpek 51.64 293 *e*P P 14 43 13.1 -2.0
KPKS Kokpek 51.64 293 *e*P P 14 43 13.9 -1.2
ARU Arti 51.97 316 *d* iP P 14 43 16.2 -1.0
ARU *PP pP 14 43 48.8 +0.2
ARU 14 44 25.9
ARU 14 45 15.0
ARU S S 14 50 29.0 -0.5
ARU SS SS 14 54 05.3 -2.0
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 51.97 316 P P 14 43 16.1 -1.0
ARU IAmb IAmb 14 43 17.0
comp=Z,7.2nm,0.6s
SATY Saty 52.07 293 *e*P P 14 43 17.2 -1.1
SATY Saty 52.07 293 *e*P P 14 43 17.2 -1.1
MDOK Medeo 52.71 294 *e*P P 14 43 21.0 -2.1
MDOK Medeo 52.71 294 *e*P P 14 43 20.9 -2.1
PNTR Pine Nut 53.48 72 P P 14 43 31.1 +2.2
YHL Hebgen Lake 53.80 62 P P 14 43 32.0 +0.8
KVN Kaiserville 54.32 71 IAmb IAmb 14 43 37.9
comp=Z,5.4nm,0.8s
AAK Ala-Archa 54.40 295 *ce*P P 14 43 34.8 -0.6
AAK pmax pmax
comp=Z,17nm,1.3s
RLMT Red Lodge 54.57 60 IAmb IAmb 14 43 39.3
comp=Z,6.0nm,0.8s
FLWY Flagg Ranch 54.59 62 IAmb IAmb 14 43 42.1
comp=Z,4.3nm,0.8s
NVAR Mina Array Bea 54.66 72 P P 14 43 39.1 +1.7
comp=Z,4.4nm,0.7s,baz=302,slow=7.4,SNR=39
NVAR pP pP 14 44 09.8 +0.7
comp=Z,1.8nm,0.7s,baz=300,slow=7.0,SNR=4.4
NVAR Mina Array Bea 54.66 72 P P 14 43 39.8 +2.4
NV11 Mina Array Sit 54.74 72 IAmb IAmb 14 43 40.9
comp=Z,4.0nm,0.8s
KKAR Karatay Array 56.10 298 P P 14 43 47.1 -0.3
KKAR Karatay Array 56.10 298 P P 14 43 47.1 -0.3
PDAR Pinedale Array 56.12 62 P P 14 43 49.4 +1.5
comp=Z,2.3nm,0.6s,baz=329,slow=3.4,SNR=13
PDAR pP pP 14 44 20.1 +0.3
comp=Z,1.6nm,0.7s,baz=336,slow=3.3,SNR=3.5
PDAR Pinedale Array 56.12 62 P P 14 43 49.5 +1.6
ABKAR Akbulak array 56.59 310 P P 14 43 49.7 -1.1
ULM Lac du Bonnet 57.01 48 P P 14 43 53.7 +0.1
comp=Z,2.3nm,0.6s,baz=332,slow=7.1,SNR=5.4
ULM Lac du Bonnet 57.01 48 IAmb IAmb 14 44 07.7
comp=Z,4.2nm,0.9s
RSSD Black Hills 57.86 58 P P 14 44 01.2 +1.2
RSSD pmax pmax
comp=Z,10.0nm,0.7s
RSSD Black Hills 57.86 58 P P 14 44 01.2 +1.2
FINES FINESS Array B 58.16 336 P P 14 44 00.7 -0.9
comp=Z,1.1nm,0.4s,baz=34,slow=7.8,SNR=18
FINES FINESS Array B 58.16 336 P P 14 44 00.3 -1.2
CMAR Chiang Mai Arr 59.02 257 P P 14 44 07.8 -0.3
comp=Z,1.4nm,0.6s,baz=32,slow=6.5,SNR=12
CMAR PcP sP 14 44 56.0 +0.9
comp=Z,4.0nm,0.7s,baz=8.5,slow=3.4,SNR=18
CMAR Chiang Mai Arr 59.02 257 *i* P P 14 44 08.1 0.0
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 59.02 257 PcP PcP 14 44 56.4 +0.8
GAR Garm 59.22 295 P P 14 44 08.6 -0.8
CHGR Chuyangaron 60.08 295 P P 14 44 14.4 -0.9
SIJI Sorong 61.02 214 P P 14 44 22.8 +1.1
comp=Z,6.8nm,0.7s,baz=42,slow=8.2,SNR=5.1
NB2 NORSAR Subarra 61.44 344 P P 14 44 22.7 -1.3
comp=Z,1.2nm,0.6s,baz=20,slow=6.9
NOA NORSAR Array B 61.44 344 P P 14 44 23.1 -0.9
comp=Z,0.9nm,0.6s,baz=20,slow=6.9,SNR=6.4
SBUM Sibu 65.62 235 P P 14 44 52.0 0.0
AKASG Malin Array Be 66.83 329 P P 14 44 58.5 -0.8
comp=Z,0.6nm,0.4s,baz=27,slow=5.8,SNR=1.4
KIV Kislovodsk 68.01 317 *e*P P 14 45 05.8 -1.1
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,64nm,17.0s
KBZ Khabaz 68.12 316 P P 14 45 07.2 -0.3
comp=Z,3.5nm,0.7s,baz=190,slow=1.2,SNR=6.2
KBZ LR LR 15 19 05.7
comp=Z,26nm,18.3s,baz=122,slow=40
TX31 Lajitas Ar. Si 69.43 68 P P 14 45 17.4 +1.5
TX32 Lajitas Array 69.43 68 P P 14 45 17.5 +1.5
TXAR Lajitas Array 69.43 68 P P 14 45 17.6 +1.6
comp=Z,2.2nm,0.5s,baz=298,slow=4.7,SNR=39
TXAR pP pP 14 45 49.0 -0.1
comp=Z,1.9nm,0.8s,baz=291,slow=4.8,SNR=5.2
TXAR LR LR 15 14 51.4
comp=Z,18nm,18.8s,baz=0.0,slow=35
MTN Manton Dam 72.38 210 P P 14 45 34.5 +0.9
GERES GERESS Array B 72.52 338 P P 14 45 34.1 -0.2
comp=Z,0.1nm,0.3s,baz=42,slow=4.2,SNR=4.5
BRTR Keskin Array B 75.08 320 P P 14 45 49.0 -0.4
comp=Z,0.9nm,0.6s,baz=354,slow=2.9,SNR=2.6
BRTR Keskin Array B 75.08 320 P P 14 45 49.0 -0.4
WRAB Tennant Creek 78.30 205 *ce*P P 14 46 08.7 +1.4
WRAB pmax pmax
comp=Z,13nm,2.5s
WRA Warramunga Arr 78.31 205 P P 14 46 07.8 +0.4
comp=Z,3.6nm,0.9s,baz=14,slow=5.9,SNR=23
WRA Warramunga Arr 78.31 205 P P 14 46 08.2 +0.8
WRA Warramunga Arr 78.31 205 P P 14 46 08.2 +0.8
AS31 Alice Springs 81.99 205 P P 14 46 28.4 +1.3
ASAR Alice Springs 81.99 205 P P 14 46 28.1 +1.0

	comp=Z,5.1nm,0.8s,baz=13,slow=5.4,SNR=49							
ASAR				pP	**pP**	**14 47 00.9**	**-0.5**	
	comp=Z,1.6nm,1.0s,baz=17,slow=4.9,SNR=2.3							
ASAR	**Alice Springs**	**81.99**	**205**	P	**P**	**14 46 28.2**	**+1.1**	
ASAR	**Alice Springs**	**81.99**	**205**	P	**P**	**14 46 28.2**	**+1.1**	
PVRL	**Vila Real**	**83.21**	**351**	*eP*	**P**	**14 46 33.8**	**+0.4**	
	comp=Z,44nm,1.8s							
MVO	**Moncorvo**	**83.26**	**351**	*eP*	**P**	**14 46 34.3**	**+0.6**	
	comp=Z,44nm,1.9s							
ESDC	**Sonseca Array**	**84.41**	**348**	P	**P**	**14 46 39.3**	**-0.3**	
	comp=Z,4.0nm,0.7s,baz=350,slow=4.2,SNR=23							
ESDC	**Sonseca Array**	**84.41**	**348**	P	**P**	**14 46 40.1**	**+0.6**	
PCAS	**Casmilo, Conde**	**84.49**	**352**	*eP*	**P**	**14 46 40.0**	**+0.1**	
	comp=Z,81nm,1.4s							
PCBR	**Castelo Branco**	**84.61**	**351**	*eP*	**P**	**14 46 40.8**	**+0.3**	
	comp=Z,18nm,2.5s							
VNA3	**Neumayer Olymp**	**163.54**	**191**	PKPab	**PKPab**	**14 54 59.5**	**-0.4**	
VNA2	**Neumayer--Watz**	**163.56**	**194**	PKPab	**PKPab**	**14 54 59.6**	**-0.4**	

*IDC **18** 14:46:44.9±0.7, 28°.98N×139°.35E, h404km±7km, mb3.2/13, mb1 3.5/17, mb1mx3.2/40, mbtmp4.0/17, Error ellipse: s-maj=16.3km s-min=9.1km az=81.0*
*JMA **18** 14:46:46.0±0.1, 29°.14N×139°.94E, h435km, M3.6*
ISC 18 14:46:46.7±0.6, 29°.12N±0°.07×139°.64E±0°.10, h423km±96km, n36, σ1♀97/48, mb3.5/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.02**	**131**	P	**P**	**14 47 51.0**	**-0.8**
CBIJ				S		**14 48 42.1**	**-2.5**
JCJ	**Chichijima**	**3.02**	**131**	P	**P**	**14 47 51.1**	**-0.7**
	29nm,0.3s,baz=34,slow=23,SNR=70						
JCJ				S	**S**	**14 48 41.3**	**-3.3**
	234nm,0.3s,baz=289,slow=23,SNR=18						
JHH2	**Haha-jima-NKT2**	**3.34**	**137**	P	**P**	**14 47 53.6**	**-0.8**
JHH2				S	**S**	**14 48 47.5**	**-1.9**
JHJ2	**Mitsune**	**3.98**	**2**	*eS*	**S**	**14 48 59.3**	**-0.1**
JHJ	**Hachijo jima 2**	**3.99**	**2**	P	**P**	**14 48 00.2**	**+0.4**
	23nm,0.3s,baz=227,slow=18,SNR=2.2						
JHJ				S	**S**	**14 48 58.4**	**-1.2**
	30nm,0.3s,baz=49,slow=23,SNR=6.2						
BSO1	**Boso 1**	**5.63**	**11**	P	**P**	**14 48 17.2**	**+1.9**
BSO1				*eS*	**S**	**14 49 28.7**	**+0.6**
BSO3	**Boso 3**	**5.71**	**7**	*eS*	**S**	**14 49 30.2**	**+0.1**
JIE	**Ise**	**5.82**	**335**	P	**P**	**14 48 20.6**	**+2.7**
BSO4	**Boso 4**	**5.88**	**6**	*eS*	**S**	**14 49 32.5**	**-1.1**
HMMJ	**Hamamatsu 2**	**5.95**	**345**	P	**P**	**14 48 21.0**	**+1.8**
JOD2	**Odawara 2**	**6.14**	**356**	P	**P**	**14 48 21.2**	**-0.1**
JNY	**Yasuok**	**6.40**	**347**	P	**P**	**14 48 25.6**	**+1.5**
JAO	**Obara**	**6.45**	**342**	P	**P**	**14 48 26.5**	**+1.9**
JAO				S	**S**	**14 49 45.2**	**+0.1**
JHU	**Hanno**	**6.72**	**357**	*eS*	**S**	**14 49 45.0**	**-5.2**
JRY	**Ryogami san**	**6.91**	**355**	P	**P**	**14 48 30.4**	**+0.5**
JRY				*eS*	**S**	**14 49 52.2**	**-1.8**
JYT	**Yasato**	**7.10**	**4**	P	**P**	**14 48 32.2**	**+0.2**
JYT				S	**S**	**14 49 53.8**	**-4.0**
JAG	**Ashikaga**	**7.29**	**359**	P	**P**	**14 48 33.1**	**-0.9**
JAG				*eS*	**S**	**14 49 56.5**	**-5.1**
MJAR	**Matsushiro Arr**	**7.50**	**351**	P	**P**	**14 48 35.2**	**-1.2**
	0.2nm,0.3s,baz=174,slow=11,SNR=17						
MJAR				S	**S**	**14 50 04.2**	**-1.7**
	0.1nm,0.3s,baz=139,slow=16,SNR=2.6						
JHO	**Hitachi**	**7.51**	**6**	P	**P**	**14 48 36.6**	**+0.1**
JHO				*eS*	**S**	**14 50 02.4**	**-3.7**
JHS	**Saijyo**	**8.06**	**318**	P	**P**	**14 48 44.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**16.24**	**340**	P	**P**	**14 50 12.7**	**+1.2**
	baz=142,slow=10,SNR=6.0						
CMAR	**Chiang Mai Arr**	**38.55**	**263**	P	**P**	**14 53 29.6**	**-1.8**
	0.4nm,0.8s,baz=230,slow=40,SNR=2.0						
MKAR	**Makanchi Array**	**47.46**	**308**	P	**P**	**14 54 39.8**	**-1.5**
	0.5nm,0.7s,baz=89,slow=8.6,SNR=5.0						
MKAR				PcP	**pP**	**14 56 01.4**	**-1.6**
	0.3nm,0.6s,baz=79,slow=4.0,SNR=3.3						
WRA	**Warramunga Arr**	**49.05**	**187**	P	**P**	**14 54 51.7**	**-1.7**
	1.3nm,0.6s,baz=1.8,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**52.77**	**187**	P	**P**	**14 55 19.6**	**-1.2**
	0.5nm,0.6s,baz=14,slow=13,SNR=12						
ILAR	**Eielson Array**	**57.03**	**29**	P	**P**	**14 55 51.5**	**+1.3**
	0.6nm,0.4s,baz=255,slow=5.6,SNR=16						
INK	**Inuvik**	**62.13**	**25**	P	**P**	**14 56 26.0**	**+1.6**
	1.6nm,0.6s,baz=286,slow=5.3,SNR=8.1						
ARCES	**ARCESS Array B**	**70.89**	**340**	P	**P**	**14 57 19.6**	**+0.5**
	1.1nm,0.5s,baz=67,slow=7.4,SNR=16						
YKA	**Yellowknife Ar**	**71.43**	**28**	P	**P**	**14 57 23.9**	**+1.6**
	0.8nm,0.6s,baz=212,slow=14,SNR=2.1						
FINES	**FINESS Array B**	**75.14**	**333**	P	**P**	**14 57 43.7**	**0.0**
	1.3nm,0.5s,baz=65,slow=5.0,SNR=17						
NOA	**NORSAR Array B**	**80.89**	**337**	P	**P**	**14 58 14.7**	**-0.4**
	1.1nm,0.9s,baz=39,slow=5.1,SNR=3.3						
NVAR	**Mina Array Bea**	**81.01**	**51**	P	**P**	**14 58 18.8**	**+2.4**
	1.0nm,0.6s,baz=288,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**84.33**	**44**	P	**P**	**14 58 35.8**	**+2.6**
	1.1nm,0.3s,baz=282,slow=7.4,SNR=3.5						
TXAR	**Lajitas Array**	**96.15**	**52**	P	**P**	**14 59 29.5**	**+1.1**
	0.1nm,0.5s,baz=178,slow=3.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**121.56**	**310**	PKP	**PKiKP**	**15 04 51.2**	**-0.7**
	0.8nm,1.0s,baz=30,slow=2.1,SNR=2.7						
LPAZ	**La Paz**	**151.46**	**69**	PKPbc	**PKiKP**	**15 05 53.3**	**0.0**
	1.0nm,0.6s,baz=297,slow=3.4,SNR=5.8						

IDC 18 14:56:47.3±3.4, 5°.41S×152°.22E, h45km±29km, mb3.1/2, mb1 3.5/3, mb1mx3.1/26, mbtmp3.5/3, ML1.5/1, Error ellipse: s-maj=51.0km s-min=13.1km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.11**	**350**	P	Pn	14 57 07.4	+0.9
	358nm,0.3s,baz=158,slow=1.1,SNR=544						
KRVT				S	Sn	14 57 20.5	-0.1
	223nm,0.3s,baz=169,slow=21,SNR=5.3						
PMG	**Port Moresby**	**6.40**	**231**	P	Pn	14 58 20.1	+1.1
	0.6nm,0.3s,baz=38,slow=9.7,SNR=1.7						
PMG				S	Sn	14 59 31.5	+0.6
	0.4nm,0.3s,baz=123,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**22.61**	**229**	P	P	15 01 42.5	-1.9
	0.6nm,0.5s,baz=55,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.31**	**222**	P	P	15 02 10.5	+0.5
	0.4nm,0.6s,baz=54,slow=9.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**149.93**	**287**	PKPbc	PKPbc	15 16 34.0	+0.1
	0.3nm,0.3s,baz=52,slow=3.5,SNR=5.0						

*IDC **18** 15:05:56.2±0.8, 23°.35N×100°.68E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/42, mbtmp3.8/12, ML4.1/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/65, Error ellipse: s-maj=24.0km s-min=14.2km az=81.0*
*BJI **18** 15:05:56.8±0.0, 23°.30N×100°.45E, h10km, mB4.5/9, mb4.5/11, ML4.4/10, Ms4.3/15, Ms7 4.1/9*
ISC 18 15:05:57.6±0.5, 23°.28N±0°.04×100°.54E±0°.06, h10km±3km, n43, σ2♀62/44, mb3.9/11, MS3.4/13, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.72**	**47**	⇑Pn	**Pn**	**15 06 41.3**	**-0.3**
KMI				Pg	**Pb**	**15 06 47.8**	**+1.3**
KMI				Sg	**Sg**	**15 07 23.3**	**-1.7**
KMI				smax	smax		
	comp=N,2μm,1.1s						
KMI				smax	smax		
	comp=E,770nm,1.0s						
CRAI	**Chiangrai**	**3.04**	**183**	P	**Pn**	**15 06 45.5**	**-0.4**
CRAI				S	**Sg**	**15 07 34.6**	**-0.8**
PAYA	**Payao**	**3.95**	**189**	P	**Pn**	**15 06 58.9**	**+0.6**
PAYA				S	**Sg**	**15 08 02.4**	**-2.2**
CMMT	**Chiang Mai**	**4.69**	**199**	P	**Pn**	**15 07 09.5**	**+1.0**
CMMT				S	**Sb**	**15 08 20.7**	**+4.1**
PHRA	**Phrae**	**4.77**	**184**	P	**Pn**	**15 07 10.3**	**+0.8**
CM09	**Chiang Mai Arr**	**5.03**	**197**	P	**Pn**	**15 07 14.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**5.03**	**198**	Pn	**Pn**	**15 07 13.9**	**+0.8**
	1.8nm,0.3s,baz=16,slow=13,SNR=46						
CMAR				Pg	**Pg**	**15 07 31.8**	**-2.1**
	31nm,0.3s,baz=16,slow=9.1,SNR=117						
CMAR				Lg	Lg	15 08 39.7	
	22nm,0.3s,baz=18,slow=29,SNR=14						
CMAR				LR	LR	15 09 42.7	
	comp=Z,418nm,19.4s,baz=345,slow=44						
CM01	**Chiang Mai Arr**	**5.06**	**197**	P	**Pn**	**15 07 14.5**	**+1.0**
CM04	**Chiang Mai Arr**	**5.07**	**197**	P	**Pn**	**15 07 15.0**	**+1.3**
CM05	**Chiang Mai Arr**	**5.08**	**197**	P	**Pn**	**15 07 15.1**	**+1.2**
UTTA	**Uttaradit**	**5.51**	**180**	P	**Pn**	**15 07 20.1**	**+0.4**
PHIT	**Phitsanulok**	**6.06**	**181**	P	**Pn**	**15 07 28.5**	**+1.1**
GYA	**Guiyang**	**6.39**	**59**	⇓Pn	**Pn**	**15 07 31.0**	**-1.0**
GYA				Sn	**Sn**	**15 08 46.3**	**+1.1**
GYA				Sg	**Sg**	**15 09 24.3**	**+1.3**
GYA				LR	LR		
	comp=N,790nm,3.9s						
GYA				LR	LR		
	comp=E,690nm,5.8s						
GYA				LR	LR		
	comp=Z,1μm,8.5s						
CD2	**Chengdu**	**8.12**	**20**	P	**Pn**	**15 07 55.6**	**0.0**
CD2				S	**Sn**	**15 09 29.3**	**+1.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				smax	smax		
	comp=N,160nm,1.3s						
CD2				smax	smax		
	comp=E,190nm,1.3s						
CD2				LR	LR		
	comp=N,1μm,6.3s						
CD2				LR	LR		
	comp=E,2μm,5.9s						
CD2				LR	LR		
	comp=Z,590nm,7.7s						
QIZ	**Qiongzhong**	**9.65**	**114**	P	**Pn**	**15 08 15.3**	**-1.4**
QIZ				S	**Sn**	**15 10 05.8**	**+0.6**
QIZ				LR	LR		
	comp=N,260nm,9.7s						
QIZ				LR	LR		
	comp=E,370nm,7.9s						
QIZ				LR	LR		
	comp=Z,520nm,13.9s						
XAN	**Xi'an**	**12.99**	**33**	P	**Pn**	**15 09 07.0**	**+4.6**
XAN				LR	LR		
	comp=Z,1μm,10.6s						
XAN				LR	LR		
	comp=Z,1μm,10.6s						
XAN				LR	LR		
	comp=Z,1μm,11.8s						
LZH	**Lanzhou**	**13.08**	**12**	*eP*	**Pn**	**15 09 01.5**	**-2.1**
LZH				pP	P	15 09 05.3	-8.7
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
WHN	**Wuhan**	**14.28**	**57**	*eP*	**Pn**	**15 09 16.3**	**-3.6**
WHN				S	**Sn**	**15 12 00.4**	**+2.1**
WHN				LR	LR		
	comp=N,3μm,16.9s						
WHN				LR	LR		
	comp=E,880nm,13.7s						
WHN				LR	LR		
	comp=Z,1μm,8.6s						
GTA	**Gaotai**	**16.09**	**358**	*eP*	**P**	**15 09 47.1**	**-0.4**
GTA				pP	sP	15 09 52.1	0.0
GTA				sP	pP	15 09 55.0	+4.4
GTA				pmax	pmax		
	comp=Z,46nm,5.0s						
GTA				LR	LR		
	comp=Z,320nm,10.9s						
GTA				LR	LR		
	comp=Z,630nm,13.1s						
GTA				LR	LR		
	comp=Z,410nm,11.3s						
TIY	**Taiyuan**	**17.64**	**33**	*eP*	P	15 10 13.1	+8.6
TIY				S	**Sn**	**15 13 20.0**	**-0.1**
TIY				SS	**SnSn**	**15 13 46.8**	**+13**
TIY				pmax	pmax		
	comp=Z,120nm,3.9s						
TIY				LR	LR		
	comp=N,680nm,11.6s						
TIY				LR	LR		
	comp=E,500nm,11.8s						
TIY				LR	LR		
	comp=Z,490nm,11.4s						
PSI	**Prapat**	**20.42**	**185**	LR	LR	15 19 16.7	
	comp=Z,122nm,18.5s,baz=2.0,slow=39						
WMQ	**Urumqi**	**23.06**	**336**	*eP*	**P**	**15 11 00.3**	**-3.0**
SONM	**Songino Array**	**24.94**	**9**	P	**P**	**15 11 20.1**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=187,slow=10,SNR=5.2						
SONM				LR	LR	15 22 03.8	
	comp=Z,94nm,18.3s,baz=186,slow=39						
KSRS	**Korea Array**	**27.40**	**53**	LR	LR	15 22 40.6	
	comp=Z,98nm,19.7s,baz=236,slow=37						
MKAR	**Makanchi Array**	**27.68**	**332**	P	**P**	**15 11 45.6**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=142,slow=9.6,SNR=16						
TLY	**Talaya**	**28.45**	**4**	LR	LR	15 24 42.0	
	comp=Z,74nm,19.1s,baz=164,slow=40						
LEM	**Lembang**	**30.71**	**166**	LR	LR	15 26 41.7	
	comp=Z,136nm,19.3s,baz=338,slow=40						
ZALV	**Zalesovo Beam**	**32.84**	**343**	P	**P**	**15 12 30.7**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=160,slow=10,SNR=10						
ZALV				LR	LR	15 27 39.7	
	comp=Z,65nm,21.4s,baz=202,slow=40						
USRK	**Ussuriysk Ar.**	**33.15**	**43**	P	**P**	**15 12 33.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=175,slow=28,SNR=2.4						
KAPI	**Kappang**	**33.80**	**144**	LR	LR	15 28 41.9	
	comp=Z,75nm,18.4s,baz=322,slow=40						
GEYT	**Alibeck**	**38.99**	**302**	P	**P**	**15 13 23.6**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=106,slow=5.4,SNR=3.9						
NRIK	**Noril'sk**	**46.73**	**354**	LR	LR	15 35 03.8	
	comp=Z,116nm,20.9s,baz=198,slow=37						
KBZ	**Khabaz**	**51.14**	**308**	LR	LR	15 41 11.4	
	comp=Z,33nm,18.7s,baz=175,slow=41						
WRA	**Warramunga Arr**	**54.15**	**140**	P	**P**	**15 15 22.9**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=330,slow=8.0,SNR=7.0						
ASAR	**Alice Springs**	**56.82**	**143**	P	**P**	**15 15 42.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=322,slow=6.7,SNR=11						
MMAI	**Mount Meron Ar**	**57.46**	**295**	LR	LR	15 44 28.7	
	comp=Z,28nm,19.4s,baz=135,slow=40						
EIL	**Elat**	**58.38**	**291**	LR	LR	15 47 01.5	
	comp=Z,21nm,19.2s,baz=78,slow=42						
AKASG	**Malin Array Be**	**60.62**	**316**	P	**P**	**15 16 09.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=82,slow=6.1,SNR=4.8						
FINES	**FINESS Array B**	**62.42**	**329**	P	**P**	**15 16 21.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=72,slow=6.2,SNR=4.9						
ARCES	**ARCESS Array B**	**63.17**	**338**	LR	LR	15 46 23.6	
	comp=Z,48nm,19.2s,baz=85,slow=38						
HFS	**Hagfors**	**68.56**	**328**	LR	LR	15 48 32.2	
	comp=Z,44nm,19.7s,baz=36,slow=37						
GERES	**GERESS Array B**	**70.82**	**316**	P	**P**	**15 17 15.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=78,slow=6.2,SNR=5.1						
ILAR	**Eielson Array**	**78.24**	**24**	P	**P**	**15 17 58.4**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=347,slow=2.8,SNR=1.8						

*MAN **18** 15:19:44.9, 5°.09N×127°.10E, h16km, mb4.8, ML3.7, MS3.7*
*IDC **18** 15:19:48.0±1.8, 5°.20N×127°.30E, h81km±16km, mb3.8/7, mb1 3.9/9, mb1mx3.5/49, mbtmp4.2/9, Error ellipse: s-maj=54.0km s-min=9.4km az=60.0*
*NEIC **18** 15:19:48.8±1.5, 5°.17N±0°.10×127°.3E±0°.2, h86km±11km, mb4.2/12, Error ellipse: s-maj=28.3km s-min=7.6km az=64.0*
*DJA **18** 15:19:48.2±1.9, 5°N±10°×127°E±°, h12km±19km, M4.3/11, mB4.8/5, mb4.5/7, MLv4.3/11, Mw(mB)4.1/5*
ISC 18 15:19:48.0±1.1, 5°.09N±0°.05×127°.18E±0°.08, h75km±12km, n43, σ1♀75/52, mb4.3/12, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.77**	**305**	*eP*	**Pn**	**15 20 13.7**	**-3.1**
DDMP				*eS*	**Sn**	**15 20 36.3**	**-2.3**
MATI	**Mati**	**2.06**	**334**	*eP*	**Pn**	**15 20 17.6**	**-3.0**
MATI				*eS*	**Sn**	**15 20 44.3**	**-1.1**
SGSI	**Sangihe**	**2.15**	**230**	P	**Pn**	**15 20 22.1**	**+0.3**
SGSI				S	**Sn**	**15 20 47.6**	**-0.1**
DAV	**Davao City (W)**	**2.53**	**321**	P	**Pn**	**15 20 27.8**	**+0.9**
	35nm,0.3s,baz=71,slow=20,SNR=1.8						
DAV				S	**Sn**	**15 20 57.6**	**+0.8**
	68nm,0.3s,baz=162,slow=23,SNR=3.7						
DAV	**Davao City (W)**	**2.53**	**321**		**Pn**	**15 20 27.6**	**+0.7**
KCP	**Kidapawan**	**2.82**	**313**	⇓*eP*	**Pn**	**15 20 29.6**	**-1.2**
KCP				*i* S	**Sn**	**15 21 06.0**	**+2.1**
SKMP	**Bagumbayan, Su**	**2.98**	**299**	*eP*	**Pn**	**15 20 31.2**	**-1.8**
SKMP				*eS*	**Sn**	**15 21 06.6**	**-1.2**
BUKP	**Musuan**	**3.48**	**323**	*eP*	**Pn**	**15 20 39.4**	**-0.5**
BUKP				*eS*	**Sn**	**15 21 20.6**	**+0.7**
CGP	**Cagayan de Oro**	**4.16**	**324**	⇓*eP*	**Pn**	**15 20 52.2**	**+3.2**
CGP				*eS*	**Sn**	**15 21 43.8**	**+7.4**
TNTI	**Ternate**	**4.29**	**177**	P	**Pn**	**15 20 52.4**	**+1.5**
TNTI	**Ternate**	**4.29**	**177**	Pn	**Pn**	**15 20 51.7**	**+0.8**
PAGZ	**Pagadian**	**4.66**	**306**	*eP*	**Pn**	**15 20 55.9**	**0.0**
KMSI	**Cibinong**	**5.50**	**216**	P	**Pn**	**15 21 08.8**	**+1.4**
	0.3nm1μm82nm,0.7s						
GTOI	**Gorontalo**	**6.07**	**223**	P	**Pn**	**15 21 15.4**	**+0.2**
	0.1nm342nm10.0nm,0.6s						
SANI	**Sanana**	**7.19**	**190**	P	**Pn**	**15 21 28.1**	**-2.4**
	0.3nm2μm41nm,0.6s						
SIJI	**Sorong**	**7.19**	**145**	P	**Pn**	**15 21 31.1**	**+0.6**
	4.2nm,0.3s,baz=196,slow=23,SNR=24						
SIJI				S	**Sn**	**15 22 49.6**	**-1.2**
	0.4nm,0.3s,baz=156,slow=23,SNR=1.7						
LUWI	**Luwuk**	**7.51**	**216**	P	**Pn**	**15 21 35.4**	**+0.5**
	0.2nm671nm48nm,0.7s						
LUWI	**Luwuk**	**7.51**	**216**	Pn	**Pn**	**15 21 38.5**	**+3.6**
NLAI	**Namlea**	**8.27**	**181**	P	**Pn**	**15 21 45.2**	**-0.1**
	15nm,0.5s						
MYLDM	**Lahad Datu**	**8.64**	**271**	Pn	**Pn**	**15 21 52.6**	**+2.3**
KSM	**Kuching**	**17.22**	**259**	P	**P**	**15 23 44.1**	**-0.2**
MTN	**Manton Dam**	**18.24**	**168**	P	**P**	**15 23 55.4**	**-0.1**
MTN				IAmb	IAmb	15 24 00.4	
	comp=Z,8.2nm,0.8s						
KNRA	**Kununurra**	**20.69**	**176**	P	**P**	**15 24 22.9**	**+0.8**
KNRA				IAmb	IAmb	15 24 28.1	
	comp=Z,8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.09**	**184**	P	**P**	**15 24 47.4**	**-0.2**
	comp=Z,4.8nm,1.0s,baz=13,slow=10,SNR=11						
FITZ	**Fitzroy Crossi**	**23.09**	**184**	P	**P**	**15 24 46.8**	**-0.8**
FITZ				IAmb	IAmb	15 24 49.7	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**25.70**	**164**	P	**P**	**15 25 12.2**	**+0.9**
WRAB	**Tennant Creek**	**25.85**	**164**		**P**	**15 25 13.0**	**+0.3**
WRAB				IAmb	IAmb	15 25 16.5	
	comp=Z,6.6nm,0.6s						
WRA	**Warramunga Arr**	**25.85**	**164**	P	**P**	**15 25 13.1**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=344,slow=10,SNR=72						
WRA	**Warramunga Arr**	**25.85**	**164**	P	**P**	**15 25 13.3**	**+0.6**
WB2	**Warramunga Arr**	**25.86**	**164**	P	**P**	**15 25 13.0**	**+0.3**
WB2				IAmb	IAmb	15 25 16.6	
	comp=Z,6.1nm,0.6s						
ASAR	**Alice Springs**	**29.32**	**167**	P	**P**	**15 25 43.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=346,slow=6.8,SNR=17						
ASAR	**Alice Springs**	**29.32**	**167**	P	**P**	**15 25 44.2**	**+0.5**
STKA	**Stephens Creek**	**39.24**	**160**	P	**P**	**15 27 10.1**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=338,slow=8.6,SNR=18						
STKA	**Stephens Creek**	**39.24**	**160**	P	**P**	**15 27 08.3**	**-0.9**
GTA	**Gaotai**	**42.18**	**328**	*eP*	**P**	**15 27 34.1**	**+0.6**
GTA				pP	pwP	15 27 55.3	-0.2
GTA				sP	sP	15 28 10.8	+12
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK31	**Makanchi Array**	**56.71**	**325**	P	**P**	**15 29 23.5**	**-0.4**
MK31				IAmb	IAmb	15 29 24.9	
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**56.71**	**325**	P	**P**	**15 29 23.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=114,slow=7.9,SNR=20						
MKAR	**Makanchi Array**	**56.71**	**325**	P	**P**	**15 29 23.4**	**-0.5**
MAKZ	**Makanchi**	**56.90**	**324**	P	**P**	**15 29 25.5**	**+0.2**
MAKZ				IAmb	IAmb	15 29 26.2	
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**59.59**	**332**	P	**P**	**15 29 42.0**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=111,slow=7.9,SNR=2.2						
KURK	**Kurchatov**	**60.85**	**327**	P	**P**	**15 29 51.0**	**-1.4**
KURBB	**Kurchatov Arra**	**60.85**	**327**	P	**P**	**15 29 51.4**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=127,slow=6.1,SNR=18						
ABKAR	**Akbulak array**	**71.39**	**320**	P	**P**	**15 30 59.2**	**-0.9**

*KLM **18** 15:26:28.0, 2°.89N×127°.68E, h47km, mb4.3*
*DJA **18** 15:26:29.3±0.5, 3°N±4°×127°E±°, h10km, M4.4/13, mb4.5/11, MLv4.3/13*
*NEIC **18** 15:26:30.2±2.6, 2°.65N±0°.08×127°.39E±0°.10, h62km±7km, mb4.4/26, Error ellipse: s-maj=14.4km s-min=10.6km az=72.0*
*IDC **18** 15:26:30.1±2.1, 2°.62N×127°.37E, h58km±19km, mb4.0/20, mb1 4.1/22, mb1mx3.9/56, mbtmp4.3/22, ML4.5/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/48, Error ellipse: s-maj=26.5km s-min=9.9km az=74.0*
ISC 18 15:26:30.7±0.4, 2°.58N±0°.04×127°.43E±0°.07, h64km, n92, σ1♀55/94, mb4.3/32, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.80**	**182**	P	**Pn**	**15 27 01.9**	**+2.3**
TNTI	**Ternate**	**1.80**	**182**	Pn	**Pn**	**15 27 01.8**	**+2.2**
TNTI				Sn	**Sn**	**15 27 17.6**	**-3.9**
SGSI	**Sangihe**	**2.19**	**300**	P	**Pn**	**15 27 02.4**	**-2.5**
SGSI				S	**Sn**	**15 27 30.2**	**-0.7**
DDMP	**Don Marcelino,**	**3.89**	**334**	*eP*	**Pn**	**15 27 25.9**	**-2.3**
KMSI	**Cibinong**	**3.98**	**240**	P	**Pn**	**15 27 29.8**	**+0.5**
MATI	**Mati**	**4.49**	**345**	*eP*	**Pn**	**15 27 34.6**	**-1.7**
GTOI	**Gorontalo**	**4.82**	**246**	P	**Pn**	**15 27 41.9**	**+1.1**
DAV	**Davao City (W)**	**4.82**	**338**	P	**Pn**	**15 27 40.7**	**-0.2**
	36nm,0.3s,baz=18,slow=16,SNR=1.6						
DAV				S	**Sn**	**15 28 40.1**	**+4.7**
	34nm,0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AS31	**Alice Springs**	**26.84**	**167**	P	**P**	**15 32 05.6**	**+0.2**
AS31				IAmb	IAmb	15 32 07.0	
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**26.84**	**167**	P	**P**	**15 32 05.5**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=342,slow=7.3,SNR=94						
ASAR				PcP	**PcP**	**15 35 26.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=353,slow=2.3,SNR=8.7						
ASAR				ScP	**ScP**	**15 39 03.5**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=341,slow=2.3,SNR=5.0						
ASAR	**Alice Springs**	**26.84**	**167**	P	**P**	**15 32 05.6**	**+0.1**
ASAR					**PcP**	**15 35 27.9**	**+1.0**
JCJ	**Chichijima**	**28.18**	**29**	P	**P**	**15 32 15.4**	**-1.9**
WHN	**Wuhan**	**30.44**	**337**	P	**P**	**15 32 40.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**32.05**	**301**	P	**P**	**15 32 51.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=116,slow=8.4,SNR=12						
CMAR	**Chiang Mai Arr**	**32.05**	**301**	P	**P**	**15 32 48.4**	**-3.4**
KSRS	**Korea Array**	**34.70**	**1**	P	**P**	**15 33 13.8**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=178,slow=9.4,SNR=7.8						
KSRS				LR	LR	15 52 42.3	
	comp=Z,11nm,18.1s,baz=210,slow=45						
MJAR	**Matsushiro Arr**	**35.23**	**15**	P	**P**	**15 33 16.9**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=192,slow=10,SNR=4.2						
MJAR				LR	LR	15 45 26.3	
	comp=Z,21nm,20.7s,baz=185,slow=32						
XAN	**Xi'an**	**35.75**	**333**	P	**P**	**15 33 25.0**	**+1.4**
XAN				pP	pP	15 33 34.8	-3.8
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
STKA	**Stephens Creek**	**36.82**	**160**	P	**P**	**15 33 33.0**	**+0.3**
	comp=Z,6.6nm,0.6s,baz=343,slow=7.3,SNR=24						
STKA	**Stephens Creek**	**36.82**	**160**	P	**P**	**15 33 33.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**41.64**	**5**	P	**P**	**15 34 12.8**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=181,slow=7.1,SNR=6.8						
GTA	**Gaotai**	**44.43**	**329**	P	**P**	**15 34 35.8**	**+0.3**
GTA				pP	sP	15 34 59.4	+1.3
GTA				sP	pwP	15 35 12.8	+19
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,29nm,4.9s						
GTA				LR	LR		
	comp=N,49nm,14.9s						
GTA				LR	LR		
	comp=E,65nm,14.5s						
GTA				LR	LR		
	comp=Z,69nm,14.9s						
SONM	**Songino Array**	**48.60**	**341**	P	**P**	**15 35 08.3**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=153,slow=8.4,SNR=23						
SONM	**Songino Array**	**48.60**	**341**	P	**P**	**15 35 08.6**	**+0.6**
PETK	**Petropavlovsk-**	**56.23**	**21**	P	**P**	**15 36 04.3**	**0.0**
	comp=Z,4.4nm,1.0s,baz=188,slow=3.9,SNR=7.3						
MK31	**Makanchi Array**	**58.89**	**325**	P	**P**	**15 36 23.0**	**-0.1**
MK31				IAmb	IAmb	15 36 29.3	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**58.89**	**325**	P	**P**	**15 36 22.5**	**-0.6**
	comp=Z,2.9nm,0.4s,baz=118,slow=8.0,SNR=36						
MKAR	**Makanchi Array**	**58.89**	**325**	P	**P**	**15 36 23.2**	**+0.1**
ZALV	**Zalesovo Beam**	**61.92**	**333**	P	**P**	**15 36 43.1**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=114,slow=6.6,SNR=14						
ZALV	**Zalesovo Beam**	**61.92**	**333**	P	**P**	**15 36 43.0**	**-0.6**
KURBB	**Kurchatov Arra**	**63.07**	**327**	P	**P**	**15 36 50.9**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=126,slow=5.8,SNR=27						
KURK	**Kurchatov**	**63.08**	**328**	P	**P**	**15 36 51.6**	**+0.2**
KKAR	**Karatay Array**	**64.54**	**317**	P	**P**	**15 37 00.8**	**-0.4**
BVAR	**Borovoye Array**	**68.65**	**327**	P	**P**	**15 37 26.9**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=193,slow=20,SNR=20						
BRVK	**Borovoye**	**68.73**	**327**	P	**P**	**15 37 27.8**	**+0.1**
BRVK				IAmb	IAmb	15 37 28.8	
	comp=Z,9.4nm,0.9s						
NRIK	**Noril'sk**	**71.70**	**346**	P	**P**	**15 37 45.3**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=126,slow=6.0,SNR=5.1						
ABKAR	**Akbulak array**	**73.47**	**321**	P	**P**	**15 37 56.7**	**+0.2**
ABKAR	**Akbulak array**	**73.47**	**321**	IAmb	IAmb	15 37 57.4	
	comp=Z,3.8nm,0.9s						
AKTO	**Aktyubinsk**	**74.98**	**322**	P	**P**	**15 38 05.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=92,slow=6.7,SNR=5.3						
AKTO				LR	LR	16 12 41.3	
	comp=Z,22nm,19.3s,baz=92,slow=37						
ARU	**Arti**	**76.27**	**328**	P	**P**	**15 38 11.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=149,slow=7.7,SNR=4.9						
ARU	**Arti**	**76.27**	**328**	IAmb	IAmb	15 38 13.0	
	comp=Z,4.2nm,1.1s						
VNDA	**Vanda**	**82.21**	**173**	P	**P**	**15 38 45.0**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=316,slow=6.3,SNR=9.9						
MAW	**Mawson**	**82.93**	**200**	P	**P**	**15 38 48.5**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=345,slow=2.9,SNR=5.8						
MAW	**Mawson**	**82.93**	**200**	P	**P**	**15 38 48.3**	**0.0**
IMAR	**Indian Mountai**	**83.10**	**24**	P	**P**	**15 38 49.8**	**+0.5**
BRLK	**Bradley Lake**	**83.58**	**30**	P	**P**	**15 38 52.4**	**+0.4**
ARCES	**ARCESS Array B**	**91.76**	**340**	P	**P**	**15 39 29.9**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=79,slow=7.5,SNR=4.8						

IDC ***18*** *15:34:50.0±0.6, 42°.65N×35°.47E, h0km, mb3.8/6, mb1 3.8/13,mb1mx3.6/49,mbtmp3.8/13, ML3.7/7, Error ellipse: s-maj=8.9km s-min=7.7km az=165.0*
ISK ***18*** *15:34:53.4, 42°.61N×35°.41E, h17km, ML3.9/11*
MOS ***18*** *15:34:54.6±0.0, 42°.50N×35°.51E, h40km±9km*
SIGU ***18*** *15:34:54.0±0.6, 42°.74N×35°.11E, h5km±3km, Mw3.5/5*
DDA ***18*** *15:34:55.1, 42°.50N×35°.44E, h30km±1km, ML3.6*

ISC 18 15:34:52.4±1.2, 42°.69N±0°.03×35°.44E±0°.03, h15km±9km, n100, σ1°91/135, mb3.7/5, 13C-24D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNOP	**Sinop**	**0.69**	**194**	PG	**Pg**	**15 35 06.2**	**+0.3**
SNOP				SG	**Sg**	**15 35 14.7**	**-0.4**
SINO	**SINOP_Merkez**	**0.70**	**195**	*i* P	**Pg**	**15 35 06.1**	**+0.2**
SINO				*i* P	**Pg**	**15 35 06.2**	**+0.2**
SINO				*i* S	**Sg**	**15 35 14.4**	**-0.8**
SINO				*i* S	**Sg**	**15 35 14.4**	**-0.8**
SINO				IAML		15 35 16.0	
	comp=N,3μm,0.3s						
SINO				IAML		15 35 16.0	
	comp=N,3μm,0.3s						
SINO				IAML		15 35 16.0	
	comp=E,2μm,0.2s						
SINO				IAML		15 35 16.0	
	comp=E,2μm,0.2s						
DIKM	**Dikmen**	**1.05**	**187**	PG	**Pb**	**15 35 11.9**	**-0.3**
BZK	**Bozkurt**	**1.29**	**236**	Pn	**Pb**	**15 35 16.6**	**+0.3**
	baz=227						
BZK				Sn	**Sn**	**15 35 33.0**	**+0.3**
	baz=227						
BZK	**Bozkurt**	**1.29**	**236**	PN	**Pb**	**15 35 16.5**	**+0.3**
BZK				SN	**Sn**	**15 35 33.1**	**+0.3**
SAMS	**Samsun-Alacam**	**1.45**	**157**	*i* P	**Pn**	**15 35 17.3**	**-0.6**
SAMS				*i* S	**Sn**	**15 35 33.6**	**-3.0**
SAMS				IAML		15 35 34.0	
	comp=N,3μm,0.2s						
SAMS				IAML		15 35 34.0	
	comp=E,4μm,0.3s						
HAVZ	**Havza**	**1.63**	**173**	*i* P	**Pn**	**15 35 21.2**	**+0.7**
HAVZ				*i* S	**Sn**	**15 35 43.0**	**-1.1**
HAVZ				IAML		15 35 43.0	
	comp=N,1μm,0.3s						
HAVZ				IAML		15 35 46.0	
	comp=E,1μm,0.3s						
KAST	**KASTAMONU**	**1.65**	**224**	*i* P	**Pb**	**15 35 23.3**	**+0.9**
KAST				*i* S	**Sb**	**15 35 43.8**	**+0.9**
KAST				IAML		15 35 45.0	
	comp=E,1μm,0.5s						
KVT	**Kavak**	**1.68**	**164**	PN	**Pn**	**15 35 21.7**	**+0.6**
KAGI	**orum-Kargı**	**1.71**	**205**	*i* P	**Pb**	**15 35 23.3**	**-0.2**
KAYA	**Kayacik-Havza(**	**1.76**	**172**	PN	**Pn**	**15 35 22.9**	**+0.6**
KMON	**Kastamonu**	**1.80**	**224**	PN	**Pn**	**15 35 23.6**	**+0.7**
KUPE	**Kupecik-Ladik(**	**1.87**	**166**	PN	**Pn**	**15 35 24.5**	**+0.6**
TOS	**Tosya**	**1.96**	**213**	PN	**Pn**	**15 35 25.7**	**+0.6**
YAL	**Yalta**	**2.02**	**333**	*e*Pn	**Pn**	**15 35 27.2**	**+1.4**
	baz=339						
YAL				*i*		15 35 29.8	
	baz=339						
YAL				*e*Sn	**Sn**	**15 35 51.8**	**+1.1**
	baz=339						
ILGA	**Ilgaz**	**2.08**	**219**	*i* P	**Pn**	**15 35 27.9**	**+1.0**
CTAK	**Corum_Osmancik**	**2.10**	**194**	*i* P	**Pn**	**15 35 27.8**	**+0.7**
CTAK				*i* S	**Sn**	**15 35 52.8**	**-0.2**
CTAK				IAML		15 35 54.0	
	comp=N,570nm,0.4s						
CTAK				IAML		15 35 55.0	
	comp=E,546nm,0.3s						
ALU	**Alushta**	**2.12**	**340**	*e*Pn	**Pn**	**15 35 28.9**	**+1.7**
	baz=346						
ALU				*i*		15 35 30.0	
	baz=346						
ALU				Pnm		15 35 32.3	
	baz=346						
ALU				*i* Sn	**Sb**	**15 35 56.3**	**-0.3**
	baz=346						
ALU				Snm		15 35 56.7	
	baz=346						
KURC	**Kurucasile-Bar**	**2.17**	**248**	PN	**Pn**	**15 35 29.3**	**+1.4**
SUDU	**Sudak**	**2.22**	**352**	*i* Pn	**Pn**	**15 35 30.5**	**+2.0**
	baz=358						
SUDU				*e*		15 35 32.1	
	baz=358						
SUDU				Pnm		15 35 33.4	
	baz=358						
SUDU				*i* Sn	**Sb**	**15 35 58.6**	**-0.7**
	baz=358						
SUDU				Snm		15 35 59.6	
	baz=358						
SUDU				Snm		15 35 59.6	
	baz=358						
ERBA	**Erbaa**	**2.24**	**153**	*i* P	**Pn**	**15 35 30.3**	**+1.4**
SEV	**Sevastopol'**	**2.25**	**326**	*e*Pn	**Pn**	**15 35 29.5**	**+0.5**
	baz=331						
SEV				*i*		15 35 31.6	
	baz=331						
SEV				Pnm		15 35 32.6	
	baz=331						
SEV				*e*Sn	**Sn**	**15 35 56.0**	**-0.5**
	baz=331						
SEV				Snm		15 35 56.3	
	baz=331						
SEV				Snm		15 35 57.8	
	baz=331						
FEO	**Feodosiya**	**2.33**	**359**	*e*Pn	**Pn**	**15 35 31.3**	**+1.3**
	baz=5.0						
FEO				Pnm		15 35 34.0	
	baz=5.0						
FEO				*e*Sn	**Sn**	**15 36 00.6**	**+2.4**
	baz=5.0						
FEO				Snm		15 36 03.5	
	baz=5.0						
FEO				Snm		15 36 06.6	
	baz=5.0						
SIM	**Simferopol'**	**2.45**	**337**	*e*Pn	**Pb**	**15 35 34.8**	**-1.2**
	baz=342						
SIM				Pnm		15 35 36.6	
	baz=342						
SIM				*e*Sn	**Sn**	**15 36 02.6**	**+1.3**
	baz=342						
SIM				Snm		15 36 04.1	
	baz=342						
SIM				Snm		15 36 07.8	
	baz=342						
COAL	**Corum-Alaca**	**2.46**	**188**	*i* P	**Pn**	**15 35 32.5**	**+0.6**
COAL				*i* S	**Sn**	**15 36 00.7**	**-1.1**
ORDU	**Ordu-Boztepe**	**2.48**	**132**	*i* P	**Pb**	**15 35 35.0**	**-1.6**
CANT	**Cankiri**	**2.49**	**214**	PN	**Pn**	**15 35 33.1**	**+0.7**
TOKT	**Tokat**	**2.51**	**160**	PN	**Pn**	**15 35 33.7**	**+1.0**
KBUK	**KARABUK-Merkez**	**2.55**	**236**	*i* P	**Pn**	**15 35 33.8**	**+0.7**
CORM	**Corum**	**2.58**	**194**	PN	**Pn**	**15 35 34.5**	**+0.8**
BTIN	**Bartın**	**2.59**	**247**	*i* P	**Pn**	**15 35 34.9**	**+1.2**
KERU	**Kerch**	**2.72**	**15**	*i* Pn	**Pb**	**15 35 39.3**	**-1.3**
	baz=20						
KERU				Pnm		15 35 39.8	
	baz=20						
KERU				*e*Sn	**Sb**	**15 36 15.1**	**+1.4**
	baz=20						
KERU				Snm		15 36 17.1	
	baz=20						
DELI	**KIRIKKALE**	**2.92**	**203**	*i* P	**Pn**	**15 35 39.0**	**+0.7**
DELI				*i* S	**Sn**	**15 36 11.4**	**-1.9**
TPSR	**Tuapse**	**3.00**	**61**	*i* Pn	**Pn**	**15 35 41.4**	**+2.1**
TPSR				*e*Sn	**Sn**	**15 36 14.7**	**-0.3**
BCAM	**Yenicaga**	**3.14**	**234**	*i* P	**Pn**	**15 35 42.1**	**+0.8**
CDAG	**Cicekdag**	**3.17**	**195**	*i* P	**Pb**	**15 35 47.8**	**-0.6**
SUSE	**Susehri**	**3.24**	**139**	*i* P	**Pb**	**15 35 48.5**	**-1.1**
BRTR	**Keskin Array B**	**3.26**	**205**	Pn	**Pn**	**15 35 43.5**	**+0.5**
	comp=E,3.6nm,0.3s,baz=186,slow=2.8,SNR=190						
BRTR				Sn	**Sn**	**15 36 21.0**	**-0.6**
	comp=E,9.1nm,0.3s,baz=30,slow=16,SNR=10						
SIRC	**Yozgat**	**3.36**	**184**	*i* P	**Pn**	**15 35 45.8**	**+1.4**
BBAL	**Bala**	**3.60**	**210**	*i* P	**Pn**	**15 35 48.5**	**+0.8**
BBAL				*i* S	**Sn**	**15 36 31.1**	**+1.1**
GUZR	**Guzeripl'**	**3.66**	**68**	*i* Pn	**Pn**	**15 35 50.4**	**+2.0**
GUZR				*i* Sn	**Sn**	**15 36 32.0**	**+0.8**
KTUT	**Trabzon**	**3.66**	**116**	⇑P	**Pn**	**15 35 49.5**	**+1.2**
KIRS	**Kırehir-Merke**	**3.74**	**198**	*i* P	**Pn**	**15 35 50.7**	**+1.2**
ARXR	**Arkhyz**	**4.36**	**77**	*i* Pn	**Pn**	**15 36 00.7**	**+2.5**
BCA	**Borcka**	**4.77**	**103**	⇓P	**Pn**	**15 36 03.5**	**-0.1**
BATM	**Batumi**	**4.78**	**101**	⇓P	**Pn**	**15 36 03.6**	**-0.1**
BATM	**Batumi**	**4.78**	**101**	*e*Pn	**Pn**	**15 36 03.6**	**-0.1**
BATM				*e*Sn	**Sn**	**15 36 54.8**	**-4.0**
BATM	**Batumi**	**4.78**	**101**	P	**Pn**	**15 36 03.2**	**-0.5**
CHVG	**Ch'k'valeri**	**4.90**	**87**	⇓P	**Pn**	**15 36 04.9**	**-0.5**
CHVG	**Ch'k'valeri**	**4.90**	**87**	⇓S	**Sn**	**15 37 00.5**	**-1.3**
CHVG	**Ch'k'valeri**	**4.90**	**87**	P	**Pn**	**15 36 05.9**	**+0.5**
CHVG				S	**Sn**	**15 36 58.1**	**-3.7**
TLCR		**5.39**	**300**	⇓P	**Pn**	**15 36 11.2**	**-0.9**
PSN	**Preselentsi**	**5.39**	**283**	*i* P	**Pn**	**15 36 11.8**	**-0.4**
PSN				*i* S	**Sn**	**15 37 10.1**	**-3.8**
TIRR	**Tirgusor**	**5.40**	**291**	⇑P	**Pn**	**15 36 11.4**	**-0.8**
TIRR	**Tirgusor**	**5.40**	**291**	*i* P	**Pn**	**15 36 10.9**	**-1.3**
TIRR				*i* S	**Sn**	**15 37 08.8**	**-5.2**
KIV	**Kislovodsk**	**5.44**	**74**	*e*P	Pn	15 36 17.8	+4.9
	baz=75						
KVAR	**Kislovodsk Arr**	**5.44**	**74**	Pn	**Pn**	**15 36 14.7**	**+1.8**
	baz=357,slow=18,SNR=4.5						
KVAR				Sn	**Sn**	**15 37 15.0**	**-0.4**
	baz=306,slow=17,SNR=1.7						
PURM	**Purcari**	**5.52**	**316**	⇑S	**Sn**	**15 37 13.9**	**-3.1**
KBZ	**Khabaz**	**5.55**	**77**	Pn	**Pn**	**15 36 15.3**	**+1.0**
	comp=E,1.1nm,0.3s,baz=272,slow=9.8,SNR=23						
KBZ				Sn	**Sn**	**15 37 17.4**	**-0.3**
	comp=E,1.0nm,0.3s,baz=201,slow=15,SNR=1.6						
TKB	**Tkibuli**	**5.60**	**91**	P	**Pn**	**15 36 16.5**	**+1.5**
TKB				S	**Sn**	**15 37 18.5**	**-0.5**
HARR	**Harsova**	**5.80**	**293**	⇓P	**Pn**	**15 36 16.7**	**-1.0**
CFR	**Carcaliu**	**5.83**	**298**	⇓P	**Pn**	**15 36 17.7**	**-0.4**
ONI	**Oni**	**5.91**	**88**	P	**Pn**	**15 36 20.9**	**+1.6**
ONI				S	**Sn**	**15 37 26.5**	**-0.3**
PRD	**Provadia**	**5.92**	**278**	*i* P	**Pn**	**15 36 18.4**	**-1.0**
PRD				*i* S	**Sn**	**15 37 19.0**	**-7.9**
ROIA	**ROIAK**	**5.93**	**277**	*i* P	**Pn**	**15 36 19.1**	**-0.5**
ROIA				*i* S	**Sn**	**15 37 20.8**	**-6.5**
NEF	**NEVSHA**	**6.01**	**278**	*i* P	**Pn**	**15 36 19.9**	**-0.9**
NEF				*i* S	**Sn**	**15 37 21.2**	**-8.8**
TUDR		**6.29**	**300**	⇑P	**Pn**	**15 36 24.1**	**-0.5**
VARL	**Varlezi**	**6.32**	**303**	⇓S	**Sn**	**15 37 34.5**	**-2.1**
MILM	**Milestii Mici**	**6.33**	**314**	⇑P	**Pn**	**15 36 23.1**	**-1.9**
MILM	**Milestii Mici**	**6.33**	**314**	⇓S	**Sn**	**15 37 33.9**	**-2.9**
TRLG	**Trialeti**	**6.55**	**97**	P	**Pn**	**15 36 31.1**	**+2.9**
PETR	**Petresti**	**6.63**	**300**	⇓S	**Sn**	**15 37 44.0**	**-0.3**
ODBI	**Odobesti**	**6.76**	**300**	⇓S	**Sn**	**15 37 46.5**	**-1.0**
ISR	**Istrita**	**6.87**	**294**	⇓S	**Sn**	**15 37 51.6**	**+1.3**
VRI	**Vrincioaia**	**7.01**	**300**	⇑P	**Pn**	**15 36 32.6**	**-1.8**
VRI	**Vrincioaia**	**7.01**	**300**	⇓S	**Sn**	**15 37 52.2**	**-1.6**
PLOR	**Plostina**	**7.05**	**300**	⇑P	**Pn**	**15 36 35.0**	**0.0**
PLOR	**Plostina**	**7.05**	**300**	⇓S	**Sn**	**15 37 52.1**	**-2.7**
TESR	**Tescani**	**7.34**	**304**	⇓P	**Pn**	**15 36 37.7**	**-1.2**
TESR	**Tescani**	**7.34**	**304**	⇓S	**Sn**	**15 37 59.4**	**-2.5**
SORM	**Soroca**	**7.38**	**320**	⇓P	**Pn**	**15 36 38.1**	**-1.2**
SORM	**Soroca**	**7.38**	**320**	⇑S	**Sn**	**15 37 57.3**	**-5.4**
MLR	**Muntele Rosu**	**7.38**	**295**	Pn	**Pn**	**15 36 39.6**	**0.0**
	comp=E,0.4nm,0.3s,baz=145,slow=18,SNR=1.6						
MLR				Sn	**Sn**	**15 38 01.7**	**-1.4**
	comp=E,2.4nm,0.3s,baz=178,slow=21,SNR=7.9						
MLR	**Muntele Rosu**	**7.38**	**295**	⇓P	**Pn**	**15 36 38.5**	**-1.1**
MLR	**Muntele Rosu**	**7.38**	**295**	⇓S	**Sn**	**15 38 03.0**	**-0.1**
BIZ	**Bicaz**	**7.87**	**306**	⇓P	**Pn**	**15 36 45.1**	**-1.1**
DOPR	**Dopca**	**7.91**	**298**	⇑P	**Pn**	**15 36 46.6**	**-0.2**
VOIR		**7.97**	**294**	⇓P	**Pn**	**15 36 47.4**	**-0.2**
ARR	**Arges**	**8.23**	**293**	⇑P	**Pn**	**15 36 51.4**	**+0.2**
BURAR	**Bucovina Array**	**8.73**	**308**	⇑P	**Pn**	**15 36 57.8**	**-0.3**
AKASG	**Malin Array Be**	**9.07**	**334**	Pn	**Pn**	**15 37 02.2**	**-0.3**
	comp=E,3.7nm,0.3s,baz=140,slow=13,SNR=12						
AKASG				Sn	**Sn**	**15 38 38.4**	**-5.9**
	comp=E,3.4nm,0.3s,baz=140,slow=24,SNR=5.4						
GZR	**Gura Zlata**	**9.51**	**291**	⇓P	**Pn**	**15 37 08.7**	**0.0**
MMAI	**Mount Meron Ar**	**9.66**	**180**	Pn	**Pn**	**15 37 10.9**	**0.0**
	comp=E,0.5nm,0.3s,baz=0.0,slow=13,SNR=1.8						
FINES	**FINESS Array B**	**19.60**	**347**	P	**P**	**15 39 19.9**	**+0.3**
	comp=E,0.8nm,0.3s,baz=149,slow=13,SNR=28						
ARU	**Arti**	**20.21**	**39**	P	**P**	**15 39 26.9**	**+0.6**
	comp=E,1.0nm,0.3s,baz=215,slow=7.5,SNR=5.7						
HFS	**Hagfors**	**21.93**	**330**	P	**P**	**15 39 45.8**	**+0.9**
	comp=E,3.5nm,0.5s,baz=144,slow=11,SNR=17						
NOA	**NORSAR Array B**	**23.45**	**330**	P	**P**	**15 40 02.4**	**+1.6**
	comp=E,0.6nm,0.7s,baz=134,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**27.39**	**352**	P	**P**	**15 40 38.0**	**+1.3**
	comp=E,1.5nm,0.8s,baz=134,slow=5.2,SNR=2.0						
MKAR	**Makanchi Array**	**33.14**	**66**	P	**P**	**15 41 28.4**	**+0.5**
	comp=E,0.3nm,0.3s,baz=268,slow=8.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**41.42**	**235**	P	**P**	**15 42 38.7**	**+0.4**
	comp=E,2.1nm,0.6s,baz=37,slow=9.0,SNR=14						

TEH ***18*** *15:56:05.3, 32°.52N×47°.93E, h23km, ML2.6*
THR ***18*** *15:56:06.7±0.4, 32°.56N×48°.02E, h14km±3km, ML3.0*

ISC 18 15:56:05.8±1.2, 32°.58N±0°.06×47°.95E±0°.05, h15km, n14, σ1°22/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.58**	**281**	*e*Sg	**Sg**	**15 56 25.6**	**+0.8**
SHGR	**Shooshtar-Gavs**	**0.86**	**123**	*e*Pg	**Pb**	**15 56 21.8**	**-0.6**
SHGR				*e*Sg	**Sb**	**15 56 32.8**	**-0.9**
IKMR	**Kamar-syah**	**1.00**	**21**	*e*Pg	**Pn**	**15 56 25.4**	**+0.1**
IKMR				*e*		15 56 45.2	
IDOB	**Doab**	**1.22**	**9**	*e*Pg	**Pn**	**15 56 28.7**	**+0.1**
IDOB				*e*		15 56 57.9	
BMDN	**Meydan**	**1.31**	**34**	*e*Pg	**Pg**	**15 56 31.0**	**-0.1**
BMDN				*e*		15 56 57.0	
IKOM	**Komasi**	**1.64**	**347**	*e*Pg	**Pb**	**15 56 35.7**	**-0.1**
IKOM				*e*		15 56 43.2	
HSAM	**Samen**	**1.72**	**18**	*e*Pn	**Pb**	**15 56 37.4**	**+0.2**
KHMZ	**Khomeyn**	**2.04**	**55**	*e*Pn	**Pb**	**15 56 42.3**	**-0.5**
IPIR	**Pirpir**	**2.48**	**87**	*e*Pn	**Pn**	**15 56 46.2**	**+0.2**
IPIR				*e*		15 57 33.0	
IDHR	**Dehrash**	**2.49**	**329**	*e*Pn	**Pn**	**15 56 46.0**	**+0.1**
IDHR				*e*		15 57 31.1	
SNGE	**Sanandaj**	**2.56**	**349**	*e*Pn	**Pb**	**15 56 50.4**	**-1.1**
SNGE				*e*Sg	**Sg**	**15 57 27.8**	**-0.3**
SNGE				IAML		15 57 39.3	
	comp=N,50nm,0.9s						
ASAO	**Ashtian**	**2.62**	**41**	*e*Pn	**Pb**	**15 56 50.6**	**-2.0**
GHVR	**GHOM**	**3.38**	**55**	*e*Pn	**Pn**	**15 57 00.0**	**+2.0**
DAMV	**Damavand**	**4.52**	**46**	*e*Pn	**Pn**	**15 57 16.7**	**+2.8**

IPEC ***18*** *16:04:09.4±0.4, 51°.61N×16°.08E, h0km±1km, ML2.6/4, Error ellipse: s-maj=3.6km s-min=2.1km az=56.0*
LDG ***18*** *16:04:10.7±0.8, 51°.51N×15°.97E, h1km, Ml3.5/5, Error ellipse: s-maj=19.0km s-min=4.5km az=24.0, Suspected Mining induced.*
BGR ***18*** *16:04:11.7±0.3, 51°.51N×16°.10E, h1km, ML3.2/17, Error ellipse: s-maj=3.3km s-min=2.2km az=15.0*
IDC ***18*** *16:04:12.0±1.0, 51°.47N×16°.05E, h0km, mb1 3.4/5, mb1mx3.1/54, mbtmp3.3/5, ML2.8/5, Error ellipse: s-maj=13.5km s-min=7.9km az=123.0*
PRU ***18*** *16:04:11.6±0.0, 51°.52N×16°.09E, h0km*
VIE ***18*** *16:04:12.9±0.6, 51°.41N×15°.94E, h0km, mb2.7/13, ml2.9/15, ms3.5/1, Error ellipse: s-maj=4.9km s-min=3.9km az=34.0 82 km WNW of Wroclaw Suspected Mining induced.*

ISC 18 16:04:09.6±0.8, 51°.59N±0°.03×16°.09E±0°.02, h0km, n78, σ1°52/151, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**170**	*e*Pg	**Pg**	**16 04 24.6**	**+0.5**
KSP				*e*Sg	**Sg**	**16 04 34.0**	**+0.1**
KSP	**Ksiaz**	**0.76**	**170**	*e*Pg	**Pg**	**16 04 24.7**	**+0.5**
KSP				*e*Sg	**Sg**	**16 04 34.7**	**+0.8**
CHVC	**Chvalec**	**1.00**	**181**	*e*PG	**Pb**	**16 04 29.4**	**-0.5**
CHVC				*e*SG	**Sg**	**16 04 42.1**	**+0.3**
	comp=Z,168nm,0.6s						
OSTC	**Ostas**	**1.04**	**175**	*e*PG	**Pb**	**16 04 30.2**	**-0.3**
OSTC				*e*SG	**Sg**	**16 04 43.2**	**+0.3**
	comp=Z,145nm,0.7s						
UPC	**Upice**	**1.08**	**182**	*e*PG	**Pg**	**16 04 30.6**	**+0.2**
UPC				*e*SG

KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN		**Pn**	**16 04 57.8**	**+0.2**
KHC				*e*PG		**Pb**	**16 05 04.0**	**+1.1**
KHC				*e*SN		**Sn**	**16 05 32.8**	**-0.8**
KHC				*e*SG		**Sg**	**16 05 43.0**	**-1.0**
	comp=Z,24nm,0.5s							
MOX	**Moxa**	**2.97**	**253**	*e*Pn		**Pn**	**16 04 59.1**	**+1.1**
MOX				*e*Pg		**Pg**	**16 05 07.4**	**+0.8**
MOX				*e*Sg		**Sg**	**16 05 45.0**	**0.0**
MANZ	**Manzenberg**	**2.99**	**239**	*e*Pn		**Pn**	**16 04 59.3**	**+0.9**
MANZ				*e*Pg		**Pg**	**16 05 07.9**	**+1.0**
MANZ				*e*Sg		**Sg**	**16 05 45.7**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.07**	**235**	*e*Pn		**Pn**	**16 05 00.2**	**+0.8**
ROTZ				*e*Sg		**Sg**	**16 05 47.2**	**-1.0**
GEC2	**GERESS Array S**	**3.15**	**210**	*e*Pn		**Pn**	**16 05 01.6**	**+1.1**
GEC2				*e*Sg		**Sg**	**16 05 49.4**	**-1.2**
GERES	**GERESS Array B**	**3.15**	**210**	Pn		**Pn**	**16 05 01.4**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=31,slow=13,SNR=50							
GERES				Pg		**Pb**	**16 05 07.3**	**+0.9**
	comp=Z,2.5nm,0.3s,baz=30,slow=16,SNR=28							
GERES				Sn		**Sn**	**16 05 37.5**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=27,slow=27,SNR=7.5							
GERES				Lg		Lg	16 05 47.7	
	comp=Z,5.8nm,0.3s,baz=29,slow=26,SNR=9.7							
WET	**Wettzell**	**3.20**	**221**	*e*Pn		**Pn**	**16 05 01.8**	**+0.7**
WET				*e*Sg		**Sg**	**16 05 51.2**	**-1.0**
SMOL	**Smolenice**	**3.20**	**164**	*e*PG		**Pg**	**16 05 10.3**	**-0.6**
SMOL				*e*SG		**Sg**	**16 05 52.5**	**+0.2**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*PG		**Pg**	**16 05 13.1**	**+1.0**
LANS				*e*SG		**Sg**	**16 05 54.7**	**+0.3**
MODS	**Modra-Piesok**	**3.31**	**166**	*e*PG		**Pg**	**16 05 12.1**	**-0.9**
MODS				*e*SG		**Sg**	**16 05 55.5**	**-0.4**
NIE	**Niedzica**	**3.46**	**127**	*e*P		**Pg**	**16 05 15.7**	**-0.2**
NIE				*e*S		**Sg**	**16 05 59.4**	**-1.3**
ZST	**Bratislava**	**3.46**	**169**	*e*SG		**Sg**	**16 05 58.4**	**-2.3**
CLZ	**Clausthal**	**3.56**	**276**	*e*Pn		**Pn**	**16 05 07.8**	**+1.6**
CLZ				*e*Sg		**Sg**	**16 06 05.7**	**+1.7**
VYHS	**Vyhne**	**3.57**	**149**	*e*PN		**Pn**	**16 05 05.2**	**-1.0**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P		**Pn**	**16 05 07.4**	**+0.8**
BSD				*i*			16 05 45.0	
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P		**Pn**	**16 05 07.4**	**+0.8**
BSD				*i*			16 05 45.0	
BSD				IAML			16 05 52.2	
	comp=Z,2.0nm,0.4s							
GRF	**Grafenberg Arr**	**3.63**	**240**	*e*Pn		**Pn**	**16 05 08.2**	**+1.1**
GRF				*e*Sg		**Sg**	**16 06 06.2**	**-0.1**
CONA	**Conrad Observa**	**3.67**	**182**	*e*Pn		**Pn**	**16 05 08.2**	**+0.5**
	comp=Z,1.2nm,0.2s,SNR=8.6							
CONA				Sg		**Sg**	**16 06 06.7**	**-0.7**
	comp=Z,36nm,0.6s							
MOA	**Molln**	**3.93**	**198**	*e*Pn		**Pn**	**16 05 11.8**	**+0.6**
	comp=Z,4.2nm,0.3s,SNR=8.9							
MOA				Sg		**Sg**	**16 06 14.9**	**-0.7**
	comp=Z,44nm,0.8s							
ARSA	**Arzberg**	**4.36**	**185**	*i* Pn		**Pn**	**16 05 19.5**	**+2.4**
	comp=Z,1.7nm,0.3s							
ARSA				Sg		**Sg**	**16 06 30.8**	**+1.2**
	comp=Z,47nm,1.0s							
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*PG		**Pg**	**16 05 35.7**	**+2.3**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*PN		**Pn**	**16 05 21.5**	**-1.3**
KOLS				*e*PG		**Pg**	**16 05 45.0**	**+3.9**
KBA	**Koelnbreinsper**	**4.86**	**203**	*e*Pn		**Pn**	**16 05 25.0**	**+0.9**
	comp=Z,6.1nm,0.5s,SNR=18							
KBA				Sg		**Sg**	**16 06 47.8**	**+2.2**
	comp=Z,22nm,0.6s							
SOKA	**Soboth**	**4.96**	**188**	Sg		**Sg**	**16 06 52.6**	**+3.5**
	comp=Z,11nm,0.7s							
WATA	**Walderalm**	**5.17**	**216**	*i* Pn		**Pn**	**16 05 29.9**	**+1.5**
	comp=Z,5.2nm,0.6s,SNR=5.8							
WATA				*e*Sg		**Sg**	**16 06 57.2**	**+1.4**
	comp=Z,9.4nm,0.6s							
OBKA	**Obir**	**5.18**	**192**	Sg		**Sg**	**16 06 55.5**	**-0.6**
	comp=Z,9.6nm,0.5s							
WTTA	**Wattenberg**	**5.21**	**216**	Pn		**Pn**	**16 05 30.2**	**+1.3**
	comp=Z,2.7nm,0.5s							
WTTA				Sg		**Sg**	**16 06 58.1**	**+1.1**
	comp=Z,13nm,0.6s							
MOTA	**Moosalm**	**5.35**	**219**	*i* Pn		**Pn**	**16 05 32.9**	**+2.1**
	comp=Z,2.6nm,0.5s							
MOTA				Sg		**Sg**	**16 07 03.6**	**+2.3**
	comp=Z,7.9nm,0.5s							
RETA	**Reutte**	**5.37**	**222**	*e*Pn		**Pn**	**16 05 31.3**	**+0.2**
	comp=Z,0.8nm,0.3s							
ABTA	**Abfaltersbach**	**5.38**	**207**	*i* Pn		**Pn**	**16 05 32.2**	**+1.0**
	comp=Z,1.8nm,0.5s							
ABTA				Sg		**Sg**	**16 07 03.4**	**+1.0**
	comp=Z,6.4nm,0.5s							
SQTA	**Sankt Quirin**	**5.41**	**218**	*e*Pn		**Pn**	**16 05 33.5**	**+1.9**
	comp=Z,2.0nm,0.3s							
SQTA				Sg		**Sg**	**16 07 04.6**	**+1.4**
	comp=Z,8.0nm,0.5s							
DAVOX	**Davos/Dischmat**	**6.30**	**223**	Pn		**Pn**	**16 05 44.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=16,slow=15,SNR=2.4							
DAVOX				Lg		Lg	16 07 27.6	
	comp=Z,0.3nm,0.3s,baz=163,slow=12,SNR=3.6							
CDF	**Champ du Feu**	**6.51**	**244**	*e*P		**Pn**	**16 05 47.3**	**+0.6**
CDF				*e*Sg		**Sg**	**16 07 35.4**	**-3.1**
	comp=Z,30nm,0.9s							
HINF	**Hinteralfeld**	**7.08**	**241**	*e*Pn		**Pn**	**16 05 51.0**	**-3.4**
HINF				*e*Sg		**Sg**	**16 07 52.2**	**-4.6**
	comp=Z,8.0nm,0.7s							
HAU	**Haudompre**	**7.25**	**244**	*e*Pn		**Pn**	**16 05 53.8**	**-3.0**
HAU				*e*Sg		**Sg**	**16 07 58.1**	**-4.2**
	comp=Z,14nm,0.7s							
PAGF	**Fort de Pagny**	**7.33**	**250**	*e*Pn		**Pn**	**16 05 54.6**	**-3.2**
MEZF	**Maizieres J'vi**	**7.75**	**251**	*e*Pn		**Pn**	**16 06 00.0**	**-3.6**
SFTF	**Sexfontaines**	**7.90**	**249**	*e*Pn		**Pn**	**16 06 02.1**	**-3.5**
SFTF				*e*Sg		**Sg**	**16 08 18.1**	**-4.9**
	comp=Z,3.0nm,0.4s							
CABF	**La Chapelle**	**8.23**	**237**	*e*P		**Pn**	**16 06 13.3**	**+2.9**
CABF				*e*Sg		**Sg**	**16 08 29.8**	**-4.1**
	comp=Z,14nm,0.8s							
AKASG	**Malin Array Be**	**8.31**	**91**	Pn		**Pn**	**16 06 09.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=6.6							
LOR	**Lormes**	**9.06**	**246**	*e*Pn		**Pn**	**16 06 18.2**	**-3.4**
SSF	**Saint Saulge**	**9.38**	**246**	*e*P		**Pn**	**16 06 28.8**	**+2.9**
FINES	**FINESS Array B**	**11.30**	**25**	Pn		**Pn**	**16 06 51.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=218,slow=8.7,SNR=1.4							
FINES				Sn		**Sn**	**16 08 54.5**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=206,slow=25,SNR=1.8							

SSNC 18 16:04:22.9±3.1, 18°.89N×79°.82W, h50^{km}±220^{km}, MD3.5, ML3.2, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LMGC	**Las Mercedes**	**2.90**	**66**	*e*P		Pn	16 05 06.6	0.0
LMGC				*e*S		Sn	16 05 41.4	+1.2
LMGC				IAML			16 05 43.2	
	comp=E,73nm,0.1s							
LMGC				IAML			16 05 43.3	
	comp=N,69nm,0.1s							
CCCC	**Cccc**	**3.00**	**40**	*e*P		Pn	16 05 13.5	+5.5
CCCC				*e*S		Sn	16 05 54.8	+12
MGV	**Manicaragua**	**3.21**	**357**	*e*P		Pn	16 05 10.8	0.0
MGV				*e*S		Sn	16 05 47.8	0.0
MGV				IAML			16 05 52.8	
	comp=E,16nm,0.2s							
RCC	**Rio Carpintero**	**4.04**	**74**	*e*P		Pn	16 05 21.5	-0.7
RCC				*e*S		Sn	16 06 07.5	-0.8
GTMO	**Guantanamo**	**4.57**	**74**	*e*P		Pn	16 05 29.5	0.0
GTMO				*e*S		Sn	16 06 23.5	+2.2
SOR	**Soroa**	**4.90**	**323**	*e*P		Pn	16 05 33.7	-0.3
MASC	**Masc**	**5.42**	**75**	*e*P		Pn	16 05 41.5	+0.3
MASC				*e*S		Sn	16 06 43.3	+1.1

*JMA **18** 16:12:39.5±0.3, 32°.35N×137°.98E, h388^{km}, M3.2*
*IDC **18** 16:12:42.4±0.8, 32°.42N×137°.91E, h371^{km}±9^{km}, mb3.0/9, mb1 3.0/12, mb1mx2.8/50, mbtmp3.7/12, Error ellipse: s-maj=22.0km s-min=14.8km az=61.0*

ISC 18 16:12:41.5±0.7, 32°.35N±0°.07×138°.04E±0°.07, h376^{km}, n30, σ1°53/34, mb3.3/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**1.60**	**341**	P		**Pn**	**16 13 32.7**	**+0.2**
TTO2	**TONANKAI O.B.S**	**1.62**	**329**	P		**Pn**	**16 13 32.7**	**+0.3**
JHJ	**Hachijo jima 2**	**1.66**	**62**	P		**Pn**	**16 13 34.0**	**+0.9**
	22nm,0.3s,baz=161,slow=9.8,SNR=12							
JHJ				S		**S**	**16 14 15.9**	**+1.2**
	11nm,0.3s,baz=282,slow=19,SNR=1.9							
JHJ2	**Mitsune**	**1.68**	**63**	P		**Pn**	**16 13 33.9**	**+0.7**
JIE	**Ise**	**2.32**	**332**	P		**Pn**	**16 13 36.6**	**-0.7**
JTNC	**Tanabenakahech**	**2.51**	**306**	P		**Pn**	**16 13 37.5**	**-1.3**
JWY	**Kouya**	**2.77**	**313**	P		**Pn**	**16 13 40.1**	**-0.8**
JOD2	**Odawara 2**	**3.04**	**17**	P		**Pn**	**16 13 42.7**	**-0.4**
JYN	**Shimodo**	**3.17**	**8**	P		**Pn**	**16 13 44.3**	**0.0**
JAI	**Aioi**	**3.33**	**297**	P		**Pn**	**16 13 44.4**	**-1.3**
BSO1	**Boso 1**	**3.37**	**46**	P		**Pn**	**16 13 44.0**	**-1.3**
JYTA	**Yamagatataniai**	**3.41**	**342**	P		**Pn**	**16 13 45.7**	**-0.7**
JWT	**Wachi**	**3.66**	**324**	P		**Pn**	**16 13 47.6**	**-1.1**
JRY	**Ryogami san**	**3.73**	**11**	P		**Pn**	**16 13 48.8**	**-0.6**
JRY				*e*S		**S**	**16 14 43.1**	**-1.2**
JMN	**Monobe**	**3.75**	**293**	P		**Pn**	**16 13 48.6**	**-1.1**
MJAR	**Matsushiro Arr**	**4.18**	**2**	P		**Pn**	**16 13 53.0**	**-0.8**
	0.2nm,0.3s,baz=184,slow=11,SNR=28							
MAT	**Matsushiro**	**4.18**	**2**	P		**Pn**	**16 13 52.8**	**-1.0**
MAT				S		**S**	**16 14 48.0**	**-4.4**
JHS	**Saijyo**	**4.88**	**304**	P		**Pn**	**16 13 59.9**	**-1.1**
JNU	**Nakatsue**	**6.08**	**279**	P		**Pn**	**16 14 13.3**	**-0.8**
	1.0nm,0.3s,baz=98,slow=7.0,SNR=11							
JCJ	**Chichijima**	**6.36**	**144**	P		**Pn**	**16 14 16.2**	**-1.2**
	3.8nm,0.3s,baz=3.6,slow=20,SNR=9.9							
JCJ				S		**S**	**16 15 30.4**	**-5.0**
	11nm,0.3s,baz=260,slow=23,SNR=14							
KSRS	**Korea Array**	**9.74**	**304**	P		**P**	**16 14 56.8**	**0.0**
	0.1nm,0.3s,baz=120,slow=11,SNR=6.6							
SONM	**Songino Array**	**28.48**	**312**	P		**P**	**16 18 03.6**	**0.0**
	0.4nm,0.4s,baz=131,slow=5.9,SNR=3.4							
ZALV	**Zalesovo Beam**	**43.19**	**316**	P		**P**	**16 20 06.7**	**+0.1**
	0.8nm,0.4s,baz=75,slow=7.3,SNR=3.2							
MKAR	**Makanchi Array**	**44.42**	**306**	P		**P**	**16 20 16.6**	**+0.1**
	0.9nm,0.5s,baz=91,slow=9.8,SNR=13							
WRA	**Warramunga Arr**	**52.12**	**184**	P		**P**	**16 21 16.1**	**+1.3**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=7.5							
ILAR	**Eielson Array**	**54.93**	**30**	P		**P**	**16 21 35.9**	**+1.5**
	0.3nm,0.6s,baz=279,slow=6.7,SNR=1.9							
ASAR	**Alice Springs**	**55.84**	**185**	P		**P**	**16 21 43.6**	**+2.2**
	0.3nm,0.9s,baz=17,slow=9.9,SNR=1.8							
ARU	**Arti**	**58.08**	**320**	P		**P**	**16 21 56.8**	**+0.3**
	0.7nm,0.5s,baz=57,slow=4.8,SNR=3.5							
AKTO	**Aktyubinsk**	**59.79**	**313**	P		**P**	**16 22 09.0**	**+0.8**
	0.9nm,0.6s,baz=91,slow=6.4,SNR=4.7							
FINES	**FINESS Array B**	**71.64**	**332**	P		**P**	**16 23 23.4**	**+0.6**
	1.9nm,1.0s,baz=72,slow=6.2,SNR=7.3							

IDC 18 16:25:04.8±9.0, 12°.52S×164°.63E, h0^{km}, mb4.0/3, mb1 4.2/5, mb1mx3.6/37, mbtmp4.1/5, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/40, Error ellipse: s-maj=157.9km s-min=30.6km az=57.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.53**	**303**	Pn		Pn	16 26 27.6	-0.8
	6.6nm,0.3s,baz=345,slow=5.2,SNR=1.9							
HNR				Sn		Sb	16 27 43.8	-5.4
	4.6nm,0.3s,baz=156,slow=20,SNR=1.7							
HNR				LR		LR	16 28 38.7	
	comp=Z,80nm,18.2s,baz=85,slow=39							
DZM	**Mont Dzumac**	**9.66**	**170**	Pn		Pn	16 27 25.5	+0.2
	0.6nm,0.3s,baz=308,slow=15,SNR=6.6							
DZM				Sn		Sn	16 29 14.5	-0.1
	0.3nm,0.3s,baz=125,slow=21,SNR=1.4							
STKA	**Stephens Creek**	**28.63**	**224**	P		P	16 31 03.0	-0.2
	1.8nm,0.6s,baz=41,slow=8.8,SNR=6.2							
WRA	**Warramunga Arr**	**29.97**	**252**	P		P	16 31 15.6	+0.3
	0.9nm,0.5s,baz=84,slow=9.0,SNR=18							
ASAR	**Alice Springs**	**31.17**	**245**	P		P	16 31 25.9	0.0
	1.3nm,0.7s,baz=70,slow=9.7,SNR=20							

*IDC **18** 16:28:05.3±1.9, 38°.64N×143°.05E, h0^{km}, mb3.2/2, mb1 3.4/4, mb1mx3.1/41, mbtmp3.2/4, ML2.6/2, Error ellipse: s-maj=46.5km s-min=31.6km az=107.0*
*JMA **18** 16:28:12.2, 38°.95N×142°.12E, h53^{km}±1^{km}, M3.2*

ISC 18 16:28:11.7±1.5, 38°.94N±0°.05×142°.2E±0°.1, h51^{km}±13^{km}, n21, σ0°86/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**0.42**	**290**	P		**Pn**	**16 28 22.4**	**+0.3**
OFUJ				S		**Sn**	**16 28 29.7**	**+0.1**
JKMT	**Kesennumamotoy**	**0.56**	**257**	P		**Pn**	**16 28 23.8**	**+0.1**
JKMT				S		**Sn**	**16 28 32.3**	**-0.1**
JMK	**Ichinoseki**	**0.75**	**271**	P		**Pn**	**16 28 26.1**	**+0.1**
JMK				S		**Sn**	**16 28 36.3**	**-0.2**
JIO	**Ouri**	**0.81**	**234**	P		**Pn**	**16 28 26.9**	**+0.1**
JIO				S		**Sn**	**16 28 37.4**	**-0.5**
JOM	**Ohasama**	**0.87**	**308**	P		**Pn**	**16 28 27.8**	**+0.1**
JOM				S		**Sn**	**16 28 39.5**	**0.0**
JRG	**Rokugo**	**1.28**	**291**	P		**Pn**	**16 28 33.3**	**0.0**
JRG				S		**Sn**	**16 28 49.6**	**+0.2**
JOU	**Okura**	**1.31**	**245**	P		**Pn**	**16 28 33.8**	**+0.1**
JOU				S		**Sn**	**16 28 50.0**	**-0.1**
JYK	**Kaneyama**	**1.42**	**270**	P		**Pn**	**16 28 35.2**	**+0.1**
JANG	**Nango**	**1.52**	**341**	P		**Pn**	**16 28 36.7**	**+0.2**
JANG				*e*S		**Sn**	**16 28 55.1**	**-0.1**
JMM	**Marumori**	**1.52**	**226**	P		**Pn**	**16 28 36.4**	**-0.1**
JMM				*e*S		**Sn**	**16 28 54.5**	**-0.7**
JAH	**Hinai**	**1.73**	**317**	P		**Pn**	**16 28 39.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.95**	**234**	Pn		**Pn**	**16 29 12.9**	**+3.1**
	0.1nm,0.3s,baz=37,slow=12,SNR=11							
MJAR				Sn		Sn	16 30 05.6	+11
	0.0nm,0.3s,baz=48,slow=16,SNR=1.4							
ASAJ	**Asahikawa**	**5.18**		Pn		**Pn**	**16 29 28.2**	**+1.5**
	0.3nm,0.3s,baz=197,slow=14,SNR=15							
ASAJ				Sn		**Sn**	**16 30 24.0**	**-1.2**
	0.1nm,0.3s,baz=154,slow=31,SNR=1.8							
H11N2	**WAKE ISLAND Hy**	**28.67**	**125**	T		T	17 04 29.8	
	baz=317,slow=76,SNR=24							
H11N1	**WAKE ISLAND Hy**	**28.68**	**125**	T		T	17 04 28.9	
	baz=317,slow=76,SNR=31							
H11N3	**WAKE ISLAND Hy**	**28.69**	**125**	T		T	17 04 28.5	
	baz=317,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**29.45**	**127**	T		T	17 05 36.4	
	baz=318,slow=76,SNR=9.4							
H11S3	**WAKE ISLAND Hy**	**29.45**	**127**	T		T	17 05 36.8	
	baz=318,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**29.47**	**127**	T		T	17 05 33.0	
	baz=318,slow=76,SNR=9.7							
WRA	**Warramunga Arr**	**59.03**	**189**	P		**P**	**16 38 05.6**	**-0.7**
	0.2nm,0.5s,baz=6.4,slow=7.3,SNR=5.4							
ASAR	**Alice Springs**	**62.76**	**189**	P		**P**	**16 38 31.0**	**-0.6**
	0.2nm,0.8s,baz=7.5,slow=7.9,SNR=1.2							

*IDC **18** 16:42:16.6±0.5, 4°.93S×151°.93E, h77^{km}±3^{km}, mb4.1/24, mb1 4.3/26, mb1mx4.2/43, mbtmp4.4/26, MS3.2/9, Ms1 3.2/9, ms1mx3.0/36, Error ellipse: s-maj=13.5km s-min=6.5km az=116.0*
*NEIC **18** 16:42:17.5±2.5, 4°.86S±0°.07×152°.0E±0°.1, h90^{km}±6^{km}, mb4.6/30, Error ellipse: s-maj=16.6km s-min=9.6km az=100.0*
*DJA **18** 16:42:17.0±0.3, 5°.5S±4°×15°.2E±°, h88^{km}±4^{km}, M4.9/15, mb4.8/15, mB4.9/4, MLv5.2/2, Mw(mB)4.2/4*

ISC 18 16:42:16.4±0.4, 4°.91S±0°.05×151°.87E±0°.06, h70^{km}, n82, σ1°53/100, mb4.5/37, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.62**	**14**	P		**Pn**	**16 42 32.6**	**+2.1**
	3µm,0.3s,baz=160,slow=0.9,SNR=2073							
KRVT				S		**Sn**	**16 42 43.3**	**+2.5**
	3µm,0.3s,baz=61,slow=19,SNR=13							
RABL	**Rabaul**	**0.78**	**22**	Pn		**Pn**	**16 42 33.6**	**+1.4**
RABL				Sn		**Sn**	**16 42 46.7**	**+2.8**
PMG	**Port Moresby**	**6.46**	**226**	P		**Pn**	**16 43 51.1**	**+2.1**
	7.3nm,0.3s,baz=49,slow=13,SNR=21							
PMG				S		**Sn**	**16 45 03.1**	**+1.7**
	12nm,0.3s,baz=97,slow=21,SNR=10							
PMG	**Port Moresby**	**6.46**	**226**	Pn		**Pn**	**16 43 52.8**	**+3.8**
HNR	**Honiara**	**9.18**	**120**	P		**Pn**	**16 44 26.1**	**-0.1**
	2.6nm,0.3s,baz=243,slow=4.5,SNR=2.5							
HNR				S		**Sn**	**16 46 14.0**	**+6.0**
	8.0nm,0.3s,baz=96,slow=17,SNR=1.8							
HNR				LR		LR	16 47 18.5	
	comp=Z,118nm,20.1s,baz=44,slow=33							
COEN	**Coen**	**12.42**	**223**	Pn		**Pn**	**16 45 13.8**	**+3.4**
PATS	**Pohnpei**	**13.33**	**29**	Pn		**Pn**	**16 45 23.1**	**+0.4**
CTA	**Charters Tower**	**16.04**	**199**	P		**P**	**16 46 00.1**	**0.0**
	1.3nm,0.3s,baz=21,slow=14,SNR=17							
CTAO	**Charters Tower**	**16.04**	**199**			**P**	**16 46 00.3**	**+0.3**
CTAO					IAmb	IAmb	16 46 03.1	
	comp=Z,22nm,0.8s							
GUMO	**Guam**	**19.65**	**339**	P		**Pn**	**16 46 42.3**	**+0.6**
	comp=Z,6.0nm,0.3s,baz=181,slow=7.9,SNR=12							
GUMO				LR		LR	16 54 00.8	
	comp=Z,20nm,19.4s,baz=168,slow=36							
GUMO	**Guam**	**19.65**	**339**	P		**P**	**16 46 39.2**	**-0.5**
EIDS	**Eidsvold**	**20.35**	**182**	P		**P**	**16 46 47.7**	**+0.4**
EIDS				IAmb		IAmb	16 46 51.2	
	comp=Z,26nm,0.8s							
SIJI	**Sorong**	**20.96**	**280**	P		Pn	16 46 55.3	-1.9
	comp=Z,3.0nm,0.4s,baz=138,slow=11,SNR=4.1							
MTN	**Manton Dam**	**21.94**	**248**	P		**P**	**16 47 06.2**	**+1.8**
MTN				IAmb		IAmb	16 47 25.0	
	comp=Z,36nm,1.5s							
DZM	**Mont Dzumac**	**22.14**	**142**	P		**P**	**16 47 06.4**	**-0.2**
	comp=Z,24nm,0.6s,baz=287,slow=8.5,SNR=27							
DZM				LR		LR	16 54 08.8	
	comp=Z,237nm,20.6s,baz=7.0,slow=32							
DZM	**Mont Dzumac**	**22.14**	**142**	P		**P**	**16 47 06.5**	**-0.1**
DZM				IAmb		IAmb	16 47 07.9	
	comp=Z,23nm,0.7s							
WB0	**Warramunga Arr**	**22.53**	**228**	P		**P**	**16 47 09.8**	**-0.9**
WB0				IAmb		IAmb	16 47 12.0	
	comp=Z,46nm,1.0s							
WR0	**Warramunga Arr**	**22.55**	**227**	P		**P**	**16 47 10.2**	**-0.8**
WR0				IAmb		IAmb	16 47 12.1	
	comp=Z,30nm,1.0s							
WRAB	**Tennant Creek**	**22.67**	**227**	P		**P**	**16 47 11.3**	**-0.9**
WRAB				IAmb		IAmb	16 47 13.3	
	comp=Z,32nm,0.7s							
WB2	**Warramunga Arr**	**22.67**	**227**	P		**P**	**16 47 11.5**	**-0.8**
WRA	**Warramunga Arr**	**22.68**	**227**	P		**P**	**16 47 11.6**	**-0.7**
	comp=Z,28nm,0.7s,baz=53,slow=9.9,SNR=145							
WRA				pP		**pP**	**16 47 28.1**	**+0.6**
	comp=Z,7.4nm,0.4s,baz=51,slow=10,SNR=5.3							
WRA				S		**S**	**16 51 15.1**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=55,slow=18,SNR=6.5							
WRA				ScP		**ScP**	**16 54 31.6**	**-2.9**
	comp=Z,2.1nm,1.0s,baz=54,slow=2.9,SNR=6.7							
WRA	**Warramunga Arr**	**22.68**	**227**	P		**P**	**16 47 10.3**	**-2.1**
KNRA	**Kununurra**	**25.09**	**243**	P		**P**	**16 47 34.8**	**0.0**
KNRA				IAmb		IAmb	16 47 38.8	
	comp=Z,12nm,0.7s							
ARMA	**Armidale**	**25.37**	**180**	P		**P**	**16 47 36.3**	**-1.0**
ARMA				IAmb		IAmb	16 47 39.7	
	comp=Z,23nm,1.0s							
AS31	**Alice Springs**	**25.45**	**221**	P		**P**	**16 47 37.5**	**-0.5**
ASAR	**Alice Springs**	**25.45**	**221**	P		**P**	**16 47 37.5**	**-0.6**
	comp=Z,28nm,0.7s,baz=54,slow=9.1,SNR=140							
ASAR				pP		**pP**	**16 47 56.0**	**+1.1**
	comp=Z,31nm,0.7s,baz=59,slow=9.0,SNR=18							
ASAR				S		**S**	**16 51 59.8**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=45,slow=14,SNR=1.8							
ASAR				ScP		**ScP**	**16 54 39.5**	**-2.5**
	comp=Z,1.4nm,0.7s,baz=50,slow=3.0,SNR=11							
ASAR				LR		LR	16 57 27.8	
	comp=Z,77nm,18.7s,baz=58,slow=36							
ASAR	**Alice Springs**	**25.45**	**221**	P		**P**	**16 47 37.1**	**-0.9**
STKA	**Stephens Creek**	**28.50**	**199**	P		**P**	**16 48 04.0**	**-1.3**
	comp=Z,3.7nm,0.7s,baz=40,slow=15,SNR=13							
STKA				LR		LR	17 00 01.0	
	comp=Z,54nm,18.0s,baz=25,slow=37							
STKA	**Stephens Creek**	**28.50**	**199**	P		**P**

comp=Z,0.4nm,0.4s,baz=158,slow=5.4,SNR=1.4
HUMO Hull Mountain 89.74 47 P **P 16 55 07.5 +0.2**
YBH Yreka Blue Hor 89.82 48 P **P 16 55 07.3 -0.5**
comp=Z,3.6nm,0.9s,baz=200,slow=2.4,SNR=5.6
K05A Summer Lake 91.27 47 P **P 16 55 13.8 -0.8**
NVAR Mina Array Bea 92.88 52 P **P 16 55 21.7 -0.6**
comp=Z,3.4nm,0.9s,baz=257,slow=6.7,SNR=19
NVAR Mina Array Bea 92.88 52 P **P 16 55 20.0 -2.2**
PFO Pinyon Flats O 94.08 57 P **P 16 55 27.4 -0.3**
comp=Z,3.6nm,0.9s,baz=281,slow=2.3,SNR=3.6
ELK Elko 95.36 50 P **P 16 55 33.3 -0.3**
comp=Z,0.5nm,0.6s,baz=180,slow=6.1,SNR=2.0
PDAR Pinedale Array 99.61 48 P **Pdif 16 55 51.3 -1.4**
comp=Z,1.2nm,0.8s,baz=242,slow=1.7,SNR=10.0
PDAR pP **pP 16 56 12.6 0.0**
comp=Z,0.4nm,0.6s,baz=243,slow=4.0,SNR=2.2
GERES GERESS Array B 123.66 328 PKP **PKPdf 17 01 04.9 -1.5**
comp=Z,0.4nm,0.4s,baz=94,slow=2.0,SNR=7.9
GERES GERESS Array B 123.66 328 PKPdf 17 01 05.2 -1.2
TORD Torodi Ar. Bea 149.46 288 PKPbc **PKPbc 17 01 57.2 -1.5**
comp=Z,1.9nm,0.4s,baz=63,slow=2.2,SNR=16

*IDC **18** 17:07:31.4±1.1, 12.°18N±0.°09×141.°19E±0.°09, h116km±3km, mb4.6/23, Error ellipse: s-maj=14.7km s-min=11.7km az=138.0*
*IDC **18** 17:07:31.9±3.0, 12.°16N×141.°28E, h121km±30km, mb3.6/8, mb1 3.8/9, mb1mx3.4/51, mbtmp3.9/9, Error ellipse: s-maj=30.0km s-min=14.8km az=103.0*
ISC 18 17:07:30.2±0.5, 12.°19N±0.°08×141.°12E±0.°07, h100km, n36, σ1s09/38, mb4.4/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.91**	**69**	P	**Pn**	**17 08 29.4**	**+1.2**
	5.3nm,0.3s,baz=203,slow=13,SNR=8.0						
GUMO				S	**Sn**	**17 09 12.4**	**-0.7**
	37nm,0.3s,baz=6.5,slow=22,SNR=9.3						
GUMO	**Guam**	**3.91**	**69**		**Sn**	**17 09 12.7**	**-0.5**
JMZ	**Minamidaito 2**	**16.46**	**327**		**P**	**17 11 17.1**	**+0.9**
FAKI	**Fak Fak**	**17.41**	**211**	Pn	**Pn**	**17 11 29.1**	**+2.3**
FAKI				IAmb	IAmb	17 12 28.7	
	comp=Z,40nm,1.2s						
PATS	**Pohnpei**	**17.76**	**106**	Pn	**Pn**	**17 11 34.4**	**+3.2**
TPUB	**Ta-pu**	**22.40**	**302**	P	**P**	**17 12 20.2**	**-0.4**
YHNB	**Yeheng**	**22.44**	**306**	P	**P**	**17 12 23.4**	**+2.4**
JMN	**Monobe**	**22.44**	**344**	P	**P**	**17 12 20.2**	**-0.7**
JMN				IAmb	IAmb	17 12 27.1	
	comp=Z,24nm,1.2s						
LUWI	**Luwuk**	**22.47**	**235**	P	**P**	**17 12 20.8**	**-0.5**
LUWI				IAmb	IAmb	17 12 58.1	
	comp=Z,20nm,0.9s						
COEN	**Coen**	**26.05**	**175**	P	**P**	**17 12 53.7**	**-0.7**
COEN				IAmb	IAmb	17 13 45.4	
	comp=Z,16nm,1.2s						
KAPI	**Kappang**	**27.27**	**232**	P	**P**	**17 13 04.0**	**-1.3**
KAPI				IAmb	IAmb	17 13 24.4	
	comp=Z,27nm,1.2s						
KNRA	**Kununurra**	**30.27**	**204**	P	**P**	**17 13 31.6**	**-0.4**
KNRA				IAmb	IAmb	17 13 33.8	
	comp=Z,25nm,1.6s						
WB0	**Warramunga Arr**	**32.44**	**192**	P	**P**	**17 13 50.5**	**-0.4**
WB0				IAmb	IAmb	17 14 05.2	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**32.59**	**192**	P	**P**	**17 13 51.9**	**-0.5**
WR0				IAmb	IAmb	17 14 47.6	
	comp=Z,26nm,2.0s						
WB2	**Warramunga Arr**	**32.62**	**192**	P	**P**	**17 13 52.2**	**-0.4**
WB2				IAmb	IAmb	17 13 53.1	
	comp=Z,6.1nm,0.9s						
WRA	**Warramunga Arr**	**32.62**	**192**	P	**P**	**17 13 52.3**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=16,slow=9.4,SNR=16						
WRA				PcP	**PcP**	**17 16 35.8**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=2.2,slow=2.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**33.75**	**207**	P	**P**	**17 14 01.4**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=27,slow=11,SNR=2.8						
AS31	**Alice Springs**	**36.32**	**191**	P	**P**	**17 14 24.5**	**0.0**
ASAR	**Alice Springs**	**36.33**	**191**	P	**P**	**17 14 24.3**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=21,slow=12,SNR=55						
ASAR				PcP	**PcP**	**17 16 46.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=35,slow=2.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**41.08**	**284**	P	**P**	**17 15 06.0**	**+1.6**
STKA	**Stephens Creek**	**43.81**	**179**	P	**P**	**17 15 25.4**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=17,slow=6.3,SNR=7.8						
STKA	**Stephens Creek**	**43.81**	**179**	IAmb	IAmb	17 15 26.0	
	comp=Z,1.0nm,0.9s						
FORT	**Forrest**	**44.52**	**196**	P	**P**	**17 15 32.3**	**+0.3**
FORT				IAmb	IAmb	17 16 44.2	
	comp=Z,28nm,1.1s						
BBOO	**Buckleboo**	**45.00**	**186**	P	**P**	**17 15 35.3**	**-0.4**
BBOO				IAmb	IAmb	17 16 25.7	
	comp=Z,41nm,1.6s						
MORW	**Morawa**	**47.63**	**210**	P	**P**	**17 15 55.8**	**-0.6**
MK31	**Makanchi Array**	**59.99**	**317**	P	**P**	**17 17 27.1**	**+0.8**
MKAR	**Makanchi Array**	**59.99**	**317**	P	**P**	**17 17 27.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=101,slow=8.7,SNR=5.7						
MKAR	**Makanchi Array**	**59.99**	**317**	P	**P**	**17 17 26.6**	**+0.2**
ZAA0	**Zalesovo Array**	**60.67**	**326**	P	**P**	**17 17 30.8**	**0.0**
ZAA0				IAmb	IAmb	17 18 13.9	
	comp=Z,8.1nm,1.9s						
ZALV	**Zalesovo Beam**	**60.67**	**326**	P	**P**	**17 17 30.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=113,slow=6.7,SNR=4.3						
KURK	**Kurchatov**	**63.33**	**321**	P	**P**	**17 17 48.9**	**+0.3**
KKAR	**Karatay Array**	**67.63**	**312**	P	**P**	**17 18 17.2**	**+0.7**
ILAR	**Eielson Array**	**71.39**	**25**	P	**P**	**17 18 36.9**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=255,slow=5.5,SNR=2.1						
ABKAR	**Akbulak array**	**75.12**	**318**	P	**P**	**17 19 00.8**	**-0.6**
ABKAR	**Akbulak array**	**75.12**	**318**	P	**P**	**17 19 01.0**	**-0.4**
ABKAR				IAmb	IAmb	17 20 43.8	
	comp=Z,9.6nm,2.0s						
NVAR	**Mina Array Bea**	**90.64**	**51**	P	**P**	**17 20 21.5**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=270,slow=5.4,SNR=4.9						

*NAO **18** 17:16:26.0±1.5, 73.°68N×7.°99E, ML4.1*
*IDC **18** 17:16:27.4±0.5, 73.°69N×8.°05E, h0km, mb3.7/22, mb1 3.9/29, mb1mx3.8/68, mbtmp3.8/29, ML3.3/7, MS3.1/12, Ms1 3.1/12, ms1mx2.8/46, Error ellipse: s-maj=13.2km s-min=9.8km az=58.0*
*NEIC **18** 17:16:28.5±1.9, 73.°70N±0.°07×8.°1E±0.°2, h9km±4km, mb4.4/19, Error ellipse: s-maj=10.3km s-min=9.3km az=50.0*
*BER **18** 17:16:29.2±2.5, 73.°76N×8.°35E, h10km, MS3.3, ML4.1(NAO)*
ISC 18 17:16:28.4±0.4, 73.°73N±0.°05×8.°33E±0.°05, h10km, n115, σ1s47/111, mb3.9/26, MS3.2/7, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**3.76**	**26**	Pn	**Pn**	**17 17 24.8**	**-1.5**
HSPB	**Hornsund (broa**	**3.76**	**26**	*eP*	**Pn**	**17 17 25.3**	**-1.0**
BRBA	**Barentsburg A**	**4.58**	**16**	Pn	**Pn**	**17 17 36.4**	**-1.2**
BRBA	**Barentsburg A**	**4.58**	**16**	*eP*	**Pn**	**17 17 36.4**	**-1.2**
BRBB	**Barentsburg B**	**4.62**	**15**	Pn	**Pn**	**17 17 36.7**	**-1.3**
BRBB	**Barentsburg B**	**4.62**	**15**	*eP*	**Pn**	**17 17 37.0**	**-1.0**
BRBB				*e*		17 18 30.5	
SPB3	**Spitsbergen Ar**	**4.87**	**20**	Pn	**Pn**	**17 17 40.7**	**-0.8**
SPA0	**Spitsbergen Ar**	**4.88**	**20**	Pn	**Pn**	**17 17 41.0**	**-0.7**
	baz=194,slow=16						
SPA0	**Spitsbergen Ar**	**4.88**	**20**		**Pn**	**17 17 41.2**	**-0.5**
SPA0	**Spitsbergen Ar**	**4.88**	**20**	Pn	**Pn**	**17 17 41.0**	**-0.7**
	baz=194,slow=16						
SPITS	**Spitsbergen Ar**	**4.88**	**20**	Pn	**Pn**	**17 17 41.1**	**-0.5**
	baz=190,slow=14,SNR=202						
SPITS					**Sn**	**17 18 34.4**	**-3.6**
	baz=182,slow=18,SNR=0.7						
HOPEN	**Hopen**	**5.11**	**49**	Pn	**Pn**	**17 17 44.7**	**-0.2**
HOPEN					**Sn**	**17 18 39.7**	**-4.0**
HOPEN	**Hopen**	**5.11**	**49**	*eP*	**Pn**	**17 17 42.7**	**-2.2**
HOPEN				*e*		17 18 38.8	
TRO	**Tromso**	**5.29**	**136**	Pn	**Pn**	**17 17 46.2**	**-1.1**
TRO	**Tromso**	**5.29**	**136**	*eP*	**Pn**	**17 17 46.4**	**-0.9**
KBS	**Kingsbay**	**5.30**	**8**	Pn	**Pn**	**17 17 46.2**	**-1.2**
KBS	**Kingsbay**	**5.30**	**8**		**Pn**	**17 17 46.2**	**-1.2**
KBS	**Kingsbay**	**5.30**	**8**	*eP*	**Pn**	**17 17 45.9**	**-1.4**
HAMF	**Hammerfest**	**5.63**	**116**	*eP*	**Pn**	**17 17 50.9**	**-1.0**
JNE	**Jan Mayen East**	**5.74**	**250**	*eP*	**Pn**	**17 17 51.8**	**-1.7**
JNW	**Jan Mayen West**	**5.75**	**250**	*eP*	**Pn**	**17 17 51.9**	**-1.8**
JMIC	**Jan Mayen**	**5.80**	**250**	Pn	**Pn**	**17 17 52.2**	**-2.1**
JMIC	**Jan Mayen**	**5.80**	**250**	Pn	**Pn**	**17 17 52.3**	**-1.9**
	baz=206,slow=1.1,SNR=9.7						
JMIC				LR	LR	17 19 25.1	
	comp=Z,68nm,18.6s,baz=54,slow=31						
JMIC	**Jan Mayen**	**5.80**	**250**	*eP*	**Pn**	**17 17 52.4**	**-1.9**
JMIC				*e*		17 18 43.1	
LOF	**Lofoten**	**5.88**	**161**	Pn	**Pn**	**17 17 53.6**	**-1.7**
LOF	**Lofoten**	**5.88**	**161**	*eP*	**Pn**	**17 17 54.1**	**-1.2**
LOF				IVMs_BB	IVMs_BB	17 17 56.4	
	comp=Z,329nm,3.7s						
LOF				*e*		17 18 51.4	
KIF	**Kilpisjarvi**	**6.19**	**134**	*eP*	**Pn**	**17 17 58.5**	**-1.2**
STEI	**Steigen**	**6.25**	**155**	*eP*	**Pn**	**17 17 58.7**	**-1.8**
FAUS	**Fauske**	**6.78**	**157**	*eP*	**Pn**	**17 18 07.0**	**-0.8**
ARD9	**ARCESS Array S**	**6.83**	**119**	Pn	**Pn**	**17 18 07.9**	**-0.6**
ARD8	**ARCESS Array S**	**6.83**	**119**	Pn	**Pn**	**17 18 08.6**	**+0.1**
ARD1	**ARCESS Array S**	**6.84**	**119**	Pn	**Pn**	**17 18 08.4**	**-0.2**
ARA0	**ARCESS Array S**	**6.85**	**119**	Pn	**Pn**	**17 18 08.3**	**-0.3**
	baz=321,slow=11						
ARA0	**ARCESS Array S**	**6.85**	**119**	Pn	**Pn**	**17 18 07.4**	**-1.2**
	baz=321,slow=11						
ARCES	**ARCESS Array B**	**6.85**	**119**	Pn	**Pn**	**17 18 09.0**	**+0.3**
	baz=326,slow=11,SNR=20						
ARCES					**Sn**	**17 19 20.7**	**-5.8**
	baz=349,slow=16,SNR=1.2						
ARCES				LR	LR	17 21 03.9	
	comp=Z,88nm,20.7s,baz=320,slow=40						
KEV	**Kevo**	**7.07**	**115**		**Pn**	**17 18 11.4**	**-0.3**
SALU	**Saltoluokta**	**7.21**	**147**	*eP*	**Pn**	**17 18 13.3**	**-0.4**
KONS	**Konsvik**	**7.44**	**165**	*eP*	**Pn**	**17 18 16.0**	**-0.8**
DAG	**Danmarks Havn**	**7.47**	**307**	*iP*	**Pn**	**17 18 14.6**	**-2.6**
DAG				*eS*	Sn	17 19 19.5	-22
DAG	**Danmarks Havn**	**7.47**	**307**	*eP*	**Pn**	**17 18 14.7**	**-2.6**
DAG				*eS*	Sn	17 19 19.6	-22
DBG	**Daneborg**	**7.85**	**288**	*eP*	**Pn**	**17 18 20.1**	**-2.3**
DBG				*e*		17 19 37.3	
DBG	**Daneborg**	**7.85**	**288**	*eP*	Pn	17 18 17.2	-5.2
DBG				*eS*	Sn	17 19 36.1	-15
DBG				IAML		17 19 42.0	
	comp=Z,0.9nm,0.3s						
MOR8	**Moi Rana**	**7.87**	**162**	*eP*	**Pn**	**17 18 21.3**	**-1.4**
NSS	**Namsos**	**9.33**	**170**	*eP*	**Pn**	**17 18 41.8**	**-0.9**
NOR	**Nord**	**9.40**	**338**	Pn	**Pn**	**17 18 43.5**	**0.0**
APA0	**Apatity Array**	**10.14**	**115**	Pn	**Pn**	**17 18 51.4**	**-2.4**
	baz=313,slow=12						
APA0	**Apatity Array**	**10.14**	**115**	Pn	**Pn**	**17 18 51.4**	**-2.4**
	baz=313,slow=12						
LVZ	**Lovozero**	**10.36**	**111**	Pn	**Pn**	**17 18 59.2**	**+2.4**
NC204	**NORSAR Array S**	**12.54**	**175**	Pn	**Pn**	**17 19 24.6**	**-2.1**
NC303	**NORSAR Array S**	**12.61**	**173**	Pn	**Pn**	**17 19 27.6**	**+0.1**
NC405	**NORSAR Array S**	**12.74**	**173**	Pn	**Pn**	**17 19 26.9**	**-2.3**
NBO00	**NORSAR Array S**	**12.79**	**175**	Pn	**Pn**	**17 19 29.5**	**-0.5**
NOA	**NORSAR Array B**	**12.79**	**174**	Pn	**Pn**	**17 19 30.6**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=352,slow=14,SNR=1.6						
NOA				LR	LR	17 24 04.1	
	comp=Z,46nm,21.1s,baz=350,slow=36						
HFS	**Hagfors**	**13.81**	**169**	Pn	**Pn**	**17 19 45.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=316,slow=12,SNR=2.9						
HFS				LR		17 24 24.7	
	comp=Z,60nm,21.0s,baz=322,slow=35						
FIA1	**FINESS Array S**	**13.97**	**143**	Pn	**Pn**	**17 19 44.4**	**-1.5**
FIA0	**FINESS Array S**	**13.97**	**143**	Pn	**Pn**	**17 19 43.9**	**-2.1**
	baz=354,slow=14						
FIA0	**FINESS Array S**	**13.97**	**143**	Pn	**Pn**	**17 19 43.9**	**-2.1**
	baz=354,slow=14						
FINES	**FINESS Array B**	**13.97**	**143**	Pn	**Pn**	**17 19 44.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=353,slow=12,SNR=7.6						
FINES				LR	LR	17 24 47.7	
	comp=Z,72nm,19.6s,baz=326,slow=36						
EKA	**Eskdalemuir Ar**	**19.05**	**200**	P	**P**	**17 20 50.3**	**0.0**
	baz=9.8,slow=13,SNR=1.5						
EUNU	**Eureka**	**19.82**	**329**	P	**Pn**	**17 20 59.2**	**-0.9**
EUNU				IAmb	IAmb	17 21 17.4	
	comp=Z,18nm,1.4s						
NACGM	**Naroch**	**20.33**	**148**	*e*	**P**	**17 21 03.0**	**-1.3**
SUW	**Suwalki**	**20.72**	**155**	P	**P**	**17 21 08.2**	**-0.3**
SUW				IAmb	IAmb	17 21 16.8	
	comp=Z,28nm,0.9s						
KIRV	**Kirov**	**21.78**	**112**	P	**P**	**17 21 20.0**	**+0.1**
	comp=Z,7.6nm,0.5s,baz=338,slow=11,SNR=4.6						
KIRV				LR	LR	17 29 52.2	
	comp=Z,45nm,18.2s,baz=304,slow=37						
OBN	**Obninsk**	**21.88**	**133**	P	**P**	**17 21 21.9**	**+1.0**
	comp=Z,2.3nm,0.4s,baz=318,slow=15,SNR=3.2						
OBN	**Obninsk**	**21.88**	**133**	IAmb	IAmb	17 21 24.4	
	comp=Z,13nm,0.5s						
CLL	**Collm**	**22.59**	**172**	*eP*	**P**	**17 21 29.0**	**+0.4**
CLL				*e*		17 21 33.0	
	comp=Z,11nm,1.3s						
CLL				*e*		17 21 46.6	
NRIK	**Noril'sk**	**23.70**	**60**	P	**P**	**17 21 41.0**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=303,slow=8.1,SNR=4.1						
OJC	**Ojcow**	**24.11**	**162**	P	**P**	**17 21 41.0**	**-2.8**
OJC				IAmb	IAmb	17 21 52.4	
	comp=Z,33nm,1.9s						
VRAC	**Vranov**	**24.77**	**167**	P	**P**	**17 21 50.0**	**+0.2**
	comp=Z,3.4nm,1.1s,baz=346,slow=12,SNR=3.2						
VRAC				LR	LR	17 31 25.6	
	comp=Z,36nm,20.6s,baz=341,slow=36						
AKASG	**Malin Array Be**	**24.78**	**147**	P	**P**	**17 21 49.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=344,slow=9.2,SNR=2.7						
GEC2	**GERESS Array S**	**25.08**	**172**	P	**P**	**17 21 53.9**	**+1.1**
GEC2				IAmb	IAmb	17 21 55.7	
	comp=Z,6.8nm,1.2s						
GERES	**GERESS Array B**	**25.08**	**172**	P	**P**	**17 21 53.2**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=12,slow=7.4,SNR=11						
GERES	**GERESS Array B**	**25.08**	**172**	P	**P**	**17 21 53.4**	**+0.6**
ARU	**Arti**	**26.11**	**104**	P	**P**	**17 22 03.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=349,slow=15,SNR=4.8						
ARU	**Arti**	**26.11**	**104**	P	**P**	**17 22 02.1**	**+0.2**
DAVOX	**Davos/Dischmat**	**27.05**	**178**	LR	LR	17 32 43.6	
	comp=Z,36nm,18.7s,baz=320,slow=36						
BURAR	**Bucovina Array**	**27.25**	**155**		**P**	**17 22 12.6**	**+0.3**
NRCA	**Norcia**	**31.06**	**173**	P	**P**	**17 22 46.7**	**+0.5**
AKTO	**Aktyubinsk**	**31.32**	**110**	P	**P**	**17 22 49.5**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=315,slow=9.9,SNR=3.1						
AKTO				LR	LR	17 36 25.1	
	comp=Z,50nm,18.2s,baz=27,slow=38						
BVAR	**Borovoye Array**	**32.39**	**95**	P	**P**	**17 22 59.2**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=265,slow=14,SNR=5.4						
ABKAR	**Akbulak array**	**32.91**	**109**	P	**P**	**17 23 02.4**	**+0.1**
ABKAR				IAmb	IAmb	17 23 08.7	
	comp=Z,3.3nm,0.9s						
ABKAR	**Akbulak array**	**32.91**	**109**	P	**P**	**17 23 02.2**	**-0.1**
KVAR	**Kislovodsk Arr**	**33.73**	**133**	LR	LR	17 37 04.4	
	comp=Z,62nm,19.4s,baz=267,slow=37						
KBZ	**Khabaz**	**33.99**	**133**	LR	LR	17 37 42.4	
	comp=Z,56nm,18.4s,baz=24,slow=38						
ESDC	**Sonseca Array**	**34.65**	**197**	P	**P**	**17 23 18.1**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=7.6,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**35.63**	**81**	P	**P**	**17 23 27.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=310,slow=9.2,SNR=1.7						
INK	**Inuvik**	**36.08**	**337**	P	**P**	**17 23 29.7**	**+0.3**
	comp=Z,3.6nm,1.1s,baz=16,slow=7.9,SNR=3.7						
INK	**Inuvik**	**36.08**	**337**	IAmb	IAmb	17 23 35.3	
	comp=Z,3.9nm,1.1s						
BMAR	**Burnt Mountain**	**37.98**	**343**	P	**P**	**17 23 45.2**	**-0.5**
YKA	**Yellowknife Ar**	**38.87**	**322**	P	**P**	**17 23 53.5**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=4.7,slow=8.2,SNR=4.0						
ILAR	**Eielson Array**	**40.78**	**344**	P	**P**	**17 24 10.3**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=5.9,slow=7.6,SNR=9.0						
MK31	**Makanchi Array**	**41.35**	**88**	P	**P**	**17 24 14.6**	**+0.7**
MKAR	**Makanchi Array**	**41.35**	**88**	P	**P**	**17 24 15.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=344,slow=7.6,SNR=4.0						
KK31	**Karatay Array**	**41.45**	**102**	P	**P**	**17 24 15.7**	**+0.9**
KKAR	**Karatay Array**	**41.45**	**102**	P	**P**	**17 24 16.0**	**+1.3**
KKAR	**Karatay Array**	**41.45**	**102**	P	**P**	**17 24 15.8**	**+1.1**
KKAR				IAmb	IAmb	17 24 23.8	
	comp=Z,2.2nm,0.9s						
RIDG	**Independent Ri**	**41.64**	**342**	P	**P**	**17 24 18.0**	**+1.9**
RIDG				IAmb	IAmb	17 24 19.1	
	comp=Z,12nm,1.0s						
BCAR	**Beaver Creek A**	**42.02**	**340**	P	**P**	**17 24 20.3**	**+1.1**
GEYT	**Alibeck**	**43.01**	**118**	P	**P**	**17 24 29.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=287,slow=7.4,SNR=2.7						
GEYT				LR	LR	17 44 36.6	
	comp=Z,44nm,19.4s,baz=200,slow=39						
GEYT	**Alibeck**	**43.01**	**118**	P	**P**	**17 24 28.5**	**+1.0**
BOOM	**Boomskoye usch**	**43.52**	**97**	P	**P**	**17 24 33.4**	**+1.6**
BOOM				IAmb	IAmb	17 24 42.5	
	comp=Z,3.0nm,1.0s						
SUA	**Susitna One**	**44.35**	**346**	P	**P**	**17 24 40.6**	**+2.5**
MOQ	**Mont Orford**	**44.57**	**277**	P	**P**	**17 24 39.6**	**-0.5**
SONM	**Songino Array**	**46.97**	**66**	P	**P**	**17 25 00.2**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=332,slow=5.9,SNR=4.9						
SONM	**Songino Array**	**46.97**	**66**	IAmb	IAmb	17 25 02.3	
	comp=Z,1.9nm,1.0s						
PDAR	**Pinedale Array**	**56.49**	**309**	P	**P**	**17 26 10.6**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=353,slow=6.0,SNR=3.7						
PDAR	**Pinedale Array**	**56.49**	**309**	P	**P**	**17 26 10.3**	**0.0**
TORD	**Torodi Ar. Bea**	**60.68**	**187**	P	**P**	**17 26 39.6**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=360,slow=7.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**60.68**	**187**	P	**P**	**17 26 39.4**	**0.0**
NVAR	**Mina Array Bea**	**62.50**	**315**	P	**P**	**17 26 52.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=49,slow=6.1,SNR=4.6						
TXAR	**Lajitas Array**	**67.95**	**299**	P	**P**	**17 27 27.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=16,slow=4.0,SNR=2.7						
CMAR	**Chiang Mai Arr**	**72.60**	**84**	P	**P**	**17 27 56.6**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=319,slow=6.7,SNR=5.8						
ASAR	**Alice Springs**	**122.23**	**62**	PKP	**PKPdf**	**17 35 22.2**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=344,slow=2.2,SNR=4.9						
MAW	**Mawson**	**145.44**	**147**	PKPbc	**PKPab**	**17 36 04.9**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=266,slow=3.2,SNR=6.8						
MAW	**Mawson**	**145.44**	**147**		**PKPab**	**17 36 05.4**	**+0.7**

*NEIC **18** 17:21:47.4±2.9, 14.°39S±0.°08×167.°58E±0.°10, h174km±4km, mb4.5/25, Error ellipse: s-maj=14.3km s-min=11.5km az=63.0*

IDC 18 16:57:26.3±2.4, 7.°33N×94.°18E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/49, mbtmp3.3/5, ML3.8/1, MS3.8/2, Ms1 3.8/2, ms1mx2.7/37, Error ellipse: s-maj=89.0km s-min=25.5km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.00**	**22**	Pn	**Pn**	**17 00 19.1**	**+0.5**
	0.2nm,0.3s,baz=211,slow=15,SNR=4.4						
H08S3	**Diego Garcia H**	**26.25**	**236**	T	T	17 29 56.6	
	baz=54,slow=75,SNR=7.7						
H08S2	**Diego Garcia H**	**26.25**	**236**	T	T	17 29 51.2	
	baz=54,slow=75,SNR=5.5						
H08S1	**Diego Carcia H**	**26.26**	**236**	T	T	17 29 43.1	
	baz=54,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**40.63**	**347**	P	P	17 05 07.0	-1.1
	0.5nm,0.7s,baz=160,slow=8.4,SNR=5.2						
NWAO	**Narrogin (SRO)**	**45.64**	**153**	LR	LR	17 24 56.0	
	comp=Z,25nm,18.5s,baz=106,slow=36						
ZALV	**Zalesovo Beam**	**47.10**	**352**	P	P	17 06 00.8	+0.9
	0.6nm,0.6s,baz=168,slow=8.8,SNR=2.1						
WRA	**Warramunga Arr**	**47.91**	**125**	P	P	17 06 06.2	-0.6
	0.5nm,1.0s,baz=306,slow=8.5,SNR=2.4						
JHJ	**Hachijo jima 2**	**49.36**	**52**	LR		17 28 19.9	
	comp=Z,380nm,21.4s,baz=276,slow=38						
ASAR	**Alice Springs**	**49.53**	**130**	P	P	17 06 19.6	+0.4
	0.1nm,0.8s,baz=300,slow=7.8,SNR=1.1						

WEL 18 17:03:28.1, 43.°S±2.°×17.°1E±.°, h5km±1km, M2.6/16, ML2.6/16, MLv2.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=143.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.13**	**327**	P	Pg	17 03 32.2	+1.4
GCSZ	**Gaunt Creek Bo**	**0.39**	**250**	P	Pb	17 03 37.5	0.0
RPZ	**Rata Peaks**	**0.55**	**163**	P	Pb	17 03 40.7	+0.3
MHCZ	**Mount Hutt**	**0.64**	**123**	P	Pb	17 03 41.9	+0.1
INZ	**Inchbonnie**	**0.64**	**44**	P	Pg	17 03 40.6	+0.2
ARCZ	**Arundel**	**0.80**	**162**	P	Pb	17 03 45.2	+0.6
FOZ	**Fox Glacier**	**0.82**	**245**	P	Pb	17 03 45.5	+0.7
OXZ	**Oxford**	**0.89**	**100**	P	Pb	17 03 46.5	+0.5
**

*IDC **18** 17:21:52.4±2.6, 14°.52S×167°.16E, h211^{km}±22^{km}, mb3.6/9, mb1 3.8/10, mb1mx3.4/44, mbtmp4.2/10, MS3.5/2, Ms1 3.5/2, ms1mx2.8/26, Error ellipse: s-maj=21.9km s-min=16.8km az=172.0*

ISC 18 17:21:46.6±0.6, **14°.32S**±0°.08×**167°.47E**±0°.07, **h170**^{km}, **n47, σ19°76/45, mb4.3**/17, **Vanuatu region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.15**	**193**		**Pn**	**17 22 16.2**	**+1.7**
SANVU				Sn	**Sn**	**17 22 37.0**	**+0.7**
DZM	**Mont Dzumac**	**7.77**	**187**	P	**Pn**	**17 23 38.9**	**+1.8**
	3.7nm,0.3s,baz=38,slow=7.2,SNR=55						
DZM				S	**Sn**	**17 25 05.1**	**+0.8**
	1.8nm,0.3s,baz=319,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**7.77**	**187**	Pn	**Pn**	**17 23 37.5**	**+0.5**
HNR	**Honiara**	**8.82**	**303**	P	Pn	17 23 57.5	+6.7
	12nm,0.3s,baz=242,slow=2.5,SNR=11						
HNR				S	**Sn**	**17 25 34.6**	**+5.4**
	2.1nm,0.3s,baz=74,slow=23,SNR=1.4						
MSVF	**Nonsavu**	**10.72**	**110**	Pn	**Pn**	**17 24 16.1**	**+0.2**
EIDS	**Eidsvold**	**18.91**	**232**	P	**Pn**	**17 25 56.0**	**-1.1**
EIDS				IAmb	IAmb	17 25 59.7	
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**20.46**	**282**	P	**P**	**17 26 12.8**	**+1.5**
PMG				IAmb	IAmb	17 26 25.7	
	comp=Z,30nm,1.2s						
CTA	**Charters Tower**	**21.06**	**251**	P	**P**	**17 26 17.8**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=89,slow=15,SNR=2.2						
CTAO	**Charters Tower**	**21.06**	**251**	P	**P**	**17 26 17.6**	**0.0**
CTAO				IAmb	IAmb	17 26 35.9	
	comp=Z,15nm,1.1s						
ARMA	**Armidale**	**21.67**	**220**	P	**P**	**17 26 25.0**	**+0.9**
ARMA				IAmb	IAmb	17 26 27.3	
	comp=Z,16nm,1.3s						
NIUE	**Niue**	**22.15**	**105**	P	**P**	**17 26 29.3**	**+0.4**
COEN	**Coen**	**23.56**	**268**	P	**P**	**17 26 42.7**	**+0.7**
COEN				IAmb	IAmb	17 26 44.2	
	comp=Z,19nm,1.1s						
LTZ	**Lake Taylor**	**28.66**	**173**	P	**P**	**17 27 28.8**	**+1.3**
STKA	**Stephens Creek**	**29.41**	**229**	P	**P**	**17 27 34.1**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=46,slow=8.2,SNR=17						
STKA	**Stephens Creek**	**29.41**	**229**	P	**P**	**17 27 35.1**	**+0.9**
TOO	**Toolangi**	**30.30**	**216**	P	**P**	**17 27 42.5**	**+0.5**
TOO				IAmb	IAmb	17 28 04.9	
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**31.93**	**255**	P	**P**	**17 27 55.0**	**-1.5**
WB0	**Warramunga Arr**	**32.05**	**256**	P	**P**	**17 27 56.1**	**-1.5**
WB0				IAmb	IAmb	17 28 13.7	
	comp=Z,9.6nm,1.4s						
WB2	**Warramunga Arr**	**32.10**	**255**	P	**P**	**17 27 56.7**	**-1.3**
WB2				IAmb	IAmb	17 27 56.8	
	comp=Z,7.9nm,1.3s						
WRA	**Warramunga Arr**	**32.12**	**255**	P	**P**	**17 27 56.4**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=86,slow=9.2,SNR=19						
WRA				S	**S**	**17 32 51.2**	**-6.9**
	comp=Z,1.3nm,1.0s,baz=92,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**32.12**	**255**	IAmb	IAmb	17 27 59.8	
	comp=Z,0.2nm,1.2s						
AS31	**Alice Springs**	**33.00**	**249**	P	**P**	**17 28 04.3**	**-1.5**
ASAR	**Alice Springs**	**33.00**	**249**	P	**P**	**17 28 04.3**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=78,slow=9.1,SNR=71						
BBOO	**Buckleboo**	**33.98**	**232**	P	**P**	**17 28 14.4**	**+0.2**
MTN	**Manton Dam**	**35.33**	**268**	P	**P**	**17 28 27.2**	**+1.2**
MTN				IAmb	IAmb	17 28 30.0	
	comp=Z,19nm,1.3s						
KNRA	**Kununurra**	**37.38**	**263**	P	**P**	**17 28 41.9**	**-1.4**
KNRA				IAmb	IAmb	17 28 45.8	
	comp=Z,11nm,1.0s						
FORT	**Forrest**	**39.68**	**239**	P	**P**	**17 29 02.1**	**-0.2**
FORT				IAmb	IAmb	17 29 14.0	
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.28**	**259**	P	**P**	**17 29 06.6**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=114,slow=8.9,SNR=11						
FITZ				LR	LR	17 45 43.0	
	comp=Z,51nm,19.1s,baz=201,slow=36						
FITZ	**Fitzroy Crossi**	**40.28**	**259**	IAmb	IAmb	17 29 08.1	
	comp=Z,2.5nm,0.7s						
MCQ	**Macquarie Isla**	**40.64**	**188**	P	**P**	**17 29 10.2**	**+0.4**
KAPI	**Kappang**	**47.85**	**276**	LR	LR	17 49 47.2	
	comp=Z,47nm,18.5s,baz=83,slow=35						
MORW	**Morawa**	**49.62**	**244**	P	**P**	**17 30 20.3**	**-0.7**
VNDA	**Vanda**	**63.28**	**181**	P	**P**	**17 31 56.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=349,slow=7.6,SNR=10.0						
VNDA	**Vanda**	**63.28**	**181**	P	**P**	**17 31 56.6**	**-0.1**
AKUT	**Akutan**	**71.90**	**16**	P	**P**	**17 32 47.2**	**-3.7**
MAW	**Mawson**	**82.34**	**202**	P	**P**	**17 33 49.3**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=88,slow=7.9,SNR=6.2						
MAW	**Mawson**	**82.34**	**202**	IAmb	IAmb	17 33 51.1	
	comp=Z,0.9nm,1.1s						
ILAR	**Eielson Array**	**86.08**	**18**	P	**P**	**17 34 08.4**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=228,slow=5.5,SNR=4.2						
SNAA	**Sanae**	**93.97**	**183**	P	**P**	**17 34 44.1**	**-0.8**
SNAA	**Sanae**	**93.97**	**183**	P	**P**	**17 34 44.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=209,slow=3.8,SNR=11						
SNAA	**Sanae**	**93.97**	**183**	IAmb	IAmb	17 34 52.2	
	comp=Z,6.5nm,1.5s						
VNA3	**Neumayer Olymp**	**94.63**	**181**	P	**P**	**17 34 47.1**	**-0.7**
VNA2	**Neumayer--Watz**	**94.90**	**182**	P	**P**	**17 34 48.8**	**-0.3**
	baz=182,slow=4.0						
ARCES	**ARCESS Array B**	**119.90**	**346**	PKP		**PKiKP**	**17 40 16.8**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=52,slow=2.0,SNR=8.5						
CLL	**Collm**	**137.76**	**336**	*e*PKPdf		**PKiKP**	**17 40 52.0**	**-0.6**
GERES	**GERESS Array B**	**139.37**	**333**	PKP		**PKPdf**	**17 40 54.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=48,slow=2.0,SNR=4.8						
KEST	**Kesra**	**151.01**	**321**	PKPbc		**PKiKP**	**17 41 21.8**	**+1.4**
	comp=Z,4.6nm,0.7s,baz=191,slow=4.8,SNR=8.8						

*IDC **18** 17:23:54.9±0.6, 46°.84S×33°.57E, h0^{km}, mb4.2/14, mb1 4.3/16, mb1mx4.2/44, mbtmp4.3/16, ML4.6/2, MS3.8/12, Ms1 3.8/12, ms1mx3.6/26, Error ellipse: s-maj=26.7km s-min=13.2km az=69.0*

*BJI **18** 17:23:55.0±0.0, 46°.68S×33°.08E, h8^{km}, mB5.5/6, mb5.5/8, Ms4.7/1, Ms7 4.5/1*

*NEIC **18** 17:23:56.1±1.6, 46°.85S±0°.10×33°.5E±0°.2, h10^{km}±1^{km}, mb5.0/39, Error ellipse: s-maj=19.2km s-min=15.6km az=69.0*

*GCMT **18** 17:23:59.2±0.3, 46°.88S±0°.02×33°.40E±0°.04, h23^{km}, MW5.0/73, Moment Tensor Solution. s28,c35; s73,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.62±.24; $M_{\theta\theta}$3.80±.15; $M_{\phi\phi}$-0.18±.14; $M_{r\theta}$0.41±.19; $M_{r\phi}$-0.06±.10; $M_{\theta f}$0.47±.24; Best double couple: $M_0$3.76400×10^{16} NP1:ϕ_s98.00000°, δ42.00000°, λ-79.00000°. NP2: ϕ_s263.00000°, δ49.00000°, λ-100.00000°. Principal axes: T 3.8230, Plg3.0000°, Azm0.0000°; N -0.1210, Plg8.0000°, Azm270.0000°; P -3.7050, Plg82.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 17:23:56.5±0.4, **46°.87S**±0°.06×**33°.43E**±0°.09, **h10**^{km}, **n85, σ19°40/77, mb4.6**/27, **MS3.8**/10, **4C, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.39**	**322**	P	**Pn**	**17 27 57.9**	**-1.5**
	2.2nm,0.3s,baz=141,slow=11,SNR=34						
SUR				S	Sn	17 31 01.3	-12
	0.9nm,0.3s,baz=54,slow=19,SNR=1.4						
SUR				LR	LR	17 33 37.1	
	comp=Z,285nm,18.4s,baz=152,slow=33						
SUR	**Sutherland**	**17.39**	**322**	Pn	**Pn**	**17 27 57.5**	**-1.9**
SUR				IAmb	IAmb	17 28 08.6	
	comp=Z,123nm,1.8s						
BOSA	**Boshof**	**19.31**	**338**	P	**P**	**17 28 20.9**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=161,slow=12,SNR=21						
BOSA				LR	LR	17 34 15.6	
	comp=Z,247nm,21.8s,baz=162,slow=32						
BOSA	**Boshof**	**19.31**	**338**	P	**P**	**17 28 20.9**	**-0.9**
SYO	**Syowa Base**	**22.42**	**174**↑	*e*P	**P**	**17 28 54.2**	**-0.7**
SYO	**Syowa Base**	**22.42**	**174**↑	*i*P	**P**	**17 28 55.9**	**+1.0**
SYO	**Syowa Base**	**22.42**	**174**↑	*i*pP	pP	17 28 58.4	+1.8
SYO	**Syowa Base**	**22.42**	**174**↑	*i*sP	sP	17 29 00.3	+3.0
LBTB	**Lobatse**	**22.68**	**341**	P	**P**	**17 28 58.2**	**0.0**
	comp=Z,10nm,0.9s,baz=156,slow=10,SNR=11						
LBTB				S	**S**	**17 33 02.8**	**-3.7**
	comp=Z,1.3nm,0.3s,baz=349,slow=16,SNR=1.8						
LBTB				LR	LR	17 36 07.6	
	comp=Z,301nm,18.6s,baz=142,slow=32						
LBTB	**Lobatse**	**22.68**	**341**	P	**P**	**17 28 58.4**	**+0.2**
LBTB				IAmb	IAmb	17 29 11.1	
	comp=Z,38nm,1.2s						
FOMA	**Nahampoana Res**	**24.37**	**31**	P	**P**	**17 29 14.4**	**-0.3**
MAW	**Mawson**	**25.72**	**154**	P	**P**	**17 29 26.7**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=302,slow=13,SNR=11						
MAW				LR	LR	17 36 59.1	
	comp=Z,95nm,19.5s,baz=302,slow=30						
MAW	**Mawson**	**25.72**	**154**		**P**	**17 29 26.2**	**-0.4**
MATP	**Matopo**	**26.68**	**350**		**P**	**17 29 36.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=35,slow=14,SNR=2.8						
MATP				LR	LR	17 38 02.3	
	comp=Z,332nm,20.4s,baz=126,slow=32						
MATP	**Matopo**	**26.68**	**350**	*i* P	**P**	**17 29 33.8**	**-2.0**
MATP	**Matopo**	**26.68**	**350**	*i* P	**P**	**17 29 33.8**	**-2.0**
BLWY	**Bulawayo**	**26.95**	**350**	*i* P	**P**	**17 29 40.4**	**+2.2**
BLWY	**Bulawayo**	**26.95**	**350**	*i* P	**P**	**17 29 40.4**	**+2.2**
SNAA	**Sanae**	**30.11**	**202**	P	**P**	**17 30 06.7**	**+0.8**
SNAA	**Sanae**	**30.11**	**202**	P	**P**	**17 30 06.4**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=210,slow=8.3,SNR=14						
SNAA	**Sanae**	**30.11**	**202**	P	**P**	**17 30 06.5**	**+0.7**
VNA2	**Neumayer--Watz**	**30.94**	**205**	P	**P**	**17 30 14.3**	**+1.2**
	baz=64,slow=10.0						
VNA1	**Neumayer--Stat**	**31.06**	**205**	P	**P**	**17 30 16.6**	**+2.4**
LSZ	**Lusaka**	**31.80**	**350**	P	**P**	**17 30 21.1**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=185,slow=18,SNR=2.4						
BELA	**Belgrano 2**	**40.08**	**198**	P	**P**	**17 31 32.0**	**+0.6**
HOPE	**Hope Point**	**43.33**	**233**	P	**P**	**17 31 57.4**	**-0.9**
HOPE				IAmb	IAmb	17 32 07.5	
	comp=Z,54nm,1.2s						
CASY	**Casey**	**43.35**	**145**	P	**P**	**17 31 58.6**	**+0.3**
CASY				IAmb	IAmb	17 32 24.8	
	comp=Z,39nm,2.0s						
QSPA	**South Pole Qui**	**43.35**	**180**	P	**P**	**17 31 58.3**	**-0.3**
	comp=Z,6.0nm,1.1s,baz=262,slow=2.6,SNR=10						
QSPA	**South Pole Qui**	**43.35**	**180**	P	**P**	**17 31 58.0**	**-0.6**
QSPA				IAmb	IAmb	17 32 03.2	
	comp=Z,17nm,1.2s						
KMBO	**Kilima Mbogo**	**45.68**	**5**	LR	LR	17 50 23.1	
	comp=Z,89nm,18.2s,baz=102,slow=35						
VNDA	**Vanda**	**51.88**	**167**	P	**P**	**17 33 04.7**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=233,slow=6.5,SNR=13						
VNDA				LR	LR	17 53 30.0	
	comp=Z,130nm,21.7s,baz=222,slow=34						
VNDA	**Vanda**	**51.88**	**167**	P	**P**	**17 33 04.4**	**0.0**
H10S2	**ASCENSION HYDR**	**55.56**	**297**	T	T	18 34 04.3	
	baz=139,slow=74,SNR=123						
H10S3	**ASCENSION HYDR**	**55.58**	**297**	T	T	18 34 05.1	
	baz=81,slow=74,SNR=262						
SOCY	**Socotra**	**61.60**	**23**	P	**P**	**17 34 16.4**	**+2.2**
SOCY				IAmb	IAmb	17 35 02.6	
	comp=Z,13nm,1.2s						
NWAO	**Narrogin (SRO)**	**62.88**	**110**	P	**P**	**17 34 20.9**	**-1.8**
NWAO	**Narrogin (SRO)**	**62.88**	**110**	P	**P**	**17 34 20.9**	**-1.8**
NWAO				IAmb	IAmb	17 35 19.5	
	comp=Z,193nm,1.9s						
DBIC	**Dimbokro**	**63.19**	**316**	P	**P**	**17 34 24.6**	**-0.2**
MORW	**Morawa**	**64.60**	**106**	P	**P**	**17 34 34.6**	**+0.5**
TOA0	**Torodi Ar. Sit**	**66.17**	**326**	P	**P**	**17 34 45.3**	**+1.1**
TORD	**Torodi Ar. Bea**	**66.17**	**326**	P	**P**	**17 34 45.0**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=161,slow=7.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**66.17**	**326**	P	**P**	**17 34 44.7**	**+0.5**
PLCA	**Paso Flores**	**69.70**	**232**	LR	LR	17 59 49.8	
	comp=Z,24nm,20.8s,baz=40,slow=31						
PLCA	**Paso Flores**	**69.70**	**232**	P	**P**	**17 35 06.9**	**+0.5**
PLCA				IAmb	IAmb	17 35 17.6	
	comp=Z,29nm,1.6s						
KOWA	**Kowa**	**69.72**	**321**	P	**P**	**17 35 08.1**	**+1.6**
CPUP	**Villa Florida**	**71.78**	**251**	LR	LR	18 00 03.3	
	comp=Z,54nm,20.0s,baz=29,slow=30						
PSA00	**Pilbara Seismi**	**72.19**	**103**	P	**P**	**17 35 21.1**	**-0.6**
GSI	**Gunungsitoli**	**73.58**	**70**	P	**P**	**17 35 30.0**	**+0.1**
GSI				IAmb	IAmb	17 35 40.4	
	comp=Z,25nm,1.0s						
CISI	**Cisompet, Garu**	**73.85**	**84**	P	**P**	**17 35 30.8**	**-0.9**
MT02	**Curacav**	**75.38**	**237**	P	**P**	**17 35 39.9**	**-0.3**
TOO	**Toolangi**	**76.30**	**131**	P	**P**	**17 35 46.3**	**+0.8**
TOO				IAmb	IAmb	17 36 11.8	
	comp=Z,66nm,2.0s						
CO03	**El Pedregal**	**76.87**	**239**	P	**P**	**17 35 48.2**	**-0.7**
CO03				IAmb	IAmb	17 37 04.2	
	comp=Z,48nm,1.6s						
CO01	**Juntas del Tor**	**77.15**	**240**	P	**P**	**17 35 51.2**	**+0.6**
CO01				IAmb	IAmb	17 36 06.1	
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**78.44**	**124**	P	**P**	**17 35 57.1**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=170,slow=1.7,SNR=13						
STKA				LR	LR	18 05 34.8	
	comp=Z,36nm,18.1s,baz=206,slow=32						
STKA	**Stephens Creek**	**78.44**	**124**	P	**P**	**17 35 57.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**78.50**	**104**	P	**P**	**17 35 57.5**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=230,slow=5.6,SNR=21						
FITZ	**Fitzroy Crossi**	**78.50**	**104**	P	**P**	**17 35 57.2**	**-0.7**
ASAR	**Alice Springs**	**79.86**	**114**	P	**P**	**17 36 04.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=223,slow=6.2,SNR=42						
ASAR	**Alice Springs**	**79.86**	**114**	P	**P**	**17 36 04.4**	**-1.1**
AS31	**Alice Springs**	**79.86**	**114**	P	**P**	**17 36 04.4**	**-1.1**
AC01	**Pan de Azucar**	**80.25**	**242**	P	**P**	**17 36 04.5**	**-3.0**
AC01				IAmb	IAmb	17 36 05.1	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**82.85**	**111**	P	**P**	**17 36 20.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=220,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**82.85**	**111**	P	**P**	**17 36 20.2**	**-1.2**
WB2	**Warramunga Arr**	**82.86**	**111**	P	**P**	**17 36 20.5**	**-0.8**
WB2				IAmb	IAmb	17 39 02.4	
	comp=Z,12nm,1.3s						
WR0	**Warramunga Arr**	**82.97**	**112**	P	**P**	**17 36 21.0**	**-0.9**
WR0				IAmb	IAmb	17 39 13.4	
	comp=Z,15nm,1.6s						
WB0	**Warramunga Arr**	**83.01**	**111**	P	**P**	**17 36 21.2**	**-0.9**
WB0				IAmb	IAmb	17 36 27.6	
	comp=Z,24nm,1.7s						
LTZ	**Lake Taylor**	**83.57**	**151**	P	**P**	**17 36 25.1**	**+0.4**
HRA	**Herat**	**84.94**	**24**	P	**P**	**17 36 31.1**	**-0.5**
HRA				IAmb	IAmb	17 36 33.1	
	comp=Z,21nm,1.5s						
LPAZ	**La Paz**	**85.95**	**251**	LR	LR	18 11 32.4	
	comp=Z,80nm,18.3s,baz=70,slow=33						
GEYT	**Alibeck**	**87.27**	**19**	P	**P**	**17 36 43.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=187,slow=2.5,SNR=6.2						
GEYT	**Alibeck**	**87.27**	**19**	IAmb	IAmb	17 36 44.9	
	comp=Z,3.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**87.65**	**60**	P	**P**	**17 36 44.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=210,slow=4.7,SNR=4.3						
CMAR				LR	LR	18 10 49.7	
	comp=Z,41nm,18.2s,baz=100,slow=32						
CMAR	**Chiang Mai Arr**	**87.65**	**60**	P	**P**	**17 36 44.7**	**-0.4**
CLL	**Collm**	**99.36**	**347**	*e*S	**S**	**17 49 15.0**	**+5.3**
CLL				*e*PPS	PPS	17 27 00.0	
CLL				*e*PS	**PS**	**17 50 42.0**	**+3.7**
CD2	**Chengdu**	**99.98**	**55**	*e*P	**Pdif**	**17 37 43.0**	**+1.4**
WMQ	**Urumqi**	**102.23**	**37**	*e*P	**Pdif**	**17 37 52.9**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,39nm,4.7s						
HHC	**Hu-ho-hao-te**	**111.53**	**53**	*e*PKP	**PKiKP**	**17 42 33.4**	**+2.8**
RES	**Resolute Bay**	**144.53**	**339**	PKP	**PKPdf**	**17 43 31.5**	**0.0**
	comp=Z,3.6nm,0.7s,baz=48,slow=5.2,SNR=12						
MSTX	**Muleshoe**	**144.71**	**265**		PKPbc	17 43 32.7	+0.5
MNTX	**Cornudas Mount**	**145.14**	**259**		**PKPbc**	**17 43 33.1**	**-0.5**
ECSD	**EROS Data Cent**	**145.20**	**284**		**PKPbc**	**17 43 33.1**	**-0.2**
ANMO	**Albuquerque**	**147.77**	**263**		**PKPdf**	**17 43 37.6**	**-0.9**
SDCO	**Great Sand Dun**	**148.60**	**268**		**PKPdf**	**17 43 40.2**	**+0.2**
RSSD	**Black Hills**	**150.32**	**280**		**PKPbc**	**17 43 47.2**	**-0.4**
PDAR	**Pinedale Array**	**153.59**	**275**	PKPbc	**PKPbc**	**17 43 54.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=98,slow=3.1,SNR=2.4						

*ARE **18** 17:23:50.7±3.0, 14°.89S±0°.07×77°.1W±0°.1, h14^{km}±4^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=151.0*

*IDC **18** 17:24:00.7±0.7, 14°.48S×76°.24W, h0^{km}, mb4.3/14, mb1 4.4/19, mb1mx4.3/36, mbtmp4.3/19, ML3.6/5, MS3.9/11, Ms1 3.9/11, ms1mx3.7/23, Error ellipse: s-maj=22.0km s-min=11.7km az=67.0*

*NEIC **18** 17:24:01.1±1.6, 14°.40S±0°.05×76°.15W±0°.09, h7^{km}±2^{km}, mb4.8/112, ML4.8(ARE), Error ellipse: s-maj=12.9km s-min=6.2km az=78.0*

*VAO **18** 17:24:04.7±0.6, 14°.43S×75°.93W, h10^{km}, mb4.8*

*GCMT **18** 17:24:08.1±0.4, 14°.57S±0°.03×76°.61W±0°.03, h32^{km}±1^{km}, MW5.0/56, Moment Tensor Solution. s38,c39; s56,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.98±.20; $M_{\theta\theta}$-0.67±.12; $M_{\phi\phi}$-2.31±.13; $M_{r\theta}$0.72±.13; $M_{\phi\theta}$0.88±.07; $M_{\theta f}$-1.57±.13; Best double couple: $M_0$3.32300×10^{16} NP1:ϕ_s337.00000°, δ29.00000°, λ91.00000°. NP2: ϕ_s156.00000°, δ61.00000°, λ89.00000°. Principal axes: T 3.4650, Plg74.0000°, Azm65.0000°; N -0.2850, Plg0.0000°, Azm156.0000°; P -3.1810, Plg16.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 17:24:04.3±0.4, **14°.46S**±0°.05×**76°.20W**±0°.07, **h29**^{km}, **n245, σ19°38/223, mb4.8**/65, **MS3.9**/10, **3C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.54**	**346**	Pn	**Pn**	**17 24 42.5**	**-1.1**
	20nm,0.3s,baz=182,slow=13,SNR=15						
NNA				Lg	Lg	17 25 20.0	
	241nm,0.3s,baz=77,slow=24,SNR=16						
NNA	**Nana**	**2.54**	**346**	Pn	**Pn**	**17 24 41.8**	**-1.8**
NNA				Sn	**Sn**	**17 25 07.8**	**-5.8**
AP01	**Chacalluta**	**6.83**	**125**	Pn	**Pn**	**17 25 40.7**	**-2.0**
PB12	**IPOC Station P**	**6.98**	**127**	Pn	**Pn**	**17 25 43.6**	**-1.2**
PB12				Sn	**Sn**	**17 27 01.4**	**-1.9**
PB16	**IPOC Station P**	**7.49**	**122**	*e*P	**Pn**	**17 25 54.3**	**+2.2**
PB16	**IPOC Station P**	**7.49**	**122**	Pn	**Pn**	**17 25 51.5**	**-0.7**
CZSB	**Cruzeiro do Su**	**7.51**	**27**	*e*P	**Pn**	**17 25 52.7**	**+0.6**
ATAH	**Atahualpa**	**7.59**	**343**	Pn	**Pn**	**17 25 54.0**	**+0.5**
	0.8nm,0.3s,baz=144,slow=14,SNR=3.2						
ATAH				Sn	Sb	17 27 31.5	-14
	2.2nm,0.3s,baz=76,slow=14,SNR=1.9						
PSGCX	**Pisagua**	**7.74**	**132**	Pn	**Pn**	**17 25 53.3**	**-1.8**
PSGCX				Sn	**Sn**	**17 27 20.0**	**-1.9**
MNMC	**Minye Minye**	**7.84**	**127**		**Pn**	**17 25 56.1**	**-0.7**
MNMC				Sn	**Sn**	**17 27 24.4**	**-0.4**
LPAZ	**La Paz**	**7.99**	**104**	Pn	Pn	17 26 04.2	+5.1
	3.5nm,0.3s,baz=296,slow=7.8,SNR=90						
LPAZ	**La Paz**	**7.99**	**104**↑	*i*P	Pn	17 26 03.8	+4.6
LPAZ	**La Paz**	**7.99**	**104**	Pn	**Pn**	**17 25 59.7**	**+0.6**
PB11	**IPOC Station P**	**8.18**	**131**	Pn	**Pn**	**17 25 60.0**	**-1.3**
TA01	**Diego Aracena**	**8.36**	**137**		**Pn**	**17 26 03.1**	**-0.5**
TA01				Sn	**Sn**	**17 27 32.5**	**-4.5**
GO01	**Chusmiza**	**8.47**	**129**		**Pn**	**17 26 05.4**	**+0.3**
PATCX	**Punta Patache**	**8.56**	**139**	Pn	**Pn**	**17 26 06.1**	**-0.3**
PB08	**IPOC Station P**	**8.79**	**131**	Pn	**Pn**	**17 26 09.5**	**-0.3**
PB01	**IPOC Station P**	**9.15**	**137**		**Pn**	**17 26 14.2**	**-0.4**
PB07	**IPOC Station P**	**9.39**	**141**		**Pn**	**17 26 16.8**	**-1.1**
PB04	**IPOC Station P**	**9.71**	**145**	Pn	**Pn**	**17 26 21.6**	**-0.7**
PB09	**IPOC Station P**	**9.85**	**139**		**Pn**	**17 26 24.8**	**+0.7**
PB06	**IPOC Station P**	**10.33**	**144**		**Pn**	**17 26 30.2**	**-0.6**
PB10	**IPOC Station P**	**10.47**	**150**	Pn	**Pn**	**17 26 30.8**	**-1.7**
LVC	**Limon Verde**	**10.65**	**141**	Pn	**Pn**	**17 26 35.9**	**+0.6**
	1.4nm,0.3s,baz=305,slow=9.9,SNR=20						
LVC				Sn	**Sn**	**17 28 32.2**	**-1.7**
	1.6nm,0.3s,baz=63,slow=22,SNR=6.9						
LVC				Lg	Lg	17 29 34.5	
	1.8nm,0.3s,baz=110,slow=19,SNR=7.2						
LVC				LR	LR	17 30 07.8	
	comp=Z,515nm,20.4s,baz=322,slow=34						
LVC	**Limon Verde**	**10.65**	**141**	Pn	**Pn**	**17 26 36.0**	**+0.6**
LVC					**Sn**	**17 28 32.9**	**-1.0**
LVC	**Limon Verde**	**10.65**	**141**	*e*P	**Pn**	**17 26 36.4**	**+1.0**
PB15	**IPOC Station P**	**10.78**	**145**	Pn	**Pn**	**17 26 35.2**	**-1.8**
ETMB	**Extrema**	**10.80**	**66**	*e*P	**Pn**	**17 26 36.2**	**-0.9**
PB14	**IPOC Station P**	**11.49**	**153**	Pn	**Pn**	**17 26 45.3**	**-1.5**
GO02	**Mina Guan

RCLB	Rio Claro- Sao	28.29	110	*e*P		P		17 29 57.3	+1.8
GRGR	Grenville	30.09	29	P		P		17 30 11.3	-0.2
JANB	Januaria	30.83	95	*e*P		P		17 30 17.8	-0.4
MLPR	Magueyes Islan	33.46	16	P		P		17 30 40.9	-0.2
CRPR	Cabo Rojo, PR	33.48	16	P		P		17 30 41.1	-0.2
ICMP	Isla Caja de M	33.53	17	P		P		17 30 40.1	-1.5
OBIP	Obispado Ponce	33.65	17	P		P		17 30 41.7	-1.0
OBIP				IAmb	IAmb			17 30 43.5	
	comp=Z,19nm,0.9s								
ROSB	Rosrio	33.67	73	*e*P		P		17 30 43.4	+0.4
DR12	Loma Pena Alta	33.71	12	P		P		17 30 41.8	-1.5
PDPR	Patillas Dam,	33.80	18	P		P		17 30 43.2	-0.7
PDPR				IAmb	IAmb			17 30 59.5	
	comp=Z,12nm,1.0s								
SJG	San Juan	33.85	17	P		P		17 30 43.7	-0.7
SJG				IAmb	IAmb			17 30 45.6	
	comp=Z,18nm,1.1s								
AOPR	Arecibo Observ	33.90	16	P		P		17 30 44.6	-0.3
MTP	Monte Pirata	34.01	18	P		P		17 30 44.9	-1.0
MTP				IAmb	IAmb			17 31 13.3	
	comp=Z,19nm,1.4s								
GCPR	Guaynabo City	34.05	17	P		P		17 30 44.7	-1.5
GCPR				IAmb	IAmb			17 31 34.4	
	comp=Z,11nm,1.1s								
CBYP	Canovanas	34.08	18	P		P		17 30 45.1	-1.5
CBYP				IAmb	IAmb			17 31 10.2	
	comp=Z,20nm,1.2s								
BSFB	Barra de Sao F	34.11	102	*e*P		P		17 30 47.6	+0.8
CBCY	The Bluff, Cay	34.16	354	P		P		17 30 45.7	-1.4
CUPR	Culebra, Puert	34.29	19	P		P		17 30 46.9	-1.4
RIB01	Linhares ES	34.56	103	*e*P		P		17 30 51.8	+1.1
ANWB	Willy Bob	34.95	24	P		P		17 30 52.0	-1.9
GDU01	Guandu, BA	35.51	93	*e*P		P		17 30 59.5	+0.6
TEIG	Tepich	36.46	341	P		P		17 31 08.1	+1.2
TEIG				IAmb	IAmb			17 31 27.4	
	comp=Z,20nm,1.2s								
451A	Vernon	45.75	348	P		P		17 32 21.3	-1.8
HKT	Hockley	48.04	337	P		P		17 32 41.9	+0.9
HKT				IAmb	IAmb			17 32 58.1	
	comp=Z,10nm,1.4s								
GOGA	Godfrey	48.10	352	P		P		17 32 40.4	-1.1
GOGA				IAmb	IAmb			17 33 21.9	
	comp=Z,22nm,1.6s								
342A	Flagon Creek P	48.13	341	P		P		17 32 43.2	+1.4
Z47A	Carrollton	48.73	347	P		P		17 32 45.6	-0.7
Z47A				IAmb	IAmb			17 33 03.0	
	comp=Z,9.1nm,0.8s								
HODGE	Hodges	48.76	353	P		P		17 32 47.7	+1.1
PAULI	Pauline	49.30	354	P		P		17 32 51.0	+0.2
PAULI				IAmb	IAmb			17 32 57.7	
	comp=Z,20nm,1.2s								
W57A	Gilead	49.47	356	P		P		17 32 52.3	+0.3
W57A				IAmb	IAmb			17 32 59.0	
	comp=Z,13nm,0.9s								
FPAL	Fort Paine	49.54	350	P		P		17 32 53.2	+0.6
FPAL				IAmb	IAmb			17 33 01.6	
	comp=Z,14nm,1.2s								
KMSC	Kings Mountain	49.57	354	P		P		17 32 52.4	-0.4
KMSC				IAmb	IAmb			17 32 59.7	
	comp=Z,9.4nm,0.8s								
Y45A	Yeager Farm, C	49.71	345	P		P		17 32 52.9	-1.0
Z41A	Richland Creek	50.03	342	P		P		17 32 56.0	-0.3
Z41A				IAmb	IAmb			17 33 26.3	
	comp=Z,12nm,0.6s								
V58A	Windy Hill, Pi	50.05	357	P		P		17 32 56.6	+0.2
V58A				IAmb	IAmb			17 33 09.1	
	comp=Z,12nm,1.1s								
CPCT	Cooper Cave	50.26	351	P		P		17 33 00.1	+2.0
WHTX	Lake Whitney,	50.48	336	P		P		17 32 59.7	-0.1
WHTX				IAmb	IAmb			17 33 01.1	
	comp=Z,11nm,1.1s								
V52A	Sevierville	50.51	352	P		P		17 32 58.9	-1.1
V52A				IAmb	IAmb			17 33 00.5	
	comp=Z,21nm,1.4s								
WLAR	White Oak Lake	50.52	342	P		P		17 32 60.0	0.0
U59A	Littleton	50.56	358	P		P		17 32 59.9	-0.4
U59A				IAmb	IAmb			17 33 10.2	
	comp=Z,29nm,1.4s								
U56A	King	50.69	356	P		P		17 33 00.4	-0.8
U56A				IAmb	IAmb			17 33 16.1	
	comp=Z,20nm,1.3s								
Z38A	Mt. Pleasant	50.73	340	P		P		17 33 01.0	-0.6
V48A	Smith Brothers	50.93	349	P		P		17 33 01.6	-1.5
PMSA	Palmer Station	50.95	173	P		P		17 33 03.4	+0.6
	comp=Z,6.7nm,0.9s,baz=2.9,slow=6.5,SNR=5.1								
PMSA	Palmer Station	50.95	173	P		P		17 33 03.6	+0.8
PMSA				IAmb	IAmb			17 33 27.3	
	comp=Z,14nm,1.1s								
PMSA	Palmer Station	50.95	173	*e*P		P		17 33 04.5	+1.7
TXAR	Lajitas Array	50.98	329	P		P		17 33 04.2	+0.5
	comp=Z,1.2nm,0.7s,baz=148,slow=8.6,SNR=10								
TXAR	Lajitas Array	50.98	329	P		P		17 33 03.5	-0.2
U54A	Nelsons Funny	50.98	354	P		P		17 33 02.9	-0.6
U54A				IAmb	IAmb			17 33 17.4	
	comp=Z,11nm,1.0s								
TX31	Lajitas Ar. Si	50.98	329	P		P		17 33 03.7	0.0
TX31				IAmb	IAmb			17 33 19.9	
	comp=Z,20nm,1.4s								
TX32	Lajitas Array	50.98	329	P		P		17 33 03.5	-0.3
T59A	Double "B" Far	51.17	359	P		P		17 33 04.3	-0.5
T59A				IAmb	IAmb			17 33 53.1	
	comp=Z,36nm,1.6s								
X40A	Basin Creek Fa	51.18	342	P		P		17 33 04.2	-0.8
T57A	Hurt	51.26	357	P		P		17 33 04.8	-0.8
T57A				IAmb	IAmb			17 33 12.3	
	comp=Z,13nm,0.9s								
MIAR	Mount Ida	51.46	342	P		P		17 33 06.2	-0.9
MIAR				IAmb	IAmb			17 33 14.0	
	comp=Z,24nm,1.7s								
WHAR	Wooly Hollow	51.78	343	P		P		17 33 08.9	-0.6
WHAR				IAmb	IAmb			17 33 35.7	
	comp=Z,18nm,1.4s								
X37A	Clayton	52.07	340	P		P		17 33 11.8	+0.1
W39A	Magazine	52.12	342	P		P		17 33 11.9	-0.1
W39A				IAmb	IAmb			17 33 44.1	
	comp=Z,36nm,1.8s								
R58B	Mineral	52.17	358	P		P		17 33 11.5	-0.7
R58B				IAmb	IAmb			17 33 19.6	
	comp=Z,13nm,1.1s								
LCAR	Lake Charles	52.21	345	P		P		17 33 11.4	-1.2
LCAR				IAmb	IAmb			17 33 27.8	
	comp=Z,18nm,1.6s								
S51A	Beattyville	52.28	353	P		P		17 33 14.0	+0.8
FCAR	Ozark Folk Cen	52.29	344	P		P		17 33 12.7	-0.5
U40A	Yellville	52.93	343	P		P		17 33 17.3	-0.7
R50A	Paris	53.01	352	P		P		17 33 18.3	-0.2
R50A				IAmb	IAmb			17 34 03.4	
	comp=Z,27nm,1.6s								
W35A	Tecumseh	53.10	339	P		P		17 33 18.8	-0.5
R49A	Shelbyville	53.14	351	P		P		17 33 18.2	-1.3
R49A				IAmb	IAmb			17 33 20.6	
	comp=Z,29nm,1.6s								
TUL1	Leonard	53.42	340	P		P		17 33 20.5	-1.1
TUL1				IAmb	IAmb			17 33 22.3	
	comp=Z,19nm,1.1s								
MNTX	Cornudas Mount	53.76	329	P		P		17 33 22.4	-1.8
P49A	Miami Univ. Ec	54.30	352	P		P		17 33 27.1	-0.9
S39A	Bolivar	54.31	343	P		P		17 33 27.7	-0.4
MSTX	Muleshoe	54.41	333	P		P		17 33 28.0	-1.0
MSTX				IAmb	IAmb			17 33 37.6	
	comp=Z,13nm,1.4s								
Q44A	Meyer Farm, Va	54.42	348	P		P		17 33 28.5	-0.3
O52A	Adamsville	54.55	355	P		P		17 33 29.0	-0.7
T35A	Sooner Cattle	54.57	340	P		P		17 33 29.2	-0.8
T35A				IAmb	IAmb			17 33 31.0	
	comp=Z,9.8nm,0.9s								
R40A	Maddies Statio	54.59	344	P		P		17 33 29.1	-1.0
R40A				IAmb	IAmb			17 33 36.6	
	comp=Z,7.6nm,0.7s								
CROK	Carrier	54.70	339	P		P		17 33 30.0	-1.0
121A	Cookes Peak, D	55.65	328	P		P		17 33 38.2	+0.1
M50A	Fremont	55.94	354	P		P		17 33 39.3	-0.4
P38A	Dawn	56.18	344	P		P		17 33 41.2	-0.3
P38A				IAmb	IAmb			17 33 59.5	
	comp=Z,11nm,1.2s								
L59A	Walton	56.38	1	P		P		17 33 42.6	-0.3
ANMO	Albuquerque	56.91	330	P		P		17 33 46.4	-0.7
ACCN	Adirondack Com	57.61	2	P		P		17 33 50.9	-0.6
SDCO	Great Sand Dun	58.77	333	P		P		17 34 00.1	-0.1
LONY	Lake Ozonia	58.81	1	P		P		17 34 00.2	+0.2
LONY				IAmb	IAmb			17 34 21.3	
	comp=Z,20nm,1.3s								
S22A	4UR Ranch, Cre	59.37	332	P		P		17 34 04.3	-0.1
F36A	Milaca	62.05	346	P		P		17 34 22.0	-0.1

TAOE	Nuku Hiva Isla	62.72	267	*e*LR		LR		17 53 05.0	
	comp=Z,267nm,24.5s								
RDMU	Red Mountain	62.90	332	P		P		17 34 28.1	-0.1
DUG	Dugway, Tooele	64.15	329	P		P		17 34 37.0	+0.7
DUG				IAmb	IAmb			17 34 44.2	
	comp=Z,4.3nm,0.7s								
HWUT	Hardware Ranch	64.64	331	IAmb	IAmb			17 35 07.2	
	comp=Z,5.6nm,1.1s								
PDAR	Pinedale Array	64.66	333	P		P		17 34 40.2	+0.4
	comp=Z,0.4nm,0.6s,baz=150,slow=4.2,SNR=2.3								
NVAR	Mina Array Bea	65.74	325	P		P		17 34 48.2	+1.4
	comp=Z,0.8nm,0.7s,baz=142,slow=7.5,SNR=4.0								
FLWY	Flagg Ranch	66.21	334	P		P		17 34 50.0	+0.3
FLWY				IAmb	IAmb			17 34 51.0	
	comp=Z,7.0nm,1.0s								
BELA	Belgrano 2	66.69	171	P		P		17 34 53.1	+1.0
ULM	Lac du Bonnet	66.71	346	LR		LR		18 07 20.9	
	comp=Z,71nm,18.2s,baz=60,slow=39								
HLID	Hailey	67.49	331	P		P		17 34 58.4	+0.6
ORV	Oroville	68.32	324	P		P		17 35 03.3	+0.3
ORV				IAmb	IAmb			17 35 11.2	
	comp=Z,4.9nm,0.9s								
VNA3	Neumayer Olymp	68.92	161	P		P		17 35 07.6	+1.3
VNA1	Neumayer--Stat	69.19	161	P		P		17 35 09.3	+1.4
TBI	Tubuai	69.26	250	*e*T		T		18 50 17.0	
	comp=Z,9.6nm,0.3s								
SCHQ	Schefferville	69.47	6	LR		LR		18 07 40.0	
	comp=Z,51nm,18.9s,baz=62,slow=38								
VNA2	Neumayer--Watz	69.55	161	P		P		17 35 11.3	+1.2
	baz=298,slow=6.7								
TIAR	Tiarei	69.98	256	*e*T		T		18 51 11.7	
	comp=Z,1.9nm,0.2s								
PPT2	Papeete2	70.19	256	*e*LR		LR		17 56 29.1	
	comp=Z,114nm,30.0s								
SNAA	Sanae	71.15	161	P		P		17 35 20.9	+0.9
SNAA	Sanae	71.15	161	P		P		17 35 20.6	+0.6
SNAA				IAmb	IAmb			17 35 21.5	
	comp=Z,4.7nm,0.7s								
DBIC	Dimbokro	73.79	79	P		P		17 35 37.8	+1.2
	comp=Z,2.8nm,0.8s,baz=177,slow=3.9,SNR=5.5								
DBIC				LR		LR		18 06 06.5	
	comp=Z,253nm,20.9s,baz=217,slow=34								
DBIC	Dimbokro	73.79	79	IAmb	IAmb			17 36 06.3	
	comp=Z,17nm,1.3s								
KOWA	Kowa	76.97	71	P		P		17 35 55.3	+0.4
MORF	Marmelete	81.65	48	*e*P		P		17 36 23.2	+3.2
	comp=Z,66nm,1.5s								
TOA0	Torodi Ar. Sit	81.85	74	P		P		17 36 22.2	+0.7
TORD	Torodi Ar. Bea	81.85	74	P		P		17 36 22.8	+1.3
	comp=Z,20nm,0.9s,baz=264,slow=5.1,SNR=54								
TORD	Torodi Ar. Bea	81.85	74	P		P		17 36 21.9	+0.5
PCVE	Castro Verde	82.23	48	*e*P		P		17 36 26.2	+3.2
	comp=Z,45nm,1.6s								
YKA	Yellowknife Ar	82.38	343	P		P		17 36 24.0	+0.8
	comp=Z,1.7nm,0.9s,baz=150,slow=33,SNR=4.3								
VNDA	Vanda	82.49	191	LR		LR		18 05 20.6	
	comp=Z,46nm,19.2s,baz=129,slow=30								
PBEJ	Beja	82.52	48	*e*P		P		17 36 27.6	+3.1
	comp=Z,29nm,1.8s								
PCBR	Castelo Branco	83.55	46	*e*P		P		17 36 31.6	+1.8
	comp=Z,34nm,1.7s								
PVIS	Viseu	83.63	45	*e*P		P		17 36 32.5	+2.2
	comp=Z,55nm,1.5s								
SYO	Syowa Base	85.44	161⇑	*e*P		P		17 36 38.4	-0.4
SYO	Syowa Base	85.44	161⇑	*e*PP		PP		17 39 53.4	-3.4
ESDC	Sonseca Array	85.97	47	P		P		17 36 43.2	+1.1
	comp=Z,0.9nm,0.8s,baz=260,slow=4.1,SNR=6.7								
SUMG	Summit	90.33	11	P		P		17 37 03.2	+0.6
SUMG	Summit	90.33	11	*i* P		P		17 37 03.2	+0.6
	comp=Z,26nm,0.9s								
SUMG	Summit	90.33	11	*i* P		P		17 37 03.3	+0.6
SUMG				IAmb	IAmb			17 37 04.3	
	comp=Z,26nm,0.9s								
BCAR	Beaver Creek A	92.21	335	P		P		17 37 11.3	+0.2
BOSA	Boshof	92.92	120	LR		LR		18 17 17.0	
	comp=Z,83nm,18.6s,baz=238,slow=34								
PAX	Paxson	93.67	335	P		P		17 37 17.0	-0.9
PAX				IAmb	IAmb			17 37 19.0	
	comp=Z,8.6nm,1.2s								
H11N3	WAKE ISLAND Hyl	19.74	285	T		T		19 53 48.0	
	baz=96,slow=74,SNR=233								
H11N2	WAKE ISLAND Hyl	19.75	285	T		T		19 53 49.0	
	baz=96,slow=74,SNR=633								
H11N1	WAKE ISLAND Hyl	19.75	285	T		T		19 53 42.5	
	baz=96,slow=74,SNR=194								
H11S2	WAKE ISLAND Hyl	19.80	283	T		T		19 53 45.6	
	baz=101,slow=74,SNR=34								
H11S1	WAKE ISLAND Hyl	19.81	283	T		T		19 53 46.6	
	baz=101,slow=74,SNR=50								
H11S3	WAKE ISLAND Hyl	19.82	283	T		T		19 53 49.5	
	baz=101,slow=74,SNR=58								
ASAR	Alice Springs	132.02	218	PKP		PKiKP		17 43 16.3	-0.7
	comp=Z,0.4nm,0.9s,baz=128,slow=1.9,SNR=2.0								
WRA	Warramunga Arr	134.49	222	PKP		PKiKP		17 43 21.3	-0.8
	comp=Z,0.9nm,0.9s,baz=129,slow=1.9,SNR=2.5								
ZALV	Zalesovo Beam	137.87	17	PKP		PKiKP		17 43 26.4	-1.5
	comp=Z,0.8nm,0.4s,baz=304,slow=2.8,SNR=3.2								
MKAR	Makanchi Array	143.08	25	PKP		PKiKP		17 43 36.3	-2.5
	comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=2.4								
KSH	Kashi	145.08	39	PKPbc		PKPdf		17 43 39.9	+0.4
KSH				PP		PP		17 46 59.4	+1.8
KSH				AMB	AMB				
	comp=Z,55nm,5.0s								
SONM	Songino Array	146.65	357	PKPbc		PKiKP		17 43 44.4	-1.9
	comp=Z,2.1nm,0.5s,baz=345,slow=3.0,SNR=5.9								
WMQ	Urumqi	147.66	22	*e*PKPbc		PKPbc		17 43 43.9	-2.5
KSRS	Korea Array	148.63	321	PKPbc		PKiKP		17 43 49.5	-0.9
	comp=Z,1.2nm,1.0s,baz=70,slow=1.9,SNR=5.5								
HHC	Hu-ho-hao-te	152.85	347	*e*PKPbc		PKPdf		17 43 51.8	-0.1
NJ2	Nanjing	157.73	324	*e*PKP		PKPdf		17 43 58.8	+0.2

NEIC ***18*** *17:29:40.8±1.4, 44.˚58N±0.˚08×149.˚2E±0.˚1, h55km±6km, mb4.7/143, Error ellipse: s-maj=12.9km s-min=9.6km az=142.0*

JMA ***18*** *17:29:40.2±0.4, 44.˚61N×149.˚15E, h30km, M4.8*

SKHL ***18*** *17:29:40.2±0.1, 44.˚49N×149.˚29E, h72km±8km, mb5.2/14*

MOS ***18*** *17:29:40.2±1.0, 44.˚60N×149.˚15E, h65km, mb4.9/21, Error ellipse: s-maj=6.0km s-min=5.1km az=125.1*

NIED ***18*** *17:29:40.3, 44.˚61N×149.˚15E, h30km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.11; Mθθ1.30; Mϕϕ-1.41; Mrθ1.21; Mθϕ-1.18; Mϕr0.54; Fault plane solution: M₀2.23000×10¹⁶ NP1:ϕs65.00000°, δ88.00000°, λ144.00000°. NP2:ϕs156.00000°, δ54.00000°, λ2.00000°*

IDC ***18*** *17:29:41.5±0.5, 44.˚67N×149.˚18E, h57km±4km, mb4.1/24, mb1 4.3/33, mb1mx4.2/47, mbtmp4.5/33, MS3.7/10, Ms1 3.7/10, ms1mx3.4/29 Error ellipse: s-maj=11.3km s-min=8.8km az=135.0*

ISC 18 17:29:38.5±0.4, 44.˚47N±0.˚04×149.˚31E±0.˚04, h41km±3km, h41km:pP-P, n464, σ1s52/498, mb4.7/138, MS3.9/15, 31C-23D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
KUR	Kuril'sk	1.28	307	*i* P		Pn	17 30 00.9			+1.0
KUR					AMB	AMB	17 30 01.0			
	16μm,0.8s									
KUR				*i* S		Sn	17 30 16.0			+0.2
KUR					A	A	17 30 19.0			
	19μm,0.4s									
KUR					A	A	17 30 19.0			
	13μm,0.4s									
KUR	Kuril'sk	1.28	307	*d* iPN		Pn	17 30 00.5			+0.6
KUR				*i* S		Sn	17 30 16.5			+0.7
KUR					pmax	pmax				
	comp=E,2μm,0.5s									
KUR					pmax	pmax				
	comp=Z,11μm,0.5s									
KUR					pmax	pmax				
	comp=N,4μm,0.4s									
KUR					smax	smax				
	comp=N,15μm,0.5s									
KUR					smax	smax				
	comp=E,7μm,0.4s									
YUK	Yuzh-Kuril'sk	2.51	261	*i* P		Pn	17 30 18.0			+1.2
YUK					AMB	AMB	17 30 23.0			
	comp=E,2μm,0.4s									
YUK				*i* S		Sn	17 30 46.4			+0.2
YUK					A	A	17 30 51.0			
	comp=E,5μm,0.5s									
YUK					A	A	17 30 51.0			
	comp=E,10μm,0.5s									
YUK	Yuzh-Kuril'sk	2.51	261	*c* iPN		Pn	17 30 18.2			+1.4
YUK				*i* S		Sn	17 30 47.0			+0.8
YUK					pmax	pmax				
	comp=Z,1μm,0.2s									
YUK					pmax	pmax				
	comp=N,397nm,0.1s									
YUK					pmax	pmax				
	comp=E,325nm,0.1s									
YUK					smax	smax				
	comp=N,5μm,0.3s									
YUK					smax	smax				
	comp=E,10μm,0.4s									
YUK					smax	smax				
	comp=N,11μm,1.0s									
YUK					smax	smax				
	comp=E,5μm,1.2s									
GRPR	Tuman	2.58	261	*i* P		Pn	17 30 19.0			+1.2
GRPR					AMB	AMB	17 30 28.0			
	comp=E,1μm,0.3s									
GRPR				*i* S		Sn	17 30 48.0			0.0
GRPR					A	A	17 30 56.0			
	comp=E,7μm,0.4s									
GRPR					A	A	17 30 56.0			
	comp=E,2μm,0.4s									
GRPR	Tuman	2.58	261⇑	*i* PN		Pn	17 30 19.4			+1.6
GRPR				*i* S		Sn	17 30 48.0			0.0
GRPR					pmax	pmax				
	comp=Z,1μm,0.3s									
GRPR					pmax	pmax				
	comp=E,429nm,0.2s									
GRPR					pmax	pmax				
	comp=N,744nm,0.3s									
GRPR					smax	smax				
	comp=N,7μm,0.3s									
GRPR					smax	smax				
	comp=E,2μm,0.2s									
GRPR					smax	smax				
	comp=E,5μm,1.1s									
GRPR					smax	smax				
	comp=N,7μm,0.5s									
NEM2	Nemuro 2	2.80	248	P		Pn	17 30 21.2			+0.4
NEM2				*e*S		Sn	17 30 51.5			-1.8
NMR	Nemuro--Hokkai	2.81	248	*i* P		Pn	17 30 21.0			+0.1
NMR				*i* S		Sn	17 30 52.0			-1.5
NMR	Nemuro--Hokkai	2.81	248⇑	*i* PN		Pn	17 30 21.3			+0.4
NMR				*i* S		Sn	17 30 53.0			-0.5
GLVR	Golovnino	2.82	256	*i* P		Pn	17 30 22.0			+0.9
GLVR					AMB	AMB	17 30 29.0			
	comp=N,2μm,0.4s									
GLVR				*i* S		Sn	17 30 54.0			+0.2
GLVR					A	A	17 30 58.0			
	comp=N,10μm,0.4s									
GLVR					A	A	17 30 58.0			
	comp=N,7μm,0.4s									
GLVR	Golovnino	2.82	256⇑	*i* PN		Pn	17 30 22.7			+1.6
GLVR				*i* S		Sn	17 30 54.8			+1.0
GLVR					pmax	pmax				
	comp=E,659nm,0.4s									
GLVR					pmax	pmax				
	comp=Z,1μm,0.4s									
GLVR					pmax	pmax				
	comp=N,421nm,0.2s									
GLVR					smax	smax				
	comp=N,10μm,0.2s									
GLVR					smax	smax				
	comp=E,7μm,0.2s									
RUSJ	Misakicho	2.94	264⇓	*i* PN		Pn	17 30 25.3			+2.6
RUSJ				*i* S		Sn	17 30 59.3			+2.6
JRA	Rausu	3.06	262	P		Pn	17 30 26.5			+2.2
JRA				*e*S		Sn	17 31 00.5			+0.9
JNK	Nakash	3.42	257	P		Pn	17 30 30.9			+1.5
JNK				*e*S		Sn	17 31 08.8			+0.1
JAK	Akkeshi	3.65	248	P		Pn	17 30 33.2			+0.8
JAK				*e*S		Sn	17 31 12.7			-1.5
JTKR	Abashiri--Toko	3.91	265	P		Pn	17 30 38.5			+2.5
JAR	Ashorobuto	4.17	256	P		Pn	17 30 41.3			+1.7
JAR				*e*S		Sn	17 31 27.9			+0.8
JOB	Onbets	4.26	250	P		Pn	17 30 42.5			+1.6
JOB				*e*S		Sn	17 31 29.5			+0.1
JMP	Maruseppu	4.30	266	P		Pn	17 30 44.1			+2.7
JCH	Churui	4.70	249	P		Pn	17 30 47.6			+0.7
JCH				*e*S		Sn	17 31 39.4			-0.7
JKK2	Kamakawa 2	4.75	265	P		Pn	17 30 50.8			+3.1
JSE	Soyaes	4.82	278	P		Pn	17 30 51.8			+3.3
JKA	Kamikawa-asahi	4.83	268	*e*P		Pn	17 30 52.1			+3.5
JKA	Kamikawa-asahi	4.83	268	Pn		Pn	17 30 51.8			+3.2
JKA	Kamikawa-asahi	4.83	268			Sn	17 31 46.3			+3.0
ASAJ	Asahikawa	4.83	268	P		Pn	17 30 52.1			+3.4
	comp=E,7.3nm,0.3s,baz=119,slow=9.5,SNR=64									
ASAJ					S	Sn	17 31 46.3			+3.0
	comp=E,11nm,0.3s,baz=188,slow=15,SNR=1.9									
ASAJ					LR	LR	17 32 53.3			
	comp=E,1μm,20.1s,baz=102,slow=40									
ASAJ	Asahikawa	4.83	268	P		Pn	17 30 52.2			+3.5
JFR	Furan	5.03	257	P		Pn	17 30 54.6			+3.2
ERM	Erimo	5.12	244	*ce* PN		Pn	17 30 55.0			+2.4
ERM					pmax	pmax				
	comp=Z,511nm,1.0s							

PAU AMB AMB 17 31 45.2
comp=Z,110nm,0.5s
PAU eS Sn 17 33 13.5 -3.0
TEY Ternei 9.06 278 eP Pn 17 31 48.8 +2.1
TEY AMB AMB 17 31 49.7
comp=Z,10.0nm,0.5s
TEY Ternei 9.06 278⇑ ePN Pn 17 31 48.8 +2.1
TEY pmax pmax
comp=E,10.0nm,0.9s
TEY pmax pmax
comp=Z,20nm,1.3s
TEY pmax pmax
comp=N,10.0nm,1.5s
JMM Marumori 9.20 227 Pn 17 31 46.9 -1.6
JYA Atsumi 9.28 234 P Pn 17 31 49.8 +0.1
JFK Kawauchi 9.54 225 P Pn 17 31 52.0 -1.3
OKH Okha 10.01 338 eP Pn 17 32 03.6 +4.1
JFY Yanaizu 10.12 229 P Pn 17 32 01.1 -0.1
PEA0B Petropavlovsk- 10.26 30 PN Pn 17 32 04.0 +0.9
PEA0B Petropavlovsk- 10.26 30 Pn Pn 17 32 04.0 +0.9
PETK Petropavlovsk- 10.26 30 P Pn 17 32 04.3 +1.2
comp=N,3.4nm,0.3s,baz=212,slow=14,SNR=92
PETK LR LR 17 36 28.9
comp=N,163nm,19.4s,baz=223,slow=40
PETK Petropavlovsk- 10.26 30 Pn 17 32 03.4 +0.2
PET Petropavlovsk 10.55 32 eP Pn 17 32 08.2 +1.2
PET eS Sn 17 34 00.4 -3.2
GRNR Gornyy 10.73 311 eP Pn 17 32 14.0 +4.4
GRNR AMB AMB 17 32 15.0
comp=N,9.0nm,1.0s
GRNR AMB AMB 17 32 15.0
comp=N,10.0nm,1.0s
GRNR Gornyy 10.73 311⇓ iPN Pn 17 32 14.0 +4.4
GRNR pmax pmax
comp=N,9.0nm,1.1s
GRNR pmax pmax
comp=E,1.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR smax smax
comp=N,3.0nm,0.7s
GRNR MLR MLR
comp=E,230nm,17.0s
GRNR MLR MLR
comp=N,160nm,18.0s
GRNR MLR MLR
comp=Z,250nm,17.0s
JYT Yasato 10.77 223 Pn Pn 17 32 08.8 -1.3
MAJO Matsushiro 11.57 231 *c iPN Pn 17 32 20.6 -0.4
MAJO Matsushiro 11.57 231 Pn Pn 17 32 20.9 -0.1
MAT Matsushiro 11.57 231 P Pn 17 32 20.3 -0.7
MAT S Sn 17 34 28.2 -0.6
MJAR Matsushiro Arr 11.57 231 P Pn 17 32 20.8 -0.2
comp=Z,0.4nm,0.3s,baz=25,slow=14,SNR=49
MJAR S Sn 17 34 27.5 -1.3
comp=Z,0.1nm,0.3s,baz=20,slow=22,SNR=2.0
USRK Ussuriysk Ar. 12.41 275 P Pn 17 32 33.8 +1.3
baz=88,slow=13,SNR=24
USRK LR LR 17 37 26.9
comp=Z,333nm,19.2s,baz=78,slow=38
USRK Ussuriysk Ar. 12.41 275 Pn Pn 17 32 33.4 +1.0
USA0B Ussuriysk Arra 12.41 275 PN Pn 17 32 33.3 +0.9
USA0B Ussuriysk Arra 12.41 275 Pn Pn 17 32 33.3 +0.9
JGF Kuroka 12.72 230 Pn Pn 17 32 37.5 +0.6
INU Inuyama 13.10 230 Pn Pn 17 32 41.9 -0.1
JHJ Hachijo jima 2 13.53 216 P P 17 32 52.5 -3.7
comp=Z,8.9nm,0.3s,baz=12,slow=20,SNR=1.4
EKMR Ekimchan 13.78 314 eP Pn 17 32 50.0 -1.1
EKMR AMB AMB 17 32 56.6
comp=Z,44nm,1.0s
JWT Wachi 14.06 234 Pn Pn 17 32 54.1 -0.9
MDJ Mudanjiang 14.06 278 P Pn 17 32 52.3 -2.7
MDJ sP P 17 33 01.8 -0.2
MDJ S Sn 17 35 34.4 +4.7
MDJ sS S 17 35 42.8 -6.7
MDJ SS SnSn 17 35 47.0 +5.0
MDJ Mudanjiang 14.06 278 ScS ScS 17 45 10.4 -10
MDJ pmax pmax
comp=Z,6.0nm,1.9s
MDJ pmax pmax
comp=Z,140nm,4.1s
MDJ LR LR
comp=N,250nm,17.5s
MDJ LR LR
comp=E,280nm,18.1s
MDJ LR LR
comp=Z,520nm,22.9s
MDJ Mudanjiang 14.06 278 Pn Pn 17 32 55.2 +0.2
MA2 Magadan 15.16 3 P Pn 17 33 09.9 +0.3
comp=Z,0.7nm,0.3s,baz=183,slow=14,SNR=1.5
MA2 Magadan 15.16 3 P Pn 17 33 09.9 +0.3
MA2 pmax pmax
comp=Z,139nm,1.8s
MA2 Magadan 15.16 3 IAmb IAmb 17 33 11.0
comp=Z,140nm,1.8s
JHS Saijyo 15.61 238 Pn 17 33 15.0 -0.6
BMKR Bomnak 16.70 315 eP Pn 17 33 29.0 -0.4
BMKR AMB AMB 17 33 34.5
comp=Z,7.0nm,0.8s
ZEA Zeya 17.10 311 eP Pn 17 33 32.5 -1.8
ZEA AMB AMB 17 33 51.8
comp=Z,30nm,1.0s
ZEA Zeya 17.10 311 eP P 17 33 36.8 +1.2
ZEA *e* 17 36 45.8
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA pmax pmax
comp=Z,100nm,2.9s
CN2 Changchun 17.13 276 eP P 17 33 35.3 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KROS Kirovskiy 17.54 313 eP Pn 17 33 38.0 -1.8
KROS AMB AMB 17 33 48.5
comp=Z,10.0nm,1.0s
KSRS Korea Array 17.58 254 P P 17 33 42.8 +1.8
comp=Z,0.4nm,0.3s,baz=63,slow=10,SNR=19
KSRS LR LR 17 39 14.8
comp=Z,111nm,21.1s,baz=62,slow=33
KS19 Wonju Array Si 17.59 254 P Pn 17 33 40.5 -0.1
JNU Nakatsue 18.25 238 P Pn 17 33 50.9 +2.3
comp=Z,0.3nm,0.3s,baz=68,slow=5.4,SNR=3.2
JNU Nakatsue 18.25 238 P Pn 17 33 48.8 +0.2
JCJ Chichijima 18.26 201 P Pn 17 33 50.3 +1.6
comp=Z,4.2nm,0.3s,baz=249,slow=22,SNR=2.2
TJN Taejon 18.52 252 *ce*P Pn 17 33 52.0 +0.2
SEY Seymchan 18.59 4 P P 17 33 51.6 -0.3
comp=Z,0.5nm,0.3s,baz=169,slow=8.9,SNR=13
YAK Yakutsk 21.00 334 eP P 17 34 16.4 -1.7
YAK Yakutsk 21.00 334 P P 17 34 16.4 -1.7
YAK pmax pmax
comp=Z,45nm,0.9s
YAK Yakutsk 21.00 334 P 17 34 16.4 -1.7
YAK IAmb IAmb 17 34 37.6
comp=Z,45nm,0.9s
BJT Baijiatuau 24.83 271 P P 17 34 55.9 -0.9
BJT pmax pmax
comp=Z,20nm,1.1s
BJT Baijiatuau 24.83 271 P P 17 34 55.9 -0.9
NJ2 Nanjing 26.77 253 eP P 17 35 15.6 +1.2
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
HHC Hu-ho-hao-te 27.83 276 eP P 17 35 25.0 +1.0
HHC S S 17 40 03.9 -0.4
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,110nm,4.9s
HHC LR LR
comp=N,120nm,12.4s
HHC LR LR
comp=E,240nm,14.9s
HHC LR LR
comp=Z,210nm,15.9s
H11N2 WAKE ISLAND Hy 28.69 144 T T 18 06 29.5
baz=334,slow=76,SNR=747
H11N1 WAKE ISLAND Hy 28.70 144 T T 18 06 28.4
baz=334,slow=76,SNR=841
H11N3 WAKE ISLAND Hy 28.71 144 T T 18 06 26.0
baz=334,slow=76,SNR=660
BTO Baotou 29.01 276 eP P 17 35 35.3 +0.8
ULN Ulaanbaatar 29.19 292 eP P 17 35 36.3 +0.1
ULN Ulaanbaatar 29.19 292 *ce*P P 17 35 36.3 +0.1
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 29.19 292 P P 17 35 34.3 -1.9
SONM Songino Array 29.64 292 P P 17 35 40.2 +0.2
comp=Z,3.0nm,0.7s,baz=82,slow=7.5,SNR=9.8
SONM LR LR 17 48 18.4
comp=Z,238nm,20.3s,baz=59,slow=38
SONM Songino Array 29.64 292 P P 17 35 38.7 -1.3
H11S1 WAKE ISLAND Hy 29.70 145 T T 18 07 41.2
baz=335,slow=76,SNR=706
H11S3 WAKE ISLAND Hy 29.71 145 T T 18 07 49.9
baz=335,slow=76,SNR=453
H11S2 WAKE ISLAND Hy 29.72 145 T T 18 07 43.0
baz=335,slow=76,SNR=483
XAN Xi'an 32.66 265 P P 17 36 14.8 +8.1
XAN pP sP 17 36 31.8 +10
XAN sP pwP 17 36 39.9 +19
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN LR LR
comp=E,120nm,12.3s
XAN LR LR
comp=Z,250nm,18.4s
ENH Enshi 34.32 259 P P 17 36 20.6 -0.6
ENH IAmb IAmb 17 36 42.7
comp=Z,13nm,1.2s
LZH Lanzhou 35.30 272 eP P 17 36 31.0 +1.3
LZH pP pP 17 36 35.3 -4.7
LZH sP sP 17 36 37.8 -6.6
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.3s
LZH LR LR
comp=N,140nm,16.3s
LZH LR LR
comp=E,140nm,14.1s
LZH LR LR
comp=Z,160nm,17.3s
TTA Tatalina 35.89 40 P P 17 36 36.0 +1.6
TTA pmax pmax
comp=Z,15nm,0.9s
TTA Tatalina 35.89 40 P P 17 36 36.0 +1.6
TTA IAmb IAmb 17 36 36.8
comp=Z,15nm,0.9s
GTA Gaotai 36.70 280⇓ P P 17 36 42.6 +0.9
GTA pP pwP 17 36 54.5 -0.3
GTA sP sP 17 36 59.4 +2.4
GTA pmax pmax
comp=Z,24nm,0.9s
GTA pmax pmax
comp=Z,70nm,4.7s
GTA LR LR
comp=N,130nm,16.7s
GTA LR LR
comp=E,110nm,16.0s
GTA LR LR
comp=Z,110nm,16.0s
PPLA Purkeypile 37.64 40 P P 17 36 50.9 +1.6
KTH Kantishna Hill 38.22 39 P P 17 36 55.7 +1.5
TRF Thorofare Moun 38.51 39 P P 17 36 56.2 -0.4
TRF IAmb IAmb 17 36 59.5
comp=Z,6.8nm,0.8s
GYA Guiyang 38.60 257 eP P 17 36 57.9 +0.1
GYA pP sP 17 37 17.9 +5.0
GYA PP PP 17 38 25.5 -1.1
GYA S S 17 42 53.4 +2.1
GYA sS sS 17 43 33.8 +26
GYA SS SnSn 17 45 32.8 -8.4
GYA pmax pmax
comp=Z,7.0nm,0.6s
GYA pmax pmax
comp=Z,110nm,4.6s
COLD Coldfoot 38.71 33 P P 17 36 58.9 +0.8
BWN Browne 38.88 38 P P 17 37 01.8 +2.3
TOLK Toolik Lake Re 39.08 31 P P 17 37 02.0 +0.8
RND Reindeer 39.15 39 P P 17 37 02.6 +0.7
RND pmax pmax
comp=Z,17nm,1.2s
RND Reindeer 39.15 39 P P 17 37 02.6 +0.7
RND IAmb IAmb 17 37 16.8
comp=Z,16nm,1.2s
MDM Murphy Dome 39.41 36 P P 17 37 05.1 +1.1
MDM IAmb IAmb 17 37 06.5
comp=Z,12nm,0.8s
KNK Knik Glacier 39.42 42 P P 17 37 04.6 +0.4
SML Sawmill 39.46 41 P P 17 37 05.2 +0.7
WRH Wood River Hil 39.48 37 P P 17 37 05.2 +0.7
WRH IAmb IAmb 17 37 23.9
comp=Z,12nm,1.2s
COLA College 39.58 37 P P 17 37 05.7 +0.4
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 39.58 37 P P 17 37 05.7 +0.4
CCB Clear Creek Bu 39.60 37 P P 17 37 05.8 +0.3
DHY Denali Highway 39.83 39 P P 17 37 08.4 +0.7
SCM Sheep Creek Mo 39.93 41 P P 17 37 09.1 +0.7
SCM pmax pmax
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 39.93 41 P P 17 37 09.1 +0.7
SCM IAmb IAmb 17 37 25.7
comp=Z,16nm,1.0s
HDA Harding Lake 39.97 37 P P 17 37 08.6 -0.1
HDA IAmb IAmb 17 37 10.2
comp=Z,7.5nm,0.8s
IL31 39.99 37 P P 17 37 08.8 +0.1
IL31 IAmb IAmb 17 37 11.9
comp=Z,8.7nm,0.8s
ILAR Eielson Array 39.99 37 P P 17 37 09.4 +0.7
comp=Z,5.9nm,0.7s,baz=259,slow=7.5,SNR=37
KLU Klutina 40.63 42 P P 17 37 14.7 +0.4
KLU IAmb IAmb 17 37 34.7
comp=Z,12nm,1.0s
FYU Fort Yukon 40.65 34 P P 17 37 15.3 +1.1
RIDG Independent Ri 40.93 38 P P 17 37 16.7 +0.1
RIDG IAmb IAmb 17 37 30.7
comp=Z,16nm,0.9s
DOT Dot Lake 41.28 38 P P 17 37 19.8 +0.3
DGZ Jazzator, Alta 41.40 300 *i* P P 17 37 20.3 -0.5
DGZ pmax pmax
comp=Z,2.0nm,0.8s
HMT Hamilton 41.58 43 P P 17 37 22.2 +0.2
HMT IAmb IAmb 17 37 24.4
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 41.81 307 P P 17 37 23.2 -0.7
comp=Z,0.8nm,0.3s,baz=66,slow=7.4,SNR=4.4
ZALV pP **sP** 17 37 37.5 -1.8
comp=Z,0.7nm,0.3s,baz=91,slow=6.3,SNR=3.7
ZALV PcP **PcP** 17 39 20.0 +0.7
comp=Z,1.9nm,0.7s,baz=72,slow=2.7,SNR=6.0
ZALV LR LR 17 55 45.1
comp=Z,118nm,20.1s,baz=86,slow=38
ZALV Zalesovo Beam 41.81 307 P P 17 37 22.0 -1.9
VRDI Verde Repeater 41.84 42 P P 17 37 24.5 +0.2
MCARA McCarthy VSAT 42.03 42 P P 17 37 25.8 +0.2
MCARA IAmb IAmb 17 37 57.6
comp=Z,24nm,1.4s
CRQM Cirque 42.07 43 P P 17 37 27.3 +1.1
KMI Kunming 42.18 259⇑ P P 17 37 38.1 +11
KMI pmax pmax
comp=Z,16nm,0.7s
BALM Baldy 42.41 42 P P 17 37 30.0 +1.2
BALM IAmb IAmb 17 37 31.6
comp=Z,16nm,1.2s
EGAK Eagle 42.44 37 P P 17 37 29.4 +0.5
EGAK IAmb IAmb 17 37 30.6
comp=Z,16nm,1.1s
ISLE Juniper Island 42.48 43 P P 17 37 30.3 +0.8
ISLE IAmb IAmb 17 37 47.2
comp=Z,15nm,0.8s
BARN Barnard Glacie 42.73 42 P P 17 37 31.7 +0.2
BARN IAmb IAmb 17 37 49.6
comp=Z,11nm,0.9s
YAH Yahtse 42.81 43 P P 17 37 33.0 +0.8
CTGM Chitina Glacie 42.90 42 P P 17 37 32.8 -0.1
CTGM IAmb IAmb 17 37 51.3
comp=Z,10nm,0.8s
WMQ Urumqi 43.27 292 eP P 17 37 36.5 +0.5
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ pmax pmax
comp=Z,38nm,3.7s
WMQ LR LR
comp=N,260nm,29.1s
WMQ LR LR
comp=E,510nm,28.8s
WMQ LR LR
comp=Z,86nm,27.1s
ZSN Zaisan 43.75 298 eP P 17 37 38.1 -1.7
ZSN Zaisan 43.75 298 eP P 17 37 38.0 -1.7
HYT Haines Junctio 44.77 42 P P 17 37 48.5 +0.7
HYT IAmb IAmb 17 37 51.4
comp=Z,19nm,1.0s
INK Inuvik 45.00 31 P P 17 37 49.2 -0.1
INK pmax pmax
comp=Z,16nm,1.2s
INK Inuvik 45.00 31 P P 17 37 49.2 -0.1
INK IAmb IAmb 17 37 54.3
comp=Z,16nm,1.2s
MK31 Makanchi Array 45.63 298 P P 17 37 53.4 -1.4
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 45.63 298 P P 17 37 53.4 -1.4
MK31 IAmb IAmb 17 37 55.9
comp=Z,8.5nm,0.8s
MKAR Makanchi Array 45.63 298 P P 17 37 54.5 -0.2
comp=Z,9.2nm,0.8s,baz=72,slow=7.9,SNR=72
MKAR PcP **PcP** 17 39 33.0 +0.6
comp=Z,1.0nm,0.7s,baz=97,slow=5.0,SNR=1.3
MKAR LR LR 17 58 13.0
comp=Z,217nm,18.9s,baz=71,slow=38
MKAR Makanchi Array 45.63 298 P P 17 37 53.7 -1.1
MAKZ Makanchi 45.82 298 P P 17 37 55.5 -0.7
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 45.82 298 P P 17 37 55.5 -0.7
MAKZ IAmb IAmb 17 37 57.4
comp=Z,7.5nm,0.8s
KURK Kurchatov 46.42 304 eP P 17 37 59.4 -1.4
KURK Kurchatov 46.42 304 *ce*P P 17 37 59.4 -1.4
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 46.42 304 P P 17 37 59.5 -1.3
SIJI Sorong 47.91 205 P P 17 38 15.1 +2.2
comp=Z,14nm,0.8s,baz=21,slow=7.5,SNR=9.3
TDK Taldyqorghan 48.84 297 eP P 17 38 19.1 -0.6
TDK Taldyqorghan 48.84 297 eP P 17 38 19.1 -0.6
CHTO Chiang Mai 48.97 255 P P 17 38 21.0 0.0
CHTO pmax pmax
comp=Z,9.0nm,1.3s
CHTO Chiang Mai 48.97 255 P P 17 38 21.0 0.0
CHTO IAmb IAmb 17 38 37.2
comp=Z,8.5nm,1.2s
SHLS Shalkode 48.98 294 eP P 17 38 19.0 -2.0
comp=Z,3.0nm,0.4s
SHLS Shalkode 48.98 294 eP P 17 38 19.0 -2.0
SHLS pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 49.21 255 P P 17 38 24.4 +1.5
comp=Z,1.1nm,0.6s,baz=42,slow=7.5,SNR=9.6
CMAR pP **sP** 17 38 38.0 -0.2
comp=Z,1.9nm,0.8s,baz=40,slow=7.2,SNR=5.0
CMAR LR LR 18 01 27.2
comp=Z,47nm,18.1s,baz=220,slow=39
UZB Uzynbulak 49.27 295 eP P 17 38 23.1 -0.1
comp=Z,2.9nm,0.6s
UZB Uzynbulak 49.27 295 eP P 17 38 23.1 -0.1
UZB pmax pmax
comp=Z,3.0nm,0.6s
KPKS Kokpek 49.35 295 eP P 17 38 24.0 +0.3
comp=Z,12nm,0.9s
KPKS Kokpek 49.35 295 eP P 17 38 24.0 +0.3
KPKS pmax pmax
comp=Z,12nm,0.9s
SHL Shillong 49.62 268 P P 17 38 25.3 -0.9
SHL pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 49.62 268 P P 17 38 25.3 -0.9
SHL IAmb IAmb 17 38 40.3
comp=Z,9.1nm,0.8s
SATY Saty 49.71 295 eP P 17 38 26.8 +0.2
comp=Z,5.9nm,0.9s
SATY Saty 49.71 295 eP P 17 38 26.8 +0.2
SATY pmax pmax
comp=Z,6.0nm,0.9s
PRZ Przheval'sk 49.98 294 P P 17 38 28.0 -0.7
PRZ pmax pmax
comp=Z,12nm,0.9s
PRZ Przheval'sk 49.98 294 P P 17 38 28.0 -0.7
BRZS Berezniki 50.21 305 eP P 17 38 28.7 -1.4
comp=Z,5.3nm,0.5s
BRZS Berezniki 50.21 305 eP P 17 38 28.6 -1.4
BRZS pmax pmax
comp=Z,5.0nm,0.5s
CHKK Chushkaly 50.26 296 eP P 17 38 29.9 -0.8
CHKK Chushkaly 50.26 296 eP P 17 38 29.8 -0.8
BRVK Borovoye 50.29 310 eP P 17 38 29.9 -0.8
BRVK Borovoye 50.29 310 *ce*P P 17 38 29.9 -0.8
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 50.29 310 P P 17 38 29.8 -0.8
MDOK Medeo 50.54 296 eP P 17 38 33.4 +0.5
MDOK Medeo 50.54 296 eP P 17 38 33.4 +0.5
KUU Kurty 50.66 297 eP P 17 38 32.1 -1.6
KUU Kurty 50.66 297 eP P 17 38 32.0 -1.6
TNSS Tian-Shan 50.67 295 eP P 17 38 35.0 +0.8
TNSS Tian-Shan 50.67 295 eP P 17 38 34.9 +0.8
SANI Sanana 50.78 211 P P 17 38 35.0 +0.3
comp=Z,498nmcomp=Z,42nm,1.1s
MTBS Maitube 50.96 296 eP P 17 38 35.8 -0.1
MTBS Maitube 50.96 296 eP P 17 38 35.8 -0.1
ULHL Ulahol 51.50 295 P P 17 38 41.1 +0.9
SNR=8.1
BTLS Baital 51.58 299 eP P 17 38 38.1 -2.3
BTLS Baital 51.58 299 eP P 17 38 38.1 -2.3
BOOM Boomskoye usch 51.58 295 P P 17 38 40.7 0.0
BOOM pmax pmax
comp=Z,13nm,0.7s
BOOM Boomskoye usch 51.58 295 P P 17 38 40.7 0.0
TKM2 Tokmak 2 51.60 296 P P 17 38 41.7 +0.8
SNR=8.1
SGDS Sogindy 51.96 297 eP P 17 38 42.5 -0.9
SGDS Sogindy 51.96 297 eP P 17 38 42.5 -0.9
USP Ospenovka 52.13 297 P P 17 38 45.5 +0.8
SNR=12
KBK Karagaybulak 52.14 296 P P 17 38 45.7 +0.8
SNR=12
AAK Ala-Archa 52.44 296 P P 17 38 47.3 +0.2
SNR=8.0
AAK Ala-Archa 52.44 296 eP P 17 38 47.0 -0.1
AAK Ala-Archa 52.44 296 *ce*P P 17 38 47.0 -0.1
AAK pmax pmax
comp=Z,37nm,1.7s
EKS2 Erkin-Say 52.89 296 P P 17 38 51.0 +0.6
SNR=13
KSH Kashi 53.04 292 P P 17 38 55.3 +3.8
KSH S S 17 46 22.8 +4.2
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,97nm,3.7s
KSH LR LR
comp=N,73nm,6.0s
KSH LR LR
comp=E,82nm,5.4s
KSH LR LR
comp=Z,260nm,13.2s
RES Resolute Bay 53.83 17 P P 17 38 56.8 +0.2
comp=Z,2.6nm,0.4s,baz=2.6,slow=9.0,SNR=17
YKA Yellowknife Ar 54.34 35 P P 17 39 01.6 +1.1
comp=Z,3.7nm,0.8s,baz=298,slow=7.3,SNR=6.2
KK31 Karatay Array 54.75 298 P P 17 39 03.7 -0.1
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KK31 Karatay Array 54.75 298 P P 17 39 03.7 -0.1
KK31 IAmb IAmb 17 39 04.5
comp=Z,6.6nm,0.9s
KKAR Karatay Array 54.75 298 P P 17 39 03.7 -0.1
KKAR Karatay Array 54.75 298 P P 17 39 03.3 -0.5
KKAR IAmb IAmb 17 39 04.6
comp=Z,6.6nm,0.9s
KKAR Karatay Array 54.75 298 P P 17 39 03.7 -0.1
ARU Arti 54.88 317 eP P 17 39 03.2 -1.3
ARU Arti 54.88 317 *c iP P 17 39 03.3 -1.3
ARU *PP **sP** 17 39 19.2 -1.2
ARU 17 41 02.9
ARU S S 17 46 40.0 -2.7
ARU SS SS 17 50 19.7 -6.0
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 54.88 317 P P 17 39 03.4 -1.2

ARU IAmb IAmb 17 39 04.8
comp=Z,4.2nm,0.6s
KSM Kuching 54.96 230 P **P** **17 39 07.0 +1.5**
KSM IAmb IAmb 17 39 08.8
comp=Z,9.4nm,1.0s
IUG luzhnay 55.54 298 *e*P **P** **17 39 09.5 -0.2**
IUG luzhnay 55.54 298 *e*P **P** **17 39 09.5 -0.2**
BTK Batken 56.14 295 P **P** **17 39 14.1 +0.1**
BTK pmax pmax
comp=Z,19nm,1.2s
BTK Batken 56.14 295 P **P** **17 39 14.1 +0.1**
GAR Garm 57.04 294 P **P** **17 39 20.0 -0.4**
ABKAR Akbulak array 57.82 309 P **P** **17 39 25.4 -0.2**
ABKAR IAmb IAmb 17 39 26.2
comp=Z,9.8nm,1.1s
ABKAR PcP **PcP** **17 40 13.4 -4.3**
ABKAR Akbulak array 57.82 309 P **P** **17 39 25.4 -0.2**
ABKAR PcP **PcP** **17 40 13.7 -4.0**
CHGR Chuyangaron 57.98 295 P **P** **17 39 26.4 -0.6**
NIL Nilore 58.06 287 P **P** **17 39 28.1 +0.5**
NIL pmax pmax
comp=Z,25nm,1.1s
NIL Nilore 58.06 287 P **P** **17 39 28.1 +0.5**
ARCES ARCESS Array B 59.11 340 P **P** **17 39 32.5 -1.8**
comp=Z,3.0nm,1.0s,baz=46,slow=8.1,SNR=10
MTN Manton Dam 59.38 201 P **P** **17 39 38.8 +2.1**
KBL Kabul 60.40 291 P **P** **17 39 43.0 -0.9**
KBL pmax pmax
comp=Z,15nm,0.9s
KBL Kabul 60.40 291 P **P** **17 39 43.0 -0.9**
E09A Wood Farm, Sta 61.13 52 P **P** **17 39 48.9 +0.5**
E09A IAmb IAmb 17 40 04.5
comp=Z,12nm,1.4s
J08A Circle Bar Ran 62.78 55 P **P** **17 40 01.1 +1.3**
J08A IAmb IAmb 17 40 17.5
comp=Z,7.8nm,1.1s
MSO Missoula 63.27 50 P **P** **17 40 03.8 +0.9**
MSO IAmb IAmb 17 40 19.8
comp=Z,7.7nm,1.1s
BEKR Beckworth 63.74 59 P **P** **17 40 06.9 +0.7**
BEKR IAmb IAmb 17 40 24.3
comp=Z,23nm,1.8s
PAHR Pah Rah Range 64.43 59 **P** **17 40 11.9 +1.2**
PAHR IAmb IAmb 17 40 28.3
comp=Z,18nm,1.6s
HRY Holter Researc 64.49 49 P **P** **17 40 10.5 -0.5**
LRM Limekiln Ridge 64.71 50 P **P** **17 40 12.2 -0.4**
CMB Columbia Colle 64.83 61 P **P** **17 40 13.9 +0.7**
CMB pmax pmax
comp=Z,11nm,1.5s
CMB Columbia Colle 64.83 61 P **P** **17 40 13.9 +0.7**
CMB IAmb IAmb 17 40 30.2
comp=Z,11nm,1.4s
FINES FINESS Array B 64.93 334 P **P** **17 40 11.9 -1.5**
comp=Z,3.0nm,0.7s,baz=38,slow=7.1,SNR=16
BOZ Bozeman (W) 65.30 50 P **P** **17 40 16.8 +0.5**
BOZ pmax pmax
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 65.30 50 P **P** **17 40 16.8 +0.5**
WB0 Warramunga Arr 65.36 195 P **P** **17 40 17.7 +1.1**
WB0 IAmb IAmb 17 40 37.6
comp=Z,8.5nm,0.9s
GEYT Alibeck 65.45 300 P **P** **17 40 17.3 +0.1**
comp=Z,4.8nm,0.7s,baz=38,slow=6.0,SNR=9.7
GEYT LR LR 18 11 12.5
comp=Z,60nm,18.6s,baz=175,slow=38
GEYT Alibeck 65.45 300 IAmb IAmb 17 40 18.4
comp=Z,3.9nm,0.7s
WR0 Warramunga Arr 65.52 195 P **P** **17 40 18.4 +0.8**
WR0 IAmb IAmb 17 40 22.2
comp=Z,7.4nm,1.1s
WRAB Tennant Creek 65.53 195*ce*P **P** **17 40 18.7 +1.0**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 65.53 195 P **P** **17 40 18.6 +0.9**
WRAB IAmb IAmb 17 40 39.3
comp=Z,14nm,1.2s
WB2 Warramunga Arr 65.54 195 P **P** **17 40 18.9 +1.2**
WB2 IAmb IAmb 17 40 38.1
comp=Z,7.5nm,0.8s
WRA Warramunga Arr 65.54 195 P **P** **17 40 19.4 +1.6**
comp=Z,5.0nm,0.8s,baz=16,slow=6.7,SNR=27
WRA pP **pwP** **17 40 35.6 +1.4**
comp=Z,5.6nm,0.8s,baz=15,slow=6.8,SNR=9.5
WRA Warramunga Arr 65.54 195 P **P** **17 40 18.3 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 65.54 195 P **P** **17 40 18.3 +0.5**
KVN Kaiserville 65.62 59 P **P** **17 40 19.8 +1.3**
KVN pmax pmax
comp=Z,10.0nm,1.2s
KVN Kaiserville 65.62 59 P **P** **17 40 19.8 +1.3**
KVN IAmb IAmb 17 40 36.3
comp=Z,10nm,1.2s
OBN Obninsk 65.65 324 *e*P **P** **17 40 18.4 +0.3**
OBN Obninsk 65.65 324⇓*e*P **P** **17 40 18.4 +0.3**
OBN *PP **sP** **17 40 33.0 -0.8**
OBN *SP pwP 17 40 40.0 +7.8
OBN pmax pmax
comp=Z,13nm,0.4s
OBN MLR MLR
comp=Z,88nm,17.0s
OBN Obninsk 65.65 324 P **P** **17 40 17.6 -0.5**
LHV Little Huntoon 65.87 60 P **P** **17 40 21.5 +1.7**
NVAR Mina Array Bea 65.88 59 P **P** **17 40 21.9 +1.7**
comp=Z,1.2nm,0.7s,baz=287,slow=8.2,SNR=6.2
NVAR Mina Array Bea 65.88 59 P **P** **17 40 21.5 +1.3**
FITZ Fitzroy Crossi 65.91 205 P **P** **17 40 22.5 +2.4**
comp=Z,3.7nm,0.8s,baz=48,slow=6.6,SNR=6.3
FITZ Fitzroy Crossi 65.91 205 P **P** **17 40 21.6 +1.5**
FITZ IAmb IAmb 17 40 23.1
comp=Z,6.6nm,1.0s
VRH Novokhopyorsk 66.01 319 *e*P **P** **17 40 17.5 -3.0**
VRH pmax pmax
comp=Z,20nm,1.0s
YHB Horse Butte 66.07 50 P **P** **17 40 21.1 -0.3**
YHH Holmes Hill 66.24 50 P **P** **17 40 23.3 +0.8**
LPSR Galich'ya Gora 66.35 321 *e*P **P** **17 40 20.9 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
YNE Yellowstone No 66.56 49 P **P** **17 40 25.8 +1.3**
H17A Grant Village 66.64 50 P **P** **17 40 26.1 +1.1**
H17A IAmb IAmb 17 40 50.5
comp=Z,11nm,1.3s
IMW Indian Meadow 66.76 51 P **P** **17 40 26.8 +1.0**
TPH Tonopah 66.77 59 P **P** **17 40 26.7 +0.8**
TPH pmax pmax
comp=Z,74nm,1.7s
TPH Tonopah 66.77 59 P **P** **17 40 26.7 +0.8**
RLMT Red Lodge 66.89 49 P **P** **17 40 26.9 +0.4**
MOOW Moose Ponds 66.96 51 P **P** **17 40 27.2 +0.2**
MOOW IAmb IAmb 17 40 30.5
comp=Z,9.4nm,1.4s
TPAW Teton Pass 67.01 51 P **P** **17 40 28.8 +1.3**
TPAW IAmb IAmb 17 40 44.9
comp=Z,11nm,1.2s
LOHW Long Hollow 67.13 51 P **P** **17 40 28.6 +0.5**
REDW Red Top Meadow 67.15 51 P **P** **17 40 28.7 +0.4**
REDW IAmb IAmb 17 40 48.3
comp=Z,12nm,1.3s
VSR Storozhevoye 67.19 320 *e*P **P** **17 40 25.7 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
LAO LASA Array 67.47 46 P **P** **17 40 30.8 +0.8**
LAO IAmb IAmb 17 40 32.9
comp=Z,17nm,1.2s
R11A Troy Canyon, C 67.59 58 P **P** **17 40 30.9 -0.1**
TPNV Topopah Spring 68.08 59 P **P** **17 40 34.5 +0.4**
TPNV pmax pmax
comp=Z,7.0nm,1.2s
TPNV Topopah Spring 68.08 59 P **P** **17 40 34.5 +0.4**
BW06 Boulder Array 68.26 51 P **P** **17 40 36.0 +0.8**
BW06 IAmb IAmb 17 40 37.7
comp=Z,11nm,1.6s
PD31 Pinedale Array 68.26 51 P **P** **17 40 35.8 +0.6**
PDAR Pinedale Array 68.26 51 P **P** **17 40 36.5 +1.2**
comp=Z,1.1nm,0.7s,baz=300,slow=3.3,SNR=8.8
PDAR pP **sP** **17 40 51.7 +1.5**
comp=Z,1.9nm,0.9s,baz=220,slow=1.8,SNR=6.6
PDAR Pinedale Array 68.26 51 P **P** **17 40 35.5 +0.3**
SHPR Sheep Range 69.03 59 P **P** **17 40 41.5 +1.5**
AS31 Alice Springs 69.25 195 P **P** **17 40 43.3 +2.1**
ASAR Alice Springs 69.25 195 P **P** **17 40 43.4 +2.2**
comp=Z,3.7nm,0.8s,baz=10,slow=4.9,SNR=33

ASAR pP **pwP** **17 40 59.3 +1.6**
comp=Z,3.5nm,0.9s,baz=11,slow=5.0,SNR=7.4
ASAR Alice Springs 69.25 195 P **P** **17 40 43.1 +1.9**
NC405 NORSAR Array S 69.30 340 P **P** **17 40 40.1 -1.0**
NB201 NORSAR Array S 69.46 340 P **P** **17 40 41.2 -0.9**
NB2 NORSAR Subarra 69.48 340 P **P** **17 40 41.1 -1.2**
comp=Z,2.7nm,0.4s,baz=31,slow=6.5
NOA NORSAR Array B 69.48 340 P **P** **17 40 41.7 -0.6**
comp=Z,1.7nm,0.4s,baz=33,slow=6.6,SNR=22
NOA pP **sP** **17 40 57.9 -0.4**
comp=Z,2.0nm,0.8s,baz=31,slow=6.6,SNR=2.6
NOA LR LR 18 15 17.1
comp=Z,26nm,18.5s,baz=245,slow=40
RDMU Red Mountain 69.69 53 P **P** **17 40 45.6 +1.4**
LCMT Little Creek M 69.87 58 P **P** **17 40 46.5 +1.3**
ULM Lac du Bonnet 69.98 38 P **P** **17 40 45.5 +0.1**
comp=Z,1.5nm,0.5s,baz=297,slow=5.7,SNR=4.1
ULM Lac du Bonnet 69.98 38 P **P** **17 40 45.6 +0.1**
ULM pmax pmax
comp=Z,23nm,1.6s
ULM Lac du Bonnet 69.98 38 IAmb IAmb 17 40 46.8
comp=Z,23nm,1.6s
SRU San Rafael Swe 70.11 55 P **P** **17 40 47.8 +1.1**
SRU pmax pmax
comp=Z,9.0nm,1.2s
SRU San Rafael Swe 70.11 55 P **P** **17 40 47.8 +1.1**
KNB Kanab 70.12 57 P **P** **17 40 48.5 +1.6**
KNB pmax pmax
comp=Z,6.0nm,1.0s
KNB Kanab 70.12 57 P **P** **17 40 48.5 +1.6**
KIV Kislovodsk 70.43 313 *e*P **P** **17 40 47.9 -0.6**
KIV Kislovodsk 70.43 313 *e*P **P** **17 40 47.9 -0.6**
KIV pmax pmax
comp=Z,92nm,1.1s
KIV MLR MLR
comp=Z,276nm,17.0s
KIV Kislovodsk 70.43 313 P **P** **17 40 49.4 +0.9**
KBZ Khabaz 70.47 312 P **P** **17 40 49.2 +0.6**
comp=Z,15nm,0.9s,baz=52,slow=4.4,SNR=25
ZEI Tsey 70.58 311 *e*P **P** **17 40 48.6 -1.0**
ZEI Tsey 70.58 311 *e*P **P** **17 40 48.6 -1.0**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
SHA1 Shidzhatmaz 70.60 313 *i*P **P** **17 40 48.5 -1.2**
KONO Kongsberg 71.09 340*ce*P **P** **17 40 52.1 0.0**
KONO pmax pmax
comp=Z,55nm,2.5s
PV23 Carpenter Ridg 71.43 54 **P** **17 40 55.7 +0.8**
PV23 IAmb IAmb 17 41 13.0
comp=Z,28nm,1.6s
PV14 Lion Creek, Pa 71.47 54 P **P** **17 40 56.1 +1.0**
PV14 IAmb IAmb 17 41 12.3
comp=Z,10nm,1.1s
PV22 Blue Mesa, Par 71.50 54 P **P** **17 40 56.0 +0.8**
PV22 IAmb IAmb 17 41 13.4
comp=Z,12nm,1.3s
PV04 Paradox Valley 71.53 54 P **P** **17 40 57.5 +2.1**
PV17 East Wray Mesa 71.58 54 P **P** **17 40 56.7 +1.0**
PV17 IAmb IAmb 17 41 12.9
comp=Z,17nm,1.2s
PV16 Nyswonger Mesa 71.58 54 P **P** **17 40 56.8 +1.1**
PV03 Paradox Valley 71.66 54 P **P** **17 40 57.0 +0.9**
PV13 Radium Mtn., P 71.74 54 P **P** **17 40 57.5 +0.8**
AKASG Malin Array Be 71.91 325 P **P** **17 40 57.0 -0.1**
comp=Z,3.2nm,0.3s,baz=39,slow=6.3,SNR=20
AKASG Malin Array Be 71.91 325 P **P** **17 40 57.2 0.0**
AKBB Malin Array Si 71.91 325 P **P** **17 40 56.5 -0.7**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 71.91 325 P **P** **17 40 56.5 -0.7**
AKBB IAmb IAmb 17 40 57.7
comp=Z,6.5nm,0.6s
S22A 4UR Ranch, Cre 73.17 54 P **P** **17 41 05.8 +0.5**
S22A IAmb IAmb 17 41 23.3
comp=Z,12nm,1.5s
SORM Soroca 74.24 323⇓P **P** **17 41 11.0 0.0**
SORM Soroca 74.24 323⇓P **P** **17 41 11.0 0.0**
ECSD EROS Data Cent 74.39 43 P **P** **17 41 12.7 +0.7**
ECSD IAmb IAmb 17 41 13.6
comp=Z,14nm,1.3s
MILM Milestii Mici 74.98 322⇑P **P** **17 41 14.9 -0.4**
ANMO Albuquerque 75.32 55*ce*P **P** **17 41 19.0 +1.2**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
I37A Lemond, Waseca 75.73 41 P **P** **17 41 20.8 +1.1**
BUR08 Bucovina Ar. S 75.95 325 P **P** **17 41 20.8 -0.2**
BURAR Bucovina Array 75.97 325⇑P **P** **17 41 21.5 +0.4**
BURAR Bucovina Array 75.97 325⇑P **P** **17 41 21.5 +0.4**
BURAR Bucovina Array 75.97 325 P **P** **17 41 21.2 +0.1**
OJC Ojcow 75.97 329 P **P** **17 41 21.0 0.0**
OJC Ojcow 75.97 329 P **P** **17 41 21.0 0.0**
KOLS Kolonicke sedl 76.09 327 *e*P **P** **17 41 21.5 -0.2**
KOLS pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 76.09 327 *e*P **P** **17 41 21.5 -0.2**
BIZ Bicaz 76.13 324⇑P **P** **17 41 22.8 +0.8**
STKA Stephens Creek 76.30 187 P **P** **17 41 25.4 +2.6**
comp=Z,3.8nm,0.9s,baz=322,slow=5.6,SNR=6.3
CRVS Cervenica-Dubn 76.43 328 *e*P **P** **17 41 24.4 +0.8**
CRVS Cervenica-Dubn 76.43 328 *e*P **P** **17 41 24.4 +0.8**
CFR Carcaliu 76.62 322⇑P **P** **17 41 28.4 +3.7**
CFR Carcaliu 76.62 322⇑P **P** **17 41 28.4 +3.7**
ODBI Odobesti 76.64 323⇑P **P** **17 41 26.8 +2.0**
VRI Vrincioaia 76.70 323⇓P **P** **17 41 25.3 +0.1**
VRI Vrincioaia 76.70 323⇓P **P** **17 41 25.3 +0.1**
OZUR 76.93 323⇑P **P** **17 41 27.9 +1.4**
GRER 76.98 322⇓P **P** **17 41 24.9 -1.9**
HARR Harsova 77.09 321⇓P **P** **17 41 27.9 +0.5**
HARR Harsova 77.09 321⇓P **P** **17 41 27.9 +0.5**
DPC Dobruska-Polom 77.10 331 *e*P **P** **17 41 28.3 +0.9**
DPC Dobruska-Polom 77.10 331 *e*P **P** **17 41 28.3 +0.9**
MORC Moravsky Berou 77.15 330⇓P **P** **17 41 29.4 +1.7**
MORC Moravsky Berou 77.15 330 *e*P **P** **17 41 28.8 +1.1**
MORC Moravsky Berou 77.15 330 P **P** **17 41 27.4 -0.3**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 77.15 330 P **P** **17 41 27.4 -0.3**
MORC IAmb IAmb 17 41 29.9
comp=Z,7.5nm,1.1s
KRLC Kraliky 77.17 331 *e*P **P** **17 41 28.3 +0.5**
KRLC Kraliky 77.17 331 *e*P **P** **17 41 28.3 +0.5**
MLR Muntele Rosu 77.34 323⇓P **P** **17 41 31.0 +2.1**
MLR Muntele Rosu 77.34 323⇓P **P** **17 41 31.0 +2.1**
CLL Collm 77.38 334 *i* P **P** **17 41 29.0 +0.1**
comp=Z,5.0nm,0.5s
CLL *e*(PcP) **PcP** **17 41 37.0 -2.2**
CLL LmV 18 19 00.0
comp=Z,100nm,21.0s
CLL Collm 77.38 334 P **P** **17 41 28.2 -0.7**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 77.38 334 P **P** **17 41 28.2 -0.7**
CLL IAmb IAmb 17 41 32.1
comp=Z,6.8nm,0.9s
VYHS Vyhne 77.75 329 *e*P **P** **17 41 31.9 +0.9**
VYHS pmax pmax
comp=Z,13nm,1.6s
VYHS Vyhne 77.75 329 *e*P **P** **17 41 31.9 +0.9**
VOIR 77.76 323⇓P **P** **17 41 32.4 +1.2**
VOIR 77.76 323⇓P **P** **17 41 32.4 +1.2**
JAVC Velka Javorina 77.88 330 *e*P **P** **17 41 31.3 -0.5**
VRAC Vranov 77.88 331⇑P **P** **17 41 34.0 +2.3**
VRAC Vranov 77.88 331 *e*P **P** **17 41 32.9 +1.2**
VRAC Vranov 77.88 331⇑P **P** **17 41 34.0 +2.3**
GOPC GO Pecny, Ondr 77.99 332 *e*P **P** **17 41 34.3 +2.0**
GOPC GO Pecny, Ondr 77.99 332 *e*P **P** **17 41 34.3 +2.0**
ARR Arges 78.00 324⇓P **P** **17 41 35.5 +3.0**
PRU Pruhonice 78.01 332 *e*P **P** **17 41 34.0 +1.6**
PRU Pruhonice 78.01 332 *e*P **P** **17 41 34.0 +1.6**
BRTR Keskin Array B 78.16 315 P **P** **17 41 34.2 +0.6**
comp=Z,3.4nm,0.5s,baz=128,slow=2.6,SNR=12
KRUC Moravsky 78.16 331 *e*P **P** **17 41 34.1 +0.8**
GZR Gura Zlata 78.75 325⇑P **P** **17 41 37.1 +0.4**
GZR Gura Zlata 78.75 325⇑P **P** **17 41 37.1 +0.4**
BZS Buzias 79.05 326⇓P **P** **17 41 38.9 +0.7**
BZS Buzias 79.05 326⇓P **P** **17 41 38.9 +0.7**
KHC Kasperske Hory 79.07 332 *e*P **P** **17 41 38.7 +0.4**
KHC Kasperske Hory 79.07 332*ce*P **P** **17 41 38.3 0.0**
KHC pmax pmax
comp=Z,26nm,1.3s
KHC Kasperske Hory 79.07 332 P **P** **17 41 38.0 -0.3**
GEC2 GERESS Array S 79.28 332 P **P** **17 41 39.1 -0.4**
GERES GERESS Array B 79.28 332 P **P** **17 41 39.8 +0.3**
comp=Z,1.4nm,0.4s,baz=41,slow=5.9,SNR=35
GERES GERESS Array B 79.28 332 P **P** **17 41 39.6 +0.1**
GERES GERESS Array B 79.28 332 P **P** **17 41 39.6 +0.1**
CONA Conrad Observa 79.31 330 *e*P **P** **17 41 41.1 +1.3**
comp=Z,7.1nm,1.1s,SNR=5.7
HERR Herculane 79.32 325⇑P **P** **17 41 40.3 +0.6**
BISS Bistriski jare 80.66 330 *e*P **P** **17 41 47.8 +0.8**
SOKA Soboth 80.67 330 *e*P **P** **17 41 48.4 +1.4**
comp=Z,11nm,1.2s,SNR=7.4
PERS Pernice 80.68 330 *e*P **P** **17 41 47.6 +0.5**
KBA Koelnbreinsper 80.92 331 *e*P **P** **17 41 49.7 +1.2**
comp=Z,19nm,1.1s
DIVS Divibare 80.95 326 P **P** **17 41 48.1 -0.6**
TX31 Lajitas Ar. Si 80.96 58 P **P** **17 41 48.7 -0.3**
TX32 Lajitas Array 80.96 58 P **P** **17 41 48.9 0.0**
TXAR Lajitas Array 80.96 58 P **P** **17 41 50.1 +1.2**
comp=Z,1.4nm,0.7s,baz=306,slow=4.1,SNR=14
TXAR pP **pwP** **17 42 06.1 +1.0**
comp=Z,2.1nm,0.6s,baz=300,slow=4.0,SNR=7.5
TXAR Lajitas Array 80.96 58 P **P** **17 41 49.8 +0.9**
TXAR Lajitas Array 80.96 58 P **P** **17 41 49.8 +0.9**
OBKA Obir 80.99 330 *e*P **P** **17 41 49.8 +1.0**
comp=Z,3.4nm,0.6s,SNR=4.4
MYKA Terra Mystica 81.20 331 *e*P **P** **17 41 50.0 0.0**
comp=Z,2.7nm,0.5s
WATA Walderalm 81.30 332 *e*P **P** **17 41 51.0 +0.5**
comp=Z,6.6nm,0.5s,SNR=13
WTTA Wattenberg 81.34 332 *e*P **P** **17 41 51.8 +1.1**
comp=Z,7.7nm,0.4s,SNR=17
PRED Cave del Predi 81.39 331 P **P** **17 41 49.6 -1.3**
PRED IAmb IAmb 17 41 51.5
comp=Z,5.1nm,0.5s
LJU Ljubljana 81.40 330 *e*P **P** **17 41 50.0 -0.9**
RETA Reutte 81.43 333 *i* P **P** **17 41 52.5 +1.4**
comp=Z,5.0nm,1.0s
MOTA Moosalm 81.44 333 *e*P **P** **17 41 52.6 +1.3**
comp=Z,13nm,1.1s,SNR=8.2
SQTA Sankt Quirin 81.52 333 *e*P **P** **17 41 52.6 +0.9**
comp=Z,6.0nm,0.7s,SNR=6.1
GBRS Gornja Briga 81.73 330 *e*P **P** **17 41 52.8 +0.2**
U40A Yellville 81.83 46 P **P** **17 41 53.1 -0.3**
U40A IAmb IAmb 17 42 16.0
comp=Z,7.6nm,0.9s
DAVA Damuels 81.89 333 *i* P **P** **17 41 54.8 +1.2**
comp=Z,6.1nm,0.9s
PMOR Pomariorio Ree 82.14 120 *e*T T 19 12 42.1
comp=Z,20nm,0.2s
FUORN Ofenpass-Fuorn 82.35 333 P **P** **17 41 56.4 +0.2**
FUORN IAmb IAmb 17 41 58.7
comp=Z,11nm,1.2s
CTI Castel Tesino 82.39 332 P **P** **17 41 55.4 -0.8**
CTI pmax pmax
comp=Z,5.0nm,0.6s
CTI Castel Tesino 82.39 332 P **P** **17 41 55.4 -0.8**
CTI IAmb IAmb 17 41 56.7
comp=Z,4.8nm,0.6s
PDG Podgorica 82.64 325⇓P **P** **17 41 57.8 +0.4**
PDG Podgorica 82.64 325 P **P** **17 41 56.1 -1.3**
TUE Stuetta 82.78 333 P **P** **17 41 58.8 +0.4**
TUE IAmb IAmb 17 42 00.2
comp=Z,7.6nm,0.7s
PPT2 Papeete2 83.10 123 *e*LR LR 18 08 18.3
comp=Z,115nm,24.8s
PPT2 Papeete2 83.10 123 *e*T T 19 13 53.6
comp=Z,5.0nm,0.3s
TIAR Tiarei 83.21 123 *e*T T 19 14 01.7
comp=Z,2.8nm,0.3s
MEH Mehetia 84.23 122 *e*T T 19 15 18.4
comp=Z,12nm,0.3s
MURB Monte Urbino 84.52 330 P **P** **17 42 07.4 +0.3**
NRCA Norcia 84.68 329 P **P** **17 42 08.2 +0.3**
OSSC Osservatorio P 84.74 331 P **P** **17 42 08.6 +0.4**
OSSC IAmb IAmb 17 42 26.1
comp=Z,11nm,1.2s
INTR Introdacqua 85.09 328 P **P** **17 42 09.8 -0.3**
INTR IAmb IAmb 17 42 12.0
comp=Z,10nm,0.9s
SWET Sewanee 86.19 42 P **P** **17 42 14.2 -1.3**
H03N2 Juan Fernandez 141.41 90 T T 20 27 02.6
baz=305,slow=77,SNR=18
H03N3 Juan Fernandez 141.43 90 T T 20 26 59.2
baz=305,slow=77,SNR=14
H03N1 Juan Fernandez 141.43 90 T T 20 27 06.2
baz=305,slow=77,SNR=16
SNAA Sanae 149.60 197 PKPbc **PKiKP** **17 49 23.4 +0.1**
PLCA Paso Flores 150.63 97 PKPbc **PKiKP** **17 49 26.8 +0.4**
comp=Z,2.8nm,0.9s,baz=185,slow=3.4,SNR=4.0
VNA2 Neumayer--Watz 151.10 196 PKPbc **PKiKP** **17 49 27.2 +0.9**
VNA3 Neumayer Olymp 151.25 194 PKPbc **PKiKP** **17 49 27.3 +0.6**
VNA1 Neumayer--Stat 151.49 195 PKPbc **PKiKP** **17 49 27.5 +0.4**

*IDC **18** 17:56:31.0±1.3,21°.28S×68°.36W,h112km±16km,mb3.5/2, mb1 3.6/4,mb1mx3.3/24,mbtmp4.0/4,Error ellipse: s-maj=42.7km s-min=17.8km az=112.0*
*GUC **18** 17:56:30.1±0.6,21°.22S×68°.72W,h118km±3km,ML3.8*
ISC 18 17:56:29.5±0.9,**21°.20S**±0°.03×**68°.77W**±0°.07,**h124**km±8km, **n27**,σ1°**23**/50,**6C-2D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.69**	**283**	*e*P	**Pn**	**17 56 49.2**	**0.0**
PB01				*e*S	**Sn**	**17 57 03.5**	**-0.7**
PB01				IAML		17 57 05.2	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**0.74**	**216**	⇑*i*P	**Pn**	**17 56 49.8**	**0.0**
PB09				*i* S	**Sn**	**17 57 04.6**	**-0.5**
PB09				IAML		17 57 06.7	
	comp=E,2μm,0.5s						
PB02	**IPOC Station P**	**1.06**	**263**	*e*P	**Pn**	**17 56 52.6**	**+0.1**
PB02				*e*S	**Sn**	**17 57 09.8**	**-0.2**
PB02				IAML		17 57 11.8	
	comp=E,3μm,0.4s						
PB08	**IPOC Station P**	**1.11**	**341**	⇓*i*P	**Pn**	**17 56 54.0**	**+0.6**
PB08				*i* S	**Sn**	**17 57 11.8**	**+0.3**
PB08				IAML		17 57 13.6	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**1.17**	**243**	⇑*i*P	**Pn**	**17 56 53.7**	**0.0**
PB07				*i* S	**Sn**	**17 57 11.6**	**-0.5**
PB07				IAML		17 57 13.6	
	comp=E,2μm,0.2s						
PB03	**IPOC Station P**	**1.25**	**227**	*i* P	**Pn**	**17 56 54.5**	**0.0**
PB03				*i* S	**Sn**	**17 57 12.8**	**-0.8**
PB03				IAML		17 57 13.5	
	comp=E,1μm,0.3s						
PATCX	**Punta Patache**	**1.34**	**286**	*e*P	**Pn**	**17 56 55.5**	**0.0**
PATCX				*e*S	**Sn**	**17 57 15.1**	**-0.3**
PATCX				IAML		17 57 16.6	
	comp=E,3μm,0.3s						
LVC	**Limon Verde**	**1.41**	**185**	P	**Pn**	**17 56 56.8**	**+0.2**
	baz=14,slow=11						
LVC				S	**Sn**	**17 57 17.2**	**0.0**
	comp=E,65nm,0.3s,baz=90,slow=20,SNR=19						
LVC	**Limon Verde**	**1.41**	**185**	*e*P	**Pn**	**17 56 56.3**	**-0.3**
LVC				*e*S	**Sn**	**17 57 16.7**	**-0.5**
TA01	**Diego Aracena**	**1.46**	**295**	⇑*i*P	**Pn**	**17 56 57.0**	**+0.2**
TA01				*i* S	**Sn**	**17 57 17.2**	**-0.2**
TA01				IAML		17 57 18.0	
	comp=N,2μm,0.3s						
GO01	**Chusmiza**	**1.57**	**345**	⇑*e*P	**Pn**	**17 56 58.7**	**+0.1**
GO01				*e*S	**Sn**	**17 57 21.1**	**+0.5**
GO01				IAML		17 57 23.7	
	comp=E,2μm,0.1s						
TA02	**Huaiquique**	**1.57**	**306**	⇑*e*P	**Pn**	**17 56 58.2**	**+0.2**
TA02				*i* S	**Sn**	**17 57 19.7**	**-0.1**
TA02				IAML		17 57 23.2	
	comp=N,2μm,0.1s						
PB11	**IPOC Station P**	**1.65**	**330**	⇓*i*P	**Pn**	**17 56 59.3**	**+0.1**
PB11				*i* S	**Sn**	**17 57 22.0**	**+0.2**
PB06	**IPOC Station P**	**1.67**	**206**	⇑*i*P	**Pn**	**17 56 59.5**	**+0.1**
PB06				*i* S	**Sn**	**17 57 21.8**	**-0.4**
PB06				IAML		17 57 22.7	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**1.71**	**228**	*e*P	**Pn**	**17 56 59.7**	**-0.1**
PB04				*i* S	**Sn**	**17 57 22.7**	**-0.2**
PB04				IAML		17 57 27.8	
	comp=E,708nm,0.2s						
PSGC	**Pisagua**	**2.04**	**321**	*i* P	**Pn**	**17 57 03.3**	**-0.4**
PSGC				*i* S	**Sn**	**17 57 28.7**	**-1.2**
PSGC				IAML		17 57 32.1	
	comp=N,432nm,0.5s						
PB15	**IPOC Station P**	**2.10**	**198**	*e*P	**Pn**	**17 57 05.3**	**+0.7**
PB15				*i* S	**Sn**	**17 57 31.0**	**-0.6**
PB05	**IPOC Station P**	**2.12**	**219**	*e*P	**Pn**	**17 57 04.6**	**-0.1**

PB05 eS Sn 17 57 30.1 -1.7
MNMC Minye Minye 2.20 339 eP Pn 17 57 06.5 +0.5
MNMC eS Sn 17 57 34.3 +0.5
MNMC IAML 17 57 37.8
comp=E,1μm,0.3s
PB10 IPOC Station P 2.83 215 eP Pn 17 57 13.6 -0.2
PB10 eS Sn 17 57 44.0 -3.9
PB10 IAML 17 58 07.5
comp=N,91nm,0.5s
PB16 IPOC Station P 2.93 346 eP Pn 17 57 16.5 +0.9
PB16 i S Sn 17 57 49.7 -1.4
PB12 IPOC Station P 2.96 330 eP Pn 17 57 14.6 -1.0
PB12 eS Sn 17 57 49.8 -1.2
PB12 IAML 17 57 54.8
comp=E,229nm,0.2s
LPAZ La Paz 4.92 7 P Pn 17 57 44.6 +2.5
comp=E,1.6nm,0.3s,baz=174,slow=3.7,SNR=22
LPAZ S Sn 17 58 33.9 -4.5
comp=E,0.2nm,0.3s,baz=194,slow=9.7,SNR=3.6
SIV San Ignacio 8.95 56 P Pn 17 58 32.8 -3.1
comp=E,4.0nm,0.3s,baz=255,slow=14,SNR=49
BDFB Brasilia 20.45 78 P P 18 00 57.0 -0.5
comp=E,2.1nm,0.4s,baz=255,slow=9.0,SNR=6.4
TORD Torodi Ar. Bea 77.13 70 P P 18 08 10.6 +0.7
comp=E,0.6nm,0.6s,baz=250,slow=4.9,SNR=7.8
MKAR Makanchi Array 145.31 36 PKPbc PKPbc 18 15 54.6 +1.9
comp=E,0.2nm,0.4s,baz=0.0,slow=2.9,SNR=3.8

WEL 18 18:11:29.3,44°S±86"×17°0E±3°5, h24km±50km, M2.4/5, ML2.3/4, MLv2.4/5, Error ellipse: s-maj=0.1km s-min=0.0km az=167.0, South Island

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.51 134**	P	Pn	18 11 40.6	-0.5
FOZ	**Fox Glacier**	**0.51 11**	P	Pn	18 11 40.5	-0.6
JCZ	**Jackson Bay**	**0.64 266**	P	Pn	18 11 42.6	-0.4
WKZ	**Wanaka**	**0.92 211**	P	Pn	18 11 46.8	0.0
RPZ	**Rata Peaks**	**1.05 73**	P	Pb	18 11 50.5	+1.8
ARCZ	**Arundel**	**1.09 86**	P	Pb	18 11 51.4	+2.1
ODZ	**Otahua Downs**	**1.22 146**	P	Pb	18 11 54.0	+2.3
MLZ	**Mavora Lakes**	**1.73 219**	P	Pb	18 12 01.7	+1.3
SYZ	**Scrubby Hill**	**2.53 188**	P	Pn	18 12 09.4	+0.5

*BJI **18** 18:12:26.4±0.0, 23°.35N×100°.49E, h12km, ML3.6/7*
ISC 18 18:12:26.5±1.2, 23°.51N±0°.09×100°.5E±0°.1, h10km, n10, σ1.998/12, 1C, Yunnan

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
KMI	**Kunming**	**2.60 51**	⇑Pg	**Pg**	**18 13 15.6**	**-0.8**
KMI			Sg	**Sg**	**18 13 51.8**	**+1.7**
KMI			smax	smax		
comp=N,170nm,1.0s						
KMI			smax	smax		
comp=E,160nm,0.9s						
PAYA	**Payao**	**4.17 188**	P	**Pn**	**18 13 27.6**	**-2.6**
PAYA			Sg	**Sb**	**18 14 27.5**	**-2.9**
CMMT	**Chiang Mai**	**4.89 198**	P	**Pn**	**18 13 39.9**	**-0.2**
CM09	**Chiang Mai Arr**	**5.23 196**	P	**Pn**	**18 13 44.6**	**-0.3**
CM01	**Chiang Mai Arr**	**5.26 196**	P	**Pn**	**18 13 44.7**	**-0.6**
CM04	**Chiang Mai Arr**	**5.28 196**	P	**Pn**	**18 13 45.0**	**-0.5**
CM05	**Chiang Mai Arr**	**5.28 196**	P	**Pn**	**18 13 44.9**	**-0.6**
PHIT	**Phitsanulok**	**6.29 181**	P	**Pb**	**18 14 19.9**	**+3.8**
WHN	**Wuhan**	**14.19 57**	P	**Pn**	**18 15 46.4**	**-1.1**
WMQ	**Urumqi**	**22.84 336**	eP	**P**	**18 17 30.1**	**+0.2**

TAP 18 18:16:14.0, 23°.59N×121°.45E, h38km±1km, ML1.0, C, Taiwan

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.08 342**	eP	Pn	18 16 20.0	-0.3
baz=331						
HGSD	**Ruisui**	**0.10 195**	eP	Pn	18 16 20.1	-6.1
baz=204						
HGSD			eS	Sn	18 16 25.9	-12
baz=204						
EHY	**Hungye**	**0.15 234**	eP	Pn	18 16 20.2	-4.2
baz=232						
EHY			eS	Sn	18 16 24.7	-10
baz=232						
ESL	**Shilin**	**0.22 355**	eP	Pn	18 16 20.3	-2.4
baz=351						
YULB	**Yu-li**	**0.25 216**	eP	Pn	18 16 20.7	-1.7
baz=221						
YULB			eS	Sn	18 16 26.3	-3.6
baz=221						
TWF1	**Yuli**	**0.28 211**	eP	Pn	18 16 21.1	-1.1
baz=217						
VWDT	**VWDT**	**0.33 299**	eP	Pn	18 16 22.5	+0.2
baz=299						
VWDT			eS	Sn	18 16 28.3	-0.8
baz=299						

JMA 18 18:16:19.0±0.1, 23°.97N×123°.58E, h32km±1km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.22 67**	P	Pb	18 16 25.4	-0.3
HATJ			S	Sb	18 16 30.3	0.0
IRIF	**Iriomote-Funau**	**0.39 21**	P	Pb	18 16 27.6	-0.3
IRIF			S	Sb	18 16 33.7	-0.2
JKRS	**Kuro-shima**	**0.47 56**	P	Pb	18 16 29.1	0.0
JKRS			S	Sb	18 16 35.8	-0.3
JIJ	**Ishigaki jima**	**0.65 53**	P	Pb	18 16 31.3	-0.6
JIJ			S	Sb	18 16 40.0	-0.7
YOJ	**Yonaguni jima**	**0.71 313**	P	Pn	18 16 32.7	-0.2
YOJ			eS	Sb	18 16 42.5	-0.1
JYNG	**Yonagunijimaku**	**0.75 310**	P	Pn	18 16 33.1	-0.3
JYNG			eS	Sn	18 16 43.7	0.0
JISG	**Ishigakijimahi**	**0.91 47**	P	Pn	18 16 35.4	-0.1
JISG			S	Sn	18 16 47.5	0.0

*IDC **18** 18:17:40.8±1.6, 20°.71S×178°.98W, h623km±19km, mb3.5/18, mb1 3.7/20, mb1mx3.6/31, mbtmp4.5/20, Error ellipse: s-maj=13.8km s-min=9.7km az=151.0*
*NEIC **18** 18:17:41.3±1.6, 20°.67S±0°.10×178°.9W±0°.1, h632km±6km, mb4.4/86, Error ellipse: s-maj=16.8km s-min=14.1km az=113.0*
ISC 18 18:17:42.3±0.3, 20°.69S±0°.07×178°.93W±0°.07, h645km, n205, σ0.997/215, mb4.3/60, 18C-20D, Fiji Islands region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.10 315**	P	**P**	**18 19 08.4**	**-3.5**
NIUE	**Niue**	**8.62 81**	P	**P**	**18 19 49.2**	**+0.2**
DZM	**Mont Dzumac**	**13.70 262**	P	**P**	**18 20 34.7**	**-2.2**
2.2nm,0.3s,baz=104,slow=22,SNR=35						
DZM	**Mont Dzumac**	**13.70 262**	P	**P**	**18 20 35.7**	**-1.2**
SANVU	**Saraoutou**	**14.18 289**	P	**P**	**18 20 41.4**	**+0.1**
OUZ	**Omahuta**	**15.90 203**	P	**P**	**18 20 57.8**	**+1.0**
URZ	**Urewera**	**17.84 190**	P	**P**	**18 21 11.9**	**-2.5**
0.3nm,0.3s,baz=214,slow=5.2,SNR=3.3						
KNTN	**Kanton**	**19.14 22**	P	**P**	**18 21 24.2**	**-2.4**
MLZ	**Mavora Lakes**	**26.83 200**	P	**P**	**18 22 33.9**	**-0.3**
MLZ			IAmb	IAmb	18 22 42.0	
comp=Z,16nm,1.3s						
WHZ	**Wether Hill Ro**	**27.35 200**	P	**P**	**18 22 38.9**	**+0.2**
WHZ			IAmb	IAmb	18 22 39.5	
comp=Z,9.4nm,0.8s						
ARMA	**Armidale**	**28.20 244**	P	**P**	**18 22 46.9**	**+0.4**
ARMA			IAmb	IAmb	18 22 53.4	
comp=Z,18nm,1.6s						
CTA	**Charters Tower**	**32.61 265**	P	**P**	**18 23 24.1**	**+0.1**
comp=Z,2.7nm,0.3s,baz=87,slow=11,SNR=17						
CTAO	**Charters Tower**	**32.61 265**	P	**P**	**18 23 24.4**	**+0.3**
CTAO			IAmb	IAmb	18 23 31.2	
comp=Z,14nm,1.1s						
PMG	**Port Moresby**	**34.54 284**	P	**P**	**18 23 39.8**	**-0.3**
comp=Z,5.7nm,0.6s,baz=43,slow=3.6,SNR=3.3						
PATS	**Pohnpei**	**35.34 318**	P	**P**	**18 23 47.6**	**+0.9**
COEN	**Coen**	**36.73 274**	P	**P**	**18 23 58.6**	**+0.5**
COEN			IAmb	IAmb	18 24 14.8	
comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**36.93 244**	P	**P**	**18 23 59.4**	**-0.1**
comp=Z,2.2nm,0.5s,baz=88,slow=11,SNR=17						
STKA	**Stephens Creek**	**36.93 244**	P	**P**	**18 23 59.8**	**+0.3**
BBOO	**Buckleboo**	**41.69 244**	P	**P**	**18 24 37.3**	**-0.1**
JAY	**Jayapura**	**43.28 289**	P	**P**	**18 24 47.9**	**-2.2**
comp=Z,18nm,0.6s,baz=179,slow=6.3,SNR=11						
WR0	**Warramunga Arr**	**43.53 262**	P	**P**	**18 24 51.3**	**-0.5**
AS31	**Alice Springs**	**43.63 257**	P	**P**	**18 24 52.6**	**-0.1**
ASAR	**Alice Springs**	**43.63 257**	P	**P**	**18 24 52.7**	**+0.1**
comp=Z,9.2nm,0.5s,baz=96,slow=7.5,SNR=216						
ASAR			PcP	**PcP**	**18 26 25.1**	**+0.2**
comp=Z,2.6nm,0.5s,baz=104,slow=3.6,SNR=12						
ASAR			ScP	**ScP**	**18 29 20.3**	**+4.0**
comp=Z,0.2nm,0.4s,baz=99,slow=4.7,SNR=1.9						
ASAR			S	**S**	**18 30 38.0**	**+0.3**
comp=Z,3.1nm,0.9s,baz=93,slow=15,SNR=20						
ASAR	**Alice Springs**	**43.63 257**	P	**P**	**18 24 52.0**	**-0.6**
ASAR				**PcP**	**18 26 25.1**	**+0.2**
WB0	**Warramunga Arr**	**43.70 263**	P	**P**	**18 24 52.4**	**-0.7**
WB0			IAmb	IAmb	18 24 53.3	
comp=Z,11nm,0.5s						
WB2	**Warramunga Arr**	**43.70 262**	P	**P**	**18 24 52.9**	**-0.3**
WB2			IAmb	IAmb	18 24 53.7	
comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**43.71 262**	P	**P**	**18 24 52.9**	**-0.4**
WRAB			IAmb	IAmb	18 24 53.6	
comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**43.72 262**	P	**P**	**18 24 52.6**	**-0.7**
comp=Z,3.3nm,0.3s,baz=98,slow=7.7,SNR=103						
WRA			S	**S**	**18 30 38.7**	**-0.3**
comp=Z,1.3nm,0.8s,baz=97,slow=14,SNR=7.2						
WRA	**Warramunga Arr**	**43.72 262**	P	**P**	**18 24 52.5**	**-0.8**
MTN	**Manton Dam**	**48.30 271**	P	**P**	**18 25 27.4**	**-0.4**
MTN			IAmb	IAmb	18 25 28.3	
comp=Z,9.9nm,0.8s						
FORT	**Forrest**	**48.42 247**	P	**P**	**18 25 28.2**	**-0.3**
KNRA	**Kununurra**	**49.78 267**	P	**P**	**18 25 38.4**	**-0.2**
KNRA			IAmb	IAmb	18 25 39.4	
comp=Z,8.1nm,0.6s						
FAKI	**Fak Fak**	**50.70 284**	P	**P**	**18 25 45.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.14 263**	P	**P**	**18 25 55.7**	**+0.1**
SOEI	**Soe**	**55.64 272**	P	**P**	**18 26 21.2**	**+1.0**
SOEI			IAmb	IAmb	18 26 31.6	
comp=Z,29nm,0.8s						
PSA00	**Pilbara Seismi**	**56.78 257**	P	**P**	**18 26 27.6**	**-0.2**
MBWA	**Marble Bar**	**56.97 258**	P	**P**	**18 26 28.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**57.51 244**	P	**P**	**18 26 33.0**	**+0.5**
NWAO			IAmb	IAmb	18 26 43.6	
comp=Z,50nm,1.3s						
VNDA	**Vanda**	**57.65 185**	P	**P**	**18 26 34.1**	**+1.4**
MMRI	**Maumere**	**57.90 273**	P	**P**	**18 26 35.6**	**+0.2**
MMRI			IAmb	IAmb	18 26 54.8	
comp=Z,24nm,1.0s						
MORW	**Morawa**	**58.95 248**	P	**P**	**18 26 42.1**	**-0.2**
MORW			IAmb	IAmb	18 26 43.0	
comp=Z,28nm,1.3s						
GIRL	**Giralia**	**61.66 255**	P	**P**	**18 27 01.3**	**+1.1**
CASY	**Casey**	**63.42 205**	P	**P**	**18 27 10.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**65.52 270**	P	**P**	**18 27 24.3**	**-0.4**
JAGI			IAmb	IAmb	18 27 24.6	
comp=Z,28nm,1.0s						
KKM	**Kota Kinabalu**	**68.97 285**	P	**P**	**18 27 46.8**	**+1.0**
UGM	**Wanagama**	**69.09 269**	P	**P**	**18 27 46.6**	**+0.1**
QSPA	**South Pole Qui**	**69.38 180**	P	**P**	**18 27 47.4**	**+0.1**
comp=Z,1.5nm,0.5s,baz=253,slow=0.4,SNR=12						
QSPA	**South Pole Qui**	**69.38 180**	P	**P**	**18 27 47.9**	**+0.5**
JGF	**Kuroka**	**69.64 323**	P	**P**	**18 27 49.7**	**+0.5**
JGF			IAmb	IAmb	18 28 02.7	
comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**69.85 324**	P	**P**	**18 27 49.8**	**-0.6**
comp=Z,9.9nm,0.6s,baz=162,slow=6.0,SNR=20						
MJAR	**Matsushiro Arr**	**69.85 324**	P	**P**	**18 27 50.2**	**-0.3**
MAJO	**Matsushiro**	**69.85 324**	P	**P**	**18 27 50.8**	**+0.4**
MAJO			IAmb	IAmb	18 27 52.2	
comp=Z,16nm,1.5s						
MAT	**Matsushiro**	**69.85 324**	P	**P**	**18 27 50.3**	**-0.2**
MJB9	**Matsu-Tunnel**	**69.86 324**	P	**P**	**18 27 50.8**	**+0.3**
MJB9			IAmb	IAmb	18 27 52.2	
comp=Z,18nm,1.6s						
JWT	**Wachi**	**70.53 322**	P	**P**	**18 27 55.0**	**+0.6**
JWT			IAmb	IAmb	18 28 03.0	
comp=Z,14nm,1.3s						
JHS	**Saijyo**	**71.69 320**	P	**P**	**18 28 02.1**	**+0.9**
JHS			IAmb	IAmb	18 28 03.1	
comp=Z,9.5nm,0.9s						
CISI	**Cisompet, Garu**	**71.75 269**	P	**P**	**18 28 01.4**	**-0.7**
JNU	**Nakatsue**	**71.82 317**	P	**P**	**18 28 02.1**	**+0.1**
JNU			IAmb	IAmb	18 28 03.5	
comp=Z,21nm,1.3s						
ADK	**Adak**	**72.29 1**	P	**P**	**18 28 04.1**	**-0.1**
KSM	**Kuching**	**72.58 278**	P	**P**	**18 28 07.5**	**+0.8**
KSM			IAmb	IAmb	18 28 08.6	
comp=Z,10nm,0.8s						
ATKA	**Atka Island**	**72.70 3**	P	**P**	**18 28 05.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**76.24 346**	P	**P**	**18 28 26.6**	**+0.3**
PETK	**Petropavlovsk-**	**76.24 346**	P	**P**	**18 28 26.4**	**+0.2**
comp=Z,4.2nm,0.7s,baz=249,slow=4.1,SNR=17						
PETK	**Petropavlovsk-**	**76.24 346**	P	**P**	**18 28 26.9**	**+0.6**
KSRS	**Korea Array**	**76.46 319**	P	**P**	**18 28 29.4**	**+1.5**
comp=Z,1.2nm,0.7s,baz=126,slow=5.5,SNR=6.6						
CHGN	**Chignik**	**78.63 11**	P	**P**	**18 28 39.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**78.64 326**	P	**P**	**18 28 41.1**	**+1.7**
comp=Z,3.4nm,0.7s,baz=151,slow=3.6,SNR=8.0						
USRK	**Ussuriysk Ar.**	**78.64 326**	P	**P**	**18 28 40.7**	**+1.4**
CHIR	**Chirikof Islan**	**78.73 13**	P	**P**	**18 28 39.8**	**+0.2**
HOPS	**Hopland Field**	**79.08 41**	P	**P**	**18 28 43.6**	**+1.2**
HOPS			IAmb	IAmb	18 28 43.6	
comp=Z,18nm,1.1s						
BELA	**Belgrano 2**	**79.48 173**	P	**P**	**18 28 43.1**	**-0.2**
SII	**Sitkinak Islan**	**79.73 14**	P	**P**	**18 28 45.5**	**+0.6**
YBH	**Yreka Blue Hor**	**80.98 39**	P	**P**	**18 28 53.1**	**+1.3**
comp=Z,4.4nm,0.8s,baz=134,slow=1.7,SNR=11						
MAW	**Mawson**	**81.09 200**	P	**P**	**18 28 52.0**	**+0.2**
comp=Z,0.8nm,0.4s,baz=134,slow=18,SNR=7.3						
BEKR	**Beckworth**	**81.28 42**	P	**P**	**18 28 54.4**	**+0.9**
NVAR	**Mina Array Bea**	**81.76 44**	P	**P**	**18 28 56.9**	**+1.0**
comp=Z,1.1nm,0.6s,baz=220,slow=8.2,SNR=11						
NVAR	**Mina Array Bea**	**81.76 44**	P	**P**	**18 28 56.7**	**+0.7**
PAHR	**Pah Rah Range**	**81.80 42**	P	**P**	**18 28 56.7**	**+0.6**
KVN	**Kaiserville**	**82.24 43**	P	**P**	**18 28 59.1**	**+0.7**
TPH	**Tonopah**	**82.27 45**	P	**P**	**18 28 58.8**	**+0.2**
TPNV	**Topopah Spring**	**82.29 46**	P	**P**	**18 28 59.6**	**+1.0**
K05A	**Summer Lake**	**82.66 39**	P	**P**	**18 29 01.3**	**+0.9**
K05A			IAmb	IAmb	18 29 02.1	
comp=Z,8.5nm,0.6s						
PINE	**Pine Mountain**	**83.27 38**	P	**P**	**18 29 04.4**	**+1.0**
PINE			IAmb	IAmb	18 29 05.5	
comp=Z,6.2nm,0.7s						
I07A	**Izee**	**84.27 39**	P	**P**	**18 29 09.0**	**+0.8**
I07A			IAmb	IAmb	18 29 10.2	
comp=Z,7.3nm,1.0s						
SUA	**Susitna One**	**84.94 13**	P	**P**	**18 29 10.4**	**-0.6**
SUA			IAmb	IAmb	18 29 11.3	
comp=Z,6.4nm,0.7s						
G08A	**Pilot Rock**	**85.30 38**	P	**P**	**18 29 13.1**	**0.0**
ENH	**Enshi**	**85.43 305**	P	**P**	**18 29 14.7**	**+0.7**
ENH			IAmb	IAmb	18 29 16.3	
comp=Z,9.8nm,0.9s						
GHO	**Glory Hole Cre**	**85.61 14**	P	**P**	**18 29 13.9**	**-0.2**
MTPU	**Mount Pierson**	**85.62 47**	P	**P**	**18 29 15.7**	**+0.6**
BMO	**Blue Mountains**	**86.00 39**	P	**P**	**18 29 16.4**	**0.0**
F10A	**Beach Ranch, E**	**86.68 38**	P	**P**	**18 29 20.0**	**+0.4**
F10A			IAmb	IAmb	18 29 20.8	
comp=Z,8.5nm,0.8s						
BARN	**Barnard Glacie**	**86.82 17**	P	**P**	**18 29 20.1**	**+0.2**
BARN			IAmb	IAmb	18 29 21.3	
comp=Z,6.3nm,0.7s						
TRF	**Thorofare Moun**	**86.82 12**	P	**P**	**18 29 19.1**	**-0.8**
TRF			IAmb	IAmb	18 29 20.3	
comp=Z,11nm,0.8s						
B08A	**Colville Reser**	**86.88 35**	P	**P**	**18 29 20.4**	**0.0**
B08A			IAmb	IAmb	18 29 21.4	
comp=Z,5.3nm,0.8s						
HLID	**Hailey**	**87.04 41**	P	**P**	**18 29 21.5**	**+0.1**
RND	**Reindeer**	**87.08 13**	P	**P**	**18 29 20.7**	**-0.2**
XAN	**Xi'an**	**87.56 308**	P	**P**	**18 29 25.4**	**+1.5**
XAN			pmax	pmax		
comp=Z,11nm,0.9s						
SNAA	**Sanae**	**87.84 179**	P	**P**	**18 29 23.4**	**-1.2**
TX31	**Lajitas Ar. Si**	**87.89 58**	P	**P**	**18 29 26.8**	**+1.2**
TX31			IAmb	IAmb	18 29 37.6	
comp=Z,6.1nm,1.2s						
TX32	**Lajitas Array**	**87.89 58**		**P**	**18 29 26.7**	**+1.1**
TXAR	**Lajitas Array**	**87.89 58**	P	**P**	**18 29 26.7**	**+1.1**
comp=Z,1.6nm,0.8s,baz=224,slow=5.9,SNR=17						
TXAR	**Lajitas Array**	**87.89 58**	P	**P**	**18 29 26.5**	**+0.9**
VNA3	**Neumayer Olymp**	**88.01 177**	P	**P**	**18 29 24.6**	**-0.7**
WRH	**Wood River Hil**	**88.18 13**	P	**P**	**18 29 25.2**	**-0.7**
WRH			IAmb	IAmb	18 29 26.3	
comp=Z,7.3nm,0.7s						
HDA	**Harding Lake**	**88.36 13**	P	**P**	**18 29 26.4**	**-0.5**
HDA			IAmb	IAmb	18 29 27.2	
comp=Z,6.3nm,0.6s						
DOT	**Dot Lake**	**88.36 15**	P	**P**	**18 29 26.7**	**-0.2**
DOT			IAmb	IAmb	18 29 27.8	
comp=Z,5.3nm,0.8s						
CCB	**Clear Creek Bu**	**88.39 13**	P	**P**	**18 29 26.1**	**-0.8**
CCB			IAmb	IAmb	18 29 27.1	
comp=Z,7.1nm,0.7s						
VNA2	**Neumayer--Watz**	**88.44 177**	P	**P**	**18 29 26.8**	**-0.5**
baz=177,slow=4.5						
MDM	**Murphy Dome**	**88.58 13**	P	**P**	**18 29 26.9**	**-1.0**
MDM			IAmb	IAmb	18 29 28.0	
comp=Z,6.7nm,0.8s						
VNA1	**Neumayer--Stat**	**88.67 177**	P	**P**	**18 29 28.1**	**-0.2**
IL31		**88.69 13**	P	**P**	**18 29 27.1**	**-1.2**
ILAR	**Eielson Array**	**88.69 13**	P	**P**	**18 29 27.7**	**-0.7**
comp=Z,2.0nm,0.5s,baz=218,slow=5.2,SNR=20						
ILAR	**Eielson Array**	**88.69 13**	P	**P**	**18 29 27.4**	**-1.0**
HHC	**Hu-ho-hao-te**	**88.87 315**	eP	**P**	**18 29 27.4**	**-2.5**
HHC			pmax	pmax		
comp=Z,22nm,1.2s						
HHC			pmax	pmax		
comp=Z,54nm,5.3s						
REDW	**Red Top Meadow**	**89.16 43**	P	**P**	**18 29 30.4**	**-0.9**
REDW			IAmb	IAmb	18 29 33.1	
comp=Z,6.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**89.36 290**	P	**P**	**18 29 33.4**	**+0.8**
comp=Z,2.7nm,0.8s,baz=130,slow=3.1,SNR=23						
CMAR	**Chiang Mai Arr**	**89.36 290**	P	**P**	**18 29 34.4**	**+1.8**
LRM	**Limekiln Ridge**	**89.41 40**	P	**P**	**18 29 31.9**	**-0.6**
CHTO	**Chiang Mai**	**89.49 290**	P	**P**	**18 29 34.7**	**+1.5**
CHTO			IAmb	IAmb	18 29 35.8	
comp=Z,4.7nm,0.6s						
PD31	**Pinedale Array**	**89.69 44**	P	**P**	**18 29 33.9**	**0.0**
PDAR	**Pinedale Array**	**89.69 44**	P	**P**	**18 29 34.2**	**+0.3**
comp=Z,1.4nm,0.6s,baz=214,slow=4.4,SNR=16						
PDAR	**Pinedale Array**	**89.69 44**	P	**P**	**18 29 34.0**	**+0.2**
EGAK	**Eagle**	**90.01 15**	P	**P**	**18 29 34.8**	**+0.3**
EGAK			IAmb	IAmb	18 29 35.5	
comp=Z,3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**110.10 321**	PKiKP	**PKiKP**	**18 35 01.1**	**-0.9**
comp=Z,1.2nm,0.5s,baz=94,slow=0.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**110.10 321**		**PKiKP**	**18 35 00.8**	**-1.2**
MKAR	**Makanchi Array**	**110.70 313**	PKiKP	**PKiKP**	**18 35 02.6**	**-0.8**
comp=Z,0.9nm,0.4s,baz=156,slow=0.7,SNR=26						
PDPR	**Patillas Dam,**	**117.05 80**		**PKPdf**	**18 35 13.6**	**-2.8**
KKAR	**Karatay Array**	**118.69 309**	PKPdf	**PKPdf**	**18 35 18.3**	**-0.6**
BRVK	**Borovoye**	**118.73 320**	PKPdf	**PKPdf**	**18 35 18.1**	**-0.5**
ARU	**Arti**	**124.86 325**		**PKPdf**	**18 35 30.4**	**+0.2**
ARCES	**ARCESS Array B**	**128.95 349**	PKP	**PKPdf**	**18 35 37.2**	**-0.5**
comp=Z,1.6nm,0.4s,baz=135,slow=0.3,SNR=22						
FINES	**FINESS Array B**	**135.71 343**	PKhKP	PKPpre	18 35 40.6	
comp=Z,0.4nm,0.3s,baz=41,slow=3.5,SNR=5.5						
FINES			PKP	**PKPdf**	**18 35 51.3**	**+0.7**
comp=Z,1.4nm,0.5s,baz=90,slow=1.9,SNR=10						
NB2	**NORSAR Subarra**	**139.06 352**	PKP	PKPdf	18 35 48.9	-8.0
comp=Z,9.7nm,1.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**139.06 352**	PKhKP	PKPpre	18 35 47.2	
comp=Z,0.5nm,0.6s,baz=50,slow=1.7,SNR=1.7						
NOA			PKP	**PKPdf**	**18 35 58.3**	**+1.4**
comp=Z,0.7nm,0.6s,baz=41,slow=2.1,SNR=3.2						
AKASG	**Malin Array Be**	**142.75 330**	PKhKP	PKPpre	18 36 01.1	
comp=Z,8.0nm,0.3s,baz=43,slow=4.3,SNR=82						
AKBB	**Malin Array Si**	**142.75 330**	PKPdf	**PKPdf**	**18 36 00.9**	**-2.8**
GAZ	**Gaziantep**	**144.62 306**	PKPdf	**PKPdf**	**18 36 08.2**	**+0.7**
SORM	**Soroca**	**144.91 328**	⇑P	PKPbc	18 36 08.7	+0.2
PURM	**Purcari**	**145.14 324**	⇓P	**PKPab**	**18 36 11.8**	**+1.2**
MILM	**Milestii Mici**	**145.47 326**	⇓P	**PKPbc**	**18 36 10.0**	**-0.1**
VASR	**Vaslui**	**146.18 326**	⇑P	**PKPbc**	**18 36 13.0**	**+0.9**
BR131	**Keskin Array S**	**146.32 312**	PKPdf	**PKPdf**	**18 36 10.4**	**0.0**
BR131				**PKPbc**	**18 36 13.0**	**0.0**
BRTR	**Keskin Array B**	**146.32 312**	PKPbc	**PKPbc**	**18 36 13.0**	**0.0**
comp=Z,3.7nm,0.5s,baz=133,slow=2.9,SNR=11						
BRTR	**Keskin Array B**	**146.32 312**		**PKPbc**	**18 36 12.7**	**-0.3**
TLCR		**146.55 323**	⇓P	**PKPbc**	**18 36 13.8**	**+0.7**
BUR08	**Bucovina Ar. S**	**146.78 330**		**PKPbc**	**18 36 14.0**	**+0.2**
BURAR	**Bucovina Array**	**146.79 330**	⇓P	**PKiKP**	**18 36 16.1**	**+0.3**
BIZ	**Bicaz**	**146.84 328**	⇑P	**PKiKP**	**18 36 15.3**	**-0.4**
CFR	**Carcaliu**	**146.93 324**	⇑P	**PKiKP**	**18 36 15.5**	**-0.4**
TIRR	**Tirgusor**	**147.22 323**	⇓P	**PKPbc**	**18 36 16.1**	**+1.2**
VRI	**Vrincioaia**	**147.25 326**	⇓P	**PKPbc**	**18 36 15.9**	**+0.9**
PLOR	**Plostina**	**147.30 326**	⇓P	**PKPbc**	**18 36 15.8**	**+0.6**
OZUR		**147.58 327**	⇓P	**PKPbc**	**18 36 16.8**	**+0.9**
NEHR	**Nehoiu**	**147.76 326**	⇓P	**PKPbc**	**18 36 16.8**	**+0.4**
DOPR	**Dopca**	**147.87 327**	⇓P	**PKPbc**	**18 36 17.5**	**+0.9**
OSTC	**Ostas**	**147.89 342**	⇑*e*PKP	**PKPbc**	**18 36 17.5**	**+1.0**
MLR	**Munt

TORD				PKPab	**PKPab**	18 38 09.0	-0.2	
	comp=Z,0.6nm,0.9s,baz=138,slow=3.5,SNR=2.2							

NEIC ***18*** *18:37:30.4±1.8, 6°.82S±0°.05×155°.35E±0°.05, h84km±8km, mb4.3/9, Error ellipse: s-maj=10.0km s-min=3.7km az=132.0*

IDC ***18*** *18:37:30.1±1.6, 6°.89S×155°.36E, h80km±15km, mb3.5/5, mb1 3.7/8, mb1mx3.4/35, mbtmp3.9/8, MS3.2/4, Ms1 3.2/4, ms1mx2.8/30, Error ellipse: s-maj=20.8km s-min=11.8km az=28.0*

ISC 18 18:37:31.3±0.6, **6°.85S**±0°.08×**155°.37E**±0°.06, **h100**km, **n25**, σ1§**74**/25, **mb4.2/9, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.14**	**309**	Pn	**Pn**	**18 38 33.8**	**+1.4**
KRVT	**Keravat (AS076**	**4.17**	**307**	P	**Pn**	**18 38 29.8**	**-3.1**
	3.6nm,0.3s,baz=158,slow=3.1,SNR=2.3						
KRVT				S	**Sn**	**18 39 21.5**	**+0.8**
	8.6nm,0.3s,baz=165,slow=20,SNR=2.0						
HNR	**Honiara**	**5.21**	**120**	P	**Pn**	**18 38 43.6**	**-3.3**
	5.5nm,0.3s,baz=270,slow=17,SNR=2.1						
HNR				S	**Sn**	**18 39 45.9**	**+0.1**
	2.9nm,0.3s,baz=287,slow=17,SNR=1.6						
HNR				LR	LR	18 40 57.2	
	comp=Z,231nm,19.0s,baz=246,slow=40						
HNR	**Honiara**	**5.21**	**120**		**Pn**	**18 38 46.3**	**-0.6**
PMG	**Port Moresby**	**8.51**	**252**	P	**Pn**	**18 39 29.2**	**-2.6**
	1.0nm,0.3s,baz=60,slow=12,SNR=2.2						
PMG				S	**Sn**	**18 41 05.5**	**-0.7**
	1.8nm,0.3s,baz=202,slow=22,SNR=3.3						
PMG				LR	LR	18 42 19.4	
	comp=Z,102nm,21.4s,baz=52,slow=34						
PATS	**Pohnpei**	**13.91**	**12**	Pn	**Pn**	**18 40 42.2**	**-1.9**
TARA	**Tarawa**	**19.32**	**66**	P	**P**	**18 41 47.8**	**-1.0**
WR0	**Warramunga Arr**	**24.05**	**235**	P	**P**	**18 42 38.3**	**+0.9**
WB0	**Warramunga Arr**	**24.07**	**236**	P	**P**	**18 42 37.9**	**+0.3**
WB2	**Warramunga Arr**	**24.19**	**235**	P	**P**	**18 42 40.1**	**+1.4**
WB2				IAmb	IAmb	18 42 59.1	
	comp=Z,15nm,1.6s						
WRA	**Warramunga Arr**	**24.20**	**235**	P	**P**	**18 42 39.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=59,slow=9.7,SNR=15						
WRA				PcP	**PcP**	**18 46 19.2**	**+2.1**
	comp=Z,0.8nm,1.1s,baz=54,slow=2.3,SNR=6.0						
ASAR	**Alice Springs**	**26.55**	**229**	P	**P**	**18 43 00.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=61,slow=8.7,SNR=12						
KNRA	**Kununurra**	**27.50**	**249**	P	**P**	**18 43 06.3**	**-2.2**
KNRA				IAmb	IAmb	18 43 27.9	
	comp=Z,7.6nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**27.55**	**24**	T	T	19 11 21.8	
	baz=208,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.55**	**24**	T	T	19 11 22.0	
	baz=208,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.57**	**24**	T	T	19 11 23.4	
	baz=208,slow=74						
STKA	**Stephens Creek**	**28.02**	**206**	LR	LR	18 54 31.2	
	comp=Z,72nm,18.1s,baz=26,slow=36						
FITZ	**Fitzroy Crossi**	**31.05**	**246**	LR	LR	18 55 54.0	
	comp=Z,51nm,20.0s,baz=78,slow=36						
FITZ	**Fitzroy Crossi**	**31.05**	**246**	P	**P**	**18 43 40.5**	**+0.5**
FITZ				IAmb	IAmb	18 44 12.3	
	comp=Z,5.3nm,1.1s						
MMRI	**Maumere**	**32.87**	**265**	P	**P**	**18 43 55.2**	**-0.8**
DCZ	**Deep Cove**	**39.81**	**167**	P	**P**	**18 44 57.8**	**+3.2**
DCZ				IAmb	IAmb	18 45 05.2	
	comp=Z,18nm,1.2s						
CMAR	**Chiang Mai Arr**	**61.05**	**295**	P	**P**	**18 47 36.5**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=118,slow=5.3,SNR=25						
ILAR	**Eielson Array**	**83.10**	**21**	P	**P**	**18 49 46.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=244,slow=5.9,SNR=4.2						
MKAR	**Makanchi Array**	**83.54**	**319**	P	**P**	**18 49 48.9**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=122,slow=4.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKPbc	**PKiKP**	**18 57 20.4**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=59,slow=0.9,SNR=3.2						
TORD				PKPab	**PKPab**	**18 57 30.1**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=47,slow=2.1,SNR=8.3						

NEIC ***18*** *18:55:52.2±1.6, 23°.6S±0°.1×180°.0W±0°.1, h510km±5km, mb4.4/28, Error ellipse: s-maj=16.9km s-min=13.1km az=127.0*

IDC ***18*** *18:55:52.1±1.7, 23°.54S×179°.90W, h508km±17km, mb3.4/11, mb1 3.6/13, mb1mx3.4/46, mbtmp4.3/13, Error ellipse: s-maj=24.4km s-min=14.5km az=168.0*

ISC 18 18:55:53.7±0.5, **23°.60S**±0°.07×**179°.89W**±0°.08, **h532**km, **n65**, σ1§**22**/66, **mb4.2**/24, **3C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.90**	**163**	P	**P**	**18 57 27.7**	**-2.7**
	58nm,0.3s,baz=53,slow=20,SNR=1.8						
MSVF	**Nonsavu**	**6.15**	**341**	P	**P**	**18 57 33.1**	**+0.1**
NIUE	**Niue**	**10.31**	**66**	P	**P**	**18 58 12.8**	**-1.9**
DZM	**Mont Dzumac**	**12.70**	**274**	P	**P**	**18 58 38.3**	**-1.4**
	0.4nm,0.3s,baz=145,slow=20,SNR=1.8						
SANVU	**Saraoutou**	**14.62**	**301**	P	**P**	**18 58 55.1**	**-4.5**
URZ	**Urewera**	**14.84**	**189**	P	**P**	**18 59 01.1**	**-0.5**
	1.0nm,0.3s,baz=163,slow=22,SNR=1.5						
URZ				S	**S**	**19 01 34.1**	**-2.4**
	0.7nm,0.3s,baz=98,slow=20,SNR=6.0						
BKZ	**Black Stump Fm**	**15.82**	**190**	P	**P**	**18 59 10.6**	**-1.2**
BFZ	**Birch Farm**	**17.34**	**190**	P	**P**	**18 59 25.3**	**-1.0**
QRZ	**Quartz Range**	**18.32**	**199**	P	**P**	**18 59 36.3**	**+1.1**
NNZ	**Nelson**	**18.45**	**196**	P	**P**	**18 59 37.6**	**+1.2**
KHZ	**Kahutara**	**19.55**	**195**	P	**P**	**18 59 46.0**	**-0.4**
DCZ	**Deep Cove**	**24.23**	**203**	P	**P**	**19 00 28.9**	**+0.6**
DCZ				IAmb	IAmb	19 00 34.9	
	comp=Z,24nm,1.4s						
WHZ	**Wether Hill Ro**	**24.33**	**201**	P	**P**	**19 00 30.4**	**+1.2**
WHZ				IAmb	IAmb	19 00 42.7	
	comp=Z,38nm,1.7s						
ARMA	**Armidale**	**26.23**	**249**	P	**P**	**19 00 48.4**	**+2.0**
ARMA				IAmb	IAmb	19 01 14.6	
	comp=Z,16nm,1.4s						
EIDS	**Eidsvold**	**26.46**	**260**	P	**P**	**19 00 49.0**	**+0.7**
EIDS				IAmb	IAmb	19 00 51.0	
	comp=Z,22nm,1.4s						
CTA	**Charters Tower**	**31.58**	**270**	P	**P**	**19 01 33.6**	**+0.6**
	comp=Z,16nm,0.4s,baz=93,slow=11,SNR=54						
CTAO	**Charters Tower**	**31.58**	**270**	P	**P**	**19 01 33.7**	**+0.8**
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**19 02 00.6**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=97,slow=11,SNR=7.8						
COEN	**Coen**	**36.17**	**279**	P	**P**	**19 02 12.5**	**+0.9**
COEN				IAmb	IAmb	19 02 24.5	
	comp=Z,31nm,1.5s						
BBOO	**Buckleboo**	**39.66**	**247**	P	**P**	**19 02 39.8**	**0.0**
BBOO				IAmb	IAmb	19 02 55.5	
	comp=Z,34nm,1.4s						
AS31	**Alice Springs**	**42.19**	**260**	P	**P**	**19 02 59.9**	**-0.2**
ASAR	**Alice Springs**	**42.19**	**260**	P	**P**	**19 02 59.9**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=98,slow=7.1,SNR=51						
ASAR				ScP	**ScP**	**19 07 44.8**	**+2.7**
	comp=Z,1.1nm,0.7s,baz=112,slow=4.2,SNR=11						
WR0	**Warramunga Arr**	**42.34**	**266**	P	**P**	**19 03 00.7**	**-0.6**
WR0				IAmb	IAmb	19 03 21.7	
	comp=Z,10nm,1.6s						
WB2	**Warramunga Arr**	**42.52**	**266**	P	**P**	**19 03 02.2**	**-0.5**
WB2				IAmb	IAmb	19 03 02.8	
	comp=Z,6.1nm,0.6s						
WB0	**Warramunga Arr**	**42.52**	**266**	P	**P**	**19 03 02.2**	**-0.5**
WB0				IAmb	IAmb	19 03 02.8	
	comp=Z,7.1nm,0.7s						
WRAB	**Tennant Creek**	**42.52**	**266**	P	**P**	**19 03 02.1**	**-0.6**
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**19 03 02.2**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=91,slow=8.4,SNR=175						
WRA				ScP	**ScP**	**19 07 46.1**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=89,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**19 03 02.1**	**-0.7**
FORT	**Forrest**	**46.51**	**249**	P	**P**	**19 03 32.9**	**-0.4**
FORT				IAmb	IAmb	19 03 56.3	
	comp=Z,21nm,1.0s						
MTN	**Manton Dam**	**47.54**	**274**	P	**P**	**19 03 40.4**	**-0.8**
KNRA	**Kununurra**	**48.79**	**269**	P	**P**	**19 03 49.6**	**-1.0**
KNRA				IAmb	IAmb	19 04 18.6	
	comp=Z,10nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**19 04 06.4**	**0.0**
	comp=Z,1.1nm,0.6s,baz=94,slow=8.1,SNR=8.9						
SIJI	**Sorong**	**52.44**	**288**	P	**P**	**19 04 16.9**	**-0.3**
	comp=Z,5.5nm,0.6s,baz=77,slow=12,SNR=4.7						
MORW	**Morawa**	**57.08**	**250**	P	**P**	**19 04 49.5**	**0.0**
MORW				IAmb	IAmb	19 05 12.5	
	comp=Z,22nm,1.4s						
CASY	**Casey**	**60.43**	**206**	P	**P**	**19 05 11.7**	**+0.4**
QSPA	**South Pole Qui**	**66.48**	**180**	P	**P**	**19 05 52.3**	**+2.0**
QSPA				IAmb	IAmb	19 05 53.2	
	comp=Z,4.9nm,0.8s						
BELA	**Belgrano 2**	**76.72**	**173**	P	**P**	**19 06 49.9**	**+0.3**
MAW	**Mawson**	**78.07**	**200**	P	**P**	**19 06 58.0**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=137,slow=7.8,SNR=8.4						
NVAR	**Mina Array Bea**	**84.46**	**44**	P	**P**	**19 07 31.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=224,slow=8.6,SNR=5.7						
NVAR	**Mina Array Bea**	**84.46**	**44**	P	**P**	**19 07 31.4**	**+0.8**
SNAA	**Sanae**	**84.97**	**179**	P	**P**	**19 07 32.4**	**0.0**
VNA3	**Neumayer Olymp**	**85.17**	**177**	P	**P**	**19 07 33.7**	**+0.3**
VNA2	**Neumayer--Watz**	**85.59**	**178**	P	**P**	**19 07 35.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**19 07 55.9**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=145,slow=3.3,SNR=4.7						
SRU	**San Rafael Swe**	**89.92**	**47**	P	**P**	**19 07 58.1**	**+1.7**
TXAR	**Lajitas Array**	**90.18**	**58**	P	**P**	**19 07 59.3**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=216,slow=6.8,SNR=11						
PDAR	**Pinedale Array**	**92.40**	**44**	P	**P**	**19 08 08.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=235,slow=3.2,SNR=4.1						
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP	**PKiKP**	**19 13 27.0**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=249,slow=1.3,SNR=4.6						
ARCES	**ARCESS Array B**	**131.61**	**348**	PKP	**PKPdf**	**19 14 05.4**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=56,slow=3.1,SNR=6.5						
FINES	**FINESS Array B**	**138.19**	**342**	PKhKP	PKPpre	19 14 08.3	
	comp=Z,0.7nm,0.7s,baz=122,slow=25,SNR=4.1						
FINES				PKP	**PKPdf**	**19 14 18.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=44,slow=1.6,SNR=6.9						
NOA	**NORSAR Array B**	**141.80**	**351**	PKhKP	PKPpre	19 14 18.8	
	comp=Z,0.2nm,0.4s,baz=7.9,slow=3.6,SNR=1.3						
HFS	**Hagfors**	**142.27**	**349**	PKhKP	PKPpre	19 14 21.1	
	comp=Z,3.8nm,0.3s,baz=85,slow=3.0,SNR=39						
AKASG	**Malin Array Be**	**144.77**	**328**	PKP	**PKPdf**	**19 14 28.5**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=46,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**147.48**	**308**	PKPbc	**PKPbc**	**19 14 37.4**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=147,slow=3.5,SNR=2.4						
MMAI	**Mount Meron Ar**	**147.67**	**295**	PKPbc	**PKPbc**	**19 14 39.6**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=74,slow=7.2,SNR=19						
EKA	**Eskdalemuir Ar**	**148.21**	**4**	PKPbc	**PKPbc**	**19 14 39.1**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=329,slow=1.2,SNR=4.8						
BIZ	**Bicaz**	**148.75**	**325**	↑P	**PKiKP**	**19 14 42.0**	**-0.1**
BURAR	**Bucovina Array**	**148.78**	**326**	↓P	**PKiKP**	**19 14 43.1**	**+0.9**
DOPR	**Dopca**	**149.75**	**324**	↓P	**PKiKP**	**19 14 44.4**	**+0.2**
ARR	**Arges**	**150.54**	**323**	↑P	**PKiKP**	**19 14 46.9**	**+1.0**
CLL	**Collm**	**150.60**	**343**	↑/PKPbc	**PKPbc**	**19 14 45.3**	**+0.1**
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**150.60**	**343**		**PKPbc**	**19 14 45.5**	**+0.2**
SIRR	**Siria**	**151.48**	**328**	↓P	**PKPbc**	**19 14 47.9**	**+0.5**
GERES	**GERESS Array B**	**152.61**	**340**	PKPbc	**PKPbc**	**19 14 48.9**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=18,slow=3.5,SNR=4.9						
ESDC	**Sonseca Array**	**163.60**	**11**	PKPab	**PKPab**	**19 15 51.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=345,slow=3.3,SNR=2.3						

IDC ***18*** *19:05:10.7±1.1, 2°.83S×128°.71E, h0km, mb4.0/4, mb1 4.2/7, mb1mx3.8/45, mbtmp4.0/7, ML4.4/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/35, Error ellipse: s-maj=40.8km s-min=20.4km az=76.0*

DJA ***18*** *19:05:14.1±0.3, 3°.5S×2°×12°.9E±°, h10km, M4.2/11, mB4.8/2, mb4.6/4, MLv4.0/11, Mw(mB)4.0/2*

NEIC ***18*** *19:05:16.8±1.0, 2°.88S±0°.08×128°.91E±0°.07, h48km±9km, mb4.2/15, Error ellipse: s-maj=11.1km s-min=10.3km az=202.0*

ISC 18 19:05:15.3±0.6, **2°.85S**±0°.05×**128°.85E**±0°.05, **h33**km, **n41**, σ1§**51**/45, **mb4.2/9, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.51**	**171**	P	**Pn**	**19 05 26.7**	**+0.5**
MSAI				S	**Sn**	**19 05 35.9**	**+2.2**
NLAI	**Namlea**	**1.79**	**257**	P	**Pb**	**19 05 46.3**	**-1.1**
NLAI				S	**Sb**	**19 06 09.6**	**+0.1**
BNDI	**Bandanaira**	**1.97**	**148**	P	**Pb**	**19 05 50.8**	**+0.2**
BNDI				S	**Sb**	**19 06 17.0**	**+2.2**
SANI	**Sanana**	**2.96**	**285**	P	**Pn**	**19 05 59.4**	**-0.6**
SIJI	**Sorong**	**3.11**	**5**	Pn	**Pn**	**19 06 02.7**	**+0.6**
	41nm,0.3s,baz=8.7,slow=3.6,SNR=269						
SIJI				Sn	**Sn**	**19 06 36.4**	**-1.9**
	25nm,0.3s,baz=199,slow=23,SNR=27						
FAKI	**Fak Fak**	**3.40**	**91**	P	**Pn**	**19 06 06.7**	**+0.7**
FAKI	**Fak Fak**	**3.40**	**91**		**Pn**	**19 06 06.7**	**+0.7**
TNTI	**Ternate**	**3.88**	**338**	Pn	**Pn**	**19 06 15.3**	**+2.6**
KMSI	**Cibinong**	**5.93**	**305**	P	**Pn**	**19 06 40.2**	**-0.7**
	0.3nm691nm47nm,0.6s						
LUWI	**Luwuk**	**6.33**	**286**	Pn	**Pn**	**19 06 48.2**	**+1.8**
SOEI	**Soe**	**8.24**	**213**	Pn	**Pn**	**19 07 13.8**	**+1.2**
BKSI	**Bulukumba**	**9.04**	**254**	P	Pn	19 07 29.6	+6.0
DAV	**Davao City (W)**	**10.38**	**342**	LR	LR	19 11 10.2	
	comp=Z,68nm,19.2s,baz=2.0,slow=35						
KNRA	**Kununurra**	**12.75**	**180**	Pn	**Pn**	**19 08 16.2**	**+1.8**
MYLDM	**Lahad Datu**	**13.05**	**308**	Pn	**Pn**	**19 08 20.9**	**+2.3**
FITZ	**Fitzroy Crossi**	**15.48**	**192**	Pn	**Pn**	**19 08 51.2**	**-0.2**
	0.0nm,0.3s,baz=15,slow=12,SNR=1.9						
FITZ	**Fitzroy Crossi**	**15.48**	**192**		**Pn**	**19 08 52.2**	**+0.8**
FITZ				IAmb	IAmb	19 08 58.1	
	comp=Z,15nm,1.5s						
SBUM	**Sibu**	**17.43**	**287**	Pn	**Pn**	**19 09 15.9**	**-0.2**
WB0	**Warramunga Arr**	**17.67**	**163**		**Pn**	**19 09 18.1**	**-0.9**
WB0				IAmb	IAmb	19 09 21.8	
	comp=Z,32nm,1.5s						
WRA	**Warramunga Arr**	**17.82**	**163**	P	**Pn**	**19 09 20.0**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=344,slow=12,SNR=25						
WRA				S	**Sn**	**19 12 31.5**	**-7.1**
	comp=Z,0.0nm,0.3s,baz=339,slow=22,SNR=2.0						
WRA				LR	LR	19 17 26.2	
	comp=Z,94nm,19.6s,baz=120,slow=41						
WRA	**Warramunga Arr**	**17.82**	**163**	P	**Pn**	**19 09 19.7**	**-1.1**
WB2	**Warramunga Arr**	**17.82**	**163**		**Pn**	**19 09 19.8**	**-1.1**
WB2				IAmb	IAmb	19 09 28.8	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**20.57**	**204**	P	**P**	**19 09 51.1**	**-0.4**
AS31	**Alice Springs**	**21.27**	**167**	P	**P**	**19 09 59.2**	**+0.2**
AS31				IAmb	IAmb	19 10 06.1	
	comp=Z,9.2nm,0.5s						
ASAR	**Alice Springs**	**21.27**	**167**	P	**P**	**19 09 59.6**	**+0.6**
	comp=Z,17nm,0.6s,baz=349,slow=12,SNR=204						
ASAR				S	**S**	**19 13 52.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=347,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**21.27**	**167**	P	**P**	**19 09 59.4**	**+0.4**
STKA	**Stephens Creek**	**21.27**	**159**	P	**P**	**19 11 33.0**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=310,slow=9.8,SNR=4.5						
STKA	**Stephens Creek**	**31.27**	**159**	P	**P**	**19 11 31.8**	**-0.4**
CAN	**Canberra**	**37.33**	**152**	P	**P**	**19 12 24.6**	**-0.1**
MK31	**Makanchi Array**	**64.15**	**326**	P	**P**	**19 15 46.7**	**+0.1**
MK31				IAmb	IAmb	19 15 57.5	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**64.15**	**326**	P	**P**	**19 15 46.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=117,slow=8.0,SNR=5.6						
MKAR	**Makanchi Array**	**64.15**	**326**	P	**P**	**19 15 46.8**	**+0.2**
ZALV	**Zalesovo Beam**	**67.37**	**334**	P	**P**	**19 16 07.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=138,slow=4.8,SNR=2.0						
KURK	**Kurchatov**	**68.40**	**328**	P	**P**	**19 16 13.7**	**+0.1**
KURK				IAmb	IAmb	19 16 14.9	
	comp=Z,3.8nm,0.8s						
KK31	**Karatay Array**	**69.49**	**318**	P	**P**	**19 16 20.8**	**+0.2**
KK31				IAmb	IAmb	19 16 21.8	
	comp=Z,2.9nm,1.1s						
KKAR	**Karatay Array**	**69.49**	**318**	P	**P**	**19 16 21.0**	**+0.3**
BRVK	**Borovoye**	**74.03**	**328**	P	**P**	**19 16 47.8**	**+0.1**
BRVK				IAmb	IAmb	19 16 49.0	
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**78.56**	**321**	P	**P**	**19 17 13.3**	**-0.1**
ABKAR	**Akbulak array**	**78.56**	**321**	P	**P**	**19 17 13.4**	**-0.1**
ABKAR				IAmb	IAmb	19 17 14.9	
	comp=Z,2.1nm,1.2s						
QSPA	**South Pole Qui**	**87.11**	**180**	P	**P**	**19 17 57.6**	**0.0**
TORD	**Torodi Ar. Bea**	**126.78**	**284**	PKP	**PKiKP**	**19 24 17.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=83,slow=0.9,SNR=2.7						

MEX ***18*** *19:13:49.1±0.9, 14°.07N×93°.49W, h15km, MD4.5*

NEIC ***18*** *19:13:53.8±1.8, 14°.34N±0°.06×93°.34W±0°.07, h40km±6km, Error ellipse: s-maj=10.8km s-min=7.4km az=49.0*

GCG ***18*** *19:13:56.0±0.5, 14°.39N×92°.91W, h5km±10km, MD4.7*

IDC ***18*** *19:13:56.8±3.3, 14°.40N×93°.10W, h75km±27km, mb3.9/11, mb1 4.1/14, mb1mx3.8/51, mbtmp4.2/14, MS3.7/16, Ms1 3.7/16, ms1mx3.5/41, Error ellipse: s-maj=30.5km s-min=14.6km az=46.0*

ISC 18 19:13:54.0±1.4, **14°.32N**±0°.07×**93°.29W**±0°.07, **h46**km±12km, **n186**, σ1§**23**/179, **mb4.5**/31, **MS3.6**/16, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG				**1.15**	**59**	*i* P	**Pn**	**19 14 11.5**	**-2.2**
THIG						*i* S	**Sn**	**19 14 28.6**	**+0.4**
THIG				**1.15**	**59**		**Pn**	**19 14 11.5**	**-2.2**
PCIG				**1.38**	**3**	*i* P	**Pn**	**19 14 14.1**	**-2.7**
PCIG						*i* S	**Sn**	**19 14 32.8**	**-1.1**
PCIG				**1.38**	**3**		**Pn**	**19 14 14.1**	**-2.7**
RTAL	**Retalhuleu**			**1.55**	**82**		**Pn**	**19 14 17.3**	**-2.0**
RTAL							Sn	**Sn**	**19 14 40.0**	**+1.8**
ERG	**Entre ros, C**			**1.67**	**86**	*eP*	**Pn**	**19 14 19.5**	**-1.3**
HUEH	**Huehuetenango**			**1.99**	**60**		**Pn**	**19 14 24.9**	**-0.5**
HUEH							Sn	19 14 54.5	+5.2
CCIG	**Comitan**			**2.24**	**29**	*i* P	**Pn**	**19 14 29.2**	**+0.4**
CCIG						*i* S	**Sn**	**19 14 55.7**	**+0.3**
CCIG	**Comitan**			**2.24**	**29**		**Pn**	**19 14 28.5**	**-0.4**
FUG	**Fuego 3**			**2.37**	**87**	*eP*	**Pn**	**19 14 29.1**	**-1.5**
FUG						*eS*	**Sn**	**19 14 57.7**	**-0.9**
TGIG				**2.45**	**4**	*eP*	**Pn**	**19 14 31.2**	**-0.4**
TGIG						*eS*	**Sn**	**19 15 01.6**	**+1.3**
TGIG				**2.45**	**4**		**Pn**	**19 14 31.2**	**-0.4**
TGIG							**Sn**	**19 15 01.6**	**+1.3**
PCG	**Pacaya**			**2.60**	**88**	*eP*	**Pn**	**19 14 34.0**	**+0.2**
APG	**El Apazote**			**2.81**	**76**	P	**Pn**	**19 14 36.3**	**-0.4**
	14nm,0.3s,baz=236,slow=7.2,SNR=82								
APG						S	**Sn**	**19 15 10.0**	**+0.4**
	27nm,0.3s,baz=288,slow=13,SNR=2.2								
NBG	**Las Nubes**			**2.86**	**84**	*eP*	**Pn**	**19 14 38.0**	**+0.6**
HUIG	**Huatulco**			**3.08**	**298**	*i* P	**Pn**	19 14 33.3	-6.9
HUIG						*i* S	**Sn**	19 15 08.6	-7.3
HUIG	**Huatulco**			**3.08**	**298**		**Pn**	19 14 33.3	-6.9
MRL	**Marmol**			**3.57**	**77**	*eP*	**Pn**	**19 14 47.4**	**+0.3**
MTO3	**Montecristo**			**3.81**	**88**	Pn	**Pn**	**19 14 50.7**	**+0.4**
ESQI	**Esquipulas**			**3.83**	**86**		**Pn**	**19 14 51.8**	**+1.2**
SNET	**Serv Nac Est T**			**3.99**	**99**	Pn	**Pn**	**19 14 53.9**	**+1.2**
PETF	**Flores**			**4.18**	**52**	Pn	**Pn**	**19 14 55.2**	**-0.1**
TGUH	**Tegucigalpa,Un**			**5.84**	**92**	Pn	**Pn**	**19 15 18.4**	**+0.2**
TLIG	**Tlapa**			**6.01**	**303**		**Pn**	**19 15 20.4**	**-0.3**
CRIN	**San Cristobal**			**6.28**	**104**	Pn	**Pn**	**19 15 25.5**	**+1.3**
MATN	**Matagalpa**			**7.29**	**100**	Pn	**Pn**	**19 15 39.4**	**+1.3**
TEIG	**Tepich**			**7.57**	**38**	*i* P	**Pn**	**19 15 41.2**	**-0.6**
TEIG	**Tepich**			**7.57**	**38**		**Pn**	**19 15 41.0**	**-0.9**
ACON	**Acoyapa**			**8.24**	**106**	Pn	**Pn**	**19 15 50.7**	**-0.3**
JTS	**Las Juntas de**			**9.07**	**115**	P	**Pn**	**19 16 02.6**	**+0.1**
	1.0nm,0.3s,baz=350,slow=12,SNR=2.5								
JTS	**Las Juntas de**			**9.07**	**115**		**Pn**	**19 16 03.2**	**+0.6**
MOIG	**Morelia**			**9.25**	**306**		**Pn**	**19 16 04.7**	**-0.4**
HDC	**Heredia**			**9.94**	**115**	Pn	**Pn**	**19 16 15.4**	**+0.9**
ZAIG	**Zacatecas**			**12.16**	**315**	Pn	**Pn**	**19 16 43.9**	**-1.1**
FSCY	**Frank Sound, G**			**12.60**	**65**	Pn	**Pn**	**19 16 52.3**	**+1.6**
833A	**Chaparral WMA,**			**15.04**	**339**	P	**Pn**	**19 17 24.1**	**+0.4**
	baz=156								
833A	**Chaparral WM

HSIG				IAmb	IAmb	19 18 59.9		
	comp=Z,23nm,1.4s							
U40A	**Yellville**	**21.95**	**1**	P	**P**	**19 18 44.7**	**+0.9**	
	baz=181,SNR=5.8							
U40A	**Yellville**	**21.95**	**1**	P	**P**	**19 18 43.6**	**-0.1**	
U40A				IAmb	IAmb	19 18 58.4		
	comp=Z,22nm,1.4s							
SC01	**Santiago de lo**	**22.17**	**74**	P	**P**	**19 18 48.3**	**+2.0**	
NHSC	**New Hope**	**22.18**	**30**	P	**P**	**19 18 47.0**	**+0.7**	
HODGE	**Hodges**	**22.19**	**25**	P	**P**	**19 18 47.0**	**+0.6**	
121A	**Cookes Peak, D**	**22.44**	**326**	P	**P**	**19 18 51.6**	**+2.3**	
	baz=140,SNR=25							
121A	**Cookes Peak, D**	**22.44**	**326**	P	**P**	**19 18 50.5**	**+1.2**	
PBMO	**Poplar Bluff**	**22.51**	**6**	P	**P**	**19 18 47.8**	**-2.0**	
PBMO				IAmb	IAmb	19 18 50.9		
	comp=Z,16nm,0.9s							
SDV	**Santo Domingo**	**22.83**	**101**	P	**P**	**19 18 51.9**	**-1.7**	
	comp=Z,3.1nm,0.3s,baz=12,slow=13,SNR=3.5							
SDV	**Santo Domingo**	**22.83**	**101**	P	**P**	**19 18 54.3**	**+0.7**	
TKL	**Tuckaleechee C**	**22.90**	**20**	P	**P**	**19 18 53.3**	**-0.6**	
	comp=Z,1.7nm,0.8s,baz=192,slow=19,SNR=1.4							
TKL				LR	LR	19 29 40.8		
	comp=Z,222nm,19.3s,baz=226,slow=42							
KAN13	**South Haven SW**	**22.90**	**351**	P	**P**	**19 18 53.1**	**-0.9**	
X56A	**White Oak**	**22.93**	**27**	P	**P**	**19 18 58.2**	**+3.9**	
	baz=212							
W54A	**Cherokee Point**	**22.97**	**24**	P	**P**	**19 19 00.1**	**+5.5**	
	baz=209							
V52A	**Sevierville**	**23.13**	**20**	P	**P**	**19 18 55.6**	**-0.6**	
V52A				IAmb	IAmb	19 19 07.1		
	comp=Z,36nm,1.4s							
BNM	**Barren Site**	**23.14**	**331**	P	**P**	**19 18 57.8**	**+1.1**	
DR12	**Loma Pena Alta**	**23.33**	**76**	P	**P**	**19 18 59.3**	**+0.9**	
CCM	**Cathedral Cave**	**23.71**	**4**	P	**P**	**19 19 00.1**	**-1.7**	
	baz=185							
CCM	**Cathedral Cave**	**23.71**	**4**	P	**P**	**19 19 00.6**	**-1.2**	
CCM				IAmb	IAmb	19 19 02.0		
	comp=Z,20nm,0.9s							
ANMO	**Albuquerque**	**23.72**	**332**	P	**P**	**19 19 01.8**	**-0.3**	
	comp=Z,0.3nm,0.9s,baz=143,slow=10,SNR=11							
ANMO				LR	LR	19 30 05.6		
	comp=Z,5.4nm,20.7s,baz=132,slow=41							
ANMO	**Albuquerque**	**23.72**	**332**	P	**P**	**19 19 03.0**	**+0.8**	
	baz=146							
ANMO	**Albuquerque**	**23.72**	**332**	P	**P**	**19 19 02.3**	**+0.2**	
R40A	**Maddies Statio**	**23.89**	**2**	P	**P**	**19 19 02.0**	**-1.5**	
TUC	**Tucson**	**24.00**	**321**	P	**P**	**19 19 06.3**	**+1.7**	
	baz=134							
TUC	**Tucson**	**24.00**	**321**	P	**P**	**19 19 05.1**	**+0.5**	
TUC				IAmb	IAmb	19 19 08.1		
	comp=Z,16nm,1.1s							
T25A	**Trinidad**	**24.79**	**338**	P	**P**	**19 19 13.7**	**+1.7**	
	baz=153,SNR=16							
T25A	**Trinidad**	**24.79**	**338**	P	**P**	**19 19 13.0**	**+1.0**	
KSU1	**Kansas State U**	**24.86**	**354**	P	**P**	**19 19 11.3**	**-0.9**	
	baz=172							
214A	**Organ Pipe Nat**	**25.03**	**318**	P	**P**	**19 19 15.1**	**+1.1**	
214A				IAmb	IAmb	19 19 24.9		
	comp=Z,12nm,1.1s							
CBKS	**Cedar Bluff**	**25.05**	**348**	P	**P**	**19 19 14.0**	**-0.1**	
	baz=165							
CBKS	**Cedar Bluff**	**25.05**	**348**	P	**P**	**19 19 13.9**	**-0.1**	
CBKS				IAmb	IAmb	19 19 16.4		
	comp=Z,20nm,0.9s							
P38A	**Dawn**	**25.20**	**360**	P	**P**	**19 19 15.3**	**-0.1**	
P38A				IAmb	IAmb	19 19 16.2		
	comp=Z,7.8nm,0.8s							
SDCO	**Great Sand Dun**	**25.73**	**337**	P	**P**	**19 19 22.3**	**+1.7**	
	baz=152,SNR=17							
SDCO	**Great Sand Dun**	**25.73**	**337**	P	**P**	**19 19 21.4**	**+0.8**	
SDCO				IAmb	IAmb	19 19 23.4		
	comp=Z,14nm,1.1s							
ATAH	**Atahualpa**	**25.94**	**144**	LR	LR	19 27 52.0		
	comp=Z,108nm,18.0s,baz=334,slow=32							
S22A	**4UR Ranch, Cre**	**26.25**	**335**	P	**P**	**19 19 27.3**	**+2.1**	
	baz=149							
MVCO	**Mesa Verde**	**26.52**	**332**	P	**P**	**19 19 29.7**	**+2.0**	
	baz=145							
WUAZ	**Wupatki**	**26.64**	**326**	P	**P**	**19 19 30.8**	**+2.1**	
	baz=138							
WUAZ	**Wupatki**	**26.64**	**326**	P	**P**	**19 19 29.4**	**+0.8**	
WUAZ				IAmb	IAmb	19 19 35.7		
	comp=Z,11nm,1.1s							
ISCO	**Idaho Springs**	**27.59**	**339**	P	**P**	**19 19 38.1**	**+0.7**	
	baz=153							
BC3	**Big Chuckawall**	**27.83**	**318**	P	**P**	**19 19 41.1**	**+1.8**	
	baz=128,SNR=7.0							
IRM	**Iron Mountain**	**27.95**	**319**	P	**P**	**19 19 42.6**	**+2.4**	
	baz=129							
PFO	**Pinyon Flats O**	**28.47**	**316**	LR	LR	19 30 57.0		
	comp=Z,103nm,21.8s,baz=130,slow=36							
SZCU	**Shurtz Canyon**	**29.10**	**326**	P	**P**	**19 19 53.2**	**+2.5**	
PSUT	**Pine Spring**	**30.20**	**327**	P	**P**	**19 20 01.0**	**+0.6**	
MPMC	**Manual Prospec**	**30.63**	**319**	P	**P**	**19 20 06.1**	**+1.9**	
	baz=129							
NNA	**Nana**	**30.80**	**147**	LR	LR	19 29 51.0		
	comp=Z,103nm,20.1s,baz=334,slow=31							
R11A	**Troy Canyon, C**	**31.01**	**325**	P	**P**	**19 20 09.9**	**+2.3**	
	baz=134							
PDAR	**Pinedale Array**	**31.62**	**337**	PcP	**PcP**	**19 23 04.0**	**-0.4**	
	comp=Z,0.4nm,0.7s,baz=160,slow=5.6,SNR=2.4							
PDAR				LR	LR	19 34 18.3		
	comp=Z,69nm,18.4s,baz=148,slow=39							
ELK	**Elko**	**32.55**	**328**	LR	LR	19 35 49.7		
	comp=Z,192nm,19.5s,baz=153,slow=40							
NV11	**Mina Array Sit**	**32.56**	**322**	P	**P**	**19 20 22.0**	**+0.9**	
NV11				IAmb	IAmb	19 20 27.6		
	comp=Z,8.1nm,1.0s							
REDW	**Red Top Meadow**	**32.63**	**336**	P	**P**	**19 20 22.5**	**+0.7**	
SADO	**Sadowa**	**32.64**	**19**	LR	LR	19 34 43.8		
	comp=Z,162nm,20.8s,baz=263,slow=38							
NVAR	**Mina Array Bea**	**32.64**	**322**	P	**P**	**19 20 23.0**	**+1.1**	
	comp=Z,5.9nm,1.0s,baz=140,slow=8.9,SNR=25							
NVAR				PcP	**PcP**	**19 23 07.6**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=142,slow=4.6,SNR=3.9							
NVAR	**Mina Array Bea**	**32.64**	**322**	P	**P**	**19 20 23.0**	**+1.1**	
HLID	**Hailey**	**34.30**	**332**	P	**P**	**19 20 38.1**	**+1.8**	
	baz=142,SNR=5.1							
MCMT	**McKenzie Canyo**	**34.65**	**335**	P	**P**	**19 20 41.0**	**+1.7**	
ULM	**Lac du Bonnet**	**35.89**	**357**	P	**P**	**19 20 47.5**	**-2.1**	
	comp=Z,5.4nm,0.9s,baz=143,slow=5.2,SNR=5.1							
ULM				LR	LR	19 37 40.0		
	comp=Z,101nm,18.4s,baz=55,slow=40							
PTGA	**Pitinga**	**36.22**	**112**	LR	LR	19 36 02.6		
	comp=Z,104nm,21.7s,baz=282,slow=37							
PTGA	**Pitinga**	**36.22**	**112**	P	**P**	**19 20 52.3**	**-0.6**	
PTGA				IAmb	IAmb	19 20 53.8		
	comp=Z,5.7nm,0.9s							
MSO	**Missoula**	**36.73**	**336**	P	**P**	**19 20 58.1**	**+1.2**	
	baz=145							
LPAZ	**La Paz**	**39.28**	**140**	LR	LR	19 35 57.5		
	comp=Z,82nm,20.7s,baz=311,slow=34							
LPAZ	**La Paz**	**39.28**	**140**	P	**P**	**19 21 17.6**	**-1.7**	
SIV	**San Ignacio**	**43.83**	**132**	P	**P**	**19 21 54.5**	**-1.5**	
	comp=Z,2.5nm,0.8s,baz=322,slow=9.6,SNR=5.9							
SCHQ	**Schefferville**	**45.36**	**21**	LR	LR	19 42 27.7		
	comp=Z,314nm,18.8s,baz=301,slow=38							
YKA	**Yellowknife Ar**	**50.43**	**347**	P	**P**	**19 22 46.8**	**+0.1**	
	comp=Z,9.7nm,0.8s,baz=150,slow=7.2,SNR=18							
BCAR	**Beaver Creek A**	**59.25**	**337**	P	**P**	**19 23 51.6**	**+1.0**	
N25K	**Chitina, Valde**	**59.63**	**334**	P	**P**	**19 23 54.3**	**+1.0**	
	baz=119							
INK	**Inuvik**	**59.78**	**344**	P	**P**	**19 23 54.4**	**+0.3**	
INK				IAmb	IAmb	19 23 55.6		
	comp=Z,7.7nm,1.0s							
K27K	**Chicken**	**59.87**	**337**	P	**P**	**19 23 55.7**	**+0.8**	
	baz=122							
KLU	**Klutina**	**60.14**	**334**	P	**P**	**19 23 58.2**	**+1.4**	
RES	**Resolute Bay**	**60.36**	**360**	P	**P**	**19 23 56.4**	**-1.6**	
	comp=Z,6.1nm,0.8s,baz=184,slow=8.7,SNR=9.3							
RES	**Resolute Bay**	**60.36**	**360**	P	**P**	**19 23 58.0**	**0.0**	
DOT	**Dot Lake**	**60.43**	**337**	P	**P**	**19 23 59.2**	**+0.5**	
SCRK	**Sand Creek**	**60.56**	**337**	P	**P**	**19 24 01.5**	**+1.8**	
	baz=120							
HDA	**Harding Lake**	**61.91**	**337**	P	**P**	**19 24 09.2**	**+0.5**	
	baz=118							
IL31		**62.05**	**337**	P	**P**	**19 24 10.2**	**+0.6**	
ILAR	**Eielson Array**	**62.05**	**337**	P	**P**	**19 24 08.9**	**-0.7**	
	comp=Z,3.0nm,1.0s,baz=137,slow=5.3,SNR=19							
ILAR	**Eielson Array**	**62.05**	**337**	P	**P**	**19 24 09.8**	**+0.1**	
RND	**Reindeer**	**62.21**	**335**	P	**P**	**19 24 11.5**	**+0.7**	
MCK	**McKinley**	**62.38**	**336**	P	**P**	**19 24 12.6**	**+0.7**	
	baz=115							
BMAR	**Burnt Mountain**	**62.56**	**340**	P	**P**	**19 24 13.7**	**+0.7**	
TRF	**Thorofare Moun**	**62.82**	**335**	P	**P**	**19 24 15.4**	**+0.5**	
I23K	**Minto, Yukon-K**	**63.16**	**337**	P	**P**	**19 24 18.1**	**+1.1**	
	baz=116							
MLY	**Manley**	**63.64**	**336**	P	**P**	**19 24 21.0**	**+0.7**	
	baz=114							
EUNU	**Eureka**	**65.83**	**1**	P	**P**	**19 24 35.4**	**+1.1**	
ESDC	**Sonseca Array**	**80.49**	**51**	P	**P**	**19 25 59.2**	**-2.4**	
	comp=Z,1.0nm,0.6s,baz=298,slow=5.2,SNR=4.6							
ESDC				LR	LR	19 58 46.5		
	comp=Z,49nm,18.9s,baz=265,slow=34							
NOA	**NORSAR Array B**	**84.45**	**28**	LR	LR	20 02 19.4		
	comp=Z,59nm,21.2s,baz=290,slow=34							
DBIC	**Dimbokro**	**86.86**	**84**	LR	LR	19 59 03.4		
	comp=Z,23nm,20.3s,baz=258,slow=31							
CLL	**Collm**	**88.81**	**37**	*e*P	**P**	**19 26 45.0**	**+1.8**	
GERES	**GERESS Array B**	**90.14**	**39**	P	**P**	**19 26 47.9**	**-1.7**	
	comp=Z,0.2nm,0.5s,baz=280,slow=3.9,SNR=3.8							
NRIK	**Noril'sk**	**96.55**	**360**	LR	LR	20 16 08.5		
	comp=Z,59nm,18.0s,baz=18,slow=39							
WRA	**Warramunga Arr**	**134.26**	**256**	PKP	**PKPdf**	**19 33 08.1**	**+0.4**	
	comp=Z,0.7nm,0.9s,baz=86,slow=1.8,SNR=2.1							
CMAR	**Chiang Mai Arr**	**145.27**	**339**	PKPbc	**PKPbc**	**19 33 27.4**	**+0.1**	
	comp=Z,2.9nm,0.8s,baz=344,slow=4.2,SNR=20							

ATA ***18*** *19:15:01.1±1.6,39.97N×39.66E,h10km±33km,ML2.7, MW3.8*
DDA ***18*** *19:15:02.4,39.97N×39.63E,h9km±2km,ML2.9*
ISK ***18*** *19:15:02.4,40.00N×39.66E,h5km,ML3.1/17*

ISC 18 19:15:02.2±1.0,39.96N±0.02×39.62E±0.02,h5km±9km, n39,σ1°36/63,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EUZM	**Uzumlu**	**0.26**	**166**	*i* P		**Pb**	**19 15 08.6**	**-0.8**
EUZM				*i* S		**Sg**	**19 15 12.1**	**+1.4**
EUZM				IAML			19 15 13.0	
	comp=N,1μm,0.4s							
EUZM				IAML			19 15 14.0	
	comp=E,1μm,0.8s							
KELT	**Kelkit**	**0.34**	**304**	*e*P		**Pg**	**19 15 09.5**	**+0.6**
KELT				*e*S		**Sg**	**19 15 14.6**	**+1.2**
KELT				IAML			19 15 16.2	
	comp=Z,2μm,0.4s							
KELT	**Kelkit**	**0.34**	**304**	*i* P		**Pg**	**19 15 09.8**	**+0.9**
KELT				IAML			19 15 14.0	
	comp=N,6μm,0.3s							
KELT				*i* S		**Sg**	**19 15 14.2**	**+0.9**
KELT				IAML			19 15 15.0	
	comp=E,3μm,0.2s							
ERZN	**Erzincan**	**0.38**	**168**	PG		**Pb**	**19 15 11.1**	**-0.4**
ERZN				SG		**Sb**	**19 15 17.4**	**-0.3**
GUMT	**Gumushane**	**0.51**	**348**	PG		**Pg**	**19 15 12.3**	**+0.2**
BAYB	**BAYBURT**	**0.57**	**58**	*e*P		**Pg**	**19 15 12.2**	**-1.1**
BAYB				*e*S		**Sg**	**19 15 20.5**	**-0.3**
BAYB				IAML			19 15 22.4	
	comp=Z,713nm,0.9s							
BAYB	**BAYBURT**	**0.57**	**58**	*i* P		**Pg**	**19 15 12.9**	**-0.4**
BAYB				*i* S		**Sg**	**19 15 20.2**	**-0.6**
BAYB				IAML			19 15 23.0	
	comp=E,966nm,0.7s							
BAYT	**Aydıntepe-Bayb**	**0.59**	**43**	PG		**Pg**	**19 15 13.4**	**-0.2**
BAYT				SG		**Sg**	**19 15 20.9**	**-0.4**
KOPT	**Kop Dagi**	**0.68**	**85**	*i* P		**Pg**	**19 15 15.2**	**0.0**
KOPT				*i* S		**Sb**	**19 15 25.1**	**-1.4**
KOPT				IAML			19 15 29.0	
	comp=N,559nm,0.5s							
KOPT				IAML			19 15 32.0	
	comp=E,334nm,0.5s							
TNCL	**Tunceli-Merkez**	**0.85**	**184**	*i* P		**Pn**	**19 15 22.4**	**+1.5**
TNCL				*i* S		**Sg**	**19 15 29.8**	**+0.4**
REFA	**Refahiye_ERZN**	**0.87**	**230**	*e*P		**Pg**	**19 15 16.2**	**-2.7**
REFA				*e*S		**Sg**	**19 15 25.2**	**-4.9**
REFA				IAML			19 15 28.3	
	comp=Z,205nm,0.6s							
REFA	**Refahiye_ERZN**	**0.87**	**230**	*i* P		**Pg**	**19 15 15.6**	**-3.3**
REFA				*i* S		**Sg**	**19 15 25.2**	**-4.9**
YEDI	**Yedisu-Bingol**	**0.88**	**126**	PG		**Pg**	**19 15 19.3**	**+0.1**
YEDI				SG		**Sb**	**19 15 32.9**	**+0.6**
ILIC	**ilic-Erzincan**	**0.96**	**238**	PG		**Pn**	**19 15 22.1**	**-0.3**
ILIC				SG		**Sn**	**19 15 36.6**	**+0.2**
MACK	**Trabzon**	**0.99**	**7**	*i* P		**Pb**	**19 15 21.5**	**-0.4**
MACK				*i* S		**Sg**	**19 15 34.0**	**-0.1**
MACK				IAML			19 15 38.0	
	comp=E,430nm,0.2s							
MACK				IAML			19 15 39.0	
	comp=N,363nm,0.2s							
KTUT	**Trabzon**	**1.03**	**6**	PG		**Pg**	**19 15 21.9**	**-0.1**
KTUT				SG		**Sb**	**19 15 36.5**	**+0.1**
EMRE	**Erzurum,Aziziy**	**1.04**	**86**	*i* P		**Pb**	**19 15 22.9**	**-0.1**
KRIK	**Erzurum-spir**	**1.07**	**69**	*i* P		**Pb**	**19 15 23.1**	**-0.3**
KRIK				*i* S		**Sb**	**19 15 37.5**	**-0.2**
PTK	**Pertek**	**1.08**	**189**	PN		**Pn**	**19 15 24.4**	**+0.2**
PTK				SN		**Sn**	**19 15 40.6**	**+1.0**
KEMA	**Kemaliye**	**1.11**	**232**	*e*P		**Pg**	**19 15 23.3**	**-0.2**
KEMA				*e*S		**Sn**	**19 15 39.7**	**-0.5**
KEMA				IAML			19 15 44.6	
	comp=Z,29nm,0.5s							
KEMA	**Kemaliye**	**1.11**	**232**	*i* P		**Pn**	**19 15 24.5**	**0.0**
KEMA				*i* S		**Sn**	**19 15 40.6**	**+0.4**
KEMA				IAML			19 15 44.0	
	comp=E,151nm,0.4s							
ESPY	**Espiye-Giresun**	**1.17**	**325**	PN		**Pg**	**19 15 24.7**	**0.0**
BNGB	**Bingl**	**1.27**	**139**	PN		**Pg**	**19 15 27.4**	**+0.9**
KARO	**Karliova-Bingo**	**1.28**	**120**	PN		**Pg**	**19 15 27.7**	**+0.9**
ARPR	**Arapgir-MALATY**	**1.32**	**229**	PN		**Pg**	**19 15 28.5**	**+1.0**
CUZAR	**Zara_SIVAS**	**1.42**	**268**	*i* P		**Pg**	**19 15 30.2**	**+0.7**
CUZAR				*i* S		**Sn**	**19 15 48.2**	**+0.2**
CUZAR				IAML			19 15 54.0	
	comp=N,148nm,0.5s							
CUZAR				IAML			19 15 57.0	
	comp=E,260nm,0.5s							
ELZG	**Elazig**	**1.54**	**199**	*i* P		**Pg**	**19 15 32.3**	**+0.6**
ELZG				*i* S		**Sg**	**19 15 54.0**	**+2.3**
ELZG				IAML			19 16 01.0	
	comp=N,103nm,0.8s							
ELZG				IAML			19 16 01.0	
	comp=E,197nm,0.8s							
SVRC	**Sivrice-ELAZID**	**1.60**	**189**	PN		**Pb**	**19 15 32.7**	**+0.4**
VRTB	**Varto-Mus**	**1.63**	**119**	PN		**Pb**	**19 15 32.7**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.68**	**231**	P		**Pb**	**19 15 33.8**	**+0.1**
ORDU	**Ordu-Boztepe**	**1.69**	**308**	*i* P		**Pg**	**19 15 34.7**	**0.0**
ORDU				*i* S		**Sb**	**19 15 55.5**	**0.0**
ORDU				IAML			19 16 00.0	
	comp=E,189nm,0.7s							
ORDU				IAML			19 16 01.0	
	comp=N,215nm,0.6s							
KOPR	**Koprukoy-ERZUR**	**1.72**	**88**	PN		**Pb**	**19 15 33.3**	**-1.0**
CUKAN	**kangal_SIVAS**	**1.78**	**250**	*i* P		**Pg**	**19 15 36.3**	**0.0**
CUKAN				*i* S		**Sg**	**19 16 03.5**	**+4.0**
RSDY	**Resadiye-TOKAT**	**1.81**	**285**	PN		**Pb**	**19 15 35.2**	**-0.6**
DBAD	**Bademkaya**	**1.90**	**56**	*i* P		**Pg**	**19 15 38.0**	**-0.7**
DBAD				*i* S		**Sb**	**19 16 00.8**	**-0.8**
DBAD				IAML			19 16 14.0	
	comp=N,73nm,0.5s							
MUSM	**Mu-Merkez**	**1.92**	**129**	*i* P		**Pb**	**19 15 37.1**	**-0.6**
BCA	**Borcka**	**2.13**	**45**	PN		**Pn**	**19 15 38.9**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.17**	**73**	PN		**Pn**	**19 15 39.7**	**+0.5**
BATM	**Batumi**	**2.28**	**43**	PN		**Pn**	**19 15 41.0**	**+0.6**

NAO ***18*** *19:18:34.9±3.3,73.67N×7.70E,ML3.8*
IDC ***18*** *19:18:36.7±0.8,73.62N×8.03E,h0km,mb3.6/7, mb1 3.8/11,mb1mx3.5/69,mbtmp3.6/11,ML2.7/3,MS2.7/3, Ms1 2.8/3,ms1mx2.4/51,Error ellipse: s-maj=19.2km s-min=13.3km az=70.0*
NEIC ***18*** *19:18:37.6±2.6,73.60N±0.08×8.1E±0.3,h10km±1km, mb4.4/7,Error ellipse: s-maj=16.4km s-min=13.5km az=253.0*
BER ***18*** *19:18:38.3±2.7,73.74N×8.19E,h10km,MS3.4, ML4.0(NAO)*

ISC 18 19:18:37.6±0.5,73.70N±0.06×8.37E±0.07,h10km,n75, σ1°72/73,mb3.8/10,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**3.04**	**69**	*e*P		**Pn**	**19 19 24.4**	**-1.2**
HSPB	**Hornsund (broa**	**3.79**	**25**	Pn		**Pn**	**19 19 34.2**	**-1.7**
HSPB	**Hornsund (broa**	**3.79**	**25**	*e*P		**Pn**	**19 19 34.4**	**-1.5**
BRBA	**Barentsburg A**	**4.61**	**15**	Pn		**Pn**	**19 19 45.5**	**-1.7**
BRBA	**Barentsburg A**	**4.61**	**15**	*e*P		**Pn**	**19 19 45.6**	**-1.6**
BRBB	**Barentsburg B**	**4.64**	**15**	Pn		**Pn**	**19 19 46.1**	**-1.6**
BRBB	**Barentsburg B**	**4.64**	**15**	*e*P		**Pn**	**19 19 46.1**	**-1.6**
SPA0	**Spitsbergen Ar**	**4.90**	**20**	Pn		**Pn**	**19 19 50.8**	**-0.5**
	baz=194,slow=16							
SPA0	**Spitsbergen Ar**	**4.90**	**20**			**Pn**	**19 19 50.6**	**-0.7**
SPA0	**Spitsbergen Ar**	**4.90**	**20**	Pn		**Pn**	**19 19 50.8**	**-0.5**
	baz=194,slow=16							
SPITS	**Spitsbergen Ar**	**4.90**	**20**	Pn		**Pn**	**19 19 50.5**	**-0.7**
	baz=190,slow=14,SNR=164							
SPITS					Sn	**Sn**	**19 20 45.2**	**-2.8**
	baz=183,slow=14,SNR=0.4							
HOPEN	**Hopen**	**5.12**	**49**	Pn		**Pn**	**19 19 55.9**	**+1.7**
HOPEN	**Hopen**	**5.12**	**49**	*e*P		**Pn**	**19 19 54.8**	**+0.6**
TRO	**Tromso**	**5.26**	**136**	Pn		**Pn**	**19 19 55.9**	**-0.3**
TRO	**Tromso**	**5.26**	**136**	*e*P		**Pn**	**19 19 55.5**	**-0.6**
KBS	**Kingsbay**	**5.33**	**7**	Pn		**Pn**	**19 19 55.3**	**-1.7**
KBS	**Kingsbay**	**5.33**	**7**	Pn		**Pn**	**19 19 55.4**	**-1.6**
KBS	**Kingsbay**	**5.33**	**7**	*e*P		**Pn**	**19 19 55.2**	**-1.8**
HAMF	**Hammerfest**	**5.60**	**116**	*e*P		**Pn**	**19 19 59.4**	**-1.5**
JNE	**Jan Mayen East**	**5.74**	**250**	*e*P		**Pn**	**19 20 01.7**	**-1.0**
JNW	**Jan Mayen West**	**5.75**	**251**	*e*P		**Pn**	**19 20 00.7**	**-2.2**
JMIC	**Jan Mayen**	**5.80**	**250**	*e*P		**Pn**	**19 20 02.0**	**-1.5**
LOF	**Lofoten**	**5.84**	**161**	Pn		**Pn**	**19 20 04.9**	**+0.8**
LOF	**Lofoten**	**5.84**	**161**	*e*P		**Pn**	**19 20 03.2**	**-0.9**
LOF					IVMs_BB	IVMs_BB	19 20 10.8	
	comp=Z,412nm,3.9s							
KIF	**Kilpisjarvi**	**6.16**	**134**	*e*P		**Pn**	**19 20 08.0**	**-0.5**
STEI	**Steigen**	**6.22**	**155**	*e*P		**Pn**	**19 20 08.7**	**-0.6**
FAUS	**Fauske**	**6.75**	**157**	*e*P		**Pn**	**19 20 18.8**	**+2.3**
ARD2	**ARCESS Array S**	**6.82**	**119**	Pn		**Pn**	**19 20 18.4**	**+0.9**
ARA0	**ARCESS Array S**	**6.82**	**119**	Pn		**Pn**	**19 20 17.8**	**+0.3**
	baz=320,slow=12							
ARA0	**ARCESS Array S**	**6.82**	**119**	Pn		**Pn**	**19 20 17.8**	**+0.3**
	baz=320,slow=12							
ARCES	**ARCESS Array B**	**6.82**	**119**	Pn		**Pn**	**19 20 17.6**	**+0.1**
	baz=326,slow=11,SNR=23							
ARCES					Sn	**Sn**	**19 21 28.3**	**-6.8**
	baz=318,slow=18,SNR=1.6							
ARCES				LR	LR		19 23 13.3	
	comp=Z,66nm,19.4s,baz=345,slow=40							
KEV	**Kevo**	**7.04**	**115**	Pn		**Pn**	**19 20 19.6**	**-1.0**
KONS	**Konsvik**	**7.41**	**165**	*e*P		**Pn**	**19 20 25.4**	**-0.2**
MOR8	**Moi Rana**	**7.84**	**162**	*e*P		**Pn**	**19 20 28.4**	**-3.1**
DBG	**Daneborg**	**7.88**	**288**	*e*P		Pn	19 20 26.9	-5.0
NOR	**Nord**	**9.43**	**338**	Pn		Pn	19 20 48.0	-5.2
APA0	**Apatity Array**	**10.12**	**115**	Pn		**Pn**	**19 21 01.2**	**-1.4**
	baz=307,slow=11							
APA0	**Apatity Array**	**10.12**	**115**	Pn		**Pn**	**19 21 01.2**	**-1.4**
	baz=307,slow=11							
LVZ	**Lovozero**	**10.33**	**111**	Pn		**Pn**	**19 21 05.3**	**-0.4**
NC204	**NORSAR Array S**	**12.51**	**175**	Pn		**Pn**	**19 21 33.4**	**-2.1**
NOA	**NORSAR Array B**	**12.76**	**174**	Pn		**Pn**	**19 21 38.5**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=6.3,slow=13,SNR=2.7							
NOA				LR	LR		19 26 13.4	
	comp=Z,27nm,18.6s,baz=240,slow=36							
BORG	**Borgarnes**	**13.64**	**244**	Pn		**Pn**	**19 21 49.3**	**-1.5**
	comp=Z,5.9nm,0.3s,baz=90,slow=6.9,SNR=27							
FIA0	**FINESS Array S**	**13.93**	**143**	Pn		**Pn**	**19 21 53.5**	**-1.3**
	baz=348,slow=14							
FIA1	**FINESS Array S**	**13.93**	**143**	Pn		**Pn**	**19 21 51.1**	**-3.7**
FINES	**FINESS Array B**	**13.93**	**143**	Pn		**Pn**	**19 21 53.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=8.8							
FINES	**FINESS Array B**	**13.93**	**143**			**Pn**	**19 21 51.1**	**-3.7**
SUW	**Suwalki**	**20.68**	**155**	P		**P**	**19 23 15.9**	**-1.4**
SUW				IAmb		IAmb	19 23 19.7	
	comp=Z,27nm,1.2s							
OBN	**Obninsk**	**21.85**

KDI	**Kendari**	**1.04**	**187**	P	**Pn**	**19 21 02.4**	**-0.9**
LUWI	**Luwuk**	**1.86**	**1**	P	**Pn**	**19 21 13.6**	**-1.0**
LUWI				S	**Sn**	**19 21 37.7**	**+0.7**
TTSI	**Tana Toraja**	**2.92**	**267**	P	**Pn**	**19 21 27.1**	**-2.1**
TTSI				S	**Sn**	**19 22 04.6**	**+1.6**
SPSI	**Sidrap Palu**	**3.14**	**251**	P	**Pn**	**19 21 31.2**	**-1.0**
SANI	**Sanana**	**3.36**	**75**	P	**Pn**	**19 21 33.3**	**-1.9**
BKSI	**Bulukumba**	**3.54**	**227**	P	**Pn**	**19 21 38.5**	**+0.8**
GTOI	**Gorontalo**	**3.54**	**4**	P	**Pn**	**19 21 38.5**	**+0.8**
KAPI	**Kappang**	**3.64**	**235**	Pn	**Pn**	**19 21 37.8**	**-1.2**
	4.3nm,0.3s,baz=355,slow=9.0,SNR=9.0						
KAPI				Sn	**Sn**	**19 22 20.6**	**-0.2**
	6.8nm,0.3s,baz=265,slow=22,SNR=7.2						
MPSI	**Mapaga**	**4.30**	**319**	P	**Pn**	**19 21 47.9**	**-0.3**
BATI	**Baumata**	**7.30**	**173**	Pn	**Pn**	**19 22 29.1**	**-0.4**
	0.4nm,0.3s,baz=180,slow=2.0,SNR=1.8						
BATI				LR	LR	19 25 44.6	
	comp=Z,138nm,18.8s,baz=44,slow=42						
SIJI	**Sorong**	**8.76**	**77**	Pn	**Pn**	**19 22 50.6**	**+1.1**
	1.6nm,0.3s,baz=223,slow=16,SNR=6.8						
FITZ	**Fitzroy Crossi**	**15.35**	**170**	Pn	**P**	**19 24 24.1**	**+0.5**
	0.1nm,0.3s,baz=9.0,slow=8.1,SNR=7.0						
WRA	**Warramunga Arr**	**20.36**	**147**	P	**P**	**19 25 18.4**	**-0.5**
	0.3nm,0.6s,baz=326,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**23.28**	**153**	P	**P**	**19 25 50.2**	**+0.2**
	0.3nm,0.8s,baz=330,slow=11,SNR=8.5						
ASAR				LR	LR	19 36 42.3	
	comp=Z,34nm,19.8s,baz=360,slow=41						
CMAR	**Chiang Mai Arr**	**31.63**	**313**	LR	LR	19 40 13.4	
	comp=Z,18nm,19.7s,baz=190,slow=37						
MKAR	**Makanchi Array**	**60.96**	**329**	P	**P**	**19 30 55.1**	**+0.2**
	0.5nm,0.8s,baz=120,slow=8.5,SNR=2.5						

*MAN **18** 19:23:25.8,8˚.69N×126˚.49E,h21km,mb4.9,ML3.8,MS3.7*
*NEIC **18** 19:23:29.5±1.4,8˚.70N±0˚.08×126˚.4E±0˚.1,h80km±8km, mb4.3/24,Error ellipse: s-maj=17.9km s-min=10.9km az=102.0*
*IDC **18** 19:23:29.8±2.0,8˚.69N×126˚.44E,h84km±18km,mb3.7/16, mb1 3.8/17,mb1mx3.6/44,mbtmp4.0/17,MS3.1/2, Ms1 3.1/2,ms1mx2.5/45,Error ellipse: s-maj=22.6km s-min=11.6km az=79.0*

ISC 18 19:23:26.7±1.1,8˚.70N±0˚.04×126˚.52E±0˚.07,h53km±10km, n69,σ1°64/82,mb4.2/28,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIP	**Bislig**	**0.54**	**209**	⇓*i*P	**Pn**	**19 23 37.0**	**-1.7**
BIP				*i* S	**Sn**	**19 23 44.0**	**-3.3**
BUKP	**Musuan**	**1.66**	**240**	*e*P	**Pn**	**19 23 52.8**	**-0.7**
BUKP				*e*S	**Sn**	**19 24 15.1**	**+1.4**
MATI	**Mati**	**1.77**	**188**	*e*P	**Pn**	**19 23 54.2**	**-0.7**
MATI				*e*S	**Sn**	**19 24 17.5**	**+1.2**
CGP	**Cagayan de Oro**	**1.82**	**262**	⇑*i*P	**Pn**	**19 23 56.3**	**+0.7**
CGP				*i* S	**Sn**	**19 24 18.2**	**+0.6**
DAV	**Davao City (W)**	**1.87**	**210**	P	**Pn**	**19 23 59.2**	**+2.8**
	32nm,0.3s,baz=67,slow=7.7,SNR=2.3						
DAV				S	**Sn**	**19 24 22.4**	**+3.5**
	53nm,0.3s,baz=264,slow=20,SNR=5.6						
DAV	**Davao City (W)**	**1.87**	**210**		**Pn**	**19 23 59.0**	**+2.6**
DAV				Sn	**Sn**	**19 24 22.0**	**+3.2**
MSLP	**Maasin**	**2.17**	**311**	*e*P	**Pn**	**19 24 02.3**	**+1.9**
MSLP				*e*S	**Sn**	**19 24 28.8**	**+2.7**
KCP	**Kidapawan**	**2.20**	**220**	⇓*e*P	**Pn**	**19 24 01.9**	**+1.0**
DDMP	**Don Marcelino,**	**2.70**	**197**	*e*P	**Pn**	**19 24 08.8**	**+1.0**
DDMP				*e*S	**Sn**	**19 24 46.0**	**+6.7**
TBP	**Tagbilaran**	**2.80**	**291**	*e*P	**Pn**	**19 24 10.6**	**+1.5**
TBP				*e*S	**Sn**	**19 24 42.8**	**+1.2**
SKMP	**Bagumbayan, Su**	**2.92**	**222**	*e*P	**Pn**	**19 24 09.7**	**-1.0**
SKMP				*e*S	**Sn**	**19 24 49.3**	**+4.6**
LLP	**Lapu-Lapu**	**2.98**	**303**	⇓*e*P	**Pn**	**19 24 13.7**	**+2.1**
LLP				*e*S	**Sn**	**19 24 49.3**	**+3.1**
PAGZ	**Pagadian**	**3.22**	**255**	*e*P	**Pn**	**19 24 14.6**	**-0.2**
CNOP	**Candoni, Negro**	**3.99**	**287**	*e*P	**Pn**	**19 24 25.9**	**+0.5**
CNP	**Catarman**	**4.20**	**334**	*e*P	**Pn**	**19 24 30.3**	**+2.0**
CNP				*e*S	**Sn**	**19 25 15.6**	**-0.5**
GUIM	**Jordan**	**4.32**	**297**	*e*P	**Pn**	**19 24 30.3**	**+0.4**
GUIM				*e*S	**Sn**	**19 25 18.6**	**-0.3**
TNTI	**Ternate**	**7.93**	**174**	Pn	Pn	19 25 22.4	+3.0
LUWI	**Luwuk**	**10.38**	**201**	Pn	Pn	19 25 56.6	+3.6
SBUM	**Sibu**	**15.52**	**247**	P	**P**	**19 27 05.5**	**-0.3**
TPUB	**Ta-pu**	**15.57**	**339**	Pn	**Pn**	**19 27 04.4**	**+1.4**
TPUB				IAmb	IAmb	19 27 20.4	
	comp=Z,26nm,1.2s						
BATI	**Baumata**	**19.00**	**189**	P	**Pn**	**19 27 45.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=45,slow=2.9,SNR=1.7						
MTN	**Manton Dam**	**21.89**	**168**	P	**P**	**19 28 16.7**	**+1.2**
MTN				IAmb	IAmb	19 28 21.6	
	comp=Z,12nm,1.2s						
KNRA	**Kununurra**	**24.33**	**175**	P	**P**	**19 28 40.0**	**+0.3**
KNRA				IAmb	IAmb	19 28 49.9	
	comp=Z,14nm,1.2s						
JNU	**Nakatsue**	**24.63**	**9**	P	**P**	**19 28 41.9**	**-0.5**
JNU				IAmb	IAmb	19 28 47.7	
	comp=Z,16nm,1.1s						
IPM	**Ipoh**	**25.66**	**262**	P	**P**	**19 28 52.7**	**+0.7**
IPM				IAmb	IAmb	19 29 00.7	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.65**	**182**	P	**P**	**19 29 00.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=8.0,slow=9.7,SNR=17						
INU	**Inuyama**	**28.21**	**18**	P	**P**	**19 29 14.9**	**+0.4**
INU				IAmb	IAmb	19 29 16.4	
	comp=Z,6.1nm,0.9s						
CM31	**Chiang Mai Arr**	**28.46**	**293**	P	**P**	**19 29 17.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**28.46**	**293**	P	**P**	**19 29 17.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=87,slow=7.5,SNR=8.2						
KRVT	**Keravat (AS076**	**28.53**	**116**	P	**P**	**19 29 18.9**	**+1.2**
	comp=Z,9.0nm,0.5s,baz=336,slow=20,SNR=1.1						
KSRS	**Korea Array**	**28.65**	**2**	P	**P**	**19 29 18.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=184,slow=9.9,SNR=6.4						
KSRS				LR	LR	19 42 05.4	
	comp=Z,6.8nm,18.2s,baz=355,slow=39						
WB0	**Warramunga Arr**	**29.34**	**165**	P	**P**	**19 29 23.5**	**-1.2**
WRA	**Warramunga Arr**	**29.49**	**165**	P	**P**	**19 29 25.2**	**-0.9**
	comp=Z,0.9nm,1.3s,baz=288,slow=9.3,SNR=6.1						
WRA				PcP	**PcP**	**19 32 30.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=336,slow=2.4,SNR=5.2						
WB2	**Warramunga Arr**	**29.49**	**165**	P	**P**	**19 29 25.4**	**-0.8**
WB2				IAmb	IAmb	19 29 32.7	
	comp=Z,11nm,1.5s						
MJAR	**Matsushiro Arr**	**29.68**	**19**	P	**P**	**19 29 27.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=192,slow=9.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**29.68**	**19**	P	**P**	**19 29 27.5**	**-0.2**
AS31	**Alice Springs**	**32.97**	**167**	P	**P**	**19 29 55.9**	**-0.8**
ASAR	**Alice Springs**	**32.97**	**167**	P	**P**	**19 29 55.9**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=345,slow=7.1,SNR=11						
ASAR				PcP	**PcP**	**19 32 39.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=346,slow=2.4,SNR=10						
ASAR	**Alice Springs**	**32.97**	**167**	P	**P**	**19 29 55.4**	**-1.3**
USRK	**Ussuriysk Ar.**	**35.68**	**7**	P	**P**	**19 30 21.0**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=201,slow=10,SNR=8.5						
USRK	**Ussuriysk Ar.**	**35.68**	**7**	P	**P**	**19 30 20.5**	**+0.6**
SHL	**Shillong**	**36.94**	**301**	P	**P**	**19 30 30.9**	**-0.3**
MORW	**Morawa**	**38.89**	**195**	P	**P**	**19 30 47.1**	**-0.2**
BBOO	**Buckleboo**	**42.27**	**168**	P	**P**	**19 31 15.2**	**+0.1**
DZM	**Mont Dzumac**	**49.68**	**129**	LR	LR	19 50 28.4	
	comp=Z,118nm,20.9s,baz=36,slow=32						
PETK	**Petropavlovsk-**	**50.96**	**24**	P	**P**	**19 32 25.6**	**+2.6**
	comp=Z,1.4nm,0.5s,baz=194,slow=2.6,SNR=11						
PETK	**Petropavlovsk-**	**50.96**	**24**	P	**P**	**19 32 24.7**	**+1.8**
MK31	**Makanchi Array**	**53.42**	**323**	P	**P**	**19 32 40.9**	**-0.4**
MKAR	**Makanchi Array**	**53.42**	**323**	P	**P**	**19 32 40.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=114,slow=7.1,SNR=7.9						
MKAR				PcP	**PcP**	**19 33 47.2**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=134,slow=4.2,SNR=2.8						
MKAR	**Makanchi Array**	**53.42**	**323**	P	**P**	**19 32 40.6**	**-0.7**
ZALV	**Zalesovo Beam**	**56.11**	**332**	P	**P**	**19 32 59.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=120,slow=5.7,SNR=1.7						
ZALV	**Zalesovo Beam**	**56.11**	**332**	P	**P**	**19 32 59.0**	**-1.7**
KURK	**Kurchatov**	**57.49**	**326**	P	**P**	**19 33 08.9**	**-1.6**
KURK				IAmb	IAmb	19 33 20.5	
	comp=Z,3.9nm,1.4s						
KKAR	**Karatay Array**	**59.52**	**315**	P	**P**	**19 33 24.1**	**-0.7**
ABKAR	**Akbulak array**	**68.22**	**320**	P	**P**	**19 34 20.9**	**-0.9**
ABKAR	**Akbulak array**	**68.22**	**320**	P	**P**	**19 34 20.9**	**-0.9**
ABKAR				IAmb	IAmb	19 34 24.3	
	comp=Z,2.9nm,1.4s						
ARU	**Arti**	**70.66**	**327**	P	**P**	**19 34 35.7**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=109,slow=5.4,SNR=11						
ARU	**Arti**	**70.66**	**327**	P	**P**	**19 34 35.8**	**-1.0**
SOCY	**Socotra**	**71.23**	**280**	P	**P**	**19 34 38.8**	**-2.4**
TRF	**Thorofare Moun**	**79.22**	**27**	P	**P**	**19 35 27.1**	**+0.8**
TRF				IAmb	IAmb	19 35 45.5	
	comp=Z,3.3nm,1.2s						
RND	**Reindeer**	**79.87**	**27**	P	**P**	**19 35 30.8**	**+1.1**
RND				IAmb	IAmb	19 35 32.2	
	comp=Z,3.9nm,1.3s						
ILAR	**Eielson Array**	**80.74**	**26**	P	**P**	**19 35 34.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=238,slow=6.1,SNR=4.8						
VRDI	**Verde Repeater**	**82.45**	**29**	P	**P**	**19 35 44.4**	**+0.8**
VRDI				IAmb	IAmb	19 35 47.7	
	comp=Z,5.3nm,1.2s						
SPITS	**Spitsbergen Ar**	**85.59**	**349**	P	**P**	**19 35 58.1**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=96,slow=7.6,SNR=7.7						
ARCES	**ARCESS Array B**	**85.74**	**340**	P	**P**	**19 35 58.8**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=66,slow=6.8,SNR=5.8						
FINES	**FINESS Array B**	**87.38**	**332**	P	**P**	**19 36 06.5**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=70,slow=3.1,SNR=11						
FINES	**FINESS Array B**	**87.38**	**332**	P	**P**	**19 36 06.6**	**-1.4**
VNDA	**Vanda**	**88.36**	**173**	P	**P**	**19 36 12.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=320,slow=6.8,SNR=7.9						
VNDA	**Vanda**	**88.36**	**173**	P	**P**	**19 36 12.8**	**+0.4**
VNDA				IAmb	IAmb	19 36 15.3	
	comp=Z,4.0nm,1.4s						

IDC 18 19:24:08.7±2.5,23˚.82S×66˚.95W,h174km±31km, mb1 3.3/4,mb1mx2.9/33,mbtmp3.8/4,Error ellipse: s-maj=40.4km s-min=24.7km az=144.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.17**	**303**	P	Pn	19 24 48.5	+0.9
	1.9nm,0.3s,baz=115,slow=8.6,SNR=44						
LVC				S	Sn	19 25 17.6	-0.1
	9.6nm,0.3s,baz=262,slow=22,SNR=50						
LPAZ	**La Paz**	**7.58**	**351**	P	Pn	19 25 58.6	+1.5
	1.0nm,0.3s,baz=152,slow=11,SNR=14						
LPAZ				S	Sn	19 27 22.9	+0.3
	0.1nm,0.3s,baz=30,slow=18,SNR=1.6						
SIV	**San Ignacio**	**9.55**	**36**	P	Pn	19 26 21.7	-0.9
	1.0nm,0.3s,baz=230,slow=10,SNR=12						
BDFB	**Brasilia**	**19.58**	**69**	P	P	19 28 23.7	0.0
	0.6nm,0.3s,baz=244,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**131.80**	**207**	PKP	PKPdf	19 43 01.0	-0.9
	0.2nm,0.6s,baz=152,slow=1.8,SNR=1.7						

*NEIC **18** 19:26:13.3±1.2,36˚.22N±0˚.02×97˚.52W±0˚.05,h1km±8km, Error ellipse: s-maj=6.2km s-min=2.4km az=74.0*
*TUL **18** 19:26:13.2±1.6,36˚.20N±0˚.01×97˚.53W±0˚.05,h5km±7km, ML3.0,Error ellipse: s-maj=5.5km s-min=1.5km az=83.0*
*ANF **18** 19:26:13.2±0.8,36˚.22N×97˚.51W,h5km,ML4.0/8,Error ellipse: s-maj=10.4km s-min=7.8km az=157.0*

ISC 18 19:26:13.4±1.2,36˚.21N±0˚.02×97˚.53W±0˚.03,h3km±11km, n60,σ0°68/69,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.42**	**171**		**Pg**	**19 26 21.5**	**+0.1**
OK029				Sg	**Sg**	**19 26 27.5**	**+0.6**
CROK	**Carrier**	**0.47**	**309**		**Pg**	**19 26 22.4**	**0.0**
CROK				Sg	**Sg**	**19 26 29.1**	**+0.6**
BCOK	**Bluff Creek, N**	**0.56**	**187**		**Pg**	**19 26 24.0**	**-0.1**
BCOK				Sg	**Sg**	**19 26 31.9**	**+0.5**
OK031	**S. Brethren Rd**	**0.62**	**114**		**Pg**	**19 26 25.3**	**+0.1**
OK025	**Westminster Rd**	**0.65**	**166**		**Pg**	**19 26 25.8**	**-0.1**
QUOK	**Quay**	**0.67**	**93**	Pg	**Pg**	**19 26 26.2**	**0.0**
OK030	**Cody Creek RV**	**0.67**	**115**		**Pg**	**19 26 26.3**	**0.0**
OKCFA	**Oklahoma City**	**0.80**	**175**		**Pg**	**19 26 28.4**	**-0.4**
KAVEN	**Stanton SW**	**0.80**	**3**		**Pg**	**19 26 28.6**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.81**	**175**		**Pg**	**19 26 28.6**	**-0.3**
KAN14	**Manchester OK**	**0.82**	**335**		**Pg**	**19 26 28.8**	**-0.4**
KAN09	**Caldwell North**	**0.93**	**356**		**Pg**	**19 26 30.8**	**-0.4**
KAN05	**Bluff City Nor**	**0.94**	**343**		**Pg**	**19 26 31.0**	**-0.4**
FNO	**Franklin**	**0.96**	**174**		**Pg**	**19 26 31.6**	**-0.2**
KAN10	**Anthony SW Sta**	**1.02**	**334**		**Pg**	**19 26 32.3**	**-0.6**
KAN08	**Anthony NE Sta**	**1.07**	**341**		**Pg**	**19 26 33.5**	**-0.6**
T35A	**Sooner Cattle**	**1.08**	**49**	Pg	**Pg**	**19 26 33.6**	**-0.5**
KAN12	**Harper NE Stat**	**1.15**	**341**		**Pg**	**19 26 34.8**	**-0.7**
W35A	**Tecumseh**	**1.18**	**153**		**Pg**	**19 26 35.0**	**-1.2**
U32A	**Winter Ranch,**	**1.20**	**278**		**Pg**	**19 26 35.4**	**-1.0**
TUL1	**Leonard**	**1.44**	**102**	P	**Pn**	**19 26 39.3**	**-1.1**
	baz=282						
TUL1				S	**Sb**	**19 26 59.0**	**-0.6**
	baz=282						
TUL1	**Leonard**	**1.44**	**102**	Pn	**Pn**	**19 26 39.3**	**-1.1**
WMOK	**Wichita Mounta**	**1.79**	**215**	P	**Pn**	**19 26 45.1**	**-0.1**
	baz=34						
WMOK				S	**Sb**	**19 27 09.0**	**-0.7**
	baz=34						
WMOK	**Wichita Mounta**	**1.79**	**215**		**Pn**	**19 26 44.9**	**-0.3**
X37A	**Clayton**	**2.40**	**132**	Pn	**Pn**	**19 26 53.9**	**+0.4**
R32A	**Long Quarter,**	**2.40**	**337**		**Pn**	**19 26 54.1**	**+0.5**
U38A	**Gravette**	**2.55**	**84**		**Pn**	**19 26 56.0**	**+0.3**
Z35A	**Perchaven, San**	**2.88**	**175**		**Pn**	**19 27 01.1**	**+0.9**
HHAR	**Hobbs**	**2.90**	**88**	Pn	**Pn**	**19 27 01.3**	**+0.7**
KSU1	**Kansas State U**	**2.98**	**14**	P	**Pn**	**19 27 01.2**	**-0.3**
	baz=194						
KSU1				S	**Sn**	**19 27 37.6**	**-0.1**
	baz=194						
KSU1	**Kansas State U**	**2.98**	**14**		**Pn**	**19 27 02.6**	**+1.1**
CBKS	**Cedar Bluff**	**3.13**	**327**	P	**Pn**	**19 27 03.4**	**-0.4**
	baz=145						
CBKS	**Cedar Bluff**	**3.13**	**327**		**Pn**	**19 27 04.1**	**+0.3**
W39A	**Magazine**	**3.21**	**107**	P	**Pn**	**19 27 05.7**	**+0.9**
	baz=289						
W39A				S	**Sn**	**19 27 43.8**	**+0.2**
	baz=289						
W39A	**Magazine**	**3.21**	**107**		**Pn**	**19 27 05.3**	**+0.5**
Z38A	**Mt. Pleasant**	**3.62**	**144**		**Pn**	**19 27 10.4**	**+0.2**
AMTX	**Amarillo**	**3.63**	**250**	P	**Pn**	**19 27 11.0**	**+0.3**
	baz=68						
AMTX	**Amarillo**	**3.63**	**250**		**Pn**	**19 27 11.9**	**+1.3**
MIAR	**Mount Ida**	**3.63**	**116**	P	**Pn**	**19 27 11.0**	**+0.5**
	baz=298						
MIAR				S	**Sn**	**19 27 53.8**	**-0.1**
	baz=298						
MIAR	**Mount Ida**	**3.63**	**116**	Pn	**Pn**	**19 27 11.2**	**+0.7**
S39A	**Bolivar**	**3.68**	**65**	Pn	**Pn**	**19 27 11.6**	**+0.4**
U40A	**Yellville**	**3.78**	**86**	P	**Pn**	**19 27 12.4**	**-0.2**
	baz=269						
U40A				S	**Sn**	**19 27 58.9**	**+1.3**
	baz=269						
U40A	**Yellville**	**3.78**	**86**	Pn	**Pn**	**19 27 12.4**	**-0.2**
X40A	**Basin Creek Fa**	**4.21**	**113**		**Pn**	**19 27 19.0**	**+0.6**
WHTX	**Lake Whitney,**	**4.21**	**179**		**Pn**	**19 27 18.9**	**+0.4**
MGMO	**Mountain Grove**	**4.33**	**76**		**Pn**	**19 27 21.2**	**+1.0**
WHAR	**Wooly Hollow**	**4.36**	**101**		**Pn**	**19 27 20.1**	**-0.4**
FCAR	**Ozark Folk Cen**	**4.39**	**93**		**Pn**	**19 27 22.6**	**+1.6**
WLAR	**White Oak Lake**	**4.42**	**123**	Pn	**Pn**	**19 27 20.8**	**-0.6**
W41B	**Gary Mavity, V**	**4.42**	**102**		**Pn**	**19 27 22.4**	**+1.0**
Z37A	**Washetta, Mont**	**4.44**	**161**		**Pn**	**19 27 21.6**	**0.0**
R40A	**Maddies Statio**	**4.68**	**62**		**Pn**	**19 27 24.9**	**0.0**
MSTX	**Muleshoe**	**4.84**	**244**	Pn	**Pn**	**19 27 26.6**	**-0.7**
BGNE	**Belgrade**	**5.21**	**355**		**Pn**	**19 27 31.8**	**-0.4**
T42A	**Van Buren**	**5.24**	**79**		**Pn**	**19 27 33.2**	**+0.6**
CCM	**Cathedral Cave**	**5.35**	**68**	Pn	**Pn**	**19 27 33.7**	**-0.4**
P40A	**Paris**	**5.46**	**51**		**Pn**	**19 27 37.1**	**+1.5**
T25A	**Trinidad**	**5.61**	**282**		**Pn**	**19 27 36.3**	**-1.6**
ISCO	**Idaho Springs**	**7.32**	**302**		**Pn**	**19 28 02.2**	**+0.8**
ECSD	**EROS Data Cent**	**7.55**	**5**	Pn	**Pn**	**19 28 03.8**	**-0.5**

IDC 18 19:30:35.8±2.5,6˚.37S×129˚.36E,h0km,mb3.4/1, mb1 3.7/4,mb1mx3.4/28,mbtmp3.5/4,ML3.3/3,Error ellipse: s-maj=108.9km s-min=29.8km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.21**	**197**	Pn	Pn	19 33 32.0	+0.9
	0.1nm,0.3s,baz=18,slow=14,SNR=9.2						
WRA	**Warramunga Arr**	**14.33**	**161**	Pn	Pn	19 34 01.4	+1.2
	0.2nm,0.3s,baz=334,slow=13,SNR=11						
WRA				Sn	Sn	19 36 26.5	-13
	0.2nm,0.3s,baz=341,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**17.74**	**166**	P	Pn	19 34 43.0	-1.4
	0.2nm,0.3s,baz=345,slow=10,SNR=16						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	19 41 32.9	0.0
	0.3nm,0.6s,baz=126,slow=6.7,SNR=2.3						

*KRNET **18** 19:30:40.3±0.1,41˚.69N×73˚.12E,h14km,mb2.1*
*SOME **18** 19:30:40.6,41˚.77N×73˚.05E,h0km*
*NNC **18** 19:30:44.0±1.1,41˚.80N×73˚.04E,h0km,mb2.8,mpv2.5,*
Error ellipse: s-maj=9.1km s-min=4.6km az=171.0

ISC 18 19:30:40.7±1.2,41˚.72N±0˚.05×73˚.06E±0˚.03,h4km±11km, n20,σ1°03/35,11C-13D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.62**	**49**	⇓*i*P	**Pg**	**19 30 52.6**	**-0.1**
	baz=44						
AML				⇓*i*S	**Sg**	**19 31 01.4**	**+0.6**
	baz=44						
MNAS	**Manas**	**0.87**	**332**	⇑*i*P	**Pb**	**19 30 57.9**	**-0.6**
	baz=31						
MNAS				⇑*i*S	**Sn**	**19 31 11.3**	**-1.8**
	baz=31						
ARLS	**Aral**	**0.95**	**81**	⇑*i*P	**Pg**	**19 30 57.8**	**-1.1**
	baz=78						
ARLS				⇑*i*S	**Sg**	**19 31 11.0**	**-0.3**
	baz=78						
MRKS	**Merke**	**1.03**	**7**	*e*P	**Pn**	**19 31 01.6**	**-0.4**
	1.4nm,0.2s						
MRKS				*e*S	**Sn**	**19 31 16.4**	**-0.5**
	3.8nm,0.2s						
MRKS	**Merke**	**1.03**	**7**	P	**Pn**	**19 31 01.6**	**-0.4**
	1.4nm,0.2s						
MRKS				S	**Sn**	**19 31 16.4**	**-0.5**
	3.8nm,0.2s						
UCH	**Uchtor**	**1.19**	**64**	⇓*i*P	**Pg**	**19 31 02.6**	**-0.9**
	baz=62						
UCH				⇓*i*S	**Sg**	**19 31 19.2**	**+0.2**
	baz=62						
AAK	**Ala-Archa**	**1.40**	**49**	⇑*i*P	**Pg**	**19 31 06.7**	**-0.8**
	baz=47						
AAK				⇑*i*S	**Sn**	**19 31 26.3**	**+0.1**
	baz=47						
AAK	**Ala-Archa**	**1.40**	**49**	⇑P	**Pb**	**19 31 10.6**	**+3.1**
	0.4nm,0.3s						
AAK				⇓S	**Sn**	**19 31 28.2**	**+2.0**
	1.3nm,0.4s						
USP	**Ospenovka**	**1.87**	**34**	⇑*i*P	**Pb**	**19 31 15.2**	**-0.3**
	baz=32						
USP				⇑*i*S	**Sg**	**19 31 40.9**	**+0.1**
	baz=32						
SGDS	**Sogindy**	**2.08**	**33**	Pg	**Pg**	**19 31 20.6**	**0.0**
	1.7nm,0.3s						
SGDS				Lg	Lg	19 31 48.6	
	2.1nm,0.4s						
TKM2	**Tokmak 2**	**2.23**	**57**	⇓*i*P	**Pb**	**19 31 20.5**	**-1.1**
	baz=55						
TKM2				⇓*i*S	**Sb**	**19 31 49.8**	**+0.2**
	baz=55						
TKM2	**Tokmak 2**	**2.23**	**57**	⇓Pg	**Pg**	**19 31 23.8**	**+0.5**
	1.2nm,0.5s						
TKM2				⇓Lg	Lg	19 31 53.7	
	1.6nm,0.3s						
BOOM	**Boomskoye usch**	**2.27**	**69**	⇑*i*P	**Pb**	**19 31 21.1**	**-1.3**
	baz=68						
BOOM				⇑*i*S	**Sb**	**19 31 50.9**	**0.0**
	baz=68						
IUG	**luzhnay**	**2.30**	**282**	*e*P	**Pg**	**19 31 25.1**	**+0.3**
	6.6nm,0.2s						
IUG				*e*S	**Sg**	**19 31 56.4**	**+1.8**
	7.0nm,0.3s						
IUG	**luzhnay**	**2.30**	**282**	Pg	**Pg**	**19 31 25.1**	**+0.3**
	6.6nm,0.2s						
IUG				Lg	Lg	19 31 56.4	
	7.0nm,0.3s						
KK31	**Karatay Array**	**2.34**	**307**	Pg	**Pg**	**19 31 24.9**	**-0.6**
	0.4nm,0.4s,baz=120,slow=16,SNR=12						
KK31				Lg	Lg	19 31 57.0	
	0.9nm,0.3s,baz=127,slow=30,SNR=16						
BTK	**Batken**	**2.38**	**226**	⇓*i*P	**Pb**	**19 31 23.4**	**-0.7**
	baz=28						
BTK				⇓

FUSS	**Fushou**	**1.70**	**217**	*eP*		**Pn**	**19**	**31**	**30.5**	**+1.2**
	baz=203									
FUSS				*eS*		**S**	**19**	**32**	**01.2**	**-0.5**
	baz=203									
IRIF	**Iriomote-Funau**	**1.77**	**136**	P		**Pn**	**19**	**31**	**29.9**	**+0.4**
IRIF				S		**S**	**19**	**32**	**01.1**	**-1.1**
WHF	**Hehuan Shan**	**1.77**	**215**	*eP*		**Pn**	**19**	**31**	**31.1**	**+1.0**
	baz=203									
WHF				*eS*		**S**	**19**	**32**	**03.1**	**0.0**
	baz=203									
WHP	**Taichung City**	**1.85**	**225**	*eP*		**Pn**	**19**	**31**	**30.8**	**+0.5**
	baz=224									
WHP				*eS*		**S**	**19**	**32**	**03.7**	**0.0**
	baz=224									
CHGB	**Renai**	**1.89**	**216**	P		**Pn**	**19**	**31**	**32.0**	**+1.2**
	baz=205									
CHGB				*eS*		**S**	**19**	**32**	**04.7**	**+0.2**
	baz=205									
ESL	**Shilin**	**1.98**	**206**	*eP*		**Pn**	**19**	**31**	**31.3**	**0.0**
	baz=200									
JKRS	**Kuro-shima**	**2.02**	**132**	P		**Pn**	**19**	**31**	**32.5**	**+0.9**
JKRS				S		**S**	**19**	**32**	**05.3**	**-0.7**
HATJ	**Hateruma jima**	**2.02**	**140**	P		**Pn**	**19**	**31**	**32.0**	**+0.4**
JIJ	**Ishigaki jima**	**2.03**	**127**	P		**Pn**	**19**	**31**	**32.1**	**+0.4**
JIJ				S		**S**	**19**	**32**	**04.5**	**-1.7**
JISG	**Ishigakijimahi**	**2.03**	**120**	P		**Pn**	**19**	**31**	**32.2**	**+0.5**
JISG				*eS*		**S**	**19**	**32**	**05.0**	**-1.2**
EGFH	**Guangfu**	**2.11**	**204**	*eP*		**Pn**	**19**	**31**	**32.8**	**+0.3**
	baz=199									
VWDT	**VWDT**	**2.16**	**212**	*eP*		**Pn**	**19**	**31**	**34.6**	**+1.7**
	baz=202									
VWDT				*eS*		**S**	**19**	**32**	**08.7**	**+0.3**
	baz=202									
SMLT	**Sun Moon Lake**	**2.18**	**218**	*eP*		**Pn**	**19**	**31**	**33.6**	**+0.3**
	baz=212									
TYC	**Yuchr**	**2.19**	**219**	*eP*		**Pn**	**19**	**31**	**33.8**	**+0.7**
	baz=213									
TYC				*eS*		**S**	**19**	**32**	**09.2**	**+0.4**
	baz=213									
SSLB	**Suanglung**	**2.23**	**216**	*eP*		**Pn**	**19**	**31**	**34.1**	**+0.5**
	baz=210									
SSLB				*eS*		**S**	**19**	**32**	**08.2**	**-1.3**
	baz=210									
HGSD	**Ruisui**	**2.28**	**203**	*eP*		**Pn**	**19**	**31**	**34.9**	**+0.9**
	baz=202									
HGSD				*eS*		**S**	**19**	**32**	**09.4**	**-1.0**
	baz=202									
EHY	**Hungye**	**2.30**	**205**	*eP*		**Pn**	**19**	**31**	**35.4**	**+1.1**
	baz=196									
JTJ	**Tarama**	**2.32**	**114**	P		**Pn**	**19**	**31**	**35.6**	**+1.2**
JTJ				S		**S**	**19**	**32**	**10.3**	**-0.7**
YULB	**Yu-li**	**2.41**	**204**	*eP*		**Pn**	**19**	**31**	**34.5**	**-0.8**
	baz=197									
CHN5	**Tsauling**	**2.53**	**218**	*eP*		**Pn**	**19**	**31**	**37.1**	**+0.6**
	baz=208									
CHN5				*eS*		**S**	**19**	**32**	**14.1**	**-0.8**
	baz=208									
ALS	**Alishan**	**2.53**	**215**	*eP*		**Pn**	**19**	**31**	**37.1**	**+0.4**
	baz=209									
ALS				*eS*		**S**	**19**	**32**	**14.6**	**-0.7**
	baz=209									
WDLH	**Douliu**	**2.54**	**222**	*eP*		**Pn**	**19**	**31**	**37.2**	**+0.7**
	baz=211									
FULB	**Fuli**	**2.59**	**203**	*eP*		**Pn**	**19**	**31**	**37.7**	**+0.6**
	baz=201									
JIRB	**Irabujima**	**2.65**	**106**	P		**Pn**	**19**	**31**	**38.7**	**+1.1**
JIRB				S		**S**	**19**	**32**	**15.4**	**-1.4**
JMJ	**Miyako jima 2**	**2.76**	**106**	*i* P		**Pn**	**19**	**31**	**40.5**	**+1.8**
	baz=112									
JMJ				S		**S**	**19**	**32**	**19.2**	**+0.3**
	baz=112									
TPUB	**Ta-pu**	**2.79**	**215**	*eP*		**Pn**	**19**	**31**	**39.1**	**-0.1**
	baz=210									
TPUB				*eS*		**S**	**19**	**32**	**17.7**	**-1.9**
	baz=210									
JMJ2	**Miyako jima3**	**2.81**	**107**	P		**Pn**	**19**	**31**	**40.7**	**+1.5**
JMJ2				S		**S**	**19**	**32**	**19.7**	**-0.1**
STYT	**Tauyuan**	**2.84**	**212**	*eP*		**Pn**	**19**	**31**	**39.9**	**+0.2**
	baz=211									
WTP	**Ta-pu**	**2.85**	**215**	*eP*		**Pn**	**19**	**31**	**40.0**	**+0.3**
	baz=210									
WTP				*eS*		**S**	**19**	**32**	**18.7**	**-1.9**
	baz=210									
TWK	**Hsinying**	**2.90**	**217**	*eP*		**Pn**	**19**	**31**	**40.4**	**+0.1**
	baz=208									
CHN1	**Nanshi**	**2.94**	**215**	*eP*		**Pn**	**19**	**31**	**40.8**	**+0.2**
	baz=211									
CHN1				*eS*		**S**	**19**	**32**	**20.7**	**-1.7**
	baz=211									
SLGT	**Liugui**	**3.04**	**212**	*eP*		**Pn**	**19**	**31**	**42.0**	**+0.2**
	baz=211									
SLGT				*eS*		**S**	**19**	**32**	**23.9**	**-0.4**
	baz=211									
SSD	**Sandimen**	**3.26**	**210**	*eP*		**Pn**	**19**	**31**	**44.6**	**+0.5**
	baz=212									
ECL	**Taimali**	**3.27**	**204**	*eP*		**Pn**	**19**	**31**	**45.1**	**+0.9**
	baz=200									
TSMG	**Majia**	**3.29**	**209**	*eP*		**Pn**	**19**	**31**	**44.5**	**+0.1**
	baz=211									
EAST	**Anshuo**	**3.50**	**204**	*eP*		**Pn**	**19**	**31**	**46.8**	**+0.1**
	baz=200									
SSPT	**Xinbi**	**3.52**	**208**	*eP*		**Pn**	**19**	**31**	**47.4**	**+0.4**
	baz=200									
JKE	**Kume jima 2**	**4.04**	**79**	*eS*		**S**	**19**	**32**	**42.7**	**-1.5**

*IDC **18** 19:40:47.3±2.4,50°12N×114°69W,h0km,mb1 3.9/2, mb1mx3.2/47,mbtmp3.5/2,ML3.5/2,Error ellipse: s-maj=53.4km s-min=14.9km az=108.0*
*PGC **18** 19:40:49.3±0.2,50°18N×114°82W,h0km,ML3.1/5, 101km northeast of Cranbrook, Bc Alberta, Canada Mining explosion.*

ISC 18 19:40:47.6±0.8,50°22N±0°03×114°70W±0°04,h0km,n26, σ1§**39**/34,**Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
PRDA	**Priddis**	**0.70**	**22**	P	**Pb**	**19**	**41**	**02.9**	**+0.1**
PRDA				S	**Sb**	**19**	**41**	**12.8**	**-0.2**
WALA	**Waterton Lakes**	**1.27**	**156**	P	**Pg**	**19**	**41**	**12.4**	**+0.4**
WALA				S	**Sb**	**19**	**41**	**29.5**	**0.0**
BSMT	**Bassoo Peak**	**2.37**	**181**	Pn	**Pn**	**19**	**41**	**28.8**	**+0.8**
BSMT				Pg	**Pb**	**19**	**41**	**31.1**	**-0.3**
YBMT	**Yellow Bay**	**2.40**	**169**	Pn	**Pn**	**19**	**41**	**29.3**	**+1.0**
YBMT				Pg	**Pb**	**19**	**41**	**32.2**	**+0.4**
JTMT	**Jette**	**2.49**	**173**	Pn	**Pn**	**19**	**41**	**30.1**	**+0.6**
NEW	**Newport**	**2.52**	**220**	Pn	**Pn**	**19**	**41**	**30.2**	**+0.3**
	3.2nm,0.3s,baz=34,slow=12,SNR=37								
I56US	**NEWPORT INFRAS**	**2.52**	**220**	*i*		19	59	20.0	
	baz=40,slow=326,SNR=5.8								
BHMT	**Big Hole Peak**	**2.65**	**185**	Pn	**Pn**	**19**	**41**	**32.1**	**+0.4**
BHMT				Pg	**Pb**	**19**	**41**	**36.0**	**0.0**
SWMT	**Swartz Lake**	**2.75**	**170**	Pn	**Pn**	**19**	**41**	**33.8**	**+0.7**
FBMT	**Ferry Basin**	**2.82**	**176**	Pn	**Pn**	**19**	**41**	**34.9**	**+0.8**
MNB	**Mounoet Dainar**	**3.04**	**312**	Pn	**Pn**	**19**	**41**	**38.9**	**+1.6**
EDM	**Edmonton**	**3.12**	**15**	Pn	**Pn**	**19**	**41**	**38.8**	**+0.7**
EDM				Sn	**Sn**	**19**	**42**	**16.8**	**+0.7**
EDM				Sg	**Sb**	**19**	**42**	**24.9**	**+2.3**
PNT	**Penticton**	**3.31**	**256**	Pn	**Pn**	**19**	**41**	**40.3**	**-0.4**
PNT				Sg	**Sb**	**19**	**42**	**29.6**	**+1.5**
OVMT	**Ovando**	**3.36**	**160**	Pn	**Pn**	**19**	**41**	**43.1**	**+1.7**
B08A	**Colville Reser**	**3.56**	**240**	Pn	**Pn**	**19**	**41**	**43.7**	**-0.4**
B08A				Sn	**Sn**	**19**	**42**	**24.1**	**-2.7**
BPMT	**Black Pine Rid**	**3.88**	**167**	Pn	**Pn**	**19**	**41**	**49.7**	**+0.9**
ELMT	**Elliston**	**3.98**	**157**	Pn	**Pn**	**19**	**41**	**50.6**	**+0.5**
HRY	**Holter Researc**	**4.00**	**150**	Pn	**Pn**	**19**	**41**	**51.4**	**+1.2**
HOPB	**Hope**	**4.43**	**262**	Pn	**Pn**	**19**	**41**	**56.1**	**+0.1**
HOPB				Sg	**Sb**	**19**	**43**	**04.7**	**+4.5**
LLLB	**Lillooet**	**4.61**	**278**	Pn	**Pn**	**19**	**41**	**59.0**	**+0.5**
WSLR	**Whistler**	**5.28**	**272**	Sg	**Sg**	**19**	**43**	**37.0**	**-0.2**
WPB	**Watts Point**	**5.52**	**267**	Pn	**Pn**	**19**	**42**	**11.2**	**+0.2**
BIB	**Bowen Island**	**5.63**	**265**	Pn	**Pn**	**19**	**42**	**13.8**	**+1.3**
FNBB	**Fort Nelson**	**9.93**	**334**	Pn	**Pn**	**19**	**43**	**10.1**	**-1.4**
I10CA	**LAC DU BONNET**	**11.97**	**83**	*i*		20	53	05.0	
	baz=274,slow=308,SNR=12								
YKA	**Yellowknife Ar**	**12.30**	**0**	Pn	**Pn**	**19**	**43**	**41.3**	**-2.6**
	0.3nm,0.3s,baz=176,slow=13,SNR=7.0								
YKA				Lg	Lg	19	47	08.8	
	0.0nm,0.3s,baz=170,slow=34,SNR=1.6								

*IDC **18** 19:44:40.5±1.1,21°04S×179°10W,h613km±11km, mb4.0/28,mb1 4.0/29,mb1mx3.8/47,mbtmp4.9/29,Error ellipse: s-maj=11.0km s-min=8.9km az=141.0*

*NEIC **18** 19:44:40.0±1.4,21°05S±0°10×179°0W±0°1,h610km±6km, mb4.6/101,Error ellipse: s-maj=15.5km s-min=13.8km az=100.0*

ISC 18 19:44:40.5±0.3,21°17S±0°05×179°01W±0°06,h619km,
n286,σ1§**18**/319,**mb4.6**/76,**9C-26D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MSVF	**Nonsavu**	**4.40**	**320**	P	**P**	**19**	**46**	**10.5**	**+0.2**
GLKZ	**Green Lake**	**8.12**	**173**	P	**P**	**19**	**46**	**40.0**	**-1.4**
GLKZ				S	**S**	**19**	**48**	**18.7**	**-2.0**
NIUE	**Niue**	**8.78**	**78**	P	**P**	**19**	**46**	**46.8**	**-1.1**
DZM	**Mont Dzumac**	**13.56**	**264**	P	**P**	**19**	**47**	**34.3**	**-0.4**
	1.8nm,0.3s,baz=90,slow=22,SNR=21								
DZM	**Mont Dzumac**	**13.56**	**264**	P	**P**	**19**	**47**	**34.6**	**0.0**
SANVU	**Saraoutou**	**14.27**	**291**	P	**P**	**19**	**47**	**41.6**	**+0.2**
KUZ	**Kuaotunu**	**16.19**	**195**	P	**P**	**19**	**48**	**01.2**	**+2.7**
WIAZ	**Waiheke Island**	**16.39**	**197**	P	**P**	**19**	**48**	**03.1**	**+2.8**
MBAZ	**Motutapu North**	**16.43**	**198**	P	**P**	**19**	**48**	**04.0**	**+3.3**
MXZ	**Matakaoa Point**	**16.50**	**188**	P	**P**	**19**	**48**	**00.6**	**-0.7**
ETAZ	**East Tamaki Re**	**16.59**	**197**	P	**P**	**19**	**48**	**05.4**	**+3.2**
HAZ	**Te Kaha**	**16.76**	**189**	P	**P**	**19**	**48**	**04.9**	**+1.2**
HAZ				S	**S**	**19**	**50**	**41.9**	**-7.2**
AWAZ	**Awhitu Peninsu**	**16.77**	**198**	P	**P**	**19**	**48**	**06.9**	**+3.0**
PUZ	**Puketiti**	**17.01**	**187**	P	**P**	**19**	**48**	**05.8**	**-0.3**
PUZ				S	**S**	**19**	**50**	**52.2**	**-1.0**
TWGZ	**Tauwhareparae**	**17.15**	**188**	P	**P**	**19**	**48**	**08.0**	**+0.6**
TWGZ				S	**S**	**19**	**50**	**52.9**	**-2.6**
LIRZ	**Lichensteins R**	**17.25**	**192**	P	P	19	47	58.8	-9.4
URZ	**Urewera**	**17.36**	**190**	P	**P**	**19**	**48**	**07.3**	**-1.9**
	6.9nm,0.3s,baz=281,slow=1.6,SNR=30								
URZ				S	**S**	**19**	**50**	**54.5**	**-4.3**
	0.6nm,0.3s,baz=54,slow=19,SNR=2.2								
URZ	**Urewera**	**17.36**	**190**	P	**P**	**19**	**48**	**07.7**	**-1.5**
URZ				S	**S**	**19**	**50**	**51.8**	**-7.0**
URZ	**Urewera**	**17.36**	**190**	P	**P**	**19**	**48**	**07.6**	**-1.6**
URZ				IAmb	IAmb	19	48	09.8	
	comp=Z,18nm,0.7s								
MUGZ	**Murupara**	**17.63**	**191**	P	**P**	**19**	**48**	**11.5**	**-0.2**
BKZ	**Black Stump Fm**	**18.35**	**191**	P	**P**	**19**	**48**	**16.7**	**-1.6**
KNTN	**Kanton**	**19.61**	**22**	P	**P**	**19**	**48**	**28.1**	**-1.9**
BFZ	**Birch Farm**	**19.87**	**191**	P	**P**	**19**	**48**	**31.6**	**-0.3**
BFZ				IAmb	IAmb	19	48	42.3	
	comp=Z,30nm,1.1s								
SNZO	**South Karori**	**20.78**	**193**	P	**P**	**19**	**48**	**39.4**	**-0.6**
SNZO				IAmb	IAmb	19	48	49.5	
	comp=Z,33nm,1.1s								
NNZ	**Nelson**	**21.00**	**196**	S	**S**	**19**	**51**	**52.2**	**-4.5**
THZ	**Tophouse**	**21.64**	**197**	P	**P**	**19**	**48**	**47.6**	**-0.3**
THZ				IAmb	IAmb	19	48	52.5	
	comp=Z,22nm,1.0s								
CTZ	**Chatham Island**	**22.59**	**175**	P	P	19	49	05.8	+10
HNR	**Honiara**	**23.38**	**297**	P	**P**	**19**	**49**	**01.9**	**-1.7**
	comp=Z,19nm,0.4s,baz=45,slow=2.9,SNR=2.1								
HNR	**Honiara**	**23.38**	**297**	P	**P**	**19**	**49**	**02.6**	**-1.0**
RPZ	**Rata Peaks**	**23.96**	**198**	P	**P**	**19**	**49**	**08.3**	**0.0**
	comp=Z,5.3nm,0.5s,baz=4.5,slow=1.8,SNR=8.4								
RPZ	**Rata Peaks**	**23.96**	**198**	P	**P**	**19**	**49**	**08.6**	**+0.2**
RPZ				IAmb	IAmb	19	49	09.6	
	comp=Z,14nm,1.2s								
MLZ	**Mavora Lakes**	**26.36**	**201**	P	**P**	**19**	**49**	**30.5**	**+1.1**
MLZ				IAmb	IAmb	19	49	33.4	
	comp=Z,19nm,0.8s								
EIDS	**Eidsvold**	**27.76**	**256**	P	**P**	**19**	**49**	**42.5**	**+0.5**
EIDS				IAmb	IAmb	19	49	43.0	
	comp=Z,10nm,0.8s								
ARMA	**Armidale**	**27.93**	**245**	P	**P**	**19**	**49**	**44.6**	**+1.1**
ARMA				IAmb	IAmb	19	49	45.9	
	comp=Z,8.5nm,0.8s								
CTA	**Charters Tower**	**32.49**	**266**	P	**P**	**19**	**50**	**22.7**	**+0.2**
	comp=Z,30nm,0.4s,baz=92,slow=11,SNR=54								
CTAO	**Charters Tower**	**32.49**	**266**	P	**P**	**19**	**50**	**22.8**	**+0.3**
PMG	**Port Moresby**	**34.58**	**285**	P	**P**	**19**	**50**	**39.8**	**-0.2**
TOO	**Toolangi**	**34.74**	**234**	P	**P**	**19**	**50**	**41.8**	**+0.7**
PATS	**Pohnpei**	**35.64**	**319**	P	**P**	**19**	**50**	**48.6**	**-0.1**
STKA	**Stephens Creek**	**36.65**	**245**	P	**P**	**19**	**50**	**57.8**	**+1.0**
	comp=Z,4.7nm,0.5s,baz=91,slow=12,SNR=29								
STKA				ScP	**ScP**	**19**	**55**	**52.2**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=56,slow=15,SNR=3.4								
STKA	**Stephens Creek**	**36.65**	**245**	P	**P**	**19**	**50**	**57.9**	**+1.0**
COEN	**Coen**	**36.69**	**275**	P	**P**	**19**	**50**	**57.8**	**+0.5**
COEN				IAmb	IAmb	19	50	58.9	
	comp=Z,22nm,0.8s								
BBOO	**Buckleboo**	**41.41**	**244**	P	**P**	**19**	**51**	**35.4**	**+0.5**
BBOO				IAmb	IAmb	19	51	35.8	
	comp=Z,15nm,0.6s								
JAY	**Jayapura**	**43.37**	**290**	P	**P**	**19**	**51**	**50.5**	**0.0**
	comp=Z,68nm,0.6s,baz=154,slow=5.6								
WR0	**Warramunga Arr**	**43.39**	**263**	P	**P**	**19**	**51**	**50.1**	**-0.5**
WR0				IAmb	IAmb	19	51	51.7	
	comp=Z,10nm,0.7s								
AS31	**Alice Springs**	**43.45**	**258**	P	**P**	**19**	**51**	**50.9**	**-0.1**
ASAR	**Alice Springs**	**43.45**	**258**	P	**P**	**19**	**51**	**51.1**	**+0.2**
	comp=Z,22nm,0.5s,baz=90,slow=8.3,SNR=203								
ASAR				PcP	**PcP**	**19**	**53**	**24.1**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=110,slow=3.2,SNR=4.6								
ASAR				ScP	**ScP**	**19**	**56**	**20.9**	**+2.6**
	comp=Z,2.6nm,0.7s,baz=108,slow=3.9,SNR=12								
ASAR				S	**S**	**19**	**57**	**35.0**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=95,slow=16,SNR=13								
ASAR	**Alice Springs**	**43.45**	**258**	P	**P**	**19**	**51**	**50.8**	**-0.2**
ASAR					**ScP**	**19**	**56**	**21.1**	**+2.8**
WB0	**Warramunga Arr**	**43.56**	**263**	P	**P**	**19**	**51**	**51.5**	**-0.3**
WB2	**Warramunga Arr**	**43.57**	**263**	P	**P**	**19**	**51**	**51.4**	**-0.5**
WB2				IAmb	IAmb	19	51	52.5	
	comp=Z,32nm,0.9s								
WRA	**Warramunga Arr**	**43.58**	**263**	P	**P**	**19**	**51**	**51.5**	**-0.5**
	comp=Z,9.8nm,0.3s,baz=97,slow=7.1,SNR=472								
WRA				ScP	**ScP**	**19**	**56**	**21.6**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=92,slow=3.9,SNR=4.0								
WRA				S	**S**	**19**	**57**	**35.3**	**-2.8**
	comp=Z,2.7nm,1.0s,baz=98,slow=13,SNR=6.0								
WRA	**Warramunga Arr**	**43.58**	**263**	P	**P**	**19**	**51**	**51.4**	**-0.6**
MTN	**Manton Dam**	**48.23**	**272**	P	**P**	**19**	**52**	**26.6**	**-0.6**
GUMO	**Guam**	**49.51**	**311**	P	**P**	**19**	**52**	**35.1**	**-1.4**
	comp=Z,21nm,0.5s,baz=159,slow=17,SNR=1.8								
GUMO	**Guam**	**49.51**	**311**	P	**P**	**19**	**52**	**34.9**	**-1.6**
KNRA	**Kununurra**	**49.68**	**267**	P	**P**	**19**	**52**	**37.6**	**-0.1**
KNRA				IAmb	IAmb	19	52	38.2	
	comp=Z,26nm,0.7s								
FAKI	**Fak Fak**	**50.74**	**284**	P	**P**	**19**	**52**	**45.1**	**-0.4**
FAKI				IAmb	IAmb	19	52	55.2	
	comp=Z,28nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.01**	**263**	P	**P**	**19**	**52**	**54.7**	**+0.2**
	baz=120,slow=6.5								
FITZ	**Fitzroy Crossi**	**52.01**	**263**	P	**P**	**19**	**52**	**54.7**	**+0.2**
SIJI	**Sorong**	**52.50**	**286**	P	**P**	**19**	**52**	**58.1**	**-0.1**
	comp=Z,94nm,0.7s,baz=90,slow=5.6,SNR=70								
SOEI	**Soe**	**55.58**	**273**	P	**P**	**19**	**53**	**21.2**	**+1.3**
PSA00	**Pilbara Seismi**	**56.60**	**258**	P	**P**	**19**	**53**	**26.6**	**0.0**
PSA00				IAmb	IAmb	19	53	27.3	
	comp=Z,25nm,0.8s								
TNTI	**Ternate**	**56.72**	**286**	P	**P**	**19**	**53**	**27.5**	**0.0**
TNTI				IAmb	IAmb	19	53	28.4	
	comp=Z,36nm,0.9s								
VNDA	**Vanda**	**57.17**	**185**	P	**P**	**19**	**53**	**32.0**	**+2.5**
	comp=Z,3.3nm,0.6s,baz=356,slow=6.8,SNR=52								
VNDA	**Vanda**	**57.17**	**185**	P	**P**	**19**	**53**	**32.0**	**+2.5**
MMRI	**Maumere**	**57.84**	**273**	P	**P**	**19**	**53**	**34.8**	**-0.3**
MMRI				IAmb	IAmb	19	53	36.0	
	comp=Z,27nm,0.6s								
MORW	**Morawa**	**58.70**	**248**	P	**P**	**19**	**53**	**40.8**	**+0.1**
LUWI	**Luwuk**	**60.13**	**281**	P	**P**	**19**	**53**	**50.8**	**+0.4**
LUWI				IAmb	IAmb	19	53	51.2	
	comp=Z,25nm,0.8s								
JCJ	**Chichijima**	**60.94**	**320**	P	**P**	**19**	**53**	**54.8**	**-0.5**
	comp=Z,33nm,0.5s,baz=288,slow=21,SNR=5.5								
GIRL	**Giralia**	**61.47**	**255**	P	**P**	**19**	**53**	**59.9**	**+1.0**
CASY	**Casey**	**62.96**	**205**	P	**P**	**19**	**54**	**08.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**65.44**	**270**	P	**P**	**19**	**54**	**23.3**	**-1.0**
JAGI				IAmb	IAmb	19	54	24.1	
	comp=Z,20nm,0.9s								
MYLDM	**Lahad Datu**	**66.60**	**286**	P	**P**	**19**	**54**	**32.9**	**+1.4**
JYT	**Yasato**	**68.89**	**326**	P	**P**	**19**	**54**	**44.8**	**-0.1**
JYT				IAmb	IAmb	19	54	45.9	
	comp=Z,32nm,1.1s								
QSPA	**South Pole Qui**	**68.90**	**180**	P	**P**	**19**	**54**	**46.6**	**+1.9**
QSPA				IAmb	IAmb	19	54	47.7	
	comp=Z,19nm,0.9s								
UGM	**Wanagama**	**69.01**	**269**	P	**P**	**19**	**54**	**45.8**	**-0.4**
KKM	**Kota Kinabalu**	**69.02**	**286**	P	**P**	**19**	**54**	**46.5**	**+0.2**
KKM				IAmb	IAmb	19	54	47.4	
	comp=Z,13nm,0.7s								
JMM	**Marumori**	**69.83**	**327**	P	**P**	**19**	**54**	**50.1**	**-0.3**
JMM				IAmb	IAmb	19	54	51.3	
	comp=Z,24nm,1.1s								
JGF	**Kuroka**	**69.97**	**323**	P	**P**	**19**	**54**	**51.0**	**-0.4**
JGF				IAmb	IAmb	19	54	51.9	
	comp=Z,11nm,0.7s								
MJAR	**Matsushiro Arr**	**70.19**	**324**	P	**P**	**19**	**54**	**52.1**	**-0.5**
	comp=Z,14nm,0.8s,baz=159,slow=5.5,SNR=53								
MJAR	**Matsushiro Arr**	**70.19**	**324**	P	**P**	**19**	**54**	**51.8**	**-0.9**
MAJO	**Matsushiro**	**70.19**	**324**	P	**P**	**19**	**54**	**52.4**	**-0.3**
MAJO				IAmb	IAmb	19	54	53.2	
	comp=Z,15nm,0.8s								
MAT	**Matsushiro**	**70.19**	**324**	P	**P**	**19**	**54**	**52.2**	**-0.5**
JMN	**Monobe**	**70.67**	**320**	P	**P**	**19**	**54**	**55.8**	**+0.3**
JMN				IAmb	IAmb	19	54	57.1	
	comp=Z,12nm,0.9s								
JWT	**Wachi**	**70.86**	**322**	P	**P**	**19**	**54**	**56.7**	**+0.2**
JWT				IAmb	IAmb	19	54	57.6	
	comp=Z,17nm,0.9s								
JSD	**Sado**	**71.27**	**326**	P	**P**	**19**	**54**	**59.5**	**+0.6**
JSU	**Suzuyama**	**71.34**	**316**	P	**P**	**19**	**54**	**59.3**	**-0.2**
JSU				IAmb	IAmb	19	55	00.4	
	comp=Z,33nm,0.9s								
CISI	**Cisompet, Garu**	**71.66**	**269**	P	**P**	**19**	**55**	**00.9**	**-0.9**
JTM	**Tenmabayashi**	**71.95**	**329**	P	**P**	**19**	**55**	**03.0**	**+0.3**
JTM				IAmb	IAmb	19	55	03.9	
	comp=Z,19nm,0.8s								
JHS	**Saijyo**	**72.00**	**320**	P	**P**	**19**	**55**	**03.6**	**+0.3**
LEM	**Lembang**	**72.09**	**270**	P	**P**	**19**	**55**	**04.3**	**0.0**
	comp=Z,18nm,0.6s,baz=73,slow=9.2,SNR=5.7								
JNU	**Nakatsue**	**72.12**	**317**	P	**P**	**19**	**55**	**03.3**	**-0.7**
	comp=Z,14nm,0.9s,baz=256,slow=5.8,SNR=6.7								
JNU	**Nakatsue**	**72.12**	**317**	P	**P**	**19**	**55**	**03.6**	**-0.4**
JNU				IAmb	IAmb	19	55	05.5	
	comp=Z,27nm,1.0s								
YOJ	**Yonaguni jima**	**72.35**	**306**	P	**P**	**19**	**55**	**05.4**	**0.0**
KSM	**Kuching**	**72.57**	**279**	P	**P**	**19**	**55**	**07.1**	**+0.2**
KSM				IAmb	IAmb	19	55	08.4	
	comp=Z,15nm,0.7s								
ADK	**Adak**	**72.76**	**2**	P	**P**	**19**	**55**	**06.4**	**-0.7**
TWG	**Pinlang**	**72.95**	**303**	P	**P**	**19**	**55**	**07.3**	**-1.6**
YULB	**Yu-li**	**73.08**	**304**	P	**P**	**19**	**55**	**08.6**	**-1.1**
YULB				IAmb	IAmb	19	55	18.0	
	comp=Z,15nm,0.9s								
ATKA	**Atka Island**	**73.17**	**3**	P	**P**	**19**	**55**	**08.6**	**-0.9**
NACB	**Ninganchiao**	**73.27**	**305**	P	**P**	**19**	**55**	**09.8**	**-0.9**
NACB				IAmb	IAmb	19	55	10.9	
	comp=Z,24nm,0.8s								
TPUB	**Ta-pu**	**73.55**	**304**	P	**P**	**19**	**55**	**11.3**	**-1.0**
SSLB	**Suanglung**	**73.56**	**304**	P	**P**	**19**	**55**	**11.4**	**-1.0**
SSLB				IAmb	IAmb	19	55	12.0	
	comp=Z,22nm,0.7s								
YHNB	**Yeheng**	**73.71**	**305**	P	**P**	**19**	**55**	**12.8**	**-0

CHTO					IAmb	IAmb	19 56 36.3		
	comp=Z,5.2nm,0.7s								
PDAR	**Pinedale Array**	**90.09**	**44**		P	**P**	**19 56 36.0**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=198,slow=3.8,SNR=7.2								
PDAR	**Pinedale Array**	**90.09**	**44**		P	**P**	**19 56 36.2**	**+0.1**	
EGAK	**Eagle**	**90.49**	**15**		P	**P**	**19 56 37.3**	**+0.2**	
EGAK					IAmb	IAmb	19 56 38.1		
	comp=Z,3.9nm,0.8s								
YAK	**Yakutsk**	**92.38**	**338**		P	**P**	**19 56 44.8**	**-1.0**	
	comp=Z,3.3nm,0.4s,baz=271,slow=1.3,SNR=6.0								
YAK	**Yakutsk**	**92.38**	**338**		P	**P**	**19 56 44.9**	**-1.0**	
GTA	**Gaotai**	**96.67**	**310**	*e*P		**P**	**19 57 06.4**	**+0.4**	
GTA					pP	pP	19 59 17.8	-1.1	
GTA					sP	sP	20 00 15.1	-4.5	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.4s								
YKA	**Yellowknife Ar**	**97.51**	**25**		PKKPbc	PKKPbc	20 13 44.1	-0.9	
	comp=Z,0.6nm,0.7s,baz=337,slow=18,SNR=4.6								
ZALV	**Zalesovo Beam**	**110.42**	**321**		PKiKP	**PKiKP**	**20 02 02.2**	**-1.1**	
	comp=Z,0.6nm,0.5s,baz=169,slow=1.5,SNR=4.6								
MKAR	**Makanchi Array**	**110.97**	**313**		PKiKP	**PKiKP**	**20 02 03.7**	**-0.9**	
	comp=Z,0.3nm,0.4s,baz=228,slow=0.2,SNR=8.0								
BVAR	**Borovoye Array**	**118.98**	**320**		PKP	**PKPdf**	**20 02 18.9**	**-0.8**	
	comp=Z,0.7nm,0.3s,baz=49,slow=14,SNR=22								
SPITS	**Spitsbergen Ar**	**122.47**	**356**		PKP	**PKPdf**	**20 02 25.1**	**-0.8**	
	comp=Z,14nm,1.0s,baz=350,slow=5.9,SNR=6.1								
ARU	**Arti**	**125.21**	**325**			**PKPdf**	**20 02 31.2**	**-0.4**	
AKTO	**Aktyubinsk**	**126.93**	**318**		PKP	**PKPdf**	**20 02 35.1**	**0.0**	
	comp=Z,1.3nm,0.5s,baz=88,slow=2.6,SNR=5.5								
ARCES	**ARCESS Array B**	**129.40**	**349**		PKP	**PKPdf**	**20 02 38.8**	**-0.4**	
	comp=Z,1.8nm,0.5s,baz=18,slow=1.3,SNR=24								
FINES	**FINESS Array B**	**136.14**	**343**		PKhKP	PKPpre	20 02 38.3		
	comp=Z,1.7nm,0.9s,baz=124,slow=0.7,SNR=3.9								
FINES					PKP	**PKPdf**	**20 02 50.2**	**-1.9**	
	comp=Z,2.7nm,0.6s,baz=76,slow=2.4,SNR=11								
FINES					SKPbc	**SKPbc**	**20 05 28.2**	**+1.2**	
	comp=Z,2.7nm,0.7s,baz=8.5,slow=3.9,SNR=7.3								
FINES	**FINESS Array B**	**136.14**	**343**			**PKPdf**	**20 02 52.5**	**+0.5**	
NB2	**NORSAR Subarra**	**139.52**	**352**		PKP	**PKPdf**	**20 02 51.6**	**-6.8**	
	comp=Z,0.4nm,0.4s,baz=6.1,slow=3.8								
NOA	**NORSAR Array B**	**139.52**	**352**		PKhKP	PKPpre	20 02 49.6		
	comp=Z,0.3nm,0.5s,baz=59,slow=1.5,SNR=4.3								
NOA					PKP	**PKPdf**	**20 02 57.5**	**-0.9**	
	comp=Z,0.4nm,0.5s,baz=15,slow=3.8,SNR=2.4								
NOA					SKPbc	**SKPbc**	**20 05 35.7**	**-0.9**	
	comp=Z,2.1nm,0.9s,baz=15,slow=4.2,SNR=3.7								
SUW	**Suwalki**	**143.12**	**338**	*e*PKP		PKPab	20 03 03.2	+0.2	
SUW	**Suwalki**	**143.12**	**338**			PKPab	20 03 03.0	0.0	
AKASG	**Malin Array Be**	**143.13**	**330**		PKP	PKPab	20 03 02.5	-0.7	
	comp=Z,14nm,0.7s,baz=43,slow=4.3,SNR=115								
AKASG					SKPbc	**SKPbc**	**20 05 47.2**	**+1.3**	
	comp=Z,0.3nm,0.3s,baz=39,slow=3.2,SNR=5.5								
AKBB	**Malin Array Si**	**143.13**	**330**			PKPab	20 03 02.5	-0.7	
GAZ	**Gaziantep**	**144.83**	**305**	PKPdf		**PKPdf**	**20 03 09.4**	**+0.9**	
SORM	**Soroca**	**145.27**	**327**	⇓P		**PKPdf**	**20 03 10.1**	**+1.3**	
MILM	**Milestii Mici**	**145.81**	**325**	⇓P		**PKPdf**	**20 03 11.4**	**+1.6**	
BR131	**Keskin Array S**	**146.57**	**311**			**PKPbc**	**20 03 14.1**	**-0.2**	
BRTR	**Keskin Array B**	**146.57**	**311**		PKPbc	**PKPbc**	**20 03 14.0**	**-0.2**	
	comp=Z,3.6nm,0.6s,baz=124,slow=3.6,SNR=7.3								
BRTR	**Keskin Array B**	**146.57**	**311**			**PKPbc**	**20 03 13.9**	**-0.4**	
KWP	**Kalwaria Pacla**	**146.78**	**334**	*e*PKP		**PKPbc**	**20 03 14.6**	**+0.3**	
KWP	**Kalwaria Pacla**	**146.78**	**334**			**PKPbc**	**20 03 14.6**	**+0.3**	
TLCR		**146.88**	**323**	⇓P		**PKPbc**	**20 03 14.9**	**+0.3**	
BUR08	**Bucovina Ar. S**	**147.15**	**329**			**PKPbc**	**20 03 16.0**	**+0.6**	
BURAR	**Bucovina Array**	**147.16**	**329**	⇓P		**PKPbc**	**20 03 16.1**	**+0.6**	
BURAR	**Bucovina Array**	**147.16**	**329**			**PKPbc**	**20 03 15.8**	**+0.3**	
BIZ	**Bicaz**	**147.20**	**328**	⇓P		**PKPbc**	**20 03 16.3**	**+0.9**	
CFR	**Carcaliu**	**147.27**	**323**	⇓P		**PKPbc**	**20 03 16.4**	**+0.7**	
TPGR	**Topolog**	**147.30**	**323**	⇑P		**PKPbc**	**20 03 16.3**	**+0.5**	
OJC	**Ojcow**	**147.42**	**337**	*e*PKP		**PKPbc**	**20 03 16.1**	**+0.2**	
OJC	**Ojcow**	**147.42**	**337**			**PKPbc**	**20 03 16.0**	**+0.1**	
KOLS	**Kolonicke sedl**	**147.50**	**334**	*e*PKP		**PKPbc**	**20 03 15.7**	**-0.5**	
VRI	**Vrincioaia**	**147.59**	**326**	⇓P		**PKPbc**	**20 03 16.7**	**+0.2**	
PLOR	**Plostina**	**147.65**	**326**	⇓P		**PKPbc**	**20 03 16.6**	**-0.1**	
HARR	**Harsova**	**147.68**	**323**	⇓P		**PKPbc**	**20 03 17.2**	**+0.5**	
CRVS	**Cervenica-Dubn**	**147.86**	**334**	*e*PKP		**PKPbc**	**20 03 17.7**	**+0.6**	
NIE	**Niedzica**	**147.90**	**336**	*e*PKP		**PKPbc**	**20 03 17.4**	**+0.2**	
OZUR		**147.93**	**327**	⇓P		**PKPbc**	**20 03 17.9**	**+0.5**	
KSP	**Ksiaz**	**148.03**	**342**	*e*PKP		**PKPbc**	**20 03 18.1**	**+0.7**	
ISR	**Istrita**	**148.18**	**325**	⇓P		**PKPbc**	**20 03 24.6**	**+1.1**	
DOPR	**Dopca**	**148.22**	**327**	⇓P		**PKPbc**	**20 03 19.0**	**+0.9**	
MLR	**Muntele Rosu**	**148.25**	**326**	⇓P		**PKPbc**	**20 03 19.3**	**+0.9**	
MLR	**Muntele Rosu**	**148.25**	**326**			**PKPbc**	**20 03 17.9**	**-0.5**	
CHVC	**Chvalec**	**148.33**	**342**	⇑*e*PKP		**PKPbc**	**20 03 18.4**	**+0.2**	
CHVC				*e*PKPAB		**PKPab**	**20 03 24.3**	**+0.4**	
LANS	**Liptovska Anna**	**148.43**	**337**	*e*PKP		**PKiKP**	**20 03 20.0**	**+0.4**	
LANS				*e*			20 03 24.8		
DPC	**Dobruska-Polom**	**148.46**	**341**	⇑*e*PKP		**PKPbc**	**20 03 19.3**	**+0.7**	
DPC				*e*PKPAB		**PKPab**	**20 03 25.3**	**+0.9**	
CLL	**Collm**	**148.48**	**346**	⇓*i*PKPbc		**PKPbc**	**20 03 18.7**	**+0.2**	
	comp=Z,11nm,0.7s								
CLL				⇑*i*PKPab		**PKPab**	**20 03 24.3**	**-0.1**	
	comp=Z,6.0nm,0.7s								
CLL				*e*pPKPab		**pPKPbc**	**20 05 40.0**	**+1.3**	
CLL	**Collm**	**148.48**	**346**			**PKPbc**	**20 03 18.7**	**+0.2**	
KRLC	**Kraliky**	**148.56**	**340**	⇑*e*PKP		**PKPbc**	**20 03 19.4**	**+0.6**	
KRLC				*e*PKPAB		**PKPab**	**20 03 25.3**	**+0.4**	
MORC	**Moravsky Berou**	**148.58**	**339**	⇓P		**PKPbc**	**20 03 19.4**	**+0.5**	
MORC	**Moravsky Berou**	**148.58**	**339**	*e*PKP		**PKPbc**	**20 03 19.1**	**+0.2**	
MORC				*e*			20 03 25.4		
CJR	**Cluj-Napoca**	**148.58**	**330**	⇓P		**PKPbc**	**20 03 19.5**	**+0.5**	
BRG	**Berggiesshubel**	**148.65**	**344**	*i* PKP		**PKPbc**	**20 03 19.2**	**+0.2**	
	comp=Z,6.7nm,0.7s								
BRG				*i*			20 03 25.2		
	comp=Z,12nm,1.4s								
VOIR		**148.76**	**326**	⇓P		**PKPbc**	**20 03 19.9**	**+0.4**	
LEF	**Lefka**	**148.78**	**303**	⇓P		**PKPbc**	**20 03 19.9**	**+0.1**	
ARR	**Arges**	**149.02**	**327**	⇓P		**PKPbc**	**20 03 21.2**	**+1.1**	
VYHS	**Vyhne**	**149.21**	**337**	*e*PKP		**PKPbc**	**20 03 20.9**	**+0.5**	
VYHS				*e*			20 03 28.1		
VRAC	**Vranov**	**149.29**	**340**	⇓P		**PKPbc**	**20 03 21.5**	**+0.9**	
VRAC	**Vranov**	**149.29**	**340**	*e*PKP		**PKPbc**	**20 03 21.3**	**+0.7**	
VRAC				*e*			20 03 28.3		
GOPC	**GO Pecny, Ondr**	**149.30**	**342**	⇑*e*PKP		**PKPbc**	**20 03 21.0**	**+0.4**	
PRU	**Pruhonice**	**149.30**	**343**	⇑*e*PKP		**PKPbc**	**20 03 20.9**	**+0.4**	
PRU				*e*PKPAB		**PKPab**	**20 03 28.3**	**+0.4**	
JAVC	**Velka Javorina**	**149.32**	**338**	*e*PKP		**PKiKP**	**20 03 22.2**	**+0.7**	
KRUC	**Moravsky**	**149.57**	**340**	*e*PKP		**PKPbc**	**20 03 21.3**	**+0.1**	
KRUC				*e*			20 03 29.5		
SMOL	**Smolenice**	**149.70**	**338**	*e*PKP		**PKPbc**	**20 03 22.2**	**+0.7**	
SMOL				*e*			20 03 30.7		
PBCC	**Pribram**	**149.72**	**343**	⇑*e*PKP		**PKPbc**	**20 03 21.7**	**+0.1**	
PBCC				*e*PKPAB		**PKPab**	**20 03 29.8**	**+0.1**	
SIRR	**Siria**	**149.81**	**331**	⇓P		**PKPbc**	**20 03 22.3**	**+0.4**	
MODS	**Modra-Piesok**	**149.87**	**338**	*e*PKP		**PKPbc**	**20 03 21.6**	**-0.4**	
MODS				*e*			20 03 30.4		
GZR	**Gura Zlata**	**149.93**	**329**	⇓P		**PKPbc**	**20 03 22.2**	**-0.1**	
ZST	**Bratislava**	**150.08**	**338**	*e*PKP		**PKPbc**	**20 03 22.1**	**-0.3**	
BZS	**Buzias**	**150.32**	**330**	⇓P		**PKPbc**	**20 03 23.2**	**+0.1**	
KHC	**Kasperske Hory**	**150.34**	**343**	⇑*e*PKP		**PKPbc**	**20 03 23.4**	**+0.3**	
KHC				*e*PKPAB		**PKPab**	**20 03 33.0**	**+0.7**	
KHC	**Kasperske Hory**	**150.34**	**343**			**PKPbc**	**20 03 23.4**	**+0.3**	
MEM	**Membach**	**150.35**	**354**	PKPbc		**PKPbc**	**20 03 22.0**	**-1.0**	
MEM				PKiKP		**PKiKP**	**20 03 23.0**	**-0.5**	
BTNL	**Ternell**	**150.36**	**353**	PKiKP		**PKPbc**	**20 03 23.3**	**+0.3**	
BSTI	**Sart Tilman**	**150.42**	**354**	PKiKP		**PKPbc**	**20 03 23.5**	**+0.4**	
HERR	**Herculane**	**150.48**	**328**	⇓P		**PKPbc**	**20 03 23.4**	**0.0**	
GEC2	**GERESS Array S**	**150.57**	**343**			**PKPbc**	**20 03 23.9**	**+0.2**	
GERES	**GERESS Array B**	**150.57**	**343**	PKPbc		**PKPbc**	**20 03 23.4**	**-0.3**	
	comp=Z,3.9nm,0.7s,baz=30,slow=2.7,SNR=42								
GERES				PKPab		**PKPab**	**20 03 33.1**	**-0.2**	
	comp=Z,1.3nm,0.8s,baz=15,slow=5.5,SNR=5.2								
GERES	**GERESS Array B**	**150.57**	**343**			**PKPbc**	**20 03 23.6**	**0.0**	
GERES						**PKPab**	**20 03 33.4**	**0.0**	
CONA	**Conrad Observa**	**150.73**	**339**	*e*P		**PKPbc**	**20 03 24.5**	**+0.5**	
	comp=Z,8.9nm,0.6s,SNR=14								
BMRD	**Maredsous**	**150.77**	**355**	PKiKP		**PKPbc**	**20 03 23.7**	**-0.2**	
BMRD				PKPab		**PKPab**	**20 03 33.6**	**-0.4**	
MDVR	**Moldovita**	**150.89**	**329**	⇓P		**PKPbc**	**20 03 24.5**	**0.0**	
DOU	**Dourbes**	**150.99**	**355**	PKiKP		**PKPbc**	**20 03 24.7**	**+0.3**	
WLF	**Walferdange**	**151.27**	**353**	PKiKP		**PKPbc**	**20 03 25.7**	**+0.6**	
MOA	**Molln**	**151.31**	**341**	*i* P		**PKPbc**	**20 03 25.3**	**0.0**	
	comp=Z,3.7nm,0.6s								
ARSA	**Arzberg**	**151.44**	**339**	*i* P		**PKPbc**	**20 03 25.3**	**-0.3**	
	comp=Z,1.4nm,0.5s								
SOKA	**Soboth**	**152.10**	**339**	*i* P		**PKPbc**	**20 03 26.8**	**-0.4**	
	comp=Z,2.3nm,0.6s								
SOKA				*e*P		**PKPab**	**20 03 39.9**	**+0.1**	
	comp=Z,4.1nm,0.9s								
PERS	**Pernice**	**152.11**	**339**	*i* PKPbc		**PKPbc**	**20 03 26.5**	**-0.6**	
PERS				*i* PKPab		**PKPab**	**20 03 39.8**	**-0.1**	
DIVS	**Divibare**	**152.22**	**330**			**PKPbc**	**20 03 27.2**	**-0.3**	
BFO	**Black Forest**	**152.26**	**349**			**PKPbc**	**20 03 27.5**	**+0.1**	
KBA	**Koelnbreinsper**	**152.27**	**342**	*i* P		**PKPbc**	**20 03 26.9**	**-0.7**	
	comp=Z,6.1nm,1.2s,SNR=6.7								
KBA				*e*P		**PKPab**	**20 03 40.2**	**-0.5**	
	comp=Z,3.7nm,0.7s								
OBKA	**Obir**	**152.41**	**340**	*i* P		**PKPbc**	**20 03 27.1**	**-0.7**	
	comp=Z,2.8nm,0.6s,SNR=4.3								
WATA	**Walderalm**	**152.52**	**344**	*e*P		**PKPbc**	**20 03 27.8**	**-0.4**	
	comp=Z,2.7nm,0.5s,SNR=5.2								
WATA				*i* P		**PKPab**	**20 03 41.9**	**+0.2**	
	comp=Z,3.4nm,0.6s								
WTTA	**Wattenberg**	**152.57**	**344**	*i* P		**PKPbc**	**20 03 28.3**	**0.0**	
	comp=Z,4.8nm,0.4s,SNR=10								
WTTA				*i* P		**PKPab**	**20 03 42.4**	**+0.4**	
	comp=Z,4.8nm,0.6s								
RETA	**Reutte**	**152.58**	**346**	*i* P		**PKPbc**	**20 03 28.5**	**+0.4**	
	comp=Z,2.0nm,0.7s								
RETA				*i* P		**PKPab**	**20 03 41.9**	**+0.1**	
	comp=Z,4.2nm,0.6s								
MYKA	**Terra Mystica**	**152.59**	**341**	*i* P		**PKPbc**	**20 03 27.4**	**-0.8**	
	comp=Z,2.6nm,0.5s								
MYKA				*e*P		**PKPab**	**20 03 41.2**	**-0.7**	
	comp=Z,5.4nm,1.0s								
MOTA	**Moosalm**	**152.63**	**345**	*e*P		**PKPbc**	**20 03 28.3**	**-0.1**	
	comp=Z,5.4nm,1.0s,SNR=5.0								
PDKS	**Podkum**	**152.65**	**338**	*i* PKPbc		**PKPbc**	**20 03 28.0**	**-0.3**	
PDKS				*e*PKPab		**PKPab**	**20 03 41.7**	**-0.5**	
SQTA	**Sankt Quirin**	**152.72**	**345**	*i* P		**PKPbc**	**20 03 28.3**	**-0.2**	
	comp=Z,4.3nm,0.6s,SNR=4.1								
PRED	**Cave del Predi**	**152.78**	**341**			**PKPab**	**20 03 42.1**	**-0.7**	
ABTA	**Abfaltersbach**	**152.81**	**343**	*i* P		**PKPbc**	**20 03 28.1**	**-0.7**	
	comp=Z,6.3nm,0.6s,SNR=12								
ABTA				*e*P		**PKPab**	**20 03 42.1**	**-0.8**	
	comp=Z,3.0nm,0.6s								
LJU	**Ljubljana**	**152.82**	**339**	*i* PKPbc		**PKPbc**	**20 03 28.6**	**-0.1**	
LJU				*i* PKPab		**PKPab**	**20 03 42.5**	**-0.3**	
DAVA	**Damuels**	**152.96**	**347**	*e*P		**PKPbc**	**20 03 29.8**	**+0.7**	
	comp=Z,1.9nm,0.5s,SNR=5.0								
DAVA				*i* P		**PKPab**	**20 03 43.7**	**+0.1**	
	comp=Z,6.4nm,0.8s								
FETA	**Feichten**	**153.02**	**345**	*i* P		**PKPbc**	**20 03 29.3**	**0.0**	
	comp=Z,3.7nm,0.9s								
CIMO	**Cimolais**	**153.23**	**342**			**PKPbc**	**20 03 28.8**	**-0.8**	
FUORN	**Ofenpass-Fuorn**	**153.51**	**346**	PKPbc		**PKPbc**	**20 03 30.5**	**+0.1**	
FUORN						**PKPab**	**20 03 46.6**	**+0.5**	
INTR	**Introdacqua**	**156.54**	**335**	PKPab		**PKPab**	**20 03 58.5**	**-0.5**	
ESDC	**Sonseca Array**	**161.07**	**12**	PKPab		**PKPab**	**20 04 18.1**	**-0.7**	
	comp=Z,1.7nm,1.0s,baz=334,slow=4.3,SNR=5.8								
ESDC	**Sonseca Array**	**161.07**	**12**			**PKPab**	**20 04 17.0**	**-1.8**	
KEST	**Kesra**	**163.75**	**335**	PKPab		**PKPab**	**20 04 30.1**	**-0.7**	
	comp=Z,4.7nm,0.8s,baz=294,slow=5.1,SNR=7.7								
KEST	**Kesra**	**163.75**	**335**			**PKPab**	**20 04 30.3**	**-0.5**	
TORD	**Torodi Ar. Bea**	**172.00**	**185**	PKPab		**PKPab**	**20 05 07.8**	**+0.3**	
	comp=Z,0.7nm,0.7s,baz=169,slow=3.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**172.00**	**185**			**PKPab**	**20 05 07.0**	**-0.4**	

KRNET 18 20:05:39.0±0.1, 42°.01N×72°.41E, mb1.8, 6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.48**	**8**	⇓*e*P		P	Pg	20 05 48.4	+0.2
	baz=9.0								
MNAS				⇓*i*S		Sg		20 05 55.2	+0.8
	baz=9.0								
ARLS	**Aral**	**1.44**	**95**	⇓*i*P		Pn		20 06 05.5	-0.9
	baz=95								
ARLS				⇓*i*S		Sg		20 06 25.0	-0.1
	baz=95								
BTK	**Batken**	**2.29**	**212**	⇓*i*P		Pn		20 06 18.9	+0.8
	baz=12								
BTK				⇓*i*S		Sn		20 06 48.2	+1.1
	baz=12								

NNC 18 20:05:55.8±0.3, 42°.81N×71°.21E, h0km, mpv0.8, 1C, Error ellipse: s-maj=1.7km s-min=1.6km az=120.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.58**	**300**	P		P	Pg	20 06 07.2	+0.3
KK06				S		S	Sg	20 06 15.2	+0.8
KK05	**Karatay Array**	**0.59**	**302**	P		P	Pg	20 06 07.3	+0.2
KK05				S		S	Sg	20 06 15.7	+0.9
KK02	**Karatay Array**	**0.59**	**300**	P		P	Pg	20 06 07.3	+0.2
KK02				S		S	Sg	20 06 15.5	+0.8
KK07	**Karatay Array**	**0.59**	**299**	P		P	Pg	20 06 07.3	+0.2
KK07				S		S	Sg	20 06 15.7	+0.9
KK31	**Karatay Array**	**0.59**	**300**	⇑P		P	Pg	20 06 07.5	+0.4
	0.1nm,0.3s,baz=117,slow=18,SNR=35								
KK31				S		S	Sg	20 06 15.8	+1.0
	0.3nm,0.2s,baz=121,slow=29,SNR=24								
KK01	**Karatay Array**	**0.59**	**300**	P		P	Pg	20 06 07.4	+0.2
KK01				S		S	Sg	20 06 15.7	+0.9
KK03	**Karatay Array**	**0.59**	**300**	P		P	Pg	20 06 07.5	+0.3
KK03				S		S	Sg	20 06 15.6	+0.6
KK04	**Karatay Array**	**0.60**	**301**	P		P	Pg	20 06 07.4	+0.2
KK04				S		S	Sg	20 06 15.7	+0.8
KK08	**Karatay Array**	**0.60**	**300**	P		P	Pg	20 06 07.7	+0.2
KK08				S		S	Sg	20 06 15.9	+0.7
KK09	**Karatay Array**	**0.61**	**301**	P		P	Pg	20 06 07.6	+0.2
KK09				S		S	Sg	20 06 16.1	+0.8

MOS ***18*** *20:17:05.7±0.8, 64°.60N×17°.56W, h10km, mb4.4/16, Error ellipse: s-maj=13.2km s-min=8.2km az=119.1*
REY ***18*** *20:17:05.4, 64°.68N×17°.48W, h3km*
IDC ***18*** *20:17:06.1±0.6, 64°.59N×17°.60W, h0km, mb4.0/15, mb1 4.1/19, mb1mx3.9/53, mbtmp4.0/19, ML2.6/3, MS3.3/5, Ms1 3.3/5, ms1mx2.7/43, Error ellipse: s-maj=18.2km s-min=9.5km az=16.0*
NEIC ***18*** *20:17:07.0±1.1, 64°.6N±0°.1×17°.6W±0°.1, h7km±4km, mb4.5/54, Error ellipse: s-maj=15.4km s-min=8.2km az=190.0*
ISC 18 20:17:07.1±0.4, 64°.65N±0°.03×17°.51W±0°.03, h9km, n199, σ1°35/195, **mb4.3**/72, **MS3.0**/5, **7C-1D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**280**	P		**P**	**Pg**	**20 17 07.9**	**-1.9**
	baz=266								
IDYN	**Dyngjuhals**	**0.15**	**23**	P		**P**	**Pg**	**20 17 08.3**	**-2.2**
	baz=24								
IURH	**Urdarhals**	**0.23**	**42**	P		**P**	**Pg**	**20 17 09.6**	**-2.2**
	baz=46								
IGRF	**Grimsfjall**	**0.27**	**157**	P		**P**	**Pg**	**20 17 11.2**	**-1.4**
	baz=162								
IKVE	**Kverkfjoll**	**0.36**	**86**	P		**P**	**Pg**	**20 17 12.3**	**-1.9**
	baz=90								
IHUS	**Husbondi**	**0.37**	**190**	P		**P**	**Pg**	**20 17 12.9**	**-1.4**
	baz=191								
ISKR	**Skrokkalda**	**0.39**	**256**	P		**P**	**Pg**	**20 17 13.2**	**-1.7**
	baz=253								
IVOT	**Vottur**	**0.41**	**160**	P		**P**	**Pg**	**20 17 14.0**	**-1.1**
	baz=163								
IJOK	**Jokulheimar**	**0.46**	**223**	P		**P**	**Pg**	**20 17 14.6**	**-1.5**
	baz=222								
IKRE	**Kreppuhraun**	**0.50**	**74**	P		**P**	**Pg**	**20 17 14.0**	**-2.8**
	baz=77								
IMKO	**Mokollar**	**0.60**	**56**	P		P	Pg	20 17 15.7	-2.9
	baz=58								
IMKO				S		**Sg**		**20 17 24.8**	**-1.7**
	baz=58								
IIEY	**Innrieyrar**	**0.62**	**206**	P		**P**	**Pg**	**20 17 17.3**	**-1.8**
	baz=206								
IKSK	**Karasker**	**0.67**	**137**	P		**P**	**Pg**	**20 17 17.2**	**-2.8**
	baz=140								
IKSK				S		**Sg**		**20 17 26.5**	**-2.2**
	baz=140								
ISVA	**Svartarkot**	**0.69**	**9**	P		P	Pg	20 17 17.4	-3.1
	baz=8.2								
IKAL	**Kalfafell**	**0.71**	**186**	P		**P**	**Pg**	**20 17 18.5**	**-2.4**
	baz=187								
IVAT	**Vatnsfell**	**0.77**	**233**	P		**P**	**Pg**	**20 17 20.2**	**-1.8**
	baz=232								
IVSH	**V-Sauoahnukur**	**0.78**	**78**	P		P	Pg	20 17 18.8	-3.3
	baz=80								
IADA	**Aoalbol**	**0.90**	**65**	P		P	Pg	20 17 20.5	-4.0
	baz=67								
IHVE	**Hveravellir**	**0.91**	**285**	P		**P**	**Pg**	**20 17 21.5**	**-3.1**
	baz=283								
IMEL	**Melhnausar**	**0.99**	**21**	P		P	Pg	20 17 22.1	-4.0
	baz=21								
IREN	**Reynihlio**	**1.03**	**14**	P		P	Pg	20 17 22.9	-4.0
	baz=14								

ISNB	**Snabyli**	**1.04**	**209**		P	**Pg**	**20 17 24.5**	**-2.7**	
	baz=208								
ISLY	**Slysaalda**	**1.09**	**221**		P	**Pg**	**20 17 25.2**	**-2.8**	
	baz=220								
IKVO	**Krokottuvotn**	**1.10**	**14**		P	Pb	20 17 24.2	-4.1	
	baz=13								
IGRS	**Grimsstaoir**	**1.15**	**30**		P	Pn	20 17 25.0	-4.4	
	baz=30								
IGRS					S	**Sb**	**20 17 41.5**	**-2.7**	
	baz=30								
IRJU	**Rjupnafell**	**1.16**	**207**		P	**Pg**	**20 17 26.7**	**-2.7**	
	baz=207								
BORG	**Borgarnes**	**1.65**	**275**		Pg	**Pn**	**20 17 33.6**	**-2.5**	
	29nm,0.3s,baz=89,slow=7.8,SNR=56								
BORG					Lg	Lg	20 17 57.2		
	10nm,0.3s,baz=75,slow=23,SNR=8.4								
BORG	**Borgarnes**	**1.65**	**275**		P	**Pn**	**20 17 33.5**	**-2.6**	
BORG							20 17 56.6		
BORG	**Borgarnes**	**1.65**	**275**		Pn	**Pn**	**20 17 33.5**	**-2.6**	
BORG					Sn	**Sb**	**20 17 56.6**	**-1.8**	
EKA	**Eskdalemuir Ar**	**11.75**	**136**		Pn	**Pn**	**20 19 53.9**	**-0.8**	
	baz=324,slow=12,SNR=6.9								
ESK	**Eskdalemuir**	**11.75**	**136**		P	**Pn**	**20 19 54.9**	**+0.2**	
ESK	**Eskdalemuir**	**11.75**	**136**		Pn	**Pn**	**20 19 54.9**	**+0.2**	
NOA	**NORSAR Array B**	**13.54**	**92**		Pn	**Pn**	**20 20 16.5**	**-2.6**	
	0.0nm,0.3s,baz=299,slow=13,SNR=3.2								
SFJD	**Kangerlussuaq**	**13.67**	**295**		LR	LR	20 24 44.4		
	comp=Z,54nm,18.7s,baz=93,slow=34								
ARD9	**ARCESS Array S**	**17.12**	**55**		Pn	**Pn**	**20 21 07.5**	**+1.2**	
ARCES	**ARCESS Array B**	**17.13**	**55**		P	**Pn**	**20 21 06.9**	**+0.6**	
	baz=279,slow=12,S

comp=Z,3.8nm,1.1s
KWP Kalwaria Pacla 25.91 106 P **P** **20 22 39.6 +0.5**
KWP pmax pmax
comp=Z,16nm,1.0s
KWP Kalwaria Pacla 25.91 106 P **P** **20 22 39.6 +0.5**
KWP IAmb IAmb 20 22 47.9
comp=Z,16nm,1.0s
PSZ Piszkesteto 26.11 112 P **P** **20 22 41.2 +0.1**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 26.11 112 P **P** **20 22 41.2 +0.1**
PSZ IAmb IAmb 20 22 47.3
comp=Z,7.9nm,1.0s
ESDC Sonseca Array 26.24 156 P **P** **20 22 42.4 +0.1**
comp=Z,1.9nm,0.9s,baz=352,slow=9.1,SNR=13
ESDC Sonseca Array 26.24 156 P **P** **20 22 42.4 +0.1**
KOLS Kolonicke sedl 26.27 108 *eP* **P** **20 22 43.7 +1.3**
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 26.27 108 *eP* **P** **20 22 43.7 +1.3**
OSSC Osservatorio P 26.63 129 P **P** **20 22 45.5 -0.2**
OSSC IAmb IAmb 20 22 50.6
comp=Z,11nm,1.0s
AKASG Malin Array Be 27.84 98 P **P** **20 22 56.0 -0.5**
comp=Z,2.1nm,0.9s,baz=325,slow=9.6,SNR=4.2
AKASG Malin Array Be 27.84 98 *ceP* **P** **20 22 57.7 +1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 27.84 98 P **P** **20 22 57.0 +0.5**
AKBB pmax pmax
comp=Z,9.0nm,1.2s
AKBB Malin Array Si 27.84 98 P **P** **20 22 57.0 +0.5**
AKBB IAmb IAmb 20 23 03.5
comp=Z,9.0nm,1.2s
OBN Obninsk 27.89 84 *ceP* **P** **20 22 57.0 +0.2**
OBN *e* 20 23 03.2
OBN 20 23 44.0
OBN S **S** **20 27 32.0 -7.9**
OBN pmax pmax
comp=Z,15nm,1.3s
OBN MLR MLR
comp=Z,32nm,16.0s
OBN Obninsk 27.89 84 P **P** **20 22 57.2 +0.4**
CLTB Caltabellotta 32.63 131 P **P** **20 23 40.4 +1.4**
KEST Kesra 33.15 138 P **P** **20 23 43.5 -0.1**
KEST IAmb IAmb 20 23 48.8
comp=Z,9.6nm,1.6s
ARU Arti 36.09 66 *d iP* **P** **20 24 09.0 +0.3**
ARU S **S** **20 29 50.7 +3.1**
ARU pmax pmax
comp=Z,6.0nm,1.3s
NRIK Noril'sk 36.47 35 P **P** **20 24 13.1 +1.3**
comp=Z,3.7nm,0.8s,baz=296,slow=4.8,SNR=6.2
BRTR Keskin Array B 38.48 105 P **P** **20 24 30.6 +1.3**
comp=Z,1.8nm,0.9s,baz=345,slow=10,SNR=3.1
BRTR Keskin Array B 38.48 105 P **P** **20 24 29.9 +0.6**
BRTR Keskin Array B 38.48 105 P **P** **20 24 29.9 +0.6**
INK Inuvik 39.85 329 P **P** **20 24 40.5 +0.3**
comp=Z,4.6nm,1.1s,baz=23,slow=8.2,SNR=4.3
ABKAR Akbulak array 42.00 73 P **P** **20 24 58.3 +0.2**
ABKAR Akbulak array 42.00 73 P **P** **20 24 58.4 +0.3**
BRVK Borovoye 43.14 62 *ceP* **P** **20 25 07.2 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
BRVK Borovoye 43.14 62 P **P** **20 25 08.3 +0.9**
MARD Mardin 43.51 100 P **P** **20 25 11.1 +0.4**
MARD IAmb IAmb 20 25 17.6
comp=Z,7.9nm,0.6s
P53A Whipple 44.09 267 P **P** **20 25 15.6 +0.4**
P52A Corning 44.28 268 P **P** **20 25 16.5 -0.2**
Q51A Peebles 45.31 269 P **P** **20 25 25.4 +0.4**
IL31 45.70 332 P **P** **20 25 28.6 +1.0**
IL31 IAmb IAmb 20 25 31.2
comp=Z,8.5nm,1.4s
ILAR Eielson Array 45.70 332 P **P** **20 25 29.6 +1.9**
comp=Z,3.0nm,1.1s,baz=21,slow=6.3,SNR=15
ILAR PcP **PcP** **20 27 05.6 +0.2**
comp=Z,1.2nm,1.0s,baz=354,slow=4.2,SNR=5.5
ILAR LR LR 20 45 55.1
comp=Z,12nm,18.6s,baz=142,slow=38
ILAR Eielson Array 45.70 332 P **P** **20 25 28.7 +1.0**
MDM Murphy Dome 45.79 333 P **P** **20 25 29.5 +1.0**
MDM IAmb IAmb 20 25 32.2
comp=Z,7.4nm,1.2s
COLA College 45.79 333 *i P* **P** **20 25 28.8 +0.4**
COLA pmax pmax
comp=Z,5.0nm,1.0s
IMAR Indian Mountai 45.87 337 P **P** **20 25 30.2 +1.2**
BCAR Beaver Creek A 46.12 329 P **P** **20 25 32.3 +1.2**
ZAA0 Zalesovo Array 47.64 51 P **P** **20 25 43.3 +0.3**
ZAA0 IAmb IAmb 20 25 44.6
comp=Z,9.1nm,1.6s
ZALV Zalesovo Beam 47.64 51 P **P** **20 25 43.5 +0.5**
comp=Z,0.8nm,0.6s,baz=332,slow=8.4,SNR=5.9
ZALV Zalesovo Beam 47.64 51 *i P* **P** **20 25 44.2 +1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 48.12 58 *ceP* **P** **20 25 46.1 -0.7**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 48.12 58 P **P** **20 25 47.0 +0.2**
KURK IAmb IAmb 20 25 48.0
comp=Z,6.8nm,0.9s
X48A Hartselle 50.76 269 P **P** **20 26 06.9 -0.2**
KK31 Karatay Array 51.28 70 P **P** **20 26 11.6 +0.6**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 51.28 70 P **P** **20 26 11.6 +0.6**
KKAR Karatay Array 51.28 70 P **P** **20 26 11.7 +0.7**
KKAR Karatay Array 51.28 70 P **P** **20 26 11.7 +0.7**
BOZ Bozeman (W) 51.61 297 P **P** **20 26 13.9 +0.3**
BOZ pmax pmax
comp=Z,13nm,1.4s
BOZ Bozeman (W) 51.61 297 P **P** **20 26 13.9 +0.3**
BOZ IAmb IAmb 20 26 16.0
comp=Z,13nm,1.4s
DGZ Jazzator, Alta 52.09 53 *i P* **P** **20 26 16.9 -0.2**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
T35A Sooner Cattle 52.73 279 P **P** **20 26 21.8 -0.1**
MK31 Makanchi Array 52.73 58 P **P** **20 26 21.9 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 52.73 58 P **P** **20 26 21.9 +0.1**
MKAR Makanchi Array 52.73 58 P **P** **20 26 22.3 +0.6**
comp=Z,2.0nm,0.9s,baz=318,slow=7.0,SNR=9.5
MKAR Makanchi Array 52.73 58 *ceP* **P** **20 26 22.2 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.73 58 P **P** **20 26 22.1 +0.3**
TOA0 Torodi Ar. Sit 53.13 156 P **P** **20 26 25.1 +0.2**
TORD Torodi Ar. Bea 53.13 156 P **P** **20 26 24.9 -0.1**
comp=Z,2.3nm,1.0s,baz=339,slow=8.7,SNR=7.6
TORD Torodi Ar. Bea 53.13 156 P **P** **20 26 24.5 -0.5**
BW06 Boulder Array 53.18 293 P **P** **20 26 25.5 +0.1**
BW06 IAmb IAmb 20 26 28.6
comp=Z,5.8nm,1.2s
PD31 Pinedale Array 53.18 293 P **P** **20 26 25.3 0.0**
PD31 IAmb IAmb 20 26 28.5
comp=Z,4.8nm,1.1s
PDAR Pinedale Array 53.18 293 P **P** **20 26 25.0 -0.4**
comp=Z,2.4nm,1.0s,baz=45,slow=4.4,SNR=3.7
PDAR Pinedale Array 53.18 293 P **P** **20 26 25.4 0.0**
AAK Ala-Archa 53.27 67 *ceP* **P** **20 26 26.0 +0.1**
AAK pmax pmax
comp=Z,16nm,1.3s
BOOM Boomskoye usch 53.96 66 P **P** **20 26 31.8 +0.8**
BOOM pmax pmax
comp=Z,5.0nm,1.1s
BOOM Boomskoye usch 53.96 66 P **P** **20 26 31.8 +0.8**
BOOM IAmb IAmb 20 26 33.7
comp=Z,4.8nm,1.1s
BTK Batken 53.97 72 P **P** **20 26 32.0 +1.0**
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 53.97 72 P **P** **20 26 32.0 +1.0**
CHGR Chuyangaron 54.47 74 P **P** **20 26 35.5 +0.9**
GAR Garm 54.66 73 P **P** **20 26 37.2 +1.1**
HRA Herat 55.19 82 P **P** **20 26 40.4 +0.3**
WMQ Urumqi 57.24 56 *eP* **P** **20 26 58.5 +4.1**
MSU Marysvale 57.84 293 P **P** **20 26 59.4 +0.5**
MSU Marysvale 57.84 293 P **P** **20 26 59.4 +0.5**
KBL Kabul 57.94 76 P **P** **20 27 00.7 +1.0**
KBL pmax pmax
comp=Z,3.0nm,0.9s
KBL Kabul 57.94 76 P **P** **20 27 00.7 +1.0**
KBL IAmb IAmb 20 27 01.8
comp=Z,3.1nm,0.9s
JCT Junction City 59.65 278 P **P** **20 27 11.5 +0.1**
JCT pmax pmax
comp=Z,11nm,1.4s
JCT Junction City 59.65 278 P **P** **20 27 11.4 +0.1**
WUAZ Wupatki 60.11 290 P **P** **20 27 15.0 +0.3**
WUAZ IAmb IAmb 20 27 16.9
comp=Z,5.3nm,0.9s
NIL Nilore 60.46 73 P **P** **20 27 17.4 +0.5**
NIL pmax pmax
comp=Z,14nm,1.2s
NIL Nilore 60.46 73 P **P** **20 27 17.4 +0.5**
SHPR Sheep Range 60.76 294 P **P** **20 27 19.7 +0.6**
SHPR IAmb IAmb 20 27 26.7
comp=Z,7.1nm,1.4s
TXAR Lajitas Array 62.28 280 P **P** **20 27 30.7 +1.3**
comp=Z,1.1nm,0.9s,baz=46,slow=3.8,SNR=5.5
TXAR Lajitas Array 62.28 280 P **P** **20 27 29.8 +0.5**
GTA Gaotai 65.31 49 P **P** **20 27 49.4 +0.2**
GTA pP sP 20 27 55.4 +1.6
GTA sP pP 20 27 58.4 +5.9
GTA pmax pmax
comp=Z,3.0nm,1.3s
HHC Hu-ho-hao-te 67.52 40 *eP* **P** **20 28 05.3 +2.0**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,85nm,6.0s
KSRS Korea Array 74.66 28 LR LR 21 04 27.7
comp=Z,44nm,18.2s,baz=133,slow=38
NJ2 Nanjing 77.75 37 *eP* **P** **20 29 05.1 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 84.14 59 P **P** **20 29 38.9 +0.4**
comp=Z,1.0nm,0.9s,baz=318,slow=6.4,SNR=8.6
CMAR Chiang Mai Arr 84.14 59 P **P** **20 29 38.5 +0.1**
SIV San Ignacio 86.97 222 LR LR 21 06 24.6
comp=Z,43nm,18.0s,baz=110,slow=34

IDC 18 20:21:02.2±1.4, 2.97S×129.04E, h0km, mb3.9/2, mb1 4.1/5, mb1mx3.6/44, mbtmpg3.9/5, ML3.8/3, Error ellipse: s-maj=45.4km s-min=25.1km az=90.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.05**	**47**	Pn	Pn	20 21 51.6	-0.1
	11nm,0.3s,baz=243,slow=11,SNR=39						
SIJI				Sn	Sn	20 22 26.3	-2.7
	7.7nm,0.3s,baz=35,slow=23,SNR=16						
FITZ	**Fitzroy Crossi**	**15.40**	**192**	Pn	Pn	20 24 42.0	+1.0
	0.1nm,0.3s,baz=25,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**17.65**	**163**	P	Pn	20 25 10.2	+0.5
	0.7nm,0.3s,baz=343,slow=12,SNR=31						
ASAR	**Alice Springs**	**21.11**	**168**	P	P	20 25 49.3	+0.6
	4.0nm,0.4s,baz=348,slow=12,SNR=110						
ASAR				PcP	PcP	20 29 53.2	-2.1
	0.2nm,0.5s,baz=6.0,slow=1.4,SNR=4.7						
MKAR	**Makanchi Array**	**64.36**	**326**	P	P	20 31 40.8	+0.8
	0.5nm,0.8s,baz=120,slow=7.3,SNR=3.1						

*IDC **18** 20:25:29.2±0.8, 36.70N×141.61E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.7/49, mbtmpg3.9/14, ML3.9/4, MS2.7/3, Ms1 2.7/3, ms1mx2.4/46, Error ellipse: s-maj=21.8km s-min=16.2km az=85.0*
*JMA **18** 20:25:34.9±0.1, 36.69N×141.35E, h48km±2km, M3.8*
JMA Felt I J1.
*NIED **18** 20:25:35.0, 36.69N×141.35E, h48km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr5.65; Mθθ2.28; Mφφ-7.93; Mrθ-4.46; Mθφ1.90; Mφr1.20; Fault plane solution: M08.66000×1014 NP1: φs320.00000°, δ62.00000°, λ52.00000°. NP2: φs199.00000°, δ46.00000°, λ139.00000°.*
*NEIC **18** 20:25:35.1±1.9, 36.70N±0.04×141.51E±0.08, h38km±9km, mb4.4/17 Error ellipse: s-maj=9.8km s-min=5.8km az=106.0*
ISC 18 20:25:31.3±1.6, 36.68N±0.04×141.60E±0.06, h14km±9km, n76, σ1s08/81, mb4.0/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**303**	P	**Pb**	**20 25 47.1**	**+0.5**
ONAJ				*e*S	**Sg**	**20 25 56.3**	**-0.2**
JHO	**Hitachi**	**0.83**	**266**	P	**Pg**	**20 25 47.6**	**+0.1**
JHO				*e*S	**Sg**	**20 25 56.5**	**-1.9**
JHYU	**Hitachinakayam**	**0.89**	**248**	P	**Pb**	**20 25 48.8**	**+0.3**
JHYU				S	**Sb**	**20 25 58.2**	**-1.9**
JFK	**Kawauchi**	**0.90**	**320**	P	**Pg**	**20 25 49.3**	**+0.5**
JFK				S	**Sb**	**20 25 59.9**	**-0.8**
JFFD	**Fukushimafurud**	**0.93**	**297**	P	**Pb**	**20 25 49.2**	**-0.1**
JYT	**Yasato**	**1.22**	**249**	Pn	**Pn**	**20 25 53.6**	**-0.4**
JYT				Sn	**Sb**	**20 26 09.8**	**-0.1**
JFT	**Otama**	**1.31**	**310**	P	**Pb**	**20 25 55.9**	**+0.1**
JFT				S	**Sb**	**20 26 11.1**	**-1.4**
JMM	**Marumori**	**1.35**	**332**	P	**Pn**	**20 25 56.0**	**+0.2**
JMM				S	**Sn**	**20 26 12.3**	**-1.2**
JMM	**Marumori**	**1.35**	**332**		**Pn**	**20 25 56.1**	**+0.4**
JMM				Sn	**Sn**	**20 26 12.4**	**-1.0**
JFY	**Yanaizu**	**1.68**	**296**	P	**Pn**	**20 26 01.0**	**+0.6**
JFY				S	**Sn**	**20 26 20.7**	**-1.1**
JAG	**Ashikaga**	**1.75**	**262**	P	**Pn**	**20 26 00.8**	**-0.5**
JKT	**Katashina**	**1.89**	**273**	P	**Pn**	**20 26 03.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.73**	**268**	Pn	**Pn**	**20 26 15.5**	**+0.6**
	4.6nm,0.3s,baz=115,slow=10,SNR=385						
MJAR				Sn	**Sn**	**20 26 48.2**	**+0.5**
	3.9nm,0.3s,baz=97,slow=26,SNR=10.0						
MJAR				LR	LR	20 27 30.6	
	comp=Z,170nm,18.2s,baz=115,slow=45						
MJAR	**Matsushiro Arr**	**2.73**	**268**		**Pn**	**20 26 15.1**	**+0.2**
MAJO	**Matsushiro**	**2.74**	**268**	Pn	**Pn**	**20 26 16.3**	**+1.4**
MAT	**Matsushiro**	**2.74**	**268**	P	**Pn**	**20 26 16.1**	**+1.3**
MAT				S	**Sn**	**20 26 48.9**	**+1.2**
JSD	**Sado**	**2.99**	**298**	Pn	**Pn**	**20 26 18.5**	**+0.2**
JSG	**Sagara**	**3.43**	**235**	Pn	**Pn**	**20 26 26.4**	**+2.1**
JGF	**Kuroka**	**3.60**	**254**	Pn	**Pn**	**20 26 28.9**	**+2.1**
JHJ2	**Mitsune**	**3.85**	**203**	Pn	**Pn**	**20 26 31.5**	**+1.4**
JHJ	**Hachijo jima 2**	**3.85**	**203**	Pn	**Pn**	**20 26 30.2**	**+0.1**
	24nm,0.3s,baz=119,slow=23,SNR=3						
JHJ				Sn	**Sn**	**20 27 13.5**	**-1.8**
	77nm,0.3s,baz=238,slow=22,SNR=9.0						
JHJ				LR	LR	20 27 29.3	
	comp=Z,41nm,18.4s,baz=25,slow=31						
INU	**Inuyama**	**3.95**	**252**	Pn	**Pn**	**20 26 33.3**	**+1.8**
JTM	**Tenmabayashi**	**4.12**	**354**	Pn	**Pn**	**20 26 36.7**	**+2.9**
JWT	**Wachi**	**5.22**	**256**	Pn	**Pn**	**20 26 50.7**	**+1.7**
ERM	**Erimo**	**5.46**	**12**		**Pn**	**20 26 54.7**	**+2.4**
JMN	**Monobe**	**6.97**	**247**	Pn	**Pn**	**20 27 15.2**	**+2.1**
JHS	**Saijyo**	**7.09**	**259**		**Pn**	**20 27 17.0**	**+2.3**
ASAJ	**Asahikawa**	**7.47**	**6**	Pn	**Pn**	**20 27 19.2**	**-0.6**
	1.2nm,0.3s,baz=200,slow=12,SNR=9.7						
ASAJ				Sn	**Sn**	**20 28 42.8**	**-1.5**
	0.7nm,0.3s,baz=333,slow=25,SNR=1.3						
JKA	**Kamikawa-asahi**	**7.47**	**6**	Pn	**Pn**	**20 27 20.8**	**+1.0**
JNU	**Nakatsue**	**9.50**	**251**	Pn	**Pn**	**20 27 50.5**	**+2.8**
JCJ	**Chichijima**	**9.57**	**177**	Pn	**Pn**	**20 27 47.7**	**-1.0**
	10nm,0.3s,baz=287,slow=19,SNR=12						
JCJ				Sn	Sn	20 29 27.2	-8.8
	5.2nm,0.3s,baz=262,slow=18,SNR=1.6						
JCJ	**Chichijima**	**9.57**	**177**	Pn	**Pn**	**20 27 48.7**	**0.0**
KSRS	**Korea Array**	**10.96**	**278**	LR	LR	20 32 11.1	
	comp=Z,51nn,19.4s,baz=66,slow=37						
HHC	**Hu-ho-hao-te**	**23.73**	**289**	*eP*	**P**	**20 30 43.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,15nn,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
ENH	**Enshi**	**27.46**	**266**	P	**P**	**20 31 16.2**	**-0.8**
ENH				IAmb	IAmb	20 31 16.9	
	comp=Z,5.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.84**	**120**	T	T	21 00 36.9	
	baz=313,slow=75,SNR=98						
H11N1	**WAKE ISLAND Hy**	**27.84**	**120**	T	T	21 00 38.9	
	baz=313,slow=75,SNR=96						
H11N3	**WAKE ISLAND Hy**	**27.85**	**120**	T	T	21 00 38.2	
	baz=313,slow=75,SNR=59						
SONM	**Songino Array**	**28.11**	**304**	P	**P**	**20 31 22.7**	**0.0**
	comp=Z,1.1nm,0.6s,baz=98,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**28.11**	**304**	P	**P**	**20 31 22.6**	**-0.2**
H11S1	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	21 01 31.7	
	baz=314,slow=75,SNR=70						
H11S3	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	21 01 33.9	
	baz=314,slow=75,SNR=61						
H11S2	**WAKE ISLAND Hy**	**28.55**	**123**	T	T	21 01 32.9	
	baz=314,slow=75,SNR=32						
GTA	**Gaotai**	**32.81**	**288**	*eP*	**P**	**20 32 04.8**	**+0.4**
GTA				pP	sP	20 32 15.9	+5.8
GTA				sP	pP	20 32 21.5	+13
GTA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TNTI	**Ternate**	**38.08**	**203**	P	**P**	**20 32 50.5**	**+0.8**
TNTI				IAmb	IAmb	20 32 60.0	
	comp=Z,8.2nm,0.6s						
WMQ	**Urumqi**	**41.14**	**297**	*eP*	**P**	**20 33 16.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**41.56**	**256**	P	**P**	**20 33 18.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=63,slow=8.2,SNR=1.7						
ZAA0	**Zalesovo Array**	**42.27**	**313**	P	**P**	**20 33 24.1**	**+0.1**
ZALV	**Zalesovo Beam**	**42.27**	**313**	P	**P**	**20 33 24.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=99,slow=6.5,SNR=5.6						
CNBA	**Chernabura Isl**	**43.45**	**46**	P	**P**	**20 33 35.5**	**+1.9**
MK31	**Makanchi Array**	**44.44**	**302**	P	**P**	**20 33 42.0**	**+0.3**
MKAR	**Makanchi Array**	**44.44**	**302**	P	**P**	**20 33 41.6**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=91,slow=9.9,SNR=6.3						
MKAR	**Makanchi Array**	**44.44**	**302**	P	**P**	**20 33 42.0**	**+0.2**
KURK	**Kurchatov**	**46.27**	**308**	P	**P**	**20 33 56.4**	**+0.3**
KURK				IAmb	IAmb	20 33 59.9	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**49.71**	**32**	P	**P**	**20 34 21.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=264,slow=5.3,SNR=1.8						
MTN	**Manton Dam**	**50.23**	**193**	P	**P**	**20 34 27.7**	**+0.7**
MTN				IAmb	IAmb	20 34 29.0	
	comp=Z,5.6nm,0.9s						
KKAR	**Karatay Array**	**53.44**	**300**	P	**P**	**20 34 50.4**	**-0.4**
KNRA	**Kununurra**	**53.47**	**195**	P	**P**	**20 34 51.4**	**+0.3**
GSI	**Gunungsitoli**	**53.75**	**239**	P	**P**	**20 34 53.6**	**+0.2**
CHGR	**Chuyangaron**	**55.96**	**296**	P	**P**	**20 35 09.4**	**+0.1**
CHGR				IAmb	IAmb	20 35 28.1	
	comp=Z,3.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.53**	**198**	P	**P**	**20 35 13.6**	**+0.3**
FITZ				IAmb	IAmb	20 35 21.8	
	comp=Z,5.5nm,1.5s						
WR0	**Warramunga Arr**	**56.73**	**188**	P	**P**	**20 35 14.4**	**-0.2**
WR0				IAmb	IAmb	20 35 23.4	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**56.73**	**188**	P	**P**	**20 35 14.2**	**-0.5**
WB2				IAmb	IAmb	20 35 15.6	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**20 35 14.6**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=6.6,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**20 35 14.2**	**-0.5**
ABKAR	**Akbulak array**	**58.28**	**310**	P	**P**	**20 35 24.7**	**-0.6**
ABKAR				IAmb	IAmb	20 35 35.1	
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**58.28**	**310**	P	**P**	**20 35 24.8**	**-0.6**
AS31	**Alice Springs**	**60.46**	**188**	P	**P**	**20 35 41.1**	**+0.5**
ASAR	**Alice Springs**	**60.46**	**188**	P	**P**	**20 35 40.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=11,slow=6.1,SNR=9.3						
ASAR	**Alice Springs**	**60.46**	**188**	P	**P**	**20 35 41.1**	**+0.4**
FINES	**FINESS Array B**	**69.20**	**332**	P	**P**	**20 36 37.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=32,slow=8.2,SNR=1.4						
AKASG	**Malin Array Be**	**74.67**	**322**	P	**P**	**20 37 09.1**	**-1.1**
	comp=Z,0.2nm,0.2s,baz=47,slow=6.3,SNR=4.6						
CLL	**Collm**	**81.48**	**330**	*ep*P	pP	20 38 01.0	+8.9
GERES	**GERESS Array B**	**83.09**	**328**	P	**P**	**20 37 56.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=48,slow=4.0,SNR=4.5						
LPAZ	**La Paz**	**146.74**	**60**	PKPbc	**PKPbc**	**20 45 14.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=226,slow=1.1,SNR=5.3						
SIV	**San Ignacio**	**151.19**	**50**	PKPbc	**PKiKP**	**20 45 25.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=306,slow=8.7,SNR=4.0						

*SOME **18** 20:33:48.1, 42.20N×80.48E, h10km*
*KRNET **18** 20:33:48.9±0.1, 42.23N×80.63E, h21km, mb3.5*
*NNC **18** 20:33:49.9±0.9, 42.26N×80.51E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=5.6km s-min=4.3km az=144.0*
ISC 18 20:33:45.3±2.4, 42.10N±0.07×80.53E±0.07, h11km±11km, n57, σ1s51/93, 19C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.32**	**324**	*eP*	**Pn**	**20 34 09.2**	**-0.7**
	baz=30						
SHLS				*e*S	**Sb**	**20 34 24.4**	**-2.9**
	baz=30						
SHLS	**Shalkode**	**1.32**	**324**	*eP*	**Pn**	**20 34 09.2**	**-0.7**
	35nm,0.1s						
SHLS				*e*S	**Sb**	**20 34 24.4**	**-2.9**
	131nm,0.5s						
SHLS	**Shalkode**	**1.32**	**324**	P	**Pn**	**20 34 09.2**	**-0.7**
	35nm,0.1s						
SHLS				S	**Sb**	**20 34 24.4**	**-2.9**
	131nm,0.5s						
KTMS	**Ketmen**	**1.35**	**354**	*eP*	**Pg**	**20 34 11.8**	**+0.4**
	baz=51						
KTMS				*e*S	**Sg**	**20 34 28.5**	**-0.5**
	baz=51						
KTMS	**Ketmen**	**1.35**	**354**	*eP*	**Pg**	**20 34 11.8**	**+0.4**
	2.3nm,0.2s						
KTMS				*e*S	**Sg**	**20 34 28.4**	**-0.5**
	48nm,0.2s						
KTMS	**Ketmen**	**1.35**	**354**	P	**Pg**	**20 34 11.8**	**+0.4**
	2.3nm,0.2s						
KTMS				S	**Sg**	**20 34 28.4**	**-0.5**
	48nm,0.2s						
PDGK	**Podgornoye**	**1.45**	**328**	P	**Pg**	**20 34 14.0**	**+0.8**
	6.2nm,0.2s						
PDGK				S	**Sg**	**20 34 32.4**	**+0.3**
	27nm,0.2s						
PDGK	**Podgornoye**	**1.45**	**328**	⇑P	**Pg**	**20 34 13.8**	**+0.6**
	4.1nm,0.4s						
PDGK				⇑S	**Sg**	**20 34 31.9**	**-0.1**
	20nm,0.3s						
UZB	**Uzynbulak**	**1.53**	**314**	*eP*	**Pg**	**20 34 15.9**	**+1.1**
	baz=8.0						
UZB				*e*S	**Sg**	**20 34 35.8**	**+1.1**
	baz=8.0						
UZB	**Uzynbulak**	**1.53**	**314**	*eP*	**Pg**	**20 34 15.9**	**+1.1**
	14nm,0.2s						
UZB				*e*S	**Sg**	**20 34 35.8**	**+1.1**
	36nm,0.3s						
UZB	**Uzynbulak**	**1.53**	**314**	P	**Pg**	**20 34 15.9**	**+1.1**
	14nm,0.2s						
UZB				S	**Sg**	**20 34 35.7**	**+1.1**
	36nm,0.3s						
PRZ	**Przheval'sk**	**1.63**	**284**	⇑*i*P	**Pg**	**20 34 19.5**	**+2.9**
	baz=79						
PRZ				⇑*i*S	**Sg**	**20 34 41.5**	**+3.7**
	baz=79						
SATY	**Saty**	**1.84**	**302**	*eP*	**Pg**	**20 34 22.7**	**+2.0**
	baz=97						
SATY				*e*S	**Sg**	**20 34 47.6**	**+3.0**
	baz=97						
SATY	**Saty**	**1.84**	**302**	*eP*	**Pg**	**20 34 22.7**	**+2.0**
	26nm,0.3s						
SATY				*e*S	**Sg**	**20 34 47.6**	**+3.0**
	63nm,0.1s						
SATY	**Saty**	**1.84**	**302**	P	**Pg**	**20 34 22.7**	**+2.0**
	26nm,0.3s						
SATY				S	**Sg**	**20 34 47.6**	**+3.0**
	63nm,0.1s						
ZHN	**Zhinishke**	**1.88**	**305**	*eP*	**Pg**	**20 34 22.7**	**+1.2**
	baz=1.0						
ZHN				*e*S	**Sg**	**20 34 47.4**	**+1.5**
	baz=1.0						
ZHN	**Zhinishke**	**1.88**	**305**	*eP*	**Pg**	**20 34 22.7**	**+1.2**
	12nm,0.2s						
ZHN				*e*S	**Sg**	**20 34 47.4**	**+1.5**
	24nm,0.2s						
ZHN	**Zhinishke**	**1.88**	**305**	P	**Pg**	**20 34 22.7**	**+1.2**
	19nm,0.1s						
ZHN				S	**Sg**	**20 34 47.4**	**+1.5**
	24nm,0.3s						
KPKS	**Kokpek**	**1.93**	**316**	*eP*	**Pg**	**20 34 22.9**	**

KURS Kuram 2.23 309 Pg **Pg** **20 34 29.2 +1.2**
28nm,0.4s
KURS Lg Lg 20 34 58.8
36nm,0.6s
ANVS Anan'yevo 2.23 289⇑*iP* **Pg** **20 34 28.5 +0.4**
baz=85
ANVS ⇑*iS* **Sg** **20 34 57.4 +0.4**
baz=85
KDJ Kajisay 2.50 272⇑*iP* **Pg** **20 34 32.7 -0.5**
baz=69
KDJ ⇑*iS* **Sg** **20 35 04.5 -1.0**
baz=69
KOTS Kotyrbulak 2.77 295 *e*P **Pg** **20 34 38.6 +0.3**
37nm,0.2s
KOTS *e*S **Sg** **20 35 15.3 +1.0**
47nm,0.3s
KOTS Kotyrbulak 2.77 295 Pg **Pg** **20 34 38.6 +0.3**
37nm,0.2s
KOTS Lg Lg 20 35 15.3
47nm,0.3s
MDOK Medeo 2.78 294⇑*iP* **Pg** **20 34 38.6 -0.1**
14nm,0.4s
MDOK ⇓*iS* **Sg** **20 35 15.5 +0.7**
26nm,0.5s
MDOK Medeo 2.78 294 Pg **Pg** **20 34 38.6 -0.1**
14nm,0.4s
MDOK Lg Lg 20 35 15.5
26nm,0.5s
TNSS Tian-Shan 2.81 291 *e*P **Pg** **20 34 39.9 +0.6**
10nm,0.3s
TNSS *e*S **Sg** **20 35 17.2 +1.5**
13nm,0.2s
TNSS Tian-Shan 2.81 291 Pg **Pg** **20 34 39.9 +0.6**
10nm,0.3s
TNSS Lg Lg 20 35 17.2
13nm,0.2s
IZV Izvestkoviy 3.04 289 *e*P **Pg** **20 34 43.9 +0.2**
14nm,0.1s
IZV *e*S **Sg** **20 35 23.7 +0.6**
39nm,0.5s
IZV Izvestkoviy 3.04 289 Pg **Pg** **20 34 43.9 +0.2**
2.6nm,0.1s
IZV Lg Lg 20 35 23.7
39nm,0.4s
CHKK Chushkaly 3.14 305 *e*P **Pg** **20 34 44.8 -0.7**
3.9nm,0.2s
CHKK *e*S **Sg** **20 35 25.9 -0.2**
32nm,0.3s
CHKK Chushkaly 3.14 305 Pg **Pg** **20 34 44.8 -0.7**
3.9nm,0.2s
CHKK Lg Lg 20 35 25.9
32nm,0.3s
MTBS Maitube 3.20 290 *e*P **Pg** **20 34 46.3 -0.4**
8.4nm,0.1s
MTBS *e*S **Sg** **20 35 28.3 +0.1**
15nm,0.4s
MTBS Maitube 3.20 290 Pg **Pg** **20 34 46.3 -0.4**
8.4nm,0.1s
MTBS Lg Lg 20 35 28.3
15nm,0.4s
KTBS Karatobe 3.26 301 *e*P **Pg** **20 34 46.6 -1.1**
5.1nm,0.2s
KTBS *e*S **Sg** **20 35 28.7 -1.3**
83nm,0.3s
KTBS Karatobe 3.26 301 Pg **Pg** **20 34 46.6 -1.1**
5.1nm,0.2s
KTBS Lg Lg 20 35 28.7
83nm,0.3s
TDK Taldyqorghan 3.29 333 *e*P **Pg** **20 34 47.5 -0.9**
24nm,0.1s
TDK *e*S **Sg** **20 35 30.2 -0.8**
48nm,0.3s
TDK Taldyqorghan 3.29 333 Pg **Pg** **20 34 47.5 -0.9**
24nm,0.1s
TDK Lg Lg 20 35 30.2
48nm,0.3s
BOOM Boomskoye usch 3.43 278⇑*iP* **Pb** **20 34 45.6 -0.7**
baz=76
BOOM ⇑*iS* **Sb** **20 35 26.6 -1.4**
baz=76
KST Kastek 3.51 287 *e*P **Pg** **20 34 51.5 -1.0**
10nm,0.5s
KST *e*S **Sg** **20 35 36.9 -1.0**
17nm,0.5s
KST Kastek 3.51 287 Pg **Pg** **20 34 51.5 -1.0**
10nm,0.5s
KST Lg Lg 20 35 36.9
17nm,0.5s
KUU Kurty 3.56 302 *e*P **Pg** **20 34 52.3 -1.3**
3.8nm,0.3s
KUU ⇑*iS* **Sg** **20 35 38.7 -1.0**
16nm,0.5s
KUU Kurty 3.56 302 Pg **Pg** **20 34 52.3 -1.3**
3.8nm,0.3s
KUU Lg Lg 20 35 38.7
16nm,0.5s
DGS Degeres 3.69 290 *e*P **Pg** **20 34 55.2 -0.9**
3.5nm,0.6s
DGS *e*S **Sg** **20 35 43.4 -0.5**
19nm,0.5s
DGS Degeres 3.69 290 Pg **Pg** **20 34 55.2 -0.9**
3.5nm,0.6s
DGS Lg Lg 20 35 43.4
19nm,0.5s
TKM2 Tokmak 2 3.74 284 ⇑Pg **Pg** **20 34 55.0 -2.1**
1.3nm,0.3s
TKM2 ⇑Lg Lg 20 35 44.7
8.9nm,0.8s
KRBS Karabastau 3.91 296 *e*P **Pg** **20 34 59.0 -1.2**
3.3nm,0.3s
KRBS *e*S **Sg** **20 35 49.9 -1.0**
9.0nm,0.4s
KRBS Karabastau 3.91 296 Pg **Pg** **20 34 59.0 -1.2**
3.3nm,0.3s
KRBS Lg Lg 20 35 49.9
9.0nm,0.4s
AAK Ala-Archa 4.51 279 ⇑Pg **Pg** **20 35 10.8 -0.9**
5.9nm,1.1s
AAK Lg Lg 20 36 12.0
9.1nm,0.8s
SGDS Sogindy 4.55 289 Pg **Pg** **20 35 11.1 -1.4**
3.3nm,0.3s
SGDS Lg Lg 20 36 10.4
4.6nm,0.6s
MAKZ Makanchi 4.82 12 ⇓Pn Pn 20 35 03.0 +5.1
1.7nm,0.4s
MAKZ ⇑Sn **Sn** **20 35 58.8 +5.0**
4.0nm,0.8s
MAKZ ⇑Lg Lg 20 36 17.8
2.0nm,0.6s
MK31 Makanchi Array 4.86 14 ⇓Pn Pb 20 35 04.5 -6.1
0.2nm,0.2s,baz=204,slow=14,SNR=37
MK31 ⇓Sn **Sn** **20 35 59.1 +4.3**
2.1nm,0.6s,baz=185,slow=22,SNR=5.6
MK31 ⇑Lg Lg 20 36 19.5
1.2nm,0.4s,baz=196,slow=23,SNR=5.0
MRKS Merke 5.45 279 *e*P **Pg** **20 35 29.1 -0.5**
2.5nm,0.2s
MRKS *e*S **Sg** **20 36 41.3 +1.1**
3.9nm,0.4s
MRKS Merke 5.45 279 Pg **Pg** **20 35 29.1 -0.5**
2.5nm,0.2s
MRKS Lg Lg 20 36 41.3
3.9nm,0.4s
KK31 Karatay Array 7.46 281 ⇑Lg Lg 20 37 43.2
0.8nm,0.6s,baz=66,slow=8.8,SNR=6.0

IDC 18 20:49:42.7±2.4,**5°82S**×**154°61E,h151**km±25km,**mb3.0**/3,
mb1 3.4/5,**mb1mx3.1**/32,**mbtmp3.7**/5,**Error ellipse:**
s-maj=27.5km s-min=24.6km az=48.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.98**	**300**	P	Pn	20 50 31.1	+1.2
	5.3nm,0.3s,baz=118,slow=18,SNR=1.6						
KRVT				S	Sn	20 51 06.6	+0.2
	27nm,0.3s,baz=15,slow=18,SNR=16						
DZM	**Mont Dzumac**	**19.80**	**146**	P	P	20 54 01.1	-0.5
	1.4nm,0.3s,baz=312,slow=14,SNR=18						
WRA	**Warramunga Arr**	**24.19**	**233**	P	P	20 54 45.8	+0.4
	0.4nm,0.5s,baz=57,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.68**	**226**	P	P	20 55 07.6	-0.3
	0.4nm,0.6s,baz=56,slow=9.3,SNR=8.0						
ILAR	**Eielson Array**	**82.43**	**22**	P	P	21 01 47.9	+0.2
	0.4nm,0.8s,baz=236,slow=6.1,SNR=1.7						

NAO **18** *20:52:26.9*±*1.4,73°.70N*×*7°.95E,ML4.3*
IDC **18** *20:52:27.9*±*0.5,73°.66N*×*8°.15E,h0km,mb3.9/21,*
mb1 4.1/28,mb1mx4.0/49,mbtmp4.0/28,ML3.2/5,MS3.2/19,
Ms1 3.2/19,ms1mx3.0/43,Error ellipse: s-maj=12.2km
s-min=9.2km az=71.0
MOS **18** *20:52:27.9*±*1.2,73°.70N*×*8°.43E,h10km,mb4.4/15,Error*
ellipse: s-maj=23.4km s-min=5.2km az=96.6
NEIC **18** *20:52:29.4*±*1.4,73°.69N*±*0°.06*×*8°.1E*±*0°.2,h10km*±*1km,*
mb4.4/50,Error ellipse: s-maj=12.7km s-min=8.0km
az=236.0
BER **18** *20:52:30.0*±*2.3,73°.76N*×*8°.20E,h10km,MS3.6,*
ML4.1(NAO),Confirmed Earthquake

ISC 18 20:52:29.3±0.4,**73°.68N**±0°.05×**8°.08E**±0°.06,**h11**km,**n234,**
σ1s37/232,mb4.2/67,MS3.2/14,10C-1D,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**3.12**	**69**	*e*P	**Pn**	**20 53 18.5**	**+0.2**
HSPB	**Hornsund (broa**	**3.84**	**26**	Pn	**Pn**	**20 53 25.7**	**-2.4**
HSPB	**Hornsund (broa**	**3.84**	**26**	*e*P	**Pn**	**20 53 25.9**	**-2.3**
BRBA	**Barentsburg A**	**4.65**	**16**	Pn	**Pn**	**20 53 37.4**	**-1.9**
BRBA	**Barentsburg A**	**4.65**	**16**	*e*P	**Pn**	**20 53 37.3**	**-1.9**
BRBB	**Barentsburg B**	**4.68**	**16**	Pn	**Pn**	**20 53 37.8**	**-2.0**
BRBB	**Barentsburg B**	**4.68**	**16**	*e*P	**Pn**	**20 53 37.8**	**-2.0**
BRBB				*e*		20 54 26.5	
SPA0	**Spitsbergen Ar**	**4.95**	**20**	Pn	**Pn**	**20 53 42.0**	**-1.5**
	baz=194,slow=16						
SPA0	**Spitsbergen Ar**	**4.95**	**20**	Pn	**Pn**	**20 53 41.9**	**-1.5**
SPA0	**Spitsbergen Ar**	**4.95**	**20**	Pn	**Pn**	**20 53 42.0**	**-1.5**
	baz=194,slow=16						
SPITS	**Spitsbergen Ar**	**4.95**	**20**	Pn	**Pn**	**20 53 41.7**	**-1.7**
	baz=192,slow=14,SNR=361						
SPITS				Sn	**Sn**	**20 54 37.1**	**-3.4**
	baz=176,slow=15,SNR=0.6						
HOPEN	**Hopen**	**5.20**	**49**	*e*P	**Pn**	**20 53 43.7**	**-3.1**
HOPEN				*e*		20 54 40.7	
TRO	**Tromso**	**5.31**	**135**	Pn	**Pn**	**20 53 46.8**	**-1.5**
TRO	**Tromso**	**5.31**	**135**	*e*P	**Pn**	**20 53 47.1**	**-1.1**
KBS	**Kingsbay**	**5.36**	**8**	Pn	**Pn**	**20 53 46.7**	**-2.2**
KBS	**Kingsbay**	**5.36**	**8**	P	**Pn**	**20 53 47.2**	**-1.8**
KBS	**Kingsbay**	**5.36**	**8**	Pn	**Pn**	**20 53 47.2**	**-1.8**
KBS	**Kingsbay**	**5.36**	**8**	*e*P	**Pn**	**20 53 46.7**	**-2.2**
KBS				*e*		20 54 44.8	
KBS	**Kingsbay**	**5.36**	**8**	*e*	**Pn**	**20 53 44.5**	**-4.4**
	baz=172,slow=8.6						
KBS				*i* P	**Pn**	**20 53 46.8**	**-2.2**
KBS				*i* S	Pb	20 53 52.9	-10
JNE	**Jan Mayen East**	**5.66**	**250**	⇑*iP*	**Pn**	**20 53 52.7**	**-0.4**
JNW	**Jan Mayen West**	**5.67**	**250**	⇑*iP*	**Pn**	**20 53 52.6**	**-0.7**
HAMF	**Hammerfest**	**5.67**	**115**	*e*P	**Pn**	**20 53 51.6**	**-1.7**
JMIC	**Jan Mayen**	**5.71**	**250**	Pn	**Pn**	**20 53 53.4**	**-0.5**
JMIC	**Jan Mayen**	**5.71**	**250**	Pn	**Pn**	**20 53 52.7**	**-1.2**
	baz=76,slow=3.4,SNR=8.9						
JMIC				LR	LR	20 55 26.2	
	comp=Z,86nm,18.6s,baz=45,slow=31						
JMIC	**Jan Mayen**	**5.71**	**250**	⇑*iP*	**Pn**	**20 53 53.3**	**-0.5**
LOF	**Lofoten**	**5.85**	**160**	Pn	**Pn**	**20 53 54.4**	**-1.3**
LOF	**Lofoten**	**5.85**	**160**	*e*P	**Pn**	**20 53 54.9**	**-0.9**
LOF				IVMs_BB	IVMs_BB	20 54 33.9	
	comp=Z,599nm,3.3s						
LOF				*e*S	**Sn**	**20 54 56.0**	**-6.7**
KIF	**Kilpisjarvi**	**6.21**	**133**	⇑*iP*	**Pn**	**20 53 59.5**	**-1.1**
STEI	**Steigen**	**6.23**	**154**	*e*P	**Pn**	**20 54 00.4**	**-0.6**
N2IH	**Innhavet**	**6.29**	**152**	*e*P	**Pn**	**20 54 01.9**	**+0.1**
N2TV	**T¥rnvik**	**6.57**	**156**	*e*P	**Pn**	**20 54 05.5**	**-0.1**
FAUS	**Fauske**	**6.76**	**156**	*e*P	**Pn**	**20 54 07.2**	**-1.1**
ARA0	**ARCESS Array S**	**6.88**	**118**	Pn	**Pn**	**20 54 09.7**	**-0.3**
	baz=312,slow=12						
ARA0	**ARCESS Array S**	**6.88**	**118**	Pn	**Pn**	**20 54 08.6**	**-1.3**
	baz=312,slow=12						
ARCES	**ARCESS Array B**	**6.88**	**118**	Pn	**Pn**	**20 54 08.5**	**-1.5**
	baz=325,slow=10,SNR=28						
ARCES				LR	LR	20 57 04.3	
	comp=Z,140nm,19.9s,baz=295,slow=40						
ARA2	**ARCESS Array S**	**6.88**	**118**	Pn	**Pn**	**20 54 08.4**	**-1.5**
NBB30	**Finnes**	**7.00**	**161**	*e*P	**Pn**	**20 54 10.3**	**-1.2**
KEV	**Kevo**	**7.11**	**114**	P	**Pn**	**20 54 11.6**	**-1.4**
KEV	**Kevo**	**7.11**	**114**	Pn	**Pn**	**20 54 11.6**	**-1.4**
SALU	**Saltoluokta**	**7.21**	**146**	*e*P	**Pn**	**20 54 13.2**	**-1.2**
NBB40	**Tonnes**	**7.39**	**164**	*e*P	**Pn**	**20 54 16.1**	**-0.8**
KONS	**Konsvik**	**7.41**	**164**	*e*P	**Pn**	**20 54 16.8**	**-0.4**
DAG	**Danmarks Havn**	**7.45**	**307**	*i*	Pg	20 55 27.1	+36
STOK	**Stokkvaagen**	**7.57**	**165**	*e*P	**Pn**	**20 54 17.2**	**-2.1**
DBG	**Daneborg**	**7.80**	**288**	*e*P	**Pn**	**20 54 18.8**	**-3.7**
DBG				*i*		20 54 18.8	
DBG				*e*		20 55 38.1	
DBG				*e*S	Sn	20 55 38.5	-12
DBG	**Daneborg**	**7.80**	**288**	*i*	**Pn**	**20 54 18.8**	**-3.7**
DBG				*e*		20 55 38.1	
MOR8	**Moi Rana**	**7.85**	**161**	*e*P	**Pn**	**20 54 21.6**	**-1.6**
NSS	**Namsos**	**9.29**	**170**	*e*P	**Pn**	**20 54 42.4**	**-0.6**
NOR	**Nord**	**9.42**	**338**	Pn	**Pn**	**20 54 42.3**	**-2.3**
APA0	**Apatity Array**	**10.18**	**114**	Pn	**Pn**	**20 54 52.2**	**-2.9**
	baz=320,slow=16						
APA0	**Apatity Array**	**10.18**	**114**	Pn	**Pn**	**20 54 52.2**	**-2.9**
	baz=320,slow=16						
LVZ	**Lovozero**	**10.40**	**110**	P	**Pn**	**20 54 58.0**	**-0.2**
LVZ	**Lovozero**	**10.40**	**110**	Pn	**Pn**	**20 54 58.0**	**-0.2**
DOMB	**Dombas**	**11.70**	**178**	*e*P	**Pn**	**20 55 13.0**	**-2.8**
NC204	**NORSAR Array S**	**12.50**	**174**	Pn	**Pn**	**20 55 26.4**	**-0.4**
NC405	**NORSAR Array S**	**12.70**	**172**	Pn	**Pn**	**20 55 29.4**	**-0.1**
NB201	**NORSAR Array S**	**12.74**	**173**	Pn	**Pn**	**20 55 29.8**	**-0.4**
NOA	**NORSAR Array B**	**12.75**	**173**	Pn	**Pn**	**20 55 29.3**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=350,slow=13,SNR=1.3						
NOA				LR	LR	21 00 04.5	
	comp=Z,51nm,19.7s,baz=0.0,slow=36						
NRA0	**NORESS Array S**	**13.07**	**172**	Pn	**Pn**	**20 55 34.1**	**-0.4**
	baz=349,slow=22						
BORG	**Borgarnes**	**13.56**	**244**	LR	LR	20 59 26.3	
	comp=Z,66nm,18.9s,baz=343,slow=31						
HFS	**Hagfors**	**13.77**	**168**	Pn	**Pn**	**20 55 44.6**	**+0.5**
	baz=349,slow=10						
HFS	**Hagfors**	**13.77**	**168**	Pn	**Pn**	**20 55 43.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=357,slow=7.4,SNR=4.1						
HFS				LR	LR	21 00 35.3	
	comp=Z,93nm,19.3s,baz=4.0,slow=36						
HFS	**Hagfors**	**13.77**	**168**	Pn	**Pn**	**20 55 44.6**	**+0.5**
	baz=349,slow=10						
FIA1	**FINESS Array S**	**13.97**	**142**	Pn	**Pn**	**20 55 44.8**	**-2.0**
FIA0	**FINESS Array S**	**13.97**	**142**	Pn	**Pn**	**20 55 44.5**	**-2.3**
	baz=353,slow=12						
FIA0	**FINESS Array S**	**13.97**	**142**	Pn	**Pn**	**20 55 44.5**	**-2.3**
FINES	**FINESS Array B**	**13.97**	**142**	Pn	**Pn**	**20 55 44.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=349,slow=14,SNR=14						
FINES				LR	LR	21 01 01.1	
	comp=Z,52nm,20.4s,baz=287,slow=37						
VSU	**Vasula**	**16.90**	**145**	*e*P	**P**	**20 56 26.8**	**-0.6**
VSU				IAmb	IAmb	20 56 28.7	
	comp=Z,71nm,1.1s						
VSU	**Vasula**	**16.90**	**145**	*i* P	**Pn**	**20 56 25.2**	**-0.1**
VSU				pmax	pmax		
	comp=Z,51nm,1.0s						
PRGR	**Permogore**	**18.23**	**112**	*e*P	**Pn**	**20 56 39.6**	**-2.2**
PRGR				pmax	pmax		
	comp=Z,20nm,1.2s						
PBUR	**Paburge**	**18.58**	**155**	*e*P	**P**	**20 56 45.7**	**-0.2**
PBUR				IAmb	IAmb	20 56 52.7	
	comp=Z,32nm,0.7s						
EKA	**Eskdalemuir Ar**	**18.97**	**200**	P	**P**	**20 56 50.5**	**+0.3**
	baz=358,slow=10,SNR=6.7						
PABE	**Paberze**	**19.34**	**152**	*e*P	**P**	**20 56 54.3**	**+0.1**
PABE				IAmb	IAmb	20 57 05.7	
	comp=Z,19nm,0.8s						
EUNU	**Eureka**	**19.83**	**329**	P	**P**	**20 56 59.7**	**+0.3**
SFJD	**Kangerlussuaq**	**19.99**	**281**	LR	LR	21 03 46.7	
	comp=Z,99nm,18.3s,baz=39,slow=34						
NACGM	**Naroch**	**20.32**	**148**	*e*	Pn	20 57 06.0	-1.0
SUW	**Suwalki**	**20.70**	**154**	P	**P**	**20 57 08.6**	**-0.4**
SUW				pmax	pmax		
	comp=Z,36nm,0.9s						
SUW	**Suwalki**	**20.70**	**154**	P	**P**	**20 57 08.6**	**-0.4**
MOS	**Moscow**	**21.54**	**131**	*e*P	**P**	**20 57 17.2**	**-0.8**
MOS				*e*		20 57 38.7	
KIRV	**Kirov**	**21.83**	**112**	P	**P**	**20 57 19.1**	**-2.0**
	comp=Z,15nm,0.6s,baz=232,slow=1.7,SNR=5.6						
KIRV				LR	LR	21 06 24.2	
	comp=Z,64nm,18.3s,baz=301,slow=38						
OBN	**Obninsk**	**21.89**	**133**	P	**P**	**20 57 21.5**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=6.9,slow=18,SNR=4.5						
OBN	**Obninsk**	**21.89**	**133**	⇓*eP*	**P**	**20 57 21.1**	**-0.7**
OBN				*e**PP		**20 57 24.3**	**+0.1**
OBN							20 57 43.0
OBN				pmax	pmax		
	comp=Z,27nm,1.0s						
OBN				MLR	MLR		
	comp=Z,73nm,16.0s						
OBN	**Obninsk**	**21.89**	**133**	P	**P**	**20 57 21.8**	**0.0**
CLL	**Collm**	**22.55**	**172**	*i* P	**P**	**20 57 31.3**	**+2.4**
	comp=Z,11nm,1.3s						
CLL				*i*		20 57 37.9	
	comp=Z,25nm,1.7s						
CLL				*i*		20 57 48.2	
CLL	**Collm**	**22.55**	**172**	P	**P**	**20 57 29.6**	**+0.7**
CLL				pmax	pmax		
	comp=Z,12nm,1.3s						
CLL	**Collm**	**22.55**	**172**	P	**P**	**20 57 29.6**	**+0.7**
BRG	**Berggiesshubel**	**23.03**	**170**	*e*P	**P**	**20 57 35.3**	**+1.4**
	comp=Z,13nm,1.5s						
BRG	**Berggiesshubel**	**23.03**	**170**	*e*P	**P**	**20 57 35.3**	**+1.4**
BRG				pmax	pmax		
	comp=Z,13nm,1.5s						
CHVC	**Chvalec**	**23.43**	**167**	*e*P	**P**	**20 57 38.6**	**+0.6**
OSTC	**Ostas**	**23.47**	**167**	*e*P	**P**	**20 57 42.8**	**+4.4**
NKC	**Novy Kostel**	**23.61**	**173**	*e*P	**P**	**20 57 41.4**	**+1.6**
NKC	**Novy Kostel**	**23.61**	**173**	*e*P	**P**	**20 57 41.4**	**+1.6**
NRIK	**Noril'sk**	**23.78**	**60**	P	**P**	**20 57 41.1**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=312,slow=7.5,SNR=5.3						
KRLC	**Kraliky**	**23.98**	**166**	*e*P	**P**	**20 57 43.7**	**+0.3**
KRLC	**Kraliky**	**23.98**	**166**	*e*P	**P**	**20 57 43.7**	**+0.3**
OJC	**Ojcow**	**24.08**	**161**	P	**P**	**20 57 44.6**	**+0.3**
OJC				pmax	pmax		
	comp=Z,33nm,1.6s						
OJC	**Ojcow**	**24.08**	**161**	P	**P**	**20 57 44.6**	**+0.3**
MORC	**Moravsky Berou**	**24.34**	**165**	*e*P	**P**	**20 57 47.9**	**+1.2**
MORC	**Moravsky Berou**	**24.34**	**165**	P	**P**	**20 57 47.0**	**+0.3**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MORC	**Moravsky Berou**	**24.34**	**165**	P	**P**	**20 57 47.0**	**+0.3**
VRAC	**Vranov**	**24.74**	**167**	P	**P**	**20 57 50.5**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=2.4,slow=10,SNR=5.9						
VRAC				LR	LR	21 07 38.3	
	comp=Z,56nm,18.6s,baz=350,slow=37						
VRAC	**Vranov**	**24.74**	**167**	*e*P	**P**	**20 57 52.0**	**+1.7**
LPSR	**Galich'ya Gora**	**24.74**	**132**	*e*P	**P**	**20 57 50.8**	**+0.5**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KHC	**Kasperske Hory**	**24.75**	**171**	*e*P	**P**	**20 57 52.3**	**+1.9**
KHC	**Kasperske Hory**	**24.75**	**171**	*ce*P	**P**	**20 57 53.3**	**+2.9**
KHC				pmax	pmax		
	comp=Z,15nm,2.5s						
AKASG	**Malin Array Be**	**24.77**	**147**	P	**P**	**20 57 50.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=345,slow=9.7,SNR=5.5						
AKASG				LR	LR	21 07 16.4	
	comp=Z,80nm,21.1s,baz=285,slow=36						
AKASG	**Malin Array Be**	**24.77**	**147**	*ce*P	**P**	**20 57 53.2**	**+2.7**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**24.77**	**147**	P	**P**	**20 57 49.9**	**-0.6**
AKBB	**Malin Array Si**	**24.77**	**147**	P	**P**	**20 57 50.2**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKBB	**Malin Array Si**	**24.77**	**147**	P	**P**	**20 57 50.2**	**-0.3**
AKBB				IAmb	IAmb	20 58 06.5	
	comp=Z,9.1nm,0.9s						
RES	**Resolute Bay**	**24.80**	**322**	LR	LR	21 07 04.2	
	comp=Z,62nm,19.3s,baz=118,slow=35						
KWP	**Kalwaria Pacla**	**24.95**	**157**	P	**P**	**20 57 51.9**	**-0.3**
KWP				pmax	pmax		
	comp=Z,16nm,1.0s						
KWP	**Kalwaria Pacla**	**24.95**	**157**	P	**P**	**20 57 51.9**	**-0.3**
KWP				IAmb	IAmb	20 58 08.4	
	comp=Z,16nm,1.0s						
KRUC	**Moravsky**	**24.97**	**167**	*e*P	**P**	**20 57 54.0**	**+1.6**
GEC2	**GERESS Array S**	**25.04**	**171**	P	**P**	**20 57 54.0**	**+0.8**
GEC2				IAmb	IAmb	20 58 13.2	
	comp=Z,8.3nm,1.3s						
GERES	**GERESS Array B**	**25.04**	**171**	P	**P**	**20 57 54.3**	**+1.1**
	comp=Z,3.1nm,1.1s,baz=10,slow=8.1,SNR=16						
GERES	**GERESS Array B**	**25.04**	**171**	P	**P**	**20 57 53.6**	**+0.5**
GERES	**GERESS Array B**	**25.04**	**171**	P	**P**	**20 57 53.6**	**+0.5**
JAVC	**Velka Javorina**	**25.26**	**165**	*e*P	**P**	**20 57 58.6**	**+3.6**
BFO	**Black Forest**	**25.43**	**180**	P	**P**	**20 57 56.4**	**-0.2**
BFO				pmax	pmax		
	comp=Z,18nm,1.6s						
BFO	**Black Forest**	**25.43**	**180**	P	**P**	**20 57 56.4**	**-0.2**
BFO				IAmb	IAmb	20 58 00.3	
	comp=Z,18nm,1.6s						
KOLS	**Kolonicke sedl**	**25.60**	**158**	*e*P	**P**	**20 57 58.5**	**+0.4**
KOLS	**Kolonicke sedl**	**25.60**	**158**	*e*P	**P**	**20 57 58.5**	**+0.4**
VYHS	**Vyhne**	**25.71**	**163**	*e*P	**P**	**20 57 59.5**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,11nm,1.5s						
VYHS	**Vyhne**	**25.71**	**163**	*e*P	**P**	**20 57 59.5**	**+0.4**
MODS	**Modra-Piesok**	**25.71**	**166**	*e*P	**P**	**20 57 59.6**	**+0.4**
MODS				pmax	pmax		
	comp=Z,13nm,1.3s						
MODS	**Modra-Piesok**	**25.71**	**166**	*e*P	**P**	**20 57 59.5**	**+0.4**
MOA	**Molln**	**26.06**	**170**	*e*P	**P**	**20 58 03.4**	**+1.1**
	comp=Z,8.3nm,1.4s						
CONA	**Conrad Observa**	**26.07**	**168**	*e*P	**P**	**20 58 02.4**	**0.0**
	comp=Z,14nm,2.2s						
VSR	**Storozhevoye**	**26.10**	**132**	*e*P	**P**	**20 58 04.4**	**+1.8**
VSR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARU	**Arti**	**26.17**	**104**	P	**P**	**20 58 03.9**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=32,slow=5.7,SNR=6.3						
ARU	**Arti**	**26.17**	**104**	*c iP*	**P**	**20 58 03.9**	**+0.8**
ARU						20 58 42.2	
ARU				S	**S**	**21 02 36.9**	**+2.5**
ARU				pmax	pmax		
	comp=Z,13nm,1.5s						
ARU	**Arti**	**26.17**	**104**	P	**P**	**20 58 03.0**	**-0.2**
PSZ	**Piszkesteto**	**26.37**	**162**	P	**P**	**20 58 06.1**	**+0.9**
PSZ				pmax	pmax		
	comp=Z,17nm,1.5s						
PSZ	**Piszkesteto**	**26.37**	**162**	P	**P**	**20 58 06.0**	**+0.9**
PSZ				IAmb	IAmb	20 58 15.4	
	comp=Z,18nm,1.5s						
SVE	**Sverdlovsk**	**26.39**	**101**	*e*P	**P**	**20 58 06.0**	**+0.8**
VRH	**Novokhopyorsk**	**26.66**	**129**	*e*P	**P**	**20 58 05.0**	**-2.6**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARSA	**Arzberg**	**26.72**	**169**	*e*P	**P**	**20 58 09.7**	**+1.5**
	comp=Z,5.1nm,1.3s						
DAVOX	**Davos/Dischmat**	**27.00**	**177**	LR	LR	21 08 24.1	
	comp=Z,45nm,18.1s,baz=292,slow=35						
BUR08	**Bucovina Ar. S**	**27.20**	**154**	P	**P**	**20 58 12.9**	**+0.2**
BUR08				IAmb	IAmb	20 58 30.6	
	comp=Z,14nm,1.7s						
BURAR	**Bucovina Array**	**27.23**	**154**	P	**P**	**20 58 13.0**	**0.0**
SOKA	**Soboth**	**27.27**	**170**	*e*P	**P**	**20 58 14.9**	**+1.6**
	comp=Z,3.2nm,1.5s						
OBKA	**Obir**	**27.41**	**170**	*e*P	**P**	**20 58 17.4**	**+2.9**
	comp=Z,6.5nm,1.2s						
MURB	**Monte Urbino**	**30.57**	**174**	P	**P**	**20 58 44.7**	**+2.1**
NRCA	**Norcia**	**31.02**	**173**	P	**P**	**20 58 47.9**	**+1.3**
BRVK	**Borovoye

BRTR	**Keskin Array B**	**36.16**	**146**	P		**P**	**20 59 32.3**	**+0.9**
BRTR	**Keskin Array B**	**36.16**	**146**	P		**P**	**20 59 32.3**	**+0.9**
KURK	**Kurchatov**	**36.84**	**89**	*ce*P		**P**	**20 59 36.9**	**0.0**
KURK				pmax	pmax			
	comp=Z,7.0nm,2.5s							
KURK	**Kurchatov**	**36.84**	**89**	P		**P**	**20 59 36.6**	**-0.3**
BMAR	**Burnt Mountain**	**38.01**	**343**	P		**P**	**20 59 47.7**	**+1.0**
KEST	**Kesra**	**38.03**	**178**	P		**P**	**20 59 47.0**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=284,slow=11,SNR=4.1							
KEST	**Kesra**	**38.03**	**178**	P		**P**	**20 59 47.4**	**+0.2**
YKA	**Yellowknife Ar**	**38.87**	**321**	P		**P**	**20 59 53.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=20,slow=8.7,SNR=5.6							
MDM	**Murphy Dome**	**40.73**	**345**	P		**P**	**21 00 10.2**	**+0.8**
MDM				IAmb	IAmb		21 00 26.4	
	comp=Z,8.9nm,1.5s							
COLA	**College**	**40.79**	**345**	*i* P		**P**	**21 00 10.0**	**+0.2**
COLA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
IL31		**40.82**	**344**	P		**P**	**21 00 10.6**	**+0.6**
ILAR	**Eielson Array**	**40.82**	**344**	P		**P**	**21 00 11.6**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=1.7,slow=6.8,SNR=17							
MAKZ	**Makanchi**	**41.33**	**88**	P		**P**	**21 00 14.2**	**-0.3**
MAKZ				pmax	pmax			
	comp=Z,11nm,1.6s							
MAKZ	**Makanchi**	**41.33**	**88**	P		**P**	**21 00 14.2**	**-0.3**
MAKZ				IAmb	IAmb		21 00 17.7	
	comp=Z,11nm,1.6s							
MKAR	**Makanchi Array**	**41.43**	**88**	P		**P**	**21 00 16.5**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=336,slow=5.7,SNR=3.9							
MKAR				LR	LR		21 20 36.7	
	comp=Z,32nm,19.5s,baz=330,slow=41							
MKAR	**Makanchi Array**	**41.43**	**88**	P		**P**	**21 00 16.2**	**+0.9**
KK31	**Karatay Array**	**41.50**	**102**	P		**P**	**21 00 16.5**	**+0.5**
KK31				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KK31	**Karatay Array**	**41.50**	**102**	P		**P**	**21 00 16.4**	**+0.5**
KKAR	**Karatay Array**	**41.50**	**102**	P		**P**	**21 00 16.1**	**+0.2**
KKAR							21 00 16.5	
KKAR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KKAR	**Karatay Array**	**41.50**	**102**	P		**P**	**21 00 16.5**	**+0.6**
KKAR	**Karatay Array**	**41.50**	**102**	P		**P**	**21 00 16.1**	**+0.2**
DOT	**Dot Lake**	**41.69**	**342**	P		**P**	**21 00 18.2**	**+1.0**
BCAR	**Beaver Creek A**	**42.05**	**340**	P		**P**	**21 00 21.2**	**+0.9**
AAK	**Ala-Archa**	**43.04**	**98**	*i* P		**P**	**21 00 28.9**	**+0.2**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
GEYT	**Alibeck**	**43.05**	**117**	P		**P**	**21 00 28.9**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=277,slow=12,SNR=3.8							
GEYT				LR	LR		21 20 26.0	
	comp=Z,43nm,19.7s,baz=35,slow=39							
GYA0B	**ALIBECK ARRAY**	**43.05**	**117**	P		**P**	**21 00 29.3**	**+0.7**
GYA0B				IAmb	IAmb		21 00 35.0	
	comp=Z,3.7nm,0.6s							
BOOM	**Boomskoye usch**	**43.59**	**96**	P		**P**	**21 00 32.4**	**-0.7**
BOOM				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BOOM	**Boomskoye usch**	**43.59**	**96**	P		**P**	**21 00 32.4**	**-0.7**
WMQ	**Urumqi**	**45.68**	**84**	*e*P		**P**	**21 00 51.1**	**+1.5**
ULM	**Lac du Bonnet**	**46.24**	**300**	LR		LR	21 19 06.6	
	comp=Z,58nm,18.7s,baz=32,slow=35							
SONM	**Songino Array**	**47.06**	**66**	P		**P**	**21 01 01.2**	**+0.7**
	comp=Z,2.8nm,1.0s,baz=345,slow=5.1,SNR=6.8							
SONM				PcP		**PcP**	**21 02 32.5**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=28,slow=3.4,SNR=3.6							
SONM	**Songino Array**	**47.06**	**66**	P		**P**	**21 01 00.5**	**0.0**
ULN	**Ulaanbaatar**	**47.20**	**65**	*ce*P		**P**	**21 01 02.9**	**+1.3**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**47.20**	**65**	P		**P**	**21 01 02.5**	**+0.9**
ULN				IAmb	IAmb		21 01 03.9	
	comp=Z,4.7nm,0.8s							
NIL	**Nilore**	**51.09**	**103**	P		**P**	**21 01 32.0**	**+0.6**
NIL				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NIL	**Nilore**	**51.09**	**103**	P		**P**	**21 01 32.0**	**+0.6**
NIL				IAmb	IAmb		21 01 39.8	
	comp=Z,3.0nm,0.7s							
GTA	**Gaotai**	**53.14**	**75**	*e*P		**P**	**21 01 48.6**	**+1.9**
GTA				pP	pwP		21 01 53.0	+0.2
GTA				sP	sP		21 01 55.8	+5.5
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
MSO	**Missoula**	**53.53**	**314**	P		**P**	**21 01 50.1**	**+0.6**
HHC	**Hu-ho-hao-te**	**54.91**	**64**	*e*P		**P**	**21 02 00.8**	**+1.3**
HHC				pmax	pmax			
	comp=Z,11nm,1.0s							
HHC				pmax	pmax			
	comp=Z,57nm,5.4s							
MCMT	**McKenzie Canyo**	**55.22**	**312**	P		**P**	**21 02 00.6**	**-1.3**
YPP	**Pitchstone Pla**	**55.31**	**310**	P		**P**	**21 02 03.0**	**+0.3**
PD31	**Pinedale Array**	**56.47**	**309**	P		**P**	**21 02 10.8**	**-0.1**
PDAR	**Pinedale Array**	**56.47**	**309**	P		**P**	**21 02 10.6**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=54,slow=3.8,SNR=6.9							
PDAR				LR	LR		21 25 55.9	
	comp=Z,26nm,20.0s,baz=64,slow=36							
HLID	**Hailey**	**56.75**	**313**	P		**P**	**21 02 12.4**	**-0.4**
HLID				IAmb	IAmb		21 02 18.4	
	comp=Z,2.7nm,0.8s							
O20A	**White River Ci**	**58.69**	**306**	P		**P**	**21 02 26.5**	**0.0**
ELK	**Elko**	**59.63**	**313**	P		**P**	**21 02 34.0**	**+1.0**
ELK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ELK	**Elko**	**59.63**	**313**	P		**P**	**21 02 34.0**	**+1.0**
ELK				IAmb	IAmb		21 02 39.8	
	comp=Z,2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**60.62**	**187**	P		**P**	**21 02 40.6**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=354,slow=7.5,SNR=16							
TORD	**Torodi Ar. Bea**	**60.62**	**187**	P		**P**	**21 02 40.2**	**+0.4**
XAN	**Xi'an**	**60.64**	**69**	P		P	21 02 44.8	+5.0
XAN				pP		pwP	21 02 55.6	+10
XAN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
XAN	**Xi'an**	**60.64**	**69**	P		**P**	**21 02 39.7**	**-0.2**
XAN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
XAN	**Xi'an**	**60.64**	**69**	P		**P**	**21 02 39.7**	**-0.2**
XAN				IAmb	IAmb		21 02 45.8	
	comp=Z,4.1nm,0.8s							
PSUT	**Pine Spring**	**61.46**	**311**	P		**P**	**21 02 46.2**	**+0.6**
KVN	**Kaiserville**	**61.84**	**315**	P		**P**	**21 02 48.6**	**+0.5**
KVN				pmax	pmax			
	comp=Z,11nm,1.6s							
KVN	**Kaiserville**	**61.84**	**315**	P		**P**	**21 02 48.6**	**+0.5**
R11A	**Troy Canyon, C**	**62.00**	**312**	P		**P**	**21 02 49.4**	**+0.2**
R11A				IAmb	IAmb		21 02 51.4	
	comp=Z,6.9nm,1.4s							
NVAR	**Mina Array Bea**	**62.48**	**315**	P		**P**	**21 02 53.6**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=17,slow=4.9,SNR=7.9							
NVAR	**Mina Array Bea**	**62.48**	**315**	P		**P**	**21 02 53.3**	**+0.9**
PRN	**Pahroc Range**	**62.80**	**311**	P		**P**	**21 02 55.4**	**+1.0**
PRN				IAmb	IAmb		21 02 57.5	
	comp=Z,4.0nm,1.1s							
TPNV	**Topopah Spring**	**63.49**	**312**	P		**P**	**21 02 59.5**	**+0.4**
TPNV				pmax	pmax			
	comp=Z,6.0nm,1.3s							
TPNV	**Topopah Spring**	**63.49**	**312**	P		**P**	**21 02 59.5**	**+0.4**
TPNV				IAmb	IAmb		21 03 10.8	
	comp=Z,5.9nm,1.3s							
SHPR	**Sheep Range**	**63.69**	**311**	P		**P**	**21 03 01.8**	**+1.5**
SHPR				IAmb	IAmb		21 03 02.7	
	comp=Z,4.5nm,1.2s							
W18A	**Petrified Fore**	**63.82**	**306**	P		**P**	**21 03 01.8**	**+0.5**
ISA	**Isabella, Lake**	**65.19**	**314**	P		**P**	**21 03 10.9**	**+0.8**
ISA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ISA	**Isabella, Lake**	**65.19**	**314**	P		**P**	**21 03 10.9**	**+0.8**
ISA				IAmb	IAmb		21 03 16.7	
	comp=Z,4.0nm,0.9s							
121A	**Cookes Peak, D**	**65.85**	**304**	P		**P**	**21 03 15.4**	**+0.9**
TX32	**Lajitas Array**	**67.91**	**299**	P		**P**	**21 03 27.9**	**+0.3**
TX32				IAmb	IAmb		21 03 39.1	
	comp=Z,4.8nm,1.6s							
TXAR	**Lajitas Array**	**67.91**	**299**	P		**P**	**21 03 27.3**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=46,slow=6.4,SNR=4.7							
TXAR	**Lajitas Array**	**67.91**	**299**	P		**P**	**21 03 28.4**	**+0.8**
TXAR	**Lajitas Array**	**67.91**	**299**	P		**P**	**21 03 28.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**72.67**	**84**	P		**P**	**21 03 57.0**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=325,slow=7.4,SNR=8.4							
CMAR	**Chiang Mai Arr**	**72.67**	**84**	P		**P**	**21 03 57.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.67**	**84**	P		**P**	**21 03 56.9**	**+0.1**
ASAR	**Alice Springs**	**122.32**	**62**	PKP		**PKPdf**	**21 11 22.4**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=0.0,slow=2.5,SNR=5.8							
VNA1	**Neumayer--Stat**	**144.48**	**189**	PKPdf		**PKPdf**	**21 12 03.0**	**-0.3**
	baz=74,slow=8.2							
VNA2	**Neumayer--Watz**	**144.71**	**189**	PKPdf		**PKPdf**	**21 12 03.4**	**-0.4**
	baz=74,slow=8.2							
VNA3	**Neumayer Olymp**	**145.13**	**190**	PKPdf		**PKPdf**	**21 12 04.6**	**0.0**
	baz=74,slow=8.2							
SNAA	**Sanae**	**145.29**	**186**	PKPdf		**PKPab**	**21 12 05.4**	**+0.5**
	baz=74,slow=8.2							
MAW	**Mawson**	**145.44**	**147**	PKPbc		**PKPab**	**21 12 06.5**	**+1.1**
	comp=Z,5.9nm,0.9s,baz=330,slow=4.3,SNR=13							

WEL 18 20:54:15.0, 44°S±4°×16°9E±°, h5km±6km, M2.5/6, ML2.6/7, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=115.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.41**	**248**	P	Pb	20 54 24.6	-0.3
FOZ	**Fox Glacier**	**0.53**	**43**	P	Pg	20 54 25.0	-0.3
LBZ	**Lake Benmore**	**0.78**	**127**	P	Pb	20 54 31.3	+0.2
WKZ	**Wanaka**	**0.93**	**193**	P	Pb	20 54 33.9	+0.2
RPZ	**Rata Peaks**	**1.28**	**81**	P	Pg	20 54 39.5	0.0
WVZ	**Waitaha Valley**	**1.34**	**51**	P	Pn	20 54 40.0	-0.3
ARCZ	**Arundel**	**1.35**	**92**	P	Pg	20 54 40.9	+0.1
ODZ	**Otahua Downs**	**1.47**	**140**	P	Pg	20 54 43.5	+0.2
MLZ	**Mavora Lakes**	**1.68**	**210**	P	Pb	20 54 46.6	+0.2
DCZ	**Deep Cove**	**2.18**	**224**	P	Pn	20 54 49.2	-2.7
LTZ	**Lake Taylor**	**2.44**	**63**	P	Pn	20 54 52.0	-3.5
SYZ	**Scrubby Hill**	**2.62**	**183**	P	Pg	20 55 04.0	-1.2
MRZ	**Mangatainoka R**	**5.67**	**57**	P	Pn	20 55 40.7	+0.7

*JMA **18** 21:23:24.4±0.3, 44.67N×149.18E, h30km, M3.8*
*SKHL **18** 21:23:25.1±0.5, 44.42N×149.18E, h33km±6km, mb4.0/3*
ISC 18 21:23:23.9±4.0, 44.44N±0.09×149.3E±0.2, h36km, n16, σ1°39/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.30**	**308**	*i* P	**Pn**	**21 23 45.0**	**-0.5**
KUR				AMB	AMB	21 23 45.0	
	45nm,0.3s						
KUR				*e*S	**Sn**	**21 24 00.3**	**-1.3**
KUR				A	A	21 24 03.0	
	245nm,0.3s						
KUR				A	A	21 24 03.0	
	467nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.51**	**262**	*i* P	**Pn**	**21 24 03.0**	**+0.9**
YUK				AMB	AMB	21 24 05.0	
	13nm,0.3s						
YUK				*i* S	**Sn**	**21 24 31.0**	**-0.5**
YUK				A	A	21 24 33.0	
	159nm,0.3s						
YUK				A	A	21 24 33.0	
	234nm,0.3s						
GRPR	**Tuman**	**2.58**	**261**	*e*P	**Pn**	**21 24 04.1**	**+1.0**
GRPR				*e*S	**Sn**	**21 24 32.7**	**-0.5**
GRPR				A	A	21 24 35.0	
	137nm,0.4s						
GRPR				A	A	21 24 35.0	
	182nm,0.4s						
NEM2	**Nemuro 2**	**2.79**	**249**	P	**Pn**	**21 24 06.2**	**+0.2**
NEM2				*e*S	**Sn**	**21 24 37.3**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.80**	**249**	*i* P	**Pn**	**21 24 06.0**	**-0.1**
NMR				*i* S	**Sn**	**21 24 36.9**	**-1.7**
GLVR	**Golovnino**	**2.82**	**257**	*e*P	**Pn**	**21 24 07.0**	**+0.6**
GLVR				AMB	AMB	21 24 10.0	
	45nm,0.4s						
GLVR				*e*S	**Sn**	**21 24 38.4**	**-0.7**
GLVR				A	A	21 24 42.0	
	273nm,0.4s						
GLVR				A	A	21 24 42.0	
	199nm,0.4s						
JRA	**Rausu**	**3.05**	**262**	P	**Pn**	**21 24 11.4**	**+1.8**
JRA				*e*S	**Sn**	**21 24 46.4**	**+1.6**
JNK	**Nakash**	**3.42**	**257**	P	**Pn**	**21 24 15.8**	**+1.1**
JNK				*e*S	**Sn**	**21 24 53.9**	**0.0**
JAK	**Akkeshi**	**3.64**	**248**	P	**Pn**	**21 24 18.1**	**+0.4**
JAK				*e*S	**Sn**	**21 24 57.8**	**-1.5**
JTKR	**Abashiri--Toko**	**3.91**	**265**	P	**Pn**	**21 24 23.5**	**+2.1**
JAR	**Ashorobuto**	**4.16**	**256**	P	**Pn**	**21 24 26.8**	**+1.9**
JAR				*e*S	**Sn**	**21 25 12.3**	**0.0**
JCH	**Churui**	**4.69**	**249**	P	**Pn**	**21 24 33.2**	**+1.1**
JCH				*e*S	**Sn**	**21 25 23.6**	**-1.7**
JNBK	**Urakawa-nobuka**	**5.24**	**248**	P	**Pn**	**21 24 40.9**	**+1.2**
JNBK				*e*S	**Sn**	**21 25 37.3**	**-1.6**
JNB	**Noboribetsu**	**6.33**	**255**	P	**Pn**	**21 24 56.1**	**+1.4**
JNB				*e*S	**Sn**	**21 26 05.4**	**-0.3**
JKB	**Kayabe**	**6.57**	**250**	P	**Pn**	**21 24 58.5**	**+0.6**
JKB				*e*S	**Sn**	**21 26 07.7**	**-3.7**
JYM2	**Yakumo 2**	**6.92**	**254**	P	**Pn**	**21 25 04.0**	**+1.2**

SOME 18 22:11:18.6, 42.23N×81.05E, h10km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.49**	**309**	*e*P	Pn	22 11 41.9	-3.7
	3.0nm,0.1s						
SHLS				*e*S	Sn	22 11 58.8	-6.4
	4.4nm,0.3s						
SHLS	**Shalkode**	**1.49**	**309**	P	Pn	22 11 41.9	-3.7
	3.0nm,0.1s						
SHLS				S	Sn	22 11 58.8	-6.4
	4.4nm,0.3s						
PDGK	**Podgornoye**	**1.59**	**314**	P	Pb	22 11 48.2	+0.1
	0.4nm,0.3s						
PDGK				S	Sg	22 12 09.6	-0.1
	1.5nm,0.2s						
SATY	**Saty**	**2.12**	**294**	*e*P	Pb	22 11 57.5	+0.3
	0.7nm,0.1s						
SATY				*e*S	Sg	22 12 25.4	-1.3
	3.2nm,0.2s						
SATY	**Saty**	**2.12**	**294**	Pg	Pb	22 11 57.5	+0.3
	0.7nm,0.1s						
SATY				Lg	Lg	22 12 25.4	
	3.2nm,0.2s						

*SOME **18** 22:11:39.7, 46.17N×82.68E, h0km*
NNC 18 22:11:40.2±1.1, 46.37N×82.53E, h0km, mb2.9, mpv2.6, 10C-13D, Error ellipse: s-maj=7.2km s-min=5.0km az=44.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK07	**Makanchi Array**	**0.41**	**339**	⇓P	Pg	22 11 48.0	-0.1
MK07				⇓S	Sg	22 11 54.3	+0.8
MK08	**Makanchi Array**	**0.42**	**337**	⇓P	Pg	22 11 48.2	-0.1
MK08				⇓S	Sg	22 11 54.6	+0.8
MK03	**Makanchi Array**	**0.43**	**338**	⇑P	Pg	22 11 48.4	0.0
MK03				⇓S	Sg	22 11 54.7	+0.8
MK02	**Makanchi Array**	**0.43**	**339**	⇓P	Pg	22 11 48.4	-0.1
MK02				⇓S	Sg	22 11 54.9	+0.9
MK01	**Makanchi Array**	**0.43**	**338**	⇑P	Pg	22 11 48.4	-0.1
MK01				⇓S	Sg	22 11 54.9	+0.8
MK06	**Makanchi Array**	**0.43**	**340**	⇓P	Pg	22 11 48.4	-0.1
MK06				⇑S	Sg	22 11 54.7	+0.6
MK04	**Makanchi Array**	**0.44**	**338**	⇑P	Pg	22 11 48.5	-0.1
MK04				⇑S	Sg	22 11 54.9	+0.7
MK09	**Makanchi Array**	**0.44**	**337**	⇑P	Pg	22 11 48.6	0.0
MK09				⇑S	Sg	22 11 55.0	+0.5
MK05	**Makanchi Array**	**0.46**	**339**	⇑P	Pg	22 11 48.7	-0.2
MK05				⇓S	Sg	22 11 55.1	+0.2
MK31	**Makanchi Array**	**0.46**	**339**	⇓P	Pg	22 11 48.8	-0.2
	0.3nm,0.1s,baz=215,slow=29,SNR=1267						
MK31				⇑S	Sg	22 11 55.6	+0.7
	10nm,0.2s,baz=137,slow=18,SNR=253						
MAKZ	**Makanchi**	**0.58**	**319**	⇓P	Pg	22 11 51.6	+0.2
	0.5nm,0.3s						
MAKZ				⇓S	Sg	22 12 00.4	+1.5
	5.1nm,0.2s						
ZSN	**Zaisan**	**1.93**	**55**	*e*P	Pn	22 12 12.9	-1.4
	1.9nm,0.2s						
ZSN				⇓*i*S	Sn	22 12 36.9	-2.4
	4.8nm,0.3s						
ZSN	**Zaisan**	**1.93**	**55**	P	Pn	22 12 12.9	-1.4
	1.9nm,0.2s						
ZSN				S	Sn	22 12 36.9	-2.4
	4.8nm,0.3s						
KPKS	**Kokpek**	**3.99**	**225**	*e*P	Pb	22 12 53.3	+2.0
	1.3nm,0.2s						
KPKS				*e*S	Sg	22 13 46.2	-2.0
	3.1nm,0.3s						

*IDC **18** 22:12:59.9±1.6, 2.50N×95.67E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.6/41, mbtmp3.9/9, ML3.7/2, MS3.2/3, Ms1 3.3/3, ms1mx2.7/43, Error ellipse: s-maj=49.4km s-min=19.4km az=54.0*
*DJA **18** 22:13:02.6±0.8, 3°N±3°×9°6E±°, h10km, M4.3/12, mB5.4/3, mb4.5/3, MLv4.2/12, Mw(mB)4.9/3*
*NEIC **18** 22:13:04.6±1.6, 2.48N±0.08×95.8E±0.1, h32km±7km, mb4.2/18, Error ellipse: s-maj=17.9km s-min=9.6km az=67.0*
ISC 18 22:13:03.5±0.8, 2.48N±0.07×95.71E±0.09, h25km, n60, σ0.83/54, mb4.2/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.66**	**62**	P	**Pn**	**22 13 29.9**	**-1.2**
TPTI				S	**Sn**	**22 13 52.2**	**+0.6**
MLSI	**Meulaboh, Aceh**	**1.90**	**21**	P	**Pn**	**22 13 33.3**	**-1.1**
MLSI				S	**Sn**	**22 13 59.1**	**+1.5**
GSI	**Gunungsitoli**	**2.21**	**122**	P	**Pn**	**22 13 39.2**	**+0.6**
GSI	**Gunungsitoli**	**2.21**	**122**	Pn	**Pn**	**22 13 38.5**	**-0.1**
LHMI	**Lhok Sumawe**	**3.00**	**24**	P	**Pn**	**22 13 49.6**	**+0.1**
LHMI				S	**Sn**	**22 14 25.1**	**+0.5**
LHMI	**Lhok Sumawe**	**3.00**	**24**		**Pn**	**22 13 49.8**	**+0.3**
TSI	**Tuntungan**	**3.03**	**70**	P	**Pn**	**22 13 50.3**	**+0.4**
RPSI	**Rantau Prapat**	**3.22**	**86**		**Pn**	**22 13 53.2**	**+0.6**
RPSI	**Rantau Prapat**	**3.22**	**86**		**Pn**	**22 13 53.4**	**+0.8**
PSI	**Prapat**	**3.23**	**84**	Pn	**Pn**	**22 13 53.4**	**+0.6**
	4.4nm,0.3s,baz=21,slow=7.0,SNR=5.7						
MNSI	**Mandailing Nat**	**4.22**	**113**	P	**Pn**	**22 14 07.1**	**+0.8**
KULM	**Kulim**	**5.67**	**60**		**Pn**	**22 14 26.2**	**0.0**
IPM	**Ipoh**	**5.67**	**69**		**Pn**	**22 14 26.5**	**+0.2**
RGRI	**Rengat**	**7.20**	**113**	P	**Pn**	**22 14 48.0**	**+0.7**
MNAI	**Manna**	**9.93**	**133**	Pn	**Pn**	**22 15 25.5**	**+0.6**
MDSI	**Maura Dua**	**10.94**	**129**	P	**Pn**	**22 15 39.8**	**+1.2**
LEM	**Lembang**	**15.06**	**128**	LR	LR	22 23 45.3	
	comp=Z,127nm,19.3s,baz=214,slow=43						
CMAR	**Chiang Mai Arr**	**16.19**	**11**	Pn	**Pn**	**22 16 50.5**	**+1.0**
	0.2nm,0.3s,baz=198,slow=11,SNR=19						
CMAR				LR	LR	22 23 02.2	
	comp=Z,42nm,19.1s,baz=220,slow=37						
CMAR	**Chiang Mai Arr**	**16.19**	**11**	P	**Pn**	**22 16 49.8**	**+0.3**
MYLDM	**Lahad Datu**	**22.90**	**83**	P	**P**	**22 18 06.0**	**+0.3**
H08S2	**Diego Garcia H**	**25.25**	**246**	T	T	22 44 40.7	
	baz=67,slow=75,SNR=196						
H08S3	**Diego Garcia H**	**25.25**	**246**	T	T	22 44 49.3	
	baz=67,slow=75,SNR=323						
H08S1	**Diego Garcia H**	**25.27**	**246**	T	T	22 44 42.0	
	baz=67,slow=75,SNR=94						
GYA	**Guiyang**	**26.06**	**23**	*e*P	**P**	**22 18 35.3**	**0.0**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LSA	**Lhasa**	**27.41**	**351**	P	**P**	**22 18 47.7**	**-0.2**
SSLB	**Suanglung**	**32.32**	**47**	P	**P**	**22 19 28.1**	**-2.8**
NACB	**Ninganchiao**	**33.02**	**47**	P	P	22 19 33.7	-3.3
MBWA	**Marble Bar**	**33.25**	**136**	P	P	22 19 37.0	-2.0
GTA	**Gaotai**	**36.95**	**5**	*e*P	**P**	**22 20 10.5**	**-0.3**
GTA				pP	pP	22 20 20.3	+2.0
GTA				sP	sP	22 20 24.3	+2.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.79**	**18**	*e*P	**P**	**22 20 43.8**	**+0.8**
HHC				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC				pmax	pmax		
	comp=Z,71nm,5.5s						
H01W3	**Cape Leeuwin H**	**41.00**	**157**	T	T	23 04 19.3	
	baz=332,slow=76,SNR=282						
H01W2	**Cape Leeuwin H**	**41.01**	**157**	T	T	23 04 20.2	
	baz=332,slow=76,SNR=382						
H01W1	**Cape Leeuwin H**	**41.01**	**157**	T	T	23 04 20.5	
	baz=332,slow=76,SNR=272						
BJT	**Baijiatuau**	**41.72**	**24**	P	**P**	**22 20 51.3**	**+0.8**
WMQ	**Urumqi**	**41.77**	**351**	*e*P	**P**	**22 20 52.6**	**+1.6**
GAR	**Garm**	**43.09**	**331**	P	**P**	**22 21 02.7**	**+0.9**
GAR				IAmb	IAmb	22 21 19.4	
	comp=Z,5.7nm,1.1s						
CHGR	**Chuyangaron**	**43.41**	**329**	P	**P**	**22 21 03.7**	**-0.7**
CHGR				IAmb	IAmb	22 21 04.9	
	comp=Z,4.2nm,0.8s						
BOOM	**Boomskoye usch**	**43.58**	**339**	P	**P**	**22 21 06.2**	**+0.4**
BTK	**Batken**	**43.68**	**332**	P	**P**	**22 21 07.9**	**+1.3**
BTK				IAmb	IAmb	22 21 10.8	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**43.98**	**122**	P	**P**	**22 21 09.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=298,slow=9.5,SNR=8.9						
ASAR	**Alice Springs**	**45.35**	**127**	P	**P**	**22 21 20.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=300,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**45.35**	**127**	P	**P**	**22 21 19.2**	**-0.9**
KSAR	**Wonju Array Be**	**45.64**	**36**	P	**P**	**

MWZ	**Matawai**	**2.88**	**228**	P	**Pn**	**22 36 30.3**	**-0.4**
MWZ				S	**Sn**	**22 37 05.0**	**+0.8**
RIGZ	**Rimuhau**	**3.01**	**221**	P	**Pn**	**22 36 31.9**	**-0.5**
RIGZ				S	**Sn**	**22 37 05.7**	**-1.5**
URZ	**Urewera**	**3.10**	**233**	Pn	**Pn**	**22 36 33.1**	**-0.4**
	5.5nm,0.3s,baz=77,slow=17,SNR=41						
URZ				Sn	**Sn**	**22 37 08.9**	**-0.5**
	8.5nm,0.3s,baz=216,slow=20,SNR=9.3						
URZ				LR	LR	22 37 18.8	
	comp=Z,94nm,18.5s,baz=31,slow=30						
URZ	**Urewera**	**3.10**	**233**	P	**Pn**	**22 36 33.1**	**-0.4**
URZ				S	**Sn**	**22 37 07.9**	**-1.5**
URZ	**Urewera**	**3.10**	**233**	P	**Pn**	**22 36 34.1**	**+0.6**
PRGZ	**Paritu Road**	**3.11**	**217**	P	**Pn**	**22 36 33.4**	**-0.4**
PRGZ				S	**Sn**	**22 37 09.9**	**+0.1**
OPRZ	**Ohinepanea**	**3.28**	**244**	P	**Pn**	**22 36 35.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**3.28**	**214**	P	**Pn**	**22 36 36.0**	**-0.1**
KNZ	**Kokohu**	**3.29**	**218**	P	**Pn**	**22 36 34.5**	**-1.7**
KNZ				S	**Sn**	**22 37 13.6**	**-0.5**
SNGZ	**Shannon Statio**	**3.29**	**224**	P	**Pn**	**22 36 37.3**	**+1.1**
SNGZ				S	**Sn**	**22 37 13.8**	**-0.4**
MYRZ	**Mayor Island**	**3.33**	**254**	P	**Pn**	**22 36 37.6**	**+0.7**
TGRZ	**Tauranga**	**3.45**	**247**	P	**Pn**	**22 36 37.4**	**-0.9**
RAHZ	**Arahi**	**3.53**	**225**	P	**Pn**	**22 36 39.9**	**+0.4**
RAHZ				S	**Sn**	**22 37 19.8**	**-0.1**
RRRZ	**Republican Roa**	**3.54**	**237**	P	**Pn**	**22 36 39.5**	**-0.1**
MTHZ	**Maungataniwha**	**3.63**	**228**	P	**Pn**	**22 36 40.8**	**0.0**
NMHZ	**Naumai**	**3.81**	**225**	P	**Pn**	**22 36 43.1**	**-0.3**
ARHZ	**Aropaoanui**	**3.82**	**222**	P	**Pn**	**22 36 42.8**	**-0.6**
MRHZ	**Matea Rd**	**3.88**	**231**	P	**Pn**	**22 36 43.7**	**-0.6**
TOZ	**Tahuroa Road**	**4.02**	**250**	P	**Pn**	**22 36 45.2**	**-0.9**
BKZ	**Black Stump Fm**	**4.04**	**227**	P	**Pn**	**22 36 45.9**	**-0.6**
BKZ	**Black Stump Fm**	**4.04**	**227**		**Pn**	**22 36 46.3**	**-0.2**
MCHZ	**McNeill Hill**	**4.11**	**222**	P	**Pn**	**22 36 46.7**	**-0.8**
WIAZ	**Waiheke Island**	**4.14**	**264**	P	**Pn**	**22 36 46.8**	**-1.1**
KWHZ	**Kaweka Forest**	**4.25**	**225**	P	**Pn**	**22 36 48.7**	**-0.7**
KAHZ	**Kahuranaki**	**4.28**	**218**	P	**Pn**	**22 36 48.0**	**-1.7**
KRHZ	**Kereru**	**4.43**	**223**	P	**Pn**	**22 36 50.5**	**-1.3**
TMVZ	**Te Maari**	**4.49**	**232**	P	**Pn**	**22 36 52.3**	**-0.4**
ETVZ	**East Tongariro**	**4.50**	**232**	P	**Pn**	**22 36 52.1**	**-0.8**
BHHZ	**Black Hill Sta**	**4.50**	**226**	P	**Pn**	**22 36 52.1**	**-0.7**
NGZ	**Ngauruhoe**	**4.59**	**232**	P	**Pn**	**22 36 52.9**	**-1.2**
HIZ	**Hauiti**	**4.77**	**243**	Pn	**Pn**	**22 36 56.4**	**-0.1**
BFZ	**Birch Farm**	**5.27**	**215**	Pn	**Pn**	**22 37 02.2**	**-1.1**
BFZ				Sn	**Sn**	**22 38 00.9**	**-1.8**
OUZ	**Omahuta**	**5.56**	**281**	Pn	**Pn**	**22 37 05.5**	**-1.7**
MSWZ	**Moikau Station**	**6.32**	**217**	Pn	**Pn**	**22 37 19.2**	**+1.6**
MSWZ				Sn	**Sn**	**22 38 22.8**	**-5.5**
BSWZ	**Blackbirch Sta**	**7.24**	**221**	Pn	**Pn**	**22 37 30.2**	**0.0**
CTZ	**Chatham Island**	**7.66**	**163**	P	**Pn**	**22 37 39.2**	**+3.2**
CTZ				S	**Sn**	**22 38 57.3**	**-3.8**
KHZ	**Kahutara**	**7.91**	**219**	Pn	**Pn**	**22 37 39.9**	**+0.5**
LTZ	**Lake Taylor**	**8.83**	**222**	Pn	**Pn**	**22 37 55.9**	**+3.8**
ASAR	**Alice Springs**	**41.73**	**275**	P	**P**	**22 43 31.0**	**+0.8**
	0.5nm,0.6s,baz=115,slow=7.7,SNR=11						
WR0	**Warramunga Arr**	**43.10**	**280**	P	**P**	**22 43 41.6**	**+0.3**
WR0				IAmb	IAmb	22 43 50.2	
	comp=Z,3.4nm,1.1s						
WB2	**Warramunga Arr**	**43.26**	**280**	P	**P**	**22 43 43.1**	**+0.5**
WRAB	**Tennant Creek**	**43.27**	**280**	P	**P**	**22 43 42.4**	**-0.2**
WRAB				IAmb	IAmb	22 43 46.5	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**43.27**	**280**	P	**P**	**22 43 43.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=120,slow=7.8,SNR=9.6						
WRA				LR	LR	23 00 28.7	
	comp=Z,30nm,19.1s,baz=235,slow=35						
WB0	**Warramunga Arr**	**43.32**	**280**	P	**P**	**22 43 43.3**	**+0.3**
WB0				IAmb	IAmb	22 43 59.7	
	comp=Z,5.6nm,1.1s						
FAKI	**Fak Fak**	**55.35**	**296**	P	**P**	**22 45 12.7**	**-2.2**
ROC1	**El Roble**	**84.09**	**127**	P	**P**	**22 48 12.3**	**+0.7**
FINES	**FINESS Array B**	**150.17**	**335**	PKPbc	**PKiKP**	**22 55 33.1**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=40,slow=4.5,SNR=5.0						

*IDC **18** 22:46:20.6±2.5, 21.°96N × 143.°26E, h189km±21km, mb3.3/7, mb1 3.5/9, mb1mx3.2/48, mbtmp3.8/9, Error ellipse: s-maj=29.1km s-min=18.2km az=84.0*
*NEIC **18** 22:46:21.3±2.5, 22.°09N±0.°10 × 143.°9E±0.°2, h201km±9km, mb4.1/13, Error ellipse: s-maj=22.5km s-min=14.2km az=82.0*

ISC 18 22:46:21.6±0.7, 22.°06N±0.°08 × 143.°7E±0.°1, h200km, n32, σ1s37/33, mb3.6/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.20**	**345**	P	**Pn**	**22 47 38.2**	**-0.3**
	15nm,0.3s,baz=150,slow=22,SNR=14						
JCJ				S	**Sn**	**22 48 37.5**	**-1.7**
	12nm,0.3s,baz=298,slow=23,SNR=7.8						
JCJ	**Chichijima**	**5.20**	**345**		**Pn**	**22 47 38.9**	**+0.4**
JCJ					**Sn**	**22 48 39.0**	**-0.3**
INU	**Inuyama**	**14.47**	**338**	Pn	**Pn**	**22 49 36.8**	**-0.5**
JMN	**Monobe**	**14.49**	**325**		**P**	**22 49 41.5**	**+2.7**
JGF	**Kuroka**	**14.58**	**339**		**Pn**	**22 49 38.9**	**+0.2**
JWT	**Wachi**	**15.03**	**333**	P	**P**	**22 49 46.3**	**+1.5**
JWT				IAmb	IAmb	22 49 54.8	
	comp=Z,6.0nm,1.0s						
MJAR	**Matsushiro Arr**	**15.20**	**343**	P	**Pn**	**22 49 45.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**15.20**	**343**	P	**P**	**22 49 47.4**	**+0.8**
MAJO	**Matsushiro**	**15.20**	**343**		**P**	**22 49 46.9**	**+0.3**
JHS	**Saijyo**	**15.87**	**327**		**Pn**	**22 49 54.5**	**+0.1**
JHS				IAmb	IAmb	22 49 57.0	
	comp=Z,4.2nm,0.7s						
KSRS	**Korea Array**	**20.51**	**322**	P	**P**	**22 50 46.2**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=152,slow=9.4,SNR=4.9						
ADK	**Adak**	**42.63**	**36**	P	**P**	**22 53 56.8**	**-1.3**
WB2	**Warramunga Arr**	**42.73**	**193**	P	**P**	**22 53 58.0**	**-1.3**
WRA	**Warramunga Arr**	**42.73**	**193**	P	**P**	**22 53 57.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=16,slow=9.5,SNR=8.5						
KULM	**Kulim**	**44.80**	**255**	P	**P**	**22 54 15.4**	**-0.6**
KULM				IAmb	IAmb	22 54 19.0	
	comp=Z,6.4nm,1.1s						
UNV	**Unalaska Valle**	**49.05**	**37**	P	**P**	**22 54 45.3**	**-3.0**
PBA	**Port Blair**	**49.63**	**267**	P	**P**	22 54 54.5	+1.3
PBA				IAmb	IAmb	22 55 12.6	
	comp=Z,20nm,1.1s						
ZALV	**Zalesovo Beam**	**54.21**	**321**	P	**P**	**22 55 25.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=101,slow=8.3,SNR=3.7						
FORT	**Forrest**	**54.63**	**197**	P	**P**	**22 55 30.8**	**+1.1**
MK31	**Makanchi Array**	**54.79**	**312**	P	**P**	**22 55 31.3**	**+0.5**
MKAR	**Makanchi Array**	**54.79**	**312**	P	**P**	**22 55 30.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=88,slow=9.1,SNR=8.5						
MKAR	**Makanchi Array**	**54.79**	**312**	P	**P**	**22 55 30.8**	**-0.1**
MAKZ	**Makanchi**	**55.01**	**312**	P	**P**	**22 55 34.2**	**+1.8**
MAKZ				IAmb	IAmb	22 55 53.9	
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**61.51**	**27**	P	**P**	**22 56 18.3**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=282,slow=5.4,SNR=2.0						
ABKAR	**Akbulak array**	**69.61**	**316**	P	**P**	**22 57 08.7**	**-0.4**
ABKAR				IAmb	IAmb	22 57 09.2	
	comp=Z,1.6nm,0.6s						
ABKAR	**Akbulak array**	**69.61**	**316**	P	**P**	**22 57 08.3**	**-0.8**
ARCES	**ARCESS Array B**	**78.73**	**342**	P	**P**	**22 58 01.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=60,slow=4.9,SNR=4.5						
NVAR	**Mina Array Bea**	**82.56**	**52**	P	**P**	**22 58 26.1**	**+3.4**
	comp=Z,0.4nm,0.6s,baz=276,slow=5.1,SNR=5.1						
FINES	**FINESS Array B**	**83.05**	**335**	P	**P**	**22 58 23.2**	**-1.2**
	comp=Z,5.0nm,1.1s,baz=76,slow=4.4,SNR=11						
TORD	**Torodi Ar. Bea**	**128.87**	**310**	PKP	**PKPdf**	**23 05 05.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=22,slow=3.1,SNR=2.0						
PLCA	**Paso Flores**	**145.65**	**131**	PKPbc	**PKPab**	**23 05 38.0**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=281,slow=5.2,SNR=5.9						
LPAZ	**La Paz**	**149.45**	**85**	PKPbc	**PKPbc**	**23 05 48.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=225,slow=4.3,SNR=2.9						

*IDC **18** 22:55:30.8±1.5, 23.°65S × 67.°20W, h200km±28km, mb3.2/1, mb1 3.3/4, mb1mx3.1/25, mbtmp3.8/4, Error ellipse: s-maj=41.9km s-min=20.6km az=135.0*

ISC 18 22:55:29.2±1.0, 23.°91S±0.°10 × 67.°0W±0.°1, h181km, n7, σ1s52/9, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.16**	**306**	P	**Pn**	**22 56 08.6**	**+0.1**
	5.5nm,0.3s,baz=128,slow=8.7,SNR=74						
LVC				S	**Sn**	**22 56 38.0**	**-1.0**
	13nm,0.3s,baz=257,slow=23,SNR=12						
LPAZ	**La Paz**	**7.65**	**352**	P	**Pn**	**22 57 21.3**	**+2.7**
	1.1nm,0.3s,baz=176,slow=11,SNR=28						
LPAZ				S	**Sn**	**22 58 44.5**	**-0.5**
	0.1nm,0.3s,baz=261,slow=22,SNR=1.4						
SIV	**San Ignacio**	**9.66**	**36**	P	**Pn**	**22 57 43.7**	**-0.8**
	0.1nm,0.3s,baz=226,slow=14,SNR=4.9						
PLCA	**Paso Flores**	**17.03**	**189**	P	**Pn**	**22 59 18.4**	**+1.6**
	0.1nm,0.3s,baz=22,slow=11,SNR=5.1						
BDFB	**Brasilia**	**19.68**	**69**	P	**P**	**22 59 45.7**	**+0.9**
	0.6nm,0.3s,baz=236,slow=11,SNR=9.4						
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	**P**	**23 07 00.1**	**0.0**
	0.5nm,0.6s,baz=248,slow=6.3,SNR=4.5						
WRA	**Warramunga Arr**	**131.69**	**207**	PKP	**PKPdf**	**23 14 20.1**	**-1.3**
	0.2nm,0.6s,baz=168,slow=1.9,SNR=1.3						

*REY **18** 23:04:02.6, 64.°68N × 17.°49W, h4km*
*IDC **18** 23:04:04.0±0.6, 64.°63N × 17.°64W, h0km, mb3.8/18, mb1 4.0/21, mb1mx3.8/64, mbtmp3.8/21, ML2.7/2, MS3.1/6, Ms1 3.1/6, ms1mx2.7/45, Error ellipse: s-maj=18.2km s-min=9.0km az=9.0*
*NEIC **18** 23:04:05.7±2.4, 64.°54N±0.°09 × 17.°8W±0.°2, h9km±2km, mb4.4/30, Error ellipse: s-maj=14.1km s-min=9.3km az=196.0*

ISC 18 23:04:05.0±0.5, 64.°70N±0.°02 × 17.°50W±0.°03, h10km, n120, σ2s54/108, mb4.1/41, MS3.2/3, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.10**	**32**	P	**Pg**	**23 04 05.6**	**-2.2**
	baz=24						
IVON	**Vonarskard**	**0.12**	**255**	P	**Pg**	**23 04 05.1**	**-2.8**
	baz=269						
IURH	**Urdarhals**	**0.19**	**51**	P	**Pg**	**23 04 06.9**	**-2.2**
	baz=45						
IGRF	**Grimsfjall**	**0.31**	**161**	P	**Pg**	**23 04 08.4**	**-2.9**
	baz=160						
IKVE	**Kverkfjoll**	**0.35**	**94**	P	**Pg**	**23 04 10.4**	**-1.7**
	baz=89						
ISKR	**Skrokkalda**	**0.41**	**250**	P	**Pg**	**23 04 10.0**	**-3.1**
	baz=254						
IHUS	**Husbondi**	**0.41**	**190**	P	**Pg**	**23 04 09.9**	**-3.3**
	baz=191						
IVOT	**Vottur**	**0.45**	**162**	P	**Pg**	**23 04 11.0**	**-2.9**
	baz=162						
IKRE	**Kreppuhraun**	**0.48**	**80**	P	**Pg**	**23 04 11.3**	**-3.2**
	baz=77						
IJOK	**Jokulheimar**	**0.50**	**219**	P	**Pg**	**23 04 11.5**	**-3.2**
	baz=222						
IMKO	**Mokollar**	**0.57**	**60**	P	**Pg**	**23 04 13.1**	**-3.0**
	baz=58						
ISVA	**Svartarkot**	**0.65**	**9**	P	**Pg**	**23 04 14.7**	**-2.8**
	baz=8.4						
IIEY	**Innrieyrar**	**0.67**	**204**	P	**Pg**	**23 04 14.2**	**-3.7**
	baz=206						
IKSK	**Karasker**	**0.70**	**140**	P	**Pg**	**23 04 14.4**	**-4.2**
	baz=139						
IKAL	**Kalfafell**	**0.76**	**186**	P	**Pg**	**23 04 15.4**	**-4.3**
	baz=187						
IVSH	**V-Sauoahnukur**	**0.77**	**81**	P	**Pg**	**23 04 15.9**	**-3.9**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**231**	P	**Pg**	**23 04 17.3**	**-3.2**
	baz=232						
IADA	**Aoalbol**	**0.88**	**68**	P	**Pg**	**23 04 17.9**	**-4.1**
	baz=66						
IHVE	**Hveravellir**	**0.90**	**282**	P	**Pg**	**23 04 19.1**	**-3.3**
	baz=283						
IMEL	**Melhnausar**	**0.94**	**22**	P	**Pg**	**23 04 19.4**	**-3.7**
	baz=21						
IREN	**Reynihlio**	**0.98**	**14**	P	**Pg**	**23 04 20.2**	**-3.7**
	baz=14						
IKVO	**Krokottuvotn**	**1.05**	**14**	P	**Pg**	**23 04 21.3**	**-3.9**
	baz=14						
IGRS	**Grimsstaoir**	**1.10**	**31**	P	**Pb**	**23 04 22.2**	**-4.0**
	baz=30						
ISKI	**Skildingahlsh**	**1.19**	**9**	P	**Pb**	**23 04 23.6**	**-4.0**
	baz=9.0						
IGHA	**Grjothals**	**1.20**	**17**	P	**Pb**	**23 04 23.7**	**-4.1**
	baz=16						
IGRA	**Granastaoir**	**1.22**	**358**	P	**Pn**	**23 04 24.0**	**-4.1**
	baz=358						
IDIM	**Dimmadalss**	**1.29**	**10**	P	**Pn**	**23 04 25.1**	**-3.9**
	baz=10.0						
IHLA	**Hella**	**1.30**	**344**	P	**Pn**	**23 04 25.6**	**-3.6**
	baz=344						
IHAU	**Haukadalur**	**1.30**	**237**	P	**Pn**	**23 04 25.6**	**-3.6**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.32**	**207**	P	**Pn**	**23 04 26.2**	**-3.3**
	baz=208						
IHED	**Heoinshofoi**	**1.39**	**3**	P	**Pn**	**23 04 26.7**	**-3.7**
	baz=3.0						
ISAU	**Saurbar**	**1.46**	**242**	P	**Pn**	**23 04 27.0**	**-4.4**
	baz=243						
ISIG	**Siglufjorour**	**1.55**	**338**	P	**Pn**	**23 04 29.4**	**-3.3**
	baz=339						
BORG	**Borgarnes**	**1.65**	**273**	Pg	**Pn**	**23 04 31.4**	**-2.5**
	52nm,0.3s,baz=92,slow=8.2,SNR=102						
BORG				Lg	Lg	23 04 55.0	
	19nm,0.3s,baz=65,slow=21,SNR=12						
BORG	**Borgarnes**	**1.65**	**273**	Pn	**Pn**	**23 04 31.2**	**-2.8**
IKRO	**Krokur**	**1.69**	**251**	P	**Pn**	**23 04 31.0**	**-3.5**
	baz=252						
ISOL	**Solvholt**	**1.69**	**244**	P	**Pn**	**23 04 31.1**	**-3.4**
	baz=245						
IHRN	**Hraun**	**1.79**	**323**	P	**Pn**	**23 04 33.3**	**-2.6**
	baz=324						
ISAN	**Sandskeio**	**1.89**	**252**	P	**Pn**	**23 04 34.5**	**-2.8**
	baz=252						
IKAS	**Kald??rsel**	**2.01**	**252**	P	**Pn**	**23 04 36.5**	**-2.5**
	baz=253						
SUMG	**Summit**	**10.91**	**325**	Pn	**Pn**	**23 06 43.2**	**+1.9**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**23 06 52.3**	**-0.6**
	baz=317,slow=14,SNR=12						
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**23 06 53.9**	**+1.0**
DSB	**Dublin**	**12.81**	**148**	Pn	**Pn**	**23 07 06.5**	**-0.5**
NOA	**NORSAR Array B**	**13.53**	**92**	LR	LR	23 12 29.4	
	comp=Z,40nm,19.2s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.65**	**294**	LR	LR	23 11 41.1	
	comp=Z,62nm,18.5s,baz=85,slow=34						
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**P**	**23 08 04.5**	**-0.9**
	baz=263,slow=15,SNR=3.1						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**23 08 34.7**	**-0.7**
	0.1nm,0.3s,baz=286,slow=16,SNR=1.9						
FINES				LR	LR	23 15 41.3	
	comp=Z,20nm,20.1s,baz=250,slow=35						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**23 08 37.2**	**+1.8**
CLL	**Collm**	**20.72**	**116**	P	Pn	23 08 47.7	+0.1
GRA1	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**23 08 54.6**	**+2.5**
GRA1				IAmb	IAmb	23 09 13.3	
	comp=Z,26nm,1.5s						
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**	**23 08 53.1**	**+0.9**
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**23 08 53.8**	**+1.0**
	comp=Z,27nm,1.9s						
BRG				*e*		23 45 32.1	
	comp=Z,12nm,1.7s						
BFO	**Black Forest**	**21.47**	**127**	P	**P**	**23 08 54.1**	**+0.7**
PRU	**Pruhonice**	**22.36**	**116**	*e*P	**P**	**23 09 04.4**	**+1.5**
PBCC	**Pribram**	**22.40**	**117**	*e*P	P	23 09 10.3	+7.0
CHVC	**Chvalec**	**22.48**	**113**	*e*P	**P**	**23 09 06.5**	**+2.3**
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**	**23 09 06.7**	**+0.3**
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**23 09 07.7**	**+1.3**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P	**P**	**23 09 08.6**	**+1.3**
DAVA	**Damuels**	**22.90**	**126**	*e*P	**P**	**23 09 13.3**	**+4.5**
	comp=Z,6.6nm,1.2s						
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**23 09 11.2**	**+1.8**
GEC2				IAmb	IAmb	23 09 24.7	
	comp=Z,17nm,1.5s						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**23 09 10.6**	**+1.1**
	comp=Z,1.7nm,1.0s,baz=330,slow=7.7,SNR=7.9						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**23 09 10.8**	**+1.3**
RETA	**Reutte**	**23.04**	**125**	P	**P**	**23 09 12.7**	**+2.6**
	comp=Z,12nm,2.3s						
MOTA	**Moosalm**	**23.28**	**125**	P	**P**	**23 09 15.0**	**+2.3**
	comp=Z,14nm,1.4s						
DAVOX	**Davos/Dischmat**	**23.34**	**127**	P	**P**	**23 09 13.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=351,slow=12,SNR=1.7						
SQTA	**Sankt Quirin**	**23.42**	**125**	*e*P	**P**	**23 09 16.6**	**+2.5**
	comp=Z,10nm,1.3s						
FETA	**Feichten**	**23.43**	**126**	*i* P	**P**	**23 09 17.6**	**+3.5**
	comp=Z,7.2nm,1.3s						
WATA	**Walderalm**	**23.45**	**124**	*e*P	**P**	**23 09 19.2**	**+4.8**
	comp=Z,7.2nm,1.6s						
EUNU	**Eureka**	**23.64**	**336**	P	**P**	**23 09 18.2**	**+2.4**
EUNU				IAmb	IAmb	23 09 23.4	
	comp=Z,12nm,1.3s						
VRAC	**Vranov**		**23.71**	**114**	P	**P**	**23 09 18.2**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=318,slow=11,SNR=4.3						
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**23 09 20.0**	**+3.2**
CONA	**Conrad Observa**	**24.55**	**117**	*e*P	**P**	**23 09 26.4**	**+1.8**
	comp=Z,2.4nm,0.8s						
CTI	**Castel Tesino**	**24.59**	**125**	P	**P**	**23 09 26.9**	**+1.9**
CTI				IAmb	IAmb	23 09 37.5	
	comp=Z,12nm,1.2s						
ZOU	**Zoufplan**	**24.62**	**123**	P	**P**	**23 09 26.9**	**+1.5**
ZOU				IAmb	IAmb	23 09 34.7	
	comp=Z,18nm,1.5s						
CIMO	**Cimolais**	**24.64**	**124**	P	**P**	**23 09 28.1**	**+2.6**
MYKA	**Terra Mystica**	**24.80**	**122**	*e*P	**P**	**23 09 31.3**	**+4.3**
	comp=Z,4.4nm,1.2s						
ARSA	**Arzberg**	**24.98**	**118**	*e*P	**P**	**23 09 29.6**	**+1.2**
	comp=Z,3.1nm,1.1s						
KWP	**Kalwaria Pacla**	**25.92**	**106**	P	**P**	**23 09 40.5**	**+3.5**
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**23 09 37.2**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=41,slow=9.1,SNR=4.4						
SCHQ	**Schefferville**	**26.04**	**271**	IAmb	IAmb	23 09 46.4	
	comp=Z,3.7nm,0.9s						
PSZ	**Piszkesteto**	**26.13**	**112**	P	**P**	**23 09 41.2**	**+2.2**
PSZ				IAmb	IAmb	23 09 52.9	
	comp=Z,9.6nm,1.2s						
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**23 09 40.7**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=350,slow=9.7,SNR=11						
ESDC				LR	LR	23 19 30.1	
	comp=Z,47nm,19.4s,baz=295,slow=35						
ESDC	**Sonseca Array**	**26.29**	**156**	IAmb	IAmb	23 09 42.6	
	comp=Z,4.9nm,1.2s						
OSSC	**Osservatorio P**	**26.66**	**129**	P	**P**	**23 09 45.5**	**+1.7**
OSSC				IAmb	IAmb	23 09 50.4	
	comp=Z,5.2nm,0.9s						
AKASG	**Malin Array Be**	**27.85**	**98**	P	**P**	**23 09 55.4**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=320,slow=9.7,SNR=1.9						
KEST	**Kesra**	**33.18**	**138**	LR	LR	23 23 51.7	
	comp=Z,48nm,20.8s,baz=137,slow=36						
NRIK	**Noril'sk**	**36.43**	**35**	P	**P**	**23 11 10.7**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=325,slow=9.4,SNR=3.8						
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**23 11 27.7**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=305,slow=5.1,SNR=1.8						
KBZ	**Khabaz**	**39.12**	**92**	LR	LR	23 27 43.7	
	comp=Z,52nm,20.7s,baz=7.5,slow=36						
AKTO	**Aktyubinsk**	**40.27**	**73**	P	**P**	**23 11 42.2**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=301,slow=5.5,SNR=4.0						
BMAR	**Burnt Mountain**	**42.86**	**333**	P	P	23 12 07.4	+4.6
BVAR	**Borovoye Array**	**43.18**	**62**	P	**P**	**23 12 06.7**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=238,slow=17,SNR=5.2						
ILAR	**Eielson Array**	**45.65**	**332**	P	**P**	**23 12 25.8**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=23,slow=7.8,SNR=9.1						
ILAR				PcP	**PcP**	**23 14 04.0**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=2.7,slow=2.6,SNR=6.1						
ILAR	**Eielson Array**	**45.65**	**332**	P	**P**	**23 12 26.4**	**+1.3**
IMAR	**Indian Mountai**	**45.83**	**337**	P	**P**	**23 12 27.6**	**+1.2**
BCAR	**Beaver Creek A**	**46.08**	**329**	P	**P**	**23 12 31.0**	**+2.5**
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**23 12 41.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=316,slow=8.1,SNR=2.3						
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**23 12 45.5**	**+1.2**
KURK				IAmb	IAmb	23 12 48.0	
	comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**48.14**	**58**	P	**P**	**23 12 45.7**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=322,slow=7.3,SNR=12						
T47A	**Sharon Ground**	**48.64**	**270**	P	**P**	**23 12 50.2**	**+1.6**
W50A	**Signal Mountai**	**49.38**	**268**	P	**P**	**23 12 53.4**	**-1.0**
BOZ	**Bozeman (W)**	**51.59**	**297**	P	**P**	**23 13 11.5**	**+0.3**
BOZ

PB15	**IPOC Station P**	**17.87**	**147**	P		**Pn**	**23 09 14.3**	**-0.7**
PB15				IAmb		IAmb	23 09 22.2	
	comp=Z,7.6nm,0.5s							
SJCC	**San Jacinto, C**	**18.82**	**15**	*e*P		**P**	**23 09 25.4**	**-0.3**
GO02	**Mina Guanaco**	**19.41**	**150**	P		**Pn**	**23 09 33.7**	**-0.1**
GO02				IAmb		IAmb	23 09 38.7	
	comp=Z,11nm,0.7s							
SDV	**Santo Domingo**	**19.57**	**29**	P		**P**	**23 09 32.8**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=244,slow=15,SNR=4.1							
SDV	**Santo Domingo**	**19.57**	**29**	P		**P**	**23 09 34.5**	**+0.4**
SDV				IAmb		IAmb	23 09 49.0	
	comp=Z,9.2nm,0.9s							
SDV	**Santo Domingo**	**19.57**	**29**	*e*P		**P**	**23 09 31.4**	**-2.8**
SIV	**San Ignacio**	**20.00**	**114**	P		**P**	**23 09 39.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=309,slow=13,SNR=13							
SIV				S		**S**	**23 13 20.2**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=125,slow=19,SNR=0.8							
GO03	**Copiap**	**21.21**	**155**	P		**P**	**23 09 51.5**	**-0.2**
GO03				IAmb		IAmb	23 10 09.8	
	comp=Z,9.5nm,0.8s							
PTGA	**Pitinga**	**21.40**	**70**	P		**P**	**23 09 53.4**	**-0.4**
	comp=Z,11nm,0.8s,baz=249,slow=11,SNR=31							
PTGA				S		**S**	**23 13 49.2**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=15,slow=22,SNR=3.1							
PTGA	**Pitinga**	**21.40**	**70**	IAmb		IAmb	23 09 54.5	
	comp=Z,11nm,0.8s							
PTLB	**Pontes e Lacer**	**21.60**	**111**	*e*P		**P**	**23 09 57.3**	**+1.4**
CLDB	**Colider**	**24.02**	**98**	*e*P		**P**	**23 10 19.8**	**-0.9**
ITTB	**Itaituba**	**24.48**	**82**	*e*P		**P**	**23 10 25.0**	**+0.1**
NPGB	**Novo Progresso**	**24.50**	**89**	*e*P		**P**	**23 10 24.6**	**-0.5**
H03N2	**Juan Fernandez**	**24.93**	**178**	T		T	23 36 22.3	
	baz=357,slow=75,SNR=90							
H03N1	**Juan Fernandez**	**24.93**	**178**	T		T	23 36 23.0	
	baz=357,slow=75,SNR=102							
H03N3	**Juan Fernandez**	**24.94**	**178**	T		T	23 36 21.7	
	baz=357,slow=75,SNR=91							
ROC1	**El Roble**	**25.83**	**162**	P		**P**	**23 10 34.4**	**-2.8**
MT05	**Renca**	**26.30**	**162**	P		**P**	**23 10 38.1**	**-3.2**
MALB	**Monte Alegre**	**26.47**	**77**	*e*P		**P**	**23 10 41.2**	**-1.7**
PETF	**Flores**	**26.98**	**339**	P		**P**	**23 10 46.3**	**-1.0**
PETF				IAmb		IAmb	23 11 03.7	
	comp=Z,4.8nm,0.9s							
CPUP	**Villa Florida**	**27.97**	**132**	P		**P**	**23 10 57.9**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=295,slow=6.7,SNR=3.1							
CPUP				LR		LR	23 24 21.2	
	comp=Z,142nm,19.4s,baz=320,slow=41							
BDFB	**Brasilia**	**32.10**	**106**	P		**P**	**23 11 33.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=277,slow=8.1,SNR=2.0							
BDFB				LR		LR	23 25 11.6	
	comp=Z,446nm,20.8s,baz=301,slow=38							
BDFB	**Brasilia**	**32.10**	**106**	IAmb		IAmb	23 11 35.2	
	comp=Z,3.0nm,0.9s							
S39A	**Bolivar**	**47.52**	**346**	P		**P**	**23 13 40.5**	**0.0**
S39A				IAmb		IAmb	23 13 42.9	
	comp=Z,4.7nm,0.8s							
VNA3	**Neumayer Olymp**	**75.82**	**162**	P		**P**	**23 16 53.6**	**+2.7**
DBIC	**Dimbokro**	**76.44**	**81**	P		**P**	**23 16 56.4**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=196,slow=11,SNR=4.2							
DBIC				LR		LR	23 48 13.5	
	comp=Z,143nm,20.5s,baz=260,slow=34							
VNA2	**Neumayer--Watz**	**76.45**	**161**	P		**P**	**23 16 56.7**	**+2.2**
	baz=289,slow=3.5							
SNAA	**Sanae**	**78.04**	**162**	P		**P**	**23 17 05.7**	**+2.2**
KOWA	**Kowa**	**78.74**	**73**	P		**P**	**23 17 09.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**83.93**	**76**	P		**P**	**23 17 37.0**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=267,slow=3.9,SNR=8.5							
TORD				LR		LR	23 54 04.7	
	comp=Z,61nm,18.6s,baz=315,slow=35							
TORD	**Torodi Ar. Bea**	**83.93**	**76**	P		**P**	**23 17 34.7**	**-1.1**
PAB	**San Pablo**	**84.44**	**49**	P		**P**	**23 17 35.8**	**-2.2**
ESDC	**Sonseca Array**	**84.76**	**49**	P		**P**	**23 17 40.6**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=262,slow=6.8,SNR=6.1							
ESDC				LR		LR	23 53 28.9	
	comp=Z,63nm,18.9s,baz=165,slow=34							
ESDC	**Sonseca Array**	**84.76**	**49**	P		**P**	**23 17 38.9**	**-0.6**
INK	**Inuvik**	**85.18**	**343**	P		**P**	**23 17 41.0**	**0.0**
INK				IAmb		IAmb	23 18 00.9	
	comp=Z,2.9nm,1.1s							
BCAR	**Beaver Creek A**	**85.19**	**336**	P		**P**	**23 17 41.6**	**+0.5**
M24K	**Tolsona, Glenn**	**86.56**	**334**	P		**P**	**23 17 47.3**	**-0.7**
ILAR	**Eielson Array**	**87.97**	**337**	P		**P**	**23 17 55.5**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=149,slow=3.1,SNR=6.9							
ILAR	**Eielson Array**	**87.97**	**337**	P		**P**	**23 17 54.8**	**+0.1**
RND	**Reindeer**	**88.22**	**335**	P		**P**	**23 17 54.2**	**-1.8**
MDM	**Murphy Dome**	**88.57**	**337**	P		**P**	**23 17 58.0**	**+0.4**
BWN	**Browne**	**88.76**	**336**	P		**P**	**23 17 58.3**	**-0.2**
NOA	**NORSAR Array B**	**97.90**	**29**	LR		LR	00 02 39.0	
	comp=Z,18nm,19.1s,baz=255,slow=35							
H11N3	**WAKE ISLAND Hyl**	**14.44**	**288**	T		T	01 28 14.0	
	baz=92,slow=75,SNR=6.7							
H11N2	**WAKE ISLAND Hyl**	**14.45**	**288**	T		T	01 28 06.2	
	baz=92,slow=75,SNR=7.2							
H11N1	**WAKE ISLAND Hyl**	**14.45**	**288**	T		T	01 28 01.1	
	baz=92,slow=75,SNR=6.5							
H11S2	**WAKE ISLAND Hyl**	**14.61**	**286**	T		T	01 28 19.5	
	baz=94							
H11S1	**WAKE ISLAND Hyl**	**14.62**	**286**	T		T	01 28 18.2	
	baz=94							
H11S3	**WAKE ISLAND Hyl**	**14.63**	**286**	T		T	01 28 28.2	
	baz=94							
ASAR	**Alice Springs**	**133.99**	**225**	PKP		**PKPdf**	**23 24 23.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=116,slow=2.2,SNR=2.5							
WRA	**Warramunga Arr**	**135.97**	**230**	PKP		**PKPdf**	**23 24 26.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=118,slow=1.4,SNR=5.4							
CMAR	**Chiang Mai Arr**	**169.97**	**6**	PKPab		**PKPab**	**23 26 27.1**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=332,slow=5.6,SNR=4.9							

*IDC **18** 23:07:54.1±1.2,30.˚70N×50.˚44E, h0km, mb3.8/12, mb1 3.9/16, mb1mx3.7/48, mbtmp3.8/16, ML3.4/4, MS3.1/4, Ms1 3.0/4, ms1mx2.6/48, Error ellipse: s-maj=25.9km s-min=16.5km az=0.0*

*TEH **18** 23:07:56.5, 30.˚86N×50.˚55E, h10km, ML3.7*

*OMAN **18** 23:07:59.0±0.9, 30.˚76N×50.˚55E, h35km±15km, Error ellipse: s-maj=32.2km s-min=4.2km az=286.0*

*THR **18** 23:07:58.0±0.6, 30.˚81N×50.˚53E, h15km±6km, ML3.9*

*NEIC **18** 23:07:59.3±2.4, 30.˚75N±0.˚05×50.˚44E±0.˚07, h37km±7km, Error ellipse: s-maj=9.2km s-min=7.4km az=122.0*

*DSN **18** 23:08:01.2±1.6, 30.˚44N×50.˚76E, h10km, ML4.2/7, Error ellipse: s-maj=21.0km s-min=9.6km az=11.0*

ISC 18 23:07:57.5±0.4, 30.˚69N±0.˚05×50.˚45E±0.˚04, h25km, n157, σ1°53/155, mb4.1/25, MS3.3/3, 6C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLNJ	**Kolanjah**	**1.03**	**72**	*e*Pg	**Pn**	**23 08 13.7**	**-3.1**
KLNJ				*e*		23 08 35.0	
KAZ1	**Kazerun**	**1.48**	**136**	*e*Pg	**Pb**	**23 08 25.6**	**+1.2**
KAZ1				*e*		23 08 59.9	
JHBN	**Jahan bin**	**1.55**	**7**	*e*Pg	**Pn**	**23 08 23.1**	**-0.7**
JHBN				*e*		23 08 51.2	
AHWZ	**Ahwaz**	**1.68**	**293**	*e*Pg	**Pb**	**23 08 28.6**	**+0.8**
AHWZ				*e*Sg	**Sb**	**23 08 52.4**	**+3.9**
ROKH	**ROKH**	**1.73**	**17**	*e*Pg	**Pn**	**23 08 26.7**	**+0.5**
ROKH				*e*		23 08 52.8	
IRAM	**Ramesheh**	**1.99**	**55**	*e*Pg	**Pn**	**23 08 30.9**	**+1.0**
IRAM				*e*		23 09 02.6	
SHGR	**Shooshtar-Gavs**	**2.00**	**315**	*e*Pn	**Pb**	**23 08 32.5**	**-0.7**
SHGR				*e*Sg	**Sb**	**23 08 59.9**	**+2.2**
SHGR				IAML		23 09 03.1	
	comp=E,688nm,0.5s						
SHGR				IAML		23 09 09.2	
	comp=N,909nm,0.2s						
IPIR	**Pirpir**	**2.02**	**11**	*e*Pn	**Pn**	**23 08 31.2**	**+0.8**
IPIR				*e*		23 09 04.1	
SHI	**Shiraz**	**2.07**	**120**	*e*Pn	**Pb**	**23 08 35.2**	**+0.7**
SHI				*e*		23 09 16.8	
IGAR	**Gharneh**	**2.18**	**38**	*e*Pn	**Pn**	**23 08 33.3**	**+0.8**
IGAR				*e*		23 08 39.5	
IZEF	**Zefreh**	**2.72**	**36**	*e*Pn	**Pn**	**23 08 41.6**	**+1.7**
IZEF				*e*		23 08 50.5	
IKLH	**Kolahrood**	**2.79**	**20**	*e*Pn	**Pn**	**23 08 42.8**	**+1.9**
IKLH				*e*		23 09 43.1	
ISAD	**Sadrabad**	**3.02**	**65**	*e*Pn	**Pn**	**23 08 46.6**	**+2.5**
ISAD				*e*		23 08 52.4	
KHMZ	**Khomeyn**	**3.07**	**352**	*e*Pn	**Pn**	**23 08 46.7**	**+2.0**
BMDN	**Meydan**	**3.28**	**336**	*e*Pn	**Pn**	**23 08 48.7**	**+1.2**
BMDN				*e*		23 09 52.9	
IKMR	**Kamar-syah**	**3.32**	**329**	*e*Pn	**Pn**	**23 08 49.7**	**+1.8**
KRSH	**Karshahi**	**3.57**	**23**	*e*Pn	**Pn**	**23 08 52.9**	**+1.4**
IMEH	**Mehriz**	**3.64**	**78**	*e*Pn	**Pn**	**23 08 55.1**	**+2.6**
IDOB	**Doab**	**3.64**	**329**	*e*Pn	**Pn**	**23 08 53.2**	**+0.7**
ICHK	**Chekchek**	**3.72**	**64**	*e*Pn	**Pn**	**23 08 55.4**	**+1.8**
ICHK				*e*		23 09 42.2	
ANAR	**Anarak**	**3.74**	**47**	*e*Pn	**Pn**	**23 08 54.9**	**+1.1**
HSAM	**Samen**	**3.84**	**336**	*e*Pn	**Pn**	**23 08 56.9**	**+1.5**
HSAM				*e*		23 10 08.3	
GHVR	**GHOM**	**3.85**	**10**	*e*Pn	**Pn**	**23 08 57.3**	**+2.1**
ASAO	**Ashtian**	**3.87**	**355**	*e*Pn	**Pn**	**23 08 57.7**	**+2.0**
YZKH	**Yazd**	**3.92**	**63**	*e*Pn	**Pn**	**23 08 58.6**	**+2.3**
HAGD	**Aghdareh**	**4.27**	**345**	*e*Pn	**Pn**	**23 09 02.5**	**+1.3**
HAGD				*e*		23 09 55.9	
IKOM	**Komasi**	**4.27**	**325**	*e*Pn	**Pn**	**23 09 03.2**	**+2.0**
IHSB	**Hasanabad**	**4.79**	**8**	*e*Pn	**Pn**	**23 09 09.3**	**+1.1**
IDMV	**Damavand**	**5.05**	**15**	*e*Pn	**Pn**	**23 09 13.0**	**+1.0**
QABG	**Abgarm-Qazvin**	**5.06**	**354**	*e*Pn	**Pn**	**23 09 12.3**	**+0.3**
DAMV	**Damavand**	**5.09**	**14**	*e*Pn	**Pn**	**23 09 13.7**	**+1.3**
KHGB	**Koh Gabri**	**5.21**	**92**	*e*Pn	**Pn**	**23 09 15.6**	**+1.5**
THKV	**Tehran--Karaj**	**5.22**	**4**	*e*Pn	**Pn**	**23 09 15.9**	**+1.6**
CHTH	**Charan**	**5.24**	**6**	*e*Pn	**Pn**	**23 09 16.4**	**+2.0**
IDHR	**Dehrash**	**5.27**	**320**	*e*Pn	**Pn**	**23 09 16.0**	**+1.1**
IFIR	**Firoozkooh**	**5.30**	**21**	*e*Pn	**Pn**	**23 09 16.2**	**+0.8**
NGRK	**Negar Kerman**	**5.54**	**99**	*e*Pn	**Pn**	**23 09 21.2**	**+2.5**
IANJ	**Anjilo**	**5.58**	**30**	*e*Pn	**Pn**	**23 09 20.2**	**+1.0**
ISHM	**Shahmirzad**	**5.63**	**24**	*e*Pn	**Pn**	**23 09 21.1**	**+1.2**
IALA	**Alasht**	**5.73**	**20**	*e*Pn	**Pn**	**23 09 23.0**	**+1.7**
QALM	**Alamut, Qazvin**	**5.73**	**2**	*e*Pn	**Pn**	**23 09 23.0**	**+1.7**
IPRN	**Peran**	**5.76**	**15**	*e*Pn	**Pn**	**23 09 23.3**	**+1.8**
TPRV	**Parvadeh(Tabas**	**5.79**	**65**	*e*Pn	**Pn**	**23 09 23.7**	**+1.7**
QSDN	**Sirdan**	**5.90**	**350**	*e*Pn	**Pn**	**23 09 24.1**	**+0.6**
BNDS	**Bandar-Abbas**	**5.98**	**122**	*e*Pn	**Pn**	**23 09 28.4**	**+3.7**
IKIA	**Kiasar**	**6.13**	**25**	*e*Pn	**Pn**	**23 09 27.9**	**+1.1**
ZNJK	**Zanjan**	**6.14**	**347**	*e*Pn	**Pn**	**23 09 29.9**	**+2.9**
TKDS	**Koohdasht(Taba**	**6.36**	**61**	*e*Pn	**Pn**	**23 09 31.2**	**+1.3**
TABS	**Tabas**	**6.38**	**61**	*e*Pn	**Pn**	**23 09 32.4**	**+2.4**
IGLO	**Ghaloghah**	**6.45**	**25**	*e*Pn	**Pn**	**23 09 33.3**	**+2.2**
SHME	**Shamm**	**6.82**	**131**	*e*Pn	**Pn**	**23 09 36.8**	**+0.8**
BANOM	**Banah**	**7.01**	**131**	*i* P	**Pn**	**23 09 39.1**	**+0.4**
	SNR=14						
BANOM				S	**Sn**	**23 10 56.1**	**-1.4**
BANOM	**Banah**	**7.01**	**131**	P	**Pn**	**23 09 39.3**	**+0.6**
	SNR=14						
BANOM				S	**Sn**	**23 10 57.1**	**-0.4**
KBAM	**BAM**	**7.12**	**101**	*e*Pn	**Pn**	**23 09 41.8**	**+1.6**
NAZ	**Nazwa, Dubai**	**7.31**	**140**	*i* P	**Pn**	**23 09 44.3**	**+1.5**
	SNR=6.0						
NAZ	**Nazwa, Dubai**	**7.31**	**140**	P	**Pn**	**23 09 44.5**	**+1.7**
	SNR=6.2						
NAZ				S	**Sn**	**23 11 06.1**	**+1.1**
ASUD	**Al Ashush, Dub**	**7.43**	**143**	*i* P	**Pn**	**23 09 45.8**	**+1.4**
	SNR=18						
ASUD	**Al Ashush, Dub**	**7.43**	**143**	P	**Pn**	**23 09 46.8**	**+2.4**
	SNR=18						
MDH	**Madha**	**7.45**	**135**	P	**Pn**	**23 09 44.7**	**0.0**
MDH				S	**Sn**	**23 11 07.3**	**-1.1**
BSRN	**Basiran**	**7.53**	**78**	*e*Pn	**Pn**	**23 09 48.1**	**+2.2**
UOSS	**Minazif**	**7.66**	**137**	Pn	**Pn**	**23 09 49.9**	**+2.3**
UOSS				Sn	**Sn**	**23 11 13.5**	**-0.1**
SOHO	**SOHO**	**8.47**	**139**	P	**Pn**	**23 09 58.4**	**-0.3**
SOHO	**SOHO**	**8.47**	**139**	P	**Pn**	**23 09 59.1**	**+0.3**
SOHO				S	**Sn**	**23 11 34.2**	**+0.6**
SHRT	**Shahrakht**	**8.85**	**68**	*e*Pn	**Pn**	**23 10 06.6**	**+2.8**
GYB5	**ALIBECK ARRAY**	**9.60**	**39**	Pn	**Pn**	**23 10 13.5**	**-0.6**
GYB4	**ALIBECK ARRAY**	**9.60**	**39**	Pn	**Pn**	**23 10 13.7**	**-0.4**
GYA1	**ALIBECK ARRAY**	**9.60**	**39**	Pn	**Pn**	**23 10 13.5**	**-0.7**
GYB1	**ALIBECK ARRAY**	**9.61**	**39**	Pn	**Pn**	**23 10 13.4**	**-0.8**
GEYT	**Alibeck**	**9.61**	**39**	Pn	**Pn**	**23 10 14.8**	**+0.6**
	comp=N,0.3nm,0.3s,baz=226,slow=12,SNR=3.6						
GYA0	**ALIBECK ARRAY**	**9.61**	**39**	Pn	**Pn**	**23 10 14.7**	**+0.4**
GYA0B	**ALIBECK ARRAY**	**9.61**	**39**	Pn	**Pn**	**23 10 14.7**	**+0.4**
GYA3	**ALIBECK ARRAY**	**9.61**	**39**	Pn	**Pn**	**23 10 14.3**	**0.0**
GYA2	**ALIBECK ARRAY**	**9.61**	**39**	Pn	**Pn**	**23 10 14.3**	**0.0**
BSY	**Bisya**	**9.95**	**141**	P	**Pn**	**23 10 21.0**	**+2.1**
WSAR	**Wadi Sarin**	**10.40**	**134**	Pn	**Pn**	**23 10 25.8**	**+0.6**
	comp=N,0.4nm,0.3s,baz=318,slow=12,SNR=9.4						
WSAR				Sn	**Sn**	**23 12 15.8**	**-5.2**
	comp=N,0.3nm,0.3s,baz=252,slow=3.6,SNR=2.3						
HRA	**Herat**	**10.61**	**67**	Pn	**Pn**	**23 10 28.9**	**+0.7**
ASF	**Jabal al Asfar**	**11.67**	**281**	Pn	**Pn**	**23 10 41.7**	**-0.9**
	comp=N,0.2nm,0.3s,baz=258,slow=9.7,SNR=1.5						
ASF				Sn	**Sn**	**23 12 46.2**	**-6.0**
	comp=N,0.2nm,0.3s,baz=146,slow=14,SNR=1.5						
MHTO	**MHTO**	**11.79**	**143**	P	**Pn**	**23 10 45.4**	**+1.2**
MMAI	**Mount Meron Ar**	**12.00**	**284**	Pn	**Pn**	**23 11 00.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=95,slow=16,SNR=1.7						
WHFO	**Wadi Hawf**	**13.07**	**166**	P	**Pn**	**23 11 02.5**	**+0.8**
	SNR=5.4						
ABTO	**Aybut**	**13.53**	**168**	P	**Pn**	**23 11 08.8**	**+0.8**
DMTO	**DMTO**	**13.55**	**161**	P	**Pn**	**23 11 08.3**	**+0.1**
KBZ	**Khabaz**	**14.33**	**337**	LR	LR	23 17 38.4	
	comp=N,30nm,20.5s,baz=188,slow=41						
DAMY	**Dhamar**	**16.98**	**200**	Pn	**P**	**23 11 55.6**	**+0.1**
CHGR	**Chuyangaron**	**17.30**	**58**	P	**Pn**	**23 11 57.9**	**+0.4**
CHGR				IAmb	IAmb	23 12 04.3	
	comp=Z,14nm,1.0s						
BTK	**Batken**	**19.02**	**55**	P	**P**	**23 12 15.6**	**-2.1**
AB08	**Akbulak array**	**19.87**	**19**	P	**P**	**23 12 25.7**	**-1.0**
AB07	**Akbulak array**	**19.88**	**19**	P	**P**	**23 12 25.9**	**-1.0**
AB03	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 26.1**	**-0.9**
AB09	**Akbulak array**	**19.89**	**18**	P	**P**	**23 12 26.5**	**-0.4**
AB01	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 26.5**	**-0.4**
AB04	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 27.1**	**+0.1**
AB31	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 25.9**	**-1.0**
ABKAR	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 27.0**	**+0.1**
ABKAR	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 27.3**	**+0.3**
AB02	**Akbulak array**	**19.89**	**19**	P	**P**	**23 12 26.3**	**-0.7**
AB06	**Akbulak array**	**19.90**	**19**	P	**P**	**23 12 27.4**	**+0.3**
AB05	**Akbulak array**	**19.91**	**18**	P	**P**	**23 12 28.0**	**+0.8**
KK07	**Karatay Array**	**20.20**	**47**	P	Pn	**23 12 32.1**	**-0.3**
KK08	**Karatay Array**	**20.20**	**47**	P	**P**	**23 12 31.2**	**+0.8**
KK03	**Karatay Array**	**20.20**	**47**	P	**P**	**23 12 31.6**	**+1.1**
KK01	**Karatay Array**	**20.21**	**47**	P	Pn	**23 12 31.5**	**-0.6**
KK02	**Karatay Array**	**20.21**	**47**	P	Pn	**23 12 31.8**	**-0.3**
KK04	**Karatay Array**	**20.21**	**47**	P	**P**	**23 12 31.7**	**+1.1**
KK31	**Karatay Array**	**20.21**	**47**	P	**P**	**23 12 31.0**	**+0.4**
KK31				IAmb	IAmb	23 12 37.6	
	comp=Z,8.3nm,1.1s						
KKAR	**Karatay Array**	**20.21**	**47**	P	Pn	**23 12 33.1**	**+0.6**
KKAR				IAmb	IAmb	23 12 37.6	
	comp=Z,8.3nm,1.1s						
KKAR	**Karatay Array**	**20.21**	**47**	P	Pn	**23 12 32.6**	**0.0**
KK09	**Karatay Array**	**20.21**	**47**	P	Pn	**23 12 32.0**	**-0.6**
KK06	**Karatay Array**	**20.21**	**47**	P	**P**	**23 12 31.7**	**+1.1**
KK05	**Karatay Array**	**20.23**	**47**	P	Pn	**23 12 32.8**	**+0.1**
ATD	**Arta Tunnel**	**20.33**	**202**	P	Pn	**23 12 35.7**	**+1.6**
ATD				IAmb	IAmb	23 12 47.9	
	comp=Z,5.9nm,0.9s						
AKTO	**Aktyubinsk**	**20.52**	**14**	P	**P**	**23 12 33.0**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=239,slow=9.7,SNR=3.4						
AKTO				LR	LR	23 23 36.6	
	comp=Z,16nm,18.5s,baz=226,slow=46						
TIRR	**Tirgusor**	**22.14**	**315**	P	**P**	**23 12 48.4**	**-2.8**
TIRR				IAmb	IAmb	23 12 49.4	
	comp=Z,29nm,1.1s						
MILM	**Milestii Mici**	**23.27**	**320**	⇓P	**P**	**23 12 58.5**	**-4.6**
MLR	**Muntele Rosu**	**24.17**	**315**	P	**P**	**23 13 12.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=175,slow=11,SNR=3.1						
MLR	**Muntele Rosu**	**24.17**	**315**	⇑P	**P**	**23 13 10.1**	**-1.9**
MLR	**Muntele Rosu**	**24.17**	**315**	IAmb	IAmb	23 13 15.9	
	comp=Z,5.5nm,1.0s						
VOIR		**24.70**	**314**	⇑P	**P**	**23 13 18.7**	**+2.0**
DOPR	**Dopca**	**24.74**	**315**	⇑P	**P**	**23 13 18.6**	**+1.6**
AKASG	**Malin Array Be**	**25.50**	**328**	P	**P**	**23 13 22.5**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=134,slow=9.3,SNR=8.7						
BURAR	**Bucovina Array**	**25.69**	**318**	⇑P	**P**	**23 13 26.0**	**+0.3**
BURAR	**Bucovina Array**	**25.69**	**318**	P	**P**	**23 13 25.4**	**-0.2**
BUR08	**Bucovina Ar. S**	**25.71**	**318**	P	**P**	**23 13 25.6**	**-0.2**
BUR08				IAmb	IAmb	23 13 44.7	
	comp=Z,4.9nm,1.1s						
GZR	**Gura Zlata**	**26.11**	**312**	⇑P	**P**	**23 13 28.9**	**-0.6**
OBN	**Obninsk**	**26.35**	**342**	P	**P**	**23 13 32.0**	**+0.7**
OBN				IAmb	IAmb	23 13 34.8	
	comp=Z,7.2nm,0.7s						
BRVK	**Borovoye**	**26.62**	**27**	P	**P**	**23 13 34.2**	**+0.3**
BVAR	**Borovoye Array**	**26.63**	**27**	P	**P**	**23 13 34.8**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=230,slow=12,SNR=3.6						
BZS	**Buzias**	**26.95**	**312**	⇑P	**P**	**23 13 38.1**	**+1.1**
KURBB	**Kurchatov Arra**	**28.88**	**38**	P	**P**	**23 13 55.7**	**+1.6**
	comp=Z,2.2nm,1.0s,baz=240,slow=9.4,SNR=4.9						
KURK	**Kurchatov**	**28.98**	**38**	P	**P**	**23 13 54.9**	**-0.1**
KURK				IAmb	IAmb	23 14 01.2	
	comp=Z,2.9nm,0.9s						
MKAR	**Makanchi Array**	**29.33**	**48**	P	**P**	**23 13 58.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=253,slow=6.5,SNR=2.3						
CEL	**Celeste**	**29.35**	**294**	P	**P**	**23 14 00.1**	**+1.7**
GERES	**GERESS Array B**	**33.15**	**314**	P	**P**	**23 14 33.2**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=109,slow=7.7,SNR=2.2						
ZAA0	**Zalesovo Array**	**33.91**	**37**	P	**P**	**23 14 38.5**	**+0.2**
ZAA0				IAmb	IAmb	23 14 40.3	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**33.91**	**37**	P	**P**	**23 14 39.1**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=246,slow=11,SNR=5.8						
ZALV	**Zalesovo Beam**	**33.91**	**37**	P	**P**	**23 14 38.9**	**+0.6**
WTTA	**Wattenberg**	**34.00**	**310**	*e*P	**P**	**23 14 39.6**	**+0.2**
	comp=Z,5.1nm,1.0s						
WATA	**Walderalm**	**34.06**	**310**	*e*P	**P**	**23 14 39.3**	**-0.6**
	comp=Z,3.8nm,1.1s						
SQTA	**Sankt Quirin**	**34.27**	**310**	*e*P	**P**	**23 14 41.0**	**-0.8**
	comp=Z,4.3nm,0.7s						
MOTA	**Moosalm**	**34.38**	**310**	*e*P	**P**	**23 14 42.3**	**-0.3**
	comp=Z,10nm,1.6s						
FETA	**Feichten**	**34.54**	**310**	*e*P	**P**	**23 14 44.3**	**+0.2**
	comp=Z,4.2nm,1.2s						
RETA	**Reutte**	**34.63**	**310**	*e*P	**P**	**23 14 44.4**	**-0.4**
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**34.67**	**340**	P	**P**	**23 14 44.1**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=141,slow=8.6,SNR=9.6						
DAVA	**Damuels**	**35.17**	**310**	*e*P	**P**	**23 14 49.4**	**-0.1**
	comp=Z,3.4nm,0.6s						
PALK	**Pallekele**	**36.67**	**123**	P	**P**	**23 15 02.2**	**-0.3**
NB201	**NORSAR Array S**	**39.76**	**331**	P	**P**	**23 15 25.8**	**-2.3**
KONO	**Kongsberg**	**39.79**	**329**	P	**P**	**23 15 29.1**	**+0.9**
KONO				IAmb	IAmb	23 15 45.1	
	comp=Z,10.0nm,0.9s						
CART	**Cartagena**	**42.70**	**294**	P	**P**	**23 15 53.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**45.44**	**94**	P	**P**	**23 16 13.3**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=274,slow=8.7,SNR=1.7						
SONM	**Songino Array**	**45.55**	**51**	LR	LR	23 35 32.7	
	comp=Z,38nm,19.7s,baz=37,slow=36				

MTN					IAmb	IAmb	23 57 18.0		
	comp=Z,11nm,1.1s								
KNRA	**Kununurra**	**16.60**	**164**	P	**Pn**		**23 57 36.6**	**+0.9**	
KNRA				IAmb	IAmb		23 57 38.1		
	comp=Z,6.7nm,0.9s								
FITZ	**Fitzroy Crossi**	**18.40**	**175**	P	**P**		**23 57 54.6**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=356,slow=11,SNR=2.0								
FITZ	**Fitzroy Crossi**	**18.40**	**175**	P	**P**		**23 57 54.9**	**+0.8**	
WB0	**Warramunga Arr**	**22.44**	**154**	P	**P**		**23 58 37.3**	**+1.2**	
WB0				IAmb	IAmb		23 58 38.6		
	comp=Z,3.5nm,0.5s								
WRA	**Warramunga Arr**	**22.57**	**154**	P	**P**		**23 58 38.3**	**+1.1**	
	comp=Z,4.0nm,0.4s,baz=336,slow=10,SNR=28								
WRA	**Warramunga Arr**	**22.57**	**154**	P	**P**		**23 58 38.7**	**+1.4**	
WB2	**Warramunga Arr**	**22.57**	**154**	P	**P**		**23 58 38.4**	**+1.1**	
WB2				IAmb	IAmb		23 58 40.0		
	comp=Z,5.1nm,0.6s								
WR0	**Warramunga Arr**	**22.67**	**153**	P	**P**		**23 58 39.5**	**+1.3**	
WR0				IAmb	IAmb		23 58 42.7		
	comp=Z,4.5nm,1.1s								
GIRL	**Giralia**	**24.75**	**202**	P	**P**		**23 58 55.9**	**-1.1**	
AS31	**Alice Springs**	**25.73**	**159**	P	**P**		**23 59 07.4**	**+1.5**	
ASAR	**Alice Springs**	**25.73**	**159**	P	**P**		**23 59 07.5**	**+1.5**	
	comp=Z,0.5nm,0.8s,baz=336,slow=7.4,SNR=5.4								
BBOO	**Buckleboo**	**34.89**	**162**	P	**P**		**00 00 26.4**	**+0.2**	
BBOO				IAmb	IAmb		00 00 43.7		
	comp=Z,10nm,1.1s								
STKA	**Stephens Creek**	**36.12**	**154**	P	**P**		**00 00 37.9**	**+1.3**	
	comp=Z,0.8nm,0.4s,baz=343,slow=11,SNR=3.3								
ERM	**Erimo**	**44.94**	**20**	P	**P**		**00 01 46.9**	**-1.6**	
MK31	**Makanchi Array**	**58.85**	**328**	P	**P**		**00 03 30.8**	**-0.4**	
MK31				IAmb	IAmb		00 03 31.7		
	comp=Z,2.1nm,1.1s								
MKAR	**Makanchi Array**	**58.85**	**328**	P	**P**		**00 03 30.2**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=125,slow=8.4,SNR=5.9								

IDC 19 00:07:45.8±1.7,**6°39S**×**129°79E**,**h0**km,**mb3.6/1, mb1 3.8/5,mb1mx3.5/29,mbtmp3.6/5,ML3.5/4,MS3.2/4, Ms1 3.2/4,ms1mx2.7/25,Error ellipse: s-maj=65.3km s-min=25.2km az=86.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.68**	**15**	Pn	Pn	00 09 10.7	-0.8
	0.8nm,0.3s,baz=197,slow=19,SNR=1.7						
SIJI				Sn	Sn	00 10 14.5	-2.9
	baz=198,slow=23,SNR=0.9						
BATI	**Baumata**	**7.15**	**238**	LR	LR	00 12 09.6	
	comp=Z,143nm,18.7s,baz=84,slow=37						
KAPI	**Kappang**	**10.08**	**277**	LR	LR	00 14 02.2	
	comp=Z,152nm,18.1s,baz=102,slow=37						
FITZ	**Fitzroy Crossi**	**12.32**	**199**	Pn	Pn	00 10 43.1	+0.4
	0.3nm,0.3s,baz=20,slow=12,SNR=7.2						
FITZ				Sn	Sn	00 12 50.6	-10
	0.2nm,0.3s,baz=115,slow=23,SNR=1.5						
FITZ				LR	LR	00 15 42.3	
	comp=Z,68nm,18.3s,baz=51,slow=39						
WRA	**Warramunga Arr**	**14.18**	**162**	Pn	Pn	00 11 06.0	-2.1
	0.3nm,0.3s,baz=342,slow=13,SNR=13						
WRA				Sn	Sn	00 13 33.9	-12
	0.2nm,0.3s,baz=337,slow=21,SNR=5.6						
ASAR	**Alice Springs**	**17.63**	**167**	P	P	00 11 53.9	-0.3
	0.2nm,0.3s,baz=354,slow=11,SNR=13						
ASAR				S	Sn	00 15 01.0	-9.3
	0.1nm,0.3s,baz=347,slow=24,SNR=6.9						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	00 18 44.7	+0.3
	0.4nm,0.5s,baz=113,slow=6.9,SNR=4.9						
VNDA	**Vanda**	**73.08**	**173**	LR	LR	00 48 41.6	
	comp=Z,16nm,19.1s,baz=314,slow=34						

*DJA **19** 00:35:30.2±1.6,5°N±5°,9°4E±1°2,h10km±20km, M4.4/8, mB4.8/5, mb4.6/7, MLv4.5/8, Mw(mB)4. 1/5*
*IDC **19** 00:35:31.8±3.7,5°39N×94°28E,h54km±32km, mb4.0/17, mb1 4.2/19,mb1mx4.0/36,mbtmp4.3/19, ML4.6/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/40, Error ellipse: s-maj=26.9km s-min=13.0km az=55.0*
*NEIC **19** 00:35:33.2±1.8, 5°38N±0°09×94°41E±0°10, h69km±7km, mb4.5/56, Error ellipse: s-maj=17.0km s-min=9.8km az=47.0*

ISC 19 00:35:30.0±0.5,**5°29N**±0°07×**94°22E**±0°07,**h43**km,**n129,** σ1§**19**/122,**mb4.4**/52,**MS3.5**/7,**2C,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.40**	**115**	P	**Pn**	**00 36 07.9**	**+1.0**
MLSI				S	**Sn**	**00 36 36.4**	**+1.3**
LHMI	**Lhok Sumawe**	**2.72**	**91**	P	**Pn**	**00 36 12.6**	**+1.5**
LHMI				S	**Sn**	**00 36 45.4**	**+2.6**
LHMI	**Lhok Sumawe**	**2.72**	**91**		**Pn**	**00 36 12.3**	**+1.2**
TPTI		**3.58**	**124**	P	Pn	**00 36 23.5**	**+0.5**
TSI	**Tuntungan**	**4.68**	**112**	P	Pn	00 36 52.6	+14
GSI	**Gunungsitoli**	**5.19**	**140**	P	**Pn**	**00 36 45.1**	**-0.1**
	0.4nm2um48nm,0.5s						
GSI	**Gunungsitoli**	**5.19**	**140**		**Pn**	**00 36 45.9**	**+0.8**
PSI	**Prapat**	**5.30**	**118**	P	**Pn**	**00 36 49.0**	**+2.2**
	8.8nm,0.3s,baz=339,slow=3.4,SNR=14						
PSI				S	**Sn**	**00 37 44.9**	**-2.0**
	3.5nm,0.3s,baz=13,slow=8.5,SNR=1.9						
PSI				LR	LR	00 39 19.2	
	comp=Z,193nm,21.3s,baz=106,slow=42						
RPSI	**Rantau Prapat**	**5.36**	**119**		**Pn**	**00 36 49.0**	**+1.6**
RPSI	**Rantau Prapat**	**5.36**	**119**		**Pn**	**00 36 49.0**	**+1.6**
RPSI					**Sn**	**00 37 44.9**	**-3.0**
KULM	**Kulim**	**6.40**	**90**		**Pn**	**00 37 01.9**	**+0.1**
PBA	**Port Blair**	**6.49**	**347**	Pn	Pn	00 37 05.1	+2.2
IPM	**Ipoh**	**6.83**	**97**		**Pn**	**00 37 08.3**	**+0.6**
MNSI	**Mandailing Nat**	**6.97**	**130**	P	**Pn**	**00 37 10.1**	**+0.5**
BKNI	**Bangkinang**	**8.41**	**126**	Pn	**Pn**	**00 37 32.3**	**+2.9**
CMAR	**Chiang Mai Arr**	**13.87**	**19**	P	**Pn**	**00 38 46.2**	**+2.1**
	1.8nm,0.3s,baz=205,slow=14,SNR=30						
CMAR				LR	LR	00 43 39.2	
	comp=Z,63nm,21.9s,baz=200,slow=35						
CMAR	**Chiang Mai Arr**	**13.87**	**19**	P	**Pn**	**00 38 47.2**	**+3.1**
CHTO	**Chiang Mai**	**14.21**	**19**	P	**P**	**00 38 52.7**	**-2.4**
CHTO	**Chiang Mai**	**14.21**	**19**	Pn	**Pn**	**00 38 50.4**	**+1.8**
KSM	**Kuching**	**16.50**	**103**		**P**	**00 39 19.7**	**-0.9**
SBUM	**Sibu**	**18.18**	**98**		**Pn**	**00 39 39.4**	**+0.1**
SLVN	**Son La**	**18.50**	**30**		**P**	**00 39 41.3**	**-1.5**
BOK	**Bokaro**	**20.07**	**337**	*eP*	Pn	00 40 01.2	-0.7
BOK				*ex*	x	00 40 01.4	
BOK				IAmb	IAmb	00 40 04.2	
	comp=Z,19nm,0.9s						
BOK				IAmb	IAmb	00 40 04.5	
	comp=Z,24nm,0.7s						
SHL	**Shillong**	**20.28**	**354**	*ex*	**P**	**00 39 58.5**	**-3.8**
SHL				IAmb	IAmb	00 40 00.9	
	comp=Z,4.3nm,0.6s						
SHL	**Shillong**	**20.28**	**354**	P	**P**	**00 39 59.9**	**-2.5**
KOHI	**KOHIMA**	**20.31**	**360**	*ex*	**P**	**00 40 00.0**	**-2.6**
BKB	**Balikpapan**	**23.57**	**105**	P	**P**	**00 40 36.2**	**-0.7**
GYA	**Guiyang**	**24.17**	**28**	⇑P	**P**	**00 40 42.9**	**+0.4**
GYA				pmax	pmax		
	comp=Z,42nm,0.7s						
GYA				pmax	pmax		
	comp=Z,98nm,4.2s						
MYLDM	**Lahad Datu**	**24.18**	**89**	P	**P**	**00 40 43.1**	**+0.5**
LSA	**Lhasa**	**24.45**	**354**	P	**P**	**00 40 46.4**	**+1.0**
LSA				pmax	pmax		
	comp=Z,50nm,0.5s						
LSA	**Lhasa**	**24.45**	**354**	P	**P**	**00 40 46.4**	**+1.0**
LSA				IAmb	IAmb	00 40 48.0	
	comp=Z,12nm,0.6s						
H08S3	**Diego Garcia H**	**25.20**	**240**	T	T	01 06 41.9	
	baz=59,slow=75,SNR=736						
H08S2	**Diego Garcia H**	**25.20**	**240**	T	T	01 07 01.6	
	baz=59,slow=75,SNR=281						
H08S1	**Diego Garcia H**	**25.22**	**240**	T	T	01 07 02.9	
	baz=59,slow=75,SNR=246						
KAPI	**Kappang**	**27.48**	**111**	P	**P**	**00 41 11.7**	**-0.8**
KAPI				IAmb	IAmb	00 41 26.4	
	comp=Z,15nm,0.8s						
ENH	**Enshi**	**28.71**	**28**	P	**P**	**00 41 21.5**	**-1.8**
ENH				IAmb	IAmb	00 41 22.9	
	comp=Z,9.4nm,0.5s						
XAN	**Xi'an**	**31.69**	**24**	⇑P	**P**	**00 41 48.4**	**-1.2**
XAN				pP	sP	00 42 06.4	+1.1
XAN				pmax	pmax		
	comp=Z,26nm,0.7s						
XAN				pmax	pmax		
	comp=Z,110nm,5.5s						
XAN				LR	LR		
	comp=N,170nm,17.4s						

XAN					LR	LR			
	comp=Z,160nm,18.4s								
XAN	**Xi'an**	**31.69**	**24**	P	**P**		**00 41 48.6**	**-1.0**	
NIL	**Nilore**	**34.29**	**328**	P	**P**		**00 42 11.9**	**-0.5**	
GTA	**Gaotai**	**34.34**	**8**	*eP*	**P**		**00 42 12.5**	**-0.3**	
GTA				pP	pwP		00 42 27.5	+0.3	
GTA				sP	sP		00 42 33.5	+5.0	
GTA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
PSA00	**Pilbara Seismi**	**36.66**	**138**	P	**P**		**00 42 32.2**	**-0.5**	
PSA00				IAmb	IAmb		00 42 38.1		
	comp=Z,6.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**38.67**	**21**	*eP*	**P**		**00 42 50.0**	**+0.3**	
HHC				pmax	pmax				
	comp=Z,17nm,1.1s								
HHC				pmax	pmax				
	comp=Z,71nm,5.8s								
FITZ	**Fitzroy Crossi**	**38.74**	**128**	P	**P**		**00 42 50.2**	**-0.2**	
FITZ				IAmb	IAmb		00 42 50.9		
	comp=Z,3.1nm,0.8s								
WMQ	**Urumqi**	**38.80**	**352**	*eP*	**P**		**00 42 52.8**	**+2.1**	
KDJ	**Kajisay**	**39.69**	**340**	P	**P**		**00 42 59.1**	**+0.8**	
GAR	**Garm**	**39.93**	**331**	P	**P**		**00 43 00.8**	**+0.5**	
GAR				IAmb	IAmb		00 43 19.3		
	comp=Z,3.5nm,0.6s								
KNRA	**Kununurra**	**40.05**	**122**	P	**P**		**00 43 02.0**	**+0.6**	
KNRA				IAmb	IAmb		00 43 20.4		
	comp=Z,12nm,1.1s								
CHGR	**Chuyangaron**	**40.25**	**329**	P	**P**		**00 43 02.6**	**-0.2**	
CHGR				IAmb	IAmb		00 43 02.7		
	comp=Z,4.5nm,0.8s								
BOOM	**Boomskoye usch**	**40.44**	**339**	P	**P**		**00 43 05.4**	**+0.9**	
BOOM				IAmb	IAmb		00 43 21.5		
	comp=Z,3.3nm,0.7s								
BTK	**Batken**	**40.52**	**332**	P	**P**		**00 43 06.1**	**+1.0**	
BTK				IAmb	IAmb		00 43 24.1		
	comp=Z,3.6nm,0.5s								
MTN	**Manton Dam**	**40.86**	**116**	P	**P**		**00 43 07.2**	**-0.9**	
MK31	**Makanchi Array**	**42.61**	**348**	P	**P**		**00 43 22.7**	**+0.7**	
MKAR	**Makanchi Array**	**42.61**	**348**	P	**P**		**00 43 22.4**	**+0.4**	
	comp=Z,16nm,0.7s,baz=167,slow=8.0,SNR=108								
MKAR	**Makanchi Array**	**42.61**	**348**	P	**P**		**00 43 22.5**	**+0.5**	
MAKZ	**Makanchi**	**42.69**	**348**	P	**P**		**00 43 23.2**	**+0.6**	
KK31	**Karatay Array**	**43.10**	**334**	P	**P**		**00 43 27.1**	**+1.1**	
KKAR	**Karatay Array**	**43.10**	**334**	P	**P**		**00 43 26.6**	**+0.6**	
SONM	**Songino Array**	**43.65**	**12**	P	**P**		**00 43 29.6**	**-1.0**	
	comp=Z,7.4nm,0.9s,baz=193,slow=8.5,SNR=18								
SONM				PcP	**PcP**		**00 45 18.0**	**+0.7**	
	comp=Z,1.1nm,0.6s,baz=207,slow=3.3,SNR=3.5								
SONM				LR	LR		01 03 08.2		
	comp=Z,36nm,18.1s,baz=206,slow=38								
SONM	**Songino Array**	**43.65**	**12**	P	**P**		**00 43 29.9**	**-0.6**	
ULN	**Ulaanbaatar**	**43.82**	**12**	P	**P**		**00 43 31.4**	**-0.5**	
ULN				IAmb	IAmb		00 43 32.1		
	comp=Z,5.7nm,1.0s								
H01W3	**Cape Leeuwin H**	**44.15**	**156**	T	T		01 31 02.3		
	baz=332,slow=76,SNR=4.5								
H01W2	**Cape Leeuwin H**	**44.16**	**156**	T	T		01 31 09.2		
	baz=332,slow=76,SNR=5.1								
H01W1	**Cape Leeuwin H**	**44.17**	**156**	T	T		01 31 09.3		
	baz=332,slow=76,SNR=4.0								
KSRS	**Korea Array**	**44.38**	**39**	P	**P**		**00 43 35.8**	**-0.6**	
	comp=Z,1.4nm,0.6s,baz=215,slow=8.6,SNR=7.8								
KSRS				LR	LR		01 02 40.6		
	comp=Z,39nm,19.8s,baz=204,slow=37								
GEYT	**Alibeck**	**46.19**	**320**	P	**P**		**00 43 51.4**	**+0.6**	
	comp=Z,3.0nm,0.5s,baz=126,slow=7.7,SNR=6.4								
WB0	**Warramunga Arr**	**46.70**	**123**	P	**P**		**00 43 55.4**	**+0.3**	
WB0				IAmb	IAmb		00 43 55.7		
	comp=Z,5.2nm,0.7s								
WRA	**Warramunga Arr**	**46.74**	**124**	P	**P**		**00 43 55.8**	**+0.4**	
	comp=Z,2.6nm,0.3s,baz=302,slow=9.8,SNR=62								
WRA				LR	LR		01 05 02.7		
	comp=Z,51nm,19.3s,baz=220,slow=38								
WRA	**Warramunga Arr**	**46.74**	**124**	P	**P**		**00 43 55.6**	**+0.2**	
WRAB	**Tennant Creek**	**46.74**	**124**	P	**P**		**00 43 54.5**	**-0.9**	
WB2	**Warramunga Arr**	**46.75**	**124**	P	**P**		**00 43 55.9**	**+0.5**	
WR0	**Warramunga Arr**	**46.91**	**124**	P	**P**		**00 43 57.2**	**+0.5**	
WR0				IAmb	IAmb		00 43 58.5		
	comp=Z,8.2nm,0.8s								
KURK	**Kurchatov**	**47.12**	**347**	P	**P**		**00 43 58.9**	**+1.1**	
ASAR	**Alice Springs**	**48.24**	**128**	P	**P**		**00 44 07.3**	**+0.4**	
	comp=Z,3.3nm,0.6s,baz=300,slow=7.6,SNR=53								
ASAR				PcP	**PcP**		**00 45 33.0**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=307,slow=2.8,SNR=2.3								
AS31	**Alice Springs**	**48.24**	**128**	P	**P**		**00 44 07.4**	**+0.4**	
AS31				IAmb	IAmb		00 44 22.1		
	comp=Z,2.8nm,0.3s								
JWT	**Wachi**	**48.25**	**46**	P	**P**		**00 44 06.7**	**-0.1**	
JWT				IAmb	IAmb		00 44 12.5		
	comp=Z,7.6nm,1.1s								
ZAA0	**Zalesovo Array**	**49.11**	**353**	P	**P**		**00 44 13.7**	**+0.6**	
ZALV	**Zalesovo Beam**	**49.11**	**353**	P	**P**		**00 44 13.7**	**+0.6**	
	comp=Z,9.4nm,0.4s,baz=184,slow=6.5,SNR=70								
ZALV	**Zalesovo Beam**	**49.11**	**353**	P	**P**		**00 44 13.4**	**+0.4**	
JGF	**Kuroka**	**49.81**	**47**	P	**P**		**00 44 16.5**	**-2.4**	
JGF				IAmb	IAmb		00 44 21.4		
	comp=Z,4.2nm,0.8s								
MJAR	**Matsushiro Arr**	**50.85**	**46**	P	**P**		**00 44 26.8**	**+0.1**	
	comp=Z,0.5nm,0.4s,baz=236,slow=8.0,SNR=1.6								
MJAR	**Matsushiro Arr**	**50.85**	**46**	P	**P**		**00 44 24.8**	**-1.9**	
USRK	**Ussuriysk Ar.**	**50.96**	**35**	P	**P**		**00 44 26.7**	**-0.6**	
	comp=Z,1.4nm,0.6s,baz=239,slow=8.2,SNR=2.4								
USRK	**Ussuriysk Ar.**	**50.96**	**35**	P	**P**		**00 44 26.2**	**-1.1**	
BRVK	**Borovoye**	**51.51**	**342**	P	**P**		**00 44 31.7**	**+0.5**	
BRVK				IAmb	IAmb		00 44 33.1		
	comp=Z,4.1nm,0.7s								
ABKAR	**Akbulak array**	**52.53**	**332**	P	**P**		**00 44 39.4**	**+0.5**	
ABKAR	**Akbulak array**	**52.53**	**332**	IAmb	IAmb		00 44 57.5		
	comp=Z,4.1nm,0.7s								
ARU	**Arti**	**58.28**	**338**	P	**P**		**00 45 20.2**	**0.0**	
ARU				IAmb	IAmb		00 45 36.6		
	comp=Z,3.2nm,0.9s								
STKA	**Stephens Creek**	**58.30**	**133**	P	**P**		**00 45 21.6**	**+0.9**	
	comp=Z,3.3nm,0.8s,baz=305,slow=11,SNR=6.3								
STKA	**Stephens Creek**	**58.30**	**133**	P	**P**		**00 45 20.8**	**+0.1**	
NRIK	**Noril'sk**	**61.34**	**357**	P	**P**		**00 45 58.9**	**-0.5**	
	comp=Z,1.6nm,0.4s,baz=179,slow=5.7,SNR=6.9								
NRIK				LR	LR		01 17 11.6		
	comp=Z,38nm,18.1s,baz=202,slow=39								
BRTR	**Keskin Array B**	**64.18**	**312**	P	**P**		**00 46 00.8**	**+0.1**	
	comp=Z,1.5nm,0.7s,baz=132,slow=7.6,SNR=3.3								
BR131	**Keskin Array S**	**64.18**	**312**	P	**P**		**00 46 00.5**	**-0.1**	
BR131				IAmb	IAmb		00 46 01.8		
	comp=Z,3.8nm,0.9s								
PETK	**Petropavlovsk-**	**70.05**	**35**	LR	LR		01 20 02.0		
	comp=Z,32nm,18.2s,baz=35,slow=38								
AKASG	**Malin Array Be**	**70.22**	**322**	P	**P**		**00 46 37.7**	**-0.8**	
	comp=Z,2.0nm,0.6s,baz=92,slow=5.4,SNR=5.8								
AKASG	**Malin Array Be**	**70.22**	**322**	IAmb	IAmb		00 46 42.1		
	comp=Z,1.0nm,0.8s								
BURAR	**Bucovina Array**	**72.01**	**318**	P	**P**		**00 46 50.7**	**+1.2**	
BUR08	**Bucovina Ar. S**	**72.02**	**318**	P	**P**		**00 46 50.5**	**+0.8**	
FINES	**FINESS Array B**	**75.02**	**333**	P	**P**		**00 47 06.8**	**0.0**	
	comp=Z,2.1nm,0.7s,baz=116,slow=4.4,SNR=8.6								
OJC	**Ojcow**	**75.99**	**320**	P	**P**		**00 47 12.3**	**-0.4**	
OJC				IAmb	IAmb		00 47 14.6		
	comp=Z,6.6nm,0.7s								
MAW	**Mawson**	**76.04**	**192**	LR	LR		01 14 43.9		
	comp=Z,26nm,21.8s,baz=232,slow=31								
VYHS	**Vyhne**	**76.37**	**319**	*eP*	**P**		**00 47 15.8**	**+0.9**	
MORC	**Moravsky Berou**	**77.38**	**320**	P	**P**		**00 47 22.0**	**+1.4**	
MORC				IAmb	IAmb		00 47 22.8		
	comp=Z,2.3nm,0.7s								
ARCES	**ARCESS Array B**	**77.70**	**340**	P	**P**		**00 47 21.4**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=108,slow=6.5,SNR=9.7								
KRLC	**Kraliky**	**77.90**	**320**	*eP*	**P**		**00 47 24.8**	**+1.3**	
DPC	**Dobruska-Polom**	**78.22**	**320**	*eP*	**P**		**00 47 27.0**	**+1.8**	
PRU	**Pruhonice**	**79.33**	**320**	*eP*	**P**		**00 47 32.2**	**+0.9**	
PBCC	**Pribram**	**79.66**	**319**	*eP*	**P**		**00 47 33.2**	**+0.1**	
PRED	**Cave del Predi**	**79.75**	**316**	P	**P**		**00 47 34.2**	**+0.5**	
GEC2	**GERESS Array S**	**79.80**	**319**	P	**P**		**00 47 34.7**	**+0.7**	
GEC2				IAmb	IAmb		00 47 36.2		
	comp=Z,3.9nm,0.7s								
GERES	**GERESS Array B**	**79.80**	**319**	P	**P**		**00 47 34.8**	**+0.8**	
	comp=Z,3.1nm,0.7s,baz=94,slow=5.5,SNR=42								
GERES	**GERESS Array B**	**79.80**	**319**	P	**P**		**00 47 35.3**	**+1.4**	
KHC	**Kasperske Hory**	**79.89**	**319**	*eP*	**P**		**00 47 35.0**	**+0.6**	
KHC	**Kasperske Hory**	**79.89**	**319**	P	**P**		**00 47 35.6**	**+1.2**	
CIMO	**Cimolais**	**80.52**	**316**	P	**P**		**00 47 38.3**	**+0.5**	
CIMO				IAmb	IAmb		00 47 39.8		
	comp=Z,3.5nm,0.9s								
CTI	**Castel Tesino**	**81.06**	**316**	P	**P**		**00 47 42.1**	**+1.3**	
CTI				IAmb	IAmb		00 47 60.0		
	comp=Z,3.7nm,1.0s								

WTTA	**Wattenberg**	**81.10**	**317**	*eP*	**P**		**00 47 41.7**	**+0.6**	
	comp=Z,2.0nm,0.5s								
WATA	**Walderalm**	**81.15**	**317**	*eP*	**P**		**00 47 41.6**	**+0.3**	
	comp=Z,1.9nm,0.5s								
SQTA	**Sankt Quirin**	**81.39**	**317**	*eP*	**P**		**00 47 43.0**	**+0.4**	
	comp=Z,4.3nm,0.6s								
MOTA	**Moosalm**	**81.47**	**317**	*eP*	**P**		**00 47 43.4**	**+0.4**	
	comp=Z,2.5nm,0.7s								
RETA	**Reutte**	**81.70**	**317**	*eP*	**P**		**00 47 44.9**	**+0.7**	
	comp=Z,2.7nm,0.5s								
FETA	**Feichten**	**81.72**	**317**	*eP*	**P**		**00 47 45.0**	**+0.7**	
	comp=Z,1.2nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**82.03**	**316**	P	**P**		**00 47 48.0**	**+1.8**	
FUORN				IAmb	IAmb		00 47 49.1		
	comp=Z,2.2nm,0.6s								
TOLK	**Toolik Lake Re**	**94.35**	**19**	P	**P**		**00 48 45.8**	**+1.0**	
EUNU	**Eureka**	**94.75**	**0**	P	**P**		**00 48 47.5**	**+1.0**	
EUNU				IAmb	IAmb		00 48 49.2		
	comp=Z,1.5nm,0.8s								
ILAR	**Eielson Array**	**97.09**	**22**	P	**P**		**00 48 57.0**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=300,slow=4.4,SNR=9.0								
NVAR	**Mina Array Bea**	**127.06**	**32**	PKP	**PKiKP**		**00 54 31.9**	**+1.1**	
	comp=Z,0.6nm,0.7s,baz=300,slow=2.0,SNR=5.4								
PDAR	**Pinedale Array**	**127.52**	**22**	PKP	**PKiKP**		**00 54 31.6**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=128,slow=2.4,SNR=3.7								
TXAR	**Lajitas Array**	**141.52**	**26**	PKP	**PKPdf**		**00 54 55.9**	**-1.5**	
	comp=Z,0.9nm,0.7s,baz=339,slow=2.0,SNR=2.3								
CPUP	**Villa Florida**	**145.71**	**229**	PKPbc	**PKPab**		**00 55 05.8**	**+0.4**	
	comp=Z,1.2nm,0.7s,baz=31,slow=7.2,SNR=3.4								

*IDC **19** 00:55:59.1±1.2,6°44S×130°16E,h0km,mb3.8/4, mb1 4.0/9,mb1mx3.8/35,mbtmp3.9/9,ML3.9/5,MS3.0/4, Ms1 3.1/4,ms1mx2.7/34,Error ellipse: s-maj=44.7km s-min=19.8km az=91.0*

ISC 19 00:56:00.0±0.7,**6°52S**±0°06×**130°1E**±0°1,**h10**km,**n12,** σ3§**34**/14,**mb3.9**/5,**MS3.0**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.73**	**11**	Pn	**Pn**	**00 57 24.2**	**-1.0**
	1.6nm,0.3s,baz=226,slow=23,SNR=3.3						
SIJI				Sn	**Sn**	**00 58 28.2**	**-2.8**
	baz=247,slow=23,SNR=1.3						
BATI	**Baumata**	**7.37**	**240**	Pn	**Pn**	**00 57 49.0**	**+1.2**
	1.8nm,0.3s,baz=84,slow=10,SNR=1.8						
BATI				Sn	**Sn**	**00 59 08.7**	**-3.0**
	1.6nm,0.3s,baz=211,slow=18,SNR=1.1						
FITZ	**Fitzroy Crossi**	**12.31**	**200**	Pn	**Pn**	**00 58 55.8**	**+0.3**
	0.7nm,0.3s,baz=31,slow=10,SNR=15						
FITZ				Sn	Sn	01 01 04.2	-8.7
	0.4nm,0.3s,baz=191,slow=11,SNR=1.8						
FITZ				LR	LR	01 03 56.4	
	comp=Z,95nm,19.4s,baz=16,slow=38						
WRA	**Warramunga Arr**	**13.95**	**163**	Pn	**Pn**	**00 59 19.4**	**+1.4**
	0.6nm,0.3s,baz=339,slow=13,SNR=20						
WRA				Sn	**Sn**	**01 01 47.4**	**-5.8**
	1.1nm,0.3s,baz=344,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.43**	**168**	P	**P**	**01 00 05.1**	**+0.4**
	0.3nm,0.3s,baz=337,slow=9.2,SNR=28						
ASAR				S	**Sn**	**01 03 12.3**	**-5.3**
	0.4nm,0.

CBKS	**Cedar Bluff**	**3.36**	**319**	Pn	**Pn**	**01 17 07.2**	**+1.0**
	baz=138							
CBKS				Pb	**Pb**	**01 17 15.0**	**+1.7**
	baz=138,SNR=32							
CBKS				Sb	**Sg**	**01 17 58.9**	**-2.6**
	baz=138							
CBKS	**Cedar Bluff**	**3.36**	**319**		**Pn**	**01 17 07.1**	**+0.9**
Z38A	**Mt. Pleasant**	**3.42**	**151**		**Pn**	**01 17 07.5**	**+0.5**
X40A	**Basin Creek Fa**	**3.81**	**117**	Pn	**Pn**	**01 17 13.4**	**+1.2**
	baz=300							
X40A				Pb	**Pb**	**01 17 21.5**	**+0.7**
	baz=300,SNR=12							
X40A	**Basin Creek Fa**	**3.81**	**117**		**Pn**	**01 17 13.5**	**+1.2**
MGMO	**Mountain Grove**	**3.85**	**76**		**Pn**	**01 17 14.1**	**+1.1**
WHAR	**Wooly Hollow**	**3.91**	**103**	Pn	**Pn**	**01 17 14.7**	**+1.0**
FCAR	**Ozark Folk Cen**	**3.92**	**94**		**Pn**	**01 17 14.8**	**+0.9**
W41B	**Gary Mavity, V**	**3.98**	**105**	P	**Pn**	**01 17 15.2**	**+0.6**
	baz=288							
W41B				S	**Sn**	**01 18 01.6**	**+0.3**
	baz=288							
W41B	**Gary Mavity, V**	**3.98**	**105**		**Pn**	**01 17 16.1**	**+1.5**
UALR	**University of**	**4.04**	**111**	Pn	**Pn**	**01 17 15.4**	**-0.1**
WLAR	**White Oak Lake**	**4.08**	**128**		**Pn**	**01 17 16.7**	**+0.7**
AMTX	**Amarillo**	**4.11**	**251**	Pb	**Pb**	**01 17 25.9**	**-0.2**
	baz=69							
AMTX				Sb	**Sb**	**01 18 20.3**	**+4.4**
	baz=69							
AMTX	**Amarillo**	**4.11**	**251**	Pn	**Pn**	**01 17 17.6**	**+1.1**
R40A	**Maddies Statio**	**4.23**	**60**	Pn	**Pn**	**01 17 18.5**	**+0.4**
ABTX	**Abilene, Hawle**	**4.28**	**212**	Pb	**Pb**	**01 17 29.3**	**+0.2**
	baz=31,SNR=12							
ABTX	**Abilene, Hawle**	**4.28**	**212**		**Pn**	**01 17 18.3**	**-0.6**
P38A	**Dawn**	**4.28**	**38**		**Pn**	**01 17 20.1**	**+1.3**
WHTX	**Lake Whitney,**	**4.31**	**186**	P	**Pn**	**01 17 20.3**	**+1.1**
	baz=5.7							
WHTX	**Lake Whitney,**	**4.31**	**186**	Pn	**Pn**	**01 17 18.9**	**-0.3**
237A	**Washetta, Mont**	**4.38**	**167**	Pn	**Pn**	**01 17 20.3**	**+0.2**
Z41A	**Richland Creek**	**4.55**	**130**	P	**Pn**	**01 17 22.8**	**+0.3**
	baz=313							
Z41A				S	**Sn**	**01 18 15.4**	**-0.1**
	baz=313							
Z41A	**Richland Creek**	**4.55**	**130**		**Pn**	**01 17 21.6**	**-0.9**
LCAR	**Lake Charles**	**4.69**	**91**	Pn	**Pn**	**01 17 24.0**	**-0.4**
T42A	**Van Buren**	**4.76**	**79**	Pn	**Pn**	**01 17 25.2**	**-0.1**
CCM	**Cathedral Cave**	**4.88**	**67**	Pn	**Pn**	**01 17 27.2**	**+0.1**
P40A	**Paris**	**5.04**	**49**	Pn	**Pn**	**01 17 30.0**	**+0.7**
BGNE	**Belgrade**	**5.20**	**350**	S	**Sn**	**01 18 30.9**	**-0.6**
	baz=169							
BGNE	**Belgrade**	**5.20**	**350**	Pn	**Pn**	**01 17 32.2**	**+0.8**
PBMO	**Poplar Bluff**	**5.27**	**83**	Pn	**Pn**	**01 17 32.5**	**+0.1**
KSCO	**Kaye Shedlock'**	**5.27**	**303**	Pn	**Pn**	**01 17 32.2**	**-0.3**
MSTX	**Muleshoe**	**5.31**	**246**	P	**Pn**	**01 17 33.9**	**+0.8**
	baz=62,SNR=7.3							
MSTX	**Muleshoe**	**5.31**	**246**	Pn	**Pn**	**01 17 33.8**	**+0.7**
N38A	**Joes South For**	**5.35**	**32**	Pn	**Pn**	**01 17 33.0**	**-0.6**
FVM	**French Village**	**5.47**	**70**	Pn	**Pn**	**01 17 34.5**	**-0.7**
435B	**Jarrell**	**5.52**	**186**	S	**Sn**	**01 18 37.8**	**-1.5**
	baz=5.5							
435B	**Jarrell**	**5.52**	**186**	Pn	**Pn**	**01 17 35.2**	**-0.6**
L34A	**Svendsen Farm,**	**5.69**	**4**	Pn	**Pn**	**01 17 39.2**	**+1.0**
LNXT	**Lenox**	**6.03**	**90**	Pn	**Pn**	**01 17 42.1**	**-0.6**
T25A	**Trinidad**	**6.06**	**280**	Pn	**Pn**	**01 17 43.1**	**-0.3**
OGNE	**Ogallala**	**6.12**	**321**	S	**Sn**	**01 18 54.3**	**0.0**
	baz=138							
OGNE	**Ogallala**	**6.12**	**321**	Pn	**Pn**	**01 17 43.7**	**-0.5**
JCT	**Junction City**	**6.27**	**203**	P	**Pn**	**01 17 45.4**	**-0.7**
	baz=22							
JCT	**Junction City**	**6.27**	**203**	Pn	**Pn**	**01 17 45.6**	**-0.6**
S44A	**Carbondale**	**6.31**	**75**	Pn	**Pn**	**01 17 46.3**	**-0.4**
SCIA	**State Center**	**6.31**	**26**	P	**Pn**	**01 17 48.4**	**+1.6**
	baz=206							
SCIA	**State Center**	**6.31**	**26**	Pn	**Pn**	**01 17 45.9**	**-0.8**
N41A	**Harden Midland**	**6.50**	**45**	Pn	**Pn**	**01 17 49.5**	**+0.2**
Y45A	**Yeager Farm, C**	**6.53**	**110**	Pn	**Pn**	**01 17 50.6**	**+0.9**
P43A	**Skaggs, Pawnee**	**6.75**	**58**	Pn	**Pn**	**01 17 52.9**	**+0.2**
Q44A	**Meyer Farm, Va**	**6.81**	**65**	Pn	**Pn**	**01 17 54.0**	**+0.4**
SDCO	**Great Sand Dun**	**7.00**	**285**	Pn	**Pn**	**01 17 56.6**	**+0.1**
Q24A	**Divide**	**7.04**	**295**	Pn	**Pn**	**01 17 56.6**	**-0.4**
K38A	**Parkersburg**	**7.12**	**26**	Pn	**Pn**	**01 17 58.0**	**+0.2**
L40A	**Anamosa**	**7.28**	**36**	Pn	**Pn**	**01 18 00.9**	**+1.0**
HDIL	**Hopedale**	**7.36**	**52**	P	**Pn**	**01 18 01.0**	**-0.1**
	baz=237							
HDIL				S	**Sn**	**01 19 21.6**	**-3.0**
	baz=237							
HDIL	**Hopedale**	**7.36**	**52**	Pn	**Pn**	**01 18 00.2**	**-0.8**
WVT	**Waverly**	**7.37**	**89**	Pn	**Pn**	**01 18 01.3**	**+0.1**
ECSD	**EROS Data Cent**	**7.44**	**2**	P	**Pn**	**01 18 02.8**	**+0.6**
	baz=182							
ECSD				S	**Sn**	**01 19 24.0**	**-2.7**
	baz=182							
ECSD	**EROS Data Cent**	**7.44**	**2**	Pn	**Pn**	**01 18 02.0**	**-0.2**
ISCO	**Idaho Springs**	**7.69**	**300**	P	**Pn**	**01 18 07.2**	**+1.3**
	baz=114							
ISCO	**Idaho Springs**	**7.69**	**300**	Pn	**Pn**	**01 18 06.8**	**+0.9**
ANMO	**Albuquerque**	**7.87**	**263**	Pn	**Pn**	**01 18 09.2**	**+0.9**
T47A	**Sharon Grove**	**7.94**	**82**	Pn	**Pn**	**01 18 07.9**	**-1.2**
MNTX	**Cornudas Mount**	**8.37**	**239**	Pn	**Pn**	**01 18 15.6**	**+0.6**
JFWS	**Jewell Farm**	**8.39**	**36**	Pn	**Pn**	**01 18 15.2**	**0.0**
N23A	**Red Feather La**	**8.41**	**306**	P	**Pn**	**01 18 17.5**	**+1.7**
	baz=120							
N23A	**Red Feather La**	**8.41**	**306**	Pn	**Pn**	**01 18 16.0**	**+0.1**
TX31	**Lajitas Ar. Si**	**8.95**	**221**	Pn	**Pn**	**01 18 22.7**	**-0.3**
TXAR	**Lajitas Array**	**8.95**	**221**	Pn	**Pn**	**01 18 23.7**	**+0.7**
RSSD	**Black Hills**	**9.52**	**327**	Pn	**Pn**	**01 18 31.8**	**+0.9**

IDC 19 01:46:39.2±2.0, 1.76N×127.16E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/33, mbtmp3.8/4, Error ellipse: s-maj=168.2km s-min=24.7km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.69**	**162**	P	P	01 51 43.0	+0.4
	2.1nm,0.4s,baz=341,slow=11,SNR=34						
ASAR	**Alice Springs**	**26.11**	**166**	P	P	01 52 14.7	-0.3
	0.2nm,0.3s,baz=344,slow=8.2,SNR=6.3						
STKA	**Stephens Creek**	**36.15**	**159**	P	P	01 53 43.2	-0.2
	1.3nm,0.3s,baz=336,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**59.41**	**326**	P	P	01 56 43.7	0.0
	0.3nm,0.3s,baz=116,slow=7.5,SNR=5.1						

*ANF **19** 01:49:44.5±0.7, 36.28N×96.90W, h5km, ML3.7/10, Error ellipse: s-maj=10.9km s-min=4.9km az=19.0*
*NEIC **19** 01:49:44.3±1.2, 36.28N±0.02×96.95W±0.05, h5km±7km, Error ellipse: s-maj=6.2km s-min=1.9km az=69.0*
*TUL **19** 01:49:44.1±1.7, 36.28N±0.02×96.93W±0.05, h5km±7km, ML3.0, Error ellipse: s-maj=6.3km s-min=2.8km az=78.0*
ISC 19 01:49:44.2±1.2, 36°29'N±0.03×96°95'W±0.03, h5km±10km, n77, σ0°67/87, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.23**	**121**		**Pg**	**01 49 48.9**	**+0.3**
QUOK				Sg	**Sg**	**01 49 52.0**	**+0.4**
OK031	**S. Brethren Rd**	**0.35**	**165**		**Pg**	**01 49 51.1**	**+0.2**
OK031				Sg	**Sg**	**01 49 55.9**	**+0.4**
OK030	**Cody Creek RV**	**0.39**	**160**		**Pg**	**01 49 51.8**	**+0.2**
OK030				Sg	**Sg**	**01 49 57.1**	**+0.4**
OK029	**Liberty Lake**	**0.64**	**220**		**Pg**	**01 49 56.7**	**+0.2**
T35A	**Sooner Cattle**	**0.72**	**29**		**Pg**	**01 49 58.0**	**0.0**
OK025	**Westminster Rd**	**0.77**	**204**		**Pg**	**01 49 58.9**	**-0.1**
BCOK	**Bluff Creek, N**	**0.83**	**221**		**Pg**	**01 50 00.0**	**0.0**
KAN13	**South Haven SW**	**0.84**	**330**		**Pg**	**01 50 00.4**	**+0.1**
CROK	**Carrier**	**0.86**	**285**	Pg	**Pg**	**01 50 00.8**	**+0.1**
OKCFA	**Oklahoma City**	**0.96**	**205**		**Pg**	**01 50 02.1**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**0.97**	**204**		**Pg**	**01 50 02.2**	**-0.6**
KAN09	**Caldwell North**	**1.00**	**328**		**Pg**	**01 50 03.4**	**-0.1**
TUL1	**Leonard**	**1.01**	**112**	P	**Pg**	**01 50 02.9**	**-0.6**
	baz=292						
TUL1				S	**Sg**	**01 50 16.3**	**-0.4**
	baz=292						
TUL1	**Leonard**	**1.01**	**112**		**Pg**	**01 50 02.9**	**-0.6**
KAN14	**Manchester OK**	**1.05**	**310**		**Pg**	**01 50 04.3**	**-0.1**
FNO	**Franklin**	**1.09**	**200**		**Pg**	**01 50 04.6**	**-0.6**
KAN05	**Bluff City Nor**	**1.10**	**318**		**Pg**	**01 50 05.3**	**-0.1**
W35A	**Tecumseh**	**1.14**	**177**		**Pg**	**01 50 04.9**	**-1.0**
KAN10	**Anthony SW Sta**	**1.24**	**312**		**Pg**	**01 50 07.7**	**-0.3**
KAN08	**Anthony NE Sta**	**1.25**	**319**		**Pg**	**01 50 07.8**	**-0.2**
KAN12	**Harper NE Stat**	**1.31**	**320**		**Pn**	**01 50 09.0**	**-0.2**
U32A	**Winter Ranch,**	**1.66**	**274**		**Pn**	**01 50 14.8**	**+0.8**
U38A	**Gravette**	**2.07**	**85**		**Pn**	**01 50 20.8**	**+1.1**
X37A	**Clayton**	**2.13**	**142**		**Pn**	**01 50 20.9**	**+0.4**
WMOK	**Wichita Mounta**	**2.15**	**225**	P	**Pn**	**01 50 21.1**	**+0.4**
	baz=44						
WMOK	**Wichita Mounta**	**2.15**	**225**	Pn	**Pn**	**01 50 21.2**	**+0.4**
HHAR	**Hobbs**	**2.43**	**89**		**Pn**	**01 50 25.2**	**+0.6**
R32A	**Long Quarter,**	**2.55**	**327**		**Pn**	**01 50 26.8**	**+0.5**
W39A	**Magazine**	**2.80**	**112**	P	**Pn**	**01 50 30.2**	**+0.6**
	baz=294						
W39A				S	**Sn**	**01 51 03.5**	**-0.2**
	baz=294						
W39A	**Magazine**	**2.80**	**112**		**Pn**	**01 50 31.1**	**+1.5**
KSU1	**Kansas State U**	**2.82**	**5**	P	**Pn**	**01 50 30.4**	**+0.5**
	baz=185						
KSU1				S	**Sn**	**01 51 04.7**	**+0.4**
	baz=185						
KSU1	**Kansas State U**	**2.82**	**5**	Pn	**Pn**	**01 50 30.8**	**+0.8**
Z35A	**Perchaven, San**	**2.96**	**185**	Pn	**Pn**	**01 50 32.4**	**+0.5**
S39A	**Bolivar**	**3.22**	**63**		**Pn**	**01 50 37.1**	**+1.6**
MIAR	**Mount Ida**	**3.26**	**121**	P	**Pn**	**01 50 36.3**	**+0.4**
	baz=303						
MIAR				S	**Sn**	**01 51 15.6**	**+0.5**
	baz=303						
MIAR	**Mount Ida**	**3.26**	**121**		**Pn**	**01 50 36.3**	**+0.4**
U40A	**Yellville**	**3.31**	**88**	P	**Pn**	**01 50 37.0**	**+0.4**
	baz=270						
U40A				S	**Sn**	**01 51 16.8**	**+0.4**
	baz=270						
U40A	**Yellville**	**3.31**	**88**		**Pn**	**01 50 37.3**	**+0.7**
CBKS	**Cedar Bluff**	**3.36**	**320**	P	**Pn**	**01 50 37.9**	**+0.5**
	baz=138						
CBKS				S	**Sn**	**01 51 18.7**	**+1.1**
	baz=138						
CBKS	**Cedar Bluff**	**3.36**	**320**		**Pn**	**01 50 38.6**	**+1.3**
Z38A	**Mt. Pleasant**	**3.43**	**151**	Pn	**Pn**	**01 50 39.5**	**+1.2**
X40A	**Basin Creek Fa**	**3.81**	**117**	P	**Pn**	**01 50 44.0**	**+0.4**
	baz=299						
X40A				S	**Sn**	**01 51 30.4**	**+1.7**
	baz=299						
X40A	**Basin Creek Fa**	**3.81**	**117**		**Pn**	**01 50 44.2**	**+0.7**
MGMO	**Mountain Grove**	**3.86**	**76**		**Pn**	**01 50 45.2**	**+1.0**
WHAR	**Wooly Hollow**	**3.92**	**103**	Pn	**Pn**	**01 50 45.6**	**+0.6**
FCAR	**Ozark Folk Cen**	**3.93**	**94**		**Pn**	**01 50 47.2**	**+2.0**
W41B	**Gary Mavity, V**	**3.98**	**105**	P	**Pn**	**01 50 46.0**	**+0.1**
	baz=288						
W41B	**Gary Mavity, V**	**3.98**	**105**	Pn	**Pn**	**01 50 47.2**	**+1.3**
WLAR	**White Oak Lake**	**4.08**	**128**	Pn	**Pn**	**01 50 47.3**	**0.0**
AMTX	**Amarillo**	**4.10**	**251**	P	**Pn**	**01 50 47.8**	**+0.1**
	baz=69						
AMTX	**Amarillo**	**4.10**	**251**	Pn	**Pn**	**01 50 48.7**	**+1.0**
R40A	**Maddies Statio**	**4.23**	**60**	Pn	**Pn**	**01 50 48.7**	**-0.7**
ABTX	**Abilene, Hawle**	**4.28**	**212**	Pn	**Pn**	**01 50 50.2**	**+0.2**
P38A	**Dawn**	**4.29**	**38**	Pn	**Pn**	**01 50 50.7**	**+0.6**
N35A	**Tabor**	**4.68**	**12**	Pn	**Pn**	**01 50 54.9**	**-0.5**
LCAR	**Lake Charles**	**4.69**	**91**	Pn	**Pn**	**01 50 55.7**	**0.0**
T42A	**Van Buren**	**4.77**	**79**	Pn	**Pn**	**01 50 56.5**	**-0.2**
CCM	**Cathedral Cave**	**4.88**	**67**	Pn	**Pn**	**01 50 58.1**	**-0.2**
P40A	**Paris**	**5.05**	**49**	Pn	**Pn**	**01 50 59.9**	**-0.6**
BGNE	**Belgrade**	**5.20**	**350**	Pn	**Pn**	**01 51 01.7**	**-1.0**
MSTX	**Muleshoe**	**5.30**	**246**	Pn	**Pn**	**01 51 04.4**	**+0.2**
N38A	**Joes South For**	**5.36**	**32**	Pn	**Pn**	**01 51 04.0**	**-0.8**
FVM	**French Village**	**5.48**	**70**	Pn	**Pn**	**01 51 06.2**	**-0.2**
T25A	**Trinidad**	**6.05**	**280**	Pn	**Pn**	**01 51 14.6**	**0.0**
S44A	**Carbondale**	**6.32**	**75**	Pn	**Pn**	**01 51 17.2**	**-0.7**
SCIA	**State Center**	**6.32**	**26**	Pn	**Pn**	**01 51 16.9**	**-1.1**
SDCO	**Great Sand Dun**	**7.00**	**285**	Pn	**Pn**	**01 51 26.7**	**-0.9**
Q24A	**Divide**	**7.03**	**295**	Pn	**Pn**	**01 51 28.0**	**-0.1**
PLAL	**Pickwick Lake**	**7.34**	**98**	Pn	**Pn**	**01 51 31.3**	**-0.8**
HDIL	**Hopedale**	**7.36**	**52**	Pn	**Pn**	**01 51 32.2**	**-0.1**
ISCO	**Idaho Springs**	**7.68**	**300**	Pn	**Pn**	**01 51 37.2**	**+0.1**
T47A	**Sharon Grove**	**7.94**	**82**	Pn	**Pn**	**01 51 40.4**	**0.0**
BNM	**Barren Site**	**8.20**	**258**	Pn	**Pn**	**01 51 44.0**	**-0.1**
JFWS	**Jewell Farm**	**8.39**	**36**	Pn	**Pn**	**01 51 45.9**	**-0.6**
N23A	**Red Feather La**	**8.41**	**306**	Pn	**Pn**	**01 51 46.6**	**-0.3**
TX31	**Lajitas Ar. Si**	**8.95**	**221**	Pn	**Pn**	**01 51 54.1**	**-0.1**
TX32	**Lajitas Array**	**8.95**	**221**	Pn	**Pn**	**01 51 54.1**	**-0.1**

IDC 19 02:12:21.8±49.0, 16.28S×173.23W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/41, mbtmp4.0/3, Error ellipse: s-maj=940.1km s-min=186.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.75**	**241**	P	P	02 20 29.4	+0.2
	1.1nm,0.7s,baz=63,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	02 21 16.4	-0.4
	0.4nm,0.4s,baz=95,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**50.00**	**253**	P	P	02 21 18.4	0.0
	4.4nm,0.6s,baz=88,slow=8.4,SNR=78						

*UPA **19** 02:20:31.9±2.7, 4.98N×76.15W, h0km±21km, MW4.5*
*VAO **19** 02:20:32.7±0.8, 5.04N×76.10W, h142km±5km, mb4.6*
*RSNC **19** 02:20:33.6±1.6, 4.97N×75.98W, h114km±6km, ML4.2, Mw4.7, Fault plane solution: NP1:φs141.00000°, δ78.00000°, λ-180.00000°.*
*NEIC **19** 02:20:34.4±1.9, 4.90N±0.07×75.88W±0.06, h131km±6km, mb4.4/94, Error ellipse: s-maj=10.6km s-min=9.1km az=191.0*
*IDC **19** 02:20:35.4±0.9, 4.91N×75.84W, h142km±7km, mb3.8/19, mb1 4.0/23, mb1mx3.9/35, mbtmp4.3/23, MS2.8/2, Ms1 2.8/2, ms1mx2.6/28, Error ellipse: s-maj=14.7km s-min=8.7km az=51.0*
ISC 19 02:20:33.1±0.6, 4.98N±0.02×75.96W±0.03, h123km±5km, n229, σ1°85/313, mb4.4/48, 15C-19D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAN1	**Manizales, Cal**	**0.44**	**78**	*e*P	**Pn**	**02 20 52.2**	**+0.9**
CMAN1				eS	**Sn**	**02 21 05.8**	**+0.7**
ANIL	**Santa Ana**	**0.73**	**131**	⇓*e*P	**Pn**	**02 20 53.4**	**0.0**
ANIL				eS	**Sn**	**02 21 04.6**	**-1.1**
ANIL				*i*		02 21 10.8	
	comp=E,5μm,0.4s						
TOLC	**Tolima**	**0.74**	**121**	⇑*e*P	**Pn**	**02 20 53.4**	**0.0**
TOLC				eS	**Sn**	**02 21 09.5**	**+0.7**
TOLC				*i*		02 21 16.3	
	comp=Z,9μm,0.7s						
CBOC	**Ciudad Bolivar**	**0.88**	**357**	⇓*i*P	**Pn**	**02 20 53.7**	**-0.8**
CBOC				eS	**Sn**	**02 21 08.8**	**-1.9**
CBOC				*i*		02 21 10.9	
	comp=Z,6μm,0.4s						
YOTC	**Yotoco, Valle**	**1.06**	**201**	*e*P	**Pn**	**02 20 55.3**	**-0.8**
YOTC				eS	**Sn**	**02 21 11.7**	**-1.8**
YOTC				*i*		02 21 16.3	
	comp=Z,3μm,0.1s						
ORTC	**Ortega, Tolima**	**1.28**	**146**	⇓*e*P	**Pn**	**02 20 58.5**	**+0.2**
ORTC				eS	**Sn**	**02 21 16.0**	**-1.4**
ORTC				*i*		02 21 18.5	
	comp=Z,4μm,0.4s						
HELC	**Santa Helena**	**1.28**	**20**	⇓*i*P	**Pn**	**02 20 58.4**	**-0.2**
HELC				*e*S	**Sn**	**02 21 17.2**	**-0.9**
HELC				*i*		02 21 19.0	
	comp=Z,2μm,0.5s						
HELC	**Santa Helena**	**1.28**	**20**	⇓*i*P	**Pn**	**02 20 58.3**	**-0.4**
HELC				eS	**Sn**	**02 21 17.0**	**-1.1**
PIZC	**Pizarro, Choco**	**1.40**	**270**	⇑*e*P	**Pn**	**02 20 59.8**	**+0.3**
PIZC				eS	**Sn**	**02 21 21.1**	**+1.5**
PIZC				*i*		02 21 35.9	
	comp=Z,2μm,0.3s						
ROSC	**El Rosal**	**1.64**	**95**	P	**Pn**	**02 21 04.1**	**+1.4**
	comp=Z,301nm,0.3s,baz=320,slow=2.7,SNR=688						
ROSC				S	**Sn**	**02 21 27.7**	**+2.4**
	comp=Z,106nm,0.3s,baz=136,slow=23,SNR=15						
ROSC				LR	LR	02 21 55.2	
	comp=Z,906nm,19.1s,baz=140,slow=53						
ROSC	**El Rosal**	**1.64**	**95**	⇑*e*P	**Pn**	**02 21 04.3**	**+1.6**
ROSC				eS	**Sn**	**02 21 28.1**	**+2.9**
ROSC				*i*		02 21 30.2	
	comp=Z,673nm,0.7s						
ROSC	**El Rosal**	**1.64**	**95**	Pn	**Pn**	**02 21 04.3**	**+1.6**
ROSC				Sn	**Sn**	**02 21 26.2**	**+1.0**
PRAC	**Prado**	**1.65**	**139**	⇓*i*P	**Pn**	**02 21 02.9**	**+0.3**
PRAC				*e*S	**Sn**	**02 21 24.9**	**+0.1**
PRAC				*i*		02 21 25.9	
	comp=Z,2μm,0.4s						
MALC	**Bahia Malaga**	**1.67**	**235**	⇑*e*P	**Pn**	**02 21 03.6**	**+0.9**
MALC				eS	**Sn**	**02 21 25.2**	**-0.1**
MALC				*i*		02 21 33.7	
	comp=Z,2μm,0.3s						
CTAB	**Cerro Tablazo,**	**1.75**	**89**	⇓*e*P	**Pn**	**02 21 05.8**	**+1.7**
SOLC	**Bahia Solano**	**1.90**	**311**	⇑*e*P	**Pn**	**02 21 04.8**	**-0.7**
SOLC				eS	**Sn**	**02 21 29.9**	**-0.4**
SOLC				*i*		02 21 35.3	
	comp=Z,1μm,0.4s						
CVER	**Cruz Verde, Cu**	**1.93**	**103**	*e*P	**Pn**	**02 21 09.9**	**+3.5**
SPBC	**San Pablo de B**	**2.00**	**70**	*e*P	**Pn**	**02 21 07.2**	**+0.4**
SPBC				eS	**Sn**	**02 21 31.9**	**-0.6**
SPBC				*i*		02 21 36.9	
	comp=Z,472nm,0.5s						
DBBC	**Dabeiba**	**2.04**	**353**	*e*P	**Pn**	**02 21 07.1**	**-0.3**
MARP	**Paez Belalcaza**	**2.12**	**180**	⇓*i*P	**Pn**	**02 21 09.0**	**+0.5**
MARP				eS	**Sn**	**02 21 35.7**	**+0.2**
MARP				*i*		02 21 38.9	
	comp=Z,524nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.16**	**44**	⇓*e*P	**Pn**	**02 21 08.5**	**-0.2**
PTBC				eS	**Sn**	**02 21 33.8**	**-2.2**
PTBC				*i*		02 21 36.8	
	comp=Z,1μm,0.5s						
CHIC	**Chingaza**	**2.25**	**99**	⇑*i*P	**Pn**	**02 21 12.0**	**+1.8**
CHIC				eS	**Sn**	**02 21 39.9**	**+1.4**
BETC	**Betania**	**2.34**	**167**	⇓*i*P	**Pn**	**02 21 11.1**	**+0.1**
BETC				eS	**Sn**	**02 21 39.0**	**-1.1**
BETC				*i*		02 21 41.8	
	comp=Z,878nm,0.5s						
VILC	**Villavicencio,**	**2.42**	**111**	⇑*e*P	**Pn**	**02 21 13.8**	**+1.7**
VILC				eS	**Sn**	**02 21 44.3**	**+2.3**
VILC				*i*		02 21 47.7	
	comp=Z,799nm,0.6s						
POPC	**Popayan, Colom**	**2.52**	**196**	⇓*e*P	**Pn**	**02 21 13.0**	**-0.6**
POPC				eS	**Sn**	**02 21 41.8**	**-2.8**
POPC				*i*		02 21 46.0	
	comp=Z,864nm,0.3s						
PCON	**Cinco Dias**	**2.67**	**189**	⇓*e*P	**Pn**	**02 21 16.6**	**+0.9**
PCON				eS	**Sn**	**02 21 48.4**	**0.0**
PCON				*i*		02 21 55.6	
	comp=Z,1μm,0.6s						
ZARC	**Zaragoza, Cauc**	**2.73**	**24**	⇓*i*P	**Pn**	**02 21 15.9**	**-0.1**
ZARC				eS	**Sn**	**02 21 47.2**	**-1.8**
ZARC				*i*		02 21 50.2	
	comp=Z,991nm,0.3s						
UREC	**San Jos de Ur**	**2.79**	**9**	*e*P	**Pn**	**02 21 16.4**	**-0.4**
UREC				eS	**Sn**	**02 21 49.2**	**-1.2**
GARC	**Garzon, Huila**	**2.81**	**170**	⇓*e*P	**Pn**	**02 21 17.0**	**-0.3**
GARC				⇓*i*P	**Pn**	**02 21 17.0**	**-0.3**
GARC				eS	**Sn**	**02 21 49.9**	**-1.3**
GARC				*i*		02 21 50.5	
	comp=Z,1μm,0.3s						
PTAC	**Punta Ardita,**	**2.83**	**320**	*e*P	**Pn**	**02 21 16.3**	**-1.0**
PTAC				eS	**Sn**	**02 21 47.5**	**-4.0**
PTAC				*i*		02 21 51.9	
	comp=Z,1μm,0.3s						
SOTA	**Rioblanco**	**2.90**	**193**	eS	**Sn**	**02 21 52.0**	**-1.5**
GR1C	**Gorgona, Isla**	**2.95**	**228**	*e*P	**Pn**	**02 21 17.4**	**-1.5**
GR1C				eS	**Sn**	**02 21 52.6**	**-1.4**
RUSC	**La Rusia**	**3.00**	**72**	⇑*e*P	**Pn**	**02 21 20.3**	**+0.3**
RUSC				eS	**Sn**	**02 21 55.3**	**-0.8**
RUSC				*i*		02 22 00.4	
	comp=Z,369nm,0.9s						
BRRC	**Barranca, Sant**	**3.08**	**46**	⇓*i*P	**Pn**	**02 21 20.5**	**-0.1**
BRRC				eS	**Sn**	**02 21 54.7**	**-2.4**
BRRC				*i*		02 22 00.6	
	comp=Z,389nm,0.4s						
BBAC	**Balboa, Cauca**	**3.20**	**204**	⇓*e*P	**Pn**	**02 21 22.0**	**-0.4**
BBAC				eS	**Sn**	**02 21 56.9**	**-3.5**
BBAC				*i*		02 22 04.9	
	comp=Z,775nm,0.3s						
FLOC	**Florencia**	**3.38**	**175**	⇓*i*P	**Pn**	**02 21 24.5**	**-0.1**
FLOC				eS	**Sn**	**02 22 01.8**	**-2.6**
FLOC				*i*		02 22 07.5	
	comp=Z,338nm,0.4s						
MACC	**Macarena, Meta**	**3.51**	**143**	*e*P

OTAV eS Sn 02 22 51.5 +0.1
CHIT3 Chitre 5.33 304 /iP Pn 02 21 50.8 +0.3
UPA Univ. de Panam 5.33 318 eP Pn 02 21 48.4 -2.2
ARRA3 Arraijan, Pana 5.40 317 /eS Sn 02 22 51.9 -0.7
CACAO El Cacao, Vera 5.41 296 /iP Pn 02 21 50.9 -0.8
CACAO eS Sn 02 22 49.4 -3.5
PAC1 Pacto, Paraso 5.47 211 eP Pn 02 21 49.2 -3.3
PAC1 eP Pn 02 21 49.2 -3.3
PAC1 eS Sn 02 22 50.8 -3.6
PAC1 eS Sn 02 22 50.8 -3.6
VTON El Valle, Cocl 5.48 311 eP Pn 02 21 51.2 -1.4
VTON eS Sn 02 22 54.6 -0.1
PNME Penonome 5.57 309 eP Pn 02 21 53.3 -0.4
PNME eS Sn 02 22 56.1 -0.5
MARI3 Mariato, Verag 5.66 298 eP Pn 02 21 55.0 0.0
MARI3 eS Sn 02 22 59.7 +0.8
PONU3 Ponuga, Veragu 5.76 300 eP Pn 02 21 56.0 -0.5
PONU3 eS Sn 02 23 01.4 0.0
GMAL Guarumal, Vera 5.93 298 eP Pn 02 21 57.5 -1.1
GMAL eS Sn 02 23 05.1 -0.3
CVALL Valledupar, Ce 6.11 26 eS Sn 02 23 05.2 -4.7
CVALL eS Sn 02 23 05.2 -4.7
SDV Santo Domingo 6.56 53 P Pn 02 22 08.1 +0.7
comp=Z,11nm,0.3s,baz=264,slow=12,SNR=22
SDV S Sn 02 23 16.4 -4.6
comp=Z,21nm,0.3s,baz=32,slow=21,SNR=12
SDV LR LR 02 24 46.9
comp=Z,30nm,19.0s,baz=261,slow=39
SDV Santo Domingo 6.56 53 eP Pn 02 22 07.5 +0.2
SDV eP Pn 02 22 07.5 +0.2
SDV eS Sn 02 23 15.0 -5.9
SDV eS Sn 02 23 15.0 -5.9
SDV Santo Domingo 6.56 53 Pn Pn 02 22 07.6 +0.2
SDV Santo Domingo 6.56 53 eP Pn 02 22 07.5 +0.2
CHGR2 Aguacate 7.29 303 eP Pn 02 22 18.1 +1.1
BRU2 Volcan 7.68 300 eP Pn 02 22 26.3 +3.8
CDITO Canoas 7.74 298 eP Pn 02 22 25.6 +2.5
URIC Uribia, Colomb 7.75 30 eP Pn 02 22 21.1 -2.2
URIC eP Pn 02 22 21.1 -2.2
URIC eS Sn 02 23 42.3 -7.1
URIC eS Sn 02 23 42.3 -7.1
HDC Heredia 9.50 302 Pn Pn 02 22 47.8 +0.7
JTS Las Juntas de 10.36 301 P Pn 02 23 02.1 +3.6
comp=Z,2.1nm,0.3s,baz=143,slow=3.8,SNR=10
JTS S Sn 02 24 57.9 +5.1
baz=30,slow=21,SNR=1.4
JTS LR LR 02 27 11.7
comp=Z,141nm,18.6s,baz=185,slow=38
ESPN Las Esperanzas 10.93 312 Pn 02 23 07.8 +1.8
ACON Acoyapa 11.46 308 Pn 02 23 13.8 +0.6
ATAH Atahualpa 12.27 191 P Pn 02 23 24.7 +0.4
comp=Z,0.3nm,0.3s,baz=307,slow=12,SNR=2.1
PCRV Puerto La Cruz 12.35 65 P Pn 02 23 23.2 -1.8
comp=Z,0.7nm,0.3s,baz=223,slow=15,SNR=1.7
PLCV Puerto La Cruz 12.39 65 Pn 02 23 23.2 -2.3
MATN Matagalpa 12.62 309 Pn Pn 02 23 30.7 +2.3
CZSB Cruzeiro do Su 13.03 166 eP Pn 02 23 33.3 -0.5
LGNH Logne 13.85 13 Pn Pn 02 23 44.1 -0.1
BANI BANI 14.41 22 Pn 02 23 52.6 +1.1
SDDR Presa de Saban 14.65 18 P 02 23 57.8 +0.4
GTBY Guantanamo Bay 14.88 3 P 02 23 59.9 -0.1
FSCY Frank Sound, G 15.13 341 Pn P 02 24 02.8 0.0
DR12 Loma Pena Alta 15.16 25 Pn Pn 02 24 01.8 +0.9
SC01 Santiago de lo 15.24 19 Pn 02 24 02.8 +0.8
CRPR Cabo Rojo, PR 15.58 33 Pn 02 24 06.4 +0.4
OBIP Obispado Ponce 15.88 34 Pn 02 24 09.7 -0.2
OBIP IAmb IAmb 02 24 13.9
comp=Z,24nm,1.1s
AOPR Arecibo Observ 16.05 33 Pn 02 24 11.9 0.0
MTO3 Montecristo 16.18 306 P P 02 24 15.1 +0.4
SJG San Juan 16.20 36 P Pn 02 24 11.8 -2.0
comp=Z,2.2nm,0.3s,baz=220,slow=13,SNR=7.7
SJG San Juan 16.20 36 Pn Pn 02 24 11.6 -2.1
SJG IAmb IAmb 02 24 13.7
comp=Z,20nm,1.0s
PDPR Patillas Dam, 16.20 36 Pn 02 24 11.3 -2.5
PDPR IAmb IAmb 02 24 17.0
comp=Z,21nm,1.1s
HUMP Col San Antoni 16.40 36 P Pn 02 24 14.3 -1.9
HUMP IAmb IAmb 02 24 21.3
comp=Z,19nm,1.0s
CBYP Canovanas 16.50 36 IAmb IAmb 02 24 24.6
comp=Z,19nm,0.7s
PTGA Pitinga 16.95 109 P P 02 24 21.4 -1.6
comp=Z,2.6nm,0.3s,baz=294,slow=14,SNR=43
PTGA Pitinga 16.95 109 IAmb IAmb 02 24 25.8
comp=Z,44nm,1.1s
MACA Manacapuru-AM 17.27 118 eP P 02 24 26.1 -0.4
ETMB Extrema 17.61 147 eP P 02 24 29.9 -0.3
SAML Samuel 18.80 137 P P 02 24 42.7 -0.5
SAML Samuel 18.80 137 eP P 02 24 42.8 -0.4
061Z Ochoppi 21.31 348 P P 02 25 12.0 +1.9
ITTB Itaituba 22.23 114 eP P 02 25 18.6 -1.4
LPAZ La Paz 22.50 160 P P 02 25 22.3 -1.0
comp=Z,1.4nm,0.5s,baz=293,slow=3.1,SNR=7.3
LPAZ La Paz 22.50 160 P P 02 25 22.3 -1.0
LPAZ La Paz 22.50 160 eP P 02 25 22.4 -1.0
MALB Monte Alegre 22.71 107 eP P 02 25 23.8 -1.0
MDP Montagnes des 23.23 89 P P 02 25 29.0 -0.7
comp=Z,20nm,0.7s,baz=274,slow=9.6,SNR=22
VILB Vilhena 23.71 139 eP P 02 25 34.0 -0.1
NPGB Novo Progresso 23.78 120 eP P 02 25 34.1 -0.5
PB16 IPOC Station P 24.02 165 P P 02 25 36.1 -1.3
MCPB Macapa, AP 24.46 102 eP P 02 25 40.0 -0.9
PSGCX Pisagua 25.08 167 P P 02 25 46.2 -0.3
PSGCX IAmb IAmb 02 25 50.2
comp=Z,30nm,1.5s
PB11 IPOC Station P 25.35 166 P P 02 25 48.7 -0.3
PB11 IAmb IAmb 02 25 59.2
comp=Z,16nm,1.3s
CLDB Colider 25.51 128 eP P 02 25 48.6 -1.8
SIV San Ignacio 25.52 145 P P 02 25 50.1 -0.3
comp=Z,11nm,0.9s,baz=331,slow=9.1,SNR=41
PTLB Pontes e Lacer 26.26 141 eP P 02 25 56.6 -0.4
PB01 IPOC Station P 26.62 166 P P 02 26 00.1 -0.3
PB01 IAmb IAmb 02 26 01.9
comp=Z,8.7nm,0.8s
LVC Limon Verde 28.27 166 eP P 02 26 13.5 -1.9
PRPB Parauapebas 28.35 113 eP P 02 26 15.0 -0.9
152A Waverly Hall 28.74 345 P P 02 26 21.0 +1.9
152A IAmb IAmb 02 26 22.1
comp=Z,7.6nm,0.6s
SNDB Serra Nova Dou 29.75 125 eP P 02 26 27.5 -0.7
LRAL Lakeview Retre 29.76 341 P P 02 26 30.2 +2.2
LRAL IAmb IAmb 02 26 31.4
comp=Z,13nm,1.2s
Z47A Carrollton 30.27 340 P P 02 26 34.4 +1.9
Y49A Blount Mountai 30.34 343 P P 02 26 35.5 +2.3
Y49A IAmb IAmb 02 26 36.1
comp=Z,6.8nm,0.7s
FPAL Fort Paine 30.75 344 P P 02 26 38.7 +1.9
FPAL IAmb IAmb 02 26 40.0
comp=Z,11nm,0.8s
TKL Tuckaleechee C 31.37 348 P P 02 26 42.6 +0.3
comp=Z,2.8nm,0.9s,baz=243,slow=6.8,SNR=1.8
TKL Tuckaleechee C 31.37 348 IAmb IAmb 02 26 45.4
comp=Z,8.7nm,1.3s
SMTB Santa Maria do 31.45 116 eP P 02 26 43.2 0.0
ARAG Araguaiana, MT 31.52 131 eP P 02 26 42.8 -1.1
U54A Nelsons Funny 31.85 351 P P 02 26 48.9 +2.3
V48A Smith Brothers 32.21 343 P P 02 26 51.5 +1.9
AC02 Maricunga 32.31 169 P P 02 26 52.5 +1.4
AC02 IAmb IAmb 02 27 01.3
comp=Z,7.2nm,1.1s
PEXB Peixe 32.32 122 eP P 02 26 50.2 -0.7
BLA Blacksburg 32.34 353 P P 02 26 53.2 +2.4
JSRW J. Sargeant Re 32.61 357 P P 02 26 54.9 +1.8
U49A Red Boiling Sp 32.66 345 P P 02 26 55.7 +2.2
U49A IAmb IAmb 02 26 56.5
comp=Z,6.9nm,0.7s
ROSB Rosrio 32.75 103 eP P 02 26 54.0 -0.7
T47A Sharon Grove 33.46 344 P P 02 27 02.0 +1.5
WCI Wyandotte Cave 34.41 346 P P 02 27 10.3 +1.6
BDFB Brasilia 34.43 127 P P 02 27 09.0 -0.3
comp=Z,9.4nm,0.7s,baz=291,slow=11,SNR=17
BDFB Brasilia 34.43 127 P P 02 27 09.2 0.0
U40A Yellville 34.88 336 IAmb IAmb 02 27 14.7
comp=Z,11nm,1.1s
ITRB Iturama 35.15 135 eP P 02 27 13.9 -1.4
HHAR Hobbs 35.27 334 IAmb IAmb 02 27 17.5
comp=Z,8.5nm,1.0s
SDBA SAO DESIDERIO 35.37 119 eP P 02 27 16.6 -0.7
U38A Gravette 35.59 334 IAmb IAmb 02 27 20.1
comp=Z,5.3nm,0.8s
IPMB Ipameri, GO 35.63 130 eP P 02 27 18.8 -0.7
TX31 Lajitas Ar. Si 35.69 316 P P 02 27 22.5 +2.5
TX31 IAmb IAmb 02 27 22.8
comp=Z,4.0nm,1.0s
TX32 Lajitas Array 35.69 316 P P 02 27 22.5 +2.5
TXAR Lajitas Array 35.69 316 P P 02 27 21.9 +2.0
comp=Z,0.7nm,0.5s,baz=129,slow=8.8,SNR=12
TXAR PcP PcP 02 29 46.1 +0.4
comp=Z,0.6nm,0.8s,baz=129,slow=5.1,SNR=5.0
PCMB Pacaembu 35.83 138 eP P 02 27 20.1 -1.0
CPUP Villa Florida 35.98 151 P P 02 27 19.8 -2.4
comp=Z,3.0nm,0.7s,baz=335,slow=8.6,SNR=8.7
CPUP Villa Florida 35.98 151 IAmb IAmb 02 27 20.8
comp=Z,2.8nm,0.7s
CPUP Villa Florida 35.98 151 eP P 02 27 19.9 -2.4
S39A Bolivar 36.22 336 IAmb IAmb 02 27 25.5
comp=Z,5.0nm,0.8s
WMOK Wichita Mounta 36.38 327 P P 02 27 26.4 +0.7
WMOK IAmb IAmb 02 27 27.2
comp=Z,3.5nm,0.8s
JANB Januaria 37.14 123 eP P 02 27 31.7 -0.7
BB19B Bebedouro 37.34 135 eP P 02 27 32.7 -1.2
PTGB Pitanga 37.57 143 eP P 02 27 33.6 -2.3
MSTX Muleshoe 38.11 323 IAmb IAmb 02 27 42.4
comp=Z,6.1nm,1.1s
FRTB Fartura 38.16 139 eP P 02 27 39.2 -1.6
ITAB Concordia 39.44 146 eP P 02 27 49.4 -2.0
VAO Valinhos 39.69 136 eP P 02 27 52.3 -1.4
SADO Sadowa 39.73 356 P P 02 27 54.5 +0.9
comp=Z,18nm,0.9s,baz=190,slow=7.9,SNR=9.1
BSCB Bom Sucesso 40.03 131 eP P 02 27 55.3 -1.2
PET01 Itanhaem-SP 40.33 137 eP P 02 27 57.0 -1.8
GDU01 Guandu, BA 40.61 118 eP P 02 28 00.0 -1.2
CPSB Cacapava Do Su 41.26 150 eP P 02 28 03.6 -2.7
SJMB Sao Joao De Ma 41.56 125 eP P 02 28 08.2 -0.8
PLTB Pedras Altas 42.29 151 eP P 02 28 12.2 -2.5
RIB01 Linhares ES 42.52 126 eP P 02 28 16.0 -0.7
F36A Milaca 43.50 342 IAmb IAmb 02 28 25.9
comp=Z,8.2nm,1.1s
WUAZ Wupatki 44.59 318 P P 02 28 35.6 +2.2
WUAZ IAmb IAmb 02 28 37.0
comp=Z,4.7nm,0.8s
EYMN Ely 44.84 345 IAmb IAmb 02 28 35.9
comp=Z,8.8nm,0.6s
PLCA Paso Flores 45.76 174 P P 02 28 42.7 +0.4
comp=Z,2.5nm,0.9s,baz=351,slow=9.7,SNR=5.0
PLCA Paso Flores 45.76 174 IAmb IAmb 02 28 47.3
comp=Z,1.9nm,0.8s
PLCA Paso Flores 45.76 174 eP P 02 28 40.5 -1.8
RSSD Black Hills 46.14 332 P P 02 28 45.9 +0.4
RSSD IAmb IAmb 02 28 48.6
comp=Z,7.3nm,1.1s
PD31 Pinedale Array 47.98 327 P P 02 29 00.6 +0.8
PDAR Pinedale Array 47.98 327 P P 02 29 01.3 +1.4
comp=Z,2.1nm,0.8s,baz=126,slow=8.6,SNR=15
PDAR Pinedale Array 47.98 327 P P 02 29 01.5 +1.7
ULM Lac du Bonnet 48.13 343 P P 02 29 00.5 -0.1
comp=Z,5.0nm,0.9s,baz=162,slow=6.0,SNR=4.4
ULM Lac du Bonnet 48.13 343 IAmb IAmb 02 29 01.0
comp=Z,13nm,1.3s
REDW Red Top Meadow 49.09 326 IAmb IAmb 02 29 10.8
comp=Z,6.8nm,0.8s
LOHW Long Hollow 49.12 327 IAmb IAmb 02 29 11.6
comp=Z,4.2nm,1.0s
IMW Indian Meadow 49.48 327 IAmb IAmb 02 29 13.8
comp=Z,3.5nm,0.6s
SCHQ Schefferville 50.25 7 P P 02 29 16.8 +0.1
comp=Z,6.4nm,0.6s,baz=185,slow=6.1,SNR=5.1
SCHQ Schefferville 50.25 7 IAmb IAmb 02 29 19.5
comp=Z,26nm,1.4s
NVAR Mina Array Bea 50.83 317 P P 02 29 22.9 +1.4
comp=Z,1.0nm,0.7s,baz=133,slow=6.9,SNR=9.0
NVAR PcP PcP 02 30 38.1 +1.5
comp=Z,0.7nm,0.5s,baz=120,slow=5.3,SNR=5.3
MFID Camas Ranch 51.96 324 P P 02 29 31.3 +1.6
J08A Circle Bar Ran 53.52 322 IAmb IAmb 02 29 43.7
comp=Z,2.8nm,0.8s
G08A Pilot Rock 54.88 324 IAmb IAmb 02 29 53.4
comp=Z,3.3nm,0.7s
YKA Yellowknife Ar 64.05 341 P P 02 30 53.8 +0.3
comp=Z,2.4nm,0.6s,baz=132,slow=7.5,SNR=10
DBIC Dimbokro 70.70 85 P P 02 31 35.7 -0.7
comp=Z,3.0nm,0.6s,baz=250,slow=7.0,SNR=6.8
DBIC Dimbokro 70.70 85 IAmb IAmb 02 31 53.8
comp=Z,8.3nm,1.1s
SUMG Summit 71.32 11 P P 02 31 40.4 +1.0
SUMG Summit 71.32 11 *i* P P 02 31 40.5 +1.0
comp=Z,33nm,0.7s
SUMG Summit 71.32 11 *i* P P 02 31 40.5 +1.0
SUMG IAmb IAmb 02 31 42.0
comp=Z,33nm,0.7s
ESDC Sonseca Array 73.00 50 P P 02 31 49.0 -0.7
comp=Z,0.5nm,0.9s,baz=267,slow=5.3,SNR=2.3
DOT Dot Lake 75.94 335 P P 02 32 07.6 +1.4
DOT IAmb IAmb 02 32 08.7
comp=Z,4.3nm,0.8s
TOA0 Torodi Ar. Sit 76.88 78 P P 02 32 12.0 -0.4
TORD Torodi Ar. Bea 76.88 78 P P 02 32 12.2 -0.2
comp=Z,1.1nm,0.5s,baz=282,slow=6.3,SNR=41
TORD Torodi Ar. Bea 76.88 78 P P 02 32 12.4 0.0
HDA Harding Lake 77.38 335 P P 02 32 15.1 +0.9
HDA IAmb IAmb 02 32 15.9
comp=Z,4.8nm,0.6s
IL31 77.45 335 P P 02 32 13.7 -0.9
ILAR Eielson Array 77.45 335 P P 02 32 15.5 +0.9
comp=Z,1.0nm,0.7s,baz=120,slow=4.1,SNR=15
GERES GERESS Array B 86.07 41 P P 02 33 01.6 +1.3
comp=Z,0.2nm,0.6s,baz=270,slow=3.6,SNR=2.5
VNA3 Neumayer Olymp 87.24 163 P P 02 33 05.9 +0.5
VNA2 Neumayer--Watz 87.80 162 P P 02 33 08.4 +0.4
baz=312,slow=5.2
SNAA Sanae 89.44 162 P P 02 33 16.0 +0.2
SNAA Sanae 89.44 162 P P 02 33 16.4 +0.6
SNAA IAmb IAmb 02 33 32.0
comp=Z,3.7nm,1.3s
ASAR Alice Springs 145.75 234 PKPbc PKPdf 02 39 58.2 +0.1
comp=Z,0.7nm,0.8s,baz=121,slow=3.7,SNR=8.0
WRA Warramunga Arr 146.98 241 PKPbc PKPbc 02 40 02.7 +0.3
comp=Z,0.4nm,0.9s,baz=108,slow=2.6,SNR=1.5

IDC 19 02:25:37.0±9.0, 7.76N×94.02E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/33, mbtmp3.5/3, MS2.9/2, Ms1 3.0/2, ms1mx2.6/31, Error ellipse: s-maj=428.3km s-min=33.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**24**	LR	LR	02 32 43.5	
	comp=Z,31nm,19.6s,baz=190,slow=37						
H08S3	**Diego Garcia H**	**26.36**	**235**	T	T	02 57 52.2	
	baz=55,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**26.36**	**235**	T	T	02 57 53.9	
	baz=55,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**26.38**	**235**	T	T	02 58 05.7	
	baz=55,slow=75,SNR=7.2						
MKAR	**Makanchi Array**	**40.17**	**347**	P	P	02 33 15.2	+0.2
	0.5nm,0.6s,baz=155,slow=7.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**46.65**	**353**	P	P	02 34 06.5	-0.6
	0.3nm,0.3s,baz=180,slow=8.3,SNR=1.7						
WRA	**Warramunga Arr**	**48.30**	**125**	P	P	02 34 20.4	0.0
	0.2nm,0.8s,baz=304,slow=9.1,SNR=1.6						
ASAR	**Alice Springs**	**49.94**	**130**	LR	LR	02 58 23.2	
	comp=Z,21nm,18.1s,baz=352,slow=39						

WEL 19 02:27:03.2, 43°S±2°×17°4E±°, h35km±4km, M2.5/18, ML2.7/18, MLv2.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=82.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**334**	P	Pb	02 27 10.5	+0.2
GVZ	**Greta Valley S**	**0.58**	**235**	P	Pb	02 27 16.0	+0.8
BSWZ	**Blackbirch Sta**	**0.93**	**9**	P	Pb	02 27 22.1	+1.2
AMCZ	**Amberley**	**0.93**	**234**	P	Pb	02 27 22.8	+1.9
THZ	**Tophouse**	**1.04**	**326**	P	Pb	02 27 22.9	+0.1
LTZ	**Lake Taylor**	**1.05**	**261**	P	Pb	02 27 22.5	-0.5
TUWZ	**Tuamarina**	**1.22**	**9**	P	Pb	02 27 25.9	+0.1
MQZ	**McQueen's Vall**	**1.31**	**215**	P	Pn	02 27 25.5	+0.5
AKCZ	**Akaroa Harbour**	**1.36**	**204**	P	Pn	02 27 26.8	+1.0
OXZ	**Oxford**	**1.39**	**239**	P	Pn	02 27 26.6	+0.5
NNZ	**Nelson**	**1.43**	**351**	P	Pb	02 27 28.7	-0.7
TCW	**Tory Channel**	**1.49**	**18**	P	Pb	02 27 29.3	-1.0
BHW	**Baring Head**	**1.51**	**36**	P	Pb	02 27 30.9	+0.2
PLWZ	**Palliser**	**1.58**	**48**	P	Pb	02 27 30.4	-1.5
INZ	**Inchbonnie**	**1.65**	**266**	P	Pb	02 27 31.9	-1.1
DSZ	**Denniston Nort**	**1.65**	**302**	P	Pb	02 27 31.8	-1.2
MSWZ	**Moikau Station**	**1.69**	**44**	P	Pb	02 27 32.8	-0.9
MHCZ	**Mount Hutt**	**1.79**	**239**	P	Pn	02 27 32.1	+0.4
CAW	**Cannon Point**	**1.84**	**35**	P	Pn	02 27 34.2	+1.9
WACZ	**Wakanui South**	**1.88**	**225**	P	Pn	02 27 33.7	+0.9
KIW	**Kapiti Island**	**2.00**	**28**	P	Pn	02 27 36.5	+2.0
QRZ	**Quartz Range**	**2.00**	**334**	P	Pb	02 27 37.4	-1.5
OGWZ	**Otaki Gorge**	**2.13**	**32**	P	Pn	02 27 38.3	+2.0
MRZ	**Mangatainoka R**	**2.43**	**36**	P	Pn	02 27 43.3	+2.9
OTVZ	**Oturere**	**3.78**	**24**	P	Pn	02 28 03.3	+4.1

*NIED **19** 02:29:11.6, 29.59N×128.44E, h34km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.12; $M_{\theta\theta}$2.09; $M_{\phi\phi}$-2.21; $M_{r\theta}$1.00; $M_{\theta\phi}$0.90; $M_{r\phi}$-0.15; Fault plane solution: $M_0$2.54000×10^{14} NP1: ϕ_s125.00000°, δ81.00000°, λ21.00000°. NP2: ϕ_s32.00000°, δ69.00000°, λ171.00000°.*

JMA 19 02:29:11.6±0.2, 29.59N×128.44E, h34km±3km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.80**	**123**	P	Pn	02 29 26.3	-0.1
JTAJ				S	Sn	02 29 36.8	-0.2
JNN	**Nakanoshima**	**1.27**	**78**	P	Pn	02 29 33.8	+0.8
JNN				eS	Sb	02 29 50.3	-0.9
JAMN	**Amaminishikomi**	**1.49**	**154**	P	Pn	02 29 36.7	+0.8
JAM	**Amami Oshima**	**1.56**	**139**	P	Pn	02 29 37.6	+0.7
JKC	**Kuchinoerabu**	**1.75**	**60**	P	Pn	02 29 40.9	+1.3
JTK	**Tokunoshima**	**1.85**	**166**	P	Pn	02 29 42.3	+1.3
JYAK	**Yakushimahirau**	**1.91**	**70**	P	Pn	02 29 42.4	+0.7
JTN	**Tanegashima 3**	**2.44**	**64**	P	Pn	02 29 50.4	+1.3
JSU	**Suzuyama**	**2.58**	**42**	P	Pn	02 29 52.3	+1.3

*TUL **19** 03:04:01±1.5, 36.28N±0.01×96.92W±0.05, h6km±7km, ML3.0, Error ellipse: s-maj=6.2km s-min=1.1km az=79.0*
*NEIC **19** 03:04:01.5±1.8, 36.28N±0.02×96.97W±0.05, h9km±7km, Error ellipse: s-maj=5.4km s-min=2.6km az=73.0*
*ANF **19** 03:04:01.2±1.1, 36.29N×96.89W, h5km, ML3.6/8, Error ellipse: s-maj=13.8km s-min=7.8km az=22.0*

ISC 19 03:04:00.7±1.2, 36.30N±0.03×96.94W±0.03, h2km±11km, n76, σ0.82/83, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.23**	**124**	Pg	**Pg**	**03 04 05.7**	**+0.6**
OK031	**S. Brethren Rd**	**0.35**	**166**		**Pg**	**03 04 07.9**	**+0.4**
OK031				Sg	**Sg**	**03 04 12.7**	**+0.6**
OK030	**Cody Creek RV**	**0.39**	**161**		**Pg**	**03 04 08.4**	**+0.4**
OK030				Sg	**Sg**	**03 04 13.8**	**+0.5**
OK029	**Liberty Lake**	**0.65**	**220**		**Pg**	**03 04 13.5**	**+0.3**
T35A	**Sooner Cattle**	**0.71**	**29**	Pg	**Pb**	**03 04 14.9**	**-0.8**
OK025	**Westminster Rd**	**0.79**	**204**		**Pg**	**03 04 15.7**	**0.0**
KAN13	**South Haven SW**	**0.83**	**329**		**Pb**	**03 04 17.3**	**-0.6**
BCOK	**Bluff Creek, N**	**0.84**	**220**		**Pg**	**03 04 16.9**	**+0.1**
CROK	**Carrier**	**0.86**	**284**	Pg	**Pg**	**03 04 17.7**	**+0.4**
OKCFA	**Oklahoma City**	**0.97**	**205**		**Pg**	**03 04 18.9**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**0.98**	**204**		**Pg**	**03 04 19.0**	**-0.5**
KAN09	**Caldwell North**	**1.00**	**327**	Pg	**Pb**	**03 04 20.3**	**-0.4**
TUL1	**Leonard**	**1.01**	**112**	P	**Pg**	**03 04 19.8**	**-0.2**
	baz=292						
TUL1				S	**Sg**	**03 04 33.0**	**-0.1**
	baz=292						
TUL1	**Leonard**	**1.01**	**112**	Pg	**Pg**	**03 04 19.8**	**-0.2**
KAN14	**Manchester OK**	**1.05**	**309**		**Pb**	**03 04 21.1**	**-0.5**
KAN05	**Bluff City Nor**	**1.10**	**318**		**Pb**	**03 04 22.1**	**-0.4**
FNO	**Franklin**	**1.10**	**200**		**Pg**	**03 04 21.4**	**-0.5**
W35A	**Tecumseh**	**1.15**	**177**		**Pg**	**03 04 21.8**	**-0.9**
KAN10	**Anthony SW Sta**	**1.24**	**312**		**Pb**	**03 04 24.6**	**-0.3**
KAN08	**Anthony NE Sta**	**1.24**	**319**		**Pb**	**03 04 24.6**	**-0.3**
KAN12	**Harper NE Stat**	**1.31**	**320**		**Pb**	**03 04 25.6**	**-0.4**
U32A	**Winter Ranch,**	**1.67**	**273**		**Pb**	**03 04 31.6**	**-0.5**
U38A	**Gravette**	**2.07**	**85**		**Pn**	**03 04 37.6**	**+1.1**
X37A	**Clayton**	**2.13**	**143**		**Pn**	**03 04 37.9**	**+0.6**
WMOK	**Wichita Mounta**	**2.16**	**224**	P	**Pn**	**03 04 38.0**	**+0.3**
	baz=44						
WMOK				S	**Sn**	**03 05 06.5**	**+1.4**
	baz=44						
WMOK	**Wichita Mounta**	**2.16**	**224**		**Pn**	**03 04 37.9**	**+0.1**
HHAR	**Hobbs**	**2.42**	**90**	Pn	**Pn**	**03 04 42.2**	**+0.9**
R32A	**Long Quarter,**	**2.55**	**327**		**Pn**	**03 04 43.8**	**+0.7**
W39A	**Magazine**	**2.79**	**112**	P	**Pn**	**03 04 46.7**	**+0.4**
	baz=294						
W39A				S	**Sn**	**03 05 20.3**	**-0.4**
	baz=294						
W39A	**Magazine**	**2.79**	**112**		**Pn**	**03 04 48.2**	**+1.8**
KSU1	**Kansas State U**	**2.81**	**5**	P	**Pn**	**03 04 47.5**	**+0.9**
	baz=185						
KSU1				S	**Sn**	**03 05 21.1**	**0.0**
	baz=185						
KSU1	**Kansas State U**	**2.81**	**5**		**Pn**	**03 04 48.2**	**+1.6**
S39A	**Bolivar**	**3.21**	**63**		**Pn**	**03 04 53.6**	**+1.5**
MIAR	**Mount Ida**	**3.26**	**121**	P	**Pn**	**03 04 52.8**	**0.0**
	baz=303						
MIAR				S	**Sn**	**03 05 32.2**	**+0.1**
	baz=303						
MIAR	**Mount Ida**	**3.26**	**121**		**Pn**	**03 04 53.4**	**+0.7**
U40A	**Yellville**	**3.30**	**88**	P	**Pn**	**03 04 53.7**	**+0.3**
	baz=270						
U40A				S	**Sn**	**03 05 33.5**	**+0.3**
	baz=270						
U40A	**Yellville**	**3.30**	**88**		**Pn**	**03 04 54.1**	**+0.8**
CBKS	**Cedar Bluff**	**3.35**	**319**	P	**Pn**	**03 04 54.5**	**+0.3**
	baz=138						
CBKS	**Cedar Bluff**	**3.35**	**319**		**Pn**	**03 04 56.5**	**+2.4**
Z38A	**Mt. Pleasant**	**3.43**	**151**	Pn	**Pn**	**03 04 56.8**	**+1.6**
Z38A					Lg	03 05 52.3	
X40A	**Basin Creek Fa**	**3.81**	**117**	P	**Pn**	**03 05 00.4**	**0.0**
	baz=299						
X40A				S	**Sn**	**03 05 47.7**	**+2.0**
	baz=299						
X40A	**Basin Creek Fa**	**3.81**	**117**		**Pn**	**03 05 01.2**	**+0.9**
MGMO	**Mountain Grove**	**3.85**	**76**		**Pn**	**03 05 02.5**	**+1.6**
WHAR	**Wooly Hollow**	**3.91**	**104**		**Pn**	**03 05 03.4**	**+1.6**
FCAR	**Ozark Folk Cen**	**3.92**	**95**		**Pn**	**03 05 03.9**	**+2.0**
W41B	**Gary Mavity, V**	**3.98**	**105**		**Pn**	**03 05 03.4**	**+0.7**
UALR	**University of**	**4.05**	**111**	Pn	**Pn**	**03 05 02.5**	**-1.1**
WLAR	**White Oak Lake**	**4.08**	**129**	Pn	**Pn**	**03 05 03.8**	**-0.3**
AMTX	**Amarillo**	**4.11**	**251**		**Pn**	**03 05 03.5**	**+0.7**
R40A	**Maddies Statio**	**4.22**	**61**		**Pn**	**03 05 06.4**	**+0.4**
P38A	**Dawn**	**4.28**	**38**		**Pn**	**03 05 06.5**	**-0.3**
ABTX	**Abilene, Hawle**	**4.29**	**212**	Pn	**Pn**	**03 05 07.3**	**+0.3**
ABTX					LR	03 06 13.8	
LCAR	**Lake Charles**	**4.69**	**91**	Pn	**Pn**	**03 05 13.2**	**+0.7**
LCAR					LR	03 06 26.2	
T42A	**Van Buren**	**4.76**	**79**	Pn	**Pn**	**03 05 12.9**	**-0.5**
CCAR	**Cane Creek**	**4.86**	**118**	Pn	**Pn**	**03 05 15.2**	**+0.4**
CCM	**Cathedral Cave**	**4.88**	**67**	Pn	**Pn**	**03 05 15.1**	**+0.1**
P40A	**Paris**	**5.04**	**49**	Pn	**Pn**	**03 05 17.4**	**+0.2**
MSTX	**Muleshoe**	**5.31**	**246**	Pn	**Pn**	**03 05 21.5**	**+0.4**

TX32 LR 03 08 48.1

NORS ***19*** *03:17:19.4±0.0,42°.29N×14°.55E,h5km,MPVA3.7*
TIF ***19*** *03:17:20.3,42°.39N×14°.58E,h13km±1km*
ISC 19 03:17:21.0±1.1,42°.36N±0°.02×44°.60E±0°.03,h4km±9km,
n23,σ0°82/46,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
GUDG	**Gudauri**	**0.14**	**320**	*i* Pg		**Pg**	**03 17 23.7**	**-0.1**
GUDG				*e*Sg		**Sg**	**03 17 26.2**	**+0.6**
GUDG	**Gudauri**	**0.14**	**320**	P		**Pg**	**03 17 23.6**	**-0.1**
GUDG				S		**Sg**	**03 17 26.1**	**+0.4**
LACR	**Lac**	**0.52**	**335**	*i* Pg		**Pg**	**03 17 30.0**	**-0.9**
LACR				*e*Sg		**Sg**	**03 17 37.3**	**-0.3**
ZEI	**Tsey**	**0.67**	**310**	*i* Pg		**Pg**	**03 17 33.4**	**-0.4**
ZEI				*e*Sg		**Sg**	**03 17 42.6**	**+0.1**
VLKR	**Vladikavkaz**	**0.69**	**5**	*e*Pg		**Pb**	**03 17 35.6**	**+0.1**
VLKR				*e*Sg		**Sb**	**03 17 45.5**	**+0.1**
BTNK	**Botanikuri**	**0.69**	**167**	P		**Pg**	**03 17 34.4**	**+0.1**
BTNK				S		**Sb**	**03 17 45.7**	**+0.2**
KMGR	**Komgaron**	**0.72**	**16**	*e*Pg		**Pb**	**03 17 35.7**	**-0.4**
KMGR				*e*Sg		**Sn**	**03 17 47.9**	**-1.7**
KORR	**Kora**	**0.82**	**332**	*e*Pg		**Pg**	**03 17 37.3**	**+0.6**
KORR				*e*Sg		**Sb**	**03 17 49.7**	**+0.4**
ONI	**Oni**	**0.88**	**286**	P		**Pg**	**03 17 37.7**	**-0.1**
ONI				S		**Sg**	**03 17 50.5**	**+1.4**
TRLG	**Trialeti**	**0.90**	**204**	P		**Pg**	**03 17 38.2**	**0.0**
TRLG				S		**Sb**	**03 17 51.5**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.92**	**306**	*e*Pg		**Pg**	**03 17 37.8**	**-0.8**
DIGR				*e*Sg		**Sg**	**03 17 50.8**	**+0.2**
BTKR	**Batakoyurt**	**1.01**	**358**	*i* Pg		**Pn**	**03 17 41.9**	**0.0**
BTKR				*e*Sg		**Sn**	**03 17 58.4**	**+1.7**
DMNI	**Dmanisi**	**1.07**	**197**	P		**Pg**	**03 17 40.6**	**-0.9**
DMNI				S		**Sg**	**03 17 55.5**	**0.0**
LSNR	**Lesken**	**1.08**	**329**	*e*Pg		**Pb**	**03 17 42.0**	**-0.1**
LSNR				*e*Sg		**Sn**	**03 17 57.7**	**-0.6**
DGRG	**David-gareji**	**1.08**	**147**	P		**Pn**	**03 17 42.2**	**-0.7**
DGRG				S		**Sn**	**03 17 59.9**	**+1.6**
STDR	**Stavd-Durt**	**1.08**	**339**	*e*Pg		**Pn**	**03 17 43.0**	**+0.2**
STDR				*e*Sg		**Sn**	**03 17 59.8**	**+1.6**
TKB	**Tkibuli**	**1.19**	**270**	P		**Pb**	**03 17 43.1**	**-0.9**
TKB				S		**Sg**	**03 17 59.4**	**+0.3**
GROC	**Groznyy**	**1.22**	**46**	*e*Pg		**Pn**	**03 17 45.0**	**+0.3**
GROC				*e*Sg		**Sn**	**03 18 03.0**	**+1.4**
BTLR	**Botlikh**	**1.24**	**75**	*e*Pg		**Pb**	**03 17 44.0**	**-0.9**
BTLR				*e*Sg		**Sn**	**03 18 00.8**	**-1.5**
DVE	**Vedeno**	**1.28**	**62**	*e*Pg		**Pn**	**03 17 44.8**	**-0.8**
DVE				*e*Sg		**Sn**	**03 18 02.4**	**-0.8**
BGD	**Bogdanovka**	**1.32**	**215**	P		**Pn**	**03 17 46.3**	**-0.1**
BGD				S		**Sg**	**03 18 04.4**	**+0.8**
DDFL	**Dedoflistskaro**	**1.46**	**128**	P		**Pg**	**03 17 49.7**	**+0.8**
DDFL				S		**Sg**	**03 18 08.8**	**+1.0**
SHA1	**Shidzhatmaz**	**1.98**	**315**	*e*Pg		**Pb**	**03 17 57.1**	**-0.5**
SHA1				*e*Sg		**Sb**	**03 18 23.5**	**+0.8**

REY ***19*** *03:22:06.1,64°.66N×17°.39W,h0km*
MOS ***19*** *03:22:07.6±1.1,64°.70N×17°.42W,h10km,mb5.0/45,Error ellipse: s-maj=10.8km s-min=6.4km az=112.3*
IDC ***19*** *03:22:08.4±0.6,64°.70N×17°.24W,h0km,mb4.1/22, mb1 4.3/26,mb1mx4.1/52,mbtmp4.1/26,ML2.7/3,MS3.7/34, Ms1 3.7/34,ms1mx3.6/54,Error ellipse: s-maj=15.6km s-min=11.7km az=28.0*
NEIC ***19*** *03:22:08.7±1.8,64°.70N±0°.08×17°.5W±0°.1,h6km±3km, mb4.8/127,Error ellipse: s-maj=11.7km s-min=7.3km az=201.0*
BGR ***19*** *03:22:14.1±0.0,64°.93N×16°.87W,h33km,mb4.9,Ms3.4*
ISC 19 03:22:09.2±0.7,64°.68N±0°.03×17°.40W±0°.03,h10km±4km,
n403,σ1s66/382,mb4.8/128,MS3.6/34,5C-10D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
IDYN	**Dyngjuhals** baz=4.4	**0.12**	**7**	P		**Pg**	**03 22 09.4**	**-2.7**
IVON	**Vonarskard** baz=274	**0.15**	**269**	P		**Pg**	**03 22 09.7**	**-2.9**
IURH	**Urdarhals** baz=33	**0.18**	**37**	P		**Pg**	**03 22 10.6**	**-2.5**
IGRF	**Grimsfjall** baz=168	**0.28**	**168**	P		**Pg**	**03 22 11.7**	**-3.1**
IKVE	**Kverkfjoll** baz=86	**0.31**	**89**	P		**Pg**	**03 22 13.0**	**-2.5**
IHUS	**Husbondi** baz=198	**0.40**	**196**	P		**Pg**	**03 22 13.9**	**-3.1**
ISKR	**Skrokkalda** baz=257	**0.44**	**255**	P		**Pg**	**03 22 15.1**	**-2.7**
IKRE	**Kreppuhraun** baz=74	**0.45**	**76**	P		**Pg**	**03 22 14.8**	**-3.2**
IJOK	**Jokulheimar** baz=227	**0.51**	**225**	P		**Pg**	**03 22 15.9**	**-3.1**
IMKO	**Mokollar** baz=54	**0.55**	**56**	P		**Pg**	**03 22 16.6**	**-3.2**
IKSK	**Karasker** baz=141	**0.66**	**142**	P		**Pg**	**03 22 17.7**	**-4.2**
IIEY	**Innrieyrar** baz=210	**0.66**	**209**	P		**Pg**	**03 22 18.4**	**-3.6**
IVSH	**V-Sauoahnukur** baz=78	**0.73**	**79**	P		**Pg**	**03 22 19.5**	**-3.8**
IKAL	**Kalfafell** baz=190	**0.74**	**190**	P		**Pg**	**03 22 19.7**	**-3.8**
IVAT	**Vatnsfell** baz=235	**0.82**	**234**	P		**Pg**	**03 22 21.4**	**-3.5**
IADA	**Aoalbol** baz=64	**0.85**	**65**	P		**Pg**	**03 22 21.4**	**-4.2**
IMEL	**Melhnausar** baz=18	**0.95**	**19**	P		**Pg**	**03 22 23.2**	**-4.2**
IREN	**Reynihlio** baz=11	**1.00**	**12**	P		**Pg**	**03 22 24.0**	**-4.4**
IKVO	**Krokottuvotn** baz=11	**1.06**	**12**	P		**Pg**	**03 22 25.1**	**-4.6**
IGRS	**Grimsstaoir** baz=28	**1.11**	**29**	P		**Pg**	**03 22 26.0**	**-4.5**
ISLY	**Slysaalda** baz=223	**1.14**	**222**	P		**Pg**	**03 22 26.6**	**-4.4**
IFED	**Fedgar** baz=238	**1.19**	**238**	P		**Pg**	**03 22 27.9**	**-4.1**
IRJU	**Rjupnafell** baz=209	**1.20**	**208**	P		**Pg**	**03 22 27.8**	**-4.4**
ISKI	**Skildingahlsh** baz=7.0	**1.21**	**7**	P		Pg	03 22 27.4	-5.0
IGHA	**Grjothals** baz=14	**1.21**	**15**	P		Pg	03 22 27.4	-5.0
IDIM	**Dimmadalss** baz=8.2	**1.31**	**8**	P		**Pn**	**03 22 29.2**	**-4.3**
IHLA	**Hella** baz=342	**1.34**	**342**	P		**Pn**	**03 22 30.0**	**-4.0**
IHED	**Heoinshofoi** baz=1.3	**1.41**	**2**	P		**Pn**	**03 22 30.8**	**-4.2**
IALF	**Alftagrof** baz=215	**1.43**	**214**	P		**Pn**	**03 22 31.3**	**-3.8**
ISIG	**Siglufjorour** baz=337	**1.59**	**337**	P		**Pn**	**03 22 33.5**	**-4.0**
BORG	**Borgarnes** 19nm,0.3s,baz=89,slow=8.6,SNR=82	**1.69**	**274**	Pn		**Pn**	**03 22 35.2**	**-3.6**
BORG	29nm,0.3s,baz=37,slow=20,SNR=11			Sn		**Sn**	**03 23 00.9**	**+0.5**
BORG	**Borgarnes**	**1.69**	**274**	P		**Pn**	**03 22 37.1**	**-1.7**
BORG							03 23 00.0	
BORG	**Borgarnes**	**1.69**	**274**	Pn		**Pn**	**03 22 37.1**	**-1.7**
BORG				Sn		**Sn**	**03 23 00.0**	**-0.4**
SUMG	**Summit**	**10.96**	**325**	P		**Pn**	**03 24 44.9**	**-1.3**
SUMG	**Summit**	**10.96**	**325**	Pn		**Pn**	**03 24 44.9**	**-1.3**
SUMG	**Summit**	**10.96**	**325**	*i* P		Pn	03 24 53.5	+7.3
SUMG	**Summit**	**10.96**	**325**	*i* P		Pn	03 24 53.5	+7.3
EKA	**Eskdalemuir Ar** baz=324,slow=14,SNR=8.3	**11.74**	**136**	Pn		**Pn**	**03 24 55.0**	**-1.5**
ESK	**Eskdalemuir**	**11.74**	**136**	P		**Pn**	**03 24 56.2**	**-0.4**
ESK	**Eskdalemuir**	**11.74**	**136**	Pn		**Pn**	**03 24 56.1**	**-0.4**
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P		**Pn**	**03 25 05.7**	**+3.4**
DAG	comp=Z,180nm,2.1s			pmax	pmax			
DAG	**Danmarks Havn** comp=Z,184nm,2.1s	**12.16**	**359**	*i* P		**Pn**	**03 25 05.7**	**+3.4**
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P		**Pn**	**03 25 05.7**	**+3.4**
DAG	comp=Z,185nm,2.1s			IAmb	IAmb		03 25 07.3	
DSB	**Dublin**	**12.77**	**149**	Pn		**Pn**	**03 25 11.5**	**+0.9**
NC204	**NORSAR Array S**	**13.19**	**92**	Pn		**Pn**	**03 25 14.3**	**-2.1**
NB2	**NORSAR Subarra** comp=Z,49nm,2.5s,baz=298,slow=14	**13.49**	**92**	Pn		**Pn**	**03 25 17.8**	**-2.7**
NOA	**NORSAR Array B**	**13.49**	**92**	Pn		**Pn**	**03 25 17.8**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=4.8							
SFJD	**Kangerlussuaq** comp=Z,859nm,18.4s,baz=84,slow=36	**13.70**	**295**	LR		LR	03 30 22.2	
SPITS	**Spitsbergen Ar** comp=Z,112nm,21.9s,baz=240,slow=32	**16.84**	**23**	LR		LR	03 31 02.6	
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**03 26 10.4**	**+1.7**
NOR	comp=Z,330nm,2.0s			pmax	pmax			
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**03 26 10.4**	**+1.7**
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**03 26 10.4**	**+1.7**
NOR	comp=Z,327nm,2.0s			IAmb	IAmb		03 26 12.2	
ARCES	**ARCESS Array B** baz=281,slow=10.0,SNR=7.2	**17.08**	**55**	P		**P**	**03 26 09.1**	**-0.4**
ARCES	comp=Z,344nm,21.8s,baz=275,slow=33			LR		LR	03 31 31.0	
IBBN	**Ibbenburen** comp=Z,174nm,2.1s,baz=326,slow=11	**17.90**	**122**	*e*P		**P**	**03 26 20.5**	**+1.9**
BEBN	**Eben Emael**	**18.41**	**128**	Pn		**P**	**03 26 23.6**	**-0.7**
BUG	**Bochum--Univer** comp=Z,439nm,3.0s,baz=326,slow=11	**18.43**	**124**	*e*P		**Pn**	**03 26 26.3**	**+1.9**
BMRD	**Maredsous**	**18.53**	**130**	Pn		**Pn**	**03 26 25.8**	**0.0**
BMRD				PnPn		**PnPn**	**03 26 39.6**	**+2.4**
BSTI	**Sart Tilman**	**18.56**	**129**	Pn		**Pn**	**03 26 26.9**	**+0.8**
BGES	**Gesves**	**18.57**	**130**	Pn		**P**	**03 26 25.9**	**-0.1**
BCLA	**Clavier**	**18.61**	**129**	Pn		**P**	**03 26 25.6**	**-0.8**
BCLA	**Clavier**	**18.61**	**129**	P		**Pn**	**03 26 32.6**	**+5.9**
DOU	**Dourbes**	**18.66**	**131**	Pn		**P**	**03 26 25.6**	**-1.3**
MEM	**Membach**	**18.69**	**128**	P		**Pn**	**03 26 34.0**	**+6.4**
BTNL	**Ternell**	**18.75**	**128**	Pn		**Pn**	**03 26 29.8**	**+1.4**
BTNL				PnPn		**PnPn**	**03 26 44.0**	**+3.8**
RCHB	**Rochefort**	**18.81**	**130**	P		**Pn**	**03 26 31.5**	**+2.4**
RCHB				PnPn		**PnPn**	**03 26 38.8**	**-2.2**
BHOU	**Houvegnez**	**18.90**	**128**	Pn		**P**	**03 26 29.6**	**0.0**
AHRW	**Bad Neuenahr-A** comp=Z,86nm,1.6s,baz=326,slow=11	**19.11**	**126**	*e*P		**Pn**	**03 26 34.8**	**+2.1**
ASSE	**Asse, Remlinge** comp=Z,247nm,2.4s,baz=326,slow=11	**19.13**	**118**	*e*P		**Pn**	**03 26 33.9**	**+1.0**
CLZ	**Clausthal** comp=Z,610nm,3.3s,baz=326,slow=11	**19.24**	**119**	*e*P		**Pn**	**03 26 35.6**	**+1.2**
GTTG	**Gottingen** comp=Z,582nm,3.2s,baz=326,slow=11	**19.33**	**120**	*e*P		**Pn**	**03 26 37.0**	**+1.6**
WLF	**Walferdange**	**19.54**	**129**	Pn		**Pn**	**03 26 40.0**	**+2.1**
WLF				PnPn		**PnPn**	**03 26 53.5**	**+2.5**
WLF	**Walferdange**	**19.54**	**129**	P		**P**	**03 26 37.0**	**+0.3**
WLF	comp=Z,46nm,1.6s			pmax	pmax			
WLF	**Walferdange**	**19.54**	**129**	P		**P**	**03 26 37.0**	**+0.3**
FIA1	**FINESS Array S**	**19.66**	**79**	P		**Pn**	**03 26 38.2**	**-1.1**
FINES	**FINESS Array B** comp=Z,0.0nm,0.3s,baz=265,slow=7.8,SNR=3.1	**19.66**	**79**	P		**Pn**	**03 26 39.2**	**0.0**
FINES	**FINESS Array B**	**19.66**	**79**	P		**P**	**03 26 37.8**	**-0.1**
TNS	**Taunus Mts** comp=Z,301nm,3.4s,baz=326,slow=11	**19.86**	**124**	*e*P		**Pn**	**03 26 42.3**	**+0.5**
UBBA	**Unterbreizbach** comp=Z,104nm,1.9s,baz=326,slow=11	**19.93**	**121**	*e*P		**Pn**	**03 26 43.3**	**+0.9**
NEUB	**Neuenburg** comp=Z,136nm,1.8s,baz=326,slow=11	**20.28**	**118**	*e*P		Pn	03 26 47.0	+0.3
LVZ	**Lovozero**	**20.65**	**58**	P		**P**	**03 26 47.5**	**-1.2**
LVZ	comp=Z,159nm,1.8s			pmax	pmax			
LVZ	**Lovozero**	**20.65**	**58**	P		**P**	**03 26 47.5**	**-1.2**
CLL	**Collm** comp=Z,106nm,1.8s	**20.67**	**116**	*i* P		**P**	**03 26 49.1**	**+0.2**
CLL				*e*S		Sn	03 30 48.0	+3.8
CLL				*e*SSS		SSS	03 31 20.0	
CLL	**Collm**	**20.67**	**116**	*i* P		**P**	**03 26 49.1**	**+0.2**
CLL	comp=Z,106nm,1.8s			pmax	pmax			
CLL	**Collm** comp=Z,106nm,1.8s,baz=326,slow=11	**20.67**	**116**	*e*P		Pn	03 26 50.6	-0.6
CLL	**Collm**	**20.67**	**116**	P		**P**	**03 26 48.8**	**-0.1**
CLL	comp=Z,108nm,1.8s			IAmb	IAmb		03 26 51.9	
MOX	**Moxa** comp=Z,110nm,1.9s,baz=326,slow=11	**20.67**	**119**	*e*P		Pn	03 26 50.6	-0.6
MOX	comp=Z,241nm,21.9s			*e*L		L	03 35 03.6	
GKP	**Gorka Klasztor**	**20.88**	**107**	*e*P		Pn	03 26 54.1	+0.5
PLN	**Plauen** comp=Z,170nm,2.2s,baz=326,slow=11	**21.00**	**118**	*e*P		**P**	**03 26 54.6**	**+2.0**
WERD	**Werda** comp=Z,113nm,2.2s,baz=326,slow=11	**21.09**	**118**	*e*P		**P**	**03 26 55.4**	**+1.9**
FBE	**Freiberg** comp=Z,642nm,3.0s,baz=326,slow=11	**21.11**	**116**	*e*P		**P**	**03 26 55.7**	**+2.0**
ECH	**Echery**	**21.13**	**130**	P		**P**	**03 26 54.0**	**+0.1**
ECH	comp=Z,22nm,1.2s			pmax	pmax			
ECH	**Echery**	**21.13**	**130**	P		**P**	**03 26 54.0**	**+0.1**
GUNZ	**Gunzen** comp=Z,108nm,2.0s,baz=326,slow=11	**21.17**	**118**	*e*P		**P**	**03 26 56.0**	**+1.6**
TANN	**Tannenbergstha** comp=Z,250nm,2.1s,baz=326,slow=11	**21.18**	**118**	*e*P		**P**	**03 26 56.1**	**+1.7**
WERN	**Wernitzgruen** comp=Z,76nm,1.8s,baz=326,slow=11	**21.25**	**118**	*e*P		**P**	**03 26 56.8**	**+1.6**
GRA1	**Grafenberg Arr**	**21.30**	**121**	P		**P**	**03 26 55.4**	**-0.4**
GRA1	comp=Z,74nm,1.4s			IAmb	IAmb		03 27 11.8	
GRF	**Grafenberg Arr**	**21.30**	**121**	P		**P**	**03 26 55.4**	**-0.4**
GRF	comp=Z,74nm,1.4s			pmax	pmax			
GRF	**Grafenberg Arr** comp=Z,99nm,1.9s,baz=326,slow=11	**21.30**	**121**	*e*P		**P**	**03 26 57.7**	**+1.9**
GRF	comp=Z,131nm,21.2s			*e*L		L	03 35 37.5	
NKC	**Novy Kostel**	**21.32**	**118**	*e*P		**P**	**03 26 56.6**	**+0.7**
NKC				*e*pP		**sP**	**03 27 02.0**	**+1.4**
NKC	**Novy Kostel**	**21.32**	**118**	*e*P		**P**	**03 26 56.6**	**+0.7**
NKC				*e*			03 27 02.0	
STU	**Stuttgart**	**21.34**	**126**	P		**P**	**03 26 55.7**	**-0.5**
STU	comp=Z,40nm,1.2s			pmax	pmax			
STU	**Stuttgart** comp=Z,194nm,2.2s,baz=326,slow=11	**21.34**	**126**	*e*P		**P**	**03 26 58.7**	**+2.5**
STU	**Stuttgart**	**21.34**	**126**	P		**P**	**03 26 55.7**	**-0.5**
STU	comp=Z,40nm,1.2s			IAmb	IAmb		03 27 03.4	
BRG	**Berggiesshubel** comp=Z,176nm,2.1s comp=N,339nm,13.8s comp=E,220nm,15.4s comp=Z,254nm,17.9s	**21.38**	**115**	*i* P		**P**	**03 26 56.4**	**-0.2**
BRG	**Berggiesshubel**	**21.38**	**115**	*i* P		**P**	**03 26 56.4**	**-0.2**
BRG	comp=Z,176nm,2.1s			pmax	pmax			
BRG	comp=N,339nm,13.8s			MLR	MLR			
BRG	comp=E,220nm,15.4s			MLR	MLR			
BRG	comp=Z,254nm,17.9s			MLR	MLR			
BRG	**Berggiesshubel** comp=Z,176nm,2.1s,baz=326,slow=11	**21.38**	**115**	*e*P		**P**	**03 26 58.1**	**+1.5**
MANZ	**Manzenberg** comp=Z,58nm,1.9s,baz=326,slow=11	**21.39**	**119**	*e*P		**P**	**03 26 58.1**	**+1.4**
BFO	**Black Forest**	**21.42**	**128**	P		**P**	**03 26 56.7**	**-0.4**
BFO	comp=Z,18nm,1.0s			pmax	pmax			
BFO	**Black Forest** comp=Z,104nm,1.9s,baz=326,slow=11	**21.42**	**128**	*e*P		**P**	**03 26 59.2**	**+2.2**
BFO	**Black Forest**	**21.42**	**128**	P		**P**	**03 26 56.7**	**-0.4**
VSU	**Vasula**	**21.52**	**86**	*e*P		**P**	**03 26 57.6**	**-0.4**
ROTZ	**Rotzenmuhle** comp=Z,87nm,1.9s,baz=326,slow=11	**21.61**	**120**	*e*P		**P**	**03 27 00.6**	**+1.6**
FRB	**Frobisher Bay** comp=Z,408nm,21.7s,baz=36,slow=35	**21.78**	**291**	LR		LR	03 34 55.4	
PVCC	**Panska Ves**	**21.90**	**115**	*e*P		**P**	**03 27 08.0**	**+5.9**
PVCC	**Panska Ves**	**21.90**	**115**	*e*P		**P**	**03 27 08.0**	**+5.9**
PABE	**Paberze**	**22.17**	**95**	*e*P		**P**	**03 27 04.5**	**-0.5**
PRA	**Prague**	**22.21**	**116**	*e*P		**P**	**03 27 05.0**	**-0.5**
PRA	**Prague**	**22.21**	**116**	*e*P		**P**	**03 27 05.0**	**-0.5**
PRU	**Pruhonice**	**22.32**	**116**	*e*P		**P**	**03 27 07.2**	**+0.6**
PRU				*ex*		x	03 27 18.1	
PRU	**Pruhonice**	**22.32**	**116**	*e*P		**P**	**03 27 07.2**	**+0.6**
KSP	**Ksiaz**	**22.33**	**112**	*e*P		**P**	**03 27 06.6**	**-0.2**
PBCC	**Pribram**	**22.35**	**117**	*e*P		**P**	**03 27 08.3**	**+1.3**
PBCC				*ex*		x	03 27 13.7	
WET	**Wettzell** comp=Z,52nm,2.1s,baz=326,slow=11	**22.37**	**120**	*e*P		**P**	**03 27 09.2**	**+1.9**
CHVC	**Chvalec**	**22.43**	**113**	*e*P		**P**	**03 27 08.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**22.47**	**116**	*e*P		**P**	**03 27 07.7**	**-0.6**
GOPC				*ex*		x	03 27 20.2	
GOPC	**GO Pecny, Ondr**	**22.47**	**116**	*e*P		**P**	**03 27 07.7**	**-0.6**
UPC	**Upice**	**22.48**	**113**	*e*P		**P**	**03 27 09.7**	**+1.3**
UPC	**Upice**	**22.48**	**113**	*e*P		**P**	**03 27 09.7**	**+1.3**
OSTC	**Ostas**	**22.52**	**113**	*e*P		**P**	**03 27 09.0**	**+0.2**
OSTC				*ex*		x	03 27 24.1	
KHC	**Kasperske Hory**	**22.64**	**119**	*e*P		**P**	**03 27 10.3**	**+0.1**
KHC				*e*pP		**sP**	**03 27 16.7**	**+1.9**
KHC	**Kasperske Hory**	**22.64**	**119**	*e*P		**P**	**03 27 10.3**	**+0.1**
KHC				*e*			03 27 16.7	
KHC	**Kasperske Hory**	**22.64**	**119**	P		**P**	**03 27 10.0**	**-0.2**
DPC	**Dobruska-Polom**	**22.73**	**113**	*e*P		**P**	**03 27 12.3**	**+1.3**
DPC				*ex*		x	03 27 21.7	
DPC	**Dobruska-Polom**	**22.73**	**113**	*e*P		**P**	**03 27 12.3**	**+1.3**
SENIN	**Lac Senin/Sane**	**22.80**	**132**	P		**P**	**03 27 12.7**	**+0.6**
SUW	**Suwalki**	**22.84**	**99**	*e*P		**P**	**03 27 12.4**	**+0.2**
DAVA	**Damuels** comp=Z,19nm,1.3s	**22.85**	**127**	*e*P		**P**	**03 27 14.1**	**+1.6**
GEC2	**GERESS Array S** comp=Z,55nm,1.8s,baz=326,slow=11	**22.92**	**119**	*e*P		**P**	**03 27 15.4**	**+2.2**
GEC2	comp=Z,58nm,1.6s			IAmb	IAmb		03 27 22.3	
GERES	**GERESS Array B** comp=Z,3.7nm,0.9s,baz=330,slow=7.7,SNR=22	**22.92**	**119**	P		**P**	**03 27 13.6**	**+0.4**
GERES	**GERESS Array B**	**22.92**	**119**	P		**P**	**03 27 13.2**	**0.0**
SSB	**Saint Sauveur**	**22.93**	**137**	P		**P**	**03 27 13.5**	**+0.3**
SSB	comp=Z,25nm,1.5s			pmax	pmax			
SSB	**Saint Sauveur**	**22.93**	**137**	P		**P**	**03 27 13.5**	**+0.3**
RETA	**Reutte** comp=Z,11nm,1.3s	**22.99**	**125**	*e*P		**P**	**03 27 15.0**	**+1.2**
ISAL	**Salakas**	**23.05**	**93**	*e*P		**P**	**03 27 13.9**	**-0.4**
KRLC	**Kraliky**	**23.12**	**113**	*e*P		**P**	**03 27 17.0**	**+1.8**
KRLC				*ex*		x	03 27 28.3	
KRLC	**Kraliky**	**23.12**	**113**	*e*P		**P**	**03 27 17.0**	**+1.8**
MOTA	**Moosalm** comp=Z,26nm,2.1s,SNR=9.6	**23.23**	**125**	*e*P		**P**	**03 27 17.4**	**+1.0**
TREC	**Trest**	**23.24**	**116**	*e*P		**P**	**03 27 17.1**	**+0.8**
TREC	**Trest**	**23.24**	**116**	*e*P		**P**	**03 27 17.1**	**+0.8**
DAVOX	**Davos/Dischmat** comp=Z,3.9nm,0.8s,baz=317,slow=12,SNR=9.7	**23.29**	**127**	P		**P**	**03 27 17.6**	**+0.5**
SQTA	**Sankt Quirin** comp=Z,14nm,1.0s,SNR=7.0	**23.38**	**125**	*e*P		**P**	**03 27 18.4**	**+0.6**
FETA	**Feichten** comp=Z,12nm,1.4s	**23.38**	**126**	*e*P		**P**	**03 27 20.0**	**+2.1**
TUE	**Stuetta**	**23.38**	**128**	P		**P**	**03 27 18.5**	**+0.5**
BEL	**Belsk**	**23.40**	**105**	*e*P		**P**	**03 27 18.0**	**0.0**
WATA	**Walderalm** comp=Z,27nm,2.3s,SNR=6.9	**23.41**	**124**	*e*P		**P**	**03 27 18.5**	**+0.3**
WTTA	**Wattenberg** comp=Z,26nm,1.6s,SNR=9.9	**23.49**	**124**	*e*P		**P**	**03 27 19.8**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**23.56**	**127**	P		**P**	**03 27 19.9**	**+0.1**
VRAC	**Vranov** comp=Z,2.2nm,0.7s,baz=330,slow=10,SNR=15	**23.66**	**114**	P		**P**	**03 27 20.7**	**+0.2**
VRAC	comp=Z,153nm,19.0s,baz=266,slow=41			LR		LR	03 38 14.0	
VRAC	**Vranov**	**23.66**	**114**	⇓P		**P**	**03 27 20.1**	**-0.5**
VRAC	**Vranov**	**23.66**	**114**	*e*P		**P**	**03 27 20.8**	**+0.3**
MORC	**Moravsky Berou**	**23.66**	**112**	⇓P		**P**	**03 27 21.1**	**+0.6**
MORC	**Moravsky Berou**	**23.66**	**112**	*e*P		**P**	**03 27 20.9**	**+0.3**
MORC	**Moravsky Berou**	**23.66**	**112**	P		**P**	**03 27 19.9**	**-0.7**
MORC	comp=Z,28nm,1.4s			pmax	pmax			
MORC	**Moravsky Berou**	**23.66**	**112**	P		**P**	**03 27 19.9**	**-0.7**
NACGM	**Naroch**	**23.78**	**93**	*e*		**P**	**03 27 22.0**	**+0.5**
KRUC	**Moravsky**	**23.78**	**115**	*e*P		**P**	**03 27 21.8**	**+0.1**
OKC	**Ostrava-Krasne**	**23.86**	**111**	*e*P		**P**	**03 27 22.6**	**+0.2**
OKC	**Ostrava-Krasne**	**23.86**	**111**	*e*P		**P**	**03 27 22.6**	**+0.2**
MOA	**Molln** comp=Z,14nm,1.9s	**23.96**	**119**	*e*P		**P**	**03 27 23.9**	**+0.5**
OJC	**Ojcow**	**24.22**	**109**	*e*P		**P**	**03 27 25.4**	**-0.4**
OJC	**Ojcow**	**24.22**	**109**	P		**P**	**03 27 24.6**	**-1.2**
OJC	comp=Z,33nm,1.5s			pmax	pmax			
OJC	**Ojcow**	**24.22**	**109**	P		**P**	**03 27 24.6**	**-1.2**
OJC	comp=Z,33nm,1.5s			IAmb	IAmb		03 27 30.7	
ABTA	**Abfaltersbach** comp=Z,9.3nm,1.9s	**24.24**	**123**	*e*P		**P**	**03 27 26.8**	**+0.6**
KBA	**Koelnbreinsper** comp=Z,9.1nm,1.2s	**24.26**	**122**	*e*P		**P**	**03 27 27.9**	**+1.5**
JAVC	**Velka Javorina**	**24.44**	**114**	*e*P		**P**	**03 27 29.1**	**+1.2**
CONA	**Conrad Observa** comp=Z,13nm,1.3s	**24.50**	**117**	*e*P		**P**	**03 27 29.9**	**+1.4**
MICGM	**Minsk**	**24.52**	**93**	⇓*e*P		**P**	**03 27 28.0**	**-0.5**
MICGM	comp=Z,0.3nm,1.5s			PM			03 27 30.0	
MNK	**Minsk**	**24.52**	**93**	⇓*e*P		**P**	**03 27 28.0**	**-0.5**
MNK	comp=Z,250nm,1.5s			pmax	pmax			
CTI	**Castel Tesino**	**24.54**	**125**	P		**P**	**03 27 29.0**	**+0.2**
CTI	comp=Z,14nm,1.0s			pmax	pmax			
CTI	**Castel Tesino**	**24.54**	**125**	P		**P**	**03 27 29.0**	**+0.2**
ZOU	**Zoufplan**	**24.57**	**123**	P		**P**	**03 27 29.9**	**+0.7**
ZOU	comp=Z,32nm

LVV	L'vov	26.28	104	*e*P	P	03 27 43.9	-0.5
PAB	San Pablo	26.30	157	P	P	03 27 46.1	+1.3
PAB				pmax	pmax		
	comp=Z,30nm,1.8s						
PAB	San Pablo	26.30	157	P	P	03 27 46.1	+1.3
PAB				lAmb	lAmb	03 27 55.6	
	comp=Z,30nm,1.8s						
RES	Resolute Bay	26.48	324	LR	LR	03 37 12.0	
	comp=Z,171nm,19.9s,baz=40,slow=34						
UZH	Uzhgorod	26.48	108	⇓*e*P	P	03 27 45.7	-0.6
UZH				*e*		03 27 50.5	
UZH				*e*		03 28 30.4	
UZH				*e*		03 31 12.6	
UZH				*e*S	S	03 32 14.8	-5.1
UZH				MLR	MLR		
	comp=N,190nm,20.0s						
UZH				MLR	MLR		
	comp=E,150nm,20.0s						
UZH				MLR	MLR		
	comp=Z,29nm,20.0s						
OSSC	Osservatorio P	26.61	129	P	P	03 27 48.2	+0.7
OSSC				lAmb	lAmb	03 28 00.2	
	comp=Z,20nm,1.1s						
MURB	Monte Urbino	27.28	127	P	P	03 27 54.0	+0.4
MURB				lAmb	lAmb	03 28 13.2	
	comp=Z,25nm,1.2s						
LATE	Laterza	27.61	129	P	P	03 27 57.1	+0.6
AKASG	Malin Array Be	27.80	98	P	P	03 27 58.3	+0.2
	comp=Z,6.1nm,1.0s,baz=325,slow=9.6,SNR=12						
AKASG				LR	LR	03 39 18.9	
	comp=Z,61nm,18.8s,baz=325,slow=37						
AKASG	Malin Array Be	27.80	98	P	P	03 27 58.3	+0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AKASG	Malin Array Be	27.80	98	lAmb	lAmb	03 28 01.2	
	comp=Z,1.9nm,1.1s						
AKBB	Malin Array Si	27.80	98	P	P	03 27 57.4	-0.7
AKBB				pmax	pmax		
	comp=Z,13nm,1.3s						
AKBB	Malin Array Si	27.80	98	P	P	03 27 57.4	-0.7
OBN	Obninsk	27.84	84	P	P	03 27 58.2	-0.1
	comp=Z,1.8nm,0.4s,baz=332,slow=15,SNR=7.0						
OBN				LR	LR	03 39 30.6	
	comp=Z,21nm,19.2s,baz=1.0,slow=38						
OBN	Obninsk	27.84	84	*e*P	P	03 27 58.6	+0.2
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN	Obninsk	27.84	84	P	P	03 27 58.9	+0.5
NRCA	Norcia	27.86	127	P	P	03 27 59.9	+1.1
NRCA				lAmb	lAmb	03 28 11.9	
	comp=Z,20nm,1.4s						
MOS	Moscow	27.88	82	*e*P	P	03 27 56.9	-1.8
MOS				*e*		03 28 43.7	
BUR08	Bucovina Ar. S	28.46	106	P	P	03 28 04.5	+0.4
BUR08				lAmb	lAmb	03 28 13.5	
	comp=Z,20nm,1.5s						
BURAR	Bucovina Array	28.49	106	P	P	03 28 04.5	+0.1
BZS	Buzias	28.64	113	⇓P	P	03 28 05.8	+0.2
GZR	Gura Zlata	29.29	112	⇑P	P	03 28 11.3	-0.1
SORM	Soroca	29.39	102	⇑P	P	03 28 13.4	+1.2
HERR	Herculane	29.57	113	⇑P	P	03 28 14.1	+0.3
VOIR		30.17	109	⇑P	P	03 28 19.8	+0.5
MLR	Muntele Rosu	30.49	108	LR	LR	03 41 16.0	
	comp=Z,127nm,19.8s,baz=330,slow=38						
MLR	Muntele Rosu	30.49	108	⇓P	P	03 28 21.6	-0.6
MLR	Muntele Rosu	30.49	108	P	P	03 28 22.8	+0.6
MLR	Muntele Rosu	30.49	108	P	P	03 28 22.8	+0.6
VRI	Vrincioaia	30.51	107	⇓P	P	03 28 23.1	+0.9
KIRV	Kirov	30.94	69	P	P	03 28 25.8	0.0
	comp=Z,9.0nm,0.7s,baz=286,slow=6.0,SNR=6.8						
KIRV				LR	LR	03 41 30.2	
	comp=Z,80nm,18.7s,baz=295,slow=38						
CFR	Carcaliu	31.65	106	⇓P	P	03 28 33.7	+1.5
CORL	Corleone	32.36	131	P	P	03 28 39.8	+1.2
CLTB	Caltabellotta	32.62	131	P	P	03 28 41.5	+0.6
CLTB				lAmb	lAmb	03 28 45.2	
	comp=Z,20nm,1.1s						
KEST	Kesra	33.14	138	P	P	03 28 47.4	+1.9
	comp=Z,2.4nm,1.0s,baz=64,slow=8.3,SNR=5.7						
KEST				LR	LR	03 41 32.0	
	comp=Z,138nm,19.7s,baz=200,slow=35						
KEST	Kesra	33.14	138	P	P	03 28 45.6	+0.2
KEST				lAmb	lAmb	03 28 54.5	
	comp=Z,14nm,1.4s						
ARU	Arti	36.04	66	P	P	03 29 10.0	-0.2
	comp=Z,0.7nm,0.3s,baz=324,slow=6.6,SNR=7.6						
ARU				LR	LR	03 43 33.6	
	comp=Z,201nm,22.0s,baz=314,slow=36						
ARU	Arti	36.04	66	P	P	03 29 10.0	-0.2
ARU	Arti	36.04	66	P	P	03 29 11.0	+0.8
NRIK	Noril'sk	36.43	35	P	P	03 29 14.0	+0.6
	comp=Z,11nm,1.2s,baz=322,slow=7.7,SNR=14						
NRIK				LR	LR	03 44 46.0	
	comp=Z,72nm,21.5s,baz=28,slow=37						
BRTR	Keskin Array B	38.44	105	P	P	03 29 32.1	+1.2
	comp=Z,2.2nm,0.8s,baz=335,slow=7.5,SNR=3.0						
BRTR				LR	LR	03 47 45.9	
	comp=Z,19nm,18.3s,baz=318,slow=40						
BRTR	Keskin Array B	38.44	105	P	P	03 29 31.9	+0.9
BRTR	Keskin Array B	38.44	105	P	P	03 29 31.9	+0.9
KIV	Kislovodsk	38.80	93	P	P	03 29 34.7	+0.8
KIV				pmax	pmax		
	comp=Z,21nm,1.2s						
KIV	Kislovodsk	38.80	93	P	P	03 29 34.7	+0.8
KIV				lAmb	lAmb	03 29 40.8	
	comp=Z,20nm,1.2s						
KBZ	Khabaz	39.07	93	P	P	03 29 37.1	+1.2
	comp=Z,7.7nm,1.0s,baz=323,slow=8.9,SNR=4.8						
KBZ				LR	LR	03 46 53.0	
	comp=Z,48nm,19.4s,baz=338,slow=38						
YKA	Yellowknife A	39.24	313	LR	LR	03 45 44.0	
	comp=Z,138nm,19.8s,baz=0.0,slow=36						
INK	Inuvik	39.85	329	P	P	03 29 41.0	-1.2
INK				pmax	pmax		
	comp=Z,19nm,1.4s						
INK	Inuvik	39.85	329	P	P	03 29 41.0	-1.2
AKTO	Aktyubinsk	40.24	73	LR	LR	03 46 23.5	
	comp=Z,182nm,21.3s,baz=319,slow=36						
ULM	Lac du Bonnet	41.64	289	LR	LR	03 46 00.8	
	comp=Z,158nm,20.4s,baz=96,slow=34						
ABKAR	Akbulak array	41.95	73	P	P	03 30 00.8	+1.0
ABKAR				lAmb	lAmb	03 30 02.9	
	comp=Z,33nm,1.8s						
TOLK	Toolik Lake Re	42.76	336	P	P	03 30 07.8	+1.6
BMAR	Burnt Mountain	42.91	333	P	P	03 30 07.0	-0.4
BRVK	Borovoye	43.09	62	P	P	03 30 09.5	+0.6
BRVK				pmax	pmax		
	comp=Z,19nm,1.4s						
BRVK	Borovoye	43.09	62	P	P	03 30 09.5	+0.6
MARD	Mardin	43.47	100	P	P	03 30 13.3	+1.0
FYU	Fort Yukon	43.78	333	P	P	03 30 16.1	+1.8
EGAK	Eagle	44.49	329	P	P	03 30 17.9	-2.2
EGAK				lAmb	lAmb	03 30 23.4	
	comp=Z,18nm,1.4s						
Q51A	Peebles	45.35	269	P	P	03 30 27.8	+0.5
Q51A				lAmb	lAmb	03 30 30.3	
	comp=Z,14nm,1.2s						
IL31		45.70	332	P	P	03 30 27.7	-1.9
IL31				lAmb	lAmb	03 30 33.9	
	comp=Z,25nm,1.6s						
ILAR	Eielson Array	45.70	332	P	P	03 30 31.0	+1.3
	comp=Z,3.7nm,1.0s,baz=28,slow=6.9,SNR=23						
ILAR				PcP	PcP	03 32 07.4	+0.1
	comp=Z,2.0nm,1.0s,baz=358,slow=3.0,SNR=9.1						
ILAR				LR	LR	03 52 07.0	
	comp=Z,81nm,18.5s,baz=28,slow=39						
ILAR	Eielson Array	45.70	332	P	P	03 30 27.8	-1.8
ILAR					PcP	03 32 07.2	-0.1
COLA	College	45.80	333	P	P	03 30 28.3	-2.1
COLA				pmax	pmax		
	comp=Z,31nm,1.4s						
COLA	College	45.80	333	P	P	03 30 28.3	-2.1
IMAR	Indian Mountai	45.87	337	P	P	03 30 30.2	-0.8
CCB	Clear Creek Bu	45.99	333	P	P	03 30 31.9	0.0
CCB				lAmb	lAmb	03 30 36.8	
	comp=Z,19nm,1.6s						
HDA	Harding Lake	46.03	332	P	P	03 30 31.7	-0.6
DOT	Dot Lake	46.11	330	P	P	03 30 34.7	+1.7
DOT				lAmb	lAmb	03 30 37.2	
	comp=Z,15nm,1.5s						
BCAR	Beaver Creek A	46.12	329	P	P	03 30 34.0	+0.9
RIDG	Independent Ri	46.19	331	P	P	03 30 33.0	-0.6
MENT	Mentasta	46.66	330	P	P	03 30 39.0	+1.7
PAX	Paxson	47.01	331	P	P	03 30 40.9	+0.8
PAX				pmax	pmax		
	comp=Z,38nm,1.6s						
PAX	Paxson	47.01	331	P	P	03 30 40.9	+0.8
WCI	Wyandotte Cave	47.29	271	P	P	03 30 43.0	+0.5
WCI				pmax	pmax		
	comp=Z,11nm,0.9s						
WCI	Wyandotte Cave	47.29	271	P	P	03 30 43.0	+0.5
WCI				lAmb	lAmb	03 30 45.7	
	comp=Z,11nm,0.8s						
DHY	Denali Highway	47.31	332	P	P	03 30 43.5	+1.0
DHY				lAmb	lAmb	03 30 53.8	
	comp=Z,10nm,1.4s						
ZAA0	Zalesovo Array	47.59	51	P	P	03 30 44.0	-0.7
ZALV	Zalesovo Beam	47.59	51	P	P	03 30 45.2	+0.5
	comp=Z,1.1nm,0.6s,baz=321,slow=11,SNR=9.5						
ZALV				PcP	PcP	03 32 14.9	+0.7
	comp=Z,0.4nm,0.4s,baz=321,slow=2.0,SNR=2.0						
ZALV				LR	LR	03 51 04.8	
	comp=Z,44nm,19.9s,baz=326,slow=36						
ZALV	Zalesovo Beam	47.59	51	P	P	03 30 45.1	+0.4
KURK	Kurchatov	48.07	58	P	P	03 30 48.1	-0.3
KURK	Kurchatov	48.07	58	P	P	03 30 47.7	-0.7
USIN	University of	48.10	272	P	P	03 30 49.5	+0.8
KURBB	Kurchatov Arra	48.12	58	P	P	03 30 48.1	-0.6
	comp=Z,5.8nm,1.0s,baz=323,slow=7.3,SNR=20						
T47A	Sharon Grove	48.68	271	P	P	03 30 53.7	+0.5
EGMT	Eagleton	48.91	297	P	P	03 30 54.8	-0.2
CLTN	Cedars of Leba	49.10	269	P	P	03 30 55.8	-0.7
CLTN				lAmb	lAmb	03 30 59.6	
	comp=Z,11nm,1.4s						
GEYT	Alibeck	50.38	84	LR	LR	03 56 28.2	
	comp=Z,52nm,18.1s,baz=175,slow=41						
GCMT	Churchill	50.72	295	P	P	03 31 07.7	-1.2
HRY	Holter Researc	50.79	298	P	P	03 31 08.7	-0.6
RLMT	Red Lodge	51.12	295	P	P	03 31 10.0	-1.9
YNE	Yellowstone No	51.51	295	P	P	03 31 15.5	+0.6
BOZ	Bozeman (W)	51.64	297	P	P	03 31 17.3	+1.5
BOZ				pmax	pmax		
	comp=Z,15nm,1.3s						
BOZ	Bozeman (W)	51.64	297	P	P	03 31 17.3	+1.5
BOZ				lAmb	lAmb	03 31 19.4	
	comp=Z,15nm,1.2s						
MAKZ	Makanchi	52.56	59	P	P	03 31 22.2	-0.2
MAKZ				pmax	pmax		
	comp=Z,30nm,1.5s						
MAKZ	Makanchi	52.56	59	P	P	03 31 22.2	-0.2
MK31	Makanchi Array	52.68	58	P	P	03 31 23.1	-0.3
MK31				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MK31	Makanchi Array	52.68	58	P	P	03 31 23.1	-0.3
MKAR	Makanchi Array	52.68	58	P	P	03 31 21.6	-1.8
	comp=Z,1.9nm,0.9s,baz=335,slow=5.5,SNR=7.9						
MKAR	Makanchi Array	52.68	58	P	P	03 31 22.5	-0.9
MKAR	Makanchi Array	52.68	58	P	P	03 31 22.5	-0.9
MCMT	McKenzie Canyo	52.75	297	P	P	03 31 25.1	+0.9
TOA0	Torodi Ar. Sit	53.13	157	P	P	03 31 26.9	-0.1
TOA0				lAmb	lAmb	03 31 29.8	
	comp=Z,16nm,1.6s						
TORD	Torodi Ar. Bea	53.13	157	P	P	03 31 25.8	-1.1
	comp=Z,4.0nm,1.1s,baz=345,slow=7.0,SNR=9.6						
TORD				LR	LR	03 53 34.3	
	comp=Z,51nm,20.5s,baz=295,slow=36						
TORD	Torodi Ar. Bea	53.13	157	P	P	03 31 26.6	-0.4
BW06	Boulder Array	53.21	293	lAmb	lAmb	03 31 30.1	
	comp=Z,10nm,1.1s						
PDAR	Pinedale Array	53.21	293	P	P	03 31 27.9	+0.3
	comp=Z,3.2nm,0.8s,baz=55,slow=5.3,SNR=23						
PDAR				LR	LR	03 53 32.5	
	comp=Z,217nm,19.5s,baz=41,slow=35						
PDAR	Pinedale Array	53.21	293	P	P	03 31 27.5	-0.1
N23A	Red Feather La	53.34	289	lAmb	lAmb	03 31 38.2	
	comp=Z,14nm,1.1s						
BOOM	Boomskoye usch	53.91	66	P	P	03 31 32.2	-0.4
BOOM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BOOM	Boomskoye usch	53.91	66	P	P	03 31 32.2	-0.4
BOOM				lAmb	lAmb	03 31 42.7	
	comp=Z,9.4nm,0.9s						
BTK	Batken	53.92	72	P	P	03 31 32.3	-0.3
BTK				pmax	pmax		
	comp=Z,22nm,1.0s						
BTK	Batken	53.92	72	P	P	03 31 32.3	-0.3
HLID	Hailey	54.42	297	lAmb	lAmb	03 31 40.0	
	comp=Z,18nm,1.8s						
GAR	Garm	54.61	73	P	P	03 31 37.3	-0.4
MOY	Mondy	54.62	42	*e*P	P	03 31 40.8	+3.2
MOY				pmax	pmax		
	comp=Z,75nm,2.0s						
KDJ	Kajisay	54.70	65	P	P	03 31 38.4	0.0
KDJ				pmax	pmax		
	comp=Z,30nm,1.7s						
KDJ	Kajisay	54.70	65	P	P	03 31 38.4	0.0
O20A	White River Ci	54.91	290	P	P	03 31 39.9	-0.1
O20A				lAmb	lAmb	03 31 45.2	
	comp=Z,21nm,1.5s						
HRA	Herat	55.15	82	P	P	03 31 40.9	-0.9
TLY	Talaya	55.36	40	P	P	03 31 42.1	-0.7
TLY				pmax	pmax		
	comp=Z,19nm,1.6s						
TLY	Talaya	55.36	40	P	P	03 31 42.1	-0.7
TLY				lAmb	lAmb	03 31 46.2	
	comp=Z,19nm,1.6s						
ZAK	Zakamensk	56.42	41	*e*P	P	03 31 51.7	+1.1
ZAK				pmax	pmax		
	comp=Z,12nm,1.6s						
KSH	Kashi	56.46	68	P	P	03 31 54.1	+3.1
KSH				S	S	03 39 39.4	-2.4
KSH				pmax	pmax		
	comp=Z,73nm,1.6s						
KSH				pmax	pmax		
	comp=Z,140nm,2.3s						
KSH				LR	LR		
	comp=N,74nm,4.5s						
KSH				LR	LR		
	comp=E,90nm,6.6s						
KSH				LR	LR		
	comp=Z,59nm,4.7s						
DUG	Dugway, Tooele	56.68	294	P	P	03 31 52.6	0.0
DUG				pmax	pmax		
	comp=Z,18nm,1.6s						
DUG	Dugway, Tooele	56.68	294	P	P	03 31 52.6	0.0
DUG				lAmb	lAmb	03 32 01.9	
	comp=Z,18nm,1.6s						
WMQ	Urumqi	57.19	56	*e*P	P	03 31 58.1	+2.0
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,60nm,3.7s						
WMQ	Urumqi	57.19	56	P	P	03 31 57.7	+1.6
WMQ				pmax	pmax		
	comp=Z,13nm,0.4s						
WMQ	Urumqi	57.19	56	P	P	03 31 57.7	+1.6
DBIC	Dimbokro	58.59	165	P	P	03 32 06.7	+0.7
	comp=Z,4.4nm,1.0s,baz=24,slow=12,SNR=2.3						
DBIC				LR	LR	03 57 01.7	
	comp=Z,25nm,21.4s,baz=337,slow=36						
DBIC	Dimbokro	58.59	165	P	P	03 32 06.7	+0.7
DBIC				pmax	pmax		
	comp=Z,11nm,1.2s						
DBIC	Dimbokro	58.59	165	lAmb	lAmb	03 32 14.0	
	comp=Z,11nm,1.1s						
TIC	Toumodi	58.60	166	*e*P	P	03 32 06.4	+0.3
KIC	Kosan Boka	58.91	165	*e*P	P	03 32 07.7	-0.5
	comp=Z,20nm,1.1s						
LIC	Lamto	59.01	166	*e*P	P	03 32 09.2	+0.2
	comp=Z,6.5nm,0.3s						
R11A	Troy Canyon, C	59.36	295	lAmb	lAmb	03 32 15.2	
	comp=Z,15nm,1.5s						
SONM	Songino Array	59.61	40	P	P	03 32 12.9	-0.1
	comp=Z,2.6nm,1.1s,baz=335,slow=6.7,SNR=8.9						
SONM	Songino Array	59.61	40	P	P	03 32 13.6	+0.7
SONM				pmax	pmax		
	comp=Z,14nm,1.7s						
SONM	Songino Array	59.61	40	P	P	03 32 13.6	+0.7
JCT	Junction City	59.69	278	P	P	03 32 13.7	+0.1
JCT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JCT	Junction City	59.69	278	P	P	03 32 13.7	+0.1
JCT				lAmb	lAmb	03 32 17.2	
	comp=Z,8.5nm,1.0s						
ULN	Ulaanbaatar	59.76	40	P	P	03 32 13.1	-0.9
ULN	Ulaanbaatar	59.76	40	P	P	03 32 13.1	-0.9
WUAZ	Wupatki	60.14	290	lAmb	lAmb	03 32 20.2	
	comp=Z,15nm,1.2s						
NVAR	Mina Array Bea	60.34	297	P	P	03 32 20.4	+2.2
	comp=Z,0.9nm,0.9s,baz=55,slow=2.9,SNR=5.5						
NVAR				LR	LR	03 58 24.0	
	comp=Z,251nm,18.3s,baz=26,slow=36						
NIL	Nilore	60.41	74	P	P	03 32 19.7	+1.2
NIL				pmax	pmax		
	comp=Z,43nm,1.6s						
NIL	Nilore	60.41	74	P	P	03 32 19.7	+1.2
SHPR	Sheep Range	60.79	294	P	P	03 32 19.4	-1.9
TPNV	Topopah Spring	60.83	295	lAmb	lAmb	03 32 29.3	
	comp=Z,8.3nm,1.4s						
MNTX	Cornudas Mount	60.99	283	P	P	03 32 21.8	-0.7
HIA	Hailar	61.60	30	P	P	03 32 27.7	+1.3
HIA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
HIA	Hailar	61.60	30	P	P	03 32 27.7	+1.3
TXAR	Lajitas Array	62.32	280	P	P	03 32 32.9	+1.3
	comp=Z,1.0nm,0.8s,baz=44,slow=4.0,SNR=11						
TXAR				LR	LR	03 58 59.5	
	comp=Z,133nm,19.8s,baz=0.0,slow=35						
TUC	Tucson	62.70	288	P	P	03 32 33.2	-0.8
TUC				pmax	pmax		
	comp=Z,19nm,1.8s						
TUC	Tucson	62.70	288	P	P	03 32 33.2	-0.8
GTA	Gaotai	65.26	49	P	P	03 32 52.0	+1.1
GTA				pP	sP	03 32 57.3	+1.5
GTA				sP	pP	03 33 00.6	+6.2
GTA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
HSIG		65.64	286	P	P	03 32 54.5	+1.1
HSIG				lAmb	lAmb	03 32 56.6	
	comp=Z,10nm,1.2s						
SDV	Santo Domingo	66.86	239	P	P	03 33 01.9	+0.4
SDV				lAmb	lAmb	03 33 12.2	
	comp=Z,9.5nm,1.2s						
PETF	Flores	67.35	262	P	P	03 33 05.3	+1.0
PETF				lAmb	lAmb	03 33 11.3	
	comp=Z,8.5nm,0.9s						
HHC	Hu-ho-hao-te	67.48	40	*e*P	P	03 33 05.0	0.0
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
ZAIG	Zacatecas	67.61	276	P	P	03 33 06.6	+0.3
ZAIG				lAmb	lAmb	03 33 10.6	
	comp=Z,3.9nm,0.8s						
MDJ	Mudanjiang	68.02	25	P	P	03 33 08.0	-0.2
LZH	Lanzhou	69.59	48	*e*P	P	03 33 15.4	-3.0
LZH				pP	sP	03 33 21.4	-1.9
LZH				sP	pP	03 33 24.8	+2.9
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
ASAJ	Asahikawa	70.42	15	LR	LR	04 05 37.9	
	comp=Z,26nm,18.2s,baz=132,slow=37						
XAN	Xi'an	73.05	44	P	P	03 33 40.0	+0.8
XAN				pP	PcP	03 33 55.0	-0.9
XAN				pmax	pmax		
	comp=Z,13nm,1.5s						
XAN				pmax	pmax		
	comp=Z,130nm,4.5s						
XAN				LR	LR		
	comp=N,170nm,19.5s						
KSRS	Korea Array	74.62	28	LR	LR	04 08 00.3	
	comp=N,29nm,19.5s,baz=345,slow=37						
SHL	Shillong	74.98	62	P	P	03 33 49.8	-0.9
SHL				pmax	pmax		
	comp=Z,24nm,1.5s						
SHL	Shillong	74.98	62	P	P	03 33 49.8	-0.9
KMBO	Kilima Mbogo	76.64	123	LR	LR	04 11 27.2	
	comp=Z,29nm,18.2s,baz=94,slow=39						
ENH	Enshi	76.73	45	P	P	03 34 02.8	+2.3
NJ2	Nanjing	77.70	37	*e*P	P	03 34 05.3	-0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	Guiyang	79.39	49	⇑P	P	03 34 16.1	+0.7
GYA				pmax	pmax		
	comp=Z,11nm,1.0s						
BDFB	Brasilia	83.41	210	LR	LR	04 05 19.8	
	comp=Z,96nm,19.0s,baz=93,slow=31						
CHTO	Chiang Mai	83.77	59	P	P	03 34 38.1	-0.3
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	Chiang Mai	83.77	59	P	P	03 34 38.1	-0.3
CHTO				lAmb	lAmb	03 34 41.1	
	comp=Z,12nm,1.3s						
CMAR	Chiang Mai Arr	84.09	59	P	P	03 34 39.4	-0.8
	comp=Z,4.2nm,0.3s,baz=326,slow=4.4,SNR=6.4						
CMAR	Chiang Mai Arr	84.09	59	P	P	03 34 41.3	+1.2
CMAR	Chiang Mai Arr	84.09	59	P	P	03 34 41.3	+1.2
JCJ	Chichijima	87.15	18	LR	LR	04 14 29.2	
	comp=Z,125nm,19.2s,baz=66,slow=36						
BOSA	Boshof	98.74	143	LR	LR	04 25 56.2	
	comp=Z,34nm,18.5s,baz=4.5,slow=39						
ASAR	Alice Springs	134.93	38	PKP	PKPdf	03 41 28.4	+0.4
	comp=Z,0.3nm,0.7s,baz=9.5,slow=2.8,SNR=2.5						
STKA	Stephens Creek	144.69	32	PKP	PKPdf	03 41 46.0	+0.6
	comp=Z,3.5nm,1.1s,baz=342,slow=4.8,SNR=3.7						
STKA	Stephens Creek	144.69	32	PKIKP	PKPdf	03 41 45.1	-0.3
STKA	Stephens Creek	144.69	32		PKPdf	03 41 45.1	-0.3
ARMA	Armidale	145.04	17		PKiKP	03 41 48.1	-1.9

SKHL ***19*** *03:23:39.3±0.5, 43.°54N×146.°91E, h36km±1km, mb4.6/3*
JMA ***19*** *03:23:39.1±0.1, 43.°50N×146.°77E, h76km±2km, M3.6*

ISC 19 03:23:38.5±1.8, 43.°54N±0.°08×146.°91E±0.°08, h57km±24km, n20, σ0.°67/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.87	259	P		Pn	03 23 55.2	+0.5
NEM2				eS		Sn	03 24 07.4	+0.8
NMR	Nemuro--Hokkai	0.88	259	*i* P		Pn	03 23 55.0	+0.2
NMR				*i* S		Sn	03 24 07.0	+0.2
YUK	Yuzh-Kuril'sk	0.91	303	*i* P		Pn	03 23 55.0	-0.2
YUK				AMB		AMB	03 23 56.0	
	310nm,0.3s							
YUK				*i* S		Sn	03 24 07.0	-0.5
YUK				A		A	03 24 10.0	
	1μm,0.3s							
YUK				A		A	03 24 10.0	
	2μm,0.3s							
GRPR	Tuman	0.94	299	*i* P		Pn	03 23 55.0	-0.6
GRPR				AMB		AMB	03 23 56.0	
	500nm,0.3s							
GRPR				*i* S		Sn	03 24 07.0	-1.3
GRPR				A		A	03 24 09.0	
	470nm,0.3s							
GRPR				A		A	03 24 09.0	
	1μm,0.3s							
GLVR	Golovnino	1.03	282	*i* P		Pn	03 23 57.0	+0.2
GLVR				AMB		AMB	03 23 57.0	
	300nm,0.4s							
GLVR				*i* S		Sn	03 24 10.8	+0.5
GLVR				A		A	03 24 12.0	
	2μm,0.4s							

Error ellipse: s-maj=45.8km s-min=17.7km az=150.0

*IDC **19** 03:26:40.5±1.5, 40°.32N×63°.02E, h0km, mb3.8/11, mb1 3.9/18, mb1mx3.7/59, mbtmp3.8/18, ML3.6/7, MS3.7/2, Ms1 3.7/2, ms1mx2.5/60, Error ellipse: s-maj=26.7km s-min=14.0km az=157.0*

*NEIC **19** 03:26:40.5±2.2, 40°.38N±0°.08×63°.08E±0°.06, h7km±6km, mb4.2/6, Error ellipse: s-maj=11.6km s-min=6.4km az=166.0*

*ISU **19** 03:26:41.0, 40°.30N×63°.30E, h5km*

ISC 19 03:26:41.1±0.6, 40°.45N±0°.05×63°.05E±0°.03, h15km, n52, σ2ˢ33/60, mb3.7/10, 9C-3D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUXR	Bukhara	1.22	125	*i* P	Pn	03 27 01.2	-2.5
BUXR				*i* S	Sn	03 27 20.3	+0.3
TMD	Tamdy-Bulak	1.77	42	*i* P	Pg	03 27 15.7	+0.6
TMD				*i* S	Sg	03 27 40.8	+2.7
NUT	Nurota	2.01	86	*i* P	Pb	03 27 17.2	-0.2
NUT				*i* S	Sb	03 27 42.2	0.0
DZI	Dzhizak	3.67	94	*i* P	Pn	03 27 35.8	-1.5
DZI				*i* S	Sn	03 28 07.0	-13
ASHT	Ashkhabad	4.40	237	Pn	Pn	03 27 47.9	+0.5
GEYT	Alibeck	4.58	238	Pn	Pn	03 27 49.0	-1.0
	3.1nm,0.3s,baz=60,slow=12,SNR=9.2						
GEYT				Sn	Sn	03 28 41.4	-1.6
	16nm,0.3s,baz=52,slow=25,SNR=3.3						
GEYT				Lg	Lg	03 29 01.2	
	15nm,0.3s,baz=63,slow=30,SNR=4.6						
GEYT	Alibeck	4.58	238		Pn	03 27 50.6	+0.7
GYA0B	ALIBECK ARRAY	4.58	238	⇑Pn	Pn	03 27 53.6	+3.7
GYA0B				⇓Sn	Sn	03 28 41.7	-1.2
GYA0B	ALIBECK ARRAY	4.58	238	Pn	Pn	03 27 50.6	+0.7
CHGR	Chuyangaron	5.05	109	Pn	Pn	03 27 56.1	-0.3
CHRV	Charvak	5.35	75	*e*P	Sn	03 28 59.6	-2.3
CHRV				S	Sg	03 29 33.7	+0.7
GAR	Garm	5.79	102	Pn	Pn	03 28 06.4	-0.2
BTK	Batken	5.96	91	Pn	Pn	03 28 08.3	-0.6
HRA	Herat	6.09	186	Pn	Pn	03 28 09.4	-1.3
KK31	Karatay Array	6.18	62	⇑Pn	Pn	03 28 12.0	+0.2
	0.6nm,0.3s,baz=239,slow=16,SNR=24						
KK31				⇑Pg	Pg	03 28 35.0	-4.4
	3.2nm,0.3s,baz=319,slow=60,SNR=4.1						
KK31				⇓Lg	Lg	03 29 56.9	
	30nm,0.6s,baz=247,slow=28,SNR=10						
KK31	Karatay Array	6.18	62	Pn	Pn	03 28 11.2	-0.6
KKAR	Karatay Array	6.18	62		Pn	03 28 11.4	-0.4
KKAR	Karatay Array	6.18	62		Pn	03 28 11.9	+0.1
KBL	Kabul	7.58	139	Pn	Pn	03 28 30.6	-0.7
AAK	Ala-Archa	8.86	72	⇓Pn	Pn	03 28 50.8	+2.1
	2.9nm,0.7s						
AAK				⇑Pg		03 29 26.6	
	0.4nm,0.5s						
AAK				⇑Sn	Sn	03 30 26.2	-2.1
	3.0nm,0.5s						
AAK				⇑Lg	Lg	03 31 22.3	
	9.0nm,0.7s						
AB31	Akbulak array	9.07	347	⇑Pn	Pn	03 28 52.5	+1.0
	0.4nm,0.2s,baz=157,slow=15,SNR=38						
AB31				⇑Sn	Sn	03 30 29.2	-4.1
	1.1nm,0.2s,baz=346,slow=42,SNR=4.7						
ABKAR	Akbulak array	9.07	347	Pn	Pn	03 28 52.3	+0.8
TKM2	Tokmak 2	9.71	71	⇑Lg	Lg	03 31 43.0	
	9.7nm,0.7s						
BOOM	Boomskoye usch	9.89	74	Pn	Pn	03 29 04.1	+1.2
AKTO	Aktyubinsk	10.59	342	Pn	Pn	03 29 13.4	+1.2
	1.7nm,0.3s,baz=156,slow=12,SNR=28						
AKTO				Sn	Sn	03 31 08.6	-1.8
	0.4nm,0.3s,baz=102,slow=20,SNR=2.0						
AKTO				Lg	Lg	03 32 13.7	
	0.2nm,0.3s,baz=120,slow=20,SNR=2.0						
NIL	Nilore	10.61	127	Pn	Pn	03 29 12.0	-0.6
BVAR	Borovoye Array	13.54	19	Pn	Pn	03 29 52.4	0.0
	0.6nm,0.3s,baz=220,slow=11,SNR=3.0						
BVAR				Sn	Sn	03 32 18.3	-4.3
	0.5nm,0.3s,baz=213,slow=22,SNR=1.9						
BRVK	Borovoye	13.54	19	Pn	Pn	03 29 52.3	-0.2
KURBB	Kurchatov Arra	14.84	42	Pn	Pn	03 30 08.2	-2.1
	0.0nm,0.3s,baz=239,slow=14,SNR=3.7						
KURBB				Lg	Lg	03 34 31.9	
	baz=228,slow=29,SNR=2.4						
MK31	Makanchi Array	15.29	59		Pn	03 30 16.9	+0.5
MKAR	Makanchi Array	15.29	59	Pn	Pn	03 30 14.1	-2.3
	0.1nm,0.3s,baz=249,slow=12,SNR=5.2						
MKAR				Lg	Lg	03 34 49.4	
	0.1nm,0.3s,baz=246,slow=30,SNR=3.1						
MKAR	Makanchi Array	15.29	59		Pn	03 30 15.3	-1.1
KBZ	Khabaz	15.31	289	Pn	Pn	03 30 15.5	-1.0
	0.2nm,0.3s,baz=169,slow=21,SNR=1.6						
KBZ				Sn	Sn	03 32 59.2	-6.5
	0.2nm,0.3s,baz=25,slow=19,SNR=1.2						
KVAR	Kislovodsk Arr	15.48	290	Pn	Pn	03 30 17.5	-1.4
	baz=90,slow=20,SNR=1.5						
KVAR				Sn	Sn	03 33 01.5	-8.6
	baz=0.0,slow=20,SNR=1.9						
KIV	Kislovodsk	15.48	290	Pn	Pn	03 30 19.4	+0.4
KIV				IAmb	IAmb	03 30 24.7	
	comp=Z,17nm,1.1s						
ZALV	Zalesovo Beam	19.92	40	P	Pn	03 31 13.8	+0.1
	comp=Z,0.7nm,0.4s,baz=237,slow=10,SNR=3.1						
AKASG	Malin Array Be	25.59	305	P	P	03 32 11.1	+1.6
	comp=Z,0.7nm,0.5s,baz=114,slow=7.7,SNR=4.2						
IDI	Anoyia	30.39	273	LR	LR	03 46 46.5	
	comp=Z,69nm,21.3s,baz=262,slow=40						
FIA1	FINESS Array S	30.71	326	P	P	03 32 57.7	+2.6
FINES	FINESS Array B	30.71	326	P	P	03 32 58.2	+3.1
	comp=Z,6.8nm,1.1s,baz=130,slow=10,SNR=10						
FINES	FINESS Array B	30.71	326	P	P	03 32 57.3	+2.2
ARCES	ARCESS Array B	35.14	338	P	P	03 33 36.5	+2.8
	comp=Z,1.0nm,0.7s,baz=134,slow=8.7,SNR=7.8						
GERES	GERESS Array B	35.55	300	P	P	03 33 40.4	+2.8
	comp=Z,0.4nm,0.7s,baz=76,slow=5.4,SNR=2.4						
HFS	Hagfors	36.07	320	P	P	03 33 43.7	+1.9
	comp=Z,2.3nm,0.7s,baz=91,slow=7.2,SNR=1.8						
NOA	NORSAR Array B	37.43	321	P	P	03 33 55.8	+2.4
	comp=Z,0.5nm,0.7s,baz=104,slow=8.6,SNR=1.7						
DAVOX	Davos/Dischmat	38.38	298	P	P	03 34 03.7	+1.9
	comp=Z,1.0nm,0.7s,baz=163,slow=8.8,SNR=3.7						
TORD	Torodi Ar. Bea	59.84	261	P	P	03 36 46.6	+0.4
	comp=Z,0.3nm,0.7s,baz=47,slow=5.4,SNR=1.7						
TORD	Torodi Ar. Bea	59.84	261	IAmb	IAmb	03 36 52.8	
	comp=Z,2.0nm,1.4s						
INK	Inuvik	70.85	6	P	P	03 37 59.3	+2.6
	comp=Z,1.1nm,0.9s,baz=2.6,slow=9.2,SNR=1.3						
INK	Inuvik	70.85	6	IAmb	IAmb	03 38 08.3	
	comp=Z,2.7nm,1.2s						
YKA	Yellowknife Ar	77.39	359	P	P	03 38 37.2	+2.2
	comp=Z,1.1nm,0.8s,baz=4.7,slow=5.6,SNR=2.3						
ASAR	Alice Springs	91.64	120	LR	LR	04 24 56.3	
	comp=Z,69nm,21.8s,baz=28,slow=38						

WEL 19 03:27:27.2±0.9, 37°S±10°×18°0W±°, h33km, M3.6/22, ML3.9/22, MLv3.6/22, Error ellipse: s-maj=0.0km s-min=0.0km az=138.9, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.74	237	P	Pn	03 27 54.0	-1.0
MXZ				S	Sn	03 28 16.6	+0.6
WMGZ	Waiomatatini S	1.82	229	P	Pn	03 27 57.0	+0.9
PKGZ	Pakihiroa	2.07	232	P	Pn	03 27 59.4	-0.3
PKGZ				S	Sn	03 28 25.5	+1.1
PUZ	Puketiti	2.08	226	P	Pn	03 27 59.9	+0.1
PUZ				S	Sn	03 28 25.2	+0.7
HAZ	Te Kaha	2.19	238	P	Pn	03 28 02.0	+0.7
HAZ				S	Sn	03 28 29.9	+2.7
TWGZ	Tauwhareparae	2.31	227	P	Pn	03 28 03.6	+0.7
RUGZ	Raukumara Rang	2.37	235	P	Pn	03 28 04.6	+0.7
RUGZ				S	Sn	03 28 33.0	+1.1
CNGZ	Carnagh Statio	2.41	219	P	Pn	03 28 05.2	+1.0
MWZ	Matawai	2.69	230	P	Pn	03 28 08.2	+0.1
MWZ				S	Sn	03 28 39.2	-0.3
RIGZ	Rimuhau	2.80	222	P	Pn	03 28 09.8	+0.1
RIGZ				S	Sn	03 28 43.2	+0.8
RAGZ	Rawiri	2.86	228	P	Pn	03 28 11.0	+0.5
RAGZ				S	Sn	03 28 43.9	+0.1
PRGZ	Paritu Road	2.91	217	P	Pn	03 28 11.3	+0.2
PRGZ				S	Sn	03 28 44.4	-0.5
URZ	Urewera	2.91	235	P	Pn	03 28 11.0	-0.1
URZ				S	Sn	03 28 44.8	-0.1
MHGZ	Mahia Peninsul	3.08	214	P	Pn	03 28 13.7	+0.3
KNZ	Kokohu	3.09	218	P	Pn	03 28 12.8	-0.7
KNZ				S	Sn	03 28 49.9	+0.7
SNGZ	Shannon Statio	3.09	225	P	Pn	03 28 13.7	+0.1
SNGZ				S	Sn	03 28 50.8	+1.4
OPRZ	Ohinepanea	3.11	246	P	Pn	03 28 13.1	-0.7
RTZ	Ruatahuna	3.20	231	P	Pn	03 28 14.8	-0.4
RTZ				S	Sn	03 28 52.9	+0.7
MUGZ	Murupara	3.25	234	P	Pn	03 28 15.6	-0.2
MUGZ				S	Sn	03 28 52.8	-0.6
TARZ	Mount Tarawera	3.31	240	P	Pn	03 28 16.7	0.0
RAHZ	Arahi	3.33	226	P	Pn	03 28 17.7	+0.8
MTHZ	Maungataniwha	3.43	229	P	Pn	03 28 17.5	-0.8
NMHZ	Naumai	3.61	226	P	Pn	03 28 21.0	+0.1
ARHZ	Aropaoanui	3.62	222	P	Pn	03 28 20.5	-0.4
MRHZ	Matea Rd	3.68	232	P	Pn	03 28 21.6	-0.2
BKZ	Black Stump Fm	3.84	228	P	Pn	03 28 24.0	0.0
TOZ	Tahuroa Road	3.86	252	P	Pn	03 28 23.5	-0.8
MCHZ	McNeill Hill	3.91	223	P	Pn	03 28 24.4	-0.5
KWHZ	Kaweka Forest	4.05	225	P	Pn	03 28 26.2	-0.7
KAHZ	Kahuranaki	4.07	218	P	Pn	03 28 25.9	-1.2
KRHZ	Kereru	4.23	223	P	Pn	03 28 29.0	-0.3
TMVZ	Te Maari	4.30	233	P	Pn	03 28 29.3	-1.0
BHHZ	Black Hill Sta	4.30	227	P	Pn	03 28 29.8	-0.5
KRVZ	Karewarewa	4.33	234	P	Pn	03 28 30.8	+0.1
OTVZ	Oturere	4.35	233	P	Pn	03 28 31.1	0.0
NGZ	Ngauruhoe	4.40	233	P	Pn	03 28 31.5	-0.3
TWVZ	Taurewa	4.45	235	P	Pn	03 28 31.6	-0.7
WNVZ	Wahianoa	4.49	232	P	Pn	03 28 31.6	-1.3
BFZ	Birch Farm	5.07	216	P	Pn	03 28 38.2	-2.5
MRZ	Mangatainoka R	5.38	220	P	Pn	03 28 42.5	-2.5
OUZ	Omahuta	5.49	283	P	Pn	03 28 42.1	-4.5
PKE	Pukeiti	5.50	240	P	Pn	03 28 46.4	-0.4
TUWZ	Tuamarina	6.80	223	P	Pn	03 29 02.1	-2.5
QRZ	Quartz Range	7.28	233	P	Pn	03 29 07.9	-3.2
OKCZ	Okains Bay	8.92	215	P	Pn	03 29 32.9	-0.7
AKCZ	Akaroa Harbour	9.10	215	P	Pn	03 29 32.4	-3.7
OXZ	Oxford	9.13	220	P	Pn	03 29 33.8	-2.7
MHCZ	Mount Hutt	9.52	221	P	Pn	03 29 39.1	-2.8
ARCZ	Arundel	10.01	220	P	Pn	03 29 45.1	-3.5

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*IDC **19** 03:34:16.3±2.0, 27°.75S×140°.79E, h0km, mb1 3.7/5, mb1mx3.5/36, mbtmp3.6/5, ML3.3/5, Error ellipse: s-maj=33.6km s-min=15.3km az=65.0*

*AUST **19** 03:34:16.6±0.4, 27°.94S×140°.85E, h0km, Error ellipse: s-maj=5.8km s-min=3.9km az=132.0*

ISC 19 03:34:17.5±1.2, 27°.89S±0°.04×140°.78E±0°.05, h17km±8km, n18, σ2ˢ12/31, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INKA	Innaminka	0.15	349	P	Pg	03 34 21.1	-0.5
	baz=0.2,SNR=482						
QLP	Quilpie	3.34	68	P	Pn	03 35 11.7	+2.7
	baz=3.3,SNR=3.9						
QLP				S	Sn	03 35 50.0	+1.8
	baz=3.3						
LCRK	Leigh Creek	3.40	221	P	Pn	03 35 12.0	+2.3
	baz=3.4,SNR=5.4						
LCRK				S	Sn	03 35 53.6	+3.9
	baz=3.4						
STKA	Stephens Creek	4.04	170	Pn	Pn	03 35 21.4	+2.8
	0.5nm,0.3s,baz=346,slow=16,SNR=11						
STKA				Pg	Pg	03 35 32.6	-2.4
	1.2nm,0.3s,baz=344,slow=12,SNR=12						
STKA				Sn	Sn	03 36 06.2	+0.6
	4.4nm,0.3s,baz=332,slow=19,SNR=9.9						
STKA				Lg	Lg	03 36 27.8	
	5.6nm,0.3s,baz=256,slow=23,SNR=4.9						
STKA	Stephens Creek	4.04	170	P	Pn	03 35 21.2	+2.6
	baz=4.0,SNR=6.7						
STKA				S	Sn	03 36 06.2	+0.6
	baz=4.0						
OOD	Oodnadatta	4.51	270	P	Pn	03 35 27.5	+2.5
	baz=4.6,SNR=4.6						
CMSA	Cobar Meteorol	5.61	132	P	Pn	03 35 42.1	+1.9
	baz=5.5						
CMSA				S	Sn	03 36 43.2	-1.1
	baz=5.5						
HTT	Hallett	5.75	196	P	Pn	03 35 44.5	+2.3
	baz=5.7,SNR=4.0						
HTT				S	Sn	03 36 51.1	+3.2
	baz=5.7						
MULG	Mulgathing	6.35	246	P	Pn	03 35 51.4	+1.1
	baz=6.4						
MULG				S	Sn	03 37 01.1	-1.3
	baz=6.4						
BBOO	Buckleboo	6.38	219	P	Pn	03 35 51.6	+0.8
	baz=6.4,SNR=14						
BBOO				S	Sn	03 37 03.3	0.0
	baz=6.4						
RMQ	Roma	7.24	81	P	Pn	03 36 02.3	-0.3
	baz=7.2						
RMQ				S	Sn	03 37 23.0	-1.5
	baz=7.2						
QIS	Mount Isa	7.37	351	P	Pn	03 36 06.0	+1.5
	baz=7.5,SNR=6.8						
QIS				S	Sn	03 37 28.1	+0.4
	baz=7.5						
ASAR	Alice Springs	7.49	303	Pn	Pn	03 36 06.9	+0.9
	1.0nm,0.3s,baz=119,slow=13,SNR=16						
ASAR				Sn	Sn	03 37 26.2	-4.3
	1.2nm,0.3s,baz=122,slow=23,SNR=9.6						
ASAR				Lg	Lg	03 38 11.0	
	baz=124,slow=28,SNR=1.9						
ARPS	Mount Arapiles	8.90	174	P	Pn	03 36 27.4	+2.1
	baz=8.9,SNR=11						
ARPS				S	Sn	03 38 02.6	-2.7
	baz=8.9						
CTA	Charters Tower	9.23	34	Pn	Pn	03 36 30.7	+0.7
	0.1nm,0.3s,baz=212,slow=10,SNR=1.6						
WRA	Warramunga Arr	9.86	322	Pn	Pn	03 36 37.5	-1.1
	0.5nm,0.3s,baz=140,slow=13,SNR=20						
WRA				Sn	Sn	03 38 21.1	-7.7
	0.6nm,0.3s,baz=138,slow=22,SNR=8.3						
WRA				Lg	Lg	03 39 26.6	
	baz=141,slow=32,SNR=2.8						
WRKA	Warakurna	11.54	281	P	Pn	03 37 02.8	+1.3
	baz=12,SNR=3.5						
FITZ	Fitzroy Crossi	16.99	302	Pn	Pn	03 38 13.4	-1.0
	0.2nm,0.3s,baz=126,slow=11,SNR=8.3						
FITZ				Sn	Sn	03 41 09.8	-13
	0.0nm,0.3s,baz=133,slow=19,SNR=2.4						

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*NEIC **19** 03:36:28.8±1.8, 55°.8S±0°.1×27°.9W±0°.2, h89km±8km, mb4.1/13, Error ellipse: s-maj=20.9km s-min=12.5km az=202.0*

*IDC **19** 03:36:32.5±6.5, 55°.85S×27°.88W, h121km±61km, mb3.6/7, mb1 3.7/9, mb1mx3.6/25, mbtmp4.0/9, Error ellipse: s-maj=25.3km s-min=16.9km az=49.0*

ISC 19 03:36:32.2±0.7, 55°.78S±0°.10×28°.23W±0°.09, h121km, n27, σ1ˢ65/26, mb4.0/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	4.98	284	Pn	Pn	03 37 43.2	-1.6
HOPE				Sn	Sn	03 38 39.5	-1.7
VNA1	Neumayer--Stat	17.27	157	P	Pn	03 40 29.8	+4.4
VNA3	Neumayer Olymp	17.44	160	P	P	03 40 25.8	-1.2
VNA2	Neumayer--Watz	17.66	157	P	P	03 40 28.2	-1.2
EFI	East Falkland	18.05	271	P	P	03 40 33.2	-0.5
SNAA	Sanae	19.23	156	P	P	03 40 45.0	-1.5
SNAA	Sanae	19.23	156	P	P	03 40 45.0	-1.5
	0.6nm,0.3s,baz=318,slow=13,SNR=55						
SNAA	Sanae	19.23	156	P	P	03 40 45.3	-1.3
PMSA	Palmer Station	19.64	228	P	P	03 40 52.7	+1.8
	0.3nm,0.3s,baz=90,slow=10,SNR=1.4						
BELA	Belgrano 2	22.30	184	P	P	03 41 18.0	-1.2
QSPA	South Pole Qui	34.47	180	P	P	03 43 07.9	-0.2
	1.1nm,0.5s,baz=181,slow=2.0,SNR=5.0						
CPUP	Villa Florida	36.20	312	P	P	03 43 24.4	+1.4
	1.8nm,0.6s,baz=143,slow=6.4,SNR=7.0						
CPUP	Villa Florida	36.20	312	IAmb	IAmb	03 43 24.9	
	comp=Z,3.0nm,0.8s						
MAW	Mawson	40.71	144	P	P	03 43 58.9	-1.4
	comp=Z,0.9nm,0.6s,baz=240,slow=8.7,SNR=2.2						
MAW	Mawson	40.71	144	IAmb	IAmb	03 45 02.0	
	comp=Z,2.7nm,1.8s						
VNDA	Vanda	46.81	183	P	P	03 44 49.1	+0.2
	comp=Z,0.5nm,0.7s,baz=187,slow=8.2,SNR=1.9						
GO01	Chusmiza	47.31	303	P	P	03 44 55.5	+1.5
MNMC	Minye Minye	47.96	303	P	P	03 45 00.7	+1.9
LBTB	Lobatse	49.50	74	P	P	03 45 09.2	-1.2
	comp=Z,1.2nm,0.5s,baz=239,slow=11,SNR=1.5						
LPAZ	La Paz	49.74	306	P	P	03 45 14.9	+2.0
	comp=Z,2.6nm,0.6s,baz=136,slow=5.7,SNR=23						
LPAZ	La Paz	49.74	306	P	P	03 45 14.8	+2.0
SAML	Samuel	54.20	316	P	P	03 45 46.3	+1.2
SAML				IAmb	IAmb	03 45 47.0	
	comp=Z,1.9nm,0.8s						
TORD	Torodi Ar. Bea	73.12	31	P	P	03 47 49.7	+0.6
	comp=Z,0.7nm,0.4s,baz=200,slow=6.3,SNR=26						
TORD	Torodi Ar. Bea	73.12	31	P	P	03 47 48.7	-0.4
IL31		149.50	312	PKPbc	PKPbc	03 56 04.1	-1.4
ILAR	Eielson Array	149.50	312	PKPbc	PKPbc	03 56 05.8	+0.2
	comp=Z,0.3nm,0.5s,baz=118,slow=2.5,SNR=13						
SONM	Songino Array	151.30	87	PKPbc	PKPbc	03 56 09.9	-0.7
	comp=Z,1.6nm,0.5s,baz=226,slow=4.0,SNR=4.6						

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*IDC **19** 03:43:02.4±1.5, 32°.76N×47°.70E, h0km, mb3.8/11, mb1 3.8/15, mb1mx3.6/61, mbtmp3.8/15, ML3.7/4, MS3.5/2, Ms1 3.6/2, ms1mx2.5/36, Error ellipse: s-maj=30.6km s-min=19.7km az=168.0*

*TEH **19** 03:43:02.7, 32°.59N×47°.70E, h8km, ML3.6*

*ISN **19** 03:43:02.7±0.9, 32°.66N×47°.65E, h15km±5km, ML3.3*

*THR **19** 03:43:08.4±0.6, 32°.84N×47°.90E, h14km±7km, ML3.3*

ISC 19 03:43:03.5±0.6, 32°.62N±0°.04×47°.58E±0°.04, h10km, n57, σ1ˢ13/60, mb3.6/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.16	116	*e*Pg	Pn	03 43 28.2	+2.5
SHGR				*e*Sg	Sn	03 43 42.1	+0.5
SHGR				IAML		03 43 45.2	
	comp=N,676nm,0.3s						
SHGR				IAML		03 43 46.0	
	comp=E,629nm,0.3s						
IDOB	Doab	1.27	23	*e*Pg	Pn	03 43 27.1	-0.4
IDOB				*e*		03 43 29.3	
IBDR	Badra	1.47	290	*e*Pg	Pn	03 43 30.0	0.0
IBDR				*e*Sg	Sg	03 43 51.0	+0.3
IBDR				AML	AML	03 44 06.1	
	comp=N,336nm,0.4s						
IBDR				AML	AML	03 44 07.9	
	comp=E,404nm,0.6s						
BMDN	Meydan	1.48	45	*e*Pg	Pn	03 43 30.2	-0.2
BMDN				*e*		03 43 55.8	
IKOM	Komasi	1.55	358	*e*Pg	Pg	03 43 33.3	+0.1
AHWZ	Ahwaz	1.58	145	*e*Pg	Pn	03 43 31.3	-0.2
KCHF	Cheshme Sefid,	1.71	345	*e*Pg	Pg	03 43 36.6	+0.3
KCHF				*e*		03 43 41.6	
KER	Kermanshah	1.80	348	*e*Pg	Pb	03 43 37.0	+0.4
HSAM	Samen	1.80	28	*e*Pg	Pb	03 43 36.0	-0.8
HSAM				*e*		03 43 37.9	
IBZA	Bozab	1.86	7	*e*Pg	Pb	03 43 37.9	+0.2
IBZA				*e*		03 44 07.3	
IGHG	Ghaleghazi	1.90	334	*e*Pn	Pb	03 43 39.0	+0.6
IGHG				*e*		03 44 15.5	
IVIS	Veis	1.99	343	*e*Pn	Pb	03 43 39.4	-0.5
IVIS				*e*		03 43 43.3	
KHMZ	Khomeyn	2.29	60	*e*Pn	Pn	03 43 43.1	+1.6
IDHR	Dehrash	2.30	335	*e*Pn	Pb	03 43 43.9	-1.2
IDHR				*e*		03 43 50.1	
SNGE	Sanandaj	2.47	356	*e*Pn	Pb	03 43 47.7	-0.4
SNGE				IAML		03 44 27.1	
	comp=N,174nm,0.8s						
HAGD	Aghdareh	2.55	30	*e*Pn	Pn	03 43 46.1	+0.9
HAGD				*e*		03 43 53.5	
JHBN	Jahan bin	2.64	98	*e*Pn	Pn	03 43 46.6	+0.1
JHBN				*e*		03 44 34.8	
HSRG	Sareghieh	2.68	12	*e*Pn	Pn	03 43 48.5	+1.6
HSRG				*e*		03 43 51.2	
BHD	Baghdad	2.76	284	*e*Pn	Pn	03 43 49.0	+1.2
BHD				*e*Sn	Sn	03 44 23.0	+1.8
BHD				AML	AML	03 44 25.6	
	comp=E,275nm,0.5s						
IPIR	Pirpir	2.80	88	*e*Pn	Pn	03 43 49.5	+0.9
IPIR				*e*		03 44 33.2	
ASAO	Ashtian	2.81	46	*e*Pn	Pn	03 43 50.6	+1.9
ASAO				*e*Sg	Sn	03 44 25.6	+2.9
IKLH	Kolahrood	3.44	77	*e*Pn	Pn	03 43 57.5	+0.2
IKLH				*e*		03 44 56.8	
QABG	Abgarm-Qazvin	3.50	28	*e*Pn	Pn	03 43 59.2	+1.0
GHVR	GHOM	3.62	58	*e*Pn	Pn	03 44 01.1	+1.4
IQOM	Qom	3.66	52	*e*Pn	Pn	03 44 00.9	+0.5
KLNJ	Kolanjah	3.78	114	*e*		03 45 24.2	
IGAR	Gharneh	3.78	92	*e*Pn	Pn	03 44 02.1	+0.1
IZEF	Zefreh	4.01	85	*e*Pn	Pn	03 44 06.2	+0.9
KRSH	Karshahi	4.05	69	*e*Pn	Pn	03 44 06.4	+0.7
IRAM	Ramesheh	4.15	100	*e*Pn	Pn	03 44 06.9	-0.3
IVRN	Varamin	4.19	54	*e*Pn	Pn	03 44 08.2	+0.7
QALM	Alamut, Qazvin	4.57	33	*e*Pn	Pn	03 44 14.3	+1.4
IDMV	Damavand	4.73	50	*e*Pn	Pn	03 44 15.2	+0.1
ANAR	Anarak	5.21	82	*e*Pn	Pn	03 44 21.8	+0.2
IFIR	Firoozkooh	5.25	54	*e*Pn	Pn	03 44 23.0	+0.8
MSL	Mosul	5.27	317	*e*Pn	Pn	03 44 24.0	+1.7
MSL				*e*Sn	Sn	03 45 22.0	-1.1
IALA	Alasht	5.54	50	*e*Pn	Pn	03 44 27.3	+1.1
ISHM	Shahmirzad	5.70	55	*e*Pn	Pn	03 44 27.7	-0.8
IANJ	Anjilo	5.98	60	*e*Pn	Pn	03 44 31.7	-0.5
TPRV	Parvadeh(Tabas	7.68	85	*e*Pn	Pn	03 44 56.1	+0.6
ASF	Jabal al Asfar	9.04	270	Pn	Pn	03 45 14.8	+0.7
	comp=E,0.4nm,0.3s,baz=54,slow=18,SNR=1.7						
ASF				Sn	Sn	03 46 53.4	-2.6
	comp=E,0.2nm,0.3s,baz=232,slow=19,SNR=1.9						
WSAR	Wadi Sarin	13.51	131	Pn	Pn	03 46 15.6	+0.3
	comp=E,0.4nm,0.3s,baz=12,slow=8.5,SNR=4.2						
WSAR				Sn	Sn	03 48 34.1	-11
	comp=E,0.1nm,0.3s,baz=258,slow=14,SNR=1.2						
IDI	Anoyia	19.00	284	P	Pn	03 47 27.7	+1.6
	comp=E,0.4nm,0.3s,baz=64,slow=13,SNR=1.5						
AKTO	Aktyubinsk	19.40	20	P	P	03 47 28.6	-1.0
	comp=E,0.2nm,0.3s,baz=207,slow=12,SNR=7.9						
AKASG	Malin Array Be	22.57	329	P	P	03 48 02.6	-1.1
	comp=E,0.4nm,0.3s,baz=136,slow=9.8,SNR=4.3						
ARU	Arti	25.00	15	P	P	03 48 26.9	-0.3
	comp=E,0.4nm,0.3s,baz=200,slow=21,SNR=2.1						
KURBB	Kurchatov Arra	29.01	43	P	P	03 49 02.7	-0.6
	comp=E,0.3nm,0.6s,baz=247,slow=9.2,SNR=3.2						
MKAR	Makanchi Array	29.95	52	P	P	03 49 11.2	-0.7
	comp=E,0.6nm,0.6s,baz=246,slow=9.2,SNR=4.8						
FINES	FINESS Array B	32.03	341	P	P	03 49 29.2	-0.6
	comp=E,0.7nm,0.3s,baz=146,slow=8.4,SNR=11						
ZALV	Zalesovo Beam	33.92	40	P	P	03 49 43.7	-2.8
	comp=E,0.4nm,0.3s,baz=216,slow=7.1,SNR=2.1						
HFS	Hagfors	35.40	331	P	P	03 49 58.7	-0.5
	comp=E,2.2nm,0.7s,baz=110,slow=13,SNR=6.8						
ARCES	ARCESS Array B	38.99	348	P	P	03 50 29.3	-0.2
	comp=E,0.9nm,0.7s,baz=149,slow=8.9,SNR=3.7						
TORD	Torodi Ar. Bea	46.09	256	P	P	03 51 29.4	+1.4
	comp=E,0.3nm,0.8s,baz=64,slow=7.1,SNR=1.8						
SPITS	Spitsbergen Ar	47.64	352	P	P	03 51 39.2	-0.1
	comp=E,5.0nm,0.8s,baz=138,slow=14,SNR=1.3						
CMAR	Chiang Mai Arr	48.02	94	LR	LR	04 17 52.0	
	comp=E,25nm,18.2s,baz=325,slow=44						
USRK	Ussuriysk Ar.	64.42	53	LR	LR	04 22 25.1	
	comp=E,67nm,18.6s,baz=211,slow=37						
SEY	Seymchan	67.76	29	P	P	03 54 00.6	-0.4
	comp=E,2.0nm,0.9s,baz=264,slow=1.9,SNR=1.3						

IDC 19 03:48:29.7±47.0, 9°.60S×108°.83W, h0km, mb3.3/3, mb1 3.8/3, mb1mx3.6/25, mbtmp3.3/3, Error ellipse: s-maj=918.0km s-min=220.9km az=162.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	36.32	135	T	T	04 34 44.0	
	baz=308,slow=77,SNR=18						
H03N1	Juan Fernandez	36.33	135	T	T	04 34 44.7	
	baz=308,slow=77,SNR=21						
H03N3	Juan Fernandez	36.33	135	T	T	04 34 46.2	
	baz=308,slow=77,SNR=18						
TXAR	Lajitas Array	39.02	7	P	P	03 55 58.1	-0.2
	0.6nm,1.1s,baz=190,slow=10,SNR=3.9						
NVAR	Mina Array Bea	48.59	350	P	P	03 57 15.4	+0.1
	0.3nm,0.7s,baz=183,slow=11,SNR=2.5						
PDAR	Pinedale Array	52.11	359	P	P	03 57 41.7	-0.2
	0.3nm,0.6s,baz=165,slow=8.4,SNR=4.0						
H11S2	WAKE ISLAND Hy	87.82	289	T	T	05 38 07.5	
	baz=101,slow=75,SNR=119						
H11S1	WAKE ISLAND Hy	87.83	289	T	T	05 38 03.4	
	baz=101,slow=75,SNR=68						
H11S3	WAKE ISLAND Hy	87.84	289	T	T	05 38 03.8	
	baz=101,slow=75,SNR=89						
H11N3	WAKE ISLAND Hy	87.86	290	T	T	05 38 04.3	
	baz=101,slow=74,SNR=16						

H11N2	**WAKE ISLAND Hy 87.88 290** baz=101,slow=74,SNR=17	T	T	05 38 05.5
H11N1	**WAKE ISLAND Hy 87.88 290** baz=101,slow=74,SNR=11	T	T	05 38 05.6

NEIC ***19*** *03:54:08.7±0.8, 17.3°S±0.7×179.0°W±0.4, h534km±24km, mb4.0/3, Error ellipse: s-maj=110.6km s-min=24.5km az=153.0*
IDC ***19*** *03:54:11.4±9.5, 17.4°S×179.09W, h553km±85km, mb3.6/3, mb1 3.7/4, mb1mx3.0/43, mbtmp4.5/4, Error ellipse: s-maj=105.8km s-min=63.3km az=129.0*

ISC 19 03:54:08.5±0.9, 17.7°S±0.3×178.8°W±0.2, h539km, n13, σ0.51/13, mb4.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**03 56 02.9**	**+0.1**
DZM	**Mont Dzumac**	**14.60**	**250**	P	**P**	**03 57 14.4**	**+0.1**
	0.5nm,0.3s,baz=91,slow=15,SNR=6.4						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**04 00 45.2**	**+0.7**
	3.8nm,0.4s,baz=84,slow=7.2,SNR=21						
STKA	**Stephens Creek**	**38.47**	**241**	IAmb	IAmb	04 02 23.8	
	comp=Z,4.1nm,1.6s						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**04 01 30.7**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=96,slow=7.6,SNR=37						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**04 01 31.0**	**-0.4**
AS31	**Alice Springs**	**44.55**	**254**	P	**P**	**04 01 32.3**	**-0.5**
AS31				IAmb	IAmb	04 01 33.4	
	comp=Z,5.5nm,0.6s						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**04 01 33.0**	**+0.1**
	comp=Z,18nm,0.6s,baz=89,slow=7.8,SNR=330						
ASAR				PcP	**PcP**	**04 03 04.5**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=100,slow=4.2,SNR=5.4						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**04 01 31.8**	**-1.0**
SNAA	**Sanae**	**90.86**	**179**	PKPdf	**P**	**04 06 13.9**	**-0.4**
VNA3	**Neumayer Olymp**	**91.02**	**176**	PKPdf	**P**	**04 06 15.0**	**0.0**
VNA2	**Neumayer--Watz**	**91.45**	**177**	PKPdf	**P**	**04 06 16.7**	**-0.3**
GERES	**GERESS Array B**	**147.28**	**345**	PKPbc	**PKPbc**	**04 12 51.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=23,slow=3.5,SNR=1.7						

IDC ***19*** *04:00:31.1±0.5, 13.7°N×144.64E, h136km±4km, mb3.5/10, mb1 3.7/10, mb1mx3.5/40, mbtmp3.9/10, Error ellipse: s-maj=26.3km s-min=13.3km az=100.0*
NEIC ***19*** *04:00:31.4±2.0, 13.7°N±0.1×144.67E±0.04, h141km±5km, mb4.1/12, Error ellipse: s-maj=16.3km s-min=5.4km az=171.0*

ISC 19 04:00:31.6±0.6, 13.70N±0.10×144.7E±0.2, h150km, n36, σ1.902/30, mb3.8/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.19**	**127**	P	**Pn**	**04 00 51.0**	**-0.9**
	599nm,0.3s,baz=243,slow=2.8,SNR=313						
GUMO				S	**Sn**	**04 01 05.4**	**-1.8**
	274nm,0.3s,baz=30,slow=21,SNR=26						
GUMO	**Guam**	**0.19**	**127**		**Pn**	**04 00 51.2**	**-0.7**
JCJ	**Chichijima**	**13.54**	**350**	Pn	**Pn**	**04 03 36.6**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**21.64**	**74**	T	T	04 27 59.9	
	baz=260,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**21.65**	**74**	T	T	04 28 01.5	
	baz=260,slow=75,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**21.65**	**74**	T	T	04 28 01.0	
	baz=260,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**22.05**	**71**	T	T	04 28 29.8	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**22.06**	**71**	T	T	04 29 13.7	
	baz=258,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.07**	**71**	T	T	04 28 35.3	
	baz=258,slow=74						
JNU	**Nakatsue**	**23.08**	**329**	P	**P**	**04 05 25.2**	**+1.0**
	4.2nm,0.7s,baz=224,slow=19,SNR=1.8						
MJAR	**Matsushiro Arr**	**23.48**	**347**	P	**P**	**04 05 27.5**	**-0.3**
	2.9nm,0.7s,baz=171,slow=9.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**23.48**	**347**	P	**P**	**04 05 29.4**	**+1.7**
MAJO	**Matsushiro**	**23.48**	**347**	P	**P**	**04 05 28.6**	**+0.8**
MAJO				IAmb	IAmb	04 05 30.6	
	comp=Z,6.9nm,0.8s						
WRAB	**Tennant Creek**	**34.95**	**197**	P	**P**	**04 07 09.9**	**+0.5**
WRA	**Warramunga Arr**	**34.96**	**197**	P	**P**	**04 07 09.7**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=13,slow=8.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**36.77**	**211**	P	**P**	**04 07 25.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=27,slow=10,SNR=13						
XAN	**Xi'an**	**38.21**	**308**	P	**P**	**04 07 36.2**	**-0.8**
AS31	**Alice Springs**	**38.61**	**196**	P	**P**	**04 07 40.5**	**+0.1**
AS31				IAmb	IAmb	04 08 51.4	
	comp=Z,1.1nm,1.1s						
ASAR	**Alice Springs**	**38.61**	**196**	P	**P**	**04 07 41.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=16,slow=12,SNR=7.5						
CHTO	**Chiang Mai**	**44.14**	**283**	P	**P**	**04 08 26.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**44.15**	**282**	P	**P**	**04 08 25.7**	**0.0**
STKA	**Stephens Creek**	**45.42**	**184**	P	**P**	**04 08 35.5**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=342,slow=9.6,SNR=3.9						
STKA	**Stephens Creek**	**45.42**	**184**	IAmb	IAmb	04 08 37.1	
	comp=Z,1.1nm,1.0s						
MK31	**Makanchi Array**	**61.31**	**316**	P	**P**	**04 10 31.6**	**+0.3**
MK31				IAmb	IAmb	04 10 32.2	
	comp=Z,5.5nm,1.4s						
MKAR	**Makanchi Array**	**61.31**	**316**	P	**P**	**04 10 31.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=91,slow=8.8,SNR=12						
ZAA0	**Zalesovo Array**	**61.45**	**324**	P	**P**	**04 10 33.8**	**+1.8**
ZAA0				IAmb	IAmb	04 10 53.8	
	comp=Z,5.1nm,1.4s						
ZALV	**Zalesovo Beam**	**61.45**	**324**	P	**P**	**04 10 33.6**	**+1.6**
MAKZ	**Makanchi**	**61.52**	**316**	P	**P**	**04 10 32.5**	**-0.3**
IL31		**68.53**	**25**	P	**P**	**04 11 18.4**	**+0.9**
ILAR	**Eielson Array**	**68.53**	**25**	P	**P**	**04 11 17.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=250,slow=5.8,SNR=15						
ABKAR	**Akbulak array**	**76.36**	**318**	P	**P**	**04 12 03.5**	**-0.8**
YKA	**Yellowknife Ar**	**82.83**	**27**	P	**P**	**04 12 38.1**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=295,slow=4.1,SNR=2.3						
NVAR	**Mina Array Bea**	**86.97**	**51**	P	**P**	**04 13 02.6**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=260,slow=5.2,SNR=7.7						
TORD	**Torodi Ar. Bea**	**134.68**	**305**	PKP	**PKiKP**	**04 19 35.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=97,slow=1.3,SNR=1.3						
DBIC	**Dimbokro**	**143.64**	**302**	PKP	**PKPdf**	**04 19 48.2**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=34,slow=3.6,SNR=0.9						
LPAZ	**La Paz**	**148.19**	**99**	PKPbc	**PKPab**	**04 20 04.3**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=298,slow=1.9,SNR=9.3						

NEIC ***19*** *04:02:45.4±2.1, 11.50N±0.10×143.5E±0.1, h10km±1km, mb4.5/25, Error ellipse: s-maj=21.7km s-min=15.7km az=108.0*
IDC ***19*** *04:02:46.4±0.8, 11.85N×143.50E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.1/42, mbtmp4.2/15, ML3.8/1, MS3.4/12, Ms1 3.4/12, ms1mx3.2/42, Error ellipse: s-maj=22.6km s-min=17.8km az=97.0*

ISC 19 04:02:49.3±0.6, 11.75N±0.09×143.50E±0.09, h25km, n59, σ1.908/49, mb4.4/22, MS3.5/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.26**	**36**	Pn	**Pn**	**04 03 25.5**	**+0.3**
	29nm,0.3s,baz=196,slow=6.4,SNR=5.3						
GUMO				Sn	**Sn**	**04 03 51.8**	**-0.4**
	92nm,0.3s,baz=163,slow=19,SNR=4.1						
GUMO				LR	LR	04 04 10.9	
	comp=Z,168nm,21.1s,baz=208,slow=39						
JAY	**Jayapura**	**14.44**	**191**	LR	LR	04 11 30.8	
	comp=Z,358nm,18.1s,baz=86,slow=36						
PATS	**Pohnpei**	**15.41**	**107**	Pn	**Pn**	**04 06 22.2**	**-3.0**
H11N1	**WAKE ISLAND Hy**	**23.84**	**68**	T	T	04 32 57.5	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**23.85**	**68**	T	T	04 32 56.7	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**23.86**	**68**	T	T	04 32 56.8	
	baz=256						
JNU	**Nakatsue**	**24.21**	**333**	P	**P**	**04 08 04.5**	**+0.4**
	6.7nm,0.7s,baz=162,slow=11,SNR=3.1						
JNU				LR	LR	04 16 21.8	
	comp=Z,57nm,18.3s,baz=176,slow=34						
JNU	**Nakatsue**	**24.21**	**333**	P	**P**	**04 08 03.9**	**-0.3**
JNU				IAmb	IAmb	04 08 07.0	
	comp=Z,21nm,1.3s						
JYT	**Yasato**	**24.55**	**354**	P	**P**	**04 08 06.5**	**-0.6**
JWT	**Wachi**	**24.55**	**344**	P	**P**	**04 08 07.8**	**+0.6**
JWT				IAmb	IAmb	04 08 23.1	
	comp=Z,14nm,1.4s						
MJAR	**Matsushiro Arr**	**25.14**	**350**	P	**P**	**04 08 12.2**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=144,slow=8.7,SNR=4.3						
MJAR				LR	LR	04 17 24.6	
	comp=Z,134nm,18.9s,baz=190,slow=35						

MJAR	**Matsushiro Arr**	**25.14**	**350**	P	**P**	**04 08 11.6**	**-0.9**
MYLDM	**Lahad Datu**	**25.56**	**257**	P	**P**	**04 08 13.0**	**-3.5**
KSRS	**Korea Array**	**29.16**	**334**	LR	LR	04 20 09.8	
	comp=Z,53nm,18.2s,baz=150,slow=36						
WRA	**Warramunga Arr**	**32.76**	**196**	P	**P**	**04 09 21.3**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=19,slow=9.8,SNR=17						
WRA				LR	LR	04 23 11.4	
	comp=Z,162nm,18.2s,baz=0.0,slow=37						
AS31	**Alice Springs**	**36.43**	**195**	P	P	04 09 46.0	-6.2
ASAR	**Alice Springs**	**36.43**	**195**	P	P	04 09 47.5	-4.8
PETK	**Petropavlovsk-**	**42.79**	**13**	LR	LR	04 27 02.6	
	comp=Z,42nm,21.5s,baz=205,slow=34						
CMAR	**Chiang Mai Arr**	**43.45**	**284**	P	**P**	**04 10 51.9**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=90,slow=6.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**43.45**	**284**	P	**P**	**04 10 50.1**	**-0.5**
FORT	**Forrest**	**44.82**	**199**	P	P	04 10 57.0	-4.4
ULN	**Ulaanbaatar**	**47.15**	**327**	P	**P**	**04 11 18.8**	**-1.1**
SONM	**Songino Array**	**47.49**	**327**	P	**P**	**04 11 23.2**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=139,slow=8.1,SNR=5.9						
SONM				LR	LR	04 30 38.7	
	comp=Z,43nm,21.4s,baz=76,slow=35						
SONM	**Songino Array**	**47.49**	**327**	P	**P**	**04 11 23.4**	**+1.0**
RPZ	**Rata Peaks**	**60.65**	**157**	P	**P**	**04 12 59.8**	**+1.6**
	comp=Z,3.8nm,0.6s,baz=0.0,slow=6.1,SNR=1.1						
MK31	**Makanchi Array**	**61.90**	**317**	P	**P**	**04 13 07.5**	**+0.7**
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**04 13 07.7**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=92,slow=9.7,SNR=7.7						
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**04 13 06.2**	**-0.6**
ZAA0	**Zalesovo Array**	**62.35**	**325**	P	**P**	**04 13 10.2**	**+0.6**
ZAA0				IAmb	IAmb	04 13 12.7	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**62.35**	**325**	P	**P**	**04 13 10.0**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=112,slow=6.9,SNR=6.7						
ZALV				LR	LR	04 42 23.2	
	comp=Z,29nm,18.6s,baz=190,slow=38						
ZALV	**Zalesovo Beam**	**62.35**	**325**	P	**P**	**04 13 09.2**	**-0.5**
KURK	**Kurchatov**	**65.14**	**321**	P	**P**	**04 13 28.1**	**0.0**
NRIK	**Noril'sk**	**67.43**	**341**	P	**P**	**04 13 42.9**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=107,slow=8.2,SNR=6.0						
KK31	**Karatay Array**	**69.66**	**312**	P	**P**	**04 13 57.1**	**+0.2**
KK31				IAmb	IAmb	04 13 59.0	
	comp=Z,3.6nm,1.1s						
KKAR	**Karatay Array**	**69.66**	**312**	P	**P**	**04 13 57.4**	**+0.5**
COLD	**Coldfoot**	**70.14**	**22**	P	**P**	**04 14 00.5**	**+1.1**
CHGR	**Chuyangaron**	**70.56**	**307**	P	**P**	**04 14 01.3**	**-1.4**
BRVK	**Borovoye**	**70.61**	**322**	P	**P**	**04 14 01.9**	**-0.6**
BRVK				IAmb	IAmb	04 14 03.9	
	comp=Z,4.2nm,0.7s						
KBL	**Kabul**	**70.68**	**303**	P	**P**	**04 14 03.7**	**+0.1**
KBL				IAmb	IAmb	04 14 06.7	
	comp=Z,3.2nm,0.8s						
IL31		**70.79**	**25**	P	**P**	**04 14 02.4**	**-0.9**
IL31				IAmb	IAmb	04 14 03.5	
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**70.79**	**25**	P	**P**	**04 14 02.4**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=248,slow=5.1,SNR=20						
ILAR	**Eielson Array**	**70.79**	**25**	P	**P**	**04 14 02.2**	**-1.2**
TOLK	**Toolik Lake Re**	**70.80**	**21**	P	**P**	**04 14 04.7**	**+1.2**
DOT	**Dot Lake**	**71.76**	**27**	P	**P**	**04 14 09.0**	**-0.3**
BMAR	**Burnt Mountain**	**72.30**	**23**	P	**P**	**04 14 13.1**	**+0.6**
HRA	**Herat**	**76.30**	**303**	P	**P**	**04 14 36.0**	**-0.7**
INK	**Inuvik**	**76.56**	**22**	P	**P**	**04 14 37.4**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=238,slow=4.0,SNR=6.6						
INK	**Inuvik**	**76.56**	**22**	P	**P**	**04 14 37.2**	**0.0**
ABKAR	**Akbulak array**	**77.00**	**318**	P	**P**	**04 14 40.0**	**-0.1**
BEKR	**Beckworth**	**87.21**	**50**	P	**P**	**04 15 34.3**	**+0.2**
BEKR				IAmb	IAmb	04 15 38.6	
	comp=Z,2.7nm,0.9s						
BMO	**Blue Mountains**	**88.23**	**45**	P	**P**	**04 15 39.1**	**+0.4**
BMO				IAmb	IAmb	04 15 43.5	
	comp=Z,2.3nm,0.8s						
ARCES	**ARCESS Array B**	**88.41**	**342**	P	**P**	**04 15 39.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=51,slow=9.6,SNR=4.8						
ARCES				LR	LR	04 59 31.5	
	comp=Z,31nm,18.1s,baz=335,slow=39						
NVAR	**Mina Array Bea**	**89.11**	**51**	P	**P**	**04 15 45.2**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=263,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**92.25**	**335**	P	**P**	**04 15 56.5**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=7.8,slow=4.2,SNR=3.6						
AKASG	**Malin Array Be**	**95.73**	**324**	LR	LR	05 02 06.9	
	comp=Z,22nm,18.2s,baz=295,slow=37						
NOA	**NORSAR Array B**	**98.28**	**339**	LR	LR	05 04 12.8	
	comp=Z,13nm,18.1s,baz=340,slow=38						
TORD	**Torodi Ar. Bea**	**134.75**	**302**	PKP	**PKPdf**	**04 22 07.7**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=56,slow=2.9,SNR=1.2						
TORD	**Torodi Ar. Bea**	**134.75**	**302**	PKP	**PKPdf**	**04 22 05.3**	**-1.6**
LPAZ	**La Paz**	**149.00**	**102**	PKPbc	**PKiKP**	**04 22 39.5**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=194,slow=9.0,SNR=5.1						

IDC 19 04:08:22.9±2.5, 18.91S×177.78W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/31, mbtmp3.6/4, Error ellipse: s-maj=152.4km s-min=31.5km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.05**	**260**	P	P	04 16 40.7	-0.2
	0.2nm,0.4s,baz=97,slow=7.7,SNR=5.9						
ASAR	**Alice Springs**	**45.11**	**255**	P	P	04 16 41.2	-0.1
	0.4nm,0.6s,baz=95,slow=7.5,SNR=6.6						
TXAR	**Lajitas Array**	**86.03**	**57**	P	P	04 21 05.9	+0.1
	0.3nm,0.8s,baz=224,slow=6.3,SNR=2.8						
ILAR	**Eielson Array**	**86.72**	**13**	P	P	04 21 08.2	-0.1
	1.1nm,1.1s,baz=201,slow=4.8,SNR=2.5						

GCG ***19*** *04:37:53.5±1.1, 13.71N×93.41W, h24km, MD4.0*
MEX ***19*** *04:37:54.9±0.6, 14.01N×93.12W, h102km±60km, MD4.1*

ISC 19 04:37:47.1±4.5, 14.0N±0.2×93.6W±0.2, h22km, n6, σ1.931/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.56**	**55**	*i* P	**Pb**	**04 38 16.7**	**+1.4**
THIG				*e*S	**Sn**	**04 38 34.1**	**+0.9**
ERG	**Entre ros, C**	**2.01**	**77**	*e*P	**Pb**	**04 38 24.7**	**+1.8**
CCIG	**Comitan**	**2.66**	**32**	*i* P	**Pb**	**04 38 34.7**	**+0.5**
CCIG				*e*S	**Sb**	**04 39 05.4**	**-1.1**
FUG	**Fuego 3**	**2.70**	**80**	*e*P	**Pb**	**04 38 33.8**	**-1.0**
FUG				*e*S	**Sb**	**04 39 06.8**	**-0.9**
TGIG		**2.79**	**9**	*i* P	**Pb**	**04 38 36.7**	**+0.4**
TGIG				*i* S	**Sb**	**04 39 08.6**	**-1.5**
NBG	**Las Nubes**	**3.20**	**79**	*e*P	**Pb**	**04 38 42.7**	**-0.6**

IDC ***19*** *04:40:55.2±1.3, 7.56S×76.63W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.5/27, mbtmp3.5/5, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.7/15, Error ellipse: s-maj=34.4km s-min=13.9km az=15.0*

ISC 19 04:40:59.6±0.9, 7.60S±0.09×76.7W±0.1, h35km, n8, σ1.904/8, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.75**	**285**	Pn	**Pn**	**04 41 28.1**	**+0.2**
	25nm,0.3s,baz=105,slow=12,SNR=138						
ATAH				Lg	Lg	04 41 52.8	
	52nm,0.3s,baz=232,slow=19,SNR=14						
ATAH				LR	LR	04 41 57.2	
	comp=Z,75nm,21.7s,baz=139,slow=34						
NNA	**Nana**	**4.36**	**182**	Pn	**Pn**	**04 42 03.6**	**+0.1**
	2.6nm,0.3s,baz=355,slow=11,SNR=5.7						
NNA				Sn	**Sn**	**04 42 53.3**	**+0.2**
	4.8nm,0.3s,baz=271,slow=15,SNR=3.9						
NNA				LR	LR	04 44 08.9	
	comp=Z,67nm,21.9s,baz=0.5,slow=44						
LPAZ	**La Paz**	**12.02**	**137**	Lg	Lg	04 47 16.2	
	0.1nm,0.3s,baz=221,slow=20,SNR=3.8						
SIV	**San Ignacio**	**17.40**	**120**	P	**Pn**	**04 44 59.4**	**-0.5**
	0.1nm,0.3s,baz=326,slow=15,SNR=1.8						
SIV				Lg	Lg	04 50 04.8	
	0.2nm,0.3s,baz=82,slow=22,SNR=3.0						
PTGA	**Pitinga**	**18.01**	**69**	P	**Pn**	**04 45 06.9**	**-0.5**
	0.3nm,0.3s,baz=265,slow=18,SNR=2.5						
PTGA				LR	LR	04 52 53.9	
	comp=Z,76nm,20.0s,baz=173,slow=40						
TXAR	**Lajitas Array**	**44.98**	**326**	P	**P**	**04 49 11.6**	**-0.2**
	0.1nm,0.5s,baz=139,slow=8.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**80.52**	**75**	P	**P**	**04 53 10.5**	**+1.6**
	0.6nm,1.1s,baz=256,slow=5.8,SNR=1.6						
WRA	**Warramunga Arr**	**138.99**	**228**	PKP	**PKPdf**	**05 00 22.0**	**-1.5**
	0.4nm,0.5s,baz=119,slow=2.0,SNR=6.1						

WEL 19 04:51:12.5±0.5, 40.5°S±3.7°×17.9E±, h33km, M3.3/48, ML3.6/48, MLv3.3/48, Error ellipse: s-maj=0.0km s-min=0.0km az=82.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHGZ	**Mahia Peninsul**	**1.15**	**292**	P	Pn	04 51 31.8	-0.4
PRGZ	**Paritu Road**	**1.27**	**301**	P	Pb	04 51 35.6	-0.3
KNZ	**Kokohu**	**1.36**	**294**	P	Pn	04 51 35.3	+0.1
CNGZ	**Carnagh Statio**	**1.38**	**322**	P	Pn	04 51 35.3	-0.1
RIGZ	**Rimuhau**	**1.47**	**306**	P	Pn	04 51 37.2	+0.5
TKGZ	**Te Karaka**	**1.59**	**315**	P	Pn	04 51 38.2	-0.2
TKGZ				S	Sn	04 51 56.4	-1.4
WHHZ	**Waihua**	**1.66**	**287**	P	Pn	04 51 40.1	+0.7
CKHZ	**Cape Kidnapper**	**1.70**	**267**	P	Pn	04 51 39.5	-0.4
CKHZ				S	Sn	04 51 59.7	-0.8
PUZ	**Puketiti**	**1.71**	**332**	P	Pn	04 51 39.2	-0.7
PUZ				S	Sn	04 51 57.0	-3.7
SNGZ	**Shannon Statio**	**1.71**	**297**	P	Pn	04 51 39.7	-0.3
TWGZ	**Tauwhareparae**	**1.73**	**324**	P	Pn	04 51 40.2	-0.1
TWGZ				S	Sn	04 51 59.5	-1.8
ARHZ	**Aropaoanui**	**1.80**	**279**	P	Pn	04 51 41.8	+0.6
ARHZ				S	Sn	04 52 03.1	+0.2
MWZ	**Matawai**	**1.85**	**312**	P	Pn	04 51 42.0	+0.1
KAHZ	**Kahuranaki**	**1.87**	**263**	P	Pn	04 51 42.6	+0.5
WMGZ	**Waiomatatini S**	**1.89**	**339**	P	Pn	04 51 42.3	-0.1
WMGZ				S	Sn	04 52 03.8	-1.2
PXZ	**Pawanui**	**1.92**	**256**	P	Pn	04 51 42.6	-0.2
PXZ				S	Sn	04 52 04.1	-1.6
PKGZ	**Pakihiroa**	**1.94**	**331**	P	Pn	04 51 43.0	-0.2
NMHZ	**Naumai**	**1.98**	**283**	P	Pn	04 51 44.5	+0.8
MCHZ	**McNeill Hill**	**2.00**	**273**	P	Pn	04 51 44.9	+0.9
MTHZ	**Maungataniwha**	**2.03**	**290**	P	Pn	04 51 44.6	+0.2
RTZ	**Ruatahuna**	**2.03**	**298**	P	Pn	04 51 45.3	+0.8
RUGZ	**Raukumara Rang**	**2.04**	**322**	P	Pn	04 51 44.4	-0.3
PRHZ	**Porangahau**	**2.15**	**251**	P	Pn	04 51 45.7	-0.3
URZ	**Urewera**	**2.15**	**307**	P	Pn	04 51 46.5	+0.6
MXZ	**Matakaoa Point**	**2.16**	**339**	P	Pn	04 51 46.2	+0.1
HAZ	**Te Kaha**	**2.17**	**327**	P	Pn	04 51 45.8	-0.4
BKZ	**Black Stump Fm**	**2.20**	**280**	P	Pn	04 51 47.1	+0.4
KWHZ	**Kaweka Forest**	**2.21**	**273**	P	Pn	04 51 47.3	+0.3
WPHZ	**Waipukurau**	**2.24**	**257**	P	Pn	04 51 47.5	+0.2
KRHZ	**Kereru**	**2.25**	**268**	P	Pn	04 51 48.0	+0.6
MRHZ	**Matea Rd**	**2.34**	**288**	P	Pn	04 51 49.6	+0.8
PNHZ	**Pukenui**	**2.40**	**261**	P	Pn	04 51 49.6	+0.1
BHHZ	**Black Hill Sta**	**2.49**	**271**	P	Pn	04 51 51.1	+0.4
DVHZ	**Dannevirke**	**2.50**	**252**	P	Pn	04 51 50.9	+0.1
TARZ	**Mount Tarawera**	**2.55**	**301**	P	Pn	04 51 52.3	+0.7
BFZ	**Birch Farm**	**2.57**	**244**	P	Pn	04 51 50.7	-1.1
TSZ	**Takapari Road**	**2.60**	**258**	P	Pn	04 51 52.3	0.0
PRWZ	**Pori Road**	**2.72**	**248**	P	Pn	04 51 53.4	-0.5
MOVZ	**Moawhango**	**2.73**	**273**	P	Pn	04 51 55.1	+1.0
ETVZ	**East Tongariro**	**2.80**	**278**	P	Pn	04 51 55.3	+0.1
TMVZ	**Te Maari**	**2.81**	**278**	P	Pn	04 51 56.1	+0.9
POWZ	**Post Office Ro**	**2.82**	**252**	P	Pn	04 51 55.4	+0.2
TUVZ	**Tukino**	**2.83**	**275**	P	Pn	04 51 56.7	+1.2
OTVZ	**Oturere**	**2.83**	**277**	P	Pn	04 51 56.5	+0.9
KATZ	**Kakaramea**	**2.85**	**281**	P	Pn	04 51 56.5	+0.8
TIWZ	**Tintock**	**2.86**	**244**	P	Pn	04 51 55.8	-0.1
WNVZ	**Wahianoa**	**2.86**	**274**	P	Pn	04 51 57.0	+1.0
KRVZ	**Karewarewa**	**2.86**	**279**	P	Pn	04 51 56.9	+0.9
WHVZ	**Whangaehu Hut**	**2.87**	**275**	P	Pn	04 51 57.1	+0.9
NGZ	**Ngauruhoe**	**2.88**	**277**	P	Pn	04 51 57.1	+0.9
FWVZ	**Far West T-bar**	**2.90**	**275**	P	Pn	04 51 57.4	+0.8
**T

LGNH				IAML			05 26 38.8	
	comp=Z,219nm,0.8s							
LMGC	**Las Mercedes**	**2.38**	**276**	*i* P		**Pn**	**05 26 08.2**	**-0.1**
LMGC				*e*S		**Sn**	**05 26 36.5**	**-1.3**
LMGC				IAML			05 26 46.0	
	comp=N,356nm,0.4s							
LMGC				IAML			05 26 46.4	
	comp=E,408nm,0.4s							
SDDR	**Presa de Saban**	**3.14**	**105**	*e*P		**Pn**	**05 26 18.8**	**-0.1**
SDDR				*e*S		**Sn**	**05 26 52.5**	**-4.1**
SDDR	**Presa de Saban**	**3.14**	**105**	Pn		**Pn**	**05 26 18.9**	**+0.1**
SDDR				Sn		**Sn**	**05 26 54.9**	**-1.7**
SDDR	**Presa de Saban**	**3.14**	**105**	*i* P		**Pn**	**05 26 19.2**	**+0.4**
SDDR				*e*S		**Sn**	**05 26 55.4**	**-1.2**
SDDR				IAML			05 26 57.4	
	comp=Z,465nm,0.5s							
CCCC	**Cccc**	**3.36**	**294**	*e*P		**Pn**	**05 26 18.7**	**-3.1**
CCCC				*e*S		**Sn**	**05 26 53.7**	**-8.2**
GRTK	**Grand Turk**	**3.55**	**62**	Pn		**Pn**	**05 26 25.9**	**+1.4**
GRTK				Sn		**Sn**	**05 27 06.0**	**-0.7**
SC01	**Santiago de lo**	**3.57**	**96**			**Pn**	**05 26 25.4**	**+0.7**
SC01	**Santiago de lo**	**3.57**	**96**	*i* P		**Pn**	**05 26 26.4**	**+1.7**
SC01				*e*S		**Sn**	**05 27 10.0**	**+2.9**
SC01				IAML			05 27 50.9	
	comp=Z,287nm,0.6s							
BANI	**BANI**	**4.16**	**110**			**Pn**	**05 26 34.7**	**+1.7**
SDD	**Santo Domingo**	**4.54**	**107**			**Pn**	**05 26 40.5**	**+2.4**
SDD	**Santo Domingo**	**4.54**	**107**	*e*S		**Sn**	**05 27 29.6**	**-1.5**
DR12	**Loma Pena Alta**	**4.94**	**101**	Pn		**Pn**	**05 26 44.6**	**+1.1**
DR12				Sn		**Sn**	**05 27 42.2**	**+1.3**
CBCY	**The Bluff, Cay**	**4.97**	**270**	Pn		**Pn**	**05 26 45.1**	**+1.2**
LCCY	**Blossom Villag**	**5.27**	**269**			**Pn**	**05 26 50.0**	**+1.9**
MGV	**Manicaragua**	**5.61**	**295**	*e*P		**Pn**	**05 26 51.5**	**-1.2**
MGV				*e*S		**Sn**	**05 27 53.6**	**-3.8**
FSCY	**Frank Sound, G**	**6.34**	**266**	Pn		**Pn**	**05 27 03.8**	**+1.0**
CRPR	**Cabo Rojo, PR**	**7.22**	**103**	Pn		**Pn**	**05 27 15.2**	**+0.3**
MLPR	**Magueyes Islan**	**7.29**	**104**	Pn		**Pn**	**05 27 16.2**	**+0.3**
MLPR				Sn		**Sn**	**05 28 38.8**	**0.0**
AOPR	**Arecibo Observ**	**7.46**	**100**	Pn		**Pn**	**05 27 19.6**	**+1.3**
OBIP	**Obispado Ponce**	**7.67**	**102**	Pn		**Pn**	**05 27 21.3**	**+0.2**
OBIP				Sn		**Sn**	**05 28 46.4**	**-1.9**
SJG	**San Juan**	**8.07**	**101**	Pn		**Pn**	**05 27 30.4**	**+3.8**
	comp=Z,1.1nm,0.3s,baz=281,slow=14,SNR=2.6							
SJG				Sn		**Sn**	**05 28 52.5**	**-5.7**
	comp=Z,3.8nm,0.3s,baz=303,slow=20,SNR=5.8							
SJG				LR		LR	05 30 52.6	
	comp=Z,82nm,20.3s,baz=274,slow=39							
PDPR	**Patillas Dam,**	**8.21**	**101**	Pn		**Pn**	**05 27 28.3**	**-0.3**
CBYP	**Canovanas**	**8.31**	**99**	Pn		**Pn**	**05 27 27.4**	**-2.6**
CBYP				Sn		**Sn**	**05 28 59.4**	**-4.8**
HUMP	**Col San Antoni**	**8.34**	**100**	Pn		**Pn**	**05 27 28.8**	**-1.6**
HUMP				Sn		**Sn**	**05 28 58.7**	**-6.2**
061Z	**Ochoppi**	**8.42**	**317**	Pn		**Pn**	**05 27 31.6**	**+0.2**
MTP	**Monte Pirata**	**8.63**	**100**	Pn		**Pn**	**05 27 33.9**	**-0.4**
MTP				Sn		**Sn**	**05 29 06.9**	**-5.0**
CUPR	**Culebra, Puert**	**8.84**	**98**	Pn		**Pn**	**05 27 36.9**	**-0.2**
060A	**Indiantown**	**8.96**	**324**	Pn		**Pn**	**05 27 40.5**	**+1.7**
656A	**Willston**	**11.97**	**324**	Pn		**Pn**	**05 28 20.9**	**+0.8**
MATN	**Matagalpa**	**12.95**	**240**	Pn		**Pn**	**05 28 33.4**	**-0.1**
TEIG	**Tepich**	**12.97**	**274**	Pn		**Pn**	**05 28 35.7**	**+2.0**
PCRV	**Puerto La Cruz**	**13.52**	**134**	Pn		**Pn**	**05 28 41.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=326,slow=6.2,SNR=1.6							
PLCV	**Puerto La Cruz**	**13.56**	**134**			**Pn**	**05 28 41.1**	**-0.7**
JTS	**Las Juntas de**	**13.86**	**228**	LR		LR	05 34 05.2	
	comp=Z,41nm,18.9s,baz=128,slow=39							
BIRD	**Birdtown, Kers**	**15.66**	**341**	Pn		**Pn**	**05 29 11.9**	**+1.7**
TKL	**Tuckleechee C**	**17.75**	**334**	LR		LR	05 37 08.4	
	comp=Z,110nm,18.2s,baz=58,slow=39							
SWET	**Sewanee**	**18.35**	**329**	P		**P**	**05 29 44.2**	**+0.2**
TZTN	**Tazewell**	**18.44**	**336**	P		**Pn**	**05 29 46.1**	**+1.0**
TZTN				IAmb		IAmb	05 29 48.3	
	comp=Z,32nm,1.4s							
V48A	**Smith Brothers**	**19.20**	**328**	P		**Pn**	**05 29 55.7**	**+1.4**
V48A				IAmb		IAmb	05 30 00.1	
	comp=Z,22nm,1.4s							
PEBM	**Pemiscott Bayo**	**21.10**	**323**	P		**P**	**05 30 14.9**	**+0.9**
PEBM				IAmb		IAmb	05 30 21.6	
	comp=Z,22nm,0.7s							
HBAR	**Harrisburg**	**21.16**	**321**	P		**P**	**05 30 15.9**	**+1.2**
HBAR				IAmb		IAmb	05 30 45.0	
	comp=Z,13nm,0.8s							
ACCN	**Adirondack Com**	**23.48**	**1**	P		**P**	**05 30 40.4**	**+1.3**
ACCN				IAmb		IAmb	05 30 57.4	
	comp=Z,14nm,1.4s							
J57A	**Williamstown**	**23.53**	**357**	P		**P**	**05 30 40.4**	**+0.7**
833A	**Chaparral WMA,**	**24.22**	**295**	P		**P**	**05 30 46.3**	**-0.1**
VT1	**Waterbury**	**24.46**	**3**	P		**P**	**05 30 48.6**	**+0.2**
JCT	**Junction City**	**25.19**	**300**	P		**P**	**05 30 53.9**	**-1.3**
PKME	**Peaks-Kenny Pk**	**25.71**	**8**	P		**P**	**05 30 59.9**	**+0.2**
PKME				IAmb		IAmb	05 31 01.6	
	comp=Z,16nm,1.2s							
L40A	**Anamosa**	**26.30**	**331**	P		**P**	**05 31 05.2**	**+0.1**
L40A				IAmb		IAmb	05 31 12.9	
	comp=Z,8.3nm,1.1s							
KAN14	**Manchester OK**	**26.67**	**315**	P		**P**	**05 31 09.9**	**+1.4**
KAN08	**Anthony NE Sta**	**26.82**	**315**	P		**P**	**05 31 09.5**	**-0.4**
PV19	**Morning Glory**	**35.05**	**309**	P		**P**	**05 32 22.4**	**-0.3**
PDAR	**Pinedale Array**	**37.28**	**316**	LR		LR	05 49 16.8	
	comp=Z,86nm,19.5s,baz=110,slow=38							
D05A	**Enumclaw**	**47.12**	**317**	P		**P**	**05 34 01.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**72.82**	**82**	P		**P**	**05 37 01.3**	**+2.4**
	comp=Z,0.4nm,0.8s,baz=276,slow=5.9,SNR=2.2							
WRA	**Warramunga Arr**	**152.91**	**265**	PKPbc		**PKPbc**	**05 45 27.5**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=81,slow=1.7,SNR=6.6							
ASAR	**Alice Springs**	**153.38**	**257**	PKPbc		**PKPbc**	**05 45 28.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=95,slow=2.1,SNR=2.9							

*PRU **19** 05:37:36.1±0.0,43.65N×16.67E,h0km*
*RHSSO **19** 05:37:38.0±0.5,43.74N×16.30E,h5km±3km,ML2.7/12*
*BEO **19** 05:37:39.0±1.0,43.87N×16.25E,h14km±5km,ML2.6/7*

ISC 19 05:37:37.6±1.2,43.77N±0.02×16.35E±0.02,h2km±10km, n48,σ1°91°78,1C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIJV	**Kijevo**	**0.24**	**9**	*e*Pg	**Pg**	**05 37 42.1**	**-0.2**
KIJV				Sg	**Sg**	**05 37 45.0**	**-0.4**
MORI	**Morici**	**0.48**	**282**	*i* Pg	**Pg**	**05 37 47.3**	**+0.5**
MORI				Sg	**Sb**	**05 37 55.1**	**-1.1**
HVAR	**Hvar**	**0.59**	**173**	*i* Pg	**Pg**	**05 37 49.1**	**+0.2**
HVAR				Sg	**Sb**	**05 37 58.6**	**-0.9**
MAKA	**Makarska**	**0.68**	**134**	*e*Pg	**Pg**	**05 37 50.2**	**-0.5**
MAKA				Sg	**Sg**	**05 38 00.8**	**+1.3**
UDBI	**Udbina**	**0.87**	**331**	*i* Pg	**Pg**	**05 37 54.7**	**+0.3**
UDBI				Sg	**Sb**	**05 38 07.1**	**-0.6**
BLY	**Banja Luka**	**1.15**	**31**	*e*Pg	**Pg**	**05 37 58.8**	**-0.9**
BLY				*e*Sg	**Sg**	**05 38 21.9**	**+1.3**
BLY	**Banja Luka**	**1.15**	**31**	⇑*e*Pg	**Pg**	**05 37 58.7**	**-0.9**
BLY				*e*Sg	**Sg**	**05 38 15.6**	**+1.0**
PRIJ	**Prijedor**	**1.24**	**12**	*e*Pg	**Pg**	**05 38 01.3**	**-0.1**
PRIJ				*e*Sg	**Sg**	**05 38 18.1**	**+0.7**
BRY	**Bratogost**	**1.81**	**118**	*e*Pn	**Pn**	**05 38 09.8**	**-0.2**
HAPS	**Han Pijesak,Bl**	**1.91**	**79**	*e*Pn	**Pn**	**05 38 12.2**	**+1.0**
HAPS				*e*Sn	**Sn**	**05 38 36.8**	**+0.9**
HAPS	**Han Pijesak,Bl**	**1.91**	**79**	*e*Pn	**Pn**	**05 38 11.2**	**0.0**
HAPS				*e*Sn	**Sn**	**05 38 36.3**	**+0.5**
BOJS	**Bojanci**	**1.91**	**336**	*i* Pn	**Pb**	**05 38 12.4**	**-0.7**
BOJS				*i* Sn	**Sg**	**05 38 39.2**	**+0.3**
UPM	**Unac-Piva**	**1.94**	**106**	*e*Pn	**Pn**	**05 38 12.2**	**+0.4**
HCY	**Herceg Novi**	**2.05**	**129**	*e*Pn	**Pn**	**05 38 13.0**	**-0.1**
RIY	**Rijeka**	**2.05**	**320**	*e*Pn	**Pn**	**05 38 13.0**	**-0.1**
RIY				*e*Sn	**Sn**	**05 38 38.9**	**-0.4**
ZAG	**Zagreb**	**2.08**	**353**	*e*Sn	**Sn**	**05 38 40.5**	**+0.6**
GBRS	**Gornja Briga**	**2.08**	**329**	*i* Pn	**Pb**	**05 38 15.3**	**-0.8**
GBRS				*i* Sn	**Sg**	**05 38 43.9**	**-0.6**
PTJ	**Puntijarka**	**2.16**	**353**	*e*Pn	**Pn**	**05 38 16.0**	**+1.3**
RUDO	**Rudo**	**2.19**	**93**	*e*Pn	**Pn**	**05 38 15.2**	**+0.1**
RUDO				*e*Sn	**Sn**	**05 38 43.5**	**+0.7**
BBLS	**Lazići**	**2.21**	**86**	*e*Pn	**Pn**	**05 38 16.9**	**+1.5**
BBLS				*e*Sg	**Sg**	**05 38 51.6**	**+2.9**
BBLS	**Lazići**	**2.21**	**86**	*e*Pn	**Pn**	**05 38 15.8**	**+0.4**
BBLS				*e*Sn	**Sn**	**05 38 43.9**	**+0.5**
KNDS	**Knezji Dol**	**2.25**	**322**	*i* Pn	**Pn**	**05 38 17.0**	**+1.0**
KNDS				*i* Sn	**Sg**	**05 38 49.6**	**-0.5**
CEY	**Cerknica**	**2.40**	**326**	*e*Pn	**Pn**	**05 38 17.5**	**-0.5**
CEY				*e*Sn	**Sn**	**05 38 47.5**	**-0.5**
PDG	**Podgorica**	**2.51**	**121**	*e*Pn	**Pb**	**05 38 22.0**	**-1.4**
PDG				*e*Sn	**Sb**	**05 38 53.7**	**-1.0**
PDG	**Podgorica**	**2.51**	**121**	*e*Pn	**Pn**	**05 38 19.4**	**0.0**
PDG				*e*Sn	**Sn**	**05 38 51.5**	**+0.9**
AQU	**L'Aquila**	**2.58**	**238**	*e*Sn	**Sn**	**05 38 51.4**	**-1.0**
DRME	**Dracevica, Mon**	**2.61**	**126**	*e*Pn	**Pn**	**05 38 21.6**	**+0.8**
DRME				*e*Sn	**Sn**	**05 38 53.0**	**-0.1**
LJU	**Ljubljana**	**2.62**	**331**	*e*Sn	**Sn**	**05 38 53.0**	**-0.3**
DIVS	**Divibare**	**2.65**	**82**	*e*Pn	**Pn**	**05 38 22.4**	**+1.0**
DIVS				*e*Sn	**Sn**	**05 38 53.8**	**-0.4**
DIVS	**Divibare**	**2.65**	**82**	*e*Pn	**Pn**	**05 38 22.1**	**+0.7**
DIVS				*e*Sn	**Sn**	**05 38 54.5**	**+0.3**
SJES	**Sjenica**	**2.68**	**100**	*e*Pn	**Pn**	**05 38 23.4**	**+1.5**
BEHE	**Becsehely**	**2.72**	**6**	*e*Pn	**Pn**	**05 38 23.0**	**+0.7**
BEHE				*e*Sn	**Sn**	**05 38 56.1**	**+0.3**
IVAS	**Ivanjica**	**2.77**	**93**	*e*Pn	**Pn**	**05 38 23.7**	**+0.7**
FRGS	**Fruska Gora**	**2.84**	**59**	*e*Pn	**Pn**	**05 38 25.1**	**+1.1**
FRGS				*e*Sn	**Sn**	**05 38 59.7**	**+0.9**
MORH	**Mrgy, Hungar**	**2.94**	**33**	*e*Pn	**Pn**	**05 38 25.4**	**+0.1**
MORH				*e*Sn	**Sn**	**05 39 01.4**	**+0.2**
TRUS	**Trudelj**	**2.96**	**80**	*e*Pn	**Pn**	**05 38 25.2**	**-0.4**
OBKA	**Obir**	**3.03**	**336**	Pn	**Pn**	**05 38 27.2**	**+0.6**
	0.8nm,0.2s						
ARSA	**Arzberg**	**3.53**	**351**	*e*Pn	**Pn**	**05 38 33.0**	**-0.5**
	2.5nm,0.3s						
ABTA	**Abfaltersbach**	**4.03**	**319**	*e*Pn	**Pn**	**05 38 40.2**	**-0.2**
	0.5nm,0.2s						
ABTA				*e*Sn	**Sn**	**05 39 29.6**	**+1.4**
	3.4nm,0.6s						
CONA	**Conrad Observa**	**4.18**	**355**	*e*Pn	**Pn**	**05 38 42.4**	**0.0**
	0.5nm,0.2s						
MOA	**Molln**	**4.34**	**341**	*e*Pn	**Pn**	**05 38 46.0**	**+1.4**
	1.1nm,0.2s						
MOA				*e*Sn	**Sn**	**05 39 37.5**	**+1.8**
	1.2nm,0.5s						
MODS	**Modra-Piesok**	**4.65**	**8**	*e*PN	**Pn**	**05 38 50.6**	**+1.7**
WTTA	**Wattenberg**	**4.82**	**318**	*e*Pn	**Pn**	**05 38 53.2**	**+1.9**
	1.3nm,0.3s						
WTTA				*e*Sn	**Sn**	**05 39 49.4**	**+1.6**
	4.7nm,0.5s						
WATA	**Walderalm**	**4.90**	**318**	*e*Pn	**Pn**	**05 38 54.5**	**+2.1**
	1.4nm,0.3s						
SQTA	**Sankt Quirin**	**5.00**	**316**	*e*Pn	**Pn**	**05 38 55.1**	**+1.4**
	0.7nm,0.2s						
VYHS	**Vyhne**	**5.04**	**19**	*e*PN	**Pn**	**05 38 54.1**	**0.0**
VYHS				*e*SN	**Sn**	**05 39 50.2**	**-2.7**
MOTA	**Moosalm**	**5.14**	**316**	*e*Pn	**Pn**	**05 38 57.2**	**+1.6**
	0.7nm,0.3s						
KHC	**Kasperske Hory**	**5.70**	**341**	*e*SN	**Sn**	**05 40 10.1**	**+0.9**

*IDC **19** 05:38:54.6±0.8,55.30S×32.71W,h0km,mb4.0/9, mb1 4.1/9,mb1mx4.0/21,mbtmp4.0/9,MS3.4/6,Ms1 3.4/6, ms1mx3.2/20,Error ellipse: s-maj=29.9km s-min=18.0km az=53.0*
*NEIC **19** 05:38:56.8±0.9,55.3S±0.1×32.9W±0.2,h15km±4km, mb4.7/21,Error ellipse: s-maj=15.9km s-min=11.6km az=212.0*

ISC 19 05:38:55.9±0.5,55.28S±0.10×32.90W±0.09,h10km,n44, σ0°68/36,mb4.5/16,MS3.2/5,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**2.31**	**294**		**Pn**	**05 39 33.9**	**0.0**
HOPE				Sn	**Sn**	**05 40 01.3**	**-1.0**
PMSA	**Palmer Station**	**18.04**	**226**	LR	LR	05 48 57.0	
	comp=Z,72nm,19.2s,baz=49,slow=33						
SNAA	**Sanae**	**20.82**	**154**	PKiKP	**P**	**05 43 37.0**	**-0.2**
SNAA	**Sanae**	**20.82**	**154**	P	**P**	**05 43 36.5**	**-0.7**
	1.8nm,1.0s,baz=308,slow=9.5,SNR=11						
SNAA				LR	LR	05 50 02.8	
	comp=Z,84nm,19.9s,baz=322,slow=32						
SNAA	**Sanae**	**20.82**	**154**	P	**P**	**05 43 37.1**	**-0.1**
BELA	**Belgrano 2**	**22.70**	**181**	P	**P**	**05 43 58.0**	**+0.8**
PLCA	**Paso Flores**	**28.68**	**285**	LR	LR	05 56 08.4	
	comp=Z,72nm,21.2s,baz=162,slow=36						
CPUP	**Villa Florida**	**33.97**	**318**	P	**P**	**05 45 39.6**	**+0.2**
	2.1nm,0.9s,baz=169,slow=9.0,SNR=4.0						
CPUP				LR	LR	05 58 16.3	
	comp=Z,72nm,21.2s,baz=163,slow=34						
CPUP	**Villa Florida**	**33.97**	**318**	P	**P**	**05 45 39.2**	**-0.3**
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**05 45 48.6**	**+0.6**
	1.2nm,0.9s,baz=180,slow=11,SNR=2.7						
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**05 45 48.2**	**+0.2**
AC04	**Llanos de Chal**	**38.50**	**299**	P	**P**	**05 46 19.8**	**+1.6**
AC04				IAmb	IAmb	05 46 32.4	
	comp=Z,26nm,1.0s						
BDFB	**Brasilia**	**41.24**	**338**	P	**P**	**05 46 42.7**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=191,slow=5.2,SNR=1.5						
MAW	**Mawson**	**42.65**	**146**	P	**P**	**05 46 51.4**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=260,slow=13,SNR=5.1						
MAW	**Mawson**	**42.65**	**146**	P	**P**	**05 46 51.7**	**-0.2**
PB11	**IPOC Station P**	**44.98**	**307**	P	**P**	**05 47 11.0**	**-0.4**
PB11				IAmb	IAmb	05 47 35.9	
	comp=Z,12nm,1.2s						
PSGCX	**Pisagua**	**45.34**	**307**	P	**P**	**05 47 13.9**	**-0.3**
PSGCX				IAmb	IAmb	05 47 41.9	
	comp=Z,14nm,1.2s						
MNMC	**Minye Minye**	**45.50**	**308**	P	**P**	**05 47 15.3**	**-0.4**
MNMC				IAmb	IAmb	05 47 28.3	
	comp=Z,16nm,1.3s						
PB16	**IPOC Station P**	**46.16**	**308**	P	**P**	**05 47 21.5**	**+0.2**
PB16				IAmb	IAmb	05 47 42.8	
	comp=Z,9.9nm,1.5s						
VNDA	**Vanda**	**47.14**	**184**	LR	LR	06 06 10.1	
	comp=Z,24nm,18.0s,baz=192,slow=35						
LPAZ	**La Paz**	**47.36**	**311**	P	**P**	**05 47 32.0**	**+1.3**
	comp=Z,3.3nm,0.7s,baz=142,slow=5.0,SNR=17						
LPAZ	**La Paz**	**47.36**	**311**	P	**P**	**05 47 30.8**	**+0.1**
LPAZ				IAmb	IAmb	05 47 32.9	
	comp=Z,3.3nm,0.8s						
H10S2	**ASCENSION HYDR**	**48.42**	**24**	T	T	06 39 39.0	
	baz=193,slow=74,SNR=5.8						
H10S3	**ASCENSION HYDR**	**48.42**	**24**	T	T	06 39 45.5	
	baz=27,slow=74,SNR=15						
BOSA	**Boshof**	**48.99**	**82**	P	**P**	**05 47 42.1**	**-0.6**
	comp=Z,3.6nm,1.0s,baz=212,slow=11,SNR=3.4						
BOSA	**Boshof**	**48.99**	**82**	P	**P**	**05 47 42.9**	**+0.2**
BOSA				IAmb	IAmb	05 47 58.2	
	comp=Z,11nm,1.3s						
H10N1	**ASCENSION HYDR**	**49.53**	**24**	T	T	06 41 02.8	
	baz=193,slow=75,SNR=16						
H10N3	**ASCENSION HYDR**	**49.53**	**24**	T	T	06 41 33.7	
	baz=193,slow=75,SNR=27						
H10N2	**ASCENSION HYDR**	**49.55**	**24**	T	T	06 41 10.6	
	baz=193,slow=75,SNR=22						
LBTB	**Lobatse**	**51.97**	**79**	P	**P**	**05 48 04.5**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=235,slow=7.3,SNR=5.0						
LBTB	**Lobatse**	**51.97**	**79**	P	**P**	**05 48 05.4**	**+0.2**
LBTB				IAmb	IAmb	05 48 16.5	
	comp=Z,9.5nm,1.2s						
SAML	**Samuel**	**52.06**	**321**	P	**P**	**05 48 06.6**	**+0.9**
SAML				IAmb	IAmb	05 48 07.3	
	comp=Z,5.0nm,1.1s						
PTGA	**Pitinga**	**58.68**	**328**	P	**P**	**05 48 53.1**	**-0.3**
PTGA				IAmb	IAmb	05 48 57.7	
	comp=Z,3.4nm,0.4s						
DBIC	**Dimbokro**	**65.99**	**31**	P	**P**	**05 49 42.8**	**+0.5**
ROSC	**El Rosal**	**68.97**	**315**	LR	LR	06 23 13.3	
	comp=Z,64nm,18.2s,baz=198,slow=38						
MBO	**M'Bour**	**70.70**	**16**	P	**P**	**05 50 11.4**	**-0.3**
SDV	**Santo Domingo**	**71.26**	**320**	P	**P**	**05 50 15.5**	**0.0**
SDV				IAmb	IAmb	05 50 17.3	
	comp=Z,7.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.13**	**35**	P	**P**	**05 50 32.6**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=199,slow=6.8,SNR=9.2						
TORD	**Torodi Ar. Bea**	**74.13**	**35**	P	**P**	**05 50 31.7**	**-0.6**
CBYP	**Canovanas**	**78.43**	**328**	P	**P**	**05 50 56.7**	**0.0**
LGNH	**Logne**	**80.86**	**322**	P	**P**	**05 51 08.6**	**-1.2**
ZALV	**Zalesovo Beam**	**144.97**	**66**	PKP	**PKPab**	**05 58 31.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=250,slow=3.8,SNR=3.5						
ILAR	**Eielson Array**	**147.22**	**314**	PKPbc	**PKPbc**	**05 58 36.9**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=128,slow=1.7,SNR=13						
ILAR	**Eielson Array**	**147.22**	**314**		**PKPbc**	**05 58 37.4**	**-0.5**

*OSPL **19** 05:52:24.3±0.6,19.65N×74.83W,h94km±8km,ML3.1*
*SSNC **19** 05:52:24.6±2.8,19.88N×74.45W,h0km±12km,ML3.4, MW3.5*

ISC 19 05:52:22.6±1.4,19.87N±0.07×74.55W±0.03,h15km±11km, n10,σ1°17/20,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**0.42**	**45**	*e*P	**Pg**	**05 52 31.0**	**-0.2**
MASC				*e*S	**Sg**	**05 52 37.2**	**+0.3**
GTBY	**Guantanamo Bay**	**0.53**	**276**	*i* P	**Pn**	**05 52 36.5**	**+0.8**
GTBY				*e*S	**Sn**	**05 52 46.5**	**+2.1**
GTBY				IAML		05 52 52.8	
	comp=Z,1µm,0.6s						
GTMO	**Guantanamo**	**0.59**	**290**	*e*P	**Pn**	**05 52 35.9**	**-0.6**
GTMO				*e*S	**Sn**	**05 52 45.0**	**-1.0**
GTMO				IAML		05 52 46.8	
	comp=E,29µm,0.2s						
GTMO				IAML		05 52 46.9	
	comp=N,27µm,0.3s						
MOAC	**Moa**	**0.88**	**334**	*e*P	**Pg**	**05 52 40.1**	**+0.5**
MOAC				*e*S	**Sn**	**05 52 54.5**	**+1.7**
RCC	**Rio Carpintero**	**1.09**	**277**	*e*P	**Pg**	**05 52 44.5**	**+0.8**
RCC				*e*S	**Sn**	**05 52 59.8**	**+1.6**
RCC				IAML		05 53 04.3	
	comp=E,298nm,0.4s						
RCC				IAML		05 53 05.6	
	comp=N,289nm,0.3s						
LGNH	**Logne**	**2.28**	**126**	*i* P	**Pn**	**05 53 00.1**	**+0.4**
LGNH				*e*S	**Sn**	**05 53 27.3**	**-0.2**
LGNH				IAML		05 53 29.1	
	comp=Z,19nm,1.7s						
LMGC	**Las Mercedes**	**2.32**	**275**	*e*P	**Pb**	**05 53 02.9**	**-1.3**
LMGC				*e*S	**Sb**	**05 53 31.5**	**-1.1**
LMGC				IAML		05 53 35.0	
	comp=E,89nm,0.3s						
LMGC				IAML		05 53 39.0	
	comp=N,140nm,0.3s						
SDDR	**Presa de Saban**	**3.20**	**106**	*e*P	**Pn**	**05 53 13.8**	**+1.3**
SDDR				*e*S	**Sn**	**05 53 49.3**	**-1.1**
SDDR	**Presa de Saban**	**3.20**	**106**	*i* P	**Pn**	**05 53 14.0**	**+1.6**
SDDR				*e*S	**Sn**	**05 53 50.1**	**-0.2**
SDDR				IAML		05 54 17.2	
	comp=Z,40nm,0.7s						
CCCC	**Cccc**	**3.29**	**294**	*e*P	**Pn**	**05 53 13.5**	**-0.2**
CCCC				*e*S	**Sn**	**05 53 52.1**	**-0.4**

IDC 19 06:14:24.6±7.1,4.69S×153.70E,h113km±49km,mb3.1/2, mb1 3.4/2,mb1mx3.0/37,mbtmp3.4/2,Error ellipse: s-maj=75.5km s-min=47.7km az=105.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.71**	**283**	P	Pn	06 14 54.0	-0.1
	9.3nm,0.3s,baz=90,slow=20,SNR=1.8						
KRVT				S	Sn	06 15 16.9	+0.2
	14nm,0.3s,baz=31,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**24.20**	**230**	P	P	06 19 30.9	+0.1
	0.7nm,0.6s,baz=54,slow=9.7,SNR=8.4						
ASAR	**Alice Springs**	**26.84**	**223**	P	P	06 19 54.5	-0.2
	0.2nm,0.3s,baz=57,slow=8.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**151.12**	**289**	PKPbc	PKPbc	06 34 05.4	-0.2
	0.2nm,0.5s,baz=64,slow=1.6,SNR=2.0						

*GUC **19** 06:31:35.5±0.9,21.44S×68.64W,h133km±5km,ML3.6*
*IDC **19** 06:31:41.0±9.2,21.25S×68.06W,h140km±63km,mb3.3/1, mb1 3.0/3,mb1mx3.0/17,mbtmp3.5/3,Error ellipse: s-maj=98.7km s-min=51.6km az=45.0*

ISC 19 06:31:36.4±1.0,21.44S±0.04×68.66W±0.09, h133km±10km,n20,σ0°62/38,13C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.65**	**237**	⇑*i* P	**Pn**	**06 31 56.9**	**-0.1**
PB09				*

*VAO **19** 06:48:54.2±0.7, 1.74S×78.54W, h185km±5km, mb3.9*
*NEIC **19** 06:48:57.7±1.2, 1.4S±0.1°×78.0W±0.1°, h171km±3km, mb4.2/11, Error ellipse: s-maj=23.5km s-min=15.4km az=52.0*

ISC 19 06:48:57.9±0.7, 1.41S±0.07°×78.11W±0.10, h200km, n34, σ1§69/35, mb4.0/5, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.67**	**348**	*eP*		**Pn**	**06 49 31.2**	**-2.5**
OTAV	**Otavalo**	**1.67**	**348**			**Pn**	**06 49 31.0**	**-2.7**
OTAV	**Otavalo**	**1.67**	**348**	*eP*		**Pn**	**06 49 31.4**	**-2.3**
OTAV				*eS*		**Sn**	**06 50 00.2**	**-1.3**
GCUF	**Volcan Galeras**	**2.73**	**16**	*eP*		**Pn**	**06 49 44.0**	**-0.9**
BBAC	**Balboa, Cauca**	**3.51**	**14**	*eP*		**Pn**	**06 49 53.4**	**-0.5**
BBAC				*eS*		**Sn**	**06 50 37.3**	**-0.6**
FLOC	**Florencia**	**3.85**	**40**	*eP*		**Pn**	**06 49 56.9**	**-1.0**
CZSB	**Cruzeiro do Su**	**8.27**	**140**	*eP*		**Pn**	**06 50 51.4**	**-3.3**
SDV	**Santo Domingo**	**12.65**	**36**	Pn		**Pn**	**06 51 50.4**	**-0.9**
SDV	**Santo Domingo**	**12.65**	**36**	*eP*		**P**	**06 51 54.4**	**-0.6**
ETMB	**Extrema**	**14.48**	**126**	*eP*		**P**	**06 52 13.1**	**-2.0**
ETMB				*eS*		**Sn**	**06 54 56.5**	**+0.5**
MATN	**Matagalpa**	**16.22**	**332**	P		**Pn**	**06 52 35.2**	**+0.1**
MATN				IAmb	IAmb		06 52 39.3	
	comp=Z,18nm,1.5s							
SAML	**Samuel**	**16.64**	**117**	P		**P**	**06 52 37.8**	**-1.1**
SAML	**Samuel**	**16.64**	**117**	*eP*		**P**	**06 52 37.8**	**-1.1**
MACA	**Manacapuru-AM**	**17.50**	**96**	*eP*		**Pn**	**06 52 50.3**	**+0.1**
LPAZ	**La Paz**	**17.76**	**147**	P		**Pn**	**06 52 52.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=319,slow=10,SNR=9.0							
LPAZ	**La Paz**	**17.76**	**147**	P		**Pn**	**06 52 52.3**	**-1.5**
PB16	**IPOC Station P**	**18.82**	**154**	P		**Pn**	**06 53 05.4**	**-0.9**
PB16				IAmb	IAmb		06 53 05.9	
	comp=Z,4.1nm,0.8s							
MNMC	**Minye Minye**	**19.49**	**155**	P		**Pn**	**06 53 12.2**	**-1.7**
MNMC				IAmb	IAmb		06 53 15.8	
	comp=Z,6.7nm,0.8s							
ITTB	**Itaituba**	**22.54**	**98**	*eP*		**P**	**06 53 41.2**	**-0.1**
NPGB	**Novo Progresso**	**23.36**	**105**	*eP*		**P**	**06 53 49.6**	**+0.9**
MALB	**Monte Alegre**	**23.84**	**91**	*eP*		**P**	**06 53 54.6**	**+1.5**
CLDB	**Colider**	**24.07**	**114**	*eP*		**P**	**06 53 55.9**	**+0.7**
MT05	**Renca**	**32.56**	**168**	P		**P**	**06 55 11.5**	**+1.1**
BDFB	**Brasilia**	**32.87**	**117**	P		**P**	**06 55 15.0**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=270,slow=3.0,SNR=3.8							
BDFB	**Brasilia**	**32.87**	**117**	P		**P**	**06 55 13.7**	**+0.2**
BDFB				IAmb	IAmb		06 55 16.2	
	comp=Z,11nm,1.5s							
TXAR	**Lajitas Array**	**39.14**	**323**	P		**P**	**06 56 07.3**	**+0.9**
PLCA	**Paso Flores**	**39.74**	**171**	P		**P**	**06 56 13.8**	**+2.6**
	comp=Z,1.7nm,0.9s,baz=337,slow=7.7,SNR=2.0							
PLCA	**Paso Flores**	**39.74**	**171**	P		**P**	**06 56 13.9**	**+2.8**
PLCA				IAmb	IAmb		06 56 42.6	
	comp=Z,3.8nm,1.1s							
DBIC	**Dimbokro**	**73.54**	**83**	P		**P**	**07 00 11.9**	**+2.4**
	comp=Z,1.5nm,0.5s,baz=249,slow=7.6,SNR=1.8							
DBIC	**Dimbokro**	**73.54**	**83**	IAmb	IAmb		07 00 19.2	
	comp=Z,17nm,1.4s							
KOWA	**Kowa**	**74.97**	**75**	P		**P**	**07 00 20.8**	**+3.0**
	comp=Z,2.1nm,0.6s,baz=265,slow=6.8,SNR=6.3							
KOWA	**Kowa**	**74.97**	**75**	IAmb	IAmb		07 00 30.4	
	comp=Z,10nm,1.4s							
TORD	**Torodi Ar. Bea**	**80.39**	**77**	P		**P**	**07 00 49.8**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=280,slow=6.0,SNR=12							
WRA	**Warramunga Arr**	**141.76**	**235**	PKP		**PKiKP**	**07 08 10.3**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=124,slow=2.3,SNR=1.1							

*ATA **19** 06:58:47.3±0.3, 39.69N×42.93E, h41km±80km, ML3.0, MW4.0*
*ISK **19** 06:59:04.4, 38.77N×43.23E, h5km, ML2.4/6*
*DDA **19** 06:59:05.1, 38.75N×43.19E, h7km±2km, ML1.8*

ISC 19 06:59:04.9±1.1, 38.79N±0.03×43.17E±0.03, h10km±10km, n15, σ0§88/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**138**	PG		**Pg**	**06 59 10.9**	**+0.7**
VANB				SG		**Sg**	**06 59 15.3**	**+1.6**
TVAN	**Van**	**0.31**	**145**	*eP*		**Pg**	**06 59 10.7**	**-0.6**
TVAN				IAML			06 59 16.1	
	comp=Z,393nm,0.3s							
TVAN	**Van**	**0.31**	**145**	*i* P		**Pg**	**06 59 10.8**	**-0.6**
TVAN				*i* S		**Sg**	**06 59 15.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.37**	**57**	*i* P		**Pb**	**06 59 13.1**	**-0.6**
VMUR				*i* S		**Sb**	**06 59 20.0**	**+0.3**
VMUR				IAML			06 59 20.0	
	comp=N,214nm,0.4s							
VMUR				IAML			06 59 21.0	
	comp=E,209nm,0.2s							
AKDM	**Akdamar-Van**	**0.48**	**198**	PG		**Pg**	**06 59 14.3**	**-0.1**
AKDM				SG		**Sb**	**06 59 21.6**	**-1.1**
GEVA	**Gevas**	**0.48**	**191**	*eP*		**Pg**	**06 59 12.7**	**-1.6**
GEVA				IAML			06 59 28.1	
	comp=Z,67nm,0.3s							
GEVA	**Gevas**	**0.48**	**191**	*i* P		**Pg**	**06 59 14.0**	**-0.3**
GEVA				*i* S		**Sb**	**06 59 21.3**	**-1.4**
GEVA				IAML			06 59 23.0	
	comp=N,86nm,0.3s							
GEVA				IAML			06 59 25.0	
	comp=E,99nm,0.3s							
MLAZ	**Malazgirt-MUS**	**0.60**	**306**	PG		**Pb**	**06 59 17.2**	**-0.4**
MLAZ				SG		**Sb**	**06 59 26.7**	**+0.5**
CLDR	**Caldiran**	**0.68**	**58**	PG		**Pg**	**06 59 17.5**	**-0.7**
CLDR				SG		**Sg**	**06 59 27.2**	**+0.1**
CLDR	**Caldiran**	**0.68**	**58**	*i* P		**Pb**	**06 59 18.4**	**-0.6**
CLDR				*i* S		**Sb**	**06 59 28.6**	**0.0**
CLDR				IAML			06 59 31.0	
	comp=E,62nm,0.4s							
CLDR				IAML			06 59 31.0	
	comp=N,39nm,0.3s							
AGRB	**Hanur-Agry**	**0.80**	**350**	PG		**Pb**	**06 59 20.8**	**-0.3**
BLIS	**Bitlis-Merkez**	**0.91**	**246**	*eP*		Pg	06 59 13.4	-9.1
BLIS				*eS*		**Sg**	**06 59 33.7**	**-0.6**
BLIS				IAML			06 59 37.5	
	comp=Z,40nm,0.3s							
BLIS	**Bitlis-Merkez**	**0.91**	**246**	*i* P		**Pb**	**06 59 23.0**	**+0.2**
BLIS				IAML			06 59 36.0	
	comp=N,35nm,0.3s							
BLIS				*i* S		**Sb**	**06 59 36.2**	**+1.2**
BLIS				IAML			06 59 38.0	
	comp=E,34nm,0.4s							
GURO	**Guroymak-BITLI**	**0.92**	**256**	PG		**Pb**	**06 59 23.2**	**+0.1**
HAKT	**HAKKARI**	**1.29**	**161**	*i* P		**Pb**	**06 59 29.0**	**-0.5**
HAKT				*i* S		**Sn**	**06 59 48.5**	**+1.8**
HAKT				IAML			06 59 50.0	
	comp=E,17nm,0.5s							

*IDC **19** 06:59:51.3±1.2, 2.68N×125.90E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/37, mbtmp3.7/6, MS2.4/1, Ms1 2.4/1, ms1mx2.1/38, Error ellipse: s-maj=79.4km s-min=19.5km az=76.0*
*DJA **19** 06:59:59.9±0.3, 3°N±2°×126°6E±°, h43km±33km, M4.4/13, mB4.9/2, mb4.5/6, MLv4.3/13, Mw(mB)4.2/2*
*NEIC **19** 06:59:59.5±0.9, 2.6N±0.2°×125.6E±0.2°, h71km±13km, mb4.1/11, Error ellipse: s-maj=34.4km s-min=6.6km az=48.0*

ISC 19 06:59:58.3±0.8, 2.82N±0.05×126.25E±0.07, h50km, n31, σ1§87/33, mb4.0/8, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.12**	**320**	P		**Pn**	**07 00 19.2**	**+1.5**
SGSI				S		**Sn**	**07 00 34.2**	**+2.2**
TNTI	**Ternate**	**2.32**	**151**	P		**Pn**	**07 00 36.1**	**+2.1**
TNTI				S		**Sn**	**07 01 03.8**	**+2.5**
TNTI	**Ternate**	**2.32**	**151**	Pn		**Pn**	**07 00 37.8**	**+3.8**
KMSI	**Cibinong**	**3.18**	**226**	P		**Pn**	**07 00 47.7**	**+1.9**
KMSI				S		**Sn**	**07 01 24.3**	**+1.8**
LBMI	**Labuha**	**3.65**	**160**	P		**Pn**	**07 00 53.8**	**+1.5**
LBMI				S		**Sn**	**07 01 34.7**	**+0.5**
GTOI	**Gorontalo**	**3.89**	**236**	P		**Pn**	**07 00 56.9**	**+1.3**
DAV	**Davao City (W)**	**4.28**	**351**	LR		LR	07 02 32.2	
	comp=Z,54nm,21.8s,baz=172,slow=37							
KCP	**Kidapawan**	**4.32**	**345**	*eP*		Pn	07 01 07.7	+6.1
KCP				*i* S		Sn	07 02 06.2	+15
SANI	**Sanana**	**4.84**	**183**	P		**Pn**	**07 01 09.9**	**+1.3**
LUWI	**Luwuk**	**5.17**	**222**	P		**Pn**	**07 01 15.0**	**+1.8**
	0.9nm2µm226nm,1.0s							
NLAI	**Namlea**	**6.08**	**172**	P		**Pn**	**07 01 26.5**	**+0.9**
	0.2nm20nm,0.5s							
MPSI	**Mapaga**	**6.81**	**249**	P		**Pn**	**07 01 37.5**	**+1.9**
	0.1nm9.2nm,0.8s							
TTSI	**Tana Toraja**	**8.67**	**228**	P		**Pn**	**07 02 03.8**	**+2.6**
WSI	**Waingapu**	**13.75**	**205**	P		**Pn**	**07 03 11.3**	**+0.7**
KNRA	**Kununurra**	**18.54**	**172**	P		**P**	**07 04 08.2**	**-2.7**
KNRA				IAmb	IAmb		07 04 20.4	
	comp=Z,24nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.79**	**182**	P		**P**	**07 04 34.5**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=4.7,slow=13,SNR=1.4							
FITZ	**Fitzroy Crossi**	**20.79**	**182**	P		**P**	**07 04 31.3**	**-4.1**
WB0	**Warramunga Arr**	**23.83**	**161**	P		**P**	**07 05 06.1**	**-0.8**
WRAB	**Tennant Creek**	**23.97**	**161**	P		**P**	**07 05 07.5**	**-0.7**
WRAB				IAmb	IAmb		07 05 25.1	
	comp=Z,6.9nm,0.9s							
WRA	**Warramunga Arr**	**23.97**	**161**	P		**P**	**07 05 07.1**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=339,slow=11,SNR=47							
WRA	**Warramunga Arr**	**23.97**	**161**	P		**P**	**07 05 06.7**	**-1.6**
WB2	**Warramunga Arr**	**23.98**	**161**	P		**P**	**07 05 07.1**	**-1.2**
WB2				IAmb	IAmb		07 05 25.2	
	comp=Z,5.9nm,0.9s							
WR0	**Warramunga Arr**	**24.06**	**161**	P		**P**	**07 05 07.9**	**-1.1**
AS31	**Alice Springs**	**27.36**	**165**	P		**P**	**07 05 37.6**	**-1.3**
ASAR	**Alice Springs**	**27.36**	**165**	P		**P**	**07 05 38.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=344,slow=7.4,SNR=19							
KSRS	**Korea Array**	**34.50**	**2**	P		**P**	**07 06 43.0**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=186,slow=10,SNR=4.3							
BBOO	**Buckleboo**	**36.63**	**166**	P		**P**	**07 06 59.2**	**-0.8**
STKA	**Stephens Creek**	**37.46**	**158**	P		**P**	**07 07 06.6**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=334,slow=9.3,SNR=6.4							
STKA	**Stephens Creek**	**37.46**	**158**	P		**P**	**07 07 06.7**	**-0.4**
STKA				IAmb	IAmb		07 07 35.6	
	comp=Z,2.6nm,1.4s							
MKAR	**Makanchi Array**	**58.03**	**326**	P		**P**	**07 09 44.3**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=129,slow=8.1,SNR=1.8							
KURK	**Kurchatov**	**62.25**	**328**	P		**P**	**07 10 13.1**	**-1.8**
KURK				IAmb	IAmb		07 10 40.7	
	comp=Z,2.9nm,1.3s							

*SSNC **19** 07:09:32.4±1.6, 19.84N×74.37W, h17km, MD3.8, ML3.8, MW3.8*
*OSPL **19** 07:09:32.8±1.1, 19.58N×74.81W, h94km±14km, ML3.6*
*JSN **19** 07:09:32.7±1.4, 19.77N×74.48W, h0km±111km, MD4.8*

ISC 19 07:09:32.5±1.1, 19.98N±0.06×74.49W±0.03, h24km±11km, n14, σ1§00/25, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.31**	**50**	*i*P		**Pb**	**07 09 39.0**	**-0.6**
MASC				*i* S		**Sb**	**07 09 45.0**	**+0.5**
MASC				IAML			07 09 45.5	
	comp=E,3µm,0.3s							
MASC				IAML			07 09 47.1	
	comp=N,4µm,0.3s							
GTBY	**Guantanamo Bay**	**0.59**	**265**	*i* P		**Pb**	**07 09 44.5**	**+0.2**
GTBY				*e*S		**Sn**	**07 09 54.8**	**+0.5**
GTBY				IAML			07 10 00.8	
	comp=Z,7µm,0.8s							
GTMO	**Guantanamo**	**0.62**	**280**	*e*P		**Pb**	**07 09 43.9**	**-0.9**
GTMO				*e*S		**Sb**	**07 09 53.9**	**+0.7**
GTMO				IAML			07 09 58.2	
	comp=N,167µm,0.3s							
GTMO				IAML			07 10 01.3	
	comp=E,171µm,0.6s							
MOAC	**Moa**	**0.81**	**327**	*e*P		**Pb**	**07 09 48.0**	**0.0**
MOAC				*e*S		**Sn**	**07 10 00.8**	**+1.0**
MOAC				IAML			07 10 11.8	
	comp=N,1µm,0.5s							
MOAC				IAML			07 10 13.8	
	comp=E,552nm,0.6s							
RCC	**Rio Carpintero**	**1.14**	**271**	*e*P		**Pn**	**07 09 52.3**	**-0.6**
RCC				*e*S		**Sn**	**07 10 07.6**	**-0.2**
RCC				IAML			07 10 13.4	
	comp=N,972nm,0.2s							
RCC				IAML			07 10 13.8	
	comp=E,960nm,0.3s							
LGNH	**Logne**	**2.30**	**129**	*i* P		**Pn**	**07 10 07.8**	**-1.1**
LGNH				*e*S		**Sn**	**07 10 34.9**	**-1.5**
LGNH				IAML			07 10 40.1	
	comp=Z,56nm,0.9s							
LMGC	**Las Mercedes**	**2.37**	**273**	*e*P		**Pn**	**07 10 10.7**	**+0.8**
LMGC				*e*S		**Sn**	**07 10 38.9**	**+0.7**
LMGC				IAML			07 10 46.8	
	comp=N,484nm,0.2s							
LMGC				IAML			07 10 48.3	
	comp=E,573nm,0.4s							
STH	**Stony Hill**	**2.90**	**230**	*i* P		**Pn**	**07 10 16.6**	**-0.6**
BBJ	**Bamboo Saint A**	**3.07**	**239**	*i* P		**Pn**	**07 10 19.9**	**+0.3**
SDDR	**Presa de Saban**	**3.17**	**108**	*i* P		**Pn**	**07 10 21.6**	**+0.6**
SDDR				*e*S		**Sn**	**07 10 57.7**	**-0.5**
SDDR				IAML			07 10 59.5	
	comp=Z,123nm,0.6s							
CCCC	**Cccc**	**3.31**	**292**	*e*P		**Pn**	**07 10 21.1**	**-1.7**
CCCC				*e*S		**Sn**	**07 10 59.7**	**-1.7**
CCCC				IAML			07 11 06.5	
	comp=N,78nm,0.6s							
CCCC				IAML			07 11 07.9	
	comp=E,105nm,0.5s							
PCJ	**Portland Cotta**	**3.37**	**229**	*i* P		**Pn**	**07 10 24.4**	**+0.8**
SC01	**Santiago de lo**	**3.58**	**98**	*i* P		**Pn**	**07 10 28.7**	**+2.1**
MCJ	**Malvern**	**3.65**	**237**	*i* P		**Pn**	**07 10 28.7**	**+1.1**
MCJ				*i* S		**Sn**	**07 11 09.9**	**-0.2**
MCJ				*i* S		**Sn**	**07 11 10.1**	**+0.1**

IDC 19 07:13:59.0±9.7, 13.13S×167.02E, h251km±110km, mb3.2/4, mb1 3.4/5, mb1mx3.0/39, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/12, Error ellipse: s-maj=104.4km s-min=32.1km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.91**	**183**	P		Pn	07 16 03.9	0.0
	0.1nm,0.3s,baz=92,slow=18,SNR=1.7							
DZM				S		S	07 17 35.6	-9.3
	baz=291,slow=15,SNR=2.4							
STKA	**Stephens Creek**	**29.87**	**227**	P		P	07 19 43.5	+0.1
	1.4nm,0.6s,baz=30,slow=8.1,SNR=1.7							
WRA	**Warramunga Arr**	**32.01**	**253**	P		P	07 20 02.4	0.0
	0.5nm,0.6s,baz=86,slow=9.1,SNR=2.7							
ASAR	**Alice Springs**	**33.05**	**247**	P		P	07 20 11.2	-0.1
	0.5nm,0.4s,baz=75,slow=9.9,SNR=21							
FITZ	**Fitzroy Crossi**	**40.10**	**257**	LR		LR	07 36 12.3	
	comp=Z,46nm,21.6s,baz=76,slow=33							
ILAR	**Eielson Array**	**85.09**	**18**	P		P	07 26 06.2	-0.1
	0.6nm,0.9s,baz=226,slow=4.9,SNR=4.2							

*IDC **19** 07:16:32.0±0.5, 4.98S×151.60E, h100km±4km, mb3.6/10, mb1 3.8/12, mb1mx3.5/38, mbtmp4.0/12, MS3.1/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=21.4km s-min=8.7km az=128.0*
*NEIC **19** 07:16:32.8±1.5, 4.99S±0.1°×151.61E±0.1°, h109km±5km, mb4.1/15, Error ellipse: s-maj=16.5km s-min=8.9km az=139.0*

ISC 19 07:16:33.9±0.5, 4.93S±0.08×151.57E±0.10, h129km, n36, σ2§34/45, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.77**	**36**	P		**Pn**	**07 16 52.0**	**-2.7**
	364nm,0.3s,baz=196,slow=0.1,SNR=356							
KRVT				S		**Sn**	**07 17 04.7**	**-5.7**
	588nm,0.3s,baz=118,slow=21,SNR=15							
KRVT				LR		LR	07 17 07.4	
	comp=Z,68nm,19.0s,baz=299,slow=45							
RABL	**Rabaul**	**0.94**	**39**			**Pn**	**07 16 53.6**	**-2.6**
RABL				Sn		**Sn**	**07 17 09.4**	**-3.7**
PMG	**Port Moresby**	**6.24**	**224**	P		**Pn**	**07 18 02.3**	**-1.4**
	17nm,0.3s,baz=39,slow=5.3,SNR=25							
PMG				S		**Sn**	**07 19 09.9**	**-3.9**
	5.5nm,0.3s,baz=229,slow=6.2,SNR=2.3							
PMG	**Port Moresby**	**6.24**	**224**			**Pn**	**07 18 02.7**	**-1.0**
PMG						**Sn**	**07 19 11.0**	**-2.8**
COEN	**Coen**	**12.21**	**222**	Pn		**Pn**	**07 19 22.6**	**-1.0**
PATS	**Pohnpei**	**13.48**	**30**	Pn		**Pn**	**07 19 40.8**	**+0.7**
CTA	**Charters Tower**	**15.93**	**199**	P		**P**	**07 20 11.4**	**-0.6**
	0.3nm,0.3s,baz=39,slow=15,SNR=2.1							
EIDS	**Eidsvold**	**20.33**	**181**	P		**P**	**07 20 59.3**	**-0.7**
EIDS				IAmb	IAmb		07 21 07.7	
	comp=Z,18nm,1.3s							
WB0	**Warramunga Arr**	**22.30**	**227**	P		**P**	**07 21 21.6**	**+0.6**
WB0				IAmb	IAmb		07 21 27.6	
	comp=Z,12nm,1.4s							
DZM	**Mont Dzumac**	**22.31**	**141**	P		**P**	**07 21 20.3**	**-0.8**
	comp=Z,5.2nm,0.6s,baz=278,slow=7.4,SNR=8.1							
DZM	**Mont Dzumac**	**22.31**	**141**	P		**P**	**07 21 19.5**	**-1.6**
DZM				IAmb	IAmb		07 21 26.9	
	comp=Z,15nm,1.1s							
WR0	**Warramunga Arr**	**22.32**	**227**	P		**P**	**07 21 22.5**	**+1.3**
WB2	**Warramunga Arr**	**22.45**	**227**	P		**P**	**07 21 23.4**	**+1.0**
WRA	**Warramunga Arr**	**22.45**	**227**	P		**P**	**07 21 22.8**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=53,slow=10,SNR=24							
WRA				pP		**pP**	**07 21 42.4**	**-4.4**
	comp=Z,4.9nm,0.6s,baz=50,slow=10,SNR=11							
WRA				ScP		**ScP**	**07 28 40.6**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=51,slow=2.8,SNR=7.9							
KNRA	**Kununurra**	**24.82**	**243**	P		**P**	**07 21 45.7**	**+1.3**
KNRA				IAmb	IAmb		07 21 58.6	
	comp=Z,4.6nm,0.8s							
AS31	**Alice Springs**	**25.24**	**221**	P		**P**	**07 21 48.8**	**+0.7**
ASAR	**Alice Springs**	**25.24**	**221**	P		**P**	**07 21 49.1**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=53,slow=9.1,SNR=36							
ASAR				pP		**pP**	**07 22 10.1**	**-5.9**
	comp=Z,2.8nm,0.8s,baz=54,slow=8.8,SNR=5.4							
ASAR				ScP		**ScP**	**07 28 50.2**	**+4.4**
	comp=Z,0.4nm,0.8s,baz=41,slow=2.8,SNR=2.6							
ARMA	**Armidale**	**25.35**	**180**	P		**P**	**07 21 51.5**	**+2.3**
ARMA				IAmb	IAmb		07 21 52.4	
	comp=Z,14nm,1.4s							
STKA	**Stephens Creek**	**28.39**	**198**	LR		LR	07 34 37.7	
	comp=Z,33nm,18.6s,baz=21,slow=38							
FITZ	**Fitzroy Crossi**	**28.53**	**241**	P		**P**	**07 22 17.6**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=72,slow=5.3,SNR=7.6							
FITZ				pP		**pP**	**07 22 41.1**	**-4.2**
	comp=Z,3.3nm,0.8s,baz=61,slow=4.4,SNR=3.5							
FITZ	**Fitzroy Crossi**	**28.53**	**241**	P		**P**	**07 22 18.1**	**+0.6**
FITZ				IAmb	IAmb		07 22 36.2	
	comp=Z,3.8nm,1.2s							
BBOO	**Buckleboo**	**31.30**	**206**	P		**P**	**07 22 41.5**	**-0.4**
FORT	**Forrest**	**33.93**	**218**	P		**P**	**07 23 04.8**	**0.0**
URZ	**Urewera**	**40.50**	**148**	P		**P**	**07 24 01.1**	**+0.9**
	comp=Z,4.5nm,0.6s,baz=333,slow=2.3,SNR=1.3							
URZ	**Urewera**	**40.50**	**148**	P		**P**	**07 24 01.1**	**+0.9**
TUWZ	**Tuamarina**	**41.49**	**154**	P		**P**	**07 24 09.6**	**+1.4**
SONM	**Songino Array**	**65.79**	**328**	P		**P**	**07 27 08.1**	**+2.8**
	comp=Z,0.7nm,0.5s,baz=147,slow=6.6,SNR=3.0							
SONM	**Songino Array**	**65.79**	**328**	P		**P**	**07 27 05.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=258,slow=4.4,SNR=1.9							
ILAR	**Eielson Array**	**82.74**	**22**	P		**P**	**07 28 43.3**	**+0.3**
KURBB	**Kurchatov Arra**	**83.15**	**322**	P		**P**	**07 28 47.0**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=106,slow=3.3,SNR=4.5							
MAW	**Mawson**	**84.98**	**203**	P		**P**	**07 28 55.7**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=99,slow=7.1,SNR=8.0							
QSPA	**South Pole Qui**	**85.03**	**180**	P		**P**	**07 28 56.3**	**+1.4**
NVAR	**Mina Array Bea**	**93.12**	**52**	P		**P**	**07 29 36.7**	**+2.8**
	comp=Z,0.3nm,0.6s,baz=260,slow=5.0,SNR=2.8							
GERES	**GERESS Array B**	**123.52**	**328**	PKP		**PKiKP**	**07 35 17.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=56,slow=1.8,SNR=1.9							
GERES	**GERESS Array B**	**123.52**	**328**	PKPdf		**PKiKP**	**07 35 17.8**	**+1.3**
TORD	**Torodi Ar. Bea**	**149.18**	**287**	PKPbc		**PKPbc**	**07 36 09.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=104,slow=2.5,SNR=2.6							
TORD				pPKPbc		**pPKPdf**	**07 36 37.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=102,slow=5.2,SNR=1.7							

*IDC **19** 07:18:55.3±1.0, 19.26N×68.36W, h0km, mb3.5/9, mb1 3.9/12, mb1mx3.6/42, mbtmp3.7/12, ML2.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=25.8km s-min=21.7km az=1.0*
*NEIC **19** 07:18:57.6±2.1, 19.48N±0.06×68.38W±0.04, h15km±7km, mb4.1/3, Md4.0/45(RSPR), Error ellipse: s-maj=9.2km s-min=4.4km az=211.0*
*OSPL **19** 07:18:59.4±0.7, 19.29N×68.39W, h0km±13km, ML3.4*
*RSPR **19** 07:18:59.8, 19.55N×68.28W, h103km±4km, MD4.0/21*

ISC 19 07:18:56.3±1.6, 19.43N±0.05×68.38W±0.03, h3km±11km, n103, σ1§28/112, mb3.8/11, 22C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.15**	**236**			**Pg**	**07 19 16.6**	**-1.7**
AGPR	**Aguadilla, PR**	**1.53**	**129**	*eP*		**Pn**	**07 19 24.5**	**-0.1**
AGPR	**Aguadilla, PR**	**1.53**	**129**	*eS*		**Sg**	**07 19 47.0**	**+1.4**
AGPR	**Aguadilla, PR**	**1.53**	**129**			**Pn**	**07 19 24.4**	**-0.1**
AGPR						**Sn**	**07 19 45.5**	**+0.5**
AGPR	**Aguadilla, PR**	**1.53**	**129**	*i* P		**Pn**	**07 19 24.8

MTP	Monte Pirata	2.99	116	eP	Pn	07 19 44.8 +0.2
MTP	Monte Pirata	2.99	116	eS	Sn	07 20 20.2 -0.7
MTP	Monte Pirata	2.99	116		Pn	07 19 42.7 -1.8
CUPR	Culebra, Puert	3.13	110	eP	Pn	07 19 46.2 -0.4
CUPR	Culebra, Puert	3.13	110		Pn	07 19 45.5 -1.1
GRTK	Grand Turk	3.31	309	eP	Pn	07 19 49.3 +0.3
GRTK	Grand Turk	3.31	309	eS	Sn	07 20 29.2 +0.3
GRTK	Grand Turk	3.31	309		Pn	07 19 49.3 +0.3
TBVI	Tortola	3.70	105	eP	Pn	07 19 54.2 -0.1
TBVI	Tortola	3.70	105	eS	Sn	07 20 38.7 +0.2
TBVI	Tortola	3.70	105		Pn	07 19 54.2 -0.1
CDVI	St. Croix	3.81	115	eP	Pn	07 19 57.6 +1.8
CDVI	St. Croix	3.81	115	eS	Sn	07 20 40.8 -0.5
CDVI	St. Croix	3.81	115		Pn	07 19 56.6 +0.8
LGNH	Logne	4.11	258		Pn	07 20 02.6 +2.6
GTBY	Guantanamo Bay	6.37	276	Pn	Pn	07 20 30.8 -0.2
URIC	Uribia, Colomb	8.44	205	eP	Pn	07 20 55.5 -4.0
SDV	Santo Domingo comp=Z,1.3nm,0.3s,baz=354,slow=12,SNR=2.4	10.71	192		Pn	07 21 28.5 -2.4
SDV				Sn	Sn	07 23 21.7 -10
	comp=Z,0.9nm,0.3s,baz=322,slow=15,SNR=1.6					
SMLC	San Martn de	11.92	208	eP	Pn	07 21 44.0 -3.3
PAMC	Pamplona, Colo	12.73	200	eP	Pn	07 21 55.7 -3.2
BBSR	BB Station	13.30	14		Pn	07 22 07.2 +1.2
ZARC	Zaragoza, Cauc	13.44	209	eP	Pn	07 22 07.4 -0.6
RUSC	La Rusia	14.22	199	eP	Pn	07 22 15.2 -3.9
SPBC	San Pablo de B	14.78	203	eP	Pn	07 22 28.9 +2.4
ROSC	El Rosal comp=Z,0.2nm,0.3s,baz=140,slow=23,SNR=1.4	15.62	203	Pn	Pn	07 22 37.1 -0.8
ROSC	El Rosal	15.62	203	IAmb	IAmb	07 23 06.6
	comp=Z,7.8nm,0.7s					
JTS	Las Juntas de comp=Z,0.3nm,0.3s,baz=219,slow=19,SNR=1.5	18.41	243	P	Pn	07 23 11.7 -1.0
TKL	Tuckaleechee C comp=Z,1.8nm,0.8s,baz=158,slow=14,SNR=1.4	21.11	323	P	P	07 23 44.5 +2.3
TKL				S	S	07 27 33.2 -4.5
	comp=Z,2.6nm,0.8s,baz=206,slow=13,SNR=2.4					
ATAH	Atahualpa comp=Z,50nm,18.6s,baz=15,slow=37	28.18	201	LR	LR	07 36 20.4
SAML	Samuel	28.66	169	P	P	07 24 50.7 -3.8
SAML				IAmb	IAmb	07 25 32.2
	comp=Z,12nm,1.9s					
TXAR	Lajitas Array comp=Z,0.2nm,0.6s,baz=118,slow=7.8,SNR=8.2	33.51	294	P	P	07 25 37.1 -0.3
PV01	Paradox Valley	39.48	307	P	P	07 26 19.9 -8.6
PV01				IAmb	IAmb	07 27 20.0
	comp=Z,4.1nm,1.1s					
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=115,slow=8.1,SNR=2.3	41.69	313	P	P	07 26 47.1 +0.5
NVAR	Mina Array Bea comp=Z,0.1nm,0.5s,baz=86,slow=5.5,SNR=2.7	47.01	305	P	P	07 27 29.3 0.0
NEW	Newport comp=Z,1.0nm,0.6s,baz=95,slow=11,SNR=2.4	48.56	318	P	P	07 27 41.2 +0.3
ESDC	Sonseca Array comp=Z,0.8nm,0.9s,baz=253,slow=6.5,SNR=2.9	58.34	55	P	P	07 28 53.5 +0.5
TORD	Torodi Ar. Bea comp=Z,1.6nm,1.0s,baz=296,slow=4.9,SNR=5.7	67.16	84	P	P	07 29 51.4 -0.7
ILAR	Eielson Array comp=Z,0.2nm,0.6s,baz=111,slow=4.1,SNR=2.3	67.71	333	P	P	07 29 55.3 +0.5
ARCES	ARCESS Array B comp=Z,1.0nm,0.7s,baz=288,slow=3.7,SNR=4.0	73.31	21	P	P	07 30 29.6 +0.7
ASAR	Alice Springs comp=Z,0.3nm,0.7s,baz=111,slow=4.9,SNR=4.9	158.86	255	PKPab	PKPab	07 39 30.5 -1.9

WEL 19 07:20:40.6, 42°S±2°×17°2E±°, h103km±9km, M2.5/13, MLv2.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=84.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	Denniston Nort	0.30	263	P	Pn	07 20 55.8	+0.2
THZ	Tophouse	0.53	96	P	Pn	07 20 57.2	+0.2
QRZ	Quartz Range	0.92	16	P	Pn	07 21 00.8	+0.3
NNZ	Nelson	1.01	61	P	Pn	07 21 01.6	+0.2
LTZ	Lake Taylor	1.07	177	P	Pn	07 21 02.5	+0.4
INZ	Inchbonnie	1.16	209	P	Pn	07 21 03.1	+0.1
KHZ	Kahutara	1.22	126	P	Pn	07 21 03.9	+0.3
BSWZ	Blackbirch Sta	1.25	91	P	Pn	07 21 04.7	+0.6
TUWZ	Tuamarina	1.34	78	P	Pn	07 21 05.4	+0.4
DUWZ	D'Urville Isla	1.58	56	P	Pn	07 21 08.7	+0.6
MHCZ	Mount Hutt	1.88	194	P	Pn	07 21 11.3	-0.5
MQZ	McQueen's Vall	2.02	171	P	Pn	07 21 12.7	-0.8
OKCZ	Okains Bay	2.11	163	P	Pn	07 21 14.2	-0.5
AKCZ	Akaroa Harbour	2.22	167	P	Pn	07 21 15.5	-0.7
FOZ	Fox Glacier	2.53	223	P	Pn	07 21 19.9	-0.3
BHHZ	Black Hill Sta	3.68	54	P	Pn	07 21 42.4	+6.7

IDC 19 07:29:36.4±1.1, 0°.68N×126°.75E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.8/34, mbtmp4.1/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=56.3km s-min=17.6km az=79.0

NEIC 19 07:29:45.5±0.8, 0°.7N±0°.1×126°.81E±0°.09, h75km±9km, mb4.2/14, Error ellipse: s-maj=16.1km s-min=11.8km az=151.0

DJA 19 07:29:45.2±0.3, 1°.N±2°×12°.7E±°, h42km±14km, M4.1/12, mb4.6/4, MLv3.9/12

ISC 19 07:29:43.5±0.6, 0°.68N±0°.05×126°.73E±0°.04, h47km, n40, σ1§81/44, mb4.3/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.64	82	P	Pn	07 29 59.4	+3.0
TNTI				S	Sn	07 30 09.8	+4.1
TNTI	Ternate	0.64	82		Pn	07 29 59.4	+3.0
LBMI	Labuha	1.52	150	P	Pn	07 30 10.3	+2.0
LBMI				S	Sn	07 30 29.2	+2.2
KMSI	Cibinong	2.75	268	P	Pn	07 30 26.0	+0.9
SANI	Sanana	2.81	195	P	Pn	07 30 28.5	+2.5
SGSI	Sangihe	3.21	338	P	Pn	07 30 32.8	+1.3
SGSI				S	Sn	07 31 09.8	+1.2
GTOI	Gorontalo	3.72	269	P	Pn	07 30 41.4	+3.0
GTOI				S	Sn	07 31 24.8	+3.8
NLAI	Namlea	3.92	175	P	Pn	07 30 43.1	+2.0
NLAI				S	Sn	07 31 24.4	-1.5
LUWI	Luwuk	4.31	247	P	Pn	07 30 47.6	+1.0
LUWI				S	Sn	07 31 38.8	+3.2
LUWI	Luwuk	4.31	247	Pn	Pn	07 30 49.9	+3.3
SIJI	Sorong comp=Z,102nm,19.5s,baz=186,slow=43	4.79	109	LR	LR	07 33 03.4	
TTSI	Tana Toraja 0.1nm30nm,0.6s	7.84	242	P	Pn	07 31 35.2	+0.2
SPSI	Sidrap Palu 29nm,0.5s	8.35	236	P	Pn	07 31 42.5	+0.5
BKSI	Bulukumba	8.89	228	P	Pn	07 31 51.5	+2.0
KNRA	Kununurra	16.38	173	Pn	Pn	07 33 30.3	0.0
KNRA				IAmb	IAmb	07 33 43.2	
	comp=Z,15nm,1.4s						
WB0	Warramunga Arr	21.67	160	P	P	07 34 29.6	-0.8
WB0				IAmb	IAmb	07 34 31.7	
	comp=Z,9.6nm,0.5s						
WRAB	Tennant Creek	21.81	160	P	P	07 34 31.1	-0.7
WRAB				IAmb	IAmb	07 34 33.1	
	comp=Z,7.5nm,0.7s						
WRA	Warramunga Arr comp=Z,8.2nm,0.7s,baz=338,slow=10,SNR=58	21.82	160	P	P	07 34 30.8	-1.1
WRA	Warramunga Arr	21.82	160	P	P	07 34 30.0	-1.9
WB2	Warramunga Arr	21.82	160	P	P	07 34 30.6	-1.3
WB2				IAmb	IAmb	07 34 33.2	
	comp=Z,9.8nm,0.7s						
COEN	Coen	21.84	132	P	P	07 34 33.0	+0.8
COEN				IAmb	IAmb	07 34 41.3	
	comp=Z,19nm,1.3s						
WR0	Warramunga Arr	21.90	160	P	P	07 34 31.9	-0.9
WR0				IAmb	IAmb	07 34 33.0	
	comp=Z,9.2nm,1.1s						
AS31	Alice Springs	25.19	164	P	P	07 35 03.5	-1.4
ASAR	Alice Springs comp=Z,3.6nm,0.8s,baz=345,slow=11,SNR=35	25.19	164	P	P	07 35 03.5	-1.4
ASAR	Alice Springs	25.19	164	P	P	07 35 03.6	-1.2
STKA	Stephens Creek comp=Z,3.4nm,0.8s,baz=337,slow=7.0,SNR=5.5	35.31	158	P	P	07 36 33.2	-1.0
STKA	Stephens Creek	35.31	158	P	P	07 36 33.3	-1.0
JWT	Wachi	35.36	12	P	P	07 36 34.4	-0.2
MJAR	Matsushiro Arr comp=Z,1.0nm,0.6s,baz=185,slow=10,SNR=5.2	37.23	15	P	P	07 36 48.4	-2.2
JMM	Marumori	39.20	18	P	P	07 37 07.2	+0.1
HHC	Hu-ho-hao-te	42.28	343	eP	P	07 37 38.1	+5.5
PETK	Petropavlovsk- comp=Z,1.6nm,0.5s,baz=192,slow=5.2,SNR=11	58.24	21	P	P	07 39 33.4	+0.3
PETK	Petropavlovsk-	58.24	21	P	P	07 39 32.0	-1.0
MK31	Makanchi Array	60.05	326	P	P	07 39 45.6	-0.2
MKAR	Makanchi Array comp=Z,0.6nm,0.3s,baz=117,slow=8.0,SNR=14	60.05	326	P	P	07 39 45.5	-0.3
MKAR	Makanchi Array	60.05	326	P	P	07 39 45.3	-0.5
ZALV	Zalesovo Beam	63.29	334	P	P	07 40 06.3	-1.1
BTK	Batken	64.04	315	P	P	07 40 11.9	-0.8
KURK	Kurchatov	64.30	328	P	P	07 40 13.5	-0.6
KURK				IAmb	IAmb	07 40 14.2	
	comp=Z,2.7nm,0.7s						
ABKAR	Akbulak array	74.50	321	P	P	07 41 16.5	-0.7

SSNC 19 07:31:57.9±2.9, 19°.90N×74°.44W, h0km±14km, MD3.3, ML2.9, MW3.2

OSPL 19 07:32:00.0±1.5, 19°.54N×74°.75W, h85km±24km, ML2.9

ISC 19 07:31:57.4±1.2, 19°.93N±0°.07×74°.49W±0°.03, h23km±13km, n11, σ1§20/21, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.34	45	iP	Pb	07 32 04.6	-0.4
MASC				iS	Sb	07 32 10.6	+0.4
MASC				IAML		07 32 10.8	
	comp=E,1μm,0.2s						
MASC				IAML		07 32 10.9	
	comp=N,2μm,0.2s						
GTBY	Guantanamo Bay	0.59	270	iP	Pn	07 32 09.9	-0.4
GTBY				eS	Sn	07 32 20.0	+0.8
GTBY				IAML		07 32 26.1	
	comp=Z,537nm,0.7s						
GTMO	Guantanamo	0.63	284	eP	Pb	07 32 09.4	-0.4
GTMO				eS	Sb	07 32 19.3	+1.1
GTMO				IAML		07 32 21.6	
	comp=N,17μm,0.3s						
GTMO				IAML		07 32 22.8	
	comp=E,15μm,0.3s						
MOAC	Moa	0.85	329	eP	Pb	07 32 13.5	0.0
MOAC				eS	Sn	07 32 25.5	-0.3
MOAC				IAML		07 32 36.7	
	comp=E,78nm,0.3s						
MOAC				IAML		07 32 37.2	
	comp=N,90nm,0.4s						
RCC	Rio Carpintero	1.14	274	eP	Pn	07 32 17.8	-0.1
RCC				eS	Sn	07 32 33.0	+0.2
RCC				IAML		07 32 34.1	
	comp=E,142nm,0.3s						
RCC				IAML		07 32 34.6	
	comp=N,123nm,0.3s						
LGNH	Logne	2.27	128	iP	Pn	07 32 33.6	+0.1
LGNH				eS	Sn	07 33 00.5	-0.3
LGNH				IAML		07 33 05.8	
	comp=Z,10nm,0.5s						
LMGC	Las Mercedes	2.37	274	eP	Pn	07 32 36.8	+1.9
LMGC				eS	Sn	07 33 05.3	+2.1
LMGC				IAML		07 33 10.9	
	comp=N,48nm,0.2s						
LMGC				IAML		07 33 11.8	
	comp=E,56nm,0.2s						
SDDR	Presa de Saban	3.16	107	eP	Pn	07 32 45.4	-0.5
SDDR				eS	Sn	07 33 22.8	-0.2
SDDR	Presa de Saban	3.16	107	iP	Pn	07 32 49.0	+3.2
SDDR				eS	Sn	07 33 23.4	+0.4
SDDR				IAML		07 33 25.0	
	comp=Z,26nm,0.6s						
CCCC	Cccc	3.32	293	eP	Pn	07 32 46.8	-1.1
CCCC				eS	Sn	07 33 26.4	-0.3
SMLC	San Martn de	11.07	178	eP	Pn	07 34 33.0	-1.4
SMLC				eS	S	07 35 02.6	
SMLC				i		07 35 06.8	
	comp=Z,7.3nm,0.1s						

NEIC 19 07:32:23.0±2.1, 15°.0S±0°.1×76°.9W±0°.1, h10km±1km, mb4.3/11, ML4.4(ARE), Error ellipse: s-maj=23.4km s-min=12.1km az=233.0

ARE 19 07:32:27±1.5, 14°.8S±0°.1×76°.7W±0°.1, h20km±6km, Error ellipse: s-maj=23.0km s-min=10.0km az=54.0

ISC 19 07:32:23.1±1.1, 15°.0S±0°.1×76°.9W±0°.2, h10km, n27, σ1§76/26, mb4.3/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.99	1		Pn	07 33 11.3	+0.8
PB16	IPOC Station P	7.82	116		Pn	07 34 17.0	-0.5
PSGCX	Pisagua	7.92	126		Pn	07 34 18.6	+0.1
MNMC	Minye Minye	8.10	122		Pn	07 34 20.1	-1.0
PB11	IPOC Station P	8.38	126		Pn	07 34 27.6	+2.7
LPAZ	La Paz	8.54	100		Pn	07 34 30.8	+3.4
GO01	Chusmiza	8.70	123		Pn	07 34 31.4	+1.9
PB08	IPOC Station P	8.98	126		Pn	07 34 33.9	+0.6
PB01	IPOC Station P	9.26	132	Pn	Pn	07 34 36.9	0.0
PCON	Cinco Dias	17.21	2	eP	Pn	07 36 23.5	-0.8
TOLC	Tolima	19.51	5	eP	P	07 36 50.9	-0.1
ROSC	El Rosal	19.87	8	P	P	07 36 55.3	+0.4
RUSC	La Rusia	21.09	11	eP	P	07 37 09.4	+1.0
PTBC	PUERTO BERRIO,	21.53	7	eP	P	07 37 10.8	-1.7
PTGA	Pitinga	21.92	51	P	P	07 37 14.8	-2.0
ZARC	Zaragoza, Cauc	22.43	5	eP	P	07 37 20.6	-1.6
PAMC	Pamplona, Colo	22.57	11	eP	P	07 37 18.3	-6.0
SDV	Santo Domingo	24.52	15	P	P	07 37 41.5	-1.7
SDV				IAmb	IAmb	07 37 51.4	
	comp=Z,7.2nm,1.2s						
SJCC	San Jacinto, C	24.79	4	eP	P	07 37 50.7	+5.3
BDFB	Brasilia	27.85	95	P	P	07 38 12.4	-0.9
BDFB				IAmb	IAmb	07 38 22.0	
	comp=Z,6.5nm,1.2s						
CBYP	Canovanas	34.80	19	P	P	07 39 13.3	-0.8
TUC	Tucson	57.14	326	P	P	07 42 10.8	+0.6
TUC				IAmb	IAmb	07 42 16.2	
	comp=Z,2.6nm,1.2s						
109C	Camp Elliot, M	61.18	322	P	P	07 42 38.7	+0.6
SPUT	South Promonto	64.96	331	P	P	07 43 02.7	-0.6
C09A	Chrisman Ranch	72.60	332	P	P	07 43 50.4	-0.2
C09A				IAmb	IAmb	07 43 53.2	
	comp=Z,3.8nm,1.1s						
LTY	Liberty	73.32	331	P	P	07 43 56.1	+1.2
LTY				IAmb	IAmb	07 44 09.6	
	comp=Z,5.0nm,1.4s						
TORD	Torodi Ar. Bea	82.64	74	P	P	07 44 46.8	-0.5

IDC 19 07:49:26.0±3.1, 15°.99S×173°.10W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.4/3, Error ellipse: s-maj=384.6km s-min=34.6km az=157.0

ISC 19 07:49:30.2±1.4, 16°.1S±0°.2×173°.1W±0°.3, h26km, n30, σ1§38/30, mb3.5/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	22.69	198	P	P	07 54 28.9	-0.9
WMGZ	Waiomatatini S	22.90	197	P	P	07 54 31.9	0.0
HAZ	Te Kaha	23.03	199	P	P	07 54 32.9	-0.4
PKGZ	Pakihiroa	23.06	198	P	P	07 54 34.7	+1.0
PUZ	Puketiti	23.18	198	P	P	07 54 34.5	-0.4
RUGZ	Raukumara Rang	23.25	199	P	P	07 54 33.8	-1.9
TWGZ	Tauwhareparae	23.36	198	P	P	07 54 38.0	+1.3
MWZ	Matawai	23.64	199	P	P	07 54 37.4	-2.0
TKGZ	Te Karaka	23.64	198	P	P	07 54 40.2	+0.9
URZ	Urewera	23.70	199	P	P	07 54 37.7	-2.2
RAGZ	Rawiri	23.82	199	P	P	07 54 37.6	-3.6
RIGZ	Rimuhau	23.91	198	P	P	07 54 42.8	+0.8
MUGZ	Murupara	24.01	200	P	P	07 54 42.9	0.0
RTZ	Ruatahuna	24.07	199	P	P	07 54 43.9	+0.4
PRGZ	Paritu Road	24.08	197	P	P	07 54 44.7	+1.2
KNZ	Kokohu	24.23	198	P	P	07 54 46.4	+1.6
RAHZ	Arahi	24.31	199	P	P	07 54 46.5	+0.9
MTHZ	Maungataniwha	24.33	199	P	P	07 54 46.4	+0.5
MRHZ	Matea Rd	24.45	200	P	P	07 54 45.7	-1.3
NMHZ	Naumai	24.56	199	P	P	07 54 48.6	+0.6
ARHZ	Aropaoanui	24.65	199	P	P	07 54 51.0	+2.2
BKZ	Black Stump Fm	24.72	200	P	P	07 54 50.1	+0.6
MCHZ	McNeill Hill	24.91	199	P	P	07 54 52.3	+1.2
KWHZ	Kaweka Forest	24.98	199	P	P	07 54 52.9	+1.1
OTVZ	Oturere	25.00	201	P	P	07 54 52.9	+0.8
BHHZ	Black Hill Sta	25.16	200	P	P	07 54 54.0	+0.6
KAHZ	Kahuranaki	25.18	198	P	P	07 54 55.5	+2.0
WRA	Warramunga Arr 0.5nm,0.9s,baz=94,slow=7.7,SNR=1.6	49.95	257	P	P	07 58 21.9	-0.5
ASAR	Alice Springs 0.3nm,0.5s,baz=89,slow=7.1,SNR=7.0	50.16	252	P	P	07 58 24.4	+0.4
TXAR	Lajitas Array 0.4nm,0.9s,baz=209,slow=7.0,SNR=3.6	80.77	56	P	P	08 01 41.5	-0.4

NEIC 19 08:02:26.7±1.7, 19°.36S±0°.04×71°.10W±0°.07, h35km±11km, ML4.0(GUC), Error ellipse: s-maj=9.5km s-min=5.9km az=100.0

GUC 19 08:02:27.6±0.7, 19°.34S×71°.02W, h36km±3km, ML3.8

IDC 19 08:02:29.2±4.9, 19°.39S×71°.00W, h66km±37km, mb3.5/3, mb1 3.5/6, mb1mx3.3/22, mbtmp3.6/6, ML3.0/3, MS2.8/3, Ms1 2.8/3, ms1mx2.7/19, Error ellipse: s-maj=60.1km s-min=16.7km az=92.0

ISC 19 08:02:23.7±1.6, 19°.37S±0°.03×71°.06W±0°.06, h11km±10km, n45, σ1§44/60, mb3.7/3, 5C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	0.91	104	eP	Pn	08 02 42.8	+0.3
PSGC				iS	Sn	08 02 54.1	-1.5
PSGC				IAML		08 02 56.9	
	comp=E,6μm,0.3s						
PSGCX	Pisagua	0.91	104		Pn	08 02 42.5	-0.1
PSGCX				Sn	Sn	08 02 55.2	-0.5
AP01	Chacalluta	1.21	34	eP	Pg	08 02 47.1	+0.2
AP01				eS	Sn	08 03 02.4	-0.4
AP01				IAML		08 03 05.8	
	comp=N,3μm,0.3s						
AP01	Chacalluta	1.21	34		Pg	08 02 47.1	+0.2
AP01				Sn	Sn	08 03 02.3	-0.4
TA02	Huaiquique	1.25	136	iP	Pg	08 02 48.1	+0.3
TA02				iS	Sn	08 03 03.9	0.0
TA02				IAML		08 03 07.3	
	comp=N,5μm,0.7s						
PB11	IPOC Station P	1.38	107	iP	Pg	08 02 50.4	+0.1
PB11				iS	Sg	08 03 07.5	-0.7
PB11				IAML		08 03 09.4	
	comp=N,5μm,0.2s						
PB11	IPOC Station P	1.38	107		Pg	08 02 50.2	-0.1
MNMC	Minye Minye	1.40	80	iP	Pg	08 02 50.9	+0.2
MNMC				iS	Sg	08 03 09.1	+0.1
MNMC				IAML		08 03 11.4	
	comp=E,5μm,0.3s						
MNMC	Minye Minye	1.40	80		Pg	08 02 50.4	-0.3
TA01	Diego Aracena	1.45	145	eP	Pb	08 02 51.3	+0.6
TA01				eS	Sb	08 03 09.5	+0.4
TA01				IAML		08 03 09.9	
	comp=E,1μm,0.2s						
TA01	Diego Aracena	1.45	145		Pb	08 02 50.9	+0.3
PATCX	Punta Patache	1.68	150	eP	Pb	08 02 54.6	-0.1
PATCX				eS	Sn	08 03 15.3	+0.7
PATCX				IAML		08 03 25.7	
	comp=N,618nm,0.2s						
PATCX				IAML		08 03 29.2	
	comp=E,788nm,0.6s						
PATCX	Punta Patache	1.68	150	Pn	Pb	08 02 54.5	-0.1
GO01	Chusmiza	1.78	100	eP	Pb	08 02 56.4	-0.3
GO01				iS	Sg	08 03 19.3	-1.9
GO01				IAML		08 03 22.3	
	comp=N,4μm,0.4s						
GO01	Chusmiza	1.78	100		Pb	08 02 57.1	+0.4
PB16	IPOC Station P	1.79	55	iP	Pb	08 02 56.6	-0.3
PB16				iS	Sg	08 03 19.9	-1.7
PB16				IAML		08 03 24.3	
	comp=N,653nm,0.4s						
PB16	IPOC Station P	1.79	55		Pb	08 02 56.9	0.0
PB08	IPOC Station P	1.95	113	eP	Pb	08 02 59.0	-0.5
PB08				eS	Sb	08 03 23.1	-0.9
PB08				IAML		08 03 28.5	
	comp=N,1μm,0.4s						
PB08	IPOC Station P	1.95	113	Pn	Pb	08 02 59.2	-0.3
PB01	IPOC Station P	2.22	139	eP	Pn	08 03 02.3	+1.8
PB01				iS	Sn	08 03 28.3	+0.2
PB01				IAML		08 03 30.7	
	comp=N,591nm,0.6s						
PB01	IPOC Station P	2.22	139		Pn	08 03 02.4	+1.8
PB07	IPOC Station P	2.59	155	iP	Pn	08 03 07.3	+1.6
PB07				eS	Sn	08 03 37.9	+0.7
PB07				IAML		08 03 55.5	
	comp=E,473nm,0.2s						
PB07	IPOC Station P	2.59	155		Pn	08 03 06.5	+0.8
PB09	IPOC Station P	2.95	145	eP	Pn	08 03 13.3	+2.6
PB09				eS	Sn	08 03 48.6	+2.4
PB09				IAML		08 04 05.4	
	comp=N,363nm,0.7s						
PB09	IPOC Station P	2.95	145		Pn	08 03 13.3	+2.6
PB04	IPOC Station P	3.07	164	Pn	Pn	08 03 13.2	+0.9
PB06	IPOC Station P	3.60	158		Pn	08 03 20.6	+1.0
LVC	Limon Verde comp=N,5.8nm,0.3s,baz=335,slow=10,SNR=83	3.80	148	P	Pn	08 03 25.2	+2.8
LVC				S	Sn	08 04 08.4	+1.1
	comp=N,26nm,0.3s,baz=93,slow=16,SNR=9.4						
LVC				LR	LR	08 04 14.9	
	comp=N,75nm,18.6s,baz=266,slow=28						
PB15	IPOC Station P	4.09	159		Pn	08 03 27.3	+0.9
LPAZ	La Paz comp=N,0.1nm,0.3s,baz=264,slow=21,SNR=3.4	4.14	43	P	Pn	08 03 31.1	+3.6
LPAZ				LR	LR	08 05 28.4	
	comp=N,93nm,21.1s,baz=226,slow=44						
PB10	IPOC Station P	4.15	174		Pn	08 03 27.2	+0.2
PB10					Sn	08 04 11.7	-3.8
PB14	IPOC Station P	5.26	173	Pn	Pn	08 03 42.6	-0.1
PB14					Sn	08 04 44.6	+1.1
GO02	Mina Guanaco	5.92	167	Pn	Pn	08 03 52.4	+0.7
AC01	Pan de Azucar	6.76	176	Pn	Pn	08 04 02.9	0.0
AC02	Maricunga	7.64	167		Pn	08 04 16.6	+1.2
NNA	Nana comp=N,1.2nm,0.3s,baz=158,slow=4.2,SNR=2.1	9.21	322	S	Sn	08 06 23.4	+3.1
AC05	El Transito	9.45	176	Pn	Pn	08 04 40.5	+0.6
SIV	San Ignacio comp=N,0.3nm,0.3s,baz=280,slow=9.1,SNR=8.4	10.09	72	P	Pn	08 04 52.0	+3.3
SIV				LR	LR	08 09 17.8	
	comp=N,97nm,18.9s,baz=106,slow=41						
H03N1	Juan Fernandez baz=32,slow=73,SNR=27	15.67	205	T	T	08 22 29.3	
H03N2	Juan Fernandez baz=32,slow=73,SNR=14	15.68	205	T	T	08 22 28.3	
H03N3	Juan Fernandez baz=32,slow=73,SNR=13	15.69	205	T	T	08 22

PAU					AMB	AMB	08 16 39.8		
	comp=N,170nm,0.4s								
PAU					*e*S	**Sn**	**08 17 20.0**	**+5.4**	
PAU					A	A	08 17 25.9		
	comp=N,70nm,0.3s								
PAU					A	A	08 17 25.9		
	comp=N,60nm,0.3s								
PAU	**Pauzhetka**	**2.82**	**45**		PN	**Pn**	**08 16 39.3**	**+1.9**	
PAU					S	**Sn**	**08 17 16.7**	**+2.1**	
KDTR	**Khodutka, Kamc**	**3.65**	**49**	*e*P	**Pn**	**08 16 48.2**	**+0.9**		
KDTR					*e*S	**Sn**	**08 17 30.9**	**-1.4**	
KDTR	**Khodutka, Kamc**	**3.65**	**49**		PN	**Pn**	**08 16 48.2**	**+0.9**	
KDTR					S	**Sn**	**08 17 30.9**	**-1.4**	
ASAK	**Asacha**	**3.94**	**42**	*e*P		**Pn**	**08 16 54.1**	**+3.0**	
ASAK	**Asacha**	**3.94**	**42**		PN	**Pn**	**08 16 54.1**	**+3.0**	
APC	**Apacha**	**4.08**	**32**	*e*P		**Pn**	**08 16 54.0**	**+1.4**	
APC	**Apacha**	**4.08**	**32**		PN	**Pn**	**08 16 54.0**	**+1.4**	
GRL	**Gorelyy**	**4.14**	**41**	*e*P		**Pn**	**08 16 55.5**	**+2.0**	
GRL	**Gorelyy**	**4.14**	**41**		PN	**Pn**	**08 16 55.5**	**+2.0**	
RUS	**Russkaya**	**4.25**	**45**	*e*P		**Pn**	**08 16 56.4**	**+1.6**	
RUS				*e*S		**Sn**	**08 17 46.3**	**+0.5**	
RUS	**Russkaya**	**4.25**	**45**	*e*P		**Pn**	**08 16 56.4**	**+1.6**	
RUS	**Russkaya**	**4.25**	**45**		PN	**Pn**	**08 16 56.4**	**+1.6**	
RUS					S	**Sn**	**08 17 46.3**	**+0.5**	
KRMR	**Karymshinskiy**	**4.37**	**39**	*e*P		**Pn**	**08 16 59.0**	**+2.8**	
KRMR	**Karymshinskiy**	**4.37**	**39**		PN	**Pn**	**08 16 59.0**	**+2.8**	
PEA0B	**Petropavlovsk-**	**4.41**	**34**		PN	**Pn**	**08 16 58.5**	**+1.6**	
PEA0B	**Petropavlovsk-**	**4.41**	**34**			**Pn**	**08 16 58.5**	**+1.6**	
PETK	**Petropavlovsk-**	**4.41**	**34**	P		**Pn**	**08 16 58.3**	**+1.4**	
	comp=N,2.2nm,0.3s,baz=217,slow=10,SNR=60								
PETK	**Petropavlovsk-**	**4.41**	**34**		PN	**Pn**	**08 16 58.6**	**+1.7**	
PETK	**Petropavlovsk-**	**4.41**	**34**			**Pn**	**08 16 58.6**	**+1.7**	
PET	**Petropavlovsk**	**4.72**	**40**	*e*P		**Pn**	**08 17 03.7**	**+3.0**	
PET	**Petropavlovsk**	**4.72**	**40**	*e*P		**Pn**	**08 17 03.7**	**+3.0**	
PET	**Petropavlovsk**	**4.72**	**40**		PN	**Pn**	**08 17 03.7**	**+3.0**	
PET	**Petropavlovsk**	**4.72**	**40**		Pn	**Pn**	**08 17 02.7**	**+1.9**	
DALK	**Dalny**	**4.77**	**40**	*e*P		**Pn**	**08 17 03.3**	**+2.0**	
DALK	**Dalny**	**4.77**	**40**		PN	**Pn**	**08 17 03.3**	**+2.0**	
KOK	**Koryaka**	**4.91**	**38**	*e*P		**Pn**	**08 17 05.4**	**+2.1**	
KOK	**Koryaka**	**4.91**	**38**		PN	**Pn**	**08 17 05.4**	**+2.1**	
AVH	**Avacha**	**4.94**	**38**	*e*P		**Pn**	**08 17 05.6**	**+2.1**	
AVH	**Avacha**	**4.94**	**38**	*e*P		**Pn**	**08 17 05.6**	**+2.1**	
AVH	**Avacha**	**4.94**	**38**		PN	**Pn**	**08 17 05.6**	**+2.1**	
SMAR	**Somma**	**4.96**	**39**	*e*P		**Pn**	**08 17 05.6**	**+1.6**	
SMAR	**Somma**	**4.96**	**39**		PN	**Pn**	**08 17 05.6**	**+1.6**	
KRER	**Koryakskii**	**4.97**	**38**	*e*P		**Pn**	**08 17 06.9**	**+2.8**	
KRER	**Koryakskii**	**4.97**	**38**		PN	**Pn**	**08 17 06.9**	**+2.8**	
KRX	**Arik**	**4.97**	**37**	*e*P		**Pn**	**08 17 06.7**	**+2.7**	
KRX	**Arik**	**4.97**	**37**		PN	**Pn**	**08 17 06.7**	**+2.7**	
GNL	**Ganaly**	**4.98**	**31**	*e*P		**Pn**	**08 17 07.6**	**+3.5**	
GNL	**Ganaly**	**4.98**	**31**		PN	**Pn**	**08 17 07.6**	**+3.5**	
SDLR	**Sedlovina**	**5.00**	**39**	*e*P		**Pn**	**08 17 06.3**	**+1.9**	
SDLR	**Sedlovina**	**5.00**	**39**		PN	**Pn**	**08 17 06.3**	**+1.9**	
NLC	**Nalytchevo**	**5.12**	**42**	*e*P		**Pn**	**08 17 06.4**	**+0.6**	
NLC	**Nalytchevo**	**5.12**	**42**		PN	**Pn**	**08 17 06.4**	**+0.6**	
SPN	**Mys Shipunski**	**5.38**	**46**	*e*P		**Pn**	**08 17 09.3**	**+0.2**	
SPN				*e*S		**Sn**	**08 18 06.3**	**-5.4**	
SPN	**Mys Shipunski**	**5.38**	**46**	*e*P		**Pn**	**08 17 09.3**	**+0.2**	
SPN	**Mys Shipunski**	**5.38**	**46**		PN	**Pn**	**08 17 09.3**	**+0.2**	
KUR	**Kuril'sk**	**5.80**	**225**	*e*P		**Pn**	**08 17 16.7**	**+2.1**	
KUR					AMB	AMB	08 17 18.1		
	comp=N,60nm,0.7s								
KUR	**Kuril'sk**	**5.80**	**225**	*e*PN		**Pn**	**08 17 17.3**	**+2.7**	
KUR					pmax	pmax			
	comp=Z,66nm,0.5s								
KZV	**Kizimen**	**6.94**	**33**	*e*P		**Pn**	**08 17 30.3**	**+0.9**	
KZV	**Kizimen**	**6.94**	**33**		PN	**Pn**	**08 17 30.3**	**+0.9**	
TUMR	**Tumrok**	**7.02**	**32**	*e*P		**Pn**	**08 17 31.9**	**+1.5**	
TUMR	**Tumrok**	**7.02**	**32**		PN	**Pn**	**08 17 31.9**	**+1.5**	
TUMD	**Tumrok D**	**7.05**	**33**	*e*P		**Pn**	**08 17 31.2**	**+0.5**	
KMNR	**Kamenistaya**	**7.43**	**30**	*e*P		**Pn**	**08 17 37.2**	**+1.4**	
KMNR	**Kamenistaya**	**7.43**	**30**		PN	**Pn**	**08 17 37.2**	**+1.4**	
YUK	**Yuzh-Kuril'sk**	**7.64**	**227**	*e*P		**Pn**	**08 17 39.3**	**+0.8**	
YUK					AMB	AMB	08 17 40.0		
	comp=Z,230nm,0.5s								
YUK				*e*S		**Sn**	**08 19 04.7**	**-0.1**	
YUK	**Yuzh-Kuril'sk**	**7.64**	**227**	*c i*	PN	**Pn**	**08 17 39.3**	**+0.8**	
YUK					pmax	pmax			
	comp=Z,484nm,0.3s								
YUK					pmax	pmax			
	comp=E,27nm,0.1s								
YUK					pmax	pmax			
	comp=N,78nm,0.3s								
GRPR	**Tuman**	**7.72**	**227**	*e*P		**Pn**	**08 17 40.7**	**+1.2**	
GRPR					AMB	AMB	08 17 41.3		
	comp=N,210nm,0.4s								
GRPR	**Tuman**	**7.72**	**227**	⇓ *i*	PN	**Pn**	**08 17 40.7**	**+1.2**	
GRPR					pmax	pmax			
	comp=Z,209nm,0.4s								
GLVR	**Golovnino**	**8.03**	**227**	*e*P		**Pn**	**08 17 44.2**	**+0.6**	
GLVR	**Golovnino**	**8.03**	**227**	*e*PN		**Pn**	**08 17 44.2**	**+0.6**	
NMR	**Nemuro--Hokkai**	**8.21**	**225**	⇑ *i*	PN	**Pn**	**08 17 43.7**	**-2.3**	
JKA	**Kamikawa-asahi**	**9.29**	**239**	*e*P		**Pn**	**08 18 02.5**	**+2.5**	
JKA	**Kamikawa-asahi**	**9.29**	**239**			**Pn**	**08 18 02.5**	**+2.5**	
ASAJ	**Asahikawa**	**9.29**	**239**	P		**Pn**	**08 18 02.0**	**+2.1**	
	comp=Z,5.5nm,0.3s,baz=73,slow=14,SNR=35								
ASAJ				S		**Sn**	**08 19 43.1**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=63,slow=11,SNR=1.9								
ASAJ	**Asahikawa**	**9.29**	**239**		PN	**Pn**	**08 18 02.5**	**+2.5**	
ERM	**Erimo**	**10.47**	**228**		PN	**Pn**	**08 18 14.0**	**-1.2**	
ERM	**Erimo**	**10.47**	**228**			**Pn**	**08 18 14.0**	**-1.2**	
JMM	**Marumori**	**14.87**	**223**			**Pn**	**08 19 11.0**	**+0.6**	
JSD	**Sado**	**15.93**	**230**			**P**	**08 19 23.4**	**+0.4**	
JSD					IAmb	IAmb	08 19 25.8		
	comp=Z,14nm,0.9s								
MJA0	**Matsu Arr-Jizo**	**17.12**	**227**	*e*P		**P**	**08 19 37.0**	**+0.9**	
MAJO	**Matsushiro**	**17.14**	**227**	*de*P		**P**	**08 19 36.6**	**+0.3**	
MAJO					pmax	pmax			
	comp=Z,10.0nm,0.8s								
MAJO	**Matsushiro**	**17.14**	**227**		P	**P**	**08 19 36.6**	**+0.3**	
MAJO					IAmb	IAmb	08 19 38.2		
	comp=Z,8.7nm,0.8s								
MAT	**Matsushiro**	**17.14**	**227**		P	**P**	**08 19 36.1**	**-0.2**	
MJAR	**Matsushiro Arr**	**17.14**	**227**		P	**P**	**08 19 37.0**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=21,slow=12,SNR=24								
MJAR	**Matsushiro Arr**	**17.14**	**227**		P	**P**	**08 19 37.3**	**+1.0**	
MJAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
MJAR	**Matsushiro Arr**	**17.14**	**227**		P	**P**	**08 19 37.3**	**+1.0**	
JGF	**Kuroka**	**18.30**	**227**		P	**P**	**08 19 49.5**	**+0.5**	
JGF					IAmb	IAmb	08 20 07.4		
	comp=Z,12nm,1.2s								
INU	**Inuyama**	**18.67**	**227**		P	**P**	**08 19 53.3**	**+0.3**	
JWT	**Wachi**	**19.51**	**230**		P	**P**	**08 20 01.8**	**-0.2**	
JWT					IAmb	IAmb	08 20 02.2		
	comp=Z,5.8nm,0.7s								
BILL	**Bilibino**	**19.63**	**14**	*e*P		**P**	**08 20 02.3**	**-0.6**	
BILL	**Bilibino**	**19.63**	**14**	*e*P		**P**	**08 20 02.3**	**-0.6**	
BILL					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KSRS	**Korea Array**	**22.09**	**247**		P	**P**	**08 20 28.3**	**-0.6**	
	comp=Z,1.1nm,0.6s,baz=44,slow=9.3,SNR=4.2								
KSRS	**Korea Array**	**22.09**	**247**	*e*P		**P**	**08 20 29.3**	**+0.4**	
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.6s								
KDAK	**Kodiak Island**	**32.15**	**54**		P	**P**	**08 21 58.2**	**-0.2**	
KDAK					pmax	pmax			
	comp=Z,34nm,1.4s								
KDAK	**Kodiak Island**	**32.15**	**54**		P	**P**	**08 21 58.1**	**-0.2**	
CNPM	**China Poot**	**32.60**	**51**		P	**P**	**08 22 01.4**	**-1.0**	
SUA	**Susitna One**	**32.65**	**47**		P	**P**	**08 22 02.2**	**-0.7**	
SUA					IAmb	IAmb	08 22 13.1		
	comp=Z,3.9nm,1.4s								
H11S1	**WAKE ISLAND Hy**	**32.67**	**157**		T	T	08 55 59.0		
	baz=345,slow=76,SNR=7.3								
H11S3	**WAKE ISLAND Hy**	**32.68**	**157**		T	T	08 55 59.7		
	baz=345,slow=76,SNR=8.8								
H11S2	**WAKE ISLAND Hy**	**32.69**	**157**		T	T	08 55 59.6		
	baz=345,slow=76,SNR=3.6								
TRF	**Thorofare Moun**	**32.76**	**44**		P	**P**	**08 22 03.5**	**-0.4**	
SML	**Sawmill**	**33.77**	**46**		P	**P**	**08 22 12.1**	**-0.4**	
SML					IAmb	IAmb	08 22 12.5		
	comp=Z,4.7nm,0.7s								
ILAR	**Eielson Array**	**34.20**	**41**		P	**P**	**08 22 15.5**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=264,slow=5.4,SNR=8.4								
ILAR	**Eielson Array**	**34.20**	**41**		P	**P**	**08 22 15.7**	**-0.4**	
BCAR	**Beaver Creek A**	**36.62**	**44**		P	**P**	**08 22 37.4**	**+0.6**	
INK	**Inuvik**	**39.15**	**34**		P	**P**	**08 22 57.1**	**-0.6**	
	comp=Z,1.6nm,0.8s,baz=289,slow=5.9,SNR=4.8								
INK	**Inuvik**	**39.15**	**34**		P	**P**	**08 22 56.9**	**-0.8**	
INK					pmax	pmax			
	comp=Z,4.0nm,1.5s								
INK	**Inuvik**	**39.15**	**34**		P	**P**	**08 22 56.9**	**-0.8**	

YKA	**Yellowknife Ar**	**48.52**	**38**		P	**P**	**08 24 11.3**	**-0.9**	
	comp=Z,0.5nm,0.6s,baz=302,slow=5.5,SNR=5.7								
K05A	**Summer Lake**	**56.59**	**62**		P	**P**	**08 25 13.9**	**+1.9**	
K05A					IAmb	IAmb	08 25 30.8		
	comp=Z,8.3nm,1.5s								
PLID	**Pearl Lake**	**57.84**	**57**		P	**P**	**08 25 21.4**	**+0.8**	
BEKR	**Beckworth**	**58.73**	**64**		P	**P**	**08 25 27.3**	**+0.5**	
BEKR					IAmb	IAmb	08 25 27.5		
	comp=Z,5.1nm,1.4s								
HRY	**Holter Researc**	**59.02**	**53**		P	**P**	**08 25 30.0**	**+1.3**	
BOZ	**Bozeman (W)**	**59.85**	**54**		P	**P**	**08 25 34.5**	**+0.1**	
BOZ					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BOZ	**Bozeman (W)**	**59.85**	**54**		P	**P**	**08 25 34.5**	**+0.1**	
WAKR	**Walker**	**60.16**	**65**		P	**P**	**08 25 37.9**	**+1.2**	
WAKR					IAmb	IAmb	08 25 53.4		
	comp=Z,4.1nm,1.4s								
NVAR	**Mina Array Bea**	**60.87**	**64**		P	**P**	**08 25 42.1**	**+0.5**	
	comp=Z,0.8nm,0.6s,baz=298,slow=8.0,SNR=9.0								
FINES	**FINESS Array B**	**61.70**	**334**		P	**P**	**08 25 42.9**	**-3.4**	
	comp=Z,7.5nm,1.1s,baz=29,slow=9.5,SNR=3.7								
PDAR	**Pinedale Array**	**62.86**	**55**		P	**P**	**08 25 54.8**	**+0.1**	
	comp=Z,0.5nm,0.5s,baz=300,slow=2.0,SNR=8.8								
OBN	**Obninsk**	**63.24**	**325**	*e*P		**P**	**08 25 55.9**	**-0.7**	
OBN	**Obninsk**	**63.24**	**325**	*e*P		**P**	**08 25 55.9**	**-0.7**	
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ECSD	**EROS Data Cent**	**68.73**	**47**		P	**P**	**08 26 31.1**	**-0.8**	
ECSD					IAmb	IAmb	08 26 31.5		
	comp=Z,2.3nm,0.8s								
WRA	**Warramunga Arr**	**71.24**	**199**		P	**P**	**08 26 46.5**	**-0.7**	
	comp=Z,0.2nm,0.7s,baz=17,slow=6.5,SNR=1.9								
HDIL	**Hopedale**	**74.62**	**45**		P	**P**	**08 27 05.6**	**-1.4**	
ASAR	**Alice Springs**	**74.94**	**199**		P	**P**	**08 27 07.7**	**-1.2**	
	comp=Z,0.2nm,0.5s,baz=8.6,slow=5.6,SNR=1.9								
TXAR	**Lajitas Array**	**75.85**	**61**		P	**P**	**08 27 14.3**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=296,slow=4.7,SNR=13								
TXAR	**Lajitas Array**	**75.85**	**61**		P	**P**	**08 27 14.0**	**-0.3**	
TXAR	**Lajitas Array**	**75.85**	**61**		P	**P**	**08 27 14.0**	**-0.3**	
D62A	**Allapoint, All**	**76.93**	**28**		P	**P**	**08 27 18.4**	**-1.5**	
MOQ	**Mont Orford**	**77.46**	**31**		P	**P**	**08 27 22.3**	**-0.7**	
QSPA	**South Pole Qui**	**139.25**	**180**		PKP	**PKPdf**	**08 34 51.1**	**-0.6**	
	comp=Z,0.7nm,0.7s,baz=0,slow=2.0,SNR=1.9								
QSPA	**South Pole Qui**	**139.25**	**180**			**PKPdf**	**08 34 51.2**	**-0.5**	
PLCA	**Paso Flores**	**148.01**	**91**		PKPbc	**PKPdf**	**08 35 10.1**	**+2.2**	
	comp=Z,1.2nm,0.9s,baz=275,slow=2.8,SNR=3.4								
PLCA	**Paso Flores**	**148.01**	**91**			**PKPdf**	**08 35 10.4**	**+2.5**	

IDC 19 08:16:43.7±2.5, 0.94N×127.11E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/27, Error ellipse: s-maj=220.6km s-min=28.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.93**	**162**	P	P	08 21 38.0	-1.0
	0.8nm,0.5s,baz=340,slow=10,SNR=30						
ASAR	**Alice Springs**	**25.34**	**165**	P	P	08 22 13.3	+0.8
	0.4nm,0.4s,baz=346,slow=11,SNR=11						
PSI	**Prapat**	**28.23**	**274**	LR	LR	08 34 22.4	
	comp=Z,67nm,19.1s,baz=111,slow=38						
MKAR	**Makanchi Array**	**60.05**	**326**	P	P	08 26 52.4	-0.2
	0.2nm,0.4s,baz=129,slow=8.1,SNR=2.4						

NNC 19 08:30:32.1±3.1, 36.66N×68.91E, h0km, mb3.7, mpv3.3, 3C, Error ellipse: s-maj=33.4km s-min=20.7km az=148.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.55**	**10**	Pn	Pn	08 32 10.0	+0.2
	1.3nm,0.6s,baz=191,slow=13,SNR=13						
KK31				⇑Sn	Sn	08 33 27.2	+1.9
	0.2nm,0.3s,baz=187,slow=22,SNR=5.6						
AAK	**Ala-Archa**	**7.36**	**34**	⇑Pn	Pn	08 32 21.4	+0.3
	1.5nm,0.6s						
AAK				⇑Sn	Sn	08 33 46.1	+0.7
	2.6nm,0.8s						
AB31	**Akbulak array**	**14.19**	**335**	P	Pn	08 33 53.0	-1.2
	baz=152,slow=13,SNR=7.0						

*NEIC **19** 08:46:02.0±1.1, 7.5N×94.5E×0.1, h54km±10km, mb4.4/23, Error ellipse: s-maj=21.6km s-min=11.2km az=50.0*

*IDC **19** 08:46:10.8±9.0, 7.33N×94.26E, h143km±79km, mb3.4/10, mb1 3.6/11, mb1mx3.4/47, mbtmp3.9/11, MS3.3/5, Ms1 3.3/5, ms1mx3.0/29, Error ellipse: s-maj=63.6km s-min=16.3km az=54.0*

ISC 19 08:45:58.6±0.7, 7.42N±0.09×94.36E±0.08, h24km, n51, σ1§30/49, mb4.2/22, MS3.3/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.37**	**130**	Pn	**Pn**	**08 46 51.0**	**+1.3**
LHMI				Sn	**Sn**	**08 47 26.1**	**-2.8**
PSI	**Prapat**	**6.46**	**135**	LR	LR	08 50 26.7	
	comp=Z,448nm,19.3s,baz=282,slow=39						
RPSI	**Rantau Prapat**	**6.53**	**136**	Pn	**Pn**	**08 47 35.3**	**+2.1**
KULM	**Kulim**	**6.60**	**108**	Pn	**Pn**	**08 47 34.0**	**-0.1**
KULM				Sn	**Sn**	**08 48 48.7**	**0.0**
IPM	**Ipoh**	**7.24**	**113**	Pn	**Pn**	**08 47 43.5**	**+0.4**
IPM				Sn	**Sn**	**08 49 05.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**11.85**	**22**	P	Pn	08 48 57.9	+12
	0.4nm,0.3s,baz=222,slow=12,SNR=2.1						
CMAR				LR	LR	08 53 12.3	
	comp=Z,72nm,19.7s,baz=234,slow=35						
CHTO	**Chiang Mai**	**12.18**	**21**	Pn	**Pn**	**08 48 53.2**	**+2.5**
SLVN	**Son La**	**16.63**	**33**	Pn	**Pn**	**08 49 50.1**	**-0.2**
KSM	**Kuching**	**16.96**	**110**		**Pn**	**08 49 55.2**	**+0.9**
SHL	**Shillong**	**18.20**	**353**	P	**P**	**08 50 10.8**	**+0.7**
SBUM	**Sibu**	**18.46**	**105**	P	**P**	**08 50 13.1**	**+0.3**
QIZ	**Qiongzhong**	**18.97**	**51**	P	**P**	**08 50 17.3**	**-1.0**
QIZ				S	**S**	**08 53 50.6**	**-1.7**
QIZ				LR	LR		
	comp=N,290nm,12.7s						
QIZ				LR	LR		
	comp=E,170nm,12.7s						
GYA	**Guiyang**	**22.27**	**30**	*e*P	P	08 51 05.5	+11
GYA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LSA	**Lhasa**	**22.37**	**353**	P	**P**	**08 50 56.4**	**+0.7**
LSA				IAmb	IAmb	08 51 09.6	
	comp=Z,7.0nm,0.5s						
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	09 18 09.5	
	baz=54,slow=75,SNR=85						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	09 18 09.5	
	baz=54,slow=75,SNR=27						
H08S1	**Diego Garcia H**	**26.46**	**236**	T	T	09 18 11.7	
	baz=54,slow=75,SNR=22						
NIL	**Nilore**	**32.60**	**326**	P	**P**	**08 52 28.7**	**+0.3**
NIL				IAmb	IAmb	08 52 34.0	
	comp=Z,8.2nm,0.9s						
HHC	**Hu-ho-hao-te**	**36.66**	**22**	*e*P	**P**	**08 53 05.0**	**+1.5**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,75nm,5.3s						
WMQ	**Urumqi**	**36.73**	**352**	*e*P	**P**	**08 53 05.3**	**+1.3**
GAR	**Garm**	**38.18**	**329**	P	**P**	**08 53 16.6**	**+0.2**
GAR				IAmb	IAmb	08 53 22.5	
	comp=Z,11nm,1.2s						
CHGR	**Chuyangaron**	**38.52**	**328**	P	**P**	**08 53 18.1**	**-1.2**
BTK	**Batken**	**38.74**	**331**	P	**P**	**08 53 20.3**	**-0.8**
BTK				IAmb	IAmb	08 53 31.6	
	comp=Z,4.1nm,0.9s						
MK31	**Makanchi Array**	**40.58**	**347**	P	**P**	**08 53 35.8**	**-0.4**
MKAR	**Makanchi Array**	**40.58**	**347**	P	**P**	**08 53 36.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=169,slow=8.0,SNR=12						
MAKZ	**Makanchi**	**40.66**	**347**	P	**P**	**08 53 35.2**	**-1.7**
MAKZ				IAmb	IAmb	08 53 42.8	
	comp=Z,4.4nm,1.1s						
KKAR	**Karatay Array**	**41.27**	**333**	P	**P**	**08 53 41.9**	**0.0**
SONM	**Songino Array**	**41.56**	**12**	P	**P**	**08 53 44.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=197,slow=9.0,SNR=1.8						
SONM				LR	LR	09 11 20.1	
	comp=Z,43nm,20.7s,baz=1.0,slow=36						
SONM	**Songino Array**	**41.56**	**12**	P	**P**	**08 53 42.8**	**-1.6**
GEYT	**Alibeck**	**44.68**	**318**	P	**P**	**08 54 09.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=179,slow=13,SNR=3.5						
GEYT				LR	LR	09 14 54.1	
	comp=Z,29nm,18.1s,baz=200,slow=39						
KURK	**Kurchatov**	**45.11**	**346**	P	**P**	**08 54 12.8**	**-0.1**

KURK					IAmb	IAmb	08 54 19.0		
	comp=Z,6.3nm,0.9s								
ZAA0	**Zalesovo Array**	**47.04**	**352**	P		**P**	**08 54 24.9**	**-3.0**	
ZAA0					IAmb	IAmb	08 54 34.4		
	comp=Z,5.4nm,1.0s								
ZALV	**Zalesovo Beam**	**47.04**	**352**	P		**P**	**08 54 28.6**	**+0.6**	
	comp=Z,4.2nm,0.8s,baz=194,slow=9.1,SNR=5.4								
ZALV	**Zalesovo Beam**	**47.04**	**352**	P		**P**	**08 54 28.1**	**+0.1**	
WB0	**Warramunga Arr**	**47.78**	**125**	P		**P**	**08 54 34.9**	**+0.6**	
WB0					IAmb	IAmb	08 54 51.9		
	comp=Z,9.9nm,1.4s								
WRA	**Warramunga Arr**	**47.82**	**125**	P		**P**	**08 54 35.5**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=306,slow=8.6,SNR=6.7								
WRA					LR	LR	09 16 32.3		
	comp=Z,39nm,19.6s,baz=95,slow=38								
WRA	**Warramunga Arr**	**47.82**	**125**	P		**P**	**08 54 34.4**	**-0.2**	
WB2	**Warramunga Arr**	**47.83**	**125**	P		**P**	**08 54 35.8**	**+1.1**	
WR0	**Warramunga Arr**	**47.99**	**125**	P		**P**	**08 54 34.8**	**-1.1**	
MDJ	**Mudanjiang**	**48.07**	**34**	P		**P**	**08 54 35.4**	**-0.8**	
ASAR	**Alice Springs**	**49.46**	**130**	P		**P**	**08 54 45.8**	**-1.4**	
	comp=Z,0.6nm,0.8s,baz=300,slow=8.0,SNR=6.1								
BRVK	**Borovoye**	**49.55**	**341**	P		**P**	**08 54 47.4**	**0.0**	
BRVK					IAmb	IAmb	08 54 53.5		
	comp=Z,3.9nm,1.1s								
ABKAR	**Akbulak array**	**50.73**	**331**	P		**P**	**08 54 56.8**	**+0.4**	
ABKAR	**Akbulak array**	**50.73**	**331**	P		**P**	**08 54 56.9**	**+0.4**	
ABKAR					IAmb	IAmb	08 55 02.9		
	comp=Z,2.5nm,0.9s								
ARU	**Arti**	**56.39**	**337**	P		**P**	**08 55 37.7**	**-0.2**	
FINES	**FINESS Array B**	**73.22**	**332**	P		**P**	**08 57 26.3**	**-1.0**	
	comp=Z,4.4nm,0.9s,baz=194,slow=3.9,SNR=6.3								
FINES	**FINESS Array B**	**73.22**	**332**	P		**P**	**08 57 27.5**	**+0.1**	
ARCES	**ARCESS Array B**	**75.77**	**340**	P		**P**	**08 57 42.0**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=32,slow=7.1,SNR=3.6								
GERES	**GERESS Array B**	**78.31**	**318**	P		**P**	**08 57 54.9**	**-2.1**	
	comp=Z,0.4nm,0.7s,baz=74,slow=4.7,SNR=4.1								
NB2	**NORSAR Subarra**	**80.23**	**331**	P		**P**	**08 58 11.0**	**+3.9**	
	comp=Z,5.2nm,1.1s,baz=93,slow=5.9								
NOA	**NORSAR Array B**	**80.23**	**331**	P		**P**	**08 58 05.5**	**-1.6**	
	comp=Z,0.6nm,0.8s,baz=94,slow=5.7,SNR=1.3								

*IDC **19** 08:51:15.8±0.5, 30.90N×141.98E, h0km, mb4.2/19, mb1 4.4/24, mb1mx4.3/36, mbtmp4.2/24, ML3.3/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/37, Error ellipse: s-maj=19.9km s-min=13.1km az=75.0*

*NIED **19** 08:51:15.9, 30.98N×142.19E, h22km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.90; Mθθ-5.23; Mφφ 1.33; Mrθ-5.31; Mθφ0.98; Mrφ5.26; Fault plane solution: M₀8.88000×10¹⁴ NP1: φs308.00000

H11S1 WAKE ISLAND Hy 25.53 113 T T 09 23 37.9
baz=304,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 25.55 113 T T 09 23 41.4
baz=304,slow=75,SNR=12
HHC Hu-ho-hao-te 26.47 300 *e*P **P** **08 56 54.8 +0.2**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.5s
XAN Xi'an 28.03 285 P **P** **08 57 10.4 +1.8**
XAN pP pwP 08 57 25.3 +4.5
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,120nm,6.5s
XAN LR LR
comp=E,140nm,15.2s
MA2 Magadan 29.24 9⇑ *e*P **P** **08 57 19.6 +0.6**
MA2 pmax pmax
comp=Z,60nm,2.5s
ULN Ulaanbaatar 31.54 312⇑ *e*P **P** **08 57 41.9 +2.2**
ULN pmax pmax
comp=Z,13nm,1.8s
SONM Songino Array 31.94 312 P **P** **08 57 44.5 +1.3**
comp=Z,2.7nm,0.7s,baz=120,slow=9.0,SNR=9.5
SONM Songino Array 31.94 312 P **P** **08 57 44.5 +1.3**
LZH Lanzhou 32.11 290 *e*P **P** **08 57 45.5 +0.7**
LZH pP sP 08 57 51.3 -0.8
LZH sP pP 08 57 54.3 +3.8
LZH pmax pmax
comp=Z,18nm,1.4s
YAK Yakutsk 32.12 349 *e*P **P** **08 57 43.8 -0.6**
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 32.12 349 P **P** **08 57 43.8 -0.6**
CD2 Chengdu 32.72 280 *e*P **P** **08 57 49.0 -1.1**
FAKI Fak Fak 34.94 197 P **P** **08 58 09.1 -0.3**
TLY Talaya 34.95 318⇓ *e*P **P** **08 58 11.6 +2.4**
TLY pmax pmax
comp=Z,14nm,2.0s
GTA Gaotai 35.26 296 *e*P **P** **08 58 08.1 -4.1**
GTA pP pP 08 58 12.8 -5.2
GTA sP sP 08 58 15.3 -4.3
GTA pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 39.76 14 *e*P **P** **08 58 47.5 -2.2**
BILL pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 41.38 354 P **P** **08 59 03.4 +0.3**
TIXI pmax pmax
comp=Z,21nm,1.5s
TIXI Tiksi 41.38 354 P **P** **08 59 03.4 +0.3**
TIXI IAmb IAmb 08 59 14.9
comp=Z,21nm,1.5s
WMQ Urumqi 44.31 303 *e*P **P** **08 59 29.8 +2.5**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,52nm,4.9s
DGZ Jazzator, Alta 44.58 311⇓ *i*P **P** **08 59 31.4 +1.9**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
COEN Coen 44.65 178 P **P** **08 59 31.6 +1.5**
COEN IAmb IAmb 08 59 33.2
comp=Z,9.3nm,0.7s
MTN Manton Dam 44.77 195 P **P** **08 59 30.9 -0.2**
ZALV Zalesovo Beam 46.55 317 P **P** **08 59 45.3 +0.5**
comp=Z,1.0nm,0.4s,baz=90,slow=6.1,SNR=7.0
ZALV PcP **PcP** **09 01 18.7 0.0**
comp=Z,1.0nm,0.6s,baz=93,slow=2.9,SNR=2.5
ZALV Zalesovo Beam 46.55 317 P **P** **08 59 45.4 +0.6**
MK31 Makanchi Array 47.99 307 P **P** **08 59 56.6 +0.4**
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 47.99 307 P **P** **08 59 56.5 +0.4**
MKAR Makanchi Array 47.99 307 P **P** **08 59 56.4 +0.2**
comp=Z,1.0nm,0.3s,baz=87,slow=9.3,SNR=14
MKAR Makanchi Array 47.99 307 *ce*P **P** **08 59 56.5 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 47.99 307 P **P** **08 59 56.9 +0.7**
KNRA Kununurra 48.07 197 P **P** **08 59 56.7 -0.3**
MAKZ Makanchi 48.21 307 P **P** **08 59 57.0 -0.8**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 48.21 307 P **P** **08 59 57.0 -0.8**
NRIK Noril'sk 49.04 338 P **P** **09 00 03.8 -0.1**
comp=Z,2.6nm,0.4s,baz=109,slow=11,SNR=5.4
KURK Kurchatov 50.25 312 *de*P **P** **09 00 13.3 0.0**
KURK pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 50.25 312 P **P** **09 00 13.9 +0.5**
KURK IAmb IAmb 09 00 15.5
comp=Z,9.8nm,0.8s
CTAO Charters Tower 50.90 175 P **P** **09 00 18.0 -0.5**
CTAO pmax pmax
comp=Z,23nm,1.4s
CTAO Charters Tower 50.90 175 P **P** **09 00 18.0 -0.5**
CTAO IAmb IAmb 09 00 33.7
comp=Z,23nm,1.4s
WB0 Warramunga Arr 50.95 189 P **P** **09 00 18.3 -0.5**
WR0 Warramunga Arr 51.12 189 P **P** **09 00 19.4 -0.7**
WR0 IAmb IAmb 09 00 21.0
comp=Z,13nm,0.6s
WRAB Tennant Creek 51.12 189 *de*P **P** **09 00 19.6 -0.5**
WRAB pmax pmax
comp=Z,16nm,1.0s
WRAB Tennant Creek 51.12 189 P **P** **09 00 19.5 -0.7**
WRAB IAmb IAmb 09 00 22.5
comp=Z,15nm,0.9s
WB2 Warramunga Arr 51.13 189 P **P** **09 00 19.5 -0.8**
WB2 IAmb IAmb 09 00 22.6
comp=Z,24nm,1.2s
WRA Warramunga Arr 51.13 189 P **P** **09 00 19.2 -1.0**
comp=Z,13nm,0.5s,baz=4.7,slow=7.6,SNR=290
WRA Warramunga Arr 51.13 189 P **P** **09 00 19.5 -0.8**
FITZ Fitzroy Crossi 51.24 200 P **P** **09 00 20.8 -0.2**
KDAK Kodiak Island 51.41 39 P **P** **09 00 23.1 +1.2**
KDAK pmax pmax
comp=Z,51nm,1.5s
KDAK Kodiak Island 51.41 39 P **P** **09 00 23.1 +1.2**
PPLA Purkeypile 51.96 32 P **P** **09 00 28.1 +1.9**
PPLA IAmb IAmb 09 00 48.5
comp=Z,12nm,1.3s
SKT Skwentna 52.18 33 P **P** **09 00 29.4 +1.7**
IL31 54.44 30 P **P** **09 00 45.6 +1.5**
ILAR Eielson Array 54.44 30 P **P** **09 00 45.0 +0.8**
comp=Z,1.4nm,0.8s,baz=254,slow=6.0,SNR=12
ILAR Eielson Array 54.44 30 P **P** **09 00 45.2 +1.0**
AS31 Alice Springs 54.85 189 P **P** **09 00 47.3 -0.4**
AS31 IAmb IAmb 09 00 48.8
comp=Z,5.7nm,0.5s
ASAR Alice Springs 54.85 189 P **P** **09 00 46.8 -0.9**
comp=Z,6.6nm,0.4s,baz=2.9,slow=5.8,SNR=189
ASAR Alice Springs 54.85 189 P **P** **09 00 47.3 -0.4**
BRVK Borovoye 55.23 316 *ce*P **P** **09 00 50.9 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 55.23 316 P **P** **09 00 51.1 +1.0**
EIDS Eidsvold 56.66 170 P **P** **09 00 59.8 -0.7**
EIDS IAmb IAmb 09 01 28.3
comp=Z,18nm,1.2s
BCAR Beaver Creek A 56.71 32 P **P** **09 01 02.3 +1.7**
KKAR Karatay Array 56.78 304 P **P** **09 01 01.6 +0.2**
KKAR Karatay Array 56.78 304 P **P** **09 01 01.6 +0.2**
NIL Nilore 57.21 292 P **P** **09 01 04.9 +0.3**
NIL pmax pmax
comp=Z,11nm,0.5s
NIL Nilore 57.21 292 P **P** **09 01 04.9 +0.3**
CHGR Chuyangaron 58.91 299 P **P** **09 01 16.5 0.0**
INK Inuvik 59.61 25 P **P** **09 01 20.1 -0.6**
comp=Z,3.4nm,0.9s,baz=284,slow=5.6,SNR=4.4
INK Inuvik 59.61 25 P **P** **09 01 21.5 +0.8**
INK IAmb IAmb 09 01 24.4
comp=Z,5.5nm,1.1s
SVE Sverdlovsk 60.13 321 *e*P **P** **09 01 25.2 +0.7**
ARU Arti 61.33 321 *c i*P **P** **09 01 32.9 +0.2**
ARU 09 03 45.6
ARU S **S** **09 09 55.7 +4.1**
ARU pmax pmax
comp=Z,6.0nm,0.6s

ARU Arti 61.33 321 P **P** **09 01 33.0 +0.3**
ABKAR Akbulak array 62.35 313 P **P** **09 01 39.9 +0.2**
ABKAR IAmb IAmb 09 01 41.5
comp=Z,3.9nm,0.8s
ABKAR Akbulak array 62.35 313 P **P** **09 01 39.6 -0.1**
STKA Stephens Creek 62.48 180 P **P** **09 01 40.8 +0.2**
comp=Z,1.8nm,0.4s,baz=353,slow=6.5,SNR=9.8
STKA Stephens Creek 62.48 180 IAmb IAmb 09 01 44.8
comp=Z,3.5nm,1.5s
YKA Yellowknife Ar 68.84 29 P **P** **09 02 20.8 -0.6**
comp=Z,1.0nm,0.8s,baz=277,slow=19,SNR=2.0
ARCES ARCESS Array B 69.88 340 P **P** **09 02 28.2 +0.5**
comp=Z,2.8nm,0.8s,baz=60,slow=7.2,SNR=9.9
OBN Obninsk 73.31 325 *ce*P **P** **09 02 50.0 +1.4**
OBN *e* 09 03 05.8
OBN *e* 09 05 32.8
OBN *e*PPP PPP 09 07 15.2
OBN pmax pmax
comp=Z,54nm,3.2s
FINES FINESS Array B 74.45 333 P **P** **09 02 55.3 +0.2**
comp=Z,1.5nm,0.3s,baz=75,slow=4.5,SNR=32
KBZ Khabaz 75.31 312 P **P** **09 03 01.2 +0.8**
comp=Z,3.7nm,0.8s,baz=144,slow=1.5,SNR=4.4
KBZ LR LR 09 38 29.8
comp=Z,37nm,18.2s,baz=333,slow=38
KIV Kislovodsk 75.34 313 *e*P **P** **09 02 59.9 -0.8**
KIV pmax pmax
comp=Z,28nm,1.1s
VSU Vasula 75.98 331⇓ *e*P **P** **09 03 07.5 +3.5**
VSU pmax pmax
comp=Z,124nm,1.4s
NVAR Mina Array Bea 78.27 52 P **P** **09 03 19.0 +1.5**
comp=Z,0.4nm,0.5s,baz=291,slow=5.8,SNR=7.3
NVAR Mina Array Bea 78.27 52 P **P** **09 03 19.5 +2.0**
AKASG Malin Array Be 79.45 323 P **P** **09 03 23.5 0.0**
comp=Z,1.7nm,0.4s,baz=46,slow=6.2,SNR=8.9
AKASG Malin Array Be 79.45 323 IAmb IAmb 09 03 26.6
comp=Z,1.8nm,0.8s
AKBB Malin Array Si 79.45 323 P **P** **09 03 23.5 0.0**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 79.45 323 P **P** **09 03 23.4 0.0**
AKBB IAmb IAmb 09 03 26.4
comp=Z,5.6nm,0.8s
NB2 NORSAR Subarra 80.00 338 P **P** **09 03 26.7 +0.3**
comp=Z,10nm,1.1s,baz=41,slow=5.6
NOA NORSAR Array B 80.00 338 P **P** **09 03 26.7 +0.3**
comp=Z,2.9nm,0.8s,baz=41,slow=5.5,SNR=8.2
PDAR Pinedale Array 81.59 45 P **P** **09 03 36.2 +0.8**
comp=Z,0.4nm,0.7s,baz=259,slow=0.8,SNR=3.8
SOCY Socotra 82.18 279 P **P** **09 03 37.4 -1.4**
SOCY IAmb IAmb 09 03 39.0
comp=Z,4.6nm,0.9s
RDMU Red Mountain 82.83 47 P **P** **09 03 44.3 +2.3**
SRU San Rafael Swe 83.05 48 P **P** **09 03 44.9 +1.8**
SRU pmax pmax
comp=Z,3.0nm,1.1s
SRU San Rafael Swe 83.05 48 P **P** **09 03 44.9 +1.8**
BRTR Keskin Array B 83.30 313 P **P** **09 03 46.1 +1.8**
comp=Z,1.3nm,0.7s,baz=42,slow=12,SNR=3.7
BUR08 Bucovina Ar. S 83.41 323 P **P** **09 03 45.9 +1.1**
BUR08 IAmb IAmb 09 03 48.0
comp=Z,4.5nm,1.1s
BURAR Bucovina Array 83.42 323 P **P** **09 03 45.8 +1.1**
KOLS Kolonicke sedl 84.06 325 *e*P **P** **09 03 49.7 +1.8**
KOLS Kolonicke sedl 84.06 325 *e*P **P** **09 03 49.6 +1.7**
PV13 Radium Mtn., P 84.69 48 P **P** **09 03 53.6 +2.0**
PV13 IAmb IAmb 09 03 58.9
comp=Z,2.1nm,0.7s
PV01 Paradox Valley 84.86 48 P **P** **09 03 54.1 +1.7**
PV01 IAmb IAmb 09 03 56.9
comp=Z,4.8nm,1.4s
VYHS Vyhne 86.04 326 *e*P **P** **09 03 59.3 +1.5**
VYHS Vyhne 86.04 326 *e*P **P** **09 03 59.3 +1.5**
Q24A Divide 86.53 46 P **P** **09 04 01.4 +0.6**
Q24A IAmb IAmb 09 04 02.3
comp=Z,5.0nm,0.8s
GERES GERESS Array B 88.16 329 P **P** **09 04 08.3 +0.1**
comp=Z,0.2nm,0.6s,baz=39,slow=6.4,SNR=1.8
TXAR Lajitas Array 93.41 53 P **P** **09 04 34.7 +1.7**
comp=Z,0.5nm,0.7s,baz=311,slow=2.6,SNR=9.2
LPAZ La Paz 148.88 69 PKPbc **PKiKP** **09 11 08.3 +0.6**
comp=Z,2.0nm,0.9s,baz=351,slow=6.3,SNR=9.4
LPAZ La Paz 148.88 69 **PKPab** **09 11 08.8 -1.4**

BER 19 09:01:00.3±2.6, 70°.81N×6°.70W, h13km±40km, ML3.0, 1C, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.56**	**290⇑**	*i*P	Pg	09 01 10.0	-1.2
JNE				*e*S	Sg	09 01 16.8	-1.8
JNE				IAML		09 01 20.3	
	comp=Z,2μm,0.2s						
JNW	**Jan Mayen West**	**0.61**	**292**	*e*P	Pg	09 01 10.6	-1.6
JNW				*e*S	Sg	09 01 17.5	-2.7
JMIC	**Jan Mayen**	**0.62**	**287**	*e*P	Pg	09 01 10.7	-1.6
JMIC				*e*S	Sg	09 01 19.7	-0.9
JMIC				IAML		09 01 20.5	
	comp=Z,579nm,0.5s						
JMI	**Jan Mayen**	**0.68**	**281**	*e*P	Pg	09 01 12.6	-0.9
JMI				*e*S	Sg	09 01 22.6	+0.1
JMI				IAML		09 01 26.8	
	comp=Z,900nm,0.5s						
DBG	**Daneborg**	**5.36**	**317**	*e*P	Pn	09 02 16.1	-3.7
DBG	**Daneborg**	**5.36**	**317**	*i* P	Pn	09 02 16.1	-3.7
DBG				IAML		09 02 59.9	
	comp=Z,2.1nm,0.4s						
DAG	**Danmarks Havn**	**6.84**	**336**	*i* P	Pn	09 02 36.3	-3.8
DAG	**Danmarks Havn**	**6.84**	**336**	*e*	Pn	09 02 35.4	-4.7
	baz=150,slow=18						
DAG				*i* P	Pn	09 02 36.3	-3.8
DAG				IAML		09 03 51.8	
	comp=Z,2.5nm,0.4s						
N2RO	**R st**	**7.46**	**107**	*e*P	Pn	09 02 44.5	-4.1
LOF	**Lofoten**	**7.59**	**101**	*e*P	Pn	09 02 45.6	-4.8
STEI	**Steigen**	**8.24**	**100**	*e*P	Pn	09 02 55.7	-3.6
STEI				*e*P	Pn	09 02 55.7	-3.6
NBB30	**Finnes**	**8.29**	**108**	*e*P	Pn	09 02 56.3	-3.6
NBB05	**Inndyr**	**8.35**	**107**	*e*P	Pn	09 02 57.8	-3.0
KONS	**Konsvik**	**8.39**	**111**	*e*P	Pn	09 02 57.5	-3.9
N2IH	**Innhavet**	**8.45**	**99**	*e*P	Pn	09 02 58.6	-3.5
FAUS	**Fauske**	**8.55**	**103**	*e*P	Pn	09 02 59.7	-3.8
MOR8	**Moi Rana**	**9.01**	**111**	*e*P	Pn	09 02 59.4	-11
KBS	**Kingsbay**	**9.42**	**22**	*e*P	Pn	09 03 12.9	-2.5
NSS	**Namsos**	**9.45**	**123**	*e*P	Pn	09 03 13.3	-2.6

*DJA **19** 09:14:02.9±0.9, 4°.N±3°×12°.8E±°, h19km±7km, M4.6/11, mB5.0/5,mb4.6/8,MLv4.6/11,Mw(mB)4.4/5*
*IDC **19** 09:14:03.2±1.1, 4°.39N×127°.79E, h132km±11km, mb3.8/15, mb1 4.0/18,mb1mx3.8/36,mbtmp4.3/18,MS2.7/1, Ms1 2.9/1,ms1mx2.4/39,Error ellipse: s-maj=18.4km s-min=7.7km az=69.0*
*NEIC **19** 09:14:04.9±1.4, 4°.40N±0°.06×127°.75E±0°.09, h147km±6km, mb4.5/57,Error ellipse: s-maj=13.8km s-min=8.0km az=63.0*

ISC 19 09:14:04.9±0.4, 4°.40N±0°.04×127°.66E±0°.06, h150km, n106, σ1.74/118, mb4.4/37, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.25**	**252**	P	**Pn**	**09 14 40.4**	**-2.5**
SGSI				S	**Sn**	**09 15 09.2**	**-3.0**
DDMP	**Don Marcelino,**	**2.58**	**311**	*e*P	**Pn**	**09 14 43.3**	**-3.7**
DDMP				*e*S	**Sn**	**09 15 13.3**	**-6.2**
MATI	**Mati**	**2.89**	**331**	*e*P	**Pn**	**09 14 46.6**	**-4.2**
MATI				*e*S	**Sn**	**09 15 21.1**	**-5.3**
DAV	**Davao City (W)**	**3.36**	**322**	P	**Pn**	**09 14 57.2**	**+0.3**
	22nm,0.3s,baz=204,slow=9.6,SNR=1.5						
DAV				S	**Sn**	**09 15 36.6**	**-0.7**
	48nm,0.3s,baz=248,slow=23,SNR=7.2						
DAV	**Davao City (W)**	**3.36**	**322**		**Pn**	**09 14 55.9**	**-1.1**
DAV				Sn	**Sn**	**09 15 40.1**	**+2.8**
TNTI	**Ternate**	**3.62**	**185**	P	**Pn**	**09 14 59.6**	**-0.6**
TNTI				S	**Sn**	**09 15 39.5**	**-3.7**
TNTI	**Ternate**	**3.62**	**185**	Pn	**Pn**	**09 14 60.0**	**-0.3**
KCP	**Kidapawan**	**3.64**	**315⇑**	*e*P	**Pn**	**09 14 58.8**	**-1.7**
SKMP	**Bagumbayan, Su**	**3.75**	**304**	*e*P	**Pn**	**09 14 58.8**	**-3.1**
SKMP				*e*S	**Sn**	**09 15 41.7**	**-4.5**
BUKP	**Musuan**	**4.31**	**323**	*e*P	**Pn**	**09 15 07.5**	**-1.8**
BUKP				*e*S	**Sn**	**09 15 59.3**	**-0.2**

KMSI Cibinong 5.29 224 P **Pn** **09 15 19.9 -2.3**
1.3nm323nm,0.7s
PAGZ Pagadian 5.46 309 *e*P **Pn** **09 15 21.0 -3.4**
PAGZ *e*S Pn 09 15 32.2 +7.8
GTOI Gorontalo 5.97 231 P **Pn** **09 15 30.2 -1.0**
0.5nm2μm129nm,0.7s
GTOI S **Sn** **09 16 34.1 -4.6**
0.5nm2μm129nm,0.7s
SIJI Sorong 6.36 145 P **Pn** **09 15 34.8 -1.6**
24nm,0.3s,baz=309,slow=23,SNR=47
SIJI S **Sn** **09 16 42.3 -5.8**
12nm,0.3s,baz=202,slow=23,SNR=18
SANI Sanana 6.62 195 P **Pn** **09 15 36.2 -3.8**
0.2nm722nm16nm,0.5s
LUWI Luwuk 7.29 222 P Pn 09 15 40.8 -8.1
FAKI Fak Fak 8.60 148 P Pn 09 16 01.8 -4.5
32nm,1.2s
FAKI Fak Fak 8.60 148 Pn **Pn** **09 16 06.0 -0.4**
MPSI Mapaga 8.74 243 P **Pn** **09 16 08.7 +0.4**
16nm,1.2s
MYLDM Lahad Datu 9.16 275 **Pn** **09 16 16.2 +2.3**
MMRI Maumere 14.04 203 P **P** **09 17 19.4 -1.1**
SBUM Sibu 15.54 263 P **P** **09 17 39.9 +2.8**
MTN Manton Dam 17.48 169 P **P** **09 17 57.9 -0.6**
MTN IAmb IAmb 09 18 02.2
comp=Z,26nm,1.4s
JAGI Jajag, Banyuwa 18.58 227 P **Pn** **09 18 15.4 +2.8**
JAGI IAmb IAmb 09 18 15.7
comp=Z,29nm,0.8s
GUMO Guam 19.27 61 P **P** **09 18 18.6 +0.5**
comp=Z,4.9nm,0.3s,baz=194,slow=5.4,SNR=4.3
GUMO Guam 19.27 61 P **P** **09 18 18.4 +0.3**
YULB Yu-li 19.85 343 P **Pn** **09 18 26.3 -1.3**
YULB IAmb IAmb 09 18 26.4
comp=Z,12nm,0.9s
KNRA Kununurra 19.98 177 P **P** **09 18 26.0 +0.2**
KNRA IAmb IAmb 09 18 26.7
comp=Z,10nm,0.6s
SSLB Suanglung 20.33 342 P Pn 09 18 32.4 -0.8
SSLB IAmb IAmb 09 18 35.6
comp=Z,14nm,1.0s
YHNB Yeheng 21.04 344 P **P** **09 18 39.4 +2.3**
YHNB IAmb IAmb 09 18 44.3
comp=Z,18nm,0.9s
FITZ Fitzroy Crossi 22.45 185 P **P** **09 18 52.1 +0.5**
comp=Z,3.0nm,0.4s,baz=8.4,slow=7.4,SNR=23
FITZ Fitzroy Crossi 22.45 185 P **P** **09 18 52.3 +0.7**
WB0 Warramunga Arr 24.91 165 P **P** **09 19 13.9 -0.3**
WRAB Tennant Creek 25.06 165 P **P** **09 19 15.2 -0.4**
WRAB IAmb IAmb 09 19 18.0
comp=Z,16nm,1.4s
WRA Warramunga Arr 25.07 165 P **P** **09 19 14.9 -0.7**
comp=Z,1.4nm,0.3s,baz=338,slow=10,SNR=94
WRA Warramunga Arr 25.07 165 P **P** **09 19 15.3 -0.3**
WB2 Warramunga Arr 25.07 165 P **P** **09 19 15.1 -0.5**
WB2 IAmb IAmb 09 19 18.1
comp=Z,18nm,1.4s
WR0 Warramunga Arr 25.14 165 P **P** **09 19 15.8 -0.4**
PSA00 Pilbara Seismi 26.93 196 P **P** **09 19 35.2 +3.0**
PSA00 IAmb IAmb 09 19 39.5
comp=Z,12nm,1.2s
JSU Suzuyama 27.09 5 P **P** **09 19 34.0 +0.3**
AS31 Alice Springs 28.55 168 P **P** **09 19 47.0 +0.2**
AS31 PcP **PcP** **09 22 55.3 +0.6**
ASAR Alice Springs 28.56 168 P **P** **09 19 46.4 -0.4**
comp=Z,0.7nm,0.6s,baz=350,slow=6.8,SNR=25
ASAR PcP **PcP** **09 22 54.9 +0.3**
comp=Z,0.8nm,0.4s,baz=344,slow=2.2,SNR=11
ASAR ScP **ScP** **09 26 24.3 +2.2**
comp=Z,0.3nm,0.9s,baz=350,slow=2.8,SNR=1.9
ASAR Alice Springs 28.56 168 P **P** **09 19 46.9 +0.1**
ASAR PcP **PcP** **09 22 54.8 +0.1**
JNU Nakatsue 28.73 6 P **P** **09 19 48.1 -0.2**
comp=Z,11nm,0.8s,baz=190,slow=4.8,SNR=7.1
JNU Nakatsue 28.73 6 P **P** **09 19 47.1 -1.2**
JNU IAmb IAmb 09 19 49.1
comp=Z,13nm,0.9s
JMN Monobe 29.75 10 P **P** **09 19 57.9 +0.6**
CMAR Chiang Mai Arr 31.35 299 P **P** **09 20 13.1 +1.6**
comp=Z,0.5nm,0.3s,baz=111,slow=6.8,SNR=1.2
CMAR LR LR 09 33 07.9
comp=Z,13nm,19.0s,baz=110,slow=36
CMAR Chiang Mai Arr 31.35 299 P **P** **09 20 12.3 +0.8**
JWT Wachi 31.55 12 P **P** **09 20 13.3 +0.2**
JWT IAmb IAmb 09 20 14.2
comp=Z,8.6nm,0.7s
INU Inuyama 31.99 15 P **P** **09 20 17.1 +0.2**
INU IAmb IAmb 09 20 17.6
comp=Z,11nm,0.9s
JGF Kuroka 32.31 15 P **P** **09 20 20.6 +0.8**
KSRS Korea Array 32.90 0 P **P** **09 20 25.2 +0.5**
comp=Z,4.6nm,0.6s,baz=177,slow=9.8,SNR=23
KS19 Wonju Array Si 32.94 0 P **P** **09 20 25.9 +0.7**
KS19 IAmb IAmb 09 20 29.1
comp=Z,9.7nm,1.1s
MAJO Matsushiro 33.42 16 P **P** **09 20 29.3 -0.1**
MAJO IAmb IAmb 09 20 48.5
comp=Z,4.4nm,0.4s
MJAR Matsushiro Arr 33.42 16 P **P** **09 20 28.3 -1.1**
comp=Z,1.4nm,0.5s,baz=194,slow=9.6,SNR=6.9
MJAR Matsushiro Arr 33.42 16 P **P** **09 20 28.0 -1.4**
JSD Sado 34.85 15 P **P** **09 20 40.9 -0.7**
JSD IAmb IAmb 09 20 41.4
comp=Z,9.8nm,0.8s
FORT Forrest 34.99 179 P **P** **09 20 43.3 +0.4**
HNR Honiara 34.99 113 P **P** **09 20 44.1 +0.9**
MORW Morawa 35.10 198 P **P** **09 20 44.4 +0.5**
JMM Marumori 35.40 18 P **P** **09 20 46.5 +0.1**
BBOO Buckleboo 37.86 168 P **P** **09 21 07.2 0.0**
BBOO IAmb IAmb 09 21 09.6
comp=Z,8.9nm,0.9s
BBOO PcP **PcP** **09 23 20.6 +0.1**
JTM Tenmabayashi 38.18 17 P **P** **09 21 10.8 +1.0**
STKA Stephens Creek 38.44 161 P **P** **09 21 11.9 -0.3**
comp=Z,2.4nm,0.4s,baz=343,slow=9.0,SNR=13
STKA Stephens Creek 38.44 161 P **P** **09 21 12.1 0.0**
USRK Ussuriysk Ar. 39.82 5 P **P** **09 21 22.3 -1.1**
comp=Z,1.6nm,0.7s,baz=210,slow=8.3,SNR=4.2
DZM Mont Dzumac 46.17 126 P **P** **09 22 14.7 -0.3**
DZM IAmb IAmb 09 22 32.0
comp=Z,24nm,1.5s
SONM Songino Array 46.97 340 P **P** **09 22 21.6 +0.7**
comp=Z,1.2nm,0.5s,baz=146,slow=8.2,SNR=4.7
SONM Songino Array 46.97 340 P **P** **09 22 20.4 -0.4**
PETK Petropavlovsk- 54.46 22 P **P** **09 23 17.4 +0.7**
comp=Z,7.0nm,0.6s,baz=191,slow=4.3,SNR=13
PETK Petropavlovsk- 54.46 22 P **P** **09 23 16.9 +0.2**
MK31 Makanchi Array 57.54 325 P **P** **09 23 39.6 +0.9**
MKAR Makanchi Array 57.54 325 P **P** **09 23 40.0 +1.3**
comp=Z,3.9nm,0.6s,baz=119,slow=8.4,SNR=36
MKAR Makanchi Array 57.54 325 P **P** **09 23 39.6 +0.9**
MAKZ Makanchi 57.73 324 P **P** **09 23 40.7 +0.6**
MAKZ IAmb IAmb 09 23 42.1
comp=Z,4.0nm,0.8s
KDJ Kajisay 58.47 318 P **P** **09 23 47.0 +1.5**
KDJ IAmb IAmb 09 23 48.2
comp=Z,6.1nm,1.1s
ZALV Zalesovo Beam 60.42 332 P **P** **09 23 58.3 0.0**
comp=Z,0.8nm,0.4s,baz=115,slow=6.7,SNR=4.2
ZALV Zalesovo Beam 60.42 332 P **P** **09 23 57.9 -0.5**
KURK Kurchatov 61.68 327 P **P** **09 24 07.8 +0.9**
BKZ Black Stump Fm 62.47 139 P **P** **09 24 11.9 -0.5**
KKAR Karatay Array 63.38 317 P **P** **09 24 19.0 +0.6**
TIXI Tiksi 67.16 0 P **P** **09 24 42.0 -0.2**
CASY Casey 71.59 187 P **P** **09 25 10.6 +1.1**
CASY IAmb IAmb 09 25 26.7
comp=Z,15nm,1.3s
ABKAR Akbulak array 72.22 320 P **P** **09 25 13.9 +0.3**
SOCY Socotra 73.14 281 P **P** **09 25 19.9 +0.1**
TTA Tatalina 79.88 27 P **P** **09 25 57.5 +0.7**
TTA IAmb IAmb 09 26 13.3
comp=Z,9.5nm,1.4s
IMAR Indian Mountai 81.35 24 P **P** **09 26 05.4 +0.9**
PPLA Purkeypile 81.61 27 P **P** **09 26 07.2 +1.1**
PPLA IAmb IAmb 09 26 11.1
comp=Z,15nm,1.4s
CNPM China Poot 81.71 31 P **P** **09 26 07.1 +0.6**
CNPM IAmb IAmb 09 26 24.7
comp=Z,14nm,1.4s
SKT Skwentna 81.81 28 P **P** **09 26 06.7 -0.2**
BRLK Bradley Lake 81.91 30 P **P** **09 26 07.8 +0.3**
BRLK IAmb IAmb 09 26 12.3
comp=Z,15nm,1.4s
SUA Susitna One 82.13 29 P **P** **09 26 08.5 -0.3**
SUA IAmb IAmb 09 26 09.8

comp=Z,5.9nm,0.8s
TRF Thorofare Moun 82.52 27 P **P** **09 26 11.0 +0.1**
PMR Palmer 82.91 29 P **P** **09 26 13.0 +0.4**
COLD Coldfoot 82.91 23 P **P** **09 26 14.0 +1.5**
TOLK Toolik Lake Re 83.28 21 P **P** **09 26 16.2 +1.7**
TOLK IAmb IAmb 09 26 35.9
comp=Z,14nm,1.4s
SCM Sheep Creek Mo 83.78 28 P **P** **09 26 18.0 +0.7**
ILAR Eielson Array 84.10 25 P **P** **09 26 18.3 -0.4**
comp=Z,0.8nm,0.8s,baz=257,slow=7.3,SNR=7.1
M24K Tolsona, Glenn 84.34 28 P **P** **09 26 21.0 +1.0**
M24K IAmb IAmb 09 26 21.8
comp=Z,8.7nm,0.7s
KLU Klutina 84.44 29 P **P** **09 26 21.1 +0.5**
KLU IAmb IAmb 09 26 24.2
comp=Z,11nm,1.4s
RIDG Independent Ri 84.97 26 P **P** **09 26 23.4 +0.3**
ARCES ARCESS Array B 90.14 340 P **P** **09 26 46.7 -1.0**
comp=Z,1.0nm,0.7s,baz=87,slow=6.2,SNR=7.4
TXAR Lajitas Array 120.45 52 PKP **PKPdf** **09 32 39.4 -0.1**
comp=Z,0.1nm,0.6s,baz=225,slow=1.0,SNR=1.8
TXAR Lajitas Array 120.45 52 **PKPdf** **09 32 39.1 -0.3**
TORD Torodi Ar. Bea 123.59 289 PKP **PKiKP** **09 32 45.6 -0.3**
comp=Z,0.1nm,0.3s,baz=40,slow=3.9,SNR=1.5
TORD Torodi Ar. Bea 123.59 289 PKPdf **PKPdf** **09 32 43.2 -2.4**

*NEIC **19** 09:32:17.8±2.0, 17.91S±0.08×178.4W±0.1, h598km±4km, mb4.9/65, Error ellipse: s-maj=14.7km s-min=11.8km az=100.0*
*IDC **19** 09:32:18.7±1.6, 17.91S×178.51W, h596km±20km, mb3.5/18, mb1 3.7/19, mb1mx3.6/34, mbtmp4.5/19, Error ellipse: s-maj=13.5km s-min=10.6km az=145.0*
ISC 19 09:32:18.6±0.4, **17.89S**±0.06×**178.44W**±0.06, **h600**km, **n209**, σ1**s26**/216, **mb4.8**/59, **2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.35**	**272**	P	**P**	**09 33 42.6**	**+2.6**
AFI	**Afiamalu**	**7.53**	**59**	P	**P**	**09 34 13.2**	**-0.5**
NIUE	**Niue**	**8.16**	**100**	P	**P**	**09 34 20.5**	**+1.0**
	baz=8.1,SNR=4.1						
NIUE				S	S	09 36 08.5	+10
	baz=8.1						
NIUE	**Niue**	**8.16**	**100**	P	**P**	**09 34 17.7**	**-1.8**
FUNA	**Funafuti**	**9.58**	**346**	P	**P**	**09 34 33.3**	**-0.1**
SANVU	**Saraoutou**	**13.97**	**278**	P	**P**	**09 35 16.3**	**-1.0**
DZM	**Mont Dzumac**	**14.81**	**251**	P	**P**	**09 35 24.9**	**-0.2**
	2.1nm,0.3s,baz=71,slow=14,SNR=24						
DZM				S	**S**	**09 37 58.4**	**+1.0**
	0.1nm,0.3s,baz=351,slow=13,SNR=3.8						
DZM	**Mont Dzumac**	**14.81**	**251**	P	**P**	**09 35 25.5**	**+0.3**
DZM				PcP	**PcP**	**09 39 54.7**	**+3.0**
KNTN	**Kanton**	**16.40**	**24**	P	**P**	**09 35 38.9**	**-0.8**
OUZ	**Omahuta**	**18.66**	**201**	P	**P**	**09 36 02.9**	**+2.8**
RUGZ	**Raukumara Rang**	**20.29**	**189**	P	**P**	**09 36 14.6**	**-0.3**
TGRZ	**Tauranga**	**20.31**	**192**	P	**P**	**09 36 17.0**	**+2.0**
TWGZ	**Tauwhareparae**	**20.46**	**188**	P	**P**	**09 36 16.8**	**+0.4**
TOZ	**Tahuroa Road**	**20.47**	**194**	P	**P**	**09 36 18.2**	**+1.8**
MARZ	**Manawahe**	**20.48**	**191**	P	**P**	**09 36 13.3**	**-3.3**
URZ	**Urewera**	**20.67**	**190**	P	**P**	**09 36 16.1**	**-2.0**
	26nm,0.7s,baz=291,slow=2.4,SNR=12						
URZ	**Urewera**	**20.67**	**190**	P	**P**	**09 36 16.7**	**-1.5**
URZ	**Urewera**	**20.67**	**190**	P	**P**	**09 36 16.3**	**-1.8**
MWZ	**Matawai**	**20.68**	**189**	P	**P**	**09 36 18.0**	**-0.3**
CNGZ	**Carnagh Statio**	**20.73**	**187**	P	**P**	**09 36 18.5**	**-0.2**
RRRZ	**Republican Roa**	**20.85**	**191**	P	**P**	**09 36 19.8**	**-0.1**
MUGZ	**Murupara**	**20.94**	**191**	P	**P**	**09 36 20.0**	**-0.6**
RIGZ	**Rimuhau**	**21.01**	**188**	P	**P**	**09 36 20.6**	**-0.7**
RTZ	**Ruatahuna**	**21.04**	**190**	P	**P**	**09 36 20.6**	**-1.1**
TLZ	**Tolley Road**	**21.04**	**193**	P	**P**	**09 36 21.9**	**+0.3**
RAHZ	**Arahi**	**21.31**	**190**	P	**P**	**09 36 22.3**	**-1.7**
MRHZ	**Matea Rd**	**21.35**	**191**	P	**P**	**09 36 22.7**	**-1.6**
HIZ	**Hauiti**	**21.37**	**195**	P	**P**	**09 36 27.0**	**+2.5**
NMHZ	**Naumai**	**21.54**	**190**	P	**P**	**09 36 25.3**	**-0.8**
BKZ	**Black Stump Fm**	**21.66**	**191**	P	**P**	**09 36 23.0**	**-4.2**
BKZ	**Black Stump Fm**	**21.66**	**191**	P	**P**	**09 36 24.9**	**-2.2**
BKZ				IAmb	IAmb	09 36 40.0	
	comp=Z,14nm,0.7s						
OTVZ	**Oturere**	**21.81**	**192**	P	**P**	**09 36 27.3**	**-1.3**
NGZ	**Ngauruhoe**	**21.84**	**193**	P	**P**	**09 36 28.7**	**-0.2**
KWHZ	**Kaweka Forest**	**21.92**	**191**	P	**P**	**09 36 28.3**	**-1.2**
WNVZ	**Wahianoa**	**21.98**	**192**	P	**P**	**09 36 28.4**	**-1.7**
BHHZ	**Black Hill Sta**	**22.05**	**191**	P	**P**	**09 36 28.5**	**-2.1**
KRHZ	**Kereru**	**22.14**	**191**	P	**P**	**09 36 30.1**	**-1.3**
KAHZ	**Kahuranaki**	**22.21**	**190**	P	**P**	**09 36 30.7**	**-1.3**
NEZ	**North Egmont**	**22.27**	**195**	P	**P**	**09 36 35.9**	**+3.2**
PXZ	**Pawanui**	**22.44**	**189**	P	**P**	**09 36 32.5**	**-1.4**
TSZ	**Takapari Road**	**22.62**	**191**	P	**P**	**09 36 35.1**	**-0.5**
PRHZ	**Porangahau**	**22.71**	**190**	P	**P**	**09 36 35.7**	**-0.7**
DVHZ	**Dannevirke**	**22.82**	**191**	P	**P**	**09 36 35.9**	**-1.4**
ANWZ	**Angora Road**	**22.92**	**190**	P	**P**	**09 36 36.2**	**-2.1**
BFZ	**Birch Farm**	**23.18**	**190**	P	**P**	**09 36 38.8**	**-1.7**
BFZ	**Birch Farm**	**23.18**	**190**	P	**P**	**09 36 38.6**	**-1.9**
MRZ	**Mangatainoka R**	**23.28**	**192**	P	**P**	**09 36 38.9**	**-2.5**
HOWZ	**Holdsworth Sta**	**23.52**	**192**	P	**P**	**09 36 41.3**	**-2.3**
MSWZ	**Moikau Station**	**24.07**	**192**	P	**P**	**09 36 46.4**	**-2.1**
SNZO	**South Karori**	**24.08**	**193**	P	**P**	**09 36 46.4**	**-2.1**
BHW	**Baring Head**	**24.14**	**192**	P	**P**	**09 36 46.7**	**-2.3**
QRZ	**Quartz Range**	**24.15**	**197**	P	**P**	**09 36 48.5**	**-0.6**
QRZ				IAmb	IAmb	09 36 55.3	
	comp=Z,50nm,1.3s						
PLWZ	**Palliser**	**24.22**	**192**	P	**P**	**09 36 48.1**	**-1.7**
NNZ	**Nelson**	**24.29**	**195**	P	**P**	**09 36 48.8**	**-1.6**
NNZ				IAmb	IAmb	09 36 52.7	
	comp=Z,62nm,1.4s						
TUWZ	**Tuamarina**	**24.36**	**194**	P	**P**	**09 36 49.4**	**-1.6**
BSWZ	**Blackbirch Sta**	**24.64**	**194**	P	**P**	**09 36 52.1**	**-1.4**
THZ	**Tophouse**	**24.93**	**195**	P	**P**	**09 36 55.8**	**-0.3**
THZ				IAmb	IAmb	09 36 57.0	
	comp=Z,66nm,1.4s						
KHZ	**Kahutara**	**25.39**	**194**	P	**P**	**09 36 58.5**	**-1.5**
KHZ				IAmb	IAmb	09 37 00.3	
	comp=Z,18nm,0.6s						
LTZ	**Lake Taylor**	**26.04**	**196**	P	**P**	**09 37 04.5**	**-1.4**
LTZ				IAmb	IAmb	09 37 05.4	
	comp=Z,22nm,0.7s						
OXZ	**Oxford**	**26.61**	**196**	P	**P**	**09 37 09.4**	**-1.4**
MQZ	**McQueen's Vall**	**26.82**	**194**	P	**P**	**09 37 11.4**	**-1.1**
MQZ				IAmb	IAmb	09 37 12.7	
	comp=Z,29nm,1.0s						
RPZ	**Rata Peaks**	**27.24**	**197**	P	**P**	**09 37 15.3**	**-0.9**
	comp=Z,9.4nm,0.7s,baz=6.1,slow=5.5,SNR=2.7						
RPZ	**Rata Peaks**	**27.24**	**197**	P	**P**	**09 37 15.8**	**-0.5**
RPZ				IAmb	IAmb	09 37 17.7	
	comp=Z,32nm,1.4s						
FOZ	**Fox Glacier**	**27.43**	**199**	P	**P**	**09 37 17.3**	**-0.6**
PPT	**Papeete**	**27.48**	**94**	P	**P**	**09 37 20.1**	**+1.3**
	comp=Z,17nm,0.6s,baz=255,slow=20,SNR=2.5						
LBZ	**Lake Benmore**	**28.10**	**197**	P	**P**	**09 37 21.9**	**-1.9**
LBZ				IAmb	IAmb	09 37 26.9	
	comp=Z,19nm,0.9s						
ODZ	**Otahua Downs**	**28.58**	**196**	P	**P**	**09 37 26.6**	**-1.2**
WKZ	**Wanaka**	**28.84**	**199**	P	**P**	**09 37 29.2**	**-1.1**
WKZ				IAmb	IAmb	09 37 29.6	
	comp=Z,31nm,0.7s						
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**09 37 33.8**	**-0.2**
	baz=29,SNR=8.1						
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**09 37 33.9**	**-0.1**
EIDS				IAmb	IAmb	09 37 34.8	
	comp=Z,24nm,0.7s						
MLZ	**Mavora Lakes**	**29.61**	**199**	P	**P**	**09 37 36.6**	**-0.3**
ARMA	**Armidale**	**29.93**	**240**	P	**P**	**09 37 41.0**	**+1.1**
	baz=30,SNR=7.8						
ARMA	**Armidale**	**29.93**	**240**	P	**P**	**09 37 40.6**	**+0.8**
ARMA				IAmb	IAmb	09 37 41.7	
	comp=Z,12nm,0.8s						
DCZ	**Deep Cove**	**30.01**	**200**	P	**P**	**09 37 40.2**	**+0.1**
DCZ				IAmb	IAmb	09 37 42.4	
	comp=Z,29nm,0.9s						
WHZ	**Wether Hill Ro**	**30.13**	**199**	P	**P**	**09 37 41.5**	**+0.2**
WHZ				IAmb	IAmb	09 37 55.0	
	comp=Z,37nm,1.3s						
RMQ	**Roma**	**31.48**	**248**	P	**P**	**09 37 54.0**	**+0.9**
	baz=32,SNR=23						
CNB	**Canberra Magne**	**33.42**	**232**	P	**P**	**09 38 10.7**	**+1.3**
	baz=34,SNR=17						
CTA	**Charters Tower**	**33.42**	**260**	P	**P**	**09 38 09.6**	**0.0**
	comp=Z,34nm,0.6s,baz=91,slow=12,SNR=9.2						
CTAO	**Charters Tower**	**33.42**	**260**	P	**P**	**09 38 09.8**	**+0.3**
PATS	**Pohnpei**	**33.62**	**315**	P	**P**	**09 38 12.3**	**+1.1**
CAN	**Canberra**	**33.69**	**232**	P	**P**	**09 38 11.9**	**+0.3**
PMG	**Port Moresby**	**34.43**	**280**	P	**P**	**09 38 19.1**	**+1.2**
CMSA	**Cobar Meteorol**	**35.13**	**240**	P	**P**	**09 38 24.2**	**+0.5**
	baz=35,SNR=48						
MTSU	**Mount Surprise**	**35.38**	**264**	P	**P**	**09 38 26.2**	**+0.3**
	baz=36,SNR=19						
QLP	**Quilpie**	**35.51**	**249**	P	**P**	**09 38 27.1**	**+0.2**
	baz=36,SNR=23						
COEN	**Coen**	**37.08**	**270**	P	**P**	**09 38 40.7**	**+0.9**
	baz=37,SNR=124						
COEN	**Coen**	**37.08**	**270**	P	**P**	**09 38 40.9**	**+1.1**
TOO	**Toolangi**	**37.16**	**231**	P	**P**	**09 38 41.5**	**+1.2**
	baz=37,SNR=4.4						
TOO	**Toolangi**	**37.16**	**231**	P	**P**	**09 38 41.1**	**+0.8**
TAU	**Tasmania Unive**	**38.24**	**222**	P	**P**	**09 38 49.5**	**+0.7**
TAU				IAmb	IAmb	09 39 05.9	
	comp=Z,39nm,1.2s						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**09 38 53.0**	**+1.0**
	comp=Z,17nm,0.5s,baz=85,slow=11,SNR=53						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**09 38 53.0**	**+1.0**
	baz=39,SNR=37						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**09 38 52.8**	**+0.7**
QIS	**Mount Isa**	**39.63**	**259**	P	**P**	**09 38 59.8**	**-0.6**
	baz=40,SNR=6.8						
HTT	**Hallett**	**41.13**	**239**	P	**P**	**09 39 13.0**	**+0.9**
	baz=41,SNR=12						
JAY	**Jayapura**	**42.87**	**286**	P	**P**	**09 39 26.9**	**+0.9**
	comp=Z,516nmcomp=Z,63nm,0.9s						
GENI	**Genyem**	**43.33**	**286**	P	**P**	**09 39 31.4**	**+1.9**
	comp=Z,129nm,0.9s						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**09 39 30.0**	**+0.3**
	baz=44,SNR=33						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**09 39 30.0**	**+0.3**
BBOO				IAmb	IAmb	09 39 30.8	
	comp=Z,36nm,0.9s						
WR0	**Warramunga Arr**	**44.42**	**260**	P	**P**	**09 39 36.8**	**-1.0**
WR0				IAmb	IAmb	09 39 38.9	
	comp=Z,25nm,1.1s						
WB0	**Warramunga Arr**	**44.57**	**260**	P	**P**	**09 39 38.2**	**-0.8**
WB0				IAmb	IAmb	09 39 39.3	
	comp=Z,36nm,0.7s						
WB2	**Warramunga Arr**	**44.60**	**260**	P	**P**	**09 39 38.6**	**-0.6**
WB2				PcP	**PcP**	**09 41 08.0**	**-0.9**
WRAB	**Tennant Creek**	**44.60**	**260**	P	**P**	**09 39 38.5**	**-0.7**
WRAB				IAmb	IAmb	09 39 39.5	
	comp=Z,31nm,0.7s						
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	**09 39 38.5**	**-0.8**
	comp=Z,28nm,0.7s,baz=95,slow=7.3,SNR=735						
WRA				S	**S**	**09 45 27.3**	**-5.7**
	comp=Z,2.3nm,0.8s,baz=97,slow=13,SNR=6.8						
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	**09 39 37.8**	**-1.5**
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**09 39 40.3**	**-0.2**
AS31				IAmb	IAmb	09 39 41.6	
	comp=Z,31nm,0.6s						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**09 39 40.5**	**0.0**
	comp=Z,132nm,0.7s,baz=87,slow=8.7,SNR=1646						
ASAR				ScP	**ScP**	**09 44 06.7**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=93,slow=5.6,SNR=2.7						
ASAR				S	**S**	**09 45 33.0**	**-2.3**
	comp=Z,7.3nm,0.8s,baz=92,slow=15,SNR=28						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**09 39 39.7**	**-0.8**
ASAR				PcP	**PcP**	**09 41 09.6**	**+0.1**
KDU	**Kakadu**	**47.53**	**269**	P	**P**	**09 40 01.1**	**-0.3**
	baz=48,SNR=13						
GUMO	**Guam**	**47.84**	**308**	P	**P**	**09 40 03.7**	**+0.1**
	comp=Z,68nm,0.8s,baz=170,slow=8.4,SNR=6.0						
GUMO	**Guam**	**47.84**	**308**	P	**P**	**09 40 04.0**	**+0.3**
MTN	**Manton Dam**	**48.77**	**268**	P	**P**	**09 40 10.1**	**-0.5**
	baz=49,SNR=11						
MTN	**Manton Dam**	**48.77**	**268**	P	**P**	**09 40 09.7**	**-0.9**
MTN				IAmb	IAmb	09 40 10.6	
	comp=Z,33nm,0.8s						
WRKA	**Warakurna**	**49.82**	**252**	P	**P**	**09 40 18.2**	**0.0**
	baz=50,SNR=34						
FORT	**Forrest**	**49.99**	**245**	P	**P**	**09 40 19.0**	**-0.3**
	baz=50,SNR=18						
FORT	**Forrest**	**49.99**	**245**	P	**P**	**09 40 18.5**	**-0.8**
KNRA	**Kununurra**	**50.46**	**264**	P	**P**	**09 40 22.5**	**-0.5**
	baz=51,SNR=24						
KNRA	**Kununurra**	**50.46**	**264**	P	**P**	**09 40 22.4**	**-0.5**
KNRA				IAmb	IAmb	09 40 23.4	
	comp=Z,40nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.00**	**261**	P	**P**	**09 40 41.2**	**0.0**
	baz=53,SNR=5.3						
FITZ	**Fitzroy Crossi**	**53.00**	**261**	P	**P**	**09 40 40.6**	**-0.5**
SOEI	**Soe**	**56.04**	**270**	P	**P**	**09 41 04.0**	**+1.4**
	comp=Z,95nm,0.8s						
SOEI	**Soe**	**56.04**	**270**	P	**P**	**09 41 03.6**	**+1.1**
SOEI				IAmb	IAmb	09 41 04.8	
	comp=Z,70nm,0.8s						
SANI	**Sanana**	**56.71**	**280**	P	**P**	**09 41 06.7**	**-0.3**
	comp=Z,760nmcomp=Z,58nm,0.8s						
PSA00	**Pilbara Seismi**	**57.89**	**255**	P	**P**	**09 41 14.1**	**-0.8**
MEEK	**Mekatharra**	**58.41**	**249**	P	**P**	**09 41 17.6**	**-0.8**
	baz=58,SNR=4.6						
EDFI	**Ende, Flores**	**58.76**	**271**	P	**P**	**09 41 20.4**	**-0.6**
	comp=Z,25nm,0.9s						
KLBR	**Kellerberrin**	**58.81**	**244**	P	**P**	**09 41 20.3**	**-0.7**
	baz=59,SNR=8.4						
MORW	**Morawa**	**60.46**	**246**	P	**P**	**09 41 31.5**	**-0.4**
	baz=60,SNR=3.9						
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**09 41 32.3**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=360,slow=6.2,SNR=7.3						
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**09 41 32.1**	**+1.0**
GIRL	**Giralia**	**62.87**	**253**	P	**P**	**09 41 48.7**	**+1.0**
	baz=63,SNR=3.7						
MPSI	**Mapaga**	**63.24**	**280**	P	**P**	**09 41 50.0**	**-0.1**
	comp=Z,26nm,0.8s						
TWSI	**Taliwang, Sumb**	**63.34**	**269**	P	**P**	**09 41 51.0**	**+0.2**
	comp=Z,37nm,1.1s						
JAGI	**Jajag, Banyuwa**	**66.01**	**269**	P	**P**	**09 42 05.5**	**-2.1**
JAGI				IAmb	IAmb	09 42 06.9	
	comp=Z,61nm,0.9s						
JYT	**Yasato**	**66.53**	**324**	P	**P**	**09 42 09.4**	**-0.8**
MJAR	**Matsushiro Arr**	**67.87**	**323**	P	**P**	**09 42 18.0**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=164,slow=6.3,SNR=21						
MJAR	**Matsushiro Arr**	**67.87**	**323**	P	**P**	**09 42 17.7**	**-0.8**
MAJO	**Matsushiro**	**67.87**	**323**	P	**P**	**09 42 18.3**	**-0.2**
MAT	**Matsushiro**	**67.87**	**323**	P	**P**	**09 42 18.2**	**-0.3**
MAT				*eS*	**S**	**09 50 29.0**	**-1.7**
JHS	**Saijyo**	**69.86**	**319**	P	**P**	**09 42 31.1**	**+0.7**
JHS				IAmb	IAmb	09 42 32.0	
	comp=Z,17nm,0.8s						
SBUM	**Sibu**	**71.17**	**279**	P	**P**	**09 42 39.1**	**+0.5**
YULB	**Yu-li**	**71.73**	**303**	P	**P**	**09 42 41.2**	**-0.5**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**09 42 40.4**	**+0.5**
QSPA				IAmb	IAmb	09 42 45.3	
	comp=Z,20nm,0.8s						
SSLB	**Suanglung**	**72.20**	**303**	P	**P**	**09 42 42.9**	**-1.4**
SSLB				IAmb	IAmb	09 42 49.6	
	comp=Z,28nm,1.4s						
TPUB	**Ta-pu**	**72.22**	**302**	P	**P**	**09 42 43.2**	**-1.3**
TPUB				IAmb	IAmb	09 42 44.1	
	comp=Z,33nm,0.7s						
CISI	**Cisompet, Garu**	**72.29**	**268**	P	**P**	**09 42 44.0**	**-1.2**
CISI				IAmb	IAmb	09 42 44.8	
	comp=Z,33nm,0.7s						
YHNB	**Yeheng**	**72.30**	**304**	P	**P**	**09 42 44.1**	**-0.8**
KSM	**Kuching**	**72.65**	**277**	P	**P**	**09 42 47.5**	**+0.3**
KSM				IAmb	IAmb	09 42 48.7	
	comp=Z,35nm,0.8s						
PETK	**Petropavlovsk-**	**73.65**	**345**	P	**P**	**09 42 51.9**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=102,slow=8.4,SNR=7.2						
KSRS	**Korea Array**	**74.67**	**318**	P	**P**	**09 42 59.1**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=130,slow=5.7,SNR=6.9						
KSAR	**Wonju Array Be**	**74.68**	**318**	P	**P**	**09 42 58.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**76.58**	**326**	P	**P**	**09 43 09.5**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=95,slow=3.3,SNR=4.9						
USRK	**Ussuriysk Ar.**	**76.58**	**326**	P	**P**	**09 43 09.3**	**+0.9**
MWC	**Mount Wilson**	**77.35**	**48**	P	**P**	**09 43 10.5**	**-2.6**
NJ2	**Nanjing**	**77.90**	**309**	*eP*	**P**	**09 43 16.1**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NVAR	**Mina Array Bea**	**79.43**	**44**	P	**P**	**09 43 25.2**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=223,slow=8.7,SNR=8.4						
NVAR	**Mina Array Bea**	**79.43**	**44**	P	**P**	**09 43 24.3**	**+0.2**
BELA	**Belgrano 2**	**82.19**	**173**	P	**P**	**09 43 36.4**	**-1.0**
IPM	**Ipoh**	**82.39**	**277**	P	**P**	**09 43 39.5**	**-0.1**
RAGM	**Ragged Mountai**	**82.63**	**16**	P	**P**	**09 43 38.7**	**-1.1**
TCRU	**Three Creeks R**	**83.46**	**46**	P	**P**	**09 43 42.5**	**-2.3**
SEY	**Seymchan**	**83.75**	**347**	P	**P**	**09 43 44.8**	**-0.4**
	comp=Z,1.4nm,0.4s						
RPSI	**Rantau Prapat**	**83.82**	**275**	P	**P**	**09 43 46.4**	**-0.3**
RPSI				IAmb	IAmb	09 43 47.2	
	comp=Z,14nm,0.9s						
MAW	**Mawson**	**83.87**	**200**	P	**P**	**09 43 46.3**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=134,slow=5.3,SNR=24						
MAW	**Mawson**	**83.87**	**200**	P	**P**	**09 43 46.4**	**+0.5**
	baz=84,SNR=7.7						
MAW	**Mawson**	**83.87**	**200**	P	**P**	**09 43 45.5**	**-0.4**
ILAR	**Eielson Array**	**85.87**	**13**	P	**P**	**09 43 54.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=224,slow=4.7,SNR=8.4						
ILAR				pP	**pwP**	**09 46 05.2**	**-0.5**
	comp=Z,1.3nm,1.1s,baz=213,slow=6.0,SNR=4.4						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**09 43 58.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=223,slow=6.6,SNR=6.9						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**09 43 59.5**	**+2.4**
XAN	**Xi'an**	**86.22**	**307**	P	**P**	**09 43 59.0**	**+1.1**
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
XAN				pmax	pmax		
	comp=Z,120nm,5.1s						
HHC	**Hu-ho-hao-te**	**87.24**	**314**	*eP*	**P**	**09 44 03.3**	**+0.7**
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,68nm,5.2s						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**09 44 03.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=205,slow=3.1,SNR=5.3						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**09 44 03.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**88.85**	**290**	P	**P**	**09 44 11.8**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=114,slow=3.6,SNR=18						
SYO	**Syowa Base**	**89.17**	**193**	*iP*	**P**	**09 44 09.0**	**-1.9**
SYO	**Syowa Base**	**89.17**	**193**	*epP*	pP	09 46 18.3	-1.4
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**09 44 17.3**	**-0.4**
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**09 44 17.0**	**-0.7**
VNA3	**Neumayer Olymp**	**90.76**	**176**	P	**P**	**09 44 18.3**	**0.0**
LZH	**Lanzhou**	**90.85**	**308**	*eP*	**P**	**09 44 20.1**	**+0.5**
LZH				pP	pP	09 46 30.1	+0.7
LZH				sP	sP	09 47 26.9	-2.2
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
VNA2	**Neumayer--Watz**	**91.20**	**177**	P	**P**	**09 44 20.6**	**+0.3**
	baz=175,slow=4.6						
VNA1	**Neumayer--Stat**	**91.43**	**177**	P	**P**	**09 44 21.8**	**+0.5**
MKAR	**Makanchi Array**	**109.10**	**314**	PKiKP	**PKiKP**	**09 49 40.0**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=245,slow=3.6,SNR=4.3						
MKAR	**Makanchi Array**	**109.10**	**314**	PKiKP	**PKiKP**	**09 49 39.4**	**-1.7**
FINES	**FINESS Array B**	**133.16**	**344**	PKP	**PKPdf**	**09 50 26.7**	**+0.1**
	comp=Z,6.7nm,1.0s,baz=49,slow=4.2,SNR=3.8						
FINES	**FINESS Array B**	**133.16**	**344**	**PKPdf**	**PKiKP**	**09 50 25.9**	**-0.7**
AKASG	**Malin Array Be**	**140.53**	**332**	PKP	**PKiKP**	**09 50 42.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=48,slow=3.7,SNR=4.2						
BURAR	**Bucovina Array**	**144.58**	**332**		**PKPdf**	**09 50 48.0**	**+0.1**
BRTR	**Keskin Array B**	**144.75**	**315**	PKP	PKPbc	09 50 48.9	-0.2
	comp=Z,4.8nm,0.9s,baz=118,slow=2.8,SNR=7.5						
BRTR	**Keskin Array B**	**144.75**	**315**		**PKPdf**	**09 50 47.9**	**-0.6**
CLL	**Collm**	**145.44**	**347**	*i* PKPbc	**PKPbc**	**09 50 50.0**	**-0.5**
	comp=Z,11nm,1.2s						
CLL				*i*		09 50 58.8	
CLL	**Collm**	**145.44**	**347**	PKPbc	**PKPdf**	**09 50 49.6**	**+0.5**
DPC	**Dobruska-Polom**	**145.52**	**343**	*e*PKP	**PKPbc**	**09 50 51.4**	**+0.5**
BRG	**Bergqjesshubel**	**145.64**	**346**	*e*PKP	**PKPbc**	**09 50 51.3**	**+0.2**
	comp=Z,5.1nm,1.0s						
PRU	**Pruhonice**	**146.32**	**345**	*e*PKP	**PKPbc**	**09 50 53.3**	**+0.3**
KHC	**Kasperske Hory**	**147.35**	**345**	*e*PKP	**PKPbc**	**09 50 55.6**	**-0.3**
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	**PKPbc**	**09 50 56.7**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=11,slow=2.2,SNR=14						
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	**PKP

ISC 19 10:15:01.1±0.7, 36°57'N±0'06×70°76E±0'07, h188km, n14, σ1§67/20, mb3.5/4, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.90**	**161**	⇓P	**Pn**	**10 15 50.1**	**+1.0**
CEP				S	**Sn**	**10 16 26.0**	**-0.5**
THW	**Thamme Wali**	**3.85**	**168**	P	**Pn**	**10 16 01.4**	**+0.7**
THW				S	**Sn**	**10 16 45.0**	**-2.3**
KK31	**Karatay Array**	**6.53**	**358**	Pn	**Pn**	**10 16 36.0**	**+1.0**
	2.2nm,0.3s,baz=181,slow=12,SNR=76						
KK31				Sn	**Sn**	**10 17 45.7**	**-3.6**
	10nm,0.4s,baz=187,slow=24,SNR=24						
AAK	**Ala-Archa**	**6.71**	**24**	⇓Pn	**Pn**	**10 16 38.5**	**+1.0**
	1.1nm,0.5s						
AAK				⇑Sn	**Sn**	**10 17 52.1**	**-1.7**
	3.9nm,0.7s						
TKM2	**Tokmak 2**	**7.36**	**29**	⇓Pn	**Pn**	**10 16 46.3**	**+0.2**
	1.9nm,0.5s						
TKM2				⇓Sn	**Sn**	**10 18 06.5**	**-2.7**
	2.7nm,0.6s						
GEYT	**Alibeck**	**10.17**	**281**	P	**Pn**	**10 17 22.7**	**0.0**
	0.4nm,0.3s,baz=96,slow=14,SNR=1.8						
GEYT				S	**Sn**	**10 19 15.0**	**-1.1**
	0.2nm,0.3s,baz=50,slow=25,SNR=1.5						
MKAR	**Makanchi Array**	**13.35**	**36**	P	**P**	**10 18 07.3**	**+1.0**
	baz=214,slow=10,SNR=3.3						
AB31	**Akbulak array**	**14.93**	**331**	⇑P	**P**	**10 18 23.6**	**-0.2**
	2.3nm,0.7s,baz=145,slow=12,SNR=15						
AKTO	**Aktyubinsk**	**16.63**	**330**	P	**Pn**	**10 18 45.3**	**+2.0**
	0.5nm,0.3s,baz=142,slow=10,SNR=9.9						
AKTO	**Aktyubinsk**	**16.63**	**330**	⇑P	**Pn**	**10 18 44.8**	**+1.5**
	2.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.53**	**268**	P	**P**	**10 25 23.8**	**-0.9**
	0.1nm,0.3s,baz=60,slow=5.5,SNR=5.7						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**10 26 57.4**	**+2.0**
	0.3nm,0.3s,baz=360,slow=5.2,SNR=12						
WRA	**Warramunga Arr**	**82.19**	**122**	P	**P**	**10 27 00.2**	**-1.0**
	0.6nm,0.5s,baz=323,slow=4.9,SNR=13						
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	**10 27 11.8**	**-0.9**
	0.7nm,0.6s,baz=312,slow=5.0,SNR=16						

*IDC **19** 10:21:12.8±2.8, 11°68N×86°97W, h44km±30km, mb3.6/10, mb1 3.8/11, mb1mx3.5/35, mbtmp3.7/11, Error ellipse: s-maj=40.1km s-min=17.8km az=45.0*
*UCR **19** 10:21:13.0±0.9, 10°63N×87°40W, h20km, MD4.3*
*INET **19** 10:21:13.7, 11°64N×87°15W, h16km, ML2.9*
*NEIC **19** 10:21:14.7±2.0, 11°61N±0°08×87°10W±0°08, h56km±8km, mb4.2/48, Error ellipse: s-maj=13.5km s-min=8.5km az=224.0*

ISC 19 10:21:13.0±0.7, 11°54N±0°09×87°12W±0°08, h49km, n80, σ1§06/80, mb4.2/32, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.16**	**3**	Pn	**Pn**	**10 21 32.5**	**-0.4**
MATN	**Matagalpa**	**1.81**	**40**	Pn	**Pn**	**10 21 42.2**	**+0.3**
ACON	**Acoyapa**	**1.95**	**77**	Pn	**Pn**	**10 21 43.1**	**-0.6**
JTS	**Las Juntas de**	**2.46**	**120**	P	**Pn**	**10 21 48.9**	**-1.9**
	baz=358,slow=18,SNR=0.6						
JTS				S	**Sn**	**10 22 18.9**	**-0.8**
	12nm,0.3s,baz=7.7,slow=22,SNR=4.1						
JTS	**Las Juntas de**	**2.46**	**120**	Pn	**Pn**	**10 21 53.9**	**+3.1**
TGUH	**Tegucigalpa,Un**	**2.51**	**357**	Pn	**Pn**	**10 21 51.6**	**+0.1**
MTO3	**Montecristo**	**3.58**	**323**	Pn	**Pn**	**10 22 04.7**	**-1.7**
ESQI	**Esquipulas**	**3.70**	**324**	Pn	**Pn**	**10 22 06.6**	**-1.3**
CCIG	**Comitan**	**6.78**	**315**	Pn	**Pn**	**10 22 50.9**	**+0.8**
TLIG	**Tlapa**	**12.59**	**300**	Pn	**Pn**	**10 24 10.3**	**+0.6**
152A	**Waverly Hall**	**21.15**	**6**	P	**P**	**10 25 56.1**	**+2.2**
PCRV	**Puerto La Cruz**	**22.12**	**91**	P	**P**	**10 26 03.9**	**-0.8**
	4.3nm,0.6s,baz=287,slow=3.0,SNR=5.8						
PLCV	**Puerto La Cruz**	**22.17**	**91**	P	**P**	**10 26 03.9**	**-1.3**
Y49A	**Blount Mountai**	**22.23**	**2**	P	**P**	**10 26 06.5**	**+1.0**
Y49A				IAmb	IAmb	10 26 13.5	
	comp=Z,6.7nm,0.8s						
X48A	**Hartselle**	**22.81**	**0**	P	**P**	**10 26 12.4**	**+0.7**
JSC	**Jenkinsville**	**23.26**	**12**	P	**P**	**10 26 18.2**	**+1.9**
TXAR	**Lajitas Array**	**23.48**	**321**	P	**P**	**10 26 18.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=139,slow=9.5,SNR=18						
TXAR	**Lajitas Array**	**23.48**	**321**	P	**P**	**10 26 18.4**	**-0.2**
TX31	**Lajitas Ar. Si**	**23.48**	**321**	P	**P**	**10 26 19.0**	**+0.4**
TX31				IAmb	IAmb	10 26 19.6	
	comp=Z,16nm,1.4s						
TX32	**Lajitas Array**	**23.48**	**321**	P	**P**	**10 26 18.8**	**+0.2**
W50A	**Signal Mountai**	**23.61**	**4**	P	**P**	**10 26 19.1**	**-0.5**
W50A				IAmb	IAmb	10 26 32.0	
	comp=Z,11nm,1.2s						
MIAR	**Mount Ida**	**23.65**	**347**	P	**P**	**10 26 19.7**	**-0.2**
CPCT	**Cooper Cave**	**23.92**	**5**	P	**P**	**10 26 23.4**	**+0.9**
CPCT				IAmb	IAmb	10 26 23.6	
	comp=Z,3.4nm,0.6s						
H06E1	**SOCORRO T-PHAS**	**24.06**	**290**	T	T	10 51 13.7	
X37A	**Clayton**	**24.15**	**343**	P	**P**	**10 26 24.1**	**-0.5**
TKL	**Tuckaleechee C**	**24.20**	**7**	P	**P**	**10 26 24.3**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=86,slow=14,SNR=7.9						
TKL	**Tuckaleechee C**	**24.20**	**7**	P	**P**	**10 26 25.9**	**+0.8**
TKL				IAmb	IAmb	10 26 43.9	
	comp=Z,11nm,1.4s						
V53A	**Saluda**	**24.34**	**9**	P	**P**	**10 26 27.8**	**+1.4**
W57A	**Gilead**	**24.38**	**14**	P	**P**	**10 26 28.5**	**+1.8**
W57A				IAmb	IAmb	10 26 33.1	
	comp=Z,15nm,1.2s						
CLTN	**Cedars of Leba**	**24.45**	**2**	P	**P**	**10 26 28.2**	**+0.9**
CLTN				IAmb	IAmb	10 26 29.6	
	comp=Z,5.5nm,0.9s						
U49A	**Red Boiling Sp**	**24.89**	**3**	P	**P**	**10 26 32.2**	**+0.9**
U49A				IAmb	IAmb	10 26 41.2	
	comp=Z,12nm,1.4s						
TZTN	**Tazewell**	**25.10**	**7**	P	**P**	**10 26 33.4**	**+0.2**
TZTN				IAmb	IAmb	10 26 45.7	
	comp=Z,18nm,1.4s						
V58A	**Windy Hill, Pi**	**25.21**	**15**	P	**P**	**10 26 35.5**	**+1.3**
V58A				IAmb	IAmb	10 26 46.7	
	comp=Z,9.3nm,1.1s						
WMOK	**Wichita Mounta**	**25.42**	**337**	P	**P**	**10 26 37.5**	**+1.3**
TUL1	**Leonard**	**25.50**	**343**	P	**P**	**10 26 38.0**	**+1.1**
TUL1				IAmb	IAmb	10 26 38.8	
	comp=Z,7.6nm,0.8s						
OK029	**Liberty Lake**	**25.90**	**340**	P	**P**	**10 26 40.0**	**-0.5**
OK029				IAmb	IAmb	10 26 40.3	
	comp=Z,4.5nm,0.5s						
MNTX	**Cornudas Mount**	**26.20**	**323**	P	**P**	**10 26 45.0**	**+1.7**
S39A	**Bolivar**	**26.63**	**349**	P	**P**	**10 26 47.2**	**+0.2**
Q51A	**Peebles**	**27.58**	**6**	P	**P**	**10 26 56.2**	**+0.7**
Q51A				IAmb	IAmb	10 27 03.2	
	comp=Z,4.7nm,0.8s						
P53A	**Whipple**	**28.30**	**9**	P	**P**	**10 27 02.8**	**+0.9**
P52A	**Corning**	**28.33**	**8**	P	**P**	**10 27 02.4**	**+0.1**
O52A	**Adamsville**	**28.84**	**8**	P	**P**	**10 27 07.0**	**+0.2**
O52A				IAmb	IAmb	10 27 21.6	
	comp=Z,12nm,1.2s						
N49A	**Columbus Grove**	**29.38**	**5**	P	**P**	**10 27 11.3**	**-0.2**
N49A				IAmb	IAmb	10 27 24.4	
	comp=Z,9.3nm,1.2s						
SSPA	**Standing Stone**	**30.11**	**14**	P	**P**	**10 27 19.2**	**+1.3**
SSPA				IAmb	IAmb	10 27 29.3	
	comp=Z,11nm,1.2s						
M54A	**Oil Creek Stat**	**30.56**	**11**	P	**P**	**10 27 22.3**	**+0.3**
N59A	**State Game Lan**	**30.92**	**17**	P	**P**	**10 27 26.0**	**+0.8**
M57A	**Sunshine Farm,**	**30.95**	**15**	P	**P**	**10 27 26.8**	**+1.3**
SAML	**Samuel**	**31.32**	**130**	P	**P**	**10 27 29.0**	**+0.1**
ODNJ	**Ogdensburg**	**31.42**	**18**	P	**P**	**10 27 30.4**	**+0.8**
KSPA	**Keystone Colle**	**31.52**	**16**	P	**P**	**10 27 31.1**	**+0.7**
PV12	**Saucer Basin,**	**32.96**	**328**	P	**P**	**10 27 44.0**	**+0.6**
PV12				IAmb	IAmb	10 27 47.5	
	comp=Z,2.5nm,0.7s						
ECSD	**EROS Data Cent**	**33.11**	**347**	P	**P**	**10 27 43.6**	**-0.8**
ECSD				IAmb	IAmb	10 27 46.0	
	comp=Z,5.3nm,1.4s						
SADO	**Sadowa**	**33.81**	**10**	P	**P**	**10 27 49.1**	**-1.4**
	comp=Z,2.5nm,0.5s,baz=197,slow=7.7,SNR=3.5						
SADO	**Sadowa**	**33.81**	**10**	P	**P**	**10 27 50.3**	**-0.2**
F33A	**5 Mile Ranch,**	**35.07**	**349**	P	**P**	**10 27 59.4**	**-1.9**
BW06	**Boulder Array**	**36.72**	**332**	P	**P**	**10 28 16.5**	**+0.7**
BW06				IAmb	IAmb	10 28 22.3	
	comp=Z,4.1nm,1.4s						
PDAR	**Pinedale Array**	**36.72**	**332**	P	**P**	**10 28 15.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=126,slow=11,SNR=6.1						
PDAR	**Pinedale Array**	**36.72**	**332**	P	**P**	**10 28 16.4**	**+0.5**
HWUT	**Hardware Ranch**	**36.82**	**329**	P	**P**	**10 28 16.9**	**+0.3**
HWUT				IAmb	IAmb	10 28 18.1	
	comp=Z,2.3nm,0.8s						
REDW	**Red Top Meadow**	**37.79**	**331**	P	**P**	**10 28 24.9**	**0.0**
SNOW	**Snow King Moun**	**37.82**	**332**	P	**P**	**10 28 25.9**	**+0.8**
SNOW				IAmb	IAmb	10 28 39.1	
	comp=Z,5.5nm,1.3s						
TPAW	**Teton Pass**	**37.93**	**331**	P	**P**	**10 28 26.8**	**+0.7**
TPAW				IAmb	IAmb	10 28 37.8	
	comp=Z,3.9nm,1.2s						
NVAR	**Mina Array Bea**	**38.60**	**319**	P	**P**	**10 28 32.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=128,slow=8.5,SNR=3.5						
YHL	**Hebgen Lake**	**39.08**	**333**	P	**P**	**10 28 37.8**	**+2.0**
MCMT	**McKenzie Canyo**	**39.84**	**331**	P	**P**	**10 28 43.4**	**+1.5**
BOZ	**Bozeman (W)**	**39.86**	**333**	P	**P**	**10 28 43.2**	**+1.1**
F10A	**Beach Ranch, E**	**42.80**	**329**	P	**P**	**10 29 08.3**	**+2.1**
SCHQ	**Schefferville**	**46.06**	**16**	P	**P**	**10 29 30.6**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=180,slow=3.0,SNR=1.4						
SCHQ	**Schefferville**	**46.06**	**16**	P	**P**	**10 29 30.7**	**-1.2**
SCHQ				IAmb	IAmb	10 29 46.8	
	comp=Z,5.0nm,1.0s						
BDFB	**Brasilia**	**47.20**	**124**	P	**P**	**10 29 40.8**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=287,slow=12,SNR=3.1						
BDFB	**Brasilia**	**47.20**	**124**	P	**P**	**10 29 41.6**	**+0.1**
YKA	**Yellowknife Ar**	**54.57**	**345**	P	**P**	**10 30 34.6**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=140,slow=6.7,SNR=1.9						
DOT	**Dot Lake**	**65.39**	**336**	P	**P**	**10 31 51.1**	**+0.7**
ILAR	**Eielson Array**	**66.98**	**336**	P	**P**	**10 32 00.0**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=161,slow=5.0,SNR=5.0						
ILAR	**Eielson Array**	**66.98**	**336**	P	**P**	**10 32 00.4**	**0.0**
SVW2	**Sparrevohn**	**69.60**	**331**	P	**P**	**10 32 17.2**	**+0.2**
SVW2				IAmb	IAmb	10 32 20.5	
	comp=Z,5.8nm,1.0s						
ASAR	**Alice Springs**	**139.22**	**247**	PKP	**PKPdf**	**10 40 36.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=83,slow=2.2,SNR=2.6						
WRA	**Warramunga Arr**	**139.32**	**253**	PKP	**PKPdf**	**10 40 37.2**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=97,slow=2.1,SNR=2.2						
CMAR	**Chiang Mai Arr**	**149.60**	**349**	PKPbc	**PKPbc**	**10 40 57.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=349,slow=3.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**149.60**	**349**		**PKPbc**	**10 40 58.5**	**+0.4**

*MAN **19** 10:29:29.6, 5°27N×127°46E, h14km, mb5.2, ML4.2, MS4.3*
*IDC **19** 10:29:30.4±1.6, 4°93N×127°49E, h103km±15km, mb3.8/15, mb1 4.0/17, mb1mx3.8/39, mbtmp4.2/17, MS3.0/4, Ms1 3.1/4, ms1mx2.7/39, Error ellipse: s-maj=22.3km s-min=9.2km az=74.0*
*NEIC **19** 10:29:30.7±1.4, 4°96N±0°06×127°47E±0°09, h105km±4km, mb4.5/60, Error ellipse: s-maj=13.2km s-min=7.6km az=65.0*
*DJA **19** 10:29:31.0±0.5, 5°N±4°×12°8E±°, h107km±5km, M4.5/12, mb4.6/12, mB4.8/7, ML4.8/8, Mw(mB)4.1/7*

ISC 19 10:29:30.8±0.4, 5°03N±0°04×127°53E±0°06, h108km, n113, σ1§80/129, mb4.4/40, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.10**	**301**	*e*P	**Pn**	**10 30 01.6**	**-3.4**
DDMP				*e*S	**Sn**	**10 30 27.5**	**-3.7**
MATI	**Mati**	**2.29**	**327**	*e*P	**Pn**	**10 30 04.7**	**-2.8**
MATI				*e*S	**Sn**	**10 30 29.4**	**-6.1**
SGSI	**Sangihe**	**2.40**	**236**	P	**Pn**	**10 30 05.3**	**-3.6**
DAV	**Davao City (W)**	**2.80**	**316**	P	**Pn**	**10 30 13.7**	**-0.5**
	107nm,0.3s,baz=17,slow=0.9,SNR=9.3						
DAV				S	**Sn**	**10 30 48.4**	**+0.8**
	69nm,0.3s,baz=286,slow=20,SNR=4.2						
DAV				LR	LR	10 31 43.2	
	comp=Z,296nm,18.9s,baz=124,slow=47						
DAV	**Davao City (W)**	**2.80**	**316**		**Pn**	**10 30 13.2**	**-1.0**
DAV				Sn	**Sn**	**10 30 48.2**	**+0.5**
KCP	**Kidapawan**	**3.12**	**309**	*e*P	**Pn**	**10 30 17.9**	**-0.6**
SKMP	**Bagumbayan, Su**	**3.32**	**297**	*e*P	**Pn**	**10 30 18.4**	**-2.6**
SKMP				*e*S	**Sn**	**10 31 00.6**	**+0.8**
BIP	**Bislig**	**3.42**	**338**	⇓*e*P	**Pn**	**10 30 19.3**	**-3.1**
BIP				*e*S	**Sn**	**10 30 54.8**	**-7.4**
BUKP	**Musuan**	**3.74**	**319**	*e*P	**Pn**	**10 30 25.9**	**-0.9**
BUKP				*e*S	**Sn**	**10 31 05.8**	**-4.3**
TNTI	**Ternate**	**4.23**	**182**	P	**Pn**	**10 30 33.1**	**-0.2**
TNTI				S	**Sn**	**10 31 21.6**	**-0.2**
TNTI	**Ternate**	**4.23**	**182**		**Pn**	**10 30 32.3**	**-1.0**
TNTI				Sn	**Sn**	**10 31 21.8**	**0.0**
CGP	**Cagayan de Oro**	**4.42**	**321**	⇑*e*P	**Pn**	**10 30 36.8**	**+1.0**
CGP				*e*S	**Sn**	**10 31 30.1**	**+3.9**
PAGZ	**Pagadian**	**4.98**	**304**	*e*P	**Pn**	**10 30 42.0**	**-1.4**
PAGZ				*e*S	**Sn**	**10 31 33.6**	**-6.3**
KMSI	**Cibinong**	**5.67**	**219**	P	**Pn**	**10 30 55.1**	**+2.4**
	0.8nm164nm,0.7s						
GTOI	**Gorontalo**	**6.28**	**226**	P	**Pn**	**10 30 58.5**	**-2.5**
	0.2nm590nm34nm,0.4s						
SIJI	**Sorong**	**6.95**	**147**	P	**Pn**	**10 31 08.8**	**-1.4**
	14nm,0.3s,baz=283,slow=23,SNR=32						
SIJI				S	**Sn**	**10 32 22.1**	**-5.6**
	6.2nm,0.3s,baz=158,slow=23,SNR=9.1						
SANI	**Sanana**	**7.20**	**192**	P	**Pn**	**10 31 12.4**	**-1.1**
	0.2nm644nm20nm,1.0s						
SANI				S	Sn	10 32 22.1	-12
	0.2nm644nm20nm,1.0s						
LUWI	**Luwuk**	**7.68**	**218**	Pn	**Pn**	**10 31 19.9**	**0.0**
MPSI	**Mapaga**	**8.93**	**239**	P	**Pn**	**10 31 39.1**	**+2.1**
	364nm18nm,0.8s						
MYLDM	**Lahad Datu**	**8.99**	**271**	Pn	**Pn**	**10 31 36.4**	**-1.5**
FAKI	**Fak Fak**	**9.20**	**149**	Pn	**Pn**	**10 31 39.9**	**-0.8**
FAKI				Sn	**Sn**	**10 33 18.9**	**-3.5**
KKM	**Kota Kinabalu**	**11.30**	**276**	Pn	**Pn**	**10 32 08.3**	**-1.0**
KAPI	**Kappang**	**12.64**	**218**	LR	LR	10 37 11.7	
	comp=Z,59nm,18.7s,baz=328,slow=37						
EDFI	**Ende, Flores**	**14.87**	**203**	P	**P**	**10 33 00.5**	**+1.7**
SBUM	**Sibu**	**15.49**	**261**	Pn	**Pn**	**10 33 02.0**	**-1.4**
SBUM				IAmb	IAmb	10 33 06.4	
	comp=Z,30nm,0.8s						
KSM	**Kuching**	**17.55**	**259**		**P**	**10 33 27.5**	**-0.8**
KSM				IAmb	IAmb	10 33 28.8	
	comp=Z,23nm,0.8s						
MTN	**Manton Dam**	**18.11**	**169**	P	**P**	**10 33 33.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**18.91**	**225**	P	**P**	**10 33 43.5**	**+0.2**
JAGI				IAmb	IAmb	10 33 46.7	
	comp=Z,31nm,1.1s						
YULB	**Yu-li**	**19.22**	**342**	P	**P**	**10 33 45.7**	**-0.9**
TPUB	**Ta-pu**	**19.35**	**341**	P	**P**	**10 33 48.5**	**+0.6**
TPUB				IAmb	IAmb	10 33 51.5	
	comp=Z,53nm,1.3s						
DLV	**T Lat**	**20.04**	**291**	P	Pn	10 33 57.1	-1.3
DLV				IAmb	IAmb	10 33 59.1	
	comp=Z,22nm,0.7s						
YHNB	**Yeheng**	**20.40**	**344**	P	**P**	**10 34 00.9**	**+1.5**
YHNB				IAmb	IAmb	10 34 18.6	
	comp=Z,48nm,1.4s						
KNRA	**Kununurra**	**20.61**	**177**	P	**P**	**10 34 01.6**	**0.0**
KNRA				IAmb	IAmb	10 34 02.1	
	comp=Z,20nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.05**	**185**	P	**P**	**10 34 26.7**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=16,slow=9.7,SNR=15						
FITZ	**Fitzroy Crossi**	**23.05**	**185**	P	**P**	**10 34 25.3**	**-1.8**
FITZ				IAmb	IAmb	10 34 27.7	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**25.55**	**165**	P	**P**	**10 34 49.5**	**-0.3**
WB0				IAmb	IAmb	10 34 52.2	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**25.70**	**165**	P	**P**	**10 34 50.9**	**-0.2**
WRAB				IAmb	IAmb	10 34 53.8	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**25.70**	**165**	P	**P**	**10 34 50.0**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=342,slow=10.0,SNR=50						
WRA	**Warramunga Arr**	**25.70**	**165**	P	**P**	**10 34 50.9**	**-0.3**
WB2	**Warramunga Arr**	**25.71**	**165**	P	**P**	**10 34 51.1**	**-0.1**
WR0	**Warramunga Arr**	**25.77**	**165**	P	**P**	**10 34 50.2**	**-1.6**
WR0				IAmb	IAmb	10 34 56.6	
	comp=Z,13nm,1.3s						
KULM	**Kulim**	**26.77**	**272**	P	**P**	**10 34 59.8**	**-1.1**
PSA00	**Pilbara Seismi**	**27.49**	**196**	P	**P**	**10 35 06.6**	**-0.5**
NJ2	**Nanjing**	**28.08**	**344**	*e*P	**P**	**10 35 12.9**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JNU	**Nakatsue**	**28.12**	**6**	P	**P**	**10 35 13.9**	**+1.1**
JNU				IAmb	IAmb	10 35 23.6	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**29.19**	**168**	P	**P**	**10 35 21.8**	**-0.5**
AS31				PcP	**PcP**	**10 38 27.6**	**+0.3**
ASAR	**Alice Springs**	**29.19**	**168**	P	**P**	**10 35 22.1**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=351,slow=7.0,SNR=32						
ASAR				PcP	**PcP**	**10 38 25.9**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=347,slow=1.8,SNR=4.4						
ASAR	**Alice Springs**	**29.19**	**168**	P	**P**	**10 35 22.5**	**+0.1**
ASAR				PcP	**PcP**	**10 38 27.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.94**	**298**	P	**P**	**10 35 37.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=100,slow=7.4,SNR=6.2						
CMAR				pP	**pP**	**10 36 01.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=114,slow=8.0,SNR=1.6						
CMAR				LR	LR	10 48 18.0	
	comp=Z,16nm,20.9s,baz=0.0,slow=36						
CMAR	**Chiang Mai Arr**	**30.94**	**298**	P	**P**	**10 35 37.3**	**-0.5**
INU	**Inuyama**	**31.42**	**15**	P	**P**	**10 35 43.6**	**+1.8**
INU				IAmb	IAmb	10 35 46.4	
	comp=Z,12nm,1.3s						
JGF	**Kuroka**	**31.75**	**15**	P	**P**	**10 35 45.5**	**+0.8**
JGF				IAmb	IAmb	10 35 46.2	
	comp=Z,19nm,1.5s						
KSRS	**Korea Array**	**32.27**	**1**	P	**P**	**10 35 51.1**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=176,slow=9.2,SNR=2.6						
MJAR	**Matsushiro Arr**	**32.86**	**16**	P	**P**	**10 35 53.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=199,slow=10,SNR=2.8						
MJAR	**Matsushiro Arr**	**32.86**	**16**	P	**P**	**10 35 54.2**	**-0.2**
MAJO	**Matsushiro**	**32.86**	**16**	P	**P**	**10 35 55.4**	**+0.9**
XAN	**Xi'an**	**33.64**	**331**	P	**P**	**10 36 02.0**	**+0.7**
XAN				pP	pP	10 36 23.8	0.0
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,120nm,3.7s						
XAN	**Xi'an**	**33.64**	**331**	P	**P**	**10 36 01.8**	**+0.5**
XAN				IAmb	IAmb	10 36 06.5	
	comp=Z,6.7nm,0.6s						
JSD	**Sado**	**34.28**	**15**	P	**P**	**10 36 06.7**	**0.0**
JSD				IAmb	IAmb	10 36 08.0	
	comp=Z,8.6nm,0.9s						
FORT	**Forrest**	**35.61**	**179**	P	**P**	**10 36 17.8**	**-0.4**
MORW	**Morawa**	**35.65**	**197**	P	**P**	**10 36 18.2**	**-0.5**
EIDS	**Eidsvold**	**37.90**	**144**	P	**P**	**10 36 37.4**	**-0.4**
EIDS				IAmb	IAmb	10 36 38.9	
	comp=Z,13nm,1.2s						
HHC	**Hu-ho-hao-te**	**38.44**	**340**	*e*P	**P**	**10 36 44.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,96nm,5.4s						
BBOO	**Buckleboo**	**38.49**	**168**	P	**P**	**10 36 42.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.99**	**194**	P	**P**	**10 36 46.5**	**-0.1**
	comp=Z,17nm,0.8s,baz=3.9,slow=10,SNR=6.5						
NWAO	**Narrogin (SRO)**	**38.99**	**194**	P	**P**	**10 36 46.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**38.99**	**194**	P	**P**	**10 36 46.6**	**-0.1**
STKA	**Stephens Creek**	**39.07**	**161**	P	**P**	**10 36 46.6**	**-0.8**
	comp=Z,5.4nm,0.5s,baz=329,slow=9.3,SNR=17						
STKA				LR	LR	10 54 41.7	
	comp=Z,44nm,18.9s,baz=25,slow=39						
STKA	**Stephens Creek**	**39.07**	**161**	P	**P**	**10 36 46.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**39.21**	**5**	P	**P**	**10 36 49.6**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=211,slow=5.9,SNR=2.0						
SHL	**Shillong**	**39.77**	**305**	P	**P**	**10 36 52.9**	**-0.7**
GTA	**Gaotai**	**42.41**	**328**	*e*P	**P**	**10 37 18.4**	**+3.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LHI	**Lord Howe Isla**	**47.17**	**142**	P	**P**	**10 37 52.7**	**0.0**
TLY	**Talaya**	**50.56**	**341**	P	**P**	**10 38 18.8**	**+0.5**
TLY				IAmb	IAmb	10 38 20.7	
	comp=Z,3.5nm,0.9s						
WMQ	**Urumqi**	**52.13**	**324**	*e*P	**P**	**10 38 32.4**	**+2.1**
PETK	**Petropavlovsk-**	**53.94**	**22**	P	**P**	**10 38 45.3**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=195,slow=2.8,SNR=13						
PETK	**Petropavlovsk-**	**53.94**	**22**	P	**P**	**10 38 44.2**	**+0.9**
YAK	**Yakutsk**	**56.90**	**1**	P	**P**	**10 39 05.0**	**+0.7**
MK31	**Makanchi Array**	**56.96**	**324**	P	**P**	**10 39 05.4**	**+0.3**
MKAR	**Makanchi Array**	**56.96**	**324**	P	**P**	**10 39 06.

RCC				IAML			10 51 39.5	
	comp=N,606nm,0.4s							
LGNH	**Logne**	**2.25**	**127**	*i* P		**Pn**	**10 51 34.0**	**-0.5**
LGNH				IAML			10 52 05.3	
	comp=Z,33nm,0.6s							
LMGC	**Las Mercedes**	**2.36**	**275**	*e*P		**Pn**	**10 51 36.2**	**+0.1**
LMGC				*e*S		**Sn**	**10 52 05.4**	**+0.6**
LMGC				IAML			10 52 10.4	
	comp=N,157nm,0.2s							
LMGC				IAML			10 52 13.2	
	comp=E,190nm,0.4s							
SDDR	**Presa de Saban**	**3.16**	**106**	*e*P		**Pn**	**10 51 46.6**	**-0.6**
SDDR				*e*S		**Sn**	**10 52 22.5**	**-2.1**
SDDR	**Presa de Saban**	**3.16**	**106**	*i* P		**Pn**	**10 51 49.9**	**+2.7**
SDDR				*e*S		**Sn**	**10 52 24.1**	**-0.5**
SDDR				IAML			10 52 51.2	
	comp=Z,66nm,0.6s							
CCCC	**Cccc**	**3.33**	**294**	*e*P		**Pn**	**10 51 46.6**	**-2.8**
CCCC				*e*S		**Sn**	**10 52 25.4**	**-3.3**
CCCC				IAML			10 52 32.6	
	comp=E,38nm,0.8s							
CCCC				IAML			10 52 38.2	
	comp=N,23nm,0.6s							
GRTK	**Grand Turk**	**3.55**	**62**	*e*P		**Pn**	**10 51 53.3**	**+0.8**
SC01	**Santiago de lo**	**3.58**	**97**	*i* P		**Pn**	**10 51 56.2**	**+3.3**

*IDC **19** 10:53:11.2±2.0,8.˚56S×76.˚10W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/22, mbtmp3.7/4, ML2.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=52.9km s-min=27.9km az=64.0*

*VAO **19** 10:53:12.3±1.8,8.˚67S×76.˚12W, h10km, mb4.3*

*NEIC **19** 10:53:18.8±1.4,8.˚245±0.˚06×75.˚96W±0.˚08, h40km±8km, mb4.2/14, Error ellipse: s-maj=12.9km s-min=8.0km az=117.0*

ISC 19 10:53:18.1±0.6,**8.˚23S**±0.˚07×**75.˚9W**±0.˚1,**h35**km,**n52,** σ1§**64**/50,**mb4.2**/8,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.84**	**194**		**Pn**	**10 54 16.0**	**+1.1**
PTLC	**Puerto Leguiza**	**8.42**	**8**	*e*P	Pn	10 55 13.1	-4.7
PUAC	**Puerto Asis, P**	**8.75**	**356**	*e*P	**Pn**	**10 55 21.4**	**-0.9**
OTAV	**Otavalo**	**8.79**	**343**	*e*P	**Pn**	**10 55 24.0**	**+0.8**
OTAV	**Otavalo**	**8.79**	**343**	Pn	**Pn**	**10 55 23.8**	**+0.6**
OTAV	**Otavalo**	**8.79**	**343**	*e*P	**Pn**	**10 55 24.9**	**+1.7**
PAC1	**Pacto, Paraso**	**8.92**	**341**	*e*P	**Pn**	**10 55 26.5**	**+1.7**
ETMB	**Extrema**	**9.70**	**100**	*e*P	**Pn**	**10 55 34.9**	**-0.4**
FLOC	**Florencia**	**9.75**	**1**	*e*P	**Pn**	**10 55 34.8**	**-1.3**
BBAC	**Balboa, Cauca**	**10.27**	**352**	*e*P	**Pn**	**10 55 43.6**	**+0.2**
SOTA	**Rioblanco**	**10.32**	**356**	*e*P	**Pn**	**10 55 45.1**	**+0.8**
GARC	**Garzon, Huila**	**10.36**	**2**	*e*P	**Pn**	**10 55 43.9**	**-0.6**
PCON	**Cinco Dias**	**10.50**	**357**	*e*P	**Pn**	**10 55 47.1**	**+0.3**
MACC	**Macarena, Meta**	**10.51**	**11**	*e*P	**Pn**	**10 55 45.4**	**-1.0**
POPC	**Popayan, Colom**	**10.73**	**356**	*e*P	**Pn**	**10 55 49.1**	**-0.6**
LPAZ	**La Paz**	**11.03**	**137**	Pn	Pn	10 55 48.6	-5.5
	0.1nm,0.3s,baz=277,slow=8.1,SNR=1.8							
LPAZ				Lg	Lg	10 58 50.2		
	0.1nm,0.3s,baz=38,slow=19,SNR=1.8							
LPAZ	**La Paz**	**11.03**	**137**	Pn	**Pn**	**10 55 55.3**	**+1.1**
PB16	**IPOC Station P**	**11.81**	**149**	Pn	**Pn**	**10 56 05.1**	**+0.4**
PRAC	**Prado**	**11.91**	**5**	*e*P	**Pn**	**10 56 08.9**	**+3.3**
ORTC	**Ortega, Tolima**	**12.08**	**3**	*e*P	**Pn**	**10 56 07.0**	**-1.0**
VILC	**Villavicencio,**	**12.46**	**10**	*e*P	**Pn**	**10 56 13.6**	**+0.4**
SAML	**Samuel**	**12.60**	**94**	Pn	**Pn**	**10 56 14.2**	**-0.9**
SAML	**Samuel**	**12.60**	**94**	*e*P	**Pn**	**10 56 14.0**	**-1.0**
TOLC	**Tolima**	**12.75**	**3**	*e*P	**P**	**10 56 27.9**	**-0.1**
CHIC	**Chingaza**	**12.96**	**10**	*e*P	**Pn**	**10 56 19.1**	**-1.3**
ROSC	**El Rosal**	**13.08**	**7**	Pn	**Pn**	**10 56 22.1**	**+0.1**
	0.6nm,0.3s,baz=60,slow=20,SNR=1.3							
ROSC				Sn	Sn	10 58 57.2	+11	
	1.6nm,0.3s,baz=183,slow=22,SNR=1.9							
ROSC				Lg	Lg	11 00 17.3		
	0.8nm,0.3s,baz=53,slow=22,SNR=1.2							
ROSC				LR	LR	11 02 52.0		
	comp=Z,110nm,19.9s,baz=236,slow=43							
RUSC	**La Rusia**	**14.31**	**11**	*e*P	**Pn**	**10 56 38.5**	**-0.3**
PB07	**IPOC Station P**	**14.62**	**157**	P	**P**	**10 56 49.5**	**+0.9**
ZARC	**Zaragoza, Cauc**	**15.65**	**4**	*e*P	**P**	**10 57 01.3**	**+1.2**
MOTC	**Monteria, Cord**	**16.90**	**1**	*e*P	**Pn**	**10 57 13.5**	**+1.4**
PTGA	**Pitinga**	**17.54**	**66**	P	**P**	**10 57 22.2**	**+1.3**
SDV	**Santo Domingo**	**17.80**	**17**	P	**Pn**	**10 57 24.1**	**+0.6**
SDV	**Santo Domingo**	**17.80**	**17**	*e*P	**P**	**10 57 25.0**	**+1.0**
NPGB	**Novo Progresso**	**20.40**	**88**	*e*P	**P**	**10 57 49.8**	**-2.5**
ITTB	**Itaituba**	**20.41**	**80**	*e*P	**P**	**10 57 53.6**	**+1.2**
MCPB	**Macapa, AP**	**25.02**	**73**	*e*P	**P**	**10 58 40.9**	**+1.8**
MPR	**Mayaguez**	**27.66**	**18**	P	**P**	**10 59 04.3**	**+1.4**
PDPR	**Patillas Dam,**	**27.85**	**20**	P	**P**	**10 59 04.8**	**+0.2**
SJG	**San Juan**	**27.89**	**20**	P	**P**	**10 59 05.6**	**+0.7**
SJG				IAmb	IAmb	10 59 05.7		
	comp=Z,6.6nm,0.8s							
CBYP	**Canovanas**	**28.14**	**21**	P	**P**	**10 59 07.7**	**+0.4**
CBYP				IAmb	IAmb	10 59 10.9		
	comp=Z,5.4nm,0.7s							
T57A	**Hurt**	**45.10**	**356**	P	**P**	**11 01 31.5**	**+0.5**
TXAR	**Lajitas Array**	**45.93**	**326**	P	**P**	**11 01 37.3**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=149,slow=8.4,SNR=6.4							
TX31	**Lajitas Ar. Si**	**45.94**	**326**	P	**P**	**11 01 37.2**	**-0.7**
TX32	**Lajitas Array**	**45.94**	**326**	P	**P**	**11 01 37.4**	**-0.5**
TX32				IAmb	IAmb	11 01 45.9		
	comp=Z,3.0nm,1.5s							
SDCO	**Great Sand Dun**	**53.45**	**331**	P	**P**	**11 02 34.7**	**-0.5**
SDCO				IAmb	IAmb	11 02 44.9		
	comp=Z,3.2nm,1.2s							
RLMT	**Red Lodge**	**61.00**	**334**	P	**P**	**11 03 27.8**	**-0.5**
RLMT				IAmb	IAmb	11 03 44.3		
	comp=Z,3.9nm,1.4s							
YHL	**Hebgen Lake**	**61.65**	**332**	P	**P**	**11 03 33.4**	**+0.5**
SNAA	**Sanae**	**76.93**	**162**	P	**P**	**11 05 06.7**	**-0.1**
SNAA				IAmb	IAmb	11 05 12.4		
	comp=Z,2.4nm,1.1s							
TORD	**Torodi Ar. Bea**	**79.93**	**75**	P	**P**	**11 05 24.8**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=271,slow=3.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**79.93**	**75**	P	**P**	**11 05 25.2**	**+1.0**
AS31	**Alice Springs**	**136.94**	**222**	PKPdf	**PKPdf**	**11 12 32.6**	**-5.6**
ASAR	**Alice Springs**	**136.94**	**222**	PKPdf	**PKPdf**	**11 12 31.9**	**-6.3**

*TAP **19** 10:57:44.0,25.˚68N×122.˚24E, h281km±1km, ML3.3, D*

*JMA **19** 10:57:47.2±0.2,25.˚41N×122.˚16E, h256km±3km, M3.5*

ISC 19 10:57:47.4±2.6,**25.˚4N**±0.˚1×**122.˚2E**±0.˚05,**h260**km±14km, **n45,** σ0§**57**/86,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.28**	**331**	*e*P	**Pn**	**10 58 21.6**	**+0.7**
	baz=263						
PCYT				*e*S	**S**	**10 58 47.0**	**-0.4**
	baz=263						
TIPB	**Shuangxi**	**0.55**	**221**	*e*P	**Pn**	**10 58 21.5**	**-0.2**
	baz=216						
TIPB				*e*S	**S**	**10 58 49.1**	**+0.4**
	baz=216						
TWE	**Neicheng**	**0.83**	**217**	*e*P	**Pn**	**10 58 22.2**	**-0.6**
	baz=206						
TWE				*e*S	**S**	**10 58 50.9**	**+0.4**
	baz=206						
TWC	**Suao**	**0.84**	**203**	*e*P	**Pn**	**10 58 22.7**	**-0.1**
	baz=191						
TWC				*e*S	**S**	**10 58 50.0**	**-0.7**
	baz=191						
ENTT	**Nioudou**	**0.95**	**219**	*i* P	**Pn**	**10 58 23.1**	**-0.3**
	baz=218						
ENTT				*i* S	**S**	**10 58 52.0**	**+0.3**
	baz=218						
NDT	**Datong Townshi**	**1.01**	**219**	P	**Pn**	**10 58 23.2**	**-0.4**
	baz=220						
NDT				*e*S	**S**	**10 58 52.8**	**+0.6**
	baz=220						
YHNB	**Yeheng**	**1.05**	**227**	P	**Pn**	**10 58 22.9**	**-1.0**
	baz=224						
YHNB				*e*S	**S**	**10 58 52.2**	**-0.4**
	baz=224						
ENA	**Nanau**	**1.05**	**205**	*i* P	**Pn**	**10 58 24.6**	**+0.7**
	baz=199						
ENA				S	**S**	**10 58 53.4**	**+0.8**
	baz=199						
NSK	**Sanguang**	**1.05**	**228**	*i* P	**Pn**	**10 58 23.1**	**-0.9**
	baz=225						
NSK				*e*S	**S**	**10 58 52.2**	**-0.5**
	baz=225						
JYNG	**Yonagunijimaku**	**1.14**	**145**	P	**Pn**	**10 58 24.1**	**-0.3**
JYNG				*e*S	**S**	**10 58 53.6**	**+0.1**
NNS	**Nan Shan**	**1.22**	**219**	*i* P	**Pn**	**10 58 24.6**	**-0.3**
	baz=215						
NNS				*e*S	**S**	**10 58 55.1**	**+0.5**
	baz=215						
NNSB	**Datong**	**1.22**	**219**	P	**Pn**	**10 58 24.7**	**-0.3**
	baz=215						
NNSB				*e*S	**S**	**10 58 54.9**	**+0.3**
	baz=215						
NNSH	**Datong**	**1.22**	**219**	P	**Pn**	**10 58 24.5**	**-0.5**
	baz=214						
NNSH				*e*S	**S**	**10 58 54.8**	**+0.2**
	baz=214						
LIOB	**Emei**	**1.32**	**236**	*i* P	**Pn**	**10 58 25.2**	**-0.3**
	baz=224						
NACB	**Ninganchiao**	**1.33**	**205**	P	**Pn**	**10 58 24.6**	**-1.0**
	baz=201						
NACB				*e*S	**S**	**10 58 56.4**	**+0.6**
	baz=201						
NSTT	**Nanjuang**	**1.34**	**236**	*i* P	**Pn**	**10 58 25.2**	**-0.3**
	baz=224						
NSTT				*e*S	**S**	**10 58 56.3**	**+0.6**
	baz=224						
ETLH	**Xiulin Townshi**	**1.35**	**210**	*e*P	**Pn**	**10 58 25.0**	**-0.9**
	baz=211						
ETLH				*e*S	**S**	**10 58 56.5**	**+0.4**
	baz=211						
FUSS	**Fushou**	**1.44**	**218**	P	**Pn**	**10 58 26.7**	**+0.1**
	baz=216						
FUSS				S	**S**	**10 58 57.9**	**+0.4**
	baz=216						
WHF	**Hehuan Shan**	**1.51**	**215**	*i* P	**Pn**	**10 58 27.4**	**0.0**
	baz=208						
WHF				S	**S**	**10 58 59.0**	**+0.2**
	baz=208						
WHP	**Taichung City**	**1.60**	**227**	*i* P	**Pn**	**10 58 27.5**	**-0.1**
	baz=213						
CHGB	**Renai**	**1.63**	**216**	P	**Pn**	**10 58 28.0**	**0.0**
	baz=211						
CHGB				S	**S**	**10 59 00.5**	**+0.6**
	baz=211						
ESL	**Shilin**	**1.72**	**205**	P	**Pn**	**10 58 27.6**	**-0.9**
	baz=201						
ESL				*e*S	**S**	**10 59 00.9**	**0.0**
	baz=201						
IRIF	**Iriomote-Funau**	**1.73**	**127**	P	**Pn**	**10 58 28.6**	**+0.1**
IRIF				S	**S**	**10 59 00.7**	**-0.2**
VWDT	**VWDT**	**1.90**	**211**	*e*P	**Pn**	**10 58 30.7**	**+0.8**
	baz=213						
VWDT				*e*S	**S**	**10 59 04.8**	**+1.4**
	baz=213						
HATJ	**Hateruma jima**	**1.96**	**132**	S	**S**	**10 59 04.3**	**-0.1**
SSLB	**Suanglung**	**1.96**	**216**	P	**Pn**	**10 58 29.9**	**-0.7**
	baz=216						
SSLB				*e*S	**S**	**10 59 04.1**	**-0.5**
	baz=216						
JKRS	**Kuro-shima**	**1.99**	**125**	P	**Pn**	**10 58 31.2**	**+0.5**
JKRS				S	**S**	**10 59 05.2**	**+0.4**
HGSD	**Ruisui**	**2.02**	**201**	*e*P	**Pn**	**10 58 30.8**	**-0.2**
	baz=201						
HGSD				*e*S	**S**	**10 59 06.8**	**+1.4**
	baz=201						
JIJ	**Ishigaki jima**	**2.02**	**120**	P	**Pn**	**10 58 30.9**	**-0.1**
JIJ				S	**S**	**10 59 04.5**	**-0.9**
EHY	**Hungye**	**2.04**	**204**	*e*P	**Pn**	**10 58 30.9**	**-0.4**
	baz=199						
EHY				*e*S	**S**	**10 59 06.1**	**+0.3**
	baz=199						
JISG	**Ishigakijimahi**	**2.06**	**112**	P	**Pn**	**10 58 31.2**	**-0.1**
JISG				S	**S**	**10 59 05.4**	**-0.5**
YULB	**Yu-li**	**2.16**	**203**	*e*P	**Pn**	**10 58 31.3**	**-0.9**
	baz=200						
YULB				*e*S	**S**	**10 59 07.3**	**-0.4**
	baz=200						
EYUL	**Yuli**	**2.19**	**202**	*e*P	**Pn**	**10 58 32.7**	**+0.2**
	baz=201						
EYUL				*e*S	**S**	**10 59 07.7**	**-0.5**
	baz=201						
TWF1	**Yuli**	**2.19**	**203**	*e*P	**Pn**	**10 58 32.4**	**-0.2**
	baz=201						
CHN5	**Tsauling**	**2.27**	**219**	*i* P	**Pn**	**10 58 32.8**	**-0.5**
	baz=214						
CHN5				S	**S**	**10 59 09.7**	**0.0**
	baz=214						
FULB	**Fuli**	**2.34**	**201**	P	**Pn**	**10 58 33.9**	**-0.1**
	baz=201						
FULB				*e*S	**S**	**10 59 11.3**	**+0.6**
	baz=201						
JTJ	**Tarama**	**2.37**	**108**	P	**Pn**	**10 58 34.7**	**+0.5**
JTJ				S	**S**	**10 59 11.0**	**-0.1**
TWK	**Hsinying**	**2.64**	**217**	*e*P	**Pn**	**10 58 36.5**	**-0.4**
	baz=213						
TWK				*e*S	**S**	**10 59 16.1**	**0.0**
	baz=213						
CHN1	**Nanshi**	**2.68**	**215**	*e*P	**Pn**	**10 58 37.5**	**+0.2**
	baz=214						
CHN1				*e*S	**S**	**10 59 17.1**	**+0.3**
	baz=214						
JIRB	**Irabujima**	**2.74**	**101**	P	**Pn**	**10 58 38.0**	**+0.2**
JIRB				S	**S**	**10 59 16.3**	**-1.4**
SLGT	**Liugui**	**2.78**	**211**	*e*P	**Pn**	**10 58 38.0**	**-0.4**
	baz=214						
SLGT				*e*S	**S**	**10 59 19.2**	**+0.5**
	baz=214						
JIKM	**Ikemajima**	**2.78**	**99**	P	**Pn**	**10 58 38.8**	**+0.5**
JIKM				S	**S**	**10 59 17.1**	**-1.4**
JMJ2	**Miyako jima3**	**2.89**	**102**	P	**Pn**	**10 58 40.0**	**+0.6**
JMJ2				S	**S**	**10 59 20.7**	**+0.1**
JOGS	**Gusukube**	**2.96**	**102**	P	**Pn**	**10 58 40.9**	**+0.8**
JOGS				S	**S**	**10 59 22.2**	**+0.4**
MASBT	**Mashibuluo**	**3.12**	**208**	*e*P	**Pn**	**10 58 41.4**	**-0.5**
	baz=200						
MASBT				S	**S**	**10 59 24.9**	**-0.2**
	baz=200						

*IDC **19** 11:08:09.5±0.9,41.˚13S×80.˚67E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/45, mbtmp3.9/9, MS3.7/7, Ms1 3.7/7, ms1mx3.3/41, Error ellipse: s-maj=31.9km s-min=21.1km az=118.0*

*NEIC **19** 11:08:12.0±2.4,41.˚2S±0.˚1×80.˚7E±0.˚2, h10km±1km, mb4.2/8, Error ellipse: s-maj=23.9km s-min=19.4km az=254.0*

ISC 19 11:08:11.8±0.6,**41.˚1S**±0.˚1×**80.˚7E**±0.˚1,**h11**km,**n33,** σ1§**02**/25,**mb4.1**/9,**MS3.7**/7,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**4.11**	**323**	Pn	**Pn**	**11 09 14.2**	**-0.3**
H01W2	**Cape Leeuwin H**	**26.97**	**88**	T	T	11 41 47.7	
	baz=246,slow=74,SNR=26						
H01W3	**Cape Leeuwin H**	**26.98**	**88**	T	T	11 41 46.5	
	baz=246,slow=74,SNR=24						
H01W1	**Cape Leeuwin H**	**26.99**	**88**	T	T	11 41 47.3	
	baz=246,slow=74,SNR=34						
MAW	**Mawson**	**28.25**	**194**	P	**P**	**11 14 03.8**	**-0.7**
	3.5nm,0.9s,baz=46,slow=6.6,SNR=9.0						
MAW				LR	LR	11 23 05.3	
	comp=Z,80nm,20.4s,baz=58,slow=32						
MAW	**Mawson**	**28.25**	**194**	P	**P**	**11 14 04.6**	**+0.1**
NWAO	**Narrogin (SRO)**	**30.14**	**86**	LR	LR	11 23 58.9	
	comp=Z,49nm,19.2s,baz=62,slow=32						
FORT	**Forrest**	**39.30**	**90**	P	**P**	**11 15 41.1**	**+0.4**
BOSA	**Boshof**	**46.44**	**267**	LR	LR	11 32 36.2	
	comp=Z,84nm,18.5s,baz=135,slow=32						
ASAR	**Alice Springs**	**47.45**	**85**	P	**P**	**11 16 46.5**	**-0.2**
	0.5nm,1.0s,baz=300,slow=33,SNR=2.7						
ASAR	**Alice Springs**	**47.45**	**85**	P	**P**	**11 16 48.7**	**+2.0**
VNDA	**Vanda**	**48.33**	**163**	LR	LR	11 35 57.9	
	comp=Z,167nm,18.0s,baz=222,slow=34						
STKA	**Stephens Creek**	**48.95**	**100**	P	**P**	**11 16 56.9**	**-1.2**
	3.1nm,1.0s,baz=283,slow=5.7,SNR=4.5						
STKA	**Stephens Creek**	**48.95**	**100**	P	**P**	**11 16 56.6**	**-1.5**
STKA				IAmb	IAmb	11 16 58.8	
	comp=Z,2.1nm,1.1s						
QSPA	**South Pole Qui**	**49.02**	**180**	P	**P**	**11 16 58.5**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=284,slow=6.2,SNR=3.8						
QSPA	**South Pole Qui**	**49.02**	**180**	P	**P**	**11 16 58.6**	**+0.2**
QSPA				IAmb	IAmb	11 17 01.9	
	comp=Z,3.4nm,1.1s						
SNAA	**Sanae**	**49.56**	**204**	P	**P**	**11 17 01.9**	**-0.4**
SNAA	**Sanae**	**49.56**	**204**	P	**P**	**11 17 01.2**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=68,slow=5.2,SNR=4.1						
SNAA	**Sanae**	**49.56**	**204**	P	**P**	**11 17 04.1**	**+1.8**
SNAA				IAmb	IAmb	11 17 06.4	
	comp=Z,3.7nm,1.3s						
WRA	**Warramunga Arr**	**49.97**	**82**	P	**P**	**11 17 05.4**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=232,slow=7.7,SNR=3.1						
WRA	**Warramunga Arr**	**49.97**	**82**	P	**P**	**11 17 05.5**	**-0.5**
VNA2	**Neumayer--Watz**	**51.15**	**205**	P	**P**	**11 17 14.5**	**+0.3**
	baz=97,slow=8.0						
VNA3	**Neumayer Olymp**	**51.79**	**204**	P	**P**	**11 17 18.9**	**-0.1**
BELA	**Belgrano 2**	**55.09**	**193**	P	**P**	**11 17 43.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**61.66**	**20**	P	**P**	**11 18 29.1**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=208,slow=7.1,SNR=8.3						
CMAR				LR	LR	11 40 30.6	
	comp=Z,57nm,20.7s,baz=326,slow=32						
CMAR	**Chiang Mai Arr**	**61.66**	**20**	P	**P**	**11 18 31.7**	**+2.0**
MKAR	**Makanchi Array**	**87.56**	**1**	P	**P**	**11 20 58.2**	**-1.1**
	comp=Z,1.5nm,1.1s,baz=156,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**87.56**	**1**	P	**P**	**11 21 00.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**90.43**	**287**	P	**P**	**11 21 13.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=190,slow=36,SNR=2.9						
TORD	**Torodi Ar. Bea**	**90.43**	**287**	P	**P**	**11 21 12.9**	**-0.7**
DBIC	**Dimbokro**	**90.98**	**278**	LR	LR	11 55 00.7	
	comp=Z,46nm,20.4s,baz=289,slow=31						
ZALV	**Zalesovo Beam**	**94.78**	**2**	LR	LR	12 03 14.9	
	comp=Z,36nm,18.3s,baz=292,slow=35						
YKA	**Yellowknife Ar**	**156.74**	**18**	PKP	**PKPdf**	**11 28 07.2**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=333,slow=2.7,SNR=2.4						

*BJI **19** 11:14:47.9±0.0,0.˚96N×146.˚53E, h11km, mB4.9/24, mb4.8/36, Ms4.5/6, Ms7 4.2/6*

*IDC **19** 11:14:48.2±0.5,0.˚75N×146.˚32E, h0km, mb4.5/23, mb1 4.7/26, mb1mx4.6/41, mbtmp4.5/26, ML2.5/2, MS3.6/19, Ms1 3.6/19, ms1mx3.4/47, Error ellipse: s-maj=18.4km s-min=11.0km az=85.0*

*NEIC **19** 11:14:50.9±2.1,0.˚74N±0.˚08×146.˚23E±0.˚05, h16km±3km, mb4.9/74, Error ellipse: s-maj=11.2km s-min=7.4km az=173.0*

*DJA **19** 11:14:58.0±0.6,1.˚N±4.˚×14.˚6E±.˚, h67km±6km, M4.7/25, mb4.7/25, mB5.2/5, MLv4.8/2, Mw(mB)4.6/5*

ISC 19 11:14:50.7±1.3,**0.˚77N**±0.˚05×**146.˚35E**±0.˚06,**h16**km±8km, **n174,** σ1§**24**/169,**mb4.8**/62,**MS3.7**/16,**Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.51**	**240**	Pn	**Pn**	**11 16 23.1**	**-3.0**
	0.9nm,0.3s,baz=256,slow=1.7,SNR=2.1						
JAY				Sn	Sn	11 17 30.0	-10
	7.2nm,0.3s,baz=83,slow=22,SNR=4.1						
JAY				LR	LR	11 18 30.2	
	comp=Z,910nm,20.4s,baz=1.5,slow=34						
JAY	**Jayapura**	**6.51**	**240**	P	**Pn**	**11 16 29.3**	**+3.2**
	0.1nm15nm,1.2s						
GENI	**Genyem**	**7.02**	**242**	P	**Pn**	**11 16 34.2**	**+1.2**
	0.8nm5µm65nm,0.5s						
KRVT	**Keravat (AS076**	**7.59**	**132**	Pn	**Pn**	**11 16 38.9**	**-2.0**
	baz=328,slow=19,SNR=1.9						
RABL	**Rabaul**	**7.62**	**130**	Pn	**Pn**	**11 16 41.2**	**0.0**
WAMI	**Wamena**	**8.92**	**239**	P	**Pn**	**11 17 02.4**	**+3.3**
	99nm,0.9s						
PMG	**Port Moresby**	**10.14**	**175**	Pn	**Pn**	**11 17 13.1**	**-2.7**
	0.4nm,0.3s,baz=178,slow=16,SNR=2.6						
PMG				LR	LR	11 21 03.1	
	comp=Z,639nm,18.9s,baz=355,slow=37						
PMG	**Port Moresby**	**10.14**	**175**		**Pn**	**11 17 12.7**	**-3.1**
GUMO	**Guam**	**12.82**	**354**	LR	LR	11 22 58.7	
	comp=Z,135nm,18.3s,baz=200,slow=38						
PATS	**Pohnpei**	**13.37**	**63**		**Pn**	**11 17 59.4**	**-0.6**
FAKI	**Fak Fak**	**14.56**	**255**		**P**	**11 18 21.7**	**-1.0**
COEN	**Coen**	**14.96**	**192**		**Pn**	**11 18 24.2**	**+2.4**
SIJI	**Sorong**	**15.17**	**264**	Pn	**Pn**	**11 18 26.8**	**+2.3**
	0.5nm,0.3s,baz=59,slow=14,SNR=4.0						
HNR	**Honiara**	**16.91**	**127**	LR	LR	11 24 54.3	
	comp=Z,65nm,20.4s,baz=319,slow=36						
HNR	**Honiara**	**16.91**	**127**	Pn	**Pn**	**11 18 47.2**	**+0.2**
HNR				IAmb	IAmb	11 18 49.4	
	comp=Z,159nm,1.3s						
MTN	**Manton Dam**	**20.27**	**228**	P	**P**	**11 19 25.7**	**-0.1**
MTN				IAmb	IAmb	11 19 27.5	
	comp=Z,87nm,1.5s						
SANI	**Sanana**	**20.55**	**262**	P	**P**	**11 19 26.9**	**-2.0**
	comp=Z,720nmcomp=Z,20nm,1.4s						
CTA	**Charters Tower**	**20.73**	**180**	P	**P**	**11 19 30.9**	**+0.2**
	comp=Z,17nm,0.9s,baz=351,slow=12,SNR=8.3						
CTAO	**Charters Tower**	**20.73**	**180**	P	Pn	11 19 32.2	-1.0
GTOI	**Gorontalo**	**23.33**	**270**	P	**P**	**11 19 59.4**	**+0.8**
	comp=Z,412nmcomp=Z,33nm,0.9s						
WB0	**Warramunga Arr**	**23.53**	**209**	P	**P**	**11 19 58.5**	**-2.0**
WB0				IAmb	IAmb	11 20 01.5	
	comp=Z,28nm,0.9s						
WR0	**Warramunga Arr**	**23.63**	**209**	P	**P**	**11 20 00.4**	**-1.0**
WR0				IAmb	IAmb	11 20 02.1	
	comp=Z,30nm,0.7s						
LUWI	**Luwuk**	**23.64**	**266**	P	**P**	**11 20 01.6**	**0.0**
	comp=Z,121nm,1.1s						
LUWI	**Luwuk**	**23.64**	**266**	P	**P**	**11 20 02.3**	**+0.7**
WRAB	**Tennant Creek**	**23.70**	**209**	P	**P**	**11 20 00.6**	**-1.5**
WRAB				IAmb	IAmb	11 20 02.8	
	comp=Z,43nm,0.7s						
WB2	**Warramunga Arr**	**23.70**	**209**	P	**P**	**11 20 01.1**	**-1.0**
WB2				IAmb	IAmb	11 20

KSM					IAmb	IAmb	11 21 52.4			
	comp=Z,28nm,1.2s									
MSVF	**Nonsavu**	**36.22**	**122**		P	**P**	**11 21 56.4**	**+3.0**		
MJAR	**Matsushiro Arr**	**36.39**	**349**		PcP	**PcP**	**11 24 18.8**	**0.0**		
	comp=Z,2.1nm,1.1s,baz=176,slow=4.9,SNR=4.2									
MJAR					LR	LR	11 35 48.2			
	comp=Z,37nm,18.8s,baz=200,slow=35									
MJB9	**Matsu-Tunnel**	**36.39**	**349**		P	**P**	**11 21 55.6**	**+1.1**		
GIRL	**Giralia**	**38.98**	**231**		P	**P**	**11 22 18.1**	**+1.5**		
LEM	**Lembang**	**39.37**	**258**		LR	LR	11 39 36.7			
	comp=Z,46nm,19.0s,baz=118,slow=38									
KSRS	**Korea Array**	**40.27**	**337**		P	**P**	**11 22 26.7**	**-0.4**		
	comp=Z,2.0nm,0.8s,baz=158,slow=8.2,SNR=7.0									
KSRS					PcP	**PcP**	**11 24 32.5**	**+1.8**		
	comp=Z,0.7nm,0.7s,baz=116,slow=2.9,SNR=4.4									
KSRS					LR	LR	11 37 08.1			
	comp=Z,59nm,20.1s,baz=140,slow=33									
KSAR	**Wonju Array Be**	**40.27**	**337**		P	**P**	**11 22 26.8**	**-0.3**		
NJ2	**Nanjing**	**40.52**	**323**		*eP*	**P**	**11 22 29.3**	**+0.1**		
NJ2					pmax	pmax				
	comp=Z,9.0nm,0.5s									
USA0B	**Ussuriysk Arra**	**45.09**	**345**		P	**P**	**11 23 07.1**	**+0.9**		
USRK	**Ussuriysk Ar.**	**45.09**	**345**		P	**P**	**11 23 06.6**	**+0.4**		
	comp=Z,2.7nm,0.7s,baz=162,slow=7.8,SNR=4.7									
USRK	**Ussuriysk Ar.**	**45.09**	**345**		P	**P**	**11 23 06.1**	**0.0**		
IPM	**Ipoh**	**45.41**	**275**		P	**P**	**11 23 08.5**	**-0.8**		
IPM					IAmb	IAmb	11 23 10.7			
	comp=Z,28nm,1.5s									
KULM	**Kulim**	**45.84**	**277**		P	**P**	**11 23 12.0**	**-0.6**		
GYA	**Guiyang**	**45.91**	**307**		*eP*	**P**	**11 23 14.6**	**+1.4**		
GYA					pmax	pmax				
	comp=Z,10.0nm,1.0s									
RPSI	**Rantau Prapat**	**47.44**	**273**		P	**P**	**11 23 24.5**	**-0.6**		
XAN	**Xi'an**	**48.18**	**317**		P	**P**	**11 23 30.1**	**-0.6**		
XAN					pmax	pmax				
	comp=Z,11nm,1.3s									
XAN					pmax	pmax				
	comp=Z,130nm,5.7s									
XAN	**Xi'an**	**48.18**	**317**		P	**P**	**11 23 29.6**	**-1.1**		
XAN					IAmb	IAmb	11 23 31.4			
	comp=Z,14nm,1.2s									
BKZ	**Black Stump Fm**	**48.41**	**149**		P	**P**	**11 23 32.7**	**+0.3**		
BKZ					IAmb	IAmb	11 23 46.1			
	comp=Z,15nm,1.4s									
GSI	**Gununguitoli**	**48.77**	**271**		P	**P**	**11 23 33.7**	**-1.8**		
TUWZ	**Tuamarina**	**48.88**	**152**		P	**P**	**11 23 36.9**	**+1.0**		
BSWZ	**Blackbirch Sta**	**49.08**	**153**		P	**P**	**11 23 38.6**	**+1.3**		
SNZO	**South Karori**	**49.15**	**152**		P	**P**	**11 23 38.8**	**+1.0**		
MSWZ	**Moikau Station**	**49.49**	**151**		P	**P**	**11 23 41.7**	**+1.2**		
RPZ	**Rata Peaks**	**49.50**	**157**		P	**P**	**11 23 40.8**	**+0.2**		
	comp=Z,12nm,0.7s,baz=12,slow=4.2,SNR=5.6									
RPZ	**Rata Peaks**	**49.50**	**157**		P	**P**	**11 23 41.2**	**+0.7**		
RPZ					IAmb	IAmb	11 23 44.2			
	comp=Z,16nm,0.9s									
CM31	**Chiang Mai Arr**	**49.72**	**294**		P	**P**	**11 23 43.5**	**+0.9**		
CM31					IAmb	IAmb	11 23 44.9			
	comp=Z,15nm,0.9s									
CMAR	**Chiang Mai Arr**	**49.72**	**294**		P	**P**	**11 23 43.9**	**+1.2**		
	comp=Z,8.4nm,0.8s,baz=112,slow=5.7,SNR=50									
CMAR	**Chiang Mai Arr**	**49.72**	**294**		P	**P**	**11 23 43.4**	**+0.8**		
CHTO	**Chiang Mai**	**49.81**	**294**		P	**P**	**11 23 43.8**	**+0.5**		
CD2	**Chengdu**	**50.24**	**311**		*eP*	**P**	**11 23 45.0**	**-1.5**		
HHC	**Hu-ho-hao-te**	**50.83**	**326**		*eP*	**P**	**11 23 50.1**	**-0.7**		
HHC					pmax	pmax				
	comp=Z,13nm,1.0s									
HHC					pmax	pmax				
	comp=Z,67nm,5.3s									
LZH	**Lanzhou**	**52.78**	**317**		*eP*	**P**	**11 24 01.9**	**-3.6**		
LZH					pP	pP	11 24 07.0	-2.1		
LZH					sP	sP	11 24 10.3	-0.2		
LZH					pmax	pmax				
	comp=Z,12nm,1.1s									
PETK	**Petropavlovsk-**	**53.01**	**9**		P	**P**	**11 24 06.9**	**+0.1**		
	comp=Z,3.1nm,0.8s,baz=150,slow=3.3,SNR=5.2									
PETK					LR	LR	11 42 32.6			
	comp=Z,88nm,21.9s,baz=147,slow=31									
PETK	**Petropavlovsk-**	**53.01**	**9**		P	**P**	**11 24 07.5**	**+0.8**		
PETK					PcP	**PcP**	**11 25 15.7**	**+0.4**		
GTA	**Gaotai**	**57.23**	**318**		P	**P**	**11 24 38.3**	**+0.7**		
GTA					pP	sP	11 24 43.3	+0.7		
GTA					sP	pwP	11 24 46.6	-0.4		
GTA					pmax	pmax				
	comp=Z,10.0nm,1.0s									
GTA					pmax	pmax				
	comp=Z,46nm,5.1s									
GTA					LR	LR				
	comp=Z,59nm,17.8s									
GTA					LR	LR				
	comp=Z,64nm,16.7s									
GTA					LR	LR				
	comp=Z,70nm,17.4s									
ULN	**Ulaanbaatar**	**57.93**	**330**		P	**P**	**11 24 43.6**	**+1.1**		
ULN					IAmb	IAmb	11 24 44.3			
	comp=Z,13nm,1.4s									
SHL	**Shillong**	**57.95**	**300**		P	**P**	**11 24 42.7**	**-0.3**		
SONM	**Songino Array**	**58.25**	**329**		P	**P**	**11 24 45.5**	**+0.9**		
	comp=Z,3.2nm,0.9s,baz=141,slow=8.4,SNR=7.4									
SONM					LR	LR	11 49 36.4			
	comp=Z,48nm,19.2s,baz=18,slow=36									
SONM	**Songino Array**	**58.25**	**329**		P	**P**	**11 24 45.5**	**+0.9**		
LSA	**Lhasa**	**59.79**	**304**		P	**P**	**11 24 56.3**	**+0.1**		
LSA					IAmb	IAmb	11 24 58.1			
	comp=Z,10nm,1.1s									
YAK	**Yakutsk**	**62.40**	**351**		LR	LR	11 52 16.6			
	comp=Z,35nm,19.1s,baz=59,slow=36									
WMQ	**Urumqi**	**67.31**	**318**		*eP*	**P**	**11 25 45.8**	**+0.7**		
WMQ					pmax	pmax				
	comp=Z,15nm,0.8s									
WMQ					pmax	pmax				
	comp=Z,83nm,4.1s									
MK31	**Makanchi Array**	**71.93**	**319**		P	**P**	**11 26 13.4**	**0.0**		
MKAR	**Makanchi Array**	**71.93**	**319**		P	**P**	**11 26 13.7**	**+0.2**		
	comp=Z,3.5nm,0.7s,baz=99,slow=7.5,SNR=22									
MKAR	**Makanchi Array**	**71.93**	**319**		P	**P**	**11 26 13.6**	**+0.1**		
MAKZ	**Makanchi**	**72.14**	**319**		P	**P**	**11 26 14.7**	**-0.1**		
MAKZ					IAmb	IAmb	11 26 15.4			
	comp=Z,6.6nm,0.7s									
SHLS	**Shalkode**	**72.76**	**315**		*eP*	**P**	**11 26 16.2**	**-2.5**		
ZAA0	**Zalesovo Array**	**72.99**	**327**		P	**P**	**11 26 18.4**	**-1.2**		
ZALV	**Zalesovo Beam**	**72.99**	**327**		P	**P**	**11 26 18.4**	**-1.2**		
	comp=Z,2.3nm,0.6s,baz=106,slow=6.5,SNR=9.4									
UZB	**Uzynbulak**	**73.07**	**315**		*eP*	**P**	**11 26 19.7**	**-0.8**		
PRZ	**Przheval'sk**	**73.34**	**314**		P	**P**	**11 26 23.5**	**+1.3**		
SATY	**Saty**	**73.48**	**315**		*eP*	**P**	**11 26 22.4**	**-0.5**		
KDJ	**Kajisay**	**74.13**	**314**		P	**P**	**11 26 26.7**	**-0.1**		
MDOK	**Medeo**	**74.47**	**315**		*eP*	**P**	**11 26 27.6**	**-1.2**		
TNSS	**Tian-Shan**	**74.51**	**315**		*eP*	**P**	**11 26 28.9**	**-0.5**		
BOOM	**Boomskoye usch**	**75.11**	**314**		P	**P**	**11 26 32.8**	**+0.3**		
TTA	**Tatalina**	**75.13**	**24**		P	**P**	**11 26 31.8**	**-0.2**		
TTA					IAmb	IAmb	11 26 42.3			
	comp=Z,12nm,1.0s									
KUU	**Kurty**	**75.15**	**315**		*eP*	**P**	**11 26 31.2**	**-1.3**		
KURK	**Kurchatov**	**75.45**	**323**		P	**P**	**11 26 33.7**	**-0.4**		
KURK					IAmb	IAmb	11 26 34.8			
	comp=Z,8.5nm,0.8s									
NIL	**Nilore**	**75.53**	**304**		P	**P**	**11 26 35.5**	**+0.5**		
BTLS	**Baital**	**77.00**	**316**		*eP*	**P**	**11 26 42.3**	**-0.7**		
IMAR	**Indian Mountai**	**77.45**	**21**		P	**P**	**11 26 45.6**	**+0.5**		
KNK	**Knik Glacier**	**77.68**	**27**		P	**P**	**11 26 47.3**	**+0.8**		
KNK					IAmb	IAmb	11 26 57.4			
	comp=Z,18nm,1.0s									
SML	**Sawmill**	**77.88**	**26**		P	**P**	**11 26 48.4**	**+0.8**		
SML					PcP	**PcP**	**11 26 57.3**	**-0.2**		
RND	**Reindeer**	**78.26**	**25**		P	**P**	**11 26 50.2**	**+0.4**		
RND					IAmb	IAmb	11 26 59.3			
	comp=Z,16nm,0.9s									
VNDA	**Vanda**	**78.66**	**177**		P	**P**	**11 26 52.0**	**+0.4**		
	comp=Z,4.9nm,0.7s,baz=332,slow=7.5,SNR=13									
VNDA					LR	LR	11 59 43.8			
	comp=Z,29nm,18.8s,baz=132,slow=34									
VNDA	**Vanda**	**78.66**	**177**		P	**P**	**11 26 52.3**	**+0.7**		
GAR	**Garm**	**78.67**	**310**		P	**P**	**11 26 50.7**	**-1.9**		
GAR					IAmb	IAmb	11 26 54.1			
	comp=Z,10.0nm,0.9s									
NRIK	**Noril'sk**	**78.68**	**342**		P	**P**	**11 26 51.0**	**-0.8**		
	comp=Z,3.0nm,0.9s,baz=34,slow=3.7,SNR=2.2									
DHY	**Denali Highway**	**78.76**	**25**		P	**P**	**11 26 52.9**	**+0.3**		
DHY					IAmb	IAmb	11 27 02.4			
	comp=Z,14nm,0.9s									
BRZS	**Berezniki**	**78.95**	**321**		*eP*	**P**	**11 26 52.4**	**-1.3**		
WRH	**Wood River Hil**	**78.98**	**24**		P	**P**	**11 26 52.9**	**-0.7**		
WRH					PcP	**PcP**	**11 27 01.4**	**-0.7**		
WRH					IAmb	IAmb	11 27 02.5			
	comp=Z,10nm,0.9s									
KBL	**Kabul**	**79.11**	**305**		P	**P**	**11 26 54.2**	**-1.0**		
KBL					IAmb	IAmb	11 26 55.9			
	comp=Z,15nm,1.1s									
KK31	**Karatay Array**	**79.15**	**314**		P	**P**	**11 26 52.7**	**-2.3**		
KKAR	**Karatay Array**	**79.15**	**314**		P	**P**	**11 26 53.6**	**-1.4**		
CCB	**Clear Creek Bu**	**79.16**	**24**		P	**P**	**11 26 54.7**	**+0.2**		
CCB					IAmb	IAmb	11 27 03.7			
	comp=Z,8.6nm,1.0s									
COLD	**Coldfoot**	**79.27**	**21**		P	**P**	**11 26 57.1**	**+2.0**		
COLD						**pwP**	**11 27 04.7**	**-0.1**		
COLD					IAmb	IAmb	11 27 05.7			
	comp=Z,8.5nm,0.8s									
CHGR	**Chuyangaron**	**79.52**	**309**		P	**P**	**11 26 57.4**	**+0.1**		
PAX	**Paxson**	**79.54**	**26**		P	**P**	**11 26 56.5**	**-0.3**		
IL31		**79.57**	**24**		P	**P**	**11 26 55.8**	**-0.9**		
IL31					IAmb	IAmb	11 27 05.6			
	comp=Z,7.5nm,0.8s									
ILAR	**Eielson Array**	**79.57**	**24**		P	**P**	**11 26 56.0**	**-0.8**		
	comp=Z,1.9nm,0.7s,baz=251,slow=5.3,SNR=24									
ILAR					LR	LR	12 01 09.5			
	comp=Z,79nm,19.0s,baz=138,slow=35									
ILAR	**Eielson Array**	**79.57**	**24**		P	**P**	**11 26 56.2**	**-0.6**		
GLB	**Gilahina Butte**	**79.79**	**27**		P	**P**	**11 26 59.4**	**+1.2**		
CRQM	**Cirque**	**79.90**	**28**		P	**P**	**11 26 59.9**	**+1.0**		
CRQM					IAmb	IAmb	11 27 09.2			
	comp=Z,21nm,1.0s									
ISLE	**Juniper Island**	**80.23**	**28**		P	**P**	**11 27 00.0**	**-0.6**		
ISLE					IAmb	IAmb	11 27 15.3			
	comp=Z,10nm,1.0s									
BALM	**Baldy**	**80.35**	**28**		P	**P**	**11 27 01.6**	**+0.3**		
BALM					IAmb	IAmb	11 27 11.9			
	comp=Z,10nm,0.8s									
DOT	**Dot Lake**	**80.36**	**25**		P	**P**	**11 27 01.4**	**+0.3**		
DOT					IAmb	IAmb	11 27 11.0			
	comp=Z,10.0nm,1.0s									
CTGM	**Chitina Glacie**	**80.81**	**28**		P	**P**	**11 27 05.4**	**+1.6**		
BRVK	**Borovoye**	**81.03**	**324**		P	**P**	**11 27 04.8**	**0.0**		
BCAR	**Beaver Creek A**	**81.17**	**26**		P	**P**	**11 27 06.3**	**+0.8**		
BMAR	**Burnt Mountain**	**81.36**	**21**		P	**P**	**11 27 07.3**	**+0.8**		
HRA	**Herat**	**84.70**	**304**		P	**P**	**11 27 24.2**	**-0.4**		
HRA					IAmb	IAmb	11 27 27.0			
	comp=Z,9.5nm,1.0s									
INK	**Inuvik**	**85.64**	**22**		LR	LR	12 05 43.7			
	comp=Z,82nm,19.6s,baz=139,slow=36									
GEYT	**Alibeck**	**88.13**	**308**		P	**P**	**11 27 41.1**	**-0.1**		
	comp=Z,1.2nm,0.6s,baz=46,slow=6.2,SNR=4.3									
GEYT	**Alibeck**	**88.13**	**308**		P	**P**	**11 27 40.0**	**-1.2**		
MAW	**Mawson**	**88.21**	**202**		P	**P**	**11 27 40.1**	**-0.7**		
	comp=Z,3.3nm,0.8s,baz=85,slow=5.2,SNR=10									
MAW					LR	LR	12 02 59.2			
	comp=Z,48nm,20.2s,baz=54,slow=33									
QSPA	**South Pole Qui**	**90.69**	**180**		P	**P**	**11 27 52.5**	**-0.2**		
QSPA					IAmb	IAmb	11 28 11.6			
	comp=Z,8.0nm,1.4s									
YKA	**Yellowknife Ar**	**93.51**	**27**		LR	LR	12 09 38.2			
	comp=Z,85nm,19.4s,baz=0.0,slow=35									
NVAR	**Mina Array Bea**	**93.73**	**52**		P	**P**	**11 28 08.1**	**+0.6**		
	comp=Z,0.7nm,0.7s,baz=276,slow=5.8,SNR=7.2									
NVAR	**Mina Array Bea**	**93.73**	**52**		P	**P**	**11 28 08.6**	**+1.1**		
MFID	**Camas Ranch**	**95.17**	**46**		P	**P**	**11 28 14.8**	**+0.9**		
PDAR	**Pinedale Array**	**99.81**	**46**		P	**Pdif**	**11 28 35.8**	**+0.9**		
	comp=Z,0.3nm,0.8s,baz=285,slow=7.4,SNR=2.4									
PDAR	**Pinedale Array**	**99.81**	**46**			**Pdif**	**11 28 35.6**	**+0.7**		
GERES	**GERESS Array B**	**115.94**	**327**		PKP	**PKiKP**	**11 33 33.0**	**-0.2**		
	comp=Z,0.2nm,0.4s,baz=35,slow=3.6,SNR=2.0									
GERES	**GERESS Array B**	**115.94**	**327**			**PKiKP**	**11 33 32.6**	**-0.6**		
PLCA	**Paso Flores**	**128.05**	**145**		PKP	**PKPdf**	**11 33 55.4**	**-1.2**		
	comp=Z,2.2nm,0.9s,baz=233,slow=4.0,SNR=6.1									
PLCA	**Paso Flores**	**128.05**	**145**		PKPdf	**PKPdf**	**11 33 56.3**	**-0.4**		
TORD	**Torodi Ar. Bea**	**142.32**	**293**		PKhKP	PKPpre	11 34 15.2			
	comp=Z,1.1nm,0.9s,baz=64,slow=2.6,SNR=3.4									
TORD					PKP	**PKPdf**	**11 34 24.0**	**+0.2**		
	comp=Z,1.8nm,0.7s,baz=50,slow=1.9,SNR=9.4									
TORD	**Torodi Ar. Bea**	**142.32**	**293**		PKPdf	**PKPdf**	**11 34 20.2**	**-3.5**		
LPAZ	**La Paz**	**142.69**	**116**		PKP	**PKPdf**	**11 34 23.2**	**-1.9**		
	comp=Z,1.5nm,0.6s,baz=247,slow=1.5,SNR=8.1									
LPAZ	**La Paz**	**142.69**	**116**		PKPdf	**PKPdf**	**11 34 22.5**	**-2.7**		
CPUP	**Villa Florida**	**145.86**	**140**		PKPbc	**PKPab**	**11 34 31.0**	**+0.4**		
	comp=Z,12nm,1.0s,baz=246,slow=4.5,SNR=15									
CPUP	**Villa Florida**	**145.86**	**140**			**PKPab**	**11 34 31.3**	**+0.7**		
KIC	**Kosan Boka**	**150.28**	**284**		*e*PKIKP	**PKPbc**	**11 34 42.3**	**-0.1**		
	comp=Z,51nm,1.0s									
DBIC	**Dimbokro**	**150.33**	**285**		PKPbc	**PKPbc**	**11 34 42.1**	**-0.4**		
	comp=Z,15nm,0.7s,baz=78,slow=2.7,SNR=14									
TIC	**Toumodi**	**150.49**	**285**		*e*PKIKP	**PKPbc**	**11 34 42.3**	**-0.6**		
LIC	**Lamto**	**150.59**	**284**		*e*PKIKP	**PKPbc**	**11 34 42.7**	**-0.5**		
	comp=Z,66nm,0.8s									

IDC 19 11:30:47.7±11.0, 6°91S×129°13E, h202km±124km, mb3.2/1, mb1 2.8/4, mb1mx2.7/36, mbtmp3.4/4, Error ellipse: s-maj=80.6km s-min=45.3km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.63**	**197**	P	Pn	11 33 27.7	-0.1
	0.1nm,0.3s,baz=32,slow=13,SNR=1.5						
FITZ				S	S	11 35 36.6	-0.7
	0.1nm,0.3s,baz=84,slow=18,SNR=1.3						
WRA	**Warramunga Arr**	**13.90**	**159**	P	P	11 33 57.5	-0.9
	0.1nm,0.3s,baz=344,slow=13,SNR=11						
WRA				S	S	11 36 28.9	-2.4
	0.0nm,0.3s,baz=337,slow=24,SNR=1.9						
ASAR	**Alice Springs**	**17.28**	**165**	P	P	11 34 35.5	-0.1
	0.1nm,0.3s,baz=345,slow=10,SNR=11						
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	11 41 23.1	0.0
	0.3nm,0.3s,baz=128,slow=7.6,SNR=4.5						

*MEX **19** 11:42:02.9±0.8, 16°.11N×99°.19W, h18km±48km, MD4.4*
*IDC **19** 11:42:04.5±0.8, 16°.78N×98°.77W, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.2/53, mbtmp4.3/18, ML2.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/30, Error ellipse: s-maj=25.9km s-min=14.5km az=50.0*
*NEIC **19** 11:42:04.2±1.4, 16°.37N±0°.10×98°.91W±0°.08, h16km±6km, mb4.5/194, Md4.4/20(MEX), Error ellipse: s-maj=16.1km s-min=7.8km az=213.0*

ISC 19 11:42:02.2±0.5, 16°.27N±0°.04×99°.04W±0°.03, h10km, n363, σ1°43/322, mb4.5/86, MS3.7/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.89**	**82**	*i* P	**Pn**	**11 42 19.1**	**-1.6**
PNIG				*i* S	**Sn**	**11 42 31.6**	**-2.1**
PNIG	**Pinotepa**	**0.89**	**82**		**Pn**	**11 42 19.1**	**-1.6**
ACP2	**Acapulco**	**1.01**	**306**	*i* P	**Pg**	**11 42 18.8**	**-2.8**
ACP2				*i* S	**Sg**	**11 42 30.9**	**-3.8**
TLIG	**Tlapa**	**1.36**	**19**	*i* P	**Pg**	**11 42 26.9**	**-1.4**
TLIG				*i* S	**Sg**	**11 42 44.8**	**-1.3**
TLIG	**Tlapa**	**1.36**	**19**		**Pg**	**11 42 27.4**	**-1.0**
CAIG	**El Cayaco**	**1.41**	**303**	*i* P	**Pn**	**11 42 24.3**	**-3.6**
CAIG				*i* S	**Sn**	**11 42 40.2**	**-6.3**
TXIG	**Tlaxiaco**	**1.56**	**51**	*i* P	**Pb**	**11 42 30.0**	**-1.4**
TXIG				*i* S	**Sg**	**11 42 50.7**	**-1.8**
MEIG	**Mezcala**	**1.73**	**341**	*i* P	**Pn**	**11 42 31.7**	**-0.8**
MEIG				*e*S	**Sn**	**11 42 53.0**	**-1.8**
MEIG	**Mezcala**	**1.73**	**341**		**Pn**	**11 42 31.7**	**-0.8**
PEIG	**Puerto Escondi**	**1.84**	**98**	*i* P	**Pn**	**11 42 32.5**	**-1.4**
PEIG				*i* S	**Sn**	**11 42 54.4**	**-2.9**
FTIG	**Fresnillo de T**	**1.84**	**28**	*i* P	**Pb**	**11 42 34.0**	**-2.1**
HLIG	**Huajuapan de L**	**1.95**	**37**	*i* P	**Pb**	**11 42 35.5**	**-2.5**
HLIG				*i* S	**Sb**	**11 43 00.0**	**-2.4**
PLIG	**Platanillo**	**2.15**	**348**	*i* P	**Pn**	**11 42 38.2**	**-0.1**
PLIG				*e*S	**Sb**	**11 43 06.3**	**-1.9**
PLIG	**Platanillo**	**2.15**	**348**		**Pn**	**11 42 38.2**	**-0.1**
VHO	**Vista Hermosa**	**2.35**	**70**	*i* P	**Pn**	**11 42 41.5**	**+0.4**
VHO				*i* S	**Sb**	**11 43 10.6**	**-3.4**
OXBJ	**Oaxaca**	**2.36**	**70**	*i* P	**Pn**	**11 42 40.8**	**-0.4**
OXBJ	**Oaxaca**	**2.36**	**70**		**Pb**	**11 42 41.8**	**-3.1**
YAIG	**Yautepec**	**2.57**	**359**	*i* P	**Pn**	**11 42 43.7**	**-0.5**
YAIG				*e*S	**Sn**	**11 43 15.2**	**-0.4**
YAIG	**Yautepec**	**2.57**	**359**		**Pn**	**11 42 43.7**	**-0.5**
TOIG	**Toxpalan**	**2.62**	**46**	*i* P	**Pn**	**11 42 44.8**	**+0.1**
TOIG				*e*S	**Sb**	**11 43 17.4**	**-4.2**
TPIG	**Tehuac#an**	**2.67**	**37**	*i* P	**Pn**	**11 42 45.6**	**+0.1**
TPIG				*i* S	**Sn**	**11 43 18.3**	**+0.3**
TPIG	**Tehuac#an**	**2.67**	**37**		**Pn**	**11 42 45.6**	**+0.1**
MAVM	**Malinalco, Edo**	**2.70**	**351**	*e*P	**Pn**	**11 42 45.1**	**-0.9**
MAVM				*i* S	**Sn**	**11 43 18.3**	**-0.6**
AMVM	**AMECAMECA**	**2.85**	**5**	*e*P	**Pn**	**11 42 47.3**	**-0.9**
AMVM				*i* S	**Sn**	**11 43 22.1**	**-0.6**
HUIG	**Huatulco**	**2.86**	**100**	*i* P	**Pn**	**11 42 47.3**	**-0.7**
HUIG	**Huatulco**	**2.86**	**100**		**Pn**	**11 42 47.3**	**-0.7**
PHPU	**Puebla**	**2.88**	**17**	*i* P	**Pn**	**11 42 47.8**	**-0.6**
PHPU	**Puebla**	**2.88**	**17**		**Pb**	**11 42 51.8**	**-2.1**
UNM	**Universidad Na**	**3.04**	**358**	Pn	**Pn**	**11 42 49.9**	**-0.7**
TOVM	**TOLUCA**	**3.05**	**349**	*e*P	**Pn**	**11 42 49.8**	**-1.1**
CVM	**Colonia del Va**	**3.09**	**358**	*e*P	**Pn**	**11 42 50.1**	**-1.0**
CVM				*e*S	**Sn**	**11 43 27.6**	**-0.6**
PBVM	**Pinon**	**3.15**	**359**	*e*P	**Pn**	**11 42 51.7**	**-0.2**
PBVM				*e*S	**Sn**	**11 43 29.3**	**-0.3**
AZVM	**Cuida Lopez Ma**	**3.30**	**356**	*e*P	**Pn**	**11 42 54.0**	**-0.3**
AZVM				*e*S	**Sn**	**11 43 33.1**	**-0.6**
PTVM	**Pico Tres Padr**	**3.30**	**359**	*e*P	**Pn**	**11 42 54.0**	**-0.3**
PTVM				*e*S	**Sn**	**11 43 34.3**	**+0.6**
VTVM	**Tizayuca**	**3.49**	**4**	*e*P	**Pn**	**11 42 56.7**	**-0.1**
VTVM				*e*S	**Sn**	**11 43 39.0**	**+0.6**
ZUVM	**ZUMPANGO**	**3.53**	**359**	*e*P	**Pn**	**11 42 56.8**	**-0.7**
ACIG	**Acambay**	**3.77**	**348**	*e*S	**Sn**	**11 43 44.5**	**-0.7**
MOIG	**Morelia**	**3.96**	**329**		**Pn**	**11 43 03.9**	**+0.7**
CCIG	**Comitan**	**6.63**	**89**		**Pn**	**11 43 38.6**	**-1.4**
ZAIG	**Zacatecas**	**7.27**	**333**		**Pn**	**11 43 52.2**	**+3.4**
PETF	**Flores**	**8.82**	**85**		**Pn**	**11 44 10.7**	**+0.8**
MTO3	**Montecristo**	**9.52**	**100**	Pn	**Pn**	**11 44 21.0**	**+1.3**
CSGN	**Cosiguina Volc**	**11.59**	**105**	Pn	**Pn**	**11 44 45.5**	**-2.3**
833A	**Chaparral WMA,**	**12.00**	**359**	Pn	**Pn**	**11 44 56.0**	**+2.6**
MATN	**Matagalpa**	**13.12**	**103**	Pn	**Pn**	**11 45 10.5**	**+1.7**
LPIG	**La Paz**	**13.13**	**308**	Pn	**Pn**	**11 45 11.2**	**+2.4**
	3.5nm,0.3s,baz=136,slow=2.9,SNR=1.6						
TX32	**Lajitas Array**	**13.68**	**343**	Pn	**P**	**11 45 21.9**	**-3.4**
TXAR	**Lajitas Array**	**13.68**	**343**	Pn	**Pn**	**11 45 17.9**	**+1.4**
	0.0nm,0.3s,baz=164,slow=16,SNR=11						
TXAR				Lg	Lg	11 49 10.3	
	0.0nm,0.3s,baz=142,slow=19,SNR=3.6						
TXAR				LR	LR	11 50 26.9	
	comp=Z,255nm,18.8s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**13.68**	**343**	Pn	**Pn**	**11 45 18.1**	**+1.6**
TX31	**Lajitas Ar. Si**	**13.68**	**343**	Pn	**Pn**	**11 45 18.2**	**+1.8**
ACON	**Acoyapa**	**14.11**	**106**	Pn	**Pn**	**11 45 21.7**	**-0.7**
JCT	**Junction City**	**14.16**	**357**	P	**Pn**	**11 45 24.0**	**+1.1**
	baz=176						
JCT	**Junction City**	**14.16**

SPX San Pedro Mart 20.99 317 P Pn 11 46 47.3 -1.5
PLAL Pickwick Lake 21.06 26 IAmb IAmb 11 46 52.0
comp=Z,31nm,0.9s
X48A Hartselle 21.07 29 IAmb IAmb 11 46 49.2
comp=Z,19nm,1.2s
T25A Trinidad 21.32 348 P P 11 46 52.6 +3.0
baz=165,SNR=20
MGMO Mountain Grove 21.65 15 P P 11 46 52.3 -0.5
PBMO Poplar Bluff 21.81 19 IAmb IAmb 11 46 58.2
comp=Z,23nm,0.9s
FPAL Fort Paine 21.82 31 IAmb IAmb 11 46 58.6
comp=Z,30nm,0.9s
T42A Van Buren 21.84 17 IAmb IAmb 11 46 58.6
comp=Z,15nm,0.8s
GLA Glamis 21.97 322 P P 11 46 58.6 +2.2
baz=135,SNR=7.5
R32A Long Quarter, 22.07 1 IAmb IAmb 11 47 01.3
comp=Z,28nm,1.2s
WUAZ Wupatki 22.11 332 P P 11 47 00.4 +2.4
baz=147,SNR=18
WUAZ Wupatki 22.11 332 P P 11 47 00.0 +2.1
WUAZ IAmb IAmb 11 47 16.0
comp=Z,26nm,1.0s
GOGA Godfrey 22.11 37 P P 11 46 57.2 -0.6
baz=223
GOGA Godfrey 22.11 37 P P 11 46 57.6 -0.1
GOGA IAmb IAmb 11 47 00.2
comp=Z,24nm,1.2s
SDCO Great Sand Dun 22.14 346 P P 11 46 59.9 +1.5
baz=163,SNR=11
SDCO Great Sand Dun 22.14 346 P P 11 46 59.2 +0.8
SDCO IAmb IAmb 11 47 08.9
comp=Z,21nm,1.4s
WVT Waverly 22.15 25 P P 11 46 57.1 -1.1
baz=209
WVT Waverly 22.15 25 P P 11 46 57.5 -0.7
WVT IAmb IAmb 11 47 01.2
comp=Z,35nm,1.0s
SWET Sewanee 22.21 29 P P 11 46 58.1 -0.8
SWET IAmb IAmb 11 47 04.8
comp=Z,12nm,0.9s
V48A Smith Brothers 22.24 27 IAmb IAmb 11 47 02.6
comp=Z,19nm,0.9s
S22A 4UR Ranch, Cre 22.47 344 P P 11 47 03.7 +1.8
baz=160,SNR=22
S22A 4UR Ranch, Cre 22.47 344 IAmb IAmb 11 47 04.8
comp=Z,13nm,0.9s
MVCO Mesa Verde 22.47 340 P P 11 47 03.2 +1.3
baz=155,SNR=18
MVCO Mesa Verde 22.47 340 P P 11 47 02.0 0.0
MVCO IAmb IAmb 11 47 04.4
comp=Z,24nm,1.1s
SWSC Sam W. Stewart 22.48 321 P P 11 47 03.7 +1.9
baz=133
W50A Signal Mountai 22.50 31 IAmb IAmb 11 47 23.0
comp=Z,14nm,0.9s
PDMCI Parker Dam,Lak 22.50 326 P P 11 47 04.1 +2.0
baz=139
R40A Maddies Statio 22.73 14 IAmb IAmb 11 47 06.6
comp=Z,32nm,1.1s
CLTN Cedars of Leba 22.75 27 IAmb IAmb 11 47 07.7
comp=Z,14nm,0.9s
CCM Cathedral Cave 22.76 16 P P 11 47 05.6 +0.9
baz=199
CCM Cathedral Cave 22.76 16 P P 11 47 04.3 -0.5
BC3 Big Chuckawall 22.77 322 P P 11 47 06.7 +1.7
baz=135
MONP2 Monument Peak 22.83 320 P P 11 47 05.4 -0.3
baz=132
KSU1 Kansas State U 22.84 5 P P 11 47 05.9 +0.3
baz=186,SNR=6.4
KSU1 Kansas State U 22.84 5 IAmb IAmb 11 47 08.4
comp=Z,20nm,0.8s
KSCO Kaye Shedlock' 22.87 353 P P 11 47 07.3 +1.3
baz=171
KSCO Kaye Shedlock' 22.87 353 IAmb IAmb 11 47 09.4
comp=Z,19nm,0.8s
FVM French Village 22.92 18 IAmb IAmb 11 47 08.1
comp=Z,20nm,0.8s
IRM Iron Mountain 22.95 324 P P 11 47 08.7 +1.9
baz=137,SNR=9.2
T47A Sharon Grove 23.19 25 P P 11 47 08.5 -0.6
Q24A Divide 23.23 348 P P 11 47 12.1 +2.2
baz=165
Z56A Williston 23.30 40 P P 11 47 11.1 +0.8
baz=227
TPFO Pinon Flats 23.33 321 P P 11 47 12.6 +1.8
baz=133
BELC Belle Mtn. Jos 23.33 322 P P 11 47 12.8 +2.0
baz=135,SNR=5.7
PFO Pinyon Flats O 23.34 321 P P 11 47 12.1 +1.3
comp=Z,2.6nm,0.9s,baz=123,slow=7.8,SNR=4.9
PFO Pinyon Flats O 23.34 321 P P 11 47 11.9 +1.0
baz=133
PFO Pinyon Flats O 23.34 321 P P 11 47 11.9 +1.0
U49A Red Boiling Sp 23.35 28 IAmb IAmb 11 47 12.6
comp=Z,16nm,1.1s
HODGE Hodges 23.39 37 IAmb IAmb 11 47 13.0
comp=Z,11nm,0.9s
PV02 Paradox Valley 23.46 341 IAmb IAmb 11 47 21.0
comp=Z,18nm,1.4s
PV15 Paradox Valley 23.50 341 P P 11 47 13.5 +0.9
PV15 IAmb IAmb 11 47 15.5
comp=Z,15nm,1.0s
X54A Belton 23.55 36 P P 11 47 13.6 +0.7
baz=223
BG3 Lake Jocassee 23.57 35 IAmb IAmb 11 47 22.1
comp=Z,10.0nm,0.9s
PV12 Saucer Basin, 23.58 341 IAmb IAmb 11 47 22.9
comp=Z,33nm,1.4s
PV11 David Mesa, Pa 23.59 340 IAmb IAmb 11 47 23.5
comp=Z,18nm,1.4s
PV17 East Wray Mesa 23.60 340 P P 11 47 14.3 +0.8
PV16 Nyswonger Mesa 23.61 340 IAmb IAmb 11 47 15.3
comp=Z,14nm,1.2s
TKL Tuckaleechee C 23.63 32 P P 11 47 13.1 -0.5
comp=Z,8.6nm,0.9s,baz=195,slow=13,SNR=8.0
TKL Tuckaleechee C 23.63 32 IAmb IAmb 11 47 15.3
comp=Z,16nm,1.0s
PV07 Paradox Valley 23.64 341 IAmb IAmb 11 47 16.7
comp=Z,20nm,1.2s
PV04 Paradox Valley 23.68 340 IAmb IAmb 11 47 23.8
comp=Z,16nm,1.1s
Z57A Bowman 23.69 41 P P 11 47 14.4 +0.2
baz=229
GMRC Granite Mounta 23.70 324 P P 11 47 15.9 +1.5
baz=137,SNR=6.7
PV14 Lion Creek, Pa 23.70 340 P P 11 47 15.2 +0.6
PV23 Carpenter Ridg 23.77 340 IAmb IAmb 11 47 17.5
comp=Z,11nm,0.8s
MURC Murrieta 23.78 320 P P 11 47 17.3 +2.2
baz=132
V52A Sevierville 23.86 32 IAmb IAmb 11 47 17.6
comp=Z,31nm,1.2s
X55A Gracelyn & Ava 23.93 38 P P 11 47 17.3 +0.8
baz=225
KNB Kanab 24.00 332 P P 11 47 19.6 +2.2
W54A Cherokee Point 24.05 36 P P 11 47 18.5 +0.8
baz=223
ISCO Idaho Springs 24.13 348 P P 11 47 20.1 +1.4
baz=164,SNR=16
ISCO Idaho Springs 24.13 348 IAmb IAmb 11 47 32.4
comp=Z,15nm,1.1s
V53A Saluda 24.14 34 IAmb IAmb 11 47 22.5
comp=Z,14nm,0.9s
T50A Nancy 24.19 29 P P 11 47 19.3 +0.3
T50A IAmb IAmb 11 47 27.7
comp=Z,36nm,1.4s
X56A White Oak 24.30 38 P P 11 47 20.4 +0.5
baz=226
TUQ Turquoise Moun 24.32 325 P P 11 47 22.3 +2.0
baz=137,SNR=11
TZTN Tazewell 24.43 31 P P 11 47 21.5 +0.3
baz=218
KMSC Kings Mountain 24.58 37 P P 11 47 23.2 +0.8
baz=224
KMSC Kings Mountain 24.58 37 IAmb IAmb 11 47 25.1
comp=Z,14nm,0.9s
WCI Wyandotte Cave 24.58 25 P P 11 47 22.9 +0.4
baz=210
WCI Wyandotte Cave 24.58 25 P P 11 47 22.6 +0.1
V54A Nebo 24.69 35 P P 11 47 24.5 +1.0
baz=222
P43A Skaggs, Pawnee 24.72 18 IAmb IAmb 11 47 31.8
comp=Z,18nm,0.9s
SHPR Sheep Range 24.72 328 IAmb IAmb 11 47 33.6
comp=Z,10.0nm,1.0s

GSC Goldstone, Bar 24.72 323 P P 11 47 25.9 +2.0
baz=135,SNR=7.0
SHOC Shoshone, Teco 24.86 325 P P 11 47 27.7 +2.7
baz=137
W56A Indian Trail 25.01 38 P P 11 47 27.3 +0.9
baz=226
O20A White River Ci 25.09 343 P P 11 47 29.8 +2.6
baz=158,SNR=14
O20A White River Ci 25.09 343 P P 11 47 29.0 +1.7
V55A Taylorsville 25.15 36 P P 11 47 28.5 +0.9
baz=224,SNR=6.7
N23A Red Feather La 25.25 348 P P 11 47 30.1 +1.3
baz=164,SNR=7.5
N23A Red Feather La 25.25 348 IAmb IAmb 11 47 32.7
comp=Z,9.6nm,0.9s
S51A Beattyville 25.28 30 IAmb IAmb 11 47 37.3
comp=Z,18nm,1.0s
T53A Wise 25.28 32 P P 11 47 30.3 +1.4
baz=220,SNR=5.2
Y59A Loris 25.30 42 P P 11 47 30.1 +1.0
baz=231
BLO Bloomington 25.31 23 P P 11 47 29.1 0.0
U54A Nelsons Funny 25.31 34 P P 11 47 30.3 +1.1
baz=221,SNR=12
LRMC Laurel Mtn Rad 25.36 322 P P 11 47 32.2 +2.5
baz=134,SNR=6.4
W57A Gilead 25.37 39 P P 11 47 30.0 +0.4
baz=227
P46A Rosedale 25.45 22 IAmb IAmb 11 47 31.4
comp=Z,12nm,0.8s
V56A Mocksville 25.53 37 P P 11 47 32.5 +1.4
baz=225
TPNV Topopah Spring 25.62 327 P P 11 47 34.2 +2.1
baz=139,SNR=13
TPNV Topopah Spring 25.62 327 IAmb IAmb 11 47 46.8
comp=Z,20nm,1.1s
HDIL Hopedale 25.63 17 P P 11 47 32.6 +0.7
baz=202,SNR=11
MPMC Manual Prospec 25.65 324 P P 11 47 36.3 +3.9
baz=135,SNR=8.5
U55A TA2, Sparta 25.72 35 P P 11 47 33.4 +0.5
baz=223
T54A Tazewell 25.84 33 P P 11 47 34.3 +0.3
baz=221
ISA Isabella, Lake 25.95 322 P P 11 47 38.6 +3.6
baz=133
ISA Isabella, Lake 25.95 322 P P 11 47 36.8 +1.8
ISA IAmb IAmb 11 47 46.1
comp=Z,7.6nm,0.9s
V57A Coltrane Farms 26.00 38 P P 11 47 35.3 -0.1
baz=226
S53A Williamson 26.03 32 P P 11 47 36.1 +0.5
baz=219
SFIN Lafayette 26.16 21 P P 11 47 37.2 +0.4
baz=206
SFIN Lafayette 26.16 21 IAmb IAmb 11 47 38.3
comp=Z,17nm,0.8s
CWC Cottonwood Cre 26.26 324 P P 11 47 39.8 +1.9
baz=135
RWWY Rawlins 26.29 346 P P 11 47 40.1 +1.9
RWWY IAmb IAmb 11 47 57.9
comp=Z,25nm,1.3s
V58A Windy Hill, Pi 26.33 39 P P 11 47 38.0 -0.3
baz=227
P49A Miami Univ. Ec 26.34 26 P P 11 47 38.5 +0.1
baz=212,SNR=16
P49A Miami Univ. Ec 26.34 26 P P 11 47 38.6 +0.3
R11A Troy Canyon, C 26.37 330 P P 11 47 41.3 +2.4
baz=142,SNR=8.6
VES Vestal, Richgr 26.43 321 P P 11 47 41.5 +2.2
baz=132
Q51A Peebles 26.51 28 IAmb IAmb 11 47 41.3
comp=Z,19nm,1.1s
JLU Jordanelle 26.52 339 P P 11 47 40.7 +0.4
S54A Dingess, Beckl 26.54 33 P P 11 47 40.7 +0.4
baz=221
SDDR Presa de Saban 26.57 80 P P 11 47 43.6 +2.8
SDDR IAmb IAmb 11 47 45.3
comp=Z,14nm,1.2s
BLA Blacksburg 26.58 35 P P 11 47 41.2 +0.6
baz=223
R53A Hurricane 26.62 31 P P 11 47 42.0 +1.1
baz=219,SNR=5.7
R53A Hurricane 26.62 31 P P 11 47 42.3 +1.3
U57A Blanch 26.64 37 P P 11 47 40.8 -0.3
baz=226
DUG Dugway, Tooele 26.68 336 P P 11 47 43.6 +2.0
baz=149,SNR=6.0
L42A Oliver, Polo 26.88 16 P P 11 47 43.5 +0.3
Q52A Bidwell 26.96 30 P P 11 47 45.2 +1.2
baz=217,SNR=5.2
TCUT Toone Canyon 26.97 339 P P 11 47 45.8 +1.4
TPH Tonopah 26.98 327 P P 11 47 45.4 +0.9
R54A Victor 26.99 33 P P 11 47 45.6 +1.2
baz=221
P51A Williamsport 27.01 28 P P 11 47 45.5 +1.1
baz=215,SNR=6.6
P51A Williamsport 27.01 28 P P 11 47 45.4 +1.0
O49A Covington 27.04 25 P P 11 47 44.5 -0.3
K22A Casper 27.06 348 P P 11 47 46.5 +1.4
baz=164
U58A Oxford 27.07 38 P P 11 47 47.7 +2.7
baz=227
N47A Urbana 27.11 23 P P 11 47 44.6 -0.6
Q53A Leroy 27.24 31 P P 11 47 48.0 +1.4
baz=219
ECSD EROS Data Cent 27.45 4 P P 11 47 48.7 +0.3
baz=185,SNR=6.3
ECSD EROS Data Cent 27.45 4 P P 11 47 48.4 +0.1
ECSD IAmb IAmb 11 47 49.6
comp=Z,7.2nm,0.9s
T58A Grand View Acr 27.46 37 P P 11 47 49.0 +0.5
baz=227
SPUT South Promonto 27.50 338 P P 11 47 50.4 +1.3
R55A Marlinton 27.52 34 P P 11 47 50.0 +0.8
baz=222
P52A Corning 27.56 29 P P 11 47 50.1 +0.7
baz=217
ACSO Alum Creek Sta 27.66 27 P P 11 47 50.5 +0.3
baz=215
MDPB Devils Postpil 27.66 324 P P 11 47 52.0 +1.4
Q54A Coxs Mills 27.68 32 P P 11 47 51.9 +1.4
baz=220
NV11 Mina Array Sit 27.73 326 P P 11 47 53.8 +2.6
NV11 IAmb IAmb 11 48 00.7
comp=Z,8.6nm,0.9s
O51A Pataskala 27.75 28 P P 11 47 51.7 +0.6
baz=215
LHV Little Huntoon 27.79 326 P P 11 47 52.7 +1.3
LHV IAmb IAmb 11 48 05.8
comp=Z,12nm,1.2s
NVAR Mina Array Bea 27.81 326 P P 11 47 53.1 +1.2
comp=Z,5.8nm,1.1s,baz=151,slow=6.4,SNR=14
PD31 Pinedale Array 27.90 343 P P 11 47 53.0 +0.3
PD31 IAmb IAmb 11 48 11.7
comp=Z,14nm,1.2s
PDAR Pinedale Array 27.90 343 P P 11 47 53.5 +0.8
comp=Z,4.3nm,0.9s,baz=140,slow=9.8,SNR=24
BW06 Boulder Array 27.90 343 P P 11 47 53.6 +1.0
baz=158,SNR=6.4
BW06 Boulder Array 27.90 343 P P 11 47 53.7 +1.0
BW06 IAmb IAmb 11 48 11.7
comp=Z,16nm,1.2s
O52A Adamsville 28.08 29 P P 11 47 55.4 +1.3
baz=217
ELK Elko 28.14 333 P P 11 47 56.1 +1.3
comp=Z,1.9nm,0.9s,baz=113,slow=3.0,SNR=5.8
ELK LR LR 12 01 11.8
comp=Z,195nm,18.9s,baz=142,slow=41
P54A Burton 28.33 31 P P 11 47 57.4 +1.2
baz=220
SDV Santo Domingo 28.66 101 P P 11 48 00.9 +1.2
comp=Z,3.5nm,0.3s,baz=308,slow=8.0,SNR=2.0
SDV LR LR 12 00 46.2
comp=Z,86nm,18.2s,baz=94,slow=39
REDW Red Top Meadow 28.82 342 P P 11 48 01.4 +0.6
REDW IAmb IAmb 11 48 16.1
comp=Z,19nm,1.5s
SNOW Snow King Moun 28.88 342 IAmb IAmb 11 48 13.7
comp=Z,9.8nm,0.9s
TPAW Teton Pass 28.96 342 P P 11 48 04.7 +2.5
LOHW Long Hollow 28.97 343 IAmb IAmb 11 48 04.7
comp=Z,6.3nm,0.8s
SPMN Marine on St. 29.34 9 P P 11 48 05.4 +0.2
baz=192
SPMN Marine on St. 29.34 9 IAmb IAmb 11 48 05.8
comp=Z,7.8nm,0.9s

RLMT Red Lodge 30.02 345 P P 11 48 13.5 +2.0
baz=160
HLID Hailey 30.18 337 P P 11 48 14.7 +1.8
baz=149
BOZ Bozeman (W) 31.08 343 P P 11 48 22.6 +1.8
baz=156,SNR=6.1
MOD Modoc Plateau 31.41 329 IAmb IAmb 11 48 32.4
comp=Z,7.6nm,0.9s
SJG San Juan 31.45 82 P P 11 48 24.5 +0.4
comp=Z,2.2nm,0.3s,baz=317,slow=16,SNR=3.9
SJG San Juan 31.45 82 P P 11 48 24.1 -0.1
SJG IAmb IAmb 11 48 32.5
comp=Z,11nm,1.1s
MDND Maddock 31.49 359 P P 11 48 25.6 +1.5
baz=179
LRM Limekiln Ridge 31.53 342 P P 11 48 25.7 +0.9
J08A Circle Bar Ran 31.66 332 IAmb IAmb 11 48 34.2
comp=Z,14nm,1.1s
AGMN Agassiz Nation 32.04 4 P P 11 48 29.6 +0.6
baz=186,SNR=15
B35A Bob, Littlefor 32.30 7 IAmb IAmb 11 48 39.2
comp=Z,8.2nm,1.0s
DGMT Dagmar 32.39 354 P P 11 48 33.5 +1.5
baz=170
MSO Missoula 32.89 341 P P 11 48 37.7 +1.2
baz=153
MSO Missoula 32.89 341 IAmb IAmb 11 48 39.1
comp=Z,4.2nm,0.9s
G08A Pilot Rock 33.42 334 P P 11 48 42.1 +0.9
G08A IAmb IAmb 11 48 49.3
comp=Z,6.4nm,0.9s
JTMT Jette 33.81 341 P P 11 48 45.0 +0.4
JTMT IAmb IAmb 11 48 59.6
comp=Z,4.9nm,0.9s
ULM Lac du Bonnet 33.99 4 P P 11 48 44.9 -1.1
comp=Z,13nm,0.9s,baz=178,slow=9.1,SNR=14
ULM Lac du Bonnet 33.99 4 P P 11 48 46.0 +0.1
E09A Wood Farm, Sta 34.09 336 P P 11 48 46.3 -0.6
E09A IAmb IAmb 11 48 50.0
comp=Z,5.7nm,1.0s
F05D White Salmon 34.97 332 P P 11 48 56.5 +1.9
baz=140
NEW Newport 35.19 339 P P 11 48 58.0 +1.6
baz=149
NEW Newport 35.19 339 P P 11 48 57.1 +0.7
NEW IAmb IAmb 11 49 07.0
comp=Z,3.7nm,0.7s
C09A Chrisman Ranch 35.21 337 P P 11 48 57.8 +1.1
FFD Franklin Falls 35.73 35 P P 11 49 00.9 -0.2
B08A Colville Reser 36.07 337 P P 11 49 05.6 +1.6
B08A IAmb IAmb 11 49 12.3
comp=Z,6.4nm,0.9s
LSQQ Lebel-sur-Quev 37.32 24 P P 11 49 13.8 -0.8
baz=216
MATQ Matagami 37.64 23 P P 11 49 17.3 +0.1
baz=215
SCHQ Schefferville 45.79 25 P P 11 50 23.6 -0.4
comp=Z,9.8nm,0.8s,baz=238,slow=10,SNR=6.5
SCHQ Schefferville 45.79 25 P P 11 50 24.1 +0.1
YKA Yellowknife Ar 47.45 350 P P 11 50 36.6 -0.2
comp=Z,3.2nm,0.9s,baz=156,slow=7.1,SNR=10
H03N2 Juan Fernandez 53.03 159 T T 12 48 25.4
baz=338,slow=77,SNR=18
H03N1 Juan Fernandez 53.04 159 T T 12 48 27.8
baz=338,slow=77,SNR=23
H03N3 Juan Fernandez 53.05 159 T T 12 48 25.5
baz=338,slow=77,SNR=33
BCAR Beaver Creek A 55.31 338 P P 11 51 36.3 +0.5
K27K Chicken 56.00 339 P P 11 51 43.0 +2.3
baz=128
INK Inuvik 56.44 345 P P 11 51 44.3 +0.6
DOT Dot Lake 56.48 338 IAmb IAmb 11 51 53.8
comp=Z,7.0nm,1.0s
HDA Harding Lake 57.96 338 P P 11 51 55.6 +1.0
baz=123
HDA Harding Lake 57.96 338 IAmb IAmb 11 52 02.7
comp=Z,8.4nm,1.0s
ILAR Eielson Array 58.14 338 P P 11 51 56.9 +1.0
comp=Z,3.1nm,1.0s,baz=144,slow=4.9,SNR=21
ILAR Eielson Array 58.14 338 P P 11 51 56.6 +0.7
MCK McKinley 58.35 336 P P 11 51 58.3 +0.9
baz=120
POKR Poker Plat Res 58.52 338 P P 11 51 59.8 +1.3
baz=122
COLA College 58.54 338 P P 11 51 58.4 -0.2
COLA IAmb IAmb 11 52 07.5
comp=Z,7.3nm,1.1s
TCOL CIGO, UAF Yank 58.55 338 P P 11 51 59.5 +0.8
baz=122
TRF Thorofare Moun 58.74 336 P P 11 52 00.6 +0.4
BMAR Burnt Mountain 58.90 341 P P 11 52 01.8 +0.6
I23K Minto, Yukon-K 59.23 338 P P 11 52 04.8 +1.4
baz=120
BDFB Brasilia 59.51 120 P P 11 52 12.1 +5.9
comp=Z,2.4nm,0.7s,baz=254,slow=3.5,SNR=3.9
BDFB Brasilia 59.51 120 P P 11 52 06.1 -0.2
BDFB IAmb IAmb 11 52 25.4
comp=Z,7.6nm,1.2s
MLY Manley 59.68 337 P P 11 52 07.8 +1.2
baz=119
COLD Coldfoot 60.59 340 P P 11 52 14.5 +1.7
baz=121
COLD Coldfoot 60.59 340 IAmb IAmb 11 52 21.5
comp=Z,4.4nm,0.8s
TTA Tatalina 60.85 334 P P 11 52 14.1 -0.6
TOLK Toolik Lake Re 61.13 341 P P 11 52 17.7 +1.2
baz=122
PLCA Paso Flores 62.58 156 P P 11 52 33.1 +6.5
comp=Z,2.3nm,0.9s,baz=321,slow=5.2,SNR=6.3
PLCA LR LR 12 13 53.3
comp=Z,34nm,20.6s,baz=350,slow=30
SUMG Summit 65.94 17 *i* P P 11 52 49.0 +0.3
comp=Z,16nm,0.8s
SUMG *i* 11 52 56.0
SUMG Summit 65.94 17 *i* P P 11 52 49.0 +0.3
SUMG IAmb IAmb 11 52 50.6
comp=Z,16nm,0.8s
SUMG *i* 11 52 56.1
DAG Danmarks Havn 72.06 14 *i* P P 11 53 25.5 -0.6
comp=Z,4.1nm,0.8s
DAG *i* 11 53 32.6
DAG Danmarks Havn 72.06 14 *i* P P 11 53 25.6 -0.6
DAG IAmb IAmb 11 53 27.2
comp=Z,4.1nm,0.8s
DAG *i* 11 53 32.6
ESDC Sonseca Array 83.60 51 P P 11 54 30.8 -0.4
comp=Z,0.1nm,0.3s,baz=264,slow=2.7,SNR=2.1
ESDC Sonseca Array 83.60 51 P P 11 54 29.8 -1.3
SEY Seymchan 83.82 334 P P 11 54 32.4 +0.7
comp=Z,1.4nm,0.5s,baz=67,slow=4.8,SNR=2.3
PETK Petropavlovsk- 84.87 324 P P 11 54 39.2 +1.9
comp=Z,4.8nm,0.9s,baz=79,slow=15,SNR=1.1
PETK Petropavlovsk- 84.87 324 P P 11 54 38.4 +1.2
NOA NORSAR Array B 85.33 27 LR LR 12 33 06.2
comp=Z,36nm,21.1s,baz=275,slow=36
FINES FINESS Array B 91.22 23 LR LR 12 38 06.4
comp=Z,28nm,18.6s,baz=250,slow=37
VYHS Vyhne 95.21 36 *eP* P 11 55 31.0 +4.8
TORD Torodi Ar. Bea 96.39 74 LR LR 12 36 08.1
comp=Z,42nm,19.9s,baz=300,slow=34
WRA Warramunga Arr 129.30 257 PKP PKiKP 12 01 16.0 +3.4
comp=Z,0.5nm,0.6s,baz=81,slow=2.2,SNR=7.1
ASAR Alice Springs 129.93 253 PKP PKiKP 12 01 18.8 +5.1
comp=Z,0.5nm,0.8s,baz=100,slow=2.1,SNR=2.9
CMAR Chiang Mai Arr 141.21 332 PKP PKiKP 12 01 35.9 -0.9
comp=Z,0.4nm,0.3s,baz=48,slow=1.3,SNR=2.1
CMAR Chiang Mai Arr 141.21 332 PKiKP 12 01 35.0 -1.8

NEIC ***19*** *11:45:28.0±3.0,5.2°S±0.0°×153.7°E±0.0°,h35km±1km, mb4.3/12, Error ellipse: s-maj=17.0km s-min=11.9km az=44.0*

IDC ***19*** *11:45:36.3±1.8,5.7°S×153.0°E,h90km±13km,mb3.7/9, mb1 4.0/12,mb1mx3.6/53,mbtmp4.2/12,MS3.3/11, Ms1 3.3/11,ms1mx3.1/38,Error ellipse: s-maj=20.8km s-min=14.2km az=93.0*

ISC 19 11:45:30.7±0.6,5.48S±0.07°×153.45E±0.0°,07,h43km,n44, σ1s93/37,mb4.0/13,MS3.2/9,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RABL	Rabaul	1.82	315	Pn		Pn	11 46 01.5	+2.0
KRVT	Keravat (AS076	1.84	309	P		Pn	11 46 01.6	+1.7
	18nm,0.3s,baz=87,slow=1.0,SNR=37							
KRVT				S		Sn	11 46 24.7	+2.8
	49nm,0.3s,baz=145,slow=15,SNR=6.7							

PMG	**Port Moresby**	**7.36**	**238**	P	**Pn**	**11 47 16.5**	**+0.9**
	2.4nm,0.3s,baz=55,slow=6.5,SNR=6.2						
PMG				S	**Sn**	**11 48 38.1**	**+0.2**
	2.6nm,0.3s,baz=203,slow=13,SNR=2.0						
PMG				LR	LR	11 50 12.5	
	comp=Z,253nm,20.9s,baz=72,slow=40						
PMG	**Port Moresby**	**7.36**	**238**	Pn	**Pn**	**11 47 18.8**	**+3.2**
HNR	**Honiara**	**7.54**	**122**	P	Pn	11 47 29.0	+11
	3.2nm,0.3s,baz=240,slow=6.9,SNR=3.8						
HNR				S	**Sn**	**11 48 47.6**	**+5.2**
	1.1nm,0.3s,baz=7.1,slow=22,SNR=2.1						
HNR	**Honiara**	**7.54**	**122**	Pn	Pn	11 47 12.1	-6.1
JAY	**Jayapura**	**13.05**	**283**	P	**Pn**	**11 48 34.6**	**+1.0**
	0.5nm,0.3s,baz=62,slow=5.8,SNR=3.0						
JAY				LR	LR	11 53 55.5	
	comp=Z,116nm,18.6s,baz=128,slow=39						
PATS	**Pohnpei**	**13.16**	**22**	Pn	**Pn**	**11 48 32.0**	**-3.2**
COEN	**Coen**	**13.17**	**230**	Pn	**Pn**	**11 48 37.7**	**+2.5**
CTAO	**Charters Tower**	**16.12**	**205**	P	**P**	**11 49 17.1**	**0.0**
CTAO				IAmb	IAmb	11 49 30.0	
	comp=Z,36nm,1.4s						
EIDS	**Eidsvold**	**19.90**	**186**	P	**P**	**11 49 56.6**	**-2.2**
EIDS				IAmb	IAmb	11 49 58.9	
	comp=Z,13nm,1.1s						
GUMO	**Guam**	**20.78**	**336**	LR	LR	11 58 12.8	
	comp=Z,28nm,18.3s,baz=147,slow=36						
WR0	**Warramunga Arr**	**23.35**	**230**	P	**P**	**11 50 34.5**	**-1.1**
WR0				IAmb	IAmb	11 50 44.8	
	comp=Z,6.4nm,1.2s						
WB0	**Warramunga Arr**	**23.36**	**231**	P	**P**	**11 50 34.2**	**-1.4**
WRAB	**Tennant Creek**	**23.48**	**231**	P	**P**	**11 50 35.3**	**-1.5**
WRAB				IAmb	IAmb	11 50 48.6	
	comp=Z,9.2nm,1.2s						
WB2	**Warramunga Arr**	**23.49**	**231**	P	**P**	**11 50 36.1**	**-0.7**
WB2				IAmb	IAmb	11 50 48.7	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**23.50**	**231**	P	**P**	**11 50 35.0**	**-1.9**
	comp=Z,3.8nm,0.8s,baz=54,slow=9.6,SNR=25						
WRA				LR	LR	12 00 04.8	
	comp=Z,72nm,21.4s,baz=105,slow=38						
WRA	**Warramunga Arr**	**23.50**	**231**	P	**P**	**11 50 35.4**	**-1.5**
AS31	**Alice Springs**	**26.10**	**224**	P	**P**	**11 50 59.5**	**-1.2**
ASAR	**Alice Springs**	**26.10**	**224**	P	**P**	**11 50 59.1**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=59,slow=8.8,SNR=24						
ASAR				LR	LR	12 00 52.9	
	comp=Z,119nm,20.7s,baz=66,slow=36						
ASAR	**Alice Springs**	**26.10**	**224**	P	**P**	**11 51 00.6**	**-0.2**
KNRA	**Kununurra**	**26.27**	**245**	P	**P**	**11 51 02.3**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**27.17**	**28**	T	T	12 19 23.7	
	baz=206,slow=73,SNR=28						
H11S2	**WAKE ISLAND Hy**	**27.17**	**28**	T	T	12 19 17.7	
	baz=206,slow=73,SNR=19						
H11S1	**WAKE ISLAND Hy**	**27.18**	**28**	T	T	12 19 19.7	
	baz=206,slow=73,SNR=19						
STKA	**Stephens Creek**	**28.51**	**201**	LR	LR	12 02 53.4	
	comp=Z,96nm,18.6s,baz=24,slow=37						
BATI	**Baumata**	**29.87**	**259**	LR	LR	12 04 58.5	
	comp=Z,45nm,19.0s,baz=80,slow=39						
FITZ	**Fitzroy Crossi**	**29.91**	**243**	P	**P**	**11 51 32.6**	**-2.2**
	comp=Z,3.8nm,0.6s,baz=54,slow=7.4,SNR=23						
FITZ				LR	LR	12 03 51.1	
	comp=Z,88nm,19.4s,baz=71,slow=37						
FITZ	**Fitzroy Crossi**	**29.91**	**243**	P	**P**	**11 51 33.1**	**-1.7**
FITZ				IAmb	IAmb	11 51 34.1	
	comp=Z,10.0nm,1.2s						
DAV	**Davao City (W)**	**30.48**	**294**	LR	LR	12 03 31.6	
	comp=Z,52nm,19.2s,baz=72,slow=36						
JCJ	**Chichijima**	**34.17**	**342**	LR	LR	12 03 42.3	
	comp=Z,127nm,20.9s,baz=56,slow=32						
FORT	**Forrest**	**34.68**	**220**	P	**P**	**11 52 14.6**	**-1.8**
PETK	**Petropavlovsk-**	**58.48**	**3**	P	**P**	**11 55 24.8**	**+2.5**
	comp=Z,2.7nm,1.0s,baz=153,slow=7.0,SNR=6.1						
PETK	**Petropavlovsk-**	**58.48**	**3**	P	**P**	**11 55 25.2**	**+2.9**
CMAR	**Chiang Mai Arr**	**58.75**	**295**	P	**P**	**11 55 24.2**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=108,slow=5.5,SNR=8.7						
CMAR				LR	LR	12 20 52.6	
	comp=Z,9.5nm,19.0s,baz=185,slow=36						
CMAR	**Chiang Mai Arr**	**58.75**	**295**	P	**P**	**11 55 25.3**	**+0.4**
MKAR	**Makanchi Array**	**81.26**	**319**	P	**P**	**11 57 42.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=97,slow=6.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**82.08**	**326**	P	**P**	**11 57 46.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=115,slow=5.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**82.08**	**326**	P	**P**	**11 57 45.9**	**-0.6**
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**11 57 49.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=260,slow=4.6,SNR=5.0						
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**11 57 48.9**	**+0.1**
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**11 57 57.3**	**-1.6**
QSPA				IAmb	IAmb	11 58 12.6	
	comp=Z,6.0nm,1.2s						
KURBB	**Kurchatov Arra**	**84.73**	**322**	P	**P**	**11 57 58.7**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=109,slow=3.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**151.13**	**287**	PKPbc	**PKPbc**	**12 05 18.2**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=63,slow=2.7,SNR=6.2						

*IDC **19** 11:46:28.7±2.9, 17.°82S×178.°58W, h548km±31km, mb3.6/18, mb1 3.7/18, mb1mx3.4/45, mbtmp4.5/18, Error ellipse: s-maj=24.6km s-min=13.9km az=145.0*
*NEIC **19** 11:46:31.4±1.6, 17.°8S±0.°1×178.°6W±0.°1, h582km±7km, mb4.3/53, Error ellipse: s-maj=16.7km s-min=13.7km az=155.0*

ISC 19 11:46:31.1±0.7, 17.°80S±0.°08×178.°57W±0.°07, h578km±9km, n94, σ0°96/100, mb4.2/41, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.23**	**271**	P	**P**	**11 47 51.6**	**+1.6**
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**11 48 23.5**	**-2.4**
NIUE	**Niue**	**8.30**	**100**	P	**P**	**11 48 31.8**	**-0.8**
RAO	**Raoul Island**	**11.41**	**177**	P	**P**	**11 49 03.3**	**-0.3**
SANVU	**Saraoutou**	**13.84**	**278**	P	**P**	**11 49 30.3**	**+1.6**
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**11 49 39.9**	**+2.5**
OUZ	**Omahuta**	**18.70**	**200**	P	**P**	**11 50 15.6**	**+1.8**
OUZ				IAmb	IAmb	11 50 16.4	
	comp=Z,13nm,0.8s						
FOZ	**Fox Glacier**	**27.47**	**199**	P	**P**	**11 51 32.4**	**+0.5**
PPTF	**Pamatai, Papee**	**27.62**	**94**	P	**P**	**11 51 34.0**	**+0.4**
EIDS	**Eidsvold**	**29.16**	**250**	P	**P**	**11 51 47.5**	**+0.6**
EIDS				IAmb	IAmb	11 51 47.7	
	comp=Z,5.6nm,0.8s						
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**11 51 53.1**	**+0.1**
ARMA				IAmb	IAmb	11 51 54.3	
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**33.32**	**260**	P	**P**	**11 52 21.5**	**-0.9**
	comp=Z,5.1nm,0.6s,baz=82,slow=11,SNR=6.0						
CTAO	**Charters Tower**	**33.32**	**260**	P	**P**	**11 52 21.9**	**-0.5**
CTAO				IAmb	IAmb	11 52 22.9	
	comp=Z,12nm,0.9s						
CAN	**Canberra**	**33.65**	**232**	P	**P**	**11 52 24.3**	**-0.7**
CAN				IAmb	IAmb	11 52 25.5	
	comp=Z,12nm,1.0s						
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**11 52 29.7**	**-0.9**
	comp=Z,23nm,0.9s,baz=101,slow=11,SNR=3.5						
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**11 52 30.2**	**-0.4**
COEN	**Coen**	**36.96**	**270**	P	**P**	**11 52 53.0**	**+0.4**
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**11 52 53.8**	**+0.1**
TOO				PcP	**PcP**	**11 54 57.5**	**-0.7**
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**11 53 05.0**	**-0.3**
	comp=Z,9.8nm,0.4s,baz=84,slow=10,SNR=39						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**11 53 05.5**	**+0.2**
STKA				IAmb	IAmb	11 53 06.6	
	comp=Z,3.0nm,0.6s						
JAY	**Jayapura**	**42.73**	**286**	P	**P**	**11 53 38.5**	**-0.3**
	comp=Z,6.1nm,0.4s,baz=175,slow=5.9,SNR=9.0						
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**11 53 42.9**	**-0.3**
MLH	**Mauna Loa**	**43.49**	**33**	P	**P**	**11 53 45.0**	**+0.3**
HMH	**Humu'ula Sheep**	**43.54**	**32**	P	**P**	**11 53 46.2**	**+1.0**
HPAH	**Hawaii Prepara**	**43.79**	**32**	P	**P**	**11 53 47.2**	**+0.4**
WR0	**Warramunga Arr**	**44.31**	**259**	P	**P**	**11 53 49.7**	**-1.2**
WR0				IAmb	IAmb	11 53 52.3	
	comp=Z,4.5nm,0.4s						
WB0	**Warramunga Arr**	**44.47**	**260**	P	**P**	**11 53 51.1**	**-1.0**
WB0				IAmb	IAmb	11 53 52.0	
	comp=Z,13nm,1.1s						
WB2	**Warramunga Arr**	**44.49**	**259**	P	**P**	**11 53 51.2**	**-1.1**
WB2				IAmb	IAmb	11 53 52.4	
	comp=Z,9.8nm,0.7s						
WB2				PcP	**PcP**	**11 55 22.7**	**-0.3**
WRAB	**Tennant Creek**	**44.50**	**259**	P	**P**	**11 53 51.1**	**-1.2**
WRAB				IAmb	IAmb	11 53 52.3	
	comp=Z,8.7nm,0.7s						
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**11 53 51.0**	**-1.4**
	comp=Z,5.0nm,0.4s,baz=97,slow=6.9,SNR=89						
WRA				PcP	**PcP**	**11 55 23.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=99,slow=3.3,SNR=3.1						
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**11 53 50.2**	**-2.2**
WRA				PcP	**PcP**	**11 55 22.6**	**-0.5**
AS31	**Alice Springs**	**44.68**	**254**	P	**P**	**11 53 53.2**	**-0.5**
AS31				IAmb	IAmb	11 53 54.4	
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**11 53 53.2**	**-0.5**
	comp=Z,36nm,0.6s,baz=88,slow=8.0,SNR=690						
ASAR				PcP	**PcP**	**11 55 23.2**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=106,slow=3.8,SNR=4.7						
ASAR				ScP	**ScP**	**11 58 25.1**	**+3.8**
	comp=Z,0.3nm,0.6s,baz=105,slow=5.1,SNR=1.9						
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**11 53 52.9**	**-0.9**
ASAR				PcP	**PcP**	**11 55 23.0**	**-0.6**
GUMO	**Guam**	**47.69**	**308**	P	**P**	**11 54 17.1**	**+0.6**
	comp=Z,28nm,0.8s,baz=172,slow=20,SNR=1.8						
GUMO	**Guam**	**47.69**	**308**	P	**P**	**11 54 16.9**	**+0.4**
MTN	**Manton Dam**	**48.65**	**268**	P	**P**	**11 54 22.9**	**-0.8**
MTN				IAmb	IAmb	11 54 23.7	
	comp=Z,11nm,0.7s						
FORT	**Forrest**	**49.92**	**245**	P	**P**	**11 54 31.6**	**-1.2**
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**11 54 35.2**	**-0.9**
KNRA				IAmb	IAmb	11 54 36.8	
	comp=Z,12nm,0.5s						
SIJI	**Sorong**	**52.07**	**283**	P	**P**	**11 54 48.2**	**-0.3**
	comp=Z,16nm,0.8s,baz=123,slow=7.4,SNR=7.7						
FITZ	**Fitzroy Crossi**	**52.90**	**260**	P	**P**	**11 54 53.9**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=80,slow=3.6,SNR=14						
FITZ	**Fitzroy Crossi**	**52.90**	**260**	P	**P**	**11 54 54.1**	**-0.4**
PSA00	**Pilbara Seismi**	**57.79**	**255**	P	**P**	**11 55 27.3**	**-1.0**
PSA00				IAmb	IAmb	11 55 28.5	
	comp=Z,9.6nm,0.6s						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P	**P**	**11 55 36.3**	**-0.9**
MORW	**Morawa**	**60.39**	**246**	P	**P**	**11 55 45.1**	**-0.5**
MORW				IAmb	IAmb	11 55 53.2	
	comp=Z,9.5nm,1.1s						
GIRL	**Giralia**	**62.78**	**253**	P	**P**	**11 56 02.1**	**+0.8**
JAGI	**Jajag, Banyuwa**	**65.89**	**269**	P	**P**	**11 56 19.5**	**-1.5**
JAGI				IAmb	IAmb	11 56 38.2	
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**67.73**	**323**	P	**P**	**11 56 31.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=166,slow=5.8,SNR=5.3						
MJAR	**Matsushiro Arr**	**67.73**	**323**	P	**P**	**11 56 31.1**	**-0.8**
KKM	**Kota Kinabalu**	**68.57**	**284**	P	**P**	**11 56 37.7**	**+0.2**
KKM				IAmb	IAmb	11 56 42.8	
	comp=Z,21nm,1.1s						
UGM	**Wanagama**	**69.50**	**268**	P	**P**	**11 56 42.7**	**-0.3**
JHS	**Saijyo**	**69.72**	**319**	P	**P**	**11 56 43.6**	**-0.3**
JHS				IAmb	IAmb	11 56 48.9	
	comp=Z,4.8nm,0.9s						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**11 56 59.0**	**+0.6**
QSPA				IAmb	IAmb	11 56 59.2	
	comp=Z,4.4nm,0.9s						
KMRM	**Mail Ridge**	**77.03**	**40**	P	**P**	**11 57 26.8**	**+1.4**
MDPB	**Devils Postpil**	**78.50**	**44**	P	**P**	**11 57 34.5**	**+0.9**
YBH	**Yreka Blue Hor**	**78.53**	**39**	P	**P**	**11 57 34.5**	**+1.1**
BEKR	**Beckworth**	**78.91**	**42**	P	**P**	**11 57 36.1**	**+0.5**
YERR	**Yerington**	**79.14**	**43**	P	**P**	**11 57 37.5**	**+0.6**
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**11 57 39.4**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=220,slow=7.8,SNR=10.0						
KVN	**Kaiserville**	**79.92**	**43**	P	**P**	**11 57 41.6**	**+0.7**
MOD	**Modoc Plateau**	**80.10**	**40**	P	**P**	**11 57 42.3**	**+0.5**
K05A	**Summer Lake**	**80.21**	**39**	P	**P**	**11 57 43.5**	**+1.1**
K05A				IAmb	IAmb	11 57 44.5	
	comp=Z,8.7nm,1.2s						
SUA	**Susitna One**	**82.06**	**13**	P	**P**	**11 57 50.7**	**-0.6**
SUA				IAmb	IAmb	11 58 00.0	
	comp=Z,6.1nm,1.0s						
SKT	**Skwentna**	**82.36**	**13**	P	**P**	**11 57 53.8**	**+1.1**
TTA	**Tatalina**	**82.39**	**10**	P	**P**	**11 57 53.5**	**+0.6**
KNB	**Kanab**	**82.46**	**47**	P	**P**	**11 57 55.7**	**+1.6**
PMR	**Palmer**	**82.53**	**14**	P	**P**	**11 57 53.1**	**-0.5**
ELK	**Elko**	**82.68**	**43**	P	**P**	**11 57 55.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=270,slow=4.0,SNR=4.1						
ELK	**Elko**	**82.68**	**43**	P	**P**	**11 57 55.6**	**+0.4**
GHO	**Glory Hole Cre**	**82.74**	**14**	P	**P**	**11 57 54.2**	**-0.5**
GHO				IAmb	IAmb	11 57 55.5	
	comp=Z,2.8nm,0.6s						
SEY	**Seymchan**	**83.64**	**347**	P	**P**	**11 57 59.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=128,slow=24,SNR=1.5						
M24K	**Tolsona, Glenn**	**83.67**	**15**	P	**P**	**11 58 00.2**	**+0.9**
M24K				IAmb	IAmb	11 58 15.9	
	comp=Z,9.4nm,1.1s						
GLB	**Gilahina Butte**	**83.70**	**16**	P	**P**	**11 57 59.4**	**0.0**
GLB				IAmb	IAmb	11 58 12.0	
	comp=Z,7.2nm,1.2s						
BALM	**Baldy**	**83.76**	**17**	P	**P**	**11 57 59.7**	**-0.2**
BALM				IAmb	IAmb	11 58 00.8	
	comp=Z,7.8nm,1.1s						
MAW	**Mawson**	**83.91**	**200**	P	**P**	**11 57 60.0**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=152,slow=4.7,SNR=13						
MAW	**Mawson**	**83.91**	**200**	P	**P**	**11 58 00.2**	**-0.3**
TRF	**Thorofare Moun**	**83.94**	**12**	P	**P**	**11 57 59.6**	**-1.2**
TRF				IAmb	IAmb	11 58 02.0	
	comp=Z,6.6nm,1.2s						
DHY	**Denali Highway**	**84.23**	**14**	P	**P**	**11 58 01.9**	**-0.3**
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**11 58 09.0**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=221,slow=5.0,SNR=13						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**11 58 09.0**	**-0.6**
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**11 58 12.9**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=223,slow=6.4,SNR=11						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**11 58 13.2**	**+1.5**
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**11 58 18.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=215,slow=3.6,SNR=8.2						
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**11 58 18.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.71**	**290**	P	**P**	**11 58 24.1**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=110,slow=2.9,SNR=5.0						
SNAA	**Sanae**	**90.71**	**179**	P	**P**	**11 58 31.5**	**-1.1**
VNA3	**Neumayer Olymp**	**90.86**	**176**	P	**P**	**11 58 32.3**	**-0.8**
VNA2	**Neumayer--Watz**	**91.29**	**177**	P	**P**	**11 58 34.4**	**-0.8**
VNA1	**Neumayer--Stat**	**91.52**	**177**	P	**P**	**11 58 35.6**	**-0.6**
BRTR	**Keskin Array B**	**144.60**	**315**	PKP	**PKPab**	**12 05 03.8**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=307,slow=35,SNR=3.5						
BRTR	**Keskin Array B**	**144.60**	**315**		PKPbc	12 05 03.4	+0.2
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc	**PKPbc**	**12 05 10.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=101,slow=1.4,SNR=5.7						
GERES	**GERESS Array B**	**147.47**	**345**	PKPdf	**PKPdf**	**12 05 07.5**	**+0.1**
DAVOX	**Davos/Dischmat**	**150.27**	**348**	PKPbc	**PKPbc**	**12 05 18.1**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=166,slow=11,SNR=4.8						

NNC 19 11:54:17.7±5.8, 36.°65N×70.°48E, h0km, mb3.8, mpv3.5, 2C-1D, Error ellipse: s-maj=62.9km s-min=36.9km az=142.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.44**	**0**	Pn	Pn	11 55 55.0	+1.1
	0.5nm,0.2s,baz=177,slow=12,SNR=28						
KK31				⇓Sn	Sn	11 57 09.9	+1.8
	0.9nm,0.3s,baz=188,slow=25,SNR=4.4						
AAK	**Ala-Archa**	**6.73**	**26**	⇑Pn	Pn	11 55 57.8	-0.2
	2.5nm,0.3s						
AAK				⇑Sn	Sn	11 57 16.1	+0.7
	2.8nm,0.5s						
AB31	**Akbulak array**	**14.75**	**332**	P	Pn	11 57 45.1	-2.4
	0.6nm,0.5s,baz=164,slow=12,SNR=11						

*AEIC **19** 11:56:13±1.7, 51.°8N±0.°1×178.°56E±0.°08, h113km±3km, Error ellipse: s-maj=18.3km s-min=6.8km az=186.0*
*NEIC **19** 11:56:14.3±1.6, 51.°8N±0.°1×178.°45E±0.°09, h114km±4km, mb4.2/117, ML3.7(AEIC), Error ellipse: s-maj=19.1km s-min=7.9km az=181.0*
*IDC **19** 11:56:15.4±2.4, 51.°99N×178.°49E, h123km±21km, mb3.6/18, mb1 3.8/20, mb1mx3.6/68, mbtmp4.0/20, MS3.1/2, Ms1 3.1/2, ms1mx2.7/39, Error ellipse: s-maj=22.0km s-min=10.1km az=163.0*

ISC 19 11:56:14.1±0.7, 51.°85N±0.°09×178.°44E±0.°05, h113km±5km, n192, σ1°00/194, mb4.2/59, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.11**	**26**		**Pn**	**11 56 29.8**	**+0.1**
LSSE	**Little Sitkin**	**0.12**	**44**		**Pn**	**11 56 30.1**	**+0.4**
LSNW	**Little Sitkin**	**0.13**	**22**		**Pn**	**11 56 29.6**	**-0.1**
LSPA	**Little Sitkin**	**0.14**	**38**		**Pn**	**11 56 30.2**	**+0.5**
LSPA					**Sn**	**11 56 42.4**	**+0.9**
CETU	**Semis' Tuman**	**0.67**	**79**		**Pn**	**11 56 32.6**	**+0.2**
CESW	**Semis' Southwe**	**0.70**	**85**		**Pn**	**11 56 32.5**	**-0.2**
AMKA	**Amchitka**	**0.72**	**131**		**Pn**	**11 56 33.0**	**+0.1**
AMKA				Sn	**Sn**	**11 56 46.0**	**-1.0**
CEAP	**Semis' Anvil P**	**0.72**	**77**		**Pn**	**11 56 33.0**	**+0.1**
CERB	**Semis' Cerberu**	**0.74**	**83**		**Pn**	**11 56 33.6**	**+0.5**
CERB					**Sn**	**11 56 47.7**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.78**	**85**		**Pn**	**11 56 33.4**	**0.0**
GALAA	**Gareloi Lava P**	**1.74**	**92**		**Pn**	**11 56 44.1**	**+0.2**
TASE	**Tanaga Southea**	**2.19**	**89**		**Pn**	**11 56 49.5**	**-0.1**
TAFP	**Tanaga Falls P**	**2.22**	**87**		**Pn**	**11 56 49.7**	**-0.3**
TAFP					**Sn**	**11 57 17.4**	**0.0**
KIMD	**Kanaga Island**	**2.69**	**90**		**Pn**	**11 56 55.7**	**-0.3**
KIKV	**Kanaga Island**	**2.73**	**88**		**Pn**	**11 56 56.8**	**+0.3**
KINC	**Kanaga Island**	**2.75**	**87**		**Pn**	**11 56 56.9**	**+0.1**
KIRH	**Kanaga Island**	**2.77**	**87**		**Pn**	**11 56 57.0**	**-0.1**
ADK	**Adak**	**3.03**	**87**	Pn	**Pn**	**11 56 59.7**	**-0.7**
ADK				Sn	**Sn**	**11 57 35.1**	**-1.1**
ADAG	**Mount Adagdak**	**3.08**	**86**		**Pn**	**11 57 00.8**	**-0.3**
GSTD	**Great Sitkin T**	**3.36**	**84**		**Pn**	**11 57 04.3**	**-0.6**
GSTD					**Sn**	**11 57 46.2**	**+2.0**
GSMY	**Great Sitkin M**	**3.41**	**85**		**Pn**	**11 57 05.3**	**-0.3**
GSTR	**Great Sitkin T**	**3.41**	**84**	Pn	**Pn**	**11 57 04.8**	**-0.8**
ATKA	**Atka Island**	**4.56**	**83**		**Pn**	**11 57 20.5**	**-0.4**
KOKL	**Mount Kliuchef**	**4.57**	**81**		**Pn**	**11 57 21.3**	**+0.3**
NIKH	**Nikolski High**	**7.86**	**77**	Pn	**Pn**	**11 58 06.0**	**+0.6**
SPIA	**Saint Paul Isl**	**8.47**	**47**	Pn	**Pn**	**11 58 15.8**	**+2.2**
MGOD	**Makushin Gods**	**9.11**	**72**		**Pn**	**11 58 23.8**	**+1.4**
MREP	**Makushin Rep't**	**9.19**	**72**		**Pn**	**11 58 24.8**	**+1.3**
UNV	**Unalaska Valle**	**9.33**	**72**	Pn	**Pn**	**11 58 25.4**	**+0.1**
AKUT	**Akutan**	**9.79**	**70**	Pn	**Pn**	**11 58 34.0**	**+2.4**
PEA0B	**Petropavlovsk-**	**12.70**	**284**	Pn	**Pn**	**11 59 10.7**	**+0.3**
PETK	**Petropavlovsk-**	**12.70**	**284**	P	**Pn**	**11 59 11.3**	**+0.9**
	1.0nm,0.3s,baz=95,slow=19,SNR=14						
PETK				S	**Sn**	**12 01 24.9**	**-5.1**
	0.3nm,0.3s,baz=250,slow=35,SNR=1.4						
PETK	**Petropavlovsk-**	**12.70**	**284**	Pn	**Pn**	**11 59 11.6**	**+1.2**
CHGN	**Chignik**	**14.27**	**63**	Pn	**Pn**	**11 59 30.1**	**-0.6**
CHIR	**Chirikof Islan**	**15.78**	**65**	Pn	**Pn**	**11 59 48.4**	**-1.2**
SVW2	**Sparrevohn**	**16.97**	**47**	P	**P**	**12 00 07.0**	**+2.7**
SVW2				IAmb	IAmb	12 00 09.4	
	comp=Z,13nm,1.2s						
OHAK	**Old Harbor**	**17.19**	**61**	P	**P**	**12 00 04.3**	**-2.5**
OHAK				IAmb	IAmb	12 00 10.3	
	comp=Z,14nm,0.9s						
TTA	**Tatalina**	**17.54**	**41**	P	**Pn**	**12 00 11.7**	**+0.5**
KDAK	**Kodiak Island**	**17.64**	**59**	P	**P**	**12 00 09.4**	**-2.2**
SEY	**Seymchan**	**17.75**	**319**	P	**P**	**12 00 11.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=2.3						
CNPM	**China Poot**	**18.61**	**54**	P	**P**	**12 00 21.9**	**-0.4**
BRLK	**Bradley Lake**	**18.83**	**53**	P	**P**	**12 00 23.9**	**-0.7**
BRLK				IAmb	IAmb	12 00 24.9	
	comp=Z,10nm,0.6s						
SKT	**Skwentna**	**19.09**	**46**	P	**Pn**	**12 00 28.8**	**-0.7**
SKT				IAmb	IAmb	12 00 34.3	
	comp=Z,12nm,0.8s						
PPLA	**Purkeypile**	**19.12**	**43**	P	**P**	**12 00 28.5**	**+0.5**
PPLA				IAmb	IAmb	12 00 47.2	
	comp=Z,10nm,1.0s						
SUA	**Susitna One**	**19.30**	**48**	P	**P**	**12 00 30.

baz=14,slow=76
H11N1 WAKE ISLAND Hy 33.32 200 T T 12 38 09.7
baz=14,slow=76
H11S1 WAKE ISLAND Hy 34.53 200 T T 12 39 38.9
baz=11,slow=74
H11S3 WAKE ISLAND Hy 34.55 200 T T 12 39 37.0
baz=11
H11S2 WAKE ISLAND Hy 34.55 200 T T 12 39 37.0
baz=11,slow=74
YKA Yellowknife Ar 36.16 46 P **P** **12 03 04.3 -0.6**
comp=Z,1.3nm,0.8s,baz=278,slow=7.8,SNR=7.4
KSRS Korea Array 37.92 268 P **P** **12 03 21.6 +1.5**
comp=Z,1.3nm,0.8s,baz=44,slow=9.3,SNR=4.3
LON Longmire 38.34 73 P **P** **12 03 24.0 +0.4**
LON IAmb IAmb 12 03 33.2
comp=Z,4.6nm,1.3s
F04A Amboy 38.39 75 P **P** **12 03 24.5 +0.5**
LTY Liberty 38.76 72 P **P** **12 03 26.8 -0.4**
LTY IAmb IAmb 12 03 39.2
comp=Z,3.9nm,1.1s
B08A Colville Reser 39.00 70 P **P** **12 03 28.6 -0.5**
B08A IAmb IAmb 12 03 29.5
comp=Z,3.1nm,1.1s
HUMO Hull Mountain 39.86 80 P **P** **12 03 37.4 +1.1**
HUMO IAmb IAmb 12 03 45.6
comp=Z,7.4nm,1.3s
HAWA Hanford 39.87 72 P **P** **12 03 36.4 +0.1**
HAWA IAmb IAmb 12 03 48.1
comp=Z,8.6nm,1.5s
KRMB Red Mountain 39.90 82 P **P** **12 03 37.9 +1.1**
NEW Newport 40.33 69 P **P** **12 03 39.4 -0.7**
NEW IAmb IAmb 12 03 40.4
comp=Z,2.3nm,0.6s
YBH Yreka Blue Hor 40.51 80 P **P** **12 03 43.5 +1.7**
YBH IAmb IAmb 12 03 44.0
comp=Z,4.6nm,0.8s
KMRM Mail Ridge 40.78 83 P **P** **12 03 46.2 +2.2**
K05A Summer Lake 41.05 78 P **P** **12 03 47.1 +0.8**
K05A IAmb IAmb 12 03 47.6
comp=Z,3.4nm,0.6s
I07A Izee 41.13 75 P **P** **12 03 47.1 +0.2**
I07A IAmb IAmb 12 03 47.1
comp=Z,2.9nm,0.8s
WDC Whiskeytown Da 41.29 82 P **P** **12 03 49.3 +1.3**
WDC IAmb IAmb 12 03 49.5
comp=Z,2.6nm,0.7s
MOD Modoc Plateau 41.88 79 P **P** **12 03 53.5 +0.4**
MOD IAmb IAmb 12 03 55.0
comp=Z,3.1nm,0.7s
HOPS Hopland Field 41.91 84 P **P** **12 03 54.3 +1.2**
BMO Blue Mountains 42.02 73 P **P** **12 03 53.7 -0.3**
J08A Circle Bar Ran 42.15 76 P **P** **12 03 54.9 -0.2**
MSO Missoula 42.91 69 P **P** **12 04 00.4 -0.9**
MSO IAmb IAmb 12 04 00.4
comp=Z,2.3nm,0.6s
BEKR Beckworth 43.05 81 P **P** **12 04 03.1 +0.6**
BEKR IAmb IAmb 12 04 03.4
comp=Z,3.1nm,0.6s
RUBR Rubicon Trail 43.67 82 P **P** **12 04 07.1 -0.5**
PAHR Pah Rah Range 43.74 81 P **P** **12 04 08.3 +0.2**
PAHR IAmb IAmb 12 04 09.3
comp=Z,3.3nm,0.9s
VCNR Virginia City 43.83 81 P **P** **12 04 09.6 +0.8**
VCNR IAmb IAmb 12 04 10.2
comp=Z,3.7nm,0.7s
PNTR Pine Nut 43.99 82 P **P** **12 04 11.1 +1.0**
CMB Columbia Colle 44.16 83 P **P** **12 04 11.9 +0.6**
HRY Holter Researc 44.19 68 P **P** **12 04 10.8 -0.8**
YERR Yerington 44.27 81 P **P** **12 04 12.9 +0.6**
YERR IAmb IAmb 12 04 13.9
comp=Z,3.7nm,0.9s
WAKR Walker 44.45 82 P **P** **12 04 14.9 +1.1**
WAKR IAmb IAmb 12 04 15.6
comp=Z,3.8nm,0.8s
BCYI Bear Canyon 44.63 72 P **P** **12 04 14.5 -0.7**
MCMT McKenzie Canyo 44.66 71 P **P** **12 04 14.3 -1.1**
SONM Songino Array 44.89 295 P **P** **12 04 17.7 +0.7**
comp=Z,0.5nm,0.4s,baz=69,slow=7.9,SNR=2.5
SONM Songino Array 44.89 295 P **P** **12 04 17.5 +0.5**
BOZ Bozeman (W) 44.93 69 P **P** **12 04 16.4 -1.1**
BOZ IAmb IAmb 12 04 17.2
comp=Z,3.5nm,0.8s
KVN Kaiserville 44.93 81 P **P** **12 04 18.1 +0.5**
RYN Ryan 44.94 81 P **P** **12 04 18.1 +0.5**
RYN IAmb IAmb 12 04 18.9
comp=Z,6.2nm,1.1s
LHV Little Huntoon 45.18 82 P **P** **12 04 20.7 +1.4**
LHV IAmb IAmb 12 04 22.0
comp=Z,4.4nm,1.1s
NVAR Mina Array Bea 45.19 81 P **P** **12 04 20.2 +0.5**
comp=Z,2.4nm,0.6s,baz=296,slow=7.4,SNR=27
NVAR ScP **ScP** **12 09 38.7 -1.1**
comp=Z,0.4nm,0.7s,baz=312,slow=3.9,SNR=3.1
NVAR Mina Array Bea 45.19 81 P **P** **12 04 20.6 +0.9**
MDPB Devils Postpil 45.22 83 P **P** **12 04 21.0 +1.1**
MDPB IAmb IAmb 12 04 21.8
comp=Z,4.9nm,0.8s
OMMB Old Mammoth Mi 45.28 83 P **P** **12 04 21.7 +1.2**
OMMB IAmb IAmb 12 04 22.4
comp=Z,3.7nm,1.1s
NV11 Mina Array Sit 45.28 81 P **P** **12 04 20.9 +0.6**
NV11 IAmb IAmb 12 04 30.7
comp=Z,6.8nm,1.5s
YHL Hebgen Lake 45.62 70 P **P** **12 04 22.2 -0.8**
ELK Elko 45.64 77 P **P** **12 04 23.4 +0.2**
YHB Horse Butte 45.67 70 P **P** **12 04 22.2 -1.2**
PAGB Antelope Grade 45.71 86 P **P** **12 04 24.5 +1.0**
YHH Holmes Hill 45.85 70 P **P** **12 04 24.0 -0.9**
HHC Hu-ho-hao-te 45.90 284 *eP* **P** **12 04 27.0 +1.9**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,93nm,5.7s
TPH Tonopah 46.08 81 P **P** **12 04 27.0 +0.4**
R11A Troy Canyon, C 46.91 80 P **P** **12 04 33.3 +0.2**
R11A IAmb IAmb 12 04 33.4
comp=Z,2.1nm,0.6s
TPNV Topopah Spring 47.39 81 P **P** **12 04 37.1 +0.3**
DUG Dugway, Tooele 47.43 76 P **P** **12 04 37.3 +0.2**
DUG IAmb IAmb 12 04 37.5
comp=Z,3.0nm,0.6s
BW06 Boulder Array 47.80 71 P **P** **12 04 39.6 -0.4**
PD31 Pinedale Array 47.80 71 P **P** **12 04 39.5 -0.4**
PDAR Pinedale Array 47.80 71 P **P** **12 04 39.0 -0.9**
comp=Z,1.7nm,0.6s,baz=309,slow=3.2,SNR=21
PDAR Pinedale Array 47.80 71 P **P** **12 04 39.2 -0.8**
PRN Pahroc Range 47.83 80 P **P** **12 04 41.2 +1.0**
PRN IAmb IAmb 12 04 42.6
comp=Z,6.6nm,1.3s
PSUT Pine Spring 47.84 78 P **P** **12 04 40.5 +0.1**
GSC Goldstone, Bar 48.12 84 P **P** **12 04 43.0 +0.7**
CCUT Cedar City 48.77 79 P **P** **12 04 47.6 +0.1**
MVU Marysvale 48.86 77 P **P** **12 04 48.4 +0.2**
RDMU Red Mountain 49.14 73 P **P** **12 04 50.3 0.0**
MTPU Mount Pierson 49.17 78 P **P** **12 04 51.9 +1.2**
PKCU Pink Cliffs 49.48 78 P **P** **12 04 52.8 -0.3**
SRU San Rafael Swe 49.49 75 P **P** **12 04 53.0 +0.1**
SPITS Spitsbergen Ar 49.77 355 P **P** **12 04 54.3 0.0**
comp=Z,9.2nm,0.9s,baz=34,slow=9.1,SNR=2.1
ULM Lac du Bonnet 50.85 56 P **P** **12 05 01.4 -1.4**
comp=Z,1.8nm,0.5s,baz=286,slow=6.0,SNR=5.2
ULM Lac du Bonnet 50.85 56 P **P** **12 05 01.9 -0.9**
PV14 Lion Creek, Pa 50.86 75 P **P** **12 05 02.8 -0.5**
PV14 IAmb IAmb 12 05 03.7
comp=Z,2.6nm,0.9s
PV22 Blue Mesa, Par 50.90 75 P **P** **12 05 04.7 +1.1**
PV22 IAmb IAmb 12 05 05.1
comp=Z,3.0nm,0.9s
WMQ Urumqi 57.63 301 *eP* **P** **12 05 54.8 +2.7**
MKAR Makanchi Array 58.38 307 P **P** **12 05 55.9 -1.3**
comp=Z,0.4nm,0.4s,baz=27,slow=3.5,SNR=2.1
MKAR Makanchi Array 58.38 307 P **P** **12 05 56.9 -0.3**
BVAR Borovoye Array 59.40 318 P **P** **12 06 04.3 +0.2**
comp=Z,0.2nm,0.3s,baz=53,slow=9.4,SNR=2.6
TXAR Lajitas Array 60.27 79 P **P** **12 06 10.4 -0.1**
comp=Z,1.7nm,0.7s,baz=301,slow=5.0,SNR=26
TXAR Lajitas Array 60.27 79 P **P** **12 06 10.7 +0.1**
CMAR Chiang Mai Arr 69.25 274 P **P** **12 07 09.1 +0.3**
comp=Z,0.5nm,0.4s,baz=37,slow=7.3,SNR=5.7
WRA Warramunga Arr 81.19 221 P **P** **12 08 17.3 +0.3**
comp=Z,1.5nm,0.7s,baz=32,slow=6.2,SNR=15
WRA Warramunga Arr 81.19 221 P **P** **12 08 17.6 +0.6**
LEM Lembang 83.70 251 LR LR 12 44 32.0
comp=Z,19nm,20.4s,baz=114,slow=35
ASAR Alice Springs 84.70 220 P **P** **12 08 35.9 +0.8**
comp=Z,0.8nm,0.7s,baz=29,slow=5.6,SNR=9.7
ASAR Alice Springs 84.70 220 P **P** **12 08 32.8 -2.3**
MAW Mawson 145.80 218 PKPbc **PKPab** **12 15 39.3 +0.3**
comp=Z,1.3nm,1.0s,baz=97,slow=5.9,SNR=7.3
MAW Mawson 145.80 218 **PKPab** **12 15 39.1 0.0**

*IDC **19** 11:59:54.9±0.9, 39.79N×73.15E, h0km, mb3.8/10, mb1 3.8/16, mb1mx3.6/53, mbtmp3.6/16, ML2.7/5, Error ellipse: s-maj=18.4km s-min=17.4km az=47.0*
*ISU **19** 11:59:54.3, 39.83N×73.17E, h5km*
*KRNET **19** 11:59:57.5±0.1, 40.03N×73.06E, mb4.2*
*NNC **19** 12:00:01.9±1.2, 40.19N×73.14E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=9.8km s-min=4.8km az=173.0*
*NEIC **19** 12:00:02.5±2.8, 39.99N±0.06×73.17E±0.05, h45km±7km, mb4.4/11, Error ellipse: s-maj=9.1km s-min=5.7km az=190.0*
ISC 19 11:59:57.4±1.2, **39.85N**±0.03×**73.00E**±0.03, **h10**km±8km, **n108**,σ1°**74**/135, **mb4.1**/14, **27C-19D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.69**	**347**	*i* P	**Pg**	**12 00 08.8**	**-2.0**
OHH				*i* S	**Sg**	**12 00 18.1**	**-1.8**
FRG	**Fergana**	**1.28**	**314**	*i* P	**Pn**	**12 00 17.8**	**-3.6**
FRG				*i* S	**Sn**	**12 00 32.6**	**-6.0**
NAM	**Namangan**	**1.53**	**319**	*i* P	**Pb**	**12 00 27.1**	**+1.2**
NAM				*i* S	**Sb**	**12 00 48.4**	**+3.1**
BTK	**Batken**	**1.69**	**278**	⇓*i* P	**Pb**	**12 00 28.8**	**+0.2**
baz=71							
BTK				⇓*i* S	**Sg**	**12 00 53.1**	**+1.4**
baz=71							
BTK	**Batken**	**1.69**	**278**	Pn	**Pb**	**12 00 29.2**	**+0.6**
BTK				Sn	**Sg**	**12 00 54.5**	**+2.8**
BTK	**Batken**	**1.69**	**278**	*i* P	**Pb**	**12 00 28.7**	**+0.2**
BTK				*i* S	**Sg**	**12 00 55.1**	**+3.4**
GAR	**Garm**	**2.24**	**249**	⇑*i* P	**Pg**	**12 00 39.2**	**-1.2**
baz=45							
GAR				⇑*i* S	**Sg**	**12 01 09.9**	**+0.4**
baz=45							
GAR	**Garm**	**2.24**	**249**	Pn	**Pg**	**12 00 41.0**	**+0.6**
KSH	**Kashi**	**2.32**	**97**	Pn	**Pn**	**12 00 34.8**	**-1.0**
KSH				Sn	**Sn**	**12 01 02.8**	**-1.6**
KSH				smax	smax		
comp=N,920nm,0.2s							
KSH				smax	smax		
comp=E,570nm,0.4s							
AML	**Almayashu**	**2.34**	**13**	⇓*i* P	**Pn**	**12 00 36.6**	**+0.4**
baz=13							
AML				⇓*i* S	**Sn**	**12 01 05.4**	**+0.2**
baz=13							
AML	**Almayashu**	**2.34**	**13**	P	**Pn**	**12 00 36.7**	**+0.4**
SNR=338							
UCH	**Uchtor**	**2.64**	**25**	⇑*i* P	**Pn**	**12 00 41.0**	**+0.6**
baz=26							
UCH				⇑*i* S	**Sn**	**12 01 12.3**	**-0.4**
baz=26							
UCH	**Uchtor**	**2.64**	**25**	P	**Pn**	**12 00 40.8**	**+0.3**
SNR=105							
MNAS	**Manas**	**2.66**	**352**	⇑*e*P	**Pn**	**12 00 41.1**	**+0.6**
baz=51							
MNAS				⇑*e*S	**Sn**	**12 01 12.9**	**+0.1**
baz=51							
EKS2	**Erkin-Say**	**2.87**	**12**	⇑*i* P	**Pn**	**12 00 43.7**	**+0.4**
baz=11							
EKS2				⇑*i* S	**Sn**	**12 01 17.7**	**-0.3**
baz=11							
EKS2	**Erkin-Say**	**2.87**	**12**	P	**Pn**	**12 00 45.1**	**+1.8**
SNR=23							
MRKS	**Merke**	**2.90**	**3**	Pg	**Pb**	**12 00 49.3**	**+0.1**
comp=E,85nm,0.4s							
MRKS				Lg	Lg	12 01 23.9	
comp=E,209nm,0.2s							
CHRV	**Charvak**	**2.92**	**309**	*i* P	**Pb**	**12 00 50.6**	**+0.9**
CHRV				*i* S	**Sb**	**12 01 29.5**	**+4.0**
AAK	**Ala-Archa**	**3.00**	**22**	⇓*i* P	**Pn**	**12 00 45.9**	**+0.7**
baz=22							
AAK				⇓*i* S	**Sn**	**12 01 20.6**	**-0.7**
baz=22							
AAK	**Ala-Archa**	**3.00**	**22**	P	**Pn**	**12 00 46.3**	**+1.1**
SNR=92							
AAK	**Ala-Archa**	**3.00**	**22**	⇑Pn	**Pn**	**12 00 45.7**	**+0.5**
comp=E,34nm,0.3s							
AAK				⇓Lg	Lg	12 01 22.8	
comp=E,164nm,0.7s							
KBK	**Karagaybulak**	**3.17**	**27**	⇑*e*P	**Pn**	**12 00 48.2**	**+0.8**
baz=28							
KBK				⇑*i* S	**Sn**	**12 01 24.7**	**-0.6**
baz=28							
KBK	**Karagaybulak**	**3.17**	**27**	P	**Pn**	**12 00 49.5**	**+2.1**
SNR=35							
TAS	**Tashkent**	**3.18**	**299**	⇓*e*P	**Pn**	**12 00 50.4**	**+2.9**
baz=96							
TAS				⇓*e*S	**Sn**	**12 01 28.4**	**+2.9**
baz=96							
TAS	**Tashkent**	**3.18**	**299**	*i* P	**Pb**	**12 00 56.5**	**+2.5**
TAS				*i* S	**Sg**	**12 01 38.2**	**-1.3**
FRU1	**Bishkek**	**3.20**	**22**	⇑*e*P	**Pn**	**12 00 48.3**	**+0.5**
baz=23							
FRU1				⇑*i* S	**Sn**	**12 01 25.4**	**-0.7**
baz=23							
FRU1	**Bishkek**	**3.20**	**22**	Pn	**Pn**	**12 00 51.4**	**+3.6**
CHGR	**Chuyangaron**	**3.21**	**249**	⇑*i* P	**Pb**	**12 00 52.5**	**-2.0**
baz=47							
CHGR				⇑*i* S	**Sb**	**12 01 32.9**	**-0.8**
baz=47							
CHGR	**Chuyangaron**	**3.21**	**249**	Pn	**Pb**	**12 00 53.7**	**-0.8**
IUG	**Iuzhnay**	**3.21**	**317**	Pg	**Pg**	**12 00 58.7**	**-0.2**
comp=E,122nm,0.3s							
IUG				Lg	Lg	12 01 40.2	
comp=E,84nm,0.3s							
CHMS	**Chumysh**	**3.41**	**22**	⇓*i* P	**Pn**	**12 00 51.3**	**+0.6**
baz=23							
CHMS				⇓*i* S	**Sn**	**12 01 30.3**	**-0.9**
baz=23							
CHMS	**Chumysh**	**3.41**	**22**	P	**Pn**	**12 00 51.8**	**+1.1**
SNR=14							
ULHL	**Ulahol**	**3.43**	**45**	⇑*i* P	**Pn**	**12 00 51.8**	**+0.7**
baz=46							
ULHL				⇑*i* S	**Sn**	**12 01 31.8**	**0.0**
baz=46							
ULHL	**Ulahol**	**3.43**	**45**	P	**Pn**	**12 00 52.7**	**+1.6**
SNR=15							
BOOM	**Boomskoye usch**	**3.45**	**39**	⇓*e*P	**Pn**	**12 00 52.1**	**+0.8**
baz=41							
BOOM				⇓*i* S	**Sn**	**12 01 32.2**	**-0.1**
baz=41							
BOOM	**Boomskoye usch**	**3.45**	**39**	Pn	**Pn**	**12 00 52.0**	**+0.8**
USP	**Ospenovka**	**3.59**	**18**	⇓*i* P	**Pn**	**12 00 53.7**	**+0.5**
baz=18							
USP				⇓*i* S	**Sn**	**12 01 34.6**	**-1.1**
baz=18							
USP	**Ospenovka**	**3.59**	**18**	P	**Pn**	**12 00 54.6**	**+1.4**
SNR=13							
TKM2	**Tokmak 2**	**3.64**	**32**	⇑*e*P	**Pn**	**12 00 54.6**	**+0.7**
baz=33							
TKM2				⇑*i* S	**Sn**	**12 01 36.4**	**-0.6**
baz=33							
TKM2	**Tokmak 2**	**3.64**	**32**	P	**Pn**	**12 00 55.1**	**+1.1**
SNR=44							
TKM2	**Tokmak 2**	**3.64**	**32**	⇑Pn	**Pn**	**12 00 54.6**	**+0.7**
comp=E,17nm,0.4s							
TKM2				⇑Lg	Lg	12 01 44.8	
comp=E,52nm,0.6s							
KK06	**Karatay Array**	**3.73**	**331**	Pn	**Pn**	**12 00 57.1**	**+2.0**
KK07	**Karatay Array**	**3.74**	**331**	Pn	**Pn**	**12 00 57.5**	**+2.3**
KK31	**Karatay Array**	**3.75**	**331**	Pn	**Pn**	**12 00 56.8**	**+1.5**
comp=E,5.7nm,0.3s,baz=131,slow=12,SNR=171							
KK31				⇑Pg	**Pb**	**12 01 05.7**	**+2.0**
comp=E,9.0nm,0.3s,baz=164,slow=14,SNR=14							
KK31				⇑Sn	**Sn**	**12 01 40.8**	**+1.4**
comp=E,13nm,0.3s,baz=149,slow=15,SNR=6.8							
KK31				⇓Lg	Lg	12 01 53.8	
comp=E,19nm,0.3s							
KK31	**Karatay Array**	**3.75**	**331**	Pn	**Pn**	**12 00 57.0**	**+1.7**
KKAR	**Karatay Array**	**3.75**	**331**	Pn	**Pn**	**12 00 57.0**	**+1.7**
KKAR	**Karatay Array**	**3.75**	**331**	Pn	**Pn**	**12 00 56.5**	**+1.2**
SGDS	**Sogindy**	**3.80**	**18**	Pg	**Pb**	**12 01 05.6**	**+1.0**
comp=E,28nm,0.4s							
SGDS				Lg	Lg	12 01 51.8	
comp=E,58nm,0.8s							
KST	**Kastek**	**3.89**	**34**	Pg	**Pb**	**12 01 07.9**	**+1.8**
comp=E,27nm,0.4s							
KST				Lg	Lg	12 01 56.0	
comp=E,66nm,0.5s							
KDJ	**Kajisay**	**3.90**	**53**	⇑*i* P	**Pn**	**12 00 58.6**	**+1.1**
baz=55							
KDJ				⇑*i* S	**Sn**	**12 01 43.4**	**0.0**
baz=55							
KDJ	**Kajisay**	**3.90**	**53**	Pn	**Pn**	**12 00 58.3**	**+0.8**
BRLS	**Borolday**	**3.97**	**324**	Pg	**Pb**	**12 01 10.1**	**+2.7**
comp=E,28nm,0.3s							
BRLS				Lg	Lg	12 01 59.7	
comp=E,70nm,0.4s							
DGS	**Degeres**	**3.98**	**31**	Pg	**Pb**	**12 01 08.9**	**+1.2**
comp=E,38nm,0.5s							
DGS				Lg	Lg	12 01 57.5	
comp=E,134nm,0.6s							
MTBS	**Maitube**	**4.17**	**37**	Pg	**Pb**	**12 01 12.4**	**+1.5**
comp=E,33nm,0.5s							
MTBS				Lg	Lg	12 02 03.5	
comp=E,40nm,0.5s							
IZV	**Izvestkoviy**	**4.18**	**39**	Pg	**Pb**	**12 01 13.2**	**+2.0**
comp=E,9.2nm,0.3s							
IZV				Lg	Lg	12 02 05.1	
comp=E,112nm,0.5s							
KRBS	**Karabastau**	**4.33**	**27**	Pg	**Pb**	**12 01 15.0**	**+1.3**
comp=E,14nm,0.4s							
KRBS				Lg	Lg	12 02 07.9	
comp=E,62nm,0.6s							
TNSS	**Tian-Shan**	**4.35**	**42**	Pg	**Pb**	**12 01 15.8**	**+1.6**
comp=E,36nm,0.6s							
TNSS				Lg	Lg	12 02 09.5	
comp=E,26nm,0.4s							
MDOK	**Medeo**	**4.50**	**41**	Pg	**Pb**	**12 01 17.9**	**+1.4**
comp=E,38nm,0.6s							
MDOK				Lg	Lg	12 02 13.2	
comp=E,41nm,0.6s							
ANVS	**Anan'yevo**	**4.58**	**49**	⇓*e*P	**Pn**	**12 01 08.3**	**+1.5**
baz=50							
ANVS				⇓*i* S	**Sn**	**12 01 59.5**	**-0.7**
baz=50							
KOTS	**Kotyrbulak**	**4.58**	**41**	Pg	**Pb**	**12 01 20.3**	**+2.4**
comp=E,129nm,0.6s							
KOTS				Lg	Lg	12 02 17.2	
comp=E,190nm,0.5s							
KTBS	**Karatobe**	**4.74**	**34**	Pg	**Pb**	**12 01 22.5**	**+1.9**
comp=E,22nm,0.6s							
KTBS				Lg	Lg	12 02 20.9	
comp=E,62nm,0.6s							
KUU	**Kurty**	**4.75**	**31**	Pg	**Pb**	**12 01 22.6**	**+1.9**
comp=E,22nm,0.5s							
KUU				Lg	Lg	12 02 21.2	
comp=E,56nm,1.0s							
CHKK	**Chushkaly**	**4.99**	**35**	Pg	**Pb**	**12 01 27.8**	**+3.0**
comp=E,19nm,0.5s							
CHKK				Lg	Lg	12 02 30.2	
comp=E,57nm,0.6s							
SATY	**Saty**	**5.18**	**50**	Pg	**Pb**	**12 01 32.4**	**+4.3**
comp=E,21nm,0.8s							
SATY				Lg	Lg	12 02 37.9	
comp=E,48nm,1.0s							
BTLS	**Baital**	**5.25**	**8**	Pg	**Pb**	**12 01 31.1**	**+1.9**
comp=E,4.5nm,0.4s							
BTLS				Lg	Lg	12 02 35.9	
comp=E,30nm,0.6s							
KURS	**Kuram**	**5.31**	**45**	Pg	**Pb**	**12 01 34.3**	**+4.0**
comp=E,37nm,0.7s							
KURS				Lg	Lg	12 02 41.5	
comp=E,20nm,1.4s							
UZB	**Uzynbulak**	**5.59**	**52**	Pg	**Pb**	**12 01 38.8**	**+3.6**
comp=E,12nm,0.5s							
UZB				Lg	Lg	12 02 48.7	
comp=E,19nm,0.8s							
PDGK	**Podgornoye**	**5.98**	**52**	⇓Pg	**Pb**	**12 01 41.6**	**-0.1**
comp=E,20nm,0.8s							
PDGK				⇑Lg	Lg	12 02 58.2	
comp=E,34nm,0.8s							
KBL	**Kabul**	**6.17**	**212**	Pn	Pn	12 01 34.6	+5.9
NIL	**Nilore**	**6.19**	**178**	Pn	Pb	12 01 34.9	-10
DHRM	**DHARAMSHALA**	**8.04**	**160**	*eP*	Pn	12 01 58.9	+4.4
DHRM				*eS*	**Sn**	**12 03 29.2**	**+3.7**
SMLA	**Simla**	**9.34**	**157**	*eP*	**Pn**	**12 02 08.6**	**-3.5**
SMLA				*eS*	**Sn**	**12 03 59.4**	**+2.3**
MKAR	**Makanchi Array**	**9.69**	**41**	Pn	**Pn**	**12 02 15.7**	**-1.2**
comp=E,0.1nm,0.3s,baz=237,slow=15,SNR=3.0							
MKAR				Lg	Lg	12 04 56.8	
comp=E,0.2nm,0.3s,baz=228,slow=26,SNR=1.8							
MKAR	**Makanchi Array**	**9.69**	**41**	Pn	**Pn**	**12 02 15.4**	**-1.4**
KURBB	**Kurchatov Arra**	**11.45**	**18**	Pn	**Pn**	**12 02 39.4**	**-1.5**
comp=E,0.1nm,0.3s,baz=213,slow=9.3,SNR=2.4							
KURBB				Lg	Lg	12 05 50.6	
comp=E,0.1nm,0.3s,baz=202,slow=30,SNR=5.9							
AB31	**Akbulak array**	**13.21**	**320**	⇑P	**Pn**	**12 03 02.9**	**-2.1**
comp=E,1.5nm,0.5s,baz=138,slow=12,SNR=29							
ABKAR	**Akbulak array**	**13.21**	**320**	Pn	**Pn**	**12 03 02.3**	**-2.6**
BVAR	**Borovoye Array**	**13.30**	**353**	Pn	**Pn**	**12 03 03.5**	**-2.6**
comp=E,0.2nm,0.3s,baz=169,slow=12,SNR=1.9							
AKTO	**Aktyubinsk**	**14.93**	**320**	Pn	**Pn**	**12 03 26.4**	**-1.9**
comp=E,0.5nm,0.3s,baz=126,slow=13,SNR=7.6							
AKTO	**Aktyubinsk**	**14.93**	**320**	P	**Pn**	**12 03 27.0**	**-1.3**
comp=E,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**16.22**	**26**	Pn	**Pn**	**12 03 42.3**	**-2.9**
comp=E,0.2nm,0.3s,baz=209,slow=12,SNR=1.4							
ZALV	**Zalesovo Beam**	**16.22**	**26**	P	**Pn**	**12 03 46.3**	**+1.2**
ARU	**Arti**	**19.11**	**335**	P	**P**	**12 04 19.6**	**-0.6**
comp=E,0.0nm,0.3s,baz=131,slow=3.5,SNR=3.4							
ARU	**Arti**	**19.11**	**335**	P	**P**	**12 04 20.0**	**-0.2**
AKASG	**Malin Array Be**	**32.21**	**304**	P	**P**	**12 06 25.8**	**+0.3**
comp=E,0.2nm,0.3s,baz=76,slow=7.4,SNR=2.2							
AKBB	**Malin Array Si**	**32.21**	**304**	P	**P**	**12 06 26.7**	**+1.3**
FINES	**FINESS Array B**	**35.67**	**323**	P	**P**	**12 06 55.6**	**+0.3**
comp=E,3.1nm,0.8s,baz=125,slow=9.6,SNR=7.4							
FINES	**FINESS Array B**	**35.67**	**323**	P	**P**	**12 06 56.0**	**+0.6**
ARC4	**ARCESS Array S**	**38.70**	**335**	P	**P**	**12 07 21.7**	**+0.7**
ARCES	**ARCESS Array B**	**38.70**	**336**	P	**P**	**12 07 20.4**	**-0.6**
comp=E,1.1nm,0.7s,baz=109,slow=8.1,SNR=4.7							
GERES	**GERESS Array B**	**42.37**	**303**	P	**P**	**12 07 51.7**	**0.0**
comp=E,0.4nm,0.6s,baz=73,slow=7.3,SNR=2.5							
GERES	**GERESS Array B**	**42.37**	**303**	P	**P**	**12 07 53.2**	**+1.5**
NOA	**NORSAR Array B**	**42.72**	**321**	P	**P**	**12 07 53.9**	**-0.5**
comp=E,0.3nm,0.5s,baz=90,slow=7.9,SNR=1.8							
TOA0	**Torodi Ar. Sit**	**67.38**	**268**	P	**P**	**12 10 53.2**	**+0.1**
TOA0				IAmb	IAmb	12 10 59.3	
comp=Z,4.7nm,1.2s							
TORD	**Torodi Ar. Bea**	**67.38**	**268**	P	**P**	**12 10 53.0**	**-0.1**
comp=Z,0.6nm,0.4s,baz=56,slow=6.1,SNR=10.0							
TORD	**Torodi Ar. Bea**	**67.38**	**268**	P	**P**	**12 10 53.2**	**+0.1**
INK	**Inuvik**	**70.34**	**10**	P	**P**	**12 11 10.8**	**+0.1**
comp=Z,1.0nm,0.6s,baz=335,slow=5.5,SNR=4.4							
INK	**Inuvik**	**70.34**	**10**	P	**P**	**12 11 11.2**	**+0.5**
INK				IAmb	IAmb	12 11 18.7	
comp=Z,2.4nm,0.9s							
KOWA	**Kowa**	**70.95**	**273**	P	**P**	**12 11 16.4**	**+1.1**
KOWA				IAmb	IAmb	12 11 27.7	
comp=Z,8.1nm,1.5s							
YKA	**Yellowknife Ar**	**77.82**	**4**	P	**P**	**12 11 53.9**	**-0.6**
comp=Z,0.4nm,0.7s,baz=2.1,slow=6.2,SNR=2.4							
WB0	**Warramunga Arr**	**82.38**	**123**	P	**P**	**12 12 19.6**	**-0.1**
WB0				IAmb	IAmb	12 12 25.5	
comp=Z,5.4nm,1.3s							
WRA	**Warramunga Arr**	**82.48**	**124**	P	**P**	**12 12 18.

JHYU	Hitachinakayam	1.18	248	P	Pn	12 02 18.2	-1.5
JMM	Marumori	1.42	320	P	Pn	12 02 21.3	-1.7
JMM				eS	Sn	12 02 36.7	-4.5
JMM	Marumori	1.42	320	Pn	Pn	12 02 21.4	-1.7
JFT	Otama	1.48	300	P	Pn	12 02 23.2	-0.7
JYT	Yasato	1.51	249	Pn	Pn	12 02 23.6	-0.8
JIO	Ouri	1.73	344	P	Pn	12 02 27.5	+0.1
JIO				S	Sn	12 02 47.9	-1.1
JOU	Okura	1.88	328	P	Pn	12 02 29.1	-0.3
JOU				eS	Sn	12 02 51.0	-1.6
JFY	Yanaizu	1.89	290	P	Pn	12 02 29.2	-0.4
JAG	Ashikaga	2.03	261	P	Pn	12 02 30.5	-1.1
MJAR	Matsushiro Arr	3.01	266	Pn	Pn	12 02 44.3	-0.7
	1.1nm,0.3s,baz=210,slow=8.9,SNR=68						
MJAR				Sn	Sn	12 03 23.7	+3.1
	1.0nm,0.3s,baz=76,slow=15,SNR=5.0						
MJAR				LR	LR	12 04 03.2	
	comp=Z,76nm,18.1s,baz=130,slow=43						
MJAR	Matsushiro Arr	3.01	266	Pn	Pn	12 02 44.1	-0.9
MAJO	Matsushiro	3.01	267	Pn	Pn	12 02 45.4	+0.4
MAT	Matsushiro	3.01	267	P	Pn	12 02 45.5	+0.5
MAT				eS	Sn	12 03 20.3	-0.3
MJB9	Matsu-Tunnel	3.01	267	Pn	Pn	12 02 46.8	+1.7
JSD	Sado	3.19	294	Pn	Pn	12 02 46.5	-0.9
JGF	Kuroka	3.89	254	Pn	Pn	12 02 59.0	+1.9
JTM	Tenmabayashi	4.05	351	Pn	Pn	12 03 02.1	+2.8
JHJ2	Mitsune	4.06	206	Pn	Pn	12 03 00.4	+1.0
JHJ	Hachijo jima 2	4.06	206	Pn	Pn	12 02 57.2	-2.2
	12nm,0.3s,baz=323,slow=22,SNR=8.6						
JHJ				Sn	Sn	12 03 45.3	-1.2
	19nm,0.3s,baz=91,slow=23,SNR=5.5						
INU	Inuyama	4.24	252	Pn	Pn	12 03 04.5	+2.7
ERM	Erimo	5.31	10	Pn	Pn	12 03 16.4	-0.2
JWT	Wachi	5.51	256	Pn	Pn	12 03 22.9	+3.6
JMN	Monobe	7.26	248	Pn	Pn	12 03 44.9	+1.4
ASAJ	Asahikawa	7.34	4	Pn	Pn	12 03 43.8	-0.6
	0.5nm,0.3s,baz=237,slow=16,SNR=1.2						
ASAJ				Sn	Sn	12 05 07.3	+0.1
	0.4nm,0.3s,baz=101,slow=32,SNR=1.7						
JKA	Kamikawa-asahi	7.34	4	Pn	Pn	12 03 43.5	-1.0
JHS	Saijyo	7.38	259	Pn	Pn	12 03 47.6	+2.5
H11N2	WAKE ISLAND Hy	27.66	121	T	T	12 37 05.4	
	baz=316						
H11N1	WAKE ISLAND Hy	27.66	121	T	T	12 37 06.5	
	baz=316						
H11N3	WAKE ISLAND Hy	27.68	121	T	T	12 37 01.9	
	baz=316						
SONM	Songino Array	28.27	304	P	P	12 07 51.8	+1.3
	1.7nm,0.7s,baz=103,slow=8.3,SNR=5.9						
SONM	Songino Array	28.27	304	P	P	12 07 51.2	+0.8
H11S1	WAKE ISLAND Hy	28.37	123	T	T	12 37 58.4	
	baz=314,slow=76,SNR=6.6						
H11S3	WAKE ISLAND Hy	28.37	123	T	T	12 37 57.9	
	baz=314,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	28.39	123	T	T	12 37 59.1	
	baz=314,slow=76,SNR=4.6						
ZALV	Zalesovo Beam	42.40	313	P	P	12 09 52.4	+1.1
	0.5nm,0.4s,baz=93,slow=7.4,SNR=3.7						
ZALV	Zalesovo Beam	42.40	313	P	P	12 09 51.4	+0.1
MKAR	Makanchi Array	44.61	302	P	P	12 10 10.0	+0.7
	0.6nm,0.6s,baz=89,slow=10,SNR=4.3						
MKAR	Makanchi Array	44.61	302	P	P	12 10 09.6	+0.3
KURK	Kurchatov	46.42	308	P	P	12 10 24.1	+0.6
KURBB	Kurchatov Arra	46.49	308	P	P	12 10 24.4	+0.3
	0.7nm,0.6s,baz=82,slow=7.9,SNR=4.6						
ILAR	Eielson Array	49.48	32	P	P	12 10 47.7	+0.7
	0.4nm,0.6s,baz=265,slow=6.3,SNR=9.7						
ILAR	Eielson Array	49.48	32	P	P	12 10 47.4	+0.4
WB0	Warramunga Arr	56.70	189	P	P	12 11 39.9	-0.8
WB0				IAmb	IAmb	12 11 51.0	
	comp=Z,4.9nm,1.3s						
WR0	Warramunga Arr	56.87	188	P	P	12 11 41.1	-0.7
WB2	Warramunga Arr	56.87	189	P	P	12 11 41.4	-0.4
WB2				IAmb	IAmb	12 11 42.4	
	comp=Z,4.4nm,1.1s						
WRA	Warramunga Arr	56.88	189	P	P	12 11 40.8	-1.1
	comp=Z,0.8nm,0.9s,baz=6.2,slow=7.3,SNR=6.6						
WRA	Warramunga Arr	56.88	189	P	P	12 11 41.0	-0.9
AKTO	Aktyubinsk	59.16	312	P	P	12 11 57.8	+0.2
	comp=Z,0.6nm,0.4s,baz=77,slow=16,SNR=1.7						
ASAR	Alice Springs	60.60	188	P	P	12 12 07.0	-0.7
	comp=Z,0.5nm,0.7s,baz=14,slow=8.1,SNR=5.2						
ASAR	Alice Springs	60.60	188	P	P	12 12 07.7	-0.1
NVAR	Mina Array Bea	74.80	53	P	P	12 13 39.0	+1.4
	comp=Z,0.3nm,0.7s,baz=300,slow=5.6,SNR=3.8						
NVAR	Mina Array Bea	74.80	53	P	P	12 13 38.8	+1.2
PDAR	Pinedale Array	77.54	46	P	P	12 13 54.3	+1.2
	comp=Z,0.2nm,0.6s,baz=95,slow=1.6,SNR=1.6						
PDAR	Pinedale Array	77.54	46	P	P	12 13 53.3	+0.2
TXAR	Lajitas Array	89.94	53	P	P	12 14 57.3	+0.7
	comp=Z,0.1nm,0.6s,baz=328,slow=1.6,SNR=1.8						
TXAR	Lajitas Array	89.94	53	P	P	12 14 56.3	-0.3

WEL 19 12:34:35.7,38°S±2°×17°6E±°, h183km±5km, M2.8/76, MLv2.8/76, Error ellipse: s-maj=0.0km s-min=0.0km az=97.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPRZ	Whakapapatarin	0.10	168	P	Pn	12 34 59.3	-0.6
HRRZ	Handcock Road	0.12	77	P	Pn	12 34 59.4	-0.6
RRRZ	Republican Roa	0.31	75	P	Pn	12 34 59.5	-0.7
TARZ	Mount Tarawera	0.34	58	P	Pn	12 34 60.0	-0.5
OMRZ	Omania	0.36	31	P	Pn	12 34 59.9	-0.6
MKRZ	Makatiti	0.38	43	P	Pn	12 35 00.6	0.0
KARZ	Kaharoa	0.41	12	P	Pn	12 35 00.3	-0.3
WATZ	Wairara	0.43	227	P	Pn	12 35 00.5	-0.1
MRHZ	Matea Rd	0.47	152	P	Pn	12 35 00.1	-0.7
TLZ	Tolley Road	0.48	280	P	Pn	12 35 01.0	+0.2
MUGZ	Murupara	0.50	97	P	Pn	12 35 00.1	-0.8
RATZ	Rangitukua	0.53	212	P	Pn	12 35 00.8	-0.2
KMRZ	Kaimai	0.59	345	P	Pn	12 35 01.5	+0.1
RITZ	Rihia Road	0.60	201	P	Pn	12 35 01.5	+0.1
MARZ	Manawahe	0.61	45	P	Pn	12 35 01.0	-0.4
KATZ	Kakaramea	0.65	212	P	Pn	12 35 01.7	0.0
OPRZ	Ohinepanea	0.66	30	P	Pn	12 35 01.2	-0.4
RTZ	Ruatahuna	0.69	107	P	Pn	12 35 01.3	-0.6
TGRZ	Tauranga	0.69	8	P	Pn	12 35 01.8	0.0
MTHZ	Maungataniwha	0.70	128	P	Pn	12 35 01.5	-0.4
TMVZ	Te Maari	0.77	206	P	Pn	12 35 02.5	+0.1
KRVZ	Karewarewa	0.78	210	P	Pn	12 35 02.4	0.0
URZ	Urewera	0.79	79	P	Pn	12 35 01.4	-0.8
ETVZ	East Tongariro	0.79	205	P	Pn	12 35 02.7	+0.2
BKZ	Black Stump Fm	0.80	160	P	Pn	12 35 02.2	-0.2
WTVZ	West Tongariro	0.82	211	P	Pn	12 35 02.8	+0.2
OTVZ	Oturere	0.83	206	P	Pn	12 35 03.2	+0.5
TOZ	Tahuroa Road	0.85	324	P	Pn	12 35 03.5	+0.8
TWVZ	Taurewa	0.85	220	P	Pn	12 35 03.1	+0.3
NMHZ	Naumai	0.86	142	P	Pn	12 35 03.6	+0.8
NGZ	Ngauruhoe	0.86	209	P	Pn	12 35 03.5	+0.6
RAHZ	Arahi	0.90	124	P	Pn	12 35 03.3	+0.3
TUVZ	Tukino	0.93	204	P	Pn	12 35 03.8	+0.5
FWVZ	Far West T-bar	0.95	208	P	Pn	12 35 03.8	+0.2
WHVZ	Whangaehu Hut	0.96	206	P	Pn	12 35 04.1	+0.4
WNVZ	Wahianoa	1.00	205	P	Pn	12 35 04.3	+0.4
HIZ	Hauiti	1.01	264	P	Pn	12 35 04.8	+1.0
RAGZ	Rawiri	1.01	95	P	Pn	12 35 03.9	0.0
KWHZ	Kaweka Forest	1.03	167	P	Pn	12 35 04.3	+0.3
MOVZ	Moawhango	1.03	197	P	Pn	12 35 04.0	0.0
PKVZ	Pokaka	1.06	215	P	Pn	12 35 04.9	+0.6
BHHZ	Black Hill Sta	1.07	183	P	Pn	12 35 04.5	+0.1
ARHZ	Aropaoanui	1.08	142	P	Pn	12 35 04.9	+0.6
MTVZ	Mangateitei	1.09	208	P	Pn	12 35 05.1	+0.6
MWZ	Matawai	1.10	86	P	Pn	12 35 04.3	-0.2
MCHZ	McNeill Hill	1.11	157	P	Pn	12 35 05.5	+0.9
KRHZ	Kereru	1.24	172	P	Pn	12 35 05.8	+0.2
RUGZ	Raukumara Rang	1.30	70	P	Pn	12 35 05.7	-0.6
RIGZ	Rimuhau	1.31	103	P	Pn	12 35 06.7	+0.5
TKGZ	Te Karaka	1.35	91	P	Pn	12 35 07.4	+0.9
CKHZ	Cape Kidnapper	1.44	150	P	Pn	12 35 08.3	+0.9
HAZ	Te Kaha	1.46	64	P	Pn	12 35 07.4	-0.2
TWGZ	Tauwhareparae	1.47	81	P	Pn	12 35 08.5	+0.8
KAHZ	Kahuranaki	1.49	157	P	Pn	12 35 08.8	+0.9
PNHZ	Pukenui	1.49	178	P	Pn	12 35 08.3	+0.4
MHGZ	Mahia Peninsul	1.57	118	P	Pn	12 35 09.5	+0.9
WAZ	Wanganui	1.61	213	P	Pn	12 35 10.3	+1.3
PKGZ	Pakihiroa	1.62	72	P	Pn	12 35 09.8	+0.6
CNGZ	Carnagh Station	1.63	93	P	Pn	12 35 10.3	+1.2
TSZ	Takapari Road	1.64	185	P	Pn	12 35 10.0	+0.7
WPHZ	Waipukurau	1.66	172	P	Pn	12 35 10.1	+0.7
KUZ	Kuaotunu	1.70	349	P	Pn	12 35 11.6	+1.7
PUZ	Puketiti	1.71	79	P	Pn	12 35 10.3	+0.4
PXZ	Pawanui	1.71	161	P	Pn	12 35 10.7	+0.8
NEZ	North Egmont	1.81	241	P	Pn	12 35 13.6	+2.6
WIAZ	Waiheke Island	1.81	334	P	Pn	12 35 12.4	+1.4
PKE	Pukeiti	1.85	245	P	Pn	12 35 14.0	+2.6
KHEZ	Kahui Hut	1.87	241	P	Pn	12 35 11.1	-0.6
DVHZ	Dannevirke	1.88	179	P	Pn	12 35 12.2	+0.5
PRHZ	Porangahau	1.89	168	P	Pn	12 35 12.4	+0.6
WMGZ	Waiomatatini S	1.90	72	P	Pn	12 35 12.6	+0.7
MXZ	Matakaoa Point	1.92	64	P	Pn	12 35 13.2	+1.1
POWZ	Post Office Ro	1.99	188	P	Pn	12 35 13.6	+0.7
ANWZ	Angora Road	2.06	173	P	Pn	12 35 14.5	+1.0
PRWZ	Pori Road	2.14	183	P	Pn	12 35 15.5	+1.0
BFZ	Birch Farm	2.26	178	P	Pn	12 35 16.4	+0.5
MRZ	Mangatainoka R	2.28	191	P	Pn	12 35 16.6	+0.6
TIWZ	Tintock	2.36	185	P	Pn	12 35 17.8	+0.8
CPWZ	Castlepoint	2.49	179	P	Pn	12 35 19.6	+1.2
OGWZ	Otaki Gorge	2.51	197	P	Pn	12 35 19.4	+0.8
HOWZ	Holdsworth Sta	2.52	191	P	Pn	12 35 19.1	+0.3
KIW	Kapiti Island	2.62	201	P	Pn	12 35 20.4	+0.5
TMWZ	Te Maipa	2.69	184	P	Pn	12 35 21.2	+0.4
CAW	Cannon Point	2.81	197	P	Pn	12 35 22.6	+0.5
DUWZ	D'Urville Isla	2.93	215	P	Pn	12 35 24.3	+0.7
TRWZ	Traveller	3.00	186	P	Pn	12 35 24.7	+0.2
PAWZ	Paruwai Farm	3.01	190	P	Pn	12 35 24.7	+0.1
WEL	Wellington	3.05	200	P	Pn	12 35 25.5	+0.5
MSWZ	Moikau Station	3.07	193	P	Pn	12 35 25.4	+0.1
TCW	Tory Channel	3.13	207	P	Pn	12 35 26.6	+0.5
BHW	Baring Head	3.14	198	P	Pn	12 35 25.9	-0.2
PLWZ	Palliser	3.22	192	P	Pn	12 35 27.1	0.0
TUWZ	Tuamarina	3.45	209	P	Pn	12 35 30.2	+0.3
NNZ	Nelson	3.51	216	P	Pn	12 35 31.7	+1.0
BSWZ	Blackbirch Sta	3.72	207	P	Pn	12 35 34.0	+0.7
THZ	Tophouse	4.16	216	P	Pn	12 35 40.3	+1.4
KHZ	Kahutara	4.46	206	P	Pn	12 35 43.0	+0.3
GVZ	Greta Valley S	5.12	206	P	Pn	12 35 51.4	+0.1
LTZ	Lake Taylor	5.26	213	P	Pn	12 35 53.2	+0.2
OXZ	Oxford	5.80	211	P	Pn	12 35 59.4	-0.7
MQZ	McQueen's Vall	5.90	205	P	Pn	12 36 00.3	-1.0
ODZ	Otahua Downs	7.79	210	P	Pn	12 36 26.7	+0.6

IDC 19 12:48:19.9±7.3, 18°.21S×173°.65W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.7/3, Error ellipse: s-maj=319.5km s-min=36.4km az=141.0
NEIC 19 12:48:38.0±1.0, 18°.4S±0°.1×173°.40W±0°.04, h179km±18km, mb4.0/5, Error ellipse: s-maj=19.1km s-min=5.1km az=184.0

ISC 19 12:48:23.5±1.1, 18°.7S±0°.1×173°.5W±0°.2, h31km, n12, σ1s19/12, mb4.2/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.99	19	Pn	Pb	12 49 48.8	-1.5
AFI				Sn	Sn	12 50 35.7	+2.5
MSVF	Nonsavu	8.11	275	Pn	Pb	12 50 33.5	-10
RAR	Rarotonga	13.13	103	Pn	P	12 51 38.0	+0.2
WB0	Warramunga Arr	49.08	260	P	P	12 57 08.4	+0.1
WB0				IAmb	IAmb	12 57 22.0	
	comp=Z,10.0nm,1.5s						
WB2	Warramunga Arr	49.09	259	P	P	12 57 08.3	-0.2
WB2				IAmb	IAmb	12 57 26.4	
	comp=Z,3.4nm,1.1s						
WRAB	Tennant Creek	49.10	259	P	P	12 57 08.5	+0.1
AS31	Alice Springs	49.10	255	P	P	12 57 09.8	+1.2
ASAR	Alice Springs	49.11	255	P	P	12 57 09.8	+1.2
	comp=Z,1.4nm,0.5s,baz=89,slow=9.3,SNR=39						
ASAR	Alice Springs	49.11	255	P	P	12 57 09.2	+0.6
WRA	Warramunga Arr	49.11	259	P	P	12 57 08.4	-0.2
	comp=Z,0.3nm,0.5s,baz=98,slow=6.9,SNR=14						
WRA	Warramunga Arr	49.11	259	P	P	12 57 08.2	-0.4
ILAR	Eielson Array	85.64	11	P	P	13 00 58.0	-0.7
	comp=Z,0.2nm,0.5s,baz=218,slow=5.7,SNR=7.5						

OSPL 19 12:50:08.8±0.6, 19°.60N×74°.91W, h90km±7km, ML3.7
JSN 19 12:50:08.4±1.7, 20°.65N×74°.74W, h99km±335km
SSNC 19 12:50:09.3±1.7, 19°.74N×74°.48W, h0km±7km, MD3.9, ML3.7, MW3.4

ISC 19 12:50:09.1±1.3, 19°.98N±0°.04×74°.50W±0°.03, h17km±10km, n21, σ1s72/36, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.32	52	*i* P	Pb	12 50 16.4	0.0
MASC				eS	Sb	12 50 22.3	+1.1
GTBY	Guantanamo Bay	0.58	265	eP	Pb	12 50 21.5	+0.6
GTBY				eS	Sg	12 50 27.3	-1.1
GTBY	Guantanamo Bay	0.58	265	*i* P	Pb	12 50 21.5	+0.6
GTBY				eS	Sn	12 50 31.7	-0.1
GTBY				IAML		12 50 38.0	
	comp=Z,4μm,0.7s						
GTMO	Guantanamo	0.61	279	*i* P	Pb	12 50 20.9	-0.5
GTMO				eS	Sb	12 50 30.0	+0.3
GTMO				IAML		12 50 31.9	
	comp=E,11μm,0.4s						
GTMO				IAML		12 50 38.5	
	comp=N,9μm,0.3s						
MOAC	Moa	0.80	327	eP	Pn	12 50 25.0	-0.7
MOAC				eS	Sn	12 50 39.6	+2.4
RCC	Rio Carpintero	1.13	271	eP	Pg	12 50 29.5	-1.5
RCC				eS	Sb	12 50 44.7	+0.1
HLGC	Holguin	1.72	302	eP	Pg	12 50 41.7	-0.6
HLGC				eS	Sg	12 51 08.1	+3.5
LGNH	Logne	2.31	129	*i* P	Pn	12 50 45.5	-0.9
LGNH				eS	Sn	12 51 12.5	-2.0
LGNH				IAML		12 51 24.0	
	comp=Z,90nm,0.7s						
LMGC	Las Mercedes	2.36	272	eP	Pn	12 50 47.4	+0.3
LMGC				eS	Sn	12 51 15.9	+0.1
LMGC				IAML		12 51 20.6	
	comp=N,217nm,0.3s						
LMGC				IAML		12 51 21.0	
	comp=E,297nm,0.2s						
CMJ	Castle Mountai	2.55	224	*i* P	Pn	12 50 52.5	+2.6
BNJ	Bonny Gate	2.85	235	*i* P	Pn	12 50 55.7	+1.8
STH	Stony Hill	2.90	229	*i* P	Pn	12 50 56.6	+2.1
BBJ	Bamboo Saint A	3.06	239	*i* P	Pn	12 50 56.1	-0.8
SDDR	Presa de Saban	3.19	108	eP	Pn	12 50 58.9	+0.3
SDDR				eS	Sn	12 51 33.6	-2.7
SDDR	Presa de Saban	3.19	108	*i* P	Pn	12 50 58.8	+0.3
SDDR				eS	Sn	12 51 36.0	-0.2
SDDR				IAML		12 52 03.1	
	comp=Z,139nm,0.9s						
CCCC	Cccc	3.29	292	*i* P	Pn	12 50 58.1	-1.8
CCCC				eS	Sn	12 51 33.0	-5.7
PCJ	Portland Cotta	3.36	229	*i* P	Pn	12 51 01.7	+0.8
GRTK	Grand Turk	3.50	64	eP	Pn	12 51 04.1	+1.3
GRTK				eS	Sn	12 51 44.1	+0.3
SC01	Santiago de lo	3.59	98	*i* P	Pn	12 51 05.5	+1.4
MCJ	Malvern	3.65	236	*i* P	Pn	12 51 06.1	+1.1
MCJ				*i* S	Sn	12 51 47.9	+0.2
MGV	Manicaragua	5.54	293	eP	Pn	12 51 31.5	+0.6
MGV				eS	Sn	12 52 34.0	-0.3

KRSC 19 13:21:21.9±2.0, 50°.26N×157°.12E, h43km±22km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.77	304	*i* P	Pn	13 21 36.8	+0.6
SKR				eS	Sn	13 21 46.5	-0.1
PAU	Pauzhetka	1.22	351	eP	Pn	13 21 44.4	+1.9
PAU				eS	Sn	13 22 00.0	+2.2
KDTR	Khodutka, Kamc	1.67	21	eP	Pn	13 21 50.6	+2.1
KDTR				eS	Sn	13 22 11.0	+2.4
RUS	Russkaya	2.34	21	eP	Pn	13 22 00.0	+2.2
RUS				eS	Sn	13 22 27.2	+1.8
GRL	Gorelyy	2.37	14	eP	Pn	13 22 01.5	+3.2
GRL				eS	Sn	13 22 29.9	+3.7
KRMR	Karymshinskiy	2.65	13	P	Pn	13 22 07.1	+5.1
PET	Petropavlovsk	2.93	18	eP	Pn	13 22 08.6	+2.8
PET				eS	Sn	13 22 42.9	+3.2
DALK	Dalny	2.96	20	eP	Pn	13 22 09.5	+3.3
DALK				eS	Sn	13 22 44.2	+3.8
AVH	Avacha	3.17	18	eP	Pn	13 22 14.0	+4.7
AVH				eS	Sn	13 22 51.4	+5.5
SMAR	Somma	3.18	19	eP	Pn	13 22 14.1	+4.5
KRER	Koryakskii	3.21	18	eP	Pn	13 22 14.4	+4.5
KRER				eS	Sn	13 22 53.2	+6.2
KRX	Arik	3.25	16	eP	Pn	13 22 15.0	+4.6
KRX				eS	Sn	13 22 53.5	+5.7
SPN	Mys Shipunski	3.37	31	eP	Pn	13 22 14.8	+2.9
SPN				eS	Sn	13 22 53.4	+2.8
GNL	Ganaly	3.48	8	P	Pn	13 22 18.5	+5.0
MKZ	Mys Kozlova	5.14	31	P	Pn	13 22 39.4	+3.2
MKZ				S	Sn	13 23 36.3	+2.0
KZV	Kizimen	5.23	20	eP	Pn	13 22 41.3	+3.7

IDC 19 13:26:44.3±1.6, 3°.51S×138°.42E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/35, mbtmp3.7/4, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=38.9km s-min=24.9km az=133.0
NEIC 19 13:26:49.3±2.9, 3°.61S±0°.06×138°.48E±0°.08, h53km±10km, mb4.0/14, Error ellipse: s-maj=11.2km s-min=8.6km az=83.0

ISC 19 13:26:51.0±0.6, 3°.66S±0°.08×138°.48E±0°.10, h71km, n27, σ1s76/26, mb4.1/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.50	63	Pn	Pn	13 27 26.1	-3.4
	3.9nm,0.3s,baz=189,slow=12,SNR=13						
JAY				Sn	Sn	13 27 58.6	-0.4
	3.0nm,0.3s,baz=233,slow=20,SNR=1.8						
FAKI	Fak Fak	6.26	277	Pn	Pn	13 28 19.2	-1.7
COEN	Coen	11.23	156	Pn	Pn	13 29 28.1	-0.7
MTN	Manton Dam	11.66	218	Pn	Pn	13 29 32.8	-1.8
KRVT	Keravat (AS076	13.53	93	LR	LR	13 34 47.4	
	comp=Z,56nm,18.3s,baz=268,slow=36						
KNRA	Kununurra	15.30	218	Pn	Pn	13 30 20.9	-2.1
KNRA				IAmb	IAmb	13 30 34.0	
	comp=Z,14nm,1.1s						
WB0	Warramunga Arr	16.50	194	Pn	Pn	13 30 36.7	-1.4
WR0	Warramunga Arr	16.65	193	Pn	Pn	13 30 39.6	-0.4
WRAB	Tennant Creek	16.67	194	Pn	Pn	13 30 40.0	-0.2
WRAB				IAmb	IAmb	13 30 55.1	
	comp=Z,15nm,1.4s						
WB2	Warramunga Arr	16.68	194	Pn	Pn	13 30 40.3	-0.1
WRA	Warramunga Arr	16.68	194	Pn	Pn	13 30 40.8	+0.4
	comp=Z,0.3nm,0.3s,baz=14,slow=12,SNR=11						
WRA				Sn	Sn	13 33 36.4	-8.6
	comp=Z,0.1nm,0.3s,baz=10,slow=24,SNR=2.5						
CTAO	Charters Tower	18.00	156		P	13 30 54.9	-1.3
FITZ	Fitzroy Crossi	19.08	220	LR	LR	13 37 54.1	
	comp=Z,59nm,19.3s,baz=341,slow=35						
FITZ	Fitzroy Crossi	19.08	220	P	P	13 31 09.0	+1.0
AS31	Alice Springs	20.37	192		P	13 31 25.7	+3.6
AS31				IAmb	IAmb	13 31 26.8	
	comp=Z,2.3nm,0.3s						
ASAR	Alice Springs	20.37	192	P	P	13 31 24.4	+2.3
	comp=Z,3.7nm,0.7s,baz=17,slow=10,SNR=26						
ASAR	Alice Springs	20.37	192	Pn	P	13 31 24.8	+2.7
BKB	Balikpapan	21.69	276	P	P	13 31 36.2	-0.1
PETK	Petropavlovsk-	58.83	13	P	P	13 36 43.3	+1.2
PET	Petropavlovsk	58.98	14	P	P	13 36 44.6	+1.5
MKAR	Makanchi Array	70.40	323	P	P	13 37 59.4	+1.8
	comp=Z,0.2nm,0.5s,baz=99,slow=8.9,SNR=2.6						
MKAR	Makanchi Array	70.40	323	P	P	13 37 56.8	-0.8
ZALV	Zalesovo Beam	72.64	330	P	P	13 38 12.5	+1.6
KK31	Karatay Array	76.64	316	P	P	13 38 33.0	-1.4
KK31				IAmb	IAmb	13 38 45.7	
	comp=Z,4.6nm,1.7s						
KKAR	Karatay Array	76.64	316	P	P	13 38 33.4	-0.9
KKAR	Karatay Array	76.64	316	P	P	13 38 33.1	-1.3
KKAR				IAmb	IAmb	13 38 45.7	
	comp=Z,4.6nm,1.7s						
BRVK	Borovoye	80.03	325	P	P	13 38 54.6	+1.8
BRVK				IAmb	IAmb	13 39 23.3	
	comp=Z,2.0nm,1.0s						

REY 19 13:31:50.1, 64°.67N×17°.52W, h9km
MOS 19 13:31:51.3±0.9, 64°.59N×17°.66W, h9km, mb4.6/35, Error ellipse: s-maj=11.8km s-min=7.3km az=112.3
IDC 19 13:31:51.6±0.5, 64°.59N×17°.55W, h0km, mb4.0/19, mb1 4.1/24, mb1mx4.0/50, mbtmp3.9/24, ML2.8/4, MS2.8/1, Ms1 2.9/1, ms1mx2.5/45, Error ellipse: s-maj=18.2km s-min=8.8km az=11.0
*NEIC 19 13:31:53.1±1.3, 64°.63N±0°.06×17°.5W±0°.1, h9km±4km, mb4.5/78, Error ellipse: s-maj=10

IGIL	Gilhagi	1.48	19	P		Pn	13 32 15.5	-3.9	
	baz=19								
ISIG	Siglufjorour	1.56	339	P		Pn	13 32 17.1	-3.5	
	baz=339								
BORG	Borgarnes	1.64	274	Pg		Pn	13 32 19.2	-2.4	
	24nm,0.3s,baz=100,slow=7.4,SNR=71								
BORG				Lg		Lg	13 32 42.6		
	19nm,0.3s,baz=78,slow=9.0,SNR=3.6								
BORG	Borgarnes	1.64	274	Pn		Pn	13 32 18.5	-3.1	
IKRO	Krokur	1.67	251	P		Pn	13 32 18.5	-3.6	
	baz=251								
ISOL	Solvholt	1.68	245	P		Pn	13 32 18.4	-3.7	
	baz=245								
ANGG	Ammassalik, Gr	8.52	285	Pn		Pn	13 33 56.7	+0.7	
SUMG	Summit	10.92	325	P		Pn	13 34 30.7	+1.5	
SUMG	Summit	10.92	325	Pn		Pn	13 34 30.7	+1.5	
EKA	Eskdalemuir Ar	11.78	136	Pn		Pn	13 34 39.7	-1.0	
	baz=319,slow=13,SNR=9.0								
ESK	Eskdalemuir	11.78	136	P		Pn	13 34 39.9	-0.8	
ESK	Eskdalemuir	11.78	136	Pn		Pn	13 34 39.9	-0.8	
NC204	NORSAR Array S	13.24	92	Pn		Pn	13 34 58.2	-2.4	
NBO00	NORSAR Array S	13.36	93	Pn		Pn	13 35 03.4	+1.2	
NAO01	NORSAR Array S	13.50	93	Pn		P	13 35 07.5	-5.9	
NOA	NORSAR Array B	13.54	92	Pn		Pn	13 35 02.4	-2.3	
	0.0nm,0.3s,baz=299,slow=13,SNR=3.1								
NOA				LR		LR	13 41 10.7		
	comp=Z,35nm,18.0s,baz=280,slow=41								
HFS	Hagfors	15.06	93	Pn		Pn	13 35 23.0	-2.3	
	0.1nm,0.3s,baz=296,slow=11,SNR=1.9								
HFS	Hagfors	15.06	93	P		Pn	13 35 23.0	-2.3	
SPA0	Spitsbergen Ar	16.85	23	P		P	13 35 52.5	+2.0	
SPA0				IAmb		IAmb	13 36 04.7		
	comp=Z,62nm,1.5s								
ARCES	ARCESS Array B	17.11	55	P		P	13 35 53.1	-0.3	
	baz=284,slow=7.3,SNR=1.7								
KEV	Kevo	17.62	54	P		P	13 36 01.2	+2.3	
KEV				pmax		pmax			
	comp=Z,11nm,0.9s								
KEV	Kevo	17.62	54	P		P	13 36 01.2	+2.3	
MEM	Membach	18.73	128	pP		pP	13 36 13.6	-1.0	
FINES	FINESS Array B	19.71	79	P		Pn	13 36 22.3	-1.1	
	comp=Z,0.1nm,0.3s,baz=295,slow=7.5,SNR=2.2								
FINES	FINESS Array B	19.71	79	P		Pn	13 36 23.0	-0.4	
FINES	FINESS Array B	19.71	79	P		Pn	13 36 23.0	-0.4	
CLL	Collm	20.72	116	*i* P		Pn	13 36 33.0	-2.4	
	comp=Z,18nm,1.3s								
CLL				*i*			13 36 41.0		
CLL	Collm	20.72	116	*i* P		Pn	13 36 33.0	-2.4	
CLL				*i*			13 36 41.0		
CLL				pmax		pmax			
	comp=Z,18nm,1.3s								
CLL	Collm	20.72	116	P		P	13 36 32.6	-0.4	
ECH	Echery	21.17	129	P		P	13 36 37.9	0.0	
ECH				pmax		pmax			
	comp=Z,15nm,1.2s								
ECH	Echery	21.17	129	P		P	13 36 37.9	0.0	
GRA1	Grafenberg Arr	21.35	121	P		P	13 36 40.4	+0.6	
GRA1				IAmb		IAmb	13 36 53.3		
	comp=Z,29nm,1.3s								
GRF	Grafenberg Arr	21.35	121	P		P	13 36 40.4	+0.6	
GRF				pmax		pmax			
	comp=Z,29nm,1.3s								
NKC	Novy Kostel	21.37	118	*e*P		P	13 36 42.5	+2.5	
NKC	Novy Kostel	21.37	118	*e*P		P	13 36 42.5	+2.5	
STU	Stuttgart	21.39	125	P		P	13 36 41.2	+0.9	
STU				pmax		pmax			
	comp=Z,17nm,1.0s								
STU	Stuttgart	21.39	125	P		P	13 36 41.2	+0.9	
STU				IAmb		IAmb	13 36 45.1		
	comp=Z,17nm,1.0s								
BRG	Berggiesshubel	21.43	115	*i* P		P	13 36 40.9	+0.3	
	comp=Z,21nm,1.1s								
BRG	Berggiesshubel	21.43	115	*i* P		P	13 36 40.9	+0.3	
BRG				pmax		pmax			
	comp=Z,21nm,1.1s								
BFO	Black Forest	21.47	127	P		P	13 36 42.0	+0.9	
BFO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BFO	Black Forest	21.47	127	P		P	13 36 42.0	+0.9	
VSU	Vasula	21.57	86⇑	*e*P		P	13 36 44.4	+2.3	
VSU				pmax		pmax			
	comp=Z,76nm,0.9s								
PRU	Pruhonice	22.37	116	*e*P		P	13 36 52.8	+2.1	
PRU	Pruhonice	22.37	116	*e*P		P	13 36 52.8	+2.1	
PBCC	Pribram	22.40	117	*e*P		P	13 36 52.4	+1.3	
CHVC	Chvalec	22.48	113	*e*P		P	13 36 54.3	+2.3	
GOPC	GO Pecny, Ondr	22.52	116	*e*P		P	13 36 53.6	+1.2	
GOPC	GO Pecny, Ondr	22.52	116	*e*P		P	13 36 53.6	+1.2	
UPC	Upice	22.53	113	*e*P		P	13 36 54.2	+1.7	
UPC	Upice	22.53	113	*e*P		P	13 36 54.2	+1.7	
OSTC	Ostas	22.57	113	*e*P		P	13 36 54.1	+1.2	
KHC	Kasperske Hory	22.69	118	*e*P		P	13 36 54.2	0.0	
KHC	Kasperske Hory	22.69	118	*e*P		P	13 36 54.2	0.0	
KHC	Kasperske Hory	22.69	118	P		P	13 36 54.3	+0.1	
DPC	Dobruska-Polom	22.78	113	*e*P		P	13 36 56.0	+0.9	
DPC	Dobruska-Polom	22.78	113	*e*P		P	13 36 56.0	+0.9	
DAVA	Damuels	22.90	126	*e*P		P	13 36 58.0	+1.4	
	comp=Z,4.9nm,0.9s								
GEC2	GERESS Array S	22.97	119	P		P	13 36 56.9	-0.3	
GEC2				IAmb		IAmb	13 37 07.0		
	comp=Z,16nm,1.4s								
GERES	GERESS Array B	22.97	119	P		P	13 36 55.7	-1.5	
	comp=Z,2.1nm,1.0s,baz=323,slow=8.4,SNR=11								
GERES	GERESS Array B	22.97	119	P		P	13 36 56.7	-0.5	
GERES	GERESS Array B	22.97	119	P		P	13 36 56.7	-0.5	
RETA	Reutte	23.04	125	*e*P		P	13 36 58.5	+0.6	
	comp=Z,3.0nm,0.9s								
MOTA	Moosalm	23.28	124	*e*P		P	13 37 04.6	+4.1	
	comp=Z,3.2nm,0.8s								
TREC	Trest	23.29	116	*e*P		P	13 37 01.4	+1.0	
TREC	Trest	23.29	116	*e*P		P	13 37 01.4	+1.0	
DAVOX	Davos/Dischmat	23.34	127	P		P	13 37 00.9	-0.2	
	comp=Z,2.7nm,0.8s,baz=311,slow=15,SNR=5.7								
SQTA	Sankt Quirin	23.42	124	*e*P		P	13 37 05.2	+3.4	
	comp=Z,5.6nm,0.9s								
FETA	Feichten	23.43	125	*e*P		P	13 37 06.1	+4.2	
	comp=Z,4.4nm,1.1s								
TUE	Stuetta	23.43	128	P		P	13 37 01.3	-0.7	
WATA	Walderalm	23.45	124	*e*P		P	13 37 03.3	+1.1	
	comp=Z,5.3nm,1.0s								
WTTA	Wattenberg	23.54	124	*e*P		P	13 37 03.7	+0.7	
	comp=Z,6.6nm,1.2s								
EUNU	Eureka	23.65	336	P		P	13 37 04.6	+0.9	
ABTA	Abfaltersbach	24.29	123	*e*P		P	13 37 13.5	+3.4	
	comp=Z,4.9nm,1.2s								
CONA	Conrad Observa	24.55	117	*e*P		P	13 37 12.7	+0.3	
	comp=Z,4.8nm,1.0s								
CTI	Castel Tesino	24.59	125	P		P	13 37 12.3	-0.5	
CTI				pmax		pmax			
	comp=Z,17nm,1.4s								
CTI	Castel Tesino	24.59	125	P		P	13 37 12.3	-0.5	
CTI				IAmb		IAmb	13 37 32.4		
	comp=Z,17nm,1.4s								
CIMO	Cimolais	24.64	124	P		P	13 37 13.4	+0.2	
CIMO				IAmb		IAmb	13 37 18.1		
	comp=Z,14nm,1.5s								
MODS	Modra-Piesok	24.73	115	*e*P		P	13 37 15.1	+1.1	
MODS				pmax		pmax			
	comp=Z,14nm,1.4s								
MODS	Modra-Piesok	24.73	115	*e*P		P	13 37 15.0	+1.1	
PRED	Cave del Predi	24.93	122	P		P	13 37 15.9	0.0	
PRED				IAmb		IAmb	13 37 20.7		
	comp=Z,8.9nm,1.2s								
ARSA	Arzberg	24.98	118	*e*P		P	13 37 16.9	+0.7	
	comp=Z,3.4nm,1.1s								
TEOL	Teolo	25.19	126	P		P	13 37 18.9	+0.7	
TEOL				IAmb		IAmb	13 37 23.7		
	comp=Z,7.6nm,0.8s								
OBKA	Obir	25.24	121	*e*P		P	13 37 20.1	+1.5	
	comp=Z,7.1nm,1.6s								
VYHS	Vyhne	25.25	112	*e*P		P	13 37 19.4	+0.7	
VYHS				pmax		pmax			
	comp=Z,11nm,1.3s								
VYHS	Vyhne	25.25	112	*e*P		P	13 37 19.4	+0.7	
SCHQ	Schefferville	26.03	271	P		P	13 37 26.1	+0.4	
	comp=Z,5.6nm,0.8s,baz=56,slow=3.6,SNR=3.4								
SCHQ	Schefferville	26.03	271	P		P	13 37 26.4	+0.7	
SCHQ				IAmb		IAmb	13 37 31.5		
	comp=Z,11nm,1.0s								
ESBB	Sonseca Array	26.27	156	P		P	13 37 29.2	+1.1	
ESDC	Sonseca Array	26.28	156	P		P	13 37 28.6	+0.5	
	comp=Z,2.2nm,0.9s,baz=349,slow=8.8,SNR=12								
ESDC	Sonseca Array	26.28	156	P		P	13 37 28.9	+0.8	
KOLS	Kolonicke sedl	26.29	108	*e*P		P	13 37 27.3	-0.8	
KOLS	Kolonicke sedl	26.29	108	*e*P		P	13 37 27.3	-0.8	
LVV	L'vov	26.33	104	*e*P		P	13 37 28.9	+0.5	
RES	Resolute Bay	26.44	324	P		P	13 37 30.3	+1.1	
RES				pmax		pmax			
	comp=Z,5.0nm,1.1s								
RES	Resolute Bay	26.44	324	P		P	13 37 30.3	+1.1	
UZH	Uzhgorod	26.54	108⇓	*e*P		P	13 37 31.3	+1.0	
UZH				*e*			13 38 25.8		
UZH				*e*			13 41 01.3		
UZH				*e*S		S	13 42 00.7	-3.5	
UZH				*e*			13 43 21.4		
AKASG	Malin Array Be	27.85	98	P		P	13 37 40.8	-1.3	
	comp=Z,0.4nm,0.4s,baz=324,slow=9.7,SNR=4.4								
AKASG	Malin Array Be	27.85	98	*e*P		P	13 37 42.9	+0.8	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AKBB	Malin Array Si	27.85	98	P		P	13 37 42.5	+0.4	
AKBB				pmax		pmax			
	comp=Z,8.0nm,1.3s								
AKBB	Malin Array Si	27.85	98	P		P	13 37 42.5	+0.4	
AKBB				IAmb		IAmb	13 37 45.9		
	comp=Z,8.3nm,1.3s								
OBN	Obninsk	27.89	84	*e*P		P	13 37 42.8	+0.5	
OBN				*e*			13 38 28.5		
OBN				*e*			13 40 57.0		
OBN				pmax		pmax			
	comp=Z,20nm,1.3s								
NRCA	Norcia	27.91	127	P		P	13 37 43.3	+0.6	
BUR08	Bucovina Ar. S	28.51	106	P		P	13 37 47.4	-0.7	
BURAR	Bucovina Array	28.54	106	P		P	13 37 48.3	-0.1	
G62A	West of Eustis	34.76	262	P		P	13 38 44.4	+1.4	
ARU	Arti	36.08	66	*d* iP		P	13 38 57.3	+3.2	
ARU							13 40 13.6		
ARU				S		S	13 44 40.4	+7.5	
ARU				pmax		pmax			
	comp=Z,13nm,2.2s								
C36M	Paulatuk	36.80	325	P		P	13 39 00.6	+0.5	
SOC	Sochi	37.88	96	*e*P		P	13 39 11.4	+1.9	
SOC				*e*			13 40 38.0		
SOC				*e*S		S	13 45 04.7	+4.2	
BRTR	Keskin Array B	38.49	105	P		P	13 39 15.8	+0.9	
	comp=Z,2.6nm,0.8s,baz=294,slow=7.2,SNR=5.6								
BRTR	Keskin Array B	38.49	105	P		P	13 39 15.7	+0.8	
KIV	Kislovodsk	38.85	92	*e*P		P	13 39 18.5	+0.7	
KIV				pmax		pmax			
	comp=Z,19nm,1.0s								
KBZ	Khabaz	39.12	92	P		P	13 39 21.2	+1.3	
	comp=Z,9.6nm,1.0s,baz=312,slow=5.0,SNR=5.8								
YKA	Yellowknife Ar	39.19	313	P		P	13 39 21.0	+0.7	
	comp=Z,1.2nm,0.9s,baz=48,slow=8.6,SNR=4.9								
YKA	Yellowknife Ar	39.19	313	P		P	13 39 21.0	+0.7	
AKTO	Aktyubinsk	40.29	73	P		P	13 39 29.4	-0.2	
	comp=Z,2.8nm,0.9s,baz=319,slow=8.1,SNR=4.7								
ABKAR	Akbulak array	41.99	73	P		P	13 39 43.8	+0.2	
ABKAR	Akbulak array	41.99	73	P		P	13 39 43.5	-0.1	
TIXI	Tiksi	42.01	15	P		P	13 39 44.5	+1.0	
TIXI				pmax		pmax			
	comp=Z,38nm,1.1s								
TIXI	Tiksi	42.01	15	P		P	13 39 44.5	+1.0	
TOLK	Toolik Lake Re	42.73	336	P		P	13 39 51.6	+2.2	
BRVK	Borovoye	43.13	62	*i* P		P	13 39 53.8	+1.0	
BRVK				pmax		pmax			
	comp=Z,10.0nm,2.5s								
BRVK	Borovoye	43.13	62	P		P	13 39 53.5	+0.7	
BVAR	Borovoye Array	43.20	62	P		P	13 39 54.1	+0.8	
	comp=Z,3.6nm,1.0s,baz=316,slow=7.6,SNR=12								
N51A	Ashland	43.32	269	P		P	13 39 54.5	0.0	
O49A	Covington	44.77	270	P		P	13 40 07.2	+1.1	
ILAR	Eielson Array	45.66	332	P		P	13 40 14.4	+1.5	
	comp=Z,2.3nm,1.0s,baz=26,slow=6.1,SNR=15								
ILAR				PcP		PcP	13 41 51.6	+0.8	
	comp=Z,1.2nm,1.0s,baz=352,slow=2.5,SNR=5.7								
ILAR	Eielson Array	45.66	332	P		P	13 40 14.4	+1.5	
ILAR						PcP	13 41 51.1	+0.4	
MDM	Murphy Dome	45.76	333	P		P	13 40 15.2	+1.5	
COLA	College	45.76	333⇑	*e*P		P	13 40 12.7	-0.9	
COLA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
DOT	Dot Lake	46.07	330	P		P	13 40 18.0	+1.8	
DOT				IAmb		IAmb	13 40 18.8		
	comp=Z,4.2nm,1.2s								
WRH	Wood River Hil	46.17	333	P		P	13 40 18.2	+1.3	
WRH				IAmb		IAmb	13 40 19.1		
	comp=Z,9.7nm,1.5s								
WCI	Wyandotte Cave	47.24	271	P		P	13 40 26.7	+1.1	
WCI				pmax		pmax			
	comp=Z,8.0nm,0.9s								
WCI	Wyandotte Cave	47.24	271	P		P	13 40 26.7	+1.1	
BILL	Bilibino	47.53	358	*e*P		P	13 40 25.8	-1.7	
BILL				*e*			13 41 57.2		
BILL				*e*			13 42 18.5		
BILL				pmax		pmax			
	comp=Z,3.0nm,1.1s								
ZAA0	Zalesovo Array	47.63	51	P		P	13 40 28.7	+0.3	
ZAA0				IAmb		IAmb	13 40 30.1		
	comp=Z,6.7nm,1.5s								
ZALV	Zalesovo Beam	47.63	51	P		P	13 40 29.0	+0.6	
	comp=Z,1.1nm,0.8s,baz=317,slow=8.1,SNR=6.2								
ZALV	Zalesovo Beam	47.63	51	*i* P		P	13 40 29.7	+1.3	
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ZALV	Zalesovo Beam	47.63	51	P		P	13 40 28.7	+0.3	
KURK	Kurchatov	48.11	58⇓	*e*P		P	13 40 32.4	+0.2	
KURK				pmax		pmax			
	comp=Z,8.0nm,1.7s								
KURK	Kurchatov	48.11	58	P		P	13 40 32.3	+0.2	
T47A	Sharon Grove	48.63	270	P		P	13 40 37.4	+1.0	
EGMT	Eagleton	48.86	297	P		P	13 40 39.2	+1.1	
TTA	Tatalina	49.04	336	P		P	13 40 40.0	+0.7	
TTA				pmax		pmax			
	comp=Z,12nm,1.5s								
TTA	Tatalina	49.04	336	P		P	13 40 40.0	+0.7	
FPAL	Fort Paine	50.06	267	P		P	13 40 48.1	+0.7	
FPAL				IAmb		IAmb	13 40 49.2		
	comp=Z,7.6nm,1.1s								
YAK	Yakutsk	51.25	19⇑	*e*P		P	13 40 58.2	+2.2	
YAK				pmax		pmax			
	comp=Z,32nm,2.4s								
KKAR	Karatay Array	51.28	70	P		P	13 40 56.8	+0.3	
KKAR							13 40 56.9		
KKAR				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KKAR	Karatay Array	51.28	70	P		P	13 40 56.8	+0.3	
KKAR	Karatay Array	51.28	70	P		P	13 40 56.9	+0.5	
KKAR				IAmb		IAmb	13 40 58.7		
	comp=Z,3.7nm,1.2s								
BOZ	Bozeman (W)	51.59	297	P		P	13 40 59.5	+0.6	
BOZ				pmax		pmax			
	comp=Z,9.0nm,1.3s								
BOZ	Bozeman (W)	51.59	297	P		P	13 40 59.5	+0.6	
BOZ				IAmb		IAmb	13 41 06.3		
	comp=Z,9.1nm,1.3s								
DGZ	Jazzator, Alta	52.07	53	⇓ *i* P		P	13 41 04.0	+1.5	
DGZ				pmax		pmax			
	comp=Z,4.0nm,1.2s								
H17A	Grant Village	52.19	295	P		P	13 41 03.3	-0.3	
H17A				IAmb		IAmb	13 41 07.8		
	comp=Z,9.8nm,1.4s								
FLWY	Flagg Ranch	52.50	295	P		P	13 41 06.9	+1.1	
FLWY				IAmb		IAmb	13 41 26.2		
	comp=Z,7.9nm,1.4s								
MAKZ	Makanchi	52.59	59	P		P	13 41 06.3	+0.1	
MAKZ				pmax		pmax			
	comp=Z,3.0nm,1.2s								
MAKZ	Makanchi	52.59	59	P		P	13 41 06.3	+0.1	
T35A	Sooner Cattle	52.72	279	P		P	13 41 07.6	+0.4	
MKAR	Makanchi Array	52.72	58	P		P	13 41 07.7	+0.5	
	comp=Z,2.1nm,1.0s,baz=339,slow=6.5,SNR=9.2								
MKAR	Makanchi Array	52.72	58	P		P	13 41 07.3	+0.1	
PHWY	Pilot Hill	52.75	289	P		P	13 41 08.0	+0.2	
PHWY				IAmb		IAmb	13 41 18.0		
	comp=Z,7.8nm,1.4s								
BW06	Boulder Array	53.16	293	P		P	13 41 11.2	+0.5	
BW06				IAmb		IAmb	13 41 13.9		
	comp=Z,9.9nm,1.4s								
PD31	Pinedale Array	53.16	293	P		P	13 41 10.5	-0.2	
PD31				IAmb		IAmb	13 41 13.9		
	comp=Z,8.7nm,1.4s								
PDAR	Pinedale Array	53.16	293	P		P	13 41 11.2	+0.5	
	comp=Z,2.4nm,0.9s,baz=62,slow=6.9,SNR=14								
PDAR	Pinedale Array	53.16	293	P		P	13 41 10.7	-0.1	
TORD	Torodi Ar. Bea	53.16	156	P		P	13 41 10.4	-0.3	
	comp=Z,2.7nm,1.0s,baz=342,slow=9.1,SNR=8.5								
TORD	Torodi Ar. Bea	53.16	156	P		P	13 41 09.5	-1.2	
AAK	Ala-Archa	53.26	67⇓	*e*P		P	13 41 12.7	+1.3	
AAK				pmax		pmax			
	comp=Z,15nm,1.3s								
N23A	Red Feather La	53.29	289	P		P	13 41 13.2	+1.4	
N23A				IAmb		IAmb	13 41 15.3		
	comp=Z,8.4nm,1.2s								
BTK	Batken	53.96	72	P		P	13 41 17.0	+0.6	
BTK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
BTK	Batken	53.96	72	P		P	13 41 17.0	+0.6	
ISCO	Idaho Springs	54.08	288	P		P	13 41 17.3	-0.3	
ISCO				pmax		pmax			
	comp=Z,5.0nm,1.5s								
ISCO	Idaho Springs	54.08	288	P		P	13 41 17.3	-0.3	
ISCO				IAmb		IAmb	13 41 41.0		
	comp=Z,5.0nm,1.4s								
GAR	Garm	54.65	73	P		P	13 41 22.4	+0.9	
KDJ	Kajisay	54.74	65	P		P	13 41 22.7	+0.5	
KDJ				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KDJ	Kajisay	54.74	65	P		P	13 41 22.7	+0.5	
KDJ				IAmb		IAmb	13 41 24.4		
	comp=Z,4.5nm,1.2s								
HWUT	Hardware Ranch	54.93	294	P		P	13 41 23.8	+0.2	
HWUT				IAmb		IAmb	13 41 32.1		
	comp=Z,5.6nm,1.1s								
TCUT	Toone Canyon	55.29	294	P		P	13 41 26.9	+0.6	
WMOK	Wichita Mounta	55.53	279	P		P	13 41 28.3	+0.5	
WMOK				pmax		pmax			
	comp=Z,6.0nm,1.3s								
WMOK	Wichita Mounta	55.53	279	P		P	13 41 28.3	+0.5	
WMOK				IAmb		IAmb	13 41 30.9		
	comp=Z,5.8nm,1.3s								
P17A	Butcher Ranch,	56.43	292	P		P	13 41 34.8	+0.4	
ZAK	Zakamensk	56.45	41	*e*P		P	13 41 32.7	-1.6	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.6s								
KSH	Kashi	56.50	68	P		P	13 41 37.4	+2.6	
KSH				pmax		pmax			
	comp=Z,8.0nm,0.8s								
PV23	Carpenter Ridg	56.61	290	P		P	13 41 36.4	+0.6	
DUG	Dugway, Tooele	56.63	294	P		P	13 41 36.6	+0.8	
DUG				pmax		pmax			
	comp=Z,7.0nm,1.4s								
DUG	Dugway, Tooele	56.63	294	P		P	13 41 36.6	+0.8	
DUG				IAmb		IAmb	13 41 44.2		
	comp=Z,6.9nm,1.4s								
PV01	Paradox Valley	56.70	289	P		P	13 41 37.3	+0.9	
PV01				IAmb		IAmb	13 41 39.6		
	comp=Z,5.6nm,1.1s								
PV03	Paradox Valley	56.71	290	P		P	13 41 37.0	+0.5	
PV03				IAmb		IAmb	13 41 39.4		
	comp=Z,3.9nm,1.1s								
PV17	East Wray Mesa	56.73	290	P		P	13 41 37.3	+0.7	
PV17				IAmb		IAmb	13 41 51.9		
	comp=Z,3.2nm,0.8s								
TMUT	Trail Mountain	56.77	292	P		P	13 41 38.0	+1.0	
PV13	Radium Mtn., P	56.78	290	P		P	13 41 37.5	+0.5	
PV05	Paradox Valley	56.96	290	P		P	13 41 38.6	+0.3	
WMQ	Urumqi	57.23	56	*e*P		P	13 41 43.3	+3.5	
MSU	Marysvale	57.83	293	P		P	13 41 45.4	+1.1	
MSU	Marysvale	57.83	293	P		P	13 41 45.4	+1.1	
MVU	Marysvale	57.85	293	P		P	13 41 45.7	+1.2	
R11A	Troy Canyon, C	59.31	295	P		P	13 41 55.4	+0.8	
SONM	Songino Array	59.63	40	P		P	13 41 57.4	+0.8	
	comp=Z,1.0nm,0.9s,baz=330,slow=8.6,SNR=5.0								
SONM	Songino Array	59.63	40	P		P	13 41 56.2	-0.4	
JCT	Junction City	59.63	277	P		P	13 41 57.0	+0.2	
JCT				pmax		pmax			
	comp=Z,7.0nm,1.0s								
JCT	Junction City	59.63	277	P		P	13 41 57.0	+0.2	
ULN	Ulaanbaatar	59.78	40⇓	*e*P		P	13 41 59.6	+1.9	
ULN				pmax		pmax			
	comp=Z,6.0nm,2.5s								
WUAZ	Wupatki	60.09	290	P		P	13 42 00.5	+0.5	
WUAZ				IAmb		IAmb	13 42 07.1		
	comp=Z,5.3nm,1.1s								
YERR	Yerington	60.16	298	P		P	13 42 01.7	+1.3	
YERR				IAmb		IAmb	13 42 02.9		
	comp=Z,4.3nm,1.1s								
RYN	Ryan	60.20	298	P		P	13 42 01.4	+0.7	
NVAR	Mina Array Bea	60.28	297	P		P	13 42 02.9	+1.5	
	comp=Z,0.5nm,0.9s,baz=31,slow=2.1,SNR=2.9								
NVAR	Mina Array Bea	60.28	297	P		P	13 42 02.7	+1.3	
NIL	Nilore	60.45	73	P		P	13 42 01.1	-1.2	
NIL				pmax		pmax			
	comp=Z,10.0nm,1.1s								
NIL	Nilore	60.45	73	P		P	13 42 01.1	-1.2	
TX32	Lajitas Array	62.27	280	P	

comp=Z,0.7nm,0.4s,baz=250,slow=12,SNR=1.9
CMAR LR LR 14 06 32.0
comp=Z,89nm,18.6s,baz=304,slow=35
KBZ Khabaz 39.96 340 LR LR 14 09 15.6
comp=Z,51nm,19.2s,baz=151,slow=39
BRTR Keskin Array B 40.68 328 LR LR 14 08 27.8
comp=Z,50nm,19.2s,baz=152,slow=37
ABKAR Akbulak array 42.51 360 P **P** **13 51 13.8 +1.2**
MAKZ Makanchi 44.24 21 P **P** **13 51 26.9 +0.2**
MAKZ IAmb IAmb 13 51 28.0
comp=Z,13nm,1.9s
MKAR Makanchi Array 44.34 22 P **P** **13 51 27.9 +0.4**
comp=Z,0.6nm,1.0s,baz=231,slow=7.7,SNR=3.5
MKAR LR LR 14 11 21.2
comp=Z,89nm,19.1s,baz=208,slow=38
BOSA Boshof 48.54 222 LR LR 14 10 54.0
comp=Z,206nm,19.1s,baz=339,slow=34
BURAR Bucovina Array 50.57 330 P **P** **13 52 14.0 -2.0**
AKASG Malin Array Be 50.94 335 LR LR 14 17 56.5
comp=Z,44nm,18.0s,baz=295,slow=41
ZALV Zalesovo Beam 51.27 18 P **P** **13 52 22.6 +1.6**
comp=Z,0.2nm,0.3s,baz=214,slow=7.0,SNR=1.8
SONM Songino Array 56.83 36 P **P** **13 53 03.8 +1.9**
comp=Z,0.3nm,0.4s,baz=233,slow=7.0,SNR=2.0
SONM Songino Array 56.83 36 P **P** **13 53 01.9 0.0**
BKB Balikpapan 57.18 96 P **P** **13 53 03.4 -1.5**
TLY Talaya 57.45 31 P **P** **13 53 07.3 +1.2**
TLY IAmb IAmb 13 53 24.1
comp=Z,6.8nm,0.9s
TORD Torodi Ar. Bea 57.84 281 LR LR 14 18 26.6
comp=Z,99nm,18.1s,baz=295,slow=36
FINES FINESS Array B 60.29 342 LR LR 14 21 51.0
comp=Z,79nm,18.8s,baz=317,slow=38
DBIC Dimbokro 64.52 274 LR LR 14 23 17.4
comp=Z,127nm,18.3s,baz=48,slow=37
ESDC Sonseca Array 65.95 311 P **P** **13 54 04.0 +0.2**
comp=Z,0.5nm,0.8s,baz=90,slow=7.3,SNR=2.9
ARCES ARCESS Array B 66.77 347 LR LR 14 26 15.1
comp=Z,72nm,20.1s,baz=315,slow=38
KSRS Korea Array 68.40 52 LR LR 14 23 53.6
comp=Z,33nm,20.8s,baz=260,slow=36
USA0B Ussuriysk Arra 72.43 46 P **P** **13 54 43.1 -0.6**
MAW Mawson 74.05 179 P **P** **13 54 54.9 +2.2**
comp=Z,0.6nm,0.7s,baz=17,slow=15,SNR=1.6
MAW LR LR 14 19 15.0
comp=Z,70nm,21.6s,baz=36,slow=29
MAW Mawson 74.05 179 P **P** **13 54 53.2 +0.6**
MJAR Matsushiro Arr 76.52 54 LR LR 14 32 06.7
comp=Z,52nm,18.2s,baz=320,slow=38
WRA Warramunga Arr 77.54 112 P **P** **13 55 12.8 -1.0**
comp=Z,0.8nm,0.9s,baz=292,slow=4.4,SNR=3.3
WB2 Warramunga Arr 77.55 112 P **P** **13 55 11.7 -2.1**
JHJ Hachijo jima 2 77.76 58 LR LR 14 32 40.1
comp=Z,29nm,18.2s,baz=290,slow=38
ASAR Alice Springs 77.93 116 P **P** **13 55 15.3 -0.5**
comp=Z,0.5nm,0.8s,baz=293,slow=5.8,SNR=6.5
ASAR LR LR 14 26 22.6
comp=Z,37nm,19.7s,baz=301,slow=33
ASAJ Asahikawa 80.03 46 LR LR 14 32 20.8
comp=Z,108nm,19.0s,baz=325,slow=37
GUMO Guam 83.37 77 LR LR 14 28 40.3
comp=Z,17nm,21.1s,baz=314,slow=33
STKA Stephens Creek 86.24 123 LR LR 14 31 33.2
comp=Z,72nm,18.9s,baz=209,slow=34
PETK Petropavlovsk- 89.30 37 LR LR 14 38 22.2
comp=Z,83nm,19.9s,baz=323,slow=37

*IDC **19** 13:56:44.6±0.6,50.°73N×173.°37W,h38km±4km,mb3.7/23, mb1 3.9/25,mb1mx3.8/45,mbtmp3.9/25,ML3.6/2,Error ellipse: s-maj=17.0km s-min=10.2km az=178.0*
*NEIC **19** 13:56:44.6±1.8,50.°76N±0.°07×173.°37W±0.°06,h36km±3km, mb4.3/113,ML3.9(AEIC),Error ellipse: s-maj=10.0km s-min=5.3km az=174.0*
*AEIC **19** 13:56:44±2.1,50.°71N±0.°06×173.°42W±0.°07,h30km±4km, Error ellipse: s-maj=9.2km s-min=6.2km az=167.0*
ISC 19 13:56:44.5±0.5,50.°77N±0.°07×173.°37W±0.°04,h34km±1km, n203,σ1§19/212,mb4.2/50,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.52**	**340**	Pn	**Pn**	**13 57 07.9**	**-1.3**
ATKA	**Atka Island**	**1.52**	**340**		**Sn**	**13 57 28.0**	**+0.2**
KOFP	**Korovin Flat P**	**1.57**	**343**		**Pn**	**13 57 09.7**	**-0.3**
KOSE	**Korovin Southe**	**1.63**	**345**		**Pn**	**13 57 10.7**	**-0.2**
KOSE					**Sn**	**13 57 31.9**	**+1.3**
KOKL	**Mount Kliuchef**	**1.64**	**342**		**Pn**	**13 57 10.5**	**-0.4**
KOKL					**Sn**	**13 57 31.9**	**+1.1**
KOWE	**Korovin West**	**1.69**	**341**		**Pn**	**13 57 11.4**	**-0.1**
KONE	**Korovin Northe**	**1.69**	**344**		**Pn**	**13 57 11.5**	**-0.1**
KONE					**Sn**	**13 57 33.4**	**+1.4**
GSMY	**Great Sitkin M**	**2.11**	**308**		**Pn**	**13 57 16.5**	**-0.8**
GSTR	**Great Sitkin T**	**2.14**	**309**	Pn	**Pn**	**13 57 17.2**	**-0.7**
GSTD	**Great Sitkin T**	**2.16**	**308**		**Pn**	**13 57 17.4**	**-0.8**
GSTD					**Sn**	**13 57 42.1**	**-1.7**
ADK	**Adak**	**2.36**	**299**	Pn	**Pn**	**13 57 19.5**	**-1.2**
ADAG	**Mount Adagdak**	**2.36**	**302**		**Pn**	**13 57 20.5**	**-0.3**
KIRH	**Kanaga Island**	**2.59**	**297**		**Pn**	**13 57 23.5**	**-0.5**
KIMD	**Kanaga Island**	**2.62**	**294**		**Pn**	**13 57 23.4**	**-1.0**
KINC	**Kanaga Island**	**2.63**	**298**		**Pn**	**13 57 23.9**	**-0.6**
KINC					**Sn**	**13 57 55.6**	**+0.5**
KIKV	**Kanaga Island**	**2.63**	**296**		**Pn**	**13 57 23.8**	**-0.7**
TAFP	**Tanaga Falls P**	**3.11**	**293**		**Pn**	**13 57 30.9**	**-0.2**
TAFP					**Sn**	**13 58 06.3**	**-0.7**
TASE	**Tanaga Southea**	**3.12**	**292**		**Pn**	**13 57 31.3**	**+0.1**
TASE					**Sn**	**13 58 07.7**	**+0.4**
GAEA	**Gareloi East**	**3.53**	**289**		**Pn**	**13 57 37.2**	**+0.4**
NIKH	**Nikolski High**	**3.56**	**50**	Pn	**Pn**	**13 57 35.8**	**-1.5**
OKSP	**Okmok Steeple**	**4.00**	**50**		**Pn**	**13 57 42.9**	**-0.5**
OKWE	**Okmok W'ng Wal**	**4.16**	**47**		**Pn**	**13 57 46.3**	**+0.8**
OKFG	**Magazine Ridge**	**4.28**	**50**		**Pn**	**13 57 47.2**	**+0.1**
AMKA	**Amchitka**	**4.66**	**280**	Pn	**Pn**	**13 57 50.7**	**-1.6**
MAPS	**Pakushin South**	**4.98**	**50**		**Pn**	**13 57 56.7**	**0.0**
MGOD	**Makushin Gods**	**5.00**	**50**		**Pn**	**13 57 57.0**	**-0.1**
MREP	**Makushin Rep't**	**5.08**	**51**		**Pn**	**13 57 58.2**	**+0.1**
MSW	**Makushin Switc**	**5.12**	**50**		**Pn**	**13 57 58.7**	**0.0**
MNAT	**Makushin Natee**	**5.15**	**50**		**Pn**	**13 57 59.4**	**+0.4**
UNV	**Unalaska Vale**	**5.21**	**51**	Pn	**Pn**	**13 57 59.5**	**-0.4**
ZRO	**Akutan Zero**	**5.61**	**51**		**Pn**	**13 58 06.5**	**+1.1**
AKBBA	**Akutan Broad B**	**5.64**	**51**		**Pn**	**13 58 06.5**	**+0.7**
AKV	**Akutan Volcano**	**5.64**	**51**		**Pn**	**13 58 06.9**	**+1.1**
AKUT	**Akutan**	**5.74**	**51**	Pn	**Pn**	**13 58 07.4**	**+0.3**
FALS	**False Pass**	**7.28**	**52**	Pn	**Pn**	**13 58 28.9**	**+0.6**
SDPT	**Sand Point**	**9.01**	**54**	Pn	**Pn**	**13 58 51.4**	**-0.6**
CNBA	**Chernabura Isl**	**9.28**	**59**	Pn	**Pn**	**13 58 54.4**	**-1.2**
CHGN	**Chignik**	**10.47**	**52**	Pn	**Pn**	**13 59 10.7**	**-1.3**
CHIR	**Chirikof Islan**	**11.75**	**58**	Pn	**Pn**	**13 59 27.5**	**-1.9**
SII	**Sitkinak Islan**	**12.74**	**56**	Pn	**Pn**	**13 59 41.8**	**-1.3**
GAMB	**Gambell**	**13.07**	**3**	Pn	**Pn**	**13 59 44.6**	**-2.8**
OHAK	**Old Harbor**	**13.43**	**54**	Pn	**Pn**	**13 59 48.4**	**-4.0**
KDAK	**Kodiak Island**	**13.98**	**52**	Pn	Pn	13 59 55.4	-4.5
SVW2	**Sparrevohn**	**14.31**	**37**	Pn	**Pn**	**14 00 05.0**	**+0.6**
CNPM	**China Poot**	**15.32**	**47**	Pn	**Pn**	**14 00 14.9**	**-3.1**
TTA	**Tatalina**	**15.37**	**31**	Pn	**Pn**	**14 00 19.0**	**+0.3**
BRLK	**Bradley Lake**	**15.59**	**46**	Pn	**Pn**	**14 00 18.0**	**-3.4**
BRLK				IAmb	IAmb	14 00 29.1	
comp=Z,14nm,0.6s							
SEW	**Seward**	**16.38**	**46**	Pn	**Pn**	**14 00 28.0**	**-3.5**
SEW				IAmb	IAmb	14 00 38.3	
comp=Z,12nm,0.7s							
SKT	**Skwentna**	**16.40**	**38**	Pn	**Pn**	**14 00 32.0**	**+0.2**
SUA	**Susitna One**	**16.44**	**41**	Pn	**Pn**	**14 00 29.4**	**-3.0**
PPLA	**Purkeypile**	**16.68**	**35**	P	**Pn**	**14 00 36.7**	**+1.3**
PMR	**Palmer**	**17.18**	**42**	Pn	**Pn**	**14 00 40.1**	**-1.5**
GHO	**Glory Hole Cre**	**17.35**	**41**	Pn	**Pn**	**14 00 41.9**	**-1.9**
GHO				IAmb	IAmb	14 00 47.1	
comp=Z,14nm,0.7s							
KNK	**Knik Glacier**	**17.39**	**43**		**Pn**	**14 00 42.5**	**-1.7**
KTH	**Kantishna Hill**	**17.53**	**35**	Pn	**Pn**	**14 00 45.5**	**-0.5**
KTH				IAmb	IAmb	14 00 50.9	
comp=Z,24nm,1.0s							
SML	**Sawmill**	**17.62**	**42**	Pn	**Pn**	**14 00 46.3**	**-0.7**
SML				IAmb	IAmb	14 00 51.4	
comp=Z,27nm,1.2s							
TRF	**Thorofare Moun**	**17.70**	**35**	P	**Pn**	**14 00 48.4**	**+0.2**
BPAW	**Bear Paw Mtn.**	**17.84**	**33**	P	**Pn**	**14 00 49.9**	**+0.2**
BPAW				IAmb	IAmb	14 00 55.3	
comp=Z,22nm,0.8s							
HIN	**Hinchinbrook I**	**17.86**	**47**	Pn	**Pn**	**14 00 46.5**	**-3.4**
PEA0B	**Petropavlovsk-**	**17.94**	**289**	P	**P**	**14 00 52.5**	**+1.2**
PEA0B				IAmb	IAmb	14 01 02.7	
comp=Z,51nm,1.4s							
PETK	**Petropavlovsk-**	**17.94**	**289**	P	**Pn**	**14 00 49.7**	**-1.3**
comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=7.7							
PETK	**Petropavlovsk-**	**17.94**	**289**	P	**Pn**	**14 00 51.3**	**+0.3**
FID	**Port Fidalgo**	**17.99**	**46**	Pn	**Pn**	**14 00 47.6**	**-4.0**
FID				IAmb	IAmb	14 00 54.4	
comp=Z,31nm,1.0s							
SCM	**Sheep Creek Mo**	**18.06**	**42**	Pn	**Pn**	**14 00 49.8**	**-2.7**
RDOG	**Red Dog Mine**	**18.08**	**13**	Pn	**Pn**	**14 00 50.9**	**-1.7**
RND	**Reindeer**	**18.21**	**37**		**P**	**14 00 52.4**	**-2.0**
EYAK	**Cordova Ski Ar**	**18.26**	**47**		**P**	**14 00 52.3**	**-2.5**
EYAK				IAmb	IAmb	14 00 58.8	
comp=Z,18nm,1.0s							
BWN	**Browne**	**18.42**	**34**	P	**P**	**14 00 56.2**	**-0.3**
BWN				IAmb	IAmb	14 01 08.8	
comp=Z,15nm,1.0s							
KLU	**Klutina**	**18.53**	**44**	P	**P**	**14 00 55.2**	**-2.6**
KLU				IAmb	IAmb	14 01 03.0	
comp=Z,8.5nm,0.6s							
DHY	**Denali Highway**	**18.62**	**39**	P	**P**	**14 00 58.2**	**-0.6**
M24K	**Tolsona, Glenn**	**18.67**	**42**	P	**P**	**14 00 58.6**	**-0.8**
RAGM	**Ragged Mountai**	**18.71**	**48**	P	**P**	**14 00 59.5**	**-0.3**
RAGM				IAmb	IAmb	14 01 07.2	
comp=Z,15nm,0.8s							
HMT	**Hamilton**	**18.89**	**48**	P	**P**	**14 01 01.5**	**-0.2**
HMT				IAmb	IAmb	14 01 24.1	
comp=Z,35nm,1.3s							
WRH	**Wood River Hil**	**19.08**	**34**		**P**	**14 01 02.1**	**-1.7**
CCB	**Clear Creek Bu**	**19.28**	**34**	P	**P**	**14 01 04.1**	**-1.8**
MDM	**Murphy Dome**	**19.31**	**33**	P	**P**	**14 01 05.0**	**-1.4**
PAX	**Paxson**	**19.34**	**40**	P	**P**	**14 01 05.9**	**-0.8**
GLB	**Gilahina Butte**	**19.45**	**45**	P	**P**	**14 01 07.0**	**-0.9**
HDA	**Harding Lake**	**19.46**	**35**	P	**P**	**14 01 06.0**	**-1.9**
CRQM	**Cirque**	**19.54**	**48**	P	**P**	**14 01 08.9**	**-0.1**
VRDI	**Verde Repeater**	**19.54**	**46**		**P**	**14 01 08.1**	**-1.0**
VRDI				IAmb	IAmb	14 01 11.3	
comp=Z,18nm,1.3s							
IL31		**19.68**	**35**	P	**P**	**14 01 09.7**	**-0.5**
ILAR	**Eielson Array**	**19.68**	**35**	P	**P**	**14 01 08.6**	**-1.7**
comp=Z,0.5nm,0.3s,baz=230,slow=10,SNR=42							
ILAR	**Eielson Array**	**19.68**	**35**		**P**	**14 01 10.3**	**0.0**
TGL	**Tana Glacier**	**19.69**	**48**	P	**P**	**14 01 10.7**	**+0.1**
TGL				IAmb	IAmb	14 01 14.5	
comp=Z,16nm,0.9s							
RIDG	**Independent Ri**	**19.93**	**39**	P	**P**	**14 01 13.1**	**-0.1**
RIDG				IAmb	IAmb	14 01 19.3	
comp=Z,6.4nm,0.6s							
MESA	**MESA**	**19.95**	**50**	P	**P**	**14 01 12.8**	**-0.8**
BILL	**Bilibino**	**19.99**	**337**	P	**P**	**14 01 12.3**	**-1.4**
BILL				IAmb	IAmb	14 01 18.8	
comp=Z,9.7nm,1.0s							
BALM	**Baldy**	**20.00**	**47**	P	**P**	**14 01 13.9**	**0.0**
BALM				IAmb	IAmb	14 01 31.7	
comp=Z,9.9nm,1.0s							
COLD	**Coldfoot**	**20.14**	**26**		**P**	**14 01 14.7**	**-0.6**
COLD				IAmb	IAmb	14 01 23.3	
comp=Z,13nm,1.0s							
DOT	**Dot Lake**	**20.21**	**39**		**P**	**14 01 15.7**	**-0.4**
BARN	**Barnard Glacie**	**20.32**	**47**	P	**P**	**14 01 17.2**	**-0.3**
BARN				IAmb	IAmb	14 01 23.9	
comp=Z,14nm,0.8s							
CTGM	**Chitina Glacie**	**20.45**	**48**		**P**	**14 01 20.4**	**+1.6**
CTGM				IAmb	IAmb	14 01 21.8	
comp=Z,12nm,0.6s							
PCA	**Pinnacle**	**20.76**	**51**	Pn	**P**	**14 01 24.0**	**+1.8**
YKU2	**Yakutat**	**20.94**	**52**		**P**	**14 01 26.1**	**+2.1**
FYU	**Fort Yukon**	**21.25**	**31**	P	**P**	**14 01 28.1**	**+0.8**
TOLK	**Toolik Lake Re**	**21.30**	**24**		**P**	**14 01 27.9**	**0.0**
TOLK				IAmb	IAmb	14 01 31.7	
comp=Z,12nm,0.8s							
EGAK	**Eagle**	**21.84**	**38**	P	**P**	**14 01 33.8**	**+0.3**
EGAK				IAmb	IAmb	14 01 39.5	
comp=Z,10nm,0.7s							
SEY	**Seymchan**	**22.02**	**317**	P	**P**	**14 01 35.9**	**+0.4**
comp=Z,3.0nm,0.6s,baz=106,slow=11,SNR=10							
HYT	**Haines Junctio**	**22.24**	**49**	P	**P**	**14 01 38.7**	**+0.6**
HYT				IAmb	IAmb	14 01 45.5	
comp=Z,8.2nm,0.9s							
SKAG	**Skagway**	**23.13**	**53**	P	**P**	**14 01 48.4**	**+1.2**
SKAG				IAmb	IAmb	14 02 10.1	
comp=Z,10nm,0.8s							
DLBC	**Dease Lake**	**25.85**	**56**	P	**P**	**14 02 15.8**	**+3.2**
comp=Z,4.2nm,0.6s,baz=229,slow=14,SNR=1.8							
DLBC	**Dease Lake**	**25.85**	**56**	P	**P**	**14 02 15.2**	**+2.7**
INK	**Inuvik**	**26.05**	**33**	P	**P**	**14 02 13.1**	**-1.0**
comp=Z,2.5nm,0.6s,baz=204,slow=9.6,SNR=17							
INK	**Inuvik**	**26.05**	**33**	P	**P**	**14 02 13.7**	**-0.4**
INK				IAmb	IAmb	14 02 21.0	
comp=Z,12nm,1.4s							
YKA	**Yellowknife Ar**	**33.16**	**47**	P	**P**	**14 03 17.2**	**-0.1**
comp=Z,0.5nm,0.5s,baz=272,slow=8.5,SNR=5.4							
B08A	**Colville Reser**	**34.48**	**72**	P	**P**	**14 03 29.9**	**+1.0**
B08A				IAmb	IAmb	14 03 30.9	
comp=Z,3.3nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**34.69**	**214**	T	T	14 41 35.1	
baz=20							
H11N3	**WAKE ISLAND Hy**	**34.70**	**214**	T	T	14 41 36.8	
baz=20							
H11N1	**WAKE ISLAND Hy**	**34.71**	**214**	T	T	14 41 34.6	
baz=20							
HAWA	**Hanford**	**35.22**	**76**	P	**P**	**14 03 36.6**	**+1.3**
NEW	**Newport**	**35.85**	**72**	P	**P**	**14 03 41.0**	**+0.2**
comp=Z,1.6nm,0.7s,baz=274,slow=7.0,SNR=4.6							
NEW	**Newport**	**35.85**	**72**	IAmb	IAmb	14 04 03.1	
comp=Z,7.1nm,1.5s							
H11S1	**WAKE ISLAND Hy**	**35.89**	**213**	T	T	14 43 09.5	
baz=20,slow=76,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**35.90**	**213**	T	T	14 43 10.1	
baz=20,slow=76,SNR=5.1							
H11S3	**WAKE ISLAND Hy**	**35.90**	**214**	T	T	14 43 11.2	
baz=20,slow=76,SNR=3.7							
K05A	**Summer Lake**	**36.17**	**82**	P	**P**	**14 03 44.7**	**+1.0**
I07A	**Izee**	**36.35**	**79**	P	**P**	**14 03 46.1**	**+1.0**
I07A				IAmb	IAmb	14 04 00.9	
comp=Z,7.1nm,1.4s							
USRK	**Ussuriysk Ar.**	**36.77**	**282**	P	**P**	**14 03 48.3**	**-0.3**
comp=Z,1.5nm,0.7s,baz=78,slow=9.8,SNR=4.2							
MJAR	**Matsushiro Arr**	**37.12**	**267**	P	**P**	**14 03 51.3**	**-0.4**
comp=Z,0.5nm,0.5s,baz=37,slow=4.2,SNR=2.2							
MJAR				pP	**sP**	**14 04 01.6**	**-1.0**
comp=Z,1.0nm,0.6s,baz=37,slow=6.1,SNR=4.1							
PAHR	**Pah Rah Range**	**38.77**	**85**	P	**P**	**14 04 06.9**	**+1.1**
PAHR				IAmb	IAmb	14 04 11.2	
comp=Z,6.4nm,1.3s							
PNTR	**Pine Nut**	**38.99**	**86**	P	**P**	**14 04 09.0**	**+1.4**
PNTR				IAmb	IAmb	14 04 10.2	
comp=Z,4.2nm,0.8s							
WAKR	**Walker**	**39.44**	**87**	P	**P**	**14 04 12.6**	**+1.3**
HRY	**Holter Researc**	**39.75**	**71**	P	**P**	**14 04 14.2**	**+0.4**
RYN	**Ryan**	**39.95**	**86**	P	**P**	**14 04 16.2**	**+0.7**
RYN				IAmb	IAmb	14 04 20.5	
comp=Z,3.7nm,1.1s							
BCYI	**Bear Canyon**	**40.01**	**75**	P	**P**	**14 04 16.4**	**+0.3**
MCMT	**McKenzie Canyo**	**40.08**	**74**	P	**P**	**14 04 16.3**	**-0.4**
MDPB	**Devils Postpil**	**40.18**	**88**	P	**P**	**14 04 18.1**	**+0.4**
NVAR	**Mina Array Bea**	**40.20**	**86**	P	**P**	**14 04 16.2**	**-1.5**
comp=Z,1.1nm,0.8s,baz=290,slow=8.9,SNR=8.3							
NVAR				PcP	**PcP**	**14 06 20.3**	**-1.0**
comp=Z,0.3nm,0.6s,baz=264,slow=2.7,SNR=2.6							
NVAR	**Mina Array Bea**	**40.20**	**86**	P	**P**	**14 04 18.7**	**+1.0**
BOZ	**Bozeman (W)**	**40.43**	**72**	P	**P**	**14 04 19.5**	**+0.1**
PAGB	**Antelope Grade**	**40.60**	**91**	P	**P**	**14 04 22.9**	**+2.0**
TPH	**Tonopah**	**41.10**	**86**	P	**P**	**14 04 25.3**	**+0.2**
YHH	**Holmes Hill**	**41.32**	**73**	P	**P**	**14 04 27.3**	**+0.3**
HIA	**Hailar**	**41.67**	**295**	P	**P**	**14 04 29.8**	**+0.3**
HIA				IAmb	IAmb	14 04 30.4	
comp=Z,9.6nm,1.1s							
R11A	**Troy Canyon, C**	**41.97**	**84**	P	**P**	**14 04 33.1**	**+0.9**
BGU	**Big Grassy Mou**	**42.08**	**79**	P	**P**	**14 04 33.7**	**+0.7**
TPNV	**Topopah Spring**	**42.39**	**86**	P	**P**	**14 04 36.7**	**+1.0**
TPNV				IAmb	IAmb	14 04 37.7	
comp=Z,3.8nm,0.8s							
DUG	**Dugway, Tooele**	**42.63**	**80**	P	**P**	**14 04 38.0**	**+0.5**
DUG				IAmb	IAmb	14 04 40.2	
comp=Z,4.9nm,1.2s							
PRN	**Pahroc Range**	**42.87**	**85**	P	**P**	**14 04 40.3**	**+0.8**
PRN				IAmb	IAmb	14 04 44.4	
comp=Z,6.4nm,0.8s							
PSUT	**Pine Spring**	**42.95**	**83**	P	**P**	**14 04 40.8**	**+0.5**
GSC	**Goldstone, Bar**	**43.06**	**89**	P	**P**	**14 04 41.8**	**+0.8**
GSC				IAmb	IAmb	14 04 42.9	
comp=Z,4.7nm,0.8s							
KSRS	**Korea Array**	**43.09**	**275**	P	**P**	**14 04 41.4**	**+0.3**
comp=Z,0.9nm,0.8s,baz=45,slow=14,SNR=2.5							
PD31	**Pinedale Array**	**43.19**	**75**	P	**P**	**14 04 42.5**	**+0.4**
PD31				IAmb	IAmb	14 04 46.2	
comp=Z,7.4nm,1.5s							
PDAR	**Pinedale Array**	**43.19**	**75**	P	**P**	**14 04 43.0**	**+0.8**
comp=Z,2.0nm,0.8s,baz=300,slow=3.6,SNR=13							
PDAR				pP	**sP**	**14 04 53.7**	**+0.5**
comp=Z,1.9nm,0.8s,baz=304,slow=3.3,SNR=6.5							
PDAR	**Pinedale Array**	**43.19**	**75**	P	**P**	**14 04 42.4**	**+0.2**
NLU	**North Lily Min**	**43.23**	**80**	P	**P**	**14 04 44.0**	**+1.5**
JLU	**Jordanelle**	**43.25**	**79**	P	**P**	**14 04 43.0**	**+0.4**
CCUT	**Cedar City**	**43.85**	**84**	P	**P**	**14 04 48.7**	**+1.2**
MSU	**Marysvale**	**44.02**	**82**	P	**P**	**14 04 49.0**	**+0.2**
TMUT	**Trail Mountain**	**44.16**	**80**	P	**P**	**14 04 50.9**	**+0.9**
LCMT	**Little Creek M**	**44.26**	**84**	P	**P**	**14 04 50.9**	**+0.2**
PFO	**Pinyon Flats O**	**44.36**	**90**	P	**P**	**14 04 52.1**	**+0.6**
comp=Z,2.0nm,0.8s,baz=308,slow=5.2,SNR=4.1							
PFO	**Pinyon Flats O**	**44.36**	**90**	IAmb	IAmb	14 05 21.4	
comp=Z,3.4nm,0.6s							
PV22	**Blue Mesa, Par**	**46.13**	**79**	P	**P**	**14 05 06.6**	**+1.1**
PV22				IAmb	IAmb	14 05 07.6	
comp=Z,3.8nm,1.2s							
PV03	**Paradox Valley**	**46.26**	**80**	P	**P**	**14 05 06.7**	**+0.1**
PV03				IAmb	IAmb	14 05 10.5	
comp=Z,4.8nm,1.1s							
PV13	**Radium Mtn., P**	**46.33**	**80**	P	**P**	**14 05 07.4**	**+0.2**
PV02	**Paradox Valley**	**46.36**	**80**	P	**P**	**14 05 07.7**	**+0.2**
214A	**Organ Pipe Nat**	**47.76**	**89**	P	**P**	**14 05 18.3**	**+0.1**
AGMN	**Agassiz Nation**	**48.18**	**61**	P	**P**	**14 05 21.4**	**+0.2**
ANMO	**Albuquerque**	**49.83**	**81**	P	**P**	**14 05 34.6**	**+0.4**
ANMO				IAmb	IAmb	14 06 02.3	
comp=Z,2.8nm,1.4s							
SONM	**Songino Array**	**49.95**	**300**	P	**P**	**14 05 35.6**	**+0.7**
comp=Z,1.3nm,0.7s,baz=43,slow=9.0,SNR=4.4							
SONM				pP	**sP**	**14 05 46.9**	**+0.7**
comp=Z,1.0nm,0.6s,baz=41,slow=7.7,SNR=1.8							
SONM	**Songino Array**	**49.95**	**300**	P	**P**	**14 05 35.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**51.14**	**290**	eP	**P**	**14 05 46.4**	**+2.5**
HHC				pmax	pmax		
comp=Z,24nm,1.0s							
HHC				pmax	pmax		
comp=Z,79nm,5.1s							
MNTX	**Cornudas Mount**	**52.64**	**84**	P	**P**	**14 05 55.6**	**+0.5**
TX31	**Lajitas Ar. Si**	**55.33**	**85**	P	**P**	**14 06 14.6**	**-0.3**
TX32	**Lajitas Array**	**55.33**	**85**	P	**P**	**14 06 14.6**	**-0.2**
TX32				IAmb	IAmb	14 06 15.9	
comp=Z,4.1nm,1.0s							
TXAR	**Lajitas Array**	**55.33**	**85**	P	**P**	**14 06 14.9**	**0.0**
comp=Z,1.9nm,0.8s,baz=293,slow=5.2,SNR=20							
TXAR				pP	**sP**	**14 06 25.6**	**-0.5**
comp=Z,0.9nm,0.8s,baz=289,slow=4.7,SNR=4.3							
TXAR				PcP	**PcP**	**14 07 14.7**	**-0.4**
comp=Z,0.3nm,0.6s,baz=261,slow=4.5,SNR=1.3							
TXAR	**Lajitas Array**	**55.33**	**85**	P	**P**	**14 06 14.7**	**-0.2**
ZALV	**Zalesovo Beam**	**56.89**	**316**	P	**P**	**14 06 25.2**	**-0.3**
comp=Z,0.8nm,0.8s,baz=32,slow=6.8,SNR=2.1							
ZALV				PcP	**PcP**	**14 07 20.4**	**-0.2**
comp=Z,0.3nm,0.4s,baz=74,slow=2.3,SNR=3.8							
GTA	**Gaotai**	**58.95**	**295**	eP	**P**	**14 06 41.0**	**+0.6**
GTA				pP	pP	14 06 45.1	-3.4
GTA				sP	sP	14 06 48.3	-3.5
GTA				pmax	pmax		
comp=Z,3.0nm,1.2s							
ARCES	**ARCESS Array B**	**59.21**	**352**	P	**P**	**14 06 40.6**	**-0.9**
comp=Z,1.6nm,0.6s,baz=23,slow=7.9,SNR=9.8							
ARCES				pP	**sP**	**14 06 52.0**	**-1.2**
comp=Z,4.1nm,1.0s,baz=18,slow=8.1,SNR=2.5							
KURK	**Kurchatov**	**61.87**	**317**	P	**P**	**14 07 00.6**	**+0.7**
WMQ	**Urumqi**	**62.51**	**306**	eP	**P**	**14 07 06.9**	**+2.5**
MOQ	**Mont Orford**	**62.54**	**51**	P	**P**	**14 07 04.5**	**-0.1**
MK31	**Makanchi Array**	**63.05**	**312**	P	**P**	**14 07 08.1**	**+0.1**
MK31				IAmb	IAmb	14 07 08.9	
comp=Z,1.9nm,0.9s							
MKAR	**Makanchi Array**	**63.05**	**312**	P

H10N1	**ASCENSION HYDR**	**6.26**	**358**	T		T		14 22 17.1	
	baz=184,slow=79,SNR=4.6								
H10N3	**ASCENSION HYDR**	**6.27**	**358**	T		T		14 22 15.9	
	baz=184,slow=79,SNR=17								
H10N2	**ASCENSION HYDR**	**6.28**	**358**	T		T		14 22 17.1	
	baz=184,slow=79,SNR=5.6								
TORD	**Torodi Ar. Bea**	**31.40**	**31**	P		**P**		**14 21 03.8**	**-0.1**
	1.3nm,0.8s,baz=225,slow=9.1,SNR=6.2								
TORD				LR		LR		14 31 15.2	
	comp=Z,60nm,21.3s,baz=225,slow=32								
TORD	**Torodi Ar. Bea**	**31.40**	**31**	P		**P**		**14 21 03.6**	**-0.4**
SUR	**Sutherland**	**36.78**	**126**	P		**P**		**14 21 50.9**	**+0.1**
SUR				IAmb		IAmb		14 22 10.9	
	comp=Z,34nm,1.5s								
BOSA	**Boshof**	**39.34**	**118**	LR		LR		14 36 37.4	
	comp=Z,14nm,18.1s,baz=252,slow=34								
PB14	**IPOC Station P**	**53.64**	**250**	P		**P**		**14 24 04.7**	**-0.2**
GEC2	**GERESS Array S**	**67.44**	**20**	P		**P**		**14 25 38.1**	**-0.3**
GEC2				IAmb		IAmb		14 25 46.9	
	comp=Z,2.7nm,1.2s								
GERES	**GERESS Array B**	**67.44**	**20**	P		**P**		**14 25 38.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=195,slow=7.1,SNR=5.7								
MLR	**Muntele Rosu**	**69.61**	**29**	P		**P**		**14 25 50.8**	**-1.3**
AKASG	**Malin Array Be**	**74.93**	**27**	P		**P**		**14 26 23.3**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=222,slow=6.2,SNR=15								
AKBB	**Malin Array Si**	**74.93**	**27**	P		**P**		**14 26 23.6**	**+0.1**
AKBB				IAmb		IAmb		14 26 24.6	
	comp=Z,5.0nm,0.9s								
NOA	**NORSAR Array B**	**77.64**	**12**	P		**P**		**14 26 39.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=196,slow=6.5,SNR=4.4								
FINES	**FINESS Array B**	**81.83**	**18**	P		**P**		**14 27 02.3**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=229,slow=3.4,SNR=13								

*IDC **19** 14:24:00.1±0.8,40˚.35N×124˚.37W,h0km,mb3.8/13, mb1 4.1/17,mb1mx4.0/45,mbtmp3.8/17,ML4.5/3,MS2.9/5, Ms1 2.9/5,ms1mx2.7/42,Error ellipse: s-maj=13.1km s-min=10.6km az=47.0*

*NEIC **19** 14:24:04.6,40˚.28N×124˚.36W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}2.40; $M_{\theta\theta}$-2.95; $M_{\phi\phi}$0.55; $M_{r\theta}$0.02; $M_{r\phi}$-0.24; $M_{\theta\phi}$-0.74; Fault plane solution: $M_0$2.83000×10¹⁵ NP1:$\phi_1$247.82000°, δ48.48000°,λ,63.69000°. NP2:$\phi_2$104.54000°,δ47.84000°, λ,116.59000°. Principal axes: T 2.6594, Plg71.0000°, Azm87.0000°; N 0.3075, Plg19.0000°, Azm266.0000°; P -2.9669, Plg0.0000°, Azm356.0000°;*

*NCEDC **19** 14:24:04.5±2.2,40˚.27N×0˚.03×124˚.37W±0˚.07,h23km±4km, Mwr4.2/5,mb4.4/36(NEIC) Error ellipse: s-maj=7.8km s-min=4.5km az=81.0*

*ANF **19** 14:24:05.2±0.9,40˚.40N×124˚.21W,h20km,ML4.0/19, Error ellipse: s-maj=9.3km s-min=4.9km az=50.0*

ISC 19 14:24:04.0±1.3,40˚29N±0˚.04×124˚41W±0˚.06,h25km±9km, n261,σ1$30/261,mb4.1/22,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMM	**Slide Mountain**	**0.20**	**120**		**Pb**	**14 24 09.7**	**-0.1**
KCRM	**Chalk Rock**	**0.47**	**73**		**Pb**	**14 24 13.8**	**+0.1**
KMRM	**Mail Ridge**	**0.54**	**97**		**Pb**	**14 24 14.9**	**0.0**
JCC	**Jacoby Creek,**	**0.60**	**28**		**Pb**	**14 24 15.0**	**-0.9**
KBSM	**Bell Springs**	**0.72**	**120**		**Pb**	**14 24 17.1**	**-0.9**
KHMM	**Horse Mountain**	**0.78**	**41**	Pn	**Pb**	**14 24 18.0**	**-1.0**
KCPM	**Cahto Peak**	**0.87**	**133**		**Pb**	**14 24 19.0**	**-1.5**
KOMM	**Orleans Mounta**	**1.23**	**36**		**Pn**	**14 24 24.3**	**-1.3**
GNAM	**Navarro Ridge**	**1.24**	**151**		**Pn**	**14 24 23.9**	**-1.9**
O02D	**Mt. Diablo Mer**	**1.24**	**95**	P	**Pn**	**14 24 24.9**	**-0.9**
	baz=275,SNR=579						
O02D				S	**Sn**	**14 24 40.7**	**-1.1**
	baz=275						
KRMB	**Red Mountain**	**1.29**	**17**		**Pn**	**14 24 25.1**	**-1.4**
GASB	**Alder Springs**	**1.44**	**115**		**Pn**	**14 24 27.1**	**-1.6**
WDC	**Whiskeytown Da**	**1.45**	**78**	Pn	**Pn**	**14 24 27.3**	**-1.3**
N02D	**Trinity Center**	**1.46**	**62**	P	**Pn**	**14 24 27.7**	**-1.2**
	baz=241,SNR=556						
N02D				S	**Sn**	**14 24 45.3**	**-1.9**
	baz=241						
M02C	**Callahan**	**1.61**	**46**	P	**Pn**	**14 24 29.7**	**-1.2**
	baz=226,SNR=824						
M02C				S	**Sn**	**14 24 49.3**	**-1.7**
	baz=226						
HOPS	**Hopland Field**	**1.65**	**141**		**Pn**	**14 24 29.7**	**-1.7**
LTCM	**Tuscan Springs**	**1.75**	**92**		**Pn**	**14 24 31.9**	**-0.8**
GPMM	**Pine Mountain**	**1.83**	**141**		**Pn**	**14 24 32.5**	**-1.4**
KBO	**Bosley Butte**	**1.93**	**4**		**Pn**	**14 24 33.5**	**-1.8**
YBH	**Yreka Blue Hor**	**1.93**	**41**	Pn	**Pn**	**14 24 34.3**	**-1.0**
	136nm,0.3s,baz=274,slow=9.8,SNR=905						
YBH				Sn	**Sn**	**14 24 57.2**	**-1.7**
	133nm,0.3s,baz=145,slow=13,SNR=9.2						
GDXM	**Geysers**	**1.93**	**139**		**Pn**	**14 24 33.6**	**-1.7**
L02E	**Cave Junction**	**1.96**	**18**	P	**Pn**	**14 24 34.5**	**-1.2**
	baz=197,SNR=691						
L02E				S	**Sn**	**14 24 57.7**	**-1.9**
	baz=197						
LGBM	**Gray Butte**	**1.98**	**57**		**Pn**	**14 24 35.8**	**-0.3**
O03E	**Paynes Creek**	**1.99**	**89**	P	**Pn**	**14 24 34.8**	**-1.4**
	baz=270						
O03E				S	**Sn**	**14 24 58.2**	**-2.1**
	baz=270						
GCRM	**Castle Rock Sp**	**2.00**	**139**		**Pn**	**14 24 35.1**	**-1.1**
FTR	**Fort Ross**	**2.01**	**151**		**Pn**	**14 24 34.5**	**-1.8**
MNRC	**McLaughlin Min**	**2.07**	**132**		**Pn**	**14 24 36.0**	**-1.2**
LHEM	**Herd Peak**	**2.13**	**50**		**Pn**	**14 24 38.1**	**-0.1**
LMEM	**Manzanita Entr**	**2.18**	**82**		**Pn**	**14 24 37.8**	**-1.0**
LCMM	**Colby Mountain**	**2.21**	**93**		**Pn**	**14 24 38.3**	**-1.0**
SUTB	**Sutter Butte**	**2.28**	**117**		**Pn**	**14 24 37.6**	**-2.4**
HATC	**Hat Creek Radi**	**2.30**	**76**		**Pn**	**14 24 40.3**	**-0.1**
ORV	**Oroville**	**2.35**	**107**		**Pn**	**14 24 39.1**	**-1.9**
MCCM	**Marconi Confer**	**2.45**	**151**	Pn	**Pn**	**14 24 40.4**	**-1.9**
M04C	**Macdoel**	**2.45**	**52**	P	**Pn**	**14 24 42.3**	**-0.2**
	baz=232,SNR=71						
CVS	**Carmenet Viney**	**2.46**	**141**		**Pn**	**14 24 40.6**	**-1.9**
K02D	**Willamette Mer**	**2.47**	**13**	P	**Pn**	**14 24 41.5**	**-1.2**
	baz=193,SNR=1000						
K02D				S	**Sn**	**14 25 10.0**	**-2.0**
	baz=193						
L04D	**Klamath Falls**	**2.50**	**39**	P	**Pn**	**14 24 43.3**	**+0.2**
	baz=219,SNR=328						
L04D				S	**Sn**	**14 25 13.2**	**+0.4**
	baz=219						
HUMO	**Hull Mountain**	**2.56**	**25**		**Pn**	**14 24 43.1**	**-0.9**
HUMO	**Hull Mountain**	**2.56**	**25**	Pn	**Pn**	**14 24 43.0**	**-0.9**
KEBM	**Edson Butte**	**2.58**	**1**		**Pn**	**14 24 43.3**	**-1.0**
FARB	**Farallon Islan**	**2.81**	**157**		**Pn**	**14 24 45.7**	**-1.5**
J01E	**Myrtle Point**	**2.89**	**7**	P	**Pn**	**14 24 47.1**	**-1.4**
	baz=187,SNR=28						
J01E				S	**Sn**	**14 25 19.6**	**-2.8**
	baz=187						
BL67	**Building 67, L**	**2.93**	**145**		**Pn**	**14 24 48.0**	**-1.1**
VAK	**Adit at Lawren**	**2.93**	**144**		**Pn**	**14 24 47.7**	**-1.3**
BKS	**Berkeley--Byer**	**2.94**	**144**		**Pn**	**14 24 47.6**	**-1.5**
BRIB	**Briones**	**2.94**	**143**		**Pn**	**14 24 48.5**	**-0.6**
AFDM	**Forest Hills D**	**2.97**	**116**		**Pn**	**14 24 48.1**	**-1.4**
CMCM	**Mills College**	**3.05**	**145**		**Pn**	**14 24 49.4**	**-1.2**
K04D	**Chiloquin, OR**	**3.07**	**40**	P	**Pn**	**14 24 51.0**	**0.0**
	baz=221,SNR=20						
BEKR	**Beckwourth**	**3.13**	**96**		**Pn**	**14 24 51.4**	**-0.5**
JRSC	**Jasper Ridge**	**3.34**	**149**		**Pn**	**14 24 52.9**	**-1.7**
J04D	**Umpqua Nationa**	**3.41**	**29**	P	**Pn**	**14 24 56.4**	**+0.6**
	baz=210,SNR=28						
MOD	**Modoc Plateau**	**3.49**	**61**		**Pn**	**14 24 55.6**	**-1.2**
I03D	**Drain, OR**	**3.50**	**13**	P	**Pn**	**14 24 56.7**	**0.0**
	baz=193,SNR=26						
I03D				S	**Sn**	**14 25 35.6**	**-1.7**
	baz=193						
RUBR	**Rubicon Trail**	**3.50**	**109**		**Pn**	**14 24 57.0**	**0.0**
K05A	**Summer Lake**	**3.59**	**46**		**Pn**	**14 24 58.1**	**-0.2**
MHC	**Mount Hamilton**	**3.65**	**143**		**Pn**	**14 24 58.0**	**-1.0**
CMPM	**Mikes Peak**	**3.79**	**140**		**Pn**	**14 25 01.7**	**+0.9**
VCNR	**Virginia City**	**3.79**	**104**		**Pn**	**14 25 01.0**	**-0.1**
I04A	**Tendick Farm,**	**3.81**	**22**	P	**Pn**	**14 25 01.3**	**+0.2**
	baz=203,SNR=51						
I04A				S	**Sn**	**14 25 44.4**	**-0.6**
	baz=203						
J05D	**Fort Rock, OR**	**3.82**	**37**	P	**Pn**	**14 25 01.8**	**+0.5**
	baz=219,SNR=245						
J05D				S	**Sn**	**14 25 43.6**	**-1.9**
	baz=219						
I02D	**Swisshome**	**3.84**	**6**	P	**Pn**	**14 25 01.5**	**+0.1**
	baz=186,SNR=83						
I02D				S	**Sn**	**14 25 43.3**	**-2.3**
	baz=186						
CMB	**Columbia Colle**	**3.85**	**124**		**Pn**	**14 25 01.2**	**-0.4**
PNTR	**Pine Nut**	**3.90**	**106**		**Pn**	**14 25 02.4**	**-0.1**
PAHR	**Pah Rah Range**	**3.90**	**97**	Pn	**Pn**	**14 25 01.6**	**-0.9**
GHS	**Gilroy Hot Spr**	**3.94**	**143**		**Pn**	**14 25 01.9**	**-1.0**
HCOM	**Corn Cob Canyo**	**4.00**	**147**		**Pn**	**14 25 01.8**	**-1.8**
HFEM	**San Felipe**	**4.05**	**144**		**Pn**	**14 25 02.9**	**-1.5**
PACP	**Pacheco Peak**	**4.08**	**142**		**Pn**	**14 25 04.0**	**-0.9**
YERR	**Yerington**	**4.19**	**106**		**Pn**	**14 25 06.3**	**-0.2**
SAO	**San Andreas Ge**	**4.21**	**146**	Pn	**Pn**	**14 25 04.4**	**-2.3**
WAKR	**Walker**	**4.24**	**113**		**Pn**	**14 25 07.2**	**0.0**
PINE	**Pine Mountain**	**4.35**	**35**	Pn	**Pn**	**14 25 09.2**	**+0.6**
BLRM	**Lewis Ranch**	**4.37**	**145**		**Pn**	**14 25 07.5**	**-1.2**
COR	**Corvallis**	**4.37**	**10**		**Pn**	**14 25 09.6**	**+0.8**
H04D	**Lebanon**	**4.41**	**16**	P	**Pn**	**14 25 09.8**	**+0.6**
	baz=196,SNR=58						
HAST	**Hastings Reser**	**4.49**	**149**		**Pn**	**14 25 08.1**	**-2.4**
BSMM	**Soledad Missio**	**4.55**	**148**		**Pn**	**14 25 08.9**	**-2.3**
I05D	**Terrebonne, OR**	**4.64**	**28**	P	**Pn**	**14 25 13.3**	**+0.7**
	baz=210,SNR=11						
LRV	**Little Rabbit**	**4.69**	**144**		**Pn**	**14 25 12.1**	**-1.1**
H04A	**Detroit Lake**	**4.69**	**20**	Pn	**Pn**	**14 25 13.8**	**+0.6**
RYN	**Ryan**	**4.84**	**108**		**Pn**	**14 25 15.3**	**-0.1**
MDPB	**Devils Postpil**	**4.92**	**121**		**Pn**	**14 25 17.2**	**+0.6**
PMPB	**Monarch Peak**	**4.96**	**144**	Pn	**Pn**	**14 25 15.7**	**-1.2**
OMMB	**Old Mammoth Mi**	**4.99**	**121**	Pn	**Pn**	**14 25 17.7**	**+0.2**
G03D	**McMinnville, O**	**4.99**	**9**	P	**Pn**	**14 25 18.7**	**+1.5**
	baz=190,SNR=9.5						
LHV	**Little Huntoon**	**5.01**	**112**		**Pn**	**14 25 17.9**	**+0.4**
KVN	**Kaiserville**	**5.02**	**102**	Pn	**Pn**	**14 25 17.3**	**-0.5**
NVAR	**Mina Array Bea**	**5.08**	**109**	Pn	**Pn**	**14 25 19.1**	**+0.4**
	9.8nm,0.3s,baz=288,slow=15,SNR=191						
NVAR				LR	LR	14 27 31.0	
	comp=Z,100nm,18.7s,baz=342,slow=41						
NVAR	**Mina Array Bea**	**5.08**	**109**		**Pn**	**14 25 18.4**	**-0.3**
NV11	**Mina Array Sit**	**5.19**	**109**		**Pn**	**14 25 20.0**	**-0.1**
I07A	**Izee**	**5.26**	**42**	Pn	**Pn**	**14 25 21.6**	**+0.6**
PKD	**Bear Valley Ra**	**5.30**	**144**		**Pn**	**14 25 20.8**	**-0.8**
J08A	**Circle Bar Ran**	**5.39**	**53**	Pn	**Pn**	**14 25 22.1**	**-0.8**
RAMR	**Ramage Ranch**	**5.42**	**148**		**Pn**	**14 25 21.9**	**-1.3**
G05D	**Wamic, OR**	**5.45**	**24**	P	**Pn**	**14 25 25.1**	**+1.5**
	baz=205,SNR=14						
PAGB	**Antelope Grade**	**5.61**	**143**		**Pn**	**14 25 24.3**	**-1.5**
THIS	**South End of C**	**5.62**	**143**		**Pn**	**14 25 25.0**	**-1.0**
F04A	**Amboy**	**5.83**	**14**	Pn	**Pn**	**14 25 29.1**	**+0.4**
F05D	**White Salmon**	**6.00**	**20**	P	**Pn**	**14 25 32.4**	**+1.3**
	baz=202,SNR=12						
TPH	**Tonopah**	**6.00**	**109**		**Pn**	**14 25 31.1**	**-0.3**
SMMC	**Simmler**	**6.07**	**144**	P	**Pn**	**14 25 31.6**	**-0.5**
	baz=326						
VES	**Vestal, Richgr**	**6.11**	**135**	P	**Pn**	**14 25 33.2**	**+0.6**
	baz=318						
CWC	**Cottonwood Cre**	**6.28**	**126**	P	**Pn**	**14 25 37.4**	**+2.2**
	baz=310						
E03A	**Lebam**	**6.29**	**5**	Pn	**Pn**	**14 25 35.7**	**+0.7**
F07A	**Phinny Hill Vi**	**6.49**	**29**		**Pn**	**14 25 38.5**	**+0.6**
PKM	**Mcpherson Peak**	**6.51**	**144**	P	**Pn**	**14 25 37.1**	**-1.2**
	baz=328						
ISA	**Isabella, Lake**	**6.58**	**133**	P	**Pn**	**14 25 40.4**	**+1.2**
	baz=316						
ISA	**Isabella, Lake**	**6.58**	**133**	Pn	**Pn**	**14 25 39.5**	**+0.4**
LON	**Longmire**	**6.73**	**15**		**Pn**	**14 25 42.0**	**+0.8**
ARVC	**Arvin**	**6.79**	**138**	P	**Pn**	**14 25 42.5**	**+0.5**
	baz=321						
MPMC	**Manual Prospec**	**6.89**	**126**	P	**Pn**	**14 25 45.0**	**+1.5**
	baz=310						
BMO	**Blue Mountains**	**6.95**	**47**		**Pn**	**14 25 44.8**	**+0.5**
D04E	**Lakebay**	**6.99**	**9**	P	**Pn**	**14 25 47.0**	**+2.4**
	baz=190						
ELK	**Elko**	**7.00**	**83**	Pn	**Pn**	**14 25 44.6**	**-0.5**
	0.3nm,0.3s,baz=269,slow=14,SNR=9.9						
ELK				LR	LR	14 28 29.9	
	comp=Z,129nm,19.9s,baz=309,slow=39						
ELK	**Elko**	**7.00**	**83**	Pn	**Pn**	**14 25 45.3**	**+0.2**
HAWA	**Hanford**	**7.06**	**29**	Pn	**Pn**	**14 25 46.5**	**+0.9**
E07A	**Sunnyside**	**7.09**	**26**	Pn	**Pn**	**14 25 46.8**	**+0.7**
R11A	**Troy Canyon, C**	**7.11**	**103**	P	**Pn**	**14 25 46.6**	**0.0**
	baz=288						
R11A	**Troy Canyon, C**	**7.11**	**103**		**Pn**	**14 25 46.5**	**0.0**
NLWA	**Neilton Lookou**	**7.11**	**3**	Pn	**Pn**	**14 25 47.1**	**+0.7**
MFID	**Camas Ranch**	**7.12**	**61**	Pn	**Pn**	**14 25 46.8**	**+0.1**
LRMC	**Laurel Mtn Rad**	**7.16**	**130**	P	**Pn**	**14 25 48.3**	**+1.1**
	baz=314						
TPNV	**Topopah Spring**	**7.20**	**115**	P	**Pn**	**14 25 50.0**	**+2.2**
	baz=300						
OSI	**Osito Audit: C**	**7.24**	**140**	P	**Pn**	**14 25 49.5**	**+1.3**
	baz=323						
OSI	**Osito Audit: C**	**7.24**	**140**	Pn	**Pn**	**14 25 48.8**	**+0.5**
D03D	**Eldon**	**7.31**	**7**	P	**Pn**	**14 25 49.6**	**+0.5**
	baz=188,SNR=12						
E08A	**Dider Farm, El**	**7.32**	**30**		**Pn**	**14 25 49.8**	**+0.6**
EDW2	**Edwards Air Fo**	**7.42**	**135**	P	**Pn**	**14 25 51.7**	**+1.0**
	baz=319						
LTY	**Liberty**	**7.47**	**20**		**Pn**	**14 25 52.1**	**+0.7**
E09A	**Wood Farm, Sta**	**7.71**	**34**	Pn	**Pn**	**14 25 55.4**	**+0.8**
DECC	**Green Verdugo**	**7.72**	**139**	P	**Pn**	**14 25 56.4**	**+1.5**
	baz=323						
GSC	**Goldstone, Bar**	**7.81**	**127**	P	**Pn**	**14 25 57.3**	**+1.3**
	baz=312						
GSC	**Goldstone, Bar**	**7.81**	**127**	Pn	**Pn**	**14 25 56.5**	**+0.4**
PRN	**Pahroc Range**	**7.84**	**109**	Pn	**Pn**	**14 25 57.1**	**+0.5**
D08A	**Wollman Farm,**	**7.85**	**29**	Pn	**Pn**	**14 25 57.3**	**+0.9**
PASC	**Pasadena Art C**	**7.86**	**139**	Pn	**Pn**	**14 25 57.4**	**+0.6**
MWC	**Mount Wilson**	**7.89**	**138**		**Pn**	**14 25 57.3**	**+0.1**
SNCC	**San Nicolas Is**	**8.04**	**149**	Pn	**Pn**	**14 25 59.7**	**+0.5**
BFSC	**Mount Baldy Ra**	**8.08**	**136**	P	**Pn**	**14 26 00.6**	**+0.7**
	baz=320						
HLID	**Hailey**	**8.13**	**63**	P	**Pn**	**14 26 03.9**	**+3.3**
	baz=249						
B05A	**Bryant**	**8.14**	**11**	P	**Pn**	**14 26 01.8**	**+1.3**
	baz=192,SNR=7.4						
SHPR	**Sheep Range**	**8.18**	**115**	Pn	**Pn**	**14 26 01.4**	**+0.2**
TUQ	**Turquoise Moun**	**8.27**	**123**	P	**Pn**	**14 26 04.8**	**+2.4**
	baz=308						
PSUT	**Pine Spring**	**8.35**	**99**	Pn	**Pn**	**14 26 03.9**	**+0.3**
CIS	**Catalina Islan**	**8.38**	**143**	P	**Pn**	**14 26 02.1**	**-1.7**
	baz=327						
PGC	**Sidney**	**8.39**	**4**	Pn	**Pn**	**14 26 04.7**	**+0.8**
HEC	**Hector,Ludlow**	**8.41**	**128**	P	**Pn**	**14 26 06.5**	**+2.2**
	baz=313						
BBRC	**Big Bear Solar**	**8.47**	**133**	P	**Pn**	**14 26 06.0**	**+0.8**
	baz=318						
B06A	**Marblemount**	**8.49**	**13**	Pn	**Pn**	**14 26 05.7**	**+0.5**
BGU	**Big Grassy Mou**	**8.68**	**82**	Pn	**Pn**	**14 26 07.1**	**-0.9**
MURC	**Murrieta**	**8.82**	**137**	P	**Pn**	**14 26 10.3**	**+0.4**
	baz=321						
B08A	**Colville Reser**	**8.85**	**23**	Pn	**Pn**	**14 26 11.3**	**+1.1**
GMRC	**Granite Mounta**	**8.85**	**126**	P	**Pn**	**14 26 12.7**	**+2.3**
	baz=311						
DUG	**Dugway, Tooele**	**8.87**	**87**	P	**Pn**	**14 26 11.2**	**+0.6**
	baz=274						
DUG	**Dugway, Tooele**	**8.87**	**87**	Pn	**Pn**	**14 26 10.5**	**-0.1**
BELC	**Belle Mtn. Jos**	**9.18**	**130**	P	**Pn**	**14 26 15.9**	**+0.9**
	baz=316						
PFO	**Pinyon Flats O**	**9.21**	**134**	Pn	**Pn**	**14 26 15.8**	**+0.6**
	3.1nm,0.3s,baz=318,slow=13,SNR=42						
PFO				LR	LR	14 30 07.8	
	comp=Z,129nm,20.6s,baz=279,slow=40						
PFO	**Pinyon Flats O**	**9.21**	**134**	P	**Pn**	**14 26 15.9**	**+0.6**
	baz=316						
PFO	**Pinyon Flats O**	**9.21**	**134**	Pn	**Pn**	**14 26 15.7**	**+0.4**
IRM	**Iron Mountain**	**9.59**	**127**	P	**Pn**	**14 26 21.7**	**+1.3**
	baz=312						
MVU	**Marysvale**	**9.61**	**97**	Pn	**Pn**	**14 26 22.4**	**+1.5**
MSU	**Marysvale**	**9.63**	**97**	Pn	**Pn**	**14 26 22.7**	**+1.6**
BC3	**Big Chuckawall**	**9.75**	**130**	P	**Pn**	**14 26 23.3**	**+0.6**
	baz=316						
MONP2	**Monument Peak**	**9.78**	**137**	P	**Pn**	**14 26 24.1**	**+0.9**
	baz=321						
BAR	**Barrett**	**9.81**	**138**	Pn	**Pn**	**14 26 24.9**	**+1.3**
PKCU	**Pink Cliffs**	**9.85**	**103**	Pn	**Pn**	**14 26 25.1**	**+0.9**
TKX	**Tecate**	**9.94**	**138**	Pn	**Pn**	**14 26 26.4**	**+1.2**
MSO	**Missoula**	**10.02**	**46**	P	**Pn**	**14 26 29.0**	**+2.7**
	baz=233						
MSO	**Missoula**	**10.02**	**46**	Pn	**Pn**	**14 26 28.1**	**+1.8**
RMX	**La Rumorosa**	**10.18**	**136**	Pn	**Pn**	**14 26 29.2**	**+0.5**
GLA	**Glamis**	**10.54**	**130**	P	**Pn**	**14 26 34.2**	**+0.6**
	baz=316						
GLA	**Glamis**	**10.54**	**130**	Pn	**Pn**	**14 26 33.9**	**+0.3**
PDAR	**Pinedale Array**	**11.40**	**73**	Pn	**Pn**	**14 26 49.6**	**+4.2**
	0.3nm,0.3s,baz=252,slow=15,SNR=10						
PV13	**Radium Mtn., P**	**12.27**	**95**		**Pn**	**14 26 56.3**	**-1.0**
S22A	**4UR Ranch, Cre**	**13.90**	**95**	P	**Pn**	**14 27 22.0**	**+2.4**
	baz=286						
S22A	**4UR Ranch, Cre**	**13.90**	**95**	Pn	**Pn**	**14 27 22.0**	**+2.4**
N23A	**Red Feather La**	**14.05**	**82**		**P**	**14 27 27.2**	**-2.0**
ISCO	**Idaho Springs**	**14.41**	**86**	P	**Pn**	**14 27 28.8**	**+2.2**
	baz=278						
ISCO	**Idaho Springs**	**14.41**	**86**	P	**P**	**14 27 30.8**	**-2.4**
Q24A	**Divide**	**14.90**	**89**	P	**Pn**	**14 27 34.5**	**+1.2**
	baz=281						
Q24A	**Divide**	**14.90**	**89**	Pn	**Pn**	**14 27 33.9**	**+0.6**
SDCO	**Great Sand Dun**	**14.91**	**94**	P	**Pn**	**14 27 36.0**	**+2.6**
	baz=286						
SDCO	**Great Sand Dun**	**14.91**	**94**		**Pn**	**14 27 35.2**	**+1.8**
ANMO	**Albuquerque**	**15.18**	**105**	Pn	**Pn**	**14 27 35.9**	**-1.0**
	0.0nm,0.3s,baz=263,slow=20,SNR=2.8						
ANMO				LR	LR	14 33 58.6	
	comp=Z,5.3nm,18.4s,baz=19,slow=39						
ANMO	**Albuquerque**	**15.18**	**105**	P	**Pn**	**14 27 39.0**	**+2.0**
	baz=296						
ANMO	**Albuquerque**	**15.18**	**105**	IAmb	IAmb	14 27 41.9	
	comp=Z,1.1nm,0.7s						
BNM	**Barren Site**	**15.42**	**108**	P	**P**	**14 27 43.1**	**-1.3**
121A	**Cookes Peak, D**	**15.44**	**115**	P	**P**	**14 27 47.9**	**+3.3**
	baz=305						
RSSD	**Black Hills**	**15.57**	**69**	P	**Pn**	**14 27 41.8**	**-0.1**
	baz=263						
RSSD	**Black Hills**	**15.57**	**69**	Pn	**Pn**	**14 27 41.6**	**-0.3**
T25A	**Trinidad**	**15.92**	**95**	P	**Pn**	**14 27 48.5**	**+2.0**
	baz=288						
T25A	**Trinidad**	**15.92**	**95**	P	**Pn**	**14 27 48.0**	**+1.5**
KSCO	**Kaye Shedlock'**	**16.82**	**87**	P	**Pn**	**14 27 59.3**	**+1.4**
	baz=281						
KSCO	**Kaye Shedlock'**	**16.82**	**87**	P	**Pn**	**14 27 59.1**	**+1.2**
KSCO				IAmb	IAmb	14 28 01.9	
	comp=Z,23nm,0.7s						
MNTX	**Cornudas Mount**	**17.59**	**113**	P	**P**	**14 28 10.8**	**+2.5**
	baz=304						
CBKS	**Cedar Bluff**	**19.07**	**86**	P	**P**	**14 28 25.3**	**+0.8**
	baz=282						
CBKS	**Cedar Bluff**	**19.07**	**86**		**P**	**14 28 24.7**	**+0.2**
CBKS				IAmb	IAmb	14 28 25.9	
	comp=Z,31nm,0.8s						
R32A	**Long Quarter,**	**19.94**	**87**		**P**	**14 28 34.3**	**+0.3**
R32A				IAmb	IAmb	14 28 36.0	
	comp=Z,28nm,0.9s						
LPIG	**La Paz**	**20.03**	**139**	LR	LR	14 36 29.4	
	comp=Z,99nm,18.5s,baz=18,slow=37						
TX31	**Lajitas Ar. Si**	**20.18**	**116**		**P**	**14 28 36.8**	**0.0**
TX31				IAmb	IAmb	14 28 40.2	
	comp=Z,20nm,1.1s						
TX32	**Lajitas Array**	**20.18**	**116**	P	**P**	**14 28 37.0**	**+0.2**
TXAR	**Lajitas Array**	**20.18**	**116**	P	**P**	**14 28 38.1**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=300,slow=9.4,SNR=25						
TXAR	**Lajitas Array**	**20.18**	**116**	Pn	Pn	14 28 38.6	-0.2
ECSD	**EROS Data Cent**	**20.89**	**71**	P	**P**	**14 28 41.5**	**-2.8**
	baz=270						
ECSD	**EROS Data Cent**	**20.89**	**71**	P	**P**	**14 28 40.8**	**-3.5**
KAN14	**Manchester OK**	**20.90**	**91**		Pn	14 28 46.7	-0.3
WMOK	**Wichita Mounta**	**21.03**	**97**	P	**P**	**14 28 44.4**	**-1.5**
	baz=293						
WMOK

IDC 19 14:26:23.3±1.8, 1.80S×139.07E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/31, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=34.8km s-min=15.9km az=21.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.78**	**114**	Pg	Pb	14 26 57.1	+0.3
	2.0nm,0.3s,baz=257,slow=18,SNR=11						
JAY				Lg	Lg	14 27 18.9	
	4.1nm,0.3s,baz=90,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**18.62**	**194**	P	P	14 30 41.6	-0.9
	0.1nm,0.3s,baz=19,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.31**	**193**	P	P	14 31 22.4	-0.2
	0.2nm,0.3s,baz=26,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**69.30**	**322**	P	P	14 37 32.5	0.0
	0.1nm,0.5s,baz=103,slow=6.2,SNR=2.0						

*NEIC **19** 14:33:22.7±1.3, 21.63N±0.08×143.1E±0.1, h325km±5km, mb4.1/48, Error ellipse: s-maj=17.0km s-min=10.4km az=75.0*

*IDC **19** 14:33:23.2±2.5, 21.65N×143.05E, h326km±25km, mb3.2/14, mb1 3.4/16, mb1mx3.3/43, mbtmp4.0/16, Error ellipse: s-maj=18.3km s-min=10.3km az=80.0*

ISC 19 14:33:21.4±0.4, 21.62N±0.06×143.19E±0.1, h311km, n82, σ0.84/85, mb4.0/33, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.53**	**351**	Pn	**Pn**	14 34 47.3	+1.8
GUMO	**Guam**	**8.14**	**168**	P	**P**	14 35 20.5	-1.2
	4.0nm,0.3s,baz=18,slow=3.2,SNR=8.4						
JMN	**Monobe**	**14.61**	**328**		**Pn**	14 36 34.9	+0.1
INU	**Inuyama**	**14.71**	**340**	P	**P**	14 36 34.0	-0.6
JYT	**Yasato**	**14.79**	**350**	P	**P**	14 36 35.7	+0.2
JGF	**Kuroka**	**14.84**	**341**	P	**P**	14 36 36.3	+0.2
JWT	**Wachi**	**15.23**	**335**	P	**Pn**	14 36 40.6	-1.4
JWT				IAmb	IAmb	14 36 42.4	
	comp=Z,17nm,1.2s						
MJAR	**Matsushiro Arr**	**15.49**	**345**	P	**P**	14 36 43.3	+0.1
	comp=Z,0.0nm,0.3s,baz=172,slow=8.4,SNR=6.0						
MJAR	**Matsushiro Arr**	**15.49**	**345**	P	**P**	14 36 42.4	-0.8
MAJO	**Matsushiro**	**15.49**	**345**	P	**P**	14 36 43.5	+0.3
JHS	**Saijyo**	**16.00**	**329**	P	**Pn**	14 36 49.8	-1.3
JHS				IAmb	IAmb	14 37 06.1	
	comp=Z,12nm,1.1s						
JMM	**Marumori**	**16.32**	**353**	P	**Pn**	14 36 53.4	-1.4
JSD	**Sado**	**16.91**	**346**	P	**P**	14 36 57.4	-1.1
JSD				IAmb	IAmb	14 36 59.3	
	comp=Z,4.7nm,0.7s						
KSRS	**Korea Array**	**20.58**	**323**	P	**P**	14 37 37.3	-0.1
	comp=Z,1.7nm,0.6s,baz=148,slow=9.1,SNR=13						
KSAR	**Wonju Array Be**	**20.60**	**323**	P	**P**	14 37 37.6	+0.1
MYLDM	**Lahad Datu**	**28.97**	**239**	P	**P**	14 38 55.3	+2.2
MYLDM				IAmb	IAmb	14 39 02.2	
	comp=Z,6.9nm,0.9s						
SBUM	**Sibu**	**35.64**	**242**	P	**P**	14 39 51.0	+0.1
SONM	**Songino Array**	**39.41**	**321**	P	**P**	14 40 21.8	-0.1
	comp=Z,0.4nm,0.6s,baz=120,slow=7.6,SNR=2.2						
KNRA	**Kununurra**	**39.67**	**202**	P	**P**	14 40 24.2	0.0
KNRA				IAmb	IAmb	14 40 44.9	
	comp=Z,11nm,1.2s						
CM31	**Chiang Mai Arr**	**41.59**	**274**	P	**P**	14 40 40.6	+0.7
CMAR	**Chiang Mai Arr**	**41.59**	**274**	P	**P**	14 40 40.1	+0.2
	comp=Z,0.5nm,0.7s,baz=67,slow=6.6,SNR=5.0						
WB0	**Warramunga Arr**	**42.02**	**192**	P	**P**	14 40 43.3	0.0
WB0				IAmb	IAmb	14 41 07.0	
	comp=Z,15nm,1.5s						
WR0	**Warramunga Arr**	**42.18**	**192**	P	**P**	14 40 44.4	-0.1
WRAB	**Tennant Creek**	**42.19**	**192**	P	**P**	14 40 44.5	-0.1
WB2	**Warramunga Arr**	**42.20**	**192**	P	**P**	14 40 44.8	+0.1
WRA	**Warramunga Arr**	**42.20**	**192**	P	**P**	14 40 44.8	+0.1
	comp=Z,0.5nm,0.3s,baz=17,slow=9.7,SNR=38						
WRA				PcP	**PP**	14 42 31.3	+1.2
	comp=Z,0.5nm,0.9s,baz=37,slow=1.5,SNR=1.8						
WRA	**Warramunga Arr**	**42.20**	**192**	P	**P**	14 40 44.7	-0.1
FITZ	**Fitzroy Crossi**	**43.05**	**205**	P	**P**	14 40 51.3	-0.2
	comp=Z,1.5nm,0.8s,baz=19,slow=10,SNR=6.4						
FITZ	**Fitzroy Crossi**	**43.05**	**205**	IAmb	IAmb	14 41 00.5	
	comp=Z,8.6nm,1.4s						
KULM	**Kulim**	**44.26**	**255**	P	**P**	14 41 01.4	+0.2
KULM				IAmb	IAmb	14 41 20.2	
	comp=Z,15nm,1.5s						
CISI	**Cisompet, Garu**	**45.22**	**234**	P	**P**	14 41 08.2	-0.6
ASAR	**Alice Springs**	**45.91**	**192**	P	**P**	14 41 13.6	-0.3
	comp=Z,0.3nm,0.4s,baz=11,slow=12,SNR=5.5						
UNV	**Unalaska Valle**	**49.67**	**37**	P	**P**	14 41 43.5	+1.4
STKA	**Stephens Creek**	**53.21**	**182**	P	**P**	14 42 09.0	+0.5
	comp=Z,1.1nm,0.6s,baz=11,slow=10,SNR=1.1						
STKA	**Stephens Creek**	**53.21**	**182**	IAmb	IAmb	14 42 16.3	
	comp=Z,3.2nm,1.4s						
ZALV	**Zalesovo Beam**	**54.28**	**322**	P	**P**	14 42 15.0	-0.9
	comp=Z,1.4nm,0.6s,baz=101,slow=7.7,SNR=6.1						
ZALV				PcP	**PcP**	14 43 14.6	-1.1
	comp=Z,1.3nm,0.5s,baz=139,slow=5.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**54.28**	**322**	P	**P**	14 42 14.5	-1.4
ZALV					**PcP**	14 43 14.9	-0.7
MK31	**Makanchi Array**	**54.76**	**313**	P	**P**	14 42 19.0	-0.5
MKAR	**Makanchi Array**	**54.76**	**313**	P	**P**	14 42 19.4	-0.1
	comp=Z,0.8nm,0.5s,baz=94,slow=8.7,SNR=10.0						
MKAR				PcP	**PcP**	14 43 17.5	-0.3
	comp=Z,0.7nm,0.6s,baz=72,slow=5.4,SNR=5.6						
MKAR	**Makanchi Array**	**54.76**	**313**	P	**P**	14 42 18.6	-0.9
MKAR					**PcP**	14 43 17.3	-0.4
MAKZ	**Makanchi**	**54.97**	**313**	P	**P**	14 42 20.5	-0.6
RDOG	**Red Dog Mine**	**56.94**	**21**	P	**P**	14 42 35.5	+1.0
RDOG				IAmb	IAmb	14 42 58.4	
	comp=Z,12nm,1.1s						
KURK	**Kurchatov**	**57.54**	**317**	P	**P**	14 42 38.2	-0.7
BRLK	**Bradley Lake**	**59.47**	**32**	P	**P**	14 42 51.6	-0.5
BRLK				IAmb	IAmb	14 43 17.2	
	comp=Z,6.2nm,1.3s						
IMAR	**Indian Mountai**	**59.55**	**25**	P	**P**	14 42 52.1	-0.4
SKT	**Skwentna**	**59.56**	**30**	P	**P**	14 42 52.0	-0.6
SKT				IAmb	IAmb	14 43 07.7	
	comp=Z,7.1nm,1.3s						
BPAW	**Bear Paw Mtn.**	**60.23**	**27**	P	**P**	14 42 58.0	+0.9
BPAW				IAmb	IAmb	14 42 58.6	
	comp=Z,9.0nm,1.3s						
TRF	**Thorofare Moun**	**60.41**	**28**	P	**P**	14 42 58.5	0.0
TRF				IAmb	IAmb	14 43 11.5	
	comp=Z,16nm,1.5s						
PMR	**Palmer**	**60.61**	**31**	P	**P**	14 42 59.7	+0.1
PMR				IAmb	IAmb	14 43 23.7	
	comp=Z,12nm,1.4s						
TOLK	**Toolik Lake Re**	**61.79**	**23**	P	**P**	14 43 08.9	+1.4
TOLK				IAmb	IAmb	14 43 26.8	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	14 43 09.1	-0.5
	comp=Z,0.9nm,0.7s,baz=261,slow=5.1,SNR=11						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	14 43 09.2	-0.4
KLU	**Klutina**	**62.12**	**31**	P	**P**	14 43 10.9	+1.1
KLU				IAmb	IAmb	14 43 29.8	
	comp=Z,7.3nm,1.4s						
RIDG	**Independent Ri**	**62.86**	**28**	P	**P**	14 43 13.5	-1.1
RIDG				IAmb	IAmb	14 43 15.4	
	comp=Z,2.5nm,0.8s						
KKAR	**Karatay Array**	**63.11**	**308**	P	**P**	14 43 15.7	-0.9
DOT	**Dot Lake**	**63.19**	**29**	P	**P**	14 43 17.2	+0.4
DOT				IAmb	IAmb	14 43 37.4	
	comp=Z,4.9nm,1.2s						
BMAR	**Burnt Mountain**	**63.41**	**24**	P	**P**	14 43 19.6	+1.5
EGAK	**Eagle**	**64.55**	**27**	P	**P**	14 43 26.1	+0.6
EGAK				IAmb	IAmb	14 43 27.0	
	comp=Z,3.8nm,1.1s						
BCPM	**Bancas Point**	**65.13**	**33**	P	**P**	14 43 30.1	+0.8
ABKAR	**Akbulak array**	**69.61**	**316**	P	**P**	14 43 56.4	-1.0
ABKAR				IAmb	IAmb	14 43 57.6	
	comp=Z,3.5nm,0.7s						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	14 44 37.6	+0.3
	comp=Z,1.4nm,0.7s,baz=295,slow=5.8,SNR=5.7						
MCQ	**Macquarie Isla**	**77.01**	**171**	P	**P**	14 44 39.5	-0.4
RES	**Resolute Bay**	**77.15**	**13**	P	**P**	14 44 41.6	+1.0
RES				IAmb	IAmb	14 44 54.3	
	comp=Z,6.7nm,1.3s						
KEV	**Kevo**	**78.44**	**341**	P	**P**	14 44 47.9	+0.2
ARD2	**ARCESS Array S**	**78.99**	**342**	P	**P**	14 44 51.0	+0.2
ARD3	**ARCESS Array S**	**78.99**	**341**	P	**P**	14 44 50.3	-0.4
ARD1	**ARCESS Array S**	**78.99**	**342**	P	**P**	14 44 51.2	+0.4
ARC2	**ARCESS Array S**	**78.99**	**342**	P	**P**	14 44 50.3	-0.5
ARC2				IAmb	IAmb	14 45 16.0	
	comp=Z,8.3nm,1.1s						
ARC1	**ARCESS Array S**	**79.00**	**342**	P	**P**	14 44 51.2	+0.4
ARC1				IAmb	IAmb	14 44 51.8	
	comp=Z,7.4nm,0.9s						
ARC3	**ARCESS Array S**	**79.00**	**341**	P	**P**	14 44 50.3	-0.5
ARD4	**ARCESS Array S**	**79.00**	**341**	P	**P**	14 44 50.5	-0.3
ARB2	**ARCESS Array S**	**79.00**	**342**	P	**P**	14 44 50.9	+0.1
ARCES	**ARCESS Array B**	**79.00**	**342**	P	**P**	14 44 50.9	0.0
	comp=Z,3.1nm,0.7s,baz=76,slow=8.7,SNR=11						
NVAR	**Mina Array Bea**	**83.19**	**51**	P	**P**	14 45 15.1	+1.4
	comp=Z,0.9nm,0.7s,baz=268,slow=5.7,SNR=8.5						
NVAR	**Mina Array Bea**	**83.19**	**51**	P	**P**	14 45 13.5	-0.1
FINES	**FINESS Array B**	**83.26**	**334**	P	**P**	14 45 12.0	-1.2
	comp=Z,2.4nm,0.5s,baz=63,slow=5.8,SNR=20						
TXAR	**Lajitas Array**	**98.09**	**54**	P	**P**	14 46 21.1	-2.4
	comp=Z,0.2nm,0.6s,baz=322,slow=2.6,SNR=3.0						
TXAR	**Lajitas Array**	**98.09**	**54**	P	**P**	14 46 21.8	-1.7
PLCA	**Paso Flores**	**145.70**	**131**	PKPbc	**PKPab**	14 52 25.2	+0.1
	comp=Z,1.6nm,0.6s,baz=242,slow=2.3,SNR=7.4						
PLCA	**Paso Flores**	**145.70**	**131**		**PKPbc**	14 52 24.6	+0.4
LPAZ	**La Paz**	**149.94**	**85**	PKPbc	**PKiKP**	14 52 38.0	+0.5
	comp=Z,1.5nm,0.5s,baz=288,slow=4.3,SNR=8.2						
LPAZ	**La Paz**	**149.94**	**85**		**PKPbc**	14 52 37.1	+0.4

*NEIC **19** 14:46:14.8±1.3, 20.07N±0.10×145.1E±0.2, h195km±9km, mb4.4/12, Error ellipse: s-maj=20.5km s-min=14.1km az=91.0*

*IDC **19** 14:46:17.6±8.4, 20.15N×144.98E, h213km±76km, mb3.2/4, mb1 3.2/5, mb1mx3.0/39, mbtmp3.7/5, Error ellipse: s-maj=132.5km s-min=25.0km az=83.0*

ISC 19 14:46:15.2±0.8, 20.07N±0.10×145.1E±0.2, h200km, n17, σ1.00/17, mb4.0/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.45**	**182**	Pn	**Pn**	14 47 47.8	-0.5
JGF	**Kuroka**	**16.90**	**338**	P	**P**	14 49 58.8	-0.2
JWT	**Wachi**	**17.39**	**333**	Pn	**Pn**	14 50 06.5	+0.5
JWT				IAmb	IAmb	14 50 27.7	
	comp=Z,17nm,1.3s						
MJAR	**Matsushiro Arr**	**17.48**	**341**	P	**P**	14 50 05.2	-0.1
	comp=Z,0.0nm,0.3s,baz=167,slow=10.0,SNR=4.7						
MAJO	**Matsushiro**	**17.48**	**341**	P	**P**	14 50 06.0	+0.7
JHS	**Saijyo**	**18.24**	**327**	Pn	**Pn**	14 50 16.1	+0.1
JHS				IAmb	IAmb	14 50 27.8	
	comp=Z,11nm,1.2s						
ERM	**Erimo**	**21.94**	**356**	P	**P**	14 50 54.0	+1.4
YULB	**Yu-li**	**22.33**	**283**	P	**P**	14 50 54.9	-1.7
YULB				IAmb	IAmb	14 51 06.9	
	comp=Z,25nm,1.5s						
YHNB	**Yeheng**	**22.39**	**286**	P	**P**	14 50 55.3	-1.9
YHNB				IAmb	IAmb	14 51 06.6	
	comp=Z,29nm,1.2s						
KSRS	**Korea Array**	**22.88**	**323**	P	**P**	14 51 01.9	+0.6
	comp=Z,0.5nm,0.6s,baz=151,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**41.14**	**195**	P	**P**	14 53 41.4	+1.4
	comp=Z,0.4nm,0.9s,baz=15,slow=8.7,SNR=1.1						
CNBA	**Chernabura Isl**	**54.01**	**36**	P	**P**	14 55 17.7	-0.8
ZALV	**Zalesovo Beam**	**56.58**	**322**	P	**P**	14 55 37.4	+0.5
	comp=Z,1.1nm,0.7s,baz=101,slow=7.5,SNR=3.6						
M24K	**Tolsona, Glenn**	**62.52**	**30**	P	**P**	14 56 16.8	-0.7
ABKAR	**Akbulak array**	**71.94**	**317**	P	**P**	14 57 17.6	+0.9
HOPS	**Hopland Field**	**79.03**	**52**	P	**P**	14 57 57.4	+0.1
FINES	**FINESS Array B**	**85.40**	**335**	P	**P**	14 58 29.8	0.0
	comp=Z,8.7nm,1.2s,baz=81,slow=8.9,SNR=3.5						

IDC 19 14:58:14.3±56.0, 15.49S×176.41W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/24, mbtmp4.0/3, Error ellipse: s-maj=1043.0km s-min=172.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.49**	**239**	P	P	15 06 02.9	-0.4
	3.1nm,1.1s,baz=102,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**47.00**	**257**	P	P	15 06 47.7	+0.1
	0.2nm,0.3s,baz=90,slow=7.4,SNR=29						
ASAR	**Alice Springs**	**47.32**	**252**	P	P	15 06 50.0	-0.2
	1.9nm,0.4s,baz=89,slow=7.7,SNR=90						

*IDC **19** 15:13:04.9±3.0, 5.57S×153.64E, h65km±23km, mb3.4/7, mb1 3.6/9, mb1mx3.4/39, mbtmp3.7/9, MS2.8/1, Ms1 2.8/1, ms1mx2.3/21, Error ellipse: s-maj=25.9km s-min=15.4km az=87.0*

ISC 19 15:13:02.6±1.0, 5.56S±0.09×153.8E±0.1, h35km, n11, σ1.87/14, mb3.5/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.14**	**306**	P	**Pn**	15 13 35.8	0.0
	11nm,0.3s,baz=118,slow=2.2,SNR=9.3						
KRVT				S	**Sn**	15 14 02.5	+1.3
	26nm,0.3s,baz=199,slow=18,SNR=5.9						
HNR	**Honiara**	**7.23**	**123**	LR	LR	15 17 47.1	
	comp=Z,63nm,18.4s,baz=176,slow=38						
PMG	**Port Moresby**	**7.59**	**239**	P	**Pn**	15 14 51.2	+0.5
	1.3nm,0.3s,baz=56,slow=7.3,SNR=2.7						
PMG				S	**Sn**	15 16 16.3	+0.7
	1.0nm,0.3s,baz=356,slow=19,SNR=2.3						
DZM	**Mont Dzumac**	**20.49**	**144**	P	**P**	15 17 38.5	+0.7
	4.8nm,0.8s,baz=305,slow=15,SNR=5.5						
WRA	**Warramunga Arr**	**23.70**	**231**	P	**P**	15 18 09.9	-1.5
	0.4nm,0.5s,baz=56,slow=9.9,SNR=8.4						
WRA				pP	**pP**	15 18 21.7	+2.0
	0.3nm,0.5s,baz=50,slow=9.9,SNR=6.1						
WRA				PcP	**PcP**	15 21 53.9	-1.3
	0.5nm,1.1s,baz=56,slow=2.6,SNR=1.6						
ASAR	**Alice Springs**	**26.27**	**225**	P	**P**	15 18 33.9	-1.1
	0.9nm,0.8s,baz=57,slow=9.5,SNR=9.8						
ASAR				PcP	**PcP**	15 22 00.6	-0.4
	0.4nm,0.9s,baz=62,slow=2.8,SNR=2.2						
FITZ	**Fitzroy Crossi**	**30.16**	**243**	P	**P**	15 19 07.0	-2.7
	1.5nm,0.8s,baz=66,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**81.53**	**319**	P	**P**	15 25 15.4	-1.3
	0.6nm,0.8s,baz=115,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**82.32**	**326**	P	P	15 25 17.3	-3.3
	0.4nm,0.5s,baz=102,slow=5.0,SNR=1.4						
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	15 25 21.3	0.0
	0.2nm,0.7s,baz=242,slow=5.9,SNR=1.3						
TORD	**Torodi Ar. Bea**	**151.46**	**287**	PKPbc	**PKPdf**	15 32 52.0	+4.2
	0.6nm,0.6s,baz=95,slow=1.5,SNR=4.2						

DJA 19 15:15:33.9±0.5, 0.7N±5.5×122.5E±, h80km±10km, M3.8/8, mb4.3/2, MLv3.5/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.75**	**300**	P	Pn	15 15 51.9	+1.8
KMSI				S	Sn	15 16 04.1	+1.9
LUWI	**Luwuk**	**2.23**	**237**	P	Pn	15 16 08.4	-0.4
SANI	**Sanana**	**2.61**	**149**	P	Pn	15 16 13.7	-0.3
TTSI	**Tana Toraja**	**5.78**	**236**	P	Pn	15 16 57.0	-0.2
	0.1nm19nm,0.5s						
SPSI	**Sidrap Palu**	**6.37**	**230**	P	Pn	15 17 05.2	-0.1

*TIR **19** 15:18:29.9, 41.17N×20.93E, h5km±1km, Md3.0*

*ATH **19** 15:18:30.6, 41.23N×20.92E, h13km±2km, ML2.8/7, Error ellipse: s-maj=3.0km s-min=1.1km az=224.0*

*THE **19** 15:18:31.9, 41.19N×20.90E, h0km±2km, ML2.9/6, Error ellipse: s-maj=2.7km s-min=0.6km az=48.0*

*SKO **19** 15:18:31.7, 41.15N×20.87E, h15km*

*BEO **19** 15:18:32.2±0.5, 41.12N×20.88E, h6km±2km, ML2.7/8*

*PDG **19** 15:18:32.0±0.3, 41.18N×20.87E, h2km, ML3.0/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

ISC 19 15:18:32.2±0.9, 41.16N±0.02×20.87E±0.02, h7km±7km, n71, σ1.21/109, 14C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.07**	**225**	⇓*i* Pg	**Pg**	15 18 34.0	-0.1
OHR				*i* Sg	**Sg**	15 18 35.7	+0.2
OHR				*e*Lg	Lg	15 18 35.8	
	comp=N,15μm,0.3s						
PHP	**Peshkopia**	**0.61**	**329**	P	**Pg**	15 18 43.1	-0.9
PHP				S	**Sg**	15 18 52.9	+0.8
PHP	**Peshkopia**	**0.61**	**329**	P	**Pg**	15 18 43.0	-1.1
	baz=325						
PHP				S	**Sg**	15 18 52.4	+0.3
	baz=325						
NEST	**Nestorio**	**0.76**	**169**	P	**Pg**	15 18 45.9	-0.9
NEST				S	**Sb**	15 18 57.8	-0.6
	comp=N,1μm,0.4s						
NEST	**Nestorio**	**0.76**	**169**	P	**Pg**	15 18 45.9	-0.9
NEST				S	**Sb**	15 18 57.8	-0.6
NEST				AML	AML	15 19 00.9	
	comp=N,2472μm,0.5s						
NEST				AML	AML	15 19 02.0	
	comp=E,2146μm,0.3s						
TIR	**Tirane**	**0.78**	**284**	P	**Pg**	15 18 46.8	-0.3
TIR				S	**Sg**	15 18 58.4	+1.2
	comp=E,250nm,0.7s						
TIR	**Tirane**	**0.78**	**284**	*e*Pg	**Pg**	15 18 45.9	-1.2
TIR				*e*Sg	**Sg**	15 18 58.5	+1.2
TIR	**Tirane**	**0.78**	**284**	P	**Pg**	15 18 45.3	-1.8
TIR				S	**Sg**	15 18 57.5	+0.3
TIR				AML	AML	15 19 04.7	
	comp=E,1185μm,0.6s						
TIR				AML	AML	15 19 07.0	
	comp=N,1330μm,0.7s						
TIR	**Tirane**	**0.78**	**284**	⇑P	**Pg**	15 18 46.3	-0.8
TIR				⇑S	**Sg**	15 18 58.5	+1.2
TIR	**Tirane**	**0.78**	**284**	P	**Pg**	15 18 46.1	-1.1
	baz=284						
TIR				S	**Sb**	15 18 58.6	-0.2
	baz=284						
SKO	**Skopje**	**0.92**	**28**	*e*Pg	**Pb**	15 18 49.5	-1.0
SKO				*e*Sg	**Sb**	15 19 02.6	-0.3
SKO	**Skopje**	**0.92**	**28**	*i* Pg	**Pn**	15 18 50.6	-1.0
SKO				*i* Sg	**Sb**	15 19 02.7	-0.1
SKO				*e*Lg	Lg	15 19 03.6	
	comp=E,19nm,0.5s						
PENT	**Pentalofos**	**0.99**	**168**	P	**Pg**	15 18 51.1	0.0
PENT				S	**Sn**	15 19 06.3	-0.5
	comp=E,620nm,0.5s						
PENT	**Pentalofos**	**0.99**	**168**	P	**Pg**	15 18 51.1	0.0
PENT				AML	AML	15 19 10.3	
	comp=E,1182μm,0.4s						
PENT				AML	AML	15 19 11.2	
	comp=N,1285μm,0.5s						
LSK	**Leskovik**	**1.03**	**191**	P	**Pg**	15 18 52.0	0.0
LSK				S	**Sb**	15 19 06.8	+0.7
	comp=N,558nm,0.7s						
KZN	**Kozani**	**1.10**	**141**	P	**Pg**	15 18 52.4	-0.9
KZN				S	**Sn**	15 19 08.8	-0.7
	comp=N,930nm,0.5s						
KZN	**Kozani**	**1.10**	**141**	P	**Pg**	15 18 52.4	-0.9
KZN				AML	AML	15 19 13.7	
	comp=E,2461μm,0.5s						
KZN				AML	AML	15 19 13.9	
	comp=N,1260μm,0.5s						
STIP	**Stip**	**1.13**	**61**	*i* Pg	**Pn**	15 18 56.3	+1.9
STIP				*i* Sg	**Sn**	15 19 16.0	+5.9
STIP				*e*Lg	Lg	15 19 17.4	
	comp=E,82nm,0.5s						
PUK	**Puka**	**1.14**	**321**	P	**Pg**	15 18 53.0	-1.2
	baz=319						
PUK				S	**Sb**	15 19 10.0	+0.5
	baz=319						
VAY	**Valandovo**	**1.29**	**82**	*e*Pg	**Pn**	15 18 56.1	-0.6
VAY				*e*Sg	**Sn**	15 19 13.3	-1.0
VAY	**Valandovo**	**1.29**	**82**	*i* Pg	**Pn**	15 18 56.0	-0.6
VAY				*i* Sg	**Sn**	15 19 14.4	+0.1
VAY				*e*Lg	Lg	15 19 16.5	
	comp=E,119nm,0.4s						
BCI	**Bajram Curri**	**1.34**	**334**	P	**Pn**	15 18 56.4	-1.0
	baz=333						
BCI				S	**Sn**	15 19 16.4	+0.8
	baz=333						
SRN	**Sarande**	**1.44**	**208**	P	**Pb**	15 18 59.5	+0.2
ULC	**Ulcinj**	**1.46**	**304**	⇑*i* Pg	**Pn**	15 18 58.8	-0.2
ULC				*i* Sg	**Sg**	15 19 21.5	+2.5
KNT	**Kendrikon**	**1.53**	**89**	P	**Pn**	15 18 59.2	-0.8
KNT	**Kendrikon**	**1.53**	**89**	P	**Pn**	15 18 59.2	-0.8
KNT				AML	AML	15 19 26.6	
	comp=N,216μm,0.5s						
KNT				AML	AML	15 19 29.0	
	comp=E,132μm,0.5s						
PVY	**Plav**	**1.58**	**335**	⇑*i* Pg	**Pn**	15 19 01.1	+0.3
PVY				*i* Sg	**Sg**	15 19 25.5	+2.4
DRME	**Dracevica, Mon**	**1.62**	**310**	⇓*i* Pn	**Pb**	15 19 01.9	-0.6
DRME				*i* Sn	**Sg**	15 19 27.1	+2.7
KEK	**Kerkira**	**1.66**	**210**	P	**Pb**	15 19 02.7	-0.4
KEK	**Kerkira**	**1.66**	**210**	P	**Pb**	15 19 02.7	-0.4
IGT	**Igoumenitsa**	**1.68**	**194**	P	**Pn**	15 19 02.7	+0.7
IGT				S	**Sg**	15 19 26.4	+0.3
	comp=E,242nm,0.7s						
IGT	**Igoumenitsa**	**1.68**	**194**	P	**Pb**	15 19 03.5	+0.1
IGT				AML	AML	15 19 29.6	
	comp=N,416μm,0.7s						
IGT				AML	AML	15 19 29.9	
	comp=E,553μm,0.7s						
IGT	**Igoumenitsa**	**1.68**	**194**	P	**Pn**	15 19 02.4	+0.4
	baz=196						
IGT				S	**Sg**	15 19 26.9	+0.9
	baz=196						
PDG	**Podgorica**	**1.75

JYNG			S	Sn	15 33 53.2	0.0	
IRIF	**Iriomote-Funau**	**1.02 148**	P	Pn	15 33 35.7	0.0	
IRIF			S	Sn	15 33 55.2	-1.1	
JISG	**Ishigakijimahi**	**1.23 120**	P	Pn	15 33 37.6	+0.2	
JISG			S	Sn	15 33 58.8	-0.5	
JIJ	**Ishigaki jima**	**1.24 133**	P	Pn	15 33 37.6	+0.1	
JIJ			S	Sn	15 33 58.2	-1.4	
JKRS	**Kuro-shima**	**1.25 141**	P	Pn	15 33 38.1	+0.5	
JKRS			S	Sn	15 33 59.3	-0.4	
HATJ	**Hateruma jima**	**1.30 152**	P	Pn	15 33 38.7	+0.6	
HATJ			*e*S	Sn	15 33 59.8	-0.7	
JTJ	**Tarama**	**1.52 111**	P	Pn	15 33 40.8	+0.6	
JTJ			S	Sn	15 34 04.1	-0.2	
JIRB	**Irabujima**	**1.88 101**	P	Pn	15 33 44.5	+0.6	
JIRB			S	Sn	15 34 10.3	-0.6	
JIKM	**Ikemajima**	**1.93 98**	P	Pn	15 33 45.2	+0.8	
JIKM			S	Sn	15 34 11.4	-0.5	
JMJ2	**Miyako jima3**	**2.04 103**	P	Pn	15 33 46.6	+1.0	
JMJ2			S	Sn	15 34 13.8	-0.2	
JOGS	**Gusukube**	**2.10 102**	P	Pn	15 33 47.3	+0.9	
JOGS			S	Sn	15 34 15.0	-0.3	
JKE	**Kume jima 2**	**3.47 71**	P	Pn	15 34 02.7	-0.2	
JKE			S	Sn	15 34 43.0	-2.0	
KSRS	**Korea Array**	**12.87 17**	Pn	Pn	15 36 07.0	+1.3	
	0.3nm,0.3s,baz=197,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**38.87 314**	P	**P**	**15 40 16.9**	**-0.9**	
	0.4nm,0.4s,baz=100,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**46.18 165**	P	**P**	**15 41 16.8**	**0.0**	
	0.4nm,0.6s,baz=350,slow=9.3,SNR=6.7						

IDC **19** *15:45:20.1±0.8,44.˚19N×149.˚11E,h0km,mb4.0/20, mb1 4.1/25,mb1mx4.0/49,mbtmp4.0/25,ML2.9/5,MS3.5/13, Ms1 3.5/13,ms1mx3.2/48,Error ellipse: s-maj=20.2km s-min=14.6km az=147.0*

NIED **19** *15:45:22.9,44.˚31N×149.˚29E,h30km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.76; Mθθ-0.07; Mφφ-1.69; Mrθ1.11; Mθφ-0.83; Mφr1.10; Fault plane solution: M₀2.47000×10¹⁵ NP1:φs38.00000°, δ65.00000°,λ104.00000°. NP2:φs186.00000°,δ28.00000°, λ62.00000°.*

SKHL **19** *15:45:22.5±0.2,44.˚02N×149.˚40E,h45km±4km,mb4.8/5*

JMA **19** *15:45:22.8±0.5,44.˚31N×149.˚29E,h30km,M4.4*

MOS **19** *15:45:24.0±0.9,44.˚20N×149.˚16E,h41km,mb4.8/21,Error ellipse: s-maj=7.5km s-min=6.2km az=43.8*

NEIC **19** *15:45:25.2±1.2,44.˚17N±0.˚10×149.˚2E±0.˚1,h37km±6km, mb4.6/30,Error ellipse: s-maj=15.9km s-min=11.3km az=140.0*

ISC 19 15:45:20.7±2.4,43.˚93N±0.˚04×149.˚26E±0.˚05,h13km±15km, n220,σ1$72/238,mb4.4/55,MS3.6/14,6C-8D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.64**	**323**	*i* P	**Pn**	**15 45 48.0**	**-1.1**
KUR				AMB	AMB	15 45 53.0	
	810nm,1.0s						
KUR				*i* S	**Sn**	**15 46 07.0**	**-3.0**
KUR				A	A	15 46 12.0	
	1μm,0.6s						
KUR				A	A	15 46 12.0	
	620nm,0.6s						
KUR	**Kuril'sk**	**1.64**	**323**	*i* P	**Pn**	**15 45 48.0**	**-1.1**
KUR				AMB	AMB	15 45 53.0	
	810nm,1.0s						
KUR				*i* S	**Sn**	**15 46 07.0**	**-3.0**
KUR				A	A	15 46 12.0	
	1μm,0.6s						
KUR				A	A	15 46 12.0	
	620nm,0.6s						
KUR	**Kuril'sk**	**1.64**	**323**	*c i* PN	**Pb**	**15 45 48.8**	**-1.9**
KUR				*e*S	**Sn**	**15 46 07.8**	**-2.2**
KUR				pmax	pmax		
	comp=Z,809nm,0.8s						
KUR				pmax	pmax		
	comp=N,389nm,0.3s						
KUR				pmax	pmax		
	comp=E,296nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR				smax	smax		
	comp=E,737nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**274**	*e*P	**Pn**	**15 46 01.0**	**+0.7**
YUK				AMB	AMB	15 46 02.6	
	comp=E,236nm,0.4s						
YUK				*e*S	**Sn**	**15 46 30.0**	**-0.1**
YUK				A	A	15 46 42.0	
	comp=E,800nm,0.6s						
YUK				A	A	15 46 42.0	
	comp=E,700nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**274**	*e*P	**Pn**	**15 46 01.0**	**+0.7**
YUK				AMB	AMB	15 46 02.6	
	comp=E,236nm,0.4s						
YUK				*e*S	**Sn**	**15 46 30.0**	**-0.1**
YUK				A	A	15 46 42.0	
	comp=E,800nm,0.6s						
YUK				A	A	15 46 42.0	
	comp=E,700nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**274**	*e*PN	**Pn**	**15 46 01.3**	**+1.0**
YUK				*e*S	**Sn**	**15 46 30.2**	**+0.1**
YUK				pmax	pmax		
	comp=N,53nm,0.2s						
YUK				pmax	pmax		
	comp=Z,236nm,0.2s						
YUK				smax	smax		
	comp=N,824nm,0.5s						
YUK				smax	smax		
	comp=E,713nm,0.5s						
YUK				MLR	MLR		
	comp=Z,639nm,14.0s						
GRPR	**Tuman**	**2.52**	**273**	*e*P	**Pn**	**15 46 02.3**	**+1.1**
GRPR				AMB	AMB	15 46 08.0	
	comp=Z,184nm,0.3s						
GRPR				*e*S	**Sn**	**15 46 31.9**	**+0.2**
GRPR				A	A	15 46 37.0	
	comp=Z,817nm,0.5s						
GRPR				A	A	15 46 37.0	
	comp=Z,359nm,0.5s						
GRPR	**Tuman**	**2.52**	**273**	*e*P	**Pn**	**15 46 02.3**	**+1.1**
GRPR				AMB	AMB	15 46 08.0	
	comp=Z,184nm,0.3s						
GRPR				*e*S	**Sn**	**15 46 31.9**	**+0.2**
GRPR				A	A	15 46 37.0	
	comp=Z,817nm,0.5s						
GRPR				A	A	15 46 37.0	
	comp=Z,359nm,0.5s						
GRPR	**Tuman**	**2.52**	**273**	*e*PN	**Pn**	**15 46 01.9**	**+0.7**
GRPR				*e*S	**Sn**	**15 46 31.6**	**-0.1**
GRPR				pmax	pmax		
	comp=Z,184nm,0.2s						
GRPR				pmax	pmax		
	comp=N,76nm,0.1s						
GRPR				pmax	pmax		
	comp=E,71nm,0.1s						
GRPR				smax	smax		
	comp=E,359nm,0.4s						
GRPR				smax	smax		
	comp=N,817nm,0.5s						
NEM2	**Nemuro 2**	**2.61**	**259**	P	**Pn**	**15 46 03.5**	**+1.0**
NEM2				*e*S	**Sn**	**15 46 33.8**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.62**	**259**	*i* P	**Pn**	**15 46 03.0**	**+0.3**
NMR				*e*S	**Sn**	**15 46 36.0**	**+1.7**
NMR	**Nemuro--Hokkai**	**2.62**	**259**	*i* P	**Pn**	**15 46 03.0**	**+0.3**
NMR				*e*S	**Sn**	**15 46 36.0**	**+1.7**
NMR	**Nemuro--Hokkai**	**2.62**	**259**	⇑ *i* PN	**Pn**	**15 46 03.5**	**+0.8**
NMR				*e*S	**Sn**	**15 46 36.1**	**+1.7**
GLVR	**Golovnino**	**2.71**	**267**	*i* P	**Pn**	**15 46 05.0**	**+1.1**
GLVR				AMB	AMB	15 46 06.0	
	comp=N,686nm,0.5s						
GLVR				*i* S	**Sn**	**15 46 37.0**	**+0.5**
GLVR				A	A	15 46 47.0	
	comp=N,129nm,0.5s						
GLVR				A	A	15 46 47.0	
	comp=N,732nm,0.5s						
GLVR	**Golovnino**	**2.71**	**267**	*i* P	**Pn**	**15 46 05.0**	**+1.1**
GLVR				AMB	AMB	15 46 06.0	
	comp=N,686nm,0.5s						
GLVR				*i* S	**Sn**	**15 46 37.0**	**+0.5**
GLVR				A	A	15 46 47.0	
	comp=N,129nm,0.5s						
GLVR				A	A	15 46 47.0	
	comp=N,732nm,0.5s						
GLVR	**Golovnino**	**2.71**	**267**	⇑ *i* PN	**Pn**	**15 46 05.8**	**+1.9**
GLVR				*i* S	**Sn**	**15 46 37.4**	**+0.9**
GLVR				pmax	pmax		
	comp=Z,686nm,0.4s						
GLVR				pmax	pmax		
	comp=N,104nm,0.5s						
GLVR				pmax	pmax		
	comp=E,156nm,0.4s						
GLVR				smax	smax		
	comp=N,1μm,0.5s						
GLVR				smax	smax		
	comp=E,732nm,0.4s						
RUSJ	**Misakicho**	**2.90**	**275**	*e*PN	**Pn**	**15 46 08.6**	**+2.1**
RUSJ				*e*S	**Sn**	**15 46 41.1**	**0.0**
JRA	**Rausu**	**2.99**	**272**	P	**Pb**	**15 46 10.2**	**-3.5**
JNK	**Nakash**	**3.31**	**266**	P	**Pn**	**15 46 13.7**	**+1.6**
JNK				*e*S	**Sn**	**15 46 51.1**	**-0.1**
JAK	**Akkeshi**	**3.45**	**256**	P	**Pn**	**15 46 15.7**	**+1.7**
JTKR	**Abashiri--Toko**	**3.86**	**272**	P	**Pn**	**15 46 22.0**	**+2.3**
JAR	**Ashorobuto**	**4.03**	**263**	P	**Pn**	**15 46 24.5**	**+2.4**
JAR				*e*S	**Sn**	**15 47 08.3**	**-0.9**
JOB	**Onbets**	**4.08**	**257**	P	**Pn**	**15 46 24.9**	**+2.2**
JCH	**Churui**	**4.50**	**255**	P	**Pn**	**15 46 30.8**	**+2.3**
JKK2	**Kamakawa 2**	**4.70**	**272**	P	**Pn**	**15 46 34.5**	**+3.2**
JKA	**Kamikawa-asahi**	**4.80**	**274**	*e*P	**Pn**	**15 46 35.4**	**+2.7**
JKA	**Kamikawa-asahi**	**4.80**	**274**	*e*P	**Pn**	**15 46 35.4**	**+2.7**
JKA	**Kamikawa-asahi**	**4.80**	**274**		**Pn**	**15 46 35.4**	**+2.7**
ASAJ	**Asahikawa**	**4.81**	**274**	Pn	**Pn**	**15 46 36.0**	**+3.3**
	comp=E,2.0nm,0.3s,baz=124,slow=5.0,SNR=20						
ASAJ				Lg	Lg	15 47 41.9	
	baz=34,slow=15,SNR=1.3						
ASAJ				LR	LR	15 48 40.2	
	comp=E,509nm,18.5s,baz=145,slow=43						
ASAJ	**Asahikawa**	**4.81**	**274**	P	**Pn**	**15 46 36.3**	**+3.6**
ASAJ	**Asahikawa**	**4.81**	**274**	PN	**Pn**	**15 46 35.4**	**+2.7**
ERM	**Erimo**	**4.87**	**249**	*d i* PN	**Pn**	**15 46 37.5**	**+4.0**
ERM	**Erimo**	**4.87**	**249**		**Pn**	**15 46 35.2**	**+1.6**
JEM	**Erimo**	**4.87**	**249**		**Pn**	**15 46 37.0**	**+3.5**
JFR	**Furan**	**4.90**	**263**	P	**Pn**	**15 46 37.6**	**+3.5**
JNBK	**Urakawa-nobuka**	**5.04**	**253**	P	**Pn**	**15 46 38.2**	**+2.3**
JAB	**Ashibetsu**	**5.12**	**268**	P	**Pn**	**15 46 41.3**	**+4.3**
JBT2	**Biratori 2**	**5.16**	**259**	P	**Pn**	**15 46 39.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**5.48**	**306**	*e*P	**Pn**	**15 46 44.0**	**+2.0**
YSS				AMB	AMB	15 46 48.4	
	comp=E,20nm,0.7s						
YSS				*e*S	**Sn**	**15 47 43.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.48**	**306**	*e*P	**Pn**	**15 46 44.0**	**+2.0**
YSS				AMB	AMB	15 46 48.4	
	comp=E,20nm,0.7s						
YSS				*e*S	**Sn**	**15 47 43.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.48**	**306**	*e*PN	**Pn**	**15 46 44.0**	**+2.0**
YSS				*e*S	**Sn**	**15 47 43.1**	**-1.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=E,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
YSS				MLR	MLR		
	comp=N,200nm,15.0s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.48**	**306**	Pn	**Pn**	**15 46 43.9**	**+1.9**
JEW	**Eniwo**	**5.79**	**262**	P	**Pn**	**15 46 49.9**	**+3.6**
JEW	**Eniwo**	**5.79**	**262**	Pn	**Pn**	**15 46 49.0**	**+2.7**
JNB	**Noboribetsu**	**6.18**	**259**	P	**Pn**	**15 46 54.1**	**+2.5**
JNB				*e*S	**Sn**	**15 48 01.9**	**-0.2**
JKB	**Kayabe**	**6.37**	**254**	P	**Pn**	**15 46 56.1**	**+1.9**
JKB				*e*S	**Sn**	**15 48 04.4**	**-2.4**
JYM2	**Yakumo 2**	**6.76**	**257**	P	**Pn**	**15 47 02.0**	**+2.5**
JANG	**Nango**	**6.76**	**241**	P	**Pn**	**15 47 00.3**	**+0.7**
JANG				*e*S	**Sn**	**15 48 10.8**	**-5.6**
JTH	**Tanohata**	**6.80**	**237**	P	**Pn**	**15 47 00.4**	**+0.2**
JTH				*e*S	**Sn**	**15 48 11.1**	**-6.3**
JTM	**Tenmabayashi**	**6.83**	**245**	P	**Pn**	**15 47 02.1**	**+1.6**
JTM				*e*S	**Sn**	**15 48 12.9**	**-5.2**
JTM	**Tenmabayashi**	**6.83**	**245**	Pn	**Pn**	**15 47 02.0**	**+1.5**
JOSM	**Okushiri--Mats**	**7.40**	**259**	P	**Pn**	**15 47 11.2**	**+2.8**
OFUJ	**Ofunato**	**7.48**	**232**	P	**Pn**	**15 47 10.3**	**+0.9**
OFUJ				*e*S	**Sn**	**15 48 28.5**	**-5.5**
JRG	**Rokugo**	**7.88**	**238**	P	**Pn**	**15 47 17.0**	**+2.0**
JRG				*e*S	**Sn**	**15 48 41.5**	**-2.5**
JIO	**Ouri**	**8.09**	**230**	P	**Pn**	**15 47 18.3**	**+0.5**
JIO				*e*S	**Sn**	**15 48 42.7**	**-6.4**
JMM	**Marumori**	**8.82**	**229**	Pn	**Pn**	**15 47 28.0**	**+0.3**
JSD	**Sado**	**10.18**	**238**	Pn	**Pn**	**15 47 46.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**10.75**	**28**	PN	**Pn**	**15 47 53.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**10.75**	**28**	Pn	**Pn**	**15 47 53.9**	**-0.2**
PETK	**Petropavlovsk-**	**10.75**	**28**	Pn	**Pn**	**15 47 54.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=229,slow=10,SNR=4.6						
PETK				LR	LR	15 52 56.7	
	comp=E,122nm,18.1s,baz=229,slow=43						
PETK	**Petropavlovsk-**	**10.75**	**28**	Pn	**Pn**	**15 47 53.9**	**-0.2**
MJAR	**Matsushiro Arr**	**11.21**	**233**	Pn	**Pn**	**15 48 02.5**	**+1.9**
	comp=E,0.1nm,0.3s,baz=27,slow=13,SNR=6.2						
MAJO	**Matsushiro**	**11.21**	**233**	⇑ *e*PN	**Pn**	15 48 06.3	+5.7
MAJO				pmax	pmax		
	comp=Z,9.0nm,2.0s						
JGF	**Kuroka**	**12.36**	**232**	Pn	**Pn**	**15 48 18.5**	**+2.2**
USRK	**Ussuriysk Ar.**	**12.43**	**277**	Pn	**Pn**	**15 48 18.2**	**+1.0**
	baz=97,slow=13,SNR=6.0						
KSRS	**Korea Array**	**17.40**	**255**	P	**Pn**	**15 49 23.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=60,slow=10,SNR=5.5						
JCJ	**Chichijima**	**17.75**	**201**	LR	LR	15 55 46.9	
	comp=Z,115nm,18.8s,baz=72,slow=35						
SEY	**Seymchan**	**19.12**	**4**	P	**P**	**15 49 41.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=180,slow=8.1,SNR=6.3						
YAK	**Yakutsk**	**21.46**	**334**	P	**P**	**15 50 05.6**	**-2.9**
	comp=Z,4.9nm,0.4s,baz=48,slow=14,SNR=7.6						
YAK				LR	LR	15 58 40.9	
	comp=Z,76nm,19.6s,baz=95,slow=38						
YAK	**Yakutsk**	**21.46**	**334**	*e*P	**P**	**15 50 05.5**	**-2.9**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK	**Yakutsk**	**21.46**	**334**	P	**P**	**15 50 05.4**	**-3.1**
YAK				IAmb	IAmb	15 50 08.3	
	comp=Z,17nm,0.7s						
BILL	**Bilibino**	**25.78**	**15**	*e*P	**P**	**15 50 49.4**	**-1.5**
BILL	**Bilibino**	**25.78**	**15**	*e*P	**P**	**15 50 49.4**	**-1.5**
BILL	**Bilibino**	**25.78**	**15**	⇑ *e*P	**P**	**15 50 49.4**	**-1.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
NJ2	**Nanjing**	**26.58**	**254**	*e*P	**P**	**15 50 57.3**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**27.85**	**277**	*e*P	**P**	**15 51 12.4**	**+2.5**
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,71nm,5.5s						
H11N2	**WAKE ISLAND Hy**	**28.28**	**143**	T	T	16 22 09.5	
	baz=333,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**28.30**	**143**	T	T	16 22 10.0	
	baz=333,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.30**	**143**	T	T	16 22 13.4	
	baz=333,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.29**	**144**	T	T	16 23 26.1	
	baz=334,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**29.29**	**144**	T	T	16 23 30.1	
	baz=334,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.30**	**144**	T	T	16 23 28.4	
	baz=334,slow=76,SNR=30						
ULN	**Ulaanbaatar**	**29.36**	**293**	*e*P	**P**	**15 51 24.2**	**+0.8**
ULN	**Ulaanbaatar**	**29.36**	**293**	*e*P	**P**	**15 51 24.2**	**+0.8**
ULN	**Ulaanbaatar**	**29.36**	**293**	*de*P	**P**	**15 51 24.2**	**+0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**29.80**	**293**	P	**P**	**15 51 27.7**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=87,slow=9.5,SNR=6.0						
SONM				LR	LR	16 04 21.2	
	comp=Z,113nm,18.1s,baz=40,slow=38						
SONM	**Songino Array**	**29.80**	**293**	IAmb	IAmb	15 51 28.4	
	comp=Z,1.4nm,0.8s						
TLY	**Talaya**	**31.16**	**301**	LR	LR	16 05 22.7	
	comp=Z,85nm,18.1s,baz=45,slow=39						
LZH	**Lanzhou**	**35.29**	**273**	*e*P	**P**	**15 52 17.1**	**+1.7**
LZH				pP	pwP	15 52 31.4	+6.1
LZH				sP	pP	15 52 38.0	+20
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
GTA	**Gaotai**	**36.76**	**280**	*e*P	**P**	**15 52 26.6**	**-1.3**
GTA				pP	pwP	15 52 38.6	+0.6
GTA				sP	pP	15 52 44.1	+14
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=E,85nm,4.5s						
GTA				LR	LR		
	comp=N,72nm,15.6s						
GTA				LR	LR		
	comp=E,51nm,14.9s						
GTA				LR	LR		
	comp=Z,74nm,16.0s						
CD2	**Chengdu**	**37.94**	**266**	*e*P	**P**	**15 52 37.0**	**-0.9**
BPAW	**Bear Paw Mtn.**	**38.65**	**37**	P	**P**	**15 52 41.0**	**-2.5**
NRIK	**Noril'sk**	**39.83**	**331**	LR	LR	16 10 25.5	
	comp=Z,56nm,18.6s,baz=16,slow=38						
COLA	**College**	**40.03**	**36**	⇓ *e*P	**P**	**15 52 56.5**	**+1.6**
COLA				pmax	pmax		
	comp=Z,14nm,2.9s						
ILAR	**Eielson Array**	**40.44**	**36**	P	**P**	**15 52 59.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=281,slow=8.8,SNR=5.1						
DGZ	**Jazzator, Alta**	**41.64**	**301**	⇑ *e*P	**P**	**15 53 09.4**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**42.10**	**307**	PcP	**PcP**	**15 55 07.5**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=64,slow=3.4,SNR=6.0						
WMQ	**Urumqi**	**43.44**	**292**	*e*P	**P**	**15 53 25.9**	**+2.7**
WMQ				LR	LR		
	comp=E,120nm,16.7s						
WMQ				LR	LR		
	comp=Z,61nm,22.7s						
ZSN	**Zaisan**	**43.97**	**298**	*e*P	**P**	**15 53 26.5**	**-0.9**
ZSN	**Zaisan**	**43.97**	**298**	*e*P	**P**	**15 53 26.4**	**-0.9**
INK	**Inuvik**	**45.47**	**31**	P	**P**	**15 53 40.3**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=340,slow=6.4,SNR=6.0						
MK31	**Makanchi Array**	**45.85**	**298**	P	**P**	**15 53 42.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**45.85**	**298**	P	**P**	**15 53 42.4**	**+0.1**
MK31				IAmb	IAmb	15 53 43.8	
	comp=Z,4.3nm,0.9s						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**15 53 42.5**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=77,slow=8.1,SNR=29						
MKAR				LR	LR	16 14 07.9	
	comp=Z,91nm,19.0s,baz=43,slow=38						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**15 53 42.3**	**0.0**
MAKZ	**Makanchi**	**46.04**	**298**	P	**P**	**15 53 43.7**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**46.04**	**298**	P	**P**	**15 53 43.7**	**-0.1**
MAKZ				IAmb	IAmb	15 53 45.0	
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**46.69**	**304**	*e*P	**P**	**15 53 49.4**	**+0.6**
KURK	**Kurchatov**	**46.69**	**304**	*e*P	**P**	**15 53 49.4**	**+0.6**
KURK	**Kurchatov**	**46.69**	**304**	⇓ *i*P	**P**	**15 53 49.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KURK	**Kurchatov**	**46.69**	**304**	P	**P**	**15 53 47.6**	**-1.2**
KURK	**Kurchatov**	**46.69**	**304**		**PcP**	**15 55 23.5**	**+1.2**
KURBB	**Kurchatov Arra**	**46.77**	**304**	P	**P**	**15 53 48.5**	**-1.0**
KURBB				PcP	**PcP**	**15 55 23.5**	**+0.9**
	comp=Z,0.9nm,0.2s,baz=73,slow=3.3,SNR=2.0						
C36M	**Paulatuk**	**48.60**	**28**	P	**P**	**15 54 01.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**49.04**	**255**	P	**P**	**15 54 09.9**	**+2.4**
	comp=Z,0.8nm,1.0s,baz=35,slow=7.4,SNR=5.5						
CMAR				LR	LR	16 18 04.4	
	comp=Z,58nm,18.1s,baz=88,slow=40						
SHLS	**Shalkode**	**49.17**	**295**	*e*P	**P**	**15 54 05.8**	**-2.6**
SHLS	**Shalkode**	**49.17**	**295**	*e*P	**P**	**15 54 05.7**	**-2.6**
UZB	**Uzynbulak**	**49.46**	**295**	*e*P	**P**	**15 54 09.6**	**-1.0**
UZB	**Uzynbulak**	**49.46**	**295**	*e*P	**P**	**15 54 09.5**	**-1.0**
SATY	**Saty**	**49.90**	**295**	*e*P	**P**	**15 54 13.9**	**0.0**
SATY	**Saty**	**49.90**	**295**	*e*P	**P**	**15 54 13.9**	**0.0**
CHKK	**Chushkaly**	**50.47**	**297**	*e*P	**P**	**15 54 17.8**	**-0.2**
CHKK	**Chushkaly**	**50.47**	**297**	*e*P	**P**	**15 54 17.8**	**-0.2**
BRZS	**Berezniki**	**50.48**	**306**	*e*P	**P**	**15 54 18.0**	**-0.1**
BRZS	**Berezniki**	**50.48**	**306**	*e*P	**P**	**15 54 18.0**	**-0.1**
BRVK	**Borovoye**	**50.60**	**310**	*e*P	**P**	**15 54 19.9**	**+1.0**
BRVK	**Borovoye**	**50.60**	**310**	*e*P	**P**	**15 54 19.9**	**+1.0**
BRVK	**Borovoye**	**50.60**	**310**	⇓ *e*P	**P**	**15 54 19.9**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRVK	**Borovoye**	**50.60**	**310**	P	**P**	**15 54 19.0**	**+0.1**
MDOK	**Medeo**	**50.74**	**296**	*e*P	**P**	**15 54 19.6**	**-0.8**
MDOK	**Medeo**	**50.74**	**296**	*e*P	**P**	**15 54 19.5**	**-0.8**
TNSS	**Tian-Shan**	**50.87**	**296**	*e*P	**P**	**15 54 21.8**	**+0.2**
TNSS	**Tian-Shan**	**50.87**	**296**	*e*P	**P**	**15 54 21.7**	**+0.2**
KUU	**Kurty**	**50.87**	**297**	*e*P	**P**	**15 54 20.1**	**-1.1**
KUU	**Kurty**	**50.87**	**297**	*e*P	**P**	**15 54 20.0**	**-1.1**
KDJ	**Kajisay**	**51.14**	**295**	P	**P**	**15 54 23.9**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KDJ	**Kajisay**	**51.14**	**295**	P	**P**	**15 54 23.9**	**+0.6**
KDJ				IAmb	IAmb	15 54 25.1	
	comp=Z,5.2nm,0.9s						
BOOM	**Boomskoye usch**	**51.78**	**296**	P	**P**	**15 54 29.1**	**+1.0**
BOOM				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BOOM	**Boomskoye usch**	**51.78**	**296**	P	**P**	**15 54 29.1**	**+1.0**
BOOM				IAmb	IAmb	15 54 30.2	
	comp=Z,10nm,1.1s						
BTLS	**Baital**	**51.80**	**299**	*e*P	**P**	**15 54 27.8**	**-0.3**
BTLS	**Baital**	**51.80**	**299**	*e*P	**P**	**15 54 27.7**	**-0.3**
SGDS	**Sogindy**	**52.17**	**297**	*e*P	**P**	**15 54 30.7**	**-0.2**
SGDS	**Sogindy

	comp=Z,57nm,15.0s							
NVAR	**Mina Array Bea**	**66.18**	**59**	P		**P**	**15 56 09.7**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=304,slow=6.4,SNR=2.8							
VSR	**Storozhevoye**	**67.58**	**320**	*e*P		**P**	**15 56 15.7**	**-0.9**
VSR				pmax	pmax			
	comp=Z,7.0nm,0.5s							
VORD	**Divnogorie**	**67.69**	**320**	*e*P		**P**	**15 56 16.9**	**-0.3**
VORD				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PDAR	**Pinedale Array**	**68.62**	**51**	P		**P**	**15 56 23.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=222,slow=2.0,SNR=4.0							
ASAR	**Alice Springs**	**68.73**	**195**	P		**P**	**15 56 26.4**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=13,slow=5.9,SNR=1.9							
NC303	**NORSAR Array S**	**69.77**	**340**	P		**P**	**15 56 29.1**	**-1.0**
NC405	**NORSAR Array S**	**69.78**	**340**	P		**P**	**15 56 29.5**	**-0.7**
NC204	**NORSAR Array S**	**69.88**	**340**	P		**P**	**15 56 30.3**	**-0.6**
NB201	**NORSAR Array S**	**69.94**	**340**	P		**P**	**15 56 30.4**	**-0.7**
NB2	**NORSAR Subarra**	**69.97**	**340**	P		**P**	**15 56 31.2**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.97**	**340**	P		**P**	**15 56 30.9**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=32,slow=6.6,SNR=10.0							
NOA				LR	LR		16 31 35.8	
	comp=Z,14nm,18.1s,baz=280,slow=40							
NOA	**NORSAR Array B**	**69.97**	**340**	*e*P		**P**	**15 56 31.2**	**-0.2**
NOA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
NC602	**NORSAR Array S**	**70.15**	**339**	P		**P**	**15 56 31.8**	**-0.6**
KIV	**Kislovodsk**	**70.77**	**313**	*e*P		**P**	**15 56 40.1**	**+3.5**
KIV				pmax	pmax			
	comp=Z,36nm,1.1s							
KIV				MLR	MLR			
	comp=Z,149nm,18.0s							
KIV	**Kislovodsk**	**70.77**	**313**	P		**P**	**15 56 36.6**	**0.0**
KIV				IAmb	IAmb		15 56 45.1	
	comp=Z,10nm,1.0s							
KBZ	**Khabaz**	**70.81**	**313**	P		**P**	**15 56 36.2**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=26,slow=4.7,SNR=2.9							
KBZ				LR	LR		16 33 23.3	
	comp=Z,64nm,18.2s,baz=72,slow=41							
AKASG	**Malin Array Be**	**72.32**	**325**	P		**P**	**15 56 45.4**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=38,slow=6.4,SNR=12							
AKASG	**Malin Array Be**	**72.32**	**325**	P		**P**	**15 56 44.5**	**-1.2**
AKBB	**Malin Array Si**	**72.32**	**325**	P		**P**	**15 56 43.9**	**-1.8**
AKBB				pmax	pmax			
	comp=Z,8.0nm,1.1s							
AKBB	**Malin Array Si**	**72.32**	**325**	P		**P**	**15 56 43.9**	**-1.8**
AKBB				IAmb	IAmb		15 56 46.4	
	comp=Z,7.6nm,1.1s							
WSAR	**Wadi Sarin**	**74.69**	**288**	LR	LR		16 34 33.5	
	comp=Z,20nm,19.2s,baz=158,slow=40							
BUR08	**Bucovina Ar. S**	**76.36**	**325**	P		**P**	**15 57 09.3**	**-0.2**
BURAR	**Bucovina Array**	**76.38**	**325**	P		**P**	**15 57 08.7**	**-0.9**
MLR	**Muntele Rosu**	**77.74**	**323**	P		**P**	**15 57 16.3**	**-1.0**
MLR				pmax	pmax			
	comp=Z,12nm,1.5s							
MLR	**Muntele Rosu**	**77.74**	**323**	P		**P**	**15 57 16.3**	**-1.0**
MLR				IAmb	IAmb		15 57 21.4	
	comp=Z,12nm,1.5s							
CLL	**Collm**	**77.84**	**334**	*i* P		**P**	**15 57 17.5**	**-0.1**
	comp=Z,4.0nm,0.6s							
CLL	**Collm**	**77.84**	**334**	P		**P**	**15 57 17.2**	**-0.3**
CLL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CLL	**Collm**	**77.84**	**334**	P		**P**	**15 57 17.2**	**-0.3**
CLL				IAmb	IAmb		15 57 18.3	
	comp=Z,4.4nm,0.6s							
VYHS	**Vyhne**	**78.19**	**329**	*e*P		**P**	**15 57 18.8**	**-0.8**
VYHS	**Vyhne**	**78.19**	**329**	*e*P		**P**	**15 57 18.8**	**-0.8**
BRTR	**Keskin Array B**	**78.51**	**315**	P		**P**	**15 57 21.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=50,slow=7.8,SNR=1.9							
KHC	**Kasperske Hory**	**79.52**	**332**	*e*P		**P**	**15 57 27.3**	**+0.4**
KHC	**Kasperske Hory**	**79.52**	**332**‖	*e*P		**P**	**15 57 27.9**	**+1.0**
KHC				pmax	pmax			
	comp=Z,17nm,1.7s							
KHC	**Kasperske Hory**	**79.52**	**332**			**P**	**15 57 27.2**	**+0.2**
GERES	**GERESS Array B**	**79.73**	**332**	P		**P**	**15 57 28.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=37,slow=6.4,SNR=12							
GERES	**GERESS Array B**	**79.73**	**332**	P		**P**	**15 57 28.0**	**-0.1**
GERES	**GERESS Array B**	**79.73**	**332**	P		**P**	**15 57 28.0**	**-0.1**
CONA	**Conrad Observa**	**79.75**	**330**	*e*P		**P**	**15 57 29.3**	**+1.1**
	comp=Z,2.9nm,0.8s							
SOKA	**Soboth**	**81.11**	**330**	*e*P		**P**	**15 57 36.6**	**+1.0**
	comp=Z,4.0nm,0.9s							
TXAR	**Lajitas Array**	**81.27**	**58**	P		**P**	**15 57 38.2**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=303,slow=4.6,SNR=12							
KBA	**Koelnbreinsper**	**81.37**	**331**	*e*P		**P**	**15 57 37.9**	**+0.8**
	comp=Z,2.7nm,0.6s							
WATA	**Walderalm**	**81.75**	**332**	*e*P		**P**	**15 57 39.3**	**+0.3**
	comp=Z,8.2nm,1.2s							
WTTA	**Wattenberg**	**81.79**	**332**	*e*P		**P**	**15 57 40.0**	**+0.7**
	comp=Z,4.7nm,0.8s							
MOTA	**Moosalm**	**81.90**	**333**	*i* P		**P**	**15 57 41.0**	**+1.2**
	comp=Z,3.6nm,0.7s							
SQTA	**Sankt Quirin**	**81.97**	**333**	*e*P		**P**	**15 57 40.9**	**+0.8**
	comp=Z,2.9nm,0.8s							
URZ	**Urewera**	**85.61**	**158**	LR	LR		16 32 07.1	
	comp=Z,34nm,18.8s,baz=34,slow=33							
VNA2	**Neumayer--Watz**	**150.58**	**195**	PKPdf		**PKiKP**	**16 05 13.3**	**+1.7**
	baz=123,slow=1.3							
VNA3	**Neumayer Olymp**	**150.73**	**194**	PKPdf		**PKPbc**	**16 05 12.3**	**+1.1**

IDC ***19*** *16:16:34.9±1.6, 17°.73S×172°.82W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/38, mbtmp4.0/6, MS3.4/7, Ms1 3.4/7, ms1mx3.1/28, Error ellipse: s-maj=43.0km s-min=34.6km az=115.0*

NEIC ***19*** *16:16:36.2±1.8, 17°.4S±0°.1×172°.3W±0°.2, h43km±14km, mb4.7/13, Error ellipse: s-maj=29.6km s-min=12.9km az=65.0*

ISC 19 16:16:35.2±0.8, 17°.52S±0°.09×172°.5W±0°.1, h21km, n31, σ1s70/20, mb4.3/10, MS3.3/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**2.87**	**123**	Pn		**Pn**	**16 17 18.1**	**-1.6**
AFI	**Afiamalu**	**3.66**	**11**	Pn		**Pn**	**16 17 28.4**	**-2.2**
RAR	**Rarotonga**	**12.54**	**109**	LR		LR	16 22 57.8	
	comp=Z,192nm,18.3s,baz=297,slow=30							
RAR	**Rarotonga**	**12.54**	**109**	Pn		**Pn**	**16 19 31.7**	**-0.7**
DZM	**Mont Dzumac**	**20.34**	**254**	*e*LR		LR	16 26 24.4	
DZM	**Mont Dzumac**	**20.34**	**254**	LR		LR	16 27 59.5	
	comp=Z,181nm,18.1s,baz=52,slow=34							
PPT2	**Papeete2**	**21.83**	**94**	*e*LR		LR	16 26 16.9	
	comp=Z,157nm,27.0s							
PPT	**Papeete**	**21.84**	**94**	LR		LR	16 28 45.1	
	comp=Z,96nm,18.3s,baz=160,slow=33							
TBI	**Tubuai**	**22.32**	**109**	*e*LR		LR	16 26 49.7	
	comp=Z,178nm,27.5s							
URZ	**Urewera**	**22.58**	**202**	P		**P**	**16 21 32.0**	**-2.2**
	4.5nm,0.8s,baz=2.8,slow=14,SNR=1.5							
URZ	**Urewera**	**22.58**	**202**	IAmb		IAmb	16 21 57.0	
	comp=Z,41nm,1.4s							
KHZ	**Kahutara**	**27.53**	**203**	P		**P**	**16 22 19.3**	**-1.0**
KHZ				IAmb		IAmb	16 22 27.9	
	comp=Z,25nm,1.2s							
HNR	**Honiara**	**27.97**	**283**	LR		LR	16 31 45.8	
	comp=Z,117nm,19.4s,baz=82,slow=33							
OXZ	**Oxford**	**28.88**	**204**	P		**P**	**16 22 31.7**	**-0.7**
RPZ	**Rata Peaks**	**29.59**	**205**	LR		LR	16 32 52.0	
	comp=Z,46nm,18.6s,baz=126,slow=33							
RABL	**Rabaul**	**37.08**	**287**	P		**P**	**16 23 43.4**	**-0.9**
KRVT	**Keravat (AS076**	**37.16**	**287**	LR		LR	16 35 50.3	
	comp=Z,24nm,21.7s,baz=40,slow=31							
WR0	**Warramunga Arr**	**50.06**	**258**	P		**P**	**16 25 29.2**	**+0.4**
WB0	**Warramunga Arr**	**50.23**	**259**	P		**P**	**16 25 30.4**	**+0.4**
WB0				IAmb		IAmb	16 25 55.8	
	comp=Z,9.1nm,1.3s							
WB2	**Warramunga Arr**	**50.24**	**258**	P		**P**	**16 25 29.6**	**-0.6**
WB2				IAmb		IAmb	16 25 30.4	
	comp=Z,5.8nm,1.1s							
WRA	**Warramunga Arr**	**50.26**	**258**	P		**P**	**16 25 30.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=97,slow=7.4,SNR=13							
AS31	**Alice Springs**	**50.33**	**254**	P		**P**	**16 25 30.6**	**-0.3**
ASAR	**Alice Springs**	**50.33**	**254**	P		**P**	**16 25 31.1**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=90,slow=9.0,SNR=50							
MTN	**Manton Dam**	**54.46**	**267**	P		**P**	**16 26 01.9**	**+0.3**
KNRA	**Kununurra**	**56.15**	**263**	P		**P**	**16 26 11.7**	**-2.1**
KNRA				IAmb		IAmb	16 26 28.7	
	comp=Z,13nm,1.2s							
FITZ	**Fitzroy Crossi**	**58.66**	**259**	P		**P**	**16 26 33.2**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=102,slow=6.5,SNR=1.3							
FITZ	**Fitzroy Crossi**	**58.66**	**259**	P		**P**	**16 26 30.0**	**-1.4**
FITZ				IAmb		IAmb	16 26 39.4	
	comp=Z,5.4nm,1.3s							
MORW	**Morawa**	**65.80**	**246**	P		**P**	**16 27 18.5**	**-0.7**
QSPA	**South Pole Qui**	**72.53**	**180**	P		**P**	**16 28 03.4**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=65,slow=4.4,SNR=2.6							
KSRS	**Korea Array**	**78.28**	**315**	LR		LR	16 59 59.2	
	comp=Z,17nm,19.2s,baz=61,slow=33							
ILAR	**Eielson Array**	**84.35**	**11**	P		**P**	**16 29 09.1**	**+3.8**
	comp=Z,0.9nm,1.0s,baz=196,slow=5.6,SNR=4.2							

WEL 19 16:16:38.2±0.9, 38°S±6°×17°6E±°, h185km±7km, M3.0/47, MLv3.0/47, Error ellipse: s-maj=0.0km s-min=0.0km az=131.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UTU	**Utuhina**	**0.17**	**88**	P		Pn	16 17 03.5	+0.9
NGRZ	**Ngongotaha**	**0.19**	**64**	P		Pn	16 17 03.5	+0.7
GRRZ	**Galatos Road**	**0.20**	**147**	P		Pn	16 17 03.4	+0.7
HSRZ	**Hossack Road**	**0.25**	**121**	P		Pn	16 17 03.6	+0.8
KARZ	**Kaharoa**	**0.27**	**70**	P		Pn	16 17 03.4	+0.6
HLRZ	**Highlands Stat**	**0.30**	**103**	P		Pn	16 17 04.3	+1.3
HRRZ	**Handcock Road**	**0.32**	**130**	P		Pn	16 17 03.7	+0.7
OMRZ	**Omania**	**0.32**	**76**	P		Pn	16 17 03.6	+0.6
OMRZ				S		Sn	16 17 24.0	+2.0
KUTZ	**Kaahu Road**	**0.33**	**201**	P		Pn	16 17 03.7	+0.7
KMRZ	**Kaimai**	**0.34**	**356**	P		Pn	16 17 03.7	+0.6
KMRZ				S		Sn	16 17 24.6	+2.4
WPRZ	**Whakapapatarin**	**0.37**	**156**	P		Pn	16 17 03.6	+0.6
TLZ	**Tolley Road**	**0.37**	**247**	P		Pn	16 17 03.9	+0.8
MKRZ	**Makatiti**	**0.39**	**83**	P		Pn	16 17 04.3	+1.1
TARZ	**Mount Tarawera**	**0.42**	**97**	P		Pn	16 17 04.0	+0.7
RRRZ	**Republican Roa**	**0.45**	**110**	P		Pn	16 17 03.8	+0.5
RRRZ				S		Sn	16 17 24.1	+1.3
PRRZ	**Plateau Road**	**0.46**	**134**	P		Pn	16 17 03.8	+0.5
PRRZ				S		Sn	16 17 24.1	+1.3
ALRZ	**Allen Road**	**0.48**	**143**	P		Pn	16 17 03.9	+0.5
ALRZ				S		Sn	16 17 24.2	+1.2
WHTZ	**Whakaora**	**0.48**	**182**	P		Pn	16 17 04.3	+0.8
TGRZ	**Tauranga**	**0.51**	**27**	P		Pn	16 17 03.9	+0.3
TGRZ				S		Sn	16 17 26.1	+3.0
WATZ	**Wairara**	**0.56**	**200**	P		Pn	16 17 04.4	+0.6
OPRZ	**Ohinepanea**	**0.57**	**54**	P		Pn	16 17 04.0	+0.2
OPRZ				S		Sn	16 17 25.0	+1.5
MARZ	**Manawahe**	**0.59**	**70**	P		Pn	16 17 04.4	+0.5
TOZ	**Tahuroa Road**	**0.59**	**320**	P		Pn	16 17 04.6	+0.7
TOZ				S		Sn	16 17 25.9	+2.2
MUGZ	**Murupara**	**0.69**	**115**	P		Pn	16 17 04.4	0.0
RATZ	**Rangitukua**	**0.70**	**193**	P		Pn	16 17 04.8	+0.3
HATZ	**Hinemaiaia**	**0.71**	**173**	P		Pn	16 17 04.8	+0.2
MRHZ	**Matea Rd**	**0.74**	**152**	P		Pn	16 17 04.8	+0.1
RITZ	**Rihia Road**	**0.80**	**187**	P		Pn	16 17 05.6	+0.6
KATZ	**Kakaramea**	**0.82**	**195**	P		Pn	16 17 05.6	+0.3
URZ	**Urewera**	**0.90**	**95**	P		Pn	16 17 05.3	-0.3
RTZ	**Ruatahuna**	**0.90**	**119**	P		Pn	16 17 05.8	0.0
HIZ	**Hauiti**	**0.94**	**249**	P		Pn	16 17 06.3	+0.4
KRVZ	**Kawerawera**	**0.95**	**196**	P		Pn	16 17 06.2	+0.1
MTHZ	**Maungataniwha**	**0.95**	**135**	P		Pn	16 17 06.3	+0.2
TMVZ	**Te Maari**	**0.95**	**193**	P		Pn	16 17 06.4	+0.2
ETVZ	**East Tongariro**	**0.97**	**192**	P		Pn	16 17 06.4	+0.1
WTVZ	**West Tongariro**	**0.98**	**198**	P		Pn	16 17 06.4	+0.1
TWVZ	**Taurewa**	**0.98**	**205**	P		Pn	16 17 06.4	+0.1
OTVZ	**Oturere**	**1.01**	**194**	P		Pn	16 17 06.5	0.0
NGZ	**Ngauruhoe**	**1.03**	**196**	P		Pn	16 17 06.7	-0.1
BKZ	**Black Stump Fm**	**1.06**	**158**	P		Pn	16 17 06.9	0.0
TUVZ	**Tukino**	**1.11**	**193**	P		Pn	16 17 07.4	+0.1
FWVZ	**Far West T-bar**	**1.12**	**197**	P		Pn	16 17 07.3	-0.2
NMHZ	**Naumai**	**1.12**	**145**	P		Pn	16 17 08.4	+1.0
DRZ	**Dome Shelter**	**1.14**	**196**	P		Pn	16 17 07.8	+0.1
RAHZ	**Arahi**	**1.14**	**130**	P		Pn	16 17 08.0	+0.6
WHVZ	**Whangaehu Hut**	**1.14**	**195**	P		Pn	16 17 07.6	0.0
RAGZ	**Rawiri**	**1.18**	**106**	P		Pn	16 17 07.9	+0.1
WNVZ	**Wahianoa**	**1.18**	**194**	P		Pn	16 17 07.8	-0.1
PKVZ	**Pokaka**	**1.21**	**204**	P		Pn	16 17 07.9	-0.1
SNGZ	**Shannon Statio**	**1.23**	**120**	P		Pn	16 17 08.5	+0.4
MWZ	**Matawai**	**1.23**	**97**	P		Pn	16 17 08.0	-0.2
MOVZ	**Moawhango**	**1.23**	**188**	P		Pn	16 17 07.8	-0.4
MTVZ	**Mangateitei**	**1.26**	**198**	P		Pn	16 17 08.4	-0.1
KWHZ	**Kaweka Forest**	**1.29**	**164**	P		Pn	16 17 08.9	+0.2
BHHZ	**Black Hill Sta**	**1.30**	**177**	P		Pn	16 17 08.5	-0.4
WHHZ	**Waihua**	**1.33**	**132**	P		Pn	16 17 09.6	+0.6
VRZ	**Vera Road**	**1.34**	**225**	P		Pn	16 17 09.1	+0.1
ARHZ	**Aropaoanui**	**1.34**	**144**	P		Pn	16 17 09.6	+0.6
RUGZ	**Raukumara Rang**	**1.36**	**81**	P		Pn	16 17 08.2	-1.2
MCHZ	**McNeill Hill**	**1.38**	**156**	P		Pn	16 17 10.1	+0.7
KUZ	**Kuaotunu**	**1.45**	**352**	P		Pn	16 17 09.9	-0.2
ETAZ	**East Tamaki Re**	**1.48**	**326**	P		Pn	16 17 10.3	-0.1
KRHZ	**Kereru**	**1.49**	**168**	P		Pn	16 17 10.4	-0.1
HAZ	**Te Kaha**	**1.49**	**74**	P		Pn	16 17 09.4	-1.1
TKGZ	**Te Karaka**	**1.50**	**100**	P		Pn	16 17 10.6	+0.1
RIGZ	**Rimuhau**	**1.50**	**113**	P		Pn	16 17 10.8	+0.2
AWAZ	**Awhitu Peninsu**	**1.54**	**316**	P		Pn	16 17 11.0	0.0
WIAZ	**Waiohe Island**	**1.54**	**334**	P		Pn	16 17 11.0	0.0
MHEZ	**Mangahewa**	**1.57**	**235**	P		Pn	16 17 11.7	+0.6
KNZ	**Kokohu**	**1.57**	**123**	P		Pn	16 17 11.3	+0.1
TWGZ	**Tauwhareparae**	**1.58**	**90**	P		Pn	16 17 11.4	+0.1
MBAZ	**Motutapu North**	**1.65**	**328**	P		Pn	16 17 11.8	-0.2
PRGZ	**Paritu Road**	**1.67**	**117**	P		Pn	16 17 12.2	+0.1
WTAZ	**Waiatarua**	**1.67**	**318**	P		Pn	16 17 12.4	+0.2
PKGZ	**Pakihiroa**	**1.69**	**81**	P		Pn	16 17 11.9	-0.5
CKHZ	**Cape Kidnapper**	**1.71**	**150**	P		Pn	16 17 12.7	+0.2
PNHZ	**Pukenui**	**1.74**	**174**	P		Pn	16 17 12.3	-0.6
WAZ	**Wanganui**	**1.75**	**206**	P		Pn	16 17 12.3	-0.7
KAHZ	**Kahuranaki**	**1.75**	**157**	P		Pn	16 17 13.2	+0.1
LREZ	**Lake Rotokare**	**1.77**	**223**	P		Pn	16 17 13.2	+0.1
CNGZ	**Carnagh Statio**	**1.78**	**100**	P		Pn	16 17 13.7	+0.4
MHGZ	**Mahia Peninsul**	**1.79**	**123**	P		Pn	16 17 13.6	+0.2
RVAZ	**Riverhead Bore**	**1.80**	**321**	P		Pn	16 17 13.2	-0.3
PUZ	**Puketiti**	**1.80**	**87**	P		Pn	16 17 12.7	-0.8
ABAZ	**Arany Bay**	**1.82**	**330**	P		Pn	16 17 13.9	+0.1
NEZ	**North Egmont**	**1.83**	**233**	P		Pn	16 17 13.9	+0.1
PREZ	**Palmer Road**	**1.83**	**230**	P		Pn	16 17 13.9	+0.1
PKE	**Pukeiti**	**1.85**	**236**	P		Pn	16 17 14.1	+0.1
TSZ	**Takapari Road**	**1.87**	**180**	P		Pn	16 17 13.5	-0.7
KHEZ	**Kahui Hut**	**1.89**	**234**	P		Pn	16 17 14.4	-0.1
WPHZ	**Waipukurau**	**1.91**	**169**	P		Pn	16 17 14.0	-0.6
MXZ	**Matakaoa Point**	**1.95**	**72**	P		Pn	16 17 14.7	-0.3
WMGZ	**Waiomatatini S**	**1.96**	**80**	P		Pn	16 17 14.5	-0.6
PXZ	**Pawanui**	**1.97**	**160**	P		Pn	16 17 14.7	-0.5
NBEZ	**Newall Road No**	**1.97**	**236**	P		Pn	16 17 15.2	0.0
GRZ	**Great Barrier**	**1.97**	**348**	P		Pn	16 17 14.8	-0.5
NMEZ	**Namu Road**	**2.05**	**233**	P		Pn	16 17 16.1	+0.1
OHWZ	**Ohakea**	**2.08**	**194**	P		Pn	16 17 15.8	-0.6
DVHZ	**Dannevirke**	**2.12**	**176**	P		Pn	16 17 15.6	-1.2
PRHZ	**Porangahau**	**2.14**	**166**	P		Pn	16 17 16.2	-0.9
POWZ	**Post Office Ro**	**2.21**	**184**	P		Pn	16 17 16.4	-1.4
ANGZ	**Angora Road**	**2.31**	**178**	P		Pn	16 17 17.3	-1.0
PRWZ	**Pori Road**	**2.37**	**180**	P		Pn	16 17 16.3	-1.3
MRZ	**Mangatainoka R**	**2.49**	**187**	P		Pn	16 17 19.1	-1.9
BFZ	**Birch Farm**	**2.50**	**175**	P		Pn	16 17 19.4	-1.7
TIWZ	**Tintock**	**2.59**	**181**	P		Pn	16 17 20.3	-1.8
WCZ	**Waipu Caves**	**2.59**	**329**	P		Pn	16 17 21.6	-0.6
OGWZ	**Otaki Gorge**	**2.70**	**193**	P		Pn	16 17 21.5	-1.9
CPWZ	**Castlepoint**	**2.73**	**176**	P		Pn	16 17 22.3	-1.4
HOWZ	**Holdsworth Sta**	**2.73**	**187**	P		Pn	16 17 21.4	-2.4
KIW	**Kapiti Island**	**2.80**	**197**	P		Pn	16 17 22.1	-2.5
TMWZ	**Te Maipa**	**2.92**	**181**	P		Pn	16 17 23.6	-2.4
CAW	**Cannon Point**	**3.00**	**193**	P		Pn	16 17 24.5	-2.5
DUWZ	**D'Urville Isla**	**3.06**	**211**	P		Pn	16 17 24.8	-2.9
TRWZ	**Traveller**	**3.22**	**184**	P		Pn	16 17 26.8	-2.8
PAWZ	**Paruwai Farm**	**3.22**	**187**	P		Pn	16 17 26.7	-3.0
WEL	**Wellington**	**3.23**	**196**	P		Pn	16 17 27.1	-2.7
MSWZ	**Moikau Station**	**3.28**	**190**	P		Pn	16 17 27.2	-3.2
TCW	**Tory Channel**	**3.29**	**203**	P		Pn	16 17 27.6	-2.9
BHW	**Baring Head**	**3.33**	**194**	P		Pn	16 17 27.9	-3.1
PLWZ	**Palliser**	**3.43**	**189**	P		Pn	16 17 28.9	-3.4
OUZ	**Omahuta**	**3.52**	**326**	P		Pn	16 17 32.7	-0.7
TUWZ	**Tuamarina**	**3.60**	**205**	P		Pn	16 17 30.9	-3.4
NNZ	**Nelson**	**3.63**	**213**	P		Pn	16 17 31.0	-3.7
QRZ	**Quartz Range**	**3.75**	**224**	P		Pn	16 17 32.0	-4.2
CMWZ	**Cape Campbell**	**3.81**	**200**	P		Pn	16 17 34.6	-2.3
BSWZ	**Blackbirch Sta**	**3.88**	**204**	P		Pn	16 17 34.5	-3.3
THZ	**Tophouse**	**4.28**	**212**	P		Pn	16 17 39.0	-4.0
KHZ	**Kahutara**	**4.62**	**203**	P		Pn	16 17 43.6	-3.5
DSZ	**Denniston Nort**	**4.79**	**221**	P		Pn	16 17 44.3	-5.1
GVZ	**Greta Valley S**	**5.28**	**204**	P		Pn	16 17 51.4	-4.3
LTZ	**Lake Taylor**	**5.39**	**210**	P		Pn	16 17 52.4	-4.8
AMCZ	**Amberley**	**5.59**	**206**	P		Pn	16 17 55.1	-4.6
INZ	**Inchbonnie**	**5.70**	**216**	P		Pn	16 17 55.9	-5.3
OXZ	**Oxford**	**5.94**	**209**	P		Pn	16 17 58.7	-5.6
OKCZ	**Okains Bay**	**5.96**	**201**	P		Pn	16 17 59.9	-4.7
MQZ	**McQueen's Vall**	**6.06**	**203**	P		Pn	16 18 00.3	-5.6
AKCZ	**Akaroa Harbour**	**6.14**	**201**	P		Pn	16 18 02.1	-4.8
RACZ	**Rakaia**	**6.25**	**206**	P		Pn	16 18 02.8	-5.6
MHCZ	**Mount Hutt**	**6.30**	**211**	P		Pn	16 18 03.8	-5.3
WVZ	**Waitaha Valley**	**6.30**	**218**	P		Pn	16 18 04.0	-5.0
WACZ	**Wakanui South**	**6.55**	**207**	P		Pn	16 18 07.1	-5.1
RPZ	**Rata Peaks**	**6.66**	**212**	P		Pn	16 18 08.7	-5.1
GCSZ	**Gaunt Creek Bo**	**6.68**	**218**	P		Pn	16 18 09.5	-4.5
ARCZ	**Arundel**	**6.80**	**211**	P		Pn	16 18 09.9	-5.7
FOZ	**Fox Glacier**	**7.09**	**219**	P		Pn	16 18 14.3	-5.1
LBZ	**Lake Benmore**	**7.57**	**213**	P		Pn	16 18 20.0	-5.7
ODZ	**Otahua Downs**	**7.93**	**209**	P		Pn	16 18 25.3	-5.1
JCZ	**Jackson Bay**	**8.00**	**220**	P		Pn	16 18 24.4	-7.0
HHSZ	**Highcliff Hill**	**8.67**	**206**	P		Pn	16 18 35.8	-4.3
SYZ	**Scrubby Hill**	**9.76**	**209**	P		Pn	16 18 50.1	-4.1

IDC ***19*** *16:23:51.8±1.5, 32°.47N×47°.89E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.7/35, mbtmp3.8/12, ML3.6/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/38, Error ellipse: s-maj=31.1km s-min=21.3km az=169.0*

NEIC ***19*** *16:23:52.4±1.9, 32°.35N±0°.09×47°.90E±0°.07, h10km±1km, mb4.0/20, Error ellipse: s-maj=16.1km s-min=8.8km az=24.0*

TEH ***19*** *16:23:55.0, 32°.58N×48°.05E, h8km, ML3.7*

THR ***19*** *16:23:55.1±0.5, 32°.53N×47°.85E, h15km±3km, ML3.7*

ISN ***19*** *16:23:55.0±0.5, 32°.49N×47°.82E, h14km±2km, ML3.4*

ISC 19 16:23:53.7±0.5, 32°.36N±0°.05×47°.84E±0°.04, h15km, n89, σ1s81/93, mb3.8/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.85**	**106**	*e*Pg		**Pb**	**16 24 12.1**	**+1.9**
AHWZ	**Ahwaz**	**1.23**	**

comp=Z,0.4nm,0.7s,baz=118,slow=10,SNR=2.6
FIA1 FINESS Array S 32.35 341 P **P** 16 30 22.4 **+0.2**
FINES FINESS Array B 32.35 341 P **P** 16 30 21.6 **-0.6**
comp=Z,4.9nm,1.0s,baz=148,slow=8.2,SNR=9.3
FINES FINESS Array B 32.35 341 P **P** 16 30 22.3 **+0.1**
ZALV Zalesovo Beam 33.98 40 P **P** 16 30 36.5 **0.0**
comp=Z,0.9nm,0.5s,baz=256,slow=7.2,SNR=4.4
ZALV Zalesovo Beam 33.98 40 P **P** 16 30 35.7 **-0.8**
ARC3 ARCESS Array S 39.29 348 P **P** 16 31 20.1 **-1.5**
ARB3 ARCESS Array S 39.29 348 P **P** 16 31 19.5 **-2.0**
ARB3 IAmb IAmb 16 31 21.4
comp=Z,9.6nm,1.1s
ARA2 ARCESS Array S 39.29 348 P **P** 16 31 19.6 **-2.0**
ARA2 IAmb IAmb 16 31 21.4
comp=Z,8.7nm,1.0s
ARCES ARCESS Array B 39.29 348 P **P** 16 31 19.9 **-1.7**
comp=Z,2.1nm,0.9s,baz=156,slow=8.9,SNR=2.2
ESDC Sonseca Array 42.04 295 P **P** 16 31 45.5 **+0.7**
comp=Z,0.3nm,0.5s,baz=79,slow=8.5,SNR=3.4
DSB Dublin 43.69 315 P **P** 16 31 57.0 **-0.8**
TORD Torodi Ar. Bea 46.24 257 P **P** 16 32 19.6 **+1.0**
comp=Z,0.3nm,0.6s,baz=61,slow=7.0,SNR=2.1
SPA0 Spitsbergen Ar 47.93 352 P **P** 16 32 31.5 **+0.5**
SPITS Spitsbergen Ar 47.93 352 P **P** 16 32 31.5 **+0.5**
comp=Z,9.8nm,1.0s,baz=140,slow=10,SNR=6.5
BKB Balikpapan 73.10 103 P P 16 35 20.0 **-3.8**

WEL 19 17:04:28.9±0.9**, 37°S**±5°**×17°7E**±°**, h142**km±8km**, M2.8**/23**, MLv2.8**/23**, Error ellipse: s-maj=0.0km s-min=0.0km az=63.3, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.82**	**151**	P	Pn	17 04 51.5	+0.1
HAZ				S	Sn	17 05 09.7	+1.2
MXZ	**Matakaoa Point**	**0.97**	**123**	P	Pn	17 04 52.6	0.0
MXZ				S	Sn	17 05 11.8	+1.1
RUGZ	**Raukumara Rang**	**0.97**	**161**	P	Pn	17 04 52.2	-0.6
RUGZ				S	Sn	17 05 10.7	-0.4
PKGZ	**Pakihiroa**	**1.05**	**143**	P	Pn	17 04 53.6	+0.2
PKGZ				S	Sn	17 05 12.5	+0.2
WMGZ	**Waiomatatini S**	**1.19**	**131**	P	Pn	17 04 54.4	-0.3
WMGZ				S	Sn	17 05 15.2	+0.8
URZ	**Urewera**	**1.22**	**186**	P	Pn	17 04 55.0	+0.1
URZ				S	Sn	17 05 15.7	+0.8
TWGZ	**Tauwhareparae**	**1.26**	**154**	P	Pn	17 04 55.9	+0.4
TWGZ				S	Sn	17 05 17.0	+1.3
KUZ	**Kuaotunu**	**1.29**	**283**	P	Pn	17 04 55.3	-0.3
PUZ	**Puketiti**	**1.29**	**143**	P	Pn	17 04 55.6	-0.1
PUZ				S	Sn	17 05 16.0	-0.1
MWZ	**Matawai**	**1.30**	**171**	P	Pn	17 04 56.3	+0.4
RAGZ	**Rawiri**	**1.46**	**176**	P	Pn	17 04 58.3	+0.9
MUGZ	**Murupara**	**1.49**	**196**	P	Pn	17 04 57.8	+0.1
TOZ	**Tahuroa Road**	**1.58**	**244**	P	Pn	17 04 59.5	+0.8
RTZ	**Ruatahuna**	**1.59**	**189**	P	Pn	17 04 58.5	-0.5
CNGZ	**Carnagh Statio**	**1.61**	**153**	P	Pn	17 04 59.5	+0.4
GRZ	**Great Barrier**	**1.67**	**298**	P	Pn	17 04 59.3	-0.4
RIGZ	**Rimuhau**	**1.70**	**167**	P	Pn	17 05 00.1	0.0
SNGZ	**Shannon Statio**	**1.74**	**179**	P	Pn	17 05 00.4	-0.1
SNGZ				S	Sn	17 05 25.1	+0.3
WIAZ	**Waiheke Island**	**1.74**	**278**	P	Pn	17 05 00.8	+0.3
MTHZ	**Maungataniwha**	**1.84**	**191**	P	Pn	17 05 02.2	+0.4
RAHZ	**Arahi**	**1.88**	**185**	P	Pn	17 05 01.7	-0.5
ETAZ	**East Tamaki Re**	**1.89**	**272**	P	Pn	17 05 03.0	+0.8
MRHZ	**Matea Rd**	**1.92**	**201**	P	Pn	17 05 02.6	0.0
PRGZ	**Paritu Road**	**1.94**	**166**	P	Pn	17 05 03.2	+0.3
KNZ	**Kokohu**	**2.00**	**171**	P	Pn	17 05 03.0	-0.5
WHHZ	**Waihua**	**2.03**	**181**	P	Pn	17 05 04.1	+0.2
WHHZ				S	Sn	17 05 30.9	0.0
NMHZ	**Naumai**	**2.09**	**190**	P	Pn	17 05 05.7	+1.0
MHGZ	**Mahia Peninsul**	**2.16**	**167**	P	Pn	17 05 05.3	-0.2
RVAZ	**Riverhead Bore**	**2.18**	**276**	P	Pn	17 05 05.3	-0.5
BKZ	**Black Stump Fm**	**2.21**	**196**	P	Pn	17 05 05.2	-0.9
ARHZ	**Aropaoanui**	**2.23**	**186**	P	Pn	17 05 06.0	-0.3
ARHZ				S	Sn	17 05 35.4	+0.3
HIZ	**Hauiti**	**2.42**	**232**	P	Pn	17 05 09.8	+1.2
KRVZ	**Karewarewa**	**2.42**	**212**	P	Pn	17 05 10.3	+1.5
MCHZ	**McNeill Hill**	**2.44**	**191**	P	Pn	17 05 08.8	-0.1
MCHZ				S	Sn	17 05 39.7	0.0
WTVZ	**West Tongariro**	**2.46**	**212**	P	Pn	17 05 10.0	+0.7
KWHZ	**Kaweka Forest**	**2.47**	**196**	P	Pn	17 05 08.7	-0.6
OTVZ	**Oturere**	**2.47**	**211**	P	Pn	17 05 09.6	+0.2
TWVZ	**Taurewa**	**2.49**	**215**	P	Pn	17 05 10.0	+0.3
NGZ	**Ngauruhoe**	**2.51**	**211**	P	Pn	17 05 10.9	+1.0
TUVZ	**Tukino**	**2.57**	**210**	P	Pn	17 05 10.5	-0.1
FWVZ	**Far West T-bar**	**2.60**	**211**	P	Pn	17 05 11.1	+0.1
WCZ	**Waipu Caves**	**2.61**	**294**	P	Pn	17 05 10.3	-0.7
CKHZ	**Cape Kidnapper**	**2.62**	**183**	P	Pn	17 05 10.1	-1.0
BHHZ	**Black Hill Sta**	**2.62**	**201**	P	Pn	17 05 10.1	-1.1
WNVZ	**Wahianoa**	**2.64**	**210**	P	Pn	17 05 11.5	-0.1
MOVZ	**Moawhango**	**2.65**	**207**	P	Pn	17 05 10.4	-1.2
KRHZ	**Kereru**	**2.69**	**195**	P	Pn	17 05 10.6	-1.5
PKVZ	**Pokaka**	**2.71**	**214**	P	Pn	17 05 12.4	0.0
KAHZ	**Kahuranaki**	**2.77**	**186**	P	Pn	17 05 11.8	-1.2
PNHZ	**Pukenui**	**2.99**	**196**	P	Pn	17 05 13.0	-1.9
PXZ	**Pawanui**	**3.00**	**186**	P	Pn	17 05 14.3	-1.6
WPHZ	**Waipukurau**	**3.09**	**192**	P	Pn	17 05 15.3	-1.8
TSZ	**Takapari Road**	**3.19**	**199**	P	Pn	17 05 16.1	-2.2
PRHZ	**Porangahau**	**3.26**	**189**	P	Pn	17 05 17.5	-1.8
DVHZ	**Dannevirke**	**3.37**	**195**	P	Pn	17 05 18.2	-2.5
POWZ	**Post Office Ro**	**3.55**	**199**	P	Pn	17 05 21.2	-1.8
BFZ	**Birch Farm**	**3.72**	**192**	P	Pn	17 05 22.2	-3.0
MRZ	**Mangatainoka R**	**3.85**	**200**	P	Pn	17 05 23.8	-3.1
TIWZ	**Tintock**	**3.88**	**196**	P	Pn	17 05 24.6	-2.8
CPWZ	**Castlepoint**	**3.95**	**192**	P	Pn	17 05 25.7	-2.6
HOWZ	**Holdsworth Sta**	**4.09**	**199**	P	Pn	17 05 26.5	-3.6
OGWZ	**Otaki Gorge**	**4.11**	**203**	P	Pn	17 05 27.0	-3.4
TMWZ	**Te Maipa**	**4.20**	**195**	P	Pn	17 05 27.9	-3.6
KIW	**Kapiti Island**	**4.24**	**205**	P	Pn	17 05 28.5	-3.6
DUWZ	**D'Urville Isla**	**4.58**	**214**	P	Pn	17 05 33.6	-3.0
WEL	**Wellington**	**4.67**	**204**	P	Pn	17 05 34.7	-3.0
TCW	**Tory Channel**	**4.77**	**208**	P	Pn	17 05 35.4	-3.7
PLWZ	**Palliser**	**4.79**	**199**	P	Pn	17 05 34.9	-4.4
TUWZ	**Tuamarina**	**5.09**	**210**	P	Pn	17 05 39.3	-4.0
NNZ	**Nelson**	**5.16**	**215**	P	Pn	17 05 40.5	-3.6
THZ	**Tophouse**	**5.80**	**214**	P	Pn	17 05 48.8	-4.2
KHZ	**Kahutara**	**6.09**	**207**	P	Pn	17 05 52.1	-4.5
GVZ	**Greta Valley S**	**6.76**	**208**	P	Pn	17 06 00.6	-5.0

*IDC **19** 17:20:54.6±0.8, 32°43N×47°94E, h0km, mb3.9/17, mb1 4.0/24, mb1mx3.8/44, mbtmp3.9/24, ML3.8/7, MS3.0/7, Ms1 3.0/7, ms1mx2.7/43, Error ellipse: s-maj=19.0km s-min=13.1km az=173.0*
*TEH **19** 17:20:57.7, 32°53N×47°98E, h12km, ML4.1*
*NEIC **19** 17:20:58.7±2.6, 32°37N±0°10×47°94E±0°08, h36km±13km, Error ellipse: s-maj=14.7km s-min=8.1km az=203.0*
*THR **19** 17:20:58.1±0.4, 32°52N×47°97E, h14km±3km, ML4.1*
*OMAN **19** 17:21:04.7±0.5, 32°31N×48°63E, h40km±63km, mb5.2/8, Error ellipse: s-maj=13.6km s-min=4.3km az=293.0*

ISC 19 17:20:56.7±0.5**, 32°41N**±0°04×**47°95E**±0°04**, h15**km**, n139, **σ2$14**/152**, mb4.0**/20**, 10C-8D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.79**	**112**	*e*Pg	**Pb**	**17 21 13.4**	**+1.4**
SHGR	**Shooshtar-Gavs**	**0.79**	**112**	*e*Pg	**Pb**	**17 21 13.4**	**+1.4**
IKMR	**Kamar-syah**	**1.16**	**18**	*e*Pg	**Pb**	**17 21 16.7**	**-1.8**
IKMR				*e*		17 21 38.7	
AHWZ	**Ahwaz**	**1.23**	**151**	*e*Pg	**Pb**	**17 21 21.5**	**+1.9**
AHWZ				*e*Sg	**Sg**	**17 21 42.4**	**+5.9**
IDOB	**Doab**	**1.39**	**8**	*e*Pg	**Pn**	**17 21 21.0**	**-0.7**
BMDN	**Meydan**	**1.46**	**30**	*e*Pg	**Pn**	**17 21 22.8**	**+0.1**
BMDN				*e*		17 21 51.6	
IKOM	**Komasi**	**1.80**	**348**	*e*Pg	**Pn**	**17 21 29.3**	**+2.0**
IKOM				*e*		17 22 02.9	
HSAM	**Samen**	**1.88**	**17**	*e*Pg	**Pn**	**17 21 30.6**	**+2.1**
HSAM				*e*		17 22 07.1	
KCHF	**Cheshme Sefid,**	**2.01**	**338**	*e*Pg	**Pb**	**17 21 34.1**	**+1.1**
KCHF				*e*		17 22 08.0	
IBZA	**Bozab**	**2.06**	**358**	*e*Pg	**Pb**	**17 21 34.3**	**+0.4**
IBZA				*e*		17 22 07.5	
KER	**Kermanshah**	**2.08**	**341**	*e*Pn	**Pn**	**17 21 33.1**	**+1.9**
KHMZ	**Khomeyn**	**2.15**	**51**	*e*Pn	**Pn**	**17 21 34.5**	**+2.3**
KHMZ				*e*Sg	**Sb**	**17 22 03.6**	**+1.6**
KHMZ	**Khomeyn**	**2.15**	**51**	*e*Pn	**Pn**	**17 21 34.5**	**+2.3**
IGHG	**Ghaleghazi**	**2.23**	**329**	*e*Pn	**Pn**	**17 21 34.9**	**+1.5**
IGHG				*e*		17 22 20.7	
IVIS	**Veis**	**2.30**	**337**	*e*Pn	**Pn**	**17 21 36.0**	**+1.8**
IVIS				*e*		17 22 16.9	
JHBN	**Jahan bin**	**2.31**	**94**	*e*Pn	**Pn**	**17 21 36.9**	**+2.4**
JHBN				*e*		17 22 26.7	
IPIR	**Pirpir**	**2.50**	**83**	*e*Pn	**Pn**	**17 21 39.2**	**+2.0**
IPIR				*e*		17 22 25.5	
HAGD	**Aghdareh**	**2.60**	**22**	*e*Pn	**Pn**	**17 21 40.7**	**+2.2**
HAGD				*e*		17 22 27.0	
ROKH	**ROKH**	**2.62**	**91**	*e*Pn	**Pn**	**17 21 40.7**	**+2.1**
ROKH				*e*		17 22 22.9	
IDHR	**Dehrash**	**2.63**	**331**	*e*Pn	**Pn**	**17 21 40.8**	**+2.0**
IDHR				*e*		17 22 25.3	
SNGE	**Sanandaj**	**2.72**	**350**	*e*Pn	**Pn**	**17 21 42.1**	**+2.1**
SNGE				*e*Sg	**Sb**	**17 22 20.3**	**+1.8**
SNGE				IAML		17 22 32.1	
	comp=N,520nm,0.7s						
SNGE	**Sanandaj**	**2.72**	**350**	*e*Pn	**Pn**	**17 21 42.2**	**+2.1**
ASAO	**Ashtian**	**2.75**	**39**	*e*Pn	**Pn**	**17 21 42.7**	**+2.2**
ASAO	**Ashtian**	**2.75**	**39**	*e*Pn	**Pn**	**17 21 42.7**	**+2.2**
HSRG	**Sareghieh**	**2.84**	**6**	*e*Pn	**Pn**	**17 21 42.5**	**+0.7**
HSRG				*e*		17 21 52.3	
IKLH	**Kolahrood**	**3.19**	**73**	*e*Pn	**Pn**	**17 21 49.1**	**+2.5**
IKLH				*e*		17 22 45.6	
KLNJ	**Kolanjah**	**3.41**	**113**	*e*Pn	**Pn**	**17 21 51.7**	**+2.0**
KLNJ				*e*		17 23 04.2	
IGAR	**Gharneh**	**3.46**	**89**	*e*Pn	**Pn**	**17 21 52.4**	**+2.1**
GHVR	**GHOM**	**3.48**	**53**	*e*Pn	**Pn**	**17 21 52.5**	**+2.1**
GHVR				*e*Sg	**Sb**	**17 22 42.6**	**+2.5**
GHVR	**GHOM**	**3.48**	**53**	*e*Pn	**Pn**	**17 21 52.5**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.56**	**22**	*e*Pn	**Pn**	**17 21 53.5**	**+1.9**
IQOM	**Qom**	**3.56**	**46**	*e*Pn	**Pn**	**17 21 53.9**	**+2.2**
IZEF	**Zefreh**	**3.73**	**81**	*e*Pn	**Pn**	**17 21 56.4**	**+2.4**
IRAM	**Ramesheh**	**3.81**	**98**	*e*Pn	**Pn**	**17 21 56.5**	**+1.4**
KRSH	**Karshahi**	**3.84**	**65**	*e*Pn	**Pn**	**17 21 57.7**	**+2.2**
IVRN	**Varamin**	**4.07**	**50**	*e*Pn	**Pn**	**17 22 00.6**	**+2.1**
IHSB	**Hasanabad**	**4.10**	**42**	*e*Pn	**Pn**	**17 22 00.6**	**+1.7**
QSDN	**Sirdan**	**4.21**	**14**	*e*Pn	**Pn**	**17 22 03.0**	**+2.5**
QALM	**Alamut, Qazvin**	**4.59**	**28**	*e*Pn	**Pn**	**17 22 07.8**	**+2.0**
IDMV	**Damavand**	**4.64**	**46**	*e*Pn	**Pn**	**17 22 08.2**	**+1.7**
ISAD	**Sadrabad**	**4.89**	**94**	*e*Pn	**Pn**	**17 22 11.9**	**+1.9**
ANAR	**Anarak**	**4.93**	**79**	*e*Pn	**Pn**	**17 22 12.0**	**+1.6**
ILAS	**Lasjerd**	**5.12**	**53**	*e*Pn	**Pn**	**17 22 14.9**	**+1.9**
IPRN	**Peran**	**5.27**	**42**	*e*Pn	**Pn**	**17 22 17.8**	**+2.7**
ISRB	**Sarab**	**5.41**	**358**	*e*Pn	**Pn**	**17 22 18.9**	**+1.9**
IALA	**Alasht**	**5.45**	**46**	*e*Pn	**Pn**	**17 22 19.2**	**+1.6**
ICHK	**Chekchek**	**5.47**	**90**	*e*Pn	**Pn**	**17 22 19.1**	**+1.2**
IAZR	**Azarshahr**	**5.50**	**344**	*e*Pn	**Pn**	**17 22 20.2**	**+1.9**
ISHM	**Shahmirzad**	**5.58**	**51**	*e*Pn	**Pn**	**17 22 21.1**	**+1.7**
IMEH	**Mehriz**	**5.76**	**98**	*e*Pn	**Pn**	**17 22 23.2**	**+1.3**
IANJ	**Anjilo**	**5.82**	**57**	*e*Pn	**Pn**	**17 22 23.7**	**+1.0**
IBAF	**Bafgh**	**6.53**	**95**	*e*Pn	**Pn**	**17 22 33.9**	**+1.6**
GEVA	**Gevas**	**7.11**	**327**	Pn	**Pn**	**17 22 40.8**	**+0.5**
TPRV	**Parvadeh(Tabas**	**7.39**	**83**	*e*Pn	**Pn**	**17 22 46.1**	**+1.9**
TNSJ	**Nastanj**	**7.43**	**76**	*e*Pn	**Pn**	**17 22 46.3**	**+1.7**
MARD	**Mardin**	**7.65**	**312**	Pn	**Pn**	**17 22 47.9**	**+0.1**
TKDS	**Koohdasht(Taba**	**7.80**	**79**	*e*Pn	**Pn**	**17 22 51.4**	**+1.6**
SBZV	**Sabzevar**	**8.92**	**61**	*e*Pn	**Pn**	**17 23 07.1**	**+1.9**
ASF	**Jabal al Asfar**	**9.36**	**271**	Pn	**Pn**	**17 23 11.0**	**-0.1**
	comp=N,1.3nm,0.3s,baz=12,slow=4.0,SNR=9.2						
ASF				Sn	**Sn**	**17 24 51.0**	**-5.1**
	comp=N,0.3nm,0.3s,baz=270,slow=20,SNR=1.5						
ASF				Lg	Lg	17 25 58.0	
	comp=N,0.2nm,0.3s,baz=260,slow=22,SNR=1.4						
AFRZ	**Afriz**	**9.36**	**81**	*e*Pn	**Pn**	**17 23 13.0**	**+1.8**
BANOM	**Banah**	**9.75**	**129**	P	**Pn**	**17 23 16.6**	**+0.1**
	SNR=16						
BANOM				S	**Sn**	**17 24 59.9**	**-5.9**
GEYT	**Alibeck**	**9.98**	**54**	Pn	**Pn**	**17 23 20.8**	**+1.2**
	comp=N,0.3nm,0.3s,baz=272,slow=40,SNR=2.2						
GEYT				LR	LR	17 27 13.5	
	comp=N,71nm,19.0s,baz=20,slow=38						
ASUD	**Al Ashush, Dub**	**10.11**	**138**	P	**Pn**	**17 23 23.5**	**+2.1**
	SNR=5.5						
ASUD				S	**Sn**	**17 25 13.3**	**-1.3**
MDH	**Madha**	**10.19**	**132**	P	**Pn**	**17 23 23.8**	**+1.3**
MDH				S	**Sn**	**17 25 10.8**	**-5.6**
UOSS	**Minazif**	**10.38**	**134**	P	**Pn**	**17 23 25.1**	**-0.1**
UOSS				S	**Sn**	**17 25 14.8**	**-6.5**
UOSS	**Minazif**	**10.38**	**134**	Pn	**Pn**	**17 23 24.3**	**-0.8**
MMAI	**Mount Meron Ar**	**10.58**	**277**	Pn	**Pn**	**17 23 29.2**	**+1.3**
	comp=N,0.6nm,0.3s,baz=257,slow=41,SNR=1.9						
MMAI				LR	LR	17 28 30.6	
	comp=N,32nm,20.4s,baz=90,slow=43						
SOHO	**SOHO**	**11.19**	**135**	P	**Pn**	**17 23 35.3**	**-0.8**
SOHO				S	**Sn**	**17 25 35.9**	**-5.0**
ARQ	**Araqi**	**11.79**	**138**	P	**Pn**	**17 23 44.5**	**+0.1**
	SNR=7.3						
ARQ				S	**Sn**	**17 25 53.9**	**-2.0**
KBZ	**Khabaz**	**11.97**	**342**	LR	LR	17 29 01.4	
	comp=N,63nm,21.6s,baz=154,slow=41						
BSY	**Bisya**	**12.64**	**137**	P	**Pn**	**17 23 55.9**	**-0.2**
BSY				S	**Sn**	**17 26 10.5**	**-6.2**
SMDO	**Samad**	**12.91**	**134**	P	**Pn**	**17 23 59.6**	**-0.2**
SMDO				S	**Sn**	**17 26 16.4**	**-6.9**
WSAR	**Wadi Sarin**	**13.14**	**131**	Pn	**Pn**	**17 24 01.6**	**-1.2**
	comp=N,1.3nm,0.3s,baz=313,slow=12,SNR=17						
WSAR				Sn	Sn	17 26 20.0	-8.8
	comp=N,0.4nm,0.3s,baz=334,slow=18,SNR=1.9						
WSAR				LR	LR	17 30 07.6	
	comp=N,122nm,18.9s,baz=306,slow=42						
WSAR	**Wadi Sarin**	**13.14**	**131**	P	**Pn**	**17 24 01.9**	**-0.9**
WSAR				S	**Sn**	**17 26 22.4**	**-6.4**
BRTR	**Keskin Array B**	**13.67**	**306**	Pn	**Pn**	**17 24 12.5**	**+2.4**
	comp=N,0.2nm,0.3s,baz=307,slow=37,SNR=2.2						
BRTR				LR	LR	17 29 57.4	
	comp=N,24nm,19.3s,baz=114,slow=40						
ANTO	**Ankara**	**14.32**	**306**	P	**Pn**	**17 24 25.3**	**-0.7**
JLN	**Jalan Bani Buh**	**14.42**	**132**	P	**Pn**	**17 24 20.2**	**-0.2**
MHTO	**MHTO**	**14.47**	**139**	P	**Pn**	**17 24 21.7**	**+0.7**
	SNR=6.5						
MHTO				S	Sn	17 26 52.8	-8.4
ABKAR	**Akbulak array**	**19.08**	**25**	P	**P**	**17 25 16.9**	**-1.6**
ABKAR	**Akbulak array**	**19.08**	**25**		**P**	**17 25 20.0**	**+1.5**
GAR	**Garm**	**19.30**	**64**		**P**	**17 25 17.9**	**-3.3**
GAR				IAmb	IAmb	17 25 29.1	
	comp=Z,10nm,1.0s						
IDI	**Anoyia**	**19.36**	**285**	P	**P**	**17 25 23.1**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=101,slow=19,SNR=1.4						
IDI	**Anoyia**	**19.36**	**285**	P	**P**	**17 25 23.7**	**+1.9**
AKTO	**Aktyubinsk**	**19.50**	**20**	P	**P**	**17 25 22.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=5.9						
TPGR	**Topolog**	**19.61**	**315**	⇓P	**Pn**	**17 25 26.8**	**+1.0**
BTK	**Batken**	**19.93**	**61**	P	**P**	**17 25 26.7**	**-1.4**
BTK				IAmb	IAmb	17 25 36.7	
	comp=Z,14nm,1.2s						
CFR	**Carcaliu**	**19.96**	**315**	⇓P	**P**	**17 25 29.9**	**+1.8**
RAZG	**Razgrad**	**20.18**	**310**	⇑P	**P**	**17 25 32.9**	**+2.3**
KK31	**Karatay Array**	**20.73**	**53**	P	**P**	**17 25 36.5**	**-0.1**
KK31				IAmb	IAmb	17 25 45.0	
	comp=Z,7.2nm,0.9s						
KKAR	**Karatay Array**	**20.73**	**53**	P	**P**	**17 25 38.0**	**+1.4**
SOCY	**Socotra**	**20.88**	**163**	P	**P**	**17 25 35.5**	**-3.0**
SOCY				IAmb	IAmb	17 25 41.6	
	comp=Z,19nm,1.3s						
VRI	**Vrincioaia**	**21.16**	**316**	⇑P	**P**	**17 25 42.7**	**+1.4**
NEHR	**Nehoiu**	**21.20**	**314**	⇓P	**P**	**17 25 43.8**	**+2.2**
PLOR	**Plostina**	**21.20**	**315**	⇑P	**P**	**17 25 43.4**	**+1.7**
MLR	**Muntele Rosu**	**21.44**	**314**	P	**P**	**17 25 44.6**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=148,slow=14,SNR=4.1						
MLR				LR	LR	17 34 36.6	
	comp=Z,74nm,18.5s,baz=3.0,slow=38						
MLR	**Muntele Rosu**	**21.44**	**314**	⇑P	**P**	**17 25 45.8**	**+1.5**
MLR	**Muntele Rosu**	**21.44**	**314**	P	**P**	**17 25 45.0**	**+0.6**
MLR				IAmb	IAmb	17 25 56.1	
	comp=Z,11nm,1.0s						
TESR	**Tescani**	**21.56**	**317**	⇑P	**P**	**17 25 47.1**	**+1.6**
SORM	**Soroca**	**21.59**	**322**	⇑P	**P**	**17 25 44.7**	**-1.0**
ITM	**Ithomi**	**21.86**	**290**	P	**P**	**17 25 49.0**	**+0.2**
VOIR		**21.96**	**313**	⇑P	**P**	**17 25 51.7**	**+1.8**
DOPR	**Dopca**	**22.02**	**314**	⇑P	**P**	**17 25 51.7**	**+1.2**
BIZ	**Bicaz**	**22.10**	**317**	⇓P	**P**	**17 25 52.0**	**+0.7**
ARR	**Arges**	**22.19**	**312**	⇓P	**P**	**17 25 54.4**	**+2.1**
AKASG	**Malin Array Be**	**22.91**	**328**	P	**P**	**17 25 58.2**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=135,slow=8.6,SNR=9.2						
AKASG	**Malin Array Be**	**22.91**	**328**	P	**P**	**17 25 56.1**	**-3.8**
AKBB	**Malin Array Si**	**22.91**	**328**	P	**P**	**17 25 57.8**	**-2.1**
AKBB				IAmb	IAmb	17 26 04.8	
	comp=Z,9.8nm,1.2s						
BURAR	**Bucovina Array**	**22.98**	**318**	⇓P	**P**	**17 26 00.7**	**0.0**
BURAR	**Bucovina Array**	**22.98**	**318**	P	**P**	**17 26 01.1**	**+0.3**
GZR	**Gura Zlata**	**23.38**	**311**	⇓P	**P**	**17 26 04.6**	**-0.1**
HERR	**Herculane**	**23.40**	**310**	⇑P	**P**	**17 26 05.9**	**+1.0**
MDVR	**Moldovita**	**23.82**	**309**	⇑P	**P**	**17 26 09.7**	**+0.6**
SIRR	**Siria**	**24.45**	**312**	⇓P	**P**	**17 26 15.1**	**+0.2**
ARU	**Arti**	**25.12**	**14**	P	**P**	**17 26 21.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=209,slow=5.7,SNR=8.9						
KOLS	**Kolonicke sedl**	**25.35**	**318**	*e*P	**P**	**17 26 23.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**25.79**	**317**	*e*P	**P**	**17 26 29.6**	**+2.6**
BVAR	**Borovoye Array**	**26.19**	**32**	P	**P**	**17 26 30.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=217,slow=26,SNR=11						
LANS	**Liptovska Anna**	**27.06**	**317**	*e*P	**P**	**17 26 40.1**	**+1.6**
VYHS	**Vyhne**	**27.14**	**315**	*e*P	**P**	**17 26 41.7**	**+2.5**
SGRT	**San Giovanni R**	**27.20**	**299**	P	**P**	**17 26 38.1**	**-1.8**
KURBB	**Kurchatov Arra**	**28.95**	**42**	P	**P**	**17 26 55.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=246,slow=9.3,SNR=8.7						
MK31	**Makanchi Array**	**29.84**	**51**	P	**P**	**17 27 04.2**	**+0.9**
MK31				IAmb	IAmb	17 27 05.1	
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**29.84**	**51**	P	**P**	**17 27 04.2**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=247,slow=8.0,SNR=18						
MKAR	**Makanchi Array**	**29.84**	**51**	P	**P**	**17 27 03.8**	**+0.5**
GERES	**GERESS Array B**	**30.42**	**313**	P	**P**	**17 27 09.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=97,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**30.42**	**313**	P	**P**	**17 27 06.0**	**-2.5**
FINES	**FINESS Array B**	**32.33**	**340**	P	**P**	**17 27 24.7**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=145,slow=9.2,SNR=13						
FINES	**FINESS Array B**	**32.33**	**340**	P	**P**	**17 27 24.5**	**-0.4**
ZALV	**Zalesovo Beam**	**33.88**	**40**	P	**P**	**17 27 38.7**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=239,slow=8.6,SNR=9.6						
ZALV	**Zalesovo Beam**	**33.88**	**40**	P	**P**	**17 27 37.8**	**-0.8**
NOA	**NORSAR Array B**	**37.26**	**331**	P	**P**	**17 28 06.8**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=252,slow=17,SNR=1.9						
ARCES	**ARCESS Array B**	**39.26**	**348**	P	**P**	**17 28 24.0**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=156,slow=9.3,SNR=5.1						
ESDC	**Sonseca Array**	**42.10**	**295**	P	**P**	**17 28 47.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=77,slow=8.0,SNR=8.7						
GTA	**Gaotai**	**42.11**	**65**	*e*P	**P**	**17 28 49.4**	**+1.0**
GTA				pP	pP	17 28 53.1	0.0
G

TIR				S	Sg	17 30 36.6	+0.5	
	baz=283							
TIR				AMP				
	comp=N,2.3nm,0.2s,baz=283							
SKO	**Skopje**	**0.88**	**27**	*e*Pg	**Pb**	**17 30 28.2**	**-0.1**	
SKO				*e*Sg	**Sb**	**17 30 40.7**	**+0.4**	
SKO	**Skopje**	**0.88**	**27**	*i* Pg	**Pb**	**17 30 28.1**	**-0.1**	
SKO				*i* Sg	**Sb**	**17 30 41.1**	**+0.7**	
SKO				*e*Lg	Lg	17 30 43.7		
	comp=N,56nm,0.3s							
SKO	**Skopje**	**0.88**	**27**	P	**Pb**	**17 30 28.1**	**-0.1**	
	baz=28							
SKO				S	**Sb**	**17 30 41.0**	**+0.7**	
	baz=28							
PENT	**Pentalofos**	**1.01**	**170**	P	**Pg**	**17 30 29.8**	**0.0**	
PENT				S	**Sb**	**17 30 43.8**	**-0.1**	
	comp=N,970nm,0.4s							
PENT	**Pentalofos**	**1.01**	**170**	P	**Pg**	**17 30 29.6**	**-0.3**	
PENT				S	**Sb**	**17 30 43.8**	**-0.1**	
PENT				AML	AML	17 30 48.8		
	comp=E,1836µm,0.3s							
PENT				AML	AML	17 30 49.9		
	comp=N,2169µm,0.6s							
LSK	**Leskovik**	**1.06**	**193**	P	**Pg**	**17 30 30.4**	**-0.5**	
	baz=192							
LSK				S	**Sn**	**17 30 46.2**	**-0.9**	
	baz=192							
KZN	**Kozani**	**1.10**	**143**	P	**Pg**	**17 30 31.1**	**-0.5**	
KZN				S	**Sn**	**17 30 48.4**	**+0.4**	
	comp=N,2µm,0.5s							
KZN	**Kozani**	**1.10**	**143**	P	**Pg**	**17 30 30.8**	**-0.9**	
KZN				AML	AML	17 30 52.4		
	comp=N,2175µm,0.5s							
KZN				AML	AML	17 30 52.6		
	comp=E,4378µm,0.5s							
PUK	**Puka**	**1.14**	**319**	P	**Pg**	**17 30 31.6**	**-0.9**	
	baz=320							
PUK				S	**Sn**	**17 30 48.7**	**-0.5**	
	baz=320							
PUK				AMP				
	comp=N,2.9nm,0.4s,baz=320							
VAY	**Valandovo**	**1.27**	**83**	*e*Pg	**Pn**	**17 30 34.5**	**-0.2**	
VAY				*e*Sg	**Sn**	**17 30 53.0**	**+1.0**	
VAY	**Valandovo**	**1.27**	**83**	⇓⇑*i*Pg	**Pn**	**17 30 34.5**	**-0.2**	
VAY				*i* Sg	**Sn**	**17 30 53.5**	**+1.5**	
VAY				*e*Lg	Lg	17 30 55.1		
	comp=E,252nm,0.3s							
BCI	**Bajram Curri**	**1.33**	**332**	P	**Pn**	**17 30 35.5**	**-0.2**	
	baz=334							
BCI				S	**Sn**	**17 30 54.7**	**+0.9**	
	baz=334							
ULC	**Ulcinj**	**1.47**	**303**	⇑*i*Pg	**Pn**	**17 30 37.3**	**-0.2**	
ULC				*i* Sg	**Sg**	**17 31 00.3**	**+2.7**	
SRN	**Sarande**	**1.47**	**208**	P	**Pb**	**17 30 38.1**	**-0.2**	
	baz=207							
SRN				S	**Sg**	**17 30 59.4**	**+1.6**	
	baz=207							
KNT	**Kendrikon**	**1.51**	**90**	P	**Pb**	**17 30 38.6**	**-0.3**	
KNT				S	**Sg**	**17 30 59.2**	**+0.2**	
	comp=E,168nm,0.4s							
KNT	**Kendrikon**	**1.51**	**90**	P	**Pb**	**17 30 38.4**	**-0.5**	
KNT				AML	AML	17 31 05.3		
	comp=N,407µm,0.5s							
KNT				AML	AML	17 31 07.5		
	comp=E,260µm,0.4s							
JAN	**Janina**	**1.53**	**181**	P	**Pb**	**17 30 39.1**	**-0.2**	
JAN				S	**Sg**	**17 31 00.9**	**+1.3**	
	comp=E,692nm,1.0s							
JAN	**Janina**	**1.53**	**181**	P	**Pb**	**17 30 38.8**	**-0.5**	
JAN				AML	AML	17 31 10.7		
	comp=N,1326µm,0.7s							
JAN				AML	AML	17 31 10.9		
	comp=E,1444µm,0.9s							
PVY	**Plav**	**1.57**	**334**	*e*Pg	**Pn**	**17 30 39.0**	**-0.1**	
PVY				*i* Sg	**Sg**	**17 31 03.4**	**+2.3**	
LIT	**Litokhoron**	**1.62**	**131**	P	**Pn**	**17 30 40.1**	**+0.4**	
LIT				S	**Sg**	**17 31 02.1**	**-0.6**	
	comp=E,398nm,0.6s							
LIT	**Litokhoron**	**1.62**	**131**	P	**Pn**	**17 30 40.1**	**+0.4**	
LIT				AML	AML	17 31 08.7		
	comp=N,737µm,0.5s							
LIT				AML	AML	17 31 12.6		
	comp=E,843µm,0.7s							
DRME	**Dracevica, Mon**	**1.63**	**308**	*e*Pn	**Pb**	**17 30 40.3**	**-0.7**	
DRME				*i* Sn	**Sg**	**17 31 05.3**	**+2.4**	
DRME	**Dracevica, Mon**	**1.63**	**308**	*e*Pn	**Pb**	**17 30 40.5**	**-0.5**	
THE	**Thessaloniki**	**1.66**	**109**	P	**Pn**	**17 30 40.3**	**+0.2**	
THE	**Thessaloniki**	**1.66**	**109**	P	**Pn**	**17 30 40.3**	**+0.2**	
KEK	**Kerkira**	**1.69**	**210**	P	**Pb**	**17 30 41.6**	**-0.5**	
KEK	**Kerkira**	**1.69**	**210**	P	**Pb**	**17 30 41.6**	**-0.5**	
KEK				AML	AML	17 31 06.5		
	comp=N,491µm,0.8s							
KEK				AML	AML	17 31 07.4		
	comp=E,506µm,0.4s							
IGT	**Igoumenitsa**	**1.71**	**195**	P	**Pb**	**17 30 42.3**	**0.0**	
IGT				S	**Sg**	**17 31 05.3**	**-0.1**	
	comp=E,425nm,0.6s							
IGT	**Igoumenitsa**	**1.71**	**195**	P	**Pb**	**17 30 42.3**	**0.0**	
IGT				AML	AML	17 31 08.3		
	comp=N,726µm,0.6s							
IGT				AML	AML	17 31 08.6		
	comp=E,977µm,0.7s							
IGT	**Igoumenitsa**	**1.71**	**195**	P	**Pb**	**17 30 42.3**	**0.0**	
	baz=194							
IGT				S	**Sg**	**17 31 07.0**	**+1.6**	
	baz=194							
PDG	**Podgorica**	**1.75**	**316**	*e*Pn	**Pb**	**17 30 42.9**	**-0.1**	
PDG				*e*Sg	**Sg**	**17 31 09.5**	**+2.8**	
PDG	**Podgorica**	**1.75**	**316**	⇑P	**Pb**	**17 30 42.5**	**-0.5**	
PDG	**Podgorica**	**1.75**	**316**	⇑S	**Sg**	**17 31 06.8**	**+0.1**	
PDG	**Podgorica**	**1.75**	**316**	*e*Pn	**Pb**	**17 30 42.9**	**-0.1**	
TTG	**Podgorica**	**1.75**	**316**	*e*Pn	**Pb**	**17 30 42.4**	**-0.5**	
TTG				*i* Sn	**Sg**	**17 31 08.1**	**+1.4**	
BOSS	**Bosilegrad**	**1.76**	**42**	*e*Pg	**Pb**	**17 30 42.8**	**-0.5**	
BOSS				*e*Sg	**Sg**	**17 31 08.3**	**+1.1**	
HORT	**Hortiatis**	**1.77**	**109**	P	**Pn**	**17 30 41.9**	**+0.2**	
HORT	**Hortiatis**	**1.77**	**109**	P	**Pn**	**17 30 41.9**	**+0.2**	
THL	**Klokotos Trika**	**1.83**	**152**	P	**Pn**	**17 30 42.2**	**-0.3**	
THL	**Klokotos Trika**	**1.83**	**152**	P	**Pn**	**17 30 42.2**	**-0.3**	
THL				AML	AML	17 31 13.7		
	comp=E,378µm,0.3s							
THL				AML	AML	17 31 16.7		
	comp=N,567µm,0.7s							
IVA	**Berane**	**1.84**	**336**	⇑*i*Pn	**Pb**	**17 30 43.7**	**-1.0**	
IVA				*i* Sn	**Sg**	**17 31 10.2**	**+0.4**	
BUM	**Brajici-Budva**	**1.87**	**307**	⇓*i*Pn	**Pb**	**17 30 44.2**	**-0.9**	
BUM				*i* Sn	**Sg**	**17 31 11.1**	**+0.5**	
SOH	**Sokhos**	**1.89**	**100**	P	**Pn**	**17 30 44.1**	**+0.7**	
SOH	**Sokhos**	**1.89**	**100**	P	**Pn**	**17 30 44.1**	**+0.7**	
SOH				AML	AML	17 31 19.3		
	comp=E,640µm,0.5s							
SOH				AML	AML	17 31 20.8		
	comp=N,410µm,0.4s							
KOME	**Kolasin**	**1.96**	**329**	⇓*i*Pn	**Pb**	**17 30 45.3**	**-1.3**	
KOME				*i* Sn	**Sg**	**17 31 12.9**	**-0.5**	
CEME	**Cevo**	**2.01**	**313**	*e*Pn	**Pb**	**17 30 46.1**	**-1.4**	
CEME				*i* Sn	**Sg**	**17 31 14.4**	**-0.7**	
SRS	**Serrai**	**2.03**	**91**	P	**Pn**	**17 30 46.0**	**+0.7**	
SRS	**Serrai**	**2.03**	**91**	P	**Pn**	**17 30 46.0**	**+0.7**	
SELS	**Selova**	**2.04**	**4**	*e*Pn	**Pn**	**17 30 45.7**	**+0.3**	
PLG	**Polygyros**	**2.10**	**112**	P	**Pn**	**17 30 46.5**	**+0.3**	
PLG	**Polygyros**	**2.10**	**112**	P	**Pn**	**17 30 46.5**	**+0.3**	
PLG				AML	AML	17 31 25.5		
	comp=N,194µm,0.5s							
PLG				AML	AML	17 31 25.6		
	comp=E,131µm,0.4s							
NKME	**Niksic**	**2.15**	**318**	*e*Pn	**Pn**	**17 30 48.0**	**+1.1**	
NKME				*i* Sn	**Sb**	**17 31 17.7**	**+1.0**	
NKY	**Niksic**	**2.16**	**319**	⇑*i*Pn	**Pn**	**17 30 48.1**	**+1.0**	
NKY				*i* Sn	**Sb**	**17 31 17.9**	**+0.8**	
SJES	**Sjenica**	**2.19**	**342**	*e*Pn	**Pb**	**17 30 48.9**	**-1.6**	
SJES				*e*Sn	**Sb**	**17 31 17.7**	**-0.2**	
HCY	**Herceg Novi**	**2.20**	**306**	⇓*i*Pn	**Pn**	**17 30 48.7**	**+1.2**	
HCY				*i* Sn	**Sb**	**17 31 18.9**	**+0.8**	
HCY	**Herceg Novi**	**2.20**	**306**	*e*Pn	**Pb**	**17 30 48.9**	**-1.7**	
NVR	**Nevrokopi**	**2.24**	**85**	P	**Pn**	**17 30 49.0**	**+0.9**	
NVR	**Nevrokopi**	**2.24**	**85**	P	**Pn**	**17 30 49.0**	**+0.9**	
NVR				AML	AML	17 31 29.0		
	comp=N,113µm,0.4s							
NVR				AML	AML	17 31 29.8		
	comp=E,95µm,0.4s							
TSLK	**Tsoukalades, L**	**2.37**	**185**	P	**Pn**	**17 30 51.3**	**+1.4**	
MAKR	**Makrakomi, Fth**	**2.37**	**156**	P	**Pn**	**17 30 50.5**	**+0.6**	
EVR	**Evrytania**	**2.37**	**163**	P	**Pn**	**17 30 50.7**	**+0.7**	
EVR	**Evrytania**	**2.37**	**163**	P	**Pn**	**17 30 50.7**	**+0.7**	
EVR				AML	AML	17 31 35.7		
	comp=E,288µm,0.6s							
EVR				AML	AML	17 31 37.3		
	comp=N,284µm,1.0s							
VOL2	**Volos**	**2.40**	**139**	P	**Pn**	**17 30 49.0**	**-1.3**	
PLE	**Pljevlja**	**2.42**	**333**	*e*Pn	**Pn**	**17 30 51.7**	**+1.0**	
PLE				*i* Sn	**Sb**	**17 31 24.0**	**-0.6**	
AGG	**Agios Georgios**	**2.42**	**153**	P	**Pn**	**17 30 50.8**	**+0.1**	
AGG	**Agios Georgios**	**2.42**	**153**	P	**Pn**	**17 30 50.8**	**+0.1**	
AGG				AML	AML	17 31 31.0		
	comp=N,256µm,0.5s							
AGG				AML	AML	17 31 40.3		
	comp=E,318µm,0.6s							
ZAPS	**Zavoj**	**2.45**	**31**	*e*Pn	**Pn**	**17 30 52.6**	**+1.5**	
ZAPS				*e*Sn	**Sb**	**17 31 24.5**	**-1.0**	
IVAS	**Ivanjica**	**2.45**	**347**	*e*Pn	**Pn**	**17 30 51.4**	**+0.3**	
IVAS				*e*Sn	**Sb**	**17 31 25.1**	**-0.4**	
BRY	**Bratogost**	**2.46**	**315**	*e*Pn	**Pn**	**17 30 52.3**	**+1.1**	
BRY				*i* Sn	**Sb**	**17 31 25.1**	**-0.6**	
BRY	**Bratogost**	**2.46**	**315**	*e*Pn	**Pn**	**17 30 52.9**	**+1.7**	
PAIG	**Palicuri**	**2.46**	**120**	P	**Pn**	**17 30 51.3**	**+0.1**	
PAIG	**Palicuri**	**2.46**	**120**	P	**Pn**	**17 30 51.3**	**+0.1**	
NYDR	**Nydri-Lefkada**	**2.47**	**184**	P	**Pn**	**17 30 52.2**	**+0.9**	
NYDR	**Nydri-Lefkada**	**2.47**	**184**	P	**Pn**	**17 30 52.2**	**+0.9**	
OUR	**Ouranopolis**	**2.49**	**109**	P	**Pn**	**17 30 51.6**	**+0.1**	
OUR	**Ouranopolis**	**2.49**	**109**	P	**Pn**	**17 30 51.6**	**+0.1**	
UPM	**Unac-Piva**	**2.50**	**324**	⇓*i*Pn	**Pn**	**17 30 52.9**	**+1.0**	
UPM				*i* Sn	**Sb**	**17 31 26.1**	**-1.0**	
UPM	**Unac-Piva**	**2.50**	**324**	*e*Pn	**Pb**	**17 30 54.8**	**-1.2**	
DRAG	**Dragano-Lefkad**	**2.51**	**186**	P	**Pn**	**17 30 52.4**	**+0.5**	
DRAG	**Dragano-Lefkad**	**2.51**	**186**	P	**Pn**	**17 30 52.4**	**+0.5**	
BOVS	**Bovan**	**2.52**	**13**	*e*Pn	**Pn**	**17 30 52.6**	**+0.6**	
BOVS				*e*Sn	**Sb**	**17 31 25.3**	**-2.1**	
XOR	**Xorichti**	**2.52**	**135**	P	**Pn**	**17 30 52.0**	**-0.1**	
XOR	**Xorichti**	**2.52**	**135**	P	**Pn**	**17 30 51.9**	**-0.1**	
EVGI	**Lefkada island**	**2.57**	**184**	P	**Pn**	**17 30 53.5**	**+0.8**	
EVGI	**Lefkada island**	**2.57**	**184**	P	**Pn**	**17 30 53.4**	**+0.8**	
RUDO	**Rudo**	**2.68**	**336**	*e*Pn	**Pn**	**17 30 54.7**	**+0.5**	
GRUS	**Gruza**	**2.70**	**357**	*e*Pn	**Pn**	**17 30 55.8**	**+1.3**	
ANX	**Ano Chora**	**2.71**	**163**	P	**Pn**	**17 30 55.9**	**+1.3**	
BLKB	**Belogradchik**	**2.77**	**28**	⇑S	**Sn**	**17 31 31.5**	**+2.3**	
AXAR	**Agios Charalam**	**2.77**	**150**	P	**Pn**	**17 30 55.7**	**+0.3**	
ZAGS	**Zajecar**	**2.80**	**20**	*e*Pn	**Pn**	**17 30 55.7**	**-0.2**	
BBLS	**Lazići**	**2.90**	**338**	*e*Pn	**Pn**	**17 30 57.9**	**+0.7**	
BBLS	**Lazići**	**2.90**	**338**	*e*Pn	**Pn**	**17 30 57.9**	**+0.7**	
KALE	**Kalithea**	**2.95**	**161**	P	**Pn**	**17 30 58.9**	**+0.9**	
ATAL	**Atalanti**	**2.98**	**146**	P	**Pn**	**17 30 59.2**	**+0.9**	
DIVS	**Divibare**	**2.99**	**347**	*e*Pn	**Pn**	**17 30 59.3**	**+0.8**	
DIVS				*e*Sn	**Sn**	**17 31 37.1**	**+2.5**	
DIVS	**Divibare**	**2.99**	**347**	*e*Pn	**Pn**	**17 30 59.0**	**+0.5**	
PLD	**Plovdiv**	**2.99**	**71**	*e*Pn	**Pn**	**17 31 00.3**	**+1.8**	
TRUS	**Trudelj**	**3.06**	**353**	*e*Pn	**Pn**	**17 31 00.3**	**+0.9**	
SVIS	**Svilajnac**	**3.09**	**4**	*e*Pn	**Pn**	**17 31 00.6**	**+0.9**	
MATE	**Matera**	**3.22**	**262**	⇑P	**Pn**	**17 31 00.5**	**-1.1**	
HAPS	**Han Pijesak,Bl**	**3.24**	**334**	*e*Pn	**Pn**	**17 31 03.0**	**+1.1**	
HAPS	**Han Pijesak,Bl**	**3.24**	**334**	*e*Pn	**Pn**	**17 31 02.0**	**+0.1**	
KLV	**Kalavryta, Ach**	**3.28**	**163**	P	**Pn**	**17 31 03.4**	**+0.8**	
DRO	**Drossia**	**3.29**	**169**	P	**Pn**	**17 31 04.0**	**+1.4**	
MDVR	**Moldovita**	**3.64**	**9**	⇑P	**Pn**	**17 31 07.8**	**+0.3**	
HERR	**Heraclane**	**3.86**	**16**	⇑P	**Pn**	**17 31 09.6**	**-0.7**	
FRGS	**Fruska Gora**	**4.05**	**349**	*e*Pn	**Pn**	**17 31 13.4**	**+0.4**	
FRGS	**Fruska Gora**	**4.05**	**349**	*e*Pn	**Pn**	**17 31 13.2**	**+0.2**	
GZR	**Gura Zlata**	**4.42**	**17**	⇓P	**Pn**	**17 31 17.6**	**-0.6**	
BZS	**Buzias**	**4.46**	**6**	⇑P	**Pn**	**17 31 18.4**	**-0.3**	
BLY	**Banja Luka**	**4.49**	**324**	*e*Pn	**Pn**	**17 31 21.9**	**+2.9**	
VOIR		**5.22**	**34**	⇑P	**Pn**	**17 31 28.6**	**-0.5**	
MORH	**Mrgy, Hungar**	**5.29**	**343**	*e*Pn	**Pn**	**17 31 29.5**	**-0.5**	
BOJS	**Bojanci**	**5.96**	**318**	*i* Pn	**Pn**	**17 31 40.8**	**+1.5**	
BOJS				*i* Sn	**Sn**	**17 32 48.8**	**+0.9**	
GBRS	**Gornja Briga**	**6.21**	**316**	*i* Pn	**Pn**	**17 31 44.7**	**+2.0**	
GBRS				*i* Sn	**Sn**	**17 32 55.1**	**+1.1**	
RIY	**Rijeka**	**6.25**	**314**	*e*Pn	**Pn**	**17 31 43.4**	**+0.2**	
CEY	**Cerknica**	**6.55**	**316**	*e*Pn	**Pn**	**17 31 48.1**	**+0.8**	
SKDS	**Skadanscina**	**6.64**	**313**	*i* Pn	**Pn**	**17 31 49.1**	**+0.5**	
SKDS				*i* Sn	**Sn**	**17 33 01.7**	**-3.0**	
SOKA	**Soboth**	**6.93**	**324**	*e*Pn	**Pn**	**17 31 53.6**	**+0.9**	
	comp=E,1.9nm,0.4s							
OBKA	**Obir**	**7.03**	**321**	*e*Pn	**Pn**	**17 31 55.3**	**+1.4**	
	comp=E,1.7nm,0.4s							
ARSA	**Arzberg**	**7.19**	**329**	*e*Pn	**Pn**	**17 31 58.3**	**+2.2**	
	comp=E,1.1nm,0.4s							
VYHS	**Vyhne**	**7.45**	**349**	*e*SN	**Sn**	**17 33 20.8**	**-3.7**	
KBA	**Koelnbreinsper**	**8.01**	**320**	*e*Pn	**Pn**	**17 32 08.7**	**+1.1**	
	comp=E,1.6nm,0.8s							
MOA	**Molln**	**8.17**	**327**	*e*Pn	**Pn**	**17 32 10.4**	**+0.8**	
	comp=E,0.3nm,0.2s							
ABTA	**Abfaltersbach**	**8.21**	**315**	*e*Pn	**Pn**	**17 32 11.3**	**+1.0**	
	comp=E,0.9nm,0.3s							
WTTA	**Wattenberg**	**9.01**	**316**	*e*Pn	**Pn**	**17 32 22.5**	**+1.3**	
	comp=E,1.0nm,0.2s							
WATA	**Walderalm**	**9.08**	**316**	*e*Pn	**Pn**	**17 32 24.4**	**+2.2**	
	comp=E,1.2nm,0.2s							
SQTA	**Sankt Quirin**	**9.21**	**314**	*e*Pn	**Pn**	**17 32 25.3**	**+1.4**	
	comp=E,2.3nm,0.4s							
MOTA	**Moosalm**	**9.34**	**315**	*e*Pn	**Pn**	**17 32 27.2**	**+1.5**	
	comp=E,0.9nm,0.3s							

*IDC **19** 17:42:10.7±1.6, 19°.25N×145°.13E, h415km±19km, mb3.2/9, mb1 3.3/11, mb1mx3.1/37, mbtmp3.9/11, Error ellipse: s-maj=26.5km s-min=12.0km az=83.0*
*NEIC **19** 17:42:10.3±2.0, 19°.32N±0°.10×145°.1E±0°.2, h417km±11km, mb4.1/21, Error ellipse: s-maj=23.5km s-min=13.0km az=107.0*
ISC 19 17:42:09.8±0.8,**19°.32N**±0°.07×**145°.0E**±0°.2,**h400**km,**n35,**
σ1**°.03**/35,**mb3.8**/18,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.71**	**182**	P	**Pn**	**17 43 41.4**	**+2.1**
	13nm,0.3s,baz=189,slow=1.9,SNR=14						
GUMO				S	**S**	**17 44 52.3**	**+0.1**
	2.7nm,0.3s,baz=56,slow=18,SNR=2.6						
JMN	**Monobe**	**17.46**	**327**	P	**P**	**17 45 47.4**	**-1.2**
MJAR	**Matsushiro Arr**	**18.17**	**342**	P	**P**	**17 45 56.2**	**+0.2**
	0.1nm,0.3s,baz=165,slow=9.3,SNR=6.0						
MJAR	**Matsushiro Arr**	**18.17**	**342**	P	**P**	**17 45 54.7**	**-1.3**
JMM	**Marumori**	**18.84**	**350**	P	**P**	**17 46 04.9**	**+1.9**
JMM				IAmb	IAmb	17 46 08.2	
	comp=Z,12nm,1.0s						
JSD	**Sado**	**19.56**	**344**	P	**P**	**17 46 11.2**	**+1.2**
NACB	**Ninganchiao**	**22.29**	**287**	P	**P**	**17 46 33.4**	**-1.7**
SSLB	**Suanglung**	**22.82**	**286**	P	**P**	**17 46 40.6**	**+0.6**
KSRS	**Korea Array**	**23.45**	**324**	P	**P**	**17 46 45.6**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=148,slow=8.8,SNR=7.5						
KKM	**Kota Kinabalu**	**30.99**	**249**	P	**P**	**17 47 52.5**	**0.0**
KKM				IAmb	IAmb	17 48 10.4	
	comp=Z,12nm,1.0s						
COEN	**Coen**	**33.12**	**183**	P	**P**	**17 48 10.2**	**-0.5**
COEN				IAmb	IAmb	17 48 15.4	
	comp=Z,16nm,1.1s						
MTN	**Manton Dam**	**34.77**	**204**	P	**P**	**17 48 23.4**	**-1.3**
MTN				IAmb	IAmb	17 48 24.7	
	comp=Z,9.2nm,1.1s						
SBUM	**Sibu**	**36.20**	**246**	P	**P**	**17 48 36.2**	**-0.6**
SBUM				IAmb	IAmb	17 48 37.7	
	comp=Z,4.3nm,0.6s						
KNRA	**Kununurra**	**38.29**	**206**	P	**P**	**17 48 52.8**	**-1.1**
KNRA				IAmb	IAmb	17 49 01.4	
	comp=Z,9.2nm,1.1s						
WB0	**Warramunga Arr**	**40.23**	**196**	P	**P**	**17 49 09.1**	**-0.7**
WB0				IAmb	IAmb	17 49 23.9	
	comp=Z,6.5nm,1.1s						
WR0	**Warramunga Arr**	**40.37**	**195**	P	**P**	**17 49 10.4**	**-0.6**
WRAB	**Tennant Creek**	**40.40**	**196**	P	**P**	**17 49 10.8**	**-0.3**
WB2	**Warramunga Arr**	**40.41**	**196**	P	**P**	**17 49 10.6**	**-0.7**
WB2				IAmb	IAmb	17 49 11.3	
	comp=Z,2.6nm,0.5s						
WRA	**Warramunga Arr**	**40.41**	**196**	P	**P**	**17 49 10.7**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=14,slow=8.7,SNR=38						
WRA	**Warramunga Arr**	**40.41**	**196**	P	**P**	**17 49 09.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**41.78**	**208**	P	**P**	**17 49 21.6**	**-0.7**
SONM	**Songino Array**	**42.27**	**321**	P	**P**	**17 49 27.4**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=135,slow=9.9,SNR=9.3						
SONM	**Songino Array**	**42.27**	**321**	IAmb	IAmb	17 49 28.3	
	comp=Z,1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.52**	**277**	P	**P**	**17 49 36.7**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=70,slow=6.5,SNR=11						
AS31	**Alice Springs**	**44.09**	**195**	P	**P**	**17 49 39.5**	**-1.0**
ASAR	**Alice Springs**	**44.09**	**195**	P	**P**	**17 49 39.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=14,slow=7.1,SNR=17						

ZALV	**Zalesovo Beam**	**57.14**	**322**	P		**P**	**17 51 16.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=87,slow=9.1,SNR=5.0							
MKAR	**Makanchi Array**	**57.58**	**314**	P		**P**	**17 51 20.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=89,slow=8.6,SNR=7.2							
MKAR	**Makanchi Array**	**57.58**	**314**	P		**P**	**17 51 19.4**	**-0.1**
ILAR	**Eielson Array**	**63.37**	**26**	P		**P**	**17 51 58.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=251,slow=5.4,SNR=6.6							
ILAR	**Eielson Array**	**63.37**	**26**	P		**P**	**17 51 56.2**	**-1.6**
KK31	**Karatay Array**	**65.89**	**309**	P		**P**	**17 52 14.5**	**+0.2**
KK31				IAmb		IAmb	17 52 15.8	
	comp=Z,2.2nm,0.7s							
KKAR	**Karatay Array**	**65.89**	**309**	P		**P**	**17 52 14.5**	**+0.2**
KKAR				IAmb		IAmb	17 52 15.8	
	comp=Z,2.2nm,0.7s							
FINES	**FINESS Array B**	**86.06**	**335**	P		**P**	**17 54 04.8**	**-1.5**
	comp=Z,4.0nm,1.1s,baz=76,slow=0.8,SNR=7.2							
TORD	**Torodi Ar. Bea**	**131.58**	**309**	PKP		**PKPdf**	**18 00 36.2**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=36,slow=1.5,SNR=1.5							

*IDC **19** 18:00:33.1±1.6, 33°.96S×72°.26W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.6/21, mbtmp3.5/4, ML3.6/2, MS3.1/2, Ms1 3.0/2, ms1mx2.7/14, Error ellipse: s-maj=68.1km s-min=33.0km az=78.0*
*GUC **19** 18:00:36.0±0.4, 34°.01S×72°.33W, h34km±2km, ML3.6*
ISC 19 18:00:34.6±2.4,**34°.01S**±0°.05×**72°.28W**±0°.10,**h11**km±14km,
n19,σ0**°75/25,1C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**1.04**	**164**	*e*P	**Pn**	**18 00 54.7**	**-0.5**
GO05				*i* S	**Sn**	**18 01 09.0**	**-0.8**
GO05				IAML		18 01 12.9	
	comp=E,4µm,0.3s						
MT02	**Curacav**	**1.21**	**52**	*i* P	**Pg**	**18 00 57.7**	**-0.2**
MT02				*i* S	**Sg**	**18 01 14.0**	**+0.5**
MT02				IAML		18 01 20.8	
	comp=E,595nm,0.5s						
MT05	**Renca**	**1.43**	**65**	*e*P	**Pg**	**18 01 01.5**	**-0.5**
MT05				IAML		18 01 30.1	
	comp=E,1µm,0.5s						
BO02	**Sierra Bellavi**	**1.47**	**123**	*e*P	**Pb**	**18 01 01.4**	**-0.5**
BO02				*i* S	**Sg**	**18 01 22.4**	**+0.5**
ROCH	**El Roble**	**1.48**	**46**	*e*P	**Pb**	**18 01 02.0**	**-0.2**
ROCH				*e*S	**Sg**	**18 01 22.4**	**+0.2**
ROCH				IAML		18 01 31.0	
	comp=N,1µm,0.5s						
MT03	**Universidad Ad**	**1.56**	**71**	*i* P	**Pb**	**18 01 03.6**	**0.0**
MT03				*e*S	**Sg**	**18 01 24.5**	**-0.4**
MT03				IAML		18 01 35.8	
	comp=N,1µm,0.2s						
PEL	**Peldehue**	**1.59**	**58**	*i* P	**Pb**	**18 01 04.0**	**+0.1**
PEL				*i* S	**Sg**	**18 01 25.0**	**-0.6**
PEL				IAML		18 01 34.1	
	comp=E,937nm,0.5s						
LMEL	**Las Melosas**	**1.74**	**85**	*e*P	**Pb**	**18 01 06.6**	**0.0**
LMEL				*e*S	**Sb**	**18 01 29.3**	**+0.9**
LMEL				IAML		18 01 40.7	
	comp=N,1µm,0.2s						
VA03	**San Esteban**	**1.91**	**50**	⇑*i*P	**Pb**	**18 01 08.4**	**-1.0**
VA03				*e*

QRZ	Quartz Range	5.55	42	Pn		Pn	18 09 03.3 +0.6
BSWZ	Blackbirch Sta	5.65	56	P		Pn	18 09 04.7 +0.7
BSWZ	Blackbirch Sta	5.65	56			Pn	18 09 05.8 +1.8
NNZ	Nelson	5.70	50	P		Pn	18 09 05.1 +0.4
NNZ	Nelson	5.70	50	Pn		Pn	18 09 06.7 +2.1
CMWZ	Cape Campbell	5.83	58	P		Pn	18 09 09.6 +3.1
CMWZ	Cape Campbell	5.83	58			Pn	18 09 09.8 +3.3
TUWZ	Tuamarina	5.87	54	P		Pn	18 09 07.4 +0.4
TUWZ	Tuamarina	5.87	54			Pn	18 09 07.5 +0.6
TCW	Tory Channel	6.20	54	P		Pn	18 09 11.3 -0.1
DUWZ	D'Urville Isla	6.28	50	P		Pn	18 09 13.2 +0.7
SNZO	South Karori	6.39	57			Pn	18 09 15.2 +1.3
BHW	Baring Head	6.43	58	P		Pn	18 09 14.5 0.0
BHW	Baring Head	6.43	58	Pn		Pn	18 09 14.9 +0.4
WEL	Wellington	6.44	57	P		Pn	18 09 15.6 +1.0
PLWZ	Palliser	6.57	61	P		Pn	18 09 15.9 -0.5
PLWZ	Palliser	6.57	61	Pn		Pn	18 09 17.0 +0.6
MSWZ	Moikau Station	6.65	60	P		Pn	18 09 16.7 -0.8
MSWZ	Moikau Station	6.65	60			Pn	18 09 17.6 +0.1
CAW	Cannon Point	6.73	57	P		Pn	18 09 18.1 -0.4
PAWZ	Paruwai Farm	6.78	60	P		Pn	18 09 19.0 -0.2
KIW	Kapiti Island	6.79	55	P		Pn	18 09 18.9 -0.5
TRWZ	Traveller	6.93	61	P		Pn	18 09 21.6 +0.3
OGWZ	Otaki Gorge	6.97	55	P		Pn	18 09 20.9 -0.8
HOWZ	Holdsworth Sta	7.12	57	P		Pn	18 09 23.2 -0.7
TMWZ	Te Maipa	7.23	60	P		Pn	18 09 24.6 -0.6
NMEZ	Namu Road	7.30	42	P		Pn	18 09 28.1 +1.9
MRZ	Mangatainoka R	7.31	56	P		Pn	18 09 25.3 -1.0
NBEZ	Newall Road No	7.41	41	P		Pn	18 09 29.2 +1.5
TIWZ	Tintock	7.42	58	P		Pn	18 09 27.2 -0.7
KHEZ	Kahui Hut	7.46	42	P		Pn	18 09 29.7 +1.3
PREZ	Palmer Road	7.49	43	P		Pn	18 09 30.0 +1.2
NEZ	North Egmont	7.51	42	P		Pn	18 09 30.9 +1.8
LREZ	Lake Rotokare	7.52	44	P		Pn	18 09 31.7 +2.6
PKE	Pukeiti	7.53	41	P		Pn	18 09 31.2 +1.9
CPWZ	Castlepoint	7.53	60	P		Pn	18 09 30.2 +0.9
POWZ	Post Office Ro	7.59	55	P		Pn	18 09 30.3 +0.2
WAZ	Wanganui	7.60	48	P		Pn	18 09 31.8 +1.6
PRWZ	Pori Road	7.61	57	P		Pn	18 09 29.8 -0.6
DREZ	Durham Road	7.63	42	P		Pn	18 09 33.4 +2.7
BFZ	Birch Farm	7.70	58	P		Pn	18 09 31.0 -0.5
BFZ	Birch Farm	7.70	58	Pn		Pn	18 09 31.4 -0.1
MHEZ	Mangahewa	7.78	42	P		Pn	18 09 34.7 +2.1
DVHZ	Dannevirke	7.89	56	P		Pn	18 09 33.8 -0.3
VRZ	Vera Road	7.95	44	P		Pn	18 09 35.9 +0.9
ANWZ	Angora Road	7.97	58	P		Pn	18 09 35.2 0.0
PKVZ	Pokaka	8.13	48	P		Pn	18 09 38.2 +0.8
PNHZ	Pukenui	8.16	54	P		Pn	18 09 37.0 -0.8
PRHZ	Porangahau	8.19	57	P		Pn	18 09 37.2 -0.9
WPHZ	Waipukurau	8.20	56	P		Pn	18 09 38.9 +0.6
WNVZ	Wahianoa	8.23	49	P		Pn	18 09 39.3 +0.4
DRZ	Dome Shelter	8.25	48	P		Pn	18 09 45.4 +6.1
MOVZ	Moawhango	8.26	50	P		Pn	18 09 39.9 +0.7
WHVZ	Whangaehu Hut	8.26	49	P		Pn	18 09 42.7 +3.4
FWVZ	Far West T-bar	8.26	48	P		Pn	18 09 40.3 +1.0
TUVZ	Tukino	8.30	49	P		Pn	18 09 40.1 +0.2
TWVZ	Taurewa	8.34	47	P		Pn	18 09 40.7 +0.4
NGZ	Ngauruhoe	8.34	48	P		Pn	18 09 42.2 +1.8
BHHZ	Black Hill Sta	8.37	51	P		Pn	18 09 39.8 -0.8
WTVZ	West Tongariro	8.38	48	P		Pn	18 09 42.0 +1.1
OTVZ	Oturere	8.39	48	P		Pn	18 09 41.1 +0.1
KRVZ	Karewarewa	8.43	48	P		Pn	18 09 43.0 +1.6
ETVZ	East Tongariro	8.43	48	P		Pn	18 09 41.8 +0.3
KRHZ	Kereru	8.44	53	P		Pn	18 09 41.6 +0.1
TMVZ	Te Maari	8.44	48	P		Pn	18 09 43.9 +2.2
HIZ	Hauiti	8.48	42	P		Pn	18 09 42.3 +0.2
HIZ	Hauiti	8.48	42	Pn		Pn	18 09 42.6 +0.6
KATZ	Kakaramea	8.54	48	P		Pn	18 09 48.1 +5.1
KWHZ	Kaweka Forest	8.62	52	P		Pn	18 09 45.5 +1.5
KAHZ	Kahuranaki	8.63	56	P		Pn	18 09 43.5 -0.6
RATZ	Rangitukua	8.66	47	P		Pn	18 09 47.6 +3.0
BKZ	Black Stump Fm	8.83	51	P		Pn	18 09 49.1 +2.2
BKZ	Black Stump Fm	8.83	51	Pn		Pn	18 09 48.4 +1.5
TLZ	Tolley Road	8.95	44	P		Pn	18 09 49.2 +0.8
MRHZ	Matea Rd	9.03	50	P		Pn	18 09 48.9 -0.6
ARHZ	Aropaoanui	9.05	54	P		Pn	18 09 51.2 +1.5
NMHZ	Naumai	9.06	52	P		Pn	18 09 51.1 +1.2
MTHZ	Maungataniwha	9.25	51	P		Pn	18 09 52.8 +0.4
TOZ	Tahuroa Road	9.41	42	P		Pn	18 09 55.4 +0.9
AWAZ	Awhitu Peninsu	9.58	36	P		Pn	18 09 58.6 +1.8
MHGZ	Mahia Peninsul	9.65	56	P		Pn	18 09 57.4 -0.4
WTAZ	Waiatarua	9.66	35	P		Pn	18 09 59.8 +1.9
PRGZ	Paritu Road	9.79	55	P		Pn	18 09 59.3 -0.3
URZ	Urewera	9.82	50	P		Pn	18 09 59.3 -0.7
	4.4nm,0.3s,baz=232,slow=7.9,SNR=19						
URZ				S		Sn	18 11 42.1 -6.3
	2.9nm,0.3s,baz=57,slow=16,SNR=5.7						
URZ				LR		LR	18 14 25.3
	comp=Z,128nm,19.4s,baz=212,slow=41						
URZ	Urewera	9.82	50	P		Pn	18 09 59.4 -0.6
URZ	Urewera	9.82	50	Pn		Pn	18 09 59.6 -0.4
MBAZ	Motutapu North	9.93	36	P		Pn	18 10 04.2 +2.6
WIAZ	Waiheke Island	10.01	37	P		Pn	18 10 04.6 +1.9
CNGZ	Carnagh Station	10.27	54	P		Pn	18 10 06.4 +0.4
KUZ	Kuaotunu	10.31	39	P		Pn	18 10 07.5 +0.9
TWGZ	Tauwhareparae	10.36	52	P		Pn	18 10 07.4 +0.2
WCZ	Waipu Caves	10.44	32	P		Pn	18 10 09.8 +1.5
OUZ	Omahuta	10.83	27	P		Pn	18 10 10.9 +3.4
OUZ	Omahuta	10.83	27	Pn		Pn	18 10 15.5 +2.0
WMGZ	Waiomatatini S	10.85	52	P		Pn	18 10 13.3 -0.5
TOO	Toolangi	18.18	287	Pn		Pn	18 11 46.4 +0.3
ARMA	Armidale	19.26	314			P	18 11 54.3 -2.2
DZM	Mont Dzumac	22.94	357	P		P	18 12 33.7 -1.3
	7.0nm,1.0s,baz=285,slow=22,SNR=2.0						
EIDS	Eidsvold	23.74	320	P		P	18 12 43.4 +1.1
EIDS				IAmb		IAmb	18 12 46.2
	comp=Z,18nm,0.9s						
STKA	Stephens Creek	24.12	294	P		P	18 12 45.1 -0.5
	comp=Z,4.1nm,0.9s,baz=121,slow=9.5,SNR=8.9						
STKA	Stephens Creek	24.12	294	P		P	18 12 46.2 +0.5
CTAO	Charters Tower	30.53	318	P		P	18 13 44.2 +1.1
CTAO				IAmb		IAmb	18 13 59.1
	comp=Z,11nm,1.0s						
VNDA	Vanda	32.66	182	P		P	18 14 02.6 +1.5
	comp=Z,1.2nm,0.6s,baz=338,slow=8.2,SNR=3.1						
VNDA				LR		LR	18 26 20.3
	comp=Z,44nm,18.5s,baz=34,slow=34						
AS31	Alice Springs	34.69	297	P		P	18 14 18.9 -0.5
ASAR	Alice Springs	34.69	297	P		P	18 14 18.6 -0.7
	comp=Z,7.7nm,0.6s,baz=135,slow=7.3,SNR=198						
ASAR				PcP		PcP	18 16 48.5 -1.8
	comp=Z,1.7nm,0.8s,baz=128,slow=3.7,SNR=6.2						
ASAR	Alice Springs	34.69	297	P		P	18 14 18.8 -0.5
ASAR						PcP	18 16 49.2 -1.1
CASY	Casey	36.78	215	P		P	18 14 36.2 -0.4
CASY				IAmb		IAmb	18 14 37.4
	comp=Z,9.5nm,0.9s						
WR0	Warramunga Arr	37.05	302	P		P	18 14 39.0 -0.3
WR0				IAmb		IAmb	18 14 40.4
	comp=Z,13nm,0.9s						
WB2	Warramunga Arr	37.17	301	P		P	18 14 39.5 -1.0
WB2				IAmb		IAmb	18 14 40.3
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	37.18	301	P		P	18 14 39.8 -0.7
	comp=Z,9.5nm,0.5s,baz=137,slow=8.0,SNR=247						
WRA				PcP		PcP	18 16 57.1 -0.6
	comp=Z,2.2nm,0.8s,baz=133,slow=2.9,SNR=8.1						
WRA	Warramunga Arr	37.18	301	P		P	18 14 39.1 -1.4
WRA						PcP	18 16 57.1 -0.6
WRAB	Tennant Creek	37.18	301	P		P	18 14 39.8 -0.7
WRAB				IAmb		IAmb	18 14 40.3
	comp=Z,13nm,0.7s						
WB0	Warramunga Arr	37.28	302	P		P	18 14 40.8 -0.6
WB0				IAmb		IAmb	18 14 41.1
	comp=Z,7.4nm,0.6s						
H01W1	Cape Leeuwin H	41.53	265	T		T	18 59 11.4
	baz=121,slow=76,SNR=282						
H01W2	Cape Leeuwin H	41.54	265	T		T	18 59 11.6
	baz=121,slow=76,SNR=303						
H01W3	Cape Leeuwin H	41.55	265	T		T	18 59 12.9
	baz=121,slow=76,SNR=285						
MORW	Morawa	43.40	273	P		P	18 15 29.5 -2.1
MORW				IAmb		IAmb	18 15 32.5
	comp=Z,24nm,1.1s						
KNRA	Kununurra	43.84	299	P		P	18 15 34.9 -0.3
FITZ	Fitzroy Crossi	44.02	294	P		P	18 15 36.1 -0.6
	comp=Z,10nm,0.6s,baz=159,slow=9.4,SNR=9.1						
FITZ	Fitzroy Crossi	44.02	294	P		P	18 15 36.2 -0.4
FITZ				IAmb		IAmb	18 15 36.9
	comp=Z,9.7nm,0.7s						
MTN	Manton Dam	44.62	304	P		P	18 15 40.8 -0.6
QSPA	South Pole Qui	45.08	180	P		P	18 15 46.2 +1.5
	comp=Z,12nm,0.7s,baz=347,slow=0.7,SNR=56						
QSPA				PcP		PcP	18 17 23.1 +0.1
	comp=Z,3.2nm,0.7s,baz=339,slow=1.6,SNR=5.1						
QSPA	South Pole Qui	45.08	180	P		P	18 15 46.5 +1.8
QSPA				IAmb		IAmb	18 15 46.7
	comp=Z,12nm,0.7s						
GIRL	Giralia	48.65	279	P		P	18 16 13.4 +0.6
SOEI	Soe	51.18	300	P		P	18 16 30.9 -1.2
	comp=Z,25nm,0.8s						
SOEI	Soe	51.18	300	P		P	18 16 29.9 -2.1
SOEI				IAmb		IAmb	18 16 42.9
	comp=Z,25nm,1.0s						
MAW	Mawson	54.38	207	P		P	18 16 55.1 +0.3
	comp=Z,6.6nm,0.9s,baz=120,slow=7.7,SNR=10						
MAW				PcP		PcP	18 17 57.0 +0.2
	comp=Z,1.8nm,0.9s,baz=154,slow=5.1,SNR=4.9						
MAW				LR		LR	18 38 48.7
	comp=Z,41nm,18.4s,baz=220,slow=34						
MAW	Mawson	54.38	207	P		P	18 16 55.1 +0.3
BELA	Belgrano 2	56.59	174	P		P	18 17 11.0 +0.6
TWSI	Taliwang, Sumb	56.63	294	P		P	18 17 11.0 -0.5
	comp=Z,32nm,1.0s						
TAOE	Nuku Hiva Isla	57.53	68	P		P	18 17 16.8 -1.2
SYO	Syowa Base	59.96	199	*i* P		P	18 17 32.2 -1.7
SYO	Syowa Base	59.96	199	*e* pP		pP	18 18 04.4 -1.3
SYO	Syowa Base	59.96	199	*e* PcP		PcP	18 18 16.6 -2.1
MPSI	Mapaga	61.78	303	P		P	18 17 46.6 -0.4
	comp=Z,372nmcomp=Z,11nm,0.8s						
SNAA	Sanae	63.39	183	P		P	18 17 57.0 0.0
SNAA	Sanae	63.39	183	P		P	18 17 57.2 +0.2
SNAA				IAmb		IAmb	18 17 57.6
	comp=Z,9.9nm,0.6s						
MTKI	Muara Teweh, K	63.84	298	P		P	18 18 01.4 +0.8
VNA3	Neumayer Olymp	64.00	181	P		P	18 18 00.6 -0.3
DAV	Davao City (W)	64.13	312	*e* P		P	18 18 03.3 +0.9
VNA2	Neumayer--Watz	64.28	182	P		P	18 18 02.9 +0.1
	baz=162,slow=5.5						
VNA1	Neumayer--Stat	64.58	182	P		P	18 18 04.8 +0.2
DBJI	Dramaga	64.98	287	P		P	18 18 09.0 +0.9
MDSI	Maura Dua	68.23	286	P		P	18 18 28.6 -0.1
GSI	Gunungsitoli	76.94	285	P		P	18 19 21.8 +1.6
GSI	Gunungsitoli	76.94	285	P		P	18 19 19.9 -0.3
RPSI	Rantau Prapat	77.03	287	P		P	18 19 19.1 -1.6
PSI	Prapat	77.11	287	P		P	18 19 19.1 -2.2
	comp=Z,4.1nm,0.5s,baz=226,slow=11,SNR=3.6						
PLCA	Paso Flores	79.96	139	P		P	18 19 37.8 +1.2
	comp=Z,7.5nm,1.0s,baz=251,slow=5.5,SNR=14						
PLCA	Paso Flores	79.96	139	P		P	18 19 36.8 +0.2
PLCA				IAmb		IAmb	18 19 38.7
	comp=Z,11nm,1.0s						
H08S2	Diego Garcia H	88.25	261	T		T	19 57 18.1
	baz=136,slow=76,SNR=139						
H08S1	Diego Carcia H	88.26	261	T		T	19 57 19.2
	baz=136,slow=76,SNR=80						
H08S3	Diego Garcia H	88.27	261	T		T	19 57 26.2
	baz=136,slow=76,SNR=563						
NJ2	Nanjing	88.60	320	*e* P		P	18 20 22.3 +2.4
NJ2				pmax		pmax	
	comp=Z,6.0nm,0.5s						
KMI	Kunming	91.43	305	*e* P		P	18 20 34.8 +1.3
KMI				pmax		pmax	
	comp=Z,13nm,1.2s						
HHC	Hu-ho-hao-te	99.16	320	*e* P		Pdif	18 21 08.4 +0.2
HHC				pmax		pmax	
	comp=Z,14nm,1.1s						
HHC				pmax		pmax	
	comp=Z,71nm,5.5s						
WMQ	Urumqi	113.38	309	*e* PKP		PKiKP	18 26 03.9 +0.1
BRTR	Keskin Array B	145.95	278	PKPbc		PKPdf	18 27 05.3 +0.3
	comp=Z,5.0nm,0.8s,baz=153,slow=4.9,SNR=8.5						
BRTR				pPKPbc		pPKPdf	18 27 39.7 -1.0
	comp=Z,2.8nm,0.9s,baz=71,slow=4.5,SNR=2.9						
BRTR	Keskin Array B	145.95	278			PKPbc	18 27 06.3 +0.3
TOA0	Torodi Ar. Sit	146.02	205			PKPbc	18 27 06.2 -0.5
TORD	Torodi Ar. Bea	146.02	205	PKPbc		PKPdf	18 27 06.0 +0.2
	comp=Z,25nm,0.7s,baz=157,slow=1.7,SNR=151						
TORD				pPKPbc		pPKPdf	18 27 39.6 -1.9
	comp=Z,3.9nm,0.7s,baz=136,slow=2.3,SNR=3.1						
TORD	Torodi Ar. Bea	146.02	205			PKPbc	18 27 06.2 -0.5
KOWA	Kowa	148.73	196			PKPbc	18 27 14.3 +0.2
ARCES	ARCESS Array B	148.98	335	PKPbc		PKPbc	18 27 13.0 -0.2
	comp=Z,6.1nm,0.7s,baz=88,slow=2.7,SNR=7.8						
SUMG	Summit	149.81	15			PKPab	18 27 22.9 +1.2
SUMG	Summit	149.81	15	*i* P		PKPab	18 27 22.7 +1.1
SUMG	Summit	149.81	15	*i* P		PKPab	18 27 22.8 +1.1
AKASG	Malin Array Be	151.81	297	PKPbc		PKPbc	18 27 20.0 -0.4
	comp=Z,7.5nm,0.8s,baz=76,slow=2.4,SNR=11						
ICESG	Greenland Ices	152.19	21	*i* P		PKPab	18 27 31.9 +0.3
ICESG				IAmb		IAmb	18 27 32.9
	comp=Z,17nm,0.9s						
FINES	FINESS Array B	152.28	320	PKPbc		PKPbc	18 27 21.1 -0.1
	comp=Z,7.6nm,0.7s,baz=83,slow=4.5,SNR=6.9						
FINES				PKPab		PKPab	18 27 31.3 -0.4
	comp=Z,3.9nm,0.6s,baz=85,slow=6.1,SNR=4.3						
KEST	Kesra	161.06	248	PKPab		PKPab	18 28 10.6 +0.2
	comp=Z,7.3nm,0.9s,baz=296,slow=0.7,SNR=8.5						
GERES	GERESS Array B	161.82	291	PKPab		PKPab	18 28 13.1 -0.4
	comp=Z,0.4nm,0.6s,baz=117,slow=1.8,SNR=3.9						
ESDC	Sonseca Array	171.77	232	PKPab		PKPab	18 28 57.2 -0.3
	comp=Z,3.5nm,1.1s,baz=144,slow=3.6,SNR=9.7						

IDC ***19*** *18:14:23.5±0.4, 14.°11N×124.°60E, h0km, mb4.8/28, mb1 4.9/33, mb1mx4.8/42, mbtmp4.8/33, ML4.6/5, MS4.0/29, Ms1 4.0/29, ms1mx3.8/48, Error ellipse: s-maj=15.8km s-min=9.5km az=81.0*

BJI ***19*** *18:14:26.8±0.0, 13.°94N×124.°73E, h47km, mB4.9/50, mb4.9/70, Ms4.4/63, Ms7 4.2/58*

MAN ***19*** *18:14:26.6, 14.°16N×124.°66E, h19km, mb5.5, ML4.5, MS4.7*

MOS ***19*** *18:14:28.8±0.9, 14.°15N×124.°57E, h51km, mb5.3/31, MS4.3/5, Error ellipse: s-maj=7.9km s-min=4.3km az=114.6*

GCMT ***19*** *18:14:28.7±0.2, 14.°30N±0.°01×124.°68E±0.°02, h21km±1km, MW4.9/100, Moment Tensor Solution. s34,c41; s100,c150; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr1.54±.14; Mθθ0.97±.08; Mϕϕ-2.51±.11; Mrθ1.24±.17; Mθϕ-1.71±.07; Mϕr0.02±.16; Best double couple: M*$_o$*3.01400×10*^{16} *NP1:ϕs166.00000°, δ56.00000°, λ30.00000°. NP2:ϕs58.00000°, δ66.00000°, λ142.00000°. Principal axes: T 2.7670, Plg44.0000°, Azm18.0000°; N 0.4950, Plg46.0000°, Azm210.0000°; P -3.2610, Plg6.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *18:14:30.7±2.3, 14.°23N±0.°07×124.°48E±0.°09, h53km±5km, mb5.0/108 Error ellipse: s-maj=12.3km s-min=10.2km az=93.0*

DJA ***19*** *18:14:37.7±0.6, 14.°N±3.°×12.°4E±.°, h107km±6km, M4.6/37, mb4.9/37, mB5.2/17, Mw(mB)4.6/17, Mwp5.1/1*

ISC 19 18:14:27.5±0.6, 14.°17N±0.°03×124.°62E±0.°04, h25km±3km, n448, σ1°39/454, mb5.0/153, MS4.0/43, 35C-31D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.73	219	*e* P	Pb	18 14 40.8	-0.9
PVCP				*e* S	Sn	18 14 52.6	0.0
CNP	Catarman	1.65	179	*e* P	Pn	18 14 55.4	+0.4
CNP				*e* S	Sb	18 15 22.4	+4.7
GQP	Guinayangan	2.13	263	*i* P	Pn	18 15 02.7	+1.2
GQP				*i* S	Sb	18 15 32.8	+1.4
POLP	Polilio Island	2.66	282	*e* P	Pn	18 15 08.4	-0.4
POLP				*e* S	Sb	18 15 50.1	+3.4
BOAC	Boac	2.79	256	*e* P	Pn	18 15 11.2	+0.6
LQP	Lukban	2.99	269	*i* P	Pn	18 15 14.7	+1.1
LQP				*i* S	Sb	18 15 54.8	-1.7
OTRP	Odiongan	3.11	235	*e* P	Pn	18 15 15.5	+0.6
OTRP				*e* S	Sn	18 15 42.1	-9.2
TGY	Tagaytay City	3.58	269	Pn	Pn	18 15 21.8	+0.3
	397nm,0.3s,baz=70,slow=2.1,SNR=29						
TGY	Tagaytay City	3.58	269	*i* P	Pn	18 15 23.2	+1.7
TGY				*i* S	Sn	18 16 00.3	-2.7
PGP	Puerto Galera	3.63	260	*e* P	Pn	18 15 23.7	+1.6
PGP				*i* S	Sn	18 16 07.7	+3.5
MSLP	Maasin	4.02	177	*e* P	Pn	18 15 29.1	+1.6
MSLP				*e* S	Sn	18 16 09.3	-4.5
JAP	San Jose, Anti	4.29	218	*e* P	Pb	18 15 38.4	-3.9
CVP	Callao Caves	4.43	323	*i* P	Pn	18 15 32.8	-0.3
CVP				*i* S	Sn	18 16 20.3	-3.6
TBP	Tagbilaran	4.51	190	*e* P	Pn	18 15 36.3	+1.9
GLSP	General Luna,	4.60	161	*e* P	Pn	18 15 32.5	-3.0
GLSP				*e* S	Sn	18 16 24.4	-3.8
CNOP	Candoni, Negro	4.73	204	*e* P	Pn	18 15 37.6	+0.3
CNOP				*e* S	Sb	18 16 51.0	+4.6
CUYO	Cuyo Island	4.83	227	*e* P	Pn	18 15 40.8	+2.2
CGP	Cagayan de Oro	5.68	179	*e* P	Pn	18 15 38.5	-12
DAV	Davao City (W)	7.12	172	LR	LR	18 19 12.4	
	comp=Z,2μm,19.4s,baz=340,slow=41						
DAV	Davao City (W)	7.12	172	Pn	Pn	18 16 12.8	+2.7
KCP	Kidapawan	7.13	176	*e* P	Pn	18 16 17.7	+7.3
TWG	Pinlang	9.24	339	Pn	Pn	18 16 36.2	-3.1
YULB	Yu-li	9.70	342	Pn	Pn	18 16 44.0	-1.5
TPUB	Ta-pu	9.84	338	Pn	Pn	18 16 47.0	-0.4
SSLB	Suanglung	10.18	341		Pn	18 16 51.5	-0.5
YOJ	Yonaguni jima	10.35	352	P	Pn	18 16 54.1	-0.3
YOJ	Yonaguni jima	10.35	352		Pn	18 16 54.0	-0.3
NACB	Ninganchiao	10.35	344		Pn	18 16 53.0	-1.4
MYLDM	Lahad Datu	10.78	215	Pn	Pn	18 17 05.3	+4.9
YHNB	Yeheng	10.88	344	Pn	Pn	18 17 01.4	-0.4
KMSI	Cibinong	13.52	183	P	P	18 17 57.0	+10
GTOI	Gorontalo	13.54	187	P	P	18 17 43.1	-3.9
	24nm,0.9s						
TNTI	Ternate	13.59	168	P	P	18 17 56.1	+8.6
TNTI	Ternate	13.59	168		P	18 17 46.4	-1.2
MPSI	Mapaga	14.52	199	P	Pn	18 17 47.6	-3.9
QIZ	Qiongzhong	14.96	291	P	Pn	18 17 55.5	-2.0
QIZ				S	Sn	18 20 37.4	-5.2
QIZ				LR	LR		
	comp=N,670nm,14.7s						
QIZ				LR	LR		
	comp=E,500nm,18.1s						
QIZ				LR	LR		
	comp=Z,590nm,15.7s						
LUWI	Luwuk	15.23	187	P	P	18 18 05.3	-0.4
	2μm1μm144nm,1.0s						
LUWI	Luwuk	15.23	187	P	P	18 18 06.1	+0.4
LUWI				IAmb	IAmb	18 18 28.2	
	comp=Z,93nm,0.7s						
DLV	T Lat	15.88	264	P	P	18 18 16.1	+2.9
SANI	Sanana	16.17	175	P	Pn	18 18 14.4	+1.2
	comp=Z,29nm,0.9s						
SIJI	Sorong	16.33	156	Pn	Pn	18 18 14.6	-0.7
	comp=Z,2.5nm,0.3s,baz=332,slow=23,SNR=14						
SBUM	Sibu	16.90	228	Pn	Pn	18 18 20.9	-1.6
SSE	Sheshan	17.14	350	P	P	18 18 27.9	+1.0
SSE				S	Sn	18 21 38.3	+3.0
SSE				pmax	pmax		
	comp=Z,28nm,0.9s						
SSE				pmax	pmax		
	comp=Z,180nm,3.4s						
SSE				LR	LR		
	comp=Z,280nm,19.6s						
SSE				LR	LR		
	comp=Z,220nm,17.6s						
NLAI	Namlea	17.47	172	P	P	18 18 32.2	+1.6
	comp=Z,32nm,0.6s						
TTSI	Tana Toraja	17.76	196	P	P	18 18 36.2	+2.4
	comp=Z,1μmcomp=Z,161nm,0.7s						
MSAI	Masohi	17.92	166	P	P	18 18 45.2	+10
JSU	Suzuyama	18.06	16	P	P	18 18 37.9	+0.7
NJ2	Nanjing	18.57	344	*e* P	P	18 18 42.4	-0.2
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,400nm,18.0s						
NJ2				LR	LR		
	comp=Z,440nm,17.0s						
NJ2				LR	LR		
	comp=Z,680nm,21.8s						
FAKI	Fak Fak	18.59	155	P	Pn	18 18 44.7	+1.4
SPSI	Sidrap Palu	18.65	195	P	Pn	18 18 44.3	+0.2
	comp=Z,45nm,0.7s						
WHN	Wuhan	18.84	332	P	Pn	18 18 48.4	+2.1
WHN				pP	sP	18 18 55.9	+0.9
WHN				sP	pwP	18 19 04.4	+10
WHN				S	S	18 22 23.6	+5.2
WHN				pmax	pmax		
	comp=Z,640nm,3.2s						
WHN				LR	LR		
	comp=Z,2μm,21.9s						
WHN				LR	LR		
	comp=Z,780nm,12.7s						
WHN

comp=Z,490nm,16.7s
KMI LR LR
comp=Z,490nm,18.7s
KMI LR LR
comp=Z,790nm,18.7s
KSAR Wonju Array Be 23.36 7 P **P** **18 19 32.5 -1.6**
KSAR Wonju Array Be 23.36 7 P **P** **18 19 32.5 -1.6**
JHJ Hachijo jima 2 23.37 34 LR LR 18 27 35.1
comp=Z,344nm,19.6s,baz=261,slow=34
KSRS Korea Array 23.37 7 P **P** **18 19 34.0 -0.1**
comp=Z,10nm,0.7s,baz=184,slow=9.7,SNR=42
KSRS PcP **PcP** **18 23 20.8 +0.2**
comp=Z,2.3nm,0.7s,baz=193,slow=2.6,SNR=6.9
KSRS LR LR 18 28 10.3
comp=Z,434nm,21.2s,baz=194,slow=35
KS19 Wonju Array Si 23.41 7 P **P** **18 19 33.1 -1.5**
SOEI Soe 23.77 181 P **P** **18 19 39.0 +0.6**
comp=Z,40nm,0.9s
SOEI Soe 23.77 181 P **P** **18 19 38.6 +0.2**
SOEI IAmb IAmb 18 20 05.8
comp=Z,39nm,1.0s
PLAI Plampang 23.84 197 P **P** **18 19 38.9 0.0**
comp=Z,2μmcomp=Z,237nm,0.8s
INU Inuyama 23.86 26 P **P** **18 19 39.2 +0.3**
INU IAmb IAmb 18 19 41.3
comp=Z,87nm,1.1s
TWSI Taliwang, Sumb 24.02 199 P **P** **18 19 40.6 0.0**
comp=Z,594nmcomp=Z,57nm,0.8s
JGF Kuroka 24.22 26 IAmb IAmb 18 19 44.4
comp=Z,72nm,1.0s
BATI Baumata 24.24 182 P **P** **18 19 40.7 -1.9**
comp=Z,49nm,0.7s,baz=60,slow=1.1,SNR=12
BATI LR LR 18 29 44.7
comp=Z,402nm,21.5s,baz=5.0,slow=38
BATI Baumata 24.24 182 P **P** **18 19 41.4 -1.2**
comp=Z,44nm,0.8s
XAN Xi'an 24.37 327 ⇑P **P** **18 19 43.8 +0.1**
XAN S **S** **18 24 07.1 +5.3**
XAN pmax pmax
comp=Z,56nm,0.7s
XAN pmax pmax
comp=Z,200nm,3.1s
XAN LR LR
comp=Z,420nm,16.3s
XAN LR LR
comp=Z,420nm,16.3s
XAN Xi'an 24.37 327 IAmb IAmb 18 19 44.8
comp=Z,35nm,0.8s
DL2 Dalian 24.78 354 P **P** **18 19 47.9 +0.6**
DL2 S **S** **18 24 09.3 +1.0**
DL2 sS sS 18 24 28.1 +10
DL2 pmax pmax
comp=Z,39nm,0.8s
DL2 pmax pmax
comp=Z,210nm,5.0s
DL2 LR LR
comp=Z,490nm,15.3s
DL2 LR LR
comp=Z,200nm,12.9s
DL2 LR LR
comp=Z,530nm,13.6s
CMAR Chiang Mai Arr 25.00 283 P **P** **18 19 49.1 -0.5**
comp=Z,7.3nm,0.8s,baz=94,slow=7.6,SNR=71
CMAR PcP **PcP** **18 23 25.7 +1.2**
comp=Z,1.7nm,0.8s,baz=46,slow=0.7,SNR=5.5
CMAR LR LR 18 30 07.0
comp=Z,260nm,20.0s,baz=95,slow=38
CMAR Chiang Mai Arr 25.00 283 P **P** **18 19 48.7 -0.9**
CMAR **PcP** **18 23 25.9 +1.4**
CHTO Chiang Mai 25.04 284 P **P** **18 19 48.8 -1.1**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 25.04 284 P **P** **18 19 48.8 -1.1**
IPM Ipoh 25.17 250 P **P** **18 19 51.0 -0.1**
KULM Kulim 25.20 252 P **P** **18 19 51.9 +0.5**
MAJO Matsushiro 25.38 26⇓ *i*P **P** **18 19 51.7 -1.1**
MAJO pmax pmax
comp=Z,19nm,0.9s
MAJO Matsushiro 25.38 26 P **P** **18 19 51.5 -1.3**
MAT Matsushiro 25.38 26 P **P** **18 19 51.5 -1.3**
MJAR Matsushiro Arr 25.38 26 P **P** **18 19 51.7 -1.1**
comp=Z,10nm,0.9s,baz=206,slow=9.1,SNR=22
MJAR PcP **PcP** **18 23 25.7 +0.7**
comp=Z,5.9nm,0.8s,baz=194,slow=3.0,SNR=15
MJAR LR LR 18 28 33.5
comp=Z,334nm,19.3s,baz=200,slow=33
MJAR Matsushiro Arr 25.38 26 P **P** **18 19 51.8 -1.1**
MJAR **PcP** **18 23 25.8 +0.7**
MJB9 Matsu-Tunnel 25.38 26 P **P** **18 19 52.2 -0.7**
MJB9 IAmb IAmb 18 20 11.2
comp=Z,26nm,0.6s
CD2 Chengdu 25.40 314 P **P** **18 19 53.9 +0.8**
CD2 pP sP 18 20 05.6 +2.8
CD2 sP pwP 18 20 14.0 +11
CD2 S **S** **18 24 20.8 +2.3**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,250nm,5.5s
CD2 LR LR
comp=Z,1μm,18.4s
CD2 LR LR
comp=Z,1μm,17.1s
CD2 LR LR
comp=Z,780nm,16.5s
PWJI Pagerwojo 25.46 211 P **P** **18 19 53.2 -0.5**
comp=Z,36nm,0.9s
TIY Taiyuan 25.83 337 *e*P **P** **18 19 57.5 +0.5**
TIY SS 18 25 30.3
TIY pmax pmax
comp=Z,36nm,0.9s
TIY pmax pmax
comp=Z,110nm,4.9s
TIY LR LR
comp=Z,150nm,11.3s
TIY LR LR
comp=Z,290nm,13.5s
TIY LR LR
comp=Z,210nm,16.6s
JSD Sado 26.67 24 P **P** **18 20 03.1 -1.4**
JSD IAmb IAmb 18 20 07.4
comp=Z,31nm,1.0s
LEM Lembang 26.83 220 LR LR 18 31 35.1
comp=Z,246nm,18.7s,baz=32,slow=38
MTN Manton Dam 27.60 166 P **P** **18 20 13.0 0.0**
MTN IAmb IAmb 18 20 39.5
comp=Z,18nm,0.7s
JMM Marumori 27.62 28 P **P** **18 20 11.8 -1.2**
JMM IAmb IAmb 18 20 13.1
comp=Z,34nm,0.8s
PSI Prapat 27.77 248 LR LR 18 31 24.7
comp=Z,418nm,19.3s,baz=82,slow=37
LZH Lanzhou 28.69 323 *e*P **P** **18 20 24.5 +1.7**
LZH pP pwP 18 20 34.9 +2.6
LZH sP sP 18 20 40.3 +7.7
LZH pmax pmax
comp=Z,25nm,1.1s
LZH Lanzhou 28.69 323 *e*P **P** **18 20 24.8 +2.0**
LZH pP pwP 18 20 34.0 +1.7
LZH sP sP 18 20 39.3 +6.7
LZH S **S** **18 25 08.8 -1.8**
LZH sS sS 18 25 33.0 +11
LZH SS **SnSn** **18 26 37.1 +5.1**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,130nm,6.0s
LZH LR LR
comp=Z,620nm,13.6s
LZH LR LR
comp=Z,740nm,14.6s
LZH LR LR
comp=Z,890nm,15.2s
HHC Hu-ho-hao-te 28.92 339 *e*P **P** **18 20 25.9 +1.2**
HHC S **S** **18 25 11.3 -2.7**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,97nm,5.4s
HHC LR LR
comp=Z,310nm,17.6s
HHC LR LR
comp=Z,380nm,20.8s
HHC LR LR
comp=Z,300nm,19.6s
BTO Baotou 29.27 337 *e*P **P** **18 20 28.1 +0.3**

VLA Vladivostok 29.52 11*c i*P **P** **18 20 30.8 +1.0**
VLA pmax pmax
comp=Z,71nm,1.1s
CN2 Changchun 29.54 1 *e*P **P** **18 20 30.1 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KNRA Kununurra 29.94 172 P **P** **18 20 33.1 -0.7**
KNRA IAmb IAmb 18 20 43.8
comp=Z,23nm,1.1s
JTM Tennabayashi 30.15 25 P **P** **18 20 33.5 -2.0**
USA0B Ussuriysk Arra 30.58 10 P **P** **18 20 40.3 +1.1**
USA0B pmax pmax
comp=Z,66nm,0.8s
USA0B Ussuriysk Arra 30.58 10 P **P** **18 20 40.3 +1.1**
USRK Ussuriysk Ar. 30.58 10 P **P** **18 20 40.3 +1.0**
comp=Z,56nm,0.7s,baz=191,slow=7.5,SNR=80
USRK LR LR 18 31 44.2
comp=Z,199nm,21.2s,baz=183,slow=34
MOKO MOKOCHONG 30.64 298 *ex* **P** **18 20 37.2 -3.0**
MOKO IAmb IAmb 18 20 52.2
comp=Z,21nm,1.2s
IMP Imphal 30.73 295 *ex* **P** **18 20 39.8 -1.1**
IMP IAmb IAmb 18 20 49.6
comp=Z,7.9nm,0.8s
KOHI KOHIMA 30.82 297 *ex* **P** **18 20 39.7 -2.1**
KOHI IAmb IAmb 18 20 52.7
comp=Z,17nm,0.9s
ZIRO ZIRO 31.58 300 *ex* **P** **18 20 49.1 +0.7**
ZIRO IAmb IAmb 18 20 52.8
comp=Z,19nm,0.9s
FITZ Fitzroy Crossi 32.08 178 P **P** **18 20 50.7 -2.0**
comp=Z,3.7nm,0.7s,baz=8.9,slow=8.4,SNR=11
FITZ Fitzroy Crossi 32.08 178 P **P** **18 20 50.6 -2.1**
TEZP TEZPUR 32.20 298 *ex* **P** **18 20 53.3 -0.4**
TEZP IAmb IAmb 18 21 04.4
comp=Z,20nm,0.9s
SHL Shillong 32.72 295 *ex* **P** **18 20 57.7 -0.9**
SHL IAmb IAmb 18 21 09.1
comp=Z,19nm,1.0s
SHL Shillong 32.72 295 P **P** **18 20 56.2 -2.4**
SHL pmax pmax
comp=Z,22nm,0.9s
SHL Shillong 32.72 295 P **P** **18 20 56.2 -2.4**
SHL IAmb IAmb 18 21 08.9
comp=Z,22nm,0.9s
GTA Gaotai 33.29 324 P **P** **18 21 03.9 +0.6**
GTA PcP **PcP** **18 23 45.6 +0.4**
GTA S **S** **18 26 19.8 -2.6**
GTA sS sS 18 26 38.8 +4.9
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,75nm,5.0s
GTA LR LR
comp=Z,150nm,14.9s
GTA LR LR
comp=Z,330nm,16.0s
GTA LR LR
comp=Z,320nm,18.5s
COEN Coen 33.44 146 P **P** **18 21 03.9 -0.7**
COEN IAmb IAmb 18 21 05.1
comp=Z,20nm,0.9s
ASAJ Asahikawa 33.56 24 P **P** **18 21 06.1 +0.7**
comp=Z,15nm,0.9s,baz=237,slow=8.7,SNR=8.7
ASAJ Asahikawa 33.56 24 P **P** **18 21 05.6 +0.2**
ASAJ pmax pmax
comp=Z,28nm,1.0s
JKA Kamikawa-asahi 33.56 24 P **P** **18 21 05.6 +0.2**
JKA IAmb IAmb 18 21 09.1
comp=Z,28nm,1.0s
LSA Lhasa 34.53 302 P **P** **18 21 13.2 -1.4**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 34.53 302 P **P** **18 21 13.2 -1.4**
LSA IAmb IAmb 18 21 16.7
comp=Z,12nm,0.7s
WB0 Warramunga Arr 35.07 164 P **P** **18 21 17.5 -1.2**
WRAB Tennant Creek 35.22 164⇓ *e*P **P** **18 21 18.8 -1.2**
WRAB pmax pmax
comp=Z,15nm,1.4s
WRAB Tennant Creek 35.22 164 P **P** **18 21 18.4 -1.5**
WRAB IAmb IAmb 18 21 34.0
comp=Z,18nm,1.1s
WRA Warramunga Arr 35.22 164 P **P** **18 21 18.7 -1.4**
comp=Z,5.2nm,0.8s,baz=341,slow=8.9,SNR=26
WRA PcP **PcP** **18 23 50.6 -0.2**
comp=Z,3.9nm,0.6s,baz=338,slow=3.2,SNR=7.8
WRA Warramunga Arr 35.22 164 P **P** **18 21 18.3 -1.7**
WB2 Warramunga Arr 35.22 164 P **P** **18 21 18.6 -1.4**
WB2 IAmb IAmb 18 21 33.1
comp=Z,11nm,0.8s
WR0 Warramunga Arr 35.29 164 P **P** **18 21 19.4 -1.3**
WR0 IAmb IAmb 18 21 36.2
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 35.83 188 P **P** **18 21 23.8 -1.4**
PSA00 Pilbara Seismi 35.83 188 P **P** **18 21 24.9 -0.3**
PSA00 IAmb IAmb 18 21 34.6
comp=Z,26nm,1.3s
GTK Tadong 36.00 297 *ex* **P** **18 21 27.5 +0.6**
ULN Ulaanbaatar 36.63 340*c i*P **P** **18 21 33.0 +1.0**
ULN pmax pmax
comp=Z,88nm,1.7s
ULN Ulaanbaatar 36.63 340 P **P** **18 21 32.6 +0.6**
SONM Songino Array 36.82 339 P **P** **18 21 34.4 +0.7**
comp=Z,9.6nm,0.6s,baz=156,slow=9.4,SNR=42
SONM LR LR 18 37 01.3
comp=Z,180nm,21.7s,baz=148,slow=37
SONM Songino Array 36.82 339 P **P** **18 21 34.4 +0.7**
GRNR Gornyy 37.74 12⇓ *i*P **P** **18 21 42.8 +1.6**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR MLR MLR
comp=E,200nm,14.0s
GRNR MLR MLR
comp=N,140nm,16.0s
GRNR MLR MLR
comp=Z,200nm,13.0s
GIRL Giralia 37.98 196 P **P** **18 21 43.7 +0.2**
AS31 Alice Springs 38.68 166 P **P** **18 21 49.9 +0.5**
AS31 IAmb IAmb 18 22 00.6
comp=Z,8.5nm,0.3s
ASAR Alice Springs 38.69 166 P **P** **18 21 49.3 -0.2**
comp=Z,8.0nm,0.5s,baz=342,slow=7.3,SNR=281
ASAR PcP **PcP** **18 24 00.5 -0.8**
comp=Z,4.7nm,0.8s,baz=359,slow=3.8,SNR=5.5
ASAR LR LR 18 39 49.8
comp=Z,101nm,19.9s,baz=353,slow=40
ASAR Alice Springs 38.69 166 P **P** **18 21 49.7 +0.2**
ASAR **PcP** **18 24 01.2 0.0**
ZEA Zeya 39.53 2 *e*P **P** **18 21 56.1 -0.1**
ZEA pmax pmax
comp=N,10.0nm,1.7s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=N,200nm,11.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
ZAK Zakamensk 40.07 339 *e*P **P** **18 21 59.7 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
H11S3 WAKE ISLAND Hy 40.53 78 T T 19 05 36.2
baz=270,slow=75,SNR=489
H11S1 WAKE ISLAND Hy 40.54 78 T T 19 05 34.0
baz=270,slow=75,SNR=552
H11S2 WAKE ISLAND Hy 40.55 78 T T 19 05 30.6
baz=270,slow=75,SNR=568
TLY Talaya 41.04 340 P **P** **18 22 09.2 +0.4**
comp=Z,6.3nm,0.7s,baz=286,slow=4.3,SNR=5.7
TLY Talaya 41.04 340 *e*P **P** **18 22 09.4 +0.6**
TLY pmax pmax
comp=Z,22nm,0.9s
TLY MLR MLR
comp=Z,189nm,11.0s
TLY Talaya 41.04 340 P **P** **18 22 09.0 +0.3**
MOY Mondy 41.95 338 *e*P **P** **18 22 17.1 +0.8**
MOY pmax pmax
comp=Z,22nm,1.5s
WMQ Urumqi 43.19 321 *e*P **P** **18 22 26.9 +0.4**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,68nm,4.5s
WMQ LR LR
comp=Z,210nm,18.1s
WMQ LR LR
comp=Z,230nm,20.5s
WMQ LR LR
comp=Z,160nm,16.5s
MORW Morawa 43.78 191 P **P** **18 22 29.6 -1.6**
BOD Bodaibo 44.30 352 *e*P **P** **18 22 35.5 +0.4**
BOD pmax pmax
comp=Z,23nm,1.3s
HYB Hyderabad 44.37 280 *i*P **P** **18 22 40.0 +3.7**
FORT Forrest 44.81 176 P **P** **18 22 38.5 -0.9**
FORT IAmb IAmb 18 23 02.8
comp=Z,32nm,0.9s
DGZ Jazzator, Alta 46.63 327*c i*P **P** **18 22 54.7 +0.8**
DGZ pmax pmax
comp=Z,23nm,1.6s
ZSN Zaisan 46.78 323 *e*P **P** **18 22 54.3 -0.7**
ZSN Zaisan 46.78 323 *e*P **P** **18 22 54.3 -0.7**
PEA0B Petropavlovsk- 46.84 27 P **P** **18 22 55.6 +0.4**
PEA0B pmax pmax
comp=Z,62nm,1.1s
PEA0B Petropavlovsk- 46.84 27 P **P** **18 22 55.6 +0.4**
PETK Petropavlovsk- 46.84 27 P **P** **18 22 56.2 +1.0**
comp=Z,33nm,0.9s,baz=206,slow=2.1,SNR=21
PETK LR LR 18 44 29.4
comp=Z,87nm,18.5s,baz=216,slow=38
PETK Petropavlovsk- 46.84 27 P **P** **18 22 56.0 +0.8**
PETK Petropavlovsk- 46.84 27 P **P** **18 22 56.0 +0.8**
PET Petropavlovsk 47.20 27*ce*P **P** **18 22 58.8 +0.8**
PET pmax pmax
comp=Z,321nm,1.3s
PET Petropavlovsk 47.20 27 P **P** **18 22 58.9 +0.9**
DHRM DHARAMSHALA 47.49 301 *ex* **P** **18 22 57.6 -3.4**
DHRM IAmb IAmb 18 23 13.8
comp=Z,19nm,0.8s
YAK Yakutsk 47.93 3 LR LR 18 43 26.5
comp=Z,171nm,20.0s,baz=208,slow=36
YAK Yakutsk 47.93 3 *e*P **P** **18 23 03.1 -0.5**
YAK *e**PP **pwP** **18 23 13.3 -0.7**
YAK *e* 18 24 27.5
YAK *e* 18 24 52.9
YAK *e*PPP PPP 18 25 51.6
YAK *e*S **S** **18 29 57.7 -1.7**
YAK *e**SS sS 18 30 18.9 +8.3
YAK *e* 18 32 52.2
YAK *e*SSS SSS 18 34 40.3
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,32nm,3.0s
YAK pmax pmax
comp=N,155nm,2.7s
YAK pmax pmax
comp=E,84nm,2.8s
YAK smax smax
comp=N,58nm,2.0s
YAK smax smax
comp=E,22nm,2.0s
YAK Yakutsk 47.93 3 P **P** **18 23 03.3 -0.2**
BBOO Buckleboo 47.98 167 P **P** **18 23 04.4 0.0**
MK31 Makanchi Array 47.98 321 P **P** **18 23 04.8 +0.5**
MK31 pmax pmax
comp=Z,12nm,0.8s
MK31 Makanchi Array 47.98 321 P **P** **18 23 04.8 +0.5**
MK31 IAmb IAmb 18 23 06.0
comp=Z,12nm,0.8s
MKAR Makanchi Array 47.98 321 P **P** **18 23 05.0 +0.7**
comp=Z,14nm,0.8s,baz=115,slow=8.8,SNR=106
MKAR PcP **PcP** **18 24 32.1 -0.1**
comp=Z,3.5nm,0.7s,baz=110,slow=4.5,SNR=3.6
MKAR LR LR 18 45 44.8
comp=Z,177nm,18.9s,baz=116,slow=39
MKAR Makanchi Array 47.98 321 P **P** **18 23 04.6 +0.3**
MAKZ Makanchi 48.17 321 P **P** **18 23 06.1 +0.3**
MAKZ pmax pmax
comp=Z,20nm,1.2s
MAKZ Makanchi 48.17 321 P **P** **18 23 06.1 +0.3**
MAKZ IAmb IAmb 18 23 07.5
comp=Z,20nm,1.2s
SHLS Shalkode 48.22 316 *e*P **P** **18 23 04.6 -1.7**
comp=Z,6.8nm,0.8s
SHLS Shalkode 48.22 316 *e*P **P** **18 23 04.6 -1.7**
SHLS pmax pmax
comp=Z,7.0nm,0.8s
PDGK Podgornoye 48.27 316 P **P** **18 23 07.1 +0.4**
UZB Uzynbulak 48.51 316 *e*P **P** **18 23 09.2 +0.6**
comp=Z,5.6nm,0.7s
UZB Uzynbulak 48.51 316 *e*P **P** **18 23 09.2 +0.6**
UZB pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 48.59 161 P **P** **18 23 09.7 +0.6**
comp=Z,16nm,0.8s,baz=330,slow=7.9,SNR=22
STKA LR LR 18 45 17.4
comp=Z,87nm,21.8s,baz=0.7,slow=38
STKA Stephens Creek 48.59 161 P **P** **18 23 09.4 +0.3**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 48.59 161 P **P** **18 23 09.4 +0.3**
SATY Saty 48.90 315 *e*P **P** **18 23 12.3 +0.7**
comp=Z,5.0nm,0.7s
SATY Saty 48.90 315 *e*P **P** **18 23 12.2 +0.7**
SATY pmax pmax
comp=Z,5.0nm,0.7s
KDJ Kajisay 49.42 314 P **P** **18 23 15.0 -0.6**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 49.42 314 P **P** **18 23 15.0 -0.6**
KSH Kashi 49.47 310 *i*P **P** **18 23 18.3 +2.3**
KSH pmax pmax
comp=Z,16nm,0.8s
MDOK Medeo 49.86 315 *e*P **P** **18 23 19.8 +0.8**
MDOK Medeo 49.86 315 *e*P **P** **18 23 19.7 +0.8**
TNSS Tian-Shan 49.89 315 *e*P **P** **18 23 20.6 +1.1**
TNSS Tian-Shan 49.89 315 *e*P **P** **18 23 20.5 +1.1**
NIL Nilore 50.26 302 P **P** **18 23 21.1 -0.9**
NIL pmax pmax
comp=Z,26nm,0.9s
NIL Nilore 50.26 302 P **P** **18 23 21.1 -0.9**
ZAA0 Zalesovo Array 50.45 331 P **P** **18 23 22.1 -0.9**
ZAA0 IAmb IAmb 18 23 23.9
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 50.45 331 P **P** **18 23 22.9 -0.1**
comp=Z,18nm,0.8s,baz=117,slow=6.6,SNR=56
ZALV LR LR 18 46 06.5
comp=Z,152nm,18.1s,baz=64,slow=38
ZALV Zalesovo Beam 50.45 331 P **P** **18 23 22.7 -0.4**
ZALV Zalesovo Beam 50.45 331 P **P** **18 23 22.7 -0.4**
KUU Kurty 50.60 316 *e*P **P** **18 23 23.3 -1.1**
KUU Kurty 50.60 316 *e*P **P** **18 23 23.2 -1.1**
TKM2 Tokmak 2 50.78 314 P **P** **18 23 27.1 +1.1**
SNR=8.6
TKM2 Tokmak 2 50.78 314 *i*P **P** **18 23 26.5 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
KBK Karagaybulak 51.15 314 P **P** **18 23 30.2 +1.5**
SNR=10
UCH Uchtor 51.33 313 P **P** **18 23 32.2 +1.8**
SNR=18
CHMS Chumysh 51.40 314 P **P** **18 23 31.1 +0.7**
SNR=6.8
AAK Ala-Archa 51.46 314⇑ *e*P **P** **18 23 32.1 +1.0**
AAK pmax pmax
comp=Z,21nm,1.7s
SGDS Sogindy 51.62 315 *e*P **P** **18 23 31.9 -0.3**
SGDS Sogindy 51.62 315 *e*P **P** **18 23 31.8 -0.3**
USP Ospenovka 51.66 314 P **P** **18 23 33.3 +1.0**
SNR=10
AML Almayashu 51.88 313 P **P** **18 23 35.9 +1.4**
SNR=10
KURK Kurchatov 51.97 325*c i*P **P** **18 23 34.7 +0.3**
KURK pmax pmax
comp=Z,82nm,1.3s
KURK Kurchatov 51.97 325 P **P** **18 23 34.8 +0.3**
EKS2 Erkin-Say 51.98 313 P **P** **18 23 36.1 +1.2**
SNR=13
KURBB Kurchatov Arra 51.98 324 P **P** **18 23 34.9 +0.4**
SEY Seymchan 52.48 16 LR LR 18 45 30.9
comp=Z,116nm,20.9s,baz=200,slow=36
SEY Seymchan 52.48 16⇑ *i*P **P** **18 23 38.5 +0.4**
BTLS Baital 52.54 316 *e*P **P** **18 23 39.0 +0.2**
comp=Z,7.7nm,0.9s

BTLS **Baital** **52.54** **316** *e*P **P** **18 23 39.0 +0.2**
BTLS pmax pmax
comp=Z,8.0nm,0.9s
BTK **Batken** **53.45** **310** P **P** **18 23 45.4 -0.3**
BTK pmax pmax
comp=Z,10.0nm,1.0s
BTK **Batken** **53.45** **310** P **P** **18 23 45.4 -0.3**
GAR **Garm** **53.60** **308** P **P** **18 23 46.9 0.0**
DZA **Taraz** **53.77** **313** *e*P **P** **18 23 47.8 -0.2**
DZA **Taraz** **53.77** **313** *e*P **P** **18 23 47.8 -0.2**
CAN **Canberra** **54.38** **155** P **P** **18 23 54.8 +2.4**
CAN pmax pmax
comp=Z,31nm,1.4s
CAN **Canberra** **54.38** **155** P **P** **18 23 54.8 +2.4**
CAN IAmb IAmb 18 24 00.1
comp=Z,31nm,1.4s
KK31 **Karatay Array** **54.40** **313** P **P** **18 23 52.3 -0.3**
KK31 pmax pmax
comp=Z,15nm,0.8s
KK31 **Karatay Array** **54.40** **313** P **P** **18 23 52.3 -0.3**
KK31 IAmb IAmb 18 23 54.2
comp=Z,15nm,0.8s
KKAR **Karatay Array** **54.40** **313** P **P** **18 23 52.4 -0.2**
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR **Karatay Array** **54.40** **313** P **P** **18 23 52.4 -0.2**
KKAR IAmb IAmb 18 23 54.2
comp=Z,15nm,0.8s
KKAR **Karatay Array** **54.40** **313** P **P** **18 23 52.5 0.0**
CHGR **Chuyangaron** **54.42** **308** P **P** **18 23 52.8 0.0**
IUG **Iuzhnay** **54.51** **312** *e*P **P** **18 23 54.2 +0.6**
comp=Z,8.1nm,0.7s
IUG **Iuzhnay** **54.51** **312** *e*P **P** **18 23 54.1 +0.6**
IUG pmax pmax
comp=Z,8.0nm,0.7s
TOO **Toolangi** **55.08** **160** P **P** **18 23 58.5 +1.0**
TOO pmax pmax
comp=Z,38nm,1.4s
TOO **Toolangi** **55.08** **160** P **P** **18 23 58.5 +1.0**
TOO IAmb IAmb 18 24 22.2
comp=Z,38nm,1.4s
BRZS **Berezniki** **55.13** **322** *e*P **P** **18 23 58.4 +0.6**
comp=Z,18nm,0.7s
BRZS **Berezniki** **55.13** **322** *e*P **P** **18 23 58.3 +0.6**
BRZS pmax pmax
comp=Z,18nm,0.7s
TIXI **Tiksi** **57.51** **2***c e*P **P** **18 24 13.8 -0.5**
TIXI pmax pmax
comp=Z,225nm,1.3s
TIXI **Tiksi** **57.51** **2** P **P** **18 24 13.6 -0.6**
BRVK **Borovoye** **57.64** **325***c i*P **P** **18 24 16.1 +0.6**
BRVK pmax pmax
comp=Z,32nm,1.3s
BRVK **Borovoye** **57.64** **325** P **P** **18 24 15.8 +0.3**
BRVK IAmb IAmb 18 24 17.2
comp=Z,23nm,0.9s
HRA **Herat** **59.43** **302** P **P** **18 24 28.0 -0.6**
NRIK **Noril'sk** **59.86** **346** P **P** **18 24 30.8 +0.2**
comp=Z,30nm,0.9s,baz=129,slow=6.6,SNR=28
NRIK LR LR 18 52 52.5
comp=Z,281nm,18.3s,baz=198,slow=38
BILL **Bilibino** **60.13** **17***c i*P **P** **18 24 32.7 +0.1**
BILL *e* 18 25 16.6
BILL *e* 18 26 47.9
BILL pmax pmax
comp=Z,48nm,1.7s
BILL MLR MLR
comp=Z,827nm,21.0s
BILL **Bilibino** **60.13** **17** P **P** **18 24 32.6 0.0**
AB31 **Akbulak array** **62.90** **318** *i*P **P** **18 24 51.6 0.0**
ABKAR **Akbulak array** **62.90** **318** P **P** **18 24 51.6 0.0**
ABKAR IAmb IAmb 18 24 53.0
comp=Z,17nm,1.1s
GEYT **Alibeck** **62.96** **305** P **P** **18 24 53.3 +1.0**
comp=Z,4.8nm,0.7s,baz=134,slow=4.3,SNR=8.2
GEYT LR LR 18 54 45.3
comp=Z,223nm,19.4s,baz=110,slow=38
SVE **Sverdlovsk** **64.08** **327***d i*P **P** **18 24 59.8 +0.5**
SVE pmax pmax
comp=Z,62nm,1.1s
ARU **Arti** **65.11** **326***c i*P **P** **18 25 05.6 -0.4**
ARU 18 25 36.6
ARU 18 27 24.6
ARU S **S** **18 33 46.2 -0.8**
ARU SS **SS** **18 37 58.5 -0.8**
ARU pmax pmax
comp=Z,39nm,0.6s
ARU **Arti** **65.11** **326** P **P** **18 25 05.4 -0.6**
UNV **Unalaska Valle** **66.22** **37** P **P** **18 25 13.3 +0.1**
SOCY **Socotra** **68.56** **278** P **P** **18 25 26.8 -2.1**
SOCY IAmb IAmb 18 25 39.5
comp=Z,17nm,1.1s
RPZ **Rata Peaks** **71.50** **146** LR LR 18 59 42.6
comp=Z,52nm,18.0s,baz=184,slow=38
PRGR **Permogore** **72.41** **331** *e*P **P** **18 25 50.4 -1.0**
PRGR pmax pmax
comp=Z,43nm,0.7s
TTA **Tatalina** **72.65** **28** P **P** **18 25 53.3 +0.4**
TTA pmax pmax
comp=Z,16nm,1.1s
TTA **Tatalina** **72.65** **28** P **P** **18 25 53.3 +0.4**
TTA IAmb IAmb 18 25 54.9
comp=Z,16nm,1.1s
SVW2 **Sparrevohn** **72.78** **30** P **P** **18 25 53.1 -0.5**
SVW2 IAmb IAmb 18 25 55.4
comp=Z,13nm,0.9s
IMAR **Indian Mountai** **73.75** **25** P **P** **18 25 59.2 0.0**
ZEI **Tsey** **73.75** **311** *e*P **P** **18 25 59.6 -0.4**
ZEI pmax pmax
comp=Z,25nm,1.0s
KBZ **Khabaz** **74.41** **312** P **P** **18 26 03.8 +0.3**
comp=Z,15nm,0.9s,baz=85,slow=5.7,SNR=14
KBZ LR LR 19 03 13.3
comp=Z,122nm,18.0s,baz=74,slow=39
KIV **Kislovodsk** **74.54** **312** *e*P **P** **18 26 04.5 +0.1**
KIV pmax pmax
comp=Z,141nm,1.0s
KIV MLR MLR
comp=Z,282nm,18.0s
KIV **Kislovodsk** **74.54** **312** P **P** **18 26 05.2 +0.8**
VRH **Novokhopyorsk** **74.66** **320** *e*P **P** **18 26 03.6 -1.2**
VRH pmax pmax
comp=Z,30nm,0.7s
MLY **Manley** **75.00** **26** P **P** **18 26 07.2 +0.6**
baz=271
SUA **Susitna One** **75.11** **30** IAmb IAmb 18 26 08.1
comp=Z,24nm,0.9s
BRLK **Bradley Lake** **75.11** **31** IAmb IAmb 18 26 10.9
comp=Z,37nm,1.1s
COLD **Coldfoot** **75.18** **24** P **P** **18 26 08.4 +0.9**
baz=271
COLD **Coldfoot** **75.18** **24** IAmb IAmb 18 26 09.9
comp=Z,23nm,1.2s
TRF **Thorofare Moun** **75.25** **28** IAmb IAmb 18 26 09.5
comp=Z,19nm,0.9s
CUT **Chulitna** **75.30** **29** P **P** **18 26 08.8 +0.5**
baz=273
TOLK **Toolik Lake Re** **75.38** **22** P **P** **18 26 09.3 +0.6**
baz=272
I23K **Minto, Yukon-K** **75.58** **26** P **P** **18 26 10.6 +0.7**
baz=273
RC01 **Rabbit Creek A** **75.61** **30** P **P** **18 26 10.0 -0.1**
baz=273
O22K **Cooper Landing** **75.66** **31** P **P** **18 26 10.5 +0.1**
baz=274
NEA2 **Nenana** **75.73** **26** P **P** **18 26 11.0 +0.3**
baz=273
MCK **McKinley** **75.84** **27** P **P** **18 26 11.3 -0.2**
baz=273
RND **Reindeer** **75.89** **28** P **P** **18 26 10.8 -1.0**
RND pmax pmax
comp=Z,28nm,0.9s
RND **Reindeer** **75.89** **28** P **P** **18 26 10.8 -1.0**
RND IAmb IAmb 18 26 12.7
comp=Z,28nm,0.9s
GHO **Glory Hole Cre** **75.96** **29** P **P** **18 26 10.4 -1.8**
GHO IAmb IAmb 18 26 22.6
comp=Z,18nm,1.1s
MDM **Murphy Dome** **76.07** **26** P **P** **18 26 12.8 0.0**
WRH **Wood River Hil** **76.16** **26** P **P** **18 26 12.7 -0.5**
WRH IAmb IAmb 18 26 15.1
comp=Z,21nm,1.3s
TCOL **CIGO, UAF Yank** **76.23** **26** P **P** **18 26 13.9 +0.3**
baz=274
COLA **College** **76.24** **26***d i*P **P** **18 26 13.9 +0.3**
COLA pmax pmax
comp=Z,17nm,1.1s
VSR **Storozhevoye** **76.26** **320** *e*P **P** **18 26 12.7 -1.3**
VSR pmax pmax
comp=Z,30nm,1.0s
CCB **Clear Creek Bu** **76.28** **26** IAmb IAmb 18 26 15.5
comp=Z,16nm,1.2s
LPSR **Galich'ya Gora** **76.28** **321** *e*P **P** **18 26 13.6 -0.5**
LPSR pmax pmax
comp=Z,40nm,0.9s
POKR **Poker Plat Res** **76.40** **26** P **P** **18 26 15.2 +0.6**
baz=274
DHY **Denali Highway** **76.58** **28** IAmb IAmb 18 26 17.2
comp=Z,15nm,0.9s
ILAR **Eielson Array** **76.66** **26** P **P** **18 26 14.9 -1.1**
comp=Z,4.7nm,0.8s,baz=239,slow=4.6,SNR=40
HDA **Harding Lake** **76.66** **26** P **P** **18 26 15.3 -0.7**
baz=275
HDA **Harding Lake** **76.66** **26** IAmb IAmb 18 26 16.5
comp=Z,24nm,1.2s
MOS **Moscow** **76.74** **325** *e*P **P** **18 26 14.0 -2.6**
MOS *e* 18 26 28.0
MOS pmax pmax
comp=Z,38nm,1.1s
LVZ **Lovozero** **76.98** **337**⇑ *e*P **P** **18 26 17.7 -0.1**
LVZ pmax pmax
comp=Z,55nm,2.2s
M24K **Tolsona, Glenn** **77.23** **29** P **P** **18 26 20.3 +0.9**
baz=276
BMAR **Burnt Mountain** **77.34** **23** P **P** **18 26 21.2 +1.4**
OBN **Obninsk** **77.41** **324***c i*P **P** **18 26 19.9 -0.4**
OBN *e* 18 26 29.0
OBN *e* 18 29 14.7
OBN *e*PPP PPP 18 31 01.5
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,83nm,17.0s
KLU **Klutina** **77.42** **29** P **P** **18 26 20.4 0.0**
KLU IAmb IAmb 18 26 21.4
comp=Z,11nm,0.8s
APA **Apatity** **77.48** **337**⇓ *i*P **P** **18 26 19.4 -1.2**
APA pmax pmax
comp=Z,19nm,0.9s
SCRK **Sand Creek** **78.00** **27** P **P** **18 26 23.7 0.0**
baz=278
N25K **Chitina, Valde** **78.03** **29** P **P** **18 26 24.3 +0.5**
baz=278
ANN **Anapa** **78.19** **313** *e*P **P** **18 26 24.1 -0.8**
ANN *e**PP **sP** **18 26 34.0 -1.4**
ANN *e*S **S** **18 36 18.1 -0.1**
ANN pmax pmax
comp=Z,90nm,1.2s
GLB **Gilahina Butte** **78.43** **29** IAmb IAmb 18 26 27.8
comp=Z,32nm,1.0s
K27K **Chicken** **78.82** **27** P **P** **18 26 29.4 +1.3**
baz=279
EGAK **Eagle** **79.09** **26** IAmb IAmb 18 26 30.9
comp=Z,11nm,0.8s
CTGM **Chitina Glacie** **79.69** **30** P **P** **18 26 33.5 +0.4**
SPA0 **Spitsbergen Ar** **79.90** **349** P **P** **18 26 34.0 +0.2**
ARCES **ARCESS Array B** **80.00** **339** P **P** **18 26 34.8 +0.4**
comp=Z,11nm,0.7s,baz=75,slow=6.0,SNR=48
ARCES LR LR 19 07 49.7
comp=Z,67nm,18.4s,baz=330,slow=40
KBS **Kingsbay** **80.42** **350***ce*P **P** **18 26 36.5 0.0**
KBS pmax pmax
comp=Z,12nm,0.8s
CASY **Casey** **80.90** **186** P **P** **18 26 38.4 -0.7**
INK **Inuvik** **81.27** **22** P **P** **18 26 41.1 -0.1**
INK pmax pmax
comp=Z,21nm,1.1s
INK **Inuvik** **81.27** **22** P **P** **18 26 41.1 -0.1**
INK IAmb IAmb 18 26 42.5
comp=Z,21nm,1.1s
FINES **FINESS Array B** **81.72** **331** P **P** **18 26 43.6 0.0**
comp=Z,19nm,1.0s,baz=61,slow=4.7,SNR=38
FINES LR LR 19 05 45.7
comp=Z,94nm,18.4s,baz=80,slow=38
FINES **FINESS Array B** **81.72** **331** P **P** **18 26 43.2 -0.5**
FINES **FINESS Array B** **81.72** **331** P **P** **18 26 43.1 -0.5**
BRTR **Keskin Array B** **81.84** **309** P **P** **18 26 44.6 -0.4**
comp=Z,20nm,0.7s,baz=134,slow=4.4,SNR=6.1
BRTR **Keskin Array B** **81.84** **309** P **P** **18 26 43.6 -1.4**
BRTR **Keskin Array B** **81.84** **309** P **P** **18 26 43.6 -1.4**
VSU **Vasula** **82.13** **328***d i*P **P** **18 26 46.2 +0.3**
VSU pmax pmax
comp=Z,93nm,1.0s
AKASG **Malin Array Be** **82.55** **320** P **P** **18 26 47.4 -0.8**
comp=Z,9.7nm,0.9s,baz=63,slow=4.7,SNR=22
AKASG **Malin Array Be** **82.55** **320** P **P** **18 26 46.9 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG **Malin Array Be** **82.55** **320** P **P** **18 26 46.9 -1.4**
NOR **Nord** **82.57** **355** *i*P **P** **18 26 47.2 -0.6**
NOR pmax pmax
comp=Z,10.0nm,1.0s
NOR **Nord** **82.57** **355** *i*P **P** **18 26 47.2 -0.6**
comp=Z,9.6nm,1.0s
NOR **Nord** **82.57** **355** *i*P **P** **18 26 47.2 -0.6**
NOR IAmb IAmb 18 26 48.1
comp=Z,9.6nm,1.0s
NACGM **Naroch** **82.98** **325** *e* **P** **18 26 49.0 -1.4**
SORM **Soroca** **83.71** **318** ⇓P **P** **18 26 53.3 -1.0**
SORM **Soroca** **83.71** **318** ⇓P **P** **18 26 53.3 -1.0**
C36M **Paulatuk** **84.12** **19** P **P** **18 26 56.4 +0.4**
baz=295
TPGR **Topolog** **84.47** **315** ⇓P **P** **18 26 58.5 +0.2**
EUNU **Eureka** **84.54** **5** P **P** **18 26 57.8 -0.3**
EUNU IAmb IAmb 18 27 00.1
comp=Z,10.0nm,0.8s
CFR **Carcaliu** **84.58** **315** ⇓P **P** **18 26 58.9 +0.1**
CFR **Carcaliu** **84.58** **315** ⇓P **P** **18 26 58.9 +0.1**
HARR **Harsova** **84.84** **315** ⇑P **P** **18 27 00.7 +0.5**
HARR **Harsova** **84.84** **315** ⇑P **P** **18 27 00.7 +0.5**
PETR **Petresti** **85.06** **316** ⇑P **P** **18 27 03.0 +1.8**
TESR **Tescani** **85.24** **317** ⇓P P 18 26 55.5 -6.6
PRAR **RASCA** **85.29** **318** ⇓P **P** **18 27 02.3 -0.1**
VRI **Vrincioaia** **85.36** **316** ⇑P **P** **18 27 03.2 +0.4**
VRI **Vrincioaia** **85.36** **316** ⇑P **P** **18 27 03.2 +0.4**
PLOR **Plostina** **85.42** **316** ⇓P **P** **18 27 03.7 +0.6**
PLOR **Plostina** **85.42** **316** ⇓P **P** **18 27 03.7 +0.6**
BISRR **Bisoca** **85.45** **316** ⇓P **P** **18 27 04.6 +1.3**
BIZ **Bicaz** **85.48** **317** ⇑P **P** **18 27 03.5 +0.1**
NEHR **Nehoiu** **85.77** **316** ⇓P **P** **18 27 05.6 +0.8**
BURAR **Bucovina Array** **85.88** **318** ⇑P **P** **18 27 05.8 +0.4**
BURAR **Bucovina Array** **85.88** **318** ⇑P **P** **18 27 05.8 +0.4**
BURAR **Bucovina Array** **85.88** **318** P **P** **18 27 05.4 0.0**
BUR08 **Bucovina Ar. S** **85.88** **318** P **P** **18 27 05.3 -0.2**
OZUR **85.93** **316** ⇓P **P** **18 27 05.9 +0.3**
MLR **Muntele Rosu** **85.99** **316** ⇓P **P** **18 27 05.1 -0.9**
MLR **Muntele Rosu** **85.99** **316** ⇓P **P** **18 27 05.1 -0.9**
LVV **L'vov** **86.00** **320** *e*P **P** **18 27 06.9 +1.1**
SULR **86.00** **315** ⇓P **P** **18 27 06.7 +0.8**
DOPR **Dopca** **86.23** **316** ⇓P **P** **18 27 04.7 -2.4**
ARCR **ARCALIA** **86.59** **318** ⇑P **P** **18 27 09.3 +0.5**
VOIR **86.61** **316** ⇓P **P** **18 27 11.7 +2.7**
VOIR **86.61** **316** ⇓P **P** **18 27 11.7 +2.7**
DAG **Danmarks Havn** **86.69** **352** *i*P **P** **18 27 07.4 -1.3**
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG **Danmarks Havn** **86.69** **352** *i*P **P** **18 27 07.4 -1.3**
comp=Z,9.8nm,0.8s
DAG **Danmarks Havn** **86.69** **352** *i*P **P** **18 27 07.5 -1.3**
DAG IAmb IAmb 18 27 09.9
comp=Z,9.8nm,0.8s
ARR **Arges** **86.91** **316** ⇑P **P** **18 27 11.2 +0.7**
KOLS **Kolonicke sedl** **87.36** **320** *e*P **P** **18 27 12.0 -0.5**
KOLS **Kolonicke sedl** **87.36** **320** *e*P **P** **18 27 12.0 -0.5**
UZH **Vehgorod** **87.44** **320**⇑ *i*P **P** **18 27 13.0 +0.1**
CRVS **Cervenica-Dubn** **87.88** **320** *e*P **P** **18 27 15.3 +0.3**
CRVS **Cervenica-Dubn** **87.88** **320** *e*P **P** **18 27 15.3 +0.3**
NB2 **NORSAR Subarra** **88.57** **333** P **P** **18 27 16.5 -1.6**
comp=Z,0.7nm,0.8s,baz=68,slow=5.3
NOA **NORSAR Array B** **88.57** **333** P **P** **18 27 16.5 -1.6**
comp=Z,1.8nm,0.8s,baz=62,slow=4.9,SNR=5.0
NOA LR LR 19 10 37.1
comp=Z,193nm,19.3s,baz=65,slow=38
DBG **Daneborg** **88.95** **351** *i*P **P** **18 27 23.9 +4.3**
VYHS **Vyhne** **89.65** **320** *e*P **P** **18 27 22.2 -1.2**
VYHS **Vyhne** **89.65** **320** *e*PKP **P** **18 27 23.1 -0.3**
VYHS **Vyhne** **89.65** **320** *e*P **P** **18 27 22.2 -1.2**
YKA **Yellowknife Ar** **90.86** **24** P **P** **18 27 28.7 0.0**
comp=Z,2.3nm,0.7s,baz=302,slow=3.7,SNR=6.5
BRG **Berggiesshubel** **91.65** **324** *e*P **P** **18 27 31.3 -1.3**
comp=Z,2.5nm,1.0s
BRG **Berggiesshubel** **91.65** **324** *e*P **P** **18 27 31.3 -1.3**
BRG pmax pmax
comp=Z,3.0nm,1.0s
CLL **Collm** **92.00** **324** *i*P **P** **18 27 33.7 -0.5**
CLL **Collm** **92.00** **324** *i*P **P** **18 27 33.7 -0.5**
GERES **GERESS Array B** **92.65** **322** P **P** **18 27 37.1 -0.3**
comp=Z,0.8nm,0.8s,baz=60,slow=6.3,SNR=5.9
MOA **Molln** **92.72** **321** *e*P **P** **18 27 38.3 +0.6**
comp=Z,3.9nm,1.1s
MAW **Mawson** **92.80** **200** P **P** **18 27 36.6 -0.7**
comp=Z,2.4nm,1.1s,baz=347,slow=13,SNR=3.7
VNDA **Vanda** **93.98** **172** P **P** **18 27 41.8 -0.9**
comp=Z,1.7nm,0.8s,baz=277,slow=4.2,SNR=4.3
D03D **Eldon** **94.03** **39** P **P** **18 27 44.5 +0.8**
baz=296
ABTA **Abfaltersbach** **94.27** **320** *e*P **P** **18 27 43.7 -1.2**
comp=Z,2.0nm,0.8s
WTTA **Wattenberg** **94.58** **321** *e*P **P** **18 27 46.2 -0.2**
comp=Z,6.6nm,1.7s
SQTA **Sankt Quirin** **94.86** **321** P **P** **18 27 46.5 -1.1**
comp=Z,4.1nm,1.3s
MOTA **Moosalm** **94.87** **321** P **P** **18 27 47.5 -0.2**
comp=Z,3.0nm,0.9s
FETA **Feichten** **95.24** **321** *e*P **P** **18 27 48.3 -1.2**
comp=Z,3.1nm,0.9s
NEW **Newport** **97.23** **36** LR LR 19 15 12.7
comp=Z,29nm,18.4s,baz=282,slow=38
NVAR **Mina Array Bea** **101.31** **45** P **Pdif** **18 28 17.1 +0.2**
comp=Z,1.5nm,0.7s,baz=272,slow=5.4,SNR=12
SYO **Syowa Base** **101.34** **201**⇑ *e*PP **PP** **18 32 28.8 +3.3**
SYO **Syowa Base** **101.34** **201**⇑ *e*X **PKiKP** **18 32 43.7 +3.5**
TXAR **Lajitas Array** **116.42** **47** PKP **PKPdf** **18 33 09.5 -0.4**
comp=Z,0.7nm,0.7s,baz=192,slow=0.3,SNR=11
TXAR **Lajitas Array** **116.42** **47** **PKPdf** **18 33 09.4 -0.5**
TORD **Torodi Ar. Bea** **117.30** **293** PKP **PKPdf** **18 33 10.7 -1.1**
comp=Z,1.3nm,0.8s,baz=22,slow=0.9,SNR=7.0
TORD PKKPbc **PKKPab** **18 43 39.2 -0.5**
comp=Z,1.1nm,1.0s,baz=257,slow=5.3,SNR=4.8
U40A **Yellville** **118.54** **34** **PKPdf** **18 33 12.9 -0.7**
T42A **Van Buren** **118.97** **32** **PKPdf** **18 33 13.5 -0.9**
WVT **Waverly** **121.32** **31** PKIKP **PKPdf** **18 33 18.4 -0.6**
WVT **Waverly** **121.32** **31** **PKPdf** **18 33 18.4 -0.6**
PLAL **Pickwick Lake** **122.10** **32** PKPdf **PKPdf** **18 33 19.8 -0.7**
TKL **Tuckaleechee C** **123.62** **28** PKIKP **PKPdf** **18 33 23.7 +0.2**
TKL **Tuckaleechee C** **123.62** **28** **PKPdf** **18 33 23.7 +0.2**
DBIC **Dimbokro** **125.77** **289** PKP **PKPdf** **18 33 28.0 0.0**
comp=Z,3.8nm,0.9s,baz=281,slow=7.0,SNR=2.3
CRPR **Cabo Rojo, PR** **146.00** **20** PKPdf **PKPdf** **18 34 05.3 +0.1**
CUPR **Culebra, Puert** **146.28** **17** PKPbc **PKPdf** **18 34 06.2 +0.5**
PDPR **Patillas Dam,** **146.34** **18** **PKPbc** **18 34 06.9 -0.1**
MTP **Monte Pirata** **146.40** **18** **PKPdf** **18 34 06.6 +0.6**
SJCC **San Jacinto, C** **149.05** **40** *e*P **PKPdf** **18 34 12.3 +1.8**
PTAC **Punta Ardita,** **149.27** **48**⇓ *e*P **PKPab** **18 34 20.5 +0.9**
URIC **Uribia, Colomb** **149.47** **33** *e*P **PKPbc** **18 34 15.4 -0.1**
PLCA **Paso Flores** **150.40** **156** PKPbc **PKPbc** **18 34 17.9 +0.7**
comp=Z,13nm,0.9s,baz=223,slow=4.6,SNR=28
PLCA **Paso Flores** **150.40** **156** PKIKP **PKPbc** **18 34 17.5 +0.3**
PLCA **Paso Flores** **150.40** **156** **PKPbc** **18 34 17.5 +0.3**
URCC **San Jos de Ur** **150.43** **44** *e*P **PKPdf** **18 34 13.5 +0.8**
SMLC **San Martn de** **150.59** **40** *e*P **PKPdf** **18 34 13.5 +0.7**
FDF **Fort de France** **150.72** **11** PKIKP **PKPbc** **18 34 18.8 +0.2**
FDF **Fort de France** **150.72** **11** **PKPbc** **18 34 18.8 +0.2**
ZARC **Zaragoza, Cauc** **151.07** **43** *e*P **PKPdf** **18 34 12.2 -1.5**
LC01 **Cunco** **151.38** **152** **PKPbc** **18 34 19.4 -0.1**
CBOC **Ciudad Bolivar** **151.44** **47** *e*P **PKPbc** **18 34 20.0 -0.6**
OCAC **Ocana** **151.49** **40** *e*P **PKPbc** **18 34 18.4 -2.2**
YOTC **Yotoco, Valle** **152.47** **51** *e*P **PKPbc** **18 34 22.4 -0.4**
PAMC **Pamplona, Colo** **152.57** **40** *e*P **PKPbc** **18 34 21.2 -2.3**
RREF **El Recreo** **152.59** **48** *e*P **PKPdf** **18 34 14.7 -2.0**
TOLC **Tolima** **152.82** **48** *e*P **PKiKP** **18 34 24.4 +0.3**
BARC **Barichara** **152.84** **42** *e*P **PKPbc** **18 34 24.0 +0.2**
RUSC **La Rusia** **153.43** **43** *e*P **PKiKP** **18 34 25.7 +0.2**
SOTA **Rioblanco** **153.44** **54** *e*P **PKiKP** **18 34 28.8 +3.2**
CHIC **Chingaza** **153.91** **46** *e*P **PKPbc** **18 34 25.9 -0.5**
LPAZ **La Paz** **167.51** **101** PKP **PKPdf** **18 34 34.6 +1.4**
comp=Z,3.4nm,1.0s,baz=14,slow=3.3,SNR=8.4

JMA ***19*** *18:32:01.9±0.5, 44°.34N×149°.25E, h30km, M3.9*
SKHL ***19*** *18:32:02.0±0.3, 44°.01N×149°.32E, h48km±7km, mb4.6/3*
MOS ***19*** *18:32:04.5±1.6, 44°.40N×149°.01E, h47km, mb4.2/1, Error ellipse: s-maj=14.8km s-min=10.9km az=157.9*
IDC ***19*** *18:32:08.7±3.0, 44°.51N×149°.00E, h63km±27km, mb3.3/9, mb1 3.5/12, mb1mx3.4/40, mbtmp3.6/12, ML2.7/3, Error ellipse: s-maj=42.9km s-min=20.6km az=153.0*
ISC 19 18:32:03.7±1.0, 44°09N±0°.1 0×149°3E±0°.1, h35km±4km, n41, σ1°53/42, mb3.5/9, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.52**	**319**	*i* P	**Pn**	**Pn**	**18 32 27.0**	**-1.3**
KUR					AMB	AMB	18 32 28.0	
	270nm,0.3s							
KUR				*i* S	**Sn**	**Sn**	**18 32 46.0**	**-0.7**
KUR					A	A	18 32 50.0	
	444nm,0.3s							
KUR					A	A	18 32 50.0	
	521nm,0.3s							
KUR	**Kuril'sk**	**1.52**	**319**	*c i* PN	**Pn**	**Pn**	**18 32 27.4**	**-0.9**
KUR				*i*			18 32 38.5	
KUR					pmax	pmax		
	comp=N,64nm,0.3s							
KUR					pmax	pmax		
	comp=E,42nm,0.3s							
KUR					pmax	pmax		
	comp=Z,324nm,0.3s							
KUR					smax	smax		
	comp=N,481nm,0.5s							
KUR					smax	smax		
	comp=E,392nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.45**	**270**	*e* P	**Pn**	**Pn**	**18 32 40.0**	**-1.1**
YUK					AMB	AMB	18 32 44.0	
	comp=E,87nm,0.4s							
YUK				*e*S	**Sn**	**Sn**	**18 33 08.3**	**-1.5**
YUK					A	A	18 33 18.0	
	comp=E,112nm,0.4s							
YUK					A	A	18 33 18.0	
	comp=E,421nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.45**	**270**	*e* PN	**Pn**	**Pn**	**18 32 40.2**	**-0.9**
YUK				*e*S	**Sn**	**Sn**	**18 33 10.1**	**+0.3**
YUK					pmax	pmax		
	comp=N,41nm,0.2s							
YUK					pmax	pmax		
	comp=E,30nm,0.2s							
YUK					pmax	pmax		
	comp=Z,87nm,0.2s							
YUK					smax	smax		
	comp=N,112nm,0.3s							
YUK					smax	smax		
	comp=E,421nm,0.4s							
GRPR	**Tuman**	**2.52**	**269**	*e* P	**Pn**	**Pn**	**18 32 41.3**	**-0.7**
GRPR					AMB	AMB	18 32 44.0	
	comp=E,82nm,0.4s							
GRPR				*e*S	**Sn**	**Sn**	**18 33 13.0**	**+1.5**
GRPR					A	A	18 33 21.0	
	comp=E,322nm,0.4s							
GRPR					A	A	18 33 21.0	
	comp=E,251nm,0.4s							
GRPR	**Tuman**	**2.52**	**269**	*e* PN	**Pn**	**Pn**	**18 32 40.6**	**-1.4**
GRPR				*e*S	**Sn**	**Sn**	**18 33 13.0**	**+1.5**
GRPR					pmax	pmax		
	comp=Z,82nm,0.3s							
GRPR					pmax	pmax		
	comp=N,21nm,0.1s							
GRPR					pmax	pmax		
	comp=E,45nm,0.3s							
GRPR					smax	smax		
	comp=E,251nm,0.3s							
GRPR					smax	smax		
	comp=N,322nm,0.4s							
NEM2	**Nemuro 2**	**2.65**	**255**	P	Pn	Pn	18 32 42.3	-1.6
NEM2				*e*S	**Sn**	**Sn**	**18 33 12.4**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.66**	**256**	*i* P	Pn	Pn	18 32 42.0	-2.0
NMR				*e*S	**Sn**	**Sn**	**18 33 12.0**	**-3.0**
NMR	**Nemuro--Hokkai**	**2.66**	**256**	⇓ *i* PN	Pn	Pn	18 32 42.4	-1.6
NMR				*e*S	**Sn**	**Sn**	**18 33 12.6**	**-2.4**
GLVR	**Golovnino**	**2.73**	**264**	*e*P	**Pn**	**Pn**	**18 32 44.0**	**-0.9**
GLVR				*e*S	**Sn**	**Sn**	**18 33 18.0**	**+1.4**
GLVR					A	A	18 33 24.0	
	comp=N,370nm,0.5s							
GLVR					A	A	18 33 24.0	
	comp=N,440nm,0.5s							

GLVR	Golovnino	2.73	264	*e*PN	Pn	18 32 44.0	-0.9	
GLVR				*e*S	Sn	18 33 21.4	+4.8	
GLVR				smax	smax			
	comp=N,370nm,0.5s							
GLVR				smax	smax			
	comp=E,440nm,0.4s							
RUSJ	Misakicho	2.89	272	*e*PN	Pn	18 32 47.0	-0.2	
RUSJ				*e*S	Sn	18 33 21.9	+1.2	
JRA	Rausu	2.99	269	P	Pn	18 32 48.7	+0.2	
JNK	Nakash	3.32	263	P	Pn	18 32 52.5	-0.6	
JNK				*e*S	Sn	18 33 30.2	-1.2	
JAK	Akkeshi	3.49	253	P	Pn	18 32 54.4	-1.1	
JAK				*e*S	Sn	18 33 34.0	-1.5	
JTKR	Abashiri--Toko	3.86	270	P	Pn	18 33 00.9	+0.4	
JAR	Ashorobuto	4.06	261	P	Pn	18 33 03.4	+0.1	
JOB	Onbets	4.12	255	P	Pn	18 33 03.6	-0.5	
JCH	Churui	4.55	253	P	Pn	18 33 09.2	-0.7	
JKA	Kamikawa-asahi	4.80	273	*e*P	Pn	18 33 15.5	+2.1	
ASAJ	Asahikawa	4.80	273	P	Pn	18 33 15.5	+2.1	
	comp=E,0.7nm,0.3s,baz=106,slow=9.8,SNR=7.7							
JFR	Furan	4.93	261	P	Pn	18 33 17.3	+2.1	
JNBK	Urakawa-nobuka	5.09	251	P	Pn	18 33 16.5	-0.9	
JBT2	Biratori 2	5.19	258	P	Pn	18 33 18.3	-0.5	
JNB	Noboribetsu	6.22	258	P	Pn	18 33 32.8	-0.1	
JKB	Kayabe	6.42	253	P	Pn	18 33 35.0	-0.7	
JYM2	Yakumo 2	6.80	256	P	Pn	18 33 40.5	-0.4	
JANG	Nango	6.84	240	*e*S	Sn	18 34 51.1	-7.0	
OFUJ	Ofunato	7.58	231	*e*S	Sn	18 35 08.1	-8.1	
JRG	Rokugo	7.97	237	*e*S	Sn	18 35 19.4	-6.5	
PETK	Petropavlovsk-	10.61	29	P	Pn	18 34 33.0	0.0	
	comp=E,0.1nm,0.3s,baz=250,slow=8.6,SNR=1.2							
MJAR	Matsushiro Arr	11.31	232	P	Pn	18 34 50.2	+7.5	
	comp=E,0.0nm,0.3s,baz=30,slow=14,SNR=2.2							
SONM	Songino Array	29.75	293	P	P	18 38 06.0	-0.7	
	comp=E,0.4nm,0.5s,baz=77,slow=7.8,SNR=2.8							
ILAR	Eielson Array	40.31	36	P	P	18 39 38.3	+1.2	
	comp=E,0.2nm,0.6s,baz=264,slow=7.9,SNR=2.0							
ZALV	Zalesovo Beam	42.01	307	P	P	18 39 49.7	-1.5	
	comp=E,0.3nm,0.3s,baz=18,slow=30,SNR=1.6							
MKAR	Makanchi Array	45.77	298	P	P	18 40 20.9	-0.7	
	comp=E,0.7nm,0.6s,baz=80,slow=8.5,SNR=6.7							
CMAR	Chiang Mai Arr	49.09	255	P	P	18 40 48.6	+0.9	
	comp=E,0.2nm,0.4s,baz=75,slow=4.8,SNR=1.9							
FINES	FINESS Array B	65.25	334	P	P	18 42 40.1	-1.1	
	comp=E,1.2nm,0.6s,baz=207,slow=0.9,SNR=8.0							
NOA	NORSAR Array B	69.82	340	P	P	18 43 09.6	-0.6	
	comp=E,1.0nm,0.8s,baz=32,slow=6.6,SNR=4.4							
GERES	GERESS Array B	79.59	332	P	P	18 44 06.6	-0.4	
	comp=E,0.2nm,0.4s,baz=81,slow=8.2,SNR=2.2							
TXAR	Lajitas Array	81.19	58	P	P	18 44 16.7	+0.8	
	comp=E,0.4nm,0.8s,baz=304,slow=3.6,SNR=2.9							

IDC ***19*** *18:35:31.2±7.7, 23°.01S×179°.93W, h458km±87km, mb3.2/6, mb1 3.3/7, mb1mx3.1/27, mbtmp4.0/7, Error ellipse: s-maj=51.1km s-min=33.8km az=32.0*

ISC 19 18:35:29.8±1.9, 23°.2S±0°.1×179°.8W±0°.3, h450km, n8, σ2s09/9, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	15.27	189	P	P	18 38 45.6	+2.0
	2.8nm,0.3s,baz=79,slow=1.5,SNR=10						
URZ				S	S	18 41 20.4	-3.2
	baz=34,slow=24,SNR=1.5						
RPZ	Rata Peaks	21.84	198	P	P	18 39 50.2	+2.5
	4.6nm,0.4s,baz=30,slow=4.3,SNR=5.9						
STKA	Stephens Creek	35.21	247	P		18 41 45.3	+0.6
	1.5nm,0.6s,baz=105,slow=13,SNR=5.2						
ASAR	Alice Springs	42.38	260	P	P	18 42 43.0	-0.4
	0.6nm,0.5s,baz=92,slow=7.3,SNR=38						
WRA	Warramunga Arr	42.69	265	P	P	18 42 44.9	-0.9
	0.9nm,0.3s,baz=90,slow=5.9,SNR=128						
MJAR	Matsushiro Arr	71.44	325	P	P	18 46 03.3	-0.2
	1.2nm,0.8s,baz=129,slow=10.0,SNR=4.5						
CMAR	Chiang Mai Arr	89.50	290	P	P	18 47 39.0	+0.6
	0.3nm,0.8s,baz=106,slow=2.3,SNR=2.1						
AKASG	Malin Array Be	144.49	328	PKP	PKPdf	18 54 11.8	-1.8
	1.5nm,0.6s,baz=45,slow=4.2,SNR=6.8						

NNC ***19*** *18:39:00.8±4.8, 36°.9N±0°.3×70°.8E±0°.2, h88km, n10, σ0s59/13, 3C-2D, Hindu Kush region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.68	22	P	Pn	18 40 23.4	+0.4
	SNR=29						
UCH	Uchtor	6.04	27	P	Pn	18 40 28.2	+0.2
	SNR=6.6						
EKS2	Erkin-Say	6.19	21	P	Pn	18 40 29.8	+0.1
	SNR=8.8						
KK31	Karatay Array	6.20	358	P	Pn	18 40 30.2	+0.5
	0.7nm,0.3s,baz=176,slow=12,SNR=49						
KK31				⇓S	Sn	18 41 38.3	-0.8
	1.1nm,0.3s,baz=177,slow=23,SNR=6.1						
AAK	Ala-Archa	6.40	25	P	Pn	18 40 32.8	+0.3
	SNR=12						
AAK	Ala-Archa	6.40	25	⇑P	Pn	18 40 32.3	-0.2
	2.8nm,0.4s						
AAK				⇑S	Sn	18 41 43.9	-0.2
	4.2nm,0.8s						
CHMS	Chumysh	6.80	25	P	Pn	18 40 37.9	0.0
	SNR=8.7						
USP	Ospenovka	6.96	23	P	Pn	18 40 39.5	-0.6
	SNR=8.9						
TKM2	Tokmak 2	7.05	30	P	Pn	18 40 41.0	-0.5
	SNR=9.2						
TKM2	Tokmak 2	7.05	30	⇑P	Pn	18 40 40.7	-0.7
	2.4nm,0.5s						
TKM2				⇓S	Sn	18 42 01.2	+1.0
	0.7nm,0.6s						

IDC ***19*** *18:58:32.2±0.5, 3°.43S×150°.78E, h0km, mb4.7/27, mb1 4.7/30, mb1mx4.7/47, mbtmp4.7/30, ML4.0/3, MS4.5/28, Ms1 4.5/28, ms1mx4.4/42, Error ellipse: s-maj=15.9km s-min=11.0km az=85.0*

BJI ***19*** *18:58:32.7±0.0, 3°.12S×150°.97E, h10km, mB5.1/55, mb5.1/72, Ms5.1/72, Ms7 4.9/68*

NEIC ***19*** *18:58:33.1±2.0, 3°.37S±0°.08×150°.92E±0°.06, h10km±1km, mb5.2/33, Error ellipse: s-maj=13.9km s-min=9.1km az=32.0*

MOS ***19*** *18:58:34.8±0.9, 3°.43S×151°.02E, h33km, mb5.2/25, Error ellipse: s-maj=12.0km s-min=7.3km az=108.5*

DJA ***19*** *18:58:37.3±0.6, 3°.S±3°×15°.1E±°, h38km±5km, M4.9/43, mB5.5/27, mb5.2/43, MLv4.6/1, Mw(mB)4.9/27, Mwp5.3/5*

GCMT ***19*** *18:58:38.1±0.1, 3°.33S±0°.01×150°.82E±0°.01, h12km, MW5.3/136, Moment Tensor Solution. s111,c172; s136,c251; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.11±.01; Mθθ=0.46±.01; Mφφ=-0.34±.02; Mrθ=0.02±.04; Mrφ=0.98±.01; Mθφ=0.03±.04; Best double couple: M0=1.06300×10^17 NP1:φs=101.00000°, δ=88.00000°, λ=1.00000°. NP2:φs=11.00000°, δ=89.00000°, λ=178.00000°. Principal axes: T 1.1180, Plg2.0000°, Azm326.0000°; N -0.1100, Plg88.0000°, Azm170.0000°; P -1.0080, Plg1.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:58:37.4±0.3, 3°.45S±0°.04×150°.88E±0°.05, h35km, n272, σ2s08/280, mb5.0/84, MS4.6/45, 19C-7D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.43	127	Pn	Pn	18 58 57.8	-3.0
	24nm,0.3s,baz=144,slow=6.3,SNR=191						
KRVT				Sn	Sn	18 59 25.1	+6.6
	106nm,0.3s,baz=252,slow=23,SNR=4.5						
RABL	Rabaul	1.48	120	Pn	Pn	18 59 00.0	-1.6
MANU	Manus Island	3.77	292	Pn	Pn	18 59 31.9	-1.2
PMG	Port Moresby	6.97	212	Pn	Pn	19 00 19.2	+2.0
	7.6nm,0.3s,baz=31,slow=5.5,SNR=53						
PMG				LR	LR	19 02 35.9	
	comp=Z,2μm,19.8s,baz=40,slow=35						
PMG	Port Moresby	6.97	212	P	Pn	19 00 17.9	+0.8
PMG	Port Moresby	6.97	212		Pn	19 00 17.9	+0.8
JAY	Jayapura	10.20	275	Pn	Pn	19 00 57.4	-4.1
	0.3nm,0.3s,baz=104,slow=17,SNR=3.0						
JAY	Jayapura	10.20	275	P	Pn	19 01 05.2	+3.7
	849nm36nm,1.3s						
GENI	Genyem	10.73	274	P	Pn	19 01 14.4	+5.7
	2μm4μm150nm,1.4s						
HNR	Honiara	10.79	124	Pn	Pn	19 01 14.1	+4.5
	2.4nm,0.3s,baz=234,slow=6.4,SNR=3.5						
HNR				LR	LR	19 05 27.6	
	comp=Z,7μm,18.3s,baz=296,slow=38						
HNR	Honiara	10.79	124	P	Pn	19 01 08.1	-1.5
HNR	Honiara	10.79	124		Pn	19 01 08.1	-1.5
WAMI	Wamena	12.15	268	P	Pn	19 01 30.1	+2.0
	3μm193nm,1.1s						
SMPI	Sarmi	12.24	276	P	Pn	19 01 30.9	+1.5
	1μm88nm,1.2s						
PATS	Pohnpei	12.63	36	P	Pn	19 01 29.8	-4.9
	baz=12,SNR=3.3						
PATS	Pohnpei	12.63	36		Pn	19 01 31.4	-3.3
COEN	Coen	12.91	216	Pn	Pn	19 01 36.3	-2.3
SRPI	Serui, Papua	14.70	276	P	P	19 02 06.1	-2.6
	1μm84nm,1.0s						
MTSU	Mount Surprise	15.94	203	P	P	19 02 22.0	-0.5
	baz=16,SNR=14						
CTA	Charters Tower	17.14	195	P	P	19 02 36.2	+0.5
	0.2nm,0.3s,baz=34,slow=14,SNR=5.9						
CTA				LR	LR	19 08 44.6	
	comp=Z,970nm,19.0s,baz=12,slow=36						
CTAO	Charters Tower	17.14	195	P	Pn	19 02 33.8	-0.6
CTAO				pmax	pmax		
	comp=Z,145nm,1.3s						
CTAO	Charters Tower	17.14	195	P	Pn	19 02 33.8	-0.6
GUMO	Guam	17.95	341	P	Pn	19 02 43.1	-1.3
	comp=Z,1.2nm,0.3s,baz=172,slow=4.4,SNR=7.1						
GUMO				LR	LR	19 08 06.9	
	comp=Z,1μm,21.4s,baz=150,slow=32						
GUMO	Guam	17.95	341	P	Pn	19 02 40.2	-4.2
GUMO				pmax	pmax		
	comp=Z,366nm,1.3s						
GUMO	Guam	17.95	341	P	Pn	19 02 40.1	-4.2
GUMO				IAmb	IAmb	19 02 53.9	
	comp=Z,366nm,1.2s						
FAKI	Fak Fak	18.61	271	P	Pn	19 02 52.8	+0.3
	comp=Z,2μmcomp=Z,2μmcomp=Z,114nm,2.0s						
SIJI	Sorong	19.76	277	P	P	19 03 03.6	-1.1
	comp=Z,0.5nm,0.3s,baz=58,slow=11,SNR=8.3						
SAUI	Saumlaki	19.99	256	P	Pn	19 03 11.8	+2.8
	comp=Z,6μmcomp=Z,628nm,1.1s						
QIS	Mount Isa	20.24	212	P	P	19 03 10.6	+0.8
	baz=20,SNR=27						
KDU	Kakadu	20.38	242	P	P	19 03 10.6	-0.8
	baz=21,SNR=39						
MTN	Manton Dam	21.64	243	P	P	19 03 24.6	-0.3
	baz=22,SNR=15						
MTN	Manton Dam	21.64	243	P	P	19 03 24.9	-0.1
EIDS	Eidsvold	21.79	179	P	P	19 03 27.6	+1.2
	baz=22,SNR=8.8						
EIDS	Eidsvold	21.79	179	P	P	19 03 26.5	0.0
WB0	Warramunga Arr	22.84	224	P	P	19 03 37.5	-0.3
WR0	Warramunga Arr	22.87	223	P	P	19 03 37.3	-0.7
WR0				IAmb	IAmb	19 03 48.3	
	comp=Z,100nm,1.1s						
WRAB	Tennant Creek	22.98	223	*d*iP	P	19 03 38.6	-0.6
WRAB				pmax	pmax		
	comp=Z,111nm,1.3s						
WRAB	Tennant Creek	22.98	223	P	P	19 03 38.9	-0.4
WRAB				IAmb	IAmb	19 03 49.4	
	comp=Z,92nm,1.0s						
WB2	Warramunga Arr	22.99	223	P	P	19 03 39.0	-0.3
WB2				IAmb	IAmb	19 03 49.5	
	comp=Z,117nm,1.0s						
RMQ	Roma	22.99	185	P	P	19 03 40.6	+1.3
	baz=23,SNR=11						
WRA	Warramunga Arr	23.00	223	P	P	19 03 38.6	-0.7
	comp=Z,52nm,0.9s,baz=49,slow=10,SNR=96						
WRA				LR	LR	19 12 42.8	
	comp=Z,1μm,20.2s,baz=40,slow=37						
WRA	Warramunga Arr	23.00	223	P	P	19 03 38.1	-1.3
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	Warramunga Arr	23.00	223	P	P	19 03 38.1	-1.3
NLAI	Namlea	23.74	270	P	P	19 03 59.2	+13
QLP	Quilpie	23.86	195	P	P	19 03 48.7	+1.0
	baz=24,SNR=13						
TNTI	Ternate	23.87	280	P	P	19 03 47.9	0.0
	comp=Z,1μmcomp=Z,86nm,1.2s						
DZM	Mont Dzumac	23.89	142	*e*P	P	19 03 48.5	+0.4
	comp=Z,448nm,1.4s						
DZM				*e*S	S	19 07 53.9	-8.4
	comp=Z,1μm,24.3s						
DZM				*e*LR	LR	19 09 29.3	
	comp=Z,6μm,23.8s						
DZM	Mont Dzumac	23.89	142	P	P	19 03 48.9	+0.8
	comp=Z,60nm,0.9s,baz=339,slow=11,SNR=19						
DZM				LR	LR	19 12 03.2	
	comp=Z,3μm,20.7s,baz=300,slow=34						
DZM	Mont Dzumac	23.89	142	P	P	19 03 48.7	+0.5
SANI	Sanana	24.90	273	P	P	19 03 57.8	+0.5
	comp=Z,963nmcomp=Z,59nm,1.8s						
KNRA	Kununurra	24.92	239	P	P	19 03 56.9	-0.6
	baz=25,SNR=24						
KNRA	Kununurra	24.92	239	P	P	19 03 57.3	-0.2
AS31	Alice Springs	25.94	218	P	P	19 04 07.0	+0.2
ASAR	Alice Springs	25.94	218	P	P	19 04 06.2	-0.6
	comp=Z,12nm,0.7s,baz=52,slow=8.5,SNR=28						
ASAR				LR	LR	19 15 23.0	
	comp=Z,2μm,19.8s,baz=34,slow=39						
ASAR	Alice Springs	25.94	218	P	P	19 04 07.4	+0.7
ASAR	Alice Springs	25.94	218	P	P	19 04 07.4	+0.7
ARMA	Armidale	26.83	179	P	P	19 04 15.9	+1.1
	baz=27,SNR=6.3						
ARMA	Armidale	26.83	179	P	P	19 04 13.0	-1.7
ARMA				IAmb	IAmb	19 04 22.9	
	comp=Z,60nm,1.5s						
SOEI	Soe	27.15	255	P	P	19 04 20.8	+2.9
	comp=Z,2μmcomp=Z,121nm,1.2s						
KMSI	Cibinong	27.18	278	P	P	19 04 21.2	+3.2
	comp=Z,2μmcomp=Z,164nm,1.1s						
DAV	Davao City (W)	27.33	293	LR	LR	19 14 49.4	
	comp=Z,646nm,19.6s,baz=95,slow=36						
BATI	Baumata	27.82	255	P	P	19 04 22.8	-1.0
	comp=Z,17nm,0.6s,baz=293,slow=1.8,SNR=6.7						
BATI				LR	LR	19 17 51.2	
	comp=Z,2μm,19.6s,baz=90,slow=42						
BATI	Baumata	27.82	255	P	P	19 04 26.1	+2.3
	comp=Z,724nmcomp=Z,66nm,1.3s						
H11N1	WAKE ISLAND Hy	27.89	34	T	T	19 33 02.9	
	baz=218,slow=77,SNR=103						
H11N3	WAKE ISLAND Hy	27.90	34	T	T	19 33 04.4	
	baz=218,slow=77,SNR=104						
H11N2	WAKE ISLAND Hy	27.91	34	T	T	19 32 59.7	
	baz=218,slow=77,SNR=149						
LUWI	Luwuk	28.18	274	P	P	19 04 32.3	+5.3
CMSA	Cobar Meteorol	28.36	189	P	P	19 04 28.7	+0.4
	baz=29,SNR=7.0						
FITZ	Fitzroy Crossi	28.68	238	P	P	19 04 30.8	-0.6
	comp=Z,11nm,0.8s,baz=60,slow=8.7,SNR=20						
FITZ				LR	LR	19 16 48.7	
	comp=Z,1μm,18.1s,baz=57,slow=38						
FITZ	Fitzroy Crossi	28.68	238	P	P	19 04 30.3	-1.0
	baz=29,SNR=24						
FITZ	Fitzroy Crossi	28.68	238	P	P	19 04 30.8	-0.6
EDFI	Ende, Flores	29.48	258	P	P	19 04 39.7	+1.1
STKA	Stephens Creek	29.59	196	P	P	19 04 38.8	-0.4
	comp=Z,4.8nm,0.7s,baz=32,slow=12,SNR=10						
STKA				LR	LR	19 16 30.7	
	comp=Z,857nm,18.4s,baz=7.7,slow=36						
STKA	Stephens Creek	29.59	196	P	P	19 04 36.1	-3.2
STKA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
STKA	Stephens Creek	29.59	196	P	P	19 04 36.1	-3.2
WRKA	Warakurna	30.24	223	P	P	19 04 47.1	-0.7
	baz=31,SNR=4.0						
SPSI	Sidrap Palu	31.05	268	P	P	19 05 05.6	+13
KAPI	Kappang	31.08	266	LR	LR	19 18 21.2	
	comp=Z,473nm,21.4s,baz=90,slow=38						
MPSI	Mapaga	31.19	276	P	P	19 04 52.9	-0.7
	comp=Z,382nmcomp=Z,30nm,1.1s						
JCJ	Chichijima	31.51	345	LR	LR	19 15 52.9	
	comp=Z,1μm,21.9s,baz=150,slow=33						
MYLDM	Lahad Datu	33.46	285	P	P	19 05 12.9	-0.6
MYLDM				IAmb	IAmb	19 05 21.6	
	comp=Z,44nm,1.1s						
TOO	Toolangi	34.31	188	P	P	19 05 21.6	+0.9
	baz=35,SNR=4.3						
TGY	Tagaytay City	34.43	301	LR	LR	19 17 00.9	
	comp=Z,978nm,21.9s,baz=134,slow=32						
PSA00	Pilbara Seismi	35.11	237	P	P	19 05 26.6	-1.2
PSA00				IAmb	IAmb	19 05 29.9	
	comp=Z,29nm,1.0s						
KKM	Kota Kinabalu	35.88	285	P	P	19 05 33.0	-1.5
KKM				IAmb	IAmb	19 05 34.7	
	comp=Z,47nm,0.9s						
JHJ	Hachijo jima 2	37.86	345	LR	LR	19 18 45.0	
	comp=Z,834nm,20.9s,baz=197,slow=32						
MEEK	Meekatharra	38.54	230	P	P	19 05 56.5	-0.5
	baz=39,SNR=13						
SBUM	Sibu	39.08	278	P	P	19 06 02.2	+0.6
YULB	Yu-li	39.28	314	P	P	19 06 01.5	-1.7
KSM	Kuching	40.84	276	P	P	19 06 17.0	+0.8
JNU	Nakatsue	41.01	334	P	P	19 06 15.6	-1.7
	comp=Z,26nm,0.9s,baz=161,slow=5.7,SNR=11						
JNU				LR	LR	19 23 55.9	
	comp=Z,202nm,18.1s,baz=166,slow=37						
JNU	Nakatsue	41.01	334	P	P	19 06 17.0	-0.3
JNU				IAmb	IAmb	19 06 26.2	
	comp=Z,74nm,1.1s						
MJAR	Matsushiro Arr	41.51	345	P	P	19 06 17.8	-3.5
	comp=Z,5.1nm,1.0s,baz=170,slow=9.4,SNR=10						
MJAR				LR	LR	19 22 18.8	
	comp=Z,519nm,19.7s,baz=170,slow=34						
MJAR	Matsushiro Arr	41.51	345	P	P	19 06 18.7	-2.6
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	Matsushiro Arr	41.51	345	P	P	19 06 18.7	-2.6
MAJO	Matsushiro	41.51	345	⇓*i*P	P	19 06 18.9	-2.5
MAJO				pmax	pmax		
	comp=Z,24nm,2.0s						
MAT	Matsushiro	41.51	345	P	P	19 06 18.3	-3.1
MAT				S	S	19 12 37.8	+3.1
URZ	Urewera	42.12	149	P	P	19 06 25.5	-0.8
	comp=Z,5.4nm,0.7s,baz=84,slow=8.0,SNR=2.3						
NWAO	Narrogin (SRO)	43.01	223	LR	LR	19 24 46.0	
	comp=Z,1μm,19.9s,baz=78,slow=37						
CISI	Cisompet, Garu	43.04	263	P	P	19 06 36.9	+2.6
	comp=Z,77nm,1.2s						
MUN	Mundaring	43.18	225	P	P	19 06 36.1	+1.1
	baz=43,SNR=4.8						
LEM	Lembang	43.20	264	LR	LR	19 26 39.9	
	comp=Z,251nm,19.4s,baz=91,slow=39						
RPZ	Rata Peaks	43.90	159	P	P	19 06 40.9	+0.2
	comp=Z,15nm,0.9s,baz=203,slow=4.1,SNR=3.6						
RPZ	Rata Peaks	43.90	159	IAmb	IAmb	19 06 49.0	
	comp=Z,47nm,1.2s						
SSE	Sheshan	44.51	323	P	P	19 06 46.1	+0.4
SSE				S	S	19 13 20.0	+1.1
SSE				pmax	pmax		
	comp=Z,18nm,0.8s						
SSE				pmax	pmax		
	comp=Z,110nm,4.6s						
SSE				LR	LR		
	comp=Z,330nm,21.0s						
SSE				LR	LR		
	comp=Z,380nm,20.4s						
TJN	Taejon	45.30	333	⇓*i*P	P	19 06 51.0	-0.9
KSRS	Korea Array	45.95	334	P	P	19 06 55.8	-1.3
	comp=Z,4.0nm,0.9s,baz=143,slow=8.8,SNR=12						
KSRS				LR	LR	19 24 35.0	
	comp=Z,265nm,21.5s,baz=146,slow=34						
KSAR	Wonju Array Be	45.96	334	P	P	19 06 55.3	-1.8
KSAR	Wonju Array Be	45.96	334	P	P	19 06 55.3	-1.8
QIZ	Qiongzhong	46.13	301	P	P	19 06 58.3	-0.5
QIZ				S	S	19 13 46.5	+3.7
QIZ				pmax	pmax		
	comp=Z,17nm,1.9s						
QIZ				LR	LR		
	comp=Z,530nm,23.5s						
QIZ				LR	LR		
	comp=Z,570nm,23.5s						
QIZ				LR	LR		
	comp=Z,770nm,25.0s						
DSRI	Dabo	46.36	273	P	P	19 07 09.7	+9.0
MDSI	Maura Dua	46.59	267	P	P	19 07 04.5	+2.0
	comp=Z,18nm,1.2s						
NJ2	Nanjing	46.60	322	*e*P	P	19 07 02.9	+0.7
NJ2				pP	pP	19 07 06.8	-5.3
NJ2				sP	pwP	19 07 09.9	-4.6
NJ2				S	S	19 13 52.3	+3.3
NJ2				sS	sS	19 13 59.0	-5.9
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
NJ2				LR	LR		
	comp=Z,1μm,11.9s						
NJ2				LR	LR		
	comp=Z,2μm,11.6s						
NJ2				LR	LR		
	comp=Z,2μm,12.2s						
ASAJ	Asahikawa	47.93	352	P	P	19 07 12.8	+0.4
	comp=Z,21nm,1.0s,baz=236,slow=7.7,SNR=3.5						
KUR	Kuril'sk	48.54	357	*e*P	P	19 07 13.9	-3.2
KUR				S	S	19 14 23.0	+6.8
WHN	Wuhan	48.56	317	⇓P	P	19 07 22.9	+5.4
WHN				pP	pP	19 07 26.9	-0.3
WHN				S	S	19 14 08.8	-8.2
WHN				LR	LR		
	comp=N,1μm,12.7s						
WHN				LR	LR		
	comp=E,2μm,10.4s						
WHN				LR	LR		
	comp=Z,3μm,23.2s						
VLA	Vladivostok	49.43	342	*ce*P	P	19 07 23.2	-0.7
VLA				pmax	pmax		
	comp=Z,78nm,1.5s						
DL2	Dalian	50.05	330	P	P	19 07 28.6	-0.1
DL2				S	S	19 14 42.6	+5.1
DL2				pmax	pmax		
	comp=Z,37nm,0.9s						
DL2				pmax	pmax		
	comp=Z,200nm,6.5s						
DL2				LR	LR		
	comp=Z,410nm,17.6s						
DL2				LR	LR		
	comp=Z,520nm,17.3s						
DL2				LR	LR		
	comp=Z,850nm,26.3s						
USRK	Ussuriysk Ar.	50.38	342	P	P	19 07 30.5	-0.6
	comp=Z,4.0nm,0.8s,baz=146,slow=6.6,SNR=6.5						
USRK				LR	LR	19 27 12.5	
	comp=Z,327nm,21.1s,baz=151,slow=34						
TIA	Tai'an	50.50	324	P	P	19 07 31.5	-0.8
TIA				S	S	19 14 46.9	+2.9
TIA				pmax	pmax		
	comp=Z,14nm,1.3s						
TIA				pmax	pmax		
	comp=Z,100nm,3.5s						
TIA

TIY	**Taiyuan**	**54.29**	**323**	*e*P	P	**P**	19 08 05.3	+4.9	
TIY				PP	**PP**		**19 10 06.8**	**+4.1**	
TIY				S	**S**		**19 15 31.0**	**-5.0**	
TIY				pmax	pmax				
	comp=Z,190nm,5.0s								
TIY				LR	LR				
	comp=Z,530nm,10.0s								
TIY				LR	LR				
	comp=Z,850nm,12.9s								
TIY				LR	LR				
	comp=Z,760nm,12.9s								
XAN	**Xi'an**	**54.33**	**317**	⇑P	**P**	**P**	**19 08 00.0**	**-0.7**	
XAN				PcP	**PcP**		**19 09 10.3**	**+5.8**	
XAN				S	**S**		**19 15 33.0**	**-3.6**	
XAN				ScS	**ScS**		**19 17 42.0**	**-5.7**	
XAN				SS	**SS**		**19 19 16.4**	**-2.8**	
XAN				pmax	pmax				
	comp=Z,26nm,1.2s								
XAN				pmax	pmax				
	comp=Z,170nm,2.8s								
XAN				LR	LR				
	comp=Z,770nm,17.4s								
XAN				LR	LR				
	comp=Z,830nm,19.5s								
XAN				LR	LR				
	comp=Z,1μm,21.7s								
TYV	**Tymovskoe**	**54.56**	**354**	*e*P	**P**	**P**	**19 08 01.6**	**-0.4**	
TYV				pmax	pmax				
	comp=Z,20nm,1.5s								
TYV				pmax	pmax				
	comp=Z,400nm,3.5s								
KMI	**Kunming**	**54.65**	**304**⇓	*e*P	**P**	**P**	**19 08 03.8**	**+0.4**	
KMI				pP	pP		19 08 07.8	-5.5	
KMI				sP	pwP		19 08 09.8	-6.5	
KMI				S	**S**		**19 15 43.4**	**+1.9**	
KMI				sS	pS		19 15 48.0	-5.1	
KMI				SS	**SS**		**19 19 26.9**	**+2.1**	
KMI				pmax	pmax				
	comp=Z,41nm,1.2s								
KMI				pmax	pmax				
	comp=Z,110nm,3.5s								
KMI				LR	LR				
	comp=Z,270nm,13.3s								
KMI				LR	LR				
	comp=Z,440nm,21.6s								
KMI				LR	LR				
	comp=Z,630nm,17.5s								
CM31	**Chiang Mai Arr**	**55.57**	**295**	P	**P**	**P**	**19 08 07.9**	**-2.1**	
CMAR	**Chiang Mai Arr**	**55.57**	**295**	P	**P**	**P**	**19 08 10.9**	**+1.0**	
	comp=Z,21nm,0.9s,baz=110,slow=5.4,SNR=131								
CMAR				LR	LR		19 31 43.0		
	comp=Z,347nm,19.5s,baz=140,slow=36								
CMAR	**Chiang Mai Arr**	**55.57**	**295**	P	**P**	**P**	**19 08 10.4**	**+0.5**	
CMAR	**Chiang Mai Arr**	**55.57**	**295**	P	**P**	**P**	**19 08 10.4**	**+0.5**	
CD2	**Chengdu**	**56.41**	**311**	P	**P**	**P**	**19 08 16.3**	**+0.5**	
CD2				sP	pP		19 08 20.3	-5.4	
CD2				S	**S**		**19 16 03.8**	**-0.7**	
CD2				sS	pS		19 16 13.6	-2.7	
CD2				pmax	pmax				
	comp=Z,60nm,0.7s								
CD2				LR	LR				
	comp=Z,1μm,17.7s								
CD2				LR	LR				
	comp=Z,2μm,19.1s								
CD2				LR	LR				
	comp=Z,2μm,17.2s								
PETK	**Petropavlovsk-**	**56.64**	**5**	P	**P**	**P**	**19 08 17.9**	**+1.0**	
	comp=Z,5.9nm,0.6s,baz=157,slow=5.6,SNR=11								
PETK				LR	LR		19 27 30.7		
	comp=Z,447nm,21.4s,baz=185,slow=31								
HHC	**Hu-ho-hao-te**	**56.84**	**325**	*e*P	**P**	**P**	**19 08 23.4**	**+4.6**	
HHC				S	**S**		**19 16 13.8**	**+3.8**	
HHC				sS	pS		19 16 21.0	-0.9	
HHC				pmax	pmax				
	comp=Z,14nm,1.0s								
HHC				pmax	pmax				
	comp=Z,120nm,5.7s								
HHC				LR	LR				
	comp=Z,940nm,13.3s								
HHC				LR	LR				
	comp=Z,940nm,15.2s								
HHC				LR	LR				
	comp=Z,1μm,14.1s								
BTO	**Baotou**	**57.58**	**324**	*e*P	**P**	**P**	**19 08 22.6**	**-1.4**	
LZH	**Lanzhou**	**58.93**	**316**	*e*P	**P**	**P**	**19 08 34.3**	**+0.7**	
LZH				pP	pP		19 08 41.8	-1.7	
LZH				sP	pwP		19 08 45.8	-0.8	
LZH				S	**S**		**19 16 42.3**	**+4.6**	
LZH				SS	**SS**		**19 20 26.0**	**-5.9**	
LZH				pmax	pmax				
	comp=Z,59nm,1.1s								
LZH				pmax	pmax				
	comp=Z,220nm,4.9s								
LZH				LR	LR				
	comp=Z,590nm,13.0s								
LZH				LR	LR				
	comp=Z,570nm,14.6s								
LZH				LR	LR				
	comp=Z,540nm,15.2s								
PPT	**Papeete**	**59.96**	**108**	LR	LR		19 32 09.2		
	comp=Z,215nm,18.0s,baz=276,slow=34								
ZEA	**Zeya**	**60.32**	**344**	*e*P	**P**	**P**	**19 08 43.1**	**+0.6**	
ZEA				*e*S	**S**		**19 16 56.2**	**+1.7**	
ZEA				pmax	pmax				
	comp=N,10.0nm,1.2s								
ZEA				pmax	pmax				
	comp=E,10.0nm,1.2s								
ZEA				pmax	pmax				
	comp=Z,20nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,100nm,6.0s								
ZEA				smax	smax				
	comp=E,200nm,10.7s								
TBI	**Tubuai**	**60.86**	**115**	*e*LQ	LQ		19 23 58.1		
	comp=E,765nm,34.5s								
TBI				*e*LR	LR		19 26 31.5		
	comp=E,985nm,28.5s								
GTA	**Gaotai**	**63.37**	**318**	⇑P	**P**	**P**	**19 09 04.0**	**+0.4**	
GTA				pP	pP		19 09 08.0	-5.6	
GTA				sP	pwP		19 09 11.3	-5.3	
GTA				S	**S**		**19 17 36.1**	**+2.1**	
GTA				sS	pS		19 17 42.3	-4.1	
GTA				pmax	pmax				
	comp=E,12nm,1.3s								
GTA				pmax	pmax				
	comp=E,120nm,4.5s								
GTA				LR	LR				
	comp=E,250nm,19.3s								
GTA				LR	LR				
	comp=E,410nm,20.0s								
GTA				LR	LR				
	comp=E,640nm,20.7s								
ULN	**Ulaanbaatar**	**63.85**	**329**	*c i*P	**P**	**P**	**19 09 07.3**	**+0.7**	
ULN				pmax	pmax				
	comp=Z,35nm,2.5s								
SONM	**Songino Array**	**64.17**	**328**	P	**P**	**P**	**19 09 09.3**	**+0.6**	
	comp=Z,3.1nm,0.8s,baz=139,slow=6.9,SNR=19								
SONM				LR	LR		19 35 22.3		
	comp=Z,696nm,21.1s,baz=134,slow=34								
SONM	**Songino Array**	**64.17**	**328**	P	**P**	**P**	**19 09 08.0**	**-0.7**	
SONM				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SONM	**Songino Array**	**64.17**	**328**	P	**P**	**P**	**19 09 08.0**	**-0.7**	
SEY	**Seymchan**	**66.22**	**1**	P	**P**	**P**	**19 09 21.4**	**0.0**	
	comp=Z,2.1nm,0.8s,baz=185,slow=23,SNR=2.7								
SEY	**Seymchan**	**66.22**	**1**⇓	*e*P	**P**	**P**	**19 09 20.7**	**-0.7**	
YAK	**Yakutsk**	**67.29**	**349**	*e*P	P		19 09 34.0	+5.7	
YAK				*e**PP	pwP		19 09 41.5	+0.2	
YAK				*e*			19 09 59.6		
YAK				*e*			19 11 56.0		
YAK				*e*PPP	PPP		19 13 42.0		
YAK				*e*S	**S**		**19 18 27.1**	**+6.3**	
YAK				*e**SS	sS		19 18 45.5	+7.9	
YAK				*e*SS	**SS**		**19 22 40.1**	**-1.0**	
YAK				pmax	pmax				
	comp=Z,36nm,1.4s								
YAK				pmax	pmax				
	comp=N,29nm,1.5s								
YAK				pmax	pmax				
	comp=E,13nm,1.4s								
YAK				pmax	pmax				
	comp=Z,245nm,3.0s								
YAK				pmax	pmax				
	comp=N,253nm,3.1s								
YAK				pmax	pmax				
	comp=E,90nm,2.7s								
YAK				smax	smax				
	comp=N,120nm,3.0s								
YAK				smax	smax				
	comp=E,314nm,3.1s								
ZAK	**Zakamensk**	**67.36**	**329**	*e*P	**P**	**P**	**19 09 29.4**	**+0.3**	
ZAK				pmax	pmax				
	comp=Z,18nm,1.9s								
TLY	**Talaya**	**67.96**	**330**	*e*P	P		19 09 40.7	+7.9	
TLY				*e*			19 12 10.6		
TLY				*e*PPP	PPP		19 13 47.4		
TLY				pmax	pmax				
	comp=Z,41nm,1.3s								
TLY				MLR	MLR				
	comp=Z,655nm,15.0s								
TAOE	**Nuku Hiva Isla**	**68.71**	**98**	*e*LR	LR		19 30 10.4		
	comp=Z,429nm,23.3s								
MOY	**Mondy**	**69.28**	**329**	*e*P	**P**		**19 09 42.3**	**+1.1**	
MOY				pmax	pmax				
	comp=Z,58nm,2.3s								
BILL	**Bilibino**	**72.15**	**6**	*e*P	**P**		**19 09 57.8**	**-0.3**	
BILL				*e*			19 10 16.1		
BILL				pmax	pmax				
	comp=Z,13nm,1.5s								
WMQ	**Urumqi**	**73.46**	**318**	*e*P	**P**		**19 10 07.8**	**+1.3**	
WMQ				pP	pP		19 10 11.6	-5.1	
WMQ				sP	pwP		19 10 14.4	-5.3	
WMQ				S	**SKiKP**		**19 19 36.3**	**+1.4**	
WMQ				SS	**SS**		**19 24 21.0**	**+4.1**	
WMQ				pmax	pmax				
	comp=Z,12nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,85nm,3.7s								
WMQ				LR	LR				
	comp=Z,200nm,18.5s								
WMQ				LR	LR				
	comp=Z,290nm,19.5s								
WMQ				LR	LR				
	comp=Z,200nm,20.5s								
RKT	**Rikitea**	**74.08**	**113**	*e*LR	LR		19 32 46.2		
	comp=Z,939nm,26.8s								
HYB	**Hyderabad**	**74.24**	**289**	*i* P	**P**		**19 10 11.5**	**-0.1**	
VNDA	**Vanda**	**74.24**	**178**	P	**P**		**19 10 10.9**	**+0.5**	
	comp=Z,2.6nm,0.8s,baz=326,slow=4.8,SNR=6.8								
DGZ	**Jazzator, Alta**	**75.86**	**323**	*c i*P	**P**		**19 10 20.7**	**+0.3**	
DGZ				pmax	pmax				
	comp=Z,17nm,1.3s								
TIXI	**Tiksi**	**76.33**	**353**	⇓*i*P	**P**		**19 10 21.5**	**-0.9**	
TIXI				pmax	pmax				
	comp=Z,30nm,1.3s								
ZSN	**Zaisan**	**76.61**	**320**	*e*P	**P**		**19 10 23.9**	**-0.7**	
ZSN	**Zaisan**	**76.61**	**320**	*e*P	**P**		**19 10 23.9**	**-0.7**	
BRLK	**Bradley Lake**	**77.62**	**26**	P	**P**		**19 10 29.5**	**-0.5**	
MKAR	**Makanchi Array**	**78.06**	**319**	P	**P**		**19 10 33.1**	**+0.4**	
	comp=Z,6.9nm,0.9s,baz=104,slow=6.8,SNR=40								
MKAR				LR	LR		19 43 34.7		
	comp=Z,463nm,20.9s,baz=62,slow=35								
MKAR	**Makanchi Array**	**78.06**	**319**	P	**P**		**19 10 32.6**	**-0.1**	
MKAR	**Makanchi Array**	**78.06**	**319**	P	**P**		**19 10 32.6**	**-0.1**	
MAKZ	**Makanchi**	**78.27**	**319**	P	**P**		**19 10 34.0**	**+0.2**	
MAKZ				pmax	pmax				
	comp=Z,21nm,1.2s								
MAKZ	**Makanchi**	**78.27**	**319**	P	**P**		**19 10 34.0**	**+0.2**	
MAKZ				IAmb	IAmb		19 10 35.4		
	comp=Z,21nm,1.2s								
RC01	**Rabbit Creek A**	**78.77**	**25**	P	**P**		**19 10 35.9**	**-0.4**	
	baz=241								
SHLS	**Shalkode**	**78.93**	**315**	*e*P	**P**		**19 10 36.3**	**-1.4**	
	comp=Z,14nm,1.3s								
SHLS	**Shalkode**	**78.93**	**315**	*e*P	**P**		**19 10 36.3**	**-1.4**	
SHLS				pmax	pmax				
	comp=Z,14nm,1.3s								
ZALV	**Zalesovo Beam**	**78.98**	**327**	P	**P**		**19 10 36.0**	**-1.5**	
	comp=Z,5.4nm,0.9s,baz=107,slow=5.0,SNR=20								
ZALV				LR	LR		19 44 54.7		
	comp=Z,402nm,20.8s,baz=78,slow=35								
ZALV	**Zalesovo Beam**	**78.98**	**327**	*i* P	**P**		**19 10 37.2**	**-0.3**	
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CUT	**Chulitna**	**79.19**	**24**	P	**P**		**19 10 39.9**	**+1.3**	
	baz=240								
UZB	**Uzynbulak**	**79.23**	**315**⇑	*i* P	**P**		**19 10 39.7**	**+0.2**	
	comp=Z,16nm,1.5s								
UZB	**Uzynbulak**	**79.23**	**315**	*c i*P	**P**		**19 10 39.6**	**+0.2**	
UZB				pmax	pmax				
	comp=Z,15nm,1.5s								
SATY	**Saty**	**79.65**	**315**	*e*P	**P**		**19 10 41.9**	**+0.2**	
SATY	**Saty**	**79.65**	**315**	*e*P	**P**		**19 10 41.8**	**+0.2**	
RND	**Reindeer**	**80.25**	**23**	P	**P**		**19 10 43.9**	**-0.5**	
RND				pmax	pmax				
	comp=Z,34nm,0.9s								
RND	**Reindeer**	**80.25**	**23**	P	**P**		**19 10 43.9**	**-0.5**	
RND				IAmb	IAmb		19 10 55.4		
	comp=Z,34nm,0.9s								
MLY	**Manley**	**80.33**	**22**	P	**P**		**19 10 45.7**	**+0.9**	
	baz=240								
MCK	**McKinley**	**80.37**	**23**	P	**P**		**19 10 44.8**	**-0.2**	
	baz=241								
KSH	**Kashi**	**80.61**	**311**	P	**P**		**19 10 48.4**	**+1.5**	
KSH				S	**S**		**19 20 57.5**	**+5.6**	
KSH				pmax	pmax				
	comp=Z,71nm,2.1s								
KSH				LR	LR				
	comp=Z,290nm,6.3s								
KSH				LR	LR				
	comp=Z,250nm,7.1s								
KSH				LR	LR				
	comp=Z,810nm,7.6s								
MDOK	**Medeo**	**80.64**	**315**	*e*P	**P**		**19 10 47.5**	**+0.4**	
MDOK	**Medeo**	**80.64**	**315**	*e*P	**P**		**19 10 47.4**	**+0.4**	
TNSS	**Tian-Shan**	**80.68**	**314**	*e*P	**P**		**19 10 47.5**	**0.0**	
TNSS	**Tian-Shan**	**80.68**	**314**	*e*P	**P**		**19 10 47.5**	**0.0**	
NEA2	**Nenana**	**80.73**	**22**	P	**P**		**19 10 47.0**	**+0.1**	
	baz=241								
M24K	**Tolsona, Glenn**	**80.75**	**25**	P	**P**		**19 10 48.4**	**+1.3**	
	baz=244								
CHKK	**Chushkaly**	**80.84**	**315**	*e*P	**P**		**19 10 47.2**	**-0.8**	
CHKK	**Chushkaly**	**80.84**	**315**	*e*P	**P**		**19 10 47.1**	**-0.8**	
I23K	**Minto, Yukon-K**	**80.90**	**22**	P	**P**		**19 10 49.2**	**+1.5**	
	baz=241								
N25K	**Chitina, Valde**	**81.22**	**26**	P	**P**		**19 10 47.9**	**-1.7**	
	baz=246								
CCB	**Clear Creek Bu**	**81.24**	**22**	P	**P**		**19 10 49.3**	**-0.2**	
CCB				IAmb	IAmb		19 10 59.4		
	comp=Z,19nm,1.0s								
KUU	**Kurty**	**81.31**	**315**⇑	*i* P	**P**		**19 10 50.2**	**-0.2**	
	comp=Z,43nm,1.6s								
KUU	**Kurty**	**81.31**	**315**	*c i*P	**P**		**19 10 50.2**	**-0.2**	
KUU				pmax	pmax				
	comp=Z,43nm,1.6s								
COLA	**College**	**81.33**	**22**	*c e*P	**P**		**19 10 50.4**	**+0.4**	
COLA				pmax	pmax				
	comp=Z,23nm,1.0s								
HDA	**Harding Lake**	**81.46**	**23**	P	**P**		**19 10 50.1**	**-0.7**	
	baz=243								
KURK	**Kurchatov**	**81.53**	**322**	*c i*P	**P**		**19 10 51.2**	**-0.2**	
KURK				pmax	pmax				
	comp=Z,20nm,1.3s								
KURK	**Kurchatov**	**81.53**	**322**	P	**P**		**19 10 50.5**	**-0.8**	
KURK				IAmb	IAmb		19 10 52.6		
	comp=Z,20nm,1.2s								
POKR	**Poker Plat Res**	**81.60**	**22**	P	**P**		**19 10 51.3**	**-0.1**	
	baz=243								
TKM2	**Tokmak 2**	**81.62**	**314**	P	**P**		**19 10 53.4**	**+1.1**	
	SNR=7.5								
COLD	**Coldfoot**	**81.63**	**20**	P	**P**		**19 10 52.5**	**+0.9**	
	baz=240								
IL31		**81.65**	**23**	P	**P**		**19 10 51.7**	**+0.1**	
IL31				IAmb	IAmb		19 11 02.3		
	comp=Z,18nm,1.0s								
ILAR	**Eielson Array**	**81.65**	**23**	P	**P**		**19 10 51.4**	**-0.4**	
	comp=Z,4.3nm,0.9s,baz=251,slow=5.3,SNR=24								
UCH	**Uchtor**	**82.25**	**313**	P	**P**		**19 10 57.5**	**+1.5**	
	SNR=13								
AAK	**Ala-Archa**	**82.35**	**314**	*c e*P	**P**		**19 10 57.1**	**+1.0**	
AAK				pmax	pmax				
	comp=Z,26nm,1.7s								
SGDS	**Sogindy**	**82.42**	**314**	*e*P	**P**		**19 10 56.0**	**-0.3**	
SGDS	**Sogindy**	**82.42**	**314**	*e*P	**P**		**19 10 56.0**	**-0.3**	
SCRK	**Sand Creek**	**82.45**	**24**	P	**P**		**19 10 55.8**	**-0.3**	
	baz=246								
USP	**Ospenovka**	**82.48**	**314**	P	**P**		**19 10 57.2**	**+0.6**	
	SNR=13								
TOLK	**Toolik Lake Re**	**82.55**	**19**	P	**P**		**19 10 57.3**	**+0.8**	
	baz=240								
AML	**Almayashu**	**82.83**	**313**	P	**P**		**19 11 00.4**	**+1.4**	
	SNR=11								
EKS2	**Erkin-Say**	**82.88**	**314**	P	**P**		**19 11 00.1**	**+1.3**	
	SNR=7.9								
BTLS	**Baital**	**83.16**	**316**⇑	*e*P	**P**		**19 11 00.3**	**+0.3**	
	comp=Z,16nm,1.6s								
BTLS	**Baital**	**83.16**	**316**	*c e*P	**P**		**19 11 00.3**	**+0.3**	
BTLS				pmax	pmax				
	comp=Z,16nm,1.6s								
K27K	**Chicken**	**83.24**	**24**	P	**P**		**19 11 01.5**	**+1.5**	
	baz=248								
NRIK	**Noril'sk**	**84.08**	**341**	P	**P**		**19 11 03.3**	**-0.9**	
	comp=Z,13nm,1.0s,baz=123,slow=5.9,SNR=15								
NRIK				LR	LR		19 47 12.4		
	comp=Z,219nm,21.9s,baz=125,slow=35								
DZA	**Taraz**	**84.69**	**313**	*e*P	**P**		**19 11 07.6**	**-0.3**	
DZA	**Taraz**	**84.69**	**313**	*e*P	**P**		**19 11 07.6**	**-0.3**	
BRZS	**Berezniki**	**85.06**	**321**	*e*P	**P**		**19 11 09.4**	**-0.2**	
BRZS	**Berezniki**	**85.06**	**321**	*e*P	**P**		**19 11 09.4**	**-0.2**	
KKAR	**Karatay Array**	**85.32**	**314**	P	**P**		**19 11 11.5**	**+0.4**	
KKAR	**Karatay Array**	**85.32**	**314**	P	**P**		**19 11 11.5**	**+0.4**	
IUG	**Iuzhnay**	**85.52**	**313**⇑	*i* P	**P**		**19 11 13.1**	**+0.8**	
	comp=Z,24nm,1.3s								
IUG	**Iuzhnay**	**85.52**	**313**	*c i*P	**P**		**19 11 13.0**	**+0.8**	
IUG				pmax	pmax				
	comp=Z,24nm,1.3s								
MAW	**Mawson**	**86.07**	**203**	P	**P**		**19 11 13.5**	**-0.7**	
	comp=Z,1.1nm,0.8s,baz=171,slow=11,SNR=1.9								
QSPA	**South Pole Qui**	**86.50**	**180**	P	**P**		**19 11 17.0**	**+0.4**	
	comp=Z,14nm,0.9s,baz=353,slow=3.9,SNR=10								
QSPA	**South Pole Qui**	**86.50**	**180**	P	**P**		**19 11 17.4**	**+0.8**	
QSPA				IAmb	IAmb		19 11 24.3		
	comp=Z,18nm,0.9s								
BRVK	**Borovoye**	**87.09**	**323**	*c e*P	**P**		**19 11 18.9**	**-0.6**	
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.0s								
O02D	**Mt. Diablo Mer**	**89.40**	**50**	P	**P**		**19 11 30.0**	**-0.9**	
	baz=265								
YBH	**Yreka Blue Hor**	**89.59**	**48**	P	**P**		**19 11 32.7**	**+0.9**	
	comp=Z,2.9nm,0.8s,baz=225,slow=12,SNR=3.1								
O03E	**Paynes Creek**	**90.16**	**50**	P	**P**		**19 11 34.0**	**-0.5**	
	baz=266								
J05D	**Fort Rock, OR**	**90.80**	**47**	P	**P**		**19 11 37.8**	**+0.3**	
	baz=266								
NVAR	**Mina Array Bea**	**92.77**	**52**	P	**P**		**19 11 47.4**	**+0.6**	
	comp=Z,1.3nm,0.8s,baz=255,slow=6.1,SNR=7.7								
CWC	**Cottonwood Cre**	**92.87**	**54**	P	**P**		**19 11 47.2**	**0.0**	
	baz=268								
EDW2	**Edwards Air Fo**	**92.88**	**55**	P	**P**		**19 11 47.4**	**+0.2**	
	baz=268								
LRMC	**Laurel Mtn Rad**	**93.16**	**55**	P	**P**		**19 11 48.5**	**0.0**	
	baz=268								
ABKAR	**Akbulak array**	**93.20**	**319**	P	**P**		**19 11 46.4**	**-1.8**	
MPMC	**Manual Prospec**	**93.33**	**54**	P	**P**		**19 11 49.4**	**0.0**	
	baz=268								
GSC	**Goldstone, Bar**	**93.87**	**55**	P	**P**		**19 11 51.8**	**0.0**	
	baz=268								
NEW	**Newport**	**93.89**	**42**	P	**P**		**19 11 51.9**	**+0.4**	
	baz=269								
PFO	**Pinyon Flats O**	**94.11**	**57**	P	**P**		**19 11 52.2**	**-0.7**	
	baz=269								
TPFO	**Pinon Flats**	**94.11**	**57**	P	**P**		**19 11 53.5**	**+0.5**	
	baz=269								
MONP2	**Monument Peak**	**94.12**	**57**	P	**P**		**19 11 51.7**	**-1.5**	
	baz=269								
ARU	**Arti**	**94.14**	**326**⇑	*e*P	**P**		**19 11 50.6**	**-1.8**	
ARU				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GEYT	**Alibeck**	**94.28**	**308**	P	**P**		**19 11 52.0**	**-1.6**	
	comp=Z,0.7nm,0.5s,baz=214,slow=29,SNR=2.7								
SHOC	**Shoshone, Teco**	**94.31**	**54**	P	**P**		**19 11 54.6**	**+0.8**	
	baz=269								
TPNV	**Topopah Spring**	**94.35**	**53**	P	**P**		**19 11 53.0**	**-1.0**	
	baz=269								
IKP	**In-Ko-Pah, Jac**	**94.38**	**58**	P	**P**		**19 11 54.3**	**+0.1**	
	baz=269								
BELC	**Belle Mtn. Jos**	**94.50**	**56**	P	**P**		**19 11 55.0**	**+0.2**	
	baz=269								
TUQ	**Turquoise Moun**	**94.59**	**55**	P	**P**		**19 11 55.5**	**+0.3**	
	baz=269								
SWSC	**Sam W. Stewart**	**94.65**	**57**	P	**P**		**19 11 54.6**	**-0.7**	
	baz=269								
GMRC	**Granite Mounta**	**94.80**	**56**	P	**P**		**19 11 56.6**	**+0.5**	
	baz=269								
R11A	**Troy Canyon, C**	**94.90**	**52**	P	**P**		**19 11 55.6**	**-0.9**	
	baz=270								
BC3	**Big Chuckawall**	**94.95**	**57**	P	**P**		**19 11 57.4**	**+0.6**	
	baz=269								
YKA	**Yellowknife Ar**	**95.13**	**28**	P	**P**		**19 11 58.9**	**+2.1**	
	comp=Z,2.2nm,0.9s,baz=272,slow=3.9,SNR=5.1								
IRM	**Iron Mountain**	**95.21**	**56**	P	**P**		**19 11 58.6**	**+0.7**	
	baz=269								
KHC	**Kasperske Hory**	**121.80**	**328**	*e*PKP	PKPdf		19 17 19.5	-8.5	
KHC	**Kasperske Hory**	**121.80**	**328**	*e*PKiKP	PKPdf		19 17 19.5	-8.5	
GERES	**GERESS Array B**	**121.91**	**328**	PKP	**PKPdf**		**19 17 27.6**	**-0.7**	
	comp=Z,0.4nm,0.7s,baz=333,slow=1.5,SNR=4.2								
ABTA	**Abfaltersbach**	**123.81**	**327**	P	**PKiKP**		**19 17 35.0**	**+2.7**	
	comp=Z,2.3nm,0.8s								
WATA	**Walderalm**	**123.96**	**328**	*e*P	**PKPdf**		**19 17 31.9**	**-0.4**	
	comp=Z,3.0nm,1.1s								
WTTA	**Wattenberg**	**123.97**	**328**	*e*P	**PKiKP**		**19 17 33.2**	**+0.5**	
	comp=Z,4.3nm,1.2s								
MOTA	**Moosalm**	**124.20**	**328**	*e*P	**PKPdf**		**19 17 30.7**	**-2.1**	
	comp=Z,5.2nm,1.4s								
SQTA	**Sankt Quirin**	**124.22**	**328**	*e*P	**PKPdf**		**19 17 32.8**	**0.0**	
	comp=Z,3.9nm,1.2s								
FETA	**Feichten**	**124.60**	**328**	*e*P	**PKPdf**		**19 17 32.7**	**-0.9**	
	comp=Z,2.6nm,1.1s								
LPAZ	**La Paz**	**136.74**	**118**	PKP	**PKiKP**		**19 18 00.4**	**+0.6**	
	comp=Z,0.7nm,0.6s,baz=0.3,slow=7.9,SNR=3.5								
TORD	**Torodi Ar. Bea**	**148.06**	**289**	PKPbc	**PKPbc**		**19 18 20.2**	**-0.2**	
	comp=Z,14nm,1.1s,baz=75,slow=1.9,SNR=26								
TORD	**Torodi Ar. Bea**	**148.06**	**289**	PKPbc	**PKPbc**		**19 18 20.4**	**-0.1**	
PTGA	**Pitinga**	**148.89**	**97**	PKPbc	**PKiKP**		**19 18 23.6**	**-0.4**	
	comp=Z,6.7nm,0.8s,baz=251,slow=4.2,SNR=13								
BDFB	**Brasilia**	**153

Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-6.92; $M_{\theta\theta}$2.72; $M_{\phi\phi}$4.20; $M_{r\theta}$2.04; $M_{\theta\phi}$4.84; $M_{r\phi}$-2.11; Fault plane solution: $M_0$8.28000×10^{15} NP1:ϕ_s19.00000°, δ51.00000°, λ-121.00000°. NP2:ϕ_s242.00000°, δ49.00000°, λ-58.00000°.

*NEIC **19** 19:09:52.5±2.1,26.76N±0.04×129.62E±0.06,h29km±4km, mb4.8/36 Error ellipse: s-maj=7.7km s-min=6.5km az=88.0*

ISC 19 19:09:51.8±0.4,26.76N±0.03×129.64E±0.03,h21km±3km, n165,σ1ᵍ25/188,mb4.7/56,8C-12D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.10**	**284**	P		**Pn**		**19 10 10.6**	**-1.2**
JYRO				S		**Sb**		**19 10 24.0**	**-1.8**
JOKE	**Okinoerabujima**	**1.13**	**302**	P		**Pn**		**19 10 11.5**	**-0.8**
JOKE				S		**Sb**		**19 10 25.4**	**-1.4**
JTK	**Tokunoshima**	**1.19**	**329**	P		**Pn**		**19 10 12.4**	**-0.8**
JTK				*e*S		**Sb**		**19 10 27.8**	**-0.9**
JOW	**Kunigami**	**1.22**	**274**	P		**Pn**		**19 10 12.7**	**-0.9**
JOW				S		**Sb**		**19 10 28.1**	**-1.4**
JNTH	**Nagotoyohara**	**1.47**	**261**	P		**Pn**		**19 10 15.7**	**-1.2**
JNTH				S		**Sn**		**19 10 33.4**	**-2.1**
JIH	**Iheya**	**1.52**	**281**	P		**Pn**		**19 10 17.1**	**-0.6**
JIH				S		**Sn**		**19 10 35.3**	**-1.5**
JAMN	**Amaminishikomi**	**1.54**	**344**	P		**Pn**		**19 10 16.8**	**-1.1**
JAMN				S		**Sn**		**19 10 35.5**	**-1.7**
JZK	**Kikaishima**	**1.58**	**11**	P		**Pn**		**19 10 18.0**	**-0.5**
JZK				S		**Sn**		**19 10 38.3**	**+0.1**
JAM	**Amami Oshima**	**1.65**	**359**	P		**Pn**		**19 10 18.2**	**-1.2**
JAM				S		**Sn**		**19 10 37.9**	**-2.0**
JKDJ	**Kitadaitoujima**	**1.69**	**118**	P		**Pn**		**19 10 18.6**	**-1.4**
JKDJ				S		**Sn**		**19 10 38.8**	**-2.2**
JMZ	**Minamidaito 2**	**1.70**	**123**	P		**Pn**		**19 10 18.4**	**-1.7**
JMZ				S		**Sn**		**19 10 38.3**	**-2.9**
JMZ	**Minamidaito 2**	**1.70**	**123**	Pn		**Pn**		**19 10 18.5**	**-1.7**
JMZ				Sn		**Sn**		**19 10 38.2**	**-3.0**
JJT3	**Tamagusuku3**	**1.77**	**250**	P		**Pn**		**19 10 20.5**	**-0.7**
JJT3				S		**Sn**		**19 10 42.3**	**-0.8**
JAGN	**Aguni-jima**	**2.15**	**266**	P		**Pn**		**19 10 25.7**	**-0.7**
JAGN				S		**Sn**		**19 10 50.6**	**-1.8**
JTAJ	**Takarajima**	**2.42**	**351**	P		**Pn**		**19 10 28.8**	**-1.2**
JTAJ				S		**Sn**		**19 10 55.8**	**-3.1**
JKE	**Kume jima 2**	**2.59**	**261**	P		**Pn**		**19 10 31.2**	**-1.2**
JKE				*e*S		**Sn**		**19 11 01.4**	**-1.9**
JSU	**Suzuyama**	**4.78**	**8**	Pn		**Pn**		**19 11 01.8**	**-0.8**
YOJ	**Yonaguni jima**	**6.41**	**251**	Pn		**Pn**		**19 11 24.6**	**-0.2**
JNU	**Nakatsue**	**6.43**	**9**	Pn		**Pn**		**19 11 25.7**	**+0.5**
	23nm,0.3s,baz=244,slow=3.0,SNR=239								
JNU				Sn		**Sn**		**19 12 33.2**	**-4.8**
	5.5nm,0.3s,baz=291,slow=18,SNR=5.6								
JNU	**Nakatsue**	**6.43**	**9**	Pn		**Pn**		**19 11 25.9**	**+0.6**
JNU				Sn		**Sn**		**19 12 33.9**	**-4.1**
NACB	**Ninganchiao**	**7.71**	**252**	Pn		**Pn**		**19 11 40.3**	**-2.5**
YHNB	**Yeheng**	**7.74**	**256**	Pn		**Pn**		**19 11 43.2**	**-0.1**
JMN	**Monobe**	**7.85**	**27**	Pn		**Pn**		**19 11 43.5**	**-1.2**
YULB	**Yu-li**	**8.27**	**248**			Pn		19 11 46.3	-4.2
SSLB	**Suanglung**	**8.40**	**251**	Pn		**Pn**		**19 11 49.3**	**-3.0**
JHS	**Saijyo**	**8.74**	**19**	Pn		**Pn**		**19 11 55.6**	**-1.3**
TPUB	**Ta-pu**	**8.87**	**249**			**Pn**		**19 11 58.2**	**-0.5**
JWT	**Wachi**	**9.83**	**29**			**Pn**		**19 12 10.5**	**-1.3**
KSRS	**Korea Array**	**10.76**	**353**	Pn		**Pn**		**19 12 24.9**	**+0.3**
	0.5nm,0.3s,baz=170,slow=13,SNR=13								
NJ2	**Nanjing**	**10.78**	**302**	*e*P		**Pn**		**19 12 24.9**	**+0.1**
NJ2				pmax	pmax				
	comp=Z,7.0nm,0.5s								
JHJ	**Hachijo jima 2**	**10.84**	**52**	Pn		**Pn**		**19 12 26.9**	**+1.2**
	23nm,0.3s,baz=98,slow=20,SNR=6.7								
MJAR	**Matsushiro Arr**	**12.17**	**35**	Pn		**Pn**		**19 12 44.8**	**+0.9**
	0.1nm,0.3s,baz=205,slow=13,SNR=7.5								
MJAR	**Matsushiro Arr**	**12.17**	**35**	Pn		**Pn**		**19 12 44.5**	**+0.5**
SNY	**Shenyang**	**15.84**	**343**	⇓P		**Pn**		**19 13 34.3**	**+1.0**
SNY				S		**Sn**		**19 16 31.5**	**+3.3**
SNY				pmax	pmax				
	comp=Z,16nm,1.0s								
SNY				LR	LR				
	comp=N,920nm,10.2s								
SNY				LR	LR				
	comp=E,260nm,9.2s								
SNY				LR	LR				
	comp=Z,1μm,12.2s								
BJT	**Baijiatuan**	**17.33**	**323**			**Pn**		**19 13 48.9**	**-3.4**
USA0B	**Ussuriysk Arra**	**17.51**	**6**	P		**P**		**19 13 57.1**	**+1.7**
USRK	**Ussuriysk Ar.**	**17.51**	**6**	P		**P**		**19 13 57.1**	**+1.7**
	baz=184,slow=9.7,SNR=12								
USRK	**Ussuriysk Ar.**	**17.51**	**6**	P		**P**		**19 13 55.8**	**+0.3**
ENH	**Enshi**	**18.05**	**286**	P		**Pn**		**19 14 00.9**	**-0.5**
XAN	**Xi'an**	**19.27**	**297**	P		**P**		**19 14 14.8**	**-0.2**
XAN				pmax	pmax				
	comp=Z,43nm,0.5s								
XAN				pmax	pmax				
	comp=Z,180nm,4.7s								
XAN				LR	LR				
	comp=N,590nm,13.5s								
XAN				LR	LR				
	comp=E,800nm,12.9s								
XAN				LR	LR				
	comp=Z,1μm,12.8s								
XAN	**Xi'an**	**19.27**	**297**	P		**P**		**19 14 15.2**	**+0.1**
XAN				IAmb	IAmb			19 14 16.1	
	comp=Z,29nm,0.5s								
GUMO	**Guam**	**19.36**	**130**	LR	LR			19 21 10.0	
	comp=Z,57nm,18.8s,baz=294,slow=35								
ASAJ	**Asahikawa**	**20.24**	**28**	P		Pn		19 14 28.4	+1.0
	comp=Z,10nm,0.6s,baz=262,slow=8.8,SNR=15								
ASAJ				LR		LR		19 22 53.5	
	comp=Z,575nm,21.1s,baz=190,slow=39								
HHC	**Hu-ho-hao-te**	**20.51**	**318**	*e*P		Pn		19 14 29.8	-1.0
HHC				pmax	pmax				
	comp=Z,18nm,1.1s								
HHC				pmax	pmax				
	comp=Z,96nm,5.3s								
GYA	**Guiyang**	**20.55**	**274**	⇑P		**P**		**19 14 29.3**	**+0.2**
GYA				pmax	pmax				
	comp=Z,9.0nm,1.3s								
CD2	**Chengdu**	**23.03**	**286**	P		**P**		**19 14 53.8**	**-1.8**
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
LZH	**Lanzhou**	**23.84**	**299**	*e*P		**P**		**19 15 03.4**	**-0.2**
LZH				pP	pP			19 15 09.1	+0.2
LZH				sP	sP			19 15 12.4	+0.9
LZH				pmax	pmax				
	comp=Z,26nm,1.1s								
KMI	**Kunming**	**24.23**	**272**	⇓*e*P		**P**		**19 15 08.6**	**+1.1**
KMI				pP	sP			19 15 14.0	-1.3
KMI				pmax	pmax				
	comp=Z,13nm,1.0s								
SONM	**Songino Array**	**27.82**	**325**	P		**P**		**19 15 40.5**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=143,slow=10.0,SNR=15								
GTA	**Gaotai**	**27.86**	**304**	P		**P**		**19 15 38.3**	**-1.7**
GTA				pP	pwP			19 15 49.6	-0.8
GTA				pmax	pmax				
	comp=Z,13nm,1.0s								
GTA				pmax	pmax				
	comp=Z,59nm,5.9s								
GTA				LR	LR				
	comp=Z,550nm,13.5s								
GTA				LR	LR				
	comp=Z,620nm,14.2s								
GTA				LR	LR				
	comp=Z,840nm,12.4s								
CHTO	**Chiang Mai**	**29.33**	**261**	P		**P**		**19 15 52.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**29.46**	**260**	PcP		**PcP**		**19 19 00.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=96,slow=1.0,SNR=4.8								
CMAR	**Chiang Mai Arr**	**29.46**	**260**	P		**P**		**19 15 50.8**	**-3.5**
CMAR						**PcP**		**19 19 01.2**	**+1.4**
FAKI	**Fak Fak**	**29.61**	**175**	P		**P**		**19 15 56.3**	**+0.7**
PETK	**Petropavlovsk-**	**33.59**	**31**	P		**P**		**19 16 29.9**	**-0.4**
	comp=Z,9.5nm,1.0s,baz=248,slow=6.2,SNR=4.2								
PETK	**Petropavlovsk-**	**33.59**	**31**	P		**P**		**19 16 29.2**	**-1.1**
SHL	**Shillong**	**33.83**	**277**	P		**P**		**19 16 32.7**	**-0.2**
SHL				IAmb		IAmb		19 16 45.3	
	comp=Z,16nm,1.1s								
LSA	**Lhasa**	**33.94**	**284**	P		**P**		**19 16 33.4**	**-0.7**
KULM	**Kulim**	**34.93**	**237**	P		**P**		**19 16 42.9**	**+0.6**
KULM				IAmb		IAmb		19 16 55.4	
	comp=Z,22nm,1.3s								
YAK	**Yakutsk**	**35.27**	**0**	P		**P**		**19 16 44.5**	**-0.1**
	comp=Z,11nm,0.6s,baz=352,slow=10,SNR=16								
YAK	**Yakutsk**	**35.27**	**0**	P		**P**		**19 16 44.2**	**-0.4**
BATI	**Baumata**	**37.20**	**190**	P		**P**		**19 17 00.2**	**-1.5**
	comp=Z,12nm,0.5s,baz=353,slow=4.1,SNR=4.7								
WMQ	**Urumqi**	**37.78**	**308**	*e*P		**P**		**19 17 08.3**	**+1.9**
WMQ				pmax	pmax				
	comp=Z,10.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,61nm,4.5s								
SEY	**Seymchan**	**39.15**	**16**	P		**P**		**19 17 17.7**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=164,slow=7.7,SNR=7.3								
MK31	**Makanchi Array**	**42.13**	**311**	P		**P**		**19 17 40.6**	**-1.9**
MKAR	**Makanchi Array**	**42.13**	**311**	P		**P**		**19 17 41.2**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=95,slow=9.7,SNR=20								
MKAR				PcP		**PcP**		**19 19 36.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=96,slow=2.3,SNR=8.0								
MKAR	**Makanchi Array**	**42.13**	**311**	P		**P**		**19 17 41.2**	**-1.3**
MKAR						**PcP**		**19 19 37.5**	**+0.7**
KNRA	**Kununurra**	**42.19**	**181**	P		**P**		**19 17 43.6**	**+0.5**
KNRA				IAmb		IAmb		19 17 55.1	
	comp=Z,20nm,0.7s								
ZALV	**Zalesovo Beam**	**42.60**	**322**	P		**P**		**19 17 44.4**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=106,slow=8.8,SNR=6.2								
ZALV				PcP		**PcP**		**19 19 37.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=98,slow=4.5,SNR=7.1								
ZALV	**Zalesovo Beam**	**42.60**	**322**	P		**P**		**19 17 44.3**	**-1.9**
ZALV						**PcP**		**19 19 38.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**44.76**	**185**	P		**P**		**19 18 04.2**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=9.8,slow=10,SNR=11								
FITZ				PcP		**PcP**		**19 19 45.8**	**0.0**
	comp=Z,1.5nm,0.7s,baz=334,slow=6.5,SNR=6.6								
FITZ	**Fitzroy Crossi**	**44.76**	**185**	P		**P**		**19 18 04.1**	**+0.3**
FITZ						**PcP**		**19 19 45.9**	**0.0**
TIXI	**Tiksi**	**44.93**	**360**	P		**P**		**19 18 03.5**	**-1.2**
TIXI				IAmb		IAmb		19 18 18.4	
	comp=Z,14nm,1.2s								
KURK	**Kurchatov**	**45.31**	**316**	P		**P**		**19 18 06.8**	**-1.1**
KURK				IAmb		IAmb		19 18 19.2	
	comp=Z,14nm,1.4s								
WB0	**Warramunga Arr**	**46.48**	**174**	P		**P**		**19 18 17.8**	**+0.4**
WB0				IAmb		IAmb		19 18 29.1	
	comp=Z,9.8nm,0.9s								
WRAB	**Tennant Creek**	**46.64**	**174**	P		**P**		**19 18 18.2**	**-0.5**
WRAB				IAmb		IAmb		19 18 24.4	
	comp=Z,14nm,1.1s								
WRA	**Warramunga Arr**	**46.65**	**174**	P		**P**		**19 18 18.9**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=352,slow=8.5,SNR=66								
WRA	**Warramunga Arr**	**46.65**	**174**	P		**P**		**19 18 18.2**	**-0.5**
WB2	**Warramunga Arr**	**46.65**	**174**	P		**P**		**19 18 19.1**	**+0.3**
WB2				IAmb		IAmb		19 18 24.6	
	comp=Z,13nm,1.0s								
WR0	**Warramunga Arr**	**46.68**	**174**	P		**P**		**19 18 19.0**	**0.0**
WR0				IAmb		IAmb		19 18 25.4	
	comp=Z,17nm,1.1s								
KIWB	**Kanaga Island**	**46.89**	**43**	P		**P**		**19 18 21.0**	**+0.7**
NRIK	**Norilʹsk**	**49.14**	**342**	P		**P**		**19 18 37.5**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=114,slow=6.5,SNR=7.3								
CTA	**Charters Tower**	**49.28**	**159**	P		**P**		**19 18 40.0**	**+0.9**
	comp=Z,6.1nm,0.7s,baz=328,slow=8.1,SNR=7.1								
CTAO	**Charters Tower**	**49.28**	**159**	P		**P**		**19 18 38.8**	**-0.3**
KKAR	**Karatay Array**	**50.14**	**305**	P		**P**		**19 18 45.7**	**+0.1**
AS31	**Alice Springs**	**50.30**	**175**	P		**P**		**19 18 47.3**	**+0.4**
ASAR	**Alice Springs**	**50.30**	**175**	P		**P**		**19 18 47.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=4.1,slow=15,SNR=56								
ASAR						**PcP**		**19 20 06.0**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=358,slow=3.0,SNR=1.8								
BRVK	**Borovoye**	**50.79**	**318**	P		**P**		**19 18 49.3**	**-1.0**
BRVK				IAmb		IAmb		19 18 55.0	
	comp=Z,5.9nm,0.8s								
CHGR	**Chuyangaron**	**51.43**	**299**	P		**P**		**19 18 55.2**	**-0.2**
MORW	**Morawa**	**57.02**	**194**	P		**P**		**19 19 34.1**	**-1.9**
MORW				IAmb		IAmb		19 19 38.8	
	comp=Z,13nm,1.2s								
ABKAR	**Akbulak array**	**57.21**	**313**	P		**P**		**19 19 37.4**	**+0.1**
ABKAR				IAmb		IAmb		19 19 38.2	
	comp=Z,4.3nm,0.6s								
ABKAR	**Akbulak array**	**57.21**	**313**	P		**P**		**19 19 37.3**	**+0.1**
ARU	**Arti**	**57.76**	**322**	P		**P**		**19 19 40.4**	**-0.6**
STKA	**Stephens Creek**	**59.41**	**168**	P		**P**		**19 19 53.0**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=354,slow=7.6,SNR=4.1								
BBOO	**Bucokleboo**	**59.55**	**174**	P		**P**		**19 19 54.2**	**+0.5**
PPLA	**Purkeypile**	**61.18**	**31**	P		**P**		**19 20 03.8**	**-0.9**
ILAR	**Eielson Array**	**63.37**	**28**	P		**P**		**19 20 18.6**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=306,slow=6.0,SNR=5.3								
ILAR	**Eielson Array**	**63.37**	**28**	P		**P**		**19 20 18.1**	**-1.1**
INK	**Inuvik**	**67.90**	**23**	P		**P**		**19 20 48.4**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=312,slow=9.9,SNR=4.8								
INK	**Inuvik**	**67.90**	**23**	P		**P**		**19 20 45.9**	**-2.4**
INK				IAmb		IAmb		19 20 50.0	
	comp=Z,15nm,1.4s								
KBZ	**Khabaz**	**69.80**	**310**	P		**P**		**19 21 01.5**	**+1.0**
	comp=Z,16nm,0.9s,baz=112,slow=2.7,SNR=23								
ARCES	**ARCESS Array B**	**69.97**	**339**	P		**P**		**19 21 01.6**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=63,slow=8.3,SNR=6.9								
SOCY	**Socotra**	**71.91**	**275**	P		**P**		**19 21 13.2**	**-0.7**
SOCY				IAmb		IAmb		19 21 24.9	
	comp=Z,12nm,0.9s								
FINES	**FINESS Array B**	**73.02**	**331**	P		**P**		**19 21 19.8**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=69,slow=5.3,SNR=37								
DAG	**Danmarks Havn**	**74.89**	**353**	*i* P		**P**		**19 21 30.1**	**-0.2**
DAG	**Danmarks Havn**	**74.89**	**353**	*i* P		**P**		**19 21 30.2**	**-0.2**
AKASG	**Malin Array Be**	**75.95**	**320**	P		**P**		**19 21 36.7**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=53,slow=5.9,SNR=18								
AKASG	**Malin Array Be**	**75.95**	**320**	P		**P**		**19 21 35.3**	**-1.6**
DBG	**Daneborg**	**77.26**	**352**	*i* P		**P**		**19 21 43.4**	**-0.5**
YKA	**Yellowknife Ar**	**77.51**	**25**	P		**P**		**19 21 45.5**	**0.0**
	comp=Z,1.4nm,0.7s,baz=300,slow=5.6,SNR=4.1								
SORM	**Soroca**	**77.57**	**318**	⇑P		**P**		**19 21 46.1**	**0.0**
BRTR	**Keskin Array B**	**77.70**	**308**	P		**P**		**19 21 47.2**	**0.0**
	comp=Z,2.9nm,0.5s,baz=108,slow=4.0,SNR=9.8								
BRTR	**Keskin Array B**	**77.70**	**308**	P		**P**		**19 21 47.5**	**+0.3**
TPGR	**Topolog**	**78.99**	**315**	⇓P		**P**		**19 21 54.7**	**+0.7**
CFR	**Carcaliu**	**79.02**	**315**	⇓P		**P**		**19 21 54.6**	**+0.4**
HARR	**Harsova**	**79.37**	**315**	⇓P		**P**		**19 21 56.9**	**+0.8**
NB2	**NORSAR Subarra**	**79.39**	**334**	P		**P**		**19 21 55.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=50,slow=5.6								
NOA	**NORSAR Array B**	**79.39**	**334**	P		**P**		**19 21 55.5**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=51,slow=5.6,SNR=9.0								
BIZ	**Bicaz**	**79.47**	**317**	⇓P		**P**		**19 21 57.8**	**+1.2**
VRI	**Vrincioaia**	**79.59**	**316**	⇓P		**P**		**19 21 58.7**	**+1.4**
BUR08	**Bucovina Ar. S**	**79.68**	**318**	P		**P**		**19 21 58.7**	**+0.8**
BUR08				IAmb		IAmb		19 21 59.1	
	comp=Z,3.7nm,0.8s								
BURAR	**Bucovina Array**	**79.68**	**318**	⇓P		**P**		**19 21 58.5**	**+0.6**
BURAR	**Bucovina Array**	**79.68**	**318**	P		**P**		**19 21 58.0**	**0.0**
BISRR	**Bisoca**	**79.75**	**316**	⇓P		**P**		**19 21 59.2**	**+1.0**
OZUR		**80.06**	**317**	⇓P		**P**		**19 22 00.8**	**+0.9**
MLR	**Muntele Rosu**	**80.25**	**316**	⇓P		**P**		**19 22 01.6**	**+0.6**
DOPR	**Dopca**	**80.36**	**317**	⇓P		**P**		**19 22 02.7**	**+1.1**
SUMG	**Summit**	**80.59**	**356**	P		**P**		**19 22 03.1**	**+0.4**
SUMG	**Summit**	**80.59**	**356**	*i* P		**P**		**19 22 03.5**	**+0.8**
SUMG	**Summit**	**80.59**	**356**	*i* P		**P**		**19 22 03.5**	**+0.8**
VOIR		**80.83**	**316**	⇑P		**P**		**19 22 05.4**	**+1.3**
ARR	**Arges**	**81.12**	**316**	⇑P		**P**		**19 22 06.8**	**+1.2**
HUMR	**Humele**	**81.31**	**316**	⇑P		**P**		**19 22 06.9**	**+0.3**
OJC	**Ojcow**	**81.47**	**322**	P		**P**		**19 22 07.5**	**+0.2**
GZR	**Gura Zlata**	**82.24**	**317**	⇑P		**P**		**19 22 12.7**	**+1.2**
VYHS	**Vyhne**	**82.93**	**321**	*e*P		**P**		**19 22 16.0**	**+1.0**
KRLC	**Kraliky**	**83.18**	**323**	*e*P		**P**		**19 22 16.8**	**+0.5**
MDVR	**Moldovita**	**83.20**	**317**	⇑P		**P**		**19 22 17.0**	**+0.4**
OSTC	**Ostas**	**83.21**	**324**	*e*P		**P**		**19 22 17.6**	**+1.1**
DPC	**Dobruska-Polom**	**83.27**	**324**	*e*P		**P**		**19 22 17.6**	**+0.8**
CHVC	**Chvalec**	**83.28**	**324**	*e*P		P		19 22 28.1	+11
VRAC	**Vranov**	**83.72**	**323**	⇓P		**P**		**19 22 20.5**	**+1.4**
VRAC	**Vranov**	**83.72**	**323**	*e*P		**P**		**19 22 20.4**	**+1.4**
KRUC	**Moravsky**	**83.96**	**323**	*e*P		**P**		**19 22 21.2**	**+0.9**
BRG	**Berggiesshubel**	**84.21**	**325**	*i* P		**P**		**19 22 22.2**	**+0.7**
	comp=Z,10nm,1.2s								
PRU	**Pruhonice**	**84.42**	**324**	*e*P		**P**		**19 22 23.2**	**+0.6**
CLL	**Collm**	**84.44**	**326**	*i* P		**P**		**19 22 23.5**	**+0.9**
	comp=Z,18nm,1.2s								
CLL				*i* sP		**pwP**		**19 22 34.2**	**+0.6**
CLL				L		L		20 09 00.0	
	comp=Z,500nm,18.9s								
CLL				Lm		MLR		20 10 00.0	
	comp=Z,500nm,18.9s								
PBCC	**Pribram**	**84.88**	**324**	*e*P		**P**		**19 22 25.8**	**+0.8**
CONA	**Conrad Observa**	**84.90**	**322**	*e*P		**P**		**19 22 26.8**	**+1.7**
	comp=Z,12nm,1.3s								
KHC	**Kasperske Hory**	**85.43**	**324**	*e*P		**P**		**19 22 28.5**	**+0.7**
ARSA	**Arzberg**	**85.47**	**321**	*e*P		**P**		**19 22 30.3**	**+2.3**
	comp=Z,6.2nm,1.2s								
GERES	**GERESS Array B**	**85.54**	**323**	P		**P**		**19 22 28.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=64,slow=6.1,SNR=9.5								
GERES	**GERESS Array B**	**85.54**	**323**	P		**P**		**19 22 28.2**	**-0.1**
MOA	**Molln**	**85.82**	**322**	*e*P		**P**		**19 22 31.0**	**+1.4**
	comp=Z,3.3nm,0.8s								
SOKA	**Soboth**	**86.08**	**321**	*e*P		**P**		**19 22 32.1**	**+1.0**
	comp=Z,9.2nm,1.1s								
OBKA	**Obir**	**86.45**	**321**	*e*P		**P**		**19 22 33.8**	**+0.8**
	comp=Z,1.3nm,0.6s								
SFJD	**Kangerlussuaq**	**86.54**	**0**	P		**P**		**19 22 32.6**	**-0.2**
	comp=Z,10nm,1.0s,baz=11,slow=5.2,SNR=2.2								
SFJD	**Kangerlussuaq**	**86.54**	**0**	P		**P**		**19 22 31.1**	**-1.7**
KBA	**Koelnbreinsper**	**86.78**	**322**	*e*P		**P**		**19 22 35.6**	**+0.9**
	comp=Z,2.4nm,0.6s								
ABTA	**Abfaltersbach**	**87.43**	**322**	*e*P		**P**		**19 22 37.8**	**+0.1**
	comp=Z,5.1nm,1.2s								
MOTA	**Moosalm**	**87.83**	**323**	*e*P		**P**		**19 22 40.5**	**+0.8**
	comp=Z,2.5nm,0.8s								
SQTA	**Sankt Quirin**	**87.85**	**323**	*e*P		**P**		**19 22 40.6**	**+0.9**
	comp=Z,3.7nm,0.9s								
DAVOX	**Davos/Dischmat**	**88.84**	**323**	P		**P**		**19 22 43.6**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=342,slow=1.8,SNR=5.6								
PDAR	**Pinedale Array**	**91.96**	**39**	P		**P**		**19 22 59.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=318,slow=2.0,SNR=4.7								
VNA2	**Neumayer--Watz**	**129.65**	**197**	PKPdf		**PKPdf**		**19 28 57.8**	**-0.5**

*NEIC **19** 19:17:38.5±2.3,8.8N±0.1×39.6W±0.1,h10km±2km, mb4.4/6, Error ellipse: s-maj=21.9km s-min=18.2km az=52.0*

*IDC **19** 19:17:39.4±0.7,8.64N×39.42W,h0km,mb4.0/12, mb1 4.1/12,mb1mx3.9/36,mbtmp4.0/12,MS3.8/11, Ms1 3.8/11,ms1mx3.6/30,Error ellipse: s-maj=30.5km s-min=16.4km az=145.0*

ISC 19 19:17:40.7±0.6,8.7N±0.1×39.51W±0.0,h15km,n33, σ2ᵍ01/22,mb4.0/13,MS3.8/9,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.52**	**256**	LR		LR		19 25 06.4	
	comp=Z,305nm,22.0s,baz=50,slow=33								
RCBR	**Riachuelo**	**14.86**	**166**	LR		LR		19 25 34.4	
	comp=Z,172nm,19.9s,baz=322,slow=32								
RCBR	**Riachuelo**	**14.86**	**166**	Pn		**Pn**		**19 21 11.6**	**+1.0**
RCBR				IAmb		IAmb		19 22 09.9	
	comp=Z,23nm,1.1s								
SACV	**Santiago Islan**	**16.76**	**67**	Pn		**Pn**		**19 21 29.8**	**-5.4**
SACV				IAmb		IAmb		19 21 32.0	
	comp=Z,27nm,0.9s								
BBGH	**Gun Hill**	**20.18**	**284**	P		**P**		**19 22 11.6**	**-3.3**
H05S1	**Guadeloupe/Mar**	**21.65**	**287**	T		T		19 44 47.4	
	SNR=34								
PTGA	**Pitinga**	**22.43**	**246**	P		**P**		**19 22 41.4**	**+2.1**
	comp=Z,4.5nm,0.8s,baz=70,slow=14,SNR=6.3								
PTGA	

KDU				S		Sn	19 24 41.9	+0.7
	baz=8.2							
LUWI	Luwuk	9.72	350	Pn		Pn	19 23 31.8	-1.0
WB0	Warramunga Arr	13.18	134	Pn		Pn	19 24 18.6	-1.5
WRA	Warramunga Arr	13.26	135	Pn		Pn	19 24 18.4	-2.8
	1.8nm,0.3s,baz=299,slow=12,SNR=81							
WRA				Sn		Sn	19 26 41.9	-5.5
	3.8nm,0.3s,baz=304,slow=22,SNR=11							
WRA	Warramunga Arr	13.26	135			Pn	19 24 18.5	-2.7
WRAB	Tennant Creek	13.26	135			Pn	19 24 20.1	-1.1
WB2	Warramunga Arr	13.26	135	Pn		Pn	19 24 20.1	-1.2
WR0	Warramunga Arr	13.41	135	Pn		Pn	19 24 21.4	-1.8
WRKA	Warakurna	14.74	166	P		Pn	19 24 41.8	+0.4
	baz=15,SNR=8.3							
WAMI	Wamena	15.67	66	P		P	19 25 09.0	+12
AS31	Alice Springs	15.75	146	P		Pn	19 24 54.4	-0.3
ASAR	Alice Springs	15.75	146	Pn		Pn	19 24 54.5	-0.2
	2.0nm,0.3s,baz=319,slow=11,SNR=221							
ASAR				Sn		Sn	19 27 44.9	-3.3
	2.0nm,0.3s,baz=310,slow=20,SNR=9.9							
ASAR	Alice Springs	15.75	146			Pn	19 24 54.8	+0.1
CISI	Cisompet, Garu	16.71	279	P		Pn	19 25 06.2	-0.8
CISI				IAmb		IAmb	19 25 14.1	
	comp=Z,57nm,1.2s							
MEEK	Meekatharra	16.80	198	P		Pn	19 25 09.4	+1.4
	baz=17,SNR=8.3							
KKM	Kota Kinabalu	18.52	333	P		P	19 25 29.2	+0.1
KKM				IAmb		IAmb	19 25 31.1	
	comp=Z,31nm,1.5s							
COEN	Coen	18.59	102	P		Pn	19 25 32.7	+2.6
	baz=19,SNR=5.4							
MORW	Morawa	19.91	202	P		Pn	19 25 46.8	+0.9
	baz=20,SNR=3.4							
KASI	Kota Agung	20.40	283	P		P	19 25 50.5	+1.1
	comp=Z,107nm,0.9s							
KLSI		20.42	285	P		P	19 25 51.2	+1.5
	comp=Z,6.8nm,1.1s							
MTSU	Mount Surprise	20.61	113	P		P	19 25 52.8	+1.0
	baz=21,SNR=12							
STKA	Stephens Creek	26.39	146	P		P	19 26 51.3	+2.7
	comp=Z,5nm,0.9s,baz=333,slow=2.9,SNR=4.3							
CMAR	Chiang Mai Arr	38.36	319	P		P	19 28 32.9	-0.4
	comp=Z,1.9nm,0.8s,baz=147,slow=6.5,SNR=21							
CMAR	Chiang Mai Arr	38.36	319	P		P	19 28 32.6	-0.7
CHTO	Chiang Mai	38.62	319	P		P	19 28 31.7	-3.8
CHTO				IAmb		IAmb	19 28 35.7	
	comp=Z,2.8nm,0.7s							
KSRS	Korea Array	47.99	4	P		P	19 29 50.3	-0.5
	comp=Z,1.0nm,0.7s,baz=187,slow=8.3,SNR=3.7							
MJAR	Matsushiro Arr	48.73	15	P		P	19 29 55.6	-0.9
	comp=Z,0.9nm,0.3s,baz=208,slow=9.6,SNR=6.4							
LSA	Lhasa	51.39	322	P		P	19 30 13.8	-3.6
LSA				IAmb		IAmb	19 30 18.2	
	comp=Z,2.9nm,0.7s							
SONM	Songino Array	60.42	346	P		P	19 31 20.6	-0.8
	comp=Z,0.6nm,0.4s,baz=160,slow=10,SNR=5.2							
MK31	Makanchi Array	68.48	330	P		P	19 32 11.7	-2.3
MKAR	Makanchi Array	68.48	330	P		P	19 32 13.9	-0.1
	comp=Z,3.3nm,0.6s,baz=134,slow=7.5,SNR=37							
PETK	Petropavlovsk-	69.60	21	P		P	19 32 21.9	+1.2
	comp=Z,7.8nm,1.0s,baz=179,slow=1.3,SNR=5.6							
ZALV	Zalesovo Beam	72.60	337	P		P	19 32 38.0	-0.9
	comp=Z,1.6nm,0.5s,baz=127,slow=4.3,SNR=10.0							
KURK	Kurchatov	72.94	332	P		P	19 32 40.7	-0.3
KURK				IAmb		IAmb	19 32 44.5	
	comp=Z,4.5nm,1.1s							
PDAR	Pinedale Array	123.37	46	PKP		PKiKP	19 40 12.5	+2.9
	comp=Z,0.3nm,0.7s,baz=320,slow=50,SNR=2.5							
TORD	Torodi Ar. Bea	124.03	279	PKP		PKiKP	19 40 13.3	+2.0
	comp=Z,1.6nm,0.7s,baz=55,slow=2.2,SNR=9.5							

SSNC 19 19:27:21.4±0.6, 13.77N×74.33W, h16km±5km, ML1.1, MW1.7, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MASC	Masc	0.41	13	*i* P		Pg	19 27 28.9		-0.9
MASC				*e*S		Sg	19 27 34.9		-0.5
MASC				IAML			19 27 36.3		
	comp=N,6.7nm,0.1s								
MASC				IAML			19 27 36.4		
	comp=E,7.2nm,0.1s								
MASC	Masc	0.41	13	*i* P		Pg	19 27 28.9		-0.9
MASC				*e*S		Sg	19 27 33.3		-2.1
MASC				IAML			19 27 36.3		
	comp=N,6.7nm,0.1s								
MASC				IAML			19 27 36.4		
	comp=E,7.2nm,0.1s								
GTMO	Guantanamo	0.82	292	*e*P		Pb	19 27 33.8		-3.6
GTMO				*e*S		Sb	19 27 43.2		-5.1
GTMO				IAML			19 27 44.2		
	comp=E,24nm,0.1s								
GTMO				IAML			19 27 44.5		
	comp=N,34nm,0.1s								
GTMO	Guantanamo	0.82	292	*e*P		Pb	19 27 33.7		-3.7
GTMO				*e*S		Sb	19 27 43.2		-5.1
GTMO				IAML			19 27 44.2		
	comp=E,24nm,0.1s								
GTMO				IAML			19 27 44.5		
	comp=N,34nm,0.1s								

*BJI **19** 19:38:35.4±0.0, 3.24S×151.19E, h8km, mB5.5/71, mb5.2/78, Ms5.7/88, Ms7 5.6/84*

*IDC **19** 19:38:37.3±0.4, 3.42S×150.80E, h0km, mb4.9/30, mb1 5.0/32, mb1mx5.0/42, mbtmp4.9/32, ML4.6/2, MS5.4/33, Ms1 5.4/33, ms1mx5.4/37, Error ellipse: s-maj=14.5km s-min=10.6km az=84.0*

*NEIC **19** 19:38:38.3±2.1, 3.33S±0.07×150.84E±0.07, h10km±1km, mb5.5/67, Ms_20 5.8/743, Mwb5.8/40, Mww5.8, Mwc5.9(GCMT), Error ellipse: s-maj=12.9km s-min=11.4km az=231.0*

*NEIC **19** 19:38:38.6, 3.38S×150.81E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.77; $M_{\theta\theta}$=3.25; $M_{\phi\phi}$=2.49; $M_{r\theta}$=-0.28; $M_{r\phi}$=4.65; $M_{\theta\phi}$=1.77; Fault plane solution: M_o=5.79000×10^{17} NP1:ϕ_s197.39000°, δ80.64000°, λ-162.34000°. NP2:ϕ_s104.42000°, δ72.58000°, λ-9.82000°. Principal axes: T 5.9070, Plg6.0000°, Azm330.0000°; N -0.2452, Plg70.0000°, Azm224.0000°; P -5.6618, Plg19.0000°, Azm62.0000°;*

*DJA **19** 19:38:39.8±1.4, 3.5S×151.15E, h15km±9km, M5.5/56, mB5.9/49, mb5.5/56, MLv5.2/1, Mw(mB)5.5/49, Mwp5.7/22*

*MOS **19** 19:38:41.1±1.2, 3.30S×150.72E, h34km, mb5.4/34, MS5.7/18, Error ellipse: s-maj=10.7km s-min=5.7km az=103.0*

*NEIC **19** 19:38:42, 3.14S×151.15E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.62; $M_{\theta\theta}$=3.62; $M_{\phi\phi}$=-1.99; $M_{r\theta}$=-0.45; $M_{r\phi}$=4.23; $M_{\theta\phi}$=-2.69; Fault plane solution: M_o=5.93000×10^{17} NP1:ϕ_s284.00000°, δ59.00000°, λ-13.00000°. NP2:ϕ_s21.00000°, δ78.00000°, λ-148.00000°. Principal axes: T 6.2626, Plg13.0000°, Azm149.0000°; N -0.7249, Plg57.0000°, Azm39.0000°; P -5.5377, Plg30.0000°, Azm247.0000°;*

*NEIC **19** 19:38:43, 3.33S×150.94E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.33; $M_{\theta\theta}$=4.31; $M_{\phi\phi}$=-4.64; $M_{r\theta}$=-1.09; $M_{r\phi}$=7.06; $M_{\theta\phi}$=-0.93; Fault plane solution: M_o=8.49000×10^{17} NP1:ϕ_s287.00000°, δ82.00000°, λ6.00000°. NP2:ϕ_s196.00000°, δ84.00000°, λ172.00000°. Principal axes: T 8.4363, Plg10.0000°, Azm151.0000°; N 0.0987, Plg80.0000°, Azm342.0000°; P -8.5349, Plg2.0000°, Azm241.0000°;*

*GCMT **19** 19:38:43.3±0.1, 3.31S×150.89E, h12km, MW5.9/160, Moment Tensor Solution. s150,c314; s160,c553; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.00±.05; $M_{\theta\theta}$=4.25±.05; $M_{r\theta}$=4.06±.13; $M_{\theta\phi}$=6.58±.04; $M_{r\phi}$=-0.83±.13; Best double couple: M_o=7.87400×10^{17} NP1:ϕ_s286.00000°, δ84.00000°, λ-1.00000°. NP2:ϕ_s16.00000°, δ89.00000°, λ-174.00000°. Principal axes: T 7.8610, Plg3.0000°, Azm151.0000°; N 0.0330, Plg84.0000°, Azm28.0000°; P -7.8870, Plg5.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 19 19:38:38.9±0.2, 3.35S±0.04×150.93E±0.04, h10km, n872, σ2s25/534, mb5.3/137, MS5.8/445, 24C-10D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KRVT	Keravat (AS076	1.45	131	Pn		Pn	19 39 02.6		-2.6
	87nm,0.3s,baz=153,slow=10,SNR=175								
KRVT				Sn		Sg	19 39 27.9		+2.2
	309nm,0.3s,baz=192,slow=24,SNR=7.5								
KRVT				LR		LR	19 39 33.9		
	comp=Z,57μm,18.1s,baz=158,slow=38								
RABL	Rabaul	1.49	124	Pn		Pn	19 39 03.2		-2.6
PMG	Port Moresby	1.49	124	Pn		Pn	19 40 23.3		+0.5
	16nm,0.3s,baz=33,slow=5.7,SNR=95								
PMG				Sn		Sn	19 41 39.1		-4.4
	baz=39,slow=14,SNR=0.4								
PMG				LR		LR	19 43 18.4		
	comp=Z,33μm,18.3s,baz=39,slow=40								
PMG	Port Moresby	7.09	212	P		Pn	19 40 24.5		+1.7
PMG	Port Moresby	7.09	212			Pn	19 40 24.5		+1.7
JAY	Jayapura	10.24	274	Pn		Pn	19 41 07.7		+1.6
	0.4nm,0.3s,baz=32,slow=4.4,SNR=8.4								
JAY				LR		LR	19 44 24.4		
	comp=Z,44μm,18.8s,baz=90,slow=34								
JAY	Jayapura	10.24	274	P		Pn	19 41 09.2		+3.1
	12μm2μm85nm,1.3s								
GENI	Genyem	10.77	274	P		Pn	19 41 15.7		+2.4
	23μm8μm284nm,1.2s								
HNR	Honiara	10.81	124	Pn		Pn	19 41 17.1		+3.3
	5.3nm,0.3s,baz=265,slow=6.1,SNR=5.6								
HNR				LR		LR	19 45 33.2		
	comp=Z,58μm,18.2s,baz=296,slow=38								
SMPI	Sarmi	12.28	276	P		Pn	19 41 37.0		+3.0
	12μm4μm244nm,1.8s								
PATS	Pohnpei	12.52	36	Pn		Pn	19 41 35.4		-1.8
COEN	Coen	13.03	216	P		Pn	19 41 44.8		+0.6
	baz=13,SNR=10								
COEN	Coen	13.03	216	Pn		Pn	19 41 44.9		+0.6
SRPI	Serui, Papua	14.75	275	P		P	19 42 13.0		-0.8
BAKI	Biak	14.96	278	P		P	19 42 20.1		+3.9
MTSU	Mount Surprise	16.06	203	P		Pn	19 42 26.3		+1.2
	baz=16,SNR=50								
CTA	Charters Tower	17.25	195	P		P	19 42 40.9		-0.7
	0.4nm,0.3s,baz=15,slow=12,SNR=6.3								
CTA				LR		LR	19 49 16.3		
	comp=Z,8μm,19.2s,baz=13,slow=37								
CTAO	Charters Tower	17.25	195	P		P	19 42 42.2		+0.5
CTAO				pmax		pmax			
	comp=Z,379nm,1.5s								
CTAO	Charters Tower	17.25	195			P	19 42 42.2		+0.5
CTAO				IAmb		IAmb	19 43 02.8		
	comp=Z,379nm,1.5s								
GUMO	Guam	17.87	340	P		P	19 42 48.5		+0.1
	comp=Z,3.1nm,0.3s,baz=64,slow=3.1,SNR=7.9								
GUMO				LR		LR	19 48 30.7		
	comp=Z,6μm,18.6s,baz=150,slow=33								
GUMO	Guam	17.87	340	P		Pn	19 42 45.3		-2.5
GUMO				pmax		pmax			
	comp=Z,518nm,1.1s								
GUMO	Guam	17.87	340	Pn		Pn	19 42 45.3		-2.5
GUMO				IAmb		IAmb	19 42 59.4		
	comp=Z,518nm,1.1s								
FAKI	Fak Fak	18.66	271	P		P	19 42 56.6		-0.6
	comp=Z,14μmcomp=Z,7μmcomp=Z,330nm,1.4s								
FAKI	Fak Fak	18.66	271	P		P	19 42 55.4		-1.8
FAKI				IAmb		IAmb	19 43 02.5		
	comp=Z,537nm,1.3s								
SIJI	Sorong	19.80	277	P		P	19 43 10.1		+0.3
	comp=Z,1.1nm,0.3s,baz=71,slow=10,SNR=13								
SANVU	Saraoutou	20.04	128	P		P	19 43 12.4		+0.2
QIS	Mount Isa	20.36	212	P		P	19 43 15.3		-0.4
	baz=20,SNR=70								
KDU	Kakadu	20.48	242	P		P	19 43 15.5		-1.6
	baz=20,SNR=50								
BNDI	Bandanaira	21.01	266	P		P	19 43 23.8		+1.0
	comp=Z,16μmcomp=Z,25μmcomp=Z,2μm,1.2s								
MTN	Manton Dam	21.73	243	P		P	19 43 29.3		-1.3
	baz=22,SNR=24								
MTN	Manton Dam	21.73	243	P		P	19 43 29.9		-0.8
MTN				IAmb		IAmb	19 43 35.6		
	comp=Z,247nm,1.1s								
EIDS	Eidsvold	21.90	180	P		P	19 43 32.7		+0.4
	baz=22,SNR=16								
EIDS	Eidsvold	21.90	180	P		P	19 43 32.8		+0.5
EIDS				IAmb		IAmb	19 43 47.0		
	comp=Z,118nm,1.0s								
MSAI	Masohi	21.96	269	P		P	19 43 40.1		+7.0
WB0	Warramunga Arr	22.95	223	P		P	19 43 42.2		-1.5
WR0	Warramunga Arr	22.99	223	P		P	19 43 42.5		-1.4
WRAB	Tennant Creek	23.10	223	*d* iP		P	19 43 43.2		-1.9
WRAB				pmax		pmax			
	comp=Z,149nm,1.3s								
WRAB	Tennant Creek	23.10	223	P		P	19 43 43.6		-1.5
RMQ	Roma	23.10	185	P		P	19 43 45.3		+0.2
	baz=23,SNR=27								
WB2	Warramunga Arr	23.10	223	P		P	19 43 43.6		-1.5
WRA	Warramunga Arr	23.11	223	P		P	19 43 43.3		-2.0
	comp=Z,85nm,1.0s,baz=48,slow=10,SNR=214								
WRA				LR		LR	19 52 49.7		
	comp=Z,13μm,20.0s,baz=40,slow=37								
WRA	Warramunga Arr	23.11	223	P		P	19 43 42.9		-2.4
WRA				pmax		pmax			
	comp=Z,6.0nm,1.0s								
WRA	Warramunga Arr	23.11	223	P		P	19 43 42.9		-2.4
NLAI	Namlea	23.79	270	P		P	19 43 54.2		+2.1
	comp=Z,14μmcomp=Z,150nm,2.0s								
TNTI	Ternate	23.90	279	P		P	19 43 52.4		-0.8
DZM	Mont Dzumac	23.94	142	*e*P		P	19 43 53.2		-0.3
	comp=Z,539nm,1.4s								
DZM				*e*S		S	19 48 03.9		-6.4
	comp=Z,9μm,23.7s								
DZM				*e*LR		LR	19 49 48.3		
	comp=Z,51μm,23.8s								
DZM	Mont Dzumac	23.94	142	P		P	19 43 53.6		+0.1
	comp=Z,85nm,0.7s,baz=333,slow=9.8,SNR=51								
DZM				LR		LR	19 52 09.1		
	comp=Z,24μm,20.7s,baz=302,slow=34								
DZM	Mont Dzumac	23.94	142	P		P	19 43 53.6		+0.1
QLP	Quilpie	23.98	195	P		P	19 43 53.6		-0.1
	baz=24,SNR=20								
SANI	Sanana	24.95	272	P		P	19 44 03.7		+1.0
	comp=Z,5μmcomp=Z,5μmcomp=Z,272nm,1.2s								
KNRA	Kununurra	25.02	239	P		P	19 44 01.7		-1.6
	baz=25,SNR=43								
KNRA	Kununurra	25.02	239	P		P	19 44 02.0		-1.3
KNRA				IAMs_20		IAMs_20	19 54 20.2		
	comp=Z,24μm,20.0s								
AS31	Alice Springs	26.05	218	P		P	19 44 11.7		-1.0
ASAR	Alice Springs	26.05	218	P		P	19 44 11.4		-1.3
	comp=Z,18nm,0.9s,baz=54,slow=8.2,SNR=62								
ASAR				LR		LR	19 55 30.6		
	comp=Z,15μm,19.7s,baz=36,slow=39								
ASAR	Alice Springs	26.05	218	P		P	19 44 11.7		-1.1
SGSI	Sangihe	26.33	285	P		P	19 44 23.7		+8.4
H11S3	WAKE ISLAND Hy	26.68	35	T		T	20 11 45.5		
	baz=217,slow=74,SNR=1309								
H11S2	WAKE ISLAND Hy	26.69	35	T		T	20 11 42.4		
	baz=217,slow=74,SNR=1134								
H11S1	WAKE ISLAND Hy	26.70	35	T		T	20 11 43.2		
	baz=217,slow=74,SNR=925								
ARMA	Armidale	26.93	179	P		P	19 44 22.4		+1.7
	baz=27,SNR=14								
ARMA	Armidale	26.93	179	P		P	19 44 21.1		+0.4
KMSI	Cibinong	27.21	278	P		P	19 44 25.3		+2.0
	comp=Z,4μmcomp=Z,338nm,1.0s								
SOEI	Soe	27.23	255	P		P	19 44 25.4		+1.9
	comp=Z,9μmcomp=Z,4μmcomp=Z,238nm,1.2s								
DAV	Davao City (W)	27.34	292	LR		LR	19 55 06.0		
	comp=Z,6μm,18.2s,baz=96,slow=36								
H11N1	WAKE ISLAND Hy	27.77	34	T		T	20 13 05.8		
	baz=218,slow=76,SNR=936								
H11N3	WAKE ISLAND Hy	27.79	34	T		T	20 13 11.7		
	baz=218,slow=76,SNR=142								
H11N2	WAKE ISLAND Hy	27.79	34	T		T	20 13 08.3		
	baz=218,slow=76,SNR=807								
BATI	Baumata	27.90	255	P		P	19 44 28.2		-1.3
	comp=Z,56nm,0.8s,baz=110,slow=4.0,SNR=14								
BATI				LR		LR	19 58 08.7		
	comp=Z,20μm,18.9s,baz=98,slow=42								
BATI	Baumata	27.90	255	P		P	19 44 29.5		0.0
	comp=Z,5μmcomp=Z,2μmcomp=Z,121nm,1.1s								
GTOI	Gorontalo	28.18	278	P		P	19 44 34.5		+2.6
	comp=Z,1μmcomp=Z,69nm,1.1s								
LUWI	Luwuk	28.23	274	P		P	19 44 34.8		+2.5
	comp=Z,4μmcomp=Z,263nm,1.2s								
CMSA	Cobar Meteorol	28.47	189	P		P	19 44 33.7		-0.6
	baz=28,SNR=16								
FITZ	Fitzroy Crossi	28.78	238	P		P	19 44 35.2		-2.0
	comp=Z,48nm,1.0s,baz=64,slow=7.0,SNR=35								
FITZ				LR		LR	19 56 56.5		
	comp=Z,13μm,18.1s,baz=60,slow=38								
FITZ	Fitzroy Crossi	28.78	238	P		P	19 44 35.2		-2.0
	baz=29,SNR=53								
FITZ	Fitzroy Crossi	28.78	238	P		P	19 44 35.4		-1.8
MMRI	Maumere	29.00	258	P		P	19 44 40.4		+1.2
	comp=Z,7μmcomp=Z,2μmcomp=Z,93nm,0.9s								
MMRI	Maumere	29.00	258	P		P	19 44 37.8		-1.4
MMRI				IAmb		IAmb	19 45 01.8		
	comp=Z,69nm,0.8s								
EDFI	Ende, Flores	29.55	258	P		P	19 44 44.2		-0.1
	comp=Z,4μmcomp=Z,682nmcomp=Z,50nm,1.4s								
STKA	Stephens Creek	29.71	196	P		P	19 44 40.0		-1.2
	comp=Z,12nm,0.9s,baz=20,slow=10,SNR=15								
STKA				LR		LR	19 57 09.7		
	comp=Z,7μm,18.6s,baz=8.7,slow=38								
STKA	Stephens Creek	29.71	196	P		P	19 44 44.1		-1.2
	baz=30,SNR=10								
STKA	Stephens Creek	29.71	196	P		P	19 44 43.7		-1.6
STKA				pmax		pmax			
	comp=Z,9.0nm,1.1s								
STKA				MLR		MLR			
	comp=Z,2μm,18.0s								
STKA	Stephens Creek	29.71	196	P		P	19 44 43.7		-1.6
TTSI	Tana Toraja	31.06	270	P		P	19 45 04.5		+7.0
SPSI	Sidrap Palu	31.10	268	P		P	19 44 59.1		+1.3
	comp=Z,1μmcomp=Z,62nm,1.7s								
MPSI	Mapaga	31.23	276	P		P	19 44 57.6		-1.4
	comp=Z,819nmcomp=Z,42nm,0.9s								
CNB	Canberra Magne	31.84	182	P		P	19 45 05.6		+1.5
	baz=32,SNR=5.0								
HTT	Hallett	31.96	199	P		P	19 45 05.6		+0.4
	baz=32,SNR=10								
PLAI	Plampang	33.40	259	P		P	19 45 17.3		-0.7
	comp=Z,4μmcomp=Z,1μmcomp=Z,118nm,1.0s								
MYLDM	Lahad Datu	33.48	285	IAMs_20		IAMs_20	19 54 16.2		
	comp=Z,14μm,20.0s								
TWSI	Taliwang, Sumb	34.26	259	P		P	19 45 25.1		-0.4
	comp=Z,3μmcomp=Z,29nm,1.1s								
ARPS	Mount Arapiles	34.30	193	P		P	19 45 25.3		-0.2
	baz=34,SNR=16								
TGY	Tagaytay City	34.42	301	P		P	19 45 28.2		+1.3
	comp=Z,106nm,0.4s,baz=109,slow=6.5,SNR=6.5								
TGY				LR		LR	19 56 55.7		
	comp=Z,6μm,21.9s,baz=116,slow=32								
TOO	Toolangi	34.43	188	P		P	19 45 27.2		+0.6
	baz=34,SNR=5.1								
TOO	Toolangi	34.43	188	P		P	19 45 26.7		+0.1
TOO				pmax		pmax			
	comp=Z,61nm,1.2s								
TOO				MLR		MLR			
	comp=Z,5μm,19.0s								
TOO	Toolangi	34.43	188	P		P	19 45 26.7		+0.1
TOO				IAmb		IAmb	19 45 35.9		
	comp=Z,61nm,1.2s								
FORT	Forrest	34.80	216	IAMs_20		IAMs_20	20 00 56.9		
	comp=Z,14μm,18.0s								
MBWA	Marble Bar	35.13	237	IAMs_20		IAMs_20	20 00 47.9		
	comp=Z,13μm,18.0s								
PSAD2	Pilbara Seismi	35.14	236	IAMs_20		IAMs_20	20 00 41.2		
	comp=Z,14μm,20.0s								
PSAC2	Pilbara Seismi	35.16	236	IAMs_20		IAMs_20	20 00 41.9		
	comp=Z,13μm,19.0s								
PSAD1	Pilbara Seismi	35.17	237	IAMs_20		IAMs_20	20 00 41.2		
	comp=Z,14μm,20.0s								
PSAB2	Pilbara Seismi	35.19	236	IAMs_20		IAMs_20	20 00 41.7		
	comp=Z,13μm,20.0s								
PSAA2	Pilbara Seismi	35.21	236	IAMs_20		IAMs_20	20 00 52.1		
	comp=Z,14μm,19.0s								
PSAA3	Pilbara Seismi	35.21	236	IAMs_20		IAMs_20	20 00 32.1		
	comp=Z,13μm,20.0s								
PSA00	Pilbara Seismi	35.21	236	P		P	19 45 31.2		-2.5
PSA00				IAmb		IAmb	19 45 41.7		
	comp=Z,55nm,1.0s								
PSA00				IAMs_20		IAMs_20	20 00 42.2		
	comp=Z,13μm,20.0s								
PSAB3	Pilbara Seismi	35.22	236	IAMs_20		IAMs_20	20 00 32.3		
	comp=Z,13μm,20.0s								
PSAA1	Pilbara Seismi	35.22	236	IAMs_20		IAMs_20	20 00 32.5		
	comp=Z,14μm,21.0s								
PSAC1	Pilbara Seismi	35.23	237	IAMs_20		IAMs_20	20 00 32.6		
	comp=Z,13μm,20.0s								
PSAB1	Pilbara Seismi	35.23	236	IAMs_20		IAMs_20	20 00 22.7		
	comp=Z,12μm,20.0s								
PSAC3	Pilbara Seismi	35.25	236	IAMs_20		IAMs_20	20 00 43.2		
	comp=Z,13μm,20.0s								
PSAD3	Pilbara Seismi	35.30	236	IAMs_20		IAMs_20	20 00 55.5		
	comp=Z,13μm,18.0s								
KKM	Kota Kinabalu	35.90	285	P		P	19 45 38.1		-1.6
KKM				IAmb		IAmb	19 45 46.9		
	comp=Z,72nm,0.9s								
BBKI	Banjar Baru	36.02	269	P		P	19 45 43.5		+2.8
	comp=Z,2μmcomp=Z,73nm,1.4s								
MTKI	Muara Teweh, K	36.08	273	P		P	19 45 42.2		+1.0
JAGI	Jajag, Banyuwa	36.92	260	P		P	19 45 49.7		+1.3
	comp=Z,66nm,0.9s								
OUZ	Omahuta	38.04	149	P		P	19 45 56.7		-0.9
MEEK	Meekatharra	38.65	230	P	

QZH LR LR
comp=Z,4μm,19.0s
QZH LR LR
comp=Z,5μm,21.1s
QZH LR LR
comp=Z,6μm,20.4s
URZ Urewera 42.18 149 P **P** **19 46 32.0 +0.1**
comp=Z,8.6nm,0.6s,baz=276,slow=16,SNR=7.8
BKZ Black Stump Fm 42.56 150 IAMs_20 IAMs_20 20 03 37.4
comp=Z,9μm,19.0s
NNZ Nelson 42.77 155 IAMs_20 IAMs_20 20 01 57.8
comp=Z,14μm,21.0s
JSD Sado 42.82 345 P **P** **19 46 35.8 -1.3**
THZ Tophouse 43.02 156 IAMs_20 IAMs_20 20 02 16.5
comp=Z,11μm,20.0s
CISI Cisompet, Garu 43.10 263 P **P** **19 46 40.3 +0.4**
comp=Z,3μmcomp=Z,196nm,1.0s
NWAO Narrogin (SRO) 43.12 223 PP PP 19 48 23.0 +3.1
comp=Z,30nm,1.0s,baz=49,slow=10,SNR=3.6
NWAO LR LR 20 04 53.0
comp=Z,8μm,20.2s,baz=60,slow=37
NWAO Narrogin (SRO) 43.12 223 P **P** **19 46 38.8 -0.8**
baz=43,SNR=4.0
TUWZ Tuamarina 43.18 155 P **P** **19 46 40.6 +0.6**
TPI Tanjungpandan 43.22 270 P **P** **19 46 42.6 +1.9**
LEM Lembang 43.27 264 LR LR 20 06 36.6
comp=Z,3μm,21.2s,baz=90,slow=39
MUN Mundaring 43.29 225 P **P** **19 46 41.8 +0.8**
baz=43,SNR=3.4
FOZ Fox Glacier 43.38 160 IAMs_20 IAMs_20 20 02 14.9
comp=Z,13μm,22.0s
SNZO South Karori 43.42 154 IAMs_20 IAMs_20 20 02 41.0
comp=Z,16μm,20.0s
MSWZ Moikau Station 43.74 153 P **P** **19 46 44.1 -0.4**
CNJI Cibinong 43.77 263 P P 19 46 50.2 +5.0
KHZ Kahutara 43.83 156 IAMs_20 IAMs_20 20 02 53.8
comp=Z,15μm,20.0s
RPZ Rata Peaks 43.98 159 P **P** **19 46 46.6 +0.2**
RPZ IAmb IAmb 19 46 53.3
comp=Z,145nm,1.4s
OXZ Oxford 44.01 158 IAMs_20 IAMs_20 20 03 28.4
comp=Z,15μm,20.0s
HKPS Hong Kong Po S 44.05 307 IAMs_20 IAMs_20 20 01 52.9
comp=Z,9μm,21.0s
DBJI Dramaga 44.12 264 P P 19 46 53.1 +5.1
LBZ Lake Benmore 44.26 160 IAMs_20 IAMs_20 20 02 43.1
comp=Z,14μm,22.0s
SSE Sheshan 44.46 323 P **P** **19 46 50.4 0.0**
SSE S **S** **19 53 20.3 -5.2**
SSE pmax pmax
comp=Z,13nm,1.0s
SSE pmax pmax
comp=Z,170nm,4.1s
SSE LR LR
comp=Z,2μm,19.5s
SSE LR LR
comp=Z,2μm,20.9s
SSE Sheshan 44.46 323 IAMs_20 IAMs_20 20 02 39.8
comp=Z,8μm,20.0s
MQZ McQueen's Vall 44.56 158 IAMs_20 IAMs_20 20 04 05.2
comp=Z,11μm,20.0s
PPBI Pangkal Pinang 44.75 270 P **P** **19 46 55.1 +2.0**
ODZ Otahua Downs 45.00 160 IAMs_20 IAMs_20 20 04 20.6
comp=Z,11μm,19.0s
TJN Taejon 45.23 333*ce***P** **P** **19 46 55.8 -0.7**
ERM Erimo 45.70 352||*e***P** **P** **19 46 59.5 -0.5**
ERM pmax pmax
comp=Z,33nm,1.0s
KSRS Korea Array 45.88 334 P **P** **19 47 00.8 -0.8**
comp=Z,9.9nm,0.9s,baz=152,slow=8.0,SNR=13
KSRS LR LR 20 06 42.6
comp=Z,2μm,18.5s,baz=138,slow=37
QIZ Qiongzhong 46.13 300 P **P** **19 47 03.8 -0.1**
QIZ S **S** **19 53 49.8 -0.3**
QIZ pmax pmax
comp=Z,20nm,1.2s
QIZ LR LR
comp=Z,700nm,10.0s
QIZ LR LR
comp=Z,3μm,26.1s
QIZ LR LR
comp=Z,5μm,27.5s
KASI Kota Agung 46.33 266 P **P** **19 47 10.1 +4.5**
DSRI Dabo 46.41 273 P **P** **19 47 07.5 +1.3**
comp=Z,747nmcomp=Z,31nm,1.2s
NJ2 Nanjing 46.55 322 *e***P** **P** **19 47 06.8 -0.2**
NJ2 sP **sP** **19 47 14.4 +3.8**
NJ2 S **S** **19 53 55.8 +0.1**
NJ2 sS **sS** **19 54 04.3 +4.4**
NJ2 pmax pmax
comp=Z,16nm,1.3s
NJ2 pmax pmax
comp=Z,460nm,3.7s
NJ2 LR LR
comp=Z,7μm,18.0s
NJ2 LR LR
comp=Z,4μm,21.8s
NJ2 LR LR
comp=Z,10μm,20.4s
MDSI Maura Dua 46.65 267 P **P** **19 47 09.2 +1.1**
comp=Z,765nmcomp=Z,44nm,1.2s
LHSI Lahat 47.31 268 P **P** **19 47 15.5 +2.3**
MYKOM Kota Tinggi 47.33 275 P **P** **19 47 12.0 -1.4**
YUK Yuzh-Kuril'sk 47.38 355 *e***P** **P** **19 47 13.4 +0.2**
YUK *e* 19 49 02.5
YUK *e*PPP PPP 19 49 48.5
YUK *e*S S 19 53 56.8 -10
YUK *e*SSS SSS 19 58 39.6
YUK pmax pmax
comp=Z,408nm,1.2s
YUK pmax pmax
comp=Z,349nm,1.4s
YUK pmax pmax
comp=N,132nm,1.1s
ASAJ Asahikawa 47.84 352 P **P** **19 47 17.6 +0.8**
comp=N,36nm,1.0s,baz=230,slow=10,SNR=6.9
ASAJ LR LR 20 08 18.4
comp=N,2μm,18.3s,baz=191,slow=37
HHU Hamhung 48.13 336 P **P** **19 47 19.3 +0.2**
HHU sP pwP 19 47 35.8 +12
HHU S **S** **19 54 21.5 +3.6**
PYAG Pyongyang 48.15 334 P **P** **19 47 18.6 -0.7**
PYAG S **S** **19 54 15.5 -2.8**
PYS Pyongsong 48.27 334 P **P** **19 47 20.9 +0.7**
KUR Kuril'sk 48.44 357 *e***P** P 19 47 38.1 +17
KUR *e*S **S** **19 54 18.0 -4.2**
KUR pmax pmax
comp=Z,164nm,1.9s
KUR pmax pmax
comp=Z,1μm,3.7s
WHN Wuhan 48.52 317 ||P **P** **19 47 23.0 +0.7**
WHN S **S** **19 54 30.6 +6.7**
WHN pmax pmax
comp=Z,610nm,3.7s
WHN LR LR
comp=Z,27μm,29.4s
WHN LR LR
comp=Z,10μm,17.4s
WHN LR LR
comp=Z,22μm,23.0s
VLA Vladivostok 49.35 342||*e***P** **P** **19 47 29.3 +0.9**
VLA pmax pmax
comp=Z,104nm,1.2s
KRJI Kerinci 49.42 270 P **P** **19 47 32.6 +2.9**
comp=Z,162nm,0.9s
SDSI Sungai Dareh 49.52 272 P **P** **19 47 31.0 +0.7**
SUJ Sinuiju 49.57 333 P **P** **19 47 31.8 +1.6**
SUJ sP pwP 19 47 46.3 +11
SUJ S **S** **19 54 40.4 +2.1**
TEY Ternei 49.84 347||*e***P** P 19 47 13.4 -19
TEY *e* 19 54 46.4
TEY pmax pmax
comp=Z,20nm,1.1s
TEY MLR MLR
comp=N,200nm,21.0s
TEY MLR MLR
comp=Z,200nm,18.0s
DL2 Dalian 49.98 330 P **P** **19 47 35.3 +1.9**
DL2 S **S** **19 54 46.5 +2.4**
DL2 SS **SS** **19 58 16.3 -1.0**
DL2 pmax pmax
comp=Z,97nm,0.9s
DL2 pmax pmax
comp=Z,700nm,7.0s
DL2 LR LR
comp=Z,3μm,21.6s
DL2 LR LR
comp=Z,4μm,21.2s
DL2 LR LR
comp=Z,7μm,28.6s
BKNI Bangkinang 49.99 273 P P 19 47 39.7 +5.8
USRK Ussuriysk Ar. 50.29 342 P **P** **19 47 35.4 -0.2**
comp=Z,9.1nm,0.9s,baz=161,slow=8.1,SNR=8.9
USRK LR LR 20 08 10.6
comp=Z,2μm,18.4s,baz=149,slow=35
USRK Ussuriysk Ar. 50.29 342 P **P** **19 47 35.8 +0.2**
TIA Tai'an 50.45 324 P **P** **19 47 36.1 -0.9**
TIA S **S** **19 54 42.0 -8.7**
TIA SS **SS** **19 58 22.3 -2.6**
TIA pmax pmax
comp=Z,12nm,0.7s
TIA pmax pmax
comp=Z,200nm,3.5s
TIA LR LR
comp=Z,2μm,17.7s
TIA LR LR
comp=Z,4μm,18.1s
TIA LR LR
comp=Z,5μm,21.6s
IPM Ipoh 50.46 279 P **P** **19 47 36.0 -1.5**
YSS Yuzh-Sakhalins 50.60 353||*e***P** **P** **19 47 40.5 +2.6**
YSS *e*PPP PPP 19 50 28.6
YSS *e*S **S** **19 54 55.5 +3.1**
YSS *e*SS **SS** **19 58 18.2 -8.7**
YSS pmax pmax
comp=Z,40nm,0.9s
RAR Rarotonga 51.08 115 LR LR 20 06 25.5
comp=Z,3μm,21.8s,baz=297,slow=33
SNY Shenyang 51.38 334 ⇑P **P** **19 47 43.3 -0.5**
SNY S **S** **19 54 57.3 -6.1**
SNY pmax pmax
comp=Z,8.0nm,0.9s
SNY LR LR
comp=Z,3μm,20.6s
SNY LR LR
comp=Z,3μm,19.6s
SNY LR LR
comp=Z,6μm,29.9s
MDJ Mudanjiang 51.42 341 P **P** **19 47 44.8 +0.6**
MDJ IAmb IAmb 19 47 52.5
comp=Z,58nm,0.9s
MNSI Mandailing Nat 51.49 274 P **P** **19 47 48.8 +3.6**
ENH Enshi 51.80 313 P **P** **19 47 47.1 -0.2**
ENH IAmb IAmb 19 48 03.4
comp=Z,85nm,1.1s
SISI Saibi 51.83 271 P P 19 47 52.7 +5.0
XMAS Kiritimati 51.88 85 IAMs_20 IAMs_20 20 09 16.3
comp=Z,12μm,19.0s
GYA Guiyang 52.03 307 ⇑P **P** **19 47 49.9 +0.7**
GYA PP **PP** **19 49 51.5 +4.0**
GYA S **S** **19 55 08.4 -4.8**
GYA pmax pmax
comp=Z,27nm,1.6s
GYA pmax pmax
comp=Z,340nm,3.7s
GYA LR LR
comp=Z,3μm,18.9s
GYA LR LR
comp=Z,4μm,18.8s
GYA LR LR
comp=Z,7μm,18.5s
CN2 Changchun 52.23 337 *e***P** **P** **19 47 49.4 -0.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,780nm,4.6s
CN2 LR LR
comp=Z,4μm,23.4s
CN2 LR LR
comp=Z,3μm,22.9s
CN2 LR LR
comp=Z,3μm,28.3s
PSI Prapat 52.34 276 LR LR 20 12 40.1
comp=Z,2μm,19.3s,baz=101,slow=39
TSI Tuntungan 52.77 277 P P 19 48 00.1 +5.4
GSI Gunungsitoli 53.53 274 P **P** **19 48 02.1 +1.8**
comp=Z,2μmcomp=Z,113nm,1.5s
SKR Severo-Kuril's 54.00 4 *e*P P 19 48 10.0 +6.9
SKR *e*S **S** **19 55 42.2 +3.3**
SKR *e* 19 57 51.0
SKR MLR MLR
comp=Z,2μm,20.0s
SKR MLR MLR
comp=Z,2μm,20.0s
TIY Taiyuan 54.24 323 *e*P **P** **19 48 05.3 +0.1**
TIY PP **PP** **19 50 05.9 -1.3**
TIY S **S** **19 55 45.8 +2.9**
TIY pmax pmax
comp=Z,230nm,4.5s
TIY LR LR
comp=Z,4μm,17.8s
TIY LR LR
comp=Z,2μm,15.9s
TIY LR LR
comp=Z,7μm,19.8s
XAN Xi'an 54.29 317 ⇑P **P** **19 48 04.6 -1.0**
XAN PP **PP** **19 50 03.1 -4.5**
XAN S **S** **19 55 40.3 -3.3**
XAN SS **SKiKP** **19 59 18.1 +0.7**
XAN pmax pmax
comp=Z,45nm,1.3s
XAN pmax pmax
comp=Z,530nm,5.5s
XAN LR LR
comp=Z,4μm,20.6s
XAN LR LR
comp=Z,6μm,20.6s
XAN LR LR
comp=Z,11μm,21.7s
XAN Xi'an 54.29 317 IAMs_20 IAMs_20 20 08 51.0
comp=Z,8μm,20.0s
TYV Tymovskoe 54.46 354 *e*P **P** **19 48 06.7 +0.3**
TYV *e*S **S** **19 55 47.8 +2.6**
TYV pmax pmax
comp=Z,31nm,1.4s
TYV pmax pmax
comp=Z,500nm,4.2s
TYV smax smax
comp=E,700nm,9.5s
TYV MLR MLR
comp=Z,2μm,21.0s
KMI Kunming 54.63 304⇑*e***P** **P** **19 48 09.3 +0.8**
KMI pP sP 19 48 12.1 -0.1
KMI sP pwP 19 48 13.5 +0.3
KMI S **S** **19 55 47.4 -1.4**
KMI sS sS 19 55 53.4 +0.2
KMI SS **SS** **19 59 31.0 -0.9**
KMI pmax pmax
comp=Z,36nm,1.2s
KMI pmax pmax
comp=Z,540nm,7.7s
KMI LR LR
comp=Z,2μm,17.4s
KMI LR LR
comp=Z,3μm,17.8s
KMI LR LR
comp=Z,4μm,17.8s
MLSI Meulaboh, Aceh 55.01 278 P P 19 48 19.7 +8.6
GRNR Gornyy 55.32 349*c i*P P 19 48 19.2 +6.5
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=N,8.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,660nm,18.0s
GRNR MLR MLR
comp=N,870nm,17.0s
GRNR MLR MLR
comp=Z,2μm,18.0s
CMAR Chiang Mai Arr 55.57 295 P **P** **19 48 15.1 -0.1**
comp=Z,19nm,1.0s,baz=112,slow=5.4,SNR=143
CMAR LR LR 20 11 49.2
comp=Z,2μm,19.7s,baz=140,slow=36
CMAR Chiang Mai Arr 55.57 295*ce***P** **P** **19 48 15.8 +0.7**
CMAR pmax pmax
comp=Z,19nm,1.0s
CD2 Chengdu 56.38 311 P **P** **19 48 20.6 -0.2**
CD2 sP pwP 19 48 26.9 +1.4
CD2 PP **PP** **19 50 25.9 -0.5**
CD2 S **S** **19 56 10.0 -1.7**
CD2 SS **SS** **19 59 59.5 +0.6**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,610nm,5.1s
CD2 LR LR
comp=Z,7μm,20.6s
CD2 LR LR
comp=Z,10μm,23.5s
CD2 LR LR
comp=Z,10μm,22.6s
PEA0B Petropavlovsk- 56.53 5 P **P** **19 48 21.6 +0.3**
PEA0B pmax pmax
comp=Z,258nm,1.7s
PEA0B MLR MLR
comp=Z,4μm,20.0s
PEA0B Petropavlovsk- 56.53 5 P **P** **19 48 21.6 +0.3**
PETK Petropavlovsk- 56.53 5 P **P** **19 48 21.6 +0.3**
comp=Z,37nm,1.0s,baz=150,slow=6.1,SNR=18
PETK LR LR 20 07 47.5
comp=Z,3μm,21.7s,baz=185,slow=31
PET Petropavlovsk 56.54 6 *e*P **P** **19 48 22.9 +1.6**
HHC Hu-ho-hao-te 56.79 325 *e*P **P** **19 48 23.4 -0.1**
HHC S **S** **19 56 18.8 +1.9**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,320nm,5.3s
HHC LR LR
comp=Z,5μm,19.6s
HHC LR LR
comp=Z,5μm,19.8s
HHC LR LR
comp=Z,8μm,20.6s
KHLU Kahalu`u 56.99 64 IAMs_20 IAMs_20 20 08 23.7
comp=Z,8μm,20.0s
MLOA Mauna Loa Obse 57.26 64 IAMs_20 IAMs_20 20 09 41.8
comp=Z,9μm,18.0s
HPAH Hawaii Prepara 57.30 64 IAMs_20 IAMs_20 20 08 31.9
comp=Z,10μm,21.0s
POHA Pohakuloa 57.36 64 IAMs_20 IAMs_20 20 08 53.6
comp=Z,10μm,20.0s
BTO Baotou 57.53 324 *e*P **P** **19 48 24.8 -4.0**
BTO S **S** **19 56 18.0 -8.6**
LZH Lanzhou 58.89 316 *e*P **P** **19 48 39.0 +0.5**
LZH pP pwP 19 48 45.8 +2.4
LZH PP **PP** **19 50 45.8 -3.0**
LZH S **S** **19 56 46.3 +1.5**
LZH sS sS 19 56 57.1 +8.0
LZH pmax pmax
comp=Z,40nm,1.0s
LZH pmax pmax
comp=Z,390nm,5.4s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,4μm,16.3s
LZH LR LR
comp=Z,4μm,17.9s
PPT Papeete 59.95 108 LR LR 20 12 05.2
comp=Z,2μm,18.3s,baz=271,slow=33
PPT2 Papeete2 59.95 108 *e*LQ LQ 20 03 57.3
comp=Z,15μm,37.0s
PPT2 *e*LR LR 20 06 28.0
comp=Z,4μm,26.8s
TIAR Tiarei 60.16 108 *e*P **P** **19 48 48.0 +0.6**
comp=Z,27nm,1.1s
ZEA Zeya 60.23 344 *e*P **P** **19 48 47.1 -0.1**
ZEA *e* 19 49 26.4
ZEA *e*S **S** **19 57 01.6 +0.6**
ZEA *e* 19 58 35.6
ZEA pmax pmax
comp=E,200nm,2.5s
ZEA pmax pmax
comp=Z,400nm,2.8s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,1.6s
ZEA pmax pmax
comp=Z,200nm,8.3s
ZEA smax smax
comp=E,600nm,10.7s
TBI Tubuai 60.86 115 *e*S **S** **19 57 07.0 -3.1**
comp=E,699nm,29.0s
TBI *e*LQ LQ 20 04 22.7
comp=E,13μm,31.2s
TBI *e*LR LR 20 06 57.8
comp=E,7μm,27.2s,baz=279
PMOR Pomariorio Ree 61.31 105 *e*P **P** **19 48 55.5 +0.3**
comp=E,180nm,1.2s
MOKO MOKOCHONG 61.96 302 *e*P **P** **19 48 59.2 -0.4**
KOHI KOHIMA 62.11 301 *e*P **P** **19 49 01.3 +0.6**
JORH JORHAT 62.32 302 *e*P **P** **19 49 01.9 +0.1**
ZIRO ZIRO 62.92 303 *e*P **P** **19 49 05.9 -0.2**
ZIRO IAmb IAmb 19 49 09.4
comp=Z,62nm,1.3s
GTA Gaotai 63.33 318 P **P** **19 49 08.9 +0.4**
GTA pP sP 19 49 12.9 +0.6
GTA sP pwP 19 49 16.0 +2.6
GTA S **S** **19 57 36.0 -5.1**
GTA SS **SS** **20 01 50.1 +2.2**
GTA pmax pmax
comp=Z,12nm,1.7s
GTA pmax pmax
comp=Z,220nm,5.5s
GTA LR LR
comp=Z,2μm,19.3s
GTA LR LR
comp=Z,3μm,19.6s
GTA LR LR
comp=Z,5μm,20.7s
TEZP TEZPUR 63.51 302 *e*P **P** **19 49 09.1 -0.7**
TEZP IAmb IAmb 19 49 09.9
comp=Z,26nm,1.0s
BELO BELONIA 63.67 298 *ex* **P** **19 49 12.1 +1.2**
ULN Ulaanbaatar 63.79 329*c i*P **P** **19 49 11.3 -0.1**
ULN pmax pmax
comp=Z,24nm,1.3s
ULN Ulaanbaatar 63.79 329 IAMs_20 IAMs_20 20 14 44.7
comp=Z,6μm,21.0s
SHL Shillong 63.97 300 *e*P **P** **19 49 12.4 -0.7**
SHL IAmb IAmb 19 49 15.9
comp=Z,19nm,0.8s
AGT Agartala 64.02 298 *ex* **P** **19 49 15.3 +2.1**
AGT IAmb IAmb 19 49 22.6
comp=Z,94nm,1.2s
SONM Songino Array 64.11 328 P **P** **19 49 13.8 +0.3**
comp=Z,6.7nm,1.0s,baz=153,slow=6.4,SNR=19
SONM LR LR 20 15 28.6
comp=Z,6μm,21.2s,baz=123,slow=34
SONM Songino Array 64.11 328 P **P** **19 49 13.3 -0.2**
SONM pmax pmax
comp=Z,49nm,1.7s
SONM Songino Array 64.11 328 P **P** **19 49 13.3 -0.2**
GUWA GUWAHATI 64.32 301 *e*P **P** **19 49 14.2 -0.9**
SEY Seymchan 66.11 1 P **P** **19 49 25.9 0.0**
comp=Z,13nm,1.1s,baz=150,slow=1.9,SNR=6.7
SEY Seymchan 66.11 1⇑*e***P** **P** **19 49 24.6 -1.4**
YAK Yakutsk 67.20 349 *e*P **P** **19 49 33.0 0.0**
YAK *e**PP PcP 19 49 50.1 -11
YAK *e* 19 50 00.7
YAK *e* 19 52 00.7
YAK *e*S **S** **19 58 22.2 -5.2**
YAK *e**SS sS 19 58 58.8 +27
YAK *e* 19 59 21.5
YAK *e*SS **SS** **20 02 41.5 -5.4**
YAK pmax pmax
comp=Z,69nm,1.5s
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=E,13nm,1.5s
YAK pmax pmax
comp=Z,183nm,2.8s
YAK pmax pmax
comp=N,209nm,2.8s
YAK pmax pmax
comp=E,121nm,2.8s
YAK smax smax
comp=N,39nm,2.4s
YAK smax smax
comp=E,123nm,2.6s
YAK Yakutsk 67.20 349 P **P** **19 49 32.9 0.0**
GTK Tadong 67.29 301 *e*P **P** **19 49 34.3 -0.2**
GTK IAmb IAmb 19 49 42.9

comp=Z,40nm,1.0s
ZAK Zakamensk 67.29 329 *e*P **P** 19 49 34.1 **+0.1**
ZAK pmax pmax
comp=Z,49nm,1.3s
BOD Bodaibo 67.78 340 *e*P **P** 19 49 34.2 **-2.5**
BOD pmax pmax
comp=Z,41nm,2.2s
TLY Talaya 67.90 330 P **P** 19 49 37.6 **0.0**
comp=Z,1.5nm,0.3s,baz=97,slow=12,SNR=3.6
TLY Talaya 67.90 330*c i*P **P** 19 49 37.8 **+0.1**
TLY *e*S **S** 19 58 39.2 **+2.9**
TLY *e* 19 59 35.7
TLY pmax pmax
comp=Z,63nm,1.2s
TLY MLR MLR
comp=Z,6µm,18.0s
IRK Irkutsk 67.94 331 *e*P P 19 49 45.3 +7.4
IRK pmax pmax
comp=Z,119nm,3.5s
TAOE Nuku Hiva Isla 68.67 98 *e*LR LR 20 10 27.4
comp=Z,6µm,23.9s
BOK Bokaro 68.74 297 *e*P **P** 19 49 44.0 **+0.5**
BOK IAmb IAmb 19 49 47.1
comp=Z,14nm,0.9s
CASY Casey 68.86 196 P **P** 19 49 41.6 **-1.8**
CASY IAmb IAmb 19 51 01.8
comp=Z,19nm,0.6s
FALS False Pass 69.13 26 IAMs_20 IAMs_20 20 13 27.5
comp=Z,5µm,22.0s
MOY Mondy 69.22 329 *e*P **P** 19 49 46.5 **+0.5**
MOY pmax pmax
comp=Z,126nm,2.5s
CHLP Challavanipeta 69.28 291 *e*P **P** 19 49 46.6 **-0.3**
CHLP IVmB_BB 19 49 55.5
comp=Z,347nm,3.1s
CHLP IVMs_BB IVMs_BB 20 17 19.7
comp=Z,217nm,22.0s
SDPT Sand Point 70.76 27 IAMs_20 IAMs_20 20 16 15.5
comp=Z,4µm,20.0s
CNBA Chernabura Isl 70.85 28 IAMs_20 IAMs_20 20 15 51.0
comp=Z,4µm,19.0s
PVM Polavaram 71.33 289 *e*P **P** 19 49 58.4 **-1.1**
PVM IVmB_BB 19 50 08.2
comp=Z,161nm,1.6s
PVM IVMs_BB IVMs_BB 20 18 04.4
comp=Z,221nm,22.4s
BILL Bilibino 72.04 6 *e*P **P** 19 50 05.1 **+2.4**
BILL *e* 19 50 15.5
BILL *e* 19 50 28.2
BILL *e* 19 52 44.0
BILL pmax pmax
comp=Z,47nm,1.7s
MYLAV Mylavaram 72.19 289 *e*P **P** 19 50 04.2 **-0.4**
MYLAV IVmBBB 19 50 14.2
comp=Z,254nm,3.0s
MYLAV IVMs_BB IVMs_BB 20 22 23.2
comp=Z,233nm,19.4s
CHGN Chignik 72.26 27 IAMs_20 IAMs_20 20 17 00.2
comp=Z,4µm,20.0s
SKHT Srikalahasti 72.62 285 *e*P **P** 19 50 07.2 **-0.1**
SKHT IVmB_BB 19 50 16.6
comp=Z,241nm,8.0s
SKHT IVMsBB 20 19 32.7
comp=Z,247nm,31.4s
ADKI Addanki 72.68 288 *e*P **P** 19 50 06.2 **-1.4**
ADKI IVmBBB 19 50 17.1
comp=Z,173nm,3.5s
ADKI IVMs_BB IVMs_BB 20 24 39.0
comp=Z,267nm,21.3s
NJS Nagarjunasagar 73.41 288 *e*P **P** 19 50 10.8 **-1.1**
NJS IVmB_BB 19 50 19.4
comp=Z,219nm,3.3s
NJS IVMs_BB IVMs_BB 20 26 07.2
comp=Z,232nm,20.2s
WMQ Urumqi 73.42 318 *e*P **P** 19 50 12.3 **+0.8**
WMQ pP sP 19 50 14.6 -0.7
WMQ PcP **PcP** **19 50 27.3 -0.4**
WMQ S **S** **19 59 38.9 -2.1**
WMQ SS **SS** **20 04 22.9 -0.6**
WMQ pmax pmax
comp=Z,13nm,1.7s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,1µm,23.1s
WMQ LR LR
comp=Z,1µm,23.1s
WMQ LR LR
comp=Z,1µm,20.9s
SRLM Srisailam 73.74 288 *e*P **P** 19 50 13.3 **-0.6**
SRLM IVmBBB 19 50 22.9
comp=Z,320nm,3.2s
SRLM IVMs_BB IVMs_BB 20 15 06.8
comp=Z,191nm,62.7s
RPR Rampur 73.78 291 *e*P **P** 19 50 13.2 **-0.9**
RPR IVmB_BB 19 50 21.9
comp=Z,222nm,2.9s
RPR IVMs_BB IVMs_BB 20 19 51.9
comp=Z,175nm,18.3s
CUPL Choutuppal 73.89 289 *e*P **P** 19 50 14.2 **-0.6**
CUPL IVmBBB 19 50 28.8
comp=Z,177nm,1.9s
CUPL IVMs_BB IVMs_BB 20 15 13.3
comp=Z,214nm,29.8s
RKT Rikitea 74.07 113 *e*S **SKiKP** **19 59 46.0 +1.4**
comp=Z,2µm,27.8s
RKT Rikitea 74.07 113 *e*LQ LQ 20 09 51.3
comp=Z,5µm,32.5s
RKT *e*LR LR 20 13 05.0
comp=Z,7µm,25.5s
HYB Hyderabad 74.26 289 *i* P **P** **19 50 16.5 -0.4**
HYBB Hyderabad (bro 74.26 289 *e*P **P** **19 50 16.3 -0.7**
HYBB IVmB_BB 19 50 24.1
comp=Z,223nm,3.3s
HYBB IVMs_BB IVMs_BB 20 15 21.4
comp=Z,224nm,37.5s
VNDA Vanda 74.35 178 P **P** **19 50 15.9 -0.5**
comp=Z,5.8nm,0.7s,baz=326,slow=6.2,SNR=20
VNDA LR LR 20 19 26.1
comp=Z,2µm,20.1s,baz=360,slow=33
VNDA Vanda 74.35 178 P **P** **19 50 15.8 -0.5**
VNDA pmax pmax
comp=Z,15nm,1.0s
VNDA Vanda 74.35 178 P **P** **19 50 15.8 -0.5**
NGP Nagpur 74.39 293 *ex* x 19 50 16.3
NGP *e*P **P** **19 50 16.7 -0.9**
NGP IAmb IAmb 19 50 22.7
comp=Z,42nm,1.4s
NGP *e*S **S** **19 59 53.8 +1.1**
URV Uravakonda 75.14 286 *e*P **P** **19 50 21.3 -0.7**
URV IVmB_BB 19 50 29.5
comp=Z,129nm,3.3s
URV IVMs_BB IVMs_BB 20 22 42.2
comp=Z,211nm,30.1s
DGZ Jazzator, Alta 75.81 323*c i*P **P** **19 50 25.1 -0.3**
DGZ pmax pmax
comp=Z,16nm,0.9s
KLRI Killari 76.19 289 *e*P **P** **19 50 26.4 -1.8**
KLRI IVmBBB 19 50 36.7
comp=Z,274nm,4.3s
KLRI IVMs_BB IVMs_BB 20 16 18.7
comp=Z,286nm,22.3s
TIXI Tiksi 76.23 353⇓ *e*P **P** **19 50 25.3 -1.8**
BHPL Bhopal 76.23 295 *e*P **P** **19 50 27.7 -0.6**
BHPL IAmb IAmb 19 50 34.4
comp=Z,22nm,1.0s
ZSN Zaisan 76.56 320 *e*P **P** **19 50 29.0 -0.6**
comp=Z,28nm,1.7s
ZSN *e*S **S** **20 00 22.4 +6.5**
ZSN Zaisan 76.56 320 *e*P **P** **19 50 29.0 -0.6**
ZSN pmax pmax
comp=Z,28nm,1.7s
TTA Tatalina 77.12 22 P **P** **19 50 33.4 +1.0**
TTA pmax pmax
comp=Z,55nm,1.2s
TTA MLR MLR
comp=Z,2µm,20.0s
TTA Tatalina 77.12 22 P **P** **19 50 33.4 +1.0**
TTA IAmb IAmb 19 50 42.9
comp=Z,55nm,1.2s
BRLK Bradley Lake 77.51 26 P **P** **19 50 34.1 -0.5**
KUDL Kundal 77.92 300 *e*P **P** **19 50 36.4 -1.1**
MK31 Makanchi Array 78.01 319 P **P** **19 50 37.4 -0.4**
MK31 pmax pmax
comp=Z,31nm,1.0s
MK31 Makanchi Array 78.01 319 P **P** **19 50 37.4 -0.4**
MK31 IAmb IAmb 19 50 45.9
comp=Z,31nm,1.0s
MKAR Makanchi Array 78.01 319 P **P** **19 50 37.7 -0.1**
comp=Z,13nm,1.1s,baz=98,slow=8.0,SNR=34
MKAR LR LR 20 23 51.0
comp=Z,4µm,21.1s,baz=96,slow=35
MAKZ Makanchi 78.22 319 P **P** **19 50 38.2 -0.7**
MAKZ pmax pmax
comp=Z,45nm,1.0s
MAKZ MLR MLR
comp=Z,4µm,21.0s
MAKZ Makanchi 78.22 319 P **P** **19 50 38.2 -0.7**
MAKZ IAmb IAmb 19 50 47.0
comp=Z,45nm,0.9s
MAKZ IAMs_20 IAMs_20 20 23 47.5
comp=Z,4µm,21.0s
SKT Skwentna 78.35 24 IAMs_20 IAMs_20 20 19 43.1
comp=Z,6µm,21.0s
O22K Cooper Landing 78.36 26 P **P** **19 50 38.9 -0.4**
baz=241
SUA Susitna One 78.41 25 IAMs_20 IAMs_20 20 19 12.7
comp=Z,4µm,19.0s
GOA Goa 78.50 286 *e*P P 19 50 48.9 +7.9
RC01 Rabbit Creek A 78.65 25 P **P** **19 50 40.6 -0.3**
baz=241
DHRM DHARAMSHALA 78.85 304 *ex* x 19 50 42.6
DHRM IAmb IAmb 19 50 45.3
comp=Z,63nm,0.9s
SHLS Shalkode 78.89 315 *e*P **P** **19 50 40.8 -2.1**
comp=Z,20nm,1.5s
SHLS *e*S **SKSac** **20 00 51.9 -6.8**
SHLS Shalkode 78.89 315 *e*P **P** **19 50 40.7 -2.1**
SHLS *e*S **SKSac** **20 00 51.9 -6.8**
SHLS pmax pmax
comp=Z,20nm,1.5s
PDGK Podgornoye 78.92 315 P **P** **19 50 41.8 -1.2**
ZAA0 Zalesovo Array 78.92 327 IAMs_20 IAMs_20 20 24 38.9
comp=Z,4µm,20.0s
ZALV Zalesovo Beam 78.92 327 P **P** **19 50 41.5 -1.1**
comp=Z,5.2nm,0.8s,baz=108,slow=6.0,SNR=16
ZALV LR LR 20 25 00.6
comp=Z,3µm,20.9s,baz=98,slow=35
ZALV Zalesovo Beam 78.92 327 P **P** **19 50 42.2 -0.3**
CUT Chulitna 79.08 24 P **P** **19 50 43.8 +0.6**
baz=240
UZB Uzynbulak 79.20 315 *e*P **P** **19 50 44.5 -0.1**
comp=Z,24nm,1.7s
UZB *e*S **S** **20 00 49.7 +4.9**
UZB Uzynbulak 79.20 315 *e*P **P** **19 50 44.4 -0.1**
UZB *e*S **S** **20 00 49.7 +4.9**
UZB pmax pmax
comp=Z,24nm,1.7s
GHO Glory Hole Cre 79.32 25 IAMs_20 IAMs_20 20 19 46.8
comp=Z,4µm,22.0s
KNK Knik Glacier 79.35 25 IAMs_20 IAMs_20 20 21 28.6
comp=Z,3µm,21.0s
KTH Kantishna Hill 79.39 23 P **P** **19 50 44.1 -1.0**
TRF Thorofare Moun 79.59 23 IAmb IAmb 19 50 59.3
comp=Z,27nm,0.8s
SATY Saty 79.61 315 *e*P **P** **19 50 46.7 -0.1**
comp=Z,24nm,2.1s
SATY *e*S **S** **20 00 50.4 +1.3**
SATY Saty 79.61 315 *e*P **P** **19 50 46.7 -0.1**
SATY *e*S **S** **20 00 50.4 +1.3**
SATY pmax pmax
comp=Z,24nm,2.1s
BPAW Bear Paw Mtn. 79.65 22 P **P** **19 50 45.9 -0.4**
BPAW IAmb IAmb 19 50 55.7
comp=Z,48nm,1.2s
IMAR Indian Mountai 79.66 20 P **P** **19 50 46.9 +0.6**
FID Port Fidalgo 79.91 26 IAMs_20 IAMs_20 20 22 54.7
comp=Z,3µm,21.0s
SCM Sheep Creek Mo 80.02 25 IAMs_20 IAMs_20 20 19 55.4
comp=Z,3µm,21.0s
TDK Taldygorghan 80.10 317 *e*P **P** **19 50 49.0 -0.2**
comp=Z,80nm,2.2s
TDK *e*S **SKSac** **20 01 00.9 -6.2**
TDK Taldyqorghan 80.10 317 *e*P **P** **19 50 49.0 -0.2**
TDK *e*S **SKSac** **20 01 00.8 -6.2**
TDK pmax pmax
comp=Z,79nm,2.2s
RND Reindeer 80.13 23 IAmb IAmb 19 51 05.3
comp=Z,61nm,0.9s
RND IAMs_20 IAMs_20 20 21 11.1
comp=Z,4µm,22.0s
EYAK Cordova Ski Ar 80.15 27 IAMs_20 IAMs_20 20 23 51.7
comp=Z,3µm,20.0s
MLY Manley 80.21 22 P **P** **19 50 49.5 0.0**
baz=240
MCK McKinley 80.25 23 P **P** **19 50 49.0 -0.7**
baz=242
BWN Browne 80.26 23 IAMs_20 IAMs_20 20 21 41.3
comp=Z,3µm,19.0s
DHY Denali Highway 80.57 24 IAmb IAmb 19 51 01.4
comp=Z,68nm,1.1s
DHY IAMs_20 IAMs_20 20 20 51.7
comp=Z,4µm,20.0s
KSH Kashi 80.58 311 P **P** **19 50 53.4 +1.3**
KSH S **S** **20 01 00.3 +0.9**
KSH pmax pmax
comp=Z,65nm,1.9s
KSH pmax pmax
comp=Z,140nm,3.7s
KSH LR LR
comp=Z,690nm,11.6s
KSH LR LR
comp=Z,2µm,19.8s
KSH LR LR
comp=Z,2µm,16.7s
MDOK Medeo 80.60 315 *e*P **P** **19 50 51.6 -0.6**
MDOK *e*S **S** **20 00 60.0 +0.3**
MDOK Medeo 80.60 315 *e*P **P** **19 50 51.5 -0.6**
MDOK *e*S **S** **20 00 59.9 +0.3**
NEA2 Nenana 80.62 22 P **P** **19 50 50.9 -0.7**
baz=241
M24K Tolsona, Glenn 80.63 25 P **P** **19 50 50.2 -1.5**
baz=244
M24K Tolsona, Glenn 80.63 25 IAMs_20 IAMs_20 20 20 13.5
comp=Z,4µm,21.0s
TNSS Tian-Shan 80.64 314 *e*P **P** **19 50 52.5 -0.2**
TNSS Tian-Shan 80.64 314 *e*P **P** **19 50 52.5 -0.2**
I23K Minto, Yukon-K 80.78 22 P **P** **19 50 50.9 -1.4**
baz=241
CHKK Chushkaly 80.81 315 *e*P **P** **19 50 52.4 -0.6**
CHKK Chushkaly 80.81 315 *e*P **P** **19 50 52.4 -0.6**
MTBS Maitube 81.03 314 *e*P **P** **19 50 57.6 +3.2**
MTBS Maitube 81.03 314 *e*P **P** **19 50 57.6 +3.2**
N25K Chitina, Valde 81.10 26 P **P** **19 50 53.3 -1.0**
baz=246
TCOL CIGO, UAF Yank 81.21 22 P **P** **19 50 54.5 -0.2**
baz=242
COLA College 81.21 22*d i*P **P** **19 50 53.7 -1.0**
BOOM Boomskoye usch 81.24 314 IAMs_20 IAMs_20 20 26 49.6
comp=Z,4µm,22.0s
KUU Kurty 81.27 315⇑ *i*P **P** **19 50 55.2 -0.3**
comp=Z,57nm,1.8s
KUU *e*S **S** **20 01 09.9 +3.5**
KUU Kurty 81.27 315*c i*P **P** **19 50 55.2 -0.3**
KUU *e*S **S** **20 01 09.8 +3.5**
KUU pmax pmax
comp=Z,57nm,1.8s
HDA Harding Lake 81.34 23 P **P** **19 50 54.4 -1.0**
baz=243
KURK Kurchatov 81.48 322*c i*P **P** **19 50 55.6 -0.8**
KURK pmax pmax
comp=Z,33nm,1.3s
KURK Kurchatov 81.48 322 P **P** **19 50 56.2 -0.2**
KURK IAmb IAmb 19 51 04.2
comp=Z,47nm,0.9s
KURK Kurchatov 81.48 322 IAMs_20 IAMs_20 20 26 36.8
comp=Z,3µm,20.0s
POKR Poker Plat Res 81.48 22 P **P** **19 50 55.2 -1.0**
baz=243
KURBB Kurchatov Arra 81.51 322 P **P** **19 50 56.0 -0.6**
comp=Z,9.0nm,1.1s,baz=105,slow=4.8,SNR=26
KURBB Kurchatov Arra 81.51 322 P **P** **19 50 54.9 -1.7**
COLD Coldfoot 81.52 20 P **P** **19 50 56.5 +0.2**
baz=240
IL31 81.53 23 P **P** **19 50 55.9 -0.5**
IL31 IAmb IAmb 19 51 11.1
comp=Z,20nm,0.8s
ILAR Eielson Array 81.53 23 P **P** **19 50 57.3 +0.9**
comp=Z,15nm,1.0s,baz=247,slow=4.9,SNR=27
ILAR Eielson Array 81.53 23 P **P** **19 50 55.4 -1.0**
ILAR Eielson Array 81.53 23 P **P** **19 50 55.4 -1.0**
TKM2 Tokmak 2 81.58 314 P **P** **19 50 57.5 0.0**
SNR=12
TKM2 Tokmak 2 81.58 314 *i* P **P** **19 50 57.3 -0.2**
TKM2 pmax pmax
comp=Z,29nm,1.4s
RIDG Independent Ri 81.88 24 IAMs_20 IAMs_20 20 21 31.5
comp=Z,4µm,20.0s
MENT Mentasta 82.02 25 IAMs_20 IAMs_20 20 21 06.1
comp=Z,4µm,21.0s
DOT Dot Lake 82.16 24 IAMs_20 IAMs_20 20 22 36.8
comp=Z,4µm,22.0s
CHMS Chumysh 82.21 314 P **P** **19 51 00.8 +0.3**
SNR=9.5
UCH Uchtor 82.22 313 P **P** **19 51 02.5 +1.3**
SNR=15
AAK Ala-Archa 82.32 314*c i*P **P** **19 51 00.9 -0.4**
AAK pmax pmax
comp=Z,34nm,1.3s
SCRK Sand Creek 82.33 24 P **P** **19 51 00.0 -0.8**
baz=246
SGDS Sogindy 82.39 314 *e*P **P** **19 51 00.8 -0.7**
SGDS *e*S S 20 01 26.9 +9.0
SGDS Sogindy 82.39 314 *e*P **P** **19 51 00.8 -0.7**
TOLK Toolik Lake Re 82.43 19 P **P** **19 51 02.1 +0.9**
baz=240
USP Ospenovka 82.44 314 P **P** **19 51 01.8 0.0**
SNR=21
AML Almayashu 82.80 313 P **P** **19 51 04.8 +0.7**
SNR=13
EKS2 Erkin-Say 82.84 314 P **P** **19 51 04.4 +0.4**
SNR=9.1
BCAR Beaver Creek A 82.88 25 P **P** **19 51 04.1 +0.5**
FYU Fort Yukon 82.94 21 IAMs_20 IAMs_20 20 23 12.3
comp=Z,3µm,20.0s
BTLS Baital 83.12 316⇑ *i*P **P** **19 51 04.8 -0.4**
comp=Z,22nm,1.8s
BTLS *e*S **S** **20 01 30.7 +5.5**
BTLS Baital 83.12 316*c i*P **P** **19 51 04.8 -0.4**
BTLS pmax pmax
comp=Z,22nm,1.8s
K27K Chicken 83.12 24 P **P** **19 51 04.4 -0.3**
baz=248
BMAR Burnt Mountain 83.54 21 P **P** **19 51 07.5 +0.6**
NRIK Noril'sk 84.00 341 P **P** **19 51 08.7 -0.4**
comp=Z,58nm,1.2s,baz=122,slow=5.0,SNR=24
NRIK LR LR 20 27 28.1
comp=Z,2µm,21.9s,baz=114,slow=35
SIT Sitka 84.02 32 IAMs_20 IAMs_20 20 21 01.4
comp=Z,3µm,18.0s
DZA Taraz 84.66 313 *e*P **P** **19 51 12.2 -1.0**
DZA Taraz 84.66 313 *e*P **P** **19 51 12.1 -1.0**
DIB Dawson Inlet, 84.67 36 IAMs_20 IAMs_20 20 22 35.6
comp=Z,5µm,19.0s
H02S1 DAWSON INLET T 84.67 36 T T 21 24 26.8
SNR=9.5
BRZS Berezniki 85.01 321⇑ *i*P **P** **19 51 13.6 -1.1**
comp=Z,26nm,1.6s
BRZS Berezniki 85.01 321*c i*P **P** **19 51 13.6 -1.1**
BRZS pmax pmax
comp=Z,26nm,1.6s
KBL Kabul 85.20 305 P **P** **19 51 16.1 -0.2**
KBL pmax pmax
comp=Z,17nm,1.0s
KBL MLR MLR
comp=Z,2µm,21.0s
KBL Kabul 85.20 305 P **P** **19 51 16.1 -0.2**
KK31 Karatay Array 85.28 314 *i* P **P** **19 51 16.0 -0.2**
KK31 Karatay Array 85.28 314 P **P** **19 51 16.8 +0.6**
KKAR Karatay Array 85.28 314 P **P** **19 51 16.7 +0.4**
KKAR pmax pmax
comp=Z,92nm,1.1s
KKAR Karatay Array 85.28 314 P **P** **19 51 16.8 +0.6**
KKAR Karatay Array 85.28 314 P **P** **19 51 16.7 +0.4**
IUG luzhnay 85.49 313⇑ *i*P **P** **19 51 17.8 +0.3**
comp=Z,40nm,1.6s
IUG *e*S **S** **20 01 44.6 -4.7**
IUG luzhnay 85.49 313*c i*P **P** **19 51 17.7 +0.3**
IUG *e*S **S** **20 01 44.5 -4.7**
IUG pmax pmax
comp=Z,40nm,1.6s
BRLS Borolday 85.76 313 *e*S **S** **20 01 42.8 -8.9**
MAW Mawson 86.19 203 P **P** **19 51 20.2 +0.1**
comp=Z,3.0nm,0.8s,baz=108,slow=6.8,SNR=8.8
MAW LR LR 20 27 10.1
comp=Z,4µm,21.4s,baz=87,slow=34
MAW Mawson 86.19 203 P **P** **19 51 20.2 +0.1**
MAW Mawson 86.19 203 P **P** **19 51 19.3 -0.9**
baz=86,SNR=7.0
MAW pmax pmax
comp=Z,6.0nm,1.4s
MAW MLR MLR
comp=Z,800nm,22.0s
MAW Mawson 86.19 203 P **P** **19 51 19.3 -0.9**
QSPA South Pole Qui 86.60 180 P **P** **19 51 22.2 -0.2**
BVAR Borovoe Array 86.97 323 P **P** **19 51 23.3 -1.0**
comp=Z,4.2nm,0.7s,baz=206,slow=16,SNR=25
BRVK Borovoye 87.03 323*ce*P **P** **19 51 23.5 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 87.03 323 P **P** **19 51 24.1 -0.6**
BRVK IAmb IAmb 19 51 31.8
comp=Z,28nm,0.9s
BRVK Borovoye 87.03 323 IAMs_20 IAMs_20 20 31 57.6
comp=Z,4µm,19.0s
DLBC Dease Lake 87.11 31 IAMs_20 IAMs_20 20 20 37.9
comp=Z,4µm,22.0s
INK Inuvik 87.78 21 P **P** **19 51 29.6 +1.7**
comp=Z,19nm,1.1s,baz=294,slow=1.5,SNR=8.6
KEBM Edson Butte 88.39 47 IAMs_20 IAMs_20 20 22 21.8
comp=Z,4µm,21.0s
KBO Bosley Butte 88.41 48 IAMs_20 IAMs_20 20 22 56.1
comp=Z,5µm,22.0s
JCC Jacoby Creek, 88.41 49 IAMs_20 IAMs_20 20 22 19.3
comp=Z,3µm,22.0s
KRMB Red Mountain 88.57 48 IAMs_20 IAMs_20 20 23 21.6
comp=Z,5µm,21.0s
KHMM Horse Mountain 88.64 49 IAMs_20 IAMs_20 20 23 29.4
comp=Z,3µm,21.0s
L02E Cave Junction 88.86 48 P **P** **19 51 34.0 +0.3**
baz=264
K02D Willamette Mer 88.87 47 P **P** **19 51 33.8 +0.1**
baz=264
HOPS Hopland Field 88.97 51 IAMs_20 IAMs_20 20 32 00.3
comp=Z,4µm,18.0s
MCCM Marconi Confer 89.05 52 IAMs_20 IAMs_20 20 27 54.3
comp=Z,3µm,18.0s
O02D Mt. Diablo Mer 89.29 50 P **P** **19 51 35.4 -0.4**
baz=265
E03A Lebam 89.31 43 IAMs_20 IAMs_20 20 22 03.9
comp=Z,5µm,22.0s
M02C Callahan 89.35 49 P **P** **19 51 35.9 -0.1**
baz=265
N02D Trinity Center 89.42 49 P **P** **19 51 35.4 -1.0**
baz=265
YBH Yreka Blue Hor 89.48 48 P **P** **19 51 38.8 +2.1**
comp=Z,8.7nm,1.1s,baz=162,slow=7.9,SNR=6.1
YBH Yreka Blue Hor 89.48 48 P **P** **19 51 37.4 +0.7**
YBH pmax pmax
comp=Z,47nm,1.3s
YBH MLR MLR
comp=Z,6µm,21.0s
YBH Yreka Blue Hor 89.48 48 P **P** **19 51 37.4 +0.7**
YBH IAmb IAmb 19 51 49.2
comp=Z,47nm,1.2s
WDC Whiskeytown Da 89.52 49 IAMs_20 IAMs_20 20 29 26.6
comp=Z,4µm,19.0s
H04D Lebanon 89.70 46 P **P** **19 51 39.1 +1.6**
baz=265
D03D Eldon 89.73 43 P **P** **19 51 38.9 +1.4**
baz=265
L04D Klamath Falls 89.83 48 P **P** **19 51 40.1 +1.8**
baz=265
I04A Tendick Farm, 89.88 46 P **P** **19 51 38.8 +0.4**
baz=265
E04D Cinebar 89.90 44 P **P** **19 51 41.1 +2.2**
baz=265
F04A Amboy 90.05 44 IAMs_20 IAMs_20 20 22 46.4
comp=Z,5µm,22.0s
O03E Paynes Creek 90.06 50 P **P** **19 51 37.6 -1.8**
baz=266
SAO San Andreas Ge 90.08 53 IAMs_20 IAMs_20 20 25 09.6
comp=Z,3µm,20.0s
H04A Detroit Lake 90.11 45 IAMs_20 IAMs_20 20 23 11.1
comp=Z,5µm,22.0s
M04C Macdoel 90.14 48 P **P** **19 51 41.0 +1.2**
baz=266
LON Longmire 90.53 43 IAMs_20 IAMs_20 20 23 16.2
comp=Z,3µm,21.0s

PMPB	Monarch Peak	90.56	54	IAMs_20	IAMs_20	20 26 19.4	
	comp=Z,3µm,20.0s						
AFDM	Forest Hills D	90.60	51	IAMs_20	IAMs_20	20 23 47.5	
	comp=Z,3µm,21.0s						
I05D	Terrebonne, OR	90.69	46	P	P	19 51 43.2	+1.0
	baz=266						
J05D	Fort Rock, OR	90.69	47	P	P	19 51 43.4	+1.0
	baz=266						
B06A	Marblemount	90.88	42	IAMs_20	IAMs_20	20 32 15.2	
	comp=Z,3µm,21.0s						
K05A	Summer Lake	90.91	47	IAMs_20	IAMs_20	20 24 28.3	
	comp=Z,5µm,21.0s						
PAGB	Antelope Grade	90.97	54	IAMs_20	IAMs_20	20 27 54.5	
	comp=Z,4µm,19.0s						
CMB	Columbia Colle	91.00	52	IAMs_20	IAMs_20	20 29 50.1	
	comp=Z,4µm,19.0s						
BEKR	Beckworth	91.13	50	IAMs_20	IAMs_20	20 29 12.4	
	comp=Z,3µm,19.0s						
SMMC	Simmler	91.16	55	P	P	19 51 46.0	+1.4
	baz=267						
RUBR	Rubicon Trail	91.24	51	IAMs_20	IAMs_20	20 24 29.4	
	comp=Z,3µm,20.0s						
PKM	Mcpherson Peak	91.28	55	P	P	19 51 45.5	+0.2
	baz=267						
SNCC	San Nicolas Is	91.43	57	IAMs_20	IAMs_20	20 23 52.8	
	comp=Z,5µm,21.0s						
VCNR	Virginia City	91.65	51	IAMs_20	IAMs_20	20 24 44.1	
	comp=Z,3µm,21.0s						
PNTR	Pine Nut	91.68	51	IAMs_20	IAMs_20	20 24 31.9	
	comp=Z,3µm,22.0s						
WAKR	Walker	91.77	52	IAMs_20	IAMs_20	20 30 18.5	
	comp=Z,3µm,18.0s						
F07A	Phinny Hill Vi	91.78	44	IAMs_20	IAMs_20	20 23 52.2	
	comp=Z,4µm,22.0s						
E07A	Sunnyside	91.86	44	IAMs_20	IAMs_20	20 24 18.4	
	comp=Z,3µm,20.0s						
PAHR	Pah Rah Range	91.87	51	IAMs_20	IAMs_20	20 34 11.0	
	comp=Z,3µm,18.0s						
VES	Vestal, Richgr	91.93	54	P	P	19 51 47.1	-0.9
	baz=267						
YERR	Yerington	91.95	51	IAMs_20	IAMs_20	20 32 42.1	
	comp=Z,3µm,19.0s						
I07A	Izee	91.99	46	IAMs_20	IAMs_20	20 23 51.9	
	comp=Z,4µm,22.0s						
MDPB	Devils Postpil	92.01	53	IAMs_20	IAMs_20	20 30 56.9	
	comp=Z,3µm,19.0s						
OMMB	Old Mammoth Mi	92.08	53	IAMs_20	IAMs_20	20 31 07.5	
	comp=Z,4µm,18.0s						
HAWA	Hanford	92.08	44	IAMs_20	IAMs_20	20 24 15.1	
	comp=Z,3µm,22.0s						
ARVC	Arvin	92.10	55	P	P	19 51 49.3	+0.4
	baz=268						
OSI	Osito Audit: C	92.17	56	IAMs_20	IAMs_20	20 29 26.1	
	comp=Z,4µm,18.0s						
B08A	Colville Reser	92.30	42	IAMs_20	IAMs_20	20 30 40.9	
	comp=Z,2µm,19.0s						
E08A	Dider Farm, El	92.41	44	IAMs_20	IAMs_20	20 24 13.9	
	comp=Z,4µm,22.0s						
ISA	Isabella, Lake	92.41	55	P	P	19 51 50.1	-0.3
	baz=268						
ISA	Isabella, Lake	92.41	55	IAMs_20	IAMs_20	20 29 16.6	
	comp=Z,4µm,19.0s						
LHV	Little Huntoon	92.50	52	IAMs_20	IAMs_20	20 30 38.6	
	comp=Z,4µm,19.0s						
RYN	Ryan	92.50	52	IAMs_20	IAMs_20	20 30 40.6	
	comp=Z,3µm,19.0s						
PASC	Pasadena Art C	92.59	56	IAMs_20	IAMs_20	20 26 00.4	
	comp=Z,3µm,20.0s						
NVAR	Mina Array Bea	92.66	52	P	P	19 51 52.7	+1.0
	comp=Z,1.3nm,0.6s,baz=260,slow=6.4,SNR=5.6						
NVAR				LR	LR	20 31 00.7	
	comp=Z,2µm,18.1s,baz=258,slow=34						
TIN	Tinemaha, Big	92.67	53	P	P	19 51 52.0	+0.4
	baz=268						
MWC	Mount Wilson	92.70	56	IAMs_20	IAMs_20	20 26 04.2	
	comp=Z,4µm,21.0s						
J08A	Circle Bar Ran	92.71	47	IAMs_20	IAMs_20	20 24 28.9	
	comp=Z,5µm,22.0s						
CWC	Cottonwood Cre	92.76	54	P	P	19 51 51.9	-0.2
	baz=268						
NV11	Mina Array Sit	92.78	52	IAMs_20	IAMs_20	20 30 41.0	
	comp=Z,3µm,19.0s						
EDW2	Edwards Air Fo	92.78	55	P	P	19 51 52.2	+0.2
	baz=268						
SVE	Sverdlovsk	92.94	327	eP	P	19 51 51.8	-0.4
SVE				eS	SKSac	20 02 23.6	-2.6
SVE				e		20 09 03.9	
SVE				pmax	pmax		
	comp=Z,20nm,1.7s						
SVE				MLR	MLR		
	comp=E,4µm,20.0s						
SVE				MLR	MLR		
	comp=Z,5µm,20.0s						
C09A	Chrisman Ranch	92.99	42	IAMs_20	IAMs_20	20 32 47.2	
	comp=Z,3µm,18.0s						
BFSC	Mount Baldy Ra	93.03	56	P	P	19 51 53.1	-0.3
	baz=268						
E09A	Wood Farm, Sta	93.04	44	IAMs_20	IAMs_20	20 24 43.6	
	comp=Z,3µm,21.0s						
LRMC	Laurel Mtn Rad	93.05	55	P	P	19 51 53.4	-0.1
	baz=268						
AB31	Akbulak array	93.16	319	i P	P	19 51 51.3	-2.1
ABKAR	Akbulak array	93.16	319	P	P	19 51 51.7	-1.7
ABKAR	Akbulak array	93.16	319	P	P	19 51 51.4	-2.0
MPMC	Manual Prospec	93.23	54	P	P	19 51 55.4	+1.0
	baz=268						
MURC	Murrieta	93.39	57	P	P	19 51 54.5	-0.5
	baz=268						
109C	Camp Elliot, M	93.45	57	P	P	19 51 56.2	+1.1
	baz=268						
BMO	Blue Mountains	93.59	45	IAMs_20	IAMs_20	20 25 10.2	
	comp=Z,4µm,22.0s						
F10A	Beach Ranch, E	93.67	44	IAMs_20	IAMs_20	20 25 02.1	
	comp=Z,4µm,22.0s						
FURC	Furnace Creek,	93.75	54	P	P	19 51 55.6	-0.8
	baz=269						
GSC	Goldstone, Bar	93.76	55	P	P	19 51 56.2	-0.5
	baz=269						
NEW	Newport	93.77	42	P	P	19 51 55.6	-0.8
	baz=269						
NEW	Newport	93.77	42	IAMs_20	IAMs_20	20 32 19.8	
	comp=Z,3µm,19.0s						
CCX	Cicese	93.79	58	IAMs_20	IAMs_20	20 26 05.3	
	comp=Z,3µm,20.0s						
PFO	Pinyon Flats O	94.01	57	P	P	19 51 58.2	+0.3
	baz=269						
PFO	Pinyon Flats O	94.01	57	IAMs_20	IAMs_20	20 30 53.0	
	comp=Z,4µm,19.0s						
XPFO	Pion Flat	94.01	57	IAMs_20	IAMs_20	20 30 53.0	
	comp=Z,4µm,18.0s						
TPFO	Pinon Flats	94.01	57	P	P	19 51 58.2	+0.3
	baz=269						
MONP2	Monument Peak	94.02	57	P	P	19 51 58.4	+0.3
	baz=269						
ARU	Arti	94.08	326	P	P	19 52 01.4	+3.9
ARU						19 55 50.7	
ARU				PPP	PPP	19 57 54.1	
ARU				SP	SP	20 04 30.1	+8.0
ARU				PS	PS	20 04 49.9	+26
ARU				SS	SS	20 09 24.3	-3.9
ARU				MLR	MLR		
	comp=Z,6µm,21.0s						
HEC	Hector,Ludlow	94.14	55	P	P	19 51 59.4	+1.0
	baz=269						
SHOC	Shoshone, Teco	94.21	54	P	P	19 52 00.3	+1.7
	baz=269						
TPNV	Topopah Spring	94.25	53	P	P	19 51 58.5	-0.4
	baz=269						
TPNV	Topopah Spring	94.25	53	P	P	19 51 58.4	-0.6
TPNV				pmax	pmax		
	comp=Z,23nm,1.3s						
TPNV				MLR	MLR		
	comp=Z,3µm,18.0s						
TPNV	Topopah Spring	94.25	53	P	P	19 51 58.4	-0.6
TPNV				IAmb	IAmb	19 52 08.0	
	comp=Z,22nm,1.2s						
TPNV				IAMs_20	IAMs_20	20 33 21.1	
	comp=Z,3µm,18.0s						
GEYT	Alibeck	94.26	308	P	P	19 51 58.7	-0.1
	comp=Z,3.3nm,0.8s,baz=254,slow=11,SNR=6.2						
GEYT				PP	PP	19 55 48.2	+2.5
	comp=Z,3.0nm,0.8s,baz=54,slow=6.4,SNR=4.5						
GEYT				LR	LR	20 35 03.5	
	comp=Z,2µm,21.2s,baz=80,slow=36						
IKP	In-Ko-Pah, Jac	94.28	58	P	P	19 51 58.8	-0.3
	baz=269						
BELC	Belle Mtn. Jos	94.40	56	P	P	19 52 00.3	+0.6
	baz=269						
SYO	Syowa Base	94.41	200⇓	eP	P	19 52 01.0	+2.3
TUQ	Turquoise Moun	94.49	55	P	P	19 52 00.8	+0.8
	baz=269						
SWSC	Sam W. Stewart	94.55	57	P	P	19 52 00.2	0.0
	baz=269						
MFID	Camas Ranch	94.64	47	IAMs_20	IAMs_20	20 30 56.0	
	comp=Z,4µm,20.0s						
GMRC	Granite Mounta	94.69	56	P	P	19 52 00.4	-0.6
	baz=269						
R11A	Troy Canyon, C	94.79	52	P	P	19 52 03.0	+1.5
	baz=270						
R11A	Troy Canyon, C	94.79	52	IAMs_20	IAMs_20	20 32 12.4	
	comp=Z,3µm,19.0s						
SPX	San Pedro Mart	94.80	59	IAMs_20	IAMs_20	20 25 01.0	
	comp=Z,4µm,22.0s						
BC3	Big Chuckawall	94.85	57	P	P	19 52 01.9	+0.2
	baz=269						
CPBX	Cerro Prieto	94.96	58	IAMs_20	IAMs_20	20 26 41.1	
	comp=Z,4µm,21.0s						
YKA	Yellowknife Ar	95.02	28	P	P	19 52 03.1	+1.5
	comp=Z,9.4nm,1.1s,baz=278,slow=4.5,SNR=11						
YKA				LR	LR	20 31 46.6	
	comp=Z,2µm,20.8s,baz=0.0,slow=34						
ELK	Elko	95.07	50	IAMs_20	IAMs_20	20 29 46.6	
	comp=Z,3µm,20.0s						
IRM	Iron Mountain	95.11	56	P	P	19 52 02.6	-0.2
	baz=270						
SHPR	Sheep Range	95.12	54	IAMs_20	IAMs_20	20 29 54.2	
	comp=Z,2µm,20.0s						
PRN	Pahroc Range	95.21	53	IAMs_20	IAMs_20	20 28 16.5	
	comp=Z,3µm,21.0s						
SFX	San Felipe	95.33	59	IAMs_20	IAMs_20	20 25 42.0	
	comp=Z,3µm,20.0s						
GLA	Glamis	95.37	57	P	P	19 52 04.2	+0.2
	baz=270						
NEE2	Needles Airpor	95.55	56	P	P	19 52 04.9	+0.1
	baz=270						
HLID	Hailey	95.67	47	P	P	19 52 06.3	+1.0
	baz=271						
JTMT	Jette	95.68	43	IAMs_20	IAMs_20	20 30 17.4	
	comp=Z,2µm,19.0s						
WALA	Waterton Lakes	95.90	41	IAMs_20	IAMs_20	20 30 20.9	
	comp=Z,3µm,20.0s						
MSO	Missoula	95.94	43	P	P	19 52 09.9	+3.5
	baz=272						
MSO	Missoula	95.94	43	IAMs_20	IAMs_20	20 26 34.2	
	comp=Z,3µm,21.0s						
PDMCI	Parker Dam,Lak	95.94	56	P	P	19 52 07.9	+1.3
	baz=270						
PIX	Pinacate	96.52	59	IAMs_20	IAMs_20	20 25 40.5	
	comp=Z,3µm,22.0s						
DLMT	Dillon	96.92	45	IAMs_20	IAMs_20	20 27 17.3	
	comp=Z,4µm,22.0s						
DUG	Dugway, Tooele	96.93	50	P	P	19 52 10.9	-0.2
	baz=272						
DUG	Dugway, Tooele	96.93	50	IAMs_20	IAMs_20	20 34 00.8	
	comp=Z,3µm,19.0s						
214A	Organ Pipe Nat	97.07	58	P	Pdif	19 52 12.6	+0.8
	baz=270						
214A	Organ Pipe Nat	97.07	58	IAMs_20	IAMs_20	20 26 31.1	
	comp=Z,4µm,22.0s						
BOZ	Bozeman (W)	97.59	45	P	Pdif	19 52 15.5	+1.5
	baz=273						
BOZ	Bozeman (W)	97.59	45	IAMs_20	IAMs_20	20 27 59.9	
	comp=Z,4µm,21.0s						
HWUT	Hardware Ranch	97.83	49	IAMs_20	IAMs_20	20 30 26.5	
	comp=Z,3µm,21.0s						
TPAW	Teton Pass	98.19	47	IAMs_20	IAMs_20	20 35 23.9	
	comp=Z,3µm,19.0s						
WUAZ	Wupatki	98.20	55	P	Pdif	19 52 18.4	+1.4
	baz=272						
WUAZ	Wupatki	98.20	55	IAMs_20	IAMs_20	20 33 54.8	
	comp=Z,4µm,18.0s						
REDW	Red Top Meadow	98.27	47	IAMs_20	IAMs_20	20 35 26.0	
	comp=Z,4µm,18.0s						
MOOW	Moose Ponds	98.32	46	IAMs_20	IAMs_20	20 35 28.4	
	comp=Z,4µm,18.0s						
FLWY	Flagg Ranch	98.33	46	IAMs_20	IAMs_20	20 29 50.8	
	comp=Z,4µm,20.0s						
LOHW	Long Hollow	98.43	47	IAMs_20	IAMs_20	20 33 27.4	
	comp=Z,4µm,19.0s						
EGMT	Eagleton	98.71	42	P	Pdif	19 52 19.7	+0.8
	baz=275						
HSIG		98.72	61	IAMs_20	IAMs_20	20 27 19.8	
	comp=Z,4µm,22.0s						
TUC	Tucson	98.78	58	P	P	19 52 19.5	0.0
	baz=272						
TUC	Tucson	98.78	58	IAMs_20	IAMs_20	20 27 21.4	
	comp=Z,5µm,22.0s						
BELA	Belgrano 2	98.82	179	P	P	19 52 17.0	-1.6
PDAR	Pinedale Array	99.25	47	P	Pdif	19 52 20.1	-1.5
	comp=Z,0.8nm,0.6s,baz=204,slow=3.3,SNR=9.2						
PDAR				PP	PP	19 56 28.3	+4.0
	comp=Z,0.2nm,0.3s,baz=90,slow=3.8,SNR=3.9						
RLMT	Red Lodge	99.28	45	IAMs_20	IAMs_20	20 28 42.8	
	comp=Z,3µm,22.0s						
W18A	Petrified Fore	99.55	55	P	Pdif	19 52 22.4	-0.6
	baz=273						
ALE	Alert	99.62	4	IAMs_20	IAMs_20	20 34 08.3	
	comp=Z,3µm,22.0s						
PV14	Lion Creek, Pa	99.95	52	IAMs_20	IAMs_20	20 40 55.9	
	comp=Z,2µm,19.0s						
PV17	East Wray Mesa	100.00	52	IAMs_20	IAMs_20	20 46 12.4	
	comp=Z,3µm,20.0s						
PV04	Paradox Valley	100.04	52	IAMs_20	IAMs_20	20 40 56.3	
	comp=Z,3µm,22.0s						
PV18	Skein Mesa, Pa	100.05	52	IAMs_20	IAMs_20	20 39 26.5	
	comp=Z,2µm,19.0s						
PV11	David Mesa, Pa	100.07	52	IAMs_20	IAMs_20	20 41 07.1	
	comp=Z,3µm,21.0s						
PV13	Radium Mtn., P	100.12	52	IAMs_20	IAMs_20	20 45 47.5	
	comp=Z,2µm,20.0s						
PV22	Blue Mesa, Par	100.12	52	IAMs_20	IAMs_20	20 36 14.5	
	comp=Z,3µm,20.0s						
PV12	Saucer Basin,	100.12	52	IAMs_20	IAMs_20	20 27 19.6	
	comp=Z,4µm,22.0s						
O20A	White River Ci	100.43	50	IAMs_20	IAMs_20	20 30 19.5	
	comp=Z,3µm,20.0s						
MVCO	Mesa Verde	100.44	53	IAMs_20	IAMs_20	20 36 48.9	
	comp=Z,2µm,19.0s						
LAO	LASA Array	101.24	43	P	Pdif	19 52 30.1	0.0
	baz=277						
LAO	LASA Array	101.24	43	IAMs_20	IAMs_20	20 29 55.4	
	comp=Z,2µm,20.0s						
NVL	N'lazarevskaya	101.27	193	eP	Pdif	19 52 33.1	+3.5
NVL				MLR	MLR		
	comp=Z,3µm,17.0s						
121A	Cookes Peak, D	101.31	58	P	Pdif	19 52 30.2	-0.7
	baz=273						
121A	Cookes Peak, D	101.31	58	IAMs_20	IAMs_20	20 29 02.3	
	comp=Z,4µm,21.0s						
K22A	Casper	101.49	47	P	Pdif	19 52 32.2	+0.7
	baz=276						
K22A	Casper	101.49	47	IAMs_20	IAMs_20	20 40 29.3	
	comp=Z,3µm,20.0s						
S22A	4UR Ranch, Cre	101.72	52	P	Pdif	19 52 32.9	+0.2
	baz=275						
S22A	4UR Ranch, Cre	101.72	52	IAMs_20	IAMs_20	20 39 46.9	
	comp=Z,3µm,19.0s						
ABPO	Ambohimpanom	101.83	250	IAMs_20	IAMs_20	20 32 34.3	
	comp=Z,4µm,22.0s						
MAK	Makhachkala	102.09	313	eP	Pdif	19 52 26.3	-7.6
MAK				i		19 56 50.2	
MAK				eSS	SS	20 11 14.9	-6.6
MAK				pmax	pmax		
	comp=Z,309nm,1.3s						
N23A	Red Feather La	102.10	49	P	Pdif	19 52 32.6	-1.7
	baz=276						
N23A	Red Feather La	102.10	49	IAMs_20	IAMs_20	20 35 38.8	
	comp=Z,2µm,20.0s						
ANMO	Albuquerque	102.25	55	IAMs_20	IAMs_20	20 29 31.0	
	comp=Z,3µm,22.0s						
DGMT	Dagmar	102.35	41	IAMs_20	IAMs_20	20 40 03.6	
	comp=Z,2µm,20.0s						
PHWY	Pilot Hill	102.42	49	IAMs_20	IAMs_20	20 41 58.2	
	comp=Z,3µm,18.0s						
EPT	El Paso	102.44	58	IAMs_20	IAMs_20	20 30 00.2	
	comp=Z,3µm,22.0s						
ISCO	Idaho Springs	102.47	50	IAMs_20	IAMs_20	20 34 46.6	
	comp=Z,2µm,20.0s						
SDCO	Great Sand Dun	102.77	52	P	Pdif	19 52 38.5	+1.1
	baz=276						
SDCO	Great Sand Dun	102.77	52	IAMs_20	IAMs_20	20 40 47.6	
	comp=Z,3µm,19.0s						
Q24A	Divide	102.92	51	IAMs_20	IAMs_20	20 38 41.5	
	comp=Z,2µm,19.0s						
RSSD	Black Hills	103.11	46	P	Pdif	19 52 37.9	-0.7
	baz=278						
SNAA	Sanae	103.20	188	Pdiff	Pdif	19 52 37.4	-0.9
SNAA	Sanae	103.20	188	IAMs_20	IAMs_20	20 38 43.3	
	comp=Z,4µm,20.0s						
APA	Apatity	103.33	340⇓	iP	Pdif	19 52 42.6	+3.8
APA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
APA				MLR	MLR		
	comp=Z,2µm,25.0s						
MNTX	Cornudas Mount	103.40	58	P	Pdif	19 52 42.5	+2.5
	baz=274						
MNTX	Cornudas Mount	103.40	58	IAMs_20	IAMs_20	20 30 30.7	
	comp=Z,3µm,22.0s						
TULEG	Thule	103.66	9	IAMs_20	IAMs_20	20 33 32.4	
	comp=Z,2µm,22.0s						
T25A	Trinidad	103.70	53	IAMs_20	IAMs_20	20 37 40.2	
	comp=Z,2µm,20.0s						
KEV	Kevo	104.38	343	IAMs_20	IAMs_20	20 41 42.2	
	comp=Z,2µm,22.0s						
E28A	Huff	105.02	43	IAMs_20	IAMs_20	20 39 08.3	
	comp=Z,2µm,20.0s						
OGNE	Ogallala	105.04	49	IAMs_20	IAMs_20	20 39 51.3	
	comp=Z,3µm,18.0s						
TXAR	Lajitas Array	105.06	61	Pdiff	Pdif	19 52 50.8	+3.2
	comp=Z,0.3nm,0.9s,baz=279,slow=7.2,SNR=1.8						
TXAR				PP	PP	19 57 10.8	+2.6
	comp=Z,0.7nm,1.0s,baz=318,slow=1.7,SNR=3.6						
MSTX	Muleshoe	105.37	56	IAMs_20	IAMs_20	20 33 45.8	
	comp=Z,4µm,20.0s						
MDND	Maddock	105.48	41	IAMs_20	IAMs_20	20 37 45.6	
	comp=Z,2µm,21.0s						
FCC	Fort Churchill	105.62	29	IAMs_20	IAMs_20	20 36 52.2	
	comp=Z,3µm,21.0s						
MOS	Moscow	105.73	327	eP	Pdif	19 52 41.0	-8.8
MOS				e		19 57 09.8	
MOS				MLR	MLR		
	comp=Z,4µm,20.0s						
AMTX	Amarillo	106.16	55	IAMs_20	IAMs_20	20 34 05.5	
	comp=Z,4µm,21.0s						
OBN	Obninsk	106.50	327	IAMs_20	IAMs_20	20 41 02.3	
	comp=Z,4µm,21.0s						
SUSD	Miller	106.64	45	IAMs_20	IAMs_20	20 35 06.5	
	comp=Z,3µm,20.0s						
CBKS	Cedar Bluff	107.12	50	IAMs_20	IAMs_20	20 33 58.7	
	comp=Z,3µm,21.0s						
K31A	O'Neill	107.16	46	IAMs_20	IAMs_20	20 40 51.2	
	comp=Z,3µm,19.0s						
D32A	Dogwood Acres,	107.36	42	IAMs_20	IAMs_20	20 44 14.1	
	comp=Z,2µm,19.0s						
KOPT	Kop Dagi	107.74	311	IAMs_20	IAMs_20	20 44 34.1	
	comp=Z,2µm,22.0s						
AGMN	Agassiz Nation	107.81	40	IAMs_20	IAMs_20	20 37 52.0	
	comp=Z,2µm,20.0s						
BGNE	Belgrade	107.84	48	IAMs_20	IAMs_20	20 35 31.4	
	comp=Z,4µm,21.0s						
R32A	Long Quarter,	107.98	51	IAMs_20	IAMs_20	20 36 52.4	
	comp=Z,2µm,22.0s						
ABTX	Abilene, Hawle	108.14	57	IAMs_20	IAMs_20	20 34 38.1	
	comp=Z,3µm,21.0s						
F33A	5 Mile Ranch,	108.16	43	IAMs_20	IAMs_20	20 40 54.5	
	comp=Z,3µm,19.0s						
ECSD	EROS Data Cent	108.44	45	IAMs_20	IAMs_20	20 38 02.2	
	comp=Z,3µm,21.0s						
N33A	J Bar K, Exete	108.49	48	IAMs_20	IAMs_20	20 41 58.8	
	comp=Z,3µm,19.0s						
WMOK	Wichita Mounta	108.54	55	IAMs_20	IAMs_20	20 36 21.6	
	comp=Z,4µm,22.0s						
FINES	FINESS Array B	108.96	335	PP	PP	19 57 40.9	+5.4
	comp=Z,6.3nm,1.0s,baz=28,slow=8.6,SNR=5.3						
L34A	Svendsen Farm,	109.02	47	IAMs_20	IAMs_20	20 33 53.6	
	comp=Z,3µm,22.0s						
B35A	Bob, Littlefor	109.16	40	IAMs_20	IAMs_20	20 36 17.7	
	comp=Z,3µm,22.0s						
KSU1	Kansas State U	109.46	50	IAMs_20	IAMs_20	20 36 20.6	
	comp=Z,2µm,21.0s						
OKCFA	Oklahoma City	109.50	54	IAMs_20	IAMs_20	20 36 29.0	
	comp=Z,3µm,22.0s						
OK025	Westminster Rd	109.57	53	IAMs_20	IAMs_20	20 40 09.7	
	comp=Z,3µm,19.0s						
UNM	Universidad Na	109.87	71	IAMs_20	IAMs_20	20 35 00.8	
	comp=Z,4µm,22.0s						
F36A	Milaca	110.02	42	IAMs_20	IAMs_20	20 42 28.6	
	comp=Z,2µm,21.0s						
Z35A	Perchaven, San	110.02	56	IAMs_20	IAMs_20	20 34 24.8	
	comp=Z,3µm,22.0s						
WHTX	Lake Whitney,	110.06	57	IAMs_20	IAMs_20	20 41 22.1	
	comp=Z,2µm,19.0s						
435B	Jarrell	110.13	59	IAMs_20	IAMs_20	20 34 37.1	
	comp=Z,3µm,21.0s						
735A	Kenedy	110.21	61	IAMs_20	IAMs_20	20 37 50.2	
	comp=Z,2µm,20.0s						
KVTX	Kingsville	110.30	62	IAMs_20	IAMs_20	20 38 59.7	
	comp=Z,3µm,19.0s						
I37A	Lemond, Waseca	110.62	44	IAMs_20	IAMs_20	20 42 19.7	
	comp=Z,3µm,19.0s						
SPMN	Marine on St.	110.69	43	IAMs_20	IAMs_20	20 42 29.3	
	comp=Z,3µm,20.0s						
EYMN	Ely	110.71	40	IAMs_20	IAMs_20	20 40 15.7	
	comp=Z,3µm,20.0s						
SCIA	State Center	111.32	46	IAMs_20	IAMs_20	20 37 39.4	
	comp=Z,2µm,22.0s						
237A	Washetta, Mont	111.44	57	IAMs_20	IAMs_20	20 35 13.6	
	comp=Z,3µm,22.0s						
Z38A	Mt. Pleasant	111.90	56	IAMs_20	IAMs_20	20 36 39.6	
	comp=Z,2µm,22.0s						
AKASG	Malin Array Be	112.23	324	PKiKP	PKiKP	19 57 16.1	+1.1
	comp=Z,0.3nm,0.4s,baz=52,slow=2.1,SNR=3.0						
S39A	Bolivar	112.29	51	IAMs_20	IAMs_20	20 36 55.6	
	comp=Z,3µm,22.0s						
G40A	Rib Lake	112.42	42	IAMs_20	IAMs_20	20 40 24.2	
	comp=Z,2µm,20.0s						
NATX	Nacogdoches	112.45	57	IAMs_20	IAMs_20	20 43 42.2	
	comp=Z,3µm,19.0s						
I40A	Norwalk	112.58	44	IAMs_20	IAMs_20	20 36 36.5	
	comp=Z,4µm,22.0s						
COWI	Conover	112.85	41	IAMs_20	IAMs_20	20 41 27.3	
	comp=Z,3µm,21.0s						
D41A	Chassel	112.88	40	IAMs_20	IAMs_20	20 40 55.1	
	comp=Z,3µm,20.0s						
U40A	Yellville	112.97	52	IAMs_20	IAMs_20	20 44 49.6	
	comp=Z,3µm,19.0s						
JFWS	Jewell Farm	113.14	44	IAMs_20	IAMs_20	20 36 52.3	
	comp=Z,3µm,22.0s						
MGMO	Mountain Grove	113.24	51	IAMs_20	IAMs_20	20 40 52.6	
	comp=Z,3µm,20.0s						
WLAR	White Oak Lake	113.35	55	IAMs_20	IAMs_20	20 36 52.0	
	comp=Z,3µm,22.0s						
N41A	Harden Midland	113.36	47	IAMs_20	IAMs_20	20 36 28.4	
	comp=Z,4µm,22.0s						
X40A	Basin Creek Fa	113.41	54	IAMs_20	IAMs_20	20 39 16.3	
	comp=Z,3µm,20.0s						
F42A	Maple Grove Fa	113.62	41	IAMs_20	IAMs_20	20 41 58.9	
	comp=Z,3µm,20.0s						
WHAR	Wooly Hollow	113.66	53	IAMs_20	IAMs_20	20 42 20.0	
	comp=Z,2µm,19.0s						
I42A	Draeger Farm,	113.74	43	IAMs_20	IAMs_20	20 43 07.3	
	comp=Z,2µm,20.0s						
MG01	Puerto William	113.78	157	IAMs_20	IAMs_20	20 37 26.3	
	comp=Z,3µm,21.0s						
CCM	Cathedral Cave	113.80	50	IAMs_20	IAMs_20	20 43 13.3	
	comp=Z,3µm,19.0s						
L42A	Oliver, Polo	113.83	45	IAMs_20	IAMs_20	20 38 54.7	
	comp=Z,3µm,22.0s						
441A	DeRidder	113.87	58	IAMs_20	IAMs_20	20 49 47.0	
	comp=Z,3µm,20.0s						
E43A	Lone Tree Farm	114.14	40	IAMs_20	IAMs_20	20 45 12.3	
	comp=Z,2µm,20.0s						
H43A	Windswept, Lux	114.32	42	IAMs_20	IAMs_20	20 44 59.4	
	comp=Z,3µm,19.0s						
LCAR	Lake Charles	114.37	52	IAMs_20	IAMs_20	20 39 36.7	
	comp=Z,3µm,21.0s						
CCAR	Cane Creek	114.39	54	IAMs_20	IAMs_20	20 39 23.4	
	comp=Z,3µm,21.0s						
342A	Flagon Creek P	114.48	57	IAMs_20	IAMs_20	20 47 11.0	
	comp=Z,2µm,18.0s						
HDIL	Hopedale	114.54	47	IAMs_20	IAMs_20	20 46 06.6	
	comp=Z,2µm,19.0s						
K43A	Burlington	114.54	44	IAMs_20	IAMs_20	20 37 45.4	
	comp=Z,3µm,22.0s						
NOA	NORSAR Array B	114.92	340	PP	PP	19 58 22.3	+4.2
	comp=Z,2.2nm,0.9s,baz=44,slow=6.8,SNR=4.5						
HQIL	Hanson Quary C	115.17	45	IAMs_20	IAMs_20	20 39 13.3	
	comp=Z,2µm,21.0s						
M44A	Midewin, Midew	115.17	45	IAMs_20	IAMs_20	20 39 34.4	
	comp=Z,3µm,22.0s						
Q44A	Meyer Farm, Va	115.24	48	IAMs_20	IAMs_20	20 38 51.3	
	comp=Z,3µm,20.0s						
O44A	Mansfield	115.26	47	IAMs_20	IAMs_20	20 43 07.9	
	comp=Z,3µm,20.0s						

GNAR	**Gosnell**	**115.29**	**52**	IAMs_20	IAMs_20	20 44 15.0			
	comp=Z,3µm,19.0s								
PEBM	**Pemiscott Bayo**	**115.37**	**51**	IAMs_20	IAMs_20	20 41 46.2			
	comp=Z,3µm,20.0s								
S44A	**Carbondale**	**115.41**	**50**	IAMs_20	IAMs_20	20 38 59.0			
	comp=Z,3µm,21.0s								
PVMO	**Portageville**	**115.42**	**51**	IAMs_20	IAMs_20	20 39 16.4			
	comp=Z,3µm,20.0s								
PENMO	**Penman**	**115.47**	**51**	IAMs_20	IAMs_20	20 39 08.6			
	comp=Z,3µm,21.0s								
I45A	**Fountain**	**115.50**	**42**	IAMs_20	IAMs_20	20 47 11.8			
	comp=Z,3µm,19.0s								
MET	**Memphis--Engin**	**115.57**	**53**	IAMs_20	IAMs_20	20 45 07.6			
	comp=Z,3µm,19.0s								
344A	**Westbrook Farm**	**115.79**	**57**	IAMs_20	IAMs_20	20 38 22.8			
	comp=Z,3µm,21.0s								
VBMS	**Vicksburg**	**115.80**	**56**	IAMs_20	IAMs_20	20 40 32.9			
	comp=Z,3µm,20.0s								
OLIL	**Olney**	**115.97**	**48**	IAMs_20	IAMs_20	20 39 23.8			
	comp=Z,3µm,21.0s								
T45A	**Paducah**	**116.07**	**50**	IAMs_20	IAMs_20	20 39 43.4			
	comp=Z,3µm,22.0s								
W45A	**Hickory Valley**	**116.16**	**52**	IAMs_20	IAMs_20	20 41 01.0			
	comp=Z,3µm,20.0s								
SFIN	**Lafayette**	**116.18**	**46**	IAMs_20	IAMs_20	20 53 01.2			
	comp=Z,2µm,19.0s								
L46A	**Eue Claire**	**116.19**	**44**	IAMs_20	IAMs_20	20 40 16.2			
	comp=Z,3µm,21.0s								
Y45A	**Yeager Farm, C**	**116.20**	**54**	IAMs_20	IAMs_20	20 43 40.4			
	comp=Z,2µm,21.0s								
MLR	**Muntele Rosu**	**116.35**	**320**	IAMs_20	IAMs_20	20 49 23.2			
	comp=Z,3µm,22.0s								
P46A	**Rosedale**	**116.35**	**47**	IAMs_20	IAMs_20	20 49 56.7			
	comp=Z,2µm,19.0s								
KWP	**Kalwaria Pacla**	**116.47**	**325**	IAMs_20	IAMs_20	20 46 56.9			
	comp=Z,3µm,22.0s								
KONO	**Kongsberg**	**116.47**	**339**	IAMs_20	IAMs_20	20 48 45.0			
	comp=Z,2µm,20.0s								
J47A	**Sunmer**	**116.75**	**43**	IAMs_20	IAMs_20	20 49 07.9			
	comp=Z,2µm,19.0s								
CCIG	**Comitan**	**116.77**	**74**	IAMs_20	IAMs_20	20 42 20.9			
	comp=Z,2µm,18.0s								
346A	**Big Creek Wild**	**116.86**	**56**	IAMs_20	IAMs_20	20 43 18.1			
	comp=Z,2µm,20.0s								
BLO	**Bloomington**	**117.00**	**47**	IAMs_20	IAMs_20	20 46 24.9			
	comp=Z,3µm,19.0s								
MANT	**Manisa**	**117.09**	**312**	IAMs_20	IAMs_20	20 52 02.4			
	comp=Z,3µm,21.0s								
T47A	**Sharon Grove**	**117.25**	**50**	IAMs_20	IAMs_20	20 39 54.8			
	comp=Z,3µm,22.0s								
WCI	**Wyandotte Cave**	**117.48**	**48**	IAMs_20	IAMs_20	20 43 31.6			
	comp=Z,3µm,20.0s								
L48A	**N Adams**	**117.51**	**44**	IAMs_20	IAMs_20	20 43 25.1			
	comp=Z,2µm,20.0s								
Z47A	**Carrollton**	**117.56**	**54**	IAMs_20	IAMs_20	20 40 47.4			
	comp=Z,2µm,21.0s								
P48A	**Milroy**	**117.70**	**47**	IAMs_20	IAMs_20	20 51 58.4			
	comp=Z,3µm,18.0s								
V48A	**Smith Brothers**	**117.84**	**51**	IAMs_20	IAMs_20	20 45 39.6			
	comp=Z,3µm,20.0s								
AAM	**Ann Arbor**	**117.91**	**43**	IAMs_20	IAMs_20	20 39 38.5			
	comp=Z,3µm,22.0s								
X48A	**Hartselle**	**118.04**	**53**	IAMs_20	IAMs_20	20 42 04.0			
	comp=Z,2µm,21.0s								
P49A	**Miami Univ. Ec**	**118.19**	**46**	IAMs_20	IAMs_20	20 52 23.3			
	comp=Z,2µm,18.0s								
O49A	**Covington**	**118.23**	**46**	IAMs_20	IAMs_20	20 40 10.3			
	comp=Z,2µm,22.0s								
R49A	**Shelbyville**	**118.29**	**48**	IAMs_20	IAMs_20	20 47 22.0			
	comp=Z,3µm,19.0s								
K50A	**Casco**	**118.42**	**42**	IAMs_20	IAMs_20	20 52 13.9			
	comp=Z,3µm,19.0s								
RGN	**Rugen**	**118.47**	**333**	IAMs_20	IAMs_20	20 50 36.4			
	comp=Z,3µm,21.0s								
LANS	**Liptovska Anna**	**118.54**	**326**	*e*PKIKP	**PKiKP**	**19 57 34.8 +7.5**			
LANS	**Liptovska Anna**	**118.54**	**326**	*e*PKP	**PKiKP**	**19 57 34.8 +7.5**			
PAYG	**Puerto Ayora**	**118.69**	**93**	IAMs_20	IAMs_20	20 44 56.8			
	comp=Z,3µm,19.0s								
OKC	**Ostrava-Krasne**	**118.89**	**327**	AMS	AMS	20 49 10.0			
	comp=Z,2µm,18.4s								
R50A	**Paris**	**118.92**	**48**	IAMs_20	IAMs_20	20 47 06.6			
	comp=Z,3µm,20.0s								
PSZ	**Piszkesteo**	**118.93**	**325**	IAMs_20	IAMs_20	20 48 04.2			
	comp=Z,3µm,22.0s								
VYHS	**Vyhne**	**119.24**	**326**	*e*PKIKP	**PKiKP**	**19 57 34.3 +5.7**			
VYHS	**Vyhne**	**119.24**	**326**	*e*PKP	**PKiKP**	**19 57 34.3 +5.7**			
MORC	**Moravsky Berou**	**119.26**	**327**	*e*PKP	**PKiKP**	**19 57 30.2 +1.6**			
MORC	**Moravsky Berou**	**119.26**	**327**	IAMs_20	IAMs_20	20 49 59.6			
	comp=Z,2µm,22.0s								
KRLC	**Kraliky**	**119.50**	**328**	*e*PKP	**PKiKP**	**19 57 35.8 +6.7**			
KRLC				*ex*	x	19 57 43.9			
KRLC				*ex*	x	20 15 30.1			
KRLC				AMS	AMS	20 48 50.0			
	comp=Z,2µm,21.6s								
KRLC	**Kraliky**	**119.50**	**328**	*e*PKIKP	**PKiKP**	**19 57 35.8 +6.7**			
KRLC				*e*		19 57 43.9			
KRLC				*e*SS	SS	20 15 30.1	+17		
KRLC				MLR	MLR				
	comp=Z,2µm,21.6s								
OSTC	**Ostas**	**119.52**	**329**	*e*PKP	**PKiKP**	**19 57 35.2 +6.1**			
OSTC				*ex*	x	20 15 36.2			
OSTC				AMS	AMS	20 49 10.0			
	comp=Z,4µm,23.5s								
DPC	**Dobruska-Polom**	**119.58**	**328**	*e*SS	SS	20 15 15.8	+1.4		
DPC				AMS	AMS	20 49 20.0			
	comp=Z,3µm,21.8s								
CHVC	**Chvalec**	**119.58**	**329**	AMS	AMS	20 49 00.0			
	comp=Z,4µm,20.8s								
UPC	**Upice**	**119.65**	**329**	*e*SKKS		20 15 28.2			
UPC				AMS	AMS	20 49 10.0			
	comp=Z,4µm,21.2s								
JAVC	**Velka Javorina**	**119.69**	**326**	*e*PKP	**PKiKP**	**19 57 32.2 +2.7**			
LL01	**San Ignacio de**	**119.94**	**144**	IAMs_20	IAMs_20	20 42 42.7			
	comp=Z,1µm,18.0s								
VRAC	**Vranov**	**120.03**	**327**	*e*PKP	**PKiKP**	**19 57 33.5 +3.4**			
TKL	**Tuckaleechee C**	**120.23**	**50**	PKP	**PKiKP**	**19 57 32.3 +1.4**			
	comp=Z,5.6nm,0.9s,baz=317,slow=8.5,SNR=2.4								
KRUC	**Moravsky**	**120.28**	**327**	*e*PKP	**PKiKP**	**19 57 31.0 +0.4**			
PVCC	**Panska Ves**	**120.38**	**329**	AMS	AMS	20 50 30.0			
	comp=Z,2µm,19.6s								
LSZ	**Lusaka**	**120.39**	**250**	IAMs_20	IAMs_20	20 43 29.3			
	comp=Z,3µm,22.0s								
ERPA	**Erie**	**120.46**	**42**	IAMs_20	IAMs_20	20 50 14.0			
	comp=Z,2µm,20.0s								
BRG	**Berggiesshubel**	**120.49**	**330**	*e*PKP	**PKiKP**	**19 57 33.7 +2.8**			
	comp=Z,21nm,1.8s								
BRG				*e*		19 57 43.2			
	comp=Z,8.0nm,1.2s								
BRG	**Berggiesshubel**	**120.49**	**330**	*e*PKIKP	**PKiKP**	**19 57 33.7 +2.8**			
BRG				*e*		19 57 43.2			
BRG				pmax	pmax				
	comp=Z,21nm,1.8s								
BRG				pmax	pmax				
	comp=Z,8.0nm,1.3s								
TREC	**Trest**	**120.63**	**328**	AMS	AMS	20 49 10.0			
	comp=Z,3µm,20.8s								
GOPC	**GO Pecny, Ondr**	**120.64**	**329**	*e*SS	SS	20 15 42.6	+15		
GOPC				AMS	AMS	20 50 00.0			
	comp=Z,3µm,21.7s								
CLL	**Collm**	**120.68**	**331**	*e*PKPdf	**PKPdf**	**19 57 31.0 -0.2**			
CLL				*e*		19 57 39.0			
CLL				*e*PP	**PP**	**19 58 58.0 -0.4**			
CLL				*e*		19 59 09.0			
CLL				*e*(PKSdf)		20 01 12.0			
CLL				*e*		20 01 23.0			
CLL				*e*PS	**PS**	**20 08 50.0 -0.1**			
CLL				*e*PPS	PPS	20 09 54.0			
CLL				*e*SS	SS	20 15 42.0	+14		
CLL				*e*SSS	SSS	20 19 42.0			
CLL				*e*		20 21 24.0			
CLL				*e*SSSS		20 23 30.0			
CLL				*e*		20 27 00.0			
CLL				Lm	MLR	20 52 00.0			
	comp=N,1µm,21.1s								
CLL				Lm	MLR	20 52 00.0			
	comp=E,2µm,20.7s								
CLL				Lm	MLR	20 52 00.0			
	comp=Z,2µm,19.8s								
CLL	**Collm**	**120.68**	**331**	*e*PKIKP	**PKPdf**	**19 57 31.0 -0.2**			
CLL				*e*		19 57 39.0			
CLL				MLR	MLR				
	comp=Z,2µm,19.8s								
CLL	**Collm**	**120.68**	**331**	IAMs_20	IAMs_20	20 52 48.1			
	comp=Z,2µm,20.0s								
PRU	**Pruhonice**	**120.72**	**329**	*e*PKP	**PKiKP**	**19 57 36.9 +5.5**			
PRU				*ex*	x	20 15 42.9			
PRU				AMS	AMS	20 49 50.0			
	comp=Z,3µm,21.5s								
PRU	**Pruhonice**	**120.72**	**329**	*e*PKIKP	**PKiKP**	**19 57 36.9 +5.5**			
PRU				*e*SS	SS	20 15 42.9	+14		
PRU				MLR	MLR				
	comp=Z,3µm,21.5s								
PRA	**Prague**	**120.73**	**329**	*e*SS	SS	20 15 48.5	+20		
PRA				AMS	AMS	20 50 10.0			
	comp=Z,1µm,21.3s								
M54A	**Oil Creek Stat**	**120.95**	**43**	IAMs_20	IAMs_20	20 46 47.9			
	comp=Z,3µm,21.0s								
N54A	**Moraine State**	**120.96**	**43**	IAMs_20	IAMs_20	20 41 44.4			
	comp=Z,3µm,20.0s								
MEDO	**Medina**	**121.00**	**40**	IAMs_20	IAMs_20	20 48 17.0			
	comp=Z,3µm,19.0s								
GOGA	**Godfrey**	**121.19**	**53**	IAMs_20	IAMs_20	20 45 49.4			
	comp=Z,2µm,20.0s								
CONA	**Conrad Observa**	**121.21**	**326**	*e*P	**PKPdf**	**19 57 32.4 -0.1**			
	comp=Z,3.1nm,0.9s								
MCWV	**Mont Chateau**	**121.61**	**45**	IAMs_20	IAMs_20	20 49 21.7			
	comp=Z,2µm,20.0s								
NKC	**Novy Kostel**	**121.63**	**330**	*e*SS	SS	20 15 52.6	+12		
NKC				AMS	AMS	20 51 30.0			
	comp=Z,3µm,19.0s								
KHC	**Kasperske Hory**	**121.74**	**328**	*e*PKP	**PKiKP**	**19 57 34.5 +1.0**			
KHC				*ex*	x	19 57 40.5			
KHC				*ex*	x	20 15 56.7			
KHC				AMS	AMS	20 50 20.0			
	comp=Z,4µm,21.2s								
KHC	**Kasperske Hory**	**121.74**	**328**	*e*PKIKP	**PKiKP**	**19 57 34.5 +1.0**			
KHC				*e*		19 57 40.5			
KHC				*e*SS	SS	20 15 56.7	+15		
KHC				MLR	MLR				
	comp=Z,4µm,21.2s								
GERES	**GERESS Array B**	**121.84**	**328**	PKP	**PKPdf**	**19 57 32.9 -0.8**			
	comp=Z,1.7nm,0.7s,baz=48,slow=2.0,SNR=10								
GERES	**GERESS Array B**	**121.84**	**328**		**PKPdf**	**19 57 33.5 -0.2**			
CRIN	**San Cristobal**	**121.95**	**77**	IAMs_20	IAMs_20	20 38 07.8			
	comp=Z,2µm,22.0s								
R55A	**Marlinton**	**121.98**	**46**	IAMs_20	IAMs_20	20 48 56.7			
	comp=Z,3µm,21.0s								
PLCA	**Paso Flores**	**122.05**	**144**	PKP	**PKiKP**	**19 57 35.7 +1.2**			
	comp=Z,2.3nm,0.9s,baz=246,slow=3.0,SNR=3.8								
MOA	**Molln**	**122.14**	**327**	*e*P	**PKiKP**	**19 57 37.1 +2.8**			
	comp=Z,1.4nm,0.7s								
BLA	**Blacksburg**	**122.19**	**47**	IAMs_20	IAMs_20	20 49 05.2			
	comp=Z,3µm,20.0s								
O56A	**Blue Knob Stat**	**122.24**	**43**	IAMs_20	IAMs_20	20 42 23.2			
	comp=Z,3µm,22.0s								
SOKA	**Soboth**	**122.39**	**325**	*e*P	**PKiKP**	**19 57 34.9 0.0**			
	comp=Z,9.9nm,1.4s								
SSPA	**Standing Stone**	**122.54**	**43**	IAMs_20	IAMs_20	20 42 23.0			
	comp=Z,2µm,20.0s								
GRA1	**Grafenberg Arr**	**122.59**	**330**	IAMs_20	IAMs_20	20 51 45.6			
	comp=Z,3µm,20.0s								
JSC	**Jenkinsville**	**122.64**	**51**	IAMs_20	IAMs_20	20 43 16.4			
	comp=Z,2µm,21.0s								
LONY	**Lake Ozonia**	**122.70**	**37**	IAMs_20	IAMs_20	20 44 13.6			
	comp=Z,2µm,20.0s								
BI03	**Tigo**	**122.81**	**139**	IAMs_20	IAMs_20	20 40 15.7			
	comp=Z,2µm,20.0s								
Z56A	**Williston**	**122.88**	**52**	IAMs_20	IAMs_20	20 42 16.0			
	comp=Z,3µm,22.0s								
KBA	**Koelnbreinsper**	**123.10**	**327**	*e*P	**PKiKP**	**19 57 37.0 +0.6**			
	comp=Z,9.3nm,1.4s								
T57A	**Hurt**	**123.13**	**47**	IAMs_20	IAMs_20	20 47 10.1			
	comp=Z,2µm,20.0s								
FRNY	**Flat Rock**	**123.18**	**37**	IAMs_20	IAMs_20	20 45 47.2			
	comp=Z,3µm,20.0s								
N58A	**Sunbury**	**123.23**	**42**	IAMs_20	IAMs_20	20 52 28.4			
	comp=Z,2µm,21.0s								
NCB	**Newcomb**	**123.26**	**38**	IAMs_20	IAMs_20	20 45 32.5			
	comp=Z,3µm,21.0s								
PAGS	**Pennsylvania G**	**123.52**	**43**	IAMs_20	IAMs_20	20 45 03.9			
	comp=Z,3µm,22.0s								
V58A	**Windy Hill, Pi**	**123.71**	**49**	IAMs_20	IAMs_20	20 51 02.6			
	comp=Z,3µm,19.0s								
R58B	**Mineral**	**123.72**	**46**	IAMs_20	IAMs_20	20 49 48.7			
	comp=Z,2µm,18.0s								
S58A	**Poland Farm, P**	**123.75**	**46**	IAMs_20	IAMs_20	20 54 55.4			
	comp=Z,3µm,20.0s								
ABTA	**Abfaltersbach**	**123.75**	**327**	*e*P	**PKPdf**	**19 57 37.3 -0.1**			
	comp=Z,6.2nm,1.1s								
ACON	**Acoyapa**	**123.83**	**78**	IAMs_20	IAMs_20	20 41 21.2			
	comp=Z,3µm,21.0s								
MVL	**Millersville**	**123.88**	**43**	IAMs_20	IAMs_20	20 45 24.4			
	comp=Z,3µm,21.0s								
WATA	**Walderalm**	**123.90**	**328**	*e*P	**PKPdf**	**19 57 37.2 -0.5**			
	comp=Z,8.3nm,1.4s								
WTTA	**Wattenberg**	**123.91**	**328**	*e*P	**PKPdf**	**19 57 37.5 -0.3**			
	comp=Z,14nm,1.3s								
CBN	**Corbin Frederi**	**123.98**	**45**	IAMs_20	IAMs_20	20 54 06.4			
	comp=Z,2µm,19.0s								
BI02	**San Fabin de**	**124.07**	**139**	IAMs_20	IAMs_20	20 41 38.7			
	comp=Z,2µm,20.0s								
MOTA	**Mosalm**	**124.14**	**328**	*e*P	**PKPdf**	**19 57 37.0 -1.2**			
	comp=Z,9.4nm,1.3s								
JTS	**Las Juntas de**	**124.15**	**80**	PKP	**PKiKP**	**19 57 39.3 +0.1**			
	comp=Z,1.2nm,0.3s,baz=40,slow=22,SNR=1.9								
SQTA	**Sankt Quirin**	**124.16**	**328**	*e*P	**PKPdf**	**19 57 37.9 -0.3**			
	comp=Z,5.5nm,0.8s								
STU	**Stuttgart**	**124.19**	**330**	IAMs_20	IAMs_20	20 52 42.1			
	comp=Z,2µm,20.0s								
RETA	**Reutte**	**124.23**	**328**	*e*P	**PKiKP**	**19 57 38.6 0.0**			
	comp=Z,4.2nm,1.4s								
WUPA	**West Chester U**	**124.41**	**43**	IAMs_20	IAMs_20	20 45 27.5			
	comp=Z,2µm,22.0s								
U59A	**Littleton**	**124.47**	**47**	IAMs_20	IAMs_20	20 50 00.5			
	comp=Z,2µm,18.0s								
PSUB	**Penn St. - Bra**	**124.52**	**43**	IAMs_20	IAMs_20	20 45 40.4			
	comp=Z,3µm,22.0s								
FETA	**Feichten**	**124.54**	**328**	*e*P	**PKPdf**	**19 57 39.0 0.0**			
	comp=Z,7.9nm,0.8s								
ESPN	**Las Esperanzas**	**124.67**	**78**	IAMs_20	IAMs_20	20 44 22.3			
	comp=Z,2µm,20.0s								
Q60A	**Greensboro**	**124.69**	**44**	IAMs_20	IAMs_20	20 43 59.0			
	comp=Z,3µm,22.0s								
DAVA	**Damuels**	**124.82**	**329**	*e*P	**PKPdf**	**19 57 39.5 -0.1**			
	comp=Z,6.9nm,1.1s								
BFO	**Black Forest**	**124.92**	**330**	IAMs_20	IAMs_20	20 55 03.2			
	comp=Z,2µm,20.0s								
WLF	**Walferdange**	**125.03**	**333**	IAMs_20	IAMs_20	20 55 50.0			
	comp=Z,2µm,20.0s								
TEOL	**Teo**	**125.06**	**326**	IAMs_20	IAMs_20	20 52 44.1			
	comp=Z,2µm,21.0s								
P61A	**Hammonton**	**125.08**	**42**	IAMs_20	IAMs_20	20 45 44.4			
	comp=Z,3µm,22.0s								
V60A	**Jim Taylor Roa**	**125.10**	**48**	IAMs_20	IAMs_20	20 49 50.3			
	comp=Z,3µm,21.0s								
061Z	**Ochoppi**	**125.52**	**60**	IAMs_20	IAMs_20	20 53 14.6			
	comp=Z,2µm,20.0s								
ECH	**Echery**	**125.57**	**331**	IAMs_20	IAMs_20	20 53 53.9			
	comp=Z,2µm,21.0s								
V61A	**Roper**	**125.59**	**47**	IAMs_20	IAMs_20	20 46 25.4			
	comp=Z,3µm,22.0s								
060A	**Indiantown**	**125.67**	**59**	IAMs_20	IAMs_20	20 53 37.5			
	comp=Z,2µm,19.0s								
PAOL	**Paolisi**	**125.77**	**320**	IAMs_20	IAMs_20	20 56 54.4			
	comp=Z,2µm,20.0s								
AQU	**L'Aquila**	**125.78**	**322**	IAMs_20	IAMs_20	20 54 57.7			
	comp=Z,2µm,21.0s								
VA01	**Torpederas**	**125.89**	**135**	IAMs_20	IAMs_20	20 42 57.6			
	comp=Z,2µm,22.0s								
ZCCA	**Zocca**	**126.06**	**325**	IAMs_20	IAMs_20	20 51 48.8			
	comp=Z,2µm,21.0s								
PRMA	**PARMA**	**126.18**	**326**	IAMs_20	IAMs_20	20 53 45.0			
	comp=Z,2µm,21.0s								
CEL	**Celeste**	**126.28**	**316**	IAMs_20	IAMs_20	20 55 57.4			
	comp=Z,2µm,21.0s								
OSSC	**Osservatorio P**	**126.40**	**324**	IAMs_20	IAMs_20	20 56 48.9			
	comp=Z,3µm,20.0s								
VLC	**Villacollemand**	**126.51**	**325**	IAMs_20	IAMs_20	20 54 07.8			
	comp=Z,2µm,21.0s								
VA03	**San Esteban**	**126.80**	**136**	IAMs_20	IAMs_20	20 43 00.5			
	comp=Z,2µm,20.0s								
MSSA	**Maissana**	**126.91**	**326**	IAMs_20	IAMs_20	20 53 37.1			
	comp=Z,3µm,22.0s								
GTBY	**Guantanamo Bay**	**132.19**	**66**	IAMs_20	IAMs_20	20 48 38.0			
	comp=Z,2µm,22.0s								
PSGCX	**Pisagua**	**133.66**	**121**	IAMs_20	IAMs_20	20 45 18.7			
	comp=Z,2µm,20.0s								
GRTK	**Grand Turk**	**135.34**	**63**	IAMs_20	IAMs_20	20 50 53.1			
	comp=Z,2µm,21.0s								
BBSR	**BB Station**	**135.85**	**45**	IAMs_20	IAMs_20	20 53 25.8			
	comp=Z,2µm,19.0s								
SC01	**Santiago de lo**	**136.31**	**65**	IAMs_20	IAMs_20	20 49 40.0			
	comp=Z,3µm,21.0s								
LPAZ	**La Paz**	**136.75**	**118**	PKhKP	PKPpre	19 57 59.7			
	comp=Z,2.2nm,0.8s,baz=170,slow=2.4,SNR=4.5								
ES01	**SONSECA Array**	**137.26**	**331**	IAMs_20	IAMs_20	21 02 40.4			
	comp=Z,2µm,22.0s								
ES11	**SONSECA Array**	**137.27**	**331**	IAMs_20	IAMs_20	21 02 31.5			
	comp=Z,2µm,20.0s								
ESDC	**Sonseca Array**	**137.27**	**331**	PKP	**PKPdf**	**19 58 02.8 -0.3**			
	comp=Z,0.3nm,0.7s,baz=262,slow=37,SNR=2.5								
ESDC				PP	**PP**	**20 00 49.9 +3.0**			
	comp=Z,1.0nm,0.8s,baz=15,slow=4.5,SNR=4.5								
ES16	**SONSECA Array**	**137.27**	**331**	IAMs_20	IAMs_20	21 00 56.6			
	comp=Z,1µm,20.0s								
ES15	**SONSECA Array**	**137.29**	**331**	IAMs_20	IAMs_20	20 52 09.2			
	comp=Z,1µm,20.0s								
CART	**Cartagena**	**137.31**	**327**	IAMs_20	IAMs_20	21 01 23.3			
	comp=Z,2µm,21.0s								
SDV	**Santo Domingo**	**138.33**	**80**	IAMs_20	IAMs_20	20 51 59.5			
	comp=Z,1µm,19.0s								
CPUP	**Villa Florida**	**139.78**	**139**	PKP	**PKPdf**	**19 58 05.7 -2.4**			
	comp=Z,2.1nm,0.9s,baz=186,slow=15,SNR=3.0								
SJG	**San Juan**	**140.84**	**65**	PKP	**PKPdf**	**19 58 08.0 -2.1**			
	comp=Z,3.2nm,0.5s,baz=350,slow=22,SNR=1.6								
SJG	**San Juan**	**140.84**	**65**	IAMs_20	IAMs_20	20 53 15.1			
	comp=Z,2µm,22.0s								
PVAQ	**Vaqueiros**	**140.85**	**333**	IAMs_20	IAMs_20	21 04 52.6			
	comp=Z,2µm,20.0s								
MDT	**Midelt**	**142.79**	**325**	PKP	**PKPdf**	**19 58 11.6 -1.9**			
	comp=Z,3.5nm,1.1s,baz=236,slow=6.9,SNR=4.2								
SAML	**Samuel**	**143.87**	**110**	IAMs_20	IAMs_20	20 57 19.5			
	comp=Z,1µm,19.0s								
PCRV	**Puerto La Cruz**	**144.06**	**77**	PKP	**PKPdf**	**19 58 15.6 -0.4**			
	comp=Z,11nm,0.8s,baz=233,slow=20,SNR=2.3								
PLCV	**Puerto La Cruz**	**144.11**	**77**		**PKPdf**	**19 58 15.6 -0.5**			
SKI	**Saint Kitts**	**144.17**	**65**	IAMs_20	IAMs_20	20 53 05.3			
	comp=Z,2µm,21.0s								
ANWB	**Willy Bob**	**144.92**	**64**	IAMs_20	IAMs_20	20 59 37.9			
	comp=Z,2µm,20.0s								
FDF	**Fort de France**	**146.42**	**68**	IAMs_20	IAMs_20	21 00 29.2			
	comp=Z,1µm,20.0s								
GRGR	**Grenville**	**146.59**	**73**	IAMs_20	IAMs_20	21 11 41.0			
	comp=Z,1µm,20.0s								
SVB	**Belmont**	**146.71**	**71**	IAMs_20	IAMs_20	21 06 32.0			
	comp=Z,2µm,21.0s								
MCLT	**Moule a Chique**	**146.89**	**70**	IAMs_20	IAMs_20	21 01 07.8			
	comp=Z,2µm,21.0s								
SPB	**Sao Paulo**	**147.80**	**147**	IAMs_20	IAMs_20	21 08 38.9			
	comp=Z,1µm,20.0s								
TOSP	**Speyside**	**147.84**	**74**	IAMs_20	IAMs_20	21 05 39.1			
	comp=Z,2µm,19.0s								
TOA0	**Torodi Ar. Sit**	**148.07**	**290**		**PKPbc**	**19 58 25.3 -0.7**			
TORD	**Torodi Ar. Bea**	**148.07**	**290**	PKPbc	**PKPdf**	**19 58 23.9 +1.1**			
	comp=Z,19nm,0.9s,baz=54,slow=2.4,SNR=26								
TORD	**Torodi Ar. Bea**	**148.07**	**290**		**PKPbc**	**19 58 25.2 -0.8**			
PTGA	**Pitinga**	**148.85**	**97**	PKPbc	**PKiKP**	**19 58 29.1 -0.4**			
	comp=Z,14nm,0.8s,baz=262,slow=4.4,SNR=7.2								
**PTG

HELC				*i*			19 44 59.1	
	comp=Z,1μm,0.3s							
PAMC	**Pamplona, Colo**	**1.89**	**33**	⇓*i*P		**Pn**	**19 44 32.7**	**+1.1**
PAMC				*e*S		**Sn**	**19 44 58.5**	**+0.7**
PAMC				*i*			19 45 02.4	
	comp=Z,488nm,0.5s							
TOLC	**Tolima**	**1.95**	**234**	*e*P		**Pn**	**19 44 32.8**	**+0.7**
TOLC				*e*S		**Sn**	**19 44 58.4**	**-0.3**
CIBA1	**Ibague, SGC**	**1.97**	**229**	*e*P		**Pn**	**19 44 33.3**	**+1.2**
TAMC	**Tame, Arauca**	**2.06**	**70**	⇓*e*P		**Pn**	**19 44 34.2**	**+1.2**
TAMC				*e*S		**Sn**	**19 45 00.8**	**+0.4**
TAMC				*i*			19 45 11.0	
	comp=Z,335nm,0.4s							
ZARC	**Zaragoza, Cauc**	**2.06**	**327**	⇓*i*P		**Pn**	**19 44 33.1**	**-0.1**
ZARC				*e*S		**Sn**	**19 45 00.4**	**-0.2**
ZARC				*i*			19 45 10.2	
	comp=Z,633nm,0.3s							
ANIL	**Santa Ana**	**2.07**	**233**	*e*P		**Pn**	**19 44 34.2**	**+0.6**
ANIL				*e*S		**Sn**	**19 45 01.5**	**+0.2**
ANIL				*i*			19 45 02.9	
	comp=Z,227nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.22**	**134**	⇓*i*P		**Pn**	**19 44 34.8**	**-0.1**
PTGC				*e*S		**Sn**	**19 45 02.5**	**-1.4**
PTGC				*i*			19 45 08.4	
	comp=Z,253nm,0.3s							
CBOC	**Ciudad Bolivar**	**2.27**	**273**	*e*P		**Pn**	**19 44 36.7**	**+1.0**
CBOC				*e*S		**Sn**	**19 45 05.2**	**+0.1**
CBOC				*i*			19 45 09.1	
	comp=Z,347nm,0.4s							
PRAC	**Prado**	**2.32**	**210**	*e*P		**Pn**	**19 44 36.3**	**0.0**
PRAC				*e*S		**Sn**	**19 45 05.5**	**-0.6**
ORTC	**Ortega, Tolima**	**2.36**	**220**	⇑*e*P		**Pn**	**19 44 37.1**	**+0.3**
ORTC				*e*S		**Sn**	**19 45 06.6**	**-0.5**
ORTC				*i*			19 45 09.0	
	comp=Z,951nm,0.5s							
OCAC	**Ocana**	**2.51**	**10**	⇓*e*P		**Pn**	**19 44 39.7**	**+1.0**
OCAC				*e*S		**Sn**	**19 45 12.7**	**+2.0**
OCAC				*i*			19 45 20.1	
	comp=Z,594nm,0.5s							
UREC	**San Jos de Ur**	**2.67**	**318**	*e*P		**Pn**	**19 44 39.9**	**-0.7**
UREC				*e*S		**Sn**	**19 45 11.6**	**-2.3**
UREC				*i*			19 45 15.0	
	comp=Z,501nm,0.3s							
DBBC	**Dabeiba**	**2.76**	**297**	*e*P		**Pn**	**19 44 42.9**	**+1.1**
SMLC	**San Martn de**	**3.06**	**354**	*e*P		**Pn**	**19 44 45.4**	**0.0**
SMLC				*e*S		**Sn**	**19 45 22.4**	**-0.1**
SMLC				*i*			19 45 36.7	
	comp=Z,226nm,0.6s							
YOTC	**Yotoco, Valle**	**3.13**	**236**	⇑*i*P		**Pn**	**19 44 46.9**	**+0.4**
YOTC				*e*S		**Sn**	**19 45 24.6**	**+0.2**
GUVC	**San Jose del G**	**3.37**	**161**	*e*P		**Pn**	**19 44 49.4**	**0.0**
GUVC				*e*S		**Sn**	**19 45 27.9**	**-1.7**
GUVC				*i*			19 45 33.7	
	comp=Z,349nm,0.4s							
BETC	**Betania**	**3.48**	**209**	*e*P		**Pn**	**19 44 50.3**	**-0.7**
MOTC	**Monteria, Cord**	**3.57**	**328**	*e*P		**Pn**	**19 44 51.0**	**-1.0**
MACC	**Macarena, Meta**	**3.58**	**182**	⇓*i*P		**Pn**	**19 44 51.2**	**-0.9**
MACC				*e*S		**Sn**	**19 45 31.2**	**-3.4**
MACC				*i*			19 45 32.9	
	comp=Z,340nm,0.3s							
MARP	**Paez Belalcaza**	**3.63**	**218**	*e*P		**Pn**	**19 44 53.4**	**+0.3**
SOLC	**Bahia Solano**	**3.68**	**278**	*e*P		**Pn**	**19 44 54.5**	**+1.0**
GARC	**Garzon, Huila**	**3.94**	**206**	*e*P		**Pn**	**19 44 57.0**	**-0.1**
GARC				*e*S		**Sn**	**19 45 41.7**	**-1.7**
GARC				*i*			19 45 43.6	
	comp=Z,476nm,0.3s							
LCBC	**Los crdobas,**	**4.05**	**320**	*e*P		**Pn**	**19 44 58.0**	**-0.2**
LCBC				*e*S		**Sn**	**19 45 46.9**	**+1.4**
LCBC				*i*			19 45 51.0	
	comp=Z,133nm,0.3s							
ARGC	**Ariguani, Magd**	**4.12**	**353**	*e*P		**Pn**	**19 45 00.2**	**+1.0**
PCON	**Cinco Dias**	**4.31**	**218**	*e*P		**Pn**	**19 45 03.1**	**+1.0**
POPC	**Popayan, Colom**	**4.33**	**223**	*e*P		**Pn**	**19 45 03.8**	**+1.6**
SJCC	**San Jacinto, C**	**4.37**	**341**	⇓*i*P		**Pn**	**19 45 01.6**	**-0.9**
SJCC				*e*S		**Sn**	**19 45 49.9**	**-3.2**
SJCC				*i*			19 46 19.2	
	comp=Z,67nm,0.4s							
SDV	**Santo Domingo**	**4.39**	**44**	P		**Pn**	**19 45 04.4**	**+1.6**
	comp=Z,16nm,0.3s,baz=214,slow=11,SNR=40							
SDV				S		**Sn**	**19 45 52.8**	**-0.9**
	comp=Z,48nm,0.3s,baz=289,slow=22,SNR=18							
SDV	**Santo Domingo**	**4.39**	**44**	*e*P		**Pn**	**19 45 04.5**	**+1.6**
FLOC	**Florencia**	**4.55**	**205**	*e*P		**Pn**	**19 45 05.6**	**+0.6**
SOTA	**Rioblanco**	**4.59**	**219**	*e*P		**Pn**	**19 45 07.6**	**+1.8**
CAPC	**Capurgana**	**4.59**	**309**	*e*P		**Pn**	**19 45 04.2**	**-1.2**
URIC	**Uribia, Colomb**	**6.17**	**16**	*e*P		**Pn**	**19 45 26.2**	**-0.1**
URIC				*e*S		**Sn**	**19 46 31.0**	**-4.9**
URIC				*i*			19 46 39.0	
	comp=Z,34nm,0.3s							
PCRV	**Puerto La Cruz**	**10.03**	**63**	P		**Pn**	**19 46 18.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=294,slow=4.2,SNR=7.9							
PCRV				S		**Sn**	**19 48 05.9**	**-3.2**
	comp=Z,4.9nm,0.3s,baz=170,slow=12,SNR=8.9							
APG	**El Apazote**	**18.84**	**301**	LR		LR	19 57 47.8	
	comp=Z,217nm,19.3s,baz=275,slow=44							
LPAZ	**La Paz**	**22.58**	**166**	P		**P**	**19 48 46.9**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=322,slow=5.6,SNR=6.0							
SIV	**San Ignacio**	**24.97**	**150**	P		**P**	**19 49 07.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=331,slow=9.2,SNR=3.9							
PLCA	**Paso Flores**	**46.34**	**177**	P		**P**	**19 52 08.3**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=319,slow=11,SNR=2.2							
ARCES	**ARCESS Array B**	**87.89**	**20**	P		**P**	**19 56 30.8**	**+0.8**
	comp=Z,3.6nm,1.1s,baz=266,slow=3.4,SNR=5.1							
ASAR	**Alice Springs**	**147.98**	**233**	PKPbc		**PKPbc**	**20 03 27.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=117,slow=3.6,SNR=7.0							
WRA	**Warramunga Arr**	**149.28**	**240**	PKPbc		**PKPbc**	**20 03 29.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=108,slow=2.9,SNR=16							

*IDC **19** 19:51:09.4±0.5, 8.°73N×39.°43W, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.3/42, mbtmp4.3/25, ML3.9/2, MS4.7/8, Ms1 4.7/8, ms1mx4.3/39, Error ellipse: s-maj=18.7km s-min=10.9km az=141.0*

*BJI **19** 19:51:10.0±0.0, 8.°80N×39.°50W, h10km, Ms7 5.1/1*

*NEIC **19** 19:51:10.2±2.5, 8.°70N±0.°09×39.°41W±0.°08, h10km±1km, mb4.8/25, Mwc5.3(GCMT), Error ellipse: s-maj=17.2km s-min=10.7km az=222.0*

*NEIC **19** 19:51:14, 8.°89N×39.°46W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=-0.98; $M_{\theta\theta}$=0.04; $M_{\phi\phi}$=0.94; $M_{r\theta}$=0.26; $M_{\theta\phi}$=-0.17; $M_{r\phi}$=0.32; Fault plane solution: M_0=1.05000×10^{17} NP1:ϕ_s=335.00000°, δ=39.00000°, λ=-114.00000°. NP2:ϕ_s=185.00000°, δ=55.00000°, λ=-71.00000°. Principal axes: T 1.0046, Pl=8.0000°, Azm=262.0000°; N 0.0932, Pl=15.0000°, Azm=354.0000°; P -1.0978, Pl=73.0000°, Azm=145.0000°;*

*GCMT **19** 19:51:14.1±0.2, 8.°92N±0.°02×39.°45W±0.°01, h12km, MW5.3/125, Moment Tensor Solution. s65,c89; s125,c216; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.97±.02; $M_{\theta\theta}$=0.09±.02; $M_{\phi\phi}$=0.87±.02; $M_{r\theta}$=0.47±.07; $M_{\theta\phi}$=-0.15±.01; $M_{r\phi}$=0.23±.06; Best double couple: M_0=1.04500×10^{17} NP1:ϕ_s=331.00000°, δ=44.00000°, λ=-122.00000°. NP2:ϕ_s=192.00000°, δ=54.00000°, λ=-63.00000°. Principal axes: T 0.9130, Pl=5.0000°, Azm=263.0000°; N 0.2640, Pl=22.0000°, Azm=355.0000°; P -1.1760, Pl=68.0000°, Azm=160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **19** 19:51:18.7±0.0, 9.°46N×39.°55W, h33km, mb4.8, Ms5.3*

ISC 19 19:51:10.9±0.4, 8.°79N±0.°07×39.°39W±0.°07, h10km, n151, σ1§40/141, mb4.6/50, MS4.6/6, 6C-4D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSB	**Rosrio**	**12.53**	**202**	*e*P	**Pn**	**19 54 07.4**	**-1.9**
MDP	**Montagnes des**	**13.65**	**255**	Pn	**Pn**	**19 54 24.1**	**-0.6**
	0.5nm,0.3s,baz=63,slow=16,SNR=6.0						
MDP				LR	LR	19 58 47.3	
	comp=Z,3μm,20.5s,baz=70,slow=34						
TMAB	**Tom-Au,PA,Br**	**14.07**	**218**	*e*P	**Pn**	**19 54 29.1**	**-1.4**
RCBR	**Riachuelo**	**14.93**	**166**	Pn	**Pn**	**19 54 42.3**	**+0.1**
	0.7nm,0.3s,baz=339,slow=13,SNR=4.2						
RCBR				LR	LR	19 58 58.2	
	comp=Z,1μm,21.2s,baz=323,slow=32						
RCBR	**Riachuelo**	**14.93**	**166**		Pn	19 54 36.0	-6.1
MCPB	**Macapa, AP**	**15.55**	**235**	*e*P	**Pn**	**19 54 50.5**	**+0.1**
SACV	**Santiago Islan**	**16.62**	**67**	Pn	**Pn**	**19 54 59.5**	**-4.7**
PRPB	**Parauapebas**	**18.13**	**215**	*e*P	**Pn**	**19 55 23.1**	**+0.1**
MALB	**Monte Alegre**	**18.20**	**235**	*e*P	**Pn**	**19 55 23.6**	**-0.3**
SMTB	**Santa Maria do**	**19.34**	**205**	*e*P	**Pn**	**19 55 37.4**	**-0.3**
ITTB	**Itaituba**	**20.89**	**232**	*e*P	**P**	**19 55 53.5**	**+0.1**
H05S1	**Guadeloupe/Mar**	**21.73**	**287**	T	T	20 18 20.3	
	SNR=260						
SDBA	**SAO DESIDERIO**	**21.75**	**195**	*e*P	**P**	**19 56 01.7**	**-1.1**
GDU01	**Guandu, BA**	**22.36**	**180**	*e*P	**P**	**19 56 08.9**	**-0.4**
NPGB	**Novo Progresso**	**22.37**	**226**	*e*P	**P**	**19 56 10.2**	**+0.7**
PEXB	**Peixe**	**22.56**	**203**	*e*P	**P**	**19 56 10.6**	**-1.0**
PTGA	**Pitinga**	**22.57**	**246**	P	**P**	**19 56 11.9**	**+0.3**
	23nm,1.1s,baz=66,slow=11,SNR=24						
PTGA				LR	LR	20 04 54.7	
	comp=Z,2μm,20.1s,baz=65,slow=37						
PTGA	**Pitinga**	**22.57**	**246**	P	**P**	**19 56 09.2**	**-2.4**
JANB	**Januaria**	**24.18**	**192**	*e*P	**P**	**19 56 27.3**	**-0.4**
MACA	**Manacapuru-AM**	**24.32**	**242**	*e*P	**P**	**19 56 32.2**	**+3.2**
PCRV	**Puerto La Cruz**	**24.93**	**275**	LR	LR	20 07 07.4	
	comp=Z,1μm,19.1s,slow=38						
CLDB	**Colider**	**25.45**	**220**	*e*P	**P**	**19 56 39.7**	**+0.5**
BDFB	**Brasilia**	**25.73**	**199**	P	**P**	**19 56 41.9**	**0.0**
	20nm,1.0s,baz=23,slow=11,SNR=16						
BDFB				LR	LR	20 06 27.1	
	comp=Z,962nm,19.0s,baz=6.8,slow=36						
BDFB	**Brasilia**	**25.73**	**199**	P	**P**	**19 56 41.8**	**0.0**
BDFB				IAmb	IAmb	19 56 45.8	
	comp=Z,28nm,1.0s						
ARAG	**Araguaiana, MT**	**27.27**	**207**	*e*P	**P**	**19 56 55.6**	**0.0**
SJMB	**Sao Joao De Ma**	**27.37**	**184**	*e*P	**P**	**19 56 58.6**	**+2.1**
BSFB	**Barra de Sao F**	**27.48**	**183**	*e*P	**P**	**19 56 58.3**	**+0.8**
SJG	**San Juan**	**27.59**	**292**	LR	LR	20 06 07.7	
	comp=Z,2μm,20.8s,baz=90,slow=33						
RIB01	**Linhares ES**	**27.94**	**182**	*e*P	**P**	**19 57 03.7**	**+2.1**
IPMB	**Ipameri, GO**	**27.99**	**198**	*e*P	**P**	**19 57 03.2**	**+1.1**
SAML	**Samuel**	**29.53**	**234**	*e*P	**P**	**19 57 16.3**	**+0.5**
H10N3	**ASCENSION HYDR**	**29.80**	**123**	T	T	20 28 48.8	
	baz=303,slow=75,SNR=64						
H10N2	**ASCENSION HYDR**	**29.80**	**123**	T	T	20 28 47.0	
	baz=303,slow=75,SNR=59						
H10N1	**ASCENSION HYDR**	**29.82**	**123**	T	T	20 28 48.1	
	baz=303,slow=75,SNR=82						
VILB	**Vilhena**	**29.89**	**224**	*e*P	**P**	**19 57 20.6**	**+1.5**
BSCB	**Bom Sucesso**	**30.07**	**190**	*e*P	**P**	**19 57 22.4**	**+1.8**
H10S3	**ASCENSION HYDR**	**30.29**	**125**	T	T	20 29 26.5	
	baz=299,slow=74,SNR=61						
ITRB	**Iturama**	**30.30**	**201**	*e*P	**P**	**19 57 24.7**	**+2.1**
H10S2	**ASCENSION HYDR**	**30.30**	**125**	T	T	20 29 28.2	
	baz=281,slow=74,SNR=24						
SDV	**Santo Domingo**	**30.87**	**273**	*e*P	P	19 57 33.5	+5.6
PTLB	**Pontes e Lacer**	**31.02**	**219**	*e*P	**P**	**19 57 29.3**	**+0.3**
PCMB	**Pacaembu**	**32.37**	**201**	*e*P	**P**	**19 57 41.0**	**+0.2**
VAO	**Valinhos**	**32.45**	**193**	*e*P	**P**	**19 57 43.8**	**+2.3**
ETMB	**Extrema**	**32.47**	**236**	*e*P	**P**	**19 57 42.4**	**+0.5**
SIV	**San Ignacio**	**32.66**	**221**	P	**P**	**19 57 43.4**	**0.0**
	comp=Z,9.7nm,1.0s,baz=75,slow=9.7,SNR=13						
SIV				LR	LR	20 10 29.0	
	comp=Z,2μm,19.4s,baz=0.5,slow=36						
SPB	**Sao Paulo**	**33.12**	**194**	*e*P	**P**	**19 57 48.8**	**+1.4**
TRCB	**Terra Rica**	**33.96**	**202**	*e*P	**P**	**19 57 56.8**	**+2.0**
DBIC	**Dimbokro**	**34.28**	**91**	P	**P**	**19 57 57.0**	**-0.7**
	comp=Z,8.4nm,0.7s,baz=255,slow=8.9,SNR=10						
DBIC	**Dimbokro**	**34.28**	**91**	P	**P**	**19 57 56.9**	**-0.7**
ROSC	**El Rosal**	**34.89**	**266**	P	**P**	**19 58 04.6**	**+1.2**
	comp=Z,22nm,0.7s,baz=141,slow=3.3,SNR=9.5						
KOWA	**Kowa**	**35.08**	**77**	P	**P**	**19 58 05.1**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=266,slow=9.1,SNR=4.7						
KOWA				LR	LR	20 10 52.6	
	comp=Z,3μm,20.3s,baz=217,slow=34						
TIJ01	**Guaruva-PR**	**35.17**	**195**	*e*P	**P**	**19 58 07.5**	**+2.3**
PTGB	**Pitanga**	**35.52**	**200**	*e*P	**P**	**19 58 10.1**	**+1.9**
LPAZ	**La Paz**	**37.81**	**229**	P	**P**	**19 58 27.9**	**-0.6**
	comp=Z,9.8nm,0.9s,baz=352,slow=8.6,SNR=8.0						
LPAZ	**La Paz**	**37.81**	**229**	P	**P**	**19 58 26.9**	**-1.6**
LPAZ				IAmb	IAmb	19 58 31.5	
	comp=Z,21nm,1.1s						
MDT	**Midelt**	**40.06**	**48**	P	**P**	**19 58 49.0**	**+2.4**
	comp=Z,2.0nm,0.8s,baz=247,slow=5.9,SNR=4.1						
LVC	**Limon Verde**	**42.54**	**222**	P	**P**	**19 59 05.3**	**-2.1**
	comp=Z,1.5nm,0.4s,baz=35,slow=14,SNR=7.5						
ESDC	**Sonseca Array**	**44.10**	**40**	P	**P**	**19 59 20.1**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=231,slow=9.3,SNR=5.4						
ESDC	**Sonseca Array**	**44.10**	**40**	P	**P**	**19 59 17.5**	**-2.0**
BG3	**Lake Jocassee**	**47.55**	**310**	P	**P**	**19 59 48.4**	**+1.6**
BG3				IAmb	IAmb	20 00 04.6	
	comp=Z,12nm,1.1s						
TZTN	**Tazewell**	**48.62**	**312**	P	**P**	**19 59 51.5**	**-3.5**
W50A	**Signal Mountai**	**49.44**	**309**	P	**P**	**20 00 02.7**	**+1.3**
W50A				IAmb	IAmb	20 00 13.4	
	comp=Z,18nm,1.1s						
SWET	**Sewanee**	**49.92**	**309**	P	**P**	**20 00 04.5**	**-0.6**
SWET				IAmb	IAmb	20 00 16.5	
	comp=Z,14nm,1.1s						
KEST	**Kesra**	**51.79**	**51**	P	**P**	**20 00 20.6**	**+1.4**
	comp=Z,5.2nm,1.0s,baz=278,slow=6.0,SNR=4.7						
OSSC	**Osservatorio P**	**55.94**	**43**	P	**P**	**20 00 51.2**	**+1.9**
OSSC				IAmb	IAmb	20 01 02.8	
	comp=Z,8.9nm,0.9s						
P40A	**Paris**	**55.95**	**312**	P	**P**	**20 00 48.8**	**-0.6**
P40A				IAmb	IAmb	20 00 49.7	
	comp=Z,9.4nm,0.8s						
MEM	**Membach**	**56.00**	**33**	P	**P**	**20 00 50.7**	**+1.1**
BTNL	**Ternell**	**56.06**	**33**	P	**P**	**20 00 49.5**	**-0.5**
DAVA	**Samuels**	**56.62**	**38**	*e*P	**P**	**20 00 55.0**	**+0.6**
	comp=Z,12nm,1.1s						
FETA	**Feichten**	**57.03**	**39**	*e*P	**P**	**20 00 57.4**	**+0.2**
	comp=Z,5.7nm,1.2s						
PLCA	**Paso Flores**	**57.03**	**208**	P	**P**	**20 00 57.1**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=39,slow=7.7,SNR=6.5						
PLCA	**Paso Flores**	**57.03**	**208**	*e*P	**P**	**20 00 58.3**	**+1.1**
CTI	**Castel Tesino**	**57.20**	**40**	P	**P**	**20 00 59.0**	**+0.6**
CTI				IAmb	IAmb	20 01 03.2	
	comp=Z,9.8nm,1.1s						
RETA	**Reutte**	**57.25**	**38**	*e*P	**P**	**20 00 59.5**	**+0.9**
	comp=Z,10nm,1.4s						
MOTA	**Moosalm**	**57.40**	**39**	*e*P	**P**	**20 01 00.3**	**+0.5**
	comp=Z,5.3nm,0.9s						
SQTA	**Sankt Quirin**	**57.41**	**39**	*e*P	**P**	**20 01 00.2**	**+0.3**
	comp=Z,6.3nm,0.7s						
WATA	**Walderalm**	**57.68**	**39**	*e*P	**P**	**20 01 02.7**	**+0.9**
	comp=Z,5.6nm,0.8s						
WTTA	**Wattenberg**	**57.69**	**39**	*e*P	**P**	**20 01 02.5**	**+0.6**
	comp=Z,5.8nm,0.8s,SNR=4.5						
ABTA	**Abtersbach**	**58.03**	**40**	*e*P	**P**	**20 01 04.9**	**+0.7**
	comp=Z,14nm,1.6s						
GRF	**Grafenberg Arr**	**58.49**	**36**	*e*P	**P**	**20 01 09.0**	**+1.8**
	comp=Z,9.3nm,0.9s,baz=243,slow=7.2						
PRED	**Cave del Predi**	**58.58**	**40**	P	**P**	**20 01 07.8**	**-0.2**
PRED				IAmb	IAmb	20 01 12.2	
	comp=Z,15nm,1.4s						
KBA	**Koelnbreinsper**	**58.68**	**40**	*e*P	**P**	**20 01 09.6**	**+0.7**
	comp=Z,9.1nm,1.2s						
MYKA	**Terra Mystica**	**58.70**	**40**	*e*P	**P**	**20 01 09.0**	**+0.1**
	comp=Z,8.5nm,0.7s						
OBKA	**Obir**	**59.23**	**41**	*e*P	**P**	**20 01 13.0**	**+0.4**
	comp=Z,14nm,0.8s,SNR=12						
NKC	**Novy Kostel**	**59.44**	**36**	*e*P	**P**	**20 01 16.3**	**+2.5**
MOA	**Molln**	**59.56**	**39**	*e*P	**P**	**20 01 15.1**	**+0.4**
	comp=Z,4.0nm,0.8s,SNR=5.8						
GERES	**GERESS Array B**	**59.60**	**38**	P	**P**	**20 01 16.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=251,slow=4.1,SNR=5.4						
GERES	**GERESS Array B**	**59.60**	**38**	P	**P**	**20 01 15.3**	**+0.2**
SOKA	**Soboth**	**59.60**	**40**	*e*P	**P**	**20 01 15.3**	**+0.2**
	comp=Z,2.9nm,0.7s						
KHC	**Kasperske Hory**	**59.64**	**37**	*e*P	**P**	**20 01 15.6**	**+0.3**
KHC				*ex*	x	20 01 24.0	
WMOK	**Wichita Mounta**	**59.96**	**305**	P	**P**	**20 01 15.2**	**-2.5**
ARSA	**Arzberg**	**60.13**	**40**	*e*P	**P**	**20 01 19.9**	**+1.2**
	comp=Z,2.5nm,0.6s						
CLL	**Collm**	**60.22**	**35**	*e*(P)	**P**	**20 01 22.0**	**+2.9**
PRU	**Pruhonice**	**60.56**	**37**	*e*P	**P**	**20 01 23.2**	**+1.7**
PRU				*ex*	x	20 01 30.1	
CONA	**Conrad Observa**	**60.58**	**39**	*e*P	**P**	**20 01 21.5**	**-0.3**
	comp=Z,6.8nm,1.3s						
TREC	**Trest**	**60.86**	**38**	*e*P	**P**	**20 01 24.4**	**+0.8**
PDG	**Podgorica**	**61.14**	**46**	⇓P	**P**	**20 01 28.0**	**+2.4**
KRUC	**Moravsky**	**61.33**	**38**	*e*P	**P**	**20 01 27.9**	**+1.1**
VRAC	**Vranov**	**61.54**	**38**	⇓P	**P**	**20 01 29.2**	**+1.0**
VRAC	**Vranov**	**61.54**	**38**	*e*P	**P**	**20 01 29.1**	**+0.9**
CHVC	**Chvalec**	**61.69**	**37**	*e*P	**P**	**20 01 30.7**	**+1.5**
DPC	**Dobruska-Polom**	**61.76**	**37**	*e*P	**P**	**20 01 32.3**	**+2.6**
OSTC	**Ostas**	**61.77**	**37**	*e*P	**P**	**20 01 31.3**	**+1.5**
OSTC				*ex*	x	20 01 38.0	
MORC	**Moravsky Berou**	**62.28**	**38**	*e*P	**P**	**20 01 34.4**	**+1.1**
VYHS	**Vyhne**	**62.65**	**40**	*e*P	**P**	**20 01 37.1**	**+1.4**
OKC	**Ostrava-Krasne**	**62.67**	**38**	*e*P	**P**	**20 01 37.5**	**+1.7**
LANS	**Liptovska Anna**	**63.25**	**39**	*e*P	**P**	**20 01 42.6**	**+2.9**
TX31	**Lajitas Ar. Si**	**63.35**	**298**	P	**P**	**20 01 41.4**	**+0.6**
TX31				IAmb	IAmb	20 01 43.3	
	comp=Z,4.3nm,0.7s						
TX32	**Lajitas Array**	**63.35**	**298**	P	**P**	**20 01 41.2**	**+0.4**
TXAR	**Lajitas Array**	**63.35**	**298**	P	**P**	**20 01 40.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=115,slow=6.4,SNR=10						
TXAR	**Lajitas Array**	**63.35**	**298**	P	**P**	**20 01 40.1**	**-0.7**
MDVR	**Moldovita**	**63.47**	**44**	⇓P	**P**	**20 01 42.9**	**+1.7**
BZS	**Buzias**	**63.62**	**43**	⇑P	**P**	**20 01 43.6**	**+1.5**
SUMG	**Summit**	**63.74**	**0**	P	**P**	**20 01 42.9**	**-0.1**
SUMG	**Summit**	**63.74**	**0**	*i* P	**P**	**20 01 43.1**	**+0.1**
SUMG	**Summit**	**63.74**	**0**	*i* P	**P**	**20 01 43.1**	**+0.1**
NOA	**NORSAR Array B**	**64.03**	**25**	P	**P**	**20 01 46.7**	**+2.1**
	comp=Z,1.9nm,0.9s,baz=237,slow=6.8,SNR=3.7						
MNTX	**Cornudas Mount**	**65.03**	**301**	P	**P**	**20 01 51.2**	**-0.5**
MNTX				IAmb	IAmb	20 02 03.1	
	comp=Z,14nm,1.5s						
ARR	**Arges**	**65.62**	**44**	⇑P	**P**	**20 01 57.1**	**+1.7**
VOIR		**65.92**	**44**	⇑P	**P**	**20 01 58.2**	**+0.9**
BURAR	**Bucovina Array**	**66.52**	**42**	⇓P	**P**	**20 02 02.1**	**+1.0**
MLR	**Muntele Rosu**	**66.55**	**44**	⇑P	**P**	**20 02 02.7**	**+1.3**
SORM	**Soroca**	**68.69**	**42**	⇑P	**P**	**20 02 15.2**	**+0.6**
DAG	**Danmarks Havn**	**68.87**	**5**	*i* P	**P**	**20 02 15.7**	**+0.5**
	comp=Z,2.9nm,0.8s						
DAG	**Danmarks Havn**	**68.87**	**5**	*i* P	**P**	**20 02 15.8**	**+0.5**
DAG				IAmb	IAmb	20 02 17.1	
	comp=Z,2.9nm,0.8s						
AKASG	**Malin Array Be**	**69.74**	**39**	P	**P**	**20 02 21.2**	**0.0**
	comp=Z,2.2nm,0.7s,baz=254,slow=6.5,SNR=7.8						
AKBB	**Malin Array Si**	**69.74**	**39**	P	**P**	**20 02 21.1**	**0.0**
IMW	**Indian Meadow**	**70.67**	**313**	P	**P**	**20 02 28.3**	**+0.9**
IMW				IAmb	IAmb	20 02 32.0	
	comp=Z,8.5nm,1.1s						
FINES	**FINESS Array B**	**70.72**	**28**	P	**P**	**20 02 27.7**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=251,slow=5.8,SNR=4.2						
BRTR	**Keskin Array B**	**71.39**	**51**	P	**P**	**20 02 32.9**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=218,slow=6.1,SNR=4.9						
BOSA	**Boshof**	**72.55**	**124**	P	**P**	**20 02 38.3**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=294,slow=4.5,SNR=6.2						
BOSA	**Boshof**	**72.55**	**124**	P	**P**	**20 02 38.4**	**-0.4**
BOSA				IAmb	IAmb	20 02 56.5	
	comp=Z,12nm,1.2s						
HLID	**Hailey**	**73.15**	**313**	P	**P**	**20 02 41.3**	**-0.8**
ARCES	**ARCESS Array B**	**73.17**	**19**	P	**P**	**20 02 41.4**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=180,slow=3.2,SNR=1.7						
YKA	**Yellowknife Ar**	**75.43**	**332**	P	**P**	**20 02 54.5**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=95,slow=7.1,SNR=3.7						
NVAR	**Mina Array Bea**	**75.92**	**307**	P	**

baz=297,slow=74,SNR=17
H10S2 ASCENSION HYDR 30.29 125 T T 20 44 28.5
baz=283,slow=74,SNR=13
SDV Santo Domingo 30.87 273 *e*P **P** **20 12 30.7 0.0**
PTLB Pontes e Lacer 31.02 219 *e*P **P** **20 12 32.8 +1.1**
H07S1 FLORES T-PHASE 31.35 12 T T 20 44 27.7
SNR=4.0
PCMB Pacaembu 32.36 201 *e*P **P** **20 12 44.4 +1.0**
VAO Valinhos 32.44 193 *e*P **P** **20 12 45.9 +1.7**
ETMB Extrema 32.47 236 *e*P **P** **20 12 45.0 +0.5**
SIV San Ignacio 32.66 221 P **P** **20 12 46.3 +0.1**
comp=Z,6.3nm,0.9s,baz=74,slow=10,SNR=20
TRCB Terra Rica 33.95 202 *e*P **P** **20 12 58.5 +1.1**
TIC Toumodi 34.11 91 *e*P **P** **20 12 59.5 +0.5**
LIC Lamto 34.15 92 *e*P **P** **20 12 58.5 -0.8**
comp=Z,19nm,0.8s
DBIC Dimbokro 34.27 91 P **P** **20 12 59.7 -0.6**
comp=Z,11nm,0.7s,baz=262,slow=8.6,SNR=16
DBIC LR LR 20 24 24.2
comp=Z,2µm,19.8s,baz=262,slow=32
DBIC Dimbokro 34.27 91 P **P** **20 13 00.1 -0.2**
DBIC IAmb IAmb 20 13 02.5
comp=Z,14nm,0.8s
KIC Kosan Boka 34.42 92 *e*P P 20 12 56.0 -5.6
comp=Z,9.6nm,1.0s
ROSC El Rosal 34.90 266 P **P** **20 13 05.8 -0.3**
comp=Z,9.1nm,0.7s,baz=111,slow=23,SNR=2.6
ROSC LR LR 20 27 21.0
comp=Z,3µm,21.2s,baz=88,slow=36
KOWA Kowa 35.08 77 P **P** **20 13 07.9 +0.6**
comp=Z,2.3nm,0.7s,baz=232,slow=5.3,SNR=4.3
PTGB Pitanga 35.51 200 *e*P **P** **20 13 12.3 +1.4**
LPAZ La Paz 37.81 229 P **P** **20 13 30.6 -0.7**
comp=Z,7.5nm,0.9s,baz=26,slow=8.0,SNR=16
LPAZ LR LR 20 28 43.4
comp=Z,990nm,20.4s,baz=52,slow=36
LPAZ La Paz 37.81 229 P **P** **20 13 31.5 +0.3**
LPAZ La Paz 37.81 229 *e*P **P** **20 13 31.6 +0.3**
ITAB Concordia 37.86 199 *e*P **P** **20 13 31.8 +0.9**
CPUP Villa Florida 39.00 206 P **P** **20 13 39.5 -1.0**
comp=Z,1.5nm,1.0s,baz=65,slow=17,SNR=2.3
CPUP PcP **PcP** **20 15 49.5 -1.3**
comp=Z,2.4nm,1.0s,baz=25,slow=8.3,SNR=2.9
CPUP LR LR 20 29 48.1
comp=Z,2µm,18.2s,baz=18,slow=36
OTAV Otavalo 39.82 260 *e*P **P** **20 13 47.5 -0.5**
MDT Midelt 40.06 48 P **P** **20 13 49.2 -0.2**
comp=Z,2.3nm,0.9s,baz=260,slow=7.8,SNR=4.6
PNCL Nicolau / Gran 40.32 39 *e*P **P** **20 13 53.5 +2.2**
comp=Z,28nm,1.6s
TOA0 Torodi Ar. Sit 40.53 80 P **P** **20 13 52.9 -0.6**
TORD Torodi Ar. Bea 40.53 80 P **P** **20 13 51.9 -1.5**
comp=Z,1.0nm,0.6s,baz=276,slow=7.9,SNR=14
TORD LR LR 20 28 49.5
comp=Z,3µm,19.5s,baz=265,slow=34
TORD Torodi Ar. Bea 40.53 80 P **P** **20 13 51.4 -2.0**
EVO Evora 40.90 39 *e*P **P** **20 13 55.3 -0.8**
comp=Z,27nm,2.4s
PMRV Marv??o 41.83 38 *e*P **P** **20 14 06.1 +2.3**
comp=Z,30nm,1.7s
PCBR Castelo Branco 42.04 37 *e*P P 20 14 13.9 +8.5
comp=Z,26nm,1.6s
PVIS Viseu 42.34 36 *e*P **P** **20 14 09.9 +1.9**
comp=Z,28nm,1.5s
MTE Manteigas 42.35 37 *e*P **P** **20 14 09.2 +1.1**
comp=Z,27nm,1.8s
PLTB Pedras Altas 42.54 198 *e*P **P** **20 14 10.4 +0.9**
PVRL Vila Real 42.81 36 *e*P **P** **20 14 13.7 +1.9**
comp=Z,35nm,1.4s
PGAV Gavieira, Arco 42.95 34 *e*P P 20 14 23.0 +10
comp=Z,53nm,1.8s
PBRG Braganca 43.71 36 *e*P **P** **20 14 21.1 +2.0**
comp=Z,32nm,2.1s
ESDC Sonseca Array 44.11 40 P **P** **20 14 22.5 +0.1**
comp=Z,1.5nm,1.0s,baz=243,slow=9.0,SNR=6.9
ESDC LR LR 20 29 35.1
comp=Z,1µm,20.0s,baz=245,slow=32
W50A Signal Mountai 49.46 309 P **P** **20 15 05.2 +0.9**
W50A IAmb IAmb 20 15 24.8
comp=Z,14nm,1.1s
KEST Kesra 51.79 51 P **P** **20 15 23.2 +1.3**
comp=Z,6.0nm,0.9s,baz=210,slow=4.2,SNR=6.3
H09W1 TRISTAN DA CUN 52.20 153 T T 21 11 48.6
SNR=6.5
FVM French Village 54.27 311 P **P** **20 15 38.8 -1.3**
FVM IAmb IAmb 20 15 53.6
comp=Z,15nm,1.1s
P40A Paris 55.97 312 P **P** **20 15 53.2 +0.9**
VAE Valguarnera 56.20 51 LR LR 20 41 50.6
comp=Z,686nm,18.6s,baz=332,slow=38
S39A Bolivar 56.37 310 P **P** **20 15 56.6 +1.3**
S39A IAmb IAmb 20 16 12.3
comp=Z,14nm,1.1s
DAVOX Davos/Dischmat 56.41 39 P **P** **20 15 55.9 +0.3**
comp=Z,4.7nm,1.0s,baz=247,slow=7.8,SNR=5.7
DAVA Damuels 56.63 38 *e*P **P** **20 15 57.6 +0.5**
comp=Z,14nm,1.1s,SNR=4.2
PLCA Paso Flores 57.02 208 P **P** **20 15 59.0 -0.8**
comp=Z,2.7nm,0.8s,baz=30,slow=7.9,SNR=4.2
PLCA Paso Flores 57.02 208 P **P** **20 15 58.5 -1.4**
PLCA Paso Flores 57.02 208 *e*P **P** **20 15 59.4 -0.4**
FETA Feichten 57.03 39 *e*P **P** **20 16 00.6 +0.6**
comp=Z,6.5nm,0.9s
RETA Reutte 57.26 38 *e*P **P** **20 16 01.9 +0.4**
comp=Z,14nm,1.5s
MOTA Moosalm 57.40 39 *e*P **P** **20 16 02.8 +0.1**
comp=Z,6.5nm,1.0s
SQTA Sankt Quirin 57.42 39 *e*P **P** **20 16 03.2 +0.5**
comp=Z,6.6nm,0.8s,SNR=6.5
WATA Walderalm 57.69 39 *e*P **P** **20 16 05.1 +0.5**
comp=Z,9.4nm,1.1s
WTTA Wattenberg 57.70 39 *e*P **P** **20 16 04.1 -0.6**
comp=Z,7.3nm,1.3s
ABTA Abfaltersbach 58.04 40 *e*P **P** **20 16 07.7 +0.7**
comp=Z,14nm,1.3s
GRF Grafenberg Arr 58.50 36 *e*P **P** **20 16 11.1 +1.0**
comp=Z,10nm,1.0s,baz=242,slow=6.7
GRF *e*L L 20 51 35.8
comp=Z,3µm,21.4s
KBA Koelnbreinsper 58.69 40 *e*P **P** **20 16 12.1 +0.5**
comp=Z,10nm,1.4s
FRB Frobisher Bay 58.70 345 P **P** **20 16 11.3 +0.2**
comp=Z,9.9nm,0.8s,baz=120,slow=3.1,SNR=3.9
MYKA Terra Mystica 58.70 40 *e*P **P** **20 16 12.7 +1.0**
comp=Z,7.3nm,0.9s
OBKA Obir 59.24 41 *e*P **P** **20 16 15.8 +0.4**
comp=Z,13nm,1.1s
NKC Novy Kostel 59.45 36 *e*P **P** **20 16 17.5 +0.9**
MOA Molln 59.57 39 *e*P **P** **20 16 17.7 +0.2**
comp=Z,4.6nm,0.8s
GERES GERESS Array B 59.61 38 P **P** **20 16 17.9 0.0**
comp=Z,1.5nm,0.9s,baz=261,slow=5.3,SNR=7.3
GERES GERESS Array B 59.61 38 P **P** **20 16 16.6 -1.3**
KHC Kasperske Hory 59.65 37 *e*P **P** **20 16 18.1 0.0**
KHC *ex* x 20 16 27.2
CLL Collm 60.23 35 *e*P **P** **20 16 22.0 0.0**
PRU Pruhonice 60.57 37 *e*P **P** **20 16 23.8 -0.5**
CONA Conrad Observa 60.59 39 *e*P **P** **20 16 25.2 +0.6**
comp=Z,7.0nm,1.2s
TREC Trest 60.87 38 *e*P **P** **20 16 26.9 +0.5**
PDG Podgorica 61.14 46 ⇑P **P** **20 16 28.7 +0.3**
KRUC Moravsky 61.33 38 *e*P **P** **20 16 30.1 +0.5**
VRAC Vranov 61.55 38 P **P** **20 16 31.7 +0.8**
comp=Z,4.0nm,0.9s,baz=269,slow=5.9,SNR=5.1
VRAC Vranov 61.55 38 ⇑P **P** **20 16 31.8 +0.8**
VRAC Vranov 61.55 38 *e*P **P** **20 16 31.2 +0.2**
MODS Modra-Piesok 61.64 39 *e*P **P** **20 16 31.8 +0.2**
CHVC Chvalec 61.70 37 *e*P **P** **20 16 32.7 +0.7**
DPC Dobruska-Polom 61.77 37 *e*P **P** **20 16 33.7 +1.2**
OSTC Ostas 61.78 37 *e*P **P** **20 16 33.8 +1.2**
ULM Lac du Bonnet 62.20 323 P **P** **20 16 34.8 -0.6**
comp=Z,3.7nm,0.7s,baz=143,slow=4.4,SNR=6.7
ULM Lac du Bonnet 62.20 323 P **P** **20 16 33.3 -2.0**
ULM IAmb IAmb 20 16 49.6
comp=Z,9.4nm,1.1s
MORC Moravsky Berou 62.29 38 *e*P **P** **20 16 36.4 +0.4**
VYHS Vyhne 62.65 40 *e*P **P** **20 16 39.0 +0.5**
TXAR Lajitas Array 63.36 298 P **P** **20 16 43.6 0.0**
comp=Z,1.5nm,0.6s,baz=104,slow=6.8,SNR=15
TXAR Lajitas Array 63.36 298 P **P** **20 16 43.8 +0.2**
TX31 Lajitas Ar. Si 63.36 298 P **P** **20 16 44.3 +0.7**
MDVR Moldovita 63.48 44 ⇑P **P** **20 16 44.5 +0.5**
BZS Buzias 63.63 43 ⇑P **P** **20 16 44.7 -0.3**
SUMG Summit 63.76 0 P **P** **20 16 46.7 +0.8**
SUMG Summit 63.76 0 *i* P **P** **20 16 46.0 +0.2**
comp=Z,26nm,0.8s
SUMG Summit 63.76 0 *i* P **P** **20 16 46.0 +0.2**
SUMG IAmb IAmb 20 16 49.8
comp=Z,26nm,0.8s
NOA NORSAR Array B 64.05 25 P **P** **20 16 47.5 0.0**
comp=Z,0.6nm,0.8s,baz=280,slow=18,SNR=4.5
NOA LR LR 20 40 55.1
comp=Z,482nm,20.1s,baz=60,slow=32
KOLS Kolonicke sedl 64.96 40 *e*P **P** **20 16 54.3 +0.7**
ARR Arges 65.63 44 ⇑P **P** **20 16 59.4 +1.3**
SDCO Great Sand Dun 65.82 307 P **P** **20 16 59.9 0.0**
SDCO IAmb IAmb 20 17 17.9
comp=Z,9.9nm,1.1s
VOIR 65.93 44 ⇓P **P** **20 17 03.2 +3.1**
MLR Muntele Rosu 66.56 44 ⇓P **P** **20 17 05.2 +1.0**
VRI Vrincioaia 67.17 44 ⇓P **P** **20 17 09.7 +1.8**
SORM Soroca 68.70 42 ⇓P **P** **20 17 15.9 -1.5**
DAG Danmarks Havn 68.88 5 *i* P **P** **20 17 17.8 -0.3**
comp=Z,4.5nm,1.1s
DAG Danmarks Havn 68.88 5 *i* P **P** **20 17 17.8 -0.3**
DAG IAmb IAmb 20 17 21.6
comp=Z,4.5nm,1.1s
PDAR Pinedale Array 69.55 312 P **P** **20 17 24.1 +0.8**
comp=Z,0.5nm,0.6s,baz=293,slow=42,SNR=1.9
AKASG Malin Array Be 69.75 39 P **P** **20 17 23.8 -0.1**
comp=Z,1.0nm,0.5s,baz=254,slow=6.4,SNR=7.3
AKASG LR LR 20 47 44.5
comp=Z,1µm,18.5s,baz=60,slow=36
FINES FINESS Array B 70.73 28 P **P** **20 17 30.3 +0.6**
comp=Z,3.2nm,0.9s,baz=230,slow=4.7,SNR=5.4
BRTR Keskin Array B 71.40 51 P **P** **20 17 35.1 +0.7**
comp=Z,2.7nm,0.9s,baz=251,slow=7.7,SNR=4.6
BOSA Boshof 72.54 124 P **P** **20 17 42.2 +0.8**
comp=Z,5.6nm,1.0s,baz=320,slow=8.8,SNR=4.6
RES Resolute Bay 72.86 347 P **P** **20 17 42.4 +0.1**
comp=Z,3.9nm,0.9s,baz=118,slow=1.5,SNR=3.7
ARCES ARCESS Array B 73.19 19 P **P** **20 17 45.3 +1.0**
comp=Z,3.0nm,1.0s,baz=311,slow=2.6,SNR=2.4
YKA Yellowknife Ar 75.45 332 P **P** **20 17 56.8 -0.9**
comp=Z,6.4nm,1.2s,baz=96,slow=6.4,SNR=4.3
PMSA Palmer Station 75.63 191 *e*P **P** **20 18 00.2 +1.7**
NVAR Nina Array Bea 75.94 307 P **P** **20 18 00.5 -0.8**
comp=Z,0.1nm,0.3s,baz=130,slow=29,SNR=3.1
NVAR LR LR 20 49 22.4
comp=Z,282nm,19.2s,baz=103,slow=34
KMBO Kilima Mbogo 76.97 93 P **P** **20 18 11.1 +3.5**
comp=Z,0.6nm,0.3s,baz=251,slow=3.6,SNR=5.7
VNA1 Neumayer--Stat 81.99 170 P **P** **20 18 33.9 +0.5**
VNA3 Neumayer Olymp 82.28 171 P **P** **20 18 35.0 +0.1**
VNA2 Neumayer--Watz 82.38 170 P **P** **20 18 35.3 -0.1**
INK Inuvik 83.45 338 P **P** **20 18 41.4 +0.3**
comp=Z,4.7nm,1.0s,baz=74,slow=11,SNR=4.1
SNAA Sanae 83.82 169 P **P** **20 18 42.6 -0.4**
SNAA Sanae 83.82 169 P **P** **20 18 42.9 0.0**
ILAR Eielson Array 89.46 336 P **P** **20 19 10.4 -0.3**
comp=Z,2.1nm,1.0s,baz=90,slow=1.4,SNR=10
SYO Syowa Base 94.20 159 ⇑*e*X P 20 19 27.3 -5.1
SYO Syowa Base 94.20 159 ⇑*e*PcP **P** **20 19 29.0 -3.4**
SYO Syowa Base 94.20 159 ⇓*e*pP **P** **20 19 31.3 -1.1**
HHC Hu-ho-hao-te 123.84 26 *e*PKP **PKiKP** **20 25 13.3 +0.5**
CD2 Chengdu 127.04 40 PKP **PKPdf** **20 25 17.0 -1.8**
CMAR Chiang Mai Arr 130.78 56 PKP **PKPdf** **20 25 26.2 0.0**
comp=Z,1.6nm,1.1s,baz=292,slow=3.5,SNR=9.5
NJ2 Nanjing 134.39 26 *e*PKP **PKPdf** **20 25 31.0 -1.6**

*DJA **19** 20:06:59.5±1.4,4°S±9°×13°8E±°, h24km±18km, M3.6/5, MLv3.6/5*
*IDC **19** 20:07:00.6±1.5,3°.53S×138°.49E, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.7/28, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=29.0km s-min=28.1km az=109.0*
ISC 19 20:07:05.2±0.9,**3°.55S**±0°.08×**138°.39E**±0°.06,**h35km,n11,**
σ3s**02/13,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**1.58**	**12**	P	**Pn**	**20 07 29.5**	**-1.3**
SMPI				S	**Sn**	**20 07 53.0**	**+3.0**
GENI	**Genyem**	**2.01**	**62**	P	**Pn**	**20 07 36.1**	**-0.6**
GENI				S	**Sn**	**20 08 03.9**	**+3.2**
JAY	**Jayapura**	**2.53**	**66**	Pn	**Pn**	**20 07 41.6**	**-2.3**
	4.2nm,0.3s,baz=204,slow=11,SNR=14						
JAY				Sn	**Sn**	**20 08 07.5**	**-6.1**
	2.8nm,0.3s,baz=57,slow=22,SNR=3.8						
JAY	**Jayapura**	**2.53**	**66**	P	**Pn**	**20 07 42.3**	**-1.6**
SRPI	**Serui, Papua**	**2.72**	**308**	P	Pn	20 07 39.2	-7.2
SRPI				S	**Sn**	**20 08 13.4**	**-4.7**
BAKI	**Biak**	**3.27**	**316**	P	Pn	20 07 46.2	-7.8
SIJI	**Sorong**	**7.60**	**290**	Pn	**Pn**	**20 08 54.0**	**+0.5**
	1.4nm,0.3s,baz=87,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**16.77**	**193**	Pn	**Pn**	**20 10 58.4**	**+0.8**
	0.2nm,0.3s,baz=17,slow=13,SNR=14						
WRA				Sn	Sn	20 13 53.5	-9.4
	0.0nm,0.3s,baz=10,slow=22,SNR=1.6						
ASAR	**Alice Springs**	**20.47**	**192**	P	**P**	**20 11 40.2**	**+0.2**
	3.6nm,0.8s,baz=17,slow=9.7,SNR=22						
CMAR	**Chiang Mai Arr**	**44.58**	**301**	P	**P**	**20 15 14.8**	**+0.5**
	0.2nm,0.3s,baz=131,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**70.25**	**323**	P	**P**	**20 18 16.5**	**+1.5**
	0.2nm,0.5s,baz=119,slow=9.0,SNR=1.6						

*IDC **19** 20:07:08.5±1.0, 40°.41N×143°.67E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.8/55, mbtmp3.9/12, ML2.9/3, MS4.1/1, Ms1 4.1/1, ms1mx3.3/54, Error ellipse: s-maj=24.2km s-min=18.7km az=81.0*
*JMA **19** 20:07:09.9±0.1, 40°.43N×143°.69E, h24km, M3.9*
ISC 19 20:07:09.4±0.8,**40°.46N**±0°.04×**143°.71E**±0°.06,**h10km,n39,**
σ1s**42/43,mb3.8/9,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.51**	**250**	P	**Pn**	**20 07 35.6**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.55**	**261**	P	**Pn**	**20 07 36.2**	**-0.9**
JEM	**Erimo**	**1.61**	**345**	P	**Pb**	**20 07 38.2**	**-1.0**
JANG	**Nango**	**1.68**	**268**	P	**Pn**	**20 07 38.3**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.70**	**239**	P	**Pn**	**20 07 38.3**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.96**	**339**	P	**Pb**	**20 07 43.0**	**-2.1**
JOM	**Ohasama**	**2.11**	**243**	P	**Pn**	**20 07 44.9**	**+0.2**
JOM				*e*S	**Sn**	**20 08 10.5**	**-0.4**
JCH	**Churui**	**2.17**	**353**	P	**Pn**	**20 07 45.6**	**+0.1**
JCH				*e*S	**Sn**	**20 08 12.1**	**-0.3**
JOT	**Ohata**	**2.22**	**295**	P	**Pn**	**20 07 46.7**	**+0.5**
JOT				*e*S	**Sn**	**20 08 13.2**	**-0.5**
JMK	**Ichinoseki**	**2.44**	**233**	P	**Pn**	**20 07 49.4**	**+0.1**
JMK				*e*S	**Sn**	**20 08 18.0**	**-1.2**
JKB	**Kayabe**	**2.48**	**306**	P	**Pn**	**20 07 50.3**	**+0.6**
JKB				*e*S	**Sn**	**20 08 19.6**	**-0.4**
JAK	**Akkeshi**	**2.64**	**16**	P	**Pn**	**20 07 51.9**	**-0.1**
JAK				*e*S	**Sn**	**20 08 22.4**	**-1.6**
JFR	**Furan**	**2.83**	**343**	P	**Pn**	**20 07 54.7**	**+0.1**
JAR	**Ashorobuto**	**2.83**	**1**	P	**Pn**	**20 07 54.3**	**-0.4**
JAR				*e*S	**Sn**	**20 08 27.0**	**-1.9**
JEW	**Eniwo**	**2.92**	**325**	P	**Pb**	**20 07 58.1**	**-3.4**
JYK	**Kaneyama**	**3.01**	**240**	P	**Pn**	**20 07 57.6**	**+0.5**
NEM2	**Nemuro 2**	**3.27**	**27**	P	**Pn**	**20 08 00.1**	**-0.6**
NEM2				*e*S	**Sn**	**20 08 36.0**	**-3.7**
JKK2	**Kamakawa 2**	**3.48**	**348**	P	**Pn**	**20 08 04.4**	**+0.8**
JTKR	**Abashiri--Toko**	**3.51**	**2**	P	**Pn**	**20 08 04.1**	**+0.1**
JTKR				*e*S	**Sn**	**20 08 43.7**	**-1.8**
ASAJ	**Asahikawa**	**3.75**	**348**	Pn	**Pn**	**20 08 08.9**	**+1.7**
	1.2nm,0.3s,baz=209,slow=17,SNR=19						
ASAJ				Sn	**Sn**	**20 08 53.2**	**+1.8**
	1.9nm,0.3s,baz=71,slow=31,SNR=2.1						
MAT	**Matsushiro**	**5.83**	**230**	P	**Pn**	**20 08 36.9**	**+1.1**
MAT				*e*S	**Sn**	**20 09 39.4**	**-3.3**
MJAR	**Matsushiro Arr**	**5.83**	**230**	Pn	**Pn**	**20 08 36.6**	**+0.8**
	0.2nm,0.3s,baz=36,slow=12,SNR=36						
USRK	**Ussuriysk Ar.**	**9.45**	**297**	Pn	**Pn**	**20 09 26.4**	**+0.9**
	baz=96,slow=14,SNR=9.6						
SONM	**Songino Array**	**27.57**	**298**	P	**P**	**20 12 58.6**	**+2.1**
	1.0nm,0.7s,baz=95,slow=9.4,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**28.64**	**129**	T	T	20 43 02.0	
H11N1	**WAKE ISLAND Hy**	**28.65**	**129**	T	T	20 43 02.0	
H11N3	**WAKE ISLAND Hy**	**28.66**	**129**	T	T	20 43 02.0	
H11S1	**WAKE ISLAND Hy**	**29.48**	**131**	T	T	20 44 08.0	
	SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**29.49**	**131**	T	T	20 44 10.8	
	baz=247,slow=7.4,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**29.50**	**131**	T	T	20 44 10.4	
	baz=322,slow=7.4,SNR=7.5						
DAV	**Davao City (W)**	**36.99**	**211**	LR	LR	20 29 40.5	
	comp=Z,276nm,20.2s,baz=62,slow=37						
ZALV	**Zalesovo Beam**	**41.03**	**310**	P	**P**	**20 14 52.6**	**+0.1**
	1.3nm,0.6s,baz=99,slow=8.4,SNR=6.9						
MKAR	**Makanchi Array**	**43.91**	**300**	P	**P**	**20 15 16.8**	**+0.6**
	2.4nm,0.8s,baz=81,slow=10,SNR=16						
KURBB	**Kurchatov Arra**	**45.39**	**306**	P	**P**	**20 15 28.1**	**+0.3**
	2.8nm,0.6s,baz=80,slow=8.4,SNR=9.1						
ILAR	**Eielson Array**	**45.65**	**34**	P	**P**	**20 15 30.8**	**+1.1**
	0.5nm,0.7s,baz=266,slow=6.6,SNR=6.6						
WRA	**Warramunga Arr**	**60.72**	**190**	P	**P**	**20 17 20.6**	**-0.5**
	0.5nm,0.6s,baz=7.7,slow=6.9,SNR=5.2						
ASAR	**Alice Springs**	**64.45**	**190**	P	**P**	**20 17 46.2**	**+0.3**
	0.2nm,0.5s,baz=18,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**66.62**	**332**	P	**P**	**20 17 58.5**	**-1.0**
	4.4nm,1.1s,baz=64,slow=4.4,SNR=3.4						
TXAR	**Lajitas Array**	**86.63**	**54**	P	**P**	**20 19 56.0**	**+2.7**
	0.7nm,1.0s,baz=107,slow=4.2,SNR=3.9						

*REY **19** 20:07:32.4, 64°.68N×17°.45W, h7km*
*IDC **19** 20:07:32.5±0.6, 64°.57N×17°.61W, h0km, mb4.0/19, mb1 4.2/23, mb1mx4.0/55, mbtmp4.0/23, ML2.7/3, MS4.7/1, Ms1 4.7/1, ms1mx3.4/46, Error ellipse: s-maj=16.9km s-min=9.4km az=17.0*
*NEIC **19** 20:07:34.5±2.0, 64°.6N±0°.1×17°.8W±0°.3, h14km±5km, mb4.4/11, Error ellipse: s-maj=23.0km s-min=13.6km az=206.0*
*MOS **19** 20:07:34.3±1.0, 64°.75N×17°.20W, h10km, mb4.6/16, Error ellipse: s-maj=14.1km s-min=9.3km az=115.4*
ISC 19 20:07:34.0±0.4,**64°.69N**±0°.02×**17°.47W**±0°.02,**h10km,n182,**
σ2s**14**/181,**mb4.3**/61,**11C-12D,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.11**	**23**	P	**Pg**	**20 07 35.2**	**-1.7**
	baz=18						
IVON	**Vonarskard**	**0.12**	**263**	P	**Pg**	**20 07 35.2**	**-1.8**
	baz=268						
IVON				S	**Sg**	**20 07 37.8**	**-1.4**
	baz=268						
IURH	**Urdarhals**	**0.19**	**46**	P	**Pg**	**20 07 36.5**	**-1.6**
	baz=42						
IGRF	**Grimsfjall**	**0.29**	**163**	P	**Pg**	**20 07 38.0**	**-2.0**
	baz=164						
IKVE	**Kverkfjoll**	**0.34**	**91**	P	**Pg**	**20 07 38.9**	**-2.0**
	baz=90						
IHUS	**Husbondi**	**0.40**	**192**	P	**Pg**	**20 07 40.2**	**-1.8**
	baz=193						
ISKR	**Skrokkalda**	**0.42**	**252**	P	**Pg**	**20 07 40.3**	**-1.9**
	baz=254						
IVOT	**Vottur**	**0.44**	**163**	P	**Pg**	**20 07 40.5**	**-2.1**
	baz=164						
IKRE	**Kreppuhraun**	**0.47**	**78**	P	**Pg**	**20 07 40.9**	**-2.4**
	baz=77						
IKRE				S	**Sg**	**20 07 48.0**	**-1.6**
	baz=77						
IJOK	**Jokulheimar**	**0.50**	**222**	P	**Pg**	**20 07 41.5**	**-2.2**
	baz=223						
IASK	**Askja**	**0.51**	**43**	P	**Pg**	**20 07 41.9**	**-2.0**
	baz=42						
IMKO	**Mokollar**	**0.56**	**58**	P	**Pg**	**20 07 42.6**	**-2.3**
	baz=57						
IMKO				S	**Sg**	**20 07 51.2**	**-1.2**
	baz=57						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**20 07 44.5**	**-2.3**
	baz=7.1						
IIEY	**Innrieyrar**	**0.66**	**206**	P	**Pg**	**20 07 44.1**	**-2.6**
	baz=207						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**20 07 43.8**	**-3.4**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**20 07 45.8**	**-2.7**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	**Pg**	**20 07 45.8**	**-2.8**
	baz=79						
IVSH				S	**Sg**	**20 07 56.2**	**-2.3**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**232**	P	**Pg**	**20 07 47.0**	**-2.5**
	baz=233						
IADA	**Aoalbol**	**0.87**	**67**	P	**Pg**	**20 07 47.5**	**-3.4**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**282**	P	**Pg**	**20 07 48.5**	**-3.2**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**20 07 49.1**	**-3.1**
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**20 07 49.9**	**-3.2**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**13**	P	**Pg**	**20 07 50.9**	**-3.4**
	baz=13						
ISNB	**Snabyli**	**1.08**	**209**	P	**Pg**	**20 07 51.4**	**-3.4**
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**30**	P	**Pb**	**20 07 52.0**	**-3.3**
	baz=30						
ISLY	**Slysaalda**	**1.13**	**220**	P	**Pb**	**20 07 52.3**	**-3.3**
	baz=221						
IFED	**Fedgar**	**1.17**	**236**	P	**Pb**	**20 07 53.1**	**-3.3**
	baz=237						
IRJU	**Rjupnafell**	**1.20**	**207**	P	**Pb**	**20 07 53.3**	**-3.4**
	baz=207						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pb**	**20 07 53.4**	**-3.5**
	baz=16						
IMJO	**Mjoaskard**	**1.22**	**233**	P	**Pn**	**20 07 54.2**	**-3.0**
	baz=233						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pn**	**20 07 54.0**	**-3.3**
	baz=358						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**20 07 55.0**	**-3.2**
	baz=9.4						
IHAU	**Haukadalur**	**1.30**	**238**	P	**Pn**	**20 07 55.2**	**-3.1**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	**Pn**	**20 07 55.5**	**-2.9**
	baz=209						
IHLA	**Hella**	**1.32**	**343**	P	**Pn**	**20 07 55.4**	**-3.0**
	baz=343						
IHED	**Heoinshofoi**	**1.40**	**3**	P	**Pn**	**20 07 56.6**	**-3.0**
	baz=2.3						
IALF	**Alftagrof**	**1.42**	**213**	P	**Pn**	**20 07 57.2**	**-2.6**
	baz=213						
IBRE	**Brettingsstaoi**	**1.45**	**353**	P	**Pn**	**20 07 57.5**	**-2.7**
	baz=353						
IESK	**Eystri-Skogar**	**1.46**	**218**	P	**Pn**	**20 07 57.7**	**-2.6**
	baz=218						
ISAU	**Saurbar**	**1.46**	**243**	P	**Pn**	**20 07 57.4**	**-3.0**
	baz=243						
IGIL	**Gilhagi**	**1.47**	**18**	P	**Pn**	**20 07 57.4**	**-3.1**
	baz=18						
IMID	**Miomork**	**1.48**	**227**	P	**Pn**	**20 07 58.3**	**-2.4**
	baz=227						
ISIG	**Siglufjorour**	**1.57**	**338**	P	**Pn**	**20 07 59.2**	**-2.6**
	baz=338						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**20 08 00.5**	**-2.6**
	23nm,0.3s,baz=97,slow=9.5,SNR=74						
BORG				Lg	Lg	20 08 23.5	
	28nm,0.3s,baz=83,slow=13,SNR=3.7						
BORG				LR	LR	20 08 42.1	
	comp=Z,716n

CLL					pmax	pmax		
	comp=Z,18nm,1.2s							
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**		**20 12 23.3 +2.3**	
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**		**20 12 23.3 +2.3**	
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P	**P**		**20 12 22.1 +0.4**	
	comp=Z,26nm,1.4s							
BRG				*e*			20 12 31.1	
	comp=Z,22nm,1.2s							
	comp=N,2µm,18.7s							
	comp=E,2µm,16.6s							
	comp=E,3µm,18.8s							
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P	**P**		**20 12 22.1 +0.4**	
BRG					pmax	pmax		
	comp=Z,26nm,1.4s							
BRG					pmax	pmax		
	comp=Z,22nm,1.2s							
BRG					MLR	MLR		
	comp=N,2µm,18.7s							
BRG					MLR	MLR		
	comp=E,2µm,16.6s							
BRG					MLR	MLR		
	comp=Z,3µm,18.8s							
VSU	**Vasula**	**21.55**	**86**⇑	*e*P	**P**		**20 12 22.8 -0.3**	
VSU					pmax	pmax		
	comp=Z,94nm,1.3s							
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**		**20 12 33.8 +2.1**	
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**		**20 12 33.8 +2.1**	
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**		**20 12 34.0 +1.0**	
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**		**20 12 34.3 +0.9**	
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**		**20 12 34.3 +0.9**	
OSTC	**Ostas**	**22.55**	**113**	*e*P	**P**		**20 12 36.0 +2.1**	
KHC	**Kasperske Hory**	**22.67**	**119**	*e*P	**P**		**20 12 36.1 +0.9**	
KHC	**Kasperske Hory**	**22.67**	**119**⇓	*i*P	**P**		**20 12 37.0 +1.8**	
KHC					pmax	pmax		
	comp=Z,17nm,1.0s							
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**		**20 12 37.6 +1.5**	
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**		**20 12 37.6 +1.5**	
SENIN	**Lac Senin/Sane**	**22.83**	**132**	P	**P**		**20 12 37.0 -0.1**	
DAVA	**Damuels**	**22.88**	**126**	*e*P	**P**		**20 12 39.7 +2.1**	
	comp=Z,12nm,1.2s							
GEC2	**GERESS Array S**	**22.95**	**119**	P	**P**		**20 12 35.8 -2.5**	
GEC2					IAmb	IAmb	20 12 49.0	
	comp=Z,15nm,1.2s							
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**		**20 12 38.0 -0.2**	
	comp=Z,2.8nm,1.0s,baz=325,slow=8.4,SNR=12							
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**		**20 12 39.6 +1.3**	
SSB	**Saint Sauveur**	**22.96**	**137**	P	**P**		**20 12 38.9 +0.7**	
SSB					pmax	pmax		
	comp=Z,10.0nm,1.2s							
SSB	**Saint Sauveur**	**22.96**	**137**	P	**P**		**20 12 38.9 +0.7**	
RETA	**Reutte**	**23.02**	**125**	*e*P	**P**		**20 12 39.4 +0.5**	
	comp=Z,7.7nm,1.2s							
MOTA	**Moosalm**	**23.26**	**125**	*e*P	**P**		**20 12 44.9 +3.4**	
	comp=Z,18nm,1.3s							
TREC	**Trest**	**23.27**	**116**	*e*P	**P**		**20 12 42.4 +1.0**	
TREC	**Trest**	**23.27**	**116**	*e*P	**P**		**20 12 42.4 +1.0**	
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P	**P**		**20 12 42.8 +0.7**	
	comp=Z,2.4nm,0.9s,baz=334,slow=8.3,SNR=4.4							
SQTA	**Sankt Quirin**	**23.41**	**125**	*e*P	**P**		**20 12 46.5 +3.6**	
	comp=Z,16nm,1.2s							
FETA	**Feichten**	**23.41**	**126**	*e*P	**P**		**20 12 46.6 +3.6**	
	comp=Z,9.5nm,1.2s							
WATA	**Walderalm**	**23.44**	**124**	*e*P	**P**		**20 12 43.4 +0.2**	
	comp=Z,6.2nm,1.0s							
WTTA	**Wattenberg**	**23.52**	**124**	*e*P	**P**		**20 12 44.9 +0.9**	
	comp=Z,7.6nm,1.3s							
PCAB	**Cabril**	**23.65**	**162**	*e*P	**P**		**20 12 48.3 +3.1**	
	comp=Z,36nm,1.6s							
PCAB	**Cabril**	**23.65**	**162**	*e*P	**P**		**20 12 48.5 +3.3**	
	comp=Z,36nm,1.6s							
PCAB					A	A	20 13 12.0	
	comp=Z,50nm,1.5s							
EUNU	**Eureka**	**23.66**	**336**	P	**P**		**20 12 45.3 +0.3**	
VRAC	**Vranov**	**23.69**	**114**	P	**P**		**20 12 46.5 +0.9**	
	comp=Z,1.6nm,0.4s,baz=325,slow=12,SNR=6.2							
VRAC	**Vranov**	**23.69**	**114**	*e*P	**P**		**20 12 47.5 +1.9**	
MORC	**Moravsky Berou**	**23.69**	**112**	*e*P	**P**		**20 12 47.5 +1.9**	
KRUC	**Moravsky**	**23.81**	**115**	*e*P	**P**		**20 12 48.2 +1.5**	
MOA	**Molln**	**23.99**	**119**	*e*P	**P**		**20 12 52.5 +4.1**	
	comp=Z,7.3nm,1.1s							
ABTA	**Abfaltersbach**	**24.27**	**123**	*e*P	**P**		**20 12 52.3 +1.1**	
	comp=Z,4.1nm,1.1s							
KBA	**Koelnbreinsper**	**24.30**	**122**	*e*P	**P**		**20 12 56.5 +5.0**	
	comp=Z,12nm,1.5s							
MVO	**Moncorvo**	**24.32**	**161**	*e*P	**P**		**20 12 54.4 +2.8**	
	comp=Z,24nm,1.6s							
CONA	**Conrad Observa**	**24.53**	**117**	*e*P	**P**		**20 12 54.2 +0.7**	
	comp=Z,3.8nm,1.0s							
ZOU	**Zoufplan**	**24.60**	**123**	P	**P**		**20 12 55.9 +1.6**	
ZOU					IAmb	IAmb	20 13 09.5	
	comp=Z,11nm,1.2s							
PVIS	**Viseu**	**24.65**	**162**	*e*P	**P**		**20 12 58.2 +3.7**	
	comp=Z,20nm,2.1s							
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**		**20 12 55.7 +1.2**	
SMOL					pmax	pmax		
	comp=Z,12nm,1.6s							
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**		**20 12 55.7 +1.2**	
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**		**20 12 55.1 +0.1**	
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**		**20 12 55.1 +0.1**	
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P	**P**		**20 12 58.1 +0.8**	
LANS					pmax	pmax		
	comp=Z,4.0nm,0.9s							
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P	**P**		**20 12 58.1 +0.8**	
ARSA	**Arzberg**	**24.96**	**118**	*e*P	**P**		**20 12 57.3 0.0**	
	comp=Z,5.2nm,1.1s							
MTE	**Manteigas**	**25.00**	**162**	*e*P	**P**		**20 13 01.2 +3.4**	
	comp=Z,36nm,1.8s							
OBKA	**Obir**	**25.22**	**121**	*e*P	**P**		**20 12 59.8 +0.1**	
	comp=Z,4.4nm,1.4s							
PCAS	**Casmilo, Conde**	**25.22**	**164**	*e*P	**P**		**20 13 02.4 +2.7**	
	comp=Z,44nm,1.4s							
PCAS	**Casmilo, Conde**	**25.22**	**164**	*e*P	**P**		**20 13 02.7 +3.0**	
	comp=Z,44nm,1.4s							
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**		**20 13 00.7 +1.0**	
VYHS					pmax	pmax		
	comp=Z,26nm,1.9s							
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**		**20 13 00.7 +1.0**	
SOKA	**Soboth**	**25.26**	**120**	*e*P	**P**		**20 13 00.8 +0.8**	
	comp=Z,2.6nm,0.7s							
PMRV	**Marv??o**	**25.98**	**162**	*e*P	**P**		**20 13 10.1 +3.5**	
	comp=Z,24nm,2.0s							
PMRV	**Marv??o**	**25.98**	**162**	*e*P	**P**		**20 13 10.2 +3.6**	
	comp=Z,24nm,2.0s							
PMRV					A	A	20 13 23.8	
	comp=Z,24nm,1.9s							
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**		**20 13 08.8 -0.4**	
	comp=Z,2.0nm,0.9s,baz=347,slow=9.3,SNR=13							
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**		**20 13 08.2 -1.0**	
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**		**20 13 10.5 +1.4**	
KOLS					pmax	pmax		
	comp=Z,14nm,1.2s							
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**		**20 13 10.5 +1.4**	
LVV	**L'vov**	**26.31**	**104**	*e*P	**P**		**20 13 11.6 +2.2**	
UZH	**Uzhgorod**	**26.51**	**108**⇓	*i*P	**P**		**20 13 13.0 +1.7**	
UZH				*e*			20 13 19.0	
AKASG	**Malin Array Be**	**27.83**	**98**	P	**P**		**20 13 22.2 -0.9**	
	comp=Z,0.1nm,0.3s,baz=110,slow=34,SNR=3.2							
AKASG	**Malin Array Be**	**27.83**	**98**	IAmb	IAmb		20 13 23.9	
	comp=Z,1.9nm,1.1s							
AKBB	**Malin Array Si**	**27.83**	**98**	P	**P**		**20 13 23.8 +0.7**	
AKBB					pmax	pmax		
	comp=Z,7.0nm,1.1s							
AKBB	**Malin Array Si**	**27.83**	**98**	P	**P**		**20 13 23.8 +0.7**	
AKBB					IAmb	IAmb	20 13 30.7	
	comp=Z,7.0nm,1.1s							
OBN	**Obninsk**	**27.87**	**84**	*e*P	**P**		**20 13 23.5 +0.2**	
OBN				*e*PPP	PPP		20 14 17.5	
OBN					pmax	pmax		
	comp=Z,52nm,2.5s							
BURAR	**Bucovina Array**	**28.52**	**106**	P	**P**		**20 13 30.9 +1.5**	
GZR	**Gura Zlata**	**29.32**	**112**	⇓P	**P**		**20 13 38.1 +1.6**	
GZR	**Gura Zlata**	**29.32**	**112**	⇓P	**P**		**20 13 38.1 +1.6**	
HERR	**Herculane**	**29.60**	**113**	⇑P	**P**		**20 13 41.1 +2.2**	
VOIR		**30.20**	**109**	⇓P	P		20 13 48.4 +4.0	
VOIR		**30.20**	**109**	⇓P	P		20 13 48.4 +4.1	
PLOR	**Plostina**	**30.52**	**107**	⇑P	**P**		**20 13 49.2 +2.1**	
PLOR	**Plostina**	**30.52**	**107**	⇑P	**P**		**20 13 49.2 +2.1**	
MLR	**Muntele Rosu**	**30.52**	**108**	⇑P	**P**		**20 13 47.3 +0.1**	
MLR	**Muntele Rosu**	**30.52**	**108**	⇑P	**P**		**20 13 47.3 +0.1**	
NEHR	**Nehoiu**	**30.72**	**108**	⇓P	**P**		**20 13 50.3 +1.5**	
CFR	**Carcaliu**	**31.68**	**106**	⇓P	**P**		**20 13 57.4 +0.2**	
CFR	**Carcaliu**	**31.68**	**106**	⇓P	**P**		**20 13 57.4 +0.2**	
ARU	**Arti**	**36.06**	**66***c*	*i*P	**P**		**20 14 36.9 +1.8**	
ARU							20 15 51.6	
ARU					S	**S**	**20 20 15.6 +1.8**	
ARU					SS	**SnSn**	**20 22 33.2 -4.9**	
ARU					pmax	pmax		
	comp=Z,22nm,2.6s							
NRIK	**Noril'sk**	**36.43**	**35**	P	**P**		**20 14 38.8 +0.6**	
	comp=Z,2.1nm,0.5s,baz=29,slow=22,SNR=2.8							
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**		**20 14 57.0 +1.0**	
	comp=Z,3.0nm,0.8s,baz=339,slow=6.6,SNR=9.1							
BRTR	**Keskin Array B**	**38.47**	**105**	*ce*P	P		20 15 00.7 +4.7	
BRTR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KIV	**Kislovodsk**	**38.83**	**92**	*e*P	**P**		**20 15 01.4 +2.5**	
KIV					pmax	pmax		
	comp=Z,18nm,1.1s							
KBZ	**Khabaz**	**39.10**	**93**	P	**P**		**20 15 01.9 +1.0**	
	comp=Z,3.4nm,1.0s,baz=325,slow=4.9,SNR=2.9							
KBZ	**Khabaz**	**39.10**	**93**	P	**P**		**20 15 02.0 +1.0**	
INK	**Inuvik**	**39.83**	**329**	P	**P**		**20 15 07.8 +1.1**	
	comp=Z,2.6nm,0.9s,baz=87,slow=12,SNR=3.2							
TIXI	**Tiksi**	**42.01**	**15**	*i*P	**P**		**20 15 26.7 +2.0**	
TOLK	**Tolik Lake Re**	**42.73**	**336**	P	**P**		**20 15 31.6 +0.9**	
BMAR	**Burnt Mountain**	**42.88**	**333**	P	**P**		**20 15 31.5 -0.4**	
BRVK	**Borovoye**	**43.11**	**62**⇑	*e*P	**P**		**20 15 35.2 +1.3**	
BRVK					pmax	pmax		
	comp=Z,15nm,2.5s							
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**		**20 15 56.1 +1.9**	
	comp=Z,2.2nm,1.0s,baz=22,slow=5.1,SNR=13							
COLA	**College**	**45.77**	**333**⇓	*e*P	**P**		**20 15 57.0 +2.1**	
COLA					pmax	pmax		
	comp=Z,7.0nm,1.1s							
BILL	**Bilibino**	**47.53**	**358**	*e*P	**P**		**20 16 10.7 +2.0**	
BILL				*e*			20 18 00.6	
BILL				*e*PPP	PPP		20 18 47.4	
BILL					pmax	pmax		
	comp=Z,3.0nm,1.0s							
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**		**20 16 09.8 +0.3**	
	comp=Z,1.3nm,0.6s,baz=332,slow=9.1,SNR=4.2							
ZALV	**Zalesovo Beam**	**47.61**	**51**	*i* P	**P**		**20 16 12.8 +3.3**	
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**48.09**	**58**⇓	*e*P	**P**		**20 16 13.4 +0.1**	
KURK					pmax	pmax		
	comp=Z,7.0nm,0.9s							
KURBB	**Kurchatov Arra**	**48.13**	**58**	P	**P**		**20 16 13.1 -0.5**	
	comp=Z,5.1nm,0.9s,baz=321,slow=7.5,SNR=8.7							
DGZ	**Jazzator, Alta**	**52.06**	**53**⇑	*e*P	**P**		**20 16 45.6 +2.0**	
DGZ					pmax	pmax		
	comp=Z,11nm,2.1s							
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**		**20 16 48.5 +0.3**	
	comp=Z,2.2nm,1.0s,baz=347,slow=5.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**		**20 16 49.7 -2.1**	
	comp=Z,3.3nm,1.0s,baz=340,slow=6.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**		**20 16 51.7 -0.2**	
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**		**20 16 51.5 -0.5**	
	comp=Z,2.5nm,0.9s,baz=60,slow=6.1,SNR=17							
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**		**20 16 52.4 +0.4**	
AAK	**Ala-Archa**	**53.24**	**67**⇓	*e*P	**P**		**20 16 54.0 +1.6**	
AAK					pmax	pmax		
	comp=Z,23nm,1.3s							
DBIC	**Dimbokro**	**58.61**	**165**	P	**P**		**20 17 30.2 -0.7**	
	comp=Z,7.9nm,1.1s,baz=277,slow=2.9,SNR=3.4							
TIC	**Toumodi**	**58.62**	**165**	*e*PKP1	**P**		**20 17 30.5 -0.5**	
KIC	**Kosan Boka**	**58.93**	**165**	*e*PKP1	**P**		**20 17 30.4 -2.7**	
	comp=Z,14nm,1.0s							
LIC	**Lamto**	**59.03**	**166**	*e*PKP1	**P**		**20 17 29.7 -4.1**	
	comp=Z,6.0nm,0.4s							
SONM	**Songino Array**	**59.62**	**40**	P	**P**		**20 17 38.8 +1.1**	
	comp=Z,1.5nm,1.0s,baz=346,slow=11,SNR=5.6							
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**		**20 17 43.8 +1.1**	
	comp=Z,0.2nm,0.4s,baz=60,slow=3.6,SNR=3.7							
GTA	**Gaotai**	**65.28**	**49**	*e*P	**P**		**20 18 18.9 +3.2**	
GTA					pP	sP	20 18 22.3 +1.5	
GTA					sP	pP	20 18 24.8 +5.4	
GTA					pmax	pmax		
	comp=Z,7.0nm,1.5s							
ROSC	**El Rosal**	**71.95**	**241**	LR	LR		20 47 57.8	
	comp=Z,536nm,20.9s,baz=290,slow=34							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**		**20 20 05.2 +0.2**	
	comp=Z,1.4nm,1.0s,baz=317,slow=6.3,SNR=4.7							

*IDC **19** 20:21:16.6±1.8, 16°.14S×174°.75W, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.0/38, mbtmp4.0/7, MS4.4/4, Ms1 4.4/4, ms1mx3.7/37, Error ellipse: s-maj=101.7km s-min=21.7km az=153.0*

ISC 19 20:21:48.8±1.7, 16°.6S±0°.5×174°.8W±0°.3, h288km, n40, σ1°45/21, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.97**	**110**	LR	LR		20 29 16.9	
	comp=Z,682nm,19.2s,baz=300,slow=32							
DZM	**Mont Dzumac**	**18.49**	**250**	*e*P	**P**		**20 25 43.7 -1.0**	
	100nm,1.1s							
PAE	**Paea**	**24.15**	**96**	*e*T	T		20 51 10.3	
	5.4nm,0.3s							
PPT2	**Papeete2**	**24.16**	**96**	*e*LR	LR		20 32 23.4	
	comp=Z,749nm,25.5s							
PPT2	**Papeete2**	**24.16**	**96**	*e*T	T		20 51 11.5	
	6.5nm,0.3s							
TIAR	**Tiarei**	**24.38**	**96**	*e*T	T		20 51 26.3	
	4.5nm,0.3s							
TVO	**Taravao**	**24.46**	**97**	*e*T	T		20 51 34.7	
	3.2nm,0.3s							
TBI	**Tubuai**	**24.76**	**110**	*e*LR	LR		20 32 55.9	
	comp=Z,742nm,27.2s							
TBI	**Tubuai**	**24.76**	**110**	*e*T	T		20 52 31.7	
	17nm,0.3s							
PMOR	**Pomariorio Ree**	**25.96**	**90**	*e*T	T		20 53 09.6	
	8.7nm,0.4s							
VAH	**Vaihoa**	**26.19**	**91**	*e*T	T		20 53 29.0	
	12nm,0.2s							
TAOE	**Nuku Hiva Isla**	**34.65**	**82**	*e*T	T		21 03 38.7	
	24nm,0.2s							
CTA	**Charters Tower**	**37.05**	**259**	LR	LR		20 43 44.7	
	comp=Z,489nm,18.2s,baz=360,slow=36							
H11S2	**WAKE ISLAND Hy**	**39.30**	**332**	T	T		21 09 07.2	
	baz=150,slow=76,SNR=116							
H11S3	**WAKE ISLAND Hy**	**39.31**	**332**	T	T		21 09 04.0	
	baz=150,slow=76,SNR=119							
H11S1	**WAKE ISLAND Hy**	**39.32**	**332**	T	T		21 09 01.9	
	baz=150,slow=76,SNR=60							
H11N3	**WAKE ISLAND Hy**	**40.28**	**333**	T	T		21 10 15.7	
	baz=151,slow=76,SNR=247							
H11N1	**WAKE ISLAND Hy**	**40.29**	**333**	T	T		21 10 14.2	
	baz=151,slow=76,SNR=545							
H11N2	**WAKE ISLAND Hy**	**40.30**	**333**	T	T		21 10 17.1	
	baz=151,slow=76,SNR=259							
WRA	**Warramunga Arr**	**48.25**	**258**	P	**P**		**20 29 59.6 -2.0**	
	0.6nm,0.8s,baz=91,slow=6.6,SNR=4.7							
WRA				LR	LR		20 48 19.7	
	comp=Z,454nm,18.6s,baz=0.0,slow=34							
ASAR	**Alice Springs**	**48.45**	**253**	P	**P**		**20 30 02.1 -0.9**	
	1.3nm,0.7s,baz=84,slow=8.3,SNR=13							
NVAR	**Mina Array Bea**	**76.12**	**42**	P	**P**		**20 33 04.5 -1.1**	
	3.6nm,1.0s,baz=229,slow=10.0,SNR=14							
TXAR	**Lajitas Array**	**82.40**	**56**	P	**P**		**20 33 40.2 +0.7**	
	1.9nm,1.0s,baz=235,slow=4.4,SNR=12							
ILAR	**Eielson Array**	**83.86**	**12**	P	**P**		**20 33 44.2 -1.7**	
	1.2nm,1.0s,baz=192,slow=5.5,SNR=8.0							
PDAR	**Pinedale Array**	**84.05**	**42**	P	**P**		**20 33 47.2 -0.5**	
	2.2nm,1.0s,baz=197,slow=4.4,SNR=12							
CMAR	**Chiang Mai Arr**	**91.68**	**289**	P	**P**		**20 34 28.1 +3.8**	
	0.3nm,0.5s,baz=105,slow=2.1,SNR=5.2							
SONM	**Songino Array**	**94.80**	**318**	LR	LR		21 15 10.5	
	comp=Z,212nm,19.1s,baz=311,slow=34							
VRAC	**Vranov**	**146.05**	**347**	*e*PKP		**PKiKP**	**20 40 58.5 +0.6**	
BRTR	**Keskin Array B**	**146.16**	**319**	PKPbc		**PKiKP**	**20 40 59.2 +0.6**	
	3.3nm,1.0s,baz=144,slow=2.3,SNR=7.1							
JAVC	**Velka Javorina**	**146.22**	**345**	*e*PKP		**PKiKP**	**20 40 59.7 +1.4**	
KRUC	**Moravsky**	**146.33**	**347**	*e*PKP		**PKiKP**	**20 40 58.9 +0.4**	
GERES	**GERESS Array B**	**147.07**	**350**	PKPbc		**PKPab**	**20 41 00.5 +0.2**	
	2.4nm,1.0s,baz=44,slow=4.1,SNR=14							
CONA	**Conrad Observa**	**147.52**	**347**	*e*P		**PKPab**	**20 41 03.7 +1.6**	
	8.3nm,1.3s							
MOA	**Molln**	**147.92**	**348**	*e*P		**PKPab**	**20 41 03.7 +0.1**	
	3.5nm,1.0s							
ARSA	**Arzberg**	**148.23**	**347**	*e*P		**PKPab**	**20 41 04.4 -0.4**	
	3.3nm,1.2s							
WATA	**Walderalm**	**148.87**	**352**	*e*P		**PKPab**	**20 41 06.7 -0.9**	
	5.2nm,1.4s							
SQTA	**Sankt Quirin**	**149.03**	**352**	*e*P		**PKPab**	**20 41 07.1 -1.2**	
	5.5nm,1.1s							
DAVA	**Damuels**	**149.13**	**354**	*e*P		**PKPab**	**20 41 07.5 -1.2**	
	4.5nm,1.2s							
FETA	**Feichten**	**149.29**	**353**	*e*P		**PKiKP**	**20 41 06.5 +1.6**	
	5.7nm,1.5s							
ESDC	**Sonseca Array**	**155.65**	**17**	PKPab		**PKPab**	**20 41 35.6 -0.6**	
	0.5nm,1.0s,baz=333,slow=4.6,SNR=4.1							

*IDC **19** 20:27:17.9±1.4, 5°.51S×152°.81E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/34, mbtmp3.8/7, ML1.9/1, MS4.1/1, Ms1 4.1/1, ms1mx3.3/35, Error ellipse: s-maj=33.4km s-min=19.2km az=103.0*

ISC 19 20:27:24.0±1.4, 5°.52S±0°.08×152°.7E±0°.2, h40km, n10, σ0°52/11, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.36**	**332**	Pn	**Pn**		**20 27 46.4**	**-0.2**
	625nm,0.3s,baz=170,slow=1.0,SNR=233							
KRVT				Sn	**Sn**		**20 28 03.6**	**+0.2**
	185nm,0.3s,baz=202,slow=20,SNR=4.5							
PMG	**Port Moresby**	**6.70**	**234**	Pn	**Pn**		**20 29 00.0**	**+0.2**
	1.2nm,0.3s,baz=224,slow=23,SNR=1.3							
PMG				Sn	**Sn**		**20 30 14.3**	**-0.5**
	3.8nm,0.3s,baz=151,slow=23,SNR=4.7							
WRA	**Warramunga Arr**	**22.88**	**230**	P	**P**		**20 32 25.1**	**+0.8**
	2.0nm,0.6s,baz=53,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**25.54**	**223**	P	**P**		**20 32 49.6**	**+0.4**
	0.8nm,0.5s,baz=56,slow=9.4,SNR=10							
FITZ	**Fitzroy Crossi**	**29.21**	**242**	P	**P**		**20 33 22.1**	**-0.1**
	1.7nm,0.7s,baz=98,slow=7.2,SNR=6.5							
URZ	**Urewera**	**39.44**	**149**	LR	LR		20 49 12.5	
	comp=Z,240nm,20.0s,baz=42,slow=33							
CMAR	**Chiang Mai Arr**	**58.07**	**296**	P	**P**		**20 37 14.0**	**+0.3**
	0.2nm,0.4s,baz=126,slow=5.7,SNR=2.4							
MKAR	**Makanchi Array**	**80.78**	**319**	P	**P**		**20 39 33.3**	**-0.2**
	0.3nm,0.7s,baz=94,slow=5.9,SNR=2.2							
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**		**20 39 44.2**	**+0.2**
	1.1nm,0.8s,baz=246,slow=5.6,SNR=14							
TORD	**Torodi Ar. Bea**	**150.40**	**287**	PKPbc		**PKPbc**	**20 47 11.4**	**-0.9**
	0.4nm,0.7s,baz=72,slow=3.7,SNR=2.5							

*IDC **19** 20:28:52.6±1.0, 8°.76N×39°.31W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/39, mbtmp3.8/7, Error ellipse: s-maj=35.7km s-min=21.7km az=162.0*

ISC 19 20:28:54.9±0.9, 8°.7N±0°.2×39°.3W±0°.1, h15km, n13, σ0°48/7, mb3.8/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**21.84**	**287**	T	T		20 55 57.6	
	SNR=16							
PTGA	**Pitinga**	**22.64**	**246**	P	**P**		**20 33 55.2**	**-0.5**
	1.0nm,0.3s,baz=340,slow=22,SNR=1.5							
BDFB	**Brasilia**	**25.71**	**200**	P	**P**		**20 34 25.4**	**+0.5**
	0.9nm,0.4s,baz=6.3,slow=9.2,SNR=1.9							
H10N3	**ASCENSION HYDR**	**29.69**	**123**	T	T		21 06 27.4	
	baz=302,slow=75,SNR=9.9							
H10N2	**ASCENSION HYDR**	**29.70**	**123**	T	T		21 06 14.8	
	baz=302,slow=75,SNR=10							
H10N1	**ASCENSION HYDR**	**29.71**	**123**	T	T		21 06 28.7	
	baz=302,slow=75,SNR=10							
H10S3	**ASCENSION HYDR**	**30.18**	**125**	T	T		21 06 40.9	
	baz=302,slow=74,SNR=8.6							
H10S2	**ASCENSION HYDR**	**30.20**	**125**	T	T		21 06 41.6	
	baz=278,slow=74,SNR=7.0							
DBIC	**Dimbokro**	**34.19**	**91**	P	**P**		**20 35 39.9**	**-0.2**
	5.2nm,0.8s,baz=262,slow=8.7,SNR=4.3							
LPAZ	**La Paz**	**37.85**	**229**	P	**P**		**20 36 12.1**	**0.0**
	1.7nm,0.8s,baz=334,slow=5.9,SNR=5.3							
TORD	**Torodi Ar. Bea**	**40.45**	**80**	P	**P**	

*GCMT **19** 20:47:33.0±0.5, 15°.11S±0°.03×174°.58W±0°.02, h15km, MW5.0/77, Moment Tensor Solution. s4,c4; s77,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.07±.20; Mθθ=2.54±.18; Mφφ=2.62±.14; Mrθ=0.11±.57; Mrφ=1.34±.14; Mθφ=3.36±.55; Best double couple: Mw=4.20 400×10^16 NP1:φs=67.00000°,δ=44.00000°,λ=4.00000°. NP2: φs=334.00000°,δ=87.00000°,λ=134.00000°. Principal axes: T 5.0410, Plg33.0000°, Azm279.0000°; N -1.6650, Plg44.0000°, Azm151.0000°; P -3.3670, Plg28.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 19 20:47:29.5±1.7, 15°.9S±0°.7×174°.5W±0°.4, h10km, n25, σ2=88/10, mb3.9/7, MS4.5/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.91**	**113**	LR	LR	20 55 13.4	
	comp=Z,1μm,21.0s,baz=324,slow=31						
DZM	**Mont Dzumac**	**19.01**	**248**	*eP*	**Pn**	**20 51 57.7**	**+5.3**
	82nm,1.3s						
DZM				*eLQ*	LQ	20 55 39.2	
	1μm,20.8s						
DZM				*eLR*	LR	20 56 28.9	
	comp=Z,470nm,22.1s						
PAE	**Paea**	**23.92**	**98**	*eT*	T	21 17 38.5	
	4.3nm,0.3s						
PPT2	**Papeete2**	**23.92**	**98**	*eLR*	LR	20 58 32.8	
	comp=Z,1μm,27.5s						
PPT2	**Papeete2**	**23.92**	**98**	*eT*	T	21 17 37.0	
	6.2nm,0.3s						
PPT	**Papeete**	**23.92**	**97**	LR	LR	20 59 49.1	
	comp=Z,254nm,21.9s,baz=323,slow=31						
TVO	**Taravao**	**24.23**	**98**	*eT*	T	21 17 59.4	
	4.6nm,0.4s						
TBI	**Tubuai**	**24.68**	**111**	*eLR*	LR	20 59 05.6	
	comp=Z,1μm,26.5s,baz=289						
TBI	**Tubuai**	**24.68**	**111**	*eT*	T	21 18 42.7	
	16nm,0.3s						
PMOR	**Pomarrio Ree**	**25.66**	**92**	*eT*	T	21 19 45.6	
	6.7nm,0.3s						
VAH	**Vaihoa**	**25.89**	**92**	*eT*	T	21 20 00.0	
	13nm,0.2s						
TAOE	**Nuku Hiva Isla**	**34.25**	**82**	*eLR*	LR	21 03 20.3	
	comp=Z,628nm,25.8s						
RKT	**Rikitea**	**37.84**	**107**	*eLR*	LR	21 05 15.1	
	comp=Z,817nm,25.2s						
WRA	**Warramunga Arr**	**48.69**	**257**	P	**P**	**20 56 11.1**	**-3.3**
	1.4nm,1.1s,baz=96,slow=6.6,SNR=3.9						
WRA				LR	LR	21 15 39.6	
	comp=Z,531nm,18.1s,baz=75,slow=35						
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**20 56 12.8**	**-3.5**
	2.0nm,0.9s,baz=85,slow=8.0,SNR=15						
ASAR				LR	LR	21 15 12.4	
	comp=Z,500nm,20.6s,baz=100,slow=34						
NVAR	**Mina Array Bea**	**75.44**	**42**	P	**P**	**20 59 13.8**	**-0.2**
	1.1nm,0.9s,baz=229,slow=11,SNR=5.8						
ELK	**Elko**	**78.69**	**42**	LR	LR	21 27 22.0	
	comp=Z,213nm,18.4s,baz=345,slow=30						
TXAR	**Lajitas Array**	**81.79**	**56**	P	**P**	**20 59 50.3**	**+1.2**
	0.9nm,0.9s,baz=221,slow=5.0,SNR=6.2						
ILAR	**Eielson Array**	**83.18**	**12**	P	**P**	**20 59 56.6**	**+1.2**
	0.5nm,0.8s,baz=237,slow=7.4,SNR=4.4						
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**20 59 57.5**	**+0.2**
	0.8nm,0.8s,baz=204,slow=3.3,SNR=4.3						
INK	**Inuvik**	**89.04**	**14**	LR	LR	21 33 43.1	
	comp=Z,194nm,20.1s,baz=110,slow=31						
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P	**P**	**21 00 38.0**	**-0.2**
	0.2nm,0.6s,baz=94,slow=3.6,SNR=1.5						
TKL	**Tuckaleechee C**	**99.69**	**56**	LR	LR	21 40 04.6	
	comp=Z,305nm,20.9s,baz=88,slow=32						
BRTR	**Keskin Array B**	**145.89**	**320**	PKPbc	**PKPdf**	**21 07 08.9**	**-0.2**
	0.8nm,0.7s,baz=150,slow=3.2,SNR=2.5						
GERES	**GERESS Array B**	**146.50**	**350**	PKPbc	**PKPdf**	**21 07 07.8**	**-1.9**
	0.6nm,0.8s,baz=330,slow=2.2,SNR=6.2						

*IDC **19** 21:02:44.2±1.4, 6°.55S×128°.53E, h246km±23km, mb2.8/1, mb1 3.1/6, mb1mx2.9/31, mbtmp3.7/6, Error ellipse: s-maj=31.7km s-min=14.9km az=103.0*

ISC 19 21:02:43.2±0.9, 6°.68S±0°.07×128°.6E±0°.1, h250km, n6, σ1=30/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.97**	**234**	P	**Pn**	**21 04 12.4**	**+1.4**
	7.3nm,0.3s,baz=290,slow=0.9,SNR=7.4						
BATI				S	**S**	**21 05 19.3**	**-2.0**
	1.1nm,0.3s,baz=9.0,slow=22,SNR=1.6						
SIJI	**Sorong**	**6.38**	**25**	P	**Pn**	**21 04 15.8**	**-0.3**
	1.4nm,0.3s,baz=257,slow=23,SNR=14						
SIJI				S	**S**	**21 05 29.4**	**-1.1**
	0.3nm,0.3s,baz=244,slow=22,SNR=1.8						
FITZ	**Fitzroy Crossi**	**11.70**	**194**	P	**P**	**21 05 26.1**	**-0.3**
	0.4nm,0.3s,baz=4.8,slow=8.2,SNR=17						
FITZ				S	**S**	**21 07 31.9**	**-1.7**
	0.1nm,0.3s,baz=69,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**14.33**	**157**	P	**Pn**	**21 05 56.1**	**+0.7**
	0.2nm,0.3s,baz=333,slow=13,SNR=24						
WRA				S	**S**	**21 08 33.5**	**-0.5**
	0.1nm,0.3s,baz=332,slow=21,SNR=5.6						
ASAR	**Alice Springs**	**17.65**	**164**	P	**Pn**	**21 06 35.3**	**+0.5**
	0.1nm,0.3s,baz=340,slow=9.8,SNR=7.9						
MKAR	**Makanchi Array**	**67.18**	**327**	P	**P**	**21 13 11.1**	**+0.6**
	0.2nm,0.4s,baz=123,slow=6.4,SNR=1.9						

*IDC **19** 21:03:31.2±1.1, 8°.56N×39°.39W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/36, mbtmp3.7/6, Error ellipse: s-maj=40.4km s-min=23.5km az=168.0*

ISC 19 21:03:33.5±0.9, 8°.5N±0°.2×39°.4W±0°.1, h15km, n12, σ0=48/6, mb3.6/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**21.81**	**288**	T	T	21 30 44.3	
	SNR=5.6						
PTGA	**Pitinga**	**22.48**	**247**	P	**P**	**21 08 33.1**	**+0.5**
	1.2nm,0.2s,baz=66,slow=9.7,SNR=7.7						
H10N3	**ASCENSION HYDR**	**29.66**	**123**	T	T	21 41 13.4	
	baz=302,slow=75,SNR=3.9						
H10N2	**ASCENSION HYDR**	**29.66**	**123**	T	T	21 41 13.5	
	baz=302,slow=75,SNR=3.9						
H10N1	**ASCENSION HYDR**	**29.68**	**123**	T	T	21 41 15.0	
	baz=302,slow=75,SNR=4.3						
H10S3	**ASCENSION HYDR**	**30.14**	**125**	T	T	21 41 46.0	
	baz=281,SNR=3.1						
H10S2	**ASCENSION HYDR**	**30.15**	**125**	T	T	21 41 47.9	
	baz=299						
DBIC	**Dimbokro**	**34.27**	**91**	P	**P**	**21 10 19.9**	**+0.5**
	3.4nm,0.9s,baz=259,slow=16,SNR=3.1						
CPUP	**Villa Florida**	**38.79**	**206**	P	**P**	**21 10 57.5**	**-0.3**
	0.4nm,0.4s,baz=59,slow=5.9,SNR=1.4						
TORD	**Torodi Ar. Bea**	**40.57**	**80**	P	**P**	**21 11 12.6**	**-0.3**
	0.5nm,0.9s,baz=263,slow=9.8,SNR=2.1						
TXAR	**Lajitas Array**	**63.47**	**298**	P	**P**	**21 14 03.4**	**-0.1**
	0.2nm,0.5s,baz=105,slow=7.1,SNR=4.6						
ILAR	**Eielson Array**	**89.67**	**336**	P	**P**	**21 16 30.7**	**-0.1**
	0.3nm,0.8s,baz=63,slow=4.4,SNR=2.5						

*IDC **19** 21:08:03.0±0.8, 8°.73N×39°.34W, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/36, mbtmp3.9/14, ML3.3/1, Error ellipse: s-maj=25.4km s-min=16.3km az=154.0*

*NEIC **19** 21:08:05.3±0.6, 8°.76N±0°.10×39°.44W±0°.07, h10km±1km, mb4.8/42, Error ellipse: s-maj=18.8km s-min=7.8km az=210.0*

ISC 19 21:08:05.5±0.4, 8°.82N±0°.08×39°.45W±0°.08, h10km, n119, σ1=47/112, mb4.6/44, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**13.60**	**255**	Pn	**Pn**	**21 11 20.5**	**+1.8**
	0.1nm,0.3s,baz=48,slow=17,SNR=1.8						
RCBR	**Riachuelo**	**14.97**	**166**	*eP*	**P**	**21 11 44.4**	**+1.4**
PRPB	**Paraupebas**	**18.12**	**215**	*eP*	**Pn**	**21 12 15.1**	**-2.5**
MALB	**Monte Alegre**	**18.18**	**235**	*eP*	**Pn**	**21 12 14.6**	**-3.6**
SMTB	**Santa Maria do**	**19.34**	**205**	*eP*	**P**	**21 12 30.6**	**-0.7**
ITTB	**Itaituba**	**20.86**	**232**	*eP*	**P**	**21 12 45.7**	**-2.1**
H05S1	**Guadeloupe/Mar**	**21.67**	**287**	T	T	21 35 13.3	
	SNR=21						
SDBA	**SAO DESIDERIO**	**21.77**	**194**	*eP*	**P**	**21 12 56.6**	**-1.0**
NPGB	**Novo Progresso**	**22.36**	**226**	*eP*	**P**	**21 13 02.0**	**-1.9**
PTGA	**Pitinga**	**22.54**	**246**	P	**P**	**21 13 04.8**	**-1.1**
	5.3nm,0.8s,baz=72,slow=12,SNR=14						
PTGA	**Pitinga**	**22.54**	**246**	P	**P**	**21 13 05.3**	**-0.6**
PTGA				IAmb	IAmb	21 13 13.9	
	comp=Z,51nm,1.4s						
PEXB	**Peixe**	**22.57**	**203**	*eP*	**P**	**21 13 07.2**	**+1.0**
SNDB	**Serra Nova Dou**	**23.78**	**210**	*eP*	**P**	**21 13 18.5**	**0.0**
JANB	**Januaria**	**24.21**	**192**	*eP*	**P**	**21 13 21.9**	**-0.6**
CLDB	**Colider**	**25.44**	**220**	*eP*	**P**	**21 13 33.2**	**-0.5**
BDFB	**Brasilia**	**25.74**	**199**	P	**P**	**21 13 35.0**	**-1.6**
	comp=Z,3.4nm,0.8s,baz=15,slow=8.2,SNR=4.2						
BDFB	**Brasilia**	**25.74**	**199**	P	**P**	**21 13 36.0**	**-0.6**
ARAG	**Araguaiana, MT**	**27.27**	**207**	*eP*	**P**	**21 13 50.7**	**+0.4**
SJMB	**Sao Joao De Ma**	**27.40**	**184**	*eP*	**P**	**21 13 56.9**	**+5.5**
BSFB	**Barra de Sao F**	**27.51**	**183**	*eP*	**P**	**21 13 57.6**	**+5.2**
IPMB	**Ipameri, GO**	**28.00**	**198**	*eP*	**P**	**21 13 59.6**	**+2.8**
SAML	**Samuel**	**29.50**	**234**	P	**P**	**21 14 10.4**	**+0.2**
SAML				IAmb	IAmb	21 14 18.4	
	comp=Z,25nm,1.4s						
SAML	**Samuel**	**29.50**	**234**	*eP*	**P**	**21 14 09.2**	**-1.0**
H10N3	**ASCENSION HYDR**	**29.86**	**123**	T	T	21 45 38.8	
	baz=302,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**29.87**	**123**	T	T	21 45 43.6	
	baz=302,slow=75,SNR=7.3						
H10N1	**ASCENSION HYDR**	**29.88**	**123**	T	T	21 45 45.2	
	baz=302,slow=75,SNR=10						
BSCB	**Bom Sucesso**	**30.09**	**190**	*eP*	**P**	**21 14 18.8**	**+3.4**
ITRB	**Iturama**	**30.31**	**201**	*eP*	**P**	**21 14 19.2**	**+1.9**
H10S3	**ASCENSION HYDR**	**30.35**	**125**	T	T	21 46 18.9	
	baz=300,slow=74,SNR=7.7						
H10S2	**ASCENSION HYDR**	**30.37**	**125**	T	T	21 46 20.3	
	baz=280,slow=74,SNR=4.1						
SDV	**Santo Domingo**	**30.81**	**273**	*eP*	**P**	**21 14 20.5**	**-1.5**
PTLB	**Pontes e Lacer**	**31.01**	**219**	*eP*	**P**	**21 14 24.1**	**+0.6**
TAMC	**Tame, Arauca**	**32.14**	**268**	*eP*	**P**	**21 14 34.8**	**+1.2**
ETMB	**Extrema**	**32.45**	**236**	*eP*	**P**	**21 14 35.9**	**-0.3**
PAMC	**Pamplona, Colo**	**32.95**	**270**	*eP*	**P**	**21 14 41.5**	**+0.3**
SPB	**Sao Paulo**	**33.14**	**193**	*eP*	**P**	**21 14 45.0**	**+2.9**
BARC	**Barichara**	**33.49**	**269**	*eP*	**P**	**21 14 47.3**	**+1.6**
OCAC	**Ocana**	**33.49**	**272**	*eP*	**P**	**21 14 46.3**	**+0.7**
TRCB	**Terra Rica**	**33.97**	**202**	*eP*	**P**	**21 14 52.0**	**+2.6**
DBIC	**Dimbokro**	**34.34**	**91**	P	**P**	**21 14 51.4**	**-1.3**
	comp=Z,7.0nm,1.1s,baz=263,slow=14,SNR=2.3						
DBIC	**Dimbokro**	**34.34**	**91**	P	**P**	**21 14 52.2**	**-0.5**
ROSC	**El Rosal**	**34.84**	**266**	P	**P**	**21 14 58.4**	**+0.9**
	comp=Z,4.4nm,0.4s,baz=156,slow=16,SNR=5.8						
ROSC	**El Rosal**	**34.84**	**266**	P	**P**	**21 14 57.3**	**-0.2**
TOLC	**Tolima**	**35.86**	**266**	*eP*	**P**	21 14 56.9	-9.4
BETC	**Betania**	**36.30**	**263**	*eP*	**P**	**21 15 09.1**	**-0.7**
CZSB	**Cruzeiro do Su**	**36.99**	**245**	*eP*	**P**	**21 15 14.4**	**-1.2**
LPAZ	**La Paz**	**37.79**	**229**	P	**P**	**21 15 21.9**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=25,slow=6.5,SNR=7.2						
LPAZ	**La Paz**	**37.79**	**229**	P	**P**	**21 15 22.7**	**-0.2**
LPAZ	**La Paz**	**37.79**	**229**	*eP*	**P**	**21 15 22.8**	**-0.2**
OTAV	**Otavalo**	**39.76**	**260**	*eP*	**P**	**21 15 38.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**40.59**	**80**	P	**P**	**21 15 43.3**	**-2.4**
	comp=Z,0.9nm,0.9s,baz=269,slow=7.8,SNR=4.0						
LVC	**Limon Verde**	**42.53**	**222**	*eP*	**P**	**21 16 01.9**	**0.0**
ESDC	**Sonseca Array**	**44.12**	**40**	P	**P**	**21 16 16.2**	**+2.0**
	comp=Z,0.8nm,1.0s,baz=249,slow=9.4,SNR=3.3						
ESDC	**Sonseca Array**	**44.12**	**40**	P	**P**	**21 16 14.5**	**+0.2**
SCHQ	**Schefferville**	**50.81**	**340**	P	**P**	**21 17 06.9**	**+0.9**
	comp=Z,3.4nm,0.4s,baz=237,slow=4.3,SNR=3.6						
SCHQ	**Schefferville**	**50.81**	**340**	P	**P**	**21 17 07.0**	**+1.0**
OSSC	**Osservatorio P**	**55.95**	**43**	P	**P**	**21 17 44.5**	**+0.4**
OSSC				IAmb	IAmb	21 17 47.4	
	comp=Z,10.0nm,1.1s						
BFO	**Black Forest**	**56.18**	**37**	P	**P**	**21 17 46.1**	**+0.5**
BFO				IAmb	IAmb	21 17 49.5	
	comp=Z,17nm,1.4s						
S39A	**Bolivar**	**56.29**	**310**	P	**P**	**21 17 46.2**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**56.58**	**39**	P	**P**	**21 17 49.0**	**+0.2**
DAVA	**Damuels**	**56.63**	**38**	*eP*	**P**	**21 17 52.0**	**+3.0**
	comp=Z,6.5nm,1.1s						
FETA	**Feichten**	**57.04**	**39**	*eP*	**P**	**21 17 54.2**	**+2.3**
	comp=Z,5.5nm,1.2s						
CTI	**Castel Tesino**	**57.21**	**40**	P	**P**	**21 17 53.2**	**+0.1**
CTI				IAmb	IAmb	21 18 07.3	
	comp=Z,12nm,1.3s						
RETA	**Reutte**	**57.26**	**38**	*eP*	**P**	**21 17 55.6**	**+2.3**
	comp=Z,10nm,1.5s						
MOTA	**Moosalm**	**57.41**	**39**	*eP*	**P**	**21 17 55.3**	**+0.8**
	comp=Z,8.2nm,1.2s						
SQTA	**Sankt Quirin**	**57.42**	**39**	*eP*	**P**	**21 17 55.4**	**+0.9**
	comp=Z,5.3nm,1.0s						
WATA	**Walderalm**	**57.69**	**39**	*eP*	**P**	**21 17 58.4**	**+1.9**
	comp=Z,8.4nm,1.3s						
WTTA	**Wattenberg**	**57.70**	**39**	*eP*	**P**	**21 17 58.2**	**+1.6**
	comp=Z,5.1nm,1.0s						
CIMO	**Cimolais**	**57.82**	**40**	P	**P**	**21 17 58.0**	**+0.7**
CIMO				IAmb	IAmb	21 18 12.0	
	comp=Z,14nm,1.5s						
ABTA	**Abfaltersbach**	**58.04**	**40**	*eP*	**P**	**21 18 01.0**	**+2.1**
	comp=Z,8.1nm,1.4s						
ZOU	**Zoufplan**	**58.26**	**40**	P	**P**	**21 18 00.5**	**0.0**
ZOU				IAmb	IAmb	21 18 03.3	
	comp=Z,10nm,1.3s						
PRED	**Cave del Predi**	**58.59**	**40**	P	**P**	**21 18 02.8**	**+0.1**
KBA	**Koelnbreinsper**	**58.69**	**40**	*eP*	**P**	**21 18 05.5**	**+1.9**
	comp=Z,6.6nm,1.1s						
MYKA	**Terra Mystica**	**58.71**	**40**	*eP*	**P**	**21 18 06.0**	**+2.4**
	comp=Z,6.6nm,1.1s						
OBKA	**Obir**	**59.24**	**41**	*eP*	**P**	**21 18 09.9**	**+2.6**
	comp=Z,8.1nm,1.1s						
MOA	**Molln**	**59.57**	**39**	*eP*	**P**	**21 18 10.8**	**+1.4**
	comp=Z,7.3nm,1.8s						
GERES	**GERESS Array B**	**59.61**	**38**	P	**P**	**21 18 08.1**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=267,slow=4.9,SNR=3.4						
GERES	**GERESS Array B**	**59.61**	**38**	P	**P**	**21 18 09.8**	**0.0**
KHC	**Kasperske Hory**	**59.65**	**37**	*eP*	**P**	**21 18 12.0**	**+2.0**
KHC				*ex*	x	21 18 21.6	
CLL	**Collm**	**60.22**	**35**	*eP*	**P**	**21 18 13.0**	**-0.8**
CONA	**Conrad Observa**	**60.59**	**39**	*eP*	**P**	**21 18 18.8**	**+2.3**
	comp=Z,3.9nm,1.3s						
TXAR	**Lajitas Array**	**63.28**	**298**	P	**P**	**21 18 34.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=76,slow=7.0,SNR=4.8						
TXAR	**Lajitas Array**	**63.28**	**298**	P	**P**	**21 18 35.1**	**+0.1**
MNTX	**Cornudas Mount**	**64.96**	**301**	P	**P**	**21 18 46.0**	**+0.1**
MNTX				IAmb	IAmb	21 18 47.9	
	comp=Z,11nm,1.6s						
SDCO	**Great Sand Dun**	**65.74**	**307**	P	**P**	**21 18 51.4**	**+0.2**
ISCO	**Idaho Springs**	**66.12**	**310**	P	**P**	**21 18 53.5**	**-0.2**
ISCO				IAmb	IAmb	21 18 57.1	
	comp=Z,14nm,1.7s						
N23A	**Red Feather La**	**66.54**	**311**	P	**P**	**21 18 56.5**	**+0.3**
MLR	**Muntele Rosu**	**66.56**	**44**	P	**P**	**21 18 56.2**	**+0.1**
S22A	**4UR Ranch, Cre**	**66.79**	**307**	P	**P**	**21 18 57.7**	**-0.2**
S22A				IAmb	IAmb	21 19 02.0	
	comp=Z,16nm,1.8s						
PDAR	**Pinedale Array**	**69.47**	**312**	P	**P**	**21 19 13.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=84,slow=4.6,SNR=4.4						
PDAR	**Pinedale Array**	**69.47**	**312**	P	**P**	**21 19 14.3**	**-0.3**
AKASG	**Malin Array Be**	**69.75**	**39**	P	**P**	**21 19 15.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=260,slow=5.7,SNR=4.8						
WUAZ	**Wupatki**	**70.23**	**305**	P	**P**	**21 19 19.5**	**+0.2**
WUAZ				IAmb	IAmb	21 19 28.7	
	comp=Z,11nm,1.1s						
LOHW	**Long Hollow**	**70.33**	**313**	P	**P**	**21 19 20.4**	**+0.5**
LOHW				IAmb	IAmb	21 19 21.8	
	comp=Z,15nm,1.9s						
REDW	**Red Top Meadow**	**70.48**	**313**	P	**P**	**21 19 21.0**	**+0.2**
REDW				IAmb	IAmb	21 19 23.6	
	comp=Z,17nm,1.6s						
TPAW	**Teton Pass**	**70.57**	**313**	P	**P**	**21 19 21.3**	**-0.1**
TPAW				IAmb	IAmb	21 19 35.4	
	comp=Z,19nm,1.8s						
IMW	**Indian Meadow**	**70.61**	**313**	P	**P**	**21 19 21.5**	**-0.1**
YHH	**Holmes Hill**	**70.65**	**314**	P	**P**	**21 19 22.3**	**+0.4**
HWUT	**Hardware Ranch**	**70.83**	**311**	P	**P**	**21 19 22.6**	**-0.3**
YHL	**Hebgen Lake**	**70.89**	**314**	P	**P**	**21 19 23.5**	**+0.2**
MTPU	**Mount Pierson**	**71.03**	**307**	P	**P**	**21 19 24.1**	**-0.3**
DUG	**Dugway, Tooele**	**71.66**	**309**	P	**P**	**21 19 27.9**	**0.0**
BGU	**Big Grassy Mou**	**71.88**	**310**	P	**P**	**21 19 28.6**	**-0.6**
DLMT	**Dillon**	**71.94**	**315**	P	**P**	**21 19 29.6**	**+0.1**
DLMT				IAmb	IAmb	21 19 39.0	
	comp=Z,14nm,1.4s						
HLID	**Hailey**	**73.08**	**313**	P	**P**	**21 19 36.4**	**0.0**
HLID				IAmb	IAmb	21 19 38.8	
	comp=Z,21nm,1.9s						
ELK	**Elko**	**73.54**	**310**	P	**P**	**21 19 39.5**	**+0.3**
R11A	**Troy Canyon, C**	**73.72**	**307**	P	**P**	**21 19 40.1**	**-0.1**
NVAR	**Mina Array Bea**	**75.86**	**307**	P	**P**	**21 19 52.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=69,slow=5.9,SNR=1.5						
NVAR	**Mina Array Bea**	**75.86**	**307**	P	**P**	**21 19 52.1**	**-0.6**
MOD	**Modoc Plateau**	**77.37**	**311**	P	**P**	**21 20 01.2**	**+0.1**
BEKR	**Beckworth**	**77.44**	**309**	P	**P**	**21 20 00.8**	**-0.8**
BEKR				IAmb	IAmb	21 20 03.8	
	comp=Z,18nm,1.8s						
SNAA	**Sanae**	**83.89**	**169**	P	**P**	**21 20 34.7**	**-0.4**
SNAA				IAmb	IAmb	21 20 37.2	
	comp=Z,12nm,1.6s						
ILAR	**Eielson Array**	**89.39**	**336**	P	**P**	**21 21 01.7**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=50,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**89.39**	**336**	P	**P**	**21 21 03.0**	**+0.8**
ABKAR	**Akbulak array**	**89.46**	**40**	P	**P**	**21 21 02.8**	**-0.1**
ABKAR	**Akbulak array**	**89.46**	**40**	P	**P**	**21 21 03.0**	**+0.2**
SYO	**Syowa Base**	**94.27**	**159**	*ePcP*	**P**	**21 21 24.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**130.81**	**56**	PKP	**PKPdf**	**21 27 18.1**	**0.0**
	comp=Z,0.3nm,0.7s,baz=311,slow=3.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**130.81**	**56**		**PKPdf**	**21 27 16.4**	**-1.7**

*IDC **19** 21:12:42.6±2.1, 7°.17S×129°.42E, h146km±19km, mb3.3/4, mb1 3.8/9, mb1mx3.5/32, mbtmp4.2/9, Error ellipse: s-maj=29.7km s-min=17.1km az=82.0*

*DJA **19** 21:12:42.7±0.3, 7°.5S±3°×112°.9E±°, h210km±10km, M4.4/12, mb4.2/10, mB5.0/7, MLv4.6/12, Mw(mB)4.3/7*

*NEIC **19** 21:12:43.0±1.4, 7°.24S±0°.08×129°.6E±0°.1, h176km±11km, mb4.3/2, Error ellipse: s-maj=14.6km s-min=11.8km az=100.0*

ISC 19 21:12:41.4±0.6, 7°.26S±0°.05×129°.45E±0°.06, h150km, n38, σ2=33/43, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.97**	**112**	P	**Pn**	21 13 22.3	**+6.1**
SAUI	**Saumlaki**	**1.97**	**112**	Pn	**Pn**	**21 13 18.5**	**+2.3**
SAUI				Sn	**Sn**	**21 13 46.7**	**+3.7**
BNDI	**Bandanaira**	**2.76**	**10**	P	**Pn**	**21 13 28.9**	**+3.1**
MSAI	**Masohi**	**3.92**	**352**	P	**Pn**	**21 13 41.9**	**+1.2**
FAKI	**Fak Fak**	**5.13**	**33**	P	**Pn**	**21 13 57.2**	**+0.5**
	0.5nm2μm22nm,0.9s						
FAKI	**Fak Fak**	**5.13**	**33**	Pn	**Pn**	**21 13 57.9**	**+1.2**
KMPI	**Kaimana, Papua**	**5.54**	**50**	P	**Pn**	**21 14 03.2**	**+1.1**
	1.6nm207nm,0.7s						
SOEI	**Soe**	**5.69**	**244**	P	**Pn**	**21 14 07.8**	**+3.6**
	0.5nm935nm28nm,0.8s						
SOEI	**Soe**	**5.69**	**244**	Pn	**Pn**	**21 14 08.1**	**+3.9**
MTN	**Manton Dam**	**5.79**	**163**	Pn	**Pn**	**21 14 07.0**	**+1.6**
BATI	**Baumata**	**6.42**	**242**	P	**Pn**	**21 14 16.8**	**+3.0**
	12nm,0.3s,baz=96,slow=3.2,SNR=8.8						
BATI				S	**Sn**	**21 15 26.3**	**+0.1**
	25nm,0.3s,baz=9.9,slow=21,SNR=11						
BATI	**Baumata**	**6.42**	**242**	P	**Pn**	**21 14 15.7**	**+1.8**
	0.3nm565nm16nm,0.5s						
SIJI	**Sorong**	**6.60**	**16**	P	**Pn**	**21 14 16.6**	**+0.4**
	3.5nm,0.3s,baz=36,slow=6.8,SNR=65						
SIJI				S	**Sn**	**21 15 26.9**	**-3.6**
	6.5nm,0.3s,baz=114,slow=23,SNR=13						
EDFI	**Ende, Flores**	**7.82**	**259**	P	**Pn**	**21 14 34.7**	**+2.1**
	0.0nm5.1nm,0.7s						
TNTI	**Ternate**	**8.24**	**345**	Pn	**Pn**	**21 14 38.9**	**+0.8**
KNRA	**Kununurra**	**8.39**	**185**	Pn	**Pn**	**21 14 41.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.39**	**199**	P	**Pn**	**21 15 20.4**	**+0.6**
	3.6nm,0.3s,baz=15,slow=9.7,SNR=96						
FITZ				S	**Sn**	**21 17 20.6**	**-5.3**
	2.4nm,0.3s,baz=103,slow=17,SNR=4.0						
WB0	**Warramunga Arr**	**13.33**	**159**		**Pn**	**21 15 45.3**	**+0.4**
WRAB	**Tennant Creek**	**13.47**	**160**	Pn	**Pn**	**21 15 47.2**	**+0.5**
WRA	**Warramunga Arr**	**13.47**	**160**	P	**Pn**	**21 15

WCZ	**Waipu Caves**	**4.99**	**18**	P	Pn	21 19 07.8	+0.3
WMGZ	**Waiomatatini S**	**5.48**	**60**	P	Pn	21 19 20.1	+5.9
OUZ	**Omahuta**	**5.54**	**10**	P	Pn	21 19 17.3	+2.1

CNRM ***19*** *21:24:58.2, 36.81N × 8.68W, h38km*
IGIL ***19*** *21:24:59.8, 36.80N × 8.64W, h27km, ML2.6*
SFS ***19*** *21:25:00.0, 36.87N × 8.61W, h28km, ML2.6, GOLFO DE CADIZ*
INMG ***19*** *21:25:00.1 ± 1.5, 36.82N × 8.65W, h27km ± 4km, ML2.3, Error ellipse: s-maj=5.5km s-min=2.4km az=62.0*
MDD ***19*** *21:25:00.1 ± 0.7, 36.85N × 8.65W, h30km ± 6km, mbLg2.5/33, Error ellipse: s-maj=8.8km s-min=4.5km az=47.0, PRXIMO*

ISC 19 21:24:58.8 ± 2.3, **36.86N** ± 0.06 × **8.63W** ± 0.05, **h35** km ± 4km, **n77**, σ 1**s31**/143, **6C-5D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.32**	**330**	⇓P	**Pn**	**21 25 07.5**	**+0.5**
	89nm,0.3s,SNR=18						
PFVI				S	**Sn**	**21 25 12.9**	**-0.1**
	466nm,0.1s,SNR=14						
PFVI	**Vila Bisbo**	**0.32**	**330**	P	**Pn**	**21 25 07.0**	**0.0**
PFVI				S	**Sn**	**21 25 13.3**	**+0.3**
PFVI	**Vila Bisbo**	**0.32**	**330**	⇓*i*Pg	**Pn**	**21 25 07.5**	**+0.5**
PFVI				*e*Sg	**Sn**	**21 25 13.2**	**+0.2**
PFVI				A	A	21 25 13.7	
	157nm,0.1s						
MORF	**Marmelete**	**0.45**	**358**	*e*P	**Pn**	**21 25 09.5**	**+0.7**
MORF				*e*S	**Sn**	**21 25 16.3**	**+0.5**
MORF				AML	AML	21 25 18.3	
	comp=N,320nm,0.1s						
MORF	**Marmelete**	**0.45**	**358**	P	**Pn**	**21 25 09.5**	**+0.7**
MORF				S	**Sn**	**21 25 16.3**	**+0.5**
	comp=N,320nm,0.1s						
MORF	**Marmelete**	**0.45**	**358**	⇓*i*Pg	**Pn**	**21 25 09.5**	**+0.7**
MORF				*e*Sg	**Sn**	**21 25 16.9**	**+1.2**
MORF				A	A	21 25 17.6	
	comp=N,109nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.68**	**55**	P	**Pn**	**21 25 12.9**	**+0.9**
PBDV				S	**Sn**	**21 25 22.7**	**+1.4**
	comp=N,28nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.68**	**55**	⇑*i*P	**Pn**	**21 25 12.9**	**+0.9**
PBDV				*e*S	**Sn**	**21 25 22.7**	**+1.4**
PBDV				A	A	21 25 26.0	
	comp=N,28nm,0.2s						
PTEO	**Sao Teotonio**	**0.69**	**354**	P	**Pn**	**21 25 13.0**	**+0.9**
PTEO				S	**Sn**	**21 25 22.9**	**+1.3**
	comp=N,23nm,0.1s						
PTEO	**Sao Teotonio**	**0.69**	**354**	⇓*i*P	**Pn**	**21 25 13.0**	**+0.9**
PTEO				*e*S	**Sn**	**21 25 22.9**	**+1.3**
PTEO				A	A	21 25 23.7	
	comp=N,46nm,0.1s						
PCVE	**Castro Verde**	**0.91**	**31**	P	**Pn**	**21 25 16.2**	**+1.2**
PCVE				S	**Sn**	**21 25 28.4**	**+1.5**
	comp=N,27nm,0.3s						
PCVE	**Castro Verde**	**0.91**	**31**	⇑*i*P	**Pn**	**21 25 16.2**	**+1.2**
PCVE				*e*S	**Sn**	**21 25 28.4**	**+1.5**
PCVE				A	A	21 25 30.0	
	comp=N,27nm,0.3s						
PVAQ	**Vaqueiros**	**0.91**	**53**	P	**Pn**	**21 25 16.0**	**+0.9**
PVAQ				S	**Sn**	**21 25 28.1**	**+1.1**
	comp=N,36nm,0.1s						
PVAQ	**Vaqueiros**	**0.91**	**53**	P	**Pn**	**21 25 15.8**	**+0.7**
PVAQ				S	**Sn**	**21 25 26.9**	**-0.2**
PVAQ	**Vaqueiros**	**0.91**	**53**	⇑*i*P	**Pn**	**21 25 16.0**	**+0.9**
PVAQ				*e*S	**Sn**	**21 25 28.1**	**+1.1**
PVAQ				A	A	21 25 28.7	
	comp=N,36nm,0.1s						
EGRO	**El Granado**	**1.14**	**53**	⇑P	**Pn**	**21 25 19.0**	**+0.8**
	comp=N,3.6nm,0.3s,SNR=18						
EGRO				S	**Sn**	**21 25 33.7**	**+1.2**
	comp=N,28nm,0.1s,SNR=9.9						
PNCL	**Nicolau / Gran**	**1.26**	**4**	P	**Pn**	**21 25 20.6**	**+0.8**
PNCL				S	**Sn**	**21 25 36.3**	**+0.8**
	comp=N,17nm,0.2s						
PNCL	**Nicolau / Gran**	**1.26**	**4**	*e*P	**Pn**	**21 25 20.6**	**+0.8**
PNCL				*e*S	**Sn**	**21 25 36.3**	**+0.8**
PNCL				A	A	21 25 41.7	
	comp=N,17nm,0.2s						
PBEJ	**Beja**	**1.32**	**27**	P	**Pn**	**21 25 21.4**	**+0.7**
PBEJ				S	**Sn**	**21 25 37.7**	**+0.7**
	comp=N,14nm,0.2s						
PBEJ	**Beja**	**1.32**	**27**	*e*P	**Pn**	**21 25 21.4**	**+0.7**
PBEJ				*e*S	**Sn**	**21 25 37.7**	**+0.7**
PBEJ				A	A	21 25 38.2	
	comp=N,28nm,0.2s						
EVO	**Evora**	**1.74**	**16**	P	**Pn**	**21 25 27.2**	**+0.7**
EVO				S	**Sn**	**21 25 46.7**	**-0.8**
EVO	**Evora**	**1.74**	**16**	*e*P	**Pn**	**21 25 27.2**	**+0.7**
EVO				*e*S	**Sn**	**21 25 46.7**	**-0.8**
EVO	**Evora**	**1.74**	**16**	*e*Pn	**Pn**	**21 25 27.3**	**+0.7**
EVO				*e*Sn	**Sn**	**21 25 47.6**	**+0.1**
EVO				A	A	21 25 51.5	
	comp=N,15nm,0.1s						
EMIN	**Mina Concepcio**	**1.81**	**59**	⇑P	**Pn**	**21 25 27.8**	**+0.4**
	comp=N,1.9nm,0.3s,SNR=18						
EMIN				S	**Sn**	**21 25 48.9**	**-0.1**
	comp=N,3.1nm,0.1s						
PBAR	**Barrancos**	**1.82**	**43**	P	**Pn**	**21 25 28.2**	**+0.5**
PBAR				S	**Sn**	**21 25 50.6**	**+1.1**
PBAR	**Barrancos**	**1.82**	**43**	*e*Pn	**Pn**	**21 25 28.2**	**+0.5**
PBAR				*e*Sn	**Sn**	**21 25 50.6**	**+1.1**
PMAFR	**Mafra**	**2.16**	**346**	P	**Pn**	**21 25 33.5**	**+1.2**
	comp=N,6.0nm,0.3s,SNR=16						
PMAFR				S	**Sn**	**21 25 57.4**	**-0.4**
	comp=N,15nm,0.1s,SNR=8.1						
PMAFR	**Mafra**	**2.16**	**346**	*e*Pn	**Pn**	**21 25 33.4**	**+1.1**
PMAFR				*e*Sn	**Sn**	**21 25 58.2**	**+0.4**
PMAFR				A	A	21 26 03.8	
	comp=N,15nm,0.4s						
ESPR	**Espera**	**2.22**	**89**	P	**Pn**	**21 25 34.1**	**+1.0**
	comp=N,2.7nm,0.2s,SNR=8.1						
ESPR				S	**Sn**	**21 25 59.6**	**+0.3**
	comp=N,20nm,0.2s						
PSBE	**So Bento**	**2.66**	**357**	*e*Pn	**Pn**	**21 25 40.3**	**+1.2**
PSBE				*e*Sn	**Sn**	**21 26 10.6**	**+0.5**
PSBE				A	A	21 26 13.9	
	comp=N,4.9nm,0.3s						
PMRV	**Marv??o**	**2.75**	**20**	P	**Pn**	**21 25 41.0**	**+0.6**
PMRV				S	**Sn**	**21 26 11.7**	**-0.6**
	comp=N,9.1nm,0.3s						
PMRV	**Marv??o**	**2.75**	**20**	*e*Pn	**Pn**	**21 25 41.0**	**+0.6**
PMRV				*e*Sn	**Sn**	**21 26 11.7**	**-0.6**
PMRV				A	A	21 26 14.4	
	comp=N,9.1nm,0.3s						
ECAB	**El Cabril**	**2.83**	**64**	⇓P	**Pn**	**21 25 42.2**	**+0.7**
	comp=N,2.3nm,0.2s,SNR=18						
ECAB				S	**Sn**	**21 26 13.8**	**-0.6**
	comp=N,1.7nm,0.1s,SNR=8.7						
HORN	**Hornachuelos**	**2.86**	**69**	P	**Pn**	**21 25 42.4**	**+0.5**
SMIR	**Smir Dam**	**2.87**	**113**	P	**Pn**	**21 25 41.9**	**-0.2**
SMIR				S	**Sn**	**21 26 14.7**	**-0.6**
PCBR	**Castelo Branco**	**3.12**	**17**	P	**Pn**	**21 25 46.4**	**+1.0**
PCBR				S	**Sn**	**21 26 21.6**	**+0.3**
	comp=N,6.6nm,0.2s						
PCBR	**Castelo Branco**	**3.12**	**17**	*e*Pn	**Pn**	**21 25 46.4**	**+1.0**
PCBR				*e*Sn	**Sn**	**21 26 21.6**	**+0.3**
PCBR				A	A	21 26 22.3	
	comp=N,13nm,0.2s						
PCAS	**Casmilo, Conde**	**3.19**	**2**	P	**Pn**	**21 25 47.6**	**+1.1**
PCAS				S	**Sn**	**21 26 23.4**	**+0.1**
	comp=N,6.1nm,0.2s						
PCAS	**Casmilo, Conde**	**3.19**	**2**	*e*Pn	**Pn**	**21 25 47.6**	**+1.1**
PCAS				*e*Sn	**Sn**	**21 26 23.4**	**+0.1**
PCAS				A	A	21 26 25.3	
	comp=N,6.1nm,0.2s						
EADA	**Adamuz**	**3.48**	**67**	P	**Pn**	**21 25 51.1**	**+0.7**
	comp=N,2.2nm,0.2s,SNR=74						
EADA				S	**Sn**	**21 26 28.7**	**-1.7**
	comp=N,3.1nm,0.1s						
MTE	**Manteigas**	**3.64**	**13**	P	**Pn**	**21 25 53.5**	**+0.8**
MTE				S	**Sn**	**21 26 33.9**	**-0.5**
	comp=N,3.2nm,0.2s						
MTE	**Manteigas**	**3.64**	**13**	*e*Pn	**Pn**	**21 25 53.5**	**+0.8**
MTE				*e*Sn	**Sn**	**21 26 33.9**	**-0.5**
MTE				A	A	21 26 35.5	
	comp=N,6.4nm,0.2s						
AVE	**Averroes**	**3.69**	**164**	P	Pn	21 25 52.7	-0.6
EPLA	**Plasencia**	**3.78**	**31**	P	**Pn**	**21 25 55.6**	**+1.1**
	comp=N,0.1nm,0.1s,SNR=4.0						
EPLA				S	**Sn**	**21 26 36.6**	**-1.1**
	comp=N,5.0nm,0.1s,SNR=12						
PVIS	**Viseu**	**3.90**	**8**	P	**Pn**	**21 25 57.1**	**+0.9**
PVIS				S	**Sn**	**21 26 39.7**	**-1.0**
	comp=N,2.8nm,0.3s						
PVIS	**Viseu**	**3.90**	**8**	*e*Pn	**Pn**	**21 25 57.1**	**+0.9**
PVIS				*e*Sn	**Sn**	**21 26 39.7**	**-1.0**
PVIS				A	A	21 26 42.5	
	comp=N,5.6nm,0.3s						
ELGU	**Los Guajares,**	**4.01**	**88**	P	**Pn**	**21 25 59.2**	**+1.4**
	comp=N,0.2nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**21 26 42.4**	**-1.2**
	comp=N,6.8nm,0.3s,SNR=7.9						
PALE	**Palemas**	**4.14**	**112**	P	Pn	21 25 58.5	-1.0
EQUE	**Quentar**	**4.17**	**84**	P	**Pn**	**21 26 02.0**	**+2.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**21 26 47.2**	**-0.2**
	comp=N,1.6nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**4.31**	**50**	⇑P	**Pn**	**21 26 02.6**	**+0.7**
	comp=N,1.3nm,0.1s,SNR=18						
PAB				S	**Sn**	**21 26 48.6**	**-2.4**
	comp=N,1.5nm,0.3s,SNR=7.9						
LCRM	**LCR**	**4.42**	**135**	P	**Pn**	**21 26 06.1**	**+2.6**
PVRL	**Vila Real**	**4.47**	**9**	S	**Sn**	**21 26 52.9**	**-2.0**
	comp=N,2.5nm,0.1s						
PVRL	**Vila Real**	**4.47**	**9**	*e*Sn	**Sn**	**21 26 52.9**	**-2.0**
PVRL				A	A	21 26 55.9	
	comp=N,4.9nm,0.1s						
MVO	**Moncorvo**	**4.48**	**16**	P	**Pn**	**21 26 05.1**	**+0.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 26 53.0**	**-2.1**
	comp=N,3.1nm,0.1s,SNR=10.0						
MVO	**Moncorvo**	**4.48**	**16**	*e*Pn	**Pn**	**21 26 05.0**	**+0.8**
MVO				*e*Sn	**Sn**	**21 26 53.0**	**-2.1**
MVO				A	A	21 26 54.9	
	comp=N,3.0nm,0.2s						
GORA	**Gorafe**	**4.50**	**80**	P	**Pn**	**21 26 04.8**	**+0.2**
	comp=N,6.1nm,0.1s,SNR=7.9						
GORA				S	**Sn**	**21 26 54.2**	**-1.5**
	comp=N,2.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.53**	**76**	P	**Pn**	**21 26 05.2**	**+0.3**
	comp=N,0.1nm,0.1s,SNR=12						
EQES				S	**Sn**	**21 26 55.4**	**-1.0**
	comp=N,3.6nm,0.3s						
EBER	**Berja**	**4.60**	**88**	P	**Pn**	**21 26 07.6**	**+1.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**21 26 57.1**	**-1.2**
	comp=N,1.3nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.63**	**51**	P	**Pn**	**21 26 06.8**	**+0.6**
	comp=N,0.2nm,0.2s,baz=234,slow=13,SNR=5.8						
ESDC				S	**Sn**	**21 26 58.1**	**-0.6**
	comp=N,0.4nm,0.3s,baz=235,slow=24,SNR=7.5						
PCAB	**Cabril**	**4.87**	**5**	P	**Pn**	**21 26 10.6**	**+1.1**
PCAB				S	**Sn**	**21 27 03.1**	**-1.6**
	comp=N,1.4nm,0.4s						
PCAB	**Cabril**	**4.87**	**5**	*e*Pn	**Pn**	**21 26 10.6**	**+1.1**
PCAB				*e*Sn	**Sn**	**21 27 03.1**	**-1.6**
PCAB				A	A	21 27 06.6	
	comp=N,2.8nm,0.4s						
SESP	**Santiago Espad**	**5.00**	**74**	P	**Pn**	**21 26 11.6**	**+0.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 27 06.0**	**-2.1**
	comp=N,4.4nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**5.00**	**74**	P	**Pn**	**21 26 11.8**	**+0.3**
ELOB	**Lobios**	**5.03**	**5**	P	**Pn**	**21 26 12.7**	**+1.0**
	comp=N,0.6nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**21 27 05.4**	**-3.1**
	comp=N,3.0nm,0.3s,SNR=8.4						
PGAV	**Gavieira, Arco**	**5.11**	**3**	Pn	**Pn**	**21 26 13.8**	**+0.9**
PGAV				Sn	**Sn**	**21 27 08.4**	**-2.3**
	comp=N,2.4nm,0.5s						
PGAV	**Gavieira, Arco**	**5.11**	**3**	*e*Pn	**Pn**	**21 26 13.8**	**+0.9**
PGAV				*e*Sn	**Sn**	**21 27 08.4**	**-2.3**
PGAV				A	A	21 27 12.4	
	comp=N,2.4nm,0.5s						
PBRG	**Braganca**	**5.16**	**16**	Pn	**Pn**	**21 26 15.4**	**+1.9**
PBRG				Sn	**Sn**	**21 27 10.3**	**-1.4**
	comp=N,0.9nm,0.3s						
PBRG	**Braganca**	**5.16**	**16**	*e*Pn	**Pn**	**21 26 15.4**	**+1.9**
PBRG				*e*Sn	**Sn**	**21 27 10.3**	**-1.4**
PBRG				A	A	21 27 12.1	
	comp=N,1.7nm,0.3s						
ECAL	**Calabor**	**5.29**	**15**	P	**Pn**	**21 26 15.8**	**+0.5**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**21 27 11.9**	**-3.1**
	comp=N,5.3nm,0.4s,SNR=7.2						
EZAM	**Zamans**	**5.29**	**359**	P	**Pn**	**21 26 15.6**	**+0.4**
	comp=N,0.1nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**21 27 11.5**	**-3.4**
	comp=N,0.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.89**	**70**	P	**Pn**	**21 26 23.7**	**+0.2**
	comp=N,0.7nm,0.2s,SNR=18						
ETOB				S	**Sn**	**21 27 27.0**	**-2.8**
	comp=N,0.7nm,0.2s						
EAGO	**Agolada(Pontev**	**5.96**	**4**	P	**Pn**	**21 26 25.3**	**+0.8**
	comp=N,0.1nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**21 27 27.1**	**-4.3**
	SNR=7.9						
EMUR	**La Murta**	**5.97**	**78**	P	**Pn**	**21 26 25.5**	**+0.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.09**	**358**	P	**Pn**	**21 26 27.3**	**+1.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**21 27 31.6**	**-3.1**
	comp=N,1.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.48**	**50**	P	**Pn**	**21 26 33.1**	**+1.4**
	comp=N,12nm,0.1s,SNR=30						
ETOR				S	**Sn**	**21 27 41.1**	**-3.3**
	comp=N,1.9nm,0.3s						
ECHE	**Chera**	**6.62**	**63**	P	**Pn**	**21 26 34.6**	**+1.0**
	comp=N,0.7nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**21 27 45.7**	**-2.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**7.28**	**59**	P	**Pn**	**21 26 44.5**	**+1.7**
	comp=N,1.1nm,0.3s,SNR=9.8						

IDC ***19*** *21:32:32.5 ± 1.3, 37.96N × 106.07E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.3/50, mbtmp3.4/7, ML3.4/2, Error ellipse: s-maj=34.8km s-min=20.7km az=78.0*

ISC 19 21:32:34.2 ± 1.1, **37.9N** ± 0.1 × **106.0E** ± 0.2, **h10** km, **n7**, σ 0**s93**/**7**, **mb3.6**/4, **Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.90**	**1**	Pn	**Pn**	**21 34 57.4**	**+0.7**
	0.8nm,0.3s,baz=181,slow=14,SNR=18						
SONM				Lg	Lg	21 37 44.7	
	0.4nm,0.3s,baz=181,slow=30,SNR=6.2						
MKAR	**Makanchi Array**	**19.59**	**304**	P	**P**	**21 37 01.4**	**-0.9**
	0.1nm,0.3s,baz=103,slow=12,SNR=2.0						
CMAR	**Chiang Mai Arr**	**20.36**	**200**	P	**P**	**21 37 11.6**	**+0.7**
	0.2nm,0.4s,baz=356,slow=7.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**21.64**	**325**	P	**P**	**21 37 23.5**	**-0.9**
	0.9nm,0.5s,baz=130,slow=9.8,SNR=5.4						
KURBB	**Kurchatov Arra**	**23.26**	**312**	P	**P**	**21 37 42.3**	**+0.7**
	0.7nm,0.2s,baz=118,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**63.04**	**27**	P	**P**	**21 43 00.6**	**-0.4**
	0.2nm,0.5s,baz=298,slow=4.8,SNR=6.1						
WRA	**Warramunga Arr**	**63.43**	**150**	P	**P**	**21 43 03.8**	**-0.3**
	0.4nm,0.9s,baz=338,slow=7.3,SNR=1.8						

IDC ***19*** *21:34:02.3 ± 1.4, 12.20N × 144.47E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/44, mbtmp3.5/6, Error ellipse: s-maj=44.0km s-min=16.8km az=100.0*

ISC 19 21:34:06.3 ± 1.5, **12.2N** ± 0.1 × **144.5E** ± 0.3, **h29** km, **n7**, σ 0**s67**/**8**, **mb3.6**/6, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.43**	**14**	Pn	**Pn**	**21 34 30.2**	**-0.1**
	36nm,0.3s,baz=180,slow=13,SNR=12						
GUMO				Sn	**Sb**	**21 34 50.7**	**+0.6**
	52nm,0.3s,baz=230,slow=22,SNR=32						
WRA	**Warramunga Arr**	**33.47**	**198**	P	**P**	**21 40 43.0**	**-0.2**
	0.8nm,0.9s,baz=21,slow=9.9,SNR=7.9						
ASAR	**Alice Springs**	**37.12**	**196**	P	**P**	**21 41 15.1**	**+0.4**
	0.6nm,0.6s,baz=21,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**44.30**	**284**	P	**P**	**21 42 14.8**	**+0.9**
	0.4nm,0.6s,baz=75,slow=8.2,SNR=4.5						
SONM	**Songino Array**	**47.67**	**326**	P	**P**	**21 42 39.4**	**-0.9**
	0.2nm,0.5s,baz=144,slow=5.2,SNR=1.9						
MKAR	**Makanchi Array**	**62.25**	**317**	P	**P**	**21 44 25.4**	**-0.2**
	0.5nm,0.9s,baz=89,slow=8.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**65.46**	**320**	P	**P**	**21 44 46.5**	**-0.2**
	0.6nm,0.6s,baz=82,slow=6.6,SNR=1.7						

INET 19 21:46:19.3, 11.36N × 87.22W, h22 km, ML3.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUEV	**Buena Vista**	**1.87**	**107**	*e*P	**Pn**	**21 46 49.6**	**-0.5**
GB1A	**Borinquen Arri**	**1.87**	**106**	*e*P	**Pn**	**21 46 49.5**	**-0.7**
ORTG	**Ortega, Santa**	**2.00**	**120**	*e*P	**Pb**	**21 46 57.1**	**+2.1**
MATN	**Matagalpa**	**2.01**	**39**	*e*P	**Pn**	**21 46 50.8**	**-1.3**
PLVR	**Palo Verde**	**2.10**	**118**	*e*P	**Pn**	**21 46 54.6**	**+1.3**
JTS	**Las Juntas de**	**2.47**	**115**	*e*P	**Pb**	**21 47 02.3**	**-0.8**
ARE1	**Arenal 1**	**2.62**	**110**	*e*P	**Pb**	**21 47 04.1**	**-1.4**
CEDE	**Laguna Cedeo**	**2.62**	**109**	*e*P	**Pb**	**21 47 05.3**	**-0.4**
LCR2	**La Lucha 2**	**3.55**	**117**	*e*P	**Pn**	**21 47 16.3**	**+2.9**

NEIC ***19*** *21:54:02.5 ± 0.7, 37.47S ± 0.06 × 74.15W ± 0.08, h36km ± 8km, Error ellipse: s-maj=9.3km s-min=8.5km az=81.0*
GUC ***19*** *21:54:03.2 ± 0.5, 37.44S × 74.14W, h34km ± 2km, ML4.0*
VAO ***19*** *21:54:06.4 ± 1.2, 37.38S × 73.44W, h10km, mb4.5*
IDC ***19*** *21:54:07.4 ± 4.9, 37.48S × 73.58W, h35km ± 35km, mb3.7/7, mb1 3.8/9, mb1mx3.7/20, mbtmp3.9/9, ML4.1/2, Error ellipse: s-maj=44.7km s-min=19.8km az=86.0*

ISC 19 21:54:00.9 ± 1.4, **37.40S** ± 0.04 × **74.18W** ± 0.05, **h11** km ± 8km, **n71**, σ 1**s59**/**74**, **mb4.0**/8, **3C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**1.04**	**167**	*i* P	**Pg**	**21 54 20.6**	**-0.2**
BI04				*i* S	**Sg**	**21 54 33.0**	**-1.3**
BI04				IAML		21 54 42.4	
	comp=N,9μm,0.6s						
BI03	**Tigo**	**1.08**	**59**	⇑*i*P	**Pg**	**21 54 21.6**	**0.0**
BI03				*i* S	**Sg**	**21 54 35.8**	**+0.1**
BI03	**Tigo**	**1.08**	**59**		**Pg**	**21 54 21.5**	**-0.1**
LAJA	**Laja**	**1.18**	**85**	*e*P	**Pg**	**21 54 22.5**	**-1.0**
LAJA				*e*S	**Sg**	**21 54 37.7**	**-1.1**
LAJA				IAML		21 54 42.0	
	comp=N,4μm,0.6s						
LC01	**Cunco**	**2.35**	**130**	⇑*i*P	**Pn**	**21 54 39.8**	**+0.3**
LC01				*e*S	**Sn**	**21 55 07.4**	**-1.0**
LC01				IAML		21 55 23.0	
	comp=E,834nm,0.7s						
BI02	**San Fabin de**	**2.44**	**73**	⇑*i*P	**Pn**	**21 54 41.3**	**+0.6**
BI02				*i* S	**Sn**	**21 55 12.0**	**+1.3**
BI02				IAML		21 55 21.9	
	comp=E,923nm,0.5s						
BI02	**San Fabin de**	**2.44**	**73**		**Pn**	**21 54 41.2**	**+0.5**
BI02				Sn	**Sn**	**21 55 07.7**	**-2.9**
GO05	**Huala**	**3.00**	**38**	*i* P	**Pn**	**21 54 49.3**	**+0.9**
GO05				*i* S	**Sn**	**21 55 24.7**	**+0.3**
GO05				IAML		21 55 54.2	
	comp=E,663nm,0.7s						
GO05	**Huala**	**3.00**	**38**		**Pn**	**21 54 48.2**	**-0.2**
GO05				Sn	**Sn**	**21 55 23.1**	**-1.4**
BO02	**Sierra Bellavi**	**3.79**	**48**	*e*P	**Pn**	**21 55 00.2**	**+0.9**
BO02	**Sierra Bellavi**	**3.79**	**48**	Pn	**Pn**	**21 54 58.9**	**-0.4**
PLCA	**Paso Flores**	**4.37**	**141**	Pn	**Pn**	**21 55 08.2**	**+1.0**
	comp=E,3.0nm,0.3s,baz=314,slow=12,SNR=28						
PLCA				Pg	**Pb**	**21 55 19.7**	**+2.0**
	comp=E,5.0nm,0.3s,baz=321,slow=13,SNR=21						
PLCA				Lg	Lg	21 56 17.2	
	baz=67,slow=19,SNR=2.5						
PLCA	**Paso Flores**	**4.37**	**141**		**Pn**	**21 55 05.1**	**-2.1**
PLCA	**Paso Flores**	**4.37**	**141**	*e*P	**Pn**	**21 55 08.3**	**+1.1**
MT02	**Curacav**	**4.82**	**32**		**Pn**	**21 55 13.3**	**-0.1**
MT05	**Renca**	**4.89**	**36**		**Pn**	**21 55 14.2**	**-0.2**
ROC1	**El Roble**	**5.12**	**31**		**Pn**	**21 55 17.4**	**-0.4**
PEL	**Peldehue**	**5.12**	**35**		**Pn**	**21 55 17.4**	**-0.2**
LL01	**San Ignacio de**	**5.16**	**165**	Pn	**Pn**	**21 55 16.4**	**-1.5**
H03S1	**Juan Fernandez**	**5.23**	**311**	Pn	Pb	21 55 22.5	-10
	baz=242,slow=75,SNR=10.0						
H03S1				T	T	22 00 56.3	
	baz=130,slow=73,SNR=597						
H03S3	**Juan Fernandez**	**5.25**	**311**	Pn	Pb	21 55 22.8	-10
	baz=242,slow=75,SNR=9.9						
H03S3				T	T	22 00 57.0	
	baz=130,slow=73,SNR=323						
H03S2	**Juan Fernandez**	**5.25**	**311**	Pn	Pb	21 55 22.6	-10
	baz=242,slow=75,SNR=13						
H03S2				T	T	22 00 59.8	
	baz=130,slow=73,SNR=338						
VA04	**Juan Fernndez**	**5.33**	**313**	*e*P	Pn	21 55 22.6	+2.2
VA04				*e*S	**Sn**	**21 56 20.6**	**-1.2**
VA04	**Juan Fernndez**	**5.33**	**313**	Pn	**Pn**	**21 55 20.7**	**+0.3**
VA03	**San Esteban**	**5.50**	**34**	Pn	**Pn**	**21 55 22.6**	**-0.3**
H03N3	**Juan Fernandez**	**5.52**

comp=Z,0.6nm,0.8s,baz=269,slow=7.2,SNR=4.4

*MEX **19** 21:55:36.8±0.3,32.41N×115.60W,h10km,MD3.9*
*ECX **19** 21:55:38.3±0.5,30.58N×114.23W,h20km±11km,MD2.9, ML3.0*
ISC 19 21:55:35.0±2.3,31.8N±0.1×115.0W±0.1,h10km,n8, σ1s07/7,1C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.75**	**169**	*eP*	**Pn**	**21 55 50.9**	**-0.8**
SFX				*eS*	**Sb**	**21 56 00.9**	**+0.5**
SFX				IAML		21 56 02.2	
	comp=E,438nm,0.4s						
SFX				⇑*e*		21 56 02.2	
SFX				IAML		21 56 02.8	
	comp=N,514nm,0.3s						
SPIG	**San Pedro Mart**	**0.82**	**208**	⇓*eP*	Pn	21 55 58.4	+5.4
SPIG				*i* S	Sn	21 56 15.5	+10
SPIG	**San Pedro Mart**	**0.82**	**208**	*eP*	Pn	21 55 58.4	+5.4
SPX	**San Pedro Mart**	**0.83**	**208**	*eP*	Pn	21 55 58.0	+4.9
SPX				*eS*	Sn	21 56 14.2	+8.6
PIX	**Pinacate**	**1.34**	**99**	*eP*	**Pn**	**21 55 58.4**	**-1.5**
SQX	**San Quintin**	**1.40**	**212**	*eP*	**Pg**	**21 56 01.8**	**-0.2**
SQX				*eS*	**Sn**	**21 56 20.2**	**+1.0**
SQX				⇓*e*		21 56 30.4	
SQX				IAML		21 56 30.4	
	comp=E,357nm,0.3s						
TJIG	**Tijuana**	**1.55**	**295**	*i* P	Pn	21 55 51.8	-11
214A	**Organ Pipe Nat**	**1.89**	**84**	*eP*	**Pn**	**21 56 07.7**	**+0.4**
214A				*i* S	**Sg**	**21 56 36.2**	**+0.5**

*ISK **19** 22:04:08.3,34.86N×33.95E,h45km,ML3.1/23*
*DDA **19** 22:04:09.0,34.88N×33.86E,h59km±19km,ML2.6*
*NIC **19** 22:04:10.6±0.0,34.92N×33.88E,h37km±1km,Ml2.7/4*
*GII **19** 22:04:11.9±0.2,34.82N×33.89E,h31km,MD3.1/1*
ISC 19 22:04:09.8±1.2,34.88N±0.02×33.96E±0.03,h43km±7km, n64,σ0s80/93,2C-3D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PARAL	**Paralimni**	**0.14**	**30**	P	**Pn**	**22 04 17.4**	**+0.5**
PARAL				S	**Sn**	**22 04 22.2**	**+0.2**
PARAL				AML	AML	22 04 22.8	
	3.5nm,0.5s						
PARAL				AML	AML	22 04 22.8	
	3.5nm,0.5s						
PARAL				AML	AML	22 04 26.8	
	2.6nm,0.6s						
PARAL				AML	AML	22 04 26.8	
	2.6nm,0.6s						
MVOU	**Mavrovouni**	**0.30**	**298**	⇑P	**Pn**	**22 04 17.9**	**-0.4**
MVOU				S	**Sn**	**22 04 24.0**	**-0.3**
MVOU				AML	AML	22 04 24.5	
	5.5nm,0.2s						
MVOU				AML	AML	22 04 24.5	
	5.5nm,0.2s						
MVOU				AML	AML	22 04 24.8	
	4.6nm,0.2s						
MVOU				AML	AML	22 04 24.8	
	4.6nm,0.2s						
AKIN	**Akıncılar- Kıb**	**0.42**	**289**	PG	**Pn**	**22 04 18.8**	**-0.9**
AKIN				SG	**Sn**	**22 04 26.6**	**-0.1**
CSS	**Mathiatis**	**0.52**	**280**	PG	**Pn**	**22 04 19.9**	**-1.1**
CSS				SG	**Sn**	**22 04 28.6**	**-0.3**
CSS	**Mathiatis**	**0.52**	**280**	⇓P	**Pn**	**22 04 20.4**	**-0.5**
CSS				S	**Sn**	**22 04 28.4**	**-0.5**
ATHAL	**Athalassa**	**0.53**	**300**	P	**Pn**	**22 04 20.8**	**-0.3**
ATHAL				S	**Sn**	**22 04 28.6**	**-0.5**
ASGA	**Asgata**	**0.59**	**262**	⇓P	**Pn**	**22 04 21.5**	**-0.3**
ASGA				S	**Sn**	**22 04 30.5**	**+0.1**
ASGA				AML	AML	22 04 31.8	
	2.8nm,0.5s						
ASGA				AML	AML	22 04 31.8	
	2.8nm,0.5s						
ASGA				AML	AML	22 04 32.1	
	2.2nm,0.2s						
ASGA				AML	AML	22 04 32.1	
	2.2nm,0.2s						
EREN	**Erenkoy**	**0.68**	**15**	PG	**Pn**	**22 04 22.3**	**-0.7**
EREN	**Erenkoy**	**0.68**	**15**	*i* P	**Pn**	**22 04 23.3**	**+0.3**
EREN				*i* S	**Sn**	**22 04 34.5**	**+2.0**
EREN				IAML		22 04 37.0	
	comp=E,289nm,0.4s						
EREN				IAML		22 04 39.0	
	comp=N,251nm,0.4s						
SZAC	**Souni**	**0.89**	**263**	⇓P	**Pn**	**22 04 25.7**	**-0.2**
SZAC				S	**Sn**	**22 04 38.7**	**+1.0**
SZAC				AML	AML	22 04 41.0	
	comp=N,0.8nm,0.3s						
SZAC				AML	AML	22 04 41.0	
	comp=N,0.8nm,0.3s						
SZAC				AML	AML	22 04 44.1	
	comp=N,0.9nm,0.2s						
SZAC				AML	AML	22 04 44.1	
	comp=N,0.9nm,0.2s						
LEF	**Lefka**	**0.91**	**286**	PG	**Pn**	**22 04 25.7**	**-0.4**
LEF				SG	**Sn**	**22 04 38.6**	**+0.6**
NATA	**Nata**	**1.14**	**266**	P	**Pn**	**22 04 29.9**	**+0.5**
ALFC	**Alefka**	**1.15**	**285**	P	**Pn**	**22 04 29.2**	**-0.2**
ALFC				S	**Sn**	**22 04 43.5**	**-0.5**
AKK2	**Akkuyu-Mersin**	**1.30**	**345**	PN	**Pn**	**22 04 31.1**	**-0.4**
AKK2				SN	**Sn**	**22 04 47.6**	**-0.1**
TISA	**Tisan-Mersin**	**1.30**	**350**	PN	**Pn**	**22 04 31.2**	**-0.4**
AKK1	**Akkuyu-Mersin**	**1.31**	**345**	PN	**Pn**	**22 04 31.4**	**-0.2**
AKMS	**Akamas**	**1.34**	**277**	⇑P	**Pn**	**22 04 32.4**	**+0.3**
AKMS				S	**Sn**	**22 04 47.9**	**-0.7**
KARG	**Kargicak-Mersi**	**1.34**	**351**	PN	**Pn**	**22 04 31.4**	**-0.7**
YESI	**Yesilovacik-Me**	**1.34**	**349**	PN	**Pn**	**22 04 31.6**	**-0.5**
IKL	**Isikli**	**1.38**	**351**	PN	**Pn**	**22 04 32.1**	**-0.5**
TEPK	**Tepekoy-MERSIN**	**1.39**	**346**	PN	**Pn**	**22 04 32.2**	**-0.6**
OREN	**Orenkoy-Mersin**	**1.39**	**343**	PN	**Pn**	**22 04 32.4**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.44**	**332**	PN	**Pn**	**22 04 32.9**	**-0.5**
SILI	**Silifke-Mersin**	**1.49**	**359**	PN	**Pn**	**22 04 33.8**	**-0.3**
KEBE	**Keben-Mersin**	**1.58**	**353**	PN	**Pn**	**22 04 35.1**	**-0.3**
BERE	**Bereket-Mersin**	**1.59**	**338**	PN	**Pn**	**22 04 35.2**	**-0.4**
BHL	**Bhannes**	**1.71**	**124**	*eP*	**Pn**	**22 04 36.7**	**-0.5**
HWQ	**Hawqa**	**1.75**	**109**	*eP*	**Pn**	**22 04 38.7**	**+0.9**
DQRL	**Deir Qamar**	**1.77**	**131**	*eP*	**Pn**	**22 04 37.6**	**-0.5**
GAZI	**Gazipasa**	**1.91**	**316**	PN	**Pn**	**22 04 39.3**	**-0.5**
GAZI	**Gazipasa**	**1.91**	**316**	*i* P	**Pn**	**22 04 39.6**	**-0.2**
GAZI				IAML		22 04 57.0	
	comp=E,50nm,2.1s						
GAZI				*i* S	**Sn**	**22 05 01.5**	**-1.1**
GAZI				IAML		22 05 03.0	
	comp=N,65nm,0.4s						
MERS	**Mersin**	**2.04**	**13**	PN	**Pn**	**22 04 41.5**	**-0.3**
RCY	**Rachaya**	**2.08**	**131**	*eP*	**Pn**	**22 04 42.7**	**+0.4**
YAYL	**Yayladag**	**2.10**	**56**	PN	**Pn**	**22 04 42.4**	**-0.3**
GEM	**Giv'at Ha'Em**	**2.18**	**139**	Pn	**Pn**	**22 04 43.9**	**+0.3**
GEM				Sn	**Sn**	**22 05 08.7**	**-0.7**
NATI	**Neve Ativ**	**2.19**	**137**	Pn	**Pn**	**22 04 44.0**	**+0.4**
NATI				Sn	**Sn**	**22 05 09.2**	**-0.2**
DED	**Mersin**	**2.19**	**18**	*i* P	**Pn**	**22 04 44.0**	**+0.2**
DED				*i* S	**Sn**	**22 05 09.3**	**-0.4**
DED				IAML		22 05 11.0	
	comp=E,24nm,0.4s						
DED				IAML		22 05 12.0	
	comp=N,23nm,1.9s						
MMA0B	**Mount Meron ar**	**2.21**	**147**	Pn	**Pn**	**22 04 43.9**	**-0.2**
MMA0B				Sn	**Sn**	**22 05 09.3**	**-0.9**
OSC2	**CSNet OBS 4**	**2.28**	**218**	P	**Pn**	**22 04 46.4**	**+1.5**
OSC2				S	**Sn**	**22 05 13.8**	**+2.1**
TAHT	**Tahtakopru-Hat**	**2.35**	**50**	PN	**Pn**	**22 04 45.8**	**-0.2**
KRMN	**Karaman**	**2.36**	**346**	PN	**Pn**	**22 04 45.8**	**-0.4**
OFRI	**`Ofer**	**2.41**	**159**	Pn	**Pn**	**22 04 46.4**	**-0.3**
OFRI				Sn	**Sn**	**22 05 14.0**	**-1.0**
KERG	**Konya-Eregli**	**2.54**	**3**	*i* P	**Pn**	**22 04 49.8**	**+1.1**
KERG				*i* S	**Sn**	**22 05 20.0**	**+1.6**
KARA	**Karaisali**	**2.54**	**20**	PN	**Pn**	**22 04 48.3**	**-0.3**
OSC1	**CSNet OBS 1**	**2.61**	**239**	P	**Pn**	**22 04 49.7**	**+0.2**
SHMJ	**Saham**	**2.62**	**144**	Pn	**Pn**	**22 04 50.2**	**+0.6**
MMLI	**Mount Malkishu**	**2.72**	**153**	PN	**Pn**	**22 04 50.9**	**-0.2**
MMLI	**Mount Malkishu**	**2.72**	**153**	Pn	**Pn**	**22 04 51.3**	**+0.2**
MMLI				Sn	**Sn**	**22 05 22.3**	**-0.4**
SLTI	**Sal'it**	**2.78**	**161**	Pn	**Pn**	**22 04 51.6**	**-0.2**
CMRD	**Camardi-Nigde**	**2.91**	**16**	PN	**Pn**	**22 04 53.8**	**+0.1**
YESY	**Yesilyurt**	**2.91**	**357**	PN	**Pn**	**22 04 53.9**	**+0.2**
HMDT	**Nahal Hemdat**	**2.92**	**153**	Pn	**Pn**	**22 04 54.2**	**+0.4**
HMDT				Sn	**Sn**	**22 05 27.8**	**+0.1**
KOZT	**Kozan**	**3.01**	**30**	PN	**Pn**	**22 04 55.1**	**+0.1**
SEYD	**Seydisehir-KON**	**3.05**	**326**	PN	**Pn**	**22 04 55.8**	**+0.1**
KUZU	**Kuzuini**	**3.17**	**52**	*i* P	**Pn**	**22 04 57.3**	**+0.1**
KUZU				*i* S	**Sn**	**22 05 32.0**	**-1.7**
KUZU				IAML		22 05 34.0	
	comp=N,13nm,0.3s						
KUZU				IAML		22 05 37.0	
	comp=E,19nm,0.5s						
ANDN	**Andirin**	**3.32**	**35**	*i* P	**Pn**	**22 05 01.4**	**+2.1**
ANDN				*i* S	**Sn**	**22 05 34.6**	**-3.0**
YAHY	**KAYSERI_Yahyal**	**3.41**	**19**	*i* P	**Pn**	**22 05 01.6**	**+1.0**
YAHY				IAML		22 05 40.0	
	comp=N,18nm,1.9s						
YAHY				IAML		22 05 40.0	
	comp=E,16nm,1.8s						
YAHY				*i* S	**Sn**	**22 05 41.6**	**+1.8**
DSI	**Dead Sea**	**3.50**	**160**	Pn	**Pn**	**22 05 02.5**	**+0.7**
DSI				Sn	**Sn**	**22 05 41.4**	**-0.6**
YTIR	**Yattir**	**3.63**	**164**	Pn	**Pn**	**22 05 03.8**	**+0.1**
YTIR				Sn	**Sn**	**22 05 44.8**	**-0.5**
KARJ	**KARJ**	**4.01**	**159**	Pn	Pn	22 04 57.8	-11
PRNI	**Paran**	**4.60**	**169**	Pn	**Pn**	**22 05 17.1**	**+0.3**
PRNI				Sn	**Sn**	**22 06 07.8**	**-1.1**
KRMI	**Paran Flat**	**4.79**	**172**	Pn	**Pn**	**22 05 19.8**	**+0.3**
MBRI	**Mt Berech**	**5.13**	**171**	Pn	**Pn**	**22 05 24.8**	**+0.6**
MBRI				Sn	**Sn**	**22 06 21.0**	**-1.2**
EIL	**Elat**	**5.26**	**170**	Pn	**Pn**	**22 05 26.2**	**+0.3**

*SOME **19** 22:18:17.1,43.12N×81.63E,h15km*
*NNC **19** 22:18:20.1±3.2,43.21N×81.59E,h17km±13km,mb3.7, mpv3.2,Error ellipse: s-maj=30.0km s-min=7.7km az=145.0*
ISC 19 22:18:14.3±2.2,43.08N±0.09×81.73E±0.07,h2km±13km, n26,σ2s46/44,7C-9D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.07**	**291**	*eP*	**Pb**	**22 18 36.4**	**+0.7**
KTMS	4.2nm,0.1s			*eS*	**Sb**	**22 18 50.4**	**0.0**
	67nm,0.1s						
PDGK	**Podgornoye**	**1.66**	**280**	⇓Pn	**Pg**	**22 18 46.7**	**+0.5**
PDGK	9.9nm,0.3s			⇑Lg	Lg	22 19 10.5	
	68nm,0.3s						
SHLS	**Shalkode**	**1.67**	**274**	⇑*eP*	**Pn**	**22 18 42.0**	**-2.6**
SHLS	68nm,0.2s			*eS*	**Sn**	**22 18 59.4**	**-7.3**
	164nm,0.3s						
DJR	**Jarkent**	**1.89**	**312**	*eP*	**Pg**	**22 18 50.5**	**0.0**
DJR	31nm,0.4s			*eS*	**Sg**	**22 19 14.4**	**-0.6**
	114nm,0.3s						
UZB	**Uzynbulak**	**1.99**	**273**	⇓*eP*	**Pb**	**22 18 52.4**	**+1.1**
UZB	50nm,0.3s			*eS*	**Sg**	**22 19 18.4**	**+0.3**
	116nm,0.4s						
ZHN	**Zhinishke**	**2.42**	**273**	*eP*	**Pg**	**22 19 00.7**	**0.0**
ZHN	59nm,0.2s			*eS*	**Sg**	**22 19 31.8**	**-0.2**
	93nm,0.2s						
SATY	**Saty**	**2.44**	**271**	⇓*i*P	**Pg**	**22 19 01.4**	**+0.3**
SATY	21nm,0.2s			⇓*i*S	**Sg**	**22 19 33.8**	**+1.1**
	145nm,0.1s						
KURS	**Kuram**	**2.63**	**280**	*eP*	**Pg**	**22 19 04.5**	**-0.3**
KURS	10.0nm,0.6s			*eS*	**Sg**	**22 19 38.4**	**-0.6**
	69nm,0.7s						
KOTS	**Kotyrbulak**	**3.38**	**274**	*eP*	**Pb**	**22 19 17.6**	**+2.4**
KOTS				*eS*	**Sg**	**22 20 01.6**	**-1.5**
MDOK	**Medeo**	**3.43**	**273**	*eP*	**Pb**	**22 19 17.7**	**+1.8**
MDOK	7.6nm,0.4s			*eS*	**Sb**	**22 20 01.8**	**+3.6**
	32nm,0.5s						
KNDC	**Almaty**	**3.49**	**274**	⇑Pg	**Pg**	**22 19 21.6**	**+0.4**
KNDC	18nm,0.8s			⇓Lg	Lg	22 20 04.4	
	66nm,0.7s						
TNSS	**Tian-Shan**	**3.51**	**271**	*eP*	**Pb**	**22 19 19.7**	**+2.4**
TNSS	3.4nm,0.3s			*eS*	**Sg**	**22 20 05.2**	**-1.8**
	14nm,0.4s						
KTBS	**Karatobe**	**3.74**	**282**	*eP*	**Pb**	**22 19 23.1**	**+2.0**
KTBS	1.9nm,0.4s			*eS*	**Sb**	**22 20 10.5**	**+3.7**
	35nm,0.7s						
MK31	**Makanchi Array**	**3.74**	**6**	Pn	Pn	22 19 16.6	+3.4
	0.2nm,0.2s,baz=191,slow=10.0,SNR=28						
MK31				⇑Pg	**Pg**	**22 19 25.5**	**-0.5**
	1.7nm,0.3s,baz=180,slow=15,SNR=9.9						
MK31				⇓Lg	Lg	22 20 12.3	
	9.2nm,0.5s,baz=185,slow=29,SNR=4.1						
IZV	**Izvestkoviy**	**3.75**	**271**	*eP*	**Pb**	**22 19 23.4**	**+2.0**
IZV	0.7nm,0.1s			*eS*	**Sb**	**22 20 11.2**	**+3.8**
	95nm,0.5s						
MTBS	**Maitube**	**3.88**	**273**	*eP*	**Pb**	**22 19 25.5**	**+1.9**
MTBS	4.6nm,0.3s			*eS*	**Sb**	**22 20 14.4**	**+3.3**
	23nm,0.4s						
KUU	**Kurty**	**4.01**	**284**	*eP*	**Pb**	**22 19 27.4**	**+1.7**
KUU	4.1nm,0.3s			*eS*	**Sb**	**22 20 17.6**	**+3.0**
	43nm,0.6s						
KST	**Kastek**	**4.23**	**272**	*eP*	**Pg**	**22 19 33.6**	**-1.7**
KST	9.1nm,0.4s			*eS*	**Sg**	**22 20 28.2**	**-1.9**
	23nm,0.6s						
DGS	**Degeres**	**4.36**	**274**	*eP*	**Pb**	**22 19 34.8**	**+3.0**
DGS	3.4nm,0.5s			*eS*	**Sg**	**22 20 30.5**	**-4.0**
	39nm,0.7s						
KRBS	**Karabastau**	**4.46**	**280**	*eP*	**Pg**	**22 19 38.3**	**-1.5**
KRBS	2.9nm,0.3s			*eS*	**Sg**	**22 20 37.2**	**-0.3**
	17nm,0.6s						
TKM2	**Tokmak 2**	**4.50**	**270**	⇓Pg	**Pg**	**22 19 41.6**	**+1.0**
TKM2	4.6nm,0.6s			⇑Lg	Lg	22 20 39.3	
	21nm,0.7s						
ZSN	**Zaisan**	**4.90**	**26**	*eP*	**Pg**	**22 19 44.5**	**-3.7**
ZSN	4.9nm,0.6s			*eS*	**Sg**	**22 20 47.9**	**-3.8**
	34nm,0.8s						
AAK	**Ala-Archa**	**5.34**	**268**	⇑Pg	**Pg**	**22 19 54.9**	**-1.8**
AAK	4.4nm,0.9s			⇑Lg	Lg	22 21 07.7	
	12nm,0.7s						
MRKS	**Merke**	**6.26**	**270**	*eP*	**Pg**	**22 20 12.2**	**-2.0**
MRKS	2.2nm,0.7s			*eS*	**Sg**	**22 21 34.5**	**-0.7**
	7.0nm,0.6s						
KURBB	**Kurchatov Arra**	**7.86**	**345**	⇓Lg	Lg	22 22 24.5	
	13nm,0.7s						
KK31	**Karatay Array**	**8.21**	**274**	⇓Lg	Lg	22 22 38.1	
	0.9nm,0.5s,baz=88,slow=24,SNR=3.7						

*IDC **19** 22:46:55.6±0.6,1.05S×12.50W,h0km,mb4.3/14, mb1 4.3/16,mb1mx4.1/36,mbtmp4.2/16,ML4.2/2,MS3.9/32, Ms1 3.9/32,ms1mx3.8/41,Error ellipse: s-maj=21.1km s-min=16.1km az=140.0*
*NEIC **19** 22:46:56.6±1.2,1.1S±0.1×12.5W±0.1,h10km±1km, mb4.7/26,Error ellipse: s-maj=22.2km s-min=14.4km az=313.0*
*GCMT **19** 22:46:56.6±0.3,1.16S±0.04×13.12W±0.02,h22km±1km, MW4.9/84,Moment Tensor Solution. s15,c17; s84,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mr=2.67±.24; Mθθ0.23±.13; Mϕϕ2.43±.15; Mrθ-1.45±.24; Mrϕ-0.42±.08; Mθϕ-0.22±.19; Best double couple: Mo2.90000×10^16 NP1:ϕs11.00000°,δ49.00000°,λ-59.00000°. NP2: ϕs148.00000°,δ50.00000°,λ-121.00000°. Principal axes: T 2.5080, Plg1.0000°, Azm259.0000°; N 0.7790, Plg23.0000°, Azm169.0000°; P -3.2930, Plg67.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **19** 22:46:57.0±0.0,1.20S×12.60W,h22km,mB5.5/3,mb5.1/3, Ms5.0/1,Ms7 4.6/1*
ISC 19 22:46:56.8±0.5,1.08S±0.09×12.47W±0.10,h10km,n97,
σ1s53/76,**mb4.5**/35,**MS3.9**/29,**1D,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.00**	**197**	T	T	22 55 33.1	
	baz=13,slow=74,SNR=225						
H10N1	**ASCENSION HYDR**	**7.01**	**197**	T	T	22 55 31.8	
	baz=13,slow=74,SNR=434						
H10N3	**ASCENSION HYDR**	**7.02**	**197**	T	T	22 55 34.1	
	baz=13,slow=74,SNR=134						
LIC	**Lamto**	**10.38**	**46**	*eP*	**Pn**	**22 49 28.3**	**+2.4**
	8.8nm,0.5s						
KIC	**Kosan Boka**	**10.68**	**46**	*eP*	**Pn**	**22 49 30.9**	**+0.9**
	7.9nm,0.4s						
TIC	**Toumodi**	**10.68**	**44**	*eP*	**Pn**	**22 49 30.8**	**+0.7**
DBIC	**Dimbokro**	**10.82**	**45**	Pn	**Pn**	**22 49 32.8**	**+1.0**
	1.0nm,0.3s,baz=219,slow=14,SNR=15						
DBIC				Sn	**Sn**	**22 51 28.0**	**-5.0**
	0.6nm,0.3s,baz=136,slow=14,SNR=2.0						
DBIC				LR	LR	22 53 02.9	
	comp=Z,1μm,21.6s,baz=208,slow=34						
DBIC	**Dimbokro**	**10.82**	**45**		**Pn**	**22 49 33.2**	**+1.3**
DBIC					**Sn**	**22 51 31.8**	**-1.3**
KOWA	**Kowa**	**17.59**	**28**	P	**Pn**	**22 50 59.3**	**-3.0**
	0.2nm,0.3s,baz=252,slow=7.8,SNR=4.7						
KOWA				S	Sn	22 54 06.9	-12
	0.3nm,0.3s,baz=15,slow=17,SNR=1.7						
KOWA				LR	LR	22 57 18.9	
	comp=Z,632nm,19.9s,baz=190,slow=36						
KOWA	**Kowa**	**17.59**	**28**	Pn	**Pn**	**22 50 60.0**	**-2.3**
TOA0	**Torodi Ar. Sit**	**19.93**	**44**	P	**P**	**22 51 30.7**	**+1.7**
TORD	**Torodi Ar. Bea**	**19.93**	**44**	P	**P**	**22 51 30.9**	**+1.8**
	1.1nm,0.3s,baz=233,slow=11,SNR=39						
TORD				S	S	22 55 02.3	-11
	0.2nm,0.3s,baz=229,slow=23,SNR=1.7						
TORD				LR	LR	22 58 28.9	
	comp=Z,620nm,21.3s,baz=225,slow=35						
TORD	**Torodi Ar. Bea**	**19.93**	**44**	P	**P**	**22 51 29.9**	**+0.9**
RCBR	**Riachuelo**	**23.85**	**258**	LR	LR	22 59 25.5	
	comp=Z,278nm,18.3s,baz=66,slow=32						
BDFB	**Brasilia**	**37.93**	**246**	LR	LR	23 06 32.4	
	comp=Z,93nm,21.6s,baz=133,slow=31						
MDP	**Montagnes des**	**40.59**	**279**	P	**P**	**22 54 38.2**	**+1.1**
	11nm,1.0s,baz=69,slow=5.1,SNR=3.6						
ESDC	**Sonseca Array**	**41.30**	**10**	PP	PP	22 56 18.8	+0.7
	1.3nm,1.0s,baz=188,slow=9.0,SNR=4.8						
ESDC				LR	LR	23 11 48.9	
	comp=Z,120nm,18.8s,baz=10.0,slow=36						
KEST	**Kesra**	**41.90**	**27**	LR	LR	23 13 43.1	
	comp=Z,316nm,18.1s,baz=202,slow=38						
LSZ	**Lusaka**	**42.53**	**112**	P	**P**	**22 54 56.7**	**+3.5**
	2.1nm,0.4s,baz=295,slow=3.6,SNR=4.8						
LSZ	**Lusaka**	**42.53**	**112**	P	**P**	**22 54 52.7**	**-0.4**
MATP	**Matopo**	**44.40**	**118**	P	**P**	**22 55 10.0**	**+1.9**
	2.2nm,0.6s,baz=294,slow=8.2,SNR=12						
BOSA	**Boshof**	**45.24**	**131**	P	**P**	**22 55 15.2**	**+0.4**
	2.7nm,0.8s,baz=281,slow=7.1,SNR=3.9						
BOSA				LR	LR	23 11 12.1	
	comp=Z,64nm,20.2s,baz=300,slow=32						
BOSA	**Boshof**	**45.24**	**131**	P	**P**	**22 55 15.1**	**+0.3**
BOSA				IAmb	IAmb	22 55 28.6	
	comp=Z,21nm,1.6s						
PTGA	**Pitinga**	**47.49**	**270**	P	**P**	**22 55 33.5**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=99,slow=8.9,SNR=6.8						
PTGA				LR	LR	23 12 23.9	
	comp=Z,79nm,20.1s,baz=83,slow=32						
PTGA	**Pitinga**	**47.49**	**270**	P	**P**	**22 55 32.2**	**-0.4**
PTGA				IAmb	IAmb	22 55 35.5	
	comp=Z,7.4nm,0.9s						
LATE	**Laterza**	**48.68**	**24**	P	**P**	**22 55 42.6**	**+1.3**
LATE				IAmb	IAmb	22 55 45.5	
	comp=Z,8.7nm,1.3s						
INTR	**Introdacqua**	**49.07**	**26**	P	**P**	**22 55 45.1**	**+0.7**
INTR				IAmb	IAmb	22 55 48.8	
	comp=Z,17nm,1.4s						
MSSA	**Maissana**	**49.27**	**21**	P	**P**	**22 55 47.1**	**+1.2**
MSSA				IAmb	IAmb	22 55 49.8	
	comp=Z,24nm,1.6s						
KMBO	**Kilima Mbogo**	**49.71**	**91**	LR	LR	23 15 57.9	
	comp=Z,368nm,18.4s,baz=272,slow=35						
CPUP	**Villa Florida**	**49.89**	**236**	P	**P**	**22 55 50.4**	**-0.4**
	comp=Z,3.9nm,1.1s,baz=357,slow=4.6,SNR=3.4						
CPUP				LR	LR	23 13 40.7	
	comp=Z,229nm,21.7s,baz=62,slow=32						
CPUP	**Villa Florida**	**49.89**	**236**	P	**P**	**22 55 50.0**	**-0.8**
CPUP				IAmb	IAmb	22 55 53.8	
	comp=Z,9.7nm,1.3s						
SIV	**San Ignacio**	**50.13**	**250**	P	**P**	**22 55 53.6**	**+0.8**
	comp=Z,2.1nm,1.1s,baz=112,slow=5.8,SNR=4.5						
SIV				LR	LR	23 14 32.4	
	comp=Z,312nm,21.3s,baz=108,slow=33						
SAML	**Samuel**	**51.07**	**259**	P	**P**	**22 55 57.2**	**-2.7**
SAML				IAmb	IAmb	22 56 02.3	
	comp=Z,8.0nm,1.4s						
DAVOX	**Davos/Dischmat**	**51.54**	**19**	LR	LR	23 18 45.0	
	comp=Z,176nm,19.2s,baz=251,slow=37						
DAVA	**Damuels**	**51.99**	**19**	*eP*	**P**	**22 56 07.6**	**+1.2**
	comp=Z,9.0nm,1.1s						
FETA	**Feichten**	**52.04**	**20**	*eP*	**P**	**22 56 06.9**	**+0.1**
	comp=Z,4.9nm,1.1s						
SQTA	**Sankt Quirin**	**52.38**	**20**	*eP*	**P**	**22 56 10.5**	**+1.2**
	comp=Z,5.4nm,0.9s						
ABTA	**Abfaltersbach**	**52.44**	**21**	*eP*	**P**	**22 56 12.7**	**+3.0**
	comp=Z,9.1nm,1.8s						
MOTA	**Moosalm**	**52.45**	**20**	*eP*	**P**	**22 56 10.4**	**+0.5**
	comp=Z,5.4nm,1.4s						
WTTA	**Wattenberg**	**52.56**	**21**	*i* P	**P**	**22 56 11.6**	**+0.8**
	comp=Z,8.0nm,1.4s						
PRED	**Cave del Predi**	**52.58**	**22**	P	**P**	**22 56 10.6**	**-0.2**
PRED				IAmb	IAmb	22 56 22.3	
	comp=Z,14nm,1.5s						
MYKA	**Terra Mystica**	**52.76**	**22**	*eP*	**P**	**22 56 15.3**	**+3.2**
	comp=Z,3.8nm,1.0s						
OBKA	**Obir**	**53.01**	**23**	*eP*	**P**	**22 56 17.4**	**+3.4**
	comp=Z,4.2nm,1.3s						
SOKA	**Soboth**	**53.34**	**23**	*eP*	**P**	**22 56 18.2**	**+

ARCES	**ARCESS Array B**	**74.95**	**13**	P		**P**	**22 58 37.0**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=222,slow=1.6,SNR=4.3							
ARCES				LR		LR	23 33 47.3	
	comp=Z,51nm,18.5s,baz=245,slow=38							
GEYT	**Alibeck**	**75.44**	**50**	P		**P**	**22 58 41.1**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=248,slow=11,SNR=3.9							
GEYT				LR		LR	23 33 48.7	
	comp=Z,63nm,20.8s,baz=175,slow=37							
SYO	**Syowa Base**	**76.18**	**163**	*e*P		**P**	**22 58 43.5**	**-1.3**
BELA	**Belgrano 2**	**77.64**	**185**	P		**P**	**22 58 51.8**	**-1.2**
ABKAR	**Abkulak array**	**79.41**	**39**	P		**P**	**22 59 03.5**	**+0.2**
ABKAR	**Abkulak array**	**79.41**	**39**	P		**P**	**22 59 03.5**	**+0.2**
ARU	**Arti**	**80.50**	**32**	P		**P**	**22 59 08.9**	**-0.1**
ARU				IAmb	IAmb		22 59 11.0	
	comp=Z,13nm,1.1s							
MAW	**Mawson**	**83.44**	**158**	P		**P**	**22 59 25.1**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=288,slow=9.4,SNR=5.5							
MAW				LR		LR	23 28 42.9	
	comp=Z,54nm,21.7s,baz=66,slow=30							
MAW	**Mawson**	**83.44**	**158**	P		**P**	**22 59 24.4**	**+0.2**
CHGR	**Chuyangaron**	**84.13**	**51**	P		**P**	**22 59 28.4**	**-0.1**
GAR	**Garm**	**85.06**	**51**	P		**P**	**22 59 32.4**	**-0.9**
BTK	**Batken**	**85.54**	**50**	P		**P**	**22 59 35.7**	**+0.1**
KKAR	**Karatay Array**	**85.60**	**47**	P		**P**	**22 59 35.7**	**-0.1**
BRVK	**Borovoye**	**86.49**	**37**	P		**P**	**22 59 39.7**	**-0.2**
BRVK				IAmb	IAmb		22 59 41.6	
	comp=Z,4.5nm,1.1s							
ULM	**Lac du Bonnet**	**86.59**	**320**	LR		LR	23 35 02.1	
	comp=Z,36nm,19.4s,baz=20,slow=33							
NIL	**Nilore**	**87.03**	**56**	P		**P**	**22 59 42.9**	**-0.1**
QSPA	**South Pole Qui**	**89.00**	**180**	P		**P**	**22 59 51.1**	**-0.8**
	comp=Z,5.0nm,1.0s,baz=216,slow=2.2,SNR=11							
QSPA	**South Pole Qui**	**89.00**	**180**	P		**P**	**22 59 51.0**	**-0.8**
KSH	**Kashi**	**89.47**	**51**	P		**P**	**22 59 54.8**	**+0.1**
KSH				S		**S**	**23 10 42.8**	**-2.8**
KSH				pmax	pmax			
	comp=Z,57nm,4.0s							
KSH				LR	LR			
	comp=Z,81nm,4.5s							
KSH				LR	LR			
	comp=Z,46nm,4.2s							
MKAR	**Makanchi Array**	**94.05**	**43**	P		**P**	**23 00 16.3**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=267,slow=4.5,SNR=6.7							
MKAR				LR		LR	23 47 43.0	
	comp=Z,36nm,18.9s,baz=318,slow=39							
MKAR	**Makanchi Array**	**94.05**	**43**	P		**P**	**23 00 15.9**	**+0.3**
ZALV	**Zalesovo Beam**	**95.17**	**36**	LR		LR	23 46 12.7	
	comp=Z,31nm,20.6s,baz=238,slow=37							
PDAR	**Pinedale Array**	**95.94**	**313**	LR		LR	23 39 56.5	
	comp=Z,61nm,19.6s,baz=34,slow=33							
WMQ	**Urumqi**	**98.08**	**46**	*e*P		Pdif	23 00 36.1	+2.0
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,50nm,3.9s							
HHC	**Hu-ho-hao-te**	**115.89**	**44**	*e*PKP		**PKiKP**	**23 05 37.8**	**-2.6**
NJ2	**Nanjing**	**124.78**	**51**	*e*PKP		**PKPdf**	**23 05 57.3**	**-0.3**
ASAR	**Alice Springs**	**139.10**	**129**	PKhKP		PKPpre	23 06 14.5	
	comp=Z,0.4nm,0.6s,baz=251,slow=3.8,SNR=4.1							
WRA	**Warramunga Arr**	**141.34**	**124**	PKhKP		PKPpre	23 06 24.1	
	comp=Z,0.3nm,0.9s,baz=238,slow=2.2,SNR=1.5							

WEL ***19*** *22:55:43.9±0.6,34°S±5°×18°0E±°, h157km±15km, M4.3/40, mB4.9/14, ML4.9/12, MLv4.5/40, Mw(mB)4.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8*

IDC ***19*** *22:55:44.6±7.3,34°64S×179°29E, h212km±79km, mb3.4/3, mb1 3.7/4, mb1mx3.3/27, mbtmp4.1/4, Error ellipse: s-maj=99.1km s-min=47.8km az=176.0*

ISC 19 22:55:41.8±1.1, 34°45S±0°07×179°5E±0°1, h200km, n60, σ1§86/70, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.25**	**196**	P		**Pn**	**22 56 36.8**	**+2.5**
WMGZ	**Waiomatatini S**	**3.47**	**194**	P		**Pn**	**22 56 39.7**	**+2.7**
HAZ	**Te Kaha**	**3.57**	**202**	P		**Pn**	**22 56 40.4**	**+2.1**
HAZ				S		**Sn**	**22 57 21.1**	**-1.5**
PKGZ	**Pakihiroa**	**3.61**	**198**	P		Pn	22 56 48.3	+10
PKGZ				S		**Sn**	**22 57 30.2**	**+6.5**
PUZ	**Puketiti**	**3.75**	**195**	P		**Pn**	**22 56 42.4**	**+2.0**
PUZ				S		**Sn**	**22 57 25.7**	**-0.9**
RUGZ	**Raukumara Rang**	**3.80**	**202**	P		**Pn**	**22 56 42.8**	**+1.6**
RUGZ				S		**Sn**	**22 57 24.9**	**-3.0**
KUZ	**Kuaotunu**	**3.82**	**232**	P		**Pn**	**22 56 43.1**	**+1.8**
TWGZ	**Tauwhareparae**	**3.91**	**197**	P		**Pn**	**22 56 44.6**	**+2.2**
TWGZ				S		**Sn**	**22 57 30.9**	**+0.7**
OPRZ	**Ohinepanea**	**4.13**	**214**	P		**Pn**	**22 56 47.2**	**+2.1**
CNGZ	**Carnagh Statio**	**4.16**	**194**	P		**Pn**	**22 56 47.5**	**+2.1**
MWZ	**Matawai**	**4.18**	**201**	P		**Pn**	**22 56 47.3**	**+1.5**
MWZ				S		**Sn**	**22 57 33.6**	**-2.7**
MARZ	**Manawahe**	**4.19**	**212**	P		**Pn**	**22 56 48.6**	**+2.6**
TKGZ	**Te Karaka**	**4.19**	**198**	P		**Pn**	**22 56 47.3**	**+1.4**
TKGZ				S		**Sn**	**22 57 35.1**	**-1.4**
URZ	**Urewera**	**4.25**	**206**	P		**Pn**	**22 56 47.9**	**+1.3**
	18nm,0.3s,baz=4.7,slow=3.7,SNR=108							
URZ				S		**Sn**	**22 57 36.1**	**-1.7**
	22nm,0.3s,baz=299,slow=19,SNR=14							
URZ	**Urewera**	**4.25**	**206**	P		**Pn**	**22 56 48.0**	**+1.3**
URZ				S		**Sn**	**22 57 35.2**	**-2.6**
RAGZ	**Rawiri**	**4.37**	**202**	P		**Pn**	**22 56 49.6**	**+1.4**
WCZ	**Waipu Caves**	**4.45**	**249**	P		**Pn**	**22 56 50.3**	**+1.2**
RIGZ	**Rimuhau**	**4.47**	**197**	P		**Pn**	**22 56 50.7**	**+1.3**
RIGZ				S		**Sn**	**22 57 41.4**	**-1.3**
TARZ	**Mount Tarawera**	**4.47**	**211**	P		**Pn**	**22 56 53.1**	**+3.6**
MUGZ	**Murupara**	**4.57**	**208**	P		**Pn**	**22 56 51.8**	**+1.1**
TOZ	**Tahuroa Road**	**4.59**	**223**	P		Pn	22 56 56.2	+5.3
RTZ	**Ruatahuna**	**4.62**	**205**	P		**Pn**	**22 56 51.6**	**+0.2**
RTZ				S		**Sn**	**22 57 43.2**	**-3.0**
PRGZ	**Paritu Road**	**4.64**	**195**	P		**Pn**	**22 56 52.6**	**+0.9**
SNGZ	**Shannon Statio**	**4.65**	**201**	P		**Pn**	**22 56 52.8**	**+1.0**
SNGZ				S		**Sn**	**22 57 45.7**	**-1.2**
HRRZ	**Handcock Road**	**4.70**	**212**	P		**Pn**	**22 56 55.4**	**+3.1**
KNZ	**Kokohu**	**4.79**	**197**	P		**Pn**	**22 56 53.5**	**+0.1**
ALRZ	**Allen Road**	**4.81**	**211**	P		**Pn**	**22 56 55.4**	**+1.6**
MHGZ	**Mahia Peninsul**	**4.86**	**194**	P		**Pn**	**22 56 55.4**	**+1.0**
OUZ	**Omahuta**	**4.89**	**259**	P		**Pn**	**22 56 55.0**	**+0.3**
WHHZ	**Waihua**	**4.96**	**201**	P		**Pn**	**22 56 56.5**	**+0.9**
KUTZ	**Kaahu Road**	**4.99**	**215**	P		**Pn**	**22 56 59.3**	**+3.2**
TLZ	**Tolley Road**	**5.00**	**218**	P		**Pn**	**22 56 59.4**	**+3.2**
MRHZ	**Matea Rd**	**5.02**	**208**	P		**Pn**	**22 56 57.2**	**+0.8**
NMHZ	**Naumai**	**5.11**	**204**	P		**Pn**	**22 56 58.9**	**+1.3**
ARHZ	**Aropaoanui**	**5.20**	**202**	P		**Pn**	**22 56 59.2**	**+0.5**
BKZ	**Black Stump Fm**	**5.28**	**206**	P		**Pn**	**22 57 00.9**	**+1.1**
KATZ	**Kakaramea**	**5.44**	**213**	P		**Pn**	**22 57 04.3**	**+2.4**
MCHZ	**McNeill Hill**	**5.46**	**203**	P		**Pn**	**22 57 02.5**	**+0.5**
HIZ	**Hauiti**	**5.50**	**221**	P		**Pn**	**22 57 05.7**	**+3.1**
KWHZ	**Kaweka Forest**	**5.53**	**205**	P		**Pn**	**22 57 03.1**	**+0.1**
CKHZ	**Cape Kidnapper**	**5.54**	**199**	P		**Pn**	**22 57 03.2**	**+0.1**
WTVZ	**West Tongariro**	**5.60**	**213**	P		**Pn**	**22 57 05.2**	**+1.2**
OTVZ	**Oturere**	**5.61**	**212**	P		**Pn**	**22 57 05.3**	**+1.2**
GLKZ	**Green Lake**	**5.63**	**24**	S		**Sn**	**22 58 08.3**	**-1.1**
TWVZ	**Taurewa**	**5.63**	**214**	P		**Pn**	**22 57 05.7**	**+1.3**
BHHZ	**Black Hill Sta**	**5.72**	**207**	P		**Pn**	**22 57 05.3**	**-0.2**
KAHZ	**Kahuranaki**	**5.72**	**200**	P		**Pn**	**22 57 05.3**	**-0.2**
FWVZ	**Far West T-bar**	**5.73**	**212**	P		**Pn**	**22 57 06.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**5.74**	**212**	P		**Pn**	**22 57 06.4**	**+0.6**
KRHZ	**Kereru**	**5.75**	**205**	P		**Pn**	**22 57 05.0**	**-0.8**
WNVZ	**Wahianoa**	**5.77**	**211**	P		**Pn**	**22 57 06.6**	**+0.4**
MOVZ	**Moawhango**	**5.77**	**210**	P		**Pn**	**22 57 06.0**	**-0.2**
MTVZ	**Mangateitei**	**5.88**	**212**	P		**Pn**	**22 57 08.7**	**+1.2**
PXZ	**Pawanui**	**5.95**	**200**	P		**Pn**	**22 57 07.4**	**-0.9**
PNHZ	**Pukenui**	**6.05**	**205**	P		**Pn**	**22 57 08.5**	**-1.1**
WPHZ	**Waipukurau**	**6.10**	**202**	P		**Pn**	**22 57 10.4**	**0.0**
STKA	**Stephens Creek**	**31.68**	**264**	P		**P**	**23 01 45.0**	**-1.6**
	2.1nm,0.8s,baz=118,slow=18,SNR=1.7							
ASAR	**Alice Springs**	**40.95**	**273**	P		**P**	**23 03 06.2**	**+1.1**
	1.2nm,0.6s,baz=114,slow=7.7,SNR=19							
WRA	**Warramunga Arr**	**42.31**	**278**	P		**P**	**23 03 16.6**	**+0.5**
	1.2nm,0.6s,baz=116,slow=7.5,SNR=19							
FINES	**FINESS Array B**	**148.08**	**336**	PKPbc		**PKPbc**	**23 15 03.5**	**+0.6**
	2.5nm,0.9s,baz=318,slow=1.9,SNR=1.7							

NEIC ***19*** *23:05:09.9±1.4,29°50S±0°05×71°72W±0°07, h53km±6km, mb4.5/11, Mwr4.3/23, ML4.3(GUC), Error ellipse: s-maj=9.3km s-min=6.6km az=98.0*

NEIC ***19*** *23:05:09.7,29°48S×71°71W, h69km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.95; Mθθ-0.95; Mφφ0.00; Mrθ-0.10; Mθφ-2.25; Mφr-2.95; Fault plane solution: M₀3.83000×10¹⁵ NP1:φs89.30000°,*

δ38.08000°, λ165.12000°. NP2:φs191.11000°, δ80.89000°, λ52.87000°. Principal axes: T 3.9013, Plg42.0000°, Azm66.0000°; N -0.1442, Plg37.0000°, Azm198.0000°; P -3.7571, Plg26.0000°, Azm310.0000°;

IDC ***19*** *23:05:09.1±4.0,29°50S×71°48W, h36km±32km, mb4.0/8, mb1 4.1/11, mb1mx3.9/29, mbtmp4.1/11, ML4.1/3 Error ellipse: s-maj=28.1km s-min=17.6km az=94.0*

GUC ***19*** *23:05:11.3±0.7,29°60S×71°53W, h45km±3km, ML4.4*

VAO ***19*** *23:05:25.8±2.5,29°04S×70°64W, h130km±15km, mb4.5*

ISC 19 23:05:08.9±0.9, 29°50S±0°04×71°74W±0°05, h44km±10km, n124, σ1§40/134, mb4.5/10, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**1.03**	**62**	Pn		**Pn**	**23 05 28.1**	**+1.0**
LCO				Sn		**Sn**	**23 05 40.7**	**+0.2**
GO04	**Tololo Observa**	**1.06**	**130**	*e*P		**Pn**	**23 05 27.8**	**+0.3**
GO04				*i* S		**Sn**	**23 05 40.7**	**-0.5**
GO04				IAML			23 05 43.5	
	comp=N,36μm,0.5s							
GO04	**Tololo Observa**	**1.06**	**130**	Pn		**Pn**	**23 05 28.2**	**+0.7**
AC04	**Llanos de Chal**	**1.41**	**25**	*e*P		**Pn**	**23 05 33.9**	**+1.8**
AC04				*e*S		**Sn**	**23 05 50.8**	**+1.2**
AC04				IAML			23 05 54.6	
	comp=N,7μm,0.3s							
AC04	**Llanos de Chal**	**1.41**	**25**			**Pn**	**23 05 34.0**	**+1.8**
AC05	**El Transito**	**1.44**	**63**	*e*P		**Pn**	**23 05 34.0**	**+1.4**
AC05				*e*S		**Sn**	**23 05 51.0**	**+0.5**
AC05				IAML			23 05 52.1	
	comp=N,9μm,0.3s							
AC05	**El Transito**	**1.44**	**63**			**Pn**	**23 05 34.0**	**+1.4**
CO01	**Juntas del Tor**	**1.51**	**109**	*i* P		**Pn**	**23 05 34.8**	**+1.1**
CO01				*i* S		**Sn**	**23 05 52.0**	**-0.3**
CO01				IAML			23 05 52.9	
	comp=N,8μm,0.3s							
CO01	**Juntas del Tor**	**1.51**	**109**			**Pn**	**23 05 34.6**	**+1.0**
CO03	**El Pedregal**	**1.62**	**146**	*i* P		**Pn**	**23 05 35.9**	**+0.9**
CO03				*e*S		**Sn**	**23 05 54.3**	**-0.4**
CO03				IAML			23 05 55.0	
	comp=N,9μm,0.4s							
CO03	**El Pedregal**	**1.62**	**146**			**Pn**	**23 05 35.5**	**+0.5**
CO02	**Combarbal**	**1.82**	**160**	*i* P		**Pn**	**23 05 39.1**	**+1.4**
CO02				*e*S		**Sn**	**23 05 59.9**	**+0.2**
CO02				IAML			23 06 01.7	
	comp=E,15μm,0.2s							
CO02	**Combarbal**	**1.82**	**160**			**Pn**	**23 05 39.2**	**+1.4**
GO03	**Copiap**	**2.31**	**35**	*e*P		**Pn**	**23 05 45.5**	**+0.9**
GO03				*e*S		**Sn**	**23 06 12.4**	**+0.6**
GO03				IAML			23 06 25.3	
	comp=N,2μm,0.2s							
GO03	**Copiap**	**2.31**	**35**			**Pn**	**23 05 45.6**	**+1.1**
VCA	**Vinchina**	**3.18**	**77**	*i* P		**Pn**	**23 06 00.9**	**+4.3**
VA03	**San Esteban**	**3.41**	**163**	*e*P		Pn	23 05 45.8	-14
VA03	**San Esteban**	**3.41**	**163**	Pn		**Pn**	**23 06 01.5**	**+1.9**
AC01	**Pan de Azucar**	**3.49**	**17**	*e*P		**Pn**	**23 06 00.9**	**+0.3**
AC01				IAML			23 06 39.9	
	comp=E,516nm,0.2s							
AC01	**Pan de Azucar**	**3.49**	**17**	Pn		**Pn**	**23 06 01.2**	**+0.6**
AC02	**Maricunga**	**3.51**	**42**	*e*P		**Pn**	**23 06 03.2**	**+1.7**
AC02	**Maricunga**	**3.51**	**42**			**Pn**	**23 06 02.5**	**+1.1**
VA01	**Torpederas**	**3.52**	**179**	*e*P		**Pn**	**23 06 01.5**	**+0.6**
VA01	**Torpederas**	**3.52**	**179**			**Pn**	**23 06 01.6**	**+0.6**
ROCH	**El Roble**	**3.52**	**170**	*e*P		**Pn**	**23 06 02.6**	**+1.4**
ROCH				IAML			23 07 00.3	
	comp=N,1μm,0.2s							
ROC1	**El Roble**	**3.52**	**170**			**Pn**	**23 06 02.5**	**+1.2**
PEL	**Peldehue**	**3.75**	**166**	*e*P		**Pn**	**23 06 05.5**	**+1.3**
PEL				*e*S		**Sn**	**23 06 47.0**	**-0.1**
PEL	**Peldehue**	**3.75**	**166**			**Pn**	**23 06 05.0**	**+0.8**
MT02	**Curacav**	**3.79**	**172**	*e*P		**Pn**	**23 06 05.3**	**+0.6**
MT02				*e*S		**Sn**	**23 06 46.0**	**-2.0**
MT02	**Curacav**	**3.79**	**172**			**Pn**	**23 06 05.6**	**+0.9**
MT05	**Renca**	**3.98**	**168**	*e*P		**Pn**	**23 06 06.7**	**+1.4**
MT05	**Renca**	**3.98**	**168**			**Pn**	**23 06 08.9**	**+1.5**
MT03	**Universidad Ad**	**4.12**	**166**	*e*P		**Pn**	**23 06 11.0**	**+1.6**
LMEL	**Las Melosas**	**4.53**	**164**	*e*P		**Pn**	**23 06 17.3**	**+2.2**
GO02	**Mina Guanaco**	**4.72**	**24**	P		**Pn**	**23 06 18.0**	**+0.1**
GO02	**Mina Guanaco**	**4.72**	**24**	Pn		**Pn**	**23 06 18.2**	**+0.3**
BO02	**Sierra Bellavi**	**5.34**	**172**	Pn		**Pn**	**23 06 27.0**	**+0.9**
PB10	**IPOC Station P**	**6.05**	**10**	Pn		**Pn**	**23 06 37.2**	**+1.3**
PB06	**IPOC Station P**	**7.04**	**17**	Pn		**Pn**	**23 06 48.7**	**-0.8**
BI02	**San Fabin de**	**7.16**	**177**			**Pn**	**23 06 51.7**	**+0.7**
PB04	**IPOC Station P**	**7.28**	**12**	Pn		**Pn**	**23 06 52.4**	**-0.5**
H03N1	**Juan Fernandez**	**7.28**	**235**	Pn		**Pn**	**23 06 54.3**	**+1.9**
	baz=113,slow=19,SNR=59							
H03N1				Sn		**Sn**	**23 08 11.4**	**-2.1**
	baz=326,slow=26,SNR=7.8							
H03N1				T		T	23 14 40.3	
	baz=64,slow=72,SNR=183							
H03N2	**Juan Fernandez**	**7.29**	**236**	Pn		**Pn**	**23 06 54.6**	**+2.0**
	baz=113,slow=19,SNR=49							
H03N2				Sn		**Sn**	**23 08 11.3**	**-2.6**
	baz=326,slow=26,SNR=4.0							
H03N2				T		T	23 14 42.2	
	baz=64,slow=72,SNR=182							
H03N3	**Juan Fernandez**	**7.29**	**235**	Pn		**Pn**	**23 06 54.3**	**+1.7**
	baz=113,slow=19,SNR=72							
H03N3				Sn		**Sn**	**23 08 10.3**	**-3.7**
	baz=326,slow=26,SNR=6.2							
H03N3				T		T	23 14 40.9	
	baz=64,slow=72,SNR=161							
LVC	**Limon Verde**	**7.32**	**21**	Pn		**Pn**	**23 06 51.8**	**-1.8**
	comp=N,2.0nm,0.3s,baz=181,slow=8.0,SNR=16							
LVC				Sn		**Sn**	**23 08 12.5**	**-3.0**
	comp=N,6.2nm,0.3s,baz=66,slow=21,SNR=2.4							
LVC	**Limon Verde**	**7.32**	**21**	Pn		**Pn**	**23 06 52.7**	**-0.9**
VA04	**Juan Fernndez**	**7.33**	**234**	Pn		**Pn**	**23 06 54.8**	**+1.6**
H03S3	**Juan Fernandez**	**7.48**	**233**	Pn		**Pn**	**23 06 55.6**	**+0.4**
	baz=243,slow=74,SNR=10							
H03S3				Sn		**Sn**	**23 08 16.7**	**-1.9**
	baz=243,slow=75,SNR=5.5							
H03S1	**Juan Fernandez**	**7.49**	**233**	Pn		**Pn**	**23 06 55.4**	**+0.1**
	baz=243,slow=74,SNR=8.0							
H03S1				Sn		**Sn**	**23 08 16.7**	**-2.0**
	baz=243,slow=75,SNR=4.3							
H03S2	**Juan Fernandez**	**7.50**	**233**	Pn		**Pn**	**23 06 55.9**	**+0.5**
	baz=243,slow=74,SNR=12							
H03S2				Sn		**Sn**	**23 08 16.5**	**-2.4**
	baz=243,slow=75,SNR=4.3							
PB07	**IPOC Station P**	**7.92**	**13**	Pn		**Pn**	**23 07 03.0**	**+1.4**
PB07				Sn		**Sn**	**23 08 28.2**	**-1.8**
PB09	**IPOC Station P**	**7.99**	**17**	Pn		**Pn**	**23 07 03.1**	**+0.5**
PB01	**IPOC Station P**	**8.66**	**14**			**Pn**	**23 07 09.8**	**-1.9**
PATCX	**Punta Patache**	**8.76**	**10**	Pn		**Pn**	**23 07 12.8**	**-0.2**
TA01	**Diego Aracena**	**9.01**	**9**	Pn		**Pn**	**23 07 17.4**	**+1.0**
PB08	**IPOC Station P**	**9.61**	**15**	Pn		**Pn**	**23 07 24.0**	**-0.9**
PB11	**IPOC Station P**	**9.88**	**12**	Pn		**Pn**	**23 07 30.3**	**+1.8**
PSGCX	**Pisagua**	**9.97**	**9**	Pn		**Pn**	**23 07 27.5**	**-2.1**
GO01	**Chusmiza**	**10.06**	**14**	Pn		**Pn**	**23 07 31.1**	**-0.1**
MNMC	**Minye Minye**	**10.50**	**11**	Pn		**Pn**	**23 07 37.8**	**+0.7**
PLCA	**Paso Flores**	**11.25**	**175**	Pn		**Pn**	**23 07 47.2**	**+0.1**
	comp=N,0.2nm,0.3s,baz=354,slow=7.9,SNR=7.5							
PB16	**IPOC Station P**	**11.30**	**11**	Pn		**Pn**	**23 07 49.4**	**+1.1**
CPUP	**Villa Florida**	**13.13**	**80**	Pn		**Pn**	**23 08 11.3**	**-1.4**
	comp=N,0.4nm,0.3s,baz=255,slow=11,SNR=5.3							
CPUP	**Villa Florida**	**13.13**	**80**			**Pn**	**23 08 13.7**	**+1.0**
LPAZ	**La Paz**	**13.56**	**15**	Pn		**Pn**	**23 08 23.0**	**+3.8**
	comp=N,0.7nm,0.3s,baz=182,slow=7.6,SNR=27							
LPAZ	**La Paz**	**13.56**	**15**			**Pn**	**23 08 20.8**	**+1.6**
LPAZ	**La Paz**	**13.56**	**15**	*e*P		Pn	**23 08 23.1**	**+3.8**
SIV	**San Ignacio**	**16.64**	**58**	Pn		**Pn**	**23 08 54.5**	**-4.6**
	comp=N,1.1nm,0.3s,baz=238,slow=12,SNR=16							
ITAB	**Concordia**	**17.41**	**87**	*e*P		**P**	**23 09 09.1**	**-0.2**
PTGB	**Pitanga**	**18.15**	**79**	*e*P		**P**	**23 09 17.0**	**-0.6**
PTLB	**Pontes e Lacer**	**18.17**	**42**	*e*P		**Pn**	**23 09 18.3**	**+0.3**
CNLB	**Canela**	**18.20**	**95**	*e*P		**Pn**	**23 09 18.6**	**+0.2**
TRCB	**Terra Rica**	**18.39**	**73**	*e*P		**Pn**	**23 09 20.8**	**+0.1**
VILB	**Vilhena**	**19.64**	**35**	*e*P		**Pn**	**23 09 34.6**	**-1.0**
PCMB	**Pacaembu**	**20.06**	**72**	*e*P		**P**	**23 09 38.4**	**-0.1**
ETMB	**Extrema**	**20.25**	**16**	*e*P		Pn	23 09 45.4	+2.5
ITRB	**Iturama**	**21.72**	**68**	*e*P		**P**	**23 09 55.4**	**-1.0**
SAML	**Samuel**	**21.96**	**23**	P		**P**	**23 10 00.1**	**+1.1**
SAML	**Samuel**	**21.96**	**23**	*e*P		**P**	**23 10 00.7**	**+1.7**
BB19B	**Bebedouro**	**22.58**	**74**	*e*P		**P**	**23 10 03.2**	**-2.5**
ARAG	**Araguaiana, MT**	**22.90**	**58**	*e*P		**P**	**23 10 09.1**	**0.0**
VAO	**Valinhos**	**23.12**	**80**	*e*P		**P**	**23 10 09.6**	**-1.6**
IPMB	**Ipameri, GO**	**24.34**	**67**	*e*P		**P**	**23 10 21.9**	**-0.9**
SNDB	**Serra Nova Dou**	**25.80**	**52**	*e*P		**P**	**23 10 35.3**	**-0.7**
BDFB	**Brasilia**	**25.82**	**63**	P		**P**	**23 10 35.4**	**-0.9**
	comp=N,8.5nm,0.5s,baz=231,slow=7.5,SNR=23							
BDFB	**Brasilia**	**25.82**	**63**	P		**P**	**23 10 35.7**	**-0.6**
BDFB				IAmb		IAmb	23 10 35.8	
	comp=Z,10.0nm,0.6s							
NPGB	**Novo Progresso**	**27.14**	**38**	*e*P		**P**	**23 10 48.2**	**0.0**
PEXB	**Peixe**	**27.83**	**56**	*e*P		**P**	**23 10 53.9**	**-0.4**
JANB	**Januaria**	**29.07**	**66**	*e*P		**P**	**23 11 04.4**	**-0.9**
ITTB	**Itaituba**	**29.23**	**34**	*e*P		**P**	**23 11 06.1**	**-0.6**
SJMB	**Sao Joao De Ma**	**29.80**	**76**	*e*P		**P**	**23 11 10.8**	**-1.0**
BSFB	**Barra de Sao F**	**30.03**	**76**	*e*P		**P**	**23 11 12.8**	**-1.1**
SDBA	**SAO DESIDERIO**	**30.17**	**61**	*e*P		**P**	**23 11 14.5**	**-0.6**
SMTB	**Santa Maria do**	**30.56**	**53**	*e*P		**P**	**23 11 17.2**	**-1.3**
PTGA	**Pitinga**	**30.73**	**24**	P		**P**	**23 11 19.8**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=197,slow=8.1,SNR=5.5							
PTGA	**Pitinga**	**30.73**	**24**	IAmb		IAmb	23 11 21.0	
	comp=Z,3.4nm,1.0s							
MCPB	**Macapa, AP**	**34.52**	**36**	*e*P		**P**	**23 11 53.9**	**+0.8**
TMAB	**Tom-Au,PA,Br**	**35.11**	**44**	*e*P		**P**	**23 11 58.5**	**+0.3**
FDF	**Fort de France**	**45.15**	**15**	P		**P**	**23 13 21.9**	**+0.6**
DR12	**Loma Pena Alta**	**48.06**	**3**	P		**P**	**23 13 42.7**	**-1.4**
VNA3	**Neumayer Olymp**	**53.44**	**159**	P		**P**	**23 14 24.3**	**+0.2**
VNA2	**Neumayer--Watz**	**54.07**	**159**	P		**P**	**23 14 29.0**	**+0.4**
	baz=285,slow=8.3							
SNAA	**Sanae**	**55.67**	**159**	P		**P**	**23 14 40.4**	**+0.1**
SNAA	**Sanae**	**55.67**	**159**	P		**P**	**23 14 40.6**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=278,slow=6.9,SNR=29							
SNAA	**Sanae**	**55.67**	**159**	P		**P**	**23 14 40.4**	**+0.1**
SNAA				IAmb		IAmb	23 14 41.3	
	comp=Z,4.5nm,1.0s							
QSPA	**South Pole Qui**	**60.73**	**180**	P		**P**	**23 15 16.7**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=149,slow=1.4,SNR=2.0							
QSPA	**South Pole Qui**	**60.73**	**180**	IAmb		IAmb	23 15 35.5	
	comp=Z,1.7nm,0.8s							
JCT	**Junction City**	**65.36**	**333**	P		**P**	**23 15 45.9**	**-0.9**
JCT				IAmb		IAmb	23 15 50.1	
	comp=Z,3.8nm,0.7s							
TXAR	**Lajitas Array**	**65.97**	**330**	P		**P**	**23 15 53.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	23 25 45.4	+0.2
KUA				S	Sg	23 25 47.6	+0.7
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 25 47.2	+0.3
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 25 50.2	+0.1
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23 25 55.9	-0.4
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 25 57.5	+0.1

NEIC ***19*** *23:50:44.0±1.7, 9.°28N±0.°02×39.°8W±0.°1, h10km±1km, mb4.7/25, Error ellipse: s-maj=19.3km s-min=2.9km az=83.0*

IDC ***19*** *23:50:43.6±2.2, 9.°27N×39.°71W, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.6/54, mbtmp4.0/6, Error ellipse: s-maj=84.6km s-min=20.3km az=157.0*

ISC 19 23:50:44.1±0.5, **9.°30N**±0.°09×**39.°82W**±0.°09, **h10**km, **n43, s**σ1§**11/37, mb4.5/17, 1D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**15.52**	**165**	Pn	**Pn**	**23 54 23.3**	**-0.1**
BBGH	**Gun Hill**	**19.73**	**283**	P	**Pn**	**23 55 13.7**	**-1.9**
H05S1	**Guadeloupe/Mar**	**21.18**	**286**	T	T	00 17 57.4	
PTGA	**Pitinga**	**22.40**	**245**	P	**P**	**23 55 44.0**	**+0.9**
	0.9nm,0.3s,baz=51,slow=14,SNR=13						
BDFB	**Brasilia**	**26.07**	**198**	P	**P**	**23 56 19.1**	**+0.9**
	3.3nm,1.0s,baz=33,slow=7.1,SNR=3.1						
BDFB	**Brasilia**	**26.07**	**198**	P	**P**	**23 56 17.8**	**-0.4**
MLPR	**Magueyes Islan**	**27.79**	**291**	P	**P**	**23 56 34.3**	**+0.6**
MLPR				IAmb	IAmb	23 56 40.0	
	comp=Z,9.9nm,1.1s						
AGPR	**Aguadilla, PR**	**27.98**	**292**	P	**P**	**23 56 33.4**	**-1.9**
SAML	**Samuel**	**29.49**	**233**	P	**P**	**23 56 51.9**	**+3.1**
H10N3	**ASCENSION HYDR**	**30.43**	**123**	T	T	00 28 02.1	
	baz=302,slow=75,SNR=5.8						
H10N2	**ASCENSION HYDR**	**30.44**	**123**	T	T	00 28 02.1	
	baz=302,slow=75,SNR=8.6						
H10N1	**ASCENSION HYDR**	**30.45**	**123**	T	T	00 28 02.5	
	baz=302,slow=75,SNR=7.5						
H10S3	**ASCENSION HYDR**	**30.93**	**125**	T	T	00 28 41.4	
	baz=276						
H10S2	**ASCENSION HYDR**	**30.94**	**125**	T	T	00 28 39.8	
	baz=304						
BANI	**BANI**	**30.95**	**290**	P	**P**	**23 57 01.1**	**-0.7**
SIV	**San Ignacio**	**32.77**	**220**	P	**P**	**23 57 19.0**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=79,slow=11,SNR=10						
DBIC	**Dimbokro**	**34.72**	**92**	P	**P**	**23 57 33.7**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=229,slow=8.0,SNR=4.3						
DBIC	**Dimbokro**	**34.72**	**92**	P	**P**	**23 57 35.0**	**+0.4**
DBIC				IAmb	IAmb	23 57 46.0	
	comp=Z,8.0nm,1.1s						
LPAZ	**La Paz**	**37.83**	**228**	P	**P**	**23 58 04.3**	**+2.4**
	comp=Z,3.0nm,1.0s,baz=36,slow=9.1,SNR=6.9						
LPAZ	**La Paz**	**37.83**	**228**	P	**P**	**23 58 02.1**	**+0.2**
HAL	**Halifax**	**40.78**	**334**	P	**P**	**23 58 26.1**	**+0.6**
HAL				IAmb	IAmb	23 58 39.4	
	comp=Z,13nm,0.9s						
TORD	**Torodi Ar. Bea**	**40.87**	**81**	P	**P**	**23 58 27.7**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=278,slow=6.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**40.87**	**81**	P	**P**	**23 58 26.4**	**-0.3**
PB08	**IPOC Station P**	**41.10**	**224**	P	**P**	**23 58 28.0**	**-0.9**
PB11	**IPOC Station P**	**41.19**	**225**	P	**P**	**23 58 29.5**	**+0.1**
PB11				IAmb	IAmb	23 58 32.6	
	comp=Z,12nm,1.0s						
TA01	**Diego Aracena**	**42.09**	**225**	P	**P**	**23 58 36.5**	**-0.1**
TA01				IAmb	IAmb	23 58 38.6	
	comp=Z,35nm,1.1s						
061Z	**Ochoppi**	**42.27**	**298**	P	**P**	**23 58 37.6**	**-0.5**
V61A	**Roper**	**42.58**	**314**	P	**P**	**23 58 41.3**	**+0.9**
PB04	**IPOC Station P**	**43.27**	**223**	P	**P**	**23 58 45.1**	**-1.2**
PB04				IAmb	IAmb	23 58 50.3	
	comp=Z,33nm,1.1s						
T60A	**Surry**	**43.35**	**316**	P	**P**	**23 58 47.9**	**+1.2**
P60A	**Greenville**	**44.04**	**320**	P	**P**	**23 58 53.4**	**+1.2**
P60A				IAmb	IAmb	23 58 54.0	
	comp=Z,9.0nm,1.1s						
ACON	**Acoyapa**	**44.62**	**278**	P	**P**	**23 58 57.0**	**-0.2**
ACON				IAmb	IAmb	23 59 08.2	
	comp=Z,6.4nm,0.9s						
VA03	**San Esteban**	**51.06**	**214**	P	**P**	**23 59 46.7**	**-0.3**
VA03				IAmb	IAmb	23 59 47.4	
	comp=Z,15nm,1.1s						
DSB	**Dublin**	**51.45**	**25**	P	**P**	**23 59 50.1**	**+0.7**
DSB				IAmb	IAmb	23 59 53.5	
	comp=Z,14nm,1.1s						
MT05	**Renca**	**51.64**	**213**	P	**P**	**23 59 51.3**	**0.0**
CORL	**Corleone**	**55.48**	**50**	P	**P**	**00 00 18.5**	**-0.9**
CORL				IAmb	IAmb	00 00 28.2	
	comp=Z,6.8nm,1.2s						
NVAR	**Mina Array Bea**	**75.28**	**307**	P	**P**	**00 02 27.9**	**-0.1**
LHV	**Little Huntoon**	**75.44**	**307**	P	**P**	**00 02 28.5**	**0.0**
PMSA	**Palmer Station**	**76.07**	**190**	P	**P**	**00 02 30.4**	**-1.1**
PMSA				IAmb	IAmb	00 02 32.0	
	comp=Z,9.0nm,1.1s						
VNA3	**Neumayer Olymp**	**82.86**	**171**	P	**P**	**00 03 09.6**	**+1.1**
VNA2	**Neumayer--Watz**	**82.97**	**170**	P	**P**	**00 03 10.0**	**+1.0**
SNAA	**Sanae**	**84.42**	**169**	P	**P**	**00 03 17.1**	**+0.6**
SYO	**Syowa Base**	**94.84**	**159**	⇓ *eP*	**P**	**00 04 04.8**	**-1.0**

NEIC ***19*** *23:52:15.9±1.8, 8.°1N±0.°1×38.°8W±0.°1, h10km±1km, mb4.6/12, Error ellipse: s-maj=19.9km s-min=15.6km az=311.0*

IDC ***19*** *23:52:17.6±1.2, 8.°06N×38.°98W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/53, mbtmp3.7/6, Error ellipse: s-maj=53.0km s-min=21.8km az=164.0*

ISC 19 23:52:16.8±0.7, **8.°1N**±0.°1×**38.°88W**±0.°09, **h12**km, **n28, s**σ1§**90/21, mb4.0/12, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**14.18**	**168**	Pn	**Pn**	**23 55 37.5**	**-0.2**
SACV	**Santiago Islan**	**16.43**	**64**	Pn	**Pn**	**23 56 05.9**	**-1.5**
SACV				IAmb	IAmb	23 56 11.4	
	comp=Z,74nm,1.3s						
H05S1	**Guadeloupe/Mar**	**22.41**	**288**	T	T	00 19 18.0	
	SNR=26						
PTGA	**Pitinga**	**22.79**	**248**	P	**P**	**23 57 20.2**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=268,slow=24,SNR=1.9						
PTGA	**Pitinga**	**22.79**	**248**	P	**P**	**23 57 19.1**	**-0.5**
GBMF	**Grand Be**	**22.81**	**289**	*eP*	**P**	**23 57 16.3**	**-3.5**
CXM	**Morne La Croix**	**22.82**	**289**	*eP*	**P**	**23 57 16.1**	**-3.9**
GCPR	**Guaynabo City**	**28.31**	**294**	P	**P**	**23 58 11.3**	**+0.7**
GCPR				IAmb	IAmb	23 58 23.3	
	comp=Z,9.4nm,1.1s						
H10N3	**ASCENSION HYDR**	**29.02**	**123**	T	T	00 29 48.6	
	baz=302,slow=75,SNR=5.1						
H10N2	**ASCENSION HYDR**	**29.02**	**122**	T	T	00 29 49.0	
	baz=302,slow=75,SNR=5.0						
H10N1	**ASCENSION HYDR**	**29.04**	**123**	T	T	00 29 50.3	
	baz=302,slow=75,SNR=5.4						
H10S3	**ASCENSION HYDR**	**29.50**	**125**	T	T	00 30 23.5	
	baz=288						
H10S2	**ASCENSION HYDR**	**29.52**	**125**	T	T	00 30 26.1	
	baz=292						
SAML	**Samuel**	**29.56**	**235**	P	**P**	**23 58 21.5**	**-0.3**
SAML				IAmb	IAmb	23 58 29.3	
	comp=Z,2.7nm,1.0s						
SIV	**San Ignacio**	**32.51**	**223**	P	**P**	**23 58 50.8**	**+3.0**
	comp=Z,0.7nm,0.6s,baz=51,slow=15,SNR=2.2						
DBIC	**Dimbokro**	**33.77**	**90**	P	P	23 59 02.8	+4.0
	comp=Z,2.4nm,0.7s,baz=232,slow=6.9,SNR=4.2						
LPAZ	**La Paz**	**37.77**	**230**	P	**P**	**23 59 34.2**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=21,slow=6.1,SNR=2.2						
LPAZ	**La Paz**	**37.77**	**230**	P	**P**	**23 59 33.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**40.16**	**79**	P	**P**	**23 59 55.8**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=272,slow=8.8,SNR=1.8						
TORD	**Torodi Ar. Bea**	**40.16**	**79**	P	**P**	**23 59 52.4**	**-0.8**
SHEL	**Horse Pasture**	**40.61**	**126**	P	**P**	**23 59 56.2**	**-0.7**
MNMC	**Minye Minye**	**40.62**	**228**	P	**P**	**23 59 55.5**	**-1.7**
MNMC				IAmb	IAmb	00 00 04.9	
	comp=Z,3.7nm,0.9s						
060A	**Indiantown**	**43.52**	**301**	P	**P**	**00 00 22.3**	**+1.8**
U61A	**Possum Corner**	**44.23**	**315**	P	**P**	**00 00 25.9**	**-0.2**
U61A				IAmb	IAmb	00 00 26.4	
	comp=Z,28nm,0.9s						
AC02	**Maricunga**	**45.48**	**219**	P	**P**	**00 00 36.5**	**-0.3**
AC02				IAmb	IAmb	00 00 38.1	
	comp=Z,4.6nm,0.8s						
JSRW	**J. Sargeant Re**	**45.90**	**316**	P	**P**	**00 00 38.7**	**-0.7**
TXAR	**Lajitas Array**	**64.10**	**299**	P	**P**	**00 02 54.2**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.3,SNR=2.5						
VCNR	**Virginia City**	**77.77**	**308**	P	**P**	**00 04 13.1**	**-1.3**
VCNR				IAmb	IAmb	00 04 16.4	
	comp=Z,13nm,0.6s						

IDC ***19*** *23:56:05.3±0.6, 8.°63N×39.°50W, h0km, mb4.1/20, mb1 4.3/20, mb1mx4.1/51, mbtmp4.1/20, MS4.4/2, Ms1 4.4/2, ms1mx3.7/31, Error ellipse: s-maj=19.9km s-min=13.4km az=146.0*

NEIC ***19*** *23:56:07.7±1.4, 8.°59N±0.°10×39.°55W±0.°09, h10km±1km, mb4.8/166, Error ellipse: s-maj=16.9km s-min=14.6km az=148.0*

GCMT ***19*** *23:56:11.7±0.3, 8.°73N±0.°02×39.°42W±0.°01, h12km, MW5.1/101, Moment Tensor Solution. s59,c72; s101,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.18±.17; $M_{\theta\theta}$=1.17±.21; $M_{\phi\phi}$6.35±.16; $M_{r\theta}$0.81±.47; $M_{\theta\phi}$0.15±.14; $M_{\phi r}$-1.73±.41; Best double couple: M_o6.09600×10^{16} NP1:ϕ_s192.00000°, δ38.00000°, λ-73.00000°. NP2:ϕ_s351.00000°, δ54.00000°, λ-103.00000°. Principal axes: T 6.6040, Plg8.0000°, Azm90.0000°; N -1.0160, Plg10.0000°, Azm359.0000°; P -5.5880, Plg77.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 23:56:08.2±0.3, **8.°65N**±0.°06×**39.°50W**±0.°06, **h15**km, **n254, s**σ0§**98/237, mb4.7/105, MS4.7/5, 1C-1D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**14.82**	**166**	Pn	**Pn**	**23 59 37.4**	**-0.1**
MCPB	**Macapa, AP**	**15.39**	**235**	*eP*	**Pn**	**23 59 46.6**	**+1.7**
SACV	**Santiago Islan**	**16.77**	**67**	Pn	**Pn**	**00 00 03.1**	**+0.4**
PRPB	**Parauapebas**	**17.96**	**215**	*eP*	**P**	**00 00 19.3**	**+1.2**
MALB	**Monte Alegre**	**18.05**	**235**	*eP*	**P**	**00 00 20.5**	**+1.5**
SMTB	**Santa Maria do**	**19.17**	**205**	*eP*	**Pn**	**00 00 32.3**	**-0.1**
TOSP	**Speyside**	**20.89**	**279**	P	**P**	**00 00 49.7**	**-0.5**
SDBA	**SAO DESIDERIO**	**21.60**	**194**	*eP*	**P**	**00 00 58.1**	**+0.3**
H05S1	**Guadeloupe/Mar**	**21.68**	**287**	T	T	00 23 07.7	
FDF	**Fort de France**	**22.04**	**288**		**P**	**00 01 02.2**	**-0.4**
FDF				IAmb	IAmb	00 01 14.5	
	comp=Z,60nm,1.2s						
NPGB	**Novo Progresso**	**22.21**	**226**	*eP*	**P**	**00 01 04.9**	**+0.5**
PEXB	**Peixe**	**22.40**	**203**	*eP*	**P**	**00 01 07.0**	**+0.6**
PTGA	**Pitinga**	**22.43**	**246**	P	**P**	**00 01 06.5**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=73,slow=12,SNR=12						
PTGA	**Pitinga**	**22.43**	**246**	IAmb	IAmb	00 01 15.0	
	comp=Z,53nm,1.5s						
MBO	**M'Bour**	**22.80**	**73**	P	**P**	**00 01 10.3**	**-0.4**
JANB	**Januaria**	**24.03**	**191**	*eP*	**P**	**00 01 22.8**	**-0.1**
MACA	**Manacapuru-AM**	**24.17**	**242**	*eP*	**P**	**00 01 25.5**	**+1.4**
BDFB	**Brasilia**	**25.57**	**199**	P	**P**	**00 01 36.9**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=7.2,slow=6.0,SNR=6.4						
BDFB	**Brasilia**	**25.57**	**199**	IAmb	IAmb	00 01 43.9	
	comp=Z,9.9nm,1.1s						
CDVI	**St. Croix**	**26.18**	**293**	P	**P**	**00 01 42.3**	**-0.2**
CDVI				IAmb	IAmb	00 01 48.0	
	comp=Z,27nm,0.9s						
MTP	**Monte Pirata**	**27.00**	**293**	P	**P**	**00 01 49.0**	**-0.9**
ARAG	**Araguaiana, MT**	**27.10**	**207**	*eP*	**P**	**00 01 51.9**	**+1.3**
BSFB	**Barra de Sao F**	**27.34**	**183**	*eP*	**P**	**00 01 54.3**	**+1.5**
MLPR	**Magueyes Islan**	**28.33**	**292**	P	**P**	**00 02 02.0**	**+0.3**
MACI	**Morro de la Ar**	**29.14**	**45**	P	**P**	**00 02 09.3**	**+0.2**
SAML	**Samuel**	**29.37**	**234**	P	**P**	**00 02 11.3**	**+0.3**
SAML	**Samuel**	**29.37**	**234**	*eP*	**P**	**00 02 11.4**	**+0.4**
H10N3	**ASCENSION HYDR**	**29.81**	**123**	T	T	00 33 39.4	
	baz=302,slow=75,SNR=31						
H10N2	**ASCENSION HYDR**	**29.82**	**123**	T	T	00 33 36.8	
	baz=302,slow=75,SNR=26						
H10N1	**ASCENSION HYDR**	**29.83**	**123**	T	T	00 33 37.6	
	baz=302,slow=75,SNR=25						
BSCB	**Bom Sucesso**	**29.91**	**190**	*eP*	**P**	**00 02 17.2**	**+1.4**
ITRB	**Iturama**	**30.14**	**201**	*eP*	**P**	**00 02 19.0**	**+1.2**
H10S3	**ASCENSION HYDR**	**30.29**	**125**	T	T	00 34 23.7	
	baz=278,slow=74,SNR=30						
H10S2	**ASCENSION HYDR**	**30.31**	**125**	T	T	00 34 19.3	
	baz=302,slow=74,SNR=10.0						
SDV	**Santo Domingo**	**30.77**	**273**	P	**P**	**00 02 25.4**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=111,slow=13,SNR=3.1						
SDV	**Santo Domingo**	**30.77**	**273**	*eP*	**P**	**00 02 25.5**	**+1.8**
PTLB	**Pontes e Lacer**	**30.85**	**219**	*eP*	**P**	**00 02 25.3**	**+1.2**
PCMB	**Pacaembu**	**32.21**	**201**	*eP*	**P**	**00 02 37.6**	**+1.6**
ETMB	**Extrema**	**32.31**	**236**	*eP*	**P**	**00 02 37.3**	**+0.3**
SDDR	**Presa de Saban**	**32.48**	**292**	P	**P**	**00 02 38.6**	**0.0**
SDDR				IAmb	IAmb	00 02 49.4	
	comp=Z,11nm,0.9s						
SIV	**San Ignacio**	**32.49**	**221**	P	**P**	**00 02 38.9**	**+0.3**
	comp=Z,5.8nm,1.0s,baz=68,slow=6.3,SNR=17						
SIV				LR	LR	00 15 23.8	
	comp=Z,766nm,19.0s,baz=73,slow=36						
TRCB	**Terra Rica**	**33.80**	**202**	*eP*	**P**	**00 02 50.9**	**+1.0**
DBIC	**Dimbokro**	**34.38**	**91**	P	**P**	**00 02 53.3**	**-1.8**
	comp=Z,6.8nm,0.8s,baz=253,slow=12,SNR=7.0						
DBIC	**Dimbokro**	**34.38**	**91**	P	**P**	**00 02 53.7**	**-1.3**
DBIC				IAmb	IAmb	00 03 00.9	
	comp=Z,14nm,0.9s						
KOWA	**Kowa**	**35.21**	**77**	P	**P**	**00 03 00.6**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=264,slow=9.4,SNR=3.1						
GTBY	**Guantanamo Bay**	**36.21**	**292**	P	**P**	**00 03 10.2**	**-0.6**
GTBY				IAmb	IAmb	00 03 13.6	
	comp=Z,16nm,0.9s						
CZSB	**Cruzeiro do Su**	**36.88**	**245**	*eP*	**P**	**00 03 17.4**	**+0.9**
LPAZ	**La Paz**	**37.65**	**229**	P	**P**	**00 03 21.2**	**-2.5**
	comp=Z,5.5nm,1.0s,baz=44,slow=8.5,SNR=8.9						
LPAZ	**La Paz**	**37.65**	**229**	P	**P**	**00 03 23.9**	**+0.2**
CPUP	**Villa Florida**	**38.85**	**206**	P	**P**	**00 03 34.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**40.66**	**80**	P	**P**	**00 03 47.0**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=278,slow=8.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**40.66**	**80**	P	**P**	**00 03 47.0**	**-1.3**
HAL	**Halifax**	**41.50**	**334**	P	**P**	**00 03 55.8**	**+1.0**
NNA	**Nana**	**42.41**	**242**	P	**P**	**00 03 59.7**	**-3.0**
NNA				IAmb	IAmb	00 04 16.6	
	comp=Z,22nm,1.4s						
PB04	**IPOC Station P**	**43.02**	**224**	P	**P**	**00 04 04.8**	**-2.8**
ESPN	**Las Esperanzas**	**44.17**	**279**	P	**P**	**00 04 15.0**	**-1.9**
ESPN				IAmb	IAmb	00 04 26.5	
	comp=Z,25nm,1.5s						
ESDC	**Sonseca Array**	**44.27**	**40**	P	**P**	**00 04 18.4**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=239,slow=8.4,SNR=4.1						
ESDC	**Sonseca Array**	**44.27**	**40**	IAmb	IAmb	00 04 23.9	
	comp=Z,7.7nm,1.2s						
BIRD	**Birdtown, Kers**	**45.56**	**311**	P	**P**	**00 04 28.2**	**+0.4**
MATN	**Matagalpa**	**45.76**	**280**	P	**P**	**00 04 29.5**	**-0.2**
MATN				IAmb	IAmb	00 04 41.2	
	comp=Z,20nm,1.4s						
M57A	**Sunshine Farm,**	**46.53**	**321**	P	**P**	**00 04 34.0**	**-1.2**
BLA	**Blacksburg**	**46.65**	**314**	P	**P**	**00 04 36.0**	**-0.4**
J56A	**Wolcott**	**47.47**	**323**	P	**P**	**00 04 41.9**	**-0.6**
BG3	**Lake Jocassee**	**47.56**	**310**	P	**P**	**00 04 44.4**	**+1.0**
BG3				IAmb	IAmb	00 04 47.6	
	comp=Z,9.4nm,1.1s						
TKL	**Tuckaleechee C**	**48.46**	**311**	P	**P**	**00 04 50.5**	**+0.1**
TZTN	**Tazewell**	**48.64**	**312**	P	**P**	**00 04 53.2**	**+1.5**
TZTN				IAmb	IAmb	00 04 55.9	
	comp=Z,14nm,1.1s						
N53A	**Lisbon**	**48.64**	**318**	P	**P**	**00 04 52.4**	**+0.7**
P52A	**Corning**	**48.96**	**316**	P	**P**	**00 04 54.9**	**+0.7**
P52A				IAmb	IAmb	00 05 02.8	
	comp=Z,17nm,1.2s						
O52A	**Adamsville**	**48.98**	**317**	P	**P**	**00 04 54.9**	**+0.6**
MTO3	**Montecristo**	**49.12**	**282**	P	**P**	**00 04 55.1**	**-0.8**
MTO3				IAmb	IAmb	00 05 01.0	
	comp=Z,10nm,1.1s						
W50A	**Signal Mountai**	**49.45**	**309**	P	**P**	**00 04 57.7**	**-0.3**
W50A				IAmb	IAmb	00 05 02.7	
	comp=Z,14nm,1.2s						
R50A	**Paris**	**49.91**	**314**	P	**P**	**00 05 02.5**	**+1.1**
SWET	**Sewanee**	**49.93**	**309**	P	**P**	**00 05 02.3**	**+0.6**
SWET				IAmb	IAmb	00 05 05.7	
	comp=Z,11nm,1.1s						
N49A	**Columbus Grove**	**50.94**	**317**	P	**P**	**00 05 10.3**	**+1.2**
N49A				IAmb	IAmb	00 05 15.8	
	comp=Z,14nm,1.2s						
AAM	**Ann Arbor**	**51.22**	**318**	P	**P**	**00 05 09.9**	**-1.3**
T47A	**Sharon Grove**	**51.45**	**311**	P	**P**	**00 05 12.9**	**-0.1**
PLAL	**Pickwick Lake**	**51.51**	**308**	P	**P**	**00 05 13.8**	**+0.2**
PLAL				IAmb	IAmb	00 05 25.4	
	comp=Z,15nm,1.4s						
WVT	**Waverly**	**51.70**	**310**	P	**P**	**00 05 14.9**	**0.0**
WVT				IAmb	IAmb	00 05 23.6	
	comp=Z,14nm,1.2s						
CCIG	**Comitan**	**51.84**	**284**	P	**P**	**00 05 16.8**	**+0.3**
CCIG				IAmb	IAmb	00 05 27.1	
	comp=Z,16nm,1.0s						
KEST	**Kesra**	**51.95**	**51**	P	**P**	**00 05 19.4**	**+2.5**
	comp=Z,3.6nm,1.0s,baz=232,slow=8.6,SNR=3.7						
BO02	**Sierra Bellavi**	**52.37**	**213**	P	**P**	**00 05 19.2**	**-0.7**
BO02				IAmb	IAmb	00 05 20.8	
	comp=Z,14nm,1.1s						
W45A	**Hickory Valley**	**52.43**	**308**	P	**P**	**00 05 20.9**	**+0.5**
344A	**Westbrook Farm**	**52.65**	**303**	P	**P**	**00 05 21.6**	**-0.5**
OLIL	**Olney**	**52.81**	**313**	P	**P**	**00 05 23.4**	**+0.2**
S44A	**Carbondale**	**53.30**	**311**	P	**P**	**00 05 27.1**	**+0.3**
S44A				IAmb	IAmb	00 05 30.7	
	comp=Z,20nm,1.2s						
143A	**Socs Landing,**	**53.51**	**304**	P	**P**	**00 05 28.9**	**+0.5**
Q44A	**Meyer Farm, Va**	**53.54**	**312**	P	**P**	**00 05 28.3**	**-0.2**
W41B	**Gary Mavity, V**	**54.83**	**307**	P	**P**	**00 05 38.8**	**+0.7**
WHAR	**Wooly Hollow**	**54.90**	**307**	P	**P**	**00 05 39.2**	**+0.7**
WHAR				IAmb	IAmb	00 05 50.4	
	comp=Z,20nm,1.5s						
CCM	**Cathedral Cave**	**54.90**	**311**	P	**P**	**00 05 40.0**	**+1.5**
CCM				IAmb	IAmb	00 05 46.6	
	comp=Z,7.9nm,0.9s						
WLAR	**White Oak Lake**	**55.14**	**305**	P	**P**	**00 05 40.8**	**+0.5**
MSSA	**Maissana**	**55.28**	**41**	P	**P**	**00 05 42.4**	**+1.2**
MSSA				IAmb	IAmb	00 05 49.7	
	comp=Z,18nm,1.4s						
MGMO	**Mountain Grove**	**55.41**	**309**	P	**P**	**00 05 43.2**	**+1.0**
MGMO				IAmb	IAmb	00 05 50.4	
	comp=Z,14nm,1.4s						
ECH	**Echery**	**55.60**	**36**	P	**P**	**00 05 44.1**	**+0.7**
ECH				IAmb	IAmb	00 05 51.6	
	comp=Z,9.6nm,1.2s						
U40A	**Yellville**	**55.63**	**308**	P	**P**	**00 05 43.9**	**+0.1**
U40A				IAmb	IAmb	00 05 51.6	
	comp=Z,9.5nm,1.1s						
P40A	**Paris**	**55.97**	**312**	IAmb	IAmb	00 05 54.1	
	comp=Z,9.6nm,0.8s						
W39A	**Magazine**	**56.05**	**307**	P	**P**	**00 05 47.4**	**+0.6**
W39A				IAmb	IAmb	00 05 50.4	
	comp=Z,9.3nm,1.1s						
OSSC	**Osservatorio P**	**56.10**	**43**	P	**P**	**00 05 49.0**	**+2.0**
ZCCA	**Zocca**	**56.25**	**42**	P	**P**	**00 05 48.9**	**+0.8**
ZCCA				IAmb	IAmb	00 05 54.6	
	comp=Z,12nm,1.2s						
BFO	**Black Forest**	**56.34**	**36**	P	**P**	**00 05 49.8**	**+1.1**
BFO				IAmb	IAmb	00 05 58.0	
	comp=Z,21nm,1.5s						
S39A	**Bolivar**	**56.36**	**310**	P	**P**	**00 05 49.5**	**+0.4**
S39A				IAmb	IAmb	00 05 51.7	
	comp=Z,16nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**56.73**	**39**	P	**P**	**00 05 54.4**	**+2.5**
FUORN				IAmb	IAmb	00 06 00.3	
	comp=Z,14nm,1.3s						
DAVA	**Damuels**	**56.79**	**38**	*eP*	**P**	**00 05 52.9**	**+0.9**
	comp=Z,14nm,1.1s						
PLCA	**Paso Flores**	**56.87**	**208**	P	**P**	**00 05 52.1**	**-0.4**
	comp=Z,4.6nm,1.0s,baz=31,slow=9.6,SNR=4.3						
PLCA	**Paso Flores**	**56.87**	**208**	IAmb	IAmb	00 06 05.0	
	comp=Z,14nm,1.4s						
MURB	**Monte Urbino**	**56.87**	**43**	P	**P**	**00 05 53.0**	**+0.4**
MURB				IAmb	IAmb	00 06 01.2	
	comp=Z,12nm,1.2s						
TEOL	**Teolo**	**57.10**	**41**	P	**P**	**00 05 55.6**	**+1.4**
NRCA	**Norcia**	**57.12**	**44**	P	**P**	**00 05 56.2**	**+1.8**
NRCA				IAmb	IAmb	00 06 01.9	
	comp=Z,11nm,1.5s						
AQU	**L'Aquila**	**57.15**	**45**	P	**P**	**00 05 56.2**	**+1.6**
FETA	**Feichten**	**57.20**	**39**	*eP*	**P**	**00 05 55.2**	**+0.3**
	comp=Z,5.0nm,1.0s						
CTI	**Castel Tesino**	**57.37**	**40**	P	**P**	**00 05 57.1**	**+0.9**
CTI				IAmb	IAmb	00 06 05.5	
	comp=Z,12nm,1.3s						
RETA	**Reutte**	**57.42**	**38**	*eP*	**P**	**00 05 57.5**	**+1.1**
	comp=Z,6.3nm,1.4s						
MOTA	**Moosalm**	**57.56**	**39**	*eP*	**P**	**00 05 57.7**	**+0.1**
	comp=Z,5.8nm,1.1s						
SQTA	**Sankt Quirin**	**57.58**	**39**	*eP*	**P**	**00 05 57.9**	**+0.3

SUMG	Summit	63.88	0	P		P	00 06 40.6	+0.2
SUMG	Summit	63.88	0	*i* P		P	00 06 38.0	-2.4
GDL2	Guadalupe Moun	64.20	302	P		P	00 06 43.2	+0.3
T25A	Trinidad	64.86	307	P		P	00 06 46.8	-0.5
T25A				IAmb	IAmb		00 06 51.7	
	comp=Z,12nm,1.2s							
MNTX	Cornudas Mount	65.01	301	P		P	00 06 48.5	+0.4
MNTX				IAmb	IAmb		00 06 51.3	
	comp=Z,6.3nm,1.1s							
SDCO	Great Sand Dun	65.81	307	P		P	00 06 52.9	-0.6
SDCO				IAmb	IAmb		00 06 57.8	
	comp=Z,5.9nm,1.1s							
ISCO	Idaho Springs	66.19	310	P		P	00 06 55.6	-0.4
ISCO				IAmb	IAmb		00 07 03.7	
	comp=Z,6.1nm,1.1s							
ANMO	Albuquerque	66.23	304	P		P	00 06 55.6	-0.6
BURAR	Bucovina Array	66.69	42	P		P	00 07 00.6	+1.9
MLR	Muntele Rosu	66.72	44	P		P	00 07 00.4	+1.4
S22A	4UR Ranch, Cre	66.85	307	P		P	00 06 59.8	-0.5
S22A				IAmb	IAmb		00 07 09.4	
	comp=Z,10nm,1.5s							
DGMT	Dagmar	66.88	319	P		P	00 07 00.2	+0.4
121A	Cookes Peak, D	67.11	302	P		P	00 07 02.2	+0.3
121A				IAmb	IAmb		00 07 06.6	
	comp=Z,7.9nm,1.0s							
MVCO	Mesa Verde	68.11	307	P		P	00 07 08.6	+0.4
MVCO				IAmb	IAmb		00 07 20.6	
	comp=Z,12nm,1.5s							
O20A	White River Ci	68.24	310	P		P	00 07 09.0	+0.2
O20A				IAmb	IAmb		00 07 11.9	
	comp=Z,7.9nm,1.1s							
PV01	Paradox Valley	68.26	308	P		P	00 07 08.8	-0.3
PV01				IAmb	IAmb		00 07 16.7	
	comp=Z,6.4nm,1.3s							
319A	Douglas	68.31	300	P		P	00 07 09.6	+0.2
319A				IAmb	IAmb		00 07 13.3	
	comp=Z,11nm,1.1s							
PV13	Radium Mtn., P	68.46	308	P		P	00 07 10.1	-0.2
W18A	Petrified Fore	68.92	304	P		P	00 07 12.3	-0.9
DAG	Danmarks Havn	69.01	5	*i* P		P	00 07 13.1	+0.4
RDMU	Red Mountain	69.30	310	P		P	00 07 15.0	-0.4
PDAR	Pinedale Array	69.55	312	P		P	00 07 16.9	-0.1
	comp=Z,1.0nm,1.0s,baz=70,slow=9.8,SNR=5.2							
PDAR	Pinedale Array	69.55	312	P		P	00 07 17.0	0.0
MDUB	Mudurnu	69.76	50	P		P	00 07 19.2	+1.0
SRU	San Rafael Swe	69.88	308	P		P	00 07 19.0	0.0
AKASG	Malin Array Be	69.91	39	P		P	00 07 19.0	+0.3
	comp=Z,0.2nm,0.3s,baz=251,slow=7.2,SNR=2.2							
GCMT	Greycliff	70.04	316	P		P	00 07 19.8	0.0
P17A	Butcher Ranch,	70.08	309	P		P	00 07 20.7	+0.4
YNE	Yellowstone No	70.17	315	P		P	00 07 21.3	+0.5
YMP	Mirror Lake Pl	70.24	314	P		P	00 07 22.1	+0.8
WUAZ	Wupatki	70.29	305	IAmb	IAmb		00 07 31.6	
	comp=Z,11nm,1.0s							
EGMT	Eagleton	70.43	318	P		P	00 07 22.2	+0.1
EGMT				IAmb	IAmb		00 07 25.2	
	comp=Z,10.0nm,1.1s							
FLWY	Flagg Ranch	70.54	314	P		P	00 07 23.8	+0.8
FLWY				IAmb	IAmb		00 07 36.0	
	comp=Z,13nm,1.3s							
YPP	Pitchstone Pla	70.64	314	P		P	00 07 24.1	+0.4
TPAW	Teton Pass	70.65	313	P		P	00 07 23.9	+0.1
TPAW				IAmb	IAmb		00 07 32.3	
	comp=Z,9.4nm,1.2s							
AHID	Auburn Hatcher	70.68	312	P		P	00 07 24.3	+0.5
IMW	Indian Meadow	70.69	313	P		P	00 07 24.0	0.0
IMW				IAmb	IAmb		00 07 29.0	
	comp=Z,14nm,1.5s							
JLU	Jordanelle	70.73	310	P		P	00 07 24.6	+0.4
YHH	Holmes Hill	70.73	314	P		P	00 07 23.9	-0.4
TCUT	Toone Canyon	70.74	310	P		P	00 07 23.9	-0.5
YMR	Madison River	70.80	314	P		P	00 07 25.3	+0.7
HWUT	Hardware Ranch	70.91	311	IAmb	IAmb		00 07 28.4	
	comp=Z,8.9nm,1.0s							
YHB	Horse Butte	70.97	314	P		P	00 07 25.6	0.0
YHL	Hebgen Lake	70.97	314	P		P	00 07 25.8	0.0
MTPU	Mount Pierson	71.10	307	P		P	00 07 27.3	+0.6
BOZ	Bozeman (W)	71.38	315	P		P	00 07 28.9	+0.9
BRTR	Keskin Array B	71.56	51	P		P	00 07 30.6	+1.4
	comp=Z,1.5nm,0.9s,baz=264,slow=8.6,SNR=4.1							
BRTR	Keskin Array B	71.56	51	P		P	00 07 30.2	+1.0
DUG	Dugway, Tooele	71.73	309	P		P	00 07 30.7	+0.5
DUG				IAmb	IAmb		00 07 35.6	
	comp=Z,9.7nm,1.4s							
LRM	Limekiln Ridge	71.97	315	P		P	00 07 32.5	+0.8
CCUT	Cedar City	72.00	307	P		P	00 07 32.0	0.0
DLMT	Dillon	72.03	315	P		P	00 07 32.4	+0.5
MCMT	McKenzie Canyo	72.15	314	P		P	00 07 33.7	+0.9
PSUT	Pine Spring	72.44	308	P		P	00 07 34.2	-0.4
BCYI	Bear Canyon	72.50	314	P		P	00 07 35.2	+0.4
HLID	Hailey	73.17	313	P		P	00 07 39.0	+0.3
PRN	Pahroc Range	73.34	306	P		P	00 07 40.5	+0.7
JTMT	Jette	73.42	317	P		P	00 07 40.0	-0.1
ELK	Elko	73.61	310	P		P	00 07 42.2	+0.7
TOKA	Tokat	73.77	51	P		P	00 07 42.6	+0.4
R11A	Troy Canyon, C	73.79	307	P		P	00 07 43.2	+0.7
TPH	Tonopah	75.07	307	P		P	00 07 50.7	+0.6
NEW	Newport	75.36	318	P		P	00 07 51.2	-0.1
YKA	Yellowknife Ar	75.51	332	P		P	00 07 51.6	-0.2
	comp=Z,2.1nm,0.8s,baz=95,slow=6.3,SNR=3.3							
NVAR	Mina Array Bea	75.92	307	P		P	00 07 55.6	+0.7
	comp=Z,1.2nm,0.9s,baz=97,slow=4.9,SNR=5.1							
NVAR	Mina Array Bea	75.92	307	P		P	00 07 55.8	+0.8
E09A	Wood Farm, Sta	75.97	316	P		P	00 07 55.2	+0.5
E09A				IAmb	IAmb		00 08 02.8	
	comp=Z,6.5nm,1.0s							
ISA	Isabella, Lake	76.08	305	P		P	00 07 56.3	+0.6
ISA				IAmb	IAmb		00 08 05.5	
	comp=Z,8.4nm,1.2s							
LHV	Little Huntoon	76.08	307	P		P	00 07 56.4	+0.9
LHV				IAmb	IAmb		00 08 09.0	
	comp=Z,7.6nm,1.1s							
RYN	Ryan	76.10	308	P		P	00 07 56.0	+0.2
J08A	Circle Bar Ran	76.11	312	P		P	00 07 55.4	-0.3
OMMB	Old Mammoth Mi	76.48	307	P		P	00 07 58.6	+0.4
E08A	Dider Farm, El	76.60	316	P		P	00 07 58.5	+0.2
PNTR	Pine Nut	76.94	308	P		P	00 08 00.4	-0.3
PNTR				IAmb	IAmb		00 08 06.3	
	comp=Z,8.0nm,1.2s							
MOD	Modoc Plateau	77.45	311	P		P	00 08 03.6	+0.1
MOD				IAmb	IAmb		00 08 13.0	
	comp=Z,10.0nm,1.1s							
BEKR	Beckworth	77.51	309	P		P	00 08 03.2	-0.7
VNA1	Neumayer--Stat	81.90	170	P		P	00 08 27.2	+0.6
VNA3	Neumayer Olymp	82.17	171	P		P	00 08 28.4	+0.2
VNA2	Neumayer--Watz	82.28	170	P		P	00 08 28.8	+0.1
	baz=329,slow=3.5							
DLBC	Dease Lake	82.98	328	P		P	00 08 33.1	+0.3
INK	Inuvik	83.52	338	P		P	00 08 35.7	+0.4
	comp=Z,7.6nm,1.1s,baz=105,slow=3.1,SNR=4.2							
INK	Inuvik	83.52	338	P		P	00 08 32.7	-2.5
INK				IAmb	IAmb		00 08 38.9	
	comp=Z,10nm,1.1s							
SNAA	Sanae	83.73	169	P		P	00 08 36.2	0.0
SNAA	Sanae	83.73	169	P		P	00 08 35.7	-0.6
SNAA				IAmb	IAmb		00 08 37.7	
	comp=Z,6.9nm,1.1s							
HYT	Haines Junctio	86.40	331	P		P	00 08 51.2	+1.1
AKTO	Aktyubinsk	88.16	39	P		P	00 08 57.0	-1.6
	comp=Z,1.2nm,0.7s,baz=242,slow=10.0,SNR=2.5							
IL31		89.52	336	P		P	00 09 04.3	-0.4
ILAR	Eielson Array	89.52	336	P		P	00 09 03.1	-1.7
	comp=Z,1.8nm,1.0s,baz=65,slow=3.6,SNR=12							
ILAR	Eielson Array	89.52	336	P		P	00 09 04.7	-0.1
ABKAR	Akbulak array	89.62	40	P		P	00 09 06.9	+1.4
ABKAR	Akbulak array	89.62	40	P		P	00 09 07.3	+1.8
ABKAR				IAmb	IAmb		00 09 14.5	
	comp=Z,4.9nm,1.1s							
SYO	Syowa Base	94.12	159	‖ *e*P		P	00 09 24.4	-1.4
SYO	Syowa Base	94.12	159	‖ *es*P		sP	00 09 31.3	+0.3
RKT	Rikitea	98.35	248	*e*LR		LR	00 41 32.9	
	comp=Z,413nm,33.5s							
PPT2	Papeete2	111.64	255	*e*LR		LR	00 47 54.0	
	comp=Z,266nm,26.2s							
CMAR	Chiang Mai Arr	130.94	56	PKP		PKiKP	00 15 20.8	-0.3
	comp=Z,0.3nm,0.3s,baz=283,slow=4.3,SNR=4.5							
NJ2	Nanjing	134.55	26	*e*PKP		PKPdf	00 15 24.9	-1.8
DZM	Mont Dzumac	151.72	239	*e*LR		LR	01 06 26.5	
	comp=Z,219nm,22.2s							

IDC 19 23:58:13.0±1.1,8°91N×39°36W,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.7/57,mbtmp4.0/8,Error ellipse:

2014 OCT

s-maj=35.4km s-min=21.3km az=155.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGA	Pitinga	22.66	246	P	P	00 03 16.1	-0.1
	1.5nm,0.4s,baz=53,slow=15,SNR=2.4						
BDFB	Brasilia	25.86	199	P	P	00 03 47.0	+0.3
	4.1nm,0.8s,baz=43,slow=14,SNR=3.4						
SIV	San Ignacio	32.78	221	P	P	00 04 48.4	+0.2
	3.5nm,1.0s,baz=70,slow=9.5,SNR=5.6						
DBIC	Dimbokro	34.24	91	P	P	00 05 00.7	-0.3
	3.3nm,0.8s,baz=233,slow=6.3,SNR=3.6						
LPAZ	La Paz	37.92	229	P	P	00 05 32.9	-0.3
	1.8nm,0.8s,baz=62,slow=12,SNR=3.4						
TORD	Torodi Ar. Bea	40.48	80	P	P	00 05 53.5	-0.4
	1.3nm,1.0s,baz=284,slow=5.8,SNR=2.7						
TXAR	Lajitas Array	63.32	298	P	P	00 08 43.2	-1.2
	0.3nm,0.6s,baz=69,slow=4.9,SNR=2.6						
ILAR	Eielson Array	89.34	336	P	P	00 11 12.8	+1.6
	0.5nm,0.9s,baz=76,slow=5.7,SNR=3.0						

IDC **19** *23:58:55.6±0.6,8°.80N×39°.43W,h0km,mb4.1/21, mb1 4.3/21,mb1mx4.1/56,mbtmp4.1/21,Error ellipse: s-maj=20.7km s-min=12.8km az=144.0*

NEIC **19** *23:58:56.7±1.6,8°.73N±0°.08×39°.41W±0°.10,h10km±1km, mb4.9/124,Error ellipse: s-maj=16.8km s-min=13.9km az=106.0*

GCMT **19** *23:59:08.7±0.1,8°.78N±0°.01×39°.37W±0°.01,h12km, MW5.2/142,Moment Tensor Solution. s73,c96; s142,c281; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.88±.01; Mθθ-0.04±.01; Mφφ0.92±.01; Mrθ0.11±.04; Mθφ-0.03±.01; Mφr-0.16±.04; Best double couple: M0.92500×10^17 NP1:ϕs185.00000°,δ40.00000°, λ-80.00000°. NP2:ϕs351.00000°,δ50.00000°, λ-99.00000°. Principal axes: T 0.9400, Plg5.0000°, Azm88.0000°; N -0.0310, Plg7.0000°, Azm357.0000°; P -0.9090, Plg82.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 23:58:56.9±0.3,8.78N±0°.06×39°41W±0°.07,h10km,n231, σ0.82/216,mb4.8/86,5C-3D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSB	Rosrio	12.52	202	*e*P	Pn	00 01 55.4	+0.2
TMAB	Tom-Au,PA,Br	14.06	218	*e*P	Pn	00 02 16.2	-0.1
RCBR	Riachuelo	14.93	166	Pn	Pn	00 02 28.0	-0.2
RCBR	Riachuelo	14.93	166	*e*P	Pn	00 02 30.2	+2.0
MCPB	Macapa, AP	15.53	235	*e*P	Pn	00 02 35.3	-0.8
SACV	Santiago Islan	16.64	67	Pn	Pn	00 02 48.0	-2.4
PRPB	Parauapebas	18.12	215	*e*P	P	00 03 09.5	+0.2
MALB	Monte Alegre	18.19	235	*e*P	Pn	00 03 08.7	-1.1
SMTB	Santa Maria do	19.33	205	*e*P	P	00 03 22.0	-0.5
ITTB	Itaituba	20.87	232	*e*P	P	00 03 39.2	-0.2
H05S1	Guadeloupe/Mar	21.72	287	T	T	00 26 22.2	
	SNR=14						
SDBA	SAO DESIDERIO	21.75	195	*e*P	P	00 03 48.6	-0.2
NPGB	Novo Progresso	22.36	226	*e*P	P	00 03 54.6	-0.7
PEXB	Peixe	22.55	203	*e*P	P	00 03 57.9	+0.4
PTGA	Pitinga	22.56	246	P	P	00 03 57.9	+0.5
	8.5nm,0.8s,baz=68,slow=11,SNR=9.2						
JANB	Januaria	24.18	192	*e*P	P	00 04 13.6	-0.1
BDFB	Brasilia	25.72	199	P	P	00 04 28.9	+1.1
	9.1nm,0.9s,baz=18,slow=4.4,SNR=7.0						
BDFB	Brasilia	25.72	199	P	P	00 04 27.5	-0.3
ARAG	Araguaiana, MT	27.25	207	*e*P	P	00 04 41.4	-0.1
SAML	Samuel	29.51	234	P	P	00 05 01.9	+0.2
H10N3	ASCENSION HYDR	29.81	123	T	T	00 36 38.3	
	baz=302,slow=75,SNR=3.8						
H10N2	ASCENSION HYDR	29.82	123	T	T	00 36 38.1	
	baz=302,slow=75,SNR=4.4						
H10N1	ASCENSION HYDR	29.83	123	T	T	00 36 41.8	
	baz=302,slow=75,SNR=4.5						
H10S3	ASCENSION HYDR	30.30	125	T	T	00 37 22.2	
	baz=279,slow=74,SNR=4.0						
H10S2	ASCENSION HYDR	30.32	125	T	T	00 37 13.1	
	baz=301,slow=74,SNR=3.3						
SDV	Santo Domingo	30.85	273	P	P	00 05 14.0	+0.2
	2.2nm,0.2s,baz=23,slow=3.1,SNR=3.3						
SDV	Santo Domingo	30.85	273	P	P	00 05 14.0	+0.2
PTLB	Pontes e Lacer	31.01	219	*e*P	P	00 05 16.4	+1.6
PCMB	Pacaembu	32.36	201	*e*P	P	00 05 28.4	+1.6
ETMB	Extrema	32.46	236	*e*P	P	00 05 28.8	+1.1
SIV	San Ignacio	32.65	221	P	P	00 05 30.3	+0.9
	5.1nm,0.9s,baz=74,slow=8.1,SNR=7.2						
SIV	San Ignacio	32.65	221	P	P	00 05 30.3	+0.9
DBIC	Dimbokro	34.30	91	P	P	00 05 43.2	-0.6
	5.7nm,0.8s,baz=275,slow=9.8,SNR=4.7						
DBIC	Dimbokro	34.30	91	P	P	00 05 43.5	-0.3
DBIC				IAmb	IAmb	00 05 51.7	
	comp=Z,14nm,0.8s						
KOWA	Kowa	35.10	77	P	P	00 05 55.6	+4.8
	comp=Z,2.8nm,0.7s,baz=264,slow=7.1,SNR=6.5						
KOWA	Kowa	35.10	77	P	P	00 05 51.7	+0.9
PTGB	Pitanga	35.51	200	*e*P	P	00 05 55.5	+1.4
CZSB	Cruzeiro do Su	37.01	245	*e*P	P	00 06 07.5	+0.4
LPAZ	La Paz	37.80	229	P	P	00 06 14.6	+0.2
	comp=Z,2.7nm,0.7s,baz=2.4,slow=12,SNR=5.1						
LPAZ	La Paz	37.80	229	P	P	00 06 15.0	+0.6
LPAZ	La Paz	37.80	229	*e*P	P	00 06 15.2	+0.8
ITAB	Concordia	37.87	199	*e*P	P	00 06 15.3	+1.2
CPUP	Villa Florida	39.00	206	*e*P	P	00 06 24.0	+0.3
CNLB	Canela	39.45	196	*e*P	P	00 06 28.9	+1.4
OTAV	Otavalo	39.80	260	*e*P	P	00 06 31.8	+0.6
TOA0	Torodi Ar. Sit	40.55	80	P	P	00 06 37.0	+0.1
TORD	Torodi Ar. Bea	40.55	80	P	P	00 06 36.4	-0.5
	comp=Z,1.1nm,0.8s,baz=275,slow=9.0,SNR=7.7						
TORD	Torodi Ar. Bea	40.55	80	P	P	00 06 36.7	-0.2
ATAH	Atahualpa	41.95	249	P	P	00 06 48.9	+0.1
	comp=Z,4.0nm,0.7s,baz=102,slow=9.3,SNR=2.1						
ATAH	Atahualpa	41.95	249	P	P	00 06 48.9	+0.1
LVC	Limon Verde	42.52	222	*e*P	P	00 06 53.9	+0.6
061Z	Ochoppi	42.88	299	P	P	00 06 55.8	0.0
ESDC	Sonseca Array	44.12	40	P	P	00 07 06.5	+0.8
	comp=Z,1.2nm,1.0s,baz=253,slow=8.2,SNR=4.8						
ESDC	Sonseca Array	44.12	40	P	P	00 07 04.8	-0.8
D62A	Allapoint, All	45.75	332	P	P	00 07 19.4	+0.9
N58A	Sunbury	45.95	320	P	P	00 07 20.9	+0.8
N58A				IAmb	IAmb	00 07 22.8	
	comp=Z,27nm,1.5s						
AC01	Pan de Azucar	46.09	220	P	P	00 07 20.1	-1.3
MOQ	Mont Orford	46.10	328	P	P	00 07 21.3	-0.1
BLA	Blacksburg	46.62	314	P	P	00 07 25.7	+0.1
BLA				IAmb	IAmb	00 07 28.0	
	comp=Z,15nm,1.0s						
Q56A	Snyder Ridge,	46.63	317	P	P	00 07 26.4	+0.9
Q56A				IAmb	IAmb	00 07 43.9	
	comp=Z,10nm,1.1s						
LONY	Lake Ozonia	46.91	326	P	P	00 07 29.2	+1.5
J57A	Williamstown	46.98	324	P	P	00 07 27.9	-0.3
U54A	Nelsons Funny	47.33	312	P	P	00 07 31.6	+0.5
V48A	Smith Brothers	50.77	309	P	P	00 07 58.8	+1.2
V48A				IAmb	IAmb	00 08 15.8	
	comp=Z,12nm,1.1s						
T47A	Sharon Grove	51.42	311	P	P	00 08 02.9	+0.5
PLAL	Pickwick Lake	51.49	308	P	P	00 08 03.0	+0.2
PLAL				IAmb	IAmb	00 08 11.8	
	comp=Z,15nm,1.4s						
PAYG	Puerto Ayora	51.55	262	P	P	00 08 01.6	-2.0
WVT	Waverly	51.68	309	P	P	00 08 04.0	-0.2
WVT				IAmb	IAmb	00 08 22.0	
	comp=Z,15nm,1.3s						
KEST	Kesra	51.80	51	P	P	00 08 06.2	+0.8
	comp=Z,4.6nm,1.1s,baz=241,slow=14,SNR=3.1						
KEST	Kesra	51.80	51	P	P	00 08 06.2	+0.8
MSSA	Maissana	55.13	41	P	P	00 08 29.8	+0.2
MSSA				IAmb	IAmb	00 08 47.7	
	comp=Z,9.4nm,1.1s						
P40A	Paris	55.94	312	P	P	00 08 35.5	+0.1
P40A				IAmb	IAmb	00 08 36.1	
	comp=Z,11nm,0.8s						
BFO	Black Forest	56.18	36	P	P	00 08 37.8	+0.7
BFO				IAmb	IAmb	00 08 55.9	
	comp=Z,18nm,1.2s						
S39A	Bolivar	56.34	310	P	P	00 08 38.5	+0.1
FUORN	Ofenpass-Fuorn	56.58	39	P	P	00 08 40.2	0.0
FUORN				IAmb	IAmb	00 08 59.9	
	comp=Z,16nm,1.4s						
DAVA	Damuels	56.63	38	*e*P	P	00 08 41.4	+0.9
	comp=Z,11nm,1.2s						
PLCA	Paso Flores	57.02	208	P	P	00 08 41.9	-1.2
	comp=Z,2.5nm,0.8s,baz=4.7,slow=5.4,SNR=4.0						
PLCA	Paso Flores	57.02	208	P	P	00 08 41.9	-1.2
PLCA	Paso Flores	57.02	208	IAmb	IAmb	00 08 45.6	
	comp=Z,13nm,1.3s						
FETA	Feichten	57.04	39	*i* P	P	00 08 43.4	0.0
	comp=Z,7.7nm,1.1s,SNR=4.6						
CTI	Castel Tesino	57.22	40	P	P	00 08 45.1	+0.6
RETA	Reutte	57.26	38	*e*P	P	00 08 45.6	+0.8
	comp=Z,9.1nm,1.2s						
MOTA	Moosalm	57.41	39	*e*P	P	00 08 46.7	+0.7
	comp=Z,12nm,1.8s						
SQTA	Sankt Quirin	57.42	39	*i* P	P	00 08 46.3	+0.3
	comp=Z,12nm,1.2s,SNR=4.2						
WATA	Walderalm	57.70	39	*e*P	P	00 08 48.1	+0.2
	comp=Z,10.0nm,1.2s						
WTTA	Wattenberg	57.71	39	*i* P	P	00 08 48.6	+0.6
	comp=Z,7.5nm,0.9s,SNR=6.0						
TUL1	Leonard	57.80	307	P	P	00 08 48.2	-0.5
TUL1				IAmb	IAmb	00 09 05.0	
	comp=Z,10nm,0.8s						
CIMO	Cimolais	57.82	40	P	P	00 08 49.8	+1.0
CIMO				IAmb	IAmb	00 09 07.8	
	comp=Z,13nm,1.3s						
ABTA	Abfaltersbach	58.04	40	*i* P	P	00 08 51.1	+0.8
	comp=Z,9.6nm,1.2s,SNR=5.9						
ZOU	Zoufplan	58.26	40	P	P	00 08 53.3	+1.3
Z35A	Perchaven, San	58.44	304	P	P	00 08 52.5	-0.7
GRA1	Grafenberg Arr	58.50	36	P	P	00 08 53.7	+0.3
GRA1				IAmb	IAmb	00 09 12.8	
	comp=Z,9.0nm,0.6s						
OK030	Cody Creek RV	58.59	307	P	P	00 08 53.8	-0.5
OK030				IAmb	IAmb	00 09 10.5	
	comp=Z,15nm,1.2s						
PRED	Cave del Predi	58.59	40	P	P	00 08 54.9	+0.7
PRED				IAmb	IAmb	00 09 12.3	
	comp=Z,9.1nm,1.2s						
OK031	S. Brethren Rd	58.64	307	P	P	00 08 53.8	-0.8
KBA	Koelnbreinsper	58.70	40	*e*P	P	00 08 56.0	+1.0
	comp=Z,8.7nm,1.3s						
MYKA	Terra Mystica	58.71	40	*e*P	P	00 08 56.4	+1.4
	comp=Z,8.8nm,1.1s						
OK029	Liberty Lake	59.10	306	P	P	00 08 57.2	-0.5
KSU1	Kansas State U	59.21	310	P	P	00 08 57.2	-1.3
KSU1				IAmb	IAmb	00 08 59.4	
	comp=Z,7.0nm,0.8s						
OBKA	Obir	59.25	41	*e*P	P	00 08 60.0	+1.3
	comp=Z,11nm,1.1s						
MOA	Molln	59.57	39	*e*P	P	00 09 01.4	+0.5
	comp=Z,8.0nm,1.0s						
GERES	GERESS Array B	59.62	38	P	P	00 09 00.9	-0.4
	comp=Z,0.6nm,0.7s,baz=336,slow=2.9,SNR=4.4						
GERES	GERESS Array B	59.62	38	P	P	00 09 00.9	-0.4
SOKA	Soboth	59.62	40	*e*P	P	00 09 01.9	+0.6
	comp=Z,5.1nm,1.2s						
KHC	Kasperske Hory	59.66	37	*e*P	P	00 09 02.4	+1.0
KHC				*ex*	x	00 09 10.3	
KHC				*ex*	x	00 09 17.5	
KHC	Kasperske Hory	59.66	37	P	P	00 09 02.0	+0.6
CROK	Carrier	59.66	307	P	P	00 09 01.5	-0.2
KAN14	Manchester OK	59.74	308	P	P	00 09 01.6	-0.6
KAN12	Harper NE Stat	59.85	308	P	P	00 09 02.3	-0.6
WMOK	Wichita Mounta	59.95	305	P	P	00 09 02.9	-0.9
WMOK				IAmb	IAmb	00 09 18.7	
	comp=Z,14nm,1.5s						
JCT	Junction City	60.12	300	P	P	00 09 04.3	-0.7
JCT				IAmb	IAmb	00 09 21.3	
	comp=Z,13nm,1.2s						
ARSA	Arzberg	60.14	40	*e*P	P	00 09 05.7	+0.9
	comp=Z,3.1nm,0.8s						
CLL	Collm	60.23	35	P	P	00 09 06.0	+0.7
ECSD	EROS Data Cent	60.49	316	P	P	00 09 05.9	-1.3
ECSD				IAmb	IAmb	00 09 24.6	
	comp=Z,17nm,1.4s						
PRU	Pruhonice	60.58	37	*e*P	P	00 09 08.4	+0.7
PRU				*ex*	x	00 09 15.3	
CONA	Conrad Observa	60.60	39	*e*P	P	00 09 08.6	+0.6
	comp=Z,5.5nm,1.2s						
R32A	Long Quarter,	60.64	309	P	P	00 09 08.5	+0.1
PDG	Podgorica	61.15	46	⇑P	P	00 09 13.8	+2.1
VRAC	Vranov	61.55	38	⇑P	P	00 09 15.2	+0.9
CHVC	Chvalec	61.70	37	*e*P	P	00 09 16.5	+1.1
CHVC				*ex*	x	00 09 23.8	
DPC	Dobruska-Polom	61.77	37	*e*P	P	00 09 15.6	-0.2
ULM	Lac du Bonnet	62.17	323	P	P	00 09 17.7	-0.8

FLWY	**Flagg Ranch**	**70.51**	**314**	P		**P**	**00 10 12.7**	**+0.3**
REDW	**Red Top Meadow**	**70.54**	**313**	P		**P**	**00 10 11.6**	**-1.0**
REDW				IAmb		IAmb	00 10 30.3	
	comp=Z,10nm,1.4s							
YPP	**Pitchstone Pla**	**70.61**	**314**	P		**P**	**00 10 12.4**	**-0.6**
TPAW	**Teton Pass**	**70.62**	**313**	P		**P**	**00 10 13.1**	**-0.1**
TPAW				IAmb		IAmb	00 10 27.4	
	comp=Z,12nm,1.4s							
AHID	**Auburn Hatcher**	**70.65**	**312**	P		**P**	**00 10 13.1**	**-0.1**
AHID				IAmb		IAmb	00 10 27.8	
	comp=Z,11nm,1.4s							
IMW	**Indian Meadow**	**70.66**	**313**	P		**P**	**00 10 13.3**	**-0.1**
IMW				IAmb		IAmb	00 10 31.3	
	comp=Z,7.5nm,1.1s							
YHH	**Holmes Hill**	**70.70**	**314**	P		**P**	**00 10 13.7**	**+0.1**
JLU	**Jordanelle**	**70.71**	**310**	P		**P**	**00 10 14.6**	**+0.9**
TCUT	**Toone Canyon**	**70.72**	**310**	P		**P**	**00 10 13.9**	**+0.2**
FINES	**FINESS Array B**	**70.73**	**28**	P		**P**	**00 10 14.3**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=228,slow=3.5,SNR=1.2							
YMR	**Madison River**	**70.77**	**314**	P		**P**	**00 10 13.8**	**-0.1**
HWUT	**Hardware Ranch**	**70.88**	**311**	IAmb		IAmb	00 10 31.6	
	comp=Z,10nm,1.1s							
YHB	**Horse Butte**	**70.94**	**314**	P		**P**	**00 10 16.1**	**+1.2**
YHL	**Hebgen Lake**	**70.94**	**314**	P		**P**	**00 10 15.9**	**+0.8**
MTPU	**Mount Pierson**	**71.08**	**307**	P		**P**	**00 10 15.1**	**-1.0**
BOZ	**Bozeman (W)**	**71.34**	**315**	IAmb		IAmb	00 10 34.9	
	comp=Z,11nm,1.4s							
DUG	**Dugway, Tooele**	**71.71**	**309**	P		**P**	**00 10 20.1**	**+0.4**
DUG				IAmb		IAmb	00 10 38.8	
	comp=Z,11nm,1.3s							
LCMT	**Little Creek M**	**71.87**	**306**	P		**P**	**00 10 19.9**	**-0.8**
BGU	**Big Grassy Mou**	**71.93**	**310**	P		**P**	**00 10 21.5**	**+0.6**
DLMT	**Dillon**	**71.99**	**315**	P		**P**	**00 10 21.4**	**+0.2**
PSUT	**Pine Spring**	**72.42**	**308**	P		**P**	**00 10 25.2**	**+1.2**
BCYI	**Bear Canyon**	**72.47**	**314**	P		**P**	**00 10 23.8**	**-0.4**
HLID	**Hailey**	**73.14**	**313**	P		**P**	**00 10 28.2**	**+0.1**
WALA	**Waterton Lakes**	**73.26**	**319**	P		**P**	**00 10 28.4**	**-0.3**
WALA				IAmb		IAmb	00 10 41.1	
	comp=Z,17nm,1.4s							
PRN	**Pahroc Range**	**73.33**	**306**	P		**P**	**00 10 30.2**	**+0.9**
JTMT	**Jette**	**73.38**	**317**	P		**P**	**00 10 29.2**	**-0.2**
JTMT				IAmb		IAmb	00 10 46.9	
	comp=Z,13nm,1.3s							
ELK	**Elko**	**73.59**	**310**	P		**P**	**00 10 30.5**	**-0.4**
ELK				IAmb		IAmb	00 10 46.2	
	comp=Z,12nm,1.4s							
R11A	**Troy Canyon, C**	**73.77**	**307**	P		**P**	**00 10 32.3**	**+0.3**
TPNV	**Topopah Spring**	**74.27**	**306**	P		**P**	**00 10 35.3**	**+0.5**
TPNV				IAmb		IAmb	00 10 53.2	
	comp=Z,13nm,1.4s							
NEW	**Newport**	**75.32**	**318**	P		**P**	**00 10 39.8**	**-0.8**
NEW				IAmb		IAmb	00 10 57.3	
	comp=Z,10nm,1.1s							
YKA	**Yellowknife Ar**	**75.43**	**332**	P		**P**	**00 10 40.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=84,slow=4.9,SNR=1.1							
YKA	**Yellowknife Ar**	**75.43**	**332**	P		**P**	**00 10 40.2**	**-0.6**
KVN	**Kaiserville**	**75.75**	**308**	P		**P**	**00 10 43.0**	**-0.4**
NVAR	**Mina Array Bea**	**75.91**	**307**	P		**P**	**00 10 45.7**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=101,slow=6.2,SNR=3.6							
NVAR	**Mina Array Bea**	**75.91**	**307**	P		**P**	**00 10 44.2**	**-0.2**
MOD	**Modoc Plateau**	**77.43**	**311**	P		**P**	**00 10 53.2**	**+0.4**
KIV	**Kislovodsk**	**78.28**	**47**	P		**P**	**00 10 56.9**	**-0.5**
KIV				IAmb		IAmb	00 10 59.8	
	comp=Z,20nm,1.4s							
VNA1	**Neumayer--Stat**	**82.01**	**170**	P		**P**	**00 11 17.2**	**+0.5**
VNA3	**Neumayer Olymp**	**82.29**	**171**	P		**P**	**00 11 18.4**	**+0.1**
VNA2	**Neumayer--Watz**	**82.40**	**170**	P		**P**	**00 11 18.7**	**-0.1**
	baz=320,slow=2.9							
INK	**Inuvik**	**83.43**	**338**	P		**P**	**00 11 24.6**	**+0.3**
INK				IAmb		IAmb	00 11 43.3	
	comp=Z,14nm,1.4s							
SNAA	**Sanae**	**83.84**	**169**	P		**P**	**00 11 25.9**	**-0.4**
SNAA	**Sanae**	**83.84**	**169**	P		**P**	**00 11 25.2**	**-1.1**
SNAA				IAmb		IAmb	00 11 34.8	
	comp=Z,7.3nm,1.1s							
HYT	**Haines Junctio**	**86.33**	**331**	P		**P**	**00 11 38.8**	**-0.5**
HYT				IAmb		IAmb	00 11 56.6	
	comp=Z,14nm,1.3s							
BELA	**Belgrano 2**	**86.56**	**179**	P		**P**	**00 11 39.1**	**-0.6**
BMAR	**Burnt Mountain**	**87.70**	**338**	P		**P**	**00 11 46.7**	**+1.0**
BCAR	**Beaver Creek A**	**87.79**	**334**	P		**P**	**00 11 46.1**	**-0.1**
IL31		**89.44**	**336**	P		**P**	**00 11 53.6**	**-0.2**
IL31				IAmb		IAmb	00 12 12.2	
	comp=Z,10nm,1.4s							
ILAR	**Eielson Array**	**89.44**	**336**	P		**P**	**00 11 54.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=67,slow=4.0,SNR=9.6							
ILAR	**Eielson Array**	**89.44**	**336**	P		**P**	**00 11 54.3**	**+0.4**
AB08	**Akbulak array**	**89.46**	**40**	P		**P**	**00 11 55.5**	**+1.2**
AB04	**Akbulak array**	**89.46**	**40**	P		**P**	**00 11 54.9**	**+0.6**
AB05	**Akbulak array**	**89.46**	**40**	P		**P**	**00 11 55.5**	**+1.2**
AB01	**Akbulak array**	**89.47**	**40**	P		**P**	**00 11 54.7**	**+0.4**
AB31	**Akbulak array**	**89.47**	**40**	P		**P**	**00 11 55.0**	**+0.6**
ABKAR	**Akbulak array**	**89.47**	**40**	P		**P**	**00 11 55.2**	**+0.9**
ABKAR	**Akbulak array**	**89.47**	**40**	P		**P**	**00 11 55.6**	**+1.3**
AB02	**Akbulak array**	**89.47**	**40**	P		**P**	**00 11 55.8**	**+1.5**
AB03	**Akbulak array**	**89.47**	**40**	P		**P**	**00 11 55.2**	**+0.9**
AB07	**Akbulak array**	**89.48**	**40**	P		**P**	**00 11 54.7**	**+0.4**
AB06	**Akbulak array**	**89.48**	**40**	P		**P**	**00 11 55.3**	**+0.9**
SYO	**Syowa Base**	**94.22**	**159**⇑	*es*P		sP	00 12 20.8	+2.2
CMAR	**Chiang Mai Arr**	**130.80**	**56**	PKP		**PKiKP**	**00 18 10.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=311,slow=4.0,SNR=4.2							

*IDC **20** 00:02:00.5±5.9,35°.84N×71°.70E,h78km±39km, mb3.5/5, mb1 3.5/9, mb1mx3.2/48, mbtmp3.8/9, ML3.6/4, Error ellipse: s-maj=69.7km s-min=27.2km az=148.0*
*NNC **20** 00:02:11.4±3.1,36°.86N×71°.03E,h166km±44km, mb3.0, mpv3.9, Error ellipse: s-maj=29.0km s-min=17.0km az=151.0*

ISC 20 00:02:09.4±1.4,**36°.7N**±0°.1×**71°.04E**±0°.08,**h100**km,**n22,**
σ2°.8 18/29, mb4.0/4, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.77**	**20**	P	**Pn**	**00 03 34.2**	**+1.3**
	SNR=112						
UCH	**Uchtor**	**6.11**	**25**	P	**Pn**	**00 03 38.4**	**+0.8**
	SNR=18						
EKS2	**Erkin-Say**	**6.28**	**19**	P	**Pn**	**00 03 41.1**	**+1.5**
	SNR=11						
KK31	**Karatay Array**	**6.37**	**356**	⇓P	**Pn**	**00 03 43.0**	**+2.2**
	7.6nm,0.3s,baz=183,slow=13,SNR=194						
KK31				⇑S	**Sn**	**00 04 54.4**	**+2.4**
	2.4nm,0.2s,baz=185,slow=22,SNR=9.8						
AAK	**Ala-Archa**	**6.47**	**23**	P	**Pn**	**00 03 43.5**	**+1.3**
	SNR=13						
AAK	**Ala-Archa**	**6.47**	**23**	⇑P	**Pn**	**00 03 43.2**	**+1.0**
	3.9nm,0.5s						
AAK				⇓S	**Sn**	**00 04 55.1**	**+0.5**
	18nm,1.0s						
CHMS	**Chumysh**	**6.87**	**23**	P	**Pn**	**00 03 48.5**	**+0.9**
	SNR=7.3						
TKM2	**Tokmak 2**	**7.10**	**28**	P	**Pn**	**00 03 51.6**	**+0.7**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.10**	**28**	P	**Pn**	**00 03 50.6**	**-0.2**
	3.1nm,0.6s						
TKM2				S	**Sn**	**00 05 09.6**	**-0.5**
	3.8nm,0.7s						
GEYT	**Alibeck**	**10.36**	**280**	P	**Pn**	**00 04 36.0**	**+0.9**
	0.4nm,0.3s,baz=108,slow=12,SNR=7.0						
GEYT				S	**Sn**	**00 06 29.8**	**+0.5**
	0.7nm,0.3s,baz=26,slow=25,SNR=7.0						
GYA0B	**ALIBECK ARRAY**	**10.36**	**280**	⇓P	**Pn**	**00 04 35.3**	**+0.2**
GYA0B				⇑S	**Sn**	**00 06 28.6**	**-0.7**
MKAR	**Makanchi Array**	**13.08**	**36**	P	**Pn**	**00 05 08.6**	**-2.7**
	0.2nm,0.3s,baz=188,slow=23,SNR=9.1						
KURBB	**Kurchatov Arra**	**14.89**	**19**	P	**P**	**00 05 36.9**	**-0.8**
	0.1nm,0.3s,baz=207,slow=10,SNR=8.2						
AB31	**Akbulak array**	**14.90**	**331**	⇓P	**Pn**	**00 05 35.3**	**+0.7**
	0.7nm,0.3s,baz=142,slow=13,SNR=32						
AB31				⇓S	**Sn**	**00 08 12.7**	**-6.1**
	1.6nm,0.7s,baz=154,slow=23,SNR=6.5						
AKTO	**Aktyubinsk**	**16.59**	**330**	P	**P**	**00 05 59.7**	**+3.1**
	0.4nm,0.3s,baz=156,slow=11,SNR=3.9						
AKTO	**Aktyubinsk**	**16.59**	**330**	⇓P	**Pn**	**00 05 54.7**	**-1.2**
	1.6nm,0.7s						
AKTO				⇑S	**Sn**	**00 08 54.9**	**-5.0**
	2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**19.69**	**25**	P	**P**	**00 06 29.2**	**-1.2**
	2.1nm,0.4s,baz=209,slow=9.9,SNR=12						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**00 09 13.4**	**+1.9**
	2.5nm,1.0s,baz=94,slow=10,SNR=5.7						
ARCES	**ARCESS Array B**	**40.94**	**337**	P	**P**	**00 09 43.5**	**+1.8**
	3.0nm,0.9s,baz=106,slow=8.6,SNR=4.3						
NB2	**NORSAR Subarra**	**44.21**	**323**	P	**P**	**00 10 09.3**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.21**	**323**	P	**P**	**00 10 09.5**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=96,slow=7.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**00 12 40.7**	**-3.3**
	comp=Z,0.3nm,0.6s,baz=50,slow=4.9,SNR=1.8						

*IDC **20** 00:32:23.8±1.3,31°.35N×105°.43E,h0km,mb3.7/4, mb1 3.9/7, mb1mx3.6/61, mbtmp3.8/7, ML3.8/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/42, Error ellipse: s-maj=38.1km s-min=23.6km az=59.0*
*BJI **20** 00:32:26.0±0.0,31°.45N×105°.19E,h20km, mB4.3/2, mb4.5/4, ML4.1/23, Ms3.9/11, Ms7 3.6/7*

ISC 20 00:32:25.3±0.6,**31°.48N**±0°.04×**105°.18E**±0°.05,**h10**km,**n20,**
σ1°.87/27, mb3.7/5, MS2.9/3, 2C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.34**	**245**	Pg	**Pn**	**00 32 50.1**	**-0.1**
CD2				Sg	**Sb**	**00 33 08.9**	**+1.0**
CD2				smax	smax		
	comp=N,11μm,1.1s						
CD2				smax	smax		
	comp=E,4μm,0.5s						
XAN	**Xi'an**	**4.06**	**50**	Pn	**Pn**	**00 33 26.3**	**-1.2**
XAN				Pg	**Pb**	**00 33 37.8**	**+0.9**
XAN				Sg	**Sb**	**00 34 28.3**	**+2.2**
XAN				smax	smax		
	comp=N,2μm,0.9s						
XAN				smax	smax		
	comp=E,1μm,0.7s						
XAN				LR	LR		
	comp=N,3μm,4.6s						
XAN				LR	LR		
	comp=E,2μm,4.2s						
LZH	**Lanzhou**	**4.73**	**347**	*e*Pn	**Pn**	**00 33 38.4**	**+1.6**
LZH				Pg	**Pg**	**00 33 53.5**	**-2.4**
LZH				Sn	**Sn**	**00 34 32.8**	**+1.0**
LZH				Sg	**Sg**	**00 34 53.3**	**-3.8**
LZH				smax	smax		
	comp=N,170nm,1.1s						
LZH				smax	smax		
	comp=E,130nm,1.0s						
LZH				LR	LR		
	comp=N,620nm,4.6s						
LZH				LR	LR		
	comp=E,700nm,5.4s						
LZH				LR	LR		
	comp=Z,810nm,6.0s						
GYA	**Guiyang**	**5.17**	**165**	⇓Pg	**Pg**	**00 34 03.8**	**-0.6**
GYA				Sn	**Sb**	**00 34 56.6**	**-1.6**
GYA				Sg	**Sg**	**00 35 12.3**	**+0.9**
GYA				smax	smax		
	comp=N,360nm,0.8s						
GYA				smax	smax		
	comp=E,400nm,1.0s						
GYA				LR	LR		
	comp=N,560nm,3.8s						
GYA				LR	LR		
	comp=E,820nm,3.8s						
GYA				LR	LR		
	comp=Z,200nm,4.1s						
KMI	**Kunming**	**6.69**	**199**⇑	*e*Pn	**Pn**	**00 34 04.3**	**+0.5**
KMI				smax	smax		
	comp=Z,21nm,1.3s						
KMI				smax	smax		
	comp=Z,40nm,1.0s						
KMI				LR	LR		
	comp=Z,210nm,4.6s						
KMI				LR	LR		
	comp=Z,140nm,5.0s						
KMI				LR	LR		
	comp=Z,140nm,5.9s						
WHN	**Wuhan**	**7.93**	**94**	⇑P	**Pn**	**00 34 21.8**	**+1.2**
WHN				S	**Sn**	**00 35 47.6**	**-2.8**
WHN				LR	LR		
	comp=Z,750nm,4.7s						
WHN				LR	LR		
	comp=Z,890nm,4.1s						
WHN				LR	LR		
	comp=Z,810nm,6.5s						
NJ2	**Nanjing**	**11.66**	**84**	*e*P	**Pn**	**00 35 14.9**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,350nm,7.1s						
NJ2				LR	LR		
	comp=Z,160nm,5.7s						
NJ2				LR	LR		
	comp=Z,120nm,6.6s						
QIZ	**Qiongzhong**	**13.09**	**160**	P	**Pn**	**00 35 31.5**	**+0.1**
QIZ				S	**Sn**	**00 37 58.1**	**+0.9**
QIZ				LR	LR		
	comp=Z,160nm,11.8s						
QIZ				LR	LR		
	comp=Z,490nm,15.7s						
CMAR	**Chiang Mai Arr**	**14.14**	**205**	Pn	**Pn**	**00 35 44.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=16,slow=12,SNR=5.1						
CMAR				LR	LR	00 41 36.0	
	comp=Z,41nm,21.4s,baz=26,slow=39						
SONM	**Songino Array**	**16.36**	**3**	Pn	**Pn**	**00 36 15.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=6.6						
SONM				LR	LR	00 43 08.5	
	comp=Z,71nm,19.1s,baz=144,slow=39						
WMQ	**Urumqi**	**18.48**	**317**	*e*P	**P**	**00 36 41.3**	**-0.2**
KSRS	**Korea Array**	**19.66**	**66**	P	**P**	**00 36 52.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=253,slow=11,SNR=3.5						
KSRS				LR	LR	00 45 33.0	
	comp=Z,46nm,18.5s,baz=234,slow=40						
TLY	**Talaya**	**20.22**	**357**	LR	LR	00 45 38.7	
	comp=Z,50nm,21.0s,baz=153,slow=39						
MKAR	**Makanchi Array**	**23.31**	**318**	P	**P**	**00 37 35.8**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=128,slow=9.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**26.79**	**333**	P	**P**	**00 38 07.5**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=146,slow=10,SNR=1.9						
KURBB	**Kurchatov Arra**	**27.50**	**322**	P	**P**	**00 38 14.0**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=137,slow=8.5,SNR=2.0						
MJAR	**Matsushiro Arr**	**27.76**	**70**	LR	LR	00 48 43.8	
	comp=Z,29nm,19.0s,baz=95,slow=36						
WRA	**Warramunga Arr**	**58.28**	**147**	P	**P**	**00 42 18.8**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=339,slow=7.9,SNR=5.0						
BRG	**Berggiesshubel**	**67.02**	**317**	*e*(P)	**P**	**00 43 20.8**	**+2.4**
	comp=Z,8.9nm,1.4s						
GERES	**GERESS Array B**	**67.94**	**315**	LR	LR	01 15 03.7	
	comp=Z,314nm,18.5s,baz=44,slow=38						

*IDC **20** 00:35:57.2±4.7,4°.58S×153°.51E,h97km±29km, mb3.8/8, mb1 3.9/9, mb1mx3.6/38, mbtmp4.1/9, MS3.8/1, Ms1 3.8/1, ms1mx2.6/27, Error ellipse: s-maj=48.8km s-min=18.2km az=100.0*

ISC 20 00:35:55.5±1.4,**4°.5S**±0°.1×**153°.7E**±0°.1,**h85**km,**n15,**
σ0°.73/13, mb3.9/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.64**	**278**	P	**Pn**	**00 36 23.1**	**+0.4**
	295nm,0.3s,baz=120,slow=8.1,SNR=49						
KRVT				S	**Sn**	**00 36 43.3**	**-0.2**
	275nm,0.3s,baz=58,slow=21,SNR=13						
KRVT				LR	LR	00 36 58.9	
	comp=Z,188nm,18.1s,baz=62,slow=41						
PMG	**Port Moresby**	**8.06**	**233**	P	**Pn**	**00 37 51.3**	**+1.4**
	5.6nm,0.3s,baz=326,slow=23,SNR=2.7						
PMG				S	**Sn**	**00 39 19.0**	**-0.4**
	10nm,0.3s,baz=89,slow=3.9,SNR=5.0						
WRA	**Warramunga Arr**	**24.26**	**229**	P	**P**	**00 41 04.4**	**-0.4**
	6.0nm,0.4s,baz=55,slow=10.0,SNR=79						
H11S3	**WAKE ISLAND Hy**	**26.24**	**29**	T	T	01 10 15.2	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**26.25**	**29**	T	T	01 10 12.8	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**26.26**	**29**	T	T	01 10 11.8	
	baz=208						
ASAR	**Alice Springs**	**26.92**	**223**	P	**P**	**00 41 28.4**	**-0.6**
	0.3nm,0.5s,baz=54,slow=8.7,SNR=5.0						
FITZ	**Fitzroy Crossi**	**30.53**	**242**	P	**P**	**00 41 59.9**	**-1.2**
	2.4nm,0.6s,baz=50,slow=7.0,SNR=18						
CMAR	**Chiang Mai Arr**	**58.54**	**295**	P	**P**	**00 45 44.0**	**+0.4**
	0.6nm,0.3s,baz=122,slow=4.5,SNR=4.6						
SONM	**Songino Array**	**66.56**	**327**	P	**P**	**00 46 37.1**	**+0.4**
	0.7nm,0.3s,baz=134,slow=5.1,SNR=5.1						
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**00 47 59.6**	**+0.3**
	0.5nm,0.4s,baz=102,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**81.41**	**326**	P	**P**	**00 48 03.0**	**+0.1**
	0.5nm,0.3s,baz=114,slow=7.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**84.12**	**322**	P	**P**	**00 48 16.9**	**-0.1**
	0.3nm,0.3s,baz=98,slow=4.3,SNR=4.2						
NRIK	**Noril'sk**	**85.99**	**341**	LR	LR	01 26 25.6	
	comp=Z,50nm,19.2s,baz=18,slow=35						
TORD	**Torodi Ar. Bea**	**151.03**	**289**	PKPbc	**PKPbc**	**00 55 39.0**	**-0.7**
	0.4nm,0.5s,baz=67,slow=2.2,SNR=11						

*REY **20** 00:38:21.9, 64°.62N×17°.40W, h9km*
*IDC **20** 00:38:23.2±0.9, 64°.45N×17°.87W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/42, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=31.7km s-min=12.6km az=23.0*

ISC 20 00:38:21.9±0.6,**64°.63N**±0°.02×**17°.41W**±0°.02,**h9**km,**n57,**
σ1°.75/67, mb3.7/7, Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDJK	**Dyngjujokull**	**0.15**	**149**	P	**Pg**	**00 38 24.9**	**-0.4**
	baz=149						
IVON	**Vonarskard**	**0.15**	**286**	P	**Pg**	**00 38 25.4**	**+0.1**
	baz=290						
IDYN	**Dyngjuhals**	**0.16**	**7**	P	**Pg**	**00 38 25.5**	**+0.1**
	baz=4.4						
IURH	**Urdarhals**	**0.22**	**31**	P	**Pg**	**00 38 26.5**	**0.0**
	baz=28						
IGRF	**Grimsfjall**	**0.23**	**165**	P	**Pg**	**00 38 26.3**	**-0.5**
	baz=165						
IKVE	**Kverkfjoll**	**0.32**	**81**	P	**Pb**	**00 38 28.3**	**-1.7**
	baz=79						
IKVE				S	**Sb**	**00 38 33.1**	**-2.2**
	baz=79						
IHUS	**Husbondi**	**0.35**	**198**	P	**Pb**	**00 38 28.6**	**-1.9**
	baz=199						
IHUS				S	**Sb**	**00 38 34.0**	**-2.3**
	baz=199						
IVOT	**Vottur**	**0.38**	**165**	P	**Pb**	**00 38 28.8**	**-2.0**
	baz=165						
ISKR	**Skrokkalda**	**0.43**	**261**	P	**Pg**	**00 38 29.8**	**-0.5**
	baz=262						
ISKR				S	**Sg**	**00 38 36.5**	**+0.6**
	baz=262						
IKRE	**Kreppuhraun**	**0.47**	**71**	P	**Pb**	**00 38 30.4**	**-2.0**
	baz=69						
IKRE				S	**Sb**	**00 38 37.2**	**-2.2**
	baz=69						
IJOK	**Jokulheimar**	**0.47**	**228**	P	**Pg**	**00 38 30.4**	**-0.8**
	baz=230						
IJOK				S	**Sg**	**00 38 37.7**	**+0.3**
	baz=230						
IASK	**Askja**	**0.53**	**37**	P	**Pb**	**00 38 31.9**	**-1.6**
	baz=36						
IMKO	**Mokollar**	**0.57**	**52**	P	**Pb**	**00 38 32.4**	**-1.8**
	baz=51						
IIEY	**Innrieyrar**	**0.62**	**210**	P	**Pg**	**00 38 32.9**	**-1.0**
	baz=211						
IIEY				S	**Sb**	**00 38 41.8**	**-2.0**
	baz=211						
IKSK	**Karasker**	**0.62**	**139**	P	**Pb**	**00 38 32.4**	**-2.7**
	baz=138						
IKSK				S	**Sb**	**00 38 41.4**	**-2.5**
	baz=138						
IKAL	**Kalfafell**	**0.70**	**190**	P	**Pb**	**00 38 34.2**	**-2.1**
	baz=191						
IKAL				S	**Sb**	**00 38 44.4**	**-1.5**
	baz=191						
ISVA	**Svartarkot**	**0.71**	**5**	P	**Pb**	**00 38 34.7**	**-1.8**
	baz=4.8						
IVSH	**V-Sauoahnukur**	**0.74**	**76**	P	**Pb**	**00 38 35.0**	**-2.1**
	baz=74						
IVAT	**Vatnsfell**	**0.79**	**236**	P	**Pg**	**00 38 36.1**	**-1.1**
	baz=237						
IADA	**Aoalbol**	**0.88**	**63**	P	**Pb**	**00 38 37.2**	**-2.1**
	baz=62						
IHVE	**Hveravellir**	**0.95**	**285**	P	**Pg**	**00 38 38.5**	**-1.8**
	baz=286						
IMEL	**Melhnausar**	**0.99**	**18**	P	**Pg**	**00 38 39.3**	**-1.7**
	baz=18						
IREN	**Reynihlio**	**1.04**	**12**	P	**Pg**	**00 38 40.2**	**-1.7**
	baz=11						
ISNB	**Snabyli**	**1.05**	**211**	P	**Pg**	**00 38 40.1**	**-1.9**
	baz=212						
ISNB				S	**Sb**	**00 38 54.5**	**-1.4**
	baz=212						
ISLY	**Slysaalda**	**1.10**	**223**	P	**Pg**	**00 38 41.0**	**-2.0**
	baz=224						
ISLY				S	**Sg**	**00 38 56.2**	**-1.1**
	baz=224						
IKVO	**Krokottuvotn**	**1.11**	**11**	P	**Pg**	**00 38 41.5**	**-1.8**
	baz=11						
IKVO				S	**Sn**	**00 38 57.3**	**-1.8**
	baz=11						
IGRS	**Grimsstaoir**	**1.15**	**28**	P	**Pb**	**00 38 42.0**	**-1.9**
	baz=27						
IRJU	**Rjupnafell**	**1.16**	**209**	P	**Pb**	**00 38 42.2**	**-1.9**
	baz=210						
IRJU				S	**Sb**	**00 38 57.8**	**-1.4**
	baz=210						
IFED	**Fedgar**	**1.17**	**239**	P	**Pb**	**00 38 42.3**	**-2.0**
	baz=240						
IMJO	**Mjoaskard**	**1.21**	**236**	P	**Pn**	**00 38 43.0**	**-2.1**
	baz=236						
ISKI	**Skildingahlsh**	**1.25**	**7**	P	**Pn**	**00 38 43.6**	**-2.0**
	baz=6.9						
IHVO	**Lagu-Hvolar**	**1.28**	**210**	P	**Pn**	**00 38 44.2**	**-1.7**
	baz=211						
IGRA	**Granastaoir**	**1.29**	**357**	P	**Pn**	**00 38 44.3**	**-1.9**
	baz=357						
IHAU	**Haukadalur**	**1.30**	**240**	P	**Pn**	**00 38 44.5**	**-1.7**
	baz=241						
IDIM	**Dimmadalss**	**1.35**	**8**	P	**Pn**	**00 38 45.1**	**-1.8**
	baz=8.0						
**

MS4.0/10,Error ellipse: s-maj=11.4km s-min=6.9km az=119.7
NEIC ***20*** *01:00:26.2±1.8,64°.59N±0°.10×17°.4W±0°.2,h8km±4km, mb4.6/93,Error ellipse: s-maj=14.6km s-min=9.1km az=194.0*
ISC 20 01:00:25.8±0.3,**64°.60N**±0°.02×**17°.48W**±0°.02,**h10**km,**n347**, σ1s**89**/340,**mb4.5**/113,**MS3.9**/37,**19C-12D,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.14**	**302**	P	**Pg**	**01 00 26.6**	**-2.5**
	baz=294						
IDJK	**Dyngjujokull**	**0.14**	**132**	P	**Pg**	**01 00 26.6**	**-2.6**
	baz=142						
IDYN	**Dyngjuhals**	**0.20**	**15**	P	**Pg**	**01 00 26.9**	**-3.2**
	baz=8.8						
IGRF	**Grimsfjall**	**0.22**	**154**	P	**Pg**	**01 00 27.5**	**-2.9**
	baz=161						
IURH	**Urdarhals**	**0.26**	**33**	P	**Pg**	**01 00 28.2**	**-3.0**
	baz=30						
IKVE	**Kverkfjoll**	**0.35**	**77**	P	**Pg**	**01 00 29.6**	**-3.3**
	baz=78						
IVOT	**Vottur**	**0.36**	**158**	P	**Pg**	**01 00 29.9**	**-3.0**
	baz=162						
ISKR	**Skrokkalda**	**0.39**	**264**	P	**Pg**	**01 00 31.1**	**-2.5**
	baz=263						
IJOK	**Jokulheimar**	**0.43**	**229**	P	**Pg**	**01 00 31.3**	**-3.0**
	baz=230						
IJOK				S	**Sg**	**01 00 38.2**	**-1.7**
	baz=230						
IKRE	**Kreppuhraun**	**0.51**	**68**	P	**Pg**	**01 00 31.9**	**-3.8**
	baz=69						
IKRE				S	**Sg**	**01 00 38.9**	**-3.5**
	baz=69						
IIEY	**Innrieyrar**	**0.58**	**209**	P	**Pg**	**01 00 33.8**	**-3.2**
	baz=210						
IIEY				S	**Sg**	**01 00 42.6**	**-2.1**
	baz=210						
IMKO	**Mokollar**	**0.62**	**52**	P	**Pg**	**01 00 33.9**	**-4.0**
	baz=51						
IKSK	**Karasker**	**0.62**	**135**	P	**Pg**	**01 00 33.8**	**-4.1**
	baz=137						
IKSK				S	**Sg**	**01 00 42.5**	**-3.5**
	baz=137						
IKAL	**Kalfafell**	**0.66**	**188**	P	**Pg**	**01 00 35.2**	**-3.4**
	baz=190						
IKAL				S	**Sg**	**01 00 45.2**	**-2.1**
	baz=190						
ISVA	**Svartarkot**	**0.74**	**7**	P	**Pg**	**01 00 36.2**	**-4.0**
	baz=5.8						
IVAT	**Vatnsfell**	**0.75**	**237**	P	**Pg**	**01 00 36.7**	**-3.5**
	baz=237						
IVAT				S	**Sg**	**01 00 47.4**	**-2.6**
	baz=237						
IVSH	**V-Sauoahnukur**	**0.78**	**74**	P	**Pg**	**01 00 36.5**	**-4.4**
	baz=74						
IADA	**Aoalbol**	**0.92**	**62**	P	Pg	01 00 38.6	-4.9
	baz=62						
IADA				S	**Sg**	**01 00 50.4**	**-5.0**
	baz=62						
IHVE	**Hveravellir**	**0.93**	**288**	P	**Pg**	**01 00 39.8**	**-4.0**
	baz=287						
IHVE				S	**Sg**	**01 00 52.1**	**-3.8**
	baz=287						
ISNB	**Snabyli**	**1.00**	**211**	P	**Pg**	**01 00 40.8**	**-4.3**
	baz=211						
ISNB				S	**Sg**	**01 00 55.4**	**-2.7**
	baz=211						
IMEL	**Melhnausar**	**1.03**	**19**	P	**Pg**	**01 00 41.0**	**-4.7**
	baz=18						
IMEL				S	**Sg**	**01 00 54.0**	**-5.1**
	baz=18						
ISLY	**Slysaalda**	**1.06**	**223**	P	**Pg**	**01 00 42.1**	**-4.0**
	baz=224						
IREN	**Reynihlio**	**1.08**	**13**	P	Pg	01 00 41.2	-5.3
	baz=12						
IRJU	**Rjupnafell**	**1.12**	**208**	P	**Pb**	**01 00 43.1**	**-4.1**
	baz=209						
IRJU				S	**Sb**	**01 00 57.2**	**-4.5**
	baz=209						
IFED	**Fedgar**	**1.12**	**240**	P	**Pb**	**01 00 43.5**	**-3.8**
	baz=240						
IKVO	**Krokottuvotn**	**1.15**	**13**	P	Pb	01 00 42.6	-5.2
	baz=12						
IMJO	**Mjoaskard**	**1.17**	**236**	P	**Pb**	**01 00 43.9**	**-4.2**
	baz=236						
IGRS	**Grimsstaoir**	**1.19**	**28**	P	Pb	01 00 43.4	-5.1
	baz=28						
IHVO	**Lagu-Hvolar**	**1.24**	**210**	P	**Pn**	**01 00 45.3**	**-3.8**
	baz=210						
IHAU	**Haukadalur**	**1.25**	**241**	P	**Pn**	**01 00 45.5**	**-3.9**
	baz=241						
IGHA	**Grjothals**	**1.29**	**15**	P	**Pn**	**01 00 45.3**	**-4.7**
	baz=14						
IGRA	**Granastaoir**	**1.32**	**358**	P	**Pn**	**01 00 45.7**	**-4.6**
	baz=357						
IALF	**Alftagrof**	**1.34**	**215**	P	**Pn**	**01 00 46.7**	**-3.9**
	baz=215						
IESK	**Eystri-Skogar**	**1.39**	**220**	P	**Pn**	**01 00 47.5**	**-3.7**
	baz=220						
IMID	**Miomork**	**1.42**	**229**	P	**Pn**	**01 00 48.1**	**-3.5**
	baz=230						
ISAU	**Saurbar**	**1.42**	**246**	P	**Pn**	**01 00 47.6**	**-4.0**
	baz=246						
IHED	**Heoinshofoi**	**1.49**	**3**	P	**Pn**	**01 00 48.1**	**-4.5**
	baz=1.9						
IBRE	**Brettingsstaoi**	**1.54**	**354**	P	**Pn**	**01 00 48.9**	**-4.4**
	baz=353						
IGIL	**Gilhagi**	**1.56**	**17**	P	**Pn**	**01 00 48.9**	**-4.6**
	baz=17						
ISIG	**Siglufjorour**	**1.65**	**339**	P	**Pn**	**01 00 50.9**	**-3.9**
	baz=338						
ISOL	**Solvholt**	**1.66**	**247**	P	**Pn**	**01 00 51.2**	**-3.6**
	baz=248						
BORG	**Borgarnes**	**1.66**	**277**	Pg	**Pn**	**01 00 52.2**	**-2.7**
	112nm,0.3s,baz=100,slow=7.2,SNR=71						
BORG				Lg	Lg	01 01 14.8	
	30nm,0.3s,baz=236,slow=21,SNR=7.6						
BORG	**Borgarnes**	**1.66**	**277**	Pn	**Pn**	**01 00 51.9**	**-3.0**
IKRO	**Krokur**	**1.66**	**254**	P	**Pn**	**01 00 51.5**	**-3.4**
	baz=254						
IHEI	**Heioarbar**	**1.68**	**258**	P	**Pn**	**01 00 51.6**	**-3.6**
	baz=258						
JMIC	**Jan Mayen**	**7.25**	**24**	LR	LR	01 03 58.6	
	comp=Z,189nm,19.7s,baz=53,slow=29						
SUMG	**Summit**	**11.00**	**326**	*e*P	Pn	01 03 08.6	+5.3
SUMG	**Summit**	**11.00**	**326**	*i* P	Pn	01 03 08.6	+5.3
SUMG	**Summit**	**11.00**	**326**	*e*P	Pn	01 03 08.6	+5.3
EKA	**Eskdalemuir Ar**	**11.71**	**136**	Pn	**Pn**	**01 03 11.3**	**-1.4**
	baz=320,slow=13,SNR=15						
ESK	**Eskdalemuir**	**11.71**	**136**	P	**Pn**	**01 03 11.8**	**-0.9**
ESK	**Eskdalemuir**	**11.71**	**136**	Pn	**Pn**	**01 03 11.8**	**-0.9**
DAG	**Danmarks Havn**	**12.24**	**359**	*i* P	Pn	01 03 12.5	-7.3
DAG	**Danmarks Havn**	**12.24**	**359**	*i* P	Pn	01 03 12.5	-7.3
DAG	**Danmarks Havn**	**12.24**	**359**	*i* P	Pn	01 03 12.6	-7.2
NC204	**NORSAR Array S**	**13.22**	**92**	Pn	**Pn**	**01 03 33.5**	**+0.2**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**01 03 38.3**	**+0.8**
	0.0nm,0.3s,baz=298,slow=13,SNR=6.2						
NOA				LR	LR	01 08 53.1	
	comp=Z,137nm,19.1s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.70**	**295**	LR	LR	01 07 56.0	
	comp=Z,241nm,18.9s,baz=86,slow=33						
HFS	**Hagfors**	**15.04**	**93**	Pn	**P**	**01 04 03.6**	**+0.2**
	0.2nm,0.3s,baz=323,slow=6.3,SNR=9.6						
HFS				LR	LR	01 09 49.4	
	comp=Z,218nm,18.1s,baz=290,slow=37						
SPITS	**Spitsbergen Ar**	**16.93**	**23**	LR	LR	01 09 19.5	
	comp=Z,165nm,21.7s,baz=235,slow=32						
ARCES	**ARCESS Array B**	**17.15**	**54**	P	**P**	**01 04 25.5**	**-1.4**
	baz=276,slow=12,SNR=2.5						
ARCES				LR	LR	01 09 45.4	
	comp=Z,265nm,19.2s,baz=270,slow=32						
KEV	**Kevo**	**17.66**	**54**	P	**P**	**01 04 36.0**	**+3.6**
KEV				pmax	pmax		
	comp=Z,16nm,1.0s						
KEV	**Kevo**	**17.66**	**54**	P	**P**	**01 04 36.0**	**+3.6**
BMRD	**Maredsous**	**18.51**	**130**	Pn	**Pn**	**01 04 43.1**	**+1.0**
BMRD				x	x	01 04 45.8	
BMRD				PnPn	**PnPn**	**01 04 54.4**	**+0.8**
BGES	**Gesves**	**18.55**	**129**	Pn	**Pn**	**01 04 42.2**	**-0.3**
MEM	**Membach**	**18.67**	**127**	Pn	**Pn**	**01 04 44.6**	**+0.6**
MEM	**Membach**	**18.67**	**127**	P	Pn	01 04 50.1	+6.1
BTNL	**Ternell**	**18.73**	**127**	Pn	**Pn**	**01 04 45.1**	**+0.4**
BTNL				PnPn	**PnPn**	**01 04 56.8**	**+0.3**
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**01 04 55.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=305,slow=6.7,SNR=7.0						
FINES				LR	LR	01 12 06.8	
	comp=Z,116nm,18.9s,baz=295,slow=36						
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**	**01 04 54.1**	**-0.8**
FIA1	**FINESS Array S**	**19.71**	**79**	P	**Pn**	**01 04 56.0**	**-0.5**
CLF	**Chambon-Foret**	**19.74**	**138**	P	**Pn**	**01 04 57.0**	**+0.1**
CLF				IAmb	IAmb	01 05 01.0	
	comp=Z,52nm,1.3s						
CLL	**Collm**	**20.67**	**116**	*i* P	**P**	**01 05 05.1**	**-0.4**
	comp=Z,38nm,1.3s						
CLL				*i*		01 05 12.6	
CLL				*e*PPP	PPP	01 05 32.0	
CLL	**Collm**	**20.67**	**116**	*i* P	**P**	**01 05 05.1**	**-0.4**
CLL				pmax	pmax		
	comp=Z,38nm,1.3s						
CLL	**Collm**	**20.67**	**116**	P	**P**	**01 05 04.6**	**-0.9**
CLL				IAmb	IAmb	01 05 10.6	
	comp=Z,28nm,1.2s						
ECH	**Echery**	**21.11**	**129**	P	**P**	**01 05 10.5**	**+0.2**
ECH				pmax	pmax		
	comp=Z,11nm,0.9s						
ECH	**Echery**	**21.11**	**129**	P	**P**	**01 05 10.4**	**+0.2**
GRA1	**Grafenberg Arr**	**21.29**	**121**	P	**P**	**01 05 13.4**	**+1.1**
GRA1				IAmb	IAmb	01 05 24.7	
	comp=Z,32nm,1.1s						
GRF	**Grafenberg Arr**	**21.29**	**121**	P	**P**	**01 05 13.4**	**+1.1**
GRF				pmax	pmax		
	comp=Z,32nm,1.1s						
NKC	**Novy Kostel**	**21.31**	**118**	*e*P	**P**	**01 05 13.1**	**+0.6**
NKC				AMS	AMS	01 15 10.0	
	comp=Z,500nm,11.4s						
NKC	**Novy Kostel**	**21.31**	**118**	*e*P	**P**	**01 05 13.1**	**+0.6**
NKC				MLR	MLR		
	comp=Z,500nm,11.4s						
STU	**Stuttgart**	**21.33**	**125**	P	**P**	**01 05 12.4**	**-0.2**
STU				pmax	pmax		
	comp=Z,25nm,1.0s						
STU	**Stuttgart**	**21.33**	**125**	P	**P**	**01 05 12.4**	**-0.2**
STU				IAmb	IAmb	01 05 17.9	
	comp=Z,25nm,1.0s						
BRG	**Berggiesshubel**	**21.38**	**115**	*e*P	**P**	**01 05 12.0**	**-1.1**
	comp=Z,19nm,1.2s						
BRG				S	Sn	01 09 14.0	-3.7
	comp=N,511nm,14.7s						
	comp=E,557nm,17.7s						
	comp=Z,559nm,16.7s						
BRG	**Berggiesshubel**	**21.38**	**115**	*e*P	**P**	**01 05 12.0**	**-1.1**
BRG				S	Sn	01 09 14.0	-3.7
BRG				pmax	pmax		
	comp=Z,19nm,1.2s						
BRG				MLR	MLR		
	comp=N,511nm,14.7s						
BRG				MLR	MLR		
	comp=E,557nm,17.7s						
BRG				MLR	MLR		
	comp=Z,559nm,16.7s						
BFO	**Black Forest**	**21.41**	**127**	P	**P**	**01 05 13.1**	**-0.4**
BFO				pmax	pmax		
	comp=Z,30nm,1.2s						
BFO	**Black Forest**	**21.41**	**127**	P	**P**	**01 05 13.1**	**-0.4**
BFO				IAmb	IAmb	01 05 19.2	
	comp=Z,30nm,1.2s						
VSU	**Vasula**	**21.57**	**86**	*e*P	**P**	**01 05 14.1**	**-0.9**
VSU				pmax	pmax		
	comp=Z,85nm,0.9s						
FRB	**Frobisher Bay**	**21.78**	**291**	LR	LR	01 12 56.4	
	comp=Z,241nm,20.6s,baz=84,slow=35						
PVCC	**Panska Ves**	**21.90**	**115**	AMS	AMS	01 15 30.0	
	comp=Z,500nm,11.5s						
PRA	**Prague**	**22.21**	**116**	AMS	AMS	01 16 30.0	
	comp=Z,300nm,12.0s						
PRU	**Pruhonice**	**22.32**	**116**	*e*P	**P**	**01 05 23.3**	**+0.1**
PRU				AMS	AMS	01 16 30.0	
	comp=Z,500nm,10.8s						
PRU	**Pruhonice**	**22.32**	**116**	*e*P	**P**	**01 05 23.3**	**+0.1**
PRU				MLR	MLR		
	comp=Z,500nm,10.8s						
KSP	**Ksiaz**	**22.33**	**112**	*e*P	**P**	**01 05 25.9**	**+2.5**
CHVC	**Chvalec**	**22.44**	**113**	*e*P	**P**	**01 05 23.9**	**-0.6**
CHVC				*e*P	**pP**	**01 05 24.1**	**-3.7**
CHVC				AMS	AMS	01 17 00.0	
	comp=Z,400nm,12.0s						
GOPC	**GO Pecny, Ondr**	**22.47**	**115**	*e*P	**P**	**01 05 25.8**	**+0.9**
GOPC				*e*S	Sn	01 09 42.9	-1.0
GOPC				AMS	AMS	01 16 30.0	
	comp=Z,500nm,10.3s						
GOPC	**GO Pecny, Ondr**	**22.47**	**115**	*e*P	**P**	**01 05 25.8**	**+0.9**
GOPC				MLR	MLR		
	comp=Z,500nm,10.3s						
UPC	**Upice**	**22.48**	**113**	AMS	AMS	01 16 50.0	
	comp=Z,500nm,10.1s						
OSTC	**Ostas**	**22.52**	**113**	*e*P	**P**	**01 05 27.4**	**+1.9**
OSTC				*e*S	Sn	01 09 44.3	-0.9
OSTC				AMS	AMS	01 17 00.0	
	comp=Z,400nm,11.8s						
KHC	**Kasperske Hory**	**22.64**	**118**	*e*P	**P**	**01 05 25.8**	**-0.9**
KHC				AMS	AMS	01 18 00.0	
	comp=Z,400nm,10.6s						
KHC	**Kasperske Hory**	**22.64**	**118**	P	**P**	**01 05 26.6**	**-0.1**
KHC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KHC	**Kasperske Hory**	**22.64**	**118**	P	**P**	**01 05 26.6**	**-0.1**
DPC	**Dobruska-Polom**	**22.73**	**113**	*e*P	**P**	**01 05 27.7**	**+0.1**
DPC				AMS	AMS	01 16 50.0	
	comp=Z,300nm,15.0s						
DPC	**Dobruska-Polom**	**22.73**	**113**	*e*P	**P**	**01 05 27.7**	**+0.1**
DPC				MLR	MLR		
	comp=Z,300nm,15.0s						
DAVA	**Damuels**	**22.84**	**126**	*e*P	**P**	**01 05 30.0**	**+1.0**
	comp=Z,18nm,1.2s						
SUW	**Suwalki**	**22.87**	**98**	P	**P**	**01 05 29.9**	**+0.9**
SUW				pmax	pmax		
	comp=Z,41nm,1.3s						
SUW	**Suwalki**	**22.87**	**98**	P	**P**	**01 05 29.9**	**+0.9**
SUW				IAmb	IAmb	01 05 48.2	
	comp=Z,41nm,1.3s						
SSB	**Saint Sauveur**	**22.90**	**137**	P	**P**	**01 05 30.5**	**+1.0**
SSB				pmax	pmax		
	comp=Z,12nm,1.1s						
SSB	**Saint Sauveur**	**22.90**	**137**	P	**P**	**01 05 30.5**	**+1.0**
GEC2	**GERESS Array S**	**22.92**	**119**	P	**P**	**01 05 29.9**	**+0.2**
GEC2				IAmb	IAmb	01 05 41.0	
	comp=Z,27nm,1.4s						
GERES	**GERESS Array B**	**22.92**	**119**	P	**P**	**01 05 30.5**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=322,slow=8.5,SNR=14						
GERES	**GERESS Array B**	**22.92**	**119**	P	**P**	**01 05 30.2**	**+0.5**
GERES	**GERESS Array B**	**22.92**	**119**	P	**P**	**01 05 30.2**	**+0.5**
RETA	**Reutte**	**22.98**	**125**	*e*P	**P**	**01 05 30.2**	**-0.1**
	comp=Z,9.3nm,1.4s						
KRLC	**Kraliky**	**23.13**	**113**	*e*P	**P**	**01 05 32.7**	**+0.9**
KRLC				*e*S	Sn	01 09 53.9	-5.8
KRLC				AMS	AMS	01 17 10.0	
	comp=Z,400nm,9.8s						
KRLC	**Kraliky**	**23.13**	**113**	*e*P	**P**	**01 05 32.7**	**+0.9**
KRLC				MLR	MLR		
	comp=Z,400nm,9.8s						
MOTA	**Moosalm**	**23.22**	**124**	*e*P	**P**	**01 05 34.5**	**+1.7**
	comp=Z,21nm,2.2s						
TREC	**Trest**	**23.24**	**115**	*e*P	**P**	**01 05 34.4**	**+1.5**
TREC				AMS	AMS	01 16 20.0	
	comp=Z,600nm,15.6s						
TREC	**Trest**	**23.24**	**115**	*e*P	**P**	**01 05 34.4**	**+1.5**
TREC				MLR	MLR		
	comp=Z,600nm,15.6s						
DAVOX	**Davos/Dischmat**	**23.27**	**127**	P	**P**	**01 05 34.3**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=324,slow=13,SNR=9.4						
DAVOX				LR	LR	01 15 31.8	
	comp=Z,366nm,19.1s,baz=318,slow=39						
PGAV	**Gavieira, Arco**	**23.29**	**162**	*e*P	**P**	**01 05 35.3**	**+1.8**
	comp=Z,37nm,2.0s						
TUE	**Stuetta**	**23.36**	**128**	P	**P**	**01 05 34.7**	**+0.4**
SQTA	**Sankt Quirin**	**23.36**	**124**	*e*P	**P**	**01 05 36.6**	**+2.4**
	comp=Z,16nm,1.4s						
FETA	**Feichten**	**23.36**	**125**	*e*P	**P**	**01 05 36.7**	**+2.4**
	comp=Z,9.6nm,1.8s						
WATA	**Walderalm**	**23.39**	**124**	*i* P	**P**	**01 05 36.1**	**+1.5**
	comp=Z,9.8nm,1.0s,SNR=4.8						
WTTA	**Wattenberg**	**23.48**	**124**	*i* P	**P**	**01 05 35.2**	**-0.3**
	comp=Z,13nm,1.3s,SNR=5.4						
FUORN	**Ofenpass-Fuorn**	**23.55**	**127**	P	**P**	**01 05 36.9**	**+0.7**
PBRG	**Braganca**	**23.66**	**160**	*e*P	**P**	**01 05 40.1**	**+3.0**
	comp=Z,37nm,1.9s						
VRAC	**Vranov**	**23.66**	**114**	P	**P**	**01 05 38.5**	**+1.4**
	comp=Z,5.2nm,1.0s,baz=326,slow=11,SNR=8.9						
VRAC	**Vranov**	**23.66**	**114**	*e*P	**P**	**01 05 36.5**	**-0.6**
MORC	**Moravsky Berou**	**23.67**	**112**	*e*P	**P**	**01 05 36.5**	**-0.7**
MORC	**Moravsky Berou**	**23.67**	**112**	P	**P**	**01 05 36.5**	**-0.7**
MORC				pmax	pmax		
	comp=Z,18nm,1.5s						
MORC	**Moravsky Berou**	**23.67**	**112**	P	**P**	**01 05 36.5**	**-0.7**
EUNU	**Eureka**	**23.73**	**336**	P	**Pn**	**01 05 38.2**	**+0.6**
EUNU				IAmb	IAmb	01 05 52.9	
	comp=Z,34nm,1.5s						
KRUC	**Moravsky**	**23.78**	**115**	*e*P	**P**	**01 05 38.9**	**+0.7**
OKC	**Ostrava-Krasne**	**23.86**	**111**	AMS	AMS	01 19 40.0	
	comp=Z,300nm,9.9s						
MOA	**Molln**	**23.95**	**119**	*e*P	**P**	**01 05 41.0**	**+1.1**
	comp=Z,10nm,1.6s						
PVRL	**Vila Real**	**24.04**	**162**	*e*P	**P**	**01 05 42.1**	**+1.3**
	comp=Z,50nm,1.9s						
ABTA	**Abfaltersbach**	**24.23**	**123**	*e*P	**P**	**01 05 42.7**	**+0.1**
	comp=Z,11nm,2.0s						
OJC	**Ojcow**	**24.23**	**109**	*e*P	**P**	**01 05 41.9**	**-0.6**
OJC	**Ojcow**	**24.23**	**109**	P	**P**	**01 05 41.4**	**-1.1**
OJC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
OJC	**Ojcow**	**24.23**	**109**	P	**P**	**01 05 41.4**	**-1.1**
MVO	**Moncorvo**	**24.24**	**161**	*e*P	**P**	**01 05 45.4**	**+2.7**
	comp=Z,41nm,2.0s						
KBA	**Koelnbreinsper**	**24.25**	**122**	*e*P	**P**	**01 05 45.5**	**+2.6**
	comp=Z,17nm,1.7s						
JAVC	**Velka Javorina**	**24.45**	**113**	*e*P	**P**	**01 05 46.0**	**+1.5**
CONA	**Conrad Observa**	**24.50**	**117**	*e*P	**P**	**01 05 46.1**	**+1.1**
	comp=Z,7.7nm,0.9s						
CTI	**Castel Tesino**	**24.52**	**125**	P	**P**	**01 05 45.8**	**+0.5**
CTI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTI	**Castel Tesino**	**24.52**	**125**	P	**P**	**01 05 45.8**	**+0.5**
CTI				IAmb	IAmb	01 05 49.9	
	comp=Z,9.0nm,0.8s						
ZOU	**Zoufplan**	**24.56**	**123**	P	**P**	**01 05 46.4**	**+0.7**
ZOU				IAmb	IAmb	01 05 59.7	
	comp=Z,19nm,1.3s						
PVIS	**Viseu**	**24.57**	**162**	*e*P	**P**	**01 05 48.2**	**+2.6**
	comp=Z,34nm,1.6s						
CIMO	**Cimolais**	**24.58**	**124**	P	**P**	**01 05 46.6**	**+0.9**
SMOL	**Smolenice**	**24.63**	**114**	*e*P	**P**	**01 05 45.8**	**-0.3**
SMOL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SMOL	**Smolenice**	**24.63**	**114**	*e*P	**P**	**01 05 45.8**	**-0.3**
MODS	**Modra-Piesok**	**24.68**	**114**	*e*P	**P**	**01 05 46.6**	**0.0**
MODS				pmax	pmax		
	comp=Z,42nm,1.8s						
MODS	**Modra-Piesok**	**24.68**	**114**	*e*P	**P**	**01 05 46.6**	**0.0**
MYKA	**Terra Mystica**	**24.74**	**122**	*e*P	**P**	**01 05 48.9**	**+1.6**
	comp=Z,8.1nm,1.2s						
PRED	**Cave del Predi**	**24.87**	**122**	P	**P**	**01 05 49.2**	**+0.9**
PRED				IAmb	IAmb	01 05 55.0	
	comp=Z,28nm,1.4s						
MTE	**Manteigas**	**24.92**	**162**	*e*P	**P**	**01 05 49.8**	**+0.9**
	comp=Z,52nm,1.9s						
ARSA	**Arzberg**	**24.93**	**118**	*e*P	**P**	**01 05 48.6**	**-0.2**
	comp=Z,4.2nm,0.8s						
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P	**P**	**01 05 49.9**	**+1.0**
LANS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P	**P**	**01 05 49.8**	**+0.9**
NIE	**Niedzica**	**25.06**	**109**	*e*P	**P**	**01 05 51.1**	**+1.1**
TEOL	**Teolo**	**25.13**	**126**	P	**P**	**01 05 49.0**	**-1.6**
TEOL				IAmb	IAmb	01 05 56.1	
	comp=Z,12nm,1.0s						
PCAS	**Casmilo, Conde**	**25.14**	**164**	*e*P	**P**	**01 05 53.8**	**+3.0**
	comp=Z,70nm,1.7s						
OBKA	**Obir**	**25.18**	**121**	*e*P	**P**	**01 05 52.5**	**+1.3**
	comp=Z,6.2nm,1.2s						
VYHS	**Vyhne**	**25.20**	**112**	*e*P	**P**	**01 05 49.6**	**-1.7**
VYHS				pmax	pmax		
	comp=Z,20nm,1.5s						
VYHS	**Vyhne**	**25.20**	**112**	*e*P	**P**	**01 05 49.6**	**-1.7**
SOKA	**Soboth**	**25.22**	**120**	*i* P	**P**	**01 05 50.9**	**-0.6**
	comp=Z,9.6nm,1.4s,SNR=5.6						
PCBR	**Castelo Branco**	**25.48**	**162**	*e*P	**P**	**01 05 56.5**	**+2.7**
	comp=Z,34nm,1.9s						
PSBE	**So Bento**	**25.64**	**164**	*e*P	**P**	**01 05 58.4**	**+3.1**
	comp=Z,51nm,1.7s						
VLC	**Villacollemand**	**25.74**	**129**	P	**P**	**01 05 57.2**	**+1.0**
VLC				IAmb	IAmb	01 06 15.5	
	comp=Z,14nm,1.1s						
ZCCA	**Zocca**	**25.77**	**128**	P	**P**	**01 05 58.6**	**+2.1**
ZCCA				IAmb	IAmb	01 06 06.0	
	comp=Z,24nm,1.3s						
KWP	**Kalwaria Pacla**	**25.89**	**106**	P	**P**	**01 05 57.3**	**-0.2**
KWP				pmax	pmax		
	comp=Z,71nm,1.4s						
KWP	**Kalwaria Pacla**	**25.89**	**106**	P	**P**	**01 05 57.2**	**-0.2**
PMRV	**Marv??o**	**25.90**	**162**	*e*P	**P**	**01 06 02.2**	**+4.6**
	comp=Z,45nm,2.0s						
SCHQ	**Schefferville**	**26.05**	**272**	P	**P**	**01 05 58.7**	**-0.2**
	comp=Z,9.5nm,0.8s,baz=47,slow=6.6,SNR=7.6						
SCHQ	**Schefferville**	**26.05**	**272**	P	**P**	**01 05 59.1**	**+0.2**
SCHQ				IAmb	IAmb	01 06 03.2	
	comp=Z,12nm,0.8s						
PSZ	**Piszkesteto**	**26.09**	**112**	P	**P**	**01 05 59.6**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,24nm,1.3s						
PSZ	**Piszkesteto**	**26.09**	**112**	P	**P**	**01 05 59.6**	**+0.2**
PSZ				IAmb	IAmb	01 06 12.3	
	comp=Z,24nm,1.3s						
ESDC	**Sonseca Array**	**26.19**	**156**	P	**P**	**01 06 00.1**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=349,slow=8.3,SNR=12						
ESDC				LR	LR	01 16 08.0	
	comp=Z,172nm,18.1s,baz=315,slow=36						
ESDC	**Sonseca Array**	**26.19**	**156**	P	**P**	**01 05 59.9**	**-0.5**
KOLS	**Kolonicke sedl**	**26.25**	**108**	*e*P	**P**	**01 06 00.8**	**+0.1**
KOLS				pmax	pmax		
	comp=Z,15nm,1.3s						
KOLS	**Kolonicke sedl**	**26.25**	**

ARR	**Arges**	**30.07**	**109**	⇑P		**P**		**01 06 35.0**	**0.0**
VOIR		**30.18**	**109**	⇑P		**P**		**01 06 35.6**	**-0.4**
VOIR		**30.18**	**109**	⇑P		**P**		**01 06 35.6**	**-0.4**
PDG	**Podgorica**	**30.42**	**119**	⇑P		**P**		**01 06 37.9**	**0.0**
PLOR	**Plostina**	**30.50**	**106**	⇓P		**P**		**01 06 38.1**	**-0.6**
PLOR	**Plostina**	**30.50**	**106**	⇓P		**P**		**01 06 38.1**	**-0.6**
VRI	**Vrincioaia**	**30.52**	**106**	⇑P		**P**		**01 06 38.2**	**-0.7**
VRI	**Vrincioaia**	**30.52**	**106**	⇑P		**P**		**01 06 38.2**	**-0.7**
MILM	**Milestii Mici**	**30.55**	**103**	⇓P		**P**		**01 06 37.9**	**-1.2**
CFR	**Carcaliu**	**31.66**	**106**	⇑P		**P**		**01 06 47.4**	**-1.5**
CFR	**Carcaliu**	**31.66**	**106**	⇑P		**P**		**01 06 47.4**	**-1.5**
VSR	**Storozhevoye**	**31.73**	**87**	*e*P		**P**		**01 06 48.2**	**-1.2**
VSR					pmax	pmax			
	comp=Z,20nm,1.7s								
CORL	**Corleone**	**32.33**	**131**		P	**P**		**01 06 56.4**	**+1.5**
MDT	**Midelt**	**32.79**	**160**		P	**P**		**01 06 59.8**	**+0.8**
	comp=Z,4.5nm,0.8s,baz=348,slow=8.5,SNR=7.9								
VRH	**Novokhopyorsk**	**32.84**	**85**	*e*P		**P**		**01 06 57.8**	**-1.3**
VRH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
KEST	**Kesra**	**33.10**	**138**		P	**P**		**01 07 02.8**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=261,slow=4.9,SNR=5.5								
KEST					LR	LR		01 20 09.6	
	comp=Z,164nm,18.1s,baz=313,slow=36								
KEST	**Kesra**	**33.10**	**138**		P	**P**		**01 07 03.4**	**+1.7**
KEST					IAmb	IAmb		01 07 07.1	
	comp=Z,21nm,1.4s								
ARU	**Arti**	**36.10**	**66**	*d* iP		**P**		**01 07 30.3**	**+3.0**
ARU								01 08 50.6	
ARU					S	S		01 13 14.5	+8.2
ARU					pmax	pmax			
	comp=Z,14nm,1.7s								
NRIK	**Noril'sk**	**36.51**	**35**		P	**P**		**01 07 31.8**	**+1.2**
	comp=Z,5.4nm,0.9s,baz=331,slow=6.9,SNR=6.8								
SOC	**Sochi**	**37.85**	**96**	*e*P		**P**		**01 07 39.1**	**-3.2**
SOC				*e*				01 09 05.0	
SOC				*e*S		**S**		**01 13 30.0**	**-3.2**
SOC				*e*SS		**SnSn**		**01 16 13.5**	**-0.1**
SOC				*e*SSS		SSS		01 16 37.0	
SOC				MLR		MLR			
	comp=Z,70nm,11.0s								
BR231	**Keskin MP Arra**	**38.00**	**106**		P	P		01 07 47.9	+4.2
BR231					IAmb	IAmb		01 07 49.6	
	comp=Z,11nm,1.1s								
GOF	**Gofitskoye**	**38.11**	**91**	⇑*e*P		**P**		**01 07 44.9**	**+0.4**
GOF					pmax	pmax			
	comp=Z,35nm,1.5s								
BR131	**Keskin Array S**	**38.46**	**105**		P	**P**		**01 07 49.4**	**+1.8**
BR131					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BR131	**Keskin Array S**	**38.46**	**105**		P	**P**		**01 07 49.4**	**+1.8**
BRTR	**Keskin Array B**	**38.46**	**105**		P	**P**		**01 07 48.4**	**+0.7**
	comp=Z,4.5nm,0.8s,baz=328,slow=7.3,SNR=18								
BRTR	**Keskin Array B**	**38.46**	**105**	*ce*P		**P**		**01 07 48.7**	**+1.1**
BRTR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
BRTR	**Keskin Array B**	**38.46**	**105**		P	**P**		**01 07 48.9**	**+1.3**
KIV	**Kislovodsk**	**38.83**	**92**	*e*P		**P**		**01 07 50.4**	**-0.3**
KIV					pmax	pmax			
	comp=Z,22nm,1.1s								
KIV					MLR	MLR			
	comp=Z,198nm,16.0s								
KBZ	**Khabaz**	**39.11**	**92**		P	**P**		**01 07 53.9**	**+1.1**
	comp=Z,6.8nm,0.8s,baz=318,slow=9.6,SNR=8.0								
KBZ					LR	LR		01 25 07.6	
	comp=Z,85nm,18.1s,baz=339,slow=38								
YKA	**Yellowknife Ar**	**39.26**	**313**		LR	LR		01 23 55.2	
	comp=Z,192nm,20.2s,baz=0.0,slow=36								
ULM	**Lac du Bonnet**	**41.63**	**289**		LR	LR		01 24 28.4	
	comp=Z,122nm,21.8s,baz=70,slow=35								
ABKAR	**Akbulak array**	**42.00**	**73**		P	**P**		**01 08 17.1**	**+0.4**
ABKAR	**Akbulak array**	**42.00**	**73**		P	**P**		**01 08 17.5**	**+0.8**
ABKAR					IAmb	IAmb		01 08 19.5	
	comp=Z,7.6nm,1.2s								
TIXI	**Tiksi**	**42.09**	**15**	⇑*e*P		**P**		**01 08 19.5**	**+2.3**
TIXI					pmax	pmax			
	comp=Z,84nm,1.7s								
TIXI	**Tiksi**	**42.09**	**15**		P	**P**		**01 08 19.3**	**+2.2**
BMAR	**Burnt Mountain**	**42.96**	**333**		P	**P**		**01 08 26.2**	**+1.9**
BRVK	**Borovoye**	**43.16**	**62**	⇓*i*P		**P**		**01 08 26.6**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,16nm,1.7s								
BRVK	**Borovoye**	**43.16**	**62**		P	**P**		**01 08 26.2**	**+0.2**
O52A	**Adamsville**	**43.76**	**268**		P	**P**		**01 08 31.7**	**+0.6**
ILAR	**Eielson Array**	**45.75**	**332**		P	**P**		**01 08 47.1**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=29,slow=6.6,SNR=12								
ILAR					LR	LR		01 29 23.4	
	comp=Z,65nm,19.3s,baz=33,slow=38								
ILAR	**Eielson Array**	**45.75**	**332**		P	**P**		**01 08 48.8**	**+2.2**
ILAR	**Eielson Array**	**45.75**	**332**		P	**P**		**01 08 48.8**	**+2.2**
COLA	**College**	**45.84**	**333**	⇑*e*P		**P**		**01 08 49.9**	**+2.6**
COLA					pmax	pmax			
	comp=Z,21nm,2.6s								
COLA	**College**	**45.84**	**333**		P	**P**		**01 08 49.1**	**+1.7**
COLA					IAmb	IAmb		01 08 51.6	
	comp=Z,6.4nm,0.8s								
BCAR	**Beaver Creek A**	**46.17**	**329**		P	**P**		**01 08 51.4**	**+1.4**
WCI	**Wyandotte Cave**	**47.25**	**271**		P	**P**		**01 09 01.2**	**+2.5**
WCI					pmax	pmax			
	comp=Z,11nm,0.9s								
WCI	**Wyandotte Cave**	**47.25**	**271**		P	**P**		**01 09 01.2**	**+2.5**
USIN	**University of**	**48.07**	**272**		P	**P**		**01 09 06.7**	**+1.6**
KURK	**Kurchatov**	**48.14**	**58**	*ce*P		**P**		**01 09 06.1**	**+0.6**
KURK					pmax	pmax			
	comp=Z,9.0nm,1.0s								
KURK	**Kurchatov**	**48.14**	**58**		P	**P**		**01 09 06.0**	**+0.6**
KURK					IAmb	IAmb		01 09 07.2	
	comp=Z,6.6nm,0.8s								
T47A	**Sharon Grove**	**48.64**	**271**		P	**P**		**01 09 10.7**	**+1.2**
SML	**Sawmill**	**48.70**	**331**		P	**P**		**01 09 10.2**	**+0.4**
EGMT	**Eagleton**	**48.91**	**297**		P	**P**		**01 09 13.0**	**+1.5**
GEYT	**Alibeck**	**50.43**	**84**		P	**P**		**01 09 24.0**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=341,slow=7.6,SNR=4.3								
GEYT					LR	LR		01 33 06.4	
	comp=Z,68nm,18.1s,baz=25,slow=39								
GEYT	**Alibeck**	**50.43**	**84**		P	**P**		**01 09 23.3**	**+0.2**
GCMT	**Greycliff**	**50.72**	**295**		P	**P**		**01 09 26.5**	**+1.1**
S39A	**Bolivar**	**50.73**	**276**		P	**P**		**01 09 26.1**	**+0.7**
S39A					IAmb	IAmb		01 09 27.2	
	comp=Z,7.0nm,1.0s								
KK31	**Karatay Array**	**51.29**	**70**		P	**P**		**01 09 31.2**	**+1.6**
KK31					pmax	pmax			
	comp=Z,14nm,1.4s								
KK31	**Karatay Array**	**51.29**	**70**		P	**P**		**01 09 31.2**	**+1.6**
KK31					IAmb	IAmb		01 09 35.3	
	comp=Z,14nm,1.4s								
KKAR	**Karatay Array**	**51.29**	**70**		P	**P**		**01 09 30.8**	**+1.2**
KKAR	**Karatay Array**	**51.29**	**70**		P	**P**		**01 09 30.8**	**+1.2**
YNE	**Yellowstone No**	**51.51**	**295**		P	**P**		**01 09 33.0**	**+1.5**
BOZ	**Bozeman (W)**	**51.64**	**297**		P	**P**		**01 09 33.0**	**+0.6**
BOZ					pmax	pmax			
	comp=Z,6.0nm,1.1s								
BOZ	**Bozeman (W)**	**51.64**	**297**		P	**P**		**01 09 33.0**	**+0.6**
YMP	**Mirror Lake Pl**	**51.79**	**295**		P	**P**		**01 09 34.9**	**+1.3**
DGZ	**Jazzator, Alta**	**52.11**	**53**	⇓*e*P		**P**		**01 09 35.2**	**-0.6**
DGZ					pmax	pmax			
	comp=Z,9.0nm,1.1s								
H17A	**Grant Village**	**52.24**	**295**		P	**P**		**01 09 38.0**	**+1.1**
SEY	**Seymchan**	**52.55**	**6**	⇑*e*P		**P**		**01 09 37.9**	**-0.7**
MKAR	**Makanchi Array**	**52.75**	**58**		P	**P**		**01 09 40.9**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=324,slow=6.0,SNR=7.3								
MKAR					LR	LR		01 31 31.0	
	comp=Z,59nm,18.6s,baz=316,slow=35								
MKAR	**Makanchi Array**	**52.75**	**58**	*ce*P		**P**		**01 09 41.0**	**+0.6**
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
MKAR	**Makanchi Array**	**52.75**	**58**		P	**P**		**01 09 39.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**53.08**	**156**		P	**P**		**01 09 41.7**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=342,slow=9.8,SNR=12								
TORD	**Torodi Ar. Bea**	**53.08**	**156**		P	**P**		**01 09 42.6**	**-0.5**
BW06	**Boulder Array**	**53.21**	**293**		P	**P**		**01 09 43.6**	**-0.5**
BW06					IAmb	IAmb		01 09 46.4	
	comp=Z,4.6nm,0.8s								
PD31	**Pinedale Array**	**53.21**	**293**		P	**P**		**01 09 43.8**	**-0.3**
PDAR	**Pinedale Array**	**53.21**	**293**		P	**P**		**01 09 43.4**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=53,slow=6.1,SNR=22								
AAK	**Ala-Archa**	**53.28**	**67**	*ce*P		**P**		**01 09 45.8**	**+1.3**
AAK					pmax	pmax			
	comp=Z,45nm,1.7s								
BTK	**Batken**	**53.97**	**72**		P	**P**		**01 09 49.8**	**+0.2**
BTK					pmax	pmax			
	comp=Z,21nm,1.3s								
BTK	**Batken**	**53.97**	**72**		P	**P**		**01 09 49.8**	**+0.2**
BOOM	**Boomskoye usch**	**53.98**	**66**		P	**P**		**01 09 51.1**	**+1.4**
BOOM					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BOOM	**Boomskoye usch**	**53.98**	**66**		P	**P**		**01 09 51.0**	**+1.4**
BOOM					IAmb	IAmb		01 10 04.0	
	comp=Z,4.8nm,0.9s								
CHGR	**Chuyangaron**	**54.48**	**74**		P	**P**		**01 09 54.5**	**+1.3**
GAR	**Garm**	**54.66**	**73**		P	**P**		**01 09 55.1**	**+0.4**
HWUT	**Hardware Ranch**	**54.98**	**294**		P	**P**		**01 09 57.4**	**+0.4**
HWUT					IAmb	IAmb		01 10 00.2	
	comp=Z,11nm,1.2s								
RDMU	**Red Mountain**	**55.07**	**292**		P	**P**		**01 09 59.6**	**+1.9**
SPUT	**South Promonto**	**55.59**	**295**		P	**P**		**01 10 02.3**	**+1.0**
ZAK	**Zakamensk**	**56.51**	**41**	*e*P		**P**		**01 10 08.4**	**+0.7**
ZAK					pmax	pmax			
	comp=Z,7.0nm,1.3s								
KSH	**Kashi**	**56.52**	**68**		P	**P**		**01 10 10.1**	**+2.1**
KSH					S	**S**		**01 17 57.8**	**-1.3**
KSH					LR	LR			
	comp=N,93nm,5.1s								
KSH					LR	LR			
	comp=E,120nm,7.0s								
KSH					LR	LR			
	comp=Z,130nm,6.1s								
PV14	**Lion Creek, Pa**	**56.73**	**290**		P	**P**		**01 10 10.1**	**+0.4**
PV14					IAmb	IAmb		01 10 12.4	
	comp=Z,6.1nm,0.8s								
PV16	**Nyswonger Mesa**	**56.73**	**290**		P	**P**		**01 10 10.9**	**+1.3**
PV16					IAmb	IAmb		01 10 12.1	
	comp=Z,5.0nm,1.0s								
PV01	**Paradox Valley**	**56.74**	**289**		P	**P**		**01 10 11.3**	**+1.6**
PV01					IAmb	IAmb		01 10 12.9	
	comp=Z,5.9nm,1.1s								
PV03	**Paradox Valley**	**56.76**	**290**		P	**P**		**01 10 09.7**	**-0.1**
PV03					IAmb	IAmb		01 10 12.2	
	comp=Z,4.4nm,0.9s								
PV18	**Skein Mesa, Pa**	**56.79**	**290**		P	**P**		**01 10 10.8**	**+0.8**
PV18					IAmb	IAmb		01 10 12.9	
	comp=Z,7.5nm,1.0s								
TMUT	**Trail Mountain**	**56.81**	**292**		P	**P**		**01 10 09.8**	**-0.4**
PV13	**Radium Mtn., P**	**56.83**	**290**		P	**P**		**01 10 11.2**	**+0.9**
WMQ	**Urumqi**	**57.26**	**56**	*e*P		**P**		**01 10 15.1**	**+2.0**
WMQ					pP	sP		01 10 20.9	+2.6
WMQ					sP	pP		01 10 25.3	+8.4
WMQ					pmax	pmax			
	comp=Z,12nm,1.3s								
WMQ					pmax	pmax			
	comp=Z,110nm,5.3s								
WMQ					LR	LR			
	comp=E,69nm,23.5s								
WMQ					LR	LR			
	comp=Z,41nm,19.1s								
MSU	**Marysvale**	**57.87**	**293**		P	**P**		**01 10 18.2**	**+0.5**
MSU	**Marysvale**	**57.87**	**293**		P	**P**		**01 10 18.2**	**+0.5**
MVU	**Marysvale**	**57.89**	**293**		P	**P**		**01 10 17.9**	**0.0**
TCRU	**Three Creeks R**	**57.90**	**293**		P	**P**		**01 10 18.2**	**+0.3**
PSUT	**Pine Spring**	**58.52**	**294**		P	**P**		**01 10 23.0**	**+0.8**
DBIC	**Dimbokro**	**58.52**	**165**		P	**P**		**01 10 22.8**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=295,slow=6.0,SNR=3.0								
DBIC					LR	LR		01 36 47.1	
	comp=Z,52nm,18.1s,baz=342,slow=37								
DBIC	**Dimbokro**	**58.52**	**165**		P	**P**		**01 10 23.1**	**+1.0**
ANMO	**Albuquerque**	**58.61**	**286**	‖*e*P		**P**		**01 10 25.4**	**+2.5**
ANMO					pmax	pmax			
	comp=Z,5.0nm,2.0s								
PKCU	**Pink Cliffs**	**58.85**	**292**		P	**P**		**01 10 26.7**	**+2.0**
SZCU	**Shurtz Canyon**	**59.02**	**293**		P	**P**		**01 10 26.2**	**+0.5**
CCUT	**Cedar City**	**59.17**	**293**		P	**P**		**01 10 27.7**	**+0.9**
R11A	**Troy Canyon, C**	**59.36**	**295**		P	**P**		**01 10 29.1**	**+1.1**
R11A					IAmb	IAmb		01 10 34.4	
	comp=Z,6.1nm,1.4s								
BNM	**Barren Site**	**59.37**	**285**		P	**P**		**01 10 29.0**	**+0.8**
LCMT	**Little Creek M**	**59.59**	**293**		P	**P**		**01 10 30.4**	**+0.9**
JCT	**Junction City**	**59.66**	**278**		P	**P**		**01 10 31.4**	**+1.4**
JCT					pmax	pmax			
	comp=Z,8.0nm,1.0s								
JCT	**Junction City**	**59.66**	**278**		P	**P**		**01 10 31.4**	**+1.4**
JCT					IAmb	IAmb		01 10 34.5	
	comp=Z,8.2nm,1.0s								
SONM	**Songino Array**	**59.69**	**40**		P	**P**		**01 10 31.2**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=338,slow=11,SNR=3.5								
SONM	**Songino Array**	**59.69**	**40**		P	**P**		**01 10 29.2**	**-0.8**
KVN	**Kaiserville**	**59.72**	**298**		P	**P**		**01 10 31.3**	**+0.8**
KVN					pmax	pmax			
	comp=Z,6.0nm,1.2s								
KVN	**Kaiserville**	**59.72**	**298**		P	**P**		**01 10 31.3**	**+0.8**
KVN					IAmb	IAmb		01 10 35.8	
	comp=Z,5.6nm,1.2s								
NVAR	**Mina Array Bea**	**60.34**	**297**		P	**P**		**01 10 35.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=61,slow=5.1,SNR=3.6								
NVAR					LR	LR		01 36 30.9	
	comp=Z,201nm,18.0s,baz=62,slow=36								
NVAR	**Mina Array Bea**	**60.34**	**297**		P	**P**		**01 10 35.9**	**+1.1**
NIL	**Nilore**	**60.46**	**73**		P	**P**		**01 10 35.4**	**0.0**
NIL					pmax	pmax			
	comp=Z,11nm,1.1s								
NIL	**Nilore**	**60.46**	**73**		P	**P**		**01 10 35.4**	**0.0**
TXAR	**Lajitas Array**	**62.30**	**280**		P	**P**		**01 10 48.9**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=38,slow=6.3,SNR=7.4								
TXAR					LR	LR		01 37 36.8	
	comp=Z,115nm,18.4s,baz=0.0,slow=36								
TXAR	**Lajitas Array**	**62.30**	**280**		P	**P**		**01 10 48.0**	**-0.1**
TUC	**Tucson**	**62.68**	**288**		P	**P**		**01 10 52.1**	**+1.6**
TUC					pmax	pmax			
	comp=Z,5.0nm,1.2s								
TUC	**Tucson**	**62.68**	**288**		P	**P**		**01 10 52.0**	**+1.6**
TUC					IAmb	IAmb		01 10 54.0	
	comp=Z,5.3nm,1.2s								
SDV	**Santo Domingo**	**66.79**	**239**		P	**P**		**01 11 19.2**	**+1.6**
HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P		**P**		**01 11 25.6**	**+3.5**
HHC					pmax	pmax			
	comp=Z,33nm,0.7s								
HHC					pmax	pmax			
	comp=Z,200nm,5.7s								
ROSC	**El Rosal**	**71.90**	**241**		LR	LR		01 38 53.9	
	comp=Z,39nm,21.9s,baz=350,slow=32								
ROSC	**El Rosal**	**71.90**	**241**		P	**P**		**01 11 51.3**	**+1.9**
XAN	**Xi'an**	**73.13**	**44**		P	**P**		**01 11 59.1**	**+2.9**
XAN					pP	PcP		01 12 13.0	+0.2
XAN					pmax	pmax			
	comp=Z,9.0nm,1.1s								
XAN					LR	LR			
	comp=N,170nm,14.1s								
XAN					LR	LR			
	comp=Z,160nm,17.3s								
MJAR	**Matsushiro Arr**	**77.39**	**20**		LR	LR		01 45 03.1	
	comp=Z,49nm,20.0s,baz=310,slow=35								
NJ2	**Nanjing**	**77.79**	**37**	*e*P		**P**		**01 12 23.0**	**+0.2**
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
WHN	**Wuhan**	**77.99**	**41**	⇓P		P		01 12 31.4	+7.4
SAML	**Samuel**	**80.90**	**226**		P	**P**		**01 12 40.3**	**+0.4**
SAML					pmax	pmax			
	comp=Z,4.0nm,1.2s								
SAML	**Samuel**	**80.90**	**226**		P	**P**		**01 12 40.3**	**+0.4**
CHTO	**Chiang Mai**	**83.83**	**59**		P	**P**		**01 12 55.8**	**+0.4**
CHTO					pmax	pmax			
	comp=Z,5.0nm,1.0s								
CHTO	**Chiang Mai**	**83.83**	**59**		P	**P**		**01 12 55.8**	**+0.4**
CHTO					IAmb	IAmb		01 12 56.9	
	comp=Z,4.6nm,1.0s								
CMAR	**Chiang Mai Arr**	**84.16**	**59**		P	**P**		**01 12 57.6**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=320,slow=6.6,SNR=9.0								
CMAR					PP	**PP**		**01 16 11.8**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=334,slow=8.3,SNR=4.2								
CMAR	**Chiang Mai Arr**	**84.16**	**59**		P	**P**		**01 12 57.2**	**+0.1**
CPUP	**Villa Florida**	**95.79**	**215**		LR	LR		01 52 15.2	
	comp=Z,42nm,18.8s,baz=38,slow=32								
BOSA	**Boshof**	**98.71**	**143**		LR	LR		02 00 11.4	
	comp=Z,57nm,18.8s,baz=30,slow=36								
ASAR	**Alice Springs**	**135.01**	**38**		PKP	**PKiKP**		**01 19 45.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=318,slow=3.4,SNR=4.7								
ASAR	**Alice Springs**	**135.01**	**38**		PKIKP	**PKiKP**		**01 19 45.0**	**-1.2**
ASAR	**Alice Springs**	**135.01**	**38**			**PKiKP**		**01 19 45.0**	**-1.2**

BYKL ***20*** *01:04:09.0±0.3,51.63N×99.81E*
ASRS ***20*** *01:04:10.3±0.5,52.N±2.×.9.9E±., h5km, MLh4.2/9,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
ISC 20 01:04:09.8±1.3, 51.72N±0.03×99.46E±0.03, h1km±13km, n48, σ2s50/79, 4C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**0.84**	**15**	⇑*i*Pg	**Pg**	**01 04 26.3**	**+0.4**
ORL				*e*Sg	**Sb**	**01 04 38.1**	**-1.1**
ORL				Pmax			
	43nm,0.3s						
ORL				Smax			
	808nm,0.4s						
ORL	**Orlik**	**0.84**	**15**	Pg	**Pg**	**01 04 26.3**	**+0.4**
ORL				Sg	**Sb**	**01 04 38.1**	**-1.1**
MOY	**Mondy**	**0.95**	**93**	⇑*i*Pg	Pg	01 04 23.1	-4.9
MOY				*e*Sg	Sg	01 04 33.5	-6.9
MOY				Pmax			
	738nm,0.3s						
MOY				Smax			
	2μm,0.5s						
KNGR	**Kungurtug, Tuv**	**1.66**	**228**	⇑*i*Pg	**Pg**	**01 04 41.2**	**-0.4**
KNGR				*e*Sg	**Sg**	**01 05 05.5**	**+2.4**
KNGR	**Kungurtug, Tuv**	**1.66**	**228**	Pg	**Pg**	**01 04 41.2**	**-0.4**
KNGR				Sg	**Sg**	**01 05 05.7**	**+2.6**
ARS	**Arshan**	**1.85**	**83**	⇓*i*Pg	**Pn**	**01 04 39.3**	**-3.3**
ARS				*e*		01 04 47.5	
ARS				*e*Sg	**Sn**	**01 05 01.1**	**-5.6**
ARS				max			
	448nm,0.4s						
ARS				Smax			
	3μm,0.7s						
TDJR	**Todzha**	**2.18**	**289**	*e*Pn	**Pg**	**01 04 50.8**	**-0.8**
TDJR				⇑*i*Pg	**Pb**	**01 04 52.4**	**+2.3**
TDJR				*e*		01 04 58.4	
TDJR				*e*Sg	**Sg**	**01 05 24.4**	**+4.5**
TDJR				*e*SgSg	**SnSn**	**01 05 31.8**	**+6.1**
TDJR	**Todzha**	**2.18**	**289**	Pg	**Pg**	**01 04 52.6**	**+1.0**
TDJR				Sg	**Sg**	**01 05 24.8**	**+4.9**
TLY	**Talaya**	**2.60**	**89**	*e*Pg	**Pn**	**01 04 51.5**	**-1.5**
TLY				*e*Sg	**Sn**	**01 05 23.1**	**-2.1**
TLY				Pmax			
	2.0nm,0.1s						
TLY				Smax			
	357nm,0.5s						
ZAK	**Zakamensk**	**2.76**	**118**	*e*	Pn	01 04 51.4	-3.8
ZAK				⇓*i*Pg	Pb	01 04 53.9	-6.0
ZAK				*e*Sg	**Sn**	**01 05 27.8**	**-1.4**
ZAK				Pmax			
	278nm,0.6s						
ZAK				Smax			
	716nm,0.9s						
IRK	**Irkutsk**	**3.02**	**78**	*e*Pg	**Pn**	**01 04 59.0**	**+0.3**
IRK				*e*Sg	**Sn**	**01 05 36.0**	**+0.6**
IRK				Pmax			
	261nm,0.1s						
IRK				Smax			
	1μm,0.5s						
IVK	**Ivanovka**	**3.08**	**87**	*e*Pg	**Pn**	**01 04 59.8**	**+0.3**
IVK				*e*		01 05 00.5	
IVK				*e*Sg	**Sn**	**01 05 37.3**	**+0.4**
IVK				max			
	140nm,0.5s						
IVK				Smax			
	297nm,0.6s						
ERNS	**Erzin**	**3.09**	**243**	Pg	**Pb**	**01 05 06.1**	**+0.5**
ERNS				Sg	**Sg**	**01 05 49.1**	**+0.1**
KZLR	**Kyzyl**	**3.12**	**272**	*e*Pg	**Pg**	**01 05 08.0**	**-1.5**
KZLR				*e*Sg	**Sg**	**01 05 51.9**	**+2.1**
KZLR	**Kyzyl**	**3.12**	**272**	Pg	**Pg**	**01 05 08.0**	**-1.5**
KZLR				Sg	**Sg**	**01 05 51.9**	**+2.1**
LSTR	**Listvyanka**	**3.34**	**85**	*e*Pg	**Pn**	**01 05 04.5**	**+1.5**
LSTR				*e*Sg	**Sn**	**01 05 45.0**	**+1.7**
LSTR				Pmax			
	62nm,0.8s						
LSTR				Smax			
	332nm,1.6s						
BGT	**Bolshoye Golou**	**3.70**	**83**	*e*Pg	**Pn**	**01 05 11.3**	**+3.3**
BGT				*e*PgPg	**PnPn**	**01 05 13.2**	**-1.9**
BGT				*e*Sg	**Sn**	**01 05 56.5**	**+4.3**
BGT				max			
	140nm,0.5s						
BGT				Smax			
	443nm,0.7s						
ARDR	**Aradan**	**3.81**	**285**	*e*Pg	**Pg**	**01 05 21.3**	**-1.5**
ARDR				*e*Sg	**Sg**	**01 06 14.8**	**+2.6**
ARDR	**Aradan**	**3.81**	**285**	Pg	**Pg**	**01 05 21.0**	**-1.8**
ARDR				Sg	**Sg**	**01 06 11.7**	**-0.5**
ORY	**Orie**	**4.19**	**323**	Pg	**Pg**	**01 05 26.9**	**-3.2**
ORY				Sg	**Sg**	**01 06 24.6**	**+0.2**
STDB	**Stepnoy Dvoret**	**4.29**	**81**	*e*Pn	Pn	01 05 12.7

KMO	**Kumora**	**8.10**	**54**	*e*Pn	**Pn**	**01 06 07.0**	**-1.4**
KMO				*e*		01 07 28.9	
KMO				*e*Sg	Sb	01 08 16.8	+9.2
KMO	15nm,0.6s			max			
KMO	62nm,1.4s			Smax			
KPC	**Khapcheranga**	**8.44**	**99**	*e*Pg	Pg	01 06 36.6	-15
KPC				*e*Sg	Sg	01 08 22.2	-18
KPC	39nm,1.8s			Smax			
UKT	**Uakit**	**9.22**	**60**	*e*Sg	Sn	01 08 49.9	+42
UKT	7.0nm,1.0s			Smax			
BOD	**Bodaibo**	**10.37**	**48**	*e*Sg	Sn	01 09 28.3	+52
BOD	6.0nm,0.2s			Smax			
NLYR	**Nelyaty**	**10.65**	**57**	*e*Sg	Sn	01 09 33.9	+51
NLYR	29nm,1.2s			Smax			
CRS	**Chara**	**12.13**	**57**	*e*Sg	Sn	01 10 19.7	+60
TUP	**Tupik**	**12.61**	**70**	*e*Sg		01 10 35.0	

*IDC **20** 02:20:41.4±1.4, 38°.01N×21°.75E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.4/37, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=33.0km s-min=23.3km az=165.0*
*ATH **20** 02:20:42.9, 38°.07N×21°.56E, h23km±1km, ML3.4/18, Error ellipse: s-maj=1.6km s-min=0.7km az=272.0*
*THE **20** 02:20:43.7, 38°.05N×21°.55E, h14km, ML3.4/18, Error ellipse: s-maj=0.6km s-min=0.3km az=214.0*

ISC 20 02:20:43.5±0.8, 38°.07N±0°.02×21°.57E±0°.02, h18km±4km, n83, σ0s71/119, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.08**	**265**	P	**Pg**	**02 20 46.8**	**-0.1**
RLS				S	**Sg**	**02 20 49.5**	**+0.2**
	70μm,0.2s						
RLS	**Riolos of Patr**	**0.08**	**265**	P	**Pg**	**02 20 46.9**	**-0.1**
RLS				S	**Sg**	**02 20 49.4**	**+0.2**
DRO	**Drossia**	**0.16**	**135**	P	**Pg**	**02 20 47.7**	**-0.1**
DRO				S	**Sg**	**02 20 51.0**	**+0.2**
AXS	**Araxos**	**0.20**	**311**	P	**Pg**	**02 20 48.4**	**0.0**
AXS				S	**Sg**	**02 20 52.3**	**+0.5**
	10μm,0.5s						
AXS	**Araxos**	**0.20**	**311**	P	**Pg**	**02 20 48.5**	**0.0**
AXS				S	**Sg**	**02 20 51.9**	**+0.1**
AXS	comp=N,42471μm,0.4s			AML	AML	02 20 52.9	
AXS	comp=E,24759μm,0.5s			AML	AML	02 20 53.0	
VTN	**Vitineika**	**0.34**	**244**	P	**Pb**	**02 20 50.8**	**-0.2**
EFP	**Efpalio**	**0.45**	**36**	P	**Pb**	**02 20 52.6**	**-0.3**
EFP				S	**Sn**	**02 21 00.8**	**-1.9**
	comp=E,9μm,0.5s						
KLV	**Kalavryta, Ach**	**0.46**	**93**	P	**Pg**	**02 20 52.5**	**-0.4**
KLV				S	**Sb**	**02 21 00.1**	**+0.4**
	comp=E,5μm,0.4s						
KLV	**Kalavryta, Ach**	**0.46**	**93**	P	**Pg**	**02 20 52.4**	**-0.4**
KLV				S	**Sb**	**02 20 59.7**	**+0.1**
KLV	comp=N,12987μm,0.6s			AML	AML	02 21 00.7	
KLV	comp=E,7656μm,0.3s			AML	AML	02 21 01.9	
ALIK	**Aliki, Aigiali**	**0.47**	**65**	P	**Pb**	**02 20 53.1**	**-0.2**
TRIZ	**Trizonia**	**0.50**	**53**	P	**Pb**	**02 20 53.5**	**-0.2**
TRIZ				S	**Sb**	**02 21 01.9**	**+1.2**
	comp=E,4μm,0.4s						
TRIZ	**Trizonia**	**0.50**	**53**	P	**Pb**	**02 20 53.5**	**-0.2**
KALE	**Kalithea**	**0.55**	**54**	P	**Pb**	**02 20 54.5**	**-0.3**
KALE				S	**Sb**	**02 21 03.5**	**+1.1**
	comp=E,5μm,0.5s						
KALE	**Kalithea**	**0.55**	**54**	P	**Pb**	**02 20 54.4**	**-0.3**
KALE				S	**Sb**	**02 21 03.2**	**+0.8**
KALE	comp=N,14587μm,0.5s			AML	AML	02 21 05.2	
KALE	comp=E,6148μm,0.5s			AML	AML	02 21 07.2	
ANX	**Ano Chora**	**0.59**	**28**	P	**Pg**	**02 20 55.2**	**-0.2**
ANX				S	**Sn**	**02 21 05.1**	**-1.4**
	comp=E,6μm,0.5s						
ANX	**Ano Chora**	**0.59**	**28**	P	**Pg**	**02 20 55.2**	**-0.2**
ANX				S	**Sb**	**02 21 03.3**	**-0.3**
ANX	comp=E,11531μm,0.6s			AML	AML	02 21 06.2	
ANX	comp=N,10933μm,0.5s			AML	AML	02 21 07.2	
ZAK2	**Zakynthos**	**0.60**	**243**	P	**Pb**	**02 20 54.8**	**-0.6**
ZAK2				S	**Sb**	**02 21 04.1**	**+0.6**
AST1	**Astakos**	**0.61**	**322**	P	**Pg**	**02 20 55.6**	**+0.1**
GUR	**Goura**	**0.62**	**102**	P	**Pb**	**02 20 55.2**	**-0.8**
GUR				S	**Sb**	**02 21 05.1**	**+0.7**
GUR	comp=N,19μm,0.4s			AML	AML	02 21 06.9	
GUR	**Goura**	**0.62**	**102**	P	**Pb**	**02 20 55.2**	**-0.8**
GUR				S	**Sb**	**02 21 05.1**	**+0.7**
GUR	comp=E,24644μm,0.3s			AML	AML	02 21 07.0	
GUR	comp=N,50325μm,0.5s			AML	AML	02 21 07.0	
KRI1	**kERI**	**0.72**	**236**	P	**Pb**	**02 20 56.4**	**-1.1**
KRI1				S	**Sg**	**02 21 08.0**	**+0.8**
	comp=N,6μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.74**	**256**	P	**Pb**	**02 20 56.9**	**-1.0**
VLMS				S	**Sg**	**02 21 08.5**	**+0.6**
VLMS	comp=E,8016μm,0.3s			AML	AML	02 21 12.3	
VLMS	comp=N,12464μm,0.2s			AML	AML	02 21 13.2	
TRIP	**Tripoli**	**0.77**	**134**	P	**Pb**	**02 20 57.8**	**-0.7**
TRIP				S	**Sn**	**02 21 10.2**	**-0.6**
	comp=N,4μm,0.5s						
TRIP	**Tripoli**	**0.77**	**134**	P	**Pb**	**02 20 58.1**	**-0.3**
TRIP				S	**Sn**	**02 21 09.8**	**-1.0**
TRIP	comp=N,8548μm,0.5s			AML	AML	02 21 12.0	
TRIP	comp=E,9032μm,0.5s			AML	AML	02 21 12.6	
PSDA	**Pessada-Kefalo**	**0.78**	**274**	P	**Pb**	**02 20 57.6**	**-0.9**
PSDA				S	**Sg**	**02 21 09.8**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.78**	**274**	P	**Pb**	**02 20 57.5**	**-1.1**
VLS	**Valsamata**	**0.78**	**279**	P	**Pb**	**02 20 57.3**	**-1.3**
VLS				S	**Sg**	**02 21 09.6**	**+0.4**
VLS	**Valsamata**	**0.78**	**279**	P	**Pb**	**02 20 57.6**	**-1.0**
VLS				S	**Sg**	**02 21 09.7**	**+0.6**
VLS	comp=E,3131μm,0.3s			AML	AML	02 21 15.2	
VLS	comp=N,5073μm,0.6s			AML	AML	02 21 15.6	
ARG2	**Argostoli**	**0.86**	**278**	P	**Pb**	**02 20 59.2**	**-0.7**
ARG2				S	**Sn**	**02 21 12.8**	**-0.1**
VSK1	**VASILIKIADES**	**0.86**	**294**	P	**Pb**	**02 20 59.4**	**-0.6**
VSK1				S	**Sn**	**02 21 12.4**	**-0.6**
	comp=N,4μm,0.3s						
EVR	**Evrytania**	**0.87**	**12**	P	**Pb**	**02 20 59.9**	**-0.3**
EVR	**Evrytania**	**0.87**	**12**	P	**Pb**	**02 21 00.1**	**0.0**
EVR	comp=E,2299μm,0.5s			AML	AML	02 21 17.8	
EVR	comp=N,1778μm,0.6s			AML	AML	02 21 20.3	
FSK	**Fiskardo**	**0.89**	**297**	P	**Pb**	**02 20 59.9**	**-0.5**
FSK				S	**Sn**	**02 21 13.2**	**-0.3**
	comp=N,2μm,0.2s						
FSK	**Fiskardo**	**0.89**	**297**	P	**Pb**	**02 20 59.8**	**-0.5**
FSK				AML	AML	02 21 15.9	
FSK	comp=N,3752μm,0.2s			AML	AML	02 21 15.9	
	comp=E,4824μm,0.2s						
EVGl	**Lefkada island**	**0.91**	**308**	P	**Pb**	**02 21 00.2**	**-0.6**
EVGl	**Lefkada island**	**0.91**	**308**	P	**Pb**	**02 21 00.1**	**-0.6**
ITM	**Ithomi**	**0.93**	**162**	P	**Pb**	**02 21 00.6**	**-0.5**
ITM				S	**Sn**	**02 21 14.1**	**-0.5**
	comp=E,2μm,0.5s						
ITM	**Ithomi**	**0.93**	**162**	P	**Pb**	**02 21 00.6**	**-0.5**
ITM				S	**Sn**	**02 21 14.8**	**+0.2**
ITM	comp=N,2733μm,0.3s			AML	AML	02 21 17.8	
ITM	comp=E,4457μm,0.4s			AML	AML	02 21 18.8	
NYDR	**Nydri-Lefkada**	**0.94**	**314**	P	**Pb**	**02 21 00.5**	**-0.8**
VLX	**Vlachokerasia**	**0.94**	**137**	P	**Pb**	**02 21 00.6**	**-0.8**
VLX				S	**Sn**	**02 21 15.4**	**+0.3**
	comp=E,6μm,0.5s						
VLX	**Vlachokerasia**	**0.94**	**137**	P	**Pb**	**02 21 00.8**	**-0.6**
VLX				S	**Sn**	**02 21 15.4**	**+0.3**
VLX	comp=N,10953μm,0.6s			AML	AML	02 21 18.7	
VLX	comp=E,11564μm,0.4s			AML	AML	02 21 20.6	
DMLN	**Damoulianata-K**	**0.96**	**281**	P	**Pb**	**02 21 00.7**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.00**	**309**	P	**Pb**	**02 21 01.5**	**-0.8**
LKD2	**Lefkada island**	**1.02**	**316**	P	**Pb**	**02 21 02.4**	**-0.2**
LKD2				AML	AML	02 21 23.3	
LKD2	comp=E,2789μm,0.5s			AML	AML	02 21 24.2	
	comp=N,4465μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.04**	**25**	P	**Pg**	**02 21 03.4**	**-0.4**
MAKR				S	**Sg**	**02 21 18.8**	**+1.3**
	comp=N,2μm,0.4s						
TSLK	**Tsoukalades, L**	**1.04**	**317**	P	**Pb**	**02 21 02.6**	**-0.4**
TSLK	**Tsoukalades, L**	**1.04**	**317**	P	**Pb**	**02 21 02.7**	**-0.4**
LTK	**Loutraki**	**1.10**	**92**	P	**Pb**	**02 21 03.8**	**-0.3**
LTK	**Loutraki**	**1.10**	**92**	P	**Pn**	**02 21 04.0**	**-0.1**
AXAR	**Agios Charalam**	**1.10**	**50**	P	**Pb**	**02 21 03.8**	**-0.3**
AXAR				S	**Sg**	**02 21 20.4**	**+1.0**
AXAR	**Agios Charalam**	**1.10**	**50**	P	**Pb**	**02 21 03.6**	**-0.5**
AXAR	comp=E,6936μm,0.5s			AML	AML	02 21 28.9	
AXAR	comp=N,6366μm,0.5s			AML	AML	02 21 29.1	
AGG	**Agios Georgios**	**1.13**	**32**	P	**Pn**	**02 21 03.9**	**-0.6**
AGG				S	**Sg**	**02 21 20.9**	**+0.8**
	comp=N,772nm,0.5s						
AGG	**Agios Georgios**	**1.13**	**32**	P	**Pn**	**02 21 04.1**	**-0.4**
AGG				AML	AML	02 21 23.4	
AGG	comp=E,1320μm,0.4s			AML	AML	02 21 29.1	
	comp=N,1777μm,0.7s						
PYL	**PYLOS**	**1.18**	**173**	P	**Pn**	**02 21 04.7**	**-0.4**
PYL	**PYLOS**	**1.18**	**173**	P	**Pn**	**02 21 04.9**	**-0.2**
PYL				AML	AML	02 21 28.0	
PYL	comp=N,1801μm,0.4s			AML	AML	02 21 29.3	
	comp=E,1898μm,0.6s						
LKR	**Lokris**	**1.27**	**62**	P	**Pb**	**02 21 06.6**	**-0.2**
LKR	**Lokris**	**1.27**	**62**	P	**Pb**	**02 21 06.7**	**-0.2**
LKR				AML	AML	02 21 31.6	
LKR	comp=E,1304μm,0.3s			AML	AML	02 21 32.8	
	comp=N,1189μm,0.4s						
ATAL	**Atalanti**	**1.30**	**61**	P	**Pb**	**02 21 07.2**	**-0.3**
ATAL				S	**Sg**	**02 21 25.3**	**-0.3**
EPID	**Epidavros**	**1.31**	**110**	P	**Pn**	**02 21 06.9**	**0.0**
EPID				S	**Sg**	**02 21 25.4**	**-0.4**
	comp=N,928nm,0.4s						
EPID	**Epidavros**	**1.31**	**110**	P	**Pb**	**02 21 07.8**	**+0.3**
VIL2	**Platees**	**1.35**	**83**	P	**Pb**	**02 21 08.4**	**+0.1**
VILL	**Villia**	**1.38**	**85**	P	**Pn**	**02 21 07.7**	**-0.2**
KRND	**KRANIDI**	**1.43**	**118**	P	**Pb**	**02 21 09.2**	**-0.4**
THL	**Klokotos Trika**	**1.54**	**13**	P	**Pb**	**02 21 11.8**	**+0.3**
THL				AML	AML	02 21 39.5	
THL	comp=E,623μm,1.0s			AML	AML	02 21 41.7	
	comp=N,369μm,0.5s						
ATH	**Athens Observa**	**1.70**	**92**	P	**Pb**	**02 21 13.5**	**-0.7**
VLI	**Veliai**	**1.73**	**141**	P	**Pb**	**02 21 14.3**	**-0.4**
ATHU	**Athens Univers**	**1.75**	**93**	P	**Pn**	**02 21 13.7**	**+0.7**
ATHU				S	**Sb**	**02 21 36.8**	**0.0**
VLY	**Voula,Athens**	**1.77**	**96**	P	**Pn**	**02 21 13.9**	**+0.6**
VLY				S	**Sb**	**02 21 37.2**	**-0.2**
VLY	**Voula,Athens**	**1.77**	**96**	P	**Pb**	**02 21 15.0**	**-0.5**
NEO	**Neokhori**	**1.79**	**46**	P	**Pb**	**02 21 14.7**	**-1.1**
PTL	**Penteli**	**1.81**	**90**	P	**Pn**	**02 21 14.6**	**+0.7**
PTL				S	**Sb**	**02 21 38.0**	**-0.6**
	comp=N,675nm,0.5s						
XOR	**Xorichti**	**1.82**	**44**	P	**Pb**	**02 21 15.0**	**-1.2**
DION	**Dionisos Attik**	**1.86**	**89**	P	**Pb**	**02 21 15.6**	**-1.5**
AOS	**Alonnisos**	**2.12**	**58**	P	**Pn**	**02 21 18.9**	**+0.8**
PAIG	**Paliouri**	**2.48**	**41**	P	**Pn**	**02 21 23.7**	**+0.7**
PLG	**Polygyros**	**2.73**	**32**	P	**Pn**	**02 21 27.7**	**+1.2**
STIP	**Stip**	**3.66**	**7**	*e*Pn	**Pb**	**02 21 44.7**	**-2.9**
BRTR	**Keskin Array B**	**9.55**	**76**	Pn	Pn	02 23 01.7	+1.3
	comp=N,0.2nm,0.3s,baz=279,slow=11,SNR=1.4						
GERES	**GERESS Array B**	**12.19**	**335**	Pn	Pn	02 23 39.9	+3.6
	comp=N,0.1nm,0.3s,baz=161,slow=12,SNR=2.0						
ESDC	**Sonseca Array**	**19.93**	**283**	P	**Pn**	**02 25 16.6**	**+0.5**
	comp=N,0.6nm,0.9s,baz=82,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**30.47**	**221**	P	**P**	**02 26 56.4**	**+1.0**
	comp=N,0.2nm,0.5s,baz=15,slow=7.8,SNR=1.9						
MKAR	**Makanchi Array**	**44.66**	**59**	P	**P**	**02 28 55.5**	**+0.4**
	comp=N,0.3nm,0.5s,baz=277,slow=7.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**45.15**	**48**	P	**P**	**02 28 57.7**	**-1.1**
	comp=N,0.7nm,0.3s,baz=270,slow=11,SNR=3.3						

*TEH **20** 02:39:07.8, 32°.55N×48°.02E, h10km, ML3.1*
*THR **20** 02:39:08.6±0.4, 32°.52N×48°.03E, h14km±3km, ML3.5*

ISC 20 02:39:09.4±1.1, 32°.49N±0°.04×48°.00E±0°.06, h15km, n27, σ1s26/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.78**	**119**	*e*Pg	**Pg**	**02 39 23.0**	**-1.5**
SHGR	**Shooshtar-Gavs**	**0.78**	**119**	*e*Pg	**Pg**	**02 39 23.0**	**-1.5**
IKMR	**Kamar-syah**	**1.08**	**17**	*e*Pg	**Pb**	**02 39 27.3**	**-2.5**
IKMR				*e*		02 39 48.0	
AHWZ	**Ahwaz**	**1.28**	**154**	*e*Pg	**Pn**	**02 39 32.8**	**+0.1**
AHWZ				*e*Sg	**Sg**	**02 39 53.2**	**+2.5**
IDOB	**Doab**	**1.31**	**7**	*e*Pg	**Pn**	**02 39 31.9**	**-1.5**
BMDN	**Meydan**	**1.37**	**30**	*e*Pg	**Pn**	**02 39 33.2**	**-1.0**
BMDN				*e*		02 40 01.7	
IKOM	**Komasi**	**1.73**	**346**	*e*Pg	**Pb**	**02 39 40.2**	**-0.9**
IKOM				*e*		02 39 44.7	
HSAM	**Samen**	**1.79**	**16**	*e*Pn	**Pb**	**02 39 41.1**	**-1.0**
KHMZ	**Khomeyn**	**2.06**	**52**	*e*Pn	**Pn**	**02 39 44.6**	**+0.8**
KHMZ				*e*Sg	**Sb**	**02 40 12.6**	**+0.3**
KHMZ	**Khomeyn**	**2.06**	**52**	*e*Pn	**Pn**	**02 39 44.6**	**+0.8**
JHBN	**Jahan bin**	**2.27**	**96**	*e*Pn	**Pn**	**02 39 47.4**	**+0.7**
JHBN				*e*		02 40 27.3	
IPIR	**Pirpir**	**2.45**	**85**	*e*Pn	**Pn**	**02 39 49.8**	**+0.7**
IPIR				*e*		02 40 29.9	
ROKH	**ROKH**	**2.57**	**92**	*e*Pn	**Pn**	**02 39 51.9**	**+1.1**
IDHR	**Dehrash**	**2.58**	**329**	*e*Pn	**Pn**	**02 39 51.2**	**+0.3**
IDHR				*e*		02 40 01.5	
SNGE	**Sanandaj**	**2.66**	**348**	*e*Pn	**Pn**	**02 39 52.8**	**+0.9**
SNGE				*e*Sg	**Sb**	**02 40 31.0**	**+1.7**
SNGE	**Sanandaj**	**2.66**	**348**	*e*Pn	**Pn**	**02 39 52.8**	**+0.9**
ASAO	**Ashtian**	**2.66**	**39**	*e*Pn	**Pn**	**02 39 52.9**	**+0.8**
ASAO	**Ashtian**	**2.66**	**39**	*e*Pn	**Pn**	**02 39 52.9**	**+0.8**
HSRG	**Sareghieh**	**2.76**	**5**	*e*	**Sg**	**02 40 40.9**	**+2.8**
IKLH	**Kolahrood**	**3.12**	**74**	*e*Pn	**Pn**	**02 39 59.4**	**+1.0**
IKLH				*e*		02 40 55.6	
KLNJ	**Kolanjah**	**3.40**	**115**	*e*Pn	**Pn**	**02 40 02.8**	**+0.6**
KLNJ				*e*		02 41 11.0	
IGAR	**Gharneh**	**3.42**	**90**	*e*Pn	**Pn**	**02 40 03.1**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.47**	**22**	*e*Pn	**Pn**	**02 40 03.5**	**+0.4**
IZEF	**Zefreh**	**3.67**	**82**	*e*Pn	**Pn**	**02 40 06.7**	**+0.8**
KRSH	**Karshahi**	**3.77**	**66**	*e*Pn	**Pn**	**02 40 07.7**	**+0.5**
IRAM	**Ramesheh**	**3.78**	**99**	*e*Pn	**Pn**	**02 40 07.3**	**0.0**
IFIR	**Firoozkooh**	**5.05**	**50**	*e*Pn	**Pn**	**02 40 25.8**	**+1.0**

*IDC **20** 03:01:22.7±2.8, 36°.28N×142°.38E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/32, mbtmp3.8/4, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=51.7km s-min=30.3km az=74.0*
*JMA **20** 03:01:23.3±0.5, 36°.85N×142°.14E, h43km, M3.5*
*NIED **20** 03:01:23.4, 36°.85N×142°.14E, h43km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.90; $M_{\theta\theta}$=1.23; $M_{\phi\phi}$=2.13; $M_{r\theta}$=0.63; $M_{\theta\phi}$=0.78; $M_{\phi r}$=0.39; Fault plane solution: M_0=2.11000×10^{14} NP1: ϕ_s=334.00000°, δ=69.00000°, λ=-150.00000°. NP2: ϕ_s=232.00000°, δ=62.00000°, λ=-24.00000°.*

ISC 20 03:01:21.2±1.5, 36°.79N±0°.05×142°.24E±0°.10, h19km, n23, σ1s51/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.19**	**285**	P	**Pn**	**03 01 41.9**	**-1.0**
JFK	**Kawauchi**	**1.23**	**298**	P	**Pn**	**03 01 43.2**	**-0.3**
JHYU	**Hitachinakayam**	**1.40**	**252**	P	**Pb**	**03 01 47.1**	**+0.3**
JMM	**Marumori**	**1.57**	**313**	P	**Pn**	**03 01 47.8**	**-0.3**
JFT	**Otama**	**1.68**	**296**	P	**Pb**	**03 01 50.5**	**-1.1**
JFT				*e*S	**Sn**	**03 02 10.8**	**+0.1**
JIO	**Ouri**	**1.80**	**337**	P	**Pn**	**03 01 51.6**	**+0.3**
JOU	**Okura**	**2.01**	**322**	P	**Pn**	**03 01 55.0**	**+0.9**
JAG	**Ashikaga**	**2.27**	**262**	P	**Pn**	**03 01 59.2**	**+1.5**
JMK	**Ichinoseki**	**2.30**	**340**	P	**Pn**	**03 01 59.3**	**+1.2**
BSO1	**Boso 1**	**2.37**	**206**	P	**Pn**	**03 01 59.4**	**+0.9**
JYK	**Kaneyama**	**2.59**	**326**	P	**Pn**	**03 02 03.5**	**+1.4**
MJAR	**Matsushiro Arr**	**3.25**	**267**	Pn	**Pn**	**03 02 14.0**	**+2.9**
	1.4nm,0.3s,baz=90,slow=14,SNR=43						
MAT	**Matsushiro**	**3.25**	**267**	P	**Pn**	**03 02 14.0**	**+2.8**
MAT				*e*S	**Sn**	**03 02 47.6**	**-1.8**
JHJ	**Hachijo jima 2**	**4.18**	**210**	Pn	**Pn**	**03 02 23.9**	**-0.1**
	16nm,0.3s,baz=328,slow=21,SNR=13						
JHJ				Sn	**Sn**	**03 03 10.1**	**-2.2**
	13nm,0.3s,baz=258,slow=20,SNR=1.8						
ASAJ	**Asahikawa**	**7.32**	**2**	LR	LR	03 06 05.2	
	comp=Z,33nm,18.5s,baz=306,slow=36						
H11N2	**WAKE ISLAND Hy 27.46**	**122**		T	T	03 35 50.9	
	baz=314,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy 27.46**	**122**		T	T	03 35 48.2	
	baz=314,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy 27.48**	**122**		T	T	03 35 47.6	
	baz=314,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy 28.17**	**124**		T	T	03 36 44.8	
	baz=316,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy 28.18**	**124**		T	T	03 36 43.0	
	baz=316,slow=76,SNR=9.8						
H11S2	**WAKE ISLAND Hy 28.19**	**124**		T	T	03 36 44.8	
	baz=316,slow=76,SNR=10						
SONM	**Songino Array**	**28.47**	**304**	P	P	03 07 24.0	+8.9
	1.3nm,0.8s,baz=93,slow=9.2,SNR=4.4						
WRA	**Warramunga Arr**	**56.92**	**189**	P	**P**	**03 11 05.4**	**+0.3**
	0.3nm,0.4s,baz=6.2,slow=7.2,SNR=4.8						

*IDC **20** 03:35:20.1±1.6, 10°.07S×160°.05E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/30, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/37, Error ellipse: s-maj=40.2km s-min=11.5km az=92.0*
*NEIC **20** 03:35:26.5±1.1, 9°.5S±0°.2×159°.50E±0°.04, h20km±8km, mb4.3/8, Error ellipse: s-maj=23.3km s-min=5.2km az=175.0*

ISC 20 03:35:26.7±0.8, 9°.6S±0°.1×159°.6E±0°.1, h26km, n25, σ1s41/19, mb4.2/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.36**	**57**	Pn	**Pn**	**03 35 35.6**	**-0.7**
	2μm,0.3s,baz=202,slow=6.3,SNR=91						
HNR				Lg	Lg	03 35 42.0	
	6μm,0.3s,baz=209,slow=19,SNR=124						
HNR	**Honiara**	**0.36**	**57**		**Pb**	**03 35 35.2**	**+0.5**
HNR				Sg	**Sn**	**03 35 42.2**	**-0.4**
DZM	**Mont Dzumac**	**13.99**	**153**	LR	LR	03 42 49.6	
	comp=Z,52nm,18.8s,baz=34,slow=34						
PATS	**Pohnpei**	**16.41**	**355**	P	**Pn**	**03 39 16.5**	**+1.1**
PATS				IAmb	IAmb	03 39 19.4	
	comp=Z,57nm,1.1s						
ARMA	**Armidale**	**21.99**	**199**	P	**P**	**03 40 20.4**	**+1.3**
ARMA				IAmb	IAmb	03 40 25.6	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**26.38**	**245**	P	**P**	**03 41 03.2**	**+2.0**
WB0				IAmb	IAmb	03 41 07.8	
	comp=Z,8.9nm,1.4s						
WB2	**Warramunga Arr**	**26.48**	**244**	P	**P**	**03 41 04.0**	**+2.0**
WB2				IAmb	IAmb	03 41 09.7	
	comp=Z,9.8nm,1.4s						
WRA	**Warramunga Arr**	**26.49**	**244**	P	**P**	**03 41 01.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=70,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**26.49**	**244**	P	**P**	**03 41 02.3**	**+0.1**
STKA	**Stephens Creek**	**27.75**	**214**	P	**P**	**03 41 15.0**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=32,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**27.75**	**214**	P	**P**	**03 41 15.9**	**+2.6**
ASAR	**Alice Springs**	**28.26**	**237**	P	**P**	**03 41 15.1**	**-3.0**
	comp=Z,0.2nm,0.4s,baz=69,slow=11,SNR=1.6						
H11S2	**WAKE ISLAND Hy 28.80**	**14**		T	T	04 10 08.4	
	baz=194,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy 28.80**	**14**		T	T	04 10 06.9	
	baz=194,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy 28.81**	**14**		T	T	04 10 08.0	
	baz=194,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy 30.02**	**14**		T	T	04 11 34.7	
	baz=194,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy 30.03**	**14**		T	T	04 11 39.4	
	baz=194,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy 30.04**	**14**		T	T	04 11 36.0	
	baz=194,slow=76,SNR=21						
KNRA	**Kununurra**	**30.70**	**256**		**P**	**03 41 39.5**	**-0.2**
KSAR	**Wonju Array Be**	**55.47**	**329**	P	**P**	**03 44 59.2**	**-0.2**
IL31		**84.18**	**20**	P	**P**	**03 47 55.2**	**-0.1**
IL31				IAmb	IAmb	03 47 58.4	
	comp=Z,1.8nm,1.2s						
ILAR	**Eielson Array**	**84.18**	**20**	P	**P**	**03 47 54.9**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=248,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**84.18**	**20**	P	**P**	**03 47 55.2**	**-0.2**
MKAR	**Makanchi Array**	**88.42**	**318**	P	**P**	**03 48 17.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=121,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**88.42**	**318**	P	**P**	**03 48 17.5**	**+0.9**

*IDC **20** 03:43:43.1±3.0, 30°.21S×177°.34W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/35, mbtmp3.7/2, Error ellipse: s-maj=61.5km s-min=28.8km az=84.0*
*NEIC **20** 03:43:48.2±2.2, 30°.04S±0°.08×177°.4W±0°.2, h32km±8km, mb4.5/11, Error ellipse: s-maj=27.1km s

*BJI **20** 03:57:25.4±0.0,43.85N×88.48E,h5km,mB4.5/13, mb4.4/20,ML4.5/9,Ms3.9/11,Ms7 3.7/11*
*NEIC **20** 03:57:26.9±1.6,43.84N±0.08×88.33E±0.09,h30km±4km, mb4.6/54,Error ellipse: s-maj=10.9km s-min=9.4km az=169.0*
ISC 20 03:57:27.8±0.3,**43.89N**±0.05×**88.26E**±0.04,**h35**km,**n220,** σ1**f75**/241,**mb4.5**/67,**MS3.4**/10,**14C-13D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.42**	**261**	Pg		**Pn**	**03 57 35.8**	**-1.5**
WMQ				Sg		**Sn**	**03 57 41.5**	**-2.4**
WMQ				smax		smax		
	comp=N,14μm,0.7s							
WMQ				smax		smax		
	comp=E,10μm,0.9s							
WMQ	**Urumqi**	**0.42**	**261**	P		**Pn**	**03 57 35.6**	**-1.7**
WMQ	**Urumqi**	**0.42**	**261**			**Pn**	**03 57 35.5**	**-1.7**
ZSN	**Zaisan**	**4.29**	**327**	*e*P		**Pn**	**03 58 32.8**	**+2.3**
	136nm,0.5s							
ZSN				*e*S		**Sn**	**03 59 23.6**	**+4.4**
	376nm,0.3s							
ZSN	**Zaisan**	**4.29**	**327**	*e*P		**Pn**	**03 58 32.8**	**+2.3**
ZSN				*e*S		**Sn**	**03 59 23.6**	**+4.4**
MK31	**Makanchi Array**	**5.12**	**307**	Pn		**Pn**	**03 58 43.4**	**+1.5**
	37nm,0.3s,baz=116,slow=13,SNR=1831							
MK31				⇓Sn		**Sn**	**03 59 43.3**	**+3.6**
	181nm,0.7s,baz=107,slow=22,SNR=7.8							
MK31				Lg		Lg	04 00 08.9	
	306nm,0.7s							
MK31	**Makanchi Array**	**5.12**	**307**	*i* P		**Pn**	**03 58 43.4**	**+1.5**
MK31				pmax		pmax		
	comp=Z,37nm,0.3s							
MK31	**Makanchi Array**	**5.12**	**307**	Pn		**Pn**	**03 58 43.5**	**+1.5**
MKAR	**Makanchi Array**	**5.12**	**307**	Pn		**Pn**	**03 58 43.5**	**+1.6**
	comp=Z,50nm,0.3s,baz=117,slow=12,SNR=1784							
MKAR				Sn		**Sn**	**03 59 40.3**	**+0.6**
	comp=Z,45nm,0.3s,baz=109,slow=17,SNR=4.5							
MKAR				Lg		Lg	04 00 14.9	
	comp=Z,48nm,0.3s,baz=136,slow=28,SNR=6.6							
MKAR	**Makanchi Array**	**5.12**	**307**	*i* P		**Pn**	**03 58 43.4**	**+1.5**
MKAR				pmax		pmax		
	comp=Z,86nm,0.3s							
MKAR	**Makanchi Array**	**5.12**	**307**	Pn		**Pn**	**03 58 43.1**	**+1.2**
MAKZ	**Makanchi**	**5.31**	**306**	⇓Pn		**Pn**	**03 58 45.4**	**+0.9**
	comp=Z,104nm,0.4s							
MAKZ				⇓Sn		**Sn**	**03 59 46.8**	**+2.4**
	comp=Z,62nm,0.4s							
MAKZ				Lg		Lg	04 00 16.6	
	comp=Z,155nm,0.7s							
MAKZ	**Makanchi**	**5.31**	**306**	P		**Pn**	**03 58 46.1**	**+1.6**
MAKZ	**Makanchi**	**5.31**	**306**	Pn		**Pn**	**03 58 46.1**	**+1.6**
KTMS	**Ketmen**	**5.76**	**268**	*e*P		**Pn**	**03 58 52.1**	**+1.3**
	comp=Z,2.2nm,0.2s							
KTMS				*e*S		**Sn**	**03 59 56.5**	**+0.8**
	comp=Z,62nm,0.5s							
KTMS	**Ketmen**	**5.76**	**268**	*e*P		**Pn**	**03 58 52.1**	**+1.3**
KTMS				*e*S		**Sn**	**03 59 56.5**	**+0.8**
DGZ	**Jazzator, Alta**	**5.84**	**355**	*c i*P		**Pn**	**03 58 54.1**	**+2.1**
DJR	**Jarkent**	**6.12**	**277**	*e*P		**Pn**	**03 58 56.8**	**+1.1**
	comp=Z,54nm,0.3s							
DJR				*e*S		**Sn**	**04 00 04.5**	**0.0**
	comp=Z,77nm,0.5s							
DJR	**Jarkent**	**6.12**	**277**	*e*P		**Pn**	**03 58 56.8**	**+1.1**
DJR				*e*S		**Sn**	**04 00 04.5**	**0.0**
PDGK	**Podgornoye**	**6.39**	**268**	⇑Pn		**Pn**	**03 58 59.9**	**+0.4**
	comp=Z,21nm,0.4s							
PDGK				Sn		**Sn**	**04 00 18.0**	**+6.7**
	comp=Z,172nm,1.1s							
PDGK				Lg		Lg	04 00 55.4	
	comp=Z,236nm,0.8s							
SHLS	**Shalkode**	**6.44**	**267**	*e*P		**Pn**	**03 58 58.3**	**-1.9**
	comp=Z,62nm,0.3s							
SHLS				*e*S		**Sn**	**04 00 07.2**	**-5.3**
	comp=Z,96nm,0.5s							
SHLS	**Shalkode**	**6.44**	**267**	*e*P		**Pn**	**03 58 58.3**	**-1.9**
SHLS				*e*S		**Sn**	**04 00 07.2**	**-5.3**
UZB	**Uzynbulak**	**6.76**	**267**	*e*P		**Pn**	**03 59 08.6**	**+4.0**
	comp=Z,29nm,0.3s							
UZB				*e*S		**Sn**	**04 00 24.9**	**+4.5**
	comp=Z,77nm,0.7s							
UZB	**Uzynbulak**	**6.76**	**267**	*e*P		**Pn**	**03 59 08.6**	**+4.0**
UZB				*e*S		**Sn**	**04 00 24.9**	**+4.5**
PRZ	**Przheval'sk**	**7.34**	**262**	P		**Pn**	**03 59 15.0**	**+2.3**
PRZ	**Przheval'sk**	**7.34**	**262**	Pn		**Pn**	**03 59 14.9**	**+2.3**
KDJ	**Kajisay**	**8.31**	**262**	P		**Pn**	**03 59 26.7**	**+0.8**
KDJ	**Kajisay**	**8.31**	**262**	Pn		**Pn**	**03 59 26.7**	**+0.8**
BOOM	**Boomskoye usch**	**9.11**	**265**	P		**Pn**	**03 59 36.5**	**-0.4**
BOOM	**Boomskoye usch**	**9.11**	**265**	Pn		**Pn**	**03 59 36.5**	**-0.4**
TKM2	**Tokmak 2**	**9.27**	**268**	⇑Pn		**Pn**	**03 59 39.5**	**+0.4**
	comp=Z,7.1nm,0.5s							
TKM2				Lg		Lg	04 02 26.6	
	comp=Z,48nm,0.8s							
TKM2	**Tokmak 2**	**9.27**	**268**	*i* P		**Pn**	**03 59 39.5**	**+0.4**
TKM2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KURBB	**Kurchatov Arra**	**9.44**	**319**	Pn		**Pn**	**03 59 38.6**	**-2.5**
	comp=Z,4.2nm,0.3s,baz=240,slow=8.9,SNR=177							
KURBB				Sn		**Sn**	**04 01 24.2**	**-1.7**
	comp=Z,5.0nm,0.3s,baz=139,slow=20,SNR=5.5							
KURBB				Lg		Lg	04 02 24.9	
	baz=139,slow=24,SNR=1.5							
KURBB	**Kurchatov Arra**	**9.44**	**319**	⇓Pn		**Pn**	**03 59 39.7**	**-1.4**
	comp=Z,16nm,0.3s							
KURBB				⇓Sn		**Sn**	**04 01 23.8**	**-2.1**
	comp=Z,91nm,0.6s							
KURBB				Lg		Lg	04 02 21.7	
	comp=Z,303nm,0.9s							
KURBB	**Kurchatov Arra**	**9.44**	**319**	P		**Pn**	**03 59 39.7**	**-1.4**
KURBB							04 01 23.7	
KURK	**Kurchatov**	**9.46**	**320**	⇑Pn		**Pn**	**03 59 39.6**	**-1.8**
	comp=Z,12nm,0.3s							
KURK				Sn		**Sn**	**04 01 24.3**	**-2.1**
	comp=Z,43nm,0.3s							
KURK				Lg		Lg	04 02 25.6	
	comp=Z,90nm,0.9s							
KURK	**Kurchatov**	**9.46**	**320**	*c i*P		**Pn**	**03 59 40.0**	**-1.4**
KURK				pmax		pmax		
	comp=Z,36nm,0.8s							
KURK	**Kurchatov**	**9.46**	**320**	Pn		**Pn**	**03 59 39.5**	**-1.8**
GTA	**Gaotai**	**9.73**	**113**	P		**Pn**	**03 59 44.4**	**-0.9**
GTA				pP			03 59 49.1	
GTA				sP			03 59 52.1	
GTA				pmax		pmax		
	comp=Z,14nm,0.9s							
GTA				pmax		pmax		
	comp=Z,110nm,4.8s							
GTA				smax		smax		
	comp=Z,63nm,1.1s							
GTA				smax		smax		
	comp=Z,80nm,1.3s							
GTA				LR		LR		
	comp=Z,190nm,10.5s							
GTA				LR		LR		
	comp=Z,140nm,7.6s							
GTA				LR		LR		
	comp=Z,220nm,12.0s							
AAK	**Ala-Archa**	**10.12**	**268**	⇑Pn		**Pn**	**03 59 49.5**	**-1.2**
	comp=Z,6.2nm,0.6s							
AAK				Lg		Lg	04 02 56.8	
	comp=Z,57nm,1.0s							
AAK	**Ala-Archa**	**10.12**	**268**	*de*P		**Pn**	**03 59 50.8**	**+0.1**
ZAA0	**Zalesovo Array**	**10.32**	**349**	⇓Pn		**Pn**	**03 59 50.7**	**-2.5**
	comp=Z,0.4nm,0.5s							
ZAA0				Sn		**Sn**	**04 01 41.6**	**-5.8**
	comp=Z,4.3nm,0.5s							
ZAA0				Lg		Lg	04 02 49.6	
	comp=Z,20nm,1.4s							
ZAA0	**Zalesovo Array**	**10.32**	**349**	Pn		**Pn**	**03 59 51.3**	**-1.8**
ZALV	**Zalesovo Beam**	**10.32**	**349**	Pn		**Pn**	**03 59 51.5**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=168,slow=14,SNR=17							
ZALV				Sn		**Sn**	**04 01 44.0**	**-3.5**
	comp=Z,17nm,0.3s,baz=167,slow=27,SNR=28							
ZALV				Lg		Lg	04 02 44.7	
	baz=176,slow=25,SNR=1.4							
ZALV				LR		LR	04 04 42.4	
	comp=Z,48nm,21.3s,baz=200,slow=42							
ZALV	**Zalesovo Beam**	**10.32**	**349**	Pn		**Pn**	**03 59 50.5**	**-2.7**
KK31	**Karatay Array**	**12.92**	**273**	P		**Pn**	**04 00 29.4**	**+0.7**
KK31	**Karatay Array**	**12.92**	**273**	Pn		**Pn**	**04 00 29.4**	**+0.7**
KKAR	**Karatay Array**	**12.92**	**273**	P		**Pn**	**04 00 29.6**	**+0.8**
KKAR	**Karatay Array**	**12.92**	**273**	Pn		**Pn**	**04 00 29.6**	**+0.8**
KKAR	**Karatay Array**	**12.92**	**273**	Pn		**Pn**	**04 00 29.6**	**+0.8**
TLY	**Talaya**	**12.93**	**48**	LR		LR	04 05 42.2	
	comp=Z,92nm,21.6s,baz=244,slow=39							
TLY	**Talaya**	**12.93**	**48**	⇓*e*P		**Pn**	**04 00 27.9**	**-1.0**
SONM	**Songino Array**	**13.24**	**66**	Pn		**Pn**	**04 00 32.4**	**-0.8**
	baz=254,slow=15,SNR=9.7							
SONM				Lg		Lg	04 04 03.3	
	comp=Z,0.2nm,0.3s,baz=256,slow=24,SNR=3.8							
SONM	**Songino Array**	**13.24**	**66**	P		**Pn**	**04 00 32.0**	**-1.2**
SONM	**Songino Array**	**13.24**	**66**	Pn		**Pn**	**04 00 31.9**	**-1.2**
BTK	**Batken**	**13.53**	**260**	P		**Pn**	**04 00 38.0**	**+0.8**
BTK	**Batken**	**13.53**	**260**	Pn		**Pn**	**04 00 38.0**	**+0.8**
ULN	**Ulaanbaatar**	**13.68**	**67**	⇑*e*P		**Pn**	**04 00 37.9**	**-1.3**
ULN					pmax	pmax		
	comp=Z,15nm,2.5s							
LZH	**Lanzhou**	**14.25**	**118**	*e*P		**P**	**04 00 51.3**	**-2.6**
LZH				pP		Pn	04 00 54.6	+7.5
LZH				sP			04 00 56.9	
LZH				pmax		pmax		
	comp=Z,27nm,1.0s							
GAR	**Garm**	**14.31**	**256**	Pn		**Pn**	**04 00 47.3**	**-0.6**
BVAR	**Borovoye Array**	**14.94**	**314**	Pn		**Pn**	**04 00 54.9**	**-1.2**
	comp=Z,2.6nm,0.3s,baz=68,slow=24,SNR=19							
BVAR				Sn		**Sn**	**04 03 32.8**	**-7.5**
	comp=Z,4.4nm,0.3s,baz=87,slow=30,SNR=10							
BVAR				Lg		Lg	04 05 21.3	
	baz=318,slow=54,SNR=1.5							
BRVK	**Borovoye**	**15.01**	**314**	⇓Pn		**Pn**	**04 00 54.7**	**-2.4**
	comp=Z,17nm,0.7s							
BRVK				⇓Sn		**Sn**	**04 03 44.2**	**+2.2**
	comp=Z,7.5nm,0.4s							
BRVK	**Borovoye**	**15.01**	**314**	*d i*P		**Pn**	**04 00 55.0**	**-2.1**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
BRVK	**Borovoye**	**15.01**	**314**	Pn		**Pn**	**04 00 54.9**	**-2.1**
BRVK				IAmb		IAmb	04 01 03.2	
	comp=Z,20nm,0.8s							
CHGR	**Chuyangaron**	**15.28**	**257**	Pn		**Pn**	**04 00 58.7**	**-2.1**
NIL	**Nilore**	**15.52**	**234**	P		**Pn**	**04 01 03.1**	**-0.8**
NIL				pmax		pmax		
	comp=Z,24nm,0.6s							
NIL	**Nilore**	**15.52**	**234**	Pn		**Pn**	**04 01 03.1**	**-0.8**
NIL				IAmb		IAmb	04 01 09.8	
	comp=Z,24nm,0.6s							
HHC	**Hu-ho-hao-te**	**17.47**	**92**	*e*P		**P**	**04 01 28.9**	**-0.7**
HHC				pmax		pmax		
	comp=Z,36nm,0.9s							
HHC				pmax		pmax		
	comp=Z,160nm,5.7s							
KBL	**Kabul**	**17.54**	**244**	P		**P**	**04 01 30.6**	**+0.1**
KBL				pmax		pmax		
	comp=Z,12nm,0.9s							
KBL	**Kabul**	**17.54**	**244**			**P**	**04 01 30.6**	**+0.1**
SHL	**Shillong**	**18.51**	**170**	P		**P**	**04 01 39.6**	**-1.6**
SHL				pmax		pmax		
	comp=Z,19nm,0.9s							
SHL	**Shillong**	**18.51**	**170**	P		**P**	**04 01 39.6**	**-1.6**
XAN	**Xi'an**	**18.79**	**115**	P		**Pn**	**04 01 49.8**	**+5.0**
XAN				pmax		pmax		
	comp=Z,6.0nm,1.3s							
XAN				LR		LR		
	comp=Z,170nm,11.9s							
XAN				LR		LR		
	comp=Z,170nm,14.1s							
XAN				LR		LR		
	comp=Z,250nm,16.3s							
AB31	**Akbulak array**	**20.13**	**295**	*e*P		**P**	**04 01 58.7**	**+0.2**
ABKAR	**Akbulak array**	**20.13**	**295**	P		**P**	**04 01 58.2**	**-0.3**
ABKAR	**Akbulak array**	**20.13**	**295**	P		**P**	**04 01 58.6**	**0.0**
ABKAR				IAmb		IAmb	04 02 17.9	
	comp=Z,9.2nm,0.9s							
AKTO	**Aktyubinsk**	**21.48**	**298**	P		**P**	**04 02 13.3**	**+0.2**
	comp=Z,8.6nm,0.6s,baz=98,slow=10,SNR=25							
AKTO				Lg		Lg	04 08 50.1	
	comp=Z,1.2nm,0.5s,baz=325,slow=11,SNR=2.0							
SVE	**Sverdlovsk**	**21.69**	**316**	*e*P		**P**	**04 02 14.5**	**-0.7**
SVE				pmax		pmax		
	comp=Z,36nm,0.7s							
KMI	**Kunming**	**22.14**	**143**	⇑*e*P		**P**	**04 02 24.9**	**+4.3**
KMI				pmax		pmax		
	comp=Z,12nm,0.6s							
HRA	**Herat**	**22.22**	**254**	P		**P**	**04 02 22.0**	**+0.6**
ARU	**Arti**	**22.59**	**314**	P		**P**	**04 02 25.5**	**+0.7**
	comp=Z,11nm,0.4s,baz=118,slow=5.6,SNR=40							
ARU				Lg		Lg	04 09 18.3	
	comp=Z,1.4nm,0.3s,baz=309,slow=17,SNR=1.8							
ARU	**Arti**	**22.59**	**314**	*c i*P		**P**	**04 02 26.2**	**+1.3**
ARU							04 02 47.3	
ARU				S		**S**	**04 06 35.1**	**+5.2**
ARU				SS		**SnSn**	**04 07 02.4**	**+2.0**
ARU				pmax		pmax		
	comp=Z,33nm,0.6s							
ARU	**Arti**	**22.59**	**314**	P		**P**	**04 02 25.6**	**+0.7**
GYA	**Guiyang**	**22.90**	**133**	⇓P		P	04 02 35.8	+7.2
GYA				sP		sP	04 02 40.0	-3.6
GYA				pmax		pmax		
	comp=Z,13nm,0.9s							
GEYT	**Alibeck**	**23.47**	**266**	P		**P**	**04 02 34.5**	**+0.4**
	comp=Z,7.6nm,0.7s,baz=84,slow=7.6,SNR=8.3							
GEYT				LR		LR	04 12 45.5	
	comp=Z,42nm,20.9s,baz=155,slow=39							
GEYT	**Alibeck**	**23.47**	**266**	P		**P**	**04 02 35.3**	**+1.3**
WHN	**Wuhan**	**24.56**	**114**	⇑P		**P**	**04 02 49.1**	**+4.9**
NRIK	**Noril'sk**	**25.52**	**359**	P		**P**	**04 02 52.0**	**-0.5**
	comp=Z,4.3nm,0.5s,baz=171,slow=6.5,SNR=4.7							
NJ2	**Nanjing**	**26.70**	**106**	*e*P		**P**	**04 03 04.3**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**26.90**	**157**	P		**P**	**04 03 08.2**	**+2.8**
	comp=Z,0.7nm,0.4s,baz=334,slow=9.4,SNR=6.6							
CMAR				LR		LR	04 14 33.3	
	comp=Z,38nm,18.5s,baz=5.0,slow=38							
CMAR	**Chiang Mai Arr**	**26.90**	**157**	P		**P**	**04 03 07.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**26.90**	**157**	P		**P**	**04 03 07.5**	**+2.0**
KIRV	**Kirov**	**27.94**	**315**	P		**P**	**04 03 14.6**	**+0.1**
	comp=Z,18nm,0.7s,baz=318,slow=2.5,SNR=5.3							
KIRV				LR		LR	04 15 00.9	
	comp=Z,67nm,19.7s,baz=137,slow=38							
YAK	**Yakutsk**	**30.14**	**38**	LR		LR	04 15 51.6	
	comp=Z,63nm,21.6s,baz=266,slow=37							
KSRS	**Korea Array**	**30.54**	**88**	S		**S**	**04 08 36.5**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=294,slow=25,SNR=7.7							
KSRS				LR		LR	04 16 59.8	
	comp=Z,16nm,19.5s,baz=285,slow=39							
QIZ	**Qiongzhong**	**30.69**	**137**	P		**P**	**04 03 40.5**	**+1.3**
QIZ				S		S	04 08 47.1	+7.6
KBZ	**Khabaz**	**32.42**	**286**	P		**P**	**04 03 54.4**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=31,slow=12,SNR=1.7							
KBZ				LR		LR	04 19 19.7	
	comp=Z,86nm,19.3s,baz=96,slow=40							
KIV	**Kislovodsk**	**32.51**	**286**	*e*P		**P**	**04 03 56.8**	**+1.7**
KIV				pmax		pmax		
	comp=Z,24nm,1.0s							
KIV				MLR		MLR		
	comp=Z,77nm,15.0s							
OBN	**Obninsk**	**34.62**	**307**	⇓*e*P		**P**	**04 04 13.7**	**+0.5**
OBN				*e*			04 05 25.4	
OBN				pmax		pmax		
	comp=Z,6.0nm,0.4s							
OBN				MLR		MLR		
	comp=Z,127nm,18.0s							
AKASG	**Malin Array Be**	**39.67**	**301**	P		**P**	**04 04 56.0**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=67,slow=8.7,SNR=6.7							
AKASG				LR		LR	04 22 23.8	
	comp=Z,85nm,18.1s,baz=295,slow=38							
AKASG	**Malin Array Be**	**39.67**	**301**	*ce*P		**P**	**04 04 56.2**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**39.67**	**301**	P		**P**	**04 04 55.3**	**-0.8**
AKBB	**Malin Array Si**	**39.67**	**301**	P		**P**	**04 04 56.3**	**+0.2**
AKBB				pmax		pmax		
	comp=Z,9.0nm,1.2s							
AKBB	**Malin Array Si**	**39.67**	**301**	P		**P**	**04 04 56.3**	**+0.2**
AKBB				IAmb		IAmb	04 04 57.2	
	comp=Z,9.2nm,1.1s							
VSU	**Vasula**	**39.75**	**314**	*ce*P		**P**	**04 04 56.9**	**+0.3**
VSU				pmax		pmax		
	comp=Z,45nm,0.7s							
FINES	**FINESS Array B**	**39.83**	**318**	P		**P**	**04 04 57.7**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=90,slow=8.8,SNR=22							
FINES				LR		LR	04 22 29.1	
	comp=Z,83nm,18.6s,baz=112,slow=38							
FINES	**FINESS Array B**	**39.83**	**318**	P		**P**	**04 04 57.3**	**0.0**
FINES	**FINESS Array B**	**39.83**	**318**	P		**P**	**04 04 57.3**	**0.0**
KULM	**Kulim**	**39.96**	**161**	P		**P**	**04 04 57.1**	**-1.7**
KULM				IAmb		IAmb	04 05 11.0	
	comp=Z,14nm,0.9s							
NACGM	**Naroch**	**40.24**	**308**	*e*		**P**	**04 05 02.0**	**+1.2**
ARCES	**ARCESS Array B**	**40.26**	**331**	P		**P**	**04 05 01.1**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=69,slow=6.6,SNR=11							
BR131	**Keskin Array S**	**40.31**	**284**	P		**P**	**04 05 02.8**	**+1.1**
BR131				pmax		pmax		
	comp=Z,5.0nm,1.4s							
BR131	**Keskin Array S**	**40.31**	**284**	P		**P**	**04 05 02.8**	**+1.1**
BRTR	**Keskin Array B**	**40.31**	**284**	P		**P**	**04 05 02.5**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=80,slow=7.4,SNR=6.8							
BRTR	**Keskin Array B**	**40.31**	**284**	*ce*P		**P**	**04 05 02.9**	**+1.1**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BRTR	**Keskin Array B**	**40.31**	**284**	P		**P**	**04 05 02.7**	**+0.9**
IPM	**Ipoh**	**40.83**	**160**	P		**P**	**04 05 03.2**	**-2.9**
IPM				IAmb		IAmb	04 05 03.6	
	comp=Z,7.2nm,0.6s							
BURAR	**Bucovina Array**	**43.08**	**298**	P		**P**	**04 05 25.1**	**+0.8**
BUR08	**Bucovina Ar. S**	**43.08**	**298**	P		**P**	**04 05 25.2**	**+0.9**
SOCY	**Socotra**	**43.19**	**234**	P		**P**	**04 05 23.8**	**-1.6**
ELL	**Elmali**	**44.26**	**282**	P		**P**	**04 05 35.1**	**+1.2**
ELL				pmax		pmax		
	comp=Z,23nm,1.1s							
ELL	**Elmali**	**44.26**	**282**	P		**P**	**04 05 35.1**	**+1.2**
OJC	**Ojcow**	**45.58**	**303**	P		**P**	**04 05 44.2**	**+0.1**
OJC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
OJC	**Ojcow**	**45.58**	**303**	P		**P**	**04 05 44.2**	**+0.1**
HFS	**Hagfors**	**46.02**	**318**	P		**P**	**04 05 47.2**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=81,slow=9.2,SNR=14							
NC405	**NORSAR Array S**	**46.72**	**320**	P		**P**	**04 05 53.3**	**+0.4**
VYHS	**Vyhne**	**46.78**	**301**	*e*P		**P**	**04 05 54.6**	**+1.1**
VYHS	**Vyhne**	**46.78**	**301**	*e*P		**P**	**04 05 54.6**	**+1.1**
NC602	**NORSAR Array S**	**46.90**	**319**	P		**P**	**04 05 54.2**	**-0.1**
NB2	**NORSAR Subarra**	**46.97**	**320**	P		**P**	**04 05 55.0**	**0.0**
	comp=Z,1.8nm,0.5s,baz=72,slow=7.9							
NOA	**NORSAR Array B**	**46.97**	**320**	P		**P**	**04 05 54.9**	**0.0**
	comp=Z,2.7nm,0.6s,baz=77,slow=7.8,SNR=18							
NBO00	**NORSAR Array S**	**47.18**	**320**	P		**P**	**04 05 57.1**	**+0.6**
KRLC	**Kraliky**	**47.45**	**304**	*e*P		**P**	**04 05 59.7**	**+0.9**
KRLC	**Kraliky**	**47.45**	**304**	*e*P		**P**	**04 05 59.7**	**+0.9**
DPC	**Dobruska-Polom**	**47.62**	**304**	*e*P		**P**	**04 06 01.6**	**+1.5**
DPC	**Dobruska-Polom**	**47.62**	**304**	*e*P		**P**	**04 06 01.6**	**+1.5**
CHVC	**Chvalec**	**47.69**	**305**	*e*P		**P**	**04 06 01.9**	**+1.2**
UPC	**Upice**	**47.75**	**305**	*e*P		**P**	**04 06 02.3**	**+1.2**
UPC	**Upice**	**47.75**	**305**	*e*P		**P**	**04 06 02.3**	**+1.2**
DIVS	**Divibare**	**47.78**	**295**	P		**P**	**04 06 02.1**	**+0.6**
BRG	**Berggiesshubel**	**48.83**	**306**	*e*P		**P**	**04 06 10.4**	**+1.0**
	comp=Z,6.9nm,1.4s							
BRG	**Berggiesshubel**	**48.83**	**306**	*e*P		**P**	**04 06 10.4**	**+1.0**
BRG				pmax		pmax		
	comp=Z,7.0nm,1.4s							
CONA	**Conrad Observa**	**48.83**	**302**	*e*P		**P**	**04 06 09.8**	**+0.3**
	comp=Z,3.4nm,0.7s							
CLL	**Collm**	**49.21**	**307**	*i* P		**P**	**04 06 12.9**	**+0.6**
	comp=Z,6.0nm,0.7s							
CLL	**Collm**	**49.21**	**307**	P		**P**	**04 06 12.9**	**+0.6**
CLL				pmax		pmax		
	comp=Z,6.0nm,0.6s							
CLL	**Collm**	**49.21**	**307**	P		**P**	**04 06 12.9**	**+0.6**
CLL				IAmb		IAmb	04 06 13.7	
	comp=Z,5.9nm,0.6s							
ITM	**Ithomi**	**49.65**	**286**	P		**P**	**04 06 14.6**	**-1.2**
ITM				IAmb		IAmb	04 06 19.6	
	comp=Z,8.4nm,1.2s							
KHC	**Kasperske Hory**	**49.73**	**304**	*e*P		**P**	**04 06 14.7**	**-1.7**
KHC	**Kasperske Hory**	**49.73**	**304**	*e*P		**P**	**04 06 14.7**	**-1.7**
GERES	**GERESS Array B**	**49.78**	**303**	P		**P**	**04 06 16.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=56,slow=9.6,SNR=3.7							
GERES	**GERESS Array B**	**49.78**	**303**	P		**P**	**04 06 17.6**	**+0.9**
MOA	**Molln**	**49.84**	**302**	*e*P		**P**	**04 06 17.9**	**+0.7**
	comp=Z,2.9nm,1.0s							
SOKA	**Soboth**	**49.86**	**300**	*e*P		**P**	**04 06 18.0**	**+0.6**
	comp=Z,4.4nm,1.1s							
BOJS	**Bojanci**	**50.23**	**299**	*i* P		**P**	**04 06 21.0**	**+0.9**
OBKA	**Obir**	**50.24**	**300**	*e*P		**P**	**04 06 20.5**	**+0.2**
	comp=Z,6.1nm,1.4s							
VISS	**Visnje**	**50.36**	**299**	*i* P		**P**	**04 06 21.7**	**+0.6**
KNDS	**Knezji Dol**	**50.77**	**299**	*i* P		**P**	**04 06 24.8**	**+0.4**
ROBS	**Robic**	**51.00**	**301**	*i* P		**P**	**04 06 25.5**	**-0.4**
ZOU	**Zoufplan**	**51.20**	**301**	P		**P**	**04 06 27.7

	comp=Z,3.5nm,0.9s							
CNPM	**China Poot**	**65.96**	**29**	P	**P**	**04 08 11.6**	**+1.6**
BCAR	**Beaver Creek A**	**66.20**	**22**	P	**P**	**04 08 12.5**	**+1.0**
KDAK	**Kodiak Island**	**66.76**	**31**	P	**P**	**04 08 15.1**	**+0.1**
KDAK				pmax	pmax		
	comp=Z,14nm,1.1s						
KDAK	**Kodiak Island**	**66.76**	**31**	P	**P**	**04 08 15.1**	**+0.1**
BARN	**Barnard Glacie**	**67.84**	**24**	P	**P**	**04 08 23.4**	**+1.2**
KNRA	**Kununurra**	**69.87**	**138**	P	**P**	**04 08 34.6**	**-0.4**
KNRA				IAmb	IAmb	04 08 36.2	
	comp=Z,4.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**70.54**	**142**	P	**P**	**04 08 38.3**	**-0.7**
WRA	**Warramunga Arr**	**76.25**	**136**	P	**P**	**04 09 11.5**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=339,slow=5.7,SNR=28						
WRA	**Warramunga Arr**	**76.25**	**136**	P	**P**	**04 09 11.8**	**-0.9**
WB2	**Warramunga Arr**	**76.26**	**136**	P	**P**	**04 09 11.8**	**-0.9**
WR0	**Warramunga Arr**	**76.37**	**136**	P	**P**	**04 09 12.4**	**-1.0**
WR0				IAmb	IAmb	04 09 20.4	
	comp=Z,4.7nm,0.8s						
MORW	**Morawa**	**76.93**	**155**	P	**P**	**04 09 15.8**	**-0.6**
MORW				IAmb	IAmb	04 09 22.9	
	comp=Z,6.9nm,1.0s						
TOA0	**Torodi Ar. Sit**	**78.56**	**277**	P	**P**	**04 09 25.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**78.56**	**277**	P	**P**	**04 09 25.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=39,slow=5.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**78.56**	**277**	P	**P**	**04 09 25.3**	**-0.6**
ASAR	**Alice Springs**	**79.18**	**138**	P	**P**	**04 09 27.8**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=332,slow=5.6,SNR=24						
ASAR	**Alice Springs**	**79.18**	**138**	P	**P**	**04 09 28.1**	**-0.9**
KOWA	**Kowa**	**81.72**	**282**	P	**P**	**04 09 42.9**	**-0.1**
STKA	**Stephens Creek**	**89.75**	**137**	P	**P**	**04 10 22.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=355,slow=12,SNR=1.4						
STKA	**Stephens Creek**	**89.75**	**137**	P	**P**	**04 10 22.4**	**+0.2**
LPAZ	**La Paz**	**145.98**	**317**	PKPbc	**PKPdf**	**04 17 03.3**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=63,slow=4.8,SNR=6.8						
LPAZ	**La Paz**	**145.98**	**317**		**PKPbc**	**04 17 03.4**	**-1.3**
CPUP	**Villa Florida**	**147.15**	**291**	PKPbc	**PKPbc**	**04 17 06.2**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=76,slow=2.5,SNR=6.6						

*IDC **20** 04:01:58.1±3.5,28°.54S×67°.36W,h130km±34km,mb3.3/2, mb1 3.2/4,mb1mx3.0/33,mbtmp3.6/4,Error ellipse: s-maj=41.9km s-min=26.2km az=57.0*
*GUC **20** 04:01:58.8±0.7,28°.46S×67°.87W,h214km±17km,ML4.0*
ISC 20 04:01:58.1±0.9,**28°.53S**±0'.05×**67°.36W**±0'.07,**h130**km,**n13,** σ1§**17**/21,**2C,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC05	**El Transito**	**2.58**	**263**	*i* P	**Pn**	**04 02 40.7**	**+1.2**
AC05				*i* S	**Sn**	**04 03 12.3**	**+1.0**
AC05				IAML		04 03 16.0	
	comp=E,420nm,0.3s						
GO03	**Copiap**	**2.71**	**289**	*e*P	**Pn**	**04 02 41.5**	**+0.4**
GO03				*i* S	**Sn**	**04 03 13.7**	**-0.4**
GO03				IAML		04 03 15.1	
	comp=N,480nm,0.1s						
CO01	**Juntas del Tor**	**2.79**	**238**	↑*i* P	**Pn**	**04 02 43.8**	**+1.6**
CO01				*i* S	**Sn**	**04 03 19.3**	**+3.0**
AC04	**Llanos de Chal**	**3.29**	**275**	*e*P	**Pn**	**04 02 48.0**	**-0.5**
AC04				*e*S	**Sn**	**04 03 25.0**	**-2.5**
AC04				IAML		04 03 27.9	
	comp=E,387nm,0.1s						
GO04	**Tololo Observa**	**3.42**	**241**	*e*P	**Pn**	**04 02 50.5**	**0.0**
GO04				*e*S	**Sn**	**04 03 30.7**	**-0.2**
CO03	**El Pedregal**	**3.70**	**231**	↑*i* P	**Pn**	**04 02 54.0**	**0.0**
CO03				*i* S	**Sn**	**04 03 37.7**	**+0.4**
CO03				IAML		04 03 42.8	
	comp=E,90nm,0.3s						
GO02	**Mina Guanaco**	**3.90**	**329**	*i* S	**Sn**	**04 03 42.8**	**+0.4**
CO02	**Combarbal**	**4.14**	**229**	*e*P	**Pn**	**04 02 58.9**	**-0.9**
CO02				*i* S	**Sn**	**04 03 46.6**	**-1.0**
LVC	**Limon Verde**	**6.06**	**346**	P	**Pn**	**04 03 26.8**	**+1.0**
	comp=E,0.5nm,0.3s,baz=130,slow=7.3,SNR=10						
LVC				S	**Sn**	**04 04 33.9**	**-0.3**
	comp=E,1.4nm,0.3s,baz=304,slow=14,SNR=3.1						
CPUP	**Villa Florida**	**9.18**	**79**	P	**Pn**	**04 04 07.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=237,slow=16,SNR=1.8						
SNAA	**Sanae**	**55.21**	**160**	P	**P**	**04 11 16.9**	**-0.3**
	comp=E,1.0nm,0.9s,baz=288,slow=7.3,SNR=8.0						
TORD	**Torodi Ar. Bea**	**78.52**	**68**	P	**P**	**04 13 45.6**	**+0.2**
	comp=E,0.4nm,0.7s,baz=257,slow=5.5,SNR=5.2						
WRA	**Warramunga Arr**	**127.45**	**206**	PKP	**PKPdf**	**04 20 47.8**	**-0.6**
	comp=E,0.2nm,0.4s,baz=162,slow=1.8,SNR=5.2						

IDC 20 05:15:02.6±3.0,**30°.02S**×**138°.90E,h0**km,**mb1 3.0/**3, **mb1mx3.0**/24,**mbtmp2.7**/3,**ML2.6**/3,**Error ellipse: s-maj=101.7km s-min=17.5km az=47.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.96**	**129**	Pn	Pn	05 15 50.3	-0.7
	0.3nm,0.3s,baz=311,slow=14,SNR=2.8						
STKA				Pg	Pg	05 15 58.3	-1.1
	0.6nm,0.3s,baz=304,slow=17,SNR=5.0						
STKA				Lg	Lg	05 16 35.8	
	2.4nm,0.3s,baz=12,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**7.74**	**324**	Pn	Pn	05 16 56.4	-0.2
	0.1nm,0.3s,baz=144,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**10.85**	**337**	Pn	Pn	05 17 39.2	-0.1
	0.1nm,0.3s,baz=156,slow=13,SNR=5.2						

*IDC **20** 05:15:16.5±1.7,34°.59S×73°.99W,h0km,mb3.9/2, mb1 3.9/4,mb1mx3.7/19,mbtmp3.6/4,ML3.7/2,Error ellipse: s-maj=62.0km s-min=31.3km az=68.0*
*NEIC **20** 05:15:18.0±2.5,34°.57S±0'.04×73°.90W±0'.07,h16km±3km, mb4.3/5,ML4.0(GUC),Error ellipse: s-maj=8.2km s-min=6.1km az=104.0*
*GUC **20** 05:15:19.5±0.7,34°.71S×73°.81W,h32km±4km,ML4.0*
ISC 20 05:15:20.1±0.8,**34°.59S**±0'.04×**73°.94W**±0'.06,**h35**km,**n43,** σ1§**48**/64,**mb4.1**/4,**3C,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**1.71**	**105**	*e*P	**Pn**	**05 15 45.4**	**-2.0**
GO05				*i* S	**Sn**	**05 16 05.5**	**-2.5**
GO05	**Huala**	**1.71**	**105**		**Pn**	**05 15 46.8**	**-0.6**
GO05				Sn	**Sn**	**05 16 06.8**	**-1.2**
BI03	**Tigo**	**2.37**	**162**	↑*i* P	**Pn**	**05 15 55.3**	**-1.1**
BI03				*e*S	**Sn**	**05 16 21.5**	**-2.8**
BI03				IAML		05 16 25.1	
	comp=N,2μm,0.4s						
BI03	**Tigo**	**2.37**	**162**		**Pn**	**05 15 55.3**	**-1.1**
BI03				Sn	**Sn**	**05 16 23.1**	**-1.2**
BO02	**Sierra Bellavi**	**2.61**	**95**	↑*e*P	**Pn**	**05 15 59.2**	**-0.7**
BO02				*e*S	**Sn**	**05 16 29.1**	**-1.3**
BO02	**Sierra Bellavi**	**2.61**	**95**		**Pn**	**05 16 00.1**	**+0.2**
MT02	**Curacav**	**2.68**	**61**	*e*P	**Pn**	**05 15 59.2**	**-1.5**
MT02				*e*S	**Sn**	**05 16 28.8**	**-3.2**
MT02	**Curacav**	**2.68**	**61**		**Pn**	**05 15 59.3**	**-1.5**
MT02				Sn	**Sn**	**05 16 29.0**	**-3.1**
LAJA	**Laja**	**2.86**	**160**	*e*P	**Pn**	**05 16 02.1**	**-1.1**
LAJA				*e*S	**Sn**	**05 16 33.5**	**-3.0**
MT05	**Renca**	**2.92**	**67**	*e*P	**Pn**	**05 16 04.0**	**-0.1**
MT05				*i* S	**Sn**	**05 16 37.9**	**0.0**
MT05				IAML		05 16 39.5	
	comp=E,454nm,0.3s						
MT05	**Renca**	**2.92**	**67**		**Pn**	**05 16 03.9**	**-0.1**
MT05				Sn	**Sn**	**05 16 38.2**	**+0.3**
ROC1	**El Roble**	**2.92**	**57**		**Pn**	**05 16 03.3**	**-1.0**
ROC1				Sn	**Sn**	**05 16 37.0**	**-1.3**
ROCH	**El Roble**	**2.93**	**57**	*e*P	**Pn**	**05 16 03.2**	**-1.2**
BI02	**San Fabin de**	**3.00**	**134**	↑*i* P	**Pn**	**05 16 05.3**	**+0.1**
BI02				*i* S	**Sn**	**05 16 37.5**	**-2.5**
BI02	**San Fabin de**	**3.00**	**134**	Pn	**Pn**	**05 16 05.3**	**+0.1**
BI02				Sn	**Sn**	**05 16 40.8**	**+0.9**
MT03	**Universidad Ad**	**3.05**	**70**	*e*P	**Pn**	**05 16 05.1**	**-0.8**
MT03				*e*S	**Sn**	**05 16 41.1**	**-0.2**
MT03				IAML		05 16 44.7	
	comp=N,556nm,0.2s						
PEL	**Peldehue**	**3.07**	**63**	*e*P	**Pn**	**05 16 05.8**	**-0.4**
PEL				*e*S	**Sn**	**05 16 41.2**	**-0.5**
PEL				IAML		05 16 45.1	
	comp=E,244nm,0.8s						
PEL	**Peldehue**	**3.07**	**63**	Pn	**Pn**	**05 16 05.9**	**-0.2**
PEL				Sn	**Sn**	**05 16 41.9**	**+0.2**
LMEL	**Las Melosas**	**3.19**	**78**	*e*P	**Pn**	**05 16 07.8**	**-0.1**
LMEL				*e*S	**Sn**	**05 16 43.9**	**-0.8**
LMEL				IAML		05 16 47.4	
	comp=N,494nm,0.2s						
VA03	**San Esteban**	**3.36**	**58**	*e*P	**Pn**	**05 16 09.6**	**-0.6**
VA03				*e*S	**Sn**	**05 16 49.3**	**+0.3**
VA03	**San Esteban**	**3.36**	**58**	Pn	**Pn**	**05 16 09.4**	**-0.8**
VA03				Sn	**Sn**	**05 16 48.5**	**-0.5**
VA04	**Juan Fernndez**	**4.16**	**282**	Pn	**Pn**	**05 16 19.4**	**-1.7**
CO02	**Combarbal**	**4.19**	**37**	Pn	**Pn**	**05 16 20.0**	**-1.6**
CO02				Sn	**Sn**	**05 17 06.9**	**-2.5**
H03N1	**Juan Fernandez**	**4.28**	**284**	Pn	**Pn**	**05 16 21.7**	**-0.8**
H03N3	**Juan Fernandez**	**4.29**	**284**	Pn	**Pn**	**05 16 22.0**	**-0.6**
H03N2	**Juan Fernandez**	**4.30**	**284**	Pn	**Pn**	**05 16 22.0**	**-0.8**
CO03	**El Pedregal**	**4.64**	**37**	Pn	**Pn**	**05 16 26.6**	**-1.1**
CO03				Sn	**Sn**	**05 17 19.4**	**-1.0**
GO04	**Tololo Observa**	**5.14**	**32**	Pn	**Pn**	**05 16 32.8**	**-2.1**
CO01	**Juntas del Tor**	**5.64**	**36**		**Pn**	**05 16 40.9**	**-0.7**
AC05	**El Transito**	**6.53**	**30**	Pn	**Pn**	**05 16 53.0**	**-0.8**
PLCA	**Paso Flores**	**6.69**	**157**	Pn	**Pn**	**05 16 57.2**	**+1.3**
	comp=N,0.6nm,0.3s,baz=333,slow=16,SNR=20						
PLCA				Sn	Sn	05 18 21.2	+10
	comp=N,0.3nm,0.3s,baz=229,slow=11,SNR=1.1						
PLCA	**Paso Flores**	**6.69**	**157**		**Pn**	**05 16 56.1**	**+0.2**
AC04	**Llanos de Chal**	**6.82**	**22**	Pn	**Pn**	**05 16 55.7**	**-2.0**
AC02	**Maricunga**	**8.77**	**29**	Pn	**Pn**	**05 17 24.0**	**-0.8**
PB07	**IPOC Station P**	**13.30**	**17**	Pn	**P**	**05 18 32.5**	**-3.4**
LPAZ	**La Paz**	**18.96**	**17**	P	**Pn**	**05 19 41.1**	**+1.3**
	comp=N,0.1nm,0.3s,baz=207,slow=11,SNR=3.1						
LPAZ	**La Paz**	**18.96**	**17**	P	**Pn**	**05 19 40.8**	**+1.0**
SNAA	**Sanae**	**51.64**	**158**	P	**P**	**05 24 24.6**	**+1.8**
SNAA				IAmb	IAmb	05 24 53.2	
	comp=Z,5.3nm,1.4s						
TXAR	**Lajitas Array**	**69.50**	**332**	P	**P**	**05 26 26.8**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=158,slow=8.2,SNR=13						
TX31	**Lajitas Ar. Si**	**69.50**	**332**	P	**P**	**05 26 27.0**	**+1.8**
TX32	**Lajitas Array**	**69.50**	**332**	P	**P**	**05 26 27.1**	**+1.9**
TX32				IAmb	IAmb	05 26 48.4	
	comp=Z,3.9nm,1.5s						
TORD	**Torodi Ar. Bea**	**85.89**	**71**	P	**P**	**05 27 58.0**	**+1.4**
	comp=Z,0.9nm,1.0s,baz=235,slow=5.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**85.89**	**71**	P	**P**	**05 27 58.4**	**+1.7**

*IDC **20** 05:21:22.9±0.7,64°.72N×17°.52W,h0km,mb3.9/13, mb1 4.1/16,mb1mx3.9/44,mbtmp3.9/16,ML3.2/3,Error ellipse: s-maj=19.7km s-min=12.7km az=16.0*
*REY **20** 05:21:23.0,64°.68N×17°.46W,h9km*
*NEIC **20** 05:21:25.6±2.4,64°.58N±0°.09×17°.4W±0°.1,h10km±1km, mb4.3/43,Error ellipse: s-maj=16.4km s-min=8.6km az=199.0*
ISC 20 05:21:24.8±0.4,**64°.66N**±0°.02×**17°.51W**±0°.02,**h10**km,**n154,** σ2§**06**/145,**mb4.1**/44,**3C-2D,Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.11**	**277**	P	**Pg**	**05 21 25.8**	**-1.8**
	baz=266						
IDYN	**Dyngjuhals**	**0.14**	**24**	P	**Pg**	**05 21 25.8**	**-2.4**
	baz=21						
IDJK	**Dyngjujokull**	**0.20**	**143**	P	**Pg**	**05 21 27.3**	**-1.7**
	baz=151						
IDJK				S	**Sg**	**05 21 30.9**	**-1.0**
	baz=151						
IURH	**Urdarhals**	**0.22**	**44**	P	**Pg**	**05 21 27.0**	**-2.4**
	baz=44						
IGRF	**Grimsfjall**	**0.28**	**158**	P	**Pg**	**05 21 28.8**	**-1.6**
	baz=163						
IKVE	**Kverkfjoll**	**0.36**	**87**	P	**Pg**	**05 21 29.7**	**-2.2**
	baz=90						
IKVE				S	**Sg**	**05 21 34.6**	**-2.0**
	baz=90						
IHUS	**Husbondi**	**0.37**	**190**	P	**Pg**	**05 21 30.6**	**-1.6**
	baz=192						
IHUS				S	**Sb**	**05 21 36.5**	**-2.9**
	baz=192						
ISKR	**Skrokkalda**	**0.39**	**256**	P	**Pg**	**05 21 30.8**	**-1.8**
	baz=253						
IVOT	**Vottur**	**0.41**	**160**	P	**Pg**	**05 21 31.0**	**-2.0**
	baz=163						
IJOK	**Jokulheimar**	**0.47**	**222**	P	**Pg**	**05 21 32.0**	**-1.9**
	baz=222						
IJOK				S	**Sb**	**05 21 39.6**	**-2.5**
	baz=222						
IKRE	**Kreppuhraun**	**0.50**	**75**	P	Pg	05 21 31.4	-3.0
	baz=77						
IKRE				S	**Sg**	**05 21 38.8**	**-2.3**
	baz=77						
IASK	**Askja**	**0.54**	**43**	P	Pg	05 21 32.3	-2.9
	baz=43						
IASK				S	**Sg**	**05 21 39.7**	**-2.6**
	baz=43						
IMKO	**Mokollar**	**0.59**	**57**	P	Pg	05 21 33.2	-3.0
	baz=58						
IIEY	**Innrieyrar**	**0.63**	**206**	P	**Pg**	**05 21 34.5**	**-2.4**
	baz=206						
IIEY				S	**Sb**	**05 21 44.1**	**-2.6**
	baz=206						
IKSK	**Karasker**	**0.67**	**138**	P	**Pg**	**05 21 34.3**	**-3.5**
	baz=140						
ISVA	**Svartarkot**	**0.69**	**9**	P	Pg	05 21 35.1	-3.0
	baz=7.6						
ISVA				S	**Sg**	**05 21 44.1**	**-3.0**
	baz=7.6						
IKAL	**Kalfafell**	**0.72**	**186**	P	**Pg**	**05 21 36.0**	**-2.7**
	baz=188						
IVAT	**Vatnsfell**	**0.78**	**233**	P	**Pg**	**05 21 37.8**	**-2.0**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.78**	**78**	P	Pg	05 21 36.1	-3.6
	baz=80						
IVSH				S	**Sg**	**05 21 46.9**	**-3.0**
	baz=80						
IADA	**Aoalbol**	**0.90**	**66**	P	Pg	05 21 38.0	-4.1
	baz=66						
IHVE	**Hvervellir**	**0.91**	**284**	P	**Pg**	**05 21 38.9**	**-3.4**
	baz=283						
IMEL	**Melhnausar**	**0.98**	**21**	P	Pg	05 21 39.6	-4.0
	baz=21						
IREN	**Reynihlio**	**1.02**	**14**	P	Pb	05 21 40.5	-4.1
	baz=13						
ISNB	**Snabyli**	**1.05**	**208**	P	**Pg**	**05 21 41.7**	**-3.2**
	baz=209						
IKVO	**Krokottuvotn**	**1.09**	**14**	P	Pb	05 21 41.6	-4.2
	baz=13						
ISLY	**Slysaalda**	**1.10**	**221**	P	**Pg**	**05 21 42.8**	**-3.0**
	baz=221						
IGRS	**Grimsstaoir**	**1.14**	**30**	P	Pn	05 21 42.4	-4.5
	baz=30						
IGRS				S	**Sb**	**05 21 58.5**	**-3.0**
	baz=30						
IFED	**Fedgar**	**1.15**	**237**	P	**Pg**	**05 21 44.2**	**-2.6**
	baz=237						
IRJU	**Rjupnafell**	**1.17**	**207**	P	**Pg**	**05 21 44.1**	**-3.0**
	baz=207						
IMJO	**Mjoaskard**	**1.19**	**233**	P	**Pg**	**05 21 44.6**	**-3.1**
	baz=233						
IGHA	**Grjothals**	**1.24**	**16**	P	Pn	05 21 44.0	-4.2
	baz=16						
IGRA	**Granastaoir**	**1.26**	**359**	P	Pn	05 21 44.5	-4.0
	baz=358						
IHAU	**Haukadalur**	**1.28**	**238**	P	**Pb**	**05 21 45.9**	**-3.0**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.28**	**208**	P	**Pb**	**05 21 46.0**	**-3.0**
	baz=208						
IDIM	**Dimmadalss**	**1.33**	**10**	P	Pn	05 21 45.5	-3.8
	baz=9.6						
IHLA	**Hella**	**1.34**	**344**	P	**Pn**	**05 21 46.1**	**-3.4**
	baz=343						
IALF	**Alftagrof**	**1.39**	**213**	P	**Pn**	**05 21 47.5**	**-2.7**
	baz=213						
IESK	**Eystri-Skogar**	**1.43**	**218**	P	**Pn**	**05 21 48.2**	**-2.4**
	baz=218						
IHED	**Heoinshofoi**	**1.43**	**3**	P	Pn	05 21 47.0	-3.8
	baz=2.6						
ISAU	**Saurbar**	**1.44**	**243**	P	**Pn**	**05 21 48.3**	**-2.5**
	baz=243						
IMID	**Miomork**	**1.45**	**227**	P	**Pn**	**05 21 48.6**	**-2.4**
	baz=227						
IBRE	**Brettingsstaoi**	**1.48**	**354**	P	**Pn**	**05 21 48.0**	**-3.4**
	baz=353						
IGIL	**Gilhagi**	**1.50**	**18**	P	Pn	05 21 48.2	-3.5
	baz=18						
ISIG	**Siglufjorour**	**1.59**	**339**	P	**Pn**	**05 21 49.7**	**-3.2**
	baz=338						
BORG	**Borgarnes**	**1.64**	**275**	Pn	**Pn**	**05 21 51.1**	**-2.6**
	27nm,0.3s,baz=91,slow=6.7,SNR=69						
BORG				Sn	**Sg**	**05 22 15.4**	**-2.1**
	19nm,0.3s,baz=205,slow=23,SNR=10						
BORG	**Borgarnes**	**1.64**	**275**	Pn	**Pn**	**05 21 50.9**	**-2.8**
BORG				Sn	**Sg**	**05 22 16.3**	**-1.3**
IKRO	**Krokur**	**1.67**	**252**	P	**Pn**	**05 21 51.9**	**-2.2**
	baz=251						
ISOL	**Solvholt**	**1.67**	**245**	P	**Pn**	**05 21 51.4**	**-2.6**
	baz=245						
IHEI	**Heioarbar**	**1.68**	**256**	P	**Pn**	**05 21 52.1**	**-2.1**
	baz=255						
IHRN	**Hraun**	**1.82**	**324**	P	**Pn**	**05 21 53.3**	**-2.8**
	baz=323						
IKUD	**Kuludalsa**	**1.92**	**262**	P	**Pn**	**05 21 55.5**	**-1.9**
	baz=261						
IKAS	**Kald??rsel**	**2.00**	**253**	P	**Pn**	**05 21 57.6**	**-0.9**
	baz=253						
IVOS	**Vogsosar**	**2.00**	**248**	P	**Pn**	**05 21 57.6**	**-1.0**
	baz=248						
IKRI	**Krysuvik**	**2.14**	**251**	P	**Pn**	**05 21 59.4**	**-1.2**
	baz=250						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**05 24 11.7**	**-0.7**
	baz=323,slow=13,SNR=8.1						
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**05 24 13.1**	**+0.8**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**05 24 31.7**	**-0.8**
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**05 24 33.7**	**-2.9**
	0.0nm,0.3s,baz=299,slow=13,SNR=2.5						
ARB1	**ARCESS Array S**	**17.12**	**55**	Pn	**Pn**	**05 25 24.6**	**+0.7**
ARCES	**ARCESS Array B**	**17.12**	**55**	P	**P**	**05 25 27.3**	**+1.8**
	baz=270,slow=9.0,SNR=4.6						
MEM	**Membach**	**18.71**	**128**	pPn	**Pn**	**05 25 45.8**	**+2.3**
MEM	**Membach**	**18.71**	**128**	P	Pn	05 25 51.0	+7.5
BTNL	**Ternell**	**18.77**	**127**	pPn	**Pn**	**05 25 46.6**	**+2.4**
BTNL	**Ternell**	**18.77**	**127**	P	**Pn**	**05 25 51.2**	**+7.0**
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**	**05 25 53.3**	**-0.6**
	0.1nm,0.3s,baz=299,slow=17,SNR=3.4						
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**	**05 25 54.2**	**+0.3**
CLF	**Chambon-Foret**	**19.79**	**138**	P	**P**	**05 25 54.0**	**-0.9**
CLF				IAmb	IAmb	05 26 00.0	
	comp=Z,14nm,0.9s						
CLL	**Collm**	**20.70**	**116**	*i* P	**P**	**05 26 05.7**	**+0.9**
	comp=Z,13nm,1.2s						
CLL				*e*		05 26 14.0	
CLL	**Collm**	**20.70**	**116**	P	**P**	**05 26 05.9**	**+1.1**
CLL				IAmb	IAmb	05 26 09.4	
	comp=Z,19nm,1.4s						
ECH	**Echery**	**21.15**	**129**	P	**P**	**05 26 10.4**	**+0.7**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**05 26 12.9**	**+0.5**
	comp=Z,14nm,1.1s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**05 26 14.2**	**+1.4**
BFO				IAmb	IAmb	05 26 18.0	
	comp=Z,12nm,1.1s						
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**05 26 23.2**	**+0.7**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**05 26 26.7**	**+2.9**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**05 26 28.0**	**+2.0**
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**05 26 27.8**	**+1.7**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**05 26 28.3**	**+1.4**
DAVA	**Damuels**	**22.88**	**126**	*e*P	**P**	**05 26 30.2**	**+1.9**
	comp=Z,7.4nm,0.9s						
GEC2	**GERESS Array S**	**22.95**	**119**	P	**P**	**05 26 28.2**	**-0.8**
GEC2				IAmb	IAmb	05 26 39.8	
	comp=Z,15nm,1.5s						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**05 26 30.2**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=322,slow=8.5,SNR=8.5						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**05 26 29.0**	**0.0**
RETA	**Reutte**	**23.02**	**125**	*e*P	**P**	**05 26 31.0**	**+1.3**
	comp=Z,2.5nm,0.8s						
MOTA	**Moosalm**	**23.26**	**124**	*e*P	**P**	**05 26 34.9**	**+2.6**
	comp=Z,5.7nm,1.1s						
SQTA	**Sankt Quirin**	**23.40**	**124**	*e*P	**P**	**05 26 34.5**	**+0.8**
	comp=Z,7.0nm,1.3s						
FETA	**Feichten**	**23.40**	**125**	*e*P	**P**	**05 26 35.0**	**+1.3**
	comp=Z,6.9nm,1.5s						
WATA	**Walderalm**	**23.43**	**124**	*e*P	**P**	**05 26 36.1**	**+2.1**
	comp=Z,2.9nm,0.6s						
WTTA	**Wattenberg**	**23.52**	**124**	*e*P	**P**	**05 26 37.0**	**+2.1**
	comp=Z,5.8nm,1.0s						
EUNU	**Eureka**	**23.67**	**336**	P	**P**	**05 26 37.8**	**+1.8**
EUNU				IAmb	IAmb	05 26 42.3	
	comp=Z,8.4nm,1.1s						
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**05 26 39.8**	**+3.3**
ABTA	**Abfaltersbach**	**24.27**	**123**	*e*P	**P**	**05 26 42.2**	**+0.3**
	comp=Z,3.2nm,1.0s						
KBA	**Koelnbreinsper**	**24.29**	**122**	*e*P	**P**	**05 26 44.0**	**+1.8**
	comp=Z,1.3nm,0.5s						
CONA	**Conrad Observa**	**24.53**	**117**	*e*P	**P**	**05 26 44.4**	**+0.1**
	comp=Z,4.5nm,0.9s						
ZOU	**Zoufplan**	**24.60**	**123**	P	**P**	**05 26 44.2**	**-0.8**
CIMO	**Cimolais**	**24.62**	**124**	P	**P**	**05 26 44.2**	**-0.8**
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**	**05 26 45.7**	**+0.4**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P	**P**	**05 26 46.2**	**+0.4**
PRED	**Cave del

PV16					IAmb	IAmb	05 31 19.0	
	comp=Z,6.3nm,1.3s							
PV03	**Paradox Valley**	**56.73**	**290**		P	**P**	**05 31 09.8**	**+1.3**
PV03					IAmb	IAmb	05 31 11.1	
	comp=Z,5.0nm,1.1s							
PV13	**Radium Mtn., P**	**56.80**	**290**		P	**P**	**05 31 10.3**	**+1.2**
WMQ	**Urumqi**	**57.24**	**56**	*eP*	P	**P**	**05 31 15.8**	**+3.9**
MSU	**Marysvale**	**57.84**	**293**		P	**P**	**05 31 19.1**	**+2.7**
MVU	**Marysvale**	**57.86**	**293**		P	**P**	**05 31 19.0**	**+2.4**
DBIC	**Dimbokro**	**58.59**	**165**		P	**P**	**05 31 21.5**	**0.0**
	comp=Z,4.8nm,0.9s,baz=295,slow=2.7,SNR=3.5							
DBIC	**Dimbokro**	**58.59**	**165**		IAmb	IAmb	05 31 22.4	
	comp=Z,9.2nm,1.1s							
SONM	**Songino Array**	**59.65**	**40**		P	**P**	**05 31 29.3**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=324,slow=7.1,SNR=3.0							
SONM	**Songino Array**	**59.65**	**40**		IAmb	IAmb	05 31 30.5	
	comp=Z,1.2nm,1.1s							
WUAZ	**Wupatki**	**60.11**	**290**		P	**P**	**05 31 32.8**	**+0.7**
WUAZ					IAmb	IAmb	05 31 35.0	
	comp=Z,3.7nm,1.0s							
NVAR	**Mina Array Bea**	**60.30**	**297**		P	**P**	**05 31 36.1**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=61,slow=4.5,SNR=2.9							
TXAR	**Lajitas Array**	**62.28**	**280**		P	**P**	**05 31 47.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=55,slow=4.8,SNR=6.6							
HHC	**Hu-ho-hao-te**	**67.52**	**40**	*eP*		**P**	**05 32 24.3**	**+3.5**
HHC					pmax	pmax		
	comp=Z,21nm,0.8s							
HHC					pmax	pmax		
	comp=Z,97nm,6.6s							
KMI	**Kunming**	**79.36**	**53**	*eP*	P	**P**	**05 33 31.1**	**+0.2**
KMI					pmax	pmax		
	comp=Z,22nm,0.7s							
CMAR	**Chiang Mai Arr**	**84.14**	**59**		P	**P**	**05 33 56.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=318,slow=7.0,SNR=5.6							

*IDC **20** 05:43:38.3±3.0, 17.°81N×120.°90E, h0km, mb3.7/3, mb1 4.2/4, mb1mx3.5/42, mbtmp4.0/4, ML4.6/1, MS2.9/1, Ms1 3.1/1, ms1mx2.3/38, Error ellipse: s-maj=68.6km s-min=31.4km az=43.0*

*MAN **20** 05:43:53.4, 16.°60N×119.°88E, h5km, mb4.5, ML3.3, MS3.1*

ISC 20 05:43:40.9±2.5, 16.°8N±0.°1×119.°2E±0.°1, h10km, n9, σ0°79/9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.81**	**118**	*eP*	**Pn**	**05 43 58.5**	**+0.1**
BCP	**Baguio City**	**1.43**	**104**	*eP*	**Pb**	**05 44 07.3**	**-0.4**
BCP				*eS*	**Sg**	**05 44 27.7**	**+0.9**
SMPP	**San Manuel, Pa**	**1.57**	**113**	*eP*	**Pg**	**05 44 10.9**	**-0.3**
BALP	**Baler**	**2.53**	**113**	*eP*	**Pb**	**05 44 25.6**	**-0.8**
TGY	**Tagaytay City**	**3.15**	**147**	Pn	**Pb**	**05 44 36.8**	**-0.2**
	49nm,0.3s,baz=231,slow=14,SNR=1.4						
TGY				Sn	**Sg**	**05 45 22.7**	**+0.5**
	41nm,0.3s,baz=150,slow=20,SNR=1.2						
LQP	**Lukban**	**3.49**	**139**	*eP*	**Pb**	**05 44 41.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**19.35**	**278**	P	Pn	05 48 22.2	+14
	1.1nm,0.3s,baz=83,slow=8.6,SNR=5.0						
CMAR				LR	LR	05 55 52.6	
	comp=Z,28nm,18.3s,baz=195,slow=35						
WRA	**Warramunga Arr**	**39.41**	**157**	P	**P**	**05 51 11.8**	**+0.6**
	1.2nm,0.6s,baz=339,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**42.69**	**160**	P	P	05 51 41.8	+3.6
	0.7nm,0.6s,baz=339,slow=7.2,SNR=9.6						

*NAO **20** 05:58:34.1±1.8, 73.°70N×8.°00E, ML4.1*

*BER **20** 05:58:36.9±3.2, 73.°81N×7.°71E, h10km, ML2.2, ML4.1(NAO), Confirmed Earthquake*

*NEIC **20** 05:58:36.9±2.0, 73.°73N±0.°08×8.°5E±0.°4, h10km±1km, mb4.0/7, Error ellipse: s-maj=18.8km s-min=12.9km az=246.0*

*IDC **20** 05:58:36.4±0.7, 73.°63N×8.°60E, h0km, mb3.7/10, mb1 3.9/16, mb1mx3.8/46, mbtmp3.8/16, ML3.2/5, MS3.3/21, Ms1 3.3/21, ms1mx3.1/50, Error ellipse: s-maj=17.0km s-min=11.5km az=71.0*

ISC 20 05:58:37.0±0.5, 73.°72N±0.°06×8.°70E±0.°08, h10km, n124, σ1§42/108, mb3.8/15, MS3.2/15, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**2.94**	**70**	Pn	**Pn**	**05 59 23.4**	**-0.3**
BJO1	**Bjornoya**	**2.94**	**70**	*eP*	**Pn**	**05 59 22.0**	**-1.7**
HSPB	**Hornsund (broa**	**3.73**	**24**	Pn	**Pn**	**05 59 33.7**	**-0.8**
HSPB	**Hornsund (broa**	**3.73**	**24**	Pn	**Pn**	**05 59 33.7**	**-0.8**
BRBA	**Barentsburg A**	**4.56**	**15**	Pn	**Pn**	**05 59 45.0**	**-1.0**
BRBA	**Barentsburg A**	**4.56**	**15**	Pn	**Pn**	**05 59 45.0**	**-1.0**
BRBB	**Barentsburg B**	**4.60**	**14**	Pn	**Pn**	**05 59 45.5**	**-0.9**
BRBB	**Barentsburg B**	**4.60**	**14**	Pn	**Pn**	**05 59 45.5**	**-0.9**
SPB3	**Spitsbergen Ar**	**4.85**	**19**	Pn	**Pn**	**05 59 49.5**	**-0.3**
SPA3	**Spitsbergen Ar**	**4.85**	**19**	Pn	**Pn**	**05 59 49.7**	**-0.2**
SPB2	**Spitsbergen Ar**	**4.85**	**19**	Pn	**Pn**	**05 59 49.9**	**-0.1**
SPA0	**Spitsbergen Ar**	**4.85**	**19**	Pn	**Pn**	**05 59 49.5**	**-0.4**
	baz=195,slow=14						
SPA0	**Spitsbergen Ar**	**4.85**	**19**		**Pn**	**05 59 49.2**	**-0.7**
SPA0	**Spitsbergen Ar**	**4.85**	**19**	Pn	**Pn**	**05 59 49.5**	**-0.4**
	baz=195,slow=14						
SPITS	**Spitsbergen Ar**	**4.85**	**19**	Pn	**Pn**	**05 59 49.6**	**-0.3**
	baz=188,slow=14,SNR=120						
SPITS				LR	LR	06 01 34.9	
	comp=Z,136nm,20.8s,baz=45,slow=36						
HOPEN	**Hopen**	**5.04**	**49**	Pn	**Pn**	**05 59 51.2**	**-1.3**
HOPEN	**Hopen**	**5.04**	**49**	*eP*	**Pn**	**05 59 50.9**	**-1.6**
TRO	**Tromso**	**5.21**	**137**	Pn	**Pn**	**05 59 55.3**	**+0.4**
TRO	**Tromso**	**5.21**	**137**	*eP*	**Pn**	**05 59 55.4**	**+0.4**
KBS	**Kingsbay**	**5.29**	**7**	Pn	**Pn**	**05 59 54.7**	**-1.3**
KBS	**Kingsbay**	**5.29**	**7**	Pn	**Pn**	**05 59 54.5**	**-1.4**
KBS	**Kingsbay**	**5.29**	**7**	*eP*	**Pn**	**05 59 54.3**	**-1.7**
N2VI	**Vinje**	**5.71**	**159**	*eP*	**Pn**	**06 00 01.3**	**-0.4**
LOF	**Lofoten**	**5.83**	**162**	Pn	**Pn**	**06 00 02.8**	**-0.6**
LOF	**Lofoten**	**5.83**	**162**	*eP*	**Pn**	**06 00 02.6**	**-0.8**
LOF				IAML		06 01 07.8	
	comp=Z,16nm,0.5s						
JMIC	**Jan Mayen**	**5.89**	**251**	LR	LR	06 01 36.3	
	comp=Z,142nm,19.8s,baz=308,slow=31						
KIF	**Kilpisjarvi**	**6.11**	**135**	*eP*	**Pn**	**06 00 07.7**	**+0.5**
STEI	**Steigen**	**6.20**	**157**	*eP*	**Pn**	**06 00 08.3**	**-0.1**
STEI				IAML		06 01 12.8	
	comp=Z,4.1nm,0.5s						
FAUS	**Fauske**	**6.73**	**158**	*eP*	**Pn**	**06 00 16.1**	**+0.4**
FAUS				IAML		06 01 26.7	
	comp=Z,4.5nm,0.6s						
ARD8	**ARCESS Array S**	**6.74**	**120**	Pn	**Pn**	**06 00 17.7**	**+1.8**
ARD9	**ARCESS Array S**	**6.74**	**120**	Pn	**Pn**	**06 00 16.7**	**+0.8**
ARD1	**ARCESS Array S**	**6.74**	**120**	Pn	**Pn**	**06 00 17.0**	**+1.1**
ARC7	**ARCESS Array S**	**6.74**	**120**	Pn	**Pn**	**06 00 17.5**	**+1.6**
ARD7	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 16.9**	**+0.9**
ARC1	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.4**	**+1.4**
ARC6	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.4**	**+1.4**
ARB5	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.6**	**+1.7**
ARB1	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 16.4**	**+0.4**
ARA1	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.6**	**+1.6**
ARA3	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.4**	**+1.4**
ARD2	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 16.1**	**+0.1**
ARA0	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 16.2**	**+0.2**
	baz=315,slow=12						
ARA0	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.6**	**+1.6**
ARA0	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 16.2**	**+0.2**
	baz=315,slow=12						
ARB4	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 16.8**	**+0.8**
ARCES	**ARCESS Array B**	**6.75**	**120**	Pn	**Pn**	**06 00 16.0**	**0.0**
	baz=325,slow=12,SNR=34						
ARCES				Sn	**Sn**	**06 01 27.8**	**-5.1**
	baz=315,slow=22,SNR=2.8						
ARCES				LR	LR	06 03 12.1	
	comp=Z,173nm,20.5s,baz=315,slow=41						
ARA2	**ARCESS Array S**	**6.75**	**120**	Pn	**Pn**	**06 00 17.5**	**+1.4**
ARD3	**ARCESS Array S**	**6.76**	**120**	Pn	**Pn**	**06 00 16.2**	**+0.1**
KEV	**Kevo**	**6.97**	**116**	Pn	**Pn**	**06 00 20.1**	**+1.1**
NBB30	**Finnes**	**6.99**	**164**	*eP*	**Pn**	**06 00 18.7**	**-0.5**
SALU	**Saltoluokta**	**7.15**	**148**	*eP*	**Pn**	**06 00 22.7**	**+1.2**
NBB17	**Glomfjord BΨr**	**7.16**	**163**	*eP*	**Pn**	**06 00 21.4**	**-0.2**
NBB40	**Tonnes**	**7.39**	**166**	*eP*	**Pn**	**06 00 23.9**	**-0.8**
KONS	**Konsvik**	**7.41**	**166**	*eP*	**Pn**	**06 00 24.5**	**-0.5**
DAG	**Danmarks Havn**	**7.56**	**306**	*e*	Pn	06 00 17.5	-10
	baz=94,slow=16						
DAG				*i* P	Pn	06 00 22.2	-4.9
DAG				*e*S	Sn	06 01 33.5	-19
DAG				IAML		06 01 40.5	
	comp=Z,4.0nm,0.4s						
DAG	**Danmarks Havn**	**7.56**	**306**	*e*	Pn	06 00 17.5	-10
	baz=94,slow=16						
DAG				*i* P	Pn	06 00 22.2	-4.9
DAG				*e*S	Sn	06 01 33.5	-19
DAG				IAML		06 01 40.5	
	comp=Z,4.0nm,0.4s						
MOR8	**Moi Rana**	**7.83**	**163**	*eP*	**Pn**	**06 00 29.6**	**-1.3**
DBG	**Daneborg**	**7.96**	**288**	*i* P	Pn	06 00 25.0	-7.5
DBG				*e*S	Sn	06 01 44.9	-17
DBG				IAML		06 01 50.4	
	comp=Z,1.3nm,0.4s						
DBG	**Daneborg**	**7.96**	**288**	*i* P	Pn	06 00 25.0	-7.5
DBG				*e*S	Sn	06 01 44.9	-17
DBG				IAML		06 01 50.4	
	comp=Z,1.3nm,0.4s						
NOR	**Nord**	**9.45**	**337**	Pn	**Pn**	**06 00 48.4**	**-4.5**
NOR	**Nord**	**9.45**	**337**	Pn	**Pn**	**06 00 48.4**	**-4.5**
APA0	**Apatity Array**	**10.04**	**115**	Pn	**Pn**	**06 00 59.9**	**-1.1**
	baz=310,slow=12						
APA0	**Apatity Array**	**10.04**	**115**	Pn	**Pn**	**06 00 59.9**	**-1.1**
	baz=310,slow=12						
NC204	**NORSAR Array S**	**12.53**	**175**	Pn	**Pn**	**06 01 34.7**	**-0.4**
NC303	**NORSAR Array S**	**12.59**	**174**	Pn	**Pn**	**06 01 35.1**	**-0.9**
NC405	**NORSAR Array S**	**12.72**	**173**	Pn	**Pn**	**06 01 37.4**	**-0.2**
NB201	**NORSAR Array S**	**12.77**	**174**	Pn	**Pn**	**06 01 38.1**	**-0.2**
NB2	**NORSAR Subarra**	**12.77**	**174**	Pn	**Pn**	**06 01 37.7**	**-0.8**
NB2	**NORSAR Subarra**	**12.77**	**174**	Pn	**Pn**	**06 01 37.7**	**-0.8**
NOA	**NORSAR Array B**	**12.77**	**174**	Pn	**Pn**	**06 01 37.2**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=352,slow=13,SNR=1.5						
NOA				LR	LR	06 06 12.9	
	comp=Z,78nm,19.3s,baz=350,slow=36						
HFS	**Hagfors**	**13.78**	**169**	Pn	**Pn**	**06 01 50.5**	**-1.6**
HFS	**Hagfors**	**13.78**	**169**	Pn	**Pn**	**06 01 50.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=8.9,slow=10,SNR=2.5						
HFS				LR	LR	06 06 54.2	
	comp=Z,109nm,18.1s,baz=330,slow=36						
HFS	**Hagfors**	**13.78**	**169**	Pn	**Pn**	**06 01 50.5**	**-1.6**
FIA0	**FINESS Array S**	**13.90**	**143**	Pn	**Pn**	**06 01 52.5**	**-1.2**
	baz=340,slow=12						
FIA0	**FINESS Array S**	**13.90**	**143**	Pn	**Pn**	**06 01 52.5**	**-1.2**
	baz=340,slow=12						
FIA1	**FINESS Array S**	**13.90**	**143**	Pn	**Pn**	**06 01 53.3**	**-0.4**
FINES	**FINESS Array B**	**13.90**	**143**	Pn	**Pn**	**06 01 52.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=7.2						
FINES				LR	LR	06 06 57.5	
	comp=Z,140nm,22.0s,baz=336,slow=36						
FINES	**FINESS Array B**	**13.90**	**143**		**Pn**	**06 01 53.1**	**-0.6**
EKA	**Eskdalemuir Ar**	**19.08**	**201**	P	**Pn**	**06 03 00.7**	**+0.6**
	baz=12,slow=12,SNR=4.0						
SFJD	**Kangerlussuaq**	**20.16**	**281**	LR	LR	06 09 21.9	
	comp=Z,108nm,19.0s,baz=96,slow=32						
NACGM	**Naroch**	**20.27**	**149**	*e*	Pn	06 03 17.0	+2.8
KIRV	**Kirov**	**21.68**	**112**	P	**P**	**06 03 27.7**	**+0.2**
	comp=Z,11nm,0.8s,baz=5.2,slow=7.1,SNR=3.8						
KIRV				LR	LR	06 12 01.9	
	comp=Z,93nm,20.8s,baz=315,slow=37						
NRIK	**Noril'sk**	**23.61**	**60**	LR	LR	06 15 50.1	
	comp=Z,48nm,18.0s,baz=15,slow=44						
AKASG	**Malin Array Be**	**24.71**	**148**	P	**P**	**06 04 00.9**	**+2.9**
	comp=Z,0.7nm,0.4s,baz=347,slow=9.4,SNR=2.0						
AKASG				LR	LR	06 13 24.7	
	comp=Z,108nm,22.0s,baz=355,slow=36						
AKASG	**Malin Array Be**	**24.71**	**148**	P	**P**	**06 03 55.0**	**-2.9**
VRAC	**Vranov**	**24.74**	**168**	LR	LR	06 12 37.3	
	comp=Z,52nm,20.0s,baz=341,slow=34						
GERES	**GERESS Array B**	**25.06**	**172**	P	**P**	**06 04 04.2**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=30,slow=8.1,SNR=1.9						
GERES	**GERESS Array B**	**25.06**	**172**	P	**P**	**06 03 58.0**	**-3.2**
ARU	**Arti**	**26.01**	**104**	LR	LR	06 14 37.7	
	comp=Z,39nm,21.4s,baz=328,slow=37						
DAVOX	**Davos/Dischmat**	**27.03**	**178**	LR	LR	06 14 32.8	
	comp=Z,46nm,18.7s,baz=46,slow=36						
FRB	**Frobisher Bay**	**27.50**	**290**	LR	LR	06 14 07.6	
	comp=Z,62nm,18.1s,baz=178,slow=34						
MLR	**Muntele Rosu**	**29.38**	**155**	LR	LR	06 16 58.8	
	comp=Z,52nm,19.2s,baz=294,slow=38						
ABKAR	**Akbulak array**	**32.81**	**109**	P	**P**	**06 05 10.4**	**+0.4**
KBZ	**Khabaz**	**33.90**	**133**	LR	LR	06 19 16.7	
	comp=Z,63nm,19.6s,baz=81,slow=37						
ZALV	**Zalesovo Beam**	**35.53**	**81**	P	**P**	**06 05 34.9**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=347,slow=12,SNR=1.9						
ZALV				LR	LR	06 23 16.0	
	comp=Z,51nm,18.3s,baz=330,slow=42						
ZALV	**Zalesovo Beam**	**35.53**	**81**	P	**P**	**06 05 32.8**	**-0.7**
BRTR	**Keskin Array B**	**36.10**	**147**	P	**P**	**06 05 39.3**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=316,slow=8.1,SNR=3.4						
BRTR	**Keskin Array B**	**36.10**	**147**	P	**P**	**06 05 38.7**	**-0.1**
YKA	**Yellowknife Ar**	**38.94**	**322**	LR	LR	06 21 02.1	
	comp=Z,41nm,18.6s,baz=0.0,slow=34						
IL31		**40.82**	**344**	P	**P**	**06 06 18.8**	**+0.8**
IL31				IAmb	IAmb	06 06 32.6	
	comp=Z,5.1nm,1.5s						
ILAR	**Eielson Array**	**40.82**	**344**	P	**P**	**06 06 20.0**	**+2.0**
	comp=Z,0.6nm,0.8s,baz=2.3,slow=6.9,SNR=7.7						
ILAR	**Eielson Array**	**40.82**	**344**	P	**P**	**06 06 17.3**	**-0.8**
MK31	**Makanchi Array**	**41.25**	**88**	P	**P**	**06 06 23.1**	**+1.3**
MKAR	**Makanchi Array**	**41.25**	**88**	P	**P**	**06 06 23.8**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=307,slow=9.9,SNR=3.3						
MKAR				LR	LR	06 27 45.0	
	comp=Z,47nm,18.1s,baz=312,slow=42						
MKAR	**Makanchi Array**	**41.25**	**88**	P	**P**	**06 06 23.6**	**+1.8**
KK31	**Karatay Array**	**41.34**	**102**	P	**P**	**06 06 23.0**	**+0.4**
KK31				IAmb	IAmb	06 06 37.3	
	comp=Z,3.3nm,1.0s						
KKAR	**Karatay Array**	**41.34**	**102**	P	**P**	**06 06 22.9**	**+0.4**
KKAR				IAmb	IAmb	06 06 37.3	
	comp=Z,3.3nm,1.0s						
BCAR	**Beaver Creek A**	**42.07**	**340**	P	**P**	**06 06 27.6**	**-0.7**
GEYT	**Alibeck**	**42.91**	**118**	LR	LR	06 26 53.6	
	comp=Z,51nm,18.1s,baz=195,slow=40						
SONM	**Songino Array**	**46.88**	**66**	P	**P**	**06 07 08.4**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=331,slow=8.6,SNR=2.7						
SONM	**Songino Array**	**46.88**	**66**	P	**P**	**06 07 05.9**	**-1.2**
PDAR	**Pinedale Array**	**56.58**	**309**	LR	LR	06 32 32.9	
	comp=Z,86nm,18.3s,baz=332,slow=36						
TORD	**Torodi Ar. Bea**	**60.69**	**188**	P	**P**	**06 08 48.7**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=358,slow=6.7,SNR=11						
TORD	**Torodi Ar. Bea**	**60.69**	**188**		**P**	**06 08 48.0**	**-0.2**
NVAR	**Mina Array Bea**	**62.58**	**315**	P	**P**	**06 09 03.4**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=14,slow=5.8,SNR=2.4						
NVAR	**Mina Array Bea**	**62.58**	**315**	P	**P**	**06 09 01.9**	**+0.9**
TXAR	**Lajitas Array**	**68.05**	**299**	P	**P**	**06 09 36.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=50,slow=4.0,SNR=4.7						
TXAR	**Lajitas Array**	**68.05**	**299**	P	**P**	**06 09 36.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.50**	**84**	P	**P**	**06 10 05.1**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=21,slow=2.5,SNR=2.2						
ASAR	**Alice Springs**	**122.14**	**62**	PKP	**PKPdf**	**06 17 30.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=352,slow=2.1,SNR=6.4						
ASAR	**Alice Springs**	**122.14**	**62**		**PKPdf**	**06 17 30.4**	**-0.9**
SNAA	**Sanae**	**145.35**	**186**		**PKPbc**	**06 18 11.7**	**-1.2**
MAW	**Mawson**	**145.37**	**147**	PKPbc	**PKPab**	**06 18 14.7**	**+1.5**
	comp=Z,3.3nm,0.9s,baz=314,slow=5.2,SNR=8.0						
MAW	**Mawson**	**145.37**	**147**		**PKPab**	**06 18 14.2**	**+1.1**

*IDC **20** 06:12:53.9±4.4, 6.°22N×126.°48E, h49km±40km, mb3.3/4, mb1 3.4/4, mb1mx3.2/38, mbtmp3.5/4, Error ellipse: s-maj=96.2km s-min=20.9km az=63.0*

*MAN **20** 06:12:55.0, 6.°33N×126.°24E, h15km, mb4.6, ML3.4, MS3.3*

ISC 20 06:12:49.6±1.7, 6.°24N±0.°07×126.°55E±0.°08, h20km±13km, n11, σ1§86/18, mb3.5/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.76**	**337**	*eP*	**Pn**	**06 13 06.8**	**+1.6**
MATI				*eS*	**Sn**	**06 13 16.7**	**+0.5**
DDMP	**Don Marcelino,**	**0.85**	**261**	*eP*	**Pn**	**06 13 07.2**	**+0.7**
DDMP				*eS*	**Sn**	**06 13 18.5**	**+0.2**
DAV	**Davao City (W)**	**1.27**	**311**	P	**Pb**	**06 13 14.2**	**+1.3**
	158nm,0.3s,baz=297,slow=2.1,SNR=4.3						
DAV				S	**Sb**	**06 13 30.3**	**+1.5**
	65nm,0.3s,baz=177,slow=22,SNR=18						
KCP	**Kidapawan**	**1.64**	**298**	*iP*	**Pb**	**06 13 18.6**	**-0.6**
KCP				*i* S	**Sn**	**06 13 37.0**	**-1.0**
SKMP	**Bagumbayan, Su**	**2.02**	**278**	*eP*	**Pn**	**06 13 22.7**	**+0.2**
SKMP				*eS*	**Sn**	**06 13 42.5**	**-4.7**
BUKP	**Musuan**	**2.20**	**318**	*eP*	**Pb**	**06 13 27.1**	**-1.7**
BUKP				*eS*	**Sn**	**06 13 51.7**	**-0.1**
GLSP	**General Luna,**	**3.55**	**353**	*eP*	**Pb**	**06 13 49.6**	**-2.1**
GLSP				*eS*	**Sn**	**06 14 22.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**24.20**	**182**	P	**P**	**06 18 06.1**	**+1.1**
	2.0nm,0.8s,baz=342,slow=9.6,SNR=3.0						
WRA	**Warramunga Arr**	**27.12**	**164**	P	**P**	**06 18 33.5**	**+2.0**
	0.2nm,0.4s,baz=343,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**30.58**	**167**	P	**P**	**06 19 01.4**	**-0.8**
	0.3nm,0.6s,baz=340,slow=6.9,SNR=2.0						
MKAR	**Makanchi Array**	**55.41**	**324**	P	**P**	**06 22 23.1**	**+0.4**
	0.4nm,0.6s,baz=116,slow=8.2,SNR=4.8						

*IDC **20** 06:17:42.0±1.5, 2.°11N×126.°15E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/37, mbtmp3.8/5, Error ellipse: s-maj=109.0km s-min=22.6km az=67.0*

*NEIC **20** 06:17:52.8±1.2, 1.°9N±0.°2×125.°6E±0.°2, h85km±6km, mb4.1/11, Error ellipse: s-maj=33.5km s-min=11.9km az=220.0*

*DJA **20** 06:17:56.2±0.5, 2.°N±4.°×12.°6E±.°, h103km±10km, M4.3/11, mB5.2/3, mb4.5/6, MLv4.2/11, Mw(mB)4.6/3*

ISC 20 06:17:54.6±0.7, 1.°85N±0.°07×125.°7E±0.°1, h100km, n30, σ1§41/32, mb3.9/9, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.82**	**356**	P	**Pn**	**06 18 25.3**	**+0.3**
SGSI				S	**Sn**	**06 18 48.1**	**0.0**
TNTI	**Ternate**	**2.03**	**122**	P	**Pn**	**06 18 26.9**	**-0.6**
TNTI	**Ternate**	**2.03**	**122**	Pn	**Pn**	**06 18 27.4**	**-0.1**
TNTI				Sn	**Sn**	**06 18 51.1**	**-1.6**
GTOI	**Gorontalo**	**2.90**	**245**	P	Pn	06 18 48.4	+9.4
SANI	**Sanana**	**3.89**	**175**	P	**Pn**	**06 18 54.7**	**+2.4**
APSI	**Ampana**	**4.85**	**236**	P	Pn	06 19 13.2	+7.9
	0.1nm34nm,0.8s						
KCP	**Kidapawan**	**5.15**	**354**	*eP*	**Pn**	**06 19 13.0**	**+3.6**
NLAI	**Namlea**	**5.26**	**164**	P	**Pn**	**06 19 13.2**	**+2.3**
	3.4nm5µm90nm,0.7s						
AAI	**Ambon**	**6.06**	**155**	P	**Pn**	**06 19 23.5**	**+1.7**
MSAI	**Masohi**	**6.12**	**148**	P	**Pn**	**06 19 24.6**	**+2.1**
	0.4nm831nm33nm,0.5s						
MYLDM	**Lahad Datu**	**7.86**	**295**	Pn	**Pn**	**06 19 44.1**	**-2.2**
KNRA	**Kununurra**	**17.69**	**170**	P	**P**	**06 21 53.2**	**-0.9**
KNRA				IAmb	IAmb	06 21 59.0	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.82**	**180**	P	**P**	**06 22 16.4**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=14,slow=8.3,SNR=1.5						
FITZ	**Fitzroy Crossi**	**19.82**	**180**	P	**P**	**06 22 16.8**	**-0.6**
WB0	**Warramunga Arr**	**23.14**	**159**	P	**P**	**06 22 51.3**	**-1.0**
WB0				IAmb	IAmb	06 23 15.3	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**23.28**	**159**	P	**P**	**06 22 52.9**	**-0.8**
	comp=Z,2.3nm,0.4s,baz=339,slow=11,SNR=29						
WB2	**Warramunga Arr**	**23.28**	**159**	P	**P**	**06 22 52.8**	**-0.9**
WB2				IAmb	IAmb	06 22 55.6	
	comp=Z,11nm,1.4s						
PSA00	**Pilbara Seismi**	**23.96**	**193**	P	**P**	**06 23 02.3**	**+2.5**
PSA00				IAmb	IAmb	06 23 03.3	
	comp=Z,9.2nm,0.8s						
PSAB1	**Pilbara Seismi**	**23.96**	**193**	P	**P**	**06 22 59.7**	**-0.1**
PSAC3	**Pilbara Seismi**	**24.01**	**193**	P	**P**	**06 23 01.2**	**+0.9**
AS31	**Alice Springs**	**26.61**	**163**	P	**P**	**06

moment-rate function
KLM 20 06:27:54.0, 1.73S×127.88E, h53km, mb4.7
ISC 20 06:27:50.6±0.7, **2.00S**±0.03×**127.63E**±0.04, **h26**km±4km, **n286**,σ1°**41**/302, **mb5.0**/91, **MS3.8**/23, **11C-4D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	ISC
				Op			Time	Res
NLAI	**Namlea**	**1.34**	**203**	P		**Pn**	**06 28 13.9**	**+0.2**
LBMI	**Labuha**	**1.35**	**354**	P		**Pn**	**06 28 13.1**	**-0.7**
LBMI				S		**Sb**	**06 28 32.3**	**+0.1**
SANI	**Sanana**	**1.64**	**268**	P		**Pn**	**06 28 15.9**	**-1.9**
SANI				S		**Sn**	**06 28 38.4**	**+0.3**
AAI	**Ambon**	**1.77**	**162**	P		**Pb**	**06 28 22.0**	**-0.5**
MSAI	**Masohi**	**1.87**	**136**	P		**Pb**	**06 28 24.0**	**0.0**
MSAI				S		**Sb**	**06 28 48.0**	**+1.0**
TNTI	**Ternate**	**2.76**	**354**	P		**Pn**	**06 28 33.9**	**+0.7**
TNTI	**Ternate**	**2.76**	**354**			**Pn**	**06 28 34.1**	**+1.0**
BNDI	**Bandanaira**	**3.38**	**138**	P		**Pn**	**06 28 43.8**	**+2.1**
SIJI	**Sorong**	**3.80**	**73**	Pn		**Pn**	**06 28 49.0**	**+1.5**
	47nm,0.3s,baz=69,slow=22,SNR=61							
SIJI				Sn		**Sn**	**06 29 33.7**	**+2.3**
	36nm,0.3s,baz=143,slow=20,SNR=1.8							
KMSI	**Cibinong**	**4.45**	**305**	P		**Pn**	**06 28 55.4**	**-1.1**
FAKI	**Fak Fak**	**4.70**	**101**	P		**Pn**	**06 28 59.8**	**-0.1**
FAKI	**Fak Fak**	**4.70**	**101**	Pn		**Pn**	**06 28 59.5**	**-0.4**
LUWI	**Luwuk**	**4.95**	**281**	P		**Sn**	**06 29 58.8**	**-0.9**
LUWI	**Luwuk**	**4.95**	**281**	Pn		**Pn**	**06 29 02.1**	**-1.2**
GTOI	**Gorontalo**	**5.31**	**299**	P		**Pn**	**06 29 09.8**	**+1.6**
	0.9nm2μm167nm,0.7s							
SGSI	**Sangihe**	**6.02**	**340**	P		**Pn**	**06 29 17.5**	**-0.5**
	1.4nm4μm354nm,0.6s							
APSI	**Ampana**	**6.08**	**280**	P		**Pn**	**06 29 18.9**	**+0.1**
	2.6nm6μm711nm,0.7s							
MPSI	**Mapaga**	**8.07**	**287**	P		**Pn**	**06 29 45.3**	**-0.9**
	0.3nm964nm78nm,1.0s							
SPSI	**Sidrap Palu**	**8.09**	**256**	P		**Pn**	**06 29 49.8**	**+3.3**
BKSI	**Bulukumba**	**8.19**	**246**	P		**Pn**	**06 29 48.3**	**+0.5**
	1μm85nm,0.5s							
SOEI	**Soe**	**8.40**	**203**	Pn		**Pn**	**06 29 50.7**	**-0.2**
KAPI	**Kappang**	**8.42**	**249**	Pn		**Pn**	**06 29 55.1**	**+4.2**
	2.8nm,0.3s,baz=83,slow=6.3,SNR=8.1							
KAPI				LR		LR	06 33 06.8	
	comp=Z,484nm,20.8s,baz=81,slow=37							
KAPI	**Kappang**	**8.42**	**249**	P		**Pn**	**06 29 53.5**	**+2.6**
KAPI	**Kappang**	**8.42**	**249**	Pn		**Pn**	**06 29 53.5**	**+2.6**
EDFI	**Ende, Flores**	**8.94**	**221**	P		Pn	06 30 03.5	+5.2
BATI	**Baumata**	**9.06**	**206**	Pn		Pn	06 30 06.5	+6.7
	5.2nm,0.3s,baz=285,slow=7.8,SNR=1.7							
BATI				LR		LR	06 33 45.4	
	comp=Z,2μm,18.5s,baz=14,slow=39							
KCP	**Kidapawan**	**9.30**	**344**	⇑*e*P		**Pn**	**06 30 04.9**	**+1.8**
MTN	**Manton Dam**	**11.32**	**162**	Pn		**Pn**	**06 30 32.5**	**+1.7**
MYLDM	**Lahad Datu**	**11.58**	**308**			**Pn**	**06 30 36.2**	**+1.9**
SPMM	**Sapulut**	**12.99**	**301**	P		**Pn**	**06 30 58.0**	**+4.3**
KNRA	**Kununurra**	**13.64**	**175**	Pn		**Pn**	**06 31 03.2**	**+0.7**
KKM	**Kota Kinabalu**	**13.92**	**305**	Pn		**Pn**	**06 31 05.4**	**-1.0**
SBUM	**Sibu**	**16.03**	**286**	Pn		**Pn**	**06 31 34.1**	**-0.3**
SBUM	**Sibu**	**16.03**	**286**	P		**P**	**06 31 37.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**16.12**	**187**	Pn		**Pn**	**06 31 35.8**	**+0.2**
	1.0nm,0.3s,baz=35,slow=9.5,SNR=22							
FITZ	**Fitzroy Crossi**	**16.12**	**187**	Pn		**Pn**	**06 31 35.3**	**-0.3**
TGY	**Tagaytay City**	**17.32**	**338**	P		**Pn**	**06 31 49.6**	**-1.1**
	32nm,0.3s,baz=298,slow=1.6,SNR=3.2							
KSM	**Kuching**	**17.66**	**281**			**Pn**	**06 31 53.7**	**-1.2**
KSM	**Kuching**	**17.66**	**281**	P		**P**	**06 31 58.0**	**+2.3**
WB0	**Warramunga Arr**	**18.86**	**160**	P		**P**	**06 32 08.0**	**-0.9**
WB0				IAmb		IAmb	06 32 09.6	
	comp=Z,41nm,0.7s							
WRAB	**Tennant Creek**	**19.00**	**160**	*ce*P		**P**	**06 32 10.1**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,57nm,1.0s							
WRAB	**Tennant Creek**	**19.00**	**160**	P		**P**	**06 32 09.6**	**-0.8**
WRAB				IAmb		IAmb	06 32 11.9	
	comp=Z,51nm,0.8s							
WRA	**Warramunga Arr**	**19.00**	**160**	P		**P**	**06 32 09.8**	**-0.8**
	comp=Z,5.5nm,0.3s,baz=338,slow=11,SNR=144							
WRA				S		**Sn**	**06 35 34.8**	**-8.8**
	comp=Z,0.3nm,0.3s,baz=344,slow=21,SNR=9.0							
WRA				LR		LR	06 40 48.6	
	comp=Z,324nm,18.8s,baz=340,slow=41							
WRA	**Warramunga Arr**	**19.00**	**160**	P		**P**	**06 32 08.4**	**-2.1**
WB2	**Warramunga Arr**	**19.01**	**160**	P		**P**	**06 32 09.0**	**-1.6**
WB2				IAmb		IAmb	06 32 12.0	
	comp=Z,62nm,0.8s							
WR0	**Warramunga Arr**	**19.09**	**160**	P		**P**	**06 32 10.7**	**-0.7**
COEN	**Coen**	**19.43**	**129**			**P**	**06 32 15.2**	**+0.1**
COEN				IAmb		IAmb	06 32 17.2	
	comp=Z,76nm,0.7s							
CISI	**Cisompet, Garu**	**20.50**	**254**	P		**P**	**06 32 27.2**	**+0.3**
CISI	**Cisompet, Garu**	**20.50**	**254**	P		**P**	**06 32 27.2**	**+0.3**
CISI				IAmb		IAmb	06 32 29.0	
	comp=Z,76nm,1.0s							
PSA00	**Pilbara Seismi**	**20.89**	**201**	P		**P**	**06 32 30.8**	**-0.1**
PSA00	**Pilbara Seismi**	**20.89**	**201**	P		**P**	**06 32 29.7**	**-1.2**
PSA00				IAmb		IAmb	06 32 50.5	
	comp=Z,15nm,0.7s							
AS31	**Alice Springs**	**22.38**	**165**	P		**P**	**06 32 46.5**	**-0.6**
ASAR	**Alice Springs**	**22.38**	**165**	P		**P**	**06 32 46.2**	**-0.9**
	comp=Z,48nm,0.6s,baz=343,slow=12,SNR=456							
ASAR				PcP		**PcP**	**06 36 42.4**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=2.1,slow=1.4,SNR=4.3							
ASAR				S		**S**	**06 36 49.4**	**-2.4**
	comp=Z,12nm,0.9s,baz=340,slow=13,SNR=16							
ASAR				LR		LR	06 41 56.9	
	comp=Z,206nm,19.1s,baz=2.5,slow=38							
ASAR	**Alice Springs**	**22.38**	**165**	P		**P**	**06 32 46.1**	**-1.0**
KLSI		**23.02**	**263**	P		**P**	**06 32 54.0**	**+0.2**
	comp=Z,18nm,1.2s							
DLV	**T Lat**	**23.53**	**306**	P		**P**	**06 32 59.8**	**+0.6**
DLV				IAmb		IAmb	06 33 01.0	
	comp=Z,47nm,1.0s							
MDSI	**Maura Dua**	**23.54**	**263**	P		**P**	**06 33 00.0**	**+0.9**
	comp=Z,64nm,1.0s							
CTA	**Charters Tower**	**25.58**	**136**	P		**P**	**06 33 20.5**	**+2.7**
	comp=Z,6.8nm,0.6s,baz=316,slow=13,SNR=10							
CTAO	**Charters Tower**	**25.58**	**136**	P		**P**	**06 33 17.4**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,42nm,1.4s							
CTAO	**Charters Tower**	**25.58**	**136**	P		**P**	**06 33 17.4**	**-0.4**
CTAO				IAmb		IAmb	06 33 32.9	
	comp=Z,42nm,1.4s							
YULB	**Yu-li**	**25.98**	**347**	P		**P**	**06 33 20.6**	**-0.7**
YULB				IAmb		IAmb	06 33 23.0	
	comp=Z,41nm,1.2s							
TPUB	**Ta-pu**	**26.05**	**345**	P		**P**	**06 33 20.8**	**-1.2**
SSLB	**Suanglung**	**26.44**	**346**	P		**P**	**06 33 24.4**	**-1.1**
SSLB				IAmb		IAmb	06 33 32.8	
	comp=Z,64nm,1.3s							
YHNB	**Yeheng**	**27.19**	**347**	P		**P**	**06 33 31.3**	**-1.0**
YHNB				IAmb		IAmb	06 33 34.5	
	comp=Z,38nm,0.9s							
QIZ	**Qiongzhong**	**27.25**	**321**	P		**P**	**06 33 33.0**	**+0.2**
QIZ				S		**S**	**06 38 12.0**	**+1.4**
QIZ				pmax		pmax		
	comp=Z,23nm,1.2s							
QIZ				LR		LR		
	comp=Z,150nm,19.1s							
QIZ				LR		LR		
	comp=Z,220nm,17.1s							
IPM	**Ipoh**	**27.35**	**284**	P		**P**	**06 33 35.0**	**+1.2**
IPM				IAmb		IAmb	06 33 40.3	
	comp=Z,30nm,1.0s							
IPM	**Ipoh**	**27.35**	**284**	P		**P**	**06 33 37.0**	**+3.1**
UBPT	**Khong Chiam**	**27.84**	**309**	P		**P**	**06 33 38.1**	**0.0**
UBPT				IAmb		IAmb	06 33 42.4	
	comp=Z,30nm,1.3s							
KULM	**Kulim**	**27.91**	**285**	P		**P**	**06 33 41.0**	**+2.2**
FORT	**Forrest**	**28.63**	**179**	P		**P**	**06 33 43.0**	**-2.1**
RPSI	**Rantau Prapat**	**29.07**	**279**	P		**P**	**06 33 47.5**	**-1.6**
RPSI	**Rantau Prapat**	**29.07**	**279**	P		**P**	**06 33 50.0**	**+0.8**
PSI	**Prapat**	**29.09**	**279**	P		**P**	**06 33 50.0**	**+0.5**
	comp=Z,7.8nm,0.4s,baz=344,slow=1.9,SNR=4.5							
PSI	**Prapat**	**29.09**	**279**	P		**P**	**06 33 50.0**	**+0.5**
STKA	**Stephens Creek**	**32.51**	**158**	P		**P**	**06 34 19.8**	**+0.5**
	comp=Z,10nm,0.7s,baz=325,slow=9.2,SNR=17							
STKA				LR		LR	06 48 48.7	
	comp=Z,123nm,18.4s,baz=1.2,slow=39							
STKA	**Stephens Creek**	**32.51**	**158**	P		**P**	**06 34 19.8**	**+0.5**
SLVN	**Son La**	**32.81**	**316**	P		**P**	**06 34 22.6**	**+0.5**
SLVN				IAmb		IAmb	06 34 25.0	
	comp=Z,16nm,1.0s							
WHN	**Wuhan**	**34.75**	**340**	⇓P		**P**	**06 34 39.8**	**+1.0**
WHN				pmax		pmax		
	comp=Z,150nm,1.4s							
CMAR	**Chiang Mai Arr**	**34.78**	**307**	P		**P**	**06 34 40.5**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=138,slow=7.8,SNR=32							
CMAR				PcP		**PcP**	**06 37 14.6**	**+2.0**
	comp=Z,2.7nm,0.7s,baz=169,slow=2.1,SNR=9.9							
CMAR				LR		LR	06 50 20.0	
	comp=Z,58nm,18.9s,baz=174,slow=39							
CMAR	**Chiang Mai Arr**	**34.78**	**307**	P		**P**	**06 34 40.1**	**+0.8**
CMAR							06 37 14.3	
CMAR	**Chiang Mai Arr**	**34.78**	**307**	P		**P**	**06 34 40.1**	**+0.8**
CMAR				PcP		**PcP**	**06 37 14.3**	**+1.7**
GYA	**Guiyang**	**34.79**	**326**	⇓P		**P**	**06 34 40.6**	**+1.3**
GYA				pP		sP	06 34 51.4	+2.1
GYA				PP		**PnPn**	**06 35 56.9**	**+0.9**
GYA				S		**S**	**06 40 11.0**	**+2.4**
GYA				sS		sS	06 40 26.1	+4.5
GYA				pmax		pmax		
	comp=Z,29nm,1.1s							
NJ2	**Nanjing**	**34.87**	**347**	*e*P		**P**	**06 34 40.1**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,17nm,0.5s							
CHTO	**Chiang Mai**	**34.98**	**308**	P		**P**	**06 34 40.4**	**-0.5**
CHTO				pmax		pmax		
	comp=Z,22nm,0.9s							
CHTO	**Chiang Mai**	**34.98**	**308**	P		**P**	**06 34 40.4**	**-0.5**
CHTO				IAmb		IAmb	06 34 42.9	
	comp=Z,22nm,0.8s							
KMI	**Kunming**	**36.18**	**320**	⇑*e*P		**P**	**06 34 53.3**	**+1.9**
KMI				pP		sP	06 35 03.3	+1.9
KMI				sP		pP	06 35 07.3	+8.2
KMI				pmax		pmax		
	comp=Z,39nm,1.3s							
KMI	**Kunming**	**36.18**	**320**	P		**P**	**06 34 53.1**	**+1.7**
KMI				pmax		pmax		
	comp=Z,37nm,1.0s							
KMI	**Kunming**	**36.18**	**320**	P		**P**	**06 34 53.1**	**+1.7**
ENH	**Enshi**	**36.46**	**333**	P		**P**	**06 34 53.0**	**-0.5**
ENH				IAmb		IAmb	06 34 56.2	
	comp=Z,28nm,0.9s							
JHJ	**Hachijo jima 2**	**36.76**	**17**	LR		LR	06 48 23.4	
	comp=Z,84nm,19.8s,baz=281,slow=34							
JWT	**Wachi**	**37.79**	**10**	P		**P**	**06 35 02.4**	**-2.3**
JWT				IAmb		IAmb	06 35 05.9	
	comp=Z,33nm,1.3s							
INU	**Inuyama**	**38.17**	**12**	P		**P**	**06 35 06.9**	**-1.1**
INU				IAmb		IAmb	06 35 08.8	
	comp=Z,21nm,0.9s							
KSRS	**Korea Array**	**39.25**	**0**	P		**P**	**06 35 15.8**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=178,slow=11,SNR=8.6							
KSRS				LR		LR	06 50 33.7	
	comp=Z,97nm,21.7s,baz=177,slow=35							
MJAR	**Matsushiro Arr**	**39.59**	**13**	P		**P**	**06 35 18.3**	**-1.5**
	comp=Z,10nm,1.0s,baz=188,slow=9.7,SNR=14							
MJAR				PcP		**PcP**	**06 37 27.7**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=171,slow=3.1,SNR=4.4							
MJAR				LR		LR	06 48 43.7	
	comp=Z,150nm,21.6s,baz=200,slow=32							
MJAR	**Matsushiro Arr**	**39.59**	**13**	P		**P**	**06 35 17.8**	**-2.0**
MJAR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MJAR	**Matsushiro Arr**	**39.59**	**13**	P		**P**	**06 35 17.8**	**-2.0**
MAJO	**Matsushiro**	**39.59**	**13**	P		**P**	**06 35 19.2**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,15nm,1.0s							
MAJO	**Matsushiro**	**39.59**	**13**	P		**P**	**06 35 19.2**	**-0.6**
MAT	**Matsushiro**	**39.59**	**13**	P		**P**	**06 35 18.1**	**-1.7**
MAT				S		**S**	**06 41 19.0**	**-2.1**
CD2	**Chengdu**	**39.84**	**327**	P		**P**	**06 35 22.3**	**+0.2**
CD2				S		**S**	**06 41 26.0**	**+0.8**
CD2				pmax		pmax		
	comp=Z,30nm,1.0s							
CD2				pmax		pmax		
	comp=Z,130nm,7.4s							
CD2				LR		LR		
	comp=Z,340nm,11.6s							
XAN	**Xi'an**	**39.94**	**335**	⇑P		**P**	**06 35 21.6**	**-1.2**
XAN				pP		sP	06 35 35.0	+2.3
XAN				sP		pP	06 35 40.8	+10
XAN				PcP		**PcP**	**06 37 28.8**	**+0.8**
XAN				pmax		pmax		
	comp=Z,17nm,0.9s							
XAN				LR		LR		
	comp=Z,150nm,18.4s							
XAN	**Xi'an**	**39.94**	**335**	P		**P**	**06 35 22.2**	**-0.6**
XAN				pmax		pmax		
	comp=Z,28nm,1.3s							
XAN	**Xi'an**	**39.94**	**335**	P		**P**	**06 35 22.2**	**-0.6**
XAN				IAmb		IAmb	06 35 32.0	
	comp=Z,28nm,1.3s							
JMM	**Marumori**	**41.49**	**16**	P		**P**	**06 35 34.9**	**-0.6**
JMM				IAmb		IAmb	06 35 37.5	
	comp=Z,20nm,0.7s							
KOHI	**KOHIMA**	**42.55**	**313**	*e*P		**P**	**06 35 45.0**	**+0.4**
MOKO	**MOKOCHONG**	**42.61**	**314**	*e*P		**P**	**06 35 45.7**	**+0.7**
DZM	**Mont Dzumac**	**42.67**	**121**	*e*LR		LR	06 47 37.6	
	comp=Z,180nm,27.6s							
BJT	**Baijiatuan**	**43.11**	**347**	P		**P**	**06 35 47.5**	**-1.2**
BJT				pmax		pmax		
	comp=Z,9.0nm,0.9s							
BJT	**Baijiatuan**	**43.11**	**347**	P		**P**	**06 35 47.5**	**-1.2**
LZH	**Lanzhou**	**43.91**	**332**	*e*P		**P**	**06 35 56.6**	**+1.2**
LZH				pP		sP	06 36 06.3	+1.0
LZH				sP		pP	06 36 10.9	+7.9
LZH				PP		**PcP**	**06 37 45.0**	**+3.7**
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH				pmax		pmax		
	comp=Z,55nm,4.3s							
LZH				LR		LR		
	comp=Z,140nm,12.2s							
LZH				LR		LR		
	comp=Z,180nm,13.7s							
LZH				LR		LR		
	comp=Z,170nm,15.9s							
TEZP	**TEZPUR**	**44.03**	**313**	*e*P		**P**	**06 35 57.1**	**+0.8**
TEZP				IAmb		IAmb	06 35 59.6	
	comp=Z,37nm,0.8s							
SHL	**Shillong**	**44.13**	**311**	*e*P		**P**	**06 35 58.2**	**+0.8**
SHL	**Shillong**	**44.13**	**311**	P		**P**	**06 35 57.7**	**+0.4**
SHL				pmax		pmax		
	comp=Z,133nm,0.7s							
SHL	**Shillong**	**44.13**	**311**	P		**P**	**06 35 57.7**	**+0.4**
JTM	**Tenmabayashi**	**44.31**	**15**	P		**P**	**06 35 57.6**	**-0.7**
GUWA	**GUWAHATI**	**44.62**	**311**	*e*P		**P**	**06 36 01.6**	**+0.6**
GUWA				IAmb		IAmb	06 36 04.0	
	comp=Z,48nm,0.8s							
HHC	**Hu-ho-hao-te**	**45.09**	**343**	*e*P		**P**	**06 36 05.0**	**+0.3**
HHC				pmax		pmax		
	comp=Z,19nm,0.7s							
HHC				pmax		pmax		
	comp=Z,100nm,5.7s							
CN2	**Changchun**	**45.63**	**358**	*e*P		**P**	**06 36 09.5**	**+0.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
USA0B	**Ussuriysk Arra**	**46.15**	**4**	P		**P**	**06 36 11.0**	**-1.9**
USA0B				pmax		pmax		
	comp=Z,13nm,1.0s							
USA0B	**Ussuriysk Arra**	**46.15**	**4**	P		**P**	**06 36 10.9**	**-1.9**
USA0B				IAmb		IAmb	06 36 12.9	
	comp=Z,12nm,0.9s							
USRK	**Ussuriysk Ar.**	**46.15**	**4**	P		**P**	**06 36 11.9**	**-1.0**
	comp=Z,4.9nm,0.5s,baz=189,slow=7.6,SNR=12							
USRK				LR		LR	06 55 35.7	
	comp=Z,86nm,19.2s,baz=157,slow=36							
USRK	**Ussuriysk Ar.**	**46.15**	**4**	P		**P**	**06 36 11.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**46.15**	**4**	P		**P**	**06 36 11.8**	**-1.1**
MDJ	**Mudanjiang**	**46.44**	**2**	P		**P**	**06 36 14.4**	**-0.7**
MDJ				pmax		pmax		
	comp=Z,19nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,240nm,3.4s							
MDJ	**Mudanjiang**	**46.44**	**2**	P		**P**	**06 36 15.0**	**-0.1**
MDJ				IAmb		IAmb	06 36 15.7	
	comp=Z,12nm,0.8s							
LSA	**Lhasa**	**46.99**	**315**	P		**P**	**06 36 21.8**	**+1.5**
LSA	**Lhasa**	**46.99**	**315**	P		**P**	**06 36 21.7**	**+1.5**
LSA				pmax		pmax		
	comp=Z,41nm,0.8s							
LSA	**Lhasa**	**46.99**	**315**	P		**P**	**06 36 21.7**	**+1.4**
ASAJ	**Asahikawa**	**47.82**	**15**	LR		LR	06 56 34.8	
	comp=Z,148nm,18.8s,baz=270,slow=36							
ASAJ	**Asahikawa**	**47.82**	**15**	P		**P**	**06 36 25.6**	**-0.3**
ASAJ				pmax		pmax		
	comp=Z,95nm,1.4s							
JKA	**Kamikawa-asahi**	**47.82**	**15**	P		**P**	**06 36 25.6**	**-0.3**
GTA	**Gaotai**	**48.48**	**331**	P		**P**	**06 36 31.6**	**+0.3**
GTA				pP		sP	06 36 41.9	+0.6
GTA				sP		pP	06 36 46.1	+7.1
GTA				PcP		**PcP**	**06 37 58.4**	**+1.2**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,82nm,5.6s							
GTA				LR		LR		
	comp=Z,94nm,18.2s							
GTA				LR		LR		
	comp=Z,140nm,20.4s							
GTA				LR		LR		
	comp=Z,120nm,17.8s							
HYB	**Hyderabad**	**52.07**	**294**	*i* P		**P**	**06 36 59.0**	**+0.3**
ULN	**Ulaanbaatar**	**52.81**	**343**	P		**P**	**06 37 03.4**	**-0.4**
ULN							06 38 13.4	
ULN				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ULN	**Ulaanbaatar**	**52.81**	**343**	P		**P**	**06 37 03.4**	**-0.4**
ULN						**PcP**	**06 38 13.4**	**+0.4**
SONM	**Songino Array**	**52.98**	**342**	P		**P**	**06 37 04.6**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=155,slow=7.6,SNR=13							
SONM				PcP		**PcP**	**06 38 13.9**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=162,slow=4.2,SNR=12							
SONM	**Songino Array**	**52.98**	**342**	P		**P**	**06 37 04.0**	**-1.1**
SONM							06 38 13.7	
SONM				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**52.98**	**342**	P		**P**	**06 37 04.0**	**-1.1**
SONM						**PcP**	**06 38 13.7**	**+0.1**
BHPL	**Bhopal**	**54.92**	**300**	*e*P		**P**	**06 37 19.6**	**+0.1**
BHPL				IAmb		IAmb	06 37 21.0	
	comp=Z,10.0nm,0.7s							
TUWZ	**Tuamarina**	**57.19**	**140**	P		**P**	**06 37 36.6**	**+1.2**
BHW	**Baring Head**	**57.78**	**139**	P		**P**	**06 37 40.7**	**+1.1**
BKZ	**Black Stump Fm**	**57.80**	**136**	P		**P**	**06 37 41.6**	**+1.7**
BKZ				IAmb		IAmb	06 37 45.2	
	comp=Z,11nm,0.8s							
WMQ	**Urumqi**	**57.94**	**327**	P		**P**	**06 37 41.8**	**+1.0**
WMQ				pP		sP	06 37 55.5	+4.5
WMQ				pmax		pmax		
	comp=Z,15nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,78nm,4.9s							
MOY	**Mondy**	**58.04**	**341**	*e*P		**P**	**06 37 42.4**	**+1.0**
SMLA	**Simla**	**58.15**	**309**	*e*P		**P**	**06 37 42.8**	**+0.5**
SMLA				IAmb		IAmb	06 37 45.0	
	comp=Z,34nm,0.9s							
DHRM	**DHARAMSHALA**	**59.29**	**310**	*e*P		**P**	**06 37 50.6**	**0.0**
PEA0B	**Petropavlovsk-**	**60.41**	**20**	P		**P**	**06 37 58.5**	**+0.9**
PEA0B				pmax		pmax		
	comp=Z,63nm,1.6s							
PEA0B	**Petropavlovsk-**	**60.41**	**20**	P		**P**	**06 37 58.5**	**+0.9**
PETK	**Petropavlovsk-**	**60.41**	**20**	P		**P**	**06 37 58.5**	**+1.0**
	comp=Z,12nm,0.9s,baz=183,slow=5.5,SNR=12							
PETK				PcP		**PcP**	**06 38 43.0**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=193,slow=5.9,SNR=2.0							
PETK	**Petropavlovsk-**	**60.41**	**20**	P		**P**	**06 37 56.7**	**-0.9**
PETK	**Petropavlovsk-**	**60.41**	**20**	P		**P**	**06 37 56.7**	**-0.9**
PET	**Petropavlovsk**	**60.67**	**21**	*i* P		**P**	**06 37 59.4**	**+0.1**
PET				pmax		pmax		
	comp=Z,117nm,1.1s							
DGZ	**Jazzator, Alta**	**62.01**	**332**	*i* P		**P**	**06 38 08.3**	**-0.4**
DGZ				pmax		pmax		
	comp=Z,6.0nm,1.3s							
SHLS	**Shalkode**	**62.34**	**322**	*e*P		**P**	**06 38 08.1**	**-3.0**
SHLS	**Shalkode**	**62.34**	**322**	*e*P		**P**	**06 38 08.0**	**-3.0**
UZB	**Uzynbulak**	**62.61**	**322**	*e*P		**P**	**06 38 11.3**	**-1.6**
UZB	**Uzynbulak**	**62.61**	**322**	*e*P		**P**	**06 38 11.2**	**-1.6**
KSH	**Kashi**	**62.76**	**317**	P		**P**	**06 38 15.1**	**+1.2**
KSH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MKAR	**Makanchi Array**	**62.77**	**327**	P		**P**	**06 38 13.1**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=127,slow=7.8,SNR=13							
SATY	**Saty**	**62.94**	**321**	*e*P		**P**	**06 38 14.3**	**-0.8**
SATY	**Saty**	**62.94**	**321**	*e*P		**P**	**06 38 14.2**	**-0.8**
MAKZ	**Makanchi**	**62.95**	**327**	P		**P**	**06 38 13.2**	**-1.7**
MAKZ				pmax		pmax		
	comp=Z,7.0nm,0.5s							
MAKZ	**Makanchi**	**62.95**	**327**	P		**P**	**06 38 13.2**	**-1.7**
MAKZ				IAmb		IAmb	06 38 26.7	
	comp=Z,6.6nm,0.5s							
KDJ	**Kajisay**	**63.24**	**320**	P		**P**	**06 38 17.5**	**+0.4**
KDJ				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KDJ	**Kajisay**	**63.24**	**320**	P		**P**	**06 38 17.5**	**+0.4**
KDJ				IAmb		IAmb	06 38 18.4

comp=Z,8.0nm,1.1s
KK31 Karatay Array 68.05 318 P **P** 06 38 46.9 -1.0
KKAR Karatay Array 68.05 318 P **P** 06 38 47.0 -1.0
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 68.05 318 P **P** 06 38 46.8 -1.2
KKAR Karatay Array 68.05 318 P **P** 06 38 47.0 -1.0
BRZS Berezniki 69.87 326 *eP* **P** 06 38 56.1 -3.0
BRZS Berezniki 69.87 326 *eP* **P** 06 38 57.0 -2.1
BRVK Borovoye 72.67 328 *ceP* **P** 06 39 15.4 -0.6
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 72.67 328 P **P** 06 39 15.0 -1.0
TIXI Tiksi 73.52 0 *ceP* **P** 06 39 20.8 +0.2
TIXI pmax pmax
comp=Z,27nm,0.8s
TIXI Tiksi 73.52 0 P **P** 06 39 19.4 -1.2
TIXI IAmb IAmb 06 39 21.2
comp=Z,8.3nm,0.5s
SOCY Socotra 74.46 283 P **P** 06 39 25.3 -2.1
BILL Bilibino 74.84 14 ⇓*eP* **P** 06 39 25.7 -2.7
BILL *e* 06 39 43.0
BILL *e* 06 42 19.9
BILL *eS* S 06 49 23.7 +20
BILL pmax pmax
comp=Z,8.0nm,1.3s
GEYT Alibeck 75.20 310 P **P** 06 39 30.4 -0.8
comp=Z,2.1nm,0.4s,baz=79,slow=7.5,SNR=2.4
GEYT Alibeck 75.20 310 P **P** 06 39 30.3 -0.9
NRIK Noril'sk 76.17 346 P **P** 06 39 36.4 +0.5
comp=Z,3.6nm,0.7s,baz=113,slow=6.2,SNR=7.0
ABKAR Akbulak array 77.14 322 P **P** 06 39 39.8 -2.1
ABKAR Akbulak array 77.14 322 P **P** 06 39 40.1 -1.9
VNDA Vanda 77.67 173 P **P** 06 39 45.7 +1.3
comp=Z,4.1nm,0.9s,baz=311,slow=6.6,SNR=13
VNDA LR LR 07 12 01.8
comp=Z,50nm,20.6s,baz=4.0,slow=34
VNDA Vanda 77.67 173 P **P** 06 39 45.9 +1.6
AKUT Akutan 78.13 33 P **P** 06 39 48.2 +0.9
MAW Mawson 78.74 201 P **P** 06 39 52.8 +2.4
comp=Z,4.0nm,0.9s,baz=47,slow=7.3,SNR=7.8
MAW LR LR 07 11 40.7
comp=Z,27nm,20.9s,baz=58,slow=33
MAW Mawson 78.74 201 P **P** 06 39 52.6 +2.2
MAW pmax pmax
comp=Z,3.0nm,1.4s
MAW Mawson 78.74 201 P **P** 06 39 52.6 +2.2
ARU Arti 80.24 328 *c iP* **P** 06 39 58.5 -0.3
ARU 06 43 02.2
ARU S **S** 06 50 04.9 +2.6
ARU SS **SS** 06 55 12.6 -1.0
ARU pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 80.24 328 P **P** 06 39 57.7 -1.0
PPT2 Papeete2 82.53 107 *e* LR LR 07 06 04.3
comp=Z,47nm,21.0s
TBI Tubuai 82.70 113 *e* LR LR 07 06 09.4
comp=Z,311nm,39.5s
SVW2 Sparrevohn 85.37 28 P **P** 06 40 25.3 -0.1
TTA Tatalina 85.58 26 P **P** 06 40 27.5 +1.0
TTA pmax pmax
comp=Z,10.0nm,1.1s
TTA Tatalina 85.58 26 P **P** 06 40 27.4 +1.0
TTA IAmb IAmb 06 40 29.1
comp=Z,10nm,1.1s
IMAR Indian Mountai 87.18 24 P **P** 06 40 33.4 -0.7
SKT Skwentna 87.44 28 P **P** 06 40 34.7 -0.9
SKT IAmb IAmb 06 40 35.8
comp=Z,15nm,1.1s
SYO Syowa Base 87.44 201 ⇓ *iP* **P** 06 40 36.0 +0.6
SYO Syowa Base 87.44 201 ⇑ *epP* pP 06 40 43.2 +0.3
KIV Kislovodsk 87.73 314 *eP* **P** 06 40 37.0 -0.4
KIV pmax pmax
comp=Z,24nm,1.1s
SUA Susitna One 87.73 28 P **P** 06 40 37.1 +0.1
QSPA South Pole Qui 87.95 180 P **P** 06 40 38.7 +0.6
CUT Chulitna 88.09 27 P **P** 06 40 39.5 +0.9
baz=262
O22K Cooper Landing 88.09 29 P **P** 06 40 38.9 +0.3
baz=263
MLY Manley 88.25 25 P **P** 06 40 39.3 -0.1
baz=262
GHO Glory Hole Cre 88.63 28 P **P** 06 40 38.8 -2.5
COLD Coldfoot 88.79 23 P **P** 06 40 41.6 -0.1
baz=262
COLD Coldfoot 88.79 23 P **P** 06 40 41.8 0.0
COLD IAmb IAmb 06 40 43.4
comp=Z,10nm,0.9s
I23K Minto, Yukon-K 88.85 25 P **P** 06 40 42.4 +0.3
baz=263
MCK McKinley 88.86 26 P **P** 06 40 42.1 -0.1
baz=263
NEA2 Nenana 88.91 25 P **P** 06 40 42.7 +0.3
baz=263
TOLK Toolik Lake Re 89.21 21 P **P** 06 40 43.9 +0.1
baz=262
MDM Murphy Dome 89.30 25 P **P** 06 40 43.7 -0.6
MDM IAmb IAmb 06 40 46.8
comp=Z,7.8nm,1.0s
WRH Wood River Hil 89.31 26 P **P** 06 40 43.7 -0.6
WRH IAmb IAmb 06 40 44.8
comp=Z,6.6nm,0.8s
SCM Sheep Creek Mo 89.39 28 P **P** 06 40 43.0 -1.9
SCM pmax pmax
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 89.39 28 P **P** 06 40 43.0 -1.9
TCOL CIGO, UAF Yank 89.45 25 P **P** 06 40 44.9 0.0
baz=264
CCB Clear Creek Bu 89.45 25 P **P** 06 40 43.6 -1.3
CCB IAmb IAmb 06 40 45.8
comp=Z,11nm,1.0s
COLA College 89.45 25 *i P* **P** 06 40 45.2 +0.3
COLA pmax pmax
comp=Z,4.0nm,0.8s
HDA Harding Lake 89.80 26 P **P** 06 40 45.4 -1.2
baz=265
HDA Harding Lake 89.80 26 P **P** 06 40 44.7 -1.9
HDA IAmb IAmb 06 40 47.0
comp=Z,12nm,1.0s
IL31 89.86 25 P **P** 06 40 45.3 -1.5
IL31 IAmb IAmb 06 40 46.2
comp=Z,6.8nm,1.1s
ILAR Eielson Array 89.86 25 P **P** 06 40 45.6 -1.2
comp=Z,3.1nm,0.7s,baz=240,slow=5.2,SNR=37
ILAR Eielson Array 89.86 25 P **P** 06 40 44.9 -2.0
ILAR Eielson Array 89.86 25 P **P** 06 40 44.9 -2.0
KMBO Kilima Mbogo 90.34 269 P **P** 06 40 53.2 +2.7
comp=Z,2.1nm,0.8s,baz=7.8,slow=3.0,SNR=4.3
KMBO Kilima Mbogo 90.34 269 P **P** 06 40 50.5 0.0
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 90.34 269 P **P** 06 40 50.5 0.0
RIDG Independent Ri 90.67 26 P **P** 06 40 50.4 -0.3
N25K Chitina, Valde 90.67 29 P **P** 06 40 51.5 +0.7
baz=267
BMAR Burnt Mountain 90.97 23 P **P** 06 40 52.0 -0.1
DOT Dot Lake 91.02 26 P **P** 06 40 52.0 -0.3
DOT IAmb IAmb 06 40 53.6
comp=Z,7.5nm,0.8s
SCRK Sand Creek 91.06 26 P **P** 06 40 53.0 +0.4
baz=268
K27K Chicken 91.91 26 P **P** 06 40 57.6 +1.2
baz=269
BCAR Beaver Creek A 92.03 27 P **P** 06 40 57.0 -0.1
BARN Barnard Glacie 92.08 29 P **P** 06 40 56.2 -1.3
OBN Obninsk 92.23 325 *i P* **P** 06 40 56.5 -1.5
OBN *e* 06 44 43.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,48nm,13.0s
CTGM Chitina Glacie 92.23 29 P **P** 06 40 58.5 +0.4
EGAK Eagle 92.31 25 P **P** 06 40 58.0 -0.2
EGAK IAmb IAmb 06 40 59.3
comp=Z,6.6nm,0.8s
APA Apatity 93.45 337 ⇓ *iP* P 06 40 49.2 -14
APA pmax pmax
comp=Z,7.0nm,1.1s
HYT Haines Junctio 94.11 29 P **P** 06 41 07.4 +0.6
BRTR Keskin Array B 94.34 310 LR LR 07 31 13.6
comp=Z,8.5nm,19.2s,baz=67,slow=40
INK Inuvik 95.12 22 P **P** 06 41 09.8 -1.2
comp=Z,5.1nm,0.8s,baz=306,slow=4.7,SNR=7.9
INK Inuvik 95.12 22 P **P** 06 41 10.8 -0.2
INK IAmb IAmb 06 41 11.5
comp=Z,4.8nm,0.8s
WHY Whitehorse 95.41 29 P **P** 06 41 12.9 +0.2
ARCES ARCESS Array B 96.10 340 P **P** 06 41 14.2 -1.4
comp=Z,2.7nm,0.7s,baz=82,slow=6.6,SNR=6.2
ARCES LR LR 07 30 04.1
comp=Z,37nm,18.4s,baz=340,slow=39
AKASG Malin Array Be 96.87 321 LR LR 07 29 01.0
comp=Z,21nm,19.8s,baz=65,slow=38
AKASG Malin Array Be 96.87 321 *i P* **P** 06 41 21.3 +1.9
AKASG pmax pmax
comp=Z,3.0nm,0.5s
SNAA Sanae 99.93 194 *i P* **Pdif** 06 41 34.1 +1.3
SNAA pmax pmax
comp=Z,2.0nm,1.3s
TORD Torodi Ar. Bea 125.39 285 PKP **PKiKP** 06 46 50.9 +0.3
comp=Z,1.6nm,0.7s,baz=62,slow=2.0,SNR=11
TORD Torodi Ar. Bea 125.39 285 **PKiKP** 06 46 50.6 0.0
PLCA Paso Flores 134.35 161 PKP **PKiKP** 06 47 09.0 +0.9
comp=Z,2.3nm,0.9s,baz=214,slow=6.7,SNR=3.4
PLCA Paso Flores 134.35 161 PKIKP **PKiKP** 06 47 09.0 +0.9
CPUP Villa Florida 151.44 171 PKP **PKPdf** 06 47 38.1 +1.3
comp=Z,2.6nm,1.0s,baz=200,slow=8.1,SNR=3.6
CPUP PKPbc **pPKPdf** 06 47 45.2 +0.6
comp=Z,12nm,0.9s,baz=197,slow=1.8,SNR=20

IDC 20 06:30:42.1±518.0, 38.83N×112.37E, h0km, Error ellipse: s-maj=240.2km s-min=167.8km az=14.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**9.96**	**336**	*i*		07 33 10.0	
	baz=152,slow=331,SNR=1.9						
I45RU	**USSURIYSK INFR**	**15.63**	**64**	*i*		08 11 46.1	
	baz=256,slow=315,SNR=2.3						
I30JP	**ISUMI INFRASON**	**22.54**	**90**	*i*		08 48 00.0	
	baz=290,slow=300,SNR=11						

SOME 20 06:35:41.7, 44.65N×82.23E, h20km
NNC 20 06:35:43.5±1.8, 44.66N×82.16E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=21.1km s-min=4.6km az=121.0
ISC 20 06:35:41.3±3.4, 44.64N±0.08×82.3E±0.1, h4km±21km, n16, σ0.66/26, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.80**	**261**	*eP*	**Pb**	**06 36 15.0**	**+0.1**
	9.7nm,0.4s						
DJR				*eS*	**Sg**	**06 36 39.0**	**-0.3**
	22nm,0.4s						
DJR	**Jarkent**	**1.80**	**261**	P	**Pb**	**06 36 15.0**	**+0.1**
	9.7nm,0.4s						
DJR				S	**Sg**	**06 36 39.5**	**+0.3**
	22nm,0.4s						
MK31	**Makanchi Array**	**2.15**	**0**	⇑Pn	**Pb**	**06 36 20.8**	**-0.1**
	9.3nm,0.3s,baz=186,slow=16,SNR=223						
MK31				⇑Sn	**Sb**	**06 36 48.8**	**+0.9**
	10.0nm,0.4s,baz=186,slow=28,SNR=29						
MAKZ	**Makanchi**	**2.17**	**355**	⇑Pn	**Pb**	**06 36 20.7**	**-0.6**
	5.1nm,0.5s						
MAKZ				⇑Sn	**Sb**	**06 36 48.9**	**+0.3**
	24nm,0.4s						
PDGK	**Podgornoye**	**2.40**	**238**	Pg	**Pb**	**06 36 24.9**	**-0.2**
	2.0nm,0.3s						
PDGK				Lg	Lg	06 36 56.1	
	18nm,0.4s						
PDGK	**Podgornoye**	**2.40**	**238**	⇓Pn	**Pb**	**06 36 24.2**	**-1.0**
	1.6nm,0.5s						
PDGK				⇑Sn	**Sb**	**06 36 55.9**	**+0.7**
	43nm,0.6s						
SHLS	**Shalkode**	**2.52**	**235**	*eP*	**Pn**	**06 36 23.3**	**+0.2**
	6.7nm,0.3s						
SHLS				*eS*	**Sn**	**06 36 53.3**	**-1.0**
	55nm,0.5s						
SHLS	**Shalkode**	**2.52**	**235**	Pg	**Pn**	**06 36 23.3**	**+0.2**
	6.7nm,0.3s						
SHLS				Lg	Lg	06 36 53.6	
	55nm,0.5s						
UZB	**Uzynbulak**	**2.78**	**239**	*eP*	**Pb**	**06 36 31.4**	**-0.3**
	2.2nm,0.2s						
UZB				*eS*	**Sb**	**06 37 07.1**	**+0.9**
	7.7nm,0.3s						
UZB	**Uzynbulak**	**2.78**	**239**	Pg	**Pb**	**06 36 31.4**	**-0.3**
	2.2nm,0.2s						
UZB				Lg	Lg	06 37 07.1	
	7.7nm,0.3s						
MNBS	**Baschi**	**2.83**	**260**	*eP*	**Pb**	**06 36 31.6**	**-0.9**
	4.7nm,0.4s						
MNBS				*eS*	**Sb**	**06 37 07.6**	**0.0**
	36nm,0.5s						
MNBS	**Baschi**	**2.83**	**260**	Pg	**Pb**	**06 36 31.6**	**-0.9**
	4.7nm,0.4s						
MNBS				Lg	Lg	06 37 07.8	
	36nm,0.5s						
ZHN	**Zhinishke**	**3.14**	**243**	*eP*	**Pb**	**06 36 37.7**	**-0.1**
	1.6nm,0.2s						
ZHN				*eS*	**Sb**	**06 37 17.8**	**+1.3**
	7.6nm,0.4s						
ZHN	**Zhinishke**	**3.14**	**243**	Pg	**Pb**	**06 36 37.7**	**-0.1**
	86nm,0.5s						
ZHN				Lg	Lg	06 37 17.8	
	7.6nm,0.4s						
SATY	**Saty**	**3.21**	**242**	*eP*	**Pb**	**06 36 38.5**	**-0.5**
	5.1nm,0.1s						
SATY				*eS*	**Sb**	**06 37 19.3**	**+0.8**
	27nm,0.4s						
SATY	**Saty**	**3.21**	**242**	Pg	**Pb**	**06 36 38.5**	**-0.5**
	5.1nm,0.1s						
SATY				Lg	Lg	06 37 19.3	
	27nm,0.4s						

IDC 20 06:44:15.9±1.3, 55.20N×162.14E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/50, mbtmp3.7/7, ML2.6/1, Error ellipse: s-maj=39.3km s-min=23.2km az=159.0
KRSC 20 06:44:18.2±0.9, 54.84N×162.24E, h48km±13km, ML4.1
ISC 20 06:44:19.4±1.1, 54.94N±0.03×162.18E±0.04, h28km±9km, n50, σ1.29/70, mb3.8/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.46**	**214**	*eP*	**Pb**	**06 44 28.6**	**-0.5**
MKZ				*eS*	**Sb**	**06 44 35.6**	**0.0**
TUMD	**Tumrok D**	**1.06**	**285**	*eP*	**Pn**	**06 44 38.5**	**+0.1**
TUMD				*eS*	**Sb**	**06 44 53.1**	**+0.6**
KZV	**Kizimen**	**1.10**	**280**	*eP*	**Pn**	**06 44 39.1**	**0.0**
KZV				*eS*	**Sn**	**06 44 54.3**	**+0.9**
TUMR	**Tumrok**	**1.22**	**287**	*eP*	**Pn**	**06 44 41.3**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.31**	**321**	*eP*	**Pb**	**06 44 43.1**	**-0.4**
BZGR				*eS*	**Sb**	**06 44 59.6**	**-0.4**
KBTR	**Krutoberegovo**	**1.33**	**16**	*eP*	**Pn**	**06 44 42.0**	**-0.1**
ZLN	**Zelenaya**	**1.34**	**325**	*eP*	**Pb**	**06 44 43.8**	**-0.1**
KBG	**Krutoberegovo**	**1.36**	**13**	*eP*	**Pb**	**06 44 43.7**	**-0.4**
KBG				*eS*	**Sb**	**06 45 03.3**	**+2.2**
KMNR	**Kamenistaya**	**1.38**	**307**	*iP*	**Pb**	**06 44 43.9**	**-0.7**
BZMR	**Bezymyannaya**	**1.39**	**317**	*eP*	**Pb**	**06 44 44.2**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.41**	**318**	*eP*	**Pb**	**06 44 44.2**	**-0.9**
LGNR	**Loginova**	**1.43**	**324**	*eP*	**Pb**	**06 44 45.3**	**-0.2**
CIRR	**Tsirk**	**1.44**	**326**	*eP*	**Pb**	**06 44 45.2**	**-0.4**
KIRR	**Kirishev**	**1.46**	**315**	*eP*	**Pb**	**06 44 45.4**	**-0.6**
KRSR	**Krestovskiy**	**1.58**	**325**	*eP*	**Pb**	**06 44 46.7**	**-1.3**
KLY	**Klyuchi**	**1.63**	**329**	*eP*	**Pn**	**06 44 46.8**	**+0.6**
KLY				*eS*	**Sb**	**06 45 08.2**	**-0.7**
SMKR	**Semkarok**	**1.70**	**347**	*eP*	**Pb**	**06 44 48.6**	**-1.4**
BDR	**Baidarnaya**	**1.73**	**342**	*eP*	**Pb**	**06 44 49.2**	**-1.3**
KOZ	**Kozyrevsk**	**1.73**	**312**	*eP*	**Pb**	**06 44 49.1**	**-1.4**
KII	**Karymskiy**	**1.83**	**242**	*eP*	**Pn**	**06 44 50.1**	**+1.1**
SRDR	**Srednynyy**	**1.96**	**316**	*eP*	**Pn**	**06 44 52.1**	**+1.2**
BKI	**Bering**	**2.20**	**81**	*eP*	**Pn**	**06 44 56.2**	**+2.1**
BKI				*eS*	**Sn**	**06 45 20.3**	**0.0**
ESO	**Esso**	**2.21**	**298**	*eP*	**Pn**	**06 44 55.2**	**+0.9**
SPN	**Mys Shipunski**	**2.24**	**215**	*eP*	**Pn**	**06 44 52.7**	**-1.9**
SPN				*eS*	**Sn**	**06 45 17.3**	**-3.9**
NLC	**Nalytchevo**	**2.43**	**225**	*eP*	**Pn**	**06 44 58.0**	**+0.8**
NLC				*eS*	**Sn**	**06 45 26.5**	**+0.5**
SDLR	**Sedlovina**	**2.55**	**231**	*eP*	**Pn**	**06 44 59.8**	**+0.8**
SDLR				*eS*	**Sn**	**06 45 30.1**	**+0.9**
KRER	**Koryakskii**	**2.60**	**232**	*eP*	**Pn**	**06 45 01.1**	**+1.4**
KRER				*eS*	**Sn**	**06 45 32.2**	**+1.8**
SMAR	**Somma**	**2.60**	**231**	*eP*	**Pn**	**06 45 00.8**	**+1.0**
SMAR				*eS*	**Sn**	**06 45 30.6**	**+0.1**
KRX	**Arik**	**2.61**	**234**	*eP*	**Pn**	**06 45 00.4**	**+0.6**
KRX				*eS*	**Sn**	**06 45 31.3**	**+0.7**
UGLR	**Uglovaya**	**2.62**	**230**	*eP*	**Pn**	**06 45 01.1**	**+1.1**
UGLR				*eS*	**Sn**	**06 45 31.7**	**+0.7**
AVH	**Avacha**	**2.63**	**232**	*i P*	**Pn**	**06 45 01.3**	**+1.3**
AVH				*eS*	**Sn**	**06 45 32.5**	**+1.5**
KOK	**Koryaka**	**2.66**	**233**	*eP*	**Pn**	**06 45 01.3**	**+0.9**
GNL	**Ganaly**	**2.77**	**245**	*eP*	**Pn**	**06 45 03.4**	**+1.3**
DALK	**Dalny**	**2.78**	**228**	*eP*	**Pn**	**06 45 02.5**	**+0.5**
DALK				*eS*	**Sn**	**06 45 34.5**	**-0.1**
PET	**Petropavlovsk**	**2.83**	**229**	*eP*	**Pn**	**06 45 03.4**	**+0.7**
PET				*eS*	**Sn**	**06 45 36.3**	**+0.5**
KRMR	**Karymshinskiy**	**3.19**	**230**	*eP*	**Pn**	**06 45 09.6**	**+1.9**
KRMR				*eS*	**Sn**	**06 45 46.7**	**+2.0**
PETK	**Petropavlovsk-**	**3.21**	**237**	Pn	**Pn**	**06 45 09.1**	**+1.1**
	3.0nm,0.3s,baz=68,slow=18,SNR=73						
PETK				Sn	**Sn**	**06 45 49.5**	**+4.2**
	4.8nm,0.3s,baz=82,slow=39,SNR=11						
RUS	**Russkaya**	**3.32**	**222**	*eP*	**Pn**	**06 45 09.4**	**-0.1**
RUS				*eS*	**Sn**	**06 45 46.4**	**-1.5**
GRL	**Gorelyy**	**3.41**	**227**	*eP*	**Pn**	**06 45 11.9**	**+1.1**
GRL				*eS*	**Sn**	**06 45 52.1**	**+1.7**
ASAK	**Asacha**	**3.61**	**227**	*eP*	**Pn**	**06 45 15.1**	**+1.6**
ASAK				*eS*	**Sn**	**06 45 56.1**	**+1.0**
KDTR	**Khodutka, Kamc**	**3.98**	**220**	*eP*	**Pn**	**06 45 19.2**	**+0.7**
KDTR				*eS*	**Sn**	**06 46 02.9**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**35.33**	**172**	T	T	07 28 24.3	
	baz=355,slow=76,SNR=122						
H11N3	**WAKE ISLAND Hy**	**35.34**	**172**	T	T	07 28 29.4	
	baz=355,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**35.34**	**172**	T	T	07 28 27.7	
	baz=355,slow=76,SNR=104						
MKAR	**Makanchi Array**	**48.47**	**295**	P	**P**	**06 53 00.8**	**+1.6**
	0.2nm,0.6s,baz=54,slow=7.3,SNR=1.4						
PDAR	**Pinedale Array**	**55.57**	**63**	P	**P**	**06 53 51.8**	**-0.6**
	0.3nm,0.7s,baz=323,slow=7.0,SNR=2.5						
FINES	**FINESS Array B**	**58.91**	**337**	P	**P**	**06 54 13.8**	**-1.5**
	1.7nm,0.5s,baz=29,slow=7.8,SNR=8.9						
AKASG	**Malin Array Be**	**67.65**	**330**	P	**P**	**06 55 11.6**	**-1.7**
	0.6nm,0.3s,baz=29,slow=6.4,SNR=3.4						
TXAR	**Lajitas Array**	**68.81**	**69**	P	**P**	**06 55 22.0**	**+0.9**
	0.3nm,0.6s,baz=291,slow=4.8,SNR=6.7						
ESDC	**Sonseca Array**	**85.02**	**349**	P	**P**	**06 56 52.0**	**-0.2**
	0.7nm,0.7s,baz=359,slow=3.5,SNR=4.6						

MEX 20 06:46:02.1±0.7, 14.55N×92.56W, h78km±11km, MD3.7
GCG 20 06:46:04.5±0.5, 14.78N×92.52W, h50km±251km, MD3.7
ISC 20 06:46:01.9±2.5, 14.5N±0.1×92.7W±0.1, h62km, n7, σ0.97/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.59**	**48**	*i P*	**Pn**	**06 46 14.0**	**-0.9**
THIG				*i S*	**Sn**	**06 46 23.4**	**-1.1**
ERG	**Entre ros, C**	**1.12**	**94**	*eP*	**Pn**	**06 46 22.1**	**+0.5**
ERG				*eS*	**Sn**	**06 46 35.5**	**-0.7**
PCIG		**1.28**	**338**	*i P*	**Pn**	**06 46 23.9**	**+0.2**
PCIG				*i S*	**Sn**	**06 46 39.7**	**-0.2**
FUG	**Fuego 3**	**1.82**	**92**	*eP*	**Pn**	**06 46 31.5**	**+0.4**
FUG				*eS*	**Sn**	**06 46 51.5**	**-1.8**
CCIG	**Comitan**	**1.85**	**18**	*i P*	**Pn**	**06 46 32.4**	**+0.9**
CCIG				*eS*	**Sn**	**06 46 55.0**	**+1.1**
PCG	**Pacaya**	**2.05**	**93**	*eP*	**Pn**	**06 46 35.4**	**+1.1**
PCG				*eS*	**Sn**	**06 46 59.5**	**+0.5**
TGIG		**2.29**	**350**	*i P*	**Pn**	**06 46 37.1**	**-0.2**
TGIG				*i S*	**Sn**	**06 47 04.1**	**-0.3**

IDC 20 07:34:18.8±1.1, 14.78S×75.38W, h0km, mb4.0/5, mb1 4.3/9, mb1mx4.1/28, mbtmp4.2/9, ML3.8/4, MS3.6/8, Ms1 3.6/8, ms1mx3.5/28, Error ellipse: s-maj=39.8km s-min=14.4km az=54.0
GUC 20 07:34:20.4±0.6, 15.18S×75.86W, h34km±5km, ML5.0
ARE 20 07:34:21±2.0, 15.15S±0.09×75.7W±0.1, h29km±5km, Error ellipse: s-maj=17.7km s-min=9.1km az=58.0
NEIC 20 07:34:22.3±2.1, 15.08S±0.09×75.7W±0.1, h33km±5km, mb4.6/21, ML4.8(ARE), Error ellipse: s-maj=18.0km s-min=9.0km az=52.0
VAO 20 07:34:25.2±0.5, 14.95S×75.01W, h10km, mb4.4
ISC 20 07:34:21.8±0.6, 15.03S±0.07×75.62W±0.08, h28km, n101, σ1.39/96, mb4.5/15, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.25**	**338**	Pn	**Pn**	**07 35 11.3**	**+0.3**
	15nm,0.3s,baz=148,slow=12,SNR=29						
NNA				Pg	**Pb**	**07 35 16.3**	**-2.6**
	28nm,0.3s,baz=136,slow=14,SNR=22						
NNA				Lg	Lg	07 35 57.7	
	86nm,0.3s,baz=256,slow=16,SNR=4.2						
NNA				LR	LR	07 36 31.9	
	comp=Z,870nm,18.3s,baz=171,slow=43						
NNA	**Nana**	**3.25**	**338**	Pn	**Pn**	**07 35 11.5**	**+0.5**
AP01	**Chacalluta**	**6.05**	**124**	Pn	**Pn**	**07 35 49.2**	**-0.3**
PB16	**IPOC Station P**	**6.72**	**120**		**Pn**	**07 36 01.9**	**+2.7**
PSGCX	**Pisagua**	**6.94**	**132**	Pn	**Pn**	**07 36 02.7**	**+0.8**
MNMC	**Minye Minye**	**7.06**	**126**	*i P*	**Pn**	**07 36 04.8**	**+1.2**
MNMC	**Minye Minye**	**7.06**	**126**		**Pn**	**07 36 04.9**	**+1.2**
LPAZ	**La Paz**	**7.32**	**101**	Pn	Pn	07 36 12.3	+4.8
	3.7nm,0.3s,baz=314,slow=10,SNR=153						
LPAZ				LR	LR	07 39 32.0	
	comp=Z,450nm,21.3s,baz=288,slow=44						
LPAZ	**La Paz**	**7.32**	**101**	Pn	Pn	07 36 12.5	+4.9
PB11	**IPOC Station P**	**7.39**	**130**	*eP*	**Pn**	**07 36 08.3**	**+0.4**
PB11				IVmB_BB		07 36 10.3	
	comp=Z,2μm,0.4s						
PB11	**IPOC Station P**	**7.39**	**130**	Pn	**Pn**	**07 36 08.3**	**+0.4**
TA01	**Diego Aracena**	**7.56**	**138**	Pn	**Pn**	**07 36 09.9**	**-0.4**
GO01	**Chusmiza**	**7.68**	**128**		**Pn**	**07 36 13.7**	**+1.4**
PATCX	**Punta Patache**	**7.76**	**139**		**Pn**	**07 36 13.5**	**+0.4**
CZSB	**Cruzeiro do Su**	**7.80**	**22**	*eP*	**Pn**	**07 36 16.0**	**+2.5**
PB08	**IPOC Station P**	**7.99**	**130**		**Pn**	**07 36 16.5**	**0.0**
ATAH	**Atahualpa**	**8.30**	**341**	Pn	**Pn**	**07 36 23.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=68,slow=16,SNR=2.2						
ATAH				LR	LR	07 40 09.9	
	comp=Z,277nm,19.1s,baz=193,slow=43						
PB01	**IPOC Station P**	**8.36**	**137**		**Pn**	**07 36 21.7**	**+0.5**
PB07	**IPOC Station P**	**8.60**	**142**		**Pn**	**07 36 23.9**	**-0.8**
PB04	**IPOC Station P**	**8.93**	**145**	Pn	**Pn**	**07 36 27.9**	**-1.2**
PB09	**IPOC Station P**	**9.05**	**139**		**Pn**	**07 36 32.0**	**+1.2**
PB06	**IPOC Station P**	**9.54**	**144**	Pn	**Pn**	**07 36 37.9**	**+0.3**
PB10	**IPOC Station P**	**9.70**	**151**	Pn	**Pn**	**07 36 39.1**	**-0.5**
LVC	**Limon Verde**	**9.86**	**141**	Pn	**Pn**	**07 36 42.3**	**+0.2**
	comp=Z,2.9nm,0.3s,baz=323,slow=9.4,SNR=30						
LVC				Sn	**Sn**	**07 38 29.4**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=90,slow=19,SNR=1.2						
LVC				Lg	Lg	07 39 25.2	
	comp=Z,0.7nm,0.3s,baz=186,slow=20,SNR=4.9						
LVC				LR	LR	07 40 13.6	
	comp=Z,273nm,20.9s,baz=311,slow=36						
LVC	**Limon Verde**	**9.86**	**141**	Pn	**Pn**	**07 36 43.2**	**+1.1**
LVC	**Limon Verde**	**9.86**	**141**	*eP*	**Pn**	**07 36 44.1**	**+2.0**
PB15	**IPOC Station P**	**10.00**	**145**		**Pn**	**07 36 43.8**	**0.0**
PB14	**IPOC Station P**	**10.73**	**154**	Pn	**Pn**	**07 36 52.6**	**-1.4**
GO02	**Mina Guanaco**	**11.56**	**152**	Pn	**Pn**	**07 37 05.0**	**-0.3**
AC01	**Pan de Azucar**	**12.02**	**158**	Pn	**Pn**	**07 37 10.8**	**-0.5**
AC02	**Maricunga**	**13.22**	**154**	Pn	**Pn**	**07 37 30.0**	**+1.8**
SAML	**Samuel**	**13.58**	**65**		**Pn**	**07 37 31.6**	**-1.1**
SAML	**Samuel**	**13.58**	**65**	*eP*	**Pn**	**07 37 31.3**	**-1.4**
**SI

	comp=Z,138nm,18.4s,baz=272,slow=41								
CPUP	**Villa Florida**	**20.45**	**126**	*e*P		**P**	**07 38 57.7**	**+0.5**
PTGA	**Pitinga**	**21.00**	**49**	P		**P**	**07 39 03.6**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=221,slow=11,SNR=12								
PTGA	**Pitinga**	**21.00**	**49**	P		**P**	**07 39 04.4**	**+1.1**
NPGB	**Novo Progresso**	**21.40**	**70**	*e*P		**P**	**07 39 06.9**	**-0.7**
ITTB	**Itaituba**	**22.26**	**64**	*e*P		**P**	**07 39 16.0**	**-0.8**
ARAG	**Araguaiana, MT**	**22.97**	**95**	*e*P		**P**	**07 39 23.2**	**-1.0**
TRCB	**Terra Rica**	**23.06**	**113**	*e*P		**P**	**07 39 25.9**	**+0.7**
SNDB	**Serra Nova Dou**	**23.84**	**86**	*e*P		**P**	**07 39 32.5**	**-0.5**
PCMB	**Pacaembu**	**24.02**	**109**	*e*P		**P**	**07 39 35.4**	**+0.9**
PTGB	**Pitanga**	**24.12**	**117**	*e*P		**P**	**07 39 36.5**	**+0.9**
SDV	**Santo Domingo**	**24.27**	**12**	P		**P**	**07 39 34.5**	**-2.6**
	comp=Z,4.9nm,0.5s,baz=36,slow=19,SNR=2.3								
SDV	**Santo Domingo**	**24.27**	**12**	P		**P**	**07 39 34.7**	**-2.3**
SDV				IAmb		IAmb	07 39 47.7		
	comp=Z,18nm,1.0s								
ITRB	**Iturama**	**24.54**	**105**	*e*P		**P**	**07 39 40.2**	**+0.8**
MALB	**Monte Alegre**	**24.81**	**60**	*e*P		**P**	**07 39 42.1**	**+0.3**
ITAB	**Concordia**	**25.00**	**123**	*e*P		**P**	**07 39 45.8**	**+2.4**
FRTB	**Fartura**	**25.93**	**113**	*e*P		**P**	**07 39 53.9**	**+1.9**
PLCA	**Paso Flores**	**25.99**	**171**	LR		LR	07 48 04.3		
	comp=Z,82nm,19.3s,baz=340,slow=32								
PLTB	**Pedras Altas**	**26.10**	**133**	*e*P		**P**	**07 39 55.5**	**+2.1**
IPMB	**Ipameri, GO**	**26.43**	**100**	*e*P		**P**	**07 39 56.5**	**0.0**
BDFB	**Brasilia**	**26.62**	**95**	P		**P**	**07 40 00.8**	**+2.4**
	comp=Z,3.8nm,0.7s,baz=260,slow=9.0,SNR=5.6								
BDFB				LR		LR	07 51 35.3		
	comp=Z,353nm,19.7s,baz=292,slow=39								
BDFB	**Brasilia**	**26.62**	**95**	P		**P**	**07 40 00.7**	**+2.4**
PRPB	**Parauapebas**	**26.82**	**74**	*e*P		**P**	**07 40 00.2**	**+0.1**
MCPB	**Macapa, AP**	**27.47**	**60**	*e*P		**P**	**07 40 07.6**	**+1.7**
WLAR	**White Oak Lake**	**51.23**	**341**	P		**P**	**07 43 24.2**	**+1.2**
TX31	**Lajitas Ar. Si**	**51.76**	**328**	P		**P**	**07 43 27.6**	**+0.4**
TX31				IAmb		IAmb	07 43 40.2		
	comp=Z,8.2nm,1.2s								
TX32	**Lajitas Array**	**51.76**	**328**	P		**P**	**07 43 27.0**	**-0.1**
TXAR	**Lajitas Array**	**51.76**	**328**	P		**P**	**07 43 27.4**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=147,slow=8.4,SNR=14								
TXAR	**Lajitas Array**	**51.76**	**328**	P		**P**	**07 43 27.0**	**-0.2**
PBMO	**Poplar Bluff**	**53.39**	**345**	P		**P**	**07 43 37.5**	**-1.5**
PBMO				IAmb		IAmb	07 43 39.2		
	comp=Z,3.8nm,0.8s								
U40A	**Yellville**	**53.64**	**343**	P		**P**	**07 43 41.1**	**+0.3**
U40A				IAmb		IAmb	07 43 41.8		
	comp=Z,5.8nm,0.8s								
TUL1	**Leonard**	**54.14**	**340**	P		**P**	**07 43 44.2**	**-0.3**
OLIL	**Olney**	**54.74**	**348**	P		**P**	**07 43 48.7**	**-0.1**
OLIL				IAmb		IAmb	07 44 06.1		
	comp=Z,9.0nm,0.9s								
S39A	**Bolivar**	**55.02**	**343**	P		**P**	**07 43 50.7**	**-0.1**
S39A				IAmb		IAmb	07 44 02.5		
	comp=Z,6.6nm,0.9s								
Q44A	**Meyer Farm, Va**	**55.09**	**347**	P		**P**	**07 43 49.9**	**-1.4**
R40A	**Maddies Statio**	**55.29**	**344**	P		**P**	**07 43 51.9**	**-0.9**
R40A				IAmb		IAmb	07 43 53.2		
	comp=Z,5.0nm,0.8s								
T35A	**Sooner Cattle**	**55.29**	**340**	P		**P**	**07 43 52.9**	**+0.1**
SDCO	**Great Sand Dun**	**59.53**	**333**	P		**P**	**07 44 23.6**	**+0.5**
SDCO				IAmb		IAmb	07 44 25.0		
	comp=Z,2.6nm,0.9s								
NVAR	**Mina Array Bea**	**66.52**	**325**	P		**P**	**07 45 11.2**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=108,slow=8.8,SNR=2.9								
YNE	**Yellowstone No**	**67.42**	**334**	P		**P**	**07 45 14.2**	**-0.8**
VNA1	**Neumayer--Stat**	**68.47**	**161**	P		**P**	**07 45 21.1**	**+0.1**
SNAA	**Sanae**	**70.43**	**161**	P		**P**	**07 45 34.4**	**+1.2**
SNAA	**Sanae**	**70.43**	**161**	P		**P**	**07 45 34.1**	**+0.8**
SNAA				IAmb		IAmb	07 45 36.0		
	comp=Z,8.9nm,1.3s								
TOA0	**Torodi Ar. Sit**	**81.46**	**74**	P		**P**	**07 46 36.8**	**-0.3**
TOA0				IAmb		IAmb	07 46 38.7		
	comp=Z,7.1nm,0.9s								
TORD	**Torodi Ar. Bea**	**81.46**	**74**	P		**P**	**07 46 37.6**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=262,slow=4.9,SNR=23								
TORD	**Torodi Ar. Bea**	**81.46**	**74**	P		**P**	**07 46 37.5**	**+0.4**
ASAR	**Alice Springs**	**131.91**	**217**	PKP		**PKPdf**	**07 53 33.8**	**+0.3**
	comp=Z,0.9nm,1.1s,baz=108,slow=4.1,SNR=4.1								
WRA	**Warramunga Arr**	**134.44**	**221**	PKP		**PKiKP**	**07 53 39.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=130,slow=1.8,SNR=7.6								
ZALV	**Zalesovo Beam**	**138.25**	**17**	PKP		**PKPdf**	**07 53 45.1**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=170,slow=0.9,SNR=5.6								
ZALV	**Zalesovo Beam**	**138.25**	**17**	PKPdf		**PKPdf**	**07 53 44.8**	**+0.6**
SONM	**Songino Array**	**147.25**	**357**	PKPbc		**PKPbc**	**07 54 03.6**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=341,slow=1.3,SNR=8.3								
SONM	**Songino Array**	**147.25**	**357**			**PKPbc**	**07 54 02.5**	**-0.3**
WMQ	**Urumqi**	**147.97**	**23**	*e*PKPbc		**PKPdf**	**07 54 00.6**	**-1.2**
HHC	**Hu-ho-hao-te**	**153.52**	**348**	*e*PKPbc		**PKPdf**	**07 54 09.3**	**-1.2**
NJ2	**Nanjing**	**158.52**	**325**	*e*PKP		**PKPdf**	**07 54 15.8**	**-1.4**

GCG ***20*** *07:37:15.0±0.4, 13°.73N×91°.85W, h23km±17km, MD3.4*
MEX ***20*** *07:37:16.6±0.5, 14°.48N×92°.06W, h74km±29km, MD3.5*

ISC 20 07:37:12.5±4.6, 14°.1N±0°.2×92°.3W±0°.2, h46km, n4, σ1ᵖ51/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.81**	**64**	*e*P	**Pn**	**07 37 28.9**	**+1.3**
ERG				*e*S	**Sn**	**07 37 39.9**	**+1.4**
THIG		**0.82**	**3**	*i* P	**Pn**	**07 37 28.5**	**+0.7**
THIG				*e*S	**Sn**	**07 37 37.1**	**-1.7**
FUG	**Fuego 3**	**1.47**	**76**	*e*P	**Pn**	**07 37 37.2**	**+0.4**
FUG				*e*S	**Sn**	**07 37 54.0**	**-1.0**
PCG	**Pacaya**	**1.68**	**79**	*e*P	**Pn**	**07 37 39.4**	**-0.4**
PCG				*e*S	**Sn**	**07 37 58.6**	**-1.6**

RSNC 20 07:38:06.4±1.1, 6°.82N×73°.13W, h152km±6km, ML2.3, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**194**	*e*P	Pn	07 38 26.8	-0.5
BARC				*i*		07 38 44.3	
	comp=Z,31nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**297**	*e*P	Pn	07 38 28.6	-0.1
BRRC				*e*S	Sn	07 38 46.1	+0.3
BRRC				*i*		07 38 49.5	
	comp=Z,28nm,0.2s						
PAMC	**Pamplona, Colo**	**0.67**	**39**	*e*P	Pn	07 38 29.5	0.0
PAMC				*e*S	Sn	07 38 46.7	-0.3
PAMC				*i*		07 38 48.4	
	comp=Z,20nm,0.2s						
RUSC	**La Rusia**	**0.92**	**177**	*e*P	Pn	07 38 30.7	-0.6
RUSC				*e*S	Sn	07 38 49.6	-0.6
RUSC				*i*		07 38 52.6	
	comp=Z,13nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	Pn	07 38 33.2	-1.3
PTBC				*e*S	Sn	07 38 54.6	-1.5
PTBC				*i*		07 39 01.9	
	comp=Z,33nm,0.3s						
OCAC	**Ocana**	**1.43**	**352**	*e*P	Pn	07 38 35.3	-0.2
OCAC				*e*S	Sn	07 38 56.9	-1.0
OCAC				*i*		07 39 01.6	
	comp=Z,20nm,0.2s						
SPBC	**San Pablo de B**	**1.49**	**219**	*e*P	Pn	07 38 35.6	-0.5
SPBC				*e*S	Sn	07 38 58.9	0.0
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	Pn	07 38 39.1	-0.7
ZARC				*e*S	Sn	07 39 05.1	-0.4
ZARC				*i*		07 39 10.6	
	comp=Z,26nm,0.5s						
SMLC	**San Martn de**	**2.18**	**335**	*e*P	Pn	07 38 43.1	-0.7
SMLC				*e*S	Sn	07 39 11.4	-1.2
SMLC				*i*		07 39 15.3	
	comp=Z,35nm,0.1s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	07 38 44.7	-0.4
CHIC				*e*S	Sn	07 39 13.7	-1.1
CHIC				*i*		07 39 23.8	
	comp=Z,8.2nm,0.7s						
ROSC	**El Rosal**	**2.29**	**211**	*e*S	Sn	07 39 19.7	+4.1
HELC	**Santa Helena**	**2.46**	**256**	*e*P	Pn	07 38 47.2	-0.3
HELC				*e*S	Sn	07 39 19.2	0.0
HELC				*i*		07 39 26.2	
	comp=Z,14nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	Pn	07 38 46.8	-1.5
UREC				*e*S	Sn	07 39 17.6	-3.1
UREC				*i*		07 39 30.5	
	comp=Z,14nm,0.2s						
RREF	**El Recreo**	**2.91**	**229**	*e*P	Pn	07 38 49.7	-3.7
RREF				*e*S	Sn	07 39 28.1	-1.5
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	07 38 54.1	-0.2
CBOC				*e*S	Sn	07 39 31.1	-0.1
CBOC				*i*		07 39 44.9	
	comp=Z,3.9nm,0.4s						
TOLC	**Tolima**	**3.11**	**225**	*e*P	Pn	07 38 55.6	0.0
TOLC				*e*S	Sn	07 39 33.9	+0.3
MOTC	**Monteria, Cord**	**3.18**	**308**	*e*P	Pn	07 38 53.7	-2.5
MOTC				*e*S	Sn	07 39 31.9	-2.8
PRAC	**Prado**	**3.54**	**210**	*e*P	Pn	07 39 01.1	+0.2
PRAC				*e*S	Sn	07 39 42.8	-0.4
PRAC				*i*		07 39 51.3	
	comp=Z,7.5nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P	Pn	07 39 00.3	-2.2
SJCC				*e*S	Sn	07 39 41.0	-5.1
SJCC				*i*		07 39 59.8	
	comp=Z,6.8nm,0.7s						

IDC ***20*** *07:49:28.2±0.8, 53°.67S×134°.49W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/22, mbtmp4.1/7, Error ellipse: s-maj=30.3km s-min=23.1km az=156.0*
NEIC ***20*** *07:49:29.6±1.0, 53°.8S±0°.1×134°.5W±0°.2, h10km±1km, mb4.5/12, Error ellipse: s-maj=23.2km s-min=23.2km az=212.0*

ISC 20 07:49:29.4±0.6, 53°.7S±0°.2×134°.4W±0°.1, h10km, n43, σ1ᵖ04/27, mb4.3/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**35.70**	**136**	P	**P**	**07 56 27.0**	**-0.4**
PMSA				IAmb	IAmb	07 56 53.0	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**36.45**	**180**	P	**P**	**07 56 36.3**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=350,slow=1.3,SNR=5.6						
QSPA	**South Pole Qui**	**36.45**	**180**	P	**P**	**07 56 34.4**	**+0.3**
H03S2	**Juan Fernandez**	**43.46**	**86**	T	T	08 43 47.8	
	baz=223,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**43.47**	**86**	T	T	08 43 50.4	
	baz=223,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**43.48**	**86**	T	T	08 43 48.7	
	baz=223,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**43.73**	**85**	T	T	08 44 04.9	
	baz=226,slow=72,SNR=148						
H03N2	**Juan Fernandez**	**43.74**	**85**	T	T	08 44 05.2	
	baz=226,slow=72,SNR=175						
H03N1	**Juan Fernandez**	**43.75**	**85**	T	T	08 44 05.3	
	baz=226,slow=72,SNR=132						
MAW	**Mawson**	**58.30**	**188**	P	**P**	**07 59 23.9**	**+0.2**
	comp=Z,2.9nm,1.0s,baz=184,slow=10,SNR=5.2						
MAW	**Mawson**	**58.30**	**188**	P	**P**	**07 59 23.2**	**-0.5**
MNMC	**Minye Minye**	**59.95**	**81**	P	**P**	**07 59 36.6**	**+0.4**
PB16	**IPOC Station P**	**60.62**	**81**	P	**P**	**07 59 41.3**	**+0.2**
STKA	**Stephens Creek**	**61.59**	**254**	P	**P**	**07 59 46.7**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=223,slow=3.7,SNR=3.3						
STKA	**Stephens Creek**	**61.59**	**254**	P	**P**	**07 59 45.4**	**-1.5**
STKA				IAmb	IAmb	08 00 09.2	
	comp=Z,3.6nm,1.5s						
CPUP	**Villa Florida**	**61.72**	**97**	P	**P**	**07 59 48.5**	**+0.7**
CPUP				IAmb	IAmb	08 00 01.7	
	comp=Z,8.1nm,1.4s						
LPAZ	**La Paz**	**63.03**	**81**	P	**P**	**07 59 57.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=189,slow=5.1,SNR=3.4						
LPAZ	**La Paz**	**63.03**	**81**	P	**P**	**07 59 54.3**	**-3.1**
LPAZ				IAmb	IAmb	08 00 08.5	
	comp=Z,3.4nm,1.2s						
SAML	**Samuel**	**71.77**	**80**	P	**P**	**08 00 51.3**	**-0.7**
ASAR	**Alice Springs**	**72.22**	**254**	P	**P**	**08 00 54.6**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=138,slow=6.2,SNR=18						
ASAR	**Alice Springs**	**72.22**	**254**	P	**P**	**08 00 54.1**	**-0.6**
H01W1	**Cape Leeuwin H**	**73.76**	**233**	T	T	09 22 27.3	
	baz=145,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**73.76**	**233**	T	T	09 22 29.1	
	baz=145,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**73.77**	**233**	T	T	09 22 27.3	
	baz=145,slow=75,SNR=19						
WB2	**Warramunga Arr**	**74.87**	**257**	P	P	08 01 05.9	-4.4
WB2				IAmb	IAmb	08 01 21.1	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**74.88**	**257**	P	**P**	**08 01 10.4**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=143,slow=5.4,SNR=18						
WB0	**Warramunga Arr**	**74.99**	**257**	P	**P**	**08 01 10.9**	**-0.1**
WB0				IAmb	IAmb	08 01 40.0	
	comp=Z,6.2nm,1.4s						
TXAR	**Lajitas Array**	**86.91**	**27**	P	**P**	**08 02 15.9**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=188,slow=8.1,SNR=6.7						
214A	**Organ Pipe Nat**	**87.36**	**18**	P	**P**	**08 02 16.8**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**87.81**	**306**	T	T	09 40 03.1	
	baz=143,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**87.82**	**306**	T	T	09 39 59.3	
	baz=143,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**87.83**	**306**	T	T	09 39 59.5	
	baz=143,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**88.76**	**306**	T	T	09 40 50.1	
	baz=149,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**88.77**	**306**	T	T	09 40 48.9	
	baz=149,slow=76,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**88.78**	**306**	T	T	09 40 48.3	
	baz=149,slow=76,SNR=7.9						
PDAR	**Pinedale Array**	**98.46**	**18**	P	Pdif	08 03 11.8	+4.2
	comp=Z,0.3nm,0.6s,baz=206,slow=3.9,SNR=3.2						
ILAR	**Eielson Array**	**118.55**	**354**	PKP	**PKPdf**	**08 08 15.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=224,slow=2.0,SNR=9.5						
ILAR	**Eielson Array**	**118.55**	**354**		**PKPdf**	**08 08 16.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**126.81**	**123**	PKP	**PKPdf**	**08 08 31.9**	**-1.4**
	comp=Z,1.1nm,1.2s,baz=209,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**126.81**	**123**		**PKPdf**	**08 08 32.1**	**-1.2**
MKAR	**Makanchi Array**	**155.73**	**268**	PKPab	**PKPab**	**08 09 49.7**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=110,slow=5.3,SNR=6.7						
ZALV	**Zalesovo Beam**	**157.03**	**287**	PKPab	**PKPab**	**08 09 55.2**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=120,slow=4.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**157.03**	**287**	PKPdf	**PKPdf**	**08 09 24.2**	**+0.2**
ZALV					**PKPab**	**08 09 54.9**	**+0.3**

IDC 20 07:52:10.6±2.6, 6°.67N×92°.97E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/44, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/50, Error ellipse: s-maj=89.1km s-min=30.4km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.07**	**123**	LR	LR	07 56 37.4	
	comp=Z,243nm,20.1s,baz=276,slow=37						
CMAR	**Chiang Mai Arr**	**13.08**	**26**	Pn	Pn	07 55 18.1	+0.3
	baz=214,slow=15,SNR=5.2						
H08S3	**Diego Garcia H**	**24.88**	**236**	T	T	08 24 35.4	
	baz=54,slow=74,SNR=25						
H08S2	**Diego Garcia H**	**24.88**	**235**	T	T	08 24 33.1	
	baz=54,slow=74,SNR=9.9						
H08S1	**Diego Carcia H**	**24.90**	**236**	T	T	08 24 34.8	
	baz=54						
MKAR	**Makanchi Array**	**41.02**	**349**	P	P	07 59 55.1	-0.5
	1.2nm,0.7s,baz=165,slow=8.2,SNR=13						
KURBB	**Kurchatov Arra**	**45.44**	**347**	P	P	08 00 31.7	+0.5
	1.5nm,0.6s,baz=167,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**47.60**	**353**	P	P	08 00 47.5	-0.6
	1.9nm,0.7s,baz=168,slow=7.6,SNR=5.2						
WRA	**Warramunga Arr**	**48.54**	**124**	P	P	08 00 55.9	0.0
	0.3nm,0.8s,baz=301,slow=8.5,SNR=1.9						

MOS ***20*** *07:53:20.4±0.0, 42°.85N×43°.79E, h14km, MPVA3.7*
NORS ***20*** *07:53:20.3±0.0, 42°.84N×43°.79E, h15km, MPVA3.8*
TIF ***20*** *07:53:20.4, 42°.89N×43°.91E, h3km±3km*

ISC 20 07:53:21.2±0.8, 42°.88N±0°.02×43°.81E±0°.03, h12km±5km, n18, σ1ᵖ21/34, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.11**	**144**	*e*Pg	**Pb**	**07 53 24.1**	**-1.4**
ZEI				*e*Sg	**Sg**	**07 53 26.3**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.17**	**277**	*e*Pg	**Pb**	**07 53 25.1**	**-1.4**
DIGR				*e*Sg	**Sb**	**07 53 27.8**	**-0.3**
KORR	**Kora**	**0.28**	**42**	*e*Pg	**Pg**	**07 53 26.2**	**-0.9**
KORR				*e*Sg	**Sg**	**07 53 30.4**	**-0.5**
LACR	**Lac**	**0.36**	**98**	*i* Pg	**Pg**	**07 53 27.2**	**-1.4**
ONI	**Oni**	**0.39**	**223**	P	**Pb**	**07 53 30.1**	**0.0**
ONI				S	**Sn**	**07 53 36.8**	**+2.5**
LSNR	**Lesken**	**0.40**	**2**	*i* Pg	**Pg**	**07 53 28.5**	**-0.7**
LSNR				*e*Sg	**Sg**	**07 53 34.0**	**-0.5**
ARNR	**Ardon**	**0.46**	**49**	*e*Pg	**Pg**	**07 53 30.2**	**-0.1**
ARNR				*e*Sg	**Sg**	**07 53 37.1**	**+0.7**
STDR	**Stavd-Durt**	**0.52**	**21**	*i* Pg	**Pb**	**07 53 32.1**	**-0.3**
STDR				*e*Sg	**Sb**	**07 53 40.4**	**+0.4**
GUDG	**Gudauri**	**0.64**	**130**	*e*Pg	**Pb**	**07 53 32.4**	**-2.1**
GUDG				*e*Sg	**Sb**	**07 53 42.0**	**-1.5**
BTKR	**Batakoyurt**	**0.73**	**47**	*e*Pg	**Pb**	**07 53 36.2**	**+0.3**
BTKR				*e*Sg	**Sg**	**07 53 47.3**	**+2.4**
PRTR	**Priterechnaya**	**0.94**	**21**	*e*Pg	**Pb**	**07 53 39.7**	**+0.3**
PRTR				*e*Sg	**Sn**	**07 53 54.4**	**+0.8**
TRKR	**Terskaya**	**1.08**	**38**	*e*Pg	**Pn**	**07 53 42.4**	**+0.2**
TRKR				*e*Sg	**Sg**	**07 53 58.0**	**+1.9**
SHA1	**Shidzhatmaz**	**1.20**	**316**	*e*Pg	**Pn**	**07 53 43.0**	**-1.2**
BEYR	**Belyy Ugol+**	**1.34**	**328**	*e*Pg	**Pn**	**07 53 46.1**	**+0.2**
BEYR				*e*Sg	**Sn**	**07 54 03.3**	**-0.4**
KIV	**Kislovodsk**	**1.35**	**323**	*e*Pg	**Pn**	**07 53 46.1**	**+0.1**
KIV				*e*Sg	**Sn**	**07 54 03.7**	**-0.3**
TRLG	**Trialeti**	**1.36**	**171**	P	**Pg**	**07 53 47.9**	**+0.6**
TRLG				S	**Sg**	**07 54 07.4**	**+2.5**
DMNI	**Dmanisi**	**1.57**	**170**	P	**Pg**	**07 53 51.0**	**-0.5**
DMNI				S	**Sg**	**07 54 13.3**	**+1.4**
DVE	**Vedeno**	**1.70**	**87**	*e*Pg	**Pb**	**07 53 52.0**	**-0.5**
DVE				*e*Sg	**Sb**	**07 54 15.1**	**+1.2**

IDC ***20*** *07:58:52.0±0.5, 62°.07S×161°.13E, h0km, mb4.8/14, mb1 4.8/16, mb1mx4.7/39, mbtmp4.7/16, ML4.1/2, MS5.4/15, Ms1 5.4/15, ms1mx5.4/15, Error ellipse: s-maj=25.4km s-min=14.1km az=75.0*
BJI ***20*** *07:58:51.0±0.0, 62°.00S×161°.20E, h5km, mB5.9/12, mb5.8/6, Ms5.4/21, Ms7 5.2/21*
NEIC ***20*** *07:58:52.5, 62°.00S×161°.14E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.01; Mθθ=3.56; Mϕϕ=-3.57; Mrθ=-0.64; Mrϕ=-1.86; Mθϕ=0.42; Fault plane solution: M₀=4.10000×10¹⁷ NP1:φs329.15000°, δ85.62000°, λ,9.57000°. NP2:φs238.42000°, δ80.46000°, λ175.56000°. Principal axes: T 4.1447, Plg10.0000°, Azm194.0000°; N -0.0998, Plg79.0000°, Azm354.0000°; P -4.0449, Plg4.0000°, Azm103.0000°;*
NEIC ***20*** *07:58:52.4±2.4, 61°.95S±0°.07×161°.3E±0°.2, h10km±1km, mb5.4/63, Ms_20 5.5/530, Mwb5.7/23, Mwc5.7(GCMT) Error ellipse: s-maj=17.0km s-min=12.1km az=83.0*
MOS ***20*** *07:58:54.1±3.0, 61°.94S×161°.19E, h10km, mb5.4/21, Error ellipse: s-maj=35.8km s-min=11.1km az=96.7*
GCMT ***20*** *07:58:57.4±0.1, 61.81S×161°.28E, h12km, MW5.7/151, Moment Tensor Solution. s137,c274; s151,c297; Duration: 1ˢ8 Moment tensor: Scale 10¹⁷Nm; Mrr=0.52±.04; Mθθ4.32±.04; Mϕϕ-3.79±.04; Mrθ-0.70±.10; Mθϕ-2.38±.04; Mrϕ-0.01±.10; Best double couple: M₀4.74800×10¹⁷ NP1:φs330.00000°, δ83.00000°, λ3.00000°. NP2:φs240.00000°, δ87.00000°, λ173.00000°. Principal axes: T 5.0490, Plg7.0000°, Azm195.0000°; N -0.5960, Plg83.0000°, Azm37.0000°; P -4.4460, Plg3.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***20*** *07:58:58, 61°.83S×161°.27E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.45; Mθθ4.57; Mϕϕ-4.12; Mrθ-0.24; Mθϕ-2.55; Mrϕ0.56; Fault plane solution: M₀5.09000×10¹⁷ NP1:φs240.00000°, δ83.00000°, λ-178.00000°. NP2:φs150.00000°, δ88.00000°, λ-7.00000°. Principal axes: T 5.2868, Plg4.0000°, Azm195.0000°; N -0.4216, Plg83.0000°, Azm316.0000°; P -4.8653, Plg6.0000°, Azm105.0000°;*

ISC 20 07:58:53.1±0.3, 62°.00S±0°.05×161°.28E±0°.07, h10km, n531, σ1ᵖ64/260, mb5.3/46, MS5.5/282, 27C-13D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.62**	**350**	P	Pn	08 00 38.5	-5.5
	baz=7.5,SNR=6.6						
MCQ	**Macquarie Isla**	**7.62**	**350**	P	Pn	08 00 38.5	-5.6
MCQ	**Macquarie Isla**	**7.62**	**350**	Pn	Pn	08 00 38.5	-5.6
VNDA	**Vanda**	**15.60**	**180**	Pn	**Pn**	**08 02 30.3**	**-2.3**
	0.8nm,0.3s,baz=349,slow=13,SNR=45						
VNDA				LR	LR	08 07 43.5	
	comp=Z,29µm,18.3s,baz=4.5,slow=34						
VNDA	**Vanda**	**15.60**	**180**	P	**Pn**	**08 02 29.8**	**-2.8**
VNDA				pmax	pmax		
	comp=Z,157nm,1.5s						

comp=Z,11µm,20.0s
HTT Hallett 31.96 323 P P 08 05 20.2 +1.2
baz=32,SNR=4.1
CMSA Cobar Meteorol 32.11 334 P P 08 05 21.7 +1.5
baz=32,SNR=7.9
ARMA Armidale 32.22 344 P P 08 05 18.5 -2.8
STKA Stephens Creek 32.72 328 P P 08 05 26.1 +0.6
comp=Z,12nm,1.1s,baz=154,slow=11,SNR=6.3
STKA LR LR 08 15 41.2
comp=Z,4µm,18.9s,baz=159,slow=31
STKA Stephens Creek 32.72 328 P P 08 05 26.1 +0.6
baz=33,SNR=6.2
STKA Stephens Creek 32.72 328 P P 08 05 24.1 -1.5
STKA pmax pmax
comp=Z,20nm,1.7s
STKA Stephens Creek 32.72 328 P P 08 05 24.1 -1.5
BBOO Buckleboo 33.39 319 P P 08 05 29.2 -2.2
BBOO IAmb IAmb 08 05 36.9
comp=Z,51nm,1.2s
RAO Raoul Island 35.50 32 IAMs_20 IAMs_20 08 20 37.9
comp=Z,7µm,20.0s
RMQ Roma 36.49 341 P P 08 05 58.0 -0.2
baz=36,SNR=6.2
QLP Quilpie 37.21 334 P P 08 06 04.9 +0.6
baz=37,SNR=9.8
EIDS Eidsvold 37.27 345 P P 08 06 05.9 +1.1
baz=37,SNR=3.2
EIDS Eidsvold 37.27 345 P P 08 06 03.3 -1.5
EIDS IAmb IAmb 08 06 13.5
comp=Z,118nm,1.9s
EIDS IAMs_20 IAMs_20 08 18 34.2
comp=Z,7µm,18.0s
MAW Mawson 38.01 218 P P 08 06 13.0 +2.3
comp=Z,4.5nm,0.8s,baz=126,slow=10.0,SNR=12
MAW LR LR 08 22 13.5
comp=Z,16µm,18.4s,baz=125,slow=37
MAW Mawson 38.01 218 P P 08 06 13.6 +2.9
baz=38,SNR=5.0
MAW Mawson 38.01 218 P P 08 06 08.5 -2.2
MAW pmax pmax
comp=Z,13nm,1.7s
MAW MLR MLR
comp=Z,3µm,18.0s
MAW Mawson 38.01 218 P P 08 06 08.4 -2.2
H01W1 Cape Leeuwin H 40.01 290 T T 08 49 13.6
baz=147,slow=75,SNR=2103
H01W2 Cape Leeuwin H 40.01 290 T T 08 49 17.2
baz=147,slow=75,SNR=1886
H01W3 Cape Leeuwin H 40.02 290 T T 08 49 15.1
baz=147,slow=75,SNR=2268
BELA Belgrano 2 40.02 175 P P 08 06 25.9 -1.5
DZM Mont Dzumac 40.06 7 eP P 08 06 30.9 +2.5
comp=Z,87nm,1.6s
DZM Mont Dzumac 40.06 7 P P 08 06 28.2 -0.2
comp=Z,18nm,1.0s,baz=230,slow=7.9,SNR=4.3
DZM Mont Dzumac 40.06 7 P P 08 06 29.4 +0.9
DZM IAMs_20 IAMs_20 08 19 50.1
comp=Z,6µm,20.0s
NWAO Narrogin (SRO) 40.34 295 IAMs_20 IAMs_20 08 18 45.0
comp=Z,11µm,22.0s
AS31 Alice Springs 42.60 321 P P 08 06 48.3 -0.9
ASAR Alice Springs 42.60 321 P P 08 06 48.4 -0.8
comp=Z,16nm,0.8s,baz=160,slow=8.0,SNR=36
ASAR PcP PcP 08 08 41.5 +0.2
comp=Z,2.7nm,1.0s,baz=153,slow=4.1,SNR=3.4
ASAR Alice Springs 42.60 321 P P 08 06 48.6 -0.6
ASAR Alice Springs 42.60 321 P P 08 06 48.6 -0.6
SYO Syowa Base 42.85 207 eP P 08 06 50.0 -0.7
SYO Syowa Base 42.85 207 epP pP 08 06 52.0 -0.9
SYO Syowa Base 42.85 207 ePP PP 08 08 28.8 -0.9
WRKA Warakurna 43.10 314 P P 08 06 53.0 -0.3
baz=43,SNR=7.2
CTA Charters Tower 43.16 339 P P 08 06 53.5 -0.3
comp=Z,26nm,1.1s,baz=207,slow=9.0,SNR=6.0
CTAO Charters Tower 43.16 339 P P 08 06 53.8 0.0
CTAO pmax pmax
comp=Z,115nm,1.4s
CTAO Charters Tower 43.16 339 P P 08 06 53.8 0.0
CTAO IAmb IAmb 08 07 13.6
comp=Z,114nm,1.4s
CTAO Charters Tower 43.16 339 IAMs_20 IAMs_20 08 22 05.3
comp=Z,5µm,18.0s
MORW Morawa 44.19 297 P P 08 07 01.7 -0.3
MORW IAmb IAmb 08 07 24.9
comp=Z,136nm,1.9s
MSVF Nonsavu 45.77 23 i P P 08 07 17.0 +2.3
MSVF pmax pmax
comp=Z,8.0nm,1.1s
NVL N'lazarevskaya 45.80 194 eP P 08 07 12.3 -1.9
NVL eS S 08 13 58.8 +1.5
NVL pmax pmax
comp=Z,41nm,1.2s
WR0 Warramunga Arr 45.92 324 P P 08 07 13.6 -2.2
WR0 IAmb IAmb 08 07 37.6
comp=Z,73nm,1.4s
WB2 Warramunga Arr 45.99 324 P P 08 07 15.1 -1.3
WB2 IAmb IAmb 08 07 38.0
comp=Z,87nm,1.6s
WRA Warramunga Arr 46.00 324 P P 08 07 14.8 -1.6
comp=Z,10nm,1.1s,baz=162,slow=6.4,SNR=15
WRA PcP PcP 08 08 52.5 -0.4
comp=Z,1.8nm,0.8s,baz=165,slow=3.3,SNR=4.3
WRA Warramunga Arr 46.00 324 P P 08 07 14.5 -1.9
WRA pmax pmax
comp=Z,4.0nm,1.7s
WRA Warramunga Arr 46.00 324 P P 08 07 14.5 -1.9
WRAB Tennant Creek 46.00 324 ceP P 08 07 19.7 +3.3
WRAB pmax pmax
comp=Z,75nm,1.9s
WRAB Tennant Creek 46.00 324 P P 08 07 15.0 -1.5
WRAB IAmb IAmb 08 07 38.1
comp=Z,69nm,1.5s
WB0 Warramunga Arr 46.15 324 P P 08 07 16.1 -1.4
WB0 IAmb IAmb 08 07 39.2
comp=Z,47nm,1.4s
SNAA Sanae 46.15 187 P P 08 07 17.4 +0.3
SNAA Sanae 46.15 187 ceP P 08 07 17.9 +0.8
SNAA pmax pmax
comp=Z,87nm,2.5s
SNAA Sanae 46.15 187 P P 08 07 16.0 -1.1
SNAA IAmb IAmb 08 07 20.5
comp=Z,31nm,1.0s
SNAA IAMs_20 IAMs_20 08 25 58.5
comp=Z,7µm,21.0s
VNA3 Neumayer Olymp 46.88 184 P P 08 07 22.7 -0.1
VNA2 Neumayer--Watz 47.12 185 P P 08 07 24.1 -0.5
baz=162,slow=8.2
VNA1 Neumayer--Stat 47.42 185 P P 08 07 27.7 +0.8
PMSA Palmer Station 49.12 156 P P 08 07 39.2 -0.9
PMSA IAmb IAmb 08 08 09.6
comp=Z,42nm,1.6s
PSAD3 Pilbara Seismi 49.30 306 IAMs_20 IAMs_20 08 24 29.7
comp=Z,6µm,21.0s
PSAC3 Pilbara Seismi 49.30 306 IAMs_20 IAMs_20 08 24 29.8
comp=Z,6µm,21.0s
PSAB3 Pilbara Seismi 49.32 306 IAMs_20 IAMs_20 08 24 28.2
comp=Z,6µm,21.0s
PSAC2 Pilbara Seismi 49.33 306 IAMs_20 IAMs_20 08 24 40.4
comp=Z,6µm,20.0s
PSAA3 Pilbara Seismi 49.33 306 IAMs_20 IAMs_20 08 24 30.5
comp=Z,6µm,21.0s
PSA00 Pilbara Seismi 49.34 306 P P 08 07 41.1 -1.2
PSA00 Pilbara Seismi 49.34 306 IAMs_20 IAMs_20 08 24 29.7
comp=Z,6µm,20.0s
PSAA2 Pilbara Seismi 49.35 306 IAMs_20 IAMs_20 08 24 30.0
comp=Z,7µm,21.0s
PSAB2 Pilbara Seismi 49.35 306 IAMs_20 IAMs_20 08 24 31.0
comp=Z,6µm,20.0s
PSAB1 Pilbara Seismi 49.35 306 IAMs_20 IAMs_20 08 24 30.1
comp=Z,7µm,22.0s
PSAC1 Pilbara Seismi 49.39 306 IAMs_20 IAMs_20 08 24 32.0
comp=Z,6µm,20.0s
PSAD1 Pilbara Seismi 49.45 306 IAMs_20 IAMs_20 08 24 33.7
comp=Z,7µm,21.0s
COEN Coen 49.70 337 P P 08 07 47.8 +2.7
baz=50,SNR=3.9
COEN Coen 49.70 337 P P 08 07 46.1 +1.0
COEN IAmb IAmb 08 08 04.5
comp=Z,62nm,1.4s
COEN IAMs_20 IAMs_20 08 25 42.5
comp=Z,4µm,19.0s
MBWA Marble Bar 49.76 306 IAMs_20 IAMs_20 08 24 52.8
comp=Z,5µm,21.0s
FITZ Fitzroy Crossi 50.43 314 P P 08 07 50.2 -0.4
comp=Z,15nm,1.1s,baz=154,slow=16,SNR=7.8
FITZ Fitzroy Crossi 50.43 314 P P 08 07 50.3 -0.3
baz=50,SNR=8.9
FITZ Fitzroy Crossi 50.43 314 P P 08 07 50.6 0.0
FITZ IAmb IAmb 08 07 59.7
comp=Z,53nm,1.4s
GIRL Giralia 50.61 299 IAMs_20 IAMs_20 08 25 03.3
comp=Z,7µm,20.0s
TBI Tubuai 50.91 64 eS S 08 15 12.0 +1.5
comp=Z,1µm,28.5s
TBI Tubuai 50.91 64 eT T 09 02 19.6
comp=Z,49nm,0.3s
KNRA Kununurra 51.68 319 P P 08 07 59.4 -0.6
KNRA IAmb IAmb 08 08 18.9
comp=Z,73nm,1.2s
PMG Port Moresby 53.51 343 P P 08 08 16.1 +2.6
comp=Z,30nm,1.0s,baz=287,slow=3.4,SNR=4.4
PMG Port Moresby 53.51 343 P P 08 08 12.8 -0.7
PMG pmax pmax
comp=Z,87nm,1.3s
PMG Port Moresby 53.51 343 P P 08 08 12.8 -0.7
PMG Port Moresby 53.51 343 IAMs_20 IAMs_20 08 27 03.1
comp=Z,4µm,19.0s
MTN Manton Dam 53.65 323 P P 08 08 14.6 0.0
baz=54,SNR=4.9
MTN Manton Dam 53.65 323 P P 08 08 13.8 -0.8
PAE Paea 55.93 61 eT T 09 08 39.8
comp=Z,6.6nm,0.2s
TVO Taravao 55.95 61 eT T 09 08 41.8
comp=Z,3.1nm,0.3s
PPT2 Papeete2 55.99 60 eS S 08 16 21.1 +1.3
comp=Z,2µm,25.5s
PPT2 eLR LR 08 24 35.7
comp=Z,6µm,28.2s,baz=203
PPT2 Papeete2 55.99 60 eT T 09 08 44.5
comp=Z,16nm,0.3s
PPTF Pamatai, Papee 56.00 60 P P 08 08 30.4 -1.2
PPT Papeete 56.01 60 LR LR 08 26 19.1
comp=Z,724nm,20.6s,baz=206,slow=29
PPT Papeete 56.01 60 P P 08 08 30.6 -1.1
PPT Papeete 56.01 60 P P 08 08 30.6 -1.1
TIAR Tiarei 56.12 61 eT T 09 08 44.9
comp=Z,2.9nm,0.2s
MEH Mehetia 56.36 62 eT T 09 09 11.0
comp=Z,36nm,0.3s
SAUI Saumlaki 58.23 324 IAMs_20 IAMs_20 08 33 16.1
comp=Z,4µm,19.0s
SOEI Soe 58.68 316 P P 08 08 49.5 -1.2
comp=Z,1µmcomp=Z,47nm,1.9s
SOEI Soe 58.68 316 P P 08 08 48.2 -2.5
SOEI IAMs_20 IAMs_20 08 32 18.6
comp=Z,3µm,18.0s
VAH Vaihoa 58.91 61 eT T 09 12 23.3
comp=Z,87nm,0.3s
MMRI Maumere 60.40 314 P P 08 09 00.7 -1.7
EDFI Ende, Flores 60.48 314 P P 08 09 02.0 -1.1
comp=Z,408nmcomp=Z,14nm,2.2s
EFI East Falkland 62.44 154 i P P 08 09 17.0 +1.2
EFI pmax pmax
comp=Z,110nm,1.8s
FAKI Fak Fak 62.83 327 P P 08 09 17.8 -1.0
comp=Z,1µmcomp=Z,62nm,2.0s
FAKI Fak Fak 62.83 327 P P 08 09 18.4 -0.4
TARA Tarawa 63.81 13 IAMs_20 IAMs_20 08 33 38.7
comp=Z,4µm,19.0s
SIJI Sorong 65.05 327 P P 08 09 36.0 +2.6
comp=Z,111nm,0.6s,baz=256,slow=3.8,SNR=6.6
XMIS Christmas Isla 65.08 296 IAMs_20 IAMs_20 08 32 23.5
comp=Z,3µm,20.0s
UGM Wanagama 65.40 302 IAMs_20 IAMs_20 08 33 49.2
comp=Z,4µm,21.0s
SMRI Semarang 66.22 303 IAMs_20 IAMs_20 08 33 55.9
comp=Z,3µm,21.0s
TTSI Tana Toraja 66.44 314 P P 08 09 41.3 -1.1
LL01 San Ignacio de 67.35 140 IAMs_20 IAMs_20 08 37 29.1
comp=Z,2µm,19.0s
COCO West Island 67.42 287 IAMs_20 IAMs_20 08 31 52.1
comp=Z,4µm,21.0s
BBKI Banjar Baru 67.82 309 P P 08 09 49.6 -1.6
PLCA Paso Flores 69.42 140 P P 08 10 00.2 -0.8
comp=Z,4.4nm,1.0s,baz=223,slow=7.3,SNR=3.7
PLCA LR LR 08 35 26.1
comp=Z,1µm,18.4s,baz=212,slow=32
PLCA Paso Flores 69.42 140 P P 08 10 00.6 -0.4
PLCA pmax pmax
comp=Z,108nm,1.9s
PLCA Paso Flores 69.42 140 P P 08 10 00.6 -0.4
MNAI Manna 71.72 297 IAMs_20 IAMs_20 08 36 01.5
comp=Z,2µm,21.0s
H03S2 Juan Fernandez 72.93 131 T T 09 30 55.3
baz=203,slow=74,SNR=158
H03S1 Juan Fernandez 72.93 131 T T 09 30 56.6
baz=203,slow=74,SNR=138
BI02 San Fabin de 72.93 138 P P 08 10 22.2 -0.2
BI02 IAmb IAmb 08 10 39.2
comp=Z,50nm,1.6s
H03S3 Juan Fernandez 72.95 131 T T 09 30 58.9
baz=203,slow=74,SNR=65
H03N3 Juan Fernandez 73.28 131 T T 09 31 27.6
baz=214,slow=76,SNR=15
H03N2 Juan Fernandez 73.29 131 T T 09 31 14.7
baz=214,slow=76,SNR=108
H03N1 Juan Fernandez 73.29 131 T T 09 31 25.6
baz=214,slow=76,SNR=13
KSM Kuching 74.07 306 P P 08 10 26.1 -2.9
KSM IAmb IAmb 08 10 38.2
comp=Z,54nm,1.4s
SBUM Sibu 74.25 308 P P 08 10 27.8 -2.3
MYLDM Lahad Datu 74.58 315 P P 08 10 30.0 -2.0
MYLDM IAmb IAmb 08 11 30.8
comp=Z,67nm,1.4s
BO02 Sierra Bellavi 74.81 138 P P 08 10 31.2 -2.1
BO02 IAmb IAmb 08 10 50.1
comp=Z,57nm,1.4s
MT02 Curacav 76.11 137 P P 08 10 39.3 -1.4
MT05 Renca 76.11 137 P P 08 10 39.0 -1.8
VA03 San Esteban 76.75 137 P P 08 10 42.9 -1.6
MYKOM Kota Tinggi 76.91 300 IAMs_20 IAMs_20 08 39 25.2
comp=Z,2µm,22.0s
CO01 Juntas del Tor 79.47 136 P P 08 10 56.6 -3.2
CO01 IAmb IAmb 08 11 16.9
comp=Z,52nm,1.7s
RPSI Rantau Prapat 79.78 296 P P 08 10 58.7 -2.5
RPSI IAMs_20 IAMs_20 08 41 30.9
comp=Z,2µm,20.0s
PSI Prapat 79.87 296 LR LR 08 41 52.6
comp=Z,2µm,19.5s,baz=114,slow=32
PSI Prapat 79.87 296 P P 08 10 58.7 -3.2
PSI pmax pmax
comp=Z,29nm,1.5s
IPM Ipoh 80.50 299 P P 08 11 02.9 -2.3
WAKE Wake Island 81.12 5 IAMs_20 IAMs_20 08 41 14.3
comp=Z,3µm,21.0s
KULM Kulim 81.39 299 P P 08 11 08.3 -1.6
KULM IAMs_20 IAMs_20 08 41 30.9
comp=Z,2µm,22.0s
H08S2 Diego Garcia H 82.74 267 T T 09 42 52.9
baz=151,slow=76,SNR=185
H08S1 Diego Carcia H 82.75 267 T T 09 42 52.7
baz=151,slow=76,SNR=73
H08S3 Diego Garcia H 82.76 267 T T 09 42 52.8
baz=151,slow=76,SNR=426
LHMI Lhok Sumawe 82.89 295 IAMs_20 IAMs_20 08 43 09.6
comp=Z,2µm,19.0s
BOSA Boshof 83.03 218 P P 08 11 18.7 +0.1
comp=Z,3.6nm,0.9s,baz=81,slow=5.6,SNR=5.1
BOSA LR LR 08 45 11.9
comp=Z,3µm,20.6s,baz=159,slow=34
BOSA Boshof 83.03 218 P P 08 11 17.8 -0.8
BOSA pmax pmax
comp=Z,40nm,1.3s
BOSA Boshof 83.03 218 P P 08 11 17.8 -0.8
BOSA IAmb IAmb 08 11 41.0
comp=Z,40nm,1.3s
GO02 Mina Guanaco 84.09 135 IAMs_20 IAMs_20 08 41 43.5
comp=Z,1µm,18.0s
PB14 IPOC Station P 84.31 134 IAMs_20 IAMs_20 08 40 06.5
comp=Z,2µm,20.0s
DLV T Lat 84.38 308 IAMs_20 IAMs_20 08 45 52.7
comp=Z,2µm,21.0s
PB10 IPOC Station P 85.29 134 IAMs_20 IAMs_20 08 40 31.4
comp=Z,2µm,21.0s
CPUP Villa Florida 86.67 146 LR LR 08 46 52.3
comp=Z,3µm,18.6s,baz=196,slow=33
PB07 IPOC Station P 87.17 134 IAMs_20 IAMs_20 08 41 26.2
comp=Z,1µm,20.0s
PB09 IPOC Station P 87.33 134 IAMs_20 IAMs_20 08 41 03.3
comp=Z,1µm,18.0s
PATCX Punta Patache 87.92 133 IAMs_20 IAMs_20 08 40 53.0
comp=Z,2µm,22.0s
TA01 Diego Aracena 88.14 133 IAMs_20 IAMs_20 08 41 46.0
comp=Z,2µm,21.0s
UBPT Khong Chiam 88.57 307 IAMs_20 IAMs_20 08 47 55.3
comp=Z,2µm,22.0s
PSGCX Pisagua 89.06 133 IAMs_20 IAMs_20 08 42 49.3
comp=Z,1µm,19.0s
PB11 IPOC Station P 89.07 133 IAMs_20 IAMs_20 08 41 49.5
comp=Z,1µm,20.0s
GO01 Chusmiza 89.31 133 IAMs_20 IAMs_20 08 43 04.0
comp=Z,1µm,20.0s
MNMC Minye Minye 89.67 133 IAMs_20 IAMs_20 08 42 50.5
comp=Z,2µm,19.0s
AP01 Chacalluta 90.12 132 IAMs_20 IAMs_20 08 42 17.3
comp=Z,2µm,22.0s
QIZ Qiongzhong 90.43 312 P P 08 11 54.3 -0.1
QIZ S S 08 22 53.1 +4.1
QIZ SS SS 08 28 54.3 +4.3
QIZ LR LR
comp=Z,460nm,19.6s
QIZ LR LR
comp=Z,700nm,24.5s
QIZ LR LR
comp=Z,360nm,20.1s
PB16 IPOC Station P 90.44 133 IAMs_20 IAMs_20 08 42 31.9
comp=Z,2µm,21.0s
PBA Port Blair 90.45 294 IAMs_20 IAMs_20 08 46 03.8
comp=Z,2µm,22.0s
PALK Pallekele 91.96 282 IAMs_20 IAMs_20 08 46 10.4
comp=Z,1µm,20.0s
LPAZ La Paz 92.81 133 P P 08 12 05.4 -1.1
comp=Z,1.0nm,0.8s,baz=208,slow=10,SNR=2.9
LPAZ LR LR 08 44 23.3
comp=Z,1µm,21.2s,baz=192,slow=29
LPAZ La Paz 92.81 133 P P 08 12 05.5 -1.1
LPAZ pmax pmax
comp=Z,41nm,1.9s
LPAZ La Paz 92.81 133 P P 08 12 05.5 -1.1
NNA Nana 93.55 124 IAMs_20 IAMs_20 08 44 58.8
comp=Z,2µm,19.0s
CMAR Chiang Mai Arr 93.99 303 P P 08 12 11.6 +0.6
comp=Z,1.1nm,0.3s,baz=173,slow=4.1,SNR=6.7
CMAR LR LR 08 52 08.8
comp=Z,1µm,19.4s,baz=202,slow=34
CMAR Chiang Mai Arr 93.99 303 ceP P 08 12 13.3 +2.4
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 93.99 303 P P 08 12 10.6 -0.3
CHTO Chiang Mai 94.31 303 P P 08 12 11.4 -1.0
CHTO pmax pmax
comp=Z,26nm,1.6s
CHTO Chiang Mai 94.31 303 P P 08 12 11.4 -1.0
CHTO IAmb IAmb 08 12 22.0
comp=Z,26nm,1.6s
CHTO Chiang Mai 94.31 303 IAMs_20 IAMs_20 08 49 32.3
comp=Z,1µm,20.0s
SLVN Son La 94.69 308 IAMs_20 IAMs_20 08 52 03.3
comp=Z,2µm,22.0s
SSE Sheshan 98.25 326 P Pdif 08 12 30.8 +0.8
SSE S S 08 23 53.9 -3.3
SSE pmax pmax
comp=Z,22nm,0.7s
SSE LR LR
comp=Z,210nm,22.1s
SSE LR LR
comp=Z,160nm,19.8s
SSE LR LR
comp=Z,370nm,23.3s
KMI Kunming 98.57 309 eP Pdif 08 12 34.1 +2.2
KMI pP pwP 08 12 37.1 -0.1
KMI sP sP 08 12 38.4 +2.9
KMI PP PP 08 16 31.6 -1.3
KMI S S 08 24 01.9 +1.2
KMI SS SS 08 30 50.3 +3.8
KMI pmax pmax
comp=Z,15nm,0.7s
KMI pmax pmax
comp=Z,74nm,4.5s
KMI LR LR
comp=Z,600nm,20.9s
KMI LR LR
comp=Z,520nm,18.6s
KMI LR LR
comp=Z,1µm,21.2s
BDFB Brasilia 99.22 151 LR LR 08 55 23.4
comp=Z,938nm,18.5s,baz=170,slow=34
BDFB Brasilia 99.22 151 IAMs_20 IAMs_20 08 57 35.3
comp=Z,1µm,18.0s
NJ2 Nanjing 99.78 324 eP Pdif 08 12 37.3 +0.5
NJ2 SS SS 08 31 06.5 +3.7
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,9.3s
NJ2 LR LR
comp=Z,350nm,19.7s
NJ2 LR LR
comp=Z,410nm,19.8s
NJ2 LR LR
comp=Z,1µm,19.9s
MAJO Matsushiro 99.97 341 i P Pdif 08 12 38.8 +1.3
MAJO pmax pmax
comp=Z,4.0nm,1.0s
SHL Shillong 103.21 300 IAMs_20 IAMs_20 08 54 42.3
comp=Z,1µm,21.0s
OTAV Otavalo 103.97 117 IAMs_20 IAMs_20 08 49 46.5
comp=Z,1µm,21.0s
XAN Xi'an 104.59 317 P PKiKP 08 17 18.9 +5.0
XAN pP PP 08 17 31.6 +14
XAN pmax pmax
comp=Z,7.0nm,1.6s
XAN pmax pmax
comp=Z,220nm,6.1s
ERM Erimo 104.70 346 IAMs_20 IAMs_20 08 53 48.8
comp=Z,2µm,21.0s
JEM Erimo 104.70 346 IAMs_20 IAMs_20 08 53 50.5
comp=Z,2µm,22.0s
JEW Eniwo 105.71 345 IAMs_20 IAMs_20 08 55 48.7
comp=Z,1µm,20.0s
MBAR Mbarara 107.31 233 IAMs_20 IAMs_20 09 06 09.4
comp=Z,2µm,20.0s
SOCY Socotra 108.79 260 IAMs_20 IAMs_20 08 54 29.3
comp=Z,1µm,18.0s
YSS Yuzh-Sakhalins 109.62 347 IAMs_20 IAMs_20 08 55 26.2
comp=Z,2µm,22.0s
HHC Hu-ho-hao-te 110.06 322 ePKP PKiKP 08 17 25.3 +1.3
PTGA Pitinga 110.10 135 IAMs_20 IAMs_20 08 56 43.0
comp=Z,1µm,19.0s
JTS Las Juntas de 110.10 106 IAMs_20 IAMs_20 08 52 26.5
comp=Z,1µm,20.0s
TLIG Tlapa 110.11 90 IAMs_20 IAMs_20 09 01 20.4
comp=Z,962nm,19.0s
SNET Serv Nac Est T 111.12 101 IAMs_20 IAMs_20 08 53 40.8
comp=Z,951nm,20.0s
ESPN Las Esperanzas 112.07 106 IAMs_20 IAMs_20 08 54 16.8
comp=Z,921nm,19.0s
SRIG Santa Rosalia 112.13 73 IAMs_20 IAMs_20 08 57 25.4
comp=Z,1µm,18.0s
ZAIG Zacatecas 112.70 84 IAMs_20 IAMs_20 08 55 33.4
comp=Z,1µm,19.0s
SPX San Pedro Mart 113.87 69 IAMs_20 IAMs_20 09 02 00.9
comp=Z,1µm,18.0s
CCX Cicese 114.06 67 IAMs_20 IAMs_20 09 02 57.6
comp=Z,936nm,18.0s
SFX San Felipe 114.15 69 IAMs_20 IAMs_20 09 02 24.9
comp=Z,1µm,21.0s
HSIG 114.17 74 IAMs_20 IAMs_20 08 59 45.4
comp=Z,1µm,18.0s
TJX Tijuana 114.44 67 IAMs_20 IAMs_20 09 03 27.7
comp=Z,1µm,18.0s
ESJX Sierra Juarez 114.49 68 IAMs_20 IAMs_20 09 03 02.0
comp=Z,1µm,19.0s
TKX Tecate 114.69 67 IAMs_20 IAMs_20 08 57 30.2
comp=Z,1µm,20.0s
109C Camp Elliot, M 114.74 66 IAMs_20 IAMs_20 08 57 40.7
comp=Z,1µm,20.0s
BAR Barrett 114.75 67 IAMs_20 IAMs_20 09 03 14.0
comp=Z,1µm,18.0s
RMX La Rumorosa 114.94 67 IAMs_20 IAMs_20 08 57 34.5
comp=Z,1µm,20.0s
PASC Pasadena Art C 115.38 65 IAMs_20 IAMs_20 08 58 54.5
comp=Z,953nm,20.0s
MWC Mount Wilson 115.47 65 IAMs_20 IAMs_20 08 58 58.1
comp=Z,1µm,21.0s
XPFO Pion Flat 115.64 67 IAMs_20 IAMs_20 09 04 30.5
comp=Z,2µm,18.0s
214A Organ Pipe Nat 115.83 70 IAMs_20 IAMs_20 09 02 34.5

	comp=Z,1µm,19.0s								
PAGB	**Antelope Grade**	**115.84**	**62**		IAMs_20	IAMs_20	08 53 36.7		
	comp=Z,2µm,20.0s								
GLA	**Glamis**	**115.87**	**68**		IAMs_20	IAMs_20	09 03 36.6		
	comp=Z,1µm,18.0s								
PMPB	**Monarch Peak**	**116.02**	**62**		IAMs_20	IAMs_20	08 57 55.6		
	comp=Z,1µm,20.0s								
SAO	**San Andreas Ge**	**116.22**	**61**		IAMs_20	IAMs_20	08 59 29.9		
	comp=Z,1µm,20.0s								
ISA	**Isabella, Lake**	**116.53**	**64**		IAMs_20	IAMs_20	09 02 08.9		
	comp=Z,1µm,20.0s								
GSC	**Goldstone, Bar**	**116.93**	**65**		IAMs_20	IAMs_20	08 59 51.6		
	comp=Z,1µm,20.0s								
TUC	**Tucson**	**117.04**	**72**		IAMs_20	IAMs_20	09 03 54.4		
	comp=Z,937nm,19.0s								
CMB	**Columbia Colle**	**117.75**	**61**		IAMs_20	IAMs_20	09 00 55.2		
	comp=Z,1µm,19.0s								
MDPB	**Devils Postpil**	**117.95**	**62**		IAMs_20	IAMs_20	08 54 40.5		
	comp=Z,1µm,21.0s								
OMMB	**Old Mammoth Mi**	**117.96**	**62**		IAMs_20	IAMs_20	09 01 40.0		
	comp=Z,1µm,20.0s								
NIL	**Nilore**	**118.21**	**289**		IAMs_20	IAMs_20	09 00 23.9		
	comp=Z,1µm,22.0s								
AFDM	**Forest Hills D**	**118.28**	**60**		IAMs_20	IAMs_20	08 55 43.4		
	comp=Z,2µm,21.0s								
EPT	**El Paso**	**118.52**	**76**		IAMs_20	IAMs_20	08 59 53.7		
	comp=Z,1µm,18.0s								
WAKR	**Walker**	**118.54**	**61**		IAMs_20	IAMs_20	08 56 25.2		
	comp=Z,2µm,20.0s								
TPNV	**Topopah Spring**	**118.56**	**65**		IAMs_20	IAMs_20	09 04 09.8		
	comp=Z,1µm,18.0s								
121A	**Cookes Peak, D**	**118.58**	**74**		IAMs_20	IAMs_20	09 04 05.2		
	comp=Z,1µm,18.0s								
ORV	**Oroville**	**118.59**	**59**		IAMs_20	IAMs_20	08 54 15.4		
	comp=Z,1µm,22.0s								
SHPR	**Sheep Range**	**118.66**	**66**		IAMs_20	IAMs_20	09 00 40.3		
	comp=Z,964nm,20.0s								
RUBR	**Rubicon Trail**	**118.71**	**60**		IAMs_20	IAMs_20	08 55 09.6		
	comp=Z,1µm,20.0s								
LHV	**Little Huntoon**	**118.71**	**62**		IAMs_20	IAMs_20	08 55 38.8		
	comp=Z,2µm,22.0s								
UOSS	**Minazif**	**118.77**	**269**		IAMs_20	IAMs_20	08 57 04.2		
	comp=Z,1µm,22.0s								
833A	**Chaparral WMA,**	**118.92**	**84**		IAMs_20	IAMs_20	09 00 27.0		
	comp=Z,830nm,19.0s								
NVAR	**Mina Array Bea**	**118.95**	**62**		PKKPab	PKKPab	08 28 05.9	+10	
	comp=Z,1.2nm,1.0s,baz=50,slow=4.2,SNR=4.9								
PNTR	**Pine Nut**	**118.97**	**61**		IAMs_20	IAMs_20	09 00 40.5		
	comp=Z,1µm,19.0s								
NV11	**Mina Array Sit**	**119.01**	**62**		IAMs_20	IAMs_20	08 55 36.7		
	comp=Z,1µm,22.0s								
RYN	**Ryan**	**119.02**	**62**		IAMs_20	IAMs_20	08 56 02.0		
	comp=Z,1µm,22.0s								
YERR	**Yerington**	**119.03**	**61**		IAMs_20	IAMs_20	09 01 46.1		
	comp=Z,1µm,19.0s								
VCNR	**Virginia City**	**119.12**	**61**		IAMs_20	IAMs_20	09 00 54.6		
	comp=Z,1µm,20.0s								
BEKR	**Beckworth**	**119.31**	**60**		IAMs_20	IAMs_20	09 08 17.7		
	comp=Z,1µm,20.0s								
WUAZ	**Wupatki**	**119.48**	**69**		IAMs_20	IAMs_20	09 03 30.0		
	comp=Z,1µm,19.0s								
KVN	**Kaiserville**	**119.56**	**62**		IAMs_20	IAMs_20	08 55 53.1		
	comp=Z,1µm,22.0s								
PAHR	**Pah Rah Range**	**119.58**	**61**		IAMs_20	IAMs_20	09 06 58.8		
	comp=Z,1µm,18.0s								
FALS	**False Pass**	**119.78**	**23**		IAMs_20	IAMs_20	09 05 47.9		
	comp=Z,1µm,20.0s								
W18A	**Petrified Fore**	**119.87**	**71**		IAMs_20	IAMs_20	09 03 31.4		
	comp=Z,1µm,18.0s								
YBH	**Yreka Blue Hor**	**119.95**	**57**		IAMs_20	IAMs_20	08 55 52.5		
	comp=Z,2µm,21.0s								
R11A	**Troy Canyon, C**	**120.03**	**64**		IAMs_20	IAMs_20	09 05 48.5		
	comp=Z,1µm,18.0s								
Y22D	**IRIS PASSCAL I**	**120.26**	**74**		IAMs_20	IAMs_20	09 05 42.8		
	comp=Z,1µm,19.0s								
HUMO	**Hull Mountain**	**120.59**	**56**		IAMs_20	IAMs_20	08 56 55.5		
	comp=Z,2µm,21.0s								
WMQ	**Urumqi**	**120.78**	**306**	*e*	PKP	**PKiKP**	**08 17 44.5**	**0.0**	
WMQ					LR	LR			
	comp=Z,250nm,17.5s								
WMQ					LR	LR			
	comp=Z,260nm,23.5s								
WMQ					LR	LR			
	comp=Z,220nm,20.5s								
KBL	**Kabul**	**120.85**	**286**		IAMs_20	IAMs_20	09 01 14.9		
	comp=Z,1µm,21.0s								
MOD	**Modoc Plateau**	**121.06**	**59**		IAMs_20	IAMs_20	08 58 02.3		
	comp=Z,2µm,20.0s								
435B	**Jarrell**	**121.83**	**84**		IAMs_20	IAMs_20	09 02 17.2		
	comp=Z,1µm,21.0s								
HKT	**Hockley**	**121.95**	**86**		IAMs_20	IAMs_20	09 08 10.7		
	comp=Z,760nm,18.0s								
MSTX	**Muleshoe**	**122.07**	**77**		IAMs_20	IAMs_20	09 00 49.7		
	comp=Z,2µm,22.0s								
CHGN	**Chignik**	**122.10**	**25**		IAMs_20	IAMs_20	09 00 06.4		
	comp=Z,972nm,22.0s								
MVCO	**Mesa Verde**	**122.16**	**71**		IAMs_20	IAMs_20	09 05 17.2		
	comp=Z,993nm,18.0s								
ELK	**Elko**	**122.17**	**63**		IAMs_20	IAMs_20	09 03 27.4		
	comp=Z,1µm,20.0s								
TLY	**Talaya**	**122.19**	**322**	*i*	PKIKP	**PKiKP**	**08 17 49.5**	**+2.6**	
TLY					pmax	pmax			
	comp=Z,8.0nm,0.8s								
ABTX	**Abilene, Hawle**	**122.40**	**81**		IAMs_20	IAMs_20	09 02 51.4		
	comp=Z,1µm,20.0s								
DUG	**Dugway, Tooele**	**122.75**	**65**		IAMs_20	IAMs_20	09 05 47.6		
	comp=Z,1µm,19.0s								
SRU	**San Rafael Swe**	**122.84**	**68**		PKiKP	**PKiKP**	**08 17 49.3**	**+0.5**	
SRU	**San Rafael Swe**	**122.84**	**68**			**PKiKP**	**08 17 49.3**	**+0.5**	
PV03	**Paradox Valley**	**122.87**	**70**			**PKPdf**	**08 17 48.7**	**0.0**	
PV12	**Saucer Basin,**	**122.94**	**70**			**PKPdf**	**08 17 48.3**	**-0.6**	
J08A	**Circle Bar Ran**	**123.01**	**59**		IAMs_20	IAMs_20	08 58 55.5		
	comp=Z,1µm,19.0s								
PV15	**Paradox Valley**	**123.11**	**70**		IAMs_20	IAMs_20	09 05 52.1		
	comp=Z,914nm,18.0s								
AMTX	**Amarillo**	**123.33**	**78**		IAMs_20	IAMs_20	09 01 18.0		
	comp=Z,1µm,20.0s								
S22A	**4UR Ranch, Cre**	**123.35**	**72**		IAMs_20	IAMs_20	09 05 43.6		
	comp=Z,1µm,19.0s								
PRZ	**Przheval'sk**	**123.37**	**298**		IAMs_20	IAMs_20	09 05 10.5		
	comp=Z,950nm,22.0s								
HRA	**Herat**	**123.85**	**280**		IAMs_20	IAMs_20	09 06 09.1		
	comp=Z,904nm,20.0s								
T25A	**Trinidad**	**123.94**	**74**		IAMs_20	IAMs_20	09 04 25.2		
	comp=Z,1µm,19.0s								
GAR	**Garm**	**123.97**	**290**		IAMs_20	IAMs_20	09 06 44.6		
	comp=Z,1µm,21.0s								
FDF	**Fort de France**	**124.04**	**128**		IAMs_20	IAMs_20	09 03 45.8		
	comp=Z,1µm,22.0s								
MFID	**Camas Ranch**	**124.14**	**61**		IAMs_20	IAMs_20	09 01 36.4		
	comp=Z,1µm,21.0s								
BOOM	**Boomskoye usch**	**124.40**	**297**		IAMs_20	IAMs_20	09 05 36.1		
	comp=Z,991nm,20.0s								
SC01	**Santiago de lo**	**124.44**	**116**		IAMs_20	IAMs_20	09 03 39.2		
	comp=Z,958nm,19.0s								
HWUT	**Hardware Ranch**	**124.45**	**65**		IAMs_20	IAMs_20	09 07 16.6		
	comp=Z,1µm,20.0s								
SEY	**Seymchan**	**124.80**	**355**	*i*	PKIKP	**PKiKP**	**08 17 55.2**	**+3.6**	
HLID	**Hailey**	**124.85**	**62**		IAMs_20	IAMs_20	09 01 43.1		
	comp=Z,1µm,20.0s								
Z38A	**Mt. Pleasant**	**125.11**	**84**		IAMs_20	IAMs_20	09 04 22.0		
	comp=Z,919nm,20.0s								
SJG	**San Juan**	**125.17**	**121**		IAMs_20	IAMs_20	09 05 14.0		
	comp=Z,760nm,19.0s								
MKAR	**Makanchi Array**	**125.36**	**304**		PKP	**PKiKP**	**08 17 53.8**	**+0.5**	
	comp=Z,4.6nm,1.1s,baz=117,slow=1.9,SNR=10								
MKAR	**Makanchi Array**	**125.36**	**304**	*c*	*i* PKIKP	**PKiKP**	**08 17 57.0**	**+3.6**	
MKAR					pmax	pmax			
	comp=Z,5.0nm,1.1s								
MKAR	**Makanchi Array**	**125.36**	**304**		PKPdf	**PKiKP**	**08 17 54.0**	**+0.7**	
PLID	**Pearl Lake**	**125.44**	**60**		IAMs_20	IAMs_20	09 11 27.4		
	comp=Z,1µm,18.0s								
061Z	**Ochoppi**	**125.51**	**102**		IAMs_20	IAMs_20	09 02 23.2		
	comp=Z,815nm,20.0s								
ISCO	**Idaho Springs**	**125.58**	**71**		IAMs_20	IAMs_20	09 07 34.5		
	comp=Z,1µm,19.0s								
AHID	**Auburn Hatcher**	**125.59**	**65**		IAMs_20	IAMs_20	09 06 58.9		
	comp=Z,1µm,20.0s								
OKCFA	**Oklahoma City**	**125.73**	**81**		IAMs_20	IAMs_20	09 03 19.5		
	comp=Z,1µm,19.0s								
U32A	**Winter Ranch,**	**125.80**	**79**		IAMs_20	IAMs_20	09 02 41.3		
	comp=Z,1µm,20.0s								
SKI	**Saint Kitts**	**125.82**	**125**		IAMs_20	IAMs_20	09 06 44.9		
	comp=Z,1µm,20.0s								
DGZ	**Jazzator, Alta**	**125.82**	**310**	*i*	PKIKP	**PKiKP**	**08 17 54.6**	**+0.3**	
OK025	**Westminster Rd**	**125.92**	**81**		IAMs_20	IAMs_20	09 03 25.5		
	comp=Z,930nm,19.0s								
YAK	**Yakutsk**	**126.02**	**342**	*c*	*i* PKIKP	**PKiKP**	**08 17 57.3**	**+3.2**	
YAK					pmax	pmax			
	comp=Z,25nm,1.3s								
YAK	**Yakutsk**	**126.02**	**342**		IAMs_20	IAMs_20	09 07 21.6		
	comp=Z,805nm,21.0s								
OK029	**Liberty Lake**	**126.04**	**80**		IAMs_20	IAMs_20	09 05 50.7		
	comp=Z,1µm,18.0s								
REDW	**Red Top Meadow**	**126.18**	**65**		IAMs_20	IAMs_20	09 14 59.5		
	comp=Z,1µm,18.0s								
TPAW	**Teton Pass**	**126.25**	**64**		IAMs_20	IAMs_20	09 18 32.2		
	comp=Z,891nm,18.0s								
BW06	**Boulder Array**	**126.25**	**66**		IAMs_20	IAMs_20	09 11 10.4		
	comp=Z,1µm,18.0s								
PDAR	**Pinedale Array**	**126.25**	**66**		PKP	**PKiKP**	**08 17 55.5**	**0.0**	
	comp=Z,1.3nm,1.0s,baz=228,slow=1.8,SNR=8.4								
PDAR	**Pinedale Array**	**126.25**	**66**			**PKiKP**	**08 17 55.7**	**+0.2**	
KSCO	**Kaye Shedlock'**	**126.28**	**74**		IAMs_20	IAMs_20	09 07 15.1		
	comp=Z,1µm,19.0s								
N23A	**Red Feather La**	**126.32**	**70**		IAMs_20	IAMs_20	09 10 12.2		
	comp=Z,1µm,19.0s								
OK030	**Cody Creek RV**	**126.46**	**81**		IAMs_20	IAMs_20	09 02 47.8		
	comp=Z,895nm,20.0s								
LOHW	**Long Hollow**	**126.49**	**65**		IAMs_20	IAMs_20	09 14 20.7		
	comp=Z,978nm,18.0s								
C09A	**Chrisman Ranch**	**126.75**	**56**		IAMs_20	IAMs_20	09 01 52.4		
	comp=Z,1µm,22.0s								
060A	**Indiantown**	**126.76**	**102**		IAMs_20	IAMs_20	09 03 31.3		
	comp=Z,1µm,20.0s								
PHWY	**Pilot Hill**	**126.86**	**70**		IAMs_20	IAMs_20	09 09 00.6		
	comp=Z,798nm,20.0s								
DLMT	**Dillon**	**127.07**	**62**		IAMs_20	IAMs_20	09 05 54.9		
	comp=Z,1µm,20.0s								
GAMB	**Gambell**	**127.09**	**15**		IAMs_20	IAMs_20	09 02 29.0		
	comp=Z,1µm,22.0s								
H17A	**Grant Village**	**127.14**	**64**		IAMs_20	IAMs_20	09 00 47.7		
	comp=Z,2µm,22.0s								
K22A	**Casper**	**127.48**	**68**		IAMs_20	IAMs_20	09 09 43.9		
	comp=Z,1µm,19.0s								
BOZ	**Bozeman (W)**	**127.66**	**62**		IAMs_20	IAMs_20	09 06 22.6		
	comp=Z,1µm,19.0s								
W41B	**Gary Mavity, V**	**127.97**	**85**			**PKPdf**	**08 17 58.2**	**-0.1**	
U38A	**Gravette**	**128.00**	**82**			**PKPdf**	**08 17 58.1**	**-0.2**	
ASHT	**Ashkhabad**	**128.54**	**280**		IAMs_20	IAMs_20	09 08 19.4		
	comp=Z,1µm,20.0s								
ANM	**Nome**	**128.68**	**18**		IAMs_20	IAMs_20	09 05 02.1		
	comp=Z,1µm,22.0s								
TTA	**Tatalina**	**128.71**	**23**		IAMs_20	IAMs_20	09 03 44.0		
	comp=Z,1µm,22.0s								
SKT	**Skwentna**	**128.73**	**26**		IAMs_20	IAMs_20	09 06 29.9		
	comp=Z,1µm,21.0s								
EYAK	**Cordova Ski Ar**	**128.76**	**30**		IAMs_20	IAMs_20	09 02 22.6		
	comp=Z,2µm,22.0s								
FID	**Port Fidalgo**	**128.76**	**30**		IAMs_20	IAMs_20	09 02 10.5		
	comp=Z,1µm,21.0s								
RAGM	**Ragged Mountai**	**128.87**	**31**		IAMs_20	IAMs_20	09 10 21.7		
	comp=Z,1µm,20.0s								
KNK	**Knik Glacier**	**128.89**	**28**		IAMs_20	IAMs_20	09 04 13.2		
	comp=Z,1µm,21.0s								
PMR	**Palmer**	**128.90**	**28**		IAMs_20	IAMs_20	09 11 50.4		
	comp=Z,1µm,20.0s								
HDBT	**Hernando Brdge**	**128.98**	**87**		IAMs_20	IAMs_20	09 20 54.5		
	comp=Z,722nm,18.0s								
TOA0	**Torodi Ar. Sit**	**129.06**	**206**			**PKPdf**	**08 17 59.5**	**-1.6**	
TORD	**Torodi Ar. Bea**	**129.06**	**206**		PKP	**PKPdf**	**08 17 59.5**	**-1.5**	
	comp=Z,1.7nm,0.8s,baz=208,slow=0.1,SNR=9.4								
TORD	**Torodi Ar. Bea**	**129.06**	**206**			**PKPdf**	**08 17 59.9**	**-1.1**	
KSU1	**Kansas State U**	**129.11**	**79**			**PKPdf**	**08 17 59.1**	**-1.2**	
SML	**Sawmill**	**129.27**	**28**		IAMs_20	IAMs_20	09 04 24.1		
	comp=Z,1µm,22.0s								
TNA	**Tin City**	**129.28**	**16**		IAMs_20	IAMs_20	09 04 03.8		
	comp=Z,1µm,22.0s								
PPLA	**Purkeypile**	**129.42**	**25**		IAMs_20	IAMs_20	09 09 38.0		
	comp=Z,1µm,19.0s								
S39A	**Bolivar**	**129.50**	**82**			**PKPdf**	**08 18 00.0**	**-1.1**	
SCM	**Sheep Creek Mo**	**129.52**	**29**		IAMs_20	IAMs_20	09 04 31.7		
	comp=Z,1µm,22.0s								
KLU	**Klutina**	**129.54**	**30**		IAMs_20	IAMs_20	09 03 34.4		
	comp=Z,1µm,22.0s								
CRQM	**Cirque**	**129.57**	**32**		IAMs_20	IAMs_20	09 15 10.5		
	comp=Z,1µm,19.0s								
ISLE	**Juniper Island**	**129.64**	**32**		IAMs_20	IAMs_20	09 04 30.1		
	comp=Z,1µm,20.0s								
TGL	**Tana Glacier**	**129.65**	**32**		IAMs_20	IAMs_20	09 05 25.3		
	comp=Z,1µm,20.0s								
PCA	**Pinnacle**	**129.74**	**34**		IAMs_20	IAMs_20	09 09 33.8		
	comp=Z,1µm,20.0s								
RSSD	**Black Hills**	**129.75**	**69**		IAMs_20	IAMs_20	09 12 54.9		
	comp=Z,1µm,19.0s								
PLAL	**Pickwick Lake**	**129.78**	**89**			**PKPdf**	**08 18 00.3**	**-1.5**	
BILL	**Bilibino**	**129.80**	**2**	↑*e*	PKIKP	**PKiKP**	**08 18 03.3**	**+1.8**	
BILL				*e*			08 20 11.9		
BILL				*e*	SS	SS	08 38 00.1	+23	
BILL					pmax	pmax			
	comp=Z,4.0nm,1.1s								
VRDI	**Verde Repeater**	**129.90**	**31**		IAMs_20	IAMs_20	09 10 54.0		
	comp=Z,1µm,20.0s								
KURBB	**Kurchatov Arra**	**129.92**	**305**		PKP	**PKiKP**	**08 18 03.7**	**+1.4**	
	comp=Z,0.7nm,0.2s,baz=164,slow=1.7,SNR=8.7								
KURK	**Kurchatov**	**129.96**	**305**	*c*	*i* PKIKP	**PKiKP**	**08 18 04.2**	**+1.9**	
KURK					pmax	pmax			
	comp=Z,6.0nm,1.3s								
KURK	**Kurchatov**	**129.96**	**305**			**PKiKP**	**08 18 02.7**	**+0.3**	
GLB	**Gilahina Butte**	**130.00**	**31**		IAMs_20	IAMs_20	09 03 12.6		
	comp=Z,921nm,22.0s								
BALM	**Baldy**	**130.01**	**32**		IAMs_20	IAMs_20	09 05 34.9		
	comp=Z,1µm,21.0s								
T42A	**Van Buren**	**130.02**	**85**			**PKPdf**	**08 18 00.7**	**-1.4**	
N33A	**J Bar K, Exete**	**130.03**	**77**		IAMs_20	IAMs_20	09 06 51.4		
	comp=Z,1µm,20.0s								
MCARA	**McCarthy VSAT**	**130.14**	**31**		IAMs_20	IAMs_20	09 03 27.4		
	comp=Z,844nm,21.0s								
BARN	**Barnard Glacie**	**130.20**	**32**		IAMs_20	IAMs_20	09 05 21.0		
	comp=Z,2µm,22.0s								
CTGM	**Chitina Glacie**	**130.21**	**33**		IAMs_20	IAMs_20	09 05 33.0		
	comp=Z,1µm,21.0s								
ZALV	**Zalesovo Beam**	**130.23**	**311**		PKP	**PKiKP**	**08 18 06.2**	**+3.4**	
	comp=Z,0.9nm,0.3s,baz=159,slow=8.7,SNR=4.0								
KTH	**Kantishna Hill**	**130.27**	**26**		IAMs_20	IAMs_20	09 08 30.6		
	comp=Z,1µm,20.0s								
TRF	**Thorofare Moun**	**130.31**	**26**		IAMs_20	IAMs_20	09 05 46.5		
	comp=Z,2µm,22.0s								
DHY	**Denali Highway**	**130.60**	**28**		IAMs_20	IAMs_20	09 12 32.3		
	comp=Z,1µm,19.0s								
BPAW	**Bear Paw Mtn.**	**130.74**	**25**		IAMs_20	IAMs_20	09 05 55.0		
	comp=Z,1µm,21.0s								
K31A	**O'Neill**	**130.93**	**74**		IAMs_20	IAMs_20	09 12 50.1		
	comp=Z,1µm,18.0s								
P38A	**Dawn**	**130.96**	**81**			**PKPdf**	**08 18 01.4**	**-2.4**	
BWN	**Browne**	**131.12**	**26**		IAMs_20	IAMs_20	09 06 21.9		
	comp=Z,1µm,21.0s								
MENT	**Mentasta**	**131.32**	**30**		IAMs_20	IAMs_20	09 04 08.3		
	comp=Z,1µm,22.0s								
L34A	**Svendsen Farm,**	**131.50**	**77**		IAMs_20	IAMs_20	09 08 41.2		
	comp=Z,1µm,19.0s								
CLTN	**Cedars of Leba**	**131.50**	**90**		IAMs_20	IAMs_20	09 06 14.2		
	comp=Z,722nm,20.0s								
WRH	**Wood River Hil**	**131.67**	**27**		IAMs_20	IAMs_20	09 05 49.5		
	comp=Z,1µm,21.0s								
RIDG	**Independent Ri**	**131.75**	**29**		IAMs_20	IAMs_20	09 05 15.7		
	comp=Z,1µm,21.0s								
DOT	**Dot Lake**	**131.85**	**29**		IAMs_20	IAMs_20	09 05 43.3		
	comp=Z,1µm,22.0s								
HDA	**Harding Lake**	**131.86**	**27**		IAMs_20	IAMs_20	09 05 42.6		
	comp=Z,1µm,22.0s								
CCB	**Chester Blu**	**131.88**	**27**		IAMs_20	IAMs_20	09 05 10.2		
	comp=Z,2µm,22.0s								
N38A	**Joes South For**	**132.02**	**80**		IAMs_20	IAMs_20	09 06 18.1		
	comp=Z,1µm,19.0s								
MDM	**Murphy Dome**	**132.07**	**26**		IAMs_20	IAMs_20	09 06 15.1		
	comp=Z,1µm,22.0s								
COLA	**College**	**132.07**	**26**		IAMs_20	IAMs_20	09 05 16.1		
	comp=Z,1µm,22.0s								
U49A	**Red Boiling Sp**	**132.10**	**90**			**PKPdf**	**08 18 06.0**	**-0.1**	
ILAR	**Eielson Array**	**132.19**	**27**		PKIKP	**PKiKP**	**08 18 06.1**	**-0.3**	
	comp=Z,1.5nm,1.1s,baz=229,slow=3.5,SNR=3.6								
ILAR	**Eielson Array**	**132.19**	**27**		PKIKP	**PKPdf**	**08 18 05.1**	**-0.3**	
ILAR	**Eielson Array**	**132.19**	**27**			**PKPdf**	**08 18 05.1**	**-0.3**	
RDOG	**Red Dog Mine**	**132.31**	**17**		IAMs_20	IAMs_20	09 19 57.0		
	comp=Z,858nm,21.0s								
DGMT	**Dagmar**	**133.06**	**65**		IAMs_20	IAMs_20	09 15 02.6		
	comp=Z,1µm,19.0s								
FYU	**Fort Yukon**	**134.09**	**27**		IAMs_20	IAMs_20	09 07 02.4		
	comp=Z,1µm,22.0s								
BRVK	**Borovoye**	**135.06**	**301**	*c*	*i* PKIKP	**PKiKP**	**08 18 12.3**	**-0.3**	
BRVK					pmax	pmax			
	comp=Z,5.0nm,1.3s								
TIXI	**Tiksi**	**135.24**	**346**	*c*	*i* PKIKP	**PKiKP**	**08 18 15.8**	**+3.4**	
TIXI					pmax	pmax			
	comp=Z,80nm,2.5s								
U59A	**Littleton**	**135.73**	**97**		IAMs_20	IAMs_20	09 20 21.0		
	comp=Z,624nm,18.0s								
GEVA	**Gevas**	**136.04**	**267**		IAMs_20	IAMs_20	09 14 28.7		
	comp=Z,920nm,19.0s								
MARD	**Mardin**	**136.31**	**264**		IAMs_20	IAMs_20	09 09 55.8		
	comp=Z,1µm,21.0s								
U61A	**Possum Corner**	**136.35**	**98**		IAMs_20	IAMs_20	09 10 00.2		
	comp=Z,892nm,19.0s								
CSS	**Mathiatis**	**137.84**	**255**		IAMs_20	IAMs_20	09 30 45.0		
	comp=Z,845nm,20.0s								
GAZ	**Gaziantep**	**137.87**	**261**		IAMs_20	IAMs_20	09 30 07.9		
	comp=Z,970nm,20.0s								
KOPT	**Kop Dagi**	**138.61**	**266**		IAMs_20	IAMs_20	09 29 53.5		
	comp=Z,1µm,21.0s								
Q60A	**Greensboro**	**138.78**	**97**		IAMs_20	IAMs_20	09 10 04.7		
	comp=Z,932nm,21.0s								
ALLY	**Allegheny Colle**	**138.84**	**90**		IAMs_20	IAMs_20	09 23 20.4		
	comp=Z,1µm,21.0s								
KIV	**Kislovodsk**	**140.62**	**272**	*i*	PKIKP	**PKiKP**	**08 18 26.1**	**+1.7**	
KIV					pmax	pmax			
	comp=Z,34nm,1.1s								
TOKA	**Tokat**	**140.73**	**263**		IAMs_20	IAMs_20	09 29 48.7		
	comp=Z,870nm,22.0s								
NRIK	**Noril'sk**	**141.02**	**327**		PKP	**PKPdf**	**08 18 21.8**	**+0.3**	
	comp=Z,1.3nm,0.4s,baz=99,slow=5.1,SNR=2.6								
C36M	**Paulatuk**	**141.26**	**33**		IAMs_20	IAMs_20	09 10 16.2		
	comp=Z,1µm,22.0s								
ISP	**Isparta**	**141.48**	**254**		IAMs_20	IAMs_20	09 32 51.9		
	comp=Z,788nm,20.0s								
BRTR	**Keskin Array B**	**141.58**	**259**		PKP	**PKPdf**	**08 18 23.8**	**0.0**	
	comp=Z,2.3nm,1.0s,baz=165,slow=6.0,SNR=3.0								
BRTR	**Keskin Array B**	**141.58**	**259**	*c*	*i* PKIKP	**PKiKP**	**08 18 28.7**	**+2.1**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ARU	**Arti**	**142.26**	**298**		PKP	**PKiKP**	**08 18 25.9**	**-1.3**	
	comp=Z,2.3nm,0.2s,baz=127,slow=1.6,SNR=3.7								
ARU	**Arti**	**142.26**	**298**	*i*	PKIKP	**PKiKP**	**08 18 26.1**	**-1.1**	
ARU					pmax	pmax			
	comp=Z,7.0nm,1.1s								
ARU	**Arti**	**142.26**	**298**		IAMs_20

MOA	**Molln**	**156.68 248**	*e*P		**PKPdf**	**08 18 47.4**	**+0.1**
	comp=Z,9.6nm,1.1s						
SUW	**Suwalki**	**156.78 269**	IAMs_20	IAMs_20		09 40 38.5	
	comp=Z,1μm,21.0s						
WTTA	**Wattenberg**	**157.35 243**	*e*P		**PKPdf**	**08 18 48.4**	**+0.1**
	comp=Z,11nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**157.41 240**	IAMs_20	IAMs_20		09 39 41.7	
	comp=Z,948nm,20.0s						
WATA	**Walderalm**	**157.44 243**	*e*P		**PKPdf**	**08 18 48.0**	**-0.3**
	comp=Z,4.4nm,0.5s						
SQTA	**Sankt Quirin**	**157.50 243**	*e*P		**PKPdf**	**08 18 49.6**	**+1.1**
	comp=Z,8.7nm,1.2s						
FETA	**Feichten**	**157.54 242**	*e*P		**PKPdf**	**08 18 49.0**	**+0.5**
	comp=Z,15nm,1.1s						
MOTA	**Moosalm**	**157.64 243**	*e*P		**PKPdf**	**08 18 50.4**	**+1.8**
	comp=Z,6.7nm,0.7s						
RETA	**Reutte**	**157.90 242**	*e*P		**PKPdf**	**08 18 48.5**	**-0.4**
	comp=Z,12nm,1.1s						
KHC	**Kasperske Hory**	**157.94 249**⇑	*e*PKP		PKPab	08 19 07.5	-15
KHC	**Kasperske Hory**	**157.94 249**	IAMs_20	IAMs_20		09 36 09.6	
	comp=Z,598nm,21.0s						
BRG	**Berggiesshubel**	**159.04 253**	PKP		**PKPdf**	**08 18 51.0**	**+1.0**
BRG			PP		**SKPdf**	**08 22 24.0**	**+2.0**
	comp=N,1μm,17.3s						
	comp=E,554nm,17.7s						
	comp=Z,1μm,19.8s						
BRG	**Berggiesshubel**	**159.04 253**	PKIKP		**PKPdf**	**08 18 51.0**	**+1.0**
BRG			MLR	MLR			
	comp=N,1μm,17.3s						
BRG			MLR	MLR			
	comp=E,554nm,17.7s						
BRG			MLR	MLR			
	comp=Z,1μm,19.8s						
GRA1	**Grafenberg Arr**	**159.39 247**	IAMs_20	IAMs_20		09 44 32.1	
	comp=Z,862nm,19.0s						
BFO	**Black Forest**	**159.57 240**	IAMs_20	IAMs_20		09 37 44.8	
	comp=Z,1μm,20.0s						
CLL	**Collm**	**159.77 253**	*e*(PKPab)		**PKPab**	**08 19 34.0**	**+4.1**
	comp=Z,8.0nm,1.0s						
CLL			*i*			08 19 44.4	
CLL			*e*SS	SS		08 43 27.0	+7.1
CLL			*e*SSS	SSS		08 49 24.0	
CLL			*e*			08 58 24.0	
CLL			LmV			09 38 00.0	
	comp=Z,1μm,20.7s						
CLL	**Collm**	**159.77 253**	*e*PKP2		**PKPab**	**08 19 34.0**	**+4.1**
CLL			pmax	pmax			
	comp=Z,8.0nm,1.0s						
CLL			MLR	MLR			
	comp=Z,1μm,20.7s						
ECH	**Echery**	**159.96 238**	IAMs_20	IAMs_20		09 41 17.9	
	comp=Z,862nm,20.0s						

*IDC **20** 08:06:18.3±1.6, 9.°37N×127.°12E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/50, mbtmp3.9/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/47, Error ellipse: s-maj=112.3km s-min=19.1km az=72.0*
*MAN **20** 08:06:19.6, 9.°21N×126.°87E, h1km, mb4.9, ML3.9, MS3.9*
*NEIC **20** 08:06:19.0±2.5, 9.°00N±0.°04×126.°7E±0.°2, h10km±2km, mb4.4/7, Error ellipse: s-maj=28.9km s-min=6.6km az=95.0*

ISC 20 08:06:19.4±1.9, **9.°11N**±0.°04×**126.°68E**±0.°07, **h9**km±11km, **n38**, σ1f**55**/38, **mb4.2**/11, **1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.86**	**321**	*e*P	**Pn**	**08 06 37.8**	**-0.1**
GLSP				*e*S	**Sn**	**08 06 51.2**	**+0.6**
BIP	**Bislig**	**0.97**	**206**⇓	*i*P	**Pn**	**08 06 41.7**	**+2.3**
BIP				*i*S	**Sn**	**08 06 53.7**	**+0.4**
BUKP	**Musuan**	**2.01**	**233**	*e*P	**Pg**	**08 06 58.0**	**0.0**
BUKP				*e*S	**Sb**	**08 07 22.3**	**+0.9**
MSLP	**Maasin**	**2.06**	**300**	*e*P	**Pg**	**08 06 57.8**	**-1.2**
MSLP				*e*S	**Sg**	**08 07 25.9**	**+0.2**
CGP	**Cagayan de Oro**	**2.07**	**252**⇓	*e*P	**Pg**	**08 06 58.2**	**-0.8**
CGP				*e*S	**Sg**	**08 07 28.1**	**+2.2**
MATI	**Mati**	**2.19**	**191**	*e*P	**Pg**	**08 07 02.5**	**+1.1**
DAV	**Davao City (W)**	**2.30**	**208**	LR	LR	08 08 14.6	
	comp=Z,342nm,20.2s,baz=354,slow=42						
DAV	**Davao City (W)**	**2.30**	**208**	Pn	**Pn**	**08 06 55.8**	**-1.8**
DAV				Lg		08 07 34.0	
KCP	**Kidapawan**	**2.61**	**217**⇑	*e*P	**Pb**	**08 07 07.8**	**+1.3**
TBP	**Tagbilaran**	**2.84**	**282**	*e*P	**Pb**	**08 07 09.4**	**-0.9**
LLP	**Lapu-Lapu**	**2.93**	**294**	*e*P	**Pb**	**08 07 10.6**	**-1.3**
LLP				*i*S	**Sb**	**08 07 47.7**	**-0.2**
DDMP	**Don Marcelino,**	**3.13**	**198**	*e*P	**Pb**	**08 07 12.7**	**-2.7**
DDMP				*e*S	**Sb**	**08 07 53.3**	**-0.5**
SKMP	**Bagumbayan, Su**	**3.33**	**220**	*e*P	**Pb**	**08 07 17.3**	**-1.4**
SKMP				*e*S	**Sn**	**08 07 49.6**	**-1.9**
TNTI	**Ternate**	**8.31**	**175**	Pn	**Pn**	**08 08 17.1**	**-3.2**
LUWI	**Luwuk**	**10.81**	**201**	Pn	**Pn**	**08 08 54.9**	**+0.4**
SIJI	**Sorong**	**10.91**	**155**	LR	LR	08 14 01.2	
	comp=Z,53nm,19.5s,baz=358,slow=42						
NLAI	**Namlea**	**12.27**	**178**	P	Pn	08 09 20.7	+6.2
	50nm,1.3s						
LEM	**Lembang**	**24.73**	**231**	LR	LR	08 21 31.4	
	comp=Z,303nm,20.4s,baz=238,slow=36						
FITZ	**Fitzroy Crossi**	**27.05**	**182**	P	**P**	**08 12 07.0**	**+4.6**
	3.5nm,0.9s,baz=8.1,slow=7.1,SNR=3.4						
PSI	**Prapat**	**28.29**	**259**	LR	LR	08 26 03.8	
	comp=Z,159nm,18.7s,baz=92,slow=41						
WRA	**Warramunga Arr**	**29.84**	**165**	P	**P**	**08 12 28.0**	**+0.8**
	0.5nm,0.7s,baz=348,slow=9.1,SNR=4.9						
WB2	**Warramunga Arr**	**29.84**	**165**	P	**P**	**08 12 27.9**	**+0.7**
WB2				IAmb	IAmb	08 12 38.8	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**29.90**	**165**	P	**P**	**08 12 24.9**	**-2.9**
WR0				IAmb	IAmb	08 12 28.2	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**33.33**	**168**	P	**P**	**08 12 58.9**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=352,slow=7.0,SNR=7.2						
FORT	**Forrest**	**39.68**	**178**	P	**P**	**08 13 51.7**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**39.88**	**72**	T	T	08 56 59.9	
	baz=262,slow=72,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**39.89**	**72**	T	T	08 57 00.4	
	baz=262,slow=72,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**39.89**	**72**	T	T	08 56 54.8	
	baz=262,slow=72,SNR=12						
BBOO	**Buckleboo**	**42.63**	**168**	P	**P**	**08 14 16.0**	**-0.3**
BBOO				IAmb	IAmb	08 14 18.8	
	comp=Z,34nm,1.4s						
STKA	**Stephens Creek**	**43.18**	**161**	P	**P**	**08 14 19.3**	**-1.4**
MK31	**Makanchi Array**	**53.19**	**323**	P	**P**	**08 15 38.2**	**+0.2**
MK31				IAmb	IAmb	08 15 38.7	
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**08 15 38.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=125,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**08 15 38.4**	**+0.3**
KURBB	**Kurchatov Arra**	**57.25**	**326**	P	**P**	**08 16 06.8**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=130,slow=6.4,SNR=5.3						
KK31	**Karatay Array**	**59.35**	**315**	P	**P**	**08 16 21.9**	**-0.2**
KK31				IAmb	IAmb	08 16 23.7	
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**59.35**	**315**	P	**P**	**08 16 21.8**	**-0.3**
NRIK	**Noril'sk**	**65.23**	**346**	P	**P**	**08 17 02.1**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=164,slow=9.3,SNR=2.1						
ABKAR	**Akbulak array**	**68.01**	**320**	P	**P**	**08 17 18.6**	**-0.6**

IDC 20 08:13:45.7±65.0, **19.°58S**×**178.°90W**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.6**/30, **mbtmp3.7**/3, **Error ellipse: s-maj=1177.0km s-min=164.4km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.44**	**243**	P	P	08 21 00.7	-0.2
	2.5nm,1.0s,baz=80,slow=6.1,SNR=2.1						
WRA	**Warramunga Arr**	**43.90**	**261**	P	P	08 21 54.7	+0.3
	0.2nm,0.2s,baz=97,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**43.92**	**256**	P	P	08 21 54.0	-0.6
	0.4nm,0.4s,baz=93,slow=7.5,SNR=7.6						

IDC 20 08:25:09.4±7.3, **27.°62N**×**99.°83E**, **h33**km±64km, **mb3.2**/4, **mb1 3.4**/4, **mb1mx3.1**/41, **mbtmp3.4**/4, **MS2.7**/1, **Ms1 2.9**/1, **ms1mx2.8**/17, **Error ellipse: s-maj=65.2km s-min=23.1km az=66.0, Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.16**	**185**	Pg	Pn	08 27 57.4	+38
	0.7nm,0.3s,baz=4.0,slow=16,SNR=1.8						
CMAR				Lg	Lg	08 30 07.9	
	0.3nm,0.3s,baz=1.9,slow=30,SNR=7.3						
CMAR				LR	LR	08 30 56.4	
	comp=Z,53nm,21.8s,baz=180,slow=38						
SONM	**Songino Array**	**20.82**	**13**	P	P	08 29 48.7	+0.5
	0.5nm,0.6s,baz=195,slow=9.0,SNR=1.8						
MKAR	**Makanchi Array**	**23.60**	**329**	P	P	08 30 15.9	-1.4
	1.6nm,1.0s,baz=129,slow=9.6,SNR=6.7						
KURBB	**Kurchatov Arra**	**28.10**	**331**	P	P	08 30 59.0	+1.0
	0.2nm,0.5s,baz=133,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**57.89**	**141**	P	P	08 34 58.2	-0.2
	0.5nm,0.6s,baz=328,slow=7.6,SNR=5.7						

*REY **20** 08:54:37.1, 64.°69N×17.°46W, h4km*
*IDC **20** 08:54:38.2±0.5, 64.°59N×17.°63W, h0km, mb4.2/21, mb1 4.4/25, mb1mx4.2/46, mbtmp4.2/25, ML2.8/3, MS3.6/4, Ms1 3.6/4, ms1mx3.2/48, Error ellipse: s-maj=16.0km s-min=9.8km az=21.0*
*MOS **20** 08:54:38.3±1.0, 64.°59N×17.°64W, h9km, mb4.6/47, Error ellipse: s-maj=10.7km s-min=6.7km az=109.9*
*NEIC **20** 08:54:40.4±1.5, 64.°7N±0.°1×17.°6W±0.°1, h10km±1km, mb4.6/134, Error ellipse: s-maj=17.5km s-min=9.3km az=190.0*

ISC 20 08:54:40.0±0.3, **64.°59N**±0.°03×**17.°57W**±0.°03, **h10**km, **n367**, σ1f**35**/349, **mb4.5**/131, **MS4.1**/4, **16C-1D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**317**	P	**Pg**	**08 54 40.1**	**-2.8**
	baz=264						
IDJK	**Dyngjujokull**	**0.17**	**120**	P	**Pg**	**08 54 41.5**	**-2.2**
	baz=152						
IDYN	**Dyngjuhals**	**0.22**	**23**	P	Pg	08 54 39.3	-5.3
	baz=21						
IGRF	**Grimsfjall**	**0.22**	**144**	P	**Pg**	**08 54 43.1**	**-1.6**
	baz=163						
IHUS	**Husbondi**	**0.30**	**188**	P	**Pg**	**08 54 44.1**	**-1.8**
	baz=192						
IURH	**Urdarhals**	**0.30**	**37**	P	Pg	08 54 41.1	-4.8
	baz=45						
ISKR	**Skrokkalda**	**0.35**	**266**	P	**Pg**	**08 54 45.1**	**-1.9**
	baz=253						
IVOT	**Vottur**	**0.36**	**152**	P	**Pg**	**08 54 45.4**	**-1.7**
	baz=164						
IKVE	**Kverkfjoll**	**0.39**	**76**	P	Pg	08 54 44.4	-3.3
	baz=91						
IJOK	**Jokulheimar**	**0.40**	**227**	P	**Pg**	**08 54 45.9**	**-1.9**
	baz=222						
IKRE	**Kreppuhraun**	**0.55**	**68**	P	Pg	08 54 45.5	-5.1
	baz=78						
IIEY	**Innrieyrar**	**0.55**	**206**	P	**Pg**	**08 54 48.0**	**-2.6**
	baz=206						
IASK	**Askja**	**0.61**	**40**	P	Pg	08 54 46.3	-5.5
	baz=43						
IKSK	**Karasker**	**0.64**	**131**	P	**Pg**	**08 54 48.8**	**-3.6**
	baz=140						
IKAL	**Kalfafell**	**0.64**	**185**	P	**Pg**	**08 54 49.8**	**-2.6**
	baz=188						
IMKO	**Mokollar**	**0.66**	**53**	P	Pg	08 54 47.3	-5.3
	baz=58						
IMKO				S	**Sg**	**08 54 57.1**	**-4.1**
	baz=58						
IVAT	**Vatnsfell**	**0.71**	**236**	P	**Pg**	**08 54 52.2**	**-1.5**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.82**	**74**	P	Pg	08 54 50.2	-5.5
	baz=80						
IHVE	**Hverawellir**	**0.90**	**289**	P	**Pg**	**08 54 53.5**	**-3.8**
	baz=282						
IADA	**Aoalbol**	**0.96**	**62**	P	Pg	08 54 52.2	-6.2
	baz=67						
ISNB	**Snabyli**	**0.97**	**209**	P	**Pg**	**08 54 55.8**	**-2.9**
	baz=209						
ISLY	**Slysaalda**	**1.02**	**222**	P	**Pg**	**08 54 57.3**	**-2.3**
	baz=221						
IMEL	**Melhnausar**	**1.06**	**21**	P	Pb	08 54 53.6	-6.7
	baz=21						
IFED	**Fedgar**	**1.08**	**240**	P	**Pg**	**08 54 57.9**	**-2.9**
	baz=237						
IRJU	**Rjupnafell**	**1.09**	**207**	P	**Pg**	**08 54 57.5**	**-3.3**
	baz=207						
IREN	**Reynihlio**	**1.10**	**14**	P	Pb	08 54 54.5	-6.6
	baz=13						
IMJO	**Mjoaskard**	**1.13**	**235**	P	**Pg**	**08 54 58.6**	**-3.1**
	baz=233						
IKVO	**Krcottuvotn**	**1.17**	**14**	P	Pn	08 54 55.5	-6.9
	baz=13						
IHVO	**Lagu-Hvolar**	**1.21**	**208**	P	**Pb**	**08 55 00.7**	**-2.2**
	baz=208						
IHAU	**Haukadalur**	**1.22**	**240**	P	**Pb**	**08 55 00.1**	**-2.9**
	baz=238						
IGRS	**Grimsstaoir**	**1.22**	**29**	P	Pn	08 54 56.5	-6.6
	baz=30						
IALF	**Alftagrof**	**1.31**	**214**	P	**Pn**	**08 55 01.6**	**-2.7**
	baz=213						
IGHA	**Grjothals**	**1.32**	**16**	P	Pn	08 54 57.8	-6.6
	baz=16						
IGRA	**Granastaoir**	**1.34**	**360**	P	Pn	08 54 58.4	-6.2
	baz=358						
IGRA				S	Sn	08 55 14.3	-8.1
	baz=358						
IESK	**Eystri-Skogar**	**1.35**	**219**	P	**Pn**	**08 55 02.3**	**-2.5**
	baz=218						
ISAU	**Saurbar**	**1.38**	**246**	P	**Pn**	**08 55 02.4**	**-2.8**
	baz=243						
IMID	**Miomork**	**1.38**	**229**	P	**Pn**	**08 55 03.1**	**-2.1**
	baz=227						
IHLA	**Hella**	**1.41**	**346**	P	Pn	08 54 59.9	-5.7
	baz=343						
IDIM	**Dimmadalss**	**1.41**	**11**	P	Pn	08 54 59.5	-6.1
	baz=9.6						
IBRE	**Brettingsstaoi**	**1.55**	**355**	P	Pn	08 55 02.7	-4.9
	baz=353						
IGIL	**Gilhagi**	**1.58**	**18**	P	Pn	08 55 02.8	-5.2
	baz=18						
ISOL	**Solvholt**	**1.62**	**247**	P	**Pn**	**08 55 05.9**	**-2.6**
	baz=245						
IKRO	**Krokur**	**1.62**	**254**	P	**Pn**	**08 55 05.9**	**-2.6**
	baz=251						
BORG	**Borgarnes**	**1.62**	**277**	Pn	**Pn**	**08 55 05.9**	**-2.6**
	141nm,0.3s,baz=86,slow=7.5,SNR=144						
BORG				Sn	**Sg**	**08 55 31.8**	**-0.3**
	58nm,0.3s,baz=247,slow=23,SNR=21						
BORG				LR	LR	08 55 53.0	
	comp=Z,1μm,20.1s,baz=188,slow=47						
BORG	**Borgarnes**	**1.62**	**277**	Pn	**Pn**	**08 55 05.5**	**-3.1**
BORG				Sn	**Sn**	**08 55 28.2**	**-1.3**
IHEI	**Heioarbar**	**1.64**	**258**	P	**Pn**	**08 55 06.0**	**-2.8**
	baz=255						
ISIG	**Siglufjorour**	**1.65**	**341**	P	Pn	08 55 03.6	-5.3
	baz=338						
ISAN	**Sandskeio**	**1.82**	**255**	P	**Pn**	**08 55 08.8**	**-2.5**
	baz=252						
IHRN	**Hraun**	**1.87**	**326**	P	**Pn**	**08 55 08.1**	**-3.8**
	baz=323						
IKUD	**Kuludalsa**	**1.89**	**264**	P	**Pn**	**08 55 09.5**	**-2.7**
	baz=261						
IVOS	**Vogsosar**	**1.95**	**250**	P	**Pn**	**08 55 11.0**	**-2.1**
	baz=248						
SUMG	**Summit**	**10.99**	**326**	*i* P	**Pn**	**08 57 21.0**	**+3.7**
SUMG	**Summit**	**10.99**	**326**	*i* P	**Pn**	**08 57 21.0**	**+3.7**
SUMG	**Summit**	**10.99**	**326**	*i* P	**Pn**	**08 57 21.0**	**+3.7**
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn	**Pn**	**08 57 26.9**	**-0.1**
	baz=325,slow=13,SNR=12						
ESK	**Eskdalemuir**	**11.72**	**136**	P	**Pn**	**08 57 27.3**	**+0.3**
ESK	**Eskdalemuir**	**11.72**	**136**		**Pn**	**08 57 27.3**	**+0.3**
DAG	**Danmarks Havn**	**12.25**	**359**	*i* P	**Pn**	**08 57 36.0**	**+1.8**
DAG				pmax	pmax		
	comp=Z,40nm,1.5s						
DAG	**Danmarks Havn**	**12.25**	**359**	*i* P	**Pn**	**08 57 36.0**	**+1.8**
	comp=Z,40nm,1.5s						
DAG	**Danmarks Havn**	**12.25**	**359**	*i* P	**Pn**	**08 57 36.0**	**+1.8**
DAG				IAmb	IAmb	08 57 37.3	
	comp=Z,40nm,1.5s						
NC204	**NORSAR Array S**	**13.26**	**91**	Pn	**Pn**	**08 57 45.9**	**-2.2**
NOA	**NORSAR Array B**	**13.56**	**92**	Pn	**Pn**	**08 57 52.7**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=2.1						
NOA				LR	LR	09 02 50.3	
	comp=Z,152nm,20.1s,baz=280,slow=36						
SFJD	**Kangerlussuaq**	**13.67**	**295**	LR	LR	09 02 40.1	
	comp=Z,549nm,19.5s,baz=39,slow=35						
HFS	**Hagfors**	**15.07**	**93**	Pn	**P**	**08 58 18.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=293,slow=7.6,SNR=7.7						
HFS				LR		09 04 03.9	
	comp=Z,210nm,19.4s,baz=314,slow=38						
NOR	**Nord**	**17.11**	**0**	*i* P	**Pn**	**08 58 40.0**	**+1.3**
NOR				pmax	pmax		
	comp=Z,45nm,1.4s						
NOR	**Nord**	**17.11**	**0**	*i* P	**Pn**	**08 58 40.0**	**+1.3**
	comp=Z,45nm,1.4s						
NOR				IAmb	IAmb	08 58 42.9	
	comp=Z,45nm,1.4s						
ARCES	**ARCESS Array B**	**17.19**	**54**	P	**Pn**	**08 58 39.8**	**0.0**
	baz=291,slow=10,SNR=4.1						
BMRD	**Maredsous**	**18.53**	**130**	Pn	**Pn**	**08 58 57.2**	**+0.7**
BGES	**Gesves**	**18.57**	**129**	Pn	**P**	**08 58 56.4**	**-0.3**
BCLA	**Clavier**	**18.61**	**129**	Pn	**Pn**	**08 58 57.8**	**+0.4**
BCLA	**Clavier**	**18.61**	**129**	P	Pn	08 59 05.8	+8.4
DOU	**Dourbes**	**18.65**	**131**	Pn	**Pn**	**08 58 58.5**	**+0.6**
DOU	**Dourbes**	**18.65**	**131**	P	Pn	08 59 05.9	+8.0
MEM	**Membach**	**18.69**	**127**	Pn	**P**	**08 58 58.5**	**+0.5**
FINES	**FINESS Array B**	**19.75**	**79**	P	**P**	**08 59 09.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=330,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**19.75**	**79**	P	**P**	**08 59 10.2**	**+0.7**
FINES	**FINESS Array B**	**19.75**	**79**	P	**P**	**08 59 10.2**	**+0.7**
APA	**Apatity**	**20.39**	**59**⇑	*i* P	**P**	**08 59 17.9**	**+1.4**
APA				pmax	pmax		
	comp=Z,11nm,1.0s						
APA				MLR	MLR		
	comp=Z,300nm,11.0s						
CLL	**Collm**	**20.70**	**115**	*i* P	**P**	**08 59 20.5**	**+0.6**
	comp=Z,32nm,1.4s						
CLL				*e*PPP	PPP	08 59 47.0	
CLL	**Collm**	**20.70**	**115**	P	**P**	**08 59 20.6**	**+0.6**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**20.70**	**115**	P	**P**	**08 59 20.6**	**+0.7**
ECH	**Echery**	**21.13**	**129**	P	**P**	**08 59 24.4**	**-0.2**
ECH				pmax	pmax		
	comp=Z,17nm,1.0s						
ECH	**Echery**	**21.13**	**129**		**P**	**08 59 24.4**	**-0.2**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**08 59 28.0**	**+0.4**
	comp=Z,9.6nm,0.9s						
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**08 59 28.0**	**+0.4**
BRG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BFO	**Black Forest**	**21.43**	**127**	P	**P**	**08 59 27.5**	**-0.3**
BFO				pmax	pmax		
	comp=Z,20nm,1.1s						
BFO	**Black Forest**	**21.43**	**127**		**P**	**08 59 27.5**	**-0.3**
BFO				IAmb	IAmb	08 59 31.7	
	comp=Z,20nm,1.1s						
VSU	**Vasula**	**21.60**	**86**	*i* P	**P**	**08 59 28.4**	**-1.2**
VSU				pmax	pmax		
	comp=Z,80nm,1.3s						
FRB	**Frobisher Bay**	**21.75**	**291**	LR	LR	09 06 34.6	
	comp=Z,130nm,20.0s,baz=94,slow=33						
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**08 59 39.1**	**+1.5**
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**08 59 39.1**	**+1.5**
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**08 59 38.3**	**+0.5**
CHVC	**Chvalec**	**22.46**	**113**	*e*P	**P**	**08 59 41.2**	**+2.3**
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P	**P**	**08 59 40.7**	**+1.4**
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P	**P**	**08 59 40.7**	**+1.4**
OSTC	**Ostas**	**22.55**	**112**	*e*P	**P**	**08 59 41.8**	**+1.9**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**08 59 41.8**	**+0.7**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**08 59 42.2**	**+1.1**
KHC				pmax	pmax		
	comp=Z,24nm,1.0s						
KHC	**Kasperske Hory**	**22.66**	**118**	P	**P**	**08 59 40.7**	**-0.4**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**08 59 43.3**	**+1.2**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**08 59 43.3**	**+1.2**
SENIN	**Lac Senin/Sane**	**22.79**	**131**		**P**	**08 59 43.4**	**+0.8**
SENIN				IAmb	IAmb	08 59 53.2	
	comp=Z,20nm,1.2s						
DAVA	**Damuels**	**22.86**	**126**	*e*P	**P**	**08 59 45.9**	**+2.6**
	comp=Z,3.8nm,0.3s						
SSB	**Saint Sauveur**	**22.91**	**137**	P	**P**	**08 59 43.9**	**+0.2**
SSB				pmax	pmax		
	comp=Z,21nm,1.5s						
SSB	**Saint Sauveur**	**22.91**	**137**	P	**P**	**08 59 43.9**	**+0.2**
SSB				IAmb	IAmb	08 59 52.5	
	comp=Z,21nm,1.5s						
GEC2	**GERESS Array S**	**22.94**	**118**	P	**P**	**08 59 43.9**	**-0.2**
GERES	**GERESS Array B**	**22.94**	**118**	P	**P**	**08 59 45.0**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=342,slow=8.4,SNR=11						
GERES	**GERESS Array B**	**22.94**	**118**	P	**P**	**08 59 44.1**	**0.0**
GERES	**GERESS Array B**	**22.94**	**118**	P	**P**	**08 59 44.1**	**0.0**
RETA	**Reutte**	**23.00**	**125**	*e*P	**P**	**08 59 45.8**	**+1.1**
	comp=Z,3.5nm,0.6s						
MOTA	**Moosalm**	**23.24**	**124**	*e*P	**P**	**08 59 49.0**	**+1.8**
	comp=Z,22nm,1.9s						
DAVOX	**Davos/Dischmat**	**23.29**	**127**	P	**P**	**08 59 48.8**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=335,slow=9.2,SNR=5.2						
TUE	**Stuetta**	**23.38**	**128**	P	**P**	**08 59 49.1**	**+0.5**
SQTA	**Sankt Quirin**	**23.38**	**124**	*e*P	**P**	**08 59 50.0**	**+1.3**
	comp=Z,13nm,1.2s						
FETA	**Feichten**	**23.38**	**125**	*e*P	**P**	**08 59 50.7**	**+2.1**
	comp=Z,12nm,1.9s						
WATA	**Walderalm**	**23.42**	**124**	*e*P	**P**	**08 59 50.5**	**+1.6**
	comp=Z,8.1nm,1.3s						
WTTA	**Wattenberg**	**23.50**	**124**	*e*P	**P**	**08 59 51.4**	**+1.6**
	comp=Z,4.7nm,0.3s						
VRAC	**Vranov**	**23.69**	**114**	P	**P**	**08 59 51.6**	**+0.2**
	com

comp=Z,6.0nm,0.9s
LANS Liptovska Anna 24.96 110 *e*P **P 09 00 04.9 +1.6**
VYHS Vyhne 25.23 112 *e*P **P 09 00 06.7 +1.0**
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 25.23 112 *e*P **P 09 00 06.7 +1.0**
SOKA Soboth 25.24 120 *e*P **P 09 00 05.9 +0.1**
comp=Z,5.5nm,0.9s
PERS Pernice 25.31 119 *e*P **P 09 00 07.0 +0.5**
MOZS Mozjanca 25.35 121 *e*P **P 09 00 07.6 +0.9**
ZCCA Zocca 25.79 128 P **P 09 00 13.2 +2.4**
ZCCA IAmb IAmb 09 00 22.3
comp=Z,14nm,1.0s
PMRV Marv??o 25.90 162 *e*P **P 09 00 13.4 +1.6**
comp=Z,19nm,1.7s
KWP Kalwaria Pacla 25.92 106 *e*P **P 09 00 13.0 +1.2**
KWP Kalwaria Pacla 25.92 106 P **P 09 00 12.5 +0.6**
KWP pmax pmax
comp=Z,37nm,1.2s
KWP Kalwaria Pacla 25.92 106 P **P 09 00 12.5 +0.6**
SCHQ Schefferville 26.01 271 P **P 09 00 11.3 -1.4**
comp=Z,10.0nm,0.8s,baz=56,slow=13,SNR=7.9
SCHQ Schefferville 26.01 271 P **P 09 00 13.9 +1.2**
PSZ Piszkesteto 26.12 112 P **P 09 00 14.4 +0.6**
PSZ pmax pmax
comp=Z,18nm,1.1s
PSZ Piszkesteto 26.12 112 P **P 09 00 14.4 +0.6**
PSZ IAmb IAmb 09 00 19.1
comp=Z,18nm,1.1s
ESDC Sonseca Array 26.19 156 P **P 09 00 13.1 -1.4**
comp=Z,3.5nm,0.8s,baz=348,slow=9.2,SNR=20
ESDC Sonseca Array 26.19 156 P **P 09 00 16.0 +1.5**
UZH Uzhgorod 26.52 108 *e*P **P 09 00 17.1 -0.2**
AKASG Malin Array Be 27.86 97 P **P 09 00 28.4 -1.0**
comp=Z,3.0nm,0.8s,baz=321,slow=9.8,SNR=6.1
AKASG Malin Array Be 27.86 97*ce*P **P 09 00 31.1 +1.8**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 27.86 97 P **P 09 00 29.4 +0.1**
AKBB Malin Array Si 27.86 97 P **P 09 00 28.5 -0.8**
AKBB pmax pmax
comp=Z,8.0nm,1.3s
AKBB Malin Array Si 27.86 97 P **P 09 00 28.5 -0.8**
NRCA Norcia 27.86 127 P **P 09 00 29.9 +0.4**
OBN Obninsk 27.92 84⇑ *e*P **P 09 00 29.3 -0.5**
OBN *e* 09 01 17.7
OBN pmax pmax
comp=Z,32nm,1.7s
MOS Moscow 27.96 82 *e*P P 09 00 26.2 -3.9
VSL Villasalto 29.65 135 P **P 09 00 47.4 +2.1**
PAOL Paolisi 29.96 126 P **P 09 00 48.6 +0.5**
PAOL IAmb IAmb 09 00 50.9
comp=Z,13nm,1.3s
PDG Podgorica 30.44 119 P **P 09 00 51.8 -0.4**
PDG IAmb IAmb 09 01 08.3
comp=Z,15nm,1.4s
KEST Kesra 33.12 138 P **P 09 01 15.9 0.0**
comp=Z,1.8nm,0.5s,baz=276,slow=9.2,SNR=5.5
KEST Kesra 33.12 138 P **P 09 01 15.2 -0.8**
KEST IAmb IAmb 09 01 21.3
comp=Z,11nm,1.3s
ARU Arti 36.14 66*ce*P **P 09 01 41.2 -0.6**
ARU pmax pmax
comp=Z,18nm,2.5s
NRIK Noril'sk 36.54 35 P **P 09 01 45.0 -0.1**
comp=Z,1.5nm,0.3s,baz=318,slow=7.0,SNR=7.1
SOC Sochi 37.89 95 *e*P **P 09 01 56.0 -0.8**
SOC *e* 09 03 23.5
SOC *e*PPP PPP 09 03 46.1
SOC *e*S **S 09 07 49.1 +1.3**
SOC *e*SSS SSS 09 10 50.0
SOC pmax pmax
comp=Z,44nm,1.3s
SOC MLR MLR
comp=Z,268nm,13.0s
ANTO Ankara 38.02 106 P **P 09 01 58.6 +0.6**
ANTO Ankara 38.02 106 P **P 09 01 58.6 +0.6**
GOF Gofitskoye 38.14 91⇑ *e*P **P 09 01 59.3 +0.4**
BR131 Keskin Array S 38.49 105 P **P 09 02 03.2 +1.2**
BR131 pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 38.49 105 P **P 09 02 03.2 +1.2**
BRTR Keskin Array B 38.49 105 P **P 09 02 02.8 +0.7**
comp=Z,1.9nm,0.9s,baz=357,slow=9.7,SNR=7.1
BRTR Keskin Array B 38.49 105*ce*P **P 09 02 03.7 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 38.49 105 P **P 09 02 02.5 +0.5**
KIV Kislovodsk 38.87 92 *e*P **P 09 02 07.1 +2.0**
KIV pmax pmax
comp=Z,26nm,1.1s
SHA1 Shidzhatmaz 39.03 92 *i* P **P 09 02 08.4 +1.7**
KBZ Khabaz 39.14 92 P **P 09 02 08.3 +1.1**
comp=Z,4.6nm,0.8s,baz=320,slow=11,SNR=6.2
YKA Yellowknife Ar 39.25 313 P **P 09 02 07.5 -0.5**
comp=Z,3.9nm,0.9s,baz=51,slow=8.8,SNR=4.5
YKA Yellowknife Ar 39.25 313*ce*P **P 09 02 07.6 -0.3**
YKA pmax pmax
comp=Z,4.0nm,0.9s
MAK Makhachkala 41.75 89 *e*P P 09 02 24.6 -4.2
MAK *e*S **S 09 08 41.6 -4.0**
MAK pmax pmax
comp=Z,238nm,1.7s
MAK MLR MLR
comp=Z,447nm,19.0s
ABKAR Akbulak array 42.04 73 P **P 09 02 31.1 -0.1**
ABKAR Akbulak array 42.04 73 P **P 09 02 29.7 -1.5**
TIXI Tiksi 42.12 15*ce*P **P 09 02 32.5 +1.0**
TIXI pmax pmax
comp=Z,111nm,1.7s
TIXI Tiksi 42.12 15 P **P 09 02 32.3 +0.8**
TIXI IAmb IAmb 09 02 33.5
comp=Z,20nm,1.2s
TOLK Toolik Lake Re 42.81 336 P **P 09 02 38.2 +0.9**
TOLK IAmb IAmb 09 02 39.5
comp=Z,23nm,1.1s
BMAR Burnt Mountain 42.95 333 P **P 09 02 38.9 +0.4**
BRVK Borovoye 43.20 62*ce*P **P 09 02 41.3 +0.8**
BRVK pmax pmax
comp=Z,16nm,2.5s
BRVK Borovoye 43.20 62 P **P 09 02 39.8 -0.7**
P53A Whipple 44.05 267 P **P 09 02 49.2 +1.7**
N49A Columbus Grove 44.08 271 P **P 09 02 48.0 +0.2**
P52A Corning 44.25 268 P **P 09 02 50.0 +0.8**
P52A IAmb IAmb 09 02 51.0
comp=Z,18nm,1.2s
O49A Covington 44.75 270 P **P 09 02 53.8 +0.7**
F33A 5 Mile Ranch, 45.25 285 P **P 09 02 58.7 +1.7**
F33A IAmb IAmb 09 02 59.8
comp=Z,9.6nm,1.1s
Q51A Peebles 45.28 269 P **P 09 02 58.2 +0.8**
Q51A IAmb IAmb 09 02 59.0
comp=Z,11nm,0.9s
VWCC Virginia Weste 45.32 264 P **P 09 02 58.9 +1.1**
IL31 45.74 332 P **P 09 03 00.8 +0.1**
IL31 IAmb IAmb 09 03 04.9
comp=Z,11nm,1.4s
ILAR Eielson Array 45.74 332 P **P 09 03 01.4 +0.7**
comp=Z,5.6nm,1.2s,baz=28,slow=5.7,SNR=20
ILAR PcP **PcP 09 04 38.1 -0.1**
comp=Z,1.8nm,0.9s,baz=353,slow=3.3,SNR=10
ILAR Eielson Array 45.74 332 P **P 09 03 00.9 +0.2**
P48A Milroy 45.82 271 P **P 09 03 02.0 +0.4**
MDM Murphy Dome 45.84 333 P **P 09 03 02.7 +1.2**
COLA College 45.84 333 *i* P **P 09 03 02.5 +1.0**
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA College 45.84 333 P **P 09 03 02.2 +0.8**
IMAR Indian Mountai 45.92 337 P **P 09 03 02.8 +0.7**
CCB Clear Creek Bu 46.03 333 P **P 09 03 03.5 +0.5**
CCB IAmb IAmb 09 03 09.2
comp=Z,6.6nm,1.4s
DOT Dot Lake 46.15 330 P **P 09 03 04.8 +0.8**
DOT IAmb IAmb 09 03 05.0
comp=Z,9.6nm,1.5s
BCAR Beaver Creek A 46.16 329 P **P 09 03 06.0 +1.9**
ECSD EROS Data Cent 47.09 284 P **P 09 03 12.1 +0.5**
ECSD IAmb IAmb 09 03 20.2
comp=Z,8.0nm,1.4s
WCI Wyandotte Cave 47.22 271 P **P 09 03 13.4 +0.8**
WCI pmax pmax
comp=Z,12nm,1.0s
WCI Wyandotte Cave 47.22 271 P **P 09 03 13.4 +0.8**
BILL Bilibino 47.63 358⇑ *e*P **P 09 03 18.0 +2.6**
BILL *e* 09 05 03.3
BILL *e*S S 09 10 27.0 +17
BILL pmax pmax
comp=Z,5.0nm,1.2s
ZAA0 Zalesovo Array 47.71 51 P **P 09 03 15.5 -0.7**
ZALV Zalesovo Beam 47.71 51 P **P 09 03 14.9 -1.3**
comp=Z,1.4nm,0.6s,baz=317,slow=8.5,SNR=6.1
ZALV PcP **PcP 09 04 44.2 -1.1**
comp=Z,0.7nm,0.6s,baz=321,slow=6.6,SNR=3.8
ZALV Zalesovo Beam 47.71 51 P **P 09 03 15.8 -0.4**
USIN University of 48.03 272 P **P 09 03 19.5 +0.6**
PAULI Pauline 48.16 264 P **P 09 03 20.6 +0.6**
KURK Kurchatov 48.18 58*ce*P **P 09 03 20.1 +0.2**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 48.18 58 P **P 09 03 19.2 -0.7**
KURK IAmb IAmb 09 03 20.4
comp=Z,8.4nm,1.0s
V51A Loudon 48.42 267 P **P 09 03 22.5 +0.6**
V51A IAmb IAmb 09 03 25.4
comp=Z,12nm,1.1s
LAO LASA Array 48.60 293 P **P 09 03 24.6 +1.2**
T47A Sharon Grove 48.61 270 P **P 09 03 23.8 +0.4**
EGMT Eagleton 48.88 297 P **P 09 03 26.5 +1.0**
W50A Signal Mountai 49.34 268 P **P 09 03 29.6 +0.5**
Y52A Lilburn 49.94 266 P **P 09 03 33.8 +0.2**
Y52A IAmb IAmb 09 03 36.9
comp=Z,18nm,1.4s
KK31 Karatay Array 51.33 70 P **P 09 03 43.6 -0.4**
KK31 pmax pmax
comp=Z,9.0nm,1.2s
KK31 Karatay Array 51.33 70 P **P 09 03 43.6 -0.4**
KK31 IAmb IAmb 09 03 45.7
comp=Z,8.7nm,1.1s
KKAR Karatay Array 51.33 70 P **P 09 03 43.4 -0.6**
KKAR Karatay Array 51.33 70 P **P 09 03 43.4 -0.6**
YNE Yellowstone No 51.48 295 P **P 09 03 46.1 +0.7**
BOZ Bozeman (W) 51.62 297 P **P 09 03 47.1 +0.8**
BOZ pmax pmax
comp=Z,14nm,1.2s
BOZ Bozeman (W) 51.62 297 P **P 09 03 47.0 +0.8**
BOZ IAmb IAmb 09 03 48.0
comp=Z,14nm,1.2s
U40A Yellville 51.62 275 P **P 09 03 46.1 -0.1**
YMP Mirror Lake PI 51.76 295 P **P 09 03 47.5 -0.1**
K22A Casper 52.06 291 P **P 09 03 49.5 -0.2**
K22A IAmb IAmb 09 03 50.9
comp=Z,7.9nm,1.1s
YHL Hebgen Lake 52.07 296 P **P 09 03 50.1 +0.2**
DGZ Jazzator, Alta 52.15 53 *i* P **P 09 03 50.8 +0.6**
DGZ pmax pmax
comp=Z,10.0nm,1.4s
YHB Horse Butte 52.16 296 P **P 09 03 50.7 +0.3**
H17A Grant Village 52.21 295 P **P 09 03 51.9 +1.0**
H17A IAmb IAmb 09 03 54.4
comp=Z,12nm,1.2s
YPP Pitchstone Pla 52.41 295 P **P 09 03 54.2 +1.8**
FLWY Flagg Ranch 52.52 295 P **P 09 03 54.2 +1.0**
FLWY IAmb IAmb 09 04 05.0
comp=Z,6.3nm,1.1s
MAKZ Makanchi 52.66 58 P **P 09 03 53.7 -0.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 52.66 58 P **P 09 03 53.7 -0.2**
PHWY Pilot Hill 52.76 289 P **P 09 03 55.3 +0.3**
PHWY IAmb IAmb 09 03 55.5
comp=Z,9.9nm,1.4s
IMW Indian Meadow 52.77 295 P **P 09 03 54.9 -0.2**
IMW IAmb IAmb 09 03 58.1
comp=Z,7.7nm,1.4s
MK31 Makanchi Array 52.79 58 P **P 09 03 54.9 0.0**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 52.79 58 P **P 09 03 54.9 0.0**
MKAR Makanchi Array 52.79 58 P **P 09 03 55.1 +0.2**
comp=Z,1.9nm,0.8s,baz=324,slow=6.0,SNR=15
MKAR Makanchi Array 52.79 58 P **P 09 03 54.5 -0.4**
MOOW Moose Ponds 52.82 295 P **P 09 03 55.4 0.0**
LOHW Long Hollow 52.88 295 P **P 09 03 56.5 +0.7**
SNOW Snow King Moun 53.07 295 P **P 09 03 58.5 +1.2**
SNOW IAmb IAmb 09 03 59.6
comp=Z,9.8nm,1.2s
TOA0 Torodi Ar. Sit 53.08 156 P **P 09 03 57.6 +0.4**
TORD Torodi Ar. Bea 53.08 156 P **P 09 03 57.1 -0.1**
comp=Z,2.8nm,0.8s,baz=341,slow=8.0,SNR=13
TORD Torodi Ar. Bea 53.08 156 P **P 09 03 56.8 -0.4**
TPAW Teton Pass 53.12 295 P **P 09 03 58.8 +1.1**
TPAW IAmb IAmb 09 03 59.5
comp=Z,7.4nm,1.2s
BW06 Boulder Array 53.18 293 P **P 09 03 57.0 -1.1**
BW06 IAmb IAmb 09 03 59.3
comp=Z,11nm,1.1s
PD31 Pinedale Array 53.18 293 P **P 09 03 56.7 -1.3**
PD31 IAmb IAmb 09 03 59.3
comp=Z,9.7nm,1.1s
PDAR Pinedale Array 53.18 293 P **P 09 03 57.9 -0.2**
comp=Z,4.9nm,0.9s,baz=61,slow=7.0,SNR=27
PDAR Pinedale Array 53.18 293 P **P 09 03 56.1 -1.9**
KAN14 Manchester OK 53.29 280 P **P 09 03 59.0 +0.4**
N23A Red Feather La 53.30 289 P **P 09 03 59.6 +0.6**
N23A IAmb IAmb 09 04 00.8
comp=Z,12nm,1.1s
AAK Ala-Archa 53.32 67*ce*P **P 09 04 00.5 +1.5**
AAK pmax pmax
comp=Z,47nm,2.5s
BCYI Bear Canyon 53.38 297 P **P 09 03 59.6 +0.2**
KSCO Kaye Shedlock' 53.52 285 P **P 09 04 00.8 +0.4**
KSCO IAmb IAmb 09 04 02.0
comp=Z,12nm,1.1s
BTK Batken 54.01 71 P **P 09 04 04.4 +0.4**
BTK pmax pmax
comp=Z,14nm,1.0s
BTK Batken 54.01 71 P **P 09 04 04.4 +0.4**
BMO Blue Mountains 54.40 300 P **P 09 04 06.1 -0.6**
BMO pmax pmax
comp=Z,2.0nm,1.0s
BMO Blue Mountains 54.40 300 P **P 09 04 06.1 -0.6**
CHGR Chuyangaron 54.51 74 P **P 09 04 08.0 +0.3**
GAR Garm 54.70 73 P **P 09 04 09.5 +0.4**
MOY Mondy 54.74 42 *e*P **P 09 04 10.3 +1.2**
MOY pmax pmax
comp=Z,26nm,1.7s
O20A White River Ci 54.88 290 P **P 09 04 12.5 +2.1**
O20A IAmb IAmb 09 04 16.0
comp=Z,5.8nm,1.2s
HWUT Hardware Ranch 54.96 294 P **P 09 04 10.7 -0.2**
RDMU Red Mountain 55.04 292 P **P 09 04 11.6 0.0**
X34A Smith Ranch, M 55.24 278 P **P 09 04 14.3 +1.5**
TCUT Toone Canyon 55.31 294 P **P 09 04 14.0 +0.4**
WMOK Wichita Mounta 55.53 279 P **P 09 04 15.5 +0.5**
WMOK pmax pmax
comp=Z,9.0nm,1.3s
WMOK Wichita Mounta 55.53 279 P **P 09 04 15.4 +0.5**
WMOK IAmb IAmb 09 04 18.0
comp=Z,9.4nm,1.2s
P17A Butcher Ranch, 56.45 292 P **P 09 04 21.7 +0.1**
PV22 Blue Mesa, Par 56.46 290 P **P 09 04 21.9 0.0**
PV23 Carpenter Ridg 56.62 290 P **P 09 04 23.6 +0.6**
PV23 IAmb IAmb 09 04 24.2
comp=Z,8.0nm,1.0s
DUG Dugway, Tooele 56.65 294 P **P 09 04 23.2 +0.1**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 56.65 294 P **P 09 04 23.1 +0.1**
PV12 Saucer Basin, 56.65 290 P **P 09 04 23.4 +0.1**
PV12 IAmb IAmb 09 04 24.5
comp=Z,7.0nm,1.1s
PV14 Lion Creek, Pa 56.70 290 P **P 09 04 23.8 +0.3**
PV14 IAmb IAmb 09 04 24.6
comp=Z,6.5nm,0.8s
PV18 Skein Mesa, Pa 56.76 290 P **P 09 04 24.4 +0.4**
PV18 IAmb IAmb 09 04 25.2
comp=Z,7.8nm,1.0s
TMUT Trail Mountain 56.78 292 P **P 09 04 24.6 +0.3**
ELK Elko 57.13 296 P **P 09 04 26.7 +0.1**
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 57.13 296 P **P 09 04 26.7 +0.1**
ELK IAmb IAmb 09 04 28.6
comp=Z,5.2nm,1.2s
WMQ Urumqi 57.30 56 *e*P **P 09 04 30.8 +3.3**
MSU Marysvale 57.84 293 P **P 09 04 32.7 +1.1**
MSU Marysvale 57.84 293 P **P 09 04 32.7 +1.1**
MVU Marysvale 57.87 293 P **P 09 04 32.6 +0.8**
MTPU Mount Pierson 58.25 292 P **P 09 04 35.7 +1.1**
PSUT Pine Spring 58.49 294 P **P 09 04 37.0 +0.9**
DBIC Dimbokro 58.52 165 P **P 09 04 36.0 -0.2**
comp=Z,4.6nm,0.8s,baz=355,slow=3.6,SNR=4.5
DBIC Dimbokro 58.52 165 P **P 09 04 36.3 +0.1**
DBIC pmax pmax
comp=Z,10.0nm,1.2s
DBIC Dimbokro 58.52 165 P **P 09 04 36.3 +0.1**
DBIC IAmb IAmb 09 05 04.1
comp=Z,10nm,1.2s
TIC Toumodi 58.53 165 *e*P **P 09 04 36.2 -0.1**
ANMO Albuquerque 58.58 286*ce*P **P 09 04 37.4 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
PKCU Pink Cliffs 58.82 292 P **P 09 04 38.2 -0.4**
KIC Kosan Boka 58.84 165 *e*P **P 09 04 37.8 -0.7**
comp=Z,25nm,1.2s
LIC Lamto 58.94 165 *e*P **P 09 04 39.1 -0.1**
comp=Z,22nm,0.8s
SZCU Shurtz Canyon 59.00 293 P **P 09 04 39.8 +0.2**
CCUT Cedar City 59.15 293 P **P 09 04 41.2 +0.5**
R11A Troy Canyon, C 59.33 295 P **P 09 04 41.4 -0.6**
BNM Barren Site 59.34 285 P **P 09 04 41.7 -0.4**
KNB Kanab 59.39 292 P **P 09 04 42.7 +0.3**
KNB pmax pmax
comp=Z,12nm,1.4s
KNB Kanab 59.39 292 P **P 09 04 42.7 +0.3**
LCMT Little Creek M 59.56 293 P **P 09 04 44.0 +0.5**
PAHR Pah Rah Range 59.61 299 P **P 09 04 43.7 -0.1**
PAHR IAmb IAmb 09 04 47.1
comp=Z,6.7nm,1.2s
JCT Junction City 59.63 277 P **P 09 04 43.9 0.0**
JCT pmax pmax
comp=Z,14nm,1.2s
JCT Junction City 59.63 277 P **P 09 04 43.9 0.0**
KVN Kaiserville 59.69 298 P **P 09 04 44.8 +0.3**
KVN pmax pmax
comp=Z,6.0nm,1.1s
KVN Kaiserville 59.69 298 P **P 09 04 44.8 +0.3**
KVN IAmb IAmb 09 04 46.2
comp=Z,5.5nm,1.1s
SONM Songino Array 59.72 40 P **P 09 04 43.3 -1.1**
comp=Z,0.8nm,0.7s,baz=340,slow=8.3,SNR=4.4
SONM Songino Array 59.72 40 P **P 09 04 44.9 +0.5**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 59.72 40 P **P 09 04 44.9 +0.5**
ULN Ulaanbaatar 59.88 40*ce*P **P 09 04 47.0 +1.5**
ULN pmax pmax
comp=Z,16nm,2.5s
WUAZ Wupatki 60.11 290 P **P 09 04 47.4 +0.1**
YERR Yerington 60.19 298 P **P 09 04 47.9 +0.1**
YERR IAmb IAmb 09 04 51.7
comp=Z,6.5nm,1.1s
NVAR Mina Array Bea 60.31 297 P **P 09 04 49.3 +0.6**
comp=Z,1.1nm,0.9s,baz=53,slow=5.6,SNR=6.4
NVAR Mina Array Bea 60.31 297 P **P 09 04 48.7 -0.1**
NIL Nilore 60.50 73 P **P 09 04 49.8 0.0**
NIL pmax pmax
comp=Z,18nm,1.3s
NIL Nilore 60.50 73 P **P 09 04 49.8 0.0**
SHPR Sheep Range 60.76 294 P **P 09 04 53.2 +1.4**
SHPR IAmb IAmb 09 04 53.8
comp=Z,6.4nm,1.1s
OMMB Old Mammoth Mi 61.29 297 P **P 09 04 54.4 -1.1**
OMMB IAmb IAmb 09 05 01.4
comp=Z,6.5nm,1.4s
MDPB Devils Postpil 61.31 298 P **P 09 04 54.9 -0.6**
MDPB IAmb IAmb 09 04 57.6
comp=Z,5.1nm,1.1s
TX31 Lajitas Ar. Si 62.27 280 P **P 09 05 02.0 +0.1**
TX32 Lajitas Array 62.27 280 P **P 09 05 02.1 +0.2**
TXAR Lajitas Array 62.27 280 P **P 09 05 02.2 +0.3**
comp=Z,2.0nm,1.0s,baz=49,slow=3.8,SNR=12
TXAR Lajitas Array 62.27 280 P **P 09 05 01.8 -0.1**
TUC Tucson 62.65 288 P **P 09 05 05.3 +0.9**
TUC pmax pmax
comp=Z,8.0nm,1.4s
TUC Tucson 62.65 288 P **P 09 05 05.3 +0.9**
TUC IAmb IAmb 09 05 06.6
comp=Z,7.6nm,1.4s
ISA Isabella, Lake 62.80 296 P **P 09 05 05.2 -0.1**
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA Isabella, Lake 62.80 296 P **P 09 05 05.2 -0.1**
ISA IAmb IAmb 09 05 07.2
comp=Z,3.7nm,1.0s
319A Douglas 62.85 286 P **P 09 05 06.8 +1.0**
GTA Gaotai 65.37 49 P **P 09 05 22.3 0.0**
GTA pP pP 09 05 25.9 -0.1
GTA sP sP 09 05 28.3 +0.9
GTA pmax pmax
comp=Z,6.0nm,1.3s
HSIG 65.60 286 P **P 09 05 24.5 +0.8**
ZAIG Zacatecas 67.55 276 P **P 09 05 38.0 +1.4**
ZAIG IAmb IAmb 09 05 39.2
comp=Z,4.7nm,0.9s
HHC Hu-ho-hao-te 67.59 40 *e*P **P 09 05 38.3 +1.9**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.6s
XAN Xi'an 73.17 44 P **P 09 06 09.3 -1.2**
XAN pmax pmax
comp=Z,6.0nm,1.5s
NJ2 Nanjing 77.82 37 *e*P **P 09 06 35.9 -1.3**
NJ2 pmax pmax
comp=Z,13nm,0.6s
WHN Wuhan 78.03 41 ⇓P **P 09 06 35.8 -2.5**
CMAR Chiang Mai Arr 84.20 59 P **P 09 07 09.7 -1.7**
comp=Z,1.5nm,0.3s,baz=315,slow=7.0,SNR=8.3
CMAR Chiang Mai Arr 84.20 59*ce*P **P 09 07 10.8 -0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 84.20 59 P **P 09 07 11.2 -0.2**
STKA Stephens Creek 144.80 32 PKP **PKPab 09 14 13.8 -1.5**
comp=Z,4.0nm,1.0s,baz=280,slow=6.1,SNR=4.0

IDC 20 09:14:43.5±1.1,15°27S×174°99W,h0km,mb3.8/6, mb1 4.2/6,mb1mx3.9/26,mbtmp3.8/6,MS4.3/1,Ms1 4.3/1, ms1mx3.2/37,Error ellipse: s-maj=78.4km s-min=23.9km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.93**	**195**	LR	LR	LR	09 27 48.1	
	comp=Z,734nm,21.2s,baz=32,slow=33							
PAE	**Paea**	**24.48**	**99**	*e*T	T	T	09 44 57.2	
	5.3nm,0.3s							
PPT2	**Papeete2**	**24.48**	**99**	*e*LR	LR	LR	09 25 48.5	
	comp=Z,586nm,27.0s,baz=258							
PPT2	**Papeete2**	**24.48**	**99**	*e*T	T	T	09 44 58.4	
	4.2nm,0.2s							
TIAR	**Tiarei**	**24.70**	**99**	*e*T	T	T	09 45 13.8	
	2.9nm,0.3s							
TVO	**Taravao**	**24.80**	**99**	*e*T	T	T	09 45 20.7	
	1.9nm,0.3s							
TBI	**Tubuai**	**25.37**	**112**	*e*LR	LR	LR	09 26 21.7	
	comp=Z,632nm,26.0s,baz=290							
TBI	**Tubuai**	**25.37**	**112**	*e*T	T	T	09 46 06.0	
	11nm,0.3s							
PMOR	**Pomariorio Ree**	**26.15**	**93**	*e*T	T	T	09 47 01.6	
	5.9nm,0.3s							
VAH	**Vaihoa**	**26.39**	**94**	*e*T	T	T	09 47 19.7	
	9.7nm,0.2s							
TAOE	**Nuku Hiva Isla**	**34.63**	**83**	*e*T	T	T	09 57 33.5	
	27nm,0.2s							
H11S2	**WAKE ISLAND Hy**	**38.09**	**331**	T	T	T	10 00 49.0	
	baz=149,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**38.10**	**331**	T	T	T	10 00 49.1	
	baz=149,slow=76,SNR=19							
H11S1	**WAKE ISLAND Hy**	**38.11**	**331**	T	T	T	10 00 50.4	
	baz=149,slow=76,SNR=28							
H11N3	**WAKE ISLAND Hy**	**39.06**	**332**	T	T	T	10 02 08.1	
	baz=151,slow=76,SNR=22							
H11N1	**WAKE ISLAND Hy**	**39.07**	**332**	T	T	T	10 02 01.8	
	baz=151,slow=76,SNR=50							
H11N2	**WAKE ISLAND Hy**	**39.08**	**332**	T	T	T	10 02 09.4	
	baz=151,slow=76,SNR=20							
WRA	**Warramunga Arr**	**49.38**	**257**	P	P	P	09 23 27.0	-0.6
	0.5nm,1.1s,baz=91,slow=6.0,SNR=1.6							
ASAR	**Alice Springs**	**48.69**	**252**	P	P	P	09 23 29.7	-0.3
	1.2nm,0.8s,baz=88,slow=7.9,SNR=8.8							
NVAR	**Mina Array Bea**	**75.27**	**43**	P	P	P	09 26 28.6	-0.2

1.0nm,0.8s,baz=225,slow=8.3,SNR=5.1
TXAR **Lajitas Array** **81.82 57** P P 09 27 05.9 +0.9
0.8nm,0.9s,baz=240,slow=4.0,SNR=7.3
PDAR **Pinedale Array** **83.20 42** P P 09 27 10.4 -1.6
1.2nm,0.9s,baz=194,slow=3.1,SNR=7.1
MAW **Mawson** **87.42 199** P P 09 27 32.6 +0.1
1.0nm,0.7s,baz=103,slow=7.4,SNR=2.2
BRTR **Keskin Array B** **145.08 320** PKPbc PKiKP 09 34 27.1 -0.2
2.1nm,1.0s,baz=90,slow=4.3,SNR=4.7
GERES **GERESS Array B** **145.77 350** PKPbc PKPab 09 34 25.7 +0.6
0.3nm,0.3s,baz=47,slow=2.5,SNR=5.6

IDC 20 09:19:59.6±1.7, 14.71°S×175.32°W, h0[km], mb3.8/6, mb1 4.2/6, mb1mx4.0/24, mbtmp3.8/6, MS4.0/10, Ms1 4.0/10, ms1mx3.8/35, Error ellipse: s-maj=109.2km s-min=22.2km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
RAO	**Raoul Island**	**14.67**	**189**	LR		LR	09 28 09.1	
	comp=Z,2µm,18.0s,baz=32,slow=33							
RAR	**Rarotonga**	**16.13**	**116**	LR		LR	09 28 16.6	
	comp=Z,345nm,19.4s,baz=300,slow=31							
DZM	**Mont Dzumac**	**18.79**	**244**	eLR		LR	09 28 46.7	
	comp=Z,575nm,23.6s							
PPT	**Papeete**	**24.88**	**100**	LR		LR	09 32 48.6	
	comp=Z,241nm,18.2s,baz=300,slow=31							
PAE	**Paea**	**24.88**	**100**	*e*T		T	09 50 12.1	
	3.2nm,0.3s							
PPT2	**Papeete2**	**24.88**	**100**	eLR		LR	09 31 04.3	
	comp=Z,902nm,26.8s,baz=261							
PPT2	**Papeete2**	**24.88**	**100**	*e*T		T	09 50 13.0	
	6.2nm,0.4s							
TIAR	**Tiarei**	**25.10**	**100**	*e*T		T	09 50 28.9	
	2.2nm,0.2s							
TVO	**Taravao**	**25.20**	**101**	*e*T		T	09 50 35.9	
	3.6nm,0.4s							
TBI	**Tubuai**	**25.88**	**113**	eLR		LR	09 31 34.7	
	comp=Z,933nm,26.5s,baz=291							
TBI	**Tubuai**	**25.88**	**113**	*e*T		T	09 51 20.0	
	12nm,0.2s							
PMOR	**Pomariorio Ree**	**26.50**	**94**	*e*T		T	09 52 15.7	
	4.3nm,0.2s							
VAH	**Vaihoa**	**26.75**	**95**	*e*T		T	09 52 36.0	
	9.4nm,0.2s							
TAOE	**Nuku Hiva Isla**	**34.88**	**84**	*e*T		T	10 02 51.2	
	15nm,0.2s							
H11S2	**WAKE ISLAND Hy**	**37.44**	**331**	T		T	10 07 44.0	
	baz=149,slow=76,SNR=57							
H11S3	**WAKE ISLAND Hy**	**37.46**	**331**	T		T	10 07 45.0	
	baz=149,slow=76,SNR=53							
H11S1	**WAKE ISLAND Hy**	**37.46**	**331**	T		T	10 07 46.7	
	baz=149,slow=76,SNR=65							
H11N3	**WAKE ISLAND Hy**	**38.42**	**332**	T		T	10 08 54.9	
	baz=151,slow=76,SNR=98							
H11N1	**WAKE ISLAND Hy**	**38.42**	**332**	T		T	10 08 55.1	
	baz=151,slow=76,SNR=103							
H11N2	**WAKE ISLAND Hy**	**38.44**	**332**	T		T	10 08 56.3	
	baz=151,slow=76,SNR=52							
JAY	**Jayapura**	**45.04**	**281**	LR		LR	09 48 04.1	
	comp=Z,103nm,18.3s,baz=180,slow=37							
WRA	**Warramunga Arr**	**48.20**	**256**	P		P	09 28 42.4	0.0
	0.4nm,0.8s,baz=98,slow=6.6,SNR=3.3							
WRA				LR		LR	09 48 10.3	
	comp=Z,300nm,18.1s,baz=85,slow=35							
ASAR	**Alice Springs**	**48.57**	**251**	P		P	09 28 44.9	-0.4
	1.2nm,0.7s,baz=85,slow=8.4,SNR=12							
ASAR				LR		LR	09 47 21.9	
	comp=Z,305nm,21.0s,baz=94,slow=34							
SIJI	**Sorong**	**54.52**	**280**	LR		LR	09 52 07.4	
	comp=Z,217nm,21.5s,baz=70,slow=35							
DAV	**Davao City (W)**	**62.47**	**286**	LR		LR	09 56 51.7	
	comp=Z,55nm,18.3s,baz=176,slow=35							
KAPI	**Kappang**	**64.51**	**271**	LR		LR	09 58 15.0	
	comp=Z,59nm,18.2s,baz=71,slow=36							
NVAR	**Mina Array Bea**	**75.07**	**43**	P		P	09 31 43.0	-0.7
	1.9nm,1.0s,baz=229,slow=9.9,SNR=11							
TXAR	**Lajitas Array**	**81.77**	**57**	P		P	09 32 21.6	+0.7
	1.3nm,1.0s,baz=235,slow=4.4,SNR=10							
ILAR	**Eielson Array**	**82.14**	**12**	P		P	09 32 21.8	-0.1
	1.1nm,1.1s,baz=238,slow=10,SNR=3.1							
PDAR	**Pinedale Array**	**83.00**	**43**	P		P	09 32 27.1	-0.1
	1.0nm,0.9s,baz=211,slow=1.3,SNR=6.0							
MAW	**Mawson**	**87.85**	**199**	LR		LR	10 10 15.7	
	comp=Z,110nm,18.4s,baz=68,slow=34							
BRTR	**Keskin Array B**	**144.45**	**320**	PKP		PKPbc	09 39 37.0	0.0
	1.1nm,0.8s,baz=145,slow=3.5,SNR=3.2							
GERES	**GERESS Array B**	**145.16**	**350**	PKPbc		PKPdf	09 39 39.2	-0.2
	1.0nm,0.8s,baz=0.0,slow=4.4,SNR=6.7							

*JMA **20** 09:49:27.3±0.1, 24.21°N×121.57°E, h51km±1km, M3.4*
*TAP **20** 09:49:28.1, 24.28°N×121.62°E, h47km, ML4.0, B*
ISC 20 09:49:28.8±1.1, 24.28N±0.02×121.66E±0.02, h42[km]±4[km], n140, σ1$20/250, 18C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
NACB	**Ninganchiao**	**0.12**	**209**	⇓	*i*P	**Pn**	**09 49 35.5**	**-0.3**
	baz=183							
NACB					*i* S	**Sn**	**09 49 40.6**	**0.0**
	baz=183							
ENA	**Nanau**	**0.17**	**27**	P		**Pn**	**09 49 36.8**	**+0.8**
	baz=39							
ENA					*e*S	**Sn**	**09 49 41.8**	**+0.7**
	baz=39							
ETLH	**Xiulin Townshi**	**0.17**	**246**	⇓	*i*P	**Pn**	**09 49 36.1**	**-0.1**
	baz=248							
ETLH					S	**Sn**	**09 49 41.4**	**0.0**
	baz=248							
TWD	**Chiawan**	**0.21**	**196**	⇑	*i*P	**Pn**	**09 49 36.0**	**-0.3**
	baz=184							
TWD					*i* S	**Sn**	**09 49 41.5**	**-0.1**
	baz=184							
ENAH	**Nanao**	**0.22**	**39**	⇓	*i*P	**Pn**	**09 49 36.6**	**+0.2**
	baz=44							
ENAH					*e*S	**Sn**	**09 49 42.4**	**+0.6**
	baz=44							
NNSB	**Datong**	**0.29**	**301**	⇓	*i*P	**Pn**	**09 49 37.1**	**-0.1**
	baz=304							
NNSB					S	**Sn**	**09 49 43.2**	**0.0**
	baz=304							
NNSH	**Datong**	**0.29**	**301**	⇓	*i*P	**Pn**	**09 49 37.1**	**-0.2**
	baz=304							
NNSH					*e*S	**Sn**	**09 49 43.4**	**+0.2**
	baz=304							
HWA	**Hwalien**	**0.30**	**189**	⇑	*i*P	**Pn**	**09 49 37.2**	**-0.1**
	baz=188							
HWA					*e*S	**Sn**	**09 49 43.9**	**+0.7**
	baz=188							
NNS	**Nan Shan**	**0.30**	**302**	⇓	*i*P	**Pn**	**09 49 37.2**	**-0.2**
	baz=306							
NNS					*e*S	**Sn**	**09 49 43.7**	**+0.3**
	baz=306							
NDT	**Datong Townshi**	**0.35**	**338**	⇓	*i*P	**Pn**	**09 49 37.8**	**0.0**
	baz=336							
NDT					*i* S	**Sn**	**09 49 44.3**	**+0.2**
	baz=336							
ENTT	**Nioudou**	**0.37**	**347**	⇓	*i*P	**Pn**	**09 49 38.0**	**0.0**
	baz=357							
ENTT					S	**Sn**	**09 49 44.7**	**+0.2**
	baz=357							
TWC	**Suao**	**0.37**	**28**	*i*	P	**Pn**	**09 49 38.2**	**+0.2**
	baz=30							
TWC					*e*S	**Sn**	**09 49 44.8**	**+0.3**
	baz=30							
FUSS	**Fushou**	**0.38**	**265**	⇓	*i*P	**Pn**	**09 49 38.5**	**+0.1**
	baz=264							
FUSS					S	**Sn**	**09 49 45.1**	**+0.1**
	baz=264							
WHF	**Hehuan Shan**	**0.38**	**250**	⇓	*i*P	**Pn**	**09 49 38.4**	**-0.2**
	baz=247							
WHF					S	**Sn**	**09 49 45.0**	**-0.4**
	baz=247							
TWE	**Neicheng**	**0.44**	**1**	⇑	*i*P	**Pn**	**09 49 38.8**	**0.0**
	baz=11							
TWE					S	**Sn**	**09 49 46.3**	**+0.4**
	baz=11							
TDCB	**Techi**	**0.46**	**267**	⇓	*i*P	**Pn**	**09 49 39.2**	**0.0**
	baz=267							
TDCB					S	**Sn**	**09 49 46.5**	**0.0**
	baz=267							
YHNB	**Yeheng**	**0.47**	**327**	⇓	*i*P	**Pn**	**09 49 39.1**	**-0.2**
	baz=330							
YHNB					S	**Sn**	**09 49 46.4**	**-0.3**
	baz=330							
NSK	**Sanguang**	**0.48**	**325**	⇓	*i*P	**Pn**	**09 49 39.2**	**-0.3**
	baz=335							
NSK					*e*S	**Sn**	**09 49 46.3**	**-0.7**
	baz=335							
ILA	**Ilan**	**0.49**	**10**	*e*	P	**Pn**	**09 49 39.6**	**+0.1**
	baz=11							
ILA					*e*S	**Sn**	**09 49 48.1**	**+1.0**
	baz=11							
CHGB	**Renai**	**0.49**	**244**	⇓	*i*P	**Pn**	**09 49 39.6**	**-0.1**
	baz=236							
CHGB					S	**Sn**	**09 49 47.2**	**-0.2**
	baz=236							
ESL	**Shilin**	**0.51**	**204**	⇑	*i*P	**Pn**	**09 49 38.3**	**-1.4**
	baz=194							
ESL					*e*S	**Sn**	**09 49 46.0**	**-1.5**
	baz=194							
NWLT	**Wulai**	**0.52**	**344**	P		**Pn**	**09 49 39.9**	**0.0**
	baz=342							
NWLT					*e*S	**Sn**	**09 49 47.6**	**-0.1**
	baz=342							
NTC	**Toucheng**	**0.59**	**15**	⇑	*i*P	**Pn**	**09 49 41.0**	**+0.1**
	baz=10.0							
NTC					*e*S	**Sn**	**09 49 50.7**	**+1.2**
	baz=10.0							
EGFH	**Guangfu**	**0.64**	**199**	⇑	*i*P	**Pn**	**09 49 39.8**	**-1.7**
	baz=196							
EGFH					*e*S	**Sn**	**09 49 48.8**	**-1.8**
	baz=196							
WHP	**Taichung City**	**0.65**	**270**	⇓	*i*P	**Pn**	**09 49 42.1**	**+0.4**
	baz=270							
WHP					*e*S	**Sn**	**09 49 51.6**	**+0.7**
	baz=270							
LIOB	**Emei**	**0.69**	**302**	⇓	*i*P	**Pn**	**09 49 42.5**	**+0.3**
	baz=304							
LIOB					S	**Sn**	**09 49 52.8**	**+1.0**
	baz=304							
NSTT	**Nanjuang**	**0.69**	**301**	⇓	*i*P	**Pn**	**09 49 42.4**	**+0.1**
	baz=302							
NSTT					*e*S	**Sn**	**09 49 52.5**	**+0.6**
	baz=302							
TWA	**Mucha**	**0.70**	**355**	⇑	*i*P	**Pn**	**09 49 42.2**	**-0.1**
	baz=347							
TWA					*e*S	**Sn**	**09 49 52.4**	**+0.3**
	baz=347							
VWDT	**VWDT**	**0.70**	**222**	⇑	*i*P	**Pn**	**09 49 42.2**	**-0.1**
	baz=214							
VWDT					*e*S	**Sn**	**09 49 52.5**	**+0.4**
	baz=214							
TIPB	**Shuangxi**	**0.71**	**12**	⇑	*i*P	**Pn**	**09 49 42.6**	**+0.1**
	baz=9.0							
TIPB					*e*S	**Sn**	**09 49 52.5**	**+0.2**
	baz=9.0							
TATO	**Taipei**	**0.71**	**348**	⇑	*i*P	**Pn**	**09 49 42.1**	**-0.4**
	baz=358							
TATO					S	**Sn**	**09 49 52.2**	**-0.1**
	baz=358							
TAP	**Taipei**	**0.77**	**350**	*e*	P	**Pn**	**09 49 42.7**	**-0.6**
	baz=352							
TAP					*e*S	**Sn**	**09 49 53.5**	**-0.1**
	baz=352							
TWB1	**Santiao Chiao**	**0.79**	**22**	⇑	*i*P	**Pn**	**09 49 43.8**	**+0.3**
	baz=13							
TWB1					*e*S	**Sn**	**09 49 55.0**	**+0.9**
	baz=13							
SMLT	**Sun Moon Lake**	**0.80**	**240**	*i*	P	**Pn**	**09 49 43.7**	**0.0**
	baz=233							
SMLT					*e*S	**Sn**	**09 49 54.8**	**+0.2**
	baz=233							
NWF	**Wu-fen Shan**	**0.80**	**8**	⇑	*i*P	**Pn**	**09 49 43.6**	**-0.1**
	baz=357							
NWF					*e*S	**Sn**	**09 49 55.1**	**+0.6**
	baz=357							
SBCB	**Hsinchu**	**0.80**	**310**	P		**Pn**	**09 49 44.0**	**+0.3**
	baz=324							
SBCB					*e*S	**Sn**	**09 49 55.2**	**+0.9**
	baz=324							
WFSB	**Wu-fen Shan**	**0.80**	**8**	⇑	*i*P	**Pn**	**09 49 43.6**	**0.0**
	baz=357							
WFSB					*e*S	**Sn**	**09 49 54.8**	**+0.4**
	baz=357							
SSLB	**Suanglung**	**0.81**	**233**	*i*	P	**Pn**	**09 49 43.3**	**-0.5**
	baz=227							
SSLB					*e*S	**Sn**	**09 49 54.1**	**-0.6**
	baz=227							
NCUH	**Zhongli**	**0.81**	**328**	P		**Pn**	**09 49 43.5**	**-0.3**
	baz=330							
NCUH					*e*S	**Sn**	**09 49 54.7**	**0.0**
	baz=330							
TWQ1	**Liyutan**	**0.81**	**275**	⇓	*i*P	**Pn**	**09 49 44.0**	**+0.2**
	baz=275							
TWQ1					S	**Sn**	**09 49 55.3**	**+0.6**
	baz=275							
NCU	**National Centr**	**0.81**	**328**	*i*	P	**Pn**	**09 49 43.7**	**-0.2**
	baz=330							
NCU					*e*S	**Sn**	**09 49 55.2**	**+0.5**
	baz=330							
HGSD	**Ruisui**	**0.81**	**195**	*i*	P	**Pn**	**09 49 42.6**	**-1.3**
	baz=201							
HGSD					*e*S	**Sn**	**09 49 55.7**	**+1.0**
	baz=201							
TYC	**Yuchr**	**0.82**	**243**	*i*	P	**Pn**	**09 49 44.1**	**+0.1**
	baz=241							
TYC					S	**Sn**	**09 49 55.4**	**+0.4**
	baz=241							
EHY	**Hungye**	**0.83**	**202**	*i*	P	**Pn**	**09 49 42.0**	**-2.0**
	baz=190							
NSY	**Sanyi**	**0.83**	**280**	*e*	P	**Pn**	**09 49 44.3**	**+0.2**
	baz=280							
NSY					*e*S	**Sn**	**09 49 55.8**	**+0.7**
	baz=280							
NMLH	**Miaoli**	**0.83**	**288**	P		**Pn**	**09 49 44.3**	**+0.2**
	baz=289							
NMLH					*e*S	**Sn**	**09 49 55.2**	**0.0**
	baz=289							
TWS1	**Kuangyinshan**	**0.85**	**345**	P		**Pn**	**09 49 44.0**	**-0.3**
	baz=358							
TWS1					*e*S	**Sn**	**09 49 56.2**	**+0.6**
	baz=358							
YM01	**YM01**	**0.87**	**355**	⇑	*i*P	**Pn**	**09 49 44.0**	**-0.6**
	baz=357							
YM01					*e*S	**Sn**	**09 49 55.3**	**-0.9**
	baz=357							
YM10	**YM10**	**0.88**	**354**	⇑	*i*P	**Pn**	**09 49 44.2**	**-0.6**
	baz=356							
YM10					*e*S	**Sn**	**09 49 54.9**	**-1.5**
	baz=356							
YM04	**YM04**	**0.88**	**353**	⇑	*i*P	**Pn**	**09 49 44.1**	**-0.7**
	baz=355							
PTSB	**Yuanli**	**0.88**	**281**	*e*	P	**Pn**	**09 49 44.8**	**-0.1**
	baz=281							
PTSB					*e*S	**Sn**	**09 49 57.2**	**+0.7**
	baz=281							
YM05	**YM05**	**0.89**	**355**	⇑	*i*P	**Pn**	**09 49 44.2**	**-0.7**
	baz=356							
YM05					*e*S	**Sn**	**09 49 55.5**	**-1.2**
	baz=356							
YM11	**YM11**	**0.89**	**355**	*i*	P	**Pn**	**09 49 44.4**	**-0.6**
	baz=357							
YM11					*e*S	**Sn**	**09 49 55.6**	**-1.1**
	baz=357							
NTST	**Danshui**	**0.90**	**348**	P		**Pn**	**09 49 44.7**	**-0.4**
	baz=1.0							
NTST					*e*S	**Sn**	**09 49 56.8**	**-0.2**
	baz=1.0							
YM03	**YM03**	**0.90**	**353**	*i*	P	**Pn**	**09 49 44.3**	**-0.9**
	baz=355							
YM03					*e*S	**Sn**	**09 49 54.7**	**-2.4**
	baz=355							
TCU	**Taichung**	**0.91**	**262**	*e*	P	**Pn**	**09 49 45.4**	**+0.3**
	baz=261							
TCU					*e*S	**Sn**	**09 49 58.7**	**+1.7**
	baz=261							
YM08	**YM08**	**0.91**	**356**	⇑	*i*P	**Pn**	**09 49 44.2**	**-1.0**
	baz=348							
YM08					*e*S	**Sn**	**09 49 55.5**	**-1.6**
	baz=348							
ANP	**Anpu**	**0.91**	**352**	P		**Pn**	**09 49 44.4**	**-0.9**
	baz=354							
ANP					*e*S	**Sn**	**09 49 56.4**	**-1.0**
	baz=354							
NWRT	**Kuosheng**	**0.92**	**0**	*e*	P	**Pn**	**09 49 45.1**	**-0.2**
	baz=2.0							
NWRT					*e*S	**Sn**	**09 49 56.6**	**-0.8**
	baz=2.0							
WDJ	**Dajia District**	**0.93**	**274**	*e*	P	**Pn**	**09 49 45.4**	**0.0**
	baz=274							
WDJ					*e*S	**Sn**	**09 49 58.5**	**+0.9**
	baz=274							
WHYT	**Xinyi Township**	**0.94**	**232**	P		**Pn**	**09 49 46.4**	**+0.8**
	baz=230							
WHYT					S	**Sn**	**09 49 59.7**	**+1.9**
	baz=230							
YULB	**Yu-li**	**0.94**	**201**	P		**Pn**	**09 49 43.4**	**-2.3**
	baz=192							
WJS	**Zhushan**	**0.96**	**242**	*e*P		**Pn**	**09 49 46.7**	**+0.8**
	baz=241							
WJS					*e*S	**Sn**	**09 50 00.3**	**+1.9**
	baz=241							
WNT	**Mingjian**	**0.97**	**246**	*e*P		**Pn**	**09 49 46.8**	**+0.7**
	baz=245							
WNT					*e*S	**Sn**	**09 50 00.7**	**+2.0**
	baz=245							
EYUL	**Yuli**	**0.98**	**199**	*e*P		**Pn**	**09 49 44.2**	**-2.0**
	baz=196							
EYUL					*e*S	**Sn**	**09 49 57.1**	**-1.7**
	baz=196							
TWF1	**Yuli**	**0.98**	**200**	*e*P		**Pn**	**09 49 43.9**	**-2.3**
	baz=197							
TWF1					*e*S	**Sn**	**09 49 56.4**	**-2.4**
	baz=197							
TWY	**Chenhua**	**0.99**	**357**	P		**Pn**	**09 49 46.0**	**-0.3**
	baz=359							
TWY					*e*S	**Sn**	**09 49 59.4**	**+0.2**
	baz=359							
WCHH	**Zhanghua**	**1.02**	**259**	*e*P		**Pn**	**09 49 46.6**	**-0.1**
	baz=258							
WCHH					*e*S	**Sn**	**09 50 01.5**	**+1.7**
	baz=258							
ALS	**Alishan**	**1.09**	**226**	*i*	P	**Pn**	**09 49 48.5**	**+0.5**
	baz=214							
ALS					*e*S	**Sn**	**09 50 01.8**	**-0.3**
	baz=214							
CHN5	**Tsauling**	**1.12**	**233**	*i*	P	**Pn**	**09 49 49.0**	**+0.8**
	baz=232							
CHN5					*e*S	**Sn**	**09 50 04.5**	**+2.0**
	baz=232							
FULB	**Fuli**	**1.13**	**197**	*e*P		**Pn**	**09 49 46.8**	**-1.4**
	baz=195							
FULB					*e*S	**Sn**	**09 50 01.5**	**-1.0**
	baz=195							
WGK	**Gukeng**	**1.16**	**240**	P		**Pn**	**09 49 49.7**	**+1.1**
	baz=238							
WGK					*e*S	**Sn**	**09 50 06.3**	**+3.0**
	baz=238							
WDLH	**Douliu**	**1.18**	**240**	P		**Pn**	**09 49 49.9**	**+1.1**
	baz=239							
WDLH					S	**Sn**	**09 50 06.1**	**+2.4**
	baz=239							
JYNG	**Yonagunijimaku**	**1.19**	**81**	P		**Pn**	**09 49 49.2**	**+0.2**
JYNG					S	**Sn**	**09 50 04.5**	**+0.6**
CHKT	**Chengkung**	**1.20**	**193**	*e*P		**Pn**	**09 49 47.7**	**-1.5**
	baz=190							
CHKT					*e*S	**Sn**	**09 50 03.3**	**-1.0**
	baz=190							
RLNB	**Erlin**	**1.25**	**252**	*e*P		**Pn**	**09 49 49.5**	**-0.3**
	baz=264							
RLNB					*e*S	**Sn**	**09 50 06.5**	**+1.1**
	baz=264							
YOJ	**Yonaguni jima**	**1.25**	**81**	*i*	P	**Pn**	**09 49 50.1**	**+0.2**
	baz=70							
YOJ					S	**Sn**	**09 50 06.0**	**+0.6**
	baz=70							
YOJ	**Yonaguni jima**	**1.25**	**81**	P		**Pn**	**09 49 50.0**	**+0.2**
YOJ					S	**Sn**	**09 50 06.1**	**+0.6**
WTK	**Tuku**	**1.30**	**243**	*e*P		**Pn**	**09 49 50.9**	**+0.4**
	baz=256							
WTK					*e*S	**Sn**	**09 50 09.0**	**+2.3**
	baz=256							
CHN2	**Minshiung**	**1.31**	**236**	*e*S		**Sn**	**09 50 09.8**	**+2.8**
	baz=234							
WTCT	**Ta-ch'eng**	**1.32**	**252**	*e*S		**Sn**	**09 50 08.0**	**+0.7**
	baz=251							
EDH	**Donghe**	**1.34**	**194**	*e*P		**Pn**	**09 49 49.3**	**-1.8**
	baz=192							
EDH					*e*S	**Sn**	**09 50 07.6**	**-0.1**
	baz=192							
CHN4	**Tsaushan**	**1.34**	**227**	P		**Pn**	**09 49 52.3**	**+1.2**
	baz=225							
CHN4					*e*S	**Sn**	**09 50 10.6**	**+2.8**
	baz=225							
TPUB	**Ta-pu**	**1.35**	**224**	*e*P		**Pn**	**09 49 52.2**	**+0.9**
	baz=212							
TPUB					*e*S	**Sn**	**09 50 10.9**	**+2.8**
	baz=212							
CHY	**Chiayi**	**1.37**	**236**	P		**Pn**	**09 49 51.9**	**+0.4**
	baz=246							
CHY					*e*S	**Sn**	**09 50 10.2**	**+1.8**
	baz=246							
STYT	**Tauyuan**	**1.38**	**217**	*i*	P	**Pn**	**09 49 52.1**	**+0.4**
	baz=204							
STYT					*e*S	**Sn**	**09 50 10.9**	**+2.1**
	baz=204							
WMLT	**Mailiao**	**1.39**	**250**	*e*S		**Sn**	**09 50 09.9**	**+0.9**
	baz=250							
PCYT	**Pengchaiyu**	**1.40**	**16**	*e*P		**Pn**	**09 49 51.4**	**-0.5**
	baz=5.0							
PCYT					*e*S	**Sn**	**09 50 09.3**	**+0.2**
	baz=5.0							
WTP	**Ta-pu**	**1.40**	**223**	*i*	P	**Pn**	**09 49 52.6**	**+0.6**
	baz=212							
WTP					*e*S	**Sn**	**09 50 12.3**	**+2.9**
	baz=212							
LONT	**Longtian**	**1.45**	**200**	P		**Pn**	**09 49 50.1**	**-2.5**
	baz=189							
LONT					*e*S	**Sn**	**09 50 08.6**	**-1.8**
	baz=189							
WSF	**Szhu**	**1.46**	**244**	*e*P		**Pn**	**09 49 52.6**	**-0.1**
	baz=254							
WSF					*e*S	**Sn**	**09 50 11.6**	**+0.9**
	baz=254							
WLGB	**Puzi**	**1.48**	**238**	*e*S		**Sn**	**09 50 13.7**	**+2.7**
	baz=249							
SNST	**Tainan City**	**1.50**	**225**	P		**Pn**	**09 49 54.4**	**+1.1**
	baz=224							
SNST					*e*S	**Sn**	**09 50 14.5**	**+3.0**
	baz=224							
CHN1	**Nanshi**	**1.50**	**224**	P		**Pn**	**09 49 53.9**	**+0.5**
	baz=222							
CHN1					*e*S	**Sn**	**09 50 14.0**	**+2.3**
	baz=222							
SGST	**Jiashian**	**1.55**	**220**	*e*P		**Pn**	**09 49 53.8**	**-0.1**
	baz=218							
SGST					*e*S	**Sn**	**09 50 13.4**	**+0.6**
	baz=218							
TWG	**Pinlang**	**1.55**	**200**	*e*P		**Pn**	**09 49 51.4**	**-2.5**
	baz=187							
TWGBT	**Beinan**	**1.55**	**200**	P		**Pn**	**09 49 51.4**	**-2.6**
	baz=187							
ICHU	**Yijhu**	**1.56**	**234**	*e*P		**Pn**	**09 49 55.0**	**+0.9**
	baz=233							
ICHU					*e*S	**Sn**	**09 50 14.5**	**+1.4**
	baz=233							
SLGT	**Liugui**	**1.58**	**216**	P		**Pn**	**09 49 55.5**	**+1.1**
	baz=206							
SLGT					*e*S	**Sn**	**09 50 16.8**	**+3.2**
	baz=206							
LDUT	**Ludao**	**1.61**	**186**	*e*P		**Pn**	**09 49 53.1**	**-1.6**
	baz=184							
LDUT					*e*S	**Sn**	**09 50 13.2**	**-1.1**
	baz=184							
CHN8	**Yiju**	**1.62**	**235**	*e*P		**Pn**	**09 49 55.2**	**+0.3**
	baz=234							
CHN8					*e*S	**Sn**	**09 50 17.7**	**+3.2**
	baz=234							
SCST	**Cishan**	**1.75**	**218**	*e*P		**Pn**	**09 49 57.8**	**+1.1**
	baz=216							
SCST					*e*S	**Sn**	**09 50 20.8**	**+3.0**
	baz=216							

TAW	**Tawu**	**2.04**	**200**	*eP*		**Pn**	**09 49 59.2**	**-1.4**
	baz=188								
SSPT	**Xinbi**	**2.05**	**209**	*eP*		**Pn**	**09 50 01.1**	**+0.3**
	baz=207								
PNG	**Penghu**	**2.05**	**250**	*eP*		**Pn**	**09 49 59.9**	**-1.0**
	baz=249								
PHUB	**P'eng-hu**	**2.06**	**249**	*eP*		**Pn**	**09 49 59.5**	**-1.4**
	baz=248								
PHUB				*eS*		**Sn**	**09 50 22.9**	**-2.4**
	baz=248								
WDGT	**Dungji**	**2.09**	**241**	P		**Pn**	**09 50 00.9**	**-0.5**
	baz=240								
WDGT				*eS*		**Sn**	**09 50 24.9**	**-1.3**
	baz=240								
PTTC	**Pingtan**	**2.10**	**306**	*eP*		**Pn**	**09 49 59.7**	**-1.8**
	baz=307								
SCZT	**Fangliau**	**2.12**	**207**	*eP*		**Pn**	**09 50 02.2**	**+0.4**
	baz=192								
VWUC	**VWUC**	**2.13**	**290**	*eP*		**Pn**	**09 50 00.2**	**-1.7**
	baz=290								
JKRS	**Kuro-shima**	**2.15**	**91**	P		**Pn**	**09 50 02.6**	**+0.5**
JKRS				S		**Sn**	**09 50 28.9**	**+1.3**
SLIU	**Shizi**	**2.20**	**201**	*eP*		**Pn**	**09 50 03.5**	**+0.6**
	baz=190								
LAY	**Lan-yu**	**2.23**	**183**	P		**Pn**	**09 50 01.7**	**-1.7**
	baz=174								
LAY				*eS*		**Sn**	**09 50 28.5**	**-1.2**
	baz=174								
WLCH	**Liuqiu**	**2.25**	**212**	*eP*		**Pn**	**09 50 05.2**	**+1.6**
	baz=223								
JIJ	**Ishigaki jima**	**2.27**	**87**	P		**Pn**	**09 50 03.6**	**-0.2**
JIJ				S		**Sn**	**09 50 30.3**	**-0.3**
MATB	**Ma-tsu**	**2.42**	**321**	*eP*		**Pn**	**09 50 03.8**	**-2.2**
	baz=321								
PTMZ	**Houxiangcun**	**2.43**	**289**	*eP*		**Pn**	**09 50 04.2**	**-1.8**
	baz=289								
JISG	**Ishigakijimahi**	**2.44**	**82**	P		**Pn**	**09 50 05.9**	**-0.2**
JISG				S		**Sn**	**09 50 34.2**	**-0.5**
TWK1	**Hengchun**	**2.45**	**199**	*eP*		**Pn**	**09 50 05.5**	**-0.8**
	baz=186								
TWKBT	**Hengchun**	**2.45**	**199**	*eP*		**Pn**	**09 50 05.0**	**-1.3**
	baz=187								
TWKBT				*eS*		**Sn**	**09 50 34.6**	**-0.5**
	baz=187								
JTJ	**Tarama**	**2.80**	**82**	P		**Pn**	**09 50 11.6**	**+0.5**
JTJ				S		**Sn**	**09 50 44.7**	**+1.1**
LYJJ	**Jianjiangzhen**	**2.84**	**323**	*eP*		**Pn**	**09 50 09.9**	**-1.8**
	baz=325								
KNM	**Kinmen**	**2.94**	**273**	*eP*		**Pn**	**09 50 13.4**	**+0.3**
	baz=273								
XPSS	**Dashiqiu**	**2.95**	**334**	*eP*		**Pn**	**09 50 11.1**	**-2.1**
	baz=335								
KNMB	**Chin-men Tao**	**2.99**	**274**	*eP*		**Pn**	**09 50 11.7**	**-2.0**
	baz=275								
MHZQ	**Yeshan**	**2.99**	**308**	*eP*		**Pn**	**09 50 12.0**	**-1.8**
	baz=309								
JIRB	**Irabujima**	**3.25**	**80**	P		**Pn**	**09 50 18.1**	**+0.8**
JIRB				S		**Sn**	**09 50 54.8**	**+0.1**
JIKM	**Ikemajima**	**3.33**	**78**	P		**Pn**	**09 50 18.9**	**+0.5**
JIKM				*eS*		**Sn**	**09 50 58.1**	**+1.4**
JMJ	**Miyako jima 2**	**3.35**	**80**	*eP*		**Pn**	**09 50 20.2**	**+1.4**
	baz=81								
JMJ				*eS*		**Sn**	**09 50 58.1**	**+0.8**
	baz=81								
JMJ2	**Miyako jima3**	**3.38**	**81**	P		**Pn**	**09 50 20.2**	**+1.2**
JMJ2				*eS*		**Sn**	**09 50 58.6**	**+0.8**
AXDP	**Jialang**	**3.41**	**281**	*eP*		**Pn**	**09 50 18.1**	**-1.4**
	baz=283								
JOGS	**Gusukube**	**3.45**	**81**	P		**Pn**	**09 50 21.4**	**+1.4**
JOGS				*eS*		**Sn**	**09 51 01.0**	**+1.3**

SJA **20** *10:18:16.7±0.7, 35.56S×71.50W, h101km±8km, ML4.4, MW4.4*

IDC **20** *10:18:17.6±0.7, 35.58S×71.21W, h88km±5km, mb4.4/16, mb1 4.6/20, mb1mx4.5/27, mbtmp4.8/20, MS3.6/7, Ms1 3.6/7, ms1mx3.4/21, Error ellipse: s-maj=19.3km s-min=10.0km az=84.0*

GUC **20** *10:18:17.4±0.7, 35.61S×71.56W, h91km±3km, ML5.2*

NEIC **20** *10:18:17.1±1.6, 35.59S±0.04×71.3W±0.1, h85km±4km, Error ellipse: s-maj=12.1km s-min=5.1km az=79.0*

VAO **20** *10:18:17.6±0.8, 35.61S×71.34W, h90km±9km, mb4.8*

NEIC **20** *10:18:17.2, 35.63S×71.37W, h83km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.83; Mθθ-1.79; Mϕϕ-0.04; Mrθ-7.98; Mrϕ 1.45; Mθϕ-1.87; Fault plane solution: M0 8.51000×10^15 NP1:ϕs 259.26000°, δ 84.70000°, λ 78.50000°. NP2:ϕs 144.82000°, δ 12.65000°, λ 155.03000°. Principal axes: T 8.8287, Plg 49.0000°, Azm 157.0000°; N -0.6680, Plg 11.0000°, Azm 260.0000°; P -8.1607, Plg 39.0000°, Azm 360.0000°:*

ISC 20 10:18:17.2±0.4, 35.61S±0.03×71.45W±0.04, h86km±4km, h87km:pP-P, n535, σ1s 13/521, mb4.8/111, 2C-11D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.72**	**326**	⇓ *iP*		**Pn**	**10 18 34.1**	**+0.5**
GO05				*i* S		**Sn**	**10 18 45.7**	**-0.1**
GO05	**Huala**	**0.72**	**326**			**Pn**	**10 18 34.3**	**+0.8**
GO05	**Huala**	**0.72**	**326**	*eP*		**Pn**	**10 18 34.4**	**+0.8**
GO05				*eS*		**Sn**	**10 18 47.8**	**+2.1**
BO02	**Sierra Bellavi**	**0.98**	**34**	⇑ *iP*		**Pn**	**10 18 37.6**	**+1.2**
BO02				*i* S		**Sn**	**10 18 52.6**	**+1.8**
BO02	**Sierra Bellavi**	**0.98**	**34**	Pn		**Pn**	**10 18 37.6**	**+1.2**
BI02	**San Fabin de**	**1.06**	**173**	⇓ *iP*		**Pn**	**10 18 37.9**	**+0.4**
BI02				*i* S		**Sn**	**10 18 53.5**	**+0.9**
BI02	**San Fabin de**	**1.06**	**173**	Pn		**Pn**	**10 18 37.8**	**+0.3**
COIS	**El Sosneado**	**1.59**	**72**	*eP*		**Pn**	**10 18 46.0**	**+2.0**
PUMA	**Malargue**	**1.63**	**87**	*eP*		**Pn**	**10 18 46.4**	**+2.0**
PUMA				*eS*		Sn	10 18 46.5	-19
EDS3	**Malargue**	**1.67**	**96**	*eP*		**Pn**	**10 18 46.8**	**+1.6**
EDS3				*eS*		Sn	10 18 47.0	-19
BI03	**Tigo**	**1.78**	**226**	*eP*		**Pn**	**10 18 45.7**	**-0.6**
BI03				*eS*		**Sn**	**10 19 07.3**	**-1.1**
BI03				IAML			10 19 16.0	
	comp=N,28μm,0.3s							
BI03	**Tigo**	**1.78**	**226**			**Pn**	**10 18 45.7**	**-0.6**
LAMA	**Las Malvinas**	**1.95**	**71**	*eP*		**Pn**	**10 18 50.4**	**+1.8**
LAJA	**Laja**	**1.96**	**211**	*eP*		**Pn**	**10 18 48.4**	**-0.2**
LAJA				*i* S		**Sn**	**10 19 11.3**	**-1.3**
LMEL	**Las Melosas**	**2.03**	**31**	⇓ *iP*		**Pn**	**10 18 51.7**	**+1.8**
LMEL				*i* S		**Sn**	**10 19 16.5**	**+1.8**
LMEL				IAML			10 19 22.5	
	comp=N,14μm,0.3s							
MT03	**Universidad Ad**	**2.25**	**20**	⇓ *iP*		**Pn**	**10 18 53.3**	**+0.7**
MT03				*i* S		**Sn**	**10 19 20.8**	**+1.1**
MT03				IAML			10 19 24.9	
	comp=N,11μm,0.2s							
FSR	**Penalolen**	**2.25**	**20**	*eP*		**Pn**	**10 18 53.0**	**+0.3**
FSR				*i* S		**Sn**	**10 19 20.9**	**+1.1**
MT05	**Renca**	**2.29**	**15**	⇓ *iP*		**Pn**	**10 18 54.1**	**+0.9**
MT05				*i* S		**Sn**	**10 19 21.1**	**+0.6**
MT05				IAML			10 19 26.2	
	comp=E,28μm,0.4s							
MT05	**Renca**	**2.29**	**15**			**Pn**	**10 18 54.0**	**+0.9**
MT02	**Curacav**	**2.36**	**6**	⇓ *iP*		**Pn**	**10 18 54.7**	**+0.7**
MT02				*eS*		**Sn**	**10 19 22.5**	**+0.4**
MT02	**Curacav**	**2.36**	**6**	Pn		**Pn**	**10 18 54.8**	**+0.7**
PEL	**Peldehue**	**2.54**	**15**	*eP*		**Pn**	**10 18 57.2**	**+0.7**
PEL				*i* S		**Sn**	**10 19 26.9**	**+0.3**
PEL				IAML			10 19 29.1	
	comp=N,9μm,0.3s							
PEL	**Peldehue**	**2.54**	**15**	Pn		**Pn**	**10 18 57.4**	**+1.0**
PEL	**Peldehue**	**2.54**	**15**	*eP*		**Pn**	**10 18 57.5**	**+1.0**
PEL				*eS*		**Sn**	**10 19 27.1**	**+0.5**
RFA	**San Rafael**	**2.58**	**72**	*eP*		**Pn**	**10 18 58.1**	**+1.1**
RFA				*eS*		**Sn**	**10 19 25.9**	**-1.7**
VA01	**Torpederas**	**2.58**	**356**	⇓ *iP*		**Pn**	**10 18 57.4**	**+0.4**
VA01				*i* S		**Sn**	**10 19 27.3**	**-0.3**
VA01				IAML			10 19 28.9	
	comp=N,4μm,0.3s							
VA01	**Torpederas**	**2.58**	**356**			**Pn**	**10 18 57.3**	**+0.4**
ROC1	**El Roble**	**2.65**	**8**			**Pn**	**10 18 58.9**	**+0.7**
ROC1	**El Roble**	**2.65**	**8**	*eP*		**Pn**	**10 18 58.8**	**+0.7**
ROC1				*eS*		**Sn**	**10 19 29.8**	**+0.3**
ROCH	**El Roble**	**2.65**	**8**	⇓ *iP*		**Pn**	**10 18 58.8**	**+0.6**
ROCH				*i* S		**Sn**	**10 19 30.2**	**+0.6**
VA03	**San Esteban**	**2.93**	**15**	⇓ *iP*		**Pn**	**10 19 02.4**	**+0.6**
VA03				*i* S		**Sn**	**10 19 36.6**	**+0.4**
VA03				IAML			10 19 39.8	
	comp=E,11μm,0.3s							
VA03	**San Esteban**	**2.93**	**15**	Pn		**Pn**	**10 19 02.3**	**+0.6**
LC01	**Cunco**	**3.30**	**186**	⇑ *iP*		**Pn**	**10 19 06.6**	**-0.1**
LC01	**Cunco**	**3.30**	**186**	Pn		**Pn**	**10 19 06.6**	**-0.1**
AAGR	**Agrelo**	**3.32**	**41**	*eP*		**Pn**	**10 19 09.0**	**+2.0**
AAGR				*eS*		Sn	10 19 25.1	-20
AAGR				IAML			10 20 14.0	
	comp=Z,502nm,1.9s							
ARCO	**CERRO ARCO**	**3.46**	**38**	*eP*		**Pn**	**10 19 10.4**	**+1.5**
ARCO				IAML			10 20 17.1	
	comp=Z,375nm,1.8s							
ASAL	**Salagasta**	**3.71**	**36**	*eP*		**Pn**	**10 19 13.8**	**+1.5**
ASAL				IAML			10 20 25.3	
	comp=Z,395nm,1.2s							
AUSP	**Uspallata**	**3.78**	**27**	*eP*		**Pn**	**10 19 14.9**	**+1.4**
CO02	**Combarbal**	**4.41**	**5**	*eP*		**Pn**	**10 19 21.0**	**-0.8**
CO02				*i* S		**Sn**	**10 20 11.6**	**-0.4**
CO02	**Combarbal**	**4.41**	**5**			**Pn**	**10 19 22.0**	**+0.2**
RTCV	**Cerro Valdivia**	**4.45**	**34**	*eP*		**Pn**	**10 19 22.8**	**+0.5**
RTCV				*eS*		**Sn**	**10 20 06.1**	**-6.8**
RTCV				IAML			10 20 42.8	
	comp=Z,267nm,1.3s							
CO03	**El Pedregal**	**4.80**	**8**	⇓ *iP*		**Pn**	**10 19 27.1**	**-0.1**
CO03				*i* S		**Sn**	**10 20 21.0**	**-0.4**
CO03	**El Pedregal**	**4.80**	**8**			**Pn**	**10 19 27.0**	**-0.1**
PLCA	**Paso Flores**	**5.17**	**172**	*eP*		**Pn**	**10 19 32.0**	**0.0**
	comp=Z,28nm,0.3s,baz=354,slow=12,SNR=446							
PLCA				S		**Sn**	**10 20 37.0**	**+6.7**
	baz=229,slow=12,SNR=1.8							
PLCA				LR		LR	10 21 06.9	
	comp=Z,430nm,18.1s,baz=343,slow=33							
PLCA	**Paso Flores**	**5.17**	**172**	*eP*		**Pn**	**10 19 32.1**	**0.0**
ACCO	**Cerro Coronel**	**5.39**	**22**	*eP*		**Pn**	**10 19 35.3**	**-0.1**
ACCO				*eS*		**Sn**	**10 20 38.5**	**+2.3**
ACCO				IAML			10 20 40.2	
	comp=Z,334nm,0.5s							
GO04	**Tololo Observa**	**5.45**	**6**	Pn		**Pn**	**10 19 35.2**	**-0.8**
AROD	**Rodeo**	**5.67**	**18**	*eP*		**Pn**	**10 19 36.0**	**-3.2**
AROD				*eS*		**Sn**	**10 20 44.2**	**+1.0**
CO01	**Juntas del Tor**	**5.73**	**12**			**Pn**	**10 19 39.5**	**-0.5**
ACDV	**Cuesta del Vie**	**5.76**	**20**	*eP*		**Pn**	**10 19 40.3**	**0.0**
ACDV				*eS*		**Sn**	**10 20 46.7**	**+1.6**
ACDV				IAML			10 21 23.0	
	comp=Z,219nm,1.0s							
VA04	**Juan Fernndez**	**6.40**	**286**	Pn		**Pn**	**10 19 49.6**	**+0.8**
LCO	**Las Campanas**	**6.61**	**6**	Pn		**Pn**	**10 19 51.0**	**-0.9**
LL01	**San Ignacio de**	**6.80**	**186**			**Pn**	**10 19 53.1**	**-1.2**
AC05	**El Transito**	**6.82**	**9**	Pn		**Pn**	**10 19 53.6**	**-1.1**
TCA	**Tanti**	**7.13**	**55**	*eP*		**Pn**	**10 19 58.3**	**-0.6**
TCA				*eS*		Sn	10 21 25.1	+6.6
TCA				IAML			10 22 24.1	
	comp=Z,60nm,1.6s							
AC04	**Llanos de Chal**	**7.39**	**3**	Pn		**Pn**	**10 20 01.4**	**-0.9**
GO03	**Copiap**	**8.05**	**8**			**Pn**	**10 20 09.5**	**-1.9**
PB14	**IPOC Station P**	**10.98**	**5**	Pn		**Pn**	**10 20 52.0**	**+0.4**
LVC	**Limon Verde**	**13.14**	**10**	P		**Pn**	**10 21 20.1**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=206,slow=6.7,SNR=22							
LVC				S		**Sn**	**10 23 48.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=321,slow=8.1,SNR=2.8							
LVC				LR		LR	10 27 15.1	
	comp=Z,189nm,21.4s,baz=56,slow=41							
LVC	**Limon Verde**	**13.14**	**10**	Pn		**Pn**	**10 21 19.3**	**-1.4**
LVC	**Limon Verde**	**13.14**	**10**	*eP*		**Pn**	**10 21 20.2**	**-0.5**
TA01	**Diego Aracena**	**15.03**	**5**	IAmb		IAmb	10 21 50.4	
	comp=Z,84nm,0.9s							
CPUP	**Villa Florida**	**15.22**	**56**	P		**Pn**	**10 21 42.7**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=1.8							
CPUP				S		**Sn**	**10 24 34.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=1.7							
CPUP				LR		LR	10 28 09.4	
	comp=Z,156nm,18.6s,baz=330,slow=39							
GO09	**Cerro Castillo**	**15.67**	**182**			**Pn**	**10 21 52.8**	**-0.1**
GO09				IAmb		IAmb	10 21 58.7	
	comp=Z,91nm,0.8s							
PB11	**IPOC Station P**	**15.86**	**6**	IAmb		IAmb	10 21 60.0	
	comp=Z,87nm,0.9s							
MNMC	**Minye Minye**	**16.49**	**6**	IAmb		IAmb	10 22 08.2	
	comp=Z,62nm,0.8s							
PB16	**IPOC Station P**	**17.29**	**6**	P		**Pn**	**10 22 13.0**	**-0.7**
PB16				IAmb		IAmb	10 22 15.9	
	comp=Z,43nm,1.1s							
USHA	**Ushuaia**	**19.34**	**175**	P		**P**	**10 22 36.5**	**+1.1**
	comp=Z,3.5nm,0.3s,baz=346,slow=6.7,SNR=17							
LPAZ	**La Paz**	**19.47**	**10**	P		**Pn**	**10 22 38.6**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=187,slow=8.6,SNR=54							
LPAZ	**La Paz**	**19.47**	**10**	*eP*		**Pn**	**10 22 39.0**	**-0.7**
LPAZ	**La Paz**	**19.47**	**10**	Pn		**Pn**	**10 22 39.2**	**-0.5**
LPAZ				IAmb		IAmb	10 22 43.4	
	comp=Z,28nm,0.8s							
PTGB	**Pitanga**	**19.93**	**62**	*eP*		**P**	**10 22 42.0**	**-0.2**
AQDB	**Aquidauana**	**20.46**	**47**	*eP*		**P**	**10 22 47.2**	**-0.7**
TRCB	**Terra Rica**	**20.75**	**57**	*eP*		**P**	**10 22 51.4**	**+0.3**
SIV	**San Ignacio**	**21.62**	**28**	P		**P**	**10 22 60.0**	**-0.4**
	comp=Z,40nm,0.8s,baz=226,slow=9.9,SNR=179							
PCMB	**Pacaembu**	**22.49**	**57**	*eP*		**P**	**10 23 09.2**	**-0.4**
PTLB	**Pontes e Lacer**	**22.90**	**32**	*eP*		**P**	**10 23 12.9**	**-0.8**
NNA	**Nana**	**24.02**	**347**	P		**P**	**10 23 24.3**	**+0.2**
	comp=Z,23nm,0.7s,baz=189,slow=12,SNR=11							
NNA				LR		LR	10 30 38.4	
	comp=Z,110nm,21.2s,baz=142,slow=31							
NNA	**Nana**	**24.02**	**347**	P		**P**	**10 23 24.2**	**+0.1**
NNA				IAmb		IAmb	10 23 26.8	
	comp=Z,37nm,0.9s							
ITRB	**Iturama**	**24.41**	**55**	*eP*		**P**	**10 23 28.0**	**+0.3**
ETMB	**Extrema**	**26.11**	**12**	*eP*		**P**	**10 23 43.5**	**+0.4**
SAML	**Samuel**	**27.59**	**18**	*eP*		**P**	**10 23 56.1**	**-0.2**
SAML	**Samuel**	**27.59**	**18**	P		**P**	**10 23 56.1**	**-0.2**
SAML				IAmb		IAmb	10 23 57.1	
	comp=Z,14nm,0.8s							
CZSB	**Cruzeiro do Su**	**27.77**	**357**	*eP*		**P**	**10 23 58.9**	**+1.0**
CLDB	**Colider**	**28.43**	**34**	*eP*		**P**	**10 24 02.3**	**-1.5**
BDFB	**Brasilia**	**28.88**	**52**	P		**P**	**10 24 05.7**	**-2.2**
	comp=Z,3.0nm,0.5s,baz=247,slow=6.4,SNR=5.0							
BDFB	**Brasilia**	**28.88**	**52**	IAmb		IAmb	10 24 07.1	
	comp=Z,8.3nm,0.9s							
ATAH	**Atahualpa**	**29.05**	**346**	P		**P**	**10 24 10.6**	**+0.8**
	comp=Z,8.0nm,0.8s,baz=159,slow=6.0,SNR=5.0							
HOPE	**Hope Point**	**30.55**	**139**	P		**P**	**10 24 21.8**	**-0.4**
JANB	**Januaria**	**31.76**	**57**	*eP*		**P**	**10 24 32.0**	**-1.3**
NPGB	**Novo Progresso**	**32.03**	**31**	*eP*		**P**	**10 24 34.2**	**-1.4**
MACA	**Manacapuru-AM**	**33.79**	**20**	*eP*		**P**	**10 24 50.6**	**-0.3**
ITTB	**Itaituba**	**34.31**	**29**	*eP*		**P**	**10 24 54.6**	**-0.8**
PTLC	**Puerto Leguiza**	**35.73**	**354**	*eP*		**P**	**10 25 06.3**	**-1.4**
OTAV	**Otavalo**	**36.25**	**348**	*eP*		**P**	**10 25 14.6**	**+2.0**
OTAV	**Otavalo**	**36.25**	**348**	P		**P**	**10 25 12.5**	**-0.1**
OTAV				IAmb		IAmb	10 25 16.8	
	comp=Z,20nm,1.4s							
PUAC	**Puerto Asis, P**	**36.29**	**351**	*eP*		**P**	**10 25 14.2**	**+1.8**
PTGA	**Pitinga**	**36.31**	**20**	P		**P**	**10 25 12.0**	**-0.6**
PTGA				IAmb		IAmb	10 25 12.5	
	comp=Z,12nm,0.7s							
PTGA						**pP**	**10 25 31.7**	**-1.1**
PAC1	**Pacto, Paraso**	**36.34**	**348**	*eP*		**P**	**10 25 13.9**	**+0.9**
GCUF	**Volcan Galeras**	**37.05**	**350**	*eP*		**P**	**10 25 21.8**	**+2.3**
FLOC	**Florencia**	**37.20**	**353**	*eP*		**P**	**10 25 21.7**	**+1.5**
MACC	**Macarena, Meta**	**37.62**	**356**	*eP*		**P**	**10 25 24.8**	**+1.1**
BBAC	**Balboa, Cauca**	**37.82**	**351**	*eP*		**P**	**10 25 26.8**	**+1.1**
SOTA	**Rioblanco**	**37.85**	**352**	*eP*		**P**	**10 25 29.6**	**+3.4**
PCON	**Cinco Dias**	**38.02**	**352**	*eP*		**P**	**10 25 30.1**	**+2.4**
BETC	**Betania**	**38.27**	**354**	*eP*		**P**	**10 25 31.9**	**+2.6**
MARP	**Paez Belalcaza**	**38.48**	**353**	*eP*		**P**	**10 25 32.5**	**+1.3**
PRAC	**Prado**	**39.25**	**355**	*eP*		**P**	**10 25 39.3**	**+1.9**
MCPB	**Macapa, AP**	**39.44**	**32**	*eP*		**P**	**10 25 38.2**	**-0.7**
ORTC	**Ortega, Tolima**	**39.47**	**354**	*eP*		**P**	**10 25 41.2**	**+2.0**
VILC	**Villavicencio,**	**39.57**	**356**	*eP*		**P**	**10 25 42.0**	**+1.8**
YOTC	**Yotoco, Valle**	**39.65**	**352**	*eP*		**P**	**10 25 41.3**	**+0.5**
CHIC	**Chingaza**	**40.08**	**356**	*eP*		**P**	**10 25 44.8**	**+0.1**
TOLC	**Tolima**	**40.15**	**354**	*eP*		**P**	**10 25 47.4**	**+2.2**
ROSC	**El Rosal**	**40.32**	**356**	P		**P**	**10 25 49.8**	**+3.1**
	comp=Z,30nm,0.5s,baz=29,slow=21,SNR=9.9							
ROSC				LR		LR	10 41 28.0	
	comp=Z,237nm,20.8s,baz=187,slow=34							
ROSC	**El Rosal**	**40.32**	**356**	*eP*		**P**	**10 25 49.4**	**+2.8**
ROSC	**El Rosal**	**40.32**	**356**	P		**P**	**10 25 47.5**	**+0.8**
RREF	**El Recreo**	**40.46**	**354**	*eP*		**P**	**10 25 46.6**	**-1.5**
SPBC	**San Pablo de B**	**41.11**	**356**	*eP*		**P**	**10 25 52.7**	**-0.2**
RUSC	**La Rusia**	**41.31**	**358**	*eP*		**P**	**10 25 55.5**	**+0.6**
CBOC	**Ciudad Bolivar**	**41.47**	**353**	*eP*		**P**	**10 25 56.7**	**+0.8**
HELC	**Santa Helena**	**41.75**	**354**	*eP*		**P**	**10 25 59.1**	**+0.8**
SOLC	**Bahia Solano**	**41.99**	**351**	*eP*		**P**	**10 26 01.2**	**+1.3**
PTBC	**PUERTO BERRIO,**	**42.02**	**356**	*eP*		**P**	**10 25 59.0**	**-1.1**
DBBC	**Dabeiba**	**42.63**	**353**	*eP*		**P**	**10 26 07.0**	**+1.8**
PAMC	**Pamplona, Colo**	**42.73**	**358**	*eP*		**P**	**10 26 05.5**	**-0.9**
ZARC	**Zaragoza, Cauc**	**42.99**	**355**	*eP*		**P**	**10 26 07.7**	**-0.3**
UREC	**San Jos de Ur**	**43.30**	**354**	*eP*		**P**	**10 26 06.1**	**-4.4**
OCAC	**Ocana**	**43.65**	**357**	*eP*		**P**	**10 26 12.1**	**-1.3**
SMLC	**San Martn de**	**44.24**	**356**	*eP*		**P**	**10 26 16.8**	**-1.2**
SDV	**Santo Domingo**	**44.26**	**1**	P		**P**	**10 26 15.6**	**-2.8**
	comp=Z,14nm,0.7s,baz=224,slow=6.5,SNR=11							
SDV	**Santo Domingo**	**44.26**	**1**	*eP*		**P**	**10 26 17.6**	**-0.8**
SDV	**Santo Domingo**	**44.26**	**1**	*eP*		**P**	**10 26 18.3**	**-0.1**
MOTC	**Monteria, Cord**	**44.33**	**354**	*eP*		**P**	**10 26 19.0**	**+0.3**
BELA	**Belgrano 2**	**45.22**	**170**	P		**P**	**10 26 25.7**	**+0.5**
SJCC	**San Jacinto, C**	**45.39**	**355**	*eP*		**P**	**10 26 27.6**	**+0.4**
PCRV	**Puerto La Cruz**	**45.99**	**9**	P		**P**	**10 26 32.0**	**+0.1**
	comp=Z,33mn,1.0s,baz=150,slow=7.7,SNR=7.4							
SMRC	**Santa Marta, M**	**46.59**	**356**	*eP*		**P**	**10 26 35.7**	**-0.8**
URIC	**Uribia, Colomb**	**47.05**	**359**	*eP*		**P**	**10 26 37.5**	**-2.7**
VNA3	**Neumayer Olymp**	**47.69**	**157**	P		**P**	**10 26 44.4**	**-0.1**
VNA1	**Neumayer--Stat**	**48.01**	**156**	P		**P**	**10 26 47.2**	**+0.2**
VNA2	**Neumayer--Watz**	**48.35**	**157**	P		**P**	**10 26 49.4**	**-0.2**
	baz=285,slow=8.3							
SNAA	**Sanae**	**49.92**	**157**	P		**P**	**10 27 01.3**	**-0.3**
SNAA	**Sanae**	**49.92**	**157**	P		**P**	**10 27 01.2**	**-0.4**
	comp=Z,7.2nm,0.5s,baz=277,slow=8.4,SNR=43							
SNAA	**Sanae**	**49.92**	**157**	P		**P**	**10 27 01.6**	**-0.1**
FDF	**Fort de France**	**51.01**	**13**	P		**P**	**10 27 09.6**	**-0.8**
ICMP	**Isla Caja de M**	**53.40**	**6**	P		**P**	**10 27 27.4**	**-0.7**
MLPR	**Magueyes Islan**	**53.45**	**5**	P		**P**	**10 27 27.4**	**-0.9**
OBIP	**Obispado Ponce**	**53.55**	**6**	P		**P**	**10 27 28.5**	**-0.6**
PDPR	**Patillas Dam,**	**53.58**	**6**	IAmb		IAmb	10 27 29.1	
	comp=Z,12nm,0.8s							
CBYP	**Canovanas**	**53.84**	**7**	IAmb		IAmb	10 27 30.6	
	comp=Z,12nm,0.8s							
QSPA	**South Pole Qui**	**54.63**	**180**	P		**P**	**10 27 37.6**	**+0.9**
	comp=Z,42nm,0.8s,baz=163,slow=0.8,SNR=182							
QSPA	**South Pole Qui**	**54.63**	**180**	P		**P**	**10 27 37.6**	**+0.9**
VNDA	**Vanda**	**62.62**	**191**	P		**P**	**10 28 33.1**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=125,slow=7.1,SNR=9.1							
VNDA	**Vanda**	**62.62**	**191**	P		**P**	**10 28 33.4**	**+1.6**
SYO	**Syowa Base**	**64.20**	**158**	⇓ *iP*		**P**	**10 28 40.2**	**-2.0**
BRAL	**Brewton**	**68.02**	**346**	P		**P**	**10 29 07.5**	**+0.4**
	baz=166							
157A	**Early Branch**	**68.52**	**351**	P		**P**	**10 29 10.2**	**+0.1**
	baz=172							
833A	**Chaparral WMA,**	**68.84**	**334**	P		**P**	**10 29 12.0**	**-0.3**
	baz=156							
Z59A	**Georgetown, SC**	**68.88**	**353**	P		**P**	**10 29 12.1**	**-0.3**
	baz=173							
Z58A	**St. Stephen**	**69.03**	**353**	P		**P**	**10 29 13.4**	**+0.1**
	baz=

U61A	Possum Corner	71.72	356	P	P	10 29 30.5	+0.9	
	baz=176							
CCAR	Cane Creek	71.73	342	P	P	10 29 29.0	-0.7	
CPCT	Cooper Cave	71.74	349	P	P	10 29 29.3	-0.5	
CPCT				IAmb	IAmb	10 29 30.8		
	comp=Z,12nm,0.7s							
SWET	Sewanee	71.75	348	P	P	10 29 29.6	-0.2	
U59A	Littleton	71.84	355	P	P	10 29 30.8	+0.4	
	baz=174							
WLAR	White Oak Lake	71.86	341	P	P	10 29 30.2	-0.3	
WLAR				pP	pP	10 29 54.2	+1.3	
U60A	Pendleton	71.91	355	P	P	10 29 31.2	+0.5	
	baz=175							
PLAL	Pickwick Lake	71.92	346	P	P	10 29 30.4	-0.5	
PLAL				IAmb	IAmb	10 29 31.8		
	comp=Z,13nm,0.8s							
PLAL				pP	pP	10 29 52.8	-0.5	
U58A	Oxford	71.94	354	P	P	10 29 31.5	+0.5	
	baz=174							
V52A	Sevierville	71.98	350	IAmb	IAmb	10 29 31.8		
	comp=Z,11nm,0.7s							
U57A	Blanch	72.05	353	P	P	10 29 31.8	+0.2	
	baz=173							
V51A	Loudon	72.06	349	P	P	10 29 30.8	-0.9	
V51A				IAmb	IAmb	10 29 31.9		
	comp=Z,9.2nm,0.8s							
U56A	King	72.07	352	P	P	10 29 32.3	+0.5	
	baz=172							
U56A	King	72.07	352	P	P	10 29 30.7	-1.0	
U56A				IAmb	IAmb	10 29 32.9		
	comp=Z,15nm,0.7s							
U55A	TA2, Sparta	72.30	352	P	P	10 29 33.3	+0.1	
	baz=172							
W45A	Hickory Valley	72.32	345	P	P	10 29 33.0	-0.3	
U54A	Nelsons Funny	72.41	351	P	P	10 29 33.7	-0.2	
	baz=171,SNR=5.2							
U54A	Nelsons Funny	72.41	351	P	P	10 29 32.6	-1.2	
T59A	Double "B" Far	72.43	355	P	P	10 29 34.4	+0.5	
	baz=175,SNR=6.1							
T59A	Double "B" Far	72.43	355	IAmb	IAmb	10 29 35.3		
	comp=Z,16nm,0.8s							
T58A	Grand View Acr	72.48	354	P	P	10 29 34.5	+0.3	
	baz=174							
X40A	Basin Creek Fa	72.54	342	P	P	10 29 35.1	+0.5	
	baz=162							
T60A	Surry	72.55	356	P	P	10 29 35.3	+0.8	
	baz=175							
T57A	Hurt	72.60	353	P	P	10 29 35.2	+0.3	
	baz=173							
T57A	Hurt	72.60	353	IAmb	IAmb	10 29 35.9		
	comp=Z,10nm,0.8s							
TZTN	Tazewell	72.66	350	P	P	10 29 35.6	+0.3	
	baz=170							
TZTN	Tazewell	72.66	350	IAmb	IAmb	10 29 36.7		
	comp=Z,8.2nm,0.7s							
CLTN	Cedars of Leba	72.67	347	IAmb	IAmb	10 29 36.4		
	comp=Z,14nm,0.8s							
T56A	Rocky Mt	72.71	353	P	P	10 29 35.9	+0.4	
	baz=173,SNR=6.3							
MIAR	Mount Ida	72.79	341	P	P	10 29 36.3	+0.2	
	baz=161							
ABTX	Abilene, Hawle	72.84	335	P	P	10 29 37.2	+0.7	
	baz=156,SNR=6.7							
ABTX	Abilene, Hawle	72.84	335	P	P	10 29 36.4	-0.1	
ABTX				IAmb	IAmb	10 29 38.0		
	comp=Z,16nm,0.9s							
T55A	Pulaski	72.88	352	P	P	10 29 36.7	+0.1	
	baz=172							
T54A	Tazewell	72.91	352	P	P	10 29 36.6	-0.2	
	baz=171,SNR=6.2							
BLA	Blacksburg	72.93	353	P	P	10 29 36.9	0.0	
	baz=172							
T53A	Wise	72.95	351	P	P	10 29 36.9	-0.2	
	baz=171							
U49A	Red Boiling Sp	72.98	348	P	P	10 29 36.6	-0.6	
U49A				IAmb	IAmb	10 29 37.9		
	comp=Z,9.0nm,0.7s							
WVT	Waverly	72.98	346	P	P	10 29 37.2	+0.1	
	baz=166							
WVT	Waverly	72.98	346	P	P	10 29 36.6	-0.6	
RCRC	Randolf Colleg	73.03	353	P	P	10 29 36.9	-0.6	
W41B	Gary Mavity, V	73.04	342	P	P	10 29 38.1	+0.6	
	baz=162							
S58A	Poland Farm, P	73.11	355	P	P	10 29 38.5	+0.7	
	baz=174							
WHAR	Wooly Hollow	73.16	342	IAmb	IAmb	10 29 39.6		
	comp=Z,19nm,1.2s							
S59A	Mechanicsville	73.20	355	P	P	10 29 39.0	+0.7	
	baz=175							
S56A	Natural Bridge	73.30	353	P	P	10 29 39.4	+0.3	
	baz=173							
S57A	Dark Hollow, R	73.33	354	P	P	10 29 39.7	+0.5	
	baz=174							
S57A	Dark Hollow, R	73.33	354	P	P	10 29 39.5	+0.4	
S57A				IAmb	IAmb	10 29 40.4		
	comp=Z,9.2nm,0.7s							
R58B	Mineral	73.44	355	P	P	10 29 40.5	+0.7	
	baz=174							
R58B	Mineral	73.44	355	IAmb	IAmb	10 29 42.4		
	comp=Z,19nm,1.2s							
W39A	Magazine	73.46	341	P	P	10 29 40.8	+0.8	
	baz=161,SNR=9.9							
S55A	Lewisburg	73.49	353	P	P	10 29 40.3	+0.1	
	baz=172,SNR=5.0							
S53A	Williamson	73.59	351	P	P	10 29 40.3	-0.4	
	baz=171							
S54A	Dingess, Beckl	73.61	352	P	P	10 29 40.7	-0.2	
	baz=172							
SUR	Sutherland	73.63	118	P	P	10 29 42.2	+0.6	
SUR				IAmb	IAmb	10 29 59.1		
	comp=Z,18nm,1.1s							
LCAR	Lake Charles	73.64	343	P	P	10 29 41.3	+0.3	
LCAR				IAmb	IAmb	10 29 41.9		
	comp=Z,18nm,0.8s							
LCAR					pP	10 30 03.5	0.0	
T47A	Sharon Grove	73.68	347	IAmb	IAmb	10 29 41.9		
	comp=Z,13nm,0.8s							
FCAR	Ozark Folk Cen	73.69	343	IAmb	IAmb	10 29 42.2		
	comp=Z,9.2nm,0.7s							
FCAR					pP	10 30 03.7	-0.2	
S51A	Beattyville	73.75	350	P	P	10 29 41.6	0.0	
R58A	Rapidan	73.79	355	P	P	10 29 42.4	+0.6	
	baz=174							
R57A	Stanardsville	73.83	354	P	P	10 29 42.8	+0.7	
	baz=174							
R54A	Victor	73.95	352	P	P	10 29 42.8	-0.1	
	baz=172							
R55A	Marlinton	73.96	353	P	P	10 29 43.6	+0.7	
	baz=173,SNR=5.7							
R56A	Bull Pasture M	74.01	354	P	P	10 29 44.2	+0.9	
	baz=173							
MNTX	Cornudas Mount	74.15	330	P	P	10 29 44.0	-0.2	
	baz=152,SNR=15							
MNTX	Cornudas Mount	74.15	330	P	P	10 29 43.9	-0.2	
MNTX				pP	pP	10 30 06.1	-0.6	
PBMO	Poplar Bluff	74.15	344	P	P	10 29 44.4	+0.4	
PBMO				IAmb	IAmb	10 29 44.9		
	comp=Z,14nm,0.7s							
R53A	Hurricane	74.21	351	P	P	10 29 44.2	-0.1	
	baz=171							
R53A	Hurricane	74.21	351	P	P	10 29 44.5	+0.1	
R53A				IAmb	IAmb	10 29 45.0		
	comp=Z,15nm,0.7s							
U40A	Yellville	74.32	342	P	P	10 29 45.1	+0.1	
	baz=162,SNR=9.5							
U40A	Yellville	74.32	342	P	P	10 29 45.3	+0.3	
U40A				IAmb	IAmb	10 29 46.0		
	comp=Z,12nm,0.7s							
Q58A	Fox Den Farm,	74.40	355	P	P	10 29 45.8	+0.4	
	baz=175							
R50A	Paris	74.48	350	IAmb	IAmb	10 29 46.5		
	comp=Z,11nm,0.8s							
WMOK	Wichita Mounta	74.49	337	P	P	10 29 46.3	+0.3	
	baz=157,SNR=5.5							
HHAR	Hobbs	74.53	341	P	P	10 29 46.6	+0.4	
HHAR				IAmb	IAmb	10 29 47.2		
	comp=Z,7.8nm,0.7s							
HHAR					pP	10 30 08.7	0.0	
T42A	Van Buren	74.54	344	IAmb	IAmb	10 29 47.1		
	comp=Z,17nm,1.5s							
Q57A	Strasburg	74.55	354	P	P	10 29 47.3	+1.0	
	baz=174							
Q56A	Snyder Ridge,	74.62	354	P	P	10 29 47.5	+0.7	
	baz=173							
Q55A	Buckhannon	74.66	353	P	P	10 29 47.6	+0.6	
	baz=173							
TUL1	Leonard	74.68	340	P	P	10 29 47.2	+0.1	
	baz=160							
TUL1	Leonard	74.68	340	P	P	10 29 47.2	+0.1	
TUL1				IAmb	IAmb	10 29 48.2		
	comp=Z,15nm,0.7s							
Q53A	Leroy	74.68	352	P	P	10 29 47.2	+0.2	
	baz=172							
Q54A	Coxs Mills	74.73	352	P	P	10 29 46.8	-0.5	
	baz=172							
WCI	Wyandotte Cave	74.74	348	P	P	10 29 46.9	-0.5	
	baz=168							
S44A	Carbondale	74.78	345	P	P	10 29 47.1	-0.5	
S44A				IAmb	IAmb	10 29 48.3		
	comp=Z,11nm,0.8s							
OK025	Westminster Rd	74.82	338	P	P	10 29 47.8	-0.2	
OK025					pP	10 30 10.6	0.0	
Q52A	Bidwell	74.87	351	P	P	10 29 48.1	0.0	
	baz=171							
P58A	Pank, Wackersv	74.92	355	P	P	10 29 49.2	+0.8	
	baz=175							
MGMO	Mountain Grove	74.93	343	IAmb	IAmb	10 29 49.7		
	comp=Z,9.8nm,0.9s							
P57A	Homestead Farm	74.97	355	P	P	10 29 49.5	+0.9	
	baz=174							
P57A	Homestead Farm	74.97	355	P	P	10 29 49.4	+0.7	
P57A				IAmb	IAmb	10 29 50.1		
	comp=Z,7.3nm,0.7s							
OK030	Cody Creek RV	74.98	339	IAmb	IAmb	10 29 50.0		
	comp=Z,18nm,0.7s							
OK030					pP	10 30 11.5	+0.1	
P59A	Jarrettsville	74.99	356	P	P	10 29 49.2	+0.5	
	baz=176							
OK031	S. Brethren Rd	75.02	339	P	P	10 29 48.8	-0.3	
OK031				IAmb	IAmb	10 29 50.2		
	comp=Z,20nm,0.9s							
OK031					pP	10 30 11.9	+0.2	
OK029	Liberty Lake	75.06	338	P	P	10 29 49.4	+0.1	
OK029				IAmb	IAmb	10 29 50.5		
	comp=Z,15nm,0.9s							
Q51A	Peebles	75.07	350	P	P	10 29 49.0	-0.3	
P55A	Reedsville	75.14	353	P	P	10 29 50.0	+0.3	
	baz=173							
P60A	Greenville	75.15	357	P	P	10 29 50.4	+0.8	
	baz=176							
MSTX	Muleshoe	75.16	333	P	P	10 29 50.3	+0.2	
	baz=154,SNR=8.7							
MSTX	Muleshoe	75.16	333	IAmb	IAmb	10 29 51.4		
	comp=Z,11nm,0.8s							
QUOK	Quay	75.19	339	IAmb	IAmb	10 29 51.2		
	comp=Z,26nm,1.2s							
DBIC	Dimbokro	75.24	70	P	P	10 29 50.5	-0.4	
	comp=Z,2.8nm,0.6s,baz=212,slow=4.9,SNR=6.3							
DBIC				pP	pP	10 30 13.1	-0.7	
	comp=Z,4.6nm,0.8s,baz=178,slow=6.3,SNR=2.9							
P53A	Whipple	75.28	352	P	P	10 29 50.4	-0.1	
	baz=172							
P54A	Burton	75.30	353	P	P	10 29 50.5	-0.1	
	baz=172,SNR=5.4							
FVM	French Village	75.31	345	IAmb	IAmb	10 29 51.8		
	comp=Z,19nm,1.0s							
FVM					pP	10 30 12.6	-0.7	
P51A	Williamsport	75.48	351	P	P	10 29 51.3	-0.4	
	baz=170							
319A	Douglas	75.51	327	IAmb	IAmb	10 29 54.9		
	comp=Z,12nm,0.9s							
P52A	Corning	75.52	351	P	P	10 29 51.6	-0.3	
	baz=171							
O58A	Lewisberry	75.53	356	P	P	10 29 52.5	+0.7	
	baz=175							
CCM	Cathedral Cave	75.56	344	P	P	10 29 52.3	+0.2	
	baz=164							
CCM	Cathedral Cave	75.56	344	P	P	10 29 52.1	0.0	
CCM				pP	pP	10 30 14.4	-0.3	
AMTX	Amarillo	75.59	335	P	P	10 29 53.0	+0.5	
	baz=155							
AMTX	Amarillo	75.59	335	P	P	10 29 53.2	+0.7	
O60A	Telford	75.64	357	P	P	10 29 53.4	+0.9	
	baz=177							
O57A	Amberson	75.66	355	P	P	10 29 53.3	+0.6	
	baz=175							
O59A	Robesonia	75.67	356	P	P	10 29 53.7	+1.0	
	baz=176							
S39A	Bolivar	75.70	342	P	P	10 29 52.7	-0.3	
P49A	Miami Univ. Ec	75.77	349	P	P	10 29 52.9	-0.4	
	baz=169							
O56A	Blue Knob Stat	75.79	354	P	P	10 29 53.5	+0.1	
	baz=174							
O55A	Ligonier	75.79	354	P	P	10 29 53.5	+0.1	
	baz=173							
T35A	Sooner Cattle	75.82	339	P	P	10 29 53.2	-0.4	
T35A				IAmb	IAmb	10 29 55.2		
	comp=Z,15nm,0.9s							
121A	Cookes Peak, D	75.86	329	P	P	10 29 55.7	+1.5	
	baz=150,SNR=13							
121A	Cookes Peak, D	75.86	329	P	P	10 29 54.8	+0.5	
121A				IAmb	IAmb	10 29 57.0		
	comp=Z,10nm,0.8s							
O52A	Adamsville	75.96	352	P	P	10 29 54.1	-0.3	
	baz=171							
O52A	Adamsville	75.96	352	IAmb	IAmb	10 29 55.0		
	comp=Z,12nm,0.8s							
R40A	Maddies Statio	76.02	343	P	P	10 29 54.9	+0.2	
O53A	New Philadelph	76.02	352	P	P	10 29 54.5	-0.2	
	baz=172							
O51A	Pataskala	76.08	351	P	P	10 29 54.8	-0.3	
	baz=171,SNR=5.6							
SSPA	Standing Stone	76.10	355	P	P	10 29 55.1	0.0	
	baz=175							
N60A	Cedar Hill Far	76.18	357	P	P	10 29 56.3	+0.7	
	baz=177,SNR=5.0							
N57A	Milroy	76.20	355	P	P	10 29 55.9	+0.2	
	baz=175							
ACSO	Alum Creek Sta	76.21	351	P	P	10 29 55.6	-0.2	
	baz=170,SNR=8.3							
ACSO	Alum Creek Sta	76.21	351	P	P	10 29 55.2	-0.5	
N58A	Sunbury	76.23	356	P	P	10 29 56.2	+0.3	
	baz=176							
P46A	Rosedale	76.25	348	IAmb	IAmb	10 29 56.6		
	comp=Z,15nm,1.1s							
N59A	State Game Lan	76.25	357	P	P	10 29 56.9	+0.8	
	baz=176							
N55A	Marion Center	76.33	354	P	P	10 29 56.9	+0.4	
	baz=174							
O49A	Covington	76.35	350	P	P	10 29 56.0	-0.5	
N54A	Moraine State	76.60	353	P	P	10 29 58.3	+0.3	
	baz=173							
M60A	Port Jervis	76.62	358	P	P	10 29 58.6	+0.5	
	baz=177							
M62A	Hamden	76.69	359	P	P	10 29 59.3	+0.9	
	baz=179							
P43A	Skaggs, Pawnee	76.71	346	P	P	10 29 58.1	-0.5	
M58A	Price's Panora	76.74	356	P	P	10 29 59.5	+0.7	
	baz=176							
M57A	Sunshine Farm,	76.75	356	P	P	10 29 59.3	+0.5	
	baz=175							
BNM	Barren Site	76.80	331	P	P	10 29 59.7	+0.1	
N51A	Ashland	76.81	352	P	P	10 29 59.1	0.0	
	baz=171							
M59A	Waymart	76.86	357	P	P	10 30 00.2	+0.7	
	baz=177							
M56A	Emporium	76.97	355	P	P	10 30 00.3	+0.3	
	baz=174							
SFIN	Lafayette	76.97	348	P	P	10 29 59.7	-0.4	
	baz=167							
TUC	Tucson	76.98	327	P	P	10 30 02.2	+1.9	
	baz=148							
TUC	Tucson	76.98	327	P	P	10 30 02.3	+1.9	
N49A	Columbus Grove	77.05	350	P	P	10 30 00.1	-0.4	
M54A	Oil Creek Stat	77.11	354	P	P	10 30 00.8	-0.1	
	baz=173							
M51A	Elyria	77.20	352	P	P	10 30 01.7	+0.4	
	baz=171							
N47A	Urbana	77.23	349	P	P	10 30 00.0	-1.5	
L58A	Harry Jones Me	77.38	357	P	P	10 30 02.7	+0.4	
	baz=176							
L57A	Andrews Acres	77.39	356	P	P	10 30 03.0	+0.6	
	baz=176							
ANMO	Albuquerque	77.42	331	P	P	10 30 04.4	+1.4	
	baz=151							
ANMO	Albuquerque	77.42	331	P	P	10 30 03.9	+1.0	
ANMO				pP	pP	10 30 27.1	+1.5	
L59A	Walton	77.49	357	P	P	10 30 04.0	+1.1	
	baz=177							
BINY	Binghamton	77.54	357	P	P	10 30 03.3	+0.1	
	baz=176							
HDIL	Hopedale	77.55	346	P	P	10 30 03.3	0.0	
	baz=165							
L56A	Greenwood	77.57	355	P	P	10 30 04.1	+0.7	
	baz=175							
P38A	Dawn	77.59	343	IAmb	IAmb	10 30 04.4		
	comp=Z,19nm,0.8s							
L53A	Girard	77.61	353	P	P	10 30 03.5	0.0	
	baz=173							
214A	Organ Pipe Nat	77.61	325	P	P	10 30 05.5	+1.6	
	baz=147							
L61B	Northampton	77.69	359	P	P	10 30 04.9	+0.9	
	baz=179							
HRV	Adam Dziewonsk	77.74	360	P	P	10 30 05.3	+1.0	
	baz=180							
ERPA	Erie	77.75	354	P	P	10 30 04.9	+0.5	
	baz=173							
L54A	Sinclairville	77.80	354	P	P	10 30 05.3	+0.6	
	baz=173							
R32A	Long Quarter,	77.86	338	P	P	10 30 05.5	+0.4	
K60A	Five Rivers En	77.88	358	P	P	10 30 06.4	+1.4	
	baz=178							
KSU1	Kansas State U	77.89	340	P	P	10 30 05.4	+0.1	
	baz=159							
KSU1	Kansas State U	77.89	340	IAmb	IAmb	10 30 06.5		
	comp=Z,29nm,1.5s							
K62A	Royalston	77.90	359	P	P	10 30 06.9	+1.7	
	baz=179							
K59A	Cooperstown	78.07	357	P	P	10 30 06.7	+0.5	
	baz=177							
K58A	Earlville	78.09	357	P	P	10 30 07.1	+0.8	
	baz=176							
K56A	Middlesex	78.12	356	P	P	10 30 06.7	+0.3	
	baz=175							
K54A	Basiliko Farm,	78.12	355	P	P	10 30 07.1	+0.6	
	baz=174							
J62A	Henniker	78.46	360	P	P	10 30 09.9	+1.7	
	baz=180							
CBKS	Cedar Bluff	78.54	338	P	P	10 30 10.1	+1.3	
	baz=157							
CBKS	Cedar Bluff	78.54	338	IAmb	IAmb	10 30 10.7		
	comp=Z,15nm,0.8s							
T25A	Trinidad	78.59	334	P	P	10 30 11.0	+1.6	
	baz=153,SNR=16							
T25A	Trinidad	78.59	334	P	P	10 30 10.2	+0.8	
T25A				IAmb	IAmb	10 30 12.0		
	comp=Z,19nm,0.9s							
J56A	Wolcott	78.66	356	P	P	10 30 09.8	+0.5	
	baz=176							
J59A	Piesco	78.75	358	P	P	10 30 10.6	+0.7	
	baz=177							
J57A	Williamstown	78.75	357	P	P	10 30 10.3	+0.4	
	baz=176							
BOSA	Boshof	78.90	117	P	P	10 30 11.0	-0.4	
	comp=Z,18nm,0.6s,baz=237,slow=4.0,SNR=56							
BOSA	Boshof	78.90	117	P	P	10 30 09.7	-1.7	
W18A	Petrified Fore	78.91	329	P	P	10 30 12.6	+1.4	
	baz=149,SNR=6.2							
W18A	Petrified Fore	78.91	329	P	P	10 30 12.4	+1.3	
W18A				IAmb	IAmb	10 30 13.8		
	comp=Z,13nm,1.2s							
I58A	Old Forge	78.99	357	P	P	10 30 12.0	+0.8	
	baz=177							
I59A	Olmsteadville	79.06	358	P	P	10 30 12.4	+0.9	
	baz=178							
I60A	Shoreham	79.09	359	P	P	10 30 12.6	+0.9	
	baz=178							
I57A	Carthage	79.26	357	P	P	10 30 13.4	+0.8	
	baz=176							
I63A	Otisfield	79.29	1	P	P	10 30 14.6	+1.9	
	baz=181							
L40A	Anamosa	79.39	345	IAmb	IAmb	10 30 14.0		
	comp=Z,30nm,1.3s							
GLA	Glamis	79.47	324	P	P	10 30 15.5	+1.4	
	baz=145							
LBNH	Lisbon	79.47	360	P	P	10 30 15.0	+1.2	
	baz=180							
I51A	Listowel	79.52	353	P	P	10 30 14.8	+0.8	
	baz=172							
SDCO	Great Sand Dun	79.52	333	P	P	10 30 15.6	+1.1	
	baz=152,SNR=9.1							
KSCO	Kaye Shedlock'	79.64	336	P	P	10 30 16.4	+1.3	
	baz=155							
H58A	Gabriels	79.69	358	P	P	10 30 15.6	+0.6	
	baz=178							
IKP	In-Ko-Pah, Jac	79.76	323	P	P	10 30 16.2	+0.4	
	baz=144							
H61A	Lyndonville	79.77	360	P	P	10 30 16.9	+1.5	
	baz=180							
H57A	Richville	79.78	357	P	P	10 30 16.0	+0.7	
	baz=177							
H60A	Morristown	79.80	359	P	P	10 30 17.6	+2.1	
	baz=179							
LONY	Lake Ozonia	79.90	358	P	P	10 30 16.7	+0.6	
	baz=177							
H59A	Cadyville	79.90	358	P	P	10 30 16.9	+0.8	
	baz=178							
WUAZ	Wupatki	79.95	328	P	P	10 30 18.5	+1.8	
	baz=148,SNR=5.7							
JFWS	Jewell Farm	80.01	346	P	P	10 30 17.1	+0.3	
	baz=164							
S22A	4UR Ranch, Cre	80.02	332	P	P	10 30 18.5	+1.2	
	baz=151,SNR=7.2							
FRNY	Flat Rock	80.09	358	IAmb	IAmb	10 30 18.3		
	comp=Z,8.6nm,0.8s							
MVCO	Mesa Verde	80.20	331	P	P	10 30 19.4	+1.2	
	baz=150,SNR=5.8							
MVCO	Mesa Verde	80.20	331	IAmb	IAmb	10 30 20.4		
	comp=Z,9.7nm,1.1s							
BC3	Big Chuckawall	80.26	324	P	P	10 30 19.9	+1.5	
	baz=145							
G63A	Kingsbury	80.36	1	P	P	10 30 20.0	+1.4	
	baz=181							
G57A	Newington	80.40	357	P	P	10 30 19.3	+0.5	
	baz=177							
G62A	West of Eustis	80.45	1	P	P	10 30 20.3	+1.3	
	baz=181							
BGNE	Belgrade	80.47	340	P	P	10 30 19.9	+0.7	
	baz=158							
Q24A	Divide	80.47	334	P	P	10 30 21.2	+1.5	
	baz=153							
L34A	Svendsen Farm,	80.51	341	IAmb	IAmb	10 30 20.2		
	comp=Z,12nm,0.8s							
IRM	Iron Mountain	80.53	324	P	P	10 30 21.9	+2.2	
	baz=145							
TPFO	Pinon Flats	80.71	323	P	P	10 30 22.9	+2.0	
	baz=144,SNR=6.2							
PFO	Pinyon Flats O	80.71	323	P	P	10 30 23.0	+2.1	
	baz=144,SNR=5.3							
PFO	Pinyon Flats O	80.71	323	P	P	10 30 23.3	+2.4	
PFO				IAmb	IAmb	10 30 23.9		
	comp=Z,8.5nm,0.9s							
BELC	Belle Mtn. Jos	80.81	324	P	P	10 30 23.3	+1.9	
	baz=145							
G54A	Lake Saint Pet	80.85	355	P	P	10 30 21.9	+0.7	
	baz=174							
F63A	Nahmakanta, Br	80.96	2	P	P	10 30 22.8	+1.1	
	baz=182							
PV01	Paradox Valley	81.03	331	P	P	10 30 23.2	+0.6	
MURC	Murrieta	81.06	323	P	P	10 30 24.2	+1.5	
	baz=144							
PV13	Radium Mtn., P	81.15	331	IAmb	IAmb	10 30 25.3		
	comp=Z,7.9nm,0.9s							
PV02	Paradox Valley	81.16	331	IAmb	IAmb	10 30 25.5		
	comp=Z,18nm,1.3s							
LBTB	Lobatse	81.19	114	P	P	10 30 23.6	-0.2	
LBTB				IAmb	IAmb	10 30 24.0		
	comp=Z,16nm,0.7s							
PV03	Paradox Valley	81.24	331	P	P	10 30 24.4	+0.7	
GMRC	Granite Mounta	81.28	325	P	P	10 30 25.7	+1.8	
	baz=145,SNR=5.8							
ISCO	Idaho Springs	81.38	334	P	P	10 30 25.6	+1.1	
	baz=152							
PV04	Paradox Valley	81.39	331	P	P	10 30 25.6	+1.2	
PV04				IAmb	IAmb	10 30 30.6		
	comp=Z,14nm,1.5s							

	baz=182						
TUQ	**Turquoise Moun**	**81.94**	**325**	P	**P**	**10 30 29.2**	**+1.9**
	baz=145,SNR=5.3						
ECSD	**EROS Data Cent**	**82.22**	**342**	P	**P**	**10 30 28.6**	**+0.2**
	baz=160,SNR=11						
ECSD	**EROS Data Cent**	**82.22**	**342**	IAmb	IAmb	10 30 29.6	
	comp=Z,9.4nm,0.7s						
ECSD				pP	pP	10 30 51.5	+0.1
GSC	**Goldstone, Bar**	**82.25**	**324**	P	**P**	**10 30 30.4**	**+1.5**
	baz=144						
D55A	**Sainte-Anne-du**	**82.33**	**357**	P	**P**	**10 30 29.5**	**+0.6**
	baz=177						
D56A	**ZEC Mazanza, M**	**82.33**	**358**	P	**P**	**10 30 30.0**	**+1.0**
	baz=177						
D58A	**Chemin du LacG**	**82.34**	**359**	P	**P**	**10 30 30.0**	**+1.0**
	baz=179						
D62A	**Allapoint, All**	**82.34**	**2**	P	**P**	**10 30 30.0**	**+1.1**
	baz=182						
MTPU	**Mount Pierson**	**82.43**	**329**	P	**P**	**10 30 31.2**	**+1.1**
N23A	**Red Feather La**	**82.47**	**334**	P	**P**	**10 30 31.2**	**+1.1**
	baz=152,SNR=5.2						
EDW2	**Edwards Air Fo**	**82.49**	**323**	P	**P**	**10 30 31.4**	**+1.3**
	baz=144						
OSI	**Osito Audit: C**	**82.63**	**322**	P	**P**	**10 30 32.9**	**+2.1**
	baz=143						
O20A	**White River Ci**	**82.64**	**332**	P	**P**	**10 30 32.4**	**+1.5**
	baz=151						
SRU	**San Rafael Swe**	**82.65**	**330**	P	**P**	**10 30 31.6**	**+0.6**
SPMN	**Marine on St.**	**82.75**	**345**	P	**P**	**10 30 30.8**	**-0.3**
	baz=163						
SPMN	**Marine on St.**	**82.75**	**345**	IAmb	IAmb	10 30 31.5	
	comp=Z,9.4nm,0.7s						
LRMC	**Laurel Mtn Rad**	**82.81**	**324**	P	**P**	**10 30 33.9**	**+2.0**
	baz=144						
MVU	**Marysvale**	**82.83**	**329**	P	**P**	**10 30 33.5**	**+1.5**
PRN	**Pahroc Range**	**83.15**	**326**	IAmb	IAmb	10 30 36.7	
	comp=Z,8.7nm,0.9s						
MPMC	**Manual Prospec**	**83.19**	**324**	P	**P**	**10 30 35.4**	**+1.6**
	baz=144						
FURC	**Furnace Creek,**	**83.22**	**325**	P	**P**	**10 30 35.8**	**+2.1**
	baz=144						
TPNV	**Topopah Spring**	**83.32**	**325**	P	**P**	**10 30 36.5**	**+2.0**
	baz=145						
ISA	**Isabella, Lake**	**83.35**	**323**	P	**P**	**10 30 36.3**	**+1.8**
	baz=143,SNR=5.3						
PKM	**Mcpherson Peak**	**83.40**	**322**	P	**P**	**10 30 37.1**	**+2.2**
	baz=142						
SUSD	**Miller**	**83.50**	**341**	P	**P**	**10 30 35.4**	**+0.4**
	baz=158						
F36A	**Milaca**	**83.51**	**345**	P	**P**	**10 30 34.6**	**-0.4**
F36A				IAmb	IAmb	10 30 35.6	
	comp=Z,8.6nm,0.8s						
CWC	**Cottonwood Cre**	**83.78**	**324**	P	**P**	**10 30 38.9**	**+2.0**
	baz=144						
VES	**Vestal, Richgr**	**83.79**	**323**	P	**P**	**10 30 38.6**	**+1.9**
	baz=143						
SMMC	**Simmler**	**83.82**	**322**	P	**P**	**10 30 39.1**	**+2.1**
	baz=142						
R11A	**Troy Canyon, C**	**84.17**	**327**	P	**P**	**10 30 40.5**	**+1.7**
	baz=145,SNR=7.6						
R11A	**Troy Canyon, C**	**84.17**	**327**	P	**P**	**10 30 39.9**	**+1.0**
K22A	**Casper**	**84.22**	**335**	P	**P**	**10 30 40.0**	**+1.0**
	baz=152,SNR=8.8						
K22A	**Casper**	**84.22**	**335**	IAmb	IAmb	10 30 41.0	
	comp=Z,16nm,1.1s						
TOA0	**Torodi Ar. Sit**	**84.31**	**70**	pP	pP	10 31 02.8	-0.3
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**10 30 39.2**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=248,slow=2.9,SNR=7.5						
TORD				pP	**pP**	**10 31 02.5**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=252,slow=3.5,SNR=14						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**10 30 38.8**	**-1.1**
LSQQ	**Lebel-sur-Quev**	**84.44**	**356**	P	**P**	**10 30 39.6**	**0.0**
	baz=175						
DUG	**Dugway, Tooele**	**84.50**	**329**	P	**P**	**10 30 41.6**	**+1.2**
	baz=147,SNR=7.1						
DUG	**Dugway, Tooele**	**84.50**	**329**	IAmb	IAmb	10 30 43.5	
	comp=Z,9.0nm,1.2s						
RSSD	**Black Hills**	**84.70**	**337**	P	**P**	**10 30 41.9**	**+0.5**
	baz=154						
RSSD	**Black Hills**	**84.70**	**337**	P	**P**	**10 30 41.7**	**+0.3**
EYMN	**Ely**	**85.09**	**347**	P	**P**	**10 30 43.5**	**+0.5**
	baz=164						
OMMB	**Old Mammoth Mi**	**85.16**	**324**	P	**P**	**10 30 45.1**	**+1.1**
CHGQ	**Chibougamau**	**85.19**	**358**	P	**P**	**10 30 43.9**	**+0.5**
	baz=178						
HWUT	**Hardware Ranch**	**85.19**	**331**	IAmb	IAmb	10 30 45.6	
	comp=Z,27nm,1.4s						
BW06	**Boulder Array**	**85.41**	**333**	P	**P**	**10 30 45.4**	**+0.4**
	baz=150						
PDAR	**Pinedale Array**	**85.41**	**333**	P	**P**	**10 30 45.2**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=141,slow=5.3,SNR=18						
PDAR	**Pinedale Array**	**85.41**	**333**	P	**P**	**10 30 44.8**	**-0.2**
LHV	**Little Huntoon**	**85.43**	**325**	IAmb	IAmb	10 30 47.9	
	comp=Z,12nm,1.2s						
NVAR	**Mina Array Bea**	**85.48**	**325**	P	**P**	**10 30 46.7**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=150,slow=6.0,SNR=15						
NVAR	**Mina Array Bea**	**85.48**	**325**	P	**P**	**10 30 46.4**	**+1.0**
E28A	**Huff**	**85.94**	**340**	IAmb	IAmb	10 30 48.8	
	comp=Z,8.4nm,0.8s						
WAKR	**Walker**	**86.07**	**324**	P	**P**	**10 30 50.2**	**+1.9**
AGMN	**Agassiz Nation**	**86.33**	**344**	P	**P**	**10 30 49.3**	**+0.2**
	baz=160						
AGMN	**Agassiz Nation**	**86.33**	**344**	IAmb	IAmb	10 30 50.2	
	comp=Z,6.6nm,0.9s						
YERR	**Yerington**	**86.36**	**325**	IAmb	IAmb	10 30 53.3	
	comp=Z,8.3nm,1.2s						
TPAW	**Teton Pass**	**86.56**	**332**	IAmb	IAmb	10 30 52.4	
	comp=Z,8.1nm,1.2s						
PNTR	**Pine Nut**	**86.61**	**324**	IAmb	IAmb	10 30 53.8	
	comp=Z,8.3nm,0.9s						
PNTR					pP	10 31 16.6	+2.5
FLWY	**Flagg Ranch**	**86.97**	**333**	IAmb	IAmb	10 30 54.4	
	comp=Z,6.2nm,0.8s						
AFDM	**Forest Hills D**	**87.16**	**324**	P	**P**	**10 30 54.5**	**+1.1**
RLMT	**Red Lodge**	**87.34**	**334**	P	**P**	**10 30 54.9**	**+0.5**
	baz=150,SNR=6.1						
RLMT	**Red Lodge**	**87.34**	**334**	IAmb	IAmb	10 30 56.6	
	comp=Z,3.9nm,0.7s						
LAO	**LASA Array**	**87.69**	**337**	P	**P**	**10 30 56.4**	**+0.6**
	baz=152						
LAO	**LASA Array**	**87.69**	**337**	IAmb	IAmb	10 30 57.1	
	comp=Z,11nm,1.1s						
HLID	**Hailey**	**87.97**	**330**	P	**P**	**10 30 58.5**	**+1.1**
	baz=146						
ULM	**Lac du Bonnet**	**88.17**	**345**	P	**P**	**10 30 57.8**	**-0.1**
	comp=Z,8.5nm,0.6s,baz=157,slow=4.4,SNR=14						
ULM	**Lac du Bonnet**	**88.17**	**345**	IAmb	IAmb	10 30 58.8	
	comp=Z,11nm,0.8s						
BOZ	**Bozeman (W)**	**88.61**	**333**	P	**P**	**10 31 00.9**	**+0.6**
	baz=148						
DGMT	**Dagmar**	**88.66**	**339**	P	**P**	**10 31 01.8**	**+1.5**
	baz=154						
J08A	**Circle Bar Ran**	**89.51**	**328**	IAmb	IAmb	10 31 06.5	
	comp=Z,3.9nm,0.8s						
J05D	**Fort Rock, OR**	**90.68**	**326**	P	**P**	**10 31 11.7**	**+1.7**
	baz=142						
ASAR	**Alice Springs**	**116.35**	**206**	PKP	**PKPdf**	**10 36 50.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=124,slow=1.6,SNR=8.6						
WRA	**Warramunga Arr**	**119.59**	**208**	PKP	**PKPdf**	**10 36 56.6**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=159,slow=1.5,SNR=16						
WRA				pPKP	**pPKPdf**	**10 37 21.4**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=157,slow=1.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**155.29**	**35**	PKPbc	PKPdf	10 38 09.1	+9.4
	comp=Z,0.4nm,0.3s,baz=305,slow=5.1,SNR=2.2						
ZALV				PKPab	**PKPab**	**10 38 24.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=305,slow=5.1,SNR=1.7						
ZALV				pPKPbc	pPKPbc	10 38 33.0	+0.1
	comp=Z,0.9nm,0.4s,baz=324,slow=3.1,SNR=3.2						
ZALV				pPKPab	pPKPab	10 38 48.6	-0.2
	comp=Z,1.4nm,0.6s,baz=289,slow=4.4,SNR=2.4						
MKAR	**Makanchi Array**	**157.40**	**52**	PKPab	**PKPab**	**10 38 32.9**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=264,slow=4.3,SNR=2.0						
MKAR				pPKPab	**pPKPab**	**10 38 57.8**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=290,slow=3.6,SNR=9.8						
CN2	**Changchun**	**164.66**	**307**	*e*PKP	**PKPdf**	**10 38 10.6**	**+0.1**

*NNC **20** 10:47:10.2±3.6,41°.69N×72°.72E,h0km,mb2.8,mpv2.5, Error ellipse: s-maj=40.8km s-min=10.3km az=11.0*
*SOME **20** 10:47:10.5,41°.83N×72°.37E,h0km*
*KRNET **20** 10:47:11.3±0.1,41°.80N×72°.38E,h14km,mb2.4*
ISC 20 10:47:10.9±1.2,41°.83N±0°.04×72°.36E±0°.02,h8km±12km, n17,σ0°66/32,13C-15D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.67**	**9**	⇓*i*P	**Pb**	**10 47 24.8**	**-0.1**
	baz=8.0						
MNAS				⇓*i*S	**Sb**	**10 47 34.8**	**+0.4**
	baz=8.0						
AML	**Almayashu**	**1.04**	**73**	⇓*i*P	**Pb**	**10 47 30.8**	**-0.6**
	baz=71						
AML				⇓*i*S	**Sb**	**10 47 45.2**	**-0.1**
	baz=71						
MRKS	**Merke**	**1.12**	**35**	*e*P	**Pn**	**10 47 33.0**	**+0.1**
MRKS	6.3nm,0.2s			*e*S	**Sn**	**10 47 48.7**	**+0.1**
	20nm,0.4s						
EKS2	**Erkin-Say**	**1.34**	**51**	⇓*e*P	**Pg**	**10 47 37.0**	**+0.3**
	baz=50						
EKS2				⇓*i*S	**Sg**	**10 47 55.4**	**+1.3**
	baz=50						
ARLS	**Aral**	**1.47**	**88**	⇓*i*P	**Pg**	**10 47 39.0**	**0.0**
	baz=87						
ARLS				⇓*i*S	**Sg**	**10 47 58.9**	**+0.8**
	baz=87						
UCH	**Uchtor**	**1.65**	**75**	⇑*i*P	**Pg**	**10 47 42.6**	**0.0**
	baz=74						
UCH				⇑*i*S	**Sg**	**10 48 04.9**	**+0.8**
	baz=74						
IUG	**Iuzhnay**	**1.77**	**281**	*e*P	**Pg**	**10 47 45.1**	**+0.4**
	15nm,0.1s						
IUG				*e*S	**Sg**	**10 48 09.1**	**+1.5**
	33nm,0.3s						
AAK	**Ala-Archa**	**1.78**	**62**	⇑*i*P	**Pg**	**10 47 44.6**	**-0.4**
	baz=61						
AAK				⇑*i*S	**Sg**	**10 48 08.7**	**+0.6**
	baz=61						
AAK	**Ala-Archa**	**1.78**	**62**	⇑Pn	**Pb**	**10 47 43.7**	**-0.2**
	1.2nm,0.4s						
AAK				⇓Lg	Lg	10 48 13.1	
	2.8nm,0.7s						
KK31	**Karatay Array**	**1.87**	**314**	⇑Pn	**Pb**	**10 47 45.2**	**-0.1**
	1.4nm,0.3s,baz=134,slow=17,SNR=32						
KK31				⇑Sn	**Sg**	**10 48 10.2**	**-0.8**
	4.4nm,0.6s,baz=134,slow=30,SNR=11						
FRU1	**Bishkek**	**1.95**	**59**	⇑*i*P	**Pg**	**10 47 47.6**	**-0.7**
	baz=58						
FRU1				⇑*i*S	**Sg**	**10 48 13.6**	**0.0**
	baz=58						
BTK	**Batken**	**2.12**	**214**	⇓*i*P	**Pb**	**10 47 49.8**	**+0.3**
	baz=15						
BTK				⇓*i*S	**Sg**	**10 48 17.8**	**-1.1**
	baz=15						
CHMS	**Chumysh**	**2.12**	**56**	⇓*i*P	**Pb**	**10 47 49.8**	**+0.2**
	baz=55						
CHMS				⇓*i*S	**Sg**	**10 48 18.2**	**-0.9**
	baz=55						
USP	**Ospenovka**	**2.14**	**47**	⇑*e*P	**Pb**	**10 47 50.0**	**+0.1**
	baz=46						
USP				⇑*i*S	**Sg**	**10 48 18.9**	**-0.7**
	baz=46						
BRLS	**Borolday**	**2.22**	**304**	*e*P	**Pg**	**10 47 52.8**	**-0.7**
	17nm,0.4s						
BRLS				*e*S	**Sg**	**10 48 22.2**	**0.0**
	21nm,0.4s						
TKM2	**Tokmak 2**	**2.64**	**64**	⇑*e*P	**Pb**	**10 47 57.4**	**-1.1**
	baz=64						
TKM2				⇑*i*S	**Sb**	**10 48 31.0**	**-0.1**
	baz=64						
TKM2	**Tokmak 2**	**2.64**	**64**	⇓Pg	**Pb**	**10 47 59.2**	**+0.7**
	1.2nm,0.5s						
TKM2				⇓Lg	Lg	10 48 34.6	
	7.1nm,0.7s						

WEL 20 11:01:01.3,40°.5S±0°.9×17°.4E±°,h66km±3km,M3.3/50, ML3.6/50,MLv3.3/50,Error ellipse: s-maj=0.0km s-min=0.0km az=63.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.52**	**143**	P	Pn	11 01 14.3	+0.3
KIW				S	Sn	11 01 23.3	+0.1
DUWZ	**D'Urville Isla**	**0.56**	**231**	P	Pn	11 01 14.6	+0.2
DUWZ				S	Sn	11 01 24.5	+0.5
OGWZ	**Otaki Gorge**	**0.63**	**126**	P	Pn	11 01 15.5	+0.3
OGWZ				S	Sn	11 01 25.7	+0.4
OHWZ	**Ohakea**	**0.67**	**69**	P	Pn	11 01 16.0	+0.4
OHWZ				S	Sn	11 01 26.7	+0.7
TCW	**Tory Channel**	**0.78**	**192**	P	Pn	11 01 17.4	+0.6
TCW				S	Sn	11 01 28.9	+0.6
CAW	**Cannon Point**	**0.79**	**147**	P	Pn	11 01 17.3	+0.4
CAW				S	Sn	11 01 30.0	+1.5
WAZ	**Wanganui**	**0.79**	**29**	P	Pn	11 01 17.4	+0.4
WAZ				S	Sn	11 01 29.0	+0.5
MRZ	**Mangatainoka R**	**0.85**	**105**	P	Pn	11 01 17.8	+0.1
MRZ				S	Sn	11 01 30.6	+0.7
WEL	**Wellington**	**0.86**	**166**	P	Pn	11 01 18.7	+0.9
HOWZ	**Holdsworth Sta**	**0.90**	**120**	P	Pn	11 01 18.2	-0.1
POWZ	**Post Office Ro**	**0.97**	**87**	P	Pn	11 01 19.4	+0.1
POWZ				S	Sn	11 01 34.7	+2.1
LREZ	**Lake Rotokare**	**0.99**	**356**	P	Pn	11 01 19.8	+0.4
LREZ				S	Sn	11 01 33.4	+0.5
BHW	**Baring Head**	**1.00**	**164**	P	Pn	11 01 21.1	+1.6
BHW				S	Sn	11 01 35.0	+1.9
TUWZ	**Tuamarina**	**1.06**	**203**	P	Pn	11 01 20.8	+0.5
TUWZ				S	Sn	11 01 35.5	+0.9
TIWZ	**Tintock**	**1.11**	**108**	P	Pn	11 01 22.4	+1.5
MSWZ	**Moikau Station**	**1.12**	**150**	P	Pn	11 01 22.4	+1.2
MSWZ				S	Sn	11 01 39.7	+3.7
PRWZ	**Pori Road**	**1.13**	**96**	P	Pn	11 01 21.7	+0.4
PREZ	**Palmer Road**	**1.14**	**347**	P	Pn	11 01 22.4	+1.0
NMEZ	**Namu Road**	**1.14**	**335**	P	Pn	11 01 21.9	+0.5
NNZ	**Nelson**	**1.14**	**228**	P	Pn	11 01 22.3	+0.9
PAWZ	**Paruwai Farm**	**1.17**	**143**	P	Pn	11 01 22.6	+0.8
TSZ	**Takapari Road**	**1.19**	**71**	P	Pn	11 01 21.9	-0.1
KHEZ	**Kahui Hut**	**1.21**	**342**	P	Pn	11 01 22.9	+0.5
NEZ	**North Egmont**	**1.22**	**345**	P	Pn	11 01 22.8	+0.3
TMWZ	**Te Maipa**	**1.25**	**122**	P	Pn	11 01 25.0	+2.2
PLWZ	**Palliser**	**1.26**	**153**	P	Pn	11 01 23.7	+0.7
NBEZ	**Newall Road No**	**1.28**	**338**	P	Pn	11 01 23.6	+0.5
DREZ	**Durham Road**	**1.28**	**350**	P	Pn	11 01 23.9	+0.7
DVHZ	**Dannevirke**	**1.28**	**84**	P	Pn	11 01 22.8	-0.5
MTVZ	**Mangateitei**	**1.30**	**35**	P	Pn	11 01 24.0	+0.5
TRWZ	**Traveller**	**1.31**	**137**	P	Pn	11 01 24.6	+1.0
PKE	**Pukeiti**	**1.31**	**342**	P	Pn	11 01 24.2	+0.4
PKVZ	**Pokaka**	**1.33**	**30**	P	Pn	11 01 24.1	+0.1
VRZ	**Vera Road**	**1.34**	**9**	P	Pn	11 01 24.4	+0.4
BSWZ	**Blackbirch Sta**	**1.35**	**200**	P	Pn	11 01 25.4	+1.3
BFZ	**Birch Farm**	**1.35**	**100**	P	Pn	11 01 23.7	-0.4
CPWZ	**Castlepoint**	**1.38**	**110**	P	Pn	11 01 27.1	+2.7
MHEZ	**Mangahewa**	**1.38**	**354**	P	Pn	11 01 25.6	+1.1
WNVZ	**Wahianoa**	**1.41**	**37**	P	Pn	11 01 25.6	+0.6
PNHZ	**Pukenui**	**1.41**	**68**	P	Pn	11 01 24.8	-0.2
MOVZ	**Moawhango**	**1.42**	**43**	P	Pn	11 01 25.5	+0.3
DRZ	**Dome Shelter**	**1.43**	**35**	P	Pn	11 01 26.8	+1.3
WHVZ	**Whangaehu Hut**	**1.44**	**36**	P	Pn	11 01 26.5	+1.0
FWVZ	**Far West T-bar**	**1.45**	**35**	P	Pn	11 01 26.3	+0.7
TUVZ	**Tukino**	**1.48**	**37**	P	Pn	11 01 27.8	+1.8
ANWZ	**Angora Road**	**1.51**	**91**	P	Pn	11 01 25.9	-0.3
NGZ	**Ngauruhoe**	**1.53**	**34**	P	Pn	11 01 27.5	+0.8
WPHZ	**Waipukurau**	**1.54**	**76**	P	Pn	11 01 28.5	+1.9
BHHZ	**Black Hill Sta**	**1.54**	**52**	P	Pn	11 01 26.8	+0.1
QRZ	**Quartz Range**	**1.54**	**255**	P	Pn	11 01 27.1	+0.4
TWVZ	**Taurewa**	**1.56**	**28**	P	Pn	11 01 27.3	+0.3
OTVZ	**Oturere**	**1.57**	**35**	P	Pn	11 01 27.7	+0.5
WTVZ	**West Tongariro**	**1.58**	**33**	P	Pn	11 01 27.7	+0.4
ETVZ	**East Tongariro**	**1.61**	**36**	P	Pn	11 01 27.2	-0.6
KRVZ	**Karewarewa**	**1.62**	**33**	P	Pn	11 01 28.2	+0.4
TMVZ	**Te Maari**	**1.63**	**35**	P	Pn	11 01 29.1	+1.1
KRHZ	**Kereru**	**1.65**	**61**	P	Pn	11 01 27.8	-0.3
THZ	**Tophouse**	**1.78**	**222**	P	Pn	11 01 31.3	+1.4
KWHZ	**Kaweka Forest**	**1.80**	**56**	P	Pn	11 01 31.4	+1.1
RITZ	**Rihia Road**	**1.81**	**36**	P	Pn	11 01 32.7	+2.4
PXZ	**Pawanui**	**1.86**	**78**	P	Pn	11 01 35.4	+4.5
RATZ	**Rangitukua**	**1.86**	**32**	P	Pn	11 01 32.8	+1.7
KAHZ	**Kahuranaki**	**1.94**	**71**	P	Pn	11 01 31.6	-0.5
HIZ	**Hauiti**	**1.96**	**8**	P	Pn	11 01 32.5	+0.3
MCHZ	**McNeill Hill**	**1.97**	**60**	P	Pn	11 01 31.9	-0.5
WATZ	**Wairara**	**1.99**	**29**	P	Pn	11 01 33.6	+0.9
BKZ	**Black Stump Fm**	**2.00**	**51**	P	Pn	11 01 32.7	-0.2
KHZ	**Kahutara**	**2.09**	**200**	P	Pn	11 01 34.8	+0.7
MRHZ	**Matea Rd**	**2.19**	**43**	P	Pn	11 01 34.8	-0.7
KUTZ	**Kaahu Road**	**2.21**	**28**	P	Pn	11 01 37.0	+1.2
NMHZ	**Naumai**	**2.24**	**54**	P	Pn	11 01 35.7	-0.5
ARHZ	**Aropaoanui**	**2.26**	**59**	P	Pn	11 01 37.0	+0.6
TLZ	**Tolley Road**	**2.27**	**21**	P	Pn	11 01 36.6	+0.1
DSZ	**Denniston Nort**	**2.41**	**237**	P	Pn	11 01 39.1	+0.7
MTHZ	**Maungataniwha**	**2.41**	**49**	P	Pn	11 01 37.6	-0.9
RAHZ	**Arahi**	**2.52**	**53**	P	Pn	11 01 45.0	+5.1
MUGZ	**Murupara**	**2.64**	**43**	P	Pn	11 01 40.3	-1.3
RTZ	**Ruatahuna**	**2.66**	**47**	P	Pn	11 01 40.2	-1.6
GVZ	**Greta Valley S**	**2.74**	**203**	P	Pn	11 01 42.9	-0.1
TOZ	**Tahuroa Road**	**2.83**	**16**	P	Pn	11 01 44.4	+0.3
LTZ	**Lake Taylor**	**2.87**	**215**	P	Pn	11 01 44.7	0.0
URZ	**Urewera**	**2.98**	**44**	P	Pn	11 01 44.2	-2.0
MWZ	**Matawai**	**3.16**	**49**	P	Pn	11 01 46.7	-2.0
INZ	**Inchbonnie**	**3.23**	**224**	P	Pn	11 01 49.7	+0.3
AWAZ	**Awhitu Peninsu**	**3.38**	**2**	P	Pn	11 01 51.8	+0.1
OXZ	**Oxford**	**3.41**	**212**	P	Pn	11 01 50.6	-1.4
OKCZ	**Okains Bay**	**3.44**	**198**	P	Pn	11 01 51.4	-1.1
RUGZ	**Raukumara Rang**	**3.50**	**46**	P	Pn	11 01 51.4	-2.0
ETAZ	**East Tamaki Re**	**3.51**	**6**	P	Pn	11 01 53.7	+0.3
WTAZ	**Waiatarua**	**3.51**	**1**	P	Pn	11 01 53.9	+0.5
TWGZ	**Tauwhareparae**	**3.53**	**51**	P	Pn	11 01 52.0	-1.8
RVAZ	**Riverhead Bore**	**3.67**	**1**	P	Pn	11 01 55.6	-0.1
WIAZ	**Waiheke Island**	**3.69**	**8**	P	Pn	11 01 56.3	+0.5
MBAZ	**Motutapu North**	**3.69**	**5**	P	Pn	11 01 56.1	+0.3
RACZ	**Rakaia**	**3.71**	**207**	P	Pn	11 01 54.9	-1.2
MHCZ	**Mount Hutt**	**3.77**	**214**	P	Pn	11 01 57.8	+0.8
PKGZ	**Pakihiroa**	**3.78**	**49**	P	Pn	11 02 02.3	+5.2
KUZ	**Kuaotunu**	**3.82**	**15**	P	Pn	11 01 57.9	+0.2
WVZ	**Waitaha Valley**	**3.84**	**226**	P	Pn	11 01 58.6	+0.6
ABAZ	**Army Bay**	**3.85**	**4**	P	Pn	11 01 58.4	+0.3
WACZ	**Wakanui South**	**4.01**	**209**	P	Pn	11 01 59.6	-0.5
WCZ	**Waipu Caves**	**4.51**	**358**	P	Pn	11 02 07.1	+0.1
OUZ	**Omahuta**	**5.27**	**352**	P	Pn	11 02 17.7	+0.3
ODZ	**Otahua Downs**	**5.39**	**210**	P	Pn	11 02 17.8	-1.3

VAO 20 11:30:18.2±0.6,9°.99S×75°.07W,h10km,mb4.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.24**	**46**	*e*P	Pn	11 31 08.9	-0.2
LPAZ	**La Paz**	**9.21**	**134**	*e*P	Pn	11 32 30.9	-0.8
LPAZ				*e*S	Sn	11 34 16.1	+0.2
OTAV	**Otavalo**	**10.70**	**341**	*e*P	Pn	11 32 52.1	+0.1
OTAV				*e*S	Sn	11 34 53.1	+0.9
PTLB	**Pontes e Lacer**	**16.46**	**111**	*e*P	Pn	11 34 09.1	-0.3
CLDB	**Colider**	**18.97**	**94**	*e*P	P	11 34 39.6	-0.3
CLDB				*e*S	S	11 38 15.5	-0.2
NPGB	**Novo Progresso**	**19.71**	**83**	*e*P	P	11 34 47.5	-0.6
ITTB	**Itaituba**	**19.97**	**75**	*e*P	P	11 34 50.6	-0.3
MCPB	**Macapa, AP**	**24.81**	**69**	*e*P	P	11 35 40.4	-0.4
PRPB	**Parauapebas**	**25.28**	**83**	*e*P	P	11 35 44.9	-0.2
PLTB	**Pedras Altas**	**29.41**	**141**	*e*P	P	11 36 22.4	+0.4

WEL 20 11:34:30.2,46°.5S±5°.×16°.6E±°,h5km±3km,M3.8/12, ML4.0/12,MLv3.8/12,Error ellipse: s-maj=0.0km s-min=0.0km az=36.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**46**	P	Pb	11 34 40.3	-0.5
PYZ				S	Sb	11 34 47.7	-0.3
DCZ	**Deep Cove**	**1.22**	**33**	P	Pg	11 34 48.9	-4.6
DCZ				S	Sg	11 35 03.0	-6.4
APZ	**The Paps**	**1.28**	**106**	P	Pb	11 34 55.2	+0.5
APZ				S	Sn	11 35 12.8	+0.6
WHZ	**Wether Hill Ro**	**1.35**	**64**	P	Pn	11 34 54.4	-1.3
WHZ				S	Sb	11 35 12.7	-0.8
MLZ	**Mavora Lakes**	**1.75**	**51**	P	Pn	11 35 00.2	-0.9
MLZ				S	Sb	11 35 24.5	-0.4
SYZ	**Scrubby Hill**	**2.03**	**92**	P	Pn	11 35 05.7	+0.7
SYZ				S	Sb	11 35 33.0	0.0
MSZ	**Milford Sound**	**2.18**	**34**	P	Pn	11 35 05.6	-1.4
TUZ	**Tuapeka**	**2.44**	**79**	P	Pn	11 35 10.8	+0.2
WKZ	**Wanaka**	**2.58**	**51**	P	Pn	11 35 13

LIC	Lamto	34.12	92	*e*P		P		11 49 05.2 +5.0
	comp=Z,62nm,1.4s							
DBIC	Dimbokro	34.24	91	P		P		11 49 00.8 -0.4
	comp=Z,7.8nm,0.8s,baz=254,slow=7.2,SNR=7.3							
DBIC				LR		LR		12 00 33.3
	comp=Z,130nm,19.4s,baz=228,slow=32							
KIC	Kosan Boka	34.39	91	*e*P		P		11 49 07.5 +5.0
	comp=Z,51nm,1.5s							
ROSC	El Rosal	34.92	266	LR		LR		12 03 20.9
	comp=Z,184nm,20.5s,baz=83,slow=36							
KOWA	Kowa	35.06	77	P		P		11 49 08.3 0.0
	comp=Z,0.5nm,0.2s,baz=284,slow=4.2,SNR=1.6							
KOWA	Kowa	35.06	77	IAmb		IAmb		11 49 15.3
	comp=Z,8.2nm,1.1s							
PTGB	Pitanga	35.48	200	*e*P		P		11 49 13.4 +1.6
CZSB	Cruzeiro do Su	37.04	245	*e*P		P		11 49 25.1 -0.2
LPAZ	La Paz	37.80	229	P		P		11 49 30.6 -1.8
	comp=Z,5.3nm,1.0s,baz=30,slow=10,SNR=10							
LPAZ				LR		LR		12 04 50.9
	comp=Z,53nm,18.1s,baz=53,slow=36							
LPAZ	La Paz	37.80	229	P		P		11 49 30.9 -1.5
LPAZ				IAmb		IAmb		11 49 44.7
	comp=Z,11nm,1.0s							
LPAZ	La Paz	37.80	229	*e*P		P		11 49 32.9 +0.6
CPUP	Villa Florida	38.98	206	LR		LR		12 05 54.2
	comp=Z,102nm,18.2s,baz=35,slow=36							
CPUP	Villa Florida	38.98	206	*e*P		P		11 49 42.5 +1.1
CNLB	Canela	39.42	196	*e*P		P		11 49 45.8 +0.7
OTAV	Otavalo	39.84	260	*e*P		P		11 49 50.4 +1.1
TORD	Torodi Ar. Bea	40.51	80	P		P		11 49 54.2 -0.1
	comp=Z,1.3nm,0.9s,baz=272,slow=8.0,SNR=4.8							
TORD				LR		LR		12 04 48.5
	comp=Z,208nm,19.7s,baz=280,slow=33							
TORD	Torodi Ar. Bea	40.51	80	P		P		11 49 52.4 -2.0
PLTB	Pedras Altas	42.51	198	*e*P		P		11 50 10.8 +0.3
LVC	Limon Verde	42.53	222	P		P		11 50 09.8 -1.4
	comp=Z,2.0nm,0.6s,baz=53,slow=15,SNR=2.2							
LVC	Limon Verde	42.53	222	IAmb		IAmb		11 50 16.7
	comp=Z,8.4nm,1.2s							
LVC	Limon Verde	42.53	222	*e*P		P		11 50 12.4 +1.2
ESDC	Sonseca Array	44.12	40	P		P		11 50 24.2 +0.7
	comp=Z,0.2nm,0.3s,baz=239,slow=6.8,SNR=2.0							
ESDC				LR		LR		12 05 37.2
	comp=Z,77nm,19.9s,baz=245,slow=32							
ESDC	Sonseca Array	44.12	40	IAmb		IAmb		11 50 29.9
	comp=Z,8.9nm,1.5s							
H09N1	TRISTAN DA CUN	52.14	153	T		T		12 47 32.5
	SNR=6.6							
S39A	Bolivar	56.41	310	P		P		11 51 55.9 -0.8
S39A				IAmb		IAmb		11 51 58.8
	comp=Z,5.3nm,0.9s							
PLCA	Paso Flores	57.01	208	P		P		11 51 58.9 -1.9
	comp=Z,3.8nm,0.9s,baz=58,slow=6.3,SNR=4.4							
PLCA				LR		LR		12 17 22.1
	comp=Z,79nm,18.4s,baz=340,slow=37							
PRED	Cave del Predi	58.59	40	P		P		11 52 13.2 +1.3
PRED				IAmb		IAmb		11 52 21.6
	comp=Z,7.1nm,0.9s							
PDG	Podgorica	61.15	46	P		P		11 52 31.0 +1.5
PDG				IAmb		IAmb		11 52 39.6
	comp=Z,8.2nm,1.0s							
ULM	Lac du Bonnet	62.24	323	P		P		11 52 35.2 -1.5
	comp=Z,3.0nm,0.7s,baz=115,slow=5.6,SNR=5.2							
ULM	Lac du Bonnet	62.24	323	IAmb		IAmb		11 52 48.2
	comp=Z,3.9nm,0.8s							
TXAR	Lajitas Array	63.40	298	P		P		11 52 43.8 -1.2
	comp=Z,0.6nm,0.7s,baz=106,slow=6.8,SNR=6.8							
TXAR				LR		LR		12 19 49.5
	comp=Z,34nm,21.0s,baz=0.0,slow=36							
NOA	NORSAR Array B	64.06	25	LR		LR		12 15 37.9
	comp=Z,17nm,21.0s,baz=240,slow=31							
MLR	Muntele Rosu	66.56	44	P		P		11 53 07.3 +2.0
S22A	4UR Ranch, Cre	66.91	307	P		P		11 53 09.3 +1.4
PDAR	Pinedale Array	69.59	312	P		P		11 53 24.2 -0.4
	comp=Z,0.8nm,1.2s,baz=100,slow=7.4,SNR=2.6							
PDAR				LR		LR		12 20 19.0
	comp=Z,90nm,21.0s,baz=74,slow=33							
AKASG	Malin Array Be	69.76	39	P		P		11 53 25.5 +0.4
	comp=Z,0.7nm,0.3s,baz=260,slow=5.7,SNR=2.8							
WUAZ	Wupatki	70.35	305	P		P		11 53 29.8 +0.5
TPAW	Teton Pass	70.69	313	IAmb		IAmb		11 53 45.4
	comp=Z,10.0nm,1.4s							
IMW	Indian Meadow	70.73	313	IAmb		IAmb		11 53 50.1
	comp=Z,10nm,1.5s							
BRTR	Keskin Array B	71.40	51	P		P		11 53 35.3 -0.2
	comp=Z,1.5nm,0.5s,baz=229,slow=5.9,SNR=5.3							
BRTR	Keskin Array B	71.40	51	P		P		11 53 36.0 +0.5
SPUT	South Promonto	71.59	311	P		P		11 53 38.0 +1.3
HRY	Holter Researc	71.68	316	P		P		11 53 35.9 -1.2
BGU	Big Grassy Mou	72.00	310	P		P		11 53 39.9 +0.7
DLMT	Dillon	72.06	315	IAmb		IAmb		11 53 43.0
	comp=Z,10.0nm,1.2s							
NVAR	Mina Array Bea	75.98	307	P		P		11 54 02.1 -0.5
	comp=Z,0.2nm,0.6s,baz=102,slow=7.6,SNR=2.2							
MOD	Modoc Plateau	77.50	311	P		P		11 54 12.6 +1.6
KBZ	Khabaz	78.43	47	P		P		11 54 15.8 -0.2
	comp=Z,2.5nm,1.0s,baz=108,slow=3.2,SNR=2.2							
VNA1	Neumayer--Stat	81.96	170	P		P		11 54 34.6 +0.3
VNA3	Neumayer Olymp	82.24	171	P		P		11 54 35.7 -0.1
VNA2	Neumayer--Watz	82.34	170	P		P		11 54 35.3 -1.0
SNAA	Sanae	83.79	169	P		P		11 54 43.4 -0.5
SNAA	Sanae	83.79	169	P		P		11 54 43.5 -0.5
BELA	Belgrano 2	86.52	179	P		P		11 54 54.9 -2.5
BMAR	Burnt Mountain	87.77	338	P		P		11 55 03.6 -0.2
BCAR	Beaver Creek A	87.85	334	P		P		11 55 04.3 0.0
ABKAR	Akbulak array	89.47	40	P		P		11 55 11.4 -0.7
ABKAR				IAmb		IAmb		11 55 16.4
	comp=Z,9.1nm,1.4s							
ABKAR	Akbulak array	89.47	40	P		P		11 55 13.2 +1.1
ILAR	Eielson Array	89.50	336	P		P		11 55 12.0 0.0
	comp=Z,0.7nm,0.8s,baz=55,slow=4.9,SNR=6.2							

IDC 20 12:05:19.3±3.2, 7°.32N×93°.97E, *h*0km, mb 3.5/3, mb1 3.7/4, mb1mx3.4/34, mbtmp3.6/4, ML4.2/1, MS2.8/2, Ms1 2.9/2, ms1mx2.5/37, Error ellipse: s-maj=103.1km s-min=33.3km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.67	132	LR	LR	12 09 50.6	
	comp=Z,100nm,19.2s,baz=264,slow=40						
CMAR	Chiang Mai Arr	12.08	23	Pn	Pn	12 08 13.1	+0.2
	0.4nm,0.3s,baz=213,slow=14,SNR=2.3						
CMAR				LR	LR	12 12 36.3	
	comp=Z,38nm,18.6s,baz=15,slow=36						
H08S3	Diego Garcia H	26.07	236	T	T	12 37 41.0	
	baz=56,slow=74						
H08S2	Diego Garcia H	26.07	236	T	T	12 37 42.7	
	baz=56,slow=74						
H08S1	Diego Garcia H	26.09	236	T	T	12 37 41.8	
	baz=56						
SONM	Songino Array	41.74	13	P	P	12 13 09.9	-0.3
	0.3nm,0.4s,baz=193,slow=5.9,SNR=2.9						
ZALV	Zalesovo Beam	47.08	353	P	P	12 13 52.7	0.0
	0.7nm,0.5s,baz=170,slow=9.5,SNR=3.8						
ASAR	Alice Springs	49.69	129	P	P	12 14 13.4	-0.1
	0.2nm,0.8s,baz=303,slow=7.9,SNR=1.8						

*IDC **20** 12:48:20.1±1.2, 36°.01N×21°.77E, h0km, mb3.9/8, mb1 3.9/12, mb1mx3.7/53, mbtmp3.9/12, ML3.4/4, MS2.3/1, Ms1 2.3/1, ms1mx2.0/53, Error ellipse: s-maj=23.9km s-min=19.6km az=30.0*

*ATH **20** 12:48:21.8, 35°.86N×21°.53E, h25km±5km, ML3.3/1, Error ellipse: s-maj=9.6km s-min=1.8km az=67.0*

*THE **20** 12:48:25.6, 35°.99N×21°.75E, h10km±1km, ML3.3/5, Error ellipse: s-maj=2.2km s-min=0.6km az=10.0*

ISC 20 12:48:21.6±1.7, 35°.89N±0°.06×21°.55E±0°.05, h16km±10km, n74, σ1°.60/80, mb4.0/8, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.02	9	P	Pg	12 48 41.9	+0.5
PYL				S	Sn	12 48 55.9	+0.6
	2μm,0.6s						
PYL	PYLOS	1.02	9	P	Pg	12 48 42.0	+0.6
PYL				S	Sn	12 48 56.3	+1.0
PYL				AML	AML	12 49 01.3	
	comp=N,3239μm,0.7s						
PYL				AML	AML	12 49 04.7	
	comp=E,3377μm,0.4s						
KTHR	Kythira	1.23	72	P	Pb	12 48 45.2	+0.6
KTHR				S	Sb	12 49 00.3	0.0
	comp=E,2μm,0.3s						
KTHA	Kythira Island	1.28	73	P	Pg	12 48 46.6	+0.3
KTHA				S	Sn	12 49 01.3	-0.4
KTHA	Kythira Island	1.28	73	P	Pg	12 48 46.5	+0.3
VLI	Veliai	1.39	53	P	Pb	12 48 47.8	+0.5
VLI	Veliai	1.39	53	P	Pb	12 48 47.9	+0.6
ANKY	Antikythira Is	1.42	90	P	Pb	12 48 48.5	+0.8
ANKY				S	Sb	12 49 05.8	+0.2
	comp=E,1μm,1.0s						
ANKY	Antikythira Is	1.42	90	P	Pb	12 48 48.7	+0.9
MNVA	Monemvasia	1.44	56	P	Pg	12 48 49.2	-0.2
VLX	Vlachokerasia	1.62	24	P	Pb	12 48 51.3	0.0
VLX	Vlachokerasia	1.62	24	P	Pb	12 48 51.4	0.0
TRIP	Tripoli	1.74	19	P	Pb	12 48 53.0	-0.2
KRND	KRANIDI	1.97	40	P	Pn	12 48 55.5	+1.1
IMMV	Iera Moni Meta	2.02	101	P	Pn	12 48 56.2	+1.1
DRO	Drossia	2.07	3	P	Pb	12 48 58.3	-0.5
GUR	Goura	2.14	17	P	Pb	12 48 59.7	-0.4
RLS	Riolos of Patr	2.17	358	P	Pb	12 49 00.1	-0.4
KLV	Kalavryta, Ach	2.21	12	P	Pb	12 49 00.4	-0.8
AXS	Araxos	2.31	357	P	Pb	12 49 02.5	-0.4
PSDA	Pessada-Kefalo	2.36	341	P	Pb	12 49 02.2	-1.5
VLS	Valsamata	2.41	342	P	Pb	12 49 02.9	-1.8
LTK	Loutraki	2.42	28	P	Pn	12 49 01.9	+1.4
MHLO	Agia Marina, M	2.44	70	P	Pn	12 49 01.2	+0.4
TRIZ	Trizonia	2.51	9	P	Pb	12 49 04.9	-1.4
DMLN	Damoulianata-K	2.53	338	P	Pb	12 49 04.5	-2.2
KALE	Kalithea	2.54	10	P	Pb	12 49 05.0	-2.0
EFP	Efpalio	2.55	6	P	Pb	12 49 05.6	-1.4
SERG	Sergoula	2.56	9	P	Pg	12 49 10.9	+0.3
VLY	Voula,Athens	2.66	42	P	Pn	12 49 04.3	+0.4
VILL	Villia	2.68	31	P	Pn	12 49 05.2	+1.1
SERI	Serifos	2.68	61	P	Pn	12 49 04.1	-0.1
FSK	Fiskardo	2.69	343	P	Pb	12 49 07.5	-1.9
ANX	Ano Chora	2.72	6	P	Pb	12 49 08.9	-1.1
IDI	Anoyia	2.79	101	Pn	Pn	12 49 05.6	0.0
	comp=E,1.6nm,0.3s,baz=198,slow=5.8,SNR=14						
IDI				Sn	Sn	12 49 38.1	-0.8
	comp=E,13nm,0.3s,baz=327,slow=19,SNR=8.1						
EVGI	Lefkada island	2.82	346	P	Pb	12 49 09.1	-2.6
DRAG	Dragano-Lefkad	2.90	345	P	Pn	12 49 10.1	+2.9
DION	Dionisos Attik	2.90	40	P	Pn	12 49 07.8	+0.6
NYDR	Nydri-Lefkada	2.90	347	P	Pb	12 49 10.5	-2.5
LKD2	Lefkada island	2.98	346	P	Pn	12 49 09.8	+1.5
LKR	Lokris	2.99	22	P	Pn	12 49 10.1	+1.7
AXAR	Agios Charalam	3.01	17	P	Pn	12 49 11.9	+3.2
TSLK	Tsoukalades, L	3.02	347	P	Pb	12 49 12.3	-2.7
EVR	Evrytania	3.03	4	P	Pb	12 49 14.1	-1.2
ATAL	Atalanti	3.04	22	P	Pn	12 49 10.4	+1.4
THR5	Thira Island,	3.12	79	P	Pn	12 49 10.2	+0.1
MAKR	Makrakomi, Fth	3.16	8	P	Pb	12 49 14.7	-2.7
AGG	Agios Georgios	3.19	11	P	Pn	12 49 14.1	+2.9
NEO	Neokhori	3.66	21	P	Pn	12 49 18.4	+0.7
THL	Klokotos Trika	3.69	6	P	Pn	12 49 20.6	+2.6
XOR	Xorichti	3.71	20	P	Pn	12 49 18.9	+0.6
AOS	Alonnisos	3.77	29	P	Pn	12 49 19.9	+0.9
IGT	Igoumenitsa	3.77	345	P	Pn	12 49 21.1	+2.0
JAN	Janina	3.81	352	P	Pn	12 49 22.8	+3.2
KEK	Kerkira	4.07	341	P	Pn	12 49 25.1	+1.9
PENT	Pentalofos	4.32	356	P	Pn	12 49 30.1	+3.4
KZN	Kozani	4.42	2	P	Pn	12 49 30.4	+2.3
NEST	Nestorio	4.54	355	P	Pn	12 49 33.5	+3.7
HORT	Hortiatis	4.86	14	P	Pn	12 49 35.4	+1.2
OHR	Ohrid	5.25	354	*i* Pn	Pn	12 49 41.5	+2.0
KNT	Kendrikon	5.37	11	P	Pn	12 49 43.1	+2.0
SRS	Serrai	5.46	16	P	Pn	12 49 43.7	+1.3
STIP	Stip	5.82	5	*i* Pn	Pn	12 49 49.8	+2.5
BRTR	Keskin Array B	10.30	65	Pn	Pn	12 50 47.4	-1.5
	comp=E,0.3nm,0.3s,baz=291,slow=16,SNR=5.1						
BRTR				LR	LR	12 55 55.1	
	comp=E,16nm,19.8s,baz=262,slow=45						
EIL	Elat	12.86	115	Pn	Pn	12 51 22.3	-1.5
	comp=E,0.4nm,0.3s,baz=12,slow=11,SNR=1.8						
EIL				Sn	Sn	12 53 32.5	-14
	comp=E,0.4nm,0.3s,baz=189,slow=20,SNR=2.3						
KBZ	Khabaz	18.14	58	P	Pn	12 52 31.1	-1.7
	comp=E,0.2nm,0.3s,baz=257,slow=14,SNR=4.0						
HFS	Hagfors	24.79	351	P	P	12 53 42.4	-0.2
	comp=E,1.2nm,0.4s,baz=171,slow=9.9,SNR=5.0						
FINES	FINESS Array B	25.74	5	P	P	12 53 50.4	-0.7
	comp=E,0.9nm,0.5s,baz=177,slow=9.8,SNR=6.0						
NOA	NORSAR Array B	26.02	349	P	P	12 53 53.9	+0.1
	comp=E,1.1nm,0.7s,baz=151,slow=7.5,SNR=2.5						
TORD	Torodi Ar. Bea	28.85	223	P	P	12 54 22.0	+2.6
	comp=E,0.8nm,0.6s,baz=31,slow=8.8,SNR=5.2						
ARCES	ARCESS Array B	33.78	2	P	P	12 55 02.0	-0.3
	comp=E,1.8nm,0.7s,baz=187,slow=9.7,SNR=9.5						
SPITS	Spitsbergen Ar	42.46	358	P	P	12 56 16.2	+0.9
	comp=E,5.9nm,0.8s,baz=160,slow=8.9,SNR=8.3						
MKAR	Makanchi Array	45.83	57	P	P	12 56 41.6	-1.3
	comp=E,0.8nm,0.4s,baz=276,slow=7.7,SNR=21						
ZALV	Zalesovo Beam	46.64	47	P	P	12 56 47.0	-1.9
	comp=E,0.5nm,0.3s,baz=294,slow=7.8,SNR=3.6						

*IDC **20** 12:56:11.3±0.5, 86°.28N×37°.01E, h0km, mb4.2/25, mb1 4.4/27, mb1mx4.2/68, mbtmp4.2/27, ML4.4/2, MS4.0/33, Ms1 4.0/33, ms1mx3.8/51, Error ellipse: s-maj=16.4km s-min=10.4km az=76.0*

*GCMT **20** 12:56:11.9±0.2, 86°.32N±0°.01×36°.7E±0°.3, h12km, MW4.9/117, Moment Tensor Solution. s24,c30; s117,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.73±.06; Mθθ2.23±.06; Mϕϕ0.49±.06; Mrθ0.03±.22; Mθϕ0.88±.05; Mϕr-0.36±.27; Best double couple: M₀2.68700×10¹⁶ NP1:ϕs254.00000°, δ44.00000°, λ-80.00000°. NP2:ϕs61.00000°, δ47.00000°, λ-99.00000°. Principal axes: T 2.6010, Plg1.0000°, Azm157.0000°; N 0.1670, Plg7.0000°, Azm67.0000°; P -2.7730, Plg83.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 12:56:12.9±2.9, 86°.24N±0°.07×3°.6E±°, h10km±1km, mb4.7/139 Error ellipse: s-maj=16.0km s-min=11.3km az=89.0*

*IEPN **20** 12:56:15.0, 86°.29N×44°.88E, h20km*

ISC 20 12:56:12.9±0.4, 86°.11N±0°.04×35°.11E±0°.05, h10km, n210, σ1°.78/189, mb4.7/66, MS3.8/28, 1C, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	Zemlya Franca-	5.50	159	*e*P	Pn	12 33.7	-0.9
ZFI2				*e*S	Sn	12 58 32.0	-5.7
	66nm,0.5s						
ZFI	Zemlya Franca-	5.50	159	*e*P	Pn	12 57 34.2	-0.4
ZFI				*e*S	Sn	12 58 32.4	-5.3
NOR	Nord	6.77	259	*i* P	Pn	12 57 54.4	+2.4
NOR	Nord	6.77	259	*i* P	Pn	12 57 54.4	+2.4
KBS	Kingsbay	7.70	215	*e*P	Pn	12 58 04.6	-0.2
KBS				*e*S	Sn	12 59 28.5	-3.4
KBS	Kingsbay	7.70	215	Pn	Pn	12 58 04.8	0.0
KBS	Kingsbay	7.70	215	*e*P	Pn	12 58 04.9	0.0
KBS				*i* S	Sn	12 59 28.0	-3.9
KBS				IAML		12 59 33.7	
	comp=Z,17nm,0.5s						
KBS	Kingsbay	7.70	215	*i* P	Pn	12 58 05.0	+0.1
KBS				IAmb	IAmb	12 58 06.4	
	comp=Z,116nm,0.4s						
SPB5	Spitsbergen Ar	8.29	207	Pn	Pn	12 58 13.1	+0.3
SPA1	Spitsbergen Ar	8.29	207	Pn	Pn	12 58 12.8	0.0
SPB1	Spitsbergen Ar	8.29	207	Pn	Pn	12 58 12.8	0.0
SPA0	Spitsbergen Ar	8.29	207	*i* P	Pn	12 58 12.6	-0.3
SPA0				*e*S	Sn	12 59 42.3	-4.1
SPA0	Spitsbergen Ar	8.29	207	Pn	Pn	12 58 13.1	+0.3
SPA0	Spitsbergen Ar	8.29	207	*e*P	Pn	12 58 13.0	+0.1
SPA0				*e*S	Sn	12 59 43.6	-2.8
SPA0				IAML		12 59 48.4	
	comp=Z,5.8nm,0.6s						
SPB4	Spitsbergen Ar	8.29	207	Pn	Pn	12 58 12.7	-0.2
SPITS	Spitsbergen Ar	8.29	207	Pn	Pn	12 58 12.8	-0.1
	baz=28,slow=13,SNR=277						
SPITS				Sn	Sn	12 59 42.6	-3.8
	baz=41,slow=25,SNR=1.5						
SPITS				LR	LR	13 01 03.1	
	comp=Z,1μm,21.2s,baz=340,slow=34						
SPA3	Spitsbergen Ar	8.29	207		Pn	12 58 13.0	+0.1
SPB2	Spitsbergen Ar	8.29	207		Pn	12 58 12.9	0.0
SPB3	Spitsbergen Ar	8.29	207		Pn	12 58 12.8	-0.1
HSPB	Hornsund (broa	9.49	207	*e*P	Pn	12 58 31.1	+1.9
HSPB	Hornsund (broa	9.49	207	*e*P	Pn	12 58 31.5	+2.3
HSPB				*e*S	Sn	13 00 13.9	-1.8
HSPB	Hornsund (broa	9.49	207	*e*P	Pn	12 58 30.9	+1.7
HOPEN	Hopen	9.75	194	*e*P	Pn	12 58 32.7	-0.1
HOPEN				*e*S	Sn	13 00 16.9	-5.3
HOPEN	Hopen	9.75	194	*e*P	Pn	12 58 33.0	+0.2
DAG	Danmarks Havn	11.44	250	*i* P	Pn	12 58 58.6	+2.7
	comp=Z,19nm,0.8s						
DAG	Danmarks Havn	11.44	250	*i* P	Pn	12 58 58.7	+2.7
DAG				IAmb	IAmb	12 59 01.0	
	comp=Z,19nm,0.8s						
BJO1	Bjornoya	11.89	201	*e*P	Pn	12 59 01.7	-0.3
EUNU	Eureka	12.51	317	Pn	Pn	12 59 06.4	-4.1
TULEG	Thule	14.97	298	Pn	Pn	12 59 39.5	-4.6
TULEG	Thule	14.97	298	*i* P	Pn	12 59 38.0	-6.1
TULEG				IAmb	IAmb	12 59 41.9	
	comp=Z,87nm,0.9s						
KEV	Kevo	16.51	190	Pn	Pn	13 00 03.9	-0.1
JMIC	Jan Mayen	16.51	233	LR	LR	13 04 44.5	
	comp=Z,337nm,21.4s,baz=77,slow=31						
ARD1	ARCESS Array S	16.73	192	Pn	Pn	13 00 07.2	+0.3
ARD1				IAmb	IAmb	13 00 15.0	
	comp=Z,50nm,1.0s						
ARD2	ARCESS Array S	16.74	192	Pn	P	13 00 08.2	-1.0
ARD9	ARCESS Array S	16.74	192	Pn	Pn	13 00 07.6	+0.7
ARD9				IAmb	IAmb	13 00 15.0	
	comp=Z,60nm,1.1s						
ARC1	ARCESS Array S	16.74	192	Pn	Pn	13 00 07.4	+0.4
ARC1				IAmb	IAmb	13 00 15.1	
	comp=Z,52nm,0.9s						
ARC7	ARCESS Array S	16.74	192	Pn	Pn	13 00 07.7	+0.7
ARC7				IAmb	IAmb	13 00 15.1	
	comp=Z,53nm,1.0s						
ARB1	ARCESS Array S	16.74	192	Pn	Pn	13 00 07.8	+0.8
ARB1				IAmb	IAmb	13 00 15.1	
	comp=Z,57nm,1.0s						
ARC2	ARCESS Array S	16.74	192	Pn	Pn	13 00 07.7	+0.7
ARC2				IAmb	IAmb	13 00 15.1	
	comp=Z,54nm,0.9s						
ARD8	ARCESS Array S	16.74	192	Pn	P	13 00 08.0	-1.3
ARD8				IAmb	IAmb	13 00 15.1	
	comp=Z,50nm,0.9s						
ARD3	ARCESS Array S	16.74	192	Pn	Pn	13 00 06.8	-0.3
ARA1	ARCESS Array S	16.75	192	Pn	Pn	13 00 07.9	+0.8
ARA1				IAmb	IAmb	13 00 15.1	
	comp=Z,51nm,0.9s						
ARB2	ARCESS Array S	16.75	192	Pn	P	13 00 08.0	-1.3
ARB2				IAmb	IAmb	13 00 15.1	
	comp=Z,66nm,1.0s						
ARB5	ARCESS Array S	16.75	192	Pn	P	13 00 08.4	-0.9
ARB5				IAmb	IAmb	13 00 15.1	
	comp=Z,60nm,1.1s						
ARA0	ARCESS Array S	16.75	192	Pn	Pn	13 00 07.3	+0.3
ARA0				IAmb	IAmb	13 00 15.1	
	comp=Z,57nm,1.0s						
ARCES	ARCESS Array B	16.75	192	Pn	Pn	13 00 07.4	+0.4
	baz=13,slow=6.7,SNR=20						
ARCES				Sn	Sn	13 03 06.1	-6.6
	baz=9.6,slow=22,SNR=2.0						
ARCES				LR	LR	13 06 35.0	
	comp=Z,477nm,18.7s,baz=0.0,slow=37						
ARA2	ARCESS Array S	16.75	192	Pn	Pn	13 00 07.3	+0.3
ARA2				IAmb	IAmb	13 00 15.2	
	comp=Z,58nm,1.0s						
ARA3	ARCESS Array S	16.75	192	Pn	Pn	13 00 07.5	+0.4
ARA3				IAmb	IAmb	13 00 15.1	
	comp=Z,61nm,1.1s						
ARC6	ARCESS Array S	16.75	192	Pn	P	13 00 08.6	-0.7
ARC6				IAmb	IAmb	13 00 15.1	
	comp=Z,60nm,1.1s						
ARC3	ARCESS Array S	16.75	192		P	13 00 09.8	+0.5
ARC3				IAmb	IAmb	13 00 15.2	
	comp=Z,57nm,1.0s						
ARB3	ARCESS Array S	16.75	192	Pn	P	13 00 08.3	-1.0
ARB3				IAmb	IAmb	13 00 15.2	
	comp=Z,62nm,1.1s						
ARB4	ARCESS Array S	16.75	192	Pn	P	13 00 08.1	-1.3
ARB4				IAmb	IAmb	13 00 15.2	
	comp=Z,59nm,1.1s						
ARC5	ARCESS Array S	16.75	192	Pn	P	13 00 08.1	-1.3
ARC5				IAmb	IAmb	13 00 15.2	
	comp=Z,65nm,1.1s						
ARC4	ARCESS Array S	16.75	192	Pn	Pn	13 00 06.8	-0.3
ARC4				IAmb	IAmb	13 00 15.2	
	comp=Z,67nm,1.1s						
ARD7	ARCESS Array S	16.75	192	Pn	Pn	13 00 07.7	+0.5
ARD7				IAmb	IAmb	13 00 15.2	
	comp=Z,56nm,1.0s						
ARD4	ARCESS Array S

ILAR LR LR 13 12 47.4
comp=Z,224nm,22.0s,baz=358,slow=34
ILAR Eielson Array 29.29 2 P P 13 02 14.3 -0.4
WRH Wood River Hil 29.59 3 IAmb IAmb 13 02 19.6
comp=Z,22nm,1.3s
HDA Harding Lake 29.65 2 P P **13 02 18.2 +0.3**
BPAW Bear Paw Mtn. 29.94 5 P P **13 02 20.0 -0.5**
BPAW IAmb IAmb 13 02 22.2
comp=Z,14nm,1.0s
ARU Arti 30.20 154 P P **13 02 23.3 +0.5**
comp=Z,0.5nm,0.3s,baz=356,slow=15,SNR=3.9
ARU LR LR 13 16 00.7
comp=Z,286nm,21.0s,baz=357,slow=39
ARU Arti 30.20 154 IAmb IAmb 13 02 30.3
comp=Z,8.8nm,1.2s
DOT Dot Lake 30.42 359 P P **13 02 24.9 +0.2**
DOT IAmb IAmb 13 02 29.1
comp=Z,16nm,1.4s
BCAR Beaver Creek A 31.00 357 P P **13 02 29.2 -0.7**
YKA Yellowknife Ar 31.10 333 LR LR 13 15 38.6
comp=Z,733nm,18.2s,baz=0.0,slow=38
MENT Mentasta 31.13 359 IAmb IAmb 13 02 33.0
comp=Z,14nm,1.0s
PPLA Purkeypile 31.14 6 P P **13 02 31.2 -0.1**
SUA Susitna One 32.59 5 P P **13 02 43.2 -0.7**
HYT Haines Junctio 33.22 353 P P **13 02 48.8 -0.7**
ZAA0 Zalesovo Array 33.82 126 P P **13 02 56.7 +2.1**
ZALV Zalesovo Beam 33.82 126 P P **13 02 55.3 +0.8**
comp=Z,0.9nm,0.6s,baz=349,slow=9.3,SNR=5.8
ZALV PcP **PcP 13 05 32.7 -0.4**
comp=Z,0.4nm,0.3s,baz=12,slow=2.1,SNR=2.5
ZALV LR LR 13 19 48.2
comp=Z,131nm,19.7s,baz=355,slow=42
ZALV Zalesovo Beam 33.82 126 P P **13 02 54.9 +0.3**
BRVK Borovoye 33.99 142 P P **13 02 57.8 +1.7**
BRVK IAmb IAmb 13 03 06.6
comp=Z,12nm,1.2s
CLL Collm 35.28 204 *eP* P **13 03 09.0 +1.8**
comp=Z,8.0nm,1.1s
CLL *eS* S 13 09 00.0 +19
AKASG Malin Array Be 35.60 186 P P **13 03 11.2 +1.3**
comp=Z,1.2nm,0.6s,baz=3.4,slow=9.4,SNR=11
AKASG LR LR 13 18 14.1
comp=Z,521nm,18.2s,baz=345,slow=37
AKBB Malin Array Si 35.60 186 P P **13 03 12.1 +2.2**
BRG Berggiesshubel 35.69 203 *eP* P **13 03 14.6 +3.9**
comp=Z,25nm,1.6s
AKTO Aktyubinsk 36.18 155 P P **13 03 15.9 +1.0**
comp=Z,2.6nm,0.9s,baz=10,slow=9.2,SNR=6.7
SCHQ Schefferville 36.34 287 LR LR 13 17 37.8
comp=Z,166nm,19.0s,baz=24,slow=35
ABKAR Akbulak array 37.41 153 P P **13 03 28.3 +2.8**
ABKAR Akbulak array 37.41 153 P P **13 03 26.8 +1.3**
GERES GERESS Array B 37.73 203 P P **13 03 29.9 +1.6**
comp=Z,1.0nm,0.8s,baz=22,slow=8.7,SNR=1.9
BURAR Bucovina Array 38.73 191 P P 13 03 41.4 +4.7
PETK Petropavlovsk- 39.30 53 LR LR 13 20 30.7
comp=Z,140nm,18.5s,baz=355,slow=37
MAKZ Makanchi 40.79 130 P P **13 03 53.2 -0.6**
MKAR Makanchi Array 40.82 130 P P **13 03 53.4 -0.6**
comp=Z,1.0nm,0.6s,baz=330,slow=7.0,SNR=9.1
MKAR PP **PP 13 05 27.7 0.0**
comp=Z,0.5nm,0.8s,baz=8.7,slow=10,SNR=1.4
MKAR LR LR 13 23 22.7
comp=Z,344nm,21.2s,baz=347,slow=40
MKAR Makanchi Array 40.82 130 P P **13 03 53.7 -0.3**
SONM Songino Array 41.24 105 P P **13 03 57.3 -0.2**
comp=Z,0.7nm,0.8s,baz=351,slow=6.3,SNR=1.5
SONM LR LR 13 21 41.4
comp=Z,96nm,22.0s,baz=354,slow=37
KIWB Kanaga Island 41.69 30 P P **13 03 59.7 -1.3**
KIV Kislovodsk 42.36 172 P P **13 04 07.2 +0.4**
KBZ Khabaz 42.59 172 P P **13 04 10.9 +2.5**
comp=Z,20nm,1.1s,baz=340,slow=6.2,SNR=10.0
KBZ LR LR 13 23 48.5
comp=Z,401nm,20.6s,baz=356,slow=39
ULM Lac du Bonnet 42.59 314 P P **13 04 08.1 -0.3**
comp=Z,4.1nm,1.0s,baz=8.7,slow=13,SNR=3.8
ULM LR LR 13 21 38.6
comp=Z,353nm,19.4s,baz=360,slow=36
ULM Lac du Bonnet 42.59 314 IAmb IAmb 13 04 09.3
OSSC Osservatorio P 43.11 206 P P **13 04 16.8 +4.1**
OSSC IAmb IAmb 13 04 18.3
comp=Z,26nm,1.4s
CASP Castiglione de 43.86 206 P P **13 04 18.2 -0.5**
KK31 Karatay Array 43.95 142 P P **13 04 20.5 +1.1**
KKAR Karatay Array 43.95 142 P P **13 04 21.4 +1.9**
KKAR Karatay Array 43.95 142 P P **13 04 21.1 +1.6**
LATE Laterza 44.01 205 P P **13 04 22.1 +2.1**
WALA Waterton Lakes 44.52 331 P P **13 04 22.5 -1.6**
WALA IAmb IAmb 13 04 26.3
comp=Z,17nm,1.2s
AGMN Agassiz Nation 44.54 314 P P **13 04 23.5 -0.6**
BOOM Boomskoye unch 44.80 137 IAmb IAmb 13 04 44.1
comp=Z,14nm,1.2s
ARTV Artvin 45.12 173 P P **13 04 32.4 +3.3**
B08A Colville Reser 45.39 336 P P **13 04 31.3 +0.4**
NEW Newport 45.42 334 IAmb IAmb 13 04 34.3
comp=Z,13nm,1.4s
JTMT Jette 45.85 331 IAmb IAmb 13 04 36.4
comp=Z,10nm,1.2s
KOPT Kop Dagi 46.28 174 P P **13 04 39.3 +1.0**
CN2 Changchun 46.54 86 *eP* P **13 04 40.8 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 46.55 182 P P **13 04 42.0 +1.7**
BR131 IAmb IAmb 13 04 46.0
comp=Z,8.1nm,1.2s
BRTR Keskin Array B 46.55 182 P P **13 04 42.4 +2.0**
comp=Z,7.0nm,1.1s,baz=346,slow=4.5,SNR=13
BRTR LR LR 13 25 57.4
comp=Z,175nm,20.2s,baz=4.0,slow=38
USRK Ussuriysk Ar. 46.59 79 LR LR 13 23 52.0
comp=Z,58nm,20.7s,baz=359,slow=36
MSO Missoula 46.75 331 IAmb IAmb 13 04 43.6
comp=Z,11nm,1.1s
HRY Holter Researc 46.80 329 P P **13 04 41.1 -1.0**
ESDC Sonseca Array 47.52 221 P P **13 04 49.3 +1.6**
comp=Z,1.5nm,0.9s,baz=6.2,slow=8.1,SNR=8.2
ESDC LR LR 13 22 57.8
comp=Z,42nm,21.8s,baz=345,slow=34
ESDC Sonseca Array 47.52 221 IAmb IAmb 13 04 57.6
comp=Z,5.1nm,1.1s
LRM Limekiln Ridge 47.71 330 P P **13 04 43.9 -0.1**
BOZ Bozeman (W) 47.90 329 P P **13 04 50.8 +0.1**
DLMT Dillon 48.17 330 IAmb IAmb 13 04 53.9
comp=Z,7.5nm,1.3s
G08A Pilot Rock 48.44 336 IAmb IAmb 13 04 56.8
comp=Z,11nm,1.3s
YHL Hebgen Lake 48.63 328 P P **13 04 57.2 +0.6**
GEYT Alibeck 48.67 156 P P **13 04 57.9 +1.3**
comp=Z,3.7nm,0.7s,baz=326,slow=10.0,SNR=5.2
GEYT LR LR 13 29 49.2
comp=Z,193nm,20.8s,baz=235,slow=41
YHH Holmes Hill 48.68 328 P P **13 04 56.3 -0.7**
MCMT McKenzie Canyo 48.72 330 P P **13 04 57.1 -0.1**
BMO Blue Mountains 48.83 334 P P **13 04 57.3 -0.6**
BMO IAmb IAmb 13 05 15.4
comp=Z,8.9nm,1.4s
RSSD Black Hills 49.08 321 P P **13 04 59.4 -0.5**
RSSD IAmb IAmb 13 05 02.1
comp=Z,6.3nm,0.8s
ECSD EROS Data Cent 49.13 314 P P **13 05 00.1 0.0**
ECSD IAmb IAmb 13 05 01.7
comp=Z,7.0nm,0.8s
YPP Pitchstone Pla 49.20 328 P P **13 05 02.2 +1.3**
BCYI Bear Canyon 49.25 330 P P **13 05 01.9 +0.6**
FLWY Flagg Ranch 49.38 328 P P **13 05 03.8 +1.5**
FLWY IAmb IAmb 13 05 08.5
comp=Z,13nm,1.3s
IMW Indian Meadow 49.58 328 IAmb IAmb 13 05 08.8
comp=Z,12nm,1.5s
MOOW Moose Ponds 49.72 328 IAmb IAmb 13 05 07.7
comp=Z,11nm,1.4s
BW06 Boulder Array 50.66 327 P P **13 05 12.2 +0.2**
PDAR Pinedale Array 50.66 327 P P **13 05 11.9 0.0**
comp=Z,2.8nm,1.0s,baz=0.0,slow=4.4,SNR=15
PDAR LR LR 13 26 56.3
comp=Z,393nm,18.2s,baz=358,slow=36
PDAR Pinedale Array 50.66 327 P P **13 05 11.2 -0.7**
KEST Kesra 50.95 207 P P **13 05 15.6 +1.6**
comp=Z,12nm,1.1s,baz=236,slow=2.4,SNR=6.4
KEST LR LR 13 27 23.0
comp=Z,100nm,20.0s,baz=314,slow=37
KEST Kesra 50.95 207 P P **13 05 17.1 +3.1**

K05A Summer Lake 51.06 337 P P **13 05 15.3 +0.4**
SSPA Standing Stone 51.18 296 P P **13 05 16.5 +0.9**
RWWY Rawlins 51.64 324 IAmb IAmb 13 05 20.0
comp=Z,15nm,1.3s
N23A Red Feather La 52.38 323 IAmb IAmb 13 05 27.1
comp=Z,9.5nm,1.2s
BGU Big Grassy Mou 52.62 330 P P **13 05 26.9 +0.4**
KSRS Korea Array 53.02 84 P P **13 05 27.8 -1.6**
comp=Z,0.2nm,0.3s,baz=357,slow=7.3,SNR=2.1
KSRS LR LR 13 29 11.1
comp=Z,61nm,18.4s,baz=357,slow=37
ISCO Idaho Springs 53.46 323 P P **13 05 33.3 +0.3**
BEKR Beckworth 53.90 337 P P **13 05 35.5 -0.5**
PAHR Pah Rah Range 54.03 336 IAmb IAmb 13 05 39.9
comp=Z,11nm,1.5s
TMUT Trail Mountain 54.18 328 P P **13 05 39.3 +1.1**
KVN Kaiserville 54.65 335 P P **13 05 42.0 +0.5**
KVN IAmb IAmb 13 05 43.7
comp=Z,8.5nm,1.2s
YERR Yerington 54.75 336 IAmb IAmb 13 05 45.1
comp=Z,12nm,1.2s
AFDM Forest Hills D 54.83 337 IAmb IAmb 13 05 44.6
comp=Z,13nm,1.4s
PSUT Pine Spring 55.03 330 P P **13 05 45.5 +1.2**
RYN Ryan 55.08 335 P P **13 05 44.6 0.0**
RYN IAmb IAmb 13 05 54.1
comp=Z,6.0nm,1.0s
R11A Troy Canyon, C 55.27 332 P P **13 05 46.0 0.0**
R11A IAmb IAmb 13 05 48.6
comp=Z,15nm,1.5s
NVAR Mina Array Bea 55.28 335 P P **13 05 45.5 -0.5**
comp=Z,2.3nm,1.0s,baz=4.4,slow=4.8,SNR=12
NVAR LR LR 13 30 29.1
comp=Z,480nm,19.2s,baz=356,slow=37
NVAR Mina Array Bea 55.28 335 P P **13 05 44.9 -1.2**
OMMB Old Mammoth Mi 56.11 335 IAmb IAmb 13 05 55.5
comp=Z,12nm,1.3s
MVCO Mesa Verde 56.16 325 P P **13 05 52.8 +0.4**
CLTN Cedars of Leba 56.20 304 IAmb IAmb 13 05 53.9
comp=Z,9.8nm,1.1s
TKL Tuckaleechee C 56.48 301 P P **13 05 54.5 0.0**
comp=Z,2.3nm,0.6s,baz=26,slow=17,SNR=3.9
KNB Kanab 56.51 329 P P **13 05 56.0 +1.1**
SHPR Sheep Range 57.10 332 IAmb IAmb 13 06 08.5
comp=Z,14nm,1.4s
X37A Clayton 58.18 312 P P **13 06 03.5 -2.9**
X37A IAmb IAmb 13 06 05.5
comp=Z,7.3nm,1.0s
ANMO Albuquerque 58.33 323 P P **13 06 07.9 +0.1**
GLA Glamis 60.53 331 P P **13 06 24.6 +1.8**
GLA IAmb IAmb 13 06 25.3
comp=Z,12nm,1.4s
RMX La Rumorosa 61.02 332 P P **13 06 28.8 +2.6**
RMX IAmb IAmb 13 06 29.0
comp=Z,8.1nm,1.0s
TUC Tucson 61.13 327 P P **13 06 27.0 +0.1**
JCT Junction City 62.49 316 P P **13 06 37.3 +1.3**
TX31 Lajitas Ar. Si 63.80 320 P P **13 06 43.9 -0.9**
TX32 Lajitas Array 63.80 320 P P **13 06 43.9 -0.9**
TX32 IAmb IAmb 13 06 47.6
comp=Z,7.3nm,1.2s
TXAR Lajitas Array 63.80 320 P P **13 06 44.0 -0.8**
comp=Z,1.6nm,0.9s,baz=32,slow=4.9,SNR=12
TXAR Lajitas Array 63.80 320 P P **13 06 43.8 -1.0**
CMAR Chiang Mai Arr 69.97 115 P P **13 07 23.0 -1.0**
comp=Z,1.3nm,0.8s,baz=347,slow=7.8,SNR=11
CMAR LR LR 13 40 46.1
comp=Z,129nm,18.1s,baz=39,slow=38
CMAR Chiang Mai Arr 69.97 115 P P **13 07 25.2 +1.2**
TORD Torodi Ar. Bea 73.68 214 P P **13 07 46.9 +0.6**
comp=Z,1.3nm,0.9s,baz=350,slow=5.4,SNR=6.4
TORD Torodi Ar. Bea 73.68 214 P P **13 07 47.1 +0.7**

NEIC ***20*** *13:01:18.7±1.3, 4.°11N±0.°08×124.°67E±0.°07, h339km±7km, mb4.2/34, Error ellipse: s-maj=11.7km s-min=10.7km az=201.0*

DJA ***20*** *13:01:19.1±0.3, 4.°1N±4.°×12.°5E±.°, h323km±3km, M4.2/13, mb4.2/13, mB5.2/4, MLv4.2/10, Mw(mB)4.5/4*

IDC ***20*** *13:01:21.4±1.9, 3.°96N×124.°36E, h358km±20km, mb3.6/10, mb1 3.8/12, mb1mx3.3/46, mbtmp4.5/12, Error ellipse: s-maj=25.1km s-min=10.1km az=58.0*

ISC 20 13:01:18.9±0.4, 4.°12N±0.°06×124.°63E±0.°08, h339km, n73, σ0§92/79, mb4.1/23, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.00**	**116**	P	**Pn**	**13 02 02.7**	**-0.8**
SGSI				S	**S**	**13 02 37.2**	**-2.0**
KMSI	**Cibinong**	**3.58**	**190**	P	**Pn**	**13 02 23.2**	**+0.1**
KMSI				S	**S**	**13 03 14.2**	**-0.6**
GTOI	**Gorontalo**	**3.82**	**205**	P	**Pn**	**13 02 25.0**	**-0.5**
TNTI	**Ternate**	**4.31**	**141**	P	**Pn**	**13 02 30.2**	**-0.4**
TNTI	**Ternate**	**4.31**	**141**		**Pn**	**13 02 29.1**	**-1.4**
MYLDM	**Lahad Datu**	**6.20**	**280**		**Pn**	**13 02 53.1**	**+1.4**
SANI	**Sanana**	**6.28**	**167**	P	**Pn**	**13 02 50.7**	**-2.0**
NLAI	**Namlea**	**7.72**	**161**	P	**Pn**	**13 03 09.7**	**0.0**
	0.6nm2µm29nm,0.4s						
KKM	**Kota Kinabalu**	**8.60**	**283**	Pn	**Pn**	**13 03 20.4**	**+0.1**
SPSI	**Sidrap Palu**	**9.39**	**211**	P	**Pn**	**13 03 30.7**	**+1.1**
	13nm,1.0s						
BKB	**Balikpapan**	**9.40**	**235**	Pn	**Pn**	**13 03 28.4**	**-1.3**
FAKI	**Fak Fak**	**10.34**	**132**	P	**Pn**	**13 03 41.3**	**+0.2**
SBUM	**Sibu**	**12.50**	**263**	P	**Pn**	**13 04 07.4**	**+0.5**
EDFI	**Ende, Flores**	**13.12**	**193**	P	**Pn**	**13 04 15.0**	**+0.7**
	4.1nm,1.2s						
SOEI	**Soe**	**13.79**	**181**	P	**Pn**	**13 04 20.6**	**-0.4**
BATI	**Baumata**	**14.27**	**184**	P	**Pn**	**13 04 27.5**	**-0.2**
	6.7nm,0.3s,baz=34,slow=5.3,SNR=5.7						
BATI	**Baumata**	**14.27**	**184**	P	**Pn**	**13 04 28.7**	**+0.9**
	40nm,0.8s						
KSM	**Kuching**	**14.54**	**260**	P	**P**	**13 04 29.9**	**+0.6**
SMPI	**Sarmi**	**15.33**	**113**	P	**Pn**	**13 04 41.1**	**+1.0**
	24nm,0.8s						
JAY	**Jayapura**	**17.37**	**112**	P	**Pn**	**13 05 05.3**	**+1.7**
	1.2nm,0.3s,baz=55,slow=19,SNR=5.4						
MTN	**Manton Dam**	**18.05**	**159**	P	**P**	**13 05 07.5**	**+0.3**
TWG	**Pinlang**	**18.90**	**350**	P	**P**	**13 05 16.8**	**+0.7**
YULB	**Yu-li**	**19.42**	**351**	P	**P**	**13 05 21.6**	**-0.1**
TPUB	**Ta-pu**	**19.45**	**349**	P	**P**	**13 05 22.3**	**+0.3**
TPUB				IAmb	IAmb	13 05 24.7	
	comp=Z,18nm,0.8s						
SSLB	**Suanglung**	**19.87**	**350**	P	**P**	**13 05 25.4**	**-0.9**
SSLB				IAmb	IAmb	13 05 31.4	
	comp=Z,7.2nm,0.7s						
KNRA	**Kununurra**	**20.09**	**168**	P	**P**	**13 05 26.5**	**-2.1**
KNRA				IAmb	IAmb	13 05 28.9	
	comp=Z,13nm,1.1s						
YHNB	**Yeheng**	**20.67**	**352**	P	**P**	**13 05 34.3**	**+0.3**
UBPT	**Khong Chiam**	**21.87**	**302**	P	**P**	**13 05 45.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.10**	**177**	P	**P**	**13 05 46.7**	**-0.3**
	comp=Z,4.4nm,0.4s,baz=358,slow=12,SNR=89						
FITZ	**Fitzroy Crossi**	**22.10**	**177**	P	**P**	**13 05 46.7**	**-0.3**
FITZ				IAmb	IAmb	13 05 47.5	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**25.61**	**158**	P	**P**	**13 06 17.8**	**-0.8**
WB0				IAmb	IAmb	13 06 18.6	
	comp=Z,6.2nm,0.5s						
WRA	**Warramunga Arr**	**25.75**	**159**	P	**P**	**13 06 19.2**	**-0.7**
	comp=Z,4.3nm,0.5s,baz=332,slow=11,SNR=81						
WRA				PcP	**PcP**	**13 09 39.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=328,slow=2.3,SNR=1.9						
WRA				ScP	**ScP**	**13 12 45.6**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=340,slow=2.7,SNR=2.4						
WRA	**Warramunga Arr**	**25.75**	**159**	P	**P**	**13 06 18.1**	**-1.8**
WB2	**Warramunga Arr**	**25.75**	**159**	P	**P**	**13 06 18.6**	**-1.3**
WB2				IAmb	IAmb	13 06 20.2	
	comp=Z,5.5nm,0.6s						
WR0	**Warramunga Arr**	**25.84**	**158**	P	**P**	**13 06 19.9**	**-0.8**
WR0				IAmb	IAmb	13 06 30.2	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**25.96**	**190**	P	**P**	**13 06 20.9**	**-0.8**
PSA00				IAmb	IAmb	13 06 21.6	
	comp=Z,6.9nm,1.1s						
PBKT	**Sadao Pong**	**26.31**	**300**	P	**P**	**13 06 24.9**	**0.0**
CMAR	**Chiang Mai Arr**	**28.87**	**302**	P	**P**	**13 06 48.0**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=114,slow=6.5,SNR=16						
CMAR	**Chiang Mai Arr**	**28.87**	**302**	P	**P**	**13 06 47.9**	**+0.3**
CHTO	**Chiang Mai**	**29.03**	**302**	P	**P**	**13 06 48.7**	**-0.3**
AS31	**Alice Springs**	**29.06**	**162**	P	**P**	**13 06 49.0**	**-0.3**
ASAR	**Alice Springs**	**29.07**	**162**	P	**P**	**13 06 49.0**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=341,slow=7.7,SNR=57						
ASAR				PcP	**PcP**	**13 09 47.9**	**0.0**
	comp=Z,0.4nm,0.8s,baz=347,slow=2.3,SNR=2.3						
ASAR				ScP	**ScP**	**13 12 55.7**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=345,slow=3.3,SNR=2.1						
ASAR	**Alice Springs**	**29.07**	**162**	P	**P**	**13 06 48.8**	**-0.4**
CTA	**Charters Tower**	**32.10**	**139**	P	**P**	**13 07 16.8**	**+1.1**
	comp=Z,4.9nm,1.0s,baz=293,slow=7.7,SNR=1.7						
MORW	**Morawa**	**34.02**	**194**	P	**P**	**13 07 31.2**	**-0.9**
MORW				IAmb	IAmb	13 07 56.6	
	comp=Z,23nm,1.5s						
FORT	**Forrest**	**34.86**	**175**	P	**P**	**13 07 38.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.51**	**190**	P	**P**	**13 08 00.9**	**-0.5**
	comp=Z,7.6nm,0.9s,baz=30,slow=7.1,SNR=1.9						
NWAO	**Narrogin (SRO)**	**37.51**	**190**	P	**P**	**13 08 01.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.51**	**190**	P	**P**	**13 08 01.2**	**-0.2**
NWAO				IAmb	IAmb	13 08 14.8	
	comp=Z,43nm,1.4s						
SHL	**Shillong**	**37.97**	**307**	P	**P**	**13 08 05.3**	**-0.3**
SHL				IAmb	IAmb	13 08 06.4	
	comp=Z,5.9nm,0.7s						
BBOO	**Buckleboo**	**38.30**	**164**	P	**P**	**13 08 08.3**	**+0.3**
BBOO				IAmb	IAmb	13 08 14.4	
	comp=Z,21nm,1.4s						
HHC	**Hu-ho-hao-te**	**38.41**	**344**	*e*P	**P**	**13 08 08.1**	**-0.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,96nm,5.7s						
EIDS	**Eidsvold**	**38.97**	**140**	P	**P**	**13 08 13.6**	**-0.1**
STKA	**Stephens Creek**	**39.27**	**157**	P	**P**	**13 08 16.9**	**+0.9**
	comp=Z,6.6nm,0.4s,baz=334,slow=6.9,SNR=37						
STKA	**Stephens Creek**	**39.27**	**157**	P	**P**	**13 08 17.0**	**+0.9**
GTA	**Gaotai**	**41.71**	**331**	*e*P	**P**	**13 08 36.4**	**+0.5**
GTA				pP	pP	13 09 43.4	+1.6
GTA				sP	sP	13 10 19.6	-0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,16nm,4.5s						
GTA				LR	LR		
	comp=N,340nm,17.4s						
GTA				LR	LR		
	comp=E,330nm,17.8s						
GTA				LR	LR		
	comp=Z,480nm,17.1s						
CAN	**Canberra**	**45.42**	**152**	P	**P**	**13 09 07.1**	**+1.9**
CAN				IAmb	IAmb	13 09 17.0	
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**45.80**	**157**	P	**P**	**13 09 09.9**	**+1.9**
TOO				IAmb	IAmb	13 09 14.3	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**46.28**	**343**	P	**P**	**13 09 12.5**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=154,slow=9.0,SNR=4.0						
SONM	**Songino Array**	**46.28**	**343**	P	**P**	**13 09 12.4**	**+0.7**
SANVU	**Saraoutou**	**46.42**	**116**	P	**P**	**13 09 12.7**	**-0.4**
DZM	**Mont Dzumac**	**48.48**	**124**	P	**P**	**13 09 30.3**	**+1.4**
	comp=Z,8.3nm,1.0s,baz=290,slow=12						
DZM	**Mont Dzumac**	**48.48**	**124**	IAmb	IAmb	13 09 41.9	
	comp=Z,28nm,1.3s						
WMQ	**Urumqi**	**51.22**	**326**	*e*P	**P**	**13 09 51.4**	**+2.5**
MK31	**Makanchi Array**	**56.05**	**326**	P	**P**	**13 10 23.7**	**+0.1**
MKAR	**Makanchi Array**	**56.05**	**326**	P	**P**	**13 10 24.1**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=120,slow=7.5,SNR=60						
MKAR				PcP	**PcP**	**13 11 16.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=128,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**56.05**	**326**	P	**P**	**13 10 23.6**	**0.0**
KDJ	**Kajisay**	**56.67**	**319**	P	**P**	**13 10 28.6**	**+0.4**
GAR	**Garm**	**60.12**	**313**	P	**P**	**13 10 51.5**	**-0.4**
GAR				IAmb	IAmb	13 10 52.5	
	comp=Z,13nm,1.2s						
KURK	**Kurchatov**	**60.29**	**328**	P	**P**	**13 10 52.6**	**0.0**
KURK				IAmb	IAmb	13 10 53.4	
	comp=Z,5.6nm,0.8s						
KKAR	**Karatay Array**	**61.52**	**318**	P	**P**	**13 11 00.7**	**-0.3**
TIXI	**Tiksi**	**67.49**	**1**	P	**P**	**13 11 38.4**	**-0.3**
ABKAR	**Akbulak array**	**70.53**	**321**	P	**P**	**13 11 57.0**	**-0.7**

IDC 20 13:05:31.1±1.7, 24.°16N×141.°48E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/50, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=69.9km s-min=22.7km az=93.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.00**	**12**	Pn	Pn	13 06 20.6	+0.7
	4.9nm,0.3s,baz=303,slow=14,SNR=1.4						
JCJ				Sn		13 06 56.5	0.0
	8.4nm,0.3s,baz=252,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**44.38**	**190**	P	P	13 13 43.9	+0.4
	0.3nm,0.5s,baz=12,slow=8.8,SNR=7.1						
ASAR	**Alice Springs**	**48.10**	**189**	P	P	13 14 12.1	-0.8
	0.2nm,0.8s,baz=8.9,slow=6.6,SNR=1.8						
MKAR	**Makanchi Array**	**51.90**	**311**	P	P	13 14 41.2	-0.3
	0.4nm,0.6s,baz=111,slow=6.5,SNR=4.2						

IDC ***20*** *13:09:35.9±1.1, 8.°68N×39.°30W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/34, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=43.1km s-min=22.8km az=172.0*

ISC 20 13:09:38.1±0.9, 8.°7N±0.°3×39.°3W±0.°1, h15km, n7, σ1§21/6, mb3.7/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**13.72**	**256**	LR	LR	13 16 52.0	
	comp=Z,89nm,21.6s,baz=303,slow=32						
PTGA	**Pitinga**	**22.62**	**247**	P	**P**	**13 14 37.2**	**-1.5**
	0.9nm,0.4s,baz=79,slow=23,SNR=2.4						
DBIC	**Dimbokro**	**34.18**	**91**	P	**P**	**13 16 22.5**	**-0.7**
	2.5nm,0.7s,baz=273,slow=11,SNR=3.7						
LPAZ	**La Paz**	**37.80**	**229**	P	**P**	**13 16 56.0**	**+1.0**
	0.8nm,0.5s,baz=45,slow=7.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**40.46**	**80**	P	**P**	**13 17 17.1**	**+0.5**
	0.5nm,0.7s,baz=282,slow=9.9,SNR=3.3						
ULM	**Lac du Bonnet**	**62.34**	**323**	P	**P**	**13 19 59.8**	**-0.3**
	1.8nm,0.7s,baz=140,slow=7.9,SNR=3.2						
TXAR	**Lajitas Array**	**63.49**	**298**	P	**P**	**13 20 08.8**	**+0.5**
	0.1nm,0.4s,baz=98,slow=5.6,SNR=3.7						

IDC ***20*** *13:15:26.9±0.6, 15.°12S×176.°86W, h0km, mb4.5/17, mb1 4.7/18, mb1mx4.5/39, mbtmp4.5/18, ML3.4/1, MS4.3/20, Ms1 4.3/20, ms1mx4.2/26, Error ellipse: s-maj=23.8km s-min=15.4km az=136.0*

GCMT ***20*** *13:15:33.1±0.2, 14.°64S±0.°01×176.°88W±0.°01, h12km±1km, MW5.0/116, Moment Tensor Solution. s50,c67; s116,c190; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.82±.10; Mθθ1.91±.12; Mϕϕ-1.09±.09; Mrθ0.25±.23; Mθϕ4.52±.10; Mϕr-0.41±.21; Best double couple: Mo4.79400×10¹⁶ NP1:ϕs279.00000°, δ84.00000°, λ-5.00000°. NP2:ϕs9.00000°, δ85.00000°, λ-174.00000°. Principal axes: T 5.1730, Plg0.0000°, Azm144.0000°; N -0.7560, Plg82.0000°, Azm52.0000°; P -4.4150, Plg8.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***20*** *13:15:36.0±0.0, 14.°80S×176.°90W, h60km, mB5.3/20, mb4.9/28, Ms5.0/11, Ms7 4.7/11*

NEIC ***20*** *13:15:36.1±1.7, 14.°9S±0.°1×176.°9W±0.°1, h69km±5km, mb4.8/131, Error ellipse: s-maj=19.9km s-min=14.2km az=135.0*

ISC 20 13:15:32.6±0.4, 14.°89S±0.°08×176.°82W±0.°09, h35km, n224, σ1§23/207, mb4.8/75, MS4.4/25, 2C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.68**	**239**	Pn	**Pn**	**13 16 55.5**	**+0.9**
RAO	**Raoul Island**	**14.33**	**184**	LR	LR	13 23 14.2	
	comp=Z,1µm,19.8s,baz=352,sl

comp=Z,63nm,1.3s
OUZ Omahuta 22.00 201 P **P** **13 20 26.9 +3.1**
OUZ IAmb IAmb 13 20 37.1
comp=Z,53nm,1.2s
HNR Honiara 23.34 281 LR LR 13 28 55.7
comp=Z,225nm,19.5s,baz=114,slow=35
URZ Urewera 23.89 192 P **P** **13 20 40.4 -2.6**
comp=Z,10nm,1.0s,baz=20,slow=16,SNR=2.6
URZ LR LR 13 28 29.5
comp=Z,991nm,19.7s,baz=35,slow=33
PPT Papeete 26.29 100 LR LR 13 29 12.2
comp=Z,154nm,19.8s,baz=264,slow=31
PPT2 Papeete2 26.29 100 *e*LQ LQ 13 26 28.8
comp=Z,2µm,25.2s
PPT2 *e*LR LR 13 27 48.6
comp=Z,525nm,25.5s
QRZ Quartz Range 27.45 198 P **P** **13 21 15.9 +0.6**
LTZ Lake Taylor 29.34 197 P **P** **13 21 32.3 +0.2**
LTZ IAmb IAmb 13 21 37.9
comp=Z,31nm,1.1s
WKZ Wanaka 32.16 199 P **P** **13 21 58.1 +1.2**
KRVT Keravat (AS076 32.42 286 LR LR 13 33 28.9
comp=Z,387nm,18.1s,baz=125,slow=33
ARMA Armidale 32.82 237 P **P** **13 22 03.1 0.0**
MLZ Mavora Lakes 32.93 200 P **P** **13 22 06.1 +2.3**
DCZ Deep Cove 33.34 201 P **P** **13 22 09.4 +2.1**
WHZ Wether Hill Ro 33.46 199 P **P** **13 22 10.7 +2.4**
PMG Port Moresby 35.60 275 LR LR 13 34 55.8
comp=Z,474nm,20.9s,baz=91,slow=33
TAOE Nuku Hiva Isla 36.35 85 *e*LR LR 13 32 08.4
comp=Z,1µm,26.5s
H11S2 WAKE ISLAND Hy 36.93 333 T T 14 01 26.2
baz=154,slow=76,SNR=10
H11S3 WAKE ISLAND Hy 36.94 333 T T 14 01 27.3
baz=154,slow=76,SNR=15
H11S1 WAKE ISLAND Hy 36.95 333 T T 14 01 27.6
baz=154,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 37.93 335 T T 14 02 41.4
baz=154,slow=76,SNR=5.4
H11N1 WAKE ISLAND Hy 37.94 335 T T 14 02 39.3
baz=154,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 37.95 335 T T 14 02 43.3
baz=154,slow=76,SNR=9.4
RKT Rikitea 40.29 108 *e*LR LR 13 34 01.1
comp=Z,607nm,25.8s
STKA Stephens Creek 41.45 239 P **P** **13 23 15.1 -1.1**
comp=Z,15nm,0.9s,baz=60,slow=6.7,SNR=14
STKA LR LR 13 38 33.7
comp=Z,800nm,20.8s,baz=66,slow=34
STKA Stephens Creek 41.45 239 P **P** **13 23 15.3 -0.8**
JAY Jayapura 43.65 282 LR LR 13 40 07.7
comp=Z,336nm,19.2s,baz=92,slow=34
BBOO Buckleboo 46.23 239 P **P** **13 23 55.7 +1.2**
BBOO IAmb IAmb 13 24 06.2
comp=Z,16nm,1.1s
WR0 Warramunga Arr 46.55 257 P **P** **13 23 56.7 -0.5**
WR0 IAmb IAmb 13 23 58.9
comp=Z,15nm,1.2s
WB0 Warramunga Arr 46.70 257 P **P** **13 23 55.5 -3.0**
WB2 Warramunga Arr 46.73 257 P **P** **13 23 56.5 -2.2**
WRAB Tennant Creek 46.73 257 P **P** **13 23 56.2 -2.5**
WRA Warramunga Arr 46.74 257 P **P** **13 23 56.1 -2.6**
comp=Z,13nm,1.0s,baz=90,slow=7.8,SNR=27
WRA PcP **PcP** **13 25 30.9 -1.1**
comp=Z,2.5nm,0.9s,baz=91,slow=4.0,SNR=4.9
WRA LR LR 13 43 06.9
comp=Z,319nm,19.3s,baz=95,slow=36
WRA Warramunga Arr 46.74 257 P **P** **13 23 57.0 -1.8**
AS31 Alice Springs 47.13 251 P **P** **13 23 59.2 -2.6**
ASAR Alice Springs 47.13 251 P **P** **13 23 59.1 -2.6**
comp=Z,24nm,0.9s,baz=82,slow=7.7,SNR=69
ASAR PcP **PcP** **13 25 32.2 -1.0**
comp=Z,2.1nm,0.9s,baz=94,slow=4.5,SNR=1.8
ASAR LR LR 13 42 57.1
comp=Z,366nm,18.9s,baz=78,slow=35
ASAR Alice Springs 47.13 251 P **P** **13 23 58.9 -2.9**
SAUI Saumlaki 51.22 272 P **P** **13 24 31.4 -1.7**
FORT Forrest 52.70 243 P **P** **13 24 42.1 -1.9**
SIJI Sorong 53.12 280 P **P** **13 24 48.0 +0.7**
comp=Z,17nm,1.1s,baz=103,slow=14,SNR=5.7
FITZ Fitzroy Crossi 55.08 258 P **P** **13 25 02.8 +1.3**
SOEI Soe 57.65 268 P **P** **13 25 21.1 +1.1**
JCJ Chichijima 57.66 316 LR LR 13 44 38.2
comp=Z,505nm,20.7s,baz=145,slow=30
PSA00 Pilbara Seismi 60.18 253 P **P** **13 25 36.1 -1.3**
MORW Morawa 63.11 245 P **P** **13 25 58.2 +1.2**
VNDA Vanda 63.56 185 P **P** **13 25 58.0 -1.2**
comp=Z,1.0nm,0.9s,baz=16,slow=4.5,SNR=2.6
VNDA LR LR 13 50 52.5
comp=Z,64nm,18.6s,baz=18,slow=34
VNDA Vanda 63.56 185 P **P** **13 26 00.1 +0.9**
MJAR Matsushiro Arr 66.45 322 P **P** **13 26 19.6 +1.0**
comp=Z,3.9nm,1.1s,baz=146,slow=5.6,SNR=5.4
MJAR LR LR 13 49 46.3
comp=Z,128nm,21.9s,baz=115,slow=31
MJAR Matsushiro Arr 66.45 322 IAmb IAmb 13 26 21.2
comp=Z,5.8nm,1.4s
JHS Saijyo 68.67 317 P **P** **13 26 33.9 +1.3**
PETK Petropavlovsk- 71.19 344 P **P** **13 26 47.8 +0.1**
comp=Z,7.2nm,0.9s,baz=157,slow=8.8,SNR=3.3
PETK LR LR 13 53 15.8
comp=Z,261nm,20.1s,baz=156,slow=32
PETK Petropavlovsk- 71.19 344 P **P** **13 26 48.8 +1.2**
SBUM Sibu 72.28 277 P **P** **13 26 55.7 +0.6**
HOPS Hopland Field 73.41 41 P **P** **13 27 00.9 -0.4**
KSRS Korea Array 73.51 317 P **P** **13 27 02.5 +0.6**
comp=Z,7.4nm,1.1s,baz=124,slow=6.6,SNR=15
KSRS LR LR 13 55 46.6
comp=Z,179nm,19.3s,baz=134,slow=33
KSAR Wonju Array Be 73.53 317 P **P** **13 27 01.7 -0.3**
KMRM Mail Ridge 73.73 40 P **P** **13 27 04.1 +0.8**
CISI Cisompet, Garu 74.00 266 P **P** **13 27 02.5 -2.9**
ISA Isabella, Lake 74.64 46 P **P** **13 27 08.7 +0.1**
AFDM Forest Hills D 74.73 42 P **P** **13 27 09.3 +0.3**
USRK Ussuriysk Ar. 75.02 325 P **P** **13 27 11.3 +0.8**
comp=Z,3.8nm,1.0s,baz=134,slow=6.2,SNR=3.3
USRK LR LR 13 56 28.7
comp=Z,351nm,19.7s,baz=136,slow=33
QSPA South Pole Qui 75.15 180 P **P** **13 27 10.9 -0.2**
MDPB Devils Postpil 75.26 44 P **P** **13 27 12.1 -0.3**
OMMB Old Mammoth Mi 75.31 44 P **P** **13 27 13.0 +0.3**
WAKR Walker 75.49 43 P **P** **13 27 14.0 +0.3**
GSC Goldstone, Bar 75.62 47 P **P** **13 27 14.8 +0.5**
BEKR Beckworth 75.64 41 P **P** **13 27 14.3 -0.1**
BEKR IAmb IAmb 13 27 35.0
comp=Z,12nm,1.1s
PNTR Pine Nut 75.70 42 P **P** **13 27 14.8 -0.1**
PNTR IAmb IAmb 13 27 35.7
comp=Z,15nm,1.0s
YERR Yerington 75.88 43 P **P** **13 27 15.9 +0.1**
YERR IAmb IAmb 13 27 36.5
comp=Z,13nm,1.1s
LHV Little Huntoon 75.98 44 P **P** **13 27 16.7 +0.6**
LHV IAmb IAmb 13 27 37.3
comp=Z,9.8nm,1.0s
RYN Ryan 76.16 43 P **P** **13 27 16.9 -0.5**
RYN IAmb IAmb 13 27 38.1
comp=Z,10.0nm,1.2s
PAHR Pah Rah Range 76.18 42 P **P** **13 27 16.4 -1.1**
NVAR Mina Array Bea 76.20 44 P **P** **13 27 18.1 +0.4**
comp=Z,3.1nm,0.8s,baz=231,slow=9.2,SNR=16
NVAR Mina Array Bea 76.20 44 P **P** **13 27 17.3 -0.5**
NV11 Mina Array Sit 76.30 44 P **P** **13 27 17.6 -0.6**
NV11 IAmb IAmb 13 27 39.6
comp=Z,17nm,1.2s
KVN Kaiserville 76.67 43 P **P** **13 27 20.6 +0.3**
KVN IAmb IAmb 13 27 40.9
comp=Z,9.2nm,1.1s
TPH Tonopah 76.75 44 P **P** **13 27 20.9 +0.2**
MOD Modoc Plateau 76.81 40 P **P** **13 27 20.5 -0.5**
MOD IAmb IAmb 13 27 41.6
comp=Z,12nm,1.1s
TPNV Topopah Spring 76.84 46 P **P** **13 27 21.6 +0.3**
TPNV IAmb IAmb 13 27 41.6
comp=Z,8.8nm,1.1s
K05A Summer Lake 76.91 39 P **P** **13 27 21.1 -0.5**
214A Organ Pipe Nat 76.96 52 P **P** **13 27 21.1 -0.8**
214A IAmb IAmb 13 27 28.1
comp=Z,10nm,1.1s
NJ2 Nanjing 77.24 308 *e*P **P** **13 27 24.3 +0.9**
NJ2 pmax pmax
comp=Z,18nm,0.7s
SHPR Sheep Range 77.38 47 P **P** **13 27 23.1 -1.3**
SHPR IAmb IAmb 13 27 45.4
comp=Z,14nm,1.4s
PRN Pahroc Range 77.90 46 P **P** **13 27 27.9 +0.7**
PRN IAmb IAmb 13 27 33.1
comp=Z,18nm,1.4s
R11A Troy Canyon, C 78.00 45 P **P** **13 27 26.8 -0.9**
CN2 Changchun 78.60 321 *e*P **P** **13 27 33.0 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,110nm,3.8s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,270nm,16.0s
CN2 LR LR
comp=Z,320nm,17.0s
TUC Tucson 78.66 52 P **P** **13 27 30.5 -1.0**
J08A Circle Bar Ran 78.73 39 P **P** **13 27 30.2 -1.4**
SUA Susitna One 78.87 12 P **P** **13 27 31.2 -0.8**
SUA IAmb IAmb 13 27 40.6
comp=Z,11nm,0.8s
CCUT Cedar City 79.14 46 P **P** **13 27 34.6 +0.5**
TTA Tatalina 79.26 10 P **P** **13 27 34.2 +0.2**
TTA IAmb IAmb 13 27 50.4
comp=Z,11nm,1.0s
PSUT Pine Spring 79.27 45 P **P** **13 27 34.5 -0.3**
KNB Kanab 79.27 47 P **P** **13 27 34.5 -0.3**
SZCU Shurtz Canyon 79.36 46 P **P** **13 27 35.8 +0.5**
ELK Elko 79.42 43 P **P** **13 27 35.8 +0.2**
WUAZ Wupatki 79.63 49 P **P** **13 27 36.5 -0.3**
WUAZ IAmb IAmb 13 27 42.8
comp=Z,12nm,1.3s
QIZ Qiongzhong 79.66 293 P **P** **13 27 37.6 +0.6**
QIZ S **S** **13 37 37.0 -0.3**
QIZ LR LR
comp=Z,150nm,17.5s
QIZ LR LR
comp=Z,170nm,20.0s
QIZ LR LR
comp=Z,250nm,21.6s
SCM Sheep Creek Mo 79.95 14 P **P** **13 27 38.9 +1.1**
WHN Wuhan 80.09 305 ⇓P P 13 27 31.3 -7.8
BMO Blue Mountains 80.25 38 P **P** **13 27 40.8 +0.9**
BMO IAmb IAmb 13 27 59.5
comp=Z,17nm,1.4s
MVU Marysvale 80.39 46 P **P** **13 27 41.5 +0.6**
MSU Marysvale 80.42 46 P **P** **13 27 40.9 -0.1**
D08A Wollman Farm, 80.51 36 P **P** **13 27 40.8 -0.2**
D08A IAmb IAmb 13 27 49.3
comp=Z,12nm,1.2s
CTGM Chitina Glacie 80.73 17 P **P** **13 27 41.3 -0.8**
DUG Dugway, Tooele 80.77 44 P **P** **13 27 42.0 -0.8**
BGU Big Grassy Mou 80.97 44 P **P** **13 27 44.0 +0.1**
RND Reindeer 81.01 12 P **P** **13 27 43.3 -0.2**
RND IAmb IAmb 13 27 52.6
comp=Z,17nm,1.0s
121A Cookes Peak, D 81.05 53 P **P** **13 27 44.9 +0.4**
121A IAmb IAmb 13 27 51.0
comp=Z,8.7nm,1.0s
HLID Hailey 81.36 41 P **P** **13 27 45.9 -0.1**
TMUT Trail Mountain 81.45 46 P **P** **13 27 47.1 +0.4**
BWN Browne 81.57 12 P **P** **13 27 46.8 +0.5**
SRU San Rafael Swe 81.84 46 P **P** **13 27 49.2 +0.7**
JLU Jordanelle 81.88 44 P **P** **13 27 49.1 +0.2**
WRH Wood River Hil 82.11 12 P **P** **13 27 49.0 -0.1**
TCUT Toone Canyon 82.15 44 P **P** **13 27 50.4 +0.2**
HWUT Hardware Ranch 82.27 43 P **P** **13 27 50.1 -0.6**
HWUT IAmb IAmb 13 28 11.2
comp=Z,14nm,1.4s
DOT Dot Lake 82.28 14 P **P** **13 27 50.6 +0.6**
DOT IAmb IAmb 13 27 59.3
comp=Z,12nm,1.1s
HDA Harding Lake 82.30 13 P **P** **13 27 51.2 +1.1**
HDA IAmb IAmb 13 28 08.9
comp=Z,10nm,1.1s
CCB Clear Creek Bu 82.33 12 P **P** **13 27 49.9 -0.3**
CCB IAmb IAmb 13 27 58.9
comp=Z,14nm,1.2s
LENM Lemitar 82.33 52 P **P** **13 27 50.8 -0.4**
COLA College 82.52 12 P **P** **13 27 49.9 -1.3**
COLA IAmb IAmb 13 27 59.5
comp=Z,12nm,0.9s
PV14 Lion Creek, Pa 82.57 47 P **P** **13 27 51.7 -0.8**
PV14 IAmb IAmb 13 27 58.0
comp=Z,10nm,1.0s
PV17 East Wray Mesa 82.58 47 P **P** **13 27 50.3 -2.2**
PV17 IAmb IAmb 13 27 58.0
comp=Z,8.3nm,1.0s
BNM Barren Site 82.59 52 P **P** **13 27 53.1 +0.4**
PV20 West Nyswonger 82.60 47 P **P** **13 27 51.0 -1.6**
PV20 IAmb IAmb 13 27 58.6
comp=Z,9.6nm,0.8s
PV18 Skein Mesa, Pa 82.60 47 P **P** **13 27 52.1 -0.5**
MNTX Cornudas Mount 82.60 55 P **P** **13 27 52.8 +0.3**
MNTX IAmb IAmb 13 27 58.6
comp=Z,12nm,1.1s
PV23 Carpenter Ridg 82.61 47 P **P** **13 27 53.1 +0.4**
PV23 IAmb IAmb 13 27 58.5
comp=Z,12nm,0.9s
PV13 Radium Mtn., P 82.62 47 P **P** **13 27 52.4 -0.4**
IL31 82.63 12 P **P** **13 27 50.7 -1.1**
IL31 IAmb IAmb 13 28 09.7
comp=Z,12nm,1.2s
ILAR Eielson Array 82.63 12 P **P** **13 27 52.6 +0.7**
comp=Z,2.6nm,0.9s,baz=226,slow=6.4,SNR=17
ILAR Eielson Array 82.63 12 P **P** **13 27 50.8 -1.0**
PV03 Paradox Valley 82.65 47 P **P** **13 27 52.5 -0.3**
PV11 David Mesa, Pa 82.65 47 P **P** **13 27 52.4 -0.5**
PV11 IAmb IAmb 13 28 07.6
comp=Z,15nm,1.2s
PV04 Paradox Valley 82.67 47 P **P** **13 27 53.5 +0.6**
PV04 IAmb IAmb 13 27 58.6
comp=Z,11nm,1.0s
PV21 Cone Mtn., Par 82.69 47 P **P** **13 27 53.1 0.0**
PV21 IAmb IAmb 13 27 58.8
comp=Z,9.6nm,0.9s
PV12 Saucer Basin, 82.71 47 P **P** **13 27 53.4 +0.3**
PV12 IAmb IAmb 13 27 58.8
comp=Z,9.6nm,0.9s
PV22 Blue Mesa, Par 82.81 47 P **P** **13 27 53.1 -0.6**
PV07 Paradox Valley 82.87 47 P **P** **13 27 54.0 +0.1**
PV15 Paradox Valley 82.94 47 P **P** **13 27 53.4 -1.0**
PV15 IAmb IAmb 13 28 02.4
comp=Z,8.7nm,0.9s
MCMT McKenzie Canyo 82.97 40 P **P** **13 27 54.4 0.0**
ANMO Albuquerque 83.03 51 P **P** **13 27 54.9 0.0**
ANMO IAmb IAmb 13 28 01.4
comp=Z,12nm,1.2s
TX31 Lajitas Ar. Si 83.10 57 P **P** **13 27 54.1 -1.1**
TX32 Lajitas Array 83.10 57 P **P** **13 27 53.8 -1.5**
TX32 IAmb IAmb 13 28 12.3
comp=Z,9.8nm,1.1s
TXAR Lajitas Array 83.10 57 P **P** **13 27 56.8 +1.5**
comp=Z,2.7nm,0.8s,baz=219,slow=8.8,SNR=15
DLMT Dillon 83.38 40 P **P** **13 27 55.3 -1.1**
TPAW Teton Pass 83.54 42 P **P** **13 27 57.4 0.0**
TPAW IAmb IAmb 13 28 18.4
comp=Z,9.7nm,1.0s
REDW Red Top Meadow 83.55 42 P **P** **13 27 57.5 +0.1**
IPM Ipoh 83.58 276 P **P** **13 27 54.9 -3.0**
IPM IAmb IAmb 13 28 02.0
comp=Z,15nm,1.0s
GDL2 Guadalupe Moun 83.59 54 P **P** **13 27 58.4 +0.7**
LRM Limekiln Ridge 83.69 39 P **P** **13 27 58.0 -0.1**
IMW Indian Meadow 83.73 42 P **P** **13 27 58.7 +0.3**
IMW IAmb IAmb 13 28 04.1
comp=Z,8.3nm,0.8s
LOHW Long Hollow 83.82 42 P **P** **13 27 59.0 +0.2**
LOHW IAmb IAmb 13 28 14.6
comp=Z,12nm,1.4s
O20A White River Ci 83.87 46 P **P** **13 27 59.2 +0.1**
O20A IAmb IAmb 13 28 04.5
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 83.88 49 P **P** **13 28 00.0 +0.7**
S22A IAmb IAmb 13 28 05.3
comp=Z,14nm,1.1s
YHB Horse Butte 83.97 41 P **P** **13 28 00.3 +0.8**
FLWY Flagg Ranch 83.97 42 P **P** **13 28 00.1 +0.5**
YHL Hebgen Lake 84.02 41 P **P** **13 28 00.6 +0.7**
BOZ Bozeman (W) 84.09 40 P **P** **13 27 58.9 -1.2**
BOZ IAmb IAmb 13 28 13.1
comp=Z,14nm,1.4s
BW06 Boulder Array 84.12 43 P **P** **13 27 59.9 -0.4**
BW06 IAmb IAmb 13 28 29.9
comp=Z,11nm,1.2s
PD31 Pinedale Array 84.12 43 P **P** **13 27 59.5 -0.8**
PDAR Pinedale Array 84.12 43 P **P** **13 28 00.6 +0.2**
comp=Z,4.0nm,0.8s,baz=210,slow=3.4,SNR=17
PDAR Pinedale Array 84.12 43 P **P** **13 27 59.6 -0.7**
YHH Holmes Hill 84.20 41 P **P** **13 28 01.1 +0.3**
HRY Holter Researc 84.49 39 P **P** **13 28 00.7 -1.3**
YNE Yellowstone No 84.83 41 P **P** **13 28 03.5 -0.5**
GYA Guiyang 84.89 299 *e*P **P** **13 28 08.1 +3.6**
GYA pmax pmax
comp=Z,11nm,1.2s
BELA Belgrano 2 84.94 173 P **P** **13 28 03.2 -0.5**
XAN Xi'an 85.67 307 P **P** **13 28 12.4 +4.3**
XAN S **S** **13 38 38.1 -0.1**
XAN pmax pmax
comp=Z,9.0nm,1.5s
XAN LR LR
comp=Z,190nm,15.2s
XAN LR LR
comp=Z,250nm,22.8s
HHC Hu-ho-hao-te 86.28 314 *e*P **P** **13 28 11.0 0.0**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,87nm,5.7s
MAW Mawson 87.20 199 P **P** **13 28 12.4 -2.5**
comp=Z,2.1nm,1.0s,baz=101,slow=5.6,SNR=2.7
MAW LR LR 14 04 59.8
comp=Z,178nm,18.2s,baz=68,slow=34
MAW Mawson 87.20 199 P **P** **13 28 14.4 -0.5**
ABTX Abilene, Hawle 87.48 55 P **P** **13 28 14.6 -2.3**
ABTX IAmb IAmb 13 28 24.2
comp=Z,10nm,1.0s
KMI Kunming 87.83 297⇑ *e*P **P** **13 28 22.6 +3.5**
KMI pmax pmax
comp=Z,5.0nm,1.2s
LAO LASA Array 87.95 41 P **P** **13 28 16.6 -2.3**
CMAR Chiang Mai Arr 89.32 289 P **P** **13 28 27.1 +1.1**
comp=Z,3.5nm,1.1s,baz=97,slow=3.5,SNR=16
CMAR LR LR 14 04 27.1
comp=Z,123nm,20.7s,baz=146,slow=33
CMAR Chiang Mai Arr 89.32 289 P **P** **13 28 23.1 -2.8**
LZH Lanzhou 90.28 307 *e*P **P** **13 28 31.6 +1.4**
LZH pP sP 13 28 49.6 +5.0
LZH sP pwP 13 28 56.3 +13
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,79nm,5.4s
LZH LR LR
comp=Z,98nm,10.8s
LZH LR LR
comp=Z,190nm,14.0s
LZH LR LR
comp=Z,200nm,14.6s
ULN Ulaanbaatar 91.87 319 P **P** **13 28 35.0 -2.3**
SONM Songino Array 92.28 319 P **P** **13 28 40.0 +0.7**
comp=Z,1.5nm,0.8s,baz=128,slow=4.4,SNR=9.2
SONM Songino Array 92.28 319 P **P** **13 28 37.8 -1.4**
SYO Syowa Base 92.42 192⇑ *e*PcP **P** **13 28 39.6 +0.3**
SYO Syowa Base 92.42 192⇓ *e*pP pP 13 28 57.0 +7.1
SNAA Sanae 93.55 178 P **P** **13 28 44.3 -0.4**
SNAA Sanae 93.55 178 P **P** **13 28 46.0 +1.3**
VNA3 Neumayer Olymp 93.63 176 P **P** **13 28 45.2 +0.2**
VNA2 Neumayer--Watz 94.09 177 P **P** **13 28 47.3 +0.2**
baz=181,slow=4.5
GTA Gaotai 94.30 309 P **P** **13 28 51.6 +2.9**
GTA pP sP 13 29 04.1 +1.0
GTA sP pwP 13 29 09.1 +7.5
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA pmax pmax
comp=Z,22nm,4.1s
GTA LR LR
comp=Z,88nm,20.0s
GTA LR LR
comp=Z,200nm,23.6s
GTA LR LR
comp=Z,300nm,24.4s
VNA1 Neumayer--Stat 94.31 176 P **P** **13 28 48.7 +0.7**
MGMO Mountain Grove 94.60 53 P **P** **13 28 50.0 -0.1**
F36A Milaca 95.96 44 P **P** **13 28 54.6 -1.4**
ARCES ARCESS Array B 123.61 351 PKP **PKPdf** **13 34 25.4 -0.5**
comp=Z,3.3nm,0.9s,baz=46,slow=2.6,SNR=4.2
HFS Hagfors 134.18 353 PKP **PKiKP** **13 34 48.3 +0.8**
comp=Z,6.2nm,0.8s,baz=302,slow=8.4,SNR=5.1
AKASG Malin Array Be 138.54 335 PKP **PKiKP** **13 34 56.4 -0.3**
comp=Z,0.6nm,0.4s,baz=32,slow=1.3,SNR=5.8
KOLS Kolonicke sedl 142.60 339 *e*PKP **PKiKP** **13 35 06.2 +1.1**
CHVC Chvalec 142.90 346 *e*PKP **PKiKP** **13 35 06.4 +0.7**
BRTR Keskin Array B 143.64 319 PKP **PKPdf** **13 35 03.1 -1.2**
comp=Z,7.0nm,0.9s,baz=71,slow=0.9,SNR=12
BRTR Keskin Array B 143.64 319 PKPdf PKPbc 13 35 02.5 +0.7
VYHS Vyhne 144.09 342 *e*PKP **PKiKP** **13 35 07.9 -0.3**
KHC Kasperske Hory 144.80 348 *e*PKP **PKPdf** **13 35 06.5 +0.6**
KHC *ex* x 13 35 10.0
GERES GERESS Array B 145.05 348 PKPbc **PKPdf** **13 35 08.0 +1.6**
comp=Z,0.6nm,0.5s,baz=35,slow=3.6,SNR=3.8
CONA Conrad Observa 145.42 345 *e*P **PKPab** **13 35 08.6 +1.4**
comp=Z,15nm,1.3s
MOA Molln 145.88 347 *e*P **PKiKP** **13 35 10.6 -1.3**
comp=Z,12nm,1.1s
ARSA Arzberg 146.14 345 *e*P **PKiKP** **13 35 13.0 +0.6**
comp=Z,2.3nm,0.6s
SOKA Soboth 146.79 345 *e*P **PKPab** **13 35 13.0 +0.6**
comp=Z,12nm,1.2s
KBA Koelnbreinsper 146.81 347 *e*P **PKiKP** **13 35 14.3 +0.3**
comp=Z,17nm,1.7s
RETA Reutte 146.89 351 *e*P **PKiKP** **13 35 15.0 +1.0**
comp=Z,14nm,1.1s
WATA Walderalm 146.90 350 *e*P **PKiKP** **13 35 15.0 +0.8**
comp=Z,17nm,1.3s
WTTA Wattenberg 146.96 349 *e*P **PKiKP** **13 35 15.7 +1.3**
comp=Z,22nm,1.2s
MOTA Moosalm 146.98 350 *e*P **PKiKP** **13 35 15.5 +1.2**
comp=Z,13nm,1.0s
OBKA Obir 147.07 345 *e*P **PKiKP** **13 35 14.3 -0.2**
comp=Z,5.0nm,1.1s
SQTA Sankt Quirin 147.08 350 *e*P **PKiKP** **13 35 15.8 +1.3**
comp=Z,6.9nm,0.6s
MYKA Terra Mystica 147.17 347 *e*P **PKiKP** **13 35 14.5 -0.2**
comp=Z,17nm,1.3s
DAVA Damuels 147.22 352 *e*P **PKiKP** **13 35 16.6 +1.7**
comp=Z,14nm,1.2s
ABTA Abfaltersbach 147.29 348 *e*P **PKiKP** **13 35 15.5 +0.6**
comp=Z,8.6nm,0.9s
FETA Feichten 147.35 350 *e*P **PKiKP** **13 35 15.5 +0.4**
comp=Z,6.5nm,1.0s
DAVOX Davos/Dischmat 147.72 351 PKPbc **PKPbc** **13 35 14.2 +0.3**
comp=Z,4.8nm,0.7s,baz=23,slow=7.1,SNR=5.3
TUE Stuetta 148.09 352 PKPbc **PKPdf** **13 35 13.0 +1.3**
STIP Stip 148.63 332 *i* P **PKPab** **13 35 19.4 -0.4**
OHR Ohrid 149.72 333 *i* P **PKPab** **13 35 22.9 -1.4**

*IDC **20** 13:22:24.3±0.5, 8.63N×39.37W, h0km, mb4.3/25, mb1 4.5/27, mb1mx4.3/48, mbtmp4.3/27, ML3.8/2, MS4.0/14, Ms1 4.0/14, ms1mx3.8/27, Error ellipse: s-maj=17.0km s-min=11.0km az=144.0*

*NEIC **20** 13:22:25.2±1.9, 8.62N±0.10×39.37W±0.09, h10km±1km, mb4.9/167, Error ellipse: s-maj=16.7km s-min=14.8km az=165.0*

*GCMT **20** 13:22:28.2±0.3, 8.66N±0.05×39.34W±0.02, h12km±1km, MW4.8/88, Moment Tensor Solution. s11,c13; s88,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.92±.17; Mθθ0.37±.10; Mϕϕ1.55±.11; Mrθ-0.26±.41; Mϕθ-0.06±.06; Mrϕ0.62±.27; Best double couple: M0 1.86000×10^16 NP1:ϕs1.00000°, δs35.00000°, λ-81.00000°. NP2: ϕs171.00000°, δs55.00000°, λ-96.00000°. Principal axes: T 1.6670, Plg10.0000°, Azm265.0000°; N 0.3870, Plg5.0000°, Azm174.0000°; P -2.0530, Plg79.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 13:22:26.4±0.3, 8.65N±0.06×39.37W±0.06, h15km, n283, σ1§14/270, mb4.8/111, MS4.0/12, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MDP	**Montagnes des**	**13.64**	**256**	Pn	**Pn**		**13 25 38.8**	**-0.7**
	0.4nm,0.3s,baz=96,slow=8.9,SNR=1.9							
MDP				LR	LR		13 30 02.0	
	comp=Z,610nm,20.6s,baz=128,slow=34							

RCBR **Riachuelo** **14.79 166** Pn **Pn** **13 25 54.9 -0.3**
0.4nm,0.3s,baz=343,slow=16,SNR=1.6
RCBR LR LR 13 30 07.6
comp=Z,321nm,21.5s,baz=335,slow=31
SACV Santiago Islan **16.65 66** P **P** **13 26 20.8 -1.1**
MALB Monte Alegre **18.15 236** *eP* **P** **13 26 40.0 +1.6**
SMTB Santa Maria do **19.23 205** *eP* **P** **13 26 50.6 +0.3**
ITTB Itaituba **20.82 232** *eP* **P** **13 27 08.1 +0.5**
SDBA SAO DESIDERIO **21.63 195** *eP* **P** **13 27 16.6 +0.3**
H05S1 Guadeloupe/Mar **21.80 287** T T 13 49 40.6
SNR=79
GDU01 Guandu, BA **22.22 181** *eP* **P** **13 27 22.4 -0.3**
NPGB Novo Progresso **22.30 226** *eP* **P** **13 27 23.7 +0.2**
PEXB Peixe **22.45 203** *eP* **P** **13 27 26.1 +1.0**
PTGA Pitinga **22.54 247** P **P** **13 27 26.6 +0.4**
13nm,1.1s,baz=63,slow=11,SNR=17
PTGA LR LR 13 36 37.5
comp=Z,366nm,18.6s,baz=68,slow=38
PTGA Pitinga **22.54 247** IAmb IAmb 13 27 38.2
comp=Z,60nm,1.2s
SNDB Serra Nova Dou **23.67 210** *eP* **P** **13 27 38.5 +0.8**
JANB Januaria **24.06 192** *eP* **P** **13 27 42.1 +0.8**
MACA Manacapuru-AM **24.28 242** *eP* **P** **13 27 46.6 +3.2**
CLDB Colider **25.36 220** *eP* **P** **13 27 53.0 -0.2**
BDFB Brasilia **25.61 200** P **P** **13 27 55.0 -0.5**
comp=Z,4.5nm,0.7s,baz=29,slow=10,SNR=3.7
BDFB LR LR 13 37 39.1
comp=Z,165nm,18.4s,baz=343,slow=36
ARAG Araguaiana, MT **27.16 207** *eP* **P** **13 28 10.7 +1.3**
SJMB Sao Joao De Ma **27.24 184** *eP* **P** **13 28 11.6 +1.5**
BSFB Barra de Sao F **27.34 183** *eP* **P** **13 28 12.5 +1.4**
SJG San Juan **27.66 293** LR LR 13 37 24.1
comp=Z,344nm,19.9s,baz=88,slow=32
RIB01 Linhares ES **27.80 182** *eP* **P** **13 28 16.6 +1.5**
IPMB Ipameri, GO **27.86 198** *eP* **P** **13 28 16.6 +0.8**
SAML Samuel **29.47 234** P **P** **13 28 30.1 0.0**
SAML IAmb IAmb 13 28 43.4
comp=Z,22nm,1.1s
SAML Samuel **29.47 234** *eP* **P** **13 28 31.6 +1.5**
H10N3 ASCENSION HYDR **29.70 123** T T 13 59 46.1
baz=303,slow=75,SNR=38
H10N2 ASCENSION HYDR **29.71 123** T T 13 59 42.4
baz=303,slow=75,SNR=31
H10N1 ASCENSION HYDR **29.73 123** T T 13 59 43.5
baz=303,slow=75,SNR=36
VILB Vilhena **29.81 224** *eP* **P** **13 28 35.5 +2.4**
PTLB Pontes e Lacer **30.93 219** *eP* **P** **13 28 44.8 +1.8**
PCMB Pacaembu **32.25 201** *eP* **P** **13 28 55.8 +1.2**
ETMB Extrema **32.42 236** *eP* **P** **13 28 56.9 +0.8**
SIV San Ignacio **32.58 221** P **P** **13 28 58.6 +1.1**
comp=Z,5.1nm,0.8s,baz=72,slow=9.6,SNR=17
SDDR Presa de Saban **32.60 292** P **P** **13 28 57.9 +0.2**
SDDR IAmb IAmb 13 29 06.3
comp=Z,27nm,1.2s
TRCB Terra Rica **33.84 202** *eP* **P** **13 29 09.5 +1.0**
TIC Toumodi **34.09 91** *eP* **P** **13 29 10.3 -0.6**
LIC Lamto **34.13 92** *eP* **P** **13 29 10.8 -0.3**
comp=Z,108nm,1.6s
DBIC Dimbokro **34.25 91** P **P** **13 29 11.9 -0.2**
comp=Z,12nm,1.0s,baz=266,slow=8.9,SNR=8.4
DBIC LR LR 13 40 44.2
comp=Z,288nm,19.8s,baz=272,slow=32
DBIC Dimbokro **34.25 91** P **P** **13 29 11.7 -0.5**
KIC Kosan Boka **34.40 91** *eP* **P** **13 29 13.6 +0.1**
comp=Z,42nm,1.3s
ROSC El Rosal **34.90 266** P **P** **13 29 18.8 +0.5**
comp=Z,5.3nm,0.4s,baz=133,slow=18,SNR=3.7
ROSC LR LR 13 45 22.1
comp=Z,352nm,18.1s,baz=91,slow=40
ROSC El Rosal **34.90 266** IAmb IAmb 13 29 37.8
comp=Z,12nm,0.8s
KOWA Kowa **35.09 77** P **P** **13 29 18.0 -1.4**
PTGB Pitanga **35.40 200** *eP* **P** **13 29 23.3 +1.3**
LPAZ La Paz **37.74 229** P **P** **13 29 43.0 +0.3**
comp=Z,20nm,1.3s,baz=34,slow=9.2,SNR=22
LPAZ LR LR 13 44 42.6
comp=Z,151nm,20.8s,baz=38,slow=36
LPAZ La Paz **37.74 229** P **P** **13 29 41.9 -0.8**
LPAZ IAmb IAmb 13 29 51.1
comp=Z,38nm,1.4s
LPAZ La Paz **37.74 229** *eP* **P** **13 29 43.2 +0.5**
CPUP Villa Florida **38.90 206** LR LR 13 46 05.8
comp=Z,212nm,18.1s,baz=24,slow=37
CPUP Villa Florida **38.90 206** P **P** **13 29 50.1 -1.5**
CPUP Villa Florida **38.90 206** *eP* **P** **13 29 52.7 +1.1**
CNLB Canela **39.33 196** *eP* **P** **13 29 57.1 +1.9**
OTAV Otavalo **39.81 260** P **P** **13 29 58.1 -1.9**
OTAV Otavalo **39.81 260** *eP* **P** **13 30 01.3 +1.3**
PNCL Nicolau / Gran **40.40 39** *eP* **P** **13 30 06.8 +2.7**
comp=Z,23nm,1.7s
TOA0 Torodi Ar. Sit **40.54 80** P **P** **13 30 05.0 -0.5**
TORD Torodi Ar. Bea **40.54 80** P **P** **13 30 05.1 -0.4**
comp=Z,3.2nm,1.1s,baz=274,slow=7.8,SNR=10
TORD LR LR 13 45 00.0
comp=Z,502nm,19.7s,baz=265,slow=33
GO01 Chusmiza **40.68 226** P **P** **13 30 05.0 -2.1**
SFS San Fernando **40.92 42** P **P** **13 30 09.5 +1.2**
PB11 IPOC Station P **41.07 226** P **P** **13 30 08.6 -1.4**
PMRV Marv??o **41.92 38** *eP* **P** **13 30 19.4 +2.9**
comp=Z,27nm,1.7s
PLTB Pedras Altas **42.43 198** *eP* **P** **13 30 22.1 +1.3**
PVIS Viseu **42.43 36** *eP* **P** **13 30 24.1 +3.3**
comp=Z,24nm,1.4s
LVC Limon Verde **42.45 222** P **P** **13 30 19.6 -1.9**
comp=Z,1.4nm,0.3s,baz=58,slow=10.0,SNR=2.3
LVC Limon Verde **42.45 222** IAmb IAmb 13 30 21.9
comp=Z,19nm,1.4s
LVC Limon Verde **42.45 222** *eP* **P** **13 30 21.0 -0.6**
PVRL Vila Real **42.90 36** *eP* **P** **13 30 27.4 +2.9**
comp=Z,32nm,1.6s
PBRG Bragança **43.80 36** *eP* **P** **13 30 34.3 +2.5**
comp=Z,26nm,1.7s
ESDC Sonseca Array **44.19 40** P **P** **13 30 33.8 -1.3**
comp=Z,1.7nm,1.0s,baz=228,slow=9.0,SNR=7.7
ESDC PcP **PcP** **13 32 20.8 +1.0**
comp=Z,0.2nm,0.4s,baz=232,slow=3.6,SNR=4.9
ESDC LR LR 13 46 53.9
comp=Z,176nm,18.4s,baz=245,slow=33
ESDC Sonseca Array **44.19 40** P **P** **13 30 33.7 -1.3**
ESBB Sonseca Array **44.20 40** P **P** **13 30 33.4 -1.7**
QUA2 Belchertown **44.30 325** P **P** **13 30 34.2 -1.5**
QUA2 IAmb IAmb 13 30 34.5
comp=Z,35nm,1.4s
WVL Waterville **44.38 329** P **P** **13 30 35.6 -0.7**
LBNH Lisbon **45.34 327** P **P** **13 30 45.0 +1.0**
W57A Gilead **45.53 312** P **P** **13 30 46.0 +0.3**
W57A IAmb IAmb 13 30 53.8
comp=Z,9.2nm,0.9s
AC02 Maricunga **45.58 218** P **P** **13 30 47.2 +0.5**
U56A King **46.33 313** P **P** **13 30 52.8 +0.8**
U56A IAmb IAmb 13 30 55.5
comp=Z,21nm,1.4s
BG3 Lake Jocassee **47.66 310** P **P** **13 31 03.3 +0.9**
BG3 IAmb IAmb 13 31 17.4
comp=Z,12nm,1.2s
V53A Saluda **47.84 311** P **P** **13 31 04.0 +0.2**
V53A IAmb IAmb 13 31 17.7
comp=Z,9.3nm,1.1s
TZTN Tazewell **48.73 312** P **P** **13 31 10.4 -0.2**
TZTN IAmb IAmb 13 31 12.1
comp=Z,12nm,0.7s
CPCT Cooper Cave **49.04 310** P **P** **13 31 14.2 +1.2**
CPCT IAmb IAmb 13 31 26.6
comp=Z,12nm,1.2s
MTO3 Montecristo **49.24 282** P **P** **13 31 14.4 -0.7**
MTO3 IAmb IAmb 13 31 16.2
comp=Z,17nm,1.5s
W50A Signal Mountai **49.55 309** P **P** **13 31 16.4 -0.6**
W50A IAmb IAmb 13 31 31.3
comp=Z,14nm,1.1s
Q51A Peebles **49.62 315** P **P** **13 31 15.4 -2.0**
Q51A IAmb IAmb 13 31 31.1
comp=Z,20nm,1.2s
SWET Sewanee **50.03 309** P **P** **13 31 21.0 +0.3**
SWET IAmb IAmb 13 31 34.5
comp=Z,17nm,1.2s
LRAL Lakeview Retre **50.15 306** P **P** **13 31 21.9 +0.4**
LRAL IAmb IAmb 13 31 35.9
comp=Z,12nm,1.1s
U49A Red Boiling Sp **50.38 311** P **P** **13 31 23.6 +0.4**
VLDQ Val d'Or **50.77 328** P **P** **13 31 27.3 +1.4**
VLDQ IAmb IAmb 13 31 36.0
comp=Z,16nm,1.4s
VA03 San Esteban **50.78 214** P **P** **13 31 26.2 -0.1**
N49A Columbus Grove **51.02 317** P **P** **13 31 28.4 +0.4**
N49A IAmb IAmb 13 31 46.6
comp=Z,18nm,1.3s
T47A Sharon Grove **51.54 311** P **P** **13 31 32.2 +0.2**
T47A IAmb IAmb 13 31 46.3
comp=Z,13nm,1.1s
PLAL Pickwick Lake **51.61 308** P **P** **13 31 32.7 +0.2**
PLAL IAmb IAmb 13 31 45.8
comp=Z,16nm,1.4s
WVT Waverly **51.79 310** P **P** **13 31 34.4 +0.5**
WVT IAmb IAmb 13 31 47.1
comp=Z,18nm,1.4s
KEST Kesra **51.85 51** P **P** **13 31 35.6 +1.2**
comp=Z,4.1nm,0.9s,baz=270,slow=8.1,SNR=4.8
KEST LR LR 13 53 25.6
comp=Z,161nm,19.3s,baz=230,slow=36
KEST Kesra **51.85 51** P **P** **13 31 35.6 +1.2**
KEST IAmb IAmb 13 31 43.1
comp=Z,12nm,1.1s
CCIG Comitan **51.96 284** P **P** **13 31 35.3 -0.3**
CCIG IAmb IAmb 13 31 49.6
comp=Z,15nm,1.1s
SSB Saint Sauveur **52.50 38** P **P** **13 31 39.8 +0.7**
OLIL Olney **52.90 313** P **P** **13 31 43.1 +1.1**
GLAT Glass **52.95 309** P **P** **13 31 43.4 +0.9**
S44A Carbondale **53.39 311** P **P** **13 31 46.6 +0.9**
S44A IAmb IAmb 13 31 59.0
comp=Z,16nm,1.1s
Q44A Meyer Farm, Va **53.63 312** P **P** **13 31 47.8 +0.4**
BI02 San Fabin de **54.12 212** P **P** **13 31 49.6 -1.4**
FVM French Village **54.36 311** P **P** **13 31 52.4 -0.4**
T42A Van Buren **54.57 310** P **P** **13 31 54.3 0.0**
SENIN Lac Senin/Sane **54.72 38** P **P** **13 31 56.2 +0.7**
SENIN IAmb IAmb 13 31 59.5
comp=Z,19nm,1.4s
W41B Gary Mavity, V **54.93 307** P **P** **13 31 57.2 +0.2**
W41B IAmb IAmb 13 32 09.9
comp=Z,17nm,1.2s
WHAR Wooly Hollow **55.00 307** P **P** **13 31 57.7 +0.3**
WHAR IAmb IAmb 13 32 10.0
comp=Z,18nm,1.3s
CCM Cathedral Cave **55.00 311** P **P** **13 31 57.5 +0.1**
CCM IAmb IAmb 13 32 10.1
comp=Z,13nm,1.2s
WLAR White Oak Lake **55.25 305** P **P** **13 31 58.5 -0.8**
MGMO Mountain Grove **55.50 309** P **P** **13 32 00.9 -0.2**
MGMO IAmb IAmb 13 32 13.7
comp=Z,18nm,1.2s
ECH Echery **55.52 36** P **P** **13 32 01.1 +0.1**
ECH IAmb IAmb 13 32 03.3
comp=Z,20nm,1.3s
U40A Yellville **55.73 308** P **P** **13 32 01.4 -1.3**
U40A IAmb IAmb 13 32 14.9
comp=Z,9.1nm,0.9s
OSSC Osservatorio P **56.02 43** P **P** **13 32 05.2 +0.5**
TUE Stuetta **56.02 39** P **P** **13 32 05.5 +0.6**
P40A Paris **56.06 312** P **P** **13 32 04.7 -0.3**
ZCCA Zocca **56.17 42** P **P** **13 32 06.1 +0.3**
BFO Black Forest **56.27 36** P **P** **13 32 06.9 +0.5**
S39A Bolivar **56.46 310** P **P** **13 32 07.7 -0.2**
S39A IAmb IAmb 13 32 20.4
comp=Z,13nm,1.1s
DAVOX Davos/Dischmat **56.49 39** P **P** **13 32 08.2 0.0**
comp=Z,1.6nm,0.5s,baz=203,slow=7.9,SNR=6.6
FUORN Ofenpass-Fuorn **56.66 39** P **P** **13 32 08.5 -0.9**
FUORN IAmb IAmb 13 32 18.2
comp=Z,20nm,1.4s
DAVA Damuels **56.71 38** *eP* **P** **13 32 11.5 +1.7**
comp=Z,21nm,1.0s
MURB Monte Urbino **56.79 43** P **P** **13 32 08.6 -1.6**
MURB IAmb IAmb 13 32 18.2
comp=Z,18nm,1.1s
PLCA Paso Flores **56.92 208** P **P** **13 32 11.2 0.0**
comp=Z,13nm,1.2s,baz=19,slow=9.1,SNR=5.2
PLCA Paso Flores **56.92 208** P **P** **13 32 10.9 -0.2**
PLCA Paso Flores **56.92 208** *eP* **P** **13 32 12.2 +1.1**
TEOL Teolo **57.02 41** P **P** **13 32 11.8 0.0**
NRCA Norcia **57.03 44** P **P** **13 32 12.7 +0.7**
NRCA IAmb IAmb 13 32 14.3
comp=Z,13nm,1.4s
FETA Feichten **57.12 39** *i P* **P** **13 32 13.4 +0.8**
comp=Z,14nm,1.3s,SNR=6.2
CTI Castel Tesino **57.29 40** P **P** **13 32 14.4 +0.6**
CTI IAmb IAmb 13 32 16.9
comp=Z,21nm,1.4s
N38A Joes South For **57.32 313** P **P** **13 32 13.8 -0.2**
RETA Reutte **57.34 38** *i P* **P** **13 32 15.5 +1.5**
comp=Z,16nm,1.1s,SNR=5.3
MOTA Moosalm **57.49 38** *eP* **P** **13 32 16.2 +1.0**
comp=Z,16nm,1.4s
SQTA Sankt Quirin **57.50 39** *eP* **P** **13 32 16.4 +1.2**
comp=Z,12nm,0.8s
WATA Walderalm **57.77 39** *eP* **P** **13 32 18.1 +0.9**
comp=Z,18nm,1.2s
WTTA Wattenberg **57.78 39** *eP* **P** **13 32 17.9 +0.6**
comp=Z,17nm,1.3s
CIMO Cimolais **57.90 40** P **P** **13 32 18.5 +0.5**
CIMO IAmb IAmb 13 32 20.6
comp=Z,17nm,1.3s
ABTA Abtersbach **58.12 40** *i P* **P** **13 32 20.8 +1.2**
comp=Z,20nm,1.3s,SNR=8.4
ZOU Zoufplan **58.33 40** P **P** **13 32 18.9 -2.3**
WHTX Lake Whitney, **58.47 302** P **P** **13 32 21.1 -1.1**
WHTX IAmb IAmb 13 32 23.3
comp=Z,15nm,1.4s
GRA1 Grafenberg Arr **58.58 36** P **P** **13 32 22.6 -0.1**
PRED Cave del Predi **58.67 40** P **P** **13 32 23.1 -0.3**
PRED IAmb IAmb 13 32 26.7
comp=Z,15nm,1.4s
T35A Sooner Cattle **58.72 308** P **P** **13 32 22.5 -1.4**
T35A IAmb IAmb 13 32 36.2
comp=Z,18nm,1.3s
OK031 S. Brethren Rd **58.75 307** P **P** **13 32 23.6 -0.5**
SFJD Kangerlussuaq **58.77 355** P **P** **13 32 24.0 +0.5**
comp=Z,3.8nm,0.6s,baz=193,slow=22,SNR=1.6
SFJD Kangerlussuaq **58.77 355** IAmb IAmb 13 32 30.9
comp=Z,13nm,0.8s
KBA Koelnbreinsper **58.77 39** *i P* **P** **13 32 25.3 +1.1**
comp=Z,22nm,1.4s,SNR=9.2
MYKA Terra Mystica **58.79 40** *i P* **P** **13 32 25.2 +1.0**
comp=Z,30nm,1.5s,SNR=9.3
LJU Ljubljana **59.14 41** *i P* **P** **13 32 28.6 +2.1**
OBKA Obir **59.32 40** *i P* **P** **13 32 29.4 +1.4**
comp=Z,24nm,1.2s,SNR=11
BOJS Bojanci **59.42 42** *eP* **P** **13 32 30.3 +1.8**
PDKS Podkum **59.45 41** *eP* **P** **13 32 30.4 +1.7**
NKC Novy Kostel **59.53 36** *eP* **P** **13 32 31.9 +2.6**
MOA Molín **59.65 39** *i P* **P** **13 32 31.0 +0.9**
comp=Z,18nm,1.4s,SNR=5.6
SOKA Soboth **59.69 40** *eP* **P** **13 32 32.1 +1.6**
comp=Z,6.6nm,1.3s
GERES GERESS Array B **59.70 38** P **P** **13 32 31.0 +0.5**
comp=Z,0.8nm,0.7s,baz=274,slow=5.2,SNR=6.9
GERES GERESS Array B **59.70 38** P **P** **13 32 30.7 +0.2**
KHC Kasperske Hory **59.74 37** *eP* **P** **13 32 32.3 +1.6**
KHC *ex* x 13 32 38.1
KHC Kasperske Hory **59.74 37** P **P** **13 32 31.3 +0.6**
GOLS Golíse **59.84 41** *i P* **P** **13 32 33.3 +1.9**
KAN14 Manchester OK **59.86 308** P **P** **13 32 31.3 -0.4**
WMOK Wichita Mounta **60.06 305** P **P** **13 32 32.2 -1.0**
ARSA Arzberg **60.21 40** *eP* **P** **13 32 34.6 +0.6**
comp=Z,7.3nm,1.3s
JCT Junction City **60.23 300** P **P** **13 32 33.0 -1.4**
JCT IAmb IAmb 13 32 46.8
comp=Z,11nm,1.1s
B35A Bob, Littlefor **60.29 321** P **P** **13 32 33.7 -0.8**
B35A IAmb IAmb 13 32 36.7
comp=Z,18nm,1.5s
ABTX Abilene, Hawle **60.40 303** P **P** **13 32 35.0 -0.5**
ABTX IAmb IAmb 13 32 47.8
comp=Z,16nm,1.2s
ECSD EROS Data Cent **60.61 316** P **P** **13 32 36.2 -0.6**
ECSD IAmb IAmb 13 32 59.3
comp=Z,13nm,1.4s
CONA Conrad Observa **60.67 39** *i P* **P** **13 32 38.7 +1.5**
comp=Z,13nm,1.4s,SNR=5.4
TREC Trest **60.95 38** *eP* **P** **13 32 40.8 +1.8**
PDG Podgorica **61.21 46** P **P** **13 32 41.4 +0.5**
KRUC Moravsky **61.42 38** *eP* **P** **13 32 43.4 +1.3**
VRAC Vranov **61.63 38** P **P** **13 32 42.7 -0.9**
comp=Z,4.9nm,0.7s,baz=228,slow=8.9,SNR=6.8
VRAC Vranov **61.63 38** *eP* **P** **13 32 45.1 +1.5**
CBKS Cedar Bluff **61.63 309** P **P** **13 32 43.9 +0.1**
ULM Lac du Bonnet **62.30 323** P **P** **13 32 47.4 -0.7**
comp=Z,4.6nm,0.9s,baz=111,slow=7.7,SNR=3.9
ULM Lac du Bonnet **62.30 323** P **P** **13 32 47.1 -0.9**
ULM IAmb IAmb 13 32 54.4
comp=Z,5.0nm,0.8s
MORC Moravsky Berou **62.37 38** P **P** **13 32 48.4 -0.3**
MORC IAmb IAmb 13 33 14.9
comp=Z,15nm,1.3s
LIT Litokhoron **63.03 49** P **P** **13 32 53.7 +0.6**
LIT IAmb IAmb 13 33 03.4
comp=Z,5.5nm,0.9s
PSZ Piszkesteto **63.23 40** P **P** **13 32 54.3 -0.1**
PSZ IAmb IAmb 13 32 57.0
comp=Z,14nm,1.3s
TXAR Lajitas Array **63.43 298** P **P** **13 32 56.5 +0.4**
comp=Z,0.6nm,0.5s,baz=96,slow=6.5,SNR=10
TX31 Lajitas Ar. Si **63.43 298** P **P** **13 32 55.1 -1.1**
TX32 Lajitas Array **63.43 298** P **P** **13 32 55.4 -0.7**
MDND Maddock **63.83 319** P **P** **13 32 57.9 -0.4**
SUMG Summit **63.88 0** P **P** **13 32 59.2 +0.6**
SUMG Summit **63.88 0** *i P* **P** **13 33 00.0 +1.4**
SUMG Summit **63.88 0** *i P* **P** **13 33 00.0 +1.4**
KSCO Kaye Shedlock' **63.88 309** P **P** **13 32 59.1 +0.1**
NOA NORSAR Array B **64.15 25** LR LR 13 57 08.5
comp=Z,40nm,19.8s,baz=245,slow=32
T25A Trinidad **64.96 307** P **P** **13 33 06.7 +0.5**
T25A IAmb IAmb 13 33 08.5
comp=Z,16nm,1.4s
MNTX Cornudas Mount **65.12 301** P **P** **13 33 06.8 -0.2**
ALN Alexandroupoli **65.84 49** P **P** **13 33 11.3 -0.2**
SDCO Great Sand Dun **65.91 307** P **P** **13 33 13.0 +0.6**
SDCO IAmb IAmb 13 33 26.0
comp=Z,6.3nm,1.1s
ISCO Idaho Springs **66.29 310** P **P** **13 33 14.5 -0.3**
ISCO IAmb IAmb 13 33 28.6
comp=Z,13nm,1.2s
BURAR Bucovina Array **66.60 42** P **P** **13 33 16.4 -0.1**
MLR Muntele Rosu **66.63 44** P **P** **13 33 17.4 +0.7**
N23A Red Feather La **66.71 311** P **P** **13 33 17.7 +0.2**
S22A 4UR Ranch, Cre **66.95 307** P **P** **13 33 19.6 +0.5**
S22A IAmb IAmb 13 33 22.4
comp=Z,11nm,1.4s
DGMT Dagmar **66.96 319** P **P** **13 33 19.4 +0.8**
RWWY Rawlins **67.77 311** P **P** **13 33 21.5 -2.7**
RWWY IAmb IAmb 13 33 26.1
comp=Z,9.5nm,1.2s
PV12 Saucer Basin, **68.56 308** P **P** **13 33 27.8 -1.4**
PV11 David Mesa, Pa **68.62 308** P **P** **13 33 28.3 -1.2**
RDMU Red Mountain **69.40 310** P **P** **13 33 33.7 -0.6**
BW06 Boulder Array **69.64 312** P **P** **13 33 34.5 -1.3**
PD31 Pinedale Array **69.64 312** P **P** **13 33 34.3 -1.5**
PDAR Pinedale Array **69.64 312** P **P** **13 33 36.0 +0.2**
comp=Z,0.8nm,0.9s,baz=97,slow=9.4,SNR=6.1
PDAR Pinedale Array **69.64 312** P **P** **13 33 34.7 -1.1**
RLMT Red Lodge **69.75 315** P **P** **13 33 35.6 -0.8**
RLMT IAmb IAmb 13 33 38.4
comp=Z,11nm,1.3s
AKASG Malin Array Be **69.83 39** P **P** **13 33 37.1 +0.7**
comp=Z,0.3nm,0.3s,baz=263,slow=5.7,SNR=8.2
AKASG Malin Array Be **69.83 39** IAmb IAmb 13 33 38.1
comp=Z,3.9nm,1.4s
SRU San Rafael Swe **69.98 308** P **P** **13 33 37.4 -0.5**
YNE Yellowstone No **70.26 315** P **P** **13 33 39.1 -0.4**
YMP Mirror Lake Pl **70.33 314** P **P** **13 33 38.2 -1.8**
WUAZ Wupatki **70.39 305** P **P** **13 33 41.1 +0.6**
MBAR Mbarara **70.44 94** P **P** **13 33 38.7 -2.4**
EGMT Eagleton **70.52 318** P **P** **13 33 38.7 -2.2**
MOOW Moose Ponds **70.62 313** P **P** **13 33 41.7 0.0**
MOOW IAmb IAmb 13 33 44.1
comp=Z,10.0nm,1.4s
FLWY Flagg Ranch **70.63 314** P **P** **13 33 41.4 -0.4**
FLWY IAmb IAmb 13 33 44.0
comp=Z,18nm,1.4s
REDW Red Top Meadow **70.66 313** P **P** **13 33 41.9 -0.1**
REDW IAmb IAmb 13 33 44.5
comp=Z,10nm,1.4s
YPP Pitchstone Pla **70.73 314** P **P** **13 33 42.5 0.0**
TPAW Teton Pass **70.74 313** P **P** **13 33 43.0 +0.5**
TPAW IAmb IAmb 13 34 02.0
comp=Z,11nm,1.1s
AHID Auburn Hatcher **70.77 312** P **P** **13 33 42.6 0.0**
AHID IAmb IAmb 13 33 44.2
comp=Z,17nm,1.4s
IMW Indian Meadow **70.78 313** P **P** **13 33 43.1 +0.3**
IMW IAmb IAmb 13 33 45.6
comp=Z,20nm,1.5s
YHH Holmes Hill **70.82 314** P **P** **13 33 42.2 -0.8**
JLU Jordanelle **70.82 310** P **P** **13 33 42.8 -0.3**
TCUT Toone Canyon **70.84 310** P **P** **13 33 42.8 -0.4**
YMR Madison River **70.89 314** P **P** **13 33 42.7 -0.7**
HWUT Hardware Ranch **71.00 311** P **P** **13 33 43.0 -1.1**
YHB Horse Butte **71.06 314** P **P** **13 33 44.8 +0.3**
YHL Hebgen Lake **71.06 314** P **P** **13 33 45.0 +0.5**
MSU Marysvale **71.22 308** P **P** **13 33 45.4 -0.1**
MVU Marysvale **71.25 308** P **P** **13 33 45.4 -0.3**
BR131 Keskin Array S **71.46 51** P **P** **13 33 46.1 -0.7**
BR131 IAmb IAmb 13 33 49.4
comp=Z,11nm,1.3s
BRTR Keskin Array B **71.46 51** P **P** **13 33 48.6 +1.8**
comp=Z,4.5nm,1.1s,baz=257,slow=4.9,SNR=12
BRTR Keskin Array B **71.46 51** P **P** **13 33 46.6 -0.3**
BOZ Bozeman (W) **71.47 315** P **P** **13 33 47.0 +0.2**
SPUT South Promonto **71.64 311** P **P** **13 33 47.7 -0.2**
HRY Holter Researc **71.73 316** P **P** **13 33 47.6 -0.7**
DUG Dugway, Tooele **71.83 309** P **P** **13 33 48.7 -0.4**
DUG IAmb IAmb 13 33 58.6
comp=Z,14nm,1.4s
BGU Big Grassy Mou **72.05 310** P **P** **13 33 49.2 -1.2**
LRM Limekiln Ridge **72.06 315** P **P** **13 33 49.0 -1.5**
DLMT Dillon **72.12 315** P **P** **13 33 50.5 -0.2**
MCMT McKenzie Canyo **72.24 314** P **P** **13 33 50.7 -0.9**
BOSA Boshof **72.46 124** P **P** **13 33 52.7 -0.2**
comp=Z,2.1nm,0.6s,baz=297,slow=2.3,SNR=2.9
BOSA Boshof **72.46 124** IAmb IAmb 13 34 00.0
comp=Z,9.3nm,1.1s
BCYI Bear Canyon **72.59 314** P **P** **13 33 51.9 -1.7**
HLID Hailey **73.26 313** P **P** **13 33 56.8 -0.8**
HLID IAmb IAmb 13 33 60.0
comp=Z,14nm,1.4s
WALA Waterton Lakes **73.39 319** P **P** **13 33 58.3 +0.2**
SHPR Sheep Range **73.50 305** P **P** **13 33 56.3 -2.8**
JTMT Jette **73.51 317** P **P** **13 33 56.5 -2.4**
JTMT IAmb IAmb 13 34 01.3
comp=Z,12nm,1.1s
ELK Elko **73.71 310** P **P** **13 33 59.6 -0.7**
R11A Troy Canyon, C **73.89 307** P **P** **13 34 00.6 -0.7**
MFID Camas Ranch **74.28 313** P **P** **13 34 02.2 -1.2**
TPNV Topopah Spring **74.38 306** P **P** **13 34 03.0 -1.3**
TPNV IAmb IAmb 13 34 18.6
comp=Z,12nm,1.2s
XPFO Pion Flat **74.53 302** P **P** **13 34 03.5 -1.6**
PFO Pinyon Flats O **74.53 302** P **P** **13 34 03.4 -1.7**
TPH Tonopah **75.17 307** P **P** **13 34 06.8 -2.0**
BMO Blue Mountains **75.41 314** P **P** **13 34 08.3 -1.7**
NEW Newport **75.45 318** P **P** **13 34 09.0 -1.0**
NEW IAmb IAmb 13 34 11.7
comp=Z,9.2nm,1.2s
KVN Kaiserville **75.87 308** P **P** **13 34 12.9 +0.1**
NVAR Mina Array Bea **76.03 307** P **P** **13 34 14.1 +0.4**
comp=Z,0.2nm,0.3s,baz=103,slow=5.6,SNR=8.0
E09A Wood Farm, Sta **76.06 316** P **P** **13 34 13.1 -0.4**
E09A IAmb IAmb 13 34 15.5
comp=Z,17nm,1.3s
LHV Little Huntoon **76.18 307** P **P** **13 34 12.5 -1.8**
LHV IAmb IAmb 13 34 28.6
comp=Z,13nm,1.3s
RYN Ryan **76.20 308** P **P** **13 34 11.7 -2.9**
OMMB Old Mammoth Mi **76.58 307** P **P** **13 34 15.7 -1.3**
G08A Pilot Rock **76.59 314** P **P** **13 34 14.3 -2.4**
KOPT Kop Dagi **76.75 51** P **P** **13 34 17.3 -0.6**
MOD Modoc Plateau **77.54 311** P **P** **13 34 21.3 -0.9**
MOD IAmb IAmb 13 34 25.7
comp=Z,18nm,1.2s
KBZ Khabaz **78.50 47** P **P** **13 34 29.0 +1.8**
comp=Z,3.4nm,0.9s,baz=284,slow=8.3,SNR=4.2
VNA1 Neumayer--Stat **81.87 170** P **P** **13 34 45.6 +0.9**
VNA3 Neumayer Olymp **82.15 171** P **P** **13 34 46.8 +0.6**
VNA2 Neumayer--Watz **82.26 170** P **P** **13 34 47.1 +0.4**
DLBC Dease Lake **83.05 328** P **P** **13 34 51.9 +0.5**
INK Inuvik **83.57 338** P **P** **13 34 54.1 +0.5**
comp=Z,9.5nm,1.1s,baz=82,slow=3.9,SNR=5.6
INK Inuvik **83.57 338** IAmb IAmb 13 34 56.1
comp=Z,37nm,1.5s
SNAA Sanae **83.70 169** P **P** **13 34 54.6 +0.2**
SNAA Sanae **83.70 169** P **P** **13 34 54.4 +0.1**
BELA Belgrano 2 **86.43 179** P **P** **13 35 07.3 -0.5**

ILAR	**Eielson Array**	**89.58**	**336**	P		**P**	**13 35 24.1**	**+0.8**
	comp=Z,3.2nm,1.1s,baz=62,slow=3.3,SNR=9.4							
ILAR	**Eielson Array**	**89.58**	**336**	P		**P**	**13 35 22.7**	**-0.5**
SYO	**Syowa Base**	**94.08**	**159**[1]	*e*PcP		**PcP**	**13 35 44.0**	**-0.3**
NRIK	**Noril'sk**	**94.08**	**17**	LR		LR	14 16 04.3	
	comp=Z,119nm,19.6s,baz=21,slow=34							
LZH	**Lanzhou**	**123.63**	**36**	*e*PKP		**PKPdf**	**13 41 20.8**	**-3.5**
LZH				pPKP		sPKPdf	13 41 31.4	+1.8
LZH				sPKP			13 41 37.8	
CMAR	**Chiang Mai Arr**	**130.83**	**57**	PKP		**PKiKP**	**13 41 39.2**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=287,slow=2.5,SNR=6.8							
ASAR	**Alice Springs**	**163.74**	**157**	PKP		**PKPdf**	**13 42 28.9**	**-0.9**
	comp=Z,1.2nm,1.1s,baz=180,slow=2.8,SNR=4.6							
ASAR				PKPab		**PKPab**	**13 43 21.7**	**0.0**
	comp=Z,0.6nm,0.9s,baz=224,slow=3.9,SNR=2.8							

*IDC **20** 13:25:03.6±0.6, 10˚.47N×126˚.67E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.1/50, mbtmp4.2/16, MS3.5/1, Ms1 3.5/1, ms1mx2.6/35, Error ellipse: s-maj=36.5km s-min=12.6km az=72.0*

*NEIC **20** 13:25:05.9±2.4, 10˚.54N±0˚.08×126˚.6E±0˚.1, h16km±4km, mb4.6/28, Error ellipse: s-maj=17.5km s-min=10.8km az=77.0*

ISC 20 13:25:05.1±0.4, **10˚.48N**±0˚.05×**126˚.59E**±0˚.07, **h10**km, **n58, σ1s06/56, mb4.4/29, 2C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**2.75**	**223**[1]	*e*P	**Pg**	**13 25 57.6**	**-0.2**
CGP				*e*S	**Sb**	**13 26 27.9**	**-0.3**
TBP	**Tagbilaran**	**2.80**	**254**	*e*P	**Pb**	**13 25 55.5**	**+0.3**
LQP	**Lukban**	**6.12**	**307**[1]	*e*P	Pn	13 26 27.1	-8.7
TNTI	**Ternate**	**9.68**	**175**		**Pn**	**13 27 27.1**	**+2.5**
LUWI	**Luwuk**	**12.06**	**199**	Pn	**Pn**	**13 27 57.2**	**0.0**
TPUB	**Ta-pu**	**13.96**	**337**	Pn	**Pn**	**13 28 22.8**	**-0.4**
JMZ	**Minamidaito 2**	**15.87**	**15**	P	**P**	**13 28 51.2**	**-1.3**
JMZ				IAmb	IAmb	13 29 06.6	
	comp=Z,69nm,1.0s						
BATI	**Baumata**	**20.76**	**188**	P	Pn	13 29 47.9	-0.8
	comp=Z,39nm,0.6s,baz=356,slow=3.1,SNR=4.5						
MTN	**Manton Dam**	**23.61**	**169**	P	**P**	**13 30 16.2**	**-0.1**
MTN				IAmb	IAmb	13 30 19.3	
	comp=Z,17nm,0.7s						
ENH	**Enshi**	**25.33**	**324**	P	**P**	**13 30 34.1**	**+1.9**
ENH				IAmb	IAmb	13 30 39.0	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**26.08**	**175**	P	**P**	**13 30 38.7**	**-0.4**
KNRA				IAmb	IAmb	13 31 07.7	
	comp=Z,19nm,1.2s						
KSAR	**Wonju Array Be**	**26.87**	**2**	P	**P**	**13 30 47.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**27.89**	**290**	P	**P**	**13 30 55.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=92,slow=9.0,SNR=4.4						
FITZ	**Fitzroy Crossi**	**28.41**	**182**	P	**P**	**13 30 59.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=22,slow=8.4,SNR=9.0						
PSI	**Prapat**	**28.50**	**256**	LR	LR	13 44 16.5	
	comp=Z,82nm,19.1s,baz=280,slow=40						
LHMI	**Lhok Sumawe**	**29.81**	**262**	P	**P**	**13 31 10.3**	**-2.3**
WB0	**Warramunga Arr**	**31.02**	**166**	P	**P**	**13 31 22.0**	**-1.2**
WRA	**Warramunga Arr**	**31.18**	**166**	P	**P**	**13 31 23.3**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=343,slow=9.0,SNR=15						
WRA				PcP	**PcP**	**13 34 19.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=344,slow=3.1,SNR=7.5						
WRA	**Warramunga Arr**	**31.18**	**166**	IAmb	IAmb	13 31 32.2	
	comp=Z,0.2nm,1.2s						
WB2	**Warramunga Arr**	**31.18**	**166**	P	**P**	**13 31 23.5**	**-1.1**
WB2				IAmb	IAmb	13 31 26.9	
	comp=Z,13nm,1.3s						
WR0	**Warramunga Arr**	**31.24**	**165**	P	**P**	**13 31 23.8**	**-1.4**
WR0				IAmb	IAmb	13 31 29.5	
	comp=Z,7.0nm,1.2s						
AS31	**Alice Springs**	**34.68**	**168**	P	**P**	**13 31 54.6**	**-0.6**
ASAR	**Alice Springs**	**34.68**	**168**	P	**P**	**13 31 54.8**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=350,slow=6.8,SNR=83						
ASAR				PcP	**PcP**	**13 34 28.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=344,slow=2.5,SNR=10						
ASAR	**Alice Springs**	**34.68**	**168**	P	**P**	**13 31 54.5**	**-0.7**
ASAR					**PcP**	**13 34 28.5**	**-0.8**
WAKE	**Wake Island**	**39.61**	**72**	P	**P**	**13 32 36.2**	**-1.0**
SONM	**Songino Array**	**40.94**	**339**	P	**P**	**13 32 48.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=167,slow=6.8,SNR=2.1						
SONM	**Songino Array**	**40.94**	**339**	P	**P**	**13 32 48.1**	**+0.1**
FORT	**Forrest**	**41.05**	**178**	P	**P**	**13 32 48.9**	**+0.1**
EIDS	**Eidsvold**	**42.88**	**147**	P	**P**	**13 33 03.3**	**-0.7**
EIDS				IAmb	IAmb	13 33 29.1	
	comp=Z,17nm,1.5s						
BBOO	**Buckleboo**	**43.98**	**168**	P	**P**	**13 33 13.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**44.08**	**191**	P	**P**	**13 33 13.8**	**+0.3**
NWAO				IAmb	IAmb	13 33 17.5	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**44.50**	**162**	P	**P**	**13 33 16.9**	**0.0**
	comp=Z,2.8nm,0.9s,baz=338,slow=8.6,SNR=6.6						
STKA	**Stephens Creek**	**44.50**	**162**	IAmb	IAmb	13 33 18.5	
	comp=Z,1.6nm,1.1s						
PETK	**Petropavlovsk-**	**49.32**	**24**	P	**P**	**13 33 54.3**	**0.0**
	comp=Z,1.9nm,0.8s,baz=211,slow=5.6,SNR=5.7						
TOO	**Toolangi**	**50.98**	**161**	P	**P**	**13 34 08.2**	**+1.1**
TOO				IAmb	IAmb	13 34 25.0	
	comp=Z,18nm,1.4s						
MK31	**Makanchi Array**	**52.05**	**323**	P	**P**	**13 34 16.3**	**+1.2**
MKAR	**Makanchi Array**	**52.05**	**323**	P	**P**	**13 34 17.1**	**+2.0**
	comp=Z,3.4nm,0.7s,baz=119,slow=8.2,SNR=23						
MKAR	**Makanchi Array**	**52.05**	**323**	P	**P**	**13 34 16.4**	**+1.2**
MAKZ	**Makanchi**	**52.25**	**322**	P	**P**	**13 34 18.0**	**+1.4**
MAKZ				IAmb	IAmb	13 34 18.8	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**54.60**	**331**	P	**P**	**13 34 33.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=117,slow=9.0,SNR=4.4						
KURK	**Kurchatov**	**56.08**	**325**	P	**P**	**13 34 44.9**	**+0.6**
KURK				IAmb	IAmb	13 34 51.1	
	comp=Z,5.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.08**	**325**	P	**P**	**13 34 45.2**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=125,slow=6.9,SNR=25						
KK31	**Karatay Array**	**58.33**	**314**	P	**P**	**13 35 02.8**	**+2.3**
KK31	**Karatay Array**	**58.33**	**314**	↓*e*P	**P**	**13 35 02.7**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=185,slow=13,SNR=26						
KKAR	**Karatay Array**	**58.33**	**314**	P	**P**	**13 35 02.9**	**+2.3**
KKAR	**Karatay Array**	**58.33**	**314**	P	**P**	**13 35 00.5**	**0.0**
ABKAR	**Akbulak array**	**66.92**	**319**	P	**P**	**13 35 58.3**	**+0.5**
ABKAR				IAmb	IAmb	13 35 58.9	
	comp=Z,3.1nm,0.8s						
BKZ	**Black Stump Fm**	**67.74**	**140**	P	**P**	**13 36 02.8**	**-0.3**
SOCY	**Socotra**	**71.01**	**279**	P	**P**	**13 36 22.7**	**-1.2**
SOCY				IAmb	IAmb	13 36 23.6	
	comp=Z,3.8nm,0.8s						
CASY	**Casey**	**77.46**	**187**	P	**P**	**13 37 01.1**	**+0.8**
CASY				IAmb	IAmb	13 37 01.9	
	comp=Z,7.5nm,0.8s						
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**13 37 35.7**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=76,slow=6.4,SNR=7.6						
BRTR	**Keskin Array B**	**85.64**	**309**	P	**P**	**13 37 44.0**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=99,slow=3.8,SNR=4.1						
FINES	**FINESS Array B**	**85.86**	**332**	P	**P**	**13 37 44.6**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=60,slow=4.3,SNR=14						
MAW	**Mawson**	**90.00**	**200**	P	**P**	**13 38 04.7**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=43,slow=5.3,SNR=4.5						
MAW	**Mawson**	**90.00**	**200**	IAmb	IAmb	13 38 06.2	
	comp=Z,1.9nm,1.4s						
VNDA	**Vanda**	**90.10**	**173**	P	**P**	**13 38 05.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=330,slow=7.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**120.48**	**292**	PKP	**PKPdf**	**13 43 57.6**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=86,slow=2.3,SNR=2.6						
PLCA	**Paso Flores**	**146.27**	**156**	PKPbc	**PKPab**	**13 44 46.5**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=310,slow=1.5,SNR=6.0						

*REY **20** 13:27:57.8, 64˚.67N×17˚.45W, h3km*

*IDC **20** 13:27:57.9±0.6, 64˚.65N×17˚.55W, h0km, mb4.0/13, mb1 4.2/17, mb1mx4.0/52, mbtmp4.0/17, ML3.3/4, Error ellipse: s-maj=19.3km s-min=9.7km az=8.0*

*NEIC **20** 13:27:59.0±1.3, 64˚.61N±0˚.09×17˚.5W±0˚.1, h8km±4km, mb4.6/81, Error ellipse: s-maj=12.5km s-min=7.7km az=171.0*

ISC 20 13:27:58.9±0.4, **64˚.69N**±0˚.02×**17˚.48W**±0˚.02, **h10**km, **n160, σ1s56/168, mb4.5/49, 1C, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.11**	**25**	P	**Pg**	**13 28 00.7**	**-1.1**
	baz=17						
IDYN				S	**Sg**	**13 28 02.6**	**-1.3**
	baz=17						
IVON	**Vonarskard**	**0.12**	**262**	P	**Pg**	**13 28 00.5**	**-1.4**
	baz=271						
IVON				S	**Sg**	**13 28 02.9**	**-1.1**
	baz=271						
IURH	**Urdarhals**	**0.19**	**47**	P	**Pg**	**13 28 01.9**	**-1.1**
	baz=41						
IDJK	**Dyngjujokull**	**0.21**	**151**	P	**Pg**	**13 28 01.7**	**-1.7**
	baz=151						
IGRF	**Grimsfjall**	**0.30**	**162**	P	**Pg**	**13 28 03.3**	**-1.7**
	baz=163						
IKVE	**Kverkfjoll**	**0.34**	**92**	P	**Pg**	**13 28 04.3**	**-1.5**
	baz=88						
IHUS	**Husbondi**	**0.40**	**191**	P	**Pg**	**13 28 05.3**	**-1.6**
	baz=193						
IHUS				S	**Sg**	**13 28 11.1**	**-1.1**
	baz=193						
ISKR	**Skrokkalda**	**0.41**	**252**	P	**Pg**	**13 28 05.5**	**-1.6**
	baz=255						
IVOT	**Vottur**	**0.44**	**163**	P	**Pg**	**13 28 05.8**	**-1.8**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**78**	P	**Pg**	**13 28 06.3**	**-1.9**
	baz=76						
IKRE				S	**Sg**	**13 28 13.5**	**-1.1**
	baz=76						
IJOK	**Jokulheimar**	**0.50**	**221**	P	**Pg**	**13 28 06.8**	**-1.8**
	baz=224						
IJOK				S	**Sg**	**13 28 14.1**	**-1.0**
	baz=224						
IASK	**Askja**	**0.51**	**44**	P	**Pg**	**13 28 07.2**	**-1.6**
	baz=42						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**13 28 08.1**	**-1.8**
	baz=56						
IMKO				S	**Sg**	**13 28 16.6**	**-0.8**
	baz=56						
IIEY	**Innrieyrar**	**0.66**	**206**	P	**Pg**	**13 28 09.7**	**-2.0**
	baz=207						
IIEY				S	**Sg**	**13 28 18.4**	**-1.9**
	baz=207						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**13 28 09.2**	**-3.0**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**13 28 11.0**	**-2.4**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	**Pg**	**13 28 11.0**	**-2.6**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**13 28 12.3**	**-2.1**
	baz=233						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**13 28 12.9**	**-2.8**
	baz=66						
IADA				S	**Sg**	**13 28 24.8**	**-2.4**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**282**	P	**Pg**	**13 28 13.7**	**-2.8**
	baz=283						
IHVE				S	**Sg**	**13 28 26.5**	**-1.9**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**13 28 14.6**	**-2.6**
	baz=26						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**13 28 15.3**	**-2.6**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**13**	P	**Pg**	**13 28 16.6**	**-2.7**
	baz=13						
IGRS	**Grimsstaoir**	**1.11**	**30**	P	**Pb**	**13 28 17.3**	**-2.9**
	baz=29						
IGRS				S	**Sg**	**13 28 32.9**	**-1.7**
	baz=29						
ISLY	**Slysaalda**	**1.13**	**220**	P	**Pb**	**13 28 17.6**	**-2.9**
	baz=221						
IFED	**Fedgar**	**1.17**	**236**	P	**Pb**	**13 28 18.5**	**-2.7**
	baz=237						
IRJU	**Rjupnafell**	**1.20**	**206**	P	**Pb**	**13 28 18.8**	**-2.9**
	baz=207						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pb**	**13 28 18.8**	**-2.9**
	baz=8.2						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pb**	**13 28 18.8**	**-3.1**
	baz=15						
IMJO	**Mjoaskard**	**1.22**	**233**	P	**Pn**	**13 28 19.5**	**-2.6**
	baz=234						
IGRA	**Granastaoir**	**1.23**	**358**	P	**Pn**	**13 28 19.2**	**-3.0**
	baz=358						
BORG	**Borgarnes**	**1.65**	**274**	Pg	**Pn**	**13 28 25.7**	**-2.2**
	35nm,0.3s,baz=100,slow=12,SNR=66						
BORG				Lg	Lg	13 28 49.4	
	25nm,0.3s,baz=20,slow=22,SNR=11						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**13 28 25.6**	**-2.4**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**13 30 45.6**	**-1.0**
	baz=323,slow=14,SNR=9.0						
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**13 30 47.4**	**+0.7**
DSB	**Dublin**	**12.80**	**149**	Pn	**Pn**	**13 31 00.6**	**-0.1**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**13 31 08.6**	**-2.0**
	0.0nm,0.3s,baz=296,slow=14,SNR=2.1						
HFS	**Hagfors**	**15.04**	**93**	Pn	**P**	**13 31 37.0**	**+0.4**
	0.1nm,0.3s,baz=316,slow=8.2,SNR=7.7						
KBS	**Kingsbay**	**16.61**	**19**	Pn	Pn	13 31 43.4	-8.0
SPA0	**Spitsbergen Ar**	**16.84**	**23**	Pn	**Pn**	**13 31 50.0**	**-4.4**
SPA0				IAmb	IAmb	13 32 14.3	
	comp=Z,52nm,1.3s						
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**P**	**13 31 58.4**	**-1.0**
	baz=259,slow=9.1,SNR=4.5						
KEV	**Kevo**	**17.60**	**54**		**P**	**13 32 05.4**	**+0.6**
FINES	**FINESS Array B**	**19.69**	**79**	P	**Pn**	**13 32 30.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=296,slow=10,SNR=7.6						
CLL	**Collm**	**20.71**	**116**	*e*P	**P**	**13 32 36.0**	**-3.0**
CLL				*i*		13 32 40.2	
	comp=Z,19nm,1.3s						
CLL	**Collm**	**20.71**	**116**	P	**P**	**13 32 35.9**	**-3.0**
ECH	**Echery**	**21.16**	**129**	P	**P**	**13 32 43.6**	**-0.4**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**13 32 47.6**	**+1.0**
	comp=Z,29nm,1.2s						
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**13 32 47.2**	**+0.1**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**13 33 00.3**	**+2.4**
GOPC	**GO Pecny, Ondr**	**22.50**	**116**	*e*P	**P**	**13 33 01.7**	**+3.4**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**	**13 33 02.6**	**+2.4**
KHC	**Kasperske Hory**	**22.68**	**118**	P	**P**	**13 32 59.4**	**-0.8**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**13 33 02.2**	**+1.1**
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**	**13 33 03.1**	**-0.1**
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**13 33 04.6**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=321,slow=7.7,SNR=5.6						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**13 33 03.4**	**+0.2**
EUNU	**Eureka**	**23.65**	**336**	P	**P**	**13 33 10.9**	**+1.0**
EUNU				IAmb	IAmb	13 33 30.9	
	comp=Z,25nm,1.4s						
VRAC	**Vranov**	**23.70**	**114**	P	**P**	**13 33 12.0**	**+1.5**
	comp=Z,2.4nm,0.4s,baz=302,slow=13,SNR=2.1						
VRAC	**Vranov**	**23.70**	**114**	*e*P	**P**	**13 33 11.5**	**+1.0**
MORC	**Moravsky Berou**	**23.70**	**112**	*e*P	**P**	**13 33 11.5**	**+0.9**
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**13 33 11.2**	**+0.6**
KRUC	**Moravsky**	**23.82**	**115**	*e*P	**P**	**13 33 12.7**	**+1.0**
JAVC	**Velka Javorina**	**24.48**	**113**	*e*P	**P**	**13 33 19.7**	**+1.8**
ZOU	**Zoufplan**	**24.61**	**123**	P	**P**	**13 33 19.3**	**+0.1**
ZOU				IAmb	IAmb	13 33 32.6	
	comp=Z,23nm,1.5s						
CIMO	**Cimolais**	**24.63**	**124**	P	**P**	**13 33 19.7**	**+0.5**
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**	**13 33 21.1**	**+1.6**
PRED	**Cave del Predi**	**24.92**	**122**	P	**P**	**13 33 21.6**	**-0.3**
PRED				IAmb	IAmb	13 33 27.5	
	comp=Z,16nm,1.3s						
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P	**P**	**13 33 24.5**	**+2.3**
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**	**13 33 24.2**	**-0.4**
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**13 33 32.2**	**+0.2**
SCHQ				IAmb	IAmb	13 33 50.7	
	comp=Z,19nm,1.3s						
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**13 33 31.8**	**-0.9**
PSZ				IAmb	IAmb	13 33 39.3	
	comp=Z,16nm,1.3s						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**13 33 35.2**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=345,slow=8.9,SNR=12						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**13 33 31.8**	**-2.4**
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P	**P**	**13 33 34.1**	**0.0**
OSSC	**Osservatorio P**	**26.65**	**129**	P	**P**	**13 33 38.7**	**+1.2**
OSSC				IAmb	IAmb	13 33 45.4	
	comp=Z,10nm,0.8s						
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**13 33 48.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=318,slow=9.5,SNR=4.6						
AKASG	**Malin Array Be**	**27.84**	**98**	IAmb	IAmb	13 33 50.8	
	comp=Z,1.1nm,1.0s						
AGG	**Agios Georgios**	**34.57**	**118**	P	**P**	**13 34 47.7**	**+0.2**
AGG				IAmb	IAmb	13 34 52.0	
	comp=Z,15nm,1.1s						
MDUB	**Mudurnu**	**36.84**	**107**	P	**P**	**13 35 06.2**	**-0.9**
TIXI	**Tiksi**	**42.01**	**15**	P	**P**	**13 35 51.0**	**+1.4**
TOLK	**Toolik Lake Re**	**42.73**	**336**	P	**P**	**13 35 57.5**	**+1.9**
BRVK	**Borovoye**	**43.11**	**62**	P	**P**	**13 35 58.0**	**-0.8**
P53A	**Whipple**	**44.10**	**267**	P	**P**	**13 36 07.2**	**+0.3**
N49A	**Columbus Grove**	**44.11**	**271**	P	**P**	**13 36 07.1**	**+0.1**
MDND	**Maddock**	**45.01**	**289**	P	**P**	**13 36 15.2**	**+1.1**
IL31		**45.67**	**332**	P	**P**	**13 36 20.6**	**+1.6**
IL31				IAmb	IAmb	13 36 24.2	
	comp=Z,12nm,1.5s						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**13 36 21.2**	**+2.1**
	comp=Z,3.6nm,1.1s,baz=21,slow=6.1,SNR=8.1						
ILAR				PcP	**PcP**	**13 37 57.9**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=3.3,slow=2.3,SNR=5.5						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**13 36 20.4**	**+1.3**
BPAW	**Bear Paw Mtn.**	**47.06**	**334**	P	**P**	**13 36 30.6**	**+0.5**
BPAW				IAmb	IAmb	13 36 33.2	
	comp=Z,8.8nm,1.0s						
ZAA0	**Zalesovo Array**	**47.61**	**51**	P	**P**	**13 36 33.6**	**-0.8**
ZAA0				IAmb	IAmb	13 36 37.4	
	comp=Z,5.7nm,1.4s						
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**13 36 34.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=323,slow=6.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**13 36 33.5**	**-0.9**
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**13 36 38.9**	**+0.7**
KURK				IAmb	IAmb	13 36 40.1	
	comp=Z,8.2nm,1.1s						
KURBB	**Kurchatov Arra**	**48.13**	**58**	P	**P**	**13 36 39.0**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=325,slow=7.2,SNR=18						
T47A	**Sharon Grove**	**48.65**	**270**	P	**P**	**13 36 41.7**	**-1.0**
EGMT	**Eagleton**	**48.87**	**297**	P	**P**	**13 36 45.8**	**+1.4**
W50A	**Signal Mountai**	**49.39**	**268**	P	**P**	**13 36 49.5**	**+1.1**
YNE	**Yellowstone No**	**51.47**	**295**	P	**P**	**13 37 05.6**	**+1.2**
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**13 37 06.5**	**+1.3**
BOZ				IAmb	IAmb	13 37 07.6	
	comp=Z,9.2nm,1.3s						
LRM	**Limekiln Ridge**	**51.73**	**297**	P	**P**	**13 37 08.2**	**+1.9**
YMP	**Mirror Lake Pl**	**51.75**	**295**	P	**P**	**13 37 08.8**	**+2.4**
K22A	**Casper**	**52.06**	**291**	P	**P**	**13 37 09.2**	**+0.5**
K22A				IAmb	IAmb	13 37 10.3	
	comp=Z,7.2nm,1.0s						
B08A	**Colville Reser**	**52.13**	**304**	P	**P**	**13 37 09.7**	**+0.8**
YHB	**Horse Butte**	**52.15**	**296**	P	**P**	**13 37 09.9**	**+0.6**
MK31	**Makanchi Array**	**52.70**	**58**	P	**P**	**13 37 13.4**	**+0.2**
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**13 37 13.8**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=342,slow=7.6,SNR=8.5						
MCMT	**McKenzie Canyo**	**52.72**	**297**	P	**P**	**13 37 13.8**	**+0.2**
T35A	**Sooner Cattle**	**52.73**	**279**	P	**P**	**13 37 13.5**	**0.0**
TOA0	**Torodi Ar. Sit**	**53.16**	**156**	P	**P**	**13 37 16.4**	**-0.4**
TOA0				IAmb	IAmb	13 37 32.8	
	comp=Z,11nm,1.4s						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**13 37 16.6**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=338,slow=6.5,SNR=7.9						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**13 37 15.7**	**-1.1**
BW06	**Boulder Array**	**53.18**	**293**	P	**P**	**13 37 17.3**	**+0.3**
BW06				IAmb	IAmb	13 37 19.3	
	comp=Z,6.8nm,1.1s						
PD31	**Pinedale Array**	**53.18**	**293**	P	**P**	**13 37 17.3**	**+0.3**
PD31				IAmb	IAmb	13 37 19.3	
	comp=Z,6.8nm,1.1s						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**13 37 17.2**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=62,slow=6.9,SNR=17						
N23A	**Red Feather La**	**53.31**	**289**	P	**P**	**13 37 19.4**	**+1.4**
N23A				IAmb	IAmb	13 37 22.5	
	comp=Z,10nm,1.2s						
PLID	**Pearl Lake**	**53.69**	**300**	P	**P**	**13 37 21.7**	**+1.0**
BTK	**Batken**	**53.94**	**72**	P	**P**	**13 37 23.6**	**+1.1**
GAR	**Garm**	**54.63**	**73**	P	**P**	**13 37 28.1**	**+0.6**
HWUT	**Hardware Ranch**	**54.95**	**294**	P	**P**	**13 37 30.2**	**+0.3**
HWUT				IAmb	IAmb	13 37 32.9	
	comp=Z,6.1nm,1.1s						
TCUT	**Toone Canyon**	**55.30**	**294**	P	**P**	**13 37 32.9**	**+0.3**
BGU	**Big Grassy Mou**	**56.10**	**295**	P	**P**	**13 37 37.4**	**-0.8**
S22A	**4UR Ranch, Cre**	**56.34**	**288**	P	**P**	**13 37 40.9**	**+0.8**
PV22	**Blue Mesa, Par**	**56.46**	**290**	P	**P**	**13 37 41.2**	**+0.4**
**PV21

ISC 20 13:28:19.0±1.0, 29°.96N±0°.05×129°.68E±0°.08, h143km±7km, n28, σ1°916/44, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.21**	**124**	P	**Pn**	**13 28 38.7**	**+0.3**
JNN				*e*S	**Sn**	**13 28 53.1**	**-0.1**
JKC	**Kuchinoerabu**	**0.67**	**42**	P	**Pn**	**13 28 40.6**	**+0.1**
JKC				*e*S	**Sn**	**13 28 56.4**	**-0.6**
JYAK	**Yakushimahirau**	**0.77**	**69**	P	**Pn**	**13 28 40.6**	**-0.6**
JYAK				S	**Sn**	**13 28 56.8**	**-1.3**
JTAJ	**Takarajima**	**0.90**	**207**	P	**Pn**	**13 28 43.1**	**+0.8**
JTAJ				*e*S	**Sn**	**13 29 01.1**	**+1.1**
JMTN	**Minamitane**	**1.15**	**67**	P	**Pn**	**13 28 43.8**	**-0.6**
JMTN				*e*S	**Sn**	**13 29 02.7**	**-1.1**
JTN	**Tanegashima 3**	**1.32**	**58**	P	**Pn**	**13 28 45.6**	**-0.5**
JTN				*e*S	**Sn**	**13 29 05.8**	**-1.1**
JAM	**Amami Oshima**	**1.54**	**182**	P	**Pn**	**13 28 49.1**	**+0.6**
JAM				S	**Sn**	**13 29 11.4**	**+0.4**
JTSR	**Tashiro 2**	**1.61**	**41**	P	**Pn**	**13 28 49.0**	**-0.2**
JTSR				S	**Sn**	**13 29 11.3**	**-1.2**
JZK	**Kikaishima**	**1.66**	**171**	P	**Pn**	**13 28 51.4**	**+1.6**
JZK				*e*S	**Sn**	**13 29 14.9**	**+1.6**
JSU	**Suzuyama**	**1.68**	**23**	P	**Pn**	**13 28 50.3**	**+0.3**
JSJ	**Shimokoshiki**	**1.71**	**1**	P	**Pn**	**13 28 50.4**	**0.0**
JSJ				S	**Sn**	**13 29 14.2**	**-0.3**
JAMN	**Amaminishikomi**	**1.77**	**195**	P	**Pn**	**13 28 51.4**	**+0.4**
JAMN				S	**Sn**	**13 29 14.5**	**-0.9**
JNAR	**Kushima--Naru**	**2.08**	**41**	P	**Pn**	**13 28 54.5**	**-0.1**
JNAR				*e*S	**Sn**	**13 29 20.9**	**-1.1**
JTK	**Tokunoshima**	**2.26**	**197**	P	**Pn**	**13 28 57.2**	**+0.4**
JTK				*e*S	**Sn**	**13 29 26.0**	**+0.2**
JTZ	**Takazaki**	**2.28**	**32**	P	**Pn**	**13 28 57.4**	**+0.3**
JTZ				S	**Sn**	**13 29 26.0**	**-0.4**
JZO	**Okuchi**	**2.31**	**20**	P	**Pn**	**13 28 58.2**	**+0.7**
JOKE	**Okinoerabujima**	**2.76**	**201**	P	**Pn**	**13 29 03.4**	**+0.3**
JYRO	**Yoronjima**	**3.12**	**201**	P	**Pn**	**13 29 07.3**	**-0.3**
JYRO				S	**Sn**	**13 29 42.6**	**-2.5**
JIH	**Iheya**	**3.28**	**208**	P	**Pn**	**13 29 09.4**	**-0.3**
JNU	**Nakatsue**	**3.32**	**18**	P	**Pn**	**13 29 11.0**	**+0.9**
	14nm,0.3s,baz=196,slow=15,SNR=148						
JNU				S	**Sn**	**13 29 49.6**	**-0.2**
	9.9nm,0.3s,baz=0.1,slow=21,SNR=8.8						
JNTH	**Nagotoyohara**	**3.73**	**203**	P	**Pn**	**13 29 14.9**	**-0.6**
JAGN	**Aguni-jima**	**3.98**	**213**	P	**Pn**	**13 29 18.2**	**-0.7**
JKE	**Kume jima 2**	**4.43**	**216**	P	**Pn**	**13 29 23.7**	**-1.0**
JHJ	**Hachijo jima 2**	**9.18**	**67**	P	**Pn**	**13 30 31.8**	**+3.7**
	14nm,0.3s,baz=311,slow=17,SNR=11						
MJAR	**Matsushiro Arr**	**9.70**	**45**	P	**Pn**	**13 30 36.8**	**+1.8**
	0.2nm,0.3s,baz=242,slow=15,SNR=7.0						
MJAR				S	**Sn**	**13 32 19.4**	**-3.0**
	0.1nm,0.3s,baz=333,slow=8.2,SNR=4.3						
MKAR	**Makanchi Array**	**40.12**	**308**	P	P	13 35 27.6	-13
	0.9nm,0.7s,baz=106,slow=7.2,SNR=2.0						
WRA	**Warramunga Arr**	**49.81**	**174**	P	**P**	**13 36 57.1**	**-0.2**
	0.4nm,0.7s,baz=355,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**53.47**	**175**	P	**P**	**13 37 25.6**	**+1.1**
	0.4nm,1.0s,baz=5.5,slow=15,SNR=5.3						

*REY **20** 13:31:06.7, 64°.66N×17°.38W, h0km*
*IDC **20** 13:31:08.5±0.6, 64°.65N×17°.42W, h0km, mb3.9/16, mb1 4.1/20, mb1mx3.9/47, mbtmp3.9/20, ML2.8/3, MS3.6/11, Ms1 3.6/11, ms1mx3.3/47, Error ellipse: s-maj=17.9km s-min=9.8km az=8.0*
*NEIC **20** 13:31:10.1±1.7, 64°.6N±0°.1×17°.2W±0°.2, h8km±4km, mb4.6/49, Error ellipse: s-maj=15.9km s-min=9.2km az=195.0*
*BGR **20** 13:31:12.4±0.0, 64°.18N×18°.32W, h33km, mb4.7, Ms3.4*
ISC 20 13:31:09.8±0.4, 64°.66N±0°.02×17°.33W±0°.03, h10km, n133, σ1°95/127, mb4.5/39, MS3.6/6, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.14**	**353**	P	**Pg**	**13 31 10.2**	**-2.8**
	baz=1.8						
IDYN				S	**Sg**	**13 31 12.8**	**-2.5**
	baz=1.8						
IURH	**Urdarhals**	**0.18**	**25**	P	**Pg**	**13 31 11.1**	**-2.6**
	baz=31						
IURH				S	**Sg**	**13 31 15.0**	**-1.5**
	baz=31						
IVON	**Vonarskard**	**0.18**	**276**	P	**Pg**	**13 31 10.5**	**-3.3**
	baz=275						
IKVE	**Kverkfjoll**	**0.28**	**85**	P	**Pg**	**13 31 13.4**	**-2.2**
	baz=86						
IVOT	**Vottur**	**0.39**	**171**	P	**Pg**	**13 31 14.8**	**-2.7**
	baz=168						
IKRE	**Kreppuhraun**	**0.43**	**72**	P	**Pg**	**13 31 15.4**	**-2.7**
	baz=73						
IKRE				S	**Sg**	**13 31 22.1**	**-1.6**
	baz=73						
ISKR	**Skrokkalda**	**0.47**	**259**	P	**Pg**	**13 31 15.5**	**-3.4**
	baz=258						
IASK	**Askja**	**0.49**	**36**	P	**Pg**	**13 31 16.6**	**-2.8**
	baz=38						
IJOK	**Jokulheimar**	**0.52**	**229**	P	**Pg**	**13 31 16.9**	**-2.9**
	baz=227						
IMKO	**Mokollar**	**0.53**	**52**	P	**Pg**	**13 31 17.2**	**-2.9**
	baz=54						
IKSK	**Karasker**	**0.62**	**143**	P	**Pg**	**13 31 18.6**	**-3.2**
	baz=142						
IIEY	**Innrieyrar**	**0.66**	**212**	P	**Pg**	**13 31 19.1**	**-3.5**
	baz=210						
IIEY				S	**Sg**	**13 31 28.6**	**-2.6**
	baz=210						
IVSH	**V-Sauoahnukur**	**0.70**	**77**	P	**Pg**	**13 31 20.1**	**-3.3**
	baz=77						
IVSH				S	**Sg**	**13 31 30.7**	**-1.9**
	baz=77						
IKAL	**Kalfafell**	**0.73**	**193**	P	**Pg**	**13 31 20.4**	**-3.5**
	baz=191						
IADA	**Aoalbol**	**0.83**	**63**	P	**Pg**	**13 31 22.1**	**-3.7**
	baz=64						
IADA				S	**Sg**	**13 31 34.2**	**-2.5**
	baz=64						
IVAT	**Vatnsfell**	**0.83**	**236**	P	**Pg**	**13 31 22.3**	**-3.5**
	baz=235						
IMEL	**Melhnausar**	**0.96**	**17**	P	**Pg**	**13 31 24.1**	**-4.1**
	baz=18						
IREN	**Reynihlio**	**1.01**	**10**	P	**Pg**	**13 31 24.6**	**-4.6**
	baz=11						
IGRS	**Grimsstaoir**	**1.11**	**27**	P	**Pb**	**13 31 26.9**	**-4.1**
	baz=28						
ISLY	**Slysaalda**	**1.14**	**224**	P	**Pb**	**13 31 27.6**	**-4.0**
	baz=223						
IRJU	**Rjupnafell**	**1.20**	**210**	P	**Pb**	**13 31 28.5**	**-4.0**
	baz=209						
IFED	**Fedgar**	**1.21**	**239**	P	**Pn**	**13 31 28.5**	**-4.2**
	baz=239						
ISKI	**Skildingahlsh**	**1.23**	**6**	P	**Pn**	**13 31 28.2**	**-4.8**
	baz=6.7						
BORG	**Borgarnes**	**1.72**	**275**	Pg	**Pn**	**13 31 37.1**	**-2.6**
	26nm,0.3s,baz=112,slow=8.2,SNR=13						
BORG				Lg	Lg	13 32 02.7	
	26nm,0.3s,baz=28,slow=19,SNR=7.0						
BORG				LR	LR	13 32 11.2	
	comp=Z,651nm,20.6s,baz=121,slow=37						
BORG	**Borgarnes**	**1.72**	**275**	Pn	**Pn**	**13 31 36.9**	**-2.9**
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR	13 35 17.0	
	comp=Z,421nm,19.2s,baz=243,slow=35						
ANGG	**Ammassalik, Gr**	**8.60**	**286**	Pn	**Pn**	**13 33 14.3**	**+0.2**
SUMG	**Summit**	**10.99**	**325**	Pn	**Pn**	**13 33 45.1**	**-2.1**
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**	**13 33 55.3**	**-1.3**
	baz=316,slow=13,SNR=4.9						
ESK	**Eskdalemuir**	**11.70**	**137**	Pn	**Pn**	**13 33 56.2**	**-0.4**
NRS	**Narsarsuaq**	**13.21**	**268**	Pn	**Pn**	**13 34 18.2**	**+1.1**
NBO00	**NORSAR Array S**	**13.28**	**93**	Pn	**Pn**	**13 34 16.2**	**-1.9**
NOA	**NORSAR Array B**	**13.46**	**92**	Pn	**Pn**	**13 34 17.9**	**-2.7**
	0.0nm,0.3s,baz=299,slow=13,SNR=3.2						
NOA				LR	LR	13 39 46.1	
	comp=Z,129nm,21.9s,baz=295,slow=38						
SFJD	**Kangerlussuaq**	**13.74**	**295**	LR	LR	13 39 25.3	
	comp=Z,638nm,19.0s,baz=84,slow=36						
HFS	**Hagfors**	**14.97**	**93**	LR	LR	13 40 06.4	
	comp=Z,252nm,21.4s,baz=302,slow=36						
SPITS	**Spitsbergen Ar**	**16.85**	**23**	LR	LR	13 40 02.5	
	comp=Z,105nm,21.5s,baz=25,slow=32						
NOR	**Nord**	**17.04**	**0**	*i* P	**P**	**13 35 09.6**	**+0.1**
	237nm,2.2s						
NOR	**Nord**	**17.04**	**0**	*i* P	**P**	**13 35 09.7**	**+0.1**
NOR				IAmb	IAmb	13 35 12.3	
	comp=Z,238nm,2.2s						
ARCES	**ARCESS Array B**	**17.07**	**55**	P	**P**	**13 35 07.9**	**-1.9**
	baz=260,slow=11,SNR=1.2						
ARCES				LR	LR	13 40 31.0	
	comp=Z,292nm,21.6s,baz=275,slow=33						
KEV	**Kevo**	**17.57**	**54**		**P**	**13 35 16.0**	**+0.6**
KEV				IAmb	IAmb	13 35 21.0	
	comp=Z,73nm,1.5s						
FINES	**FINESS Array B**	**19.64**	**79**	P	**Pn**	**13 35 38.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=316,slow=7.8,SNR=3.6						
FINES				LR	LR	13 43 54.5	
	comp=Z,121nm,19.0s,baz=258,slow=39						
CLL	**Collm**	**20.63**	**116**	*i* P	Pn	13 35 49.4	-1.9
	comp=Z,73nm,1.9s						
CLL				*e*(PP)		13 36 04.0	
CLL				*e*		13 36 11.0	
GRF	**Grafenberg Arr**	**21.26**	**121**	*e*P	**P**	**13 35 56.9**	**+1.0**
	comp=Z,78nm,1.9s,baz=323,slow=11						
GRF				*e*L	L	13 44 37.3	
	comp=Z,165nm,19.7s						
BRG	**Berggiesshubel**	**21.34**	**115**	*e*P	**P**	**13 35 57.0**	**+0.3**
	comp=Z,134nm,2.2s						
BRG				S	Sn	13 40 06.0	+5.2
FRB	**Frobisher Bay**	**21.82**	**291**	LR	LR	13 44 06.0	
	comp=Z,247nm,18.8s,baz=46,slow=36						
PRU	**Pruhonice**	**22.28**	**116**	AMS	AMS	13 46 40.0	
	comp=Z,200nm,12.7s						
KHC	**Kasperske Hory**	**22.61**	**119**	*e*P	**P**	**13 36 12.6**	**+2.3**
DPC	**Dobruska-Polom**	**22.69**	**113**	*e*P	**P**	**13 36 11.8**	**+0.6**
SUW	**Suwalki**	**22.81**	**99**	P	**P**	**13 36 12.8**	**+0.5**
GEC2	**GERESS Array S**	**22.89**	**119**	P	**P**	**13 36 14.7**	**+1.3**
GEC2				IAmb	IAmb	13 36 18.1	
	comp=Z,18nm,1.4s						
GERES	**GERESS Array B**	**22.89**	**119**	P	**P**	**13 36 14.8**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=331,slow=7.6,SNR=4.4						
GERES	**GERESS Array B**	**22.89**	**119**	P	**P**	**13 36 13.9**	**+0.6**
DAVOX	**Davos/Dischmat**	**23.25**	**127**	LR	LR	13 44 31.0	
	comp=Z,90nm,20.6s,baz=352,slow=34						
VRAC	**Vranov**	**23.62**	**114**	*e*P	**P**	**13 36 21.1**	**+0.4**
MORC	**Moravsky Berou**	**23.62**	**112**	*e*P	**P**	**13 36 21.1**	**+0.4**
MORC	**Moravsky Berou**	**23.62**	**112**	P	**P**	**13 36 20.4**	**-0.3**
EUNU	**Eureka**	**23.71**	**336**	P	**P**	**13 36 22.4**	**+1.1**
KRUC	**Moravsky**	**23.74**	**115**	*e*P	**P**	**13 36 22.3**	**+0.5**
JAVC	**Velka Javorina**	**24.41**	**114**	*e*P	**P**	**13 36 29.5**	**+1.4**
KWP	**Kalwaria Pacla**	**25.84**	**106**	P	**P**	**13 36 39.2**	**-1.7**
PSZ	**Piszkesteto**	**26.05**	**112**	P	**P**	**13 36 44.7**	**+1.8**
PSZ				IAmb	IAmb	13 36 49.9	
	comp=Z,19nm,1.5s						
SCHQ	**Schefferville**	**26.11**	**272**	P	**P**	**13 36 44.5**	**+1.0**
SCHQ				IAmb	IAmb	13 36 53.6	
	comp=Z,8.4nm,0.8s						
ESDC	**Sonseca Array**	**26.21**	**156**	P	**P**	**13 36 44.8**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=351,slow=8.3,SNR=7.0						
ESDC	**Sonseca Array**	**26.21**	**156**	P	**P**	**13 36 44.3**	**-0.3**
AKASG	**Malin Array Be**	**27.77**	**98**	P	**P**	**13 36 59.1**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=326,slow=9.3,SNR=7.1						
BURAR	**Bucovina Array**	**28.45**	**106**	P	**P**	**13 37 06.5**	**+1.9**
INTR	**Introdacqua**	**28.82**	**127**	P	**P**	**13 37 08.1**	**+0.3**
INTR				IAmb	IAmb	13 37 33.5	
	comp=Z,16nm,1.4s						
KEST	**Kesra**	**33.10**	**138**	P	**P**	**13 37 46.4**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=259,slow=7.6,SNR=3.6						
KEST	**Kesra**	**33.10**	**138**	IAmb	IAmb	13 37 49.7	
	comp=Z,12nm,1.4s						
NRIK	**Noril'sk**	**36.42**	**35**	P	**P**	**13 38 14.4**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=317,slow=9.0,SNR=7.2						
ANTO	**Ankara**	**37.94**	**106**	P	**P**	**13 38 26.4**	**-0.7**
BRTR	**Keskin Array B**	**38.41**	**105**	P	**P**	**13 38 32.4**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=319,slow=6.3,SNR=2.9						
BRTR	**Keskin Array B**	**38.41**	**105**	P	**P**	**13 38 31.8**	**+0.6**
KBZ	**Khabaz**	**39.04**	**93**	P	**P**	**13 38 37.7**	**+1.5**
	comp=Z,3.3nm,0.7s,baz=289,slow=10,SNR=4.9						
E46A	**Sault Ste Mari**	**39.85**	**276**	P	**P**	**13 38 45.0**	**+2.0**
E46A				IAmb	IAmb	13 38 45.6	
	comp=Z,15nm,1.1s						
TIXI	**Tiksi**	**42.02**	**15**	P	**P**	**13 39 01.8**	**+1.2**
TOLK	**Toolik Lake Re**	**42.79**	**336**	P	**P**	**13 39 08.5**	**+1.6**
BRVK	**Borovoye**	**43.07**	**62**	P	**P**	**13 39 09.9**	**+0.5**
ILAR	**Eielson Array**	**45.73**	**333**	P	**P**	**13 39 31.2**	**+0.8**
	comp=Z,1.7nm,1.1s,baz=29,slow=4.3,SNR=6.8						
ILAR	**Eielson Array**	**45.73**	**333**	P	**P**	**13 39 32.6**	**+2.2**
MDM	**Murphy Dome**	**45.83**	**333**	P	**P**	**13 39 33.5**	**+2.2**
MDM				IAmb	IAmb	13 39 36.7	
	comp=Z,9.7nm,1.4s						
DOT	**Dot Lake**	**46.14**	**330**	P	**P**	**13 39 35.1**	**+1.3**
DOT				IAmb	IAmb	13 39 47.4	
	comp=Z,8.2nm,1.4s						
ZALV	**Zalesovo Beam**	**47.58**	**52**	P	**P**	**13 39 45.6**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=329,slow=7.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**47.58**	**52**	P	**P**	**13 39 46.2**	**+1.1**
KURK	**Kurchatov**	**48.06**	**58**	P	**P**	**13 39 48.8**	**0.0**
KURBB	**Kurchatov Arra**	**48.10**	**58**	P	**P**	**13 39 49.3**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=324,slow=7.4,SNR=19						
EGMT	**Eagleton**	**48.95**	**297**	P	**P**	**13 39 57.6**	**+1.8**
GEYT	**Alibeck**	**50.35**	**84**	LR	LR	14 02 31.0	
	comp=Z,58nm,21.2s,baz=350,slow=37						
GEYT	**Alibeck**	**50.35**	**84**	P	**P**	**13 40 07.7**	**+1.1**
KOWA	**Kowa**	**50.93**	**163**	LR	LR	14 02 19.0	
	comp=Z,53nm,18.4s,baz=140,slow=37						
RLMT	**Red Lodge**	**51.16**	**295**	P	**P**	**13 40 14.7**	**+1.9**
RLMT				IAmb	IAmb	13 40 16.8	
	comp=Z,13nm,1.4s						
MSO	**Missoula**	**51.52**	**299**	P	**P**	**13 40 16.6**	**+1.2**
MSO				IAmb	IAmb	13 40 17.2	
	comp=Z,8.8nm,1.4s						
YNE	**Yellowstone No**	**51.54**	**295**	P	**P**	**13 40 16.8**	**+1.1**
BOZ	**Bozeman (W)**	**51.68**	**297**	P	**P**	**13 40 18.2**	**+1.6**
BOZ				IAmb	IAmb	13 40 21.1	
	comp=Z,6.1nm,1.1s						
LRM	**Limekiln Ridge**	**51.80**	**298**	P	**P**	**13 40 19.4**	**+1.7**
MK31	**Makanchi Array**	**52.67**	**58**	P	**P**	**13 40 23.6**	**-0.2**
MKAR	**Makanchi Array**	**52.67**	**58**	P	**P**	**13 40 24.0**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=336,slow=5.6,SNR=8.4						
MKAR	**Makanchi Array**	**52.67**	**58**	P	**P**	**13 40 23.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**53.10**	**157**	P	**P**	**13 40 26.8**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=346,slow=8.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**53.10**	**157**	P	**P**	**13 40 26.4**	**-0.8**
BW06	**Boulder Array**	**53.25**	**293**	P	**P**	**13 40 28.4**	**+0.1**
BW06				IAmb	IAmb	13 40 31.8	
	comp=Z,5.6nm,1.1s						
PD31	**Pinedale Array**	**53.25**	**293**	P	**P**	**13 40 27.8**	**-0.6**
PDAR	**Pinedale Array**	**53.25**	**293**	P	**P**	**13 40 28.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=57,slow=6.6,SNR=8.0						
PDAR	**Pinedale Array**	**53.25**	**293**	P	**P**	**13 40 27.8**	**-0.6**
N23A	**Red Feather La**	**53.38**	**289**	P	**P**	**13 40 30.7**	**+1.3**
BTK	**Batken**	**53.89**	**72**	P	**P**	**13 40 32.3**	**-0.7**
GAR	**Garm**	**54.58**	**73**	P	**P**	**13 40 38.9**	**+0.9**
KDJ	**Kajisay**	**54.68**	**65**	P	**P**	**13 40 39.6**	**+0.8**
KDJ				IAmb	IAmb	13 40 41.7	
	comp=Z,5.4nm,1.1s						
HWUT	**Hardware Ranch**	**55.02**	**294**	P	**P**	**13 40 43.1**	**+1.8**
HWUT				IAmb	IAmb	13 40 44.7	
	comp=Z,12nm,1.4s						
TCUT	**Toone Canyon**	**55.38**	**294**	P	**P**	**13 40 45.6**	**+1.7**
S22A	**4UR Ranch, Cre**	**56.41**	**288**	P	**P**	**13 40 52.5**	**+1.0**
KSH	**Kashi**	**56.44**	**68**	*i* P	P	13 40 55.5	+4.1
KSH				pmax	pmax		
	comp=Z,30nm,1.3s						
PV03	**Paradox Valley**	**56.80**	**290**	P	**P**	**13 40 55.0**	**+0.9**
PV13	**Radium Mtn., P**	**56.87**	**290**	P	**P**	**13 40 54.7**	**+0.1**
PV13				IAmb	IAmb	13 40 58.6	
	comp=Z,8.7nm,0.9s						
WMQ	**Urumqi**	**57.18**	**56**	*e*P	**P**	**13 40 59.4**	**+2.9**
WMQ				pP	sP	13 41 04.5	+3.0
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,47nm,4.1s						
MSU	**Marysvale**	**57.91**	**293**	P	**P**	**13 41 03.5**	**+1.6**
MVU	**Marysvale**	**57.94**	**293**	P	**P**	**13 41 01.2**	**-0.9**
R11A	**Troy Canyon, C**	**59.40**	**295**	P	**P**	**13 41 14.2**	**+2.0**
R11A				IAmb	IAmb	13 41 16.2	
	comp=Z,9.3nm,1.5s						
BNM	**Barren Site**	**59.42**	**286**	P	**P**	**13 41 14.3**	**+1.8**
KNB	**Kanab**	**59.46**	**292**	P	**P**	**13 41 14.1**	**+1.4**
SONM	**Songino Array**	**59.60**	**41**	P	**P**	**13 41 13.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=337,slow=3.9,SNR=5.6						
SONM	**Songino Array**	**59.60**	**41**	P	**P**	**13 41 13.4**	**-0.1**
LCMT	**Little Creek M**	**59.63**	**293**	P	**P**	**13 41 15.7**	**+1.8**
WUAZ	**Wupatki**	**60.18**	**290**	P	**P**	**13 41 18.7**	**+1.1**
SHPR	**Sheep Range**	**60.83**	**294**	P	**P**	**13 41 22.7**	**+0.7**
SHPR				IAmb	IAmb	13 41 29.2	
	comp=Z,5.3nm,1.5s						
TXAR	**Lajitas Array**	**62.36**	**280**	P	**P**	**13 41 33.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=101,slow=4.7,SNR=2.7						
TUC	**Tucson**	**62.73**	**288**	P	**P**	**13 41 36.6**	**+1.8**
TUC				IAmb	IAmb	13 41 42.9	
	comp=Z,5.6nm,1.5s						
GTA	**Gaotai**	**65.25**	**49**	*e*P	**P**	**13 41 51.9**	**+0.6**
GTA				pP	sP	13 41 57.5	+1.1
GTA				sP	pP	13 42 00.6	+5.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,83nm,5.6s						
GTA				LR	LR		
	comp=N,93nm,17.8s						
GTA				LR	LR		
	comp=E,120nm,18.9s						
GTA				LR	LR		
	comp=Z,130nm,20.0s						
HHC	**Hu-ho-hao-te**	**67.47**	**40**	*e*P	**P**	**13 42 08.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,81nm,6.6s						
NJ2	**Nanjing**	**77.70**	**37**	*e*P	**P**	**13 43 07.4**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CMAR	**Chiang Mai Arr**	**84.08**	**59**	P	**P**	**13 43 40.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=320,slow=6.4,SNR=7.3						
CMAR	**Chiang Mai Arr**	**84.08**	**59**	P	**P**	**13 43 40.9**	**+0.3**
ASAR	**Alice Springs**	**134.93**	**39**	PKP	**PKiKP**	**13 50 29.1**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=354,slow=1.9,SNR=4.2						

NNC 20 13:33:29.4±4.6, 36°.60N×70°.41E, h107km±87km, mb3.3, mpv3.7, 4C-3D, Error ellipse: s-maj=36.8km s-min=30.7km az=45.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.49**	**1**	⇑S	Sn	13 36 16.9	+1.9
	3.3nm,0.5s,baz=186,slow=25,SNR=5.8						
AAK	**Ala-Archa**	**6.80**	**26**	⇑P	Pn	13 35 06.1	-0.6
	3.5nm,0.5s						
AAK				⇓S	Sn	13 36 22.5	-0.1
	7.2nm,0.7s						
AB31	**Akbulak array**	**14.77**	**332**	⇓P	Pn	13 36 52.8	+0.1
	1.3nm,0.3s,baz=145,slow=13,SNR=45						
AB31				⇑S	Sn	13 39 33.5	-2.0
	0.6nm,0.7s,baz=310,slow=8.8,SNR=7.6						
WMQ	**Urumqi**	**15.03**	**56**	*e*P	Pn	13 36 52.5	-3.7
AKTO	**Aktyubinsk**	**16.46**	**331**	⇓P	P	13 37 15.6	+1.0
	1.7nm,0.8s						
AKTO				⇑S	Sn	13 40 14.8	-1.5
	1.9nm,1.0s						

*IDC **20** 13:33:41.8±1.1, 8°.68N×39°.32W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/34, mbtmp3.8/7, Error ellipse: s-maj=38.1km s-min=22.6km az=169.0*
*NEIC **20** 13:33:43.1±1.4, 8°.6N±0°.3×39°.34W±0°.08, h10km±1km, mb4.6/8, Error ellipse: s-maj=49.2km s-min=12.6km az=182.0*
ISC 20 13:33:44.0±0.8, 8°.6N±0°.2×39°.3W±0°.1, h15km, n17, σ0°73/13, mb4.1/9, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGA	**Pitinga**	**22.57**	**247**	P	**P**	**13 38 44.0**	**0.0**
	1.5nm,0.7s,baz=68,slow=12,SNR=4.1						
PTGA	**Pitinga**	**22.57**	**247**	IAmb	IAmb	13 38 56.3	
	comp=Z,15nm,1.2s						
SAML	**Samuel**	**29.48**	**234**	P	**P**	**13 39 46.9**	**-0.9**
DBIC	**Dimbokro**	**34.21**	**91**	P	**P**	**13 40 28.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=270,slow=14,SNR=1.7						
DBIC	**Dimbokro**	**34.21**	**91**	IAmb	IAmb	13 40 57.6	
	comp=Z,13nm,1.2s						
LPAZ	**La Paz**	**37.75**	**229**	P	**P**	**13 41 01.1**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=27,slow=11,SNR=5.3						
LPAZ	**La Paz**	**37.75**	**229**	P	**P**	**13 41 00.6**	**+0.2**
LPAZ	**La Paz**	**37.75**	**229**	IAmb	IAmb	13 41 26.0	
	comp=Z,6.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**40.50**	**80**	P	**P**	**13 41 22.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=283,slow=8.6,SNR=2.4						
ULM	**Lac du Bonnet**	**62.36**	**323**	P	**P**	**13 44 05.3**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=68,slow=5.4,SNR=3.1						
ULM	**Lac du Bonnet**	**62.36**	**323**	IAmb	IAmb

SJG	San Juan	27.74	293	LR	LR	14 10 21.1			
	comp=Z,1μm,20.3s,baz=92,slow=32								
IPMB	Ipameri, GO	27.80	198	*eP*	**P**	**14 01 11.8**	**-0.1**		
SAML	Samuel	29.45	234	P	**P**	**14 01 25.9**	**-0.8**		
SAML	Samuel	29.45	234	*eP*	**P**	**14 01 27.1**	**+0.4**		
H10N3	ASCENSION HYDR	29.62	123	T	T	14 32 48.8			
	baz=302,slow=75								
H10N2	ASCENSION HYDR	29.63	123	T	T	14 32 49.2			
	baz=302,slow=75								
H10N1	ASCENSION HYDR	29.64	123	T	T	14 32 50.3			
	baz=302,slow=75								
VILB	Vilhena	29.78	224	*eP*	**P**	**14 01 31.2**	**+1.6**		
PTLB	Pontes e Lacer	30.89	220	*eP*	**P**	**14 01 41.0**	**+1.6**		
PCMB	Pacaembu	32.19	201	*eP*	**P**	**14 01 52.3**	**+1.6**		
ETMB	Extrema	32.41	236	*eP*	**P**	**14 01 53.6**	**+0.9**		
SIV	San Ignacio	32.54	221	LR	LR	14 14 39.1			
	comp=Z,1μm,19.6s,baz=98,slow=36								
GRTK	Grand Turk	33.22	296	P	**P**	**14 01 59.0**	**-0.9**		
TRCB	Terra Rica	33.78	202	*eP*	**P**	**14 02 05.1**	**+0.4**		
TIC	Toumodi	34.05	91	*eP*	**P**	**14 02 09.9**	**+2.7**		
LIC	Lamto	34.08	92	*eP*	**P**	**14 02 06.4**	**-1.1**		
	comp=Z,34nm,0.9s								
DBIC	Dimbokro	34.21	91	P	**P**	**14 02 08.3**	**-0.2**		
	comp=Z,12nm,0.8s,baz=258,slow=9.8,SNR=12								
DBIC				LR	LR	14 13 30.8			
	comp=Z,999nm,19.7s,baz=258,slow=32								
DBIC	Dimbokro	34.21	91	P	**P**	**14 02 08.2**	**-0.3**		
KIC	Kosan Boka	34.35	91	*eP*	**P**	**14 02 09.8**	**0.0**		
	comp=Z,27nm,1.3s								
ROSC	El Rosal	34.94	266	LR	LR	14 16 28.9			
	comp=Z,1μm,21.1s,baz=84,slow=36								
KOWA	Kowa	35.06	77	P	**P**	**14 02 16.8**	**+0.8**		
	comp=Z,4.5nm,0.9s,baz=281,slow=4.1,SNR=4.0								
KOWA	Kowa	35.06	77	P	**P**	**14 02 16.2**	**+0.3**		
KOWA				IAmb	IAmb	14 02 24.0			
	comp=Z,12nm,1.2s								
LPAZ	La Paz	37.72	229	P	**P**	**14 02 39.4**	**+0.2**		
	comp=Z,7.2nm,0.8s,baz=43,slow=6.1,SNR=20								
LPAZ	La Paz	37.72	229	P	**P**	**14 02 39.5**	**+0.2**		
LPAZ	La Paz	37.72	229	*eP*	**P**	**14 02 39.6**	**+0.4**		
PB16	IPOC Station P	40.02	228	P	**P**	**14 02 57.1**	**-1.4**		
TOA0	Torodi Ar. Sit	40.51	80	P	**P**	**14 03 02.2**	**+0.2**		
TORD	Torodi Ar. Bea	40.51	80	P	**P**	**14 03 01.3**	**-0.6**		
	comp=Z,2.0nm,0.9s,baz=274,slow=8.1,SNR=7.9								
TORD				LR	LR	14 17 56.4			
	comp=Z,2μm,19.7s,baz=265,slow=34								
TORD	Torodi Ar. Bea	40.51	80	P	**P**	**14 03 01.0**	**-1.0**		
SFS	San Fernando	40.95	42	P	**P**	**14 03 04.4**	**-0.9**		
ATAH	Atahualpa	41.95	249	LR	LR	14 21 30.8			
	comp=Z,371nm,20.2s,baz=60,slow=37								
LVC	Limon Verde	42.42	223	LR	LR	14 21 19.8			
	comp=Z,372nm,19.9s,baz=36,slow=37								
ESDC	Sonseca Array	44.23	40	P	**P**	**14 03 32.8**	**+0.7**		
	comp=Z,1.2nm,1.0s,baz=233,slow=7.9,SNR=3.3								
ESDC				LR	LR	14 18 44.8			
	comp=Z,637nm,20.0s,baz=235,slow=32								
ESDC	Sonseca Array	44.23	40	IAmb	IAmb	14 03 39.7			
	comp=Z,12nm,1.5s								
GO02	Mina Guanaco	44.64	221	P	**P**	**14 03 35.3**	**-0.5**		
GO04	Tololo Observa	48.97	217	P	**P**	**14 04 08.8**	**-0.7**		
CO03	El Pedregal	49.39	216	P	**P**	**14 04 12.0**	**-0.5**		
CO03				IAmb	IAmb	14 04 15.0			
	comp=Z,14nm,1.1s								
SCHQ	Schefferville	51.09	340	LR	LR	14 22 16.1			
	comp=Z,226nm,20.9s,baz=103,slow=32								
KEST	Kesra	51.87	51	P	**P**	**14 04 31.9**	**+0.6**		
	comp=Z,2.6nm,0.8s,baz=246,slow=6.3,SNR=2.1								
KEST				LR	LR	14 26 22.2			
	comp=Z,557nm,19.1s,baz=213,slow=36								
KEST	Kesra	51.87	51	IAmb	IAmb	14 04 45.7			
	comp=Z,6.6nm,0.8s								
BO02	Sierra Bellavi	52.39	213	P	**P**	**14 04 35.5**	**+0.5**		
BO02				IAmb	IAmb	14 04 37.3			
	comp=Z,12nm,0.8s								
NRS	Narsarsuaq	52.69	356	P	**P**	**14 04 36.1**	**-0.6**		
NRS				IAmb	IAmb	14 04 40.2			
	comp=Z,17nm,1.3s								
BI02	San Fabin de	54.07	212	P	**P**	**14 04 47.4**	**0.0**		
BI02				IAmb	IAmb	14 04 50.1			
	comp=Z,11nm,0.8s								
DAVA	Damuels	56.75	38	*eP*	**P**	**14 05 09.0**	**+2.3**		
	comp=Z,2.5nm,0.4s								
PLCA	Paso Flores	56.87	208	P	**P**	**14 05 07.3**	**-0.2**		
	comp=Z,4.7nm,0.9s,baz=38,slow=8.5,SNR=6.7								
PLCA				LR	LR	14 30 30.3			
	comp=Z,641nm,19.3s,baz=10.0,slow=37								
PLCA	Paso Flores	56.87	208	P	**P**	**14 05 07.1**	**-0.4**		
PLCA				IAmb	IAmb	14 05 16.2			
	comp=Z,7.7nm,1.1s								
FETA	Feichten	57.16	39	*eP*	**P**	**14 05 10.2**	**+0.6**		
	comp=Z,7.6nm,1.3s								
RETA	Reutte	57.38	38	*eP*	**P**	**14 05 13.2**	**+2.1**		
	comp=Z,5.1nm,0.8s								
MOTA	Moosalm	57.53	38	*eP*	**P**	**14 05 14.1**	**+1.8**		
	comp=Z,5.7nm,1.1s								
WATA	Walderalm	57.81	39	*eP*	**P**	**14 05 15.7**	**+1.5**		
	comp=Z,5.1nm,0.6s								
WTTA	Wattenberg	57.82	39	*eP*	**P**	**14 05 14.9**	**+0.6**		
	comp=Z,7.4nm,0.9s								
ABTA	Abfaltersbach	58.16	40	*eP*	**P**	**14 05 16.1**	**-0.4**		
	comp=Z,7.0nm,1.0s								
PRED	Cave del Predi	58.70	40	P	**P**	**14 05 19.2**	**-1.2**		
PRED				IAmb	IAmb	14 05 29.0			
	comp=Z,14nm,1.5s								
KBA	Koelnbreinsper	58.81	39	*eP*	**P**	**14 05 23.2**	**+1.9**		
	comp=Z,13nm,1.4s								
MYKA	Terra Mystica	58.82	40	*eP*	**P**	**14 05 23.5**	**+2.3**		
	comp=Z,14nm,1.3s								
OBKA	Obir	59.36	40	*eP*	**P**	**14 05 27.4**	**+2.5**		
	comp=Z,14nm,1.1s								
MOA	Molln	59.69	39	*eP*	**P**	**14 05 28.8**	**+1.7**		
	comp=Z,9.5nm,1.3s								
SOKA	Soboth	59.73	40	*eP*	**P**	**14 05 28.9**	**+1.4**		
	comp=Z,4.6nm,1.0s								
KHC	Kasperske Hory	59.78	37	*eP*	P	14 05 19.0	-8.7		
KHC				*ex*	x	14 05 30.0			
ULM	Lac du Bonnet	62.40	323	P	**P**	**14 05 45.4**	**0.0**		
	comp=Z,2.2nm,0.6s,baz=101,slow=9.3,SNR=3.7								
ULM				LR	LR	14 28 44.6			
	comp=Z,167nm,21.8s,baz=120,slow=32								
TX31	Lajitas Ar. Si	63.51	298	P	**P**	**14 05 53.1**	**-0.3**		
TX32	Lajitas Array	63.51	298	P	**P**	**14 05 53.2**	**-0.2**		
TX32				IAmb	IAmb	14 06 00.4			
	comp=Z,6.1nm,1.4s								
TXAR	Lajitas Array	63.51	298	P	**P**	**14 05 53.5**	**+0.1**		
	comp=Z,0.9nm,0.7s,baz=111,slow=7.1,SNR=11								
TXAR				LR	LR	14 33 52.1			
	comp=Z,44nm,21.9s,baz=0.0,slow=36								
SUMG	Summit	63.96	0	P	**P**	**14 05 56.4**	**+0.5**		
SUMG	Summit	63.96	0	*i* P	**P**	**14 05 55.0**	**-0.9**		
SUMG	Summit	63.96	0	*i* P	**P**	**14 05 55.1**	**-0.9**		
NOA	NORSAR Array B	64.21	25	LR	LR	14 29 55.6			
	comp=Z,150nm,19.8s,baz=240,slow=32								
MNTX	Cornudas Mount	65.20	301	P	**P**	**14 06 04.1**	**-0.2**		
SDCO	Great Sand Dun	66.00	307	P	**P**	**14 06 10.3**	**+0.6**		
BURAR	Bucovina Array	66.64	42	P	**P**	**14 06 14.2**	**+0.8**		
MLR	Muntele Rosu	66.66	44	P	**P**	**14 06 13.4**	**-0.2**		
FFC	Flin Flon	67.42	326	P	**P**	**14 06 17.4**	**-0.6**		
FFC				IAmb	IAmb	14 06 25.5			
	comp=Z,8.4nm,0.9s								
PDAR	Pinedale Array	69.73	312	P	**P**	**14 06 33.8**	**+0.7**		
	comp=Z,0.9nm,1.1s,baz=101,slow=4.7,SNR=1.6								
PDAR				LR	LR	14 33 16.8			
	comp=Z,650nm,21.6s,baz=120,slow=33								
AKASG	Malin Array Be	69.87	39	P	**P**	**14 06 34.7**	**+1.3**		
	comp=Z,0.2nm,0.2s,baz=263,slow=6.4,SNR=1.4								
AKASG				LR	LR	14 34 06.6			
	comp=Z,283nm,21.9s,baz=305,slow=33								
P17A	Butcher Ranch,	70.27	309	P	**P**	**14 06 36.5**	**+0.2**		
WUAZ	Wupatki	70.48	305	P	**P**	**14 06 38.1**	**+0.4**		
WUAZ				IAmb	IAmb	14 06 41.4			
	comp=Z,6.7nm,0.8s								
ANTO	Ankara	70.84	51	P	**P**	**14 06 39.4**	**-0.3**		
IMW	Indian Meadow	70.87	313	P	**P**	**14 06 40.3**	**+0.3**		
IMW				IAmb	IAmb	14 06 53.2			
	comp=Z,7.3nm,1.3s								
FINES	FINESS Array B	70.88	28	LR	LR	14 32 47.9			
	comp=Z,221nm,21.6s,baz=24,slow=32								
HWUT	Hardware Ranch	71.09	311	P	**P**	**14 06 41.6**	**+0.3**		
HWUT				IAmb	IAmb	14 06 51.0			
	comp=Z,4.5nm,0.8s								
YHB	Horse Butte	71.15	314	P	**P**	**14 06 42.4**	**+0.7**		
BRTR	Keskin Array B	71.48	51	P	**P**	**14 06 43.3**	**-0.3**		
	comp=Z,2.2nm,0.9s,baz=264,slow=3.7,SNR=7.6								
BRTR	Keskin Array B	71.48	51	P	**P**	**14 06 42.9**	**-0.7**		
BGU	Big Grassy Mou	72.14	310	P	**P**	**14 06 47.7**	**+0.1**		
BOSA	Boshof	72.38	124	P	**P**	**14 06 48.7**	**-0.4**		
	comp=Z,5.4nm,0.9s,baz=276,slow=2.6,SNR=5.2								
BOSA				LR	LR	14 31 56.5			
	comp=Z,475nm,21.9s,baz=286,slow=30								
BOSA	Boshof	72.38	124	IAmb	IAmb	14 06 50.4			
	comp=Z,16nm,1.2s								
PSUT	Pine Spring	72.62	308	P	**P**	**14 06 50.2**	**-0.4**		
HLID	Hailey	73.35	313	P	**P**	**14 06 55.1**	**+0.4**		
ARCES	ARCESS Array B	73.36	19	LR	LR	14 35 28.4			
	comp=Z,91nm,18.2s,baz=315,slow=33								
PMSA	Palmer Station	75.44	191	P	**P**	**14 07 06.7**	**+0.5**		
YKA	Yellowknife Ar	75.66	332	LR	LR	14 37 32.6			
	comp=Z,252nm,19.5s,baz=0.0,slow=33								
NVAR	Mina Array Bea	76.11	307	LR	LR	14 37 36.9			
	comp=Z,128nm,20.7s,baz=104,slow=33								
KBZ	Khabaz	78.53	47	P	**P**	**14 07 26.6**	**+2.6**		
	comp=Z,3.8nm,0.8s,baz=296,slow=2.8,SNR=7.6								
ATD	Arta Tunnel	80.71	80	LR	LR	14 41 21.0			
	comp=Z,164nm,21.8s,baz=264,slow=34								
VNA1	Neumayer--Stat	81.78	170	P	**P**	**14 07 42.1**	**+1.1**		
VNA3	Neumayer Olymp	82.06	171	P	**P**	**14 07 41.9**	**-0.6**		
VNA2	Neumayer--Watz	82.17	170	P	**P**	**14 07 43.3**	**+0.3**		
	baz=347,slow=2.7								
SNAA	Sanae	83.61	169	P	**P**	**14 07 49.6**	**-1.0**		
SNAA	Sanae	83.61	169	P	**P**	**14 07 49.1**	**-1.5**		
BMAR	Burnt Mountain	87.94	338	P	**P**	**14 08 11.9**	**-0.3**		
ABKAR	Akbulak array	89.58	40	P	**P**	**14 08 20.1**	**-0.2**		
ILAR	Eielson Array	89.67	336	P	**P**	**14 08 22.5**	**+2.1**		
	comp=Z,1.3nm,0.9s,baz=76,slow=2.5,SNR=6.5								
ILAR				LR	LR	14 45 33.3			
	comp=Z,89nm,21.8s,baz=80,slow=34								
ILAR	Eielson Array	89.67	336	P	**P**	**14 08 19.1**	**-1.3**		
GEYT	Alibeck	90.62	52	LR	LR	14 51 38.3			
	comp=Z,79nm,21.5s,baz=25,slow=37								
NRIK	Noril'sk	94.15	17	LR	LR	14 47 57.4			
	comp=Z,53nm,21.1s,baz=16,slow=34								
CMAR	Chiang Mai Arr	130.84	57	PKP	**PKPdf**	**14 14 34.1**	**-0.9**		
	comp=Z,0.5nm,0.3s,baz=297,slow=4.0,SNR=2.3								
ASAR	Alice Springs	163.64	157	PKPab	**PKPab**	**14 16 18.1**	**+0.1**		
	comp=Z,0.8nm,0.8s,baz=206,slow=3.9,SNR=6.4								

*GCMT **20** 14:02:32.0±0.5, 8.43N±0.05×39.41W±0.03, h28km±1km, MW5.0/78, Moment Tensor Solution. s13,c14; s78,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.27±.27; Mθθ 0.48±.15; Mϕϕ 2.79±.16; Mrθ -1.75±.29; Mθϕ 0.40±.11; Mϕr-0.09±.22; Best double couple: Mo3.42300×10^16 NP1:φs171.00000°, δ45.00000°, λ-121.00000°. NP2: φs31.00000°, δ53.00000°, λ-63.00000°. Principal axes: T 2.8860, Plg4.0000°, Azm103.0000°; N 1.0750, Plg21.0000°, Azm194.0000°; P -3.9600, Plg68.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 20 14:02:27.2±1.4, 8.32N×39.29W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/33, mbtmp3.7/5 Error ellipse: s-maj=60.5km s-min=24.0km az=170.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	Guadeloupe/Mar	21.97	288	T	T	14 29 45.6	
	SNR=5.0						
PTGA	Pitinga	22.49	247	P	P	14 07 28.8	+0.3
	4.6nm,0.8s,baz=93,slow=15,SNR=4.1						
DBIC	Dimbokro	34.17	90	P	P	14 09 14.6	+0.1
	5.5nm,0.8s,baz=252,slow=12,SNR=3.0						
TORD	Torodi Ar. Bea	40.51	80	P	P	14 10 08.0	-0.4
	0.9nm,0.9s,baz=277,slow=8.8,SNR=3.8						
ESDC	Sonseca Array	44.39	40	P	P	14 10 39.9	+0.2
	0.3nm,0.5s,baz=226,slow=8.5,SNR=2.4						
TXAR	Lajitas Array	63.66	299	P	P	14 13 00.5	-0.3
	0.2nm,0.6s,baz=97,slow=7.4,SNR=1.9						

*IDC **20** 14:26:02.5±1.8, 3.51S×101.39E, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/41, mbtmp4.1/10, MS3.4/2, Ms1 3.4/2, ms1mx2.8/35, Error ellipse: s-maj=66.0km s-min=15.9km az=58.0*

*NEIC **20** 14:26:09.5±1.0, 3.47S±0.08×101.45E±0.03, h52km±8km, mb4.2/14, Error ellipse: s-maj=11.1km s-min=4.3km az=190.0*

*DJA **20** 14:26:09.7±0.9, 3°S±3°×101°E±°, h16km±7km, M3.9/13, MLv3.9/13*

ISC 20 14:26:09.1±0.8, 3°53S±0.08×101°36E±0.08, h50km, n54, σ0s94/49, mb4.2/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	Maura Aman, Be	0.96	66	P	Pn	14 26 26.4	+0.1
MASI				S	Sn	14 26 38.3	-0.6
KSI	Kapahiang	1.23	96	P	Pn	14 26 29.9	-0.1
KSI				S	Sn	14 26 46.4	+0.8
KRJI	Kerinci	1.44	4	P	Pn	14 26 33.9	+1.1
KRJI				S	Sn	14 26 52.4	+1.8
MNAI	Manna	1.79	117		Pn	14 26 37.4	-0.2
LHSI	Lahat	2.18	98	P	Pn	14 26 44.6	+1.8
SDSI	Sungai Dareh	2.58	1	P	Pn	14 26 49.9	+1.5
MDSI	Maura Dua	2.96	109	P	Pn	14 26 54.6	+0.9
MDSI				S	Sn	14 27 30.2	+2.2
LWLI	Liwa	3.07	119	P	Pn	14 26 56.8	+1.6
KLSI		3.55	109	P	Pn	14 27 03.3	+1.6
KASI	Kota Agung	3.70	122	P	Pn	14 27 04.5	+0.8
DSRI	Dabo	4.42	47	P	Pn	14 27 15.3	+1.7
MNSI	Mandailing Nat	4.65	337	P	Pn	14 27 18.2	+1.3
MYKOM	Kota Tinggi	5.84	25	Pn	Pn	14 27 32.5	-0.7
GSI	Gunungsitoli	6.12	322		Pn	14 27 36.8	-0.2
LEM	Lembang	7.04	118	LR	LR	14 30 32.0	
	comp=Z,90nm,20.5s,baz=245,slow=38						
CISI	Cisompet, Garu	7.56	122	Pn	Pn	14 27 56.2	-0.7
XMIS	Christmas Isla	8.11	149	Pn	Pn	14 28 05.7	+1.4
SMRI	Semarang	9.69	112	Pn	Pn	14 28 24.9	-1.1
UGM	Wanagama	10.10	116	Pn	Pn	14 28 31.4	-0.2
JAGI	Jajag, Banyuwa	13.63	112	Pn	Pn	14 29 18.5	-1.4
MYLDM	Lahad Datu	19.18	63	Pn	P	14 30 29.4	+0.6
CMAR	Chiang Mai Arr	21.98	354	P	P	14 30 59.0	0.0
	0.2nm,0.3s,baz=182,slow=9.7,SNR=4.2						
FITZ	Fitzroy Crossi	27.84	123	P	P	14 31 53.7	-0.3
	1.3nm,0.6s,baz=281,slow=5.2,SNR=1.5						
FITZ	Fitzroy Crossi	27.84	123	IAmb	IAmb	14 31 59.3	
	comp=Z,12nm,1.4s						
H08S2	Diego Garcia H	29.01	261	T	T	15 01 52.4	
	baz=83,slow=75,SNR=17						
H08S3	Diego Garcia H	29.02	261	T	T	15 01 49.1	
	baz=83,slow=75,SNR=52						
H08S1	Diego Garcia H	29.03	261	T	T	15 01 50.8	
	baz=83,slow=75,SNR=7.4						
KNRA	Kununurra	29.54	116	P	P	14 32 07.6	-1.6
WB0	Warramunga Arr	36.03	119	P	P	14 33 05.7	-0.2
WB0				IAmb	IAmb	14 33 24.5	
	comp=Z,6.1nm,1.1s						
WRA	Warramunga Arr	36.05	120	P	P	14 33 05.3	-0.8
	comp=Z,1.0nm,0.4s,baz=311,slow=8.7,SNR=39						
WRAB	Tennant Creek	36.06	120	P	P	14 33 06.1	0.0
WRAB				IAmb	IAmb	14 33 32.6	
	comp=Z,7.0nm,1.0s						
WB2	Warramunga Arr	36.06	120	P	P	14 33 05.5	-0.7
WR0	Warramunga Arr	36.23	119	P	P	14 33 07.1	-0.5
WR0				IAmb	IAmb	14 33 27.7	
	comp=Z,3.5nm,0.9s						
AS31	Alice Springs	37.26	125	P	P	14 33 16.2	-0.1
ASAR	Alice Springs	37.26	125	P	P	14 33 16.4	+0.1
	comp=Z,1.0nm,0.3s,baz=299,slow=7.7,SNR=74						
STKA	Stephens Creek	47.12	131	P	P	14 34 37.0	+0.5
	comp=Z,1.5nm,0.7s,baz=302,slow=12,SNR=3.3						
STKA	Stephens Creek	47.12	131	IAmb	IAmb	14 34 57.0	
	comp=Z,1.4nm,1.1s						
SONM	Songino Array	51.34	4	P	P	14 35 09.1	+0.5
	comp=Z,1.3nm,0.7s,baz=184,slow=7.9,SNR=8.2						
SONM	Songino Array	51.34	4	IAmb	IAmb	14 35 10.0	
	comp=Z,1.3nm,0.8s						
MK31	Makanchi Array	52.87	344	P	P	14 35 19.6	-0.2
MK31				IAmb	IAmb	14 35 45.5	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	52.87	344	P	P	14 35 19.9	+0.1
	comp=Z,1.1nm,0.4s,baz=155,slow=8.8,SNR=16						
MKAR	Makanchi Array	52.87	344	P	P	14 35 19.5	-0.3
USRK	Ussuriysk Ar.	54.88	27	P	P	14 35 34.0	-0.5
	comp=Z,1.7nm,0.6s,baz=232,slow=5.1,SNR=4.3						
ZAA0	Zalesovo Array	58.92	349	P	P	14 36 02.2	-0.7
ZAA0				IAmb	IAmb	14 36 22.5	
	comp=Z,2.4nm,0.9s						
ZALV	Zalesovo Beam	58.92	349	P	P	14 36 02.5	-0.4
	comp=Z,1.3nm,0.3s,baz=164,slow=6.8,SNR=11						
ZALV	Zalesovo Beam	58.92	349	P	P	14 36 02.1	-0.9
ASAJ	Asahikawa	60.12	33	P	P	14 36 11.3	-0.1
	comp=Z,1.9nm,0.4s,baz=227,slow=6.8,SNR=4.8						
JKA	Kamikawa-asahi	60.12	33	P	P	14 36 11.3	-0.2
JKA	Kamikawa-asahi	60.12	33	IAmb	IAmb	14 36 15.8	
	comp=Z,33nm,1.5s						
ABKAR	Akbulak array	63.63	331	P	P	14 36 34.1	-0.8
RPZ	Rata Peaks	72.94	135	LR	LR	15 08 20.9	
	comp=Z,77nm,20.3s,baz=124,slow=35						
ARCES	ARCESS Array B	88.37	340	P	P	14 38 55.4	+0.2
	comp=Z,1.6nm,0.8s,baz=113,slow=6.4,SNR=1.5						
TXAR	Lajitas Array	145.04	40	PKPbc	**PKPdf**	**14 45 41.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=274,slow=0.8,SNR=16						
TXAR	Lajitas Array	145.04	40		**PKPbc**	**14 45 41.1**	**-0.1**

*NEIC **20** 14:49:16.4±2.7, 8.8N±0.2×39.23W±0.08, h10km±1km, mb4.6/12, Error ellipse: s-maj=27.6km s-min=10.9km az=164.0*

*IDC **20** 14:49:16.7±1.2, 8.58N×39.30W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/37, mbtmp3.9/7, Error ellipse: s-maj=44.5km s-min=20.8km az=160.0*

ISC 20 14:49:16.8±0.7, 8.8N±0.2×39.3W±0.1, h10km, n22, σ1s60/18, mb4.2/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	Speyside	21.10	279	P	**P**	**14 54 01.8**	**+0.1**
H05S1	Guadeloupe/Mar	21.86	287	T	T	15 16 32.4	
	SNR=5.6						
H05N1	Guadeloupe/Mar	22.54	291	T	T	15 17 25.1	
PTGA	Pitinga	22.71	246	P	**P**	**14 54 18.8**	**-0.2**
	1.1nm,0.6s,baz=83,slow=10,SNR=5.9						
PTGA	Pitinga	22.71	246	IAmb	IAmb	14 54 29.9	
	comp=Z,18nm,1.4s						
SAML	Samuel	29.65	234	P	**P**	**14 55 19.7**	**-3.2**
SIV	San Ignacio	32.77	221	P	**P**	**14 55 50.7**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=58,slow=8.4,SNR=8.1						
DBIC	Dimbokro	34.14	91	P	**P**	**14 56 04.0**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=246,slow=10.0,SNR=1.6						
LPAZ	La Paz	37.93	229	P	**P**	**14 56 35.8**	**+0.3**
	comp=Z,4.1nm,1.0s,baz=29,slow=10,SNR=7.2						
LPAZ	La Paz	37.93	229	P	**P**	**14 56 34.9**	**-0.6**
TORD	Torodi Ar. Bea	40.40	80	P	**P**	**14 56 57.8**	**+2.3**
	comp=Z,1.2nm,1.0s,baz=258,slow=8.7,SNR=3.9						
TORD	Torodi Ar. Bea	40.40	80	P	**P**	**14 56 53.8**	**-1.8**
Q56A	Snyder Ridge,	46.72	317	P	**P**	**14 57 45.3**	**-0.9**
PLCA	Paso Flores	57.12	208	P	**P**	**14 59 02.5**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=8.7,slow=6.5,SNR=3.3						
PLCA	Paso Flores	57.12	208	IAmb	IAmb	14 59 25.5	
	comp=Z,12nm,1.4s						
CLL	Collm	60.12	35	*eP*	**P**	**14 59 23.0**	**-1.5**
TXAR	Lajitas Array	63.46	298	P	**P**	**14 59 49.3**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=104,slow=7.4,SNR=3.7						
TXAR	Lajitas Array	63.46	298	P	**P**	**14 59 48.8**	**+1.3**
TPAW	Teton Pass	70.72	313	P	**P**	**15 00 35.8**	**+2.1**
TPAW				IAmb	IAmb	15 00 37.9	
	comp=Z,9.2nm,1.4s						
BGU	Big Grassy Mou	72.03	310	P	**P**	**15 00 42.3**	**+0.8**
MOD	Modoc Plateau	77.53	311	P	**P**	**15 01 12.9**	**-0.4**
MOD				IAmb	IAmb	15 01 18.2	
	comp=Z,8.6nm,1.2s						
ABKAR	Akbulak array	89.35	40	P	**P**	**15 02 12.3**	**-1.4**
ABKAR				IAmb	IAmb	15 02 20.0	
	comp=Z,6.4nm,1.5s						

*TAP **20** 14:51:02.9, 23.17N×121.63E, h41km, ML3.7, C*

*JMA **20** 14:51:02.2±0.1, 23.16N×121.58E, h44km±3km, M3.1*

ISC 20 14:51:03.1±0.9, 23.18N±0.02×121.63E±0.02, h33km±8km, n132, σ0s92/249, Taiwan

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---|---

TWD				*e*S	**Sn**	**14 51 31.3 +0.1**
	baz=6.0								
SLGT	**Liugui**	**0.93 259**	P		**Pn**	**14 51 20.0 +0.1**
SLGT	baz=264			*e*S	**Sb**	**14 51 32.9 +0.1**
	baz=264								
TPUB	**Ta-pu**	**0.93 278**	*i* P		**Pb**	**14 51 20.3 -0.5**
TPUB	baz=278			*e*S	**Sb**	**14 51 33.3 +0.4**
	baz=278								
WTP	**Ta-pu**	**0.94 274**	P		**Pb**	**14 51 20.5 -0.5**
WTP	baz=269			*e*S	**Sb**	**14 51 34.5 +1.3**
	baz=269								
CHN5	**Tsauling**	**0.97 296**	P		**Pb**	**14 51 21.1 -0.4**
CHN5	baz=297			*e*S	**Sb**	**14 51 35.2 +1.0**
	baz=297								
SGST	**Jiashian**	**0.97 264**	P		**Pn**	**14 51 20.2 -0.2**
SGST	baz=265			*e*S	**Sb**	**14 51 34.0 -0.1**
	baz=265								
SMLT	**Sun Moon Lake**	**0.97 316**	P		**Pn**	**14 51 20.7 +0.2**
SMLT	baz=321			*e*S	**Sb**	**14 51 34.4 +0.2**
	baz=321								
CHN4	**Tsaushan**	**0.97 280**	P		**Pb**	**14 51 21.1 -0.4**
CHN4	baz=281			*e*S	**Sb**	**14 51 34.4 +0.3**
	baz=281								
CHGB	**Renai**	**0.97 334**	*i* P		**Pn**	**14 51 20.6 -0.1**
CHGB	baz=341			*e*S	**Sn**	**14 51 32.8 -0.7**
	baz=341								
NACB	**Ninganchiao**	**0.99 358**	P		**Pn**	**14 51 20.2 -0.5**
NACB	baz=348			*e*S	**Sn**	**14 51 32.9 -0.7**
	baz=348								
TYC	**Yuchr**	**1.01 316**	P		**Pn**	**14 51 21.5 +0.5**
TYC	baz=324			*e*S	**Sb**	**14 51 35.4 +0.2**
	baz=324								
SSD	**Sandimen**	**1.02 245**	P		**Pn**	**14 51 20.9 -0.2**
SSD	baz=245			*e*S	**Sb**	**14 51 34.8 -0.6**
	baz=245								
WHF	**Hehuan Shan**	**1.02 341**	P		**Pn**	**14 51 21.1 -0.4**
WHF	baz=342			*e*S	**Sn**	**14 51 34.0 -0.8**
	baz=342								
TSMG	**Majia**	**1.03 243**	P		**Pn**	**14 51 21.0 -0.2**
TSMG	baz=243			*e*S	**Sb**	**14 51 34.9 -0.7**
	baz=243								
ETLH	**Xiulin Townshi**	**1.03 352**	*e*P		**Pn**	**14 51 21.3 -0.1**
ETLH	baz=353			*e*S	**Sn**	**14 51 33.9 -0.8**
	baz=353								
SNST	**Tainan City**	**1.05 272**	*i* P		**Pb**	**14 51 22.4 -0.3**
SNST	baz=273			*i* S	**Sb**	**14 51 37.8 +1.6**
	baz=273								
WJS	**Zhushan**	**1.05 308**	P		**Pb**	**14 51 22.2 -0.6**
WJS	baz=309			*e*S	**Sb**	**14 51 37.7 +1.4**
	baz=309								
TWK	**Hsinying**	**1.06 275**	P		**Pb**	**14 51 22.4 -0.6**
TWK	baz=276			S	**Sb**	**14 51 37.3 +0.7**
	baz=276								
TAW	**Tawu**	**1.06 220**	*e*P		**Pn**	**14 51 19.9 -1.8**
TAW	baz=225			S	**Sn**	**14 51 34.4 -1.0**
	baz=225								
EAST	**Anshuo**	**1.07 223**	*e*P		**Pn**	**14 51 21.3 -0.6**
EAST	baz=226			*e*S	**Sn**	**14 51 35.4 -0.3**
	baz=226								
MASBT	**Mashibuluo**	**1.08 239**	*i* P		**Pn**	**14 51 21.8 -0.2**
MASBT	baz=236			*e*S	**Sb**	**14 51 37.9 +0.7**
	baz=236								
SCST	**Cishan**	**1.09 255**	*e*P		**Pb**	**14 51 23.5 0.0**
SCST	baz=255			*e*S	**Sb**	**14 51 39.2 +1.8**
	baz=255								
WGK	**Gukeng**	**1.11 297**	*e*P		**Pb**	**14 51 23.3 -0.5**
WGK	baz=308			*e*S	**Sb**	**14 51 37.9 0.0**
	baz=308								
WNT	**Mingjian**	**1.11 309**	*e*P		**Pb**	**14 51 23.5 -0.4**
WNT	baz=310			*e*S	**Sb**	**14 51 39.0 +0.9**
	baz=310								
CHN2	**Minshiung**	**1.12 288**	*e*P		**Pb**	**14 51 23.4 -0.6**
CHN2	baz=277			S	**Sb**	**14 51 38.7 +0.4**
	baz=277								
FUSS	**Fushou**	**1.12 342**	P		**Pn**	**14 51 23.0 +0.2**
FUSS	baz=351			*e*S	**Sn**	**14 51 36.3 -0.8**
	baz=351								
WDLH	**Douliu**	**1.13 297**	*e*P		**Pb**	**14 51 23.5 -0.6**
WDLH	baz=308			*e*S	**Sb**	**14 51 39.4 +0.9**
	baz=308								
LAY	**Lan-yu**	**1.14 184**	P		**Pn**	**14 51 21.7 -1.0**
LAY	baz=176			*e*S	**Sn**	**14 51 35.9 -1.3**
	baz=176								
SGLT	**Jiouru**	**1.15 247**	*e*P		**Pb**	**14 51 24.6 +0.1**
SGLT	baz=247			*e*S	**Sb**	**14 51 40.2 +1.2**
	baz=247								
TWT	**Tachien**	**1.15 339**	*e*P		**Pn**	**14 51 22.8 -0.2**
TWT	baz=345			*e*S	**Sn**	**14 51 37.3 -0.4**
	baz=345								
TDCB	**Techi**	**1.15 338**	P		**Pn**	**14 51 23.4 +0.3**
TDCB	baz=345			*e*S	**Sn**	**14 51 38.0 +0.2**
	baz=345								
CHY	**Chiayi**	**1.16 286**	P		**Pb**	**14 51 23.8 -0.8**
CHY	baz=287			S	**Sn**	**14 51 38.3 +0.7**
	baz=287								
TWM1	**Shoushan**	**1.17 253**	*e*P		**Pb**	**14 51 24.9 0.0**
TWM1	baz=253			*e*S	**Sb**	**14 51 40.9 +1.2**
	baz=253								
CHN3	**Shinhua**	**1.17 265**	*e*P		**Pn**	**14 51 23.4 +0.2**
CHN3	baz=266			*e*S	**Sb**	**14 51 41.9 +2.2**
	baz=266								
SSPT	**Xinbi**	**1.20 235**	*e*P		**Pn**	**14 51 23.7 +0.1**
SSPT	baz=227			*e*S	**Sn**	**14 51 39.5 +0.8**
	baz=227								
SLIU	**Shizi**	**1.23 219**	*e*P		**Pn**	**14 51 23.5 -0.5**
SLIU	baz=208			S	**Sn**	**14 51 38.8 -0.6**
	baz=208								
SCZT	**Fangliau**	**1.23 230**	*e*P		**Pn**	**14 51 23.7 -0.4**
SCZT	baz=228			*e*S	**Sn**	**14 51 39.6 +0.1**
	baz=228								
ENA	**Nanau**	**1.25 5**	P		**Pn**	**14 51 24.8 +0.6**
ENA	baz=17			*e*S	**Sn**	**14 51 40.5 +0.6**
	baz=17								
WTK	**Tuku**	**1.25 294**	P		**Pn**	**14 51 24.7 +0.4**
WTK	baz=295			*e*S	**Sn**	**14 51 40.4 +0.4**
	baz=295								
ICHU	**Yijhu**	**1.26 279**	P		**Pn**	**14 51 25.0 +0.7**
ICHU	baz=280			*e*S	**Sb**	**14 51 41.5 -0.7**
	baz=280								
WLGB	**Puzi**	**1.26 284**	P		**Pn**	**14 51 24.3 -0.1**
WLGB	baz=285			*e*S	**Sn**	**14 51 40.7 +0.5**
	baz=285								
WHP	**Taichung City**	**1.26 330**	*e*P		**Pn**	**14 51 24.8 +0.3**
WHP	baz=335			*e*S	**Sb**	**14 51 43.5 +1.1**
	baz=335								
NNSB	**Datong**	**1.26 350**	P		**Pn**	**14 51 25.3 +0.7**
NNSB	baz=350			*e*S	**Sn**	**14 51 39.9 -0.6**
	baz=350								
NNSH	**Datong**	**1.26 350**	*e*S		**Sn**	**14 51 40.0 -0.5**
SNJT	**Kaohsiung City**	**1.27 251**	*e*P		**Pb**	**14 51 26.6 +0.1**
SNJT	baz=251			*e*S	**Sb**	**14 51 43.5 +1.0**
	baz=251								
ENAH	**Nanao**	**1.27 7**	*e*S		**Sn**	**14 51 39.9 -0.7**
NNS	baz=8.0 **Nan Shan**	**1.28 349**	P		**Pn**	**14 51 24.9 +0.2**
NNS	baz=350			*e*S	**Sn**	**14 51 41.5 +0.7**
	baz=350								
TCU	**Taichung**	**1.30 318**	*e*P		**Pb**	**14 51 26.9 -0.1**
TCU	baz=306			*e*S	**Sb**	**14 51 44.2 +0.7**
	baz=306								
CHN8	**Yiju**	**1.32 278**	P		**Pn**	**14 51 26.1 +0.9**
CHN8	baz=279			*e*S	**Sb**	**14 51 42.7 -1.2**
	baz=279								
WCHH	**Zhanghua**	**1.33 312**	P		**Pb**	**14 51 26.4 -1.2**
WCHH	baz=313			S	**Sb**	**14 51 43.6 -0.7**
	baz=313								
RLNB	**Erlin**	**1.37 301**	P		**Pn**	**14 51 26.7 +0.9**
RLNB	baz=303			*e*S	**Sb**	**14 51 44.4 -0.9**
	baz=303								
WSF	**Szhu**	**1.37 290**	P		**Pn**	**14 51 26.5 +0.6**
WSF	baz=291			*e*S	**Sb**	**14 51 44.3 -1.2**
	baz=291								
TWQ1	**Liyutan**	**1.41 326**	*e*P		**Pb**	**14 51 28.3 -0.5**
TWQ1	baz=337			*e*S	**Sb**	**14 51 46.8 +0.3**
	baz=337								
WTCT	**Ta-ch'eng**	**1.42 299**	*e*P		**Pn**	**14 51 26.8 +0.3**
WTCT	baz=300			*e*S	**Sn**	**14 51 45.0 +1.0**
	baz=300								
NDT	**Datong Townshi**	**1.42 356**	*e*P		**Pn**	**14 51 27.0 +0.3**
NDT	baz=356			*e*S	**Sb**	**14 51 45.7 -1.2**
	baz=356								
WLCH	**Liuqiu**	**1.42 235**	*e*P		**Pb**	**14 51 30.4 +1.3**
WLCH	baz=235			*e*S	**Sb**	**14 51 50.4 +3.5**
	baz=235								
HEN	**Hengchun**	**1.43 215**	*e*P		**Pn**	**14 51 26.3 -0.5**
HEN	baz=204			*e*S	**Sn**	**14 51 45.2 +0.8**
	baz=204								
TWP	**Hsiaoliuchiu**	**1.44 235**	*e*P		**Pb**	**14 51 29.2 -0.1**
TWP	baz=235			*e*S	**Sb**	**14 51 48.6 +1.4**
	baz=235								
TWC	**Suao**	**1.44 8**	P		**Pb**	**14 51 28.0 -1.3**
TWC	baz=10.0			S	**Sn**	**14 51 45.4 +0.8**
	baz=10.0								
TSEB	**Hengchuen, Pin**	**1.44 208**	*e*P		**Pb**	**14 51 28.9 -0.6**
TSEB	baz=209			S	**Sn**	**14 51 45.7 +1.0**
	baz=209								
TWKBT	**Hengchun**	**1.45 212**	P		**Pn**	**14 51 27.2 +0.2**
TWKBT	baz=211			*e*S	**Sn**	**14 51 44.5 -0.4**
	baz=211								
TWK1	**Hengchun**	**1.45 212**	P		**Pn**	**14 51 25.9 -1.1**
TWK1	baz=211			*i* S	**Sn**	**14 51 44.9 0.0**
	baz=211								
ENTT	**Nioudou**	**1.46 358**	*e*P		**Pn**	**14 51 27.2 +0.1**
ENTT	baz=352			S	**Sn**	**14 51 46.1 +1.0**
	baz=352								
NSY	**Sanyi**	**1.47 327**	*e*P		**Pb**	**14 51 29.4 -0.5**
NSY	baz=341			*e*S	**Sb**	**14 51 48.1 -0.1**
	baz=341								
WDJ	**Dajia District**	**1.48 322**	*e*P		**Pb**	**14 51 28.9 -1.2**
WDJ	baz=335			*e*S	**Sb**	**14 51 48.6 +0.2**
	baz=335								
YHNB	**Yeheng**	**1.50 351**	*e*P		**Pn**	**14 51 28.7 +0.9**
YHNB	baz=2.0			*e*S	**Sn**	**14 51 46.4 +0.1**
	baz=2.0								
NSK	**Sanguang**	**1.51 350**	*e*P		**Pn**	**14 51 28.5 +0.6**
NSK	baz=351			*e*S	**Sn**	**14 51 47.3 +0.8**
	baz=351								
PTSB	**Yuanli**	**1.52 326**	*e*P		**Pn**	**14 51 29.0 +1.0**
PTSB	baz=326			*e*S	**Sb**	**14 51 49.1 -0.6**
	baz=326								
TWE	**Neicheng**	**1.54 1**	*e*P		**Pn**	**14 51 28.3 +0.1**
TWE	baz=354			*e*S	**Sn**	**14 51 47.7 +0.7**
	baz=354								
NMLH	**Miaoli**	**1.56 330**	*e*P		**Pb**	**14 51 30.2 -1.2**
NMLH	baz=343			*e*S	**Sb**	**14 51 50.7 0.0**
	baz=343								
NSTT	**Nanjuang**	**1.56 338**	*e*P		**Pn**	**14 51 29.7 +1.2**
NSTT	baz=339			*e*S	**Sn**	**14 51 48.8 +1.3**
	baz=339								
LIOB	**Emei**	**1.56 339**	*e*P		**Pn**	**14 51 29.1 +0.5**
LIOB	baz=339			*e*S	**Sb**	**14 51 49.3 -1.7**
	baz=339								
ILA	**Ilan**	**1.58 4**	*e*S		**Sn**	**14 51 49.7 +1.5**
NTC	baz=16 **Toucheng**	**1.68 6**	*e*S		**Sb**	**14 51 52.8 -1.4**
JYNG	baz=19 **Yonagunijimaku**	**1.75 43**	P		**Pn**	**14 51 32.3 +1.2**
JYNG				S	**Sn**	**14 51 53.0 +0.8**
TIPB	**Shuangxi**	**1.79 6**	*e*P		**Pn**	**14 51 32.0 +0.2**
TIPB	baz=356			*e*S	**Sn**	**14 51 54.0 +0.6**
	baz=356								
TWA	**Mucha**	**1.79 359**	*e*S		**Sb**	**14 51 55.7 -1.8**
YOJ	baz=360 **Yonaguni jima**	**1.79 44**	*e*P		**Pn**	**14 51 33.2 +1.4**
YOJ	baz=56			*e*S	**Sn**	**14 51 54.8 +1.4**
	baz=56								
YOJ	**Yonaguni jima**	**1.79 44**	P		**Pn**	**14 51 33.0 +1.2**
YOJ				*e*S	**Sn**	**14 51 54.4 +1.0**
PHUB	**P'eng-hu**	**1.92 280**	*e*P		**Pn**	**14 51 33.4 -0.1**
PHUB	baz=282			*e*S	**Sn**	**14 51 55.9 -0.7**
	baz=282								
TWS1	**Kuangyinshan**	**1.92 354**	*e*S		**Sb**	**14 51 59.6 -1.5**
PNG	baz=7.0 **Penghu**	**1.95 282**	*e*P		**Pn**	**14 51 33.3 -0.5**
PNG	baz=272			*e*S	**Sn**	**14 51 56.0 -1.1**
	baz=272								
YM01	**YM01**	**1.96 358**	*e*P		**Pn**	**14 51 34.2 +0.1**
YM01	baz=359			*e*S	**Sn**	**14 51 59.1 +1.6**
	baz=359								
YM04	**YM04**	**1.97 357**	*e*P		**Pn**	**14 51 35.9 +1.7**
YM04	baz=358			*e*S	**Sn**	**14 51 58.6 +0.9**
	baz=358								
YM10	**YM10**	**1.97 358**	*e*P		**Pn**	**14 51 35.7 +1.5**
YM10	baz=359			*e*S	**Sb**	**14 52 00.3 -2.2**
	baz=359								
YM05	**YM05**	**1.98 358**	*e*P		**Pn**	**14 51 36.2 +1.9**
YM05	baz=359			*e*S	**Sn**	**14 51 59.1 +1.1**
	baz=359								
YM03	**YM03**	**1.99 358**	*e*P		**Pn**	**14 51 35.6 +1.0**
YM03	baz=358			*e*S	**Sn**	**14 51 58.6 +0.2**
	baz=358								
YM08	**YM08**	**2.00 359**	*e*P		**Pn**	**14 51 36.1 +1.5**
ANP	baz=359 **Anpu**	**2.00 357**	*e*P		**Pn**	**14 51 34.0 -0.7**
ANP	baz=358			*e*S	**Sn**	**14 51 58.8 +0.2**
	baz=358								
HATJ	**Hateruma jima**	**2.17 66**	P		**Pn**	**14 51 37.7 +0.7**
HATJ				S	**Sn**	**14 52 03.0 +0.2**
IRIF	**Iriomote-Funau**	**2.24 59**	P		**Pn**	**14 51 39.1 +1.2**
IRIF				*e*S	**Sn**	**14 52 05.6 +1.2**
JKRS	**Kuro-shima**	**2.42 64**	P		**Pn**	**14 51 41.5 +1.2**
JKRS				*e*S	**Sn**	**14 52 10.0 +1.2**
JIJ	**Ishigaki jima**	**2.58 62**	P		**Pn**	**14 51 43.2 +0.6**
JIJ				S	**Sn**	**14 52 12.9 0.0**
VWUC	**VWUC**	**2.69 313**	*e*P		**Pn**	**14 51 43.8 -0.2**
VWUC	baz=312			*e*S	**Sn**	**14 52 13.8 -1.7**
	baz=312								
JISG	**Ishigakijimahi**	**2.82 60**	P		**Pn**	**14 51 46.2 +0.3**
JISG				S	**Sn**	**14 52 18.2 -0.6**
PTTC	**Pingtan**	**2.87 324**	*e*P		**Pn**	**14 51 47.4 +0.9**
PTTC	baz=322			*e*S	**Sn**	**14 52 18.2 -1.7**
	baz=322								
PTMZ	**Houxiangcun**	**2.95 309**	*e*P		**Pn**	**14 51 46.9 -0.7**
JTJ	baz=309 **Tarama**	**3.16 62**	P		**Pn**	**14 51 51.7 +1.1**
JTJ				S	**Sn**	**14 52 27.9 +0.7**
KNM	**Kinmen**	**3.18 293**	*e*P		**Pn**	**14 51 52.4 +1.6**
KNMB	baz=293 **Chin-men Tao**	**3.23 294**	*e*P		**Pn**	**14 51 51.9 +0.3**
MATB	baz=295 **Ma-tsu**	**3.33 333**	*e*P		**Pn**	**14 51 52.2 -0.7**
MATB	baz=330			*e*S	**Sn**	**14 52 30.3 -1.1**
	baz=330								
JIRB	**Irabujima**	**3.63 62**	P		**Pn**	**14 51 57.7 +0.7**
JIRB				*e*S	**Sn**	**14 52 38.0 -0.7**
ZPLA	**Ao Xicun**	**3.64 283**	*e*P		**Pn**	**14 51 57.2 +0.1**
JMJ2	baz=283 **Miyako jima3**	**3.72 65**	P		**Pn**	**14 51 59.5 +1.3**
JMJ2				S	**Sn**	**14 52 41.5 +0.6**
JMJ	**Miyako jima 2**	**3.72 63**	*e*P		**Pn**	**14 51 58.8 +0.5**
JIKM	baz=65 **Ikemajima**	**3.73 62**	P		**Pn**	**14 51 59.5 +1.1**
JIKM				*e*S	**Sn**	**14 52 40.9 -0.3**
MHZQ	**Yeshan**	**3.75 321**	*e*S		**Sn**	**14 52 40.8 -0.9**
LYJJ	baz=319 **Jianjiangzhen**	**3.76 334**	*e*P		**Pn**	**14 51 58.6 -0.2**
JOGS	baz=330 **Gusukube**	**3.79 65**	P		**Pn**	**14 52 00.5 +1.3**
JOGS				*e*S	**Sn**	**14 52 43.6 +0.9**
XPSS	**Dashiqiu**	**3.96 341**	*e*S		**Sn**	**14 52 47.3 +0.6**
	baz=337								

BGR ***20*** *14:52:58.9±0.0, 7.61N×39.95W, h33km, mb5.2, Ms3.9*
MOS ***20*** *14:53:00.5±1.2, 8.58N×39.51W, h10km, mb5.1/58, Error ellipse: s-maj=7.6km s-min=6.7km az=80.6*
IDC ***20*** *14:53:01.5±0.4, 8.63N×39.36W, h0km, mb4.5/31, mb1 4.6/33, mb1mx4.6/40, mbtmp4.5/33, ML3.9/2, MS4.2/28, Ms1 4.2/28, ms1mx4.1/35, Error ellipse: s-maj=13.6km s-min=9.8km az=147.0*
NEIC ***20*** *14:53:01.6±1.9, 8.58N±0.09×39.39W±0.09, h10km±1km, mb5.1/211, Error ellipse: s-maj=16.0km s-min=15.2km az=157.0*
BJI ***20*** *14:53:02.0±0.0, 8.60N×39.40W, h10km, Ms5.3/3, Ms7 5.0/3*
GCMT ***20*** *14:53:06.6±0.2, 8.68N±0.02×39.39W±0.01, h12km, MW5.0/112, Moment Tensor Solution. s44,c48; s112,c178; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.74±.08; Mθθ0.35±.08; Mϕϕ3.40±.07; Mrθ0.09±.32; Mθϕ0.50±.07; Mϕr0.66±.27; Best double couple: Mo3.67100×10^16 NP1:ϕs9.00000°, δ40.00000°, λ-90.00000°. NP2:ϕs189.00000°, δ50.00000°, λ-90.00000°. Principal axes: T 3.5410, Plg5.0000°, Azm279.0000°; N 0.2670, Plg0.0000°, Azm189.0000°; P -3.8010, Plg85.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 14:53:03.4±0.3, 8.64N±0.05×39.37W±0.05, h15km, n667, σ1.136/653, mb5.0/173, MS4.2/28, 10C-2D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSB	**Rosrio**	**12.40**	**203**	*e*P	**Pn**	**14 55 59.1**	**-0.4**
MDP	**Montagnes des**	**13.63**	**256**	Pn	**Pn**	**14 56 16.4**	**0.0**
	0.5nm,0.3s,baz=98,slow=9.2,SNR=4.6						
MDP				LR	LR	15 00 39.4	
	comp=Z,1μm,20.7s,baz=106,slow=34						
RCBR	**Riachuelo**	**14.78**	**166**	Pn	**Pn**	**14 56 33.8**	**+1.6**
	0.6nm,0.3s,baz=341,slow=13,SNR=4.2						
RCBR				LR	LR	15 00 46.4	
	comp=Z,872nm,21.1s,baz=352,slow=32						
RCBR	**Riachuelo**	**14.78**	**166**	P	**Pn**	**14 56 29.6**	**-2.6**
RCBR	**Riachuelo**	**14.78**	**166**	Pn	**Pn**	**14 56 29.6**	**-2.6**
RCBR	**Riachuelo**	**14.78**	**166**	*e*P	**Pn**	**14 56 33.5**	**+1.4**
MCPB	**Macapa, AP**	**15.48**	**235**	*e*P	**Pn**	**14 56 42.7**	**+1.3**
SACV	**Santiago Islan**	**16.66**	**66**	Pn	**Pn**	**14 56 52.4**	**-4.2**
PRPB	**Parauapebas**	**18.02**	**216**	*e*P	**P**	**14 57 14.6**	**+0.6**
MALB	**Monte Alegre**	**18.14**	**236**	*e*P	**P**	**14 57 16.0**	**+0.8**
SMTB	**Santa Maria do**	**19.21**	**205**	*e*P	**Pn**	**14 57 28.1**	**0.0**
ITTB	**Itaituba**	**20.81**	**232**	*e*P	**P**	**14 57 44.7**	**+0.1**
SDBA	**SAO DESIDERIO**	**21.62**	**195**	*e*P	**P**	**14 57 54.0**	**+0.8**
H05S1	**Guadeloupe/Mar**	**21.79**	**287**	T	T	15 20 16.3	
	SNR=91						
FDF	**Fort de France**	**22.16**	**288**	P	**P**	**14 57 57.7**	**-1.4**
FDF				pmax	pmax		
	comp=Z,196nm,1.5s						
FDF	**Fort de France**	**22.16**	**288**	P	**P**	**14 57 57.7**	**-1.4**
GDU01	**Guandu, BA**	**22.21**	**181**	*e*P	**P**	**14 57 59.4**	**-0.2**
NPGB	**Novo Progresso**	**22.29**	**226**	*e*P	**P**	**14 58 00.7**	**+0.3**
PEXB	**Peixe**	**22.44**	**203**	*e*P	**P**	**14 58 01.8**	**-0.2**
H05N1	**Guadeloupe/Mar**	**22.49**	**292**	T	T	15 21 12.2	
	SNR=17						
PTGA	**Pitinga**	**22.53**	**247**	P	**P**	**14 58 02.1**	**-1.0**
	comp=Z,13nm,0.9s,baz=62,slow=11,SNR=31						
PTGA				LR	LR	15 07 15.1	
	comp=Z,800nm,18.6s,baz=70,slow=38						
PTGA	**Pitinga**	**22.53**	**247**	IAmb	IAmb	14 58 10.9	
	comp=Z,116nm,1.3s						
SNDB	**Serra Nova Dou**	**23.66**	**210**	*e*P	**P**	**14 58 15.6**	**+1.1**
JANB	**Januaria**	**24.05**	**192**	*e*P	**P**	**14 58 18.6**	**+0.4**
MACA	**Manacapuru-AM**	**24.27**	**242**	*e*P	**P**	**14 58 22.6**	**+2.2**
PLCV	**Puerto La Cruz**	**24.92**	**276**	P	**P**	**14 58 27.8**	**+1.5**
PCRV	**Puerto La Cruz**	**24.97**	**276**	P	**P**	**14 58 27.8**	**+1.1**
	comp=Z,5.1nm,0.6s,baz=36,slow=4.0,SNR=2.1						
CLDB	**Colider**	**25.35**	**220**	*e*P	**P**	**14 58 29.9**	**-0.2**
BDFB	**Brasilia**	**25.60**	**200**	P	**P**	**14 58 33.0**	**+0.6**
	comp=Z,14nm,1.0s,baz=21,slow=15,SNR=11						
BDFB				LR	LR	15 08 17.2	
	comp=Z,350nm,18.8s,baz=50,slow=36						
BDFB	**Brasilia**	**25.60**	**200**	P	**P**	**14 58 28.9**	**-3.5**
BDFB				pmax	pmax		
	comp=Z,48nm,1.3s						
BDFB	**Brasilia**	**25.60**	**200**	P	**P**	**14 58 28.9**	**-3.5**
BDFB				IAmb	IAmb	14 58 35.7	
	comp=Z,48nm,1.3s						
ARAG	**Araguaiana, MT**	**27.14**	**207**	*e*P	**P**	**14 58 47.5**	**+1.2**
SJMB	**Sao Joao De Ma**	**27.23**	**184**	*e*P	**P**	**14 58 47.8**	**+0.8**
BSFB	**Barra de Sao F**	**27.33**	**183**	*e*P	**P**	**14 58 48.6**	**+0.7**
HUMP	**Col San Antoni**	**27.40**	**293**	P	**P**	**14 58 46.6**	**-2.0**
HUMP				IAmb	IAmb	14 58 57.0	
	comp=Z,50nm,1.4s						
CBYP	**Canovanas**	**27.44**	**293**	P	**P**	**14 58 46.8**	**-2.3**
PDPR	**Patillas Dam,**	**27.52**	**293**	P	**P**	**14 58 47.0**	**-2.8**
GCPR	**Guaynabo City**	**27.66**	**293**	P	**P**	**14 58 49.4**	**-1.6**
SJG	**San Juan**	**27.66**	**293**	P	**P**	**14 58 52.0**	**+1.1**
	comp=Z,5.0nm,0.3s,baz=105,slow=16,SNR=0.7						
SJG				LR	LR	15 08 01.3	
	comp=Z,986nm,20.4s,baz=93,slow=32						
SJG	**San Juan**	**27.66**	**293**	P	**P**	**14 58 52.1**	**+1.1**
SJG				pmax	pmax		
	comp=Z,60nm,1.5s						
SJG	**San Juan**	**27.66**	**293**	IAmb	IAmb	14 58 59.4	
	comp=Z,60nm,1.5s						
RIB01	**Linhares ES**	**27.79**	**182**	*e*P	**P**	**14 58 53.3**	**+1.2**
IPMB	**Ipameri, GO**	**27.85**	**198**	*e*P	**P**	**14 58 53.3**	**+0.5**
ICMP	**Isla Caja de M**	**27.95**	**292**	P	**P**	**14 58 51.8**	**-1.7**
ICMP				IAmb	IAmb	14 59 06.4	
	comp=Z,55nm,1.3s						
OBIP	**Obispado Ponce**	**28.06**	**292**	P	**P**	**14 58 53.1**	**-1.5**
OBIP				IAmb	IAmb	14 59 07.3	
	comp=Z,36nm,1.2s						
AOPR	**Arecibo Observ**	**28.28**	**293**	P	**P**	**14 58 56.1**	**-0.5**
AOPR				IAmb	IAmb	14 59 19.5	

comp=Z,35nm,1.3s
SAML Samuel 29.46 234 P **P** **14 59 06.5 -0.5**
SAML pmax pmax
comp=Z,27nm,1.1s
SAML Samuel 29.46 234 P **P** **14 59 06.5 -0.5**
SAML IAmb IAmb 14 59 09.4
comp=Z,27nm,1.1s
SAML Samuel 29.46 234 *eP* **P** **14 59 08.5 +1.5**
H10N3 ASCENSION HYDR 29.70 123 T T 15 30 32.3
baz=302,slow=75,SNR=13
H10N2 ASCENSION HYDR 29.71 123 T T 15 30 32.3
baz=302,slow=75,SNR=1.2
H10N1 ASCENSION HYDR 29.72 123 T T 15 30 32.3
baz=302,slow=75,SNR=15
VILB Vilhena 29.80 224 *eP* **P** **14 59 12.4 +2.4**
DR12 Loma Pena Alta 30.80 292 P **P** **14 59 18.6 -0.3**
BB19B Bebedouro 30.86 197 *eP* **P** **14 59 21.0 +1.7**
SDV Santo Domingo 30.89 273 P **P** **14 59 20.1 +0.1**
comp=Z,2.0nm,0.2s,baz=39,slow=6.8,SNR=5.3
SDV LR LR 15 12 03.3
comp=Z,330nm,20.4s,baz=87,slow=37
SDV Santo Domingo 30.89 273 P **P** **14 59 18.9 -1.1**
SDV IAmb IAmb 14 59 28.2
comp=Z,20nm,1.2s
SDV Santo Domingo 30.89 273 *eP* **P** **14 59 21.3 +1.3**
PTLB Pontes e Lacer 30.92 219 *eP* **P** **14 59 21.4 +1.5**
VAS01 Vassouras-RJ 30.98 187 *eP* **P** **14 59 21.7 +1.3**
BANI BANI 31.60 291 P **P** **14 59 25.6 -0.4**
H07N1 FLORES T-PHASE 31.79 12 T T 15 32 43.6
SNR=178
PCMB Pacaembu 32.24 201 *eP* **P** **14 59 33.0 +1.5**
ETMB Extrema 32.41 236 *eP* **P** **14 59 33.6 +0.6**
SIV San Ignacio 32.56 221 P **P** **14 59 35.9 +1.5**
comp=Z,14nm,0.9s,baz=63,slow=10,SNR=37
SIV LR LR 15 12 20.2
comp=Z,568nm,19.7s,baz=21,slow=36
SDDR Presa de Saban 32.60 292 P **P** **14 59 32.7 -2.0**
PAMC Pamplona, Colo 33.02 270 *eP* **P** **14 59 40.6 +1.6**
FRTB Fartura 33.31 197 *eP* **P** **14 59 42.4 +1.5**
RUSC La Rusia 33.54 268 *eP* **P** **14 59 42.2 -1.4**
BARC Barichara 33.57 269 *eP* **P** **14 59 45.5 +2.0**
TRCB Terra Rica 33.83 202 *eP* **P** **14 59 46.6 +1.2**
TIC Toumodi 34.10 91 *eP* **P** **14 59 47.1 -0.8**
LIC Lamto 34.13 92 *eP* **P** **14 59 47.7 -0.5**
comp=Z,57nm,1.0s
DBIC Dimbokro 34.26 91 P **P** **14 59 48.8 -0.5**
comp=Z,12nm,0.8s,baz=266,slow=9.8,SNR=11
DBIC LR LR 15 11 21.4
comp=Z,670nm,19.8s,baz=272,slow=32
DBIC Dimbokro 34.26 91 P **P** **14 59 46.6 -2.6**
DBIC pmax pmax
comp=Z,16nm,0.9s
DBIC Dimbokro 34.26 91 P **P** **14 59 46.6 -2.6**
DBIC IAmb IAmb 14 59 49.9
comp=Z,16nm,0.8s
CHIC Chingaza 34.35 266 *eP* **P** **14 59 50.8 +0.3**
KIC Kosan Boka 34.40 91 *eP* **P** **14 59 49.9 -0.6**
comp=Z,25nm,1.2s
PTBC PUERTO BERRIO, 34.83 269 *eP* **P** **14 59 54.9 +0.6**
ROSC El Rosal 34.90 266 P **P** **14 59 56.9 +1.6**
comp=Z,11nm,0.6s,baz=146,slow=8.4,SNR=6.8
ROSC LR LR 15 14 09.6
comp=Z,938nm,21.2s,baz=68,slow=36
ROSC El Rosal 34.90 266 *eP* **P** **14 59 56.1 +0.9**
ROSC El Rosal 34.90 266 IAmb IAmb 15 00 06.0
comp=Z,51nm,1.4s
MACC Macarena, Meta 34.90 261 *eP* **P** **14 59 55.6 +0.8**
KOWA Kowa 35.09 77 P **P** **14 59 54.0 -2.5**
PRAC Prado 35.63 264 *eP* **P** **15 00 00.6 -0.5**
MOTC Monteria, Cord 35.87 273 *eP* P 14 59 50.2 -13
RREF El Recreo 35.90 266 *eP* P 14 59 55.8 -8.4
TOLC Tolima 35.92 266 *eP* **P** **15 00 04.6 +0.6**
HELC Santa Helena 35.93 269 *eP* **P** **15 00 01.4 -2.7**
PTLC Puerto Leguiza 36.27 258 *eP* **P** **15 00 07.5 +0.8**
CBOC Ciudad Bolivar 36.44 268 *eP* **P** **15 00 07.5 -0.7**
DBBC Dabeiba 36.52 270 *eP* **P** **15 00 08.5 -0.4**
CZSB Cruzeiro do Su 36.98 245 *eP* **P** **15 00 13.3 +0.6**
LPAZ La Paz 37.73 229 P **P** **15 00 20.1 +0.5**
comp=Z,15nm,0.9s,baz=41,slow=6.3,SNR=36
LPAZ LR LR 15 15 30.3
comp=Z,302nm,20.6s,baz=45,slow=36
LPAZ La Paz 37.73 229 P **P** **15 00 16.7 -2.9**
LPAZ pmax pmax
comp=Z,31nm,1.1s
LPAZ La Paz 37.73 229 P **P** **15 00 16.7 -2.9**
LPAZ IAmb IAmb 15 00 22.2
comp=Z,31nm,1.1s
LPAZ La Paz 37.73 229 *eP* **P** **15 00 20.7 +1.1**
GCUF Volcan Galeras 38.51 261 *eP* **P** **15 00 28.1 +1.9**
CPUP Villa Florida 38.89 206 P **P** **15 00 28.6 +0.1**
comp=Z,1.2nm,0.6s,baz=16,slow=4.5,SNR=3.3
CPUP LR LR 15 16 34.5
comp=Z,425nm,18.4s,baz=27,slow=36
CPUP Villa Florida 38.89 206 P **P** **15 00 28.6 +0.1**
CPUP pmax pmax
comp=Z,8.0nm,1.3s
CPUP Villa Florida 38.89 206 IAmb IAmb 15 00 36.5
comp=Z,8.2nm,1.3s
OTAV Otavalo 39.81 260 *eP* P 15 00 26.7 -10
PNCL Nicolau / Gran 40.41 39 *eP* **P** **15 00 43.4 +2.2**
comp=Z,57nm,1.7s
PCVE Castro Verde 40.42 40 *eP* P 15 00 52.1 +11
comp=Z,29nm,1.7s
TOA0 Torodi Ar. Sit 40.54 80 P **P** **15 00 41.1 -1.5**
TORD Torodi Ar. Bea 40.54 80 P **P** **15 00 42.2 -0.3**
comp=Z,2.2nm,0.8s,baz=273,slow=8.9,SNR=10
TORD LR LR 15 15 37.1
comp=Z,1μm,19.6s,baz=265,slow=33
TORD Torodi Ar. Bea 40.54 80 P **P** **15 00 41.5 -1.0**
PBEJ Beja 40.77 39 *eP* **P** **15 00 45.9 +1.8**
comp=Z,34nm,2.0s
EVO Evora 40.99 38 *eP* **P** **15 00 48.5 +2.6**
comp=Z,27nm,1.9s
PB11 IPOC Station P 41.06 226 P **P** **15 00 42.8 -4.0**
FSCY Frank Sound, G 41.83 289 P **P** **15 00 51.9 -1.2**
PMRV Marv??o 41.93 38 *eP* **P** **15 00 56.4 +2.8**
comp=Z,39nm,1.5s
ATAH Atahualpa 41.93 249 P **P** **15 00 55.4 +0.9**
comp=Z,3.9nm,0.6s,baz=88,slow=2.8,SNR=7.7
ATAH LR LR 15 19 11.7
comp=Z,240nm,19.9s,baz=68,slow=37
PCBR Castelo Branco 42.13 37 *eP* **P** **15 00 58.1 +2.8**
comp=Z,19nm,1.5s
PVIS Viseu 42.44 36 *eP* P 15 01 07.6 +10
comp=Z,16nm,1.3s
LVC Limon Verde 42.44 222 P **P** **15 00 57.6 -0.8**
comp=Z,8.0nm,1.0s,baz=71,slow=2.0,SNR=4.7
LVC Limon Verde 42.44 222 *eP* **P** **15 00 58.3 -0.1**
MTE Manteigas 42.45 37 *eP* **P** **15 01 00.3 +2.4**
comp=Z,41nm,1.5s
MTE Manteigas 42.45 37 P **P** **15 00 57.5 -0.4**
061Z Ochoppi 42.98 299 P **P** **15 01 00.1 -2.2**
PB15 IPOC Station P 43.23 222 P **P** **15 01 01.0 -3.6**
PB15 IAmb IAmb 15 01 12.2
comp=Z,32nm,1.1s
MVO Moncorvo 43.23 36 *eP* **P** **15 01 06.2 +1.9**
comp=Z,21nm,1.8s
PBRG Braganca 43.81 36 *eP* **P** **15 01 10.3 +1.4**
comp=Z,36nm,1.5s
PAB San Pablo 43.89 40 P **P** **15 01 09.4 -0.2**
PAB pmax pmax
comp=Z,10.0nm,1.2s
PAB San Pablo 43.89 40 P **P** **15 01 09.4 -0.2**
PB10 IPOC Station P 44.16 223 P **P** **15 01 10.4 -1.5**
PB10 IAmb IAmb 15 01 29.7
comp=Z,45nm,1.3s
ESDC Sonseca Array 44.20 40 P **P** **15 01 11.9 -0.3**
comp=Z,1.8nm,0.8s,baz=239,slow=9.3,SNR=8.8
ESDC PcP **PcP** **15 02 58.9 +2.1**
comp=Z,3.2nm,1.2s,baz=255,slow=5.0,SNR=6.5
ESDC LR LR 15 16 44.5
comp=Z,343nm,19.5s,baz=250,slow=32
ESDC Sonseca Array 44.20 40 P **P** **15 01 11.5 -0.6**
U59A Littleton 44.48 314 P **P** **15 01 15.7 +1.4**
baz=119
V59A Middlesex 44.52 313 P **P** **15 01 15.2 +0.6**
baz=118
KSCT Kent School, K 44.62 323 P **P** **15 01 14.2 -1.1**
KSCT IAmb IAmb 15 01 37.6
comp=Z,25nm,1.4s
GO02 Mina Guanaco 44.67 220 P **P** **15 01 14.1 -2.1**
GO02 IAmb IAmb 15 01 39.0
comp=Z,30nm,1.3s
PB14 IPOC Station P 44.82 222 P **P** **15 01 16.6 -0.9**
WUPA West Chester U 44.87 320 P **P** **15 01 16.0 -1.3**

ODNJ Ogdensburg 44.91 322 P **P** **15 01 14.9 -2.8**
ODNJ IAmb IAmb 15 01 16.9
comp=Z,20nm,0.8s
W58A Raeford 44.91 312 P **P** **15 01 19.1 +1.3**
baz=116
U58A Oxford 45.04 314 P **P** **15 01 20.2 +1.4**
baz=118
M60A Port Jervis 45.06 322 P **P** **15 01 20.2 +1.3**
baz=126
ACON Acoyapa 45.15 278 P **P** **15 01 19.1 -0.8**
ACON IAmb IAmb 15 01 22.0
comp=Z,27nm,1.2s
H62A Milan 45.16 328 P **P** **15 01 21.2 +1.5**
baz=133
V58A Windy Hill, Pi 45.17 313 P **P** **15 01 21.0 +1.2**
baz=117
V58A Windy Hill, Pi 45.17 313 P **P** **15 01 19.8 0.0**
P59A Jarrettsville 45.23 319 P **P** **15 01 22.2 +2.0**
baz=123
S58A Poland Farm, P 45.28 316 P **P** **15 01 21.9 +1.3**
baz=120
G62A West of Eustis 45.28 329 P **P** **15 01 22.1 +1.6**
baz=134
157A Early Branch 45.29 308 P **P** **15 01 22.4 +1.6**
baz=113
T58A Grand View Acr 45.29 315 P **P** **15 01 21.1 +0.4**
baz=119
R58B Mineral 45.33 316 P **P** **15 01 22.3 +1.3**
baz=120
R58B Mineral 45.33 316 P **P** **15 01 20.7 -0.3**
R58B IAmb IAmb 15 01 23.5
comp=Z,30nm,1.4s
O59A Robesonia 45.45 320 P **P** **15 01 23.4 +1.4**
baz=124
W57A Gilead 45.53 312 P **P** **15 01 24.2 +1.5**
baz=116
H61A Lyndonville 45.55 327 P **P** **15 01 23.3 +0.7**
baz=132
AC02 Maricunga 45.57 218 P **P** **15 01 21.3 -2.4**
AC02 IAmb IAmb 15 01 25.6
comp=Z,27nm,1.1s
R58A Rapidan 45.59 317 P **P** **15 01 23.7 +0.7**
baz=120
U57A Blanch 45.62 314 P **P** **15 01 24.3 +0.9**
baz=118,SNR=5.5
M59A Waymart 45.68 322 P **P** **15 01 24.3 +0.4**
baz=126
V57A Conrane Farms 45.69 313 P **P** **15 01 24.7 +0.7**
baz=117
Q58A Fox Den Farm, 45.70 318 P **P** **15 01 24.4 +0.5**
baz=121
P58A Pank, Wackersv 45.73 318 P **P** **15 01 25.3 +1.2**
baz=122
R57A Stanardsville 45.94 316 P **P** **15 01 27.3 +1.5**
baz=120
W56A Indian Trail 45.96 311 P **P** **15 01 26.3 +0.2**
baz=115
S57A Dark Hollow, R 45.97 315 P **P** **15 01 27.2 +1.0**
baz=119
H60A Morristown 45.98 327 P **P** **15 01 27.5 +1.5**
baz=131
X56A White Oak 46.03 310 P **P** **15 01 27.0 +0.4**
baz=114
F61A St Evariste 46.04 329 P **P** **15 01 27.5 +1.0**
baz=134
G60A Maconville 46.14 328 P **P** **15 01 29.4 +2.1**
baz=132
255A Hazlehurst 46.18 306 P **P** **15 01 27.1 -0.8**
P57A Homestead Farm 46.20 318 P **P** **15 01 29.2 +1.4**
baz=121
M58A Price's Panora 46.22 321 P **P** **15 01 29.3 +1.2**
baz=124
L58A Harry Jones Me 46.23 322 P **P** **15 01 29.2 +1.1**
baz=126
Q57A Strasburg 46.23 317 P **P** **15 01 29.3 +1.1**
baz=121
ACLC CERRO LA CRUZ 46.24 214 *eP* **P** **15 01 26.0 -2.4**
O57A Amberson 46.33 319 P **P** **15 01 30.1 +1.2**
baz=122
X55A Gracelyn & Ava 46.48 310 P **P** **15 01 30.3 +0.2**
baz=114
KMSC Kings Mountain 46.52 311 P **P** **15 01 31.1 +0.6**
baz=114
N57A Milroy 46.57 320 P **P** **15 01 31.3 +0.6**
baz=123
R56A Bull Pasture M 46.60 316 P **P** **15 01 32.5 +1.4**
baz=119
M57A Sunshine Farm, 46.62 321 P **P** **15 01 30.9 -0.2**
baz=124
M57A Sunshine Farm, 46.62 321 P **P** **15 01 30.0 -1.1**
J58A Remsen 46.67 324 P **P** **15 01 32.3 +0.7**
baz=127
I58A Old Forge 46.69 325 P **P** **15 01 33.5 +1.8**
baz=128
H58A Gabriels 46.70 326 P **P** **15 01 33.4 +1.6**
baz=129
SSPA Standing Stone 46.72 319 P **P** **15 01 33.6 +1.6**
baz=122
V55A Taylorsville 46.73 312 P **P** **15 01 33.2 +1.1**
baz=115
V55A Taylorsville 46.73 312 P **P** **15 01 31.0 -1.1**
V55A IAmb IAmb 15 01 34.9
comp=Z,18nm,1.0s
BLA Blacksburg 46.75 314 P **P** **15 01 33.8 +1.5**
baz=117
BLA Blacksburg 46.75 314 P **P** **15 01 30.1 -2.2**
BLA pmax pmax
comp=Z,27nm,1.1s
BLA Blacksburg 46.75 314 P **P** **15 01 30.1 -2.2**
PAULI Pauline 46.75 310 P **P** **15 01 29.7 -2.6**
PAULI IAmb IAmb 15 01 34.8
comp=Z,30nm,1.5s
P56A Dayton Farm, R 46.76 318 P **P** **15 01 33.4 +1.1**
baz=121
L57A Arnews Acres 46.81 322 P **P** **15 01 32.1 -0.6**
baz=125
HODGE Hodges 46.86 309 P **P** **15 01 33.4 +0.3**
HODGE IAmb IAmb 15 01 36.5
comp=Z,25nm,1.4s
F59A Saint Guilaume 46.87 328 P **P** **15 01 34.6 +1.6**
baz=132
U55A TA2, Sparta 46.88 313 P **P** **15 01 34.6 +1.2**
baz=116
O56A Blue Knob Stat 46.97 319 P **P** **15 01 35.9 +1.9**
baz=122
T55A Pulaski 46.97 314 P **P** **15 01 35.3 +1.3**
baz=117
R55A Marlinton 47.03 315 P **P** **15 01 36.1 +1.5**
baz=118
S55A Lewisburg 47.06 315 P **P** **15 01 36.5 +1.7**
baz=118
X54A Belton 47.07 310 P **P** **15 01 36.4 +1.6**
baz=113
W54A Cherokee Point 47.14 311 P **P** **15 01 36.7 +1.4**
baz=114
AGUA GUANDACOL 47.15 215 *eP* **P** **15 01 36.0 +0.5**
V54A Nebo 47.24 311 P **P** **15 01 37.6 +1.4**
baz=114
L56A Greenwood 47.33 321 P **P** **15 01 37.5 +0.8**
baz=124
H57A Richville 47.40 325 P **P** **15 01 38.6 +1.4**
baz=128
P55A Reedsville 47.42 317 P **P** **15 01 38.7 +1.2**
baz=120
O55A Ligonier 47.42 318 P **P** **15 01 38.6 +1.1**
baz=121
E58A La Victoria 47.48 328 P **P** **15 01 39.5 +1.7**
baz=132
GOGA Godfrey 47.49 308 P **P** **15 01 37.6 -0.4**
GOGA pmax pmax
comp=Z,16nm,1.2s
GOGA Godfrey 47.49 308 P **P** **15 01 37.6 -0.4**
GOGA IAmb IAmb 15 01 40.8
comp=Z,16nm,1.2s
T54A Tazewell 47.51 313 P **P** **15 01 39.8 +1.5**
baz=116,SNR=6.7
J56A Wolcott 47.55 323 P **P** **15 01 39.3 +0.9**
baz=126
J56A Wolcott 47.55 323 P **P** **15 01 38.4 +0.1**
R54A Victor 47.59 315 P **P** **15 01 40.0 +1.2**
baz=117
S54A Dingess, Beckl 47.65 314 P **P** **15 01 39.7 +0.4**
D58A Chemin du LacG 47.76 329 P **P** **15 01 41.3 +1.3**
baz=133
V53A Saluda 47.84 311 P **P** **15 01 41.2 +0.4**
Q54A Coxs Mills 47.85 316 P **P** **15 01 42.5 +1.6**
baz=118

P54A Burton 47.91 317 P **P** **15 01 42.3 +1.0**
baz=119
E57A Chemin Saint G 47.96 328 P **P** **15 01 43.0 +1.5**
baz=131
ACDV Cuesta del Vie 48.02 215 *eP* **P** **15 01 43.2 +0.8**
T53A Wise 48.17 313 P **P** **15 01 44.6 +1.2**
baz=115
152A Waverly Hall 48.22 306 P **P** **15 01 42.9 -0.8**
152A IAmb IAmb 15 01 58.8
comp=Z,14nm,1.2s
AROD Rodeo 48.22 216 *eP* P 15 01 37.5 -6.7
N54A Moraine State 48.25 319 P **P** **15 01 43.4 -0.5**
baz=121
N54A Moraine State 48.25 319 P **P** **15 01 42.4 -1.5**
N54A IAmb IAmb 15 01 52.8
comp=Z,15nm,0.9s
ACCO Cerro Coronel 48.30 215 *eP* **P** **15 01 45.6 +0.8**
M54A Oil Creek Stat 48.32 319 P **P** **15 01 45.1 +0.7**
baz=121
R53A Hurricane 48.33 315 P **P** **15 01 45.7 +1.2**
baz=117
P53A Whipple 48.47 316 P **P** **15 01 46.4 +0.8**
baz=118
L54A Sinclairville 48.48 320 P **P** **15 01 46.0 +0.4**
baz=122
E56A St. Veronique 48.51 328 P **P** **15 01 46.0 +0.2**
baz=130
TKL Tuckaleechee C 48.55 311 P **P** **15 01 46.8 +0.5**
comp=Z,2.8nm,0.6s,baz=132,slow=8.4,SNR=5.1
TKL Tuckaleechee C 48.55 311 P **P** **15 01 46.8 +0.5**
TKL pmax pmax
comp=Z,7.0nm,1.1s
D56A ZEC Mazanza, M 48.69 328 P **P** **15 01 49.1 +1.9**
baz=130
O53A New Philadelph 48.71 317 P **P** **15 01 48.1 +0.6**
baz=119
O53A New Philadelph 48.71 317 P **P** **15 01 46.2 -1.3**
O53A IAmb IAmb 15 01 49.9
comp=Z,19nm,0.9s
N53A Lisbon 48.73 318 P **P** **15 01 48.7 +1.1**
baz=120
TZTN Tazewell 48.73 312 P **P** **15 01 48.9 +1.2**
baz=114
ZON Zonda 48.81 214 P **P** **15 01 46.5 -1.9**
ZON pmax pmax
comp=Z,37nm,1.4s
ZON Zonda 48.81 214 P **P** **15 01 46.5 -1.9**
Q52A Bidwell 48.84 315 P **P** **15 01 49.8 +1.4**
baz=117
RTCV Cerro Valdivia 48.98 213 *eP* **P** **15 01 50.1 +0.5**
P52A Corning 49.05 316 P **P** **15 01 51.0 +1.0**
baz=118
O52A Adamsville 49.07 317 P **P** **15 01 51.6 +1.4**
baz=118
O52A Adamsville 49.07 317 P **P** **15 01 48.6 -1.6**
N52A McGinn's Farm, 49.30 318 P **P** **15 01 52.0 0.0**
baz=119
RTLS Leoncito 49.35 214 *eP* **P** **15 01 53.5 +0.8**
ASAL Salagasta 49.70 213 *eP* **P** **15 01 56.6 +1.5**
AUSP Uspallata 49.72 214 *eP* **P** **15 01 56.6 +1.1**
ALGO Algonquin Park 49.80 325 P **P** **15 01 56.4 +0.8**
baz=126
N51A Ashland 49.81 317 P **P** **15 01 56.5 +0.6**
baz=118
T50A Nancy 49.87 312 P **P** **15 01 55.3 -1.0**
M51A Elyria 49.88 318 P **P** **15 01 57.0 +0.7**
baz=119
ACSO Alum Creek Sta 49.90 316 P **P** **15 01 57.1 +0.6**
baz=117
SWET Sewanee 50.03 309 P **P** **15 01 57.4 -0.3**
SWET IAmb IAmb 15 02 00.2
comp=Z,15nm,0.9s
LRAL Lakeview Retre 50.15 306 P **P** **15 01 59.6 +1.0**
baz=108
LRAL Lakeview Retre 50.15 306 P **P** **15 01 58.2 -0.4**
LRAL IAmb IAmb 15 02 01.1
comp=Z,18nm,1.2s
CHGQ Chibougamau 50.40 331 P **P** **15 02 01.7 +1.6**
baz=133
R49A Shelbyville 50.62 313 P **P** **15 02 01.2 -0.8**
X48A Hartselle 50.64 308 P **P** **15 02 00.6 -1.6**
P49A Miami Univ. Ec 50.80 315 P **P** **15 02 04.5 +1.1**
baz=115
SCHQ Schefferville 51.00 340 P **P** **15 02 05.2 +0.6**
comp=Z,24nm,1.3s,baz=148,slow=5.5,SNR=8.0
SCHQ LR LR 15 19 32.5
comp=Z,208nm,21.9s,baz=101,slow=31
SCHQ Schefferville 51.00 340 P **P** **15 02 04.3 -0.3**
SCHQ IAmb IAmb 15 02 06.5
comp=Z,20nm,0.9s
LSQQ Lebel-sur-Quev 51.12 329 P **P** **15 02 05.8 +0.2**
baz=129
ROC1 El Roble 51.19 214 P **P** **15 02 04.0 -2.6**
P48A Milroy 51.27 314 P **P** **15 02 05.4 -1.5**
P48A IAmb IAmb 15 02 20.1
comp=Z,16nm,1.0s
WCI Wyandotte Cave 51.40 313 P **P** **15 02 08.5 +0.6**
baz=113
T47A Sharon Grove 51.55 311 P **P** **15 02 08.6 -0.4**
T47A IAmb IAmb 15 02 23.0
comp=Z,26nm,1.1s
PLAL Pickwick Lake 51.61 308 P **P** **15 02 09.0 -0.5**
PLAL IAmb IAmb 15 02 11.6
comp=Z,21nm,1.3s
WVT Waverly 51.80 310 P **P** **15 02 11.8 +0.9**
baz=110
WVT Waverly 51.80 310 P **P** **15 02 08.4 -2.5**
WVT pmax pmax
comp=Z,12nm,1.0s
WVT Waverly 51.80 310 P **P** **15 02 08.4 -2.5**
KEST Kesra 51.87 51 P **P** **15 02 12.7 +1.1**
comp=Z,7.1nm,1.0s,baz=221,slow=7.7,SNR=7.4
KEST LR LR 15 24 11.5
comp=Z,324nm,18.7s,baz=196,slow=36
MATQ Matagami 51.90 329 P **P** **15 02 12.9 +1.5**
baz=129
BO02 Sierra Bellavi 52.42 213 P **P** **15 02 14.0 -1.6**
BO02 IAmb IAmb 15 02 16.8
comp=Z,20nm,0.8s
Y45A Yeager Farm, C 52.43 306 P **P** **15 02 14.8 -0.8**
SSB Saint Sauveur 52.51 38 P **P** **15 02 15.2 -0.9**
SSB pmax pmax
comp=Z,18nm,1.3s
SSB Saint Sauveur 52.51 38 P **P** **15 02 15.2 -0.9**
W45A Hickory Valley 52.53 308 P **P** **15 02 15.5 -0.9**
SFIN Lafayette 52.81 315 P **P** **15 02 18.9 +0.5**
baz=114
OLIL Olney 52.91 313 P **P** **15 02 18.6 -0.5**
Q44A Meyer Farm, Va 53.64 312 P **P** **15 02 22.0 -2.5**
BNI Bardonecchia 53.72 39 P **P** **15 02 23.9 -1.3**
BNI pmax pmax
comp=Z,17nm,1.2s
BNI Bardonecchia 53.72 39 P **P** **15 02 23.9 -1.3**
BNI IAmb IAmb 15 02 30.5
comp=Z,17nm,1.2s
BI02 San Fabin de 54.11 212 P **P** **15 02 24.1 -3.8**
BI02 IAmb IAmb 15 02 28.9
comp=Z,22nm,1.0s
LCAR Lake Charles 54.33 308 P **P** **15 02 28.6 -1.0**
FVM French Village 54.37 311 P **P** **15 02 28.8 -1.1**
FVM pmax pmax
comp=Z,18nm,1.0s
FVM French Village 54.37 311 P **P** **15 02 28.8 -1.1**
FVM IAmb IAmb 15 02 31.3
comp=Z,18nm,1.0s
T42A Van Buren 54.57 310 P **P** **15 02 30.4 -0.9**
SENIN Lac Senin/Sane 54.73 38 P **P** **15 02 31.2 -1.4**
SENIN IAmb IAmb 15 02 35.9
comp=Z,25nm,1.4s
W41B Gary Mavity, V 54.94 307 P **P** **15 02 34.4 +0.4**
baz=106,SNR=6.1
W41B Gary Mavity, V 54.94 307 P **P** **15 02 33.1 -0.9**
W41B IAmb IAmb 15 02 35.5
comp=Z,26nm,1.2s
WHAR Wooly Hollow 55.00 307 P **P** **15 02 33.3 -1.2**
CCM Cathedral Cave 55.00 311 P **P** **15 02 34.3 -0.1**
baz=108
CCM Cathedral Cave 55.00 311 P **P** **15 02 33.3 -1.2**
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 55.00 311 P **P** **15 02 33.3 -1.2**
CCM IAmb IAmb 15 02 47.4
comp=Z,15nm,1.1s
DOU Dourbes 55.08 33 pP **P** **15 02 36.2 +1.5**
X40A Basin Creek Fa 55.22 306 P **P** **15 02 35.4 -0.7**
baz=105

BMRD Maredsous 55.28 33 pP P 15 02 37.8 +1.6
BMRD x x 15 02 53.3
BGES Gesves 55.50 33 pP P 15 02 38.4 +0.6
MGMO Mountain Grove 55.51 309 P P 15 02 36.5 -1.6
MGMO IAmb IAmb 15 02 39.5
comp=Z,17nm,1.1s
ECH Echery 55.54 36 P P 15 02 37.4 -0.7
ECH pmax pmax
comp=Z,20nm,1.2s
ECH Echery 55.54 36 P P 15 02 37.4 -0.7
ECH IAmb IAmb 15 02 41.0
comp=Z,20nm,1.2s
BCLA Clavier 55.63 33 pP P 15 02 40.4 +1.6
BCLA PcP PcP 15 03 37.4 -0.9
U40A Yellville 55.73 308 P P 15 02 39.5 -0.3
baz=106,SNR=6.7
U40A Yellville 55.73 308 P P 15 02 38.8 -0.9
U40A IAmb IAmb 15 02 40.7
comp=Z,13nm,1.0s
MIAR Mount Ida 55.83 306 P P 15 02 40.6 +0.1
baz=104
MIAR Mount Ida 55.83 306 P P 15 02 39.9 -0.6
MIAR pmax pmax
comp=Z,22nm,1.5s
MIAR Mount Ida 55.83 306 P P 15 02 39.9 -0.6
MIAR IAmb IAmb 15 02 48.8
comp=Z,22nm,1.5s
R40A Maddies Statio 55.84 311 P P 15 02 40.1 -0.4
JFWS Jewell Farm 55.97 317 P P 15 02 42.2 +0.9
baz=112
JFWS Jewell Farm 55.97 317 P P 15 02 41.2 -0.1
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS Jewell Farm 55.97 317 P P 15 02 41.2 -0.1
JFWS IAmb IAmb 15 02 42.8
comp=Z,16nm,0.8s
OSSC Osservatorio P 56.03 43 P P 15 02 41.2 -0.6
TUE Stuetta 56.03 39 P P 15 02 41.1 -0.8
LATE Laterza 56.06 44 P P 15 02 43.2 +1.2
P40A Paris 56.06 312 P P 15 02 41.1 -0.9
MEM Membach 56.12 33 P P 15 02 40.5 -1.7
MEM pP pP 15 02 43.9 -2.0
W39A Magazine 56.16 307 P P 15 02 43.4 +0.6
baz=105,SNR=5.7
W39A Magazine 56.16 307 P P 15 02 41.7 -1.1
W39A IAmb IAmb 15 02 44.7
comp=Z,25nm,1.2s
BTNL Ternell 56.17 33 pP pP 15 02 44.5 -1.7
ZCCA Zocca 56.18 42 P P 15 02 42.7 -0.1
BFO Black Forest 56.28 36 P P 15 02 43.8 +0.4
BFO pmax pmax
comp=Z,19nm,1.0s
BFO Black Forest 56.28 36 P P 15 02 43.8 +0.4
BFO IAmb IAmb 15 02 46.0
comp=Z,19nm,1.0s
L40A Anamosa 56.33 315 P P 15 02 43.8 -0.1
L40A IAmb IAmb 15 02 45.1
comp=Z,30nm,1.2s
S39A Bolivar 56.46 310 P P 15 02 44.3 -0.6
S39A IAmb IAmb 15 02 47.0
comp=Z,13nm,0.9s
FUORN Ofenpass-Fuorn 56.67 39 P P 15 02 47.5 +0.9
DAVA Damuels 56.72 38 eP P 15 02 48.8 +2.0
comp=Z,32nm,1.1s,SNR=6.9
HKT Hockley 56.75 300 i P P 15 02 47.4 +0.4
HKT pmax pmax
comp=Z,7.0nm,1.1s
PLCA Paso Flores 56.91 208 P P 15 02 47.9 -0.2
comp=Z,8.8nm,0.9s,baz=30,slow=8.3,SNR=8.8
PLCA LR LR 15 28 11.6
comp=Z,376nm,19.3s,baz=351,slow=37
PLCA Paso Flores 56.91 208 P P 15 02 48.1 0.0
PLCA pmax pmax
comp=Z,22nm,1.2s
PLCA Paso Flores 56.91 208 P P 15 02 48.1 0.0
PLCA IAmb IAmb 15 02 49.4
comp=Z,22nm,1.1s
PLCA Paso Flores 56.91 208 eP P 15 02 48.9 +0.8
FETA Feichten 57.13 39 eP P 15 02 51.1 +1.4
comp=Z,18nm,1.2s,SNR=7.8
CTI Castel Tesino 57.30 40 P P 15 02 50.4 -0.5
CTI pmax pmax
comp=Z,34nm,1.3s
CTI Castel Tesino 57.30 40 P P 15 02 50.4 -0.5
N38A Joes South For 57.33 313 P P 15 02 50.4 -0.6
N38A IAmb IAmb 15 02 51.9
comp=Z,20nm,0.8s
RETA Reutte 57.35 38 eP P 15 02 52.6 +1.5
comp=Z,20nm,1.2s,SNR=6.8
MOTA Moosalm 57.50 38 eP P 15 02 53.4 +1.1
comp=Z,22nm,1.2s,SNR=6.8
SQTA Sankt Quirin 57.51 39 eP P 15 02 53.6 +1.3
comp=Z,25nm,1.2s,SNR=7.1
SCIA State Center 57.67 315 P P 15 02 53.8 +0.4
baz=109
SCIA State Center 57.67 315 P P 15 02 52.0 -1.5
SCIA IAmb IAmb 15 02 54.2
comp=Z,22nm,1.0s
WATA Walderalm 57.79 39 eP P 15 02 55.5 +1.2
comp=Z,25nm,1.4s,SNR=6.1
WTTA Wattenberg 57.79 39 i P P 15 02 55.7 +1.3
comp=Z,15nm,0.9s,SNR=6.0
CIMO Cimolais 57.91 40 P P 15 02 54.4 -0.6
CIMO IAmb IAmb 15 02 57.8
comp=Z,26nm,1.4s
TUL1 Leonard 57.92 307 P P 15 02 55.6 +0.3
baz=104
ABTA Abfaltersbach 58.13 40 eP P 15 02 58.0 +1.4
comp=Z,22nm,1.1s,SNR=11
ZOU Zoufplan 58.34 40 P P 15 02 57.0 -1.3
WHTX Lake Whitney, 58.48 302 P P 15 02 59.6 +0.3
baz=100
SPMN Marine on St. 58.54 318 P P 15 03 00.2 +0.7
baz=112
SPMN Marine on St. 58.54 318 P P 15 02 58.9 -0.6
SPMN IAmb IAmb 15 03 01.6
comp=Z,13nm,0.7s
Z35A Perchaven, San 58.55 304 P P 15 02 59.9 +0.1
ROBS Robic 58.56 40 eP P 15 03 00.9 +1.3
GRA1 Grafenberg Arr 58.59 36 P P 15 03 00.0 +0.2
GRA1 IAmb IAmb 15 03 02.1
comp=Z,20nm,1.0s
GRF Grafenberg Arr 58.59 36 P P 15 03 00.0 +0.2
GRF pmax pmax
comp=Z,20nm,1.0s
GRF Grafenberg Arr 58.59 36 eP P 15 03 01.2 +1.5
comp=Z,30nm,1.3s,baz=242,slow=6.9
GRF eL L 15 27 37.2
comp=Z,78nm,19.5s
PRED Cave del Predi 58.68 40 P P 15 03 00.3 -0.1
PRED IAmb IAmb 15 03 03.9
comp=Z,31nm,1.5s
OK030 Cody Creek RV 58.71 307 P P 15 03 00.1 -0.7
T35A Sooner Cattle 58.72 308 P P 15 02 58.8 -2.1
T35A IAmb IAmb 15 03 01.9
comp=Z,14nm,0.9s
OK031 S. Brethren Rd 58.76 307 P P 15 02 59.5 -1.6
OK031 IAmb IAmb 15 03 01.8
comp=Z,13nm,0.8s
MYKA Terra Mystica 58.80 40 eP P 15 03 03.0 +1.7
comp=Z,33nm,1.3s,SNR=10
CEY Cerknica 58.97 41 eP P 15 03 03.8 +1.4
OK029 Liberty Lake 59.21 307 P P 15 03 03.9 -0.4
F36A Milaca 59.24 319 P P 15 03 03.6 -0.7
F36A IAmb IAmb 15 03 05.1
comp=Z,13nm,1.2s
VISS Visnje 59.26 41 i P P 15 03 05.9 +1.5
KSU1 Kansas State U 59.33 310 P P 15 03 04.2 -0.8
KSU1 IAmb IAmb 15 03 05.5
comp=Z,12nm,0.8s
OBKA Obir 59.33 40 eP P 15 03 07.0 +2.0
comp=Z,42nm,1.5s,SNR=11
BOJS Bojanci 59.43 42 i P P 15 03 07.3 +1.7
NKC Novy Kostel 59.54 36 eP P 15 03 08.4 +2.1
NKC Novy Kostel 59.54 36 eP P 15 03 08.4 +2.1
833A Chaparral WMA, 59.60 298 P P 15 03 07.3 +0.2
baz=97
833A Chaparral WMA, 59.60 298 P P 15 03 06.7 -0.4
MOA Molln 59.66 39 eP P 15 03 08.2 +1.0
comp=Z,21nm,1.4s,SNR=7.5
SOKA Soboth 59.70 40 eP P 15 03 08.9 +1.3
comp=Z,16nm,1.5s,SNR=6.5
GEC2 GERESS Array S 59.71 38 P P 15 03 06.1 -1.4
GERES GERESS Array B 59.71 38 P P 15 03 07.9 +0.3
comp=Z,2.4nm,0.9s,baz=260,slow=4.1,SNR=10

GERES GERESS Array B 59.71 38 P P 15 03 06.2 -1.4
GERES GERESS Array B 59.71 38 P P 15 03 06.2 -1.4
KHC Kasperske Hory 59.75 37 eP P 15 03 08.2 +0.4
KHC ex x 15 03 15.4
KHC Kasperske Hory 59.75 37 ceP P 15 03 09.4 +1.6
KHC pmax pmax
comp=Z,35nm,1.7s
GCIS Gornji Cirnik 59.80 41 eP P 15 03 09.4 +1.3
KAN05 Bluff City Nor 59.82 308 P P 15 03 08.3 -0.2
KAN08 Anthony NE Sta 59.93 308 P P 15 03 08.9 -0.3
L34A Svendsen Farm, 59.94 314 P P 15 03 08.9 -0.3
WMOK Wichita Mounta 60.06 305 P P 15 03 09.5 -0.7
baz=101,SNR=5.6
WMOK Wichita Mounta 60.06 305 P P 15 03 08.9 -1.3
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta 60.06 305 P P 15 03 08.9 -1.3
ARSA Arzberg 60.23 40 eP P 15 03 11.9 +0.8
comp=Z,8.7nm,1.0s
JCT Junction City 60.23 300 P P 15 03 10.8 -0.7
baz=98
JCT Junction City 60.23 300 P P 15 03 10.2 -1.2
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 60.23 300 P P 15 03 10.2 -1.2
JCT IAmb IAmb 15 03 12.5
comp=Z,18nm,1.0s
CLL Collm 60.33 35⇑ i P P 15 03 13.2 +1.6
comp=Z,23nm,1.5s
CLL Collm 60.33 35⇑ i P P 15 03 13.2 +1.6
CLL pmax pmax
comp=Z,23nm,1.5s
ICESG Greenland Ices 60.38 360 i P P 15 03 12.1 0.0
ICESG IAmb IAmb 15 03 13.2
comp=Z,13nm,0.9s
ABTX Abilene, Hawle 60.41 303 P P 15 03 12.6 0.0
baz=99,SNR=5.2
ABTX Abilene, Hawle 60.41 303 P P 15 03 11.7 -0.9
ABTX IAmb IAmb 15 03 13.5
comp=Z,15nm,0.9s
ECSD EROS Data Cent 60.62 316 P P 15 03 14.5 +0.6
baz=108,SNR=5.7
ECSD EROS Data Cent 60.62 316 P P 15 03 13.2 -0.6
ECSD IAmb IAmb 15 03 26.5
comp=Z,19nm,1.2s
PRU Pruhonice 60.67 37 eP P 15 03 15.4 +1.4
PRU Pruhonice 60.67 37 eP P 15 03 15.4 +1.4
BRG Berggiesshubel 60.68 36 eP P 15 03 15.0 +0.9
comp=Z,24nm,1.7s
BRG Berggiesshubel 60.68 36 eP P 15 03 15.0 +0.9
BRG pmax pmax
comp=Z,24nm,1.7s
CONA Conrad Observa 60.69 39 eP P 15 03 15.7 +1.4
comp=Z,16nm,1.3s,SNR=8.3
R32A Long Quarter, 60.76 309 P P 15 03 15.1 +0.1
PVCC Panska Ves 60.90 36 AMS AMS 15 26 30.0
comp=Z,200nm,20.4s
BGNE Belgrade 61.06 313 P P 15 03 17.1 +0.2
baz=105
BGNE Belgrade 61.06 313 P P 15 03 16.3 -0.6
PDG Podgorica 61.22 46 P P 15 03 18.3 +0.4
KRUC Moravsky 61.43 38 eP P 15 03 20.3 +1.1
AGMN Agassiz Nation 61.60 321 P P 15 03 20.3 -0.1
baz=110
VRAC Vranov 61.64 38 eP P 15 03 21.9 +1.2
MODS Modra-Piesok 61.73 39 eP P 15 03 21.4 +0.1
MODS Modra-Piesok 61.73 39 eP P 15 03 21.4 +0.1
DPC Dobruska-Polom 61.86 37 eP P 15 03 24.2 +2.0
DPC Dobruska-Polom 61.86 37 eP P 15 03 24.2 +2.0
OSTC Ostas 61.88 37 eP P 15 03 23.8 +1.6
ULM Lac du Bonnet 62.31 323 P P 15 03 24.4 -0.7
comp=Z,10nm,0.7s,baz=105,slow=7.7,SNR=13
ULM LR LR 15 28 53.2
comp=Z,110nm,18.2s,baz=114,slow=34
ULM Lac du Bonnet 62.31 323 P P 15 03 23.7 -1.4
ULM pmax pmax
comp=Z,13nm,0.8s
ULM Lac du Bonnet 62.31 323 P P 15 03 23.7 -1.4
ULM IAmb IAmb 15 03 25.3
comp=Z,13nm,0.8s
MORC Moravsky Berou 62.38 38 eP P 15 03 27.3 +1.6
AMTX Amarillo 62.44 305 P P 15 03 26.9 +0.5
baz=99
AMTX Amarillo 62.44 305 P P 15 03 26.2 -0.2
AMTX IAmb IAmb 15 03 27.4
comp=Z,8.5nm,0.8s
SUSD Miller 62.44 316 P P 15 03 26.3 +0.1
baz=106
SUSD Miller 62.44 316 P P 15 03 25.7 -0.4
VYHS Vyhne 62.75 39 eP P 15 03 29.1 +1.0
VYHS Vyhne 62.75 39 eP P 15 03 29.1 +1.0
LIT Litokhoron 63.04 49 P P 15 03 29.6 -0.6
LIT pmax pmax
comp=Z,13nm,1.1s
LIT Litokhoron 63.04 49 P P 15 03 29.6 -0.6
LIT IAmb IAmb 15 03 33.1
comp=Z,13nm,1.1s
MSTX Muleshoe 63.20 304 P P 15 03 31.5 0.0
baz=98
TXAR Lajitas Array 63.43 298 P P 15 03 33.3 +0.2
comp=Z,1.7nm,0.6s,baz=109,slow=6.6,SNR=21
TXAR LR LR 15 31 22.2
comp=Z,34nm,22.0s,baz=0.0,slow=36
TXAR Lajitas Array 63.43 298 P P 15 03 32.8 -0.3
TXAR Lajitas Array 63.43 298 P P 15 03 32.8 -0.3
TX31 Lajitas Ar. Si 63.44 298 P P 15 03 32.2 -1.0
TX32 Lajitas Array 63.44 298 P P 15 03 32.0 -1.1
KSCO Kaye Shedlock' 63.88 309 P P 15 03 36.3 +0.3
baz=101
KSCO Kaye Shedlock' 63.88 309 P P 15 03 34.6 -1.4
SUMG Summit 63.89 0 i P P 15 03 36.5 +0.8
SUMG pmax pmax
comp=Z,80nm,0.8s
SUMG Summit 63.89 0 P P 15 03 36.2 +0.5
SUMG Summit 63.89 0 i P P 15 03 36.5 +0.8
comp=Z,80nm,0.8s
SUMG Summit 63.89 0 i P P 15 03 36.6 +0.8
SUMG IAmb IAmb 15 03 37.7
comp=Z,80nm,0.8s
CPRX Cap Rock 63.98 302 P P 15 03 36.0 -0.7
NOA NORSAR Array B 64.16 25 P P 15 03 37.9 +0.6
comp=Z,3.5nm,1.0s,baz=239,slow=6.4,SNR=5.9
NOA LR LR 15 27 15.6
comp=Z,80nm,20.1s,baz=240,slow=32
E28A Huff 64.19 318 P P 15 03 36.7 -1.0
GDL2 Guadalupe Moun 64.31 302 P P 15 03 38.0 -0.9
T25A Trinidad 64.97 307 P P 15 03 44.0 +0.8
baz=98,SNR=9.4
MNTX Cornudas Mount 65.12 301 P P 15 03 44.2 +0.1
baz=95,SNR=14
MNTX Cornudas Mount 65.12 301 P P 15 03 43.3 -0.7
MNTX IAmb IAmb 15 03 57.1
comp=Z,11nm,1.1s
Q24A Divide 65.81 309 P P 15 03 49.7 +0.9
baz=99
Q24A Divide 65.81 309 P P 15 03 48.1 -0.7
SDCO Great Sand Dun 65.91 307 P P 15 03 50.6 +1.1
baz=98,SNR=12
SDCO Great Sand Dun 65.91 307 P P 15 03 49.7 +0.3
SDCO IAmb IAmb 15 03 51.7
comp=Z,8.2nm,0.9s
ISCO Idaho Springs 66.29 310 P P 15 03 52.9 +1.1
baz=99,SNR=9.4
ISCO Idaho Springs 66.29 310 P P 15 03 51.7 -0.1
ISCO pmax pmax
comp=Z,18nm,1.3s
ISCO Idaho Springs 66.29 310 P P 15 03 51.7 -0.1
ISCO IAmb IAmb 15 03 54.3
comp=Z,18nm,1.3s
ANMO Albuquerque 66.34 304 P P 15 03 52.7 +0.7
baz=96
ANMO Albuquerque 66.34 304 ceP P 15 03 53.1 +1.0
ANMO pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 66.34 304 P P 15 03 52.3 +0.2
BNM Barren Site 66.40 303 P P 15 03 51.6 -0.9
PHWY Pilot Hill 66.42 311 P P 15 03 51.5 -1.1
BURAR Bucovina Array 66.61 42 P P 15 03 53.5 0.0
MLR Muntele Rosu 66.64 44 P P 15 03 54.6 +0.9
MLR Muntele Rosu 66.64 44 P P 15 03 54.6 +0.9
N23A Red Feather La 66.71 311 P P 15 03 55.3 +0.8
baz=99,SNR=6.1
N23A Red Feather La 66.71 311 P P 15 03 54.6 +0.1
S22A 4UR Ranch, Cre 66.95 307 P P 15 03 57.1 +1.0
baz=97,SNR=10

S22A 4UR Ranch, Cre 66.95 307 P P 15 03 56.0 -0.1
S22A IAmb IAmb 15 03 58.8
comp=Z,22nm,1.4s
121A Cookes Peak, D 67.22 302 P P 15 03 59.2 +1.4
baz=94,SNR=7.5
121A Cookes Peak, D 67.22 302 P P 15 03 55.6 -2.1
121A IAmb IAmb 15 04 00.4
comp=Z,19nm,1.3s
FFC Flin Flon 67.33 326 P P 15 03 56.2 -1.5
FFC pmax pmax
comp=Z,29nm,1.1s
FFC Flin Flon 67.33 326 P P 15 03 56.2 -1.5
RWWY Rawlins 67.78 311 P P 15 04 00.3 -0.9
RWWY IAmb IAmb 15 04 15.1
comp=Z,13nm,1.2s
LAO LASA Array 67.92 317 P P 15 04 02.6 +0.8
baz=101,SNR=7.3
LAO LASA Array 67.92 317 P P 15 04 00.7 -1.1
MVCO Mesa Verde 68.22 307 P P 15 04 04.9 +0.9
baz=96
MVCO Mesa Verde 68.22 307 P P 15 04 03.4 -0.6
MVCO IAmb IAmb 15 04 18.3
comp=Z,16nm,1.2s
ELL Elmali 68.29 54 P P 15 04 03.4 -0.9
ELL pmax pmax
comp=Z,89nm,1.1s
ELL Elmali 68.29 54 P P 15 04 03.4 -0.9
O20A White River Ci 68.34 310 P P 15 04 05.7 +1.0
baz=97
PV13 Radium Mtn., P 68.56 308 P P 15 04 05.4 -0.7
PV13 IAmb IAmb 15 04 08.6
comp=Z,16nm,1.2s
PV17 East Wray Mesa 68.69 308 P P 15 04 05.3 -1.6
PV17 IAmb IAmb 15 04 20.9
comp=Z,12nm,1.4s
PV20 West Nyswonger 68.70 308 P P 15 04 05.7 -1.2
PV20 IAmb IAmb 15 04 20.9
comp=Z,12nm,1.3s
DAG Danmarks Havn 69.01 5 i P P 15 04 08.6 +0.7
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 69.01 5 i P P 15 04 08.6 +0.7
comp=Z,5.8nm,0.7s
DAG Danmarks Havn 69.01 5 i P P 15 04 08.7 +0.7
DAG IAmb IAmb 15 04 09.3
comp=Z,5.8nm,0.7s
W18A Petrified Fore 69.03 304 P P 15 04 09.9 +0.9
baz=94
RDMU Red Mountain 69.40 310 P P 15 04 09.6 -1.8
PD31 Pinedale Array 69.65 312 P P 15 04 11.7 -1.1
PDAR Pinedale Array 69.65 312 P P 15 04 13.7 +0.8
comp=Z,0.8nm,0.7s,baz=98,slow=9.1,SNR=8.1
PDAR LR LR 15 30 56.4
comp=Z,516nm,21.7s,baz=123,slow=33
TUC Tucson 69.74 301 P P 15 04 13.9 +0.5
baz=93
TUC Tucson 69.74 301 P P 15 04 11.3 -2.1
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 69.74 301 P P 15 04 11.3 -2.1
RLMT Red Lodge 69.76 315 P P 15 04 14.0 +0.6
baz=98,SNR=5.5
RLMT Red Lodge 69.76 315 P P 15 04 11.4 -2.0
RLMT IAmb IAmb 15 04 15.5
comp=Z,16nm,1.3s
AKASG Malin Array Be 69.84 39 P P 15 04 14.2 +0.7
comp=Z,2.6nm,0.8s,baz=260,slow=5.5,SNR=13
AKASG LR LR 15 31 58.1
comp=Z,130nm,21.4s,baz=295,slow=34
AKASG Malin Array Be 69.84 39 i P P 15 04 14.6 +1.1
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 69.84 39 P P 15 04 12.6 -0.9
YNE Yellowstone No 70.26 315 P P 15 04 15.7 -0.9
WUAZ Wupatki 70.39 305 P P 15 04 19.0 +1.6
baz=93,SNR=9.8
WUAZ Wupatki 70.39 305 P P 15 04 15.9 -1.5
MBAR Mbarara 70.44 94 i P P 15 04 19.3 +1.2
MBAR pmax pmax
comp=Z,4.0nm,1.2s
LOHW Long Hollow 70.51 313 P P 15 04 17.3 -0.8
EGMT Eagleton 70.52 318 P P 15 04 18.5 +0.7
baz=99,SNR=5.7
EGMT Eagleton 70.52 318 P P 15 04 17.9 +0.1
EGMT IAmb IAmb 15 04 19.6
comp=Z,18nm,1.0s
TMUT Trail Mountain 70.53 309 P P 15 04 18.2 -0.2
MOOW Moose Ponds 70.63 313 P P 15 04 18.2 -0.6
FLWY Flagg Ranch 70.64 314 P P 15 04 17.2 -1.6
REDW Red Top Meadow 70.66 313 P P 15 04 17.5 -1.5
REDW IAmb IAmb 15 04 27.5
comp=Z,20nm,1.4s
TPAW Teton Pass 70.75 313 P P 15 04 18.0 -1.6
TPAW IAmb IAmb 15 04 34.1
comp=Z,22nm,1.4s
JLU Jordanelle 70.83 310 P P 15 04 19.2 -0.9
FINES FINESS Array B 70.84 28 LR LR 15 34 07.8
comp=Z,87nm,18.9s,baz=216,slow=35
HWUT Hardware Ranch 71.01 311 P P 15 04 20.0 -1.1
MTPU Mount Pierson 71.20 307 P P 15 04 23.1 +0.5
MSU Marysvale 71.22 308 P P 15 04 22.9 +0.4
MSU Marysvale 71.22 308 P P 15 04 22.9 +0.4
MVU Marysvale 71.25 308 P P 15 04 21.1 -1.6
214A Organ Pipe Nat 71.45 301 P P 15 04 24.7 +0.9
baz=91
214A Organ Pipe Nat 71.45 301 P P 15 04 21.9 -1.8
BOZ Bozeman (W) 71.47 315 P P 15 04 24.3 +0.6
baz=97,SNR=6.9
BOZ Bozeman (W) 71.47 315 P P 15 04 23.8 0.0
BOZ pmax pmax
comp=Z,10.0nm,1.1s
BOZ Bozeman (W) 71.47 315 P P 15 04 23.8 0.0
BRTR Keskin Array B 71.47 51 P P 15 04 24.6 +0.8
comp=Z,4.9nm,1.0s,baz=263,slow=4.9,SNR=18
BRTR Keskin Array B 71.47 51 i P P 15 04 25.7 +1.8
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 71.47 51 P P 15 04 23.8 0.0
SPUT South Promonto 71.64 311 P P 15 04 23.7 -1.2
HRY Holter Researc 71.74 316 P P 15 04 25.0 -0.3
DUG Dugway, Tooele 71.83 309 P P 15 04 25.0 -1.1
DUG pmax pmax
comp=Z,27nm,1.3s
DUG Dugway, Tooele 71.83 309 P P 15 04 25.0 -1.1
DUG IAmb IAmb 15 04 29.5
comp=Z,27nm,1.3s
SZCU Shurtz Canyon 71.89 307 P P 15 04 25.0 -1.5
BGU Big Grassy Mou 72.05 310 P P 15 04 26.9 -0.5
LRM Limekiln Ridge 72.07 315 P P 15 04 25.6 -1.9
MCMT McKenzie Canyo 72.25 314 P P 15 04 27.9 -0.7
BOSA Boshof 72.46 124 P P 15 04 29.6 -0.3
comp=Z,6.9nm,1.0s,baz=221,slow=5.0,SNR=6.0
BOSA LR LR 15 30 10.5
comp=Z,351nm,21.8s,baz=288,slow=31
BOSA Boshof 72.46 124 P P 15 04 29.0 -0.9
BOSA pmax pmax
comp=Z,24nm,1.3s
BOSA Boshof 72.46 124 P P 15 04 29.0 -0.9
BOSA IAmb IAmb 15 04 31.5
comp=Z,24nm,1.2s
PDMCI Parker Dam,Lak 72.62 303 P P 15 04 31.7 +1.0
baz=91
MSO Missoula 73.19 316 P P 15 04 35.0 +1.0
baz=95
MSO Missoula 73.19 316 P P 15 04 32.5 -1.5
HLID Hailey 73.26 313 P P 15 04 35.8 +1.2
baz=94,SNR=14
ARCES ARCESS Array B 73.30 19 LR LR 15 32 04.2
comp=Z,76nm,20.0s,baz=275,slow=32
WALA Waterton Lakes 73.39 319 P P 15 04 35.3 +0.1
IRM Iron Mountain 73.45 303 P P 15 04 37.3 +1.7
baz=91,SNR=7.2
JTMT Jette 73.51 317 P P 15 04 35.1 -0.8
JTMT IAmb IAmb 15 04 37.7
comp=Z,17nm,1.1s
NOR Nord 73.64 3 i P P 15 04 36.1 +0.3
NOR pmax pmax
comp=Z,5.0nm,0.9s
NOR Nord 73.64 3 i P P 15 04 36.1 +0.3
comp=Z,5.2nm,0.9s
NOR Nord 73.64 3 i P P 15 04 36.2 +0.3
NOR IAmb IAmb 15 04 37.4
comp=Z,5.2nm,0.9s
BC3 Big Chuckawall 73.70 302 P P 15 04 38.7 +1.4
baz=90,SNR=6.5

ELK	**Elko**	**73.71**	**310**	P	**P**	**15 04 37.6**	**+0.3**
ELK				pmax	pmax		
	comp=Z,20nm,1.4s						
ELK	**Elko**	**73.71**	**310**	P	**P**	**15 04 37.6**	**+0.3**
ELK				IAmb	IAmb	15 04 39.7	
	comp=Z,20nm,1.4s						
GMRC	**Granite Mounta**	**73.88**	**304**	P	**P**	**15 04 39.7**	**+1.4**
	baz=91,SNR=6.4						
R11A	**Troy Canyon, C**	**73.89**	**307**	P	**P**	**15 04 39.6**	**+1.3**
	baz=92,SNR=9.3						
SWSC	**Sam W. Stewart**	**73.99**	**302**	P	**P**	**15 04 39.9**	**+1.2**
	baz=90						
TUQ	**Turquoise Moun**	**74.10**	**304**	P	**P**	**15 04 41.2**	**+1.6**
	baz=91,SNR=5.6						
BELC	**Belle Mtn. Jos**	**74.15**	**303**	P	**P**	**15 04 41.4**	**+1.5**
	baz=90,SNR=5.3						
IKP	**In-Ko-Pah, Jac**	**74.25**	**301**	P	**P**	**15 04 41.7**	**+1.2**
	baz=90						
MFID	**Camas Ranch**	**74.28**	**313**	P	**P**	**15 04 36.4**	**-4.0**
TPNV	**Topopah Spring**	**74.39**	**306**	P	**P**	**15 04 42.5**	**+1.2**
	baz=91,SNR=7.9						
HEC	**Hector,Ludlow**	**74.44**	**304**	P	**P**	**15 04 43.4**	**+2.0**
	baz=90,SNR=6.1						
MONP2	**Monument Peak**	**74.51**	**302**	P	**P**	**15 04 43.5**	**+1.4**
	baz=90,SNR=6.9						
PFO	**Pinyon Flats O**	**74.54**	**302**	P	**P**	**15 04 43.4**	**+1.2**
	baz=90						
PFO	**Pinyon Flats O**	**74.54**	**302**	P	**P**	**15 04 39.4**	**-2.8**
PFO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PFO	**Pinyon Flats O**	**74.54**	**302**	P	**P**	**15 04 39.4**	**-2.8**
EUNU	**Eureka**	**74.69**	**352**	P	**P**	**15 04 41.9**	**-0.2**
GSC	**Goldstone, Bar**	**74.82**	**304**	P	**P**	**15 04 45.0**	**+1.3**
	baz=90						
OBN	**Obninsk**	**74.92**	**35**	*e*P	**P**	**15 04 45.4**	**+1.7**
OBN				*e*		15 07 31.7	
OBN				pmax	pmax		
	comp=Z,45nm,1.7s						
MPMC	**Manual Prospec**	**75.38**	**305**	P	**P**	**15 04 48.4**	**+1.4**
	baz=90,SNR=6.8						
BMO	**Blue Mountains**	**75.41**	**314**	P	**P**	**15 04 45.8**	**-1.1**
BMO				pmax	pmax		
	comp=Z,14nm,1.3s						
BMO	**Blue Mountains**	**75.41**	**314**	P	**P**	**15 04 45.8**	**-1.1**
NEW	**Newport**	**75.45**	**318**	P	**P**	**15 04 47.5**	**+0.5**
	baz=93						
NEW	**Newport**	**75.45**	**318**	P	**P**	**15 04 45.4**	**-1.7**
NEW	**Newport**	**75.45**	**318**	P	**P**	**15 04 45.4**	**-1.7**
NEW				IAmb	IAmb	15 04 48.2	
	comp=Z,16nm,1.1s						
PMSA	**Palmer Station**	**75.51**	**191**	P	**P**	**15 04 46.8**	**+0.1**
PMSA				IAmb	IAmb	15 04 49.0	
	comp=Z,22nm,1.0s						
APA	**Apatity**	**75.52**	**22**	*i*P	P	15 04 54.2	+7.3
APA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BFSC	**Mount Baldy Ra**	**75.53**	**303**	P	**P**	**15 04 49.3**	**+1.4**
	baz=89						
LRMC	**Laurel Mtn Rad**	**75.54**	**304**	P	**P**	**15 04 49.1**	**+1.2**
	baz=90,SNR=5.7						
YKA	**Yellowknife Ar**	**75.57**	**332**	P	**P**	**15 04 46.2**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=95,slow=6.1,SNR=6.5						
YKA				LR	LR	15 36 23.9	
	comp=Z,178nm,18.5s,baz=0.0,slow=34						
YKA	**Yellowknife Ar**	**75.57**	**332**	*i* P	**P**	**15 04 46.9**	**-0.4**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MOS	**Moscow**	**75.59**	**35**	*e*P	**P**	**15 04 48.1**	**+0.5**
MOS				pmax	pmax		
	comp=Z,55nm,1.5s						
EDW2	**Edwards Air Fo**	**75.80**	**304**	P	**P**	**15 04 50.9**	**+1.6**
	baz=89,SNR=5.1						
CWC	**Cottonwood Cre**	**75.86**	**305**	P	**P**	**15 04 50.8**	**+1.0**
	baz=90						
KVN	**Kaiserville**	**75.87**	**308**	P	**P**	**15 04 47.4**	**-2.4**
KVN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KVN	**Kaiserville**	**75.87**	**308**	P	**P**	**15 04 47.4**	**-2.4**
NV11	**Mina Array Sit**	**75.91**	**307**	P	**P**	**15 04 48.1**	**-1.9**
NVAR	**Mina Array Bea**	**76.03**	**307**	P	**P**	**15 04 51.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=90,slow=6.3,SNR=2.2						
NVAR				LR	LR	15 35 05.3	
	comp=Z,138nm,21.4s,baz=103,slow=33						
ISA	**Isabella, Lake**	**76.18**	**305**	P	**P**	**15 04 53.4**	**+1.8**
	baz=89,SNR=6.7						
LHV	**Little Huntoon**	**76.19**	**307**	P	**P**	**15 04 49.4**	**-2.0**
LHV				IAmb	IAmb	15 05 16.6	
	comp=Z,20nm,1.3s						
SCI2	**San Clemente I**	**76.29**	**302**	P	**P**	**15 04 52.8**	**+0.7**
	baz=89						
OMMB	**Old Mammoth Mi**	**76.58**	**307**	P	**P**	**15 04 52.8**	**-1.2**
G08A	**Pilot Rock**	**76.59**	**314**	P	**P**	**15 04 52.1**	**-1.6**
MDPB	**Devils Postpil**	**76.64**	**307**	P	**P**	**15 04 52.5**	**-1.8**
E08A	**Dider Farm, El**	**76.69**	**316**	P	**P**	**15 04 52.8**	**-1.2**
E08A				IAmb	IAmb	15 04 55.7	
	comp=Z,15nm,1.0s						
SNCC	**San Nicolas Is**	**77.11**	**302**	P	**P**	**15 04 57.0**	**+0.3**
	baz=88						
PKM	**Mcpherson Peak**	**77.29**	**304**	P	**P**	**15 05 00.3**	**+2.4**
	baz=88						
MOD	**Modoc Plateau**	**77.55**	**311**	P	**P**	**15 04 59.9**	**+0.7**
LTY	**Liberty**	**77.81**	**316**	P	**P**	**15 04 59.0**	**-1.4**
LTY				IAmb	IAmb	15 05 01.5	
	comp=Z,16nm,1.2s						
K05A	**Summer Lake**	**77.98**	**312**	P	**P**	**15 05 00.4**	**-1.2**
K05A				IAmb	IAmb	15 05 07.0	
	comp=Z,25nm,1.2s						
PMPB	**Monarch Peak**	**78.06**	**305**	P	**P**	**15 04 58.3**	**-3.7**
J05D	**Fort Rock, OR**	**78.22**	**312**	P	**P**	**15 05 04.9**	**+2.0**
	baz=89						
I05D	**Terrebonne, OR**	**78.28**	**313**	P	**P**	**15 05 04.8**	**+1.7**
	baz=89						
SHA1	**Shidzhatmaz**	**78.34**	**47**	*i* P	**P**	**15 05 04.9**	**+1.3**
F05D	**White Salmon**	**78.36**	**315**	P	**P**	**15 05 05.2**	**+1.8**
	baz=90						
KIV	**Kislovodsk**	**78.36**	**47**	*e*P	**P**	**15 05 05.5**	**+2.0**
KIV				pmax	pmax		
	comp=Z,46nm,1.0s						
KIV	**Kislovodsk**	**78.36**	**47**	P	**P**	**15 05 02.3**	**-1.3**
KIV				IAmb	IAmb	15 05 07.4	
	comp=Z,22nm,1.2s						
ORV	**Oroville**	**78.50**	**309**	P	**P**	**15 05 03.1**	**-1.3**
ORV				pmax	pmax		
	comp=Z,11nm,1.3s						
ORV	**Oroville**	**78.50**	**309**	P	**P**	**15 05 03.1**	**-1.3**
KBZ	**Khabaz**	**78.51**	**47**	P	**P**	**15 05 06.7**	**+2.5**
	comp=Z,6.3nm,1.0s,baz=285,slow=2.1,SNR=7.7						
M04C	**Macdoel**	**78.70**	**311**	P	**P**	**15 05 06.3**	**+0.7**
	baz=89						
O03E	**Paynes Creek**	**78.71**	**309**	P	**P**	**15 05 06.8**	**+1.2**
	baz=88						
L04D	**Klamath Falls**	**79.03**	**311**	P	**P**	**15 05 07.7**	**+0.3**
	baz=88						
I04A	**Tendick Farm,**	**79.07**	**313**	P	**P**	**15 05 07.5**	**+0.1**
	baz=89						
E04D	**Cinebar**	**79.11**	**316**	P	**P**	**15 05 07.2**	**-0.4**
	baz=89						
ZEI	**Tsey**	**79.27**	**48**	*e*P	**P**	**15 05 08.4**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,16nm,1.8s						
G03D	**McMinnville, O**	**79.64**	**314**	P	**P**	**15 05 12.0**	**+1.6**
	baz=88						
I03D	**Drain, OR**	**79.75**	**313**	P	**P**	**15 05 12.4**	**+1.4**
	baz=88						
L02E	**Cave Junction**	**80.00**	**311**	P	**P**	**15 05 13.8**	**+1.3**
	baz=88						
K02D	**Willamette Mer**	**80.02**	**312**	P	**P**	**15 05 13.9**	**+1.2**
	baz=88						
VNA1	**Neumayer--Stat**	**81.86**	**170**	P	**P**	**15 05 23.2**	**+1.5**
VNA3	**Neumayer Olymp**	**82.14**	**171**	P	**P**	**15 05 24.1**	**+0.9**
VNA2	**Neumayer--Watz**	**82.25**	**170**	P	**P**	**15 05 24.2**	**+0.5**
	baz=348,slow=6.8						
INK	**Inuvik**	**83.58**	**338**	P	**P**	**15 05 31.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,34nm,1.3s						
INK	**Inuvik**	**83.58**	**338**	P	**P**	**15 05 31.8**	**+1.1**
SNAA	**Sanae**	**83.69**	**169**	P	**P**	**15 05 31.7**	**+0.4**
SNAA	**Sanae**	**83.69**	**169**	*ce*P	**P**	**15 05 31.3**	**0.0**
SNAA				pmax	pmax		
	comp=Z,27nm,1.1s						
SNAA	**Sanae**	**83.69**	**169**	P	**P**	**15 05 30.9**	**-0.4**
NVL	**N'lazarevskaya**	**86.30**	**165**	*e*P	**P**	**15 05 44.3**	**0.0**
NVL				pmax	pmax		
	comp=Z,28nm,1.3s						
BELA	**Belgrano 2**	**86.42**	**179**	P	**P**	**15 05 44.4**	**-0.4**
HYT	**Haines Junctio**	**86.47**	**331**	P	**P**	**15 05 46.2**	**+0.6**
HYT				IAmb	IAmb	15 05 48.6	
	comp=Z,12nm,1.0s						
ARU	**Arti**	**87.24**	**33**	*c i*P	**P**	**15 05 51.8**	**+2.5**
ARU						15 09 10.6	
ARU				S	S	15 16 18.8	-10
ARU				SS	**SS**	**15 22 14.2**	**+2.0**
ARU				pmax	pmax		
	comp=Z,24nm,1.7s						
ARU	**Arti**	**87.24**	**33**	P	**P**	**15 05 49.4**	**+0.1**
SCRK	**Sand Creek**	**88.63**	**335**	P	**P**	**15 05 56.5**	**+0.6**
	baz=73						
TOLK	**Toolik Lake Re**	**89.21**	**340**	P	**P**	**15 05 59.2**	**+0.7**
	baz=68						
IL31		**89.58**	**336**	P	**P**	**15 06 00.3**	**+0.1**
IL31				IAmb	IAmb	15 06 02.2	
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**89.58**	**336**	P	**P**	**15 06 01.0**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=62,slow=3.8,SNR=34						
ILAR	**Eielson Array**	**89.58**	**336**	P	**P**	**15 06 00.5**	**+0.2**
ILAR	**Eielson Array**	**89.58**	**336**	P	**P**	**15 06 00.5**	**+0.2**
HDA	**Harding Lake**	**89.73**	**336**	P	**P**	**15 06 01.6**	**+0.7**
	baz=70						
COLA	**College**	**89.94**	**336**	*i* P	**P**	**15 06 02.2**	**+0.4**
COLA				pmax	pmax		
	comp=Z,17nm,1.3s						
CCB	**Clear Creek Bu**	**90.00**	**336**	P	**P**	**15 06 02.2**	**+0.1**
MDM	**Murphy Dome**	**90.06**	**336**	P	**P**	**15 06 02.5**	**0.0**
MDM				IAmb	IAmb	15 06 13.4	
	comp=Z,12nm,1.4s						
M24K	**Tolsona, Glenn**	**90.16**	**333**	P	**P**	**15 06 01.8**	**-1.3**
GEYT	**Alibeck**	**90.61**	**52**	LR	LR	15 49 18.3	
	comp=Z,51nm,21.7s,baz=55,slow=37						
SYO	**Syowa Base**	**94.07**	**159**	*e*PcP	**P**	**15 06 20.9**	**+0.1**
NRIK	**Noril'sk**	**94.09**	**17**	P	**P**	**15 06 22.3**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=267,slow=10,SNR=5.5						
BRVK	**Borovoye**	**94.69**	**35**	*ce*P	**P**	**15 06 26.1**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI	**Tiksi**	**99.50**	**4**	*i* P	**Pdif**	**15 06 48.1**	**+2.6**
BILL	**Bilibino**	**101.36**	**350**	*e*P	**Pdif**	**15 06 56.6**	**+2.8**
BILL				*e*		15 11 00.3	
BILL				*e*S	**Sdif**	**15 18 24.9**	**-8.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ZALV	**Zalesovo Beam**	**102.01**	**30**	PP	**PP**	**15 11 08.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=319,slow=7.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**102.01**	**30**		**PP**	**15 11 09.2**	**+1.3**
ULN	**Ulaanbaatar**	**116.39**	**25**	*c i*PKIKP	**PKPdf**	**15 11 47.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.5s						
LZH	**Lanzhou**	**123.64**	**36**	*e*PKP	**PKPdf**	**15 11 55.4**	**-5.9**
LZH				LR	LR		
	comp=Z,98nm,10.8s						
LZH				LR	LR		
	comp=Z,190nm,12.6s						
LZH				LR	LR		
	comp=Z,200nm,14.6s						
HHC	**Hu-ho-hao-te**	**123.95**	**26**	*e*PKP	**PKPdf**	**15 12 01.5**	**-0.2**
CD2	**Chengdu**	**127.13**	**40**	PKP	**PKPdf**	**15 12 05.0**	**-3.0**
XAN	**Xi'an**	**127.98**	**34**	PKP	**PKiKP**	**15 12 10.1**	**0.0**
CHTO	**Chiang Mai**	**130.67**	**56**	PKIKP	**PKPdf**	**15 12 14.2**	**-0.7**
CHTO	**Chiang Mai**	**130.67**	**56**	PKPdf	**PKPdf**	**15 12 14.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**130.84**	**57**	PKP	**PKPdf**	**15 12 14.9**	**-0.3**
	comp=Z,2.8nm,1.1s,baz=302,slow=3.3,SNR=16						
CMAR	**Chiang Mai Arr**	**130.84**	**57**	PKIKP	**PKPdf**	**15 12 14.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**130.84**	**57**		**PKPdf**	**15 12 14.5**	**-0.7**
ENH	**Enshi**	**131.10**	**36**		**PKPdf**	**15 12 14.1**	**-1.4**
GYA	**Guiyang**	**132.00**	**42**	*e*PKP	**PKPdf**	**15 12 17.8**	**+0.4**
NJ2	**Nanjing**	**134.50**	**26**	*e*PKP	**PKPdf**	**15 12 18.4**	**-3.4**
ASAR	**Alice Springs**	**163.73**	**157**	PKP	**PKPdf**	**15 13 06.3**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=238,slow=2.1,SNR=4.3						
ASAR				PKPab	**PKPab**	**15 13 58.8**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=202,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**163.73**	**157**	PKIKP	**PKPdf**	**15 13 05.0**	**-1.9**
ASAR						15 13 58.8	
ASAR	**Alice Springs**	**163.73**	**157**		**PKPdf**	**15 13 05.0**	**-1.9**
WRA	**Warramunga Arr**	**167.22**	**152**	PKP	**PKPdf**	**15 13 08.4**	**-1.4**
	comp=Z,2.1nm,1.0s,baz=202,slow=7.8,SNR=7.2						
WRA				PKPab	**PKPab**	**15 14 13.9**	**-0.2**
	comp=Z,1.9nm,1.2s,baz=210,slow=5.5,SNR=3.5						
WRA				PP	**PP**	**15 18 03.6**	**+2.5**
	comp=Z,0.6nm,0.9s,baz=200,slow=4.2,SNR=4.6						
WRA	**Warramunga Arr**	**167.22**	**152**	PKIKP	**PKPdf**	**15 13 08.0**	**-1.8**
WRA						15 14 13.9	
WRA						15 18 03.7	
WRA	**Warramunga Arr**	**167.22**	**152**		**PKPdf**	**15 13 08.0**	**-1.8**
KRVT	**Keravat (AS076**	**167.89**	**290**	PKP	**PKPdf**	**15 13 12.1**	**+1.6**
	comp=Z,21nm,0.6s,baz=69,slow=14,SNR=2.8						

MEX ***20*** *15:05:36.3±0.4, 14°.33N×93°.91W, h10km, MD4.0*
NEIC ***20*** *15:05:39.4±1.7, 14°.49N±0°.05×93°.73W±0°.05, h27km±6km, mb4.2/39, Md4.0/14(MEX), Error ellipse: s-maj=7.8km s-min=5.8km az=137.0*
GCG ***20*** *15:05:44.6±0.6, 14°.56N×93°.50W, h34km, MD4.4*
IDC ***20*** *15:05:51.7±4.3, 15°.04N×93°.51W, h113km±53km, mb3.6/5, mb1 3.9/7, mb1mx3.5/36, mbtmp3.9/7, MS3.6/3, Ms1 3.6/3, ms1mx3.1/29, Error ellipse: s-maj=135.9km s-min=26.3km az=33.0*

ISC 20 15:05:35.7±3.4, 14°.49N±0°.06×93°.73W±0°.06, h2km±22km, n72, σ0°.94/74, mb4.2/23, MS3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.31**	**22**	*e*P	**Pn**	**15 06 00.1**	**-0.9**
PCIG				*e*S	**Sb**	**15 06 18.4**	**+0.1**
PCIG		**1.31**	**22**		**Pn**	**15 06 00.1**	**-0.9**
PCIG					**Sb**	**15 06 18.4**	**+0.1**
THIG		**1.48**	**73**	*e*P	**Pn**	**15 06 02.5**	**-0.8**
THIG				*e*S	**Sn**	**15 06 22.8**	**-0.4**
THIG		**1.48**	**73**		**Pn**	**15 06 02.5**	**-0.8**
THIG					**Sn**	**15 06 22.8**	**-0.4**
RTAL	**Retalhuleu**	**1.97**	**89**	Pn	**Pn**	**15 06 09.9**	**-0.3**
ERG	**Entre ros, C**	**2.10**	**91**	*e*P	**Pb**	**15 06 14.1**	**-0.4**
HUEH	**Huehuetenango**	**2.31**	**69**	Pn	**Pn**	**15 06 15.0**	**+0.1**
TGIG		**2.35**	**14**	*e*P	**Pn**	**15 06 16.3**	**+0.9**
TGIG				*e*S	**Sn**	**15 06 44.9**	**0.0**
TGIG		**2.35**	**14**		**Pn**	**15 06 16.3**	**+0.9**
TGIG					**Sn**	**15 06 44.9**	**0.0**
CCIG	**Comitan**	**2.36**	**41**	*e*P	**Pn**	**15 06 17.3**	**+1.8**
CCIG				*e*S	**Sb**	**15 06 49.7**	**+1.1**
CCIG	**Comitan**	**2.36**	**41**		**Pn**	**15 06 17.3**	**+1.8**
CCIG					**Sb**	**15 06 49.7**	**+1.1**
FUG	**Fuego 3**	**2.80**	**90**	*e*P	**Pn**	**15 06 24.5**	**+2.9**
FUG				*e*S	**Sn**	**15 06 55.9**	**-0.2**
PCG	**Pacaya**	**3.03**	**91**	*e*P	**Pb**	**15 06 28.8**	**-1.7**
MTO3	**Montecristo**	**4.24**	**91**	Pn	**Pn**	**15 06 41.7**	**+0.3**
ESQI	**Esquipulas**	**4.25**	**88**	Pn	**Pn**	**15 06 43.4**	**+1.8**
PETF	**Flores**	**4.44**	**57**	Pn	**Pn**	**15 06 45.5**	**+1.5**
TLIG	**Tlapa**	**5.56**	**304**	Pn	**Pn**	**15 06 59.1**	**-0.6**
JTS	**Las Juntas de**	**9.54**	**115**	P	Pn	15 08 07.1	+13
	0.7nm,0.3s,baz=266,slow=19,SNR=1.9						
JTS				S	Sn	15 09 53.1	+11
	0.6nm,0.3s,baz=3.7,slow=23,SNR=1.4						
TX31	**Lajitas Ar. Si**	**17.40**	**330**		**P**	**15 09 41.0**	**-0.2**
TX32	**Lajitas Array**	**17.40**	**330**		**P**	**15 09 41.2**	**0.0**
TXAR	**Lajitas Array**	**17.40**	**330**	P	**P**	**15 09 42.6**	**+1.5**
	baz=157,slow=12,SNR=6.7						
TXAR	**Lajitas Array**	**17.40**	**330**		**P**	**15 09 41.1**	**-0.1**
MIAR	**Mount Ida**	**19.97**	**0**	P	**P**	**15 10 10.2**	**+0.9**
MNTX	**Cornudas Mount**	**20.18**	**330**	P	**P**	**15 10 12.4**	**+0.8**
W39A	**Magazine**	**20.62**	**360**		Pn	15 10 19.0	+0.4
WMOK	**Wichita Mounta**	**20.67**	**348**	Pn	Pn	15 10 19.2	0.0
FNO	**Franklin**	**20.94**	**352**		Pn	15 10 23.3	+1.0
AMTX	**Amarillo**	**21.54**	**342**	P	**P**	**15 10 26.4**	**0.0**
AMTX				IAmb	IAmb	15 10 33.2	
	comp=Z,9.6nm,0.9s						
HHAR	**Hobbs**	**21.71**	**360**	P	**P**	**15 10 28.7**	**+0.7**
HHAR				IAmb	IAmb	15 10 29.8	
	comp=Z,9.2nm,1.1s						
U40A	**Yellville**	**21.79**	**2**	P	**P**	**15 10 27.8**	**-1.1**
U40A				IAmb	IAmb	15 10 44.5	
	comp=Z,9.1nm,1.3s						
319A	**Douglas**	**22.04**	**322**	P	**P**	**15 10 32.8**	**+1.0**
319A				IAmb	IAmb	15 10 35.8	
	comp=Z,5.5nm,0.9s						
121A	**Cookes Peak, D**	**22.07**	**327**	P	**P**	**15 10 32.6**	**+0.5**
121A				IAmb	IAmb	15 10 35.2	
	comp=Z,13nm,1.0s						
BNM	**Barren Site**	**22.79**	**331**	P	**P**	**15 10 41.1**	**+1.2**
LENM	**Lemitar**	**22.96**	**331**	P	**P**	**15 10 42.3**	**+0.6**
S39A	**Bolivar**	**23.11**	**1**	P	**P**	**15 10 42.1**	**-0.9**
S39A				IAmb	IAmb	15 10 43.2	
	comp=Z,8.2nm,0.8s						
ANMO	**Albuquerque**	**23.38**	**333**	P	**P**	**15 10 47.1**	**+1.1**
TUC	**Tucson**	**23.60**	**322**	P	**P**	**15 10 49.6**	**+1.5**
TUC				IAmb	IAmb	15 10 50.6	
	comp=Z,5.4nm,1.1s						
R32A	**Long Quarter,**	**24.25**	**350**	P	**P**	**15 10 53.9**	**-0.2**
R32A				IAmb	IAmb	15 10 55.1	
	comp=Z,8.7nm,0.8s						
T25A	**Trinidad**	**24.48**	**339**	P	**P**	**15 10 57.6**	**+1.1**
T25A				IAmb	IAmb	15 10 59.0	
	comp=Z,8.0nm,1.1s						
P38A	**Dawn**	**25.04**	**0**	P	**P**	**15 11 00.3**	**-1.0**
P38A				IAmb	IAmb	15 11 00.6	
	comp=Z,5.4nm,0.8s						
SDCO	**Great Sand Dun**	**25.41**	**338**	P	**P**	**15 11 04.7**	**-0.3**
N38A	**Joes South For**	**26.21**	**1**	P	**P**	**15 11 10.9**	**-1.0**
PV22	**Blue Mesa, Par**	**27.40**	**334**	P	**P**	**15 11 23.4**	**+0.5**
PV22				IAmb	IAmb	15 11 25.9	
	comp=Z,4.0nm,1.0s						
PV23	**Carpenter Ridg**	**27.43**	**333**	P	**P**	**15 11 23.7**	**+0.5**
PV23				IAmb	IAmb	15 11 25.0	
	comp=Z,5.1nm,0.8s						
N49A	**Columbus Grove**	**27.62**	**16**	P	**P**	**15 11 24.5**	**0.0**
PFO	**Pinyon Flats O**	**28.05**	**317**	LR	LR	15 23 07.9	
	comp=Z,98nm,18.7s,baz=338,slow=37						
DUG	**Dugway, Tooele**	**30.57**	**331**	P	**P**	**15 11 51.0**	**0.0**
DUG				IAmb	IAmb	15 11 59.7	
	comp=Z,3.9nm,1.4s						
PDAR	**Pinedale Array**	**31.30**	**337**	P	**P**	**15 11 57.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=134,slow=10,SNR=4.8						
NV11	**Mina Array Sit**	**32.16**	**322**	P	**P**	**15 12 06.3**	**+1.3**
NV11				IAmb	IAmb	15 12 07.7	
	comp=Z,5.0nm,1.1s						
NVAR	**Mina Array Bea**	**32.25**	**322**	P	**P**	**15 12 07.5**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=141,slow=8.8,SNR=11						
NVAR	**Mina Array Bea**	**32.25**	**322**	P	**P**	**15 12 07.0**	**+1.1**
GCMT	**Greycliff**	**33.98**	**340**	P	**P**	**15 12 20.8**	**+0.1**
MCMT	**McKenzie Canyo**	**34.32**	**336**	P	**P**	**15 12 24.8**	**+0.9**
LRM	**Limekiln Ridge**	**34.99**	**337**	P	**P**	**15 12 29.6**	**-0.1**
J08A	**Circle Bar Ran**	**35.74**	**328**	P	**P**	**15 12 35.0**	**-1.0**
J08A				IAmb	IAmb	15 12 37.6	
	comp=Z,4.4nm,1.1s						
PTGA	**Pitinga**	**36.68**	**111**	P	**P**	**15 12 44.9**	**+0.7**
PTGA				IAmb	IAmb	15 12 46.0	
	comp=Z,2.9nm,0.8s						
YKA	**Yellowknife Ar**	**50.18**	**348**	P	**P**	**15 14 32.0**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=151,slow=6.6,SNR=3.8						
TAOE	**Nuku Hiva Isla**	**51.54**	**246**	P	**P**	**15 14 43.7**	**+0.1**
SFJD	**Kangerlussuaq**	**59.57**	**18**	LR	LR	15 40 57.2	
	comp=Z,47nm,21.3s,baz=142,slow=36						
DOT	**Dot Lake**	**60.11**	**337**	P	**P**	**15 15 44.6**	**+0.3**
DOT				IAmb	IAmb	15 15 45.6	
	comp=Z,2.7nm,0.9s						
IL31		**61.74**	**337**	P	**P**	**15 15 55.2**	**-0.1**
IL31				IAmb	IAmb	15 15 56.3	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**61.74**	**337**	P	**P**	**15 15 54.5**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=140,slow=4.7,SNR=16						
RND	**Reindeer**	**61.88**	**335**	P	**P**	**15 15 57.0**	**+0.6**
SUA	**Susitna One**	**61.88**	**333**	P	**P**	**15 15 57.2**	**+0.7**
MDM	**Murphy Dome**	**62.33**	**337**	P	**P**	**15 15 58.9**	**-0.4**
TRF	**Thorofare Moun**	**62.49**	**335**	P	**P**	**15 16 00.6**	**0.0**
KTH	**Kantishna Hill**	**62.79**	**335**	P	**P**	**15 16 02.9**	**+0.4**
PPLA	**Purkeypile**	**63.06**	**334**	P	**P**	**15 16 05.8**	**+1.4**
EUNU	**Eureka**	**65.68**	**1**	P	**P**	**15 16 20.9**	**-0.3**
SUMG	**Summit**	**66.22**	**16**	P	**P**	**15 16 24.1**	**-1.1**
NOA	**NORSAR Array B**	**84.52**	**28**	P	**P**	**15 18 09.4**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=299,slow=4.4,SNR=3.8						
PETK	**Petropavlovsk-**	**89.29**	**325**	LR	LR	15 59 53.9	
	comp=Z,44nm,19.7s,baz=36,slow=36						

TAP 20 15:29:03.7, 24°.43N×121°.89E, h17km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.08**	**282**	P	Pg	15 29 07.2	+0.2
	baz=282						
ENAH				S	Sg	15 29 09.7	+0.6
	baz=282						
ENA	**Nanau**	**0.14**	**268**	P	Pb	15 29 08.7	+0.8
	baz=267						
ENA

*IDC **20** 15:32:31.2±0.5,8.°56N×39.°37W, h0km, mb4.0/21, mb1 4.2/23,mb1mx4.1/52, mbtmp4.1/23,ML3.6/2,MS3.9/23, Ms1 3.9/23,ms1mx3.8/26,Error ellipse: s-maj=21.1km s-min=12.5km az=149.0*

*GCMT **20** 15:32:36.0±0.3,8.°69N±0.°03×39.°42W±0.°02, h12km, MW4.9/101,Moment Tensor Solution. s29,c31; s101,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.07; $M_{\theta\theta}$0.18±.08; $M_{\phi\phi}$1.94±.06; $M_{r\theta}$1.17±.31; $M_{\theta\phi}$0.36±.06; $M_{r\phi}$0.70±.22; Best double couple: M_o2.45200×10^{16} NP1:ϕ_s355.00000°,δ35.00000°, λ-122.00000°. NP2:ϕ_s212.00000°,δ60.00000°, λ-69.00000°. Principal axes: T 2.2280, Plg13.0000°, Azm288.0000°; N 0.4410, Plg18.0000°, Azm22.0000°; P -2.6750, Plg68.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 15:32:33.0±0.4,**8.°59N**±0.°07×**39.°40W**±0.°07,**h15km**,**n146, σ1§05/127,mb4.7/59,MS3.9/21,1C-1D,Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.60**	**256**	Pn	**Pn**	**15 35 44.6**	**-0.9**
	0.3nm,0.3s,baz=96,slow=2.7,SNR=3.6						
MDP				LR	LR	15 39 57.6	
	comp=Z,841nm,22.0s,baz=22,slow=33						
RCBR	**Riachuelo**	**14.73**	**166**	Pn	**Pn**	**15 36 01.0**	**-0.1**
	0.3nm,0.3s,baz=356,slow=13,SNR=1.3						
RCBR				LR	LR	15 40 23.6	
	comp=Z,275nm,20.6s,baz=342,slow=32						
MCPB	**Macapa, AP**	**15.43**	**235**	*e*P	**P**	**15 36 13.2**	**-1.6**
PRPB	**Parauapebas**	**17.97**	**216**	*e*P	**P**	**15 36 44.5**	**+1.5**
MALB	**Monte Alegre**	**18.09**	**236**	*e*P	**P**	**15 36 45.5**	**+1.2**
SMTB	**Santa Maria do**	**19.16**	**205**	*e*P	**Pn**	**15 36 56.9**	**-0.1**
SDBA	**SAO DESIDERIO**	**21.56**	**195**	*e*P	**P**	**15 37 23.1**	**+0.9**
H05S1	**Guadeloupe/Mar**	**21.79**	**287**	T	T	15 59 46.6	
	SNR=15						
GDU01	**Guandu, BA**	**22.16**	**180**	*e*P	**P**	**15 37 28.8**	**+0.2**
PEXB	**Peixe**	**22.38**	**203**	*e*P	**P**	**15 37 30.9**	**-0.1**
H05N1	**Guadeloupe/Mar**	**22.49**	**292**	T	T	16 00 39.2	
	SNR=6.6						
PTGA	**Pitinga**	**22.49**	**247**	P	**P**	**15 37 31.0**	**-1.2**
	6.2nm,0.9s,baz=62,slow=10.0,SNR=10						
PTGA	**Pitinga**	**22.49**	**247**	IAmb	IAmb	15 37 43.3	
	comp=Z,49nm,1.5s						
SNDB	**Serra Nova Dou**	**23.60**	**210**	*e*P	**P**	**15 37 45.1**	**+1.6**
JANB	**Januaria**	**23.99**	**192**	*e*P	**P**	**15 37 45.8**	**-1.6**
CLDB	**Colider**	**25.30**	**220**	*e*P	**P**	**15 37 59.3**	**+0.1**
BDFB	**Brasilia**	**25.54**	**200**	LR	LR	15 47 43.3	
	comp=Z,156nm,18.9s,baz=27,slow=36						
ARAG	**Araguaiana, MT**	**27.09**	**207**	*e*P	**P**	**15 38 17.0**	**+1.7**
SJMB	**Sao Joao De Ma**	**27.17**	**184**	*e*P	**P**	**15 38 16.2**	**+0.1**
BSFB	**Barra de Sao F**	**27.28**	**183**	*e*P	**P**	**15 38 17.2**	**+0.2**
SAML	**Samuel**	**29.41**	**234**	P	**P**	**15 38 36.2**	**0.0**
SAML	**Samuel**	**29.41**	**234**	*e*P	**P**	**15 38 38.1**	**+2.0**
H10N3	**ASCENSION HYDR**	**29.70**	**123**	T	T	16 09 49.8	
	baz=302,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**29.70**	**123**	T	T	16 09 50.7	
	baz=302,slow=75,SNR=21						
H10N1	**ASCENSION HYDR**	**29.72**	**123**	T	T	16 09 51.4	
	baz=302,slow=75,SNR=20						
VILB	**Vilhena**	**29.75**	**224**	*e*P	**P**	**15 38 42.1**	**+2.9**
BB19B	**Bebedouro**	**30.80**	**197**	*e*P	**P**	**15 38 48.5**	**0.0**
PTLB	**Pontes e Lacer**	**30.87**	**219**	*e*P	**P**	**15 38 51.6**	**+2.6**
SDV	**Santo Domingo**	**30.87**	**273**	*e*P	**P**	**15 38 50.5**	**+1.1**
BANI	**BANI**	**31.60**	**291**	P	**P**	**15 38 55.7**	**0.0**
PARB	**Paraibuna**	**32.31**	**191**	*e*P	**P**	**15 39 01.4**	**-0.3**
ETMB	**Extrema**	**32.36**	**236**	*e*P	**P**	**15 39 03.6**	**+1.4**
SIV	**San Ignacio**	**32.51**	**221**	P	**P**	**15 39 05.5**	**+1.9**
	comp=Z,3.7nm,1.1s,baz=63,slow=9.6,SNR=11						
DBIC	**Dimbokro**	**34.28**	**91**	P	**P**	**15 39 18.3**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=297,slow=11,SNR=2.3						
DBIC				LR	LR	15 50 41.3	
	comp=Z,315nm,19.8s,baz=254,slow=32						
DBIC	**Dimbokro**	**34.28**	**91**	IAmb	IAmb	15 39 24.9	
	comp=Z,12nm,1.0s						
ROSC	**El Rosal**	**34.87**	**266**	LR	LR	15 53 38.4	
	comp=Z,459nm,21.1s,baz=61,slow=36						
KOWA	**Kowa**	**35.13**	**77**	P	**P**	**15 39 27.6**	**+1.2**
	comp=Z,3.6nm,1.0s,baz=284,slow=8.3,SNR=2.3						
LPAZ	**La Paz**	**37.68**	**229**	P	**P**	**15 39 50.0**	**+1.2**
	comp=Z,4.2nm,1.1s,baz=34,slow=11,SNR=11						
LPAZ				LR	LR	15 54 58.4	
	comp=Z,128nm,20.1s,baz=32,slow=36						
LPAZ	**La Paz**	**37.68**	**229**	P	**P**	**15 39 49.8**	**+1.0**
LPAZ	**La Paz**	**37.68**	**229**	*e*P	**P**	**15 39 49.8**	**+1.0**
CPUP	**Villa Florida**	**38.83**	**206**	LR	LR	15 56 11.1	
	comp=Z,150nm,18.3s,baz=32,slow=37						
OTAV	**Otavalo**	**39.77**	**260**	*e*P	**P**	**15 40 07.4**	**+1.1**
TOA0	**Torodi Ar. Sit**	**40.58**	**80**	P	**P**	**15 40 10.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**40.58**	**80**	P	**P**	**15 40 11.9**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=276,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**40.58**	**80**	P	**P**	**15 40 10.2**	**-2.2**
060A	**Indiantown**	**42.85**	**301**	P	**P**	**15 40 31.1**	**+0.2**
061Z	**Ochoppi**	**42.98**	**299**	P	**P**	**15 40 31.5**	**-0.5**
ESDC	**Sonseca Array**	**44.26**	**40**	P	**P**	**15 40 43.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=249,slow=7.8,SNR=3.1						
ESDC				LR	LR	15 56 15.4	
	comp=Z,170nm,19.5s,baz=250,slow=32						
ESDC	**Sonseca Array**	**44.26**	**40**	P	**P**	**15 40 40.8**	**-1.4**
451A	**Vernon**	**48.42**	**304**	P	**P**	**15 41 14.2**	**-0.7**
MEDO	**Medina**	**48.47**	**322**	P	**P**	**15 41 13.3**	**-1.8**
ZON	**Zonda**	**48.76**	**214**	P	**P**	**15 41 14.4**	**-3.1**
ZON				IAmb	IAmb	15 41 19.8	
	comp=Z,8.6nm,1.1s						
CPCT	**Cooper Cave**	**49.06**	**310**	P	**P**	**15 41 20.1**	**+0.4**
V51A	**Loudon**	**49.06**	**311**	P	**P**	**15 41 19.5**	**-0.3**
V51A				IAmb	IAmb	15 41 46.3	
	comp=Z,5.7nm,0.7s						
SCHQ	**Schefferville**	**51.04**	**340**	LR	LR	16 00 54.3	
	comp=Z,87nm,19.7s,baz=102,slow=33						
KEST	**Kesra**	**51.92**	**51**	P	**P**	**15 41 42.8**	**+1.3**
	comp=Z,3.9nm,0.9s,baz=196,slow=8.9,SNR=5.4						
KEST				LR	LR	16 03 33.1	
	comp=Z,170nm,19.1s,baz=213,slow=36						
KEST	**Kesra**	**51.92**	**51**	P	**P**	**15 41 41.1**	**-0.4**
BI02	**San Fabin de**	**54.05**	**212**	P	**P**	**15 41 56.8**	**-0.4**
BI02				IAmb	IAmb	15 42 04.2	
	comp=Z,8.3nm,1.0s						
P40A	**Paris**	**56.08**	**312**	P	**P**	**15 42 10.0**	**-1.8**
P40A				IAmb	IAmb	15 42 14.4	
	comp=Z,7.9nm,1.1s						
OSSC	**Osservatorio P**	**56.09**	**43**	P	**P**	**15 42 10.7**	**-1.0**
BFO	**Black Forest**	**56.33**	**36**	P	**P**	**15 42 12.8**	**-0.6**
BFO				IAmb	IAmb	15 42 15.0	
	comp=Z,16nm,1.5s						
S39A	**Bolivar**	**56.48**	**310**	P	**P**	**15 42 14.5**	**-0.1**
S39A				IAmb	IAmb	15 42 21.8	
	comp=Z,13nm,1.4s						
DAVA	**Damuels**	**56.78**	**38**	*e*P	**P**	**15 42 17.3**	**+0.5**
	comp=Z,10nm,1.0s						
PLCA	**Paso Flores**	**56.86**	**208**	P	**P**	**15 42 17.5**	**+0.2**
	comp=Z,5.3nm,1.1s,baz=91,slow=2.1,SNR=3.3						
PLCA				LR	LR	16 07 38.9	
	comp=Z,198nm,18.5s,baz=338,slow=37						
PLCA	**Paso Flores**	**56.86**	**208**	P	**P**	**15 42 16.5**	**-0.7**
FETA	**Feichten**	**57.19**	**39**	*e*P	**P**	**15 42 20.3**	**+0.7**
	comp=Z,8.3nm,1.1s						
RETA	**Reutte**	**57.41**	**38**	*e*P	**P**	**15 42 22.0**	**+0.9**
	comp=Z,10.0nm,1.1s						
MOTA	**Moosalm**	**57.55**	**38**	*e*P	**P**	**15 42 22.8**	**+0.5**
	comp=Z,8.7nm,1.1s						
SQTA	**Sankt Quirin**	**57.57**	**39**	*e*P	**P**	**15 42 22.7**	**+0.3**
	comp=Z,9.3nm,1.2s						
WATA	**Walderalm**	**57.84**	**39**	*e*P	**P**	**15 42 25.0**	**+0.7**
	comp=Z,5.1nm,0.6s						
WTTA	**Wattenberg**	**57.85**	**39**	*e*P	**P**	**15 42 24.7**	**+0.3**
	comp=Z,12nm,1.1s						
CIMO	**Cimolais**	**57.96**	**40**	P	**P**	**15 42 25.4**	**+0.4**
ABTA	**Abfaltersbach**	**58.18**	**40**	*e*P	**P**	**15 42 27.6**	**+1.0**
	comp=Z,7.8nm,1.1s						
ZOU	**Zoufplan**	**58.40**	**40**	P	**P**	**15 42 28.6**	**+0.3**
WHTX	**Lake Whitney,**	**58.48**	**302**	P	**P**	**15 42 28.1**	**-0.8**
WHTX				IAmb	IAmb	15 42 31.0	
	comp=Z,13nm,1.3s						
SGRT	**San Giovanni R**	**58.58**	**46**	P	**P**	**15 42 29.0**	**-0.5**
PRED	**Cave del Predi**	**58.73**	**40**	P	**P**	**15 42 28.1**	**-2.4**
PRED				IAmb	IAmb	15 42 55.0	
	comp=Z,8.0nm,1.4s						
KBA	**Koelnbreinsper**	**58.84**	**39**	*e*P	**P**	**15 42 32.0**	**+0.7**
	comp=Z,11nm,1.2s						
MYKA	**Terra Mystica**	**58.85**	**40**	*e*P	**P**	**15 42 32.5**	**+1.2**
	comp=Z,11nm,1.6s						
OBKA	**Obir**	**59.39**	**40**	*e*P	**P**	**15 42 36.5**	**+1.4**
	comp=Z,10nm,1.0s						
MOA	**Molln**	**59.72**	**39**	*e*P	**P**	**15 42 39.2**	**+2.1**
	comp=Z,5.6nm,1.0s						
SOKA	**Soboth**	**59.76**	**40**	*e*P	**P**	**15 42 38.4**	**+0.8**
	comp=Z,7.8nm,1.7s						
GERES	**GERESS Array B**	**59.76**	**38**	P	**P**	**15 42 38.7**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=268,slow=4.0,SNR=3.9						
ARSA	**Arzberg**	**60.28**	**40**	*e*P	**P**	**15 42 41.5**	**+0.4**
	comp=Z,7.0nm,1.3s						
BRG	**Berggiesshubel**	**60.74**	**36**	*e*PKP	**P**	**15 42 45.1**	**+1.0**
	comp=Z,9.1nm,1.5s						
CONA	**Conrad Observa**	**60.74**	**39**	*e*P	**P**	**15 42 44.9**	**+0.6**
	comp=Z,7.6nm,1.3s						
PDG	**Podgorica**	**61.28**	**46**	P	**P**	**15 42 48.5**	**+0.7**
PDG				IAmb	IAmb	15 42 52.0	
	comp=Z,13nm,1.2s						
ULM	**Lac du Bonnet**	**62.33**	**323**	P	**P**	**15 42 54.9**	**0.0**
	comp=Z,2.8nm,0.7s,baz=60,slow=7.8,SNR=3.3						
ULM				LR	LR	16 05 30.9	
	comp=Z,83nm,21.5s,baz=108,slow=32						
ULM	**Lac du Bonnet**	**62.33**	**323**	IAmb	IAmb	15 43 21.6	
	comp=Z,7.8nm,1.1s						
MORC	**Moravsky Berou**	**62.44**	**38**	P	**P**	**15 42 55.8**	**+0.1**
TXAR	**Lajitas Array**	**63.44**	**298**	P	**P**	**15 43 03.6**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=92,slow=8.2,SNR=2.2						
TXAR				LR	LR	16 15 23.6	
	comp=Z,17nm,18.0s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**63.44**	**298**	P	**P**	**15 43 02.3**	**-0.5**
NOA	**NORSAR Array B**	**64.22**	**25**	LR	LR	16 06 46.6	
	comp=Z,36nm,19.9s,baz=245,slow=32						
MNTX	**Cornudas Mount**	**65.13**	**301**	P	**P**	**15 43 12.9**	**-0.7**
ALN	**Alexandroupoli**	**65.90**	**49**	P	**P**	**15 43 18.7**	**+0.2**
SDCO	**Great Sand Dun**	**65.92**	**307**	P	**P**	**15 43 19.6**	**+0.5**
MLR	**Muntele Rosu**	**66.69**	**44**	P	**P**	**15 43 24.8**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=278,slow=8.0,SNR=8.1						
MLR	**Muntele Rosu**	**66.69**	**44**	P	**P**	**15 43 22.7**	**-1.0**
N23A	**Red Feather La**	**66.73**	**311**	P	**P**	**15 43 23.7**	**-0.4**
N23A				IAmb	IAmb	15 43 39.0	
	comp=Z,5.4nm,1.1s						
S22A	**4UR Ranch, Cre**	**66.97**	**307**	P	**P**	**15 43 26.1**	**+0.3**
S22A				IAmb	IAmb	15 43 29.2	
	comp=Z,12nm,1.4s						
DGMT	**Dagmar**	**66.99**	**319**	P	**P**	**15 43 26.0**	**+0.6**
FFC	**Flin Flon**	**67.36**	**326**	P	**P**	**15 43 28.2**	**+0.6**
LAO	**LASA Array**	**67.95**	**317**	P	**P**	**15 43 31.8**	**+0.3**
319A	**Douglas**	**68.42**	**300**	P	**P**	**15 43 33.4**	**-1.5**
319A				IAmb	IAmb	15 43 43.2	
	comp=Z,8.4nm,1.3s						
PDAR	**Pinedale Array**	**69.67**	**312**	P	**P**	**15 43 43.7**	**+1.2**
	comp=Z,0.7nm,1.1s,baz=112,slow=6.7,SNR=2.0						
PDAR				LR	LR	16 10 16.7	
	comp=Z,269nm,21.9s,baz=122,slow=32						
PDAR	**Pinedale Array**	**69.67**	**312**	P	**P**	**15 43 42.6**	**+0.1**
AKASG	**Malin Array Be**	**69.90**	**39**	P	**P**	**15 43 43.6**	**+0.2**
	comp=Z,0.2nm,0.2s,baz=256,slow=6.7,SNR=8.4						
AKASG				LR	LR	16 11 39.7	
	comp=Z,57nm,21.2s,baz=230,slow=34						
WUAZ	**Wupatki**	**70.40**	**305**	P	**P**	**15 43 46.9**	**-0.2**
WUAZ				IAmb	IAmb	15 43 55.9	
	comp=Z,10nm,1.2s						
MOOW	**Moose Ponds**	**70.65**	**313**	P	**P**	**15 43 47.9**	**-0.6**
MOOW				IAmb	IAmb	15 43 51.3	
	comp=Z,7.4nm,1.4s						
FLWY	**Flagg Ranch**	**70.65**	**314**	P	**P**	**15 43 48.1**	**-0.4**
IMW	**Indian Meadow**	**70.80**	**313**	P	**P**	**15 43 48.2**	**-1.3**
IMW				IAmb	IAmb	15 43 52.5	
	comp=Z,8.0nm,1.3s						
YHH	**Holmes Hill**	**70.85**	**314**	P	**P**	**15 43 49.2**	**-0.6**
FINES	**FINESS Array B**	**70.89**	**28**	LR	LR	16 09 58.2	
	comp=Z,52nm,19.9s,baz=262,slow=32						
YMR	**Madison River**	**70.91**	**314**	P	**P**	**15 43 50.9**	**+0.8**
HWUT	**Hardware Ranch**	**71.02**	**311**	P	**P**	**15 43 50.9**	**+0.1**
HWUT				IAmb	IAmb	15 43 57.9	
	comp=Z,9.8nm,1.2s						
YHB	**Horse Butte**	**71.08**	**314**	P	**P**	**15 43 50.5**	**-0.7**
YHL	**Hebgen Lake**	**71.09**	**314**	P	**P**	**15 43 51.2**	**0.0**
BRTR	**Keskin Array B**	**71.52**	**51**	P	**P**	**15 43 53.9**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=256,slow=5.0,SNR=7.4						
BRTR	**Keskin Array B**	**71.52**	**51**	P	**P**	**15 43 52.7**	**-1.1**
DUG	**Dugway, Tooele**	**71.85**	**309**	P	**P**	**15 43 54.8**	**-1.0**
DUG				IAmb	IAmb	15 43 59.1	
	comp=Z,12nm,1.4s						
BGU	**Big Grassy Mou**	**72.06**	**310**	P	**P**	**15 43 57.7**	**+0.7**
DLMT	**Dillon**	**72.14**	**315**	P	**P**	**15 43 58.0**	**+0.6**
EIL	**Elat**	**72.23**	**62**	P	**P**	**15 43 58.5**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=311,slow=9.5,SNR=3.5						
BOSA	**Boshof**	**72.45**	**124**	LR	LR	16 09 28.3	
	comp=Z,152nm,21.3s,baz=295,slow=31						
HLID	**Hailey**	**73.28**	**313**	P	**P**	**15 44 04.3**	**0.0**
ARCES	**ARCESS Array B**	**73.36**	**19**	LR	LR	16 11 26.5	
	comp=Z,34nm,20.3s,baz=290,slow=32						
WALA	**Waterton Lakes**	**73.42**	**319**	P	**P**	**15 44 06.0**	**+1.1**
WALA				IAmb	IAmb	15 44 18.4	
	comp=Z,12nm,1.2s						
JTMT	**Jette**	**73.53**	**317**	P	**P**	**15 44 06.0**	**+0.4**
JTMT				IAmb	IAmb	15 44 08.5	
	comp=Z,9.3nm,1.3s						
ELK	**Elko**	**73.73**	**310**	P	**P**	**15 44 07.4**	**+0.3**
R11A	**Troy Canyon, C**	**73.90**	**307**	P	**P**	**15 44 08.0**	**0.0**
YKA	**Yellowknife Ar**	**75.61**	**332**	LR	LR	16 14 42.7	
	comp=Z,112nm,19.6s,baz=0.0,slow=34						
NVAR	**Mina Array Bea**	**76.04**	**307**	P	**P**	**15 44 21.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=36,slow=5.5,SNR=4.2						
NVAR				LR	LR	16 14 36.5	
	comp=Z,86nm,21.4s,baz=94,slow=33						
NVAR	**Mina Array Bea**	**76.04**	**307**	P	**P**	**15 44 21.5**	**+1.0**
LHV	**Little Huntoon**	**76.20**	**307**	P	**P**	**15 44 18.7**	**-2.3**
LHV				IAmb	IAmb	15 44 35.5	
	comp=Z,14nm,1.4s						
MOD	**Modoc Plateau**	**77.56**	**311**	P	**P**	**15 44 29.1**	**+0.2**
MOD				IAmb	IAmb	15 44 33.5	
	comp=Z,12nm,1.4s						
KBZ	**Khabaz**	**78.56**	**47**	P	**P**	**15 44 34.8**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=233,slow=0.1,SNR=5.7						
SNAA	**Sanae**	**83.65**	**169**	P	**P**	**15 44 59.7**	**-1.0**
SNAA				IAmb	IAmb	15 45 03.0	
	comp=Z,7.4nm,1.2s						
AKTO	**Aktyubinsk**	**88.14**	**39**	P	**P**	**15 45 25.0**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=274,slow=5.1,SNR=7.2						
ABKAR	**Akbulak array**	**89.61**	**40**	P	**P**	**15 45 30.5**	**+0.3**
ABKAR	**Akbulak array**	**89.61**	**40**	P	**P**	**15 45 30.2**	**-0.1**
ABKAR				IAmb	IAmb	15 45 34.5	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**89.62**	**336**	P	**P**	**15 45 30.3**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=41,slow=3.2,SNR=7.1						
ILAR				LR	LR	16 24 09.6	
	comp=Z,29nm,18.4s,baz=94,slow=35						
GEYT	**Alibeck**	**90.66**	**52**	LR	LR	16 28 39.7	
	comp=Z,22nm,21.5s,baz=30,slow=37						
SYO	**Syowa Base**	**94.03**	**159**	*e*P	**P**	**15 45 49.0**	**-1.2**
SYO	**Syowa Base**	**94.03**	**159**	*e*pP	pP	15 45 53.0	-1.1
ASAR	**Alice Springs**	**163.69**	**158**	PKPab	**PKPab**	**15 53 27.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=200,slow=4.9,SNR=3.6						
WRA	**Warramunga Arr**	**167.19**	**152**	PKPab	**PKPab**	**15 53 42.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=215,slow=4.5,SNR=2.4						

*UCR **20** 15:36:53.8±1.4,8.°95N×84.°19W, h3km±5km, MW4.3, Fault plane solution: NP1:ϕ_s267.48000°,δ61.98000°, λ-11.17000°.*

*UPA **20** 15:36:54.5±2.0,8.°95N×84.°17W, h6km±9km, MW4.3*

ISC 20 15:36:55.1±1.2,**8.°95N**±0.°04×**84.°21W**±0.°04,**h22km**±6km, **n64,σ1§15/93,10C-17D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.45**	**48**	*i*P	**Pb**	**15 37 03.3**	**-1.1**
EDDO				*e*S	**Sb**	**15 37 10.6**	**0.0**
PEZE	**Perez Zeledon,**	**0.68**	**50**	*e*P	**Pb**	**15 37 07.0**	**-1.3**
PEZE				*e*S	**Sb**	**15 37 17.3**	**0.0**
EDLM	**Las Mercedes**	**0.69**	**62**	*e*P	**Pb**	**15 37 07.5**	**-1.1**
EDLM				*e*S	**Sb**	**15 37 17.9**	**+0.2**
RIOS	**Rincon, Osa**	**0.73**	**110**	*i*P	**Pb**	**15 37 08.0**	**-1.1**
RIOS				*i* S	**Sb**	**15 37 18.7**	**0.0**
RIOS	**Rincon, Osa**	**0.73**	**110**	*e*P	**Pb**	**15 37 07.9**	**-1.2**
RIOS				*e*S	**Sb**	**15 37 19.1**	**+0.5**
CDM	**Cerro de Muert**	**0.74**	**36**	*e*P	**Pb**	**15 37 08.4**	**-1.2**
CDM				*e*S	**Sb**	**15 37 19.6**	**+0.1**
LCR2	**La Lucha 2**	**0.81**	**14**	*e*P	**Pb**	**15 37 09.6**	**-1.1**
RIMA	**Rio Macho**	**0.88**	**23**	*e*P	**Pb**	**15 37 10.5**	**-1.3**
RIMA				*e*S	**Sn**	**15 37 24.0**	**-0.6**
EDBA	**Buenos Aires**	**0.94**	**77**	*e*P	**Pb**	**15 37 11.4**	**-1.4**
EDBA				*e*S	**Sb**	**15 37 26.1**	**+1.2**
PTJ1	**Puerto Jimnez**	**0.98**	**115**	*e*P	**Pb**	**15 37 12.6**	**-0.9**
PTJ1	**Puerto Jimnez**	**0.98**	**115**	*e*P	**Pb**	**15 37 12.6**	**-0.9**
SJS	**Escuela Geolog**	**0.99**	**9**	*e*P	**Pb**	**15 37 13.1**	**-0.7**
DRK0	**Durika**	**1.00**	**72**	*e*P	**Pb**	**15 37 12.4**	**-1.4**
DRK0				*e*S	**Sb**	**15 37 27.2**	**+0.6**
HDC	**Heredia**	**1.05**	**5**	*i*P	**Pn**	**15 37 14.3**	**-0.4**
HDC				*i* S	**Sn**	**15 37 29.6**	**+0.9**
HDC	**Heredia**	**1.05**	**5**	*e*P	**Pn**	**15 37 14.1**	**-0.6**
HDC				*e*S	**Sn**	**15 37 29.0**	**+0.3**
LAFE	**Finca La Fe, P**	**1.10**	**321**	*i*P	**Pn**	**15 37 14.3**	**-0.9**
CVTR	**Volcan Turrial**	**1.15**	**22**	*e*P	**Pn**	**15 37 15.8**	**-0.5**
CVTR				*e*S	**Sn**	**15 37 32.1**	**+0.5**
EDSV	**San Vito**	**1.23**	**96**	*e*P	**Pn**	**15 37 16.6**	**-0.5**
EDSV				*e*S	**Sb**	**15 37 34.5**	**+1.4**
CDITO	**Canoas**	**1.37**	**106**	*i*P	**Pn**	**15 37 18.5**	**-0.5**
CDITO				*i* S	**Sn**	**15 37 37.2**	**+0.7**
BATAN	**Batan**	**1.40**	**36**	*i*P	**Pb**	**15 37 19.9**	**-0.7**
BATAN				*i* S	**Sb**	**15 37 38.9**	**+0.8**
LESP3	**La Esperanza,**	**1.50**	**111**	*e*P	**Pn**	**15 37 18.9**	**-1.8**
BRU2	**Volcan**	**1.50**	**96**	*i*P	**Pn**	**15 37 20.5**	**-0.4**
BRU2				*i* S	**Sn**	**15 37 38.8**	**-1.2**
BRU2	**Volcan**	**1.50**	**96**	*e*P	**Pn**	**15 37 20.5**	**-0.4**
JTS	**Las Juntas de**	**1.52**	**331**	*i*P	**Pn**	**15 37 20.6**	**-0.5**
JTS	**Las Juntas de**	**1.52**	**331**	*e*P	**Pn**	**15 37 20.4**	**-0.7**
CASO	**Castillo**	**1.56**	**341**	*i* P	**Pb**	**15 37 22.2**	**-1.2**
CASO				*i* S	**Sb**	**15 37 46.1**	**+3.3**
BC3P	**Paso Ancho**	**1.58**	**95**	*i*P	**Pn**	**15 37 21.6**	**-0.5**
BC3P				*e*S	**Sn**	**15 37 42.8**	**+0.8**
ARE1	**Arenal 1**	**1.58**	**341**	*e*S	**Sb**	**15 37 46.7**	**+3.3**
CEDE	**Laguna Cedeo**	**1.60**	**342**	*e*P	**Pb**	**15 37 22.9**	**-1.2**
CEDE				*i* P	**Pb**	**15 37 22.9**	**-1.2**
BCO2	**Palmira**	**1.67**	**98**	*i*P	**Pn**	**15 37 23.0**	**-0.3**
BCO2				*i* S	**Sn**	**15 37 45.2**	**+1.0**
PTAR3	**Potrerillos Ar**	**1.71**	**98**	*i*P	**Pn**	**15 37 24.1**	**-0.4**
PTAR3				*i* S	**Sn**	**15 37 46.1**	**+1.1**
BAGA3	**Bagala, Chiriq**	**1.73**	**106**	*e*P	**Pn**	**15 37 24.2**	**+0.3**
BAGA3				*i* S	**Sb**	**15 37 47.5**	**0.0**
COVE	**Coope Vega, Sa**	**1.77**	**354**	*e*P	**Pn**	**15 37 24.6**	**+0.2**
PEDE3	**Pedregal, Chir**	**1.85**	**108**	*e*P	**Pn**	**15 37 24.2**	**-1.4**
PEDE3				*i* S	**Sn**	**15 37 49.2**	**+0.8**
ACAL	**Aguas Claras**	**1.86**	**334**	*i* P	**Pb**	**15 37 26.2**	**-2.3**
ORTG	**Ortega, Santa**	**1.87**	**319**	*e*P	**Pb**	**15 37 27.6**	**-1.0**
PSOM3	**Paja de Sombre**	**1.88**	**98**	*i*P	**Pn**	**15 37 25.7**	**-0.3**
PSOM3				*i* S	**Sn**	**15 37 49.1**	**0.0**
PTEN	**Parque Tenorio**	**1.92**	**336**	*i* P	**Pb**	**15 37 27.7**	**-1.7**
GUAL3	**Gualaca, Chiri**	**1.93**	**102**	*i*P	**Pn**	**15 37 27.4**	**+0.7**
GUAL3				*i* S	**Sn**	**15 37 51.7**	**+1.4**
CUI	**Cuipilapa**	**1.94**	**331**	*i* P	**Pb**	**15 37 27.4**	**-2.5**
GUAB	**Guayabo de Bag**	**2.

CUKAN				*i* S	Sg	15 45 55.5	+0.2	
CUKAN				IAML		15 46 01.0		
	comp=N,1μm,0.5s							
GAZ	**Gaziantep**	**1.55**	**230**	PN	Pn	**15 45 35.7**	**-0.2**	
MAZI	**Mazidag**	**1.56**	**117**	PN	Pb	**15 45 36.3**	**-0.8**	
ERZN	**Erzincan**	**1.61**	**29**	PN	Pb	**15 45 37.3**	**-0.6**	
HCB	**Kahramanmara**	**1.65**	**240**	*i* P	Pn	**15 45 37.3**	**0.0**	
HCB				*i* S	Sn	**15 45 57.0**	**-1.8**	
EUZM	**Uzumlu**	**1.71**	**27**	*i* P	Pb	**15 45 39.5**	**-0.1**	
EUZM				*i* S	Sg	**15 46 03.0**	**+0.5**	
BNGB	**Bingl**	**1.75**	**62**	PN	Pb	**15 45 39.4**	**-0.8**	
SARI	**SarD1z-Kayseri**	**1.81**	**278**	PN	Pn	**15 45 39.6**	**-0.2**	
MARD	**Mardin**	**1.86**	**117**	*i* P	Pn	**15 45 40.7**	**+0.4**	
MARD				*i* S	Sn	**15 46 00.4**	**-4.0**	
MARD				IAML		15 46 13.0		
	comp=E,1μm,0.8s							
MARD				IAML		15 46 14.0		
	comp=N,1μm,0.6s							
CUALT	**Altinyayla-SIV**	**1.87**	**306**	*i* P	Pb	**15 45 41.7**	**-0.6**	
KUZU	**Kuzuini**	**1.91**	**223**	*i* P	Pn	**15 45 40.7**	**-0.1**	
YEDI	**Yedisu-Bingol**	**1.91**	**48**	PN	Pn	**15 45 41.7**	**+0.7**	
ANDN	**Andirin**	**1.96**	**253**	*i* P	Pn	**15 45 41.6**	**0.0**	
ANDN				*i* S	Sb	**15 46 07.4**	**-1.1**	
ANDN				IAML		15 46 16.0		
	comp=N,638nm,0.7s							
SVAN	**Silvan-Diyarba**	**1.97**	**90**	PN	Pn	**15 45 42.3**	**+0.6**	
SVAN	**Silvan-Diyarba**	**1.97**	**90**	*i* P	Pn	**15 45 42.2**	**+0.5**	
KELT	**Kelkit**	**2.01**	**12**	*i* P	Pb	**15 45 43.9**	**-0.9**	
KELT				*i* S	Sn	**15 46 06.5**	**-1.6**	
BTMN	**Batman**	**2.05**	**97**	*i* P	Pn	**15 45 43.1**	**+0.3**	
BTMN				IAML		15 46 24.0		
	comp=N,544nm,1.2s							
BTMN				IAML		15 46 25.0		
	comp=E,680nm,0.7s							
SAIM	**ADANA**	**2.07**	**265**	*i* P	Pb	**15 45 44.1**	**-1.6**	
SCER	**sogukcermik**	**2.07**	**324**	*i* P	Pb	**15 45 46.4**	**+0.6**	
SCER				*i* S	Sb	**15 46 10.8**	**-1.2**	
SCER				IAML		15 46 16.0		
	comp=N,1μm,0.8s							
SCER				IAML		15 46 16.0		
	comp=E,939nm,1.1s							
KARO	**Karliova-Bingo**	**2.16**	**58**	PN	Pn	**15 45 45.0**	**+0.6**	
MUSM	**Mu-Merkez**	**2.27**	**75**	*i* P	Pb	**15 45 47.4**	**-1.8**	
MUSM				*i* S	Sn	**15 46 13.5**	**-1.0**	
CUSAR	**Sarkisla-SIVAS**	**2.28**	**304**	*i* P	Pb	**15 45 47.7**	**-1.6**	
KOPT	**Kop Dagi**	**2.31**	**37**	*i* P	Pb	**15 45 49.4**	**-0.4**	
BNN	**Bunyan**	**2.33**	**288**	PN	Pn	**15 45 46.9**	**+0.1**	
VRTB	**Varto-Mus**	**2.37**	**65**	PN	Pn	**15 45 48.2**	**+0.9**	
KOZT	**Kozan**	**2.38**	**254**	PN	Pn	**15 45 47.5**	**+0.2**	
BAYB	**BAYBURT**	**2.40**	**30**	*i* P	Pb	**15 45 49.7**	**-1.7**	
RSDY	**Resadiye-TOKAT**	**2.45**	**335**	PN	Pn	**15 45 48.9**	**+0.6**	
BAYT	**Aydintepe-Bayb**	**2.48**	**26**	PN	Pn	**15 45 49.6**	**+0.8**	
GUNE	**Kayseri**	**2.51**	**288**	*i* P	Pb	**15 45 52.6**	**-0.9**	
SRTM	**Siirt_Merkez**	**2.55**	**93**	*i* P	Pn	**15 45 50.2**	**+0.5**	
SRTM				*i* S	Sg	**15 46 28.9**	**-0.6**	
SRTM				IAML		15 46 38.0		
	comp=N,575nm,0.8s							
SRTM				IAML		15 46 39.0		
	comp=E,1μm,1.0s							
EMRE	**Erzurum,Aziziy**	**2.56**	**43**	*i* P	Pn	**15 45 49.5**	**-0.4**	
CEYT	**Ceyhan**	**2.62**	**244**	PN	Pn	**15 45 50.9**	**+0.4**	
YAHY	**KAYSERI_Yahyal**	**2.63**	**269**	*i* P	Pn	**15 45 51.2**	**+0.4**	
GURO	**Guroymak-BITLI**	**2.65**	**81**	PN	Pn	**15 45 52.0**	**+0.9**	
AKO	**Adana**	**2.67**	**255**	*i* P	Pn	**15 45 51.9**	**+0.6**	
TAHT	**Tahtakopru-Hat**	**2.70**	**229**	PN	Pn	**15 45 51.3**	**-0.3**	
ERZM	**Erzurum**	**2.70**	**50**	*i* P	Pn	**15 45 52.6**	**-0.3**	
BLIS	**Bitlis-Merkez**	**2.70**	**84**	*i* P	Pb	**15 45 55.2**	**-1.2**	
BLIS				*i* S	Sb	**15 46 28.7**	**-1.3**	
TOKT	**Tokat**	**2.71**	**323**	PN	Pn	**15 45 52.6**	**+0.7**	
ESPY	**Espiye-Giresun**	**2.73**	**0**	PN	Pn	**15 45 53.2**	**+1.1**	
KRIK	**Erzurum-spir**	**2.76**	**38**	*i* P	Pn	**15 45 52.1**	**-0.6**	
YURE	**YUREGIR**	**2.79**	**242**	PN	Pn	**15 45 53.3**	**+0.4**	
YURE	**YUREGIR**	**2.79**	**242**	*i* P	Pn	**15 45 53.6**	**+0.7**	
MACK	**Trabzon**	**2.88**	**16**	*i* P	Pb	**15 45 57.3**	**-2.1**	
ERBA	**Erbaa**	**2.91**	**330**	*i* P	Pn	**15 45 56.7**	**+2.1**	
KTUT	**Trabzon**	**2.92**	**16**	PN	Pn	**15 45 55.9**	**+1.2**	
CMRD	**Camardi-Nigde**	**2.98**	**261**	PN	Pn	**15 45 56.0**	**+0.4**	
YAYL	**Yayladag**	**2.98**	**225**	PN	Pn	**15 45 56.1**	**+0.4**	
SIRC	**Yozgat**	**3.00**	**294**	*i* P	Pn	**15 45 55.7**	**-0.2**	
SIRN	**Sırnak**	**3.02**	**102**	*i* P	Pn	**15 45 57.0**	**+0.8**	
KARA	**Karaisali**	**3.03**	**253**	PN	Pn	**15 45 56.8**	**+0.6**	
SIRT	**Sirnak**	**3.04**	**102**	PN	Pn	**15 45 57.2**	**+0.8**	
KOPR	**Koprukoy-ERZUR**	**3.05**	**53**	PN	Pn	**15 45 57.8**	**+1.2**	
AVNS	**Nevsehir-Avano**	**3.08**	**283**	*i* P	Pn	**15 45 58.8**	**+1.7**	
KRTS	**Karatas**	**3.10**	**240**	PN	Pn	**15 45 57.6**	**+0.5**	
MLAZ	**Malazgirt-MUS**	**3.16**	**71**	PN	Pn	**15 45 59.3**	**+1.1**	
GULE	**Gulek**	**3.23**	**255**	*i* P	Pn	**15 46 00.1**	**+0.9**	
CHOM	**Cayeli-Rize**	**3.32**	**28**	PN	Pn	**15 46 01.6**	**+1.4**	
AKDM	**Akdamar-Van**	**3.38**	**86**	PN	Pn	**15 46 02.5**	**+1.4**	
EATA	**Eleskirt**	**3.40**	**59**	*i* P	Pb	**15 46 09.9**	**+1.4**	
GULA	**Gulagac**	**3.51**	**274**	PN	Pn	**15 46 03.7**	**+0.7**	
KVT	**Kavak**	**3.54**	**326**	PN	Pn	**15 46 04.5**	**+1.2**	
MERS	**Mersin**	**3.57**	**250**	PN	Pn	**15 46 04.5**	**+0.8**	
DDEM	**Demirkent**	**3.59**	**40**	*i* P	Pn	**15 46 02.1**	**-1.9**	
DBAD	**Bademkaya**	**3.66**	**38**	*i* P	Pn	**15 46 07.9**	**+2.9**	
CORM	**Corum**	**3.73**	**303**	PN	Pn	**15 46 07.1**	**+1.1**	
DAGI	**Agillar**	**3.81**	**40**	*i* P	Pn	**15 46 08.1**	**+1.1**	
BRTR	**Keskin Array B**	**4.23**	**293**	Pn	Pn	**15 46 14.8**	**+1.9**	
	comp=E,1.2nm,0.3s,baz=111,slow=13,SNR=21							
BRTR				Pg	**Pg**	**15 46 26.1**	**-2.5**	
	comp=E,1.9nm,0.3s,baz=114,slow=18,SNR=19							
BRTR				Lg	Lg	15 47 22.1		
	comp=E,0.2nm,0.3s,baz=120,slow=29,SNR=1.8							
BRTR				LR	LR	15 48 10.5		
	comp=E,123nm,19.0s,baz=148,slow=44							
HWQ	**Hawqa**	**4.49**	**211**	*eP*	Pn	**15 46 17.3**	**+1.0**	
BHL	**Bhannes**	**4.93**	**211**	*eP*	Pn	**15 46 23.6**	**+1.2**	
DQRL	**Deir Qamar**	**5.14**	**211**	*eP*	Pn	**15 46 26.5**	**+1.3**	
QRWL	**Qaraoun**	**5.23**	**209**	*eP*	Pn	**15 46 27.9**	**+1.3**	
MMAI	**Mount Meron Ar**	**5.81**	**208**	Pn	Pn	**15 46 35.7**	**+1.1**	
	comp=E,2.9nm,0.3s,baz=30,slow=15,SNR=7.9							
MMAI				Sn	**Sn**	**15 47 46.3**	**+4.7**	
	baz=29,slow=23,SNR=0.6							
MMAI				Lg	Lg	15 48 13.4		
	comp=E,3.5nm,0.3s,baz=28,slow=32,SNR=2.8							
MMAI				LR	LR	15 49 07.5		
	comp=E,179nm,20.3s,baz=15,slow=41							
ASF	**Jabal al Asfar**	**6.17**	**194**	Pn	**Pn**	**15 46 41.9**	**+2.4**	
	comp=E,0.4nm,0.3s,baz=14,slow=4.2,SNR=2.1							
ASF				Lg	Lg	15 48 18.8		
	comp=E,1.0nm,0.3s,baz=137,slow=16,SNR=1.7							
KBZ	**Khabaz**	**6.39**	**29**	LR	LR	15 49 46.2		
	comp=E,125nm,19.4s,baz=214,slow=43							
GERES	**GERESS Array B**	**20.93**	**309**	P	Pn	15 49 52.6	-1.1	
	comp=E,0.6nm,0.8s,baz=101,slow=9.3,SNR=3.5							
MKAR	**Makanchi Array**	**32.92**	**61**	P	P	15 51 47.1	+4.3	
	comp=E,0.9nm,0.8s,baz=271,slow=7.6,SNR=5.1							
TORD	**Torodi Ar. Bea**	**41.22**	**243**	P	**P**	**15 52 56.5**	**+3.0**	
	comp=E,0.4nm,0.8s,baz=43,slow=9.3,SNR=2.5							

*ISK **20** 15:52:38.3,34˚.95N×32˚.89E,h50km,ML2.7/18*
*NIC **20** 15:52:39.6±0.0,35˚.00N×32˚.92E,h42km±1km,Ml2.6/5*
*DDA **20** 15:52:40.3,35˚.09N×32˚.57E,h32km±2km,ML2.4*
ISC 20 15:52:40.5±1.2,34˚.99N±0˚.03×32˚.92E±0˚.03,h35km,n42,σ0s75/59,3C-4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEF	**Lefka**	**0.13**	**350**	PG	Pn	**15 52 46.8**	**0.0**
LEF				SG	Sn	**15 52 52.9**	**+1.8**
LEF	**Lefka**	**0.13**	**350**	*i* P	Pn	**15 52 46.8**	**0.0**
LEF				*i* S	Sn	**15 52 51.4**	**+0.3**
LEF				IAML		15 52 53.0	
	comp=N,635nm,0.4s						
LEF				IAML		15 52 53.0	
	comp=E,481nm,0.4s						
SZAC	**Souni**	**0.24**	**187**	⇓P	Pn	**15 52 47.3**	**-0.4**
SZAC				AML	AML	15 52 53.8	
	comp=E,5.6nm,0.4s						
SZAC				AML	AML	15 52 53.8	
	comp=E,5.6nm,0.4s						
SZAC				AML	AML	15 52 54.0	
	comp=E,9.9nm,0.2s						
SZAC				AML	AML	15 52 54.0	
	comp=E,9.9nm,0.2s						
SZAC				S	Sn	**15 52 54.2**	**+1.5**
ALFC	**Alefka**	**0.31**	**303**	⇓P	Pn	**15 52 48.2**	**-0.5**
ALFC				S	Sn	**15 52 55.0**	**+0.8**
ASGA	**Asgata**	**0.34**	**127**	⇑P	Pn	**15 52 48.0**	**-1.0**
ASGA				AML	AML	15 52 55.2	
	comp=E,2.2nm,0.2s						
ASGA				AML	AML	15 52 55.2	
	comp=E,2.2nm,0.2s						
ASGA				S	Sn	**15 52 55.5**	**+0.7**
ASGA				AML	AML	15 52 55.6	
	comp=E,2.0nm,0.2s						
ASGA				AML	AML	15 52 55.6	
	comp=E,2.0nm,0.2s						
CSS	**Mathiatis**	**0.34**	**94**	PG	Pn	**15 52 48.5**	**-0.5**
CSS				SG	Sn	**15 52 55.6**	**+0.8**
CSS	**Mathiatis**	**0.34**	**94**	⇑P	Pn	**15 52 48.2**	**-0.8**
CSS				S	Sn	**15 52 55.4**	**+0.6**
NATA	**Nata**	**0.35**	**234**	⇓P	Pn	**15 52 48.8**	**-0.4**
NATA				AML	AML	15 52 48.9	
	comp=E,2.3nm,0.1s						
NATA				AML	AML	15 52 48.9	
	comp=E,2.3nm,0.1s						
NATA				AML	AML	15 52 49.0	
	comp=E,4.1nm,0.1s						
NATA				AML	AML	15 52 49.0	
	comp=E,4.1nm,0.1s						
NATA				S	Sn	**15 52 55.9**	**+0.7**
ATHAL	**Athalassa**	**0.42**	**69**	P	Pn	**15 52 49.8**	**-0.2**
AKIN	**Akıncılar- Kıb**	**0.45**	**87**	PG	Pn	**15 52 49.7**	**-0.8**
AKIN				SG	Sn	**15 52 58.1**	**+0.7**
AKMS	**Akamas**	**0.48**	**274**	⇓P	Pn	**15 52 50.1**	**-0.8**
AKMS				S	Sn	**15 52 58.9**	**+0.8**
AKMS				AML	AML	15 52 60.0	
	comp=E,2.1nm,0.2s						
AKMS				AML	AML	15 52 60.0	
	comp=E,2.1nm,0.2s						
AKMS				AML	AML	15 53 02.1	
	comp=E,1.8nm,0.3s						
AKMS				AML	AML	15 53 02.1	
	comp=E,1.8nm,0.3s						
LFK	**Lefkose**	**0.58**	**60**	PG	Pn	**15 52 51.9**	**-0.5**
LFK				SG	Sn	**15 53 01.3**	**+0.6**
MVOU	**Mavrovouni**	**0.59**	**87**	⇑P	Pn	**15 52 51.4**	**-1.0**
MVOU				S	Sn	**15 53 01.3**	**+0.6**
MVOU				AML	AML	15 53 01.4	
	comp=E,0.7nm,0.6s						
MVOU				AML	AML	15 53 01.4	
	comp=E,0.7nm,0.6s						
MVOU				AML	AML	15 53 02.8	
	comp=E,0.6nm,0.2s						
MVOU				AML	AML	15 53 02.8	
	comp=E,0.6nm,0.2s						
PARAL	**Paralimni**	**0.92**	**89**	P	Pn	**15 52 56.8**	**-0.1**
EREN	**Erenkoy**	**1.16**	**62**	PN	Pn	**15 52 59.5**	**-0.7**
EREN	**Erenkoy**	**1.16**	**62**	*i* P	Pn	**15 52 59.6**	**-0.7**
EREN				IAML		15 53 17.0	
	comp=E,56nm,1.4s						
EREN				IAML		15 53 26.0	
	comp=N,61nm,0.5s						
TEKE	**Tekeli-Mersin**	**1.16**	**8**	PN	Pn	**15 52 59.5**	**-0.8**
TEKE				SN	Sn	**15 53 15.1**	**+0.1**
AKK2	**Akkuyu-Mersin**	**1.26**	**24**	PN	Pn	**15 53 01.0**	**-0.6**
AKK1	**Akkuyu-Mersin**	**1.26**	**24**	PN	Pn	**15 53 00.9**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.28**	**24**	PN	Pn	**15 53 01.2**	**-0.7**
TISA	**Tisan-Mersin**	**1.32**	**28**	PN	Pn	**15 53 01.9**	**-0.6**
GAZI	**Gazipasa**	**1.34**	**339**	PN	Pn	**15 53 01.8**	**-0.9**
GAZI	**Gazipasa**	**1.34**	**339**	*i* P	Pn	**15 53 01.7**	**-1.1**
GAZI				*i* S	Sn	**15 53 17.9**	**-1.4**
YESI	**Yesilovacik-Me**	**1.34**	**26**	PN	Pn	**15 53 02.2**	**-0.5**
KARG	**Kargicak-Mersi**	**1.37**	**28**	PN	Pn	**15 53 02.5**	**-0.7**
BERE	**Bereket-Mersin**	**1.38**	**10**	PN	Pn	**15 53 02.7**	**-0.7**
IKL	**Isikli**	**1.40**	**26**	PN	Pn	**15 53 02.8**	**-0.7**
TEVE	**Tevekalti-Mers**	**1.50**	**16**	PN	Pn	**15 53 04.4**	**-0.7**
KEBE	**Keben-Mersin**	**1.59**	**24**	PN	Pn	**15 53 05.7**	**-0.6**
SILI	**Silifke-Mersin**	**1.60**	**30**	PN	Pn	**15 53 05.8**	**-0.5**
ERMK	**Ermenek**	**1.65**	**360**	*i* P	Pn	**15 53 06.7**	**-0.5**
ERMK				*i* S	Sn	**15 53 27.9**	**+0.6**
ERMK				IAML		15 53 33.0	
	comp=E,36nm,0.6s						
ERMK				IAML		15 53 42.0	
	comp=N,28nm,0.8s						
OSC2	**CSNet OBS 4**	**1.98**	**196**	P	Pn	**15 53 11.3**	**-0.3**
OSC2				S	Sn	**15 53 35.8**	**+0.6**
KRMN	**Karaman**	**2.20**	**7**	PN	Pn	**15 53 14.2**	**-0.5**
MERS	**Mersin**	**2.28**	**34**	PN	Pn	**15 53 15.5**	**-0.3**
SEYD	**Seydisehir-KON**	**2.56**	**340**	PN	Pn	**15 53 19.2**	**-0.5**
KERG	**Konya-Eregli**	**2.61**	**22**	*i* P	Pn	**15 53 21.0**	**+0.6**
KERG				*i* S	Sn	**15 53 51.9**	**+1.0**
KERG				IAML		15 53 56.0	
	comp=N,20nm,0.4s						
YAYL	**Yayladag**	**2.80**	**67**	PN	Pn	**15 53 22.8**	**-0.2**
YURE	**YUREGIR**	**2.87**	**49**	PN	Pn	**15 53 23.5**	**-0.3**
TAHT	**Tahtakopru-Hat**	**3.00**	**62**	PN	Pn	**15 53 25.3**	**-0.3**
CMRD	**Camardi-Nigde**	**3.15**	**31**	PN	Pn	**15 53 27.8**	**+0.1**
MMLI	**Mount Malkishu**	**3.29**	**140**	PN	Pn	**15 53 27.9**	**-1.7**
CAME	**Cameli-Denizli**	**3.52**	**305**	PN	Pn	**15 53 32.5**	**-0.4**

*IDC **20** 16:34:21.1±0.4,15˚.67S×173˚.13W,h0km,mb4.7/23, mb1 4.9/24,mb1mx4.8/40,mbtmp4.7/24,ML3.7/1,MS3.8/27, Ms1 3.8/27,ms1mx3.8/37,Error ellipse: s-maj=17.0km s-min=11.5km az=126.0*
*BJI **20** 16:34:21.2±0.0,15˚.21S×173˚.15W,h3km,mB5.4/21, mb5.0/28,Ms5.1/5,Ms7 4.8/3*
*NEIC **20** 16:34:22.4±1.4,15˚.54S±0˚.09×173˚.2W±0˚.1,h10km±1km, mb5.3/274, Error ellipse: s-maj=17.6km s-min=15.5km az=74.0*
*MOS **20** 16:34:23.0±1.3,15˚.55S×173˚.11W,h19km,mb5.4/14, Error ellipse: s-maj=10.1km s-min=7.1km az=59.0*
*GCMT **20** 16:34:34.4±0.2, 15˚.37S±0˚.02×172˚.55W±0˚.02, h22km±1km, MW5.2/96,Moment Tensor Solution. s32,c36; s96,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.42±.17; Mθθ0.04±.13; Mϕϕ-0.47±.12; Mrθ-5.35±.60; Mrϕ-1.71±.09; Mθϕ4.56±.56; Best double couple: M₀7.05100×10¹⁶ NP1:ϕs130.00000°,δ88.00000°,λ-90.00000°. Principal axes: T 8.0220, Plg43.0000°, Azm221.0000°; N -1.9420, Plg0.0000°, Azm130.0000°; P -6.0800, Plg47.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 16:34:25.3±0.2,15˚.63S±0˚.05×173˚.16W±0˚.05,h29km, n896,σ1s30/847,mb5.3/175,MS4.0/31,48C-25D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.62**	**138**	P	**Pn**	**16 35 35.7**	**+2.6**
	baz=4.7,SNR=72						
NIUE	**Niue**	**4.62**	**138**	Pn	**Pn**	**16 35 35.4**	**+2.2**
MSVF	**Nonsavu**	**8.68**	**255**		Pn	16 36 35.9	+6.8
RAR	**Rarotonga**	**13.86**	**116**	Pn	**Pn**	**16 37 40.0**	**0.0**
	3.4nm,0.3s,baz=279,slow=7.3,SNR=3.9						
RAR				Sn	**Sn**	**16 40 07.4**	**-5.6**
	2.8nm,0.3s,baz=136,slow=15,SNR=1.6						
RAR				LR	LR	16 41 40.9	
	comp=Z,224nm,21.6s,baz=297,slow=32						
GLKZ	**Green Lake**	**14.26**	**197**	P	**Pn**	**16 37 42.1**	**-3.3**
GLKZ				S	Sn	16 40 13.6	-9.1
DZM	**Mont Dzumac**	**20.33**	**249**	*eP*	Pn	16 39 06.0	+4.4
	286nm,1.4s						
DZM				*e*LR	LR	16 43 50.0	
	comp=Z,2μm,29.1s						
DZM	**Mont Dzumac**	**20.33**	**249**	P	**P**	**16 39 00.5**	**+1.1**
	56nm,0.9s,baz=76,slow=17,SNR=4.8						
DZM				LR	LR	16 46 24.1	
	comp=Z,224nm,19.4s,baz=86,slow=36						
DZM	**Mont Dzumac**	**20.33**	**249**	P	**P**	**16 39 00.6**	**+1.1**
PAE	**Paea**	**22.68**	**98**	*eT*	T	17 02 50.2	
	4.6nm,0.4s						
PPT	**Papeete**	**22.68**	**98**	LR	LR	16 45 41.9	
	comp=Z,131nm,19.0s,baz=287,slow=30						
PPT2	**Papeete2**	**22.68**	**98**	*e*LQ	LQ	16 43 52.8	
	1μm,30.0s						
PPT2				*e*LR	LR	16 44 34.3	
	comp=Z,871nm,28.8s,baz=269						
PPT2	**Papeete2**	**22.68**	**98**	*eT*	T	17 03 04.6	
	4.4nm,0.3s						
OUZ	**Omahuta**	**22.84**	**209**	P	**P**	**16 39 27.4**	**+1.2**
TIAR	**Tiarei**	**22.90**	**98**	*eT*	T	17 03 16.8	
	3.4nm,0.4s						
TVO	**Taravao**	**23.00**	**99**	*eT*	T	17 03 27.0	
	1.9nm,0.3s						
MXZ	**Matakaoa Point**	**23.12**	**197**	P	**P**	**16 39 30.6**	**+1.5**
MXZ				IAmb	IAmb	16 39 44.6	
	comp=Z,116nm,1.0s						
HAZ	**Te Kaha**	**23.45**	**198**	P	**P**	**16 39 34.6**	**+2.3**
PKGZ	**Pakihiroa**	**23.49**	**198**	P	P	16 39 44.0	+11

RUGZ	**Raukumara Rang**	**23.68**	**198**	P	**P**	**16 39 38.3**	**+3.6**	
TGRZ	**Tauranga**	**23.92**	**201**	P	**P**	**16 39 41.0**	**+4.2**	
OPRZ	**Ohinepanea**	**23.93**	**200**	P	**P**	**16 39 41.9**	**+5.0**	
URZ	**Urewera**	**24.12**	**199**	P	**P**	**16 39 38.4**	**-0.3**	
	comp=Z,108nm,0.8s,baz=285,slow=2.9,SNR=59							
URZ				S	**S**	**16 43 55.5**	**+0.8**	
	comp=Z,5.3nm,0.7s,baz=73,slow=14,SNR=1.4							
URZ	**Urewera**	**24.12**	**199**	P	**P**	**16 39 40.6**	**+2.0**	
URZ	**Urewera**	**24.12**	**199**	P	**P**	**16 39 39.4**	**+0.8**	
KMRZ	**Kaimai**	**24.14**	**201**	P	**P**	**16 39 43.6**	**+4.7**	
KARZ	**Kaharoa**	**24.19**	**201**	P	**P**	**16 39 44.8**	**+5.4**	
TOZ	**Tauhara Road**	**24.20**	**202**	P	**P**	**16 39 43.4**	**+4.0**	
OMRZ	**Omania**	**24.23**	**200**	P	**P**	**16 39 43.8**	**+4.1**	
NGRZ	**Ngongotaha**	**24.28**	**201**	P	**P**	**16 39 45.7**	**+5.5**	
TARZ	**Mount Tarawera**	**24.30**	**200**	P	**P**	**16 39 47.2**	**+6.8**	
RIGZ	**Rimuhau**	**24.34**	**197**	P	**P**	**16 39 46.0**	**+5.3**	
PMOR	**Pomariorio Ree**	**24.37**	**92**	*e*T	T	17 05 10.5		
	comp=Z,3.2nm,0.3s							
RRRZ	**Republican Roa**	**24.39**	**200**	P	**P**	**16 39 47.0**	**+5.8**	
MUGZ	**Murupara**	**24.43**	**199**	P	**P**	**16 39 45.3**	**+3.7**	
HSRZ	**Hossack Road**	**24.45**	**200**	P	**P**	**16 39 46.9**	**+5.2**	
RTZ	**Ruatahuna**	**24.49**	**199**	P	**P**	**16 39 45.2**	**+3.0**	
PRGZ	**Paritu Road**	**24.51**	**197**	P	P	16 39 49.9	+7.6	
HRRZ	**Handcock Road**	**24.51**	**200**	P	**P**	**16 39 45.7**	**+3.4**	
SNGZ	**Shannon Statio**	**24.54**	**198**	P	**P**	**16 39 48.4**	**+5.9**	
PRRZ	**Plateau Road**	**24.57**	**200**	P	**P**	**16 39 47.6**	**+4.8**	
ALRZ	**Allen Road**	**24.65**	**200**	P	**P**	**16 39 46.1**	**+2.6**	
TLZ	**Tolley Road**	**24.71**	**202**	P	**P**	**16 39 48.7**	**+4.5**	
MHGZ	**Mahia Peninsul**	**24.71**	**197**	P	**P**	**16 39 50.2**	**+6.1**	
RAHZ	**Arahi**	**24.73**	**198**	P	**P**	**16 39 47.6**	**+3.3**	
MTHZ	**Maungataniwha**	**24.75**	**199**	P	**P**	**16 39 48.6**	**+4.2**	
NMHZ	**Naumai**	**24.99**	**199**	P	**P**	**16 39 51.8**	**+5.1**	
ARHZ	**Aropaoanui**	**25.08**	**198**	P	**P**	**16 39 53.3**	**+5.9**	
RATZ	**Rangitukua**	**25.11**	**201**	P	**P**	**16 39 50.4**	**+2.7**	
HIZ	**Hauiti**	**25.12**	**203**	P	**P**	**16 39 52.8**	**+5.0**	
HIZ	**Hauiti**	**25.12**	**203**	P	**P**	**16 39 49.8**	**+2.0**	
BKZ	**Black Stump Fm**	**25.15**	**199**	P	**P**	**16 39 50.1**	**+2.0**	
BKZ	**Black Stump Fm**	**25.15**	**199**	P	**P**	**16 39 48.6**	**+0.5**	
MCHZ	**McNeill Hill**	**25.34**	**199**	P	**P**	**16 39 54.3**	**+4.6**	
TMVZ	**Te Maari**	**25.36**	**201**	P	**P**	**16 39 52.6**	**+2.6**	
ETVZ	**East Tongariro**	**25.38**	**201**	P	**P**	**16 39 52.7**	**+2.5**	
WTVZ	**West Tongariro**	**25.40**	**201**	P	**P**	**16 39 54.6**	**+4.1**	
KWHZ	**Kaweka Forest**	**25.41**	**199**	P	**P**	**16 39 53.6**	**+3.2**	
TWVZ	**Taurewa**	**25.41**	**201**	P	**P**	**16 39 53.9**	**+3.3**	
OTVZ	**Oturere**	**25.42**	**201**	P	**P**	**16 39 52.2**	**+1.6**	
CKHZ	**Cape Kidnapper**	**25.42**	**198**	P	P	16 39 58.1	+7.6	
NGZ	**Ngauruhoe**	**25.45**	**201**	P	**P**	**16 39 53.9**	**+3.0**	
TUVZ	**Tukino**	**25.51**	**200**	P	**P**	**16 39 54.5**	**+3.0**	
FWVZ	**Far West T-bar**	**25.54**	**201**	P	**P**	**16 39 54.6**	**+2.8**	
WHVZ	**Whangaehu Hut**	**25.55**	**201**	P	**P**	**16 39 55.0**	**+3.1**	
BHHZ	**Black Hill Sta**	**25.58**	**200**	P	**P**	**16 39 54.4**	**+2.5**	
WNVZ	**Wahianoa**	**25.59**	**200**	P	**P**	**16 39 55.0**	**+2.8**	
KAHZ	**Kahuranaki**	**25.61**	**198**	P	**P**	**16 39 57.2**	**+5.0**	
MOVZ	**Moawhango**	**25.61**	**200**	P	**P**	**16 39 56.6**	**+4.3**	
KRHZ	**Kereru**	**25.62**	**199**	P	**P**	**16 39 55.6**	**+3.3**	
PXZ	**Pawanui**	**25.83**	**198**	P	**P**	**16 39 57.8**	**+3.7**	
PNHZ	**Pukenui**	**25.92**	**199**	P	**P**	**16 39 58.1**	**+3.0**	
PKE	**Pukeiti**	**26.05**	**203**	P	**P**	**16 40 02.5**	**+6.3**	
BFZ	**Birch Farm**	**26.61**	**198**	P	**P**	**16 40 02.5**	**+1.3**	
BFZ

comp=Z,24nm,0.6s,baz=86,slow=8.0,SNR=342
ASAR S **S** **16 50 25.4 -5.1**
comp=Z,1.7nm,0.8s,baz=84,slow=14,SNR=12
ASAR LR LR 17 03 10.2
comp=Z,294nm,21.4s,baz=96,slow=34
ASAR Alice Springs 50.26 252 P **P** **16 43 18.3 -1.1**
WRKA Warakurna 55.34 250 P **P** **16 43 56.5 -0.4**
baz=55,SNR=15
FORT Forrest 55.52 243 P **P** **16 43 57.6 -0.5**
baz=56,SNR=9.6
FORT Forrest 55.52 243 P **P** **16 43 57.1 -1.1**
KNRA Kununurra 55.76 261 P **P** **16 43 59.3 -0.7**
baz=56,SNR=3.4
SIJI Sorong 56.72 279 P **P** **16 44 07.9 +1.0**
comp=Z,3.7nm,0.6s,baz=102,slow=22,SNR=6.1
FITZ Fitzroy Crossi 58.39 258 P **P** **16 44 21.4 +2.8**
baz=58,SNR=3.7
VNDA Vanda 63.18 186 P **P** **16 44 52.0 +1.8**
comp=Z,1.5nm,0.7s,baz=0.3,slow=2.3,SNR=3.5
VNDA LR LR 17 07 35.0
comp=Z,32nm,21.2s,baz=12,slow=32
VNDA Vanda 63.18 186 P **P** **16 44 51.5 +1.3**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 63.18 186 P **P** **16 44 51.5 +1.3**
PSA00 Pilbara Seismi 63.36 253 P **P** **16 44 51.7 -0.7**
MEEK Meekatharra 63.94 248 P **P** **16 44 56.3 0.0**
baz=64,SNR=4.7
KLBR Kellerberrin 64.34 242 P **P** **16 44 59.2 +0.4**
baz=64,SNR=4.8
NWAO Narrogin (SRO) 64.71 241 P **P** **16 45 01.9 +0.8**
comp=Z,20nm,1.1s,baz=137,slow=4.3,SNR=3.7
NWAO Narrogin (SRO) 64.71 241 P **P** **16 45 01.7 +0.6**
NWAO pmax pmax
comp=Z,39nm,1.3s
NWAO Narrogin (SRO) 64.71 241 P **P** **16 45 01.7 +0.6**
NWAO Narrogin (SRO) 64.71 241 P **P** **16 45 01.6 +0.6**
NWAO IAmb IAmb 16 45 02.6
comp=Z,39nm,1.2s
MORW Morawa 66.00 245 P **P** **16 45 08.7 -0.8**
JHJ Hachijo jima 2 66.09 318 LR LR 17 08 39.1
comp=Z,32nm,20.4s,baz=15,slow=31
MJAR Matsushiro Arr 69.26 320 P **P** **16 45 30.5 +0.6**
comp=Z,2.5nm,0.9s,baz=158,slow=5.3,SNR=4.9
MJAR LR LR 17 10 14.1
comp=Z,36nm,21.7s,baz=235,slow=31
MJAR Matsushiro Arr 69.26 320 P **P** **16 45 30.5 +0.6**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MAT Matsushiro 69.26 320 P **P** **16 45 30.1 +0.2**
MAT eS **S** **16 54 35.2 +0.7**
CASY Casey 70.30 205 P **P** **16 45 35.6 -0.2**
SNCC San Nicolas Is 70.57 46 P **P** **16 45 39.7 +1.7**
baz=235
SCZ2 Santa Cruz Isl 70.92 45 P **P** **16 45 41.5 +1.4**
baz=235
SCI2 San Clemente I 71.10 46 P **P** **16 45 42.0 +0.9**
baz=236
PKM Mcpherson Peak 71.31 44 P **P** **16 45 44.0 +1.3**
baz=235,SNR=5.7
SAO San Andreas Ge 71.34 42 P **P** **16 45 43.6 +1.0**
SAO pmax pmax
comp=Z,50nm,1.3s
SAO San Andreas Ge 71.34 42 P **P** **16 45 43.6 +1.0**
CIS Catalina Islan 71.42 46 P **P** **16 45 44.1 +0.9**
baz=236
PMPB Monarch Peak 71.43 42 P **P** **16 45 44.4 +1.2**
SMMC Simmler 71.44 44 P **P** **16 45 44.7 +1.5**
baz=234,SNR=5.2
PAGB Antelope Grade 71.51 43 P **P** **16 45 44.3 +0.7**
PAGB IAmb IAmb 16 45 46.2
comp=Z,31nm,1.1s
OSI Osito Audit: C 71.89 45 P **P** **16 45 47.3 +1.3**
baz=236
DECC Green Verdugo 71.95 45 P **P** **16 45 47.2 +0.8**
baz=236
KMRM Mail Ridge 72.09 38 P **P** **16 45 48.1 +1.0**
ARVC Arvin 72.11 44 P **P** **16 45 48.2 +0.9**
baz=235
JNU Nakatsue 72.12 313 LR LR 17 12 30.9
comp=Z,107nm,19.3s,baz=92,slow=32
MWC Mount Wilson 72.13 46 P **P** **16 45 48.0 +0.4**
MWC pmax pmax
comp=Z,24nm,1.0s
MWC Mount Wilson 72.13 46 P **P** **16 45 48.0 +0.4**
MWC IAmb IAmb 16 45 49.4
comp=Z,24nm,0.9s
BAR Barrett 72.25 48 P **P** **16 45 47.9 -0.2**
VES Vestal, Richgr 72.34 44 P **P** **16 45 49.1 +0.5**
baz=235,SNR=7.4
MURC Murrieta 72.38 47 P **P** **16 45 49.4 +0.5**
baz=237
BFSC Mount Baldy Ra 72.41 46 P **P** **16 45 49.7 +0.5**
baz=236
ESJX Sierra Juarez 72.42 49 P **P** **16 45 50.3 +0.9**
KHMM Horse Mountain 72.50 37 P **P** **16 45 50.6 +1.0**
EDW2 Edwards Air Fo 72.54 45 P **P** **16 45 50.6 +0.7**
baz=236,SNR=24
MONP2 Monument Peak 72.55 48 P **P** **16 45 50.8 +0.7**
baz=238,SNR=7.2
O02D Mt. Diablo Mer 72.61 38 P **P** **16 45 51.9 +1.6**
baz=231,SNR=16
RMX La Rumorosa 72.64 48 P **P** **16 45 51.3 +0.7**
RMX IAmb IAmb 16 45 52.7
comp=Z,23nm,1.1s
IKP In-Ko-Pah, Jac 72.64 48 P **P** **16 45 51.5 +0.9**
baz=238,SNR=5.1
ISA Isabella, Lake 72.65 44 P **P** **16 45 51.5 +0.9**
baz=236,SNR=26
ISA Isabella, Lake 72.65 44 P **P** **16 45 50.8 +0.3**
ISA pmax pmax
comp=Z,37nm,1.1s
ISA Isabella, Lake 72.65 44 P **P** **16 45 50.8 +0.3**
ISA IAmb IAmb 16 45 52.9
comp=Z,37nm,1.1s
CHGN Chignik 72.71 9 P **P** **16 45 49.4 -0.9**
CHGN IAmb IAmb 16 45 53.5
comp=Z,30nm,0.9s
SFX San Felipe 72.71 50 P **P** **16 45 49.9 -1.0**
CMB Columbia Colle 72.78 41 P **P** **16 45 51.2 0.0**
CMB pmax pmax
comp=Z,25nm,1.1s
CMB Columbia Colle 72.78 41 P **P** **16 45 51.2 0.0**
CMB IAmb IAmb 16 45 53.3
comp=Z,25nm,1.1s
PFO Pinyon Flats O 72.90 47 LR LR 17 10 05.4
comp=Z,130nm,20.3s,baz=228,slow=29
PFO Pinyon Flats O 72.90 47 P **P** **16 45 53.0 +0.9**
baz=237,SNR=6.3
PFO Pinyon Flats O 72.90 47 P **P** **16 45 51.6 -0.6**
PFO pmax pmax
comp=Z,28nm,1.4s
PFO Pinyon Flats O 72.90 47 P **P** **16 45 51.6 -0.6**
PFO IAmb IAmb 16 45 54.2
comp=Z,28nm,1.4s
TPFO Pinon Flats 72.91 47 P **P** **16 45 52.9 +0.7**
baz=238,SNR=6.4
PEA0B Petropavlovsk- 72.92 342 P **P** **16 45 52.0 +0.4**
PEA0B pmax pmax
comp=Z,51nm,1.0s
PEA0B Petropavlovsk- 72.92 342 P **P** **16 45 52.0 +0.4**
PETK Petropavlovsk- 72.92 342 P **P** **16 45 52.5 +0.9**
comp=Z,26nm,0.8s,baz=119,slow=8.6,SNR=22
PETK LR LR 17 13 24.9
comp=Z,22nm,21.5s,baz=126,slow=32
PETK Petropavlovsk- 72.92 342 P **P** **16 45 52.0 +0.4**
PETK Petropavlovsk- 72.92 342 P **P** **16 45 52.0 +0.4**
BBRC Big Bear Solar 72.93 46 P **P** **16 45 53.6 +1.1**
baz=237
AFDM Forest Hills D 72.96 40 P **P** **16 45 52.0 -0.3**
AFDM IAmb IAmb 16 45 54.2
comp=Z,28nm,1.2s
ORV Oroville 73.00 39 P **P** **16 45 52.6 +0.1**
ORV pmax pmax
comp=Z,31nm,1.3s
ORV Oroville 73.00 39 P **P** **16 45 52.6 +0.1**
ORV IAmb IAmb 16 45 54.5
comp=Z,31nm,1.2s
WDC Whiskeytown Da 73.01 38 P **P** **16 45 52.9 +0.4**
WDC pmax pmax
comp=Z,71nm,1.4s
WDC Whiskeytown Da 73.01 38 P **P** **16 45 52.9 +0.4**
SWSC Sam W. Stewart 73.02 48 P **P** **16 45 53.6 +0.9**
baz=238,SNR=5.1
LRMC Laurel Mtn Rad 73.08 45 P **P** **16 45 54.0 +0.8**
baz=236,SNR=10

N02D Trinity Center 73.16 38 P **P** **16 45 55.0 +1.5**
baz=231,SNR=7.4
RRX Edison Barstow 73.22 46 P **P** **16 45 54.6 +0.8**
baz=237
O03E Paynes Creek 73.28 39 P **P** **16 45 54.9 +0.7**
baz=232,SNR=14
M02C Callahan 73.34 37 P **P** **16 45 56.2 +1.7**
baz=231,SNR=8.2
CWC Cottonwood Cre 73.35 44 P **P** **16 45 55.7 +0.9**
baz=236
L02E Cave Junction 73.40 36 P **P** **16 45 56.2 +1.4**
baz=230
BELC Belle Mtn. Jos 73.44 47 P **P** **16 45 56.0 +0.7**
baz=238,SNR=11
MPMC Manual Prospec 73.53 44 P **P** **16 45 57.0 +1.0**
baz=236,SNR=50
GSC Goldstone, Bar 73.58 45 P **P** **16 45 56.7 +0.6**
baz=237,SNR=17
GSC Goldstone, Bar 73.58 45 P **P** **16 45 56.4 +0.3**
GSC pmax pmax
comp=Z,35nm,1.2s
GSC Goldstone, Bar 73.58 45 P **P** **16 45 56.4 +0.3**
GSC IAmb IAmb 16 45 58.0
comp=Z,35nm,1.1s
TIN Tinemaha, Big 73.60 43 P **P** **16 45 57.3 +1.1**
baz=235
BC3 Big Chuckawall 73.64 47 P **P** **16 45 57.4 +1.0**
baz=238,SNR=12
YBH Yreka Blue Hor 73.64 37 P **P** **16 45 57.3 +1.0**
YBH pmax pmax
comp=Z,46nm,1.0s
YBH Yreka Blue Hor 73.64 37 P **P** **16 45 57.3 +1.0**
HEC Hector,Ludlow 73.65 46 P **P** **16 45 56.9 +0.5**
baz=237,SNR=20
WAKR Walker 73.66 41 P **P** **16 45 57.0 +0.4**
WAKR IAmb IAmb 16 45 58.3
comp=Z,25nm,1.1s
K02D Willamette Mer 73.71 36 P **P** **16 45 58.0 +1.4**
baz=230,SNR=7.1
GLA Glamis 73.77 48 P **P** **16 45 58.2 +1.0**
baz=239
GLA Glamis 73.77 48 P **P** **16 45 57.5 +0.4**
GLA pmax pmax
comp=Z,37nm,1.2s
GLA Glamis 73.77 48 P **P** **16 45 57.5 +0.4**
GLA IAmb IAmb 16 45 59.5
comp=Z,37nm,1.1s
YSS Yuzh-Sakhalins 73.79 330 *i* P **P** **16 45 57.3 +0.4**
YSS pmax pmax
comp=Z,59nm,1.1s
J01E Myrtle Point 73.86 35 P **P** **16 45 58.6 +1.2**
baz=230
BEKR Beckworth 73.89 40 P **P** **16 45 58.2 +0.3**
BEKR IAmb IAmb 16 46 00.0
comp=Z,34nm,1.1s
PNTR Pine Nut 73.90 41 P **P** **16 45 58.4 +0.3**
PNTR IAmb IAmb 16 46 00.3
comp=Z,42nm,1.0s
VCNR Virginia City 73.99 40 P **P** **16 45 59.1 +0.6**
VCNR IAmb IAmb 16 46 00.8
comp=Z,29nm,1.0s
PIX Pinacate 74.00 50 P **P** **16 45 58.5 0.0**
HUMO Hull Mountain 74.05 36 P **P** **16 45 59.1 +0.5**
HUMO IAmb IAmb 16 46 01.4
comp=Z,45nm,1.1s
YERR Yerington 74.07 41 P **P** **16 45 58.9 0.0**
YERR IAmb IAmb 16 46 01.1
comp=Z,38nm,1.1s
GMRC Granite Mounta 74.09 46 P **P** **16 46 00.0 +0.9**
baz=238,SNR=15
LHV Little Huntoon 74.11 42 P **P** **16 45 59.0 0.0**
LHV IAmb IAmb 16 46 01.6
comp=Z,33nm,1.0s
IRM Iron Mountain 74.12 47 P **P** **16 46 00.0 +0.8**
baz=238,SNR=24
M04C Macdoel 74.18 37 P **P** **16 46 00.7 +1.3**
baz=232,SNR=9.1
L04D Klamath Falls 74.18 37 P **P** **16 46 00.7 +1.2**
baz=231,SNR=14
FURC Furnace Creek, 74.18 44 P **P** **16 46 00.3 +0.9**
baz=236,SNR=9.8
TUQ Turquoise Moun 74.26 46 P **P** **16 46 00.9 +0.8**
baz=237,SNR=14
SHOC Shoshone, Teco 74.27 45 P **P** **16 46 00.9 +0.9**
baz=237
RYN Ryan 74.31 42 P **P** **16 46 00.1 -0.3**
RYN IAmb IAmb 16 46 02.5
comp=Z,24nm,1.0s
NVAR Mina Array Bea 74.34 42 P **P** **16 46 01.9 +1.2**
comp=Z,20nm,0.8s,baz=227,slow=9.8,SNR=114
NVAR LR LR 17 11 31.6
comp=Z,156nm,19.0s,baz=261,slow=30
PAHR Pah Rah Range 74.40 40 P **P** **16 46 00.5 -0.3**
PAHR IAmb IAmb 16 46 03.1
comp=Z,40nm,1.2s
QSPA South Pole Qui 74.42 180 LR LR 17 11 58.2
comp=Z,51nm,20.6s,baz=45,slow=30
QSPA South Pole Qui 74.42 180 P **P** **16 46 01.7 +1.2**
NV11 Mina Array Sit 74.44 42 P **P** **16 46 01.0 -0.1**
NV11 IAmb IAmb 16 46 03.3
comp=Z,49nm,1.1s
I02D Swisshome 74.52 35 P **P** **16 46 01.8 +0.6**
baz=229
I03D Drain, OR 74.53 35 P **P** **16 46 02.2 +0.9**
baz=230
HSIG 74.68 53 P **P** **16 46 02.0 -0.5**
214A Organ Pipe Nat 74.68 50 P **P** **16 46 03.3 +0.8**
baz=240,SNR=9.1
214A Organ Pipe Nat 74.68 50 P **P** **16 46 02.3 -0.2**
214A IAmb IAmb 16 46 04.7
comp=Z,30nm,1.2s
K04D Chiloquin, OR 74.75 37 P **P** **16 46 03.7 +0.9**
baz=231
NEE2 Needles Airpor 74.81 47 P **P** **16 46 04.1 +0.9**
baz=238
KVN Kaiserville 74.83 41 P **P** **16 46 03.4 0.0**
KVN pmax pmax
comp=Z,32nm,1.1s
KVN Kaiserville 74.83 41 P **P** **16 46 03.4 0.0**
KVN IAmb IAmb 16 46 05.4
comp=Z,32nm,1.1s
TPH Tonopah 74.84 43 P **P** **16 46 03.5 0.0**
TPH pmax pmax
comp=Z,221nm,1.0s
TPH Tonopah 74.84 43 P **P** **16 46 03.5 0.0**
TPNV Topopah Spring 74.86 44 P **P** **16 46 04.5 +0.9**
baz=237,SNR=25
TPNV Topopah Spring 74.86 44 P **P** **16 46 03.4 -0.2**
TPNV pmax pmax
comp=Z,20nm,0.9s
TPNV Topopah Spring 74.86 44 P **P** **16 46 03.4 -0.2**
TPNV IAmb IAmb 16 46 05.7
comp=Z,20nm,0.8s
PDMCI Parker Dam,Lak 74.91 47 P **P** **16 46 04.5 +0.8**
baz=239,SNR=9.2
J04D Umpqua Nationa 74.94 36 P **P** **16 46 05.2 +1.3**
baz=231,SNR=10.0
KDAK Kodiak Island 75.10 11 P **P** **16 46 03.8 -0.4**
KDAK pmax pmax
comp=Z,82nm,1.3s
KDAK Kodiak Island 75.10 11 P **P** **16 46 03.8 -0.4**
I04A Tendick Farm, 75.11 35 P **P** **16 46 05.7 +0.9**
baz=231,SNR=7.1
MOD Modoc Plateau 75.16 38 P **P** **16 46 05.5 +0.3**
K05A Summer Lake 75.31 37 P **P** **16 46 06.9 +0.8**
SHPR Sheep Range 75.35 45 P **P** **16 46 07.1 +0.7**
SHPR IAmb IAmb 16 46 08.8
comp=Z,34nm,1.1s
H04D Lebanon 75.40 35 P **P** **16 46 07.7 +1.4**
baz=230,SNR=5.2
TPUB Ta-pu 75.40 300 P **P** **16 46 06.0 -0.8**
J05D Fort Rock, OR 75.46 36 P **P** **16 46 08.2 +1.3**
baz=232,SNR=28
G03D McMinnville, O 75.56 34 P **P** **16 46 08.5 +1.3**
baz=230
H04A Detroit Lake 75.81 35 P **P** **16 46 09.3 +0.6**
PRN Pahroc Range 75.91 44 P **P** **16 46 10.0 +0.4**
PRN IAmb IAmb 16 46 12.1
comp=Z,38nm,1.1s
PINE Pine Mountain 75.94 36 P **P** **16 46 10.4 +0.7**
I05D Terrebonne, OR 76.06 36 P **P** **16 46 11.2 +1.1**
baz=231,SNR=9.8
R11A Troy Canyon, C 76.06 43 P **P** **16 46 11.2 +0.7**
baz=237,SNR=20
R11A Troy Canyon, C 76.06 43 P **P** **16 46 10.9 +0.4**
F04D Rainier, OR 76.26 33 P **P** **16 46 12.4 +1.3**
baz=230
E03A Lebam 76.27 33 P **P** **16 46 11.9 +0.7**
TUC Tucson 76.35 51 P **P** **16 46 13.3 +1.1**
baz=242
TUC Tucson 76.35 51 P **P** **16 46 12.8 +0.6**
TUC pmax pmax
comp=Z,31nm,1.2s
TUC Tucson 76.35 51 P **P** **16 46 12.8 +0.6**
TUC IAmb IAmb 16 46 14.6
comp=Z,31nm,1.1s
F04A Amboy 76.48 34 P **P** **16 46 12.3 -0.1**
F04A IAmb IAmb 16 46 13.6
comp=Z,41nm,1.2s
KSRS Korea Array 76.48 315 P **P** **16 46 14.3 +1.7**
comp=Z,3.9nm,1.0s,baz=123,slow=7.2,SNR=10
KSRS LR LR 17 13 26.3
comp=Z,32nm,21.9s,baz=104,slow=31
KSAR Wonju Array Be 76.50 315 P **P** **16 46 13.3 +0.5**
KSAR Wonju Array Be 76.50 315 P **P** **16 46 13.3 +0.5**
G05D Wamic, OR 76.64 35 P **P** **16 46 14.3 +0.9**
baz=231
E04D Cinebar 76.80 33 P **P** **16 46 15.6 +1.4**
baz=230
LCMT Little Creek M 76.93 45 P **P** **16 46 15.7 +0.3**
I07A Izee 76.94 37 P **P** **16 46 15.7 +0.4**
F05D White Salmon 76.96 34 P **P** **16 46 15.9 +0.7**
baz=231
CNPM China Poot 76.98 11 P **P** **16 46 15.0 0.0**
CNPM IAmb IAmb 16 46 22.5
comp=Z,32nm,1.2s
D04E Lakebay 77.09 33 P **P** **16 46 17.4 +1.6**
baz=230
J08A Circle Bar Ran 77.11 38 P **P** **16 46 16.3 +0.1**
CCUT Cedar City 77.13 45 P **P** **16 46 17.0 +0.4**
D03D Eldon 77.16 32 P **P** **16 46 17.5 +1.3**
baz=229
KNB Kanab 77.22 45 P **P** **16 46 17.7 +0.6**
KNB pmax pmax
comp=Z,26nm,1.0s
KNB Kanab 77.22 45 P **P** **16 46 17.7 +0.6**
BRLK Bradley Lake 77.27 11 P **P** **16 46 17.1 +0.5**
PSUT Pine Spring 77.31 44 P **P** **16 46 17.8 +0.2**
LON Longmire 77.32 33 P **P** **16 46 17.5 +0.2**
LON pmax pmax
comp=Z,11nm,0.9s
LON Longmire 77.32 33 P **P** **16 46 17.5 +0.2**
SZCU Shurtz Canyon 77.34 45 P **P** **16 46 18.3 +0.6**
KSM Kuching 77.44 275 P **P** **16 46 18.9 +0.4**
CISI Cisompet, Garu 77.48 266 P **P** **16 46 18.5 -0.4**
CISI IAmb IAmb 16 46 35.8
comp=Z,36nm,1.1s
WUAZ Wupatki 77.48 47 P **P** **16 46 19.8 +1.3**
baz=240
WUAZ Wupatki 77.48 47 P **P** **16 46 18.4 -0.1**
WUAZ IAmb IAmb 16 46 21.0
comp=Z,41nm,1.2s
D05A Enumclaw 77.51 33 P **P** **16 46 18.9 +0.7**
ELK Elko 77.60 41 P **P** **16 46 19.3 +0.1**
ELK pmax pmax
comp=Z,33nm,1.3s
ELK Elko 77.60 41 P **P** **16 46 19.3 +0.1**
ELK IAmb IAmb 16 46 21.1
comp=Z,33nm,1.2s
USRK Ussuriysk Ar. 77.70 323 P **P** **16 46 19.9 +0.6**
comp=Z,5.1nm,1.0s,baz=116,slow=4.4,SNR=4.6
USRK LR LR 17 13 51.7
comp=Z,64nm,21.4s,baz=121,slow=30
USRK Ussuriysk Ar. 77.70 323 P **P** **16 46 19.2 -0.2**
USRK Ussuriysk Ar. 77.70 323 P **P** **16 46 19.2 -0.2**
SVW2 Sparrevohn 77.75 9 P **P** **16 46 19.1 -0.1**
PKCU Pink Cliffs 77.79 45 P **P** **16 46 21.3 +0.9**
F07A Phinny Hill Vi 77.81 35 P **P** **16 46 20.5 +0.6**
F07A IAmb IAmb 16 46 21.8
comp=Z,20nm,0.8s
LEM Lembang 77.85 266 P P 16 46 32.9 +12
Q23K Middleton Isla 77.91 14 P **P** **16 46 21.1 +1.0**
baz=206
G08A Pilot Rock 77.98 36 P **P** **16 46 21.2 +0.1**
A04D Lummi Island 78.13 31 P **P** **16 46 22.7 +1.1**
baz=230,SNR=5.2
B05A Bryant 78.14 32 P **P** **16 46 22.6 +0.9**
baz=230,SNR=8.1
MTPU Mount Pierson 78.18 45 P **P** **16 46 23.4 +0.8**
LTY Liberty 78.25 33 P **P** **16 46 22.5 +0.1**
E07A Sunnyside 78.25 34 P **P** **16 46 23.0 +0.6**
TCRU Three Creeks R 78.29 44 P **P** **16 46 23.4 +0.3**
HAWA Hanford 78.33 35 P **P** **16 46 23.2 +0.4**
HAWA IAmb IAmb 16 46 24.8
comp=Z,34nm,1.1s
MVU Marysvale 78.39 44 P **P** **16 46 24.3 +0.6**
MSU Marysvale 78.42 44 P **P** **16 46 24.3 +0.5**
MSU Marysvale 78.42 44 P **P** **16 46 24.3 +0.5**
W18A Petrified Fore 78.46 48 P **P** **16 46 25.0 +1.0**
baz=242
W18A Petrified Fore 78.46 48 P **P** **16 46 24.7 +0.6**
B06A Marblemount 78.62 32 P **P** **16 46 24.4 +0.2**
E08A Dider Farm, El 78.65 35 P **P** **16 46 25.1 +0.5**
BMO Blue Mountains 78.67 37 P **P** **16 46 24.4 -0.4**
BMO pmax pmax
comp=Z,31nm,1.1s
BMO Blue Mountains 78.67 37 P **P** **16 46 24.4 -0.4**
BMO IAmb IAmb 16 46 26.5
comp=Z,31nm,1.1s
121A Cookes Peak, D 78.70 52 P **P** **16 46 26.6 +1.1**
baz=243,SNR=13
121A Cookes Peak, D 78.70 52 P **P** **16 46 25.3 -0.1**
MFID Camas Ranch 78.72 39 P **P** **16 46 25.1 -0.1**
MFID IAmb IAmb 16 46 26.9
comp=Z,34nm,1.0s
KAIM Kayak Island 78.80 14 P **P** **16 46 25.4 +0.4**
DUG Dugway, Tooele 78.87 43 P **P** **16 46 26.7 +0.6**
baz=239
DUG Dugway, Tooele 78.87 43 P **P** **16 46 26.2 +0.1**
DUG pmax pmax
comp=Z,34nm,1.3s
DUG Dugway, Tooele 78.87 43 P **P** **16 46 26.2 +0.1**
DUG IAmb IAmb 16 46 28.0
comp=Z,34nm,1.3s
SUA Susitna One 78.88 11 P **P** **16 46 25.3 -0.3**
SUA IAmb IAmb 16 46 26.5
comp=Z,22nm,0.9s
D08A Wollman Farm, 79.07 34 P **P** **16 46 27.0 +0.2**
D08A IAmb IAmb 16 46 28.8
comp=Z,41nm,1.0s
BGU Big Grassy Mou 79.11 42 P **P** **16 46 27.0 -0.4**
E09A Wood Farm, Sta 79.17 35 P **P** **16 46 27.6 +0.2**
E09A IAmb IAmb 16 46 28.9
comp=Z,38nm,1.2s
SKT Skwentna 79.22 10 P **P** **16 46 26.5 -0.8**
KNK Knik Glacier 79.26 12 P **P** **16 46 27.5 -0.1**
PMR Palmer 79.30 11 P **P** **16 46 27.4 -0.3**
PMR pmax pmax
comp=Z,42nm,1.3s
PMR Palmer 79.30 11 P **P** **16 46 27.4 -0.3**
PMR IAmb IAmb 16 46 29.5
comp=Z,42nm,1.3s
MDJ Mudanjiang 79.34 322 P **P** **16 46 28.1 -0.3**
MDJ pmax pmax
comp=Z,14nm,1.3s
MDJ pmax pmax
comp=Z,140nm,3.9s
F10A Beach Ranch, E 79.36 36 P **P** **16 46 28.4 -0.2**
F10A IAmb IAmb 16 46 29.9
comp=Z,38nm,0.9s
TTA Tatalina 79.44 8 P **P** **16 46 28.9 +0.2**
TTA pmax pmax
comp=Z,35nm,1.1s
TTA Tatalina 79.44 8 P **P** **16 46 28.9 +0.2**
TTA IAmb IAmb 16 46 30.7
comp=Z,35nm,1.1s
TMUT Trail Mountain 79.47 44 P **P** **16 46 29.4 -0.2**
GHO Glory Hole Cre 79.50 11 P **P** **16 46 29.0 +0.1**
GHO IAmb IAmb 16 46 30.1
comp=Z,33nm,1.1s
PLID Pearl Lake 79.56 37 P **P** **16 46 29.5 -0.4**
B08A Colville Reser 79.64 33 P **P** **16 46 29.2 -0.8**
B08A IAmb IAmb 16 46 31.1
comp=Z,22nm,0.8s
HLID Hailey 79.65 39 P **P** **16 46 31.4 +1.1**
baz=237
HLID Hailey 79.65 39 P **P** **16 46 30.3 -0.1**
HLID IAmb IAmb 16 46 32.6
comp=Z,40nm,0.9s
SPUT South Promonto 79.68 42 P **P** **16 46 30.3 -0.2**
HVU Hansel Valley 79.72 41 P **P** **16 46 30.5 -0.2**

HVU pmax pmax
comp=Z,17nm,0.8s
HVU Hansel Valley 79.72 41 P **P** **16 46 30.5 -0.2**
CTU Camp Tracy 79.82 43 P **P** **16 46 31.7 +0.4**
CUT Chulitna 79.84 11 P **P** **16 46 30.7 +0.1**
baz=202
CRQM Cirque 79.84 14 P **P** **16 46 30.7 -0.3**
CRQM IAmb IAmb 16 46 32.4
comp=Z,40nm,1.2s
YAH Yahtse 79.84 15 P **P** **16 46 31.3 +0.3**
YAH IAmb IAmb 16 46 32.2
comp=Z,34nm,1.1s
SRU San Rafael Swe 79.84 45 P **P** **16 46 31.3 -0.2**
SRU pmax pmax
comp=Z,38nm,1.2s
SRU San Rafael Swe 79.84 45 P **P** **16 46 31.3 -0.2**
KLU Klutina 79.86 13 P **P** **16 46 31.1 +0.2**
C09A Chrisman Ranch 79.86 34 P **P** **16 46 31.2 0.0**
C09A IAmb IAmb 16 46 32.7
comp=Z,23nm,0.8s
SCM Sheep Creek Mo 79.87 12 P **P** **16 46 31.0 0.0**
SCM pmax pmax
comp=Z,34nm,1.1s
SCM Sheep Creek Mo 79.87 12 P **P** **16 46 31.0 0.0**
SCM IAmb IAmb 16 46 32.1
comp=Z,34nm,1.1s
P17A Butcher Ranch, 79.87 44 P **P** **16 46 31.8 +0.2**
ISLE Juniper Island 79.90 15 P **P** **16 46 31.0 -0.2**
ISLE IAmb IAmb 16 46 32.5
comp=Z,31nm,1.0s
TGL Tana Glacier 79.91 15 P **P** **16 46 31.5 +0.2**
TGL IAmb IAmb 16 46 32.7
comp=Z,51nm,1.2s
JLU Jordanelle 79.97 43 P **P** **16 46 32.4 +0.2**
PPLA Purkeypile 79.97 10 P **P** **16 46 30.4 -1.2**
Y22D IRIS PASSCAL I 80.04 50 P **P** **16 46 34.1 +1.5**
baz=244
LENM Lemitar 80.04 50 P **P** **16 46 32.9 +0.2**
MNTX Cornudas Mount 80.17 53 P **P** **16 46 34.2 +1.0**
baz=245,SNR=13
MNTX Cornudas Mount 80.17 53 P **P** **16 46 33.0 -0.2**
VRDI Verde Repeater 80.17 14 P **P** **16 46 32.9 +0.1**
VRDI IAmb IAmb 16 46 34.1
comp=Z,45nm,1.3s
N25K Chitina, Valde 80.25 13 P **P** **16 46 33.3 +0.2**
baz=208,SNR=5.3
TCUT Toone Canyon 80.26 42 P **P** **16 46 33.6 -0.1**
GLB Gilahina Butte 80.28 14 P **P** **16 46 33.2 0.0**
GLB IAmb IAmb 16 46 34.5
comp=Z,56nm,1.4s
BNM Barren Site 80.29 51 P **P** **16 46 34.8 +0.7**
MVCO Mesa Verde 80.33 47 P **P** **16 46 35.0 +0.8**
baz=242
MVCO Mesa Verde 80.33 47 P **P** **16 46 34.6 +0.3**
M24K Tolsona, Glenn 80.35 13 P **P** **16 46 34.2 +0.6**
baz=206
M24K Tolsona, Glenn 80.35 13 P **P** **16 46 34.2 +0.6**
HWUT Hardware Ranch 80.41 42 P **P** **16 46 34.0 -0.5**
MA2 Magadan 80.45 342 *i* P **P** **16 46 31.1 -2.9**
MA2 pmax pmax
comp=Z,55nm,1.4s
BARN Barnard Glacie 80.46 15 P **P** **16 46 34.5 +0.2**
BARN IAmb IAmb 16 46 35.8
comp=Z,60nm,1.2s
CTGM Chitina Glacie 80.46 15 P **P** **16 46 34.6 +0.3**
CTGM IAmb IAmb 16 46 36.2
comp=Z,53nm,1.5s
NJ2 Nanjing 80.48 307 *e*P **P** **16 46 35.1 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PV10 Paradox Valley 80.50 46 P **P** **16 46 35.7 +0.5**
PV10 IAmb IAmb 16 46 36.8
comp=Z,41nm,0.9s
PV19 Morning Glory 80.51 46 P **P** **16 46 35.7 +0.6**
PV19 IAmb IAmb 16 46 37.1
comp=Z,40nm,1.1s
PV14 Lion Creek, Pa 80.51 46 P **P** **16 46 35.5 +0.3**
PV14 IAmb IAmb 16 46 37.1
comp=Z,42nm,0.9s
PV17 East Wray Mesa 80.51 46 P **P** **16 46 35.6 +0.4**
PV17 IAmb IAmb 16 46 37.1
comp=Z,39nm,1.2s
PV18 Skein Mesa, Pa 80.53 46 P **P** **16 46 35.4 +0.1**
PV18 IAmb IAmb 16 46 37.2
comp=Z,33nm,1.1s
PV20 West Nyswonger 80.53 46 P **P** **16 46 35.2 0.0**
PV20 IAmb IAmb 16 46 37.2
comp=Z,37nm,1.0s
TX31 Lajitas Ar. Si 80.54 56 P **P** **16 46 35.5 +0.1**
TXAR Lajitas Array 80.55 56 P **P** **16 46 36.1 +0.8**
comp=Z,12nm,1.0s,baz=194,slow=4.6,SNR=27
TXAR LR LR 17 15 42.6
comp=Z,83nm,20.1s,baz=0.0,slow=31
TXAR Lajitas Array 80.55 56 P **P** **16 46 34.9 -0.5**
TXAR Lajitas Array 80.55 56 P **P** **16 46 34.9 -0.5**
PV13 Radium Mtn., P 80.55 46 P **P** **16 46 35.1 -0.3**
PV13 IAmb IAmb 16 46 37.4
comp=Z,30nm,1.1s
PV16 Nyswonger Mesa 80.55 46 P **P** **16 46 35.1 -0.3**
PV16 IAmb IAmb 16 46 37.5
comp=Z,42nm,1.3s
PV23 Carpenter Ridg 80.56 46 P **P** **16 46 35.9 +0.4**
PV03 Paradox Valley 80.57 46 P **P** **16 46 35.4 -0.1**
PV03 IAmb IAmb 16 46 37.5
comp=Z,35nm,1.2s
PV11 David Mesa, Pa 80.58 46 P **P** **16 46 35.3 -0.2**
PV11 IAmb IAmb 16 46 37.6
comp=Z,52nm,1.2s
PV04 Paradox Valley 80.60 46 P **P** **16 46 36.1 +0.5**
PV04 IAmb IAmb 16 46 37.7
comp=Z,30nm,0.9s
PV02 Paradox Valley 80.63 46 P **P** **16 46 36.1 +0.3**
PV02 IAmb IAmb 16 46 37.9
comp=Z,32nm,1.1s
PV21 Cone Mtn., Par 80.63 46 P **P** **16 46 36.3 +0.5**
PV21 IAmb IAmb 16 46 37.9
comp=Z,31nm,0.9s
PV12 Saucer Basin, 80.64 46 P **P** **16 46 36.2 +0.4**
BCYI Bear Canyon 80.67 39 P **P** **16 46 36.2 +0.3**
PV01 Paradox Valley 80.71 46 P **P** **16 46 36.7 +0.4**
PV01 IAmb IAmb 16 46 38.2
comp=Z,51nm,1.3s
PV22 Blue Mesa, Par 80.75 46 P **P** **16 46 36.9 +0.5**
NEW Newport 80.76 34 P **P** **16 46 35.9 -0.2**
baz=234,SNR=6.9
NEW Newport 80.76 34 P **P** **16 46 35.7 -0.4**
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 80.76 34 P **P** **16 46 35.7 -0.4**
ANMO Albuquerque 80.77 50 P **P** **16 46 35.7 +0.9**
baz=244
ANMO Albuquerque 80.77 50 *i* P **P** **16 46 37.0 +0.4**
ANMO pmax pmax
comp=Z,20nm,1.1s
ANMO Albuquerque 80.77 50 P **P** **16 46 36.6 0.0**
KTH Kantishna Hill 80.79 10 P **P** **16 46 35.2 -0.6**
KTH IAmb IAmb 16 46 37.2
comp=Z,34nm,1.0s
PV07 Paradox Valley 80.80 46 P **P** **16 46 36.2 -0.5**
TRF Thorofare Moun 80.80 10 P **P** **16 46 35.5 -0.6**
TRF IAmb IAmb 16 46 36.7
comp=Z,21nm,0.9s
DHY Denali Highway 80.99 12 P **P** **16 46 36.8 -0.2**
RND Reindeer 81.02 11 P **P** **16 46 36.7 -0.4**
RND pmax pmax
comp=Z,38nm,1.0s
RND Reindeer 81.02 11 P **P** **16 46 36.7 -0.4**
RND IAmb IAmb 16 46 38.4
comp=Z,38nm,1.0s
TNA Tin City 81.04 2 P **P** **16 46 37.9 +0.8**
baz=185
GDL2 Guadalupe Moun 81.17 53 P **P** **16 46 38.9 +0.2**
RDMU Red Mountain 81.20 44 P **P** **16 46 38.6 -0.2**
PAX Paxson 81.28 12 P **P** **16 46 38.1 -0.4**
PAX pmax pmax
comp=Z,13nm,1.1s
PAX Paxson 81.28 12 P **P** **16 46 38.1 -0.4**
MCMT McKenzie Canyo 81.28 39 P **P** **16 46 39.6 +0.4**
AHID Auburn Hatcher 81.29 41 P **P** **16 46 39.4 +0.1**
MCK McKinley 81.30 11 P **P** **16 46 38.4 -0.2**
baz=204,SNR=18
HYT Haines Junctio 81.36 17 P **P** **16 46 39.6 +0.5**
HYT IAmb IAmb 16 46 41.0
comp=Z,28nm,1.1s
CN2 Changchun 81.41 320 *e*P **P** **16 46 39.8 +0.3**
CN2 *e*S **S** **16 56 47.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,140nm,3.2s
CN2 LR LR
comp=Z,140nm,12.0s
CN2 LR LR
comp=Z,120nm,12.0s
CN2 LR LR
comp=Z,200nm,11.0s
BWN Browne 81.61 10 P **P** **16 46 40.0 -0.1**
DLMT Dillon 81.72 38 P **P** **16 46 41.6 +0.2**
DLMT IAmb IAmb 16 46 43.4
comp=Z,35nm,1.1s
MSO Missoula 81.72 37 P **P** **16 46 41.1 -0.2**
baz=237,SNR=13
MSO Missoula 81.72 37 P **P** **16 46 40.9 -0.3**
MSO IAmb IAmb 16 46 42.4
comp=Z,38nm,1.2s
S22A 4UR Ranch, Cre 81.75 47 P **P** **16 46 43.1 +1.2**
baz=243,SNR=40
S22A 4UR Ranch, Cre 81.75 47 P **P** **16 46 42.1 +0.2**
REDW Red Top Meadow 81.75 41 P **P** **16 46 41.0 -0.7**
TPAW Teton Pass 81.76 41 P **P** **16 46 41.1 -0.6**
TPAW IAmb IAmb 16 46 43.8
comp=Z,41nm,1.2s
DLBC Dease Lake 81.83 21 P **P** **16 46 41.5 0.0**
SNOW Snow King Moun 81.86 41 P **P** **16 46 41.5 -0.8**
SNOW IAmb IAmb 16 46 44.4
comp=Z,34nm,1.1s
O20A White River Ci 81.88 45 P **P** **16 46 42.7 +0.4**
baz=242
O20A White River Ci 81.88 45 P **P** **16 46 40.5 -1.9**
IMW Indian Meadow 81.97 40 P **P** **16 46 43.0 +0.1**
IMW IAmb IAmb 16 46 45.0
comp=Z,56nm,1.4s
WHY Whitehorse 81.98 18 P **P** **16 46 41.6 -0.7**
MOOW Moose Ponds 82.02 40 P **P** **16 46 42.9 -0.1**
JTMT Jette 82.03 36 P **P** **16 46 42.2 -0.7**
LOHW Long Hollow 82.03 41 P **P** **16 46 43.0 -0.1**
LOHW IAmb IAmb 16 46 45.1
comp=Z,34nm,1.4s
LRM Limekiln Ridge 82.05 38 P **P** **16 46 42.4 -0.8**
NEA2 Nenana 82.07 10 P **P** **16 46 41.9 -0.7**
baz=204,SNR=7.0
RIDG Independent Ri 82.09 12 P **P** **16 46 42.1 -0.7**
RIDG IAmb IAmb 16 46 44.0
comp=Z,34nm,1.2s
WRH Wood River Hil 82.13 11 P **P** **16 46 42.5 -0.3**
QLMT Earthquake Lak 82.15 39 P **P** **16 46 44.4 +0.7**
DOT Dot Lake 82.17 13 P **P** **16 46 42.6 -0.6**
DOT IAmb IAmb 16 46 44.4
comp=Z,36nm,1.1s
MLY Manley 82.20 9 P **P** **16 46 42.8 -0.5**
baz=202,SNR=13
FLWY Flagg Ranch 82.21 40 P **P** **16 46 44.0 0.0**
YPP Pitchstone Pla 82.24 40 P **P** **16 46 44.7 +0.4**
YHB Horse Butte 82.25 39 P **P** **16 46 44.9 +0.7**
BW06 Boulder Array 82.28 42 P **P** **16 46 44.6 +0.1**
baz=241,SNR=23
BW06 Boulder Array 82.28 42 P **P** **16 46 44.0 -0.5**
BW06 IAmb IAmb 16 46 45.8
comp=Z,22nm,1.1s
PD31 Pinedale Array 82.28 42 P **P** **16 46 43.9 -0.6**
PD31 IAmb IAmb 16 46 45.8
comp=Z,20nm,1.1s
PDAR Pinedale Array 82.28 42 P **P** **16 46 44.9 +0.4**
comp=Z,11nm,0.9s,baz=207,slow=3.0,SNR=64
PDAR LR LR 17 15 38.9
comp=Z,117nm,21.6s,baz=268,slow=30
PDAR Pinedale Array 82.28 42 P **P** **16 46 43.9 -0.6**
HDA Harding Lake 82.28 11 P **P** **16 46 43.4 -0.2**
baz=206,SNR=18
HDA Harding Lake 82.28 11 P **P** **16 46 43.0 -0.7**
HDA IAmb IAmb 16 46 44.7
comp=Z,29nm,0.9s
YHL Hebgen Lake 82.31 39 P **P** **16 46 44.9 +0.3**
CCB Clear Creek Bu 82.34 11 P **P** **16 46 43.0 -0.9**
YMR Madison River 82.35 40 P **P** **16 46 45.3 +0.6**
BOZ Bozeman (W) 82.42 39 P **P** **16 46 45.8 +0.7**
baz=239,SNR=30
BOZ Bozeman (W) 82.42 39 P **P** **16 46 45.3 +0.3**
BOZ pmax pmax
comp=Z,43nm,1.3s
BOZ Bozeman (W) 82.42 39 P **P** **16 46 45.3 +0.3**
BOZ IAmb IAmb 16 46 47.0
comp=Z,43nm,1.2s
H17A Grant Village 82.45 40 P **P** **16 46 47.2 +1.8**
baz=240,SNR=12
H17A Grant Village 82.45 40 P **P** **16 46 46.8 +1.5**
H17A IAmb IAmb 16 46 48.4
comp=Z,22nm,1.1s
YHH Holmes Hill 82.48 39 P **P** **16 46 46.1 +0.6**
SCRK Sand Creek 82.48 13 P **P** **16 46 45.1 +0.2**
baz=208,SNR=12
TCOL CIGO, UAF Yank 82.54 11 P **P** **16 46 45.0 0.0**
baz=205
COLA College 82.54 11 P **P** **16 46 44.9 0.0**
COLA pmax pmax
comp=Z,59nm,0.9s
COLA College 82.54 11 P **P** **16 46 44.9 0.0**
MDM Murphy Dome 82.55 10 P **P** **16 46 44.7 -0.4**
IL31 82.62 11 P **P** **16 46 44.7 -0.6**
ILAR Eielson Array 82.62 11 P **P** **16 46 45.1 -0.3**
comp=Z,7.0nm,0.8s,baz=220,slow=5.9,SNR=55
ILAR LR LR 17 15 06.5
comp=Z,90nm,21.9s,baz=195,slow=30
ILAR Eielson Array 82.62 11 P **P** **16 46 44.6 -0.8**
ILAR Eielson Array 82.62 11 P **P** **16 46 44.6 -0.8**
SDCO Great Sand Dun 82.69 48 P **P** **16 46 47.2 +0.4**
baz=244,SNR=21
SDCO Great Sand Dun 82.69 48 P **P** **16 46 46.5 -0.3**
SDCO IAmb IAmb 16 46 48.7
comp=Z,30nm,1.3s
SEY Seymchan 82.80 345 *i* P **P** **16 46 46.6 +0.3**
POKR Poker Flat Res 82.84 11 P **P** **16 46 46.5 0.0**
baz=205,SNR=17
YMP Mirror Lake Pl 82.88 40 P **P** **16 46 47.2 -0.4**
HRY Holter Researc 82.88 37 P **P** **16 46 47.0 -0.4**
WALA Waterton Lakes 82.97 35 P **P** **16 46 47.0 -0.7**
YNE Yellowstone No 83.11 40 P **P** **16 46 49.3 +0.6**
MSTX Muleshoe 83.11 52 P **P** **16 46 49.4 +0.5**
baz=246
MSTX Muleshoe 83.11 52 P **P** **16 46 48.9 0.0**
T25A Trinidad 83.21 49 P **P** **16 46 49.8 +0.4**
baz=245,SNR=8.8
T25A Trinidad 83.21 49 P **P** **16 46 48.7 -0.8**
T25A IAmb IAmb 16 46 51.0
comp=Z,20nm,1.0s
RWWY Rawlins 83.30 44 P **P** **16 46 49.4 -0.4**
WHN Wuhan 83.41 304 ‖P P **16 46 42.8 -7.5**
Q24A Divide 83.48 47 P **P** **16 46 51.5 +0.7**
baz=244,SNR=8.4
Q24A Divide 83.48 47 P **P** **16 46 50.6 -0.2**
ISCO Idaho Springs 83.52 46 P **P** **16 46 51.7 +0.6**
baz=244,SNR=7.0
ISCO Idaho Springs 83.52 46 P **P** **16 46 50.7 -0.4**
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 83.52 46 P **P** **16 46 50.7 -0.4**
RLMT Red Lodge 83.62 40 P **P** **16 46 52.2 +0.9**
baz=241,SNR=14
RLMT Red Lodge 83.62 40 P **P** **16 46 51.6 +0.3**
RLMT IAmb IAmb 16 46 53.4
comp=Z,31nm,1.1s
GCMT Greycliff 83.70 39 P **P** **16 46 52.0 +0.4**
BELA Belgrano 2 83.74 172 P **P** **16 46 51.9 +0.7**
N23A Red Feather La 83.78 45 P **P** **16 46 53.1 +0.8**
baz=243,SNR=9.7
N23A Red Feather La 83.78 45 P **P** **16 46 51.5 -0.8**
EGAK Eagle 83.78 13 P **P** **16 46 51.7 +0.3**
EGAK IAmb IAmb 16 46 53.0
comp=Z,26nm,1.1s
PMSA Palmer Station 83.88 156 P **P** **16 46 52.3 +0.2**
JCT Junction City 84.08 56 P **P** **16 46 53.9 +0.1**
baz=248
JCT Junction City 84.08 56 P **P** **16 46 53.0 -0.8**
JCT pmax pmax
comp=Z,8.0nm,0.9s
JCT Junction City 84.08 56 P **P** **16 46 53.0 -0.8**
K22A Casper 84.19 43 P **P** **16 46 54.2 0.0**
baz=243
K22A Casper 84.19 43 P **P** **16 46 53.6 -0.7**
K22A IAmb IAmb 16 46 57.6
comp=Z,15nm,0.9s
PHWY Pilot Hill 84.29 44 P **P** **16 46 53.8 -1.2**
AMTX Amarillo 84.31 52 P **P** **16 46 55.2 +0.3**
baz=247
COLD Coldfoot 84.33 9 P **P** **16 46 55.2 +1.0**
baz=202,SNR=14
COLD Coldfoot 84.33 9 P **P** **16 46 54.1 0.0**
BILL Bilibino 84.76 352 *de*P **P** **16 46 56.5 +0.2**
BILL *e* 16 50 09.1
BILL pmax pmax
comp=Z,39nm,1.5s
EGMT Eagleton 84.77 37 P **P** **16 46 57.3 +0.4**
baz=240,SNR=6.6
EGMT Eagleton 84.77 37 P **P** **16 46 56.6 -0.3**
EGMT IAmb IAmb 16 46 58.5
comp=Z,35nm,1.4s
H03S2 Juan Fernandez 84.89 124 T T 18 20 48.7
baz=250
H03S1 Juan Fernandez 84.90 124 T T 18 20 48.6
baz=250
H03S3 Juan Fernandez 84.90 124 T T 18 20 48.4
baz=250
ABTX Abilene, Hawle 85.00 54 P **P** **16 46 58.6 +0.2**
baz=248
ABTX Abilene, Hawle 85.00 54 P **P** **16 46 58.0 -0.4**
TOLK Toolik Lake Re 85.73 8 P **P** **16 47 01.7 +0.5**
baz=203
TOLK Toolik Lake Re 85.73 8 P **P** **16 47 00.8 -0.4**
TOLK IAmb IAmb 16 47 03.0
comp=Z,21nm,1.1s
ZEA Zeya 85.73 329 *e*P **P** **16 47 02.6 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,1.7s
435B Jarrell 85.97 57 P **P** **16 47 03.6 +0.4**
baz=249
LAO LASA Array 86.23 39 P **P** **16 47 05.1 +0.8**
baz=243
LAO LASA Array 86.23 39 P **P** **16 47 03.9 -0.3**
LAO IAmb IAmb 16 47 05.7
comp=Z,18nm,1.0s
WMOK Wichita Mounta 86.45 53 P **P** **16 47 05.7 +0.2**
baz=248
WMOK Wichita Mounta 86.45 53 P **P** **16 47 04.2 -1.3**
WMOK pmax pmax
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 86.45 53 P **P** **16 47 04.2 -1.3**
RSSD Black Hills 86.47 42 P **P** **16 47 05.3 -0.3**
baz=244
RSSD Black Hills 86.47 42 P **P** **16 47 04.0 -1.6**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 86.47 42 P **P** **16 47 04.0 -1.6**
WHTX Lake Whitney, 86.50 56 P **P** **16 47 05.9 +0.1**
baz=249
WHTX Lake Whitney, 86.50 56 P **P** **16 47 05.2 -0.6**
WHTX IAmb IAmb 16 47 06.6
comp=Z,28nm,1.0s
Z35A Perchaven, San 87.13 54 P **P** **16 47 07.7 -1.1**
IPM Ipoh 87.17 275 P **P** **16 47 08.3 -1.2**
MAW Mawson 87.65 199 P **P** **16 47 12.2 +1.5**
comp=Z,6.9nm,0.8s,baz=120,slow=7.6,SNR=20
MAW LR LR 17 26 52.1
comp=Z,67nm,18.4s,baz=64,slow=36
MAW Mawson 87.65 199 P **P** **16 47 10.6 -0.1**
baz=88,SNR=8.4
MAW Mawson 87.65 199 P **P** **16 47 12.2 +1.5**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 87.65 199 IAmb IAmb 16 47 13.0
comp=Z,1.6nm,0.8s
R32A Long Quarter, 87.86 49 P **P** **16 47 11.2 -1.1**
DGMT Dagmar 88.26 38 P **P** **16 47 14.4 +0.4**
baz=244
DGMT Dagmar 88.26 38 P **P** **16 47 13.1 -0.8**
GYA Guiyang 88.35 298 *e*P **P** **16 47 17.3 +2.3**
GYA pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 88.43 14 P **P** **16 47 14.0 -0.2**
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 88.43 14 P **P** **16 47 14.0 -0.2**
INK IAmb IAmb 16 47 15.3
comp=Z,18nm,0.9s
RPSI Rantau Prapat 88.71 273 P **P** **16 47 15.3 -1.5**
RPSI IAmb IAmb 16 47 19.3
comp=Z,13nm,1.0s
PSI Prapat 88.74 273 LR LR 17 29 03.9
comp=Z,49nm,18.4s,baz=69,slow=37
PSI Prapat 88.74 273 P **P** **16 47 15.3 -1.8**
PSI pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 88.95 306 P **P** **16 47 19.3 +1.7**
XAN pmax pmax
comp=Z,6.0nm,1.6s
PLCA Paso Flores 89.19 132 LR LR 17 20 16.6
comp=Z,50nm,18.2s,baz=333,slow=31
HHC Hu-ho-hao-te 89.35 313 *e*P **P** **16 47 18.6 -0.8**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,87nm,5.7s
YAK Yakutsk 89.41 337 *e*P **P** **16 47 17.9 -1.0**
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.2s
BI02 San Fabin de 90.02 128 P **P** **16 47 22.7 0.0**
YKA Yellowknife Ar 90.21 23 P **P** **16 47 23.0 +0.3**
comp=E,6.8nm,0.9s,baz=234,slow=4.1,SNR=8.6
YKA LR LR 17 20 44.7
comp=E,95nm,21.1s,baz=0.0,slow=31
YKA Yellowknife Ar 90.21 23 P **P** **16 47 23.0 +0.3**
MIAR Mount Ida 90.42 54 P **P** **16 47 24.2 -0.1**
baz=252
ECSD EROS Data Cent 91.25 45 P **P** **16 47 27.2 -0.9**
baz=250
ECSD EROS Data Cent 91.25 45 P **P** **16 47 26.6 -1.5**
ECSD IAmb IAmb 16 47 29.9
comp=Z,20nm,1.4s
KMI Kunming 91.33 296 ‖*e*P **P** **16 47 31.3 +2.2**
KMI pP PcP 16 47 32.9 +2.9
KMI pmax pmax
comp=Z,3.0nm,0.6s
U40A Yellville 91.55 53 P **P** **16 47 27.8 -1.8**
S39A Bolivar 91.61 51 P **P** **16 47 28.6 -1.2**
S39A IAmb IAmb 16 47 31.6
comp=Z,14nm,1.4s
W41B Gary Mavity, V 91.65 54 P **P** **16 47 30.5 +0.5**
baz=252
W41B Gary Mavity, V 91.65 54 P **P** **16 47 30.0 -0.1**
W41B IAmb IAmb 16 47 31.6
comp=Z,19nm,1.1s
WHAR Wooly Hollow 91.66 54 P **P** **16 47 29.6 -0.5**
WHAR IAmb IAmb 16 47 31.3
comp=Z,24nm,1.2s
FCAR Ozark Folk Cen 91.97 53 P **P** **16 47 30.2 -1.3**
FCAR IAmb IAmb 16 47 33.1
comp=Z,18nm,1.3s
MGMO Mountain Grove 92.24 52 P **P** **16 47 31.9 -0.9**
SYO Syowa Base 92.42 191 ‖*e*P **P** **16 47 32.0 -1.0**
SYO Syowa Base 92.42 191 ‖*es*P **P** **16 47 37.6 +4.6**
R40A Maddies Statio 92.59 51 P **P** **16 47 32.8 -1.5**
VNA3 Neumayer Olymp 92.61 175 P **P** **16 47 35.0 +1.0**
SNAA Sanae 92.67 177 P **P** **16 47 35.1 +0.9**
SNAA Sanae 92.67 177 *ce*P **P** **16 47 34.1 -0.1**
SNAA pmax pmax
comp=Z,7.0nm,1.2s
SNAA Sanae 92.67 177 P **P** **16 47 34.4 +0.2**
LCAR Lake Charles 92.77 53 P **P** **16 47 33.9 -1.3**
LCAR IAmb IAmb 16 47 35.9
comp=Z,10nm,1.0s
CMAR Chiang Mai Arr 92.91 288 P **P** **16 47 38.0 +1.8**
comp=Z,3.0nm,1.0s,baz=85,slow=3.0,SNR=17
CMAR LR LR 17 23 03.5
comp=Z,15nm,21.5s,baz=156,slow=31
CMAR Chiang Mai Arr 92.91 288 P **P** **16 47 36.4 +0.2**
CMAR Chiang Mai Arr 92.91 288 P **P** **16 47 36.4 +0.2**
T42A Van Buren 93.10 53 P **P** **16 47 35.0 -1.8**
T42A IAmb IAmb 16 47 37.0
comp=Z,9.3nm,0.9s
VNA2 Neumayer--Watz 93.11 175 P **P** **16 47 37.7 +1.5**
P40A Paris 93.13 50 P **P** **16 47 35.7 -1.1**
P40A IAmb IAmb 16 47 37.1
comp=Z,13nm,0.8s

CCM	Cathedral Cave	93.29	52	P		P		16 47 36.7	-0.9
	baz=253								
CCM	Cathedral Cave	93.29	52	P		P		16 47 36.0	-1.6
CCM				pmax		pmax			
	comp=Z,13nm,1.2s								
CCM	Cathedral Cave	93.29	52	P		P		16 47 36.0	-1.6
CCM				IAmb		IAmb		16 47 37.5	
	comp=Z,13nm,1.2s								
VNA1	Neumayer--Stat	93.31	175	P		P		16 47 38.4	+1.4
AGMN	Agassiz Nation	93.31	41	P		P		16 47 36.0	-1.4
	baz=250								
LZH	Lanzhou	93.54	306	*e*P		P		16 47 39.4	+0.4
LZH				pP		pP		16 47 46.3	-1.6
LZH				sP		sP		16 47 49.6	-1.5
LZH				*e*PP		PP		16 51 22.8	-1.3
LZH				pmax		pmax			
	comp=Z,25nm,1.1s								
LZH				pmax		pmax			
	comp=Z,87nm,4.8s								
FVM	French Village	93.89	52	P		P		16 47 39.4	-0.9
FVM				pmax		pmax			
	comp=Z,19nm,1.1s								
FVM	French Village	93.89	52	P		P		16 47 39.4	-0.9
FVM				IAmb		IAmb		16 47 41.0	
	comp=Z,19nm,1.1s								
ULM	Lac du Bonnet	93.96	39	P		P		16 47 39.6	-0.7
	comp=Z,2.7nm,0.5s,baz=251,slow=4.3,SNR=5.0								
ULM				LR		LR		17 22 25.8	
	comp=Z,147nm,22.0s,baz=270,slow=31								
ULM	Lac du Bonnet	93.96	39	P		P		16 47 39.1	-1.3
ULM				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ULM	Lac du Bonnet	93.96	39	P		P		16 47 39.1	-1.3
L40A	Anamosa	94.47	48	P		P		16 47 41.8	-1.2
B35A	Bob, Littlefor	94.68	41	P		P		16 47 42.3	-1.4
B35A				IAmb		IAmb		16 47 43.6	
	comp=Z,23nm,1.3s								
ULN	Ulaanbaatar	94.75	318	*ce*P		P		16 47 43.9	-0.4
ULN				pmax		pmax			
	comp=Z,2.0nm,1.1s								
P43A	Skaggs, Pawnee	95.03	50	P		P		16 47 44.8	-0.7
SONM	Songino Array	95.17	318	P		P		16 47 46.1	0.0
	comp=Z,0.3nm,0.4s,baz=125,slow=7.2,SNR=1.6								
SONM				LR		LR		17 24 59.1	
	comp=Z,34nm,21.4s,baz=64,slow=32								
SONM	Songino Array	95.17	318	P		P		16 47 46.1	0.0
SONM				pmax		pmax			
	comp=Z,1.0nm,1.2s								
SONM	Songino Array	95.17	318	IAmb		IAmb		16 47 51.6	
	comp=Z,1.0nm,1.2s								
TIXI	Tiksi	95.28	344	*ce*P		P		16 47 46.3	+0.4
TIXI				pmax		pmax			
	comp=Z,20nm,1.3s								
TIXI	Tiksi	95.28	344	P		P		16 47 45.5	-0.4
WVT	Waverly	95.37	54	P		P		16 47 46.2	-0.9
	baz=255								
JFWS	Jewell Farm	95.41	47	P		P		16 47 46.3	-0.9
	baz=254								
HDIL	Hopedale	95.45	50	P		P		16 47 47.5	+0.1
	baz=254								
U49A	Red Boiling Sp	97.07	54	P		P		16 47 54.3	-0.6
U49A				IAmb		IAmb		16 47 55.6	
	comp=Z,11nm,1.1s								
GTA	Gaotai	97.50	309	*e*P		Pdif		16 47 58.1	+1.1
GTA				pP		pP		16 48 02.8	-3.0
GTA				sP		sP		16 48 05.1	-3.9
GTA				pmax		pmax			
	comp=Z,1.0nm,1.2s								
TLY	Talaya	97.95	321	*i* P		Pdif		16 47 59.9	+1.3
TLY				pmax		pmax			
	comp=Z,6.0nm,1.0s								
G62A	West of Eustis	109.77	47	P		PKiKP		16 52 54.7	+1.0
	baz=268								
MKAR	Makanchi Array	111.15	315	PKiKP		PKiKP		16 52 54.5	-1.8
	comp=Z,1.7nm,1.0s,baz=90,slow=1.2,SNR=6.6								
MKAR	Makanchi Array	111.15	315	*i* PKiKP		PKiKP		16 52 55.4	-0.9
MKAR	Makanchi Array	111.15	315	PKiKP		PKiKP		16 52 55.4	-0.9
E64A	Bridgewater	111.69	46	P		PKiKP		16 52 57.2	-0.1
	baz=270								
KURK	Kurchatov	113.46	319	*c i* PKiKP		PKiKP		16 53 00.6	+0.1
KURK				pmax		pmax			
	comp=Z,11nm,2.5s								
BOOM	Boomskoye usch	115.75	310	PKiKP		PKPdf		16 53 03.9	-1.5
BOOM	Boomskoye usch	115.75	310			PKPdf		16 53 03.9	-1.5
AAK	Ala-Archa	116.81	310	*c i* PKiKP		PKPdf		16 53 06.4	-1.0
AAK				pmax		pmax			
	comp=Z,13nm,2.5s								
BRVK	Borovoye	118.26	322	*c i* PKiKP		PKPdf		16 53 09.3	-0.4
BRVK				pmax		pmax			
	comp=Z,10.0nm,2.5s								
KKAR	Karatay Array	119.69	311	PKiKP		PKPdf		16 53 11.8	-1.0
KKAR	Karatay Array	119.69	311	PKPdf		PKPdf		16 53 11.8	-1.0
GAR	Garm	120.20	306	PKPdf		PKPdf		16 53 13.0	-1.0
CHGR	Chuyangaron	121.13	306			PKPdf		16 53 15.0	-0.8
ARU	Arti	123.65	328	*i* PKiKP		PKPdf		16 53 20.0	+0.1
ARU								16 54 59.2	
ARU								17 00 31.6	
ARU				SP		SP		17 04 52.7	-2.7
ARU	Arti	123.65	328	PKPdf		PKPdf		16 53 19.5	-0.4
ARCES	ARCESS Array B	124.86	352	PKP		PKPdf		16 53 21.9	-0.1
	comp=Z,6.2nm,0.8s,baz=50,slow=1.9,SNR=9.1								
APA	Apatity	125.30	348	⇓*i* PKiKP		PKPdf		16 53 21.1	-1.7
APA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
APA				MLR		MLR			
	comp=Z,300nm,15.0s								
ABKAR	Akbulak array	125.54	320			PKPdf		16 53 23.2	-0.5
FINES	FINESS Array B	132.21	348	PKP		PKPdf		16 53 35.8	-0.3
	comp=Z,3.5nm,0.8s,baz=81,slow=2.5,SNR=6.6								
OBN	Obninsk	134.41	336	⇓*i* PKiKP		PKPdf		16 53 40.7	+0.3
OBN				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KIV	Kislovodsk	138.52	320	*i* PKiKP		PKiKP		16 53 50.7	0.0
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
SHA1	Shidzhatmaz	138.65	320	*i* PKiKP		PKPdf		16 53 49.9	+0.9
SOC	Sochi	140.53	322	*i* PKiKP		PKiKP		16 53 53.8	-0.8
SOC				*e*				16 56 54.1	
SOC				pmax		pmax			
	comp=Z,47nm,1.1s								
AKASG	Malin Array Be	140.63	338	PKP		PKPdf		16 53 51.3	-0.7
	comp=Z,4.6nm,0.8s,baz=33,slow=2.4,SNR=17								
AKASG	Malin Array Be	140.63	338	PKiKP		PKPdf		16 53 51.5	-0.5
AKASG	Malin Array Be	140.63	338	PKPdf		PKPdf		16 53 51.5	-0.5
LSZ	Lusaka	142.75	215	PKiKP		PKPdf		16 53 55.3	-1.8
LSZ	Lusaka	142.75	215			PKPdf		16 53 55.3	-1.8
MARD	Mardin	143.02	312	PKPpre		PKPpre		16 53 54.3	
LVV	L'vov	143.14	341	*e*PKiKP		PKPbc		16 53 53.1	-0.4
KWP	Kalwaria Pacla	143.71	343	PKiKP		PKPbc		16 53 54.8	-0.3
KWP	Kalwaria Pacla	143.71	343	PKPpre		PKPpre		16 53 54.8	
OJC	Ojcow	143.93	346	*e*PKP		PKPbc		16 53 55.5	-0.2
OJC	Ojcow	143.93	346	PKiKP		PKPab		16 53 55.3	+0.1
OJC	Ojcow	143.93	346	PKPpre		PKPpre		16 53 55.3	
KSP	Ksiaz	144.05	350	*e*PKP		PKPbc		16 53 56.6	+0.6
CLL	Collm	144.06	353	*e*PKPdf		PKPbc		16 53 56.0	-0.1
	comp=Z,15nm,0.9s								
CLL	Collm	144.06	353	*e*PKiKP		PKPbc		16 53 56.0	-0.1
CLL				pmax		pmax			
	comp=Z,15nm,0.9s								
CLL	Collm	144.06	353	PKPpre		PKPpre		16 53 55.4	
OSTC	Ostas	144.34	350	*e*PKP		PKPbc		16 53 57.6	+0.6
BRG	Berggiesshubel	144.38	352	*e*PKP		PKPdf		16 53 58.1	-0.6
	comp=Z,7.7nm,1.3s								
BRG	Berggiesshubel	144.38	352	*e*PKiKP		PKPdf		16 53 58.1	-0.6
BRG				pmax		pmax			
	comp=Z,8.0nm,1.3s								
UPC	Upice	144.43	350	*e*PKP		PKPbc		16 53 57.9	+0.6
UPC	Upice	144.43	350	*e*PKiKP		PKPbc		16 53 57.9	+0.6
KOLS	Kolonicke sedl	144.46	342	*e*PKiKP		PKPab		16 53 57.1	-0.1
KOLS	Kolonicke sedl	144.46	342	*e*PKP		PKPab		16 53 57.1	-0.1
DPC	Dobruska-Polom	144.52	350	*e*PKP		PKPbc		16 53 58.2	+0.6
DPC	Dobruska-Polom	144.52	350	*e*PKiKP		PKPbc		16 53 58.2	+0.6
NIE	Niedzica	144.55	345	*e*PKP		PKPdf		16 53 58.5	-0.6
BUR08	Bucovina Ar. S	144.64	338	PKPdf		PKPbc		16 53 58.4	+0.2
OKC	Ostrava-Krasne	144.66	347	*e*PKP		PKPbc		16 53 58.4	+0.4
OKC	Ostrava-Krasne	144.66	347	*e*PKiKP		PKPbc		16 53 58.4	+0.4
BURAR	Bucovina Array	144.66	338	⇑P		PKPdf		16 53 59.0	-0.5
BURAR	Bucovina Array	144.66	338	⇑PKiKP		PKPdf		16 53 59.0	-0.5
BURAR	Bucovina Array	144.66	338	PKPdf		PKPbc		16 53 58.3	0.0
KRLC	Kraliky	144.71	349	*e*PKP		PKPbc		16 53 58.5	+0.3
KRLC	Kraliky	144.71	349	*e*PKiKP		PKPbc		16 53 58.5	+0.3
CRVS	Cervenica-Dubn	144.72	343	*e*PKiKP		PKPbc		16 53 58.5	+0.2
CRVS	Cervenica-Dubn	144.72	343	*e*PKP		PKPbc		16 53 58.5	+0.2
UZH	Uzhgorod	144.72	342	*e*PKiKP		PKPbc		16 53 58.3	+0.1
UZH				*e*				16 54 03.5	
MORC	Moravsky Berou	144.84	348	⇑P		PKPdf		16 53 59.4	-0.2
MORC	Moravsky Berou	144.84	348	*e*PKP		PKPbc		16 53 58.7	0.0
MORC	Moravsky Berou	144.84	348	⇑PKiKP		PKPdf		16 53 59.4	-0.2
MORC	Moravsky Berou	144.84	348	PKPdf		PKPab		16 53 58.5	-0.1
BIZ	Bicaz	144.91	337	⇑P		PKPdf		16 53 60.0	+0.2
LANS	Liptovska Anna	145.01	346	*e*PKiKP		PKPdf		16 54 00.3	+0.4
LANS	Liptovska Anna	145.01	346	*e*PKP		PKPdf		16 54 00.3	+0.4
MEM	Membach	145.10	1	PKPdf		PKPab		16 53 59.6	+0.1
BSTI	Sart Tilman	145.12	1	PKPdf		PKPab		16 53 59.5	0.0
BTNL	Ternell	145.12	1	PKPdf		PKPbc		16 53 59.5	-0.1
SNF	Seneffe	145.15	3	PKPdf		PKPbc		16 53 59.4	-0.1
PRU	Pruhonice	145.16	351	*e*PKP		PKPdf		16 54 00.0	-0.1
PRU	Pruhonice	145.16	351	*e*PKiKP		PKPdf		16 54 00.0	-0.1
NKC	Novy Kostel	145.18	354	*e*PKP		PKPdf		16 54 00.2	+0.1
NKC	Novy Kostel	145.18	354	*e*PKiKP		PKPdf		16 54 00.2	+0.1
GOPC	GO Pecny, Ondr	145.20	351	*e*PKP		PKPdf		16 54 00.1	-0.1
GOPC	GO Pecny, Ondr	145.20	351	*e*PKiKP		PKPdf		16 54 00.1	-0.1
TLCR		145.20	332	⇑P		PKPdf		16 54 00.5	+0.3
TLCR		145.20	332	⇑PKiKP		PKPdf		16 54 00.5	+0.3
BMR	Baia Mare	145.20	340	⇑P		PKPdf		16 54 00.7	+0.5
BMR	Baia Mare	145.20	340	⇑PKiKP		PKPdf		16 54 00.7	+0.5
BCLA	Clavier	145.27	2	PKPdf		PKPdf		16 54 00.1	-0.1
BGES	Gesves	145.30	2	PKPdf		PKPbc		16 53 59.6	-0.5
BHOU	Houvegnez	145.35	1	PKPdf		PKPdf		16 54 00.9	+0.5
KECS	Kecovo	145.37	344	*e*PKiKP		PKPdf		16 54 01.3	+0.8
KECS	Kecovo	145.37	344	*e*PKP		PKPdf		16 54 01.2	+0.8
BMRD	Maredsous	145.37	2	PKPdf		PKPdf		16 54 00.5	+0.1
SCHL	Schela	145.38	334	⇑P		PKPab		16 54 01.6	+1.0
ARCR	ARCALIA	145.42	339	⇑P		PKPab		16 54 02.1	+1.4
PETR	Petresti	145.46	335	⇑P		PKPab		16 54 01.8	+0.9
VRAC	Vranov	145.48	349	⇑P		PKPab		16 54 01.8	+0.9
VRAC	Vranov	145.48	349	*e*PKP		PKPab		16 54 00.9	0.0
VRAC	Vranov	145.48	349	⇑PKiKP		PKPab		16 54 01.8	+0.9
JURR	Jurilovca	145.50	332	⇑P		PKiKP		16 54 08.8	+4.0
ODBI	Odobesti	145.50	335	⇑P		PKPab		16 54 02.6	+1.5
CFR	Carcaliu	145.50	333	⇑P		PKPab		16 54 01.6	+0.5
CFR	Carcaliu	145.50	333	⇑PKiKP		PKPab		16 54 01.6	+0.5
PBCC	Pribram	145.53	352	*e*PKP		PKPab		16 54 01.4	+0.3
VRI	Vrincioaia	145.55	335	⇑P		PKPab		16 54 01.6	+0.3
VRI	Vrincioaia	145.55	335	⇑PKiKP		PKPab		16 54 01.6	+0.3
DOU	Dourbes	145.57	3	PKPdf		PKPdf		16 53 60.0	-0.8
PLOR	Plostina	145.59	335	⇑P		PKPab		16 54 01.8	+0.3
PLOR	Plostina	145.59	335	⇑PKiKP		PKPab		16 54 01.8	+0.3
GAZ	Gaziantep	145.59	314			PKPdf		16 54 01.2	-0.1
TPGR	Topolog	145.63	332	⇑P		PKPab		16 54 02.5	+0.8
JAVC	Velka Javorina	145.69	347	*e*PKP		PKPab		16 54 02.9	+1.1
OZUR		145.73	336	⇑P		PKPab		16 54 02.9	+0.9
KRUC	Moravsky	145.75	349	*e*PKP		PKPbc		16 54 01.6	+0.1
VYHS	Vyhne	145.77	346	*e*PKP2		PKPab		16 54 02.1	+0.1
VYHS	Vyhne	145.77	346	*e*PKP		PKPab		16 54 02.1	+0.1
GRA1	Grafenberg Arr	145.84	355			PKPab		16 54 02.0	-0.2
GRF	Grafenberg Arr	145.84	355	PKP2		PKPab		16 54 02.0	-0.2
GRF	Grafenberg Arr	145.84	355	*e*PKPbc		PKPab		16 54 02.1	-0.1
	baz=7.7,slow=3.2								
GRER		145.84	334	⇓P		PKiKP		16 54 04.2	-1.3
TIRR	Tirgusor	145.94	332	⇑P		PKPab		16 54 03.2	+0.5
TIRR	Tirgusor	145.94	332	⇑PKP2		PKPab		16 54 03.2	+0.5
TIRR	Tirgusor	145.94	332			PKPbc		16 54 01.9	-0.4
HARR	Harsova	145.98	333	⇑P		PKPab		16 54 03.3	+0.4
HARR	Harsova	145.98	333	⇑PKP2		PKPab		16 54 03.3	+0.4
DOPR	Dopca	145.99	337	⇓P		PKPab		16 54 03.5	+0.6
CJR	Cluj-Napoca	146.00	339	⇓P		PKPab		16 54 03.6	+0.6
CJR	Cluj-Napoca	146.00	339	⇓PKP2		PKPab		16 54 03.6	+0.6
PSZ	Piszkesteto	146.04	344	⇑P		PKPab		16 54 03.1	0.0
PSZ	Piszkesteto	146.04	344	⇑PKP2		PKPab		16 54 03.1	0.0
PSZ	Piszkesteto	146.04	344	PKPbc		PKPbc		16 54 02.7	+0.1
WLF	Walferdange	146.05	1	PKPdf		PKPbc		16 54 03.4	+0.4
WLF	Walferdange	146.05	1	PKP2		PKPbc		16 54 02.5	+0.1
WLF	Walferdange	146.05	1	PKPbc		PKPbc		16 54 02.5	+0.1
SMOL	Smolenice	146.07	347	*e*PKP2		PKPab		16 54 03.7	+0.6
SMOL	Smolenice	146.07	347	*e*PKP		PKPab		16 54 03.7	+0.6
KHC	Kasperske Hory	146.13	352	*e*PKP		PKPbc		16 54 02.4	-0.4
KHC				*ex*		x		16 54 13.5	
KHC	Kasperske Hory	146.13	352	*e*PKP2		PKPbc		16 54 02.4	-0.4
KHC	Kasperske Hory	146.13	352			PKPdf		16 54 02.1	+0.3
MLR	Muntele Rosu	146.17	336	⇑P		PKPab		16 54 03.9	+0.1
MLR	Muntele Rosu	146.17	336	⇑PKP2		PKPab		16 54 03.9	+0.1
MLR	Muntele Rosu	146.17	336			PKPdf		16 54 02.2	+0.1
ISR	Istrita	146.23	335	⇓P		PKPab		16 54 04.1	+0.2
ISR	Istrita	146.23	335	⇓PKP2		PKPab		16 54 04.1	+0.2
MODS	Modra-Piesok	146.23	347	*e*PKP2		PKPbc		16 54 03.3	+0.2
MODS	Modra-Piesok	146.23	347	*e*PKP		PKPbc		16 54 03.2	+0.5
GEC2	GERESS Array S	146.40	352			PKPbc		16 54 03.2	+0.5
GERES	GERESS Array B	146.40	352	PKPbc		PKPdf		16 54 02.5	+0.2
	comp=Z,3.0nm,0.7s,baz=29,slow=3.0,SNR=26								
GERES	GERESS Array B	146.40	352	PKiKP		PKPdf		16 54 01.6	-0.8
GERES	GERESS Array B	146.40	352	PKPdf		PKPdf		16 54 01.6	-0.8
BR131	Keskin Array S	146.48	321	PKP2		PKPbc		16 54 03.7	-0.5
BR131	Keskin Array S	146.48	321			PKPbc		16 54 03.7	-0.5
BRTR	Keskin Array B	146.48	321	PKPbc		PKPbc		16 54 04.7	+0.5
	comp=Z,17nm,0.9s,baz=122,slow=1.9,SNR=47								
BRTR	Keskin Array B	146.48	321	PKP2		PKPbc		16 54 03.7	-0.5
BRTR	Keskin Array B	146.48	321			PKPbc		16 54 03.7	-0.5
VOIR		146.56	336	⇓P		PKPab		16 54 04.7	-0.5
VOIR		146.56	336	⇓PKP2		PKPab		16 54 04.7	-0.5
ARR	Arges	146.78	337	⇑P		PKPab		16 54 06.5	+0.4
CONA	Conrad Observa	146.94	349	*i* P		PKPab		16 54 05.9	-0.7
	comp=Z,28nm,0.9s,SNR=21								
SIRR	Siria	147.03	341	⇑P		PKPbc		16 54 06.1	+0.6
MOA	Molln	147.29	351	*i* P		PKPbc		16 54 06.3	+0.2
	comp=Z,19nm,0.9s,SNR=12								
BFO	Black Forest	147.36	358	PKP2		PKPbc		16 54 05.6	-0.7
BFO	Black Forest	147.36	358			PKPbc		16 54 05.6	-0.7
MDUB	Mudurnu	147.42	324			PKPbc		16 54 06.2	-0.7
GZR	Gura Zlata	147.43	339	⇑P		PKPbc		16 54 06.9	+0.3
GZR	Gura Zlata	147.43	339	⇑PKP2		PKPbc		16 54 06.9	+0.3
CLF	Chambon-Foret	147.47	6			PKPbc		16 54 05.7	-0.8
ECH	Echery	147.50	360	PKP2		PKPbc		16 54 05.6	-1.1
ECH	Echery	147.50	360			PKPbc		16 54 05.6	-1.1
BZS	Buzias	147.62	340	⇑P		PKPbc		16 54 07.2	+0.1
BZS	Buzias	147.62	340	⇑PKP2		PKPbc		16 54 07.2	+0.1
ARSA	Arzberg	147.65	349	*i* P		PKPbc		16 54 07.2	0.0
	comp=Z,16nm,1.0s,SNR=8.0								
MORH	Mrgy, Hungar	147.94	344	⇓*i* P		PKPbc		16 54 07.3	-0.6
HERR	Herculane	148.00	339	⇑P		PKPbc		16 54 08.5	+0.4
RETA	Reutte	148.06	355	*i* P		PKPbc		16 54 08.5	+0.2
	comp=Z,23nm,1.1s,SNR=9.2								
WATA	Walderalm	148.14	354	*i* P		PKPbc		16 54 08.6	0.0
	comp=Z,19nm,1.1s,SNR=6.8								
MOTA	Moosalm	148.18	354	*i* P		PKPbc		16 54 08.5	-0.2
	comp=Z,32nm,0.9s,SNR=13								
KBA	Koelnbreinsper	148.18	352	*e*P		PKPbc		16 54 08.2	-0.5
	comp=Z,18nm,1.2s								
WTTA	Wattenberg	148.20	354	*i* P		PKPbc		16 54 08.8	0.0
	comp=Z,25nm,0.8s,SNR=9.6								
SQTA	Sankt Quirin	148.29	354	*i* P		PKPbc		16 54 09.0	0.0
	comp=Z,20nm,0.9s,SNR=8.2								
SOKA	Soboth	148.29	349	*i* P		PKPbc		16 54 08.6	-0.3
	comp=Z,21nm,1.0s,SNR=13								
PERS	Pernice	148.32	349	*e*PKPbc		PKPbc		16 54 08.5	-0.5
DAVA	Damuls	148.33	356	*i* P		PKPbc		16 54 09.3	+0.2
	comp=Z,35nm,1.1s,SNR=12								
MDVR	Moldovita	148.33	340	⇓P		PKPbc		16 54 08.8	-0.3
GROS	Grobnik	148.42	349	*e*PKPbc		PKPbc		16 54 08.5	-0.8
FETA	Feichten	148.53	355	*i* P		PKPbc		16 54 09.8	+0.2
	comp=Z,24nm,1.0s,SNR=7.9								
OBKA	Obir	148.54	350	*i* P		PKPbc		16 54 09.2	-0.4
	comp=Z,5.6nm,0.7s								
MYKA	Terra Mystica	148.57	351	*i* P		PKPbc		16 54 08.9	-0.8
	comp=Z,16nm,0.8s,SNR=11								
FRGS	Fruska Gora	148.59	342	⇓*i* P		PKPbc		16 54 09.7	0.0
ABTA	Abfaltersbach	148.61	353	*i* P		PKPbc		16 54 09.3	-0.5
	comp=Z,28nm,0.9s,SNR=13								
ZOU	Zoufplan	148.74	352			PKPbc		16 54 09.0	-1.2
PRED	Cave del Predi	148.76	351			PKPbc		16 54 08.9	-1.3
FUORN	Ofenpass-Fuorn	148.97	355			PKPbc		16 54 11.0	+0.1
LJU	Ljubljana	149.00	350	*e*PKPbc		PKPbc		16 54 10.2	-0.5
LJU	Ljubljana	149.00	350	⇓*i* P		PKPbc		16 54 10.4	-0.3
CIMO	Cimolais	149.05	352	PKPbc		PKPbc		16 54 09.9	-1.0
STAL	STALIGIAL	149.06	352			PKPbc		16 54 09.9	-0.9
TUE	Stuetta	149.18	357			PKPbc		16 54 10.7	-0.7
TEKS	Tekeris	149.23	342	*e*P		PKPbc		16 54 11.9	+0.6
CEY	Cerknica	149.31	350	*e*PKPbc		PKPbc		16 54 11.2	-0.3
CEY	Cerknica	149.31	350	⇓*i* P		PKPbc		16 54 11.0	-0.5
SENIN	Lac Senin/Sane	149.35	359			PKPbc		16 54 11.4	-0.4
CTI	Castel Tesino	149.40	353	PKP2		PKPbc		16 54 11.1	-0.7
CTI	Castel Tesino	149.40	353			PKPbc		16 54 11.1	-0.7
DIVS	Divibare	149.50	341	⇓*i* P		PKPbc		16 54 12.3	+0.2
BLY	Banja Luka	149.68	345	⇓*i* P		PKPbc		16 54 12.5	+0.1
RIY	Rijeka	149.70	349	*e*P		PKPbc		16 54 12.0	-0.4
ALN	Alexandroupoli	149.81	330	P		PKPbc		16 54 12.3	-0.5
ALN	Alexandroupoli	149.81	330	PKHKP		PKPpre		16 54 12.0	
ALN	Alexandroupoli	149.81	330			PKPbc		16 54 11.9	-0.9
HAPS	Han Pijesak,Bl	149.82	342	*e*P		PKPbc		16 54 12.4	-0.5
RDO	Rodhopi	149.85	331	P		PKPbc		16 54 12.9	0.0
BBLS	Lazići	149.89	342	⇓*i* P		PKPbc		16 54 13.3	+0.3
TEOL	Teolo	150.08	353			PKPbc		16 54 13.0	-0.4
SSB	Saint Sauveur	150.38	3	PKiKP		PKPbc		16 54 14.0	-0.2
SSB	Saint Sauveur	150.38	3			PKPbc		16 54 14.0	-0.2
SMTH	Samothraki Isl	150.38	330	P		PKPbc		16 54 13.7	-0.6
GADA	Gvkgeada	150.42	330	P		PKPdf		16 54 10.5	+1.5
NVR	Nevrokopi	150.44	333	P		PKPbc		16 54 13.9	-0.5
KAVA	Kavala	150.44	332	P		PKPbc		16 54 14.4	+0.1
EZN	Ezine	150.49	329	P		PKPbc		16 54 14.3	-0.2
UPM	Unac-Piva	150.64	342	*e*P		PKPbc		16 54 14.6	-0.4
BNI	Bardonecchia	150.67	0	PKiKP		PKiKP		16 54 15.3	-0.3
BNI	Bardonecchia	150.67	0			PKiKP		16 54 15.3	-0.3
PGAV	Gavieira, Arco	150.70	23	*e*PKPab		PKiKP		16 54 15.6	-0.2
STIP	Stip	150.84	336	*i* P		PKPbc		16 54 14.9	-0.3
LIA	Limnos Island	151.00	330	P		PKPbc		16 54 15.5	-0.2
PCAB	Cabril	151.01	23	*e*PKPab		PKiKP		16 54 16.1	-0.2
BRY	Bratogost	151.03	342	⇓*i* P		PKPbc		16 54 15.3	-0

comp=N,139nm,0.5s
GLVR A A 17 00 13.0
comp=N,141nm,0.5s
GLVR Golovnino 2.77 270 PN **Pn** **16 59 34.6 -1.2**
GLVR *e*S **Sn** **17 00 07.9 -0.1**
GLVR smax smax
comp=N,139nm,0.2s
GLVR smax smax
comp=E,141nm,0.5s
RUSJ Misakicho 2.98 277 *e*PN **Pn** **16 59 39.7 +1.1**
RUSJ S **Sn** **17 00 14.9 +1.9**
JRA Rausu 3.06 274 P **Pn** **16 59 40.9 +1.2**
JNK Nakash 3.37 268 P **Pn** **16 59 44.4 +0.4**
JAK Akkeshi 3.49 258 P **Pn** **16 59 46.7 +1.1**
JTKR Abashiri--Toko 3.94 274 P **Pn** **16 59 52.3 +0.5**
JAR Ashorobuto 4.09 265 P **Pn** **16 59 54.9 +1.0**
JOB Onbets 4.12 259 P **Pn** **16 59 55.3 +0.9**
JCH Churui 4.54 257 P **Pn** **17 00 01.2 +1.1**
JCH *e*S **Sn** **17 00 52.2 +0.7**
JKA Kamikawa-asahi 4.88 276 *e*P **Pn** **17 00 06.9 +2.1**
ASAJ Asahikawa 4.88 276 P **Pn** **17 00 06.9 +2.1**
comp=E,0.4nm,0.3s,baz=130,slow=7.4,SNR=1.6
JNBK Urakawa-nobuka 5.07 255 P **Pn** **17 00 08.3 +0.9**
JKB Kayabe 6.41 255 P **Pn** **17 00 26.5 +0.7**
JKB *e*S **Sn** **17 01 35.0 -2.6**
JANG Nango 6.77 242 P **Pn** **17 00 30.2 -0.5**
JANG *e*S **Sn** **17 01 42.1 -4.4**
JTH Tanohata 6.80 238 P **Pn** **17 00 30.1 -1.0**
JTH *e*S Sn 17 01 41.2 -6.1
JTM Tenmabayashi 6.85 247 P **Pn** **17 00 32.7 +0.9**
JTM *e*S **Sn** **17 01 44.9 -3.5**
OFUJ Ofunato 7.46 233 P **Pn** **17 00 39.8 -0.4**
OFUJ *e*S Sn 17 01 58.7 -4.9
JRG Rokugo 7.88 239 P **Pn** **17 00 46.9 +0.9**
JIO Ouri 8.07 231 P **Pn** **17 00 47.7 -0.9**
JIO *e*S Sn 17 02 12.6 -5.9
PETK Petropavlovsk- 10.81 28 P **Pn** **17 01 24.6 -1.5**
comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=1.0
KSRS Korea Array 17.44 256 P **Pn** **17 02 54.6 +0.4**
comp=E,0.1nm,0.3s,baz=54,slow=15,SNR=2.1
H11N2 WAKE ISLAND Hy 28.16 143 T T 17 35 52.6
baz=333,slow=76,SNR=4.6
H11N1 WAKE ISLAND Hy 28.17 143 T T 17 35 53.2
baz=333,slow=76,SNR=4.2
H11N3 WAKE ISLAND Hy 28.17 143 T T 17 35 50.3
baz=333,slow=76,SNR=4.7
H11S1 WAKE ISLAND Hy 29.16 144 T T 17 37 10.1
baz=334,slow=76,SNR=3.3
H11S3 WAKE ISLAND Hy 29.16 145 T T 17 37 07.5
baz=334,slow=76,SNR=4.1
H11S2 WAKE ISLAND Hy 29.18 144 T T 17 37 08.3
baz=334,slow=76,SNR=3.8
SONM Songino Array 29.91 293 P **P** **17 04 57.4 -0.8**
comp=E,0.7nm,0.6s,baz=81,slow=7.9,SNR=2.8
MKAR Makanchi Array 45.96 298 P **P** **17 07 13.7 +0.6**
comp=E,1.2nm,0.6s,baz=78,slow=8.4,SNR=11
WRA Warramunga Arr 64.93 196 P **P** **17 09 32.3 +2.7**
comp=E,0.5nm,0.8s,baz=12,slow=6.9,SNR=2.9
FINES FINESS Array B 65.52 334 P **P** **17 09 33.3 +0.4**
comp=E,1.3nm,0.5s,baz=46,slow=8.2,SNR=12
ASAR Alice Springs 68.64 195 P **P** **17 09 56.3 +3.2**
comp=E,0.3nm,0.9s,baz=12,slow=9.5,SNR=2.2
NOA NORSAR Array B 70.10 340 P **P** **17 10 01.6 -0.2**
comp=E,0.8nm,0.7s,baz=31,slow=6.7,SNR=4.1
AKASG Malin Array Be 72.45 325 P **P** **17 10 14.6 -1.6**
comp=E,0.2nm,0.3s,baz=38,slow=6.0,SNR=1.6
TXAR Lajitas Array 81.27 58 P **P** **17 11 06.9 +0.5**
comp=E,0.2nm,0.7s,baz=302,slow=2.0,SNR=2.6

IDC 20 17:03:04.8±3.1, 12°.16S×166°.97E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.6/4, Error ellipse: s-maj=123.8km s-min=42.6km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.39**	**245**	P	P	17 09 45.6	+0.2
	0.2nm,0.8s,baz=68,slow=8.1,SNR=1.4						
SONM	**Songino Array**	**80.27**	**323**	P	P	17 15 17.9	+0.2
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.7						
ILAR	**Eielson Array**	**84.18**	**18**	P	P	17 15 38.2	+0.5
	0.3nm,0.8s,baz=240,slow=4.7,SNR=4.2						
MKAR	**Makanchi Array**	**95.15**	**317**	P	P	17 16 29.7	-0.5
	0.4nm,0.5s,baz=92,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**117.70**	**346**	PKP	PKPdf	17 21 51.7	-0.8
	3.9nm,0.9s,baz=63,slow=2.2,SNR=4.1						

*IDC **20** 17:19:33.2±1.7, 5°.67S×146°.47E, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.5/41, mbtmp3.6/6, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/25, Error ellipse: s-maj=50.8km s-min=27.8km az=112.0*

ISC 20 17:19:44.7±1.3, 6°.3S±0°.1×146°.8E±0°.2, h100km, n8, σ1§18/8, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**173**	Pn	**Pn**	**17 20 33.1**	**+0.9**
	6.9nm,0.3s,baz=324,slow=8.6,SNR=35						
PMG				Sn	**Sn**	**17 21 09.1**	**+0.1**
	9.4nm,0.3s,baz=301,slow=20,SNR=9.6						
KRVT	**Keravat (AS076**	**5.59**	**70**	LR	LR	17 23 38.8	
	comp=Z,58nm,18.2s,baz=238,slow=43						
CTA	**Charters Tower**	**13.74**	**182**	Pn	**P**	**17 22 59.1**	**-1.4**
	0.4nm,0.3s,baz=1.5,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**18.17**	**220**	P	**Pn**	**17 23 49.5**	**-1.2**
	0.1nm,0.3s,baz=38,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**21.26**	**214**	P	**P**	**17 24 24.2**	**+1.2**
	0.2nm,0.3s,baz=50,slow=9.2,SNR=21						
FITZ	**Fitzroy Crossi**	**23.72**	**238**	P	**P**	**17 24 48.1**	**+0.3**
	1.9nm,0.8s,baz=59,slow=8.8,SNR=2.1						
ILAR	**Eielson Array**	**85.83**	**23**	P	**P**	**17 32 12.4**	**-0.4**
	0.4nm,0.5s,baz=245,slow=5.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**144.93**	**284**	PKP	**PKPdf**	**17 39 12.3**	**+1.1**
	2.0nm,0.7s,baz=69,slow=3.5,SNR=8.3						

DJA 20 17:26:38.0±0.4, 8°.S±7°.×12°.0E±°, h192km±6km, M3.6/10, mb3.8/3, MLv3.5/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.29**	**164**	P	Pn	17 27 09.2	0.0
WSI				S	Sn	17 27 33.2	-0.3
EDFI	**Ende, Flores**	**1.76**	**101**	P	Pn	17 27 13.3	-0.3
EDFI				S	Sn	17 27 40.2	-1.0
BASI	**Baing, Sumba**	**1.90**	**161**	P	Pn	17 27 15.9	+1.1
BASI				S	Sn	17 27 44.3	+0.7
PLAI	**Plampang**	**2.18**	**259**	P	Pn	17 27 18.5	+0.7
PLAI				S	Sn	17 27 48.8	0.0
MMRI	**Maumere**	**2.28**	**96**	P	Pn	17 27 19.1	+0.1
MMRI				S	Sn	17 27 50.2	-0.6
TWSI	**Taliwang, Sumb**	**3.04**	**264**	P	Pn	17 27 28.0	+0.3
TWSI				S	Sn	17 28 06.9	+0.4
BATI	**Baumata**	**4.08**	**116**	P	Pn	17 27 41.5	+0.9
BATI				S	Sn	17 28 30.2	+0.5
SOEI	**Soe**	**4.47**	**108**	P	Pn	17 27 46.5	+0.8
SOEI				S	Sn	17 28 38.6	-0.2
JAGI	**Jajag, Banyuwa**	**5.73**	**269**	P	Pn	17 28 02.3	+0.7
	0.2nm30nm,2.4s						

*SKHL **20** 17:28:26.0±0.7, 43°.85N×149°.37E, h33km±1km, mb3.9/1*
*IDC **20** 17:28:31.4±4.6, 44°.09N×149°.13E, h57km±32km, mb3.4/7, mb1 3.6/9, mb1mx3.3/44, mbtmp3.7/9, ML2.6/2, Error ellipse: s-maj=70.1km s-min=24.2km az=171.0*

ISC 20 17:28:27.7±1.2, 43°.70N±0°.09×149°.3E±0°.1, h37km±2km, n32, σ1§51/36, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.84**	**327**	*e*P	Pn	17 28 54.0	-2.6
KUR				AMB	AMB	17 28 57.0	
	55nm,0.4s						
KUR				*e*S	**Sn**	**17 29 15.0**	**-3.6**
KUR				A	A	17 29 18.0	
	278nm,0.4s						
KUR				A	A	17 29 18.0	
	156nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.50**	**279**	*e*P	**Pn**	**17 29 05.2**	**-0.5**
YUK				*e*S	**Sn**	**17 29 34.0**	**-1.0**
YUK				A	A	17 29 38.0	
	98nm,0.4s						
YUK				A	A	17 29 38.0	
	156nm,0.4s						
GRPR Tuman 2.56 278				*e*P	**Pn**	**17 29 05.7**	**-0.9**
GRPR				*e*S	**Sn**	**17 29 36.2**	**-0.3**
GRPR				A	A	17 29 39.0	
	67nm,0.4s						
GRPR				A	A	17 29 39.0	
	96nm,0.4s						
NEM2 Nemuro 2 2.60 264				P	**Pn**	**17 29 06.4**	**-0.7**
NEM2				*e*S	**Sn**	**17 29 36.6**	**-0.8**
NMR Nemuro--Hokkai 2.61 264				*e*P	**Pn**	**17 29 07.1**	**-0.2**
NMR				*e*S	**Sn**	**17 29 37.6**	**-0.1**
GLVR Golovnino 2.73 272				*e*P	**Pn**	**17 29 08.5**	**-0.4**
GLVR				*e*S	**Sn**	**17 29 40.5**	**-0.2**
GLVR				A	A	17 29 45.0	
	155nm,0.4s						
GLVR				A	A	17 29 45.0	
	63nm,0.4s						
JRA Rausu 3.03 276				P	**Pn**	**17 29 13.9**	**+1.0**
JNK Nakash 3.32 270				P	**Pn**	**17 29 17.8**	**+0.8**
JNK				*e*S	**Sn**	**17 29 54.7**	**-0.5**
JTKR Abashiri--Toko 3.90 276				P	**Pn**	**17 29 25.7**	**+0.7**
JAR Ashorobuto 4.04 266				P	**Pn**	**17 29 27.7**	**+0.8**
JAR				*e*S	**Sn**	**17 30 13.8**	**+0.9**
JCH Churui 4.47 258				P	**Pn**	**17 29 34.5**	**+1.7**
JCH				*e*S	**Sn**	**17 30 24.3**	**+0.8**
ASAJ Asahikawa 4.85 277				P	**Pn**	**17 29 39.2**	**+1.2**
	0.4nm,0.3s,baz=25,slow=31,SNR=1.9						
JNBK Urakawa-nobuka 5.00 256				P	**Pn**	**17 29 41.1**	**+1.0**
JBT2 Biratori 2 5.14 262				P	**Pn**	**17 29 42.8**	**+0.7**
JKB Kayabe 6.34 256				P	**Pn**	**17 29 59.3**	**+0.8**
JKB				*e*S	**Sn**	**17 31 07.8**	**-1.8**
JANG Nango 6.67 243				P	**Pn**	**17 30 03.2**	**+0.1**
JANG				*e*S	**Sn**	**17 31 14.6**	**-3.3**
JTH Tanohata 6.70 238				*e*S	**Sn**	**17 31 13.9**	**-4.6**
JTM Tenmabayashi 6.76 247				*e*S	**Sn**	**17 31 17.9**	**-2.1**
PETK Petropavlovsk- 10.94 28				P	**Pn**	**17 31 01.7**	**+0.3**
	0.1nm,0.3s,baz=202,slow=12,SNR=1.9						
H11N2 WAKE ISLAND Hy 28.09 143				T	T	18 05 30.9	
	baz=333,slow=75,SNR=7.8						
H11N1 WAKE ISLAND Hy 28.10 143				T	T	18 05 28.9	
	baz=333,slow=75,SNR=9.3						
H11N3 WAKE ISLAND Hy 28.10 143				T	T	18 05 28.1	
	baz=333,slow=75,SNR=9.1						
H11S1 WAKE ISLAND Hy 29.08 144				T	T	18 06 41.1	
	baz=334,slow=76,SNR=9.9						
H11S3 WAKE ISLAND Hy 29.09 144				T	T	18 06 41.6	
	baz=334,slow=76,SNR=4.8						
H11S2 WAKE ISLAND Hy 29.10 144				T	T	18 06 42.0	
	baz=334,slow=76,SNR=4.8						
SONM Songino Array 29.92 293				P	**P**	**17 34 31.6**	**-0.4**
	0.6nm,0.7s,baz=84,slow=8.7,SNR=4.2						
MKAR Makanchi Array 45.98 298				P	**P**	**17 36 46.7**	**-0.3**
	0.9nm,0.6s,baz=75,slow=8.8,SNR=7.6						
FINES FINESS Array B 65.61 334				P	**P**	**17 39 05.5**	**-1.9**
	2.1nm,0.7s,baz=33,slow=5.6,SNR=9.3						
PDAR Pinedale Array 68.75 51				P	**P**	**17 39 27.9**	**0.0**
	0.2nm,0.3s,baz=251,slow=8.5,SNR=2.9						
NOA NORSAR Array B 70.19 340				P	**P**	**17 39 35.5**	**-0.7**
	0.5nm,0.7s,baz=29,slow=8.1,SNR=3.9						
AKASG Malin Array Be 72.53 325				P	**P**	**17 39 50.1**	**-0.3**
	0.2nm,0.2s,baz=43,slow=5.5,SNR=1.6						
TXAR Lajitas Array 81.38 58				P	**P**	**17 40 41.9**	**+1.2**
	0.2nm,0.7s,baz=302,slow=5.2,SNR=2.4						

*IDC **20** 17:41:59.6±0.7, 53°.14N×161°.66E, h0km, mb3.7/14, mb1 4.0/15, mb1mx3.8/60, mbtmp3.7/15, ML3.2/1, MS1.9/1, Ms1 1.9/1, ms1mx1.9/37, Error ellipse: s-maj=23.5km s-min=14.7km az=158.0*
*KRSC **20** 17:42:00.9±1.2, 53°.11N×161°.75E, h43km±24km, ML4.4*
*MOS **20** 17:42:03.3±0.8, 53°.11N×161°.66E, h42km, mb4.3/2, Error ellipse: s-maj=7.2km s-min=4.9km az=95.7*
*NEIC **20** 17:42:05.9±0.8, 53°.2N±0°.2×161°.48E±0°.08, h44km±8km, mb4.3/5, Error ellipse: s-maj=22.0km s-min=6.8km az=187.0*

ISC 20 17:42:04.5±2.2, 53°.13N±0°.04×161°.64E±0°.04, h35km±9km, n118, σ0§97/146, mb3.8/16, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**269**	*e*P	**Pn**	**17 42 20.3**	**-1.4**
SPN				*e*S	**Sn**	**17 42 33.7**	**-0.7**
SPN	**Mys Shipunski**	**0.98**	**269**	PN	**Pn**	**17 42 20.3**	**-1.4**
SPN				S	**Sn**	**17 42 33.7**	**-0.7**
NLC	**Nalytchevo**	**1.38**	**273**	*e*P	**Pn**	**17 42 26.3**	**-1.0**
NLC				*e*S	**Sn**	**17 42 44.9**	**+0.5**
NLC	**Nalytchevo**	**1.38**	**273**	PN	**Pn**	**17 42 26.3**	**-1.0**
NLC				S	**Sn**	**17 42 44.9**	**+0.5**
KII	**Karymskiy**	**1.59**	**306**	*e*P	**Pn**	**17 42 28.7**	**-1.6**
KII				*e*S	**Sn**	**17 42 48.3**	**-1.3**
KII	**Karymskiy**	**1.59**	**306**	PN	**Pn**	**17 42 28.7**	**-1.6**
KII				S	**Sn**	**17 42 48.3**	**-1.3**
SDLR	**Sedlovina**	**1.67**	**276**	*e*P	**Pn**	**17 42 30.6**	**-0.7**
SDLR	**Sedlovina**	**1.67**	**276**	PN	**Pn**	**17 42 30.6**	**-0.7**
UGLR	**Uglovaya**	**1.70**	**274**	*e*P	**Pn**	**17 42 31.5**	**-0.3**
UGLR				*e*S	**Sn**	**17 42 53.0**	**+0.7**
UGLR	**Uglovaya**	**1.70**	**274**	PN	**Pn**	**17 42 31.5**	**-0.3**
UGLR				S	**Sn**	**17 42 53.0**	**+0.7**
SMAR	**Somma**	**1.71**	**276**	*e*P	**Pn**	**17 42 31.9**	**-0.2**
SMAR	**Somma**	**1.71**	**276**	PN	**Pn**	**17 42 31.9**	**-0.2**
DALK	**Dalny**	**1.75**	**268**	*e*P	**Pn**	**17 42 31.6**	**-0.7**
DALK				*e*S	**Sn**	**17 42 54.3**	**+1.0**
DALK	**Dalny**	**1.75**	**268**	PN	**Pn**	**17 42 31.6**	**-0.7**
DALK				S	**Sn**	**17 42 54.3**	**+1.0**
KRER	**Koryakskii**	**1.75**	**277**	*e*P	**Pn**	**17 42 32.3**	**-0.2**
KRER				*e*S	**Sn**	**17 42 54.8**	**+1.1**
KRER	**Koryakskii**	**1.75**	**277**	PN	**Pn**	**17 42 32.3**	**-0.2**
KRER				S	**Sn**	**17 42 54.8**	**+1.1**
AVH	**Avacha**	**1.75**	**276**	*e*P	**Pn**	**17 42 32.2**	**-0.3**
AVH				*e*S	**Sn**	**17 42 53.0**	**-0.6**
AVH	**Avacha**	**1.75**	**276**	PN	**Pn**	**17 42 32.2**	**-0.3**
AVH				S	**Sn**	**17 42 53.0**	**-0.6**
PET	**Petropavlovsk**	**1.81**	**268**	*e*P	**Pn**	**17 42 33.3**	**+0.2**
PET				*e*S	**Sn**	**17 42 56.4**	**+1.6**
PET	**Petropavlovsk**	**1.81**	**268**	*e*PN	**Pn**	**17 42 33.6**	**+0.5**
PET				*e*S	**Sn**	**17 42 56.0**	**+1.2**
PET				pmax	pmax		
	comp=Z,200nm,0.3s						
PET				smax	smax		
	comp=E,979nm,0.5s						
PET				smax	smax		
	comp=N,445nm,0.4s						
PET	**Petropavlovsk**	**1.81**	**268**		**Pn**	**17 42 32.5**	**-0.6**
KRX	**Arik**	**1.81**	**278**	*e*P	**Pn**	**17 42 32.6**	**-0.8**
KRX	**Arik**	**1.81**	**278**	PN	**Pn**	**17 42 32.6**	**-0.8**
KOK	**Koryaka**	**1.81**	**276**	*i* P	**Pn**	**17 42 32.9**	**-0.5**
KOK	**Koryaka**	**1.81**	**276**	PN	**Pn**	**17 42 32.9**	**-0.5**
RUS	**Russkaya**	**2.03**	**251**	*i* P	**Pn**	**17 42 35.3**	**-0.8**
RUS				*e*S	**Sn**	**17 43 00.2**	**0.0**
RUS	**Russkaya**	**2.03**	**251**	PN	**Pn**	**17 42 35.3**	**-0.8**
RUS				S	**Sn**	**17 43 00.2**	**0.0**
KZV	**Kizimen**	**2.14**	**339**	*i* P	**Pn**	**17 42 37.1**	**-0.8**
KZV				*e*S	**Sn**	**17 43 02.5**	**-0.7**
KZV	**Kizimen**	**2.14**	**339**	PN	**Pn**	**17 42 37.1**	**-0.8**
KZV				S	**Sn**	**17 43 02.5**	**-0.7**
KRMR	**Karymshinskiy**	**2.15**	**263**	*e*P	**Pn**	**17 42 37.9**	**+0.1**
KRMR				*e*S	**Sn**	**17 43 04.2**	**+1.0**
KRMR	**Karymshinskiy**	**2.15**	**263**	PN	**Pn**	**17 42 37.9**	**+0.1**
KRMR				S	**Sn**	**17 43 04.2**	**+1.0**
TUMD	**Tumrok D**	**2.20**	**341**	*e*P	**Pn**	**17 42 37.3**	**-1.3**
TUMD				*e*S	**Sn**	**17 43 03.8**	**-0.8**
GRL	**Gorelyy**	**2.24**	**256**	*e*P	**Pn**	**17 42 39.2**	**0.0**
GRL	**Gorelyy**	**2.24**	**256**	PN	**Pn**	**17 42 39.2**	**0.0**
GNL	**Ganaly**	**2.29**	**286**	*e*P	**Pn**	**17 42 40.3**	**+0.5**
GNL	**Ganaly**	**2.29**	**286**	PN	**Pn**	**17 42 40.3**	**+0.5**
TUMR	**Tumrok**	**2.33**	**338**	*i* P	**Pn**	**17 42 40.0**	**-0.4**
TUMR	**Tumrok**	**2.33**	**338**	PN	**Pn**	**17 42 40.0**	**-0.4**
PEA0B	**Petropavlovsk-**	**2.38**	**271**	PN	**Pn**	**17 42 41.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.38**	**271**		**Pn**	**17 42 41.5**	**+0.5**
PETK	**Petropavlovsk-**	**2.38**	**271**	Pn	**Pn**	**17 42 41.6**	**+0.6**
	comp=N,28nm,0.3s,baz=84,slow=19,SNR=380						
PETK				Sn	**Sn**	**17 43 11.1**	**+2.1**
	comp=N,37nm,0.3s,baz=88,slow=14,SNR=11						
PETK				LR	LR	17 43 11.4	
	comp=N,26nm,20.6s,baz=96,slow=30						
PETK	**Petropavlovsk-**	**2.38**	**271**	PN	**Pn**	**17 42 41.6**	**+0.6**
PETK						17 43 11.1	
PETK	**Petropavlovsk-**	**2.38**	**271**		**Pn**	**17 42 41.2**	**+0.2**
ASAK	**Asacha**	**2.40**	**253**	*i* P	**Pn**	**17 42 41.3**	**0.0**
ASAK				*e*S	**Sn**	**17 43 10.6**	**+1.1**
ASAK	**Asacha**	**2.40**	**253**	PN	**Pn**	**17 42 41.3**	**0.0**
ASAK				S	**Sn**	**17 43 10.6**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.55**	**240**	*e*P	**Pn**	**17 42 42.3**	**-1.1**
KDTR				*e*S	**Sn**	**17 43 11.7**	**-1.5**
KDTR	**Khodutka, Kamc**	**2.55**	**240**	PN	**Pn**	**17 42 42.3**	**-1.1**
KDTR				S	**Sn**	**17 43 11.7**	**-1.5**
APC	**Apacha**	**2.72**	**267**	*e*P	**Pn**	**17 42 46.6**	**+1.0**
APC				*e*S	**Sn**	**17 43 20.6**	**+3.4**
APC	**Apacha**	**2.72**	**267**	PN	**Pn**	**17 42 46.6**	**+1.0**
APC				S	**Sn**	**17 43 20.6**	**+3.4**
KMNR Kamenistaya 2.75 343				*e*P	**Pn**	**17 42 46.8**	**+0.5**
KMNR Kamenistaya 2.75 343				PN	**Pn**	**17 42 46.8**	**+0.5**
BZGR Bezymyannyi-Gr 2.87 349				*e*P	**Pn**	**17 42 47.9**	**+0.1**
BZGR Bezymyannyi-Gr 2.87 349				PN	**Pn**	**17 42 47.9**	**+0.1**
BZWR Bezymyannyi-We 2.92 347				*e*P	**Pn**	**17 42 49.3**	**+0.8**
BZWR Bezymyannyi-We 2.92 347				PN	**Pn**	**17 42 49.3**	**+0.8**
KIRR Kirishev 2.93 346				*e*P	**Pn**	**17 42 49.4**	**+0.7**
KIRR				*e*S	**Sn**	**17 43 23.6**	**+0.9**
KIRR Kirishev 2.93 346				PN	**Pn**	**17 42 49.4**	**+0.7**
KIRR				S	**Sn**	**17 43 23.6**	**+0.9**
ZLN Zelenaya 2.93 351				*e*P	**Pn**	**17 42 50.1**	**+1.4**
ZLN Zelenaya 2.93 351				PN	**Pn**	**17 42 50.1**	**+1.4**
KOZ Kozyrevsk 3.11 341				*e*P	**Pn**	**17 42 50.9**	**-0.1**
KOZ Kozyrevsk 3.11 341				PN	**Pn**	**17 42 50.9**	**-0.1**
KRSR Krestovskiy 3.15 349				*e*P	**Pn**	**17 42 52.6**	**+0.8**
KRSR Krestovskiy 3.15 349				PN	**Pn**	**17 42 52.6**	**+0.8**
KBTR Krutoberegovo 3.16 12				*e*P	**Pn**	**17 42 50.9**	**-0.8**
KBTR Krutoberegovo 3.16 12				PN	**Pn**	**17 42 50.9**	**-0.8**
KBG Krutoberegovo 3.19 11				*e*P	**Pn**	**17 42 51.8**	**-0.3**
KBG Krutoberegovo 3.19 11				PN	**Pn**	**17 42 51.8**	**-0.3**
ESO Esso 3.28 330				*e*P	**Pn**	**17 42 53.3**	**-0.1**
ESO Esso 3.28 330				PN	**Pn**	**17 42 53.3**	**-0.1**
BKI Bering 3.28 49				*e*P	**Pn**	**17 42 54.6**	**+1.2**
BKI				*e*S	**Sn**	**17 43 29.5**	**-1.7**
BKI Bering 3.28 49				PN	**Pn**	**17 42 54.6**	**+1.2**
BKI				S	**Sn**	**17 43 29.5**	**-1.7**
SRDR Sredinnyy 3.38 341				*e*P	**Pn**	**17 42 54.8**	**0.0**
SRDR Sredinnyy 3.38 341				PN	**Pn**	**17 42 54.8**	**0.0**
BDR Baidarnaya 3.45 356				*e*P	**Pn**	**17 42 57.2**	**+1.4**
BDR Baidarnaya 3.45 356				PN	**Pn**	**17 42 57.2**	**+1.4**
SMKR Semkarok 3.46 358				*e*P	**Pn**	**17 42 57.3**	**+1.4**
SMKR Semkarok 3.46 358				PN	**Pn**	**17 42 57.3**	**+1.4**
SRKR Sorokina 3.54 356				*e*P	**Pn**	**17 42 58.3**	**+1.3**
SRKR Sorokina 3.54 356				PN	**Pn**	**17 42 58.3**	**+1.3**
SKR Severo-Kuril's 4.21 237				*e*P	**Pn**	**17 43 05.5**	**-0.6**
SKR Severo-Kuril's 4.21 237				*e*PN	**Pn**	**17 43 05.6**	**-0.6**
YAK Yakutsk 19.12 310				P	**P**	**17 46 21.4**	**-2.8**
	comp=N,0.2nm,0.3s,baz=56,slow=0.8,SNR=8.1						
USRK Ussuriysk Ar. 21.39 257				P	**P**	**17 46 48.6**	**-0.4**
	comp=N,0.9nm,0.7s,baz=167,slow=28,SNR=1.7						
MJAR Matsushiro Arr 23.31 234				P	**P**	**17 47 09.2**	**-0.1**
	comp=N,1.6nm,0.6s,baz=38,slow=6.8,SNR=3.4						
MJAR Matsushiro Arr 23.31 234				P	**P**	**17 47 09.0**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR Matsushiro Arr 23.31 234				P	**P**	**17 47 09.0**	**-0.3**
BPAW Bear Paw Mtn. 26.34 47				P	**P**	**17 47 37.8**	**+1.0**
SCM Sheep Creek Mo 28.07 52				P	**P**	**17 47 52.5**	**+0.1**
SCM				pmax	pmax		
	comp=Z,11nm,1.2s						
SCM Sheep Creek Mo 28.07 52				P	**P**	**17 47 52.5**	**+0.1**
SCM				IAmb	IAmb	17 47 57.7	
	comp=Z,11nm,1.2s						
ILAR Eielson Array 28.12 45				P	**P**	**17 47 51.5**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=275,slow=11,SNR=2.2						
H11N2 WAKE ISLAND Hy 33.59 171				T	T	18 24 28.1	
	baz=354,slow=76						
H11N3 WAKE ISLAND Hy 33.60 171				T	T	18 24 27.6	
	baz=354,slow=76						
H11N1 WAKE ISLAND Hy 33.60 171				T	T	18 24 24.5	
	baz=354,slow=76						
H11S1 WAKE ISLAND Hy 34.78 172				T	T	18 26 08.7	
	baz=352						
H11S3 WAKE ISLAND Hy 34.79 172				T	T	18 26 08.8	
	baz=352						
H11S2 WAKE ISLAND Hy 34.80 172				T	T	18 26 01.2	
	baz=352						
MKAR Makanchi Array 48.98 296				P	**P**	**17 50 47.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=59,slow=7.9,SNR=5.7						
MKAR Makanchi Array 48.98 296				P	**P**	**17 50 45.5**	**-1.8**
NVAR Mina Array Bea 54.85 71				P	**P**	**17 51 32.5**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=298,slow=6.6,SNR=4.7						
NVAR Mina Array Bea 54.85 71				P	**P**	**17 51 30.8**	**-0.6**
PDAR Pinedale Array 56.69 62				P	**P**	**17 51 44.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=336,slow=3.3,SNR=3.7						
PDAR Pinedale Array 56.69 62				P	**P**	**17 51 45.7**	**+1.2**
CMAR Chiang Mai Arr 59.10 259				P	**P**	**17 52 02.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=29,slow=7.1,

comp=Z,80nm,18.6s,baz=47,slow=37
H11N2 WAKE ISLAND Hy 27.23 121 T T 18 16 49.9
baz=312,slow=75
H11N1 WAKE ISLAND Hy 27.23 121 T T 18 16 55.4
baz=312,slow=75
H11N3 WAKE ISLAND Hy 27.25 121 T T 18 16 54.0
baz=312,slow=75
H11S1 WAKE ISLAND Hy 27.93 123 T T 18 18 25.6
baz=314
H11S3 WAKE ISLAND Hy 27.93 123 T T 18 18 21.6
baz=314,slow=74
H11S2 WAKE ISLAND Hy 27.95 123 T T 18 18 12.9
baz=314,slow=74
SONM Songino Array 28.72 305 P **P** **17 48 19.5 +0.3**
2.6nm,0.8s,baz=105,slow=8.1,SNR=12
CMAR Chiang Mai Arr 41.96 257 P **P** **17 50 13.4 +0.5**
0.3nm,0.8s,baz=52,slow=6.7,SNR=5.2
ZALV Zalesovo Beam 42.87 313 P **P** **17 50 20.4 +0.5**
0.7nm,0.5s,baz=80,slow=7.9,SNR=5.5
MKAR Makanchi Array 45.05 303 P **P** **17 50 37.5 0.0**
0.8nm,0.6s,baz=87,slow=11,SNR=6.3
WRA Warramunga Arr 56.46 189 P **P** **17 52 04.8 +1.1**
0.5nm,1.0s,baz=8.8,slow=8.0,SNR=1.6
AKASG Malin Array Be 75.25 323 P **P** **17 54 05.6 +1.1**
0.7nm,0.6s,baz=45,slow=5.8,SNR=1.8

*IDC **20** 17:42:43.6±1.2,1°.91N×97°.85W,h0km,mb4.0/5,mb1 4.4/5, mb1mx3.9/38,mbtmp4.0/5,MS3.9/10,Ms1 3.9/10, ms1mx3.7/20,Error ellipse: s-maj=47.5km s-min=27.3km az=53.0*
*NEIC **20** 17:42:44.9±1.4,1°.8N±0°.2×97°.86W±0°.10,h10km±2km, mb4.2/13,Error ellipse: s-maj=40.3km s-min=6.9km az=202.0*
ISC 20 17:42:44.9±1.4,1°.9N±0°.3×97°.9W±0°.3,h10km,n47, σ1§67/29,mb4.2/9,MS3.6/9,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**15.31**	**56**	LR	LR	17 50 29.7	
	comp=Z,919nm,18.1s,baz=316,slow=30						
ROSC	**El Rosal**	**23.68**	**82**	LR	LR	17 55 29.6	
	comp=Z,168nm,19.4s,baz=262,slow=32						
NNA	**Nana**	**25.00**	**124**	LR	LR	17 55 57.4	
	comp=Z,171nm,18.6s,baz=302,slow=32						
LPIG	**La Paz**	**25.18**	**332**	LR	LR	17 55 49.4	
	comp=Z,828nm,18.5s,baz=190,slow=31						
TX31	**Lajitas Ar. Si**	**27.88**	**349**	P	**P**	**17 48 35.9**	**+0.8**
TX32	**Lajitas Array**	**27.88**	**349**	P	**P**	**17 48 33.9**	**-1.2**
TXAR	**Lajitas Array**	**27.88**	**349**	P	**P**	**17 48 35.4**	**+0.2**
	1.6nm,0.8s,baz=165,slow=10,SNR=16						
TXAR				LR	LR	17 58 32.8	
	comp=Z,467nm,18.9s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**27.88**	**349**	P	**P**	**17 48 35.5**	**+0.4**
SDV	**Santo Domingo**	**27.87**	**75**	LR	LR	17 58 00.8	
	comp=Z,192nm,21.4s,baz=264,slow=33						
BNM	**Barren Site**	**33.15**	**347**	P	**P**	**17 49 22.6**	**+0.7**
LPAZ	**La Paz**	**34.45**	**123**	LR	LR	18 02 16.2	
	comp=Z,97nm,18.4s,baz=311,slow=34						
SDCO	**Great Sand Dun**	**36.40**	**350**	P	**P**	**17 49 50.5**	**+0.6**
SDCO				IAmb	IAmb	17 49 56.4	
	comp=Z,5.5nm,1.4s						
PTGA	**Pitinga**	**37.97**	**94**	P	**P**	**17 50 03.6**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=303,slow=5.4,SNR=5.4						
PTGA	**Pitinga**	**37.97**	**94**	P	**P**	**17 50 03.2**	**-0.1**
PTGA				IAmb	IAmb	17 50 22.4	
	comp=Z,5.3nm,1.0s						
O20A	**White River Ci**	**39.25**	**347**	P	**P**	**17 50 12.6**	**-1.3**
O20A				IAmb	IAmb	17 50 21.8	
	comp=Z,6.7nm,1.0s						
H03N2	**Juan Fernandez**	**39.39**	**155**	T	T	18 32 28.9	
	baz=331,slow=77						
H03N1	**Juan Fernandez**	**39.40**	**155**	T	T	18 32 43.5	
	baz=331,slow=77						
H03N3	**Juan Fernandez**	**39.41**	**155**	T	T	18 32 39.9	
	baz=331,slow=77						
NVAR	**Mina Array Bea**	**40.93**	**335**	P	**P**	**17 50 28.4**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=165,slow=6.2,SNR=6.1						
NVAR	**Mina Array Bea**	**40.93**	**335**	P	**P**	**17 50 28.3**	**+0.3**
HWUT	**Hardware Ranch**	**41.45**	**344**	P	**P**	**17 50 32.6**	**+0.5**
HWUT				IAmb	IAmb	17 50 38.6	
	comp=Z,12nm,1.4s						
ELK	**Elko**	**41.78**	**340**	P	**P**	**17 50 34.5**	**-0.5**
HVU	**Hansel Valley**	**41.95**	**343**	P	**P**	**17 50 36.9**	**+0.8**
BW06	**Boulder Array**	**42.05**	**347**	P	**P**	**17 50 36.2**	**-0.8**
BW06				IAmb	IAmb	17 50 43.0	
	comp=Z,7.5nm,1.4s						
PD31	**Pinedale Array**	**42.05**	**347**	P	**P**	**17 50 36.1**	**-1.0**
PD31				IAmb	IAmb	17 50 43.0	
	comp=Z,6.1nm,1.4s						
PDAR	**Pinedale Array**	**42.05**	**347**	P	**P**	**17 50 36.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=154,slow=8.6,SNR=10						
PDAR	**Pinedale Array**	**42.05**	**347**		**P**	**17 50 36.8**	**-0.3**
YHH	**Holmes Hill**	**44.26**	**347**	P	**P**	**17 50 54.9**	**-0.1**
YHL	**Hebgen Lake**	**44.40**	**346**	P	**P**	**17 50 56.7**	**+0.6**
QLMT	**Earthquake Lak**	**44.44**	**346**	P	**P**	**17 50 55.9**	**-0.4**
BCYI	**Bear Canyon**	**44.46**	**344**	P	**P**	**17 50 57.1**	**+0.5**
MCMT	**McKenzie Canyo**	**44.70**	**345**	P	**P**	**17 50 58.1**	**-1.1**
CPUP	**Villa Florida**	**48.12**	**128**	LR	LR	18 11 15.1	
	comp=Z,62nm,18.4s,baz=317,slow=36						
ULM	**Lac du Bonnet**	**48.24**	**2**	LR	LR	18 11 30.4	
	comp=Z,120nm,19.2s,baz=164,slow=36						
IL31			**71.94 340**	P	**P**	**17 54 08.7**	**+0.5**
ILAR	**Eielson Array**		**71.94 340**	P	**P**	**17 54 07.8**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=149,slow=4.9,SNR=26						
ILAR	**Eielson Array**		**71.94 340**	P	**P**	**17 54 08.4**	**+0.1**
H11N3	**WAKE ISLAND Hy**		**94.31 290**	T	T	19 40 51.9	
	baz=86						
H11N2	**WAKE ISLAND Hy**		**94.32 290**	T	T	19 41 06.3	
	baz=86						
H11N1	**WAKE ISLAND Hy**		**94.33 290**	T	T	19 41 03.7	
	baz=86						
H11S2	**WAKE ISLAND Hy**		**94.58 289**	T	T	19 41 15.2	
	baz=86,slow=75						
H11S1	**WAKE ISLAND Hy**		**94.58 289**	T	T	19 41 10.2	
	baz=86,slow=75						
H11S3	**WAKE ISLAND Hy**		**94.59 289**	T	T	19 41 09.5	
	baz=86,slow=75						
NOA	**NORSAR Array B**	**97.51**	**28**	LR	LR	18 37 33.3	
	comp=Z,33nm,21.0s,baz=290,slow=34						
ASAR	**Alice Springs**	**125.46**	**242**	PKP	**PKiKP**	**18 01 47.4**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=108,slow=2.4,SNR=3.1						
WRA	**Warramunga Arr**	**125.97**	**247**	PKP	**PKiKP**	**18 01 49.4**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=92,slow=1.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**153.91**	**321**	PKPbc	**PKPbc**	**18 02 45.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=38,slow=1.6,SNR=5.7						

*NEIC **20** 17:44:43.5±2.1,2°.05N±0°.07×97°.9W±0°.2,h10km±2km, mb4.1/6, Error ellipse: s-maj=41.2km s-min=8.7km az=258.0*
*IDC **20** 17:44:43.3±1.9,1°.98N×97°.75W,h0km,mb3.9/5,mb1 4.3/5, mb1mx3.9/38,mbtmp3.9/5,Error ellipse: s-maj=63.6km s-min=30.2km az=44.0*
ISC 20 17:44:44.7±1.7,2°.1N±0°.3×97°.7W±0°.3,h10km,n21, σ1§60/15,mb4.0/8,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAIG	**Zacatecas**	**21.13**	**347**	P	**P**	**17 49 30.5**	**+0.4**
TX31	**Lajitas Ar. Si**	**27.72**	**349**	P	**P**	**17 50 31.3**	**-2.2**
TX31				IAmb	IAmb	17 50 36.5	
	comp=Z,5.9nm,0.9s						
TX32	**Lajitas Array**	**27.72**	**349**	P	**P**	**17 50 31.3**	**-2.2**
TX32				IAmb	IAmb	17 50 36.4	
	comp=Z,2.2nm,1.0s						
TXAR	**Lajitas Array**	**27.72**	**349**	P	**P**	**17 50 34.8**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=161,slow=12,SNR=8.1						
TXAR	**Lajitas Array**	**27.72**	**349**	P	**P**	**17 50 30.5**	**-3.0**
MSTX	**Muleshoe**	**32.10**	**352**	P	**P**	**17 51 12.7**	**+0.4**
SAML	**Samuel**	**36.09**	**108**	P	**P**	**17 51 47.5**	**+0.5**
SAML				IAmb	IAmb	17 51 49.4	
	comp=Z,2.8nm,0.9s						
PTGA	**Pitinga**	**37.82**	**94**	P	**P**	**17 52 02.4**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=275,slow=11,SNR=4.1						
PTGA	**Pitinga**	**37.82**	**94**	P	**P**	**17 52 01.7**	**-0.1**
PTGA				IAmb	IAmb	17 52 04.6	
	comp=Z,4.3nm,1.1s						
H03N2	**Juan Fernandez**	**39.49**	**155**	T	T	18 34 23.6	
	baz=330						
H03N1	**Juan Fernandez**	**39.50**	**155**	T	T	18 34 24.7	
	baz=330						
H03N3	**Juan Fernandez**	**39.51**	**155**	T	T	18 34 23.5	
	baz=330						
NVAR	**Mina Array Bea**	**40.82**	**335**	P	**P**	**17 52 29.2**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=153,slow=8.1,SNR=2.8						
PDAR	**Pinedale Array**	**41.90**	**347**	P	**P**	**17 52 36.0**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=150,slow=6.1,SNR=4.5						
PDAR	**Pinedale Array**	**41.90**	**347**	P	**P**	**17 52 34.1**	**-1.5**
ILAR	**Eielson Array**	**71.81**	**340**	P	**P**	**17 56 06.5**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=150,slow=5.3,SNR=9.5						
ILAR	**Eielson Array**	**71.81**	**340**	P	**P**	**17 56 06.2**	**-1.1**
H11S2	**WAKE ISLAND Hy**	**94.67**	**289**	T	T	19 43 06.9	
	baz=83						
H11S1	**WAKE ISLAND Hy**	**94.67**	**289**	T	T	19 43 07.4	
	baz=83						
H11S3	**WAKE ISLAND Hy**	**94.68**	**289**	T	T	19 43 11.5	
	baz=83						
WRA	**Warramunga Arr**	**126.19**	**247**	PKP	**PKiKP**	**18 03 48.5**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=88,slow=2.7,SNR=3.7						

*IDC **20** 17:51:08.1±12.0,2°.26N×128°.10E,h162km±117km, mb3.3/5,mb1 3.4/5,mb1mx3.0/39,mbtmp3.7/5,Error ellipse: s-maj=101.7km s-min=23.7km az=61.0*
*DJA **20** 17:51:09.2±0.6,2°.N±5°×12°.8E±°,h163km±5km,M3.6/8, mb3.3/1,MLv3.7/8*
ISC 20 17:51:06.0±1.2,2°.51N±0°.09×128°.5E±0°.1,h150km,n10, σ1§08/12,mb3.6/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.08**	**214**	P	**Pn**	**17 51 43.5**	**+1.3**
TNTI				S	**Sn**	**17 52 11.5**	**+1.5**
SGSI	**Sangihe**	**3.22**	**291**	P	**Pn**	**17 51 57.0**	**+0.8**
SGSI				S	**Sn**	**17 52 34.0**	**-1.0**
SANI	**Sanana**	**5.20**	**209**	P	**Pn**	**17 52 21.4**	**-0.7**
GTOI	**Gorontalo**	**5.83**	**251**	P	**Pn**	**17 52 30.5**	**0.0**
FAKI	**Fak Fak**	**6.55**	**145**	P	Pn	17 52 29.2	-11
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**17 55 32.5**	**-1.8**
	0.8nm,0.5s,baz=7.9,slow=9.7,SNR=2.0						
WRA	**Warramunga Arr**	**23.03**	**166**	P	**P**	**17 55 57.9**	**-0.3**
	0.8nm,0.4s,baz=344,slow=10,SNR=35						
ASAR	**Alice Springs**	**26.54**	**169**	P	**P**	**17 56 29.4**	**-0.5**
	0.3nm,0.4s,baz=350,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**17 59 50.5**	**-0.3**
	0.2nm,0.7s,baz=356,slow=2.0,SNR=2.0						
STKA	**Stephens Creek**	**36.38**	**161**	P	**P**	**17 57 56.2**	**+0.3**
	2.6nm,0.3s,baz=342,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**59.58**	**325**	P	**P**	**18 00 54.5**	**+0.6**
	0.4nm,0.4s,baz=117,slow=8.8,SNR=7.0						

IDC 20 18:02:42.0±3.5,21°.50S×174°.36W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/35,mbtmp3.7/4,Error ellipse: s-maj=160.1km s-min=38.8km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.61**	**257**	P	P	18 11 19.7	-0.3
	1.5nm,0.9s,baz=97,slow=7.2,SNR=11						
ASAR				PcP	PcP	18 12 50.0	+0.1
	0.2nm,0.5s,baz=119,slow=5.0,SNR=1.6						
WRA	**Warramunga Arr**	**47.83**	**262**	P	P	18 11 21.1	-0.7
	0.7nm,0.8s,baz=101,slow=7.8,SNR=13						
WRA				PcP	PcP	18 12 50.7	0.0
	1.0nm,1.2s,baz=93,slow=3.1,SNR=2.2						
ILAR	**Eielson Array**	**88.58**	**11**	P	P	18 15 35.6	-0.6
	0.3nm,0.8s,baz=213,slow=5.1,SNR=1.8						
CMAR	**Chiang Mai Arr**	**93.66**	**288**	P	P	18 16 02.4	+1.4
	0.6nm,0.8s,baz=110,slow=2.2,SNR=5.7						
AKASG	**Malin Array Be**	**145.48**	**333**	PKPbc	PKPbc	18 22 20.6	-1.3
	1.1nm,0.6s,baz=43,slow=3.9,SNR=5.1						

IDC 20 18:15:31.6±2.5,7°.69N×94°.59E,h0km,mb3.3/4,mb1 3.5/5, mb1mx3.3/32,mbtmp3.3/5,ML4.0/1,MS2.7/1,Ms1 2.9/1, ms1mx2.5/17,Error ellipse: s-maj=94.4km s-min=25.7km az=64.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.51**	**21**	Pn	Pn	18 18 16.8	-0.5
	0.3nm,0.3s,baz=249,slow=7.5,SNR=4.2						
CMAR				LR	LR	18 22 45.4	
	comp=Z,37nm,18.3s,baz=185,slow=38						
H08S3	**Diego Garcia H**	**26.79**	**236**	T	T	18 47 46.5	
	baz=49						
H08S2	**Diego Garcia H**	**26.79**	**236**	T	T	18 47 47.1	
	baz=49						
H08S1	**Diego Garcia H**	**26.80**	**236**	T	T	18 47 49.9	
	baz=49						
MKAR	**Makanchi Array**	**40.36**	**347**	P	P	18 23 10.2	-0.9
	0.5nm,0.7s,baz=178,slow=8.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**46.80**	**352**	P	P	18 24 03.8	+1.0
	0.4nm,0.4s,baz=159,slow=9.3,SNR=2.0						
WRA	**Warramunga Arr**	**47.79**	**126**	P	P	18 24 12.4	+1.3
	0.2nm,0.9s,baz=307,slow=8.2,SNR=2.2						
ASAR	**Alice Springs**	**49.46**	**130**	P	P	18 24 22.3	-1.6
	0.1nm,0.3s,baz=298,slow=8.2,SNR=1.8						

*NEIC **20** 18:19:08.5±2.1,24°.06S±0°.06×66°.74W±0°.04,h188km±9km, Error ellipse: s-maj=9.2km s-min=4.6km az=196.0*
*IDC **20** 18:19:09.6±1.7,23°.95S×66°.75W,h195km±22km,mb3.2/3, mb1 3.4/7,mb1mx3.2/24,mbtmp3.9/7,Error ellipse: s-maj=30.3km s-min=18.5km az=131.0*
ISC 20 18:19:09.0±0.7,24°.03S±0°.05×66°.90W±0°.08,h200km,n42, σ1§27/52,mb3.4/3,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.33**	**307**	P	**Pn**	**18 19 53.4**	**+1.9**
	7.5nm,0.3s,baz=152,slow=4.3,SNR=92						
LVC				S	**Sn**	**18 20 25.5**	**+1.2**
	5.0nm,0.3s,baz=260,slow=22,SNR=27						
LVC	**Limon Verde**	**2.33**	**307**		**Pn**	**18 19 53.2**	**+1.8**
LVC					**Sn**	**18 20 25.1**	**+0.8**
PB15	**IPOC Station P**	**2.50**	**289**		**Pn**	**18 19 54.8**	**+1.7**
GO02	**Mina Guanaco**	**2.70**	**245**		**Pn**	**18 19 57.0**	**+1.5**
GO02				Sn	**Sn**	**18 20 32.4**	**+0.8**
PB06	**IPOC Station P**	**2.79**	**298**		**Pn**	**18 19 58.0**	**+1.6**
PB06				Sn	**Sn**	**18 20 33.1**	**-0.2**
PB14	**IPOC Station P**	**3.25**	**259**		**Pn**	**18 20 03.0**	**+1.0**
PB10	**IPOC Station P**	**3.39**	**278**		**Pn**	**18 20 04.5**	**+1.2**
PB04	**IPOC Station P**	**3.44**	**299**		**Pn**	**18 20 04.8**	**+0.7**
PB04					**Sn**	**18 20 46.3**	**-0.8**
PB07	**IPOC Station P**	**3.59**	**309**		**Pn**	**18 20 06.9**	**+1.0**
PB01	**IPOC Station P**	**3.82**	**321**	Pn	**Pn**	**18 20 09.7**	**+1.1**
AC01	**Pan de Azucar**	**3.96**	**237**	Pn	**Pn**	**18 20 10.3**	**0.0**
PATCX	**Punta Patache**	**4.39**	**316**	Pn	**Pn**	**18 20 16.2**	**+0.4**
PB08	**IPOC Station P**	**4.40**	**331**		**Pn**	**18 20 17.7**	**+1.5**
TA01	**Diego Aracena**	**4.60**	**318**	Pn	**Pn**	**18 20 18.9**	**+0.6**
GO03	**Copiap**	**4.65**	**220**	Pn	**Pn**	**18 20 19.2**	**+0.3**
GO03					**Sn**	**18 21 11.9**	**-2.3**
GO01	**Chusmiza**	**4.84**	**333**		**Pn**	**18 20 22.3**	**+0.5**
GO01					**Sn**	**18 21 16.9**	**-2.2**
PB11	**IPOC Station P**	**4.96**	**328**	Pn	**Pn**	**18 20 22.9**	**-0.3**
PB11					**Sn**	**18 21 17.8**	**-3.7**
PSGCX	**Pisagua**	**5.33**	**325**	Pn	**Pn**	**18 20 26.0**	**-1.8**
MNMC	**Minye Minye**	**5.49**	**332**		**Pn**	**18 20 30.2**	**+0.3**
AC05	**El Transito**	**5.66**	**212**	Pn	**Pn**	**18 20 31.7**	**-0.3**
AC05					**Sn**	**18 21 35.7**	**-1.9**
LCO	**Las Campanas**	**6.02**	**214**	Pn	**Pn**	**18 20 35.7**	**-1.0**
PB16	**IPOC Station P**	**6.17**	**336**		**Pn**	**18 20 39.6**	**+0.6**
PB12	**IPOC Station P**	**6.27**	**329**	Pn	**Pn**	**18 20 39.8**	**-0.1**
CO01	**Juntas del Tor**	**6.57**	**205**	Pn	**Pn**	**18 20 43.8**	**0.0**
GO04	**Tololo Observa**	**7.04**	**209**	Pn	**Pn**	**18 20 48.5**	**-1.3**
CO03	**El Pedregal**	**7.57**	**206**	Pn	**Pn**	**18 20 55.4**	**-1.3**
LPAZ	**La Paz**	**7.79**	**351**	P	**Pn**	**18 21 00.5**	**+0.3**
	0.6nm,0.3s,baz=173,slow=9.0,SNR=12						
LPAZ				S	**Sn**	**18 22 28.4**	**-0.1**
	0.1nm,0.3s,baz=103,slow=8.8,SNR=1.7						
LPAZ	**La Paz**	**7.79**	**351**		**Pn**	**18 21 01.0**	**+0.9**
CO02	**Combarbal**	**8.02**	**206**	Pn	**Pn**	**18 21 00.9**	**-1.6**
SIV	**San Ignacio**	**9.69**	**35**	P	**Pn**	**18 21 23.4**	**-1.0**
	0.7nm,0.3s,baz=220,slow=14,SNR=16						
SAML	**Samuel**	**15.41**	**14**	P	**Pn**	**18 22 36.1**	**-0.3**
SAML				IAmb	IAmb	18 22 37.1	
	comp=Z,3.1nm,0.9s						
BDFB	**Brasilia**	**19.61**	**68**	P	**P**	**18 23 21.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=244,slow=12,SNR=8.7						
BDFB	**Brasilia**	**19.61**	**68**	P	**P**	**18 23 21.4**	**-1.0**
BDFB				IAmb	IAmb	18 23 23.9	
	comp=Z,7.1nm,0.6s						
SNAA	**Sanae**	**59.29**	**161**	P	**P**	**18 28 50.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=262,slow=11,SNR=5.3						
SNAA	**Sanae**	**59.29**	**161**	P	**P**	**18 28 50.7**	**+1.4**
TORD	**Torodi Ar. Bea**	**76.49**	**69**	P	**P**	**18 30 36.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=257,slow=4.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**76.49**	**69**	P	**P**	**18 30 37.5**	**+0.2**
MAW	**Mawson**	**81.38**	**163**	P	**P**	**18 31 04.8**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=166,slow=8.3,SNR=2.5						
MAW	**Mawson**	**81.38**	**163**	P	**P**	**18 31 04.7**	**+1.7**
MAW				IAmb	IAmb	18 31 05.9	
	comp=Z,1.4nm,1.4s						
WRA	**Warramunga Arr**	**131.64**	**207**	PKP	**PKiKP**	**18 37 59.6**	**-0.1**
	comp=Z,0.7nm,1.2s,baz=153,slow=2.0,SNR=5.8						
MKAR	**Makanchi Array**	**146.49**	**40**	PKPbc	**PKPab**	**18 38 27.3**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=311,slow=3.1,SNR=4.6						
MKAR	**Makanchi Array**	**146.49**	**40**		**PKPab**	**18 38 28.1**	**+0.1**

*IDC **20** 18:53:53.7±0.6,6°.66N×124°.91E,h0km,mb4.2/16, mb1 4.3/16,mb1mx4.1/41,mbtmp4.2/16,MS4.0/26, Ms1 4.0/26,ms1mx3.8/55,Error ellipse: s-maj=13.3km s-min=9.4km az=143.0*
*NEIC **20** 18:53:55.5±2.6,6°.99N±0°.07×124°.95E±0°.05,h19km±4km, mb4.7/44,Error ellipse: s-maj=10.5km s-min=7.0km az=188.0*
*GCMT **20** 18:53:55.5±0.3,6°.86N±0°.02×125°.09E±0°.02,h12km, MW4.9/72,Moment Tensor Solution. s10,c11; s72,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.38±.09; $M_{\theta\theta}$1.79±.06; $M_{\phi\phi}$-2.17±.08; $M_{r\theta}$1.27±.20; $M_{\theta\phi}$0.14±.07; $M_{\phi r}$-1.68±.24; Best double couple: M_o2.88800×10^{16} NP1:φ43.00000°,δ42.00000°,λ174.00000°. NP2: φ138.00000°,δ86.00000°,λ48.00000°. Principal axes: T 2.6680, Plg35.0000°, Azm12.0000°; N 0.4410, Plg42.0000°, Azm141.0000°; P -3.1080, Plg28.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MAN **20** 18:53:55.5,6°.80N×125°.06E,h3km,mb5.6,ML4.6,MS5.0*
MAN Intensity VI - Brgy Bacong (Sitio Sambulawan and Centro Bacong) Tulunan North Cotabato; Intensity V- Makilala North Cotabato; Intensity IV - M"lang North Cotabato; Intensity III - Kidapawan City; Tacurong City; Sultan Kudarat; Davao City; Buluan Maguindanao; Intensity II - Koronadal City.
*DJA **20** 18:53:56.4±0.2,7°.N±3°×12°.5E±°,h10km,M4.7/31, mb4.7/31,mB5.2/12,MLv5.0/7,Mw(mB)4.5/12,Mwp4.9/2*
ISC 20 18:53:56.6±0.7,6°.80N±0°.03×125°.01E±0°.03,h18km±3km, n145,σ2§30/144,mb4.6/45,MS4.0/31,4C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.22**	**22**	⇑*iP*	**Pg**	**18 54 00.2**	**-1.8**
KCP				*i* S	**Sg**	**18 54 10.7**	**+5.1**
SKMP	**Bagumbayan, Su**	**0.54**	**239**	*eP*	**Pg**	**18 54 05.5**	**-2.0**
SKMP				*eS*	**Sg**	**18 54 14.9**	**+0.2**
DAV	**Davao City (W)**	**0.63**	**65**	Pg	**Pb**	**18 54 08.4**	**-0.7**
	2µm,0.3s,baz=254,slow=5.7,SNR=51						
DAV				Lg	Lg	18 54 20.2	
	976nm,0.3s,baz=142,slow=19,SNR=10						
DAV				LR	LR	18 54 32.6	
	comp=Z,17µm,21.5s,baz=350,slow=50						
DAV	**Davao City (W)**	**0.63**	**65**	‖*eP*	**Pg**	**18 54 07.4**	**-1.7**
DDMP	**Don Marcelino,**	**0.99**	**135**	*eP*	**Pg**	**18 54 13.9**	**-2.0**
DDMP				*eS*	**Sg**	**18 54 29.4**	**+0.3**
BUMP	**Musuan**	**1.07**	**3**	*eP*	**Pg**	**18 54 14.0**	**-3.4**
BUKP				*eS*	**Sn**	**18 54 33.0**	**+1.7**
MATI	**Mati**	**1.25**	**83**	*eP*	**Pg**	**18 54 17.7**	**-3.1**
MATI				*eS*	**Sn**	**18 54 36.4**	**+0.8**
CGP	**Cagayan de Oro**	**1.67**	**349**	⇑*iP*	**Pn**	**18 54 24.8**	**-0.2**
CGP				*i* S	**Sg**	**18 54 49.6**	**-1.0**
BIP	**Bislig**	**1.88**	**41**	‖*eP*	**Pb**	**18 54 29.6**	**-0.8**
BIP				*eS*	**Sg**	**18 55 01.0**	**+3.8**
BIP	**Bislig**	**1.88**	**41**	‖*eP*	**Pb**	**18 54 29.6**	**-0.8**
BIP				*eS*	**Sg**	**18 55 01.0**	**+3.8**
ZCP	**Zamboanga City**	**2.91**	**273**	‖*eP*	**Pn**	**18 54 42.2**	**+0.1**
ZCP				*eS*	**Sn**	**18 55 20.1**	**+3.4**
TBP	**Tagbilaran**	**3.08**	**339**	*eP*	**Pn**	**18 54 46.8**	**+2.3**
SGSI	**Sangihe**	**3.14**	**170**	P	**Pn**	**18 54 46.3**	**+1.1**
GLSP	**General Luna,**	**3.16**	**20**	*eP*	**Pn**	**18 54 46.3**	**+0.7**
GLSP				*eS*	**Sb**	**18 55 31.2**	**+0.6**
MSLP	**Maasin**	**3.31**	**358**	*eP*	**Pn**	**18 54 48.2**	**+0.6**
LLP	**Lapu-Lapu**	**3.64**	**344**	*i* P	**Pn**	**18 54 54.9**	**+2.8**
LLP				*eS*	**Sb**	**18 55 41.4**	**-2.9**
CNOP	**Candoni, Negro**	**3.81**	**322**	*eP*	**Pn**	**18 54 53.6**	**-0.8**
CNOP				*eS*	**Sg**	**18 56 00.0**	**+0.9**
GUIM	**Jordan**	**4.49**	**328**	*eP*	**Pn**	**18 55 03.9**	**+0.1**
BESP	**Borongan**	**4.79**	**5**	*eP*	Pn	18 55 12.8	+4.9
JAP	**San Jose, Anti**	**4.95**	**323**	‖*eP*	**Pn

KNRA Kununurra 22.64 171 P P 18 58 57.2 +0.3
MDSI Maura Dua 23.62 242 P P 18 59 07.1 +0.2
comp=Z,11nm,0.9s
KASI Kota Agung 23.85 240 P P 18 59 13.8 +4.6
KULM Kulim 24.27 268 P P 18 59 12.1 -1.0
KULM IAmb IAmb 18 59 32.6
comp=Z,39nm,1.3s
SSE Sheshan 24.43 352 P P 18 59 15.3 +1.0
SSE S S 19 03 37.3 +3.8
SSE pmax pmax
comp=Z,19nm,0.7s
SSE LR LR
comp=N,160nm,17.4s
SSE LR LR
comp=E,240nm,16.8s
SSE LR LR
comp=Z,220nm,17.5s
FITZ Fitzroy Crossi 24.75 179 P P 18 59 16.7 -0.7
comp=Z,7.7nm,0.6s,baz=8.7,slow=9.1,SNR=28
FITZ LR LR 19 11 47.7
comp=Z,103nm,18.9s,baz=15,slow=44
FITZ Fitzroy Crossi 24.75 179 P P 18 59 16.4 -1.0
FITZ IAmb IAmb 18 59 22.6
comp=Z,15nm,1.0s
SLVN Son La 25.00 307 P P 18 59 15.6 -4.1
KRJI Kerinci 25.11 250 P P 18 59 28.5 +7.7
NJ2 Nanjing 25.77 348 eP P 18 59 27.9 +1.4
NJ2 sS sS 19 04 09.9 +5.7
NJ2 pmax pmax
comp=Z,18nm,1.1s
NJ2 pmax pmax
comp=Z,110nm,3.6s
NJ2 LR LR
comp=N,330nm,18.0s
NJ2 LR LR
comp=E,650nm,20.8s
NJ2 LR LR
comp=Z,530nm,18.9s
GYA Guiyang 26.21 320 eP P 18 59 34.1 +3.3
GYA S S 19 04 03.1 +0.7
GYA pmax pmax
comp=Z,3.0nm,0.5s
GYA LR LR
comp=N,310nm,14.7s
GYA LR LR
comp=E,750nm,15.2s
GYA LR LR
comp=Z,710nm,17.5s
PSI Prapat 26.29 263 LR LR 19 11 54.2
comp=Z,359nm,18.6s,baz=78,slow=41
RPSI Rantau Prapat 26.30 262 P P 18 59 30.9 -0.6
RPSI IAmb IAmb 18 59 49.9
comp=Z,15nm,1.2s
JNU Nakatsue 26.75 11 LR LR 19 09 16.8
comp=Z,286nm,21.9s,baz=207,slow=34
PMG Port Moresby 27.32 126 P P 18 59 40.7 0.0
comp=Z,22nm,0.9s,baz=264,slow=9.2,SNR=3.1
PMG LR LR 19 11 40.0
comp=Z,106nm,18.4s,baz=291,slow=39
PMG Port Moresby 27.32 126 IAmb IAmb 18 59 44.1
comp=Z,31nm,1.0s
GSI Gunungsitoli 27.89 260 P P 18 59 44.9 -0.9
comp=Z,38nm,1.0s
GSI Gunungsitoli 27.89 260 P P 18 59 44.4 -1.5
CMAR Chiang Mai Arr 27.90 297 P P 18 59 46.1 +0.3
comp=Z,0.6nm,0.6s,baz=118,slow=6.8,SNR=9.1
CMAR LR LR 19 10 54.6
comp=Z,342nm,18.6s,baz=142,slow=37
CMAR Chiang Mai Arr 27.90 297 P P 18 59 42.6 -3.2
WB0 Warramunga Arr 27.97 161 P P 18 59 44.6 -1.9
WB0 IAmb IAmb 19 00 12.3
comp=Z,24nm,1.2s
KMI Kunming 28.02 313⇑ eP P 18 59 45.4 -1.8
KMI pmax pmax
comp=Z,14nm,0.6s
CHTO Chiang Mai 28.03 298 P P 18 59 44.7 -2.3
WRAB Tennant Creek 28.11 161 P P 18 59 45.4 -2.4
WRAB IAmb IAmb 19 00 05.3
comp=Z,17nm,1.1s
WRA Warramunga Arr 28.12 161 P P 18 59 46.0 -1.8
comp=Z,1.0nm,0.4s,baz=329,slow=11,SNR=28
WRA Warramunga Arr 28.12 161 P P 18 59 46.7 -1.1
WB2 Warramunga Arr 28.12 161 P P 18 59 46.7 -1.1
WB2 IAmb IAmb 19 00 02.1
comp=Z,9.9nm,0.7s
WR0 Warramunga Arr 28.20 161 P P 18 59 48.4 -0.1
WR0 IAmb IAmb 18 59 57.4
comp=Z,18nm,1.2s
PSA00 Pilbara Seismi 28.65 190 P P 18 59 51.8 -0.6
KRVT Keravat (AS076 29.14 112 LR LR 19 09 58.0
comp=Z,265nm,20.9s,baz=300,slow=33
JHJ Hachijo jima 2 29.56 26 LR LR 19 11 31.0
comp=Z,390nm,19.8s,baz=290,slow=36
KSRS Korea Array 30.63 5 P P 19 00 11.3 +1.6
comp=Z,1.0nm,0.6s,baz=182,slow=8.5,SNR=4.9
KSRS LR LR 19 15 42.0
comp=Z,218nm,18.2s,baz=202,slow=42
XAN Xi'an 30.92 333 P P 19 00 12.3 -0.2
XAN pP sP 19 00 24.8 +4.3
XAN sP pP 19 00 30.1 +12
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN LR LR
comp=N,350nm,19.5s
XAN LR LR
comp=E,560nm,19.5s
XAN LR LR
comp=Z,510nm,21.7s
AS31 Alice Springs 31.50 164 P P 19 00 16.5 -1.3
ASAR Alice Springs 31.51 164 P P 19 00 16.8 -1.0
comp=Z,1.2nm,0.4s,baz=340,slow=7.0,SNR=63
ASAR LR LR 19 13 56.4
comp=Z,105nm,20.6s,baz=16,slow=38
ASAR Alice Springs 31.51 164 P P 19 00 15.3 -2.5
MAT Matsushiro 31.97 20 P P 19 00 19.5 -2.2
MAT S S 19 05 31.8 -0.6
MJAR Matsushiro Arr 31.97 20 P P 19 00 20.5 -1.2
comp=Z,3.7nm,0.8s,baz=193,slow=9.5,SNR=8.0
MJAR LR LR 19 12 56.4
comp=Z,350nm,19.5s,baz=200,slow=36
MJAR Matsushiro Arr 31.97 20 P P 19 00 17.4 -4.3
LZH Lanzhou 35.00 329 eP P 19 00 50.6 +2.3
LZH pP sP 19 01 00.9 +4.6
LZH SS SS 19 08 48.3 -3.7
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.9s
LZH LR LR
comp=N,510nm,14.6s
LZH LR LR
comp=E,580nm,14.2s
LZH LR LR
comp=Z,620nm,14.6s
HHC Hu-ho-hao-te 35.97 343 eP P 19 00 55.8 -0.7
HHC S S 19 06 28.3 -6.0
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,99nm,6.6s
HHC LR LR
comp=N,390nm,19.9s
HHC LR LR
comp=E,230nm,16.1s
HHC LR LR
comp=Z,480nm,19.0s
SHL Shillong 36.71 304 P P 19 01 01.0 -2.1
SHL IAmb IAmb 19 01 05.5
comp=Z,14nm,1.1s
CN2 Changchun 36.85 1 eP P 19 01 07.3 +3.4
CN2 pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 37.75 8 P P 19 01 11.7 +0.3
comp=Z,3.9nm,0.8s,baz=175,slow=6.3,SNR=7.6
USRK LR LR 19 15 52.9
comp=Z,217nm,21.3s,baz=173,slow=35
USRK Ussuriysk Ar. 37.75 8 P P 19 01 08.2 -3.3
GTA Gaotai 39.60 329 P P 19 01 28.4 +1.2
GTA pP sP 19 01 39.0 +3.8
GTA sP pP 19 01 44.8 +12
GTA S S 19 07 37.0 +7.5
GTA SS SS 19 10 27.1 +2.3
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,56nm,4.3s
GTA LR LR
comp=N,310nm,17.1s
GTA LR LR
comp=E,240nm,16.7s
GTA LR LR
comp=Z,290nm,15.6s
ASAJ Asahikawa 40.23 20 P P 19 01 33.2 +0.9
comp=Z,5.1nm,0.8s,baz=240,slow=20,SNR=0.9
BBOO Buckleboo 40.77 166 P P 19 01 36.5 -0.4
BBOO IAmb IAmb 19 01 48.1
comp=Z,26nm,1.1s
STKA Stephens Creek 41.60 159 P P 19 01 42.9 -0.7
comp=Z,6.8nm,0.7s,baz=357,slow=10,SNR=3.3
STKA LR LR 19 20 49.0
comp=Z,118nm,18.6s,baz=357,slow=39
STKA Stephens Creek 41.60 159 P P 19 01 44.5 +0.8
ULN Ulaanbaatar 43.69 343 P P 19 01 58.3 -2.4
SONM Songino Array 43.86 342 P P 19 02 02.9 +0.9
comp=Z,0.9nm,0.7s,baz=155,slow=7.9,SNR=8.2
SONM PcP PcP 19 03 49.7 +1.6
comp=Z,0.4nm,0.6s,baz=151,slow=3.3,SNR=2.0
SONM LR LR 19 22 00.9
comp=Z,372nm,18.4s,baz=156,slow=38
SONM Songino Array 43.86 342 P P 19 01 58.8 -3.2
HYB Hyderabad 46.51 287 i P P 19 02 24.0 +0.6
WMQ Urumqi 49.24 325 eP P 19 02 45.3 +1.1
WMQ LR LR
comp=N,150nm,17.1s
WMQ LR LR
comp=Z,100nm,18.1s
DZM Mont Dzumac 49.72 126 LR LR 19 21 32.1
comp=Z,141nm,20.8s,baz=341,slow=33
PETK Petropavlovsk- 53.29 24 P P 19 03 15.5 +1.1
comp=Z,3.4nm,0.7s,baz=202,slow=7.4,SNR=2.5
PETK LR LR 19 25 50.8
comp=Z,180nm,19.9s,baz=230,slow=36
MK31 Makanchi Array 54.07 325 P P 19 03 16.7 -3.5
MKAR Makanchi Array 54.07 325 P P 19 03 21.4 +1.2
comp=Z,1.0nm,0.5s,baz=121,slow=8.2,SNR=11
MKAR LR LR 19 28 12.5
comp=Z,88nm,18.5s,baz=118,slow=38
MKAR Makanchi Array 54.07 325 P P 19 03 20.0 -0.3
PRZ Przheval'sk 54.28 319 P P 19 03 21.3 -0.8
PRZ IAmb IAmb 19 03 34.1
comp=Z,15nm,1.1s
BOOM Boomskoye usch 55.91 318 P P 19 03 31.9 -2.0
BOOM IAmb IAmb 19 03 48.3
comp=Z,9.9nm,1.5s
ZAA0 Zalesovo Array 57.09 333 P P 19 03 40.5 -1.2
ZALV Zalesovo Beam 57.09 333 P P 19 03 41.6 -0.2
comp=Z,0.3nm,0.3s,baz=96,slow=3.0,SNR=3.5
ZALV LR LR 19 31 02.0
comp=Z,105nm,18.7s,baz=144,slow=39
ZALV Zalesovo Beam 57.09 333 P P 19 03 38.1 -3.6
KURK Kurchatov 58.24 327 P P 19 03 47.5 -2.4
KURK IAmb IAmb 19 03 56.4
comp=Z,10nm,1.1s
BTK Batken 58.57 313 P P 19 03 51.5 -1.1
GAR Garm 58.60 312 P P 19 03 50.9 -1.9
CHGR Chuyangaron 59.36 311 P P 19 03 53.8 -4.3
KK31 Karatay Array 59.83 316 P P 19 03 58.9 -2.3
KK31 IAmb IAmb 19 04 14.9
comp=Z,6.4nm,1.1s
KKAR Karatay Array 59.83 316 P P 19 03 59.3 -1.9
KKAR IAmb IAmb 19 04 15.0
comp=Z,6.4nm,1.1s
KKAR Karatay Array 59.83 316 P P 19 04 01.4 +0.2
BRVK Borovoye 63.90 327 P P 19 04 25.6 -2.7
BRVK IAmb IAmb 19 04 45.9
comp=Z,11nm,1.4s
NRIK Noril'sk 67.06 346 LR LR 19 36 29.7
comp=Z,161nm,18.3s,baz=198,slow=38
GEYT Alibeck 67.65 308 LR LR 19 39 13.9
comp=Z,65nm,18.9s,baz=120,slow=40
ABKAR Akbulak array 68.70 320 P P 19 04 55.7 -3.4
ABKAR IAmb IAmb 19 05 05.7
comp=Z,4.7nm,1.1s
RAR Rarotonga 78.81 113 LR LR 19 33 58.7
comp=Z,57nm,20.8s,baz=290,slow=30
SUA Susitna One 81.31 29 P P 19 06 08.8 -3.1
SUA IAmb IAmb 19 06 18.8
comp=Z,11nm,1.0s
RND Reindeer 82.23 27 P P 19 06 14.7 -2.0
ILAR Eielson Array 83.09 26 P P 19 06 21.8 +0.8
comp=Z,2.8nm,1.0s,baz=234,slow=5.0,SNR=10
ILAR Eielson Array 83.09 26 P P 19 06 19.2 -1.8
RIDG Independent Ri 84.02 27 P P 19 06 26.0 +0.1
PPT Papeete 87.69 108 LR LR 19 45 21.9
comp=Z,68nm,18.4s,baz=323,slow=35
FINES FINESS Array B 88.33 332 P P 19 06 46.5 -0.6
comp=Z,2.2nm,0.8s,baz=133,slow=8.4,SNR=3.9
FINES FINESS Array B 88.33 332 P P 19 06 46.3 -0.8
AKASG Malin Array Be 88.44 321 P P 19 06 47.5 -0.4
comp=Z,0.4nm,0.4s,baz=63,slow=3.1,SNR=1.6
AKASG Malin Array Be 88.44 321 P P 19 06 46.5 -1.3
HFS Hagfors 94.52 332 LR LR 19 52 53.8
comp=Z,145nm,20.3s,baz=60,slow=37
SYO Syowa Base 94.66 201⇑ esP sP 19 07 28.3 +3.7
TORD Torodi Ar. Bea 120.31 289 PKP PKPdf 19 12 46.1 -1.8
comp=Z,0.5nm,1.0s,baz=38,slow=4.3,SNR=1.7
TORD Torodi Ar. Bea 120.31 289 PKPdf 19 12 45.6 -2.3

IDC 20 19:25:34.8±1.9, 4.76N×126.65E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/41, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=106.9km s-min=26.3km az=61.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	7.25	140	Pn	Pn	19 27 22.6	+0.5
	0.8nm,0.3s,baz=249,slow=23,SNR=7.4						
SIJI				Sn	Sn	19 28 37.7	-7.6
	0.1nm,0.3s,baz=208,slow=23,SNR=2.0						
WRA	Warramunga Arr	25.69	163	P	P	19 31 06.8	0.0
	1.7nm,0.8s,baz=343,slow=10,SNR=11						
ASAR	Alice Springs	29.13	166	P	P	19 31 37.5	-0.2
	0.3nm,0.9s,baz=351,slow=7.3,SNR=6.4						
STKA	Stephens Creek	39.12	160	P	P	19 33 04.2	0.0
	0.9nm,0.4s,baz=342,slow=8.7,SNR=4.4						
MKAR	Makanchi Array	56.67	325	P	P	19 35 20.0	0.0
	0.1nm,0.5s,baz=128,slow=9.3,SNR=1.8						

*IGQ **20** 19:33:18.5±0.4, 1°N±2°×7°8W±°, h5km, M5.8*
*RSNC **20** 19:33:19.6±13.0, 0°.76N×77°.95W, h4km±36km, ML4.9, Mw5.8*
*IDC **20** 19:33:21.5±0.3, 0°.83N×77°.85W, h0km, mb5.3/48, mb1 5.3/56, mb1mx5.3/64, mbtmp5.2/56, ML4.2/8, MS5.4/30, Ms1 5.4/30, ms1mx5.1/38, Error ellipse: s-maj=10.9km s-min=6.3km az=59.0*
*NEIC **20** 19:33:21.8±1.9, 0°.66N±0°.06×77°.89W±0°.05, h10km±1km, mb6.0/702, Ms_20 5.3/737, Mwb5.6/33, Mwc5.6(GCMT), Error ellipse: s-maj=11.4km s-min=6.1km az=142.0*
*BJI **20** 19:33:21.0±0.0, 0°.70N×78°.00W, h10km, mB5.8/43, Ms5.8/58, Ms7 5.6/54*
*NEIC **20** 19:33:21.3, 0°.59N×77°.85W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.12; Mθθ2.77; Mφφ-2.89; Mrθ-0.03; Mθφ0.01; Mφr-0.23; Fault plane solution: M0 2.84000×10^17 NP1:φs45.02000°, δ87.37000°, λ-176.53000°. NP2:φs314.86000°, δ86.53000°, λ-2.64000°. Principal axes: T 2.7703, Plg1.0000°, Azm180.0000°; N 0.1394, Plg86.0000°, Azm82.0000°; P -2.9096, Plg4.0000°, Azm270.0000°;*
*GCMT **20** 19:33:22.8±0.1, 0°.71N±0°.01×77°.94W±0°.01, h12km, MW5.6/146, Moment Tensor Solution. s112,c180; s146,c310; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr1.70±.04; Mθθ2.29±.03; Mφφ-3.99±.03; Mrθ-0.01±.10; Mθφ-0.81±.03; Mφr-0.13±.10; Best double couple: M0 3.24400×10^17 NP1:φs52.00000°, δ89.00000°, λ-179.00000°. NP2:φs322.00000°, δ89.00000°, λ-1.00000°. Principal axes: T 2.3920, Plg1.0000°, Azm7.0000°; N 1.7030, Plg89.0000°, Azm120.0000°; P -4.0950, Plg1.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **20** 19:33:22.9±1.0, 1°.16N×77°.94W, h10km, mb5.8/19, MS5.3/88 Error ellipse: s-maj=7.5km s-min=4.4km az=98.3*
*VAO **20** 19:33:23.9±0.2, 0°.70N×77°.73W, h10km, mb5.5*
*NEIC **20** 19:33:24, 0°.74N×77°.96W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.88; Mθθ2.43; Mθφ-4.32; Mrθ-0.51; Mθφ-0.82; Mφr-0.33; Fault plane solution: M0 3.89000×10^17 NP1:φs325.00000°, δ68.00000°, λ18.00000°. NP2:φs228.00000°, δ73.00000°, λ157.00000°. Principal axes: T 2.7768, Plg28.0000°, Azm185.0000°; N 1.6636, Plg62.0000°, Azm14.0000°; P -4.4405, Plg4.0000°, Azm277.0000°;*
*BGR **20** 19:33:34.5±0.0, 1.60N×76.16W, h22km, mb6.0, mB_BB6.2, Ms5.3*

ISC 20 19:33:21.2±0.5, 0.75N±0.02×77.93W±0.02, h3km±2km, h4km: pP-P, n2090, σ1§89/2309, mb6.0/482, MS5.3/462, 44C-72D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHL1	Volc¡n Chiles	0.04	340	P	Pg	19 33 19.4	-3.2
CHL2	Volc¡n Chiles	0.05	14	P	Pg	19 33 19.8	-2.9
ECEN	Cerro Negro	0.08	331	P	Pg	19 33 19.9	-3.2
TULM	Tulcn-Chalpat	0.15	103	P	Pg	19 33 22.4	-1.8
ATUL	Tulcn	0.21	84	P	Pg	19 33 23.6	-1.7
YAHU	Yahuarcocha	0.40	200	P	Pg	19 33 27.7	-1.4
URCU	Urcuqui	0.45	226	P	Pg	19 33 27.9	-1.9
AAT1	Ecuador-Atunta	0.50	214	P	Pg	19 33 30.5	-0.4
IMBA	Imbabura, San	0.54	210	P	Pg	19 33 30.8	-0.9
ACOT	Cotacachi (Cas	0.57	217	P	Pg	19 33 30.5	-1.6
COTA	Cotacachi	0.58	225	P	Pg	19 33 30.1	-2.3
AOTA	Otavalo	0.60	213	P	Pg	19 33 32.8	0.0
AOTA				S	Sb	19 33 43.6	0.0
CUIC	Cuicocha-Domo	0.62	224	P	Pg	19 33 30.9	-2.2
CUIC				S	Sg	19 33 41.6	+0.5
CUSW	Cuicocha Oeste	0.62	222	P	Pg	19 33 31.3	-1.9
CUSW				S	Sg	19 33 41.7	+0.4
CUSE	Cuicocha Este	0.64	227⇓	iP	Pg	19 33 31.8	-1.8
CUSE				eS	Sg	19 33 41.6	-0.3
CUSE	Cuicocha Este	0.64	227	P	Pg	19 33 31.6	-2.0
CUSE				S	Sg	19 33 42.1	+0.2
CAYA	Cayambe	0.68	185	P	Pg	19 33 32.9	-1.3
ANGU	Angureal	0.70	186	P	Pg	19 33 33.4	-1.4
COB3		0.73	53	eP	Pg	19 33 32.9	-2.3
OTAV	Otavalo	0.73	226	eP	Pg	19 33 32.5	-2.6
OTAV				eS	Sg	19 33 44.3	-0.3
OTAV	Otavalo	0.73	226		Pg	19 33 33.4	-1.8
OTAV					Sg	19 33 44.8	+0.1
CPAS1	Pasto	0.75	54	eP	Pg	19 33 33.6	-1.9
CPAS1	Pasto	0.75	54	eS	Sg	19 33 43.8	-1.5
URCR		0.75	52⇑	eP	Pg	19 33 33.4	-2.2
URCR				eS	Sg	19 33 44.8	-0.5
CCUFI	Cufio, Nario	0.75	51⇓	eP	Pg	19 33 33.4	-2.3
CCUFI				eS	Sg	19 33 45.4	-0.1
GCUF	Volcan Galeras	0.75	51⇓	iP	Pg	19 33 33.5	-2.1
GCUF				eS	Sg	19 33 45.1	-0.3
NAR2		0.76	47	eP	Pg	19 33 33.5	-2.3
CPAS2	Pasto	0.82	55	eP	Pg	19 33 34.9	-2.1
CPAS2	Pasto	0.82	55	eS	Sg	19 33 46.5	-1.3
CPAS2				eS	Sb	19 33 46.9	-3.1
CONE	Cono NE Rev Vo	0.86	161	P	Pg	19 33 34.8	-3.0
LAV4	Lava4-Reventad	0.89	160	P	Pg	19 33 36.8	-1.5
REVS	Reventador Sur	0.91	160	P	Pg	19 33 36.7	-1.9
PULU	Pululahua	0.92	218	P	Pg	19 33 36.7	-2.2
PAC1	Pacto, Paraso	0.99	241	eP	Pg	19 33 37.0	-3.1
PAC1				eS	Sg	19 33 51.5	-1.4
PAC1				i		19 33 53.6	
	comp=Z,43µm,0.3s						
PAC1	Pacto, Paraso	0.99	241	P	Pg	19 33 37.0	-3.1
EPNL	EPN Laboratori	1.11	210	P	Pg	19 33 41.6	-0.8
APS4	Papallacta	1.13	189	P	Pg	19 33 41.8	-1.0
GGPC	Guagua Pichinc	1.14	216	P	Pg	19 33 41.2	-1.9
ANTI	Antisana	1.21	191	P	Pg	19 33 42.6	-1.8
APR2	Miler	1.23	237	P	Pg	19 33 41.8	-3.1
ANTS	Antisana-Sarah	1.26	191	P	Pg	19 33 43.3	-2.1
CRUC	La Cruz	1.27	50	eP	Pg	19 33 43.1	-2.5
ANTG	Antisana-Guama	1.29	195	P	Pg	19 33 44.0	-1.9
ANTM	Antisana-La Mi	1.31	193	P	Pg	19 33 44.4	-2.0
PUAC	Puerto Asis, P	1.38	98	eP	Pn	19 33 45.1	-2.1
PUAC				i		19 33 51.1	
	comp=Z,11µm,0.5s						
PUAC				eS	Sg	19 34 03.7	-1.7
BV15	Puerto Quito-O	1.42	246	P	Pn	19 33 45.1	-2.8
BBAC	Balboa, Cauca	1.44	28⇑	eP	Pn	19 33 44.5	-3.9
BBAC				eS	Sg	19 34 04.9	-2.5
VC1	Cotopaxi 1	1.46	199	P	Pn	19 33 46.6	-2.4
BTAM	Cotopaxi Volca	1.49	198	P	Pn	19 33 48.4	-1.0
BREF	Cotopaxi Volca	1.50	200	P	Pn	19 33 48.0	-1.6
TAMB	Tambo	1.50	197	P	Pn	19 33 48.3	-1.2
BNAS	Cotopaxi Volca	1.52	201	P	Pn	19 33 48.0	-1.6
ASDO	Santo Domingo	1.56	230	P	Pn	19 33 48.9	-1.0
BMOR	Cotopaxi Volca	1.56	200	P	Pn	19 33 48.6	-1.7
VCES	Cotopaxi	1.61	197	P	Pn	19 33 50.9	-0.1
ILLI	Illinizas Sur	1.66	209	P	Pn	19 33 50.5	-1.1
ARDO	Archidona, Ten	1.74	176	P	Pn	19 33 51.9	-0.4
PIS1	Pisayambo	1.85	194	P	Pn	19 33 55.0	+0.6
SOTA	Rioblanco	1.91	44	eP	Pn	19 33 54.8	-0.3
SOTA				eS	Sn	19 34 19.7	-0.1
SAGO	Sagoatoa	2.03	201	P	Pn	19 33 57.6	+0.8
POPC	Popayan, Colom	2.18	35⇓	iP	Pn	19 33 58.0	-0.5
POPC				eS	Sn	19 34 24.1	-2.0
PCON	Cinco Dias	2.19	44⇓	eP	Pn	19 33 59.9	+0.9
PCON				i		19 34 11.8	
	comp=Z,6µm,0.6s						
PCON				eS	Sg	19 34 34.5	+2.7
APUY	Puyo	2.19	182	P	Pb	19 34 00.5	-1.1
FLF1	Flavio Alfaro-	2.21	240	P	Pn	19 33 58.3	-0.4
FLFR	Flavio Alfaro	2.21	240	P	Pn	19 33 58.4	-0.3
BRUN	Tungurahua Vol	2.21	193	P	Pb	19 34 00.9	+1.1
BULB	Ulba Tungurahu	2.23	192	P	Pb	19 34 01.1	-1.1
JUI6	Juive	2.23	194	P	Pb	19 34 01.4	-0.8
PUYO	Puyo, Santa Ro	2.23	182	P	Pb	19 34 01.4	-0.8
RETU	Refugio	2.25	193	P	Pb	19 34 01.7	-1.0
GR1C	Gorgona, Isla	2.25	354⇑	eP	Pn	19 33 55.5	-3.8
ARRY	Arrayan	2.30	193	P	Pb	19 34 02.1	-1.5
BMAS	Trigal station	2.30	194	P	Pb	19 34 02.7	-1.0
IGUA	Igualata	2.33	198	P	Pb	19 34 03.0	-1.2
PKYU	Pakayacu	2.41	172	P	Pb	19 34 04.0	-1.1
FLOC	Florencia	2.42	70⇓	eP	Pn	19 34 02.2	+0.5
FLOC				i		19 34 08.6	
	comp=Z,4µm,0.5s						
FLOC				eS	Sn	19 34 28.5	-3.4
CAB1	Cabo Pasado-Ma	2.74	246	P	Pn	19 34 06.5	+0.4
CABP	Cabo Pasado	2.74	246	P	Pn	19 34 06.7	+0.4
SANGA	Volcan Sangay	2.82	189	P	Pn	19 34 09.7	+2.2
GARC	Garzon, Huila	2.82	60⇓	eP	Pn	19 34 08.9	+1.4
GARC				eS	Sb	19 34 48.2	+0.6
GARC				i		19 34 55.7	
	comp=Z,4µm,0.6s						
MARP	Paez Belalcaza	2.87	44⇓	eP	Pn	19 34 10.3	+2.2
MARP				eS	Sn	19 34 42.8	-0.4
BETC	Betania	3.14	52⇓	iP	Pn	19 34 14.2	+2.6
BETC				eS	Sb	19 34 57.0	+0.5
PTLC	Puerto Leguiza	3.19	100⇓	eP	Pn	19 34 12.1	-0.1
PTLC				i		19 34 26.8	
	comp=Z,2µm,0.6s						
PTLC				eS	Sn	19 34 52.6	+1.9
MALC	Bahia Malaga	3.29	10	eP	Pn	19 34 13.0	-0.7
AMIL	Milagro (Trans	3.31	210	P	Pn	19 34 18.8	-1.8
COHC	Cochancay	3.46	202	P	Pn	19 34 18.4	+2.5
YOTC	Yotoco, Valle	3.58	26⇓	iP	Pn	19 34 18.2	+0.5
YOTC				eS	Sb	19 35 07.8	-1.5
PPLP	Puerto Lpez	3.65	231	P	Pn	19 34 18.5	0.0
BOSC	San Juan Bosco	3.92	188	P	Pn	19 34 25.9	+3.5
ORTC	Ortega, Tolima	4.13	40⇓	eP	Pn	19 34 27.3	+2.1
ORTC				i		19 34 35.7	
	comp=Z,1µm,0.7s						
ORTC				eS	Sn	19 35 17.6	+3.6
MORR	Playas El Morr	4.14	216	P	Pn	19 34 28.7	+3.4
PIZC	Pizarro, Choco	4.22	8⇓	eP	Pn	19 34 27.3	+0.8
SALI	Salinas	4.23	226	P	Pn	19 34 28.5	+2.0
PRAC	Prado	4.23	46⇓	iP	Pn	19 34 28.6	+1.9
PRAC				eS	Sb	19 35 28.8	+0.9
MACC	Macarena, Meta	4.31	71⇓	eP	Pn	19 34 28.4	+0.7
MACC				i		19 34 42.7	
	comp=Z,2µm,0.6s						
MACC				eS	Sn	19 35 20.3	+1.7
ISPG	Isla Puna-Puer	4.32	211	P	Pn	19 34 31.3	+3.4
ANIL	Santa Ana	4.49	34⇓	eP	Pn	19 34 31.4	+1.0
CIBA1	Ibague, SGC	4.55	36	eP	Pn	19 34 32.0	+0.8
TOLC	Tolima	4.62	34⇑	eP	Pn	19 34 34.1	+1.9
ARNL	Arenillas	4.77	207	P	Pn	19 34 35.6	+1.6
RREF	El Recreo	4.86	32	eP	Pn	19 34 34.2	-1.7
RREF				eS	Sb	19 35 46.5	-0.2

GUY2C **Guyana, Caldas** 5.13 30⇓*eP* Pn 19 34 38.7 -0.7
GUY2C *i* 19 34 48.7
comp=Z,641nm,0.6s
GUY2C *eS* **Sn** **19 35 41.4 +2.1**
GONZ Gonzanam 5.17 196 P **Pn** **19 34 42.8 +3.0**
CVER Cruz Verde, Cu 5.37 46 *eP* **Pn** **19 34 46.9 +4.1**
VILC Villavicencio, 5.39 52⇑*eP* **Pn** **19 34 46.8 +4.1**
VILC *i* 19 35 08.6
comp=Z,1µm,0.5s
CBOC Ciudad Bolivar 5.43 21 *eP* **Pn** **19 34 42.6 -0.7**
CBOC *i* 19 35 00.9
comp=Z,690nm,0.8s
CBOC *eS* **Sn** **19 35 48.3 +2.0**
ROSC El Rosal 5.43 42 Pn **Pn** **19 34 45.9 +2.4**
comp=Z,47nm,0.3s,baz=197,slow=5.1,SNR=83
ROSC Sn **Sb** **19 35 59.3 -3.5**
baz=43,slow=19,SNR=0.6
ROSC LR LR 19 36 46.0
comp=Z,55µm,20.7s,baz=235,slow=38
ROSC El Rosal 5.43 42⇓*iP* **Pn** **19 34 46.0 +2.6**
ROSC El Rosal 5.43 42 Pn **Pn** **19 34 44.4 +1.0**
SOLC Bahia Solano 5.46 5 *eP* **Pn** **19 34 41.4 -2.1**
MCRA Macar, Loja 5.47 202 P **Pn** **19 34 44.2 +0.5**
GUVC San Jose del G 5.59 71 *eP* **Pn** **19 34 47.5 +2.2**
GUVC *i* 19 35 11.7
comp=Z,763nm,0.6s
CHIC Chingaza 5.70 47⇓*eP* **Pn** **19 34 49.3 +2.2**
CHIC *i* 19 34 58.5
comp=Z,806nm,0.6s
CHIC *eS* **Sn** **19 36 01.1 +7.8**
HELC Santa Helena 5.91 24⇓*eP* **Pn** **19 34 51.2 +1.2**
SPBC San Pablo de B 6.21 38⇓*iP* **Pn** **19 34 55.4 +1.5**
SPBC *i* 19 35 02.4
comp=Z,290nm,0.7s
PTAC Punta Ardita, 6.36 1 *eP* **Pn** **19 34 56.3 +0.5**
DBBC Dabeiba 6.46 15 *eP* **Pn** **19 34 58.0 +0.7**
DBBC *i* 19 35 16.9
comp=Z,1µm,0.7s
PTBC PUERTO BERRIO, 6.71 31⇓*eP* **Pn** **19 35 01.5 +0.7**
PTBC *i* 19 35 10.3
comp=Z,410nm,0.7s
PTBC *i* 19 35 10.3
comp=Z,410nm,0.7s
PTGC Puerto Gaitan, 6.73 59⇓*eP* **Pn** **19 35 01.3 +0.4**
PTGC ⇓*eP* **Pn** **19 35 01.3 +0.4**
PTGC *i* 19 35 32.4
comp=Z,570nm,0.7s
PTGC *i* 19 35 32.4
comp=Z,570nm,0.7s
RUSC La Rusia 7.04 43⇓*eP* **Pn** **19 35 07.5 +1.9**
RUSC ⇓*eP* **Pn** **19 35 07.5 +1.9**
UREC San Jos de Ur 7.35 19⇑*eP* **Pn** **19 35 11.7 +2.1**
UREC ⇑*eP* **Pn** **19 35 11.7 +2.1**
UREC *i* 19 35 18.9
comp=Z,189nm,0.7s
UREC *i* 19 35 18.9
comp=Z,189nm,0.7s
ZARC Zaragoza, Cauc 7.37 24⇓*eP* **Pn** **19 35 09.8 +0.2**
ZARC ⇓*eP* **Pn** **19 35 09.8 +0.2**
ZARC *i* 19 35 15.6
comp=Z,344nm,0.7s
ZARC *i* 19 35 15.6
comp=Z,344nm,0.7s
AZU Azuero 7.38 342⇑*eP* **Pn** **19 35 11.1 +1.3**
AZU ⇑*eP* **Pn** **19 35 11.1 +1.3**
AZU *i* 19 35 19.5
comp=Z,173nm,0.7s
AZU *i* 19 35 19.5
comp=Z,173nm,0.7s
BARC Barichara 7.49 39 *eP* **Pn** **19 35 14.2 +2.6**
BARC *eP* **Pn** **19 35 14.2 +2.6**
BARC *i* 19 35 32.0
comp=Z,384nm,0.7s
BARC *i* 19 35 32.0
comp=Z,384nm,0.7s
BRRC Barranca, Sant 7.59 34⇓*eP* **Pn** **19 35 13.1 +0.4**
BRRC ⇓*eP* **Pn** **19 35 13.1 +0.4**
UPD2 Meteti 7.75 359 *eP* **Pn** **19 35 16.6 +1.7**
UPD2 *eP* **Pn** **19 35 16.6 +1.7**
ATAH Atahualpa 7.85 183 Pn **Pn** **19 35 20.0 +3.3**
comp=Z,13nm,0.3s,baz=347,slow=12,SNR=90
ATAH Sn Sn 19 36 58.5 +12
baz=66,slow=20,SNR=1.5
ATAH Lg Lg 19 37 39.0
comp=Z,0.8nm,0.3s,baz=125,slow=16,SNR=1.4
ATAH LR LR 19 38 58.5
comp=Z,50µm,20.1s,baz=350,slow=42
CAPC Capurgana 7.85 4 *eP* **Pn** **19 35 16.1 -0.3**
CAPC *eP* **Pn** **19 35 16.1 -0.3**
LCBC Los crdobas, 8.20 11⇑*eP* **Pn** **19 35 23.7 +2.5**
LCBC ⇑*eP* **Pn** **19 35 23.7 +2.5**
TAMC Tame, Arauca 8.33 47 *eP* **Pn** **19 35 24.8 +1.8**
TAMC *eP* **Pn** **19 35 24.8 +1.8**
TAMC *i* 19 36 13.1
comp=Z,112nm,0.7s
TAMC *i* 19 36 13.1
comp=Z,112nm,0.7s
UPA Univ. de Panam 8.33 349⇑*eP* **Pn** **19 35 23.5 +0.5**
UPA ⇑*eP* **Pn** **19 35 23.5 +0.5**
PAMC Pamplona, Colo 8.37 38⇓*eP* **Pn** **19 35 24.8 +0.9**
PAMC ⇓*eP* **Pn** **19 35 24.8 +0.9**
PAMC *i* 19 35 43.1
comp=Z,199nm,0.8s
PAMC *i* 19 35 43.1
comp=Z,199nm,0.8s
OCAC Ocana 8.74 32⇑*eP* **Pn** **19 35 29.5 +0.7**
OCAC ⇑*eP* **Pn** **19 35 29.5 +0.7**
OCAC *i* 19 35 50.5
comp=Z,78nm,0.7s
OCAC *i* 19 35 50.5
comp=Z,78nm,0.7s
SMLC San Martn de 8.87 26⇓*eP* **Pn** **19 35 29.4 -1.0**
SMLC ⇓*eP* **Pn** **19 35 29.4 -1.0**
SJCC San Jacinto, C 9.49 17⇑*eP* **Pn** **19 35 40.8 +1.9**
SJCC ⇑*eP* **Pn** **19 35 40.8 +1.9**
ARGC Ariguani, Magd 9.76 22 *eP* **Pn** **19 35 44.3 +1.7**
ARGC *eP* **Pn** **19 35 44.3 +1.7**
CZSB Cruzeiro do Su 9.91 148 *eP* **Pn** **19 35 44.6 0.0**
SDV Santo Domingo 10.87 42 Pn **Pn** **19 35 58.9 +1.0**
comp=Z,4.2nm,0.3s,baz=225,slow=13,SNR=126
SDV Sn Sn 19 38 18.8 +19
comp=Z,0.5nm,0.3s,baz=8.7,slow=19,SNR=0.7
SDV Santo Domingo 10.87 42⇓*eP* **Pn** **19 35 57.4 -0.5**
SDV ⇓*eP* **Pn** **19 35 57.4 -0.5**
SDV *i* 19 36 18.2
comp=Z,55nm,0.8s
SDV *i* 19 36 18.2
comp=Z,55nm,0.8s
SDV Santo Domingo 10.87 42 *eP* **Pn** **19 35 59.0 +1.0**
SMRC Santa Marta, M 10.98 19 *eP* **Pn** **19 35 59.8 +0.5**
SMRC *eP* **Pn** **19 35 59.8 +0.5**
HDC Heredia 11.06 326 Pn **Pn** **19 36 01.6 +1.1**
JTS Las Juntas de 11.77 324 Pn **Pn** **19 36 12.0 +1.9**
comp=Z,0.4nm,0.3s,baz=202,slow=3.7,SNR=12
JTS Sn **Sn** **19 38 28.0 +5.8**
comp=Z,0.6nm,0.3s,baz=207,slow=11,SNR=1.7
JTS LR LR 19 40 09.8
comp=Z,30µm,20.8s,baz=213,slow=35
JTS Las Juntas de 11.77 324⇓*eP* **Pn** **19 36 10.5 +0.3**
JTS ⇓*eP* **Pn** **19 36 10.5 +0.3**
JTS Las Juntas de 11.77 324 *iP* **Pn** **19 36 10.9 +0.7**
JTS pmax pmax
comp=Z,144nm,1.3s
JTS MLR MLR
comp=Z,32µm,16.0s
JTS Las Juntas de 11.77 324 Pn **Pn** **19 36 11.2 +1.0**
URIC Uribia, Colomb 12.37 28⇓*eP* **Pn** **19 36 15.4 -2.9**
URIC ⇓*eP* **Pn** **19 36 15.4 -2.9**
URIC *i* 19 36 28.4
comp=Z,22nm,0.7s
URIC *i* 19 36 28.4
comp=Z,22nm,0.7s
PAYG Puerto Ayora 12.44 263 Pn **Pn** **19 36 19.6 +0.3**
NNA Nana 12.70 175 Pn **Pn** **19 36 23.2 +0.3**
comp=Z,2.3nm,0.3s,baz=343,slow=13,SNR=34
NNA Sn Sn 19 38 57.8 +13
comp=Z,0.5nm,0.3s,baz=265,slow=19,SNR=1.9
NNA Lg Lg 19 40 14.6
comp=Z,1.6nm,0.3s,baz=47,slow=19,SNR=1.5
NNA LR LR 19 41 03.1
comp=Z,21µm,18.9s,baz=354,slow=36
NNA Nana 12.70 175 P **Pn** **19 36 22.2 -0.7**
NNA Nana 12.70 175 Pn **Pn** **19 36 22.2 -0.7**
ESPN Las Esperanzas 13.01 331 **Pn** **19 36 26.9 -0.1**

ACON Acoyapa 13.26 327 **Pn** **19 36 30.7 +0.2**
MATN Matagalpa 14.46 327 Pn **Pn** **19 36 47.7 +0.7**
CRIN San Cristobal 14.92 323 **Pn** **19 36 51.6 -1.7**
CRIN IAmb IAmb 19 37 05.6
comp=Z,568nm,1.0s
TGUH Tegucigalpa,Un 16.13 325⇓*iP* **Pn** **19 37 09.3 +0.1**
TGUH ⇓*iP* **Pn** **19 37 09.3 +0.1**
TGUH Tegucigalpa,Un 16.13 325 Pn **Pn** **19 37 09.5 +0.3**
PCRV Puerto La Cruz 16.20 54 Pn **Pn** **19 37 07.8 -2.2**
comp=Z,0.5nm,0.3s,baz=343,slow=14,SNR=2.6
PCRV Sn **S** **19 40 20.3 -3.4**
comp=Z,0.6nm,0.3s,baz=109,slow=18,SNR=1.4
PCRV Lg Lg 19 41 44.6
comp=Z,0.9nm,0.3s,baz=342,slow=19,SNR=3.3
PLCV Puerto La Cruz 16.23 54 **Pn** **19 37 07.8 -2.6**
PLCV **S** **19 40 20.3 -4.0**
PCJ Portland Cotta 16.90 3⇓*iP* P 19 37 29.6 +8.6
SNET Serv Nac Est T 17.04 319 P **Pn** **19 37 21.2 +0.5**
SNET IAmb IAmb 19 37 29.0
comp=Z,1µm,1.4s
MCJ Malvern 17.07 1⇓*iP* **P** **19 37 25.9 +3.0**
YHJ Yallahs 17.09 5 *iP* **P** **19 37 22.9 -0.3**
HOJ Hope 17.19 4⇓*iP* **P** **19 37 24.5 +0.4**
STH Stony Hill 17.25 4 *iP* **P** **19 37 25.1 +0.2**
CMJ Castle Mountai 17.34 5⇓*iP* **P** **19 37 26.6 +0.7**
MTDJ Mount Denham 17.37 1 **P** **19 37 26.2 -0.1**
BNJ Bonny Gate 17.49 3⇑*iP* **P** **19 37 30.6 +3.1**
BBJ Bamboo Saint A 17.54 2⇓*iP* **P** **19 37 29.6 +1.5**
SAML Samuel 17.57 124 P **Pn** **19 37 23.9 -3.4**
SAML pmax pmax
comp=Z,218nm,1.1s
SAML Samuel 17.57 124 Pn **Pn** **19 37 23.9 -3.4**
MTO3 Montecristo 17.65 321 **Pn** **19 37 28.9 +0.4**
MACA Manacapuru-AM 17.67 103 *eP* **Pn** **19 37 27.5 -1.1**
ESQI Esquipulas 17.76 321 **Pn** **19 37 29.4 -0.4**
PTGA Pitinga 18.02 95 P **Pn** **19 37 32.1 -0.8**
comp=Z,0.9nm,0.3s,baz=270,slow=13,SNR=38
PTGA **Sn** **19 40 57.7 +3.1**
comp=Z,0.4nm,0.3s,baz=192,slow=18,SNR=2.0
PTGA Lg Lg 19 42 32.6
comp=Z,0.7nm,0.3s,baz=0.0,slow=20,SNR=2.5
PTGA LR LR 19 44 53.6
comp=Z,35µm,20.1s,baz=280,slow=39
PTGA Pitinga 18.02 95 P **Pn** **19 37 31.4 -1.5**
LGNH Logne 18.41 16 **P** **19 37 39.3 +1.7**
LGNH IAmb IAmb 19 37 41.7
comp=Z,2µm,1.5s
FSCY Frank Sound, G 18.72 350 P **Pn** **19 37 41.5 +0.1**
APG El Apazote 18.81 319 P **P** **19 37 42.1 -0.2**
comp=Z,0.9nm,0.3s,baz=144,slow=11,SNR=44
APG S **S** **19 41 17.4 +0.1**
comp=Z,0.2nm,0.3s,baz=193,slow=18,SNR=1.0
APG LR LR 19 44 11.9
comp=Z,12µm,18.4s,baz=144,slow=35
LCCY Blossom Villag 18.92 354 **Pn** **19 37 44.6 +0.8**
CBCY The Bluff, Cay 18.96 355 **Pn** **19 37 44.7 +0.5**
BANI BANI 19.04 23 P **Pn** **19 37 46.4 +0.9**
TRN Trinidad (W) 19.14 59 *eP* **P** **19 37 42.5 -3.2**
SDDR Presa de Saban 19.25 19 **Pn** **19 37 48.8 +0.8**
GTBY Guantanamo Bay 19.26 8⇓*iP* **Pn** **19 37 48.3 +0.4**
GTBY ⇓*iP* **Pn** **19 37 48.3 +0.4**
GTBY Guantanamo Bay 19.26 8 **Pn** **19 37 49.5 +1.7**
SDD Santo Domingo 19.28 24 **Pn** **19 37 49.5 +1.4**
SDD IAmb IAmb 19 37 53.2
comp=Z,1µm,1.3s
RTAL Retalhuleu 19.30 316 P **P** **19 37 46.6 -0.9**
TBH Brigand Hill 19.35 59 *eP* **P** **19 37 46.9 -1.1**
LPAZ La Paz 19.50 151 P **Pn** **19 37 51.0 -0.4**
comp=Z,0.5nm,0.3s,baz=332,slow=12,SNR=32
LPAZ S **S** **19 41 33.9 +2.2**
comp=Z,0.2nm,0.3s,baz=64,slow=18,SNR=1.2
LPAZ Lg Lg 19 43 44.3
comp=Z,0.3nm,0.3s,baz=72,slow=20,SNR=1.9
LPAZ LR LR 19 46 28.4
comp=Z,24µm,18.3s,baz=307,slow=40
LPAZ La Paz 19.50 151⇓*iP* **Pn** **19 37 51.5 0.0**
LPAZ ⇓*iP* **Pn** **19 37 51.5 0.0**
LPAZ La Paz 19.50 151 P **P** **19 37 49.6 -0.7**
LPAZ pmax pmax
comp=Z,357nm,1.5s
LPAZ La Paz 19.50 151 P **P** **19 37 49.6 -0.7**
LPAZ La Paz 19.50 151 *eP* **P** **19 37 49.3 -0.9**
GRGR Grenville 19.71 54 *eP* **P** **19 37 51.0 -1.0**
GRGR Grenville 19.71 54 P **P** **19 37 50.5 -1.5**
GRGR IAmb IAmb 19 38 02.1
comp=Z,1µm,1.1s
HUEH Huehuetenango 19.73 318 P **Pn** **19 37 54.1 +0.4**
HUEH IAmb IAmb 19 37 58.6
comp=Z,614nm,0.9s
DR12 Loma Pena Alta 19.79 25 P **Pn** **19 37 53.8 -0.6**
GRSS Sisters 19.84 54 *eP* **P** **19 37 52.8 -0.6**
SC01 Santiago de lo 19.86 20 P **Pn** **19 37 56.1 +1.0**
PETF Flores 19.91 324 P **P** **19 37 54.4 +0.3**
PETF IAMs_20 IAMs_20 19 45 09.3
comp=Z,17µm,20.0s
TPR Prospect 19.94 58 *eP* **P** **19 37 55.3 +0.7**
BOT Bacolet 19.98 58 *eP* **P** **19 37 55.6 +0.6**
CRPR Cabo Rojo, PR 20.18 31 P **P** **19 37 57.5 +0.5**
MLPR Magueyes Islan 20.18 31 P **P** **19 37 56.2 -0.8**
TOSP Speyside 20.20 58 *eP* **P** **19 37 56.2 -1.1**
TOSP Speyside 20.20 58 P **P** **19 37 57.0 -0.3**
MPR Mayaguez 20.33 31 P Pn 19 37 59.9 -0.8
AP01 Chacalluta 20.41 159 P **P** **19 37 57.1 -2.4**
AP01 IAmb IAmb 19 38 09.6
comp=Z,1µm,1.6s
AP01 IAMs_20 IAMs_20 19 46 50.1
comp=Z,13µm,19.0s
OBIP Obispado Ponce 20.47 32 P **P** **19 38 01.2 +0.9**
AGPR Aguadilla, PR 20.56 30 P Pn 19 38 02.5 -0.9
AOPR Arecibo Observ 20.65 31 P **P** **19 38 02.8 +0.6**
IGPR InterUniversit 20.68 34 P **P** **19 38 03.1 +0.6**
SVB Belmont 20.68 52 *eP* **P** **19 37 59.4 -3.1**
SVB Belmont 20.68 52 P **P** **19 38 00.8 -1.7**
PB16 IPOC Station P 20.70 157 P **P** **19 38 01.5 -1.8**
SVV Soufriere Volc 20.74 52 *eP* **P** **19 38 04.2 +1.1**
SVCV St. Vincent, C 20.77 52 *eP* **P** **19 38 02.4 -1.0**
PDPR Patillas Dam, 20.77 34 P **P** **19 38 02.9 -0.5**
SJG San Juan 20.78 33 P Pn 19 38 04.7 -1.2
comp=Z,152nm,0.8s,baz=215,slow=10.0,SNR=55
SJG S **S** **19 41 56.7 +0.6**
comp=Z,4.8nm,0.2s,baz=102,slow=14,SNR=1.1
SJG LR LR 19 47 24.7
comp=Z,11µm,20.7s,baz=189,slow=41
SJG San Juan 20.78 33⇓*eP* **P** **19 38 02.5 -1.0**
SJG ⇓*eP* **P** **19 38 02.5 -1.0**
SJG San Juan 20.78 33 P **P** **19 38 03.5 0.0**
SJG pmax pmax
comp=Z,427nm,1.1s
SJG MLR MLR
comp=Z,11µm,20.0s
SJG San Juan 20.78 33 P **P** **19 38 03.5 0.0**
SJG San Juan 20.78 33 IAMs_20 IAMs_20 19 47 01.6
comp=Z,11µm,20.0s
CCIG Comitan 20.84 319 P **P** **19 38 05.2 +0.8**
CCIG IAmb IAmb 19 38 12.7
comp=Z,729nm,1.5s
EMPR Esperanza - Ma 20.87 32 P **P** **19 38 05.3 +0.8**
HUMP Col San Antoni 20.97 34 P **P** **19 38 06.0 +0.4**
GCPR Guaynabo City 20.97 33 P **P** **19 38 06.4 +0.7**
CBYP Canovanas 21.07 34 P **P** **19 38 07.5 +0.8**
MTP Monte Pirata 21.10 35 P **P** **19 38 07.0 0.0**
SLDE Delcer 21.14 51 *eP* **P** **19 38 07.2 -0.4**
SLB Belfond 21.17 51 *eP* **P** **19 38 07.6 -0.3**
MCLT Moule a Chique 21.18 52 *eP* **P** **19 38 04.1 -3.9**
MCLT Moule a Chique 21.18 52 *e* **S** **19 42 06.0 +1.7**
SLPA Patience 21.28 52 *eP* **P** **19 38 08.9 -0.2**
CDVI St. Croix 21.28 37 P **P** **19 38 09.3 +0.3**
SLAC Saint Lucia, A 21.33 51 *eP* **P** **19 38 05.1 -4.4**
SLBI Saint Lucia, B 21.34 51 *eP* **P** **19 38 07.0 -2.6**
SLW Petit Monier 21.37 51 *eP* **P** **19 38 09.3 -0.7**
MNMC Minye Minye 21.39 158 P **P** **19 38 09.1 -1.3**
MNMC IAmb IAmb 19 38 19.7
comp=Z,1µm,1.4s
MNMC IAMs_20 IAMs_20 19 46 34.8
comp=Z,16µm,22.0s
CUPR Culebra, Puert 21.42 35 P **P** **19 38 11.0 +0.6**
BIM Bigot 21.56 50 *eP* **P** **19 38 09.9 -2.2**
PSGCX Pisagua 21.62 160 P **P** **19 38 11.9 -0.8**
FDF Fort de France 21.64 49 *eP* **P** **19 38 10.6 -2.3**
FDF Fort de France 21.64 49 P **P** **19 38 11.3 -1.6**
FDF pmax pmax
comp=Z,1µm,1.3s
FDF MLR MLR
comp=Z,15µm,18.0s
FDF Fort de France 21.64 49 P **P** **19 38 11.3 -1.6**
FDF IAMs_20 IAMs_20 19 47 07.1
comp=Z,15µm,18.0s
GRTK Grand Turk 21.68 17 P **P** **19 38 13.8 +0.6**
GRTK IAmb IAmb 19 38 17.8
comp=Z,1µm,1.6s
MPOM Morne Pois Mar 21.68 50 *eP* **P** **19 38 09.9 -3.4**
MPOM Morne Pois Mar 21.68 50 *e* **S** **19 42 10.1 -4.0**
MDN Morne-Daniel 21.82 48 *eP* **S** **19 42 17.1 +0.3**
ILAM Ilet Lapin Mar 21.87 50 *eP* **P** **19 38 13.2 -2.1**
DLPL La Plaine 21.94 48 *eP* **S** **19 42 17.6 -1.6**
DLPL La Plaine 21.94 48 P **P** **19 38 15.4 -0.8**
PB11 IPOC Station P 21.94 159 P **P** **19 38 16.8 +0.5**
BBGH Gun Hill 21.98 55 P **P** **19 38 16.0 -0.5**
BBGH IAmb IAmb 19 38 39.8
comp=Z,464nm,1.0s
TDBA Terre de Bas, 21.99 46 *eP* **P** **19 38 12.6 -4.1**
TDBA Terre de Bas, 21.99 46 *e* **S** **19 42 22.4 +2.3**
GO01 Chusmiza 22.03 158 P **P** **19 38 18.8 +1.3**
GO01 IAmb IAmb 19 38 26.2
comp=Z,1µm,1.9s
GO01 IAMs_20 IAMs_20 19 46 54.8
comp=Z,17µm,22.0s
CBE Ff, Capester 22.16 46 *eP* **P** **19 38 13.4 -5.0**
CBE Ff, Capester 22.16 46 *e* **S** **19 42 25.1 +1.7**
VILB Vilhena 22.24 128 *eP* **P** **19 38 19.8 +0.5**
SKI Saint Kitts 22.25 41 *eP* **P** **19 38 17.2 -2.2**
SKI Saint Kitts 22.25 41 P **P** **19 38 18.3 -1.1**
SKI Saint Kitts 22.25 41 P **P** **19 38 18.3 -1.1**
MAGL Barre de l'ile 22.31 47 *eP* **P** **19 38 16.1 -4.0**
MAGL Barre de l'ile 22.31 47 *e* **S** **19 42 18.9 -7.4**
PB08 IPOC Station P 22.47 158 P **P** **19 38 23.0 +0.8**
PB08 IAMs_20 IAMs_20 19 46 43.6
comp=Z,16µm,22.0s
PB08 IPOC Station P 22.47 158 *iP* **P** **19 38 23.9 +1.7**
TA01 Diego Aracena 22.50 161 P **P** **19 38 23.4 +1.3**
TA01 IAmb IAmb 19 38 34.8
comp=Z,1µm,1.9s
ABD La Joyeuse, An 22.51 45 *eP* **P** **19 38 16.1 -6.1**
ABD La Joyeuse, An 22.51 45 *e* **S** **19 42 23.3 -6.7**
PATCX Punta Patache 22.75 161 P **P** **19 38 26.3 +1.5**
PATCX IAmb IAmb 19 38 37.9
comp=Z,644nm,1.2s
ITTB Itaituba 22.75 103 *eP* **P** **19 38 24.2 -0.7**
ANWB Willy Bob 23.12 42 *eP* **P** **19 38 28.7 +0.1**
ANWB Willy Bob 23.12 42 P **P** **19 38 25.8 -2.9**
PB01 IPOC Station P 23.18 160 P **P** **19 38 28.9 -0.4**
PB01 IAmb IAmb 19 38 47.3
comp=Z,683nm,1.6s
PB02 IPOC Station P 23.30 161 *iP* **P** **19 38 31.5 +1.0**
SIV San Ignacio 23.54 136 P **P** **19 38 33.2 +0.4**
comp=Z,214nm,0.8s,baz=326,slow=10,SNR=119
SIV S **S** **19 42 50.5 +2.7**
comp=Z,27nm,0.9s,baz=305,slow=8.8,SNR=3.7
SIV Lg Lg 19 45 43.1
comp=Z,109nm,1.2s,baz=270,slow=20,SNR=4.0
SIV LR LR 19 48 14.5
comp=Z,33µm,18.1s,baz=326,slow=38
PB07 IPOC Station P 23.68 161 P **P** **19 38 32.7 -1.7**
PB07 IAmb IAmb 19 38 51.7
comp=Z,428nm,1.3s
PB07 IPOC Station P 23.68 161 *iP* **P** **19 38 35.9 +1.5**
MALB Monte Alegre 23.80 96 *eP* **P** **19 38 35.2 -0.3**
NPGB Novo Progresso 23.82 109 *eP* **P** **19 38 33.7 -1.9**
PB09 IPOC Station P 23.96 160 P **P** **19 38 36.1 -1.0**
PB09 IPOC Station P 23.96 160 *iP* **P** **19 38 38.7 +1.6**
PB03 IPOC Station P 24.02 161 *iP* **P** **19 38 39.1 +1.4**
PB04 IPOC Station P 24.17 162 P **P** **19 38 35.7 -3.4**
PB04 IPOC Station P 24.17 162 *iP* **P** **19 38 40.2 +1.2**
PTLB Pontes e Lacer 24.58 132 *eP* **P** **19 38 42.9 +0.2**
PB05 IPOC Station P 24.64 163 *iP* **P** **19 38 45.6 +2.3**
PB06 IPOC Station P 24.70 161 P **P** **19 38 41.7 -2.1**
PB06 IPOC Station P 24.70 161 *iP* **P** **19 38 45.2 +1.3**
LVC Limon Verde 24.83 160 P **P** **19 38 47.5 +2.3**
comp=Z,98nm,1.1s,baz=328,slow=9.5,SNR=29
LVC S **S** **19 43 18.4 +9.3**
comp=Z,2.2nm,0.3s,baz=90,slow=20,SNR=2.4
LVC LR LR 19 50 30.0
comp=Z,13µm,18.2s,baz=319,slow=41
LVC Limon Verde 24.83 160 P **P** **19 38 47.0 +1.7**
LVC pmax pmax
comp=Z,1µm,2.0s
LVC MLR MLR
comp=Z,14µm,20.0s
LVC Limon Verde 24.83 160 P **P** **19 38 47.0 +1.7**
LVC IAmb IAmb 19 39 05.2
comp=Z,1µm,1.9s
LVC Limon Verde 24.83 160 IAMs_20 IAMs_20 19 49 28.3
comp=Z,14µm,20.0s
LVC Limon Verde 24.83 160 *eP* **P** **19 38 45.7 +0.4**
LVC Limon Verde 24.83 160 *iP* **P** **19 38 46.6 +1.4**
061Z Ochoppi 25.13 354 P **P** **19 38 49.1 +1.6**
061Z IAmb IAmb 19 38 53.3
comp=Z,523nm,1.1s
PB10 IPOC Station P 25.16 164 P **P** **19 38 44.6 -3.2**
PB10 IAmb IAmb 19 39 11.6
comp=Z,806nm,1.9s
PB10 IAMs_20 IAMs_20 19 49 43.0
comp=Z,9µm,20.0s
PB10 IPOC Station P 25.16 164 *iP* **P** **19 38 48.9 +1.1**
PB15 IPOC Station P 25.20 161 P **P** **19 38 48.9 +0.5**
PB15 IAmb IAmb 19 39 08.4
comp=Z,426nm,1.4s
PB15 IPOC Station P 25.20 161 *iP* **P** **19 38 51.3 +2.9**
MDP Montagnes des 25.62 80 P **P** **19 38 53.0 +0.8**
comp=Z,56nm,0.9s,baz=250,slow=9.7,SNR=27
MDP S **S** **19 43 19.1 -2.1**
comp=Z,11nm,1.0s,baz=359,slow=15,SNR=1.3
MDP Lg Lg 19 46 44.3
comp=Z,132nm,1.0s,baz=172,slow=21,SNR=8.8
MDP LR LR 19 48 59.3
comp=Z,41µm,19.1s,baz=265,slow=37
YJA Yavi 25.81 153 *iP* **P** **19 38 55.4 +1.1**
MCPB Macapa, AP 25.90 92 *eP* **P** **19 38 54.2 -0.5**
060A Indiantown 26.24 355 P **P** **19 38 58.8 +1.3**
PB14 IPOC Station P 26.26 164 P **P** **19 38 56.5 -1.7**
PB14 IPOC Station P 26.26 164 *iP* **P** **19 38 59.8 +1.6**
TLIG Tlapa 26.29 311 P **P** **19 38 59.9 +1.6**
TLIG IAmb IAmb 19 39 06.0
comp=Z,673nm,1.8s
TLIG IAMs_20 IAMs_20 19 47 30.2
comp=Z,8µm,18.0s
HJA Humahuaca 26.75 154 *iP* **P** **19 39 04.0 +1.3**
GO02 Mina Guanaco 27.00 163 P **P** **19 39 03.4 -1.4**
GO02 IAMs_20 IAMs_20 19 51 07.6
comp=Z,11µm,19.0s
AC01 Pan de Azucar 27.66 166 IAMs_20 IAMs_20 19 51 17.3
comp=Z,7µm,20.0s
AZAP Zapla 27.79 154 *iP* **P** **19 39 12.7 +0.8**
ASTB Santa Barbara 27.82 153 *iP* **P** **19 39 13.9 +1.8**
UNM Universidad Na 27.83 313 IAMs_20 IAMs_20 19 48 16.1
comp=Z,9µm,21.0s
SLA San Lorenzo 28.04 155 *iP* **P** **19 39 15.9 +1.9**
AC02 Maricunga 28.71 163 P **P** **19 39 19.8 -0.6**
AC02 IAMs_20 IAMs_20 19 52 32.9
comp=Z,7µm,18.0s
656A Willston 28.80 352 P **P** **19 39 21.7 +1.2**
GO03 Copiap 29.14 166 IAMs_20 IAMs_20 19 51 31.4
comp=Z,6µm,20.0s
SNDB Serra Nova Dou 29.32 116 *eP* **P** **19 39 25.5 +0.2**
AC04 Llanos de Chal 29.53 168 IAMs_20 IAMs_20 19 51 19.5
comp=Z,6µm,20.0s
MOIG Morelia 29.54 311 P **P** **19 39 29.9 +2.4**
MOIG IAmb IAmb 19 39 32.5
comp=Z,323nm,1.2s
553A Crawfordville 29.92 349 P **P** **19 39 32.0 +1.6**
AHML Horco Molle 29.95 157 *iP* **P** **19 39 30.0 -0.8**
TMAB Tom-Au,PA,Br 29.99 96 *eP* **P** **19 39 31.8 +0.5**
456A Hilliard 30.06 353 P **P** **19 39 30.1 -1.6**
AC05 El Transito 30.32 167 P **P** **19 39 33.0 -1.2**
AC05 IAMs_20 IAMs_20 19 52 16.7
comp=Z,8µm,20.0s
LCO Las Campanas 30.39 167 P **P** **19 39 33.6 -1.4**
LCO pmax pmax
comp=Z,74nm,1.3s
LCO MLR MLR
comp=Z,5µm,20.0s
LCO Las Campanas 30.39 167 P **P** **19 39 33.6 -1.4**
LCO Las Campanas 30.39 167 IAMs_20 IAMs_20 19 51 55.7
comp=Z,5µm,20.0s
ARAG Araguaiana, MT 30.55 123 *eP* **P** **19 39 35.5 -0.7**
451A Vernon 30.62 347 P **P** **19 39 36.5 -0.1**
451A IAmb IAmb 19 39 39.7

comp=Z,337nm,1.2s
VCA Vinchina 30.76 163 *i* P **P** **19 39 39.9 +1.8**
TIGA Tifton 30.99 351 P **P** **19 39 40.3 +0.4**
baz=169
TIGA Tifton 30.99 351 P **P** **19 39 40.6 +0.7**
TIGA IAMs_20 IAMs_20 19 52 36.2
comp=Z,5µm,19.0s
257A Skidaway Islan 31.19 355 P **P** **19 39 41.1 -0.6**
257A IAMs_20 IAMs_20 19 53 07.5
comp=Z,6µm,20.0s
CYA Choya 31.27 159 *i* P **P** **19 39 43.4 +0.9**
352A Blakely 31.27 348 P **P** **19 39 43.0 +0.6**
255A Hazlehurst 31.30 353 P **P** **19 39 43.1 +0.5**
AGUA GUANDACOL 31.39 164 *i* P **P** **19 39 45.3 +1.7**
CO01 Juntas del Tor 31.46 167 P **P** **19 39 45.6 +1.2**
CO01 IAMs_20 IAMs_20 19 52 59.9
comp=Z,7µm,18.0s
BRAL Brewton 31.46 345 P **P** **19 39 44.6 +0.5**
baz=162,SNR=7.3
BRAL S **S** **19 44 56.0 +3.2**
baz=162
BRAL Brewton 31.46 345 P **P** **19 39 45.0 +0.9**
GO04 Tololo Observa 31.49 168 P **P** **19 39 43.2 -1.5**
SMTB Santa Maria do 31.70 108 *eP* **P** **19 39 45.6 -0.8**
AROD Rodeo 31.79 166 *i* P **P** **19 39 49.2 +1.8**
ACLC CERRO LA CRUZ 31.79 162 *i* P **P** **19 39 48.7 +1.5**
158A Hollywood 31.89 356 P **P** **19 39 48.6 +0.8**
baz=176,SNR=8.8
158A S **S** **19 45 05.7 +6.3**
baz=176
157A Early Branch 31.89 355 P **P** **19 39 48.8 +1.0**
baz=174,SNR=16
157A S **S** **19 45 04.7 +5.3**
baz=174
250A Grady 32.04 347 P **P** **19 39 49.6 +0.4**
250A IAMs_20 IAMs_20 19 55 01.3
comp=Z,5µm,19.0s
RGRS Roger Stewart 32.06 356 P **P** **19 39 49.3 0.0**
154A Montrose 32.07 352 P **P** **19 39 49.7 +0.3**
154A IAMs_20 IAMs_20 19 53 30.4
comp=Z,6µm,22.0s
CSU Charleston Sou 32.13 357 P **P** **19 39 50.7 +0.8**
CO03 El Pedregal 32.16 168 P **P** **19 39 47.8 -2.5**
CO03 IAMs_20 IAMs_20 19 53 07.6
comp=Z,6µm,19.0s
NHSC New Hope 32.26 356 P **P** **19 39 51.9 +0.9**
baz=176,SNR=15
NHSC S **S** **19 45 11.4 +6.3**
baz=176
NHSC New Hope 32.26 356 P **P** **19 39 52.5 +1.5**
ACCO Cerro Coronel 32.29 166 *i* P **P** **19 39 52.5 +0.8**
Z59A Georgetown, SC 32.34 358 P **P** **19 39 52.6 +0.8**
baz=177
346A Big Creek Wild 32.37 341 P **P** **19 39 52.0 0.0**
152A Waverly Hall 32.39 349 P **P** **19 39 52.4 +0.2**
152A IAmb IAmb 19 39 54.9
comp=Z,429nm,1.4s
ZAIG Zacatecas 32.45 314 P **P** **19 39 54.7 +1.5**
ZAIG IAmb IAmb 19 39 58.9
comp=Z,424nm,1.6s
CO02 Combarbal 32.45 169 P **P** **19 39 53.7 +0.7**
CO02 IAMs_20 IAMs_20 19 51 31.3
comp=Z,5µm,20.0s
Z58A St. Stephen 32.46 357 P **P** **19 39 53.8 +0.9**
baz=176,SNR=21
Z58A S **S** **19 45 13.8 +5.5**
baz=176
Z57A Bowman 32.48 356 P **P** **19 39 53.5 +0.5**
baz=175,SNR=14
Z57A S **S** **19 45 14.4 +5.8**
baz=175
Z56A Williston 32.56 355 P **P** **19 39 54.2 +0.4**
baz=174
Z56A S **S** **19 45 15.4 +5.4**
baz=174
Z56A Williston 32.56 355 P **P** **19 39 54.7 +1.0**
Z56A IAMs_20 IAMs_20 19 53 49.8
comp=Z,8µm,22.0s
KVTX Kingsville 32.81 326 P **P** **19 39 56.5 +0.5**
KVTX IAMs_20 IAMs_20 19 55 43.8
comp=Z,6µm,19.0s
APLL PUNTA DE LOS L 32.82 162 *i* P **P** **19 39 57.2 +1.0**
344A Westbrook Farm 32.85 340 P **P** **19 39 56.7 +0.4**
GOGA Godfrey 32.90 351 P **P** **19 39 56.9 +0.2**
baz=170,SNR=41
GOGA S **S** **19 45 17.9 +2.7**
baz=170
GOGA Godfrey 32.90 351 P **P** **19 39 57.1 +0.4**
GOGA pmax pmax
comp=Z,562nm,1.8s
GOGA MLR MLR
comp=Z,6µm,21.0s
GOGA Godfrey 32.90 351 P **P** **19 39 57.1 +0.4**
GOGA Godfrey 32.90 351 IAMs_20 IAMs_20 19 53 54.9
comp=Z,6µm,21.0s
Y56A Pelion 33.02 355 P **P** **19 39 58.1 +0.3**
baz=174
Y56A S **S** **19 45 21.0 +4.0**
baz=174
Y59A Loris 33.08 359 P **P** **19 39 59.0 +0.8**
baz=178,SNR=11
Y59A Loris 33.08 359 P **P** **19 39 59.3 +1.1**
Y59A IAmb IAmb 19 40 02.5
comp=Z,308nm,1.1s
Y59A IAMs_20 IAMs_20 19 53 09.2
comp=Z,6µm,22.0s
Y60A Bolivia 33.08 360 P **P** **19 39 59.1 +0.8**
baz=179,SNR=10
Y60A S **S** **19 45 18.4 +0.4**
baz=179
Y60A Bolivia 33.08 360 P **P** **19 39 59.3 +1.0**
Y60A IAmb IAmb 19 40 02.5
comp=Z,286nm,1.1s
Z51A Franklin 33.10 349 P **P** **19 39 59.1 +0.7**
Z51A IAmb IAmb 19 40 01.2
comp=Z,367nm,1.4s
Z51A IAMs_20 IAMs_20 19 53 43.3
comp=Z,5µm,19.0s
441A DeRidder 33.16 336 P **P** **19 39 59.9 +0.9**
441A IAMs_20 IAMs_20 19 55 35.2
comp=Z,6µm,20.0s
Y57A Sumter 33.17 356 P **P** **19 39 59.4 +0.4**
baz=175
Y57A Sumter 33.17 356 P **P** **19 40 00.2 +1.2**
Y57A IAMs_20 IAMs_20 19 54 37.8
comp=Z,6µm,22.0s
LRAL Lakeview Retre 33.23 346 P **P** **19 39 59.5 0.0**
baz=163
LRAL S **S** **19 45 21.6 +1.3**
baz=163
LRAL Lakeview Retre 33.23 346 P **P** **19 39 59.2 -0.3**
ZON Zonda 33.30 166 P **P** **19 39 58.2 -2.1**
ZON pmax pmax
comp=Z,76nm,1.4s
ZON MLR MLR
comp=Z,6µm,19.0s
ZON Zonda 33.30 166 P **P** **19 39 58.2 -2.1**
ZON IAMs_20 IAMs_20 19 53 58.5
comp=Z,6µm,19.0s
ZON Zonda 33.30 166 *i* P **P** **19 40 00.9 +0.7**
342A Flagon Creek P 33.37 337 P **P** **19 40 01.3 +0.5**
RTLS Leoncito 33.39 167 *i* P **P** **19 40 02.8 +1.4**
146A Union 33.41 343 P **P** **19 40 01.7 +0.6**
Y52A Lilburn 33.44 351 P **P** **19 40 01.7 +0.3**
Y52A IAmb IAmb 19 40 04.2
comp=Z,519nm,1.7s
Y52A IAMs_20 IAMs_20 19 54 01.1
comp=Z,5µm,21.0s
CPUP Villa Florida 33.46 145 P **P** **19 40 01.1 -0.6**
comp=Z,16nm,1.1s,baz=317,slow=8.3,SNR=9.4
CPUP PcP **PcP** **19 42 44.5 +1.4**
comp=Z,11nm,1.1s,baz=334,slow=5.4,SNR=3.3
CPUP S **S** **19 45 21.9 -2.2**
comp=Z,1.3nm,0.8s,baz=359,slow=13,SNR=1.3
CPUP LR LR 19 55 31.8
comp=Z,12µm,18.8s,baz=315,slow=40
CPUP Villa Florida 33.46 145 P **P** **19 39 59.6 -2.1**
CPUP Villa Florida 33.46 145 *eP* **P** **19 40 00.6 -1.1**
VBMS Vicksburg 33.48 340 P **P** **19 40 01.7 -0.1**
baz=157,SNR=8.0
VBMS S **S** **19 45 25.6 +1.4**
baz=157
VBMS Vicksburg 33.48 340 P **P** **19 40 01.7 -0.1**
JSC Jenkinsville 33.50 355 P **P** **19 40 02.4 +0.4**
JSC pmax pmax
comp=Z,470nm,1.8s
JSC MLR MLR
comp=Z,4µm,22.0s
JSC Jenkinsville 33.50 355 P **P** **19 40 02.4 +0.4**
JSC IAmb IAmb 19 40 05.2
comp=Z,470nm,1.8s
HODGE Hodges 33.55 354 P **P** **19 40 03.1 +0.7**
HODGE IAMs_20 IAMs_20 19 54 59.0
comp=Z,5µm,18.0s
X57A Johnson Farm, 33.60 357 P **P** **19 40 03.4 +0.6**
baz=176
RTCV Cerro Valdivia 33.63 165 *i* P **P** **19 40 05.2 +2.0**
X59A McDuffie Farm, 33.65 359 P **P** **19 40 03.7 +0.5**
baz=179
X59A S **S** **19 45 31.7 +4.8**
baz=179
X60A Albert Glenn T 33.65 360 P **P** **19 40 03.7 +0.5**
baz=180
X58A Rowland 33.66 358 P **P** **19 40 04.0 +0.7**
baz=177,SNR=12
X58A S **S** **19 45 31.5 +4.6**
baz=177
X58A Rowland 33.66 358 P **P** **19 40 04.0 +0.7**
X58A IAMs_20 IAMs_20 19 52 53.5
comp=Z,4µm,20.0s
Z47A Carrollton 33.66 345 P **P** **19 40 03.4 +0.2**
HKT Hockley 33.67 331 *i* P **P** **19 40 03.0 -0.4**
HKT pmax pmax
comp=Z,33nm,1.3s
HKT Hockley 33.67 331 P **P** **19 40 03.4 0.0**
HKT IAmb IAmb 19 40 05.8
comp=Z,304nm,1.8s
X56A White Oak 33.69 355 P **P** **19 40 04.0 +0.4**
baz=174,SNR=45
X56A S **S** **19 45 31.6 +4.2**
baz=174
X55A Gracelyn & Ava 33.72 354 P **P** **19 40 04.5 +0.6**
baz=173,SNR=68
X55A S **S** **19 45 32.1 +4.2**
baz=173
BDFB Brasilia 33.75 120 P **P** **19 40 04.3 -0.2**
comp=Z,27nm,1.2s,baz=300,slow=9.3,SNR=8.0
BDFB PcP **PcP** **19 42 46.1 +1.9**
comp=Z,8.3nm,0.9s,baz=55,slow=6.0,SNR=4.9
BDFB LR LR 19 53 45.9
comp=Z,8µm,20.8s,baz=297,slow=36
BDFB Brasilia 33.75 120 P **P** **19 40 01.7 -2.8**
BDFB pmax pmax
comp=Z,109nm,1.6s
BDFB MLR MLR
comp=Z,9µm,20.0s
BDFB Brasilia 33.75 120 P **P** **19 40 01.7 -2.8**
AUSP Uspallata 33.78 167 *i* P **P** **19 40 06.7 +2.0**
735A Kenedy 33.79 328 P **P** **19 40 05.2 +0.7**
735A IAmb IAmb 19 40 08.3
comp=Z,284nm,1.2s
BIRD Birdtown, Kers 33.80 356 P **P** **19 40 05.3 +0.8**
BIRD IAmb IAmb 19 40 07.7
comp=Z,491nm,1.6s
BIRD IAMs_20 IAMs_20 19 54 56.5
comp=Z,5µm,20.0s
ITRB Iturama 33.83 128 *eP* **P** **19 40 06.0 +1.0**
BBSR BB Station 33.84 20 P **P** **19 40 04.9 0.0**
BBSR IAmb IAmb 19 40 07.5
comp=Z,263nm,1.6s
X54A Belton 33.88 353 P **P** **19 40 05.7 +0.5**
baz=172,SNR=35
X54A S **S** **19 45 34.9 +4.5**
baz=172
Y49A Blount Mountai 33.88 347 P **P** **19 40 04.8 -0.4**
Y49A IAmb IAmb 19 40 07.5
comp=Z,278nm,1.6s
TRCB Terra Rica 33.98 135 *eP* **P** **19 40 06.4 0.0**
ROSB Rosrio 33.99 96 *eP* **P** **19 40 06.4 -0.1**
VA03 San Esteban 34.05 169 P **P** **19 40 07.0 0.0**
PAULI Pauline 34.09 354 P **P** **19 40 07.7 +0.7**
PAULI IAMs_20 IAMs_20 19 54 34.2
comp=Z,8µm,21.0s
VA01 Torpederas 34.11 171 IAMs_20 IAMs_20 19 55 53.3
comp=Z,5µm,18.0s
W58A Raeford 34.12 358 P **P** **19 40 08.0 +0.7**
baz=178,SNR=34
W58A S **S** **19 45 38.0 +4.0**
baz=178
W60A Pink Hill 34.13 0 P **P** **19 40 07.7 +0.4**
baz=180
W60A S **S** **19 45 38.9 +4.7**
baz=180
ROC1 El Roble 34.17 170 P **P** **19 40 08.6 +0.5**
ROC1 El Roble 34.17 170 *i* P **P** **19 40 08.4 +0.3**
143A Socs Landing, 34.22 340 P **P** **19 40 08.2 -0.1**
PCMB Pacaembu 34.23 132 *eP* **P** **19 40 08.6 +0.1**
W59A Clinton 34.24 359 P **P** **19 40 08.7 +0.4**
baz=179
W59A S **S** **19 45 40.5 +4.5**
baz=179
833A Chaparral WMA, 34.26 325 P **P** **19 40 08.5 -0.1**
baz=140,SNR=12
833A S **S** **19 45 39.6 +3.2**
baz=140
833A Chaparral WMA, 34.26 325 P **P** **19 40 08.8 +0.3**
833A IAmb IAmb 19 40 11.6
comp=Z,230nm,1.4s
ASAL Salagasta 34.26 166 *i* P **P** **19 40 10.7 +2.0**
X51A Calhoun 34.26 350 P **P** **19 40 08.8 +0.3**
X51A IAmb IAmb 19 40 11.1
comp=Z,537nm,1.6s
X51A IAMs_20 IAMs_20 19 54 29.5
comp=Z,6µm,21.0s
W61A Ground Anchor 34.26 1 P **P** **19 40 08.2 -0.4**
baz=182
W57A Gilead 34.28 357 P **P** **19 40 09.1 +0.4**
baz=176,SNR=29
W57A S **S** **19 45 40.8 +4.3**
baz=176
W57A Gilead 34.28 357 P **P** **19 40 08.6 -0.1**
W56A Indian Trail 34.30 356 P **P** **19 40 08.8 -0.1**
baz=175,SNR=24
W56A S **S** **19 45 41.8 +5.0**
baz=175
CNNC Cliffs of the 34.31 0 P **P** **19 40 08.8 -0.2**
baz=180
CNNC Cliffs of the 34.31 0 P **P** **19 40 09.5 +0.5**
TCA Tanti 34.33 160 *i* P **P** **19 40 09.8 +0.5**
KMSC Kings Mountain 34.36 355 P **P** **19 40 09.8 +0.4**
baz=174,SNR=31
KMSC S **S** **19 45 40.1 +2.3**
baz=174
KMSC Kings Mountain 34.36 355 P **P** **19 40 10.4 +1.0**
KMSC IAMs_20 IAMs_20 19 55 04.4
comp=Z,7µm,21.0s
FPAL Fort Paine 34.37 349 P **P** **19 40 09.2 -0.3**
FPAL IAmb IAmb 19 40 11.8
comp=Z,475nm,1.5s
FPAL IAMs_20 IAMs_20 19 54 23.9
comp=Z,6µm,21.0s
BG3 Lake Jocassee 34.39 353 **P** **19 40 10.2 +0.6**
BG3 IAmb IAmb 19 40 12.9
comp=Z,479nm,1.6s
W54A Cherokee Point 34.39 354 P **P** **19 40 10.4 +0.8**
baz=172
W54A S **S** **19 45 42.0 +3.7**
baz=172
PEL Peldehue 34.40 169 P **P** **19 40 05.1 -4.7**
PEL pmax pmax
comp=Z,74nm,1.1s
PEL MLR MLR
comp=Z,4µm,20.0s
PEL Peldehue 34.40 169 P **P** **19 40 05.1 -4.7**
X48A Hartselle 34.59 347 P **P** **19 40 11.1 -0.4**
X48A IAmb IAmb 19 40 13.5
comp=Z,556nm,1.9s
W52A Murphy 34.62 351 P **P** **19 40 12.2 +0.5**
W52A IAmb IAmb 19 40 14.7
comp=Z,585nm,1.7s
W52A IAMs_20 IAMs_20 19 54 47.1
comp=Z,5µm,21.0s
MT05 Renca 34.63 169 P **P** **19 40 09.0 -2.9**
NATX Nacogdoches 34.66 334 P **P** **19 40 11.6 -0.4**
baz=150,SNR=9.6
NATX S **S** **19 45 44.2 +1.7**
baz=150
NATX Nacogdoches 34.66 334 P **P** **19 40 11.8 -0.3**
IPMB Ipameri, GO 34.66 124 *eP* **P** **19 40 12.1 -0.3**
V62A Hyde County Ai 34.68 3 P **P** **19 40 12.5 +0.3**
baz=183
V62A Hyde County Ai 34.68 3 P **P** **19 40 12.8 +0.7**
V62A IAmb IAmb 19 40 14.7
comp=Z,231nm,0.9s
Y45A Yeager Farm, C 34.70 343 P **P** **19 40 12.7 +0.4**
AAGR Agrelo 34.73 167 *i* P **P** **19 40 13.9 +1.1**
V59A Middlesex 34.84 360 P **P** **19 40 14.2 +0.7**
baz=179
V59A S **S** **19 45 49.8 +4.6**
baz=179
V60A Jim Taylor Roa 34.84 1 P **P** **19 40 14.5 +1.0**
baz=181,SNR=9.2
V60A Jim Taylor Roa 34.84 1 P **P** **19 40 14.4 +0.8**
V58A Windy Hill, Pi 34.88 358 P **P** **19 40 14.6 +0.7**
baz=178,SNR=40
V58A S **S** **19 45 48.9 +3.1**
baz=178
V58A Windy Hill, Pi 34.88 358 P **P** **19 40 14.7 +0.8**
V58A IAmb IAmb 19 40 17.9
comp=Z,306nm,1.2s
V61A Roper 34.89 2 P **P** **19 40 14.7 +0.8**
baz=182,SNR=5.5
V61A S **S** **19 45 50.8 +4.9**
baz=182
V61A Roper 34.89 2 P **P** **19 40 15.2 +1.3**
W50A Signal Mountai 34.96 349 P **P** **19 40 14.9 +0.3**
W50A IAmb IAmb 19 40 17.2
comp=Z,364nm,1.4s
W50A IAMs_20 IAMs_20 19 54 50.4
comp=Z,6µm,21.0s
V56A Mocksville 34.96 356 P **P** **19 40 15.3 +0.7**
baz=175,SNR=30
V56A S **S** **19 45 49.6 +2.5**
baz=175
V57A Coltrane Farms 35.00 357 P **P** **19 40 15.4 +0.5**
baz=177,SNR=44
V57A S **S** **19 45 50.6 +2.9**
baz=177
V53A Saluda 35.04 353 P **P** **19 40 16.0 +0.7**
V53A IAmb IAmb 19 40 18.4
comp=Z,397nm,1.6s
V54A Nebo 35.05 354 P **P** **19 40 16.2 +0.8**
baz=173,SNR=71
V54A S **S** **19 45 51.2 +2.8**
baz=173
V55A Taylorsville 35.06 355 P **P** **19 40 16.1 +0.7**
baz=174,SNR=28
V55A S **S** **19 45 50.9 +2.3**
baz=174
V55A Taylorsville 35.06 355 P **P** **19 40 16.4 +1.0**
V55A IAMs_20 IAMs_20 19 55 34.7
comp=Z,7µm,20.0s
CPCT Cooper Cave 35.06 351 P **P** **19 40 15.7 +0.2**
SWET Sewanee 35.09 349 P **P** **19 40 15.6 -0.2**
SWET IAmb IAmb 19 40 17.9
comp=Z,467nm,1.6s
SWET IAMs_20 IAMs_20 19 54 45.9
comp=Z,6µm,21.0s
TKL Tuckaleechee C 35.15 352 P **P** **19 40 16.9 +0.6**
comp=Z,67nm,1.2s,baz=175,slow=7.5,SNR=48
TKL Tuckaleechee C 35.15 352 P **P** **19 40 16.6 +0.3**
TKL pmax pmax
comp=Z,598nm,1.8s
TKL MLR MLR
comp=Z,5µm,21.0s
TKL Tuckaleechee C 35.15 352 P **P** **19 40 16.6 +0.3**
TKL IAmb IAmb 19 40 18.9
comp=Z,598nm,1.8s
TKL IAMs_20 IAMs_20 19 55 13.4
comp=Z,5µm,21.0s
435B Jarrell 35.21 330 P **P** **19 40 16.4 -0.4**
baz=144,SNR=7.3
435B S **S** **19 45 50.3 -0.8**
baz=144
435B Jarrell 35.21 330 P **P** **19 40 16.2 -0.7**
435B IAmb IAmb 19 40 19.1
comp=Z,328nm,1.4s
Z41A Richland Creek 35.23 338 P **P** **19 40 16.6 -0.3**
baz=154,SNR=11
Z41A S **S** **19 45 53.1 +1.9**
baz=154
Z41A Richland Creek 35.23 338 P **P** **19 40 16.6 -0.3**
SDBA SAO DESIDERIO 35.29 113 *eP* **P** **19 40 17.8 0.0**
V52A Sevierville 35.31 352 P **P** **19 40 17.8 +0.2**
V52A IAMs_20 IAMs_20 19 55 29.5
comp=Z,5µm,22.0s
PLAL Pickwick Lake 35.35 346 P **P** **19 40 17.1 -0.8**
PLAL IAmb IAmb 19 40 19.6
comp=Z,394nm,1.4s
237A Washetta, Mont 35.37 333 P **P** **19 40 18.3 +0.1**
237A IAmb IAmb 19 40 20.6
comp=Z,421nm,1.2s
U59A Littleton 35.42 0 P **P** **19 40 18.8 +0.3**
baz=180
U59A Littleton 35.42 0 P **P** **19 40 19.1 +0.6**
U59A IAmb IAmb 19 40 21.9
comp=Z,391nm,1.5s
U61A Possum Corner 35.43 2 P **P** **19 40 19.0 +0.4**
baz=182
U61A S **S** **19 45 58.3 +4.1**
baz=182
U61A Possum Corner 35.43 2 P **P** **19 40 19.8 +1.2**
CCAR Cane Creek 35.45 340 P **P** **19 40 18.8 -0.1**
U58A Oxford 35.47 359 P **P** **19 40 19.5 +0.5**
baz=179,SNR=27
U58A S **S** **19 45 57.3 +2.4**
baz=179
U56A King 35.49 357 P **P** **19 40 20.1 +0.9**
baz=176,SNR=33
U56A S **S** **19 45 58.5 +3.3**
baz=176
U56A King 35.49 357 P **P** **19 40 20.1 +0.9**
U57A Blanch 35.53 358 P **P** **19 40 20.0 +0.5**
baz=178,SNR=43
U57A S **S** **19 45 59.2 +3.5**
baz=178
U60A Pendleton 35.55 1 P **P** **19 40 20.1 +0.4**
baz=181
U60A S **S** **19 45 59.6 +3.5**
baz=181
PTGB Pitanga 35.62 137 *eP* **P** **19 40 20.1 -0.5**
U55A TA2, Sparta 35.69 356 P **P** **19 40 21.8 +0.8**
baz=175,SNR=26
U55A S **S** **19 46 01.9 +3.5**
baz=175
X43A Marvell 35.71 342 P **P** **19 40 20.3 -0.8**
baz=158
X43A S **S** **19 45 59.6 +1.0**
baz=158
X43A Marvell 35.71 342 P **P** **19 40 20.9 -0.1**
WLAR White Oak Lake 35.73 338 P **P** **19 40 20.8 -0.4**
U54A Nelsons Funny 35.77 355 P **P** **19 40 22.2 +0.6**
baz=173,SNR=46
U54A S **S** **19 46 01.8 +2.1**
baz=173
U54A Nelsons Funny 35.77 355 P **P** **19 40 22.4 +0.7**
U54A IAMs_20 IAMs_20 19 55 57.7
comp=Z,5µm,21.0s
V48A Smith Brothers 35.78 348 P **P** **19 40 20.9 -0.7**
W45A Hickory Valley 35.80 344 P **P** **19 40 21.2 -0.7**
MET Memphis--Engin 35.98 343 P **P** **19 40 22.6 -0.8**
BO02 Sierra Bellavi 35.99 170 P **P** **19 40 24.2 +0.7**
BO02 IAMs_20 IAMs_20 19 54 37.9
comp=Z,5µm,21.0s
TZTN Tazewell 35.99 352 P **P** **19 40 23.6 +0.1**
baz=170,SNR=45
TZTN S **S** **19 46 05.8 +2.8**
baz=170
TZTN Tazewell 35.99 352 P **P** **19 40 23.8 +0.3**
TZTN IAMs_20 IAMs_20 19 56 00.7
comp=Z,5µm,22.0s
BB19B Bebedouro 36.01 129 *eP* **P** **19 40 23.0 -0.8**
GO05 Huala 36.02 172 P **P** **19 40 24.6 +0.9**
CLTN Cedars of Leba 36.02 348 P **P** **19 40 23.5 -0.1**
CLTN IAmb IAmb 19 40 25.9
comp=Z,508nm,1.6s
CLTN IAMs_20 IAMs_20 19 55 24.5
comp=Z,5µm,20.0s
T58A Grand View Acr 36.02 359 P **P** **19 40 24.2 +0.5**
baz=179,SNR=32
T58A S **S** **19 46 05.3 +2.0**
baz=179
T59A Double "B" Far 36.04 1 P **P** **19 40 24.6 +0.7**
baz=180,SNR=48
T59A Double "B" Far 36.04 1 P **P** **19 40 24.9 +1.1**
T57A Hurt 36.09 358 P **P** **19 40 24.7 +0.4**
baz=178,SNR=56
T57A S **S** **19 46 04.8 +0.5**

	baz=178								
T57A				S	**S**	**19 46 07.4**	**+3.0**		
	baz=178								
T57A	**Hurt**	**36.09**	**358**	P	**P**	**19 40 25.1**	**+0.8**		
T57A				IAmb	IAmb	19 40 28.3			
	comp=Z,249nm,1.1s								
Z38A	**Mt. Pleasant**	**36.09**	**335**	P	**P**	**19 40 24.4**	**0.0**		
Z38A				IAmb	IAmb	19 40 26.6			
	comp=Z,374nm,1.1s								
JCT	**Junction City**	**36.13**	**327**	P	**P**	**19 40 24.9**	**0.0**		
	baz=141,SNR=11								
JCT	**Junction City**	**36.13**	**327**	P	**P**	**19 40 24.8**	**0.0**		
JCT				pmax	pmax				
	comp=Z,304nm,1.7s								
JCT				MLR	MLR				
	comp=Z,3µm,21.0s								
JCT	**Junction City**	**36.13**	**327**	P	**P**	**19 40 24.8**	**0.0**		
JCT				IAmb	IAmb	19 40 27.7			
	comp=Z,304nm,1.7s								
WHTX	**Lake Whitney,**	**36.13**	**331**	P	**P**	**19 40 24.1**	**-0.7**		
	baz=146,SNR=34								
WHTX	**Lake Whitney,**	**36.13**	**331**	P	**P**	**19 40 23.8**	**-0.9**		
WHTX				IAmb	IAmb	19 40 27.6			
	comp=Z,375nm,1.4s								
T56A	**Rocky Mt**	**36.15**	**357**	P	**P**	**19 40 25.6**	**+0.8**		
	baz=176,SNR=52								
T56A				S	**S**	**19 46 09.6**	**+4.2**		
	baz=176								
T60A	**Surry**	**36.23**	**2**	P	**P**	**19 40 26.1**	**+0.7**		
	baz=182								
T60A	**Surry**	**36.23**	**2**	P	**P**	**19 40 25.6**	**+0.2**		
T55A	**Pulaski**	**36.28**	**356**	P	**P**	**19 40 26.8**	**+0.8**		
	baz=175,SNR=47								
T55A				S	**S**	**19 46 09.8**	**+2.3**		
	baz=175								
T54A	**Tazewell**	**36.29**	**355**	P	**P**	**19 40 26.5**	**+0.4**		
	baz=174,SNR=58								
T54A				S	**S**	**19 46 10.8**	**+3.2**		
	baz=174								
T53A	**Wise**	**36.30**	**354**	P	**P**	**19 40 26.5**	**+0.3**		
	baz=172,SNR=37								
T53A				S	**S**	**19 46 10.4**	**+2.6**		
	baz=172								
U49A	**Red Boiling Sp**	**36.32**	**349**	P	**P**	**19 40 26.1**	**-0.2**		
U49A				IAmb	IAmb	19 40 28.4			
	comp=Z,509nm,1.8s								
U49A				IAMs_20	IAMs_20	19 55 43.4			
	comp=Z,5µm,21.0s								
X40A	**Basin Creek Fa**	**36.34**	**339**	P	**P**	**19 40 25.4**	**-1.1**		
	baz=154								
X40A				S	**S**	**19 46 08.4**	**+0.1**		
	baz=154								
X40A	**Basin Creek Fa**	**36.34**	**339**	P	**P**	**19 40 24.9**	**-1.5**		
X40A				IAmb	IAmb	19 40 28.2			
	comp=Z,467nm,1.7s								
BLA	**Blacksburg**	**36.35**	**357**	P	**P**	**19 40 27.6**	**+1.0**		
	baz=176,SNR=32								
BLA				S	**S**	**19 46 12.2**	**+3.7**		
	baz=176								
BLA	**Blacksburg**	**36.35**	**357**	P	**P**	**19 40 27.8**	**+1.2**		
BLA				pmax	pmax				
	comp=Z,875nm,1.7s								
BLA				MLR	MLR				
	comp=Z,3µm,22.0s								
BLA	**Blacksburg**	**36.35**	**357**	P	**P**	**19 40 27.8**	**+1.2**		
VWCC	**Virginia Weste**	**36.37**	**357**	P	**P**	**19 40 27.4**	**+0.7**		
WVT	**Waverly**	**36.38**	**346**	P	**P**	**19 40 25.1**	**-1.8**		
	baz=163								
WVT				S	**S**	**19 46 07.4**	**-1.5**		
	baz=163								
WVT	**Waverly**	**36.38**	**346**	P	**P**	**19 40 25.0**	**-1.8**		
WVT				pmax	pmax				
	comp=Z,346nm,1.8s								
WVT				MLR	MLR				
	comp=Z,3µm,19.0s								
WVT	**Waverly**	**36.38**	**346**	P	**P**	**19 40 25.0**	**-1.8**		
WVT				IAmb	IAmb	19 40 28.0			
	comp=Z,346nm,1.8s								
RFA	**San Rafael**	**36.43**	**167**	*i* P	**P**	**19 40 28.5**	**+1.2**		
RCRC	**Randolf Colleg**	**36.52**	**358**	P	**P**	**19 40 28.2**	**+0.2**		
FRTB	**Fartura**	**36.53**	**133**	*eP*	**P**	**19 40 27.4**	**-0.9**		
LPAR	**Lepanto**	**36.54**	**343**	P	**P**	**19 40 27.4**	**-0.7**		
HALT	**Halls**	**36.55**	**344**	P	**P**	**19 40 27.0**	**-1.2**		
HBAR	**Harrisburg**	**36.60**	**342**	P	**P**	**19 40 28.4**	**-0.3**		
T50A	**Nancy**	**36.65**	**351**	P	**P**	**19 40 28.4**	**-0.7**		
T50A				IAmb	IAmb	19 40 31.3			
	comp=Z,409nm,1.6s								
T50A				IAMs_20	IAMs_20	19 56 02.1			
	comp=Z,4µm,22.0s								
MIAR	**Mount Ida**	**36.66**	**338**	P	**P**	**19 40 27.8**	**-1.4**		
	baz=153,SNR=54								
MIAR				S	**S**	**19 46 11.1**	**-2.2**		
	baz=153								
MIAR	**Mount Ida**	**36.66**	**338**	P	**P**	**19 40 27.9**	**-1.4**		
MIAR				pmax	pmax				
	comp=Z,310nm,1.5s								
MIAR	**Mount Ida**	**36.66**	**338**	P	**P**	**19 40 27.9**	**-1.4**		
MIAR				IAmb	IAmb	19 40 30.9			
	comp=Z,310nm,1.4s								
S58A	**Poland Farm, P**	**36.68**	**360**	P	**P**	**19 40 29.6**	**+0.3**		
	baz=180,SNR=16								
S58A	**Poland Farm, P**	**36.68**	**360**	P	**P**	**19 40 29.9**	**+0.6**		
S58A				IAmb	IAmb	19 40 32.4			
	comp=Z,352nm,1.8s								
W41B	**Gary Mavity, V**	**36.76**	**340**	P	**P**	**19 40 29.1**	**-0.9**		
	baz=156,SNR=82								
W41B				S	**S**	**19 46 11.9**	**-2.7**		
	baz=156								
W41B	**Gary Mavity, V**	**36.76**	**340**	P	**P**	**19 40 29.1**	**-0.9**		
W41B				IAmb	IAmb	19 40 31.7			
	comp=Z,585nm,1.4s								
JSRW	**J. Sargeant Re**	**36.76**	**0**	P	**P**	**19 40 30.4**	**+0.4**		
S56A	**Natural Bridge**	**36.78**	**358**	P	**P**	**19 40 30.5**	**+0.3**		
	baz=177,SNR=17								
S56A				S	**S**	**19 46 17.7**	**+2.8**		
	baz=177								
S60A	**Water View**	**36.79**	**2**	P	**P**	**19 40 31.6**	**+1.3**		
	baz=182,SNR=6.8								
GNAR	**Gosnell**	**36.79**	**344**	P	**P**	**19 40 29.1**	**-1.2**		
S61A	**Accomac**	**36.81**	**3**	P	**P**	**19 40 32.0**	**+1.6**		
	baz=184								
S61A				S	**S**	**19 46 20.2**	**+4.9**		
	baz=184								
S61A	**Accomac**	**36.81**	**3**	IAMs_20	IAMs_20	19 56 49.7			
	comp=Z,5µm,20.0s								
S59A	**Mechanicsville**	**36.84**	**1**	P	**P**	**19 40 31.4**	**+0.8**		
	baz=181,SNR=5.6								
S59A				S	**S**	**19 46 20.5**	**+4.8**		
	baz=181								
S57A	**Dark Hollow, R**	**36.84**	**359**	P	**P**	**19 40 31.2**	**+0.5**		
	baz=178,SNR=34								
S57A				S	**S**	**19 46 19.6**	**+3.8**		
	baz=178								
S57A	**Dark Hollow, R**	**36.84**	**359**	P	**P**	**19 40 31.1**	**+0.4**		
WHAR	**Wooly Hollow**	**36.88**	**340**	P	**P**	**19 40 29.9**	**-1.2**		
GLAT	**Glass**	**36.88**	**345**	P	**P**	**19 40 29.4**	**-1.6**		
PEBM	**Pemiscott Bayo**	**36.89**	**344**	P	**P**	**19 40 29.7**	**-1.4**		
S55A	**Lewisburg**	**36.92**	**357**	P	**P**	**19 40 31.9**	**+0.5**		
	baz=176,SNR=52								
S55A				S	**S**	**19 46 21.2**	**+4.1**		
	baz=176								
S53A	**Williamson**	**36.95**	**354**	P	**P**	**19 40 31.6**	**-0.1**		
	baz=173,SNR=13								
S54A	**Dingess, Beckl**	**37.00**	**356**	P	**P**	**19 40 32.3**	**+0.2**		
	baz=174,SNR=40								
S54A				S	**S**	**19 46 21.0**	**+2.6**		
	baz=174								
S54A	**Dingess, Beckl**	**37.00**	**356**	P	**P**	**19 40 32.9**	**+0.8**		
R58B	**Mineral**	**37.03**	**0**	P	**P**	**19 40 33.1**	**+0.8**		
	baz=180,SNR=26								
R58B				S	**S**	**19 46 20.8**	**+2.0**		
	baz=180								
R58B	**Mineral**	**37.03**	**0**	P	**P**	**19 40 33.5**	**+1.2**		
R58B				IAmb	IAmb	19 40 36.7			
	comp=Z,333nm,1.6s								
T47A	**Sharon Grove**	**37.04**	**348**	P	**P**	**19 40 31.6**	**-0.8**		
T47A				IAMs_20	IAMs_20	19 55 56.6			
	comp=Z,5µm,21.0s								
S51A	**Beattyville**	**37.08**	**353**	P	**P**	**19 40 32.9**	**+0.1**		
S51A				IAmb	IAmb	19 40 35.2			
	comp=Z,763nm,1.8s								
S51A				IAMs_20	IAMs_20	19 56 34.3			
	comp=Z,5µm,22.0s								
HICK	**Hickman**	**37.12**	**345**	P	**P**	**19 40 31.9**	**-1.2**		
HICK				IAmb	IAmb	19 40 35.0			
	comp=Z,499nm,1.1s								
PENMO	**Penman**	**37.14**	**344**	P	**P**	**19 40 32.7**	**-0.5**		
Z35A	**Perchaven, San**	**37.15**	**333**	P	**P**	**19 40 32.7**	**-0.7**		
Z35A				IAmb	IAmb	19 40 36.4			
	comp=Z,671nm,1.6s								
LCAR	**Lake Charles**	**37.23**	**342**	P	**P**	**19 40 32.8**	**-1.2**		
R59A	**King George, V**	**37.27**	**1**	P	**P**	**19 40 35.2**	**+0.9**		
	baz=181								
R59A				S	**S**	**19 46 26.1**	**+3.7**		
	baz=181								
CBN	**Corbin Frederi**	**37.28**	**1**	P	**P**	**19 40 35.1**	**+0.8**		
	baz=181								
CBN	**Corbin Frederi**	**37.28**	**1**	P	**P**	**19 40 35.7**	**+1.4**		
CBN				IAmb	IAmb	19 40 38.8			
	comp=Z,354nm,1.4s								
ITAB	**Concordia**	**37.28**	**140**	*eP*	**P**	**19 40 34.8**	**+0.2**		
W39A	**Magazine**	**37.32**	**338**	P	**P**	**19 40 34.3**	**-0.5**		
	baz=153,SNR=97								
W39A				S	**S**	**19 46 23.7**	**+0.4**		
	baz=153								
W39A	**Magazine**	**37.32**	**338**	P	**P**	**19 40 33.5**	**-1.3**		
R54A	**Victor**	**37.35**	**356**	P	**P**	**19 40 35.5**	**+0.4**		
	baz=175,SNR=40								
R54A				S	**S**	**19 46 27.4**	**+3.6**		
	baz=175								
R60A	**Leonardtown, M**	**37.36**	**2**	P	**P**	**19 40 35.8**	**+0.8**		
	baz=182								
R58A	**Rapidan**	**37.37**	**360**	P	**P**	**19 40 36.4**	**+1.3**		
	baz=180,SNR=110								
R58A				S	**S**	**19 46 27.3**	**+3.5**		
	baz=180								
FCAR	**Ozark Folk Cen**	**37.37**	**341**	P	**P**	**19 40 33.8**	**-1.5**		
FCAR				IAmb	IAmb	19 40 37.2			
	comp=Z,352nm,1.3s								
R57A	**Stanardsville**	**37.37**	**359**	P	**P**	**19 40 36.0**	**+0.8**		
	baz=179,SNR=26								
R57A				S	**S**	**19 46 28.8**	**+4.9**		
	baz=179								
PARMO	**Parma**	**37.38**	**344**	P	**P**	**19 40 34.1**	**-1.1**		
X37A	**Clayton**	**37.40**	**336**	P	**P**	**19 40 34.6**	**-0.9**		
X37A				IAmb	IAmb	19 40 37.8			
	comp=Z,683nm,1.8s								
R55A	**Marlinton**	**37.41**	**357**	P	**P**	**19 40 36.5**	**+0.9**		
	baz=176,SNR=42								
R55A				S	**S**	**19 46 28.6**	**+4.1**		
	baz=176								
R55A	**Marlinton**	**37.41**	**357**	P	**P**	**19 40 36.4**	**+0.9**		
T45A	**Paducah**	**37.42**	**346**	P	**P**	**19 40 34.5**	**-1.1**		
R61A	**Willards**	**37.47**	**3**	P	**P**	**19 40 37.3**	**+1.3**		
	baz=184								
R56A	**Bull Pasture M**	**37.50**	**358**	P	**P**	**19 40 37.1**	**+0.7**		
	baz=178,SNR=27								
R56A				S	**S**	**19 46 31.3**	**+5.3**		
	baz=178								
TX32	**Lajitas Array**	**37.55**	**322**	P	**P**	**19 40 36.9**	**-0.1**		
TXAR	**Lajitas Array**	**37.55**	**322**	P	**P**	**19 40 37.7**	**+0.7**		
	comp=Z,27nm,0.9s,baz=141,slow=8.2,SNR=95								
TXAR				PcP	**PcP**	**19 42 57.0**	**+1.8**		
	comp=Z,8.9nm,0.7s,baz=159,slow=2.8,SNR=16								
TXAR				LR	LR	19 57 50.1			
	comp=Z,3µm,19.1s,baz=0.0,slow=39								
TXAR	**Lajitas Array**	**37.55**	**322**	P	**P**	**19 40 36.8**	**-0.2**		
TXAR	**Lajitas Array**	**37.55**	**322**	P	**P**	**19 40 36.8**	**-0.2**		
TX31	**Lajitas Ar. Si**	**37.55**	**322**	P	**P**	**19 40 37.2**	**+0.2**		
TX31				IAmb	IAmb	19 40 40.8			
	comp=Z,513nm,1.4s								
R53A	**Hurricane**	**37.58**	**355**	P	**P**	**19 40 37.1**	**+0.1**		
	baz=173,SNR=21								
R53A				S	**S**	**19 46 30.1**	**+3.0**		
	baz=173								
R53A	**Hurricane**	**37.58**	**355**	P	**P**	**19 40 37.0**	**0.0**		
R53A				IAMs_20	IAMs_20	19 57 02.6			
	comp=Z,5µm,20.0s								
PBMO	**Poplar Bluff**	**37.67**	**343**	P	**P**	**19 40 36.6**	**-1.2**		
PBMO				IAmb	IAmb	19 40 39.1			
	comp=Z,588nm,1.6s								
BI03	**Tigo**	**37.68**	**174**	IAMs_20	IAMs_20	19 54 44.9			
	comp=Z,6µm,20.0s								
ABTX	**Abilene, Hawle**	**37.73**	**329**	P	**P**	**19 40 38.2**	**-0.2**		
	baz=143,SNR=21								
ABTX	**Abilene, Hawle**	**37.73**	**329**	P	**P**	**19 40 37.9**	**-0.5**		
BI02	**San Fabin de**	**37.73**	**171**	IAMs_20	IAMs_20	19 55 05.2			
	comp=Z,4µm,20.0s								
R50A	**Paris**	**37.81**	**352**	P	**P**	**19 40 38.6**	**-0.3**		
R50A				IAmb	IAmb	19 40 41.2			
	comp=Z,716nm,1.8s								
R50A				IAMs_20	IAMs_20	19 56 57.8			
	comp=Z,4µm,22.0s								
R49A	**Shelbyville**	**37.95**	**351**	P	**P**	**19 40 39.5**	**-0.5**		
R49A				IAmb	IAmb	19 40 42.7			
	comp=Z,520nm,1.6s								
R49A				IAMs_20	IAMs_20	19 56 42.5			
	comp=Z,5µm,22.0s								
Q59A	**Harwood**	**37.95**	**2**	P	**P**	**19 40 40.7**	**+0.7**		
	baz=182								
Q58A	**Fox Den Farm,**	**38.01**	**0**	P	**P**	**19 40 41.8**	**+1.3**		
	baz=180,SNR=51								
Q58A				S	**S**	**19 46 37.4**	**+3.8**		
	baz=180								
Q61A	**Milford**	**38.02**	**3**	P	**P**	**19 40 42.0**	**+1.4**		
	baz=184								
U40A	**Yellville**	**38.04**	**340**	P	**P**	**19 40 40.1**	**-0.8**		
	baz=155,SNR=204								
U40A				S	**S**	**19 46 33.0**	**-1.1**		
	baz=155								
U40A	**Yellville**	**38.04**	**340**	P	**P**	**19 40 39.0**	**-1.9**		
Q53A	**Leroy**	**38.07**	**355**	P	**P**	**19 40 41.4**	**+0.3**		
	baz=174,SNR=58								
Q53A				S	**S**	**19 46 36.1**	**+1.6**		
	baz=174								
WCI	**Wyandotte Cave**	**38.08**	**349**	P	**P**	**19 40 40.2**	**-1.0**		
	baz=166								
WCI				S	**S**	**19 46 33.4**	**-1.3**		
	baz=166								
WCI	**Wyandotte Cave**	**38.08**	**349**	P	**P**	**19 40 39.7**	**-1.5**		
WCI				pmax	pmax				
	comp=Z,781nm,1.9s								
WCI	**Wyandotte Cave**	**38.08**	**349**	P	**P**	**19 40 39.7**	**-1.5**		
WCI				IAmb	IAmb	19 40 42.7			
	comp=Z,781nm,1.9s								
NBMO	**Morrinhos-CE**	**38.09**	**96**	*eP*	**P**	**19 40 41.6**	**0.0**		
T42A	**Van Buren**	**38.10**	**343**	P	**P**	**19 40 39.8**	**-1.6**		
T42A				IAmb	IAmb	19 40 43.1			
	comp=Z,334nm,1.2s								
USIN	**University of**	**38.10**	**347**	P	**P**	**19 40 40.1**	**-1.3**		
USIN				IAMs_20	IAMs_20	19 56 38.7			
	comp=Z,4µm,20.0s								
Q57A	**Strasburg**	**38.10**	**359**	P	**P**	**19 40 42.7**	**+1.3**		
	baz=179,SNR=32								
Q57A				S	**S**	**19 46 37.3**	**+2.3**		
	baz=179								
Q55A	**Buckhannon**	**38.11**	**357**	P	**P**	**19 40 42.9**	**+1.4**		
	baz=176,SNR=69								
Q55A				S	**S**	**19 46 38.8**	**+3.5**		
	baz=176								
Q60A	**Greensboro**	**38.12**	**3**	P	**P**	**19 40 42.4**	**+0.9**		
	baz=183								
Q56A	**Snyder Ridge,**	**38.12**	**358**	P	**P**	**19 40 42.7**	**+1.1**		
	baz=178,SNR=35								
Q56A				S	**S**	**19 46 38.4**	**+3.0**		
	baz=178								
Q56A	**Snyder Ridge,**	**38.12**	**358**	P	**P**	**19 40 42.6**	**+1.1**		
TIJ01	**Guaruva-PR**	**38.14**	**135**	*eP*	**P**	**19 40 42.4**	**+0.4**		
Q54A	**Coxs Mills**	**38.14**	**356**	P	**P**	**19 40 41.7**	**+0.1**		
	baz=175,SNR=38								
Q54A	**Coxs Mills**	**38.14**	**356**	P	**P**	**19 40 41.8**	**+0.1**		
Q54A				IAMs_20	IAMs_20	19 57 21.4			
	comp=Z,4µm,19.0s								
S44A	**Carbondale**	**38.22**	**345**	P	**P**	**19 40 40.9**	**-1.4**		
S44A				IAmb	IAmb	19 40 44.5			
	comp=Z,591nm,1.5s								
Q52A	**Bidwell**	**38.24**	**355**	P	**P**	**19 40 42.5**	**0.0**		
	baz=173,SNR=37								
Q52A				S	**S**	**19 46 38.9**	**+1.9**		
	baz=173								
SPB	**Sao Paulo**	**38.26**	**131**	P	**P**	**19 40 39.2**	**-3.7**		
SPB	**Sao Paulo**	**38.26**	**131**	*eP*	**P**	**19 40 43.5**	**+0.6**		
VAO	**Valinhos**	**38.28**	**130**	*eP*	**P**	**19 40 43.2**	**0.0**		
HHAR	**Hobbs**	**38.35**	**339**	P	**P**	**19 40 42.1**	**-1.4**		
HHAR				IAmb	IAmb	19 40 44.9			
	comp=Z,600nm,1.5s								
Q51A	**Peebles**	**38.41**	**353**	P	**P**	**19 40 43.7**	**-0.3**		
Q51A				IAmb	IAmb	19 40 46.4			
	comp=Z,552nm,1.8s								
Q51A				IAMs_20	IAMs_20	19 56 21.7			
	comp=Z,4µm,22.0s								
SDMD	**Soldier's Deli**	**38.49**	**1**	P	**P**	**19 40 44.3**	**-0.3**		
W35A	**Tecumseh**	**38.52**	**335**	P	**P**	**19 40 43.6**	**-1.4**		
P57A	**Homestead Farm**	**38.55**	**360**	P	**P**	**19 40 46.2**	**+1.1**		
	baz=180,SNR=41								
P57A	**Homestead Farm**	**38.55**	**360**	P	**P**	**19 40 46.8**	**+1.6**		
P57A				IAmb	IAmb	19 40 49.4			
	comp=Z,801nm,1.8s								
P58A	**Pank, Wackersv**	**38.56**	**1**	P	**P**	**19 40 46.2**	**+1.0**		
	baz=181,SNR=24								
P58A				S	**S**	**19 46 45.3**	**+3.4**		
	baz=181								
MGMO	**Mountain Grove**	**38.57**	**341**	P	**P**	**19 40 43.8**	**-1.6**		
P56A	**Dayton Farm, R**	**38.58**	**359**	P	**P**	**19 40 46.6**	**+1.2**		
	baz=178,SNR=48								
P56A				S	**S**	**19 46 44.1**	**+1.9**		
	baz=178								
P55A	**Reedsville**	**38.61**	**358**	P	**P**	**19 40 46.3**	**+0.6**		
	baz=177,SNR=22								
P55A				S	**S**	**19 46 45.3**	**+2.5**		
	baz=177								
U38A	**Gravette**	**38.65**	**339**	P	**P**	**19 40 44.4**	**-1.6**		
U38A				IAmb	IAmb	19 40 47.4			
	comp=Z,605nm,1.6s								
P53A	**Whipple**	**38.68**	**356**	P	**P**	**19 40 46.5**	**+0.3**		
	baz=174,SNR=35								
P53A				S	**S**	**19 46 45.0**	**+1.2**		
	baz=174								
P53A	**Whipple**	**38.68**	**356**	P	**P**	**19 40 46.7**	**+0.4**		
P53A				IAMs_20	IAMs_20	19 57 46.7			
	comp=Z,6µm,20.0s								
P59A	**Jarrettsville**	**38.70**	**2**	P	**P**	**19 40 47.6**	**+1.3**		
	baz=182,SNR=12								
TUL1	**Leonard**	**38.72**	**337**	P	**P**	**19 40 45.8**	**-0.9**		
	baz=151,SNR=29								
TUL1				S	**S**	**19 46 43.3**	**-1.1**		
	baz=151								
TUL1	**Leonard**	**38.72**	**337**	P	**P**	**19 40 45.5**	**-1.1**		
TUL1				IAmb	IAmb	19 40 48.3			
	comp=Z,643nm,1.4s								
P54A	**Burton**	**38.74**	**357**	P	**P**	**19 40 47.1**	**+0.4**		
	baz=176,SNR=29								
P54A				S	**S**	**19 46 45.9**	**+1.3**		
	baz=176								
MCWV	**Mont Chateau**	**38.76**	**358**	P	**P**	**19 40 47.6**	**+0.7**		
	baz=177,SNR=11								
MCWV	**Mont Chateau**	**38.76**	**358**	P	**P**	**19 40 47.9**	**+1.0**		
PET01	**Itanhaem-SP**	**38.78**	**132**	*eP*	**P**	**19 40 47.6**	**+0.3**		
FVM	**French Village**	**38.80**	**344**	P	**P**	**19 40 45.9**	**-1.3**		
FVM				pmax	pmax				
	comp=Z,581nm,1.3s								
FVM	**French Village**	**38.80**	**344**	P	**P**	**19 40 45.9**	**-1.3**		
FVM				IAmb	IAmb	19 40 49.3			
	comp=Z,581nm,1.3s								
FNO	**Franklin**	**38.83**	**334**	P	**P**	**19 40 47.0**	**-0.5**		
P51A	**Williamsport**	**38.83**	**354**	P	**P**	**19 40 46.8**	**-0.7**		
	baz=172,SNR=11								
P51A	**Williamsport**	**38.83**	**354**	P	**P**	**19 40 47.0**	**-0.5**		
P51A				IAmb	IAmb	19 40 49.6			
	comp=Z,391nm,1.7s								
P51A				IAMs_20	IAMs_20	19 58 09.7			
	comp=Z,4µm,21.0s								
P61A	**Hammonton**	**38.84**	**4**	P	**P**	**19 40 48.1**	**+0.6**		
	baz=185								
P61A	**Hammonton**	**38.84**	**4**	P	**P**	**19 40 48.5**	**+0.9**		
P52A	**Corning**	**38.89**	**355**	P	**P**	**19 40 47.5**	**-0.4**		
	baz=173,SNR=18								
P52A	**Corning**	**38.89**	**355**	P	**P**	**19 40 48.0**	**0.0**		
P52A				IAmb	IAmb	19 40 50.3			
	comp=Z,711nm,1.7s								
P52A				IAMs_20	IAMs_20	19 57 43.2			
	comp=Z,4µm,20.0s								
P60A	**Greenville**	**38.93**	**3**	P	**P**	**19 40 49.0**	**+0.6**		
	baz=184,SNR=6.7								
P60A				S	**S**	**19 46 51.6**	**+4.2**		
	baz=184								
P60A	**Greenville**	**38.93**	**3**	P	**P**	**19 40 49.2**	**+0.9**		
OLIL	**Olney**	**38.94**	**347**	P	**P**	**19 40 47.2**	**-1.2**		
OLIL				IAmb	IAmb	19 40 50.2			
	comp=Z,326nm,1.2s								
OLIL				IAMs_20	IAMs_20	19 56 53.7			
	comp=Z,4µm,21.0s								
BSCB	**Bom Sucesso**	**38.96**	**126**	*eP*	**P**	**19 40 49.6**	**+0.7**		
OKCFA	**Oklahoma City**	**38.99**	**334**	P	**P**	**19 40 47.2**	**-1.7**		
OKCFA				IAmb	IAmb	19 40 50.3			
	comp=Z,548nm,1.5s								
LPIG	**La Paz**	**39.01**	**309**	P	**P**	**19 40 51.3**	**+2.0**		
	comp=Z,51nm,0.3s,baz=155,slow=1.3,SNR=21								
LPIG				LR	LR	19 55 06.1			
	comp=Z,2µm,18.2s,baz=122,slow=33								
WMOK	**Wichita Mounta**	**39.02**	**332**	P	**P**	**19 40 47.9**	**-1.2**		
	baz=146,SNR=69								
WMOK	**Wichita Mounta**	**39.02**	**332**	P	**P**	**19 40 47.5**	**-1.7**		
WMOK				pmax	pmax				
	comp=Z,222nm,1.5s								
WMOK				MLR	MLR				
	comp=Z,3µm,21.0s								
WMOK	**Wichita Mounta**	**39.02**	**332**	P	**P**	**19 40 47.5**	**-1.7**		
BLO	**Bloomington**	**39.04**	**349**	P	**P**	**19 40 48.2**	**-1.1**		
BLO				pmax	pmax				
	comp=Z,1µm,2.0s								
BLO				MLR	MLR				
	comp=Z,6µm,20.0s								
BLO	**Bloomington**	**39.04**	**349**	P	**P**	**19 40 48.2**	**-1.1**		
BLO				IAMs_20	IAMs_20	19 57 18.4			
	comp=Z,6µm,20.0s								
WUPA	**West Chester U**	**39.06**	**3**	P	**P**	**19 40 50.4**	**+1.0**		
PSUB	**Penn St. - Bra**	**39.06**	**3**	P	**P**	**19 40 49.7**	**+0.4**		
PSUB				IAMs_20	IAMs_20	20 00 06.5			
	comp=Z,3µm,18.0s								
OK025	**Westminster Rd**	**39.08**	**335**	P	**P**	**19 40 48.8**	**-0.9**		
OK025				IAmb	IAmb

comp=Z,5µm,21.0s
O54A Avella 39.31 357 P P 19 40 51.8 +0.2
baz=176,SNR=29
O54A S S 19 46 56.7 +3.5
baz=176
O54A Avella 39.31 357 P P 19 40 51.9 +0.4
O54A IAmb IAmb 19 40 54.3
comp=Z,746nm,1.6s
O54A IAMs_20 IAMs_20 19 58 29.1
comp=Z,5µm,18.0s
OK029 Liberty Lake 39.31 335 P P 19 40 50.6 -1.0
OK029 IAmb IAmb 19 40 52.8
comp=Z,337nm,1.1s
QUOK Quay 39.32 336 P P 19 40 50.8 -0.8
QUOK IAmb IAmb 19 40 53.9
comp=Z,721nm,1.3s
O56A Blue Knob Stat 39.34 359 P P 19 40 52.7 +0.9
baz=179,SNR=42
O56A S S 19 46 57.9 +4.2
baz=179
O56A Blue Knob Stat 39.34 359 P P 19 40 53.3 +1.6
O52A Adamsville 39.34 355 P P 19 40 51.5 -0.2
baz=174,SNR=14
O52A Adamsville 39.34 355 P P 19 40 51.8 0.0
O52A IAmb IAmb 19 40 54.2
comp=Z,759nm,1.9s
O52A IAMs_20 IAMs_20 19 58 07.2
comp=Z,6µm,19.0s
SLM Saint Louis 39.36 345 P P 19 40 51.1 -0.8
SLM pmax pmax
comp=Z,884nm,1.9s
SLM Saint Louis 39.36 345 P P 19 40 51.1 -0.8
SLM IAmb IAmb 19 40 53.0
comp=Z,884nm,1.9s
S39A Bolivar 39.40 341 P P 19 40 50.4 -2.0
S39A IAmb IAmb 19 40 54.3
comp=Z,292nm,1.2s
O59A Robesonia 39.41 2 P P 19 40 53.6 +1.3
baz=183,SNR=28
O53A New Philadelph 39.43 356 P P 19 40 52.4 -0.1
baz=175,SNR=30
O53A New Philadelph 39.43 356 P P 19 40 52.9 +0.4
O53A IAmb IAmb 19 40 55.2
comp=Z,869nm,1.6s
O53A IAMs_20 IAMs_20 19 58 10.4
comp=Z,5µm,20.0s
O51A Pataskala 39.44 354 P P 19 40 52.1 -0.5
baz=173,SNR=14
O60A Telford 39.45 3 P P 19 40 53.8 +1.2
baz=184,SNR=19
O60A S S 19 47 00.6 +5.4
baz=184
PARB Paraibuna 39.50 129 eP P 19 40 54.1 +0.7
CNLB Canela 39.54 141 eP P 19 40 54.1 +0.4
ACSO Alum Creek Sta 39.56 354 P P 19 40 53.2 -0.4
baz=172,SNR=20
ACSO Alum Creek Sta 39.56 354 P P 19 40 53.5 -0.1
ACSO IAmb IAmb 19 40 55.7
comp=Z,599nm,1.8s
ACSO IAMs_20 IAMs_20 19 58 41.1
comp=Z,4µm,20.0s
P46A Rosedale 39.60 349 P P 19 40 52.5 -1.4
P46A IAmb IAmb 19 40 54.9
comp=Z,680nm,1.9s
P46A IAMs_20 IAMs_20 19 57 36.3
comp=Z,5µm,21.0s
R40A Maddies Statio 39.62 342 P P 19 40 52.4 -1.7
R40A IAmb IAmb 19 40 55.8
comp=Z,430nm,1.5s
O49A Covington 39.68 352 P P 19 40 53.9 -0.8
O49A IAmb IAmb 19 40 56.1
comp=Z,646nm,1.8s
O49A IAMs_20 IAMs_20 19 58 03.3
comp=Z,5µm,22.0s
SSPA Standing Stone 39.70 0 P P 19 40 55.9 +1.1
baz=180
SSPA S S 19 47 03.2 +4.2
baz=180
SSPA Standing Stone 39.70 0 P P 19 40 55.7 +0.9
SSPA IAmb IAmb 19 40 59.3
comp=Z,456nm,1.4s
PLTB Pedras Altas 39.71 147 eP P 19 40 54.1 -0.9
LUPA Lehigh Univers 39.73 3 P P 19 40 56.6 +1.6
CLNB Carlsbad 39.77 325 P P 19 40 56.5 +0.9
N57A Milroy 39.82 0 P P 19 40 56.4 +0.6
baz=180,SNR=25
N57A S S 19 47 04.2 +3.3
baz=180
LC01 Cunco 39.85 173 P P 19 40 53.3 -2.7
LC01 IAMs_20 IAMs_20 19 56 12.8
comp=Z,4µm,20.0s
N55A Marion Center 39.86 359 P P 19 40 56.9 +0.8
baz=178,SNR=51
N55A S S 19 47 06.4 +4.9
baz=178
BRNJ Basking Ridge 39.87 4 P P 19 40 57.6 +1.6
BRNJ IAmb IAmb 19 41 00.0
comp=Z,697nm,1.9s
T35A Sooner Cattle 39.88 337 P P 19 40 55.1 -1.2
T35A IAmb IAmb 19 40 58.2
comp=Z,856nm,1.7s
N58A Sunbury 39.92 1 P P 19 40 57.4 +0.9
baz=182,SNR=23
N58A S S 19 47 05.5 +3.2
baz=182
N58A Sunbury 39.92 1 P P 19 40 56.6 +0.1
N58A IAMs_20 IAMs_20 19 58 50.1
comp=Z,5µm,20.0s
N61A South Mountain 39.95 4 P P 19 40 57.8 +0.9
baz=186,SNR=9.3
N53A Lisbon 39.96 357 P P 19 40 56.6 -0.3
baz=175,SNR=19
N53A Lisbon 39.96 357 P P 19 40 57.3 +0.4
N56A West Decatur 39.98 360 P P 19 40 57.9 +0.8
baz=179,SNR=40
N56A S S 19 47 07.0 +3.6
baz=179
GDL2 Guadalupe Moun 40.00 324 P P 19 40 58.5 +0.9
N60A Cedar Hill Far 40.02 3 P P 19 40 58.5 +1.1
baz=184,SNR=16
N60A S S 19 47 09.0 +5.3
baz=184
CPNY Central Park 40.02 5 P P 19 40 58.4 +1.0
N52A McGinn's Farm, 40.02 356 P P 19 40 56.7 -0.8
baz=174,SNR=5.5
N59A State Game Lan 40.03 3 P P 19 40 58.4 +0.9
baz=183,SNR=34
N59A State Game Lan 40.03 3 P P 19 40 59.0 +1.5
N54A Moraine State 40.07 358 P P 19 40 58.5 +0.6
baz=177,SNR=41
N54A S S 19 47 07.7 +3.1
baz=177
N54A Moraine State 40.07 358 P P 19 40 58.9 +1.1
N54A IAMs_20 IAMs_20 19 59 00.3
comp=Z,4µm,18.0s
P43A Skaggs, Pawnee 40.13 346 P P 19 40 56.8 -1.5
P43A IAmb IAmb 19 41 00.1
comp=Z,613nm,1.5s
CROK Carrier 40.14 335 P P 19 40 57.4 -1.1
N51A Ashland 40.19 355 P P 19 40 58.1 -0.7
baz=179,SNR=11
N51A Ashland 40.19 355 P P 19 40 58.7 -0.1
PAL Palisades 40.24 5 P P 19 40 59.8 +0.6
baz=186,SNR=7.8
PAL Palisades 40.24 5 P P 19 40 58.7 -0.5
PAL pmax pmax
comp=Z,330nm,1.7s
PAL MLR MLR
comp=Z,3µm,20.0s
PAL Palisades 40.24 5 P P 19 40 58.7 -0.5
ESAR Angra dos Reis 40.25 128 eP P 19 41 00.0 +0.5
MNTX Cornudas Mount 40.26 323 P P 19 41 00.1 +0.6
baz=135
MNTX S S 19 47 11.1 +3.4
baz=135
MNTX Cornudas Mount 40.26 323 P P 19 40 59.0 -0.5
MNTX IAmb IAmb 19 41 03.8
comp=Z,575nm,1.6s
ODNJ Ogdensburg 40.26 4 P P 19 41 00.5 +1.1
SFIN Lafayette 40.32 349 P P 19 40 58.0 -1.8
baz=166,SNR=11
SFIN S S 19 47 14.0 +5.7
baz=166
SFIN Lafayette 40.32 349 P P 19 40 58.8 -1.0
SFIN IAmb IAmb 19 41 01.3
comp=Z,382nm,1.8s
SFIN IAMs_20 IAMs_20 19 58 08.2
comp=Z,6µm,22.0s
TRNY Table Rock, Ra 40.35 4 P P 19 41 01.0 +0.8
TRNY IAmb IAmb 19 41 03.4
comp=Z,770nm,1.9s
TRNY IAMs_20 IAMs_20 20 00 54.3
comp=Z,4µm,18.0s
N63A Mattituck 40.35 6 P P 19 41 00.7 +0.6
baz=188
KAN13 South Haven SW 40.36 336 P P 19 40 59.6 -0.6
O44A Mansfield 40.38 348 P P 19 40 58.9 -1.4
O44A IAmb IAmb 19 41 01.9
comp=Z,612nm,1.5s
O44A IAMs_20 IAMs_20 19 57 58.8
comp=Z,5µm,20.0s
N49A Columbus Grove 40.39 353 P P 19 40 59.5 -0.9
N49A IAmb IAmb 19 41 02.9
comp=Z,528nm,1.6s
N49A IAMs_20 IAMs_20 20 00 45.9
comp=Z,4µm,18.0s
M57A Sunshine Farm, 40.41 1 P P 19 41 01.6 +1.0
baz=181,SNR=47
M57A S S 19 47 14.2 +4.5
baz=181
M57A Sunshine Farm, 40.41 1 P P 19 41 01.9 +1.3
M57A IAmb IAmb 19 41 05.4
comp=Z,486nm,1.4s
M57A IAMs_20 IAMs_20 19 59 06.0
comp=Z,4µm,20.0s
MSTX Muleshoe 40.42 327 P P 19 41 01.2 +0.3
baz=140,SNR=153
MSTX S S 19 47 12.6 +2.3
baz=140
MSTX Muleshoe 40.42 327 P P 19 41 00.7 -0.3
MSTX IAMs_20 IAMs_20 20 00 57.2
comp=Z,4µm,20.0s
WSPT Westport, CT 40.45 5 P P 19 41 01.4 +0.5
WSPT IAmb IAmb 19 41 05.0
comp=Z,372nm,1.6s
WSPT IAMs_20 IAMs_20 19 58 17.0
comp=Z,5µm,21.0s
M58A Price's Panora 40.46 2 P P 19 41 02.5 +1.4
baz=182,SNR=30
M58A S S 19 47 13.6 +3.2
baz=182
U32A Winter Ranch, 40.48 333 P P 19 41 01.1 -0.3
U32A IAmb IAmb 19 41 04.0
comp=Z,766nm,1.5s
M60A Port Jervis 40.50 4 P P 19 41 02.2 +0.8
baz=185
M60A S S 19 47 13.5 +2.5
baz=185
KAN09 Caldwell North 40.52 336 P P 19 41 01.3 -0.4
MAN01 Angra dos Reis 40.55 128 eP P 19 41 01.7 -0.4
M56A Emporium 40.55 360 P P 19 41 02.3 +0.5
baz=180,SNR=49
M56A Emporium 40.55 360 P P 19 41 02.8 +1.0
M61A Granite Spring 40.55 5 P P 19 41 02.4 +0.6
baz=186,SNR=11
M61A S S 19 47 15.3 +3.5
baz=186
AMTX Amarillo 40.55 329 P P 19 41 01.6 -0.4
baz=142
AMTX Amarillo 40.55 329 P P 19 41 01.5 -0.5
N47A Urbana 40.56 351 P P 19 41 00.4 -1.4
N47A IAmb IAmb 19 41 02.7
comp=Z,817nm,1.9s
N47A IAMs_20 IAMs_20 19 58 34.6
comp=Z,6µm,22.0s
M51A Elyria 40.58 355 P P 19 41 01.6 -0.4
baz=173,SNR=7.7
M53A WI Miller and 40.58 357 P P 19 41 01.8 -0.2
baz=176,SNR=12
M53A WI Miller and 40.58 357 P P 19 41 02.2 +0.1
M53A IAmb IAmb 19 41 04.7
comp=Z,895nm,1.9s
M53A IAMs_20 IAMs_20 19 59 07.8
comp=Z,5µm,19.0s
KAN05 Bluff City Nor 40.60 335 P P 19 41 02.2 -0.1
M54A Oil Creek Stat 40.60 358 P P 19 41 02.7 +0.5
baz=177,SNR=43
M54A Oil Creek Stat 40.60 358 P P 19 41 02.8 +0.5
GDU01 Guandu, BA 40.63 112 eP P 19 41 03.0 +0.2
YLE Yale 40.63 6 P P 19 41 04.0 +1.5
YLE IAmb IAmb 19 41 06.0
comp=Z,847nm,1.9s
YLE IAMs_20 IAMs_20 19 58 20.8
comp=Z,5µm,21.0s
KSPA Keystone Colle 40.67 2 P P 19 41 04.0 +1.3
M59A Waymart 40.67 3 P P 19 41 03.8 +1.0
baz=184,SNR=33
M59A S S 19 47 18.2 +4.6
baz=184
VAS01 Vassouras-RJ 40.67 126 eP P 19 41 03.3 +0.2
P40A Paris 40.69 343 P P 19 41 01.3 -1.7
P40A IAMs_20 IAMs_20 20 01 13.4
comp=Z,4µm,20.0s
KAN10 Anthony SW Sta 40.71 335 P P 19 41 02.5 -0.7
M52A Chesterland 40.72 356 P P 19 41 02.5 -0.8
baz=175
M52A S S 19 47 20.6 +6.2
baz=175
M52A Chesterland 40.72 356 P P 19 41 03.5 +0.3
M50A Fremont 40.73 354 P P 19 41 02.9 -0.4
KAN08 Anthony NE Sta 40.74 335 P P 19 41 03.2 -0.2
ALLY Alegheny Colle 40.76 357 P P 19 41 04.2 +0.7
M62A Hamden 40.76 6 P P 19 41 04.2 +0.7
baz=188,SNR=12
M62A S S 19 47 20.3 +5.4
baz=188
KAN12 Harper NE Stat 40.81 335 P P 19 41 03.1 -0.9
M63A Gales Ferry 40.82 7 P P 19 41 04.4 +0.5
baz=189,SNR=10
M63A S S 19 47 18.8 +3.2
baz=189
HDIL Hopedale 40.94 347 P P 19 41 02.7 -2.4
baz=162,SNR=12
HDIL S S 19 47 20.1 +2.4
baz=162
HDIL Hopedale 40.94 347 P P 19 41 03.5 -1.6
HDIL IAmb IAmb 19 41 06.2
comp=Z,322nm,1.2s
SJMB Sao Joao De Ma 40.95 120 eP P 19 41 05.5 +0.1
KSCT Kent School, K 40.99 5 P P 19 41 05.9 +0.6
EPT El Paso 41.00 322 IAMs_20 IAMs_20 19 58 38.4
comp=Z,3µm,19.0s
M64A Tiverton 41.07 8 P P 19 41 06.9 +0.9
baz=190,SNR=6.6
M64A S S 19 47 23.2 +3.8
baz=190
L53A Girard 41.07 357 P P 19 41 05.9 -0.2
baz=176,SNR=20
L53A S S 19 47 22.0 +2.5
baz=176
L57A Andrews Acres 41.08 1 P P 19 41 06.6 +0.4
baz=182,SNR=36
L57A S S 19 47 21.5 +1.9
baz=182
L58A Harry Jones Me 41.15 2 P P 19 41 08.0 +1.2
baz=183,SNR=35
L58A S S 19 47 23.5 +2.8
baz=183
L60A Shokan 41.19 4 P P 19 41 08.2 +1.2
baz=186,SNR=9.7
L60A S S 19 47 26.6 +5.3
baz=186
L56A Greenwood 41.20 0 P P 19 41 07.7 +0.4
baz=180,SNR=31
L56A S S 19 47 25.8 +4.3
baz=180
L56A Greenwood 41.20 0 P P 19 41 07.2 0.0
L56A IAMs_20 IAMs_20 19 59 33.0
comp=Z,3µm,19.0s
ERPA Erie 41.22 358 P P 19 41 07.3 0.0
baz=177,SNR=10
ERPA Erie 41.22 358 P P 19 41 07.7 +0.4
ERPA IAMs_20 IAMs_20 19 59 54.8
comp=Z,4µm,19.0s
P38A Dawn 41.23 342 P P 19 41 05.7 -1.7
P38A IAmb IAmb 19 41 09.2
comp=Z,411nm,1.6s
BSFB Barra de Sao F 41.29 120 eP P 19 41 08.8 +0.6
BINY Binghamton 41.30 2 P P 19 41 09.0 +1.0
baz=183,SNR=47
BINY S S 19 47 27.1 +4.1
baz=183
BINY Binghamton 41.30 2 P P 19 41 09.1 +1.1
BINY IAMs_20 IAMs_20 20 00 25.6
comp=Z,3µm,18.0s
L54A Sinclairville 41.32 358 P P 19 41 08.4 +0.2
baz=178,SNR=23
L54A S S 19 47 25.9 +2.7
baz=178
L63A North Scituate 41.32 7 P P 19 41 08.6 +0.5
baz=189
L63A S S 19 47 27.6 +4.4
baz=189
TRQA Tornquist 41.33 161 eP P 19 41 07.7 -0.6
L59A Walton 41.34 3 P P 19 41 08.8 +0.5
baz=184,SNR=19
L59A S S 19 47 29.2 +5.7
baz=184
L59A Walton 41.34 3 P P 19 41 09.1 +0.8
L59A IAmb IAmb 19 41 11.1
comp=Z,323nm,1.5s
L62A Suffield 41.37 6 P P 19 41 09.3 +0.8
baz=188
BRYW Bryant College 41.38 7 P P 19 41 10.5 +1.9
BRYW IAmb IAmb 19 41 12.1
comp=Z,550nm,1.8s
BRYW IAMs_20 IAMs_20 19 58 34.7
comp=Z,4µm,21.0s
L48A N Adams 41.42 353 P P 19 41 07.9 -1.1
L48A IAmb IAmb 19 41 10.4
comp=Z,805nm,2.0s
L48A IAMs_20 IAMs_20 19 58 03.4
comp=Z,4µm,21.0s
L61A Hillsdale 1, H 41.45 5 P P 19 41 09.9 +0.7
baz=186,SNR=16
L61A S S 19 47 30.5 +5.5
baz=186
N41A Harden Midland 41.47 345 P P 19 41 07.2 -2.1
N41A IAmb IAmb 19 41 09.9
comp=Z,784nm,1.9s
M44A Midewin, Midew 41.47 348 P P 19 41 07.7 -1.7
M44A IAMs_20 IAMs_20 19 58 43.9
comp=Z,6µm,21.0s
WVNY West Valley, N 41.47 359 P P 19 41 09.8 +0.3
WVNY IAmb IAmb 19 41 13.6
comp=Z,705nm,1.6s
L64A Middleborough 41.49 8 P P 19 41 09.9 +0.4
baz=190
NAN01 Guarapari, ES 41.54 118 eP P 19 41 10.9 +0.6
QUA2 Belchertown 41.65 6 P P 19 41 11.6 +0.8
QUA2 IAmb IAmb 19 41 13.9
comp=Z,323nm,1.6s
QUA2 IAMs_20 IAMs_20 19 59 09.7
comp=Z,5µm,20.0s
K54A Basiliko Farm, 41.68 359 P P 19 41 10.4 -0.6
baz=179,SNR=19
K54A S S 19 47 31.6 +3.1
baz=179
AAM Ann Arbor 41.68 354 P P 19 41 10.6 -0.4
baz=171
AAM Ann Arbor 41.68 354 P P 19 41 10.7 -0.4
AAM pmax pmax
comp=Z,592nm,1.8s
AAM MLR MLR
comp=Z,5µm,22.0s
AAM Ann Arbor 41.68 354 P P 19 41 10.7 -0.4
AAM IAmb IAmb 19 41 13.0
comp=Z,592nm,1.8s
AAM IAMs_20 IAMs_20 19 59 35.2
comp=Z,5µm,22.0s
L46A Eue Claire 41.76 351 P P 19 41 10.2 -1.6
L46A IAmb IAmb 19 41 12.1
comp=Z,474nm,1.8s
L46A IAMs_20 IAMs_20 19 59 10.4
comp=Z,6µm,21.0s
K56A Middlesex 41.77 1 P P 19 41 12.4 +0.6
baz=181,SNR=22
K56A S S 19 47 32.8 +2.9
baz=181
L61B Northampton 41.78 6 P P 19 41 12.5 +0.6
baz=188,SNR=8.8
L61B S S 19 47 32.8 +2.8
baz=188
MMNY Mt. Morris Dam 41.80 0 P P 19 41 12.7 +0.6
MMNY IAMs_20 IAMs_20 19 59 52.8
comp=Z,3µm,20.0s
K57A Scipio Center 41.81 2 P P 19 41 12.7 +0.5
baz=182,SNR=34
K57A S S 19 47 33.6 +3.1
baz=182
KSU1 Kansas State U 41.82 338 P P 19 41 11.1 -1.2
baz=151,SNR=28
KSU1 S S 19 47 29.9 -0.8
baz=151
KSU1 Kansas State U 41.82 338 P P 19 41 11.1 -1.2
KSU1 IAmb IAmb 19 41 14.5
comp=Z,374nm,1.2s
PLCA Paso Flores 41.83 172 P P 19 41 13.3 +0.8
comp=Z,91nm,1.1s,baz=350,slow=9.1,SNR=6.8
PLCA PcP **PcP** 19 43 10.7 +2.1
comp=Z,12nm,1.1s,baz=352,slow=6.1,SNR=3.0
PLCA Paso Flores 41.83 172 P P 19 41 12.9 +0.5
PLCA 19 43 10.7
PLCA pmax pmax
comp=Z,203nm,1.3s
PLCA Paso Flores 41.83 172 P P 19 41 12.9 +0.5
PLCA Paso Flores 41.83 172 eP P 19 41 13.9 +1.4
HQIL Hanson Quary C 41.83 349 P P 19 41 10.2 -2.1
HQIL IAmb IAmb 19 41 13.2
comp=Z,385nm,1.5s
K60A Five Rivers En 41.84 4 P P 19 41 12.8 +0.4
baz=186
BCX Boston College 41.84 8 P P 19 41 13.9 +1.5
BCX IAmb IAmb 19 41 16.0
comp=Z,360nm,1.5s
BCX IAMs_20 IAMs_20 19 57 48.8
comp=Z,4µm,22.0s
WES Weston 41.87 7 P P 19 41 11.9 -0.7
WES pmax pmax
comp=Z,630nm,1.8s
WES MLR MLR
comp=Z,4µm,22.0s
WES Weston 41.87 7 P P 19 41 11.9 -0.7
WES IAmb IAmb 19 41 16.2
comp=Z,630nm,1.8s
WES IAMs_20 IAMs_20 19 58 46.6
comp=Z,4µm,22.0s
K58A Earlville 41.88 3 P P 19 41 13.7 +1.0
baz=183
K58A S S 19 47 35.5 +4.0
baz=183
K58A Earlville 41.88 3 P P 19 41 13.6 +0.8
K58A IAmb IAmb 19 41 16.1
comp=Z,889nm,1.8s
RIB01 Linhares ES 41.88 120 eP P 19 41 12.9 -0.2
K59A Cooperstown 41.93 3 P P 19 41 14.2 +1.0
baz=184,SNR=21
K59A S S 19 47 35.9 +3.7
baz=184
K61A Williamstown 41.94 5 P P 19 41 13.9 +0.6
baz=187,SNR=6.2
K61A S S 19 47 36.9 +4.5
baz=187
HRV Adam Dziewonsk 41.96 7 P P 19 41 14.7 +1.3
baz=189
HRV S S 19 47 36.1 +3.4
baz=189
HRV Adam Dziewonsk 41.96 7 P P 19 41 14.4 +1.0
HRV pmax pmax
comp=Z,605nm,2.0s
HRV MLR MLR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 41.96 7 P P 19 41 14.4 +1.0
HRV IAmb IAmb 19 41 17.0
comp=Z,605nm,2.0s
TRY Troy 41.97 5 P P 19 41 14.9 +1.5
TRY IAmb IAmb 19 41 17.1
comp=Z,428nm,1.8s
K62A Royalston 42.04 6 P P 19 41 14.7 +0.7
baz=188,SNR=16
K62A S S 19 47 38.6 +4.8
baz=188
K62A Royalston 42.04 6 P P 19 41 15.1 +1.1
K62A IAmb IAmb 19 41 17.6
comp=Z,466nm,1.6s
K62A IAMs_20 IAMs_20 19 59 10.1
comp=Z,5µm,20.0s
K50A Casco 42.05 355 P P 19 41 13.6 -0.5
K50A IAMs_20 IAMs_20 19 58 10.5

comp=Z,5µm,22.0s
R32A Long Quarter, 42.07 335 P P 19 41 13.8 -0.6
R32A IAmb IAmb 19 41 16.6
comp=Z,446nm,1.4s
K63A Dunstable 42.15 7 P P 19 41 16.0 +1.2
baz=189,SNR=10
K63A S S 19 47 40.9 +5.5
baz=189
SRIG Santa Rosalia 42.20 312 P P 19 41 16.4 +0.8
SRIG IAmb IAmb 19 41 19.7
comp=Z,271nm,1.2s
N38A Joes South For 42.21 343 P P 19 41 14.0 -1.4
N38A IAmb IAmb 19 41 17.1
comp=Z,528nm,1.4s
L44A Lake County Fo 42.21 349 P P 19 41 13.1 -2.3
HSIG 42.22 315 P P 19 41 15.9 +0.1
HSIG IAMs_20 IAMs_20 19 56 26.8
comp=Z,5µm,20.0s
MEDO Medina 42.23 359 P P 19 41 15.8 +0.2
121A Cookes Peak, D 42.31 321 P P 19 41 18.5 +1.8
baz=132,SNR=211
121A S S 19 47 41.9 +3.3
baz=132
121A Cookes Peak, D 42.31 321 P P 19 41 18.1 +1.4
121A IAmb IAmb 19 41 21.3
comp=Z,592nm,1.3s
121A IAMs_20 IAMs_20 19 58 40.1
comp=Z,4µm,19.0s
J55A Hilton 42.33 0 P P 19 41 16.4 +0.1
J55A IAMs_20 IAMs_20 20 00 07.9
comp=Z,4µm,20.0s
J56A Wolcott 42.35 1 P P 19 41 16.9 +0.4
baz=182,SNR=19
J56A S S 19 47 42.2 +3.8
baz=182
J56A Wolcott 42.35 1 P P 19 41 17.4 +0.9
J56A IAMs_20 IAMs_20 19 58 43.4
comp=Z,4µm,22.0s
L42A Oliver, Polo 42.41 347 P P 19 41 14.9 -2.1
L42A IAmb IAmb 19 41 17.4
comp=Z,790nm,1.9s
L42A IAMs_20 IAMs_20 19 59 01.7
comp=Z,4µm,21.0s
RCBR Riachuelo 42.47 99 P P 19 41 17.6 -0.5
comp=Z,65nm,1.0s,baz=262,slow=8.9,SNR=14
RCBR Riachuelo 42.47 99 P P 19 41 16.0 -2.0
RCBR pmax pmax
comp=Z,114nm,1.2s
RCBR MLR MLR
comp=Z,21µm,18.0s
RCBR Riachuelo 42.47 99 P P 19 41 16.0 -2.0
RCBR Riachuelo 42.47 99 *e*P P 19 41 18.2 +0.1
J58A Remsen 42.49 3 P P 19 41 18.3 +0.6
baz=184,SNR=30
J58A S S 19 47 43.8 +3.3
baz=184
J58A Remsen 42.49 3 P P 19 41 18.1 +0.4
J58A IAmb IAmb 19 41 20.2
comp=Z,301nm,1.4s
J58A IAMs_20 IAMs_20 20 02 26.1
comp=Z,3µm,18.0s
J60A Lant Hill Farm 42.50 5 P P 19 41 18.8 +1.1
baz=186,SNR=12
J57A Williamstown 42.51 2 P P 19 41 18.5 +0.7
baz=183,SNR=20
J57A S S 19 47 44.9 +4.1
baz=183
J57A Williamstown 42.51 2 P P 19 41 18.7 +0.9
J57A IAmb IAmb 19 41 20.8
comp=Z,916nm,1.9s
ACCN Adirondack Com 42.62 5 P P 19 41 19.7 +0.9
ACCN IAmb IAmb 19 41 22.3
comp=Z,326nm,1.6s
ACCN IAMs_20 IAMs_20 20 02 30.4
comp=Z,4µm,21.0s
J59A Piesco 42.64 4 P P 19 41 19.9 +1.0
baz=185,SNR=38
J59A S S 19 47 47.3 +4.6
baz=185
J59A Piesco 42.64 4 P P 19 41 19.7 +0.8
J59A IAmb IAmb 19 41 22.2
comp=Z,540nm,1.4s
J59A IAMs_20 IAMs_20 19 59 43.0
comp=Z,4µm,20.0s
J62A Henniker 42.64 7 P P 19 41 20.0 +1.1
baz=189,SNR=6.7
J61A Chester 42.68 6 P P 19 41 20.5 +1.2
baz=188,SNR=11
J61A S S 19 47 47.1 +3.8
baz=188
BNM Barren Site 42.72 324 P P 19 41 20.7 +0.7
J47A Sunmer 42.75 353 P P 19 41 19.1 -0.6
J47A IAmb IAmb 19 41 22.0
comp=Z,507nm,1.4s
J47A IAMs_20 IAMs_20 19 58 42.4
comp=Z,4µm,22.0s
J63A Strafford 42.78 7 P P 19 41 20.7 +0.7
baz=190
K43A Burlington 42.80 349 P P 19 41 19.7 -0.5
K43A IAmb IAmb 19 41 20.4
comp=Z,534nm,1.9s
CBKS Cedar Bluff 42.83 335 P P 19 41 20.6 0.0
baz=147,SNR=39
CBKS S S 19 47 46.5 +0.7
baz=147
CBKS Cedar Bluff 42.83 335 P P 19 41 19.9 -0.7
CBKS pmax pmax
comp=Z,478nm,1.2s
CBKS Cedar Bluff 42.83 335 P P 19 41 19.9 -0.7
CBKS IAmb IAmb 19 41 23.9
comp=Z,478nm,1.1s
I58A Old Forge 42.83 3 P P 19 41 21.2 +0.6
baz=184,SNR=28
L40A Anamosa 42.84 345 P P 19 41 18.8 -1.7
L40A IAmb IAmb 19 41 21.9
comp=Z,713nm,1.6s
Y22D IRIS PASSCAL I 42.84 324 P P 19 41 22.4 +1.5
baz=135
Y22D IRIS PASSCAL I 42.84 324 IAMs_20 IAMs_20 20 02 11.2
comp=Z,4µm,19.0s
FFD Franklin Falls 42.90 7 P P 19 41 22.1 +1.1
LENM Lemitar 42.94 324 P P 19 41 22.6 +0.9
I51A Listowel 42.95 357 P P 19 41 20.8 -0.7
baz=175,SNR=7.9
PECO Prince Edward 43.01 1 P P 19 41 20.9 -0.9
PECO IAmb IAmb 19 41 24.5
comp=Z,890nm,1.9s
PECO IAMs_20 IAMs_20 20 00 54.8
comp=Z,3µm,19.0s
I59A Olmsteadville 43.01 4 P P 19 41 23.1 +1.2
baz=186,SNR=49
I59A S S 19 47 50.7 +2.6
baz=186
N35A Tabor 43.04 340 P P 19 41 20.4 -1.7
N35A IAmb IAmb 19 41 23.7
comp=Z,299nm,1.2s
I57A Carthage 43.05 2 P P 19 41 23.0 +0.8
baz=183,SNR=17
I57A S S 19 47 48.8 +0.1
baz=183
HNH Hanover 43.06 6 P P 19 41 23.8 +1.5
HNH IAMs_20 IAMs_20 20 00 01.2
comp=Z,3µm,20.0s
I60A Shoreham 43.11 5 P P 19 41 23.9 +1.3
baz=187,SNR=32
I60A S S 19 47 54.3 +4.8
baz=187
NCB Newcomb 43.16 4 P P 19 41 23.3 +0.1
NCB IAmb IAmb 19 41 26.5
comp=Z,722nm,1.9s
NCB IAMs_20 IAMs_20 19 59 56.8
comp=Z,3µm,21.0s
ANMO Albuquerque 43.19 325 P P 19 41 24.7 +1.0
comp=Z,7.3nm,1.0s,baz=141,slow=10,SNR=88
ANMO LR LR 20 00 55.1
comp=Z,93nm,18.4s,baz=136,slow=38
ANMO Albuquerque 43.19 325 P P 19 41 24.8 +1.1
baz=136
ANMO S S 19 47 55.6 +4.2
baz=136
ANMO Albuquerque 43.19 325 *de*P P 19 41 24.7 +1.0
ANMO pmax pmax
comp=Z,317nm,1.3s
ANMO Albuquerque 43.19 325 P P 19 41 24.4 +0.6
ANMO IAmb IAmb 19 41 28.3
comp=Z,262nm,1.1s
LL01 San Ignacio de 43.22 174 P P 19 41 21.3 -2.3
LL01 IAMs_20 IAMs_20 19 57 18.5
comp=Z,4µm,20.0s
I49A Point Hope 43.22 355 P P 19 41 22.8 -0.8
I49A IAMs_20 IAMs_20 19 59 18.9
comp=Z,3µm,22.0s
SCIA State Center 43.23 343 P P 19 41 21.8 -1.9
baz=157,SNR=13
SCIA State Center 43.23 343 P P 19 41 22.2 -1.5
I61A Oroboro, Fairl 43.30 6 P P 19 41 25.2 +1.0
baz=188,SNR=9.1
I62A Tamworth 43.34 7 P P 19 41 25.7 +1.2
baz=189
I62A S S 19 47 58.9 +6.0
baz=189
I62A Tamworth 43.34 7 P P 19 41 23.8 -0.7
I62A IAMs_20 IAMs_20 20 00 52.4
comp=Z,3µm,18.0s
JFWS Jewell Farm 43.41 347 P P 19 41 23.0 -2.1
baz=162,SNR=32
JFWS Jewell Farm 43.41 347 P P 19 41 23.5 -1.6
JFWS pmax pmax
comp=Z,1µm,2.0s
JFWS MLR MLR
comp=Z,4µm,22.0s
JFWS Jewell Farm 43.41 347 P P 19 41 23.5 -1.6
JFWS Jewell Farm 43.41 347 IAMs_20 IAMs_20 19 59 32.1
comp=Z,4µm,22.0s
N33A J Bar K, Exete 43.57 338 P P 19 41 25.5 -1.0
DELO Deloro Mine 43.58 0 P P 19 41 26.7 +0.2
DELO IAMs_20 IAMs_20 20 00 53.1
comp=Z,3µm,20.0s
H57A Richville 43.58 3 P P 19 41 26.8 +0.3
baz=184,SNR=21
H57A S S 19 48 00.5 +4.1
baz=184
I63A Otisfield 43.61 8 P P 19 41 27.6 +0.9
baz=190
I63A Otisfield 43.61 8 P P 19 41 27.1 +0.4
H58A Gabriels 43.61 4 P P 19 41 27.0 +0.3
baz=185,SNR=30
H58A S S 19 48 00.2 +3.3
baz=185
I64A Boothbay 43.61 9 P P 19 41 27.9 +1.1
baz=192,SNR=8.1
I64A S S 19 48 01.6 +4.7
baz=192
LBNH Lisbon 43.63 6 P P 19 41 27.6 +0.6
baz=189,SNR=11
LBNH Lisbon 43.63 6 P P 19 41 28.2 +1.3
LBNH pmax pmax
comp=Z,594nm,2.0s
LBNH MLR MLR
comp=Z,2µm,20.0s
LBNH Lisbon 43.63 6 P P 19 41 28.2 +1.3
LBNH IAmb IAmb 19 41 30.5
comp=Z,594nm,1.9s
VT1 Waterbury 43.64 5 P P 19 41 27.7 +0.7
VT1 IAmb IAmb 19 41 30.6
comp=Z,481nm,1.7s
VT1 IAMs_20 IAMs_20 19 59 49.1
comp=Z,4µm,21.0s
H53A Bobcaygeon 43.64 359 P P 19 41 26.8 -0.1
baz=179,SNR=31
H53A S S 19 47 58.2 +0.9
baz=179
T25A Trinidad 43.69 329 P P 19 41 29.2 +1.4
baz=140,SNR=124
T25A Trinidad 43.69 329 P P 19 41 28.7 +0.9
T25A IAmb IAmb 19 41 32.8
comp=Z,534nm,1.4s
T25A IAMs_20 IAMs_20 20 03 05.9
comp=Z,3µm,20.0s
I45A Fountain 43.73 351 IAMs_20 IAMs_20 20 00 27.4
comp=Z,4µm,22.0s
LONY Lake Ozonia 43.78 3 P P 19 41 28.8 +0.6
baz=185,SNR=28
LONY S S 19 48 02.1 +2.6
baz=185
LONY Lake Ozonia 43.78 3 P P 19 41 29.1 +0.9
LONY IAmb IAmb 19 41 31.3
comp=Z,674nm,1.8s
LONY IAMs_20 IAMs_20 20 00 17.3
comp=Z,5µm,22.0s
K38A Parkersburg 43.79 344 P P 19 41 26.2 -2.0
K38A IAmb IAmb 19 41 29.6
comp=Z,436nm,1.2s
SADO Sadowa 43.84 359 P P 19 41 28.8 +0.2
comp=Z,213nm,1.3s,baz=197,slow=7.4,SNR=40
SADO LR LR 20 01 33.7
comp=Z,2µm,21.4s,baz=192,slow=39
SADO Sadowa 43.84 359 P P 19 41 28.2 -0.5
H59A Cadyville 43.87 4 P P 19 41 29.6 +0.7
baz=186,SNR=22
H59A S S 19 48 04.6 +3.9
baz=186
H60A Morristown 43.87 5 P P 19 41 29.9 +1.0
baz=187,SNR=10
H60A S S 19 48 05.1 +4.4
baz=187
H61A Lyndonville 43.92 6 P P 19 41 30.1 +0.8
baz=188,SNR=8.8
H61A S S 19 48 05.9 +4.5
baz=188
H62A Milan 44.05 7 P P 19 41 31.4 +1.2
baz=190,SNR=6.4
H62A Milan 44.05 7 P P 19 41 30.2 -0.1
I42A Draeger Farm, 44.05 349 P P 19 41 29.0 -1.3
FRNY Flat Rock 44.07 4 P P 19 41 31.2 +0.8
FRNY IAMs_20 IAMs_20 20 00 40.8
comp=Z,3µm,21.0s
TUC Tucson 44.09 319 P P 19 41 31.9 +0.9
baz=129
TUC S S 19 48 08.7 +4.2
baz=129
TUC Tucson 44.09 319 P P 19 41 30.9 -0.1
TUC pmax pmax
comp=Z,440nm,1.7s
TUC MLR MLR
comp=Z,6µm,21.0s
TUC Tucson 44.09 319 P P 19 41 30.9 -0.1
TUC IAmb IAmb 19 41 35.5
comp=Z,440nm,1.7s
PLVO Plevna 44.11 1 P P 19 41 30.7 -0.1
PLVO IAmb IAmb 19 41 33.5
comp=Z,558nm,1.5s
PLVO IAMs_20 IAMs_20 20 00 11.0
comp=Z,3µm,21.0s
WVL Waterville 44.24 8 P P 19 41 30.9 -0.9
WVL IAmb IAmb 19 41 35.3
comp=Z,327nm,1.9s
WVL IAMs_20 IAMs_20 20 02 09.2
comp=Z,3µm,20.0s
G57A Newington 44.24 3 P P 19 41 32.3 +0.6
baz=184,SNR=27
G57A S S 19 48 10.0 +3.9
baz=184
L34A Svendsen Farm, 44.27 340 P P 19 41 29.8 -2.3
L34A IAmb IAmb 19 41 33.3
comp=Z,216nm,1.1s
H63A New Sharon 44.28 8 P P 19 41 33.7 +1.6
baz=191,SNR=8.6
KSCO Kaye Shedlock' 44.28 332 P P 19 41 32.8 +0.4
baz=143,SNR=7.7
KSCO Kaye Shedlock' 44.28 332 P P 19 41 33.2 +0.8
KSCO IAmb IAmb 19 41 36.4
comp=Z,386nm,1.1s
GLMI Grayling 44.29 353 P P 19 41 30.9 -1.3
baz=170
GLMI Grayling 44.29 353 P P 19 41 30.5 -1.6
G59A Clarenceville 44.34 5 P P 19 41 33.3 +0.7
baz=187,SNR=18
G58A Ormstown 44.34 4 P P 19 41 33.1 +0.5
baz=185,SNR=23
H64A Troy 44.38 9 P P 19 41 33.8 +0.8
baz=192,SNR=5.1
H43A Windswept, Lux 44.40 350 P P 19 41 31.9 -1.2
H43A IAmb IAmb 19 41 34.8
comp=Z,324nm,1.2s
BGNE Belgrade 44.41 338 P P 19 41 32.0 -1.3
baz=150,SNR=7.6
BGNE Belgrade 44.41 338 P P 19 41 32.3 -1.0
I40A Norwalk 44.42 347 P P 19 41 31.4 -1.9
I40A IAmb IAmb 19 41 34.7
comp=Z,436nm,1.4s
I40A IAMs_20 IAMs_20 20 00 01.9
comp=Z,4µm,22.0s
G60A Masonville 44.44 6 P P 19 41 34.1 +0.7
baz=188,SNR=18
G54A Lake Saint Pet 44.46 360 P P 19 41 33.5 -0.1
baz=180,SNR=39
H65A Eastbrook 44.59 10 P P 19 41 35.3 +0.7
baz=194,SNR=6.4
G45A Suttons Bay 44.63 352 P P 19 41 34.2 -0.7
G45A IAMs_20 IAMs_20 20 02 01.9
comp=Z,4µm,21.0s
MOQ Mont Orford 44.66 6 P P 19 41 35.6 +0.4
G61A St-Isidore-de- 44.70 6 P P 19 41 37.0 +1.5
baz=189,SNR=20
SDCO Great Sand Dun 44.72 329 P P 19 41 37.0 +0.9
baz=139,SNR=243
SDCO S S 19 48 17.8 +3.9
baz=139
SDCO Great Sand Dun 44.72 329 P P 19 41 36.7 +0.5
SDCO IAMs_20 IAMs_20 20 03 38.0
comp=Z,3µm,20.0s
EMMW East Machias 44.75 11 P P 19 41 37.2 +1.4
EMMW IAmb IAmb 19 41 39.1
comp=Z,377nm,1.7s
G62A West of Eustis 44.76 7 P P 19 41 37.2 +1.2
baz=190,SNR=14
G62A West of Eustis 44.76 7 P P 19 41 37.4 +1.4
G62A IAMs_20 IAMs_20 19 59 15.1
comp=Z,3µm,21.0s
G63A Kingsbury 44.78 8 P P 19 41 37.0 +0.9
baz=192,SNR=8.8
H66A Whiting 44.85 11 P P 19 41 37.4 +0.8
baz=195,SNR=5.4
F57A Harrington 44.97 3 P P 19 41 37.3 -0.3
baz=184
PKME Peaks-Kenny Pk 44.98 9 P P 19 41 38.7 +1.0
baz=192,SNR=9.3
PKME Peaks-Kenny Pk 44.98 9 P P 19 41 39.1 +1.4
PKME IAmb IAmb 19 41 41.2
comp=Z,414nm,1.8s
PKME IAMs_20 IAMs_20 20 02 49.8
comp=Z,3µm,19.0s
ALGO Algonquin Park 45.02 360 P P 19 41 37.6 -0.4
baz=180,SNR=32
G64A Maxfield 45.05 9 P P 19 41 38.6 +0.4
baz=193
F58A St-Lin Laurent 45.08 4 P P 19 41 38.9 +0.5
baz=186
F59A Saint Guilaume 45.14 5 P P 19 41 39.1 +0.2
baz=187
G65A Princeton 45.20 10 P P 19 41 40.6 +1.1
baz=194
G65A Princeton 45.20 10 P P 19 41 40.6 +1.1
G65A IAmb IAmb 19 41 42.9
comp=Z,212nm,1.4s
I37A Lemond, Waseca 45.23 344 P P 19 41 36.3 -3.4
I37A IAmb IAmb 19 41 40.7
comp=Z,156nm,1.0s
214A Organ Pipe Nat 45.24 317 P P 19 41 41.4 +1.3
baz=127,SNR=111
214A S S 19 48 25.3 +4.1
baz=127
214A Organ Pipe Nat 45.24 317 P P 19 41 40.4 +0.4
W18A Petrified Fore 45.24 323 P P 19 41 41.4 +1.2
baz=132,SNR=220
W18A S S 19 48 27.4 +6.0
baz=132
W18A Petrified Fore 45.24 323 P P 19 41 41.1 +0.8
GGN Saint George 45.26 11 P P 19 41 40.9 +1.0
GGN IAmb IAmb 19 41 43.3
comp=Z,340nm,1.5s
GGN IAMs_20 IAMs_20 20 00 28.1
comp=Z,3µm,21.0s
F60A Warwick 45.34 6 P P 19 41 41.2 +0.7
baz=188,SNR=18
F60A S S 19 48 25.6 +3.7
baz=188
S22A 4UR Ranch, Cre 45.42 327 P P 19 41 42.6 +0.8
baz=137,SNR=80
S22A 4UR Ranch, Cre 45.42 327 P P 19 41 42.2 +0.5
S22A IAmb IAmb 19 41 46.3
comp=Z,220nm,1.4s
F63A Nahmakanta, Br 45.44 9 P P 19 41 42.0 +0.6
baz=192,SNR=6.7
F63A Nahmakanta, Br 45.44 9 P P 19 41 42.9 +1.5
F63A IAmb IAmb 19 41 44.6
comp=Z,287nm,1.9s
F63A IAMs_20 IAMs_20 20 00 34.1
comp=Z,3µm,20.0s
F61A St Evariste 45.45 7 P P 19 41 41.5 +0.1
baz=190,SNR=10
PIX Pinacate 45.46 316 P P 19 41 41.9 +0.2
PIX IAMs_20 IAMs_20 19 59 25.6
comp=Z,3µm,19.0s
Q24A Divide 45.46 330 P P 19 41 42.7 +0.6
baz=140,SNR=31
Q24A Divide 45.46 330 P P 19 41 42.6 +0.5
Q24A IAmb IAmb 19 41 46.3
comp=Z,422nm,1.6s
Q24A IAMs_20 IAMs_20 20 03 57.7
comp=Z,3µm,19.0s
HAL Halifax 45.52 14 P P 19 41 41.7 -0.2
HAL pmax pmax
comp=Z,262nm,1.5s
HAL MLR MLR
comp=Z,5µm,21.0s
HAL Halifax 45.52 14 P P 19 41 41.7 -0.2
HAL IAmb IAmb 19 41 45.2
comp=Z,262nm,1.5s
HAL IAMs_20 IAMs_20 19 59 18.7
comp=Z,5µm,21.0s
E55A Montcerf-Lytto 45.55 2 P P 19 41 42.5 +0.4
baz=182,SNR=8.7
E55A S S 19 48 34.8 +10
baz=182
E57A Chemin Saint G 45.59 4 P P 19 41 43.2 +0.6
baz=185,SNR=34
E58A La Victoria 45.62 5 P P 19 41 43.2 +0.5
baz=186,SNR=26
E58A S S 19 48 29.7 +3.7
baz=186
G40A Rib Lake 45.64 348 P P 19 41 41.7 -1.2
G40A IAmb IAmb 19 41 44.8
comp=Z,260nm,1.2s
G40A IAMs_20 IAMs_20 20 01 13.1
comp=Z,5µm,22.0s
E56A St. Veronique 45.68 3 P P 19 41 43.0 -0.2
baz=184,SNR=34
E56A S S 19 48 33.0 +6.2
baz=184
K31A O'Neill 45.69 338 P P 19 41 42.6 -0.8
F64A Sherman 45.71 9 P P 19 41 43.8 +0.3
baz=193,SNR=9.4
F64A Sherman 45.71 9 P P 19 41 44.6 +1.1
F64A IAmb IAmb 19 41 46.7
comp=Z,387nm,2.0s
F64A IAMs_20 IAMs_20 20 01 17.1
comp=Z,4µm,20.0s
F42A Maple Grove Fa 45.71 350 P P 19 41 42.5 -1.1
E46A Sault Ste Mari 45.77 354 P P 19 41 42.5 -1.5
E46A IAmb IAmb 19 41 46.0
comp=Z,204nm,1.3s
E60A Ste Agathe de 45.79 6 P P 19 41 44.3 +0.3
baz=189,SNR=9.2
E59A St. Maurice 45.79 5 P P 19 41 45.1 +1.0
baz=187
ECSD EROS Data Cent 45.93 341 P P 19 41 43.3 -2.0
baz=154,SNR=43
ECSD S S 19 48 26.2 -4.4
baz=154
ECSD EROS Data Cent 45.93 341 P P 19 41 43.6 -1.7
ECSD IAmb IAmb 19 41 46.6
comp=Z,174nm,1.2s
MVCO Mesa Verde 45.96 326 P P 19 41 46.4 +0.5
baz=135,SNR=51
MVCO S S 19 48 34.5 +2.8
baz=135
MVCO Mesa Verde 45.96 326 P P 19 41 46.9 +1.0
E61A Lac Etchemin 45.96 7 P P 19 41 46.2 +0.7
baz=190,SNR=14
E43A Lone Tree Farm 46.13 351 P P 19 41 45.6 -1.2
E43A IAmb IAmb 19 41 48.7
comp=Z,165nm,1.1s
E43A IAMs_20 IAMs_20 20 01 12.0
comp=Z,4µm,22.0s
D55A Sainte-Anne-du 46.13 2 P P 19 41 46.0 -0.8
baz=183,SNR=28
SFX San Felipe 46.14 314 P P 19 41 48.1 +0.9
SFX IAmb IAmb 19 41 51.8
comp=Z,239nm,1.4s

D56A **ZEC Mazanza, M** **46.20 3** P **P** **19 41 47.6 +0.3**
baz=184
D56A S **S** **19 48 36.6 +2.3**
baz=184
SPMN **Marine on St.** **46.20 345** P **P** **19 41 45.1 -2.3**
baz=159,SNR=20
SPMN **Marine on St.** **46.20 345** P **P** **19 41 45.5 -1.8**
SPMN IAmb IAmb 19 41 48.6
comp=Z,218nm,1.1s
COWI **Conover** **46.23 349** P **P** **19 41 46.3 -1.2**
E63A **Oxbow** **46.24 9** P **P** **19 41 48.4 +0.7**
baz=193,SNR=8.0
E63A **Oxbow** **46.24 9** P **P** **19 41 49.1 +1.4**
E63A IAmb IAmb 19 41 51.1
comp=Z,279nm,1.6s
E62A **Clayton Lake** **46.27 8** P **P** **19 41 48.9 +1.0**
baz=192,SNR=27
E62A S **S** **19 48 40.4 +4.9**
baz=192
E62A **Clayton Lake** **46.27 8** P **P** **19 41 49.1 +1.1**
ISCO **Idaho Springs** **46.34 330** P **P** **19 41 49.4 +0.5**
baz=140,SNR=49
ISCO S **S** **19 48 41.8 +4.6**
baz=140
ISCO **Idaho Springs** **46.34 330** P **P** **19 41 49.2 +0.3**
ISCO pmax pmax
comp=Z,478nm,2.0s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO **Idaho Springs** **46.34 330** P **P** **19 41 49.2 +0.3**
ISCO IAmb IAmb 19 41 52.6
comp=Z,478nm,2.0s
ISCO IAMs_20 IAMs_20 20 04 25.7
comp=Z,3µm,20.0s
E64A **Bridgewater** **46.34 10** P **P** **19 41 49.3 +0.9**
baz=194,SNR=11
D58A **Chemin du LacG** **46.37 5** P **P** **19 41 49.2 +0.6**
baz=187,SNR=30
D58A S **S** **19 48 41.7 +4.9**
baz=187
D59A **Saint-Raymond** **46.38 6** P **P** **19 41 49.4 +0.7**
baz=188
LMN **Caledonia Moun** **46.38 13** P **P** **19 41 49.4 +0.6**
D60A **Saint Jean D'O** **46.38 7** P **P** **19 41 49.4 +0.7**
baz=190,SNR=9.3
WUAZ **Wupatki** **46.51 322** P **P** **19 41 51.7 +1.4**
baz=131,SNR=89
WUAZ S **S** **19 48 42.9 +3.3**
baz=131
WUAZ **Wupatki** **46.51 322** P **P** **19 41 51.1 +0.8**
WUAZ IAMs_20 IAMs_20 20 04 28.4
comp=Z,3µm,18.0s
PQI **Presque Isle** **46.55 9** P **P** **19 41 51.2 +1.1**
PQI IAmb IAmb 19 41 53.4
comp=Z,270nm,1.6s
SPX **San Pedro Mart** **46.58 314** P **P** **19 41 50.3 -0.7**
SPX IAmb IAmb 19 41 53.9
comp=Z,133nm,1.4s
PV01 **Paradox Valley** **46.65 326** P **P** **19 41 51.8 +0.4**
PV01 IAmb IAmb 19 41 55.1
comp=Z,353nm,1.7s
LATQ **La Tuque** **46.66 5** P **P** **19 41 51.7 +0.7**
baz=187,SNR=17
LATQ **La Tuque** **46.66 5** P **P** **19 41 51.5 +0.5**
LATQ IAmb IAmb 19 41 54.1
comp=Z,315nm,1.6s
PV15 **Paradox Valley** **46.75 327** P **P** **19 41 53.1 +0.9**
PV15 IAMs_20 IAMs_20 20 03 06.9
comp=Z,3µm,20.0s
D61A **St Aubert, Com** **46.76 7** P **P** **19 41 53.2 +1.5**
baz=190,SNR=14
GBN **Guysborough** **46.77 16** P **P** **19 41 53.8 +1.9**
GBN IAmb IAmb 19 41 55.3
comp=Z,302nm,1.7s
D62A **Allapoint, All** **46.79 8** P **P** **19 41 53.2 +1.2**
PV02 **Paradox Valley** **46.80 326** P **P** **19 41 53.0 +0.5**
PV02 IAmb IAmb 19 41 56.8
comp=Z,199nm,1.2s
PV13 **Radium Mtn., P** **46.81 326** P **P** **19 41 53.1 +0.5**
PV13 IAmb IAmb 19 41 56.7
comp=Z,234nm,1.2s
PV03 **Paradox Valley** **46.89 326** P **P** **19 41 53.5 +0.3**
PV03 IAmb IAmb 19 41 57.2
comp=Z,185nm,1.2s
PV03 IAMs_20 IAMs_20 20 03 36.6
comp=Z,3µm,18.0s
D63A **Stockholm** **46.89 9** P **P** **19 41 53.4 +0.6**
baz=193,SNR=9.0
PV07 **Paradox Valley** **46.91 327** P **P** **19 41 54.4 +1.0**
PV07 IAmb IAmb 19 41 57.8
comp=Z,277nm,1.5s
PV07 IAMs_20 IAMs_20 20 03 11.2
comp=Z,3µm,20.0s
PV12 **Saucer Basin,** **46.91 326** P **P** **19 41 53.9 +0.5**
PV18 **Skein Mesa, Pa** **46.92 326** P **P** **19 41 54.0 +0.6**
PV18 IAmb IAmb 19 41 57.4
comp=Z,172nm,1.1s
PV11 **David Mesa, Pa** **46.94 326** P **P** **19 41 54.4 +0.9**
PV16 **Nyswonger Mesa** **46.97 326** P **P** **19 41 54.0 +0.1**
PV16 IAmb IAmb 19 41 57.9
comp=Z,246nm,1.3s
PV17 **East Wray Mesa** **46.97 326** P **P** **19 41 54.1 +0.3**
F36A **Milaca** **46.98 345** P **P** **19 41 51.7 -1.8**
F36A IAmb IAmb 19 41 54.6
comp=Z,139nm,1.2s
PV19 **Morning Glory** **47.01 326** P **P** **19 41 54.4 +0.3**
PV19 IAmb IAmb 19 41 58.0
comp=Z,166nm,1.2s
PV20 **West Nyswonger** **47.02 326** P **P** **19 41 53.8 -0.4**
PV20 IAmb IAmb 19 41 58.1
comp=Z,143nm,1.3s
PV04 **Paradox Valley** **47.02 326** P **P** **19 41 54.8 +0.6**
PV04 IAmb IAmb 19 41 58.4
comp=Z,277nm,1.4s
D41A **Chassel** **47.05 350** P **P** **19 41 53.2 -0.8**
PV22 **Blue Mesa, Par** **47.06 327** P **P** **19 41 55.8 +1.3**
PV22 IAmb IAmb 19 41 58.8
comp=Z,172nm,1.5s
PV22 IAMs_20 IAMs_20 20 03 05.0
comp=Z,3µm,20.0s
PV14 **Lion Creek, Pa** **47.07 326** P **P** **19 41 55.2 +0.5**
PV14 IAmb IAmb 19 41 58.6
comp=Z,210nm,1.4s
PV10 **Paradox Valley** **47.08 326** P **P** **19 41 55.1 +0.3**
PV10 IAmb IAmb 19 41 58.2
comp=Z,218nm,1.3s
PV10 IAMs_20 IAMs_20 20 03 29.1
comp=Z,3µm,22.0s
PV23 **Carpenter Ridg** **47.12 326** P **P** **19 41 56.0 +0.9**
PV23 IAmb IAmb 19 41 58.4
comp=Z,243nm,1.7s
VLDQ **Val d'Or** **47.18 0** P **P** **19 41 55.1 +0.1**
VLDQ IAMs_20 IAMs_20 20 04 09.2
comp=Z,4µm,19.0s
PV21 **Cone Mtn., Par** **47.18 327** P **P** **19 41 56.0 +0.5**
PV21 IAmb IAmb 19 41 58.8
comp=Z,159nm,1.5s
E38A **The Farm, Brul** **47.20 347** P **P** **19 41 53.6 -1.6**
E38A IAmb IAmb 19 41 56.7
comp=Z,116nm,0.9s
E38A IAMs_20 IAMs_20 20 02 52.5
comp=Z,3µm,22.0s
CPBX **Cerro Prieto** **47.23 316** P **P** **19 41 57.2 +1.5**
GLA **Glamis** **47.26 317** P **P** **19 41 57.1 +1.1**
baz=125,SNR=14
GLA S **S** **19 48 54.6 +4.5**
baz=125
GLA **Glamis** **47.26 317** P **P** **19 41 56.9 +0.9**
GLA pmax pmax
comp=Z,303nm,1.6s
GLA MLR MLR
comp=Z,4µm,22.0s
GLA **Glamis** **47.26 317** P **P** **19 41 56.9 +0.9**
GLA IAmb IAmb 19 42 00.6
comp=Z,303nm,1.6s
GLA IAMs_20 IAMs_20 19 59 34.3
comp=Z,4µm,22.0s
N23A **Red Feather La** **47.34 331** P **P** **19 41 57.2 +0.5**
baz=140
N23A S **S** **19 48 54.7 +3.3**
baz=140
N23A **Red Feather La** **47.34 331** P **P** **19 41 56.7 0.0**
N23A IAmb IAmb 19 42 00.1
comp=Z,187nm,1.6s
N23A IAMs_20 IAMs_20 20 05 33.2
comp=Z,2µm,18.0s

SUSD **Miller** **47.34 340** P **P** **19 41 54.5 -1.9**
baz=151,SNR=13
SUSD **Miller** **47.34 340** P **P** **19 41 54.7 -1.7**
PHWY **Pilot Hill** **47.42 332** P **P** **19 41 57.2 -0.2**
PHWY IAmb IAmb 19 42 00.7
comp=Z,147nm,1.2s
ESJX **Sierra Juarez** **47.46 315** P **P** **19 41 58.3 +0.7**
ESJX IAmb IAmb 19 42 01.8
comp=Z,118nm,1.3s
ESJX IAMs_20 IAMs_20 19 58 51.5
comp=Z,3µm,22.0s
BATG **Bathurst New B** **47.48 11** P **P** **19 41 58.5 +1.1**
BATG IAmb IAmb 19 42 00.5
comp=Z,277nm,1.5s
BATG IAMs_20 IAMs_20 20 00 26.9
comp=Z,4µm,22.0s
PDMCI **Parker Dam,Lak** **47.53 318** P **P** **19 41 58.3 +0.3**
baz=127,SNR=19
PDMCI S **S** **19 48 58.7 +4.8**
baz=127
F33A **5 Mile Ranch,** **47.72 343** P **P** **19 41 57.0 -2.2**
F33A IAmb IAmb 19 42 00.3
comp=Z,98nm,1.1s
F33A IAMs_20 IAMs_20 20 04 21.5
comp=Z,3µm,21.0s
SWSC **Sam W. Stewart** **47.87 316** P **P** **19 42 01.8 +1.1**
baz=124,SNR=24
SWSC S **S** **19 49 03.5 +4.8**
baz=124
RMX **La Rumorosa** **47.88 315** P **P** **19 42 01.8 +0.9**
RMX IAmb IAmb 19 42 05.1
comp=Z,192nm,1.2s
RMX IAMs_20 IAMs_20 20 00 44.0
comp=Z,3µm,19.0s
CCX **Cicese** **47.90 314** P **P** **19 42 01.4 +0.6**
CCX IAmb IAmb 19 42 05.6
comp=Z,184nm,1.4s
O20A **White River Ci** **47.92 329** P **P** **19 42 01.8 +0.7**
baz=137,SNR=9.0
O20A S **S** **19 49 02.9 +3.3**
baz=137
O20A **White River Ci** **47.92 329** P **P** **19 42 01.9 +0.7**
O20A IAmb IAmb 19 42 04.6
comp=Z,124nm,1.4s
O20A IAMs_20 IAMs_20 20 04 31.8
comp=Z,3µm,20.0s
IKP **In-Ko-Pah, Jac** **47.93 315** P **P** **19 42 02.3 +1.1**
baz=124,SNR=30
IKP S **S** **19 49 04.8 +5.2**
baz=124
BC3 **Big Chuckawall** **48.04 317** P **P** **19 42 02.9 +0.8**
baz=125,SNR=68
BC3 S **S** **19 49 07.2 +5.9**
baz=125
IRM **Iron Mountain** **48.12 318** P **P** **19 42 03.6 +1.0**
baz=126,SNR=102
IRM S **S** **19 49 09.2 +6.9**
baz=126
NEE2 **Needles Airpor** **48.13 319** P **P** **19 42 03.9 +1.3**
baz=127
NEE2 S **S** **19 49 08.4 +6.1**
baz=127
LSQQ **Lebel-sur-Quev** **48.13 1** P **P** **19 42 01.7 -0.7**
baz=181
TKX **Tecate** **48.23 315** P **P** **19 42 03.0 -0.6**
TKX IAmb IAmb 19 42 08.0
comp=Z,148nm,1.3s
MONP2 **Monument Peak** **48.28 315** P **P** **19 42 05.2 +1.1**
baz=124,SNR=24
MONP2 S **S** **19 49 11.3 +6.4**
baz=124
BAR **Barrett** **48.34 315** P **P** **19 42 04.9 +0.6**
BAR IAMs_20 IAMs_20 20 01 12.9
comp=Z,4µm,18.0s
PKCU **Pink Cliffs** **48.34 323** P **P** **19 42 05.7 +1.0**
KNB **Kanab** **48.37 322** P **P** **19 42 05.4 +0.7**
KNB pmax pmax
comp=Z,512nm,1.8s
KNB **Kanab** **48.37 322** P **P** **19 42 05.4 +0.7**
SRU **San Rafael Swe** **48.43 326** P **P** **19 42 04.6 -0.5**
SRU pmax pmax
comp=Z,182nm,1.2s
SRU **San Rafael Swe** **48.43 326** P **P** **19 42 04.6 -0.5**
EYMN **Ely** **48.46 348** P **P** **19 42 02.9 -2.0**
baz=162,SNR=24
EYMN **Ely** **48.46 348** P **P** **19 42 03.3 -1.7**
EYMN IAmb IAmb 19 42 06.5
comp=Z,131nm,1.1s
EYMN **Ely** **48.46 348** IAMs_20 IAMs_20 20 02 59.8
comp=Z,5µm,21.0s
TJX **Tijuana** **48.52 315** P **P** **19 42 06.3 +0.6**
RWWY **Rawlins** **48.56 331** P **P** **19 42 06.3 +0.1**
BELC **Belle Mtn. Jos** **48.61 317** P **P** **19 42 07.4 +0.9**
baz=125,SNR=65
BELC S **S** **19 49 11.5 +2.1**
baz=125
LCMT **Little Creek M** **48.63 322** P **P** **19 42 06.9 +0.3**
MTPU **Mount Pierson** **48.66 324** P **P** **19 42 07.6 +0.5**
TPFO **Pinon Flats** **48.70 316** P **P** **19 42 08.1 +0.9**
baz=124,SNR=29
TPFO S **S** **19 49 18.7 +8.1**
baz=124
XPFO **Pion Flat** **48.70 316** IAMs_20 IAMs_20 20 01 39.4
comp=Z,3µm,18.0s
PFO **Pinyon Flats O** **48.70 316** P **P** **19 42 08.9 +1.6**
comp=Z,28nm,1.1s,baz=107,slow=8.1,SNR=34
PFO **Pinyon Flats O** **48.70 316** P **P** **19 42 08.3 +1.1**
baz=124,SNR=26
PFO S **S** **19 49 17.4 +6.6**
baz=124
PFO **Pinyon Flats O** **48.70 316** P **P** **19 42 08.6 +1.4**
PFO pmax pmax
comp=Z,181nm,1.5s
PFO MLR MLR
comp=Z,3µm,18.0s
PFO **Pinyon Flats O** **48.70 316** P **P** **19 42 08.6 +1.4**
PFO IAmb IAmb 19 42 12.0
comp=Z,181nm,1.4s
PFO **Pinyon Flats O** **48.70 316** IAMs_20 IAMs_20 20 01 39.4
comp=Z,3µm,18.0s
109C **Camp Elliot, M** **48.76 315** P **P** **19 42 08.0 +0.5**
baz=123
109C S **S** **19 49 17.3 +6.0**
baz=123
109C **Camp Elliot, M** **48.76 315** P **P** **19 42 08.7 +1.2**
109C IAmb IAmb 19 42 12.0
comp=Z,165nm,1.1s
109C IAMs_20 IAMs_20 20 01 24.0
comp=Z,3µm,19.0s
P17A **Butcher Ranch,** **48.80 326** P **P** **19 42 07.8 -0.1**
MATQ **Matagami** **48.83 0** P **P** **19 42 06.9 -0.8**
baz=180,SNR=23
GMRC **Granite Mounta** **48.83 318** P **P** **19 42 09.4 +1.2**
baz=126,SNR=50
GMRC S **S** **19 49 18.4 +5.9**
baz=126
SZCU **Shurtz Canyon** **48.91 323** P **P** **19 42 09.3 +0.5**
RDMU **Red Mountain** **48.94 328** P **P** **19 42 09.2 +0.1**
TMUT **Trail Mountain** **48.94 326** P **P** **19 42 09.9 +0.7**
K22A **Casper** **48.97 332** P **P** **19 42 09.1 0.0**
baz=141,SNR=21
K22A S **S** **19 49 18.0 +3.8**
baz=141
K22A **Casper** **48.97 332** P **P** **19 42 09.6 +0.4**
MSU **Marysvale** **48.97 324** P **P** **19 42 09.8 +0.5**
MSU **Marysvale** **48.97 324** P **P** **19 42 09.8 +0.5**
MVU **Marysvale** **48.98 324** P **P** **19 42 10.6 +1.1**
RSSD **Black Hills** **49.03 335** P **P** **19 42 10.2 +0.5**
baz=144
RSSD S **S** **19 49 17.1 +2.0**
baz=144
RSSD **Black Hills** **49.03 335** P **P** **19 42 10.3 +0.6**
RSSD pmax pmax
comp=Z,482nm,1.2s
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD **Black Hills** **49.03 335** P **P** **19 42 10.3 +0.6**
CCUT **Cedar City** **49.05 322** P **P** **19 42 11.2 +1.3**
CHGQ **Chibougamau** **49.07 3** P **P** **19 42 09.3 -0.3**
baz=185,SNR=22
TCRU **Three Creeks R** **49.19 324** P **P** **19 42 12.1 +1.0**
MURC **Murrieta** **49.21 316** P **P** **19 42 12.1 +1.1**
baz=124,SNR=12
MURC S **S** **19 49 23.1 +5.4**
baz=124
HEC **Hector,Ludlow** **49.31 318** P **P** **19 42 13.0 +1.2**

baz=125,SNR=54
B35A **Bob, Littlefor** **49.35 346** P **P** **19 42 09.9 -1.9**
TUQ **Turquoise Moun** **49.38 319** P **P** **19 42 13.4 +1.0**
baz=126,SNR=9.2
TUQ S **S** **19 49 26.4 +6.1**
baz=126
BBRC **Big Bear Solar** **49.38 317** P **P** **19 42 14.4 +1.8**
baz=124
SHPR **Sheep Range** **49.52 320** P **P** **19 42 14.2 +0.7**
SHPR IAmb IAmb 19 42 17.4
comp=Z,315nm,1.9s
SHPR IAMs_20 IAMs_20 20 05 48.0
comp=Z,4µm,18.0s
RRX **Edison Barstow** **49.78 317** P **P** **19 42 16.7 +1.4**
baz=125
RRX S **S** **19 49 31.7 +6.1**
baz=125
E28A **Huff** **49.80 340** P **P** **19 42 14.7 -0.6**
SCI2 **San Clemente I** **49.83 314** P **P** **19 42 16.7 +1.0**
baz=122,SNR=6.9
AGMN **Agassiz Nation** **49.84 344** P **P** **19 42 13.7 -1.8**
baz=156,SNR=32
AGMN **Agassiz Nation** **49.84 344** P **P** **19 42 14.0 -1.5**
NLU **North Lily Min** **49.88 326** P **P** **19 42 17.1 +0.9**
BFSC **Mount Baldy Ra** **49.88 316** P **P** **19 42 16.9 +0.6**
baz=124,SNR=14
SHOC **Shoshone, Teco** **49.89 319** P **P** **19 42 16.8 +0.7**
baz=126
SHOC S **S** **19 49 31.1 +4.1**
baz=126
GSC **Goldstone, Bar** **49.89 318** P **P** **19 42 17.4 +1.1**
baz=125,SNR=48
GSC S **S** **19 49 31.6 +4.3**
baz=125
GSC **Goldstone, Bar** **49.89 318** P **P** **19 42 17.2 +0.9**
GSC pmax pmax
comp=Z,386nm,1.9s
GSC MLR MLR
comp=Z,3µm,20.0s
GSC **Goldstone, Bar** **49.89 318** P **P** **19 42 17.2 +0.9**
GSC IAmb IAmb 19 42 20.2
comp=Z,386nm,1.9s
GSC IAMs_20 IAMs_20 20 02 18.0
comp=Z,3µm,20.0s
CIS **Catalina Islan** **49.96 315** P **P** **19 42 17.4 +0.7**
baz=122,SNR=8.4
JLU **Jordanelle** **49.97 327** P **P** **19 42 17.1 +0.1**
PSUT **Pine Spring** **49.98 323** P **P** **19 42 17.5 +0.5**
PRN **Pahroc Range** **50.00 321** P **P** **19 42 17.6 +0.5**
PRN IAMs_20 IAMs_20 20 02 50.8
comp=Z,3µm,20.0s
FMP **Fort Macarthur** **50.04 315** P **P** **19 42 18.2 +1.0**
baz=122
FMP S **S** **19 49 35.0 +5.8**
baz=122
MWC **Mount Wilson** **50.15 316** P **P** **19 42 19.4 +1.0**
MWC pmax pmax
comp=Z,348nm,1.7s
MWC MLR MLR
comp=Z,2µm,19.0s
MWC **Mount Wilson** **50.15 316** P **P** **19 42 19.4 +1.0**
MWC IAmb IAmb 19 42 23.2
comp=Z,348nm,1.6s
CTU **Camp Tracy** **50.20 327** P **P** **19 42 18.9 +0.3**
PASC **Pasadena Art C** **50.21 316** P **P** **19 42 20.1 +1.5**
PASC IAmb IAmb 19 42 23.4
comp=Z,500nm,1.9s
TCUT **Toone Canyon** **50.31 327** P **P** **19 42 19.3 -0.2**
DECC **Green Verdugo** **50.36 316** P **P** **19 42 20.7 +0.9**
baz=123
DECC S **S** **19 49 39.3 +5.5**
baz=123
DUG **Dugway, Tooele** **50.46 325** P **P** **19 42 21.2 +0.7**
baz=132,SNR=47
DUG **Dugway, Tooele** **50.46 325** P **P** **19 42 21.7 +1.1**
DUG pmax pmax
comp=Z,321nm,1.8s
DUG MLR MLR
comp=Z,5µm,20.0s
DUG **Dugway, Tooele** **50.46 325** P **P** **19 42 21.7 +1.1**
DUG IAmb IAmb 19 42 24.1
comp=Z,321nm,1.8s
EDW2 **Edwards Air Fo** **50.46 317** P **P** **19 42 21.4 +0.9**
baz=124,SNR=54
EDW2 S **S** **19 49 39.2 +3.9**
baz=124
TPNV **Topopah Spring** **50.49 320** P **P** **19 42 22.1 +1.2**
baz=127,SNR=34
TPNV **Topopah Spring** **50.49 320** P **P** **19 42 21.6 +0.7**
TPNV pmax pmax
comp=Z,226nm,1.7s
TPNV MLR MLR
comp=Z,4µm,22.0s
TPNV **Topopah Spring** **50.49 320** P **P** **19 42 21.6 +0.7**
TPNV IAmb IAmb 19 42 25.0
comp=Z,226nm,1.7s
TPNV IAMs_20 IAMs_20 20 02 04.2
comp=Z,4µm,22.0s
BW06 **Boulder Array** **50.52 330** P **P** **19 42 20.9 -0.3**
baz=137,SNR=43
BW06 S **S** **19 49 39.1 +2.9**
baz=137
BW06 **Boulder Array** **50.52 330** P **P** **19 42 20.8 -0.3**
BW06 IAMs_20 IAMs_20 20 04 12.6
comp=Z,4µm,21.0s
PD31 **Pinedale Array** **50.52 330** P **P** **19 42 20.8 -0.3**
PDAR **Pinedale Array** **50.52 330** P **P** **19 42 21.1 0.0**
comp=Z,37nm,1.2s,baz=129,slow=5.9,SNR=36
PDAR PcP **PcP** **19 43 40.5 +1.3**
comp=Z,6.5nm,1.0s,baz=165,slow=5.5,SNR=4.0
PDAR LR LR 20 05 56.0
comp=Z,2µm,18.4s,baz=139,slow=39
PDAR **Pinedale Array** **50.52 330** P **P** **19 42 20.4 -0.7**
MDND **Maddock** **50.54 341** P **P** **19 42 19.7 -1.2**
baz=152,SNR=7.7
MDND **Maddock** **50.54 341** P **P** **19 42 20.4 -0.4**
LRMC **Laurel Mtn Rad** **50.58 318** P **P** **19 42 22.5 +0.9**
baz=124,SNR=17
LRMC S **S** **19 49 42.4 +5.4**
baz=124
FURC **Furnace Creek,** **50.60 319** P **P** **19 42 22.8 +1.3**
baz=126,SNR=43
FURC S **S** **19 49 43.1 +6.2**
baz=126
SNCC **San Nicolas Is** **50.67 314** P **P** **19 42 23.4 +1.2**
baz=121
SNCC **San Nicolas Is** **50.67 314** P **P** **19 42 22.2 +0.1**
SNCC IAmb IAmb 19 42 25.8
comp=Z,202nm,1.1s
SNCC IAMs_20 IAMs_20 19 59 59.7
comp=Z,3µm,21.0s
HWUT **Hardware Ranch** **50.73 328** P **P** **19 42 22.5 -0.1**
HWUT IAMs_20 IAMs_20 20 04 26.3
comp=Z,3µm,20.0s
MPMC **Manual Prospec** **50.78 318** P **P** **19 42 23.3 +0.1**
baz=125,SNR=36
MPMC S **S** **19 49 45.8 +5.9**
baz=125
OSI **Osito Audit: C** **50.82 316** P **P** **19 42 23.8 +0.5**
baz=123
OSI **Osito Audit: C** **50.82 316** IAMs_20 IAMs_20 20 02 38.6
comp=Z,2µm,20.0s
R11A **Troy Canyon, C** **50.91 322** P **P** **19 42 24.7 +0.6**
baz=128,SNR=81
R11A S **S** **19 49 43.7 +2.0**
baz=128
R11A **Troy Canyon, C** **50.91 322** P **P** **19 42 24.5 +0.5**
R11A IAMs_20 IAMs_20 20 07 02.9
comp=Z,3µm,19.0s
SPUT **South Promonto** **51.01 327** P **P** **19 42 25.3 +0.6**
BGU **Big Grassy Mou** **51.07 326** P **P** **19 42 25.4 +0.3**
SCZ2 **Santa Cruz Isl** **51.14 315** P **P** **19 42 26.6 +1.0**
baz=122,SNR=5.3
ARVC **Arvin** **51.17 316** P **P** **19 42 27.0 +1.2**
baz=123,SNR=10
ARVC S **S** **19 49 51.0 +6.1**
baz=123
ISA **Isabella, Lake** **51.22 317** P **P** **19 42 27.3 +0.9**
baz=124,SNR=40
ISA S **S** **19 49 49.5 +3.8**
baz=124
ISA **Isabella, Lake** **51.22 317** P **P** **19 42 27.2 +0.9**
ISA pmax pmax
comp=Z,260nm,1.8s
ISA MLR MLR
comp=Z,2µm,21.0s
ISA **Isabella, Lake** **51.22 317** P **P** **19 42 27.2 +0.9**

ISA IAmb IAmb 19 42 31.0
comp=Z,260nm,1.8s
ISA IAMs_20 IAMs_20 20 02 25.6
comp=Z,2µm,21.0s
AHID Auburn Hatcher 51.31 329 P **P** **19 42 26.8 -0.1**
CWC Cottonwood Cre 51.39 318 P **P** **19 42 28.9 +1.2**
baz=125
DRLN Deer Lake 51.41 17 P **P** **19 42 27.7 +0.3**
DRLN IAmb IAmb 19 42 30.4
comp=Z,396nm,1.9s
HVU Hansel Valley 51.51 327 P **P** **19 42 28.3 -0.1**
HVU pmax pmax
comp=Z,209nm,1.9s
HVU Hansel Valley 51.51 327 P **P** **19 42 28.3 -0.1**
REDW Red Top Meadow 51.61 330 P **P** **19 42 29.2 0.0**
REDW IAmb IAmb 19 42 32.8
comp=Z,216nm,1.4s
REDW IAMs_20 IAMs_20 20 05 22.8
comp=Z,3µm,21.0s
SNOW Snow King Moun 51.63 330 P **P** **19 42 29.7 +0.2**
SNOW IAMs_20 IAMs_20 20 05 23.4
comp=Z,4µm,21.0s
ULM Lac du Bonnet 51.63 345 P **P** **19 42 27.6 -1.4**
comp=Z,64nm,0.9s,baz=156,slow=7.8,SNR=50
ULM PcP **PcP** **19 43 42.8 +0.1**
comp=Z,16nm,0.8s,baz=100,slow=6.5,SNR=4.5
ULM Lac du Bonnet 51.63 345 P **P** **19 42 27.2 -1.8**
ULM IAmb IAmb 19 42 30.4
comp=Z,153nm,1.1s
ULM Lac du Bonnet 51.63 345 IAMs_20 IAMs_20 20 06 19.5
comp=Z,3µm,20.0s
ECR Eagle Creek 51.65 329 P **P** **19 42 29.6 0.0**
LOHW Long Hollow 51.66 330 P **P** **19 42 28.8 -0.8**
LOHW IAMs_20 IAMs_20 20 05 59.8
comp=Z,4µm,21.0s
PKM Mcpherson Peak 51.73 316 P **P** **19 42 31.3 +1.0**
baz=122,SNR=27
PKM S **S** **19 49 55.6 +2.6**
baz=122
VES Vestal, Richgr 51.73 317 P **P** **19 42 31.1 +1.1**
baz=123,SNR=32
TPAW Teton Pass 51.75 330 P **P** **19 42 30.4 +0.1**
TPAW IAMs_20 IAMs_20 20 08 18.1
comp=Z,3µm,21.0s
TPH Tonopah 51.78 320 P **P** **19 42 31.0 +0.4**
TPH pmax pmax
comp=Z,1µm,2.0s
TPH Tonopah 51.78 320 P **P** **19 42 31.0 +0.4**
MOOW Moose Ponds 51.83 330 P **P** **19 42 30.6 -0.3**
MOOW IAMs_20 IAMs_20 20 06 04.2
comp=Z,3µm,20.0s
TIN Tinemaha, Big 51.84 319 P **P** **19 42 32.1 +1.1**
baz=125,SNR=8.0
LAO LASA Array 52.01 336 P **P** **19 42 31.5 -0.5**
baz=143,SNR=39
LAO LASA Array 52.01 336 P **P** **19 42 31.8 -0.2**
LAO IAmb IAmb 19 42 34.4
comp=Z,612nm,2.0s
IMW Indian Meadow 52.04 330 P **P** **19 42 32.6 0.0**
IMW IAMs_20 IAMs_20 20 05 47.7
comp=Z,3µm,22.0s
GO09 Cerro Castillo 52.05 176 IAMs_20 IAMs_20 20 04 11.1
comp=Z,2µm,19.0s
FLWY Flagg Ranch 52.05 330 P **P** **19 42 33.0 +0.4**
FLWY IAmb IAmb 19 42 36.3
comp=Z,174nm,1.3s
FLWY IAMs_20 IAMs_20 20 06 14.1
comp=Z,3µm,21.0s
SMMC Simmler 52.08 316 P **P** **19 42 33.7 +1.0**
baz=122
RLMT Red Lodge 52.13 332 P **P** **19 42 32.7 -0.4**
baz=139,SNR=31
RLMT Red Lodge 52.13 332 P **P** **19 42 33.1 0.0**
RLMT IAMs_20 IAMs_20 20 05 34.1
comp=Z,3µm,22.0s
VOG Valley Oaks Go 52.20 317 P **P** **19 42 32.8 -0.7**
baz=123
ELK Elko 52.21 324 P **P** **19 42 34.1 +0.3**
baz=118,slow=6.5
H17A Grant Village 52.22 331 P **P** **19 42 34.4 +0.6**
baz=137,SNR=19
H17A Grant Village 52.22 331 P **P** **19 42 34.7 +0.9**
YPP Pitchstone Pla 52.24 330 P **P** **19 42 33.7 -0.4**
LKWY Lake 52.26 331 P **P** **19 42 35.0 +0.9**
LKWY pmax pmax
comp=Z,83nm,1.5s
LKWY MLR MLR
comp=Z,4µm,18.0s
LKWY Lake 52.26 331 P **P** **19 42 35.0 +0.9**
YMP Mirror Lake Pl 52.27 331 P **P** **19 42 34.4 +0.2**
YNE Yellowstone No 52.40 332 P **P** **19 42 34.8 -0.3**
PAGB Antelope Grade 52.48 316 P **P** **19 42 36.2 +0.7**
PAGB IAmb IAmb 19 42 39.4
comp=Z,440nm,1.9s
PAGB IAMs_20 IAMs_20 20 02 59.8
comp=Z,2µm,20.0s
YNR Norris Junctio 52.50 331 P **P** **19 42 36.2 +0.3**
MLAC Mammoth, Mammo 52.56 319 P **P** **19 42 37.3 +0.9**
baz=125
NV11 Mina Array Sit 52.58 320 P **P** **19 42 36.9 +0.4**
NV11 IAmb IAmb 19 42 40.4
comp=Z,611nm,2.0s
NV11 IAMs_20 IAMs_20 20 03 42.1
comp=Z,3µm,21.0s
YMR Madison River 52.61 331 P **P** **19 42 37.5 +0.8**
YHH Holmes Hill 52.64 331 P **P** **19 42 37.7 +0.7**
OMMB Old Mammoth Mi 52.66 319 P **P** **19 42 37.8 +0.5**
OMMB IAmb IAmb 19 42 41.7
comp=Z,188nm,1.3s
OMMB IAMs_20 IAMs_20 20 03 16.2
comp=Z,3µm,20.0s
DGMT Dagmar 52.67 338 P **P** **19 42 36.3 -0.5**
baz=146,SNR=17
DGMT Dagmar 52.67 338 P **P** **19 42 37.1 +0.3**
DGMT IAmb IAmb 19 42 40.3
comp=Z,229nm,1.2s
NVAR Mina Array Bea 52.67 320 P **P** **19 42 38.2 +1.0**
comp=Z,34nm,0.8s,baz=133,slow=6.0,SNR=75
NVAR PcP **PcP** **19 43 48.3 +1.1**
comp=Z,13nm,0.9s,baz=139,slow=4.3,SNR=5.6
NVAR LR LR 20 04 15.7
comp=Z,3µm,21.3s,baz=130,slow=35
NVAR Mina Array Bea 52.67 320 P **P** **19 42 36.8 -0.5**
LHV Little Huntoon 52.70 320 P **P** **19 42 38.5 +1.4**
LHV IAmb IAmb 19 42 42.2
comp=Z,175nm,1.2s
LHV IAMs_20 IAMs_20 20 05 58.2
comp=Z,3µm,18.0s
MDPB Devils Postpil 52.72 319 IAMs_20 IAMs_20 20 03 17.8
comp=Z,3µm,22.0s
YHB Horse Butte 52.78 331 P **P** **19 42 38.5 +0.5**
YHL Hebgen Lake 52.85 331 P **P** **19 42 39.6 +1.1**
KVN Kaiserville 52.91 321 P **P** **19 42 38.9 0.0**
KVN pmax pmax
comp=Z,146nm,1.7s
KVN MLR MLR
comp=Z,3µm,21.0s
KVN Kaiserville 52.91 321 P **P** **19 42 38.9 0.0**
KVN IAMs_20 IAMs_20 20 03 48.7
comp=Z,3µm,21.0s
RYN Ryan 52.93 320 P **P** **19 42 40.0 +1.0**
RYN IAmb IAmb 19 42 42.6
comp=Z,381nm,1.9s
RYN IAMs_20 IAMs_20 20 03 42.3
comp=Z,3µm,20.0s
PMPB Monarch Peak 53.11 317 P **P** **19 42 40.8 +0.4**
PMPB IAmb IAmb 19 42 44.6
comp=Z,395nm,1.6s
PMPB IAMs_20 IAMs_20 20 02 20.2
comp=Z,4µm,22.0s
WAKR Walker 53.45 320 P **P** **19 42 44.5 +1.6**
WAKR IAMs_20 IAMs_20 20 04 53.0
comp=Z,4µm,20.0s
BCYI Bear Canyon 53.58 329 P **P** **19 42 44.2 +0.3**
YERR Yerington 53.59 320 P **P** **19 42 45.3 +1.3**
HLID Hailey 53.60 328 P **P** **19 42 44.3 +0.3**
baz=132,SNR=43
HLID Hailey 53.60 328 P **P** **19 42 44.0 0.0**
BOZ Bozeman (W) 53.61 331 P **P** **19 42 44.2 +0.3**
baz=136,SNR=85
BOZ Bozeman (W) 53.61 331 P **P** **19 42 43.6 -0.3**
BOZ pmax pmax
comp=Z,183nm,1.3s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 53.61 331 P **P** **19 42 43.6 -0.3**
BOZ IAmb IAmb 19 42 47.7
comp=Z,183nm,1.2s
BOZ IAMs_20 IAMs_20 20 09 32.2
comp=Z,2µm,19.0s
CMB Columbia Colle 53.81 319 P **P** **19 42 46.1 +0.7**
CMB pmax pmax
comp=Z,119nm,1.9s
CMB MLR MLR
comp=Z,3µm,22.0s
CMB Columbia Colle 53.81 319 P **P** **19 42 46.1 +0.7**
CMB IAMs_20 IAMs_20 20 03 12.5
comp=Z,3µm,22.0s
SAO San Andreas Ge 53.84 317 P **P** **19 42 46.2 +0.6**
SAO pmax pmax
comp=Z,220nm,1.7s
SAO MLR MLR
comp=Z,5µm,22.0s
SAO San Andreas Ge 53.84 317 P **P** **19 42 46.1 +0.6**
SAO IAmb IAmb 19 42 50.0
comp=Z,220nm,1.6s
PNTR Pine Nut 53.88 320 P **P** **19 42 46.2 0.0**
PNTR IAmb IAmb 19 42 48.9
comp=Z,190nm,1.7s
PNTR IAMs_20 IAMs_20 20 04 23.5
comp=Z,3µm,20.0s
DLMT Dillon 53.91 330 P **P** **19 42 45.8 -0.4**
DLMT IAmb IAmb 19 42 49.3
comp=Z,225nm,1.9s
DLMT IAMs_20 IAMs_20 20 06 24.3
comp=Z,4µm,22.0s
VCNR Virginia City 54.03 320 P **P** **19 42 48.5 +1.3**
VCNR IAMs_20 IAMs_20 20 04 39.5
comp=Z,2µm,20.0s
PAHR Pah Rah Range 54.10 321 P **P** **19 42 48.4 +0.7**
PAHR IAmb IAmb 19 42 51.4
comp=Z,443nm,2.0s
PAHR IAMs_20 IAMs_20 20 05 16.3
comp=Z,2µm,21.0s
MFID Camas Ranch 54.28 327 P **P** **19 42 49.0 +0.2**
MFID IAmb IAmb 19 42 53.0
comp=Z,218nm,1.3s
MFID IAMs_20 IAMs_20 20 05 21.0
comp=Z,3µm,22.0s
EGMT Eagleton 54.55 334 P **P** **19 42 50.3 -0.4**
baz=140,SNR=39
EGMT Eagleton 54.55 334 P **P** **19 42 50.9 +0.2**
EGMT IAmb IAmb 19 42 54.1
comp=Z,156nm,1.2s
SCHQ Schefferville 54.67 8 P **P** **19 42 52.1 +0.8**
comp=Z,52nm,1.1s,baz=193,slow=6.8,SNR=14
SCHQ LR LR 20 06 08.4
comp=Z,2µm,20.8s,baz=214,slow=36
SCHQ Schefferville 54.67 8 P **P** **19 42 51.9 +0.6**
SCHQ IAmb IAmb 19 42 53.8
comp=Z,202nm,1.4s
AFDM Forest Hills D 54.69 319 P **P** **19 42 52.3 +0.5**
EFI East Falkland 54.87 165 P **P** **19 42 51.3 -1.5**
EFI pmax pmax
comp=Z,267nm,1.5s
EFI MLR MLR
comp=Z,4µm,20.0s
EFI East Falkland 54.87 165 P **P** **19 42 51.3 -1.5**
EFI IAmb IAmb 19 42 59.2
comp=Z,267nm,1.5s
ORV Oroville 55.37 320 P **P** **19 42 57.5 +0.8**
ORV pmax pmax
comp=Z,828nm,1.9s
ORV MLR MLR
comp=Z,2µm,21.0s
ORV Oroville 55.37 320 P **P** **19 42 57.5 +0.8**
ORV IAMs_20 IAMs_20 20 10 04.8
comp=Z,2µm,21.0s
SACV Santiago Islan 55.46 72 P **P** **19 42 55.7 -2.0**
SACV Santiago Islan 55.46 72 IAMs_20 IAMs_20 20 04 40.7
comp=Z,3µm,22.0s
PLID Pearl Lake 55.47 328 P **P** **19 42 57.1 -0.5**
PLID **PcP** **19 43 58.1 +0.3**
MSO Missoula 55.61 331 P **P** **19 42 58.1 -0.3**
baz=135,SNR=30
MSO Missoula 55.61 331 P **P** **19 42 58.6 +0.2**
MSO IAMs_20 IAMs_20 20 07 26.2
comp=Z,3µm,21.0s
J08A Circle Bar Ran 55.73 325 P **P** **19 42 59.2 -0.2**
GDXM Geysers 55.82 318 P **P** **19 43 01.4 +1.4**
MOD Modoc Plateau 55.94 323 P **P** **19 43 01.1 +0.2**
USHA Ushuaia 55.95 173 P **P** **19 43 03.0 +2.5**
comp=Z,49nm,0.9s,baz=318,slow=2.2,SNR=5.9
O03E Paynes Creek 55.96 320 P **P** **19 43 00.4 -0.7**
baz=123,SNR=19
BMO Blue Mountains 56.02 327 P **P** **19 42 59.4 -2.0**
BMO pmax pmax
comp=Z,40nm,1.4s
BMO MLR MLR
comp=Z,3µm,20.0s
BMO Blue Mountains 56.02 327 P **P** **19 42 59.4 -2.0**
BMO IAMs_20 IAMs_20 20 08 12.1
comp=Z,3µm,20.0s
HOPS Hopland Field 56.10 318 P **P** **19 43 01.5 -0.4**
MG01 Puerto William 56.14 173 IAMs_20 IAMs_20 20 06 57.3
comp=Z,3µm,19.0s
JTMT Jette 56.42 331 P **P** **19 43 04.6 +0.3**
JTMT IAMs_20 IAMs_20 20 08 25.6
comp=Z,3µm,21.0s
O02D Mt. Diablo Mer 56.53 320 P **P** **19 43 04.6 -0.5**
baz=122,SNR=9.8
WDC Whiskeytown Da 56.59 320 P **P** **19 43 04.1 -1.3**
WDC pmax pmax
comp=Z,200nm,2.0s
WDC Whiskeytown Da 56.59 320 P **P** **19 43 04.1 -1.3**
F10A Beach Ranch, E 56.70 328 P **P** **19 43 06.1 -0.1**
F10A IAmb IAmb 19 43 09.1
comp=Z,166nm,1.4s
F10A IAMs_20 IAMs_20 20 08 26.2
comp=Z,2µm,22.0s
I07A Izee 56.76 325 P **P** **19 43 07.0 +0.2**
K05A Summer Lake 56.77 323 P **P** **19 43 07.3 +0.4**
K05A IAmb IAmb 19 43 11.5
comp=Z,405nm,1.7s
K05A IAMs_20 IAMs_20 20 07 28.9
comp=Z,3µm,20.0s
KCPM Cahto Peak 56.80 319 P **P** **19 43 07.7 +0.6**
KCPM IAmb IAmb 19 43 10.3
comp=Z,296nm,1.7s
KCPM IAMs_20 IAMs_20 20 06 54.7
comp=Z,2µm,18.0s
M04C Macdoel 56.81 322 P **P** **19 43 06.8 -0.3**
baz=124,SNR=24
N02D Trinity Center 56.91 320 P **P** **19 43 06.7 -1.1**
baz=123
KMRM Mail Ridge 57.16 319 P **P** **19 43 11.1 +1.6**
WALA Waterton Lakes 57.18 333 P **P** **19 43 09.5 -0.1**
WALA IAMs_20 IAMs_20 20 10 44.6
comp=Z,3µm,18.0s
G08A Pilot Rock 57.20 327 P **P** **19 43 09.7 -0.1**
G08A IAmb IAmb 19 43 13.7
comp=Z,144nm,1.2s
G08A IAMs_20 IAMs_20 20 08 34.5
comp=Z,3µm,22.0s
M02C Callahan 57.23 321 P **P** **19 43 09.1 -0.9**
baz=123,SNR=9.9
K04D Chiloquin, OR 57.23 323 P **P** **19 43 10.6 +0.5**
baz=125,SNR=11
FFC Flin Flon 57.30 344 P **P** **19 43 09.3 -0.9**
FFC pmax pmax
comp=Z,78nm,1.1s
FFC MLR MLR
comp=Z,2µm,20.0s
FFC Flin Flon 57.30 344 P **P** **19 43 09.2 -0.9**
FFC Flin Flon 57.30 344 IAMs_20 IAMs_20 20 11 34.7
comp=Z,2µm,20.0s
J05D Fort Rock, OR 57.30 323 P **P** **19 43 11.0 +0.5**
baz=126,SNR=31
YBH Yreka Blue Hor 57.33 321 P **P** **19 43 10.1 -0.6**
comp=Z,23nm,0.8s,baz=88,slow=5.6,SNR=36
YBH Yreka Blue Hor 57.33 321 P **P** **19 43 10.2 -0.6**
YBH pmax pmax
comp=Z,36nm,0.9s
YBH Yreka Blue Hor 57.33 321 P **P** **19 43 10.2 -0.5**
YBH IAMs_20 IAMs_20 20 06 41.6
comp=Z,3µm,21.0s
L04D Klamath Falls 57.34 322 P **P** **19 43 10.9 0.0**
baz=124,SNR=29
PINE Pine Mountain 57.42 324 P **P** **19 43 12.2 +0.7**
PINE IAmb IAmb 19 43 14.2
comp=Z,388nm,1.7s
PINE IAMs_20 IAMs_20 20 07 18.1
comp=Z,3µm,21.0s
KHMM Horse Mountain 57.51 320 P **P** **19 43 13.5 +1.3**
KHMM IAmb IAmb 19 43 16.5
comp=Z,237nm,1.0s
E09A Wood Farm, Sta 57.54 328 P **P** **19 43 11.9 -0.1**
E09A IAmb IAmb 19 43 15.7
comp=Z,302nm,1.5s
E09A IAMs_20 IAMs_20 20 06 55.3
comp=Z,2µm,21.0s
JCC Jacoby Creek, 57.68 320 P **P** **19 43 13.2 +0.2**
JCC IAmb IAmb 19 43 18.9
comp=Z,174nm,1.2s
J04D Umpqua Nationa 57.80 323 P **P** **19 43 14.3 +0.1**
baz=125,SNR=23
HUMO Hull Mountain 57.96 322 P **P** **19 43 14.8 -0.3**
KRMB Red Mountain 57.97 320 P **P** **19 43 16.7 +1.4**
KRMB IAmb IAmb 19 43 19.6
comp=Z,210nm,1.1s
I05D Terrebonne, OR 57.97 324 P **P** **19 43 16.0 +0.8**
baz=126,SNR=24
E08A Dider Farm, El 58.01 328 P **P** **19 43 14.4 -0.9**
F07A Phinny Hill Vi 58.11 327 P **P** **19 43 17.1 +1.1**
L02E Cave Junction 58.12 321 P **P** **19 43 16.5 +0.3**
baz=123,SNR=8.1
NEW Newport 58.16 330 P **P** **19 43 16.0 -0.4**
baz=132,SNR=21
NEW Newport 58.16 330 P **P** **19 43 16.5 0.0**
NEW pmax pmax
comp=Z,95nm,1.3s
NEW MLR MLR
comp=Z,3µm,21.0s
NEW Newport 58.16 330 P **P** **19 43 16.4 0.0**
NEW Newport 58.16 330 IAMs_20 IAMs_20 20 08 12.8
comp=Z,3µm,21.0s
HAWA Hanford 58.20 327 P **P** **19 43 17.0 +0.3**
HAWA IAMs_20 IAMs_20 20 08 39.9
comp=Z,2µm,20.0s
I04A Tendick Farm, 58.29 323 P **P** **19 43 17.1 -0.3**
baz=125,SNR=11
D08A Wollman Farm, 58.30 328 P **P** **19 43 17.6 +0.3**
D08A IAmb IAmb 19 43 20.4
comp=Z,239nm,1.9s
C09A Chrisman Ranch 58.44 329 P **P** **19 43 19.0 +0.7**
C09A IAmb IAmb 19 43 21.4
comp=Z,164nm,1.6s
C09A IAMs_20 IAMs_20 20 07 49.1
comp=Z,3µm,22.0s
K02D Willamette Mer 58.45 322 P **P** **19 43 18.0 -0.6**
baz=123,SNR=20
E07A Sunnyside 58.48 327 P **P** **19 43 19.1 +0.4**
E07A IAmb IAmb 19 43 22.6
comp=Z,153nm,1.7s
G05D Wamic, OR 58.49 325 P **P** **19 43 19.0 +0.2**
baz=126,SNR=21
KBO Bosley Butte 58.54 321 P **P** **19 43 20.6 +1.4**
H04A Detroit Lake 58.67 324 P **P** **19 43 20.5 +0.4**
H04A IAmb IAmb 19 43 23.6
comp=Z,149nm,1.3s
H04A IAMs_20 IAMs_20 20 07 57.1
comp=Z,3µm,20.0s
I03D Drain, OR 58.80 323 P **P** **19 43 21.2 +0.3**
baz=124,SNR=10.0
J01E Myrtle Point 58.86 322 P **P** **19 43 21.2 -0.1**
baz=123,SNR=16
H04D Lebanon 58.90 324 P **P** **19 43 22.8 +1.2**
baz=125
KEBM Edson Butte 58.95 322 P **P** **19 43 22.3 +0.2**
F05D White Salmon 58.96 326 P **P** **19 43 22.4 +0.4**
baz=127,SNR=12
FCC Fort Churchill 59.23 350 P **P** **19 43 22.4 -1.1**
FCC pmax pmax
comp=Z,142nm,1.1s
FCC MLR MLR
comp=Z,4µm,20.0s
FCC Fort Churchill 59.23 350 P **P** **19 43 22.4 -1.1**
FCC IAmb IAmb 19 43 25.2
comp=Z,142nm,1.1s
COR Corvallis 59.27 324 P **P** **19 43 24.3 +0.2**
COR pmax pmax
comp=Z,620nm,1.6s
COR Corvallis 59.27 324 P **P** **19 43 24.3 +0.2**
I02D Swisshome 59.33 323 P **P** **19 43 25.4 +0.9**
baz=124,SNR=6.8
B08A Colville Reser 59.34 329 P **P** **19 43 24.9 +0.2**
B08A IAmb IAmb 19 43 28.2
comp=Z,166nm,1.6s
B08A IAMs_20 IAMs_20 20 10 35.0
comp=Z,2µm,18.0s
LTY Liberty 59.35 327 P **P** **19 43 24.1 -0.6**
LTY IAmb IAmb 19 43 28.8
comp=Z,121nm,1.4s
LTY IAMs_20 IAMs_20 20 10 13.2
comp=Z,2µm,20.0s
F04A Amboy 59.52 325 P **P** **19 43 26.3 +0.4**
F04A IAmb IAmb 19 43 29.5
comp=Z,105nm,1.2s
G03D McMinnville, O 59.60 324 P **P** **19 43 27.0 +0.6**
baz=125
LON Longmire 59.67 326 P **P** **19 43 27.4 +0.5**
LON pmax pmax
comp=Z,63nm,1.0s
LON MLR MLR
comp=Z,3µm,21.0s
LON Longmire 59.67 326 P **P** **19 43 27.4 +0.5**
LON IAMs_20 IAMs_20 20 09 16.7
comp=Z,3µm,21.0s
F04D Rainier, OR 59.95 325 P **P** **19 43 29.7 +0.9**
baz=125
E04D Cinebar 59.97 326 P **P** **19 43 29.0 +0.1**
baz=126,SNR=6.0
D05A Enumclaw 60.03 327 P **P** **19 43 30.0 +0.7**
D05A IAmb IAmb 19 43 33.1
comp=Z,183nm,1.2s
RKT Rikitea 60.28 243 *e*S **S** **19 51 44.0 -2.9**
comp=Z,3µm,27.5s
RKT *e*LQ LQ 19 58 47.6
comp=Z,3µm,35.8s
RKT *e*LR LR 20 01 23.1
comp=Z,9µm,26.5s
D04E Lakebay 60.45 326 P **P** **19 43 32.8 +0.6**
baz=126
E03A Lebam 60.53 325 P **P** **19 43 34.1 +1.4**
E03A IAmb IAmb 19 43 37.1
comp=Z,259nm,1.3s
B06A Marblemount 60.56 328 P **P** **19 43 32.7 -0.2**
B06A IAmb IAmb 19 43 36.3
comp=Z,314nm,1.7s
B06A IAMs_20 IAMs_20 20 10 04.2
comp=Z,2µm,22.0s
B05A Bryant 60.73 328 P **P** **19 43 33.5 -0.6**
baz=127,SNR=8.5
D03D Eldon 60.83 327 P **P** **19 43 34.7 -0.1**
baz=126,SNR=14
NLWA Neilton Lookou 61.18 326 P **P** **19 43 38.3 +1.0**
NLWA IAmb IAmb 19 43 41.9
comp=Z,172nm,1.2s
A04D Lummi Island 61.33 328 P **P** **19 43 38.5 +0.3**
baz=127,SNR=18
PGC Sidney 61.68 327 P **P** **19 43 41.5 +1.0**
PGC IAMs_20 IAMs_20 20 12 00.0
comp=Z,2µm,18.0s
MBO M'Bour 61.75 74 P **P** **19 43 40.3 -1.2**
MBO IAmb IAmb 19 43 44.4
comp=Z,149nm,1.0s
TAOE Nuku Hiva Isla 62.70 260 *e*LR LR 20 02 30.6
comp=Z,7µm,22.8s
FRB Frobisher Bay 63.23 5 P **P** **19 43 50.0 -0.6**
comp=Z,41nm,0.9s,baz=196,slow=7.0,SNR=16
FRB Frobisher Bay 63.23 5 P **P** **19 43 50.0 -0.6**
MACI Morro de la Ar 64.65 59 P **P** **19 43 58.0 -3.0**
NRS Narsarsuaq 65.15 17 P **P** **19 44 03.5 +0.3**
NRS pmax pmax
comp=Z,85nm,0.8s
NRS Narsarsuaq 65.15 17 P **P** **19 44 03.5 +0.3**
NRS IAmb IAmb 19 44 22.0
comp=Z,85nm,0.8s
PMOZ Porto Moniz, M 65.25 54 *e*LR LR 20 05 17.9
comp=Z,1µm,20.0s
BBB Bella Bella 66.14 329 P **P** **19 44 09.4 -0.4**
comp=Z,32nm,0.9s,baz=190,slow=6.9,SNR=4.1
BBB Bella Bella 66.14 329 P **P** **19 44 10.4 +0.6**
BBB IAmb IAmb 19 44 12.6
comp=Z,169nm,1.4s
PMSA Palmer Station 66.16 174 P **P** **19 44 09.3 -0.3**
comp=Z,44nm,1.1s,baz=349,slow=5.2,SNR=7.1
PMSA Palmer Station 66.16 174 P **P** **19 44 09.1 -0.5**

PMSA Palmer Station 66.16 174 *e*P P **19 44 11.5 +1.9**
YKA Yellowknife Ar 67.43 343 P P **19 44 16.6 -1.2**
comp=Z,40nm,1.0s,baz=133,slow=5.7,SNR=31
YKA LR LR 20 15 18.7
comp=Z,791nm,20.5s,baz=0.0,slow=37
SFJD Kangerlussuaq 68.83 11 P P **19 44 26.2 -0.3**
comp=Z,28nm,0.9s,baz=221,slow=7.1,SNR=7.3
SFJD Kangerlussuaq 68.83 11 P P **19 44 26.3 -0.3**
SFJD IAmb IAmb 19 44 28.0
comp=Z,186nm,1.7s
SFJD Kangerlussuaq 68.83 11 *i* P P **19 44 26.2 -0.3**
SFJD Kangerlussuaq 68.83 11 *i* P P **19 44 26.3 -0.3**
DLBC Dease Lake 70.48 334 P P **19 44 38.3 +1.3**
comp=Z,35nm,1.0s,baz=106,slow=5.8,SNR=16
DLBC Dease Lake 70.48 334 P P **19 44 37.9 +0.9**
DLBC IAmb IAmb 19 44 42.8
comp=Z,193nm,1.9s
VAH Vaihoa 70.64 254 *e*P P **19 44 38.7 0.0**
comp=Z,290nm,1.5s
ILULI Ilulissat 70.69 10 P P **19 44 38.7 +0.7**
ILULI pmax pmax
comp=Z,154nm,1.4s
ILULI Ilulissat 70.69 10 P P **19 44 38.7 +0.7**
ILULI IAmb IAmb 19 44 44.2
comp=Z,154nm,1.4s
ILULI Ilulissat 70.69 10 *i* P P **19 44 39.5 +1.5**
comp=Z,48nm,0.9s
ILULI Ilulissat 70.69 10 *i* P P **19 44 39.5 +1.5**
ILULI IAmb IAmb 19 44 41.6
comp=Z,48nm,0.9s
PMOR Pomariorio Ree 70.87 254 *e*P P **19 44 40.2 +0.1**
comp=Z,272nm,1.4s
MEH Mehetia 71.36 251 *e*P P **19 44 43.3 +0.2**
comp=Z,50nm,1.3s
SIT Sitka 72.22 331 IAMs_20 IAMs_20 20 17 04.6
comp=Z,2μm,21.0s
JIS Juneau Island 72.36 332 IAMs_20 IAMs_20 20 18 21.2
comp=Z,2μm,20.0s
OUK Oukaimeden 72.61 58 P P **19 44 53.0 +2.2**
SNR=12
OUK P P **19 44 53.0 +2.2**
SNR=12
BESE Bessie Mountai 72.72 333 P P **19 44 51.1 +0.5**
BESE IAMs_20 IAMs_20 20 21 36.8
comp=Z,2μm,20.0s
PPT2 Papeete2 72.76 251 *e*P P **19 44 51.7 +0.1**
comp=Z,130nm,1.7s
PPT2 *e*S S **19 54 14.9 -3.7**
comp=Z,570nm,26.5s
PPT2 Papeete2 72.76 251 *e*LR LR 20 07 09.3
comp=Z,9μm,25.0s,baz=78
PAE Paea 72.77 251 *e*P P **19 44 51.8 +0.3**
comp=Z,51nm,1.5s
ICESG Greenland Ices 72.91 13 *i* P P **19 44 51.7 -0.1**
ICESG IAmb IAmb 19 44 56.1
comp=Z,174nm,1.2s
LIC Lamto 72.92 84 *e*P P **19 44 51.1 -1.4**
comp=Z,484nm,1.4s
TIC Toumodi 72.94 83 *e*P P **19 44 51.2 -1.5**
PFVI Vila Bisbo 72.97 51 *e*P P **19 44 53.7 +1.3**
comp=Z,188nm,2.0s
LIS Lisbon 73.07 50 *e*P P **19 44 52.0 -1.0**
LIS AMS AMS 20 14 25.3
comp=Z,2μm,19.7s
LIS Lisbon 73.07 50 *e*P P **19 44 51.9 -1.0**
LIS Lisbon 73.07 50 *e*P P **19 44 55.9 +3.0**
comp=Z,145nm,1.7s
DBIC Dimbokro 73.10 83 P P **19 44 53.4 -0.2**
comp=Z,131nm,1.0s,baz=251,slow=6.6,SNR=45
DBIC LR LR 20 14 52.6
comp=Z,4μm,18.8s,baz=240,slow=34
DBIC Dimbokro 73.10 83 P P **19 44 52.7 -0.9**
DBIC pmax pmax
comp=Z,196nm,1.1s
DBIC Dimbokro 73.10 83 P P **19 44 52.7 -0.9**
DBIC IAmb IAmb 19 44 55.7
comp=Z,196nm,1.1s
PTEO Sao Teotonio 73.14 51 *e*P P **19 44 54.9 +1.5**
comp=Z,122nm,1.5s
MORF Marmelete 73.15 51 *e*P P **19 44 52.5 -1.0**
MORF *e*S S **19 54 21.3 -1.0**
MORF AMS AMS 20 14 39.3
comp=Z,2μm,20.8s
MORF Marmelete 73.15 51 *e*P P **19 44 52.5 -1.0**
MORF *e*S S **19 54 21.3 -1.0**
MORF Marmelete 73.15 51 *e*P P **19 44 55.0 +1.5**
comp=Z,205nm,1.6s
KIC Kosan Boka 73.21 84 *e*P P **19 44 52.6 -1.7**
comp=Z,714nm,1.3s
AVE Averroes 73.36 55 *e*P P **19 44 57.5 +2.8**
AVE *i* S **SKiKP 19 54 30.5 +3.0**
SKAG Skagway 73.36 333 P P **19 44 54.5 +0.3**
SKAG IAMs_20 IAMs_20 20 16 42.6
comp=Z,2μm,22.0s
TBI Tubuai 73.38 245 *e*S S **19 54 22.5 -2.8**
comp=Z,2μm,30.0s
TBI *e*LQ LQ 20 04 18.7
comp=Z,921nm,39.0s
TBI *e*LR LR 20 07 27.4
comp=Z,7μm,28.0s,baz=80
PNCL Nicolau / Gran 73.41 50 *e*P P **19 44 56.2 +1.2**
comp=Z,113nm,1.6s
OUZM OUZ 73.50 58 P P **19 44 58.0 +2.2**
SNR=19
OUZM P P **19 44 58.0 +2.2**
SNR=19
PSBE So Bento 73.52 49 *e*P P **19 44 56.4 +0.8**
comp=Z,78nm,2.0s
PCVE Castro Verde 73.69 51 *e*P P **19 44 58.0 +1.4**
comp=Z,69nm,2.1s
PBDV Barranco-do-Ve 73.69 51 *e*P P **19 44 58.9 +2.2**
comp=Z,68nm,2.1s
WHY Whitehorse 73.75 335 P P **19 44 56.7 +0.1**
WHY IAMs_20 IAMs_20 20 19 51.9
comp=Z,1μm,18.0s
PCAS Casmilo, Conde 73.86 48 *e*P P **19 44 58.6 +1.0**
comp=Z,146nm,1.5s
PVAQ Vaqueiros 73.89 51 *e*P P **19 44 59.1 +1.3**
comp=Z,55nm,1.8s
PVAQ *e*S S **19 54 34.1 +3.4**
PVAQ Vaqueiros 73.89 51 *e*LR LR 20 08 43.9
comp=Z,2μm,20.0s
PVAQ Vaqueiros 73.89 51 P P **19 44 57.7 -0.1**
EVO Evora 73.90 50 *e*P P **19 45 02.3 +4.5**
EVO *i* S S 19 54 41.8 +11
EVO Evora 73.90 50 *e*P P **19 44 58.6 +0.8**
comp=Z,80nm,1.6s
PBEJ Beja 73.91 51 *e*P P **19 44 58.9 +1.0**
comp=Z,56nm,1.6s
COI Coimbra 73.96 48 P P **19 44 58.0 -0.1**
COI pmax pmax
comp=Z,228nm,1.4s
COI MLR MLR
comp=Z,2μm,20.0s
COI Coimbra 73.96 48 *e*P P **19 44 59.0 +0.9**
comp=Z,240nm,1.4s
COI Coimbra 73.96 48 P P **19 44 58.0 -0.1**
COI IAmb IAmb 19 45 00.5
comp=Z,228nm,1.4s
COI IAMs_20 IAMs_20 20 13 29.7
comp=Z,2μm,20.0s
KOWA Kowa 74.24 75 P P **19 45 00.5 +0.3**
comp=Z,86nm,1.1s,baz=266,slow=4.9,SNR=74
KOWA Kowa 74.24 75 P P **19 45 00.0 -0.3**
KOWA IAmb IAmb 19 45 02.1
comp=Z,121nm,1.1s
ZGR Zagora 74.35 59 P P **19 45 03.0 +2.2**
SNR=17
ZGR P P **19 45 03.0 +2.2**
SNR=17
PVIS Viseu 74.46 48 *e*P P **19 45 01.8 +0.7**
comp=Z,93nm,1.7s
PGAV Gavieira, Arco 74.46 47 *e*P P **19 45 02.0 +0.8**
comp=Z,82nm,1.8s
PGAV *e*S S **19 54 45.3 +8.2**
PGAV Gavieira, Arco 74.46 47 *e*LQ LQ 20 05 14.8
PGAV *e*LR LR 20 09 37.4
comp=Z,1μm,20.0s
TZRR Tazzarine 74.49 58 P P **19 45 03.1 +1.5**
SNR=24
TZRR P P **19 45 03.1 +1.5**
SNR=24
RES Resolute Bay 74.53 355 P P **19 45 00.1 -0.6**
comp=Z,18nm,1.0s,baz=175,slow=8.8,SNR=17
RES Resolute Bay 74.53 355 P P **19 45 00.0 -0.8**
RES pmax pmax
comp=Z,83nm,1.4s
RES MLR MLR
comp=Z,3μm,21.0s
RES Resolute Bay 74.53 355 P P **19 45 00.0 -0.8**
PMRV Marv??o 74.56 49 *e*P P **19 45 02.1 +0.4**
comp=Z,62nm,1.6s
PMRV *e*S S **19 54 42.2 +4.0**
PMRV Marv??o 74.56 49 *e*LQ LQ 20 05 50.2
PMRV *e*LR LR 20 08 45.8
comp=Z,1μm,18.0s
PCBR Castelo Branco 74.58 49 *e*P P **19 45 02.4 +0.6**
comp=Z,74nm,1.7s
PCAB Cabril 74.58 47 *e*P P **19 45 02.4 +0.6**
comp=Z,73nm,1.6s
MTE Manteigas 74.65 48 *e*P P **19 45 02.9 +0.6**
comp=Z,56nm,2.4s
MTE *e*S S **19 54 43.5 +4.3**
MTE Manteigas 74.65 48 *e*LQ LQ 20 05 51.2
MTE *e*LR LR 20 09 09.4
comp=Z,1μm,20.0s
MTE Manteigas 74.65 48 P P **19 45 01.8 -0.5**
MTE IAMs_20 IAMs_20 20 13 59.9
comp=Z,2μm,20.0s
PVRL Vila Real 74.71 47 *e*P P **19 45 03.3 +0.7**
comp=Z,71nm,1.5s
HYT Haines Junctio 74.96 334 P P **19 45 05.2 +1.4**
HYT IAMs_20 IAMs_20 20 23 48.1
comp=Z,2μm,20.0s
C36M Paulatuk 75.05 345 P P **19 45 03.5 -0.3**
baz=132
MVO Moncorvo 75.19 48 *e*P P **19 45 06.0 +0.6**
comp=Z,92nm,1.8s
MVO *e*S S **19 54 49.4 +4.1**
MVO Moncorvo 75.19 48 *e*LQ LQ 20 06 01.8
MVO *e*LR LR 20 11 15.3
comp=Z,2μm,20.0s
SICH Sidi Chahed 75.22 55 P P **19 45 08.0 +2.4**
SNR=10
SICH P P **19 45 08.0 +2.4**
SNR=10
IFR Ifrane 75.28 56 *e*P P **19 45 07.0 +0.8**
IFR *i* S S **19 54 52.4 +5.7**
BCPM Bancas Point 75.54 333 IAMs_20 IAMs_20 20 20 53.1
comp=Z,2μm,20.0s
PBRG Braganca 75.54 47 *e*P P **19 45 08.1 +0.7**
comp=Z,74nm,1.9s
MDT Midelt 75.60 56 P P **19 45 09.2 +1.2**
comp=Z,20nm,1.1s,baz=271,slow=6.0,SNR=19
MDT Midelt 75.60 56 P P **19 45 09.1 +1.2**
SNR=16
ARF Arif 75.73 58 P P **19 45 11.0 +2.2**
SNR=12
ARF P P **19 45 11.0 +2.2**
SNR=12
SUMG Summit 75.82 11 *i* P P **19 45 08.5 -0.3**
SUMG pmax pmax
comp=Z,290nm,1.0s
SUMG Summit 75.82 11 P P **19 45 08.7 -0.1**
SUMG IAmb IAmb 19 45 13.5
comp=Z,155nm,1.1s
SUMG Summit 75.82 11 *i* P P **19 45 08.5 -0.3**
comp=Z,290nm,1.0s
SUMG Summit 75.82 11 *i* P P **19 45 08.5 -0.3**
SUMG IAmb IAmb 19 45 13.8
comp=Z,290nm,1.0s
TULEG Thule 75.88 2 *i* P P **19 45 07.8 -0.7**
TULEG IAmb IAmb 19 45 09.9
comp=Z,255nm,1.8s
PVLZ Peæn de 76.21 54 *e*P P **19 45 12.1 +0.8**
PVLZ *i* S S **19 55 01.0 +4.4**
EMAL Malaga-Limoner 76.36 52 *e*P P 19 45 06.7 -5.3
EMAL *i* S S **19 55 00.1 +1.9**
TABL Table Mountain 76.42 333 IAMs_20 IAMs_20 20 21 31.0
comp=Z,2μm,21.0s
YAH Yahtse 76.67 333 P P **19 45 14.6 +1.0**
YAH IAMs_20 IAMs_20 20 21 28.0
comp=Z,2μm,21.0s
CTGM Chitina Glacie 76.72 333 P P **19 45 13.9 +0.2**
CTGM IAmb IAmb 19 45 17.1
comp=Z,270nm,1.9s
PAB San Pablo 76.89 50 P P **19 45 15.2 +0.1**
PAB pmax pmax
comp=Z,53nm,1.3s
PAB MLR MLR
comp=Z,2μm,22.0s
PAB San Pablo 76.89 50 P P **19 45 15.2 +0.1**
PAB San Pablo 76.89 50 IAMs_20 IAMs_20 20 12 29.3
comp=Z,2μm,22.0s
BARN Barnard Glacie 76.90 333 P P **19 45 14.8 -0.1**
BARN IAmb IAmb 19 45 18.0
comp=Z,188nm,1.7s
BARN IAMs_20 IAMs_20 20 23 19.2
comp=Z,2μm,19.0s
ISLE Jasper Island 77.03 333 IAMs_20 IAMs_20 20 18 38.6
comp=Z,2μm,22.0s
INK Inuvik 77.17 342 P P **19 45 16.5 +0.6**
comp=Z,38nm,1.0s,baz=104,slow=6.3,SNR=20
INK Inuvik 77.17 342 P P **19 45 15.7 -0.2**
INK pmax pmax
comp=Z,119nm,1.4s
INK MLR MLR
comp=Z,3μm,20.0s
INK Inuvik 77.17 342 P P **19 45 15.7 -0.2**
INK IAmb IAmb 19 45 17.5
comp=Z,119nm,1.4s
ES15 SONSECA Array 77.18 50 IAMs_20 IAMs_20 20 12 53.9
comp=Z,2μm,21.0s
ES14 SONSECA Array 77.19 50 IAMs_20 IAMs_20 20 12 54.1
comp=Z,2μm,21.0s
ES16 SONSECA Array 77.19 50 IAMs_20 IAMs_20 20 17 17.8
comp=Z,1μm,20.0s
DAWY Dawson 77.19 337 P P **19 45 16.4 +0.2**
DAWY IAmb IAmb 19 45 18.5
comp=Z,198nm,2.0s
DAWY IAMs_20 IAMs_20 20 24 30.8
comp=Z,2μm,19.0s
BALM Baldy 77.20 333 P P **19 45 16.1 -0.4**
BALM IAmb IAmb 19 45 20.3
comp=Z,143nm,1.5s
BALM IAMs_20 IAMs_20 20 22 05.9
comp=Z,2μm,20.0s
ES13 SONSECA Array 77.20 50 IAMs_20 IAMs_20 20 12 53.5
comp=Z,2μm,21.0s
ES17 SONSECA Array 77.21 49 IAMs_20 IAMs_20 20 16 56.3
comp=Z,1μm,19.0s
ESDC Sonseca Array 77.21 50 P P **19 45 17.4 +0.5**
comp=Z,14nm,1.1s,baz=265,slow=5.3,SNR=61
ESDC LR LR 20 17 16.3
comp=Z,945nm,19.8s,baz=240,slow=34
ESDC Sonseca Array 77.21 50 P P **19 45 15.6 -1.3**
ESBB Sonseca Array 77.21 50 P P **19 45 16.7 -0.2**
ESBB IAMs_20 IAMs_20 20 19 39.7
comp=Z,1μm,20.0s
ES12 SONSECA Array 77.22 50 IAMs_20 IAMs_20 20 12 53.7
comp=Z,1μm,21.0s
ES07 SONSECA Array 77.22 50 IAMs_20 IAMs_20 20 19 40.7
comp=Z,1μm,21.0s
ES01 SONSECA Array 77.22 50 IAMs_20 IAMs_20 20 12 53.7
comp=Z,2μm,21.0s
ES18 SONSECA Array 77.22 49 IAMs_20 IAMs_20 20 19 39.9
comp=Z,1μm,20.0s
ES02 SONSECA Array 77.23 50 IAMs_20 IAMs_20 20 12 54.0
comp=Z,1μm,22.0s
ES09 SONSECA Array 77.26 50 IAMs_20 IAMs_20 20 19 41.7
comp=Z,1μm,20.0s
ES19 SONSECA Array 77.26 50 IAMs_20 IAMs_20 20 19 37.8
comp=Z,1μm,19.0s
TGL Tana Glacier 77.31 333 P P **19 45 18.2 +1.1**
TGL IAmb IAmb 19 45 19.9
comp=Z,321nm,2.0s
TGL IAMs_20 IAMs_20 20 19 10.0
comp=Z,2μm,22.0s
CRQM Cirque 77.45 333 P P **19 45 19.2 +1.2**
CRQM IAMs_20 IAMs_20 20 19 01.2
comp=Z,2μm,22.0s
MCARA McCarthy VSAT 77.64 333 P P **19 45 20.3 +1.5**
MCARA IAMs_20 IAMs_20 20 25 21.5
comp=Z,2μm,20.0s
PUH Pauahi 77.76 290 P P **19 45 18.6 -1.8**
VRDI Verde Repeater 77.77 333 P P **19 45 20.6 +0.9**
VRDI IAmb IAmb 19 45 24.1
comp=Z,152nm,1.4s
VRDI IAMs_20 IAMs_20 20 19 37.1
comp=Z,1μm,22.0s
KKO Keanakako`i 77.81 290 P P **19 45 20.1 -0.6**
SBLHI Steaming Bluff 77.81 290 P P **19 45 20.6 -0.1**
SBLHI IAmb IAmb 19 45 23.9
comp=Z,269nm,1.4s
RIM Rim 77.81 290 P P **19 45 21.6 +0.8**
UWB Uwekahuna B 77.82 290 P P **19 45 19.8 -1.0**
HMT Hamilton 77.82 332 P P **19 45 20.4 +0.5**
NPH North Pit 77.82 290 P P **19 45 19.7 -1.1**
NPH IAmb IAmb 19 45 25.2
comp=Z,242nm,1.5s
SDHHI Sand Hill 77.83 290 P P **19 45 21.7 +0.8**
SDHHI IAmb IAmb 19 45 25.9
comp=Z,216nm,1.2s
UWE Uwekahuna 77.83 290 P P **19 45 22.3 +1.5**
UCM Universidad Co 77.86 49 *i* S S **19 55 12.6 -1.9**
MLH Mauna Loa 77.92 290 P P **19 45 23.1 +1.6**
GLB Gilahina Butte 78.01 333 P P **19 45 21.3 +0.4**
GLB IAMs_20 IAMs_20 20 23 44.4
comp=Z,1μm,20.0s
RAGM Ragged Mountai 78.03 332 P P **19 45 22.1 +1.1**
RAGM IAmb IAmb 19 45 25.7
comp=Z,200nm,1.5s
EGAK Eagle 78.19 337 P P **19 45 22.4 +0.7**
EGAK IAmb IAmb 19 45 24.3
comp=Z,168nm,1.3s
FIGM Figuig 78.32 57 P P **19 45 24.4 +1.1**
SNR=26
KHLU Kahalu`u 78.41 290 P P **19 45 26.5 +2.5**
N25K Chitina, Valde 78.42 333 P P **19 45 23.3 +0.1**
baz=110,SNR=8.2
Q23K Middleton Isla 78.51 331 P P **19 45 23.9 +0.3**
baz=108
MENT Mentasta 78.51 335 P P **19 45 24.2 +0.6**
EYAK Cordova Ski Ar 78.59 332 P P **19 45 25.6 +1.6**
EYAK IAmb IAmb 19 45 26.8
comp=Z,186nm,1.7s
EYAK IAMs_20 IAMs_20 20 19 22.8
comp=Z,2μm,21.0s
HIN Hinchinbrook I 78.89 332 IAMs_20 IAMs_20 20 18 03.9
comp=Z,2μm,21.0s
DOT Dot Lake 78.92 335 P P **19 45 25.6 -0.2**
KLU Klutina 78.98 333 P P **19 45 26.3 +0.1**
KLU IAMs_20 IAMs_20 20 21 47.1
comp=Z,2μm,21.0s
FID Port Fidalgo 78.99 332 IAMs_20 IAMs_20 20 19 34.8
comp=Z,2μm,21.0s
SCRK Sand Creek 79.01 336 P P **19 45 25.8 -0.6**
baz=111,SNR=24
CART Cartagena 79.19 52 *i* S S **19 55 28.0 -0.7**
CART Cartagena 79.19 52 IAMs_20 IAMs_20 20 18 02.2
comp=Z,1μm,21.0s
PAX Paxson 79.27 335 P P **19 45 27.7 -0.2**
PAX pmax pmax
comp=Z,195nm,1.7s
PAX MLR MLR
comp=Z,2μm,18.0s
PAX Paxson 79.27 335 P P **19 45 27.7 -0.2**
PAX IAmb IAmb 19 45 29.9
comp=Z,195nm,1.7s
PAX IAMs_20 IAMs_20 20 24 53.1
comp=Z,2μm,18.0s
RIDG Independent Ri 79.28 335 P P **19 45 27.4 -0.4**
RIDG IAMs_20 IAMs_20 20 24 35.1
comp=Z,2μm,19.0s
M24K Tolsona, Glenn 79.29 334 P P **19 45 28.1 +0.1**
baz=109,SNR=7.6
M24K Tolsona, Glenn 79.29 334 P P **19 45 27.3 -0.6**
M24K IAmb IAmb 19 45 30.6
comp=Z,318nm,1.6s
GLI Glacier Island 79.32 332 IAMs_20 IAMs_20 20 23 15.2
comp=Z,2μm,21.0s
EUNU Eureka 79.35 359 P P **19 45 28.4 +0.4**
LEWI Lewis, Hebride 79.45 31 *e*P P **19 45 29.1 +0.3**
LEWI IAmb IAmb 19 45 30.5
comp=Z,155nm,1.3s
SCM Sheep Creek Mo 79.72 333 P P **19 45 31.2 +0.9**
SCM pmax pmax
comp=Z,200nm,1.4s
SCM MLR MLR
comp=Z,2μm,22.0s
SCM Sheep Creek Mo 79.72 333 P P **19 45 31.2 +0.9**
SCM IAmb IAmb 19 45 37.6
comp=Z,200nm,1.4s
SCM IAMs_20 IAMs_20 20 22 09.8
comp=Z,2μm,22.0s
TOA0 Torodi Ar. Sit 79.73 77 P P **19 45 30.7 -0.5**
SNR=14
TOA0 P P **19 45 30.7 -0.5**
SNR=14
TOA0 Torodi Ar. Sit 79.73 77 P P **19 45 29.8 -1.4**
TORD Torodi Ar. Bea 79.73 77 P P **19 45 30.5 -0.7**
comp=Z,44nm,1.2s,baz=285,slow=5.5,SNR=67
TORD PP PP 19 48 21.1 -11
comp=Z,4.5nm,1.1s,baz=256,slow=6.0,SNR=3.8
TORD LR LR 20 18 39.2
comp=Z,5μm,21.6s,baz=270,slow=34
TORD Torodi Ar. Bea 79.73 77 P P **19 45 29.1 -2.1**
KPL Plockton 79.86 32 *e*P P **19 45 29.9 -1.2**
KPL IAmb IAmb 19 45 34.8
comp=Z,273nm,1.5s
KAC Achnashellach 80.09 32 *e*P P **19 45 32.0 -0.3**
KAC IAmb IAmb 19 45 35.6
comp=Z,865nm,1.1s
KNK Knik Glacier 80.11 333 P P **19 45 32.5 +0.1**
KNK IAMs_20 IAMs_20 20 23 51.1
comp=Z,2μm,20.0s
DHY Denali Highway 80.13 334 P P **19 45 32.1 -0.5**
DHY IAMs_20 IAMs_20 20 21 40.7
comp=Z,1μm,22.0s
SML Sawmill 80.17 333 P P **19 45 32.9 +0.2**
SML IAmb IAmb 19 45 34.9
comp=Z,229nm,1.6s
SML IAMs_20 IAMs_20 20 20 29.6
comp=Z,1μm,21.0s
SEW Seward 80.21 331 P P **19 45 32.5 -0.4**
SEW IAMs_20 IAMs_20 20 23 05.8
comp=Z,2μm,21.0s
HDA Harding Lake 80.37 336 P P **19 45 32.5 -1.2**
baz=109,SNR=41
GHO Glory Hole Cre 80.43 333 P P **19 45 34.5 +0.3**
GHO IAMs_20 IAMs_20 20 19 02.9
comp=Z,2μm,21.0s
FYU Fort Yukon 80.43 338 IAMs_20 IAMs_20 20 21 36.4
comp=Z,1μm,22.0s
O22K Cooper Landing 80.44 332 P P **19 45 33.7 -0.4**
baz=106
IL31 80.47 336 P P **19 45 33.4 -0.7**
ILAR Eielson Array 80.47 336 P P **19 45 33.9 -0.3**
comp=Z,14nm,0.9s,baz=111,slow=3.8,SNR=61
ILAR PP PP **19 48 37.0 -0.2**
comp=Z,32nm,1.2s,baz=110,slow=6.2,SNR=26
ILAR LR LR 20 24 10.1
comp=Z,1μm,20.3s,baz=117,slow=38
ILAR Eielson Array 80.47 336 P P **19 45 33.5 -0.7**
ILAR Eielson Array 80.47 336 P P **19 45 33.5 -0.7**
PMR Palmer 80.47 333 P P **19 45 34.1 -0.1**
PMR pmax pmax
comp=Z,85nm,1.6s
PMR MLR MLR
comp=Z,2μm,20.0s
PMR Palmer 80.47 333 P P **19 45 34.1 -0.1**
PMR IAMs_20 IAMs_20 20 24 01.6
comp=Z,2μm,20.0s
KESW Keswick, Cumbr 80.62 35 *e*P P **19 45 34.4 -0.8**
KESW IAmb IAmb 19 45 38.7
comp=Z,183nm,1.2s
ESK Eskdalemuir 80.72 34 P P **19 45 33.3 -2.4**
ESK pmax pmax
comp=Z,289nm,1.6s
ESK MLR MLR
comp=Z,2μm,20.0s
ESK Eskdalemuir 80.72 34 P P **19 45 33.3 -2.4**
ESK IAmb IAmb 19 45 40.1
comp=Z,288nm,1.6s
EKA Eskdalemuir Ar 80.75 34 P P **19 45 36.1 +0.2**
comp=Z,78nm,1.2s,baz=258,slow=4.2,SNR=18
POKR Poker Plat Res 80.80 336 P P **19 45 35.2 -0.8**
baz=108,SNR=14
POKR S SKSac **19 55 53.7 -1.5**
baz=108
CCB Clear Creek Bu 80.80 336 P P **19 45 34.2 -1.7**
CCB IAMs_20 IAMs_20 20 22 05.3
comp=Z,2μm,22.0s
BRLK Bradley Lake 80.82 331 P P **19 45 35.9 -0.3**
BRLK IAmb IAmb 19 45 38.2
comp=Z,178nm,1.4s
BRLK IAMs_20 IAMs_20 20 25 57.1
comp=Z,1μm,20.0s
WRH Wood River Hil 80.86 336 P P **19 45 36.1 -0.2**

WRH IAMs_20 IAMs_20 20 25 31.0
comp=Z,2µm,18.0s
RND Reindeer 80.87 334 P **P** **19 45 36.5 +0.1**
RND pmax pmax
comp=Z,455nm,2.0s
RND MLR MLR
comp=Z,2µm,19.0s
RND Reindeer 80.87 334 P **P** **19 45 36.5 +0.1**
RND IAmb IAmb 19 45 38.9
comp=Z,455nm,2.0s
COLA College 80.89 336 P **P** **19 45 36.1 -0.3**
COLA pmax pmax
comp=Z,57nm,1.2s
COLA MLR MLR
comp=Z,1µm,18.0s
COLA College 80.89 336 P **P** **19 45 36.1 -0.3**
COLA College 80.89 336 IAMs_20 IAMs_20 20 27 56.8
comp=Z,1µm,18.0s
TCOL CIGO, UAF Yank 80.89 336 P **P** **19 45 35.8 -0.7**
baz=108
EBL Broad Law 80.91 34 *e*P **P** **19 45 36.0 -0.7**
EBL IAmb IAmb 19 45 38.6
comp=Z,643nm,2.6s
CNPM China Poot 80.93 330 P **P** **19 45 37.3 +0.5**
CNPM IAMs_20 IAMs_20 20 19 40.9
comp=Z,2µm,22.0s
MCK McKinley 81.00 335 P **P** **19 45 36.6 -0.5**
baz=107,SNR=18
MCK S **SKSac** **19 55 56.7 0.0**
baz=107
MDM Murphy Dome 81.07 336 P **P** **19 45 36.6 -0.8**
MDM IAmb IAmb 19 45 39.5
comp=Z,168nm,1.4s
MDM IAMs_20 IAMs_20 20 22 14.7
comp=Z,2µm,22.0s
ESY Stoneypath 81.17 33 *e*P **P** **19 45 38.1 0.0**
ESY IAmb IAmb 19 45 41.6
comp=Z,127nm,1.1s
SUA Susitna One 81.18 332 P **P** **19 45 38.3 +0.1**
SUA IAmb IAmb 19 45 40.7
comp=Z,353nm,2.0s
SUA IAMs_20 IAMs_20 20 24 36.4
comp=Z,2µm,22.0s
CUT Chulitna 81.21 333 P **P** **19 45 37.6 -0.6**
baz=105
KDAK Kodiak Island 81.21 328 IAMs_20 IAMs_20 20 22 30.5
comp=Z,1µm,21.0s
NEA2 Nenana 81.30 336 P **P** **19 45 37.5 -1.2**
baz=107,SNR=34
NEA2 S **SKSac** **19 55 58.3 -0.4**
baz=107
EDMD Edmundbyers 81.32 35 *e*P **P** **19 45 38.7 -0.3**
BWN Browne 81.35 335 P **P** **19 45 39.1 +0.2**
BWN IAmb IAmb 19 45 42.4
comp=Z,264nm,1.2s
BWN IAMs_20 IAMs_20 20 24 25.0
comp=Z,2µm,19.0s
OHAK Old Harbor 81.47 328 P **P** **19 45 39.5 -0.1**
OHAK IAMs_20 IAMs_20 20 29 09.2
comp=Z,1µm,21.0s
TRF Thorofare Moun 81.50 334 P **P** **19 45 39.9 -0.1**
I23K Minto, Yukon-K 81.58 336 P **P** **19 45 39.7 -0.4**
baz=107,SNR=30
SKT Skwentna 81.68 333 P **P** **19 45 40.1 -0.6**
SKT IAMs_20 IAMs_20 20 23 22.4
comp=Z,1µm,20.0s
KTH Kantishna Hill 81.80 334 P **P** **19 45 41.0 -0.4**
KTH IAMs_20 IAMs_20 20 26 29.9
comp=Z,2µm,19.0s
BELA Belgrano 2 81.89 172 P **P** **19 45 41.2 -0.4**
BPAW Bear Paw Mtn. 81.97 335 P **P** **19 45 42.1 -0.2**
BPAW IAmb IAmb 19 45 44.0
comp=Z,104nm,1.1s
BPAW IAMs_20 IAMs_20 20 21 28.3
comp=Z,2µm,22.0s
MLY Manley 82.11 336 P **P** **19 45 42.5 -0.5**
baz=105,SNR=27
PPLA Purkeypile 82.19 334 P **P** **19 45 43.2 -0.3**
PPLA IAMs_20 IAMs_20 20 29 13.0
comp=Z,1µm,20.0s
COLD Coldfoot 82.50 338 P **P** **19 45 45.0 +0.1**
baz=106,SNR=16
COLD S **S** **19 56 04.5 +2.3**
baz=106
COLD Coldfoot 82.50 338 P **P** **19 45 45.5 +0.6**
COLD IAMs_20 IAMs_20 20 27 32.1
comp=Z,2µm,18.0s
DAG Danmarks Havn 82.51 12 *i* P **P** **19 45 44.3 -0.5**
DAG pmax pmax
comp=Z,57nm,1.1s
DAG Danmarks Havn 82.51 12 *i* P **P** **19 45 44.3 -0.5**
comp=Z,57nm,1.1s
DAG Danmarks Havn 82.51 12 *i* P **P** **19 45 44.3 -0.5**
DAG IAmb IAmb 19 45 48.9
comp=Z,57nm,1.1s
TOLK Toolik Lake Re 82.68 339 P **P** **19 45 45.6 -0.3**
baz=107
CLF Chambon-Foret 82.88 42 P **P** **19 45 47.2 -0.1**
CLF IAmb IAmb 19 45 52.2
comp=Z,182nm,1.3s
CLF IAMs_20 IAMs_20 20 18 47.5
comp=Z,2µm,20.0s
SVW2 Sparrevohn 83.38 331 P **P** **19 45 48.4 -1.2**
SVW2 IAMs_20 IAMs_20 20 28 15.1
comp=Z,1µm,20.0s
VNA3 Neumayer Olymp 83.83 162 P **P** **19 45 52.4 +0.7**
TTA Tatalina 83.91 333 P **P** **19 45 51.6 -0.8**
TTA pmax pmax
comp=Z,141nm,1.7s
TTA MLR MLR
comp=Z,2µm,22.0s
TTA Tatalina 83.91 333 P **P** **19 45 51.6 -0.8**
TTA IAmb IAmb 19 45 54.0
comp=Z,140nm,1.7s
TTA IAMs_20 IAMs_20 20 22 18.5
comp=Z,2µm,22.0s
VNA1 Neumayer--Stat 84.06 162 P **P** **19 45 54.1 +1.3**
CHGN Chignik 84.09 326 P **P** **19 45 53.7 +0.4**
CHGN IAmb IAmb 19 45 55.1
comp=Z,75nm,1.1s
CHGN IAMs_20 IAMs_20 20 23 43.7
comp=Z,1µm,20.0s
SSB Saint Sauveur 84.16 45 P **P** **19 45 54.4 +0.4**
SSB pmax pmax
comp=Z,68nm,1.3s
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 84.16 45 P **P** **19 45 54.4 +0.4**
SSB Saint Sauveur 84.16 45 IAMs_20 IAMs_20 20 21 22.6
comp=Z,2µm,20.0s
VNA2 Neumayer--Watz 84.42 162 P **P** **19 45 55.8 +1.1**
baz=281,slow=4.6
SNF Seneffe 84.46 39 ⇑PcP **P** **19 45 56.0 +0.7**
UCC Uccle 84.54 39 PcP **P** **19 45 56.2 +0.5**
comp=Z,69nm,2.5s
UCC Uccle 84.54 39 P **P** **19 45 55.1 -0.6**
UCC pmax pmax
comp=Z,150nm,1.7s
UCC MLR MLR
comp=Z,2µm,22.0s
UCC Uccle 84.54 39 P **P** **19 45 55.1 -0.6**
UCC IAmb IAmb 19 46 02.9
comp=Z,150nm,1.7s
comp=Z,1µm,20.0s
CNBA Chernabura Isl 84.57 325 IAMs_20 IAMs_20 20 23 41.6
DOU Dourbes 84.62 40 PcP **P** **19 45 56.4 +0.2**
BMRD Maredsous 84.75 40 ⇓PcP **P** **19 45 57.1 +0.3**
comp=Z,53nm,2.3s
BGES Gesves 84.96 40 PcP **P** **19 45 58.0 +0.2**
comp=Z,80nm,2.3s
RCHB Rochefort 85.03 40 ⇓PcP **P** **19 45 57.4 -0.8**
comp=Z,70nm,1.6s
BCLA Clavier 85.10 40 PcP **P** **19 45 59.0 +0.5**
comp=Z,56nm,2.4s
NOR Nord 85.20 7 *i* P **P** **19 45 59.6 +1.1**
NOR pmax pmax
comp=Z,120nm,1.4s
NOR Nord 85.20 7 *i* P **P** **19 45 59.6 +1.1**
comp=Z,115nm,1.4s
NOR Nord 85.20 7 *i* P **P** **19 45 59.6 +1.1**
NOR IAmb IAmb 19 46 02.8
comp=Z,115nm,1.4s
BSTI Sart Tilman 85.28 39 P **P** **19 45 56.6 -2.8**
comp=Z,22nm,2.3s
BSTI PcP **pP** **19 46 00.3 -1.2**
BEBN Eben Emael 85.37 39 PcP **P** **19 45 59.8 -0.1**
comp=Z,83nm,2.3s
BHOU Houvegnez 85.55 40 ⇓PcP **P** **19 45 58.5 -2.3**
comp=Z,92nm,1.7s
MEM Membach 85.57 39 ⇑PcP **P** **19 46 01.5 +0.6**
WLF Walferdange 85.59 40 PcP **P** **19 46 01.3 +0.3**
WLF Walferdange 85.59 40 P **P** **19 46 01.6 +0.5**
WLF pmax pmax
comp=Z,255nm,1.6s
WLF MLR MLR
comp=Z,1µm,20.0s
WLF Walferdange 85.59 40 *e*P **P** **19 46 02.8 +1.8**
comp=Z,262nm,1.7s,baz=269,slow=4.9
WLF Walferdange 85.59 40 P **P** **19 46 01.6 +0.5**
WLF IAmb IAmb 19 46 04.0
comp=Z,255nm,1.6s
WLF IAMs_20 IAMs_20 20 19 58.1
comp=Z,966nm,20.0s
BTNL Ternell 85.64 39 PcP **P** **19 46 00.7 -0.7**
BNI Bardonecchia 85.66 45 P **P** **19 46 02.2 +0.5**
BNI pmax pmax
comp=Z,116nm,1.7s
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 85.66 45 P **P** **19 46 02.2 +0.5**
A21K Barrow 85.67 342 P **P** **19 46 01.2 +0.3**
baz=100
SNAA Sanae 86.04 162 P **P** **19 46 03.4 +0.5**
SNAA Sanae 86.04 162 P **P** **19 46 04.1 +1.2**
comp=Z,37nm,1.1s,baz=274,slow=3.8,SNR=46
SNAA Sanae 86.04 162 *i* P **P** **19 46 02.5 -0.4**
SNAA pmax pmax
comp=Z,51nm,1.2s
SNAA Sanae 86.04 162 P **P** **19 46 02.8 -0.1**
SNAA IAMs_20 IAMs_20 20 22 26.4
comp=Z,2µm,22.0s
SENIN Lac Senin/Sane 86.16 44 P **P** **19 46 04.7 +0.5**
SENIN IAMs_20 IAMs_20 20 19 12.4
comp=Z,1µm,21.0s
ECH Echery 86.16 42 P **P** **19 46 03.9 0.0**
ECH pmax pmax
comp=Z,143nm,1.4s
ECH MLR MLR
comp=Z,1µm,21.0s
ECH Echery 86.16 42 P **P** **19 46 03.9 0.0**
ECH IAmb IAmb 19 46 06.2
comp=Z,143nm,1.4s
ECH IAMs_20 IAMs_20 20 20 04.5
comp=Z,1µm,21.0s
AHRW Bad Neuenahr-A 86.24 40 *e*P **P** **19 46 06.2 +2.0**
comp=Z,284nm,1.7s,baz=269,slow=4.9
BUG Bochum-Univer 86.42 39 *e*P **P** **19 46 06.8 +1.7**
comp=Z,280nm,1.7s,baz=269,slow=4.9
BUG *e*pP **sP** **19 46 13.1 +5.2**
IBBN Ibbenburen 86.77 38 *e*P **P** **19 46 08.6 +1.8**
comp=Z,183nm,1.4s,baz=269,slow=4.9
BFO Black Forest 86.95 42 P **P** **19 46 07.5 -0.3**
BFO pmax pmax
comp=Z,53nm,1.4s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 86.95 42 *e*P **P** **19 46 08.7 +0.8**
comp=Z,43nm,1.4s,baz=269,slow=4.9
BFO Black Forest 86.95 42 P **P** **19 46 07.5 -0.3**
BFO IAMs_20 IAMs_20 20 21 31.3
comp=Z,1µm,19.0s
TNS Taunus Mts 87.10 40 *e*P **P** **19 46 10.1 +1.6**
comp=Z,134nm,1.4s,baz=269,slow=4.9
KEST Kesra 87.35 54 P **P** **19 46 10.6 +0.5**
comp=Z,9.9nm,1.0s,baz=106,slow=5.5,SNR=10.0
KEST LR LR 20 23 20.9
comp=Z,2µm,21.8s,baz=206,slow=34
KEST Kesra 87.35 54 P **P** **19 46 10.6 +0.5**
RDOG Red Dog Mine 87.42 338 P **P** **19 46 10.0 +0.4**
RDOG IAmb IAmb 19 46 12.2
comp=Z,97nm,1.2s
VSL Villasalto 87.45 51 P **P** **19 46 09.9 -0.5**
VSL IAMs_20 IAMs_20 20 25 07.7
comp=Z,1µm,19.0s
STU Stuttgart 87.54 41 P **P** **19 46 10.5 -0.1**
STU pmax pmax
comp=Z,67nm,1.1s
STU MLR MLR
comp=Z,1µm,21.0s
STU Stuttgart 87.54 41 *e*P **P** **19 46 12.0 +1.4**
comp=Z,86nm,1.2s,baz=269,slow=4.9
STU Stuttgart 87.54 41 P **P** **19 46 10.5 -0.1**
STU IAmb IAmb 19 46 12.2
comp=Z,67nm,1.1s
STU IAMs_20 IAMs_20 20 21 28.6
comp=Z,1µm,21.0s
TUE Stuetta 87.58 44 P **P** **19 46 10.9 -0.2**
TUE IAmb IAmb 19 46 28.4
comp=Z,139nm,1.6s
TUE IAMs_20 IAMs_20 20 24 39.0
comp=Z,2µm,19.0s
MSSA Maissana 87.65 46 IAMs_20 IAMs_20 20 22 32.9
comp=Z,1µm,20.0s
MUD Monsted U'grnd 87.77 34 *i* P **P** **19 46 13.2 +1.7**
MUD pmax pmax
comp=Z,340nm,1.4s
MUD Monsted U'grnd 87.77 34 *i* P **P** **19 46 13.2 +1.7**
comp=Z,337nm,1.4s
MUD Monsted U'grnd 87.77 34 *i* P **P** **19 46 13.2 +1.7**
MUD IAmb IAmb 19 46 14.6
comp=Z,337nm,1.4s
SKMB Sankelmark Bun 87.87 35 *e*P **P** **19 46 14.5 +2.5**
comp=Z,602nm,1.8s,baz=269,slow=4.9
DAVOX Davos/Dischmat 87.95 43 P **P** **19 46 14.1 +1.2**
comp=Z,17nm,1.0s,baz=269,slow=4.4,SNR=26
DAVA Damuels 87.96 43 *e*P **P** **19 46 13.8 +0.9**
comp=Z,65nm,1.1s,SNR=19
KONO Kongsberg 88.10 31 *ce*P **P** **19 46 14.6 +1.5**
KONO pmax pmax
comp=Z,27nm,1.1s
GTTG Gottingen 88.10 39 *e*P **P** **19 46 15.3 +2.0**
comp=Z,85nm,1.2s,baz=269,slow=4.9
UBBA Unterbreizbach 88.11 39 *e*P **P** **19 46 15.1 +1.9**
comp=Z,229nm,2.4s,baz=269,slow=4.9
UBR Ueberruh 88.12 43 *e*P **P** **19 46 15.2 +1.7**
comp=Z,114nm,1.4s,baz=269,slow=4.9
NRDL Niemsch Rie 88.21 38 *e*P **P** **19 46 16.0 +2.3**
comp=Z,150nm,1.6s,baz=269,slow=4.9
FUORN Ofenpass-Fuorn 88.22 44 P **P** **19 46 14.0 -0.3**
FUORN IAmb IAmb 19 46 23.5
comp=Z,78nm,1.4s
FUORN IAMs_20 IAMs_20 20 22 22.8
comp=Z,1µm,20.0s
ANM Nome 88.22 334 IAMs_20 IAMs_20 20 29 58.6
comp=Z,1µm,21.0s
BSEG Bad Segeberg 88.36 36 *e*P **P** **19 46 16.4 +2.0**
comp=Z,173nm,1.7s,baz=269,slow=4.9
CLZ Clausthal 88.36 38 *e*P **P** **19 46 16.6 +2.0**
comp=Z,109nm,1.4s,baz=269,slow=4.9
CLZ *e*pP **sP** **19 46 23.0 +5.6**
FETA Feichten 88.54 43 *e*P **P** **19 46 16.4 +0.8**
comp=Z,48nm,1.1s,SNR=23
ASSE Asse, Remlinge 88.55 38 *e*P **P** **19 46 17.7 +2.4**
comp=Z,690nm,2.8s,baz=269,slow=4.9
UNV Unalaska Valle 88.56 324 P **P** **19 46 15.8 +0.5**
UNV IAmb IAmb 19 46 17.7
comp=Z,109nm,1.1s
RETA Reutte 88.57 43 *e*P **P** **19 46 16.5 +0.8**
comp=Z,38nm,1.6s,SNR=11
CASP Castiglione de 88.61 47 P **P** **19 46 15.1 -0.8**
ZCCA Zocca 88.70 46 P **P** **19 46 16.5 +0.2**
NBO00 NORSAR Array S 88.72 29 P **P** **19 46 16.9 +0.9**
NAO01 NORSAR Array S 88.77 29 P **P** **19 46 16.4 +0.2**
MOTA Moosalm 88.80 43 *e*P **P** **19 46 17.5 +0.7**
comp=Z,38nm,1.1s,SNR=16
SQTA Sankt Quirin 88.87 43 *e*P **P** **19 46 18.1 +1.0**
comp=Z,40nm,1.0s,SNR=26
GRA1 Grafenberg Arr 88.88 41 P **P** **19 46 16.8 -0.2**
GRA1 IAmb IAmb 19 46 26.4
comp=Z,141nm,1.7s
GRA1 IAMs_20 IAMs_20 20 22 13.1
comp=Z,1µm,20.0s
GRF Grafenberg Arr 88.88 41 P **P** **19 46 16.8 -0.2**
GRF pmax pmax
comp=Z,141nm,1.7s
GRF MLR MLR
comp=Z,1µm,20.0s
GRF Grafenberg Arr 88.88 41 *e*P **P** **19 46 18.9 +1.9**
comp=Z,88nm,1.4s,baz=269,slow=4.9
GRF *e*L L 20 22 23.7
comp=Z,1µm,21.0s
OSSC Osservatorio P 88.89 47 IAMs_20 IAMs_20 20 24 59.7
comp=Z,1µm,20.0s
FUR Furstenfeldbru 88.92 42 *e*P **P** **19 46 18.8 +1.6**
comp=Z,557nm,2.6s,baz=269,slow=4.9
FUR *e*pP **sP** **19 46 25.4 +5.3**
NB2 NORSAR Subarra 88.93 29 P **P** **19 46 17.2 +0.2**
comp=Z,152nm,1.7s,baz=269,slow=4.8
NB2 NORSAR Subarra 88.93 29 P **P** **19 46 17.2 +0.2**
baz=269,slow=4.8
NOA NORSAR Array B 88.93 29 P **P** **19 46 17.9 +0.9**
comp=Z,17nm,1.0s,baz=267,slow=4.7,SNR=18
NOA LR LR 20 21 41.4
comp=Z,745nm,22.0s,baz=240,slow=33
NB201 NORSAR Array S 88.97 29 P **P** **19 46 17.9 +0.7**
NB201 IAmb IAmb 19 46 19.3
comp=Z,222nm,1.6s
NC303 NORSAR Array S 89.01 29 P **P** **19 46 17.8 +0.5**
WATA Walderalm 89.12 43 *e*P **P** **19 46 18.9 +0.6**
comp=Z,31nm,1.3s,SNR=14
MOX Moxa 89.14 40 *e*P **P** **19 46 20.0 +1.9**
comp=Z,116nm,1.8s,baz=269,slow=4.9
MOX *e*L L 20 21 00.6
comp=Z,1µm,21.3s
WTTA Wattenberg 89.16 43 *e*P **P** **19 46 19.2 +0.6**
comp=Z,67nm,2.0s,SNR=17
CTI Castel Tesino 89.17 44 P **P** **19 46 18.2 -0.4**
CTI pmax pmax
comp=Z,50nm,1.2s
CTI Castel Tesino 89.17 44 P **P** **19 46 18.2 -0.4**
CTI IAMs_20 IAMs_20 20 24 34.2
comp=Z,1µm,21.0s
NC405 NORSAR Array S 89.18 29 P **P** **19 46 19.1 +0.9**
TEOL Teolo 89.19 45 P **P** **19 46 18.1 -0.4**
TEOL IAMs_20 IAMs_20 20 31 37.7
comp=Z,1µm,21.0s
NEUB Neuenburg 89.24 39 *e*P **P** **19 46 20.6 +2.0**
comp=Z,126nm,1.6s,baz=269,slow=4.9
KBS Kingsbay 89.24 11 *ce*P **P** **19 46 17.8 -0.3**
KBS pmax pmax
comp=Z,6.0nm,0.8s
LATE Laterza 89.30 48 P **P** **19 46 18.3 -0.9**
TNA Tin City 89.32 335 P **P** **19 46 18.7 0.0**
baz=90
TNA Tin City 89.32 335 IAMs_20 IAMs_20 20 27 57.5
comp=Z,2µm,22.0s
MANZ Manzenberg 89.46 40 *e*P **P** **19 46 21.9 +2.2**
comp=Z,414nm,2.5s,baz=269,slow=4.9
PLN Plauen 89.48 40 *e*P **P** **19 46 21.8 +2.0**
comp=Z,428nm,2.8s,baz=269,slow=4.9
PLN *e*pP **sP** **19 46 28.2 +5.6**
ROTZ Rotzenmuhle 89.52 40 *e*P **P** **19 46 22.2 +2.2**
comp=Z,390nm,2.6s,baz=269,slow=4.9
WERD Werda 89.58 40 *e*P **P** **19 46 22.3 +2.1**
comp=Z,35nm,1.5s,baz=269,slow=4.9
WERD *e*pP **sP** **19 46 28.8 +5.6**
GUNZ Gunzen 89.60 40 *e*P **P** **19 46 22.6 +2.2**
comp=Z,254nm,2.3s,baz=269,slow=4.9
WERN Wernitzgruen 89.62 40 *e*P **P** **19 46 22.7 +2.2**
comp=Z,110nm,1.7s,baz=269,slow=4.9
NKC Novy Kostel 89.67 40 *e*P **P** **19 46 22.0 +1.3**
NKC *ex* x 19 46 28.8
NKC *e*SKS **SKSac** **19 56 56.3 +4.0**
NKC AMS AMS 20 21 10.0
comp=Z,1µm,20.6s
NKC Novy Kostel 89.67 40 *e*P **P** **19 46 22.0 +1.3**
NKC *e* 19 46 28.8
NKC *e* 19 56 56.3
NKC MLR MLR
comp=Z,1µm,20.6s
TANN Tannenbergstha 89.68 40 *e*P **P** **19 46 22.9 +2.2**
comp=Z,886nm,2.7s,baz=269,slow=4.9
CIMO Cimolais 89.72 44 P **P** **19 46 21.3 +0.3**
ABTA Abfaltersbach 89.76 43 *e*P **P** **19 46 22.0 +0.7**
comp=Z,34nm,1.2s,SNR=15
MURB Monte Urbino 89.82 47 P **P** **19 46 20.4 -1.3**
STAL STALIGIAL 89.91 44 P **P** **19 46 21.5 -0.5**
WET Wettzell 89.97 41 *e*P **P** **19 46 24.2 +2.0**
comp=Z,381nm,2.3s,baz=269,slow=4.9
CLL Collm 90.01 39 *i* P **P** **19 46 22.7 +0.5**
comp=Z,91nm,1.7s
CLL *e*PP **PP** **19 50 00.0 +4.9**
CLL *e*SKSac **SKSac** **19 56 56.0 +1.9**
CLL *e*S **ScS** **19 57 19.0 -1.2**
CLL *e* 19 59 24.0
CLL *e*SS **SS** **20 03 11.0 -2.9**
CLL *e* 20 04 36.0
CLL *e* 20 08 42.0
CLL Collm 90.01 39 *i* P **P** **19 46 22.7 +0.5**
CLL *e* 19 56 56.0
CLL *e*S **ScS** **19 57 19.0 -1.2**
CLL pmax pmax
comp=Z,91nm,1.7s
CLL Collm 90.01 39 *e*P **P** **19 46 24.2 +2.0**
comp=Z,91nm,1.7s,baz=269,slow=4.9
CLL Collm 90.01 39 P **P** **19 46 22.9 +0.7**
CLL IAMs_20 IAMs_20 20 21 15.8
comp=Z,2µm,22.0s
ZOU Zoufplan 90.08 44 P **P** **19 46 23.3 +0.3**
ZOU IAMs_20 IAMs_20 20 24 54.3
comp=Z,1µm,20.0s
SPITS Spitsbergen Ar 90.16 12 P **P** **19 46 22.1 -0.4**
comp=Z,31nm,1.2s,baz=207,slow=13,SNR=3.4
HFS Hagfors 90.17 30 P **P** **19 46 22.0 -0.7**
comp=Z,15nm,1.0s,baz=243,slow=6.5,SNR=6.2
FBE Freiberg 90.24 39 *e*P **P** **19 46 25.6 +2.3**
comp=Z,303nm,2.5s,baz=269,slow=4.9
NRCA Norcia 90.26 47 P **P** **19 46 23.1 -0.6**
NRCA IAMs_20 IAMs_20 20 23 27.1
comp=Z,2µm,22.0s
KBA Koelnbreinsper 90.33 43 *e*P **P** **19 46 24.7 +0.6**
comp=Z,22nm,1.6s,SNR=11
KHC Kasperske Hory 90.43 41 *e*P **P** **19 46 25.4 +1.1**
KHC *e*pP **sP** **19 46 30.2 +3.0**
KHC *e*SKS **SKSac** **19 57 00.8 +4.0**
KHC AMS AMS 20 30 20.0
comp=Z,900nm,20.0s
KHC Kasperske Hory 90.43 41 *e*P **P** **19 46 25.4 +1.1**
KHC *e* 19 46 30.2
KHC *e* 19 57 00.8
KHC MLR MLR
comp=Z,900nm,20.0s
KHC Kasperske Hory 90.43 41 P **P** **19 46 24.6 +0.3**
RUE Ruedersdorf 90.46 38 *e*P **P** **19 46 26.4 +2.1**
comp=Z,237nm,2.1s,baz=269,slow=4.9
ROBS Robic 90.46 44 *i* P **P** **19 46 24.4 -0.1**
AQU L'Aquila 90.49 48 P **P** **19 46 23.5 -1.3**
AQU pmax pmax
comp=Z,20nm,1.2s
AQU MLR MLR
comp=Z,1µm,22.0s
AQU L'Aquila 90.49 48 P **P** **19 46 23.4 -1.3**
AQU IAMs_20 IAMs_20 20 23 03.1
comp=Z,1µm,22.0s
PRED Cave del Predi 90.50 44 P **P** **19 46 25.3 +0.6**
PRED IAmb IAmb 19 46 28.8
comp=Z,109nm,1.9s
PRED IAMs_20 IAMs_20 20 21 44.2
comp=Z,1µm,22.0s
GEC2 GERESS Array S 90.52 41 *e*P **P** **19 46 26.3 +1.5**
comp=Z,240nm,2.7s,baz=269,slow=4.9
GEC2 GERESS Array S 90.52 41 P **P** **19 46 24.4 -0.4**
GEC2 IAMs_20 IAMs_20 20 30 57.4
comp=Z,1µm,18.0s
GERES GERESS Array B 90.52 41 P **P** **19 46 25.6 +0.8**
comp=Z,1.8nm,0.7s,baz=274,slow=3.5,SNR=18
GERES LR LR 20 23 08.6
comp=Z,984nm,21.7s,baz=268,slow=33
CORL Corleone 90.52 52 P **P** **19 46 25.2 +0.2**
MYKA Terra Mystica 90.54 44 *e*P **P** **19 46 25.6 +0.7**
comp=Z,17nm,1.1s,SNR=7.3
BRG Berggiesshubel 90.61 39 SS SS 20 03 04.0 -19
BRG Berggiesshubel 90.61 39 *e*P **P** **19 46 26.2 +1.2**
BRG 19 56 54.0
BRG pmax pmax
comp=Z,90nm,1.7s
BRG MLR MLR
comp=N,1µm,26.7s
BRG MLR MLR
comp=E,2µm,29.9s
BRG MLR MLR
comp=Z,2µm,24.7s
BRG Berggiesshubel 90.61 39 *e*P **P** **19 46 27.2 +2.1**
comp=Z,392nm,2.8s,baz=269,slow=4.9
BRG Berggiesshubel 90.61 39
comp=Z,2µm,24.7s
BRG Berggiesshubel 90.61 39
comp=E,2µm,29.9s
BRG Berggiesshubel 90.61 39

	comp=N,1μm,26.7s								
BRG	**Berggiesshubel**	**90.61**	**39**	*e*P	**P**	19 46 26.2	**+1.2**		
	comp=N,90nm,1.7s								
BRG	**Berggiesshubel**	**90.61**	**39**	PP	PP	19 50 12.0	+12		
BRG	**Berggiesshubel**	**90.61**	**39**	SKS	**SKSac**	19 56 54.0	**-3.6**		
BRG	**Berggiesshubel**	**90.61**	**39**	S	**SP**	19 58 17.0	**-11**		
NVL	**N'lazarevskaya**	**90.62**	**161**	*e*P	**P**	19 46 25.4	**+0.8**		
NVL				*e*S	**SKSac**	19 56 55.9	**-1.0**		
NVL				pmax	pmax				
	comp=Z,42nm,1.2s								
PBCC	**Pribram**	**90.68**	**40**	*e*P	**P**	19 46 26.7	**+1.3**		
QSPA	**South Pole Qui**	**90.80**	**180**	P	**P**	19 46 27.2	**+1.5**		
QSPA				IAmb	IAmb	19 46 29.1			
	comp=Z,76nm,1.2s								
INTR	**Introdacqua**	**90.87**	**48**	P	**P**	19 46 25.9	**-0.7**		
INTR				IAmb	IAmb	19 46 29.7			
	comp=Z,94nm,1.8s								
INTR				IAMs_20	IAMs_20	20 23 51.2			
	comp=Z,2μm,21.0s								
MOA	**Molln**	**90.93**	**42**	*e*P	**P**	19 46 27.5	**+0.8**		
	comp=Z,25nm,1.5s,SNR=9.7								
PRA	**Prague**	**90.95**	**40**	*e*SKS	**SKSac**	19 57 08.5	**+8.9**		
PRA				AMS	AMS	20 20 30.0			
	comp=Z,700nm,23.8s								
GAMB	**Gambell**	**91.01**	**334**	IAMs_20	IAMs_20	20 30 57.0			
	comp=Z,1μm,19.0s								
PVCC	**Panska Ves**	**91.02**	**40**	AMS	AMS	20 23 10.0			
	comp=Z,2μm,20.2s								
PRU	**Pruhonice**	**91.03**	**40**	*e*P	**P**	19 46 28.1	**+1.1**		
PRU				AMS	AMS	20 19 30.0			
	comp=Z,2μm,25.2s								
PRU	**Pruhonice**	**91.03**	**40**	*e*P	**P**	19 46 28.1	**+1.1**		
PRU				MLR	MLR				
	comp=Z,2μm,25.2s								
CEY	**Cerknica**	**91.12**	**44**	*e*P	**P**	19 46 27.9	**+0.4**		
OBKA	**Obir**	**91.17**	**44**	*e*P	**P**	19 46 28.0	**+0.1**		
	comp=Z,16nm,1.8s,SNR=9.0								
LJU	**Ljubljana**	**91.18**	**44**	*e*P	**P**	19 46 28.0	**+0.2**		
GOPC	**GO Pecny, Ondr**	**91.19**	**40**	*e*SKS	**SKSac**	19 57 05.9	**+4.9**		
GOPC				AMS	AMS	20 20 10.0			
	comp=Z,1μm,23.6s								
PAOL	**Paolisi**	**91.40**	**49**	IAMs_20	IAMs_20	20 23 55.3			
	comp=Z,1μm,21.0s								
VAE	**Valguarnera**	**91.41**	**53**	P	**P**	19 46 30.9	**+1.7**		
	comp=Z,8.6nm,1.0s,baz=182,slow=15,SNR=5.4								
SOKA	**Soboth**	**91.50**	**43**	*e*P	**P**	19 46 29.4	**0.0**		
	comp=Z,13nm,1.5s								
PDKS	**Podkum**	**91.50**	**44**	*i* P	**P**	19 46 29.2	**-0.2**		
TREC	**Trest**	**91.67**	**41**	*e*SKS	**SKSac**	19 57 07.3	**+3.5**		
TREC				AMS	AMS	20 31 30.0			
	comp=Z,1μm,20.4s								
ARSA	**Arzberg**	**91.81**	**43**	*e*P	**P**	19 46 31.4	**+0.7**		
	comp=Z,27nm,1.8s,SNR=11								
UPC	**Upice**	**91.94**	**40**	*e*P	**P**	19 46 33.0	**+1.8**		
UPC				AMS	AMS	20 21 00.0			
	comp=Z,2μm,24.4s								
UPC	**Upice**	**91.94**	**40**	*e*P	**P**	19 46 33.0	**+1.8**		
UPC				MLR	MLR				
	comp=Z,2μm,24.4s								
CHVC	**Chvalec**	**91.96**	**40**	*e*P	**P**	19 46 32.8	**+1.4**		
CHVC				AMS	AMS	20 21 10.0			
	comp=Z,2μm,21.5s								
CONA	**Conrad Observa**	**92.00**	**42**	*e*P	**P**	19 46 32.5	**+0.8**		
	comp=Z,28nm,1.4s,SNR=17								
OSTC	**Ostas**	**92.07**	**40**	*e*P	**P**	19 46 33.4	**+1.5**		
OSTC				*e*SKS	**SKSac**	19 57 13.6	**+7.6**		
OSTC				AMS	AMS	20 21 10.0			
	comp=Z,2μm,22.3s								
KSP	**Ksiaz**	**92.10**	**39**	*e*P	**P**	19 46 33.9	**+1.9**		
KSP				*e*L	L	20 21 13.1			
	comp=Z,2μm,25.3s								
DPC	**Dobruska-Polom**	**92.15**	**40**	*e*P	**P**	19 46 34.1	**+1.8**		
DPC				*e*SKS	**SKSac**	19 57 11.6	**+5.1**		
DPC				AMS	AMS	20 21 20.0			
	comp=Z,2μm,23.9s								
DPC	**Dobruska-Polom**	**92.15**	**40**	*e*P	**P**	19 46 34.1	**+1.8**		
DPC				MLR	MLR				
	comp=Z,2μm,23.9s								
SGRT	**San Giovanni R**	**92.25**	**48**	IAMs_20	IAMs_20	20 28 35.8			
	comp=Z,935nm,20.0s								
KRUC	**Moravsky**	**92.28**	**41**	*e*P	**P**	19 46 33.2	**+0.4**		
VRAC	**Vranov**	**92.39**	**41**	P	**P**	19 46 35.0	**+1.6**		
	comp=Z,10nm,1.0s,baz=275,slow=6.4,SNR=21								
VRAC	**Vranov**	**92.39**	**41**	⇓P	**P**	19 46 35.3	**+1.9**		
VRAC	**Vranov**	**92.39**	**41**	*e*P	**P**	19 46 34.1	**+0.7**		
VRAC	**Vranov**	**92.39**	**41**	P	**P**	19 46 35.0	**+1.6**		
KRLC	**Kraliky**	**92.46**	**40**	*e*P	**P**	19 46 35.9	**+2.2**		
KRLC				AMS	AMS	20 27 10.0			
	comp=Z,900nm,19.2s								
KRLC	**Kraliky**	**92.46**	**40**	*e*P	**P**	19 46 35.9	**+2.2**		
KRLC				MLR	MLR				
	comp=Z,900nm,19.2s								
CEL	**Celeste**	**92.55**	**52**	IAMs_20	IAMs_20	20 26 46.2			
	comp=Z,2μm,22.0s								
ZST	**Bratislava**	**92.81**	**42**	*e*P	**P**	19 46 36.0	**+0.7**		
ZST	**Bratislava**	**92.81**	**42**	*e*P	**P**	19 46 36.0	**+0.7**		
MODS	**Modra-Piesok**	**92.91**	**42**	*e*P	**P**	19 46 35.1	**-0.7**		
MODS				pmax	pmax				
	comp=Z,45nm,1.4s								
MODS	**Modra-Piesok**	**92.91**	**42**	*e*P	**P**	19 46 35.1	**-0.7**		
MORC	**Moravsky Berou**	**92.98**	**40**	⇑P	**P**	19 46 37.9	**+1.8**		
MORC	**Moravsky Berou**	**92.98**	**40**	*e*P	**P**	19 46 37.4	**+1.3**		
MORC	**Moravsky Berou**	**92.98**	**40**	⇑P	**P**	19 46 37.9	**+1.8**		
MORC	**Moravsky Berou**	**92.98**	**40**	P	**P**	19 46 36.9	**+0.8**		
MORC				IAmb	IAmb	19 46 41.2			
	comp=Z,128nm,1.9s								
MORC				IAMs_20	IAMs_20	20 30 59.4			
	comp=Z,912nm,21.0s								
SMOL	**Smolenice**	**93.00**	**42**	*e*P	**P**	19 46 37.9	**+1.7**		
SMOL	**Smolenice**	**93.00**	**42**	*e*P	**P**	19 46 37.9	**+1.7**		
MATE	**Matera**	**93.04**	**49**	⇑P	**P**	19 46 36.1	**-0.4**		
JAVC	**Velka Javorina**	**93.14**	**41**	*e*P	**P**	19 46 38.5	**+1.6**		
TIP	**Timpagrande**	**93.17**	**51**	⇓P	**P**	19 46 36.7	**-0.6**		
TIP	**Timpagrande**	**93.17**	**51**	P	**P**	19 46 36.0	**-1.3**		
TIP				IAMs_20	IAMs_20	20 26 04.3			
	comp=Z,1μm,21.0s								
OKC	**Ostrava-Krasne**	**93.36**	**40**	*e*P	**P**	19 46 40.1	**+2.3**		
OKC				*e*SKS	**SKSac**	19 57 17.7	**+4.6**		
OKC				AMS	AMS	20 32 00.0			
	comp=Z,1μm,19.3s								
OKC	**Ostrava-Krasne**	**93.36**	**40**	*e*P	**P**	19 46 40.1	**+2.3**		
OKC				*e*		19 57 17.7			
OKC				MLR	MLR				
	comp=Z,1μm,19.3s								
VYHS	**Vyhne**	**93.94**	**41**	*e*P	**P**	19 46 41.5	**+1.0**		
VYHS				pmax	pmax				
	comp=Z,65nm,1.6s								
VYHS	**Vyhne**	**93.94**	**41**	*e*P	**P**	19 46 41.5	**+1.0**		
ARCES	**ARCESS Array B**	**93.99**	**20**	P	**P**	19 46 41.1	**+0.9**		
	comp=Z,8.6nm,0.9s,baz=336,slow=2.7,SNR=8.6								
ARCES				LR	LR	20 25 34.7			
	comp=Z,347nm,22.0s,baz=275,slow=33								
LANS	**Liptovska Anna**	**94.29**	**41**	*e*P	**P**	19 46 44.7	**+2.6**		
LANS				pmax	pmax				
	comp=Z,15nm,1.3s								
LANS	**Liptovska Anna**	**94.29**	**41**	*e*P	**P**	19 46 44.7	**+2.6**		
OJC	**Ojcow**	**94.38**	**40**	*e*P	**P**	19 46 44.1	**+1.6**		
OJC				*e*PP	**PP**	19 50 29.4	**-0.2**		
OJC				*e*L	L	20 21 53.0			
	comp=Z,2μm,26.9s								
OJC	**Ojcow**	**94.38**	**40**	P	**P**	19 46 42.0	**-0.5**		
OJC				pmax	pmax				
	comp=Z,115nm,1.7s								
OJC	**Ojcow**	**94.38**	**40**	P	**P**	19 46 42.0	**-0.5**		
OJC				IAmb	IAmb	19 46 46.0			
	comp=Z,115nm,1.7s								
SCTE	**Santa Cesarea**	**94.43**	**50**	IAMs_20	IAMs_20	20 29 14.4			
	comp=Z,1μm,21.0s								
PSZ	**Piszkesteto**	**94.70**	**42**	⇑P	**P**	19 46 45.9	**+1.8**		
PSZ	**Piszkesteto**	**94.70**	**42**	⇑P	**P**	19 46 45.9	**+1.8**		
PSZ	**Piszkesteto**	**94.70**	**42**	P	**P**	19 46 45.0	**+0.9**		
NIE	**Niedzica**	**94.80**	**40**	*e*P	**P**	19 46 46.4	**+1.9**		
NIE				*e*L	L	20 22 07.6			
	comp=Z,734nm,26.9s								
BEL	**Belsk**	**94.81**	**38**	*e*P	**P**	19 46 46.6	**+2.2**		
BEL				*e*L	L	20 24 01.7			
	comp=Z,2μm,23.1s								
PDG	**Podgorica**	**94.81**	**47**	⇓P	**P**	19 46 46.0	**+1.4**		
PDG	**Podgorica**	**94.81**	**47**	P	**P**	19 46 42.5	**-2.1**		
PDG				IAMs_20	IAMs_20	20 25 31.6			
	comp=Z,1μm,22.0s								
KECS	**Kecovo**	**95.03**	**41**	*e*P	**P**	19 46 47.9	**+2.4**		
KECS				pmax	pmax				
	comp=Z,18nm,1.4s								
KECS	**Kecovo**	**95.03**	**41**	*e*P	**P**	19 46 47.9	**+2.4**		
DIVS	**Divibare**	**95.18**	**46**	IAMs_20	IAMs_20	20 27 44.2			
	comp=Z,982nm,20.0s								
TIR	**Tirane**	**95.37**	**49**	IAMs_20	IAMs_20	20 24 49.2			
	comp=Z,1μm,22.0s								
TSUM	**Tsumeb**	**95.45**	**109**	P	**P**	19 46 47.0	**-1.2**		
CRVS	**Cervenica-Dubn**	**95.62**	**41**	*e*P	**P**	19 46 50.3	**+2.1**		
CRVS				pmax	pmax				
	comp=Z,141nm,1.9s								
CRVS	**Cervenica-Dubn**	**95.62**	**41**	*e*P	**P**	19 46 50.3	**+2.1**		
SUW	**Suwalki**	**95.92**	**36**	P	**P**	19 46 49.4	**0.0**		
SUW				pmax	pmax				
	comp=Z,44nm,1.2s								
SUW				MLR	MLR				
	comp=Z,1μm,20.0s								
SUW	**Suwalki**	**95.92**	**36**	P	**P**	19 46 49.4	**0.0**		
SUW				IAmb	IAmb	19 46 53.4			
	comp=Z,44nm,1.2s								
SUW				IAMs_20	IAMs_20	20 28 23.3			
	comp=Z,1μm,20.0s								
FINES	**FINESS Array B**	**96.02**	**28**	P	**P**	19 46 50.5	**+0.8**		
	comp=Z,5.9nm,0.9s,baz=298,slow=8.0,SNR=8.3								
FINES				LR	LR	20 27 00.7			
	comp=Z,588nm,21.9s,baz=273,slow=34								
SIRR	**Siria**	**96.10**	**43**	⇑P	**P**	19 46 52.8	**+2.4**		
BZS	**Buzias**	**96.15**	**44**	⇓P	**P**	19 46 51.8	**+1.1**		
BZS	**Buzias**	**96.15**	**44**	⇓P	**P**	19 46 51.8	**+1.1**		
UZH	**Uzhgorod**	**96.20**	**41**	*e*P	**P**	19 46 51.3	**+0.5**		
UZH				*e*		19 46 58.3			
UZH				*e*S	**S**	19 58 05.3	**-5.9**		
UZH				*e*		20 04 53.1			
UZH				pmax	pmax				
	comp=E,110nm,18.0s								
KWP	**Kalwaria Pacla**	**96.32**	**40**	*e*P	**P**	19 46 53.6	**+2.2**		
KWP				*e*L	L	20 23 14.9			
	comp=E,2μm,26.9s								
KWP	**Kalwaria Pacla**	**96.32**	**40**	P	**P**	19 46 53.2	**+1.8**		
KWP				pmax	pmax				
	comp=Z,62nm,0.5s								
KWP				MLR	MLR				
	comp=Z,1μm,20.0s								
KWP	**Kalwaria Pacla**	**96.32**	**40**	P	**P**	19 46 53.2	**+1.8**		
KWP				IAMs_20	IAMs_20	20 32 29.9			
	comp=Z,1μm,20.0s								
MDVR	**Moldovita**	**96.33**	**45**	⇑P	**P**	19 46 53.3	**+1.7**		
GZR	**Gura Zlata**	**96.99**	**44**	⇓P	**P**	19 46 56.1	**+1.5**		
GZR	**Gura Zlata**	**96.99**	**44**	⇓P	**P**	19 46 56.1	**+1.5**		
VSU	**Vasula**	**97.01**	**31**	*i* P	**P**	19 46 53.7	**-0.5**		
VSU				pmax	pmax				
	comp=Z,41nm,1.2s								
VNDA	**Vanda**	**97.02**	**191**	P	Pdif	19 46 55.6	+1.6		
	comp=Z,0.3nm,0.4s,baz=124,slow=4.8,SNR=4.4								
VNDA				LR	LR	20 22 41.5			
	comp=Z,764nm,21.4s,baz=130,slow=30								
LVV	**L'vov**	**97.14**	**40**	*e*P	Pdif	19 46 55.6	+0.4		
LVV				*e*S	**S**	19 58 13.2	**-6.1**		
LVV				*e*PS	**PS**	19 59 39.0	**-2.0**		
LVV				*e*SS	**SS**	20 04 57.5	**+1.6**		
APA	**Apatity**	**97.33**	**21**	⇑*i*P	**P**	19 46 55.4	**-0.1**		
APA				pmax	pmax				
	comp=Z,9.0nm,1.1s								
APA				MLR	MLR				
	comp=Z,2μm,22.0s								
AGG	**Agios Georgios**	**97.50**	**51**	P	**P**	19 46 55.6	**-1.4**		
AGG				pmax	pmax				
	comp=Z,34nm,1.5s								
AGG	**Agios Georgios**	**97.50**	**51**	P	**P**	19 46 55.6	**-1.4**		
BUR08	**Bucovina Ar. S**	**98.28**	**42**	P	Pdif	19 47 01.7	+1.3		
BUR08				IAmb	IAmb	19 47 05.2			
	comp=Z,57nm,1.9s								
ARR	**Arges**	**98.29**	**44**	⇑P	Pdif	19 47 02.6	+2.1		
BURAR	**Bucovina Array**	**98.30**	**42**	⇑P	Pdif	19 47 02.9	+2.4		
BURAR	**Bucovina Array**	**98.30**	**42**	⇑P	Pdif	19 47 02.9	+2.4		
BURAR	**Bucovina Array**	**98.30**	**42**	P	Pdif	19 47 01.1	+0.6		
MICGM	**Minsk**	**98.53**	**35**	*e*	Pdif	19 47 02.0	+0.8		
MICGM				*e*LR	LR	20 25 18.0			
MICGM				LRM	MLR	20 30 38.0			
	comp=Z,3.5nm,20.0s								
MICGM				LRM	MLR	20 30 40.0			
	comp=E,2.3nm,20.0s								
MNK	**Minsk**	**98.53**	**35**	*e*P	Pdif	19 47 02.0	+0.8		
MNK				MLR	MLR				
	comp=Z,3μm,20.0s								
MNK				MLR	MLR				
	comp=E,2μm,20.0s								
VOIR		**98.56**	**44**	⇓P	Pdif	19 47 03.0	+1.3		
VOIR		**98.56**	**44**	⇓P	Pdif	19 47 03.0	+1.3		
BILL	**Bilibino**	**98.72**	**340**	⇓*i*P	Pdif	19 47 03.1	+1.3		
BILL				*e*		19 51 05.2			
BILL				*e*S	**S**	19 58 24.7	**-7.3**		
BILL				pmax	pmax				
	comp=Z,14nm,1.1s								
BIZ	**Bicaz**	**99.02**	**42**	⇑P	**Pdif**	19 47 06.3	**+2.7**		
MLR	**Muntele Rosu**	**99.17**	**44**	P	**Pdif**	19 47 05.4	**+0.9**		
	comp=Z,1.8nm,0.4s,baz=211,slow=5.9,SNR=1.7								
MLR	**Muntele Rosu**	**99.17**	**44**	⇓P	**Pdif**	19 47 11.5	**+7.0**		
MLR	**Muntele Rosu**	**99.17**	**44**	P	**Pdif**	19 47 05.4	**+0.9**		
MLR				pmax	pmax				
	comp=Z,40nm,1.7s								
MLR	**Muntele Rosu**	**99.17**	**44**	IAmb	IAmb	19 47 12.1			
	comp=Z,40nm,1.7s								
MLR				IAMs_20	IAMs_20	20 27 57.8			
	comp=Z,0.1nm,22.0s								
IDI	**Anoyia**	**100.02**	**54**	IAMs_20	IAMs_20	20 31 05.8			
	comp=Z,1μm,22.0s								
AKASG	**Malin Array Be**	**100.22**	**38**	P	**Pdif**	19 47 09.1	**+0.3**		
	comp=Z,0.3nm,0.4s,baz=269,slow=4.1,SNR=10								
AKASG				PP	**PP**	19 51 12.9	**-1.5**		
	comp=Z,0.2nm,0.3s,baz=279,slow=7.0,SNR=6.7								
SORM	**Soroca**	**100.26**	**41**	⇓P	**Pdif**	19 47 10.0	**+0.9**		
SORM	**Soroca**	**100.26**	**41**	⇓P	**Pdif**	19 47 10.0	**+0.9**		
SYO	**Syowa Base**	**100.29**	**161**	⇓*e*P	pPdif	19 47 10.2	-0.7		
SANT	**Santorini**	**100.32**	**53**	IAMs_20	IAMs_20	20 30 09.7			
	comp=Z,840nm,22.0s								
HARR	**Harsova**	**100.71**	**44**	⇑P	**Pdif**	19 46 57.7	**-13**		
HARR	**Harsova**	**100.71**	**44**	⇑P	**Pdif**	19 46 57.7	**-13**		
KARP	**Karpathos**	**101.82**	**54**	IAMs_20	IAMs_20	20 37 47.2			
	comp=Z,1μm,22.0s								
MOS	**Moscow**	**103.49**	**32**	*e*P	**Pdif**	19 47 21.4	**-1.8**		
MOS				*e*		19 51 38.7			
MOS				*e*		19 58 44.7			
MOS				*e*		19 59 02.9			
MOS				MLR	MLR				
	comp=Z,1μm,20.0s								
BRTR	**Keskin Array B**	**105.97**	**48**	PKiKP	**PKiKP**	19 51 48.0	**+0.7**		
	comp=Z,0.6nm,0.5s,baz=251,slow=4.4,SNR=3.7								
TOKA	**Tokat**	**107.91**	**47**	IAMs_20	IAMs_20	20 40 37.1			
	comp=Z,638nm,20.0s								
KIV	**Kislovodsk**	**111.03**	**42**	*i* PKiKP	**PKiKP**	19 51 56.3	**-0.2**		
KIV				*e*		19 52 35.5			
KIV				*e*		19 58 36.6			
KIV				*e*PS	**PS**	20 02 07.3	**+1.2**		
KIV				*e*SS	SS	20 08 09.3	+2.4		
KIV				pmax	pmax				
	comp=Z,11nm,1.0s								
ARU	**Arti**	**113.08**	**25**	PKiKP	**PKiKP**	19 52 01.2	**+1.3**		
	comp=Z,0.6nm,0.5s,baz=284,slow=2.5,SNR=6.0								
ARU				PP	**PP**	19 52 47.2	**-1.3**		
	comp=Z,0.3nm,0.4s,baz=278,slow=8.5,SNR=4.9								
ARU	**Arti**	**113.08**	**25**	*i* PKiKP	**PKiKP**	19 52 00.8	**+0.9**		
ARU						19 52 53.1			
ARU				PPP	PPP	19 55 16.1			
ARU						19 59 12.9			
ARU				SS	SS	20 08 39.8	+6.8		
ARU	**Arti**	**113.08**	**25**	IAMs_20	IAMs_20	20 35 45.8			
	comp=Z,1μm,22.0s								
GEVA	**Gevas**	**113.39**	**47**	IAMs_20	IAMs_20	20 50 56.2			
	comp=Z,684nm,18.0s								
GROC	**Groznyy**	**113.40**	**42**	*i* PKiKP	**PKiKP**	19 52 00.0	**-0.9**		
GROC				*e*		19 52 52.6			
GROC				*e*		19 59 11.0			
GROC				*e*PS	**PS**	20 02 17.9	**-10**		
GROC				pmax	pmax				
	comp=Z,4.0nm,0.4s								
DZM	**Mont Dzumac**	**113.95**	**246**	*e*PP	**PP**	19 52 55.9	**-0.4**		
	comp=Z,128nm,26.8s								
DZM	**Mont Dzumac**	**113.95**	**246**	*e*PS	PS	20 02 34.1	+0.1		
	comp=Z,436nm,30.5s								
DZM				*e*SS	SS	20 08 42.0	-5.4		
	comp=Z,2μm,27.7s								
DZM	**Mont Dzumac**	**113.95**	**246**	*e*LR	LR	20 26 16.7			
	comp=Z,2μm,23.9s								
YAK	**Yakutsk**	**113.97**	**346**	IAMs_20	IAMs_20	20 46 27.7			
	comp=Z,927nm,20.0s								
MAK	**Makhachkala**	**114.63**	**41**	*e*P	**Pdif**	19 48 09.4	**-3.7**		
MAK				*e*		19 52 57.9			
MAK				*e*		19 58 44.1			
MAK				*e*PS	**PS**	20 02 37.0	**-2.0**		
MAK				*e*SS	SS	20 08 49.8	-4.6		
MAK				pmax	pmax				
	comp=Z,168nm,1.2s								
MAK				MLR	MLR				
	comp=Z,910nm,19.0s								
AKTO	**Aktyubinsk**	**116.72**	**30**	PKP	**PKiKP**	19 52 07.5	**+0.4**		
	comp=Z,2.8nm,0.8s,baz=309,slow=1.8,SNR=8.4								
ABKAR	**Akbulak array**	**118.43**	**30**		**PKiKP**	19 52 10.8	**+0.4**		
BRVK	**Borovoye**	**120.17**	**22**	*c i*PKiKP	**PKiKP**	19 52 14.7	**+0.9**		
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.7s								
BVAR	**Borovoye Array**	**120.24**	**22**	PKP	**PKiKP**	19 52 13.9	**0.0**		
	comp=Z,1.5nm,0.8s,baz=165,slow=19,SNR=12								
BVAR				PP	**PP**	19 53 37.9	**-0.6**		
	comp=Z,1.0nm,0.8s,baz=195,slow=11,SNR=4.6								
YUK	**Yuzh-Kuril'sk**	**120.77**	**324**	*i* PKiKP	**PKPdf**	19 52 11.0	**-4.0**		
YUK				*e*		19 53 38.3			
YUK				MLR	MLR				
	comp=E,771nm,17.0s								
YUK				MLR	MLR				
	comp=Z,566nm,17.0s								
JKA	**Kamikawa-asahi**	**122.57**	**326**	IAMs_20	IAMs_20	20 52 51.0			
	comp=Z,983nm,22.0s								
ZAA0	**Zalesovo Array**	**123.64**	**12**	PKPdf	**PKPdf**	19 52 20.1	**-0.2**		
ZAA0				IAMs_20	IAMs_20	20 47 43.8			
	comp=Z,567nm,20.0s								
ZALV	**Zalesovo Beam**	**123.64**	**12**	PKP	**PKPdf**	19 52 20.1	**-0.2**		
	comp=Z,19nm,0.9s,baz=321,slow=2.1,SNR=43								
GEYT	**Alibeck**	**124.14**	**42**	PKP	**PKiKP**	19 52 22.4	**+0.3**		
	comp=Z,5.9nm,1.0s,baz=318,slow=2.0,SNR=8.8								
GYA0B	**ALIBECK ARRAY**	**124.14**	**42**	PKPdf	**PKiKP**	19 52 22.1	**0.0**		
GYA0B				IAMs_20	IAMs_20	20 43 58.2			
	comp=Z,846nm,22.0s								
ASHT	**Ashkhabad**	**124.31**	**41**	IAMs_20	IAMs_20	20 53 38.7			
	comp=Z,680nm,20.0s								
KURK	**Kurchatov**	**124.97**	**18**	PKiKP	**PKiKP**	19 52 23.2	**-0.1**		
KURK				MLR	MLR				
	comp=Z,1μm,19.0s								
KURK	**Kurchatov**	**124.97**	**18**	PKPdf	**PKiKP**	19 52 23.1	**-0.1**		
KURBB	**Kurchatov Arra**	**125.02**	**18**	PKP	**PKiKP**	19 52 23.6	**+0.3**		
	comp=Z,14nm,0.9s,baz=326,slow=2.4,SNR=56								
KURBB				PP	**PP**	19 54 12.6	**+1.9**		
	comp=Z,2.2nm,1.0s,baz=331,slow=6.2								
KURBB				PKKPbc	**PKKPab**	20 02 01.8	**-1.0**		
	comp=Z,0.3nm,0.5s,baz=158,slow=3.4,SNR=4.6								
JMM	**Marumori**	**127.55**	**321**	IAMs_20	IAMs_20	20 43 28.1			
	comp=Z,612nm,21.0s								
TLY	**Talaya**	**127.74**	**359**	*e*PKiKP	**PKiKP**	19 52 31.1	**+2.3**		
TLY				*e*SS	SS	20 11 41.4	+0.9		
TLY				pmax	pmax				
	comp=Z,36nm,0.8s								
TLY	**Talaya**	**127.74**	**359**	IAMs_20	IAMs_20	20 48 21.7			
	comp=Z,1μm,22.0s								
MOY	**Mondy**	**127.77**	**1**	*e*PKiKP	**PKiKP**	19 52 29.2	**+0.2**		
MOY				pmax	pmax				
	comp=Z,61nm,2.6s								
USA0B	**Ussuriysk Arra**	**127.90**	**333**	IAMs_20	IAMs_20	20 56 20.1			
	comp=Z,884nm,21.0s								
USRK	**Ussuriysk Ar.**	**127.90**	**333**	PKP	**PKiKP**	19 52 29.8	**+0.5**		
	comp=Z,4.9nm,0.9s,baz=199,slow=5.2,SNR=5.8								
USRK	**Ussuriysk Ar.**	**127.90**	**333**	PKiKP	**PKPdf**	19 52 28.5	**-0.3**		
USRK	**Ussuriysk Ar.**	**127.90**	**333**	PKPdf	**PKPdf**	19 52 28.4	**-0.3**		
KKAR	**Karatay Array**	**127.97**	**29**	PKiKP	**PK

	comp=Z,140nm,3.5s								
CN2					LR	LR			
	comp=Z,930nm,21.0s								
CN2					LR	LR			
	comp=Z,540nm,21.0s								
CN2					LR	LR			
	comp=Z,1μm,21.0s								
BIDO	**Bidbid**	**130.97**	**58**		P	**PKPdf**	**19 52 35.4**	**+0.2**	
SMDO	**Samad**	**131.09**	**58**		P	**PKiKP**	**19 52 36.4**	**0.0**	
	SNR=12								
JGF	**Kuroka**	**131.12**	**321**		IAMs_20	IAMs_20	20 56 16.6		
	comp=Z,695nm,21.0s								
ULHL	**Ulahol**	**131.27**	**25**		P	**PKiKP**	**19 52 37.1**	**+0.7**	
	SNR=40								
ULN	**Ulaanbaatar**	**131.39**	**356**	*c*	iPKIKP	**PKiKP**	**19 52 36.5**	**0.0**	
ULN					pmax	pmax			
	comp=Z,35nm,1.7s								
ULN	**Ulaanbaatar**	**131.39**	**356**		PKPdf	**PKPdf**	**19 52 34.8**	**-0.7**	
SONM	**Songino Array**	**131.47**	**356**		PKP	**PKPdf**	**19 52 35.8**	**+0.2**	
	comp=Z,6.3nm,1.0s,baz=283,slow=0.3,SNR=28								
SONM					PP	**PP**	**19 54 49.8**	**-3.2**	
	comp=Z,2.2nm,1.0s,baz=345,slow=6.3,SNR=4.0								
SONM	**Songino Array**	**131.47**	**356**		PKIKP	**PKPdf**	**19 52 34.4**	**-1.2**	
SONM	**Songino Array**	**131.47**	**356**		PKPdf	**PKPdf**	**19 52 34.4**	**-1.2**	
SATY	**Saty**	**131.48**	**23**	*e*	PKP	**PKiKP**	**19 52 36.4**	**-0.4**	
SATY				*e*	PP	**PP**	**19 54 53.2**	**-0.3**	
SATY				*e*	PKS	PKSdf	19 56 03.0	-9.4	
SATY	**Saty**	**131.48**	**23**	*e*	PKIKP	**PKiKP**	**19 52 36.3**	**-0.4**	
SATY				*e*			19 54 53.1		
INU	**Inuyama**	**131.49**	**321**		IAMs_20	IAMs_20	20 39 58.3		
	comp=Z,679nm,21.0s								
WSAR	**Wadi Sarin**	**131.51**	**58**		P	**PKPdf**	**19 52 36.3**	**+0.1**	
	SNR=5.2								
STKA	**Stephens Creek**	**131.53**	**226**		PKP	**PKiKP**	**19 52 37.7**	**+0.7**	
	comp=Z,4.0nm,1.0s,baz=207,slow=3.1,SNR=4.3								
UZB	**Uzynbulak**	**131.65**	**23**	*e*	PKP	**PKPdf**	**19 52 36.2**	**0.0**	
UZB				*e*	PKS	PKSdf	19 56 03.5	-9.2	
UZB	**Uzynbulak**	**131.65**	**23**	*e*	PKIKP	**PKPdf**	**19 52 36.1**	**0.0**	
MHTO	**MHTO**	**131.79**	**61**		P	**PKPdf**	**19 52 36.8**	**0.0**	
	SNR=6.4								
SHLS	**Shalkode**	**131.81**	**22**	⇑	ePKP	**PKiKP**	**19 52 37.9**	**+0.4**	
SHLS					ePP	**PP**	**19 54 58.2**	**+2.7**	
SHLS					ePKS	**PKSdf**	**19 56 05.2**	**-7.8**	
SHLS	**Shalkode**	**131.81**	**22**	*ce*	PKIKP	**PKiKP**	**19 52 37.8**	**+0.4**	
SHLS				*e*			19 54 58.2		
WBK	**Wadi Bani Khal**	**132.04**	**58**		P	**PKPdf**	**19 52 37.4**	**+0.1**	
	SNR=5.2								
JWT	**Wachi**	**132.53**	**322**		IAMs_20	IAMs_20	20 56 28.9		
	comp=Z,799nm,20.0s								
JLN	**Jalan Bani Buh**	**132.60**	**59**		P	**PKPdf**	**19 52 38.7**	**+0.4**	
	SNR=7.9								
KBL	**Kabul**	**133.21**	**38**		PKIKP	**PKPdf**	**19 52 38.3**	**-1.1**	
KBL					MLR	MLR			
	comp=Z,800nm,18.0s								
KBL	**Kabul**	**133.21**	**38**			**PKPdf**	**19 52 38.3**	**-1.1**	
KSH	**Kashi**	**133.34**	**28**		PKP	**PKiKP**	**19 52 40.3**	**-0.3**	
KSH					PP	**PP**	**19 55 11.8**	**+6.2**	
KSH					LR	LR			
	comp=Z,1μm,20.9s								
KSH					LR	LR			
	comp=Z,990nm,23.6s								
WMQ	**Urumqi**	**133.80**	**14**	*e*	PKP	**PKPdf**	**19 52 38.0**	**-2.1**	
WMQ					LR	LR			
	comp=Z,520nm,20.7s								
WMQ					LR	LR			
	comp=Z,310nm,25.3s								
WMQ					LR	LR			
	comp=Z,520nm,22.9s								
JHS	**Saijyo**	**134.10**	**324**		IAMs_20	IAMs_20	20 55 33.1		
	comp=Z,705nm,18.0s								
KSRS	**Korea Array**	**135.09**	**331**		PKP	**PKPdf**	**19 52 42.6**	**+0.1**	
	comp=Z,5.8nm,0.8s,baz=354,slow=1.7,SNR=17								
KSAR	**Wonju Array Be**	**135.12**	**331**		PKIKP	**PKPdf**	**19 52 39.3**	**-3.3**	
KSAR	**Wonju Array Be**	**135.12**	**331**			**PKPdf**	**19 52 39.3**	**-3.3**	
NIL	**Nilore**	**136.35**	**36**		IAMs_20	IAMs_20	20 53 53.3		
	comp=Z,854nm,22.0s								
JTU	**Tsushima**	**136.56**	**327**		IAMs_20	IAMs_20	20 55 31.1		
	comp=Z,812nm,20.0s								
BJT	**Baijiatuan**	**137.43**	**344**		IAMs_20	IAMs_20	20 59 13.0		
	comp=Z,730nm,20.0s								
HHC	**Hu-ho-hao-te**	**137.70**	**349**	*e*	PKP	**PKiKP**	**19 52 51.0**	**+1.6**	
JSU	**Suzuyama**	**138.13**	**323**		IAMs_20	IAMs_20	21 00 19.0		
	comp=Z,756nm,21.0s								
DHRM	**DHARAMSHALA**	**139.12**	**34**	*e*	P	**PKPdf**	**19 52 48.3**	**-2.2**	
DHRM					IAmb	IAmb	19 52 53.9		
	comp=Z,65nm,1.6s								
GTA	**Gaotai**	**139.98**	**3**	⇑	PKP	**PKPdf**	**19 52 52.4**	**+0.7**	
GTA					AMB	AMB			
	comp=Z,160nm,4.9s								
GTA					LR	LR			
	comp=Z,890nm,20.0s								
GTA					LR	LR			
	comp=Z,680nm,21.1s								
GTA					LR	LR			
	comp=Z,1μm,20.4s								
SMLA	**Simla**	**140.45**	**35**	*e*	P	**PKPdf**	**19 52 50.7**	**-1.9**	
SMLA					IAmb	IAmb	19 52 55.3		
	comp=Z,124nm,1.9s								
TIY	**Taiyuan**	**140.55**	**347**	*e*	PKP	**PKPdf**	**19 52 53.0**	**+0.3**	
TIY					PP	**PP**	**19 55 53.4**	**+3.2**	
TIY					AMB	AMB			
	comp=Z,220nm,4.6s								
TIY					LR	LR			
	comp=Z,610nm,20.9s								
TIY					LR	LR			
	comp=Z,760nm,21.1s								
TIY					LR	LR			
	comp=Z,1μm,23.4s								
TIA	**Tai'an**	**140.65**	**341**		PKP	**PKPdf**	**19 52 53.6**	**+0.8**	
TIA					AMB	AMB			
	comp=Z,450nm,6.0s								
TIA					LR	LR			
	comp=Z,470nm,22.1s								
TIA					LR	LR			
	comp=Z,600nm,16.9s								
TIA					LR	LR			
	comp=Z,710nm,20.6s								
AS31	**Alice Springs**	**141.64**	**231**		PKPdf	**PKPdf**	**19 52 52.1**	**-2.9**	
ASAR	**Alice Springs**	**141.64**	**231**		PKhKP	PKPpre	19 52 50.2		
	comp=Z,6.2nm,1.1s,baz=128,slow=3.8,SNR=12								
ASAR					PKP	**PKPdf**	**19 52 54.8**	**-0.2**	
	comp=Z,3.2nm,0.8s,baz=124,slow=3.1,SNR=14								
ASAR	**Alice Springs**	**141.64**	**231**		PKHKP	PKPpre	19 52 49.0		
ASAR							19 52 54.8		
ASAR	**Alice Springs**	**141.64**	**231**			PKPpre	19 52 49.0		
WR0	**Warramunga Arr**	**142.94**	**237**		PKPdf	**PKPdf**	**19 52 54.3**	**-3.0**	
WB2	**Warramunga Arr**	**143.10**	**237**		PKPdf	PKPbc	19 52 55.0	+0.6	
WRAB	**Tennant Creek**	**143.11**	**237**	*c*	iPKHKP	PKPpre	19 52 55.3		
WRAB					pmax	pmax			
	comp=Z,54nm,1.7s								
WRAB	**Tennant Creek**	**143.11**	**237**			PKPbc	19 52 55.2	+0.7	
WRA	**Warramunga Arr**	**143.11**	**237**		PKhKP	PKPpre	19 52 53.9		
	comp=Z,7.1nm,0.9s,baz=110,slow=3.2,SNR=30								
WRA	**Warramunga Arr**	**143.11**	**237**		PKHKP	PKPpre	19 52 53.5		
WRA	**Warramunga Arr**	**143.11**	**237**			PKPpre	19 52 53.5		
WB0	**Warramunga Arr**	**143.15**	**237**		PKPdf	PKPbc	19 52 54.0	-0.6	
LZH	**Lanzhou**	**143.31**	**358**	*e*	PKP	PKPbc	19 52 55.0	+0.3	
LZH					LR	LR			
	comp=Z,780nm,15.0s								
LZH					LR	LR			
	comp=Z,760nm,14.6s								
LZH					LR	LR			
	comp=Z,880nm,16.3s								
SSE	**Sheshan**	**143.49**	**332**		PKP	**PKPdf**	**19 52 57.3**	**-0.7**	
SSE					PP	**PP**	**19 56 08.8**	**+0.4**	
SSE					AMB	AMB			
	comp=Z,170nm,8.7s								
SSE					LR	LR			
	comp=Z,150nm,23.7s								
SSE					LR	LR			
	comp=Z,330nm,22.3s								
NJ2	**Nanjing**	**143.71**	**336**	⇓	PKP	PKPab	19 52 54.8	-0.3	
NJ2					pPKP	pPKPdf	19 53 00.1	-0.5	
NJ2					PP	**PP**	**19 56 12.8**	**+3.2**	
NJ2					SS	SS	20 14 54.8	+2.4	
NJ2					AMB	AMB			
	comp=Z,460nm,9.0s								
NJ2					LR	LR			
	comp=Z,600nm,18.0s								
NJ2					LR	LR			
	comp=Z,490nm,18.5s								
NJ2					LR	LR			
	comp=Z,870nm,20.6s								
XAN	**Xi'an**	**144.80**	**350**		PKP	**PKPab**	**19 52 58.0**	**-1.1**	
XAN					pPKP	PKiKP	19 53 04.8	+0.7	
XAN					AMB	AMB			
	comp=Z,440nm,6.5s								
XAN					LR	LR			
	comp=Z,940nm,21.7s								
XAN					LR	LR			
	comp=Z,440nm,19.5s								
XAN					LR	LR			
	comp=Z,2μm,22.8s								
XAN	**Xi'an**	**144.80**	**350**		PKIKP	**PKPab**	**19 52 58.0**	**-1.1**	
XAN					MLR	MLR			
	comp=Z,1μm,22.0s								
XAN	**Xi'an**	**144.80**	**350**			**PKPab**	**19 52 58.0**	**-1.1**	
NWAO	**Narrogin (SRO)**	**144.96**	**203**		PKHKP	PKPpre	19 52 58.9		
NWAO	**Narrogin (SRO)**	**144.96**	**203**			**PKPab**	**19 52 58.9**	**-0.8**	
BHPL	**Bhopal**	**146.19**	**44**	*eP*		**PKPdf**	**19 53 02.4**	**-0.5**	
BHPL					IAmb	IAmb	19 53 08.6		
	comp=Z,255nm,1.6s								
POO	**Poona**	**146.29**	**54**	*eP*		**PKPdf**	**19 53 01.8**	**-1.4**	
WHN	**Wuhan**	**146.76**	**340**	⇓	PKPbc	**PKPdf**	**19 53 04.3**	**+0.6**	
WHN					AMB	AMB			
	comp=Z,680nm,9.3s								
WHN					LR	LR			
	comp=Z,940nm,17.1s								
WHN					LR	LR			
	comp=Z,730nm,12.7s								
WHN					LR	LR			
	comp=Z,2μm,17.1s								
GOA	**Goa**	**147.76**	**59**	*eP*		**PKPdf**	**19 53 03.7**	**-2.0**	
GOA					IAmb	IAmb	19 53 11.7		
	comp=Z,50nm,1.1s								
LSA	**Lhasa**	**147.98**	**18**		PKIKP	**PKPdf**	**19 53 05.5**	**-0.9**	
LSA					MLR	MLR			
	comp=Z,800nm,21.0s								
LSA	**Lhasa**	**147.98**	**18**			**PKPdf**	**19 53 05.5**	**-0.9**	
ENH	**Enshi**	**148.35**	**348**			**PKPdf**	**19 53 06.8**	**+0.4**	
ENH					IAMs_20	IAMs_20	21 11 31.7		
	comp=Z,600nm,20.0s								
CD2	**Chengdu**	**148.47**	**357**		PKPbc	**PKPdf**	**19 53 06.5**	**-0.1**	
CD2					SKKS		20 03 33.4		
CD2					SS	**SS**	**20 15 47.8**	**+1.9**	
CD2					AMB	AMB			
	comp=Z,400nm,6.1s								
CD2					LR	LR			
	comp=Z,630nm,24.9s								
CD2					LR	LR			
	comp=Z,590nm,22.2s								
CD2					LR	LR			
	comp=Z,1μm,27.5s								
YHNB	**Yeheng**	**148.56**	**325**			**PKPdf**	**19 53 06.3**	**-0.7**	
MTN	**Manton Dam**	**148.79**	**246**			**PKPdf**	**19 53 05.0**	**-2.4**	
NACB	**Ninganchiao**	**148.81**	**324**			**PKPbc**	**19 53 10.5**	**-0.6**	
MORW	**Morawa**	**148.84**	**204**			**PKPdf**	**19 53 05.4**	**-1.8**	
GTK	**Tadong**	**149.23**	**24**	*ex*		**PKPbc**	**19 53 11.7**	**-0.6**	
GTK				*ex*		x	19 53 13.1		
SSLB	**Suanglung**	**149.48**	**324**		PKPdf	**PKPdf**	**19 53 08.4**	**+0.1**	
MNCY	**Minicoy**	**149.70**	**72**	*eP*		PKPab	19 53 33.6	+15	
FAKI	**Fak Fak**	**149.76**	**266**		PKP	**PKPdf**	**19 53 08.6**	**-0.5**	
KNRA	**Kununurra**	**149.77**	**239**			**PKPbc**	**19 53 14.1**	**+0.4**	
QZH	**Quanzhou**	**149.86**	**329**		PKPbc	**PKPbc**	**19 53 12.3**	**-1.4**	
QZH					LR	LR			
	comp=Z,850nm,19.4s								
QZH					LR	LR			
	comp=Z,500nm,20.4s								
QZH					LR	LR			
	comp=Z,830nm,19.4s								
TPUB	**Ta-pu**	**150.04**	**324**			**PKPbc**	**19 53 13.2**	**-1.0**	
TWG	**Pinlang**	**150.14**	**323**			**PKPbc**	**19 53 12.4**	**-2.1**	
TAWA	**Tawang**	**150.16**	**18**	*ex*		**PKPbc**	**19 53 15.5**	**+0.6**	
HYB	**Hyderabad**	**150.63**	**51**	*i*	PKP	**PKPdf**	**19 53 10.0**	**-0.3**	
ZIRO	**ZIRO**	**150.80**	**15**	*ex*		**PKPbc**	**19 53 17.4**	**+1.3**	
SIJI	**Sorong**	**150.81**	**270**		PKP	**PKPdf**	**19 53 10.9**	**+0.2**	
	comp=Z,4.0nm,0.7s,baz=62,slow=5.3,SNR=8.4								
SIJI					PKPbc	**pPKPbc**	**19 53 17.9**	**-0.5**	
	comp=Z,8.5nm,0.9s,baz=114,slow=2.5,SNR=4.2								
BOK	**Bokaro**	**150.97**	**32**	*eP*		**PKPdf**	**19 53 08.8**	**-1.9**	
BOK					IAmb	IAmb	19 53 19.5		
	comp=Z,3μm,3.2s								
FITZ	**Fitzroy Crossi**	**151.13**	**232**		PKP	**PKPdf**	**19 53 12.3**	**+1.2**	
	comp=Z,8.8nm,1.1s,baz=46,slow=5.9,SNR=4.4								
FITZ					PKPbc	**PKiKP**	**19 53 17.9**	**+0.4**	
	comp=Z,16nm,0.8s,baz=183,slow=4.8,SNR=23								
FITZ	**Fitzroy Crossi**	**151.13**	**232**		PKPdf	**PKPdf**	**19 53 08.7**	**-2.4**	
LKP	**Lekhapani**	**151.44**	**12**	*ex*		**PKPbc**	**19 53 20.0**	**+2.6**	
SHL	**Shillong**	**152.04**	**20**	*eP*		**PKPdf**	**19 53 10.8**	**-1.8**	
SHL				*ex*		x	19 53 19.0		
SHL					IAmb	IAmb	19 53 29.6		
	comp=Z,434nm,2.2s								
SHL	**Shillong**	**152.04**	**20**		P	**PKPdf**	**19 53 13.2**	**+0.7**	
	SNR=40								
SHL	**Shillong**	**152.04**	**20**		PKIKP	**PKPdf**	**19 53 11.6**	**-0.9**	
SHL					MLR	MLR			
	comp=Z,900nm,20.0s								
SHL	**Shillong**	**152.04**	**20**		PKPdf	**PKPdf**	**19 53 11.6**	**-0.9**	
MOKO	**MOKOCHONG**	**152.12**	**15**	*ex*		**PKPdf**	**19 53 13.9**	**+1.3**	
KOHI	**KOHIMA**	**152.58**	**16**	*ex*		x	19 53 15.7		
GYA	**Guiyang**	**152.59**	**351**		PKPbc	**PKPdf**	**19 53 13.8**	**+0.6**	
GYA					pPKP	sPKPdf	19 53 15.9	-0.2	
GYA					PKPab	**PKPab**	**19 53 31.1**	**+0.7**	
GYA					PP	**PP**	**19 57 03.9**	**+2.6**	
GYA					SKKS		20 03 48.9		
GYA					SS	**SS**	**20 16 30.8**	**-1.1**	
GYA					LR	LR			
	comp=Z,360nm,22.9s								
GYA					LR	LR			
	comp=Z,400nm,18.6s								
GYA					LR	LR			
	comp=Z,930nm,21.5s								
PSA00	**Pilbara Seismi**	**153.00**	**219**		PKPdf	**PKPdf**	**19 53 11.0**	**-2.8**	
KMI	**Kunming**	**154.27**	**359**		PKPbc	**PKPdf**	**19 53 15.3**	**-0.5**	
KMI					pPKP	pPKPdf	19 53 17.9	-0.1	
KMI					sPKP		19 53 19.3		
MDRS	**Chennai**	**154.37**	**57**		IAmb	IAmb	19 53 19.7		
	comp=Z,62nm,1.4s								
TNTI	**Ternate**	**154.66**	**273**		IAMs_20	IAMs_20	20 54 24.8		
	comp=Z,615nm,20.0s								
SOEI	**Soe**	**156.18**	**247**		PKP	**PKPdf**	**19 53 19.8**	**+1.3**	
SLVN	**Son La**	**157.98**	**355**		PKPdf	**PKPdf**	**19 53 19.8**	**-0.8**	
QIZ	**Qiongzhong**	**158.91**	**339**		PKP	**PKPdf**	**19 53 18.1**	**-3.6**	
QIZ					PP	**PP**	**19 57 36.0**	**-0.6**	
QIZ					SS	SS	20 17 43.1	+2.7	
QIZ					LR	LR			
	comp=Z,430nm,26.5s								
QIZ					LR	LR			
	comp=Z,640nm,22.6s								
QIZ					LR	LR			
	comp=Z,860nm,22.6s								
CHTO	**Chiang Mai**	**160.32**	**9**		PKP2	**PKPab**	**19 54 02.5**	**-1.0**	
CHTO							20 53 22.8		
CHTO	**Chiang Mai**	**160.32**	**9**		PKPdf	**PKPdf**	**19 53 22.8**	**-0.5**	
CHTO					PKPab	**PKPab**	**19 54 02.5**	**-1.0**	
CM31	**Chiang Mai Arr**	**160.67**	**9**		P	**PKPdf**	**19 53 24.4**	**+0.7**	
	SNR=9.3								
CM31	**Chiang Mai Arr**	**160.67**	**9**			**PKPdf**	**19 53 20.9**	**-2.8**	
CM31						**PKPab**	**19 54 04.5**	**-0.5**	
CMAR	**Chiang Mai Arr**	**160.67**	**9**		PKP	**PKPdf**	**19 53 24.0**	**+0.3**	
	comp=Z,4.7nm,1.0s,baz=293,slow=1.9,SNR=27								
CMAR					PKPab	**PKPab**	**19 54 04.7**	**-0.3**	
	comp=Z,13nm,0.9s,baz=328,slow=5.0,SNR=34								
CMAR					PP	**PP**	**19 57 43.9**	**-2.0**	
	comp=Z,1.1nm,0.9s,baz=351,slow=4.6,SNR=2.4								
CMAR	**Chiang Mai Arr**	**160.67**	**9**		PKP2	**PKPab**	**19 54 04.7**	**-0.3**	
CMAR							20 53 24.0		
DGPR	**DIGLIPUR**	**163.46**	**33**	*eP*		**PKPdf**	**19 53 23.5**	**-3.0**	
DGPR					IAmb	IAmb	19 53 29.8		
	comp=Z,31nm,1.1s								
UBPT	**Khong Chiam**	**163.72**	**348**			**PKPdf**	**19 53 26.8**	**+0.1**	
SBUM	**Sibu**	**169.37**	**287**			**PKPdf**	**19 53 30.9**	**-0.3**	
SBUM					PKPab	**PKPab**	**19 54 43.6**	**-0.2**	
KSM	**Kuching**	**171.47**	**285**		PKPdf	**PKPdf**	**19 53 31.5**	**-0.9**	
KSM					PKPab	**PKPab**	**19 54 53.1**	**-0.1**	
KULM	**Kulim**	**173.84**	**13**		PKPdf	**PKPdf**	**19 53 32.8**	**-0.6**	
KULM					PKPab	**PKPab**	**19 55 03.4**	**+0.2**	
IPM	**Ipoh**	**174.70**	**11**		PKPdf	**PKPdf**	**19 53 32.0**	**-1.8**	
PSI	**Prapat**	**175.28**	**42**		PKP2	**PKPab**	**19 55 07.7**	**-2.3**	
RPSI	**Rantau Prapat**	**175.35**	**43**			**PKPdf**	**19 53 31.6**	**-2.3**	
RPSI						**PKPab**	**19 55 07.7**	**-2.5**	
MDSI	**Maura Dua**	**175.73**	**210**		PKP	**PKPdf**	**19 53 36.6**	**+2.6**	
MNSI	**Mandailing Nat**	**177.07**	**58**		PKP	**PKPdf**	**19 53 35.1**	**+0.8**	

IDC 20 19:33:29.6±45.0, 15.93°S × 172.01°W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/44, mbtmp3.7/3, Error ellipse: s-maj=885.6km s-min=185.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.94**	**241**	P	P	19 41 45.6	-0.9
	0.9nm,0.5s,baz=67,slow=7.7,SNR=4.5						
WRA	**Warramunga Arr**	**51.03**	**257**	P	P	19 42 34.0	+0.1
	0.1nm,0.4s,baz=90,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**51.22**	**252**	P	P	19 42 35.5	+0.1
	1.1nm,0.5s,baz=90,slow=8.4,SNR=28						

*IGQ **20** 19:37:31.8±0.7, 1°N±5° × 7°8W±°, h8km, M4.6*
*RSNC **20** 19:37:33.7±1.3, 0.78N × 77.96W, h3km±5km, ML3.8, Mw3.8*
ISC 20 19:37:32.8±1.0, 0.75N±0.02 × 77.93W±0.02, h6km±9km, n57, σ0°76/66, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECEN	**Cerro Negro**	**0.09**	**328**	P	**Pg**	**19 37 33.9**	**-1.2**
TULM	**Tulcn-Chalpat**	**0.14**	**104**	P	**Pg**	**19 37 35.5**	**-0.4**
ATUL	**Tulcn**	**0.20**	**84**	P	**Pg**	**19 37 36.9**	**0.0**
ATUL				S	**Sg**	**19 37 40.5**	**+0.8**
CMBC	**Cumbal**	**0.21**	**28**	*eP*	**Pg**	**19 37 37.9**	**+0.7**
CMBC				*eS*	**Sg**	**19 37 41.9**	**+1.7**
YAHU	**Yahuarcocha**	**0.41**	**201**	P	**Pg**	**19 37 40.7**	**0.0**
URCU	**Urcuqui**	**0.45**	**227**	P	**Pg**	**19 37 42.1**	**+0.4**
IMBA	**Imbabura, San**	**0.54**	**210**	P	**Pb**	**19 37 44.4**	**-0.6**
COTA	**Cotacachi**	**0.58**	**225**	P	**Pg**	**19 37 44.5**	**+0.3**
CUIC	**Cuicocha-Domo**	**0.62**	**225**	P	**Pg**	**19 37 44.8**	**0.0**
CUSW	**Cuicocha Oeste**	**0.63**	**223**	P	**Pg**	**19 37 45.3**	**+0.3**
CUSE	**Cuicocha Este**	**0.65**	**227**	*eP*	**Pg**	**19 37 45.2**	**-0.2**
CUSE				*eS*	**Sb**	**19 37 55.4**	**-0.8**
CUSE	**Cuicocha Este**	**0.65**	**227**	P	**Pg**	**19 37 45.3**	**0.0**
CAYA	**Cayambe**	**0.68**	**185**	P	**Pg**	**19 37 46.1**	**+0.2**
ANGU	**Angureal**	**0.70**	**187**	P	**Pg**	**19 37 46.5**	**0.0**
OTAV	**Otavalo**	**0.73**	**226**	*eP*	**Pg**	**19 37 46.3**	**-0.6**
OTAV				*eS*	**Sb**	**19 37 57.9**	**-0.8**
CPAS1	**Pasto**	**0.74**	**54**	*eP*	**Pb**	**19 37 47.6**	**-0.8**
CPAS1	**Pasto**	**0.74**	**54**	*eS*	**Sb**	**19 37 57.6**	**-1.5**
CCUFI	**Cufio, Nario**	**0.75**	**51**	*eP*	**Pb**	**19 37 47.7**	**-0.8**
CCUFI				*eS*	**Sb**	**19 37 58.8**	**-0.4**
CCUFI				*i*		19 38 02.2	
	comp=Z,1μm,0.4s						
GCUF	**Volcan Galeras**	**0.75**	**51**	*eP*	**Pb**	**19 37 47.5**	**-1.0**
GCUF				*eS*	**Sb**	**19 37 58.5**	**-0.7**
CPAS2	**Pasto**	**0.82**	**55**	*eP*	**Pb**	**19 37 49.1**	**-0.6**
CPAS2	**Pasto**	**0.82**	**55**	*eS*	**Sb**	**19 38 00.1**	**-1.1**
CPAS2				*i*		19 38 06.5	
	comp=Z,3μm,0.6s						
CONE	**Cono NE Rev Vo**	**0.86**	**161**	P	**Pg**	**19 37 48.8**	**-0.6**
LAV4	**Lava4-Reventad**	**0.89**	**161**	P	**Pg**	**19 37 49.1**	**-0.8**
REVS	**Reventador Sur**	**0.90**	**160**	P	**Pg**	**19 37 49.5**	**-0.7**
PULU	**Pululahua**	**0.93**	**219**	P	**Pg**	**19 37 50.2**	**-0.4**
PAC1	**Pacto, Paraso**	**0.99**	**241**	*eP*	**Pg**	**19 37 50.9**	**-0.9**
PAC1				*eS*	**Sg**	**19 38 04.9**	**+0.2**
PAC1				*i*		19 38 06.1	
	comp=Z,6μm,0.2s						
PAC1	**Pacto, Paraso**	**0.99**	**241**	P	**Pg**	**19 37 51.2**	**-0.6**
GGPC	**Guagua Pichinc**	**1.14**	**216**	P	**Pg**	**19 37 54.2**	**-0.6**
ANTI	**Antisana**	**1.21**	**191**	P	**Pb**	**19 37 56.5**	**0.0**
CRUC	**La Cruz**	**1.27**	**50**	*eP*	**Pg**	**19 37 53.+0.1**	
CRUC				*eS*	**Sn**	**19 38 14.4**	**-0.6**
ANTG	**Antisana-Guama**	**1.29**	**195**	P	**Pn**	**19 37 57.2**	**-0.7**
ANTM	**Antisana-La Mi**	**1.31**	**193**	P	**Pn**	**19 37 57.8**	**-0.4**
PUAC	**Puerto Asis, P**	**1.37**	**98**	*eP*	**Pb**	**19 37 58.6**	**-0.3**
PUAC				*eS*	**Sg**	**19 38 17.5**	**+0.6**
PUAC				*i*		19 38 20.1	
	comp=Z,1μm,0.2s						
BV15	**Puerto Quito-O**	**1.42**	**246**	P	**Pb**	**19 37 59.5**	**-0.3**
BBAC	**Balboa, Cauca**	**1.43**	**28**	*eP*	**Pb**	**19 37 59.3**	**-0.8**
BBAC				*i*		19 38 29.6	
	comp=Z,530nm,0.8s						
BTAM	**Cotopaxi Volca**	**1.49**	**198**	P	**Pg**	**19 38 01.7**	**+0.2**
BREF	**Cotopaxi Volca**	**1.50**	**200**	P	**Pg**	**19 38 01.7**	**+0.1**
TAMB	**Tambo**	**1.50**	**197**	P	**Pg**	**19 38 01.9**	**+0.3**
**BNA

CMBC	**Cumbal**	**0.21**	**30**	*eP*	**Pg**	**19 46 03.2**	**-0.3**
CMBC				*eS*	**Sg**	**19 46 06.2**	**-0.6**
CMBC				*i*		19 46 07.3	
	comp=Z,10μm,0.8s						
YAHU	**Yahuarcocha**	**0.41**	**200**	P	**Pg**	**19 46 06.5**	**-0.7**
YAHU	**Yahuarcocha**	**0.41**	**200**	P	**Pg**	**19 46 06.3**	**-0.8**
URCU	**Urcuquí**	**0.45**	**226**	P	**Pb**	**19 46 08.1**	**-1.2**
URCU				S	**Sb**	**19 46 14.6**	**-1.7**
URCU	**Urcuquí**	**0.45**	**226**	P	**Pb**	**19 46 07.4**	**-1.9**
URCU				S	**Sb**	**19 46 14.1**	**-2.2**
IMBA	**Imbabura, San**	**0.55**	**209**	P	**Pb**	**19 46 10.2**	**-0.7**
IMBA				S	**Sn**	**19 46 21.3**	**-1.3**
IMBA	**Imbabura, San**	**0.55**	**209**	P	**Pb**	**19 46 10.2**	**-0.7**
COTA	**Cotacachi**	**0.58**	**224**	P	**Pb**	**19 46 10.2**	**-1.4**
COTA	**Cotacachi**	**0.58**	**224**	P	**Pb**	**19 46 10.1**	**-1.5**
CUIC	**Cuicocha-Domo**	**0.62**	**224**	P	**Pb**	**19 46 10.4**	**-1.8**
CUIC	**Cuicocha-Domo**	**0.62**	**224**	P	**Pb**	**19 46 10.4**	**-1.8**
CUIC				S	**Sb**	**19 46 19.7**	**-1.4**
CUSW	**Cuicocha Oeste**	**0.63**	**222**	P	**Pb**	**19 46 10.8**	**-1.5**
CUSW				*S*	**Sb**	**19 46 20.4**	**-0.9**
CUSE	**Cuicocha Este**	**0.65**	**226**	*eP*	**Pb**	**19 46 11.1**	**-1.6**
CUSE				*eS*	**Sb**	**19 46 21.4**	**-0.5**
CUSE	**Cuicocha Este**	**0.65**	**226**	P	**Pb**	**19 46 10.8**	**-1.8**
CAYA	**Cayambe**	**0.69**	**185**	P	**Pg**	**19 46 11.2**	**-1.1**
ANGU	**Angureal**	**0.71**	**186**	P	**Pb**	**19 46 12.2**	**-1.5**
ANGU	**Angureal**	**0.71**	**186**	P	**Pg**	**19 46 11.0**	**-1.8**
OTAV	**Otavalo**	**0.73**	**225**	*eP*	**Pg**	**19 46 12.0**	**-1.2**
OTAV				*eS*	**Sb**	**19 46 23.5**	**-0.9**
OTAV				*i*		19 46 25.2	
	comp=Z,618nm,0.4s						
OTAV	**Otavalo**	**0.73**	**225**		**Pg**	**19 46 11.9**	**-1.3**
CPAS1	**Pasto**	**0.74**	**55**	*eP*	**Pb**	**19 46 13.1**	**-1.2**
CPAS1	**Pasto**	**0.74**	**55**	*eS*	**Sb**	**19 46 23.5**	**-1.1**
CCUFI	**Cufio, Nario**	**0.75**	**52**	*eP*	**Pb**	**19 46 13.0**	**-1.4**
CCUFI				*eS*	**Sb**	**19 46 23.2**	**-1.6**
GCUF	**Volcan Galeras**	**0.75**	**52**	*eP*	**Pg**	**19 46 12.6**	**-0.9**
GCUF				*eS*	**Sb**	**19 46 23.5**	**-1.3**
GCUF				*i*		19 46 36.6	
	comp=Z,826nm,0.6s						
CPAS2	**Pasto**	**0.82**	**56**	*eP*	**Pb**	**19 46 14.7**	**-0.9**
CPAS2	**Pasto**	**0.82**	**56**	*eS*	**Sb**	**19 46 25.7**	**-1.1**
CONE	**Cono NE Rev Vo**	**0.87**	**161**	P	**Pg**	**19 46 14.3**	**-1.6**
LAV4	**Lava4-Reventad**	**0.90**	**160**	P	**Pg**	**19 46 14.6**	**-1.7**
REVS	**Reventador Sur**	**0.91**	**160**	P	**Pg**	**19 46 14.9**	**-1.7**
PAC1	**Pacto, Paraso**	**0.99**	**240**	*eP*	**Pb**	**19 46 16.5**	**-1.8**
PAC1				*eS*	**Sb**	**19 46 29.7**	**-1.7**
PAC1				*i*		19 46 32.0	
	comp=Z,8μm,0.3s						
PAC1	**Pacto, Paraso**	**0.99**	**240**	P	**Pb**	**19 46 16.7**	**-1.6**
GGPC	**Guagua Pichinc**	**1.14**	**216**	P	**Pg**	**19 46 19.6**	**-1.5**
ANTI	**Antisana**	**1.22**	**191**	P	**Pn**	**19 46 21.8**	**-0.8**
ANTI	**Antisana**	**1.22**	**191**	P	**Pn**	**19 46 21.5**	**-1.1**
CRUC	**La Cruz**	**1.27**	**51**	*eP*	**Pg**	**19 46 22.8**	**-0.5**
CRUC				*eS*	**Sn**	**19 46 39.0**	**-1.3**
CRUC				*i*		19 46 42.9	
	comp=Z,141nm,0.2s						
ANTG	**Antisana-Guama**	**1.29**	**194**	P	**Pg**	**19 46 22.7**	**-1.2**
ANTG	**Antisana-Guama**	**1.29**	**194**	P	**Pb**	**19 46 22.4**	**-1.3**
PUAC	**Puerto Asis, P**	**1.38**	**99**	*eP*	**Pb**	**19 46 23.8**	**-1.0**
PUAC				*eS*	**Sg**	**19 46 42.8**	**-0.6**
PUAC				*i*		19 46 45.5	
	comp=Z,1μm,0.3s						
BV15	**Puerto Quito-O**	**1.42**	**245**	P	**Pg**	**19 46 24.9**	**-1.3**
BBAC	**Balboa, Cauca**	**1.43**	**29**	*eP*	**Pg**	**19 46 24.6**	**-1.8**
BBAC				*i*		19 46 50.2	
	comp=Z,616nm,0.7s						
VC1	**Cotopaxi 1**	**1.47**	**199**	P	**Pg**	**19 46 26.5**	**-0.7**
BTAM	**Cotopaxi Volca**	**1.50**	**198**	P	**Pg**	**19 46 26.9**	**-0.9**
BREF	**Cotopaxi Volca**	**1.51**	**200**	P	**Pg**	**19 46 27.0**	**-0.9**
TAMB	**Tambo**	**1.51**	**197**	P	**Pg**	**19 46 27.2**	**-0.7**
BNAS	**Cotopaxi Volca**	**1.52**	**201**	P	**Pg**	**19 46 27.5**	**-0.7**
BMOR	**Cotopaxi Volca**	**1.57**	**200**	P	**Pg**	**19 46 27.4**	**-1.3**
VCES	**Cotopaxi**	**1.61**	**197**	P	**Pg**	**19 46 29.6**	**-0.4**
ILLI	**Illinizas Sur**	**1.67**	**209**	P	**Pb**	**19 46 29.0**	**-1.0**
ARDO	**Archidona, Ten**	**1.75**	**176**	P	**Pb**	**19 46 30.0**	**-1.2**
SOTA	**Rioblanco**	**1.90**	**44**	*eP*	**Pg**	**19 46 35.5**	**0.0**
POPC	**Popayan, Colom**	**2.17**	**35**	*eP*	**Pb**	**19 46 37.4**	**-1.1**
PCON	**Cinco Dias**	**2.19**	**45**	*eP*	**Pg**	**19 46 39.1**	**-1.9**
FLF1	**Flavio Alfaro-**	**2.21**	**240**	P	**Pg**	**19 46 39.3**	**-2.0**
FLFR	**Flavio Alfaro**	**2.21**	**240**	P	**Pg**	**19 46 39.1**	**-2.2**
BULB	**Ulba Tungurahu**	**2.23**	**192**	P	**Pg**	**19 46 40.3**	**-1.5**
PUYO	**Puyo, Santa Ro**	**2.24**	**182**	P	**Pg**	**19 46 40.0**	**-1.8**
RETU	**Refugio**	**2.25**	**193**	P	**Pg**	**19 46 40.9**	**-1.3**
BPAT	**Tungurahua Vol**	**2.30**	**193**	P	**Pb**	**19 46 38.7**	**-2.2**
BMAS	**Trigal station**	**2.31**	**194**	P	**Pb**	**19 46 40.7**	**-0.3**
PKYU	**Pakayacu**	**2.41**	**172**	P	**Pb**	**19 46 41.7**	**-0.9**
FLOC	**Florencia**	**2.42**	**70**	*eP*	**Pb**	**19 46 41.9**	**-0.7**
FLOC				*eS*	**Sb**	**19 47 13.2**	**+0.6**
FLOC				*i*		19 47 19.3	
	comp=Z,317nm,0.6s						
CABP	**Cabo Pasado**	**2.74**	**246**	P	**Pb**	**19 46 45.9**	**-2.2**
GARC	**Garzon, Huila**	**2.82**	**60**	*eP*	**Pb**	**19 46 49.8**	**+0.3**
GARC				*eS*	**Sg**	**19 47 26.2**	**-3.4**
GARC				*i*		19 47 30.2	
	comp=Z,523nm,0.2s						
MARP	**Paez Belalcaza**	**2.86**	**44**	*eP*	**Pg**	**19 46 51.2**	**-2.6**
BETC	**Betania**	**3.14**	**52**	*eP*	**Pg**	**19 46 56.9**	**-2.2**
PTLC	**Puerto Leguiza**	**3.19**	**101**	*eP*	**Pb**	**19 46 52.9**	**-2.9**
MALC	**Bahia Malaga**	**3.29**	**10**	*eP*	**Pb**	**19 46 55.1**	**-2.3**
YOTC	**Yotoco, Valle**	**3.57**	**26**	*eP*	**Pb**	**19 47 00.9**	**-1.4**
PPLP	**Puerto Lpez**	**3.65**	**231**	P	**Pn**	**19 46 57.7**	**+2.2**
ORTC	**Ortega, Tolima**	**4.12**	**41**	*eP*	**Pb**	**19 47 08.2**	**-3.4**
MORR	**Playas El Morr**	**4.14**	**215**	P	**Pb**	**19 47 10.2**	**-1.8**
PRAC	**Prado**	**4.23**	**46**	*eP*	**Pb**	**19 47 13.3**	**-0.2**
ANIL	**Santa Ana**	**4.49**	**34**	*eP*	**Pb**	**19 47 14.2**	**-3.8**
TOLC	**Tolima**	**4.61**	**34**	*eP*	**Pb**	19 47 13.7	-6.4
RREF	**El Recreo**	**4.86**	**32**	*eP*	**Pn**	19 47 16.9	+4.2
GUY2C	**Guyana, Caldas**	**5.12**	**30**	*eP*	**Pb**	19 47 21.8	-7.2
GUY2C				*i*		19 47 29.5	
	comp=Z,18nm,0.6s						
CBOC	**Ciudad Bolivar**	**5.42**	**21**	*eP*	**Pn**	19 47 23.9	+3.8
CBOC				*i*		19 47 37.3	
	comp=Z,21nm,0.7s						
ROSC	**El Rosal**	**5.43**	**42**	Pn	**Pb**	19 47 26.4	-7.7
	comp=Z,3.1nm,0.3s,baz=240,slow=20,SNR=6.7						
ROSC	**El Rosal**	**5.43**	**42**		**Pb**	19 47 26.1	-8.0
CHIC	**Chingaza**	**5.69**	**47**	*eP*	**Pb**	19 47 30.4	-8.2
CHIC				*i*		19 47 39.7	
	comp=Z,36nm,0.6s						
SPBC	**San Pablo de B**	**6.20**	**38**	*eP*	Pn	19 47 35.5	+4.8
PTBC	**PUERTO BERRIO,**	**6.71**	**31**	*eP*	Pn	19 47 41.4	+3.8
ATAH	**Atahualpa**	**7.86**	**183**	Pn	**Pn**	**19 47 56.6**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=29,slow=11,SNR=5.5						
SDV	**Santo Domingo**	**10.86**	**42**	Pn	Pn	19 48 40.6	+5.8
	comp=Z,0.6nm,0.3s,baz=23,slow=15,SNR=2.7						
MTO3	**Montecristo**	**17.65**	**321**	P	**P**	**19 50 10.3**	**+4.1**
PB16	**IPOC Station P**	**20.70**	**157**	P	Pn	19 50 42.5	0.0
PB16				IAmb	IAmb	19 50 47.3	
	comp=Z,9.4nm,0.9s						
MNMC	**Minye Minye**	**21.39**	**158**	P	**P**	**19 50 49.8**	**+2.5**
MNMC				IAmb	IAmb	19 50 59.5	
	comp=Z,22nm,1.0s						
TXAR	**Lajitas Array**	**37.54**	**322**	P	**P**	**19 53 16.1**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=135,slow=9.0,SNR=3.6						
TXAR	**Lajitas Array**	**37.54**	**322**	P	**P**	**19 53 16.2**	**+2.7**
M54A	**Oil Creek Stat**	**40.59**	**358**	P	P	19 53 43.8	+4.9
ANMO	**Albuquerque**	**43.18**	**325**	P	P	19 54 03.8	+3.5
	comp=Z,0.1nm,0.7s,baz=143,slow=8.0,SNR=4.0						
ANMO	**Albuquerque**	**43.18**	**325**	P	P	19 54 03.6	+3.2
ANMO				IAmb	IAmb	19 54 06.6	
	comp=Z,1.9nm,0.6s						
NVAR	**Mina Array Bea**	**52.67**	**320**	P	P	19 55 18.2	+4.3
	comp=Z,0.7nm,0.7s,baz=123,slow=9.8,SNR=4.4						
ILAR	**Eielson Array**	**80.46**	**336**	P	P	19 58 16.2	+5.4
	comp=Z,0.5nm,0.3s,baz=137,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**141.64**	**231**	PKP	**PKiKP**	**20 05 35.6**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=125,slow=2.6,SNR=1.8						

IDC ***20*** *19:48:31.2±1.2, 6.01S×150.14E, h59km±12km, mb4.0/9, mb1 4.2/11, mb1mx3.8/39, mbtmp4.3/11, MS3.0/1, Ms1 3.0/1, ms1mx2.7/34, Error ellipse: s-maj=21.4km s-min=8.5km az=133.0*

NEIC ***20*** *19:48:32.2±1.3, 6.05S±0.1×150.1E±0.1, h70km±5km, mb4.6/17, Error ellipse: s-maj=19.5km s-min=10.5km az=127.0*

ISC 20 19:48:30.7±0.6, 6.02S±0.08×150.13E±0.09, h52km, n35, σ0.98/37, mb4.5/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.54**	**48**	P	**Pn**	**19 49 11.3**	**+1.9**
	41nm,0.3s,baz=228,slow=0.8,SNR=48						
KRVT				S	**Sn**	**19 49 39.7**	**+0.4**
	23nm,0.3s,baz=110,slow=20,SNR=5.1						
RABL	**Rabaul**	**2.72**	**48**		**Pn**	**19 49 13.6**	**+1.6**
PMG	**Port Moresby**	**4.47**	**221**	P	**Pn**	**19 49 38.1**	**+2.1**
	10nm,0.3s,baz=25,slow=8.0,SNR=32						
PMG				S	**Sn**	**19 50 27.5**	**+0.8**
	22nm,0.3s,baz=190,slow=23,SNR=17						
PMG	**Port Moresby**	**4.47**	**221**		**Pn**	**19 49 37.7**	**+1.8**
HNR	**Honiara**	**10.31**	**110**	LR	LR	19 53 59.7	
	comp=Z,96nm,21.5s,baz=260,slow=32						
COEN	**Coen**	**10.45**	**220**	Pn	**Pn**	**19 50 58.8**	**+0.9**
EIDS	**Eidsvold**	**19.27**	**177**	P	**P**	**19 52 51.0**	**0.0**
EIDS				IAmb	IAmb	19 52 53.7	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**19.92**	**249**	P	**P**	**19 52 57.8**	**-0.5**
MTN				IAmb	IAmb	19 53 22.0	
	comp=Z,48nm,1.1s						
WB2	**Warramunga Arr**	**20.66**	**226**	P	**P**	**19 53 06.3**	**+0.1**
WB2				IAmb	IAmb	19 53 07.2	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**20.67**	**226**	P	**P**	**19 53 06.7**	**+0.3**
	comp=Z,5.6nm,0.4s,baz=51,slow=10,SNR=22						
WRA				ScP	**ScP**	**20 00 46.2**	**-1.4**
	comp=Z,0.5nm,1.0s,baz=50,slow=2.6,SNR=7.6						
WRA	**Warramunga Arr**	**20.67**	**226**	P	**P**	**19 53 06.5**	**+0.1**
DZM	**Mont Dzumac**	**22.44**	**137**	P	**P**	**19 53 25.9**	**+0.4**
	comp=Z,17nm,0.6s,baz=273,slow=5.0,SNR=19						
DZM	**Mont Dzumac**	**22.44**	**137**	P	**P**	**19 53 25.6**	**+0.1**
DZM				IAmb	IAmb	19 53 27.3	
	comp=Z,18nm,0.7s						
KNRA	**Kununurra**	**23.05**	**244**	P	**P**	**19 53 33.4**	**+1.6**
AS31	**Alice Springs**	**23.49**	**220**	P	**P**	**19 53 36.5**	**+0.5**
ASAR	**Alice Springs**	**23.49**	**220**	P	**P**	**19 53 36.6**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=56,slow=8.8,SNR=32						
ARMA	**Armidale**	**24.32**	**177**	P	**P**	**19 53 43.4**	**-0.2**
ARMA				IAmb	IAmb	19 54 04.3	
	comp=Z,23nm,1.4s						
BATI	**Baumata**	**26.52**	**259**	P	**P**	**19 54 04.0**	**+0.3**
	comp=Z,12nm,0.7s,baz=114,slow=5.2,SNR=3.8						
FITZ	**Fitzroy Crossi**	**26.74**	**241**	P	**P**	**19 54 05.3**	**-0.4**
	comp=Z,8.1nm,0.9s,baz=50,slow=8.1,SNR=15						
FITZ	**Fitzroy Crossi**	**26.74**	**241**	P	**P**	**19 54 05.2**	**-0.4**
FITZ				IAmb	IAmb	19 54 22.0	
	comp=Z,28nm,1.2s						
STKA	**Stephens Creek**	**26.94**	**196**	P	**P**	**19 54 06.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=9.8,slow=9.7,SNR=9.2						
STKA	**Stephens Creek**	**26.94**	**196**	P	**P**	**19 54 06.6**	**-0.6**
FORT	**Forrest**	**32.19**	**217**	P	**P**	**19 54 53.1**	**-0.7**
MJAR	**Matsushiro Arr**	**43.78**	**346**	P	**P**	**19 56 30.7**	**-0.7**
JTM	**Tenmabayashi**	**47.31**	**351**	P	**P**	**19 56 59.7**	**+0.6**
SONM	**Songino Array**	**65.97**	**329**	P	**P**	**19 59 12.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=157,slow=5.0,SNR=4.4						
SONM	**Songino Array**	**65.97**	**329**	P	**P**	**19 59 12.3**	**+0.6**
CASY	**Casey**	**66.09**	**196**	P	**P**	**19 59 10.9**	**-1.1**
CASY				IAmb	IAmb	19 59 39.3	
	comp=Z,12nm,1.4s						
VNDA	**Vanda**	**71.73**	**177**	P	**P**	**19 59 47.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=325,slow=5.1,SNR=5.2						
VNDA	**Vanda**	**71.73**	**177**	P	**P**	**19 59 47.5**	**+0.6**
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**20 00 31.7**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=102,slow=7.4,SNR=2.8						
QSPA	**South Pole Qui**	**83.95**	**180**	P	**P**	**20 00 54.9**	**-0.2**
QSPA				IAmb	IAmb	20 00 55.9	
	comp=Z,10nm,1.2s						
TORD	**Torodi Ar. Bea**	**148.10**	**285**	PKPbc	**PKPbc**	**20 08 10.2**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=57,slow=2.3,SNR=11						
TORD	**Torodi Ar. Bea**	**148.10**	**285**		**PKPbc**	**20 08 10.1**	**-1.7**
BDFB	**Brasilia**	**151.97**	**140**	PKPbc	**PKPbc**	**20 08 19.9**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=180,slow=3.0,SNR=1.8						

IDC ***20*** *20:09:21.7±0.7, 6.40S×131.13E, h0km, mb4.0/10, mb1 4.3/13, mb1mx4.1/26, mbtmp4.2/13, ML4.6/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/30, Error ellipse: s-maj=32.1km s-min=14.1km az=74.0*

NEIC ***20*** *20:09:27.7±2.1, 6.25S±0.05×131.38E±0.06, h45km±6km, mb4.4/22, Error ellipse: s-maj=10.4km s-min=2.8km az=126.0*

DJA ***20*** *20:09:27.3±0.2, 6.5S±2.1×13.2E±°, h116km±7km, M4.7/12, mb4.6/9, mB5.2/6, MLv4.8/12, Mw(mB)4.5/6, Mwp5.7/1*

ISC 20 20:09:26.3±0.4, 6.29S±0.04×131.46E±0.06, h42km, n85, σ2.51/87, mb4.1/19, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.69**	**185**	P	**Pn**	**20 09 56.6**	**+3.2**
SAUI				S	**Sn**	**20 10 20.0**	**+6.2**
SAUI	**Saumlaki**	**1.69**	**185**	Pn	**Pn**	**20 09 56.6**	**+3.2**
SAUI				Sn	**Sn**	**20 10 15.6**	**+1.8**
BNDI	**Bandanaira**	**2.34**	**319**	P	**Pn**	**20 10 05.1**	**+2.7**
KMPI	**Kaimana, Papua**	**3.44**	**41**	P	**Pn**	**20 10 19.3**	**+1.8**
KMPI				S	**Sn**	**20 10 57.9**	**+0.9**
FAKI	**Fak Fak**	**3.44**	**13**	P	**Pn**	**20 10 18.8**	**+1.3**
FAKI	**Fak Fak**	**3.44**	**13**	Pn	**Pn**	**20 10 18.8**	**+1.3**
MSAI	**Masohi**	**3.86**	**319**	P	**Pn**	**20 10 26.1**	**+2.8**
NLAI	**Namlea**	**5.30**	**305**	P	**Pn**	**20 10 47.3**	**+4.3**
	30nm3μm161nm,1.1s						
SIJI	**Sorong**	**5.39**	**358**	Pn	**Pn**	**20 10 44.0**	**-0.3**
	32nm,0.3s,baz=210,slow=12,SNR=88						
SIJI				Sn	**Sn**	**20 11 40.4**	**-4.8**
	20nm,0.3s,baz=328,slow=23,SNR=13						
KDU	**Kakadu**	**6.43**	**171**	P	**Pn**	**20 10 58.6**	**0.0**
	baz=6.4,SNR=37						
KDU				S	**Sn**	**20 12 07.1**	**-3.7**
	baz=6.4						
MTN	**Manton Dam**	**6.52**	**183**	P	**Pn**	**20 11 00.5**	**+0.7**
	baz=6.5,SNR=261						
MTN				S	**Sn**	**20 12 09.8**	**-3.1**
	baz=6.5						
MTN	**Manton Dam**	**6.52**	**183**	Pn	**Pn**	**20 11 00.6**	**+0.8**
WAMI	**Wamena**	**7.61**	**72**	P	**Pn**	**20 11 17.3**	**+2.6**
	0.7nm2μm108nm,0.8s						
SOEI	**Soe**	**7.91**	**244**	P	**Pn**	**20 11 20.8**	**+1.8**
	0.5nm43nm,0.8s						
SOEI	**Soe**	**7.91**	**244**	Pn	**Pn**	**20 11 20.6**	**+1.6**
BATI	**Baumata**	**8.64**	**243**	Pn	**Pn**	**20 11 30.1**	**+1.2**
	15nm,0.3s,baz=103,slow=6.2,SNR=15						
BATI				Sn	**Sn**	**20 12 59.8**	**-5.3**
	7.7nm,0.3s,baz=139,slow=9.3,SNR=2.3						
BATI	**Baumata**	**8.64**	**243**	P	**Pn**	**20 11 30.5**	**+1.6**
	26nm,0.5s						
KNRA	**Kununurra**	**9.70**	**196**	P	**Pn**	**20 11 43.6**	**+0.2**
	baz=9.7,SNR=213						
KNRA				S	**Sn**	**20 13 24.5**	**-6.5**
	baz=9.7						
KNRA	**Kununurra**	**9.70**	**196**	Pn	**Pn**	**20 11 43.3**	**0.0**
PCI	**Palu**	**12.77**	**294**	P	P	20 12 53.3	+18
FITZ	**Fitzroy Crossi**	**13.04**	**205**	Pn	**Pn**	**20 12 25.4**	**-3.6**
	2.6nm,0.3s,baz=30,slow=12,SNR=84						
FITZ				Sn	Sn	20 14 39.6	-13
	5.1nm,0.3s,baz=145,slow=16,SNR=11						
FITZ	**Fitzroy Crossi**	**13.04**	**205**	Pn	**Pn**	**20 12 26.2**	**-2.9**
WB0	**Warramunga Arr**	**13.70**	**168**	Pn	**Pn**	**20 12 34.5**	**-3.6**
COEN	**Coen**	**13.82**	**124**	P	**Pn**	**20 12 38.5**	**-1.2**
	baz=14,SNR=11						
WRAB	**Tennant Creek**	**13.85**	**169**	P	Pn	20 12 34.0	-6.1
WRA	**Warramunga Arr**	**13.86**	**169**	Pn	**Pn**	**20 12 36.3**	**-4.0**
	1.7nm,0.3s,baz=342,slow=13,SNR=114						
WRA				Sn	Sn	20 15 02.6	-10
	4.3nm,0.3s,baz=345,slow=24,SNR=9.2						
WRA	**Warramunga Arr**	**13.86**	**169**		Pn	20 12 35.1	-5.1
WB2	**Warramunga Arr**	**13.86**	**169**	Pn	**Pn**	**20 12 36.4**	**-3.9**
WR0	**Warramunga Arr**	**13.91**	**168**	Pn	**Pn**	**20 12 36.9**	**-4.2**
QIS	**Mount Isa**	**16.23**	**152**	P	**Pn**	**20 13 09.7**	**-1.9**
	baz=16,SNR=14						
BBKI	**Banjar Baru**	**16.79**	**279**	P	**P**	**20 13 24.7**	**+4.3**
MTSU	**Mount Surprise**	**17.20**	**134**	P	**Pn**	**20 13 24.0**	**+0.3**
	baz=17,SNR=17						
AS31	**Alice Springs**	**17.43**	**172**		**Pn**	**20 13 23.2**	**-3.3**
ASAR	**Alice Springs**	**17.43**	**172**	P	**Pn**	**20 13 24.1**	**-2.5**
	1.6nm,0.3s,baz=355,slow=9.3,SNR=88						
ASAR				S	**Sn**	**20 16 29.7**	**-10**
	0.9nm,0.3s,baz=358,slow=27,SNR=7.0						
ASAR	**Alice Springs**	**17.43**	**172**	Pn	**Pn**	**20 13 25.1**	**-1.4**
WRKA	**Warakurna**	**18.89**	**189**	P	**P**	**20 13 42.2**	**-1.2**
	baz=19,SNR=80						
PSA00	**Pilbara Seismi**	**18.89**	**215**	P	**P**	**20 13 43.7**	**+0.2**
PSA00	**Pilbara Seismi**	**18.89**	**215**	P	**Pn**	**20 13 44.5**	**+0.1**
PSA00				IAmb	IAmb	20 13 45.1	
	comp=Z,15nm,0.8s						
KKM	**Kota Kinabalu**	**19.54**	**309**	P	**P**	**20 13 51.3**	**+0.6**
KKM				IAmb	IAmb	20 14 04.8	
	comp=Z,22nm,0.9s						
CTA	**Charters Tower**	**19.86**	**135**	P	**Pn**	**20 13 56.9**	**+0.9**
	comp=Z,4.9nm,0.5s,baz=312,slow=10,SNR=5.7						
KRVT	**Keravat (AS076**	**20.57**	**86**	LR	LR	20 22 07.4	
	comp=Z,95nm,20.8s,baz=312,slow=37						
SBUM	**Sibu**	**21.08**	**294**	P	**P**	**20 14 09.1**	**+1.8**
CISI	**Cisompet, Garu**	**23.50**	**266**	P	**P**	**20 14 32.2**	**-0.6**
MEEK	**Meekatharra**	**23.65**	**210**	P	**P**	**20 14 34.3**	**+0.3**
	baz=24,SNR=5.7						
LEM	**Lembang**	**23.69**	**267**	LR	LR	20 25 03.1	
	comp=Z,219nm,18.6s,baz=339,slow=40						
FORT	**Forrest**	**24.57**	**187**	P	**P**	**20 14 43.3**	**+0.9**
FORT				IAmb	IAmb	20 14 45.2	
	comp=Z,31nm,0.8s						
KMBL	**Kambalda**	**26.51**	**199**	P	**P**	**20 15 00.6**	**+0.6**
	baz=27,SNR=4.5						
BBOO	**Buckleboo**	**26.73**	**171**	P	**P**	**20 15 02.7**	**+0.7**
	baz=27,SNR=7.0						
MORW	**Morawa**	**26.93**	**211**	P	**P**	**20 15 07.7**	**+3.8**
	baz=27,SNR=3.1						
STKA	**Stephens Creek**	**27.16**	**161**	P	**P**	**20 15 06.9**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=342,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**27.16**	**161**	P	**P**	**20 15 07.1**	**+1.2**
	baz=27,SNR=10						
STKA	**Stephens Creek**	**27.16**	**161**	IAmb	IAmb	20 15 11.6	
	comp=Z,1.8nm,1.4s						
KLBR	**Kellerberrin**	**28.25**	**205**	P	**P**	**20 15 16.4**	**+0.8**
	baz=28,SNR=4.8						
NWAO	**Narrogin (SRO)**	**29.62**	**205**	P	**P**	**20 15 25.8**	**-2.1**
	comp=Z,6.2nm,1.0s,baz=95,slow=6.6,SNR=1.8						
NWAO	**Narrogin (SRO)**	**29.62**	**205**	IAmb	IAmb	20 15 45.4	
	comp=Z,27nm,1.4s						
CMAR	**Chiang Mai Arr**	**40.41**	**308**	P	**P**	**20 17 01.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=135,slow=7.1,SNR=24						
CMAR	**Chiang Mai Arr**	**40.41**	**308**	P	**P**	**20 16 59.9**	**-1.0**
CHTO	**Chiang Mai**	**40.62**	**309**	P	**P**	**20 17 01.5**	**-1.0**
CHTO				IAmb	IAmb	20 17 03.5	
	comp=Z,2.7nm,0.7s						
MJAR	**Matsushiro Arr**	**43.08**	**8**	P	**P**	**20 17 25.2**	**+2.9**
	comp=Z,1.3nm,0.7s,baz=173,slow=9.7,SNR=2.5						
SHL	**Shillong**	**49.81**	**311**	P	**P**	**20 18 14.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**50.35**	**340**	*eP*	**P**	**20 18 21.1**	**+1.8**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,5.7s						
TUWZ	**Tuamarina**	**51.46**	**140**	P	**P**	**20 18 28.5**	**+0.9**
GTA	**Gaotai**	**54.07**	**330**	*eP*	P	20 18 52.8	+5.8
GTA				pP	pwP	20 19 06.0	+0.

OTAV eS Sg 20 29 17.6 -1.0
OTAV i 20 29 19.1
comp=Z,2µm,0.7s
OTAV Otavalo 0.71 228 P Pg 20 29 06.4 -2.9
OTAV Otavalo 0.71 228 eP Pg 20 29 06.7 -2.5
CPAS1 Pasto 0.76 52 eP Pg 20 29 07.7 -2.6
CPAS1 Pasto 0.76 52 eS Sg 20 29 18.4 -2.0
CCUFI Cufio, Nario 0.77 49 eP Pg 20 29 07.8 -2.6
CCUFI eS Sg 20 29 18.0 -2.5
GCUF Volcan Galeras 0.77 49 iP Pg 20 29 07.4 -3.0
GCUF eS Sg 20 29 18.6 -2.0
GCUF i 20 29 20.8
comp=Z,1µm,0.3s
CONE Cono NE Rev Vo 0.83 160 P Pg 20 29 08.9 -2.7
CPAS2 Pasto 0.84 53 eP Pg 20 29 09.7 -2.0
CPAS2 Pasto 0.84 53 eS Sg 20 29 20.9 -1.8
LAV4 Lava4-Reventad 0.86 160 P Pg 20 29 09.3 -2.8
REVS Reventador Sur 0.87 159 P Pg 20 29 09.6 -2.7
REVS S Sg 20 29 21.9 -1.8
PAC1 Pacto, Paraso 0.97 243 eP Pg 20 29 11.1 -3.1
PAC1 eS Sg 20 29 24.5 -2.5
PAC1 i 20 29 26.9
comp=Z,4µm,0.3s
GGPC Guagua Pichinc 1.11 217 P Pg 20 29 14.2 -2.8
ANTI Antisana 1.18 191 P Pg 20 29 16.0 -2.3
ANTG Antisana-Guama 1.26 195 P Pn 20 29 17.0 -2.6
ANTM Antisana-La Mi 1.28 193 P Pn 20 29 17.3 -2.6
CRUC La Cruz 1.29 49 eP Pn 20 29 17.4 -2.5
CRUC eS Sb 20 29 34.4 -2.4
CRUC i 20 29 40.4
comp=Z,186nm,0.3s
PUAC Puerto Asis, P 1.37 97 iP Pn 20 29 18.4 -2.2
PUAC eS Sb 20 29 37.4 -1.3
PUAC i 20 29 40.3
comp=Z,782nm,0.4s
BV15 Puerto Quito-O 1.41 247 P Pn 20 29 19.6 -1.6
BV15 S Sn 20 29 39.2 -0.7
VC1 Cotopaxi 1 1.43 199 P Pn 20 29 20.8 -1.2
BTAM Cotopaxi Volca 1.46 199 P Pn 20 29 21.2 -1.2
BBAC Balboa, Cauca 1.46 28 eP Pn 20 29 19.2 -2.9
BBAC eS Sn 20 29 38.8 -2.6
TAMB Tambo 1.47 198 P Pn 20 29 21.6 -0.9
BREF Cotopaxi Volca 1.47 200 P Pn 20 29 21.4 -1.2
BNAS Cotopaxi Volca 1.49 202 P Pn 20 29 22.1 -0.6
BMOR Cotopaxi Volca 1.53 200 P Pn 20 29 22.2 -1.2
VCES Cotopaxi 1.58 197 P Pn 20 29 23.7 -0.3
ILLI Illinizas Sur 1.63 209 P Pn 20 29 23.5 -1.2
ARDO Archidona, Ten 1.71 176 P Pn 20 29 24.5 -0.9
PIS1 Pisayambo 1.82 195 P Pn 20 29 27.8 +0.4
SOTA Rioblanco 1.93 43 eP Pn 20 29 28.8 0.0
SAGO Sagoatoa 2.00 202 P Pn 20 29 30.4 +0.6
BULB Ulba Tungurahu 2.19 193 P Pb 20 29 34.0 -1.5
FLF1 Flavio Alfaro- 2.19 241 P Pn 20 29 32.2 +0.1
FLFR Flavio Alfaro 2.19 241 P Pn 20 29 33.1 +1.1
POPC Popayan, Colom 2.20 35 eP Pn 20 29 31.7 -0.6
PCON Cinco Dias 2.21 44 eP Pn 20 29 33.4 +0.6
RETU Refugio 2.22 194 P Pb 20 29 36.4 +0.4
BPAT Tungurahua Vol 2.26 193 P Pb 20 29 32.7 -0.7
BMAS Trigal station 2.27 194 P Pb 20 29 35.4 -1.4
PKYU Pakayacu 2.37 172 P Pb 20 29 36.4 -2.0
FLOC Florencia 2.43 69 eP Pn 20 29 35.6 +0.3
CAB1 Cabo Pasado-Ma 2.73 246 P Pn 20 29 41.1 +1.7
CABP Cabo Pasado 2.73 246 P Pn 20 29 41.2 +1.8
GARC Garzon, Huila 2.84 59 eP Pb 20 29 44.2 -2.2
GARC eS Sb 20 30 23.2 +1.9
GARC i 20 30 24.6
comp=Z,474nm,0.6s
MARP Paez Belalcaza 2.89 43 eP Pb 20 29 45.2 -2.0
BETC Betania 3.16 52 eP Pb 20 29 51.3 -0.5
PTLC Puerto Leguiza 3.17 100 eP Pn 20 29 47.1 +1.6
PTLC eS Sb 20 30 30.6 -0.2
PTLC i 20 30 50.8
comp=Z,201nm,0.4s
MALC Bahia Malaga 3.33 10 eP Pn 20 29 49.8 +2.2
YOTC Yotoco, Valle 3.61 26 eP Pn 20 29 54.3 +2.7
ORTC Ortega, Tolima 4.15 40 eP Pn 20 30 00.8 +1.9
PRAC Prado 4.25 46 eP Pn 20 30 03.8 +3.4
MACC Macarena, Meta 4.32 71 eP Pn 20 30 04.2 +3.0
ANIL Santa Ana 4.52 34 eP Pn 20 30 07.1 +2.8
TOLC Tolima 4.64 34 eP Pn 20 30 09.6 +3.7
RREF El Recreo 4.89 32 eP Pn 20 30 10.2 +0.6
GUY2C Guyana, Caldas 5.16 30 eP Pn 20 30 16.0 +2.9
VILC Villavicencio, 5.41 51 eP Pn 20 30 20.9 +4.5
ROSC El Rosal 5.45 41 Pn Pn 20 30 21.5 +4.3
comp=Z,8.6nm,0.3s,baz=199,slow=3.6,SNR=21
ROSC El Rosal 5.45 41 eP Pn 20 30 23.5 +6.3
ROSC El Rosal 5.45 41 Pn Pn 20 30 18.5 +1.3
CBOC Ciudad Bolivar 5.46 20 eP Pn 20 30 17.7 +1.6
CHIC Chingaza 5.71 47 eP Pn 20 30 24.8 +4.0
HELC Santa Helena 5.94 24 eP Pn 20 30 26.2 +2.3
SPBC San Pablo de B 6.23 38 eP Pn 20 30 30.8 +3.2
PTBC PUERTO BERRIO, 6.74 31 eP Pn 20 30 36.1 +1.5
RUSC La Rusia 7.06 43 eP Pn 20 30 44.0 +4.7
UREC San Jos de Ur 7.38 19 eP Pn 20 30 49.0 +5.5
ATAH Atahualpa 7.81 183 Pn Pn 20 30 53.0 +3.3
comp=Z,1.4nm,0.3s,baz=6.3,slow=7.4,SNR=12
ATAH Sn Sb 20 32 38.0 -6.8
comp=Z,0.5nm,0.3s,baz=196,slow=18,SNR=1.3
CZSB Cruzeiro do Su 9.88 148 eP Pn 20 31 18.0 +0.4
SDV Santo Domingo 10.89 42 Pn Pn 20 31 33.4 +1.7
comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=12
SDV Santo Domingo 10.89 42 Pn Pn 20 31 32.4 +0.7
SDV Santo Domingo 10.89 42 eP Pn 20 31 33.8 +2.2
JTS Las Juntas de 11.80 324 LR LR 20 35 31.3
comp=Z,423nm,18.6s,baz=208,slow=33
MATN Matagalpa 14.49 327 Pn Pn 20 32 21.8 +0.9
ETMB Extrema 15.67 132 eP Pn 20 32 33.8 -2.7
TGUH Tegucigalpa,Un 16.16 326 Pn Pn 20 32 42.6 -0.3
TGUH lAmb lAmb 20 32 55.1
comp=Z,64nm,1.4s
SAML Samuel 17.55 123 Pn Pn 20 32 58.0 -2.4
SAML Samuel 17.55 123 eP P 20 33 00.9 -0.5
MACA Manacapuru-AM 17.66 103 eP P 20 33 03.8 +1.1
MTO3 Montecristo 17.68 321 P P 20 33 03.7 +0.5
PTGA Pitinga 18.02 95 P Pn 20 33 05.6 -0.6
comp=Z,0.5nm,0.3s,baz=287,slow=19,SNR=2.8
PTGA LR LR 20 39 31.0
comp=Z,525nm,20.8s,baz=254,slow=36
PTGA Pitinga 18.02 95 P Pn 20 33 05.2 -1.0
APG El Apazote 18.84 319 P Pn 20 33 18.2 +1.8
comp=Z,0.3nm,0.3s,baz=126,slow=8.1,SNR=5.9
APG LR LR 20 38 42.2
comp=Z,166nm,21.6s,baz=90,slow=31
BANI BANI 19.07 23 P Pn 20 33 19.4 +0.3
SDDR Presa de Saban 19.28 19 Pn Pn 20 33 23.4 +1.8
SDDR lAmb lAmb 20 33 31.0
comp=Z,27nm,1.1s
LPAZ La Paz 19.47 151 P Pn 20 33 26.9 +2.5
comp=Z,0.1nm,0.3s,baz=319,slow=9.3,SNR=9.9
LPAZ La Paz 19.47 151 P 20 33 20.1 -3.1
LPAZ La Paz 19.47 151 eP P 20 33 22.7 -0.6
SC01 Santiago de lo 19.89 20 P Pn 20 33 28.7 -0.1
PB16 IPOC Station P 20.66 157 P P 20 33 35.2 -1.0
PB16 lAmb lAmb 20 33 43.6
comp=Z,15nm,0.8s
PDPR Patillas Dam, 20.80 34 P Pn 20 33 39.8 +0.4
PDPR lAmb lAmb 20 33 45.7
comp=Z,15nm,0.9s
SJG San Juan 20.80 33 P Pn 20 33 38.3 -1.2
comp=Z,10nm,0.3s,baz=340,slow=2.2,SNR=5.2
SJG San Juan 20.80 33 P Pn 20 33 38.4 -1.1
SJG lAmb lAmb 20 33 42.7
comp=Z,19nm,1.1s
GCPR Guaynabo City 21.00 33 P Pn 20 33 42.9 +1.0
CBYP Canovanas 21.09 34 P P 20 33 41.7 +1.4
CBYP lAmb lAmb 20 33 48.3
comp=Z,22nm,0.8s
MTP Monte Pirata 21.12 34 P P 20 33 43.1 +2.6
MTP lAmb lAmb 20 33 46.5
comp=Z,22nm,1.1s
MNMC Minye Minye 21.35 158 P P 20 33 43.4 0.0
CUPR Culebra, Puert 21.44 35 P P 20 33 45.3 +1.3
GO01 Chusmiza 22.00 158 P P 20 33 51.9 +1.4
GO01 lAmb lAmb 20 33 58.1
comp=Z,23nm,1.1s
VILB Vilhena 22.22 128 eP P 20 33 53.6 +1.1
PB08 IPOC Station P 22.44 158 P P 20 33 55.3 +0.1
ITTB Itaituba 22.74 103 eP P 20 33 58.9 +0.9
PB01 IPOC Station P 23.15 160 P P 20 34 04.1 +1.9
PB01 lAmb lAmb 20 34 16.3
comp=Z,19nm,1.0s
SIV San Ignacio 23.51 136 P P 20 34 06.4 +0.5
comp=Z,19nm,0.9s,baz=326,slow=11,SNR=43
SIV LR LR 20 43 17.0
comp=Z,703nm,19.6s,baz=318,slow=37
MALB Monte Alegre 23.80 96 eP P 20 34 09.6 +1.0
NPGB Novo Progresso 23.80 109 eP P 20 34 10.4 +1.7
PTLB Pontes e Lacer 24.55 132 eP P 20 34 16.2 +0.6
LVC Limon Verde 24.80 160 LR LR 20 44 26.3
comp=Z,429nm,19.6s,baz=324,slow=38
LVC Limon Verde 24.80 160 eP P 20 34 18.1 -0.1
CLDB Colider 24.84 118 eP P 20 34 19.2 +0.9
MCPB Macapa, AP 25.89 92 eP P 20 34 28.8 +0.9
PRPB Parauapebas 28.88 104 eP P 20 34 56.6 +1.8
TMAB Tom-Au,PA,Br 29.98 96 eP P 20 35 05.6 +1.1
CNNC Cliffs of the 34.35 0 P P 20 35 41.8 -0.7
PLAL Pickwick Lake 35.38 346 P P 20 35 52.1 +0.6
V48A Smith Brothers 35.81 348 P P 20 35 55.5 +0.3
V48A lAmb lAmb 20 35 58.6
comp=Z,12nm,1.2s
TXAR Lajitas Array 37.58 322 P P 20 36 12.8 +2.4
comp=Z,0.9nm,0.9s,baz=129,slow=7.1,SNR=7.1
TXAR Lajitas Array 37.58 322 P P 20 36 11.4 +1.0
MNTX Cornudas Mount 40.29 323 P P 20 36 32.6 -0.4
MNTX lAmb lAmb 20 36 38.1
comp=Z,14nm,1.4s
121A Cookes Peak, D 42.34 321 P P 20 36 50.0 0.0
121A lAmb lAmb 20 36 55.6
comp=Z,13nm,1.1s
214A Organ Pipe Nat 45.27 317 P P 20 37 13.5 0.0
214A lAmb lAmb 20 37 19.1
comp=Z,11nm,1.2s
MVCO Mesa Verde 45.99 326 P P 20 37 19.4 +0.1
MVCO lAmb lAmb 20 37 21.8
comp=Z,7.9nm,1.2s
WUAZ Wupatki 46.54 322 P P 20 37 25.4 +1.8
PV13 Radium Mtn., P 46.84 326 P P 20 37 26.7 +0.7
PV03 Paradox Valley 46.92 326 P P 20 37 27.6 +1.0
PV03 lAmb lAmb 20 37 28.9
comp=Z,4.6nm,1.1s
ELK Elko 52.24 324 P P 20 38 09.0 +1.7
comp=Z,0.3nm,0.3s,baz=117,slow=4.5,SNR=3.8
ELK Elko 52.24 324 lAmb lAmb 20 38 10.6
comp=Z,0.9nm,0.8s
NVAR Mina Array Bea 52.70 320 P P 20 38 12.6 +2.0
comp=Z,1.9nm,0.9s,baz=140,slow=6.7,SNR=8.1
NVAR Mina Array Bea 52.70 320 P P 20 38 11.5 +0.9
SNAA Sanae 86.01 162 P P 20 41 37.5 +1.6
WMQ Urumqi 133.83 14 eP PKPdf 20 48 12.9 -0.3
WRA Warramunga Arr 143.10 237 PKP PKPdf 20 48 30.7 0.0
comp=Z,0.3nm,0.9s,baz=113,slow=3.1,SNR=5.7

NEIC ***20*** *20:34:16.4±1.1, 35°.42N±0°.02×96°.57W±0°.04, h7km±7km, Error ellipse: s-maj=4.7km s-min=1.6km az=112.0*
TUL ***20*** *20:34:16±1.1, 35°.42N±0°.02×96°.56W±0°.03, h5km±7km, ML3.5, Error ellipse: s-maj=3.7km s-min=3.0km az=129.0*
ANF ***20*** *20:34:16.3±0.8, 35°.42N×96°.56W, h9km±5km, ML4.2/15, Error ellipse: s-maj=4.0km s-min=3.7km az=132.0*
ISC 20 20:34:16.4±0.9, 35°.42N±0°.03×96°.56W±0°.02, h11km±7km, n85, σ0°77/98, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK011	**Prague**	**0.12**	**302**			**Pg**	**Sg**	**20 34 19.1**	**-0.3**
OK011				Sg		Sg	Sg	20 34 21.2	-0.3
W35A	**Tecumseh**	**0.37**	**224**			**Pg**	**Sg**	**20 34 23.4**	**-0.4**
W35A				Sg		Sg	Sg	20 34 28.7	0.0
OK030	**Cody Creek RV**	**0.54**	**340**			**Pg**	**Sg**	**20 34 26.8**	**-0.1**
OK030				Sg		Sg	Sg	20 34 34.5	+0.5
OK031	**S. Brethren Rd**	**0.58**	**337**	Pg		**Pg**	**Sg**	**20 34 27.4**	**-0.2**
OK031				Sg		Sg	Sg	20 34 35.7	+0.4
OK001	**Jones High Sch**	**0.61**	**283**	Sg		**Sg**	**Sg**	**20 34 36.9**	**+0.6**
OK025	**Westminster Rd**	**0.65**	**284**			**Pg**	**Sg**	**20 34 28.5**	**-0.6**
FNO	**Franklin**	**0.71**	**257**			**Pg**	**Sg**	**20 34 29.9**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.72**	**269**			**Pg**	**Sg**	**20 34 29.9**	**-0.4**
OKCFA	**Oklahoma City**	**0.73**	**270**			**Pg**	**Sg**	**20 34 30.0**	**-0.5**
QUOK	**Quay**	**0.76**	**351**			**Pg**	**Sg**	**20 34 30.6**	**-0.5**
TUL1	**Leonard**	**0.79**	**52**	P		**Pg**	**Sg**	**20 34 31.3**	**-0.4**
	baz=232,SNR=40								
TUL1				S		**Sg**	**Sg**	**20 34 41.9**	**-0.2**
	baz=232								
TUL1	**Leonard**	**0.79**	**52**			**Pg**	**Sg**	**20 34 31.4**	**-0.3**
OK029	**Liberty Lake**	**0.82**	**297**			**Pg**	**Sg**	**20 34 31.3**	**-1.0**
BCOK	**Bluff Creek, N**	**0.89**	**286**			**Pg**	**Sg**	**20 34 32.5**	**-1.0**
X37A	**Clayton**	**1.28**	**130**			**Pn**	**Sg**	**20 34 40.4**	**+0.1**
T35A	**Sooner Cattle**	**1.49**	**1**			**Pn**	**Sg**	**20 34 43.1**	**-0.1**
CROK	**Carrier**	**1.58**	**314**			**Pn**	**Sg**	**20 34 44.5**	**+0.1**
KAN13	**South Haven SW**	**1.75**	**335**			**Pn**	**Sg**	**20 34 47.5**	**+0.7**
KAN09	**Caldwell North**	**1.91**	**334**			**Pn**	**Sg**	**20 34 50.1**	**+1.2**
WMOK	**Wichita Mounta**	**1.94**	**250**	P		**Pn**	**Sg**	**20 34 50.4**	**+1.0**
	baz=69,SNR=97								
WMOK				S		**Sb**	**Sg**	**20 35 16.6**	**+0.4**
	baz=69								
WMOK	**Wichita Mounta**	**1.94**	**250**			**Pn**	**Sg**	**20 34 50.1**	**+0.7**
KAN05	**Bluff City Nor**	**1.99**	**328**			**Pn**	**Sg**	**20 34 51.5**	**+1.5**
U38A	**Gravette**	**2.04**	**59**			**Pn**	**Sg**	**20 34 51.1**	**+0.5**
KAN10	**Anthony SW Sta**	**2.10**	**324**			**Pn**	**Sg**	**20 34 52.0**	**+0.4**
KAN08	**Anthony NE Sta**	**2.13**	**328**			**Pn**	**Sg**	**20 34 52.2**	**+0.2**
Z35A	**Perchaven, San**	**2.16**	**196**			**Pn**	**Sg**	**20 34 53.1**	**+0.7**
U32A	**Winter Ranch,**	**2.20**	**296**			**Pn**	**Sg**	**20 34 54.1**	**+1.2**
W39A	**Magazine**	**2.28**	**95**	P		**Pn**	**Sg**	**20 34 55.1**	**+1.1**
	baz=276,SNR=78								
W39A				S		**Sb**	**Sg**	**20 35 24.5**	**-1.3**
	baz=276								
W39A	**Magazine**	**2.28**	**95**			**Pn**	**Sg**	**20 34 55.0**	**+0.9**
HHAR	**Hobbs**	**2.29**	**67**			**Pn**	**Sg**	**20 34 55.1**	**+0.9**
Z38A	**Mt. Pleasant**	**2.52**	**148**			**Pn**	**Sg**	**20 34 58.9**	**+1.6**
MIAR	**Mount Ida**	**2.60**	**109**	P		**Pn**	**Sg**	**20 34 59.7**	**+1.3**
	baz=290,SNR=27								
MIAR	**Mount Ida**	**2.60**	**109**			**Pn**	**Sg**	**20 34 59.9**	**+1.5**
U40A	**Yellville**	**3.15**	**72**	P		**Pn**	**Sg**	**20 35 06.8**	**+0.8**
	baz=254,SNR=27								
U40A	**Yellville**	**3.15**	**72**			**Pn**	**Sg**	**20 35 06.8**	**+0.8**
X40A	**Basin Creek Fa**	**3.20**	**106**	P		**Pn**	**Sg**	**20 35 07.5**	**+0.9**
	baz=288,SNR=33								
X40A	**Basin Creek Fa**	**3.20**	**106**			**Pn**	**Sg**	**20 35 07.1**	**+0.5**
S39A	**Bolivar**	**3.45**	**48**	Pn		**Pn**	**Sg**	**20 35 10.9**	**+0.7**
R32A	**Long Quarter,**	**3.46**	**331**			**Pb**	**Sg**	**20 35 18.8**	**+1.1**
237A	**Washetta, Mont**	**3.47**	**169**	Pn		**Pn**	**Sg**	**20 35 09.9**	**-0.4**
WHAR	**Wooly Hollow**	**3.49**	**91**	Pn		**Pn**	**Sg**	**20 35 11.8**	**+1.1**
WHTX	**Lake Whitney,**	**3.50**	**193**	P		**Pn**	**Sg**	**20 35 12.1**	**+1.3**
	baz=12,SNR=21								
WHTX	**Lake Whitney,**	**3.50**	**193**			**Pn**	**Sg**	**20 35 11.9**	**+1.1**
W41B	**Gary Mavity, V**	**3.54**	**93**	P		**Pn**	**Sg**	**20 35 12.2**	**+1.0**
	baz=275,SNR=15								
W41B				S		**Sn**	**Sg**	**20 35 55.1**	**+2.0**
	baz=275								
W41B	**Gary Mavity, V**	**3.54**	**93**			**Pn**	**Sg**	**20 35 12.5**	**+1.2**
FCAR	**Ozark Folk Cen**	**3.64**	**81**			**Pn**	**Sg**	**20 35 13.6**	**+0.8**
KSU1	**Kansas State U**	**3.67**	**359**	P		**Pn**	**Sg**	**20 35 13.4**	**+0.2**
	baz=179,SNR=13								
KSU1				S		**Sn**	**Sg**	**20 35 57.5**	**+1.0**
	baz=179								
KSU1	**Kansas State U**	**3.67**	**359**			**Pn**	**Sg**	**20 35 13.4**	**+0.2**
Z41A	**Richland Creek**	**3.78**	**124**	P		**Pn**	**Sg**	**20 35 14.6**	**-0.1**
	baz=306								
Z41A				S		**Sn**	**Sg**	**20 35 59.0**	**-0.1**
	baz=306								
ABTX	**Abilene, Hawle**	**3.79**	**223**	P		**Pn**	**Sg**	**20 35 15.1**	**+0.4**
	baz=42,SNR=12								
ABTX				S		**Sn**	**Sg**	**20 35 59.6**	**+0.3**
	baz=42								
ABTX	**Abilene, Hawle**	**3.79**	**223**			**Pn**	**Sg**	**20 35 15.4**	**+0.6**
MGMO	**Mountain Grove**	**3.87**	**62**			**Pn**	**Sg**	**20 35 16.8**	**+0.9**
NATX	**Nacogdoches**	**3.98**	**156**	S		**Sn**	**Sg**	**20 36 04.0**	**0.0**
	baz=337								
AMTX	**Amarillo**	**4.23**	**264**	P		**Pn**	**Sg**	**20 35 21.7**	**+0.8**
	baz=81								
AMTX	**Amarillo**	**4.23**	**264**	Pn		**Pn**	**Sg**	**20 35 22.1**	**+1.2**
CBKS	**Cedar Bluff**	**4.23**	**324**	S		**Sn**	**Sg**	**20 36 09.8**	**-0.5**
	baz=142								
CBKS	**Cedar Bluff**	**4.23**	**324**			**Pn**	**Sg**	**20 35 21.4**	**+0.6**
LCAR	**Lake Charles**	**4.45**	**80**			**Pn**	**Sg**	**20 35 24.2**	**+0.5**
R40A	**Maddies Stadio**	**4.48**	**49**			**Pn**	**Sg**	**20 35 24.5**	**+0.3**
T42A	**Van Buren**	**4.70**	**68**			**Pn**	**Sg**	**20 35 27.6**	**+0.3**
P38A	**Dawn**	**4.84**	**29**			**Pn**	**Sg**	**20 35 29.6**	**+0.5**
CCM	**Cathedral Cave**	**5.01**	**57**			**Pn**	**Sg**	**20 35 32.3**	**+0.7**
PBMO	**Poplar Bluff**	**5.15**	**73**			**Pn**	**Sg**	**20 35 33.7**	**+0.3**
MSTX	**Muleshoe**	**5.32**	**256**	S		**Sn**	**Sg**	**20 36 37.1**	**-0.1**
	baz=72								
MSTX	**Muleshoe**	**5.32**	**256**			**Pn**	**Sg**	**20 35 35.1**	**-0.8**
N33A	**J Bar K, Exete**	**5.36**	**353**			**Pn**	**Sg**	**20 35 36.3**	**0.0**
P40A	**Paris**	**5.45**	**40**			**Pn**	**Sg**	**20 35 37.4**	**-0.1**
N35A	**Tabor**	**5.48**	**7**			**Pn**	**Sg**	**20 35 38.0**	**0.0**
JCT	**Junction City**	**5.63**	**210**	P		**Pn**	**Sg**	**20 35 39.8**	**-0.3**
	baz=28								
JCT				S		**Sn**	**Sg**	**20 36 43.5**	**-1.3**
	baz=28								
JCT	**Junction City**	**5.63**	**210**	Pn		**Pn**	**Sg**	**20 35 39.9**	**-0.3**
N38A	**Joes South For**	**5.97**	**25**	Pn		**Pn**	**Sg**	**20 35 45.3**	**+0.6**
W45A	**Hickory Valley**	**6.04**	**90**			**Pn**	**Sg**	**20 35 46.2**	**+0.5**
BGNE	**Belgrade**	**6.11**	**349**	P		**Pn**	**Sg**	**20 35 46.6**	**0.0**
	baz=168								
BGNE				S		**Sn**	**Sg**	**20 36 54.6**	**-1.8**
	baz=168								
BGNE	**Belgrade**	**6.11**	**349**	Pn		**Pn**	**Sg**	**20 35 46.9**	**+0.3**
L34A	**Svendsen Farm,**	**6.54**	**1**	Pn		**Pn**	**Sg**	**20 35 52.1**	**-0.4**
T25A	**Trinidad**	**6.57**	**287**	Pn		**Pn**	**Sg**	**20 35 53.5**	**+0.4**
PLAL	**Pickwick Lake**	**6.96**	**91**	Pn		**Pn**	**Sg**	**20 35 57.8**	**-0.5**
SDCO	**Great Sand Dun**	**7.56**	**290**	P		**Pn**	**Sg**	**20 36 07.5**	**+0.7**
	baz=105,SNR=15								
SDCO	**Great Sand Dun**	**7.56**	**290**	Pn		**Pn**	**Sg**	**20 36 07.3**	**+0.5**
L40A	**Anamosa**	**7.83**	**31**	Pn		**Pn**	**Sg**	**20 36 09.7**	**-0.6**
ECSD	**EROS Data Cent**	**8.30**	**360**	P		**Pn**	**Sg**	**20 36 16.2**	**-0.5**
	baz=180,SNR=5.7								
ECSD	**EROS Data Cent**	**8.30**	**360**	Pn		**Pn**	**Sg**	**20 36 16.4**	**-0.4**
TX31	**Lajitas Ar. Si**	**8.54**	**227**	Pn		**Pn**	**Sg**	**20 36 20.9**	**+0.8**
TX32	**Lajitas Array**	**8.54**	**227**			**Pn**	**Sg**	**20 36 20.0**	**-0.1**
TXAR	**Lajitas Array**	**8.54**	**227**	Pn		**Pn**	**Sg**	**20 36 20.8**	**+0.6**

INET ***20*** *20:36:07.0, 11°.89N×89°.13W, h27km, ML3.2*
SNET 20 20:36:08.4±1.2, 12°.01N×89°.04W, h35km±999km, ML3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**1.46**	**32**	eP		Pn	Pn	20 36 32.3	0.0
JUCU				IAML				20 36 57.1	
	comp=Z,757nm,0.3s								
TECA	**Tecapa**	**1.57**	**19**	eP		Pn	Pn	20 36 34.2	+0.2
LFRS	**El Faro**	**1.61**	**359**	eP		Pn	Pn	20 36 34.3	-0.2
COEG	**Centro de Oper**	**1.61**	**6**	eP		Pn	Pn	20 36 34.2	-0.3
PACA	**Pacayal**	**1.61**	**26**	eP		Pn	Pn	20 36 35.0	+0.5
PAVA	**Las Pavas**	**1.70**	**3**	eP		Pn	Pn	20 36 35.6	-0.1
PAVA				IAML				20 37 03.0	
	comp=Z,456nm,0.3s								
LBRS	**Las Brisas**	**1.72**	**360**	eP		Pn	Pn	20 36 36.4	+0.5
BOQS	**Boqueron**	**1.73**	**352**	eP		Pn	Pn	20 36 37.1	+0.9
BOQS				eS		Sn	Pn	20 36 58.8	+1.5
LFU	**La Fuente**	**1.73**	**358**	eP		Pn	Pn	20 36 36.6	+0.5
SBLS	**San Blas**	**1.91**	**343**	eP		Pn	Pn	20 36 39.5	+0.8
SBLS				eS		Sn	Pn	20 37 02.6	+0.9
SNJE	**San Jose**	**1.93**	**343**	eP		Pn	Pn	20 36 38.9	-0.1
RTR	**El Retiro**	**1.97**	**343**	eP		Pn	Pn	20 36 40.2	+0.7
TACO	**Tacachico**	**1.98**	**351**	eP		Pn	Pn	20 36 40.0	+0.6
TACO				eS		Sn	Pn	20 37 04.6	+1.6
TACO				IAML				20 37 07.2	
	comp=Z,349nm,0.3s								
CNGN	**Cerro Negro**	**2.34**	**78**	eP		Pn	Pn	20 36 44.7	+0.3
MTO3	**Montecristo**	**2.40**	**353**	eP		Pn	Pn	20 36 46.6	+1.2
MTO3				eS		Sn	Pn	20 37 16.1	+2.4
ESQI	**Esquipulas**	**2.56**	**353**	eP		Pn	Pn	20 36 48.4	+0.9

IDC ***20*** *20:47:56.1±1.8, 6°.14S×151°.90E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/28, mbtmp4.0/5, ML2.2/1, Error ellipse: s-maj=63.5km s-min=17.4km az=118.0*
ISC 20 20:48:01.7±1.7, 6°.1S±0°.2×151°.8E±0°.3, h36km, n7, σ1§07/9, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.81**	**8**	Pn		Pn	**Pn**	**20 48 30.2**	**-0.1**
	109nm,0.3s,baz=123,slow=1.0,SNR=44								
KRVT				Sn			**Sn**	**20 48 52.9**	**+0.8**
	167nm,0.3s,baz=30,slow=20,SNR=4.7								
PMG	**Port Moresby**	**5.63**	**234**	Pn		Pn	**Pn**	**20 49 24.3**	**+1.4**
	4.0nm,0.3s,baz=22,slow=7.1,SNR=7.8								
PMG				Sn			**Sn**	**20 50 24.7**	**-1.7**
	1.8nm,0.3s,baz=170,slow=19,SNR=2.2								
WRA	**Warramunga Arr**	**21.82**	**229**	P		P	**P**	**20 52 50.7**	**-0.3**
	1.6nm,0.7s,baz=54,slow=9.7,SNR=19								
ASAR	**Alice Springs**	**24.50**	**223**	P		P	**P**	**20 53 18.6**	**+0.7**
	2.5nm,0.7s,baz=54,slow=9.4,SNR=25								
FITZ	**Fitzroy Crossi**	**28.15**	**243**	P		P	**P**	**20 53 50.8**	**0.0**
	1.4nm,0.3s,baz=39,slow=10,SNR=6.8								
ILAR	**Eielson Array**	**83.75**	**22**	P		P	**P**	**21 00 26.4**	**-0.3**
	1.3nm,0.8s,baz=257,slow=5.2,SNR=8.6								
TORD	**Torodi Ar. Bea**	**149.72**	**286**	PKPbc		**PKPbc**		**21 07 48.0**	**-0.8**
	0.9nm,0.7s,baz=87,slow=2.5,SNR=7.7								

RSNC 20 20:57:54.4±1.4, 0°.86N×77°.99W, h0km±5km, ML2.3, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMBC	**Cumbal**	**0.19**	**65**	eP		Pg	Pg	20 57 58.3	+0.3
CMBC				eS		Sg	Sg	20 58 01.4	+1.0
GCUF	**Volcan Galeras**	**0.74

DLBC	**Dease Lake**	**1.86**	**53**	Pn	**Pn**	**21**	**23**	**25.6**	**+0.4**
DLBC	**Dease Lake**	**1.86**	**53**		**Pn**	**21**	**23**	**25.5**	**+0.3**
CRAG	**Craig**	**1.88**	**185**		**Pn**	**21**	**23**	**25.6**	**+0.2**
SKAG	**Skagway**	**2.50**	**329**		**Pn**	**21**	**23**	**35.6**	**+1.7**
PLBC	**Pleasant Camp**	**2.82**	**320**	Pn	**Pn**	**21**	**23**	**38.4**	**+0.1**
PLBC				Sn	**Sn**	**21**	**24**	**12.3**	**-0.1**
PLBC				Sg	**Sb**	**21**	**24**	**20.4**	**+2.1**
PLBC	**Pleasant Camp**	**2.82**	**320**	Pn	**Pn**	**21**	**23**	**38.4**	**+0.1**
PLBC				Sn	**Sn**	**21**	**24**	**12.3**	**-0.1**
RUBB	**Prince Rupert**	**3.35**	**153**	Pn	**Pn**	**21**	**23**	**46.0**	**+0.3**
RUBB				Pg	**Pb**	**21**	**23**	**53.5**	**+0.7**
RUBB				Sn	**Sn**	**21**	**24**	**25.5**	**0.0**
RUBB				Sg	**Sg**	**21**	**24**	**37.8**	**-3.1**
RUBB	**Prince Rupert**	**3.35**	**153**	Pn	**Pn**	**21**	**23**	**46.0**	**+0.3**
RUBB				Sn	**Sn**	**21**	**24**	**25.5**	**0.0**
MASB	**Masset**	**3.37**	**172**	Pg	**Pg**	**21**	**23**	**54.7**	**-3.0**
MASB	**Masset**	**3.37**	**172**	Pg	**Pg**	**21**	**23**	**54.7**	**-3.0**
NDB	**Naden**	**3.39**	**181**	Pn	**Pn**	**21**	**23**	**48.1**	**+1.8**
NDB	**Naden**	**3.39**	**181**	Pn	**Pn**	**21**	**23**	**48.1**	**+1.8**
WHY	**Whitehorse**	**3.49**	**343**	Pn	**Pn**	**21**	**23**	**48.7**	**+1.0**
WHY				Pg	**Pb**	**21**	**23**	**56.2**	**+1.0**
WHY				Sg	**Sg**	**21**	**24**	**42.7**	**-2.7**
WHY	**Whitehorse**	**3.49**	**343**		**Pn**	**21**	**23**	**49.0**	**+1.3**
GRNB	**Grenville Isla**	**3.86**	**154**	Pn	**Pn**	**21**	**23**	**54.3**	**+1.6**
GRNB				Pg	**Pb**	**21**	**24**	**02.9**	**+1.5**
GRNB				Sn	**Sn**	**21**	**24**	**38.5**	**+0.4**
GRNB	**Grenville Isla**	**3.86**	**154**	Pn	**Pn**	**21**	**23**	**54.3**	**+1.6**
GRNB				Sn	**Sn**	**21**	**24**	**38.5**	**+0.4**
KITB	**Kitimat**	**4.04**	**142**	Pg	**Pb**	**21**	**24**	**06.2**	**+1.7**
KITB				Sn	**Sn**	**21**	**24**	**42.9**	**+0.5**
KITB	**Kitimat**	**4.04**	**142**	Pg	**Pb**	**21**	**24**	**06.2**	**+1.7**
KITB				Sn	**Sn**	**21**	**24**	**42.9**	**+0.5**
VIB	**Van Inlet**	**4.10**	**178**	Pg	**Pb**	**21**	**24**	**07.3**	**+1.8**
VIB	**Van Inlet**	**4.10**	**178**	Pg	**Pb**	**21**	**24**	**07.3**	**+1.8**
DIB	**Dawson Inlet,**	**4.15**	**177**	Pn	**Pn**	**21**	**23**	**57.1**	**+0.5**
DIB	**Dawson Inlet,**	**4.15**	**177**		**Pn**	**21**	**23**	**57.0**	**+0.5**
PNL	**Peninsula**	**4.16**	**307**	Pn	**Pn**	**21**	**23**	**58.0**	**+1.2**
PNL	**Peninsula**	**4.16**	**307**		**Pn**	**21**	**23**	**57.9**	**+1.1**
YUK7	**Dusty Glacier**	**4.22**	**322**	Pn	**Pn**	**21**	**23**	**59.3**	**+1.5**
YUK7				Pg	**Pb**	**21**	**24**	**10.1**	**+2.5**
YUK7	**Dusty Glacier**	**4.22**	**322**	Pn	**Pn**	**21**	**23**	**59.3**	**+1.5**
HYT	**Haines Junctio**	**4.25**	**327**	Pn	**Pn**	**21**	**23**	**59.4**	**+1.3**
HYT				Pg	**Pb**	**21**	**24**	**09.6**	**+1.6**
HYT				Sg	**Sg**	**21**	**25**	**05.4**	**-4.0**
HYT	**Haines Junctio**	**4.25**	**327**		**Pn**	**21**	**24**	**00.1**	**+2.1**
BNKB	**Banks Island**	**4.35**	**156**	Pg	**Pb**	**21**	**24**	**11.8**	**+2.0**
BNKB	**Banks Island**	**4.35**	**156**	Pg	**Pb**	**21**	**24**	**11.8**	**+2.0**
BCPM	**Bancas Point**	**4.42**	**309**	Pn	**Pn**	**21**	**24**	**02.1**	**+1.8**
YUK6	**Outpost Mounta**	**4.60**	**324**	Pn	**Pn**	**21**	**24**	**04.9**	**+1.9**
YUK6				Sg	**Sg**	**21**	**25**	**20.8**	**-0.1**
YUK6	**Outpost Mounta**	**4.60**	**324**	Pn	**Pn**	**21**	**24**	**04.9**	**+1.9**
PCA	**Pinnacle**	**4.76**	**309**	Pn	**Pn**	**21**	**24**	**05.8**	**+0.8**
PCA	**Pinnacle**	**4.76**	**309**	Pn	**Pn**	**21**	**24**	**07.2**	**+2.2**
BNB	**Barry Inlet**	**4.82**	**172**	Pn	**Pn**	**21**	**24**	**07.0**	**+1.2**
BNB	**Barry Inlet**	**4.82**	**172**	Pn	**Pn**	**21**	**24**	**07.0**	**+1.2**
BUTB	**Butedale**	**4.96**	**148**	Pg	**Pb**	**21**	**24**	**22.4**	**+2.2**
BUTB	**Butedale**	**4.96**	**148**	Pg	**Pb**	**21**	**24**	**22.4**	**+2.2**
SAMH	**Samovar Hills**	**5.00**	**307**	Pn	**Pn**	**21**	**24**	**10.5**	**+2.1**
SAMH	**Samovar Hills**	**5.00**	**307**	Pn	**Pn**	**21**	**24**	**10.5**	**+2.1**
HG4B	**Hotspring**	**5.15**	**169**	Pn	**Pn**	**21**	**24**	**11.3**	**+1.0**
HG4B				Sn	**Sn**	**21**	**25**	**09.2**	**-0.5**
HG4B	**Hotspring**	**5.15**	**169**	Pn	**Pn**	**21**	**24**	**11.3**	**+1.0**
HG4B				Sn	**Sn**	**21**	**25**	**09.2**	**-0.5**
TABL	**Table Mountain**	**5.31**	**309**	Pn	**Pn**	**21**	**24**	**13.4**	**+0.7**
TABL	**Table Mountain**	**5.31**	**309**	Pn	**Pn**	**21**	**24**	**14.1**	**+1.3**
RKAV	**Rock Avalanche**	**5.33**	**307**	Pn	**Pn**	**21**	**24**	**13.2**	**+0.3**
RKAV	**Rock Avalanche**	**5.33**	**307**	Pn	**Pn**	**21**	**24**	**13.2**	**+0.3**
FNBB	**Fort Nelson**	**5.43**	**69**	Pn	**Pn**	**21**	**24**	**15.1**	**+0.8**
FNBB	**Fort Nelson**	**5.43**	**69**	Pn	**Pn**	**21**	**24**	**15.1**	**+0.8**
LOGN	**Logan Glacier**	**5.47**	**313**	Pn	**Pn**	**21**	**24**	**16.0**	**+1.1**
LOGN	**Logan Glacier**	**5.47**	**313**	Pn	**Pn**	**21**	**24**	**16.0**	**+1.1**
YAH	**Yahtse**	**5.53**	**307**	Pn	**Pn**	**21**	**24**	**17.8**	**+2.0**
GRNC	**Granite Creek**	**5.72**	**310**	Pn	**Pn**	**21**	**24**	**19.9**	**+1.5**
GRNC	**Granite Creek**	**5.72**	**310**	Pn	**Pn**	**21**	**24**	**19.9**	**+1.5**
YUK3	**Moose Creek**	**5.90**	**322**	Pn	**Pn**	**21**	**24**	**22.6**	**+1.8**
YUK3	**Moose Creek**	**5.90**	**322**	Pn	**Pn**	**21**	**24**	**22.6**	**+1.8**
YUK2	**White River**	**6.04**	**321**	Pn	**Pn**	**21**	**24**	**24.2**	**+1.6**
YUK2	**White River**	**6.04**	**321**	Pn	**Pn**	**21**	**24**	**24.2**	**+1.6**
KIAG	**Kiagna River**	**6.08**	**310**	Pn	**Pn**	**21**	**24**	**24.9**	**+1.6**
KIAG	**Kiagna River**	**6.08**	**310**	Pn	**Pn**	**21**	**24**	**24.9**	**+1.6**
TGL	**Tana Glacier**	**6.19**	**308**	Pn	**Pn**	**21**	**24**	**24.9**	**+0.2**
YUK1	**Sand Pete Hill**	**6.20**	**324**	Sg	**Sg**	**21**	**26**	**07.7**	**-4.3**
BVCY	**Beaver Creek**	**6.50**	**325**	Pn	**Pn**	**21**	**24**	**30.8**	**+1.9**
BVCY	**Beaver Creek**	**6.50**	**325**	Pn	**Pn**	**21**	**24**	**30.8**	**+1.9**
MCARA	**McCarthy VSAT**	**6.60**	**312**	Pn	**Pn**	**21**	**24**	**30.8**	**+1.9**
VRDI	**Verde Repeater**	**6.69**	**310**	Pn	**Pn**	**21**	**24**	**32.5**	**+0.9**
GLB	**Gilahina Butte**	**6.95**	**311**	Pn	**Pn**	**21**	**24**	**36.1**	**+1.0**
BCAR	**Beaver Creek A**	**7.27**	**326**	Pn	**Pn**	**21**	**24**	**41.3**	**+1.9**
KLU	**Klutina**	**7.86**	**307**	Pn	**Pn**	**21**	**24**	**49.2**	**+1.6**
EGAK	**Eagle**	**8.48**	**335**	Pn	**Pn**	**21**	**24**	**58.5**	**+2.6**

*NEIC **20** 21:29:15.3±0.6, 21°.3S±0°.1×174°.4W±0°.2, h10km±1km, mb4.5/15, Error ellipse: s-maj=35.3km s-min=12.5km az=120.0*
*IDC **20** 21:29:16.6±2.6, 21°.12S×174°.78W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/32, mbtmp4.2/5, ML4.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/41, Error ellipse: s-maj=68.5km s-min=48.1km az=118.0*

ISC 20 21:29:18.4±0.9, 21°.3S±0°.1×174°.4W±0°.2, h30km, n27, σ1§11/26, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.70**	**63**	Pn		21 30 17.7	-10
AFI	**Afiamalu**	**7.75**	**19**	Pn	**Pn**	**21 31 02.2**	**-1.0**
DZM	**Mont Dzumac**	**17.87**	**264**	LR		21 37 53.3	
	comp=Z,423nm,19.2s,baz=212,slow=30						
URZ	**Urewera**	**18.44**	**202**	P	**Pn**	**21 33 33.4**	**+1.7**
	0.7nm,0.3s,baz=7.1,slow=8.1,SNR=1.8						
URZ	**Urewera**	**18.44**	**202**	P	**P**	**21 33 29.4**	**-2.1**
URZ				IAmb	IAmb	21 33 32.4	
	comp=Z,44nm,1.4s						
BKZ	**Black Stump Fm**	**19.47**	**202**	P	**P**	**21 33 42.0**	**-0.8**
BKZ				IAmb	IAmb	21 33 58.8	
	comp=Z,28nm,1.5s						
BFZ	**Birch Farm**	**20.91**	**200**	P	**P**	**21 33 57.9**	**-0.6**
BFZ				IAmb	IAmb	21 34 09.3	
	comp=Z,24nm,1.0s						
STKA	**Stephens Creek**	**40.54**	**246**	P	**P**	**21 36 55.4**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=95,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**40.54**	**246**	P	**P**	**21 36 54.3**	**-0.8**
BBOO	**Buckleboo**	**45.27**	**245**	P	**P**	**21 37 32.4**	**-1.1**
AS31	**Alice Springs**	**47.66**	**257**	P	**P**	**21 37 51.1**	**-1.3**
ASAR	**Alice Springs**	**47.66**	**257**	P	**P**	**21 37 51.6**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=90,slow=7.9,SNR=20						
ASAR	**Alice Springs**	**47.66**	**257**	P	**P**	**21 37 51.2**	**-1.2**
WB0	**Warramunga Arr**	**47.86**	**262**	P	**P**	**21 37 52.9**	**-1.0**
WB2	**Warramunga Arr**	**47.86**	**262**	P	**P**	**21 37 53.4**	**-0.6**
WB2				IAmb	IAmb	21 38 01.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**47.87**	**262**	P	**P**	**21 37 53.6**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=94,slow=8.1,SNR=32						
WRA				PcP	**PcP**	**21 39 23.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=96,slow=3.1,SNR=3.2						
WRA	**Warramunga Arr**	**47.87**	**262**	P	**P**	**21 37 53.5**	**-0.5**
FORT	**Forrest**	**52.12**	**247**	P	**P**	**21 38 25.9**	**-0.2**
MORW	**Morawa**	**62.68**	**247**	P	**P**	**21 39 40.2**	**-0.5**
QSPA	**South Pole Qui**	**68.78**	**180**	P	**P**	**21 40 19.3**	**-0.2**
QSPA				IAmb	IAmb	21 40 21.6	
	comp=Z,3.0nm,1.1s						
GHO	**Glory Hole Cre**	**85.25**	**12**	P	**P**	**21 41 52.1**	**+0.2**
SCM	**Sheep Creek Mo**	**85.62**	**12**	P	**P**	**21 41 54.0**	**+0.3**
TRF	**Thorofare Moun**	**86.56**	**11**	P	**P**	**21 41 58.0**	**-0.3**
TRF				IAmb	IAmb	21 41 59.5	
	comp=Z,3.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.60**	**288**	P	**P**	**21 42 35.2**	**+2.9**
	comp=Z,1.0nm,0.8s,baz=124,slow=3.3,SNR=8.5						
AKASG	**Malin Array Be**	**145.31**	**333**	PKP	**PKPdf**	**21 48 53.3**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=39,slow=3.8,SNR=6.1						
AKASG	**Malin Array Be**	**145.31**	**333**		**PKPab**	**21 48 52.9**	**-0.1**
BURAR	**Bucovina Array**	**149.36**	**334**		**PKiKP**	**21 49 06.1**	**+0.5**

MAN 20 21:30:35.8, 7°.58N×122°.34E, h21km, mb4.4, ML3.2, MS2.9, Mindanao

*NEIC **20** 21:45:15.5±0.8, 0°.7N±0°.1×146°.3E±0°.1, h15km±6km, mb4.5/9, Error ellipse: s-maj=17.0km s-min=16.1km az=128.0*
*IDC **20** 21:45:16.7±1.5, 0°.49N×145°.99E, h0km, mb4.3/4, mb1 4.6/5, mb1mx3.9/44, mbtmp4.4/5, ML4.6/1, Error ellipse: s-maj=43.2km s-min=25.2km az=124.0*

ISC 20 21:45:16.1±1.0, 0°.6N±0°.1×146°.3E±0°.1, h10km, n19, σ1§48/20, mb4.4/8, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.85**	**157**	Pn	**Pn**	**21 46 01.8**	**0.0**
MANU				Sn	**Sn**	**21 46 35.8**	**-0.4**
KRVT	**Keravat (AS076**	**7.55**	**130**	Pn	**Pn**	**21 47 10.7**	**+4.3**
	8.8nm,0.3s,baz=84,slow=20,SNR=4.3						
RABL	**Rabaul**	**7.59**	**129**	Pn	**Pn**	**21 47 05.6**	**-1.2**
PATS	**Pohnpei**	**13.53**	**62**	Pn	**Pn**	**21 48 25.9**	**-2.5**
WB0	**Warramunga Arr**	**23.34**	**209**	P	**P**	**21 50 24.7**	**-0.1**
WB0				IAmb	IAmb	21 50 25.5	
	comp=Z,5.0nm,0.7s						
WR0	**Warramunga Arr**	**23.43**	**209**	P	**P**	**21 50 25.7**	**0.0**
WR0				IAmb	IAmb	21 50 26.5	
	comp=Z,7.8nm,0.6s						
WRA	**Warramunga Arr**	**23.52**	**209**	P	**P**	**21 50 26.6**	**0.0**
	comp=Z,9.3nm,0.5s,baz=31,slow=11,SNR=232						
WRA	**Warramunga Arr**	**23.52**	**209**	P	**P**	**21 50 25.6**	**-1.0**
KNRA	**Kununurra**	**23.66**	**226**	P	**P**	**21 50 26.9**	**-1.1**
KNRA				IAmb	IAmb	21 50 40.7	
	comp=Z,32nm,1.6s						
AS31	**Alice Springs**	**26.94**	**206**	P	**P**	**21 50 58.9**	**+1.0**
ASAR	**Alice Springs**	**26.94**	**206**	P	**P**	**21 50 58.8**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=36,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**26.94**	**206**	P	**P**	**21 50 58.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.50**	**226**	P	**P**	**21 51 02.6**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=30,slow=11,SNR=15						
FITZ	**Fitzroy Crossi**	**27.50**	**226**	P	**P**	**21 51 02.2**	**-0.7**
STKA	**Stephens Creek**	**32.60**	**187**	P	**P**	**21 51 47.4**	**-0.6**
PSA00	**Pilbara Seismi**	**33.92**	**228**	P	**P**	**21 51 59.2**	**-0.4**
BBOO	**Buckleboo**	**34.59**	**195**	P	**P**	**21 52 05.1**	**-0.2**
MORW	**Morawa**	**41.28**	**222**	P	**P**	**21 53 01.4**	**-0.5**
MORW				IAmb	IAmb	21 53 15.8	
	comp=Z,16nm,1.4s						
ILAR	**Eielson Array**	**79.76**	**24**	P	**P**	**21 57 26.6**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=245,slow=5.4,SNR=4.8						

*IPEC **20** 21:46:17.2±0.3, 51°.51N×16°.18E, h0km, ML1.9/4, Error ellipse: s-maj=3.0km s-min=1.5km az=64.0*
*VIE **20** 21:46:19.4±0.9, 51°.36N×16°.12E, h0km, mb2.0/3, ml2.6/5, Error ellipse: s-maj=12.3km s-min=6.6km az=80.0 69 km WNW of Wroclaw Suspected Mining induced.*
*PRU **20** 21:46:19.3±0.0, 51°.43N×16°.13E, h0km*

ISC 20 21:46:18.4±1.3, 51°.45N±0°.06×16°.18E±0°.03, h0km, n28, σ0§82/53, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pg**	**21 46 30.2**	**+0.2**
KSP				*e*Sg	**Sg**	**21 46 38.4**	**+0.5**
CHVC	**Chvalec**	**0.86**	**185**	*e*PG	**Pg**	**21 46 35.3**	**+0.4**
CHVC				*e*SG	**Sg**	**21 46 46.5**	**+0.5**
	comp=Z,18nm,0.3s						
OSTC	**Ostas**	**0.89**	**178**	*e*PG	**Pg**	**21 46 36.0**	**+0.6**
OSTC				*e*SG	**Sg**	**21 46 47.8**	**+0.9**
	comp=Z,28nm,0.3s						
UPC	**Upice**	**0.94**	**186**	*e*PG	**Pg**	**21 46 36.6**	**+0.1**
UPC				*e*SG	**Sg**	**21 46 49.1**	**+0.4**
	comp=Z,51nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pg**	**21 46 39.2**	**-0.2**
DPC				*e*SG	**Sg**	**21 46 53.6**	**-0.1**
	comp=Z,30nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**229**	*e*PG	**Pn**	**21 46 44.8**	**+0.1**
PVCC				*e*SG	**Sb**	**21 47 03.0**	**+0.1**
	comp=Z,51nm,0.3s						
KRLC	**Kraliky**	**1.42**	**164**	*e*PG	**Pn**	**21 46 44.8**	**-0.7**
KRLC				*e*SG	**Sg**	**21 47 03.5**	**-0.6**
	comp=Z,21nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**249**	PG	**Pb**	**21 46 47.3**	**-0.1**
BRG				SG	**Sn**	**21 47 07.6**	**+0.3**
	22nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.77**	**211**	*e*SG	**Sb**	**21 47 14.4**	**0.0**
	comp=Z,11nm,0.5s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pn**	**21 46 51.2**	**+0.7**
PRU				*e*SG	**Sb**	**21 47 14.9**	**-0.1**
	comp=Z,17nm,0.3s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*PN	**Pn**	**21 46 51.1**	**-0.8**
MORC				*e*SG	**Sb**	**21 47 17.9**	**+0.2**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**21 46 51.1**	**-0.8**
	baz=334						
MORC				*e*Sg	**Sb**	**21 47 17.9**	**+0.2**
	10nm,0.2s,baz=334						
CLL	**Collm**	**1.99**	**267**	*e*Pg	**Pb**	**21 46 56.0**	**+0.5**
CLL				*e*Sg	**Sb**	**21 47 21.0**	**+0.1**
	comp=Z,9.0nm,0.4s						
VRAC	**Vranov**	**2.15**	**173**	*e*PN	**Pn**	**21 46 55.6**	**0.0**
VRAC				*e*SG	**Sg**	**21 47 26.9**	**-0.7**
VRAC	**Vranov**	**2.15**	**173**	*e*Pn	**Pn**	**21 46 55.6**	**0.0**
	baz=353						
VRAC				*e*Sg	**Sg**	**21 47 26.8**	**-0.8**
	comp=Z,11nm,0.3s,baz=353						
KRUC	**Moravsky**	**2.39**	**177**	*e*PN	**Pn**	**21 46 59.9**	**+1.1**
KRUC				*e*SG	**Sg**	**21 47 34.3**	**-0.8**
KRUC	**Moravsky**	**2.39**	**177**	*e*Pn	**Pn**	**21 46 59.9**	**+1.1**
	baz=357						
KRUC				*e*Sg	**Sg**	**21 47 34.2**	**-0.8**
	comp=Z,5.1nm,0.3s,baz=357						
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	**21 47 07.3**	**-1.0**
OJC				*e*Sg	**Sg**	**21 47 42.6**	**+0.7**
NKC	**Novy Kostel**	**2.66**	**244**	*e*SG	**Sg**	**21 47 43.4**	**-0.3**
	comp=Z,17nm,0.5s						
JAVC	**Velka Javorina**	**2.76**	**159**	*e*PN	**Pn**	**21 47 03.9**	**0.0**
JAVC				*e*SG	**Sg**	**21 47 45.5**	**-1.5**
JAVC	**Velka Javorina**	**2.76**	**159**	*e*Pn	**Pn**	**21 47 03.8**	**-0.1**
	baz=341						
JAVC				*e*Sg	**Sg**	**21 47 45.5**	**-1.5**
	comp=Z,3.1nm,0.4s,baz=341						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**21 47 04.8**	**-0.4**
KHC				*e*PG	**Pb**	**21 47 10.5**	**+0.3**
KHC				*e*SN	**Sn**	**21 47 38.9**	**-1.3**
KHC				*e*SG	**Sg**	**21 47 48.6**	**-1.4**
	comp=Z,6.0nm,0.4s						
LANS	**Liptovska Anna**	**3.12**	**136**	*e*SG	**Sg**	**21 47 59.3**	**+0.8**
MODS	**Modra-Piesok**	**3.16**	**167**	*e*SG	**Sg**	**21 48 00.1**	**+0.4**
VYHS	**Vyhne**	**3.42**	**149**	*e*PG	**Pg**	**21 47 25.5**	**+1.7**
CONA	**Conrad Observa**	**3.53**	**183**	*i* Pn	**Pn**	**21 47 13.3**	**-1.1**
	comp=Z,0.1nm,0.1s						
CONA				*e*Sg	**Sg**	**21 48 12.8**	**+1.2**
	comp=Z,3.3nm,0.2s						
MOA	**Molln**	**3.81**	**200**	*i* Pn	**Pn**	**21 47 18.3**	**+0.1**
	comp=Z,0.2nm,0.1s						
MOA				Sg	**Sg**	**21 48 18.1**	**-2.5**
	comp=Z,3.1nm,0.2s						
ARSA	**Arzberg**	**4.22**	**186**	*i* Pn	**Pn**	**21 47 24.4**	**+0.4**
	comp=Z,0.7nm,0.2s						
ARSA				*e*Sg	**Sg**	**21 48 34.5**	**+0.6**
	comp=Z,1.8nm,0.3s						

*DDA **20** 21:50:13.6, 39°.20N×40°.29E, h7km±4km, ML1.4*
*ATA **20** 21:50:13.4±1.2, 39°.20N×40°.29E, h16km±15km, ML1.1, MW2.9*
*ISK **20** 21:50:13.6, 39°.19N×40°.33E, h5km, ML1.8/4*

ISC 20 21:50:13.8±1.1, 39°.20N±0°.04×40°.36E±0°.03, h20km±4km, n14, σ0§60/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.28**	**31**	PG	**Pg**	**21 50 20.2**	**0.0**
YEDI				SG	**Sg**	**21 50 24.4**	**-0.2**
BNGB	**Bingl**	**0.33**	**130**	PG	**Pb**	**21 50 20.7**	**-0.3**
BNGB				SG	**Sb**	**21 50 25.7**	**-0.2**
ERZN	**Erzincan**	**0.62**	**308**	PG	**Pb**	**21 50 25.9**	**-0.2**
ERZN				SG	**Sb**	**21 50 25.7**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.64**	**262**	*e*P	**Pb**	**21 50 26.1**	**-0.2**
TNCL				*e*S	**Sg**	**21 50 34.2**	**-1.0**
TNCL				IAML		21 50 36.7	
	comp=Z,18nm,0.2s						
TNCL	**Tunceli-Merkez**	**0.64**	**262**	*i* P	**Pb**	**21 50 25.7**	**-0.6**
TNCL				*i* S	**Sg**	**21 50 34.1**	**-1.0**
TNCL				IAML		21 50 36.0	
	comp=E,24nm,0.2s						
TNCL				IAML		21 50 37.0	
	comp=N,22nm,0.2s						
EUZM	**Uzumlu**	**0.72**	**315**	*e*P	**Pb**	**21 50 26.5**	**-1.2**
EUZM				*e*S	**Sg**	**21 50 37.8**	**+0.2**
EUZM				IAML		21 50 41.3	
	comp=Z,3.9nm,0.5s						
EUZM	**Uzumlu**	**0.72**	**315**	*i* P	**Pb**	**21 50 27.2**	**-0.4**
EUZM				IAML		21 50 39.0	
	comp=E,6.5nm,0.4s						
PTK	**Pertek**	**0.81**	**248**	PG	**Pb**	**21 50 28.9**	**-0.4**
PTK				SG	**Sg**	**21 50 40.5**	**-0.1**
MUSM	**Mu-Merkez**	**1.02**	**118**	*i* P	**Pn**	**21 50 33.1**	**+0.1**
MUSM				*i* S	**Sb**	**21 50 45.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.24**	**148**	*i* P	**Pg**	**21 50 38.5**	**+0.7**
SVAN				IAML		21 50 57.0	
	comp=E,7.3nm,0.3s						
SVAN				IAML		21 50 57.0	
	comp=N,12nm,0.3s						
KELT	**Kelkit**	**1.27**	**318**	*e*P	**Pb**	**21 50 37.5**	**+0.3**
KELT	**Kelkit**	**1.27**	**318**	*i* P	**Pb**	**21 50 37.6**	**+0.5**
KELT				*i* S	**Sb**	**21 50 52.3**	**-1.0**
KEMA	**Kemaliye**	**1.45**	**273**	*e*P	**Pn**	**21 50 39.3**	**+0.4**
KEMA				*e*S	**Sg**	**21 51 00.9**	**+0.2**
KEMA				IAML		21 51 01.9	
	comp=Z,1.3nm,0.4s						
KEMA	**Kemaliye**	**1.45**	**273**	*i* P	**Pb**	**21 50 39.9**	**-0.2**
KEMA				*i* S	**Sb**	**21 50 58.8**	**+0.6**
KEMA				IAML		21 51 00.0	
	comp=E,7.3nm,0.4s						
KEMA				IAML		21 51 01.0	
	comp=N,5.5nm,0.6s						

*HLW **20** 21:54:00.6, 35°.92N×30°.80E, h10km±13km, Md4.2, Ml4.2*
*ISK **20** 21:54:01.7, 35°.89N×30°.97E, h19km, ML4.0/46*
*DDA **20** 21:54:02.3, 35°.94N×31°.07E, h35km±1km, MW4.0*
*NEIC **20** 21:54:03.7±1.4, 35°.85N±0°.06×30°.94E±0°.06, h49km±7km, Error ellipse: s-maj=9.0km s-min=5.9km az=215.0*
*NIC **20** 21:54:03.2±0.0, 35°.98N×31°.03E, h65km±5km, Ml4.0/2*
*GII **20** 21:54:03.5±0.4, 35°.88N×30°.94E, h40km, mb4.1/3, MD3.7/6, Mm3.5/2*
*THE **20** 21:54:04.6, 35°.84N×30°.75E, h1km±3km, ML3.4/2, Error ellipse: s-maj=9.1km s-min=0.6km az=115.0*
*IDC **20** 21:54:04.5±1.5, 36°.03N×31°.07E, h49km±18km, mb3.7/15, mb1 3.9/23, mb1mx3.7/52, mbtmp4.0/23, ML3.8/8, MS3.3/2, Ms1 3.3/2, ms1mx2.6/58, Error ellipse: s-maj=17.9km s-min=12.5km az=10.0*

ISC 20 21:54:03.8±0.8, 35°.91N±0°.03×30°.98E±0°.02, h46km±9km, n287, σ1§39/331, mb3.9/21, 9C-6D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.66**	**309**	*i* P	**Pn**	**21 54 16.3**	**-0.5**
AKUM				*i* S	**Sn**	**21 54 27.5**	**+1.3**
AKUM				IAML		21 54 29.0	
	comp=N,5µm,0.6s						
AKUM				IAML		21 54 32.0	
	comp=E,4µm,0.6s						
KEMT	**Kemer-ANTALYA**	**0.77**	**334**	PG	**Pn**	**21 54 17.3**	**-1.0**
KEMT	**Kemer-ANTALYA**	**0.77**	**334**	Pg	**Pn**	**21 54 16.9**	**-1.5**
DEMR	**Demre-Antalya**	**0.93**	**291**	PG	**Pn**	**21 54 20.7**	**+0.3**
DEMR				SG	**Sn**	**21 54 33.8**	**+1.2**
DEMR	**Demre-Antalya**	**0.93**	**291**	Pg	**Pn**	**21 54 19.5**	**-0.9**
**ANTB

AKK2	**Akkuyu-Mersin**	**2.10**	**83**	PN	**Pn**	**21 54 37.0 +0.6**
GULN	**MERSIN_Gulnar**	**2.10**	**82**	*i* P	**Pn**	**21 54 38.1 +1.7**
GULN				IAML		21 55 05.0
	comp=N,649nm,0.4s					
GULN				IAML		21 55 07.0
	comp=E,991nm,0.9s					
AKKU	**Akkuyu-Mersin**	**2.10**	**82**	PN	**Pn**	**21 54 37.2 +0.7**
TEPK	**Tepekoy-MERSIN**	**2.10**	**81**	PN	**Pn**	**21 54 37.2 +0.6**
ATHAL	**Athalassa**	**2.12**	**110**	P	**Pn**	**21 54 37.0 +0.3**
BASM	**Basmaki-Afyon**	**2.14**	**340**	PN	**Pn**	**21 54 37.9 +0.8**
CSS	**Mathiatis**	**2.14**	**115**	PN	**Pn**	**21 54 37.0 0.0**
CSS	**Mathiatis**	**2.14**	**115**	Pn	**Pn**	**21 54 36.6 -0.4**
CSS	**Mathiatis**	**2.14**	**115**	P	**Pn**	**21 54 36.7 -0.3**
CSS				AML	AML	21 55 18.6
	comp=E,1.9nm,0.8s					
CSS				AML	AML	21 55 22.9
	comp=E,1.5nm,0.5s					
CSS	**Mathiatis**	**2.14**	**115**	Pn	**Pn**	**21 54 36.8 -0.3**
KMER	**Konya-Meram**	**2.17**	**31**	*i* P	**Pn**	**21 54 39.5 +2.0**
KMER				*i* S	**Sn**	**21 55 03.9 +0.7**
KMER				IAML		21 55 10.0
	comp=N,627nm,0.5s					
KMER				IAML		21 55 11.0
	comp=E,462nm,0.4s					
LFK	**Lefkose**	**2.17**	**106**	PN	**Pn**	**21 54 38.2 +0.7**
YESI	**Yesilovacik-Me**	**2.18**	**82**	PN	**Pn**	**21 54 38.2 +0.7**
TISA	**Tisan-Mersin**	**2.20**	**83**	PN	**Pn**	**21 54 38.7 +0.8**
AKIN	**Akıncılar- Kıb**	**2.22**	**113**	PN	**Pn**	**21 54 38.5 +0.4**
IKL	**Isikli**	**2.22**	**81**	PN	**Pn**	**21 54 39.1 +1.0**
KARG	**Kargicak-Mersi**	**2.23**	**82**	PN	**Pn**	**21 54 38.9 +0.6**
KRMN	**Karaman**	**2.23**	**55**	PN	**Pn**	**21 54 40.2 +1.8**
DOGA	**KONYA_Doganhis**	**2.26**	**14**	*i* P	**Pn**	**21 54 41.0 +2.1**
DOGA				*i* S	**Sn**	**21 55 07.0 +1.4**
DOGA				IAML		21 55 11.0
	comp=E,811nm,0.7s					
DOGA				IAML		21 55 15.0
	comp=N,1µm,0.7s					
TAVA	**DENIZLI_Tavas**	**2.27**	**314**	*i* P	**Pn**	**21 54 40.2 +1.2**
TAVA				IAML		21 55 22.0
	comp=N,397nm,0.7s					
TAVA				IAML		21 55 27.0
	comp=E,624nm,0.8s					
KEBE	**Keben-Mersin**	**2.28**	**76**	PN	**Pn**	**21 54 40.3 +1.3**
ARG	**Arkhangelos**	**2.33**	**278**	P	**Pn**	**21 54 40.0 +0.4**
ARG	**Arkhangelos**	**2.33**	**278**	PN	**Pn**	**21 54 39.5 -0.1**
ARG	**Arkhangelos**	**2.33**	**278**	P	**Pn**	**21 54 40.0 +0.4**
TURN	**Turunc**	**2.37**	**292**	PN	**Pn**	**21 54 40.7 +0.6**
TURN	**Turunc**	**2.37**	**292**	*i* P	**Pn**	**21 54 40.0 -0.2**
TURN				IAML		21 55 11.0
	comp=E,124nm,0.3s					
TURN				IAML		21 55 28.0
	comp=N,158nm,0.6s					
OSC1	**CSNet OBS 1**	**2.41**	**174**	P	**Pn**	**21 54 42.1 +1.3**
SILI	**Silifke-Mersin**	**2.43**	**78**	PN	**Pn**	**21 54 41.9 +0.9**
KZIL	**AFYON_Kizioren**	**2.44**	**344**	*i* P	**Pn**	**21 54 42.3 +1.0**
KZIL				IAML		21 55 23.0
	comp=N,161nm,0.7s					
KZIL				IAML		21 55 23.0
	comp=E,214nm,0.5s					
YER	**Yerkesik**	**2.49**	**300**	P	**Pn**	**21 54 43.4 +1.5**
YER				S	**Sn**	**21 55 13.4 +2.3**
YER	**Yerkesik**	**2.49**	**300**	PN	**Pn**	**21 54 42.8 +0.9**
LADK	**Ladik-KONYA**	**2.54**	**25**	PN	**Pn**	**21 54 43.6 +0.9**
EREN	**Erenkoy**	**2.62**	**97**	PN	**Pn**	**21 54 45.1 +1.4**
EREN	**Erenkoy**	**2.62**	**97**	*i* P	**Pn**	**21 54 45.7 +2.0**
EREN				*i* S	**Sn**	**21 55 10.7 -3.6**
SHUT	**Suhut-Afyon**	**2.66**	**353**	PN	**Pn**	**21 54 45.4 +1.1**
KHL	**Karahalli**	**2.68**	**335**	PN	**Pn**	**21 54 45.5 +1.0**
KDHN	**Kadinhani**	**2.76**	**19**	*i* P	**Pn**	**21 54 46.7 +1.1**
KDHN				IAML		21 55 24.0
	comp=N,165nm,0.5s					
KDHN				IAML		21 55 24.0
	comp=E,223nm,0.4s					
DATC	**Datca-Mugla**	**2.81**	**289**	PN	**Pn**	**21 54 46.7 +0.5**
DAT	**Datca**	**2.87**	**288**	PN	**Pn**	**21 54 47.8 +0.7**
YESY	**Yesilyurt**	**2.90**	**49**	PN	**Pn**	**21 54 49.5 +1.9**
MLSB	**Milas**	**2.92**	**299**	PN	**Pn**	**21 54 48.9 +1.1**
AFYO	**Afyonkarahisar**	**2.92**	**350**	*i* P	**Pn**	**21 54 49.6 +1.7**
AFYO				IAML		21 55 33.0
	comp=N,372nm,1.0s					
AFYO				IAML		21 55 33.0
	comp=E,377nm,0.9s					
KERG	**Konya-Eregli**	**2.94**	**58**	*i* P	**Pn**	**21 54 50.2 +2.1**
KERG				IAML		21 55 32.0
	comp=E,503nm,0.5s					
KERG				IAML		21 55 33.0
	comp=N,367nm,0.8s					
AYDN	**Tasoluk**	**3.04**	**306**	*i* P	**Pn**	**21 54 50.3 +0.9**
AYDN				IAML		21 55 38.0
	comp=E,111nm,0.6s					
AYDN				IAML		21 55 49.0
	comp=N,157nm,0.7s					
KIZT	**Kizilcal**	**3.05**	**13**	PN	**Pn**	**21 54 50.8 +1.1**
SULT	**Sultanhani-AKS**	**3.06**	**41**	PN	**Pn**	**21 54 51.1 +1.4**
BDRM	**Kayabasi**	**3.07**	**293**	*i* P	**Pn**	**21 54 48.7 -1.1**
BDRM				IAML		21 56 10.0
	comp=E,94nm,0.6s					
CHBY	**Cihanbeyli**	**3.08**	**29**	PN	**Pn**	**21 54 50.8 +0.8**
KARP	**Karpathos**	**3.13**	**265**	P	**Pn**	**21 54 51.5 +0.9**
KARP				S	**Sn**	**21 55 27.9 +1.2**
	comp=E,372nm,0.2s					
KARP	**Karpathos**	**3.13**	**265**	PN	**Pn**	**21 54 51.5 +0.9**
KARP	**Karpathos**	**3.13**	**265**	P	**Pn**	**21 54 51.5 +0.9**
KARP				S	**Sn**	**21 55 27.8 +1.1**
KARP	**Karpathos**	**3.13**	**265**	Pn	**Pn**	**21 54 51.5 +0.9**
NIS1	**Nisyros Isl.**	**3.15**	**284**	P	**Pn**	**21 54 51.7 +0.8**
NIS1	**Nisyros Isl.**	**3.15**	**284**	PN	**Pn**	**21 54 51.9 +1.0**
BODT	**Bodrum**	**3.17**	**292**	P	**Pn**	**21 54 51.8 +0.6**
BODT				S	**Sn**	**21 55 28.6 +0.8**
BODT	**Bodrum**	**3.17**	**292**	PN	**Pn**	**21 54 51.8 +0.6**
KULA	**Kula-Manisa**	**3.19**	**325**	P	**Pn**	**21 54 52.0 +0.5**
KULA				S	**Sn**	**21 55 31.1 +2.7**
KULA	**Kula-Manisa**	**3.19**	**325**	PN	**Pn**	**21 54 51.8 +0.3**
AYDB	**Zeytinkoy-Aydi**	**3.20**	**310**	PN	**Pn**	**21 54 52.5 +0.8**
USAK	**Uak-Merkez**	**3.21**	**331**	*i* P	**Pn**	**21 54 52.0 +0.3**
USAK				*i* S	**Sn**	**21 55 26.2 -2.5**
USAK				IAML		21 55 42.0
	comp=N,113nm,0.7s					
USAK				IAML		21 55 42.0
	comp=E,98nm,0.7s					
YKAV	**Yalikavak-Bodr**	**3.22**	**293**	PN	**Pn**	**21 54 52.7 +0.9**
MANT	**Manisa**	**3.22**	**324**	*i* P	**Pn**	**21 54 51.8 -0.3**
MANT				*i* S	**Sn**	**21 55 26.2 -3.1**
MANT	**Manisa**	**3.22**	**324**	Pn	**Pn**	**21 54 52.2 +0.1**
DED	**Mersin**	**3.26**	**70**	*i* P	**Pn**	**21 54 53.6 +1.2**
DED				*i* S	**Sn**	**21 55 30.2 +0.3**
KOSK	**Kos Island**	**3.34**	**286**	PN	**Pn**	**21 54 54.5 +1.1**
GULE	**Gulek**	**3.35**	**65**	*i* P	**Pn**	**21 54 56.3 +2.5**
GULE				*i* S	**Sn**	**21 55 35.4 +2.9**
GEDZ	**Gediz**	**3.37**	**339**	PN	**Pn**	**21 54 55.2 +1.2**
AUKIR	**Kırka- Seyitga**	**3.38**	**354**	*i* P	**Pn**	**21 54 54.5 +0.4**
AUKIR				*i* S	**Sn**	**21 55 31.1 -2.0**
GDZ	**Gediz**	**3.39**	**340**	*i* P	**Pn**	**21 54 55.1 +0.8**
GDZ				IAML		21 55 39.0
	comp=N,36nm,0.5s					
CIFT	**Cifteler, Eski**	**3.45**	**1**	PN	**Pn**	**21 54 56.3 +1.3**
KULU	**Kulu**	**3.52**	**27**	PN	**Pn**	**21 54 57.5 +1.4**
AKSY	**AKSARAY - Alti**	**3.52**	**38**	*i* P	**Pn**	**21 54 57.7 +1.6**
SIMA	**Simav-Kutahya**	**3.54**	**334**	PN	**Pn**	**21 54 57.1 +0.7**
AUSIV	**SIVRIHISAR**	**3.55**	**7**	*i* P	**Pn**	**21 54 57.1 +0.6**
AUSIV				*i* S	**Sn**	**21 55 36.8 -0.5**
AUSIV				IAML		21 55 41.0
	comp=N,49nm,0.3s					
AUSIV				IAML		21 55 45.0
	comp=E,69nm,0.7s					
SVRH	**Sivrihisar-ESK**	**3.56**	**7**	PN	**Pn**	**21 54 57.7 +1.1**
KKUL	**Konya-Kulu**	**3.60**	**25**	*i* P	**Pn**	**21 54 57.7 +0.4**
TVSB	**Tavsanli**	**3.73**	**342**	PN	**Pn**	**21 55 00.1 +1.1**
SMG	**Samos**	**3.78**	**300**	P	**Pn**	**21 54 59.4 -0.1**
YURE	**YUREGIR**	**3.87**	**75**	*i* P	**Pn**	**21 55 01.9 +1.2**
AKO	**Adana**	**3.91**	**65**	*i* P	**Pn**	**21 55 01.9 +0.5**
DGB	**zmir**	**3.92**	**304**	*i* P	**Pn**	**21 55 00.8 -0.5**
DGB				*i* S	**Sn**	**21 55 39.2 -6.8**
KIRS	**Kirehir-Merke**	**3.98**	**35**	*i* P	**Pn**	**21 55 03.4 +1.1**
BORA	**Eskisehir**	**3.99**	**354**	*i* P	**Pn**	**21 55 03.3 +0.8**
BORA				*i* S	**Sn**	**21 55 47.4 -0.5**
BLCB	**Balcova**	**4.00**	**309**	P	**Pn**	**21 55 02.6 +0.1**
BBAL	**Bala**	**4.01**	**24**	*i* P	**Pn**	**21 55 04.5 +1.7**
AUBOZ	**BOZOYUK**	**4.07**	**350**	*i* P	**Pn**	**21 55 04.8 +1.3**
AUBOZ				*i* S	**Sn**	**21 55 50.2 +0.3**
YAHY	**KAYSERI_Yahyal**	**4.13**	**57**	*i* P	**Pn**	**21 55 06.4 +1.9**
BR231	**Keskin MP Arra**	**4.18**	**19**	Pn	**Pn**	**21 55 06.8 +1.7**
AVNS	**Nevsehir-Avano**	**4.23**	**46**	*i* P	**Pn**	**21 55 07.9 +2.1**
ANAF	**Anafi Island**	**4.24**	**278**	P	**Pn**	**21 55 06.2 +0.4**
STEP	**BALIKESIR_Sava**	**4.32**	**324**	*i* P	**Pn**	**21 55 06.6 -0.4**
STEP				*i* S	**Sn**	**21 55 50.3 -5.8**
ZEDA	**zmir-Bergama**	**4.35**	**316**	*i* P	**Pn**	**21 55 06.6 -0.7**
BR131	**Keskin Array S**	**4.36**	**28**	Pn	**Pn**	**21 55 08.3 +0.8**
BRTR	**Keskin Array B**	**4.36**	**28**	P	**Pn**	**21 55 08.2 +0.6**
	comp=E,4.3nm,0.3s,baz=344,slow=5.5,SNR=97					
BRTR				S	**Sn**	**21 55 58.5 +1.4**
	comp=E,2.2nm,0.3s,baz=210,slow=17,SNR=4.3					
DQRL	**Deir Qamar**	**4.37**	**119**	*eP*	**Pn**	**21 55 10.0 +2.3**
HWQ	**Hawqa**	**4.39**	**110**	*eP*	**Pn**	**21 55 12.0 +4.0**
NPS	**Neapolis**	**4.42**	**263**	P	**Pn**	**21 55 09.2 +0.9**
ULDT	**Uludag**	**4.47**	**342**	*i* P	**Pn**	**21 55 10.0 +0.9**
ULDT				*i* S	**Sn**	**21 55 59.1 -0.9**
SANT	**Santorini**	**4.49**	**278**	Pn	**Pn**	**21 55 09.5 +0.2**
QRWL	**Qaraoun**	**4.53**	**120**	*eP*	**Pn**	**21 55 10.7 +0.8**
THR6	**Thira Island,**	**4.54**	**277**	P	**Pn**	**21 55 10.6 +0.7**
THR3	**Thira Island,**	**4.54**	**278**	P	**Pn**	**21 55 10.4 +0.5**
KIBS	**BOLU**	**4.56**	**8**	*i* P	**Pn**	**21 55 11.1 +0.8**
MDUB	**Mudurnu**	**4.56**	**2**	Pn	**Pn**	**21 55 11.9 +1.6**
IGD	**Bursa**	**4.57**	**343**	*i* P	**Pn**	**21 55 11.4 +1.0**
IGD				*i* S	**Sn**	**21 56 01.0 -1.1**
THR5	**Thira Island,**	**4.58**	**278**	P	**Pn**	**21 55 10.5 0.0**
GEYV	**SAKARYA_Geyve**	**4.60**	**354**	*i* P	**Pn**	**21 55 10.9 +0.1**
MMA0B	**Mount Meron ar**	**4.66**	**127**	Pn	**Pn**	**21 55 12.5 +0.8**
MMAI	**Mount Meron Ar**	**4.66**	**127**	P	**Pn**	**21 55 11.4 -0.3**
	comp=E,6.0nm,0.3s,baz=310,slow=12,SNR=27					
MMAI				S	**Sn**	**21 56 04.5 0.0**
	comp=E,16nm,0.3s,baz=325,slow=27,SNR=6.7					
BALY	**Balya**	**4.66**	**326**	*i* P	**Pn**	**21 55 11.6 -0.1**
OFRI	**`Ofer**	**4.66**	**134**	Pn	**Pn**	**21 55 12.2 +0.5**
OFRI				Sn	**Sn**	**21 56 04.4 -0.2**
RCY	**Rachaya**	**4.67**	**120**	*eP*	**Pn**	**21 55 12.8 +0.9**
BLGI	**Bet Lehem HaGe**	**4.71**	**131**	Pn	**Pn**	**21 55 12.6 +0.3**
GEM	**Giv'at Ha'Em**	**4.71**	**123**	Pn	**Pn**	**21 55 13.1 +0.8**
CMDR	**Camlidere-ANKA**	**4.73**	**14**	*i* P	**Pn**	**21 55 13.1 +0.5**
CMDR				*i* S	**Sn**	**21 56 05.8 -0.4**
NATI	**Neve Ativ**	**4.73**	**123**	Pn	**Pn**	**21 55 13.5 +0.9**
AYVA	**Ayvalik**	**4.81**	**316**	*i* P	**Pn**	**21 55 14.1 +0.5**
SLTI	**Sal'it**	**4.97**	**136**	Pn	**Pn**	**21 55 16.4 +0.5**
IDI	**Anoyia**	**5.00**	**265**	P	**Pn**	**21 55 16.5 +0.2**
	comp=E,4.9nm,0.3s,baz=59,slow=4.1,SNR=66					
IDI				S	**Sn**	**21 56 09.5 -3.4**
	comp=E,5.1nm,0.3s,baz=329,slow=20,SNR=6.4					
IDI	**Anoyia**	**5.00**	**265**	P	**Pn**	**21 55 16.2 -0.1**
IDI	**Anoyia**	**5.00**	**265**	Pn	**Pn**	**21 55 16.8 +0.5**
MMLI	**Mount Malkishu**	**5.05**	**132**	Pn	**Pn**	**21 55 17.9 +0.8**
SHMJ	**Saham**	**5.07**	**127**	Pn	**Pn**	**21 55 18.0 +0.7**
KNL	**Balıkesir**	**5.14**	**329**	*i* P	**Pn**	**21 55 18.3 +0.2**
GAZ	**Gaziantep**	**5.18**	**74**	Pn	**Pn**	**21 55 19.6 +0.9**
BAYC	**CANAKKALE_Bayr**	**5.19**	**319**	*i* P	**Pn**	**21 55 18.5 -0.4**
BAYC				*i* S	**Sn**	**21 56 12.4 -5.0**
HMDT	**Nahal Hemdat**	**5.25**	**133**	Pn	**Pn**	**21 55 20.2 +0.5**
UJAP	**Al Uja**	**5.43**	**135**	Pn	**Pn**	**21 55 22.1 0.0**
AMAZ	**Amatzia**	**5.46**	**142**	Pn	**Pn**	**21 55 23.2 +0.6**
AMAZ				Sn	**Sn**	**21 56 24.5 +0.4**
VAM	**Vamos**	**5.54**	**267**	P	**Pn**	**21 55 24.4 +0.7**
DSI	**Dead Sea**	**5.67**	**138**	Pn	**Pn**	**21 55 25.4 -0.1**
YTIR	**Yattir**	**5.70**	**142**	Pn	**Pn**	**21 55 27.0 +1.1**
YTIR				Sn	**Sn**	**21 56 30.2 +0.1**
IMMV	**Iera Moni Meta**	**5.71**	**268**	P	**Pn**	**21 55 27.1 +1.1**
KZIT	**Kziot**	**5.75**	**149**	Pn	**Pn**	**21 55 26.4 -0.2**
KZIT				Sn	**Sn**	**21 56 30.2 -1.1**
GHAJ	**Ghor Haditha**	**5.98**	**139**	Pn	**Pn**	**21 55 30.6 +0.9**
KOT	**Kottamia**	**6.01**	**173**	P	**Pn**	**21 55 31.0 +0.9**
	baz=171					
KOT				AMP		21 56 00.0
	baz=171					
KOT				S	**Sn**	**21 56 35.8 -1.9**
	baz=171					
HHAG	**Hagoal**	**6.01**	**171**	P	**Pn**	**21 55 30.8 +0.6**
	baz=169					
ASF	**Jabal al Asfar**	**6.17**	**125**	P	**Pn**	**21 55 34.5 +2.1**
	comp=E,0.5nm,0.3s,baz=270,slow=6.0,SNR=6.1					
KARJ	**KARJ**	**6.17**	**139**	Pn	Pn	21 55 22.9 -9.4
SUZ	**Suez**	**6.25**	**165**	P	**Pn**	**21 55 34.4 +1.0**
	baz=163					
SMTH	**Samothraki Isl**	**6.26**	**318**	P	**Pn**	**21 55 33.8 +0.3**
HSAF	**As Saff**	**6.29**	**175**	P	**Pn**	**21 55 34.5 +0.4**
	baz=174					
ALN	**Alexandroupoli**	**6.31**	**324**		**Pn**	**21 55 34.6 +0.4**
GLL	**Jalalah**	**6.34**	**174**	P	**Pn**	**21 55 35.4 +0.7**
	baz=172					
PRNI	**Paran**	**6.49**	**148**	Pn	**Pn**	**21 55 36.7 0.0**
HRFI	**Mount Harif**	**6.78**	**149**	Pn	**Pn**	**21 55 40.7 0.0**
MBRI	**Mt Berech**	**6.94**	**150**	Pn	**Pn**	**21 55 42.9 -0.1**
MBRI				Sn	**Sn**	**21 57 00.5 -0.1**
EIL	**Elat**	**7.06**	**151**	P	**Pn**	**21 55 44.7 +0.1**
	comp=E,3.9nm,0.3s,baz=335,slow=7.3,SNR=29					
EIL				S	**Sn**	**21 57 01.1 -2.5**
	comp=E,1.8nm,0.3s,baz=29,slow=19,SNR=4.0					
EIL				LR	LR	21 59 05.5
	comp=E,124nm,18.6s,baz=33,slow=42					
EIL	**Elat**	**7.06**	**151**	Pn	**Pn**	**21 55 44.4 -0.2**
NBNS	**Bani Suef**	**7.27**	**178**	P	**Pn**	**21 55 48.4 +1.0**
	baz=176					
NBNS				AMP		21 57 00.0
	baz=176					
ITM	**Ithomi**	**7.39**	**283**	Pn	**Pn**	**21 55 48.6 -0.5**
AGG	**Agios Georgios**	**7.55**	**297**	Pn	**Pn**	**21 55 52.0 +0.8**
LIT	**Litokhoron**	**7.90**	**305**	Pn	**Pn**	**21 55 57.3 +1.3**
SWA2		**8.11**	**217**	P	**Pn**	**21 55 57.9 -1.1**
	baz=216					
SWA2				S	**Sn**	**21 57 24.8 -4.6**
	baz=216					
TAMRE	**El Minia**	**8.20**	**180**	P	**Pn**	**21 56 01.0 +0.8**
	baz=179					
TIRR	**Tirgusor**	**8.76**	**348**	⇓P	**Pn**	**21 56 09.3 +1.5**
TIRR	**Tirgusor**	**8.76**	**348**	Pn	**Pn**	**21 56 08.3 +0.5**
HFRF	**Wahat Farafira**	**9.02**	**195**	P	**Pn**	**21 56 11.1 -0.3**
	baz=195					
TPGR	**Topolog**	**9.15**	**348**	⇑P	**Pn**	**21 56 17.8 +4.7**
CFR	**Carcaliu**	**9.51**	**348**	⇑P	**Pn**	**21 56 17.3 -0.7**
MLR	**Muntele Rosu**	**10.30**	**340**	⇓P	Pn	21 56 37.4 +8.4
VRI	**Vrincioaia**	**10.45**	**343**	⇑P	**Pn**	**21 56 34.3 +3.4**
PLOR	**Plostina**	**10.46**	**343**	⇑P	**Pn**	**21 56 31.8 +0.8**
VOIR		**10.53**	**337**	⇓P	Pn	21 56 37.3 +5.2
DOPR	**Dopca**	**10.90**	**339**	⇓P	**Pn**	**21 56 40.4 +3.3**
OZUR		**10.90**	**341**	⇑P	**Pn**	**21 56 41.5 +4.4**
LOT	**Lotru**	**10.98**	**332**	⇓P	Pn	21 56 43.3 +4.9
HERR	**Herculane**	**11.08**	**327**	⇑P	Pn	21 56 32.8 -6.8
MDVR	**Moldovita**	**11.33**	**324**	⇑P	Pn	21 56 49.6 +6.6
GZR	**Gura Zlata**	**11.33**	**329**	⇑P	**Pn**	**21 56 47.7 +4.6**
BIZ	**Bicaz**	**11.61**	**343**	⇑P	Pn	21 57 00.1 +13
TIP	**Timpagrande**	**11.75**	**290**	Pn	**Pn**	**21 56 46.7 -2.1**
KIV	**Kislovodsk**	**12.05**	**45**	Pn	**Pn**	**21 56 54.7 +1.8**
BURAR	**Bucovina Array**	**12.46**	**342**	⇓P	**P**	**21 57 12.0 +2.9**
BURAR	**Bucovina Array**	**12.46**	**342**	Pn	**Pn**	**21 56 59.4 +0.9**
RAFF	**Raffo Rosso**	**13.42**	**281**	Pn	**Pn**	**21 57 09.9 -1.7**
CORL	**Corleone**	**14.28**	**283**	Pn	**Pn**	**21 57 22.0 -1.3**
KOLS	**Kolonicke sedl**	**14.50**	**337**	*eP*	**P**	**21 57 32.3 +0.5**
AKASG	**Malin Array Be**	**14.84**	**356**	P	**P**	**21 57 34.4 -1.1**
	comp=E,1.7nm,0.3s,baz=175,slow=9.2,SNR=15					
AKASG	**Malin Array Be**	**14.84**	**356**		**Pn**	**21 57 31.4 +0.9**
AKBB	**Malin Array Si**	**14.84**	**356**		**Pn**	**21 57 31.8 +1.2**
NRCA	**Norcia**	**15.44**	**302**		**Pn**	**21 57 38.3 -0.1**
NRCA				IAmb	IAmb	21 57 44.3
	comp=Z,8.0nm,0.9s					
ZOU	**Zoufplan**	**17.18**	**314**		**Pn**	**21 58 00.3 -0.3**
ZOU				IAmb	IAmb	21 58 03.9
	comp=Z,11nm,1.3s					
KBA	**Koelnbreinsper**	**17.25**	**316**	*eP*	**P**	**21 58 03.6 +1.1**
	comp=Z,4.2nm,0.6s,SNR=7.5					
CIMO	**Cimolais**	**17.37**	**312**	Pn	**Pn**	**21 58 02.7 -0.1**
KEST	**Kesra**	**17.55**	**276**	P	**P**	**21 58 07.8 +2.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=18,SNR=4.4					
ABTA	**Abfaltersbach**	**17.55**	**314**	*eP*	**P**	**21 58 06.5 +0.8**
	comp=Z,2.8nm,0.7s					
CTI	**Castel Tesino**	**17.72**	**311**		**P**	**21 58 07.3 -0.3**
GEC2	**GERESS Array S**	**18.11**	**321**	P	**Pn**	**21 58 12.2 +0.3**
GERES	**GERESS Array B**	**18.11**	**321**	P	**Pn**	**21 58 12.8 +0.9**
	comp=Z,0.2nm,0.3s,baz=123,slow=9.7,SNR=9.5					
GERES	**GERESS Array B**	**18.11**	**321**		**Pn**	**21 58 11.9 0.0**
WTTA	**Wattenberg**	**18.33**	**314**	*i* P	**Pn**	**21 58 15.4 +0.7**
	comp=Z,2.8nm,0.7s					
KHC	**Kasperske Hory**	**18.36**	**321**	*eP*	**Pn**	**21 58 15.5 +0.7**
KHC	**Kasperske Hory**	**18.36**	**321**	P	**Pn**	**21 58 14.9 0.0**
WATA	**Walderalm**	**18.40**	**314**	*eP*	**Pn**	**21 58 16.3 +0.8**
	comp=Z,3.7nm,0.7s					
SQTA	**Sankt Quirin**	**18.56**	**314**	*eP*	**Pn**	**21 58 18.0 +0.6**
	comp=Z,5.2nm,0.7s,SNR=5.3					
MOTA	**Moosalm**	**18.68**	**314**	*eP*	**Pn**	**21 58 19.0 +0.1**
	comp=Z,7.7nm,1.1s,SNR=5.2					
FETA	**Feichten**	**18.75**	**313**	*eP*	**Pn**	**21 58 20.3 +0.6**
	comp=Z,12nm,1.5s,SNR=8.5					
FUORN	**Ofenpass-Fuorn**	**18.84**	**311**	P	**Pn**	**21 58 20.5 -0.4**
RETA	**Reutte**	**18.96**	**314**	*eP*	**Pn**	**21 58 21.8 -0.4**
	comp=Z,4.0nm,0.9s					
DAVOX	**Davos/Dischmat**	**19.15**	**311**	P	**Pn**	**21 58 24.8 +0.2**
	comp=Z,0.6nm,0.3s,baz=107,slow=7.8,SNR=15					
DAVOX				LR	LR	22 06 34.5
	comp=Z,128nm,19.5s,baz=86,slow=39					
TUE	**Stuetta**	**19.34**	**310**	P	**P**	**21 58 25.8 +0.3**
TUE				IAmb	IAmb	21 58 36.8
	comp=Z,8.8nm,1.3s					
DAVA	**Damuels**	**19.38**	**312**	*eP*	**P**	**21 58 26.2 +0.4**
	comp=Z,24nm,1.0s					
SENIN	**Lac Senin/Sane**	**20.59**	**308**		**P**	**21 58 38.6 -0.5**
SENIN				IAmb	IAmb	21 58 53.5
	comp=Z,9.3nm,0.8s					
BFO	**Black Forest**	**20.80**	**314**	P	**P**	**21 58 42.0 +0.9**
BFO				IAmb	IAmb	21 58 47.1
	comp=Z,20nm,1.5s					
GEYT	**Alibeck**	**21.77**	**77**	P	**P**	**21 58 50.9 -0.8**
	comp=Z,0.9nm,0.3s,baz=286,slow=5.8,SNR=2.2					
GEYT	**Alibeck**	**21.77**	**77**	P	**P**	**21 58 50.8 -0.8**
UOSS	**Minazif**	**24.27**	**110**	P	**P**	**21 59 16.2 -0.6**
AKTO	**Aktyubinsk**	**24.31**	**45**	P	**P**	**21 59 15.7 -1.2**
	comp=Z,5.9nm,0.7s,baz=252,slow=10,SNR=12					
ABKAR	**Akbulak array**	**24.98**	**49**	P	**P**	**21 59 22.6 -0.4**
ABKAR	**Akbulak array**	**24.98**	**49**	P	**P**	**21 59 22.6 -0.4**
ABKAR				IAmb	IAmb	21 59 23.3
	comp=Z,3.6nm,1.1s					
FIA1	**FINESS Array S**	**25.75**	**355**	P	**P**	**21 59 28.4 -1.3**
FINES	**FINESS Array B**	**25.75**	**355**	P	**P**	**21 59 28.1 -1.6**
	comp=Z,1.7nm,0.4s,baz=160,slow=11,SNR=26					
FINES	**FINESS Array B**	**25.75**	**355**	P	**P**	**21 59 28.3 -1.5**
HFS	**Hagfors**	**26.69**	**341**	P	**P**	**21 59 37.6 -0.7**
	comp=Z,2.9nm,0.7s,baz=134,slow=11,SNR=4.3					
ARU	**Arti**	**27.72**	**34**	P	**P**	**21 59 46.8 -0.8**
	comp=Z,0.9nm,0.3s,baz=222,slow=7.1,SNR=5.9					
ARU	**Arti**	**27.72**	**34**	P	**P**	**21 59 47.4 -0.2**
ESDC	**Sonseca Array**	**27.76**	**288**	P	**P**	**21 59 49.2 +1.0**
	comp=Z,0.7nm,0.5s,baz=82,slow=9.7,SNR=14					
NB2	**NORSAR Subarra**	**28.13**	**340**	P	**P**	**21 59 50.0 -1.2**
	comp=Z,0.9nm,0.6s,baz=158,slow=9.3					
NOA	**NORSAR Array B**	**28.13**	**340**	P	**P**	**21 59 49.5 -1.8**
	comp=Z,0.6nm,0.7s,baz=140,slow=9.3,SNR=2.6					
CHGR	**Chuyangaron**	**30.36**	**73**	P	**P**	**22 00 11.8 +0.5**
PVAQ	**Vaqueiros**	**30.93**	**284**	P	**P**	**22 00 16.5 +0.1**
KK31	**Karatay Array

IDYN Dyngjuhals 0.12 28 P Pg 22 18 26.3 -2.0
baz=16
IDYN S Sg 22 18 28.1 -2.2
baz=16
IURH Urdarhals 0.20 48 P Pg 22 18 27.5 -2.0
baz=40
IURH S Sg 22 18 31.1 -1.3
baz=40
IDJK Dyngjujokull 0.21 149 P Pg 22 18 27.3 -2.5
baz=152
IDJK S Sg 22 18 30.9 -2.0
baz=152
IGRF Grimsfjall 0.30 161 P Pg 22 18 28.9 -2.4
baz=164
IGRF S Sg 22 18 33.6 -1.7
baz=164
IKVE Kverkfjoll 0.35 91 P Pg 22 18 29.8 -2.5
baz=88
IKVE S Sg 22 18 34.3 -2.7
baz=88
IHUS Husbondi 0.40 190 P Pg 22 18 31.1 -2.1
baz=194
IHUS S Sg 22 18 36.3 -2.1
baz=194
ISKR Skrokkalda 0.41 252 P Pg 22 18 31.2 -2.0
baz=255
IVOT Vottur 0.44 162 P Pg 22 18 31.3 -2.5
baz=164
IKRE Kreppuhraun 0.49 78 P Pg 22 18 31.9 -2.9
baz=76
IKRE S Sg 22 18 38.6 -2.6
baz=76
IJOK Jokulheimar 0.49 221 P Pg 22 18 32.4 -2.4
baz=224
IJOK S Sg 22 18 39.3 -1.9
baz=224
IASK Askja 0.52 44 P Pg 22 18 32.7 -2.6
baz=41
IASK S Sg 22 18 39.7 -2.4
baz=41
IMKO Mokollar 0.57 59 P Pg 22 18 33.7 -2.7
baz=56
IMKO S Sg 22 18 42.1 -1.9
baz=56
IIEY Innrieyrar 0.65 205 P Pg 22 18 35.2 -2.7
baz=207
IIEY S Sg 22 18 43.9 -2.5
baz=207
ISVA Svartarkot 0.66 9 P Pg 22 18 35.5 -2.5
baz=6.8
IKSK Karasker 0.69 140 P Pg 22 18 34.7 -3.8
baz=140
IKSK S Sg 22 18 43.6 -3.9
baz=140
IKAL Kalfafell 0.75 187 P Pg 22 18 36.7 -3.0
baz=188
IVSH V-Sauoahnukur 0.77 80 P Pg 22 18 36.6 -3.4
baz=79
IVSH S Sg 22 18 46.8 -3.3
baz=79
IVAT Vatnsfell 0.80 232 P Pg 22 18 37.8 -2.8
baz=233
IADA Aoalbol 0.89 67 P Pg 22 18 38.6 -3.7
baz=66
IHVE Hveravellir 0.91 283 P Pg 22 18 39.5 -3.2
baz=283
IHVE S Sg 22 18 52.1 -2.4
baz=283
IMEL Melhnausar 0.95 21 P Pg 22 18 40.3 -3.4
baz=20
IREN Reynihlio 1.00 14 P Pg 22 18 41.0 -3.4
baz=13
IKVO Krokottuvotn 1.06 14 P Pg 22 18 42.0 -3.6
baz=12
ISNB Snabyli 1.08 208 P Pg 22 18 42.2 -3.7
baz=210
IGRS Grimsstaoir 1.12 31 P Pb 22 18 43.0 -3.6
baz=29
IFED Fedgar 1.16 236 P Pb 22 18 44.2 -3.3
baz=237
IRJU Rjupnafell 1.19 206 P Pb 22 18 44.4 -3.5
baz=208
IGHA Grjothals 1.21 16 P Pn 22 18 44.4 -3.9
baz=15
IGRA Granastaoir 1.24 358 P Pn 22 18 44.9 -3.7
baz=358
IDIM Dimmadalss 1.30 10 P Pn 22 18 46.0 -3.5
baz=9.2
IHLA Hella 1.32 344 P Pn 22 18 46.5 -3.2
baz=343
ISAU Saurbar 1.45 243 P Pn 22 18 48.6 -2.9
baz=244
IGIL Gilhagi 1.48 18 P Pn 22 18 48.4 -3.5
baz=18
BORG Borgarnes 1.65 274 Pg Pn 22 18 51.7 -2.4
36nm,0.3s,baz=100,slow=13,SNR=43
BORG Lg Lg 22 19 14.5
14nm,0.3s,baz=199,slow=22,SNR=8.3
BORG Borgarnes 1.65 274 Pn Pn 22 18 51.5 -2.7
BORG Sn Sb 22 19 14.4 -2.0
IHRN Hraun 1.80 324 P Pn 22 18 54.5 -1.9
baz=323
EKA Eskdalemuir Ar 11.77 136 Pn Pn 22 21 12.4 -0.6
baz=329,slow=13,SNR=7.0
ESK Eskdalemuir 11.77 136 P Pn 22 21 13.2 +0.2
ESK Eskdalemuir 11.77 136 Pn Pn 22 21 13.2 +0.2
NOA NORSAR Array B 13.53 92 Pn Pn 22 21 37.8 +0.8
0.0nm,0.3s,baz=299,slow=13,SNR=3.6
KONO Kongsberg 13.55 99 *i* P Pn 22 21 39.5 +2.2
KONO pmax pmax
comp=Z,15nm,1.1s
NC602 NORSAR Array S 13.82 93 Pn Pn 22 21 42.8 +1.9
HFS Hagfors 15.05 93 Pn P 22 22 00.5 -2.5
comp=Z,0.1nm,0.3s,baz=304,slow=10,SNR=3.7
ARCES ARCESS Array B 17.11 55 P P 22 22 26.7 +0.9
baz=289,slow=9.2,SNR=1.2
MEM Membach 18.72 128 pPn Pn 22 22 45.8 +1.7
MEM Membach 18.72 128 P Pn 22 22 50.9 +6.8
FINES FINESS Array B 19.70 79 P Pn 22 22 55.3 -0.4
comp=Z,0.1nm,0.3s,baz=259,slow=13,SNR=4.6
FINES FINESS Array B 19.70 79 P Pn 22 22 54.5 -1.2
CLL Collm 20.71 116 *i* P Pn 22 23 05.7 -2.0
comp=Z,15nm,1.2s
CLL *e* 22 23 14.0
CLL Collm 20.71 116 *i* P Pn 22 23 05.7 -2.0
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 20.71 116 P P 22 23 05.1 -0.3
CLL IAmb IAmb 22 23 08.8
comp=Z,21nm,1.4s
ECH Echery 21.16 129 P P 22 23 10.6 +0.3
ECH pmax pmax
comp=Z,13nm,1.1s
ECH Echery 21.16 129 P P 22 23 10.6 +0.3
GRA1 Grafenberg Arr 21.34 121 P P 22 23 13.1 +0.9
GRA1 IAmb IAmb 22 23 25.4
comp=Z,17nm,1.1s
GRF Grafenberg Arr 21.34 121 P P 22 23 13.1 +0.9
GRF pmax pmax
comp=Z,17nm,1.1s
NKC Novy Kostel 21.36 118 *e*P P 22 23 15.1 +2.7
NKC Novy Kostel 21.36 118 *e*P P 22 23 15.1 +2.7
STU Stuttgart 21.38 125 P P 22 23 12.8 +0.2
STU pmax pmax
comp=Z,40nm,1.5s
STU Stuttgart 21.38 125 P P 22 23 12.8 +0.2
STU IAmb IAmb 22 23 15.9
comp=Z,40nm,1.5s
BRG Berggiesshubel 21.42 115 *e*P P 22 23 12.9 -0.1
comp=Z,15nm,1.4s
BRG Berggiesshubel 21.42 115 *e*P P 22 23 12.9 -0.1
BRG pmax pmax
comp=Z,15nm,1.4s
BFO Black Forest 21.46 127 P P 22 23 13.5 0.0
BFO pmax pmax
comp=Z,14nm,1.2s
BFO Black Forest 21.46 127 P P 22 23 13.5 0.0
PRU Pruhonice 22.36 116 *e*P P 22 23 24.6 +1.5
PRU Pruhonice 22.36 116 *e*P P 22 23 24.6 +1.5
KSP Ksiaz 22.37 112 *e*P P 22 23 23.8 +0.6
CHVC Chvalec 22.47 113 *e*P P 22 23 25.8 +1.5
GOPC GO Pecny, Ondr 22.51 116 *e*P P 22 23 25.6 +0.9
GOPC GO Pecny, Ondr 22.51 116 *e*P P 22 23 25.6 +0.9
OSTC Ostas 22.56 113 *e*P P 22 23 27.1 +1.8
KHC Kasperske Hory 22.68 118 *e*P P 22 23 27.1 +0.5
KHC Kasperske Hory 22.68 118 *ce*P P 22 23 28.8 +2.2
KHC pmax pmax
comp=Z,17nm,1.0s
KHC Kasperske Hory 22.68 118 P P 22 23 27.5 +0.9
DPC Dobruska-Polom 22.77 113 *e*P P 22 23 28.4 +0.9
DPC Dobruska-Polom 22.77 113 *e*P P 22 23 28.4 +0.9
SUW Suwalki 22.89 98 P P 22 23 29.2 +0.6
SUW pmax pmax
comp=Z,18nm,0.9s
SUW Suwalki 22.89 98 P P 22 23 29.2 +0.6
SUW IAmb IAmb 22 23 30.8
comp=Z,18nm,0.9s
DAVA Damuels 22.89 126 *e*P P 22 23 32.4 +3.5
comp=Z,7.5nm,1.1s
GEC2 GERESS Array S 22.96 119 P P 22 23 29.6 +0.1
GERES GERESS Array B 22.96 119 P P 22 23 29.7 +0.1
comp=Z,1.7nm,0.9s,baz=324,slow=8.8,SNR=10
GERES GERESS Array B 22.96 119 P P 22 23 29.4 -0.2
RETA Reutte 23.03 125 *e*P P 22 23 31.1 +0.8
comp=Z,4.2nm,0.9s
KRLC Kraliky 23.16 113 *e*P P 22 23 32.1 +0.5
KRLC Kraliky 23.16 113 *e*P P 22 23 32.1 +0.5
MOTA Moosalm 23.27 125 *e*P P 22 23 34.7 +1.9
comp=Z,13nm,1.6s
DAVOX Davos/Dischmat 23.33 127 P P 22 23 33.7 +0.3
comp=Z,2.2nm,0.8s,baz=339,slow=12,SNR=3.5
SQTA Sankt Quirin 23.41 125 *e*P P 22 23 37.0 +2.8
comp=Z,6.4nm,1.1s
FETA Feichten 23.42 125 *e*P P 22 23 36.6 +2.3
comp=Z,4.4nm,1.2s
WATA Walderalm 23.45 124 *e*P P 22 23 36.2 +1.6
comp=Z,5.9nm,0.9s
WTTA Wattenberg 23.53 124 *e*P P 22 23 36.5 +1.1
comp=Z,7.9nm,1.2s
EUNU Eureka 23.65 336 P P 22 23 36.7 +0.5
EUNU IAmb IAmb 22 23 52.1
comp=Z,14nm,1.4s
VRAC Vranov 23.70 114 P P 22 23 37.6 +0.7
comp=Z,1.3nm,0.6s,baz=335,slow=12,SNR=4.2
MORC Moravsky Berou 23.70 112 P P 22 23 37.7 +0.7
MORC pmax pmax
comp=Z,6.0nm,1.1s
MORC Moravsky Berou 23.70 112 P P 22 23 37.7 +0.7
PBRG Braganca 23.74 160 *e*P P 22 23 50.5 +13
comp=Z,15nm,1.7s
OJC Ojcow 24.27 109 P P 22 23 40.5 -1.7
OJC pmax pmax
comp=Z,10.0nm,1.5s
OJC Ojcow 24.27 109 P P 22 23 40.5 -1.7
MVO Moncorvo 24.33 161 *e*P P 22 23 43.8 +0.9
comp=Z,33nm,1.6s
CONA Conrad Observa 24.54 117 *e*P P 22 23 45.7 +0.9
comp=Z,4.3nm,0.9s
CTI Castel Tesino 24.58 125 P P 22 23 45.3 +0.1
CTI pmax pmax
comp=Z,4.0nm,0.7s
CTI Castel Tesino 24.58 125 P P 22 23 45.3 +0.1
SMOL Smolenice 24.67 114 *e*P P 22 23 47.0 +1.1
SMOL pmax pmax
comp=Z,4.0nm,1.1s
SMOL Smolenice 24.67 114 *e*P P 22 23 47.0 +1.1
MODS Modra-Piesok 24.72 115 *e*P P 22 23 47.1 +0.7
MODS pmax pmax
comp=Z,7.0nm,1.2s
MODS Modra-Piesok 24.72 115 *e*P P 22 23 47.1 +0.7
STAL STALIGIAL 24.77 124 P P 22 23 46.6 -0.3
MYKA Terra Mystica 24.79 122 *e*P P 22 23 48.3 +1.2
comp=Z,1.1nm,0.4s
PRED Cave del Predi 24.92 122 P P 22 23 48.5 +0.2
LANS Liptovska Anna 24.97 111 *e*P P 22 23 49.9 +1.3
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 24.97 111 *e*P P 22 23 49.9 +1.3
ARSA Arzberg 24.97 118 *e*P P 22 23 49.6 +1.0
comp=Z,4.0nm,1.0s
MTE Manteigas 25.01 162 *e*P P 22 23 51.1 +2.1
comp=Z,17nm,1.2s
MTE Manteigas 25.01 162 P P 22 23 48.7 -0.3
MTE IAmb IAmb 22 23 52.2
comp=Z,16nm,1.2s
PCAS Casmilo, Conde 25.23 164 *e*P P 22 23 52.6 +1.6
comp=Z,28nm,1.8s
OBKA Obir 25.23 121 *e*P P 22 23 51.1 +0.1
comp=Z,3.7nm,1.1s
VYHS Vyhne 25.24 112 *e*P P 22 23 51.4 +0.4
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 25.24 112 *e*P P 22 23 51.4 +0.4
SOKA Soboth 25.27 120 *e*P P 22 23 52.1 +0.8
comp=Z,4.1nm,1.2s
PCBR Castelo Branco 25.57 162 *e*P P 22 23 56.6 +2.6
comp=Z,15nm,1.8s
KWP Kalwaria Pacla 25.91 106 P P 22 23 58.6 +1.4
KWP pmax pmax
comp=Z,24nm,1.2s
KWP Kalwaria Pacla 25.91 106 P P 22 23 58.6 +1.4
PMRV Marv??o 25.98 162 *e*P P 22 24 00.6 +2.8
comp=Z,20nm,1.6s
SCHQ Schefferville 26.04 271 P P 22 23 57.0 -1.3
SCHQ IAmb IAmb 22 24 09.8
comp=Z,20nm,1.4s
ESDC Sonseca Array 26.27 156 P P 22 24 00.2 -0.3
comp=Z,1.9nm,0.9s,baz=352,slow=9.2,SNR=15
KOLS Kolonicke sedl 26.28 108 *e*P P 22 24 00.1 -0.4
KOLS pmax pmax
comp=Z,13nm,1.5s
KOLS Kolonicke sedl 26.28 108 *e*P P 22 24 00.0 -0.4
LVV L'vov 26.32 104 *e*P P 22 24 02.7 +1.9
UZH Uzhgorod 26.52 108 *e*P P 22 24 03.1 +0.5
UZH *e* 22 24 10.7
OSSC Osservatorio P 26.65 129 P P 22 24 04.6 +0.7
OSSC IAmb IAmb 22 24 16.2
comp=Z,12nm,1.2s
AKASG Malin Array Be 27.84 98 P P 22 24 14.3 -0.2
comp=Z,0.2nm,0.3s,baz=317,slow=9.9,SNR=1.8
OBN Obninsk 27.88 84 *e*P P 22 24 14.7 0.0
OBN *e* 22 25 08.6
OBN pmax pmax
comp=Z,17nm,1.3s
CORL Corleone 32.39 131 P P 22 24 55.8 +1.0
CLTB Caltabellotta 32.65 131 P P 22 24 57.5 +0.4
CLTB IAmb IAmb 22 24 59.0
comp=Z,10nm,1.0s
AGG Agios Georgios 34.58 118 P P 22 25 14.3 +0.4
AGG pmax pmax
comp=Z,23nm,1.5s
AGG Agios Georgios 34.58 118 P P 22 25 14.3 +0.4
ARU Arti 36.07 66 *d* P P 22 25 26.7 +0.2
ARU 22 26 43.7
ARU S S 22 31 07.7 +2.5
ARU SS SS 22 33 37.1 -4.9
ARU pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 36.44 35 P P 22 25 30.8 +1.2
comp=Z,2.0nm,0.7s,baz=293,slow=7.5,SNR=4.2
GOF Gofitskoye 38.11 91 *e*P P 22 25 45.0 +1.0
GOF pmax pmax
comp=Z,31nm,1.0s
BRTR Keskin Array B 38.48 105 P P 22 25 48.1 +0.8
comp=Z,1.5nm,0.8s,baz=330,slow=8.3,SNR=7.5
BRTR Keskin Array B 38.48 105 P P 22 25 47.3 0.0
KIV Kislovodsk 38.84 92 *e*P P 22 25 51.7 +1.5
KIV pmax pmax
comp=Z,13nm,1.1s
SHA1 Shidzhatmaz 39.00 93 *i* P P 22 25 53.1 +1.4
KBZ Khabaz 39.11 92 P P 22 25 53.7 +1.4
comp=Z,5.5nm,0.9s,baz=323,slow=8.9,SNR=7.4
ABKAR Akbulak array 41.98 73 P P 22 26 16.5 +0.6
ABKAR Akbulak array 41.98 73 P P 22 26 16.6 +0.6
TIXI Tiksi 42.01 15 *ce*P P 22 26 17.9 +1.9
TIXI pmax pmax
comp=Z,45nm,1.3s
TIXI Tiksi 42.01 15 P P 22 26 17.1 +1.2
BRVK Borovoye 43.12 62 *ce*P P 22 26 27.1 +1.9
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 43.12 62 P P 22 26 26.0 +0.8
MARD Mardin 43.51 100 P P 22 26 29.9 +1.2
MARD IAmb IAmb 22 26 43.5
comp=Z,9.8nm,1.2s
IL31 45.67 332 P P 22 26 47.0 +1.6
IL31 IAmb IAmb 22 27 01.4
comp=Z,8.0nm,1.5s
ILAR Eielson Array 45.67 332 P P 22 26 47.1 +1.7
comp=Z,2.1nm,1.0s,baz=22,slow=6.3,SNR=12
ILAR PcP PcP 22 28 23.4 +0.2
comp=Z,1.5nm,1.0s,baz=356,slow=3.3,SNR=5.1
ILAR Eielson Array 45.67 332 P P 22 26 46.2 +0.8
MDM Murphy Dome 45.77 333 P P 22 26 48.2 +1.9
MDM IAmb IAmb 22 26 49.9
comp=Z,11nm,1.4s
IMAR Indian Mountai 45.84 337 P P 22 26 48.5 +1.7
BCAR Beaver Creek A 46.09 329 P P 22 26 49.2 +0.3
BILL Bilibino 47.53 358 *e*P P 22 26 59.2 -0.8
BILL *e* 22 28 58.4
BILL pmax pmax
comp=Z,39nm,3.4s
BILL MLR MLR
comp=Z,1μm,20.0s
ZAA0 Zalesovo Array 47.62 51 P P 22 27 01.1 +0.3
ZALV Zalesovo Beam 47.62 51 P P 22 27 01.6 +0.7
comp=Z,0.8nm,0.6s,baz=325,slow=7.4,SNR=4.1
ZALV Zalesovo Beam 47.62 51 *i* P P 22 27 02.7 +1.9
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 47.62 51 P P 22 27 00.8 0.0
KURK Kurchatov 48.10 58 *ce*P P 22 27 05.4 +0.8
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURK Kurchatov 48.10 58 P P 22 27 04.9 +0.3
KURK IAmb IAmb 22 27 05.7
comp=Z,5.9nm,0.9s
T47A Sharon Grove 48.64 270 P P 22 27 08.9 -0.1
EGMT Eagleton 48.87 297 P P 22 27 12.6 +1.9
KK31 Karatay Array 51.27 70 P P 22 27 29.7 +0.9
KK31 pmax pmax
comp=Z,8.0nm,1.5s
KK31 Karatay Array 51.27 70 P P 22 27 29.7 +0.9
KK31 IAmb IAmb 22 27 32.8
comp=Z,7.9nm,1.5s
KKAR Karatay Array 51.27 70 P P 22 27 29.7 +0.8
KKAR Karatay Array 51.27 70 P P 22 27 29.6 +0.8
BOZ Bozeman (W) 51.60 297 P P 22 27 32.3 +0.8
BOZ pmax pmax
comp=Z,12nm,1.4s
BOZ Bozeman (W) 51.60 297 P P 22 27 32.3 +0.8
BOZ IAmb IAmb 22 27 33.6
comp=Z,12nm,1.4s
DGZ Jazzator, Alta 52.07 53 *i* P P 22 27 35.7 +0.8
DGZ pmax pmax
comp=Z,4.0nm,1.1s
SEY Seymchan 52.47 6 *i* P P 22 27 37.5 0.0
MKAR Makanchi Array 52.71 58 P P 22 27 40.0 +0.4
comp=Z,1.6nm,0.9s,baz=320,slow=6.4,SNR=6.7
MKAR Makanchi Array 52.71 58 P P 22 27 40.0 +0.4
MKAR Makanchi Array 52.71 58 P P 22 27 39.8 +0.3
TOA0 Torodi Ar. Sit 53.16 156 P P 22 27 42.7 -0.4
TOA0 IAmb IAmb 22 27 44.8
comp=Z,9.0nm,1.4s
TORD Torodi Ar. Bea 53.16 156 P P 22 27 42.3 -0.8
comp=Z,3.0nm,1.1s,baz=339,slow=6.8,SNR=8.2
TORD Torodi Ar. Bea 53.16 156 P P 22 27 42.4 -0.7
BW06 Boulder Array 53.17 293 P P 22 27 43.2 -0.1
BW06 IAmb IAmb 22 27 44.9
comp=Z,7.3nm,1.2s
PD31 Pinedale Array 53.17 293 P P 22 27 42.7 -0.5
PD31 IAmb IAmb 22 27 44.9
comp=Z,5.9nm,1.2s
PDAR Pinedale Array 53.17 293 P P 22 27 43.2 -0.1
comp=Z,2.7nm,1.0s,baz=47,slow=6.5,SNR=14
PDAR Pinedale Array 53.17 293 P P 22 27 42.6 -0.7
AAK Ala-Archa 53.25 67 *ce*P P 22 27 45.8 +2.0
AAK pmax pmax
comp=Z,11nm,1.3s
N23A Red Feather La 53.30 289 P P 22 27 44.5 +0.2
N23A IAmb IAmb 22 27 52.5
comp=Z,7.4nm,1.1s
BOOM Boomskoye usch 53.94 66 P P 22 27 50.1 +1.2
BOOM pmax pmax
comp=Z,3.0nm,1.1s
BOOM Boomskoye usch 53.94 66 P P 22 27 50.1 +1.2
BOOM IAmb IAmb 22 27 51.4
comp=Z,3.3nm,1.1s
BTK Batken 53.95 72 P P 22 27 49.5 +0.7
BTK pmax pmax
comp=Z,13nm,1.2s
BTK Batken 53.95 72 P P 22 27 49.5 +0.7
CHGR Chuyangaron 54.46 74 P P 22 27 53.2 +0.7
GAR Garm 54.64 73 P P 22 27 54.6 +0.7
MOY Mondy 54.64 42 *e*P P 22 27 55.8 +2.0
MOY pmax pmax
comp=Z,29nm,1.3s
HWUT Hardware Ranch 54.94 294 P P 22 27 56.3 +0.1
HWUT IAmb IAmb 22 27 58.0
comp=Z,4.8nm,1.0s
HRA Herat 55.19 82 P P 22 27 59.0 +1.0
HRA IAmb IAmb 22 28 00.4
comp=Z,4.4nm,1.3s
WMOK Wichita Mounta 55.54 279 P P 22 28 00.5 +0.1
WMOK pmax pmax
comp=Z,3.0nm,1.1s
WMOK Wichita Mounta 55.54 279 P P 22 28 00.5 +0.1
WMQ Urumqi 57.22 56 *e*P P 22 28 16.1 +3.8
MSU Marysvale 57.84 293 P P 22 28 17.7 +0.8
MSU Marysvale 57.84 293 P P 22 28 17.6 +0.8
MVU Marysvale 57.86 293 P P 22 28 18.0 +0.9
KBL Kabul 57.93 77 P P 22 28 18.3 +0.8
KBL pmax pmax
comp=Z,2.0nm,0.7s
KBL Kabul 57.93 77 P P 22 28 18.3 +0.8
KBL IAmb IAmb 22 28 21.1
comp=Z,2.1nm,0.7s
DBIC Dimbokro 58.61 165 P P 22 28 21.6 -0.5
DBIC pmax pmax
comp=Z,23nm,1.5s
DBIC Dimbokro 58.61 165 P P 22 28 21.6 -0.5
SONM Songino Array 59.62 40 P P 22 28 30.0 +1.0
comp=Z,1.1nm,0.9s,baz=340,slow=6.4,SNR=5.5
SONM Songino Array 59.62 40 P P 22 28 29.7 +0.7
JCT Junction City 59.65 278 P P 22 28 28.9 -0.4
JCT pmax pmax
comp=Z,6.0nm,1.0s
JCT Junction City 59.65 278 P P 22 28 28.9 -0.4
JCT IAmb IAmb 22 28 31.4
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 59.78 40 *ce*P P 22 28 30.1 0.0
ULN pmax pmax
comp=Z,5.0nm,2.5s
WUAZ Wupatki 60.10 290 P P 22 28 32.9 +0.3
WUAZ IAmb IAmb 22 28 34.5
comp=Z,7.2nm,1.2s
NVAR Mina Array Bea 60.30 297 P P 22 28 34.5 +0.6
comp=Z,0.1nm,0.3s,baz=45,slow=4.2,SNR=3.6
NIL Nilore 60.44 74 P P 22 28 35.4 +0.7
NIL pmax pmax
comp=Z,13nm,1.2s
NIL Nilore 60.44 74 P P 22 28 35.4 +0.7
HIA Hailar 61.61 30 P P 22 28 44.3 +1.8
HIA pmax pmax
comp=Z,12nm,1.3s
HIA Hailar 61.61 30 P P 22 28 44.3 +1.8
TXAR Lajitas Array 62.28 280 P P 22 28 46.9 -0.4
comp=Z,1.4nm,1.0s,baz=46,slow=5.4,SNR=7.3
TXAR Lajitas Array 62.28 280 P P 22 28 47.1 -0.2
TXAR Lajitas Array 62.28 280 P P 22 28 47.1 -0.2
GTA Gaotai 65.28 49 *e*P P 22 29 07.8 +0.8
GTA pP sP 22 29 11.4 -0.7
GTA sP pP 22 29 13.9 +3.2
GTA pmax pmax
comp=Z,3.0nm,1.2s
HHC Hu-ho-hao-te 67.50 40 *e*P P 22 29 25.6 +4.5
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,93nm,7.6s
LSA Lhasa 71.00 61 P P 22 29 42.7 -0.8
LSA pmax pmax
comp=Z,4.0nm,1.2s
LSA Lhasa 71.00 61 P P 22 29 42.7 -0.8
LSA IAmb IAmb 22 29 48.4
comp=Z,3.9nm,1.2s
NJ2 Nanjing 77.72 37 *e*P P 22 30 23.3 +1.4
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 84.12 59 P P 22 30 56.6 +0.3
comp=Z,0.4nm,0.3s,baz=318,slow=5.9,SNR=8.1
CMAR Chiang Mai Arr 84.12 59 *i* P P 22 30 57.2 +0.9
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 84.12 59 P P 22 30 56.0 -0.3
ASAR Alice Springs 134.95 38 PKP PKiKP 22 37 44.5 -1.0

comp=Z,0.6nm,0.8s,baz=11,slow=2.1,SNR=4.5

IGQ ***20*** *22:24:52.5±0.5, 1°N±4°×7°8W±°, h1km, M4.4*
RSNC ***20*** *22:24:53.2±0.9, 0°.80N×77°.96W, h4km±3km, ML3.7, Mw4.4*
VAO ***20*** *22:24:55.2±0.6, 0°.68N×78°.12W, h10km, mb4.3*
NEIC ***20*** *22:24:55.9±1.6, 0°.67N±0°.06×78°.00W±0°.06, h10km±4km, mb4.5/45, Error ellipse: s-maj=11.5km s-min=5.2km az=132.0*
IDC ***20*** *22:24:55.1±0.7, 0°.67N×77°.95W, h0km, mb3.9/10, mb1 4.2/15, mb1mx4.1/34, mbtmp4.1/15, ML3.4/5, MS3.7/15, Ms1 3.7/15, ms1mx3.5/34, Error ellipse: s-maj=21.5km s-min=15.2km az=63.0*

ISC 20 22:24:55.6±0.4, 0.72N±0°.03×77°.91W±0°.03, h10km, n157, σ1°.990/148, mb4.5/27, MS3.7/9, 3C-3D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATUL	**Tulcn**	**0.19**	**75**	P		**Pg**	**22 24 56.4**	**-3.4**
CMBC	**Cumbal**	**0.23**	**211**	*i*P		**Pg**	**22 24 57.3**	**-3.3**
CMBC				*e*S		**Sg**	**22 25 00.6**	**-3.4**
CMBC				*i*			22 25 01.2	
	comp=Z,16μm,0.8s							
COTA	**Cotacachi**	**0.57**	**228**	P		**Pg**	**22 25 04.2**	**-2.6**
ANGU	**Angureal**	**0.68**	**188**	P		**Pg**	**22 25 06.0**	**-2.8**
OTAV	**Otavalo**	**0.72**	**228**	*i*P		**Pg**	**22 25 06.2**	**-3.5**
OTAV				*e*S		**Sg**	**22 25 17.4**	**-1.8**
OTAV				*i*			22 25 24.9	
	comp=Z,1μm,0.6s							
OTAV	**Otavalo**	**0.72**	**228**			**Pg**	**22 25 06.2**	**-3.5**
OTAV					Sg	**Sg**	**22 25 17.2**	**-1.9**
OTAV	**Otavalo**	**0.72**	**228**	*e*P		**Pg**	**22 25 06.1**	**-3.5**
CPAS1	**Pasto**	**0.75**	**52**	*e*P		**Pg**	**22 25 06.9**	**-3.2**
CPAS1				*e*S		**Sg**	**22 25 17.3**	**-2.7**
CCUFI	**Cufio, Nario**	**0.76**	**48**	*e*P		**Pg**	**22 25 06.7**	**-3.6**
CCUFI				*e*S		**Sg**	**22 25 17.3**	**-2.9**
GCUF	**Volcan Galeras**	**0.76**	**48**	*i*P		**Pg**	**22 25 06.9**	**-3.4**
GCUF				*e*S		**Sg**	**22 25 17.6**	**-2.6**
GCUF				*i*			22 25 21.6	
	comp=Z,1μm,0.3s							
CONE	**Cono NE Rev Vo**	**0.83**	**161**	P		**Pg**	**22 25 08.5**	**-3.2**
LAV4	**Lava4-Reventad**	**0.86**	**161**	P		**Pg**	**22 25 08.8**	**-3.3**
REVS	**Reventador Sur**	**0.87**	**161**	P		**Pg**	**22 25 09.2**	**-3.2**
PAC1	**Pacto, Paraso**	**0.99**	**243**	*e*P		**Pg**	**22 25 10.8**	**-3.9**
PAC1				*e*S		**Sg**	**22 25 24.0**	**-3.5**
PAC1				*i*			22 25 25.8	
	comp=Z,4μm,0.3s							
GGPC	**Guagua Pichinc**	**1.13**	**218**	P		**Pg**	**22 25 13.7**	**-3.6**
ANTI	**Antisana**	**1.19**	**192**	P		**Pg**	**22 25 16.0**	**-2.6**
ANTG	**Antisana-Guama**	**1.26**	**196**	P		**Pn**	**22 25 16.7**	**-3.1**
CRUC	**La Cruz**	**1.27**	**49**	*e*P		**Pn**	**22 25 16.1**	**-3.7**
CRUC				*i*			22 25 36.9	
	comp=Z,1μm,0.7s							
ANTM	**Antisana-La Mi**	**1.29**	**194**	P		**Pn**	**22 25 17.4**	**-2.7**
PUAC	**Puerto Asis, P**	**1.35**	**97**	*i*P		**Pn**	**22 25 17.8**	**-2.7**
PUAC				*e*S		**Sb**	**22 25 36.8**	**-1.6**
PUAC				*i*			22 25 39.1	
	comp=Z,735nm,0.2s							
BV15	**Puerto Quito-O**	**1.43**	**247**	P		**Pn**	**22 25 19.2**	**-2.3**
VC1	**Cotopaxi 1**	**1.44**	**200**	P		**Pn**	**22 25 20.7**	**-1.5**
BBAC	**Balboa, Cauca**	**1.45**	**27**	*e*P		**Pn**	**22 25 18.6**	**-3.5**
BBAC				*e*S		**Sb**	**22 25 40.2**	**-1.2**
BBAC				*i*			22 25 46.3	
	comp=Z,827nm,0.4s							
TAMB	**Tambo**	**1.48**	**198**	P		**Pn**	**22 25 21.6**	**-1.2**
BREF	**Cotopaxi Volca**	**1.48**	**201**	P		**Pn**	**22 25 21.1**	**-1.7**
VCES	**Cotopaxi**	**1.59**	**198**	P		**Pb**	**22 25 23.6**	**-1.7**
ILLI	**Illinizas Sur**	**1.64**	**210**	P		**Pn**	**22 25 23.1**	**-1.9**
ARDO	**Archidona, Ten**	**1.71**	**176**	P		**Pn**	**22 25 23.8**	**-1.7**
SOTA	**Rioblanco**	**1.92**	**43**	*e*P		**Pn**	**22 25 28.0**	**-0.7**
POPC	**Popayan, Colom**	**2.19**	**34**	*e*P		**Pn**	**22 25 30.9**	**-1.3**
PCON	**Cinco Dias**	**2.20**	**43**	*e*P		**Pn**	**22 25 32.8**	**+0.1**
FLOC	**Florencia**	**2.41**	**69**	*e*P		**Pn**	**22 25 34.2**	**-1.0**
FLOC				*i*			22 26 15.7	
	comp=Z,311nm,0.6s							
GARC	**Garzon, Huila**	**2.82**	**59**	*e*P		**Pb**	**22 25 42.6**	**-3.6**
GARC				*e*S		**Sb**	**22 26 19.8**	**-1.2**
GARC				*i*			22 26 23.9	
	comp=Z,602nm,0.3s							
MARP	**Paez Belalcaza**	**2.87**	**43**	*e*P		**Pb**	**22 25 44.6**	**-2.6**
BETC	**Betania**	**3.14**	**52**	*e*P		**Pb**	**22 25 49.7**	**-1.9**
PTLC	**Puerto Leguiza**	**3.16**	**100**	*e*P		**Pn**	**22 25 46.2**	**+0.8**
PTLC				*e*S		**Sb**	**22 26 32.6**	**+2.1**
PTLC				*i*			22 26 40.1	
	comp=Z,233nm,0.3s							
MALC	**Bahia Malaga**	**3.32**	**10**	*e*P		**Pn**	**22 25 48.9**	**+1.3**
YOTC	**Yotoco, Valle**	**3.60**	**26**	*e*P		**Pn**	**22 25 53.9**	**+2.3**
ORTC	**Ortega, Tolima**	**4.14**	**40**	*e*P		**Pn**	**22 26 01.4**	**+2.5**
ORTC				*i*			22 26 24.0	
	comp=Z,86nm,0.7s							
PRAC	**Prado**	**4.24**	**45**	*e*P		**Pn**	**22 26 03.1**	**+2.8**
MACC	**Macarena, Meta**	**4.30**	**71**	*e*P		**Pn**	**22 26 01.9**	**+0.8**
MACC				*i*			22 27 17.6	
	comp=Z,135nm,0.6s							
ANIL	**Santa Ana**	**4.50**	**34**	*e*P		**Pn**	**22 26 06.9**	**+2.7**
TOLC	**Tolima**	**4.63**	**34**	*e*P		**Pn**	**22 26 08.2**	**+2.3**
RREF	**El Recreo**	**4.88**	**32**	*e*P		**Pn**	**22 26 08.9**	**-0.7**
GUY2C	**Guyana, Caldas**	**5.14**	**30**	*e*P		**Pn**	**22 26 15.6**	**+2.5**
GUY2C				*i*			22 26 29.1	
	comp=Z,31nm,0.6s							
VILC	**Villavicencio,**	**5.39**	**51**	*e*P		Pn	22 26 20.1	+3.9
ROSC	**El Rosal**	**5.44**	**41**	Pn		Pn	22 26 21.0	+3.9
	comp=Z,6.0nm,0.3s,baz=122,slow=6.1,SNR=20							
ROSC				Lg		Lg	22 27 46.7	
	comp=Z,1.3nm,0.3s,baz=217,slow=22,SNR=0.9							
ROSC				LR		LR	22 28 16.8	
	comp=Z,683nm,18.0s,baz=232,slow=37							
ROSC	**El Rosal**	**5.44**	**41**	*e*P		Pn	22 26 22.1	+4.9
ROSC	**El Rosal**	**5.44**	**41**	Pn		**Pn**	**22 26 20.5**	**+3.4**
CBOC	**Ciudad Bolivar**	**5.45**	**20**	*e*P		Pn	22 26 21.3	+4.3
CHIC	**Chingaza**	**5.70**	**47**	*e*P		Pn	22 26 25.1	+4.4
HELC	**Santa Helena**	**5.93**	**24**	*e*P		**Pn**	**22 26 26.0**	**+2.2**
SPBC	**San Pablo de B**	**6.22**	**38**	*e*P		**Pn**	**22 26 30.5**	**+2.9**
PTBC	**PUERTO BERRIO,**	**6.73**	**31**	*e*P		**Pn**	**22 26 35.5**	**+1.0**
RUSC	**La Rusia**	**7.04**	**43**	*e*P		Pn	22 26 43.1	+3.8
UREC	**San Jos de Ur**	**7.38**	**19**	*e*P		Pn	22 26 47.5	+4.1
ZARC	**Zaragoza, Cauc**	**7.38**	**24**	*e*P		**Pn**	**22 26 45.2**	**+1.7**
ATAH	**Atahualpa**	**7.82**	**184**	Pn		**Pn**	**22 26 51.6**	**+1.7**
	comp=Z,3.2nm,0.3s,baz=11,slow=10,SNR=14							
CZSB	**Cruzeiro do Su**	**9.87**	**148**	*e*P		**Pn**	**22 27 18.2**	**+0.6**
SDV	**Santo Domingo**	**10.88**	**42**	Pn		**Pn**	**22 27 33.6**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=230,slow=12,SNR=9.0							
SDV				Lg		Lg	22 30 40.5	
	comp=Z,0.9nm,0.3s,baz=20,slow=15,SNR=1.6							
SDV				LR		LR	22 31 46.6	
	comp=Z,494nm,20.4s,baz=259,slow=38							
SDV	**Santo Domingo**	**10.88**	**42**	Pn		**Pn**	**22 27 33.2**	**+1.6**
SDV	**Santo Domingo**	**10.88**	**42**	*e*P		**Pn**	**22 27 34.0**	**+2.4**
JTS	**Las Juntas de**	**11.81**	**324**	LR		LR	22 31 51.2	
	comp=Z,277nm,18.3s,baz=200,slow=35							
NNA	**Nana**	**12.67**	**175**	LR		LR	22 33 25.0	
	comp=Z,434nm,20.7s,baz=346,slow=40							
NNA	**Nana**	**12.67**	**175**	Pn		**Pn**	**22 27 54.1**	**-2.0**
MATN	**Matagalpa**	**14.50**	**327**	P		**P**	**22 28 28.0**	**+0.2**
ETMB	**Extrema**	**15.66**	**132**	*e*P		**P**	**22 28 38.5**	**-2.1**
SAML	**Samuel**	**17.54**	**124**			**P**	**22 29 00.0**	**-1.5**
SAML	**Samuel**	**17.54**	**124**	*e*P		**P**	**22 29 01.4**	**-0.1**
MACA	**Manacapuru-AM**	**17.65**	**103**	*e*P		**P**	**22 29 04.9**	**+2.3**
MTO3	**Montecristo**	**17.69**	**321**			**P**	**22 29 01.8**	**-1.6**
PTGA	**Pitinga**	**18.00**	**95**	P		**P**	**22 29 07.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=268,slow=11,SNR=7.6							
PTGA				LR		LR	22 36 05.5	
	comp=Z,492nm,18.3s,baz=270,slow=37							
PTGA	**Pitinga**	**18.00**	**95**	P		**P**	**22 29 07.4**	**+0.8**
LPAZ	**La Paz**	**19.46**	**151**	P		**Pn**	**22 29 24.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=356,slow=12,SNR=8.6							
LPAZ				LR		LR	22 38 36.2	
	comp=Z,327nm,18.4s,baz=284,slow=42							
LPAZ	**La Paz**	**19.46**	**151**	P		**Pn**	**22 29 22.9**	**-1.6**
LPAZ	**La Paz**	**19.46**	**151**	*e*P		**Pn**	**22 29 23.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**20.19**	**31**	P		Pn	22 29 31.4	-1.0
CRPR				IAmb		IAmb	22 29 37.2	
	comp=Z,20nm,1.1s							
PB16	**IPOC Station P**	**20.66**	**157**	P		Pn	22 29 36.8	-1.8
PB16				IAmb		IAmb	22 29 44.1	
	comp=Z,15nm,0.8s							
SJG	**San Juan**	**20.79**	**33**	P		Pn	22 29 39.8	+0.3
	comp=Z,13nm,0.7s,baz=208,slow=14,SNR=5.0							
SJG				LR		LR	22 39 14.0	
	comp=Z,133nm,21.1s,baz=74,slow=41							
SJG	**San Juan**	**20.79**	**33**	P		Pn	22 29 39.4	-0.1
	comp=Z,15nm,0.8s							
HUMP	**Col San Antoni**	**20.98**	**34**	P		Pn	22 29 40.4	-1.3
HUMP				IAmb		IAmb	22 29 43.7	
	comp=Z,18nm,0.9s							
GCPR	**Guaynabo City**	**20.99**	**33**	P		Pn	22 29 41.1	-0.6
CBYP	**Canovanas**	**21.08**	**33**	P		**P**	**22 29 42.2**	**+2.0**
MTP	**Monte Pirata**	**21.11**	**34**	P		**P**	**22 29 42.9**	**+2.3**
MTP				IAmb		IAmb	22 29 47.3	
	comp=Z,22nm,1.1s							
MNMC	**Minye Minye**	**21.35**	**158**	P		**P**	**22 29 43.4**	**0.0**
CUPR	**Culebra, Puert**	**21.43**	**35**			**P**	**22 29 46.1**	**+2.1**
PB11	**IPOC Station P**	**21.91**	**159**	P		**P**	**22 29 51.5**	**+2.3**
PB11				IAmb		IAmb	22 29 58.4	
	comp=Z,18nm,1.0s							
GO01	**Chusmiza**	**21.99**	**158**	P		**P**	**22 29 51.3**	**+0.7**
VILB	**Vilhena**	**22.21**	**128**	*e*P		**P**	**22 29 52.9**	**+0.4**
PB08	**IPOC Station P**	**22.44**	**158**	P		**P**	**22 29 56.1**	**+0.9**
PB08				IAmb		IAmb	22 30 05.3	
	comp=Z,16nm,1.0s							
ITTB	**Itaituba**	**22.73**	**103**	*e*P		**P**	**22 30 00.8**	**+2.8**
PB01	**IPOC Station P**	**23.15**	**160**	P		**P**	**22 30 02.9**	**+0.5**
PB01				IAmb		IAmb	22 30 12.5	
	comp=Z,13nm,1.0s							
CMIG	**Matias Romero**	**23.32**	**315**	P		**P**	**22 30 05.2**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=122,slow=9.5,SNR=1.7							
SIV	**San Ignacio**	**23.50**	**136**	P		**P**	**22 30 06.1**	**+0.2**
	comp=Z,16nm,1.0s,baz=325,slow=11,SNR=36							
SIV				LR		LR	22 39 36.9	
	comp=Z,286nm,20.2s,baz=326,slow=38							
MALB	**Monte Alegre**	**23.78**	**96**	*e*P		**P**	**22 30 09.0**	**+0.3**
NPGB	**Novo Progresso**	**23.79**	**109**	*e*P		**P**	**22 30 10.9**	**+2.2**
PTLB	**Pontes e Lacer**	**24.54**	**132**	*e*P		**P**	**22 30 16.4**	**+0.8**
LVC	**Limon Verde**	**24.79**	**160**	LR		LR	22 41 29.8	
	comp=Z,202nm,19.3s,baz=320,slow=40							
LVC	**Limon Verde**	**24.79**	**160**	P		**P**	**22 30 18.7**	**+0.4**
LVC	**Limon Verde**	**24.79**	**160**	*e*P		**P**	**22 30 17.2**	**-1.1**
CLDB	**Colider**	**24.82**	**118**	*e*P		**P**	**22 30 19.5**	**+1.3**
MDP	**Montagnes des**	**25.60**	**80**	LR		LR	22 40 29.8	
	comp=Z,278nm,21.1s,baz=263,slow=36							
MCPB	**Macapa, AP**	**25.88**	**92**	*e*P		**P**	**22 30 27.1**	**-0.7**
PRPB	**Parauapebas**	**28.87**	**104**	*e*P		**P**	**22 30 56.2**	**+1.4**
ARAG	**Araguaiana, MT**	**30.51**	**123**	*e*P		**P**	**22 31 10.5**	**+1.2**
ZAIG	**Zacatecas**	**32.48**	**314**	P		**P**	**22 31 27.4**	**+0.5**
ZAIG				IAmb		IAmb	22 31 32.1	
	comp=Z,9.9nm,1.4s							
344A	**Westbrook Farm**	**32.89**	**340**	P		**P**	**22 31 30.9**	**+1.0**
BDFB	**Brasilia**	**33.71**	**120**	LR		LR	22 45 51.8	
	comp=Z,119nm,20.7s,baz=279,slow=37							
Y45A	**Yeager Farm, C**	**34.73**	**343**	P		**P**	**22 31 45.5**	**-0.5**
U56A	**King**	**35.52**	**357**	P		**P**	**22 31 53.7**	**+1.0**
U56A				IAmb		IAmb	22 31 58.2	
	comp=Z,11nm,1.2s							
V48A	**Smith Brothers**	**35.81**	**348**	P		**P**	**22 31 55.4**	**+0.1**
V48A				IAmb		IAmb	22 31 59.4	
	comp=Z,5.5nm,0.8s							
LCAR	**Lake Charles**	**37.26**	**342**	P		**P**	**22 32 06.3**	**-1.3**
TXAR	**Lajitas Array**	**37.58**	**322**	P		**P**	**22 32 11.6**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=132,slow=10,SNR=5.4							
TXAR				PcP		**PcP**	**22 34 29.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=100,slow=5.0,SNR=6.8							
TXAR	**Lajitas Array**	**37.58**	**322**	P		**P**	**22 32 10.7**	**+0.1**
U40A	**Yellville**	**38.07**	**340**	P		**P**	**22 32 13.5**	**-1.0**
U40A				IAmb		IAmb	22 32 16.8	
	comp=Z,9.0nm,0.9s							
HHAR	**Hobbs**	**38.38**	**339**	P		**P**	**22 32 16.3**	**-0.8**
HHAR				IAmb		IAmb	22 32 19.1	
	comp=Z,5.9nm,0.8s							
U38A	**Gravette**	**38.68**	**339**	P		**P**	**22 32 18.9**	**-0.7**
FVM	**French Village**	**38.83**	**344**	P		**P**	**22 32 21.2**	**+0.4**
FVM				IAmb		IAmb	22 32 25.0	
	comp=Z,8.2nm,1.1s							
OK031	**S. Brethren Rd**	**39.22**	**335**	P		**P**	**22 32 23.6**	**-0.6**
OK031				IAmb		IAmb	22 32 26.7	
	comp=Z,9.7nm,0.8s							
MNTX	**Cornudas Mount**	**40.29**	**323**	P		**P**	**22 32 33.2**	**0.0**
MSTX	**Muleshoe**	**40.45**	**327**	P		**P**	**22 32 34.3**	**-0.3**
PLCA	**Paso Flores**	**41.80**	**172**	P		**P**	**22 32 46.9**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=2.2,slow=7.7,SNR=5.9							
PLCA	**Paso Flores**	**41.80**	**172**	P		**P**	**22 32 45.9**	**+0.4**
PLCA				IAmb		IAmb	22 32 53.7	
	comp=Z,13nm,1.4s							
PLCA	**Paso Flores**	**41.80**	**172**	*e*P		**P**	**22 32 46.2**	**+0.7**
121A	**Cookes Peak, D**	**42.34**	**321**	P		**P**	**22 32 51.3**	**+1.1**
121A				IAmb		IAmb	22 32 54.9	
	comp=Z,14nm,1.1s							
ANMO	**Albuquerque**	**43.22**	**325**	P		**P**	**22 32 57.9**	**+0.5**
T25A	**Trinidad**	**43.73**	**329**	P		**P**	**22 33 01.8**	**+0.3**
T25A				IAmb		IAmb	22 33 07.7	
	comp=Z,8.1nm,0.9s							
TUC	**Tucson**	**44.13**	**319**	P		**P**	**22 33 04.7**	**+0.2**
TUC				IAmb		IAmb	22 33 08.3	
	comp=Z,6.8nm,1.3s							
SDCO	**Great Sand Dun**	**44.75**	**329**	P		**P**	**22 33 10.5**	**+0.8**
SDCO				IAmb		IAmb	22 33 14.3	
	comp=Z,6.0nm,0.9s							
214A	**Organ Pipe Nat**	**45.28**	**317**	P		**P**	**22 33 14.4**	**+0.8**
W18A	**Petrified Fore**	**45.28**	**323**	P		**P**	**22 33 14.5**	**+0.7**
WUAZ	**Wupatki**	**46.55**	**322**	P		**P**	**22 33 24.7**	**+0.8**
RSSD	**Black Hills**	**49.06**	**335**	P		**P**	**22 33 43.8**	**+0.6**
RSSD				IAmb		IAmb	22 33 47.1	
	comp=Z,4.4nm,0.8s							
PDAR	**Pinedale Array**	**50.56**	**330**	P		**P**	**22 33 56.8**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=138,slow=9.7,SNR=2.4							
PDAR	**Pinedale Array**	**50.56**	**330**	P		**P**	**22 33 55.0**	**+0.4**
NVAR	**Mina Array Bea**	**52.71**	**320**	P		**P**	**22 34 12.4**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=129,slow=6.5,SNR=8.9							
NVAR	**Mina Array Bea**	**52.71**	**320**	P		**P**	**22 34 11.7**	**+0.9**
ORV	**Oroville**	**55.40**	**320**	P		**P**	**22 34 30.6**	**+0.4**
ORV				IAmb		IAmb	22 34 33.1	
	comp=Z,7.3nm,1.2s							
DBIC	**Dimbokro**	**73.08**	**83**	LR		LR	23 08 19.3	
	comp=Z,43nm,18.3s,baz=288,slow=36							
ESDC	**Sonseca Array**	**77.21**	**50**	P		**P**	**22 36 51.5**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=263,slow=5.4,SNR=4.7							
ESDC	**Sonseca Array**	**77.21**	**50**	P		**P**	**22 36 50.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**79.71**	**77**	P		**P**	**22 37 05.5**	**+1.1**
	comp=Z,1.6nm,1.1s,baz=282,slow=3.1,SNR=5.2							
TORD				LR		LR	23 09 28.1	
	comp=Z,44nm,21.9s,baz=260,slow=34							
TORD	**Torodi Ar. Bea**	**79.71**	**77**	P		**P**	**22 37 04.5**	**+0.1**
ILAR	**Eielson Array**	**80.50**	**336**	P		**P**	**22 37 09.0**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=100,slow=5.0,SNR=2.1							
SNAA	**Sanae**	**86.01**	**162**	P		**P**	**22 37 36.4**	**+0.4**
SNAA	**Sanae**	**86.01**	**162**	P		**P**	**22 37 35.9**	**-0.1**
SNAA				IAmb		IAmb	22 37 37.0	
	comp=Z,3.6nm,1.0s							
NOA	**NORSAR Array B**	**88.95**	**29**	LR		LR	23 16 04.1	
	comp=Z,16nm,20.1s,baz=335,slow=34							
VNDA	**Vanda**	**96.99**	**191**	LR		LR	23 16 14.4	
	comp=Z,27nm,18.3s,baz=196,slow=32							
ZALV	**Zalesovo Beam**	**123.66**	**12**	PKP		**PKiKP**	**22 43 55.1**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=12,slow=3.4,SNR=3.9							
MKAR	**Makanchi Array**	**129.59**	**18**	PKP		**PKiKP**	**22 44 05.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=256,slow=3.6,SNR=3.6							
MKAR	**Makanchi Array**	**129.59**	**18**			**PKiKP**	**22 44 06.9**	**+1.0**
WRA	**Warramunga Arr**	**143.11**	**237**	PKP		**PKdf**	**22 44 29.8**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=110,slow=2.8,SNR=3.5							
WRA	**Warramunga Arr**	**143.11**	**237**			**PKPdf**	**22 44 30.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**151.13**	**232**	PKPbc		**PKiKP**	**22 44 50.4**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=39,slow=2.6,SNR=6.5							
FITZ	**Fitzroy Crossi**	**151.13**	**232**			**PKPbc**	**22 44 48.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**160.69**	**9**	PKPab		**PKPab**	**22 45 37.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=342,slow=5.7,SNR=4.5							
CMAR	**Chiang Mai Arr**	**160.69**	**9**			**PKPab**	**22 45 38.9**	**+0.5**

IDC 20 22:30:29.7±2.0, 4°.35S×150°.80E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/36, mbtmp3.2/2, Error ellipse: s-maj=63.3km s-min=13.2km az=168.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.22**	**88**	Pg		Pg	22 30 52.5	-0.7
	133nm,0.3s,baz=308,slow=19,SNR=48							
KRVT				Lg		Lg	22 31 09.9	
	90nm,0.3s,baz=11,slow=20,SNR=13							
WRA	**Warramunga Arr**	**22.30**	**225**	P		P	22 35 28.9	-0.1
	0.5nm,0.8s,baz=50,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**25.19**	**219**	P		P	22 35 57.1	-0.2
	1.0nm,0.7s,baz=55,slow=9.4,SNR=5.2							
TORD	**Torodi Ar. Bea**	**148.28**	**288**	PKPbc		PKPbc	22 50 19.0	-0.1
	0.3nm,0.5s,baz=136,slow=1.4,SNR=2.5							

IDC 20 22:32:27.6±3.0, 6°.44N×124°.89E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/44, mbtmp3.6/3, Error ellipse: s-maj=317.9km s-min=24.9km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.82**	**161**	P		P	22 38 18.8	0.0
	0.3nm,0.6s,baz=341,slow=9.2,SNR=7.4							
ASAR	**Alice Springs**	**31.19**	**164**	P		P	22 38 48.7	-0.1
	0.4nm,0.3s,baz=341,slow=6.4,SNR=8.1							
MKAR	**Makanchi Array**	**54.30**	**325**	P		P	22 41 55.7	-0.1
	0.4nm,0.4s,baz=119,slow=8.1,SNR=11							

IDC ***20*** *22:59:06.6±10.0, 17°.40S×178°.76W, h544km±126km, mb3.3/7, mb1 3.7/7, mb1mx3.3/23, mbtmp4.2/7, Error ellipse: s-maj=94.9km s-min=31.4km az=162.0*
NEIC ***20*** *22:59:10.5±0.8, 17°.97S±0°.09×178°.6W±0°.1, h605km±8km, mb4.1/23, Error ellipse: s-maj=19.4km s-min=12.0km az=68.0*

ISC 20 22:59:08.4±0.7, 18°.08S±0°.2×178°.4W±0°.1, h579km, n47, σ0°.995/47, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.36**	**274**	P		**P**	**23 00 32.2**	**+4.0**
DZM	**Mont Dzumac**	**14.77**	**252**	P		**P**	**23 02 15.9**	**+0.8**
CTAO	**Charters Tower**	**33.40**	**261**	P		**P**	**23 05 00.2**	**-0.1**
COEN	**Coen**	**37.08**	**271**	P		**P**	**23 05 31.1**	**+0.2**
STKA	**Stephens Creek**	**38.55**	**241**	P		**P**	**23 05 42.7**	**0.0**
	2.7nm,0.8s,baz=73,slow=11,SNR=4.3							
STKA	**Stephens Creek**	**38.55**	**241**	P		**P**	**23 05 42.4**	**-0.3**
BBOO	**Buckleboo**	**43.33**	**241**	P		**P**	**23 06 20.1**	**-0.4**
WB0	**Warramunga Arr**	**44.55**	**260**	P		**P**	**23 06 29.4**	**-0.7**
WB0				IAmb		IAmb	23 06 29.9	
	comp=Z,3.6nm,0.6s							
WRA	**Warramunga Arr**	**44.59**	**260**	P		**P**	**23 06 29.3**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=96,slow=7.1,SNR=79							
WRA	**Warramunga Arr**	**44.59**	**260**	P		**P**	**23 06 29.7**	**-0.6**
AS31	**Alice Springs**	**44.73**	**254**	P		**P**	**23 06 31.0**	**-0.4**
AS31				IAmb		IAmb	23 06 32.1	
	comp=Z,2.8nm,0.6s							
ASAR	**Alice Springs**	**44.73**	**254**	P		**P**	**23 06 31.1**	**-0.4**
	comp=Z,12nm,0.7s,baz=86,slow=8.6,SNR=97							
ASAR	**Alice Springs**	**44.73**	**254**	P		**P**	**23 06 30.7**	**-0.7**
MTN	**Manton Dam**	**48.77**	**269**	P		**P**	**23 07 00.6**	**-1.2**
FORT	**Forrest**	**49.94**	**245**	P		**P**	**23 07 08.8**	**-1.4**
KNRA	**Kununurra**	**50.45**	**264**	P		**P**	**23 07 13.8**	**-0.4**
KNRA				IAmb		IAmb	23 07 14

H08S3	**Diego Garcia H** baz=96	**45.13 269**	T	T	00 13 24.4	
H08S1	**Diego Garcia H** baz=96	**45.14 269**	T	T	00 13 30.0	
USRK	**Ussuriysk Ar.** 2.1nm,0.4s,baz=190,slow=5.8,SNR=7.2	**54.85 12**	P	**P**	**23 26 14.0 +0.7**	
SONM	**Songino Array** 0.3nm,0.4s,baz=169,slow=8.8,SNR=3.6	**57.97 351**	P	**P**	**23 26 36.2 +0.8**	
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=151,slow=6.5,SNR=6.1	**64.45 334**	P	**P**	**23 27 19.6 +0.4**	
TORD	**Torodi Ar. Bea** 0.3nm,1.0s,baz=61,slow=1.2,SNR=1.7	**117.67 280**	PKP	**PKiKP**	**23 35 30.7 +1.8**	

*IDC **20** 23:35:00.1±1.3,30.20S×177.51W,h0km,mb4.2/4, mb1 4.3/5,mb1mx4.0/22,mbtmp4.2/5,ML3.7/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/21,Error ellipse: s-maj=34.3km s-min=18.4km az=85.0*

*NEIC **20** 23:35:02.1±1.9,30.27S±0.06×177.76W±0.2,h11km±6km, mb4.3/13,Error ellipse: s-maj=28.3km s-min=8.2km az=86.0*

ISC 20 23:35:05.4±0.8,30.27S±0.06×177.76W±0.2,h33km,n33, σ1s14/32,mb4.2/10,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 449nm,0.3s,baz=80,slow=14,SNR=7.7	**1.03 349**		Pn	**Pn**		**23 35 22.7**	**-0.8**
RAO				Sn	**Sn**		**23 35 35.5**	**-1.2**
	2μm,0.3s,baz=23,slow=22,SNR=16							
RAO	**Raoul Island**	**1.03 349**			**Pn**		**23 35 23.2**	**-0.3**
RAO				Sn	**Sn**		**23 35 35.3**	**-1.5**
URZ	**Urewera** 0.7nm,0.3s,baz=0.0,slow=13,SNR=1.9	**9.06 207**		Pn	**Pn**		**23 37 13.9**	**+0.2**
URZ				Sn	**Sn**		**23 38 52.1**	**-2.5**
	1.8nm,0.3s,baz=190,slow=23,SNR=6.4							
BKZ	**Black Stump Fm**	**10.08 207**		Pn	**Pn**		**23 37 25.3**	**-2.6**
BFZ	**Birch Farm**	**11.50 204**		Pn	**Pn**		**23 37 46.1**	**-1.2**
DZM	**Mont Dzumac** comp=Z,53nm,21.5s,baz=28,slow=32	**16.40 296**		LR	LR		23 43 40.4	
CTAO	**Charters Tower**	**34.04 279**		P	**P**		**23 41 48.4**	**+1.8**
STKA	**Stephens Creek** 1.3nm,0.4s,baz=92,slow=11,SNR=6.1	**34.77 257**		P	**P**		**23 41 54.5**	**+1.6**
STKA	**Stephens Creek**	**34.77 257**		P	**P**		**23 41 54.3**	**+1.5**
BBOO	**Buckleboo**	**39.26 254**		P	**P**		**23 42 30.9**	**-0.1**
BBOO				IAmb	IAmb		23 42 32.4	
	comp=Z,6.2nm,0.8s							
COEN	**Coen**	**39.49 286**		P	**P**		**23 42 34.0**	**+0.9**
AS31	**Alice Springs**	**43.38 267**		P	**P**		**23 43 05.0**	**0.0**
ASAR	**Alice Springs** comp=Z,1.1nm,0.4s,baz=104,slow=7.6,SNR=20	**43.38 267**		P	**P**		**23 43 05.2**	**+0.2**
ASAR	**Alice Springs**	**43.38 267**		P	**P**		**23 43 04.8**	**-0.2**
WR0	**Warramunga Arr**	**44.18 272**		P	**P**		**23 43 11.9**	**+0.6**
WR0				IAmb	IAmb		23 43 13.0	
	comp=Z,3.7nm,0.9s							
WRA	**Warramunga Arr** comp=Z,2.7nm,0.3s,baz=110,slow=8.1,SNR=105	**44.36 272**		P	**P**		**23 43 13.4**	**+0.6**
WRA	**Warramunga Arr**	**44.36 272**		P	**P**		**23 43 13.2**	**+0.4**
VNDA	**Vanda**	**48.26 186**		P	**P**		**23 43 41.6**	**-1.1**
VNDA				IAmb	IAmb		23 43 58.2	
	comp=Z,3.3nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.62 270**		P	**P**		**23 44 17.3**	**+0.8**
FITZ				IAmb	IAmb		23 44 23.2	
	comp=Z,6.9nm,1.2s							
CASY	**Casey**	**55.38 208**		P	**P**		**23 44 35.7**	**-0.2**
CASY				IAmb	IAmb		23 44 36.1	
	comp=Z,9.3nm,1.2s							
QSPA	**South Pole Qui**	**59.84 180**		P	**P**		**23 45 09.4**	**+1.9**
MAW	**Mawson** comp=Z,0.9nm,0.7s,baz=139,slow=8.0,SNR=3.5	**72.53 200**		P	**P**		**23 46 29.4**	**+0.9**
MAW	**Mawson**	**72.53 200**		P	**P**		**23 46 29.2**	**+0.7**
SNAA	**Sanae**	**78.28 178**		P	**P**		**23 47 02.4**	**+0.8**
SNAA				IAmb	IAmb		23 47 11.4	
	comp=Z,1.2nm,0.9s							
H03S2	**Juan Fernandez** baz=238	**80.32 123**		T	T		01 16 29.2	
H03S1	**Juan Fernandez** baz=238	**80.33 123**		T	T		01 16 40.0	
H03S3	**Juan Fernandez** baz=238	**80.33 123**		T	T		01 16 40.6	
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.7s,baz=110,slow=1.8,SNR=4.3	**121.19 314**		PKP	**PKPdf**		**23 53 53.4**	**-1.0**
FINES	**FINESS Array B** comp=Z,4.7nm,0.6s,baz=67,slow=3.5,SNR=20	**145.11 340**		PKPbc	**PKPbc**		**23 54 37.7**	**-0.5**
FINES	**FINESS Array B**	**145.11 340**			**PKPbc**		**23 54 37.6**	**-0.6**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=50,slow=2.8,SNR=6.9	**151.35 323**		PKPbc	**PKPbc**		**23 54 55.0**	**-0.3**
AKASG	**Malin Array Be**	**151.35 323**			**PKPbc**		**23 54 54.8**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=186,slow=3.0,SNR=5.1	**162.96 178**		PKPab	**PKPab**		**23 55 54.0**	**-0.1**

*HEL **20** 23:47:53.5,67.84N×20.02E,h0km,ML1.7,Explosion*

UPP 20 23:47:54.2±0.1,67.82N×20.20E,h0km,ML2.1, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg		23 47 57.2	+0.3
KUA				S	Sg		23 47 59.1	+0.4
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg		23 47 57.2	+0.3
KUA				*i* S	Sg		23 47 59.1	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg		23 47 58.8	+0.2
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg		23 47 58.8	+0.2
KOVU	**Salmi**	**0.40**	**358**	P	Pg		23 48 01.9	0.0
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg		23 48 01.9	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg		23 48 07.6	-0.2
LANU	**Lannavaara** baz=256	**0.71**	**71**	*e*P	Pg		23 48 07.5	-0.4
LANU				*e*S	Sg		23 48 17.0	0.0
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg		23 48 08.9	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg		23 48 08.9	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg		23 48 09.1	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg		23 48 09.1	-0.2
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pb		23 48 17.8	-0.1
KIF				MSG			23 48 31.1	
	comp=Z,7.7nm,0.2s							
KIF				*e*SB	Sg		23 48 33.3	+0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pb		23 48 17.7	-0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg		23 48 19.5	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg		23 48 19.5	-1.1
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn		23 48 21.3	-0.9
ERTU	**Ertsjaerv** baz=327	**1.49**	**148**	*e*P	Pn		23 48 21.3	-0.9
ERTU				*e*SN	Sn		23 48 42.8	+0.5
HARU	**Harads**	**1.69**	**169**	P	Pn		23 48 25.0	0.0
HARU	**Harads**	**1.69**	**169**	*e*P	Pn		23 48 25.0	0.0
FAUS	**Fauske**	**1.93**	**259**	*e*P	Pn		23 48 29.2	+0.9
KALU	**Kalix** baz=332	**2.33**	**146**	*e*PB	Pn		23 48 34.8	+1.1
TOF	**Tornio** baz=311	**2.39**	**135**	*e*PB	Pn		23 48 35.9	+1.5
TOF				MSG			23 49 05.8	
	comp=Z,2.6nm,0.2s							
TOF				*e*SG	Sb		23 49 08.7	+0.8
SGF	**Sodankyl** baz=287	**2.45**	**96**	*e*PB	Pb		23 48 37.3	-1.7
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn		23 48 38.9	+1.9
RNF				*e*SG	Sb		23 49 13.5	+0.3
ARE0	**ARCESS Array S** baz=226	**2.59**	**46**	*e*P	Pn		23 48 38.6	+1.3
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb		23 49 10.5	+1.3

UPP 20 23:47:59.1±0.1,67.84N×20.18E,h0km,ML2.1, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**27**	P	Pg		23 48 01.7	+0.1
KUA				S	Sg		23 48 03.7	+0.5
RATU	**Laukkuluspa**	**0.22**	**266**	P	Pg		23 48 03.6	+0.2
KOVU	**Salmi**	**0.38**	**359**	P	Pg		23 48 06.5	+0.1
LANU	**Lannavaara**	**0.71**	**72**	P	Pg		23 48 12.7	-0.1
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg		23 48 13.9	-0.3
MASU	**Masugnsbyn**	**0.80**	**118**	P	Pg		23 48 13.9	-0.4

*HEL **20** 23:49:30.5,67.83N×20.25E,h0km,ML2.0,Explosion*

UPP 20 23:49:25.3±0.4,67.84N×20.19E,h1km±4km,ML2.1, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**27**	P	Pg		23 49 27.8	+0.1
KUA				S	Sg		23 49 29.6	+0.4
KUA	**Kurravaara**	**0.12**	**27**	*i* P	Pg		23 49 27.8	+0.1
KUA				*i* S	Sg		23 49 29.6	+0.4
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg		23 49 29.7	0.0
RATU	**Laukkuluspa**	**0.23**	**265**	*i* P	Pg		23 49 29.7	0.0
KOVU	**Salmi**	**0.38**	**358**	P	Pg		23 49 32.6	0.0
KOVU	**Salmi**	**0.38**	**358**	*i* P	Pg		23 49 32.6	0.0
LANU	**Lannavaara**	**0.71**	**72**	*e*PB	Pn		23 49 43.3	+0.8
LANU				*e*S	Sg		23 49 47.7	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg		23 49 40.1	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg		23 49 40.1	-0.4
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg		23 49 40.2	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg		23 49 40.2	-0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*	Pn		23 49 55.0	+5.9
KIF				*e*SN	Sn		23 50 07.8	+2.0
KIF				MSG			23 50 07.8	
	comp=Z,18nm,0.2s							
PAJU	**Pajala**	**1.40**	**125**	P	Pn		23 49 50.5	-1.5
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn		23 49 50.5	-1.5
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn		23 49 53.3	-0.2
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*PN	Pg		23 49 56.9	+2.7
ERTU				*e*SN	Sn		23 50 17.1	+3.3
TOF	**Tornio**	**2.41**	**136**	*e*PG	Pg		23 50 11.3	0.0
TOF				MSG			23 50 41.0	
	comp=Z,5.6nm,0.2s							
TOF				*e*SG	Sg		23 50 44.0	+1.5
SGF	**Sodankyl**	**2.46**	**97**	*e*SG	Sg		23 50 45.4	+1.8
RNF	**Rovaniemi**	**2.58**	**116**	*e*PG	Pg		23 50 14.4	-0.4
RNF				*e*SG	Sg		23 50 47.8	-0.4

UPP 20 23:49:30.4±0.1,67.92N×20.55E,h0km,ML2.1, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.09**	**295**	P	Pg		23 49 32.3	+0.2
KUA				S	Sg		23 49 34.0	+0.9
KOVU	**Salmi**	**0.34**	**335**	P	Pg		23 49 37.2	+0.3
KOVU				S	Sg		23 49 42.5	+1.2
KOVU	**Salmi**	**0.34**	**335**	*i* P	Pg		23 49 37.7	+0.8
KOVU	**Salmi**	**0.34**	**335**	*i* S	Pg		23 49 37.7	+0.8
RATU	**Laukkuluspa**	**0.37**	**256**	P	Pg		23 49 37.4	-0.2
LANU	**Lannavaara**	**0.56**	**76**	P	Pg		23 49 40.5	-0.5
MASU	**Masugnsbyn**	**0.72**	**129**	P	Pg		23 49 44.5	+0.3
SALU	**Saltoluokta**	**0.95**	**236**	P	Pg		23 49 49.0	+0.5
PAJU	**Pajala**	**1.33**	**131**	P	Pg		23 49 54.9	-1.1

*IDC **20** 23:52:51.7±0.7,46.89N×94.27E,h0km,mb4.0/12, mb1 4.0/16,mb1mx3.8/54,mbtmp3.9/16,ML3.1/4,MS2.5/3, Ms1 2.5/3,ms1mx2.4/40,Error ellipse: s-maj=21.7km s-min=11.1km az=26.0*

*NNC **20** 23:52:52.0±3.0,47.78N×94.31E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=47.1km s-min=24.9km az=5.0*

*NEIC **20** 23:52:54.2±0.8,46.93N±0.08×94.3E±0.1,h16km±5km, mb4.1/16,Error ellipse: s-maj=11.6km s-min=10.2km az=140.0*

*ASRS **20** 23:52:59.6±0.4,48.2N±2.9×94.4E±1.9,h9km,MLh4.8/16, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 20 23:52:53.3±0.6,46.80N±0.05×94.40E±0.04,h10km,n74, σ2s49/99,mb4.1/16,3C-5D,Mongolia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ERNS	**Erzin**	**3.50**	**8**	Pg	Pb		**23 53 53.5**	**-2.0**
ERNS				Sg	Sb		**23 54 37.2**	**-0.8**
KNGR	**Kungurtug, Tuv**	**4.33**	**27**	Pg	Pb		**23 54 09.3**	**-0.3**
KNGR				Sg	Sb		**23 55 07.1**	**+5.2**
KZLR	**Kyzyl**	**4.91**	**0**	Sg	Sb		**23 55 20.2**	**+1.6**
TEL	**Teeli**	**5.05**	**328**	Pg	Pb		**23 54 20.5**	**-1.2**
TEL				Sg	Sb		**23 55 22.4**	**-0.1**
CUR	**Chagan-Uzun**	**5.21**	**312**	Pn	Pn		**23 54 10.6**	**-0.8**
CUR				Pg	Pb		**23 54 27.2**	**+2.8**
CUR				Sg	Sb		**23 55 28.2**	**+1.1**
DGZ	**Jazzator, Alta**	**5.49**	**305**	Pn	Pn		**23 54 15.4**	**+0.2**
DGZ				Pg	Pb		**23 54 30.3**	**+1.1**
DGZ				Sg	Sb		**23 55 41.2**	**+6.1**
WMQ	**Urumqi**	**5.58**	**240**	Pn	Pn		**23 54 16.0**	**-0.4**
AKAR	**Aktash**	**5.71**	**311**	Pn	Pn		**23 54 17.1**	**-1.2**
AKAR				Pg	Pb		**23 54 31.3**	**-1.8**
AKAR				Sg	Sb		**23 55 47.6**	**+6.0**
TDJR	**Todzha**	**5.72**	**11**	Pn	Pn		**23 54 20.1**	**+1.8**
TDJR				Pg	Pb		**23 54 33.7**	**+0.6**
TDJR				Sg	Sb		**23 55 45.7**	**+4.0**
ULGR	**Ulagan, Altay**	**5.73**	**314**	Pn	Pn		**23 54 18.6**	**+0.2**
ULGR				Pg	Pb		**23 54 35.4**	**+2.1**
ULGR				Sg	Sb		**23 55 45.9**	**+3.9**
CHBI	**Chibit, Altay**	**5.77**	**310**	Pn	Pn		**23 54 19.6**	**+0.5**
CHBI				Pg	Pb		**23 54 36.7**	**+2.7**
CHBI				Sg	Sb		**23 55 48.0**	**+4.8**
ARDR	**Aradan**	**5.82**	**354**	Pn	Pn		**23 54 20.9**	**+1.2**
ARDR				Pg	Pb		**23 54 33.6**	**-1.4**
ARDR				Sg	Sb		**23 55 46.8**	**+2.1**
DJOS	**Djoyskaya Sosn**	**6.31**	**343**	Pg	Pb		**23 54 44.6**	**+1.4**
DJOS				Sg	Sb		**23 56 00.6**	**+2.0**
TUNR	**Tungur**	**6.33**	**305**	Pg	Pb		**23 54 44.9**	**+1.4**
TUNR				Sg	Sg		**23 56 09.9**	**-6.5**
DJO	**Djoy, Khakassi**	**6.33**	**342**	Pg	Pg		23 54 50.3	-4.2
DJO				Sg	Sb		**23 56 01.1**	**+1.7**
CERR	**Cheremushki**	**6.36**	**343**	Pg	Pb		**23 54 45.2**	**+1.1**
CERR				Sg	Sb		23 56 09.4	+9.2
TBTR	**Tabat**	**6.58**	**340**	Pg	Pb		**23 54 48.8**	**+1.0**
TBTR				Sg	Sb		**23 56 12.2**	**+5.7**
ORL	**Orlik**	**6.74**	**29**	Pg	Pb		**23 54 53.2**	**+2.8**
ORL				Sg	Sb		23 56 21.7	+11
ARTR	**Artybash**	**6.83**	**320**	Pn	Pn		**23 54 36.3**	**+2.8**
ARTR				Pg	Pb		**23 54 55.5**	**+3.4**
ARTR				Sg	Sb		**23 56 21.8**	**+8.2**
ABNR	**Abakan**	**7.19**	**346**	Sg	Sb		**23 56 29.4**	**+5.5**
TASR	**Tashtagol**	**7.31**	**327**	Pg	Pb		**23 55 03.6**	**+3.4**
TASR				Sg	Sb		**23 56 34.8**	**+7.6**
TLY	**Talaya** 0.0nm,0.3s,baz=236,slow=12,SNR=8.2	**7.78**	**48**	Pg	Pb		**23 55 10.8**	**+2.7**
TLY				Lg	Lg		23 56 57.5	
	0.1nm,0.3s,baz=94,slow=9.2,SNR=8.4							
TLY				LR	LR		23 57 18.3	
	comp=Z,26nm,21.2s,baz=262,slow=34							
TLY	**Talaya**	**7.78**	**48**		**Pn**		**23 54 45.6**	**-0.8**
SONM	**Songino Array** 0.3nm,0.3s,baz=264,slow=14,SNR=9.1	**8.22**	**78**	Pn	**Pn**		**23 54 53.5**	**+0.8**
SONM				Pg	Pb		23 55 23.3	+7.5
	1.4nm,0.3s,baz=262,slow=18,SNR=11							
SONM				Sn	**Sn**		**23 56 27.8**	**+2.2**
	1.4nm,0.3s,baz=258,slow=19,SNR=3.7							
SONM				Lg	Lg		23 57 13.5	
	5.5nm,0.3s,baz=274,slow=32,SNR=20							
SONM				LR	LR		23 58 14.2	
	comp=Z,58nm,20.2s,baz=282,slow=39							
SONM	**Songino Array**	**8.22**	**78**		**Pn**		**23 54 52.6**	**-0.1**
MK31	**Makanchi Array** 0.6nm,0.3s,baz=92,slow=14,SNR=31	**8.31**	**274**	⇑Pn	**Pn**		**23 54 52.8**	**-1.0**
MK31				⇓Lg	Lg		23 57 12.8	
	40nm,1.1s,baz=90,slow=31,SNR=6.6							
MK31	**Makanchi Array**	**8.31**	**274**		**Pn**		**23 54 52.6**	**-1.2**
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=93,slow=14,SNR=27	**8.31**	**274**	Pn	**Pn**		**23 54 52.5**	**-1.3**
MKAR				Pg	Pb		23 55 10.9	-6.3
	0.6nm,0.3s,baz=82,slow=16,SNR=6.9							
MKAR				Lg	Lg		23 57 10.6	
	1.6nm,0.3s,baz=90,slow=28,SNR=4.4							
MKAR				LR	LR		23 58 21.5	
	comp=Z,33nm,18.7s,baz=339,slow=40							
MKAR	**Makanchi Array**	**8.31**	**274**		**Pn**		**23 54 52.9**	**-0.9**
MAKZ	**Makanchi** 5.3nm,0.9s	**8.52**	**275**	⇓Pn	**Pn**		**23 54 55.5**	**-1.3**
MAKZ				⇓Lg	Lg		23 57 20.3	
	21nm,0.8s							
MAKZ	**Makanchi**	**8.52**	**275**	Pn	**Pn**		**23 54 55.7**	**-1.0**
ZAA0	**Zalesovo Array**	**9.41**	**323**	Pn	**Pn**		**23 55 07.7**	**-1.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=143,slow=12,SNR=2.5	**9.41**	**323**	Pn	**Pn**		**23 55 07.4**	**-1.5**
ZALV				Sn	**Sn**		**23 56 52.7**	**-1.9**
	0.6nm,0.3s,baz=131,slow=16,SNR=6.7							
ZALV				Lg	Lg		23 57 44.9	
	0.9nm,0.3s,baz=134,slow=23,SNR=9.7							
ZALV	**Zalesovo Beam**	**9.41**	**323**		**Pn**		**23 55 07.2**	**-1.6**
KURK	**Kurchatov** 20nm,0.7s	**11.13**	**296**	⇑Lg	Lg		23 58 31.4	
KURK	**Kurchatov**	**11.13**	**296**		**Pn**		**23 55 30.7**	**-1.6**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=100,slow=14,SNR=17	**11.16**	**296**	Pn	**Pn**		**23 55 30.7**	**-2.0**
KURBB				Lg	Lg		23 58 39.0	
	0.1nm,0.3s,baz=98,slow=29,SNR=3.8							
KURBB	**Kurchatov Arra** 59nm,0.9s	**11.16**	**296**	⇑Lg	Lg		23 58 31.0	
BOOM	**Boomskoye usch**	**13.82**	**259**	Pn	**Pn**		**23 56 09.7**	**+0.3**
TKM2	**Tokmak 2** 2.3nm,0.8s	**13.88**	**261**	⇓Pn	**Pn**		**23 56 12.0**	**+1.8**
TKM2				⇓Sn	**Sn**		**23 58 50.5**	**+6.1**
	3.9nm,1.2s							
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=182,slow=10,SNR=6.0	**16.63**	**301**	Pn	**Pn**		**23 56 44.1**	**-2.2**
BRVK	**Borovoye**	**16.70**	**301**	Pn	**Pn**		**23 56 46.2**	**-1.0**
KK31	**Karatay Array**	**17.29**	**266**	Pn	**Pn**		**23 56 53.1**	**-1.6**
KKAR	**Karatay Array**	**17.29**	**266**	Pn	**Pn**		**23 56 54.3**	**-0.4**
BTK	**Batken**	**18.36**	**257**		**P**		**23 57 08.1**	**+0.1**
GAR	**Garm**	**19.23**	**255**	P	**Pn**		**23 57 18.8**	**+0.2**
GAR				IAmb	IAmb		23 57 21.6	
	comp=Z,11nm,1.3s							
CHGR	**Chuyangaron**	**20.18**	**255**	P	**P**		**23 57 28.3**	**+0.3**
CHGR				IAmb	IAmb		23 57 34.8	
	comp=Z,7.2nm,0.7s							
SHL	**Shillong**	**21.28**	**186**	P	**P**		**23 57 41.0**	**+1.0**
SHL				IAmb	IAmb		23 57 48.4	
	comp=Z,20nm,1.3s							
KBL	**Kabul**	**22.69**	**246**	P	**P**		**23 57 56.3**	**+1.2**
KBL				IAmb	IAmb		23 58 02.4	
	comp=Z,10nm,1.1s							
NRIK	**Noril'sk** comp=Z,2.7nm,0.5s,baz=175,slow=8.8,SNR=6.3	**22.86**	**354**	P	**P**		**23 57 54.8**	**-1.7**
ABKAR	**Akbulak array**	**23.06**	**289**	P	**P**		**23 57 57.9**	**-0.7**
ABKAR				IAmb	IAmb		23 58 04.9	
	comp=Z,2.7nm,0.8s							
ABKAR	**Akbulak array**	**23.06**	**289**	P	**P**		**23 57 57.9**	**-0.7**
ARU	**Arti** comp=Z,0.7nm,0.3s,baz=94,slow=14,SNR=4.7	**23.99**	**307**	P	**P**		**23 58 07.5**	**-0.2**
ARU	**Arti**	**23.99**	**307**	P	**P**		**23 58 06.4**	**-1.3**
ARU				IAmb	IAmb		23 58 16.1	
	comp=Z,8.5nm,0.7s							
AKTO	**Aktyubinsk** comp=Z,0.7nm,0.3s,baz=63,slow=9.6,SNR=5.1	**24.17**	**292**	P	**P**		**23 58 08.8**	**-0.7**
KIRV	**Kirov** comp=Z,4.8nm,0.7s,baz=263,slow=2.5,SNR=3.8	**29.13**	**310**	P	**P**		**23 58 53.1**	**-0.8**
ARCES	**ARCESS Array B** comp=Z,3.6nm,1.0s,baz=46,slow=6.9,SNR=4.2	**39.90**	**329**	P	**P**		**00 00 25.6**	**-1.2**
ARCES				PcP	**PcP**		**00 02 31.2**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=96,slow=4.6,SNR=4.0							
FIA1	**FINESS Array S**	**40.60**	**317**	P	**P**		**00 00 32.2**	**-0.5**
FINES	**FINESS Array B** comp=Z,4.3nm,0.9s,baz=80,slow=5.8,SNR=10	**40.61**	**317**	P	**P**		**00 00 32.2**	**-0.6**
FINES	**FINESS Array B**	**40.61**	**317**	P	**P**		**00 00 32.0**	**-0.8**
BUR08	**Bucovina Ar. S**	**45.55**	**298**	P	**P**		**00 01 12.4**	**-0.6**
BUR08				IAmb	IAmb		00 01 16.1	
	comp=Z,9.2nm,1.6s							
BURAR	**Bucovina Array**	**45.55**	**298**	P	**P**		**00 01 13.0**	**-0.1**
NC303	**NORSAR Array S**	**47.45**	**319**	P	**P**		**00 01 25.9**	**-1.8**
NB2	**NORSAR Subarra** comp=Z,2.5nm,0.8s,baz=67,slow=7.9	**47.59**	**319**	P	**P**		**00 01 27.4**	**-1.4**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.6s,baz=65,slow=7.5,SNR=6.0	**47.59**	**319**	P	**P**		**00 01 27.6**	**-1.2**
ESDC	**Sonseca Array** comp=Z,0.9nm,0.9s,baz=42,slow=6.8,SNR=8.2	**67.36**	**304**	P	**P**		**00 03 48.1**	**-0.5**
WRA	**Warramunga Arr** comp=Z,2.3nm,0.7s,baz=342,slow=6.5,SNR=19	**75.57**	**141**	P	**P**		**00 04 39.0**	**+0.9**
WRA	**Warramunga Arr**	**75.57**	**141**	P	**P**		**00 04 39.0**	**+0.9**
WB2	**Warramunga Arr**	**75.58**	**141**	P	**P**		**00 04 38.8**	**+0.7**
ASAR	**Alice Springs** comp=Z,1.2nm,0.6s,baz=339,slow=5.6,SNR=16	**78.70**	**144**	P	**P**		**00 04 56.6**	**+0.8**
ASAR	**Alice Springs**	**78.70**	**144**	P	**P**		**00 04 56.5**	**+0.8**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,1.0s,baz=20,slow=5.2,SNR=2.5	**82.38**	**281**	P	**P**		**00 05 14.2**	**-1.4**
STKA	**Stephens Creek** comp=Z,1.0nm,0.5s,baz=336,slow=10.0,SNR=2.9	**89.12**	**141**	P	**P**		**00 05 48.8**	**+0.2**
STKA	**Stephens Creek**	**89.12**	**141**	P	**P**		**00 05 48.5**	**-0.1**
STKA				IAmb	IAmb		00 05 50.5	
	comp=Z,1.1nm,1.2s							

*NEIC **20** 23:53:50.2±2.9,38.26N±0.04×142.10E±0.10,h35km±2km, mb4.0/3,Error ellipse: s-maj=13.9km s-min=5.7km az=291.0*

*IDC **20** 23:53:52.3±3.6,38.16N×142.06E,h63km±33km,mb3.5/6, mb1 3.7/9,mb1mx3.4/53,mbtmp3.8/9,ML2.9/3,Error ellipse: s-maj=27.9km s-min=17.7km az=74

comp=Z,1.3nm,0.7s,baz=86,slow=10,SNR=4.2
MAKZ Makanchi 44.11 301 P P 00 01 54.1 -0.4
MAKZ IAmb IAmb 00 02 05.9
comp=Z,4.1nm,1.1s
KURBB Kurchatov Arra 45.66 307 P P 00 02 06.3 -0.3
comp=Z,1.0nm,0.3s,baz=81,slow=8.4,SNR=3.3
BCAR Beaver Creek A 50.60 35 P P 00 02 46.1 +1.4
ABKAR Akbulak array 57.54 310 P P 00 03 35.1 -0.3
ABKAR IAmb IAmb 00 03 46.2
comp=Z,1.3nm,1.1s
ABKAR Akbulak array 57.54 310 P P 00 03 35.5 +0.1
WRA Warramunga Arr 58.34 189 P P 00 03 40.6 -0.7
comp=Z,0.3nm,0.4s,baz=7.8,slow=8.1,SNR=7.9
WRA pP pP 00 03 58.1 +2.0
comp=Z,0.5nm,0.7s,baz=5.5,slow=7.4,SNR=2.0
PDAR Pinedale Array 76.45 46 P P 00 05 36.1 +0.3
comp=Z,0.3nm,0.5s,baz=304,slow=2.7,SNR=3.6
TXAR Lajitas Array 88.98 53 P P 00 06 41.0 +0.2
comp=Z,0.3nm,0.5s,baz=299,slow=4.0,SNR=3.9

*CRAAG **21** 00:00:11.6,36.74N×5.13E,Ml3.1*
*MDD **21** 00:00:14.9±1.1,36.85N×5.34E,h14km±15km,mb3.7/2, Error ellipse: s-maj=11.2km s-min=8.2km az=34.0, PRXIMO*
*LDG **21** 00:00:18.6±0.5,37.32N×4.82E,h2km,Ml2.7/9,Error ellipse: s-maj=10.0km s-min=5.0km az=150.0*
ISC 21 00:00:12.2±1.0,36.90N±0.05×5.27E±0.05,h10km,n47, σ2s34/53,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DFRA	**Djebel Bou Aff**	**0.61**	**126**	P	P	**Pg**	**00 00 25.5**	**+1.5**
DFRA	**Djebel Bou Aff**	**0.61**	**126**	P	P	**Pg**	**00 00 25.5**	**+1.5**
CKHR	**Kef el Ahmar**	**0.91**	**167**	P	P	**Pg**	**00 00 28.9**	**-0.8**
CKHR	**Kef el Ahmar**	**0.91**	**167**	P	P	**Pg**	**00 00 28.9**	**-0.8**
CASM	**Ain Smara**	**1.18**	**123**	P	P	**Pn**	**00 00 34.5**	**-0.3**
CASM	**Ain Smara**	**1.18**	**123**	P	P	**Pn**	**00 00 34.5**	**-0.3**
CTEI	**Djebel Teioual**	**1.25**	**132**	P	P	**Pn**	**00 00 36.0**	**+0.2**
CTEI	**Djebel Teioual**	**1.25**	**132**	P	P	**Pn**	**00 00 36.0**	**+0.2**
CAEH	**'Ain El Ouahch**	**1.28**	**95**	P	P	**Pn**	**00 00 38.3**	**+2.2**
CAEH	**'Ain El Ouahch**	**1.28**	**95**	P	P	**Pn**	**00 00 38.3**	**+2.2**
ADJB	**Djebel Djouab**	**1.65**	**244**	P	P	**Pn**	**00 00 41.0**	**-0.3**
ADJB	**Djebel Djouab**	**1.65**	**244**	P	P	**Pn**	**00 00 41.0**	**-0.3**
ETOS	**Mallorca**	**3.45**	**327**	P	P	**Pn**	**00 01 07.9**	**+1.9**
	1.1nm,0.1s,SNR=7.2							
ETOS				S		**Sn**	**00 01 44.3**	**-2.6**
	5.4nm,0.9s,SNR=7.9							
EIBI	**Ibiza**	**3.75**	**306**	P	P	**Pn**	**00 01 12.6**	**+2.5**
	1.0nm,0.2s,SNR=6.6							
EIBI				S		**Sn**	**00 01 53.5**	**-0.9**
	12nm,1.0s,SNR=6.7							
CFON	**Fontmartina**	**5.32**	**337**	P	P	**Pn**	**00 01 33.1**	**+1.3**
	0.7nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.51**	**325**	P	P	**Pn**	**00 01 36.1**	**+1.8**
	0.5nm,0.2s,SNR=7.9							
EPOB				S		**Sn**	**00 02 34.5**	**-3.2**
	9.0nm,1.1s,SNR=7.9							
ECHE	**Chera**	**5.59**	**301**	P	P	**Pn**	**00 01 38.1**	**+2.6**
	0.3nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.67**	**290**	P	P	**Pn**	**00 01 40.1**	**+3.5**
	0.6nm,0.2s,SNR=6.9							
ETOB				S		**Sn**	**00 02 40.8**	**-0.9**
	7.2nm,0.8s,SNR=7.9							
CLLI	**Llivia**	**6.12**	**337**	P	P	**Pn**	**00 01 45.9**	**+3.1**
	0.2nm,0.1s,SNR=7.9							
CLLI				S		**Sn**	**00 02 48.4**	**-4.5**
	3.9nm,0.7s,SNR=7.9							
CSOR	**Sort**	**6.33**	**331**	P	P	**Pn**	**00 01 47.2**	**+1.6**
	0.5nm,0.2s,SNR=7.9							
CSOR				S		**Sn**	**00 02 52.3**	**-5.6**
	2.1nm,0.4s,SNR=4.0							
SESP	**Santiago Espad**	**6.33**	**283**	P	P	**Pn**	**00 01 49.4**	**+3.8**
	0.6nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**00 02 56.3**	**-1.7**
	7.1nm,0.9s,SNR=7.9							
PGF	**Pioggiola**	**6.33**	**26**	P	P	**Pn**	**00 01 47.1**	**+1.5**
PGF				S		Sn	00 02 53.9	-4.1
	0.9nm,0.3s							
PGF	**Pioggiola**	**6.33**	**26**	*e*Pn	P	**Pn**	**00 01 47.1**	**+1.5**
PGF				*e*Sn		Sn	00 02 53.9	-4.1
	1.7nm,0.3s							
LMR	**La Mourre**	**6.49**	**8**	P	P	**Pn**	**00 01 48.5**	**+0.8**
LMR				S		Sn	00 02 55.1	-6.7
	0.0nm,0.2s							
LMR	**La Mourre**	**6.49**	**8**	*e*Pn	P	**Pn**	**00 01 48.5**	**+0.8**
LMR				*e*Sn		Sn	00 02 55.1	-6.7
	1.0nm,0.2s							
EQES	**Quesada**	**6.70**	**280**	P	P	**Pn**	**00 01 54.0**	**+3.3**
	0.2nm,0.2s,SNR=7.9							
EQES				S		**Sn**	**00 03 05.7**	**-1.5**
	26nm,2.7s,SNR=7.9							
FRF	**La Foret Royal**	**6.73**	**9**	P	P	**Pn**	**00 01 52.1**	**+1.1**
FRF				S		Sn	00 03 00.6	-7.2
	0.3nm,0.2s							
FRF	**La Foret Royal**	**6.73**	**9**	*e*Pn	P	**Pn**	**00 01 52.1**	**+1.1**
FRF				*e*Sn		Sn	00 03 00.6	-7.2
	0.6nm,0.2s							
MTLF	**Montolieu**	**6.84**	**341**	S		Sn	00 03 00.2	-10
	0.2nm,0.3s							
MTLF	**Montolieu**	**6.84**	**341**	*e*Sn		Sn	00 03 00.2	-10
	0.3nm,0.3s							
SMRF	**Simiane la Rot**	**7.07**	**2**	P	P	**Pn**	**00 01 54.6**	**-1.1**
SMRF	**Simiane la Rot**	**7.07**	**2**	*e*Pn	P	**Pn**	**00 01 54.6**	**-1.1**
SMRF	**Simiane la Rot**	**7.07**	**2**	*e*P	P	**Pn**	**00 01 59.9**	**+4.2**
SBF	**Sospel**	**7.14**	**13**	P	P	**Pn**	**00 01 58.0**	**+1.2**
SBF				S		Sn	00 03 11.4	-6.6
	0.6nm,0.3s							
SBF	**Sospel**	**7.14**	**13**	*e*Pn	P	**Pn**	**00 01 58.0**	**+1.2**
SBF				*e*Sn		Sn	00 03 11.4	-6.6
	1.2nm,0.3s							
EPF	**Esparros**	**7.19**	**330**	P	P	**Pn**	**00 02 01.0**	**+3.6**
EPF				S		Sn	00 03 08.1	-11
	0.3nm,0.3s							
EPF	**Esparros**	**7.19**	**330**	*e*P	P	**Pn**	**00 02 01.0**	**+3.6**
EPF				*e*Sn		Sn	00 03 08.1	-11
	0.7nm,0.3s							
LASF	**Ste Croix**	**7.24**	**352**	P	P	**Pn**	**00 01 57.8**	**-0.3**
LASF				S		Sn	00 03 11.2	-9.2
	0.2nm,0.4s							
LASF	**Ste Croix**	**7.24**	**352**	*e*Pn	P	**Pn**	**00 01 57.8**	**-0.3**
LASF				*e*Sn		Sn	00 03 11.2	-9.2
	0.4nm,0.4s							
ETSF	**Etsaut**	**7.47**	**325**	P	P	**Pn**	**00 02 04.5**	**+3.2**
ETSF	**Etsaut**	**7.47**	**325**	*e*P	P	**Pn**	**00 02 04.5**	**+3.2**
ATE	**Arette**	**7.69**	**325**	P	P	**Pn**	**00 02 06.8**	**+2.6**
	0.1nm,0.1s,SNR=4.0							
SJPF	**Ste Jean**	**7.95**	**323**	P	P	**Pn**	**00 02 10.7**	**+2.9**
SJPF	**Ste Jean**	**7.95**	**323**	*e*P	P	**Pn**	**00 02 10.7**	**+2.9**
VIVF	**Saint-Julien-l**	**7.96**	**357**	P	P	**Pn**	**00 02 08.1**	**+0.2**
VIVF				S		Sn	00 03 28.7	-9.2
	0.2nm,0.2s							
VIVF	**Saint-Julien-l**	**7.96**	**357**	*e*Pn	P	**Pn**	**00 02 08.1**	**+0.2**
VIVF				*e*Sn		Sn	00 03 28.7	-9.2
	0.4nm,0.2s							
EALK	**Alkurruntz**	**8.17**	**323**	P	P	**Pn**	**00 02 13.7**	**+2.9**
	0.2nm,0.1s,SNR=7.9							

*IDC **21** 00:03:26.2±3.6,42.03N×82.06E,h0km,mb3.2/1, mb1 3.3/3,mb1mx3.0/40,mbtmp3.3/3,ML3.0/2,Error ellipse: s-maj=85.2km s-min=21.1km az=108.0*
*SOME **21** 00:03:28.3,42.13N×82.25E,h15km*
*NNC **21** 00:03:30.8±1.0,42.18N×82.15E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=8.1km s-min=4.1km az=150.0*
ISC 21 00:03:29.2±2.2,41.97N±0.08×81.95E±0.06,h15km±12km, n37,σ1s53/58,5C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KTMS	**Ketmen**	**1.89**	**322**	*e*P	P	**Pg**	**00 04 04.6**	**-0.8**
	90nm,0.1s							
KTMS				*e*S		**Sg**	**00 04 31.0**	**+1.0**
	253nm,0.2s							
KTMS	**Ketmen**	**1.89**	**322**	Pg	P	**Pg**	**00 04 04.8**	**-0.6**
	90nm,0.1s							
KTMS				Lg	Lg		00 04 31.0	
	253nm,0.2s							
SHLS	**Shalkode**	**2.19**	**304**	*e*P	P	**Pb**	**00 04 07.2**	**-1.3**
	55nm,0.1s							
SHLS				*e*S		**Sb**	**00 04 35.3**	**-0.2**
	178nm,0.5s							
PDGK	**Podgornoye**	**2.27**	**308**	Pg	P	**Pg**	**00 04 11.9**	**-0.8**
	9.0nm,0.2s							
PDGK				Lg	Lg		00 04 42.6	
	55nm,0.2s							
PDGK	**Podgornoye**	**2.27**	**308**	⇓Pn	P	**Pb**	**00 04 10.4**	**+0.5**
	8.7nm,0.6s							
PDGK				⇓Lg	Lg		00 04 42.8	
	37nm,0.4s							
UZB	**Uzynbulak**	**2.46**	**300**	*e*P	P	**Pg**	**00 04 16.2**	**-0.2**
	10.0nm,0.3s							
UZB				*e*S		**Sg**	**00 04 50.8**	**+2.4**
	74nm,0.2s							
UZB	**Uzynbulak**	**2.46**	**300**	Pg	P	**Pg**	**00 04 16.3**	**-0.2**
	10.0nm,0.3s							
UZB				Lg	Lg		00 04 50.8	
	74nm,0.2s							
SATY	**Saty**	**2.84**	**294**	*e*P	P	**Pg**	**00 04 23.7**	**+0.1**
	8.1nm,0.1s							
SATY				*e*S		**Sg**	**00 05 03.7**	**+3.3**
	63nm,0.3s							
SATY	**Saty**	**2.84**	**294**	Pg	P	**Pg**	**00 04 23.7**	**+0.1**
	8.1nm,0.1s							
SATY				Lg	Lg		00 05 03.7	
	63nm,0.3s							
DJR	**Jarkent**	**2.84**	**327**	*e*P	P	**Pb**	**00 04 17.7**	**-2.0**
	5.2nm,0.2s							
DJR				*e*S		**Sb**	**00 04 53.4**	**-0.9**
	20nm,0.2s							
ZHN	**Zhinishke**	**2.86**	**296**	*e*P	P	**Pg**	**00 04 23.7**	**-0.3**
	5.6nm,0.2s							
ZHN				*e*S		**Sg**	**00 05 03.4**	**+2.3**
	34nm,0.2s							
ZHN	**Zhinishke**	**2.86**	**296**	Pg	P	**Pg**	**00 04 23.7**	**-0.3**
	5.6nm,0.2s							
ZHN				Lg	Lg		00 05 02.1	
	34nm,0.2s							
KURS	**Kuram**	**3.17**	**300**	*e*P	P	**Pg**	**00 04 29.2**	**-0.8**
	3.1nm,0.3s							
KURS				*e*S		**Sg**	**00 05 13.1**	**+2.1**
	15nm,0.4s							
KURS	**Kuram**	**3.17**	**300**	Pg	P	**Pg**	**00 04 29.8**	**-0.1**
	3.1nm,0.3s							
KURS				Lg	Lg		00 05 13.1	
	15nm,0.4s							
ARXS	**Arharly**	**3.76**	**308**	*e*P	P	**Pb**	**00 04 37.1**	**+1.8**
	4.7nm,0.2s							
ARXS				*e*S		**Sg**	**00 05 26.6**	**-3.4**
	14nm,0.3s							
KOTS	**Kotyrbulak**	**3.79**	**291**	*e*P	P	**Pb**	**00 04 38.3**	**+2.5**
	9.4nm,0.2s							
KOTS				*e*S		**Sg**	**00 05 28.7**	**-2.2**
	42nm,0.6s							
MDOK	**Medeo**	**3.81**	**290**	*e*P	P	**Pg**	**00 04 40.8**	**-1.4**
	5.2nm,0.3s							
MDOK				*e*S		**Sg**	**00 05 33.0**	**+1.4**
	6.6nm,0.5s							
MDOK	**Medeo**	**3.81**	**290**	Pg	P	**Pg**	**00 04 41.7**	**-0.5**
	5.2nm,0.3s							
MDOK				Lg	Lg		00 05 33.0	
	6.6nm,0.5s							
TNSS	**Tian-Shan**	**3.85**	**288**	*e*P	P	**Pg**	**00 04 40.9**	**-2.1**
	3.8nm,0.2s							
TNSS				*e*S		**Sg**	**00 05 33.1**	**+0.2**
	8.3nm,0.2s							
TNSS	**Tian-Shan**	**3.85**	**288**	Pg	P	**Pg**	**00 04 41.3**	**-1.6**
	3.8nm,0.2s							
TNSS				Lg	Lg		00 05 33.1	
	8.3nm,0.2s							
IZV	**Izvestkoviy**	**4.09**	**287**	*e*P	P	**Pg**	**00 04 45.0**	**-2.4**
	1.9nm,0.2s							
IZV				*e*S		**Sg**	**00 05 40.0**	**-0.5**
	9.8nm,0.2s							
IZV	**Izvestkoviy**	**4.09**	**287**	Pg	P	**Pg**	**00 04 45.3**	**-2.2**
	1.9nm,0.2s							
IZV				Lg	Lg		00 05 40.0	
	9.8nm,0.2s							
KTBS	**Karatobe**	**4.25**	**296**	*e*P	P	**Pg**	**00 04 49.2**	**-1.3**
	2.9nm,0.2s							
KTBS				*e*S		**Sg**	**00 05 47.0**	**+1.4**
	28nm,0.4s							
KTBS	**Karatobe**	**4.25**	**296**	Pg	P	**Pg**	**00 04 49.2**	**-1.3**
	2.9nm,0.2s							
KTBS				Lg	Lg		00 05 46.9	
	28nm,0.4s							
KUU	**Kurty**	**4.55**	**297**	*e*P	P	**Pg**	**00 04 53.7**	**-2.6**
	1.5nm,0.2s							
KUU				*e*S		**Sg**	**00 05 55.1**	**0.0**
	8.6nm,0.6s							
KST	**Kastek**	**4.56**	**286**	*e*P	P	**Pg**	**00 04 55.0**	**-1.4**
	4.2nm,0.5s							
KST				*e*S		**Sg**	**00 05 56.8**	**+1.4**
	14nm,0.6s							
KST	**Kastek**	**4.56**	**286**	Pg	P	**Pg**	**00 04 57.2**	**+0.8**
	4.2nm,0.5s							
KST				Lg	Lg		00 06 01.5	
	14nm,0.6s							
DGS	**Degeres**	**4.74**	**288**	*e*P	P	**Pg**	**00 04 57.6**	**-2.2**
	0.9nm,0.2s							
DGS				*e*S		**Sg**	**00 06 02.0**	**+0.9**
	15nm,0.5s							
DGS	**Degeres**	**4.74**	**288**	Pg	P	**Pg**	**00 04 58.0**	**-1.8**
	0.9nm,0.2s							
DGS				Lg	Lg		00 06 02.0	
	15nm,0.5s							
TKM2	**Tokmak 2**	**4.80**	**284**	⇓Pn	P	Pn	00 04 47.1	+6.1
	2.3nm,0.8s							
TKM2				⇓Lg	Lg		00 06 08.2	
	7.8nm,0.7s							
MK31	**Makanchi Array**	**4.83**	**3**	Pn	P	**Pn**	**00 04 41.0**	**-0.3**
	0.3nm,0.2s,baz=188,slow=12,SNR=52							
MK31				⇑Pg		**Pb**	**00 04 53.8**	**+0.3**
	3.8nm,0.7s,baz=181,slow=16,SNR=5.6							
MK31				⇓Sn		**Sn**	**00 05 37.5**	**+0.5**
	0.4nm,0.2s,baz=45,slow=48,SNR=5.5							
MK31				⇑Lg		Lg	00 05 56.7	
	11nm,0.7s,baz=181,slow=28,SNR=4.9							
MKAR	**Makanchi Array**	**4.83**	**3**	Pn	P	**Pn**	**00 04 40.8**	**-0.5**
	1.4nm,0.3s,baz=184,slow=12,SNR=48							
MKAR				Pg		**Pb**	**00 04 54.0**	**+0.5**
	1.5nm,0.3s,baz=179,slow=16,SNR=10							
MKAR				Sn		**Sn**	**00 05 36.3**	**-0.8**
	1.2nm,0.3s,baz=174,slow=17,SNR=2.3							
MKAR				Lg		Lg	00 05 56.8	
	2.0nm,0.3s,baz=182,slow=28,SNR=9.4							
MAKZ	**Makanchi**	**4.84**	**0**	⇑Pn	P	**Pn**	**00 04 41.8**	**+0.4**
	2.9nm,0.6s							
MAKZ				⇑Sn		**Sn**	**00 05 38.1**	**+0.9**
	4.1nm,0.4s							
MAKZ				⇑Lg		Lg	00 05 57.5	
	13nm,0.9s							
ZSN	**Zaisan**	**5.86**	**20**	*e*P	P	**Pb**	**00 05 11.1**	**0.0**
	2.2nm,0.2s							
ZSN				*e*S		**Sb**	**00 06 24.5**	**+3.4**
	13nm,0.7s							
ZSN	**Zaisan**	**5.86**	**20**	Pg	P	**Pb**	**00 05 11.1**	**0.0**
	2.2nm,0.2s							
ZSN				Lg	Lg		00 06 24.5	
	13nm,0.7s							
ZALV	**Zalesovo Beam**	**12.14**	**8**	Pn	P	**Pn**	**00 06 19.9**	**-1.6**
	0.2nm,0.3s,baz=191,slow=15,SNR=1.9							
TORD	**Torodi Ar. Bea**	**74.13**	**274**	P	P	**P**	**00 15 05.1**	**-0.1**
	0.1nm,0.4s,baz=48,slow=5.0,SNR=5.9							

IDC 21 00:03:46.1±2.6,17.06S×179.50E,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.6/28,mbtmp3.6/3,Error ellipse: s-maj=293.1km s-min=34.7km az=159.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**42.83**	**259**	P	P	P	00 11 45.9	-0.3
	0.2nm,0.3s,baz=93,slow=7.5,SNR=6.7							
ASAR	**Alice Springs**	**43.11**	**253**	P	P	P	00 11 48.5	0.0
	1.1nm,0.6s,baz=87,slow=8.7,SNR=19							
TXAR	**Lajitas Array**	**87.24**	**58**	P	P	P	00 16 35.0	0.0
	0.1nm,0.3s,baz=259,slow=7.9,SNR=3.6							

RSNC 21 00:09:49.9±1.0,0.77N×77.96W,h0km±4km,ML1.7,1C, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CMBC	**Cumbal**	**0.21**	**39**	*e*P	P	Pg	00 09 54.6	+0.6
CMBC				*e*S	Sg		00 09 58.5	+1.7
CMBC				*i*			00 09 59.2	
	comp=Z,147nm,0.6s							
CMBC	**Cumbal**	**0.21**	**39**	*e*P	P	Pg	00 09 54.6	+0.6
CMBC				*e*S	Sg		00 09 58.2	+1.4
CMBC				*i*			00 09 58.9	
	comp=Z,120nm,0.1s							
OTAV	**Otavalo**	**0.72**	**223**	*e*P	P	Pg	00 10 03.8	-0.1
OTAV				*e*S	Sg		00 10 14.3	+1.0
OTAV	**Otavalo**	**0.72**	**223**	⇑*e*P	P	Pg	00 10 03.8	0.0
OTAV				*e*S	Sg		00 10 14.0	+0.8
OTAV				*i*			00 10 16.1	
	comp=Z,24nm,0.5s							
CPAS1	**Pasto**	**0.76**	**57**	*e*S		Sb	00 10 16.0	-1.3
GCUF	**Volcan Galeras**	**0.76**	**54**	*e*P	P	Pg	00 10 04.8	+0.3
GCUF	**Volcan Galeras**	**0.76**	**54**	*e*P	P	Pg	00 10 05.0	+0.5
GCUF				*e*S		Sb	00 10 16.1	-1.3
GCUF				*i*			00 10 22.3	
	comp=Z,18nm,0.4s							
PAC1	**Pacto, Paraso**	**0.97**	**239**	*e*P	P	Pg	00 10 08.2	-0.4
PAC1				*e*S	Sg		00 10 20.9	-0.3
PAC1	**Pacto, Paraso**	**0.97**	**239**	*e*P	P	Pg	00 10 08.0	-0.6
PAC1				*e*S	Sg		00 10 21.1	-0.2
BBAC	**Balboa, Cauca**	**1.43**	**30**	*e*P	P	Pn	00 10 15.3	-2.0
BBAC				*e*S	Sg		00 10 35.8	-0.1
BBAC				*i*			00 10 50.5	
	comp=Z,7.7nm,0.5s							
BBAC	**Balboa, Cauca**	**1.43**	**30**	*e*P		Pn	00 10 15.4	-1.9
BBAC				*e*S		Sg	00 10 36.0	+0.1
BBAC				*i*			00 10 49.0	
	comp=Z,10nm,0.7s							
SOTA	**Rioblanco**	**1.91**	**45**	*e*S		Sn	00 10 28.8	-20
POPC	**Popayan, Colom**	**2.17**	**36**	*e*P	P	Pn	00 10 26.5	-1.1
GARC	**Garzon, Huila**	**2.84**	**60**	*e*P	P	Pb	00 10 40.4	-1.3
GARC				*e*S		Sn	00 11 12.9	+1.1
GARC				*i*			00 11 15.0	
	comp=Z,12nm,0.2s							

*NIED **21** 00:20:15.3,38.54N×144.59E,h40km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=1.28; Mθθ0.24; Mφφ1.04; Mrθ0.12; Mθφ0.43; Mφr1.19; Fault plane solution: M0 1.73000×1014 NP1: φs192.00000°,δ67.00000°,λ-99.00000°. NP2:φs33.00000°, δ24.00000°,λ-70.00000°.*
JMA 21 00:20:15.2±0.2,38.54N×144.58E,h40km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
OFUJ	**Ofunato**	**2.34**	**284**	P	P	Pn	00 20 52.7	+1.6
OFUJ				*e*S		Sn	00 21 20.3	+1.7
MIYJ	**Miyakonagasawa**	**2.38**	**297**	P	P	Pn	00 20 52.9	+1.1
MIYJ				*e*S		Sn	00 21 21.1	+1.3
JKMT	**Kesennumamotoy**	**2.45**	**277**	P	P	Pn	00 20 54.3	+1.7
JKMT				S		Sn	00 21 23.2	+1.9
JIKH	**Ishinomakikobu**	**2.46**	**266**	P	P	Pn	00 20 54.1	+1.4
JIKH				S		Sn	00 21 22.8	+1.3
JMK	**Ichinoseki**	**2.66**	**280**	P	P	Pn	00 20 57.5	+2.0
JMK				S		Sn	00 21 28.7	+2.2
JOM	**Ohasama**	**2.73**	**291**	P	P	Pn	00 20 58.6	+2.2
JOM				S		Sn	00 21 30.5	+2.3
JANG	**Nango**	**3.00**	**309**	*e*S		Sn	00 21 36.8	+1.9
JYK	**Kaneyama**	**3.32**	**278**	P	P	Pn	00 21 07.2	+2.5
JYK				*e*S		Sn	00 21 46.0	+3.1
JFT	**Otama**	**3.50**	**254**	P	P	Pn	00 21 09.6	+2.5
JFT				S		Sn	00 21 49.7	+2.4
JOT	**Ohata**	**3.93**	**317**	P	P	Pn	00 21 15.1	+2.2
JOT				*e*S		Sn	00 21 57.2	-0.5
JCH	**Churui**	**4.17**	**348**	P	P	Pn	00 21 15.8	-0.5
JCH				*e*S		Sn	00 22 00.4	-3.4
JKB	**Kayabe**	**4.31**	**322**	P	P	Pn	00 21 20.0	+1.9
NEM2	**Nemuro 2**	**4.90**	**10**	P	P	Pn	00 21 23.5	-2.8
NEM2				*e*S		Sn	00 22 14.5	-7.2
JRY	**Ryogami san**	**5.18**	**243**	P	P	Pn	00 21 31.7	+1.5
JRY				*e*S		Sn	00 22 28.6	-0.2
JTKR	**Abashiri--Toko**	**5.45**	**355**	P	P	Pn	00 21 32.7	-1.1
JTKR				*e*S		Sn	00 22 31.7	-3.5

*IDC **21** 00:23:01.2±2.6,7.05N×125.86E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.6/29,mbtmp3.7/4,MS3.3/4,Ms1 3.3/4, ms1mx2.9/34,Error ellipse: s-maj=224.6km s-min=28.6km az=64.0*
*MAN **21** 00:23:03.2,6.85N×124.98E,h13km,mb5.2,ML4.1,MS4.2*
*NEIC **21** 00:23:07.8±0.5,6.85N±0.09×125.49E±0.08,h53km±9km, mb4.3/9,Error ellipse: s-maj=16.3km s-min=4.2km az=219.0*
ISC 21 00:23:03.9±0.6,6.84N±0.04×125.11E±0.05,h13km,n33, σ1s55/32,mb3.8/7,MS3.2/4,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KCP	**Kidapawan**	**0.17**	**353**	⇑*i*P		**Pg**	**00 23 08.1**	**+0.2**
KCP				*i* S		Sb	00 23 23.8	+11
DAV	**Davao City (W)**	**0.52**	**64**			**Pn**	**00 23 16.6**	**-0.4**
DAV				Sn		**Sn**	**00 23 23.1**	**-2.6**
SKMP	**Bagumbayan, Su**	**0.65**	**241**	*e*P		Pg	00 23 13.7	-2.8
SKMP				*e*S		**Sg**	**00 23 23.4**	**-1.7**
DDMP	**Don Marcelino,**	**0.94**	**141**	*e*P		**Pg**	**00 23 21.1**	**-1.0**
DDMP				*e*S		**Sn**	**00 23 37.0**	**+0.8**
BUKP	**Musuan**	**1.03**	**357**	*e*P		**Pb**	**00 23 21.6**	**-2.0**
BUKP				*e*S		**Sb**	**00 23 38.1**	**+0.9**
MATI	**Mati**	**1.14**	**85**	*e*P		**Pn**	**00 23 25.4**	**-0.1**
MATI				*e*S		**Sn**	**00 23 45.0**	**+3.9**
CGP	**Cagayan de Oro**	**1.66**	**346**	⇓*e*P		**Pn**	**00 23 32.3**	**-0.3**
CGP				*e*S		**Sn**	**00 23 55.4**	**+1.5**
PAGZ	**Pagadian**	**1.98**	**300**	*e*P		Pn	00 23 34.0	-3.1
PAGZ				*e*S		**Sn**	**00 24 01.2**	**-0.8**
GLSP	**General Luna,**	**3.09**	**19**	*e*P		**Pn**	**00 23 53.5**	**+1.0**
GLSP				*e*S		**Sb**	**00 24 34.9**	**-1.6**
TNTI	**Ternate**	**6.43**	**159**	Pn		**

	baz=21							
ANVS				⇓*i*S		Sg	00 29 12.7	-0.3
	baz=21							
ULHL	**Ulahol**	**0.78**	**279**	⇓*e*P		**Pg**	**00 29 03.1**	**-1.5**
	baz=81							
ULHL				⇓*i*S		Sg	00 29 14.3	-0.5
	baz=81							
PRZ	**Przheval'sk**	**0.91**	**66**	⇑*i*P		**Pg**	**00 29 05.3**	**-1.7**
	baz=65							
PRZ				⇑*i*S		Sg	00 29 18.3	-0.6
	baz=65							
TNSS	**Tian-Shan**	**0.94**	**345**	*e*P		**Pg**	**00 29 07.2**	**-0.6**
	baz=45							
TNSS				*e*S		Sg	00 29 19.8	-0.4
	baz=45							
TNSS	**Tian-Shan**	**0.94**	**345**	*e*P		**Pg**	**00 29 07.2**	**-0.6**
	2.5nm,0.1s							
TNSS				*e*S		Sg	00 29 19.8	-0.4
	1.0nm,0.1s							
TNSS	**Tian-Shan**	**0.94**	**345**	P		**Pg**	**00 29 07.2**	**-0.6**
TNSS				S		Sg	00 29 19.8	-0.4
IZV	**Izvestkoviy**	**1.04**	**332**	*e*P		**Pg**	**00 29 08.7**	**-0.8**
	2.4nm,0.2s							
IZV				*e*S		Sg	00 29 22.1	-0.8
	1.2nm,0.1s							
MDOK	**Medeo**	**1.05**	**351**	*e*P		**Pg**	**00 29 09.0**	**-0.8**
	baz=50							
MDOK				*e*S		Sg	00 29 22.8	-0.7
	baz=50							
MDOK	**Medeo**	**1.05**	**351**	*e*P		**Pg**	**00 29 09.0**	**-0.8**
	1.7nm,0.1s							
MDOK				*e*S		Sg	00 29 22.8	-0.7
	1.4nm,0.2s							
MDOK	**Medeo**	**1.05**	**351**	Pg		**Pg**	**00 29 09.0**	**-0.8**
MDOK				Lg		Lg	00 29 22.8	
BOOM	**Boomskoye usch**	**1.06**	**291**	⇑*i*P		**Pg**	**00 29 08.3**	**-1.5**
	baz=92							
BOOM				⇑*i*S		Sg	00 29 23.2	-0.4
	baz=92							
KNDC	**Almaty**	**1.12**	**348**	⇑P		**Pg**	**00 29 10.5**	**-0.5**
	6.5nm,0.3s							
KNDC				⇑S		Sg	00 29 25.2	-0.3
	9.0nm,0.4s							
KOTS	**Kotyrbulak**	**1.12**	**354**	*e*P		**Pg**	**00 29 10.4**	**-0.6**
	baz=53							
KOTS				*e*S		Sg	00 29 25.1	-0.5
	baz=53							
KOTS	**Kotyrbulak**	**1.12**	**354**	*e*P		**Pg**	**00 29 10.4**	**-0.6**
	4.9nm,0.2s							
KOTS				*e*S		Sg	00 29 25.0	-0.5
	8.2nm,0.2s							
KOTS	**Kotyrbulak**	**1.12**	**354**	P		**Pg**	**00 29 10.4**	**-0.6**
KOTS				S		Sg	00 29 25.0	-0.5
SATY	**Saty**	**1.25**	**41**	*e*P		**Pg**	**00 29 13.1**	**-0.5**
	0.7nm,0.0s							
SATY				*e*S		Sg	00 29 29.8	-0.1
	6.6nm,0.1s							
SATY	**Saty**	**1.25**	**41**	P		**Pg**	**00 29 13.1**	**-0.5**
	0.7nm,0.0s							
SATY				S		Sg	00 29 29.8	-0.1
	6.6nm,0.1s							
KST	**Kastek**	**1.34**	**314**	*e*P		**Pb**	**00 29 14.6**	**0.0**
	baz=14							
KST				*e*S		Sb	00 29 32.2	+0.4
	baz=14							
KST	**Kastek**	**1.34**	**314**	*e*P		**Pb**	**00 29 14.6**	**0.0**
	1.6nm,0.5s							
KST				*e*S		Sb	00 29 32.1	+0.4
	2.4nm,0.4s							
TKM2	**Tokmak 2**	**1.48**	**303**	⇑*e*P		**Pn**	**00 29 16.1**	**0.0**
	baz=4.0							
TKM2				⇑*i*S		Sn	00 29 36.2	+0.7
	baz=4.0							
TKM2	**Tokmak 2**	**1.48**	**303**	⇓P		**Pg**	**00 29 17.5**	**-0.3**
	1.1nm,0.7s							
TKM2				⇓S		Sn	00 29 36.1	+0.6
	0.9nm,0.3s							
DGS	**Degeres**	**1.57**	**316**	*e*P		**Pb**	**00 29 18.8**	**+0.1**
DGS				*e*S		Sb	00 29 39.4	+0.8
KTBS	**Karatobe**	**1.65**	**345**	*e*P		**Pb**	**00 29 20.1**	**+0.3**
	baz=45							
KTBS				*e*S		Sg	00 29 42.0	-0.5
	baz=45							
KTBS	**Karatobe**	**1.65**	**345**	*e*P		**Pb**	**00 29 20.1**	**+0.3**
	0.2nm,0.1s							
KTBS				*e*S		Sg	00 29 41.9	-0.5
	6.8nm,0.3s							
KTBS	**Karatobe**	**1.65**	**345**	P		**Pb**	**00 29 20.0**	**+0.2**
	0.2nm,0.1s							
KTBS				S		Sg	00 29 41.9	-0.5
	6.8nm,0.3s							
PDGK	**Podgornoye**	**2.03**	**53**	⇑Pg		**Pn**	**00 29 24.7**	**+1.1**
	1.7nm,1.4s							
PDGK				⇑Lg		Lg	00 29 50.8	
	2.2nm,0.9s							

*BJI **21** 00:36:56.2±0.0,64.8″87N×149.°52W,h9km,mB5.0/22, mb4.7/33,Ms4.9/14,Ms7 4.6/19*

*IDC **21** 00:36:58.1±0.5,65.°25N×148.°94W,h0km,mb4.2/25, mb1 4.4/27,mb1mx4.3/43,mbtmp4.2/27,ML4.3/3,MS3.9/19, Ms1 3.8/19,ms1mx3.7/41,Error ellipse: s-maj=15.6km s-min=6.8km az=30.0*

*AEIC **21** 00:36:58±1.4,65.°15N±0.°02×149.°04W±0.°03,h13km±3km, ML5.0,mb4.8/115(NEIC),Mwr4.6/69(NEIC),Mww4.7(NEIC), Error ellipse: s-maj=3.4km s-min=1.9km az=169.0*

*ANF **21** 00:36:58.1±0.2,65.°14N×149.°05W,h13km±2km,ML5.6/16, Error ellipse: s-maj=2.8km s-min=1.6km az=8.0*

*UAF **21** 00:36:58.3,65.°15N×149.°04W,h13km,MW4.7,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.17; Mθθ=0.44; Mϕϕ=0.61; Mrθ=0.54; Mrϕ=-1.19; Mθϕ=0.09; Fault plane solution: M0 1.41298×10^16^ NP1: ϕs=190.00000°,δ68.30000°,λ=-10.00000°.*

*NEIC **21** 00:36:58.8±1.4,65.°14N±0.°03×149.°03W±0.°04,h11km±3km Error ellipse: s-maj=5.0km s-min=2.2km az=187.0*

*MOS **21** 00:36:59.1±1.4,65.°05N×148.°82W,h9km,mb4.9/23, MS4.2/4,Error ellipse: s-maj=22.4km s-min=8.8km az=103.5*

*NEIC **21** 00:36:59.6,65.°06N×148.°90W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.12; Mθθ=0.50; Mϕϕ=0.62; Mrθ=0.31; Mrϕ=-0.93; Mθϕ=0.04; Fault plane solution: M0 1.13000×10^16^ NP1:ϕ=286.60000°, δ82.32000°,λ=-164.42000°. NP2:ϕ=194.46000°, δ74.56000°,λ=-7.96000°. Principal axes: T 1.1581, Plg5.0000°, Azm60.0000°; N -0.0497, Plg73.0000°, Azm312.0000°; P -1.1084, Plg16.0000°, Azm151.0000°;*

*GCMT **21** 00:37:00.0±0.3,65.°11N±0.°02×149.°01W±0.°04,h27km±2km, MW4.9/93,Moment Tensor Solution. s18,c20; s93,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.34±.18; Mθθ=1.78±.19; Mϕϕ2.13±.12; Mrθ1.00±.28; Mθϕ-1.47±.09; Mϕr1.17±.26; Best double couple: M0 2.90300×10^16^ NP1:ϕ=299.00000°,δ59.00000°,λ=-171.00000°. NP2: ϕ=204.00000°,δ82.00000°,λ=-32.00000°. Principal axes: T 2.8420, Plg16.0000°, Azm256.0000°; N 0.1290, Plg58.0000°, Azm12.0000°; P -2.9650, Plg28.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 00:37:01,65.°15N×149.°00W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.24; Mθθ=0.70; Mϕϕ0.94; Mrθ0.22; Mθϕ-1.33; Mrϕ-0.07; Fault plane solution: M0 1.59000×10^16^ NP1:ϕ=196.00000°, δ81.00000°,λ=-1.00000°. NP2:ϕ=286.00000°,δ88.00000°, λ=-171.00000°. Principal axes: T 1.6995, Plg5.0000°, Azm61.0000°; N -0.2373, Plg81.0000°, Azm297.0000°; P -1.4622, Plg8.0000°, Azm151.0000°;*

ISC 21 00:36:58.7±0.9,65.°12N±0.°02×149.°00W±0.°02,h6km±5km, n432,σ1$40/446,mb4.7/109,MS3.9/24,8C-2D,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23K	**Minto, Yukon-K**	**0.15**	**281**	P	**Pg**	**00 37 02.0**	**+0.2**
	baz=89,SNR=1000						
I23K				S	**Sg**	**00 37 04.1**	**+0.2**
	baz=89						
I23K	**Minto, Yukon-K**	**0.15**	**281**		**Pg**	**00 37 01.9**	**+0.2**
I23K					**Sg**	**00 37 04.2**	**+0.2**
PS07	**TAPS Pump Stn7**	**0.36**	**57**		**Pg**	**00 37 05.9**	**+0.3**
MDM	**Murphy Dome**	**0.36**	**116**		**Pg**	**00 37 06.5**	**+0.8**
MDM				Sg	**Sg**	**00 37 11.4**	**+0.9**
NEA2	**Nenana**	**0.53**	**183**	P	**Pb**	**00 37 09.6**	**-0.7**
	baz=1.3,SNR=1000						
NEA2				S	**Sg**	**00 37 16.5**	**+0.8**
	baz=1.3						
NEA2	**Nenana**	**0.53**	**183**		**Pb**	**00 37 09.6**	**-0.7**
NEA2					**Sb**	**00 37 17.3**	**-1.0**
I53US	**FAIRBANKS INFR**	**0.54**	**116**	Pg	**Pg**	**00 37 09.8**	**+0.7**
	baz=303,slow=32,SNR=2.8						
I53US				Lg	Lg	00 37 17.4	
	baz=307,slow=31						
TCOL	**CIGO, UAF Yank**	**0.54**	**117**	P	**Pb**	**00 37 09.9**	**-0.6**
	baz=300,SNR=1000						
TCOL				S	**Sb**	**00 37 17.4**	**-1.2**
	baz=300						
TCOL	**CIGO, UAF Yank**	**0.54**	**117**		**Pg**	**00 37 09.7**	**+0.6**
TCOL					**Sb**	**00 37 17.4**	**-1.2**
COLA	**College**	**0.55**	**116**	*d*iP	**Pg**	**00 37 09.7**	**+0.5**
COLA	**College**	**0.55**	**116**		**Pg**	**00 37 09.8**	**+0.7**
COLA	**College**	**0.55**	**116**		**Sg**	**00 37 16.9**	**+0.6**
POKR	**Poker Plat Res**	**0.66**	**89**	P	**Pg**	**00 37 11.5**	**+0.1**
	baz=274,SNR=1000						
POKR				S	**Sg**	**00 37 20.1**	**+0.2**
	baz=274						
POKR	**Poker Plat Res**	**0.66**	**89**		**Pg**	**00 37 11.2**	**-0.1**
CCB	**Clear Creek Bu**	**0.70**	**132**		**Pb**	**00 37 12.6**	**-0.5**
CCB					**Sg**	**00 37 21.8**	**+0.7**
MLY	**Manley**	**0.74**	**264**	P	**Pg**	**00 37 12.3**	**-0.6**
	baz=80,SNR=1000						
MLY				S	**Sg**	**00 37 21.6**	**-0.9**
	baz=80						
MLY	**Manley**	**0.74**	**264**		**Pg**	**00 37 12.4**	**-0.5**
MLY					**Sg**	**00 37 22.2**	**-0.3**
WRH	**Wood River Hil**	**0.76**	**149**		**Pb**	**00 37 13.9**	**-0.3**
PS06	**TAPS Pump Stn6**	**0.80**	**338**		**Pg**	**00 37 13.6**	**-0.4**
IL31		**0.97**	**110**		**Pg**	**00 37 17.3**	**+0.1**
IL31					**Sg**	**00 37 29.5**	**-0.1**
ILAR	**Eielson Array**	**0.97**	**110**	Pg	**Pg**	**00 37 17.2**	**+0.1**
	2μm,0.3s,baz=295,slow=16,SNR=8734						
ILAR				Lg	Lg	00 37 30.1	
	6μm,0.3s,baz=297,slow=30,SNR=16						
ILAR	**Eielson Array**	**0.97**	**110**		**Pg**	**00 37 16.1**	**-1.0**
BWN	**Browne**	**0.97**	**192**		**Pg**	**00 37 17.4**	**+0.1**
PS08	**TAPS Pump Stn8**	**1.10**	**121**		**Pg**	**00 37 19.1**	**-0.6**
PS08					**Sb**	**00 37 34.3**	**-0.3**
HDA	**Harding Lake**	**1.13**	**128**	P	**Pg**	**00 37 19.6**	**-0.7**
	baz=311,SNR=1000						
HDA				S	**Sg**	**00 37 34.7**	**-0.3**
	baz=311						
HDA	**Harding Lake**	**1.13**	**128**		**Pg**	**00 37 19.6**	**-0.7**
HDA					**Sg**	**00 37 34.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**1.33**	**221**		**Pn**	**00 37 21.9**	**-1.9**
BPAW					**Sb**	**00 37 40.4**	**-1.1**
MCK	**McKinley**	**1.39**	**179**	P	**Pn**	**00 37 23.7**	**-1.0**
	baz=358,SNR=1000						
MCK				S	**Sb**	**00 37 42.8**	**-0.3**
	baz=358						
MCK	**McKinley**	**1.39**	**179**		**Pn**	**00 37 23.6**	**-1.0**
MCK					**Sn**	**00 37 43.3**	**-0.1**
RND	**Reindeer**	**1.72**	**178**	Pn	**Pn**	**00 37 28.5**	**-0.7**
RND					**Sb**	**00 37 52.7**	**+0.1**
TRF	**Thorofare Moun**	**1.77**	**199**		**Pn**	**00 37 28.6**	**-1.3**
KTH	**Kantishna Hill**	**1.78**	**209**		**Pn**	**00 37 28.2**	**-1.9**
PS05	**TAPS Pump Stn5**	**1.83**	**339**		**Pn**	**00 37 29.2**	**-1.4**
CHUM	**Lake Minchumin**	**1.90**	**231**		**Pn**	**00 37 29.8**	**-1.7**
FYU	**Fort Yukon**	**2.12**	**45**		**Pn**	**00 37 32.6**	**-2.1**
IM03		**2.16**	**296**		**Pn**	**00 37 33.1**	**-2.0**
IMAR	**Indian Mountai**	**2.16**	**296**		**Pn**	**00 37 32.6**	**-2.6**
HUR	**Hurricane**	**2.17**	**188**		**Pn**	**00 37 35.5**	**+0.2**
COLD	**Coldfoot**	**2.17**	**348**	P	**Pn**	**00 37 33.9**	**-1.5**
	baz=167,SNR=1000						
COLD				Sb	**Sb**	**00 38 04.3**	**-1.2**
	baz=167						
COLD	**Coldfoot**	**2.17**	**348**		**Pn**	**00 37 33.9**	**-1.5**
DHY	**Denali Highway**	**2.17**	**160**		**Pn**	**00 37 35.5**	**0.0**
WAT2	**Susitna Watana**	**2.17**	**175**		**Pn**	**00 37 35.4**	**-0.1**
CAST	**Castle Rocks**	**2.17**	**220**		**Pn**	**00 37 33.5**	**-1.9**
RIDG	**Independent Ri**	**2.27**	**126**		**Pn**	**00 37 35.0**	**-1.8**
WAT1	**Susitna Watana**	**2.31**	**175**		**Pn**	**00 37 37.0**	**-0.2**
SCRK	**Sand Creek**	**2.45**	**116**	P	**Pn**	**00 37 37.6**	**-1.7**
	baz=301,SNR=258						
SCRK				Sb	**Sb**	**00 38 14.7**	**+1.1**
	baz=301						
SCRK	**Sand Creek**	**2.45**	**116**		**Pn**	**00 37 37.9**	**-1.3**
DOT	**Dot Lake**	**2.60**	**122**		**Pn**	**00 37 39.3**	**-2.0**
WAT6	**Susitna Watana**	**2.61**	**167**		**Pn**	**00 37 41.0**	**-0.5**
PPLA	**Purkeypile**	**2.64**	**214**	Pn	**Pn**	**00 37 39.9**	**-1.9**
PAX	**Paxson**	**2.66**	**143**	Pn	**Pn**	**00 37 41.7**	**-0.4**
CUT	**Chulitna**	**2.78**	**192**	P	**Pn**	**00 37 43.7**	**+0.1**
	baz=11,SNR=66						
CUT				Sb	**Sb**	**00 38 24.3**	**+1.3**
	baz=11						
CUT	**Chulitna**	**2.78**	**192**		**Pn**	**00 37 43.8**	**+0.1**
BM03	**Burnt Mountain**	**2.91**	**36**		**Pn**	**00 37 43.8**	**-1.8**
BMAR	**Burnt Mountain**	**2.93**	**36**		**Pn**	**00 37 43.1**	**-2.6**
K27K	**Chicken**	**3.18**	**107**	P	**Pn**	**00 37 48.1**	**-1.1**
	baz=294,SNR=133						
K27K				Sb	**Sb**	**00 38 36.5**	**+2.0**
	baz=294						
K27K	**Chicken**	**3.18**	**107**		**Pn**	**00 37 48.0**	**-1.1**
MENT	**Mentasta**	**3.19**	**131**	Pn	**Pn**	**00 37 47.5**	**-1.9**
M24K	**Tolsona, Glenn**	**3.28**	**156**	P	**Pn**	**00 37 51.5**	**+0.9**
	baz=339,SNR=425						
M24K	**Tolsona, Glenn**	**3.28**	**156**		**Pn**	**00 37 51.8**	**+1.2**
PS04	**TAPS Pump Stn4**	**3.32**	**358**		**Pn**	**00 37 50.5**	**-0.6**
SML	**Sawmill**	**3.34**	**175**	Pn	**Pn**	**00 37 50.8**	**-0.6**
SKT	**Skwentna**	**3.35**	**201**		**Pn**	**00 37 50.9**	**-0.6**
EGAK	**Eagle**	**3.35**	**92**	Pn	**Pn**	**00 37 49.6**	**-2.0**
GHO	**Glory Hole Cre**	**3.36**	**179**	Pn	**Pn**	**00 37 51.4**	**-0.4**
SCM	**Sheep Creek Mo**	**3.38**	**166**		**Pn**	**00 37 51.7**	**-0.3**
PS11	**TAPS Pump St11**	**3.43**	**151**		**Pn**	**00 37 53.8**	**+1.1**
PMR	**Palmer**	**3.54**	**181**	Pn	**Pn**	**00 37 54.0**	**-0.1**
TOLK	**Toolik Lake Re**	**3.54**	**357**	P	**Pn**	**00 37 54.2**	**0.0**
	baz=176,SNR=162						
TOLK				Sb	**Sb**	**00 38 46.1**	**+1.2**
	baz=176						
TOLK	**Toolik Lake Re**	**3.54**	**357**	Pn	**Pn**	**00 37 54.2**	**0.0**
KNK	**Knik Glacier**	**3.73**	**176**		**Pn**	**00 37 56.9**	**+0.2**
SUA	**Susitna One**	**3.75**	**193**	Pn	**Pn**	**00 37 57.0**	**-0.2**
BC03		**3.78**	**120**		**Pn**	**00 37 55.2**	**-2.1**
BCAR	**Beaver Creek A**	**3.78**	**120**		**Pn**	**00 37 54.9**	**-2.6**
TTA	**Tatalina**	**3.79**	**238**		**Pn**	**00 37 54.9**	**-2.6**
TT01	**Tatalina**	**3.80**	**237**		**Pn**	**00 37 55.0**	**-2.7**
KLU	**Klutina**	**3.90**	**158**	Pn	**Pn**	**00 38 00.0**	**+0.9**
FIS	**Fire Island**	**4.03**	**188**		**Pn**	**00 38 02.7**	**+1.9**
N25K	**Chitina, Valde**	**4.04**	**149**	P	**Pn**	**00 38 00.8**	**-0.4**
	baz=333,SNR=71						
N25K	**Chitina, Valde**	**4.04**	**149**		**Pn**	**00 38 00.8**	**-0.4**
PS12	**TAPS Pump St12**	**4.05**	**153**		**Pn**	**00 38 02.2**	**+1.1**
SPCG	**Spurr Capps Gl**	**4.08**	**201**		**Pn**	**00 38 01.2**	**-0.5**
SPCP	**Crater Peak Br**	**4.12**	**202**		**Pn**	**00 38 02.0**	**-0.3**
SPBG	**Spurr Blockage**	**4.16**	**203**		**Pn**	**00 38 03.1**	**+0.3**
SPCN	**Chakachatna No**	**4.17**	**202**		**Pn**	**00 38 02.8**	**0.0**
SPCR	**Spurr Chakacha**	**4.19**	**202**		**Pn**	**00 38 03.1**	**0.0**
JPK	**Jack Peak**	**4.22**	**164**		**Pn**	**00 38 04.4**	**+0.9**
DIV	**Divide**	**4.26**	**158**		**Pn**	**00 38 04.5**	**+0.4**
DAWY	**Dawson**	**4.27**	**100**		**Pn**	**00 38 03.7**	**-0.5**
PWL	**Port Wells**	**4.29**	**176**		**Pn**	**00 38 05.4**	**+1.0**
GLI	**Glacier Island**	**4.34**	**168**		**Pn**	**00 38 05.8**	**+0.6**
GLB	**Gilahina Butte**	**4.37**	**145**		**Pn**	**00 38 05.5**	**-0.1**
CAPN	**Captain Cook N**	**4.48**	**194**	P	**Pn**	**00 38 09.5**	**+2.6**
	baz=11,SNR=9.7						
CAPN	**Captain Cook N**	**4.48**	**194**		**Pn**	**00 38 09.3**	**+2.4**
BVCY	**Beaver Creek**	**4.52**	**123**		**Pn**	**00 38 06.1**	**-1.5**
FID	**Port Fidalgo**	**4.54**	**164**		**Pn**	**00 38 08.8**	**+1.0**
MCARA	**McCarthy VSAT**	**4.62**	**142**		**Pn**	**00 38 10.1**	**+1.1**
BMRM	**Bremner River**	**4.62**	**152**		**Pn**	**00 38 08.9**	**-0.1**
VRDI	**Verde Repeater**	**4.64**	**145**		**Pn**	**00 38 10.5**	**+1.0**
SLKM	**Skilak Lake**	**4.66**	**187**		**Pn**	**00 38 10.6**	**+1.0**
O22K	**Cooper Landing**	**4.67**	**184**	P	**Pn**	**00 38 11.8**	**+2.2**
	baz=3.5,SNR=33						
O22K	**Cooper Landing**	**4.67**	**184**		**Pn**	**00 38 11.0**	**+1.4**
YUK1	**Sand Pete Hill**	**4.81**	**124**		**Pn**	**00 38 09.8**	**-1.9**
EYAK	**Cordova Ski Ar**	**4.82**	**161**	Pn	**Pn**	**00 38 12.0**	**+0.3**
DFR	**Drift River**	**4.85**	**202**		**Pn**	**00 38 12.0**	**-0.1**
HIN	**Hinchinbrook I**	**4.88**	**165**		**Pn**	**00 38 13.0**	**+0.5**
NCT	**North Crescent**	**4.92**	**203**		**Pn**	**00 38 12.9**	**-0.2**
PTPK	**Patty Peak**	**4.93**	**140**		**Pn**	**00 38 14.5**	**+1.1**
RDN	**Redoubt North**	**4.93**	**202**		**Pn**	**00 38 13.3**	**-0.1**
YUK2	**White River**	**4.96**	**129**		**Pn**	**00 38 11.7**	**-2.0**
RDWB	**Redoubt West**	**4.97**	**202**		**Pn**	**00 38 14.0**	**+0.1**
RSO	**Redoubt South**	**4.98**	**202**	Pn	**Pn**	**00 38 13.7**	**-0.4**
SVW2	**Sparrevohn**	**5.02**	**220**		**Pn**	**00 38 12.8**	**-1.6**
SEW	**Seward**	**5.04**	**183**		**Pn**	**00 38 16.2**	**+1.5**
BALM	**Baldy**	**5.09**	**141**		**Pn**	**00 38 16.5**	**+1.0**
YUK3	**Moose Creek**	**5.09**	**127**		**Pn**	**00 38 13.4**	**-2.2**
CRQM	**Cirque**	**5.13**	**146**		**Pn**	**00 38 16.6**	**+0.5**
RAGM	**Ragged Mountai**	**5.15**	**155**	Pn	**Pn**	**00 38 16.3**	**+0.1**
PS01	**TAPS Pump Stn**	**5.17**	**1**		**Pn**	**00 38 16.5**	**+0.1**
KIAG	**Kiagna River**	**5.18**	**141**		**Pn**	**00 38 17.7**	**+0.9**
TGL	**Tana Glacier**	**5.21**	**144**		**Pn**	**00 38 17.5**	**+0.4**
BARN	**Barnard Glacie**	**5.26**	**137**		**Pn**	**00 38 18.9**	**+1.0**
HMT	**Hamilton**	**5.27**	**153**		**Pn**	**00 38 17.9**	**0.0**
BERG	**Berg Lake**	**5.33**	**150**		**Pn**	**00 38 19.4**	**+0.7**
KHIT	**Khitrov Hills**	**5.38**	**148**		**Pn**	**00 38 19.7**	**+0.2**
NICHA	**Nichawak Mount**	**5.42**	**152**		**Pn**	**00 38 20.2**	**+0.2**
CTGM	**Chitina Glacie**	**5.43**	**137**		**Pn**	**00 38 21.7**	**+1.4**
BRLK	**Bradley Lake**	**5.45**	**190**		**Pn**	**00 38 21.7**	**+1.4**
BRSE	**Bradley Lake S**	**5.46**	**189**		**Pn**	**00 38 21.6**	**+1.1**
ISLE	**Juniper Island**	**5.46**	**143**		**Pn**	**00 38 20.6**	**0.0**
GRNC	**Granite Creek**	**5.51**	**140**		**Pn**	**00 38 22.5**	**+1.2**
GRIN	**Grindle Hills**	**5.51**	**149**		**Pn**	**00 38 21.9**	**+0.7**
BARK	**Barkley Ridge**	**5.60**	**145**		**Pn**	**00 38 22.9**	**+0.4**
SUCK	**Suckling Hills**	**5.61**	**152**		**Pn**	**00 38 22.7**	**+0.2**
KAIM	**Kayak Island**	**5.63**	**156**	Pn	**Pn**	**00 38 22.4**	**-0.4**
LOGN	**Logan Glacier**	**5.64**	**136**		**Pn**	**00 38 24.8**	**+1.6**
KULT	**Kultieth River**	**5.68**	**147**		**Pn**	**00 38 23.8**	**+0.2**
CNPM	**China Poot**	**5.71**	**192**		**Pn**	**00 38 24.9**	**+0.9**
SNH	**Sunshine Point**	**5.71**	**147**		**Pn**	**00 38 24.3**	**+0.4**
YAH	**Yahtse**	**5.82**	**142**		**Pn**	**00 38 26.7**	**+1.1**
OPT	**Oil Point**	**5.83**	**202**		**Pn**	**00 38 26.8**	**+1.3**
Q23K	**Middleton Isla**	**5.84**	**167**		**Pn**	**00 38 26.3**	**+0.6**
MID	**Middleton Isla**	**5.85**	**167**		**Pn**	**00 38 26.3**	**+0.6**
CYK	**Cape Yakataga**	**5.88**	**146**		**Pn**	**00 38 26.8**	**+0.6**
TABL	**Table Mountain**	**5.92**	**139**	Pn	**Pn**	**00 38 27.3**	**+0.3**
RKAV	**Rock Avalanche**	**5.98**	**140**		**Pn**	**00 38 28.6**	**+0.8**
YUK4	**Talbot Arm**	**6.02**	**124**		**Pn**	**00 38 26.1**	**-2.1**
AU22	**Augustine Moun**	**6.12**	**201**		**Pn**	**00 38 30.6**	**+1.1**
AUH	**Augustine H**	**6.14**	**202**		**Pn**	**00 38 30.2**	**+0.4**
AUQ	**Augustine Qik'**	**6.14**	**202**		**Pn**	**00 38 31.1**	**+1.2**
CHX	**Chaix Hills**	**6.24**	**141**		**Pn**	**00 38 31.8**	**+0.6**
RDOG	**Red Dog Mine**	**6.27**	**304**		**Pn**	**00 38 29.9**	**-1.7**
SAMH	**Samovar Hills**	**6.28**	**139**		**Pn**	**00 38 32.0**	**+0.2**
YUK6	**Outpost Mounta**	**6.40**	**126**		**Pn**	**00 38 33.0**	**-0.5**
PCA	**Pinnacle**	**6.45**	**137**		**Pn**	**00 38 34.0**	**-0.1**
HYT	**Haines Junctio**	**6.78**	**124**		**Pn**	**00 38 38.2**	**-0.4**
A21K	**Barrow**	**6.84**	**339**		**Pn**	**00 38 37.9**	**-1.4**
INK	**Inuvik**	**6.91**	**56**	Pn	**Pn**	**00 38 38.6**	**-1.6**
	13nm,0.3s,baz=234,slow=12,SNR=78						
INK				Sn	**Sn**	**00 39 57.3**	**-1.8**
	7.4nm,0.3s,baz=279,slow=20,SNR=1.3						
INK				Lg	Lg	00 40 31.7	
	7.1nm,0.3s,baz=209,slow=20,SNR=4.4						
INK	**Inuvik**	**6.91**	**56**		**Pn**	**00 38 39.4**	**-0.9**
ANM	**Nome**	**7.00**	**273**		**Pn**	**00 38 39.4**	**-2.2**
KAPH	**Katmai Pasha**	**7.01**	**204**		**Pn**	**00 38 43.5**	**+1.6**
PNL	**Peninsula**	**7.05**	**136**		**Pn**	**00 38 42.2**	**-0.1**
KAHC	**Katmai Hardscr**	**7.08**	**206**		**Pn**	**00 38 43.3**	**+0.5**
KCG	**Knife Ck. Glac**	**7.42**	**206**		**Pn**	**00 38 48.1**	**+0.6**
KBM	**Katmai Bkd Mtn**	**7.47**	**206**		**Pn**	**00 38 48.6**	**+0.5**
KCE	**Katmai Mt Cerb**	**7.50**	**206**		**Pn**	**00 38 48.7**	**+0.2**
KDAK	**Kodiak Island**	**7.56**	**195**		**Pn**	**00 38 48.0**	**-1.2**
ANCK	**Angle Creek**	**7.60**	**207**		**Pn**	**00 38 51.2**	**+1.3**
CAHL	**Cahlk**	**7.70**	**206**		**Pn**	**00 38 51.3**	**+0.1**
WHY	**Whitehorse**	**7.84**	**118**		**Pn**	**00 38 51.8**	**-1.4**
TNA	**Tin City**	**7.92**	**282**	P	**Pn**	**00 38 52.5**	**-1.6**
	baz=84						
TNA	**Tin City**	**7.92**	**282**		**Pn**	**00 38 52.6**	**-1.6**
OHAK	**Old Harbor**	**8.19**	**197**		**Pn**	**00 38 56.7**	**-1.2**
PLK1	**Peulik 1**	**8.19**

ULM LR LR 00 56 13.9
comp=Z,298nm,18.3s,baz=332,slow=37
ULM Lac du Bonnet 30.94 93 P **P** **00 43 15.2 -0.7**
ELK Elko 31.09 125 P **P** **00 43 17.7 +0.1**
BW06 Boulder Array 31.39 116 P **P** **00 43 21.3 +1.0**
baz=329,SNR=12
BW06 Boulder Array 31.39 116 P **P** **00 43 20.6 +0.3**
BW06 IAmb IAmb 00 43 35.2
comp=Z,12nm,0.9s
PD31 Pinedale Array 31.39 116 P **P** **00 43 20.0 -0.3**
PD31 IAmb IAmb 00 43 35.2
comp=Z,11nm,0.9s
PDAR Pinedale Array 31.39 116 P **P** **00 43 21.1 +0.9**
comp=Z,3.9nm,0.8s,baz=335,slow=5.3,SNR=35
PDAR LR LR 00 54 57.9
comp=Z,263nm,18.0s,baz=358,slow=34
PDAR Pinedale Array 31.39 116 P **P** **00 43 20.9 +0.6**
HWUT Hardware Ranch 31.64 120 P **P** **00 43 22.0 -0.4**
BGU Big Grassy Mou 31.71 122 P **P** **00 43 23.4 +0.4**
NVAR Mina Array Bea 32.16 131 P **P** **00 43 28.6 +1.5**
comp=Z,1.6nm,0.6s,baz=327,slow=7.4,SNR=14
NVAR LR LR 00 55 27.8
comp=Z,246nm,20.5s,baz=334,slow=34
NVAR Mina Array Bea 32.16 131 P **P** **00 43 27.4 +0.4**
NV11 Mina Array Sit 32.20 131 P **P** **00 43 27.6 +0.2**
NV11 IAmb IAmb 00 43 42.5
comp=Z,16nm,1.4s
DUG Dugway, Tooele 32.43 123 P **P** **00 43 29.7 +0.4**
baz=332
DUG Dugway, Tooele 32.43 123 P **P** **00 43 29.9 +0.6**
TPH Tonopah 32.83 130 P **P** **00 43 32.7 -0.2**
R11A Troy Canyon, C 33.12 128 P **P** **00 43 34.8 -0.6**
baz=335,SNR=6.3
R11A Troy Canyon, C 33.12 128 P **P** **00 43 34.8 -0.6**
R11A IAmb IAmb 00 43 50.2
comp=Z,11nm,1.4s
RDMU Red Mountain 33.28 118 P **P** **00 43 35.1 -1.8**
B35A Bob, Littlefor 33.29 93 P **P** **00 43 35.6 -1.0**
B35A IAmb IAmb 00 43 42.4
comp=Z,7.5nm,0.6s
YAK Yakutsk 33.98 304 *i* P **P** **00 43 45.2 +2.8**
YAK pmax pmax
comp=Z,14nm,1.1s
TPNV Topopah Spring 34.17 130 P **P** **00 43 43.9 -0.6**
TPNV IAmb IAmb 00 44 01.6
comp=Z,7.9nm,0.8s
SRU San Rafael Swe 34.21 121 P **P** **00 43 44.7 -0.2**
N23A Red Feather La 34.38 114 P **P** **00 43 46.1 -0.4**
N23A IAmb IAmb 00 44 01.6
comp=Z,11nm,1.1s
EYMN Ely 34.56 91 P **P** **00 43 46.7 -1.0**
baz=321,SNR=18
EYMN Ely 34.56 91 P **P** **00 43 46.8 -0.8**
CCUT Cedar City 34.60 125 P **P** **00 43 48.2 -0.1**
SUMG Summit 34.99 29 *eP* **P** **00 43 53.9 +2.4**
SUMG Summit 34.99 29 P **P** **00 43 51.2 -0.3**
SUMG IAmb IAmb 00 44 03.1
comp=Z,13nm,0.8s
SUMG Summit 34.99 29 *i* P **P** **00 43 53.9 +2.4**
SUMG Summit 34.99 29 *eP* **P** **00 43 54.0 +2.4**
DAG Danmarks Havn 35.05 18 *eP* **P** **00 43 55.4 +3.9**
DAG Danmarks Havn 35.05 18 *i* P **P** **00 43 55.4 +3.9**
DAG Danmarks Havn 35.05 18 *eP* **P** **00 43 55.4 +3.9**
F36A Milaca 35.34 96 P **P** **00 43 53.8 -0.6**
F36A IAmb IAmb 00 43 59.8
comp=Z,10nm,0.7s
ISCO Idaho Springs 35.46 114 P **P** **00 43 54.9 -0.9**
baz=330
ISCO Idaho Springs 35.46 114 P **P** **00 43 55.4 -0.4**
ISCO IAmb IAmb 00 44 11.3
comp=Z,9.4nm,0.9s
GSC Goldstone, Bar 35.50 131 P **P** **00 43 55.9 0.0**
ECSD EROS Data Cent 35.77 101 P **P** **00 43 55.3 -2.8**
baz=325,SNR=6.8
WUAZ Wupatki 37.12 124 P **P** **00 44 10.2 +0.4**
baz=335,SNR=8.1
WUAZ Wupatki 37.12 124 P **P** **00 44 10.4 +0.6**
WUAZ IAmb IAmb 00 44 12.3
comp=Z,11nm,0.8s
SDCO Great Sand Dun 37.29 116 P **P** **00 44 11.2 -0.2**
ICESG Greenland Ices 37.31 34 *eP* **P** **00 44 15.1 +3.8**
JFWS Jewell Farm 39.11 95 P **P** **00 44 26.0 -0.3**
JFWS IAmb IAmb 00 44 31.4
comp=Z,14nm,0.7s
L40A Anamosa 39.40 97 P **P** **00 44 28.4 -0.4**
L40A IAmb IAmb 00 44 41.9
comp=Z,12nm,0.8s
ANMO Albuquerque 39.40 119 P **P** **00 44 30.7 +1.6**
comp=Z,0.2nm,0.7s,baz=328,slow=7.9,SNR=11
ANMO Albuquerque 39.40 119 *i* P **P** **00 44 29.8 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 39.40 119 P **P** **00 44 29.1 0.0**
SCHQ Schefferville 39.43 64 P **P** **00 44 30.1 +1.2**
comp=Z,3.5nm,0.6s,baz=309,slow=13,SNR=1.9
SCHQ LR LR 01 00 55.3
comp=Z,322nm,19.6s,baz=326,slow=36
YSS Yuzh-Sakhalins 39.87 277 *eP* P 00 44 25.0 -7.6
YSS MLR MLR
comp=Z,600nm,12.0s
YSS MLR MLR
comp=N,600nm,14.0s
YSS MLR MLR
comp=E,500nm,17.0s
NRIK Noril'sk 40.15 333 P **P** **00 44 35.0 +0.3**
comp=E,2.6nm,0.7s,baz=68,slow=6.0,SNR=5.7
NRIK Noril'sk 40.15 333 *eP* **P** **00 44 38.8 +4.1**
NRIK pmax pmax
comp=Z,8.0nm,0.7s
P38A Dawn 40.47 101 P **P** **00 44 36.9 -0.8**
P40A Paris 41.16 100 P **P** **00 44 42.1 -1.3**
P40A IAmb IAmb 00 44 57.6
comp=Z,25nm,1.4s
L48A N Adams 42.36 91 P **P** **00 44 52.4 -0.8**
BOD Bodaibo 42.45 308 *eP* **P** **00 44 52.3 -1.4**
BOD pmax pmax
comp=Z,28nm,1.0s
WMOK Wichita Mounta 42.53 111 P **P** **00 44 53.4 -1.3**
baz=331,SNR=7.0
WMOK Wichita Mounta 42.53 111 P **P** **00 44 54.2 -0.5**
WMOK IAmb IAmb 00 45 09.7
comp=Z,19nm,1.5s
MGMO Mountain Grove 43.09 102 P **P** **00 44 58.3 -0.9**
N49A Columbus Grove 43.31 91 P **P** **00 45 00.1 -0.8**
N49A IAmb IAmb 00 45 06.8
comp=Z,13nm,0.7s
S44A Carbondale 43.88 99 P **P** **00 45 04.9 -0.6**
S44A IAmb IAmb 00 45 20.3
comp=Z,13nm,0.7s
N51A Ashland 44.08 90 P **P** **00 45 06.5 -0.6**
PBMO Poplar Bluff 44.17 101 P **P** **00 45 06.8 -1.1**
PBMO IAmb IAmb 00 45 12.3
comp=Z,11nm,0.7s
FCAR Ozark Folk Cen 44.23 103 P **P** **00 45 06.9 -1.5**
FCAR IAmb IAmb 00 45 12.7
comp=Z,5.7nm,0.6s
M53A WI Miller and 44.37 88 P **P** **00 45 09.0 -0.4**
ACSO Alum Creek Sta 44.39 91 P **P** **00 45 08.4 -1.2**
baz=327,SNR=5.2
ACSO Alum Creek Sta 44.39 91 P **P** **00 45 08.5 -1.1**
M54A Oil Creek Stat 44.74 87 P **P** **00 45 11.5 -0.9**
MIAR Mount Ida 44.79 105 P **P** **00 45 11.3 -1.6**
baz=330,SNR=5.2
O52A Adamsville 44.97 90 P **P** **00 45 12.7 -1.5**
L56A Greenwood 45.11 84 P **P** **00 45 14.6 -0.7**
L56A IAmb IAmb 00 45 21.0
comp=Z,22nm,1.4s
M56A Emporium 45.38 86 P **P** **00 45 16.4 -1.1**
M56A IAmb IAmb 00 45 30.3
comp=Z,9.7nm,0.8s
TX31 Lajitas Ar. Si 45.47 119 P **P** **00 45 19.0 +0.6**
TXAR Lajitas Array 45.47 119 P **P** **00 45 19.2 +0.8**
comp=Z,1.9nm,0.6s,baz=330,slow=7.1,SNR=22
TXAR Lajitas Array 45.47 119 P **P** **00 45 18.9 +0.5**
O54A Avella 45.53 88 P **P** **00 45 16.9 -1.8**
baz=327,SNR=7.1
O54A Avella 45.53 88 P **P** **00 45 17.6 -1.1**
ARCES ARCESS Array B 45.56 3 P **P** **00 45 19.6 +1.0**
comp=Z,5.2nm,0.9s,baz=326,slow=14,SNR=1.8
ARCES PcP **PcP** **00 46 59.8 +2.9**
comp=Z,4.4nm,0.8s,baz=28,slow=2.9,SNR=5.9
ARCES ARCESS Array B 45.56 3 *eP* P 00 45 24.8 +6.2
ARCES pmax pmax
comp=Z,3.0nm,0.7s
N55A Marion Center 45.62 87 P **P** **00 45 17.8 -1.7**
baz=326,SNR=5.5
P53A Whipple 45.69 90 P **P** **00 45 18.7 -1.2**
P53A IAmb IAmb 00 45 23.4
comp=Z,10.0nm,0.8s
WVT Waverly 45.81 98 P **P** **00 45 20.1 -0.8**
WVT IAmb IAmb 00 45 39.3
comp=Z,13nm,1.2s
JCT Junction City 45.90 114 P **P** **00 45 21.5 -0.2**
JCT IAmb IAmb 00 45 34.3
comp=Z,10.0nm,0.7s
O56A Blue Knob Stat 46.23 87 P **P** **00 45 23.3 -1.0**
U49A Red Boiling Sp 46.34 96 P **P** **00 45 24.6 -0.6**
U49A IAmb IAmb 00 45 44.1
comp=Z,5.3nm,0.7s
R53A Hurricane 46.42 91 P **P** **00 45 24.6 -1.1**
USRK Ussuriysk Ar. 46.57 284 LR LR 01 06 19.2
comp=Z,98nm,18.4s,baz=27,slow=38
PLAL Pickwick Lake 46.69 100 P **P** **00 45 27.2 -0.7**
PLAL IAmb IAmb 00 45 33.1
comp=Z,4.6nm,0.7s
Q56A Snyder Ridge, 46.99 88 P **P** **00 45 29.1 -1.1**
Y45A Yeager Farm, C 47.04 102 P **P** **00 45 30.3 -0.3**
X48A Hartselle 47.58 99 P **P** **00 45 34.0 -0.8**
X48A IAmb IAmb 00 45 50.1
comp=Z,17nm,1.4s
FPAL Fort Paine 48.10 97 P **P** **00 45 38.1 -0.8**
FPAL IAmb IAmb 00 45 44.0
comp=Z,6.2nm,0.7s
Z47A Carrollton 48.23 101 P **P** **00 45 39.1 -0.7**
V53A Saluda 48.31 94 P **P** **00 45 39.8 -0.7**
Y49A Blount Mountai 48.35 99 P **P** **00 45 40.0 -0.8**
Y49A IAmb IAmb 00 45 41.0
comp=Z,7.2nm,0.8s
S58A Poland Farm, P 48.67 88 P **P** **00 45 42.0 -1.2**
U56A King 48.76 91 P **P** **00 45 43.3 -0.7**
U56A IAmb IAmb 00 45 44.2
comp=Z,8.6nm,0.9s
LRAL Lakeview Retre 48.82 100 P **P** **00 45 43.2 -1.1**
LRAL IAmb IAmb 00 45 45.5
comp=Z,7.1nm,1.1s
U57A Blanch 49.13 90 P **P** **00 45 45.5 -1.2**
baz=328,SNR=5.7
Y52A Lilburn 49.33 96 P **P** **00 45 47.8 -0.5**
PAULI Pauline 49.46 94 P **P** **00 45 48.6 -0.7**
PAULI IAmb IAmb 00 46 05.1
comp=Z,12nm,1.1s
HODGE Hodges 49.78 94 P **P** **00 45 50.7 -1.0**
HODGE IAmb IAmb 00 45 51.7
comp=Z,5.0nm,0.6s
152A Waverly Hall 50.09 98 P **P** **00 45 52.8 -1.3**
152A IAmb IAmb 00 45 54.4
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 50.36 273 P **P** **00 45 57.9 +1.7**
comp=Z,0.7nm,0.4s,baz=8.9,slow=5.8,SNR=2.0
MJAR LR LR 01 08 47.0
comp=Z,110nm,18.8s,baz=20,slow=38
ULN Ulaanbaatar 53.04 305 *i* P **P** **00 46 17.5 +1.3**
ULN pmax pmax
comp=Z,8.0nm,0.9s
NOA NORSAR Array B 53.29 12 P **P** **00 46 17.2 -0.4**
comp=Z,2.1nm,1.0s,baz=348,slow=7.6,SNR=3.7
NOA NORSAR Array B 53.29 12 *eP* P 00 46 22.5 +4.8
NOA pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 53.29 306 P **P** **00 46 18.4 +0.4**
comp=Z,3.2nm,0.8s,baz=35,slow=6.1,SNR=13
SONM LR LR 01 08 48.3
comp=Z,96nm,20.0s,baz=30,slow=36
SONM Songino Array 53.29 306 *eP* **P** **00 46 22.2 +4.2**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 53.29 306 P **P** **00 46 17.8 -0.2**
FIA1 FINESS Array S 53.69 3 P **P** **00 46 19.8 -0.8**
FINES FINESS Array B 53.69 3 P **P** **00 46 19.4 -1.1**
comp=Z,2.7nm,0.7s,baz=34,slow=15,SNR=2.8
FINES FINESS Array B 53.69 3 *eP* P 00 46 25.1 +4.5
FINES pmax pmax
comp=Z,5.0nm,0.6s
JHS Saijyo 53.82 276 P **P** **00 46 21.4 -0.5**
KSRS Korea Array 53.89 282 P **P** **00 46 22.0 -0.3**
comp=Z,1.8nm,0.8s,baz=31,slow=7.0,SNR=2.8
KSRS LR LR 01 08 46.0
comp=Z,50nm,21.2s,baz=34,slow=35
ZAA0 Zalesovo Array 54.32 324 P **P** **00 46 24.5 -0.7**
ZAA0 IAmb IAmb 00 46 28.8
comp=Z,6.7nm,0.9s
ZALV Zalesovo Beam 54.32 324 P **P** **00 46 24.0 -1.2**
comp=Z,3.3nm,0.6s,baz=14,slow=7.6,SNR=5.5
ZALV LR LR 01 11 30.4
comp=Z,186nm,18.8s,baz=358,slow=38
ZALV Zalesovo Beam 54.32 324 P **P** **00 46 24.3 -1.0**
SVE Sverdlovsk 56.31 341 *eP* **P** **00 46 39.9 +0.4**
ARU Arti 56.97 342 *c iP* **P** **00 46 44.0 -0.3**
ARU 00 47 40.1
ARU S **S** **00 54 38.8 +0.5**
ARU SS **SS** **00 58 28.3 +2.6**
ARU pmax pmax
comp=Z,6.0nm,1.3s
ARU Arti 56.97 342 P **P** **00 46 43.7 -0.5**
ARU IAmb IAmb 00 46 55.4
comp=Z,5.4nm,0.7s
HHC Hu-ho-hao-te 57.47 297 *eP* **P** **00 46 49.0 +0.9**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,98nm,6.6s
DGZ Jazzator, Alta 57.51 320 *i* P **P** **00 46 51.0 +2.7**
DGZ pmax pmax
comp=Z,11nm,1.8s
TLIG Tlapa 58.07 120 P **P** **00 46 52.2 -0.4**
TLIG IAmb IAmb 00 46 53.5
comp=Z,7.2nm,0.7s
BRVK Borovoye 58.35 333 *ceP* **P** **00 46 58.0 +4.0**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 58.79 327 *ceP* **P** **00 47 01.1 +4.0**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 58.79 327 P **P** **00 46 56.5 -0.6**
OBN Obninsk 60.02 356 *ceP* **P** **00 47 08.0 +2.5**
OBN *i* 00 47 55.0
OBN *e* 00 49 22.9
OBN pmax pmax
comp=Z,19nm,1.4s
OBN MLR MLR
comp=Z,75nm,17.0s
MKAR Makanchi Array 61.54 322 P **P** **00 47 14.2 -1.9**
comp=Z,2.4nm,1.0s,baz=43,slow=8.1,SNR=4.0
MKAR LR LR 01 16 09.8
comp=Z,155nm,21.5s,baz=12,slow=38
MKAR Makanchi Array 61.54 322 *eP* **P** **00 47 19.7 +3.7**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 61.54 322 P **P** **00 47 14.5 -1.6**
MAKZ Makanchi 61.60 323 P **P** **00 47 14.7 -1.8**
MAKZ IAmb IAmb 00 47 20.3
comp=Z,15nm,1.4s
NJ2 Nanjing 62.28 287 *eP* **P** **00 47 19.1 -2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LPSR Galich'ya Gora 62.45 355 *eP* **P** **00 47 25.1 +3.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 62.80 317 *eP* **P** **00 47 25.3 +0.7**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,100nm,5.5s
WMQ LR LR
comp=Z,230nm,21.7s
GTA Gaotai 62.97 306 *eP* **P** **00 47 29.6 +3.8**
GTA pP sP 00 47 34.0 +5.5
GTA sP pP 00 47 36.9 +9.1
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,79nm,8.2s
GTA LR LR
comp=Z,230nm,17.1s
GTA LR LR
comp=Z,400nm,16.4s
GTA LR LR
comp=Z,290nm,16.4s
ABKAR Akbulak array 63.77 339 P **P** **00 47 30.0 -0.8**
ABKAR IAmb IAmb 00 47 47.2
comp=Z,6.4nm,0.8s
ABKAR Akbulak array 63.77 339 P **P** **00 47 30.0 -0.8**
VSR Storozhevoye 63.83 354 *eP* **P** **00 47 33.9 +2.7**
VSR pmax pmax
comp=Z,9.0nm,0.7s
VORD Divnogorie 64.07 354 *eP* **P** **00 47 34.4 +1.6**
VORD pmax pmax
comp=Z,4.0nm,0.5s
DPC Dobruska-Polom 64.31 10 *eP* **P** **00 47 34.9 +0.5**
DPC *ex* x 00 47 46.5
DPC Dobruska-Polom 64.31 10 *eP* **P** **00 47 34.9 +0.5**
XAN Xi'an 64.45 296 P **P** **00 47 37.0 +1.4**
XAN pP sP 00 47 39.6 +1.4
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN LR LR
comp=Z,380nm,20.1s
AKASG Malin Array Be 64.51 1 P **P** **00 47 34.5 -1.1**
comp=Z,3.4nm,0.6s,baz=360,slow=6.3,SNR=7.1
AKASG Malin Array Be 64.51 1 *eP* **P** **00 47 38.1 +2.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 64.51 1 P **P** **00 47 35.2 -0.4**
LZH Lanzhou 64.51 301 *eP* **P** **00 47 34.5 -1.6**
LZH pP sP 00 47 39.4 +0.6
LZH sP pP 00 47 43.6 +5.5
LZH *e*PP **PP** **00 49 57.8 +0.3**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,93nm,5.2s
LZH LR LR
comp=Z,350nm,16.5s
LZH LR LR
comp=Z,510nm,18.0s
KRLC Kraliky 64.61 10 *eP* P 00 47 44.0 +7.6
KRLC *ex* x 00 47 47.4
KRLC Kraliky 64.61 10 *eP* P 00 47 44.0 +7.6
KRLC *e* 00 47 47.4
KHC Kasperske Hory 65.29 13 *eP* **P** **00 47 41.4 +0.6**
KHC *ex* x 00 47 52.7
KHC Kasperske Hory 65.29 13 *eP* **P** **00 47 41.4 +0.6**
WHN Wuhan 65.42 290 P **P** **00 47 38.6 -3.3**
GERES GERESS Array B 65.58 12 P **P** **00 47 40.7 -2.1**
comp=Z,0.1nm,0.4s,baz=337,slow=4.6,SNR=1.9
GERES GERESS Array B 65.58 12 *eP* **P** **00 47 46.5 +3.7**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 65.58 12 P **P** **00 47 42.2 -0.6**
KOLS Kolonicke sedl 66.08 6 *eP* P 00 47 52.7 +6.8
KOLS Kolonicke sedl 66.08 6 *eP* P 00 47 52.7 +6.8
RETA Reutte 66.63 15 *eP* P 00 47 44.1 -5.4
comp=Z,3.5nm,1.1s
CONA Conrad Observa 66.68 11 *eP* **P** **00 47 49.3 -0.5**
comp=Z,5.0nm,1.4s
MOTA Moosalm 66.81 15 *eP* **P** **00 47 51.0 +0.2**
comp=Z,6.2nm,1.6s
WATA Walderalm 66.87 14 *eP* **P** **00 47 47.0 -4.1**
comp=Z,3.9nm,0.7s
WTTA Wattenberg 66.94 14 *eP* **P** **00 47 47.8 -3.9**
comp=Z,3.7nm,1.0s
BOOM Boomskoye usch 67.15 325 P **P** **00 47 52.5 -0.5**
BOOM IAmb IAmb 00 47 58.7
comp=Z,4.5nm,0.9s
MATN Matagalpa 67.16 109 P **P** **00 47 52.6 -0.6**
FRU1 Bishkek 67.16 327 P **P** **00 47 52.6 -0.4**
ARSA Arzberg 67.32 11 *eP* **P** **00 47 49.6 -4.3**
comp=Z,2.7nm,1.1s
AAK Ala-Archa 67.35 327 *ceP* **P** **00 47 58.2 +3.9**
AAK pmax pmax
comp=Z,15nm,0.8s
BUR08 Bucovina Ar. S 67.48 4 P **P** **00 47 54.1 -0.9**
BURAR Bucovina Array 67.52 4 P **P** **00 47 54.4 -0.8**
ABTA Abfaltersbach 67.55 14 *eP* **P** **00 47 51.9 -3.5**
comp=Z,1.8nm,0.8s
ENH Enshi 67.58 294 P **P** **00 47 54.5 -1.3**
ENH IAmb IAmb 00 48 09.3
comp=Z,13nm,1.3s
KK31 Karatay Array 67.80 330 P **P** **00 47 55.9 -1.1**
KK31 IAmb IAmb 00 48 02.8
comp=Z,7.2nm,1.2s
KKAR Karatay Array 67.80 330 P **P** **00 47 55.8 -1.1**
SOKA Soboth 67.85 12 *eP* P 00 47 51.5 -5.8
comp=Z,4.4nm,1.4s
OBKA Obir 67.97 12 *eP* **P** **00 47 57.1 -1.0**
comp=Z,4.5nm,0.7s
CD2 Chengdu 69.18 299 P **P** **00 48 08.1 +2.3**
CD2 pmax pmax
comp=Z,20nm,0.6s
KSH Kashi 69.96 324 P P 00 48 16.6 +6.0
KSH pmax pmax
comp=Z,7.0nm,0.8s
MLPR Magueyes Islan 70.48 89 P **P** **00 48 12.8 -1.0**
MLPR IAmb IAmb 00 48 20.2
comp=Z,8.5nm,0.8s
BTK Batken 70.64 329 P **P** **00 48 14.1 -0.6**
KIV Kislovodsk 70.88 351 *eP* **P** **00 48 19.3 +3.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,96nm,17.0s
KBZ Khabaz 71.09 351 P **P** **00 48 17.2 0.0**
comp=Z,1.4nm,0.8s,baz=334,slow=20,SNR=2.5
KBZ LR LR 01 23 20.6
comp=Z,35nm,18.3s,baz=7.5,slow=39
KBZ Khabaz 71.09 351 *eP* P 00 48 25.9 +8.7
KBZ pmax pmax
comp=Z,2.0nm,0.8s
GAR Garm 71.77 329 P **P** **00 48 20.4 -1.2**
ESBB Sonseca Array 72.03 28 P **P** **00 48 22.0 -1.0**
ESDC Sonseca Array 72.03 28 P **P** **00 48 23.5 +0.5**
comp=Z,1.5nm,0.7s,baz=343,slow=6.0,SNR=11
ESDC LR LR 01 24 06.3
comp=Z,39nm,18.0s,baz=340,slow=39
ESDC Sonseca Array 72.03 28 P **P** **00 48 21.8 -1.2**
GYA Guiyang 72.08 294 *i*P **P** **00 48 26.8 +3.2**
GYA pmax pmax
comp=Z,6.0nm,0.9s
CHGR Chuyangaron 72.35 329 P **P** **00 48 23.9 -1.1**
PDG Podgorica 72.40 9 P **P** **00 48 24.4 -0.7**
GEYT Alibeck 75.11 338 P **P** **00 48 42.6 +1.5**
comp=Z,1.5nm,0.6s,baz=36,slow=5.4,SNR=2.6
GEYT LR LR 01 26 26.9
comp=Z,44nm,18.9s,baz=345,slow=40
BRTR Keskin Array B 75.47 358 P **P** **00 48 43.1 -0.2**
comp=Z,1.3nm,0.8s,baz=27,slow=3.5,SNR=2.9
BRTR Keskin Array B 75.47 358 P **P** **00 48 42.7 -0.7**
NIL Nilore 76.20 325 P **P** **00 48 46.2 -1.2**
NIL IAmb IAmb 00 48 51.4
comp=Z,9.6nm,0.9s
KBL Kabul 76.33 328 P **P** **00 48 45.6 -2.8**
QIZ Qiongzhong 77.51 288 P **P** **00 48 51.1 -3.9**
QIZ S **S** **00 58 43.8 -2.5**
QIZ pmax pmax
comp=Z,11nm,1.9s
QIZ LR LR
comp=Z,210nm,17.2s
QIZ LR LR
comp=Z,200nm,15.7s
MARD Mardin 77.61 352 P **P** **00 48 54.0 -1.5**
MARD IAmb IAmb 00 49 00.3
comp=Z,7.5nm,0.8s
KEST Kesra 78.06 18 P **P** **00 48 58.0 0.0**
comp=Z,2.1nm,0.8s,baz=353,slow=15,SNR=2.7
KEST Kesra 78.06 18 P **P** **00 48 56.9 -1.0**
KEST IAmb IAmb 00 49 16.5
comp=Z,8.8nm,1.4s
KRVT Keravat (AS076 81.38 240 LR LR 01 18 02.3
comp=Z,53nm,21.6s,baz=280,slow=30
CMAR Chiang Mai Arr 82.28 297 P **P** **00 49 19.9 -0.9**
comp=Z,1.8nm,0.8s,baz=4.2,slow=6.7,SNR=10
CMAR Chiang Mai Arr 82.28 297 *eP* **P** **00 49 23.4 +2.6**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 82.28 297 P **P** **00 49 20.3 -0.5**
TORD Torodi Ar. Bea 98.89 29 LR LR 01 39 46.6
comp=Z,29nm,18.3s,baz=180,slow=38
BOSA Boshof 143.30 8 PKhKP PKPpre 00 56 28.5
comp=Z,3.8nm,0.7s,baz=309,slow=2.6,SNR=9.3
BOSA PKP **PKPdf** **00 56 33.1 -0.2**
comp=Z,3.8nm,0.7s,baz=318,slow=4.1,SNR=4.4
BOSA Boshof 143.30 8 **PKPdf** **00 56 32.6 -0.8**
PMSA Palmer Station 143.39 134 PKP **PKPdf** **00 56 32.8 +0.7**
comp=Z,12nm,1.1s,baz=350,slow=7.0,SNR=2.5
PMSA Palmer Station 143.39 134 **PKPdf** **00 56 32.6 +0.5**

VNDA	**Vanda**	**145.51**	**197**	PKPbc	**PKPab**	**00 56 36.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=54,slow=4.9,SNR=3.9						
VNA3	**Neumayer Olymp**	**163.99**	**130**	PKPab	**PKPab**	**00 57 53.7**	**-0.4**
SNAA	**Sanae**	**166.10**	**133**	PKPab	**PKPab**	**00 58 02.9**	**-0.6**
SYO	**Syowa Base**	**174.85**	**217**⇑*e*	PKPdf	**PKPdf**	**00 57 07.7**	**+0.4**
SYO	**Syowa Base**	**174.85**	**217**⇑*es*	PKPdf	sPKPdf	00 57 14.0	+3.9

IDC ***21*** *00:47:52.9±7.5, 15˚.03S×167˚.62E, h144km±60km, mb3.7/4, mb1 3.8/5, mb1mx3.4/38, mbtmp4.1/5, Error ellipse: s-maj=56.6km s-min=29.3km az=18.0*
NEIC ***21*** *00:47:55.6±1.1, 15˚.21S±0˚.09×167˚.7E±0˚.1, h169km±6km, mb4.2/12, Error ellipse: s-maj=18.2km s-min=10.1km az=123.0*
ISC 21 00:47:53.7±1.3, 15˚21'S±0˚.10×167˚.8E±0˚.2, h150km, n22, σ1§77/25, mb4.2/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**0.62**	**248**			**Pn**	**00 48 18.5**	**+2.8**
SANVU						**Sn**	**00 48 37.0**	**+4.6**
DZM	**Mont Dzumac**	**6.94**	**190**	P		**Pn**	**00 49 35.6**	**+2.5**
	4.1nm,0.3s,baz=121,slow=20,SNR=29							
DZM				S		**Sn**	**00 50 52.1**	**+1.1**
	0.2nm,0.3s,baz=334,slow=22,SNR=0.9							
DZM	**Mont Dzumac**	**6.94**	**190**			**Pn**	**00 49 34.6**	**+1.5**
HNR	**Honiara**	**9.58**	**306**	Pn		**Pn**	**00 50 09.0**	**+0.8**
EIDS	**Eidsvold**	**18.64**	**235**	Pn		**Pn**	**00 52 01.4**	**-0.6**
EIDS				IAmb		IAmb	00 52 13.1	
	comp=Z,10nm,1.1s							
CTAO	**Charters Tower**	**21.09**	**254**	P		**P**	**00 52 27.0**	**+0.6**
CTAO				IAmb		IAmb	00 52 44.5	
	comp=Z,7.1nm,1.1s							
ARMA	**Armidale**	**21.20**	**222**	P		**P**	**00 52 24.0**	**-3.7**
URZ	**Urewera**	**24.39**	**162**	P		**P**	**00 52 59.7**	**+1.7**
	comp=Z,3.5nm,0.6s,baz=336,slow=10.0,SNR=3.0							
URZ	**Urewera**	**24.39**	**162**	P		**P**	**00 52 58.9**	**+0.9**
BKZ	**Black Stump Fm**	**25.06**	**164**	P		**P**	**00 53 04.6**	**+0.4**
BKZ				IAmb		IAmb	00 53 06.1	
	comp=Z,11nm,1.2s							
STKA	**Stephens Creek**	**29.08**	**231**	P		**P**	**00 53 40.1**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=39,slow=9.2,SNR=5.6							
STKA	**Stephens Creek**	**29.08**	**231**	P		**P**	**00 53 40.4**	**+0.3**
WB0	**Warramunga Arr**	**32.15**	**257**	P		**P**	**00 54 05.9**	**-1.4**
WB0				IAmb		IAmb	00 54 25.7	
	comp=Z,5.2nm,1.1s							
WRA	**Warramunga Arr**	**32.21**	**257**	P		**P**	**00 54 06.1**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=84,slow=8.6,SNR=8.3							
AS31	**Alice Springs**	**32.98**	**250**	P		**P**	**00 54 13.9**	**-0.7**
ASAR	**Alice Springs**	**32.98**	**250**	P		**P**	**00 54 13.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=75,slow=9.3,SNR=23							
BBOO	**Buckleboo**	**33.69**	**233**	P		**P**	**00 54 20.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.43**	**260**	P		**P**	**00 55 17.2**	**-0.4**
MORW	**Morawa**	**49.52**	**245**	P		**P**	**00 56 28.6**	**-0.8**
MORW				IAmb		IAmb	00 56 29.4	
	comp=Z,3.1nm,0.7s							
CASY	**Casey**	**63.28**	**202**	P		**P**	**00 58 05.2**	**-0.8**
CASY				IAmb		IAmb	00 58 19.9	
	comp=Z,4.4nm,1.1s							
ARCES	**ARCESS Array B**	**120.84**	**345**	PKP		**PKiKP**	**01 06 27.0**	**-0.7**
	comp=Z,4.1nm,1.0s,baz=48,slow=1.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**166.37**	**263**	PKP		**PKPdf**	**01 07 40.8**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=41,slow=1.4,SNR=2.9							
TORD				PKPab		**PKPab**	**01 08 43.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=86,slow=4.7,SNR=2.5							

IDC ***21*** *00:56:55.8±4.6, 23˚.71S×179˚.72W, h470km±48km, mb3.3/7, mb1 3.5/9, mb1mx3.3/29, mbtmp4.3/9, Error ellipse: s-maj=34.7km s-min=21.6km az=49.0*
ISC 21 00:56:59.7±1.2, 23˚9'S±0˚.1×179˚.8W±0˚.2, h518km, n22, σ1§83/22, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**12.77**	**275**	P		**P**	**00 59 45.7**	**-0.8**
	0.4nm,0.3s,baz=65,slow=16,SNR=2.9							
URZ	**Urewera**	**14.55**	**190**	P		**P**	**01 00 02.0**	**-2.7**
	3.2nm,0.3s,baz=284,slow=2.8,SNR=11							
URZ				S		**S**	**01 02 37.7**	**+0.3**
	0.7nm,0.3s,baz=222,slow=24,SNR=6.9							
URZ	**Urewera**	**14.55**	**190**	P		**P**	**01 00 02.4**	**-2.4**
MWZ	**Matawai**	**14.57**	**188**	P		**P**	**01 00 03.8**	**-1.2**
TLZ	**Tolley Road**	**14.92**	**194**	P		P	01 00 16.2	+7.5
RTZ	**Ruatahuna**	**14.92**	**190**	P		**P**	**01 00 06.5**	**-2.2**
SNGZ	**Shannon Statio**	**15.03**	**189**	P		**P**	**01 00 04.9**	**-5.0**
MTHZ	**Maungataniwha**	**15.18**	**190**	P		**P**	**01 00 11.4**	**+0.1**
BKZ	**Black Stump Fm**	**15.54**	**191**	P		**P**	**01 00 13.8**	**-1.4**
KWHZ	**Kaweka Forest**	**15.80**	**191**	P		**P**	**01 00 16.1**	**-1.8**
WNVZ	**Wahianoa**	**15.87**	**193**	P		**P**	**01 00 18.1**	**-0.5**
MOVZ	**Moawhango**	**15.91**	**193**	P		**P**	**01 00 18.3**	**-0.7**
BHHZ	**Black Hill Sta**	**15.93**	**192**	P		**P**	**01 00 17.5**	**-1.7**
KAHZ	**Kahuranaki**	**16.09**	**189**	P		**P**	**01 00 19.4**	**-1.4**
CTA	**Charters Tower**	**31.63**	**270**	P		**P**	**01 02 40.6**	**+0.4**
	11nm,0.4s,baz=95,slow=10,SNR=28							
STKA	**Stephens Creek**	**34.87**	**248**	P		**P**	**01 03 07.8**	**+0.4**
	1.8nm,0.4s,baz=102,slow=13,SNR=6.8							
ASAR	**Alice Springs**	**42.19**	**261**	P		**P**	**01 04 07.0**	**0.0**
	2.7nm,0.8s,baz=97,slow=7.9,SNR=18							
WRA	**Warramunga Arr**	**42.56**	**266**	P		**P**	**01 04 09.4**	**-0.6**
	1.4nm,0.5s,baz=95,slow=8.5,SNR=44							
VNDA	**Vanda**	**54.40**	**185**	P		**P**	**01 05 38.8**	**+1.7**
	1.0nm,0.8s,baz=354,slow=4.0,SNR=4.7							
MAW	**Mawson**	**77.81**	**200**	P		**P**	**01 08 04.7**	**+1.9**
	1.6nm,0.5s,baz=139,slow=7.4,SNR=12							
NVAR	**Mina Array Bea**	**84.64**	**44**	P		**P**	**01 08 37.9**	**-0.9**
	0.2nm,0.3s,baz=236,slow=6.2,SNR=2.0							
TORD	**Torodi Ar. Bea**	**169.21**	**188**	PKPab		**PKPab**	**01 17 24.2**	**+0.7**
	0.7nm,0.7s,baz=166,slow=4.3,SNR=7.9							

SOME ***21*** *01:05:11.5, 39˚.42N×73˚.53E, h20km*
IDC ***21*** *01:05:15.0±1.5, 39˚.26N×73˚.45E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/43, mbtmp3.7/5, ML2.8/2, Error ellipse: s-maj=39.1km s-min=25.5km az=144.0*
KRNET ***21*** *01:05:17.8±0.1, 39˚.54N×73˚.62E, mb3.5*
NNC ***21*** *01:05:23.1±1.4, 39˚.75N×73˚.64E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=10.8km s-min=5.9km az=172.0*
ISC 21 01:05:21.8±1.6, 39˚47'N±0˚.06×73˚.66E±0˚.04, h83km±12km, n51, σ1§93/73, 33C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BTK	**Batken**	**2.27**	**286**⇑	*i*P		**Pn**	**01 05 58.1**	**+1.0**
	baz=84							
BTK				⇑*i*S		**Sb**	**01 06 27.9**	**-1.9**
	baz=84							
ARLS	**Aral**	**2.44**	**12**⇓	*i*P		**Pn**	**01 06 00.0**	**+0.4**
	baz=13							
ARLS				⇓*i*S		**Sn**	**01 06 31.6**	**+3.2**
	baz=13							
GAR	**Garm**	**2.64**	**261**⇑	*i*P		**Pn**	**01 06 03.3**	**+1.1**
	baz=59							
GAR				⇑*i*S		**Sn**	**01 06 37.0**	**+3.9**
	baz=59							
AML	**Almayashu**	**2.66**	**1**⇓	*i*P		**Pn**	**01 06 02.9**	**+0.1**
	baz=1.0							
AML				⇓*i*S		**Sn**	**01 06 36.5**	**+2.4**
	baz=1.0							
AML	**Almayashu**	**2.66**	**1**	P		**Pn**	**01 06 02.9**	**+0.1**
	SNR=13							
UCH	**Uchtor**	**2.83**	**13**⇑	*e*P		**Pn**	**01 06 05.6**	**+0.5**
	baz=14							
UCH				⇑*i*S		**Sn**	**01 06 40.9**	**+2.5**
	baz=14							
UCH	**Uchtor**	**2.83**	**13**	P		**Pn**	**01 06 05.7**	**+0.5**
	SNR=30							
MNAS	**Manas**	**3.14**	**344**⇑	*i*P		**Pn**	**01 06 09.3**	**+0.2**
	baz=44							
MNAS				⇑*i*S		**Sn**	**01 06 47.9**	**+2.4**
	baz=44							
EKS2	**Erkin-Say**	**3.19**	**2**⇓	*i*P		**Pn**	**01 06 10.3**	**+0.5**
	baz=2.0							
EKS2				⇓*i*S		**Sn**	**01 06 49.4**	**+2.6**
	baz=2.0							
EKS2	**Erkin-Say**	**3.19**	**2**	P		**Pn**	**01 06 10.3**	**+0.5**
	SNR=9.8							
AAK	**Ala-Archa**	**3.23**	**11**⇑	*e*P		**Pn**	**01 06 10.8**	**+0.4**
	baz=12							
AAK				⇑*i*S		**Sn**	**01 06 50.1**	**+2.3**
	baz=12							
AAK	**Ala-Archa**	**3.23**	**11**	P		**Pn**	**01 06 10.9**	**+0.6**
	SNR=14							
AAK	**Ala-Archa**	**3.23**	**11**	⇑Pn		**Pn**	**01 06 11.2**	**+0.9**
	11nm,0.8s							
AAK				⇑Lg		Lg	01 06 58.1	
	51nm,0.9s							
MRKS	**Merke**	**3.29**	**354**	*e*P		**Pn**	**01 06 11.5**	**+0.4**
	23nm,0.4s							
MRKS				*e*S		**Sb**	**01 06 55.0**	**-4.2**
	50nm,0.4s							
MRKS	**Merke**	**3.29**	**354**	Pg		**Pb**	**01 06 18.3**	**-1.2**
	23nm,0.6s							
MRKS				Lg		Lg	01 06 59.3	
	50nm,0.4s							
KBK	**Karagaybulak**	**3.33**	**17**⇑	*i*P		**Pn**	**01 06 12.0**	**+0.2**
	baz=17							
KBK				⇑*i*S		**Sn**	**01 06 52.3**	**+2.0**
	baz=17							
KBK	**Karagaybulak**	**3.33**	**17**	P		**Pb**	**01 06 17.1**	**-3.2**
	SNR=15							
ULHL	**Ulahol**	**3.40**	**34**⇓	*i*P		**Pn**	**01 06 13.0**	**+0.3**
	baz=35							
ULHL				⇓*i*S		**Sn**	**01 06 53.8**	**+1.8**
	baz=35							
ULHL	**Ulahol**	**3.40**	**34**	P		**Pb**	**01 06 19.1**	**-2.4**
	SNR=7.8							
BOOM	**Boomskoye usch**	**3.48**	**29**⇑	*i*P		**Pn**	**01 06 15.2**	**+1.4**
	baz=30							
BOOM				⇑*i*S		**Sn**	**01 06 56.7**	**+2.8**
	baz=30							
CHGR	**Chuyangaron**	**3.59**	**258**⇑	*i*P		**Pn**	**01 06 16.3**	**+1.0**
	baz=57							
CHGR				⇑*i*S		**Sn**	**01 07 00.1**	**+3.4**
	baz=57							
CHMS	**Chumysh**	**3.62**	**13**⇑	*e*P		**Pn**	**01 06 16.2**	**+0.6**
	baz=13							
CHMS				⇑*i*S		**Sn**	**01 06 59.1**	**+1.8**
	baz=13							
TKM2	**Tokmak 2**	**3.75**	**22**⇑	*e*P		**Pn**	**01 06 18.0**	**+0.5**
	baz=23							
TKM2				⇑*i*S		**Sn**	**01 07 02.4**	**+1.8**
	baz=23							
TKM2	**Tokmak 2**	**3.75**	**22**	P		**Pn**	**01 06 18.7**	**+1.2**
	SNR=9.8							
TKM2	**Tokmak 2**	**3.75**	**22**	⇑Pn		**Pn**	**01 06 18.7**	**+1.2**
	7.7nm,0.6s							
TKM2				⇓Lg		Lg	01 07 15.4	
	21nm,0.5s							
KDJ	**Kajisay**	**3.77**	**44**⇑	*i*P		**Pn**	**01 06 19.3**	**+1.5**
	baz=45							
KDJ				⇑*i*S		**Sn**	**01 07 04.3**	**+3.1**
	baz=45							
IUG	**Iuzhnay**	**3.84**	**315**	*e*P		**Pn**	**01 06 19.2**	**+0.5**
	26nm,0.3s							
IUG				*e*S		**Sn**	**01 07 08.2**	**+5.5**
	37nm,0.6s							
IUG	**Iuzhnay**	**3.84**	**315**	Pg		**Pb**	**01 06 30.5**	**+1.6**
	26nm,0.3s							
IUG				Lg		Lg	01 07 18.8	
	61nm,0.3s							
USP	**Ospenovka**	**3.85**	**9**⇑	*i*P		**Pn**	**01 06 19.1**	**+0.3**
	baz=10.0							
USP				⇑*i*S		**Sn**	**01 07 04.6**	**+1.7**
	baz=10.0							
KST	**Kastek**	**3.97**	**25**	*e*P		Pn	01 06 25.8	+5.2
	7.7nm,0.4s							
KST				*e*S		**Sb**	**01 07 19.8**	**+1.0**
	43nm,0.7s							
KST	**Kastek**	**3.97**	**25**	Pg		**Pb**	**01 06 32.2**	**+1.1**
	5.0nm,0.2s							
KST				Lg		Lg	01 07 22.4	
	39nm,0.4s							
SGDS	**Sogindy**	**4.05**	**10**	Pg		**Pb**	**01 06 32.6**	**+0.2**
	10nm,0.5s							
SGDS				Lg		Lg	01 07 22.8	
	24nm,0.5s							
DGS	**Degeres**	**4.09**	**22**	Pg		**Pb**	**01 06 34.9**	**+1.7**
	10nm,0.3s							
DGS				Lg		Lg	01 07 26.6	
	54nm,0.5s							
IZV	**Izvestkoviy**	**4.20**	**31**	Pg		**Pb**	**01 06 36.6**	**+1.5**
	8.3nm,0.5s							
IZV				Lg		Lg	01 07 29.5	
	49nm,0.5s							
KK31	**Karatay Array**	**4.34**	**328**	Pn		**Pn**	**01 06 25.6**	**+0.1**
	2.1nm,0.3s,baz=128,slow=12,SNR=82							
KK31				⇑Pg		**Pb**	**01 06 36.4**	**-0.9**
	1.5nm,0.3s,baz=149,slow=16,SNR=5.8							
KK31				⇑Sn		**Sn**	**01 07 16.5**	**+1.7**
	3.0nm,0.3s							
KK31				⇓Lg		Lg	01 07 30.7	
	8.1nm,0.4s,baz=124,slow=27,SNR=5.0							
TNSS	**Tian-Shan**	**4.34**	**34**	Pg		**Pb**	**01 06 36.4**	**-1.2**
	7.8nm,0.2s							
TNSS				Lg		Lg	01 07 29.6	
	29nm,0.4s							
ANVS	**Anan'yevo**	**4.49**	**41**⇑	*i*P		**Pn**	**01 06 29.4**	**+1.7**
	baz=42							
ANVS				⇑*i*S		**Sn**	**01 07 21.9**	**+3.1**
	baz=42							
KRBS	**Karabastau**	**4.49**	**19**	Pg		**Pb**	**01 06 41.7**	**+1.9**
	6.2nm,0.2s							
KRBS				Lg		Lg	01 07 37.9	
	36nm,0.4s							
MDOK	**Medeo**	**4.49**	**34**	Pg		**Pb**	**01 06 41.2**	**+1.3**
	6.9nm,0.3s							
MDOK				Lg		Lg	01 07 37.6	
	23nm,0.5s							
BRLS	**Borolday**	**4.58**	**322**	*e*P		Pb	01 06 35.8	-5.6
	7.7nm,0.4s							
BRLS				*e*S		**Sb**	**01 07 37.0**	**+1.0**
	38nm,0.3s							
BRLS	**Borolday**	**4.58**	**322**	Pg		**Pb**	**01 06 42.7**	**+1.3**
	19nm,0.2s							
BRLS				Lg		Lg	01 07 39.9	
	38nm,0.3s							
PRZ	**Przheval'sk**	**4.69**	**48**⇑	*i*P		**Pn**	**01 06 32.1**	**+1.7**
	baz=49							
PRZ				⇑*i*S		**Sn**	**01 07 26.3**	**+2.6**
	baz=49							
KTBS	**Karatobe**	**4.81**	**27**	Pg		**Pb**	**01 06 47.0**	**+1.7**
	6.4nm,0.2s							
KTBS				Lg		Lg	01 07 47.6	
	46nm,0.4s							
CHKK	**Chushkaly**	**5.04**	**29**	Pg		**Pb**	**01 06 50.9**	**+1.7**
	7.9nm,0.4s							
CHKK				Lg		Lg	01 07 54.1	
	22nm,0.3s							
BTLS	**Baital**	**5.58**	**3**	Pg		**Pb**	**01 07 00.5**	**+2.1**
	3.6nm,0.4s							
BTLS				Lg		Lg	01 08 10.4	
	12nm,0.5s							
ARXS	**Arharly**	**5.67**	**32**	Pg		**Pb**	**01 07 01.6**	**+1.6**
	6.6nm,0.3s							
ARXS				Lg		Lg	01 08 13.8	
	14nm,0.4s							
MKAR	**Makanchi Array**	**9.66**	**38**	Pn		**Pn**	**01 07 40.1**	**+1.6**
	0.0nm,0.3s,baz=203,slow=17,SNR=1.5							
MKAR				Lg		Lg	01 10 22.2	
	0.0nm,0.3s,baz=225,slow=26,SNR=2.2							
ZALV	**Zalesovo Beam**	**16.35**	**24**	Pn		**Pn**	**01 09 07.9**	**-0.8**
	0.3nm,0.3s,baz=213,slow=11,SNR=4.1							
FINES	**FINESS Array B**	**36.28**	**323**	P		**P**	**01 12 20.4**	**-1.3**
	7.5nm,1.3s,baz=121,slow=13,SNR=1.1							
TORD	**Torodi Ar. Bea**	**67.88**	**269**	P		**P**	**01 16 14.5**	**-2.8**
	0.3nm,0.6s,baz=49,slow=4.1,SNR=5.9							
WRA	**Warramunga Arr**	**81.84**	**124**	P		**P**	**01 17 36.3**	**-1.5**
	0.5nm,1.1s,baz=332,slow=5.1,SNR=2.2							

IDC ***21*** *01:12:31.4±0.8, 1˚.42N×122˚.56E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.8/33, mbtmp4.0/10, ML3.8/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/40, Error ellipse: s-maj=47.1km s-min=15.3km az=74.0*
NEIC ***21*** *01:12:34.8±1.4, 1˚.41N±0˚.09×122˚.5E±0˚.2, h28km±4km, mb4.2/9, Error ellipse: s-maj=27.0km s-min=8.3km az=65.0*
DJA ***21*** *01:12:35.3±0.5, 1˚N±4˚×12˚2E±˚, h10km, M4.5/6, mB4.9/1, mb4.6/3, MLv4.4/6, Mw(mB)4.2/1*
ISC 21 01:12:32.8±0.7, 1˚34N±0˚.05×122˚29E±0˚.05, h10km, n40, σ1§56/42, mb4.1/12, MS3.1/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GTOI	**Gorontalo**	**1.00**	**134**	P		**Pn**	**01 12 52.6**	**-0.4**
GTOI				Pg		**Pb**	**01 12 52.7**	**+0.3**
GTOI				S		**Sg**	**01 13 05.0**	**-0.3**
GTOI				Sg		**Sb**	**01 13 05.3**	**-0.4**
KMSI	**Cibinong**	**1.85**	**114**	P		**Pg**	**01 13 09.7**	**+1.3**
KMSI				Pn		**Pg**	**01 13 09.8**	**+1.3**
KMSI				S		**Sg**	**01 13 36.2**	**+3.6**
LUWI	**Luwuk**	**2.41**	**168**	P		**Pb**	**01 13 16.6**	**+0.2**
LUWI				Pn		**Pg**	**01 13 16.7**	**-2.5**
LUWI				S		**Sb**	**01 13 49.2**	**+3.0**
LUWI	**Luwuk**	**2.41**	**168**	Pn		**Pn**	**01 13 13.4**	**+1.0**
LUWI				Sn		**Sn**	**01 13 41.4**	**-0.7**
MPSI	**Mapaga**	**2.59**	**247**	P		**Pn**	**01 13 16.3**	**+1.4**
MPSI				Pn		**Pn**	**01 13 16.2**	**+1.4**
SANI	**Sanana**	**5.00**	**132**	P		Pn	01 13 53.3	+5.3
	0.3nm24nm,0.8s							
TTSI	**Tana Toraja**	**5.00**	**210**	P		**Pn**	**01 13 52.4**	**+4.3**
	0.7nm1µm123nm,0.7s							
MYLDM	**Lahad Datu**	**5.37**	**315**			**Pn**	**01 13 53.5**	**+0.4**
DAV	**Davao City (W)**	**6.57**	**30**	LR		LR	01 17 01.7	
	comp=Z,191nm,18.1s,baz=176,slow=42							
KAPI	**Kappang**	**6.80**	**202**	P		**Pn**	**01 14 14.0**	**+1.3**
	baz=36,slow=19,SNR=2.4							
KAPI				LR		LR	01 17 18.7	
	comp=Z,226nm,18.6s,baz=51,slow=41							
KAPI	**Kappang**	**6.80**	**202**			**Pn**	**01 14 14.1**	**+1.4**
KKM	**Kota Kinabalu**	**7.65**	**308**	Pn		**Pn**	**01 14 26.4**	**+1.8**
BATI	**Baumata**	**11.55**	**173**	LR		LR	01 19 16.8	
	comp=Z,175nm,21.4s,baz=5.0,slow=35							
TGY	**Tagaytay City**	**12.75**	**354**	LR		LR	01 20 44.4	
	comp=Z,107nm,20.1s,baz=138,slow=39							
LEM	**Lembang**	**16.74**	**241**	LR		LR	01 24 59.9	
	comp=Z,196nm,18.5s,baz=135,slow=44							
FITZ	**Fitzroy Crossi**	**19.59**	**170**	P		**P**	**01 17 01.4**	**+0.1**
	0.2nm,0.3s,baz=21,slow=8.3,SNR=7.0							
FITZ	**Fitzroy Crossi**	**19.59**	**170**	P		**P**	**01 17 01.3**	**-0.1**
FITZ				IAmb		IAmb	01 17 16.0	
	comp=Z,6.4nm,1.1s							
WB0	**Warramunga Arr**	**24.10**	**151**	P		**P**	**01 17 48.4**	**-0.5**
WB0				IAmb		IAmb	01 17 54.1	
	comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**24.23**	**151**	P		**P**	**01 17 50.0**	**0.0**
	comp=Z,4.7nm,0.9s,baz=334,slow=10,SNR=12							
WRA	**Warramunga Arr**	**24.23**	**151**	P		**P**	**01 17 49.6**	**-0.5**
WB2	**Warramunga Arr**	**24.23**	**151**	P		**P**	**01 17 48.8**	**-1.3**
WB2				IAmb		IAmb	01 17 55.5	
	comp=Z,6.8nm,1.0s							
WC3	**Warramunga Arr**	**24.26**	**151**	P		**P**	**01 17 49.8**	**-0.5**
WR0	**Warramunga Arr**	**24.34**	**151**	P		**P**	**01 17 49.4**	**-1.8**
WR0				IAmb		IAmb	01 17 56.5	
	comp=Z,6.5nm,0.8s							
ASAR	**Alice Springs**	**27.30**	**156**	P		**P**	**01 18 19.6**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=337,slow=7.9,SNR=8.9							
ASAR	**Alice Springs**	**27.30**	**156**	P		**P**	**01 18 16.0**	**-1.9**
KSRS	**Korea Array**	**36.31**	**8**	LR		LR	01 33 53.7	
	comp=Z,27nm,20.8s,baz=155,slow=35							
STKA	**Stephens Creek**	**37.77**	**153**	P		**P**	**01 19 47.5**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=320,slow=7.0,SNR=3.8							
STKA	**Stephens Creek**	**37.77**	**153**	P		**P**	**01 19 47.6**	**-1.6**
MJAR	**Matsushiro Arr**	**38.00**	**21**	P		**P**	**01 19 48.8**	**-2.4**
	comp=Z,1.5nm,0.7s,baz=193,slow=9.7,SNR=2.6							
MJAR				LR		LR	01 34 04.3	
	comp=Z,28nm,19.9s,baz=255,slow=34							
ULN	**Ulaanbaatar**	**48.19**	**346**	P		**P**	**01 21 13.9**	**+0.2**
ULN				IAmb		IAmb	01 21 16.9	
	comp=Z,4.4nm,1.1s							
SONM	**Songino Array**	**48.32**	**346**	P		**P**	**01 21 15.8**	**+1.1**
	comp=Z,4.1nm,1.1s,baz=165,slow=9.4,SNR=12							
SONM	**Songino Array**	**48.32**	**346**	P		**P**	**01 21 13.7**	**-0.9**
MKAR	**Makanchi Array**	**57.11**	**328**	P		**P**	**01 22 20.4**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=117,slow=9.7,SNR=7.8							
MKAR	**Makanchi Array**	**57.11**	**328**	P		**P**	**01 22 19.1**	**-0.5**
ZALV	**Zalesovo Beam**	**60.81**	**336**	P		**P**	**01 22 44.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=122,slow=5.2,SNR=1.6							
ZALV	**Zalesovo Beam**	**60.81**	**336**	P		**P**	**01 22 43.8**	**-1.3**
KURK	**Kurchatov**	**61.47**	**330**	P		**P**	**01 22 49.0**	**-0.6**
VNDA	**Vanda**	**81.66**	**172**	P		**P**	**01 24 50.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=321,slow=7.1,SNR=5.0							
NOA	**NORSAR Array B**	**98.90**	**333**	LR		LR	02 16 11.6	
	comp=Z,16nm,18.0s,baz=320,slow=39							
TORD	**Torodi Ar. Bea**	**119.37**	**286**	PKP		**PKiKP**	**01 31 25.3**	**+1.6**
	comp=Z,0.3nm,0.9s,baz=84,slow=2.3,SNR=1.8							

DJA 21 01:37:11.1±0.3, 3˚S±2˚×12˚3E±˚, h10km, M3.5/8, mb3.4/1, MLv3.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDI	**Kendari**	**1.11**	**182**	P		Pb	01 37 30.9	-1.5
KDI				S		Sb	01 37 47.5	+0.5
LUWI	**Luwuk**	**1.79**	**4**	P		Pn	01 37 42.0	-0.1
LUWI				S		Sb	01 38 06.1	-0.4

*SOME **21** 01:52:40.2,42.°42N×81.°70E,h15km*
*NNC **21** 01:52:41.8±0.9,42.°44N×81.°62E,h0km,mb4.0,mpv3.8,*
Error ellipse: s-maj=6.9km s-min=4.2km az=154.0
ISC 21 01:52:42.3±2.1,42.°42N±0.°07×81.°42E±0.°06,h1km±12km,
n49,σ1°85/76,7C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 71nm,0.2s	**1.29**	**323**	⇑*i*P	**Pg**	**01 53 07.1**	**+0.1**
KTMS	145nm,0.2s			*e*S	**Sn**	**01 53 26.4**	**+0.8**
KTMS	**Ketmen** 71nm,0.2s	**1.29**	**323**	P	**Pg**	**01 53 07.1**	**+0.1**
KTMS	145nm,0.2s			S	**Sn**	**01 53 26.4**	**+0.8**
SHLS	**Shalkode** 109nm,0.2s	**1.61**	**298**	*e*P	**Pn**	**01 53 09.7**	**-2.4**
SHLS	661nm,0.3s			*e*S	**Sn**	**01 53 30.4**	**-3.3**
SHLS	**Shalkode** 109nm,0.2s	**1.61**	**298**	P	**Pn**	**01 53 09.6**	**-2.6**
SHLS	661nm,0.3s			S	**Sn**	**01 53 30.4**	**-3.3**
PDGK	**Podgornoye** 11nm,0.3s	**1.68**	**303**	⇓Pn	**Pb**	**01 53 14.0**	**-0.2**
PDGK	100nm,0.3s			⇓Sn	**Sg**	**01 53 39.9**	**+3.6**
UZB	**Uzynbulak** 34nm,0.2s	**1.91**	**293**	*e*P	**Pg**	**01 53 19.1**	**+0.3**
UZB	180nm,0.2s			*e*S	**Sg**	**01 53 46.3**	**+2.8**
UZB	**Uzynbulak** 34nm,0.2s	**1.91**	**293**	Pg	**Pg**	**01 53 19.1**	**+0.3**
UZB	180nm,0.2s			Lg	Lg	01 53 46.3	
DJR	**Jarkent** 14nm,0.2s	**2.25**	**329**	*e*P	**Pg**	**01 53 24.3**	**-1.1**
DJR	51nm,0.3s			*e*S	**Sg**	**01 53 54.6**	**+0.1**
DJR	**Jarkent** 14nm,0.2s	**2.25**	**329**	Pg	**Pg**	**01 53 24.3**	**-1.1**
DJR	176nm,0.1s			Lg	Lg	01 53 54.6	
SATY	**Saty** 17nm,0.2s	**2.31**	**287**	*e*P	**Pg**	**01 53 27.2**	**+0.7**
SATY	176nm,0.1s			*e*S	**Sg**	**01 53 59.8**	**+3.3**
SATY	**Saty** 17nm,0.2s	**2.31**	**287**	Pg	**Pg**	**01 53 27.2**	**+0.7**
SATY	176nm,0.1s			Lg	Lg	01 53 59.8	
ZHN	**Zhinishke** 204nm,0.2s	**2.32**	**290**	*e*P	**Pg**	**01 53 26.7**	**0.0**
ZHN	126nm,0.1s			*e*S	**Sg**	**01 53 59.2**	**+2.4**
ZHN	**Zhinishke** 204nm,0.2s	**2.32**	**290**	Pg	**Pg**	**01 53 26.7**	**0.0**
ZHN	126nm,0.1s			Lg	Lg	01 53 59.2	
KURS	**Kuram** 9.0nm,0.3s	**2.61**	**295**	*e*P	**Pg**	**01 53 31.9**	**-0.5**
KURS	42nm,0.4s			*e*S	**Sg**	**01 54 08.4**	**+2.2**
KURS	**Kuram** 9.0nm,0.3s	**2.61**	**295**	Pg	**Pg**	**01 53 32.5**	**+0.2**
KURS	42nm,0.4s			Lg	Lg	01 54 08.4	
MNBS	**Baschi** 15nm,0.2s	**2.75**	**308**	*e*P	**Pb**	**01 53 33.3**	**+0.8**
MNBS	103nm,0.1s			*e*S	**Sg**	**01 54 10.5**	**-0.3**
MNBS	**Baschi** 15nm,0.2s	**2.75**	**308**	Pg	**Pb**	**01 53 33.3**	**+0.8**
MNBS	103nm,0.1s			Lg	Lg	01 54 10.5	
ARXS	**Arharly** 20nm,0.2s	**3.17**	**306**	*e*P	**Pb**	**01 53 40.8**	**+1.2**
ARXS	41nm,0.2s			*e*S	**Sg**	**01 54 23.9**	**-0.3**
KAPS	**Kapalarasan** 10.0nm,0.3s	**3.23**	**333**	*e*P	**Pb**	**01 53 40.9**	**+0.5**
KAPS	39nm,0.4s			*e*S	**Sg**	**01 54 23.9**	**-2.0**
KAPS	**Kapalarasan** 10.0nm,0.3s	**3.23**	**333**	Pg	**Pb**	**01 53 40.6**	**+0.1**
KAPS	39nm,0.4s			Lg	Lg	01 54 23.9	
KOTS	**Kotyrbulak** 26nm,0.2s	**3.27**	**286**	*e*P	**Pb**	**01 53 42.0**	**+0.7**
KOTS	155nm,0.3s			*e*S	**Sg**	**01 54 25.7**	**-1.6**
KOTS	**Kotyrbulak** 26nm,0.2s	**3.27**	**286**	Pg	**Pb**	**01 53 42.0**	**+0.7**
KOTS	155nm,0.3s			Lg	Lg	01 54 25.7	
MDOK	**Medeo** 7.2nm,0.2s	**3.30**	**284**	*e*P	**Pg**	**01 53 44.2**	**-1.3**
MDOK	54nm,0.4s			*e*S	**Sg**	**01 54 29.9**	**+1.6**
MDOK	**Medeo** 7.2nm,0.2s	**3.30**	**284**	Pg	**Pg**	**01 53 44.2**	**-1.3**
MDOK	54nm,0.4s			Lg	Lg	01 54 29.9	
TNSS	**Tian-Shan** 5.2nm,0.2s	**3.35**	**282**	*e*P	**Pg**	**01 53 46.1**	**-0.4**
TNSS	25nm,0.2s			*e*S	**Sg**	**01 54 32.4**	**+2.5**
TNSS	**Tian-Shan** 5.2nm,0.2s	**3.35**	**282**	Pg	**Pg**	**01 53 46.1**	**-0.4**
TNSS	25nm,0.2s			Lg	Lg	01 54 32.4	
CHKK	**Chushkaly** 5.0nm,0.3s	**3.54**	**295**	*e*P	**Pg**	**01 53 47.9**	**-2.3**
CHKK	53nm,0.3s			*e*S	**Sg**	**01 54 35.6**	**-0.5**
CHKK	**Chushkaly** 5.0nm,0.3s	**3.54**	**295**	Pg	**Pg**	**01 53 47.9**	**-2.3**
CHKK	53nm,0.3s			Lg	Lg	01 54 35.6	
IZV	**Izvestkoviy** 15nm,0.3s	**3.59**	**281**	*e*P	**Pb**	**01 53 48.6**	**+1.9**
IZV	72nm,0.5s			*e*S	**Sg**	**01 54 37.3**	**-0.4**
IZV	**Izvestkoviy** 15nm,0.3s	**3.59**	**281**	Pg	**Pg**	**01 53 49.2**	**-2.0**
IZV	72nm,0.5s			Lg	Lg	01 54 37.3	
KTBS	**Karatobe** 5.2nm,0.2s	**3.70**	**292**	*e*P	**Pg**	**01 53 51.4**	**-1.9**
KTBS	49nm,0.3s			*e*S	**Sg**	**01 54 41.5**	**+0.4**
KTBS	**Karatobe** 5.2nm,0.2s	**3.70**	**292**	Pg	**Pg**	**01 53 51.7**	**-1.5**
KTBS	49nm,0.3s			Lg	Lg	01 54 41.5	
MTBS	**Maitube** 7.8nm,0.2s	**3.74**	**283**	*e*P	**Pg**	**01 53 51.9**	**-2.1**
MTBS	46nm,0.3s			*e*S	**Sg**	**01 54 42.3**	**-0.2**
MTBS	**Maitube** 7.8nm,0.2s	**3.74**	**283**	Pg	**Pg**	**01 53 51.9**	**-2.1**
MTBS	46nm,0.3s			Lg	Lg	01 54 42.3	
KUU	**Kurty** 6.0nm,0.4s	**4.00**	**293**	*e*P	**Pb**	**01 53 55.6**	**+2.1**
KUU	30nm,0.2s			*e*S	**Sg**	**01 54 48.9**	**-1.7**
KUU	**Kurty** 6.0nm,0.4s	**4.00**	**293**	Pg	**Pg**	**01 53 56.7**	**-2.2**
KUU	30nm,0.2s			Lg	Lg	01 54 48.9	
KST	**Kastek** 12nm,0.3s	**4.07**	**281**	*e*P	**Pg**	**01 53 57.5**	**-2.8**
KST	25nm,0.5s			*e*S	**Sg**	**01 54 52.5**	**-0.4**
KST	**Kastek** 12nm,0.3s	**4.07**	**281**	Pg	**Pg**	**01 53 58.3**	**-1.9**
KST	25nm,0.5s			Lg	Lg	01 54 52.5	
DGS	**Degeres** 4.7nm,0.3s	**4.23**	**283**	*e*P	**Pg**	**01 54 00.4**	**-3.0**
DGS	29nm,0.5s			*e*S	**Sg**	**01 54 57.4**	**-0.8**
DGS	**Degeres** 4.7nm,0.3s	**4.23**	**283**	Pg	**Pg**	**01 54 00.4**	**-3.0**
DGS	29nm,0.5s			Lg	Lg	01 54 57.4	
TKM2	**Tokmak 2** 4.3nm,0.5s	**4.32**	**279**	⇑Pn	**Pn**	**01 53 52.3**	**+3.0**
TKM2	15nm,0.6s			⇓Lg	Lg	01 55 04.5	
KRBS	**Karabastau** 5.2nm,0.4s	**4.39**	**289**	*e*P	**Pb**	**01 54 03.1**	**+2.8**
KRBS	13nm,0.3s			*e*S	**Sg**	**01 55 02.2**	**-1.3**
KRBS	**Karabastau** 5.2nm,0.4s	**4.39**	**289**	Pg	**Pg**	**01 54 03.9**	**-2.7**
KRBS	13nm,0.3s			Lg	Lg	01 55 02.2	
MAKZ	**Makanchi** 4.4nm,0.6s	**4.40**	**5**	⇑Pn	**Pn**	**01 53 49.6**	**-0.7**
MAKZ	3.5nm,0.3s			⇑Sn	**Sn**	**01 54 42.3**	**+0.1**
MAKZ	6.8nm,0.5s			⇑Lg	Lg	01 54 59.1	
MK31	**Makanchi Array** 1.3nm,0.3s,baz=183,slow=13,SNR=70	**4.41**	**8**	⇓Pn	**Pn**	**01 53 49.6**	**-0.9**
MK31	0.6nm,0.2s,baz=198,slow=15,SNR=3.5			⇑Pg	**Pb**	**01 54 00.7**	**+0.1**
MK31	4.8nm,0.6s,baz=181,slow=28,SNR=3.7			⇓Sn	**Sn**	**01 54 42.2**	**-0.3**
MK31	11nm,0.6s,baz=185,slow=30,SNR=4.1			⇓Lg	Lg	01 54 58.7	
SGDS	**Sogindy** 2.3nm,0.2s	**5.09**	**284**	Pg	**Pg**	**01 54 16.1**	**-3.7**
SGDS	9.3nm,0.6s			Lg	Lg	01 55 23.4	
AAK	**Ala-Archa** 2.1nm,0.5s	**5.12**	**275**	⇓Pg	**Pg**	**01 54 17.4**	**-3.0**
AAK	9.3nm,0.8s			⇓Lg	Lg	01 55 29.3	
ZSN	**Zaisan** 5.4nm,0.1s	**5.59**	**25**	*e*P	**Pb**	**01 54 20.8**	**+0.1**
ZSN	16nm,0.3s			*e*S	**Sb**	**01 55 32.4**	**+4.2**
KK31	**Karatay Array** 0.3nm,0.3s,baz=91,slow=14,SNR=4.8	**8.05**	**279**	Pg	Pg	01 55 11.3	-5.2
KK31	1.5nm,0.6s,baz=88,slow=28,SNR=6.0			⇑Lg	Lg	01 57 02.2	

WEL 21 01:59:01.5±0.6,39.°S±4.°×17.°9E±.°,h33km,M3.4/35,
ML3.6/35,MLv3.4/35,Error ellipse: s-maj=0.0km
s-min=0.0km az=61.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.76**	**305**	P	Pn	01 59 15.5	-0.4
PRGZ	**Paritu Road**	**0.87**	**270**	P	Pn	01 59 17.0	-0.6
MHGZ	**Mahia Peninsul**	**0.88**	**255**	P	Pn	01 59 17.0	-0.7
MHGZ				S	Sb	01 59 31.5	+1.6
RIGZ	**Rimuhau**	**0.99**	**282**	P	Pn	01 59 18.7	-0.5
TKGZ	**Te Karaka**	**1.02**	**298**	P	Pn	01 59 19.3	-0.2
TKGZ				S	Sb	01 59 34.0	+0.1
PUZ	**Puketiti**	**1.03**	**325**	P	Pn	01 59 19.1	-0.6
KNZ	**Kokohu**	**1.04**	**264**	P	Pn	01 59 19.3	-0.5
TWGZ	**Tauwhareparae**	**1.09**	**313**	S	Sb	01 59 35.8	-0.1
WMGZ	**Waiomatatini S**	**1.19**	**337**	P	Pn	01 59 22.2	+0.3
MWZ	**Matawai**	**1.29**	**297**	P	Pn	01 59 22.8	-0.6
SNGZ	**Shannon Statio**	**1.30**	**276**	P	Pn	01 59 23.0	-0.5
SNGZ				S	Sn	01 59 40.2	+0.4
RAGZ	**Rawiri**	**1.31**	**288**	P	Pn	01 59 23.2	-0.5
WHHZ	**Waihua**	**1.39**	**263**	P	Pn	01 59 24.4	-0.1
RUGZ	**Raukumara Rang**	**1.41**	**312**	P	Pn	01 59 24.5	-0.5
MXZ	**Matakaoa Point**	**1.46**	**338**	P	Pn	01 59 26.1	+0.5
RAHZ	**Arahi**	**1.49**	**270**	P	Pn	01 59 26.2	+0.2
HAZ	**Te Kaha**	**1.51**	**320**	P	Pn	01 59 26.2	0.0
ARHZ	**Aropaoanui**	**1.60**	**257**	S	Sn	01 59 48.6	+1.6
RTZ	**Ruatahuna**	**1.61**	**280**	P	Pn	01 59 27.3	-0.4
URZ	**Urewera**	**1.62**	**293**	P	Pn	01 59 28.5	+0.7
CKHZ	**Cape Kidnapper**	**1.66**	**243**	P	Pn	01 59 28.1	-0.3
CKHZ				S	Sn	01 59 49.7	+1.1
MTHZ	**Maungataniwha**	**1.69**	**272**	P	Pn	01 59 28.4	-0.4
NMHZ	**Naumai**	**1.72**	**263**	P	Pn	01 59 30.2	+0.9
MUGZ	**Murupara**	**1.80**	**284**	P	Pn	01 59 30.4	+0.1
KAHZ	**Kahuranaki**	**1.86**	**241**	P	Pn	01 59 31.4	+0.2
MCHZ	**McNeill Hill**	**1.86**	**253**	P	Pn	01 59 31.1	0.0
BKZ	**Black Stump Fm**	**1.97**	**262**	P	Pn	01 59 32.5	-0.1
PXZ	**Pawanui**	**1.99**	**236**	P	Pn	01 59 31.9	-1.0
MRHZ	**Matea Rd**	**2.02**	**272**	P	Pn	01 59 33.8	+0.4
KWHZ	**Kaweka Forest**	**2.07**	**255**	P	Pn	01 59 34.1	+0.1
TARZ	**Mount Tarawera**	**2.07**	**289**	P	Pn	01 59 34.9	+0.8
MKRZ	**Makatiti**	**2.14**	**291**	P	Pn	01 59 37.0	+2.0
HLRZ	**Highlands Stat**	**2.18**	**287**	P	Pn	01 59 37.5	+2.0
PRHZ	**Porangahau**	**2.27**	**233**	P	Pn	01 59 36.6	-0.2
BHHZ	**Black Hill Sta**	**2.35**	**255**	P	Pn	01 59 37.7	-0.2
PNHZ	**Pukenui**	**2.38**	**245**	P	Pn	01 59 37.7	-0.6
MOVZ	**Moawhango**	**2.57**	**258**	P	Pn	01 59 41.4	+0.5
KATZ	**Kakaramea**	**2.58**	**268**	P	Pn	01 59 41.5	+0.4
KATZ				S	Sn	02 00 09.6	-1.8
DVHZ	**Dannevirke**	**2.58**	**237**	P	Pn	01 59 40.0	-1.1
OTVZ	**Oturere**	**2.61**	**264**	P	Pn	01 59 41.9	+0.4
TSZ	**Takapari Road**	**2.61**	**243**	P	Pn	01 59 40.5	-0.9
KRVZ	**Karewarewa**	**2.62**	**265**	P	Pn	01 59 42.1	+0.4
TUVZ	**Tukino**	**2.63**	**261**	P	Pn	01 59 42.5	+0.7
NGZ	**Ngauruhoe**	**2.66**	**263**	P	Pn	01 59 42.7	+0.5
WTVZ	**West Tongariro**	**2.66**	**265**	P	Pn	01 59 42.7	+0.4
WNVZ	**Wahianoa**	**2.68**	**260**	P	Pn	01 59 41.9	-0.6
WHVZ	**Whangaehu Hut**	**2.68**	**261**	P	Pn	01 59 43.1	+0.5
FWVZ	**Far West T-bar**	**2.70**	**262**	P	Pn	01 59 43.3	+0.4
BFZ	**Birch Farm**	**2.75**	**230**	P	Pn	01 59 41.8	-1.6
PRWZ	**Pori Road**	**2.85**	**234**	P	Pn	01 59 44.1	-0.6
POWZ	**Post Office Ro**	**2.90**	**239**	P	Pn	01 59 44.2	-1.1
MRZ	**Mangatainoka R**	**3.16**	**236**	P	Pn	01 59 47.2	-1.7
HIZ	**Hauiti**	**3.27**	**276**	P	Pn	01 59 51.1	+0.6
HOWZ	**Holdsworth Sta**	**3.33**	**233**	P	Pn	01 59 48.1	-2.2
WIAZ	**Waiheke Island**	**3.73**	**304**	P	Pn	01 59 57.2	+0.4
NEZ	**North Egmont**	**3.83**	**263**	P	Pn	01 59 59.5	+1.2
KHEZ	**Kahui Hut**	**3.90**	**263**	P	Pn	02 00 00.9	+1.7
PKE	**Pukeiti**	**3.91**	**264**	P	Pn	02 00 00.8	+1.4
CTZ	**Chatham Island**	**5.83**	**147**	P	Pn	02 00 28.7	+3.0
CTZ				S	Sn	02 01 31.0	-0.3

*IDC **21** 02:04:14.7±2.5,27.°00N×53.°45E,h0km,mb3.4/5,*
mb1 3.5/5,mb1mx3.4/28,mbtmp3.5/5,Error ellipse:
s-maj=73.3km s-min=26.6km az=163.0
*THR **21** 02:04:16.5±0.3,26.°96N×53.°44E,h46km±6km,ML3.4*
*TEH **21** 02:04:16.8,27.°14N×53.°61E,h14km,ML3.3*
ISC 21 02:04:16.6±0.8,27.°09N±0.°05×53.°54E±0.°05,h10km,n30,
σ1°13/32,mb3.5/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.42**	**306**	*e*Pg	**Pb**	**02 04 25.5**	**-0.6**
LMD1				*e*		02 04 42.3	
LAR1	**LAR**	**0.94**	**52**	*e*Pg	**Pg**	**02 04 33.0**	**-1.7**
LAR1				*e*		02 05 01.6	
GHIR	**Ghir-Karzin**	**1.29**	**338**	*e*Pn	**Pn**	**02 04 40.4**	**-0.4**
GHIR				*e*Sg	**Sg**	**02 05 00.8**	**+2.7**
GHIR	comp=E,468nm,0.6s			IAML		02 05 05.7	
GHIR	**Ghir-Karzin**	**1.29**	**338**	*e*Pn	**Pn**	**02 04 40.4**	**-0.4**
JHRM	**Jahrom**	**1.41**	**1**	*e*Pg	**Pn**	**02 04 42.2**	**-0.2**
JHRM				*e*Sg	**Sn**	**02 05 02.8**	**+1.7**
JHRM				*e*		02 05 05.6	
BNDS	**Bandar-Abbas**	**2.36**	**82**	*e*Pn	**Pn**	**02 04 55.6**	**0.0**
BNDS	**Bandar-Abbas**	**2.36**	**82**	*e*Pn	**Pn**	**02 04 55.6**	**0.0**
GENO	**Geno**	**2.36**	**82**	*e*Pn	**Pn**	**02 04 56.8**	**+1.2**
GENO				*e*		02 05 40.0	
SHME	**Shamm**	**2.55**	**113**	*e*Pn	**Pb**	**02 05 01.6**	**-0.9**
BANOM	**Banah**	**2.73**	**115**	*e*Pn	**Pn**	**02 05 01.3**	**+0.7**
NAZ	**Nazwa, Dubai**	**2.83**	**137**	*e*Pn	**Pn**	**02 05 03.3**	**+1.4**
MSFE	**Esma-Masafi**	**2.92**	**126**	*e*Pn	**Pn**	**02 05 02.2**	**-0.9**
ASUD	**Al Ashush, Dub**	**2.94**	**146**	*e*Pn	**Pn**	**02 05 05.2**	**+1.8**
HATD	**Hatta, Dubai**	**3.25**	**134**	*e*Pn	**Pn**	**02 05 09.1**	**+1.5**
NGRK	**Negar Kerman**	**3.79**	**47**	*e*Pn	**Pn**	**02 05 14.7**	**-0.7**
NGRK				*e*		02 06 34.5	
KRBR	**Kerman**	**4.04**	**44**	*e*Pn	**Pn**	**02 05 19.5**	**+0.7**
KRBR	**Kerman**	**4.04**	**44**	*e*Pn	**Pn**	**02 05 19.5**	**+0.7**
KHGB	**Koh Gabri**	**4.16**	**38**	*e*Pn	**Pn**	**02 05 20.9**	**+0.4**
IMEH	**Mehriz**	**4.38**	**12**	*e*Pn	**Pn**	**02 05 24.4**	**+0.9**
IMEH				*e*		02 06 19.8	
CHMN	**Cheshme madani**	**4.47**	**51**	*e*Pn	**Pn**	**02 05 26.3**	**+1.5**
CHMN				*e*		02 05 29.1	
KBAM	**BAM**	**4.79**	**64**	*e*Pn	**Pn**	**02 05 29.2**	**+0.3**
IRAM	**Ramesheh**	**4.81**	**348**	*e*Pn	**Pn**	**02 05 30.0**	**+0.7**
ICHK	**Chekchek**	**5.19**	**8**	*e*Pn	**Pn**	**02 05 35.3**	**+0.8**
YZKH	**Yazd**	**5.36**	**10**	*e*Pn	**Pn**	**02 05 37.7**	**+1.0**
YZKH	**Yazd**	**5.36**	**10**	*e*Pn	**Pn**	**02 05 37.7**	**+1.0**
BRTR	**Keskin Array B** comp=E,1.6nm,0.7s,baz=131,slow=14,SNR=3.8	**20.80**	**312**	P	**P**	**02 08 58.4**	**+0.2**
MKAR	**Makanchi Array** comp=E,1.1nm,0.9s,baz=243,slow=6.3,SNR=3.6	**29.98**	**41**	P	**P**	**02 10 25.2**	**0.0**
SONM	**Songino Array** comp=E,0.3nm,0.6s,baz=263,slow=9.7,SNR=2.0	**45.78**	**49**	P	**P**	**02 12 39.8**	**+1.4**
ESDC	**Sonseca Array** comp=E,0.2nm,0.6s,baz=49,slow=5.8,SNR=2.6	**48.88**	**300**	P	**P**	**02 13 01.4**	**-1.2**
TORD	**Torodi Ar. Bea** comp=E,0.3nm,0.4s,baz=62,slow=7.9,SNR=7.4	**50.29**	**265**	P	**P**	**02 13 12.7**	**-1.0**

*ATA **21** 02:11:59.0±1.2,41.°35N×44.°68E,h64km±33km,ML1.8,*
MW3.8
*DDA **21** 02:12:07.7,41.°27N×45.°51E,h7km±2km,ML1.6*
ISC 21 02:12:07.7±1.6,41.°32N±0.°07×45.°47E±0.°04,h13km±14km,
n9,σ0°62/12,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.15**	**331**	*e*P	**Pb**	**02 12 12.7**	**+0.2**
DGRG	comp=Z,48nm,0.3s			IAML		02 12 30.9	
DGRG	**David-gareji**	**0.15**	**331**	*i*P	**Pb**	**02 12 12.7**	**+0.2**
DGRG				*i*S	**Sb**	**02 12 15.4**	**-0.3**
DGRG	comp=E,96nm,0.3s			IAML		02 12 18.0	
DDFL	**Dedoflistskaro**	**0.50**	**75**	*e*P	**Pb**	**02 12 19.1**	**+0.6**
DDFL	**Dedoflistskaro**	**0.50**	**75**	*i*P	**Pg**	**02 12 17.6**	**0.0**
DDFL				*i*S	**Sb**	**02 12 24.5**	**-1.3**
EAK	**Akyaka**	**1.54**	**247**	*i*P	**Pn**	**02 12 35.2**	**+0.1**
EAK				*i*S	**Sn**	**02 12 55.0**	**-0.2**
EAK	comp=E,9.5nm,0.4s			IAML		02 12 56.0	
EAK	comp=N,9.4nm,0.4s			IAML		02 12 59.0	
IGDI	**IGDIR**	**1.79**	**217**	*e*P	Pn	02 12 26.6	-12
IGDI	comp=Z,2.1nm,0.3s			IAML		02 13 03.1	
IGDI	**IGDIR**	**1.79**	**217**	*i*P	**Pn**	**02 12 38.2**	**-0.2**
IGDI				*i*S	**Sn**	**02 13 01.4**	**+0.3**
IGDI	comp=E,15nm,0.3s			IAML		02 13 03.0	
IGDI	comp=N,16nm,0.2s			IAML		02 13 04.0	
DIGO	**Kars**	**1.83**	**241**	*e*S	**Pg**	**02 12 42.5**	**-0.3**
DIGO	comp=Z,3.5nm,2.5s			IAML		02 12 59.1	
DIGO	**Kars**	**1.83**	**241**	*i*P	**Pn**	**02 12 40.0**	**+0.8**
DIGO	comp=E,4.8nm,0.3s			IAML		02 13 06.0	
DIGO	comp=N,4.8nm,0.3s			IAML		02 13 06.0	

DDA 21 02:12:56.9,41.°25N×45.°41E,h17km±3km,ML1.6,Eastern
Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.20**	**352**	*i*P	Pg	02 13 01.8	0.0
DGRG	comp=E,82nm,0.3s			IAML		02 13 07.0	
DDFL	**Dedoflistskaro**	**0.57**	**70**	*i*P	Pg	02 13 07.7	-0.5
EAK	**Akyaka**	**1.48**	**248**	*i*P	Pg	02 13 25.4	+0.1
EAK				*i*S	Sn	02 13 41.0	-0.9
EAK	comp=E,15nm,0.9s			IAML		02 13 44.0	
EAK	comp=N,9.9nm,1.0s			IAML		02 13 48.0	
IGDI	**IGDIR**	**1.71**	**217**	*i*P	Pb	02 13 27.9	0.0
IGDI				*i*S	Sb	02 13 50.4	+1.1
IGDI	comp=E,12nm,0.2s			IAML		02 13 53.0	
IGDI	comp=N,13nm,0.2s			IAML		02 13 53.0	
DIGO	**Kars**	**1.76**	**242**	*i*P	Pb	02 13 29.4	+0.6
DIGO	comp=E,5.9nm,0.4s			IAML		02 13 57.0	
DIGO	comp=N,5.7nm,0.5s			IAML		02 13 58.0	

*SKHL **21** 02:25:09.2±0.6,43.°04N×146.°89E,h39km±1km,mb4.9/3*
*JMA **21** 02:25:09.8±0.2,43.°05N×146.°75E,h61km±2km,M3.6*
ISC 21 02:25:08.9±2.2,43.°0N±0.°1×146.°9E±0.°1,h46km±48km,n18,
σ0°60/30,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.90**	**293**	P	**Pn**	**02 25 25.5**	**+0.4**
NEM2				*e*S	**Sn**	**02 25 36.9**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.91**	**293**	*i*P	**Pn**	**02 25 25.0**	**-0.2**
NMR				*i*S	**Sn**	**02 25 37.4**	**+0.2**
GLVR	**Golovnino**	**1.22**	**307**	*i*P	**Pn**	**02 25 29.8**	**+0.3**
GLVR				AMB	AMB	02 25 30.0	
GLVR	330nm,0.3s			*e*S	**Sn**	**02 25 45.0**	**+0.1**
GLVR	403nm,0.2s			A	A	02 25 47.0	
GLVR	866nm,0.2s			A	A	02 25 47.0	
YUK	**Yuzh-Kuril'sk**	**1.25**	**324**	*e*P	**Pn**	**02 25 30.0**	**+0.1**
YUK	430nm,0.2s			AMB	AMB	02 25 31.0	
YUK	640nm,0.2s			*e*S	**Sn**	**02 25 45.0**	**-0.7**
YUK	990nm,0.2s			A	A	02 25 46.0	
YUK				A	A	02 25 46.0	
JKHN	**Kushirohamanak**	**1.26**	**274**	P	**Pn**	**02 25 30.5**	**+0.5**
JKHN				*e*S	**Sn**	**02 25 45.5**	**-0.2**
GRPR	**Tuman**	**1.26**	**321**	*i*P	**Pn**	**02 25 30.1**	**0.0**
GRPR	290nm,0.3s			AMB	AMB	02 25 30.7	
GRPR	325nm,0.3s			*e*S	**Sn**	**02 25 45.5**	**-0.3**
GRPR	842nm,0.3s			A	A	02 25 48.0	
GRPR				A	A	02 25 48.0	
JNSB	**Nemuroshibetsu**	**1.56**	**300**	P	**Pn**	**02 25 34.3**	**+0.2**
JRA	**Rausu**	**1.57**	**306**	P	**Pn**	**02 25 34.7**	**+0.4**
JAK	**Akkeshi**	**1.60**	**270**	P	**Pn**	**02 25 35.1**	**+0.5**
JAK				*e*S	**Sn**	**02 25 53.6**	**-0.5**
JNK	**Nakash**	**1.67**	**291**	P	**Pn**	**02 25 35.7**	**0.0**
JNK				*e*S	**Sn**	**02 25 55.2**	**-0.7**
JOB	**Onbets**	**2.23**	**268**	P	**Pn**	**02 25 44.0**	**+0.6**
JAR	**Ashorobuto**	**2.29**	**278**	P	**Pn**	**02 25 44.8**	**+0.7**
JAR				*e*S	**Sn**	**02 26 10.7**	**-0.4**
KUR	**Kuril'sk**	**2.33**	**18**	*e*P	**Pn**	**02 25 45.0**	**+0.4**
KUR				*e*S	**Sn**	**02 26 11.5**	**-0.5**
KUR	271nm,0.2s			A	A	02 26 14.0	
KUR	148nm,0.2s			A	A	02 26 14.0	
JTKR	**Abashiri--Toko**	**2.36**	**295**	P	**Pn**	**02 25 46.2**	**+1.1**
JCH	**Churui**	**2.62**	**262**	P	**Pn**	**02 25 48.9**	**+0.3**
JCH				*e*S	**Sn**	**02 26 18.2**	**-0.9**
JMP	**Maruseppu**	**2.74**	**292**	P	**Pn**	**02 25 51.5**	**+1.2**
JNBK	**Urakawa-nobuka**	**3.13**	**258**	P	**Pn**	**02 25 56.0**	**+0.4**
JNBK				*e*S	**Sn**	**02 26 30.4**	**-1.3**
YSS	**Yuzh-Sakhalins**	**4.90**	**325**	*e*P	**Pn**	**02 26 20.1**	**+0.2**

WEL 21 02:42:06.5,41.°S±4.°×17.°3E±.°,h98km±8km,M2.8/9,ML2.8/8,
MLv2.8/9,Error ellipse: s-maj=0.0km s-min=0.0km
az=98.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.43**	**143**	P	Pn	02 42 22.4	+0.8
**Q

CPWZ	Castlepoint	2.79	81	P	Pn	02 42 55.8	+6.5
VRZ	Vera Road	2.84	37	P	Pn	02 42 50.8	+0.8
BFZ	Birch Farm	2.88	76	P	Pn	02 42 53.4	+2.9

IDC ***21*** *02:57:25.2±17.0, 16.82S×178.99W, h473km±207km, mb2.9/5, mb1 3.2/5, mb1mx3.0/28, mbtmp3.7/5, Error ellipse: s-maj=143.2km s-min=53.1km az=164.0*
ISC 21 02:57:30.1±2.0, **16.9S**±0.7×**179.1W**±0.4, **h533**km, **n7**, σ0.6**19**/6, **mb3.1**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.19**	**259**	P	**P**	**03 04 52.0**	**-0.1**
	0.4nm,0.6s,baz=97,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**44.45**	**253**	P	**P**	**03 04 54.1**	**+0.1**
	3.7nm,0.6s,baz=88,slow=8.1,SNR=50						
ILAR	**Eielson Array**	**85.09**	**13**	P	**P**	**03 09 09.1**	**-0.1**
	0.5nm,1.0s,baz=218,slow=6.9,SNR=2.1						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**03 09 14.5**	**-0.2**
	0.2nm,0.7s,baz=246,slow=5.8,SNR=2.5						
PDAR	**Pinedale Array**	**87.09**	**44**	P	**P**	**03 09 19.8**	**+0.2**
	0.2nm,0.6s,baz=195,slow=6.5,SNR=2.4						
AKASG	**Malin Array Be**	**139.40**	**332**	PKhKP	PKPpre	03 15 49.0	
	0.5nm,0.5s,baz=54,slow=2.9,SNR=1.7						
GERES	**GERESS Array B**	**146.51**	**345**	PKPbc	**PKPbc**	**03 16 11.9**	**+0.1**
	0.2nm,0.4s,baz=32,slow=3.8,SNR=2.0						

IDC ***21*** *03:03:54.9±0.9, 38.17N×27.14E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.8/38, mbtmp3.8/12, ML3.7/4, MS2.4/2, Ms1 2.4/2, ms1mx2.2/48, Error ellipse: s-maj=17.8km s-min=15.4km az=133.0*
ISK ***21*** *03:03:55.7, 38.18N×27.11E, h18km, ML4.1/45*
NEIC ***21*** *03:03:55.4±1.7, 38.16N±0.02×27.12E±0.03, h10km±1km, Error ellipse: s-maj=5.0km s-min=3.3km az=301.0*
GII ***21*** *03:03:56.0±0.0, 38.18N×27.08E, h5km*
ATH ***21*** *03:03:56.7, 38.12N×27.10E, h36km±1km, ML3.9/10, Error ellipse: s-maj=2.6km s-min=1.0km az=246.0*
THE ***21*** *03:03:57.0, 38.16N×27.10E, h6km±1km, ML4.0/8, Error ellipse: s-maj=1.0km s-min=0.4km az=283.0*
DDA ***21*** *03:03:57.3, 38.17N×27.11E, h12km, MW4.1*
ISC 21 03:03:56.8±0.8, **38.17N**±0.02×**27.14E**±0.02, **h16**km±5km, **n286**, σ1.9**19**/317, **mb3.8**/10, **23C-19D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.23**	**341**	P	**Pg**	**03 04 01.7**	**-0.3**
BLCB				S	**Sg**	**03 04 05.0**	**-0.6**
BLCB	**Balcova**	**0.23**	**341**	PG	**Pg**	**03 04 01.4**	**-0.6**
BLCB				SG	**Sg**	**03 04 04.8**	**-0.8**
DGB	**zmir**	**0.23**	**241**	⇑*i*P	**Pg**	**03 04 01.9**	**0.0**
DGB				IAML		03 04 05.0	
	comp=E,15μm,0.3s						
DGB				IAML		03 04 05.0	
	comp=N,18μm,0.7s						
DGB				*i* S	**Sg**	**03 04 05.3**	**-0.2**
URLA	**Izmir**	**0.47**	**295**	PG	**Pg**	**03 04 05.7**	**-0.5**
URLA				SG	**Sg**	**03 04 12.0**	**-0.6**
URLA	**Izmir**	**0.47**	**295**	⇓*i*P	**Pg**	**03 04 06.1**	**-0.1**
URLA				*i* S	**Sg**	**03 04 12.4**	**-0.2**
URLA				IAML		03 04 16.0	
	comp=E,6μm,0.4s						
URLA				IAML		03 04 19.0	
	comp=N,4μm,0.4s						
SMG	**Samos**	**0.52**	**208**	P	**Pg**	**03 04 06.9**	**-0.1**
SMG				S	**Sb**	**03 04 14.8**	**+0.1**
	comp=N,35μm,0.3s						
SMG	**Samos**	**0.52**	**208**	P	**Pg**	**03 04 06.8**	**-0.1**
SMG				S	**Sb**	**03 04 15.1**	**+0.4**
SMG				AML	AML	03 04 17.6	
	comp=N,64547μm,0.4s						
SMG				AML	AML	03 04 18.1	
	comp=E,74350μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**0.63**	**110**	PG	**Pg**	**03 04 09.1**	**-0.1**
CESE	**eme**	**0.68**	**284**	PG	**Pg**	**03 04 09.0**	**-1.1**
CESE				SG	**Sg**	**03 04 18.8**	**-0.4**
AYDN	**Tasoluk**	**0.77**	**131**	⇓*i*P	**Pb**	**03 04 12.1**	**+0.2**
AYDN				*i* S	**Sg**	**03 04 21.4**	**-0.6**
AYDN				IAML		03 04 25.0	
	comp=E,3μm,0.4s						
AYDN				IAML		03 04 26.0	
	comp=N,4μm,0.7s						
ZEDA	**zmir-Bergama**	**0.80**	**356**	⇑*i*P	**Pb**	**03 04 12.1**	**-0.2**
ZEDA				*i* S	**Sg**	**03 04 21.7**	**-1.2**
ZEDA				IAML		03 04 26.0	
	comp=N,10μm,0.7s						
GOMA	**Golmarmara-Man**	**0.81**	**48**	PG	**Pg**	**03 04 12.1**	**-0.5**
CHOS	**Chios island**	**0.88**	**285**	P	**Pb**	**03 04 13.8**	**0.0**
CHOS				S	**Sb**	**03 04 26.2**	**+0.8**
	comp=N,23μm,0.3s						
CHOS	**Chios island**	**0.88**	**285**	P	**Pg**	**03 04 13.7**	**-0.2**
CHOS				S	**Sb**	**03 04 25.8**	**+0.4**
CHOS				AML	AML	03 04 27.5	
	comp=N,27297μm,0.5s						
CHOS				AML	AML	03 04 28.7	
	comp=E,62811μm,0.2s						
CHOS	**Chios island**	**0.88**	**285**	PG	**Pg**	**03 04 12.9**	**-1.0**
AKHS	**Akhisar**	**0.89**	**36**	⇑*i*P	**Pg**	**03 04 13.3**	**-0.7**
AKHS				*i* S	**Sb**	**03 04 25.2**	**-0.2**
AKHS				IAML		03 04 29.0	
	comp=E,2μm,0.5s						
AKS	**Akhisar**	**0.89**	**36**	PG	**Pb**	**03 04 13.5**	**-0.3**
DKL	**Dikili**	**0.92**	**349**	PG	**Pg**	**03 04 13.8**	**-0.9**
MLSB	**Milas**	**1.00**	**150**	PG	**Pg**	**03 04 15.9**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.04**	**174**	PG	**Pg**	**03 04 16.2**	**-0.8**
BODT	**Bodrum**	**1.11**	**173**	P	**Pb**	**03 04 17.2**	**-0.4**
BODT				S	**Sn**	**03 04 34.2**	**+1.5**
BODT	**Bodrum**	**1.11**	**173**	PN	**Pb**	**03 04 17.3**	**-0.4**
BDRM	**Kayabasi**	**1.12**	**168**	*i* P	**Pb**	**03 04 17.8**	**-0.1**
BDRM				*i* S	**Sg**	**03 04 32.1**	**-1.1**
BDRM				IAML		03 04 40.0	
	comp=E,2μm,0.6s						
MANT	**Manisa**	**1.16**	**73**	⇑*i*P	**Pn**	**03 04 19.0**	**+0.4**
MANT				*i* S	**Sg**	**03 04 31.7**	**-2.7**
MANT				IAML		03 04 36.0	
	comp=E,2μm,0.3s						
MANT				IAML		03 04 36.0	
	comp=N,3μm,0.7s						
MANT	**Manisa**	**1.16**	**73**	Pn	**Pn**	**03 04 19.1**	**+0.4**
MANT				Sg	**Sg**	**03 04 33.2**	**-1.2**
AYVA	**Ayvalik**	**1.19**	**343**	⇓*i*P	**Pb**	**03 04 19.1**	**-0.9**
AYVA				*i* S	**Sb**	**03 04 34.0**	**-0.2**
AYVA				IAML		03 04 37.0	
	comp=E,6μm,0.6s						
AYVA				IAML		03 04 37.0	
	comp=N,9μm,0.7s						
KULA	**Kula-Manisa**	**1.25**	**73**	P	**Pg**	**03 04 20.3**	**-0.5**
KULA	**Kula-Manisa**	**1.25**	**73**	PN	**Pn**	**03 04 19.4**	**-0.2**
PRK	**Paraskevi**	**1.27**	**328**	P	**Pg**	**03 04 20.7**	**-0.6**
PRK				S	**Sn**	**03 04 37.4**	**+0.7**
	comp=N,23μm,0.7s						
PRK	**Paraskevi**	**1.27**	**328**	P	**Pg**	**03 04 20.7**	**-0.6**
PRK				AML	AML	03 04 41.5	
	comp=E,56310μm,0.9s						
PRK				AML	AML	03 04 43.5	
	comp=N,35397μm,0.4s						
STEP	**BALIKESIR_Sava**	**1.29**	**20**	⇑*i*P	**Pn**	**03 04 19.6**	**-0.6**
STEP				IAML		03 04 44.0	
	comp=E,5μm,0.4s						
STEP				IAML		03 04 45.0	
	comp=N,5μm,0.9s						
PSRA	**Psara**	**1.29**	**287**	P	**Pn**	**03 04 20.0**	**-0.2**
PSRA				AML	AML	03 04 39.8	
	comp=N,18179μm,0.2s						
PSRA				AML	AML	03 04 40.1	
	comp=E,14158μm,0.3s						
YER	**Yerkesik**	**1.37**	**138**	P	**Pn**	**03 04 21.7**	**+0.4**
YER	**Yerkesik**	**1.37**	**138**	PN	**Pn**	**03 04 21.0**	**-0.3**
KOSK	**Kos Island**	**1.42**	**185**	P	**Pn**	**03 04 21.5**	**-0.4**
KOSK	**Kos Island**	**1.42**	**185**	PN	**Pn**	**03 04 21.4**	**-0.4**
DATC	**Datca-Mugla**	**1.46**	**163**	PN	**Pn**	**03 04 22.2**	**-0.3**
DAT	**Datca**	**1.48**	**166**	P	**Pn**	**03 04 22.4**	**-0.4**
DAT	**Datca**	**1.48**	**166**	PN	**Pn**	**03 04 22.2**	**-0.6**
DAT	**Datca**	**1.48**	**166**	*i* P	**Pn**	**03 04 22.3**	**-0.4**
DAT				IAML		03 04 51.0	
	comp=E,531nm,0.8s						
DAT				IAML		03 04 52.0	
	comp=N,486nm,0.7s						
NISR	**Nisiros**	**1.55**	**180**	P	**Pn**	**03 04 24.5**	**+0.8**
NIS1	**Nisyros Isl.**	**1.56**	**179**	P	**Pn**	**03 04 23.5**	**-0.4**
NIS1	**Nisyros Isl.**	**1.56**	**179**	P	**Pn**	**03 04 23.5**	**-0.4**
NIS1	**Nisyros Isl.**	**1.56**	**179**	PN	**Pn**	**03 04 23.5**	**-0.4**
TAVA	**DENİZLİ_Tavas**	**1.57**	**116**	*i* P	**Pn**	**03 04 24.6**	**+0.5**
TAVA				*i* S	**Sb**	**03 04 45.6**	**+0.5**
USAK	**Uak-Merkez**	**1.57**	**69**	*e*P	**Pn**	**03 04 24.6**	**+0.5**
USAK				IAML		03 04 48.0	
	comp=N,516nm,0.8s						
USAK				IAML		03 04 53.0	
	comp=E,539nm,0.4s						
BALB	**Balikesir**	**1.58**	**21**	PN	**Pn**	**03 04 23.9**	**-0.3**
BALY	**Balya**	**1.62**	**13**	⇑*i*P	**Pn**	**03 04 24.3**	**-0.4**
BALY				*i* S	**Sn**	**03 04 44.4**	**-0.8**
BALY				IAML		03 04 50.0	
	comp=E,2μm,0.4s						
BALY				IAML		03 04 57.0	
	comp=N,3μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**1.64**	**344**	⇓*i*P	**Pn**	**03 04 24.5**	**-0.5**
BAYC				*i* S	**Sn**	**03 04 42.2**	**-3.5**
BAYC				IAML		03 04 50.0	
	comp=E,2μm,0.5s						
BAYC				IAML		03 04 51.0	
	comp=N,2μm,0.4s						
TURN	**Turunc**	**1.64**	**147**	PN	**Pn**	**03 04 24.9**	**-0.1**
TURN	**Turunc**	**1.64**	**147**	⇑*i*P	**Pn**	**03 04 24.8**	**-0.1**
TURN				IAML		03 04 57.0	
	comp=E,759nm,0.6s						
TURN				IAML		03 04 58.0	
	comp=N,744nm,0.5s						
AMGA	**Amorgos Island**	**1.66**	**217**	P	**Pn**	**03 04 23.9**	**-1.4**
AMGA	**Amorgos Island**	**1.66**	**217**	P	**Pn**	**03 04 23.7**	**-1.6**
APE	**Apeiranthos**	**1.68**	**230**	P	**Pn**	**03 04 24.8**	**-0.8**
APE				S	**Sn**	**03 04 47.6**	**+0.7**
	comp=N,1μm,0.3s						
APE	**Apeiranthos**	**1.68**	**230**	P	**Pn**	**03 04 24.7**	**-0.8**
APE				AML	AML	03 04 54.4	
	comp=N,2653μm,0.2s						
APE				AML	AML	03 04 57.5	
	comp=E,2551μm,0.3s						
APE	**Apeiranthos**	**1.68**	**230**	PN	**Pn**	**03 04 24.9**	**-0.7**
TNSA	**Tinos**	**1.69**	**249**	P	**Pn**	**03 04 24.6**	**-1.0**
SIMA	**Simav-Kutahya**	**1.71**	**57**	PN	**Pn**	**03 04 25.9**	**-0.1**
DURS	**Dursunbey**	**1.77**	**36**	*i* P	**Pn**	**03 04 27.1**	**+0.3**
DURS				IAML		03 04 58.0	
	comp=E,938nm,0.5s						
EZN	**Ezine**	**1.77**	**339**	P	**Pn**	**03 04 26.6**	**-0.2**
EZN				S	**Sb**	**03 04 50.6**	**-0.4**
	comp=E,5μm,0.4s						
EZN	**Ezine**	**1.77**	**339**	PN	**Pn**	**03 04 26.2**	**-0.6**
DALY	**Dalyan (Mula)**	**1.81**	**138**	PN	**Pn**	**03 04 27.5**	**+0.3**
DALY	**Dalyan (Mula)**	**1.81**	**138**	*i* P	**Pn**	**03 04 28.1**	**+0.9**
DALY				*i* S	**Sg**	**03 04 57.0**	**+2.1**
DALY				IAML		03 05 02.0	
	comp=E,610nm,1.4s						
DALY				IAML		03 05 04.0	
	comp=N,1μm,0.8s						
DST	**Dursunbey**	**1.84**	**38**	PN	**Pn**	**03 04 27.4**	**-0.4**
SHAP	**Saphane-Kutahy**	**1.84**	**62**	PN	**Pn**	**03 04 27.8**	**0.0**
BOZC	**Bozcaada**	**1.88**	**333**	PN	**Pn**	**03 04 27.7**	**-0.5**
BOZC	**Bozcaada**	**1.88**	**333**	*i* P	**Pn**	**03 04 27.9**	**-0.3**
BOZC				IAML		03 04 58.0	
	comp=N,2μm,0.3s						
BOZC				IAML		03 05 00.0	
	comp=E,3μm,0.5s						
KHL	**Karahalli**	**1.88**	**84**	PN	**Pn**	**03 04 28.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.93**	**13**	PN	**Pn**	**03 04 28.3**	**-0.6**
GEDZ	**Gediz**	**1.98**	**63**	PN	**Pn**	**03 04 29.6**	**-0.2**
GDZ	**Gediz**	**2.05**	**63**	*e*P	**Pg**	**03 04 34.7**	**-1.5**
GDZ				IAML		03 05 05.0	
	comp=N,245nm,0.8s						
IOSP	**Ios Island**	**2.06**	**226**	P	**Pn**	**03 04 31.2**	**+0.4**
ARG	**Arkhangelos**	**2.10**	**158**	P	**Pn**	**03 04 31.8**	**+0.5**
ARG	**Arkhangelos**	**2.10**	**158**	P	**Pn**	**03 04 31.0**	**-0.3**
ARG	**Arkhangelos**	**2.10**	**158**	PN	**Pn**	**03 04 31.3**	**0.0**
CAME	**Cameli-Denizli**	**2.11**	**125**	PN	**Pn**	**03 04 31.7**	**+0.2**
ANAF	**Anafi Island**	**2.11**	**212**	P	**Pn**	**03 04 31.2**	**-0.2**
ANAF	**Anafi Island**	**2.11**	**212**	P	**Pn**	**03 04 30.9**	**-0.5**
KNL	**Balıkesir**	**2.12**	**8**	*e*P	**Pn**	**03 04 33.1**	**+1.5**
KNL				IAML		03 05 06.0	
	comp=E,2μm,0.7s						
KNL				IAML		03 05 12.0	
	comp=N,1μm,0.8s						
GOLH	**Golhisar**	**2.13**	**115**	*i* P	**Pb**	**03 04 34.3**	**-0.8**
KARY	**Karystos**	**2.14**	**267**	P	**Pn**	**03 04 31.4**	**-0.4**
KARY	**Karystos**	**2.14**	**267**	P	**Pn**	**03 04 31.6**	**-0.2**
SKY	**Skiros Island**	**2.15**	**290**	P	**Pn**	**03 04 32.9**	**+0.9**
SKY				AML	AML	03 05 09.3	
	comp=N,2944μm,0.7s						
SKY				AML	AML	03 05 13.3	
	comp=E,1601μm,0.5s						
EFSA	**Agios Efstrati**	**2.17**	**310**	P	**Pn**	**03 04 32.5**	**+0.2**
FETY	**Fethiye**	**2.17**	**134**	PN	**Pn**	**03 04 32.7**	**+0.4**
FETY	**Fethiye**	**2.17**	**134**	*i* P	**Pn**	**03 04 33.5**	**+1.2**
THT2	**Imerovigli**	**2.21**	**219**	PN	**Pn**	**03 04 32.5**	**-0.2**
TVSB	**Tavsanli**	**2.22**	**54**	PN	**Pn**	**03 04 33.0**	**-0.1**
LPK	**Lapseki**	**2.22**	**352**	PN	**Pn**	**03 04 32.7**	**-0.3**
KRBG	**Karabiga-Canak**	**2.23**	**3**	PN	**Pn**	**03 04 32.7**	**-0.3**
GOKA	**anakkale-Gk**	**2.24**	**335**	⇓*e*P	**Pn**	**03 04 33.2**	**0.0**
GOKA				IAML		03 05 10.0	
	comp=E,4μm,0.5s						
GOKA				IAML		03 05 12.0	
	comp=N,3μm,0.3s						
SANT	**Santorini**	**2.24**	**217**	P	**Pn**	**03 04 33.1**	**-0.1**
SANT	**Santorini**	**2.24**	**217**	P	**Pn**	**03 04 32.3**	**-0.9**
SANT	**Santorini**	**2.24**	**217**	PN	**Pn**	**03 04 32.8**	**-0.4**
SANT	**Santorini**	**2.24**	**217**	Pn	**Pn**	**03 04 33.5**	**+0.3**
SANT				Sn	**Sn**	**03 04 59.3**	**-1.2**
GADA	**Gvkgeada**	**2.24**	**335**	P	**Pn**	**03 04 33.3**	**+0.1**
GADA	**Gvkgeada**	**2.24**	**335**	PN	**Pn**	**03 04 32.8**	**-0.4**
STAX	**Taxiarchis Har**	**2.24**	**219**	P	**Pn**	**03 04 33.2**	**0.0**
EDC	**Edincik**	**2.25**	**14**	PN	**Pn**	**03 04 33.1**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.29**	**347**	PN	**Pn**	**03 04 33.7**	**-0.2**
LIA	**Limnos Island**	**2.31**	**319**	P	**Pn**	**03 04 34.4**	**+0.3**
LIA				S	**Sn**	**03 05 03.3**	**+1.2**
	comp=N,2μm,0.6s						
LIA	**Limnos Island**	**2.31**	**319**	P	**Pn**	**03 04 34.4**	**+0.3**
LIA				AML	AML	03 05 11.8	
	comp=E,3563μm,0.7s						
LIA				AML	AML	03 05 13.6	
	comp=N,2398μm,0.5s						
BASM	**Basmaki-Afyon**	**2.31**	**95**	PN	**Pn**	**03 04 34.3**	**0.0**
ORLT	**Orhaneli**	**2.32**	**35**	PN	**Pn**	**03 04 34.3**	**-0.1**
SERI	**Serifos**	**2.33**	**245**	P	**Pn**	**03 04 33.7**	**-0.8**
SERI				S	**Sn**	**03 05 03.1**	**+0.2**
	comp=N,310nm,0.9s						
SERI	**Serifos**	**2.33**	**245**	P	**Pn**	**03 04 33.7**	**-0.8**
SERI				AML	AML	03 05 01.4	
	comp=N,1101μm,0.9s						
SERI				AML	AML	03 05 17.9	
	comp=E,909μm,0.4s						
BRDR	**BURDUR-Merkez**	**2.36**	**101**	*i* P	**Pn**	**03 04 35.5**	**+0.6**
BRDR				IAML		03 05 22.0	
	comp=N,181nm,0.5s						
KZIL	**AFYON_Kizioren**	**2.37**	**87**	*i* P	**Pn**	**03 04 36.2**	**+1.2**
KZIL				IAML		03 05 22.0	
	comp=N,286nm,1.0s						
KZIL				IAML		03 05 23.0	
	comp=E,315nm,1.0s						
MRMT	**Marmara Adasi**	**2.46**	**8**	PN	**Pn**	**03 04 36.2**	**-0.1**
MAR9	**Marsite Statio**	**2.49**	**10**	PN	**Pn**	**03 04 36.4**	**-0.2**
ULDT	**Uludag**	**2.51**	**38**	*i* P	**Pn**	**03 04 36.5**	**-0.6**
ULDT				IAML		03 05 29.0	
	comp=E,778nm,0.6s						
ULDT				IAML		03 05 29.0	
	comp=N,572nm,0.6s						
RKY	**Sarkoy-Tekirda**	**2.52**	**1**	PN	**Pn**	**03 04 36.7**	**-0.4**
DION	**Dionisos Attik**	**2.53**	**269**	P	**Pn**	**03 04 37.3**	**0.0**
DION	**Dionisos Attik**	**2.53**	**269**	P	**Pn**	**03 04 37.2**	**0.0**
MAR6	**Marsite Statio**	**2.54**	**2**	PN	**Pn**	**03 04 37.0**	**-0.3**
ERIK	**Erikli-Kesan**	**2.55**	**349**	PN	**Pn**	**03 04 37.3**	**-0.1**
MAR2	**Marsite Statio**	**2.55**	**3**	PN	**Pn**	**03 04 37.2**	**-0.3**
AFYO	**Afyonkarahisar**	**2.56**	**75**	*i* P	**Pb**	**03 04 42.1**	**-0.2**
AFYO				*i* S	**Sg**	**03 05 17.5**	**-1.4**
AFYO				IAML		03 05 29.0	
	comp=N,539nm,1.2s						
AFYO				IAML		03 05 39.0	
	comp=E,660nm,0.8s						
MAR3	**Marsite Statio**	**2.58**	**3**	PN	**Pn**	**03 04 37.5**	**-0.4**
MDNY	**Mudanya-Bursa**	**2.58**	**31**	PN	**Pn**	**03 04 37.9**	**0.0**
KARP	**Karpathos**	**2.61**	**180**	P	**Pn**	**03 04 38.2**	**-0.2**
KARP	**Karpathos**	**2.61**	**180**	P	**Pn**	**03 04 38.5**	**+0.1**
KARP	**Karpathos**	**2.61**	**180**	Pn	**Pn**	**03 04 38.0**	**-0.4**
KARP					**Sb**	**03 05 13.9**	**-1.2**
ELL	**Elmali**	**2.62**	**122**		**Pn**	**03 04 41.0**	**+2.4**
ELL					**Sb**	**03 05 14.9**	**-0.5**
SMTH	**Samothraki Isl**	**2.62**	**332**	P	**Pn**	**03 04 38.7**	**+0.3**
SMTH	**Samothraki Isl**	**2.62**	**332**	P	**Pn**	**03 04 38.0**	**-0.5**
MAR4	**Marsite Statio**	**2.62**	**3**	PN	**Pn**	**03 04 38.3**	**-0.2**
MHLO	**Agia Marina, M**	**2.63**	**237**	P	**Pn**	**03 04 39.6**	**+1.0**
MHLO	**Agia Marina, M**	**2.63**	**237**	P	**Pn**	**03 04 39.4**	**+0.8**
IGD	**Bursa**	**2.64**	**37**	*i* P	**Pn**	**03 04 38.3**	**-0.4**
VLY	**Voula,Athens**	**2.66**	**264**	P	**Pn**	**03 04 38.8**	**-0.2**
VLY				AML	AML	03 05 27.6	
	comp=N,1139μm,0.8s						
VLY				AML	AML	03 05 34.3	
	comp=E,1187μm,0.6s						
ENEZ	**Enez**	**2.68**	**344**	P	**Pn**	**03 04 39.9**	**+0.7**
ENEZ	**Enez**	**2.68**	**344**	PN	**Pn**	**03 04 39.2**	**0.0**
KESN	**Edirne-Kesan**	**2.68**	**353**	*i* P	**Pn**	**03 04 39.8**	**+0.2**
KESN				IAML		03 05 23.0	
	comp=N,1μm,0.6s						
KESN				IAML		03 05 27.0	
	comp=E,1μm,0.4s						
ISP	**Isparta**	**2.69**	**96**		**Pn**	**03 04 42.3**	**+2.7**
SHUT	**Suhut-Afyon**	**2.71**	**81**	PN	**Pn**	**03 04 40.0**	**+0.2**
AOS	**Alonnisos**	**2.74**	**292**	P	**Pn**	**03 04 40.5**	**+0.4**
AOS				S	**Sn**	**03 05 14.4**	**+1.5**
	comp=E,332nm,0.7s						
AOS	**Alonnisos**	**2.74**	**292**	P	**Pn**	**03 04 40.0**	**-0.1**
AOS				AML	AML	03 05 28.8	
	comp=E,634μm,0.5s						
AOS				AML	AML	03 05 33.5	
	comp=N,742μm,0.6s						
AOS	**Alonnisos**	**2.74**	**292**	PN	**Pn**	**03 04 40.0**	**-0.1**
ARMT	**Armutlu**	**2.74**	**29**	PN	**Pn**	**03 04 40.3**	**+0.1**
AKAS	**Kas**	**2.76**	**134**	*i* P	**Pn**	**03 04 43.0**	**+2.5**
AKAS	**Kas**	**2.76**	**134**	Pn	**Pn**	**03 04 40.3**	**-0.2**
GEMT	**Gemlik**	**2.77**	**34**	PN	**Pn**	**03 04 40.7**	**+0.2**
KORT	**Korkueli**	**2.80**	**114**	*i* P	**Pn**	**03 04 43.7**	**+2.6**
KORT				IAML		03 05 50.0	
	comp=E,117nm,0.8s						
KSL	**Kastellorizon**	**2.80**	**135**	P	**Pn**	**03 04 42.7**	**+1.7**
TKR	**Tekirdag**	**2.84**	**6**	PN	**Pn**	**03 04 41.2**	**-0.2**
AUBOZ	**BOZOYUK**	**2.85**	**51**	*i* P	**Pb**	**03 04 48.3**	**+1.1**
AUBOZ				*i* S	**Sg**	**03 05 26.7**	**-1.6**
AUBOZ				IAML		03 05 32.0	
	comp=N,500nm,0.7s						
AUBOZ				IAML		03 05 36.0	
	comp=E,565nm,0.9s						
ALN	**Alexandroupoli**	**2.86**	**343**	P	**Pn**	**03 04 41.7**	**0.0**
ALN	**Alexandroupoli**	**2.86**	**343**	P	**Pn**	**03 04 41.7**	**0.0**
ALN	**Alexandroupoli**	**2.86**	**343**	PN	**Pn**	**03 04 41.5**	**-0.2**
ALN	**Alexandroupoli**	**2.86**	**343**	Pn	**Pn**	**03 04 40.8**	**-0.9**
ALN				Sn	**Sn**	**03 05 15.6**	**-0.2**
AUKIR	**Kırka- Seyitga**	**2.88**	**66**	*i* P	**Pg**	**03 04 51.2**	**-0.7**
AUKIR				*i* S	**Sg**	**03 05 27.6**	**-1.5**
AUKIR				IAML		03 05 36.0	
	comp=E,360nm,0.8s						
AUKIR				IAML		03 05 41.0	
	comp=N,296nm,0.5s						
BAGO	**Egridir - ISPA**	**2.88**	**92**	*i* P	**Pn**	**03 04 43.1**	**+1.0**
BOTS	**Marmara Eregli**	**2.90**	**13**	PN	**Pn**	**03 04 42.2**	**0.0**
TRML	**Termal-Yalova**	**2.91**	**32**	PN	**Pn**	**03 04 42.4**	**0.0**
UKOP	**Uzunkopru-Edir**	**2.98**	**353**	PN	**Pn**	**03 04 43.4**	**0.0**
VIL2	**Platees**	**3.05**	**272**	P	**Pn**	**03 04 44.2**	**-0.2**
THAS	**Thassos island**	**3.08**	**323**	P	**Pn**	**03 04 44.5**	**-0.1**
BUY	**Buyukada**	**3.09**	**29**	*i* P	**Pn**	**03 04 44.5**	**-0.4**
BUY				IAML		03 05 37.0	
	comp=E,301nm,0.6s						
BUY				IAML		03 05 41.0	
	comp=N,278nm,0.6s						
ELBA	**Catalca**	**3.14**	**18**	*i* P	**Pn**	**03 04 45.8**	**+0.2**
NPS	**Neapolis**	**3.15**	**203**	P	**Pn**	**03 04 45.5**	**-0.3**
AKUM	**Antalya-Kumluc**	**3.15**	**125**	*i* P	**Pn**	**03 04 48.3**	**+2.6**
AKUM				IAML		03 06 03.0	
	comp=N,90nm,0.8s						
RDO	**Rodhopi**	**3.22**	**338**	P	**Pn**	**03 04 47.4**	**+0.7**
RDO	**Rodhopi**	**3.22**	**338**	P	**Pn**	**03 04 46.9**	**+0.2**
EPID	**Epidavros**	**3.23**	**261**	P	**Pn**	**03 04 47.5**	**+0.6**
OUR	**Ouranopolis**	**3.27**	**312**	P	**Pn**	**03 04 47.7**	**+0.3**
ATAL	**Atalanti**	**3.28**	**281**	P	**Pn**	**03 04 48.0**	**+0.6**
ATAL	**Atalanti**	**3.28**	**281**	P	**Pn**	**03 04 48.1**	**+0.6**
LKR	**Lokris**	**3.29**	**280**	P	**Pn**	**03 04 48.0**	**+0.4**
LKR	**Lokris**	**3.29**	**280**	P	**Pn**	**03 04 48.1**	**+0.5**
LTK	**Loutraki**	**3.30**	**269**	P	**Pn**	**03 04 48.2**	**+0.4**

MLR	**Muntele Rosu**	**7.37**	**353**	Pn		**Pn**	**03 05 46.1**	**+2.3**
	comp=E,0.5nm,0.3s,baz=14,slow=1.4,SNR=5.7							
MLR				Lg		Lg	03 07 50.0	
	comp=E,0.4nm,0.3s,baz=59,slow=13,SNR=2.6							
MLR				LR		LR	03 08 01.3	
	comp=E,45nm,21.9s,baz=49,slow=33							
MLR	**Muntele Rosu**	**7.37**	**353**	⇑P		**Pn**	**03 05 47.0**	**+3.2**
MLR	**Muntele Rosu**	**7.37**	**353**			**Pn**	**03 05 45.8**	**+1.9**
PDG	**Podgorica**	**7.38**	**308**	⇓P		**Pn**	**03 05 47.8**	**+4.1**
PDG	**Podgorica**	**7.38**	**308**			**Pn**	**03 05 43.4**	**-0.4**
BISRR	**Bisoca**	**7.38**	**358**	⇓P		Pn	03 05 53.7	+10
VOIR		**7.43**	**349**	⇓P		**Pn**	**03 05 45.3**	**+0.7**
HERR	**Herculane**	**7.59**	**334**	⇑P		**Pn**	**03 05 45.7**	**-1.0**
ODBI	**Odobesti**	**7.59**	**360**	⇓P		Pn	03 05 55.6	+8.9
PLOR	**Plostina**	**7.69**	**357**	⇑P		**Pn**	**03 05 50.6**	**+2.5**
LOT	**Lotru**	**7.70**	**342**	⇓P		**Pn**	**03 05 50.4**	**+2.1**
VRI	**Vrincioaia**	**7.70**	**358**	⇑P		Pn	03 05 58.2	+10
MDVR	**Moldovita**	**7.76**	**330**	⇑P		**Pn**	**03 05 49.4**	**+0.3**
DOPR	**Dopca**	**7.90**	**351**	⇓P		**Pn**	**03 05 52.7**	**+1.6**
GZR	**Gura Zlata**	**7.92**	**337**	⇑P		**Pn**	**03 05 51.3**	**-0.1**
OZUR		**7.99**	**353**	⇑P		**Pn**	**03 05 54.6**	**+2.4**
DIVS	**Divibare**	**8.01**	**320**			**Pn**	**03 05 51.4**	**-1.1**
TIP	**Timpagrande**	**8.19**	**280**	⇓P		**Pn**	**03 05 56.5**	**+1.5**
TIP	**Timpagrande**	**8.19**	**280**			**Pn**	**03 05 55.9**	**+0.9**
DEV	**Deva**	**8.33**	**339**	⇓P		Pn	03 06 01.9	+5.1
MATE	**Matera**	**8.45**	**290**	⇑P		**Pn**	**03 05 59.6**	**+1.1**
MMA0B	**Mount Meron ar**	**8.46**	**125**	Pn		**Pn**	**03 05 59.9**	**+1.1**
MMAI	**Mount Meron Ar**	**8.46**	**125**	Pn		**Pn**	**03 05 58.6**	**-0.2**
	comp=E,6.6nm,0.3s,baz=305,slow=12,SNR=22							
MMAI				Sn		**Sn**	**03 07 28.7**	**-5.4**
	comp=E,0.8nm,0.3s,baz=249,slow=24,SNR=1.5							
BZS	**Buzias**	**8.51**	**333**	⇓P		**Pn**	**03 05 59.6**	**+0.4**
GEM	**Giv'at Ha'Em**	**8.51**	**123**	Pn		**Pn**	**03 06 00.3**	**+0.9**
BIZ	**Bicaz**	**8.80**	**355**	⇓P		**Pn**	**03 06 04.4**	**+1.0**
MILM	**Milestii Mici**	**8.83**	**7**	⇑P		Pn	03 06 09.8	+6.1
HMDT	**Nahal Hemdat**	**9.04**	**128**	Pn		**Pn**	**03 06 08.6**	**+1.9**
DSI	**Dead Sea**	**9.44**	**132**	Pn		**Pn**	**03 06 13.8**	**+1.7**
BURAR	**Bucovina Array**	**9.55**	**352**	⇓P		**Pn**	**03 06 17.4**	**+3.7**
BUR08	**Bucovina Ar. S**	**9.58**	**352**			**Pn**	**03 06 14.8**	**+0.8**
PRNI	**Paran**	**10.15**	**138**	Pn		**Pn**	**03 06 23.6**	**+1.7**
EIL	**Elat**	**10.67**	**140**	Pn		**Pn**	**03 06 33.2**	**+4.3**
	comp=E,0.2nm,0.3s,baz=258,slow=23,SNR=1.7							
EIL	**Elat**	**10.67**	**140**	Pn		**Pn**	**03 06 30.6**	**+1.7**
ABTA	**Abfaltersbach**	**13.77**	**313**	*e*P		**P**	**03 07 13.0**	**+1.7**
	comp=E,2.2nm,0.8s							
GERES	**GERESS Array B**	**14.43**	**322**	Pn		**Pn**	**03 07 28.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=132,slow=9.9,SNR=15							
GERES	**GERESS Array B**	**14.43**	**322**	Pn		**Pn**	**03 07 19.2**	**-1.3**
KEST	**Kesra**	**14.44**	**266**	Pn		**P**	**03 07 25.0**	**-2.3**
	comp=E,0.0nm,0.3s,baz=121,slow=5.9,SNR=2.6							
KEST	**Kesra**	**14.44**	**266**	Pn		**Pn**	**03 07 19.0**	**-1.6**
KHC	**Kasperske Hory**	**14.69**	**323**	*e*P		**P**	**03 07 31.9**	**+1.9**
SQTA	**Sankt Quirin**	**14.78**	**313**	*e*P		**P**	**03 07 30.8**	**-0.3**
	comp=E,3.0nm,0.7s							
MOTA	**Moosalm**	**14.91**	**313**	*e*P		**P**	**03 07 31.2**	**-1.4**
	comp=E,3.1nm,0.9s							
FETA	**Feichten**	**14.96**	**311**	*e*P		**P**	**03 07 35.2**	**+2.1**
	comp=E,3.5nm,1.1s							
RETA	**Reutte**	**15.18**	**313**	*e*P		**P**	**03 07 37.4**	**+1.9**
	comp=E,2.5nm,1.0s							
DAVA	**Damuels**	**15.59**	**311**	*e*P		**P**	**03 07 38.6**	**-1.5**
	comp=E,2.3nm,0.7s							
ESDC	**Sonseca Array**	**24.19**	**283**	P		**P**	**03 09 12.7**	**+0.2**
	comp=E,0.5nm,0.8s,baz=71,slow=9.6,SNR=2.4							
NB2	**NORSAR Subarra**	**24.98**	**342**	P		**P**	**03 09 19.6**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=151,slow=10							
NOA	**NORSAR Array B**	**24.98**	**342**	P		**P**	**03 09 18.9**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=157,slow=9.0,SNR=4.1							
AKTO	**Aktyubinsk**	**25.08**	**51**	P		**P**	**03 09 20.2**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=234,slow=12,SNR=4.2							
ABKAR	**Akbulak array**	**25.98**	**54**	P		**P**	**03 09 28.7**	**+0.2**
ABKAR				IAmb		IAmb	03 09 41.6	
	comp=Z,2.3nm,1.1s							
EKA	**Eskdalemuir Ar**	**26.63**	**320**	P		**P**	**03 09 33.9**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=108,slow=13,SNR=4.7							
TORD	**Torodi Ar. Bea**	**33.65**	**229**	P		**P**	**03 10 38.2**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=37,slow=8.7,SNR=12							
TORD	**Torodi Ar. Bea**	**33.65**	**229**	P		**P**	**03 10 35.4**	**-1.5**
MKAR	**Makanchi Array**	**40.84**	**60**	P		**P**	**03 11 39.1**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=269,slow=8.3,SNR=7.2							
MKAR	**Makanchi Array**	**40.84**	**60**	P		**P**	**03 11 36.6**	**-1.0**
ZALV	**Zalesovo Beam**	**41.80**	**49**	P		**P**	**03 11 45.9**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=262,slow=10,SNR=5.5							
ZALV	**Zalesovo Beam**	**41.80**	**49**	P		**P**	**03 11 44.9**	**-0.5**
WMQ	**Urumqi**	**45.16**	**63**	*e*P		**P**	**03 12 14.4**	**+1.7**
HHC	**Hu-ho-hao-te**	**62.67**	**58**	*e*P		**P**	**03 14 21.6**	**+0.8**
HHC				pmax		pmax		
	comp=Z,20nm,0.7s							
HHC				pmax		pmax		
	comp=Z,68nm,6.6s							
CMAR	**Chiang Mai Arr**	**64.70**	**86**	P		**P**	**03 14 34.2**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=301,slow=7.0,SNR=4.7							
CMAR	**Chiang Mai Arr**	**64.70**	**86**	P		**P**	**03 14 33.4**	**-1.0**

*MOS **21** 03:10:55.6±0.0,41.°23N×45.°45E,h10km,MPVA3.3*
*NORS **21** 03:10:56.6±0.0,41.°10N×45.°51E,h7km,MPVA3.4*
*TIF **21** 03:10:57.7,41.°22N×45.°41E,h25km±1km*
*DRS **21** 03:10:57.1±0.0,41.°23N×45.°40E,h16km*
*ATA **21** 03:10:57.4±0.3,41.°28N×45.°48E,h36km±76km,ML2.0, MW3.6*
*DDA **21** 03:10:58.7,41.°22N×45.°51E,h8km±3km,ML2.1*

ISC 21 03:10:57.3±1.1,41.°23N±0.°03×45.°47E±0.°02,h14km±12km, n37,σ0°68/65,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.54**	**66**	*e*P	**Pb**	**03 11 08.8**	**+0.2**
DDFL				IAML		03 11 26.4	
	comp=Z,27nm,0.5s						
DDFL	**Dedoflistskaro**	**0.54**	**66**	*e*Pg	**Pn**	**03 11 09.8**	**-0.8**
DDFL	**Dedoflistskaro**	**0.54**	**66**	*i* P	**Pb**	**03 11 08.7**	**+0.1**
DDFL	**Dedoflistskaro**	**0.54**	**66**	P	**Pn**	**03 11 09.8**	**-0.8**
BTNK	**Botanikuri**	**0.68**	**312**	*e*Pg	**Pg**	**03 11 10.8**	**+0.2**
BTNK				*e*Sg	**Sb**	**03 11 20.8**	**+0.5**
BTNK	**Botanikuri**	**0.68**	**312**	P	**Pg**	**03 11 10.8**	**+0.2**
BTNK				S	**Sb**	**03 11 20.8**	**+0.5**
SEAG	**Tbilisi Sea**	**0.73**	**317**	*e*Pg	**Pg**	**03 11 11.7**	**+0.1**
SEAG				*e*Sg	**Sb**	**03 11 22.3**	**+0.4**
SEAG	**Tbilisi Sea**	**0.73**	**317**	P	**Pg**	**03 11 11.7**	**+0.1**
SEAG				S	**Sb**	**03 11 22.3**	**+0.4**
LGD	**Lagodekhi**	**0.84**	**43**	*e*Pg	**Pb**	**03 11 13.4**	**-0.3**
LGD				*e*Sg	**Sg**	**03 11 25.3**	**+0.6**
LGD	**Lagodekhi**	**0.84**	**43**	P	**Pb**	**03 11 13.4**	**-0.3**
LGD				S	**Sg**	**03 11 25.3**	**+0.6**
DMNI	**Dmanisi**	**0.97**	**277**	*e*Pg	**Pb**	**03 11 15.9**	**-0.1**
DMNI				*e*Sg	**Sb**	**03 11 28.6**	**-0.1**
DMNI	**Dmanisi**	**0.97**	**277**	P	**Pb**	**03 11 15.9**	**-0.1**
DMNI				S	**Sb**	**03 11 28.6**	**-0.1**
TRLG	**Trialeti**	**1.07**	**287**	*e*Pg	**Pb**	**03 11 17.2**	**-0.6**
TRLG				*e*Sg	**Sb**	**03 11 31.7**	**-0.1**
TRLG	**Trialeti**	**1.07**	**287**	P	**Pb**	**03 11 17.2**	**-0.6**
TRLG				S	**Sb**	**03 11 31.7**	**-0.1**
BGD	**Bogdanovka**	**1.41**	**272**	*e*Pg	**Pb**	**03 11 23.7**	**+0.1**
BGD				*e*Sg	**Sg**	**03 11 42.6**	**-0.2**
BGD	**Bogdanovka**	**1.41**	**272**	P	**Pb**	**03 11 23.7**	**+0.1**
BGD				S	**Sg**	**03 11 42.6**	**-0.2**
GUDG	**Gudauri**	**1.44**	**329**	*e*Pg	**Pb**	**03 11 23.9**	**-0.3**
GUDG				*e*Sg	**Sg**	**03 11 43.7**	**-0.2**
GUDG	**Gudauri**	**1.44**	**329**	P	**Pb**	**03 11 23.9**	**-0.3**
GUDG				S	**Sg**	**03 11 43.7**	**-0.2**
EAK	**Akyaka**	**1.51**	**250**	*i* P	**Pg**	**03 11 26.2**	**-0.1**
EAK				*i* S	**Sg**	**03 11 45.6**	**-0.3**
EAK				IAML		03 11 54.0	
	comp=N,24nm,0.6s						
EAK				IAML		03 11 55.0	
	comp=E,19nm,0.5s						
KMKR	**Kumukh**	**1.52**	**53**	*e*Pg	**Pb**	**03 11 25.0**	**-0.4**
KMKR				*e*Sg	**Sg**	**03 11 47.0**	**+0.7**
BTLR	**Botlikh**	**1.54**	**21**	*e*Pg	**Pb**	**03 11 26.1**	**+0.3**
BTLR				*e*Sg	**Sg**	**03 11 46.9**	**-0.1**
IGDI	**IGDIR**	**1.72**	**218**	*e*P	**Pb**	**03 11 28.7**	**0.0**
IGDI				*e*S	**Sg**	**03 11 52.7**	**+0.1**
IGDI				IAML		03 11 55.7	
	comp=Z,5.2nm,0.3s						
IGDI	**IGDIR**	**1.72**	**218**	*i* P	**Pb**	**03 11 28.7**	**0.0**
IGDI				*i* S	**Sb**	**03 11 51.0**	**+0.7**
IGDI				IAML		03 11 54.0	
	comp=E,36nm,0.3s						
IGDI				IAML		03 11 54.0	
	comp=N,41nm,0.3s						
DIGO	**Kars**	**1.78**	**244**	*e*P	**Pb**	**03 11 29.4**	**-0.5**
DIGO				IAML		03 12 00.1	
	comp=Z,7.7nm,0.6s						
DIGO	**Kars**	**1.78**	**244**	*i* P	**Pg**	**03 11 31.2**	**-0.4**
DIGO				IAML		03 11 56.0	
	comp=N,13nm,0.6s						
DIGO				IAML		03 12 04.0	
	comp=E,21nm,0.5s						
DVE	**Vedeno**	**1.80**	**16**	*e*Pg	**Pg**	**03 11 31.8**	**-0.1**
DVE				*e*Sg	**Sg**	**03 11 57.3**	**+2.1**
LACR	**Lac**	**1.82**	**332**	*e*Pg	**Pb**	**03 11 31.0**	**+0.4**
LACR				*e*Sg	**Sg**	**03 11 57.0**	**+1.0**
ZEI	**Tsey**	**1.95**	**324**	*e*Pg	**Pb**	**03 11 32.6**	**-0.1**
ZEI				*e*Sg	**Sg**	**03 11 59.7**	**-0.4**
GROC	**Groznyy**	**1.99**	**7**	*e*Pg	**Pg**	**03 11 34.5**	**-1.1**
GROC				*e*Sg	**Sg**	**03 12 00.7**	**-0.6**
ONI	**Oni**	**2.03**	**313**	*e*Pg	**Pb**	**03 11 34.6**	**+0.5**
ONI				*e*Sg	**Sg**	**03 12 01.1**	**-1.5**
ONI	**Oni**	**2.03**	**313**	P	**Pb**	**03 11 34.6**	**+0.5**
ONI				S	**Sg**	**03 12 01.1**	**-1.5**
DBC	**Dubki**	**2.06**	**29**	*e*Pg	**Pb**	**03 11 34.3**	**-0.2**
DBC				*e*Sg	**Sg**	**03 12 02.9**	**-0.7**
EPOS	**Posof**	**2.08**	**279**	*e*P	**Pn**	**03 11 33.2**	**+1.2**
EPOS				IAML		03 11 55.0	
	comp=Z,3.5nm,3.2s						
EPOS	**Posof**	**2.08**	**279**	*i* P	**Pb**	**03 11 34.2**	**-0.7**
EPOS				IAML		03 12 08.0	
	comp=N,50nm,0.4s						
TKB	**Tkibuli**	**2.17**	**302**	*e*Pg	**Pb**	**03 11 35.2**	**-1.1**
TKB				*e*Sg	**Sb**	**03 12 04.0**	**+1.0**
TKB	**Tkibuli**	**2.17**	**302**	P	**Pb**	**03 11 35.2**	**-1.1**
TKB				S	**Sb**	**03 12 04.0**	**+1.0**
DAGI	**Agillar**	**2.69**	**268**	*i* P	**Pb**	**03 11 46.7**	**+1.4**

*ANF **21** 03:17:29.5±0.3,61.°44N×146.°44W,h20km,ML3.8/14, Error ellipse: s-maj=5.2km s-min=2.6km az=95.0*
*AEIC **21** 03:17:31±0.9,61.°46N±0.°02×146.°40W±0.°05,h31km±7km, ML3.5, Error ellipse: s-maj=3.3km s-min=3.1km az=52.0*

ISC 21 03:17:30.7±0.9,61.°45N±0.°02×146.°41W±0.°02,h33km±8km, n128,σ0°62/143,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLU	**Klutina**	**0.23**	**80**		**Pb**	**03 17 38.1**	**+0.3**
KLU					**Sn**	**03 17 43.7**	**+2.4**
VMT	**TAPS Tl Valdez**	**0.37**	**177**		**Pb**	**03 17 38.9**	**-0.4**
VMT					**Sb**	**03 17 45.6**	**+0.3**
DIV	**Divide**	**0.45**	**136**		**Pb**	**03 17 40.0**	**-0.6**
DIV					**Sb**	**03 17 47.4**	**+0.1**
SCM	**Sheep Creek Mo**	**0.58**	**311**		**Pb**	**03 17 41.9**	**-0.8**
SCM					**Sb**	**03 17 50.8**	**-0.1**
PS12	**TAPS Pump St12**	**0.61**	**87**		**Pb**	**03 17 42.1**	**-0.9**
GLI	**Glacier Island**	**0.67**	**211**		**Pb**	**03 17 43.0**	**-1.0**
GLI					**Sb**	**03 17 52.9**	**-0.1**
M24K	**Tolsona, Glenn**	**0.67**	**9**	P	**Pb**	**03 17 43.5**	**-0.5**
	baz=189,SNR=463						
M24K				S	**Sn**	**03 17 53.8**	**+0.6**
	baz=189						
M24K	**Tolsona, Glenn**	**0.67**	**9**		**Pb**	**03 17 43.5**	**-0.5**
FID	**Port Fidalgo**	**0.70**	**183**		**Pn**	**03 17 44.2**	**-0.2**
FID					**Sn**	**03 17 55.0**	**+0.9**
PS11	**TAPS Pump St11**	**0.77**	**35**		**Pn**	**03 17 45.2**	**0.0**
N25K	**Chitina, Valde**	**0.88**	**79**	P	**Pn**	**03 17 46.0**	**-0.9**
	baz=261,SNR=148						
N25K				S	**Sn**	**03 17 57.6**	**-0.9**
	baz=261						
N25K	**Chitina, Valde**	**0.88**	**79**		**Pn**	**03 17 46.0**	**-0.9**
EYAK	**Cordova Ski Ar**	**0.96**	**160**		**Pn**	**03 17 47.7**	**-0.2**
SML	**Sawmill**	**0.99**	**292**		**Pn**	**03 17 47.2**	**-1.1**
SML					**Sn**	**03 18 00.6**	**-0.5**
KNK	**Knik Glacier**	**0.99**	**269**		**Pn**	**03 17 47.9**	**-0.4**
BMRM	**Bremner River**	**1.00**	**118**		**Pn**	**03 17 47.6**	**-0.8**
HIN	**Hinchinbrook I**	**1.06**	**183**		**Pn**	**03 17 49.2**	**-0.1**
HIN					**Sb**	**03 18 04.8**	**+0.7**
PWL	**Port Wells**	**1.11**	**238**		**Pn**	**03 17 49.6**	**-0.4**
PWL					**Sn**	**03 18 05.1**	**+1.0**
GOAT	**Goat Mountain**	**1.20**	**136**		**Pn**	**03 17 51.0**	**-0.2**
GHO	**Glory Hole Cre**	**1.25**	**286**		**Pn**	**03 17 51.5**	**-0.4**
GLB	**Gilahina Butte**	**1.25**	**89**		**Pn**	**03 17 51.4**	**-0.5**
WAT6	**Susitna Watana**	**1.30**	**332**		**Pn**	**03 17 51.6**	**-1.1**
PMR	**Palmer**	**1.31**	**277**		**Pn**	**03 17 52.5**	**-0.2**
VRDI	**Verde Repeater**	**1.44**	**98**		**Pn**	**03 17 54.2**	**-0.4**
HMT	**Hamilton**	**1.53**	**136**		**Pn**	**03 17 55.5**	**-0.3**
PAX	**Paxson**	**1.59**	**16**		**Pn**	**03 17 56.4**	**-0.2**
MCARA	**McCarthy VSAT**	**1.63**	**91**		**Pn**	**03 17 57.2**	**+0.1**
DHY	**Denali Highway**	**1.69**	**345**		**Pn**	**03 17 57.9**	**-0.2**
BERG	**Berg Lake**	**1.69**	**128**		**Pn**	**03 17 57.5**	**-0.5**
NICHA	**Nichawak Mount**	**1.71**	**135**		**Pn**	**03 17 57.5**	**-0.6**
WAT1	**Susitna Watana**	**1.71**	**325**		**Pn**	**03 17 58.3**	**+0.1**
CRQM	**Cirque**	**1.73**	**112**		**Pn**	**03 17 58.8**	**+0.1**
KAIM	**Kayak Island**	**1.81**	**147**		**Pn**	**03 17 59.2**	**-0.5**
WAT2	**Susitna Watana**	**1.83**	**327**		**Pn**	**03 18 00.0**	**+0.1**
KHIT	**Khitrov Hills**	**1.84**	**122**		**Pn**	**03 17 59.8**	**-0.3**
TGL	**Tana Glacier**	**1.87**	**110**		**Pn**	**03 18 00.1**	**-0.4**
O22K	**Cooper Landing**	**1.89**	**240**		**Pn**	**03 18 00.7**	**+0.1**
SUCK	**Suckling Hills**	**1.89**	**136**		**Pn**	**03 18 00.4**	**-0.3**
GRIN	**Grindle Hills**	**1.91**	**127**		**Pn**	**03 18 00.9**	**-0.1**
PTPK	**Patty Peak**	**1.92**	**96**		**Pn**	**03 18 01.5**	**+0.3**
MENT	**Mentasta**	**1.95**	**39**		**Pn**	**03 18 01.8**	**+0.3**
BALM	**Baldy**	**2.01**	**100**		**Pn**	**03 18 01.9**	**-0.4**
SEW	**Seward**	**2.02**	**229**		**Pn**	**03 18 02.5**	**+0.2**
Q23K	**Middleton Isla**	**2.03**	**179**	P	**Pn**	**03 18 02.4**	**-0.1**
	baz=359						
Q23K				S	**Sb**	**03 18 32.6**	**+0.9**
	baz=359						
Q23K	**Middleton Isla**	**2.03**	**179**		**Pn**	**03 18 02.5**	**0.0**
KIAG	**Kiagna River**	**2.03**	**103**		**Pn**	**03 18 02.2**	**-0.5**
BGLC	**Bering Glacier**	**2.03**	**130**		**Pn**	**03 18 03.2**	**+0.7**
MID	**Middleton Isla**	**2.03**	**179**		**Pn**	**03 18 02.5**	**0.0**
CUT	**Chulitna**	**2.06**	**299**	P	**Pn**	**03 18 03.1**	**+0.1**
	baz=116,SNR=36						
CUT	**Chulitna**	**2.06**	**299**		**Pn**	**03 18 03.5**	**+0.5**
SUA	**Susitna One**	**2.08**	**272**		**Pn**	**03 18 03.5**	**0.0**
SLKM	**Skilak Lake**	**2.09**	**245**		**Pn**	**03 18 03.5**	**+0.1**
HUR	**Hurricane**	**2.15**	**317**		**Pn**	**03 18 04.6**	**+0.3**
ISLE	**Juniper Island**	**2.15**	**112**		**Pn**	**03 18 03.9**	**-0.5**
SNH	**Sunshine Point**	**2.16**	**125**		**Pn**	**03 18 04.3**	**-0.1**
KULT	**Kultieth River**	**2.17**	**122**		**Pn**	**03 18 04.0**	**-0.6**
BARK	**Barkley Ridge**	**2.18**	**117**		**Pn**	**03 18 04.4**	**-0.4**
RND	**Reindeer**	**2.27**	**331**		**Pn**	**03 18 06.5**	**+0.6**
BARN	**Barnard Glacie**	**2.33**	**98**		**Pn**	**03 18 06.9**	**+0.1**
GRNC	**Granite Creek**	**2.37**	**106**		**Pn**	**03 18 07.1**	**-0.4**
RIDG	**Independent Ri**	**2.41**	**17**		**Pn**	**03 18 08.6**	**+0.8**
DOT	**Dot Lake**	**2.46**	**25**		**Pn**	**03 18 09.0**	**+0.5**
SKT	**Skwentna**	**2.50**	**284**		**Pn**	**03 18 08.7**	**-0.4**
CTGM	**Chitina Glacie**	**2.50**	**99**		**Pn**	**03 18 09.1**	**-0.1**
YAH	**Yahtse**	**2.52**	**114**		**Pn**	**03 18 08.9**	**-0.6**
MESA	**MESA**	**2.53**	**118**		**Pn**	**03 18 09.5**	**-0.1**
MCK	**McKinley**	**2.57**	**334**	P	**Pn**	**03 18 10.3**	**+0.3**
	baz=152,SNR=51						
MCK	**McKinley**	**2.57**	**334**		**Pn**	**03 18 10.7**	**+0.7**
YUK2	**White River**	**2.68**	**80**		**Pn**	**03 18 11.8**	**+0.2**
LOGN	**Logan Glacier**	**2.69**	**101**		**Pn**	**03 18 11.7**	**-0.2**
TRF	**Thorofare Moun**	**2.70**	**320**		**Pn**	**03 18 12.5**	**+0.6**
BC03		**2.70**	**51**		**Pn**	**03 18 12.3**	**+0.6**
BCAR	**Beaver Creek A**	**2.70**	**51**		**Pn**	**03 18 11.7**	**-0.1**
RKAV	**Rock Avalanche**	**2.73**	**113**		**Pn**	**03 18 12.2**	**-0.1**
BRSE	**Bradley Lake S**	**2.74**	**233**		**Pn**	**03 18 12.5**	**+0.1**
SCRK	**Sand Creek**	**2.77**	**23**	P	**Pn**	**03 18 12.6**	**-0.2**
	baz=205,SNR=12						
SCRK	**Sand Creek**	**2.77**	**23**		**Pn**	**03 18 12.9**	**0.0**
BRLK	**Bradley Lake**	**2.78**	**235**		**Pn**	**03 18 12.9**	**-0.1**
BVCY	**Beaver Creek**	**2.79**	**67**		**Pn**	**03 18 13.8**	**+0.7**
YUK3	**Moose Creek**	**2.86**	**81**		**Pn**	**03 18 14.2**	**+0.1**
CHX	**Chaix Hills**	**2.94**	**116**		**Pn**	**03 18 15.2**	**0.0**
KTH	**Kanthina Hill**	**2.97**	**317**		**Pn**	**03 18 16.1**	**+0.5**
HDA	**Harding Lake**	**2.98**	**355**	P	**Pn**	**03 18 15.4**	**-0.2**
	baz=175,SNR=76						
HDA				S	**Sn**	**03 18 49.9**	**-0.3**
	baz=175						
HDA	**Harding Lake**	**2.98**	**355**		**Pn**	**03 18 15.4**	**-0.2**
SAMH	**Samovar Hills**	**3.06**	**113**		**Pn**	**03 18 17.3**	**+0.5**
BWN	**Browne**	**3.07**	**334**		**Pn**	**03 18 16.8**	**-0.1**
CNPM	**China Poot**	**3.07**	**233**		**Pn**	**03 18 17.0**	**+0.1**
PPLA	**Purkeypile**	**3.08**	**301**		**Pn**	**03 18 17.0**	**-0.1**
PS08	**TAPS Pump Stn8**	**3.11**	**357**		**Pn**	**03 18 16.9**	**-0.5**
WRH	**Wood River Hil**	**3.13**	**346**		**Pn**	**03 18 17.4**	**-0.2**
HOM	**Homer**	**3.15**	**237**	S	**Sn**	**03 18 55.3**	**+0.9**
	baz=53						
K27K	**Chicken**	**3.27**	**36**	P	**Pn**	**03 18 19.3**	**-0.2**
	baz=220						
CCB	**Clear Creek Bu**	**3.27**	**349**		**Pn**	**03 18 19.1**	**-0.5**
RDWB	**Redoubt West**	**3.28**	**256**		**Pn**	**03 18 19.6**	**-0.3**
PCA	**Pinnacle**	**3.31**	**112**		**Pn**	**03 18 19.9**	**-0.3**
IL31		**3.34**	**356**		**Pn**	**03 18 19.8**	**-0.8**
ILAR	**Eielson Array**	**3.34**	**356**		**Pn**	**03 18 19.4**	**-1.1**
NEA2	**Nenana**	**3.38**	**340**	P	**Pn**	**03 18 20.3**	**-0.8**
	baz=158,SNR=26						
NEA2				S	**Sn**	**03 18 60.0**	**0.0**
	baz=158						
NEA2	**Nenana**	**3.38**	**340**		**Pn**	**03 18 20.4**	**-0.8**
BPAW	**Bear Paw Mtn.**	**3.39**	**324**		**Pn**	**03 18 21.1**	**-0.2**
COLA	**College**	**3.50**	**350**		**Pn**	**03 18 22.2**	**-0.4**
TCOL	**CIGO, UAF Yank**	**3.50**	**350**	P	**Pn**	**03 18 22.3**	**-0.5**
	baz=168						
TCOL	**CIGO, UAF Yank**	**3.50**	**350**		**Pn**	**03 18 22.4**	**-0.3**
IVE	**Iliamna Volcan**	**3.55**	**249**		**Pn**	**03 18 22.7**	**-0.9**
MDM	**Murphy Dome**	**3.62**	**348**		**Pn**	**03 18 23.9**	**-0.5**
BCPM	**Bancas Point**	**3.65**	**111**		**Pn**	**03 18 24.0**	**-0.9**
CHUM	**Lake Minchumin**	**3.66**	**314**		**Pn**	**03 18 24.7**	**-0.2**
POKR	**Poker Plat Res**	**3.71**	**353**	P	**Pn**	**03 18 24.9**	**-0.7**
	baz=172,SNR=26						
POKR	**Poker Plat Res**	**3.71**	**353**		**Pn**	**03 18 24.9**	**-0.7**
PNL	**Peninsula**	**3.89**	**114**		**Pn**	**03 18 27.8**	**-0.4**
I23K	**Minto, Yukon-K**	**3.94**	**342**	P	**Pn**	**03 18 28.2**	**-0.6**
	baz=159						
I23K				Sb	**Sb**	**03 19 29.1**	**+2.5**
	baz=159						
AUL	**Augustine Lava**	**4.06**	**242**		**Pn**	**03 18 30.5**	**+0.1**
MLY	**Manley**	**4.09**	**333**	P	**Pn**	**03 18 30.7**	**-0.2**
	baz=149,SNR=12						
MLY	**Manley**	**4.09**	**333**		**Pn**	**03 18 30.9**	**-0.1**
EGAK	**Eagle**	**4.10**	**33**		**Pn**	**03 18 31.7**	**+0.7**
DAWY	**Dawson**	**4.16**	**48**		**Pn**	**03 18 32.3**	**+0.5**
SVW2	**Sparrevohn**	**4.44**	**269**		**Pn**	**03 18 34.4**	**-1.4**
TT01	**Tatalina**	**4.74**	**292**		**Pn**	**03 18 38.5**	**-1.3**
TTA	**Tatalina**	**4.74**	**292**		**Pn**	**03 18 38.5**	**-1.4**
OHAK	**Old Harbor**	**5.51**	**223**		**Pn**	**03 18 49.0**	**-1.3**
IM03		**5.59**

JAVC	**Velka Javorina**	**2.85**	**159**	*e*PN	**Pn**	**04 13 40.8**	**+1.1**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**04 13 40.8**	**+0.7**
KHC				*e*PG	**Pb**	**04 13 46.3**	**+1.1**
KHC				*e*SN	**Sn**	**04 14 15.2**	**-0.3**
KHC				*e*SG	**Sg**	**04 14 24.1**	**-1.4**
	comp=Z,16nm,0.4s						
SMOL	**Smolenice**	**3.13**	**164**	*e*PG	**Pg**	**04 13 53.2**	**+0.3**
SMOL				*e*SG	**Sg**	**04 14 32.7**	**-0.8**
SMOL				*e*LG	Lg	04 14 42.2	
LANS	**Liptovska Anna**	**3.21**	**136**	*e*PG	**Pg**	**04 13 54.5**	**+0.1**
LANS				*e*SG	**Sg**	**04 14 34.8**	**-1.2**
LANS				*e*LG	Lg	04 14 42.2	
MODS	**Modra-Piesok**	**3.24**	**166**	*e*PG	**Pg**	**04 13 53.9**	**-1.1**
MODS				*e*SG	**Sb**	**04 14 34.0**	**+2.6**
MODS				*e*LG	Lg	04 14 40.9	
ZST	**Bratislava**	**3.39**	**168**	*e*SG	**Sb**	**04 14 36.7**	**+1.1**
ZST				*e*LG	Lg	04 14 43.1	
CONA	**Conrad Observa**	**3.60**	**182**	*e*Pn	**Pn**	**04 13 50.3**	**+0.3**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	**04 14 45.8**	**-2.7**
	comp=Z,9.6nm,0.4s						
BSD	**Bornholm Skovb**	**3.67**	**349**	*e*	**Pn**	**04 13 49.0**	**-1.7**
	baz=175,slow=11						
BSD				*i* P	**Pn**	**04 13 51.1**	**+0.3**
BSD				IAML		04 14 27.9	
	comp=Z,1.8nm,0.4s						
BSD				*e*S	**Sn**	**04 14 33.5**	**-1.2**
MOA	**Molln**	**3.86**	**199**	*e*Pn	**Pn**	**04 13 53.6**	**+0.1**
	comp=Z,0.4nm,0.2s						
MOA				*e*Sg	**Sg**	**04 14 56.3**	**-0.6**
	comp=Z,9.6nm,0.5s						
ARSA	**Arzberg**	**4.29**	**185**	*e*Pn	**Pn**	**04 13 59.4**	**0.0**
	comp=Z,0.3nm,0.1s						
ARSA				*e*Sn	**Sn**	**04 14 51.4**	**+1.2**
	comp=Z,1.2nm,0.3s						
KBA	**Koelnbreinsper**	**4.80**	**203**	*e*Pn	**Pn**	**04 14 05.3**	**-1.2**
	comp=Z,0.4nm,0.2s						
KBA				*e*Sg	**Sg**	**04 15 22.8**	**-4.2**
	comp=Z,0.6nm,0.0s						
WTTA	**Wattenberg**	**5.16**	**216**	*e*Pn	**Pn**	**04 14 10.2**	**-1.4**
	comp=Z,0.5nm,0.2s						
WTTA				*e*Sn	**Sn**	**04 15 13.3**	**+1.5**
	comp=Z,0.9nm,0.3s						

*AEIC **21** 04:41:45±1.2, 59°.93N±0°.04×153°.32W±0°.06, h135km±4km, ML3.8, Error ellipse: s-maj=6.3km s-min=2.4km az=145.0*
*ANF **21** 04:41:45.5±0.7, 60°.04N×153°.01W, h145km±6km, ML4.2/12, Error ellipse: s-maj=7.0km s-min=5.1km az=75.0*
*IDC **21** 04:41:48.6±6.2, 60°.37N×153°.33W, h151km±57km, mb3.8/2, mb1 4.0/6, mb1mx3.3/38, mbtmp4.3/6, Error ellipse: s-maj=54.6km s-min=27.3km az=36.0*

ISC 21 04:41:44.0±0.8, 59°.97N±0°.04×153°.27W±0°.04, h140km±5km, n184, σ0s86/216, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.10**	**95**		**Pn**	**04 42 02.9**	**-0.1**
IVE	**Iliamna Volcan**	**0.14**	**68**		**Pn**	**04 42 02.9**	**-0.2**
ILIM	**Iliamna**	**0.19**	**53**		**Pn**	**04 42 03.2**	**+0.1**
OPT	**Oil Point**	**0.32**	**177**		**Pn**	**04 42 03.4**	**-0.1**
OPT					**Sn**	**04 42 17.1**	**-1.0**
RED	**Redoubt Volcan**	**0.52**	**28**		**Pn**	**04 42 04.5**	**+0.2**
RDWB	**Redoubt West**	**0.56**	**22**		**Pn**	**04 42 04.6**	**-0.1**
RDWB					**Sn**	**04 42 19.8**	**-0.7**
AUL	**Augustine Lava**	**0.59**	**188**		**Pn**	**04 42 04.7**	**0.0**
AUL					**Sn**	**04 42 19.8**	**-0.6**
AU22	**Augustine Moun**	**0.60**	**184**		**Pn**	**04 42 04.5**	**-0.2**
AU22					**Sn**	**04 42 19.7**	**-0.7**
AUW	**Augustine West**	**0.61**	**190**		**Pn**	**04 42 05.0**	**+0.2**
AUCH	**Augustine Cone**	**0.61**	**189**		**Pn**	**04 42 05.0**	**+0.1**
AUCH					**Sn**	**04 42 19.9**	**-0.8**
AUQ	**Augustine Qik'**	**0.62**	**187**		**Pn**	**04 42 04.9**	**-0.1**
NCT	**North Crescent**	**0.62**	**16**		**Pn**	**04 42 05.1**	**+0.1**
NCT					**Sn**	**04 42 20.5**	**-0.5**
DFR	**Drift River**	**0.69**	**24**		**Pn**	**04 42 05.5**	**0.0**
DFR					**Sn**	**04 42 21.7**	**-0.1**
HOM	**Homer**	**0.88**	**110**	P	**Pn**	**04 42 07.1**	**+0.4**
	baz=289,SNR=44						
HOM				S	**Sn**	**04 42 24.2**	**+0.3**
	baz=289						
HOM	**Homer**	**0.88**	**110**		**Pn**	**04 42 07.3**	**+0.6**
CNPM	**China Poot**	**1.12**	**112**		**Pn**	**04 42 09.0**	**+0.1**
CNPM					**Sn**	**04 42 26.8**	**-1.0**
BRLK	**Bradley Lake**	**1.22**	**99**		**Pn**	**04 42 10.1**	**+0.2**
BRSE	**Bradley Lake S**	**1.29**	**99**		**Pn**	**04 42 10.9**	**+0.3**
BRSE					**Sn**	**04 42 30.2**	**-0.7**
CAPN	**Captain Cook N**	**1.32**	**52**	P	**Pn**	**04 42 13.0**	**+2.2**
	baz=233						
CAPN				S	**Sn**	**04 42 31.6**	**+0.3**
	baz=233						
CAPN	**Captain Cook N**	**1.32**	**52**		**Pn**	**04 42 13.2**	**+2.4**
SPCR	**Spurr Chakacha**	**1.34**	**22**		**Pn**	**04 42 11.8**	**+0.6**
SPCR					**Sn**	**04 42 32.1**	**+0.2**
SPBG	**Spurr Blockage**	**1.37**	**18**		**Pn**	**04 42 12.4**	**+0.9**
SPBG					**Sn**	**04 42 33.4**	**+0.9**
SPCN	**Chakachatna No**	**1.37**	**22**		**Pn**	**04 42 12.2**	**+0.8**
SPCP	**Crater Peak Br**	**1.42**	**22**		**Pn**	**04 42 12.8**	**+0.8**
SPCP					**Sn**	**04 42 34.3**	**+0.8**
SPCG	**Spurr Capps Gl**	**1.47**	**24**		**Pn**	**04 42 13.2**	**+0.7**
KAPH	**Katmai Pasha**	**1.48**	**202**		**Pn**	**04 42 12.0**	**-0.6**
KAPH					**Sn**	**04 42 33.1**	**-1.4**
SVW2	**Sparrevohn**	**1.61**	**316**		**Pn**	**04 42 13.7**	**-0.3**
SLKM	**Skilak Lake**	**1.61**	**69**		**Pn**	**04 42 14.0**	**0.0**
SLKM					**Sn**	**04 42 36.4**	**-0.6**
KAHG	**Katmai Hook Gl**	**1.62**	**205**		**Pn**	**04 42 13.7**	**-0.4**
KAWH	**Katmai**	**1.77**	**207**		**Pn**	**04 42 15.3**	**-0.6**
O22K	**Cooper Landing**	**1.84**	**72**	P	**Pn**	**04 42 17.1**	**+0.6**
	baz=255,SNR=37						
O22K				S	**Sn**	**04 42 40.1**	**-1.4**
	baz=255						
O22K	**Cooper Landing**	**1.84**	**72**		**Pn**	**04 42 17.1**	**+0.6**
FIS	**Fire Island**	**1.91**	**51**		**Pn**	**04 42 18.5**	**+1.2**
KCG	**Knife Ck. Glac**	**1.92**	**211**		**Pn**	**04 42 17.0**	**-0.5**
SEW	**Seward**	**1.92**	**84**		**Pn**	**04 42 17.9**	**+0.5**
SUA	**Susitna One**	**1.95**	**38**		**Pn**	**04 42 18.6**	**+0.7**
KBM	**Katmai Bkd Mtn**	**1.97**	**211**		**Pn**	**04 42 18.0**	**-0.2**
KELA	**Mount Kelaz**	**1.99**	**221**		**Pn**	**04 42 17.6**	**-0.8**
MGLS	**Mageik Landsli**	**2.08**	**209**		**Pn**	**04 42 19.0**	**-0.5**
ANCK	**Angle Creek**	**2.11**	**214**		**Pn**	**04 42 19.5**	**-0.4**
CAHL	**Cahill**	**2.19**	**210**		**Pn**	**04 42 20.4**	**-0.4**
SKT	**Skwentna**	**2.19**	**22**		**Pn**	**04 42 21.3**	**+0.6**
KDAK	**Kodiak Island**	**2.22**	**171**		**Pn**	**04 42 19.7**	**-1.4**
KJL	**Kejulik**	**2.26**	**213**		**Pn**	**04 42 21.4**	**-0.2**
PMR	**Palmer**	**2.60**	**49**		**Pn**	**04 42 25.6**	**-0.2**
PWL	**Port Wells**	**2.60**	**68**		**Pn**	**04 42 25.5**	**-0.4**
PLK5	**Peulik 5**	**2.72**	**225**		**Pn**	**04 42 27.3**	**0.0**
PLK2	**Peulik 2**	**2.72**	**217**		**Pn**	**04 42 27.3**	**0.0**
OHAK	**Old Harbor**	**2.75**	**180**		**Pn**	**04 42 25.9**	**-1.8**
KNK	**Knik Glacier**	**2.77**	**56**		**Pn**	**04 42 27.5**	**-0.5**
PLK1	**Peulik 1**	**2.78**	**220**		**Pn**	**04 42 27.9**	**-0.2**
GHO	**Glory Hole Cre**	**2.79**	**48**		**Pn**	**04 42 27.7**	**-0.6**
CUT	**Chulitna**	**2.84**	**29**	P	**Pn**	**04 42 29.1**	**+0.3**
	baz=212,SNR=22						
CUT				S	**Sn**	**04 43 03.1**	**-0.4**
	baz=212						
CUT	**Chulitna**	**2.84**	**29**		**Pn**	**04 42 29.4**	**+0.5**
PLBL	**Peulik Blue Cr**	**2.93**	**221**		**Pn**	**04 42 30.0**	**0.0**
PPLA	**Purkeypile**	**2.99**	**10**		**Pn**	**04 42 32.1**	**+1.4**
SML	**Sawmill**	**3.04**	**50**		**Pn**	**04 42 31.0**	**-0.4**
GLI	**Glacier Island**	**3.19**	**71**		**Pn**	**04 42 34.0**	**+0.7**
TT01	**Tatalina**	**3.23**	**337**		**Pn**	**04 42 33.8**	**0.0**
TTA	**Tatalina**	**3.25**	**337**		**Pn**	**04 42 34.0**	**-0.2**
HIN	**Hinchinbrook I**	**3.41**	**80**	Pn	**Pn**	**04 42 37.2**	**+1.1**
HIN					**Sn**	**04 43 15.0**	**-1.5**
SII	**Sitkinak Islan**	**3.45**	**188**		**Pn**	**04 42 34.9**	**-1.9**
SCM	**Sheep Creek Mo**	**3.45**	**55**		**Pn**	**04 42 36.5**	**-0.3**
FID	**Port Fidalgo**	**3.46**	**74**		**Pn**	**04 42 37.0**	**+0.1**
HUR	**Hurricane**	**3.49**	**28**		**Pn**	**04 42 37.5**	**+0.3**
Q23K	**Middleton Isla**	**3.55**	**96**	P	**Pn**	**04 42 37.8**	**-0.1**
	baz=281						
Q23K				S	**Sn**	**04 43 18.8**	**-0.8**
	baz=281						
Q23K	**Middleton Isla**	**3.55**	**96**		**Pn**	**04 42 38.0**	**+0.1**
MID	**Middleton Isla**	**3.55**	**96**		**Pn**	**04 42 38.3**	**+0.4**
WAT1	**Susitna Watana**	**3.66**	**36**		**Pn**	**04 42 39.3**	**-0.1**
WAT6	**Susitna Watana**	**3.74**	**43**		**Pn**	**04 42 40.3**	**-0.3**
WAT2	**Susitna Watana**	**3.75**	**35**		**Pn**	**04 42 40.5**	**-0.2**
KTH	**Kantishna Hill**	**3.77**	**16**		**Pn**	**04 42 41.1**	**+0.2**
TRF	**Thorofare Moun**	**3.77**	**21**		**Pn**	**04 42 41.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.79**	**78**		**Pn**	**04 42 41.5**	**+0.5**
DIV	**Divide**	**3.88**	**69**		**Pn**	**04 42 43.3**	**+0.9**
KLU	**Klutina**	**3.92**	**64**		**Pn**	**04 42 42.5**	**-0.4**
RND	**Reindeer**	**4.04**	**29**		**Pn**	**04 42 44.5**	**+0.1**
M24K	**Tolsona, Glenn**	**4.06**	**55**	P	**Pn**	**04 42 44.9**	**+0.2**
	baz=241,SNR=9.0						
M24K				S	**Sn**	**04 43 31.4**	**-0.5**
	baz=241						
M24K	**Tolsona, Glenn**	**4.06**	**55**		**Pn**	**04 42 45.2**	**+0.5**
DHY	**Denali Highway**	**4.21**	**40**		**Pn**	**04 42 46.6**	**-0.1**
PS12	**TAPS Pump St12**	**4.27**	**66**		**Pn**	**04 42 48.5**	**+1.2**
BPAW	**Bear Paw Mtn.**	**4.29**	**14**		**Pn**	**04 42 47.5**	**-0.1**
GOAT	**Goat Mountain**	**4.30**	**78**		**Pn**	**04 42 48.6**	**+0.8**
MCK	**McKinley**	**4.30**	**27**	P	**Pn**	**04 42 48.2**	**+0.4**
	baz=211,SNR=60						
MCK				S	**Sn**	**04 43 36.0**	**-1.5**
	baz=211						
MCK	**McKinley**	**4.30**	**27**		**Pn**	**04 42 48.2**	**+0.4**
CHIR	**Chirikof Islan**	**4.34**	**198**		**Pn**	**04 42 46.5**	**-1.9**
PS11	**TAPS Pump St11**	**4.34**	**57**		**Pn**	**04 42 48.1**	**-0.3**
BMRM	**Bremner River**	**4.40**	**73**		**Pn**	**04 42 49.8**	**+0.6**
KAIM	**Kayak Island**	**4.45**	**87**		**Sn**	**04 43 42.3**	**+1.3**
KAIM	**Kayak Island**	**4.45**	**87**		**Pn**	**04 42 50.7**	**+0.9**
HMT	**Hamilton**	**4.52**	**81**		**Pn**	**04 42 51.5**	**+0.8**
N25K	**Chitina, Valde**	**4.55**	**65**	P	**Pn**	**04 42 50.8**	**-0.5**
	baz=252,SNR=33						
N25K				S	**Sn**	**04 43 41.6**	**-2.0**
	baz=252						
N25K	**Chitina, Valde**	**4.55**	**65**		**Pn**	**04 42 52.3**	**+1.1**
CHGN	**Chignik**	**4.58**	**219**		**Pn**	**04 42 50.7**	**-0.7**
BWN	**Browne**	**4.58**	**21**		**Pn**	**04 42 52.5**	**+1.0**
NICHA	**Nichawak Mount**	**4.66**	**83**		**Pn**	**04 42 53.0**	**+0.4**
SUCK	**Suckling Hills**	**4.76**	**85**		**Sn**	**04 43 48.5**	**+0.1**
SUCK	**Suckling Hills**	**4.76**	**85**		**Pn**	**04 42 54.9**	**+1.0**
BERG	**Berg Lake**	**4.79**	**81**		**Pn**	**04 42 55.2**	**+0.8**
PAX	**Paxson**	**4.80**	**48**		**Pn**	**04 42 54.8**	**+0.3**
GLB	**Gilahina Butte**	**4.88**	**68**		**Pn**	**04 42 56.5**	**+1.0**
VNHG	**Veniaminof 1**	**4.89**	**222**		**Pn**	**04 42 55.4**	**-0.3**
VRDI	**Verde Repeater**	**5.00**	**71**		**Pn**	**04 42 57.5**	**+0.3**
NEA2	**Nenana**	**5.04**	**21**	P	**Pn**	**04 42 57.2**	**-0.4**
	baz=205,SNR=70						
NEA2				S	**Sn**	**04 43 53.1**	**-1.9**
	baz=205						
NEA2	**Nenana**	**5.04**	**21**		**Pn**	**04 42 57.5**	**-0.1**
VNWF	**Veniaminof 8**	**5.08**	**224**		**Pn**	**04 42 57.8**	**-0.4**
CRQM	**Cirque**	**5.09**	**77**		**Pn**	**04 42 59.6**	**+1.1**
WRH	**Wood River Hil**	**5.13**	**26**		**Pn**	**04 42 58.6**	**-0.1**
MLY	**Manley**	**5.22**	**12**	P	**Pn**	**04 42 59.6**	**-0.4**
	baz=194,SNR=40						
MLY	**Manley**	**5.22**	**12**		**Pn**	**04 42 59.7**	**-0.3**
SNH	**Sunshine Point**	**5.23**	**83**		**Pn**	**04 43 01.0**	**+0.9**
MCARA	**McCarthy VSAT**	**5.23**	**70**		**Pn**	**04 43 01.1**	**+0.9**
TGL	**Tana Glacier**	**5.24**	**77**		**Pn**	**04 43 01.3**	**+0.9**
KULT	**Kultieth River**	**5.28**	**82**		**Pn**	**04 43 01.6**	**+0.6**
CCB	**Clear Creek Bu**	**5.34**	**26**		**Pn**	**04 43 01.3**	**-0.3**
HDA	**Harding Lake**	**5.35**	**31**	P	**Pn**	**04 43 01.5**	**-0.2**
	baz=216,SNR=74						
HDA				S	**Sn**	**04 43 59.8**	**-2.5**
	baz=216						
HDA	**Harding Lake**	**5.35**	**31**		**Pn**	**04 43 01.5**	**-0.2**
BARK	**Barkley Ridge**	**5.40**	**81**		**Pn**	**04 43 03.4**	**+0.9**
MENT	**Mentasta**	**5.46**	**53**		**Pn**	**04 43 03.6**	**+0.4**
PTPK	**Patty Peak**	**5.46**	**72**		**Pn**	**04 43 04.6**	**+1.2**
ISLE	**Juniper Island**	**5.47**	**79**		**Pn**	**04 43 04.5**	**+0.9**
KIAG	**Kiagna River**	**5.49**	**75**		**Pn**	**04 43 04.5**	**+0.8**
PS08	**TAPS Pump Stn8**	**5.49**	**30**		**Pn**	**04 43 03.3**	**-0.3**
RIDG	**Independent Ri**	**5.50**	**43**		**Pn**	**04 43 04.5**	**+0.8**
BALM	**Baldy**	**5.50**	**74**		**Pn**	**04 43 04.8**	**+0.9**
I23K	**Minto, Yukon-K**	**5.50**	**17**	P	**Pn**	**04 43 03.6**	**-0.1**
	baz=201,SNR=122						
I23K	**Minto, Yukon-K**	**5.50**	**17**		**Pn**	**04 43 04.2**	**+0.5**
TCOL	**CIGO, UAF Yank**	**5.53**	**25**	P	**Pn**	**04 43 03.9**	**-0.1**
	baz=210,SNR=42						
TCOL				S	**Sn**	**04 44 05.6**	**-1.0**
	baz=210						
TCOL	**CIGO, UAF Yank**	**5.53**	**25**		**Pn**	**04 43 04.0**	**-0.1**
MDM	**Murphy Dome**	**5.53**	**23**		**Pn**	**04 43 04.0**	**-0.1**
COLA	**College**	**5.53**	**25**		**Pn**	**04 43 03.8**	**-0.3**
IL31		**5.56**	**29**		**Pn**	**04 43 05.4**	**-0.4**
ILAR	**Eielson Array**	**5.66**	**29**	P	**Pn**	**04 43 05.4**	**-0.5**
	16nm,0.3s,baz=216,slow=14,SNR=1031						
ILAR				S	**Sn**	**04 44 07.5**	**-2.4**
	4.3nm,0.3s,baz=339,slow=25,SNR=7.6						
ILAR	**Eielson Array**	**5.66**	**29**	Pn	**Pn**	**04 43 05.2**	**-0.6**
ILAR					**Sn**	**04 44 08.3**	**-1.5**
MESA	**MESA**	**5.67**	**83**		**Pn**	**04 43 07.0**	**+0.7**
DOT	**Dot Lake**	**5.71**	**46**		**Pn**	**04 43 07.0**	**+0.4**
YAH	**Yahtse**	**5.77**	**81**		**Pn**	**04 43 08.9**	**+1.3**
GRNC	**Granite Creek**	**5.77**	**77**		**Pn**	**04 43 08.3**	**+0.8**
POKR	**Poker Plat Res**	**5.83**	**25**	P	**Pn**	**04 43 08.0**	**-0.2**
	baz=210,SNR=29						
POKR				S	**Sn**	**04 44 12.4**	**-1.4**
	baz=210						
POKR	**Poker Plat Res**	**5.83**	**25**		**Pn**	**04 43 08.1**	**0.0**
BARN	**Barnard Glacie**	**5.84**	**74**		**Pn**	**04 43 09.7**	**+1.2**
SCRK	**Sand Creek**	**5.94**	**43**	P	**Pn**	**04 43 09.3**	**-0.5**
	baz=232,SNR=15						
SCRK				S	**Sn**	**04 44 13.4**	**-3.3**
	baz=232						
SCRK	**Sand Creek**	**5.94**	**43**		**Pn**	**04 43 09.3**	**-0.5**
RKAV	**Rock Avalanche**	**5.97**	**82**		**Pn**	**04 43 11.4**	**+1.3**
CTGM	**Chitina Glacie**	**5.99**	**75**		**Pn**	**04 43 11.3**	**+0.9**
SDPT	**Sand Point**	**6.03**	**223**		**Pn**	**04 43 09.4**	**-1.4**
IM03		**6.04**	**358**		**Pn**	**04 43 11.7**	**+0.8**
IMAR	**Indian Mountai**	**6.04**	**358**		**Pn**	**04 43 11.8**	**+0.9**
CHX	**Chaix Hills**	**6.09**	**84**		**Pn**	**04 43 12.6**	**+0.8**
PS06	**TAPS Pump Stn6**	**6.13**	**14**		**Pn**	**04 43 12.8**	**+0.8**
LOGN	**Logan Glacier**	**6.14**	**77**		**Pn**	**04 43 13.4**	**+0.9**
SAMH	**Samovar Hills**	**6.26**	**83**		**Pn**	**04 43 15.2**	**+1.2**
BC03		**6.31**	**56**		**Pn**	**04 43 15.6**	**+1.1**
BCAR	**Beaver Creek A**	**6.31**	**56**		**Pn**	**04 43 15.3**	**+0.7**
YUK2	**White River**	**6.33**	**68**		**Pn**	**04 43 15.8**	**+0.8**
BVCY	**Beaver Creek**	**6.48**	**62**		**Pn**	**04 43 18.3**	**+1.5**
YUK3	**Moose Creek**	**6.51**	**68**		**Pn**	**04 43 18.5**	**+1.0**
PCA	**Pinnacle**	**6.52**	**83**		**Pn**	**04 43 18.5**	**+1.1**
PS4A	**Pavlof South-4**	**6.53**	**229**		**Pn**	**04 43 17.6**	**0.0**
YUK1	**Sand Pete Hill**	**6.56**	**65**		**Pn**	**04 43 19.6**	**+1.6**
K27K	**Chicken**	**6.66**	**47**	P	**Pn**	**04 43 18.4**	**-0.7**
	baz=237						
K27K				S	**Sn**	**04 44 31.4**	**-2.3**
	baz=237						
K27K	**Chicken**	**6.66**	**47**		**Pn**	**04 43 19.6**	**+0.4**
DT1	**Dutton Round H**	**6.87**	**229**		**Pn**	**04 43 22.1**	**-0.1**
PS05	**TAPS Pump Stn5**	**6.97**	**9**		**Pn**	**04 43 24.4**	**+1.0**
PNL	**Peninsula**	**7.00**	**86**		**Pn**	**04 43 24.6**	**+0.8**
EGAK	**Eagle**	**7.41**	**44**		**Pn**	**04 43 29.0**	**-0.2**
COLD	**Coldfoot**	**7.42**	**9**	P	**Pn**	**04 43 29.4**	**+0.1**
	baz=192,SNR=16						
COLD	**Coldfoot**	**7.42**	**9**		**Pn**	**04 43 29.7**	**+0.4**
YUK6	**Outpost Mounta**	**7.43**	**76**		**Pn**	**04 43 30.2**	**+0.3**
FYU	**Fort Yukon**	**7.54**	**25**	Pn	**Pn**	**04 43 31.3**	**+0.3**
YUK7	**Dusty Glacier**	**7.55**	**89**		**Pn**	**04 43 32.3**	**+1.0**
DAWY	**Dawson**	**7.71**	**52**		**Pn**	**04 43 33.4**	**+0.1**
HYT	**Haines Junctio**	**7.85**	**77**	Pn	**Pn**	**04 43 36.6**	**+1.2**
HYT					**Sn**	**04 45 01.3**	**-1.4**
BM03	**Burnt Mountain**	**8.40**	**23**		**Pn**	**04 43 42.1**	**-0.4**
TOLK	**Toolik Lake Re**	**8.85**	**9**	P	**Pn**	**04 43 48.9**	**+0.3**
	baz=192,SNR=8.1						
TOLK	**Toolik Lake Re**	**8.85**	**9**		**Pn**	**04 43 49.1**	**+0.5**
SKAG	**Skagway**	**9.08**	**85**	Pn	**Pn**	**04 43 51.0**	**-0.5**
WHY	**Whitehorse**	**9.15**	**78**	Pn	**Pn**	**04 43 53.4**	**+0.8**
INK	**Inuvik**	**11.95**	**37**	P	**Pn**	**04 44 30.1**	**+0.7**
	1.0nm,0.3s,baz=237,slow=19,SNR=15						
INK	**Inuvik**	**11.95**	**37**		**Pn**	**04 44 29.7**	**+0.2**
DLBC	**Dease Lake**	**11.99**	**87**	P	**P**	**04 44 36.2**	**-1.0**
	2.2nm,0.3s,baz=264,slow=5.0,SNR=20						
YKA	**Yellowknife Ar**	**18.59**	**66**	P	**Pn**	**04 45 51.6**	**-0.2**
	0.4nm,0.3s,baz=280,slow=8.6,SNR=14						
SONM	**Songino Array**	**54.70**	**306**	P	**P**	**04 50 59.9**	**+1.6**
	1.1nm,0.6s,baz=52,slow=7.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**57.32**	**323**	P	**P**	**04 51 17.6**	**+1.0**
	3.3nm,0.5s,baz=36,slow=6.6,SNR=7.3						

*IDC **21** 04:53:45.5±4.3, 20°.35S×178°.25W, h563km±47km, mb3.3/10, mb1 3.6/11, mb1mx3.4/23, mbtmp4.2/11, Error ellipse: s-maj=53.6km s-min=21.3km az=151.0*
*NEIC **21** 04:53:47.3±0.5, 20°.35S±0°.08×178°.3W±0°.2, h600km±9km, mb4.3/17, Error ellipse: s-maj=22.5km s-min=11.7km az=100.0*

ISC 21 04:53:46.7±0.7, 20°.5S±0°.2×178°.3W±0°.1, h587km, n41, σ0s86/43, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.36**	**261**	P	**P**	**04 56 50.6**	**+1.2**
	0.6nm,0.3s,baz=116,slow=20,SNR=6.0						
DZM	**Mont Dzumac**	**14.36**	**261**	P	**P**	**04 56 49.6**	**+0.2**
EIDS	**Eidsvold**	**28.63**	**254**	P	**P**	**04 58 57.2**	**-0.2**
EIDS				IAmb	IAmb	04 59 04.6	
	comp=Z,4.7nm,1.1s						
ARMA	**Armidale**	**28.87**	**244**	P	**P**	**04 58 60.0**	**+0.4**
ARMA				IAmb	IAmb	04 59 01.2	
	comp=Z,8.9nm,1.1s						
CTAO	**Charters Tower**	**33.26**	**264**	P	**P**	**04 59 36.5**	**-0.4**
CTAO				IAmb	IAmb	04 59 38.0	
	comp=Z,9.7nm,0.8s						
COEN	**Coen**	**37.34**	**274**	P	**P**	**05 00 09.8**	**-0.9**
COEN				IAmb	IAmb	05 00 12.1	
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**37.59**	**244**	P	**P**	**05 00 13.3**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=73,slow=11,SNR=4.1						
BBOO	**Buckleboo**	**42.35**	**243**	P	**P**	**05 00 50.3**	**-0.3**
BBOO				IAmb	IAmb	05 00 51.1	
	comp=Z,6.4nm,0.8s						
WR0	**Warramunga Arr**	**44.18**	**262**	P	**P**	**05 01 04.5**	**-0.4**
WR0				IAmb	IAmb	05 01 05.7	
	comp=Z,3.6nm,0.5s						
AS31	**Alice Springs**	**44.30**	**257**	P	**P**	**05 01 05.3**	**-0.5**
ASAR	**Alice Springs**	**44.30**	**257**	P	**P**	**05 01 06.0**	**+0.2**
	comp=Z,9.2nm,0.5s,baz=97,slow=7.5,SNR=150						
ASAR				PcP	**PcP**	**05 02 38.1**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=93,slow=4.1,SNR=7.3						
ASAR	**Alice Springs**	**44.30**	**257**	P	**P**	**05 01 05.6**	**-0.2**
ASAR					**PcP**	**05 02 36.3**	**-0.7**
WB0	**Warramunga Arr**	**44.35**	**262**	P	**P**	**05 01 05.6**	**-0.6**
WB2	**Warramunga Arr**	**44.36**	**262**	P	**P**	**05 01 06.2**	**-0.1**
WB2				IAmb	IAmb	05 01 06.7	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**05 01 05.9**	**-0.5**
	comp=Z,4.8nm,0.5s,baz=97,slow=7.7,SNR=107						
WRA				PcP	**PcP**	**05 02 38.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=100,slow=3.1,SNR=2.9						
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**05 01 06.0**	**-0.5**
MTN	**Manton Dam**	**48.92**	**271**	P	**P**	**05 01 39.8**	**-0.9**
FORT	**Forrest**	**49.09**	**247**	P	**P**	**05 01 41.1**	**-0.6**
KNRA	**Kununurra**	**50.42**	**266**	P	**P**	**05 01 50.9**	**-0.8**
KNRA				IAmb	IAmb	05 01 52.5	
	comp=Z,8.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.80**	**262**	P	**P**	**05 02 08.6**	**-0.1**
SOEI	**Soe**	**56.26**	**272**	P	**P**	**05 02 30.4**	**-2.6**
MORW	**Morawa**	**59.62**	**248**	P	**P**	**05 02 55.5**	**+0.1**
CASY	**Casey**	**63.91**	**205**	P	**P

NIL	**Nilore**	**68.53**	**300**	P	**P**	**05 24 00.4**	**+1.7**
NIL				IAmb	IAmb	05 24 00.5	
	comp=Z,8.7nm,0.9s						
BRVK	**Borovoye**	**70.07**	**321**	P	**P**	**05 24 08.4**	**+0.5**
BRVK				IAmb	IAmb	05 24 09.7	
	comp=Z,5.9nm,1.1s						
KK31	**Karatay Array**	**70.08**	**311**	P	**P**	**05 24 08.8**	**+0.6**
KK31				IAmb	IAmb	05 24 09.4	
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**70.08**	**311**	P	**P**	**05 24 05.4**	**-2.7**
KKAR				IAmb	IAmb	05 24 09.4	
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**70.08**	**311**	P	**P**	**05 24 08.3**	**+0.2**
INK	**Inuvik**	**71.77**	**23**	P	**P**	**05 24 19.7**	**+1.9**
	comp=Z,3.1nm,0.9s,baz=311,slow=11,SNR=1.6						
ABKAR	**Akbulak array**	**76.81**	**318**	P	**P**	**05 24 46.9**	**-0.6**
ABKAR	**Akbulak array**	**76.81**	**318**	P	**P**	**05 24 47.0**	**-0.6**
YBH	**Yreka Blue Hor**	**79.87**	**49**	LR	LR	05 57 24.9	
	comp=Z,43nm,18.8s,baz=246,slow=33						
YKA	**Yellowknife Ar**	**80.14**	**28**	P	**P**	**05 25 07.1**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=283,slow=4.0,SNR=7.0						
NVAR	**Mina Array Bea**	**83.91**	**52**	P	**P**	**05 25 29.4**	**+3.1**
	comp=Z,0.2nm,0.4s,baz=289,slow=5.6,SNR=1.8						
ARCES	**ARCESS Array B**	**86.08**	**343**	P	**P**	**05 25 35.8**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=96,slow=4.9,SNR=10						
KBZ	**Khabaz**	**89.58**	**315**	P	**P**	**05 25 53.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=53,slow=2.1,SNR=2.2						
FINES	**FINESS Array B**	**90.51**	**336**	P	**P**	**05 25 56.6**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=86,slow=5.9,SNR=7.2						
DBIC	**Dimbokro**	**144.79**	**307**	PKP	**PKPdf**	**05 32 33.2**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=346,slow=11,SNR=4.1						
KIC	**Kosan Boka**	**144.89**	**306**	*e*PKP1	PKPbc	05 32 33.1	+0.1
	comp=Z,15nm,0.9s						
TIC	**Toumodi**	**144.93**	**307**	*e*PKP1	**PKPdf**	**05 32 33.3**	**-0.7**
LIC	**Lamto**	**145.20**	**306**	*e*PKP1	**PKPdf**	**05 32 34.0**	**-0.4**
	comp=Z,21nm,0.5s						
LPAZ	**La Paz**	**145.88**	**96**	PKPbc	**PKiKP**	**05 32 40.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=207,slow=4.5,SNR=4.6						

IDC 21 05:15:01.4±3.2, 30.20S×138.56E, h0km, mb1 2.9/3, mb1mx2.9/28, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=88.8km s-min=14.3km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.10**	**124**	Pn	Pn	05 15 51.1	-0.4
	0.2nm,0.3s,baz=305,slow=16,SNR=3.1						
STKA				Pg	Pb	05 15 58.1	+0.8
	0.5nm,0.3s,baz=291,slow=17,SNR=3.1						
STKA				Sn	Sn	05 16 29.2	-0.1
	0.7nm,0.3s,baz=300,slow=15,SNR=3.3						
STKA				Lg	Lg	05 16 40.0	
	2.4nm,0.3s,baz=8.1,slow=20,SNR=5.9						
ASAR	**Alice Springs**	**7.72**	**326**	Pn	Pn	05 16 56.0	+0.9
	0.1nm,0.3s,baz=150,slow=12,SNR=4.5						
ASAR				Sn	Sn	05 18 22.4	-0.8
	0.1nm,0.3s,baz=150,slow=22,SNR=3.9						
ASAR				Lg	Lg	05 19 06.1	
	0.0nm,0.3s,baz=138,slow=21,SNR=1.9						
WRA	**Warramunga Arr**	**10.90**	**339**	Pn	Pn	05 17 39.0	+0.2
	0.1nm,0.3s,baz=153,slow=11,SNR=5.6						

IDC 21 05:28:51.1±2.1, 6.25S×129.23E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=117.7km s-min=31.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.49**	**160**	Pn	Pn	05 32 15.8	-1.9
	0.3nm,0.3s,baz=339,slow=13,SNR=18						
WRA				Sn	Sn	05 34 45.2	-14
	0.2nm,0.3s,baz=352,slow=23,SNR=3.9						
ASAR	**Alice Springs**	**17.89**	**166**	P	P	05 33 02.9	+0.4
	0.2nm,0.3s,baz=348,slow=9.7,SNR=12						
MKAR	**Makanchi Array**	**67.18**	**327**	P	P	05 39 47.1	0.0
	0.4nm,0.5s,baz=111,slow=8.0,SNR=4.7						

IDC 21 05:35:39.0±2.7, 16.18S×170.95W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/32, mbtmp3.9/6, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=151.1km s-min=25.1km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**22.14**	**251**	*e*P	P	05 40 38.1	+1.6
	13nm,0.8s						
DZM				*e*LR	LR	05 45 19.2	
	comp=Z,170nm,26.2s						
DZM	**Mont Dzumac**	**22.14**	**251**	P	P	05 40 38.2	+1.7
	10.0nm,0.8s,baz=69,slow=17,SNR=4.3						
DZM				LR	LR	05 46 57.5	
	comp=Z,109nm,20.5s,baz=46,slow=31						
H11S2	**WAKE ISLAND Hy**	**40.88**	**327**	T	T	06 25 35.9	
	baz=149,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**40.89**	**327**	T	T	06 25 35.2	
	baz=149,slow=76,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**40.89**	**327**	T	T	06 25 38.3	
	baz=149,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**41.79**	**328**	T	T	06 26 21.2	
	baz=152,slow=80,SNR=2.8						
H11N1	**WAKE ISLAND Hy**	**41.80**	**328**	T	T	06 26 42.8	
	baz=152,slow=80,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**41.81**	**328**	T	T	06 26 20.6	
	baz=152,slow=80,SNR=3.2						
STKA	**Stephens Creek**	**45.71**	**241**	P	P	05 44 01.3	-0.8
	1.4nm,0.5s,baz=77,slow=10.0,SNR=3.9						
WRA	**Warramunga Arr**	**51.97**	**257**	P	P	05 44 49.5	-0.8
	0.3nm,0.6s,baz=94,slow=6.8,SNR=8.5						
WRA				LR	LR	06 04 44.0	
	comp=Z,31nm,19.4s,baz=90,slow=34						
ASAR	**Alice Springs**	**52.12**	**252**	P	P	05 44 51.5	0.0
	2.1nm,0.6s,baz=88,slow=8.2,SNR=33						
ASAR				LR	LR	06 05 16.2	
	comp=Z,33nm,18.1s,baz=94,slow=34						
NVAR	**Mina Array Bea**	**73.35**	**41**	P	P	05 47 13.3	+0.3
	0.7nm,0.7s,baz=200,slow=7.5,SNR=2.9						
ILAR	**Eielson Array**	**82.77**	**10**	P	P	05 48 04.5	0.0
	0.4nm,1.0s,baz=230,slow=4.2,SNR=2.5						

IDC 21 05:50:07.8±3.2, 3.52N×94.30E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/28, mbtmp3.6/4, ML4.4/1, Error ellipse: s-maj=120.5km s-min=27.8km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.52**	**17**	Pn	Pn	05 53 48.8	+0.6
	0.5nm,0.3s,baz=209,slow=11,SNR=6.0						
H08S2	**Diego Garcia H**	**24.43**	**243**	T	T	06 21 37.7	
	baz=62,slow=74,SNR=7.3						
H08S3	**Diego Garcia H**	**24.43**	**243**	T	T	06 21 36.0	
	baz=62,slow=74,SNR=25						
H08S1	**Diego Carcia H**	**24.44**	**243**	T	T	06 21 36.9	
	baz=62						
MKAR	**Makanchi Array**	**44.35**	**348**	P	P	05 58 19.6	-0.2
	0.5nm,0.5s,baz=157,slow=8.4,SNR=5.7						
WRA	**Warramunga Arr**	**45.72**	**122**	P	P	05 58 30.8	-0.3
	1.1nm,0.7s,baz=300,slow=9.1,SNR=8.6						
ASAR	**Alice Springs**	**47.10**	**127**	P	P	05 58 42.1	+0.2
	0.3nm,0.7s,baz=299,slow=8.3,SNR=2.4						

*JMA **21** 05:58:57.8±0.2, 37.27N×143.28E, h40km, M3.4*
*IDC **21** 05:59:02.3±8.9, 37.27N×143.18E, h76km±92km, mb3.2/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.4/4, ML2.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/19, Error ellipse: s-maj=79.4km s-min=28.0km az=119.0*

ISC 21 05:58:59.5±1.2, 37.25N±0.05×143.29E±0.09, h52km±12km, n16, σ1.913/28, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.79**	**307**	P	**Pn**	**05 59 26.9**	**-1.1**
JIKH				S	**Sn**	**05 59 48.6**	**-0.9**
JFK	**Kawauchi**	**1.93**	**274**	P	**Pn**	**05 59 29.3**	**-0.6**
JFK				*e*S	**Sn**	**05 59 51.9**	**-1.1**
JIO	**Ouri**	**1.95**	**309**	P	**Pn**	**05 59 29.3**	**-0.9**
JIO				S	**Sn**	**05 59 52.8**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.99**	**266**	P	**Pn**	**05 59 30.2**	**-0.6**
ONAJ				*e*S	**Sn**	**05 59 53.6**	**-1.0**
JMM	**Marumori**	**2.08**	**288**	*e*S	**Sn**	**05 59 55.5**	**-1.0**
JMK	**Ichinoseki**	**2.35**	**317**	P	**Pn**	**05 59 35.1**	**-0.6**
JMK				*e*S	**Sn**	**06 00 02.8**	**-0.6**
JFT	**Otama**	**2.37**	**277**	P	**Pn**	**05 59 36.5**	**+0.6**
JFT				S	**Sn**	**06 00 04.4**	**+0.7**
JOM	**Ohasama**	**2.72**	**325**	P	**Pn**	**05 59 40.2**	**-0.5**
JOM				S	**Sn**	**06 00 12.1**	**-0.2**
BSO1	**Boso 1**	**3.20**	**217**	P	**Pn**	**05 59 45.2**	**-1.6**
BSO1				*e*S	**Sn**	**06 00 22.6**	**-0.8**
JRY	**Ryogami san**	**3.74**	**252**	P	**Pn**	**05 59 54.1**	**-0.6**
JRY				*e*S	**Sn**	**06 00 34.5**	**-2.9**
MJAR	**Matsushiro Arr**	**4.13**	**262**	P	**Pn**	**06 00 01.9**	**+1.8**
	0.2nm,0.3s,baz=83,slow=15,SNR=4.8						
MJAR				S	**Sn**	**06 00 48.0**	**+0.9**
	0.2nm,0.3s,baz=69,slow=28,SNR=4.3						
MAT	**Matsushiro**	**4.13**	**262**	P	**Pn**	**06 00 01.8**	**+1.7**
MAT				*e*S	**Sn**	**06 00 47.6**	**+0.4**
KRVT	**Keravat (AS076**	**42.14**	**167**	LR	LR	06 23 20.5	
	comp=Z,36nm,20.9s,baz=80,slow=35						
ILAR	**Eielson Array**	**48.51**	**32**	P	**P**	**06 07 37.0**	**+0.2**
	0.4nm,0.6s,baz=261,slow=6.8,SNR=2.6						
WRA	**Warramunga Arr**	**57.51**	**190**	P	**P**	**06 08 43.5**	**0.0**
	0.7nm,0.6s,baz=10,slow=7.5,SNR=9.4						
WRA				pP	**pP**	**06 08 56.3**	**+0.6**
	1.0nm,0.7s,baz=7.6,slow=7.4,SNR=6.4						
ASAR	**Alice Springs**	**61.23**	**190**	P	**P**	**06 09 09.7**	**+0.4**
	0.3nm,0.6s,baz=7.5,slow=7.4,SNR=3.1						
ASAR				pP	**pP**	**06 09 22.9**	**+1.4**
	0.3nm,0.4s,baz=5.0,slow=6.7,SNR=4.4						

RSNC 21 06:08:30.9±1.3, 0.80N×77.97W, h0km±3km, ML2.7, Mw3.9, 3C-1D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMBC	**Cumbal**	**0.20**	**47**	*e*P	Pg	06 08 35.1	+0.4
CMBC				*e*S	Sg	06 08 38.5	+1.1
CUSE	**Cuicocha Este**	**0.65**	**221↑**	*e*P	Pg	06 08 43.1	-0.3
CUSE				*e*S	Sb	06 08 53.9	-1.4
OTAV	**Otavalo**	**0.74**	**221↑**	*e*P	Pg	06 08 44.6	-0.5
OTAV				*e*S	Sg	06 08 55.4	+0.7
OTAV				*i*		06 09 01.4	
	comp=Z,213nm,0.7s						
CPAS1	**Pasto**	**0.76**	**59**	*e*P	Pg	06 08 45.5	0.0
CPAS1	**Pasto**	**0.76**	**59**	*e*S	Sg	06 08 55.6	+0.4
GCUF	**Volcan Galeras**	**0.76**	**56**	*e*P	Pg	06 08 44.9	-0.5
GCUF				*e*S	Sb	06 08 57.3	-0.9
GCUF				*i*		06 09 01.1	
	comp=Z,185nm,0.3s						
CPAS2	**Pasto**	**0.83**	**60**	*e*P	Pg	06 08 46.8	-0.1
CPAS2	**Pasto**	**0.83**	**60**	*e*S	Sg	06 08 58.2	+0.5
PAC1	**Pacto, Paraso**	**0.98**	**237**	*e*P	Pg	06 08 48.9	-0.8
PAC1				*e*S	Sg	06 09 02.3	-0.1
CRUC	**La Cruz**	**1.27**	**53**	*e*P	Pg	06 08 54.8	-0.5
CRUC				*e*S	Sg	06 09 11.5	-0.4
BBAC	**Balboa, Cauca**	**1.41**	**31↓**	*e*P	Pg	06 08 56.9	-1.1
BBAC				*e*S	Sg	06 09 16.0	-0.4
BBAC				*i*		06 09 20.2	
	comp=Z,166nm,0.3s						
PUAC	**Puerto Asis, P**	**1.42**	**100**	*e*P	Pn	06 08 56.6	-1.5
PUAC				*e*S	Sg	06 09 15.8	-0.9
PUAC				*i*		06 09 18.0	
	comp=Z,185nm,0.2s						
SOTA	**Rioblanco**	**1.90**	**46**	*e*P	Pg	06 09 07.3	-0.1
SOTA				*e*S	Sn	06 09 26.9	-3.1
POPC	**Popayan, Colom**	**2.16**	**37**	*e*P	Pn	06 09 09.7	+1.3
POPC				*e*S	Sn	06 09 36.2	+0.2
PCON	**Cinco Dias**	**2.19**	**46**	*e*P	Pb	06 09 11.8	+0.1
PCON				*e*S	Sg	06 09 41.1	-0.1
PCON				*i*		06 09 48.8	
	comp=Z,35nm,0.7s						
GR1C	**Gorgona, Isla**	**2.19**	**355**	*e*P	Pn	06 09 07.4	-1.2
GR1C				*e*S	Sn	06 09 35.4	-1.1
GR1C				*i*		06 09 44.2	
	comp=Z,134nm,0.6s						
FLOC	**Florencia**	**2.44**	**71**	*e*P	Pb	06 09 14.2	-1.6
FLOC				*e*S	Sn	06 09 40.5	-2.3
FLOC				*i*		06 09 57.1	
	comp=Z,39nm,0.5s						
GARC	**Garzon, Huila**	**2.83**	**61**	*e*P	Pn	06 09 19.4	+1.7
GARC				*e*S	Sb	06 09 59.9	+1.9
GARC				*i*		06 10 07.5	
	comp=Z,58nm,0.3s						
MARP	**Paez Belalcaza**	**2.86**	**45**	*e*P	Pg	06 09 24.4	-1.4
PTLC	**Puerto Leguiza**	**3.24**	**101**	*e*P	Pn	06 09 25.0	+2.0
PTLC				*e*S	Sb	06 10 07.9	-1.4
PTLC				*i*		06 10 19.4	
	comp=Z,39nm,0.3s						
YOTC	**Yotoco, Valle**	**3.55**	**27**	*e*P	Pb	06 09 32.5	-2.2
YOTC				*e*S	Sn	06 10 08.6	-1.7
YOTC				*i*		06 10 33.9	
	comp=Z,5.4nm,0.6s						
ORTC	**Ortega, Tolima**	**4.12**	**41**	*e*P	Pn	06 09 39.7	+4.5
ORTC				*e*S	Sb	06 10 35.2	+0.5
ORTC				*i*		06 10 44.2	
	comp=Z,9.3nm,0.8s						
PRAC	**Prado**	**4.23**	**47**	*e*P	Pb	06 09 45.0	-1.3
PRAC				*e*S	Sb	06 10 41.2	+3.4
PRAC				*i*		06 10 53.9	
	comp=Z,5.3nm,0.5s						
MACC	**Macarena, Meta**	**4.33**	**72**	*e*P	Pb	06 09 48.6	+0.6
MACC				*e*S	Sb	06 10 42.1	+1.1
MACC				*i*		06 10 52.3	
	comp=Z,14nm,0.6s						
TOLC	**Tolima**	**4.60**	**35**	*e*P	Pn	06 09 46.9	+4.9
TOLC				*e*S	Sn	06 10 42.3	+5.9
TOLC				*i*		06 10 57.7	
	comp=Z,12nm,0.7s						
GUV2C	**Guyana, Caldas**	**5.11**	**31**	*e*P	Pn	06 09 54.6	+5.5
GUY2C				*e*S	Sb	06 11 00.9	-2.7
GUY2C				*i*		06 11 27.9	
	comp=Z,4.6nm,0.5s						
VILC	**Villavicencio,**	**5.39**	**52**	*e*P	Pn	06 09 58.0	+5.2
CBOC	**Ciudad Bolivar**	**5.39**	**21**	*e*P	Pn	06 09 56.1	+3.2
CBOC				*e*S	Sn	06 11 01.1	+5.3
CBOC				*i*		06 11 15.0	
	comp=Z,3.0nm,0.1s						

IDC 21 06:18:32.8±3.7, 49.30S×106.32E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/28, mbtmp3.7/4, Error ellipse: s-maj=134.9km s-min=28.3km az=105.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.50**	**25**	T	T	06 38 06.5	
	baz=201,slow=74,SNR=14						
H01W1	**Cape Leeuwin H**	**15.51**	**25**	T	T	06 38 06.5	
	baz=201,slow=74,SNR=14						
H01W3	**Cape Leeuwin H**	**15.52**	**25**	T	T	06 38 06.4	
	baz=201,slow=74,SNR=12						
ASAR	**Alice Springs**	**33.52**	**50**	P	P	06 25 14.3	+0.3
	0.8nm,1.0s,baz=203,slow=9.1,SNR=4.4						
FITZ	**Fitzroy Crossi**	**34.82**	**33**	P	P	06 25 26.1	+0.8
	2.6nm,1.1s,baz=229,slow=11,SNR=2.1						
VNDA	**Vanda**	**35.07**	**162**	P	P	06 25 28.0	+1.1
	1.5nm,1.0s,baz=300,slow=7.1,SNR=4.6						
WRA	**Warramunga Arr**	**36.87**	**47**	P	P	06 25 42.9	-0.1
	1.1nm,1.0s,baz=209,slow=8.5,SNR=5.2						
NVAR	**Mina Array Bea**	**146.50**	**92**	PKPbc	PKPdf	06 38 13.0	-1.3
	0.7nm,0.7s,baz=231,slow=7.1,SNR=3.9						
TXAR	**Lajitas Array**	**149.72**	**120**	PKPbc	PKPbc	06 38 23.6	-0.9
	0.3nm,0.7s,baz=205,slow=4.0,SNR=3.8						

RSNC 21 06:21:40.7±1.0, 6.80N×73.14W, h147km±4km, ML3.1, Mw3.6, 5C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**192↓**	*i*P	Pn	06 22 00.8	-0.3
BARC				*e*S	Sn	06 22 15.6	-0.9
BARC				*i*		06 22 16.8	
	comp=Z,286nm,0.2s						
BRRC	**Barranca, Sant**	**0.65**	**299↓**	*i*P	Pn	06 22 02.7	+0.1
BRRC				*e*S	Sn	06 22 19.7	+0.5
BRRC				*i*		06 22 22.6	
	comp=Z,215nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**39↓**	*i*P	Pn	06 22 03.6	+0.1
PAMC				*e*S	Sn	06 22 20.5	-0.3
PAMC				*i*		06 22 22.8	
	comp=Z,188nm,0.5s						
RUSC	**La Rusia**	**0.90**	**176↑**	*e*P	Pn	06 22 04.6	-0.4
RUSC				*e*S	Sn	06 22 22.9	-0.5
RUSC				*i*		06 22 23.9	
	comp=Z,116nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*e*P	Pn	06 22 07.3	-1.1
PTBC				*e*S	Sn	06 22 28.4	-1.0
PTBC				*i*		06 22 35.6	
	comp=Z,130nm,0.1s						
TAMC	**Tame, Arauca**	**1.39**	**105↑**	*i*P	Pn	06 22 09.0	+0.1
TAMC				*e*S	Sn	06 22 30.3	-0.2
TAMC				*i*		06 22 33.5	
	comp=Z,71nm,0.2s						
OCAC	**Ocana**	**1.45**	**353**	*e*P	Pn	06 22 08.9	-0.8
OCAC				*e*S	Sn	06 22 30.9	-1.0
OCAC				*e*S		06 22 31.2	
OCAC				*i*		06 22 35.6	
	comp=Z,196nm,0.3s						
SPBC	**San Pablo de B**	**1.47**	**219↑**	*e*P	Pn	06 22 09.6	-0.3
SPBC				*e*S	Sn	06 22 31.4	-0.7
SPBC				*i*		06 22 36.6	
	comp=Z,190nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*e*P	Pn	06 22 13.4	-0.4
ZARC				*e*S	Sn	06 22 39.1	-0.1
ZARC				*i*		06 22 44.7	
	comp=Z,139nm,0.2s						
SMLC	**San Martn de**	**2.20**	**335**	*e*P	Pn	06 22 17.1	-0.9
SMLC				*e*S	Sn	06 22 45.9	-0.8
SMLC				*i*		06 22 48.2	
	comp=Z,154nm,0.3s						
CHIC	**Chingaza**	**2.23**	**195**	*e*P	Pn	06 22 18.6	-0.3
CHIC				*e*S	Sn	06 22 48.3	+0.1
CHIC				*i*		06 22 54.1	
	comp=Z,73nm,0.3s						
HELC	**Santa Helena**	**2.45**	**256**	*e*P	Pn	06 22 21.0	-0.4
HELC				*e*S	Sn	06 22 52.9	+0.1
HELC				*i*		06 22 59.4	
	comp=Z,47nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*e*P	Pn	06 22 25.0	+0.2
GUY2C				*e*S	Sn	06 23 00.2	+1.5
GUY2C				*i*		06 23 07.4	
	comp=Z,90nm,0.5s						
VILC	**Villavicencio,**	**2.72**	**192**	*e*P	Pn	06 22 23.7	-1.0
VILC				*e*S	Sn	06 22 57.5	-1.1
VILC				*i*		06 23 05.5	
	comp=Z,64nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.77**	**159↑**	*i*P	Pn	06 22 23.7	-1.4
PTGC				*e*S	Sn	06 22 56.5	-2.8
PTGC				*i*		06 23 03.2	
	comp=Z,29nm,0.4s						
RREF	**El Recreo**	**2.89**	**230**	*e*P	Pn	06 22 23.4	-3.9
RREF				*e*S	Sn	06 22 59.8	-3.3
RREF				*i*		06 23 09.2	
	comp=Z,87nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P	Pn	06 22 28.7	+0.5
CBOC				*e*S	Sn	06 23 04.2	-0.6
CBOC				*i*		06 23 07.9	
	comp=Z,25nm,0.2s						
DBBC	**Dabeiba**	**3.06**	**274**	*e*P	Pn	06 22 28.1	-0.7
DBBC				*e*S	Sn	06 23 04.7	-1.2
DBBC				*i*		06 23 07.1	
	comp=Z,158nm,0.1s						
TOLC	**Tolima**	**3.09**	**225**	*e*P	Pn	06 22 29.3	-0.2
TOLC				*e*S	Sn	06 23 08.1	+1.0
MOTC	**Monteria, Cord**	**3.19**	**308**	*e*P	Pn	06 22 28.1	-2.2
MOTC				*e*S	Sn	06 23 06.8	-2.0
MOTC				*i*		06 23 22.1	
	comp=Z,40nm,0.5s						
ANIL	**Santa Ana**	**3.21**	**225**	*e*P	Pn	06 22 31.6	+0.6
ANIL				*e*S	Sn	06 23 11.5	+1.7
ANIL				*i*		06 23 17.4	
	comp=Z,17nm,0.4s						
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P	Pn	06 22 31.2	+0.2
ARGC				*e*S	Sn	06 23 09.4	-0.6
ARGC				*i*		06 23 20.2	
	comp=Z,24nm,0.9s						
SDV	**Santo Domingo**	**3.24**	**50**	*e*P	Pn	06 22 30.2	-1.0
SDV				*e*S	Sn	06 23 07.6	-2.6
SDV				*i*		06 23 12.0	
	comp=Z,15nm,0.4s						
PRAC	**Prado**	**3.52**	**210**	*e*P	Pn	06 22 34.2	-0.5
PRAC				*e*S	Sn	06 23 16.2	-0.4
PRAC				*i*		06 23 23.3	
	comp=Z,76nm,0.4s						
ORTC	**Ortega, Tolima**	**3.55**	**216**	*e*P	Pn	06 22 34.9	-0.2
ORTC				*e*S	Sn	06 23 17.1	-0.3
ORTC				*i*		06 23 24.9	
	comp=Z,54nm,0.5s						
SJCC	**San Jacinto, C**	**3.68**	**327↑**	*e*P	Pn	06 22 34.8	-2.1
SJCC				*e*S	Sn	06 23 16.6	-3.9
SJCC				*i*		06 23 20.9	
	comp=Z,54nm,0.5s						
YOTC	**Yotoco, Valle**	**4.24**	**229**	*e*P	Pn	06 22 43.6	-0.6
YOTC				*e*S	Sn	06 23 33.4	-0.2
GUVC	**San Jose del G**	**4.25**	**173**	*e*P	Pn	06 22 41.7	-2.6
GUVC				*e*S	Sn	06 23 30.8	-3.0
GUVC				*i*		06 23 38.2	
	comp=Z,30nm,0.2s						
SMRC	**Santa Marta, M**	**4.47**	**346**	*e*P	Pn	06 22 46.3	-0.8
SMRC				*e*S	Sn	06 23 34.1	-4.7
CAPC	**Capurgana**	**4.56**	**294**	*e*P	Pn	06 22 44.7	-3.5
CAPC				*e*S	Sn	06 23 32.7	-8.1
CAPC				*i*		06 23 44.8	
	comp=Z,12nm,0.2s						
MACC	**Macarena, Meta**	**4.67**	**189**	*e*P	Pn	06 22 47.4	-2.4
MACC				*e*S	Sn	06 23 39.7	-4.0
MACC				*i*		06 23 45.7	
	comp=Z,22nm,0.8s						
URIC	**Uribia, Colomb**	**5.00**	**13**	*e*P	Pn	06 22 51.6	-2.6
URIC				*e*S	Sn	06 23 45.0	-6.4
UR

ASAR	**Alice Springs**	**33.48**	**50**	P	P	06 34 50.3	-0.1
	1.4nm,0.9s,baz=217,slow=7.4,SNR=7.2							
VNDA	**Vanda**	**35.02**	**162**	P	P	06 35 02.8	-0.3
	1.3nm,1.0s,baz=297,slow=7.7,SNR=2.9							
WRA	**Warramunga Arr**	**36.84**	**47**	P	P	06 35 18.9	-0.5
	2.4nm,0.9s,baz=209,slow=8.6,SNR=7.1							
NVAR	**Mina Array Bea**	**146.42**	**92**	PKPbc	PKPbc	06 47 52.2	0.0
	1.3nm,0.8s,baz=211,slow=4.9,SNR=2.5							
TXAR	**Lajitas Array**	**149.64**	**120**	PKPbc	PKPbc	06 48 00.2	-0.7
	0.5nm,0.8s,baz=187,slow=5.3,SNR=4.6							

*KRNET **21** 06:30:26.7±0.1,43°.23N×78°.55E,h19km,mb2.5*
*NNC **21** 06:30:26.3±0.2,43°.26N×78°.55E,h0km,mb2.9,mpv3.0,*
Error ellipse: s-maj=3.4km s-min=1.1km az=177.0
*SOME **21** 06:30:26.9,43°.22N×78°.48E,h0km*
ISC 21 06:30:26.9±0.9,**43°.24N**±0°.02×**78°.55E**±0°.02,**h6**km±7km,
n31,σ0°59/59,14C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.11**	**230**	*eP*		**Pg**	**06 30 29.3**	**0.0**
	baz=36							
ZHN				*eS*		**Sg**	**06 30 31.1**	**+0.1**
	baz=36							
ZHN	**Zhinishke**	**0.11**	**230**	*eP*		**Pg**	**06 30 29.3**	**0.0**
	44nm,0.1s							
ZHN				*eS*		**Sg**	**06 30 31.1**	**+0.1**
	643nm,0.1s							
ZHN	**Zhinishke**	**0.11**	**230**	P		**Pg**	**06 30 29.3**	**0.0**
	72nm,0.0s							
ZHN				S		**Sg**	**06 30 31.1**	**+0.1**
	450nm,0.1s							
UZB	**Uzynbulak**	**0.36**	**105**	⇑*eP*		**Pg**	**06 30 33.8**	**-0.1**
	baz=3.0							
UZB				⇑*eS*		**Sg**	**06 30 38.7**	**0.0**
	baz=3.0							
UZB	**Uzynbulak**	**0.36**	**105**	⇑*eP*		**Pg**	**06 30 33.8**	**-0.1**
	43nm,0.1s							
UZB				*eS*		**Sg**	**06 30 38.7**	**0.0**
	80nm,0.1s							
UZB	**Uzynbulak**	**0.36**	**105**	P		**Pg**	**06 30 33.9**	**-0.1**
	43nm,0.1s							
UZB				S		**Sg**	**06 30 38.7**	**0.0**
	80nm,0.1s							
KURS	**Kuram**	**0.37**	**312**	*eP*		**Pg**	**06 30 34.3**	**+0.1**
	baz=13							
KURS				*eS*		**Sg**	**06 30 39.5**	**+0.4**
	baz=13							
KURS	**Kuram**	**0.37**	**312**	*eP*		**Pg**	**06 30 34.2**	**+0.1**
	1.4nm,0.0s							
KURS				*eS*		**Sg**	**06 30 39.5**	**+0.4**
	12nm,0.2s							
KURS	**Kuram**	**0.37**	**312**	P		**Pg**	**06 30 34.3**	**+0.1**
	1.4nm,0.0s							
KURS				S		**Sg**	**06 30 39.5**	**+0.4**
	12nm,0.2s							
PDGK	**Podgornoye**	**0.69**	**82**	⇓P		**Pg**	**06 30 39.7**	**-0.6**
	1.6nm,0.3s							
PDGK				⇑S		**Sg**	**06 30 49.2**	**-0.1**
	3.5nm,0.5s							
PRZ	**Przheval'sk**	**0.76**	**188**	⇑*iP*		**Pg**	**06 30 41.4**	**-0.2**
	baz=88							
PRZ				⇑*iS*		**Sg**	**06 30 51.7**	**+0.2**
	baz=88							
ANVS	**Anan'yevo**	**0.79**	**235**	⇓*iP*		**Pg**	**06 30 41.5**	**-0.6**
	baz=36							
ANVS				⇓*iS*		**Sg**	**06 30 52.8**	**+0.4**
	baz=36							
MDOK	**Medeo**	**1.10**	**267**	*eP*		**Pg**	**06 30 47.9**	**-0.1**
	baz=67							
MDOK				*eS*		**Sb**	**06 31 02.9**	**-0.3**
	baz=67							
MDOK	**Medeo**	**1.10**	**267**	*eP*		**Pg**	**06 30 47.9**	**-0.1**
	1.5nm,0.2s							
MDOK				*eS*		**Sb**	**06 31 02.9**	**-0.3**
	2.8nm,0.2s							
MDOK	**Medeo**	**1.10**	**267**	Pg		**Pg**	**06 30 47.1**	**-1.0**
	1.5nm,0.2s							
MDOK				Lg		Lg	06 31 01.3	
	2.8nm,0.2s							
ARXS	**Arharly**	**1.10**	**332**	*eP*		**Pg**	**06 30 47.7**	**-0.4**
	3.2nm,0.1s							
ARXS				*eS*		**Sg**	**06 31 02.4**	**-0.2**
	11nm,0.3s							
ARXS	**Arharly**	**1.10**	**332**	P		**Pg**	**06 30 47.5**	**-0.6**
	3.2nm,0.1s							
ARXS				S		**Sg**	**06 31 02.3**	**-0.2**
	11nm,0.3s							
KNDC	**Almaty**	**1.16**	**269**	⇑P		**Pg**	**06 30 48.4**	**-0.7**
	8.5nm,0.3s							
KNDC				⇓S		**Sg**	**06 31 04.3**	**+0.2**
	10nm,0.3s							
TNSS	**Tian-Shan**	**1.19**	**261**	*eP*		**Pg**	**06 30 49.2**	**-0.6**
	baz=62							
TNSS				*eS*		**Sg**	**06 31 05.1**	**-0.1**
	baz=62							
TNSS	**Tian-Shan**	**1.19**	**261**	*eP*		**Pg**	**06 30 49.2**	**-0.6**
	2.3nm,0.1s							
TNSS				*eS*		**Sg**	**06 31 05.1**	**-0.1**
	4.7nm,0.2s							
TNSS	**Tian-Shan**	**1.19**	**261**	P		**Pg**	**06 30 48.6**	**-1.2**
	3.6nm,0.2s							
TNSS				S		**Sg**	**06 31 04.2**	**-1.0**
	4.7nm,0.2s							
DJR	**Jarkent**	**1.42**	**39**	P		**Pn**	**06 30 53.4**	**+0.1**
	1.2nm,0.1s							
DJR				S		**Sg**	**06 31 12.1**	**-0.3**
	8.8nm,0.3s							
KTBS	**Karatobe**	**1.44**	**290**	P		**Pn**	**06 30 53.3**	**-0.3**
	1.8nm,0.1s							
KTBS				S		**Sg**	**06 31 12.0**	**-1.2**
	12nm,0.4s							
KDJ	**Kajisay**	**1.50**	**223**	⇑*iP*		**Pn**	**06 30 54.0**	**-0.6**
	baz=23							
KDJ				⇑*iS*		**Sg**	**06 31 14.0**	**-1.1**
	baz=23							
KUU	**Kurty**	**1.73**	**293**	P		**Pn**	**06 30 58.4**	**+0.8**
	1.0nm,0.1s							
KUU				S		**Sn**	**06 31 20.6**	**+0.5**
	5.3nm,0.1s							
KST	**Kastek**	**1.90**	**265**	Pg		**Pb**	**06 31 02.0**	**-0.2**
	2.4nm,0.2s							
KST				Lg		Lg	06 31 27.3	
	1.7nm,0.3s							
ULHL	**Ulahol**	**1.97**	**240**	⇑*iP*		**Pn**	**06 31 01.8**	**+0.8**
	baz=41							
ULHL				⇑*iS*		**Sn**	**06 31 27.6**	**+1.4**
	baz=41							
DGS	**Degeres**	**2.03**	**271**	P		**Pn**	**06 31 03.1**	**+1.3**
	2.9nm,0.3s							
DGS				S		**Sn**	**06 31 28.5**	**+1.0**
	6.3nm,0.5s							
BOOM	**Boomskoye usch**	**2.06**	**250**	⇑*iP*		**Pn**	**06 31 03.3**	**+1.0**
	baz=50							
BOOM				⇑*iS*		**Sb**	**06 31 30.6**	**-0.1**
	baz=50							
TKM2	**Tokmak 2**	**2.19**	**263**	⇓*iP*		**Pn**	**06 31 04.8**	**+0.8**
	baz=63							
TKM2				⇓*iS*		**Sb**	**06 31 33.8**	**-0.7**
	baz=63							
TKM2	**Tokmak 2**	**2.19**	**263**	⇓Pg		**Pb**	**06 31 06.4**	**-0.6**
	0.5nm,0.3s							
TKM2				⇑Lg		Lg	06 31 35.9	
	1.6nm,0.5s							

*KLM **21** 06:30:42.0,4°.54S×100°.99E,h10km,mb4.8*
*DJA **21** 06:30:42.9±0.6,5°.5S±5°.1×10°.1E±°,h60km±31km,M4.9/16,*
mB5.4/4,mb5.2/6,MLv4.8/16,Mw(mB)4.8/4
*NEIC **21** 06:30:43.6±2.2,4°.43S±0°.07×100°.87E±0°.07,h30km±3km,*
mb4.6/21,Error ellipse: s-maj=11.6km s-min=8.5km
az=218.0
*IDC **21** 06:30:44.7±0.5,4°.40S×100°.91E,h34km±3km,mb4.2/20,*
mb1 4.3/22,mb1mx4.1/44,mbtmp4.4/22,ML4.6/2,MS3.7/11,
Ms1 3.7/11,ms1mx3.4/31,Error ellipse: s-maj=16.2km
s-min=8.3km az=50.0
ISC 21 06:30:43.8±0.5,**4°.51S**±0°.06×**100°.87E**±0°.06,**h30**km±2km,
h30km:pP-P,n101,σ1°45/105,mb4.6/40,**MS3.8**/14,**1C-1D,**
Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.92**	**64**	P		**Pn**	**06 31 13.4**	**-1.1**
MASI	**Maura Aman, Be**	**1.93**	**45**	P		**Pn**	**06 31 13.2**	**-1.4**
MNAI	**Manna**	**2.09**	**86**	P		**Pn**	**06 31 15.9**	**-0.9**
MNAI	**Manna**	**2.09**	**86**	Pn		**Pn**	**06 31 16.1**	**-0.7**
KRJI	**Kerinci**	**2.47**	**14**	P		**Pn**	**06 31 21.0**	**-1.1**
LHSI	**Lahat**	**2.74**	**76**	P		**Pn**	**06 31 26.2**	**+0.5**
LWLI	**Liwa**	**3.22**	**99**	P		**Pn**	**06 31 32.6**	**+0.1**
MDSI	**Maura Dua**	**3.30**	**90**	P		**Pn**	**06 31 33.3**	**-0.2**
MDSI				S		**Sn**	**06 32 10.1**	**-1.7**
SDSI	**Sungai Dareh**	**3.59**	**9**	P		**Pn**	**06 31 36.6**	**-0.9**
SISI	**Saibi**	**3.62**	**331**	P		**Pn**	**06 31 36.1**	**-1.8**
KASI	**Kota Agung**	**3.76**	**106**	P		**Pn**	**06 31 39.2**	**-0.5**
KLSI		**3.86**	**93**	P		**Pn**	**06 31 40.9**	**-0.2**
BKNI	**Bangkinang**	**4.80**	**2**	Pn		**Pn**	**06 31 52.4**	**-1.7**
CGJI	**Cibinong**	**5.24**	**114**	P		**Pn**	**06 31 59.0**	**-1.1**
	1.2nm6μm280nm,0.7s							
MNSI	**Mandailing Nat**	**5.42**	**346**	P		**Pn**	**06 32 01.0**	**-1.6**
	0.9nm79nm,0.4s							
DSRI	**Dabo**	**5.46**	**43**	P		**Pn**	**06 32 02.5**	**-0.6**
	0.4nm989nm108nm,1.1s							
PPBI	**Pangkal Pinang**	**5.75**	**66**	P		**Pn**	**06 32 06.9**	**-0.3**
GSI	**Gunungsitoli**	**6.64**	**330**	Pn		**Pn**	**06 32 16.9**	**-2.5**
CNJI	**Cibinong**	**6.83**	**114**	P		**Pn**	**06 32 20.3**	**-1.6**
	1.1nm237nm,0.8s							
LEM	**Lembang**	**7.10**	**109**	Pn		**Pn**	**06 32 27.0**	**+1.1**
	11nm,0.3s,baz=319,slow=20,SNR=3.6							
LEM				Sn		**Sn**	**06 33 41.8**	**-4.0**
	baz=343,slow=19,SNR=0.8							
LEM				LR		LR	06 35 51.0	
	comp=Z,971nm,18.4s,baz=344,slow=43							
RPSI	**Rantau Prapat**	**7.41**	**345**	Pn		**Pn**	**06 32 27.0**	**-3.0**
RPSI	**Rantau Prapat**	**7.41**	**345**			**Pn**	**06 32 29.6**	**-0.4**
PSI	**Prapat**	**7.51**	**345**	Pn		**Pn**	**06 32 29.6**	**-1.9**
	8.3nm,0.3s,baz=188,slow=7.1,SNR=8.4							
CISI	**Cisompet, Garu**	**7.55**	**114**	P		**Pn**	**06 32 29.9**	**-2.0**
CISI	**Cisompet, Garu**	**7.55**	**114**	Pn		**Pn**	**06 32 30.6**	**-1.3**
XMIS	**Christmas Isla**	**7.60**	**142**	Pn		**Pn**	**06 32 28.2**	**-4.4**
KULM	**Kulim**	**9.73**	**359**	Pn		**Pn**	**06 33 00.5**	**-1.4**
UGM	**Wanagama**	**10.18**	**110**	Pn		**Pn**	**06 33 07.2**	**-0.8**
SBUM	**Sibu**	**13.29**	**59**	Pn		**Pn**	**06 33 52.4**	**+1.9**
SBUM	**Sibu**	**13.29**	**59**	P		**Pn**	**06 33 51.0**	**+0.5**
KKM	**Kota Kinabalu**	**18.57**	**56**			**P**	**06 34 57.7**	**-0.9**
KKM					IAmb	IAmb	06 34 59.0	
	comp=Z,44nm,1.2s							
KAPI	**Kappang**	**18.83**	**92**	LR		LR	06 43 25.7	
	comp=Z,269nm,18.2s,baz=270,slow=40							
MYLDM	**Lahad Datu**	**20.07**	**62**	P		**P**	**06 35 14.6**	**-0.4**
UBPT	**Khong Chiam**	**20.18**	**13**	P		**P**	**06 35 15.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**22.90**	**355**	P		**P**	**06 35 45.7**	**+0.4**
	comp=Z,6.7nm,0.7s,baz=184,slow=8.5,SNR=18							
CMAR				LR		LR	06 46 23.7	
	comp=Z,200nm,18.1s,baz=216,slow=41							
CMAR	**Chiang Mai Arr**	**22.90**	**355**	P		**P**	**06 35 45.3**	**0.0**
CHTO	**Chiang Mai**	**23.25**	**355**	P		**P**	**06 35 48.0**	**-0.8**
BATI	**Baumata**	**23.30**	**105**	P		**P**	**06 35 51.3**	**+1.9**
	comp=Z,32nm,0.4s,baz=269,slow=4.9,SNR=4.1							
BATI				LR		LR	06 46 24.4	
	comp=Z,258nm,19.8s,baz=232,slow=40							
QIZ	**Qiongzhong**	**25.00**	**20**	P		**P**	**06 36 04.3**	**-0.9**
QIZ				S		**S**	**06 40 32.6**	**+5.2**
QIZ				LR		LR		
	comp=N,150nm,18.6s							
QIZ				LR		LR		
	comp=E,180nm,21.1s							
QIZ				LR		LR		
	comp=Z,180nm,16.7s							
SLVN	**Son La**	**25.85**	**7**	P		**P**	**06 36 10.7**	**-2.2**
SLVN					IAmb	IAmb	06 36 29.0	
	comp=Z,11nm,0.9s							
FITZ	**Fitzroy Crossi**	**27.74**	**121**	P		**P**	**06 36 30.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=315,slow=7.3,SNR=12							
FITZ				pP		**pP**	**06 36 39.4**	**+1.5**
	comp=Z,13nm,0.9s,baz=282,slow=4.4,SNR=12							
H08S2	**Diego Garcia H**	**28.38**	**262**	T		T	07 06 19.6	
	baz=84,slow=75,SNR=671							
H08S3	**Diego Garcia H**	**28.39**	**262**	T		T	07 06 20.2	
	baz=84,slow=75,SNR=1321							
H08S1	**Diego Carcia H**	**28.40**	**262**	T		T	07 06 19.2	
	baz=84,slow=75,SNR=168							
KMI	**Kunming**	**29.51**	**3**	⇓*eP*		P	06 36 51.9	+6.1
KMI				pP		sP	06 37 04.3	+6.9
KMI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
KMI				pmax		pmax		
	comp=Z,85nm,4.6s							
KMI				LR		LR		
	comp=N,240nm,18.0s							
KMI				LR		LR		
	comp=E,290nm,16.2s							
KMI				LR		LR		
	comp=Z,280nm,19.5s							
SIJI	**Sorong**	**30.58**	**84**	LR		LR	06 51 41.8	
	comp=Z,109nm,18.1s,baz=98,slow=41							
GYA	**Guiyang**	**31.29**	**10**	⇑P		P	06 37 09.8	+8.3
GYA				pmax		pmax		
	comp=Z,13nm,0.9s							
NWAO	**Narrogin (SRO)**	**32.15**	**154**	pP		**pP**	**06 37 19.2**	**+2.2**
	comp=Z,8.5nm,0.9s,baz=326,slow=9.6,SNR=3.0							
NWAO				LR		LR	06 47 53.4	
	comp=Z,157nm,22.0s,baz=332,slow=32							
H01W3	**Cape Leeuwin H**	**32.63**	**160**	T		T	07 11 45.3	
	baz=337,slow=76,SNR=93							
H01W2	**Cape Leeuwin H**	**32.65**	**160**	T		T	07 11 46.3	
	baz=337,slow=76,SNR=74							
H01W1	**Cape Leeuwin H**	**32.65**	**159**	T		T	07 11 46.6	
	baz=337,slow=76,SNR=84							
WB0	**Warramunga Arr**	**36.01**	**118**	P		**P**	**06 37 42.2**	**-0.3**
WB0					IAmb	IAmb	06 37 53.6	
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**36.02**	**118**	P		**P**	**06 37 42.6**	**0.0**
	comp=Z,4.2nm,0.7s,baz=301,slow=9.2,SNR=49							
WRA				pP		**pP**	**06 37 52.3**	**+1.5**
	comp=Z,8.8nm,0.9s,baz=293,slow=9.7,SNR=16							
WRA				pPcP			06 40 18.6	
	comp=Z,0.5nm,0.6s,baz=314,slow=1.9,SNR=4.5							
WRA				S		**S**	**06 43 20.6**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=293,slow=16,SNR=4.5							
WRA	**Warramunga Arr**	**36.02**	**118**	P		**P**	**06 37 40.9**	**-1.7**
WB2	**Warramunga Arr**	**36.03**	**118**	P		**P**	**06 37 42.4**	**-0.3**
WB2					IAmb	IAmb	06 37 53.8	
	comp=Z,8.6nm,0.8s							
WR0	**Warramunga Arr**	**36.20**	**118**	P		**P**	**06 37 44.1**	**-0.1**
WR0					IAmb	IAmb	06 37 55.0	
	comp=Z,7.2nm,0.8s							
ASAR	**Alice Springs**	**37.11**	**124**	P		**P**	**06 37 52.2**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=298,slow=7.8,SNR=47							
ASAR				pP		**sP**	**06 38 02.5**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=299,slow=8.3,SNR=12							
ASAR				pPcP			06 40 22.1	
	comp=Z,1.0nm,0.6s,baz=288,slow=2.7,SNR=5.4							
ASAR				S		**S**	**06 43 39.8**	**+3.2**
	comp=Z,0.3nm,0.7s,baz=297,slow=19,SNR=2.9							
ASAR	**Alice Springs**	**37.11**	**124**	P		**P**	**06 37 52.0**	**+0.1**
AS31	**Alice Springs**	**37.12**	**124**	P		**P**	**06 37 52.4**	**+0.4**
XAN	**Xi'an**	**39.09**	**11**	P		P	06 38 16.1	+7.7
XAN				pmax		pmax		
	comp=Z,14nm,1.1s							
XAN				LR		LR		
	comp=N,200nm,15.2s							
XAN				LR		LR		
	comp=E,440nm,26.0s							
XAN				LR		LR		
	comp=Z,360nm,16.3s							
XAN	**Xi'an**	**39.09**	**11**	P		**P**	**06 38 07.3**	**-1.1**
XAN						**pP**	**06 38 16.8**	**+0.1**
XAN					IAmb	IAmb	06 38 16.8	
	comp=Z,11nm,1.0s							
NJ2	**Nanjing**	**40.18**	**24**	*eP*		**P**	**06 38 18.4**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
LZH	**Lanzhou**	**40.48**	**4**	*eP*		**P**	**06 38 20.8**	**+0.7**
LZH				pP		pP	06 38 24.5	-3.9
LZH				sP		pwP	06 38 26.6	-4.7
LZH				*e*PP		**PnPn**	**06 39 58.0**	**+0.4**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,110nm,5.8s							
LZH				LR		LR		
	comp=N,260nm,14.0s							
LZH				LR		LR		
	comp=E,260nm,14.5s							
LZH				LR		LR		
	comp=Z,380nm,16.7s							
GTA	**Gaotai**	**43.71**	**359**	*eP*		**P**	**06 38 47.3**	**+0.9**
GTA				pP		pP	06 38 55.8	+1.1
GTA				sP		sP	06 39 00.0	+1.9
GTA				S		**S**	**06 45 17.3**	**+2.6**
GTA				sS		sS	06 45 30.3	+0.9
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,140nm,7.3s							
GTA				LR		LR		
	comp=N,180nm,16.0s							
GTA				LR		LR		
	comp=E,340nm,18.5s							
GTA				LR		LR		
	comp=Z,150nm,19.3s							
NIL	**Nilore**	**46.07**	**328**	P		**P**	**06 39 04.7**	**-0.4**
HHC	**Hu-ho-hao-te**	**46.19**	**11**	*eP*		**P**	**06 39 06.3**	**+0.3**
HHC				pmax		pmax		
	comp=Z,40nm,0.7s							
HHC				pmax		pmax		
	comp=Z,110nm,5.7s							
CTA	**Charters Tower**	**46.79**	**113**	P		**P**	**06 39 11.1**	**+0.1**
	comp=Z,7.2nm,0.9s,baz=323,slow=9.6,SNR=3.8							
STKA	**Stephens Creek**	**46.86**	**130**	P		**P**	**06 39 11.4**	**0.0**
	comp=Z,1.4nm,0.7s,baz=315,slow=10.0,SNR=4.6							
STKA				pP		**sP**	**06 39 22.2**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=311,slow=8.2,SNR=9.5							
STKA				LR		LR	06 58 31.3	
	comp=Z,116nm,21.4s,baz=348,slow=36							
STKA	**Stephens Creek**	**46.86**	**130**	P		**P**	**06 39 13.5**	**+2.0**
KSRS	**Korea Array**	**48.76**	**29**	P		**P**	**06 39 24.9**	**-1.0**
	comp=Z,4.9nm,0.9s,baz=212,slow=8.8,SNR=7.1							
KSRS				pP		**pP**	**06 39 34.2**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=210,slow=9.2,SNR=5.7							
WMQ	**Urumqi**	**49.55**	**347**	*eP*		**P**	**06 39 32.3**	**+0.3**
WMQ				pP		pP	06 39 37.9	-2.7
WMQ				pmax		pmax		
	comp=Z,13nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,74nm,5.9s							
SONM	**Songino Array**	**52.35**	**5**	P		**P**	**06 39 53.2**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=194,slow=7.1,SNR=12							
SONM				pP		**pP**	**06 40 02.8**	**+1.3**
	comp=Z,4.0nm,0.8s,baz=185,slow=9.0,SNR=7.8							
SONM	**Songino Array**	**52.35**	**5**	P		**P**	**06 39 53.5**	**+0.4**
ULN	**Ulaanbaatar**	**52.43**	**5**	P		**P**	**06 39 50.7**	**-3.0**
ULN					IAmb	IAmb	06 40 09.5	
	comp=Z,11nm,1.4s							
CN2	**Changchun**	**52.94**	**22**	*eP*		**P**	**06 40 00.1**	**+2.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MK31	**Makanchi Array**	**53.66**	**344**	P		**P**	**06 40 01.9**	**-0.7**
MK31					IAmb	IAmb	06 40 03.1	
	comp=Z,5.4nm,0.8s							
MKAR	**Makanchi Array**	**53.66**	**344**	P		**P**	**06 40 02.2**	**-0.4**
	comp=Z,7.3nm,0.7s,baz=147,slow=8.4,SNR=46							
MKAR				pP		**pP**	**06 40 12.7**	**+1.7**
	comp=Z,2.5nm,0.6s,baz=156,slow=8.6,SNR=6.9							
MKAR				LR		LR	07 08 12.3	
	comp=Z,35nm,18.4s,baz=146,slow=42							
MAT	**Matsushiro**	**53.70**	**37**	P		**P**	**06 40 02.8**	**-0.3**
MJAR	**Matsushiro Arr**	**53.70**	**37**	P		**P**	**06 40 01.1**	**-1.9**
	comp=Z,4.0nm,0.8s,baz=216,slow=8.7,SNR=1.9							
MJAR				pP		**pP**	**06 40 10.6**	**-1.4**
	comp=Z,5.8nm,0.9s,baz=212,slow=7.7,SNR=3.2							
MJAR	**Matsushiro Arr**	**53.70**	**37**	IAmb		IAmb	06 40 01.3	
	comp=Z,2.5nm,0.7s							
USRK	**Ussuriysk Ar.**	**55.97**	**27**	P		**P**	**06 40 18.5**	**-0.9**
	comp=Z,4.7nm,0.7s,baz=216,slow=5.6,SNR=8.4							
USRK				pP		**pP**	**06 40 28.6**	**+0.2**
	comp=Z,8.7nm,0.6s,baz=224,slow=6.7,SNR=11							
GEYT	**Alibeck**	**57.92**	**321**	P		**P**	**06 40 33.0**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=130,slow=13,SNR=4.0							
GEYT	**Alibeck**	**57.92**	**321**	IAmb		IAmb	06 40 33.5	
	comp=Z,2.5nm,0.7s							
KURK	**Kurchatov**	**58.24**	**344**	P		**P**	**06 40 33.9**	**-1.4**
ZALV	**Zalesovo Beam**	**59.78**	**349**	P		**P**	**06 40 45.6**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=178,slow=5.2,SNR=14							
ZALV				pP		**pP**	**06 40 55.0**	**+0.4**
	comp=Z,3.4nm,0.4s,baz=155,slow=4.9,SNR=6.0							
ZALV	**Zalesovo Beam**	**59.78**	**349**	P		**P**	**06 40 44.0**	**-1.8**
ABKAR	**Akbulak array**	**64.24**	**332**	P		**P**	**06 41 14.3**	**-1.7**
ABKAR	**Akbulak array**	**64.24**	**332**	P		**P**	**06 41 14.6**	**-1.4**
ABKAR					IAmb	IAmb	06 41 27.2	
	comp=Z,7.4nm,0.7s							
DZM	**Mont Dzumac**	**65.70**	**112**	pP		pP	06 41 37.7	+2.8
	comp=Z,7.0nm,0.9s,baz=52,slow=19,SNR=2.1							
MAW	**Mawson**	**68.09**	**195**	pP		pP	06 41 51.6	+2.7
	comp=Z,0.9nm,0.7s,baz=240,slow=17,SNR=2.8							
KBZ	**Khabaz**	**70.76**	**319**	P		**P**	**06 41 57.3**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=116,slow=9.1,SNR=7.2							
MATP	**Matopo**	**71.92**	**250**	P		**P**	**06 42 06.0**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=84,slow=4.3,SNR=9.1							
MATP				pP		**sP**	**06 42 16.9**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=110,slow=3.6,SNR=7.1							
BOSA	**Boshof**	**75.22**	**242**	pP		pP	06 42 36.0	+3.0
	comp=Z,4.4nm,0.9s,baz=97,slow=8.0,SNR=4.0							
BRTR	**Keskin Array B**	**75.64**	**313**	P		**P**	**06 42 25.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=124,slow=5.1,SNR=4.8							
BRTR				LR		LR	07 17 45.2	
	comp=Z,13nm,18.1s,baz=70,slow=37							
VNDA	**Vanda**	**79.55**	**169**	P		**P**	**06 42 48.1**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=291,slow=3.7,SNR=4.2							
VNDA				pP		**sP**	**06 42 58.

CRUC	La Cruz	1.27	54	*e*P		Pg	06 38 32.1	-0.3
CRUC	La Cruz	1.27	54	*e*P		Pg	06 38 32.1	-0.3
BBAC	Balboa, Cauca	1.40	32	*e*P		Pg	06 38 33.9	-1.0
BBAC				*e*S		Sg	06 38 52.1	-1.0
BBAC				*i*			06 38 58.4	
	comp=Z,90nm,0.6s							
BBAC	Balboa, Cauca	1.40	32	*e*P		Pg	06 38 33.9	-1.0
BBAC				*e*S		Sb	06 38 54.0	+0.3
BBAC				*i*			06 38 58.4	
	comp=Z,90nm,0.6s							
PUAC	Puerto Asis, P	1.43	101	*e*P		Pn	06 38 33.9	-1.5
PUAC				*e*S		Sg	06 38 53.4	-0.8
PUAC				*i*			06 38 55.3	
	comp=Z,112nm,0.3s							
PUAC	Puerto Asis, P	1.43	101	*e*P		Pn	06 38 33.8	-1.6
PUAC				*e*S		Sg	06 38 53.4	-0.8
PUAC				*i*			06 38 55.3	
	comp=Z,112nm,0.3s							
SOTA	Rioblanco	1.89	46	*e*P		Pg	06 38 44.6	+0.2
SOTA	Rioblanco	1.89	46	*e*P		Pg	06 38 44.6	+0.3
POPC	Popayan, Colom	2.15	37	*e*P		Pb	06 38 46.7	-1.3
POPC	Popayan, Colom	2.15	37	*e*P		Pn	06 38 46.6	+1.2
PCON	Cinco Dias	2.17	47	*e*P		Pg	06 38 49.5	-0.3
PCON	Cinco Dias	2.17	47	*e*P		Pb	06 38 49.0	+0.3
FLOC	Florencia	2.44	72	*e*P		Pb	06 38 51.7	-1.3
FLOC	Florencia	2.44	72	*e*P		Pb	06 38 51.9	-1.1
GARC	Garzon, Huila	2.83	61	*e*P		Pb	06 38 58.8	-0.9
GARC	Garzon, Huila	2.83	61	*e*P		Pb	06 38 58.9	-0.8
MARP	Paez Belalcaza	2.85	45	*e*P		Pg	06 39 02.7	-0.1
MARP	Paez Belalcaza	2.85	45	*e*P		Pg	06 39 02.4	-0.4
PTLC	Puerto Leguiza	3.25	101	*e*P		Pn	06 39 03.4	+3.1
PTLC	Puerto Leguiza	3.25	101	*e*P		Pn	06 39 02.9	+2.5
YOTC	Yotoco, Valle	3.54	27	*e*P		Pb	06 39 10.7	-1.0
YOTC	Yotoco, Valle	3.54	27	*e*P		Pb	06 39 10.9	-0.8
ORTC	Ortega, Tolima	4.10	42	*e*P		Pb	06 39 17.0	-4.3
ORTC	Ortega, Tolima	4.10	42	*e*P		Pb	06 39 17.3	-4.0
PRAC	Prado	4.22	47	*e*P		Pb	06 39 19.8	-3.4
PRAC	Prado	4.22	47	*e*P		Pb	06 39 19.9	-3.3
MACC	Macarena, Meta	4.33	72	*e*P		Pb	06 39 22.1	-3.1
MACC	Macarena, Meta	4.33	72	*e*P		Pb	06 39 22.0	-3.2
TOLC	Tolima	4.58	35	*e*P		Pb	06 39 24.4	-5.3
TOLC	Tolima	4.58	35	*e*P		Pb	06 39 24.4	-5.3
RREF	El Recreo	4.83	33	*e*P		Pn	06 39 25.7	+3.0
RREF	El Recreo	4.83	33	*e*P		Pn	06 39 28.1	+5.5
GUY2C	Guyana, Caldas	5.09	31	*e*P		Pn	06 39 32.2	+6.1
GUY2C	Guyana, Caldas	5.09	31	*e*P		Pn	06 39 32.1	+5.9
CBOC	Ciudad Bolivar	5.38	21	*e*P		Pn	06 39 34.6	+4.8
CHIC	Chingaza	5.68	48	*e*P		Pn	06 39 40.6	+6.4
SPBC	San Pablo de B	6.18	39	*e*P		Pn	06 39 45.7	+4.9
PTBC	PUERTO BERRIO,	6.68	32	*e*P		Pn	06 39 51.4	+3.9

IDC ***21*** *06:48:20.1±1.5,6.˚62N×124.˚95E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/31,mbtmp3.6/3,MS3.3/1,Ms1 3.4/1, ms1mx2.8/26,Error ellipse: s-maj=29.6km s-min=11.6km az=135.0*
MAN ***21*** *06:48:20.4,6.˚72N×124.˚97E,h19km,mb5.0,ML3.9,MS3.9*
ISC 21 06:48:20.3±1.6,6˚76N±0˙.04×125˚01E±0˙.04,h5km±12km, n11,σ1ı30/16,mb3.6/3,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKMP	Bagumbayan, Su	0.52	242	*e*P	Pg	06 48 30.4	+0.1
SKMP				*e*S	Sb	06 48 40.9	+1.1
DAV	Davao City (W)	0.64	62	Pg	Pg	06 48 34.2	+1.5
	441nm,0.3s,baz=241,slow=2.5,SNR=19						
DAV				Lg	Lg	06 48 46.3	
	338nm,0.3s,baz=218,slow=19,SNR=5.7						
DAV				LR	LR	06 48 57.3	
	comp=Z,3μm,20.6s,baz=350,slow=48						
DDMP	Don Marcelino,	0.96	133	*e*P	Pb	06 48 38.3	-1.0
DDMP				*e*S	Sn	06 48 55.8	+1.5
BUKP	Musuan	1.11	3	*e*P	Pb	06 48 40.0	-2.0
BUKP				*e*S	Sn	06 48 57.5	-0.7
MATI	Mati	1.25	82	*e*P	Pn	06 48 42.6	-1.9
MATI				*e*S	Sn	06 49 01.1	-0.6
CGP	Cagayan de Oro	1.71	350	⇓*e*P	Pn	06 48 51.5	+0.7
CGP				*i* S	Sb	06 49 15.1	+1.1
PAGZ	Pagadian	1.94	304	*e*P	Pn	06 48 53.6	-0.3
PAGZ				*e*S	Sb	06 49 20.1	-0.5
WRA	Warramunga Arr	28.08	161	P	P	06 54 12.5	-0.5
	0.5nm,0.8s,baz=332,slow=10,SNR=6.2						
ASAR	Alice Springs	31.47	164	P	P	06 54 42.8	-0.3
	0.3nm,0.4s,baz=331,slow=6.7,SNR=6.2						
MKAR	Makanchi Array	54.10	325	P	P	06 57 47.8	+1.6
	0.5nm,0.6s,baz=125,slow=7.7,SNR=3.8						
ILAR	Eielson Array	83.12	26	LR	LR	07 35 37.3	
	comp=Z,17nm,21.8s,baz=43,slow=34						

JMA 21 07:24:29.2,34˚37N×136˚89E,h27km,M2.8,5C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	Ise	0.15	278	⇑P	Pb	07 24 34.5	-0.1
JIE				S	Sb	07 24 38.1	-0.1
JAA	Atsumi	0.34	39	⇑P	Pb	07 24 36.7	-0.2
JAA				S	Sb	07 24 41.7	-0.4
TSUJ	Tsu 2	0.52	311	P	Pb	07 24 39.5	-0.3
TSUJ				S	Sb	07 24 46.9	0.0
JKN2	Miekihoku	0.53	256	⇑P	Pb	07 24 39.8	-0.1
JKN2				S	Sb	07 24 46.9	-0.3
TTO2	TONANKAI O.B.S	0.64	170	⇓P	Pb	07 24 41.9	+0.2
TTO4	TONANKAI O.B.S	0.65	124	⇓P	Pb	07 24 41.4	-0.4
TTO3	TONANKAI O.B.S	0.66	140	⇓P	Pb	07 24 41.9	-0.1
TTO5	TONANKAI O.B.S	0.69	100	P	Pb	07 24 42.2	-0.4
TTO1	TONANKAI O.B.S	0.75	187	P	Pb	07 24 43.6	+0.1
TK04	Tokai 4	0.81	89	P	Pb	07 24 43.9	-0.8
JHE	Heguri	1.03	286	P	Pn	07 24 47.5	-0.4
JHE				S	Sn	07 25 00.6	-0.9
JWY	Kouya	1.08	262	⇑P	Pn	07 24 48.2	-0.5
JWY				*e*S	Sn	07 25 02.0	-0.9
JTNC	Tanabenakahech	1.20	243	⇑P	Pn	07 24 49.4	-0.8
JTNC				S	Sn	07 25 04.4	-1.1
MAT	Matsushiro	2.42	26	P	Pn	07 25 07.6	+0.6
MAT				S	Sn	07 25 36.6	+0.8

KNET ***21*** *07:25:47.0±0.2,42.˚82N×74.˚37E,h22km±4km,ml1.2,Error ellipse: s-maj=1.8km s-min=1.0km az=151.0*
NNC ***21*** *07:25:47.3±0.9,42.˚89N×74.˚42E,h0km,mb2.7,mpv2.7, Error ellipse: s-maj=6.9km s-min=3.7km az=112.0*
KRNET ***21*** *07:25:47.2±0.1,42.˚81N×74.˚37E,h24km,mb2.3*
SOME ***21*** *07:25:47.0,42.˚83N×74.˚37E,h15km*
ISC 21 07:25:47.4±0.9,42˚81N±0˙.02×74˚36E±0˙.02,h18km±3km, n36,σ0ı65/67,24C-21D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	0.20	151	⇓*i*P	Pg	07 25 52.7	+0.2
	baz=51						
AAK				⇓*i*S	Sg	07 25 56.6	+0.7
	baz=51						
AAK	Ala-Archa	0.20	151	⇓P	Pg	07 25 52.8	+0.4
	15nm,0.1s,SNR=30						
AAK				⇑S	Sg	07 25 56.6	+0.7
	42nm,0.2s						
AAK	Ala-Archa	0.20	151	⇑P	Pg	07 25 52.7	+0.2
	4.1nm,0.3s						
AAK				⇓S	Sg	07 25 56.6	+0.7
	23nm,0.3s						
FRU1	Bishkek	0.20	89	⇓*i*P	Pb	07 25 52.5	+0.2
	baz=89						
FRU1				⇓*i*S	Sg	07 25 56.2	+0.4
	baz=89						
CHMS	Chumysh	0.34	56	⇑*i*P	Pg	07 25 54.4	-0.3
	baz=56						
CHMS				⇑*i*S	Sg	07 25 59.6	-0.1
	baz=56						
CHMS	Chumysh	0.34	56	P	Pg	07 25 54.7	-0.1
	10.0nm,0.2s,SNR=20						
CHMS				⇑S	Sg	07 25 59.9	+0.2
	26nm,0.1s						
EKS2	Erkin-Say	0.46	251	⇑*i*P	Pg	07 25 56.6	-0.2
	baz=52						
EKS2				⇑*i*S	Sg	07 26 03.4	+0.3
	baz=52						
EKS2	Erkin-Say	0.46	251	⇑P	Pg	07 25 57.0	+0.2
	13nm,0.1s,SNR=7.3						
EKS2				⇑S	Sb	07 26 03.8	+0.3
	8.0nm,0.1s						
KBK	Karagaybulak	0.46	109	⇓*i*P	Pg	07 25 56.4	-0.4
	baz=9.0						
KBK				⇓*i*S	Sg	07 26 03.1	0.0
	baz=9.0						
KBK	Karagaybulak	0.46	109	⇑P	Pg	07 25 56.8	0.0
	13nm,0.1s,SNR=9.2						
KBK				⇓S	Sb	07 26 03.7	0.0
	36nm,0.2s						
USP	Ospenovka	0.47	12	⇓*i*P	Pb	07 25 56.2	-1.0
	baz=12						
USP				⇓*i*S	Sg	07 26 03.4	0.0
	baz=12						
USP	Ospenovka	0.47	12	⇓P	Pb	07 25 56.8	-0.5
	3.8nm,0.1s,SNR=26						
USP				⇑S	Sg	07 26 03.5	+0.1
	18nm,0.1s						
UCH	Uchtor	0.59	169	⇑*i*P	Pb	07 25 58.7	-0.8
	baz=69						
UCH				⇑*i*S	Sg	07 26 07.3	-0.1
	baz=69						
UCH	Uchtor	0.59	169	⇓P	Pb	07 25 59.2	-0.2
	7.1nm,0.2s,SNR=26						
SGDS	Sogindy	0.67	17	P	Pb	07 26 00.3	-0.4
	5.3nm,0.1s						
SGDS				S	Sb	07 26 09.5	-0.2
	17nm,0.1s						
AML	Almayashu	0.84	216	⇑*i*P	Pb	07 26 03.3	-0.4
	baz=17						
AML				⇑*i*S	Sg	07 26 14.9	-0.2
	baz=17						
AML	Almayashu	0.84	216	⇑P	Pb	07 26 03.5	-0.2
	1.9nm,0.1s,SNR=7.1						
MRKS	Merke	0.84	266	*e*P	Pb	07 26 03.1	-0.4
	baz=66						
MRKS				*e*S	Sb	07 26 14.5	-0.1
	baz=66						
MRKS	Merke	0.84	266	*e*P	Pb	07 26 03.0	-0.4
	8.3nm,0.1s						
MRKS				*e*S	Sb	07 26 14.4	-0.1
	9.7nm,0.2s						
MRKS	Merke	0.84	266	P	Pb	07 26 03.2	-0.4
	8.3nm,0.1s						
MRKS				S	Sb	07 26 14.5	-0.1
	9.7nm,0.2s						
TKM2	Tokmak 2	0.91	83	⇓*i*P	Pb	07 26 04.0	-0.8
	baz=82						
TKM2				⇓*i*S	Sb	07 26 16.2	-0.6
	baz=82						
TKM2	Tokmak 2	0.91	83	⇑P	Pb	07 26 04.1	-0.8
	2.2nm,0.1s,SNR=22						
TKM2				⇓S	Sb	07 26 16.9	+0.1
	7.9nm,0.1s						
TKM2	Tokmak 2	0.91	83	⇓P	Pb	07 26 01.2	-3.6
	1.1nm,0.4s						
TKM2				⇓S	Sb	07 26 16.1	-0.6
	1.7nm,0.3s						
ARLS	Aral	0.95	182	⇓*i*P	Pb	07 26 04.6	-0.8
	baz=82						
ARLS				⇓*i*S	Sb	07 26 17.6	-0.1
	baz=82						
KST	Kastek	1.20	78	*e*P	Pn	07 26 09.3	-0.1
	1.3nm,0.1s						
KST				*e*S	Sn	07 26 25.7	+0.4
	1.7nm,0.2s						
KST	Kastek	1.20	78	P	Pn	07 26 09.7	+0.2
	2.6nm,0.1s						
KST				S	Sn	07 26 25.8	+0.4
	2.6nm,0.2s						
BOOM	Boomskoye usch	1.21	105	⇑*i*P	Pn	07 26 09.3	-0.3
	baz=5.0						
BOOM				⇑*i*S	Sn	07 26 25.4	-0.1
	baz=5.0						
KRBS	Karabastau	1.31	47	*e*P	Pb	07 26 12.1	+0.6
	baz=47						
KRBS				*e*S	Sg	07 26 29.8	+0.1
	baz=47						
KRBS	Karabastau	1.31	47	*e*P	Pb	07 26 12.1	+0.6
	1.2nm,0.1s						
KRBS				*e*S	Sg	07 26 29.8	+0.1
	7.2nm,0.2s						
KRBS	Karabastau	1.31	47	P	Pb	07 26 11.5	0.0
	1.2nm,0.1s						
KRBS				S	Sb	07 26 28.7	+0.8
	7.2nm,0.2s						
MNAS	Manas	1.41	257	⇑*i*P	Pn	07 26 12.7	+0.4
	baz=58						
MNAS				⇑*i*S	Sb	07 26 31.3	+0.3
	baz=58						
ULHL	Ulahol	1.50	111	⇑*i*P	Pb	07 26 14.4	-0.4
	baz=11						
ULHL				⇑*i*S	Sb	07 26 34.2	+0.6
	baz=11						
KUU	Kurty	1.80	52	P	Pb	07 26 19.7	-0.3
	0.9nm,0.1s						
KUU				S	Sb	07 26 43.6	+1.4
	8.3nm,0.2s						
TNSS	Tian-Shan	1.91	82	Pg	Pb	07 26 21.9	-0.1
	2.3nm,0.3s						
TNSS				Lg	Lg	07 26 47.9	
	1.4nm,0.2s						
KTBS	Karatobe	1.92	61	Pg	Pb	07 26 22.0	0.0
	1.6nm,0.2s						
KTBS				Lg	Lg	07 26 47.2	
	7.2nm,0.4s						
KK31	Karatay Array	2.84	277	⇓Pg	Pg	07 26 41.7	-0.2
	0.2nm,0.3s,baz=95,slow=15,SNR=5.6						
KK31				⇑Lg	Lg	07 27 18.7	
	0.4nm,0.3s,baz=99,slow=29,SNR=3.8						

WEL 21 07:39:56.2,43˚S±1˚×17˚3E±˚,h44km±3km,M2.5/11, ML2.7/11,MLv2.5/11,Error ellipse: s-maj=0.0km s-min=0.0km az=80.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.15	131	P	Pn	07 40 03.9	+0.3
AMCZ	Amberley	0.35	209	P	Pn	07 40 06.1	+0.8
LTZ	Lake Taylor	0.46	281	P	Pn	07 40 07.3	+0.7
LTZ				S	Sn	07 40 14.5	+0.5
KHZ	Kahutara	0.66	47	P	Pn	07 40 09.6	+0.3
KHZ				S	Sn	07 40 18.7	+0.1
MQZ	McQueen's Vall	0.85	191	P	Pn	07 40 11.8	0.0
MQZ				S	Sn	07 40 22.9	-0.2
OKCZ	Okains Bay	0.86	171	P	Pn	07 40 12.4	+0.4
AKCZ	Akaroa Harbour	1.00	179	P	Pn	07 40 14.1	+0.2
AKCZ				S	Sn	07 40 26.1	-0.7
RACZ	Rakaia	1.01	212	P	Pn	07 40 14.4	+0.4
INZ	Inchbonnie	1.07	277	P	Pn	07 40 16.1	+1.4
THZ	Tophouse	1.11	1	P	Pn	07 40 15.9	+0.5
THZ				S	Sn	07 40 29.3	-0.1
MHCZ	Mount Hutt	1.17	235	P	Pn	07 40 16.5	+0.4
WACZ	Wakanui South	1.31	215	P	Pn	07 40 18.6	+0.6
BSWZ	Blackbirch Sta	1.37	33	P	Pn	07 40 19.8	+0.9
BSWZ				S	Sn	07 40 37.0	+1.2
DSZ	Denniston Nort	1.38	324	P	Pn	07 40 20.0	+0.9
DSZ				S	Sn	07 40 36.0	-0.2
RPZ	Rata Peaks	1.58	237	P	Pn	07 40 22.4	+0.7
RPZ				S	Sn	07 40 40.0	-1.0
WVZ	Waitaha Valley	1.59	262	P	Pn	07 40 23.3	+1.5
WVZ				S	Sn	07 40 41.5	+0.3
TUWZ	Tuamarina	1.64	29	P	Pn	07 40 22.7	+0.1
NNZ	Nelson	1.69	13	P	Pn	07 40 24.4	+1.1
GCSZ	Gaunt Creek Bo	1.93	256	P	Pn	07 40 28.2	+1.7
QRZ	Quartz Range	2.06	353	P	Pn	07 40 29.5	+1.1
ODZ	Otahua Downs	2.71	216	P	Pn	07 40 37.4	+0.2

IGQ ***21*** *07:42:17.4±0.5,1˚N±2˚×7˚8W±˚,h7km,M4.1*
RSNC ***21*** *07:42:18.1±1.1,0.˚82N×77.˚98W,h0km±3km,ML3.2,Mw4.1*
ISC 21 07:42:17.3±0.9,0˚82N±0˙.03×77˚95W±0˙.03,h4km±5km,n55, σ1ı34/58,5C-1D,Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHL1	Volcan Chiles	0.02	174	P	Pg	07 42 18.7	0.0
ECEN	Cerro Negro	0.02	290	P	Pg	07 42 19.1	+0.3
CHL2	Volcan Chiles	0.03	113	P	Pg	07 42 19.0	+0.2
CHL2				S	Sg	07 42 19.9	+0.1
CMBC	Cumbal	0.18	45	⇑*i*P	Pg	07 42 22.2	+1.3
CMBC				*e*S	Sg	07 42 26.0	+2.7
CMBC				*i*		07 42 27.9	
	comp=Z,8μm,0.4s						
TULM	Tulcn-Chalpat	0.19	121	P	Pg	07 42 21.7	+0.5
ATUL	Tulcn	0.23	101	P	Pg	07 42 22.7	+0.8
YAHU	Yahuarcocha	0.46	195	P	Pg	07 42 27.0	+0.8
URCU	Urcuqui	0.48	219	P	Pg	07 42 27.2	+0.5
AIB1	Ecuador-Imbabu	0.50	201	P	Pb	07 42 28.3	-0.6
AAT1	Ecuador-Atunta	0.55	209	P	Pg	07 42 28.5	+0.6
IMBA	Imbabura, San	0.59	205	P	Pb	07 42 30.0	-0.5
ACOT	Cotacachi (Cas	0.61	212	P	Pg	07 42 29.7	+0.6
COTA	Cotacachi	0.62	219	P	Pg	07 42 30.0	+0.8
AOTA	Otavalo	0.65	208	P	Pb	07 42 31.6	+0.2
CUIC	Cuicocha-Domo	0.65	219	P	Pg	07 42 30.2	+0.2
CUSW	Cuicocha Oeste	0.66	217	P	Pg	07 42 30.7	+0.7
CUSE	Cuicocha Este	0.68	222	⇑*e*P	Pg	07 42 30.5	+0.1
CUSE				*e*S	Sb	07 42 41.0	-0.9
CUSE	Cuicocha Este	0.68	222	P	Pg	07 42 30.3	-0.1
CCUFI	Cufio, Nario	0.73	56	*e*P	Pb	07 42 32.6	-0.3
CPAS1	Pasto	0.73	59	*e*P	Pb	07 42 32.7	-0.2
CPAS1				*e*S	Sb	07 42 43.5	+0.2
GCUF	Volcan Galeras	0.73	56	⇑*e*P	Pb	07 42 32.0	-0.8
GCUF				*e*S	Sb	07 42 42.9	-0.6
GCUF				*i*		07 42 48.2	
	comp=Z,373nm,0.6s						
CAYA	Cayambe	0.74	183	P	Pb	07 42 32.5	-0.6
OTAV	Otavalo	0.76	221	⇑*i*P	Pg	07 42 31.8	-0.2
OTAV				*e*S	Sg	07 42 43.2	+1.2
OTAV				*i*		07 42 43.9	
	comp=Z,817nm,0.3s						
ANGU	Angureal	0.77	184	P	Pg	07 42 32.7	+0.7
LAV4	Lava4-Reventad	0.96	160	P	Pg	07 42 35.1	-0.7
PULU	Pululahua	0.96	215	P	Pg	07 42 35.2	-0.6
REVS	Reventador Sur	0.97	160	P	Pg	07 42 35.4	-0.6
PAC1	Pacto, Paraso	1.00	237	*e*P	Pg	07 42 36.2	-0.5
PAC1				*e*S	Sg	07 42 49.1	-0.5
PAC1	Pacto, Paraso	1.00	237	P	Pg	07 42 36.3	-0.3
CRUC	La Cruz	1.25	53	*e*P	Pn	07 42 41.9	0.0
BBAC	Balboa, Cauca	1.39	30	⇑*e*P	Pn	07 42 43.5	-0.2
BBAC				*e*S	Sg	07 43 03.1	+1.1
BBAC				*i*		07 43 06.9	
	comp=Z,257nm,0.3s						
PUAC	Puerto Asis, P	1.40	101	⇓*e*P	Pg	07 42 44.3	0.0
PUAC				*e*S	Sg	07 43 03.2	+0.7
SOTA	Rioblanco	1.88	46	*e*P	Pg	07 42 54.5	+1.2
POPC	Popayan, Colom	2.13	37	*e*P	Pb	07 42 55.8	-1.0
PCON	Cinco Dias	2.16	46	*e*P	Pg	07 42 58.2	-0.6
FLOC	Florencia	2.42	72	*e*P	Pb	07 43 02.0	+0.6
FLOC				*e*S	Sb	07 43 32.6	+0.9
FLOC				*i*		07 43 39.1	
	comp=Z,79nm,0.5s						
GARC	Garzon, Huila	2.81	61	*e*P	Pb	07 43 09.0	+0.8
GARC				*e*S	Sg	07 43 47.6	0.0
GARC				*i*		07 43 53.8	
	comp=Z,168nm,0.4s						
MARP	Paez Belalcaza	2.83	45	*e*P	Pg	07 43 10.3	-1.4
BETC	Betania	3.12	53	*e*P	Pg	07 43 15.9	-1.2
PTLC	Puerto Leguiza	3.22	101	*e*P	Pb	07 43 12.6	-2.5
YOTC	Yotoco, Valle	3.53	27	*e*P	Pb	07 43 18.7	-1.8
ORTC	Ortega, Tolima	4.09	41	*e*P	Pb	07 43 27.0	-3.0
PRAC	Prado	4.20	47	*e*P	Pb	07 43 29.1	-2.7
MACC	Macarena, Meta	4.31	72	*e*P	Pb	07 43 30.2	-3.5
TOLC	Tolima	4.57	35	*e*P	Pb	07 43 34.5	-3.9
RREF	El Recreo	4.82	33	*e*P	Pn	07 43 33.2	+1.9
GUY2C	Guyana, Caldas	5.08	30	*e*P	Pb	07 43 42.1	-5.1
VILC	Villavicencio,	5.37	52	*e*P	Pb	07 43 46.6	-5.2
CBOC	Ciudad Bolivar	5.38	21	*e*P	Pn	07 43 42.0	+3.4
CHIC	Chingaza	5.67	48	*e*P	Pb	07 43 49.8	-7.2
HELC	Santa Helena	5.86	24	*e*P	Pn	07 43 51.6	+6.2
SPBC	San Pablo de B	6.17	39	*e*P	Pn	07 43 55.2	+5.9
PTBC	PUERTO BERRIO,	6.67	31	*e*P	Pn	07 44 00.9	+4.7
RUSC	La Rusia	7.00	44	*e*P	Pn	07 44 09.7	+8.6
ZARC	Zaragoza, Cauc	7.31	25	*e*P	Pn	07 44 11.3	+6.3

JMA ***21*** *07:50:35.7±0.2,24.˚58N×122.˚82E,h105km±2km,M2.1*
TAP ***21*** *07:50:35.1,24.˚66N×122.˚85E,h107km,ML2.8,D*
ISC 21 07:50:36.0±1.7,24˚56N±0˙.07×122˚83E±0˙.03, h103km±11km,n37,σ0ı74/69,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonaguni jima	0.15	134	P	Pn	07 50 50.5	+0.2
JYNG				S	Sn	07 51 01.4	+0.3
YOJ	Yonaguni jima	0.19	119	P	Pn	07 50 50.6	+0.2
	baz=144						
YOJ	Yonaguni jima	0.19	119	P	Pn	07 50 50.6	+0.2
YOJ				*e*S	Sn	07 51 01.9	+0.6
IRIF	Iriomote-Funau	0.85	105	P	Pn	07 50 55.1	+0.1
IRIF				S	Sn	07 51 09.6	+0.2
TWC	Suao	0.89	274	*e*P	Pn	07 50 55.4	-0.1
	baz=262						
TWC				*e*S	Sn	07 51 09.3	-0.8
	baz=262						
TIPB	Shuangxi	1.00	295	*e*P	Pn	07 50 56.1	-0.5
	baz=283						
TIPB				*e*S	Sn	07 51 11.2	-1.0
	baz=283						
HATJ	Hateruma jima	1.02	119	P	Pn	07 50 57.4	+0.6
HATJ				*e*S	Sn	07 51 13.7	+1.2
JKRS	Kuro-shima	1.12	106	P	Pn	07 50 58.5	+0.6
JKRS				S	Sn	07 51 15.2	+0.7
ENTT	Nioudou	1.15	274	*e*P	Pn	07 50 58.9	+0.7
	baz=264						
ENTT				*e*S	Sn	07 51 15.2	+0.1
	baz=264						
NACB	Ninganchiao	1.19	252	*e*P	Pn	07 50 58.5	-0.2
	baz=240						
NACB				*e*S	Sn	07 51 15.2	-0.6
	baz=240						
JIJ	Ishigaki jima	1.21	99	P	Pn	07 50 59.0	0.0
JIJ				S	Sn	07 51 15.2	-1.1
TWD	Chiawan	1.22	247

baz=267
JTJ Tarama 1.71 87 S Sn 07 51 26.0 -1.0
EHY Hungye 1.73 233 eP Pn 07 51 05.2 0.0
baz=229
EHY eS Sn 07 51 26.6 -0.9
baz=229
VWDT VWDT 1.73 243 eP Pn 07 51 06.0 +0.8
baz=234
VWDT eS Sn 07 51 27.8 +0.2
baz=234
WHP Taichung City 1.74 261 eP Pn 07 51 06.5 +1.1
baz=254
WHP S Sn 07 51 28.9 +1.1
baz=254
YULB Yu-li 1.81 231 eP Pn 07 51 05.7 -0.6
baz=234
YULB S Sn 07 51 28.4 -1.0
baz=234
EYUL Yuli 1.83 229 eS Sn 07 51 30.2 +0.5
baz=234
TWF1 Yuli 1.84 230 eS Sn 07 51 28.1 -1.9
baz=234
TYC Yuchr 1.91 251 eP Pn 07 51 08.9 +1.4
baz=241
TYC eS Sn 07 51 33.2 +1.6
baz=241
FULB Fuli 1.95 226 eP Pn 07 51 07.9 -0.1
baz=218
FULB eS Sn 07 51 33.2 +0.7
baz=218
EDH Donghe 2.10 222 eP Pn 07 51 09.4 -0.6
baz=217
EDH eS Sn 07 51 35.1 -0.9
baz=217

IDC ***21*** *08:01:02.3±0.6, 7°.55N×73°.20W, h136km±6km, mb3.3/5, mb1 3.7/10, mb1mx3.4/41, mbtmp4.1/10, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=14.9km s-min=8.0km az=133.0*
RSNC ***21*** *08:01:03.2±1.1, 7°.46N×73°.21W, h136km±4km, ML3.9, Mw4.0, Fault plane solution: NP1:φs12.00000°, δ90.00000°, λ,38.00000°.*
VAO ***21*** *08:01:03.7±2.0, 7°.38N×73°.04W, h140km±14km, mb4.1*
NEIC ***21*** *08:01:03.3±2.5, 7°.44N±0°.08×73°.03W±0°.09, h153km±7km, mb4.3/12, Error ellipse: s-maj=13.9km s-min=8.8km az=128.0*

ISC 21 08:01:02.1±0.5, 7°.48N±0°.03×73°.14W±0°.03, h139km±5km, n99, σ1§68/138, mb4.2/7, 6C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.46**	**107**	⇑*iP*		**Pn**	**08 01 23.6**	**+1.1**
PAMC				*eS*		**Sn**	**08 01 38.8**	**+0.9**
PAMC				*i*			08 01 41.5	
	comp=Z,2µm,0.3s							
BRRC	**Barranca, Sant**	**0.68**	**237**	⇓*iP*		**Pn**	**08 01 23.4**	**+0.2**
BRRC				*eS*		**Sn**	**08 01 38.6**	**-0.6**
BRRC				*i*			08 01 39.4	
	comp=Z,2µm,0.1s							
OCAC	**Ocana**	**0.78**	**347**	⇓*eP*		**Pn**	**08 01 24.9**	**+0.7**
OCAC				*eS*		**Sn**	**08 01 41.4**	**+0.4**
OCAC				*i*			08 01 43.7	
	comp=Z,3µm,0.2s							
BARC	**Barichara**	**0.88**	**183**	⇑*iP*		**Pn**	**08 01 25.3**	**+0.3**
BARC				*eS*		**Sn**	**08 01 41.5**	**-0.9**
BARC				*i*			08 01 42.9	
	comp=Z,2µm,0.2s							
RUSC	**La Rusia**	**1.57**	**178**	*eP*		**Pn**	**08 01 32.1**	**0.0**
RUSC				*eS*		**Sn**	**08 01 54.7**	**-0.4**
PTBC	**PUERTO BERRIO,**	**1.61**	**235**	*eP*		**Pn**	**08 01 31.5**	**-0.5**
PTBC				*eS*		**Sn**	**08 01 53.7**	**-1.1**
PTBC				*i*			08 01 56.5	
	comp=Z,1µm,0.2s							
SMLC	**San Martn de**	**1.61**	**325**	*eP*		**Pn**	**08 01 32.2**	**+0.2**
SMLC				*eS*		**Sn**	**08 01 54.0**	**-0.9**
SMLC				*i*			08 01 55.2	
	comp=Z,2µm,0.2s							
TAMC	**Tame, Arauca**	**1.69**	**128**	⇑*iP*		**Pn**	**08 01 34.1**	**+1.2**
TAMC				*eS*		**Sn**	**08 01 57.8**	**+1.3**
TAMC				*i*			08 01 59.0	
	comp=Z,609nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.71**	**271**	⇓*iP*		**Pn**	**08 01 33.2**	**+0.1**
ZARC				*eS*		**Sn**	**08 01 56.4**	**-0.4**
ZARC				*i*			08 02 01.3	
	comp=Z,1µm,0.4s							
SPBC	**San Pablo de B**	**2.04**	**207**	*eP*		**Pn**	**08 01 37.5**	**+0.4**
SPBC				*eS*		**Sn**	**08 02 03.9**	**0.0**
SPBC				*i*			08 02 11.0	
	comp=Z,1µm,0.5s							
UREC	**San Jos de Ur**	**2.39**	**277**	*eP*		**Pn**	**08 01 40.7**	**-0.7**
UREC				*i*			08 02 12.1	
	comp=Z,851nm,0.1s							
ARGC	**Ariguani, Magd**	**2.61**	**335**	*eP*		**Pn**	**08 01 45.6**	**+1.6**
ARGC				*eS*		**Sn**	**08 02 17.0**	**+0.6**
ARGC				*i*			08 02 23.9	
	comp=Z,285nm,0.2s							
HELC	**Santa Helena**	**2.70**	**242**	*eP*		**Pn**	**08 01 45.9**	**+0.4**
HELC				*i*			08 02 26.2	
	comp=Z,518nm,0.3s							
MOTC	**Monteria, Cord**	**2.82**	**298**	⇓*iP*		**Pn**	**08 01 45.6**	**-1.0**
MOTC				*eS*		**Sn**	**08 02 18.2**	**-2.8**
MOTC				*i*			08 02 36.6	
	comp=Z,140nm,0.6s							
SDV	**Santo Domingo**	**2.85**	**60**	P		**Pn**	**08 01 49.0**	**+1.7**
SDV				S		**Sn**	**08 02 22.3**	**+0.2**
SDV	**Santo Domingo**	**2.85**	**60**	⇑*iP*		**Pn**	**08 01 48.9**	**+1.7**
SDV				*eS*		**Sn**	**08 02 22.3**	**+0.2**
SDV				*i*			08 02 26.4	
	comp=Z,237nm,0.6s							
SDV	**Santo Domingo**	**2.85**	**60**			**Pn**	**08 01 49.0**	**+1.7**
SDV					Sn	**Sn**	**08 02 21.9**	**-0.2**
SDV	**Santo Domingo**	**2.85**	**60**	*eP*		**Pn**	**08 01 48.9**	**+1.7**
SDV				*eS*		**Sn**	**08 02 22.6**	**+0.5**
ROSC	**El Rosal**	**2.87**	**204**	P		**Pn**	**08 01 49.6**	**+1.9**
	comp=Z,88nm,0.3s,baz=47,slow=6.2,SNR=166							
ROSC				S		**Sn**	**08 02 23.9**	**+1.0**
	comp=Z,119nm,0.3s,baz=180,slow=23,SNR=11							
ROSC	**El Rosal**	**2.87**	**204**			**Pn**	**08 01 49.5**	**+1.7**
ROSC					Sn	**Sn**	**08 02 25.8**	**+2.8**
CHIC	**Chingaza**	**2.89**	**192**	*eP*		**Pn**	**08 01 48.7**	**+0.6**
CHIC				*eS*		**Sn**	**08 02 25.1**	**+1.6**
CHIC				*i*			08 02 34.1	
	comp=Z,165nm,0.3s							
CVALL	**Valledupar, Ce**	**3.02**	**358**	*eP*		**Pn**	**08 01 49.6**	**+0.3**
CVER	**Cruz Verde, Cu**	**3.08**	**198**	*eP*		**Pn**	**08 01 53.5**	**+3.0**
DBBC	**Dabeiba**	**3.08**	**262**	*eP*		**Pn**	**08 01 50.2**	**+0.1**
SJCC	**San Jacinto, C**	**3.14**	**320**	⇓*eP*		**Pn**	**08 01 50.9**	**0.0**
SJCC				*eS*		**Sn**	**08 02 26.8**	**-1.8**
SJCC				*i*			08 02 31.1	
	comp=Z,235nm,0.4s							
GUY2C	**Guyana, Caldas**	**3.15**	**225**	*eP*		**Pn**	**08 01 51.3**	**-0.1**
GUY2C				*eS*		**Sn**	**08 02 25.6**	**-3.8**
GUY2C				*i*			08 02 42.5	
	comp=Z,425nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.27**	**241**	⇑*eP*		**Pn**	**08 01 53.2**	**+0.4**
CBOC				*eS*		**Sn**	**08 02 30.9**	**-0.9**
CBOC				*i*			08 02 48.1	
	comp=Z,189nm,0.5s							
CMAN1	**Manizales, Cal**	**3.37**	**225**	*eP*		**Pn**	**08 01 58.0**	**+4.0**
CMAN1				*eS*		**Sn**	**08 02 32.6**	**-1.6**
RREF	**El Recreo**	**3.37**	**221**	*eP*		**Pn**	**08 01 52.1**	**-2.3**
RREF				*eS*		**Sn**	**08 02 30.1**	**-4.8**
RREF				*i*			08 02 38.4	
	comp=Z,429nm,0.3s							
VILC	**Villavicencio,**	**3.39**	**189**	⇓*iP*		**Pn**	**08 01 55.1**	**+0.9**
VILC				*eS*		**Sn**	**08 02 33.7**	**-0.8**
VILC				*i*			08 02 48.2	
	comp=Z,270nm,0.3s							
PTGC	**Puerto Gaitan,**	**3.41**	**163**	*eP*		**Pn**	**08 01 53.1**	**-1.3**
PTGC				*eS*		**Sn**	**08 02 29.1**	**-5.6**
PTGC				*i*			08 02 37.2	
	comp=Z,80nm,0.4s							
TOLC	**Tolima**	**3.60**	**217**	*eP*		**Pn**	**08 01 57.8**	**+0.7**
TOLC				*eS*		**Sn**	**08 02 37.7**	**-2.1**
TOLC				*i*			08 02 51.9	
	comp=Z,655nm,0.6s							
ANIL	**Santa Ana**	**3.72**	**217**	*eP*		**Pn**	**08 01 59.5**	**+0.8**
ANIL				*eS*		**Sn**	**08 02 45.2**	**+2.6**
ANIL				*i*			08 02 53.8	
	comp=Z,99nm,0.3s							
SMRC	**Santa Marta, M**	**3.82**	**344**	*eP*		**Pn**	**08 02 00.2**	**+0.5**
SMRC				*eS*		**Sn**	**08 02 42.2**	**-2.1**
SMRC				*i*			08 02 45.1	
	comp=Z,139nm,0.6s							
ORTC	**Ortega, Tolima**	**4.12**	**211**	*eP*		**Pn**	**08 02 03.5**	**-0.2**
ORTC				*eS*		**Sn**	**08 02 50.0**	**-1.5**
ORTC				*i*			08 03 03.4	
	comp=Z,214nm,0.7s							
PRAC	**Prado**	**4.12**	**205**	*eP*		**Pn**	**08 02 03.2**	**-0.5**
PRAC				*eS*		**Sn**	**08 02 50.3**	**-1.3**
PRAC				*i*			08 03 02.6	
	comp=Z,321nm,0.7s							
CAPC	**Capurgana**	**4.33**	**286**	*i*		**Sn**	**08 02 55.3**	**-1.1**
	comp=Z,154nm,0.4s							
URIC	**Uribia, Colomb**	**4.35**	**15**	⇑*iP*		**Pn**	**08 02 06.4**	**-0.3**
URIC				*eS*		**Sn**	**08 02 55.7**	**-1.2**
URIC				*i*			08 02 56.5	
	comp=Z,68nm,0.3s							
SOLC	**Bahia Solano**	**4.42**	**254**	*eP*		**Pn**	**08 02 07.8**	**+0.2**
SOLC				*i*			08 03 04.1	
	comp=Z,66nm,0.4s							
PTAC	**Punta Ardita,**	**4.64**	**266**	*eP*		**Pn**	**08 02 10.4**	**-0.2**
PTAC				*eS*		**Sn**	**08 03 00.1**	**-3.9**
YOTC	**Yotoco, Valle**	**4.71**	**223**	*eP*		**Pn**	**08 02 11.3**	**-0.4**
YOTC				*eS*		**Sn**	**08 03 08.2**	**+2.4**
GUVC	**San Jose del G**	**4.92**	**174**	*eP*		**Pn**	**08 02 13.8**	**-0.5**
BETC	**Betania**	**5.29**	**206**	*eP*		**Pn**	**08 02 17.5**	**-1.7**
MACC	**Macarena, Meta**	**5.34**	**188**	*eP*		**Pn**	**08 02 18.8**	**-1.1**
MACC				*eS*		**Sn**	**08 03 14.9**	**-5.8**
MACC				*i*			08 03 48.4	
	comp=Z,48nm,0.6s							
MARP	**Paez Belalcaza**	**5.39**	**212**	*eP*		**Pn**	**08 02 19.4**	**-1.4**
POPC	**Popayan, Colom**	**6.04**	**216**	*eP*		**Pn**	**08 02 29.4**	**-0.1**
PCON	**Cinco Dias**	**6.06**	**213**	*eP*		**Pn**	**08 02 30.7**	**+0.6**
FLOC	**Florencia**	**6.37**	**203**	*eP*		**Pn**	**08 02 33.2**	**-0.5**
BBAC	**Balboa, Cauca**	**6.79**	**217**	*eP*		**Pn**	**08 02 38.3**	**-1.2**
GCUF	**Volcan Galeras**	**7.49**	**214**	*eP*		**Pn**	**08 02 49.2**	**-0.1**
PCRV	**Puerto La Cruz**	**8.82**	**72**	P		**Pn**	**08 03 08.2**	**+1.6**
	comp=Z,7.4nm,0.3s,baz=222,slow=8.8,SNR=34							
PCRV				S		**Sn**	**08 04 39.9**	**-4.6**
	comp=Z,2.7nm,0.3s,baz=39,slow=21,SNR=3.0							
PLCV	**Puerto La Cruz**	**8.86**	**72**			**Pn**	**08 03 08.2**	**+1.1**
PLCV						**Sn**	**08 04 39.9**	**-5.5**
LGNH	**Logne**	**10.98**	**3**	Pn		**Pn**	**08 03 36.7**	**+1.3**
MTDJ	**Mount Denham**	**11.51**	**339**	Pn		**Pn**	**08 03 45.4**	**+3.0**
DR12	**Loma Pena Alta**	**11.82**	**18**	Pn		**Pn**	**08 03 46.7**	**+0.2**
MLPR	**Magueyes Islan**	**12.00**	**29**	Pn		**Pn**	**08 03 46.5**	**-2.2**
MPR	**Mayaguez**	**12.16**	**28**	Pn		**Pn**	**08 03 49.0**	**-2.0**
PDPR	**Patillas Dam,**	**12.56**	**33**	Pn		**Pn**	**08 03 54.4**	**-1.7**
SJG	**San Juan**	**12.57**	**32**	P		**Pn**	**08 03 53.6**	**-2.6**
	comp=Z,9.0nm,0.3s,baz=304,slow=17,SNR=7.7							
GCPR	**Guaynabo City**	**12.77**	**32**	Pn		**Pn**	**08 03 57.8**	**-1.0**
CBYP	**Canovanas**	**12.86**	**33**	Pn		**Pn**	**08 03 59.1**	**-0.9**
MTP	**Monte Pirata**	**12.88**	**34**	Pn		**Pn**	**08 03 59.0**	**-1.2**
CDVI	**St. Croix**	**13.07**	**38**	Pn		**Pn**	**08 04 02.4**	**-0.3**
FDF	**Fort de France**	**13.79**	**57**	Pn		**Pn**	**08 04 12.3**	**+0.3**
PTGA	**Pitinga**	**15.46**	**121**	P		**P**	**08 04 36.1**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=297,slow=14,SNR=12							
PTGA	**Pitinga**	**15.46**	**121**	P		**P**	**08 04 37.4**	**+3.0**
MTO3	**Montecristo**	**17.34**	**295**	P		**Pn**	**08 04 58.2**	**+2.1**
ETMB	**Extrema**	**18.51**	**158**	*eP*		**P**	**08 05 07.7**	**-0.2**
SAML	**Samuel**	**19.10**	**149**	P		**P**	**08 05 13.4**	**-0.9**
SAML				IAmb		IAmb	08 05 14.9	
	comp=Z,9.6nm,0.7s							
SAML	**Samuel**	**19.10**	**149**	*eP*		**P**	**08 05 13.7**	**-0.5**
NNA	**Nana**	**19.68**	**191**	P		**Pn**	**08 05 23.6**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=239,slow=7.0,SNR=2.0							
NNA				LR		LR	08 13 46.8	
	comp=Z,40nm,18.7s,baz=8.0,slow=39							
NNA	**Nana**	**19.68**	**191**	P		**Pn**	**08 05 24.3**	**+0.8**
NNA				IAmb		IAmb	08 05 35.9	
	comp=Z,11nm,1.1s							
MDP	**Montagnes des**	**20.51**	**95**	P		Pn	08 05 31.6	-1.6
	comp=Z,4.4nm,0.7s,baz=302,slow=11,SNR=5.7							
ITTB	**Itaituba**	**20.98**	**124**	*eP*		**P**	**08 05 35.4**	**+0.9**
MALB	**Monte Alegre**	**20.99**	**115**	*eP*		**P**	**08 05 35.7**	**+1.0**
MCPB	**Macapa, AP**	**22.42**	**109**	*eP*		**P**	**08 05 50.3**	**+0.7**
NPGB	**Novo Progresso**	**22.86**	**129**	*eP*		**P**	**08 05 53.3**	**-0.5**
VILB	**Vilhena**	**24.02**	**148**	*eP*		**P**	**08 06 05.7**	**+1.2**
PB06	**IPOC Station P**	**30.20**	**173**	P		**P**	**08 06 60.0**	**+0.2**
ARAG	**Araguaiana, MT**	**31.25**	**138**	*eP*		**P**	**08 07 08.0**	**-0.9**
TXAR	**Lajitas Array**	**36.02**	**311**	P		**P**	**08 07 50.4**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=136,slow=11,SNR=4.2							
TXAR				pP		**pP**	**08 08 19.6**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=128,slow=8.1,SNR=4.1							
TXAR	**Lajitas Array**	**36.02**	**311**	P		**P**	**08 07 50.7**	**+0.5**
MNTX	**Cornudas Mount**	**38.51**	**313**	P		**P**	**08 08 12.9**	**+1.8**
GDU01	**Guandu, BA**	**39.42**	**122**	*eP*		**P**	**08 08 18.3**	**-0.5**
EYMN	**Ely**	**43.24**	**342**	P		**P**	**08 08 50.2**	**+0.6**
EYMN				IAmb		IAmb	08 09 05.6	
	comp=Z,17nm,1.4s							
ULM	**Lac du Bonnet**	**46.67**	**340**	P		**P**	**08 09 16.9**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=180,slow=8.1,SNR=2.4							
ULM	**Lac du Bonnet**	**46.67**	**340**	P		**P**	**08 09 16.3**	**-0.3**
ULM				IAmb		IAmb	08 09 24.1	
	comp=Z,15nm,1.5s							
PLCA	**Paso Flores**	**48.03**	**177**	P		**P**	**08 09 26.2**	**-1.1**
PLCA				IAmb		IAmb	08 09 28.9	
	comp=Z,8.5nm,1.4s							
YKA	**Yellowknife Ar**	**62.65**	**340**	P		**P**	**08 11 11.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=125,slow=7.6,SNR=4.9							
SUMG	**Summit**	**68.35**	**11**	P		**P**	**08 11 49.4**	**+0.8**
ILAR	**Eielson Array**	**76.37**	**335**	P		**P**	**08 12 35.8**	**0.0**
	comp=Z,0.2nm,0.6s,baz=115,slow=6.4,SNR=1.8							
PPLA	**Purkeypile**	**78.39**	**333**	P		**P**	**08 12 48.3**	**+1.0**
SVW2	**Sparrevohn**	**79.84**	**331**	P		**P**	**08 12 55.3**	**+0.3**
SVW2				IAmb		IAmb	08 13 07.2	
	comp=Z,9.3nm,1.4s							
MKAR	**Makanchi Array**	**121.71**	**20**	PKP		**PKPdf**	**08 19 39.1**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=247,slow=11,SNR=2.0							
MKAR	**Makanchi Array**	**121.71**	**20**	PKPbc		**PKPdf**	**08 19 39.5**	**-0.4**
ASAR	**Alice Springs**	**149.47**	**235**	PKPbc		**PKPbc**	**08 20 33.8**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=122,slow=2.9,SNR=2.9							
ASAR				pPKPbc		**pPKPbc**	**08 21 12.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=126,slow=3.3,SNR=2.0							
ASAR	**Alice Springs**	**149.47**	**235**			**PKPbc**	**08 20 35.2**	**-0.7**
WRA	**Warramunga Arr**	**150.63**	**242**	PKPbc		**PKPbc**	**08 20 38.3**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=107,slow=2.8,SNR=41							
WRA				pPKPbc		**pPKPbc**	**08 21 14.4**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=107,slow=2.8,SNR=5.5							
WRA	**Warramunga Arr**	**150.63**	**242**			**PKPbc**	**08 20 37.9**	**-0.8**

IDC 21 08:16:38.6±35.0, 21°.26N×143°.28E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/47, mbtmp3.5/3, Error ellipse: s-maj=677.0km s-min=228.6km az=173.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.88**	**193**	P		P	08 24 29.9	-0.9
	0.6nm,0.5s,baz=13,slow=8.6,SNR=16							
ASAR	**Alice Springs**	**45.58**	**192**	P		P	08 25 01.8	+1.2
	0.3nm,0.4s,baz=17,slow=13,SNR=6.0							
STKA	**Stephens Creek**	**52.86**	**182**	P		P	08 25 55.6	-0.6
	0.4nm,0.3s,baz=347,slow=11,SNR=3.1							

BJI ***21*** *08:20:48.9±0.0, 3°.83N×128°.46E, h55km, mB4.9/22, mb4.8/36, Ms4.5/10, Ms7 4.2/10*
IDC ***21*** *08:20:48.4±2.6, 3°.83N×128°.58E, h44km±25km, mb4.2/19, mb1 4.4/21, mb1mx4.2/42, mbtmp4.5/21, ML4.3/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/52, Error ellipse: s-maj=24.3km s-min=11.1km az=80.0*
NEIC ***21*** *08:20:49.4±1.8, 3°.79N±0°.07×128°.59E±0°.09, h54km±5km, mb4.8/71, Error ellipse: s-maj=13.3km s-min=9.4km az=57.0*
KLM ***21*** *08:20:49.0, 3°.82N×128°.79E, h58km, mb5.1*
DJA ***21*** *08:20:49.9±0.6, 4°.N±4°.×12°.9E±°, h58km±8km, M4.8/11, mb4.8/11, mB5.2/7, MLv5.0/8, Mw(mB)4.6/7*
MAN ***21*** *08:20:50.9, 4°.02N×128°.32E, h21km, mb5.5, ML4.5, MS4.8*

ISC 21 08:20:49.3±1.1, 3°.85N±0°.05×128°.60E±0°.07, h55km±9km, n172, σ1§42/172, mb4.8/58, MS3.6/12, 3C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SGSI	**Sangihe**	**3.07**	**267**	P		**Pn**	**08 21 35.4**	**0.0**
TNTI	**Ternate**	**3.30**	**202**	P		Pn	08 21 43.7	+5.2
TNTI	**Ternate**	**3.30**	**202**			**Pn**	**08 21 39.6**	**+1.1**
DDMP	**Don Marcelino,**	**3.65**	**308**	*eP*		**Pn**	**08 21 41.9**	**-1.4**
DDMP				*eS*		**Sn**	**08 22 22.6**	**-2.5**
MATI	**Mati**	**3.86**	**323**	*eP*		**Pn**	**08 21 45.0**	**-1.2**
MATI				*eS*		Sn	08 22 18.4	-12

DAV Davao City (W) 4.39 317 LR LR 08 23 04.8
comp=Z,232nm,21.5s,baz=172,slow=31
LBMI Labuha 4.59 194 P Pn 08 21 59.5 +3.2
KCP Kidapawan 4.70 312 eP Pn 08 21 58.5 +0.7
SKMP Bagumbayan, Su 4.83 303 eP Pn 08 21 59.6 0.0
SKMP *eS* **Sn 08 22 55.3 +1.0**
BUKP Musuan 5.33 319 eP Pn 08 22 07.2 +0.8
BUKP *eS* **Sn 08 23 02.9 -3.7**
SIJI Sorong 5.39 150 P Pn 08 22 06.8 -0.5
12nm,0.3s,baz=183,slow=23,SNR=27
SIJI S **Sn 08 23 04.3 -3.7**
32nm,0.3s,baz=329,slow=24,SNR=23
SIJI LR LR 08 24 14.7
comp=Z,802nm,20.2s,baz=356,slow=38
KMSI Cibinong 5.65 235 P Pn 08 22 13.9 +3.2
CGP Cagayan de Oro 6.00 320 eP Pn 08 22 17.3 +1.7
SANI Sanana 6.42 204 P Pn 08 22 21.3 0.0
0.4nm2µm41nm,0.5s
GTOI Gorontalo 6.43 240 P Pn 08 22 23.2 +1.7
0.4nm1µm119nm,1.0s
LUWI Luwuk 7.59 230 Pn Pn 08 22 37.1 -0.2
FAKI Fak Fak 7.65 151 Pn Pn 08 22 38.4 +0.2
APSI Ampana 8.40 236 P Pn 08 22 52.7 +4.2
1µm130nm,0.8s
MPSI Mapaga 9.37 248 P Pn 08 23 03.4 +1.6
MYLDM Lahad Datu 10.16 278 Pn Pn 08 23 15.0 +2.5
TTSI Tana Toraja 11.13 232 P Pn 08 23 28.1 +2.2
SPSI Sidrap Palu 11.75 229 P Pn 08 23 45.0 +11
BKSI Bulukumba 12.44 223 P Pn 08 23 40.8 -2.9
KAPI Kappang 12.48 225 P Pn 08 23 43.6 -0.6
1.5nm,0.3s,baz=110,slow=3.4,SNR=3.6
KAPI Kappang 12.48 225 Pn Pn 08 23 44.3 +0.1
KKM Kota Kinabalu 12.53 281 Pn Pn 08 23 47.6 +2.5
GENI Genyem 13.21 119 P P 08 24 09.6 +7.0
SOEI Soe 14.19 198 P P 08 24 26.2 +13
SOEI Soe 14.19 198 Pn Pn 08 24 09.0 +1.4
EDFI Ende, Flores 14.29 209 P P 08 24 12.5 -2.2
15nm,1.2s
BATI Baumata 14.80 199 LR LR 08 30 05.2
comp=Z,323nm,21.5s,baz=98,slow=38
SBUM Sibu 16.41 266 Pn Pn 08 24 35.5 -0.7
SBUM Sibu 16.41 266 P P 08 24 40.0 +1.8
MTN Manton Dam 16.77 171 Pn Pn 08 24 39.6 -1.1
TWSI Taliwang, Sumb 17.11 223 P P 08 25 00.2 +14
KSM Kuching 18.42 263 P Pn 08 25 00.8 -0.1
KSM Kuching 18.42 263 P Pn 08 25 05.0 +4.0
GUMO Guam 18.75 58 LR LR 08 30 46.2
comp=Z,183nm,19.5s,baz=229,slow=32
GMJI Gumukmas 19.33 231 P Pn 08 25 27.8 +16
KNRA Kununurra 19.40 180 P P 08 25 10.8 -0.2
KNRA IAmb IAmb 08 25 12.9
comp=Z,75nm,0.8s
TWG Pinlang 20.22 340 P P 08 25 17.6 -2.3
TPUB Ta-pu 20.82 339 P P 08 25 23.9 -2.5
SSLB Suanglung 21.15 340 P P 08 25 29.2 -0.8
DLV T Lat 21.47 293 P P 08 25 32.6 -1.1
FITZ Fitzroy Crossi 22.00 188 P P 08 25 37.5 -1.5
comp=Z,9.2nm,0.8s,baz=36,slow=7.3,SNR=17
FITZ LR LR 08 35 28.9
comp=Z,84nm,19.0s,baz=22,slow=40
FITZ Fitzroy Crossi 22.00 188 P P 08 25 37.6 -1.5
COEN Coen 22.85 141 P P 08 25 47.9 -0.3
QIZ Qiongzhong 23.74 311 P P 08 25 56.0 -0.8
QIZ S **S 08 30 09.6 +1.3**
QIZ pmax pmax
comp=Z,11nm,0.7s
QIZ Qiongzhong 23.74 311 P P 08 25 56.6 -0.2
QIZ IAmb IAmb 08 26 07.8
comp=Z,49nm,1.8s
WB0 Warramunga Arr 24.15 167 P P 08 25 60.0 -0.5
WB0 IAmb IAmb 08 26 01.8
comp=Z,41nm,0.7s
WRAB Tennant Creek 24.30 167 P P 08 26 01.5 -0.3
WRAB IAmb IAmb 08 26 03.4
comp=Z,62nm,1.4s
WRA Warramunga Arr 24.31 167 P P 08 26 01.4 -0.6
comp=Z,22nm,0.7s,baz=345,slow=10,SNR=114
WRA LR LR 08 37 18.1
comp=Z,156nm,19.2s,baz=350,slow=41
WRA Warramunga Arr 24.31 167 P P 08 26 01.1 -0.8
WB2 Warramunga Arr 24.31 167 P P 08 26 01.7 -0.2
WB2 IAmb IAmb 08 26 03.4
comp=Z,25nm,0.7s
WR0 Warramunga Arr 24.37 166 P P 08 26 01.9 -0.6
WR0 IAmb IAmb 08 26 04.1
comp=Z,25nm,0.8s
KRVT Keravat (AS076 24.77 109 LR LR 08 33 56.6
comp=Z,325nm,19.2s,baz=279,slow=32
PSA00 Pilbara Seismi 26.68 198 P P 08 26 23.1 -0.4
AS31 Alice Springs 27.83 170 P P 08 26 32.5 -1.3
ASAR Alice Springs 27.83 170 P P 08 26 33.9 +0.1
comp=Z,4.0nm,0.6s,baz=352,slow=7.7,SNR=65
ASAR PcP **PcP 08 29 49.4 +0.4**
comp=Z,1.4nm,0.6s,baz=357,slow=2.0,SNR=7.1
ASAR LR LR 08 39 44.8
comp=Z,114nm,18.5s,baz=350,slow=41
ASAR Alice Springs 27.83 170 P P 08 26 32.8 -1.0
ASAR PcP **PcP 08 29 49.4 +0.4**
NJ2 Nanjing 29.51 343 eP P 08 26 50.9 +2.4
NJ2 pmax pmax
comp=Z,13nm,0.5s
GIRL Giralia 29.84 207 P P 08 26 52.3 +0.7
JMN Monobe 30.13 9 P P 08 26 55.4 +1.3
JWT Wachi 31.91 11 P P 08 27 10.6 +1.0
JWT IAmb IAmb 08 27 17.3
comp=Z,15nm,1.2s
CMAR Chiang Mai Arr 32.44 299 P P 08 27 15.3 +0.7
comp=Z,4.1nm,0.8s,baz=111,slow=6.8,SNR=17
CMAR PcP **PcP 08 30 01.6 +0.6**
comp=Z,0.8nm,0.3s,baz=178,slow=0.9,SNR=7.2
CMAR LR LR 08 40 57.7
comp=Z,75nm,18.9s,baz=105,slow=37
CMAR Chiang Mai Arr 32.44 299 P P 08 27 14.6 0.0
CHTO Chiang Mai 32.58 299 P P 08 27 16.1 +0.3
CHTO IAmb IAmb 08 27 16.8
comp=Z,7.3nm,0.7s
KSRS Korea Array 33.45 359 LR LR 08 40 20.0
comp=Z,89nm,18.9s,ba

LZH					LR	LR					
	comp=Z,320nm,13.2s										
LZH					LR	LR					
	comp=Z,330nm,13.5s										
LZH					LR	LR					
	comp=Z,480nm,16.6s										
HHC	**Hu-ho-hao-te**	**39.90**	**340**	*eP*	**P**		**08 28 18.6**	**+0.5**			
HHC					pmax	pmax					
	comp=Z,18nm,0.8s										
HHC					pmax	pmax					
	comp=Z,110nm,8.5s										
H11S3	**WAKE ISLAND Hy**	**39.98**	**66**		T	T	09 11 32.9				
	baz=253,slow=75,SNR=17										
H11S1	**WAKE ISLAND Hy**	**39.99**	**66**		T	T	09 11 34.1				
	baz=253,slow=75,SNR=14										
H11S2	**WAKE ISLAND Hy**	**39.99**	**66**		T	T	09 11 38.3				
	baz=253,slow=75,SNR=20										
USRK	**Ussuriysk Ar.**	**40.30**	**4**	P	**P**		**08 28 21.5**	**+0.3**			
	comp=Z,0.7nm,0.8s,baz=96,slow=12,SNR=4.5										
USRK	**Ussuriysk Ar.**	**40.30**	**4**	P	**P**		**08 28 20.8**	**-0.4**			
ARMA	**Armidale**	**40.57**	**149**	P	**P**		**08 28 23.9**	**+0.1**			
ARMA					IAmb	IAmb	08 28 25.2				
	comp=Z,9.3nm,0.7s										
SHL	**Shillong**	**41.32**	**305**	P	**P**		**08 28 30.1**	**-0.1**			
SHL					IAmb	IAmb	08 28 42.4				
	comp=Z,15nm,0.6s										
GTA	**Gaotai**	**43.98**	**328**	*eP*	**P**		**08 28 52.4**	**+0.9**			
GTA				S	**S**		**08 35 19.3**	**-0.3**			
GTA				SS	**SS**		**08 38 30.0**	**-8.2**			
GTA				pmax	pmax						
	comp=Z,5.0nm,1.3s										
GTA				pmax	pmax						
	comp=Z,60nm,7.1s										
GTA				LR	LR						
	comp=Z,100nm,16.4s										
GTA				LR	LR						
	comp=Z,250nm,18.2s										
GTA				LR	LR						
	comp=Z,150nm,17.1s										
DZM	**Mont Dzumac**	**45.09**	**127**	LR	LR		08 46 01.6				
	comp=Z,60nm,20.4s,baz=267,slow=34										
ULN	**Ulaanbaatar**	**47.61**	**340**	P	**P**		**08 29 20.8**	**+0.9**			
ULN					IAmb	IAmb	08 29 30.7				
	comp=Z,10nm,1.1s										
SONM	**Songino Array**	**47.80**	**340**	P	**P**		**08 29 22.0**	**+0.5**			
	comp=Z,1.5nm,0.8s,baz=151,slow=7.3,SNR=5.6										
SONM				PcP	**PcP**		**08 30 50.2**	**+0.5**			
	comp=Z,1.5nm,0.7s,baz=170,slow=4.9,SNR=4.2										
SONM	**Songino Array**	**47.80**	**340**	P	**P**		**08 29 21.2**	**-0.2**			
WMQ	**Urumqi**	**53.71**	**324**	*eP*	**P**		**08 30 07.8**	**+1.8**			
WMQ				pP	sP		08 30 22.0	-2.5			
WMQ				pmax	pmax						
	comp=Z,14nm,0.9s										
WMQ				pmax	pmax						
	comp=Z,100nm,5.3s										
PEA0B	**Petropavlovsk-**	**54.63**	**21**	P	**P**		**08 30 14.3**	**+1.9**			
PETK	**Petropavlovsk-**	**54.63**	**21**	P	**P**		**08 30 13.4**	**+1.1**			
	comp=Z,2.2nm,0.6s,baz=166,slow=2.2,SNR=4.5										
PETK	**Petropavlovsk-**	**54.63**	**21**	P	**P**		**08 30 14.3**	**+1.9**			
SLS	**Shalkode**	**58.46**	**320**	*eP*	**P**		**08 30 39.4**	**-0.6**			
MK31	**Makanchi Array**	**58.53**	**324**	P	**P**		**08 30 39.9**	**-0.4**			
MK31					IAmb	IAmb	08 30 44.5				
	comp=Z,4.1nm,0.6s										
MKAR	**Makanchi Array**	**58.53**	**324**	P	**P**		**08 30 41.0**	**+0.8**			
	comp=Z,3.7nm,0.4s,baz=112,slow=8.0,SNR=45										
MKAR	**Makanchi Array**	**58.53**	**324**	P	**P**		**08 30 40.9**	**+0.6**			
MAKZ	**Makanchi**	**58.73**	**324**	P	**P**		**08 30 41.8**	**+0.2**			
MAKZ					IAmb	IAmb	08 30 45.5				
	comp=Z,5.9nm,0.7s										
UZB	**Uzynbulak**	**58.74**	**319**	*eP*	**P**		**08 30 42.5**	**+0.6**			
SATY	**Saty**	**59.10**	**319**	*eP*	**P**		**08 30 45.4**	**+1.0**			
NIL	**Nilore**	**59.34**	**307**	P	**P**		**08 30 46.5**	**+0.4**			
NIL					IAmb	IAmb	08 31 05.2				
	comp=Z,12nm,0.8s										
MDOK	**Medeo**	**60.04**	**319**	*eP*	**P**		**08 30 50.9**	**0.0**			
TNSS	**Tian-Shan**	**60.05**	**318**	*eP*	**P**		**08 30 51.8**	**+0.4**			
WHZ	**Wether Hill Ro**	**60.58**	**149**	P	**P**		**08 30 55.1**	**+0.8**			
THZ	**Tophouse**	**60.66**	**143**	P	**P**		**08 30 55.6**	**+0.6**			
LBZ	**Lake Benmore**	**60.75**	**147**	P	**P**		**08 30 56.3**	**+0.8**			
RPZ	**Rata Peaks**	**60.80**	**146**	LR	LR		08 57 12.4				
	comp=Z,144nm,18.0s,baz=334,slow=36										
RPZ	**Rata Peaks**	**60.80**	**146**	P	**P**		**08 30 56.8**	**+0.9**			
KUU	**Kurty**	**60.82**	**319**	*eP*	**P**		**08 30 55.5**	**-0.5**			
ZALV	**Zalesovo Beam**	**61.34**	**332**	P	**P**		**08 30 58.7**	**-0.6**			
	comp=Z,1.3nm,0.4s,baz=130,slow=6.5,SNR=5.4										
ZALV	**Zalesovo Beam**	**61.34**	**332**	P	**P**		**08 30 58.4**	**-0.9**			
KHZ	**Kahutara**	**61.43**	**143**	P	**P**		**08 31 00.1**	**0.0**			
BHW	**Baring Head**	**61.65**	**142**	P	**P**		**08 31 01.5**	**-0.1**			
KURK	**Kurchatov**	**62.65**	**327**	P	**P**		**08 31 08.4**	**+0.2**			
BTLS	**Baital**	**62.79**	**319**	*eP*	**P**		**08 31 08.6**	**-0.6**			
KBL	**Kabul**	**62.94**	**307**	P	**P**		**08 31 10.8**	**+0.1**			
KBL					IAmb	IAmb	08 31 28.9				
	comp=Z,6.0nm,0.6s										
BTK	**Batken**	**63.19**	**313**	P	**P**		**08 31 12.5**	**+0.3**			
BTK					IAmb	IAmb	08 31 30.0				
	comp=Z,13nm,1.4s										
GAR	**Garm**	**63.22**	**312**	P	**P**		**08 31 12.3**	**-0.1**			
KK31	**Karatay Array**	**64.42**	**316**	P	**P**		**08 31 19.8**	**-0.3**			
KKAR	**Karatay Array**	**64.42**	**316**	P	**P**		**08 31 19.9**	**-0.2**			
IUG	**Iuzhnay**	**64.44**	**315**	*eP*	**P**		**08 31 20.2**	**-0.1**			
TIXI	**Tiksi**	**67.71**	**0**	P	**P**		**08 31 40.1**	**-0.5**			
BRVK	**Borovoye**	**68.32**	**326**	P	**P**		**08 31 44.7**	**-0.1**			
BRVK					IAmb	IAmb	08 31 45.6				
	comp=Z,7.8nm,0.8s										
NRIK	**Noril'sk**	**70.77**	**346**	P	**P**		**08 32 00.0**	**+0.5**			
	comp=Z,4.6nm,0.8s,baz=120,slow=8.3,SNR=7.9										
CASY	**Casey**	**71.17**	**188**	P	**P**		**08 32 02.2**	**+0.3**			
ABKAR	**Akbulak array**	**73.24**	**320**	P	**P**		**08 32 14.3**	**-0.4**			
OHAK	**Old Harbor**	**80.34**	**33**	P	**P**		**08 32 56.8**	**+2.3**			
OHAK					IAmb	IAmb	08 32 57.1				
	comp=Z,9.8nm,0.9s										
IMAR	**Indian Mountai**	**81.48**	**24**	P	**P**		**08 33 02.9**	**+2.4**			
SKT	**Skwentna**	**81.86**	**28**	P	**P**		**08 33 03.8**	**+1.2**			
SKT					IAmb	IAmb	08 33 03.9				
	comp=Z,7.6nm,1.0s										
SUA	**Susitna One**	**82.17**	**29**	P	**P**		**08 33 05.3**	**+1.0**			
SUA					IAmb	IAmb	08 33 07.0				
	comp=Z,16nm,0.9s										
TRF	**Thorofare Moun**	**82.60**	**27**	P	**P**		**08 33 07.8**	**+1.2**			
TRF					IAmb	IAmb	08 33 08.4				
	comp=Z,13nm,1.0s										
PMR	**Palmer**	**82.95**	**29**	P	**P**		**08 33 09.8**	**+1.6**			
PMR					IAmb	IAmb	08 33 27.2				
	comp=Z,9.3nm,1.2s										
COLD	**Coldfoot**	**83.06**	**23**	P	**P**		**08 33 11.0**	**+2.3**			
COLD					IAmb	IAmb	08 33 11.9				
	comp=Z,16nm,0.9s										
RND	**Reindeer**	**83.23**	**27**	P	**P**		**08 33 08.2**	**-1.6**			
RND					IAmb	IAmb	08 33 11.3				
	comp=Z,15nm,1.0s										
VNDA	**Vanda**	**83.31**	**173**	P	**P**		**08 33 09.9**	**+0.2**			
	comp=Z,2.7nm,0.9s,baz=317,slow=5.5,SNR=10										
VNDA	**Vanda**	**83.31**	**173**	P	**P**		**08 33 10.0**	**+0.2**			
SML	**Sawmill**	**83.35**	**28**	P	**P**		**08 33 11.6**	**+1.2**			
MDM	**Murphy Dome**	**83.64**	**25**	P	**P**		**08 33 12.5**	**+0.7**			
MDM					IAmb	IAmb	08 33 13.2				
	comp=Z,12nm,1.3s										
WRH	**Wood River Hil**	**83.66**	**26**	P	**P**		**08 33 11.4**	**-0.4**			
WRH					IAmb	IAmb	08 33 14.0				
	comp=Z,13nm,1.2s										
CCB	**Clear Creek Bu**	**83.79**	**25**	P	**P**		**08 33 13.0**	**+0.5**			
CCB					IAmb	IAmb	08 33 13.8				
	comp=Z,9.9nm,1.1s										
SCM	**Sheep Creek Mo**	**83.82**	**28**	P	**P**		**08 33 14.3**	**+1.4**			
GEVA	**Gevas**	**84.14**	**308**	P	**P**		**08 33 16.1**	**+1.0**			
GEVA					IAmb	IAmb	08 33 17.2				
	comp=Z,13nm,0.8s										
HDA	**Harding Lake**	**84.15**	**26**	P	**P**		**08 33 14.2**	**-0.1**			
HDA					IAmb	IAmb	08 33 15.3				
	comp=Z,9.4nm,1.1s										
ILAR	**Eielson Array**	**84.19**	**25**	P	**P**		**08 33 15.1**	**+0.5**			
	comp=Z,2.5nm,0.9s,baz=250,slow=5.8,SNR=14										
ILAR	**Eielson Array**	**84.19**	**25**	P	**P**		**08 33 14.1**	**-0.5**			
MAW	**Mawson**	**84.52**	**201**	P	**P**		**08 33 16.7**	**+0.6**			
	comp=Z,4.7nm,0.6s,baz=69,slow=5.0,SNR=29										
MAW	**Mawson**	**84.52**	**201**	P	**P**		**08 33 15.9**	**-0.1**			
PAX	**Paxson**	**84.74**	**27**	P	**P**		**08 33 18.4**	**+0.8**			
PAX					IAmb	IAmb	08 33 37.5				
	comp=Z,7.6nm,0.9s										
GLB	**Gilahina Butte**	**85.49**	**29**	P	**P**		**08 33 22.8**	**+1.6**			
GLB					IAmb	IAmb	08 33 24.3				
	comp=Z,14nm,1.0s										
KOPT	**Kop Dagi**	**86.10**	**310**	P	**P**		**08 33 25.5**	**+0.5**			
KOPT					IAmb	IAmb	08 33 41.8				
	comp=Z,12nm,1.0s										

BCAR	**Beaver Creek A**	**86.42**	**27**	P	**P**		**08 33 27.1**	**+1.3**			
ARCES	**ARCESS Array B**	**90.98**	**340**	P	**P**		**08 33 46.0**	**-1.2**			
	comp=Z,2.5nm,0.7s,baz=58,slow=4.6,SNR=4.7										
BRTR	**Keskin Array B**	**91.38**	**310**	P	**P**		**08 33 48.4**	**-1.5**			
	comp=Z,0.5nm,0.3s,baz=95,slow=4.2,SNR=4.4										
BRTR	**Keskin Array B**	**91.38**	**310**	P	**P**		**08 33 48.6**	**-1.3**			
AKASG	**Malin Array Be**	**92.98**	**321**	P	**P**		**08 33 55.3**	**-1.5**			
	comp=Z,3.0nm,0.7s,baz=66,slow=4.8,SNR=8.6										
AKASG	**Malin Array Be**	**92.98**	**321**	P	**P**		**08 33 54.9**	**-1.9**			
SYO	**Syowa Base**	**93.21**	**201**	†*iP*	**P**		**08 33 57.0**	**-0.4**			
SYO	**Syowa Base**	**93.21**	**201**	†*eX*	P		08 34 10.0	+13			
QSPA	**South Pole Qui**	**93.75**	**180**	P	**P**		**08 33 59.8**	**-0.3**			
TORD	**Torodi Ar. Bea**	**124.65**	**289**	PKP	**PKPdf**		**08 39 43.6**	**-0.2**			
	comp=Z,3.9nm,0.7s,baz=45,slow=2.2,SNR=24										
TORD	**Torodi Ar. Bea**	**124.65**	**289**	PKPdf	**PKPdf**		**08 39 43.4**	**-0.4**			
DBIC	**Dimbokro**	**132.38**	**283**	PKP	**PKPdf**		**08 39 59.0**	**+0.3**			
	comp=Z,4.4nm,0.8s,baz=184,slow=0.9,SNR=4.9										
DBIC	**Dimbokro**	**132.38**	**283**		**PKPdf**		**08 39 58.6**	**0.0**			
PLCA	**Paso Flores**	**139.43**	**157**	PKP	**PKiKP**		**08 40 13.4**	**0.0**			
	comp=Z,1.7nm,0.9s,baz=148,slow=2.7,SNR=3.7										
PLCA	**Paso Flores**	**139.43**	**157**		**PKPdf**		**08 40 11.2**	**+0.1**			
SIV	**San Ignacio**	**164.64**	**142**	PKP	**PKPdf**		**08 40 48.7**	**+0.6**			
	comp=Z,0.8nm,0.8s,baz=201,slow=5.3,SNR=4.4										

*IDC **21** 08:28:14.8±1.0, 34.7°77S×111.°84W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/33, mbtmp4.0/6, MS3.7/4, Ms1 3.7/4, ms1mx3.4/21, Error ellipse: s-maj=35.2km s-min=26.4km az=71.0*

ISC 21 08:28:16.4±1.1, 34.°8S±0.°2×111.°8W±0.°3, h10km, n21, σ0s64/11, mb4.1/6, MS3.6/3, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**7.97**	**16**	LR	LR	08 32 25.3	
	comp=Z,260nm,18.9s,baz=201,slow=32						
H03S2	**Juan Fernandez**	**27.14**	**97**	T	T	09 02 31.4	
H03S1	**Juan Fernandez**	**27.15**	**97**	T	T	09 02 33.1	
	baz=245,slow=74,SNR=4.5						
H03S3	**Juan Fernandez**	**27.15**	**97**	T	T	09 02 31.2	
	baz=295,slow=74,SNR=11						
PPT	**Papeete**	**37.70**	**287**	LR	LR	08 46 55.3	
	comp=Z,66nm,18.9s,baz=102,slow=30						
LPAZ	**La Paz**	**43.15**	**76**	P	**P**	**08 36 18.7**	**+0.7**
	2.0nm,1.0s,baz=217,slow=4.3,SNR=6.2						
RAR	**Rarotonga**	**44.04**	**275**	LR	LR	08 49 09.5	
	comp=Z,89nm,21.2s,baz=59,slow=28						
SIV	**San Ignacio**	**49.00**	**81**	P	**P**	**08 37 03.0**	**-0.5**
	1.1nm,0.7s,baz=259,slow=9.2,SNR=6.7						
URZ	**Urewera**	**55.88**	**244**	LR	LR	08 55 56.9	
	comp=Z,179nm,19.1s,baz=32,slow=30						
VNA3	**Neumayer Olymp**	**61.20**	**159**	P	**P**	**08 38 30.7**	**-0.2**
SNAA	**Sanae**	**62.96**	**160**	P	**P**	**08 38 42.0**	**-0.7**
SNAA	**Sanae**	**62.96**	**160**	P	**P**	**08 38 43.1**	**+0.3**
	1.5nm,0.8s,baz=210,slow=4.3,SNR=5.6						
TXAR	**Lajitas Array**	**64.28**	**8**	P	**P**	**08 38 51.8**	**-0.1**
	0.6nm,0.8s,baz=198,slow=7.9,SNR=7.3						
NVAR	**Mina Array Bea**	**73.14**	**355**	P	**P**	**08 39 47.1**	**0.0**
	1.5nm,0.8s,baz=190,slow=6.4,SNR=9.8						
PDAR	**Pinedale Array**	**77.25**	**2**	P	**P**	**08 40 10.2**	**-0.5**
	2.7nm,0.8s,baz=165,slow=5.1,SNR=24						
H11S2	**WAKE ISLAND Hy**	**93.62**	**290**	T	T	10 25 28.4	
	SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**93.64**	**290**	T	T	10 25 31.1	
H11S3	**WAKE ISLAND Hy**	**93.64**	**290**	T	T	10 25 28.2	
IDI	**Anoyia**	**144.79**	**77**	PKP	**PKPab**	**08 47 52.1**	**-0.4**
	12nm,0.7s,baz=8.7,slow=4.1,SNR=7.4						
AKASG	**Malin Array Be**	**147.75**	**48**	PKPbc	**PKPdf**	**08 47 59.2**	**+1.2**
	0.5nm,0.3s,baz=274,slow=3.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	**148.19**	**247**	PKPbc	**PKPbc**	**08 48 03.2**	**+0.2**
	2.0nm,0.5s,baz=173,slow=2.8,SNR=10						

*IDC **21** 08:31:59.4±2.1, 49.°22S×105.°81E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/37, mbtmp3.8/4, MS3.7/5, Ms1 3.6/5, ms1mx3.5/17, Error ellipse: s-maj=92.1km s-min=23.8km az=119.0*

*NEIC **21** 08:32:01.0±1.1, 49.°20S±0.°09×105.°8E±0.°4, h10km±1km, mb4.2/13, Error ellipse: s-maj=46.9km s-min=5.1km az=287.0*

ISC 21 08:32:01.4±0.8, 49.°3S±0.°1×106.°0E±0.°3, h10km, n30, σ0s94/22, mb4.1/8, MS3.6/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.58**	**26**	T	T	08 51 34.8	
	baz=201,slow=74,SNR=61						
H01W1	**Cape Leeuwin H**	**15.60**	**26**	T	T	08 51 34.2	
	baz=201,slow=74,SNR=80						
H01W3	**Cape Leeuwin H**	**15.60**	**26**	T	T	08 51 34.5	
	baz=201,slow=74,SNR=57						
NWAO	**Narrogin (SRO)**	**18.38**	**31**	LR	LR	08 41 31.9	
	comp=Z,153nm,19.9s,baz=173,slow=31						
NWAO	**Narrogin (SRO)**	**18.38**	**31**	P	**Pn**	**08 36 18.7**	**+2.4**
NWAO					IAmb	IAmb	08 36 22.3
	comp=Z,21nm,1.4s						
MORW	**Morawa**	**21.61**	**25**	P	**P**	**08 36 51.5**	**+0.1**
MORW					IAmb	IAmb	08 36 57.6
	comp=Z,8.2nm,1.1s						
MAW	**Mawson**	**28.20**	**214**	LR	LR	08 46 05.3	
	comp=Z,76nm,20.8s,baz=62,slow=30						
MAW	**Mawson**	**28.20**	**214**	P	**P**	**08 37 55.7**	**+2.0**
STKA	**Stephens Creek**	**31.80**	**70**	LR	LR	08 48 58.0	
	comp=Z,73nm,20.3s,baz=270,slow=32						
ASAR	**Alice Springs**	**33.69**	**51**	P	**P**	**08 38 42.2**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=205,slow=8.8,SNR=8.5						
ASAR	**Alice Springs**	**33.69**	**51**	P	**P**	**08 38 42.7**	**+0.1**
VNDA	**Vanda**	**35.17**	**162**	P	**P**	**08 38 55.3**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=284,slow=12,SNR=4.0						
VNDA	**Vanda**	**35.17**	**162**		**P**	**08 38 55.8**	**+1.0**
VNDA					IAmb	IAmb	08 38 57.8
	comp=Z,4.9nm,1.4s						
WRA	**Warramunga Arr**	**37.04**	**48**	P	**P**	**08 39 10.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=210,slow=9.2,SNR=9.8						
WRA				LR	LR	08 52 58.0	
	comp=Z,92nm,18.3s,baz=230,slow=34						
WRA	**Warramunga Arr**	**37.04**	**48**	P	**P**	**08 39 10.5**	**-0.9**
WB2	**Warramunga Arr**	**37.04**	**48**	P	**P**	**08 39 11.3**	**-0.1**
WB2					IAmb	IAmb	08 39 17.6
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**37.12**	**48**	P	**P**	**08 39 12.3**	**+0.2**
WR0					IAmb	IAmb	08 39 13.6
	comp=Z,6.7nm,1.2s						
WB0	**Warramunga Arr**	**37.21**	**48**	P	**P**	**08 39 12.5**	**-0.4**
WB0					IAmb	IAmb	08 39 31.8
	comp=Z,5.0nm,1.1s						
QSPA	**South Pole Qui**	**40.86**	**180**	P	**P**	**08 39 43.3**	**+0.2**
SNAA	**Sanae**	**49.45**	**203**	P	**P**	**08 40 50.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=137,slow=12,SNR=5.3						
SNAA	**Sanae**	**49.45**	**203**	P	**P**	**08 40 50.4**	**-0.7**
SNAA					IAmb	IAmb	08 41 07.6
	comp=Z,5.6nm,1.3s						
BELA	**Belgrano 2**	**50.83**	**190**	P	**P**	**08 41 00.5**	**-0.9**
FAKI	**Fak Fak**	**51.35**	**35**	P	**P**	**08 41 05.6**	**-0.4**
ENH	**Enshi**	**79.25**	**3**	P	**P**	**08 44 05.8**	**-0.8**
TBI	**Tubuai**	**81.59**	**116**	*e*LR	LR	08 44 09.6	
	comp=Z,212nm,26.2s						
MJAR	**Matsushiro Arr**	**90.11**	**25**	LR	LR	09 30 25.9	
	comp=Z,246nm,18.7s,baz=350,slow=39						
NVAR	**Mina Array Bea**	**146.74**	**92**	PKPbc	**PKPbc**	**08 51 43.0**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=212,slow=5.3,SNR=5.7						
NVAR	**Mina Array Bea**	**146.74**	**92**		**PKPab**	**08 51 44.2**	**-0.4**
TXAR	**Lajitas Array**	**149.94**	**121**	PKPbc	**PKPbc**	**08 51 51.3**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=199,slow=4.7,SNR=5.0						
TXAR	**Lajitas Array**	**149.94**	**121**	PKPbc	**PKiKP**	**08 51 51.8**	**-1.0**

*IDC **21** 08:34:48.0±0.5, 64.°63N×17.°58W, h0km, mb4.0/18, mb1 4.2/22, mb1mx4.0/57, mbtmp4.0/22, ML2.6/3, MS4.9/2, Ms1 4.9/2, ms1mx4.0/21, Error ellipse: s-maj=16.7km s-min=9.1km az=14.0*

*REY **21** 08:34:47.8, 64.°67N×17.°46W, h7km*

*NEIC **21** 08:34:49.9±1.6, 64.°61N±0.°09×17.°4W±0.°2, h8km±4km, mb4.6/55, ML4.7(REY), Error ellipse: s-maj=13.4km s-min=9.1km az=201.0*

ISC 21 08:34:49.6±0.3, 64.°68N±0.°02×17.°46W±0.°02, h10km, n147, σ1s81/155, mb4.5/46, MS4.7/3, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.12**	**20**	P	**Pg**	**08 34 50.6**	**-2.0**
	baz=18						
IDYN				S	**Sg**	**08 34 53.1**	**-1.6**
	baz=18						
IVON	**Vonarskard**	**0.13**	**269**	P	**Pg**	**08 34 50.5**	**-2.1**
	baz=270						
IVON				S	**Sg**	**08 34 53.0**	**-1.8**
	baz=270						
IDJK	**Dyngjujokull**	**0.20**	**150**	P	**Pg**	**08 34 51.8**	**-2.0**
	baz=150						
IURH	**Urdarhals**	**0.20**	**43**	P	**Pg**	**08 34 51.9**	**-1.9**
	baz=42						
IURH				S	**Sg**	**08 34 55.5**	**-1.2**
	baz=42						
IGRF	**Grimsfjall**	**0.28**	**163**	P	**Pg**	**08 34 53.3**	**-2.0**
	baz=163						
IKVE	**Kverkfjoll**	**0.34**	**89**	P	**Pg**	**08 34 54.2**	**-2.1**
	baz=89						
ISKR	**Skrokkalda**	**0.41**	**254**	P	**Pg**	**08 34 55.4**	**-2.3**
	baz=255						
IVOT	**Vottur**	**0.42**	**163**	P	**Pg**	**08 34 55.7**	**-2.2**
	baz=163						
IKRE	**Kreppuhraun**	**0.48**	**76**	P	**Pg**	**08 34 56.3**	**-2.6**
	baz=76						
IKRE				S	**Sg**	**08 35 02.3**	**-2.8**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**223**	P	**Pg**	**08 34 56.7**	**-2.4**
	baz=223						
IJOK				S	**Sg**	**08 35 03.4**	**-2.2**
	baz=223						
IASK	**Askja**	**0.51**	**42**	P	**Pg**	**08 34 57.0**	**-2.6**
	baz=42						
IASK				S	**Sg**	**08 35 04.0**	**-2.4**
	baz=42						
IMKO	**Mokollar**	**0.57**	**57**	P	**Pg**	**08 34 58.1**	**-2.6**
	baz=57						
IMKO				S	**Sg**	**08 35 06.5**	**-1.6**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**207**	P	**Pg**	**08 34 59.4**	**-2.7**
	baz=207						
IIEY				S	**Sg**	**08 35 08.5**	**-2.2**
	baz=207						
ISVA	**Svartarkot**	**0.67**	**7**	P	**Pg**	**08 34 59.8**	**-2.8**
	baz=7.3						
IKSK	**Karasker**	**0.67**	**140**	P	**Pg**	**08 34 59.1**	**-3.4**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**188**	P	**Pg**	**08 35 00.8**	**-2.9**
	baz=188						
IVSH	**V-Saueahnukur**	**0.76**	**79**	P	**Pg**	**08 35 00.9**	**-3.2**
	baz=79						
IVSH				S	**Sg**	**08 35 11.1**	**-2.9**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**233**	P	**Pg**	**08 35 02.1**	**-2.9**
	baz=233						
IADA	**Aoalbol**	**0.88**	**66**	P	**Pg**	**08 35 02.9**	**-3.6**
	baz=66						
IADA				S	**Sg**	**08 35 14.8**	**-3.1**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**283**	P	**Pg**	**08 35 03.7**	**-3.7**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**20**	P	**Pg**	**08 35 04.5**	**-3.5**
	baz=20						
IREN	**Reynihlio**	**1.00**	**13**	P	**Pg**	**08 35 05.3**	**-3.6**
	baz=13						
IKVO	**Krokottuvotn**	**1.07**	**13**	P	**Pg**	**08 35 06.3**	**-3.8**
	baz=13						
ISNB	**Snabyli**	**1.07**	**209**	P	**Pg**	**08 35 06.5**	**-3.7**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**08 35 07.2**	**-3.8**
	baz=30						
ISLY	**Slysaalda**	**1.12**	**221**	P	**Pb**	**08 35 07.4**	**-3.6**
	baz=221						
IFED	**Fedgar**	**1.17**	**237**	P	**Pb**	**08 35 08.4**	**-3.4**
	baz=237						
IRJU	**Rjupnafell**	**1.19

ILAR					LR	LR	09 06 39.0		
	comp=Z,2μm,18.6s,baz=34,slow=42								
ILAR	**Eielson Array**	**45.68**	**332**		P	**P**	**08 43 11.4**	**+1.5**	
MDM	**Murphy Dome**	**45.78**	**333**		P	**P**	**08 43 12.6**	**+1.9**	
MDM					IAmb	IAmb	08 43 14.7		
	comp=Z,8.8nm,1.2s								
IMAR	**Indian Mountai**	**45.85**	**337**		P	**P**	**08 43 12.3**	**+1.1**	
BCAR	**Beaver Creek A**	**46.11**	**329**		P	**P**	**08 43 15.4**	**+2.1**	
ZALV	**Zalesovo Beam**	**47.62**	**51**		P	**P**	**08 43 25.3**	**+0.2**	
	comp=Z,0.7nm,0.3s,baz=344,slow=9.9,SNR=3.6								
ZALV	**Zalesovo Beam**	**47.62**	**51**		P	**P**	**08 43 25.5**	**+0.4**	
KURK	**Kurchatov**	**48.09**	**58**		P	**P**	**08 43 29.5**	**+0.6**	
KURK					IAmb	IAmb	08 43 30.6		
	comp=Z,6.0nm,0.9s								
KURBB	**Kurchatov Arra**	**48.14**	**58**		P	**P**	**08 43 29.3**	**+0.1**	
	comp=Z,4.8nm,0.9s,baz=325,slow=7.4,SNR=11								
T47A	**Sharon Grove**	**48.65**	**270**		P	**P**	**08 43 34.2**	**+0.8**	
EGMT	**Eagleton**	**48.88**	**297**		P	**P**	**08 43 36.6**	**+1.5**	
W50A	**Signal Mountai**	**49.39**	**268**		P	**P**	**08 43 39.3**	**+0.2**	
W50A					IAmb	IAmb	08 43 41.4		
	comp=Z,9.5nm,1.0s								
KK31	**Karatay Array**	**51.26**	**70**		P	**P**	**08 43 54.5**	**+1.3**	
KKAR	**Karatay Array**	**51.26**	**70**		P	**P**	**08 43 53.8**	**+0.6**	
YNE	**Yellowstone No**	**51.48**	**295**		P	**P**	**08 43 55.8**	**+0.7**	
BOZ	**Bozeman (W)**	**51.62**	**297**		P	**P**	**08 43 56.4**	**+0.4**	
BOZ					IAmb	IAmb	08 44 02.8		
	comp=Z,10nm,1.4s								
YMP	**Mirror Lake Pl**	**51.76**	**295**		P	**P**	**08 43 58.6**	**+1.4**	
H17A	**Grant Village**	**52.22**	**295**		P	**P**	**08 44 00.4**	**-0.1**	
H17A					IAmb	IAmb	08 44 04.9		
	comp=Z,7.0nm,1.2s								
YPP	**Pitchstone Pla**	**52.41**	**295**		P	**P**	**08 44 04.8**	**+2.8**	
MKAR	**Makanchi Array**	**52.71**	**58**		P	**P**	**08 44 03.4**	**-0.4**	
T35A	**Sooner Cattle**	**52.74**	**279**		P	**P**	**08 44 03.9**	**-0.3**	
T35A					IAmb	IAmb	08 44 05.8		
	comp=Z,16nm,1.3s								
TPAW	**Teton Pass**	**53.12**	**295**		P	**P**	**08 44 08.2**	**+1.0**	
TPAW					IAmb	IAmb	08 44 14.5		
	comp=Z,10.0nm,1.5s								
TOA0	**Torodi Ar. Sit**	**53.14**	**156**		P	**P**	**08 44 06.5**	**-0.9**	
TORD	**Torodi Ar. Bea**	**53.14**	**156**		P	**P**	**08 44 05.7**	**-1.7**	
	comp=Z,2.9nm,1.0s,baz=346,slow=8.7,SNR=8.7								
TORD	**Torodi Ar. Bea**	**53.14**	**156**		P	**P**	**08 44 06.3**	**-1.0**	
BW06	**Boulder Array**	**53.19**	**293**		P	**P**	**08 44 07.5**	**-0.3**	
BW06					IAmb	IAmb	08 44 09.3		
	comp=Z,7.0nm,1.2s								
PD31	**Pinedale Array**	**53.19**	**293**		P	**P**	**08 44 07.3**	**-0.4**	
PD31					IAmb	IAmb	08 44 09.3		
	comp=Z,5.7nm,1.1s								
PDAR	**Pinedale Array**	**53.19**	**293**		P	**P**	**08 44 07.8**	**+0.1**	
	comp=Z,2.7nm,0.9s,baz=54,slow=6.0,SNR=16								
PDAR	**Pinedale Array**	**53.19**	**293**		P	**P**	**08 44 07.2**	**-0.5**	
N23A	**Red Feather La**	**53.32**	**289**		P	**P**	**08 44 10.1**	**+1.4**	
N23A					IAmb	IAmb	08 44 10.8		
	comp=Z,14nm,1.2s								
BTK	**Batken**	**53.94**	**72**		P	**P**	**08 44 14.0**	**+0.9**	
CHGR	**Chuyangaron**	**54.45**	**74**		P	**P**	**08 44 17.7**	**+0.9**	
GAR	**Garm**	**54.63**	**73**		P	**P**	**08 44 19.2**	**+1.0**	
HWUT	**Hardware Ranch**	**54.96**	**294**		P	**P**	**08 44 21.2**	**+0.6**	
HWUT					IAmb	IAmb	08 44 22.2		
	comp=Z,9.2nm,1.3s								
TLY	**Talaya**	**55.38**	**40**		LR	LR	09 10 38.5		
	comp=Z,758nm,21.5s,baz=340,slow=39								
WMOK	**Wichita Mounta**	**55.56**	**279**		P	**P**	**08 44 25.6**	**+0.8**	
WMOK					IAmb	IAmb	08 44 35.0		
	comp=Z,5.5nm,1.4s								
KSH	**Kashi**	**56.48**	**68**		P	**P**	**08 44 33.9**	**+2.4**	
KSH					pmax	pmax			
	comp=Z,15nm,1.1s								
WMQ	**Urumqi**	**57.21**	**56**	*e*	P	P	08 44 40.8	+4.3	
MSU	**Marysvale**	**57.85**	**293**		P	**P**	**08 44 42.4**	**+1.1**	
MVU	**Marysvale**	**57.87**	**293**		P	**P**	**08 44 42.7**	**+1.2**	
TCRU	**Three Creeks R**	**57.88**	**293**		P	**P**	**08 44 43.3**	**+1.8**	
KBL	**Kabul**	**57.91**	**77**		P	**P**	**08 44 42.7**	**+0.9**	
KBL					IAmb	IAmb	08 44 42.8		
	comp=Z,3.7nm,0.6s								
DBIC	**Dimbokro**	**58.59**	**165**		P	**P**	**08 44 44.4**	**-1.9**	
	comp=Z,7.6nm,1.1s,baz=314,slow=9.2,SNR=3.3								
DBIC	**Dimbokro**	**58.59**	**165**		P	**P**	**08 44 45.9**	**-0.5**	
BNM	**Barren Site**	**59.36**	**285**		P	**P**	**08 44 53.8**	**+1.9**	
SONM	**Songino Array**	**59.62**	**40**		P	**P**	**08 44 52.9**	**-0.4**	
	comp=Z,1.2nm,1.0s,baz=320,slow=4.4,SNR=4.5								
SONM	**Songino Array**	**59.62**	**40**		P	**P**	**08 44 53.8**	**+0.5**	
JCT	**Junction City**	**59.66**	**278**		P	**P**	**08 44 54.3**	**+0.6**	
JCT					IAmb	IAmb	08 44 55.7		
	comp=Z,6.8nm,0.9s								
NVAR	**Mina Array Bea**	**60.31**	**297**		P	**P**	**08 44 57.8**	**-0.6**	
	comp=Z,0.7nm,0.9s,baz=44,slow=4.5,SNR=4.0								
NVAR	**Mina Array Bea**	**60.31**	**297**		P	**P**	**08 44 58.9**	**+0.6**	
NIL	**Nilore**	**60.43**	**74**		P	**P**	**08 44 59.6**	**+0.6**	
SHPR	**Sheep Range**	**60.77**	**294**		P	**P**	**08 45 03.0**	**+1.6**	
SHPR					IAmb	IAmb	08 45 04.0		
	comp=Z,4.2nm,1.2s								
TX31	**Lajitas Ar. Si**	**62.30**	**280**		P	**P**	**08 45 12.5**	**+0.8**	
TX32	**Lajitas Array**	**62.30**	**280**		P	**P**	**08 45 11.9**	**+0.2**	
TX32					IAmb	IAmb	08 45 12.9		
	comp=Z,5.6nm,1.4s								
TXAR	**Lajitas Array**	**62.30**	**280**		P	**P**	**08 45 12.5**	**+0.8**	
	comp=Z,1.1nm,1.0s,baz=28,slow=5.7,SNR=8.1								
TXAR	**Lajitas Array**	**62.30**	**280**		P	**P**	**08 45 12.2**	**+0.5**	
GTA	**Gaotai**	**65.28**	**49**	*e*	P	**P**	**08 45 32.3**	**+1.0**	
GTA					pP	sP	08 45 36.8	+0.4	
GTA					sP	pP	08 45 39.9	+4.9	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*e*	P	**P**	**08 45 46.6**	**+1.2**	
HHC					pmax	pmax			
	comp=Z,20nm,0.8s								
HHC					pmax	pmax			
	comp=Z,130nm,6.6s								
LZH	**Lanzhou**	**69.61**	**48**	*e*	P	**P**	**08 45 59.0**	**+0.2**	
LZH					pP	sP	08 46 02.3	-1.6	
LZH					sP	pP	08 46 03.3	+0.8	
LZH				*e*	PP	**PP**	**08 48 36.0**	**+3.9**	
LZH					pmax	pmax			
	comp=Z,18nm,1.3s								
LZH					pmax	pmax			
	comp=Z,71nm,6.9s								
LZH					LR	LR			
	comp=N,280nm,16.0s								
LZH					LR	LR			
	comp=E,280nm,16.3s								
LZH					LR	LR			
	comp=Z,380nm,18.2s								
SAML	**Samuel**	**80.96**	**226**		P	**P**	**08 47 04.5**	**+0.5**	
CMAR	**Chiang Mai Arr**	**84.11**	**59**		P	**P**	**08 47 21.1**	**+0.6**	
	comp=Z,0.6nm,0.3s,baz=312,slow=5.5,SNR=4.9								
CMAR	**Chiang Mai Arr**	**84.11**	**59**		P	**P**	**08 47 20.9**	**+0.3**	
ASAR	**Alice Springs**	**134.95**	**38**		PKP	**PKiKP**	**08 54 09.6**	**-0.2**	
	comp=Z,0.8nm,1.0s,baz=360,slow=3.2,SNR=5.3								
ASAR	**Alice Springs**	**134.95**	**38**			**PKPdf**	**08 54 08.1**	**-0.3**	

IDC 21 08:34:59.9±15.0, **49.48S**×**106.47E**, **h0**km, **mb3.5**/2, **mb1 3.7**/2, **mb1mx3.5**/39, **mbtmp3.5**/2, **Error ellipse: s-maj=828.6km s-min=55.4km az=121.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.62**	**24**	T	T	08 54 33.2	
	baz=201,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**15.63**	**24**	T	T	08 54 35.7	
	baz=201,slow=74,SNR=12						
H01W3	**Cape Leeuwin H**	**15.64**	**24**	T	T	08 54 35.7	
	baz=201,slow=74,SNR=13						
ASAR	**Alice Springs**	**33.55**	**50**	P	P	08 41 41.5	+0.1
	0.3nm,0.6s,baz=210,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**36.92**	**47**	P	P	08 42 10.2	-0.2
	0.7nm,0.7s,baz=210,slow=8.2,SNR=7.4						
TXAR	**Lajitas Array**	**149.54**	**120**	PKPbc	PKPbc	08 54 50.6	-0.5
	0.2nm,0.5s,baz=206,slow=5.9,SNR=4.1						

*REY **21** 08:36:35.4, 64.69N×17.44W, h16km*
*BGS **21** 08:36:36.4±2.5, 64.61N×17.44W, h5km, mb4.6(NEIC)*
*IDC **21** 08:36:37.8±0.4, 64.49N×17.24W, h0km, mb4.4/38, mb1 4.5/43, mb1mx4.4/63, mbtmp4.4/43, ML3.2/4, MS5.0/32, Ms1 5.0/32, ms1mx4.9/35, Error ellipse: s-maj=12.9km s-min=8.4km az=24.0*
*BGR **21** 08:36:37.2±0.0, 65.91N×16.61W, h25km±4km, mb5.5, Ms4.9*
*MOS **21** 08:36:37.8±1.4, 64.63N×17.05W, h5km, mb5.3/66, MS4.8/27, Error ellipse: s-maj=8.1km s-min=4.9km az=105.0*
*BJI **21** 08:36:39.3±0.0, 64.86N×16.42W, h6km, mB5.5/42, mb4.9/45, Ms5.4/44, Ms7.5.2/42*
*NEIC **21** 08:36:40.5±2.2, 64.52N±0.08×17.1W±0.1, h10km±1km, mb5.2/337, ML5.3(REY), Error ellipse: s-maj=13.5km s-min=10.2km az=17.0*
*IEPN **21** 08:36:40.0, 64.46N×17.28W, h10km*
*GCMT **21** 08:36:43.5±0.1, 64.61N±0.01×17.19W±0.01, h12km, MW5.4/155, Moment Tensor Solution. s107,c178; s155,c332; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr~1.87±.01; Mθθ 1.27±.01; Mφφ 0.60±.01; Mrθ 0.27±.04; Mθφ~0.19±.01; Mφr~0.42±.04; Best double couple: Mo1.66000×10^17 NP1:φs99.00000°, δ39.00000°, λ-102.00000°. NP2:φs294.00000°, δ52.00000°, λ-81.00000°. Principal axes: T 1.3620, Plg7.0000°, Azm18.0000°; N 0.6010, Plg7.0000°, Azm108.0000°; P -1.9570, Plg80.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **21** 08:36:47.6±4.3, 64.81N×17.17W, h58km±107km, mb5.3, Ms4.8*

ISC 21 08:36:39.1±0.4, **64.67N**±0.02×**17.31W**±0.02, **h3**km±2km, **h4**km:**pP-P**, **n1058**, σ**2**s**07**/1001, **mb5.2**/287, **MS4.9**/81, **43C-26D**, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.13**	**348**	P	**Pg**	**08 36 38.6**	**-3.0**
	baz=18						
IDYN				S	**Sg**	**08 36 41.0**	**-2.3**
	baz=18						
IDJK	**Dyngjujokull**	**0.17**	**169**	P	**Pg**	**08 36 39.9**	**-2.4**
	baz=155						
IDJK				S	**Sg**	**08 36 43.2**	**-1.4**
	baz=155						
IVON	**Vonarskard**	**0.19**	**272**	P	**Pg**	**08 36 38.9**	**-3.9**
	baz=261						
IVON				S	**Sg**	**08 36 41.8**	**-3.6**
	baz=261						
IGRF	**Grimsfjall**	**0.26**	**176**	S	**Sg**	**08 36 45.4**	**-2.1**
	baz=165						
IGRF				P	**Pg**	**08 36 41.3**	**-2.8**
	baz=165						
IKVE	**Kverkfjoll**	**0.27**	**87**	P	**Pg**	**08 36 41.8**	**-2.5**
	baz=92						
IKVE				S	**Sg**	**08 36 47.2**	**-0.6**
	baz=92						
IVOT	**Vottur**	**0.40**	**172**	P	**Pg**	**08 36 43.6**	**-3.2**
	baz=165						
IVOT				S	**Sg**	**08 36 49.9**	**-2.1**
	baz=165						
IHUS	**Husbondi**	**0.40**	**202**	S	**Sg**	**08 36 48.0**	**-4.1**
	baz=193						
IHUS				P	**Pg**	**08 36 42.5**	**-4.3**
	baz=193						
IKRE	**Kreppuhraun**	**0.41**	**73**	P	**Pg**	**08 36 43.8**	**-3.2**
	baz=78						
IKRE				S	**Sg**	**08 36 49.8**	**-2.6**
	baz=78						
IASK	**Askja**	**0.48**	**36**	S	**Sg**	**08 36 51.3**	**-3.1**
	baz=43						
IASK				P	**Pg**	**08 36 44.1**	**-4.1**
	baz=43						
ISKR	**Skrokkalda**	**0.48**	**258**	S	**Sg**	**08 36 49.0**	**-5.4**
	baz=252						
IMKO	**Mokollar**	**0.52**	**53**	P	Pg	08 36 44.9	-4.1
	baz=58						
IMKO				S	**Sg**	**08 36 52.4**	**-3.3**
	baz=58						
IJOK	**Jokulheimar**	**0.53**	**229**	S	**Sg**	**08 36 51.0**	**-5.1**
	baz=222						
IJOK				P	**Pg**	**08 36 44.8**	**-4.5**
	baz=222						
IKSK	**Karasker**	**0.62**	**144**	P	Pg	08 36 46.6	-4.4
	baz=141						
ISVA	**Svartarkot**	**0.67**	**2**	P	Pg	08 36 46.7	-5.2
	baz=7.0						
ISVA				S	**Sg**	**08 36 56.1**	**-4.6**
	baz=7.0						
IKAL	**Kalfafell**	**0.74**	**193**	P	**Pg**	**08 36 48.8**	**-4.5**
	baz=188						
IADA	**Aadbol**	**0.82**	**64**	P	Pg	08 36 50.3	-4.4
	baz=67						
IVAT	**Vatnsfell**	**0.85**	**236**	S	**Sg**	**08 37 01.2**	**-5.1**
	baz=232						
IMEL	**Melhnausar**	**0.95**	**17**	P	Pg	08 36 51.3	-5.9
	baz=20						
IREN	**Reynihlio**	**1.00**	**10**	P	Pg	08 36 51.9	-6.3
	baz=13						
IREN				S	**Sg**	**08 37 04.2**	**-6.9**
	baz=13						
IGRS	**Grimsstaoir**	**1.10**	**27**	P	Pg	08 36 54.2	-5.8
	baz=30						
ISKI	**Skildingahlsh**	**1.21**	**5**	P	Pg	08 36 55.7	-6.6
	baz=8.2						
BORG	**Borgarnes**	**1.73**	**274**	Pg	**Pn**	**08 37 07.3**	**-2.7**
	90nm,0.3s,baz=94,slow=10,SNR=18						
BORG				Lg	Lg	08 37 32.3	
	124nm,0.3s,baz=295,slow=22,SNR=11						
BORG				LR	LR	08 37 56.2	
	comp=Z,31μm,19.2s,baz=31,slow=44						
JMIC	**Jan Mayen**	**7.16**	**24**	LR	LR	08 40 45.4	
	comp=Z,22μm,18.4s,baz=259,slow=34						
LEWI	**Lewis, Hebride**	**8.23**	**138**	*e*P	**Pn**	**08 38 35.4**	**-3.8**
WAL1	**Walls**	**8.50**	**114**	*e*P	**Pn**	**08 38 40.5**	**-2.3**
ANGG	**Ammassalik, Gr**	**8.61**	**285**	*i* P	**Pn**	**08 38 47.4**	**+3.0**
KAC	**Achnashellach**	**9.23**	**136**	*e*P	**Pn**	**08 38 49.7**	**-3.2**
KPL	**Plockton**	**9.26**	**137**	*e*P	**Pn**	**08 38 49.6**	**-3.7**
KPL	**Plockton**	**9.26**	**137**	*e*P	**Pn**	**08 38 50.2**	**-3.1**
DBG	**Daneborg**	**9.74**	**355**	IAMs_20	IAMs_20	08 42 06.8	
	comp=Z,18μm,14.0s						
ICESG	**Greenland Ices**	**9.80**	**307**	*i* P	Pn	08 39 08.8	+7.7
LAWE	**Loch Awe, Argy**	**10.26**	**140**	*e*P	**Pn**	**08 39 03.3**	**-3.6**
DRUM	**Mains of Drumt**	**10.60**	**130**	*e*	**Pn**	**08 39 15.6**	**+4.0**
EAB	**Aberfoyle**	**10.62**	**137**	*e*P	**Pn**	**08 39 09.2**	**-2.7**
PGBU	**Glenifferbraes**	**10.90**	**139**	*e*P	**Pn**	**08 39 13.5**	**-2.3**
SUMG	**Summit**	**10.99**	**325**	P	**Pn**	**08 39 21.9**	**+4.6**
SUMG	**Summit**	**10.99**	**325**	Pn	**Pn**	**08 39 21.9**	**+4.6**
SUMG	**Summit**	**10.99**	**325**	*i* P	**Pn**	**08 39 21.7**	**+4.4**
SUMG	**Summit**	**10.99**	**325**	*i* P	**Pn**	**08 39 21.7**	**+4.4**
SUMG				IAMs_20	IAMs_20	08 43 31.1	
	comp=Z,37μm,9.0s						
AKN	**Aaknes**	**11.14**	**92**	*e*P	**Pn**	**08 39 16.0**	**-3.0**
EDI	**Edinburgh**	**11.19**	**135**	*e*P	**Pn**	**08 39 17.5**	**-2.2**
EDI	**Edinburgh**	**11.19**	**135**	*e*P	**Pn**	**08 39 22.8**	**+3.1**
MOL	**Molde**	**11.22**	**89**	*e*	**Pn**	**08 39 22.8**	**+2.7**
EBL	**Broad Law**	**11.36**	**135**	*e*P	**Pn**	**08 39 20.5**	**-1.6**
ESY	**Stoneypath**	**11.37**	**134**	*e*P	**Pn**	**08 39 21.0**	**-1.2**
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**	**08 39 24.4**	**-2.3**
	baz=323,slow=13,SNR=23						
EKA				LR	LR	08 43 54.0	
	comp=Z,7μm,18.3s,baz=325,slow=38						
ESK	**Eskdalemuir**	**11.70**	**137**	*e*P	**Pn**	**08 39 24.2**	**-2.5**
ESK	**Eskdalemuir**	**11.70**	**137**	P	**Pn**	**08 39 24.5**	**-2.2**
ESK	**Eskdalemuir**	**11.70**	**137**	Pn	**Pn**	**08 39 24.5**	**-2.2**
KMY	**Karmoy**	**11.90**	**107**	*e*P	**Pn**	**08 39 27.9**	**-1.4**
DY2G	**Dye2**	**12.07**	**292**	IAMs_20	IAMs_20	08 44 52.1	
	comp=Z,15μm,8.0s						
ODD1	**Odda**	**12.07**	**102**	*e*P	**Pn**	**08 39 32.4**	**+0.6**
DOMB	**Dombas**	**12.08**	**90**	*e*P	**Pn**	**08 39 29.1**	**-2.9**
DAG	**Danmarks Havn**	**12.18**	**359**	*i* P	**Pn**	**08 39 35.0**	**+1.9**
DAG				pmax	pmax		
	comp=Z,160nm,1.5s						
DAG				MLR	MLR		
	comp=Z,12μm,28.0s						
DAG	**Danmarks Havn**	**12.18**	**359**	*i* P	**Pn**	**08 39 35.0**	**+1.9**
	comp=Z,158nm,1.5s						
	comp=Z,12μm,28.0s						
DAG	**Danmarks Havn**	**12.18**	**359**	*i* P	**Pn**	**08 39 35.0**	**+1.9**
DAG				IAmb	IAmb	08 39 43.9	
	comp=Z,158nm,1.5s						
DAG				IAMs_20	IAMs_20	08 43 00.6	
	comp=Z,12μm,28.0s						
BLS5	**Blasjo**	**12.28**	**104**	*e*P	**Pn**	**08 39 31.6**	**-2.9**
SKAR	**Skarslia**	**12.38**	**97**	*e*P	**Pn**	**08 39 32.7**	**-3.2**
NC204	**NORSAR Array S**	**13.15**	**92**		**Pn**	**08 39 43.1**	**-3.4**
NBO00	**NORSAR Array S**	**13.27**	**93**		**Pn**	**08 39 48.4**	**+0.3**
NC303	**NORSAR Array S**	**13.43**	**92**	Pn	**Pn**	**08 39 49.6**	**-0.6**
NB2	**NORSAR Subarra**	**13.45**	**93**	Pn	**Pn**	**08 39 46.6**	**-4.0**
	comp=Z,18nm,1.1s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.45**	**93**	Pn	**Pn**	**08 39 46.6**	**-4.0**
	comp=Z,18nm,1.1s,baz=298,slow=14						
NOA	**NORSAR Array B**	**13.45**	**93**	Pn	**Pn**	**08 39 46.6**	**-4.0**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=7.0						
NOA				LR	LR	08 44 51.8	
	comp=Z,3μm,21.3s,baz=300,slow=37						
KONO	**Kongsberg**	**13.47**	**99**	*e*P	**Pn**	**08 39 53.0**	**+2.2**
KONO				pmax	pmax		
	comp=Z,45nm,2.3s						
NC405	**NORSAR Array S**	**13.63**	**92**	Pn	**Pn**	**08 39 52.2**	**-0.8**
SFJD	**Kangerlussuaq**	**13.74**	**295**	Pn	**Pn**	**08 39 55.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=85,slow=11,SNR=4.2						
SFJD				LR	LR	08 44 51.2	
	comp=Z,14μm,18.1s,baz=87,slow=36						
SFJD	**Kangerlussuaq**	**13.74**	**295**	*i* P	**P**	**08 39 59.7**	**-3.6**
SFJD	**Kangerlussuaq**	**13.74**	**295**	*i* P	**P**	**08 39 59.7**	**-3.6**
SFJD	**Kangerlussuaq**	**13.74**	**295**	*i* P	**P**	**08 39 59.7**	**-3.6**
ILULI	**Ilulissat**	**13.86**	**304**	IAMs_20	IAMs_20	08 44 55.7	
	comp=Z,13μm,10.0s						
NUUK	**Nuuk**	**14.77**	**284**	*i* P	**P**	**08 40 12.8**	**-1.9**
NUUG	**Nuugaatsiaq**	**14.82**	**313**	IAMs_20	IAMs_20	08 45 48.9	
	comp=Z,16μm,9.0s						
GOET	**G??ttrup**	**14.91**	**108**	*i* P	**P**	**08 40 14.7**	**-1.6**
	comp=Z,465nm,1.2s						
GOET	**G??ttrup**	**14.91**	**108**	*i* P	**P**	**08 40 14.7**	**-1.6**
GOET				IAmb	IAmb	08 40 24.9	
	comp=Z,466nm,1.2s						
HFS	**Hagfors**	**14.96**	**93**	Pn	**Pn**	**08 40 11.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=302,slow=8.5,SNR=2.7						
HFS				LR	LR	08 45 48.5	
	comp=Z,4μm,20.7s,baz=291,slow=37						
MUD	**Monsted U'grnd**	**15.29**	**110**	*i* P	**P**	**08 40 20.0**	**-0.4**
	comp=Z,138nm,1.3s						
	comp=Z,6μm,26.0s						
MUD	**Monsted U'grnd**	**15.29**	**110**	*i* P	**P**	**08 40 20.0**	**-0.4**
MUD				IAmb	IAmb	08 40 28.6	
	comp=Z,138nm,1.3s						
MUD				IAMs_20	IAMs_20	08 45 16.3	
	comp=Z,6μm,25.6s						
UPNV	**Upernavik**	**15.94**	**317**	IAMs_20	IAMs_20	08 46 21.7	
	comp=Z,12μm,9.8s						
HSPB	**Hornsund (broa**	**16.03**	**26**	*e*P	**P**	**08 40 27.9**	**-0.7**
HSPB				*e*L	L	08 44 26.9	
	comp=Z,11μm,24.9s						
HSPB	**Hornsund (broa**	**16.03**	**26**	*e*P	**Pn**	**08 40 25.3**	**+0.2**
HSPB				*e*S	**Sn**	**08 43 23.7**	**+0.8**
KBS	**Kingsbay**	**16.61**	**19**	*e*P	**Pn**	**08 40 31.3**	**-1.2**
KBS				*i* S	S	08 44 03.8	+15
KBS	**Kingsbay**	**16.61**	**19**	*e*P	**P**	**08 40 35.0**	**0.0**
KBS				pmax	pmax		
	comp=Z,67nm,1.7s						
KBS	**Kingsbay**	**16.61**	**19**	IAMs_20	IAMs_20	08 45 14.7	
	comp=Z,12μm,16.3s						
SPA0	**Spitsbergen Ar**	**16.83**	**23**	*e*P	P	08 40 45.0	+7.5
SPA0				*e*S	**S**	**08 44 01.7**	**+8.3**
SPITS	**Spitsbergen Ar**	**16.83**	**23**	LR	LR	08 45 32.1	
	comp=Z,7μm,19.7s,baz=235,slow=31						
NOR	**Nord**	**17.03**	**0**	*i* P	**P**	**08 40 39.7**	**+0.1**
NOR				pmax	pmax		
	comp=Z,190nm,1.3s						
NOR	**Nord**	**17.03**	**0**	*i* P	**P**	**08 40 39.7**	**+0.1**
	comp=Z,189nm,1.3s						
NOR	**Nord**	**17.03**	**0**	*i* P	**P**	**08 40 39.8**	**+0.1**
NOR				IAmb	IAmb	08 40 49.0	
	comp=Z,189nm,1.3s						
NOR				IAMs_20	IAMs_20	08 45 36.3	
	comp=Z,10μm,31.8s						
ARCES	**ARCESS Array B**	**17.05**	**55**	P	**P**	**08 40 39.2**	**-0.7**
	baz=306,slow=10,SNR=6.8						
ARCES				LR	LR	08 46 03.0	
	comp=Z,7μm,20.3s,baz=285,slow=33						
COP	**Copenhagen**	**17.14**	**108**	IAMs_20	IAMs_20	08 46 13.0	
	comp=Z,2μm,21.9s						
HOPEN	**Hopen**	**17.79**	**31**	*e*P	**P**	**08 40 48.5**	**+0.4**
HOPEN				*e*S	**Sn**	**08 44 08.2**	**+2.6**
UCC	**Uccle**	**17.94**	**130**	Pn	**Pn**	**08 40 46.5**	**-2.6**
UCC	**Uccle**	**17.94**	**130**	P	**Pn**	**08 40 48.6**	**-0.6**
UCC				pmax	pmax		
	comp=Z,138nm,1.4s						
UCC	**Uccle**	**17.94**	**130**		**Pn**	**08 40 48.6**	**-0.6**
SNF	**Seneffe**	**18.16**	**131**	pPn	**Pn**	**08 40 51.2**	**-0.7**
RGN	**Rugen**	**18.31**	**109**	*e*P	**P**	**08 40 57.3**	**+3.4**
RGN	**Rugen**	**18.31**	**109**		**Pn**	**08 40 52.6**	**-1.1**
BEBN	**Eben Emael**	**18.38**	**128**	pPn	**P**	**08 40 55.1**	**+0.4**
BUG	**Bochum--Univer**	**18.39**	**124**	*e*P	**P**	**08 40 56.7**	**+1.9**
	comp=Z,298nm,1.6s,baz=328,slow=11						
BMRD	**Maredsous**	**18.50**	**131**	Pn	**P**	**08 40 54.0**	**-2.0**
	comp=Z,86nm,2.1s						
BSTI	**Sart Tilman**	**18.52**	**129**	Pn	P	**08 40 54.5**	**-1.8**
BST

MOX eL L 08 49 53.1
comp=Z,6μm,19.9s
GKP Gorka Klasztor 20.84 107 eP Pn 08 41 25.0 +1.1
GKP eL L 08 47 33.5
comp=Z,3μm,27.6s
PBUR Paburge 20.91 96 eP Pn 08 41 26.6 +1.8
PLN Plauen 20.96 119 eP **P** **08 41 22.3 -0.6**
comp=Z,1μm,2.4s,baz=328,slow=11
PLN epP Pn 08 41 28.8 +3.4
baz=329,slow=11
WERD Werda 21.05 118 eP **P** **08 41 23.3 -0.6**
comp=Z,557nm,2.1s,baz=328,slow=11
WERD epP **sP** **08 41 29.4 +3.5**
baz=329,slow=11
FBE Freiberg 21.07 116 eP **P** **08 41 23.6 -0.5**
comp=Z,1μm,2.5s,baz=328,slow=11
FBE epP **sP** **08 41 29.4 +3.4**
baz=329,slow=11
ECH Echery 21.09 130 P **P** **08 41 23.8 -0.5**
ECH pmax pmax
comp=Z,119nm,1.2s
ECH Echery 21.09 130 P **P** **08 41 23.8 -0.5**
ECH IAmb IAmb 08 41 32.3
comp=Z,119nm,1.2s
GUNZ Gunzen 21.13 119 eP **P** **08 41 24.2 -0.6**
comp=Z,903nm,2.4s,baz=328,slow=11
GUNZ epP **sP** **08 41 30.6 +3.9**
baz=329,slow=11
TANN Tannenbergstha 21.14 118 eP **P** **08 41 24.3 -0.5**
comp=Z,2μm,2.4s,baz=328,slow=11
TANN epP **sP** **08 41 30.3 +3.5**
baz=329,slow=11
WERN Wernitzgruen 21.21 119 eP **P** **08 41 24.8 -0.7**
comp=Z,896nm,2.5s,baz=328,slow=11
WERN epP **sP** **08 41 31.1 +3.6**
baz=329,slow=11
GRA1 Grafenberg Arr 21.26 121 P **P** **08 41 25.0 -1.1**
GRA1 IAmb IAmb 08 41 48.4
comp=Z,204nm,1.4s
GRF Grafenberg Arr 21.26 121 P **P** **08 41 25.0 -1.1**
GRF pmax pmax
comp=Z,203nm,1.4s
GRF Grafenberg Arr 21.26 121 eP **P** **08 41 26.0 -0.2**
comp=Z,335nm,1.8s,baz=328,slow=11
GRF epP **sP** **08 41 32.1 +4.0**
baz=329,slow=11
GRF eL L 08 49 53.9
comp=Z,4μm,21.0s
NKC Novy Kostel 21.28 119 eP **P** **08 41 28.0 +1.7**
NKC epP **sP** **08 41 32.5 +4.2**
NKC eS Sn 08 45 26.8 -3.1
NKC AMS AMS 08 50 00.0
comp=Z,5μm,17.5s
NKC Novy Kostel 21.28 119 eP **P** **08 41 28.0 +1.7**
NKC e 08 41 32.5
NKC eS Sn 08 45 26.8 -3.1
NKC MLR MLR
comp=Z,5μm,17.5s
STU Stuttgart 21.30 126 P **P** **08 41 27.0 +0.4**
STU pmax pmax
comp=Z,225nm,1.4s
STU Stuttgart 21.30 126 eP **P** **08 41 27.8 +1.3**
comp=Z,1μm,2.5s,baz=328,slow=11
STU epP **sP** **08 41 32.8 +4.2**
baz=329,slow=11
STU Stuttgart 21.30 126 P **P** **08 41 27.0 +0.4**
BRG Berggiesshubel 21.34 115 *i* P **P** **08 41 25.2 -1.7**
comp=Z,29nm,1.1s
BRG *i* 08 41 32.0
comp=Z,883nm,2.4s
BRG ePCP PcP 08 45 22.4 -8.3
comp=Z,27nm,1.8s
BRG S Sn 08 45 31.0 -0.3
comp=N,4μm,16.3s
comp=E,3μm,13.7s
comp=Z,6μm,16.8s
BRG Berggiesshubel 21.34 115 *i* P **P** **08 41 25.2 -1.7**
BRG *i* 08 41 32.0
BRG e 08 45 22.4
BRG S Sn 08 45 31.0 -0.3
BRG pmax pmax
comp=Z,29nm,1.1s
BRG pmax pmax
comp=Z,883nm,2.4s
BRG pmax pmax
comp=Z,27nm,1.8s
BRG MLR MLR
comp=N,4μm,16.3s
BRG MLR MLR
comp=E,3μm,13.7s
BRG MLR MLR
comp=Z,6μm,16.8s
BRG Berggiesshubel 21.34 115 eP **P** **08 41 26.2 -0.8**
comp=Z,885nm,2.4s,baz=328,slow=11
MANZ Manzenberg 21.35 119 eP **P** **08 41 27.6 +0.5**
comp=Z,144nm,1.7s,baz=328,slow=11
MANZ epP **sP** **08 41 32.3 +3.2**
baz=329,slow=11
BFO Black Forest 21.38 128 P **P** **08 41 26.5 -1.0**
BFO pmax pmax
comp=Z,160nm,1.3s
BFO Black Forest 21.38 128 eP **P** **08 41 28.5 +1.0**
comp=Z,588nm,2.2s,baz=328,slow=11
BFO epP **sP** **08 41 33.5 +4.1**
baz=329,slow=11
BFO Black Forest 21.38 128 P **P** **08 41 26.5 -1.0**
BFO IAmb IAmb 08 41 35.5
comp=Z,160nm,1.3s
VSU Vasula 21.48 86 eP **P** **08 41 27.3 -1.1**
VSU Vasula 21.48 86 *de*P **P** **08 41 27.2 -1.1**
VSU pmax pmax
comp=Z,185nm,2.0s
ROTZ Rotzenmuhle 21.57 120 eP **P** **08 41 30.2 +0.8**
comp=Z,397nm,2.3s,baz=328,slow=11
ROTZ epP **sP** **08 41 34.8 +3.4**
baz=329,slow=11
FRB Frobisher Bay 21.83 291 P **P** **08 41 34.1 +2.1**
comp=Z,18nm,0.9s,baz=70,slow=16,SNR=2.7
FRB LR LR 08 49 31.7
comp=Z,4μm,19.3s,baz=70,slow=35
PVCC Panska Ves 21.86 115 eS Sn 08 45 42.9 -0.8
PVCC AMS AMS 08 51 10.0
comp=Z,5μm,16.6s
SLVR Solovky 21.99 65 eP **P** **08 41 35.6 +1.8**
comp=Z,188nm,1.3s
SLVR eS **S** **08 45 39.7 +3.0**
PABE Paberze 22.13 95 eP **P** **08 41 36.6 +1.3**
PRA Prague 22.17 116 eP **P** **08 41 35.2 -0.6**
PRA eS Sn 08 45 46.9 -4.3
PRA AMS AMS 08 51 30.0
comp=Z,2μm,16.2s
PRA Prague 22.17 116 eP **P** **08 41 35.2 -0.6**
PRA MLR MLR
comp=Z,2μm,16.2s
PRU Pruhonice 22.27 116 eP **P** **08 41 40.8 +3.8**
PRU eS **S** **08 45 46.3 +3.9**
PRU AMS AMS 08 51 30.0
comp=Z,4μm,15.8s
PRU Pruhonice 22.27 116 eP **P** **08 41 40.8 +3.8**
PRU MLR MLR
comp=Z,4μm,15.8s
KSP Ksiaz 22.29 112 eP **P** **08 41 35.7 -1.4**
KSP eS Sn 08 45 51.9 -2.1
KSP eL L 08 49 14.3
comp=Z,3μm,24.0s
KSP Ksiaz 22.29 112 L L 08 49 14.3
comp=Z,3μm,24.0s
KSP Ksiaz 22.29 112 Pg **P** **08 41 35.7 -1.4**
KSP Ksiaz 22.29 112 x Sn 08 45 51.9 -2.1
PBCC Pribram 22.31 117 eP **P** **08 41 40.7 +3.3**
WET Wettzell 22.33 120 eP **P** **08 41 38.6 +1.0**
comp=Z,296nm,2.3s,baz=328,slow=11
WET epP **sP** **08 41 43.2 +3.6**
baz=329,slow=11
CHVC Chvalec 22.39 113 eP **P** **08 41 38.7 +0.4**
CHVC ex x 08 41 47.8
CHVC AMS AMS 08 50 30.0
comp=Z,4μm,18.1s
UPC Upice 22.44 113 eP **P** **08 41 43.3 +4.6**
UPC eS **S** **08 45 48.3 +2.8**
UPC AMS AMS 08 50 50.0
comp=Z,5μm,18.8s
UPC Upice 22.44 113 eP **P** **08 41 43.3 +4.6**
UPC MLR MLR
comp=Z,5μm,18.8s
OSTC Ostas 22.48 113 eP **P** **08 41 39.9 +0.7**
OSTC ex x 08 41 46.9
OSTC eS Sn 08 45 56.0 -2.7
OSTC AMS AMS 08 50 30.0
comp=Z,4μm,22.2s
UBR Ueberruh 22.55 126 eP **P** **08 41 41.0 +1.0**
baz=328,slow=11
KHC Kasperske Hory 22.60 119 eP **P** **08 41 39.7 -0.8**
KHC ex x 08 41 47.4
KHC ex x 08 42 00.0
KHC ex x 08 42 22.5
KHC eS **S** **08 45 53.8 +5.2**
KHC AMS AMS 08 50 10.0
comp=Z,4μm,22.4s
KHC Kasperske Hory 22.60 119 eP **P** **08 41 39.7 -0.8**
KHC e 08 42 00.0
KHC e 08 42 22.5
KHC MLR MLR
comp=Z,4μm,22.4s
KHC Kasperske Hory 22.60 119 P **P** **08 41 39.8 -0.7**
DPC Dobruska-Polom 22.68 113 eP **P** **08 41 40.1 -1.3**
DPC eS **S** **08 45 56.2 +6.1**
DPC AMS AMS 08 50 50.0
comp=Z,4μm,19.8s
DPC Dobruska-Polom 22.68 113 eP **P** **08 41 40.1 -1.3**
DPC MLR MLR
comp=Z,4μm,19.8s
SUW Suwalki 22.80 99 eP **P** **08 41 42.8 +0.3**
SUW eS Sn 08 46 00.1 -6.2
SUW eL L 08 49 24.9
comp=Z,2μm,24.5s
DAVA Damuels 22.82 127 eP **P** **08 41 43.4 +0.4**
comp=Z,83nm,1.6s
GEC2 GERESS Array S 22.88 119 eP **P** **08 41 43.9 +0.4**
baz=328,slow=11
GEC2 GERESS Array S 22.88 119 P **P** **08 41 43.4 -0.2**
GEC2 IAmb IAmb 08 41 56.2
comp=Z,144nm,1.4s
GERES GERESS Array B 22.88 119 P **P** **08 41 43.2 -0.4**
comp=Z,5.1nm,0.9s,baz=326,slow=6.9,SNR=13
GERES LR LR 08 51 51.0
comp=Z,4μm,18.7s,baz=326,slow=40
GERES GERESS Array B 22.88 119 P **P** **08 41 42.4 -1.2**
SSB Saint Sauveur 22.89 138 P **P** **08 41 42.3 -1.4**
SSB pmax pmax
comp=Z,183nm,1.6s
SSB Saint Sauveur 22.89 138 P **P** **08 41 42.3 -1.4**
SSB IAmb IAmb 08 41 50.6
comp=Z,183nm,1.6s
RETA Reutte 22.95 125 *i* P **P** **08 41 44.2 0.0**
comp=Z,47nm,1.2s,SNR=9.1
ISAL Salakas 23.01 93 eP **P** **08 41 49.2 +4.5**
ZFI2 Zemlya Franca- 23.04 22 eP **P** **08 41 44.7 -0.1**
comp=Z,32nm,1.3s
ZFI2 eS **S** **08 45 55.7 -0.1**
ZFI Zemlya Franca- 23.04 22 eP **P** **08 41 46.3 +1.6**
comp=Z,167nm,1.8s
ZFI eS **S** **08 45 58.6 +2.8**
KRLC Kraliky 23.08 113 eP **P** **08 41 50.4 +4.8**
KRLC ex x 08 41 58.9
KRLC eS **S** **08 46 02.7 +5.6**
KRLC AMS AMS 08 51 00.0
comp=Z,4μm,18.5s
KRLC Kraliky 23.08 113 eP **P** **08 41 50.4 +4.8**
KRLC MLR MLR
comp=Z,4μm,18.5s
MOTA Moosalm 23.19 125 *i* P **P** **08 41 46.4 -0.4**
comp=Z,122nm,1.6s,SNR=22
TREC Trest 23.20 116 eP **P** **08 41 46.7 0.0**
TREC eS **S** **08 46 06.5 +7.5**
TREC AMS AMS 08 51 50.0
comp=Z,4μm,17.0s
TREC Trest 23.20 116 eP **P** **08 41 46.7 0.0**
TREC MLR MLR
comp=Z,4μm,17.0s
DAVOX Davos/Dischmat 23.25 127 P **P** **08 41 46.3 -1.1**
comp=Z,7.1nm,0.8s,baz=323,slow=12,SNR=8.1
DAVOX LR LR 08 51 39.4
comp=Z,3μm,19.7s,baz=326,slow=39
PGAV Gavieira, Arco 23.33 163 eP **P** **08 41 48.5 +0.3**
comp=Z,217nm,1.7s
PGAV *i* LQ LQ 08 46 10.9
PGAV eLR LR 08 47 54.1
comp=Z,7μm,20.0s
SQTA Sankt Quirin 23.34 125 eP **P** **08 41 48.4 +0.1**
comp=Z,116nm,1.9s
FETA Feichten 23.34 126 eP **P** **08 41 49.2 +0.9**
comp=Z,83nm,1.4s
TUE Stuetta 23.34 129 P **P** **08 41 48.0 -0.4**
BEL Belsk 23.36 105 eP **P** **08 41 49.1 +0.7**
BEL eL L 08 49 18.0
comp=Z,2μm,26.0s
WATA Walderalm 23.37 124 *i* P **P** **08 41 49.5 +0.9**
comp=Z,127nm,2.1s,SNR=6.4
WTTA Wattenberg 23.45 124 *i* P **P** **08 41 49.1 -0.4**
comp=Z,126nm,1.9s,SNR=7.2
FUORN Ofenpass-Fuorn 23.52 127 IAmb IAmb 08 41 59.4
comp=Z,110nm,1.6s
PCAB Cabril 23.61 162 eP **P** **08 41 50.8 -0.1**
comp=Z,148nm,1.7s
VRAC Vranov 23.62 114 P **P** **08 41 50.3 -0.7**
comp=Z,7.3nm,0.9s,baz=325,slow=10,SNR=16
VRAC LR LR 08 52 25.1
comp=Z,5μm,18.0s,baz=332,slow=40
VRAC Vranov 23.62 114 ⇑P **P** **08 41 55.0 +4.0**
VRAC Vranov 23.62 114 eP **P** **08 41 50.8 -0.1**
VRAC eS **S** **08 46 10.3 +4.5**
VRAC Vranov 23.62 114 ⇑P **P** **08 41 55.0 +4.0**
MORC Moravsky Berou 23.62 112 ⇑P **P** **08 41 51.8 +0.8**
MORC Moravsky Berou 23.62 112 eP **P** **08 41 50.7 -0.3**
MORC eS **S** **08 46 11.7 +5.8**
MORC Moravsky Berou 23.62 112 ⇑P **P** **08 41 51.8 +0.8**
MORC Moravsky Berou 23.62 112 P **P** **08 41 50.3 -0.7**
PBRG Braganca 23.69 160 eP **P** **08 41 52.6 +0.8**
comp=Z,148nm,1.9s
EUNU Eureka 23.70 336 P **P** **08 41 52.3 +0.7**
NACGM Naroch 23.73 93 eP **P** **08 41 48.0 -4.0**
NACGM eP **pP** **08 41 50.0 -3.4**
NACGM ePP PnPn 08 42 34.0 +15
NACGM eS S 08 45 56.0 -12
NACGM eSS SnSn 08 47 10.0 +25
NACGM eLQ LQ 08 48 20.0
NACGM eLR LR 08 51 56.0
NACGM LRM MLR 08 53 04.0
comp=Z,3.5nm,14.0s
BNI Bardonecchia 23.74 134 P **P** **08 41 52.4 +0.1**
BNI pmax pmax
comp=Z,209nm,1.7s
BNI Bardonecchia 23.74 134 P **P** **08 41 52.4 +0.1**
KRUC Moravsky 23.74 115 eP **P** **08 41 51.7 -0.4**
KRUC eS **S** **08 46 13.4 +5.7**
OKC Ostrava-Krasne 23.81 112 eP **P** **08 41 56.6 +3.8**
OKC AMS AMS 08 51 20.0
comp=Z,3μm,19.8s
OKC Ostrava-Krasne 23.81 112 eP **P** **08 41 56.6 +3.8**
OKC MLR MLR
comp=Z,3μm,19.8s
MOA Molln 23.92 120 eP **P** **08 41 55.0 +1.1**
comp=Z,38nm,1.5s
PVRL Vila Real 24.08 162 eP **P** **08 41 57.0 +1.6**
comp=Z,202nm,1.7s
OJC Ojcow 24.18 109 eP **P** **08 41 56.3 0.0**
OJC eS **S** **08 46 19.5 +4.8**
OJC eL L 08 50 09.4
comp=Z,2μm,23.8s
OJC Ojcow 24.18 109 P **P** **08 41 55.2 -1.1**
OJC pmax pmax
comp=Z,248nm,1.8s
OJC Ojcow 24.18 109 P **P** **08 41 55.2 -1.1**
ABTA Abfaltersbach 24.20 123 *i* P **P** **08 41 58.7 +2.1**
comp=Z,67nm,2.1s,SNR=12
KBA Koelnbreinsper 24.22 122 *i* P **P** **08 41 56.5 -0.4**
comp=Z,51nm,1.8s,SNR=9.3
MVO Moncorvo 24.28 161 eP **P** **08 41 57.8 +0.5**
comp=Z,215nm,1.6s
MVO *i* LQ LQ 08 46 24.5
MVO eLR LR 08 48 25.5
comp=Z,4μm,18.0s
JAVC Velka Javorina 24.40 114 eP **P** **08 41 58.1 -0.3**
JAVC eS **S** **08 46 24.2 +5.8**
CONA Conrad Observa 24.46 117 eP **P** **08 41 58.1 -0.8**
comp=Z,46nm,1.5s
MICGM Minsk 24.48 93⇓ eP **P** **08 41 56.0 -2.9**
MICGM PM 08 42 00.0
comp=Z,0.6nm,2.0s
MICGM PM 08 42 01.0
comp=N,0.6nm,1.8s
MICGM ePP **PnPn** **08 42 38.0 +8.8**
MICGM eS **S** **08 46 12.0 -7.4**
MICGM eLQ LQ 08 50 00.0
MICGM eLR LR 08 52 30.0
MICGM LRM MLR 08 53 56.0
comp=Z,3.4nm,12.0s
MICGM LRM MLR 08 53 56.0
comp=E,2.3nm,12.0s
MNK Minsk 24.48 93⇓ eP **P** **08 41 56.0 -2.9**
MNK e 08 42 38.0
MNK eS **S** **08 46 22.0 +2.6**
MNK pmax pmax
comp=Z,620nm,2.0s
MNK pmax pmax
comp=N,570nm,1.8s
CTI Castel Tesino 24.50 126 P **P** **08 41 59.2 -0.2**
CTI pmax pmax
comp=Z,125nm,1.4s
CTI Castel Tesino 24.50 126 P **P** **08 41 59.1 -0.2**
ZOU Zoufplan 24.53 123 P **P** **08 42 00.5 +0.7**
CIMO Cimolais 24.55 124 P **P** **08 41 58.7 -1.0**
SMOL Smolenice 24.59 114 eP **P** **08 42 00.3 +0.3**
SMOL Smolenice 24.59 114 eP **P** **08 42 00.3 +0.3**
PVIS Viseu 24.61 163 eP **P** **08 42 03.0 +2.7**
comp=Z,171nm,1.9s
MODS Modra-Piesok 24.64 115 eP **P** **08 41 59.4 -1.1**
MODS pmax pmax
comp=Z,203nm,1.8s
MODS Modra-Piesok 24.64 115 eP **P** **08 41 59.4 -1.1**
MODS eS **S** **08 46 26.8 +4.6**
MYKA Terra Mystica 24.71 122 eP **P** **08 42 01.1 -0.2**
comp=Z,50nm,1.6s
ZST Bratislava 24.72 115 eS **S** **08 46 14.7 -8.7**
PRED Cave del Predi 24.84 122 P **P** **08 42 02.2 -0.2**
LANS Liptovska Anna 24.89 111 eP **P** **08 42 03.2 +0.5**
LANS pmax pmax
comp=Z,33nm,1.0s
LANS Liptovska Anna 24.89 111 eP **P** **08 42 03.2 +0.5**
ARSA Arzberg 24.89 119 eP **P** **08 42 02.4 -0.4**
comp=Z,13nm,0.9s
MTE Manteigas 24.96 162 epP **pP** **08 42 07.2 +2.3**
MTE A A 08 42 13.3
comp=Z,215nm,1.6s
MTE *i* LQ LQ 08 46 40.2
MTE eLR LR 08 48 53.6
comp=Z,7μm,20.0s
MTE Manteigas 24.96 162 P **P** **08 42 03.4 -0.1**
NIE Niedzica 25.01 110 eP **P** **08 42 05.1 +1.3**
NIE eS **S** **08 46 35.0 +6.8**
NIE eL L 08 50 29.8
comp=Z,1μm,25.1s
COI Coimbra 25.04 164 P **P** **08 42 06.4 +2.3**
COI pmax pmax
comp=Z,350nm,1.8s
COI Coimbra 25.04 164 **P** **08 42 06.4 +2.3**
OBKA Obir 25.15 121 eP **P** **08 42 02.4 -2.7**
comp=Z,23nm,1.4s
VYHS Vyhne 25.16 113 eP **P** **08 42 04.3 -0.8**
VYHS pmax pmax
comp=Z,231nm,2.0s
VYHS Vyhne 25.16 113 eP **P** **08 42 04.3 -0.8**
PCAS Casmilo, Conde 25.18 164 eP **P** **08 42 04.0 -1.4**
comp=Z,251nm,1.7s
SOKA Soboth 25.18 120 *i* P **P** **08 42 05.3 -0.2**
comp=Z,49nm,1.4s,SNR=7.0
PERS Pernice 25.25 120 *i* P **P** **08 42 05.5 -0.6**
PERS eS **S** **08 46 39.0 +6.9**
SRO Srobarova 25.50 114 eP **P** **08 42 08.0 -0.2**
SRO pmax pmax
comp=Z,224nm,2.1s
SRO Srobarova 25.50 114 eP **P** **08 42 08.0 -0.2**
PCBR Castelo Branco 25.52 162 epP **pP** **08 42 14.2 +4.3**
PCBR A A 08 42 17.7
comp=Z,161nm,1.7s
KLMR Klimovskoe 25.52 72 eP **P** **08 42 06.5 -1.8**
comp=Z,106nm,1.4s
KLMR eS **S** **08 46 33.7 -2.3**
PSBE So Bento 25.68 165 epP **pP** **08 42 15.3 +3.9**
PSBE A A 08 42 18.8
comp=Z,215nm,1.7s
UCM Universidad Co 25.73 155⇑ *i*P **P** **08 42 12.5 +2.0**
UCM eS S 08 46 55.2 +15
ZCCA Zocca 25.75 129 P **P** **08 42 13.2 +2.6**
KWP Kalwaria Pacla 25.83 106 eP **P** **08 42 12.1 +0.9**
KWP eL L 08 50 58.9
comp=Z,3μm,25.8s
KWP Kalwaria Pacla 25.83 106 P **P** **08 42 12.4 +1.2**
KWP pmax pmax
comp=Z,412nm,1.3s
KWP Kalwaria Pacla 25.83 106 P **P** **08 42 12.4 +1.2**
CRVS Cervenica-Dubn 25.89 109 eP **P** **08 42 11.3 -0.5**
CRVS pmax pmax
comp=Z,365nm,2.1s
CRVS Cervenica-Dubn 25.89 109 eP **P** **08 42 11.3 -0.5**
LSH Leshukonskoye 25.89 61 eP **P** **08 42 13.5 +1.8**
comp=Z,109nm,1.0s
LSH eS **S** **08 46 44.9 +3.1**
PMRV Marv??o 25.94 162 eP **P** **08 42 13.6 +1.3**
comp=Z,206nm,2.0s
PMRV *i* LQ LQ 08 46 52.6
PMRV eLR LR 08 49 20.0
comp=Z,6μm,20.0s
GOLS Golise 25.97 120 *i* P **P** **08 42 11.7 -0.9**
PSZ Piszkesteto 26.04 112⇑P **P** **08 42 13.3 0.0**
PSZ Piszkesteto 26.04 112⇑P **P** **08 42 13.3 0.0**
PSZ Piszkesteto 26.04 112 P **P** **08 42 12.2 -1.1**
SCHQ Schefferville 26.12 272 P **P** **08 42 13.2 -0.7**
comp=Z,50nm,0.9s,baz=47,slow=11,SNR=9.7
SCHQ LR LR 08 50 53.2
comp=Z,2μm,19.9s,baz=68,slow=33
SCHQ Schefferville 26.12 272 P **P** **08 42 15.8 +1.9**
SCHQ IAmb IAmb 08 42 20.6
comp=Z,67nm,1.0s
PMAFR Mafra 26.18 166 eP **P** **08 42 17.3 +2.8**
comp=Z,303nm,1.5s
KOLS Kolonicke sedl 26.20 108 eP **P** **08 42 13.0 -1.6**
KOLS pmax pmax
comp=Z,182nm,1.8s
KOLS Kolonicke sedl 26.20 108 eP **P** **08 42 13.0 -1.6**
ESBB Sonseca Array 26.22 156 IAmb IAmb 08 42 20.7
comp=Z,68nm,1.5s
ESDC Sonseca Array 26.22 156 P **P** **08 42 13.2 -1.6**
comp=Z,6.8nm,0.9s,baz=348,slow=8.7,SNR=16
ESDC LR LR 08 52 34.2
comp=Z,5μm,18.3s,baz=335,slow=37
ESDC Sonseca Array 26.22 156 P **P** **08 42 13.6 -1.3**
LVV L'vov 26.23 105 eP **P** **08 42 15.6 +0.7**
LVV eS **S** **08 46 44.4 -3.1**
LVV pmax pmax
comp=Z,530nm,1.7s
LVV MLR MLR
comp=Z,2μm,14.0s
PAB San Pablo 26.28 157 P **P** **08 42 15.8 +0.3**
PAB pmax pmax
comp=Z,205nm,1.8s
PAB San Pablo 26.28 157 P **P** **08 42 15.8 +0.3**
LIS Lisbon 26.43 166 eP **P** **08 42 16.2 -0.6**
LIS AMb AMB 08 42 24.3
comp=Z,79nm,1.8s
LIS Lisbon 26.43 166 eP **P** **08 42 16.1 -0.6**
UZH Uzhgorod 26.44 108 eP **P** **08 42 14.7 -2.0**
UZH e 08 42 18.0
UZH *i* S **S** **08 46 43.0 -7.7**
UZH MLR MLR
comp=N,600nm,15.0s
UZH MLR MLR
comp=E,600nm,15.0s
UZH MLR MLR
comp=Z,200nm,15.0s
RES Resolute Bay 26.51 324 P **P** **08 42 18.6 +1.5**
comp=Z,7.6nm,1.0s,baz=324,slow=8.1,SNR=5.7
RES LR LR 08 52 40.6
comp=Z,4μm,19.5s,baz=70,slow=36
OSSC Osservatorio P 26.57 129 P **P** **08 42 19.4 +1.4**
OSSC IAmb IAmb 08 42 26.2
comp=Z,75nm,1.2s
EVO Evora 26.74 164 eP **P** **08 42 21.7 +2.1**
EVO eS **S** **08 47 05.3 +10**
EVO Evora 26.74 164 eP **P** **08 42 21.6 +2.1**
comp=Z,46nm,1.6s
PNCL Nicolau / Gran 27.10 165 epP **pP** **08 42 27.7 +3.5**
PNCL A A 08 42 30.1
comp=Z,82nm,1.9s
MURB Monte Urbino 27.24 127 P **P** **08 42 23.6 -0.4**

PBEJ Beja 27.26 164 *e*P P 08 42 20.7 -3.5
comp=Z,86nm,1.7s
LATE Laterza 27.57 129 P P 08 42 28.4 +1.4
PCVE Castro Verde 27.63 164 *e*P P 08 42 29.1 +1.6
comp=Z,76nm,1.7s
PTEO Sao Teotonio 27.64 165 *e*P P 08 42 29.8 +2.2
comp=Z,115nm,1.9s
AKASG Malin Array Be 27.76 98 P P 08 42 27.6 -1.0
comp=Z,4.3nm,0.9s,baz=326,slow=9.1,SNR=9.4
AKASG LR LR 08 53 25.2
comp=Z,2µm,21.4s,baz=315,slow=36
AKASG Malin Array Be 27.76 98 P P 08 42 26.0 -2.5
AKBB Malin Array Si 27.76 98 *de*P P 08 42 28.3 -0.3
OBN Obninsk 27.80 84 P P 08 42 26.9 -2.0
comp=Z,7.3nm,0.4s,baz=285,slow=21,SNR=4.4
OBN LR LR 08 53 17.3
comp=Z,352nm,21.6s,baz=346,slow=36
OBN Obninsk 27.80 84⇑ *e*P P 08 42 28.5 -0.4
OBN *i* 08 42 32.9
OBN *e* 08 43 16.3
OBN *i* S S 08 47 11.0 -1.0
OBN pmax pmax
comp=Z,21nm,1.0s
OBN MLR MLR
comp=Z,2µm,16.0s
OBN Obninsk 27.80 84 P P 08 42 28.5 -0.4
NRCA Norcia 27.82 127 P P 08 42 29.0 -0.3
NRCA IAmb IAmb 08 42 46.7
comp=Z,70nm,1.3s
MOS Moscow 27.84 82 *e*P P 08 42 30.4 +1.2
MOS *e*S S 08 47 17.2 +4.6
MOS pmax pmax
comp=Z,105nm,1.6s
MOS pmax pmax
comp=Z,300nm,2.1s
MOS MLR MLR
comp=Z,1µm,15.0s
MORF Marmelete 27.88 165 *e*S S 08 47 12.0 -1.7
MORF Marmelete 27.88 165 *e*pP pP 08 42 35.2 +3.9
MORF A A 08 42 41.8
comp=Z,60nm,1.6s
PVAQ Vaqueiros 27.89 164 *i* LQ LQ 08 47 23.4
PVAQ *e*LR LR 08 50 09.0
comp=Z,5µm,20.0s
SIRR Siria 28.09 112 ⇑P P 08 42 30.4 -1.2
BUR08 Bucovina Ar. S 28.42 106 P P 08 42 33.9 -0.8
BUR08 IAmb IAmb 08 42 46.4
comp=Z,107nm,1.9s
BURAR Bucovina Array 28.45 106 ⇑P P 08 42 32.4 -2.5
BURAR Bucovina Array 28.45 106 ⇑P P 08 42 32.4 -2.5
BURAR Bucovina Array 28.45 106 P P 08 42 34.5 -0.3
BZS Buzias 28.60 113 ⇓P P 08 42 35.9 -0.2
BZS Buzias 28.60 113 ⇓P P 08 42 35.9 -0.2
CART Cartagena 28.80 152 *i* P P 08 42 38.9 +1.0
CART *i* S S 08 47 40.7 +13
CART Cartagena 28.80 152 P P 08 42 37.0 -0.9
CART IAmb IAmb 08 42 45.5
comp=Z,101nm,1.9s
INTR Introdacqua 28.82 127 P P 08 42 36.6 -1.6
INTR IAmb IAmb 08 43 15.3
comp=Z,54nm,1.4s
EMAL Malaga-Limoner 28.98 158⇑ *i*P P 08 42 42.9 +3.3
EMAL *i* S S 08 47 44.0 +13
SFS San Fernando 29.01 161⇑ *i*P P 08 42 43.2 +3.4
SFS *e*S S 08 47 38.0 +6.6
DIVS Divibare 29.24 117 P P 08 42 41.8 -0.2
GZR Gura Zlata 29.25 112 ⇑P P 08 42 41.5 -0.5
GZR Gura Zlata 29.25 112 ⇑P P 08 42 41.5 -0.5
MDVR Moldovita 29.34 114 ⇑P P 08 42 42.0 -0.7
SORM Soroca 29.34 102 ⇓P P 08 42 39.6 -3.1
SORM Soroca 29.34 102 ⇓P P 08 42 39.6 -3.1
BIZ Bicaz 29.35 106 ⇑P P 08 42 41.3 -1.4
HERR Herculane 29.53 113 ⇑P P 08 42 44.1 -0.3
LOT Lotru 29.60 111 ⇑P P 08 42 45.0 -0.1
LOT Lotru 29.60 111 P P 08 42 46.5 +1.3
SGRT San Giovanni R 29.69 125 P P 08 42 45.0 -0.9
SGRT IAmb IAmb 08 42 50.6
comp=Z,66nm,1.9s
PAOL Paolisi 29.92 127 P P 08 42 46.7 -1.2
PAOL IAmb IAmb 08 42 54.7
comp=Z,88nm,1.6s
ARR Arges 30.02 110 ⇓P P 08 42 50.0 +1.3
PDG Podgorica 30.38 119 ⇑P P 08 42 50.8 -1.1
PDG Podgorica 30.38 119 P P 08 42 50.1 -1.8
KIS Kishinev 30.43 103 *e*P P 08 42 52.0 -0.3
KIS Kishinev 30.43 103 *e*P P 08 42 52.0 -0.3
KIS *e* 08 43 52.0
KIS MLR MLR
comp=Z,500nm,16.0s
PLOR Plostina 30.45 107 ⇑P P 08 42 52.5 -0.1
PLOR Plostina 30.45 107 ⇑P P 08 42 52.5 -0.1
MLR Muntele Rosu 30.45 108 P P 08 42 51.7 -0.9
comp=Z,8.4nm,1.0s,baz=334,slow=9.4,SNR=3.5
MLR LR LR 08 56 41.6
comp=Z,2µm,18.9s,baz=326,slow=40
MLR Muntele Rosu 30.45 108 ⇓P P 08 42 52.1 -0.6
MLR Muntele Rosu 30.45 108 ⇓P P 08 42 52.1 -0.6
MLR Muntele Rosu 30.45 108 P P 08 42 51.6 -1.1
MLR IAmb IAmb 08 43 00.8
comp=Z,48nm,1.3s
VRI Vrincioaia 30.47 107 ⇑P P 08 42 52.9 +0.2
VRI Vrincioaia 30.47 107 P P 08 42 52.6 -0.1
VRI Vrincioaia 30.47 107 ⇑P P 08 42 52.9 +0.2
LPSR Galich'ya Gora 30.55 86 *e*P P 08 42 51.0 -2.3
LPSR pmax pmax
comp=Z,30nm,1.0s
LPSR MLR MLR
comp=Z,850nm,12.0s
PVLZ Peæn de 30.56 159 *e*P P 08 42 53.9 +0.3
PVLZ *e*S S 08 47 54.8 -0.9
NEHR Nehoiu 30.65 108 ⇑P P 08 42 53.3 -1.0
KIRV Kirov 30.90 70 P P 08 42 54.4 -2.0
comp=Z,9.8nm,0.8s,baz=299,slow=12,SNR=6.2
KIRV LR LR 08 54 53.6
comp=Z,4µm,20.3s,baz=310,slow=35
KIRV Kirov 30.90 70⇓ *e*P P 08 42 54.9 -1.4
MATE Matera 31.00 124 ⇓P P 08 42 56.3 -1.1
TIR Tirane 31.55 120 P P 08 43 00.9 -1.3
TIR pmax pmax
comp=Z,54nm,1.3s
TIR Tirane 31.55 120 P P 08 43 00.9 -1.3
TIR IAmb IAmb 08 43 12.1
comp=Z,54nm,1.3s
CFR Carcaliu 31.61 106 ⇓P P 08 43 01.4 -1.3
CFR Carcaliu 31.61 106 ⇓P P 08 43 01.4 -1.3
VSR Storozhevoye 31.65 88 *e*P P 08 43 01.5 -1.5
VSR pmax pmax
comp=Z,50nm,1.5s
VSR MLR MLR
comp=Z,2µm,17.0s
VTS Vitosha 31.75 114 *e*P P 08 43 04.5 +0.3
PMOZ Porto Moniz, M 31.87 180 *e*LR LR 08 51 50.5
comp=Z,3µm,20.0s
HARR Harsova 31.92 107 ⇑P P 08 43 02.9 -2.5
HARR Harsova 31.92 107 ⇑P P 08 43 02.9 -2.5
AVE Averroes 31.98 164 *e*P P 08 43 09.3 +3.3
AVE *e*S S 08 48 22.7 +4.7
TPGR Topolog 31.99 106 ⇑P P 08 43 04.4 -1.7
IFR Ifrane 32.06 161 *e*P P 08 43 11.2 +4.2
IFR *e*S S 08 48 17.7 -1.9
PGB Panagyurishte 32.17 113 *e*P P 08 43 08.9 +1.1
SZH Strazhica 32.28 110 *e*P P 08 43 07.0 -1.6
CORL Corleone 32.32 131 P P 08 43 08.8 -0.3
TIP Timpagrande 32.33 126 P P 08 43 09.5 +0.4
TIP IAmb IAmb 08 43 15.5
comp=Z,45nm,1.7s
KKB Krupnik 32.33 115 *e*P P 08 43 10.1 +1.0
D63A Stockholm 32.38 262 P P 08 43 10.1 +0.7
baz=39
CLTB Caltabellotta 32.58 131 P P 08 43 09.7 -1.7
D62A Allapoint, All 32.75 263 P P 08 43 13.2 +0.6
baz=39
E64A Bridgewater 32.75 261 P P 08 43 13.3 +0.6
baz=38
VRH Novokhopyorsk 32.76 86 *e*P P 08 43 10.5 -2.2
VRH pmax pmax
comp=Z,60nm,1.6s
VRH MLR MLR
comp=Z,2µm,12.0s
MMB Musomiste 32.82 115 *e*P P 08 43 13.6 +0.2
MDT Midelt 32.83 160 P P 08 43 10.7 -3.0
comp=Z,6.8nm,0.9s,baz=359,slow=8.6,SNR=11
MDT LR LR 08 55 57.9
comp=Z,3µm,21.1s,baz=16,slow=36

CHGQ Chibougamau 32.87 271 P P 08 43 14.4 +0.7
baz=42
PRD Provadia 32.93 109 *e*P P 08 43 11.6 -2.7
KEK Kerkira 32.95 121 P P 08 43 12.5 -2.0
KEK Kerkira 32.95 121 Pg P 08 43 12.5 -2.0
E63A Oxbow 33.00 261 P P 08 43 15.4 +0.5
baz=38
VAE Valguarnera 33.06 130 LR LR 08 56 46.6
comp=Z,1µm,19.1s,baz=328,slow=37
KEST Kesra 33.10 138 P P 08 43 13.8 -2.2
comp=Z,2.6nm,0.5s,baz=248,slow=5.0,SNR=6.3
KEST LR LR 08 57 30.6
comp=Z,3µm,18.2s,baz=300,slow=38
KEST Kesra 33.10 138 P P 08 43 15.9 -0.1
D61A St Aubert, Com 33.14 264 P P 08 43 16.3 +0.2
baz=39
SRS Serrai 33.17 115 P P 08 43 08.8 -7.7
E62A Clayton Lake 33.31 263 P P 08 43 18.3 +0.6
baz=38
F64A Sherman 33.41 261 P P 08 43 19.2 +0.7
baz=38
HORT Hortiatis 33.42 116 P P 08 43 21.3 +2.5
HORT Hortiatis 33.42 116 P P 08 43 20.4 +1.6
KDZ Kurdzhali 33.43 113 P P 08 43 18.9 +0.2
KDZ Kurdzhali 33.43 113 *e*P P 08 43 17.9 -0.8
G65A Princeton 33.60 259 P P 08 43 21.0 +0.8
baz=37
LIT Litokhoron 33.62 118 P P 08 43 21.3 +0.9
LIT pmax pmax
comp=Z,30nm,1.4s
LIT Litokhoron 33.62 118 P P 08 43 21.3 +0.9
D60A Saint Jean D'O 33.68 264 P P 08 43 21.7 +0.9
baz=39
EDRB Edirne 33.80 111 P P 08 43 21.0 -0.9
H66A Whiting 33.83 258 P P 08 43 22.7 +0.6
baz=36
F63A Nahmakanta, Br 33.86 261 P P 08 43 23.0 +0.6
baz=38
F63A Nahmakanta, Br 33.86 261 P P 08 43 24.8 +2.4
F63A IAmb IAmb 08 43 28.9
comp=Z,44nm,1.2s
E61A Lac Etchemin 33.87 263 P P 08 43 23.1 +0.6
baz=38
RDO Rodhopi 33.91 113 P P 08 43 22.1 -0.7
RDO Rodhopi 33.91 113 P P 08 43 22.9 +0.1
OUR Ouranopolis 33.99 116 P P 08 43 19.8 -3.8
OUR Ouranopolis 33.99 116 P P 08 43 21.5 -2.1
D59A Saint-Raymond 34.00 265 P P 08 43 23.8 +0.2
baz=39
THAS Thassos island 34.05 114 P P 08 43 21.9 -2.1
G64A Maxfield 34.07 260 P P 08 43 23.9 -0.3
baz=37
LKD2 Lefkada island 34.08 121 P P 08 43 22.4 -2.0
LATQ La Tuque 34.11 267 P P 08 43 24.6 0.0
baz=39
PKME Peaks-Kenny Pk 34.29 261 P P 08 43 25.8 -0.3
baz=37
PKME Peaks-Kenny Pk 34.29 261 P P 08 43 29.7 +3.6
PKME IAmb IAmb 08 43 32.2
comp=Z,51nm,1.3s
ALN Alexandroupoli 34.32 113 P P 08 43 26.6 +0.2
ALN Alexandroupoli 34.32 113 IAmb IAmb 08 43 31.9
comp=Z,43nm,1.4s
E60A Ste Agathe de 34.33 264 P P 08 43 26.9 +0.4
baz=38
FSK Fiskardo 34.33 121 P P 08 43 25.8 -0.8
D58A Chemin du LacG 34.38 266 P P 08 43 26.6 -0.3
baz=39
MATQ Matagami 34.39 274 P P 08 43 26.7 -0.2
baz=42
EVR Evrytania 34.39 119 P P 08 43 28.8 +1.6
MAKR Makrakomi, Fth 34.43 119 P P 08 43 25.8 -1.7
F61A St Evariste 34.45 263 P P 08 43 27.3 -0.2
baz=38
AGG Agios Georgios 34.50 119 P P 08 43 26.0 -2.0
AGG Agios Georgios 34.50 119 P P 08 43 27.9 -0.1
ENEZ Enez 34.50 113 P P 08 43 26.9 -1.1
ENEZ Enez 34.50 113 P P 08 43 27.3 -0.7
XOR Xorichti 34.52 117 P P 08 43 25.3 -3.0
G63A Kingsbury 34.54 261 P P 08 43 27.7 -0.7
baz=37
LSQQ Lebel-sur-Quev 34.63 272 P P 08 43 28.8 -0.3
baz=41
PSDA Pessada-Kefalo 34.65 122 P P 08 43 28.8 -0.5
H64A Troy 34.76 260 P P 08 43 30.1 -0.1
baz=37
LIA Limnos Island 34.84 115 P P 08 43 29.2 -1.7
G62A West of Eustis 34.85 262 P P 08 43 30.4 -0.6
baz=37
EFP Efpalio 34.86 120 P P 08 43 30.6 -0.5
F60A Warwick 34.86 264 P P 08 43 30.9 -0.2
baz=38
GADA Gvkgeada 34.87 113 P P 08 43 31.6 +0.5
MAR4 Marsite Statio 34.91 111 P P 08 43 32.7 +1.0
GELI Tayfur-Gelibol 34.92 113 P P 08 43 33.4 +1.8
MAR3 Marsite Statio 34.95 111 P P 08 43 33.8 +1.9
RKY Sarkoy-Tekirda 34.95 112 P P 08 43 33.1 +1.1
AOS Alonnisos 34.96 117 P P 08 43 29.9 -2.1
AOS Alonnisos 34.96 117 P P 08 43 31.9 -0.1
KALE Kalithea 34.98 119 P P 08 43 32.2 0.0
LPK Lapseki 35.05 112 P P 08 43 33.8 +1.0
MRMT Marmara Adasi 35.19 111 P P 08 43 35.2 +1.2
D56A ZEC Mazanza, M 35.22 268 P P 08 43 34.5 +0.3
baz=39
G61A St-Isidore-de- 35.22 263 P P 08 43 33.9 -0.3
baz=37
BOZC Bozcaada 35.23 114 P P 08 43 34.5 +0.2
KLV Kalavryta, Ach 35.29 120 P P 08 43 30.4 -4.5
EZN Ezine 35.35 113 P P 08 43 35.6 +0.3
ISK Istanbul-Kandi 35.39 109 P P 08 43 35.9 +0.2
E57A Chemin Saint G 35.45 267 P P 08 43 36.3 0.0
baz=39
D55A Sainte-Anne-du 35.55 269 P P 08 43 37.2 +0.2
baz=39
SILT Sile 35.55 108 P P 08 43 38.1 +1.0
VLDQ Val d'Or 35.56 272 P P 08 43 40.1 +3.1
VLDQ IAmb IAmb 08 43 42.5
comp=Z,36nm,1.2s
H62A Milan 35.63 262 P P 08 43 38.1 +0.3
baz=37
SIGR SIGRI 35.69 114 P P 08 43 31.7 -6.5
SIGR SIGRI 35.69 114 P P 08 43 37.8 -0.4
G60A Masonville 35.72 264 P P 08 43 38.7 +0.2
baz=37
E56A St. Veronique 35.73 268 P P 08 43 39.0 +0.4
baz=39
I63A Otisfield 35.81 261 P P 08 43 37.4 -1.8
baz=36
ANN Anapa 35.83 97 *e*P P 08 43 36.1 -3.3
ANN pmax pmax
comp=Z,73nm,0.9s
ANN MLR MLR
comp=Z,3µm,16.0s
HRT Heraklio 35.84 109 P P 08 43 40.6 +1.0
DION Dionisos Attik 35.93 118 P P 08 43 37.5 -2.9
ITM Ithomi 35.97 121 P P 08 43 37.8 -2.9
ITM Ithomi 35.97 121 IAmb IAmb 08 43 51.4
comp=Z,46nm,1.3s
VLX Vlachokerasia 35.97 120 P P 08 43 36.5 -4.3
H61A Lyndonville 35.99 263 P P 08 43 40.1 -0.7
baz=37
ARU Arti 36.01 66 P P 08 43 40.2 -0.6
comp=Z,0.8nm,0.3s,baz=338,slow=24,SNR=1.2
ARU LR LR 08 57 52.8
comp=Z,4µm,20.1s,baz=322,slow=35
ARU Arti 36.01 66*d* *i*P P 08 43 39.7 -1.1
ARU 08 44 56.5
ARU PPP PPP 08 45 15.6
ARU S S 08 49 18.6 -1.2
ARU SS SnSn 08 51 43.6 +0.5
ARU pmax pmax
comp=Z,40nm,2.5s
ARU MLR MLR
comp=Z,4µm,19.0s
ARU Arti 36.01 66 P P 08 43 40.3 -0.5
ARU IAmb IAmb 08 43 48.6
comp=Z,32nm,1.2s
G59A Clarenceville 36.09 265 P P 08 43 41.9 +0.3
baz=37
BALB Balikesir 36.12 112 P P 08 43 43.5 +1.5
ADVT Abdulvahap 36.20 109 P P 08 43 44.6 +2.0
DKL Dikili 36.22 113 P P 08 43 43.5 +0.7
LBNH Lisbon 36.23 263 P P 08 43 43.2 +0.3
baz=37
E55A Montcerf-Lytto 36.24 269 P P 08 43 43.4 +0.4
baz=39
KURC Kurucasile-Bar 36.26 104 P P 08 43 44.6 +1.5
I62A Tamworth 36.27 262 P P 08 43 43.1 -0.1
baz=36
NRIK Noril'sk 36.41 35 P P 08 43 44.3 +0.2
comp=Z,6.1nm,1.0s,baz=327,slow=12,SNR=6.8
NRIK LR LR 09 00 39.6
comp=Z,3µm,18.3s,baz=348,slow=40
NRIK Noril'sk 36.41 35⇓ *e*P P 08 43 43.9 -0.2
NRIK pmax pmax
comp=Z,23nm,1.4s
G58A Ormstown 36.41 266 P P 08 43 44.9 +0.5
baz=38
CHOS Chios island 36.48 115 P P 08 43 43.9 -1.2
CHOS Chios island 36.48 115 P P 08 43 46.1 +1.0
GULT Gulveren 36.52 108 P P 08 43 46.4 +1.0
SVE Sverdlovsk 36.54 65 *e*P P 08 43 48.7 +3.4
SVE *e*S S 08 49 34.4 +6.5
SVE pmax pmax
comp=Z,26nm,1.3s
SVE MLR MLR
comp=Z,3µm,18.0s
I61A Oroboro, Fairl 36.60 263 P P 08 43 46.2 +0.2
baz=36
H59A Cadyville 36.66 265 P P 08 43 46.2 -0.3
baz=37
BZK Bozkurt 36.69 103 P P 08 43 47.9 +1.2
URLA Izmir 36.72 114 P P 08 43 46.4 -0.7
MDUB Mudurnu 36.76 107 P P 08 43 47.9 +0.3
G57A Newington 36.85 266 P P 08 43 48.1 +0.1
baz=38,SNR=5.9
BLCB Balcova 36.87 114 P P 08 43 47.1 -1.2
SRCK Saricakaya, Es 36.89 108 P P 08 43 50.4 +1.8
J62A Henniker 37.00 261 P P 08 43 49.8 +0.4
baz=36
H58A Gabriels 37.05 265 P P 08 43 50.1 +0.2
baz=37
LONY Lake Ozonia 37.06 265 P P 08 43 50.3 +0.3
baz=37
I60A Shoreham 37.13 263 P P 08 43 50.6 +0.1
baz=36
SNOP Sinop 37.14 102 P P 08 43 51.1 +0.5
KTHR Kythira 37.18 120 P P 08 43 48.9 -2.1
KTHA Kythira Island 37.20 120 P P 08 43 47.1 -4.1
KTHA Kythira Island 37.20 120 P P 08 43 52.9 +1.7
I59A Olmsteadville 37.42 264 P P 08 43 53.4 +0.4
baz=36
HRV Adam Dziewonsk 37.48 261 P P 08 43 53.9 +0.4
baz=35
ALGO Algonquin Park 37.49 270 P P 08 43 54.4 +0.9
baz=38
H57A Richville 37.53 266 P P 08 43 54.1 +0.2
baz=37
ANKY Antikythira Is 37.64 120 P P 08 43 52.6 -2.3
L64A Middleborough 37.64 259 P P 08 43 55.4 +0.5
baz=35
SOC Sochi 37.78 96 *e*P P 08 43 56.5 +0.4
SOC *e* 08 45 20.0
SOC *e*S S 08 49 49.4 +2.3
SOC *e*SS SnSn 08 52 18.5 -7.9
SOC pmax pmax
comp=Z,9.0nm,0.5s
SOC MLR MLR
comp=Z,1µm,15.0s
G54A Lake Saint Pet 37.95 270 P P 08 43 58.2 +0.7
baz=38
J59A Piesco 37.96 264 P P 08 43 57.7 +0.2
baz=36
I58A Old Forge 37.98 265 P P 08 43 58.4 +0.6
baz=36
L63A North Scituate 38.03 260 P P 08 43 58.3 +0.2
baz=35
GOF Gofitskoye 38.03 91⇑ *e*P P 08 44 05.7 +7.6
GOF pmax pmax
comp=Z,315nm,1.7s
I57A Carthage 38.07 266 P P 08 43 58.9 +0.4
baz=37
K61A Williamstown 38.07 262 P P 08 43 59.2 +0.6
baz=36
MLSB Milas 38.10 114 P P 08 43 59.8 +0.9
BODT Bodrum 38.12 114 P P 08 43 57.1 -1.9
BODT Bodrum 38.12 114 P P 08 44 00.1 +1.1
SHUT Suhut-Afyon 38.13 110 P P 08 44 01.2 +2.0
IMMV Iera Moni Meta 38.25 120 P P 08 43 59.8 -0.3
KVT Kavak 38.27 102 P P 08 44 03.4 +3.1
J58A Remsen 38.38 265 P P 08 44 01.6 +0.5
baz=36
AFSR Afar-Bala (An 38.40 106 P P 08 44 03.4 +2.0
BR131 Keskin Array S 38.40 105*d* *i*P P 08 44 01.7 +0.2
BR131 Keskin Array S 38.40 105 P P 08 44 01.2 -0.3
BRTR Keskin Array B 38.40 105 P P 08 44 00.5 -1.0
comp=Z,3.9nm,0.8s,baz=331,slow=7.0,SNR=12
BRTR LR LR 09 00 47.3
comp=Z,468nm,21.1s,baz=308,slow=38
BRTR Keskin Array B 38.40 105*ce*P P 08 44 01.9 +0.4
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 38.40 105 P P 08 44 01.5 0.0
CORM Corum 38.43 104 P P 08 44 04.5 +2.8
YER Yerkesik 38.44 113 P P 08 43 59.1 -2.6
M63A Gales Ferry 38.59 260 P P 08 44 03.4 +0.5
baz=34
J57A Williamstown 38.64 266 P P 08 44 04.2 +0.9
baz=36
K59A Cooperstown 38.66 264 P P 08 44 03.7 +0.1
baz=36
TURN Turunc 38.74 114 P P 08 44 05.2 +1.1
ISP Isparta 38.74 110 P P 08 44 05.2 +0.9
IDI Anoyia 38.75 119 LR LR 09 01 39.7
comp=Z,1µm,21.8s,baz=335,slow=39
IDI Anoyia 38.75 119 ⇑P P 08 43 58.7 -5.6
IDI Anoyia 38.75 119 P P 08 44 04.5 +0.2
IDI Anoyia 38.75 119 P P 08 44 04.7 +0.3
IDI IAmb IAmb 08 44 12.7
comp=Z,45nm,1.2s
KIV Kislovodsk 38.76 93 P P 08 44 05.6 +1.2
KIV Kislovodsk 38.76 93 *e*P P 08 44 06.6 +2.2
KIV *e* 08 45 33.1
KIV *e*S S 08 50 04.1 +2.0
KIV *e*SSS SSS 08 53 10.6
KIV pmax pmax
comp=Z,77nm,1.1s
KIV pmax pmax
comp=Z,310nm,4.3s
KIV MLR MLR
comp=Z,4µm,16.0s
H53A Bobcaygeon 38.82 269 P P 08 44 04.2 -0.5
baz=37
DALY Dalyan (Mula) 38.86 113 P P 08 44 04.5 -0.7
M62A Hamden 38.92 261 P P 08 44 06.5 +0.9
baz=35
K58A Earlville 39.01 265 P P 08 44 07.6 +1.2
baz=36
SERE Sereflikochisa 39.03 106 P P 08 44 09.5 +2.8
KBZ Khabaz 39.03 93 P P 08 44 06.8 +0.2
comp=Z,9.3nm,0.9s,baz=318,slow=12,SNR=7.8
KBZ Khabaz 39.03 93⇓ *e*P P 08 44 06.9 +0.4
KBZ pmax pmax
comp=Z,59nm,2.5s
TOKT Tokat 39.12 102 P P 08 44 10.3 +2.9
N63A Mattituck 39.14 260 P P 08 44 08.2 +0.7
baz=34
LADK Ladik-KONYA 39.17 108 P P 08 44 09.2 +1.3
YKA Yellowknife Ar 39.27 313 P P 08 44 09.5 +1.1
comp=Z,11nm,1.0s,baz=41,slow=8.9,SNR=15
YKA PcP PcP 08 46 16.9 0.0
comp=Z,1.4nm,0.8s,baz=40,slow=4.0,SNR=3.6
YKA LR LR 09 00 28.8
comp=Z,2µm,18.0s,baz=0.0,slow=36
KORT Korkueli 39.38 111 P P 08 44 10.6 +0.9
RSDY Resadiye-TOKAT 39.38 101 P P 08 44 12.1 +2.5
M61A Granite Spring 39.40 262 P P 08 44 10.4 +0.7
baz=34
ELL Elmali 39.42 112 P P 08 44 12.1 +2.1
PAL Palisades 39.71 261 P P 08 44 13.3 +1.1
baz=34
AKAS Kas 39.75 113 P P 08 44 11.8 -0.9
M60A Port Jervis 39.75 262 P P 08 44 13.2 +0.6
baz=35
K56A Middlesex 39.79 266 P P 08 44 13.2 +0.3
baz=36
E46A Sault Ste Mari 39.85 276 IAmb IAmb 08 44 18.5
comp=Z,41nm,1.0s
INK Inuvik 39.88 329 P P 08 44 14.1 +0.7
comp=Z,6.3nm,0.9s,baz=34,slow=14,SNR=5.1

M59A	**Waymart**	**39.92**	**263**	P	**P**	**08 44 14.3**	**+0.3**
	baz=35							
L57A	**Andrews Acres**	**40.15**	**265**	P	**P**	**08 44 17.3**	**+1.3**
	baz=35							
AKTO	**Aktyubinsk**	**40.21**	**73**	P	**P**	**08 44 15.9**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=318,slow=7.1,SNR=9.6							
ZEI	**Tsey**	**40.22**	**93**	*e*P	**P**	**08 44 16.6**	**-0.2**
ZEI				pmax	pmax			
	comp=Z,28nm,1.5s							
N60A	**Cedar Hill Far**	**40.33**	**263**	P	**P**	**08 44 18.5**	**+1.1**
	baz=34							
BCA	**Borcka**	**40.34**	**96**	P	**P**	**08 44 18.6**	**+1.1**
L56A	**Greenwood**	**40.34**	**266**	P	**P**	**08 44 18.7**	**+1.2**
	baz=35							
L56A	**Greenwood**	**40.34**	**266**	IAmb	IAmb	08 44 24.9		
	comp=Z,70nm,1.4s							
WVNY	**West Valley, N**	**40.57**	**267**	IAmb	IAmb	08 44 25.4		
	comp=Z,79nm,1.4s							
N59A	**State Game Lan**	**40.58**	**263**	P	**P**	**08 44 19.2**	**-0.3**
	baz=34							
FFC	**Flin Flon**	**40.67**	**298**	P	**P**	**08 44 20.5**	**+0.5**
FFC				pmax	pmax			
	comp=Z,54nm,1.6s							
FFC	**Flin Flon**	**40.67**	**298**	P	**P**	**08 44 20.5**	**+0.5**
GROC	**Groznyy**	**40.70**	**90**	*e*P	**P**	**08 44 20.6**	**+0.2**
GROC				*e*		08 45 56.8		
GROC				*e*		08 46 22.4		
GROC				*e*S	**S**	**08 50 36.3**	**+5.3**
GROC				pmax	pmax			
	comp=Z,25nm,0.4s							
M57A	**Sunshine Farm,**	**40.81**	**265**	P	**P**	**08 44 21.7**	**+0.3**
	baz=35							
ARPR	**Arapgir-MALATY**	**40.90**	**101**	P	**P**	**08 44 25.7**	**+3.4**
O60A	**Telford**	**40.92**	**262**	P	**P**	**08 44 22.2**	**0.0**
	baz=34							
DARE	**Darende-Malaty**	**40.98**	**102**	P	**P**	**08 44 24.3**	**+1.4**
L54A	**Sinclairville**	**41.02**	**268**	P	**P**	**08 44 23.4**	**+0.3**
	baz=36							
N58A	**Sunbury**	**41.05**	**264**	P	**P**	**08 44 23.8**	**+0.5**
	baz=34							
M56A	**Emporium**	**41.15**	**266**	P	**P**	**08 44 24.7**	**+0.5**
	baz=35							
M56A	**Emporium**	**41.15**	**266**	IAmb	IAmb	08 44 29.0		
	comp=Z,59nm,1.4s							
GLMI	**Grayling**	**41.21**	**275**	P	**P**	**08 44 25.8**	**+1.2**
	baz=37							
O59A	**Robesonia**	**41.26**	**263**	P	**P**	**08 44 25.3**	**+0.3**
	baz=34							
N57A	**Milroy**	**41.47**	**265**	P	**P**	**08 44 27.1**	**+0.3**
	baz=34							
PTK	**Pertek**	**41.51**	**100**	P	**P**	**08 44 29.9**	**+2.5**
YEDI	**Yedisu-Bingol**	**41.55**	**99**	P	**P**	**08 44 31.6**	**+4.0**
MALT	**Malatya**	**41.59**	**102**	P	**P**	**08 44 30.1**	**+2.1**
MAK	**Makhachkala**	**41.63**	**89**	*e*P	P	08 44 23.2	-4.9
MAK				*e*S	**S**	**08 50 37.7**	**-7.1**
MAK				*e*SS	**SS**	**08 53 42.2**	**-7.1**
MAK				pmax	pmax			
	comp=Z,341nm,1.6s							
MAK				MLR	MLR			
	comp=Z,2μm,17.0s							
KOPR	**Koprukoy-ERZUR**	**41.64**	**97**	P	**P**	**08 44 31.2**	**+2.8**
L53A	**Girard**	**41.65**	**268**	P	**P**	**08 44 29.7**	**+1.4**
	baz=35							
N56A	**West Decatur**	**41.66**	**266**	P	**P**	**08 44 28.6**	**+0.2**
	baz=35							
EYMN	**Ely**	**41.66**	**283**	P	**P**	**08 44 30.1**	**+1.8**
	baz=39							
ULM	**Lac du Bonnet**	**41.68**	**289**	P	**P**	**08 44 29.6**	**+1.2**
	comp=Z,12nm,1.1s,baz=29,slow=4.5,SNR=5.0							
ULM				LR	LR	09 01 49.0		
	comp=Z,1μm,18.6s,baz=51,slow=36							
ULM	**Lac du Bonnet**	**41.68**	**289**	P	**P**	**08 44 29.0**	**+0.6**
ULM				IAmb	IAmb	08 44 34.2		
	comp=Z,67nm,1.9s							
SSPA	**Standing Stone**	**41.72**	**265**	P	**P**	**08 44 30.1**	**+1.3**
	baz=34							
SSPA	**Standing Stone**	**41.72**	**265**	P	**P**	**08 44 31.0**	**+2.2**
O58A	**Lewisberry**	**41.73**	**264**	P	**P**	**08 44 30.5**	**+1.6**
	baz=34							
M54A	**Oil Creek Stat**	**41.76**	**267**	P	**P**	**08 44 30.0**	**+0.8**
	baz=35							
M54A	**Oil Creek Stat**	**41.76**	**267**	IAmb	IAmb	08 44 35.0		
	comp=Z,49nm,1.2s							
SVRC	**Sivrice-ELAZID**	**41.91**	**101**	P	**P**	**08 44 34.1**	**+3.5**
ABKAR	**Akbulak array**	**41.91**	**73**	P	**P**	**08 44 28.6**	**-1.7**
P59A	**Jarrettsville**	**41.95**	**263**	P	**P**	**08 44 31.8**	**+1.1**
	baz=34							
O57A	**Amberson**	**41.96**	**264**	P	**P**	**08 44 31.7**	**+0.8**
	baz=34,SNR=6.7							
TIXI	**Tiksi**	**42.01**	**15**	P	**P**	**08 44 31.5**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,229nm,1.1s							
TIXI	**Tiksi**	**42.01**	**15**	P	**P**	**08 44 31.5**	**+0.7**
GAZ	**Gaziantep**	**42.05**	**104**	P	**P**	**08 44 29.8**	**-1.9**
N55A	**Marion Center**	**42.07**	**266**	P	**P**	**08 44 32.5**	**+0.8**
	baz=34							
M53A	**WI Miller and**	**42.25**	**268**	P	**P**	**08 44 34.6**	**+1.4**
	baz=35							
O56A	**Blue Knob Stat**	**42.31**	**265**	P	**P**	**08 44 35.3**	**+1.6**
	baz=34							
CSS	**Mathiatis**	**42.35**	**109**	P	**P**	**08 44 36.1**	**+2.1**
N54A	**Moraine State**	**42.35**	**267**	P	**P**	**08 44 35.6**	**+1.6**
	baz=35							
N54A	**Moraine State**	**42.35**	**267**	IAmb	IAmb	08 44 40.6		
	comp=Z,42nm,1.1s							
P58A	**Pank, Wackersv**	**42.42**	**263**	P	**P**	**08 44 35.8**	**+1.3**
	baz=34							
URFA	**Urfa**	**42.49**	**102**	P	**P**	**08 44 37.9**	**+2.6**
O55A	**Ligonier**	**42.68**	**266**	P	**P**	**08 44 37.7**	**+1.1**
	baz=34							
P57A	**Homestead Farm**	**42.73**	**264**	P	**P**	**08 44 37.3**	**+0.3**
	baz=34							
TOLK	**Toolik Lake Re**	**42.78**	**336**	P	**P**	**08 44 38.4**	**+1.2**
	baz=28,SNR=5.2							
TOLK	**Toolik Lake Re**	**42.78**	**336**	IAmb	IAmb	08 44 49.5		
	comp=Z,81nm,1.2s							
N53A	**Lisbon**	**42.84**	**268**	P	**P**	**08 44 38.8**	**+0.7**
	baz=35							
N53A	**Lisbon**	**42.84**	**268**	IAmb	IAmb	08 44 42.7		
	comp=Z,53nm,1.4s							
BMAR	**Burnt Mountain**	**42.93**	**333**	P	**P**	**08 44 40.4**	**+1.9**
M51A	**Elyria**	**42.99**	**270**	P	**P**	**08 44 40.3**	**+1.1**
	baz=35							
Q58A	**Fox Den Farm,**	**43.04**	**263**	P	**P**	**08 44 40.4**	**+0.8**
	baz=33							
BRVK	**Borovoye**	**43.06**	**62**	⇑*e*P	**P**	**08 44 38.5**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,38nm,2.5s							
BRVK	**Borovoye**	**43.06**	**62**	P	**P**	**08 44 37.9**	**-1.7**
P56A	**Dayton Farm, R**	**43.06**	**265**	P	**P**	**08 44 41.1**	**+1.3**
	baz=34							
BVAR	**Borovoye Array**	**43.12**	**62**	P	**P**	**08 44 39.5**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=205,slow=17,SNR=8.4							
O54A	**Avella**	**43.16**	**267**	P	**P**	**08 44 41.9**	**+1.3**
	baz=34							
AGMN	**Agassiz Nation**	**43.20**	**287**	P	**P**	**08 44 41.5**	**+0.7**
	baz=38,SNR=6.3							
N52A	**McGinn's Farm,**	**43.20**	**269**	P	**P**	**08 44 42.3**	**+1.4**
	baz=35							
Q57A	**Strasburg**	**43.27**	**264**	P	**P**	**08 44 42.3**	**+0.8**
	baz=34							
M50A	**Fremont**	**43.30**	**270**	IAmb	IAmb	08 44 48.8		
	comp=Z,49nm,1.1s							
MCWV	**Mont Chateau**	**43.37**	**266**	P	**P**	**08 44 42.9**	**+0.6**
	baz=34							
N51A	**Ashland**	**43.41**	**269**	P	**P**	**08 44 43.2**	**+0.5**
	baz=35							
N51A	**Ashland**	**43.41**	**269**	IAmb	IAmb	08 44 47.8		
	comp=Z,38nm,1.1s							
L48A	**N Adams**	**43.46**	**272**	IAmb	IAmb	08 44 49.1		
	comp=Z,52nm,1.4s							
O53A	**New Philadelph**	**43.46**	**268**	P	**P**	**08 44 44.1**	**+1.1**
	baz=34							
O53A	**New Philadelph**	**43.46**	**268**	IAmb	IAmb	08 44 50.5		
	comp=Z,76nm,1.5s							
P55A	**Reedsville**	**43.48**	**266**	P	**P**	**08 44 44.5**	**+1.3**
	baz=34							
Q56A	**Snyder Ridge,**	**43.60**	**265**	P	**P**	**08 44 45.5**	**+1.3**
	baz=34							
P54A	**Burton**	**43.69**	**267**	P	**P**	**08 44 45.6**	**+0.8**
	baz=34							
R58A	**Rapidan**	**43.71**	**263**	P	**P**	**08 44 46.4**	**+1.3**
	baz=33							
O52A	**Adamsville**	**43.84**	**268**	P	**P**	**08 44 47.2**	**+1.1**
	baz=34							
S59A	**Mechanicsville**	**43.86**	**262**	P	**P**	**08 44 47.5**	**+1.3**
	baz=33							
R57A	**Stanardsville**	**43.94**	**264**	P	**P**	**08 44 48.2**	**+1.3**
	baz=33							
R58B	**Mineral**	**43.94**	**263**	P	**P**	**08 44 47.5**	**+0.6**
	baz=33							
Q55A	**Buckhannon**	**44.02**	**266**	P	**P**	**08 44 48.3**	**+0.8**
	baz=34							
O51A	**Pataskala**	**44.15**	**269**	P	**P**	**08 44 49.2**	**+0.6**
	baz=34,SNR=11							
COLD	**Coldfoot**	**44.15**	**336**	P	**P**	**08 44 49.0**	**+0.7**
	baz=27							
COLD	**Coldfoot**	**44.15**	**336**	P	**P**	**08 44 51.9**	**+3.6**
P53A	**Whipple**	**44.17**	**267**	P	**P**	**08 44 49.1**	**+0.4**
	baz=34,SNR=6.8							
P53A	**Whipple**	**44.17**	**267**	IAmb	IAmb	08 44 54.5		
	comp=Z,46nm,1.1s							
R56A	**Bull Pasture M**	**44.22**	**265**	P	**P**	**08 44 49.9**	**+0.7**
	baz=33							
ACSO	**Alum Creek Sta**	**44.24**	**269**	P	**P**	**08 44 49.8**	**+0.6**
	baz=34							
ACSO	**Alum Creek Sta**	**44.24**	**269**	IAmb	IAmb	08 44 55.6		
	comp=Z,51nm,1.2s							
S58A	**Poland Farm, P**	**44.31**	**263**	P	**P**	**08 44 50.3**	**+0.5**
	baz=33							
Q54A	**Coxs Mills**	**44.35**	**266**	P	**P**	**08 44 51.2**	**+1.1**
	baz=34							
P52A	**Corning**	**44.37**	**268**	P	**P**	**08 44 50.8**	**+0.5**
	baz=34							
P52A	**Corning**	**44.37**	**268**	IAmb	IAmb	08 44 56.6		
	comp=Z,52nm,1.2s							
SPMN	**Marine on St.**	**44.37**	**282**	P	**P**	**08 44 50.9**	**+0.6**
	baz=37							
SPMN	**Marine on St.**	**44.37**	**282**	IAmb	IAmb	08 44 57.6		
	comp=Z,68nm,1.6s							
R55A	**Marlinton**	**44.63**	**265**	P	**P**	**08 44 52.7**	**+0.2**
	baz=33							
DAWY	**Dawson**	**44.74**	**328**	IAmb	IAmb	08 45 03.6		
	comp=Z,45nm,1.4s							
Q53A	**Leroy**	**44.75**	**267**	P	**P**	**08 44 54.7**	**+1.3**
	baz=34							
O49A	**Covington**	**44.86**	**271**	IAmb	IAmb	08 44 59.2		
	comp=Z,46nm,1.1s							
N47A	**Urbana**	**44.87**	**272**	IAmb	IAmb	08 45 00.1		
	comp=Z,47nm,1.4s							
P51A	**Williamsport**	**44.89**	**269**	P	**P**	**08 44 55.3**	**+0.8**
	baz=34							
Q52A	**Bidwell**	**44.98**	**268**	P	**P**	**08 44 56.0**	**+0.8**
	baz=34							
MDND	**Maddock**	**45.09**	**290**	P	**P**	**08 44 57.4**	**+1.5**
	baz=37							
MDND	**Maddock**	**45.09**	**290**	P	**P**	**08 44 57.7**	**+1.8**
R54A	**Victor**	**45.09**	**266**	P	**P**	**08 44 56.5**	**+0.4**
	baz=33							
S55A	**Lewisburg**	**45.22**	**265**	P	**P**	**08 44 57.4**	**+0.2**
	baz=33							
F33A	**5 Mile Ranch,**	**45.34**	**285**	IAmb	IAmb	08 45 04.5		
	comp=Z,32nm,1.1s							
T57A	**Hurt**	**45.34**	**263**	P	**P**	**08 44 58.4**	**+0.4**
	baz=32							
T57A	**Hurt**	**45.34**	**263**	IAmb	IAmb	08 45 05.5		
	comp=Z,34nm,1.2s							
K27K	**Chicken**	**45.37**	**329**	P	**P**	**08 44 58.1**	**+0.1**
	baz=30							
R53A	**Hurricane**	**45.38**	**267**	P	**P**	**08 44 58.8**	**+0.5**
	baz=33							
POKR	**Poker Flat Res**	**45.52**	**333**	P	**P**	**08 44 58.7**	**-0.5**
	baz=27							
S54A	**Dingess, Beckl**	**45.55**	**266**	P	**P**	**08 44 59.9**	**+0.2**
	baz=33							
S54A	**Dingess, Beckl**	**45.55**	**266**	IAmb	IAmb	08 45 05.0		
	comp=Z,26nm,1.2s							
U58A	**Oxford**	**45.55**	**262**	P	**P**	**08 45 00.5**	**+0.8**
	baz=32							
P49A	**Miami Univ. Ec**	**45.56**	**270**	P	**P**	**08 45 00.4**	**+0.6**
	baz=34							
P49A	**Miami Univ. Ec**	**45.56**	**270**	IAmb	IAmb	08 45 05.6		
	comp=Z,42nm,1.1s							
I37A	**Lemond, Waseca**	**45.60**	**281**	P	**P**	**08 45 03.0**	**+2.9**
T56A	**Rocky Mt**	**45.65**	**264**	P	**P**	**08 45 01.9**	**+1.4**
	baz=32							
L42A	**Oliver, Polo**	**45.65**	**277**	IAmb	IAmb	08 45 08.9		
	comp=Z,34nm,1.1s							
BLA	**Blacksburg**	**45.66**	**265**	P	**P**	**08 45 01.4**	**+0.7**
	baz=33							
IL31		**45.72**	**333**	IAmb	IAmb	08 45 09.2		
	comp=Z,26nm,1.3s							
ILAR	**Eielson Array**	**45.72**	**333**	P	**P**	**08 45 01.4**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=22,slow=6.7,SNR=9.5							
ILAR				PcP	**PcP**	**08 46 38.9**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=358,slow=3.0,SNR=8.4							
ILAR	**Eielson Array**	**45.72**	**333**	P	**P**	**08 45 03.1**	**+2.4**
ILAR					**PcP**	**08 46 37.8**	**-0.6**
MDM	**Murphy Dome**	**45.82**	**333**	IAmb	IAmb	08 45 12.7		
	comp=Z,43nm,1.4s							
COLA	**College**	**45.82**	**333**	⇑*e*P	**P**	**08 45 00.8**	**-0.7**
COLA				pmax	pmax			
	comp=Z,14nm,1.1s							
TCOL	**CIGO, UAF Yank**	**45.82**	**333**	P	**P**	**08 45 02.4**	**+0.9**
	baz=27							
SCRK	**Sand Creek**	**45.83**	**330**	P	**P**	**08 45 02.8**	**+1.0**
	baz=29							
U57A	**Blanch**	**45.85**	**263**	P	**P**	**08 45 02.9**	**+0.8**
	baz=32							
I23K	**Mio, Yukon-K**	**45.86**	**334**	P	**P**	**08 45 02.5**	**+0.6**
	baz=26							
SFIN	**Lafayette**	**45.89**	**273**	P	**P**	**08 45 02.4**	**0.0**
	baz=34							
IMAR	**Indian Mountai**	**45.89**	**337**	P	**P**	**08 45 02.9**	**+0.8**
T55A	**Pulaski**	**45.90**	**265**	P	**P**	**08 45 02.1**	**-0.4**
	baz=32							
P48A	**Milroy**	**45.93**	**271**	IAmb	IAmb	08 45 08.6		
	comp=Z,41nm,1.1s							
S53A	**Williamson**	**46.00**	**267**	P	**P**	**08 45 03.4**	**+0.1**
	baz=33							
CCB	**Clear Creek Bu**	**46.02**	**333**	IAmb	IAmb	08 45 13.8		
	comp=Z,32nm,1.5s							
HDA	**Harding Lake**	**46.06**	**332**	P	**P**	**08 45 03.7**	**+0.2**
	baz=27							
HDA	**Harding Lake**	**46.06**	**332**	IAmb	IAmb	08 45 14.1		
	comp=Z,41nm,1.6s							
BCAR	**Beaver Creek A**	**46.15**	**329**	P	**P**	**08 45 04.3**	**+0.1**
RIDG	**Independent Ri**	**46.22**	**331**	IAmb	IAmb	08 45 16.0		
	comp=Z,33nm,1.3s							
MLY	**Manley**	**46.23**	**335**	P	**P**	**08 45 05.3**	**+0.5**
	baz=26							
ASF	**Jabal al Asfar**	**46.23**	**108**	P	**P**	**08 45 04.4**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=5.0,slow=1.0,SNR=2.5							
L40A	**Anamosa**	**46.27**	**278**	IAmb	IAmb	08 45 12.5		
	comp=Z,36nm,1.1s							
T54A	**Tazewell**	**46.28**	**266**	P	**P**	**08 45 05.2**	**-0.4**
	baz=32							
NEA2	**Nenana**	**46.31**	**334**	P	**P**	**08 45 05.7**	**+0.3**
	baz=26							
U56A	**King**	**46.37**	**264**	P	**P**	**08 45 05.6**	**-0.6**
	baz=32							
U56A	**King**	**46.37**	**264**	IAmb	IAmb	08 45 13.6		
	comp=Z,42nm,1.4s							
BRZS	**Berezniki**	**46.41**	**63**	*e*P	**P**	**08 45 05.3**	**-1.1**
BRZS	**Berezniki**	**46.41**	**63**	*e*P	**P**	**08 45 05.2**	**-1.1**
DGMT	**Dagmar**	**46.42**	**293**	P	**P**	**08 45 06.4**	**-0.1**
	baz=36,SNR=6.1							
K38A	**Parkersburg**	**46.45**	**280**	P	**P**	**08 45 07.9**	**+1.2**
K38A				IAmb	IAmb	08 45 15.9		
	comp=Z,23nm,1.0s							
V57A	**Coltrane Farms**	**46.50**	**263**	P	**P**	**08 45 07.3**	**0.0**
	baz=32							
U55A	**TA2, Sparta**	**46.53**	**265**	P	**P**	**08 45 07.6**	**+0.1**
	baz=32,SNR=10							
P46A	**Rosedale**	**46.56**	**273**	IAmb	IAmb	08 45 13.9		
	comp=Z,36nm,1.2s							
S51A	**Beattyville**	**46.66**	**268**	IAmb	IAmb	08 45 18.2		
	comp=Z,24nm,1.1s							
HDIL	**Hodale**	**46.68**	**275**	P	**P**	**08 45 09.5**	**+0.9**
	baz=34							
T53A	**Wise**	**46.76**	**266**	P	**P**	**08 45 09.5**	**+0.2**
	baz=32							
U54A	**Nelsons Funny**	**46.84**	**265**	P	**P**	**08 45 10.4**	**+0.4**
	baz=32							
V56A	**Mocksville**	**46.88**	**264**	P	**P**	**08 45 10.8**	**+0.6**
	baz=32,SNR=7.9							
PAX	**Paxson**	**47.04**	**331**	IAmb	IAmb	08 45 22.3		
	comp=Z,35nm,1.6s							
MCK	**McKinley**	**47.06**	**333**	P	**P**	**08 45 11.4**	**+0.1**
	baz=26							
V55A	**Taylorsville**	**47.15**	**264**	P	**P**	**08 45 12.7**	**+0.4**
	baz=32							
ECSD	**EROS Data Cent**	**47.18**	**284**	P	**P**	**08 45 12.7**	**+0.2**
	baz=35,SNR=6.6							
ECSD	**EROS Data Cent**	**47.18**	**284**	IAmb	IAmb	08 45 19.0		
	comp=Z,27nm,1.2s							
W57A	**Gilead**	**47.22**	**263**	P	**P**	**08 45 13.1**	**+0.3**
	baz=32							
W57A	**Gilead**	**47.22**	**263**	P	**P**	**08 45 13.4**	**+0.5**
W57A				IAmb	IAmb	08 45 32.7		
	comp=Z,24nm,1.3s							
SCIA	**State Center**	**47.24**	**280**	P	**P**	**08 45 13.3**	**+0.3**
	baz=35							
SCIA	**State Center**	**47.24**	**280**	IAmb	IAmb	08 45 18.4		
	comp=Z,21nm,0.9s							
WCI	**Wyandotte Cave**	**47.33**	**271**	P	**P**	**08 45 14.2**	**+0.5**
	baz=33							
WCI	**Wyandotte Cave**	**47.33**	**271**	P	**P**	**08 45 14.2**	**+0.5**
WCI				pmax	pmax			
	comp=Z,43nm,1.2s							
WCI	**Wyandotte Cave**	**47.33**	**271**	P	**P**	**08 45 14.2**	**+0.5**
RND	**Reindeer**	**47.34**	**333**	IAmb	IAmb	08 47 01.2		
	comp=Z,45nm,1.7s							
W56A	**Indian Trail**	**47.49**	**263**	P	**P**	**08 45 15.5**	**+0.5**
	baz=32							
V54A	**Nebo**	**47.53**	**265**	P	**P**	**08 45 16.0**	**+0.8**
	baz=32							
BILL	**Bilibino**	**47.55**	**358**	*i* P	**P**	**08 45 17.8**	**+2.8**
BILL				*i*		08 46 42.7		
BILL				pmax	pmax			
	comp=Z,12nm,1.2s							
BILL				MLR	MLR			
	comp=Z,1μm,16.0s							
TZTN	**Tazewell**	**47.56**	**267**	IAmb	IAmb	08 45 23.1		
	comp=Z,40nm,1.4s							
ZAA0	**Zalesovo Array**	**47.57**	**52**	IAmb	IAmb	08 45 23.7		
	comp=Z,28nm,1.5s							
ZALV	**Zalesovo Beam**	**47.57**	**52**	P	**P**	**08 45 13.9**	**-1.4**
	comp=Z,3.3nm,0.7s,baz=317,slow=8.8,SNR=6.8							
ZALV				LR	LR	09 07 58.5		
	comp=Z,1μm,18.9s,baz=322,slow=40							
ZALV	**Zalesovo Beam**	**47.57**	**52**	*i* P	**P**	**08 45 17.6**	**+2.3**
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ZALV	**Zalesovo Beam**	**47.57**	**52**	P	**P**	**08 45 14.7**	**-0.6**
TRF	**Thorofare Moun**	**47.58**	**334**	IAmb	IAmb	08 45 26.2		
	comp=Z,35nm,1.2s							
EIL	**Elat**	**47.64**	**111**	P	**P**	**08 45 15.2**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=90,slow=3.2,SNR=2.0							
T50A	**Nancy**	**47.72**	**269**	IAmb	IAmb	08 45 20.0		
	comp=Z,49nm,1.9s							
KMSC	**Kings Mountain**	**47.80**	**264**	P	**P**	**08 45 16.8**	**-0.6**
	baz=32							
KMSC	**Kings Mountain**	**47.80**	**264**	IAmb	IAmb	08 45 18.8		
	comp=Z,22nm,1.3s							
Q44A	**Meyer Farm, Va**	**47.94**	**274**	IAmb	IAmb	08 45 28.1		
	comp=Z,22nm,1.0s							
KURK	**Kurchatov**	**48.04**	**58**	⇑*e*P	**P**	**08 45 17.4**	**-1.6**
KURK				pmax	pmax			
	comp=Z,36nm,2.5s							
KURK	**Kurchatov**	**48.04**	**58**	P	**P**	**08 45 17.1**	**-1.9**
KURK				IAmb	IAmb	08 45 27.1		
	comp=Z,20nm,0.8s							
KURBB	**Kurchatov Arra**	**48.09**	**58**	P	**P**	**08 45 17.8**	**-1.6**
	comp=Z,6.9nm,1.0s,baz=323,slow=7.2,SNR=14							
W54A	**Cherokee Point**	**48.22**	**265**	P	**P**	**08 45 21.0**	**+0.4**
	baz=32							
X56A	**White Oak**	**48.23**	**263**	P	**P**	**08 45 21.2**	**+0.5**
	baz=31							
TKL	**Tuckaleechee C**	**48.41**	**267**	IAmb	IAmb	08 45 28.3		
	comp=Z,27nm,1.3s							
JSC	**Jenkinsville**	**48.51**	**263**	IAmb	IAmb	08 45 30.2		
	comp=Z,36nm,1.7s							
V51A	**Loudon**	**48.53**	**267**	IAmb	IAmb	08 45 27.4		
	comp=Z,29nm,1.3s							
LAO	**LASA Array**	**48.67**	**294**	P	**P**	**08 45 24.5**	**+0.4**
	baz=35,SNR=9.9							
Z58A	**St. Stephen**	**48.70**	**261**	P	**P**	**08 45 24.6**	**+0.3**
	baz=31							
X54A	**Belton**	**48.76**	**265**	P	**P**	**08 45 25.0**	**+0.3**
	baz=31							
GHO	**Glory Hole Cre**	**48.83**	**332**	IAmb	IAmb	08 45 35.9		
	comp=Z,24nm,1.1s							
CPCT	**Cooper Cave**	**48.91**	**267**	IAmb	IAmb	08 45 33.4		
	comp=Z,38nm,1.6s							
EGMT	**Eagleton**	**48.95**	**297**	P	**P**	**08 45 26.2**	**0.0**
	baz=35,SNR=25							
W52A	**Murphy**	**48.96**	**266**	IAmb	IAmb	08 45 32.6		
	comp=Z,25nm,1.1s							
HODGE	**Hodges**	**48.98**	**264**	IAmb	IAmb	08 45 31.0		
	comp=Z,23nm,1.2s							
NHSC	**New Hope**	**49.05**	**262**	P	**P**	**08 45 27.6**	**+0.6**
	baz=31							
KNK	**Knik Glacier**	**49.06**	**331**	IAmb	IAmb	08 46 34.6		
	comp=Z,17nm,0.8s							
Z57A	**Bowman**	**49.11**	**262**	P	**P**	**08 45 28.3**	**+0.8**
	baz=31							
SKT	**Skwentna**	**49.16**	**333**	IAmb	IAmb	08 45 37.3		
	comp=Z,32nm,1.3s							
FVM	**French Village**	**49.31**	**274**	IAmb	IAmb	08 45 34.8		
	comp=Z,22nm,1.1s							
Z56A	**Williston**	**49.37**	**263**	P	**P**	**08 45 29.7**	**+0.3**
	baz=31							
W50A	**Signal Mountai**	**49.46**	**268**	P	**P**	**08 45 31.0**	**+0.8**
W50A				IAmb	IAmb	08 45 40.2		
	comp=Z,32nm,1.1s							
CCM	**Cathedral Cave**	**49.60**	**275**	P	**P**	**08 45 30.9**	**-0.2**
	baz=33							
WALA	**Waterton Lakes**	**49.66**	**301**	IAmb	IAmb	08 45 38.7		
	comp=Z,35nm,1.6s							
WVT	**Waverly**	**49.76**	**271**	P	**P**	**08 45 32.4**	**0.0**
	baz=32							
R40A	**Maddies Statio**	**49.84**	**276**	IAmb	IAmb	08 45 38.1		
	comp=Z,27nm,1.4s

IUG luzhnay 51.80 71 *e*P P 08 45 47.3 -0.6
comp=Z,64nm,2.7s
IUG luzhnay 51.80 71 *e*P P 08 45 47.3 -0.6
IUG pmax pmax
comp=Z,64nm,2.7s
TIGA Tifton 51.94 264 P P 08 45 48.9 0.0
baz=30
DGZ Jazzator, Alta 52.01 53⇑ *e*P P 08 45 48.6 -0.8
DGZ pmax pmax
comp=Z,19nm,2.1s
LRAL Lakeview Retre 52.03 268 P P 08 45 49.8 +0.3
baz=31
LRAL Lakeview Retre 52.03 268 IAmb IAmb 08 45 54.7
comp=Z,40nm,1.5s
K22A Casper 52.14 291 P P 08 45 50.9 +0.4
baz=33
K22A Casper 52.14 291 IAmb IAmb 08 45 55.9
comp=Z,44nm,1.5s
B08A Colville Reser 52.21 304 P P 08 45 53.5 +2.8
DLMT Dillon 52.25 297 IAmb IAmb 08 46 15.3
comp=Z,44nm,1.8s
H17A Grant Village 52.28 295 P P 08 45 51.9 +0.2
baz=33,SNR=10.0
H17A Grant Village 52.28 295 IAmb IAmb 08 45 59.5
comp=Z,45nm,1.3s
BOD Bodaibo 52.37 31 *e*P P 08 45 48.7 -3.0
BOD pmax pmax
comp=Z,14nm,1.6s
W41B Gary Mavity, V 52.47 274 P P 08 45 53.1 +0.3
baz=32
R32A Long Quarter, 52.47 282 P P 08 45 54.7 +1.9
R32A IAmb IAmb 08 45 57.7
comp=Z,34nm,1.2s
SEY Seymchan 52.48 6 P P 08 45 54.2 +1.7
comp=Z,5.8nm,1.0s,baz=342,slow=22,SNR=3.4
MAKZ Makanchi 52.53 59 P P 08 45 52.0 -1.1
MAKZ pmax pmax
comp=Z,34nm,1.6s
MAKZ Makanchi 52.53 59 P P 08 45 52.0 -1.1
SGDS Sogindy 52.55 66 *e*P P 08 45 52.2 -1.2
comp=Z,94nm,3.9s
SGDS Sogindy 52.55 66 *e*P P 08 45 52.2 -1.2
SGDS pmax pmax
comp=Z,94nm,3.9s
CBKS Cedar Bluff 52.57 283 P P 08 45 54.0 +0.4
baz=32
CBKS Cedar Bluff 52.57 283 IAmb IAmb 08 47 10.0
comp=Z,34nm,1.1s
MK31 Makanchi Array 52.65 58⇑ *e*P P 08 45 52.3 -1.8
MKAR Makanchi Array 52.65 58 P P 08 45 52.3 -1.8
comp=Z,2.7nm,0.9s,baz=321,slow=1.7,SNR=5.9
MKAR Makanchi Array 52.65 58 *i* P P 08 45 56.7 +2.6
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 52.65 58 P P 08 45 53.0 -1.1
T35A Sooner Cattle 52.81 279 IAmb IAmb 08 46 00.1
comp=Z,30nm,1.2s
KUU Kurty 52.85 65 *e*P P 08 45 56.2 +0.7
comp=Z,230nm,3.9s
KUU Kurty 52.85 65 *e*P P 08 45 56.2 +0.7
KUU pmax pmax
comp=Z,230nm,3.9s
ZSN Zaisan 53.03 56 *e*P P 08 45 56.1 -0.8
comp=Z,128nm,3.7s
ZSN Zaisan 53.03 56 *e*P P 08 45 56.0 -0.8
ZSN pmax pmax
comp=Z,128nm,3.7s
W39A Magazine 53.10 275 P P 08 45 57.2 -0.2
baz=32
W39A Magazine 53.10 275 P P 08 46 00.3 +2.8
W39A IAmb IAmb 08 46 01.0
comp=Z,40nm,1.5s
TOA0 Torodi Ar. Sit 53.11 157 P P 08 45 55.6 -2.0
TOA0 IAmb IAmb 08 46 03.2
comp=Z,34nm,1.2s
TORD Torodi Ar. Bea 53.11 157 P P 08 45 54.1 -3.5
comp=Z,3.9nm,0.9s,baz=342,slow=6.3,SNR=13
TORD Torodi Ar. Bea 53.11 157 P P 08 45 54.6 -3.0
SNOW Snow King Moun 53.14 295 IAmb IAmb 08 46 04.8
comp=Z,32nm,1.2s
TPAW Teton Pass 53.19 295 P P 08 45 59.6 +1.2
TPAW IAmb IAmb 08 46 05.2
comp=Z,24nm,1.1s
RWWY Rawlins 53.23 291 IAmb IAmb 08 46 06.5
comp=Z,40nm,1.4s
BW06 Boulder Array 53.25 293 P P 08 45 58.7 -0.1
baz=32,SNR=28
BW06 Boulder Array 53.25 293 IAmb IAmb 08 46 04.4
comp=Z,32nm,1.1s
PD31 Pinedale Array 53.25 293 IAmb IAmb 08 46 04.4
comp=Z,29nm,1.1s
PDAR Pinedale Array 53.25 293 P P 08 45 57.0 -1.8
comp=Z,8.1nm,0.8s,baz=59,slow=5.4,SNR=30
PDAR Pinedale Array 53.25 293 P P 08 45 57.9 -0.9
REDW Red Top Meadow 53.26 295 IAmb IAmb 08 46 05.6
comp=Z,30nm,1.2s
X40A Basin Creek Fa 53.30 274 P P 08 45 59.0 +0.1
baz=31
X40A Basin Creek Fa 53.30 274 IAmb IAmb 08 46 05.3
comp=Z,49nm,1.9s
N23A Red Feather La 53.38 289 P P 08 46 00.3 +0.5
baz=32,SNR=19
N23A Red Feather La 53.38 289 IAmb IAmb 08 46 06.5
comp=Z,40nm,1.2s
MIAR Mount Ida 53.57 275 P P 08 46 01.8 +0.9
baz=31
KSCO Kaye Shedlock' 53.61 285 P P 08 46 01.7 +0.4
baz=32
KSCO Kaye Shedlock' 53.61 285 IAmb IAmb 08 46 09.6
comp=Z,48nm,1.5s
ECR Eagle Creek 53.72 295 P P 08 46 03.6 +1.4
MDOK Medeo 53.74 65 *e*P P 08 46 01.6 -0.7
MDOK Medeo 53.74 65 *e*P P 08 46 01.6 -0.7
OK030 Cody Creek RV 53.76 278 IAmb IAmb 08 46 07.5
comp=Z,38nm,1.5s
OK031 S. Brethren Rd 53.77 278 IAmb IAmb 08 46 07.5
comp=Z,31nm,1.3s
PLID Pearl Lake 53.77 300 IAmb IAmb 08 46 11.7
comp=Z,54nm,1.6s
TNSS Tian-Shan 53.81 65 *e*P P 08 46 02.1 -1.0
TNSS Tian-Shan 53.81 65 *e*P P 08 46 02.1 -1.0
WLAR White Oak Lake 54.10 274 IAmb IAmb 08 46 10.4
comp=Z,32nm,1.4s
OK029 Liberty Lake 54.16 279 IAmb IAmb 08 46 10.6
comp=Z,26nm,1.1s
ISCO Idaho Springs 54.17 288 P P 08 46 06.1 +0.5
baz=32
OK025 Westminster Rd 54.29 279 P P 08 46 08.0 +1.8
OK025 IAmb IAmb 08 46 11.5
comp=Z,38nm,1.2s
U32A Winter Ranch, 54.32 281 IAmb IAmb 08 46 12.7
comp=Z,25nm,1.0s
Z41A Richland Creek 54.34 273 P P 08 46 06.6 +0.1
baz=31
BCOK Bluff Creek, N 54.34 279 P P 08 46 09.1 +2.5
SATY Saty 54.36 64 *e*P P 08 46 07.7 +0.9
comp=Z,55nm,3.1s
SATY Saty 54.36 64 *e*P P 08 46 07.6 +0.9
SATY pmax pmax
comp=Z,55nm,3.1s
CHGR Chuyangaron 54.38 74 P P 08 46 06.0 -0.9
HLID Hailey 54.46 298 P P 08 46 07.6 +0.1
baz=32
UZB Uzynbulak 54.52 63 *e*P P 08 46 06.5 -1.5
comp=Z,39nm,2.6s
UZB Uzynbulak 54.52 63 *e*P P 08 46 06.4 -1.5
UZB pmax pmax
comp=Z,39nm,2.6s
MOY Mondy 54.60 42 *e*P P 08 46 08.3 -0.1
MOY pmax pmax
comp=Z,96nm,1.9s
SHLS Shalkode 54.68 63 *e*P P 08 46 09.8 +0.7
comp=Z,79nm,2.7s
SHLS Shalkode 54.68 63 *e*P P 08 46 09.8 +0.7
SHLS pmax pmax
comp=Z,79nm,2.7s
O20A White River Ci 54.96 291 P P 08 46 11.3 +0.1
baz=32
HWUT Hardware Ranch 55.03 294 IAmb IAmb 08 46 18.7
comp=Z,32nm,1.2s
TLY Talaya 55.34 40 *e*P P 08 46 09.3 -4.3
TLY *e*S S 08 53 55.3 -2.8
TLY *e*SS SS 08 57 38.5 -3.0
TLY pmax pmax
comp=Z,48nm,1.4s
TLY MLR MLR
comp=Z,6μm,16.0s

WMOK Wichita Mounta 55.63 279 P P 08 46 16.0 +0.1
baz=31,SNR=9.6
WMOK Wichita Mounta 55.63 279 IAmb IAmb 08 46 22.6
comp=Z,20nm,1.1s
MA2 Magadan 55.75 7⇓ *e*P P 08 46 17.9 +1.5
MA2 pmax pmax
comp=Z,113nm,2.2s
SDCO Great Sand Dun 55.87 287 P P 08 46 17.9 0.0
baz=31
T25A Trinidad 55.94 286 P P 08 46 18.4 0.0
baz=31
T25A Trinidad 55.94 286 IAmb IAmb 08 46 25.8
comp=Z,54nm,1.9s
ZAK Zakamensk 56.41 41 *e*P P 08 46 18.8 -2.5
ZAK pmax pmax
comp=Z,13nm,1.2s
S22A 4UR Ranch, Cre 56.42 288 P P 08 46 22.1 +0.2
baz=31
KSH Kashi 56.42 68 P P 08 46 22.1 +0.5
KSH S S 08 54 11.9 -1.0
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,340nm,4.3s
KSH LR LR
comp=Z,2μm,18.3s
KSH LR LR
comp=Z,2μm,18.6s
KSH LR LR
comp=Z,2μm,17.8s
MTP Monte Pirata 56.55 238 P P 08 46 23.6 +1.0
HUMP Col San Antoni 56.62 239 P P 08 46 23.4 +0.3
DUG Dugway, Tooele 56.72 294 P P 08 46 24.5 +0.7
baz=31
DUG Dugway, Tooele 56.72 294 IAmb IAmb 08 46 30.8
comp=Z,22nm,1.3s
WMQ Urumqi 57.16 56 *e*P P 08 46 30.0 +3.2
WMQ pP sP 08 46 34.6 +5.9
WMQ sP pP 08 46 38.1 +10
WMQ S S 08 54 23.3 +0.8
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,180nm,3.9s
WMQ LR LR
comp=Z,900nm,18.9s
WMQ LR LR
comp=Z,750nm,20.5s
WMQ LR LR
comp=Z,690nm,22.5s
MLPR Magueyes Islan 57.22 240 P P 08 46 27.5 +0.2
J05D Fort Rock, OR 57.24 303 P P 08 46 28.1 +0.7
baz=30
WHTX Lake Whitney, 57.42 277 P P 08 46 28.9 +0.3
baz=30,SNR=5.8
WHTX Lake Whitney, 57.42 277 IAmb IAmb 08 46 34.3
comp=Z,22nm,1.1s
MVCO Mesa Verde 57.56 289 P P 08 46 29.8 -0.1
baz=31,SNR=6.1
MVCO Mesa Verde 57.56 289 IAmb IAmb 08 46 36.5
comp=Z,24nm,1.4s
K05A Summer Lake 57.60 302 IAmb IAmb 08 46 39.0
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 57.81 279 P P 08 46 32.0 +0.6
baz=30
SDDR Presa de Saban 57.91 245 IAmb IAmb 08 46 39.0
comp=Z,37nm,1.2s
MSTX Muleshoe 57.97 282 P P 08 46 33.1 +0.5
baz=30
FDF Fort de France 58.10 232 P P 08 46 34.4 +0.8
FDF pmax pmax
comp=Z,208nm,1.5s
FDF Fort de France 58.10 232 P P 08 46 34.4 +0.8
HKT Hockley 58.49 274⇑ *e*P P 08 46 35.1 -1.0
HKT pmax pmax
comp=Z,5.0nm,1.5s
DBIC Dimbokro 58.57 165 P P 08 46 32.7 -4.1
comp=Z,16nm,0.9s,baz=335,slow=9.1,SNR=5.8
DBIC Dimbokro 58.57 165 P P 08 46 34.9 -1.9
DBIC pmax pmax
comp=Z,31nm,1.1s
DBIC Dimbokro 58.57 165 P P 08 46 34.9 -1.9
DBIC IAmb IAmb 08 46 42.0
comp=Z,31nm,1.1s
TIC Toumodi 58.58 166 *e*P P 08 46 35.0 -1.9
K02D Willamette Mer 58.63 304 P P 08 46 37.3 +0.2
baz=29
ANMO Albuquerque 58.67 286 P P 08 46 38.2 +0.6
baz=30
ANMO Albuquerque 58.67 286⇓ *i* P P 08 46 39.1 +1.5
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 58.67 286 P P 08 46 38.7 +1.1
M04C Macdoel 58.77 302 P P 08 46 39.1 +0.9
baz=29
ZEA Zeya 58.80 24 *e*P P 08 46 38.9 +0.9
ZEA *e* 08 50 18.5
ZEA *e*S S 08 54 52.1 +8.6
ZEA pmax pmax
comp=Z,200nm,12.1s
ZEA smax smax
comp=E,300nm,19.4s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=Z,600nm,17.0s
KIC Kosan Boka 58.89 165 *e*P P 08 46 37.2 -1.8
comp=Z,89nm,1.2s
LIC Lamto 58.99 166 *e*P P 08 46 37.9 -1.8
comp=Z,100nm,1.2s
R11A Troy Canyon, C 59.40 295 P P 08 46 42.9 +0.3
baz=30,SNR=18
R11A Troy Canyon, C 59.40 295 IAmb IAmb 08 46 53.9
comp=Z,47nm,1.7s
SONM Songino Array 59.59 41 P P 08 46 42.3 -1.4
comp=Z,1.8nm,0.8s,baz=338,slow=9.1,SNR=7.0
SONM Songino Array 59.59 41 P P 08 46 41.9 -1.8
JCT Junction City 59.73 278 P P 08 46 45.1 +0.3
baz=30,SNR=12
ULN Ulaanbaatar 59.74 40⇑ *e*P P 08 46 43.5 -1.3
ULN pmax pmax
comp=Z,24nm,2.5s
ULN Ulaanbaatar 59.74 40 P P 08 46 45.3 +0.5
KVN Kaiserville 59.76 298 IAmb IAmb 08 46 55.7
comp=Z,34nm,1.5s
PRN Pahroc Range 60.01 294 IAmb IAmb 08 46 56.2
comp=Z,30nm,1.5s
WUAZ Wupatki 60.19 290 P P 08 46 48.3 +0.3
baz=30,SNR=17
WUAZ Wupatki 60.19 290 IAmb IAmb 08 46 54.5
comp=Z,32nm,1.2s
NIL Nilore 60.37 74 P P 08 46 47.4 -1.8
NIL pmax pmax
comp=Z,32nm,1.1s
NIL Nilore 60.37 74 P P 08 46 47.4 -1.8
NVAR Mina Array Bea 60.38 298 P P 08 46 49.4 0.0
comp=Z,0.7nm,0.8s,baz=59,slow=4.6,SNR=5.5
NVAR LR LR 09 13 01.3
comp=Z,5μm,18.7s,baz=26,slow=36
SHPR Sheep Range 60.84 294 IAmb IAmb 08 47 04.0
comp=Z,28nm,1.4s
TPNV Topopah Spring 60.88 295 P P 08 46 53.4 +0.7
baz=29
TPNV Topopah Spring 60.88 295 P P 08 46 54.1 +1.3
TPNV pmax pmax
comp=Z,13nm,1.2s
TPNV Topopah Spring 60.88 295 P P 08 46 54.1 +1.3
MNTX Cornudas Mount 61.03 283 P P 08 46 54.3 +0.6
baz=30
121A Cookes Peak, D 61.31 286 P P 08 46 56.7 +1.0
baz=29
FURC Furnace Creek, 61.53 295 P P 08 46 58.4 +1.5
baz=29
SHOC Shoshone, Teco 61.80 294 P P 08 47 00.2 +1.4
baz=29
CWC Cottonwood Cre 62.03 296 P P 08 47 02.3 +1.7
baz=29
MPMC Manual Prospec 62.14 296 P P 08 47 02.5 +1.2
baz=29
PDMCI Parker Dam,Lak 62.35 292 P P 08 47 03.7 +1.2
baz=29
TX31 Lajitas Ar. Si 62.37 280 IAmb IAmb 08 47 12.1
comp=Z,32nm,1.4s
TXAR Lajitas Array 62.37 280 P P 08 47 01.4 -1.4
comp=Z,2.6nm,0.9s,baz=52,slow=4.0,SNR=17

TXAR Lajitas Array 62.37 280 P P 08 47 02.4 -0.4
TXAR Lajitas Array 62.37 280 P P 08 47 02.4 -0.4
GSC Goldstone, Bar 62.53 295 P P 08 47 05.2 +1.4
baz=29
GMRC Granite Mounta 62.53 293 P P 08 47 04.9 +1.0
baz=29
PET Petropavlovsk 62.60 3 *e*P P 08 47 14.7 +11
PET *e*S S 08 55 39.0 +7.0
PET MLR MLR
comp=Z,900nm,20.0s
TUC Tucson 62.74 288 P P 08 47 06.9 +1.6
baz=29
TUC Tucson 62.74 288 P P 08 47 06.1 +0.9
TUC pmax pmax
comp=Z,19nm,1.2s
TUC Tucson 62.74 288 P P 08 47 06.1 +0.9
TUC IAmb IAmb 08 47 12.2
comp=Z,19nm,1.2s
ISA Isabella, Lake 62.86 296 P P 08 47 08.2 +2.1
baz=28
ISA Isabella, Lake 62.86 296 IAmb IAmb 08 47 12.9
comp=Z,17nm,1.1s
IRM Iron Mountain 62.88 293 P P 08 47 08.0 +1.9
baz=29
BELC Belle Mtn. Jos 63.35 293 P P 08 47 10.7 +1.3
baz=28
EDW2 Edwards Air Fo 63.37 295 P P 08 47 11.1 +1.8
baz=28
BC3 Big Chuckawall 63.44 293 P P 08 47 11.5 +1.6
baz=28
GLA Glamis 63.72 292 P P 08 47 13.6 +1.9
baz=28
GLA Glamis 63.72 292 IAmb IAmb 08 47 18.5
comp=Z,27nm,1.4s
BFSC Mount Baldy Ra 63.80 295 P P 08 47 12.5 +0.2
baz=28
214A Organ Pipe Nat 63.87 290 P P 08 47 13.6 +0.9
baz=28
214A Organ Pipe Nat 63.87 290 IAmb IAmb 08 47 20.2
comp=Z,24nm,1.6s
PFO Pinyon Flats O 63.88 293 P P 08 47 13.8 +1.0
baz=28
TPFO Pinon Flats 63.88 293 P P 08 47 14.4 +1.6
baz=28
MURC Murrieta 64.18 294 P P 08 47 16.4 +1.7
baz=28
SWSC Sam W. Stewart 64.20 293 P P 08 47 16.5 +1.7
baz=28
MONP2 Monument Peak 64.50 293 P P 08 47 18.2 +1.2
baz=28
IKP In-Ko-Pah, Jac 64.59 293 P P 08 47 18.8 +1.4
baz=28
SKR Severo-Kuril's 64.87 5 *e*P P 08 47 21.7 +2.8
GTA Gaotai 65.24 49 P P 08 47 21.5 -0.1
GTA pP sP 08 47 26.1 +2.5
GTA sP pP 08 47 28.8 +5.7
GTA S S 08 56 05.4 0.0
GTA sS sS 08 56 11.9 +4.1
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,190nm,8.5s
GTA LR LR
comp=Z,890nm,19.3s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,2μm,18.2s
SPX San Pedro Mart 65.75 291 IAmb IAmb 08 47 31.3
comp=Z,17nm,1.1s
SDV Santo Domingo 66.89 240 P P 08 47 33.1 +0.5
SDV IAmb IAmb 08 47 38.3
comp=Z,25nm,1.1s
SDV Santo Domingo 66.89 240 *e*P P 08 47 34.1 +1.5
HHC Hu-ho-hao-te 67.46 40 *e*P P 08 47 38.6 +2.8
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,170nm,7.6s
YSS Yuzh-Sakhalins 67.63 15 *e*P P 08 47 34.8 -1.8
YSS *e* 08 50 05.9
YSS *e*S S 08 56 28.2 -5.7
YSS *e* 08 57 06.4
ZAIG Zacatecas 67.66 276 P P 08 47 38.4 +0.9
ZAIG IAmb IAmb 08 47 44.8
comp=Z,14nm,1.1s
CN2 Changchun 68.00 28 *e*P P 08 47 38.0 -1.0
CN2 *e*sP sP 08 47 45.0 +4.0
CN2 *e*S S 08 56 33.0 -5.4
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,1μm,20.0s
USA0B Ussuriysk Arra 68.83 23⇑ *e*P P 08 47 46.4 +2.2
LZH Lanzhou 69.57 48 *e*P P 08 47 48.8 -0.3
LZH pP sP 08 47 52.3 +1.2
LZH S S 08 56 56.9 -0.8
LZH sS sS 08 57 04.0 +4.0
LZH SS SS 09 01 18.0 -6.2
LZH pmax pmax
comp=Z,43nm,1.3s
LZH pmax pmax
comp=Z,350nm,5.7s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,2μm,19.0s
MCPB Macapa, AP 69.64 217 *e*P P 08 47 49.2 -0.3
MALB Monte Alegre 71.66 219 *e*P P 08 48 02.5 +0.6
DL2 Dalian 71.85 33 P P 08 48 04.3 +1.6
DL2 pmax pmax
comp=Z,54nm,1.1s
DL2 pmax pmax
comp=Z,470nm,3.6s
DL2 LR LR
comp=Z,2μm,20.1s
DL2 LR LR
comp=Z,930nm,15.5s
DL2 LR LR
comp=Z,2μm,17.9s
ROSC El Rosal 72.00 242 P P 08 48 05.2 +0.8
XAN Xi'an 73.03 44 P P 08 48 08.0 -2.0
XAN pP PcP 08 48 19.9 -6.9
XAN S S 08 57 39.0 +1.4
XAN SKS SKSac 08 58 13.8 -2.5
XAN pmax pmax
comp=Z,14nm,1.4s
XAN pmax pmax
comp=Z,250nm,4.7s
XAN LR LR
comp=Z,2μm,24.3s
XAN LR LR
comp=Z,2μm,19.0s
XAN LR LR
comp=Z,3μm,23.9s
ITTB Itaituba 74.47 220 *e*P P 08 48 15.7 -2.8
PRPB Parauapebas 74.67 214 *e*P P 08 48 20.1 +0.5
MACA Manacapuru-AM 74.77 225 *e*P P 08 48 20.6 +0.4
SMTB Santa Maria do 76.76 211 *e*P P 08 48 33.0 +1.4
HYB Hyderabad 76.90 77 *i* P P 08 48 34.0 +1.5
NPGB Novo Progresso 76.92 219 *e*P P 08 48 32.9 +0.4
NJ2 Nanjing 77.69 37 *e*P P 08 48 37.3 +0.6
NJ2 pP sP 08 48 41.9 +3.2
NJ2 sP PcP 08 48 46.3 -0.5
NJ2 S S 08 58 30.3 +1.2
NJ2 sS sS 08 58 39.9 +8.4
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,3.5s
NJ2 LR LR
comp=Z,1μm,20.8s
NJ2 LR LR
comp=Z,840nm,16.1s
NJ2 LR LR
comp=Z,2μm,17.1s
OTAV Otavalo 77.80 244 P P 08 48 37.6 -0.4
OTAV pmax pmax

comp=Z,17nm,1.2s
OTAV Otavalo 77.80 244 P **P** 08 48 37.6 -0.4
OTAV Otavalo 77.80 244 *eP* **P** 08 48 38.0 0.0
WHN Wuhan 77.89 41 P **P** 08 48 39.3 +1.5
WHN S **S** 08 58 28.8 -2.5
WHN LR LR
comp=Z,1μm,16.4s
WHN LR LR
comp=Z,1μm,12.6s
WHN LR LR
comp=Z,3μm,19.9s
SSE Sheshan 79.19 35 P **P** 08 48 43.0 -2.0
SSE S **S** 08 58 43.0 -2.2
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,120nm,4.2s
SSE LR LR
comp=Z,650nm,17.8s
SSE LR LR
comp=Z,380nm,18.0s
KMI Kunming 79.29 53⇑ *eP* **P** 08 48 46.1 +0.2
KMI PP **PP** 08 51 45.3 +0.3
KMI S **S** 08 58 46.3 -0.6
KMI pmax pmax
comp=Z,17nm,0.5s
KMI pmax pmax
comp=Z,190nm,3.5s
KMI LR LR
comp=Z,500nm,21.5s
KMI LR LR
comp=Z,530nm,17.1s
KMI LR LR
comp=Z,800nm,29.6s
GYA Guiyang 79.36 49⇑ P **P** 08 48 48.9 +2.7
GYA PP **PP** 08 51 49.1 +3.6
GYA S **S** 08 58 49.8 +2.3
GYA pmax pmax
comp=Z,8.0nm,1.1s
GYA pmax pmax
comp=Z,240nm,3.9s
GYA LR LR
comp=Z,410nm,21.3s
GYA LR LR
comp=Z,460nm,19.4s
GYA LR LR
comp=Z,660nm,19.9s
SAML Samuel 81.00 226 P **P** 08 48 54.6 -0.2
SAML pmax pmax
comp=Z,34nm,1.5s
SAML Samuel 81.00 226 P **P** 08 48 54.6 -0.2
SAML IAmb IAmb 08 49 00.5
comp=Z,34nm,1.5s
SAML Samuel 81.00 226 *eP* **P** 08 48 54.9 0.0
ETMB Extrema 82.77 228 *eP* **P** 08 49 03.0 -1.1
CZSB Cruzeiro do Su 83.02 235 *eP* **P** 08 49 05.6 +0.1
SLVN Son La 83.19 53 P **P** 08 49 07.0 +0.5
BDFB Brasilia 83.42 210 P **P** 08 49 05.3 -2.3
comp=Z,1.8nm,0.5s,baz=172,slow=7.2,SNR=1.7
CHTO Chiang Mai 83.73 59 P **P** 08 49 07.6 -1.7
CHTO pmax pmax
comp=Z,18nm,1.3s
CHTO Chiang Mai 83.73 59 P **P** 08 49 07.5 -1.7
CHTO IAmb IAmb 08 49 16.2
comp=Z,18nm,1.2s
VILB Vilhena 83.90 222 *eP* **P** 08 49 11.2 +1.2
CMAR Chiang Mai Arr 84.06 59 P **P** 08 49 10.2 -0.7
comp=Z,1.3nm,0.6s,baz=139,slow=44,SNR=1.8
CMAR LR LR 09 29 33.5
comp=Z,592nm,19.4s,baz=358,slow=38
CMAR Chiang Mai Arr 84.06 59 P **P** 08 49 09.8 -1.2
ARAG Araguaiana, MT 84.34 213 *eP* **P** 08 49 12.5 +0.4
IPMB Ipameri, GO 85.74 209 *eP* **P** 08 49 20.6 +1.4
PTLB Pontes e Lacer 85.98 220 *eP* **P** 08 49 21.2 +0.9
QIZ Qiongzhong 87.32 49 P **P** 08 49 27.9 +0.8
QIZ S **S** 09 00 07.0 -1.0
QIZ LR LR
comp=Z,900nm,18.1s
QIZ LR LR
comp=Z,600nm,17.2s
QIZ LR LR
comp=Z,1μm,17.7s
NNA Nana 88.44 238⇓ *eP* **P** 08 49 32.5 +0.1
NNA pmax pmax
comp=Z,23nm,1.2s
LPAZ La Paz 89.46 228 *eP* **P** 08 49 37.8 0.0
TAOE Nuku Hiva Isla 111.63 297 *eLR* LR 09 28 41.1
comp=Z,526nm,21.9s
RKT Rikitea 122.44 285 *eLR* LR 09 33 35.9
comp=Z,418nm,38.8s
PPT2 Papeete2 123.17 303 *eLR* LR 09 34 02.0
comp=Z,815nm,22.5s
TBI Tubuai 128.40 300 *eLR* LR 09 36 29.7
comp=Z,798nm,24.0s
WRA Warramunga Arr 131.47 37 PKP **PKPdf** 08 55 51.8 -0.8
comp=Z,0.4nm,0.8s,baz=326,slow=2.2,SNR=7.8
WRA Warramunga Arr 131.47 37 **PKPdf** 08 55 51.1 -1.5
ASAR Alice Springs 134.91 39 PKP **PKPdf** 08 55 59.5 +0.5
comp=Z,1.6nm,1.0s,baz=310,slow=1.2,SNR=7.1
SNAA Sanae 136.43 173 *c iP*KIKP **PKiKP** 08 56 02.2 +0.2
SNAA pmax pmax
comp=Z,13nm,2.5s
SNAA Sanae 136.43 173 PKPdf **PKPdf** 08 55 59.8 -0.6
DZM Mont Dzumac 137.35 355 *eLR* LR 09 40 40.9
comp=Z,1μm,24.7s
SYO Syowa Base 139.24 152⇓ *ep*PiKP 08 56 12.4
MAW Mawson 143.68 140 PKP **PKPdf** 08 56 12.9 -0.5
comp=Z,1.2nm,0.8s,baz=283,slow=7.8,SNR=3.8
MAW Mawson 143.68 140 **PKPdf** 08 56 12.7 -0.7
STKA Stephens Creek 144.68 32 PKP PKPbc 08 56 15.6 +0.4
comp=Z,9.0nm,0.9s,baz=309,slow=5.3,SNR=11
STKA Stephens Creek 144.68 32 PKIKP **PKPdf** 08 56 16.8 +0.4
STKA Stephens Creek 144.68 32 PKPdf **PKPdf** 08 56 16.8 +0.4
QSPA South Pole Qui 154.59 180 PKPdf **PKPdf** 08 56 32.2 +1.2

*BUD **21** 08:40:26.4,48°.39N×20°.89E,h0km±5km,ML1.5/1, Suspected Mining explosion.*
KRSZO 21 08:40:27.5±1.5, 48°.46N×20°.80E, h0km, ML1.5, Error ellipse: s-maj=14.1km s-min=5.0km az=159.0, Explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.21**	**275**	*eP*		g	Pg	08 40 33.0	+1.5
KECS				*eS*		g	Sg	08 40 36.8	+2.6
KECS	**Kecovo**	**0.21**	**275**	P		g	Pg	08 40 33.0	+1.5
KECS				*eP*		g	Pg	08 40 33.0	+1.5
KECS				Lg		g	Lg	08 40 36.8	
KECS				*eLg*		g	Sg	08 40 36.8	+2.6
KECS	**Kecovo**	**0.21**	**275**	*eP*		G	Pg	08 40 33.0	+1.5
KECS				*eS*		G	Sg	08 40 36.8	+2.6
KECS				*eLG*		G	Lg	08 40 39.1	
CRVS	**Cervenica-Dubn**	**0.62**	**45**	*eP*		g	Pg	08 40 40.0	+0.7
CRVS				*eS*		g	Sg	08 40 48.2	+0.8
CRVS	**Cervenica-Dubn**	**0.62**	**45**	P		g	Pg	08 40 40.0	+0.7
CRVS				*eP*		g	Pg	08 40 40.0	+0.7
CRVS				Lg		g	Lg	08 40 48.2	
CRVS				*eLg*		g	Lg	08 40 48.2	
CRVS	**Cervenica-Dubn**	**0.62**	**45**	*eP*		G	Pg	08 40 40.0	+0.7
CRVS				*eS*		G	Sg	08 40 48.2	+0.8
CRVS				*eLG*		G	Lg	08 40 48.8	
IZAB	**Izabela**	**0.73**	**279**	*eP*		g	Pg	08 40 42.2	+0.7
IZAB				*eS*		g	Sg	08 40 52.1	+1.1
IZAB	**Izabela**	**0.73**	**279**	P		g	Pg	08 40 42.2	+0.7
IZAB				*eP*		g	Pg	08 40 42.2	+0.7
IZAB				Sg		g	Sg	08 40 52.1	+1.1
IZAB				*eSg*		g	Sg	08 40 52.1	+1.1
LANS	**Liptovska Anna**	**1.12**	**308**	*eP*		n	Pg	08 40 48.7	-0.2
LANS	**Liptovska Anna**	**1.12**	**308**	P		n	Pg	08 40 48.7	-0.2
LANS				*eP*		n	Pg	08 40 48.7	-0.2
LANS	**Liptovska Anna**	**1.12**	**308**	*eP*		G	Pg	08 40 48.7	-0.2
VYHS	**Vyhne**	**1.31**	**272**	*eP*		n	Pn	08 40 53.0	0.0
VYHS				*eSn*		n	Sn	08 41 11.7	+0.5
VYHS	**Vyhne**	**1.31**	**272**	Pg		n	Pn	08 40 53.0	0.0
VYHS				*eP*		n	Pn	08 40 53.0	0.0
VYHS				Sb		n	Sn	08 41 11.7	+0.5
VYHS				*eSb*		n	Sn	08 41 11.7	+0.5
VYHS	**Vyhne**	**1.31**	**272**	*eP*		G	Pn	08 40 53.0	0.0
VYHS				*eSG*		n	Sn	08 41 11.7	+0.5

*IDC **21** 08:41:48.4±4.6, 18°.87N×147°.04E, h73km±42km, mb3.4/7, mb1 3.6/8,mb1mx3.4/60,mbtmp3.8/8,ML4.1/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/29,Error ellipse: s-maj=44.3km s-min=21.2km az=87.0*
*NEIC **21** 08:41:50.3±1.1, 18°.8N±0°.1×146°.8E±0°.1, h79km±9km, mb4.2/11,Error ellipse: s-maj=20.2km s-min=12.4km az=141.0*
ISC 21 08:41:48.4±1.2, 18°.88N±0°.08×147°.1E±0°.3, h73km, n26, σ0s66/22, mb4.1/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.86**	**208**	P		n	Pn	**08 42 33.2**	**+1.4**
GUMO	**Guam**	**5.69**	**203**	P		n	Pn	**08 43 09.5**	**-0.8**
	5.3nm,0.3s,baz=92,slow=6.2,SNR=5.7								
GUMO				S		G	Sn	**08 44 14.0**	**-0.4**
	6.0nm,0.3s,baz=346,slow=21,SNR=1.6								
GUMO				LR		LR	LR	08 45 13.1	
	comp=Z,71nm,19.6s,baz=26,slow=36								
GUMO	**Guam**	**5.69**	**203**	Pn		n	Pn	**08 43 10.0**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**18.54**	**88**	T		T	T	09 05 14.6	
	baz=275,slow=74,SNR=14								
H11S1	**WAKE ISLAND Hy**	**18.55**	**88**	T		T	T	09 05 13.7	
H11S2	**WAKE ISLAND Hy**	**18.56**	**88**	T		T	T	09 05 14.5	
	baz=275,slow=74,SNR=13								
MAJO	**Matsushiro**	**19.26**	**338**	P		n	Pn	**08 46 08.5**	**-0.3**
MAJO				IAmb		IAmb	IAmb	08 46 12.2	
	comp=Z,16nm,1.4s								
JWT	**Wachi**	**19.36**	**330**	P		n	Pn	**08 46 09.0**	**-0.9**
KSRS	**Korea Array**	**24.99**	**322**	P		n	P	**08 47 05.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=151,slow=9.0,SNR=4.9								
WR0	**Warramunga Arr**	**40.52**	**198**	P		n	P	**08 49 21.0**	**+0.4**
WR0				IAmb		IAmb	IAmb	08 49 24.7	
	comp=Z,5.4nm,1.5s								
WB2	**Warramunga Arr**	**40.56**	**199**	P		n	P	**08 49 21.5**	**+0.6**
WRA	**Warramunga Arr**	**40.57**	**199**	P		n	P	**08 49 20.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=20,slow=8.7,SNR=6.3								
WRA	**Warramunga Arr**	**40.57**	**199**	P		n	P	**08 49 20.3**	**-0.6**
SONM	**Songino Array**	**43.85**	**321**	P		n	P	**08 49 47.5**	**0.0**
ASAR	**Alice Springs**	**44.21**	**197**	P		n	P	**08 49 50.3**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=26,slow=7.9,SNR=2.9								
MKAR	**Makanchi Array**	**59.31**	**314**	P		n	P	**08 51 41.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=95,slow=9.9,SNR=6.9								
MKAR	**Makanchi Array**	**59.31**	**314**	P		n	P	**08 51 43.2**	**+0.4**
MAKZ	**Makanchi**	**59.52**	**314**	P		n	P	**08 51 44.0**	**-0.2**
MAKZ				IAmb		IAmb	IAmb	08 51 54.7	
	comp=Z,4.3nm,1.1s								
BPAW	**Bear Paw Mtn.**	**60.99**	**26**	P			P	08 51 56.9	+3.0
KURK	**Kurchatov**	**62.04**	**318**	P		n	P	**08 52 01.3**	**+0.1**
KURK				IAmb		IAmb	IAmb	08 52 14.6	
	comp=Z,2.2nm,0.9s								
KURBB	**Kurchatov Arra**	**62.09**	**318**	P		n	P	**08 52 01.7**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=96,slow=7.2,SNR=8.9								
M24K	**Tolsona, Glenn**	**62.62**	**29**	P			P	08 52 07.3	+2.4
ILAR	**Eielson Array**	**62.89**	**26**	P			P	**08 52 07.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=272,slow=7.2,SNR=4.6								
ABKAR	**Akbulak array**	**74.12**	**317**	P		n	P	**08 53 17.7**	**+0.8**
ABKAR				IAmb		IAmb	IAmb	08 53 17.8	
	comp=Z,1.9nm,0.7s								
FINES	**FINESS Array B**	**87.28**	**336**	P		n	P	**08 54 26.1**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=116,slow=8.7,SNR=4.8								
FINES	**FINESS Array B**	**87.28**	**336**	P		G	P	**08 54 26.3**	**-0.5**

*IPEC **21** 09:16:41.9±0.3,51°.47N×16°.36E,h0km,ML2.5/3,Error ellipse: s-maj=2.8km s-min=1.6km az=71.0*
*VIE **21** 09:16:42.6±0.5,51°.38N×16°.19E,h0km,mb2.5/7,ml2.9/8, Error ellipse: s-maj=3.3km s-min=2.1km az=7.0 65 km WNW of Wroclaw Suspected Mining induced.*
*IDC **21** 09:16:43.4±1.0,51°.29N×16°.31E,h0km,mb1 3.6/4, mb1mx3.3/44, mbtmp3.5/4,ML3.0/4,Error ellipse: s-maj=15.8km s-min=8.7km az=115.0*
*PRU **21** 09:16:43.0±0.0,51°.43N×16°.15E,h0km*
ISC 21 09:16:40.9±0.8, 51°.53N±0°.03×16°.27E±0°.03, h0km, n47, σ1s24/86, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**179**	*i* P		g	Pg	**09 16 54.2**	**+0.2**
KSP				*eSg*		g	Sg	**09 17 01.7**	**-1.1**
CHVC	**Chvalec**	**0.95**	**188**	*eP*		G	Pg	**09 16 59.1**	**+0.1**
CHVC				*eSG*		G	Sg	**09 17 10.5**	**-0.8**
	comp=Z,80nm,0.5s								
OSTC	**Ostas**	**0.97**	**182**	*eP*		G	Pg	**09 16 59.5**	**0.0**
OSTC				*eSG*		G	Sg	**09 17 11.1**	**-0.9**
	comp=Z,77nm,0.6s								
UPC	**Upice**	**1.03**	**189**	*eP*		G	Pg	**09 17 00.3**	**-0.3**
UPC				*eSG*		G	Sg	**09 17 12.9**	**-1.1**
	comp=Z,224nm,0.4s								
DPC	**Dobruska-Polom**	**1.18**	**178**	*eP*		G	Pg	**09 17 03.1**	**-0.3**
DPC				*eSG*		G	Sg	**09 17 17.0**	**-1.7**
	comp=Z,84nm,0.5s								
PVCC	**Panska Ves**	**1.47**	**228**	*eP*		G	Pn	**09 17 08.7**	**+0.1**
PVCC				*eSG*		G	Sg	**09 17 27.4**	**-0.5**
	comp=Z,248nm,0.3s								
KRLC	**Kraliky**	**1.49**	**167**	*eP*		G	Pn	**09 17 08.5**	**-0.4**
KRLC				*eSG*		G	Sg	**09 17 27.4**	**-1.3**
	comp=Z,56nm,0.7s								
BRG	**Berggiesshubel**	**1.60**	**247**	PN		n	Pn	**09 17 09.7**	**-0.7**
BRG				PG		n	Pb	**09 17 11.7**	**+0.3**
BRG				SG		n	Sn	**09 17 31.2**	**-0.7**
	69nm,0.4s								
PRA	**Prague**	**1.87**	**219**	*eP*		G	Pn	**09 17 14.3**	**+0.3**
PRA				*eSG*		G	Sn	**09 17 38.5**	**+0.2**
	comp=Z,24nm,0.7s								
PRU	**Pruhonice**	**1.89**	**216**	*eP*		G	Pb	**09 17 15.8**	**-0.4**
PRU				*eSG*		G	Sn	**09 17 39.6**	**+0.7**
	comp=Z,69nm,0.7s								
MORC	**Moravsky Berou**	**1.93**	**155**	*eP*		N	Pn	**09 17 14.7**	**-0.3**
MORC				*eSG*		G	Sb	**09 17 40.2**	**-1.4**
MORC	**Moravsky Berou**	**1.93**	**155**	*eP*		n	Pn	**09 17 14.7**	**-0.3**
	baz=336								
MORC				*eSg*		G	Sb	**09 17 40.1**	**-1.5**
	41nm,0.6s,baz=336								
CLL	**Collm**	**2.06**	**265**	*eP*		n	Pn	**09 17 16.0**	**-0.7**
CLL				*eP*		g	Pb	**09 17 19.0**	**-0.1**
CLL				*e*				09 17 35.0	
CLL				*eSg*		G	Sb	**09 17 46.0**	**+0.8**
	comp=Z,30nm,0.7s								
OKC	**Ostrava-Krasne**	**2.07**	**144**	*eP*		G	Pg	**09 17 20.1**	**-0.4**
OKC				*eSG*		G	Sg	**09 17 46.3**	**-1.0**
	comp=Z,55nm,0.6s								
VRAC	**Vranov**	**2.23**	**175**	Pg		n	Pn	**09 17 19.7**	**+0.6**
	comp=Z,3.0nm,0.3s,baz=342,slow=13,SNR=15								
VRAC				Lg			Lg	09 17 47.9	
	comp=Z,7.5nm,0.3s,baz=74,slow=23,SNR=9.9								
VRAC	**Vranov**	**2.23**	**175**	*eP*		N	Pn	**09 17 19.3**	**+0.2**
VRAC				*eSG*		G	Sb	**09 17 49.7**	**-0.5**
VRAC	**Vranov**	**2.23**	**175**	*eP*		n	Pn	**09 17 19.2**	**+0.2**
	baz=356								
VRAC				*eSg*		G	Sb	**09 17 49.7**	**-0.5**
	comp=Z,19nm,0.3s,baz=356								
TREC	**Trest**	**2.29**	**193**	*eP*		G	Pb	**09 17 23.2**	**+0.2**
TREC				*eSG*		G	Sb	**09 17 51.8**	**-0.1**
	comp=Z,28nm,0.6s								
PBCC	**Pribram**	**2.34**	**219**	*eP*		G	Pb	**09 17 24.2**	**+0.2**
PBCC				*eSG*		G	Sb	**09 17 53.5**	**+0.1**
KRUC	**Moravsky**	**2.47**	**178**	*eP*		N	Pn	**09 17 22.8**	**+0.4**
KRUC				*eSG*		G	Sb	**09 17 57.3**	**+0.2**
KRUC	**Moravsky**	**2.47**	**178**	*eP*		n	Pn	**09 17 22.7**	**+0.4**
	baz=359								
KRUC				*eSg*		G	Sb	**09 17 57.2**	**+0.2**
	comp=Z,21nm,0.6s,baz=359								
OJC	**Ojcow**	**2.59**	**119**	*eSg*		g	Sg	**09 17 32.3**	**+1.8**
OJC				*eSg*		G	Sg	**09 18 06.9**	**+2.8**
NKC	**Novy Kostel**	**2.75**	**243**	*eP*		N	Pn	**09 17 26.3**	**+0.1**
NKC				*eP*		G	Pb	**09 17 31.5**	**+0.7**
NKC				*eSG*		G	Sb	**09 18 07.7**	**+2.7**
	comp=Z,49nm,0.6s								
JAVC	**Velka Javorina**	**2.82**	**161**	*eP*		N	Pn	**09 17 28.8**	**+1.6**
KHC	**Kasperske Hory**	**2.95**	**217**	*eP*		N	Pn	**09 17 29.4**	**+0.3**
KHC				*eP*		G	Pb	**09 17 35.0**	**+0.6**
KHC				*eSG*		G	Sg	**09 18 13.6**	**-2.1**
	comp=Z,19nm,0.5s								
SMOL	**Smolenice**	**3.11**	**166**	*eSG*		G	Sg	**09 18 22.6**	**+2.0**
SMOL				*eLG*		G	Lg	09 18 26.2	
LANS	**Liptovska Anna**	**3.14**	**138**	*eSG*		G	Sg	**09 18 23.6**	**+1.9**
LANS				*eLG*		G	Lg	09 18 33.2	
GERES	**GERESS Array B**	**3.15**	**213**	Pn			Pn	**09 17 32.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=36,slow=14,SNR=14								
GERES				Pg			Pb	**09 17 38.4**	**+0.6**
	comp=Z,9.1nm,0.3s,baz=29,slow=17,SNR=46								
GERES				Lg			Lg	09 18 17.7	
	comp=Z,8.3nm,0.3s,baz=35,slow=28,SNR=9.6								
MODS	**Modra-Piesok**	**3.22**	**168**	*eP*		N	Pn	**09 17 32.0**	**-0.7**
MODS				*eP*		G	Pg	**09 17 41.4**	**-1.2**
MODS				*eSG*		G	Sg	**09 18 23.4**	**-0.9**
MODS				*eLG*		G	Lg	09 18 27.9	
ZST	**Bratislava**	**3.38**	**170**	*eSN*			Sn	09 18 05.1	-10
VYHS	**Vyhne**	**3.46**	**150**	*eP*		G	Pg	**09 17 47.8**	**+0.7**
VYHS				*eSG*		G	Sg	**09 18 31.4**	**-0.5**
CONA	**Conrad Observa**	**3.61**	**184**	*eP*		n	Pn	**09 17 37.8**	**-0.3**
	comp=Z,0.4nm,0.1s								
CONA				*eSn*			Sn	**09 18 19.4**	**-2.1**
	comp=Z,813nm,0.0s								
BSD	**Bornholm Skovb**	**3.69**	**348**	*i* P		n	Pn	**09 17 39.7**	**+0.7**
BSD				*i* S			Sn	**09 18 20.4**	**-2.7**
BSD	**Bornholm Skovb**	**3.69**	**348**	*i* P		n	Pn	**09 17 39.0**	**0.0**
BSD				*e*				09 17 39.1	
	baz=166,slow=11								
BSD				*eP*			Pb	09 17 39.7	-7.1
BSD				*i* S			Sn	**09 18 20.5**	**-2.7**
BSD				IAML				09 18 26.6	
	comp=Z,2.4nm,0.3s								
MOA	**Molln**	**3.90**	**200**	*eP*		n	Pn	**09 17 41.7**	**-0.4**
	comp=Z,2.0nm,0.2s								
MOA				*eSn*			Sn	**09 18 27.2**	**-1.4**
	comp=Z,1.4nm,0.1s								
ARSA	**Arzberg**	**4.31**	**187**	*eP*		n	Pn	**09 17 48.8**	**+1.1**
	comp=Z,1.3nm,0.3s								
ARSA				*eSg*		g	Sg	**09 18 58.8**	**-0.3**
	comp=Z,5.1nm,0.4s								
KBA	**Koelnbreinsper**	**4.84**	**204**	*eP*		n	Pn	**09 17 56.0**	**+0.8**
	comp=Z,2.1nm,0.3s								
KBA				*eSg*		g	Sg	**09 19 16.9**	**+0.4**
	comp=Z,11nm,0.6s								
OBKA	**Obir**	**5.15**	**193**	*eP*		n	Pn	**09 17 57.0**	**-2.2**
	comp=Z,0.6nm,0.2s								
OBKA				*eSg*		g	Sg	**09 19 27.9**	**+1.7**
	comp=Z,3.3nm,0.4s								
MYKA	**Terra Mystica**	**5.20**	**200**	*eSn*			Sn	**09 19 02.6**	**+2.1**
	comp=Z,0.9nm,0.3s								
WTTA	**Wattenberg**	**5.23**	**217**	*eP*		n	Pn	**09 17 60.0**	**-0.5**
	comp=Z,0.4nm,0.1s								
WTTA				*eSg*		g	Sg	**09 19 27.6**	**-1.2**
	comp=Z,7.9nm,0.4s								
MOTA	**Moosalm**	**5.37**	**221**	*eSg*		g	Sg	**09 19 35.8**	**+2.5**
	comp=Z,9.8nm,0.6s								
ABTA	**Abfaltersbach**	**5.38**	**209**	*eSg*		g	Sg	**09 19 32.3**	**-1.3**
	comp=Z,1.2nm,0.2s								
SQTA	**Sankt Quirin**	**5.43**	**219**	*eP*		n	Pn	**09 18 02.7**	**-0.4**
	comp=Z,1.2nm,0.2s								
FETA	**Feichten**	**5.78**	**221**	*eP*		n	Pn	**09 18 06.3**	**-1.8**
	comp=Z,0.5nm,0.3s								
FETA				*eSg*		g	Sg	**09 19 51.0**	**+4.4**
	comp=Z,2.5nm,0.6s								
AKASG	**Malin Array Be**	**8.20**	**91**	Pn		n	Pn	**09 18 41.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=280,slow=12,SNR=2.9								
FINES	**FINESS Array B**	**11.31**	**25**	Pn		n	Pn	**09 19 23.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=6.6								
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		n	Pn	**09 21 00.1**	**+0.7**
	baz=192,slow=11,SNR=9.7								

*DDA **21** 09:20:54.3,37°.31N×38°.52E,h7km±2km,ML2.3*
*ISK **21** 09:20:54.4,37°.31N×38°.60E,h3km,ML2.6/11*
ISC 21 09:20:55.4±1.0, 37°.32N±0°.03×38°.57E±0°.03, h8km±9km, n25, σ1s01/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.23**	**58**	PG			**Pb**	**09 20 59.4**	**-0.7**
ATAB	**Bozova**	**0.27**	**305**	*i* P			**Pg**	**09 20 59.6**	**-1.1**
ATAB				IAML				09 21 12.0	
	comp=E,365nm,0.3s								
SANL	**SANLIURFA_Merk**	**0.36**	**114**	*i* P			**Pg**	**09 21 02.1**	**-0.5**
SANL				IAML				09 21 30.0	
	comp=N,322nm,0.5s								
SANL				IAML				09 21 38.0	
	comp=E,479nm,0.6s								
SURC	**SANLIURFA_SURC**	**0.44**	**176**	*i* P			**Pg**	**09 21 03.6**	**-0.4**
GZT	**Gaziantep**	**0.80**	**273**	*i* P			**Pb**	**09 21 10.4**	**-1.3**
GZT				IAML				09 21 36.0	
	comp=E,85nm,0.3s								
GZT				IAML				09 21 51.0	
	comp=N,152nm,0.6s								
MALT	**Malatya**	**1.00**	**354**	PG			**Pb**	**09 21 15.0**	**-0.1**
MALT				SG			**Sg**	**09 21 28.9**	**+1.3**
GAZ	**Gaziantep**	**1.09**	**263**	PN			**Pb**	**09 21 16.5**	**-0.1**
GAZ				SN			**Sg**	**09 21 32.8**	**+2.2**
AKCD	**Akcadag**	**1.10**	**332**	*i* P			**Pb**	**09 21 15.5**	**-1.3**
AKCD				*i* S			**Sb**	**09 21 31.2**	**-0.3**
AKCD				IAML				09 21 34.0	
	comp=E,84nm,0.6s								
AKCD				IAML				09 21 35.0	
	comp=N,146nm,0.7s								
KHMN	**Narli-Kahraman**	**1.13**	**274**	PN			**Pn**	**09 21 16.7**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.21**	**29**	PN			**Pn**	**09 21 18.1**	**-0.7**
SVRC				SN			**Sg**	**09 21 35.6**	**+1.3**
ELZG	**Elazig**	**1.22**	**15**	*i* P			**Pn**	**09 21 18.1**	**-1.0**
ELZG				*i* S			**Sg**	**09 21 36.3**	**+1.5**
ELZG				IAML				09 21 41.0	
	comp=N,89nm,0.3s								
HCB	**Kahramanmara**	**1.33**	**272**	*i* P			**Pn**	**09 21 18.2**	**-2.1**
HCB				IAML				09 21 52.0	
	comp=E,31nm,0.4s								
HCB				IAML				09 21 56.0	
	comp=N,35nm,0.7s								
DIYA	**Diyarbakir**	**1.37**	**63**	*i* P			**Pn**	**09 21 21.2**	**+0.3**
DIYA				*i* S			**Sg**	**09 21 40.1**	**+0.6**
DIYA				IAML				09 21 43.0	
	comp=E,74nm,0.3s								
DIYA				IAML				09 21 45.0	
	comp=N,97nm,0.3s								
MAZI	**Mazidag**	**1.50**	**84**	PN			**Pn**	**09 21 23.1**	**+0.3**
DARE	**Darende-Malaty**	**1.52**	**326**	PN			**Pn**	**09 21 23.2**	**+0.2**
ELBS	**KAHRAMANMARAS**	**1.52**	**312**	*i* P			**Pn**	**09 21 23.6**	**+0.6**
ELBS				*i* S			**Sb**	**09 21 43.4**	**-0.1**
ELBS				IAML				09 21 47.0	
	comp=E,48nm,0.6s								
ELBS				IAML				09 21 48.0	
	comp=N,38nm,0.5s								
HEKM	**Malatya_Hekimh**	**1.63**	**343**	*i* P			**Pn**	**09 21 24.1**	**-0.6**
HEKM				*i* S			**Sb**	**09 21 47.6**	**+0.9**
HEKM				IAML				09 21 54.0	
	comp=E,58nm,0.6s								
HEKM				IAML				09 21 54.0	
	comp=N,43nm,0.7s								
PTK	**Pertek**	**1.70**	**22**	PN			**Pn**	**09 21 25.9**	**+0.3**
MARD	**Mardin**	**1.76**	**89**	*

comp=Z,24nm,0.2s

*IDC **21** 10:03:44.1±1.3,39°.24N×143°.05E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/31,mbtmp3.4/5,ML2.6/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/35,Error ellipse: s-maj=41.3km s-min=27.9km az=107.0*
*JMA **21** 10:03:50.5±0.1,39°.08N×142°.40E,h32km±1km,M3.5*
JMA Felt I J1.
*NIED **21** 10:03:50.5,39°.08N×142°.40E,h32km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.74; $M_{\theta\theta}$0.84; $M_{\phi\phi}$0.90; $M_{r\theta}$1.06; $M_{\theta\phi}$0.67; $M_{r\phi}$1.17; Fault plane solution: $M_0$2.27000×10^{14} NP1: ϕ_s223.00000°,δ67.00000°,λ-91.00000°. NP2:ϕ_s44.00000°, δ23.00000°,λ-89.00000°.*

ISC 21 10:03:50.8±2.1,39°.11N±0°.05×142°.4E±0°.1,h29km±12km, n23,σ1s36/27,mb3.4/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.55**	**267**	P	**Pb**	**10 04 02.0**	**-0.1**
OFUJ				S	**Sb**	**10 04 09.8**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.64**	**317**	P	**Pn**	**10 04 03.3**	**-0.6**
MIYJ				S	**Sb**	**10 04 12.0**	**-0.1**
JKMT	**Kesennumamotoy**	**0.77**	**247**	P	**Pn**	**10 04 04.7**	**-0.9**
JKMT				S	**Sn**	**10 04 14.5**	**-1.7**
JMK	**Ichinoseki**	**0.92**	**260**	P	**Pn**	**10 04 07.4**	**-0.3**
JMK				*e*S	**Sn**	**10 04 19.2**	**-0.7**
JOM	**Ohasama**	**0.92**	**294**	P	**Pn**	**10 04 07.9**	**+0.1**
JOM				S	**Sn**	**10 04 20.0**	**0.0**
JTH	**Tanohata**	**0.92**	**335**	P	**Pn**	**10 04 07.5**	**-0.3**
JTH				S	**Sn**	**10 04 20.2**	**+0.2**
JIO	**Ouri**	**1.04**	**231**	P	**Pn**	**10 04 08.2**	**-1.2**
JIO				*e*S	**Sn**	**10 04 20.2**	**-2.7**
JKZ	**Kuzumaki**	**1.19**	**318**	P	**Pb**	**10 04 12.3**	**-0.5**
JKZ				*e*S	**Sb**	**10 04 27.8**	**-0.1**
JRG	**Rokugo**	**1.38**	**283**	P	**Pn**	**10 04 15.0**	**+0.8**
JANG	**Nango**	**1.43**	**333**	P	**Pn**	**10 04 15.3**	**+0.5**
JANG				*e*S	**Sn**	**10 04 33.8**	**+1.2**
JOU	**Okura**	**1.53**	**242**	P	**Pn**	**10 04 16.5**	**+0.3**
JOU				*e*S	**Sn**	**10 04 35.7**	**+0.5**
MJAR	**Matsushiro Arr**	**4.18**	**233**	Pn	**Pn**	**10 04 56.0**	**+3.4**
	0.3nm,0.3s,baz=40,slow=11,SNR=15						
MJAR				LR	LR	10 06 42.5	
	comp=Z,76nm,18.5s,baz=50,slow=38						
MAT	**Matsushiro**	**4.18**	**233**	P	**Pn**	**10 04 55.9**	**+3.3**
MAT				*e*S	**Sn**	**10 05 42.0**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	10 40 07.3	
	baz=317,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	10 40 08.6	
	baz=317,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	10 40 08.7	
	baz=317,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	10 41 14.5	
	baz=318,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	10 41 07.9	
	baz=318,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	10 41 13.4	
	baz=318,slow=76,SNR=10.0						
MKAR	**Makanchi Array**	**43.69**	**300**	P	**P**	**10 11 53.6**	**+0.5**
	0.3nm,0.5s,baz=96,slow=8.1,SNR=2.4						
ILAR	**Eielson Array**	**47.34**	**33**	P	P	10 12 16.1	-5.6
	0.4nm,1.0s,baz=282,slow=5.4,SNR=2.0						
WRA	**Warramunga Arr**	**59.22**	**189**	P	**P**	**10 13 48.4**	**-1.0**
	0.4nm,0.4s,baz=6.6,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**62.95**	**189**	P	**P**	**10 14 13.9**	**-0.7**
	0.2nm,0.7s,baz=3.4,slow=6.3,SNR=4.2						

*EAF **21** 10:04:51.6±2.0,22°.75S×23°.40E,h0km±35km,MD4.0*
BUL 21 10:04:51.3±1.2,22°.63S×23°.31E,h13km±26km,MD4.0, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**3.16**	**139**	*i* P	Pn	10 05 41.7	+0.8
LBTB				*i* Sg	Sb	10 06 25.2	-0.8
LBTB	**Lobatse**	**3.16**	**139**	*i* P	Pn	10 05 41.7	+0.8
LBTB				*i* Sg	Sb	10 06 25.2	-0.8
MATP	**Matopo**	**5.31**	**66**	*i* P	Pn	10 06 09.3	-1.1
MATP				*i* S	Sn	10 07 09.4	-2.1
MATP	**Matopo**	**5.31**	**66**	*i* P	Pn	10 06 09.3	-1.1
MATP				*i* S	Sn	10 07 09.4	-2.1
BLWY	**Bulawayo**	**5.53**	**64**	*i* P	Pn	10 06 13.5	+0.1
BLWY				*i* S	Sn	10 07 14.7	-2.2
BLWY	**Bulawayo**	**5.53**	**64**	*i* P	Pn	10 06 13.5	+0.1
BLWY				*i* S	Sn	10 07 14.7	-2.2

*SOME **21** 10:11:17.0,43°.70N×69°.73E*
*KRNET **21** 10:11:18.5±0.1,43°.47N×69°.46E,mb3.0*
*NNC **21** 10:11:19.9±1.0,43°.62N×69°.78E,h0km,mb3.7,mpv3.1, Error ellipse: s-maj=5.4km s-min=3.7km az=115.0, Suspected Mining explosion.*

ISC 21 10:11:19.8±3.3,43°.5N±0°.1×69°.5E±0°.2,h0km,n16, σ1s96/24,11C-9D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.81**	**115**	⇑P	**Pg**	**10 11 34.3**	**-1.1**
	2.6nm,0.5s,baz=318,slow=17,SNR=19						
KK31				⇑S	**Sg**	**10 11 44.8**	**-1.1**
	95nm,0.9s,baz=313,slow=28,SNR=60						
MNAS	**Manas**	**2.40**	**113**	⇓*e*P	**Pb**	**10 12 01.8**	**-2.2**
	baz=13						
MNAS				⇓*i*S	**Sb**	**10 12 33.4**	**-0.8**
	baz=13						
EKS2	**Erkin-Say**	**3.23**	**103**	⇑*e*P	**Pn**	**10 12 13.3**	**+1.5**
	baz=3.0						
EKS2				⇑*i*S	**Sn**	**10 12 53.2**	**+2.1**
	baz=3.0						
AML	**Almayashu**	**3.35**	**112**	⇓*i*P	**Pn**	**10 12 15.4**	**+1.6**
	baz=12						
AML				⇓*i*S	**Sn**	**10 12 57.0**	**+2.5**
	baz=12						
BTLS	**Baital**	**3.63**	**62**	Pg	**Pb**	**10 12 22.9**	**-1.8**
	9.1nm,0.4s						
BTLS				Lg	Lg	10 13 12.5	
	4.2nm,0.5s						
USP	**Ospenovka**	**3.65**	**91**	⇑*i*P	**Pn**	**10 12 19.1**	**+1.6**
	baz=91						
USP				⇑*i*S	**Sn**	**10 13 03.6**	**+2.3**
	baz=91						
SGDS	**Sogindy**	**3.73**	**88**	Pg	**Pb**	**10 12 23.2**	**-3.4**
	2.3nm,0.5s						
SGDS				Lg	Lg	10 13 11.7	
	5.1nm,0.5s						
AAK	**Ala-Archa**	**3.75**	**101**	⇓*i*P	**Pn**	**10 12 20.8**	**+1.8**
	baz=1.0						
AAK				⇓*i*S	**Sn**	**10 13 05.8**	**+1.9**
	baz=1.0						
AAK	**Ala-Archa**	**3.75**	**101**	⇓Pg	**Pb**	**10 12 24.7**	**-2.2**
	3.0nm,0.5s						
AAK				⇑Lg	Lg	10 13 13.4	
	3.8nm,0.6s						
UCH	**Uchtor**	**3.88**	**107**	⇑*e*P	**Pn**	**10 12 22.4**	**+1.3**
	baz=7.0						
UCH				⇑*i*S	**Sn**	**10 13 09.7**	**+2.1**
	baz=7.0						
ARLS	**Aral**	**3.89**	**112**	⇑*i*P	**Pn**	**10 12 22.5**	**+1.5**
	baz=12						
ARLS				⇑*i*S	**Sn**	**10 13 09.5**	**+2.0**
	baz=12						
TKM2	**Tokmak 2**	**4.49**	**95**	⇓Pg	**Pb**	**10 12 39.2**	**-0.4**
	2.4nm,0.7s						
TKM2				⇓Lg	Lg	10 13 36.5	
	4.3nm,0.8s						
KRBS	**Karabastau**	**4.49**	**85**	Pg	**Pb**	**10 12 37.8**	**-1.7**
	2.5nm,0.5s						
KRBS				Lg	Lg	10 13 36.3	
	3.6nm,0.7s						
DGS	**Degeres**	**4.58**	**90**	Pg	**Pb**	**10 12 39.3**	**-1.7**
	1.9nm,0.5s						
DGS				Lg	Lg	10 13 39.9	
	4.5nm,0.6s						
KST	**Kastek**	**4.74**	**93**	Pg	**Pb**	**10 12 42.0**	**-1.7**
	3.7nm,0.6s						
KST				Lg	Lg	10 13 44.8	
	4.1nm,0.6s						
KTBS	**Karatobe**	**5.22**	**85**	Pg	**Pb**	**10 12 50.6**	**-1.3**
	1.9nm,0.4s						
KTBS				Lg	Lg	10 13 57.9	
	3.7nm,0.8s						

KRSC 21 10:16:37.5±1.9,54°.96N×165°.57E,h48km±17km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**43**	*e*P	Pn	10 16 48.2	+1.4
BKI				*e*S	Sn	10 16 52.6	-0.9
KBTR	**Krutoberegovo**	**2.00**	**310**	*e*P	Pn	10 17 09.7	+0.9
KBTR				*e*S	Sn	10 17 33.2	+0.6
SMKR	**Semkarok**	**2.83**	**307**	*e*P	Pn	10 17 23.3	+3.1
SMKR				*e*S	Sn	10 17 57.6	+4.5
ZLN	**Zelenaya**	**2.91**	**293**	*e*P	Pn	10 17 25.3	+3.9
BDR	**Baidarnaya**	**2.94**	**305**	*e*S	Sn	10 18 00.6	+4.7
CIRR	**Tsirk**	**2.97**	**295**	*e*S	Sn	10 18 02.6	+5.9
TUMD	**Tumrok D**	**2.98**	**277**	*e*P	Pn	10 17 25.8	+3.6
TUMD				*e*S	Sn	10 18 01.3	+4.6
SRKR	**Sorokina**	**3.01**	**306**	*e*P	Pn	10 17 26.3	+3.6
KZV	**Kizimen**	**3.04**	**275**	*e*P	Pn	10 17 26.8	+3.6
KZV				*e*S	Sn	10 18 02.8	+4.5
BZWR	**Bezymyannyi-We**	**3.06**	**291**	*e*P	Pn	10 17 28.3	+4.9
BZWR				*e*S	Sn	10 18 04.4	+5.6
KLY	**Klyuchi**	**3.10**	**298**	*e*P	Pn	10 17 26.6	+2.8
KLY				*e*S	Sn	10 18 01.7	+2.1
KRSR	**Krestovskiy**	**3.11**	**296**	*e*P	Pn	10 17 27.7	+3.7
KRSR				*e*S	Sn	10 18 04.5	+4.6
TUMR	**Tumrok**	**3.13**	**278**	*e*P	Pn	10 17 28.7	+4.3
KIRR	**Kirishev**	**3.14**	**291**	*e*P	Pn	10 17 29.1	+4.6
KOZ	**Kozyrevsk**	**3.42**	**291**	*e*P	Pn	10 17 33.2	+4.9
SRDR	**Sredinnyy**	**3.58**	**295**	*e*P	Pn	10 17 35.0	+4.4
SRDR				*e*S	Sn	10 18 17.4	+5.8
SPN	**Mys Shipunski**	**3.76**	**243**	*e*P	Pn	10 17 36.3	+3.4
SPN				*e*S	Sn	10 18 16.9	+1.0
NLC	**Nalytchevo**	**4.08**	**247**	*e*P	Pn	10 17 42.6	+5.3
NLC				*e*S	Sn	10 18 25.9	+2.3
KRER	**Koryakskii**	**4.34**	**250**	*e*P	Pn	10 17 46.1	+5.1
UGLR	**Uglovaya**	**4.34**	**249**	*e*P	Pn	10 17 45.8	+4.8
AVH	**Avacha**	**4.36**	**250**	*e*P	Pn	10 17 46.3	+5.1
KRX	**Arik**	**4.37**	**251**	*e*P	Pn	10 17 45.9	+4.5
KRX				*e*S	Sn	10 18 34.0	+2.9
KOK	**Koryaka**	**4.40**	**251**	*e*P	Pn	10 17 46.8	+5.0
KOK				*e*S	Sn	10 18 36.1	+4.2
DALK	**Dalny**	**4.46**	**247**	*e*P	Pn	10 17 46.9	+4.4
DALK				*e*S	Sn	10 18 35.5	+2.5
PET	**Petropavlovsk**	**4.51**	**247**	*e*P	Pn	10 17 48.2	+4.9
PET				*e*S	Sn	10 18 36.6	+2.2
OSSR	**Ossora**	**4.52**	**343**	*e*P	Pn	10 17 45.7	+2.5
OSSR				*e*S	Sn	10 18 36.6	+2.2
KRMR	**Karymshinskiy**	**4.89**	**247**	*e*P	Pn	10 17 54.1	+5.8
KRMR				*e*S	Sn	10 18 47.8	+4.3
RUS	**Russkaya**	**4.89**	**242**	*e*P	Pn	10 17 52.6	+4.2
RUS				*e*S	Sn	10 18 46.4	+2.7
GRL	**Gorelyy**	**5.06**	**245**	*e*P	Pn	10 17 56.1	+5.3
GRL				*e*S	Sn	10 18 51.2	+3.3
ASAK	**Asacha**	**5.24**	**244**	*e*P	Pn	10 17 58.5	+5.3
ASAK				*e*S	Sn	10 18 56.0	+3.7
KDTR	**Khodutka, Kamc**	**5.48**	**238**	*e*P	Pn	10 18 00.1	+3.6
KDTR				*e*S	Sn	10 18 58.9	+0.8

*TIR **21** 10:32:26.4,41°.20N×20°.97E,h10km±2km,Md3.6*
*SKO **21** 10:32:27.2,41°.12N×20°.84E,h15km*
*ATH **21** 10:32:27.6,41°.24N×20°.98E,h13km±2km,ML3.4/11,Error ellipse: s-maj=2.9km s-min=1.1km az=223.0*
*THE **21** 10:32:28.5,41°.19N×20°.87E,h0km±1km,ML3.4/10,Error ellipse: s-maj=1.8km s-min=0.5km az=50.0*
*PDG **21** 10:32:28.4±0.4,41°.20N×20°.92E,h5km,MD3.9/5, ML3.8/13,Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*IDC **21** 10:32:29.6±5.1,41°.23N×20°.73E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.3/43,mbtmp3.5/4,ML3.4/2,MS2.8/2, Ms1 2.8/2,ms1mx2.4/36,Error ellipse: s-maj=61.9km s-min=18.6km az=167.0*
*BEO **21** 10:32:29.3±0.4,41°.18N×20°.92E,h5km±3km,ML3.6/22*
ISC 21 10:32:27.7±1.1,41°.18N±0°.01×20°.93E±0°.02,h1km±9km, n155,σ1s46/217,19C-20D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.11**	**236**	⇓*i*Pg	**Pg**	**10 32 30.2**	**+0.2**
OHR				*i* Sg	**Sg**	**10 32 31.8**	**+0.4**
OHR				*e*Lg	Lg	10 32 31.8	
	comp=N,44μm,0.3s						
OHR				*e*Lg	Lg	10 32 32.5	
	comp=E,63μm,0.8s						
OHR	**Ohrid**	**0.11**	**236**	P	**Pg**	**10 32 30.1**	**+0.2**
	baz=237						
OHR				S	**Sg**	**10 32 33.0**	**+1.6**
	baz=237						
PHP	**Peshkopia**	**0.63**	**325**	P	**Pg**	**10 32 39.4**	**-0.3**
PHP				S	**Sg**	**10 32 48.3**	**+0.4**
PHP	**Peshkopia**	**0.63**	**325**	P	**Pg**	**10 32 39.2**	**-0.6**
	baz=321						
PHP				S	**Sg**	**10 32 48.5**	**+0.6**
	baz=321						
NEST	**Nestorio**	**0.77**	**173**	P	**Pg**	**10 32 42.7**	**+0.3**
NEST				S	**Sb**	**10 32 54.1**	**-0.8**
	comp=E,3μm,0.5s						
NEST	**Nestorio**	**0.77**	**173**	P	**Pg**	**10 32 42.7**	**+0.3**
NEST				S	**Sb**	**10 32 54.9**	**0.0**
NEST				AML	AML	10 32 56.6	
	comp=N,7257μm,0.5s						
NEST				AML	AML	10 32 58.1	
	comp=E,9343μm,0.5s						
TIR	**Tirane**	**0.82**	**283**	P	**Pg**	**10 32 43.0**	**-0.4**
TIR				S	**Sb**	**10 32 54.8**	**-1.5**
	comp=E,1μm,0.8s						
TIR	**Tirane**	**0.82**	**283**	*e*Pg	**Pg**	**10 32 43.0**	**-0.4**
TIR				*e*Sg	**Sb**	**10 32 56.0**	**-0.3**
TIR	**Tirane**	**0.82**	**283**	P	**Pg**	**10 32 42.9**	**-0.5**
TIR				S	**Sb**	**10 32 56.0**	**-0.3**
TIR				AML	AML	10 32 59.3	
	comp=E,6136μm,0.6s						
TIR				AML	AML	10 33 02.2	
	comp=N,7498μm,1.0s						
TIR	**Tirane**	**0.82**	**283**	⇓S	**Sb**	**10 32 55.1**	**-1.1**
TIR	**Tirane**	**0.82**	**283**	P	**Pg**	**10 32 43.0**	**-0.4**
	baz=281						
TIR				S	**Sb**	**10 32 55.9**	**-0.3**
	baz=281						
SKO	**Skopje**	**0.89**	**26**	*e*Pg	**Pn**	**10 32 46.3**	**-1.1**
SKO				*e*Sg	**Sb**	**10 32 57.7**	**-0.6**
SKO	**Skopje**	**0.89**	**26**	⇓*i*Pg	**Pn**	**10 32 46.4**	**-1.0**
SKO				*i* Sg	**Sn**	**10 32 59.0**	**-1.9**
SKO				*e*Lg	Lg	10 32 59.3	
	comp=N,353nm,0.3s						
SKO				*e*Lg	Lg	10 32 59.7	
	comp=E,115nm,0.3s						
SKO	**Skopje**	**0.89**	**26**	P	**Pg**	**10 32 43.2**	**-1.5**
	baz=24						
PENT	**Pentalofos**	**0.99**	**171**	P	**Pb**	**10 32 47.5**	**-0.3**
PENT				S	**Sn**	**10 33 03.1**	**-0.5**
	comp=E,4μm,0.9s						
PENT	**Pentalofos**	**0.99**	**171**	P	**Pb**	**10 32 47.6**	**-0.1**
PENT				S	**Sn**	**10 33 02.5**	**-1.1**
PENT				AML	AML	10 33 05.2	
	comp=E,12510μm,1.3s						
PENT				AML	AML	10 33 08.8	
	comp=N,3935μm,0.4s						
LSK	**Leskovik**	**1.05**	**194**	P	**Pg**	**10 32 48.1**	**+0.2**
LSK				S	**Sn**	**10 33 03.3**	**-1.8**
	comp=N,2μm,0.7s						
LSK	**Leskovik**	**1.05**	**194**	P	**Pg**	**10 32 48.2**	**+0.2**
	baz=196						
LSK				S	**Sn**	**10 33 04.5**	**-0.6**
	baz=196						
KZN	**Kozani**	**1.08**	**143**	P	**Pb**	**10 32 49.0**	**-0.3**
KZN				S	**Sn**	**10 33 06.9**	**+1.2**
	comp=N,2μm,0.5s						
KZN	**Kozani**	**1.08**	**143**	P	**Pb**	**10 32 48.8**	**-0.5**
KZN				S	**Sn**	**10 33 04.4**	**-1.3**
KZN				AML	AML	10 33 08.6	
	comp=N,2928μm,0.5s						
KZN				AML	AML	10 33 11.4	
	comp=E,4040μm,0.4s						
STIP	**Stip**	**1.08**	**61**	⇑*i*Pg	**Pn**	**10 32 52.8**	**+2.8**
STIP				*i* Sg	**Sn**	**10 33 11.1**	**+5.4**
STIP				*e*Lg	Lg	10 33 11.6	
	comp=N,296nm,0.4s						
STIP				*e*Lg	Lg	10 33 13.2	
	comp=E,984nm,0.5s						
PUK	**Puka**	**1.16**	**319**	P	**Pb**	**10 32 49.2**	**-1.5**
	baz=317						
PUK				S	**Sn**	**10 33 06.4**	**-1.5**
	baz=317						
KTI	**Kastanea**	**1.20**	**130**	P	**Pg**	**10 32 52.0**	**+1.4**
VLO	**Vlora**	**1.29**	**237**	P	**Pg**	**10 32 52.8**	**+0.3**
	baz=238						
VLO				S	**Sg**	**10 33 11.5**	**+2.2**
	baz=238						
BCI	**Bajram Curri**	**1.35**	**332**	P	**Pb**	**10 32 53.2**	**-0.7**
	baz=331						
BCI				S	**Sg**	**10 33 12.1**	**+0.9**
	baz=331						
SRN	**Sarande**	**1.47**	**209**	P	**Pb**	**10 32 55.7**	**-0.2**
	baz=210						
SRN				S	**Sg**	**10 33 16.3**	**+1.3**
	baz=210						
ULC	**Ulcinj**	**1.49**	**303**	⇓*i*Pg	**Pn**	**10 32 54.9**	**-0.8**
ULC				*i* Sg	**Sg**	**10 33 17.9**	**+2.4**
JAN	**Janina**	**1.52**	**182**	P	**Pg**	**10 32 57.0**	**+0.2**
JAN				S	**Sg**	**10 33 17.3**	**+0.8**
JAN	**Janina**	**1.52**	**182**	P	**Pg**	**10 32 56.9**	**+0.2**
JAN				S	**Sg**	**10 33 19.1**	**+2.7**
JAN				AML	AML	10 33 26.2	
	comp=N,1561μm,0.7s						
JAN				AML	AML	10 33 27.4	
	comp=E,2754μm,0.6s						
PVY	**Plav**	**1.59**	**333**	*e*Pg	**Pb**	**10 32 57.1**	**-0.9**
PVY				*i* Sg	**Sg**	**10 33 20.7**	**+1.8**
DRME	**Dracevica, Mon**	**1.65**	**308**	*e*Pn	**Pb**	**10 32 58.2**	**-0.8**
DRME				*i* Sn	**Sg**	**10 33 22.9**	**+2.2**
DRME	**Dracevica, Mon**	**1.65**	**308**	*e*Pn	**Pb**	**10 32 57.9**	**-1.1**
KEK	**Kerkira**	**1.69**	**211**	P	**Pb**	**10 32 59.5**	**-0.2**
KEK				S	**Sg**	**10 33 22.3**	**+0.2**
	comp=E,545nm,1.5s						
KEK	**Kerkira**	**1.69**	**211**	P	**Pg**	**10 33 00.0**	**-0.1**
KEK				S	**Sg**	**10 33 23.8**	**+1.7**
KEK				AML	AML	10 33 30.4	
	comp=E,854μm,0.6s						
KEK				AML	AML	10 33 30.9	
	comp=N,910μm,1.6s						
IGT	**Igoumenitsa**	**1.70**	**196**	P	**Pg**	**10 33 00.1**	**-0.2**
IGT				S	**Sg**	**10 33 22.9**	**+0.5**
	comp=N,1μm,1.2s						
IGT	**Igoumenitsa**	**1.70**	**196**	*e*Pg	**Pg**	**10 33 01.3**	**+1.0**
IGT	**Igoumenitsa**	**1.70**	**196**	P	**Pg**	**10 33 00.8**	**+0.4**
IGT				AML	AML	10 33 26.7	
	comp=E,2518μm,1.1s						
IGT				AML	AML	10 33 27.1	
	comp=N,1808μm,1.1s						
IGT	**Igoumenitsa**	**1.70**	**196**	P	**Pb**	**10 32 59.2**	**-0.7**
	baz=197						
IGT				S	**Sg**	**10 33 23.2**	**+0.8**
	baz=197						
HORT	**Hortiatis**	**1.75**	**109**	P	**Pb**	**10 32 59.9**	**-0.8**
HORT				S	**Sb**	**10 33 22.4**	**-0.7**
HORT				AML	AML	10 33 29.7	
	comp=E,217μm,0.5s						
HORT				AML	AML	10 33 34.9	
	comp=N,519μm,0.8s						
BOSS	**Bosilegrad**	**1.76**	**41**	*e*Pg	**Pb**	**10 33 00.8**	**0.0**
BOSS				*e*Sg	**Sg**	**10 33 25.2**	**+1.0**
KKB	**Krupnik**	**1.76**	**66**	*e*P	**Pg**	**10 33 01.0**	**-0.5**
PDG	**Podgorica**	**1.77**	**316**	*e*Pg	**Pb**	**10 33 00.9**	**-0.1**
PDG				*e*Sg	**Sg**	**10 33 24.1**	**-0.5**
PDG	**Podgorica**	**1.77**	**316**	⇓P	**Pb**	**10 33 00.5**	**-0.5**
PDG	**Podgorica**	**1.77**	**316**	⇓S	**Sg**	**10 33 25.1**	**+0.5**
PDG	**Podgorica**	**1.77**	**316**	⇑*i*Pn	**Pb**	**10 33 00.4**	**-0.6**
TTG	**Podgorica**	**1.77**	**316**	⇑*i*Pn	**Pb**	**10 33 00.7**	**-0.7**
TTG	**Podgorica**	**1.77**	**316**	*e*Pn	**Pb**	**10 33 00.7**	**-0.3**
TTG				*i* Sn	**Sg**	**10 33 25.7**	**+1.1**
THL	**Klokotos Trika**	**1.81**	**152**	P	**Pb**	**10 33 01.2**	**-0.5**
THL				S	**Sg**	**10 33 25.8**	**-0.1**
	comp=N,505nm,0.8s						
THL	**Klokotos Trika**	**1.81**	**152**	P	**Pb**	**10 33 01.0**	**-0.6**
THL				AML	AML	10 33 31.5	
	comp=E,988μm,0.8s						
THL				AML	AML	10 33 31.6	
	comp=N,1086μm,0.8s						
IVA	**Berane**	**1.86**	**336**	⇑*i*Pn	**Pb**	**10 33 01.8**	**-0.8**
IVA	**Berane**	**1.86**	**336**	*e*Pn	**Pb**	**10 33 02.5**	**-0.1**
IVA				*i* Sn	**Sg**	**10 33 27.6**	**0.0**
SOH	**Sokhos**	**1.87**	**100**	P	**Pb**	**10 33 02.3**	**-0.5**
SOH	**Sokhos**	**1.87**	**100**	P	**Pb**	**10 33 01.3**	**-1.5**
SOH				S	**Sb**	**10 33 26.3**	**-0.4**
SOH				AML	AML	10 33 36.5	
	comp=E,2062μm,0.6s						
SOH				AML	AML	10 33 36.6	
	comp=N,1264μm,1.9s						
BUM	**Brajici-Budva**	**1.89**	**307**	⇓*i*Pn	**Pb**	**10 33 02.6**	**-0.5**
BUM				*i* Sn	**Sg**	**10 33 28.6**	**+0.1**
KOME	**Kolasin**	**1.98**	**328**	⇓*i*Pn	**Pb**	**10 33 03.7**	**-0.9**
KOME				*i* Sn	**Sg**	**10 33 30.5**	**-0.7**
SRS	**Serrai**	**2.02**	**91**	P	**Pb**	**10 33 04.1**	**-1.1**
SRS	**Serrai**	**2.02**	**91**	*e*Pg	**Pb**	**10 33 04.0**	**-1.0**
SRS	**Serrai**	**2.02**	**91**	P	**Pn**	**10 33 03.3**	**+0.4**
SRS				S	**Sb**	**10 33 29.3**	**-1.5**
SRS				AML	AML	10 33 44.5	
	comp=E,390μm,0.9s						
SRS				AML	AML	10 33 44.7	
	comp=N,665μm,1.0s						
CEME	**Cevo**	**2.03**	**313**	⇑*i*Pn	**Pb**	**10 33 04.4**	**-1.1**
CEME				*i* Sn	**Sg**	**10 33 32.0**	**-1.0**
SELS	**Selova**	**2.05**	**4**	*e*Pg	**Pg**	**10 33 06.2**	**-0.8**
SELS				*e*Sg	**Sg**	**10 33 34.5**	**+1.0**
PLG	**Polygyros**	**2.08**	**112**	P	**Pb**	**10 33 04.8**	**-1.4**
MMB	**Musomiste**	**2.15**	**78**	*e*P	**Pg**	**10 33 08.6**	**-0.3**
NKME	**Niksic**	**2.17**	**318**	*e*Pn	**Pb**	**10 33 06.4**	**-1.4**
NKME				*i* Sn	**Sb**	**10 33 35.2**	**0.0**
SCTE	**Santa Cesarea**	**2.17**	**240**	P	**Pb**	**10 33 07.6**	**-0.2**
	baz=241						
NKY	**Niksic**	**2.18**	**319**	⇑*i*Pn	**Pb**	**10 33 06.5**	**-1.6**
NKY				*i* Sn	**Sb**	**10 33 35.5**	**-0.1**
SJES	**Sjenica**	**2.20**	**342**	*e*Pg	**Pb**	**10 33 07.5

TIP	**Timpagrande**	**3.76**	**239**	⇓P		**Pn**	**10 33 25.2**	**-1.8**
HERR	**Herculane**	**3.86**	**16**	⇑P		**Pn**	**10 33 29.2**	**+0.9**
HERR	**Herculane**	**3.86**	**16**	⇑S		**Sn**	**10 34 16.5**	**+2.2**
FRGS	**Fruska Gora**	**4.06**	**349**	*e*Pn		**Pn**	**10 33 31.9**	**+0.8**
FRGS	**Fruska Gora**	**4.06**	**349**	⇑*i*Pn		**Pn**	**10 33 31.5**	**+0.4**
BANR	**Banloc**	**4.21**	**2**	⇑P		**Pn**	**10 33 33.7**	**+0.7**
GZR	**Gura Zlata**	**4.43**	**17**	*e*Pn		**Pn**	**10 33 37.0**	**+0.9**
GZR	**Gura Zlata**	**4.43**	**17**	⇓P		**Pn**	**10 33 37.5**	**+1.3**
GZR	**Gura Zlata**	**4.43**	**17**	⇓S		**Sn**	**10 34 31.3**	**+3.0**
BZS	**Buzias**	**4.47**	**6**	*e*Pn		**Pn**	**10 33 36.6**	**0.0**
BZS	**Buzias**	**4.47**	**6**	⇑P		**Pn**	**10 33 36.6**	**0.0**
BLY	**Banja Luka**	**4.50**	**324**	*e*Pn		**Pn**	**10 33 38.9**	**+1.8**
BLY	**Banja Luka**	**4.50**	**324**	*e*Pn		**Pn**	**10 33 35.4**	**-1.7**
LOT	**Lotru**	**4.75**	**25**	⇓P		**Pn**	**10 33 41.6**	**+1.0**
SIRR	**Siria**	**5.12**	**6**	⇓P		**Pn**	**10 33 46.2**	**+0.6**
MORH	**Mrgy, Hungar**	**5.30**	**343**	*e*Pn		**Pn**	**10 33 48.2**	**+0.2**
MLR	**Muntele Rosu**	**5.66**	**39**	Pn		Pn	10 33 57.7	+4.6
	comp=N,0.6nm,0.3s,baz=288,slow=11,SNR=5.6							
MLR				Sn		**Sn**	**10 35 01.6**	**+2.9**
	comp=N,0.6nm,0.3s,baz=275,slow=14,SNR=3.5							
MLR				Lg		Lg	10 35 32.4	
	baz=280,slow=20,SNR=1.4							
MLR	**Muntele Rosu**	**5.66**	**39**	⇑P		**Pn**	**10 33 53.9**	**+0.8**
MLR	**Muntele Rosu**	**5.66**	**39**	⇓S		**Sn**	**10 35 01.0**	**+2.3**
RIY	**Rijeka**	**6.27**	**314**	*e*Pn		**Pn**	**10 34 04.3**	**+3.0**
CEY	**Cerknica**	**6.57**	**316**	*e*Pn		**Pn**	**10 34 05.7**	**+0.2**
CEY	**Cerknica**	**6.57**	**316**	*e*Pn		**Pn**	**10 34 06.7**	**+1.2**
TPGR	**Topolog**	**6.61**	**54**	⇓P		**Pn**	**10 34 06.0**	**-0.1**
IDI	**Anoyia**	**6.65**	**151**	⇓S		**Sn**	**10 35 20.1**	**-3.1**
LJU	**Ljubljana**	**6.72**	**318**	*e*Pn		**Pn**	**10 34 08.8**	**+1.2**
PSZ	**Piszkesteto**	**6.78**	**354**	⇓P		**Pn**	**10 34 09.5**	**+1.1**
PSZ	**Piszkesteto**	**6.78**	**354**	⇑S		**Sn**	**10 35 29.3**	**+3.0**
SOKA	**Soboth**	**6.95**	**324**	*e*Pn		**Pn**	**10 34 12.1**	**+1.3**
	comp=N,0.7nm,0.3s							
SOKA				*e*Sn		**Sn**	**10 35 36.0**	**+5.4**
	comp=N,3.2nm,0.7s							
OBKA	**Obir**	**7.05**	**321**	*e*Pn		**Pn**	**10 34 13.6**	**+1.5**
	comp=N,6.7nm,1.1s							
OBKA				*e*Sn		**Sn**	**10 35 35.3**	**+2.4**
	comp=N,10.0nm,0.7s							
ARSA	**Arzberg**	**7.21**	**329**	*e*Pn		**Pn**	**10 34 14.8**	**+0.6**
ARSA	**Arzberg**	**7.21**	**329**	*e*Pn		**Pn**	**10 34 16.6**	**+2.3**
	comp=N,2.5nm,0.4s							
ARSA				*e*Sn		**Sn**	**10 35 41.9**	**+5.2**
	comp=N,4.1nm,0.4s							
KECS	**Kecovo**	**7.32**	**358**	*e*PN		**Pn**	**10 34 17.4**	**+1.7**
VYHS	**Vyhne**	**7.47**	**349**	*e*PN		**Pn**	**10 34 18.7**	**+0.9**
VYHS				*e*SN		**Sn**	**10 35 40.5**	**-2.6**
MYKA	**Terra Mystica**	**7.57**	**318**	*e*Pn		**Pn**	**10 34 21.0**	**+1.7**
	comp=N,1.2nm,0.4s							
MODS	**Modra-Piesok**	**7.65**	**341**	*e*PN		**Pn**	**10 34 22.1**	**+1.8**
CONA	**Conrad Observa**	**7.66**	**334**	*e*Pn		**Pn**	**10 34 21.8**	**+1.3**
	comp=N,5.5nm,1.1s							
CONA				*e*Sn		**Sn**	**10 35 50.7**	**+2.8**
	comp=N,3.1nm,0.5s							
KBA	**Koelnbreinsper**	**8.03**	**320**	*e*Pn		**Pn**	**10 34 27.6**	**+1.9**
	comp=N,3.3nm,0.6s							
ABTA	**Abfaltersbach**	**8.23**	**315**	*e*Pn		**Pn**	**10 34 29.7**	**+1.3**
	comp=N,5.0nm,0.6s							
ABTA				*e*Sn		**Sn**	**10 36 04.7**	**+2.6**
	comp=N,8.6nm,0.8s							
WTTA	**Wattenberg**	**9.03**	**316**	*e*Pn		**Pn**	**10 34 41.4**	**+2.1**
	comp=N,3.2nm,0.4s							
WTTA				*e*Sn		**Sn**	**10 36 21.7**	**0.0**
	comp=N,1.0nm,0.1s							
WATA	**Walderalm**	**9.10**	**316**	*e*Pn		**Pn**	**10 34 41.2**	**+0.8**
	comp=N,4.1nm,0.6s							
WATA				*e*Sn		**Sn**	**10 36 26.0**	**+2.5**
	comp=N,1.3nm,0.1s							
GERES	**GERESS Array B**	**9.21**	**329**	Pn		**Pn**	**10 34 43.7**	**+1.8**
	comp=N,0.2nm,0.3s,baz=150,slow=14,SNR=6.9							
SQTA	**Sankt Quirin**	**9.23**	**314**	*e*Pn		**Pn**	**10 34 43.2**	**+1.2**
	comp=N,3.6nm,0.4s							
SQTA				*e*Sn		**Sn**	**10 36 27.3**	**+0.8**
	comp=N,3.3nm,0.4s							
MOTA	**Moosalm**	**9.36**	**315**	*e*Pn		**Pn**	**10 34 45.7**	**+1.8**
	comp=N,6.0nm,0.6s							
MOTA				*e*Sn		**Sn**	**10 36 28.9**	**-0.9**
	comp=N,4.1nm,0.6s							
FETA	**Feichten**	**9.37**	**312**	*e*Pn		**Pn**	**10 34 46.1**	**+2.0**
	comp=N,5.0nm,0.9s							
FETA				*e*Sn		**Sn**	**10 36 33.0**	**+2.8**
	comp=N,2.4nm,0.6s							
DAVOX	**Davos/Dischmat**	**9.73**	**309**	LR		LR	10 38 47.1	
	comp=N,105nm,21.6s,baz=300,slow=39							
EIL	**Elat**	**16.18**	**131**	LR		LR	10 44 57.7	
	comp=N,20nm,21.6s,baz=284,slow=46							
FINES	**FINESS Array B**	**20.54**	**7**	P		**P**	**10 37 07.0**	**-0.3**
	comp=N,1.6nm,0.7s,baz=175,slow=18,SNR=1.7							
NB2	**NORSAR Subarra**	**20.76**	**347**	P		**P**	**10 37 09.5**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=161,slow=12							
NOA	**NORSAR Array B**	**20.76**	**347**	P		**P**	**10 37 09.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=162,slow=10,SNR=4.8							

*DJA **21** 10:45:30.3±0.2, 1°N±2°×12°2E±°, h104km±3km, M4.4/16, mb4.6/14, mB4.8/7, MLv4.7/16, Mw(mB)4.0/7*
*NEIC **21** 10:45:31.5±1.4, 0.°44N±0.°06×122.°36E±0.°05, h131km±6km, mb4.5/35, Error ellipse: s-maj=9.5km s-min=5.1km az=141.0*
*IDC **21** 10:45:32.0±3.9, 0.°46N×122.°36E, h133km±35km, mb3.8/9, mb1 4.0/11, mb1mx3.7/38, mbtmp4.3/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=40.4km s-min=11.4km az=60.0*

ISC 21 10:45:30.4±0.7, 0.°52N±0.°05×122.°39E±0.°05, h118km±7km, n84, σ1°914/96, mb4.4/26, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.63**	**80**	P		**Pn**	**10 45 47.3**	**-1.7**
GTOI				S		**Sn**	**10 46 00.2**	**-2.9**
KMSI	**Cibinong**	**1.59**	**88**	P		**Pn**	**10 45 59.4**	**+0.6**
KMSI				S		**Sn**	**10 46 22.4**	**+2.0**
LUWI	**Luwuk**	**1.60**	**166**	P		**Pn**	**10 45 59.0**	**+0.2**
LUWI				S		**Sn**	**10 46 21.2**	**+0.6**
LUWI	**Luwuk**	**1.60**	**166**	Pn		**Pn**	**10 45 59.1**	**+0.2**
LUWI				Sn		**Sn**	**10 46 23.9**	**+3.3**
APSI	**Ampana**	**1.60**	**208**	P		**Pn**	**10 45 58.5**	**-0.4**
MPSI	**Mapaga**	**2.50**	**266**	P		**Pn**	**10 46 08.5**	**-1.6**
MPSI				S		**Sn**	**10 46 39.2**	**-1.4**
TTSI	**Tana Toraja**	**4.38**	**216**	P		**Pn**	**10 46 34.8**	**-0.2**
SANI	**Sanana**	**4.41**	**125**	P		**Pn**	**10 46 34.1**	**-1.3**
SGSI	**Sangihe**	**4.44**	**45**	P		**Pn**	**10 46 36.5**	**+0.7**
TNTI	**Ternate**	**4.98**	**87**	Pn		**Pn**	**10 46 43.5**	**+0.4**
SPSI	**Sidrap Palu**	**5.17**	**210**	P		**Pn**	**10 46 45.6**	**0.0**
	0.8nm2µm182nm,0.7s							
BKB	**Balikpapan**	**5.77**	**252**	P		**Pn**	**10 46 52.2**	**-1.6**
	0.7nm3µm154nm,0.6s							
BKB	**Balikpapan**	**5.77**	**252**			**Pn**	**10 46 52.1**	**-1.6**
MYLDM	**Lahad Datu**	**6.04**	**320**	Pn		**Pn**	**10 46 59.1**	**+1.8**
KAPI	**Kappang**	**6.10**	**206**	P		**Pn**	**10 46 58.5**	**+0.4**
	18nm,0.3s,baz=28,slow=2.0,SNR=19							
KAPI				S		**Sn**	**10 48 07.7**	**+1.0**
	3.1nm,0.3s,baz=70,slow=22,SNR=1.1							
KAPI				LR		LR	10 49 46.8	
	comp=Z,150nm,20.0s,baz=78,slow=42							
KAPI	**Kappang**	**6.10**	**206**	Pn		**Pn**	**10 46 57.4**	**-0.8**
BKSI	**Bulukumba**	**6.23**	**201**	P		**Pn**	**10 46 59.8**	**-0.2**
	0.2nm568nm42nm,0.5s							
BSSI	**Bau Bau, Buton**	**6.89**	**196**	P		**Pn**	**10 47 10.3**	**+1.5**
	0.1nm526nm38nm,0.6s							
KBKI	**Kotabaru**	**7.29**	**239**	P		Pn	10 47 25.4	+11
MTKI	**Muara Teweh, K**	**7.63**	**259**	P		**Pn**	**10 47 20.4**	**+1.5**
KKM	**Kota Kinabalu**	**8.25**	**312**	Pn		**Pn**	**10 47 29.4**	**+2.0**
MMRI	**Maumere**	**9.10**	**181**	Pn		**Pn**	**10 47 39.6**	**+0.9**
EDFI	**Ende, Flores**	**9.24**	**184**	P		**Pn**	**10 47 41.7**	**+1.0**
	11nm,0.7s							
SBUM	**Sibu**	**10.35**	**281**	Pn		**Pn**	**10 47 55.9**	**+0.3**
FAKI	**Fak Fak**	**10.43**	**109**	Pn		**Pn**	**10 47 55.9**	**-0.9**
MTN	**Manton Dam**	**15.86**	**147**	Pn		**Pn**	**10 49 05.4**	**-1.7**
MTN				IAmb		IAmb	10 49 09.9	
	comp=Z,36nm,1.4s							
KNRA	**Kununurra**	**17.28**	**159**	P		**P**	**10 49 25.1**	**+1.0**
KNRA				IAmb		IAmb	10 49 28.2	
	comp=Z,13nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.78**	**170**	P		**P**	**10 49 41.1**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=0.8,slow=7.5,SNR=97							
FITZ	**Fitzroy Crossi**	**18.78**	**170**	P		**P**	**10 49 40.2**	**-0.3**
FITZ				IAmb		IAmb	10 49 42.0	
	comp=Z,23nm,0.7s							
MDSI	**Maura Dua**	**18.86**	**255**	P		**P**	**10 49 41.8**	**+0.3**
	comp=Z,14nm,0.8s							

PSA00	**Pilbara Seismi**	**22.10**	**186**	P		**P**	**10 50 14.6**	**-1.6**
PSA00				IAmb		IAmb	10 50 15.9	
	comp=Z,9.0nm,0.7s							
TPUB	**Ta-pu**	**22.71**	**356**	P		**P**	**10 50 24.1**	**+1.8**
TPUB				IAmb		IAmb	10 50 28.4	
	comp=Z,14nm,1.0s							
WB0	**Warramunga Arr**	**23.35**	**150**	P		**P**	**10 50 27.9**	**-0.5**
WRAB	**Tennant Creek**	**23.47**	**151**	P		**P**	**10 50 29.2**	**-0.3**
WRA	**Warramunga Arr**	**23.47**	**151**	P		**P**	**10 50 28.6**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=328,slow=11,SNR=50							
WRA				PcP		**PcP**	**10 54 11.6**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=324,slow=2.3,SNR=14							
WRA	**Warramunga Arr**	**23.47**	**151**	P		**P**	**10 50 27.2**	**-2.3**
WB2	**Warramunga Arr**	**23.48**	**151**	P		**P**	**10 50 29.0**	**-0.6**
RPSI	**Rantau Prapat**	**23.55**	**276**	P		**P**	**10 50 30.0**	**-0.3**
RPSI				IAmb		IAmb	10 50 31.1	
	comp=Z,19nm,1.2s							
WR0	**Warramunga Arr**	**23.58**	**150**	P		**P**	**10 50 29.7**	**-0.8**
GSI	**Gunungsitoli**	**24.82**	**272**	P		**P**	**10 50 41.3**	**-0.5**
AS31	**Alice Springs**	**26.52**	**156**	P		**P**	**10 50 56.8**	**-0.3**
ASAR	**Alice Springs**	**26.52**	**156**	P		**P**	**10 50 57.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=344,slow=14,SNR=46							
ASAR				PcP		**PcP**	**10 54 18.7**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=346,slow=2.1,SNR=39							
ASAR	**Alice Springs**	**26.52**	**156**	P		**P**	**10 50 56.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**29.12**	**309**	P		**P**	**10 51 21.1**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=132,slow=7.7,SNR=13							
CMAR				PcP		**PcP**	**10 54 25.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=162,slow=1.8,SNR=6.4							
CMAR	**Chiang Mai Arr**	**29.12**	**309**	P		**P**	**10 51 21.2**	**+0.9**
CMAR						**PcP**	**10 54 24.9**	**-0.6**
CHTO	**Chiang Mai**	**29.32**	**310**	P		**P**	**10 51 22.6**	**+0.6**
CHTO				IAmb		IAmb	10 51 24.2	
	comp=Z,6.6nm,1.0s							
MORW	**Morawa**	**30.04**	**191**	P		**P**	**10 51 27.4**	**-0.9**
MORW				IAmb		IAmb	10 51 28.3	
	comp=Z,16nm,0.9s							
FORT	**Forrest**	**31.59**	**171**	P		**P**	**10 51 41.7**	**-0.2**
NWAO	**Narrogin (SRO)**	**33.62**	**188**	P		**P**	**10 51 58.4**	**-1.2**
NWAO				IAmb		IAmb	10 52 00.0	
	comp=Z,8.5nm,0.8s							
NWAO	**Narrogin (SRO)**	**33.62**	**188**	P		**P**	**10 51 58.4**	**-1.2**
NWAO				IAmb		IAmb	10 52 00.0	
	comp=Z,10nm,0.7s							
BBOO	**Buckleboo**	**35.58**	**160**	P		**P**	**10 52 16.0**	**-0.4**
BBOO				IAmb		IAmb	10 52 45.1	
	comp=Z,13nm,1.4s							
XAN	**Xi'an**	**35.65**	**341**	P		**P**	**10 52 15.8**	**-1.3**
XAN				pP		sP	10 52 58.0	+1.6
XAN				pmax		pmax		
	comp=Z,5.0nm,2.1s							
STKA	**Stephens Creek**	**37.00**	**152**	P		**P**	**10 52 28.8**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=340,slow=8.1,SNR=14							
STKA				PcP		**PcP**	**10 54 46.8**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=285,slow=6.2,SNR=3.7							
STKA	**Stephens Creek**	**37.00**	**152**	P		**P**	**10 52 28.7**	**+0.2**
STKA						**PcP**	**10 54 46.5**	**-0.8**
LZH	**Lanzhou**	**39.36**	**336**	⇑P		**P**	**10 52 50.0**	**+1.5**
LZH				pP		pP	10 53 18.5	+3.4
LZH				sP		sP	10 53 33.3	+4.8
LZH				PP		**PnPn**	**10 54 27.1**	**+1.9**
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
LZH				pmax		pmax		
	comp=Z,62nm,5.2s							
HHC	**Hu-ho-hao-te**	**41.33**	**348**	*e*P		**P**	**10 53 06.4**	**+1.8**
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,150nm,6.6s							
CAN	**Canberra**	**43.46**	**148**	P		**P**	**10 53 23.6**	**+1.7**
CAN				IAmb		IAmb	10 53 45.4	
	comp=Z,31nm,1.5s							
GTA	**Gaotai**	**43.86**	**335**	*e*P		**P**	**10 53 26.5**	**+1.4**
GTA				pP		pP	10 53 44.0	-8.1
GTA				sP		sP	10 53 51.3	-14
GTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SONM	**Songino Array**	**49.13**	**346**	P		**P**	**10 54 07.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=172,slow=9.6,SNR=4.2							
SONM	**Songino Array**	**49.13**	**346**	P		**P**	**10 54 07.2**	**+1.0**
WMQ	**Urumqi**	**53.03**	**329**	*e*P		**P**	**10 54 37.8**	**+2.5**
NIL	**Nilore**	**56.59**	**311**	P		**P**	**10 55 01.2**	**+0.2**
KSH	**Kashi**	**57.38**	**318**	P		**P**	**10 55 08.0**	**+1.3**
KSH				pmax		pmax		
	comp=Z,12nm,0.4s							
MK31	**Makanchi Array**	**57.85**	**328**	P		**P**	**10 55 10.1**	**+0.4**
MK31				IAmb		IAmb	10 55 10.6	
	comp=Z,2.2nm,0.5s							
MKAR	**Makanchi Array**	**57.85**	**328**	P		**P**	**10 55 10.2**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=124,slow=8.5,SNR=46							
MKAR	**Makanchi Array**	**57.85**	**328**	P		**P**	**10 55 10.1**	**+0.3**
MAKZ	**Makanchi**	**58.02**	**328**	P		**P**	**10 55 11.4**	**+0.4**
MAKZ				IAmb		IAmb	10 55 13.1	
	comp=Z,4.9nm,1.1s							
KBL	**Kabul**	**60.14**	**310**	P		**P**	**10 55 25.9**	**0.0**
GAR	**Garm**	**61.01**	**315**			**P**	**10 55 32.6**	**+0.9**
ZAA0	**Zalesovo Array**	**61.59**	**336**	P		**P**	**10 55 34.3**	**-0.8**
ZAA0				IAmb		IAmb	10 55 35.7	
	comp=Z,4.3nm,0.9s							
ZALV	**Zalesovo Beam**	**61.59**	**336**	P		**P**	**10 55 34.4**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=116,slow=6.8,SNR=8.4							
ZALV	**Zalesovo Beam**	**61.59**	**336**	P		**P**	**10 55 33.6**	**-1.5**
CHGR	**Chuyangaron**	**61.69**	**315**	P		**P**	**10 55 36.0**	**-0.2**
KURK	**Kurchatov**	**62.22**	**330**	P		**P**	**10 55 39.0**	**-0.4**
BRVK	**Borovoye**	**67.80**	**329**			**P**	**10 56 14.4**	**-1.1**
BRVK				IAmb		IAmb	10 56 16.7	
	comp=Z,6.2nm,0.9s							
GEYT	**Alibeck**	**69.59**	**311**	P		**P**	**10 56 27.4**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=156,slow=8.1,SNR=5.2							
GEYT	**Alibeck**	**69.59**	**311**	P		**P**	**10 56 26.9**	**0.0**
ABKAR	**Akbulak array**	**71.95**	**322**	P		**P**	**10 56 40.8**	**-0.2**
CRZF	**Crozet Islands**	**77.06**	**222**	P		**P**	**10 57 08.9**	**-1.6**
VNDA	**Vanda**	**80.84**	**172**	P		**P**	**10 57 30.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=318,slow=5.8,SNR=6.6							
VNDA	**Vanda**	**80.84**	**172**	P		**P**	**10 57 31.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**119.68**	**285**	PKP		**PKPdf**	**11 04 06.0**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=86,slow=1.7,SNR=11							
TORD	**Torodi Ar. Bea**	**119.68**	**285**			**PKPdf**	**11 04 06.4**	**-1.1**
TXAR	**Lajitas Array**	**126.98**	**52**	PKP		**PKPdf**	**11 04 21.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=216,slow=1.5,SNR=5.9							

PRE 21 10:45:37.3±1.0, 25.°83S×29.°67E, h0km, ML1.9, Explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MAGG	**Maguga Dam**	**1.46**	**100**		AML	AML	10 46 29.3	
	comp=Z,50nm,0.3s							
MAGG	**Maguga Dam**	**1.46**	**100**	*e*P		Pb	10 46 05.6	+0.2
MAGG	**Maguga Dam**	**1.46**	**100**	*e*S		Sn	10 46 25.7	+0.9
POGA	**Pongola**	**2.37**	**130**	*e*P		Pn	10 46 17.9	+0.5
POGA	**Pongola**	**2.37**	**130**	*e*S		Sn	10 46 46.8	-0.4
POGA	**Pongola**	**2.37**	**130**		AML	AML	10 46 57.7	
	comp=Z,7.9nm,0.4s							
MOPA	**Mopani**	**2.79**	**35**	*e*P		Pn	10 46 23.4	+0.2
MOPA	**Mopani**	**2.79**	**35**	*e*S		Sn	10 46 58.1	+0.4
MOPA	**Mopani**	**2.79**	**35**		AML	AML	10 47 08.4	
	comp=Z,5.2nm,0.4s							
LBTB	**Lobatse**	**3.77**	**282**	*e*P		Pn	10 46 37.3	+0.4
LBTB	**Lobatse**	**3.77**	**282**	*e*S		Sn	10 47 20.6	-1.4
LBTB	**Lobatse**	**3.77**	**282**		AML	AML	10 47 29.8	
	comp=Z,3.6nm,0.4s							
BOSA	**Boshof**	**4.81**	**234**	*e*P		Pn	10 46 51.9	+0.8
BOSA	**Boshof**	**4.81**	**234**	*e*S		Sn	10 47 46.9	-0.7
BOSA	**Boshof**	**4.81**	**234**		AML	AML	10 47 58.3	
	comp=Z,4.6nm,0.8s							

*EAF **21** 10:48:20.4±0.6, 26.°79S×28.°14E, h10km, MD3.8*
*BUL **21** 10:48:21.7±0.7, 26.°85S×28.°16E, h10km±999km, MD3.8*
*PRE **21** 10:48:23.1±1.0, 26.°43S×27.°75E, h2km, ML3.0*

ISC 21 10:48:23.5±1.0, 26.°41S±0.°03×27.°73E±0.°03, h8km±7km, n18, σ1°00/34, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**301**	*e*P		**Pg**	**10 48 26.5**	**+0.2**
KLOF				*e*S		**Sg**	**10 48 27.7**	**-0.7**
KLOF					AML	AML	10 48 29.7	
	comp=Z,10µm,0.3s							
WDLM	**Western Deep L**	**0.27**	**268**	*e*P		**Pg**	**10 48 29.7**	**+0.6**
WDLM				*e*S		**Sg**	**10 48 32.6**	**-0.1**
WDLM					AML	AML	10 48 33.8	
	comp=Z,4µm,0.4s							
ERPM	**east rand prop**	**0.47**	**81**	*e*P		**Pg**	**10 48 32.8**	**+0.1**
ERPM				*e*S		**Sg**	**10 48 38.5**	**-0.3**
ERPM					AML	AML	10 48 45.9	
	comp=Z,1µm,0.7s							
PRYS	**Parys**	**0.61**	**213**	*e*P		**Pg**	**10 48 35.0**	**-0.3**
PRYS				*e*S		**Sg**	**10 48 43.2**	**0.0**
PRYS					AML	AML	10 48 51.0	
	comp=Z,941nm,0.7s							
KSR	**Koster**	**0.93**	**307**	*e*P		**Pg**	**10 48 41.4**	**-0.1**
KSR				*e*S		**Sb**	**10 48 55.0**	**+0.2**
KSR					AML	AML	10 48 60.0	
	comp=Z,1µm,0.2s							
SWZ	**Schweizer**	**2.27**	**250**	*e*P		**Pn**	**10 49 02.8**	**+1.2**
SWZ				*e*S		**Sn**	**10 49 31.5**	**+1.6**
SWZ					AML	AML	10 49 35.2	
	comp=Z,270nm,0.6s							
LBTB	**Lobatse**	**2.37**	**305**	*i* P		**Pb**	**10 49 06.3**	**-0.4**
LBTB	**Lobatse**	**2.37**	**305**	*e*P		**Pn**	**10 49 03.9**	**+1.0**
LBTB				*e*S		**Sn**	**10 49 33.9**	**+1.6**
LBTB					AML	AML	10 49 37.1	
	comp=Z,122nm,0.3s							
LBTB	**Lobatse**	**2.37**	**305**	*i* P		**Pb**	**10 49 06.3**	**-0.4**
BOSA	**Boshof**	**3.10**	**224**	*e*P		**Pn**	**10 49 13.2**	**+0.2**
BOSA				*e*S		**Sn**	**10 49 50.5**	**+0.2**
BOSA					AML	AML	10 50 05.8	
	comp=Z,44nm,0.6s							
POGA	**Pongola**	**3.67**	**106**	*e*P		**Pn**	**10 49 20.9**	**+0.2**
POGA				*e*S		**Sn**	**10 50 04.1**	**-0.1**
POGA					AML	AML	10 50 22.1	
	comp=Z,125nm,0.5s							
MOPA	**Mopani**	**4.41**	**50**	*e*P		**Pn**	**10 49 30.8**	**0.0**
MOPA				*e*S		**Sn**	**10 50 22.2**	**-0.2**
MOPA					AML	AML	10 50 42.2	
	comp=Z,20nm,0.6s							
MATP	**Matopo**	**6.00**	**7**	*i* P		**Pn**	**10 49 53.8**	**+0.9**
MATP				*i* S		**Sn**	**10 51 00.9**	**-1.0**
MATP	**Matopo**	**6.00**	**7**	*i* P		**Pn**	**10 49 53.8**	**+0.9**
MATP				*i* S		**Sn**	**10 51 00.9**	**-1.0**
UPI	**Upington**	**6.07**	**250**	*e*P		**Pn**	**10 49 55.1**	**+1.3**
UPI				*e*S		**Sn**	**10 51 01.8**	**-1.8**
UPI					AML	AML	10 51 11.7	
	comp=Z,2.3nm,0.4s							
BLWY	**Bulawayo**	**6.30**	**8**	*i* P		**Pn**	**10 49 56.6**	**-0.4**
BLWY				*i* S		**Sn**	**10 51 07.8**	**-1.4**
BLWY	**Bulawayo**	**6.30**	**8**	*i* P		**Pn**	**10 49 56.6**	**-0.4**
BLWY				*i* S		**Sn**	**10 51 07.8**	**-1.4**
GRAN	**Grantham**	**7.61**	**218**	*e*P		**Pn**	**10 50 15.6**	**+0.8**
GRAN				*e*S		**Sn**	**10 51 38.6**	**-2.8**
GRAN					AML	AML	10 51 45.3	
	comp=Z,2.8nm,0.3s							

*NNC **21** 10:54:26.3±4.3, 40.°83N×69.°54E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=30.0km s-min=22.1km az=53.0*
*SOME **21** 10:54:26.2, 40.°85N×69.°57E, h15km*
*KRNET **21** 10:54:26.6±0.1, 40.°85N×69.°17E, mb3.0*

ISC 21 10:54:24.2±2.2, 40.°85N±0.°06×69.°1E±0.°1, h10km, n11, σ1°56/18, 7C-3D, Tajikistan

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

MOZ	McQueen's Vall	3.80	71	P		Pn	11 33 42.0	-1.5
AKCZ	Akaroa Harbour	3.91	75	P		Pn	11 33 43.9	-1.2
LTZ	Lake Taylor	4.00	57	P		Pn	11 33 44.1	-2.2
AMCZ	Amberley	4.03	64	P		Pn	11 33 45.1	-1.5
OKCZ	Okains Bay	4.07	73	P		Pn	11 33 46.0	-1.2
GVZ	Greta Valley S	4.37	64	P		Pn	11 33 49.6	-1.8
DSZ	Denniston Nort	4.45	44	P		Pn	11 33 51.7	-0.7
THZ	Tophouse	5.01	51	P		Pn	11 34 00.7	+0.5
QRZ	Quartz Range	5.50	42	P		Pn	11 34 06.1	-0.8
NNZ	Nelson	5.64	50	P		Pn	11 34 09.2	+0.4
TUWZ	Tuamarina	5.81	54	P		Pn	11 34 13.9	+2.7
DUWZ	D'Urville Isla	6.23	49	P		Pn	11 34 18.1	+1.2
CAW	Cannon Point	6.67	57	P		Pn	11 34 21.8	-1.2
MRZ	Mangatainoka R	7.26	56	P		Pn	11 34 29.7	-1.3
KHEZ	Kahui Hut	7.41	42	P		Pn	11 34 33.6	+0.5
PREZ	Palmer Road	7.44	42	P		Pn	11 34 35.1	+1.6
NEZ	North Egmont	7.46	42	P		Pn	11 34 34.5	+0.5
PKE	Pukeiti	7.47	41	P		Pn	11 34 34.7	+0.7
VRZ	Vera Road	7.90	44	P		Pn	11 34 40.9	+1.1
OTVZ	Oturere	8.33	48	P		Pn	11 34 49.1	+3.2
TLZ	Tolley Road	8.90	44	P		Pn	11 34 54.6	+1.0
WCZ	Waipu Caves	10.39	31	P		Pn	11 35 14.0	+0.1

IDC ***21*** *11:46:10.0±4.2,20°.47S×70°.05W,h0km,mb3.9/1,*
mb1 3.9/2,mb1mx3.5/18,mbtmp3.8/2,ML3.5/1,MS2.6/1,
Ms1 2.7/1,ms1mx2.4/21,Error ellipse: s-maj=143.8km
s-min=63.7km az=99.0
GUC ***21*** *11:46:18.4±0.7,19°.50S×70°.27W,h48km±1km,ML3.7*
ISC 21 11:46:18.6±1.1,19°.49S±0°.03×70°.32W±0°.07,h45km±9km,
n27,σ0s99/31,5C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSGC	**Pisagua**	**0.21**	**120**	*e*P		**Pn**	**11 46 26.4**	**-0.2**
PSGC				*i* S		**Sn**	**11 46 32.0**	**-0.3**
PB11	**IPOC Station P**	**0.68**	**114**	⇓*i*P		**Pn**	**11 46 32.2**	**+0.2**
PB11				*i* S		**Sn**	**11 46 42.1**	**+0.4**
MNMC	**Minye Minye**	**0.77**	**62**	⇓*i*P		**Pn**	**11 46 33.8**	**+0.5**
MNMC				*i* S		**Sn**	**11 46 44.9**	**+0.9**
MNMC				IAML			11 46 45.4	
	comp=N,12μm,0.1s							
TA02	**Huaiquique**	**0.80**	**167**	*e*P		**Pn**	**11 46 33.7**	**+0.2**
TA02				*i* S		**Sn**	**11 46 44.3**	**0.0**
TA02				IAML			11 46 46.8	
	comp=E,10μm,0.1s							
GO01	**Chusmiza**	**1.07**	**100**	*e*P		**Pn**	**11 46 38.0**	**+0.4**
GO01				*e*S		**Sn**	**11 46 52.7**	**+1.1**
TA01	**Diego Aracena**	**1.08**	**173**	⇑*i*P		**Pn**	**11 46 37.6**	**+0.3**
TA01				*i* S		**Sn**	**11 46 51.6**	**+0.5**
AP01	**Chacalluta**	**1.11**	**359**	*e*P		**Pn**	**11 46 38.4**	**+0.6**
AP01				*i* S		**Sn**	**11 46 53.2**	**+1.2**
AP01				IAML			11 46 59.5	
	comp=N,3μm,0.3s							
PB08	**IPOC Station P**	**1.27**	**121**	⇑*i*P		**Pn**	**11 46 40.8**	**+0.5**
PB08				*i* S		**Sn**	**11 46 57.4**	**+1.0**
PB08				IAML			11 47 01.0	
	comp=E,1μm,0.2s							
PATCX	**Punta Patache**	**1.33**	**173**	⇓*e*P		**Pn**	**11 46 41.4**	**+0.6**
PATCX				*i* S		**Sn**	**11 46 58.5**	**+1.0**
PATCX				IAML			11 47 02.7	
	comp=E,2μm,0.5s							
PB16	**IPOC Station P**	**1.38**	**34**	⇓*i*P		**Pn**	**11 46 42.7**	**+0.8**
PB16				*i* S		**Sn**	**11 47 01.0**	**+1.7**
PB01	**IPOC Station P**	**1.73**	**153**	⇑*i*P		**Pn**	**11 46 46.5**	**+0.2**
PB01				*i* S		**Sn**	**11 47 08.2**	**+0.9**
PB01				IAML			11 47 12.0	
	comp=E,1μm,0.2s							
PB07	**IPOC Station P**	**2.26**	**170**	⇑*i*P		**Pn**	**11 46 54.7**	**+1.0**
PB07				*i* S		**Sn**	**11 47 21.6**	**+1.2**
PB07				IAML			11 47 27.3	
	comp=E,616nm,0.3s							
PB09	**IPOC Station P**	**2.51**	**157**	*e*P		**Pn**	**11 46 58.7**	**+1.7**
PB09				*e*S		**Sn**	**11 47 27.6**	**+1.1**
PB09				IAML			11 47 40.8	
	comp=E,565nm,0.5s							
PB03	**IPOC Station P**	**2.60**	**168**	⇑*i*P		**Pn**	**11 46 59.1**	**+0.8**
PB03				*i* S		**Sn**	**11 47 30.1**	**+1.3**
PB03				IAML			11 47 36.4	
	comp=E,396nm,0.3s							
PB04	**IPOC Station P**	**2.83**	**177**	*e*P		**Pn**	**11 47 02.5**	**+1.0**
LPAZ	**La Paz**	**3.80**	**34**	Pn		Pn	11 47 20.6	+5.3
	comp=E,1.6nm,0.3s,baz=210,slow=6.2,SNR=35							
LPAZ				LR		LR	11 49 20.8	
	comp=E,63nm,19.6s,baz=264,slow=42							
H03N1	**Juan Fernandez**	**15.87**	**207**	T		T	12 06 18.8	
	baz=32,slow=73,SNR=44							
H03N2	**Juan Fernandez**	**15.88**	**207**	T		T	12 06 16.4	
	baz=32,slow=73,SNR=38							
H03N3	**Juan Fernandez**	**15.89**	**207**	T		T	12 06 15.4	
	baz=32,slow=73,SNR=37							
TORD	**Torodi Ar. Bea**	**77.94**	**71**	P		**P**	**11 58 10.9**	**-1.6**
	comp=E,0.7nm,0.6s,baz=262,slow=5.0,SNR=4.5							
H11S2	**WAKE ISLAND Hyd**	**16.29**	**279**	T		T	14 24 23.7	
	baz=101,slow=75,SNR=85							
H11S1	**WAKE ISLAND Hyd**	**16.30**	**279**	T		T	14 24 27.3	
	baz=101,slow=75,SNR=118							
H11S3	**WAKE ISLAND Hyd**	**16.31**	**279**	T		T	14 24 25.0	
	baz=101,slow=75,SNR=98							
H11N3	**WAKE ISLAND Hyd**	**16.32**	**281**	T		T	14 24 25.7	
	baz=100,slow=75,SNR=39							
H11N2	**WAKE ISLAND Hyd**	**16.34**	**281**	T		T	14 24 26.8	
	baz=100,slow=75,SNR=42							
H11N1	**WAKE ISLAND Hyd**	**16.34**	**281**	T		T	14 24 23.8	
	baz=100,slow=75,SNR=43							
MKAR	**Makanchi Array**	**144.73**	**33**	PKPbc		**PKPdf**	**12 05 49.0**	**-1.5**
	comp=E,0.3nm,0.5s,baz=325,slow=4.7,SNR=4.2							

IDC 21 11:49:35.8±4.8,13°.51S×165°.98E,h0km,mb3.4/3,
mb1 3.7/3,mb1mx3.5/32,mbtmp3.4/3,Error ellipse:
s-maj=229.9km s-min=36.1km az=142.0,Vanuatu
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**30.93**	**254**	P		P	11 55 54.9	+0.1
	0.2nm,0.5s,baz=85,slow=9.4,SNR=4.9							
ASAR	**Alice Springs**	**31.97**	**247**	P		P	11 56 03.6	-0.1
	0.4nm,0.9s,baz=74,slow=9.6,SNR=4.9							
ILAR	**Eielson Array**	**85.77**	**18**	P		P	12 02 16.5	-0.1
	0.3nm,0.5s,baz=240,slow=5.3,SNR=4.5							

IDC ***21*** *12:01:45.7±1.9,40°.01N×39°.69E,h0km,mb3.7/2,*
mb1 3.7/5,mb1mx3.4/32,mbtmp3.6/5,ML3.5/3,MS3.1/3,
Ms1 3.0/3,ms1mx2.6/41,Error ellipse: s-maj=25.9km
s-min=13.3km az=146.0
DDA ***21*** *12:01:46.6,39°.98N×39°.66E,h13km±2km,MW4.0*
ISK ***21*** *12:01:46.4,39°.99N×39°.66E,h4km,ML3.9/43*
ISC 21 12:01:47.5±0.9,39°.99N±0°.02×39°.66E±0°.02,h11km±7km,
n90,σ1s48/114,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EUZM	**Uzumlu**	**0.28**	**174**	*i* P		**Pg**	**12 01 53.0**	**-0.3**
EUZM				*i* S		**Sg**	**12 01 56.9**	**-0.2**
EUZM				IAML			12 01 58.0	
	comp=E,5μm,0.4s							
KELT	**Kelkit**	**0.35**	**298**	*i* P		**Pg**	**12 01 54.9**	**+0.4**
KELT				*i* S		**Sg**	**12 01 59.6**	**+0.3**
KELT				IAML			12 02 01.0	
	comp=N,9μm,0.2s							
KELT				IAML			12 02 01.0	
	comp=E,8μm,0.2s							
ERZN	**Erzincan**	**0.40**	**173**	PG		**Pg**	**12 01 55.1**	**-0.4**
ERZN				SG		**Sg**	**12 02 01.2**	**+0.3**
GUMT	**Gumushane**	**0.49**	**344**	PG		**Pg**	**12 01 56.9**	**-0.2**
GUMT				SG		**Sg**	**12 02 03.8**	**+0.1**
BAYB	**BAYBURT**	**0.53**	**59**	*i* P		**Pg**	**12 01 57.0**	**-0.9**
BAYB				*i* S		**Sg**	**12 02 04.3**	**-0.7**
BAYB				IAML			12 02 05.0	
	comp=N,9μm,0.3s							
BAYB				IAML			12 02 05.0	
	comp=E,5μm,0.5s							
BAYT	**Aydıntepe-Bayb**	**0.55**	**42**	PG		**Pg**	**12 01 57.6**	**-0.6**
BAYT				SG		**Sg**	**12 02 05.6**	**+0.1**
KOPT	**Kop Dagi**	**0.64**	**87**	*i* P		**Pg**	**12 01 59.7**	**-0.3**
KOPT				*i* S		**Sb**	**12 02 09.7**	**-0.3**
KOPT				IAML			12 02 10.0	
	comp=N,4μm,1.2s							
KOPT				IAML			12 02 16.0	
	comp=E,5μm,0.7s							
YEDI	**Yedisu-Bingol**	**0.88**	**129**	PG		**Pg**	**12 02 03.1**	**-1.3**
TNCL	**Tunceli-Merkez**	**0.88**	**186**	*i* P		**Pg**	**12 02 03.2**	**-1.2**
TNCL				*i* S		**Sg**	**12 02 16.6**	**+0.8**
TNCL				IAML			12 02 21.0	
	comp=N,2μm,0.4s							
TNCL				IAML			12 02 22.0	
	comp=E,3μm,0.6s							
REFA	**Refahiye_ERZN**	**0.91**	**230**	*i* P		Pg	12 02 00.4	-4.6
REFA				*i* S		**Sg**	**12 02 09.7**	**-7.2**
REFA				IAML			12 02 11.0	
	comp=N,2μm,0.3s							
REFA				IAML			12 02 11.0	
	comp=E,2μm,0.4s							
MACK	**Trabzon**	**0.96**	**5**	*i* P		**Pg**	**12 02 05.3**	**-0.6**
MACK				*i* S		**Sg**	**12 02 18.3**	**-0.1**
MACK				IAML			12 02 21.0	
	comp=N,13μm,0.2s							
MACK				IAML			12 02 23.0	
	comp=E,6μm,0.3s							
ILIC	**ilic-Erzincan**	**1.00**	**238**	PG		**Pg**	**12 02 05.7**	**-1.0**
ILIC				SG		**Sg**	**12 02 20.5**	**+0.8**
KTUT	**Trabzon**	**1.00**	**5**	PG		**Pg**	**12 02 06.0**	**-0.7**
EMRE	**Erzurum,Aziziy**	**1.01**	**87**	*i* P		**Pg**	**12 02 06.7**	**-0.3**
EMRE				IAML			12 02 27.0	
	comp=N,2μm,0.8s							
EMRE				IAML			12 02 38.0	
	comp=E,3μm,0.9s							
KRIK	**Erzurum-spir**	**1.03**	**70**	*i* P		**Pg**	**12 02 06.4**	**-1.0**
KRIK				*i* S		**Sg**	**12 02 20.5**	**-0.3**
KRIK				IAML			12 02 26.0	
	comp=N,1μm,0.9s							
PTK	**Pertek**	**1.11**	**191**	PN		**Pg**	**12 02 08.3**	**-0.6**
SUSE	**Susehri**	**1.14**	**282**	*i* P		**Pg**	**12 02 08.4**	**-1.0**
SUSE				*i* S		**Sg**	**12 02 24.4**	**+0.2**
SUSE				IAML			12 02 29.0	
	comp=N,2μm,0.3s							
SUSE				IAML			12 02 32.0	
	comp=E,2μm,0.5s							
KEMA	**Kemaliye**	**1.15**	**232**	*i* P		**Pg**	**12 02 08.6**	**-1.0**
KEMA				*i* S		**Sg**	**12 02 24.8**	**+0.2**
KEMA				IAML			12 02 31.0	
	comp=N,884nm,0.5s							
KEMA				IAML			12 02 32.0	
	comp=E,992nm,0.4s							
ESPY	**Espiye-Giresun**	**1.17**	**323**	PN		**Pg**	**12 02 08.9**	**-1.0**
KARO	**Karliova-Bingo**	**1.27**	**122**	PN		**Pg**	**12 02 11.2**	**-0.7**
BNGB	**Bingl**	**1.27**	**141**	PN		**Pn**	**12 02 11.3**	**+0.1**
ERZM	**Erzurum**	**1.31**	**93**	*i* P		**Pn**	**12 02 11.7**	**-0.3**
ARPR	**Arapgir-MALATY**	**1.36**	**229**	PN		**Pn**	**12 02 12.4**	**-0.1**
CHAY	**Cayeli-Rize**	**1.36**	**36**	PN		**Pn**	**12 02 12.2**	**-0.2**
CHOM	**Cayeli-Rize**	**1.39**	**37**	PN		**Pn**	**12 02 12.4**	**-0.4**
ELZG	**Elazig**	**1.58**	**200**	*i* P		**Pn**	**12 02 16.1**	**+0.6**
ELZG				*i* S		**Sg**	**12 02 38.8**	**+0.6**
ELZG				IAML			12 02 44.0	
	comp=E,1μm,0.7s							
ELZG				IAML			12 02 45.0	
	comp=N,814nm,0.5s							
VRTB	**Varto-Mus**	**1.62**	**120**	PN		**Pn**	**12 02 16.7**	**+0.7**
VRTB	**Varto-Mus**	**1.62**	**120**	*i* P		**Pn**	**12 02 17.2**	**+1.1**
VRTB				IAML			12 02 50.0	
	comp=N,1μm,2.0s							
VRTB				IAML			12 02 53.0	
	comp=E,1μm,0.9s							
SVRC	**Sivrice-ELAZID**	**1.63**	**190**	PN		**Pn**	**12 02 16.6**	**+0.3**
HANI	**Diyarbakir_Han**	**1.67**	**160**	*i* P		**Pn**	**12 02 17.7**	**+1.0**
HANI				*i* S		**Sb**	**12 02 40.0**	**+0.6**
HANI				IAML			12 02 45.0	
	comp=N,396nm,0.8s							
KOPR	**Koprukoy-ERZUR**	**1.69**	**89**	PN		**Pn**	**12 02 17.4**	**+0.4**
ORDU	**Ordu-Boztepe**	**1.70**	**307**	*i* P		**Pn**	**12 02 18.1**	**+1.0**
ORDU				*i* S		**Sn**	**12 02 40.3**	**+1.4**
ORDU				IAML			12 02 41.0	
	comp=N,1μm,0.3s							
ORDU				IAML			12 02 41.0	
	comp=E,1μm,0.3s							
HEKM	**Malatya_Hekimh**	**1.72**	**230**	*i* P		**Pn**	**12 02 18.4**	**+0.9**
HEKM				*i* S		**Sb**	**12 02 42.5**	**+1.6**
HEKM				IAML			12 02 46.0	
	comp=E,1μm,1.1s							
HEKM				IAML			12 02 47.0	
	comp=N,1μm,0.6s							
HOMI	**Horasan**	**1.73**	**87**	*i* P		**Pn**	**12 02 18.7**	**+1.1**
HOMI				IAML			12 02 54.0	
	comp=N,992nm,1.4s							
HOMI				IAML			12 02 57.0	
	comp=E,1μm,1.1s							
CUKAN	**kangal_SIVAS**	**1.82**	**249**	*i* P		**Pn**	**12 02 19.8**	**+1.0**
CUKAN				*i* S		**Sb**	**12 02 45.5**	**+1.8**
CUKAN				IAML			12 02 50.0	
	comp=N,577nm,0.8s							
CUKAN				IAML			12 02 50.0	
	comp=E,587nm,1.1s							
RSDY	**Resadiye-TOKAT**	**1.83**	**284**	PN		**Pn**	**12 02 19.9**	**+1.0**
DDEM	**Demirkent**	**1.83**	**60**	*i* P		**Pn**	**12 02 19.6**	**+0.6**
DDEM				IAML			12 02 50.0	
	comp=N,2μm,0.5s							
DDEM				IAML			12 02 50.0	
	comp=E,1μm,0.4s							
DBAD	**Bademkaya**	**1.86**	**56**	*i* P		**Pn**	**12 02 20.4**	**+1.0**
DBAD				IAML			12 02 51.0	
	comp=N,1μm,0.7s							
DBAD				IAML			12 02 57.0	
	comp=E,878nm,0.6s							
MUSM	**Mu-Merkez**	**1.91**	**131**	*i* P		**Pn**	**12 02 20.2**	**+0.1**
MUSM				IAML			12 02 54.0	
	comp=N,250nm,0.8s							
MALT	**Malatya**	**1.93**	**210**	PN		**Pn**	**12 02 20.9**	**+0.6**
SCER	**sogukcermik**	**1.95**	**267**	*i* P		**Pn**	**12 02 22.5**	**+1.9**
SCER				IAML			12 02 57.0	
	comp=E,1μm,0.7s							
SCER				IAML			12 02 58.0	
	comp=N,1μm,1.1s							
DAGI	**Agillar**	**2.03**	**57**	*i* P		**Pn**	**12 02 22.8**	**+1.1**
DAGI				IAML			12 02 52.0	
	comp=E,447nm,0.5s							
DAGI				IAML			12 02 54.0	
	comp=N,314nm,0.6s							
BCA	**Borcka**	**2.08**	**45**	PN		**Pn**	**12 02 23.1**	**+0.7**
DIYA	**Diyarbakir**	**2.09**	**170**	*i* P		**Pb**	**12 02 26.2**	**+0.8**
DIYA				*i* S		**Sn**	**12 02 49.4**	**+0.8**
DIYA				IAML			12 02 57.0	
	comp=E,372nm,1.3s							
DIYA				IAML			12 02 58.0	
	comp=N,265nm,0.9s							
SENK	**Senkaya-Erzuru**	**2.14**	**74**	PN		**Pn**	**12 02 23.9**	**+0.6**
AKCD	**Akcadag**	**2.16**	**219**	*i* P		**Pb**	**12 02 26.4**	**-0.3**
AKCD				IAML			12 03 06.0	
	comp=N,505nm,0.6s							
AKCD				IAML			12 03 07.0	
	comp=E,362nm,0.5s							
EATA	**Eleskirt**	**2.18**	**92**	*i* P		**Pb**	**12 02 27.4**	**+0.3**
EATA				IAML			12 03 16.0	
	comp=N,240nm,1.1s							
SVAN	**Silvan-Diyarba**	**2.19**	**146**	PN		**Pn**	**12 02 24.9**	**+1.1**
SVAN	**Silvan-Diyarba**	**2.19**	**146**	*i* P		**Pb**	**12 02 27.9**	**+0.7**
DARE	**Darende-Malaty**	**2.20**	**231**	PN		**Pn**	**12 02 24.8**	**+0.7**
BATM	**Batumi**	**2.23**	**43**	P		**Pn**	**12 02 24.9**	**+0.5**
BATM				S		**Sn**	**12 02 54.5**	**+2.5**
CUGUR	**Gurin_SVAS**	**2.24**	**236**	*i* P		**Pb**	**12 02 27.8**	**-0.2**
CUGUR				IAML			12 03 01.0	
	comp=N,674nm,0.7s							
CUGUR				IAML			12 03 03.0	
	comp=E,609nm,0.6s							
ERBA	**Erbaa**	**2.33**	**288**	*i* P		**Pb**	**12 02 29.2**	**-0.2**
GURO	**Guroymak-BITLI**	**2.33**	**127**	PN		**Pn**	**12 02 26.8**	**+0.9**
CUALT	**Altinyayla-SIV**	**2.35**	**253**	*i* P		**Pb**	**12 02 30.3**	**+0.3**
CUALT				IAML			12 03 09.0	
	comp=E,261nm,1.1s							
CUALT				IAML			12 03 19.0	
	comp=N,394nm,1.9s							
MLAZ	**Malazgirt-MUS**	**2.39**	**110**	PN		**Pn**	**12 02 27.4**	**+0.7**
TOKT	**Tokat**	**2.41**	**279**	PN		**Pn**	**12 02 28.2**	**+1.3**
AGRB	**Hanur-Agry**	**2.60**	**98**	PN		**Pn**	**12 02 30.5**	**+0.9**
URFA	**Urfa**	**2.63**	**195**	PN		**Pn**	**12 02 31.0**	**+1.1**
KARS	**Kars**	**2.69**	**75**	PN		**Pn**	**12 02 31.8**	**+1.0**
CUSAR	**Sarkisla-SIVAS**	**2.69**	**259**	*i* P		**Pn**	**12 02 33.7**	**+2.8**
CUSAR				IAML			12 03 20.0	
	comp=E,231nm,0.7s							
CUSAR				IAML			12 03 32.0	
	comp=N,207nm,0.7s							
EPOS	**Posof**	**2.78**	**56**	*i* P		**Pb**	**12 02 36.4**	**-0.8**
EPOS				IAML			12 03 24.0	
	comp=N,266nm,0.6s							
KVT	**Kavak**	**2.96**	**293**	PN		**Pn**	**12 02 35.9**	**+1.5**
SARI	**SarD1z-Kayseri**	**2.97**	**239**	PN		**Pn**	**12 02 35.4**	**+0.7**
AKDM	**Akdamar-Van**	**3.07**	**122**	PN		**Pn**	**12 02 37.7**	**+1.7**
GZT	**Gaziantep**	**3.10**	**213**	*i* P		**Pn**	**12 02 37.5**	**+1.0**
GZT				IAML			12 03 35.0	
	comp=N,131nm,0.8s							
GZT				IAML			12 03 40.0	
	comp=E,125nm,0.7s							
KAYA	**Kayacik-Havza(**	**3.13**	**289**	PN		**Pn**	**12 02 38.4**	**+1.6**
BNN	**Bunyan**	**3.16**	**250**	PN		**Pn**	**12 02 38.8**	**+1.5**
VANB	**Van**	**3.21**	**114**	PN		**Pn**	**12 02 40.0**	**+2.1**
BGD	**Bogdanovka**	**3.26**	**66**	P		**Pb**	**12 02 47.8**	**+2.4**
SIRT	**Sirnak**	**3.30**	**138**	PN		**Pn**	**12 02 40.9**	**+1.8**
YOZ	**Yozgat**	**3.36**	**265**	PN		**Pn**	**12 02 41.8**	**+1.8**
GAZ	**Gaziantep**	**3.40**	**215**	PN		**Pn**	**12 02 42.1**	**+1.6**
TKB	**Tkibuli**	**3.45**	**46**	P		**Pb**	**12 02 48.2**	**-0.4**
TKB				S		**Sb**	**12 03 31.2**	**+0.7**
TRLG	**Trialeti**	**3.71**	**64**	P		**Pg**	**12 02 58.3**	**-0.3**
DIKM	**Dikmen**	**3.73**	**298**	PN		**Pn**	**12 02 47.0**	**+2.1**
CORM	**Corum**	**3.86**	**274**	PN		**Pn**	**12 02 48.7**	**+1.8**
ONI	**Oni**	**3.86**	**46**	P		**Pn**	**12 02 47.8**	**+0.9**
ONI				S		**Sb**	**12 03 44.6**	**+2.2**
KOZT	**Kozan**	**3.91**	**231**	PN		**Pn**	**12 02 49.4**	**+2.0**
CEYT	**Ceyhan**	**4.27**	**227**	PN		**Pn**	**12 02 54.4**	**+2.0**
CMRD	**Camardi-Nigde**	**4.32**	**239**	PN		**Pn**	**12 02 55.1**	**+1.9**
KBZ	**Khabaz**	**4.45**	**32**	Pn		**Pn**	**12 02 56.1**	**+1.2**
	comp=E,0.7nm,0.3s,baz=212,slow=9.5,SNR=4.0							
KBZ				Sn		**Sb**	**12 04 01.4**	**+2.2**
	comp=E,0.7nm,0.3s,baz=61,slow=17,SNR=1.8							
KBZ				LR		LR	12 05 02.2	
	comp=E,160nm,18.4s,baz=232,slow=44							
KARA	**Karaisali**	**4.52**	**234**	PN		**Pn**	**12 02 57.9**	**+2.1**
GULA	**Gulagac**	**4.52**	**250**	PN		**Pn**	**12 02 58.0**	**+2.0**
TAHT	**Tahtakopru-Hat**	**4.53**	**218**	PN		**Pn**	**12 02 57.7**	**+1.8**
BRTR	**Keskin Array B**	**4.64**	**269**	Pn		**Pn**	**12 02 60.0**	**+2.3**
	comp=E,0.9nm,0.3s,baz=85,slow=13,SNR=12							
BRTR				Pg		**Pb**	**12 03 10.2**	**+1.2**
	comp=E,1.6nm,0.3s,baz=106,slow=14,SNR=15							
BRTR				Lg		Lg	12 04 15.1	
	baz=96,slow=26,SNR=1.1							
BRTR				LR		LR	12 05 00.5	
	comp=E,93nm,20.0s,baz=86,slow=42							
AKASG	**Malin Array Be**	**12.97**	**329**	Pn		**Pn**	**12 04 49.2**	**-2.3**
	comp=E,2.0nm,0.3s,baz=140,slow=12,SNR=4.7							
AKASG				Sn		**Sn**	**12 07 09.6**	**-6.2**
	comp=E,1.1nm,0.3s,baz=139,slow=24,SNR=4.7							
FINES	**FINESS Array B**	**23.05**	**343**	P		**P**	**12 06 54.0**	**+1.6**
	comp=E,3.6nm,0.9s,baz=138,slow=13,SNR=2.3							
TORD	**Torodi Ar. Bea**	**42.72**	**242**	P		**P**	**12 09 44.0**	**-0.6**
	comp=E,0.6nm,0.8s,baz=38,slow=7.1,SNR=4.0							
PSI	**Prapat**	**64.96**	**109**	LR		LR	12 41 25.1	
	comp=E,34nm,18.0s,baz=249,slow=37							

TAP ***21*** *12:06:07.2,24°.92N×122°.23E,h13km,ML3.0,B*
JMA ***21*** *12:06:08.2±0.1,24°.85N×122°.23E,h40km,M2.4*
ISC 21 12:06:07.2±0.9,24°.88N±0°.02×122°.24E±0°.02,h14km±7km,
n79,σ0s61/127,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.27**	**299**	⇑P		**Pg**	**12 06 12.6**	**-0.2**
	baz=287							
TWB1				S		**Sg**	**12 06 15.9**	**-0.7**
	baz=287							
EGS		**0.29**	**263**	P		**Pg**	**12 06 13.4**	**+0.3**
	baz=248							
EGS				S		**Sg**	**12 06 17.8**	**+0.6**
	baz=248							
NTC	**Toucheng**	**0.38**	**266**	*e*P		**Pb**	**12 06 15.4**	**-0.3**
	baz=267							
TIPB	**Shuangxi**	**0.39**	**284**	P		**Pg**	**12 06 15.3**	**+0.2**
	baz=278							
TIPB				S		**Sg**	**12 06 20.5**	**+0.1**
	baz=278							
TWC	**Suao**	**0.45**	**233**	*e*P		**Pg**	**12 06 15.9**	**-0.2**
	baz=223							
TWC				*e*S		**Sg**	**12 06 22.0**	**-0.2**
	baz=223							
NWF	**Wu-fen Shan**	**0.46**	**294**	*e*P		**Pb**	**12 06 17.1**	**-0.1**
	baz=290							
NWF				*e*S		**Sg**	**12 06 22.9**	**+0.3**
	baz=290							
WFSB	**Wu-fen Shan**	**0.46**	**294**	*e*P		**Pb**	**12 06 17.1**	**-0.1**
	baz=290							
WFSB				*e*S		**Sg**	**12 06 22.8**	**+0.2**
	baz=290							
TWE	**Neicheng**	**0.55**	**253**	*e*P		**Pb**	**12 06 18.5**	**-0.1**
	baz=239							
TWE				*e*S		**Sg**	**12 06 24.9**	**-0.3**
	baz=239							
ENAH	**Nanao**	**0.58**	**223**	P		**Pg**	**12 06

	baz=269								
NSK				*e*S		**Sb**	**12 06 34.8**	**+0.3**
	baz=269								
NNSB	**Datong**	**0.90**	**240**	*e*P		**Pg**	**12 06 24.3**	**-0.5**
	baz=228								
NNSB				*e*S		**Sb**	**12 06 37.2**	**+0.5**
	baz=228								
NNSH	**Datong**	**0.90**	**240**	*e*P		**Pg**	**12 06 24.2**	**-0.6**
	baz=228								
NNSH				*e*S		**Sg**	**12 06 36.5**	**0.0**
	baz=228								
NNS	**Nan Shan**	**0.91**	**241**	*e*P		**Pg**	**12 06 24.8**	**0.0**
	baz=228								
NNS				*e*S		**Sb**	**12 06 37.0**	**+0.3**
	baz=228								
NACB	**Ninganchiao**	**0.92**	**220**	*e*P		**Pb**	**12 06 24.4**	**-0.6**
	baz=210								
NACB				*e*S		**Sb**	**12 06 35.8**	**-1.3**
	baz=210								
ETLH	**Xiulin Townshi**	**0.96**	**226**	*e*P		**Pb**	**12 06 25.8**	**0.0**
	baz=215								
ETLH				*e*S		**Sb**	**12 06 38.2**	**-0.3**
	baz=215								
TWD	**Chiawan**	**0.99**	**217**	*e*P		**Pb**	**12 06 26.0**	**-0.1**
	baz=216								
TWD				*e*S		**Sb**	**12 06 39.3**	**+0.1**
	baz=216								
FUSS	**Fushou**	**1.11**	**236**	*e*P		**Pb**	**12 06 27.9**	**-0.4**
	baz=225								
FUSS				*e*S		**Sb**	**12 06 42.7**	**0.0**
	baz=225								
LIOB	**Emei**	**1.14**	**258**	*e*P		**Pb**	**12 06 28.5**	**-0.3**
	baz=256								
WHF	**Hehuan Shan**	**1.15**	**231**	*e*P		**Pb**	**12 06 29.2**	**0.0**
	baz=230								
WHF				*e*S		**Sb**	**12 06 44.3**	**+0.1**
	baz=230								
NSTT	**Nanjuang**	**1.16**	**258**	*e*P		**Pb**	**12 06 28.7**	**-0.3**
	baz=256								
TDCB	**Techi**	**1.17**	**238**	*e*P		**Pb**	**12 06 29.4**	**0.0**
	baz=227								
TDCB				*e*S		**Sb**	**12 06 44.5**	**+0.1**
	baz=227								
CHGB	**Renai**	**1.27**	**230**	*e*P		**Pn**	**12 06 31.0**	**+0.2**
	baz=229								
CHGB				*e*S		**Sg**	**12 06 48.3**	**0.0**
	baz=229								
WHP	**Taichung City**	**1.32**	**243**	*e*P		**Pg**	**12 06 32.8**	**0.0**
	baz=242								
WHP				*e*S		**Sn**	**12 06 49.1**	**+0.2**
	baz=242								
EGFH	**Guangfu**	**1.42**	**212**	*e*P		**Pb**	**12 06 34.0**	**+0.5**
	baz=229								
TWQ1	**Liyutan**	**1.44**	**249**	*e*P		**Pg**	**12 06 35.7**	**+0.8**
	baz=264								
IRIF	**Iriomote-Funau**	**1.46**	**112**	P		**Pn**	**12 06 33.0**	**-0.1**
VWDT	**VWDT**	**1.51**	**222**	*e*P		**Pb**	**12 06 35.2**	**+0.3**
	baz=221								
VWDT				*e*S		**Sb**	**12 06 55.1**	**+1.1**
	baz=221								
HGSD	**Ruisui**	**1.57**	**209**	*e*P		**Pb**	**12 06 35.9**	**-0.2**
	baz=195								
SMLT	**Sun Moon Lake**	**1.58**	**231**	*e*P		**Pg**	**12 06 37.4**	**-0.1**
	baz=230								
TYC	**Yuchr**	**1.59**	**233**	*e*P		**Pb**	**12 06 37.1**	**+0.7**
	baz=231								
SSLB	**Suanglung**	**1.60**	**228**	*e*P		**Pb**	**12 06 36.8**	**+0.1**
	baz=227								
SSLB				*e*S		**Sb**	**12 06 57.7**	**+0.9**
	baz=227								
EHY	**Hungye**	**1.61**	**212**	*e*P		**Pn**	**12 06 35.6**	**+0.4**
	baz=211								
HATJ	**Hateruma jima**	**1.64**	**120**	*e*S		**Sn**	**12 06 55.1**	**-1.5**
YULB	**Yu-li**	**1.71**	**210**	*e*P		**Pn**	**12 06 37.3**	**+0.5**
	baz=211								
JKRS	**Kuro-shima**	**1.73**	**111**	P		**Pn**	**12 06 36.8**	**-0.1**
JKRS				*e*S		**Sn**	**12 06 58.4**	**-0.4**
WJS	**Zhushan**	**1.74**	**233**	*e*P		**Pb**	**12 06 38.7**	**-0.2**
	baz=232								
WJS				*e*S		**Sg**	**12 07 03.5**	**+0.4**
	baz=232								
TWF1	**Yuli**	**1.75**	**210**	*e*P		**Pb**	**12 06 38.4**	**-0.7**
	baz=210								
JIJ	**Ishigaki jima**	**1.80**	**106**	P		**Pn**	**12 06 38.0**	**+0.1**
FULB	**Fuli**	**1.89**	**208**	*e*P		**Pn**	**12 06 40.3**	**+1.2**
	baz=222								
FULB				*e*S		**Sb**	**12 07 04.5**	**-0.5**
	baz=222								
ALS	**Alishan**	**1.89**	**224**	*e*P		**Pb**	**12 06 42.0**	**+0.3**
	baz=209								
ALS				*e*S		**Sb**	**12 07 06.8**	**+1.4**
	baz=209								
JISG	**Ishigakijimahi**	**1.90**	**98**	P		**Pn**	**12 06 39.5**	**+0.2**
CHN5	**Tsauling**	**1.92**	**229**	*e*P		**Pb**	**12 06 42.6**	**+0.6**
	baz=227								
CHN5				*e*S		**Sg**	**12 07 08.5**	**-0.4**
	baz=227								
WGK	**Gukeng**	**1.94**	**233**	*e*S		**Sg**	**12 07 09.7**	**0.0**
	baz=231								
WDLH	**Douliu**	**1.96**	**233**	*e*S		**Sg**	**12 07 09.0**	**-1.2**
	baz=232								
EDH	**Donghe**	**2.08**	**205**	*e*P		**Pn**	**12 06 41.1**	**-0.7**
	baz=192								
EDH				*e*S		**Sn**	**12 07 07.2**	**-0.4**
	baz=192								
CHN4	**Tsaushan**	**2.14**	**225**	*e*P		**Pb**	**12 06 46.1**	**+0.2**
	baz=211								
CHN4				*e*S		**Sg**	**12 07 14.7**	**-1.5**
	baz=211								
TPUB	**Ta-pu**	**2.16**	**224**	*e*P		**Pb**	**12 06 45.6**	**-0.5**
	baz=207								
STYT	**Tauyuan**	**2.18**	**219**	*e*P		**Pn**	**12 06 44.4**	**+1.2**
	baz=203								
WTP	**Ta-pu**	**2.21**	**223**	*e*P		**Pb**	**12 06 45.8**	**-1.2**
	baz=206								
TWK	**Hsinying**	**2.27**	**225**	*e*P		**Pb**	**12 06 47.2**	**-0.9**
	baz=226								
SNST	**Tainan City**	**2.30**	**224**	*e*P		**Pb**	**12 06 47.9**	**-0.6**
	baz=206								
SNST				*e*S		**Sb**	**12 07 15.4**	**-1.3**
	baz=206								
CHN1	**Nanshi**	**2.30**	**223**	*e*P		**Pb**	**12 06 48.5**	**-0.1**
	baz=224								
LDUT	**Ludao**	**2.31**	**198**	*e*P		**Pn**	**12 06 45.9**	**+1.1**
	baz=199								
SGST	**Jiashian**	**2.35**	**221**	*e*P		**Pn**	**12 06 47.3**	**+1.9**
	baz=221								
SLGT	**Liugui**	**2.38**	**218**	*e*P		**Pb**	**12 06 48.2**	**-1.7**
	baz=219								
MATB	**Ma-tsu**	**2.43**	**302**	*e*P		**Pn**	**12 06 45.8**	**-0.8**
	baz=300								
LYJJ	**Jianjiangzhen**	**2.79**	**307**	*e*P		**Pn**	**12 06 50.4**	**-1.0**
	baz=306								
PHUB	**P'eng-hu**	**2.79**	**241**	*e*S		**Sn**	**12 07 26.2**	**+1.1**
	baz=240								
WDGT	**Dungji**	**2.86**	**236**	*e*P		**Pn**	**12 06 54.2**	**+1.8**
	baz=236								

*INET **21** 12:13:42.8, 10°.78N×85°.77W, h11km, ML3.2*
UCR 21 12:13:38.2±3.7, 10°.82N×85°.94W, h42km±25km, MW4.0, 5C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.48**	**94**	*i* P	Pn	12 13 50.0	+1.2
LAPC	**Finca la Perla**	**0.50**	**96**	*i* P	Pn	12 13 50.1	+1.0
LAPC				*i* S	Sn	12 13 56.8	0.0
BUEV	**Buena Vista**	**0.52**	**92**	*i* P	Pn	12 13 50.7	+1.2
BUEV				*e*S	Sn	12 13 57.5	+0.1
GB1A	**Borinquen Arri**	**0.53**	**90**	*i* P	Pn	12 13 51.0	+1.4
GB1A				*i* S	Sn	12 13 58.3	+0.7
GPS3	**Bodega del ICE**	**0.57**	**96**	*i* P	Pn	12 13 50.8	+0.8
GPS3				*i* S	Sn	12 13 58.4	-0.1
GPS1	**Guardaparques**	**0.58**	**94**	*i* P	Pn	12 13 51.2	+1.0
GPS1				*i* S	Sn	12 13 58.8	+0.1
GPS2	**Hotel Rincn d**	**0.58**	**96**	*i* P	Pn	12 13 51.0	+0.8
GPS2				*i* S	Sn	12 13 58.6	-0.1
BUAI	**Buenos Aires**	**0.60**	**84**	*i* P	Pn	12 13 52.2	+1.8
ORTG	**Ortega, Santa**	**0.66**	**134**	*i* P	Pn	12 13 50.9	-0.3
LIM1	**Limonal**	**0.69**	**100**	*i* P	Pn	12 13 52.2	+0.6
GUAI	**GUAI**	**0.69**	**142**	*i* P	Pn	12 13 51.1	-0.4
GUAI				*i* S	Sn	12 13 59.1	-2.0
COLC	**Colonia**	**0.74**	**102**	*i* P	Pn	12 13 52.7	+0.4
COLC				*i* S	Sn	12 14 01.6	-0.9
HORNC	**Hornillas**	**0.76**	**98**	*i* P	Pn	12 13 53.1	+0.5
HORNC				*i* S	Sn	12 14 02.0	-0.9
CUI	**Cuipilapa**	**0.78**	**102**	*i* P	Pn	12 13 53.3	+0.5
DUNO	**Dulce Nombre,**	**0.86**	**149**	*i* P	Pn	12 13 53.3	-0.5
ACAL	**Aguas Claras**	**0.91**	**102**	*i* P	Pn	12 13 55.4	+0.7
ACAL				*i* S	Sn	12 14 06.4	-0.2
PTEN	**Parque Tenorio**	**0.94**	**96**	*i* P	Pn	12 13 55.9	+0.8
PTEN				*i* S	Sn	12 14 07.6	+0.2
JTS	**Las Juntas de**	**1.10**	**118**	*i* P	Pn	12 13 56.8	-0.4
CASO	**Castillo**	**1.25**	**108**	*i* P	Pn	12 13 59.6	+0.4
ARE1	**Arenal 1**	**1.25**	**106**	*i* P	Pn	12 13 60.0	+0.7
ARE1				*e*S	Sn	12 14 14.5	-0.5
CEDE	**Laguna Cedeo**	**1.26**	**105**	*i* P	Pn	12 13 59.8	+0.4
CEDE				*e*S	Sn	12 14 14.9	-0.3
FORC	**Fortuna**	**1.30**	**106**	*i* P	Pn	12 14 00.2	+0.3
LAFE	**Finca La Fe, P**	**1.43**	**135**	*i* P	Pn	12 14 00.6	-1.1
COVE	**Coope Vega, Sa**	**1.52**	**94**	*i* eP	Pn	12 14 03.3	+0.4
SRA1	**San Ramn**	**1.61**	**117**	*e*P	Pn	12 14 04.8	+0.5
LCR2	**La Lucha 2**	**2.19**	**119**	*i* P	Pn	12 14 12.4	+0.1
CVTR	**Volcan Turrial**	**2.29**	**110**	*e*P	Pn	12 14 14.2	+0.4
RIMA	**Rio Macho**	**2.29**	**117**	*i* eP	Pn	12 14 14.3	+0.5

*IDC **21** 12:17:04.2±3.1, 3°.74N×95°.35E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/50, mbtmp3.5/4, ML4.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=122.6km s-min=26.0km az=61.0*
*NEIC **21** 12:17:05.8±2.2, 3°.6N±0°.1×94°.8E±0°.2, h29km±9km, mb4.2/7, Error ellipse: s-maj=24.6km s-min=16.8km az=70.0*
*DJA **21** 12:17:24.6±1.1, 4°.N±8°×9°.6E±1°.2, h132km±9km, M3.0/5, MLv3.0/5*
ISC 21 12:17:23.7±1.0, 4°.46N±0°.08×96°.5E±0°.2, h144km±8km, n20, σ0s60/20, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.22**	**207**	P	**Pn**	**12 17 43.8**	**+0.5**
MLSI				S	**Sn**	**12 17 57.8**	**-0.4**
LHMI	**Lhok Sumawe**	**0.88**	**30**	P	**Pn**	**12 17 47.1**	**+0.2**
LHMI	**Lhok Sumawe**	**0.88**	**30**		**Pn**	**12 17 47.1**	**+0.2**
TPTI		**1.37**	**151**	P	**Pn**	**12 17 51.5**	**+0.1**
TPTI				S	**Sn**	**12 18 12.1**	**-0.6**
RPSI	**Rantau Prapat**	**2.99**	**126**	Pn	**Pn**	**12 18 10.5**	**-0.1**
GSI	**Gunungsitoli**	**3.32**	**161**	P	**Pn**	**12 18 14.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**14.11**	**10**	Pn	**P**	**12 20 40.4**	**-0.2**
	0.2nm,0.3s,baz=199,slow=12,SNR=7.1						
KSRS	**Korea Array**	**43.62**	**37**	LR	LR	12 46 47.4	
	comp=Z,13nm,19.2s,baz=185,slow=40						
MK31	**Makanchi Array**	**43.93**	**346**	P	**P**	**12 25 15.4**	**-0.8**
MK31				IAmb	IAmb	12 25 42.4	
	comp=Z,2.1nm,1.2s						
MKAR	**Makanchi Array**	**43.93**	**346**	P	**P**	**12 25 15.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=157,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**43.93**	**346**	P	**P**	**12 25 15.5**	**-0.6**
WB0	**Warramunga Arr**	**44.35**	**124**	P	**P**	**12 25 20.4**	**+0.4**
WB0				IAmb	IAmb	12 25 24.9	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**44.39**	**124**	P	**P**	**12 25 20.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=303,slow=9.6,SNR=6.0						
WRA	**Warramunga Arr**	**44.39**	**124**	P	**P**	**12 25 20.9**	**+0.6**
WRAB	**Tennant Creek**	**44.40**	**124**	P	**P**	**12 25 21.0**	**+0.7**
WRAB				IAmb	IAmb	12 25 39.3	
	comp=Z,4.4nm,1.2s						
WB2	**Warramunga Arr**	**44.40**	**124**	P	**P**	**12 25 20.9**	**+0.6**
WR0	**Warramunga Arr**	**44.57**	**124**	P	**P**	**12 25 22.4**	**+0.7**
WR0				IAmb	IAmb	12 25 39.7	
	comp=Z,6.1nm,1.4s						
AS31	**Alice Springs**	**45.95**	**129**	P	**P**	**12 25 33.5**	**+1.0**
ASAR	**Alice Springs**	**45.95**	**129**	P	**P**	**12 25 33.3**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=300,slow=7.5,SNR=20						
TLY	**Talaya**	**47.44**	**6**	LR	LR	12 48 59.1	
	comp=Z,20nm,18.2s,baz=48,slow=40						

*UPP **21** 12:29:45.4±0.1, 58°.99N×18°.21E, h0km, ML2.3, Explosion*
*DNK **21** 12:29:46.7±2.5, 59°.01N×18°.20E, h11km±32km, ML2.4, Explosion*
*IDC **21** 12:29:47.1±1.8, 59°.10N×18°.06E, h0km, mb1 3.1/4, mb1mx3.0/45, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=22.6km s-min=6.4km az=180.0*
*HEL **21** 12:29:47.0, 59°.03N×18°.26E, h0km, ML2.2, Explosion*
*NAO **21** 12:29:48.2±1.9, 59°.16N×18°.08E, ML2.2*
*BER **21** 12:29:48.2±3.4, 59°.12N×18°.15E, h0km, ML2.1, ML2.2(UPP), Suspected explosion*
ISC 21 12:29:44.7±0.7, 58°.99N±0°.02×18°.05E±0°.02, h0km, n65, σ1s17/94, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.75**	**23**	P	**Pg**	**12 29 59.0**	**-0.1**
NRTU				S	**Sg**	**12 30 08.6**	**-0.3**
NRTU	**Norrtaelje**	**0.75**	**23**	*i* P	**Pg**	**12 29 59.0**	**-0.1**
NRTU				*i* S	**Sg**	**12 30 08.6**	**-0.3**
NRTU	**Norrtaelje**	**0.75**	**23**	P	**Pg**	**12 29 59.0**	**-0.1**
NRTU				S	**Sg**	**12 30 08.6**	**-0.3**
VIKU	**Vikbolandet**	**0.86**	**236**	P	**Pb**	**12 30 02.8**	**+0.4**
VIKU				S	**Sb**	**12 30 15.1**	**+0.6**
VIKU	**Vikbolandet**	**0.86**	**236**	*e*P	**Pb**	**12 30 02.8**	**+0.4**
VIKU				*e*S	**Sb**	**12 30 15.1**	**+0.6**
VIKU	**Vikbolandet**	**0.86**	**236**	P	**Pb**	**12 30 02.8**	**+0.4**
VIKU				S	**Sb**	**12 30 15.1**	**+0.6**
ESKU	**Eskilstuna**	**0.89**	**287**	P	**Pb**	**12 30 03.2**	**+0.2**
ESKU	**Eskilstuna**	**0.89**	**287**	*e*P	**Pb**	**12 30 03.2**	**+0.2**
ESKU	**Eskilstuna**	**0.89**	**287**	P	**Pb**	**12 30 03.2**	**+0.2**
UPP	**Uppsala**	**0.90**	**346**	P	**Pb**	**12 30 02.8**	**-0.4**
UPP	**Uppsala**	**0.90**	**346**	*e*P	**Pb**	**12 30 02.8**	**-0.4**
FIBU	**Brunna**	**0.98**	**339**	P	**Pb**	**12 30 04.3**	**-0.3**
FIBU	**Brunna**	**0.98**	**339**	*e*P	**Pb**	**12 30 04.3**	**-0.3**
FIBU	**Brunna**	**0.98**	**339**	P	**Pb**	**12 30 04.3**	**-0.3**
BACU	**Backbrunna**	**0.99**	**331**	P	**Pb**	**12 30 04.6**	**-0.2**
BACU	**Backbrunna**	**0.99**	**331**	*e*P	**Pb**	**12 30 04.6**	**-0.2**
BACU	**Backbrunna**	**0.99**	**331**	P	**Pb**	**12 30 04.6**	**-0.2**
OSTU	**Oestervaala**	**1.33**	**340**	P	**Pn**	**12 30 10.5**	**0.0**
OSTU	**Oestervaala**	**1.33**	**340**	*e*P	**Pn**	**12 30 10.5**	**0.0**
OSTU	**Oestervaala**	**1.33**	**340**	P	**Pn**	**12 30 10.5**	**0.0**
GOTU	**Gotland**	**1.33**	**168**	P	**Pg**	**12 30 09.6**	**-0.6**
GOTU	**Gotland**	**1.33**	**168**	*e*P	**Pg**	**12 30 09.6**	**-0.6**
GOTU	**Gotland**	**1.33**	**168**	P	**Pg**	**12 30 09.6**	**-0.6**
FORU	**Forsmark**	**1.41**	**3**	P	**Pn**	**12 30 11.5**	**-0.1**
FORU	**Forsmark**	**1.41**	**3**	*e*P	**Pn**	**12 30 11.5**	**-0.1**
FORU	**Forsmark**	**1.41**	**3**	P	**Pn**	**12 30 11.5**	**-0.1**
LNKU	**Linkoeping**	**1.54**	**241**	P	**Pg**	**12 30 14.9**	**+0.7**
LNKU	**Linkoeping**	**1.54**	**241**	*e*P	**Pg**	**12 30 14.9**	**+0.7**
LNKU	**Linkoeping**	**1.54**	**241**	P	**Pg**	**12 30 14.9**	**+0.7**
AAL	**Aland**	**1.55**	**39**	P	**Pn**	**12 30 13.1**	**-0.4**
AAL	**Aland**	**1.55**	**39**	*e*P	**Pn**	**12 30 13.0**	**-0.6**
AAL				*e*S	**Sn**	**12 30 32.0**	**-2.3**
AAL	**Aland**	**1.55**	**39**	*i* P	**Pn**	**12 30 13.1**	**-0.4**
VSTU	**Vaestervik**	**1.55**	**212**	P	**Pg**	**12 30 14.8**	**+0.4**
VSTU	**Vaestervik**	**1.55**	**212**	*e*P	**Pg**	**12 30 14.8**	**+0.4**
VSTU	**Vaestervik**	**1.55**	**212**	P	**Pg**	**12 30 14.8**	**+0.4**
HFC2	**Hagfors New Ar**	**2.50**	**299**	*e*P	**Pb**	**12 30 29.6**	**-0.8**
HFC2				*e*S	**Sb**	**12 31 02.1**	**+0.5**
HFS	**Hagfors**	**2.50**	**299**	Pn	**Pb**	**12 30 29.6**	**-0.8**
	baz=120,slow=16						
HFS				Lg	Lg	12 31 03.4	
	baz=119,slow=28						
HFS	**Hagfors**	**2.50**	**299**	Pn	**Pb**	**12 30 29.0**	**-1.4**
	0.8nm,0.3s,baz=116,slow=19,SNR=24						
HFS				Lg	Lg	12 31 03.4	
	5.4nm,0.3s,baz=115,slow=31,SNR=26						
HFS	**Hagfors**	**2.50**	**299**	Pn	**Pb**	**12 30 29.6**	**-0.8**
	baz=120,slow=16						
HFS				Sg	**Sg**	**12 31 03.4**	**-1.4**
	baz=119,slow=28						
SLIT	**Slitere, Latvi**	**2.62**	**120**	*e*P	**Pn**	**12 30 29.9**	**+1.8**
SLIT				*e*SG	**Sb**	**12 31 04.9**	**-0.2**
RAF	**Rauma**	**2.77**	**41**	*e*P	**Pn**	**12 30 31.9**	**+1.7**
RAF				*e*SB	**Sn**	**12 31 06.8**	**+2.5**
RAF				MSG		12 31 14.4	
	comp=Z,9.3nm,0.2s						
MTSE	**Matsula**	**3.01**	**93**	*e*P	**Pn**	**12 30 34.1**	**+0.6**
MTSE				*e*S	**Sn**	**12 31 08.9**	**-1.3**
MEF	**Metsahovi**	**3.45**	**66**	*e*P	**Pn**	**12 30 41.1**	**+1.5**
MEF				*e*SG	**Sb**	**12 31 28.8**	**-0.3**
MEF				MSG		12 31 40.5	
	comp=Z,6.0nm,0.2s						
PBUR	**Paburge**	**3.63**	**143**	*e*PB	**Pb**	**12 30 48.8**	**-1.0**
HEMU	**Hemsoen**	**3.70**	**360**	*e*P	**Pn**	**12 30 44.2**	**+1.1**
HEMU				*e*S	**Sn**	**12 31 27.7**	**+0.4**
NRA0	**NORESS Array S**	**3.72**	**301**	Pn	**Pn**	**12 30 45.2**	**+1.9**
	baz=108,slow=12						
NRA0				Sn	**Sn**	**12 31 29.1**	**+1.3**
	baz=115,slow=18						
NRA0				Lg	Lg	12 31 44.0	
	baz=114,slow=37						
NRA0	**NORESS Array S**	**3.72**	**301**	Pn	**Pn**	**12 30 45.2**	**+1.9**
	baz=108,slow=12						
NRA0				Sn	**Sn**	**12 31 29.1**	**+1.3**
	baz=115,slow=18						
NRA0				Sg	**Sg**	**12 31 44.0**	**-0.2**
	baz=114,slow=37						
NB2	**NORSAR Subarra**	**4.00**	**304**	Pn	**Pn**	**12 30 49.2**	**+2.0**
	baz=125,slow=12						
NB2				Lg	Lg	12 31 50.9	
	baz=118,slow=37						
NB2	**NORSAR Subarra**	**4.00**	**304**	Pn	**Pn**	**12 30 49.2**	**+2.0**
	baz=125,slow=12						
NB2				Sg	**Sg**	**12 31 50.9**	**-2.2**
	baz=118,slow=37						
NOA	**NORSAR Array B**	**4.00**	**304**	Pn	**Pn**	**12 30 46.6**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=120,slow=14,SNR=7.7						
NOA				Lg	Lg	12 31 49.9	
	comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=8.8						
BSD	**Bornholm Skovb**	**4.24**	**205**	*e*	**Pn**	**12 30 49.2**	**-1.3**
	baz=26,slow=12						
BSD				*i* P	Pb	12 30 51.3	-8.8
BSD				*i* S	**Sn**	**12 31 41.1**	**+0.4**
BSD				IAML		12 32 00.7	
	comp=Z,2.9nm,0.3s						
PVF	**Pernaja**	**4.25**	**65**	*e*P	**Pn**	**12 30 50.8**	**+0.2**
PVF				*e*SG	**Sb**	**12 31 54.0**	**+2.1**
PVF				MSG		12 32 04.8	
	comp=Z,3.3nm,0.2s						
HUSU	**Husum**	**4.41**	**7**	*e*P	**Pn**	**12 30 53.9**	**+1.2**
HUSU				*e*S	**Sn**	**12 31 44.0**	**-0.6**
FIA0	**FINESS Array S**	**4.70**	**55**	Pn	**Pn**	**12 30 58.2**	**+1.4**
	baz=241,slow=12						
FIA0				Pg	**Pb**	**12 31 08.3**	**+0.4**
	baz=241,slow=16						
FIA0				Sn	**Sn**	**12 31 51.0**	**-0.9**
	baz=241,slow=22						
FIA0				Lg	Lg	12 32 08.6	
	baz=244,slow=28						
FIA0	**FINESS Array S**	**4.70**	**55**	Pn	**Pn**	**12 30 58.2**	**+1.4**
	baz=241,slow=12						
FIA0				Pg	**Pb**	**12 31 08.3**	**+0.4**
	baz=241,slow=16						
FIA0				Sn	**Sn**	**12 31 51.0**	**-0.9**
	baz=241,slow=22						
FIA0				Sg	**Sb**	**12 32 08.6**	**+3.6**
	baz=244,slow=28						
FINES	**FINESS Array B**	**4.70**	**55**	Pn	**Pn**	**12 30 56.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=246,slow=13,SNR=23						
FINES				Pg	**Pb**	**12 31 08.7**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=247,slow=14,SNR=8.4						
FINES				Sn	**Sn**	**12 31 51.2**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=243,slow=22,SNR=9.9						
FINES				Lg	Lg	12 32 10.4	
	comp=Z,1.3nm,0.3s,baz=247,slow=27,SNR=10						
HOMB	**Homborsund**	**5.04**	**266**	*i* P	**Pn**	**12 31 02.7**	**+1.3**
SKAR	**Skarslia**	**5.20**	**293**	*e*P	**Pn**	**12 31 05.2**	**+1.5**
SKAR				*e*S	**Sn**	**12 32 01.9**	**-2.5**
SKAR				IAML		12 32 34.7	
	comp=Z,2.8nm,1.0s						
SNART	**Snartemo**	**5.70**	**268**	*e*P	**Pn**	**12 31 12.0**	**+1.6**
SNART				*e*S	**Sn**	**12 32 13.5**	**-2.9**
SNART				IAML		12 32 20.5	
	comp=Z,10nm,0.8s						
SNART	**Snartemo**	**5.70**	**268**	*i* P	**Pn**	**12 31 11.6**	**+1.2**
SNART				*i* S	**Sn**	**12 32 14.7**	**-1.8**
SNART				IAML		12 33 01.1	
	comp=Z,1.9nm,0.4s						
GERES	**GERESS Array B**	**10.48**	**196**	Lg	Lg	12 35 31.5	
	comp=Z,0.9nm,0.3s,baz=5.0,slow=28,SNR=9.8						
AKASG	**Malin Array Be**	**10.49**	**137**	Lg	Lg	12 35 23.4	
	comp=Z,0.9nm,0.3s,baz=25,slow=29,SNR=5.6						
ARA0	**ARCESS Array S**	**11.06**	**14**	Pn	**Pn**	**12 32 22.2**	**-1.7**
	baz=191,slow=14						
ARA0	**ARCESS Array S**	**11.06**	**14**	Pn	**Pn**	**12 32 22.2**	**-1.7**
	baz=191,slow=14						
ARCES	**ARCESS Array B**	**11.06**	**14**	Pn	**Pn**	**12 32 22.0**	**-1.9**
	baz=192,slow=13,SNR=9.0						

HEL 21 12:29:58.6±0.1, 65°.68N×21°.97E, h0km, ML1.2, ML1.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJUU	**Sjulsmark**	**0.23**	**221**	*i* P	Pg	12 30 02.5	-0.5
SJUU				*i* S	Sg	12 30 05.8	-0.2
KALU	**Kalix**	**0.60**	**72**	*e*P	Pg	12 30 08.9	-1.1
KALU				*e*S	Sg	12 30 17.2	-0.6
HARU	**Harads**	**0.63**	**320**	*i* P	Pg	12 30 09.8	-0.9
HARU				*i* S	Sg	12 30

comp=N,123nm,0.4s
DDEM IAML 12 35 04.0
comp=E,121nm,0.3s
TASB TASBURUN-IGDIR 1.13 134 PN **Pb** **12 34 42.8 -0.5**
TASB SN **Sg** **12 34 58.5 -0.3**
IGDI IGDIR 1.14 142 *i* P **Pb** **12 34 42.6 -0.8**
IGDI *i* S **Sb** **12 34 57.5 -0.4**
IGDI IAML 12 35 00.0
comp=N,23nm,0.3s
IGDI IAML 12 35 01.0
comp=E,35nm,0.3s
AGRB Hanur-Agry 1.21 187 PN **Pb** **12 34 44.7 +0.1**
AGRB SN **Sn** **12 35 01.2 +0.7**
HOMI Horasan 1.21 233 *i* P **Pn** **12 34 44.5 0.0**
HOMI *i* S **Sn** **12 35 02.9 +2.2**
HOMI IAML 12 35 09.0
comp=E,52nm,0.5s
HOMI IAML 12 35 11.0
comp=N,37nm,0.8s
DBOC Borcka 1.27 297 *i* P **Pg** **12 34 45.9 -0.8**
DBOC *i* S **Sb** **12 35 01.6 -0.3**
DBOC IAML 12 35 03.0
comp=E,28nm,0.3s
KOPR Koprukoy-ERZUR 1.27 233 PN **Pn** **12 34 45.6 +0.2**
KOPR SN **Sg** **12 35 03.5 +0.1**
BCA Borcka 1.35 300 PN **Pn** **12 34 46.2 -0.1**
BCA SN **Sn** **12 35 04.4 +0.5**
BATM Batumi 1.39 307 PN **Pn** **12 34 46.9 +0.1**
BTNK Botanikuri 1.53 53 P **Pg** **12 34 51.5 0.0**
TKB Tkibuli 1.58 355 P **Pg** **12 34 52.1 -0.4**
ONI Oni 1.83 6 P **Pg** **12 34 56.3 -0.9**
ONI S **Sg** **12 35 22.1 +1.1**

*JMA **21** 12:38:55.7±0.3,44°.75N×149°.49E,h30km,M3.7*
*SKHL **21** 12:38:56.2±0.1,44°.60N×149°.54E,h37km±3km,mb3.9/2*
ISC 21 12:38:55.1±4.3,44°.5N±0°.1×149°.6E±0°.2,h36km,n13,
σ1§69/23,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.44**	**300**	*i* P		**Pn**		**12 39 18.0**	**-0.6**
KUR				AMB		AMB		12 39 19.0	
	35nm,0.3s								
KUR				*i* S		**Sn**		**12 39 34.3**	**-1.9**
KUR				A		A		12 39 36.0	
	322nm,0.3s								
KUR				A		A		12 39 36.0	
	235nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.75**	**261**	*i* P		**Pn**		**12 39 37.2**	**+0.6**
YUK				AMB		AMB		12 39 39.0	
	20nm,0.3s								
YUK				*i* S		**Sn**		**12 40 08.0**	**-0.5**
YUK				A		A		12 40 13.0	
	109nm,0.3s								
YUK				A		A		12 40 13.0	
	114nm,0.3s								
GRPR	**Tuman**	**2.82**	**260**	*eP*		**Pn**		**12 39 38.7**	**+1.1**
GRPR				*i* S		**Sn**		**12 40 10.0**	**-0.3**
GRPR				A		A		12 40 14.0	
	68nm,0.3s								
GRPR				A		A		12 40 14.0	
	72nm,0.3s								
NEM2	**Nemuro 2**	**3.04**	**249**	P		**Pn**		**12 39 40.5**	**0.0**
NEM2				*e*S		**Sn**		**12 40 13.9**	**-1.7**
NMR	**Nemuro--Hokkai**	**3.05**	**249**	*i* P		**Pn**		**12 39 40.0**	**-0.6**
NMR				*i* S		**Sn**		**12 40 12.0**	**-3.8**
GLVR	**Golovnino**	**3.06**	**257**	*eP*		**Pn**		**12 39 41.9**	**+1.0**
GLVR				*e*S		**Sn**		**12 40 15.5**	**-0.7**
GLVR				A		A		12 40 17.0	
	120nm,0.5s								
GLVR				A		A		12 40 17.0	
	126nm,0.5s								
JRA	**Rausu**	**3.29**	**261**	P		**Pn**		**12 39 45.8**	**+1.8**
JRA				*e*S		**Sn**		**12 40 23.5**	**+1.6**
JNK	**Nakash**	**3.66**	**257**	P		**Pn**		**12 39 50.7**	**+1.6**
JNK				*e*S		**Sn**		**12 40 30.6**	**-0.5**
JAK	**Akkeshi**	**3.89**	**249**	P		**Pn**		**12 39 52.5**	**+0.3**
JAK				*e*S		**Sn**		**12 40 34.3**	**-2.3**
JAR	**Ashorobuto**	**4.41**	**256**	P		**Pn**		**12 40 01.8**	**+2.4**
JAR				*e*S		**Sn**		**12 40 50.9**	**+1.4**
JMP	**Maruseppu**	**4.54**	**266**	P		**Pn**		**12 40 03.5**	**+2.4**
JCH	**Churui**	**4.94**	**249**	P		**Pn**		**12 40 07.5**	**+0.8**
JCH				*e*S		**Sn**		**12 41 00.5**	**-2.0**
JANG	**Nango**	**7.29**	**238**	*e*S		Sn		12 41 52.3	-8.2

*NNC **21** 12:42:22.9±0.7,45°.29N×81°.75E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=8.8km s-min=2.7km az=121.0
*SOME **21** 12:42:22.7,45°.27N×81°.88E,h15km*
ISC 21 12:42:23.1±1.4,45°.29N±0°.06×81°.79E±0°.09,h10km,n23,
σ1§71/36,4C,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.53**	**5**	⇑P		**Pg**		**12 42 51.2**	**-1.2**
MAKZ				⇑S		**Sg**		**12 43 11.1**	**-1.1**
	1.7nm,0.2s								
	10.0nm,0.4s								
MK31	**Makanchi Array**	**1.55**	**13**	⇑P		**Pg**		**12 42 51.6**	**-1.2**
MK31	2.4nm,0.3s,baz=188,slow=15,SNR=314			⇑S		**Sg**		**12 43 12.7**	**-0.1**
	3.0nm,0.2s,baz=194,slow=28,SNR=30								
DJR	**Jarkent**	**1.71**	**237**	*eP*		**Pg**		**12 42 55.9**	**0.0**
DJR	4.3nm,0.2s			*e*S		**Sg**		**12 43 19.9**	**+1.8**
	26nm,0.4s								
TDK	**Taldyqorghan**	**2.41**	**264**	*eP*		**Pb**		**12 43 07.4**	**+0.9**
TDK	53nm,0.3s			*e*S		**Sg**		**12 43 39.5**	**-1.0**
	58nm,0.5s								
TDK	**Taldyqorghan**	**2.41**	**264**	Pg		**Pb**		**12 43 07.6**	**+1.1**
TDK	53nm,0.3s			Lg		Lg		12 43 38.9	
	58nm,0.5s								
PDGK	**Podgornoye**	**2.56**	**221**	Pg		**Pb**		**12 43 09.7**	**+0.6**
PDGK	1.4nm,0.2s			Lg		Lg		12 43 42.3	
	30nm,0.5s								
MNBS	**Baschi**	**2.70**	**245**	*eP*		**Pb**		**12 43 11.7**	**+0.1**
MNBS	2.5nm,0.2s			*e*S		**Sb**		**12 43 47.2**	**+2.4**
	39nm,0.4s								
MNBS	**Baschi**	**2.70**	**245**	Pg		**Pb**		**12 43 12.4**	**+0.8**
MNBS	2.5nm,0.2s			Lg		Lg		12 43 47.1	
	39nm,0.4s								
UZB	**Uzynbulak**	**2.92**	**224**	*eP*		**Pb**		**12 43 15.6**	**+0.3**
UZB	2.6nm,0.2s			*e*S		**Sb**		**12 43 53.5**	**+2.4**
	14nm,0.4s								
UZB	**Uzynbulak**	**2.92**	**224**	Pg		**Pb**		**12 43 15.7**	**+0.4**
UZB	2.6nm,0.2s			Lg		Lg		12 43 52.3	
	14nm,0.4s								
ARXS	**Arharly**	**3.02**	**251**	*eP*		**Pb**		**12 43 18.1**	**+1.2**
ARXS	6.2nm,0.6s			*e*S		**Sg**		**12 43 58.4**	**-1.7**
	19nm,0.4s								
ARXS	**Arharly**	**3.02**	**251**	Pg		**Pb**		**12 43 18.4**	**+1.4**
ARXS	6.2nm,0.6s			Lg		Lg		12 43 57.2	
	19nm,0.4s								
KURS	**Kuram**	**3.16**	**237**	*eP*		**Pb**		**12 43 20.8**	**+1.6**
KURS	2.3nm,0.5s			*e*S		**Sg**		**12 44 02.6**	**-1.8**
	4.2nm,0.3s								
KURS	**Kuram**	**3.16**	**237**	Pg		**Pb**		**12 43 20.8**	**+1.6**
KURS	2.3nm,0.5s			Lg		Lg		12 44 01.1	
	4.2nm,0.3s								
ZHN	**Zhinishke**	**3.21**	**230**	*eP*		**Pb**		**12 43 21.7**	**+1.5**
ZHN	1.4nm,0.2s			*e*S		**Sg**		**12 44 04.4**	**-1.7**
	9.9nm,0.4s								
ZHN	**Zhinishke**	**3.21**	**230**	Pg		**Pb**		**12 43 20.8**	**+0.6**
ZHN	146nm,0.3s			Lg		Lg		12 44 01.1	
	9.9nm,0.4s								
SATY	**Saty**	**3.30**	**229**	*eP*		**Pb**		**12 43 23.4**	**+1.6**
SATY	2.1nm,0.2s			*e*S		**Sg**		**12 44 07.1**	**-1.9**
	25nm,0.1s								
SATY	**Saty**	**3.30**	**229**	Pg		**Pb**		**12 43 23.5**	**+1.8**
	2.5nm,0.2s								
SATY				Lg		Lg		12 44 05.7	
	25nm,0.1s								
KOTS	**Kotyrbulak**	**3.94**	**240**	*eP*		**Pg**		**12 43 37.6**	**-0.9**
KOTS	3.0nm,0.3s			*e*S		**Sg**		**12 44 31.1**	**+1.7**
	7.5nm,0.6s								
KOTS	**Kotyrbulak**	**3.94**	**240**	Pg		**Pg**		**12 43 35.9**	**-2.6**
KOTS	3.0nm,0.3s			Lg		Lg		12 44 27.2	
	7.5nm,0.6s								
MDOK	**Medeo**	**4.01**	**240**	*eP*		**Pb**		**12 43 36.6**	**+2.7**
MDOK	1.5nm,0.4s			*e*S		**Sg**		**12 44 29.9**	**-2.1**
	3.4nm,0.4s								
TNSS	**Tian-Shan**	**4.15**	**239**	*eP*		**Pg**		**12 43 39.5**	**-3.1**
TNSS	0.8nm,0.2s			*e*S		**Sg**		**12 44 34.3**	**-1.9**
	2.7nm,0.6s								
TNSS	**Tian-Shan**	**4.15**	**239**	Pg		**Pg**		**12 43 39.4**	**-3.1**
TNSS	0.8nm,0.2s			Lg		Lg		12 44 33.2	
	2.7nm,0.6s								

*IDC **21** 12:46:57.7±0.6,2°.92S×129°.88E,h0km,mb4.2/14,*
mb1 4.3/19,mb1mx4.2/32,mbtmp4.2/19,ML4.0/5,MS3.2/7,
Ms1 3.2/7,ms1mx2.9/33,Error ellipse: s-maj=20.1km
s-min=11.4km az=78.0
*NEIC **21** 12:47:01.2±2.4,2°.93S±0°.06×130°.03E±0°.06,h25km±5km,*
mb4.4/30,Error ellipse: s-maj=8.4km s-min=8.3km
az=89.0
*DJA **21** 12:47:02.0±0.4,3°.5S×2°×13°.0E±°,h37km±6km,M4.3/18,*
mb4.5/18,mB4.8/3,MLv4.3/12,Mw(mB)4.0/3
ISC 21 12:47:01.6±0.4,2°.91S±0°.04×129°.99E±0°.04,h25km,n93,
σ1§41/94,mb4.4/25,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.14**	**248**	P		P	**Pb**	**12 47 24.8**	**+2.1**
BNDI	**Bandanaira**	**1.60**	**183**	P		P	**Pb**	**12 47 32.0**	**+1.4**
BNDI				S		S	**Sb**	**12 47 51.8**	**+1.4**
FAKI	**Fak Fak**	**2.26**	**90**	P		Pn	**Pn**	**12 47 37.7**	**+0.3**
FAKI				S		S	**Sn**	**12 48 04.4**	**-0.1**
FAKI	**Fak Fak**	**2.26**	**90**	Pn		Pn	**Pn**	**12 47 37.7**	**+0.3**
SIJI	**Sorong**	**2.40**	**32**	Pn		Pn	**Pn**	**12 47 37.7**	**-1.6**
	20nm,0.3s,baz=44,slow=12,SNR=124								
SIJI				Sn		**Sn**		**12 48 06.0**	**-1.9**
	61nm,0.3s,baz=128,slow=22,SNR=11								
NLAI	**Namlea**	**2.90**	**263**	P		P	**Pn**	**12 47 47.8**	**+1.6**
NLAI				S		S	**Sn**	**12 48 21.9**	**+1.6**
SANI	**Sanana**	**4.08**	**282**	P		P	**Pn**	**12 48 01.4**	**-1.1**
SANI				S		S	**Sn**	**12 48 44.7**	**-4.9**
TNTI	**Ternate**	**4.50**	**324**	P		P	**Pn**	**12 48 08.6**	**+0.4**
TNTI	**Ternate**	**4.50**	**324**				**Pn**	**12 48 08.1**	**-0.1**
SRPI	**Serui, Papua**	**6.33**	**81**	P		Pn		12 48 25.9	-7.5
BAKI	**Biak**	**6.35**	**75**	P		Pn		12 48 39.8	+6.1
KMSI	**Cibinong**	**6.93**	**300**	P		**Pn**		**12 48 40.1**	**-1.5**
	0.7nm76nm,0.5s								
LUWI	**Luwuk**	**7.45**	**284**	P		Pn		12 48 39.6	-9.1
GTOI	**Gorontalo**	**7.81**	**297**	P		**Pn**		**12 48 52.7**	**-1.1**
	0.2nm300nm21nm,0.7s								
APSI	**Ampana**	**8.57**	**283**	P		**Pn**		**12 49 02.5**	**-1.6**
	787nm89nm,0.8s								
SOEI	**Soe**	**8.86**	**220**	P		Pn		12 49 26.2	+18
SOEI	**Soe**	**8.86**	**220**	Pn		**Pn**		**12 49 06.6**	**-1.6**
BATI	**Baumata**	**9.59**	**221**	Pn		**Pn**		**12 49 18.1**	**0.0**
	2.6nm,0.3s,baz=284,slow=23,SNR=2.0								
BATI				LR		LR		12 52 54.1	
	comp=Z,203nm,18.2s,baz=80,slow=37								
MTN	**Manton Dam**	**9.93**	**174**	Pn		**Pn**		**12 49 23.6**	**+0.7**
EDFI	**Ende, Flores**	**10.09**	**235**	P		**Pn**		**12 49 25.1**	**0.0**
	7.3nm,0.8s								
BKSI	**Bulukumba**	**10.13**	**256**	P		**Pn**		**12 49 27.6**	**+2.1**
	17nm,1.0s								
TTSI	**Tana Toraja**	**10.15**	**269**	P		**Pn**		**12 49 26.9**	**+1.0**
	15nm,0.9s								
GENI	**Genyem**	**10.18**	**88**	P		**Pn**		**12 49 23.7**	**-2.5**
	50nm,0.7s								
SPSI	**Sidrap Palu**	**10.25**	**264**	P		**Pn**		**12 49 26.0**	**-1.2**
	23nm,0.7s								
KAPI	**Kappang**	**10.42**	**258**	Pn		**Pn**		**12 49 28.2**	**-1.4**
	0.3nm,0.3s,baz=85,slow=23,SNR=1.8								
KAPI				LR		LR		12 54 21.8	
	comp=Z,127nm,19.8s,baz=70,slow=43								
KAPI	**Kappang**	**10.42**	**258**	Pn			**Pn**	**12 49 32.0**	**+2.5**
MPSI	**Mapaga**	**10.59**	**288**	P			**Pn**	**12 49 27.6**	**-4.2**
	14nm,0.9s								
DAV	**Davao City (W)**	**10.85**	**336**	LR		LR		12 53 55.7	
	comp=Z,168nm,21.8s,baz=104,slow=39								
KNRA	**Kununurra**	**12.74**	**185**	Pn			**Pn**	**12 50 00.6**	**-0.7**
MYLDM	**Lahad Datu**	**14.01**	**305**	Pn			**Pn**	**12 50 20.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**15.68**	**195**	Pn			**Pn**	**12 50 40.5**	**-0.5**
	0.5nm,0.3s,baz=32,slow=8.0,SNR=14								
FITZ	**Fitzroy Crossi**	**15.68**	**195**	Pn			**Pn**	**12 50 40.3**	**-0.8**
COEN	**Coen**	**17.03**	**131**	Pn			**Pn**	**12 50 57.3**	**-1.0**
WB0	**Warramunga Arr**	**17.30**	**166**	Pn			**Pn**	**12 51 00.8**	**-0.8**
WB0				IAmb		IAmb		12 51 19.3	
	comp=Z,18nm,1.1s								
WRAB	**Tennant Creek**	**17.45**	**166**	Pn			**Pn**	**12 51 01.8**	**-1.6**
WRA	**Warramunga Arr**	**17.45**	**166**	P			**Pn**	**12 51 01.8**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=348,slow=11,SNR=44								
WRA				S			**Sn**	**12 54 18.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=330,slow=9.7,SNR=3.3								
WRA	**Warramunga Arr**	**17.45**	**166**	Pn			**Pn**	**12 51 01.7**	**-1.8**
WB2	**Warramunga Arr**	**17.46**	**166**	Pn			**Pn**	**12 51 01.6**	**-2.0**
WR0	**Warramunga Arr**	**17.52**	**166**	Pn			**Pn**	**12 51 03.2**	**-1.1**
KSM	**Kuching**	**20.15**	**282**	P			**Pn**	**12 51 33.6**	**-0.6**
KSM				IAmb		IAmb		12 51 36.4	
	comp=Z,8.7nm,0.7s								
AS31	**Alice Springs**	**20.98**	**170**	P			**P**	**12 51 43.7**	**+0.5**
AS31				IAmb		IAmb		12 51 45.7	
	comp=Z,9.7nm,0.8s								
ASAR	**Alice Springs**	**20.98**	**170**	P			**P**	**12 51 43.1**	**-0.1**
	comp=Z,29nm,0.8s,baz=348,slow=10,SNR=171								
ASAR				S			**S**	**12 55 34.8**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=356,slow=23,SNR=5.0								
ASAR	**Alice Springs**	**20.98**	**170**	P			**P**	**12 51 43.4**	**+0.2**
PSA00	**Pilbara Seismi**	**21.01**	**207**	P			**P**	**12 51 42.3**	**-1.1**
PSA00				IAmb		IAmb		12 51 57.6	
	comp=Z,9.9nm,0.9s								
KRVT	**Keravat (AS076**	**22.04**	**94**	P			**P**	**12 51 56.7**	**+2.0**
	comp=Z,24nm,0.9s,baz=319,slow=20,SNR=2.6								
GUMO	**Guam**	**22.06**	**42**	LR		LR		13 00 16.5	
	comp=Z,33nm,18.1s,baz=228,slow=36								
CTA	**Charters Tower**	**23.31**	**138**	P			**P**	**12 52 08.8**	**+0.9**
	comp=Z,5.7nm,0.8s,baz=334,slow=13,SNR=5.7								
CTAO	**Charters Tower**	**23.31**	**138**	P			**P**	**12 52 07.5**	**-0.4**
CTAO				IAmb		IAmb		12 52 17.4	
	comp=Z,18nm,1.0s								
MYKOM	**Kota Tinggi**	**26.54**	**280**	P			**P**	**12 52 37.9**	**+0.2**
MYKOM				IAmb		IAmb		12 52 41.4	
	comp=Z,13nm,0.9s								
FORT	**Forrest**	**27.78**	**184**	P			**P**	**12 52 47.2**	**-1.4**
FORT				IAmb		IAmb		12 52 56.7	
	comp=Z,11nm,0.9s								
BBOO	**Buckleboo**	**30.29**	**170**	P			**P**	**12 53 08.2**	**-2.7**
STKA	**Stephens Creek**	**30.82**	**160**	P			**P**	**12 53 16.1**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=343,slow=8.4,SNR=11								
STKA				LR		LR		13 08 49.4	
	comp=Z,76nm,19.3s,baz=16,slow=42								
STKA	**Stephens Creek**	**30.82**	**160**	P			**P**	**12 53 15.7**	**+0.1**
RPSI	**Rantau Prapat**	**31.55**	**280**	P			**P**	**12 53 22.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**32.16**	**200**	P			**P**	**12 53 26.1**	**-1.4**
	comp=Z,3.7nm,0.6s,baz=106,slow=10,SNR=2.5								
NWAO	**Narrogin (SRO)**	**32.16**	**200**	P			**P**	**12 53 25.8**	**-1.7**
NWAO	**Narrogin (SRO)**	**32.16**	**200**	P			**P**	**12 53 26.1**	**-1.4**
NWAO				IAmb		IAmb		12 53 43.5	
	comp=Z,8.3nm,1.1s								
CM31	**Chiang Mai Arr**	**37.22**	**306**	P			**P**	**12 54 11.8**	**+0.5**
CM31				IAmb		IAmb		12 54 13.2	
	comp=Z,6.2nm,0.9s								
CMAR	**Chiang Mai Arr**	**37.22**	**306**	P			**P**	**12 54 11.0**	**-0.3**
	comp=Z,4.0nm,1.0s,baz=132,slow=6.9,SNR=27								
CMAR				PcP			**PcP**	**12 56 31.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=157,slow=2.9,SNR=4.3								
CMAR	**Chiang Mai Arr**	**37.22**	**306**	P			**P**	**12 54 12.1**	**+0.8**
CHTO	**Chiang Mai**	**37.40**	**306**	P			**P**	**12 54 13.7**	**+0.8**
CHTO				IAmb		IAmb		12 54 15.1	
	comp=Z,9.3nm,1.0s								
JWT	**Wachi**	**38.33**	**7**	P			**P**	**12 54 20.7**	**+0.2**
MJAR	**Matsushiro Arr**	**39.99**	**10**	LR		LR		13 08 28.6	
	comp=Z,32nm,21.5s,baz=225,slow=32								
KSRS	**Korea Array**	**40.20**	**357**	LR		LR		13 09 24.4	
	comp=Z,40nm,21.9s,baz=174,slow=34								
LZH	**Lanzhou**	**45.84**	**330**	*eP*		**P**		**12 55 24.3**	**+2.3**
LZH				pP		sP		12 55 37.3	+4.9
LZH				sP		pP		12 55 42.5	+13
LZH				*e*PP		**PP**		**12 57 13.0**	**+3.3**
LZH				pmax		pmax			
	comp=Z,17nm,1.3s								
LZH				pmax		pmax			
	comp=Z,53nm,5.6s								
HHC	**Hu-ho-hao-te**	**46.69**	**341**	*eP*		**P**		**12 55 30.0**	**+1.5**
HHC				pmax		pmax			
	comp=Z,10.0nm,0.8s								
HHC				pmax		pmax			
	comp=Z,100nm,6.6s								
USRK	**Ussuriysk Ar.**	**46.93**	**2**	P		**P**		**12 55 30.3**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=194,slow=7.9,SNR=2.3								
USRK	**Ussuriysk Ar.**	**46.93**	**2**	P		**P**		**12 55 31.0**	**+0.8**
LSA	**Lhasa**	**49.31**	**314**	P		**P**		**12 55 48.5**	**-0.9**
GTA	**Gaotai**	**50.43**	**330**	*eP*		**P**		**12 55 57.9**	**+0.5**
GTA				pP		sP		12 56 08.1	+0.3
GTA				sP		pP		12 56 12.8	+7.9
GTA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ULN	**Ulaanbaatar**	**54.41**	**341**	P		**P**		**12 56 27.0**	**+0.2**
ULN				IAmb		IAmb		12 56 32.6	
	comp=Z,7.7nm,1.2s								
SONM	**Songino Array**	**54.59**	**341**	P		**P**		**12 56 27.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=160,slow=9.3,SNR=7.5								
SONM	**Songino Array**	**54.59**	**341**	P		**P**		**12 56 28.3**	**+0.2**
WMQ	**Urumqi**	**60.00**	**326**	*eP*		**P**		**12 57 08.9**	**+2.6**
PETK	**Petropavlovsk-**	**60.48**	**19**	P		**P**		**12 57 09.1**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=216,slow=14,SNR=2.2								
CASY	**Casey**	**64.72**	**189**	P		**P**		**12 57 37.4**	**0.0**
MK31	**Makanchi Array**	**64.84**	**326**	P		**P**		**12 57 38.5**	**0.0**
MK31				IAmb		IAmb		12 57 39.9	
	comp=Z,2.9nm,1.0s								
MKAR	**Makanchi Array**	**64.84**	**326**	P		**P**		**12 57 38.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=121,slow=8.3,SNR=12								
ZAA0	**Zalesovo Array**	**67.94**	**333**	P		**P**		**12 57 57.6**	**-0.6**
ZAA0				IAmb		IAmb		12 57 58.9	
	comp=Z,4.8nm,1.0s								
ZALV	**Zalesovo Beam**	**67.94**	**333**	P		**P**		**12 57 57.3**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=117,slow=5.6,SNR=12								
ZALV	**Zalesovo Beam**	**67.94**	**333**	P		**P**		**12 57 57.2**	**-1.0**
KURK	**Kurchatov**	**69.06**	**328**	P		**P**		**12 58 05.3**	**+0.1**
KKAR	**Karatay Array**	**70.29**	**318**	P		**P**		**12 58 12.7**	**-0.3**
VNDA	**Vanda**	**76.48**	**173**	P		**P**		**12 58 49.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=277,slow=9.0,SNR=2.5								
VNDA	**Vanda**	**76.48**	**173**	P		**P**		**12 58 47.0**	**-1.9**
MAW	**Mawson**	**78.73**	**201**	P		**P**		**12 59 00.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=107,slow=3.3,SNR=8.9								
MAW	**Mawson**	**78.73**	**201**	P		**P**		**12 59 02.4**	**+0.8**
ABKAR	**Akbulak array**	**79.33**	**321**	P		**P**		**12 59 05.1**	**-0.1**
ABKAR				IAmb		IAmb		12 59 06.4	
	comp=Z,4.3nm,1.1s								
ILAR	**Eielson Array**	**89.68**	**25**	P		**P**		**12 59 59.1**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=236,slow=6.4,SNR=1.2								
TXAR	**Lajitas Array**	**122.78**	**57**	PKhKP		PKPpre		13 05 48.9	
	comp=Z,0.2nm,0.7s,baz=350,slow=4.6,SNR=2.2								
TXAR				PKP		**PKiKP**		**13 05 56.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=249,slow=1.5,SNR=1.7								
TORD	**Torodi Ar. Bea**	**127.90**	**284**	PKP		**PKiKP**		**13 06 06.8**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=7.6,slow=1.8,SNR=3.7								
TORD	**Torodi Ar. Bea**	**127.90**	**284**			**PKiKP**		**13 06 06.6**	**-0.2**
CPUP	**Villa Florida**	**150.08**	**167**	PKPbc		**PKPbc**		**13 06 51.2**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=117,slow=2.6,SNR=3.8								

*IDC **21** 12:47:15.9±5.6,28°.73S×177°.35W,h0km,mb4.1/3,*
mb1 4.3/3,mb1mx3.8/28,mbtmp4.1/3,Error ellipse:
s-maj=268.2km s-min=88.1km az=169.0
*NEIC **21** 12:47:53.1±2.7,27°.44S±0°.09×178°.22W±0°.08,*
h302km±9km,mb4.4/19,Error ellipse: s-maj=14.2km
s-min=8.8km az=210.0
ISC 21 12:48:15.7±1.2,28°.24S±0°.10×179°.9W±0°.2,h450km,n55,
σ1§77/57,mb3.9/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.02**	**121**	P		P		12 49 13.7	-2.5
GLKZ				S		**S**		**12 50 06.0**	**+0.6**
OUZ	**Omahuta**	**8.89**	**217**	Pn		P		12 50 15.1	-5.5
WCZ	**Waipu Caves**	**9.09**	**211**	P		P		12 50 25.6	+2.8
KUZ	**Kuaotunu**	**9.25**	**202**	P		P		12 50 27.2	+2.7
MXZ	**Matakaoa Point**	**9.42**	**189**	P		P		**12 50 28.2**	**+1.8**
MXZ				S		**S**		**12 52 13.3**	**-0.5**
WMGZ	**Waiomatatini S**	**9.66**	**188**	P		P		**12 50 32.0**	**+3.1**
WMGZ				S		**S**		**12 52 18.4**	**-0.2**
HAZ	**Te Kaha**	**9.69**	**191**	P		P		**12 50 31.1**	**+1.9**
HAZ				S		**S**		**12 52 20.1**	**+0.9**
RUGZ	**Raukumara Rang**	**9.91**	**191**	P		P		**12 50 33.5**	**+1.7**
RUGZ				S		**S**		**12 52 20.3**	**-3.6**
PUZ	**Puketiti**	**9.93**	**188**	P		P		**12 50 32.0**	**+0.2**
PUZ				S		**S**		**12 52 22.6**	**-1.4**
TWGZ	**Tauwhareparae**	**10.07**	**190**	P		P		**12 50 36.3**	**+2.8**
TWGZ				S		**S**		**12

SNAA	**Sanae**	**80.34**	**179**	P	P	12 59 35.1	-3.4
SNAA				IAmb	IAmb	12 59 40.2	
	comp=Z,3.6nm,1.4s						
VNA3	**Neumayer Olymp**	**80.56**	**177**	P	**P**	**12 59 40.9**	**+1.3**
VNA2	**Neumayer--Watz**	**80.97**	**178**	P	**P**	**12 59 43.5**	**+1.7**
FINES	**FINESS Array B**	**142.55**	**340**	PKP	**PKPdf**	**13 06 52.0**	**-3.8**
	comp=Z,3.3nm,1.0s,baz=90,slow=1.4,SNR=4.0						

*IDC **21** 13:12:57.8±0.7,2˙92S×130˚27E, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.1/42, mbtmp4.2/13, ML4.1/4, MS3.5/15, Ms1 3.5/15, ms1mx3.3/42, Error ellipse: s-maj=27.0km s-min=10.7km az=79.0*
*DJA **21** 13:13:01.5±0.8,3˚S±2˚×13˚0E±˚, h21km±6km, M4.4/12, mb4.5/11, mB5.2/4, MLv4.3/12, Mw(mB)4.6/4*
*NEIC **21** 13:13:03.0±1.7,2˙87S±0˙05×130˚07E±0˙06, h35km±4km, mb4.4/19, Error ellipse: s-maj=9.4km s-min=8.0km az=93.0*

ISC 21 13:13:01.9±0.4,2˚80S±0˙04×130˚12E±0˙03, h25km, n76, σ1§79/73, mb4.4/14, MS3.6/10, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.30**	**245**	P	**Pb**	**13 13 25.3**	**-0.4**
BNDI	**Bandanaira**	**1.72**	**187**	P	**Pb**	**13 13 31.9**	**-1.0**
BNDI				S	**Sb**	**13 13 56.8**	**+2.7**
FAKI	**Fak Fak**	**2.13**	**93**	P	**Pb**	**13 13 38.3**	**-1.5**
FAKI				S	**Sb**	**13 14 05.2**	**-0.7**
FAKI	**Fak Fak**	**2.13**	**93**	Pn	**Pb**	**13 13 38.1**	**-1.7**
SIJI	**Sorong**	**2.24**	**31**	Pn	**Pn**	**13 13 37.1**	**-0.3**
	14nm,0.3s,baz=236,slow=24,SNR=129						
SIJI				Sn	**Sn**	**13 14 06.9**	**+2.7**
	45nm,0.3s,baz=203,slow=23,SNR=4.4						
SIJI				LR	LR	13 14 17.3	
	comp=Z,698nm,18.3s,baz=245,slow=35						
NLAI	**Namlea**	**3.04**	**262**	P	**Pn**	**13 13 48.2**	**-0.2**
NLAI				S	**Sn**	**13 14 23.7**	**-0.4**
KMPI	**Kaimana, Papua**	**3.68**	**104**	P	**Pn**	**13 13 59.6**	**+2.4**
KMPI				S	**Sn**	**13 14 40.9**	**+1.0**
SANI	**Sanana**	**4.19**	**280**	P	**Pn**	**13 14 01.7**	**-2.5**
SANI				S	**Sn**	**13 14 46.7**	**-5.8**
TNTI	**Ternate**	**4.49**	**322**	P	Pn	13 14 02.2	-6.1
SRPI	**Serui, Papua**	**6.19**	**82**	P	**Pn**	**13 14 32.8**	**+1.1**
	1.4nm132nm,0.6s						
BAKI	**Biak**	**6.20**	**75**	P	**Pb**	**13 14 45.5**	**-3.6**
LUWI	**Luwuk**	**7.54**	**283**	Pn	**Pn**	**13 14 48.5**	**-1.8**
SMPI	**Sarmi**	**8.62**	**85**	P	**Pn**	**13 15 05.5**	**+0.3**
	19nm,0.7s						
APSI	**Ampana**	**8.67**	**282**	P	**Pn**	**13 15 01.7**	**-4.1**
	542nm58nm,0.9s						
SOEI	**Soe**	**9.03**	**220**	P	**Pn**	**13 15 11.7**	**+0.9**
	25nm,0.8s						
BATI	**Baumata**	**9.76**	**221**	Pn	**Pn**	**13 15 21.6**	**+0.9**
	3.6nm,0.3s,baz=331,slow=18,SNR=1.3						
BATI				LR	LR	13 18 55.7	
	comp=Z,269nm,19.8s,baz=72,slow=37						
MTN	**Manton Dam**	**10.03**	**174**	Pn	**Pn**	**13 15 24.0**	**-0.4**
GENI	**Genyem**	**10.04**	**89**	P	**Pn**	**13 15 26.6**	**+2.0**
	68nm,0.8s						
BSSI	**Bau Bau, Buton**	**10.15**	**251**	P	**Pn**	**13 15 27.0**	**+0.8**
	26nm,1.0s						
EDFI	**Ende, Flores**	**10.25**	**234**	P	**Pn**	**13 15 29.6**	**+2.0**
	5.6nm,0.9s						
BKSI	**Bulukumba**	**10.28**	**256**	P	**Pn**	**13 15 25.9**	**-2.0**
	29nm,1.7s						
KAPI	**Kappang**	**10.57**	**258**	LR	LR	13 19 38.2	
	comp=Z,177nm,20.2s,baz=75,slow=37						
MPSI	**Mapaga**	**10.68**	**287**	P	Pn	13 15 28.1	-5.3
	906nm9.1nm,0.7s						
DAV	**Davao City (W)**	**10.80**	**335**	LR	LR	13 20 42.0	
	comp=Z,321nm,18.9s,baz=106,slow=42						
KNRA	**Kununurra**	**12.86**	**186**	Pn	**Pn**	**13 16 00.8**	**-2.4**
MYLDM	**Lahad Datu**	**14.05**	**304**	P	**P**	**13 16 28.8**	**+1.8**
FITZ	**Fitzroy Crossi**	**15.82**	**196**	Pn	**Pn**	**13 16 41.2**	**-1.9**
	0.7nm,0.3s,baz=21,slow=8.1,SNR=21						
FITZ	**Fitzroy Crossi**	**15.82**	**196**	Pn	**Pn**	**13 16 42.1**	**-1.0**
JAGI	**Jajag, Banyuwa**	**16.85**	**250**	P	**P**	**13 16 58.4**	**+0.2**
COEN	**Coen**	**17.01**	**131**	P	**P**	**13 16 58.7**	**-1.2**
WB0	**Warramunga Arr**	**17.37**	**166**	Pn	**Pn**	**13 17 00.9**	**-1.9**
WB0				IAmb	IAmb	13 17 05.1	
	comp=Z,45nm,1.4s						
WRAB	**Tennant Creek**	**17.52**	**167**	Pn	**Pn**	**13 17 02.3**	**-2.3**
WRAB				IAmb	IAmb	13 17 06.9	
	comp=Z,42nm,1.4s						
WRA	**Warramunga Arr**	**17.53**	**167**	P	**Pn**	**13 17 01.0**	**-3.7**
	comp=Z,0.9nm,0.3s,baz=346,slow=11,SNR=42						
WRA				S	Sn	13 20 07.3	-12
	comp=Z,0.2nm,0.3s,baz=355,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**17.53**	**167**	Pn	**Pn**	**13 17 01.3**	**-3.4**
WB2	**Warramunga Arr**	**17.53**	**167**	Pn	**Pn**	**13 17 01.8**	**-2.9**
WB2				IAmb	IAmb	13 17 07.0	
	comp=Z,48nm,1.5s						
WR0	**Warramunga Arr**	**17.59**	**166**	Pn	**Pn**	**13 17 04.4**	**-1.1**
SBUM	**Sibu**	**18.64**	**286**	P	**Pn**	**13 17 18.6**	**+0.3**
SBUM				IAmb	IAmb	13 17 20.2	
	comp=Z,20nm,1.3s						
TGY	**Tagaytay City**	**19.10**	**332**	LR	LR	13 26 34.8	
	comp=Z,82nm,21.3s,baz=121,slow=42						
KSM	**Kuching**	**20.25**	**282**	P	**P**	**13 17 35.9**	**+0.3**
KSM				IAmb	IAmb	13 17 44.5	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**21.06**	**170**	P	**P**	**13 17 43.6**	**-0.7**
AS31				IAmb	IAmb	13 17 54.4	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**21.06**	**170**	P	**P**	**13 17 43.3**	**-1.1**
	comp=Z,31nm,0.8s,baz=348,slow=9.2,SNR=224						
ASAR				S	**S**	**13 21 36.4**	**-1.4**
	comp=Z,4.8nm,1.0s,baz=350,slow=18,SNR=6.7						
ASAR	**Alice Springs**	**21.06**	**170**	P	**P**	**13 17 43.5**	**-0.9**
CTA	**Charters Tower**	**23.31**	**139**	P	**P**	**13 18 05.5**	**-2.7**
	comp=Z,11nm,0.9s,baz=29,slow=5.5,SNR=3.4						
PPBI	**Pangkal Pinang**	**23.97**	**271**	P	**P**	**13 18 17.7**	**+3.1**
FORT	**Forrest**	**27.90**	**184**	P	**P**	**13 18 49.3**	**-0.6**
STKA	**Stephens Creek**	**30.88**	**161**	P	**P**	**13 19 16.2**	**-0.2**
	comp=Z,4.7nm,0.4s,baz=355,slow=7.5,SNR=6.1						
STKA	**Stephens Creek**	**30.88**	**161**	IAmb	IAmb	13 19 18.7	
	comp=Z,1.2nm,0.7s						
CM31	**Chiang Mai Arr**	**37.26**	**306**	P	**P**	**13 20 12.9**	**+1.0**
CM31				IAmb	IAmb	13 20 13.9	
	comp=Z,8.9nm,1.2s						
CMAR	**Chiang Mai Arr**	**37.26**	**306**	P	**P**	**13 20 12.8**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=129,slow=6.7,SNR=22						
CMAR				PcP	**PcP**	**13 22 33.6**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=172,slow=2.5,SNR=4.2						
CMAR				LR	LR	13 37 35.6	
	comp=Z,47nm,19.8s,baz=182,slow=40						
CMAR	**Chiang Mai Arr**	**37.26**	**306**	P	**P**	**13 20 11.9**	**-0.1**
CHTO	**Chiang Mai**	**37.44**	**306**	P	**P**	**13 20 13.6**	**+0.1**
CHTO				IAmb	IAmb	13 20 15.3	
	comp=Z,7.1nm,1.0s						
JWT	**Wachi**	**38.21**	**7**	P	**P**	**13 20 20.1**	**+0.4**
MJAR	**Matsushiro Arr**	**39.86**	**10**	LR	LR	13 36 48.1	
	comp=Z,39nm,20.1s,baz=135,slow=36						
KSRS	**Korea Array**	**40.10**	**357**	P	**P**	**13 20 34.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=159,slow=12,SNR=1.5						
KSRS				LR	LR	13 35 58.7	
	comp=Z,86nm,19.4s,baz=160,slow=34						
HHC	**Hu-ho-hao-te**	**46.63**	**341**	*e*P	**P**	**13 21 30.5**	**+2.2**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,67nm,5.7s						
USRK	**Ussuriysk Ar.**	**46.82**	**2**	P	**P**	**13 21 30.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=170,slow=8.8,SNR=2.9						
USRK				LR	LR	13 42 18.9	
	comp=Z,62nm,18.5s,baz=157,slow=38						
ASAJ	**Asahikawa**	**48.03**	**12**	LR	LR	13 39 46.3	
	comp=Z,74nm,21.1s,baz=191,slow=33						
GTA	**Gaotai**	**50.40**	**330**	*e*P	**P**	**13 21 58.9**	**+1.5**
GTA				pP	sP	13 22 09.0	+1.3
GTA				sP	pP	13 22 13.8	+9.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**54.53**	**341**	P	**P**	**13 22 28.9**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=148,slow=4.3,SNR=7.2						
SONM				LR	LR	13 48 03.4	
	comp=Z,33nm,19.1s,baz=134,slow=38						
SONM	**Songino Array**	**54.53**	**341**	P	**P**	**13 22 26.3**	**-1.6**
TUWZ	**Tuamarina**	**54.98**	**141**	P	**P**	**13 22 31.1**	**0.0**
TLY	**Talaya**	**58.76**	**341**	LR	LR	13 48 56.7	
	comp=Z,30nm,21.1s,baz=150,slow=37						
WMQ	**Urumqi**	**59.99**	**326**	*e*P	**P**	**13 23 08.6**	**+2.2**
PETK	**Petropavlovsk-**	**60.33**	**19**	LR	LR	13 48 03.9	
	comp=Z,60nm,21.1s,baz=168,slow=35						

MKAR	**Makanchi Array**	**64.82**	**326**	P	**P**	**13 23 39.3**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=122,slow=8.8,SNR=9.9						
MKAR	**Makanchi Array**	**64.82**	**326**	P	**P**	**13 23 38.5**	**-0.2**
ZAA0	**Zalesovo Array**	**67.90**	**333**	P	**P**	**13 23 58.3**	**+0.1**
ZALV	**Zalesovo Beam**	**67.90**	**333**	P	**P**	**13 23 58.8**	**+0.6**
	comp=Z,3.8nm,0.9s,baz=104,slow=4.7,SNR=9.5						
ZALV				LR	LR	13 55 57.5	
	comp=Z,40nm,18.0s,baz=50,slow=38						
ZALV	**Zalesovo Beam**	**67.90**	**333**	P	**P**	**13 23 58.1**	**-0.1**
KURK	**Kurchatov**	**69.03**	**328**	P	**P**	**13 24 05.2**	**-0.1**
KKAR	**Karatay Array**	**70.30**	**318**	P	**P**	**13 24 12.7**	**-0.7**
MAW	**Mawson**	**78.88**	**201**	LR	LR	13 56 31.8	
	comp=Z,38nm,19.8s,baz=60,slow=33						
ABKAR	**Akbulak array**	**79.32**	**321**	P	**P**	**13 25 05.2**	**-0.2**
SYO	**Syowa Base**	**87.59**	**201**	||eX	**P**	**13 25 48.9**	**+1.4**
TORD	**Torodi Ar. Bea**	**128.00**	**284**	PKP	**PKiKP**	**13 32 07.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=50,slow=2.3,SNR=2.3						
CPUP	**Villa Florida**	**150.16**	**166**	PKPbc	**PKPbc**	**13 32 50.8**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=136,slow=4.5,SNR=2.8						

*IDC **21** 13:13:04.8±1.1, 13˚84S×166˚52E, h31km±5km, mb4.3/13, mb1 4.4/15, mb1mx4.1/43, mbtmp4.5/15, ML4.2/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/28, Error ellipse: s-maj=29.5km s-min=16.7km az=125.0*
*NEIC **21** 13:13:06.5±1.8, 13˚91S±0˚08×166˚5E±0˚1, h47km±6km, mb4.8/46, Error ellipse: s-maj=17.3km s-min=9.6km az=60.0*
*GCMT **21** 13:13:06.5±0.4, 13˚94S±0˚04×166˚39E±0˚03, h26km±1km, MW4.9/58, Moment Tensor Solution. s30,c32; s58,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.85±.18; $M_{\theta\theta}$-1.05±.14; $M_{\phi\phi}$-1.81±.12; $M_{r\theta}$1.53±.29; $M_{\theta\phi}$0.86±.09; $M_{\phi r}$-0.73±.19; Best double couple: $M_0$3.08800×10^{16} NP1:φ336.00000°, δ31.00000°, λ111.00000°. NP2: φ132.00000°, δ61.00000°, λ78.00000°. Principal axes: T 3.4120, Plg71.0000°, Azm15.0000°; N -0.6580, Plg10.0000°, Azm138.0000°; P -2.7640, Plg15.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 13:13:05.9±0.5,13˚90S±0˙06×166˚54E±0˙09, h43km, n87, σ1§24/87, mb4.8/29, MS4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.67**	**157**		**Pn**	**13 13 32.6**	**0.0**
HNR	**Honiara**	**7.83**	**304**	Pn	**Pn**	**13 14 56.5**	**-0.9**
	6.2nm,0.3s,baz=142,slow=8.1,SNR=3.0						
HNR				Sn	**Sn**	**13 16 22.5**	**-2.3**
	4.5nm,0.3s,baz=132,slow=16,SNR=2.0						
HNR				LR	LR	13 17 49.8	
	comp=Z,385nm,20.1s,baz=154,slow=37						
DZM	**Mont Dzumac**	**8.13**	**181**	*e*Pn	**Pn**	**13 15 03.6**	**+2.1**
	48nm,0.5s						
DZM				*e*Sn	**Sn**	**13 16 29.8**	**-2.3**
	50nm,0.8s						
DZM				*e*LR	LR	13 16 55.6	
	comp=Z,758nm,25.1s						
DZM	**Mont Dzumac**	**8.13**	**181**	Pn	**Pn**	**13 15 01.3**	**-0.1**
	1.7nm,0.3s,baz=15,slow=20,SNR=22						
DZM				Sn	**Sn**	**13 16 29.5**	**-2.6**
	baz=330,slow=20,SNR=1.7						
DZM				LR	LR	13 17 19.1	
	comp=Z,141nm,20.4s,baz=7.0,slow=31						
KRVT	**Keravat (AS076**	**17.20**	**302**	LR	LR	13 24 34.1	
	comp=Z,281nm,18.7s,baz=145,slow=40						
CTA	**Charters Tower**	**20.34**	**250**	P	**P**	**13 17 38.9**	**+0.1**
	11nm,0.7s,baz=78,slow=13,SNR=8.3						
CTAO	**Charters Tower**	**20.34**	**250**		**P**	**13 17 39.5**	**+0.8**
ARMA	**Armidale**	**21.43**	**217**	P	**P**	**13 17 50.7**	**+0.2**
ARMA				IAmb	IAmb	13 18 19.5	
	comp=Z,32nm,1.5s						
PATS	**Pohnpei**	**22.16**	**338**	P	**P**	**13 17 59.5**	**+1.2**
BKZ	**Black Stump Fm**	**26.66**	**163**	P	**P**	**13 18 41.7**	**+0.9**
THZ	**Tophouse**	**28.31**	**170**	P	**P**	**13 18 55.9**	**+0.4**
THZ				IAmb	IAmb	13 19 06.1	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**29.01**	**228**	P	**P**	**13 19 02.3**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=14,slow=8.3,SNR=17						
STKA				LR	LR	13 30 29.6	
	comp=Z,328nm,19.8s,baz=39,slow=36						
STKA	**Stephens Creek**	**29.01**	**228**	P	**P**	**13 19 02.9**	**+1.1**
KHZ	**Kahutara**	**29.05**	**169**	P	**P**	**13 19 04.5**	**+2.5**
KHZ				IAmb	IAmb	13 19 22.8	
	comp=Z,25nm,1.5s						
LTZ	**Lake Taylor**	**29.20**	**171**	P	**P**	**13 19 05.4**	**+2.0**
LTZ				IAmb	IAmb	13 19 06.4	
	comp=Z,40nm,1.5s						
TOO	**Toolangi**	**30.11**	**215**	P	**P**	**13 19 12.2**	**+0.6**
WKZ	**Wanaka**	**30.90**	**177**	P	**P**	**13 19 19.6**	**+1.3**
ODZ	**Otahua Downs**	**31.24**	**174**	P	**P**	**13 19 22.1**	**+0.8**
ODZ				IAmb	IAmb	13 19 42.7	
	comp=Z,39nm,1.5s						
WB0	**Warramunga Arr**	**31.28**	**255**	P	**P**	**13 19 21.6**	**-0.5**
WRAB	**Tennant Creek**	**31.34**	**254**	P	**P**	**13 19 22.3**	**-0.2**
WRA	**Warramunga Arr**	**31.35**	**254**	P	**P**	**13 19 22.2**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=84,slow=9.2,SNR=6.0						
WRA				ScP	**ScP**	**13 25 60.0**	**+4.2**
	comp=Z,1.1nm,0.9s,baz=86,slow=3.3,SNR=4.5						
WRA				PKiKP	**PKiKP**	**13 29 45.0**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=2.1,slow=0.1,SNR=4.4						
WRA				LR	LR	13 30 41.3	
	comp=Z,331nm,20.3s,baz=60,slow=34						
WRA	**Warramunga Arr**	**31.35**	**254**	IAmb	IAmb	13 19 25.3	
	comp=Z,0.3nm,1.1s						
AS31	**Alice Springs**	**32.32**	**248**	P	**P**	**13 19 30.6**	**-0.5**
ASAR	**Alice Springs**	**32.32**	**248**	P	**P**	**13 19 31.0**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=72,slow=9.8,SNR=7.6						
ASAR				ScP	**ScP**	**13 26 03.3**	**+4.3**
	comp=Z,0.8nm,1.0s,baz=64,slow=4.2,SNR=3.5						
ASAR				PKiKP	**PKiKP**	**13 29 45.5**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=112,slow=1.6,SNR=3.1						
BBOO	**Buckleboo**	**33.54**	**231**	P	**P**	**13 19 43.2**	**+1.5**
BBOO				IAmb	IAmb	13 19 48.4	
	comp=Z,16nm,0.8s						
MTN	**Manton Dam**	**34.44**	**267**	P	**P**	**13 19 50.0**	**+0.3**
MTN				IAmb	IAmb	13 19 56.1	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**36.54**	**262**	P	**P**	**13 20 07.4**	**-0.3**
FORT	**Forrest**	**39.12**	**238**	P	**P**	**13 20 29.9**	**+0.5**
FORT				IAmb	IAmb	13 20 38.1	
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.48**	**258**	P	**P**	**13 20 32.7**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=124,slow=6.4,SNR=5.4						
SOEI	**Soe**	**41.54**	**271**	P	**P**	**13 20 50.0**	**+0.3**
PPT2	**Papeete2**	**42.33**	**101**	*e*LQ	LQ	13 31 10.8	
	comp=Z,291nm,25.8s						
PPT2				*e*LR	LR	13 32 59.0	
	comp=Z,210nm,27.0s						
PPT	**Papeete**	**42.33**	**101**	LR	LR	13 34 55.4	
	comp=Z,80nm,19.7s,baz=276,slow=31						
NWAO	**Narrogin (SRO)**	**48.57**	**238**	P	**P**	**13 21 45.2**	**0.0**
	comp=Z,9.0nm,0.8s,baz=97,slow=7.2,SNR=5.8						
NWAO	**Narrogin (SRO)**	**48.57**	**238**	P	**P**	**13 21 44.7**	**-0.6**
NWAO				IAmb	IAmb	13 21 47.0	
	comp=Z,11nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.57**	**238**	IAmb	IAmb	13 21 47.0	
	comp=Z,8.8nm,0.9s						
MORW	**Morawa**	**48.99**	**244**	P	**P**	**13 21 49.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**51.59**	**270**	P	**P**	**13 22 08.4**	**0.0**
JHJ	**Hachijo jima 2**	**53.28**	**332**	LR	LR	13 45 19.8	
	comp=Z,63nm,18.1s,baz=86,slow=36						
KKM	**Kota Kinabalu**	**53.73**	**288**	P	**P**	**13 22 25.5**	**+1.2**
JGF	**Kuroka**	**56.45**	**332**	P	**P**	**13 22 44.7**	**+1.2**
MJAR	**Matsushiro Arr**	**56.85**	**333**	P	**P**	**13 22 46.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=176,slow=8.2,SNR=8.8						
MJAR	**Matsushiro Arr**	**56.85**	**333**	P	**P**	**13 22 46.0**	**-0.3**
MAT	**Matsushiro**	**56.85**	**333**	P	**P**	**13 22 45.1**	**-1.1**
JNU	**Nakatsue**	**57.84**	**325**	P	**P**	**13 22 53.5**	**+0.1**
JTM	**Tenmabayashi**	**59.31**	**338**	P	**P**	**13 23 04.5**	**+1.2**
ERM	**Erimo**	**59.66**	**340**	P	**P**	**13 23 06.8**	**+1.1**
JKA	**Kamikawa-asahi**	**61.73**	**341**	P	**P**	**13 23 21.6**	**+1.9**
VNDA	**Vanda**	**63.67**	**181**	P	**P**	**13 23 30.8**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=323,slow=10,SNR=2.9						
VNDA	**Vanda**	**63.67**	**181**	P	**P**	**13 23 30.9**	**-1.4**
USRK	**Ussuriysk Ar.**	**65.83**	**333**	P	**P**	**13 23 45.0**	**-1.8**
	comp=Z,6.7nm,1.1s,baz=114,slow=7.1,SNR=3.1						
USA0B	**Ussuriysk Arra**	**65.83**	**333**	P	**P**	**13 23 44.6**	**-2.2**
ENH	**Enshi**	**70.29**	**310**	P	**P**	**13 24 15.4**	**+0.2**
ENH				IAmb	IAmb	13 24 17.1	
	comp=Z,8.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	**P**	**13 24 38.8**	**+1.4**
CHTO	**Chiang Mai**	**74.09**	**294**	P	**P**	**13 24 39.5**	**+1.4**

CHGN	**Chignik**	**75.82**	**19**	P	**P**	**13 24 47.7**	**+0.5**
QSPA	**South Pole Qui**	**76.12**	**180**	P	**P**	**13 24 47.3**	**-1.9**
QSPA				IAmb	IAmb	13 24 56.2	
	comp=Z,7.3nm,1.0s						
SONM	**Songino Array**	**81.41**	**324**	P	**P**	**13 25 18.5**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=137,slow=6.5,SNR=6.5						
SONM				pP	**pP**	**13 25 28.8**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=114,slow=13,SNR=5.5						
SONM	**Songino Array**	**81.41**	**324**	P	**P**	**13 25 17.6**	**-0.8**
RND	**Reindeer**	**84.38**	**19**	P	**P**	**13 25 33.1**	**-0.2**
RND				IAmb	IAmb	13 25 47.6	
	comp=Z,8.4nm,1.1s						
WRH	**Wood River Hil**	**85.38**	**18**	P	**P**	**13 25 37.1**	**-1.1**
WRH				IAmb	IAmb	13 25 49.7	
	comp=Z,8.2nm,1.2s						
CCB	**Clear Creek Bu**	**85.60**	**18**	P	**P**	**13 25 38.1**	**-1.2**
CCB				IAmb	IAmb	13 25 40.0	
	comp=Z,8.5nm,1.4s						
HDA	**Harding Lake**	**85.69**	**18**	P	**P**	**13 25 38.9**	**-0.9**
HDA				IAmb	IAmb	13 25 41.6	
	comp=Z,9.3nm,1.0s						
MDM	**Murphy Dome**	**85.69**	**18**	P	**P**	**13 25 39.7**	**-0.1**
MDM				IAmb	IAmb	13 25 54.9	
	comp=Z,6.6nm,1.1s						
IL31		**85.96**	**18**	P	**P**	**13 25 41.5**	**+0.4**
IL31				IAmb	IAmb	13 25 46.4	
	comp=Z,6.7nm,1.2s						
ILAR	**Eielson Array**	**85.96**	**18**	P	**P**	**13 25 41.0**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=250,slow=4.8,SNR=37						
ILAR				LR	LR	14 00 24.3	
	comp=Z,92nm,18.9s,baz=234,slow=33						
ILAR	**Eielson Array**	**85.96**	**18**	P	**P**	**13 25 41.5**	**+0.4**
NVAR	**Mina Array Bea**	**87.27**	**49**	LR	LR	13 58 31.4	
	comp=Z,139nm,19.0s,baz=268,slow=31						
SNAA	**Sanae**	**94.33**	**183**	P	**P**	**13 26 21.2**	**+0.6**
SNAA	**Sanae**	**94.33**	**183**		**P**	**13 26 20.6**	**-0.1**
SNAA				IAmb	IAmb	13 26 22.3	
	comp=Z,6.6nm,1.3s						
PDAR	**Pinedale Array**	**94.91**	**47**	LR	LR	14 10 10.0	
	comp=Z,61nm,18.1s,baz=354,slow=36						
VNA3	**Neumayer Olymp**	**95.03**	**181**	P	**P**	**13 26 24.0**	**+0.3**
VNA2	**Neumayer--Watz**	**95.28**	**182**	P	**P**	**13 26 25.4**	**+0.5**
	baz=157,slow=5.4						
VNA1	**Neumayer--Stat**	**95.58**	**182**	P	**P**	**13 26 26.3**	**+0.1**
MK31	**Makanchi Array**	**96.12**	**317**	P	**P**	**13 26 29.1**	**0.0**
MKAR	**Makanchi Array**	**96.12**	**317**	P	**P**	**13 26 30.4**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=98,slow=5.9,SNR=8.1						
MKAR				pP	**pP**	**13 26 39.9**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=96,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**96.12**	**317**	P	**P**	**13 26 28.6**	**-0.5**
ZALV	**Zalesovo Beam**	**96.31**	**324**	P	**P**	**13 26 29.9**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=112,slow=6.6,SNR=4.9						
ZALV				pP	**pP**	**13 26 39.6**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=72,slow=0.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**96.31**	**324**	P	**P**	**13 26 30.1**	**+0.3**
TXAR	**Lajitas Array**	**96.51**	**62**	LR	LR	14 03 39.2	
	comp=Z,35nm,19.1s,baz=0.0,slow=31						
YKA	**Yellowknife Ar**	**97.14**	**27**	P	Pdif	13 26 34.7	+1.3
	comp=Z,0.4nm,0.7s,baz=246,slow=4.0,SNR=1.9						
ARCES	**ARCESS Array B**	**119.27**	**345**	PKP	**PKPdf**	**13 31 50.0**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=336,slow=2.7,SNR=6.1						
NOA	**NORSAR Array B**	**129.64**	**345**	PKP	**PKiKP**	**13 32 11.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=51,slow=5.7,SNR=2.4						
KEST	**Kesra**	**150.12**	**321**	PKPbc	**PKPbc**	**13 32 53.3**	**+0.8**
	comp

	baz=273							
CHGB				S		Sn	13 23 43.0	-0.2
	baz=273							
YHNB	**Yeheng**	**1.16**	**306**	P		Pn	13 23 27.9	-0.3
	baz=305							
YHNB				*e*S		**Sb**	13 23 42.9	-0.3
	baz=305							
TDCB	**Techi**	**1.17**	**284**	*e*P		**Pb**	13 23 28.5	+0.1
	baz=283							
TDCB				*e*S		**Sg**	13 23 44.6	+0.3
	baz=283							
YULB	**Yu-li**	**1.17**	**240**	P		Pn	13 23 27.8	-0.5
	baz=239							
YULB				S		**Sb**	13 23 42.8	-0.6
	baz=239							
EYUL	**Yuli**	**1.18**	**238**	P		Pn	13 23 28.1	-0.3
	baz=237							
EYUL				*e*S		**Sb**	13 23 43.6	+0.1
	baz=237							
VWDT	**VWDT**	**1.18**	**259**	P		Pn	13 23 28.3	0.0
	baz=258							
VWDT				S		**Sb**	13 23 43.4	-0.1
	baz=258							
NSK	**Sanguang**	**1.18**	**306**	*i* P		Pn	13 23 27.7	-0.7
	baz=305							
NSK				S		**Sb**	13 23 43.4	-0.2
	baz=305							
TWF1	**Yuli**	**1.19**	**239**	*i* P		Pn	13 23 28.2	-0.4
	baz=237							
TWF1				*i* S		**Sb**	13 23 44.1	+0.2
	baz=237							
NWF	**Wu-fen Shan**	**1.22**	**333**	*i* P		Pn	13 23 28.0	-1.1
	baz=332							
NWF				S		**Sg**	13 23 45.8	-0.3
	baz=332							
WFSB	**Wu-fen Shan**	**1.22**	**333**	P		Pn	13 23 27.9	-1.1
	baz=332							
WFSB				S		**Sn**	13 23 45.3	0.0
	baz=332							
TWA	**Mucha**	**1.24**	**323**	S		Sn	13 23 45.7	-0.1
	baz=323							
IRIF	**Iriomote-Funau**	**1.26**	**74**	P		Pb	13 23 29.9	-0.1
IRIF				*e*S		**Sn**	13 23 46.4	+0.1
FULB	**Fuli**	**1.28**	**233**	*i* P		Pn	13 23 29.2	-0.7
	baz=232							
FULB				S		**Sg**	13 23 47.5	-0.3
	baz=232							
HATJ	**Hateruma jima**	**1.29**	**86**	P		Pn	13 23 29.6	-0.3
HATJ				*e*S		**Sg**	13 23 48.0	0.0
SSLB	**Suanglung**	**1.34**	**262**	P		Pn	13 23 30.7	+0.1
	baz=261							
SSLB				S		**Sn**	13 23 48.2	0.0
	baz=261							
WHP	**Taichung City**	**1.36**	**283**	*i* P		Pb	13 23 32.0	+0.3
	baz=282							
WHP				S		**Sb**	13 23 49.3	+0.3
	baz=282							
SMLT	**Sun Moon Lake**	**1.38**	**266**	*i* P		Pn	13 23 31.4	+0.2
	baz=265							
SMLT				S		**Sn**	13 23 48.7	-0.5
	baz=265							
YM01	**YM01**	**1.39**	**327**	P		Pb	13 23 32.3	+0.2
	baz=326							
YM01				S		**Sb**	13 23 50.0	+0.4
	baz=326							
YM10	**YM10**	**1.40**	**327**	*e*P		Pn	13 23 31.8	+0.3
	baz=326							
YM10				*e*S		**Sb**	13 23 49.9	-0.1
	baz=326							
YM11	**YM11**	**1.40**	**328**	*e*S		Sn	13 23 49.0	-0.7
	baz=327							
YM05	**YM05**	**1.40**	**327**	*e*P		Pn	13 23 31.0	-0.6
	baz=326							
YM04	**YM04**	**1.41**	**326**	*e*P		Pb	13 23 32.6	+0.1
	baz=325							
TYC	**Yuchr**	**1.42**	**267**	*i* P		Pn	13 23 31.4	-0.2
	baz=266							
TYC				S		**Sb**	13 23 50.7	+0.3
	baz=266							
EDH	**Donghe**	**1.42**	**225**	P		Pn	13 23 31.3	-0.4
	baz=225							
EDH				*e*S		**Sn**	13 23 47.9	-2.3
	baz=225							
LIOB	**Emei**	**1.43**	**298**	P		Pb	13 23 32.6	-0.2
	baz=297							
LIOB				*e*S		**Sb**	13 23 51.4	+0.7
	baz=297							
NSTT	**Nanjuang**	**1.43**	**297**	*e*P		Pn	13 23 32.3	+0.4
	baz=296							
NSTT				*e*S		**Sn**	13 23 50.5	0.0
	baz=296							
JKRS	**Kuro-shima**	**1.49**	**80**	P		Pb	13 23 34.3	+0.4
JKRS				*e*S		**Sb**	13 23 53.3	+0.7
ALS	**Alishan**	**1.54**	**253**	*i* P		Pn	13 23 34.2	+0.7
	baz=251							
ALS				*e*S		**Sn**	13 23 53.8	+0.3
	baz=251							
WJS	**Zhushan**	**1.54**	**264**	S		Sb	13 23 54.2	+0.2
	baz=263							
LDUT	**Ludao**	**1.56**	**214**	P		Pn	13 23 32.7	-0.9
	baz=213							
LDUT				S		**Sn**	13 23 52.2	-1.3
	baz=213							
LONT	**Longtian**	**1.58**	**228**	P		Pn	13 23 33.1	-0.9
	baz=227							
LONT				*e*S		**Sn**	13 23 53.8	-0.3
	baz=227							
CHN5	**Tsauling**	**1.62**	**257**	*i* P		Pb	13 23 36.0	-0.2
	baz=256							
CHN5				*e*S		**Sn**	13 23 55.8	+0.5
	baz=256							
JIJ	**Ishigaki jima**	**1.64**	**76**	P		Pn	13 23 35.0	+0.3
JIJ				*e*S		**Sn**	13 23 55.7	+0.2
PCYT	**Pengchaiyu**	**1.67**	**350**	*e*P		Pn	13 23 34.9	-0.2
	baz=349							
TWGBT	**Beinan**	**1.68**	**227**	*e*P		Pn	13 23 35.6	+0.4
	baz=226							
TWG	**Pinlang**	**1.68**	**227**	*e*P		Pn	13 23 35.8	+0.5
	baz=226							
STYT	**Tauyuan**	**1.71**	**242**	*i* P		Pn	13 23 36.3	+0.5
	baz=241							
STYT				S		**Sb**	13 23 58.7	-0.4
	baz=241							
WDLH	**Douliu**	**1.73**	**261**	*e*P		Pb	13 23 37.1	-0.8
	baz=260							
WDLH				S		**Sn**	13 23 58.7	+0.9
	baz=260							
TPUB	**Ta-pu**	**1.76**	**248**	P		Pb	13 23 37.8	-0.7
	baz=247							
TPUB				S		**Sn**	13 23 59.5	+0.9
	baz=247							
CHN4	**Tsaushan**	**1.77**	**250**	P		Pb	13 23 37.8	-0.8
	baz=249							
CHN4				S		**Sn**	13 23 59.8	+0.9
	baz=249							
WTP	**Ta-pu**	**1.79**	**246**	*i* P		Pn	13 23 37.9	+0.9
	baz=245							
WTP				*i* S		**Sb**	13 24 00.8	-0.6
	baz=245							
JISG	**Ishigakijimahi**	**1.84**	**71**	P		Pn	13 23 36.8	-0.8
JISG				*e*S		**Sn**	13 23 59.2	-1.4
WTK	**Tuku**	**1.87**	**261**	*e*S		Sn	13 24 02.0	+0.9
	baz=260							
RLNB	**Erlin**	**1.87**	**268**	*e*S		Sb	13 24 03.4	-0.1
	baz=267							
SLGT	**Liugui**	**1.89**	**239**	*i* P		Pn	13 23 39.3	+1.2
	baz=238							
SLGT				S		**Sb**	13 24 03.2	-0.8
	baz=238							
CHN1	**Nanshi**	**1.89**	**246**	P		Pb	13 23 39.7	-1.0
	baz=245							
CHN1				S		**Sb**	13 24 03.1	-1.1
	baz=245							
SGST	**Jiashian**	**1.89**	**242**	P		Pn	13 23 39.4	+1.1
	baz=241							
SGST				S		**Sn**	13 24 03.0	+1.2
	baz=241							
TWK	**Hsinying**	**1.89**	**248**	P		Pn	13 23 39.5	+1.2
	baz=247							
TWK				S		**Sn**	13 24 03.1	+1.2
	baz=247							
SNST	**Tainan City**	**1.90**	**247**	*i* P		Pb	13 23 40.5	-0.4
	baz=246							
SNST				S		**Sb**	13 24 04.3	-0.2
	baz=246							
ECL	**Taimali**	**1.92**	**224**	*e*P		Pn	13 23 38.9	+0.3
	baz=223							
SSD	**Sandimen**	**2.04**	**233**	P		Pb	13 23 41.9	-1.3
	baz=232							
SSD				S		**Sn**	13 24 06.9	+1.5
	baz=232							
TSMG	**Majia**	**2.05**	**232**	*e*P		Pn	13 23 42.0	+1.6
	baz=231							
TSMG				*e*S		**Sn**	13 24 05.9	+0.1
	baz=231							
SCST	**Cishan**	**2.06**	**238**	*e*P		Pb	13 23 42.5	-1.2
	baz=238							
MASBT	**Mashibuluo**	**2.12**	**230**	P		Pn	13 23 41.8	+0.4
	baz=230							
MASBT				*e*S		**Sn**	13 24 08.9	+1.4
	baz=230							
EAST	**Anshuo**	**2.14**	**222**	*i* P		Pn	13 23 41.9	+0.2
	baz=221							
EAST				S		**Sn**	13 24 09.2	+1.3
	baz=221							
JTJ	**Tarama**	**2.20**	**72**	P		Pn	13 23 43.4	+1.0
JTJ				*e*S		**Sn**	13 24 10.5	+1.1
SCZT	**Fangliau**	**2.29**	**226**	*e*P		Pn	13 23 45.1	+1.4
	baz=225							
SLIU	**Shizi**	**2.29**	**220**	P		Pn	13 23 44.2	+0.4
	baz=220							
WDGT	**Dungji**	**2.61**	**255**	P		Pn	13 23 49.2	+1.0
	baz=253							
WDGT				S		**Sn**	13 24 21.0	+1.4
	baz=253							
PHUB	**P'eng-hu**	**2.63**	**260**	*e*P		Pn	13 23 48.6	+0.2
	baz=259							
PHUB				S		**Sn**	13 24 20.4	+0.3
	baz=259							
PNG	**Penghu**	**2.64**	**262**	S		Sn	13 24 20.6	+0.3
	baz=260							
PTMZ	**Houxiangcun**	**3.17**	**290**	*e*S		Sn	13 24 32.1	-1.2
	baz=289							

IDC 21 13:33:19.1±3.0, 6.68S×155.05E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/38, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=65.1km s-min=38.5km az=86.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.82**	**308**	Pn	Pn	13 34 20.5	+1.3
	1.4nm,0.3s,baz=146,slow=3.6,SNR=1.9						
KRVT				Sn	Sn	13 35 02.4	-2.5
	2.3nm,0.3s,baz=213,slow=22,SNR=2.5						
WRA	**Warramunga Arr**	**24.04**	**235**	P	P	13 38 36.3	+0.2
	0.4nm,0.7s,baz=58,slow=9.9,SNR=6.5						
WRA				PcP	PcP	13 42 17.3	-0.9
	0.4nm,1.0s,baz=59,slow=2.3,SNR=4.6						
ASAR	**Alice Springs**	**26.42**	**228**	P	P	13 38 57.9	+0.1
	0.7nm,1.1s,baz=58,slow=9.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**60.69**	**295**	P	P	13 43 32.5	-0.3
	0.3nm,0.3s,baz=111,slow=4.9,SNR=4.3						

*JMA **21** 13:35:24.4±0.1, 23.95N×122.40E, h9km, M2.1*
*TAP **21** 13:35:25.5, 24.05N×122.42E, h40km, ML2.7, D*
ISC 21 13:35:25.3±0.9, 24.00N±0.02×122.38E±0.02, h22km±8km, n73, σ0.67/135, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.68**	**49**	P	**Pb**	**13 35 37.8**	**-0.7**
JYNG				S	**Sb**	**13 35 48.1**	**+0.6**
ENAH	**Nanao**	**0.68**	**311**	*e*P	**Pb**	**13 35 38.7**	**+0.1**
	baz=305						
ENAH				S	**Sn**	13 35 49.1	-0.5
	baz=305						
ENA	**Nanau**	**0.72**	**306**	*i* P	**Pb**	13 35 39.5	+0.3
	baz=309						
ENA				*i* S	**Sn**	13 35 50.1	-0.4
	baz=309						
YOJ	**Yonaguni jima**	**0.73**	**52**	P	**Pb**	13 35 38.9	-0.5
	baz=60						
YOJ				S	**Sb**	13 35 48.8	-0.2
	baz=60						
YOJ	**Yonaguni jima**	**0.73**	**52**	P	**Pb**	13 35 38.8	-0.6
YOJ				S	**Sb**	13 35 48.5	-0.5
NACB	**Ninganchiao**	**0.74**	**283**	P	**Pb**	13 35 39.1	-0.3
	baz=269						
NACB				S	**Sb**	13 35 49.9	+0.8
	baz=269						
ETLH	**Xiulin Townshi**	**0.84**	**284**	P	**Pb**	13 35 41.0	-0.4
	baz=271						
ETLH				S	**Sb**	13 35 53.0	+0.7
	baz=271						
ESL	**Shilin**	**0.89**	**258**	*i* P	**Pb**	13 35 41.2	-0.8
	baz=249						
ESL				S	**Sn**	13 35 54.2	-0.4
	baz=249						
TWE	**Neicheng**	**0.97**	**318**	*i* P	**Pn**	13 35 43.5	0.0
	baz=314						
TWE				S	**Sn**	13 35 56.4	-0.2
	baz=314						
ENTT	**Nioudou**	**0.98**	**311**	*i* P	**Pn**	13 35 43.8	+0.2
	baz=296						
ENTT				*i* S	**Sn**	13 35 57.6	+0.7
	baz=296						
NTC	**Toucheng**	**0.98**	**329**	P	**Pb**	13 35 43.5	-0.1
	baz=326						
NTC				*i* S	**Sb**	13 35 56.6	+0.4
	baz=326						
NDT	**Datong Townshi**	**0.99**	**307**	*i* P	**Pn**	13 35 43.3	-0.6
	baz=294						
NDT				S	**Sn**	13 35 57.9	+0.7
	baz=294						
NNSB	**Datong**	**1.00**	**295**	P	**Pn**	13 35 43.6	-0.6
	baz=283						
NNSB				S	**Sb**	13 35 57.1	+0.2
	baz=283						
NNSH	**Datong**	**1.00**	**295**	*i* P	**Pn**	13 35 43.4	-0.7
	baz=283						
NNSH				*i* S	**Sb**	13 35 57.1	+0.2
	baz=283						
HGSD	**Ruisui**	**1.01**	**240**	P	**Pn**	13 35 43.5	-0.6
	baz=239						
HGSD				S	**Sb**	13 35 57.4	+0.4
	baz=239						
NNS	**Nan Shan**	**1.02**	**295**	*i* P	**Pn**	13 35 43.5	-0.8
	baz=292						
NNS				*i* S	**Sb**	13 35 57.5	+0.3
	baz=292						
WHF	**Hehuan Shan**	**1.03**	**278**	*i* P	**Pn**	13 35 44.1	-0.6
	baz=275						
WHF				*i* S	**Sb**	13 35 58.1	+0.3
	baz=275						
FUSS	**Fushou**	**1.07**	**283**	P	**Pn**	13 35 45.0	-0.1
	baz=280						
FUSS				*e*S	**Sn**	13 35 59.4	0.0
	baz=280						
TIPB	**Shuangxi**	**1.09**	**332**	*i* P	**Pn**	13 35 44.6	-0.6
	baz=329						
TIPB				*i* S	**Sb**	13 35 58.7	-0.5
	baz=329						
EHY	**Hungye**	**1.09**	**243**	*i* P	**Pn**	13 35 44.7	-0.5
	baz=254						
EHY				S	**Sn**	13 35 59.5	-0.2
	baz=254						
CHGB	**Renai**	**1.10**	**273**	P	**Pn**	13 35 45.6	0.0
	baz=270						
CHGB				*e*S	**Sb**	13 35 59.9	0.0
	baz=270						
YHNB	**Yeheng**	**1.13**	**306**	P	**Pn**	13 35 45.6	-0.3
	baz=302						
YHNB				*e*S	**Sb**	13 36 00.3	-0.2
	baz=302						
NSK	**Sanguang**	**1.15**	**306**	P	**Pb**	13 35 46.5	+0.1
	baz=302						
NSK				S	**Sb**	13 36 00.7	-0.2
	baz=302						
VWDT	**VWDT**	**1.16**	**258**	P	**Pn**	13 35 46.2	0.0
	baz=256						
VWDT				S	**Sn**	13 35 59.1	-2.2
	baz=256						
YULB	**Yu-li**	**1.16**	**239**	P	**Pn**	13 35 45.7	-0.6
	baz=251						
YULB				S	**Sn**	13 36 01.0	-0.5
	baz=251						
EYUL	**Yuli**	**1.17**	**236**	P	**Pn**	13 35 46.1	-0.2
	baz=226						
EYUL				S	**Sb**	13 36 02.6	+1.0
	baz=226						
TWF1	**Yuli**	**1.19**	**237**	*i* P	**Pn**	13 35 46.3	-0.2
	baz=226						
TWF1				S	**Sb**	13 36 02.3	+0.3
	baz=226						
NWF	**Wu-fen Shan**	**1.19**	**333**	P	**Pn**	13 35 46.2	-0.5
	baz=330						
NWF				S	**Sb**	13 36 02.8	+0.5
	baz=330						
WFSB	**Wu-fen Shan**	**1.19**	**333**	*e*P	**Pn**	13 35 46.1	-0.5
	baz=330						
WFSB				*e*S	**Sn**	13 36 01.9	-0.3
	baz=330						
IRIF	**Iriomote-Funau**	**1.28**	**75**	P	**Pb**	13 35 48.1	-0.5
IRIF				S	**Sb**	13 36 05.0	+0.4
FULB	**Fuli**	**1.28**	**231**	*i* P	**Pn**	13 35 47.0	-0.8
	baz=221						
FULB				S	**Sb**	13 36 04.8	+0.1
	baz=221						
HATJ	**Hateruma jima**	**1.30**	**87**	P	**Pb**	13 35 49.5	+0.4
HATJ				*e*S	**Sb**	13 36 07.0	+1.6
SSLB	**Suanglung**	**1.32**	**261**	P	**Pn**	13 35 48.6	+0.1
	baz=259						
SSLB				S	**Sn**	13 36 05.7	+0.3
	baz=259						
WHP	**Taichung City**	**1.34**	**282**	P	**Pb**	13 35 50.4	+0.6
	baz=271						
WHP				S	**Sb**	13 36 06.5	0.0
	baz=271						
YM01	**YM01**	**1.35**	**327**	*e*P	**Pn**	13 35 48.3	-0.6
	baz=337						
YM01				*e*S	**Sn**	13 36 05.5	-0.8
	baz=337						
SMLT	**Sun Moon Lake**	**1.36**	**265**	*i* P	**Pn**	13 35 49.5	+0.5
	baz=263						
SMLT				S	**Sn**	13 36 06.8	+0.3
	baz=263						
YM10	**YM10**	**1.37**	**327**	*e*S	**Sn**	13 36 06.3	-0.3
	baz=337						
YM04	**YM04**	**1.38**	**326**	*e*S	**Sn**	13 36 06.3	-0.5
	baz=337						
TYC	**Yuchr**	**1.40**	**266**	*i* P	**Pn**	13 35 49.8	+0.4
	baz=264						
TYC				S	**Sn**	13 36 07.5	+0.3
	baz=264						
LIOB	**Emei**	**1.40**	**297**	*i* P	**Pb**	13 35 50.8	0.0
	baz=294						
LIOB				*e*S	**Sb**	13 36 08.1	-0.1
	baz=294						
NSTT	**Nanjuang**	**1.40**	**297**	P	**Pb**	13 35 50.8	0.0
	baz=294						
NSTT				S	**Sb**	13 36 09.1	+0.8
	baz=294						
EDH	**Donghe**	**1.43**	**224**	*i* P	**Pn**	13 35 49.0	-0.8
	baz=216						
EDH				S	**Sn**	13 36 06.9	-1.0
	baz=216						
WHYT	**Xinyi Township**	**1.43**	**258**	P	**Pb**	13 35 50.6	-0.7
	baz=247						
WHYT				*e*S	**Sb**	13 36 09.8	+0.7
	baz=247						
JKRS	**Kuro-shima**	**1.51**	**81**	P	**Pb**	13 35 51.8	-0.7
JKRS				*e*S	**Sb**	13 36 11.2	0.0
TWQ1	**Liyutan**	**1.51**	**283**	S	**Sb**	13 36 11.5	+0.3
	baz=281						
WJS	**Zhushan**	**1.52**	**263**	*i* P	**Pb**	13 35 52.8	0.0
	baz=261						
WJS				S	**Sb**	13 36 13.7	+2.0
	baz=261						
ALS	**Alishan**	**1.52**	**252**	*e*P	**Pn**	13 35 52.1	+0.7
	baz=250						
ALS				S	**Sn**	13 36 11.1	+0.3
	baz=250						
WNT	**Mingjian**	**1.56**	**266**	P	**Pb**	13 35 53.2	-0.2
	baz=264						
WNT				S	**Sb**	13 36 13.6	+0.9
	baz=264						
LDUT	**Ludao**	**1.57**	**212**	P	**Pn**	13 35 50.6	-1.2
	baz=212						
LDUT				*e*S	**Sn**	13 36 10.3	-1.1
	baz=212						
LONT	**Longtian**	**1.58**	**227**	*e*P	**Pn**	13 35 51.5	-0.5
	baz=237						
CHN5	**Tsauling**	**1.61**	**256**	*i* P	**Pb**	13 35 54.1	-0.3
	baz=254						
CHN5				S	**Sb**	13 36 14.6	+0.3
	baz=254						
JIJ	**Ishigaki jima**	**1.65**	**77**	P	**Pn**	13 35 53.0	+0.1
JIJ				*e*S	**Sn**	13 36 13.7	+0.3
STYT	**Tauyuan**	**1.71**	**241**	*i* P	**Pn**	13 35 54.5	+0.7
	baz=232						
STYT				S	**Sn**	13 36 15.8	+0.8
	baz=232						
WDLH	**Douliu**	**1.71**	**260**	*e*P	**Pb**	13 35 55.8	-0.3
	baz=258						
WDLH				S	**Sb**	13 36 18.0	+0.8
	baz=258						
TPUB	**Ta-pu**	**1.75**	**247**	P	**Pb**	13 35 56.0	-0.7
	baz=246						
TPUB				S	**Sb**	13 36 18.0	-0.3
	baz=246						
WTP	**Ta-pu**	**1.79**	**245**	*i* P	**Pb**	13 35 56.2	-1.2
	baz=244						
WTP				S	**Sb**	13 36 18.8	-0.6
	baz=244						
WTK	**Tuku**	**1.85**	**261**	*e*P	**Pb**	13 35 57.4	-1.0
	baz=259						
WTK				*e*S	**Sb**	13 36 20.6	-0.5
	baz=259						
RLNB	**Erlin**	**1.85**	**267**	S	**Sb**	13 36 21.1	-0.1
	baz=277						
JISG	**Ishigakijimahi**	**1.85**	**71**	P	**Pn**	13 35 55.0	-0.7
JISG				*e*S	**Sn**	13 36 19.2	+0.7
SLGT	**Liugui**	**1.88**	**238**	*i* P	**Pn**	13 35 57.5	+1.3
	baz=230						
SLGT				S	**Sb**	13 36 21.4	-0.6
	baz=230						
CHN1	**Nanshi**	**1.88**	**245**	*i* P	**Pb**	13 35 58.0	-1.0
	baz=244						
CHN1				*i* S	**Sb**	13 36 22.3	+0.2
	baz=244						
TWK	**Hsinying**	**1.88**	**247**	*i* P	**Pb**	13 35 58.0	-1.0
	baz=246						
TWK				S	**Sb**	13 36 21.9	-0.3
	baz=246						
SGST	**Jiashian**	**1.89**	**241**	P	**Pn**	13 35 57.0	+0.8
	baz=232						
SNST	**Tainan City**	**1.90**	**246**	S	**Sb**	13 36 22.1	-0.3
	baz=245						
ECL	**Taimali**	**1.92**	**223**	*i* P	**Pn**	13 35 55.9	-0.7
	baz=232						
SSD	**Sandimen**	**2.04**	**232**	P	**Pn**	13 35 59.2	+1.0
	baz=227						
SSD				S	**Sn**	13 36 23.9	+0.9
	baz=227						
TSMG	**Majia**	**2.05**	**231**	P	**Pn**	13 35 59.8	+1.3
	baz=227						
TSMG				S	**Sn**	13 36 23.9	+0.5
	baz=227						
MASBT	**Mashibuluo**	**2.12**	**230**	P	**Pn**	13 35 59.9	+0.5
	baz=226						
MASBT				*e*S	**Sn**	13 36 26.1	+1.0
	baz=226						
EAST	**Anshuo**	**2.14**	**221**	P	**Pn**	13 35 59.9	+0.2
	baz=221						
JTJ	**Tarama**	**2.21**	**73**	P	**Pn**	13 36 01.6	+1.0
SCZT	**Fangliau**	**2.29**	**225**	*i* P	**Pn**	13 36 02.5	+0.7
	baz=220						
SCZT				S	**Sn**	13 36 30.5	+1.2
	baz=220						
PHUB	**P'eng-hu**	**2.62**	**260**	*e*P	**Pn**	13 36 06.8	+0.6
	baz=272						
PHUB				S	**Sn**	13 36 38.2	+0.9
	baz=272						
PNG	**Penghu**	**2.62**	**261**	*e*S	**Sn**	13 36 39.0	+1.5
	baz=260						

*JMA **21** 13:38:57.6±0.2, 30.44N×138.77E, h482km, M4.1*
*MOS **21** 13:38:59.0±0.7, 30.38N×138.28E, h436km, mb4.1/21, Error ellipse: s-maj=10.5km s-min=6.1km az=97.7*
*IDC **21** 13:39:00.4±0.9, 30.40N×138.31E, h434km±10km, mb3.4/24, mb1 3.5/31, mb1mx3.4/50, mbtmp4.2/31, Error ellipse: s-maj=13.3km s-min=8.8km az=81.0*
*NEIC **21** 13:39:00.5±1.1, 30.38N±0.08×138.3E±0.1, h435km±7km, mb4.2/78, Error ellipse: s-maj=15.0km s-min=11.0km az=114.0*
ISC 21 13:39:00.7±0.4, 30.42N±0.05×138.39E±0.06, h440km, n199, σ1.948/215, mb4.1/76, 5C-11D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.91**	**24**	P	**P**	**13 40 06.2**	**+0.1**
JHJ	**Hachijo jima 2**	**2.94**	**23**	P	**P**	**13 40 06.7**	**+0.3**
	105nm,0.3s,baz=251,slow=7.5,SNR=32						
JHJ				S	S	13 40 44.7	-15
	9.5nm,0.3s,baz=77,slow=21,SNR=1.3						
JHJ2	**Mitsune**	**2.95**	**24**	P	**P**	**13 40 06.6**	**+0.2**
JHJ2	**Mitsune**	**2.95**	**24**	P	**P**	**13 40 06.5**	**+0.2**
JIE	**Ise**	**4.21**	**341**	P	**P**	**13 40 18.8**	**+1.9**
JKN2	**Miekihoku**	**4.21**	**335**	P	**P**	**13 40 18.3**	**+1.4**
CBIJ	**Chichi jima**	**4.70**	**134**	P	**P**	**13 40 19.2**	**-2.5**
CBIJ				S	**S**	**13 41 21.7**	**-5.9**
JCJ	**Chichijima**	**4.70**	**134**	P	**P**	**13 40 19.6**	**-2.0**
	18nm,0.3s,baz=354,slow=16,SNR=28						
JCJ				S	**S**	**13 41 21.9**	**-5.7**
	64nm,0.3s,baz=292,slow=22,SNR=16						
JCJ	**Chichijima**	**4.70**	**134**	P	**P**	**13 40 19.3**	**-2.4**
BSO3	**Boso 3**	**4.72**	**22**	S	**S**	**13 41 24.5**	**-2.9**
BSO1	**Boso 1**	**4.75**	**27**	P	**P**	**13 40 20.7**	**-0.7**
BSO1				S	**S**	**13 41 25.8**	**-1.6**
BSO4	**Boso 4**	**4.84**	**19**	*e*S	**S**	**13 41 27.5**	**-2.3**
JOD2	**Odawara 2**	**4.87**	**7**	P	**P**	**13 40 23.1**	**0.0**
JNY	**Yasuok**	**4.95**	**355**	P	**P**	**13 40 25.1**	**+1.2**
INU	**Inuyama**	**5.05**	**347**	P	**P**	**13 40 26.4**	**+1.5**
JMN	**Monobe**	**5.05**	**312**	P	**P**	**13 40 26.6**	**+1.6**
JGF	**Kuroka**	**5.24**	**351**	P	**P**	**13 40 27.7**	**+0.9**
JWT	**Wachi**	**5.46**	**333**	P	**P**	**13 40 31.1**	**+2.1**
JHU	**Hanno**	**5.47**	**8**	P	**P**	**13 40 28.0**	**-1.0**
JHU				*e*S	**S**	**13 41 34.9**	**-6.4**
JRY	**Ryogami san**	**5.60**	**4**	P	**P**	**13 40 29.8**	**-0.6**
JRY				*e*S	**S**	**13 41 41.4**	**-2.4**
JYT	**Yasato**	**5.99**	**14**	P	**P**	**13 40 32.3**	**-2.0**
JYT				*e*S	**S**	**13 41 44.4**	**-6.5**
JYT	**Yasato**	**5.99**	**14**	P	**P**	**13 40 31.8**	**-2.5**
JAG	**Ashikaga**	**6.06**	**8**	P	**P**	**13 40 33.5**	**-1.5**
JAG				*e*S	**S**	**13 41 45.4**	**-6.9**
MJAR	**Matsushiro Arr**	**6.11**	**359**	P	**P**	**13 40 34.9**	**-0.7**
	0.4nm,0.3s,baz=175,slow=11,SNR=24						
MJAR				S	**S**	**13 41 51.8**	**-1.5**
	0.1nm,0.3s,baz=161,slow=15,SNR=5.2						
MJAR	**Matsushiro Arr**	**6.11**	**359**	P	**P**	**13 40 34.2**	**-1.4**
MAJO	**Matsushiro**	**6.11**	**359**	*c i*P	**P**	**13 40 34.9**	**-0.7**
MAJO	**Matsushiro**	**6.11**	**359**	P	**P**	**13 40 35.0**	**-0.7**
MAT	**Matsushiro**	**6.11**	**359**	P	**P**	**13 40 35.1**	**-0.5**
MAT				*e*S	**S**	**13 41 50.4**	**-2.9**
JHS	**Saijyo**	**6.37**	**317**	P	**P**	**13 40 40.3**	**+1.9**
JHO	**Hitachi**	**6.44**	**16**	P	**P**	**13 40 37.3**	**-1.7**
JSU	**Suzuyama**	**6.90**	**281**	P	**P**	**13 40 45.7**	**+1.6**
JNU	**Nakatsue**	**6.94**	**295**	P	**P**	**13 40 44.3**	**-0.3**
	0.4nm,0.3s,baz=68,slow=10.0,SNR=5.2						
JNU	**Nakatsue**	**6.94**	**295**	P	**P**	**13 40 46.3**	**+1.7**
JSD	**Sado**	**7.60**	**359**	P	**P**	**13 40 50.8**	**-0.7**
JMM	**Marumori**	**7.69**	**14**	P	**P**	**13 40 52.0**	**-0.5**
JMK	**Ichinoseki**	**8.82**	**15**	P	**P**	**13 41 05.2**	**+0.4**
JMK				S	**S**	**13 42 43.1**	**-3.8**
JTM	**Tenmabayashi**	**10.57**	**11**	P	**P**	**13 41 24.3**	**+0.5**
KSRS	**Korea Array**	**11.17**	**312**	P	**P**	**13 41 31.4**	**+1.0**
	0.7nm,0.3s,baz=126,slow=10.0,SNR=16						
KSAR	**Wonju Array Be**	**11.19**	**312**	P	**P**	**13 41 30.7**	**+0.1**
KSAR	**Wonju Array Be**	**11.19**	**312**	P	**P**	**13 41 30.7**	**+0.1**
KS19	**Wonju Array Si**	**11.23**	**312**	P	**P**	**13 41 31.0**	**-0.2**
ERM	**Erimo**	**12.19**	**17**	P	**P**	**13 41 43.2**	**+1.7**
ERM	**Erimo**	**12.19**	**17**	P	**P**	**13 41 43.1**	**+1.7**
JEW	**Eniwo**	**12.64**	**10**	P	**P**	**13 41 47.2**	**+0.9**
ASAJ	**Asahikawa**	**14.07**	**13**	P	**P**	**13 42 03.5**	**+1.6**
	1.1nm,0.3s,baz=222,slow=14,SNR=20						
JKA	**Kamikawa-asahi**	**14.07**	**13**	P	**P**	**13 42 03.2**	**+1.3**
NMR	**Nemuro--Hokkai**	**14.19**	**22**	*e*P	**P**	**13 42 04.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**14.66**	**342**	P	**P**	**13 42 08.8**	**+0.6**
	baz=177,slow=13,SNR=2.9						
GRPR	**Tuman**	**14.76**	**21**	*e*P	**P**	**13 42 11.3**	**+2.1**
GRPR				pmax	pmax		
	comp=Z,57nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**14.83**	**21**	*d i*P	**P**	**13 42 11.6**	**+1.7**
YUK				S	**S**	**13 44 49.3**	**+2.9**
YUK				pmax	pmax		
	comp=Z,70nm,0.7s						
YOJ	**Yonaguni jima**	**14.88**	**250**	P	**P**	**13 42 10.2**	**-0.6**
YOJ	**Yonaguni jima**	**14.88**	**250**	P	**P**	**13 42 10.2**	**-0.6**
YHNB	**Yeheng**	**16.14**	**253**	P	**P**	**13 42 22.5**	**-1.8**
YHNB				IAmb	IAmb	13 42 22.6	
	comp=Z,14nm,1.2s						
NACB	**Ninganchiao**	**16.17**	**251**	P	**P**	**13 42 21.9**	**-2.6**
YULB	**Yu-li**	**16.77**	**249**	P	**P**	**13 42 29.5**	**-1.4**
YSS	**Yuzh-Sakhalins**	**16.85**	**10**	*de*P	**P**	**13 42 30.5**	**-0.9**
YSS				pmax	pmax		
	comp=Z,38nm,1.6s						
YSS	**Yuzh-Sakhalins**	**16.85**	**10**	P	**P**	**13 42 31.7**	**+0.3**
SSLB	**Suanglung**	**16.86**	**251**	P	**P**	**13 42 30.5**	**-1.4**
SSLB				IAmb	IAmb	13 42 32.1	
	comp=Z,9.3nm,0.6s						
TPUB	**Ta-pu**	**17.35**	**250**	P	**P**	**13 42 36.4**	**-0.7**
TPUB				IAmb	IAmb	13 42 38.3	
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	**24.07**	**303**	*e*P	**P**	**13 43 39.1**	**-0.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,5.7s						
ENH	**Enshi**	**24.92**	**277**	P	**P**	**13 43 46.1**	**-0.9**
ENH				IAmb	IAmb	13 43 49.0	
	comp=Z,5.0nm,0.6s						
XAN	**Xi'an**	**25.15**	**286**	P	**P**	**13 43 48.4**	**-0.7**
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
XAN	**Xi'an**	**25.15**	**286**	P	**P**	**13 43 48.3**	**-0.7**
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**25.15**	**286**	P	**P**	**13 43 48.3**	**-0.7**
PETK	**Petropavlovsk-**	**26.69**	**26**	P	**P**	**13 44 04.0**	**+1.6**
	comp=Z,9.6nm,1.1s,baz=246,slow=6.1,SNR=2.0						
PETK	**Petropavlovsk-**	**26.69**	**26**	P	**P**	**13 44 04.0**	**+1.6**
PET	**Petropavlovsk**	**27.00**	**27**	*e*P	**P**	**13 44 05.0**	**-0.1**
PET				pmax	pmax		
	comp=Z,75nm,0.8s						
LZH	**Lanzhou**	**29.34**	**290**	P	**P**	**13 44 24.5**	**-1.6**
LZH				pP	pP	13 45 41.6	-0.9
LZH				PP	**pwP**	**13 45 48.8**	**+0.2**
LZH				sP	sP	13 46 32.3	-1.0
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,84nm,4.8s						
ULN	**Ulaanbaatar**	**29.63**	**315**	*e*P	**P**	**13 44 28.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**29.63**	**315**	P	**P**	**13 44 28.6**	**+0.1**
SONM	**Songino Array**	**30.02**	**314**	P	**P**	**13 44 32.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=123,slow=7.6,SNR=7.0						
SONM	**Songino Array**	**30.02**	**314**	P	**P**	**13 44 32.0**	**+0.2**
GTA	**Gaotai**	**32.68**	**297**	P	**P**	**13 44 54.4**	**-0.5**
GTA				pP	pP	13 46 13.9	+1.1
GTA				sP	sP	13 47 04.9	+1.6
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,110nm,7.3s						
GTA				LR	LR		
	comp=N,93nm,14.9s						
GTA				LR	LR		
	comp=E,87nm,14.9s						
GTA				LR	LR		
	comp=Z,81nm,15.6s						
TLY	**Talaya**	**33.27**	**320**	P	**P**	**13 44 59.1**	**-0.4**
	comp=Z,4.2nm,0.6s,baz=70,slow=12,SNR=2.6						
TLY	**Talaya**	**33.27**	**320**	IAmb	IAmb	13 45 02.8	
	comp=Z,6.8nm,0.8s						
SEY	**Seymchan**	**33.76**	**11**	P	**P**	**13 45 04.0**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=213,slow=9.5,SNR=4.1						
SEY	**Seymchan**	**33.76**	**11**	*e*P	**P**	**13 45 01.9**	**-1.6**
AMKA	**Amchitka**	**36.71**	**43**	P	**P**	**13 45 30.1**	**+1.7**
CHTO	**Chiang Mai**	**37.50**	**261**	P	**P**	**13 45 35.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHTO	**Chiang Mai**	**37.50**	**261**	P	**P**	**13 45 35.3**	**-0.2**
CHTO				IAmb	IAmb	13 45 36.1	
	comp=Z,6.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**37.66**	**261**	P	**P**	**13 45 36.6**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=58,slow=6.5,SNR=20						
CMAR				PcP	**PcP**	**13 47 44.0**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=42,slow=1.7,SNR=4.1						
BILL	**Bilibino**	**41.06**	**16**	*i* P	**P**	**13 46 03.3**	**-0.4**
BILL				*i*		13 47 55.4	
BILL				pmax	pmax		
	comp=Z,23nm,1.5s						
WMQ	**Urumqi**	**41.95**	**303**	*e*P	**P**	**13 46 11.8**	**+0.5**
DGZ	**Jazzator, Alta**	**42.57**	**312**	*de*P	**P**	**13 46 16.5**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZALV	**Zalesovo Beam**	**44.80**	**318**	P	**P**	**13 46 33.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=90,slow=3.5,SNR=3.3						
ZALV				PcP	**PcP**	**13 48 05.9**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=127,slow=5.2,SNR=4.0						
MK31	**Makanchi Array**	**45.81**	**307**	*d i*P	**P**	**13 46 40.9**	**-0.4**
MK31	**Makanchi Array**	**45.81**	**307**	P	**P**	**13 46 40.8**	**-0.6**
MKAR	**Makanchi Array**	**45.81**	**307**	P	**P**	**13 46 41.1**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=93,slow=9.5,SNR=18						
MKAR	**Makanchi Array**	**45.81**	**307**	P	**P**	**13 46 40.7**	**-0.6**
MAKZ	**Makanchi**	**46.02**	**307**	P	**P**	**13 46 42.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**46.02**	**307**	P	**P**	**13 46 42.7**	**-0.3**
KNRA	**Kununurra**	**46.76**	**193**	P	**P**	**13 46 48.8**	**0.0**
KURK	**Kurchatov**	**48.29**	**313**	*e*P	**P**	**13 46 59.7**	**-0.4**
KURK				*i* *PP	**pP**	**13 48 26.7**	**+2.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**48.29**	**313**	P	**P**	**13 46 59.0**	**-1.0**
GSI	**Gunungsitoli**	**48.32**	**241**	P	**P**	**13 47 00.1**	**-0.7**
KURBB	**Kurchatov Arra**	**48.34**	**313**	P	**P**	**13 47 00.1**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=92,slow=7.4,SNR=15						
NRIK	**Noril'sk**	**48.35**	**338**	P	**P**	**13 47 00.4**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=129,slow=12,SNR=2.0						
FITZ	**Fitzroy Crossi**	**49.77**	**196**	P	**P**	**13 47 11.8**	**+0.3**
WB0	**Warramunga Arr**	**50.04**	**185**	P	**P**	**13 47 13.3**	**-0.2**
WB0				IAmb	IAmb	13 47 14.0	
	comp=Z,9.3nm,0.6s						
WRAB	**Tennant Creek**	**50.21**	**185**	*e*P	**P**	**13 47 14.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	**Tennant Creek**	**50.21**	**185**	P	**P**	**13 47 14.6**	**-0.1**
WRAB				IAmb	IAmb	13 47 15.3	
	comp=Z,6.4nm,0.7s						
WB2	**Warramunga Arr**	**50.22**	**185**	P	**P**	**13 47 14.7**	**-0.1**
WB2				IAmb	IAmb	13 47 15.4	
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**50.22**	**185**	P	**P**	**13 47 14.6**	**-0.2**
	comp=Z,4.9nm,0.4s,baz=0.6,slow=7.7,SNR=158						
WRA				PcP	**PcP**	**13 48 27.2**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=358,slow=4.0,SNR=2.3						
WRA	**Warramunga Arr**	**50.22**	**185**	P	**P**	**13 47 13.5**	**-1.3**
WR0	**Warramunga Arr**	**50.22**	**185**	P	**P**	**13 47 14.6**	**-0.2**
WR0				IAmb	IAmb	13 47 15.4	
	comp=Z,7.0nm,0.7s						
CHGN	**Chignik**	**50.55**	**40**	P	**P**	**13 47 17.6**	**+0.8**
CHGN				IAmb	IAmb	13 47 34.9	
	comp=Z,23nm,1.1s						
BOOM	**Boomskoye usch**	**50.61**	**302**	P	**P**	**13 47 18.1**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOOM	**Boomskoye usch**	**50.61**	**302**	P	**P**	**13 47 18.1**	**+0.4**
CHIR	**Chirikof Islan**	**52.10**	**41**	P	**P**	**13 47 29.6**	**+1.5**
SVW2	**Sparrevohn**	**52.35**	**34**	P	**P**	**13 47 32.4**	**+2.6**
SVW2				IAmb	IAmb	13 47 39.5	
	comp=Z,12nm,1.3s						
OHAK	**Old Harbor**	**53.39**	**39**	P	**P**	**13 47 37.8**	**+0.4**
OHAK				IAmb	IAmb	13 47 38.0	
	comp=Z,25nm,1.4s						
BRVK	**Borovoye**	**53.41**	**316**	*ce*P	**P**	**13 47 37.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**53.41**	**316**	P	**P**	**13 47 37.4**	**-0.2**
KDAK	**Kodiak Island**	**53.77**	**38**	P	**P**	**13 47 40.7**	**+0.7**
KDAK				pmax	pmax		
	comp=Z,25nm,1.4s						
KDAK	**Kodiak Island**	**53.77**	**38**	P	**P**	**13 47 40.7**	**+0.7**
KDAK				IAmb	IAmb	13 48 07.1	
	comp=Z,25nm,1.4s						
AS31	**Alice Springs**	**53.95**	**185**	P	**P**	**13 47 41.6**	**-0.2**
ASAR	**Alice Springs**	**53.95**	**185**	P	**P**	**13 47 41.8**	**0.0**
	comp=Z,1.9nm,0.4s,baz=357,slow=5.5,SNR=118						
ASAR	**Alice Springs**	**53.95**	**185**	P	**P**	**13 47 41.6**	**-0.2**
PPLA	**Purkeypile**	**54.06**	**32**	P	**P**	**13 47 43.5**	**+1.2**
PPLA				IAmb	IAmb	13 47 56.7	
	comp=Z,12nm,1.3s						
SKT	**Skwentna**	**54.33**	**33**	P	**P**	**13 47 44.6**	**+0.5**
CNPM	**China Poot**	**54.46**	**36**	P	**P**	**13 47 45.5**	**+0.6**
CNPM				IAmb	IAmb	13 47 47.5	
	comp=Z,11nm,0.8s						
KK31	**Karatay Array**	**54.46**	**304**	P	**P**	**13 47 44.9**	**-0.4**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KK31	**Karatay Array**	**54.46**	**304**	P	**P**	**13 47 44.9**	**-0.4**
KKAR	**Karatay Array**	**54.46**	**304**	P	**P**	**13 47 45.2**	**-0.1**
KKAR	**Karatay Array**	**54.46**	**304**	P	**P**	**13 47 45.1**	**-0.1**
KKAR	**Karatay Array**	**54.46**	**304**	P	**P**	**13 47 45.2**	**-0.1**
NIL	**Nilore**	**54.49**	**292**	P	**P**	**13 47 46.2**	**+0.5**
NIL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NIL	**Nilore**	**54.49**	**292**	P	**P**	**13 47 46.2**	**+0.5**
NIL				IAmb	IAmb	13 47 47.7	
	comp=Z,9.4nm,0.5s						
BRLK	**Bradley Lake**	**54.63**	**36**	P	**P**	**13 47 46.8**	**+0.6**
PSA00	**Pilbara Seismi**	**54.68**	**201**	P	**P**	**13 47 46.7**	**-0.2**
SUA	**Susitna One**	**54.70**	**34**	P	**P**	**13 47 47.5**	**+0.7**
TRF	**Thorofare Moun**	**54.94**	**31**	P	**P**	**13 47 49.3**	**+0.8**
TRF				IAmb	IAmb	13 48 01.8	
	comp=Z,13nm,1.4s						
SEW	**Seward**	**55.35**	**35**	P	**P**	**13 47 51.8**	**+0.7**
SEW				IAmb	IAmb	13 48 08.2	
	comp=Z,29nm,1.4s						
GAR	**Garm**	**55.45**	**299**	P	**P**	**13 47 52.0**	**-0.4**
GAR				IAmb	IAmb	13 47 52.7	
	comp=Z,6.5nm,0.6s						
PMR	**Palmer**	**55.47**	**34**	P	**P**	**13 47 53.2**	**+1.2**
PMR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
PMR	**Palmer**	**55.47**	**34**	P	**P**	**13 47 53.2**	**+1.2**
TOLK	**Toolik Lake Re**	**55.50**	**25**	P	**P**	**13 47 53.5**	**+1.3**
TOLK				IAmb	IAmb	13 48 20.9	
	comp=Z,23nm,1.4s						
GHO	**Glory Hole Cre**	**55.57**	**33**	P	**P**	**13 47 53.8**	**+1.0**
GHO				IAmb	IAmb	13 48 04.7	
	comp=Z,26nm,1.4s						
RND	**Reindeer**	**55.59**	**31**	P	**P**	**13 47 53.7**	**+0.8**
RND				pmax	pmax		
	comp=Z,11nm,1.4s						
RND	**Reindeer**	**55.59**	**31**	P	**P**	**13 47 53.7**	**+0.8**
RND				IAmb	IAmb	13 48 17.2	
	comp=Z,11nm,1.4s						
KNK	**Knik Glacier**	**55.80**	**34**	P	**P**	**13 47 55.2**	**+0.9**
KNK				IAmb	IAmb	13 48 13.2	
	comp=Z,15nm,1.4s						
SML	**Sawmill**	**55.85**	**33**	P	**P**	**13 47 56.2**	**+1.5**
SML				IAmb	IAmb	13 47 57.7	
	comp=Z,14nm,1.0s						
MDM	**Murphy Dome**	**55.87**	**30**	P	**P**	**13 47 56.4**	**+1.6**
MDM				IAmb	IAmb	13 48 23.1	
	comp=Z,11nm,1.5s						
CHGR	**Chuyangaron**	**56.41**	**299**	P	**P**	**13 47 58.8**	**-0.3**
KLU	**Klutina**	**57.01**	**34**	P	**P**	**13 48 03.7**	**+0.9**
KLU				IAmb	IAmb	13 48 05.0	
	comp=Z,8.5nm,1.1s						
PAX	**Paxson**	**57.13**	**32**	P	**P**	**13 48 04.6**	**+0.9**
PAX				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PAX	**Paxson**	**57.13**	**32**	P	**P**	**13 48 04.6**	**+0.9**
RIDG	**Independent Ri**	**57.37**	**31**	P	**P**	**13 48 05.8**	**+0.6**
RIDG				IAmb	IAmb	13 48 06.8	
	comp=Z,3.8nm,0.6s						
RAGM	**Ragged Mountai**	**57.71**	**35**	P	**P**	**13 48 09.4**	**+1.8**
DOT	**Dot Lake**	**57.73**	**31**	P	**P**	**13 48 08.4**	**+0.8**
DOT				IAmb	IAmb	13 48 09.0	
	comp=Z,4.7nm,0.6s						
GLB	**Gilahina Butte**	**58.03**	**34**	P	**P**	**13 48 11.1**	**+1.4**
GLB				IAmb	IAmb	13 48 12.8	
	comp=Z,8.5nm,1.2s						
VRDI	**Verde Repeater**	**58.22**	**34**	P	**P**	**13 48 12.3**	**+1.1**
VRDI				IAmb	IAmb	13 48 38.1	
	comp=Z,15nm,1.5s						
MCARA	**McCarthy VSAT**	**58.41**	**34**	P	**P**	**13 48 13.9**	**+1.6**
MCARA				IAmb	IAmb	13 48 15.1	
	comp=Z,20nm,1.4s						
ISLE	**Juniper Island**	**58.83**	**35**	P	**P**	**13 48 16.3**	**+1.0**
EGAK	**Eagle**	**58.90**	**30**	P	**P**	**13 48 16.1**	**+0.6**
DAWY	**Dawson**	**59.74**	**30**	P	**P**	**13 48 21.7**	**+0.4**
ARU	**Arti**	**59.76**	**321**	*d i*P	**P**	**13 48 21.1**	**-0.4**
ARU						13 50 36.8	
ARU				S	**S**	**13 55 58.2**	**+0.8**
ARU				SS	**SS**	**13 59 59.0**	**-2.9**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARU	**Arti**	**59.76**	**321**	P	**P**	**13 48 20.8**	**-0.6**
ARU				IAmb	IAmb	13 48 21.8	
	comp=Z,4.8nm,0.7s						
ABKAR	**Akbulak array**	**60.40**	**312**	P	**P**	**13 48 25.5**	**-0.4**
ABKAR				IAmb	IAmb	13 48 26.3	
	comp=Z,7.4nm,0.5s						
ABKAR	**Akbulak array**	**60.40**	**312**	P	**P**	**13 48 25.4**	**-0.4**
INK	**Inuvik**	**61.42**	**25**	P	**P**	**13 48 32.7**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=285,slow=5.5,SNR=6.3						
INK	**Inuvik**	**61.42**	**25**	P	**P**	**13 48 33.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,20nm,1.4s						
INK	**Inuvik**	**61.42**	**25**	P	**P**	**13 48 33.0**	**+0.7**
FORT	**Forrest**	**61.65**	**190**	P	**P**	**13 48 34.5**	**+0.2**
STKA	**Stephens Creek**	**62.03**	**177**	P	**P**	**13 48 37.0**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=339,slow=7.7,SNR=5.8						
STKA	**Stephens Creek**	**62.03**	**177**	P	**P**	**13 48 37.1**	**+0.4**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
STKA	**Stephens Creek**	**62.03**	**177**	P	**P**	**13 48 37.1**	**+0.4**
WHY	**Whitehorse**	**62.44**	**34**	P	**P**	**13 48 40.7**	**+1.4**
WHY				IAmb	IAmb	13 49 03.8	
	comp=Z,6.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**66.11**	**199**	P	**P**	**13 49 02.7**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,17nm,1.3s						
NWAO	**Narrogin (SRO)**	**66.11**	**199**	P	**P**	**13 49 02.7**	**-0.2**
EUNU	**Eureka**	**67.07**	**8**	P	**P**	**13 49 08.9**	**+0.5**
EUNU				IAmb	IAmb	13 49 37.9	
	comp=Z,5.2nm,1.4s						
ARCES	**ARCESS Array B**	**69.30**	**340**	P	**P**	**13 49 22.7**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=64,slow=8.4,SNR=14						
RES	**Resolute Bay**	**69.61**	**13**	P	**P**	**13 49 24.4**	**+0.6**
RES				pmax	pmax		
	comp=Z,17nm,1.5s						
RES	**Resolute Bay**	**69.61**	**13**	P	**P**	**13 49 24.4**	**+0.6**
YKA	**Yellowknife Ar**	**70.80**	**28**	P	**P**	**13 49 31.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=303,slow=4.9,SNR=2.1						
OBN	**Obninsk**	**71.90**	**324**	*e*P	**P**	**13 49 37.5**	**-0.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBZ	**Khabaz**	**73.32**	**311**	P	**P**	**13 49 45.8**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=78,slow=6.4,SNR=6.8						
KBZ	**Khabaz**	**73.32**	**311**	*de*P	**P**	**13 49 46.3**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FIA1	**FINESS Array S**	**73.49**	**332**	P	**P**	**13 49 46.6**	**-0.2**
FINES	**FINESS Array B**	**73.49**	**332**	P	**P**	**13 49 46.8**	**0.0**
	comp=Z,2.2nm,0.7s,baz=62,slow=5.4,SNR=29						
FINES	**FINESS Array B**	**73.49**	**332**	P	**P**	**13 49 46.9**	**+0.1**
FINES	**FINESS Array B**	**73.49**	**332**	P	**P**	**13 49 46.9**	**+0.1**
PINE	**Pine Mountain**	**76.61**	**47**	P	**P**	**13 50 07.2**	**+2.2**
PINE				IAmb	IAmb	13 50 20.0	
	comp=Z,7.0nm,1.3s						
NEW	**Newport**	**76.68**	**42**	P	**P**	**13 50 06.7**	**+1.6**
NEW	**Newport**	**76.68**	**42**	P	**P**	**13 50 06.7**	**+1.6**
BKZ	**Black Stump Fm**	**77.79**	**151**	P	**P**	**13 50 11.4**	**+0.3**
BKZ				IAmb	IAmb	13 50 31.0	
	comp=Z,14nm,1.3s						
AKASG	**Malin Array Be**	**77.97**	**322**	P	**P**	**13 50 11.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=51,slow=5.8,SNR=7.1						
AKASG	**Malin Array Be**	**77.97**	**322**	IAmb	IAmb	13 50 12.5	
	comp=Z,1.4nm,1.1s						
AKBB	**Malin Array Si**	**77.97**	**322**	*e*P	**P**	**13 50 12.0**	**0.0**
WALA	**Waterton Lakes**	**78.07**	**40**	P	**P**	**13 50 14.2**	**+1.4**
WALA				IAmb	IAmb	13 50 20.7	
	comp=Z,3.7nm,1.1s						
NC204	**NORSAR Array S**	**79.26**	**337**	P	**P**	**13 50 18.7**	**-0.2**
NB2	**NORSAR Subarra**	**79.28**	**337**	P	**P**	**13 50 18.1**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**79.28**	**337**	P	**P**	**13 50 18.2**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=54,slow=6.7,SNR=

PLCA LR LR 14 45 41.7
comp=Z,213nm,20.8s,baz=272,slow=30
PLCA Paso Flores 23.00 110 P **P 14 39 12.6 +0.5**
PLCA Paso Flores 23.00 110 *eP* **P 14 39 13.7 +1.6**
BO02 Sierra Bellavi 23.35 95 P **P 14 39 14.7 -0.9**
MT02 Curacav 23.42 91 P **P 14 39 16.6 +0.3**
PEL Peldehue 23.82 91 P **P 14 39 19.6 -0.7**
VA03 San Esteban 24.03 90 P **P 14 39 21.7 -0.6**
VA03 IAmb IAmb 14 39 32.4
comp=Z,33nm,0.9s
CO02 Combarbal 24.15 86 P **P 14 39 22.5 -1.0**
CO02 IAmb IAmb 14 39 32.3
comp=Z,32nm,1.1s
GO09 Cerro Castillo 24.46 136 P **P 14 39 25.9 -0.1**
GO09 IAmb IAmb 14 39 27.5
comp=Z,39nm,0.9s
GO04 Tololo Observa 24.68 84 P **P 14 39 27.0 -1.4**
LCO Las Campanas 25.21 82 P **P 14 39 32.7 -0.6**
AC04 Llanos de Chal 25.25 80 P **P 14 39 32.7 -0.7**
AC04 IAmb IAmb 14 39 43.5
comp=Z,36nm,1.1s
CO01 Juntas del Tor 25.32 84 P **P 14 39 33.1 -1.2**
AC05 El Transito 25.62 82 P **P 14 39 35.2 -1.7**
AC05 IAmb IAmb 14 39 45.6
comp=Z,35nm,1.1s
ZON Zonda 25.91 88 P **P 14 39 39.3 -0.1**
AC01 Pan de Azucar 26.58 76 P **P 14 39 43.9 -1.5**
AC01 IAmb IAmb 14 39 54.6
comp=Z,36nm,1.1s
AC02 Maricunga 27.41 79 P **P 14 39 50.0 -3.4**
GO02 Mina Guanaco 27.86 75 P **P 14 39 55.8 -1.4**
GO02 IAmb IAmb 14 39 59.3
comp=Z,24nm,1.2s
PB06 IPOC Station P 29.18 71 P **P 14 40 07.4 -1.5**
PB06 IAmb IAmb 14 40 09.6
comp=Z,24nm,1.1s
PB07 IPOC Station P 29.51 69 P **P 14 40 10.4 -1.4**
PB07 IAmb IAmb 14 40 26.4
comp=Z,24nm,1.2s
LVC Limon Verde 29.74 71 P **P 14 40 14.8 +0.7**
comp=Z,7.3nm,0.9s,baz=222,slow=8.2,SNR=6.8
LVC LR LR 14 49 01.7
comp=Z,1000nm,18.8s,baz=248,slow=30
LVC Limon Verde 29.74 71 *eP* **P 14 40 12.0 -2.1**
LVC Limon Verde 29.74 71 *eP* **P 14 40 14.8 +0.7**
TA01 Diego Aracena 29.98 66 P **P 14 40 14.8 -0.9**
TA01 IAmb IAmb 14 40 16.8
comp=Z,24nm,1.1s
PB01 IPOC Station P 30.21 68 P **P 14 40 17.5 -0.4**
PB01 IAmb IAmb 14 40 19.3
comp=Z,21nm,1.4s
PSGCX Pisagua 30.62 65 P **P 14 40 20.9 -0.7**
PSGCX IAmb IAmb 14 40 23.3
comp=Z,14nm,1.0s
PB11 IPOC Station P 30.86 66 P **P 14 40 23.2 -0.6**
PB11 IAmb IAmb 14 40 24.7
comp=Z,17nm,1.0s
PB08 IPOC Station P 31.00 67 P **P 14 40 24.9 -0.3**
PB08 IAmb IAmb 14 40 26.1
comp=Z,12nm,0.9s
GO01 Chusmiza 31.26 66 P **P 14 40 27.1 -0.5**
MNMC Minye Minye 31.30 65 P **P 14 40 27.5 -0.3**
NNA Nana 31.63 46 P **P 14 40 30.2 -0.3**
NNA IAmb IAmb 14 40 53.7
comp=Z,32nm,1.4s
PB16 IPOC Station P 31.87 64 P **P 14 40 32.8 -0.4**
RKT Rikitea 33.33 283 *e*LQ LQ 14 48 07.4
comp=Z,589nm,26.8s
RKT *e*LR LR 14 49 26.7
comp=Z,360nm,24.8s
LPAZ La Paz 34.20 63 P **P 14 40 54.6 +1.0**
comp=Z,11nm,0.9s,baz=226,slow=6.7,SNR=31
LPAZ LR LR 14 51 24.7
comp=Z,425nm,20.6s,baz=207,slow=30
LPAZ La Paz 34.20 63 P **P 14 40 54.0 +0.5**
LPAZ La Paz 34.20 63 *eP* **P 14 40 54.5 +1.0**
ATAH Atahualpa 34.82 39 P **P 14 41 00.5 +1.9**
comp=Z,23nm,0.8s,baz=230,slow=7.4,SNR=12
CPUP Villa Florida 37.09 87 P **P 14 41 17.4 -0.2**
comp=Z,1.5nm,0.7s,baz=240,slow=12,SNR=3.9
CPUP LR LR 14 54 03.6
comp=Z,324nm,19.0s,baz=248,slow=32
CPUP Villa Florida 37.09 87 P **P 14 41 16.8 -0.8**
CZSB Cruzeiro do Su 37.46 47 *eP* **P 14 41 21.1 +0.2**
PLTB Pedras Altas 38.00 97 *eP* **P 14 41 25.0 -0.3**
CPSB Cacapava Do Su 38.60 95 *eP* **P 14 41 30.2 -0.1**
ETMB Extrema 40.02 57 *eP* **P 14 41 42.4 +0.1**
PTLB Pontes e Lacer 41.40 71 *eP* **P 14 41 53.5 -0.2**
VILB Vilhena 42.17 67 *eP* **P 14 41 59.7 -0.3**
SAML Samuel 42.72 59 P **P 14 42 03.7 -0.8**
SAML Samuel 42.72 59 *eP* **P 14 42 04.7 +0.2**
SOTA Rioblanco 43.76 34 *eP* **P 14 42 14.6 +1.2**
PCMB Pacaembu 44.20 84 *eP* **P 14 42 16.4 0.0**
TBI Tubuai 44.81 272 *e*LR LR 14 54 46.6
comp=Z,720nm,29.2s,baz=118
TAOE Nuku Hiva Isla 45.93 296 *e*LR LR 14 55 18.2
comp=Z,164nm,24.2s
TAOE Nuku Hiva Isla 45.93 296 P **P 14 42 29.3 -1.1**
HOPE Hope Point 46.16 134 P **P 14 42 30.1 -1.5**
MEH Mehetia 46.49 280 *eT* T 15 31 59.8
comp=Z,14nm,0.2s
TOLC Tolima 46.51 34 *eP* **P 14 42 35.5 +0.4**
ARAG Araguaiana, MT 46.93 77 *eP* **P 14 42 38.1 -0.1**
ROSC El Rosal 47.19 35 P **P 14 42 41.9 +1.4**
comp=Z,6.0nm,0.3s,baz=276,slow=19,SNR=4.5
ROSC LR LR 14 59 14.2
comp=Z,557nm,20.0s,baz=224,slow=32
CHIC Chingaza 47.28 36 *eP* **P 14 42 41.3 0.0**
CBOC Ciudad Bolivar 47.34 33 *eP* **P 14 42 41.3 -0.1**
PPT2 Papeete2 47.85 279 *e*S **S 14 49 38.9 -3.6**
comp=Z,93nm,24.8s
PPT2 *e*LR LR 14 56 10.0
comp=Z,482nm,24.8s,baz=125
PPT Papeete 47.85 279 LR LR 14 57 13.1
comp=Z,257nm,21.1s,baz=136,slow=29
MACA Manacapuru-AM 48.60 56 *eP* **P 14 42 50.7 -0.4**
PTBC PUERTO BERRIO, 48.63 34 *eP* **P 14 42 50.3 -0.9**
RUSC La Rusia 48.70 36 *eP* **P 14 42 49.8 -2.5**
SNDB Serra Nova Dou 49.54 73 *eP* **P 14 42 57.9 -0.4**
BELA Belgrano 2 49.57 165 P **P 14 42 57.4 -0.3**
NPGB Novo Progresso 49.63 65 *eP* **P 14 42 58.1 -0.8**
ACON Acoyapa 49.85 18 P **P 14 43 00.2 -0.3**
ACON IAmb IAmb 14 43 08.5
comp=Z,10nm,0.8s
BDFB Brasilia 49.98 80 P **P 14 43 01.4 -0.3**
comp=Z,3.6nm,0.7s,baz=239,slow=7.4,SNR=4.9
BDFB LR LR 15 02 19.1
comp=Z,463nm,21.2s,baz=273,slow=34
BDFB Brasilia 49.98 80 P **P 14 43 00.8 -1.0**
BDFB IAmb IAmb 14 43 12.5
comp=Z,22nm,1.4s
MOTC Monteria, Cord 50.10 31 *eP* **P 14 43 02.5 +0.1**
MATN Matagalpa 50.59 17 P **P 14 43 05.2 -1.0**
ITTB Itaituba 51.18 62 *eP* **P 14 43 10.0 -0.7**
MTO3 Montecristo 51.30 13 P **P 14 43 10.6 -1.1**
SJCC San Jacinto, C 51.31 31 *eP* P 14 43 03.6 -8.0
PEXB Peixe 51.80 76 *eP* **P 14 43 15.8 +0.5**
SDV Santo Domingo 52.47 37 P **P 14 43 18.6 -1.9**
SDV IAmb IAmb 14 43 26.9
comp=Z,12nm,1.0s
SDV Santo Domingo 52.47 37 *eP* **P 14 43 19.2 -1.3**
JANB Januaria 53.25 82 *eP* **P 14 43 26.2 +0.1**
TLIG Tlapa 53.56 1 P **P 14 43 28.9 +0.6**
TLIG IAmb IAmb 14 43 32.3
comp=Z,15nm,1.1s
QSPA South Pole Qui 53.93 180 P **P 14 43 30.6 0.0**
QSPA **PcP 14 44 36.5 +0.6**
MALB Monte Alegre 53.98 61 *eP* **P 14 43 31.0 -0.4**
SDBA SAO DESIDERIO 54.29 79 *eP* **P 14 43 34.2 +0.4**
SMTB Santa Maria do 54.32 73 *eP* **P 14 43 34.7 +0.7**
VNA3 Neumayer Olymp 56.05 157 P **P 14 43 45.9 +0.2**
MCPB Macapa, AP 56.59 62 *eP* **P 14 43 50.1 -0.2**
VNA1 Neumayer--Stat 56.64 156 P **P 14 43 50.4 +0.6**
VNDA Vanda 56.74 195 P **P 14 43 52.1 +1.7**
comp=Z,8.8nm,1.2s,baz=117,slow=7.5,SNR=12
VNDA LR LR 15 02 21.6
comp=Z,180nm,21.6s,baz=102,slow=30
VNDA Vanda 56.74 195 P **P 14 43 52.2 +1.7**
VNDA IAmb IAmb 14 43 55.0
comp=Z,16nm,1.4s
VNA2 Neumayer--Watz 56.85 157 P **P 14 43 51.6 +0.3**
baz=240,slow=5.8
SNAA Sanae 58.03 158 P **P 14 43 59.6 -0.2**
SNAA Sanae 58.03 158 P **P 14 43 58.7 -1.0**

TOSP Speyside 59.87 45 P **P 14 44 12.8 -0.3**
MLPR Magueyes Islan 62.05 35 P **P 14 44 26.8 -1.0**
CRPR Cabo Rojo, PR 62.06 35 P **P 14 44 26.2 -1.6**
ICMP Isla Caja de M 62.23 36 P **P 14 44 27.9 -1.1**
AGPR Aguadilla, PR 62.46 35 P **P 14 44 30.1 -0.5**
PDPR Patillas Dam, 62.58 36 P **P 14 44 29.3 -2.0**
URZ Urewera 64.15 240 LR LR 15 05 37.6
comp=Z,213nm,21.3s,baz=34,slow=30
TX31 Lajitas Ar. Si 65.39 356 P **P 14 44 50.2 +0.4**
TX32 Lajitas Array 65.39 356 P **P 14 44 50.2 +0.5**
TX32 IAmb IAmb 14 44 53.5
comp=Z,14nm,1.4s
TXAR Lajitas Array 65.39 356 P **P 14 44 51.1 +1.3**
comp=Z,4.4nm,1.1s,baz=177,slow=7.5,SNR=18
TXAR LR LR 15 07 33.6
comp=Z,80nm,18.6s,baz=0.0,slow=31
TXAR Lajitas Array 65.39 356 P **P 14 44 50.3 +0.6**
RPZ Rata Peaks 65.74 233 LR LR 15 06 30.6
comp=Z,390nm,21.7s,baz=116,slow=30
JCT Junction City 66.41 360 P **P 14 44 57.0 +0.8**
baz=180
JCT Junction City 66.41 360 P **P 14 44 56.8 +0.5**
MCQ Macquarie Isla 67.43 218 P **P 14 45 02.6 +0.1**
MNTX Cornudas Mount 67.85 355 P **P 14 45 05.4 0.0**
baz=175
MNTX Cornudas Mount 67.85 355 P **P 14 45 05.0 -0.4**
319A Douglas 67.93 351 P **P 14 45 05.6 -0.4**
319A IAmb IAmb 14 45 16.3
comp=Z,11nm,1.0s
WHTX Lake Whitney, 67.94 2 P **P 14 45 05.6 -0.3**
baz=182
WHTX Lake Whitney, 67.94 2 P **P 14 45 05.7 -0.3**
ABTX Abilene, Hawle 68.55 360 P **P 14 45 10.5 +0.8**
baz=180
ABTX Abilene, Hawle 68.55 360 P **P 14 45 09.1 -0.6**
121A Cookes Peak, D 68.90 352 P **P 14 45 13.2 +1.1**
baz=173
214A Organ Pipe Nat 69.03 348 P **P 14 45 14.4 +1.6**
baz=168
214A Organ Pipe Nat 69.03 348 P **P 14 45 12.8 0.0**
214A IAmb IAmb 14 45 16.8
comp=Z,7.7nm,1.1s
TUC Tucson 69.06 350 P **P 14 45 14.6 +1.7**
baz=170
TUC Tucson 69.06 350 P **P 14 45 13.0 0.0**
TUC IAmb IAmb 14 45 17.0
comp=Z,8.0nm,0.9s
LRAL Lakeview Retre 69.94 11 P **P 14 45 18.7 +0.4**
baz=191
MSTX Muleshoe 69.96 357 P **P 14 45 19.1 +0.5**
baz=177
MSTX Muleshoe 69.96 357 P **P 14 45 18.3 -0.3**
152A Waverly Hall 69.97 13 P **P 14 45 18.4 -0.1**
IKP In-Ko-Pah, Jac 70.33 345 P **P 14 45 22.9 +2.2**
baz=166
GLA Glamis 70.46 346 P **P 14 45 23.4 +1.8**
baz=167
Z51A Franklin 70.52 13 P **P 14 45 21.8 -0.1**
Z51A IAmb IAmb 14 45 25.1
comp=Z,11nm,1.1s
X34A Smith Ranch, M 70.54 1 P **P 14 45 20.9 -1.1**
X34A IAmb IAmb 14 45 24.9
comp=Z,10nm,0.8s
X37A Clayton 70.61 4 P **P 14 45 21.5 -0.9**
X37A IAmb IAmb 14 45 33.4
comp=Z,14nm,1.4s
MONP2 Monument Peak 70.62 345 P **P 14 45 24.6 +1.8**
baz=166
WMOK Wichita Mounta 70.66 1 P **P 14 45 23.0 +0.2**
baz=180
WMOK Wichita Mounta 70.66 1 P **P 14 45 22.5 -0.2**
MIAR Mount Ida 70.68 5 P **P 14 45 23.4 +0.6**
baz=185
SYO Syowa Base 70.75 166 *f* iP **P 14 45 21.6 -1.3**
SYO Syowa Base 70.75 166 *f epP* pP 14 45 23.6 -1.3
AMTX Amarillo 70.83 358 P **P 14 45 24.6 +0.7**
baz=178
AMTX Amarillo 70.83 358 P **P 14 45 24.6 +0.7**
GOGA Godfrey 70.93 14 P **P 14 45 25.0 +0.7**
baz=194
ANMO Albuquerque 71.16 354 P **P 14 45 27.2 +1.2**
baz=174
ANMO Albuquerque 71.16 354 P **P 14 45 26.5 +0.5**
BC3 Big Chuckawall 71.17 346 P **P 14 45 27.5 +1.6**
baz=166
PFO Pinyon Flats O 71.33 345 P **P 14 45 27.4 +0.4**
baz=166
W41B Gary Mavity, V 71.41 6 P **P 14 45 27.7 +0.5**
baz=186
W41B Gary Mavity, V 71.41 6 P **P 14 45 28.0 +0.8**
IRM Iron Mountain 71.59 346 P **P 14 45 29.8 +1.4**
baz=167
BELC Belle Mtn. Jos 71.61 346 P **P 14 45 30.6 +2.0**
baz=166
Z58A St. Stephen 71.65 17 P **P 14 45 29.9 +1.2**
baz=196
W18A Petrified Fore 71.68 351 P **P 14 45 30.7 +1.6**
baz=171
HODGE Hodges 71.96 15 P **P 14 45 30.6 +0.1**
FCAR Ozark Folk Cen 72.13 6 P **P 14 45 30.7 -0.8**
FCAR IAmb IAmb 14 45 54.8
comp=Z,9.4nm,1.1s
BFSC Mount Baldy Ra 72.19 344 P **P 14 45 33.9 +1.8**
baz=165
JSC Jenkinsville 72.23 16 P **P 14 45 31.9 -0.3**
SWET Sewanee 72.24 12 P **P 14 45 30.8 -1.5**
SWET IAmb IAmb 14 45 53.6
comp=Z,8.4nm,1.0s
WUAZ Wupatki 72.29 350 P **P 14 45 33.6 +0.9**
baz=170
WUAZ Wupatki 72.29 350 P **P 14 45 32.7 0.0**
GMRC Granite Mounta 72.30 346 P **P 14 45 34.3 +1.5**
baz=166,SNR=5.5
HHAR Hobbs 72.38 5 P **P 14 45 33.1 +0.1**
HHAR IAmb IAmb 14 45 35.1
comp=Z,16nm,1.4s
LCAR Lake Charles 72.40 7 P **P 14 45 32.5 -0.6**
LCAR IAmb IAmb 14 45 36.0
comp=Z,8.7nm,1.0s
HEC Hector,Ludlow 72.48 345 P **P 14 45 35.8 +2.0**
baz=166
X56A White Oak 72.48 16 P **P 14 45 34.4 +0.8**
baz=195
U38A Gravette 72.51 4 P **P 14 45 33.8 0.0**
BG3 Lake Jocassee 72.56 14 P **P 14 45 34.2 +0.1**
BG3 IAmb IAmb 14 45 37.0
comp=Z,13nm,1.2s
W54A Cherokee Point 72.80 15 P **P 14 45 35.3 -0.3**
baz=194
WVT Waverly 72.85 10 P **P 14 45 35.6 -0.2**
baz=190
GSC Goldstone, Bar 73.03 345 P **P 14 45 38.8 +1.8**
baz=165
KMSC Kings Mountain 73.04 15 P **P 14 45 37.1 +0.1**
baz=195
V51A Loudon 73.08 13 P **P 14 45 36.4 -0.8**
V51A IAmb IAmb 14 45 58.9
comp=Z,20nm,1.4s
W56A Indian Trail 73.20 16 P **P 14 45 37.8 -0.1**
baz=196
PKM Mcpherson Peak 73.31 343 P **P 14 45 41.5 +2.7**
baz=163
W57A Gilead 73.35 17 P **P 14 45 39.3 +0.5**
baz=196
W57A Gilead 73.35 17 P **P 14 45 39.0 +0.2**
W57A IAmb IAmb 14 45 40.5
comp=Z,13nm,1.0s
T42A Van Buren 73.36 7 P **P 14 45 38.5 -0.3**
LRMC Laurel Mtn Rad 73.39 345 P **P 14 45 39.9 +0.7**
baz=165
W58A Raeford 73.40 17 P **P 14 45 38.6 -0.5**
baz=197
V54A Nebo 73.52 15 P **P 14 45 40.5 +0.6**
baz=195
MVCO Mesa Verde 73.60 352 P **P 14 45 41.5 +0.9**
baz=172
MVCO Mesa Verde 73.60 352 P **P 14 45 41.4 +0.8**
ISA Isabella, Lake 73.74 344 P **P 14 45 41.9 +0.7**
baz=164
V55A Taylorsville 73.75 15 P **P 14 45 40.6 -0.6**
baz=195
V56A Mocksville 73.86 16 P **P 14 45 42.0 +0.2**
baz=196
SDCO Great Sand Dun 73.87 355 P **P 14 45 42.7 +0.5**
baz=175
SDCO Great Sand Dun 73.87 355 P **P 14 45 42.1 0.0**

SHPR Sheep Range 73.88 347 P **P 14 45 42.1 0.0**
SHPR IAmb IAmb 14 45 46.5
comp=Z,17nm,1.3s
MPMC Manual Prospec 73.90 345 P **P 14 45 43.9 +1.6**
baz=165,SNR=5.6
TZTN Tazewell 73.95 13 P **P 14 45 42.5 +0.1**
baz=193
S22A 4UR Ranch, Cre 73.97 354 P **P 14 45 44.2 +1.4**
baz=174
S22A 4UR Ranch, Cre 73.97 354 P **P 14 45 43.6 +0.8**
KNB Kanab 73.98 349 P **P 14 45 43.8 +1.1**
LCMT Little Creek M 74.04 349 P **P 14 45 44.0 +1.0**
V57A Coltrane Farms 74.10 17 P **P 14 45 42.8 -0.4**
baz=196
U54A Nelsons Funny 74.27 15 P **P 14 45 44.4 +0.1**
CCM Cathedral Cave 74.36 7 P **P 14 45 45.1 +0.5**
baz=187
CCM Cathedral Cave 74.36 7 P **P 14 45 44.3 -0.3**
CCM IAmb IAmb 14 45 46.2
comp=Z,18nm,1.1s
FVM French Village 74.37 7 P **P 14 45 44.6 -0.1**
FVM IAmb IAmb 14 45 47.3
comp=Z,17nm,1.1s
CWC Cottonwood Cre 74.40 344 P **P 14 45 46.7 +1.6**
baz=164
U55A TA2, Sparta 74.41 15 P **P 14 45 45.2 +0.1**
baz=195
TPNV Topopah Spring 74.51 346 P **P 14 45 47.1 +1.3**
baz=166,SNR=5.2
TPNV Topopah Spring 74.51 346 P **P 14 45 45.5 -0.3**
TPNV IAmb IAmb 14 45 50.3
comp=Z,14nm,1.2s
PV01 Paradox Valley 74.53 353 P **P 14 45 46.6 +0.7**
PV01 IAmb IAmb 14 45 49.7
comp=Z,16nm,1.1s
PV13 Radium Mtn., P 74.58 352 P **P 14 45 46.8 +0.5**
PV13 IAmb IAmb 14 45 50.0
comp=Z,22nm,1.5s
CCUT Cedar City 74.59 349 P **P 14 45 47.6 +1.3**
SZCU Shurtz Canyon 74.59 349 P **P 14 45 47.3 +1.0**
PV02 Paradox Valley 74.61 352 P **P 14 45 46.0 -0.5**
PV02 IAmb IAmb 14 45 50.2
comp=Z,18nm,1.2s
PV03 Paradox Valley 74.67 352 P **P 14 45 47.1 +0.3**
PV03 IAmb IAmb 14 45 50.3
comp=Z,13nm,1.3s
PV17 East Wray Mesa 74.71 352 P **P 14 45 47.5 +0.5**
PV11 David Mesa, Pa 74.72 352 P **P 14 45 46.1 -1.0**
PV11 IAmb IAmb 14 45 51.3
comp=Z,19nm,1.2s
PV15 Paradox Valley 74.72 353 P **P 14 45 47.1 0.0**
PV15 IAmb IAmb 14 45 51.0
comp=Z,11nm,1.0s
CBKS Cedar Bluff 74.73 360 P **P 14 45 48.5 +1.6**
baz=180
PV12 Saucer Basin, 74.73 352 P **P 14 45 47.9 +0.8**
PV12 IAmb IAmb 14 45 52.2
comp=Z,19nm,1.1s
PRN Pahroc Range 74.73 347 P **P 14 45 48.0 +0.9**
PRN IAmb IAmb 14 45 51.7
comp=Z,16nm,1.2s
PV16 Nyswonger Mesa 74.74 352 P **P 14 45 47.4 +0.2**
PV19 Morning Glory 74.74 352 P **P 14 45 48.0 +0.8**
PV20 West Nyswonger 74.77 352 P **P 14 45 47.8 +0.5**
PV20 IAmb IAmb 14 45 50.8
comp=Z,12nm,1.3s
PV14 Lion Creek, Pa 74.81 352 P **P 14 45 47.3 -0.3**
PV14 IAmb IAmb 14 45 51.3
comp=Z,14nm,1.2s
PV04 Paradox Valley 74.82 352 P **P 14 45 48.2 +0.6**
PV04 IAmb IAmb 14 45 51.4
comp=Z,18nm,1.1s
PV07 Paradox Valley 74.83 353 P **P 14 45 47.8 +0.1**
PV07 IAmb IAmb 14 45 51.4
comp=Z,13nm,1.3s
T54A Tazewell 74.84 15 P **P 14 45 47.1 -0.4**
baz=195
U58A Oxford 74.87 17 P **P 14 45 46.8 -0.9**
baz=197
MTPU Mount Pierson 74.89 350 P **P 14 45 48.5 +0.3**
PV23 Carpenter Ridg 74.89 352 P **P 14 45 48.6 +0.5**
PV23 IAmb IAmb 14 45 51.9
comp=Z,11nm,0.9s
PV22 Blue Mesa, Par 74.94 352 P **P 14 45 48.4 0.0**
PV22 IAmb IAmb 14 45 53.0
comp=Z,17nm,1.3s
U59A Littleton 75.02 18 P **P 14 45 48.1 -0.4**
baz=198
T56A Rocky Mt 75.14 16 P **P 14 45 49.0 -0.2**
baz=196
CASY Casey 75.19 192 P **P 14 45 49.7 +0.5**
T57A Hurt 75.28 17 P **P 14 45 50.1 +0.1**
baz=197
MVU Marysvale 75.34 350 P **P 14 45 49.5 -1.2**
MSU Marysvale 75.35 350 P **P 14 45 52.3 +1.7**
Q44A Meyer Farm, Va 75.43 8 P **P 14 45 50.7 -0.1**
R50A Paris 75.50 12 P **P 14 45 50.1 -1.2**
R50A IAmb IAmb 14 45 51.2
comp=Z,10nm,1.2s
MAW Mawson 75.57 173 P **P 14 45 51.8 +0.4**
comp=Z,11nm,0.8s,baz=198,slow=6.9,SNR=33
MAW Mawson 75.57 173 P **P 14 45 51.0 -0.4**
PSUT Pine Spring 75.63 348 P **P 14 45 52.9 +0.6**
T59A Double "B" Far 75.67 18 P **P 14 45 51.2 -1.0**
baz=198
SRU San Rafael Swe 75.71 351 P **P 14 45 53.1 +0.4**
R11A Troy Canyon, C 75.75 347 P **P 14 45 54.8 +1.9**
baz=167,SNR=11
R11A Troy Canyon, C 75.75 347 P **P 14 45 54.1 +1.2**
S55A Lewisburg 75.75 15 P **P 14 45 52.6 -0.2**
baz=196
TPH Tonopah 75.79 346 P **P 14 45 54.5 +1.3**
S56A Natural Bridge 75.86 16 P **P 14 45 52.9 -0.5**
baz=196
ISCO Idaho Springs 75.92 355 P **P 14 45 54.7 +0.7**
baz=175
TMUT Trail Mountain 75.98 351 P **P 14 45 55.2 +0.8**
R53A Hurricane 75.99 14 P **P 14 45 55.1 +1.1**
R53A IAmb IAmb 14 46 23.0
comp=Z,15nm,1.2s
P17A Butcher Ranch, 76.10 351 P **P 14 45 55.3 +0.4**
S58A Poland Farm, P 76.15 17 P **P 14 45 54.6 -0.4**
baz=198
LHV Little Huntoon 76.23 345 P **P 14 45 57.1 +1.8**
LHV IAmb IAmb 14 46 00.3
comp=Z,11nm,0.8s
R55A Marlinton 76.32 16 P **P 14 45 55.7 -0.4**
NV11 Mina Array Sit 76.33 345 P **P 14 45 56.8 +0.6**
NV11 IAmb IAmb 14 46 00.5
comp=Z,9.4nm,0.9s
NVAR Mina Array Bea 76.36 345 P **P 14 45 58.4 +2.0**
comp=Z,7.3nm,0.7s,baz=179,slow=6.2,SNR=34
NVAR Mina Array Bea 76.36 345 P **P 14 45 57.4 +1.0**
P46A Rosedale 76.37 10 P **P 14 45 55.9 -0.3**
P46A IAmb IAmb 14 46 04.9
comp=Z,9.4nm,0.7s
Q51A Peebles 76.40 13 P **P 14 45 56.2 -0.2**
Q51A IAmb IAmb 14 46 04.7
comp=Z,9.5nm,0.8s
CMB Columbia Colle 76.44 343 P **P 14 45 57.6 +0.9**
R58B Mineral 76.53 17 P **P 14 45 56.8 -0.3**
baz=198
Q52A Bidwell 76.54 14 P **P 14 45 56.8 -0.3**
baz=194
Q53A Leroy 76.58 14 P **P 14 45 57.3 -0.1**
baz=195
R56A Bull Pasture M 76.60 16 P **P 14 45 57.9 +0.3**
baz=196
R57A Stanardsville 76.69 17 P **P 14 45 57.8 -0.2**
baz=197
R58A Rapidan 76.82 17 P **P 14 45 58.5 -0.2**
baz=198
Q54A Coxs Mills 76.84 15 P **P 14 45 58.6 -0.2**
baz=195
KVN Kaiserville 76.91 345 P **P 14 45 58.9 -0.6**
KVN IAmb IAmb 14 46 03.6
comp=Z,7.6nm,0.9s
Q55A Buckhannon 77.01 15 P **P 14 45 59.3 -0.6**
baz=196
N41A Harden Midland 77.02 7 P **P 14 45 58.4 -1.4**
RDMU Red Mountain 77.04 352 P **P 14 45 59.5 -0.8**
DUG Dugway, Tooele 77.09 350 P **P 14 46 01.8 +1.4**
baz=169,SNR=5.7
SFIN Lafayette 77.13 10 P **P 14 45 59.6 -0.8**
baz=190

P53A	Whipple	77.21	14	P		P	14 46 00.8	-0.1
	baz=195							
Q56A	Snyder Ridge,	77.25	16	P		P	14 46 01.1	-0.1
	baz=197							
PHWY	Pilot Hill	77.41	355	P		P	14 46 01.8	-0.6
Q57A	Strasburg	77.42	17	P		P	14 46 01.7	-0.4
	baz=197							
AFDM	Forest Hills D	77.45	343	P		P	14 46 01.1	-1.2
Q58A	Fox Den Farm,	77.50	17	P		P	14 46 02.4	-0.2
	baz=198							
P54A	Burton	77.51	15	P		P	14 46 02.3	-0.4
	baz=196							
O51A	Pataskala	77.62	13	P		P	14 46 02.8	-0.5
	baz=194							
ACSO	Alum Creek Sta	77.64	13	P		P	14 46 03.1	-0.1
	baz=193							
Q59A	Harwood	77.68	18	P		P	14 46 03.5	-0.1
	baz=199							
O52A	Adamsville	77.73	14	P		P	14 46 04.0	+0.1
	baz=194							
O53A	New Philadelph	77.98	14	P		P	14 46 05.0	-0.2
	baz=195							
O53A	New Philadelph	77.98	14	P		P	14 46 05.0	-0.2
ELK	Elko	78.01	348	P		P	14 46 05.2	-0.5
N49A	Columbus Grove	78.10	12	P		P	14 46 05.5	-0.4
P58A	Pank, Wackersv	78.12	17	P		P	14 46 05.8	-0.2
	baz=198							
SDMD	Soldier's Deli	78.15	18	P		P	14 46 05.2	-1.0
SDMD				IAmb	IAmb		14 46 08.2	
	comp=Z,12nm,1.1s							
BEKR	Beckworth	78.18	344	P		P	14 46 06.2	-0.4
HWUT	Hardware Ranch	78.31	351	P		P	14 46 06.7	-0.6
O55A	Ligonier	78.34	16	P		P	14 46 06.9	-0.4
	baz=196							
N51A	Ashland	78.41	13	P		P	14 46 07.4	-0.2
	baz=194							
N51A	Ashland	78.41	13	P		P	14 46 06.6	-1.0
O56A	Blue Knob Stat	78.56	16	P		P	14 46 08.0	-0.6
	baz=197							
O56A	Blue Knob Stat	78.56	16	P		P	14 46 07.4	-1.1
O57A	Amberson	78.72	17	P		P	14 46 08.7	-0.7
	baz=198							
O58A	Lewisberry	78.81	17	P		P	14 46 08.5	-1.3
	baz=198							
K22A	Casper	78.82	355	P		P	14 46 10.5	+0.5
	baz=174							
K22A	Casper	78.82	355	P		P	14 46 08.8	-1.3
K22A				IAmb	IAmb		14 46 13.5	
	comp=Z,14nm,1.1s							
N54A	Moraine State	78.92	15	P		P	14 46 09.9	-0.5
	baz=196							
N54A	Moraine State	78.92	15	P		P	14 46 09.7	-0.7
O03E	Paynes Creek	78.93	343	P		P	14 46 09.7	-0.9
	baz=162							
N55A	Marion Center	78.96	16	P		P	14 46 10.0	-0.6
	baz=197							
SSPA	Standing Stone	79.07	17	P		P	14 46 10.7	-0.5
	baz=198							
O59A	Robesonia	79.17	18	P		P	14 46 11.8	0.0
	baz=199							
BW06	Boulder Array	79.21	352	P		P	14 46 13.0	+0.7
	baz=172,SNR=16							
BW06	Boulder Array	79.21	352	P		P	14 46 12.6	+0.4
PD31	Pinedale Array	79.21	352	P		P	14 46 12.8	+0.5
PD31				IAmb	IAmb		14 46 15.6	
	comp=Z,14nm,0.8s							
PDAR	Pinedale Array	79.21	352	P		P	14 46 13.5	+1.2
	comp=Z,11nm,0.7s,baz=157,slow=6.3,SNR=60							
PDAR	Pinedale Array	79.21	352	P		P	14 46 12.6	+0.4
KMRM	Mail Ridge	79.33	341	P		P	14 46 12.2	-0.5
WDC	Whiskeytown Da	79.38	342	P		P	14 46 12.2	-0.7
WDC				IAmb	IAmb		14 46 16.5	
	comp=Z,10nm,0.9s							
AHID	Auburn Hatcher	79.39	351	P		P	14 46 12.5	-0.7
AHID				IAmb	IAmb		14 46 33.4	
	comp=Z,15nm,1.4s							
M54A	Oil Creek Stat	79.51	15	P		P	14 46 12.8	-0.9
	baz=196							
ECSD	EROS Data Cent	79.68	2	P		P	14 46 14.5	0.0
	baz=182,SNR=8.6							
ECSD	EROS Data Cent	79.68	2	P		P	14 46 14.8	+0.3
ECSD				IAmb	IAmb		14 46 17.9	
	comp=Z,11nm,0.8s							
ECR	Eagle Creek	79.70	351	P		P	14 46 15.2	+0.3
L53A	Girard	79.82	14	P		P	14 46 14.6	-0.7
	baz=196							
N59A	State Game Lan	79.84	18	P		P	14 46 15.1	-0.4
	baz=199							
M57A	Sunshine Farm,	79.91	17	P		P	14 46 15.4	-0.4
	baz=198							
REDW	Red Top Meadow	79.95	352	P		P	14 46 16.8	+0.6
REDW				IAmb	IAmb		14 46 20.0	
	comp=Z,20nm,1.3s							
TPAW	Teton Pass	80.08	352	P		P	14 46 17.4	+0.3
TPAW				IAmb	IAmb		14 46 20.8	
	comp=Z,19nm,0.9s							
RSSD	Black Hills	80.14	357	P		P	14 46 18.3	+1.0
	baz=176							
RSSD	Black Hills	80.14	357	P		P	14 46 17.9	+0.7
RSSD				IAmb	IAmb		14 46 21.1	
	comp=Z,14nm,1.0s							
LOHW	Long Hollow	80.16	352	P		P	14 46 18.0	+0.6
M02C	Callahan	80.22	342	P		P	14 46 19.6	+2.0
	baz=161							
MOOW	Moose Ponds	80.31	352	P		P	14 46 18.9	+0.7
M04C	Macdoel	80.35	343	P		P	14 46 20.3	+2.0
	baz=162							
PAL	Palisades	80.41	19	P		P	14 46 17.9	-0.5
	baz=201							
DZM	Mont Dzumac	80.42	250	*e*S		S	14 56 21.8	-4.0
	comp=Z,54nm,24.4s							
DZM	Mont Dzumac	80.42	250	*e*LR		LR	15 11 16.2	
	comp=Z,437nm,27.4s							
IMW	Indian Meadow	80.48	352	P		P	14 46 19.8	+0.6
IMW				IAmb	IAmb		14 46 22.9	
	comp=Z,11nm,0.9s							
YBH	Yreka Blue Hor	80.51	343	LR		LR	15 11 48.2	
	comp=Z,40nm,21.8s,baz=188,slow=28							
M59A	Waymart	80.52	18	P		P	14 46 18.2	-0.8
	baz=199							
M60A	Port Jervis	80.52	19	P		P	14 46 18.9	-0.1
	baz=200							
L56A	Greenwood	80.57	16	P		P	14 46 19.2	-0.2
	baz=198							
L57A	Andrews Acres	80.61	17	P		P	14 46 19.5	-0.1
	baz=198							
HLID	Hailey	80.63	349	P		P	14 46 21.2	+1.3
	baz=168,SNR=19							
HLID	Hailey	80.63	349	P		P	14 46 20.9	+1.1
FLWY	Flagg Ranch	80.64	352	P		P	14 46 21.2	+1.2
FLWY				IAmb	IAmb		14 46 24.0	
	comp=Z,15nm,0.8s							
MFID	Camas Ranch	80.71	348	P		P	14 46 21.6	+1.4
YPP	Pitchstone Pla	80.84	352	P		P	14 46 22.1	+1.0
L58A	Harry Jones Me	80.89	18	P		P	14 46 20.5	-0.5
	baz=199							
K56A	Middlesex	81.16	16	P		P	14 46 21.5	-1.0
	baz=198							
BCYI	Bear Canyon	81.21	350	P		P	14 46 23.4	+0.4
L59A	Walton	81.22	18	P		P	14 46 22.5	-0.4
	baz=200							
YHH	Holmes Hill	81.35	352	P		P	14 46 23.5	-0.3
SPMN	Marine on St.	81.35	5	P		P	14 46 23.8	+0.3
	baz=185							
SPMN	Marine on St.	81.35	5	P		P	14 46 23.4	0.0
QLMT	Earthquake Lak	81.46	351	P		P	14 46 25.1	+0.8
YNE	Yellowstone No	81.48	352	P		P	14 46 24.7	+0.3
RLMT	Red Lodge	81.51	353	P		P	14 46 26.1	+1.5
	baz=172,SNR=12							
RLMT	Red Lodge	81.51	353	P		P	14 46 25.1	+0.5
G40A	Rib Lake	81.61	7	P		P	14 46 24.9	+0.1
G40A				IAmb	IAmb		14 46 28.0	
	comp=Z,11nm,0.9s							
K58A	Earlville	81.61	17	P		P	14 46 24.8	-0.1
	baz=199							
J05D	Fort Rock, OR	81.64	344	P		P	14 46 27.2	+2.0
	baz=162							
MCMT	McKenzie Canyo	81.64	350	P		P	14 46 25.5	+0.2
K02D	Willamette Mer	81.65	342	P		P	14 46 28.2	+3.0
	baz=160							
I07A	Izee	82.04	346	P		P	14 46 26.9	-0.3
I07A				IAmb	IAmb		14 46 42.2	
	comp=Z,18nm,1.5s							
PINE	Pine Mountain	82.06	344	P		P	14 46 28.0	+0.5
PINE				IAmb	IAmb		14 46 31.9	
	comp=Z,9.5nm,0.8s							
K61A	Williamstown	82.13	19	P		P	14 46 27.4	-0.3
	baz=201							
BOZ	Bozeman (W)	82.24	351	P		P	14 46 29.8	+1.5
	baz=170,SNR=12							
BOZ	Bozeman (W)	82.24	351	P		P	14 46 29.5	+1.2
BOZ				IAmb	IAmb		14 46 32.4	
	comp=Z,9.9nm,0.9s							
BMO	Blue Mountains	82.36	347	P		P	14 46 29.7	+0.8
PLID	Pearl Lake	82.37	348	P		P	14 46 29.7	+0.6
I04A	Tendick Farm,	82.39	343	P		P	14 46 30.8	+1.8
	baz=161							
I58A	Old Forge	82.65	18	P		P	14 46 29.6	-0.8
	baz=200							
I05D	Terrebonne, OR	82.67	344	P		P	14 46 32.3	+1.8
	baz=162							
I57A	Carthage	82.72	17	P		P	14 46 30.4	-0.3
	baz=199							
LAO	LASA Array	82.82	355	P		P	14 46 32.3	+1.1
	baz=174,SNR=8.3							
LAO	LASA Array	82.82	355	P		P	14 46 31.8	+0.6
I59A	Olmsteadville	83.03	18	P		P	14 46 32.2	0.0
	baz=200							
G08A	Pilot Rock	83.09	346	P		P	14 46 33.7	+1.0
G05D	Wamic, OR	83.52	345	P		P	14 46 36.7	+1.9
	baz=162							
H58A	Gabriels	83.53	18	P		P	14 46 34.6	-0.3
	baz=200							
LONY	Lake Ozonia	83.62	18	P		P	14 46 34.9	-0.4
	baz=200							
MSO	Missoula	83.75	350	P		P	14 46 37.7	+1.7
	baz=168							
MSO	Missoula	83.75	350	P		P	14 46 37.4	+1.3
MSO				IAmb	IAmb		14 46 40.5	
	comp=Z,7.2nm,1.0s							
MDND	Maddock	83.76	360	P		P	14 46 36.5	+0.6
	baz=180							
I62A	Tamworth	83.77	20	P		P	14 46 35.9	-0.2
	baz=202							
H59A	Cadyville	83.87	18	P		P	14 46 36.5	0.0
	baz=201							
LBNH	Lisbon	83.95	20	P		P	14 46 36.7	-0.2
	baz=202							
G57A	Newington	83.98	17	P		P	14 46 37.0	-0.1
	baz=200							
I63A	Otisfield	84.15	20	P		P	14 46 37.7	-0.3
	baz=203							
HAWA	Hanford	84.26	346	P		P	14 46 40.1	+1.6
B35A	Bob, Littlefor	84.42	4	P		P	14 46 38.5	-0.8
EGMT	Eagleton	84.44	353	P		P	14 46 40.3	+0.9
	baz=172							
EGMT	Eagleton	84.44	353	P		P	14 46 38.8	-0.7
E07A	Sunnyside	84.48	346	P		P	14 46 40.2	+0.6
E07A				IAmb	IAmb		14 46 44.3	
	comp=Z,6.8nm,0.8s							
TOO	Toolangi	85.08	226	P		P	14 46 44.0	+0.8
E56A	St. Veronique	85.33	17	P		P	14 46 42.9	-0.9
	baz=200							
E57A	Chemin Saint G	85.41	17	P		P	14 46 43.4	-1.0
	baz=200							
F60A	Warwick	85.55	19	P		P	14 46 44.3	-0.7
	baz=202							
E58A	La Victoria	85.58	18	P		P	14 46 44.2	-1.0
	baz=201							
NEW	Newport	85.64	348	P		P	14 46 46.9	+1.4
D55A	Sainte-Anne-du	85.67	16	P		P	14 46 44.7	-0.9
	baz=199							
D62A	Allapoint, All	87.36	20	P		P	14 46 52.6	-1.2
	baz=204							
SCHQ	Schefferville	94.98	18	LR		LR	15 25 48.5	
	comp=Z,215nm,19.3s,baz=3.0,slow=33							
BOSA	Boshof	97.11	133	LR		LR	15 26 41.6	
	comp=Z,65nm,18.6s,baz=198,slow=32							
DBIC	Dimbokro	97.60	87	LR		LR	15 26 52.1	
	comp=Z,141nm,21.5s,baz=216,slow=32							
YKA	Yellowknife Ar	99.19	353	LR		LR	15 27 55.1	
	comp=Z,72nm,21.7s,baz=0.0,slow=32							
ASAR	Alice Springs	101.94	229	P		Pdif	14 48 01.1	-0.4
	comp=Z,0.8nm,1.0s,baz=137,slow=2.6,SNR=4.3							
H01W1	Cape Leeuwin H	102.57	208	T		T	16 43 42.8	
	baz=152,slow=76,SNR=9.3							
H01W2	Cape Leeuwin H	102.57	208	T		T	16 43 36.4	
	baz=152,slow=76,SNR=11							
H01W3	Cape Leeuwin H	102.59	208	T		T	16 43 45.3	
	baz=152,slow=76,SNR=8.5							
GERES	GERESS Array B	130.71	53	PKP		PKPdf	14 53 18.2	+0.2
	comp=Z,0.2nm,0.4s,baz=199,slow=2.1,SNR=3.2							
AKASG	Malin Array Be	140.88	52	PKP		PKPdf	14 53 37.6	+0.9
	comp=Z,0.7nm,0.5s,baz=272,slow=3.1,SNR=2.0							
KSRS	Korea Array	142.39	286	PKP		PKPdf	14 53 40.1	+0.3
	comp=Z,1.9nm,0.8s,baz=34,slow=1.3,SNR=3.8							
BRTR	Keskin Array B	143.20	70	PKP		PKPbc	14 53 39.8	+1.3
	comp=Z,0.8nm,0.5s,baz=242,slow=3.1,SNR=4.7							
NRIK	Noril'sk	146.66	355	PKPbc		PKPbc	14 53 48.5	+0.5
	comp=Z,1.9nm,0.4s,baz=0.0,slow=2.0,SNR=4.3							
KBZ	Khabaz	150.41	64	PKPbc		PKiKP	14 53 59.2	0.0
	comp=Z,7.1nm,1.1s,baz=294,slow=3.2,SNR=6.9							
CMAR	Chiang Mai Arr	155.95	227	PKP		PKPdf	14 54 04.0	+2.0
	comp=Z,0.3nm,0.3s,baz=303,slow=1.2,SNR=5.1							
CMAR				PKPab		pPKPab	14 54 30.6	-0.4
	comp=Z,4.4nm,1.1s,baz=167,slow=2.9,SNR=14							
CMAR	Chiang Mai Arr	155.95	227	PKPab		PKPab	14 54 29.2	+0.2
SONM	Songino Array	157.71	309	PKPab		PKPab	14 54 38.6	+2.6
	comp=Z,0.8nm,0.7s,baz=327,slow=2.4,SNR=3.0							
ZALV	Zalesovo Beam	162.09	352	PKP		PKPdf	14 54 06.4	-1.6
	comp=Z,0.5nm,0.3s,baz=284,slow=0.6,SNR=4.7							
ZALV	Zalesovo Beam	162.09	352	PKPdf		PKPdf	14 54 05.9	-2.1
GTA	Gaotai	164.46	287	*e*PKP		PKPdf	14 54 11.3	+0.3
GTA				PKPab		PKPab	14 55 06.9	+1.1
MKAR	Makanchi Array	169.42	353	PKP		PKPdf	14 54 16.0	+1.7
	comp=Z,1.6nm,1.0s,baz=283,slow=2.5,SNR=5.7							
MKAR				PKPab		PKPab	14 55 28.2	+1.2
	comp=Z,1.7nm,0.8s,baz=345,slow=3.8,SNR=7.2							
MKAR	Makanchi Array	169.42	353	PKPab		PKPab	14 55 27.8	+0.7
WMQ	Urumqi	170.69	326	*e*P		PKPdf	14 54 15.0	-0.2

IDC ***21*** *14:45:50.0±12.0, 16.00S×175.92W, h285km±120km, mb3.4/6, mb1 3.6/6, mb1mx3.3/36, mbtmp4.0/6, Error ellipse: s-maj=50.0km s-min=27.8km az=171.0*

NEIC ***21*** *14:45:56.5±1.0, 16.0S±0.1×176.1W±0.1, h354km±7km, mb4.2/27, Error ellipse: s-maj=21.7km s-min=14.6km az=131.0*

ISC 21 14:45:57.0±0.6, 16.00S±0.10×176.0W±0.1, h360km, n42, σ0s58/42, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.59	64		Pn	14 47 12.7	-0.1
FUNA	Funafuti	8.78	327	P	P	14 48 01.7	-0.7
KNTN	Kanton	13.80	18		Pn	14 48 59.2	-0.7
URZ	Urewera	22.99	194	P	P	14 50 29.9	-1.5
	6.3nm,1.0s,baz=27,slow=14,SNR=1.7						
URZ	Urewera	22.99	194	IAmb	IAmb	14 50 40.4	
	comp=Z,15nm,1.1s						
BKZ	Black Stump Fm	24.00	194	P	P	14 50 39.8	-0.8
BKZ				IAmb	IAmb	14 50 47.1	
	comp=Z,15nm,1.2s						
NNZ	Nelson	26.76	198	P	P	14 51 03.9	-1.1
LTZ	Lake Taylor	28.52	198	P	P	14 51 20.5	-0.1
MLZ	Mavora Lakes	32.18	201	P	P	14 51 51.9	-0.6
WHZ	Wether Hill Ro	32.69	201	P	P	14 51 57.2	+0.2
ARMA	Armidale	32.88	238	P	P	14 51 58.9	0.0
CAN	Canberra	36.68	232	P	P	14 52 31.2	+0.2
CAN				IAmb	IAmb	14 52 57.1	
	comp=Z,17nm,1.3s						
COEN	Coen	39.43	267	P	P	14 52 55.5	+1.6
COEN				IAmb	IAmb	14 53 03.6	
	comp=Z,11nm,1.1s						
TOO	Toolangi	40.15	230	P	P	14 52 59.8	+0.3
TOO				IAmb	IAmb	14 53 00.6	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	41.56	240	P	P	14 53 11.2	+0.2
	comp=Z,1.2nm,0.5s,baz=108,slow=8.4,SNR=7.5						
STKA	Stephens Creek	41.56	240	P	P	14 53 10.6	-0.4
BBOO	Buckleboo	46.34	240	P	P	14 53 48.3	-0.2
WR0	Warramunga Arr	47.07	257	P	P	14 53 54.0	-0.3
WR0				IAmb	IAmb	14 53 55.0	
	comp=Z,14nm,1.5s						
WB0	Warramunga Arr	47.22	258	P	P	14 53 55.1	-0.3
WB0				IAmb	IAmb	14 53 56.1	
	comp=Z,8.9nm,0.8s						
WB2	Warramunga Arr	47.25	257	P	P	14 53 55.4	-0.3
WB2				IAmb	IAmb	14 53 56.4	
	comp=Z,6.4nm,0.6s						
WRAB	Tennant Creek	47.25	257	P	P	14 53 55.1	-0.5
WRA	Warramunga Arr	47.26	257	P	P	14 53 55.9	+0.1
	comp=Z,4.8nm,0.7s,baz=82,slow=5.9,SNR=166						
WRA				PcP	PcP	14 55 21.3	+0.8
	comp=Z,0.4nm,0.4s,baz=95,slow=3.3,SNR=2.9						
WRA	Warramunga Arr	47.26	257	P	P	14 53 55.4	-0.4
AS31	Alice Springs	47.53	252	P	P	14 53 57.9	0.0
ASAR	Alice Springs	47.53	252	P	P	14 53 58.0	+0.2
	comp=Z,16nm,0.4s,baz=89,slow=7.7,SNR=989						
ASAR	Alice Springs	47.53	252	P	P	14 53 57.5	-0.4
MTN	Manton Dam	51.18	266	P	P	14 54 25.4	+0.2
FORT	Forrest	52.90	243	P	P	14 54 37.1	-0.5
FORT				IAmb	IAmb	14 54 51.7	
	comp=Z,16nm,0.9s						
KNRA	Kununurra	52.99	262	P	P	14 54 38.6	+0.2
KNRA				IAmb	IAmb	14 55 01.1	
	comp=Z,25nm,1.4s						
FITZ	Fitzroy Crossi	55.62	259	P	P	14 54 57.8	+0.7
	comp=Z,1.0nm,0.4s,baz=108,slow=2.9,SNR=9.0						
FITZ	Fitzroy Crossi	55.62	259	P	P	14 54 57.2	+0.1
PSA00	Pilbara Seismi	60.62	254	P	P	14 55 30.7	-0.7
PSA00				IAmb	IAmb	14 55 43.8	
	comp=Z,18nm,1.5s						
LUWI	Luwuk	62.09	277	P	P	14 55 41.0	-0.3
PET	Petropavlovsk	72.13	344	P	P	14 56 42.4	-0.5
QSPA	South Pole Qui	74.05	180	P	P	14 56 54.1	-0.1
SPX	San Pedro Mart	74.61	51	P	P	14 56 58.5	+0.3
SPX				IAmb	IAmb	14 57 00.9	
	comp=Z,6.1nm,1.2s						
TXAR	Lajitas Array	83.04	57	P	P	14 57 44.4	+1.0
	comp=Z,0.1nm,0.5s,baz=213,slow=9.7,SNR=1.8						
ILAR	Eielson Array	83.53	12	P	P	14 57 45.2	+0.3
	comp=Z,0.7nm,0.5s,baz=216,slow=5.4,SNR=16						
ILAR	Eielson Array	83.53	12	P	P	14 57 45.0	0.0
BRTR	Keskin Array B	144.98	318	PKPbc	PKPab	15 04 53.1	+0.3
	comp=Z,2.6nm,0.8s,baz=132,slow=1.8,SNR=6.4						
GERES	GERESS Array B	146.29	348	PKPbc	PKPbc	15 04 56.6	+0.7
	comp=Z,0.5nm,0.6s,baz=20,slow=3.1,SNR=2.3						
GERES	GERESS Array B	146.29	348		PKPbc	15 04 56.3	+0.4

NEIC ***21*** *14:53:44.0±2.8, 2.68S±0.09×129.69E±0.04, h40km±15km, mb4.0/11, Error ellipse: s-maj=13.1km s-min=3.7km az=195.0*

IDC ***21*** *14:53:45.5±1.1, 3.00S×130.69E, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.6/40, mbtmp3.8/7, ML3.4/3, Error ellipse: s-maj=48.9km s-min=17.1km az=85.0*

DJA ***21*** *14:54:12.4±0.5, 1°S±3'×12°8E±', h11km±5km, M4.1/9, mB4.7/1, mb4.5/3, MLv3.9/9, Mw(mB)4.0/1*

ISC 21 14:53:42.6±0.7, 2.63S±0.07×129.57E±0.06, h35km, n32, σ1s97/31, mb4.0/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.44	44	Pn	Pn	14 54 22.2	+2.2
	3.7nm,0.3s,baz=171,slow=13,SNR=20						
SIJI				Sn	Sn	14 54 50.5	+1.8
	8.6nm,0.3s,baz=52,slow=23,SNR=14						
NLAI	Namlea	2.54	256	P	Sn	14 54 51.0	0.0
FAKI	Fak Fak	2.69	96	Pn	Pn	14 54 21.5	-2.0
SANI	Sanana	3.62	279	P	Pn	14 54 46.2	+10
SANI				S	Sn	14 55 13.0	-4.9
TNTI	Ternate	4.03	327	P	Pn	14 54 41.6	-0.3
TNTI	Ternate	4.03	327	Pn	Pn	14 54 41.7	-0.2
KMSI	Cibinong	6.43	300	P	Pn	14 55 13.1	-1.8
LUWI	Luwuk	6.97	283	Pn	Pn	14 55 25.7	+3.3
GTOI	Gorontalo	7.31	296	P	Pn	14 55 28.8	+1.7
	0.1nm11nm,0.6s						
SGSI	Sangihe	7.46	327	P	Pn	14 55 28.9	-0.2
	0.3nm54nm,0.7s						
APSI	Ampana	8.10	282	P	Pn	14 55 41.0	+3.2
MTN	Manton Dam	10.26	171	Pn	Pn	14 56 07.8	+0.3
KNRA	Kununurra	12.99	183	Pn	Pn	14 56 44.1	-0.7
MYLDM	Lahad Datu	13.51	305	Pn	Pn	14 56 51.7	-0.2
FITZ	Fitzroy Crossi	15.85	194	Pn	P	14 57 29.2	+2.6
	0.1nm,0.3s,baz=20,slow=11,SNR=1.6						
WB0	Warramunga Arr	17.67	165	Pn	Pn	14 57 43.5	-2.8
WRAB	Tennant Creek	17.82	165	P	Pn	14 57 46.5	-1.6
WRAB				IAmb	IAmb	14 57 52.1	
	comp=Z,22nm,1.7s						
WRA	Warramunga Arr	17.83	165	P	Pn	14 57 47.6	-0.5
	comp=Z,0.3nm,0.3s,baz=345,slow=12,SNR=15						
WRA	Warramunga Arr	17.83	165	Pn	Pn	14 57 46.3	-1.8
WB2	Warramunga Arr	17.83	165	Pn	Pn	14 57 46.3	-1.9
WB2				IAmb	IAmb	14 57 55.6	
	comp=Z,23nm,1.8s						
WR0	Warramunga Arr	17.89	165	Pn	Pn	14 57 47.3	-1.6
WR0				IAmb	IAmb	14 58 27.5	
	comp=Z,17nm,1.9s						
SBUM	Sibu	18.06	286	P	P	14 57 53.0	+1.8
SBUM				IAmb	IAmb	14 58 35.3	
	comp=Z,8.5nm,1.6s						
AS31	Alice Springs	21.33	169	P	P	14 58 27.3	+0.5
ASAR	Alice Springs	21.33	169	P	P	14 58 27.9	+1.2
	comp=Z,3.7nm,0.6s,baz=349,slow=9.8,SNR=53						
ASAR	Alice Springs	21.33	169	P	P	14 58 27.5	+0.7
CTAO	Charters Tower	23.80	138	P	P	14 58 52.7	+0.2
CTAO				IAmb	IAmb	14 59 47.3	
	comp=Z,69nm,1.8s						
EIDS	Eidsvold	30.66	139	P	P	14 59 51.0	-3.1
STKA	Stephens Creek	31.22	160	P	P	15 00 00.2	+1.3
	comp=Z,8.0nm,0.3s,baz=346,slow=9.2,SNR=7.6						
STKA	Stephens Creek	31.22	160	P	P	14 59 59.9	+1.0
STKA				IAmb	IAmb	15 00 46.7	
	comp=Z,4.2nm,1.8s						
NWAO	Narrogin (SRO)	32.28	200	P	P	15 00 08.1	-0.1
MKAR	Makanchi Array	64.37	326	P	P	15 04 30.0	+15
	comp=Z,0.4nm,0.5s,baz=116,slow=8.1,SNR=8.1						
ZALV	Zalesovo Beam	67.51	333	P	P	15 04 48.9

baz=294
NNSH Datong 1.02 294 *e*P Pn 14 55 37.6 +0.2
baz=283
NNSH *e*S Sn 14 55 51.1 +0.3
baz=283
NNSB Datong 1.03 294 P Pn 14 55 37.8 +0.3
baz=283
NNSB *e*S Sn 14 55 51.1 +0.3
baz=283
HGSD Ruisui 1.03 241 P Pn 14 55 37.4 -0.1
baz=239
HGSD *e*S Sn 14 55 50.1 -0.8
baz=239
NNS Nan Shan 1.04 295 *e*P Pb 14 55 38.3 -0.4
baz=292
NNS *e*S Sn 14 55 51.0 -0.2
baz=292
WHF Hehuan Shan 1.05 278 P Pn 14 55 38.3 +0.2
baz=275
WHF S Sn 14 55 52.3 +0.4
baz=275
TWB1 Santiao Chiao 1.07 339 *e*P Pn 14 55 38.0 0.0
baz=351
TWB1 *e*S Sn 14 55 51.7 -0.1
baz=351
FUSS Fushou 1.09 283 P Pb 14 55 39.5 -0.1
baz=280
FUSS *e*S Sb 14 55 53.6 0.0
baz=280
TIPB Shuangxi 1.10 331 P Pn 14 55 38.6 +0.2
baz=329
TIPB *e*S Sn 14 55 53.0 +0.5
baz=329
EHY Hungye 1.11 244 P Pn 14 55 38.7 +0.2
baz=255
EHY *e*S Sn 14 55 53.1 +0.4
baz=255
CHGB Renai 1.13 273 *e*P Pn 14 55 39.4 +0.5
baz=271
CHGB *e*S Sn 14 55 54.3 +0.7
baz=271
YHNB Yeheng 1.15 305 *e*P Pb 14 55 39.9 -0.6
baz=303
YHNB *e*S Sn 14 55 53.7 -0.2
baz=303
NSK Sanguang 1.17 305 P Pn 14 55 40.1 +0.7
baz=303
NSK *e*S Sn 14 55 54.2 -0.1
baz=303
TDCB Techi 1.17 282 *e*P Pn 14 55 40.1 +0.6
baz=270
TDCB *e*S Sn 14 55 54.9 +0.5
baz=270
VWDT VWDT 1.19 258 P Pb 14 55 40.2 +0.7
baz=256
VWDT *e*S Sn 14 55 54.3 -0.2
baz=256
YULB Yu-li 1.19 239 *i* P Pn 14 55 39.7 +0.2
baz=252
YULB S Sn 14 55 54.4 -0.2
baz=252
EYUL Yuli 1.19 237 P Pn 14 55 40.2 +0.6
baz=226
EYUL *e*S Sn 14 55 55.5 +0.7
baz=226
NWF Wu-fen Shan 1.21 332 *e*P Pn 14 55 40.1 +0.2
baz=330
NWF *e*S Sn 14 55 54.8 -0.4
baz=330
WFSB Wu-fen Shan 1.21 332 P Pn 14 55 39.9 +0.1
baz=330
WFSB *e*S Sn 14 55 54.8 -0.3
baz=330
TWF1 Yuli 1.21 238 P Pn 14 55 40.1 +0.3
baz=228
TWF1 *e*S Sn 14 55 54.3 -0.9
baz=228
TWA Mucha 1.23 323 *e*P Pb 14 55 41.5 -0.2
baz=335
TWA *e*S Sb 14 55 58.1 +0.8
baz=335
IRIF Iriomote-Funau 1.25 75 P Pb 14 55 41.7 -0.5
IRIF *e*S Sb 14 55 58.4 +0.4
HATJ Hateruma jima 1.28 87 P Pb 14 55 44.8 +2.2
HATJ *e*S Sb 14 56 02.8 +4.1
FULB Fuli 1.30 232 P Pn 14 55 41.2 +0.1
baz=221
FULB *e*S Sn 14 55 58.2 +0.8
baz=221
CHKT Chengkung 1.31 227 *e*P Pn 14 55 40.8 -0.5
baz=218
CHKT *e*S Sn 14 55 56.6 -1.2
baz=218
SSLB Suanglung 1.35 261 P Pn 14 55 42.5 +0.7
baz=259
SSLB *e*S Sn 14 55 59.1 +0.4
baz=259
WHP Taichung City 1.36 282 *e*P Pb 14 55 44.9 +0.8
baz=271
WHP *e*S Sn 14 56 00.3 +1.2
baz=271
YM01 YM01 1.37 326 *e*P Pb 14 55 44.2 0.0
baz=324
YM10 YM10 1.38 326 *e*P Pn 14 55 42.4 +0.1
baz=337
YM10 *e*S Sn 14 56 00.1 +0.6
baz=337
SMLT Sun Moon Lake 1.38 265 P Pn 14 55 43.4 +1.0
baz=253
YM05 YM05 1.39 327 *e*P Pb 14 55 43.5 -1.0
baz=324
LIOB Emei 1.42 297 *e*P Pb 14 55 44.2 -0.8
baz=295
TYC Yuchr 1.42 266 P Pn 14 55 43.7 +0.9
baz=264
NSTT Nanjuang 1.43 296 *e*P Pb 14 55 45.3 +0.2
baz=294
EDH Donghe 1.44 225 P Pn 14 55 42.7 -0.4
baz=218
EDH *e*S Sn 14 55 59.4 -1.5
baz=218
WHYT Xinyi Township 1.46 258 *e*P Pb 14 55 45.0 -0.7
baz=256
JKRS Kuro-shima 1.48 81 P Pb 14 55 45.1 -1.0
JKRS *e*S Sb 14 56 04.2 -0.3
TWQ1 Liyutan 1.53 283 *e*P Pb 14 55 47.6 +0.7
baz=281
TWQ1 *e*S Sb 14 56 05.0 -0.9
baz=281
WJS Zhushan 1.55 264 *e*P Pb 14 55 46.6 -0.6
baz=262
WJS *e*S Sb 14 56 07.4 +1.1
baz=262
ALS Alishan 1.55 252 *e*P Pb 14 55 46.4 -1.0
baz=250
ALS *e*S Sn 14 56 04.6 +0.7
baz=250
NSY Sanyi 1.56 286 *e*P Pb 14 55 46.4 -0.9
baz=283
LDUT Ludao 1.58 213 P Pn 14 55 44.8 -0.2
baz=213
LDUT *e*S Sn 14 56 04.7 +0.4
baz=213
WNT Mingjian 1.58 266 *e*P Pb 14 55 47.8 0.0
baz=264
WNT *e*S Sb 14 56 07.3 -0.1
baz=264
LONT Longtian 1.60 227 P Pn 14 55 45.5 +0.2
baz=239
LONT *e*S Sn 14 56 05.9 +0.9
baz=239
JIJ Ishigaki jima 1.62 77 P Pn 14 55 46.6 +1.0
JIJ *e*S Sn 14 56 06.5 +1.0
CHN5 Tsauling 1.64 256 *e*P Pb 14 55 47.8 -0.9
baz=255
CHN5 *e*S Sb 14 56 09.2 +0.2
baz=255
PCYT Pengchaiyu 1.65 349 *e*P Pn 14 55 46.0 +0.1
baz=335
TWG Pinlang 1.70 226 *e*P Pn 14 55 46.5 -0.1
baz=236
STYT Tauyuan 1.73 241 P Pn 14 55 48.6 +1.5
baz=233
STYT *e*S Sb 14 56 11.1 -0.6
baz=233
WDLH Douliu 1.74 260 *e*P Pb 14 55 49.7 -0.7
baz=258
TPUB Ta-pu 1.77 247 *e*P Pb 14 55 49.8 -1.2
baz=246
TPUB *e*S Sb 14 56 13.2 +0.3
baz=246
CHN4 Tsaushan 1.79 249 *e*P Pb 14 55 50.1 -1.1
baz=248
WTP Ta-pu 1.81 246 P Pb 14 55 50.2 -1.5
baz=244
WTP *e*S Sn 14 56 11.8 +1.8
baz=244
JISG Ishigakijimahi 1.83 71 P Pn 14 55 49.0 +0.6
JISG *e*S Sb 14 56 12.3 -2.2
WTK Tuku 1.88 261 *e*P Pb 14 55 51.1 -1.6
baz=250
RLNB Erlin 1.88 267 *e*P Pn 14 55 50.9 +1.9
baz=276
SLGT Liugui 1.90 238 *e*P Pn 14 55 51.1 +1.6
baz=230
SLGT *e*S Sb 14 56 15.9 -0.8
baz=230
CHN1 Nanshi 1.91 245 *e*P Pb 14 55 52.3 -1.0
baz=244
CHN1 *e*S Sb 14 56 16.2 -0.5
baz=244
TWK Hsinying 1.91 248 *e*P Pn 14 55 51.3 +1.8
baz=246
TWK *e*S Sb 14 56 16.4 -0.4
baz=246
SGST Jiashian 1.91 242 *e*P Pn 14 55 51.3 +1.8
baz=231
SGST *e*S Sb 14 56 15.3 -1.5
baz=231
SNST Tainan City 1.92 246 *e*P Pb 14 55 52.2 -1.2
baz=245
SNST *e*S Sb 14 56 17.1 +0.1
baz=245
ECL Taimali 1.94 224 *e*P Pn 14 55 50.5 +0.7
baz=232
ICHU Yijhu 2.05 252 *e*P Pb 14 55 54.1 -1.6
baz=251
SSD Sandimen 2.06 233 *e*P Pn 14 55 53.4 +1.8
baz=225
TSMG Majia 2.07 232 *e*P Pn 14 55 53.5 +1.8
baz=223
SCST Cishan 2.08 238 P Pn 14 55 53.5 +1.7
baz=227
SCST *e*S Sb 14 56 21.3 -0.3
baz=227
LAY Lan-yu 2.11 202 P Pn 14 55 52.6 +0.4
baz=201
MASBT Mashibuluo 2.14 230 P Pn 14 55 54.1 +1.4
baz=226
MASBT *e*S Sn 14 56 18.8 +0.6
baz=226
EAST Anshuo 2.16 222 *e*P Pn 14 55 53.7 +0.7
baz=221
TWM1 Shoushan 2.17 238 *e*P Pb 14 55 57.4 -0.3
baz=236
JTJ Tarama 2.19 73 P Pb 14 55 56.0 -2.0
JTJ *e*S Sb 14 56 22.2 -2.5
SSPT Xinbi 2.27 229 *e*P Pb 14 55 57.8 -1.7
baz=224
SCZT Fangliau 2.31 226 *e*P Pn 14 55 57.4 +2.4
baz=225
SLIU Shizi 2.31 220 *e*P Pn 14 55 55.6 +0.5
baz=227
WLCH Liuqiu 2.49 229 *e*P Pb 14 56 02.4 -0.7
baz=242
TWKBT Hengchun 2.53 216 *e*P Pn 14 55 59.0 +1.1
baz=215
TWK1 Hengchun 2.53 216 *e*P Pn 14 55 59.5 +1.4
baz=215
WDGT Dungji 2.63 254 *e*P Pn 14 56 00.9 +1.5
baz=253
PHUB P'eng-hu 2.64 260 *e*P Pn 14 56 00.6 +1.1
baz=272
PTMZ Houxiangcun 3.17 290 *e*P Pn 14 56 06.6 -0.2
baz=287

IDC ***21*** *15:11:43.9±0.6,2.85S×130.02E,h0km,mb4.4/12, mb1 4.6/15,mb1mx4.4/31,mbtmp4.5/15,ML4.4/3,MS3.4/12, Ms1 3.5/12,ms1mx3.3/27,Error ellipse: s-maj=21.9km s-min=12.6km az=75.0*
DJA ***21*** *15:11:46.8±1.0,3.3S×2.3×13.7E±.1°,h22km±9km,M4.6/16, mb4.7/16,mB5.0/5,MLv4.7/12,Mw(mB)4.4/5*
NEIC ***21*** *15:11:48.6±1.5,2.85S±0.05×129.98E±0.06,h35km±5km, mb4.7/51,Error ellipse: s-maj=8.9km s-min=6.6km az=102.0*

ISC 21 15:11:47.1±0.4,2.85S±0.04×130.05E±0.04,h25km,n122, σ1.977/122,mb4.7/31,MS3.5/8,1C-1D,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSAI	**Masohi**	**1.22**	**246**	P	**Pb**	**15 12 10.8**	**+1.3**
MSAI				S	**Sb**	**15 12 29.4**	**+4.6**
BNDI	**Bandanaira**	**1.66**	**185**	P	**Pb**	**15 12 18.1**	**+1.0**
BNDI				S	**Sb**	**15 12 42.1**	**+4.4**
FAKI	**Fak Fak**	**2.20**	**92**	P	**Pn**	**15 12 23.1**	**+0.9**
FAKI				S	**Sn**	**15 12 49.9**	**+1.3**
FAKI	**Fak Fak**	**2.20**	**92**	Pn	**Pn**	**15 12 23.1**	**+0.9**
SIJI	**Sorong**	**2.32**	**32**	Pn	**Pn**	**15 12 23.4**	**-0.3**
	27nm,0.3s,baz=56,slow=7.0,SNR=174						
SIJI				Sn	**Sn**	**15 12 52.1**	**+0.6**
	81nm,0.3s,baz=214,slow=23,SNR=17						
SIJI				LR	LR	15 13 03.1	
	comp=Z,741nm,19.3s,baz=36,slow=34						
NLAI	**Namlea**	**2.97**	**263**	P	**Pn**	**15 12 33.9**	**+1.3**
KMPI	**Kaimana, Papua**	**3.74**	**102**	P	**Pn**	**15 12 44.3**	**+1.0**
SANI	**Sanana**	**4.13**	**281**	P	**Pn**	**15 12 46.4**	**-2.3**
SRPI	**Serui, Papua**	**6.27**	**81**	P	**Pn**	**15 13 18.1**	**0.0**
	1.2nm172nm,0.6s						
BAKI	**Biak**	**6.28**	**75**	P	**Pn**	**15 13 22.3**	**+4.0**
KMSI	**Cibinong**	**6.95**	**299**	P	**Pn**	**15 13 22.9**	**-4.6**
	0.7nm92nm,0.6s						
LUWI	**Luwuk**	**7.49**	**284**	P	**Pn**	**15 13 33.2**	**-1.7**
	0.5nm1µm79nm,0.8s						
LUWI	**Luwuk**	**7.49**	**284**	Pn	**Pn**	**15 13 32.8**	**-2.1**
GTOI	**Gorontalo**	**7.84**	**296**	P	**Pn**	**15 13 41.3**	**+1.6**
	0.2nm31nm,0.9s						
APSI	**Ampana**	**8.61**	**283**	P	**Pn**	**15 13 48.6**	**-1.7**
	1µm127nm,0.6s						
SMPI	**Sarmi**	**8.70**	**85**	P	**Pn**	**15 13 50.3**	**-1.2**
SOEI	**Soe**	**8.94**	**220**	P	**Pn**	**15 13 59.2**	**+4.3**
	43nm,1.3s						
MMRI	**Maumere**	**9.66**	**233**	Pn	**Pn**	**15 14 04.5**	**-0.1**
BATI	**Baumata**	**9.67**	**221**	Pn	**Pn**	**15 14 08.6**	**+3.7**
	2.2nm,0.3s,baz=212,slow=5.2,SNR=1.9						
BATI				LR	LR	15 17 58.9	
	comp=Z,239nm,21.7s,baz=40,slow=39						
MTN	**Manton Dam**	**9.98**	**174**	Pn	**Pn**	**15 14 09.6**	**+0.5**
GENI	**Genyem**	**10.12**	**89**	P	**Pn**	**15 14 12.9**	**+2.0**
	60nm,1.0s						
EDFI	**Ende, Flores**	**10.17**	**234**	P	**Pn**	**15 14 11.1**	**-0.6**
	255nm15nm,1.0s						
BKSI	**Bulukumba**	**10.20**	**256**	P	**Pn**	**15 14 14.4**	**+2.4**
	536nm36nm,1.4s						
TTSI	**Tana Toraja**	**10.21**	**269**	P	**Pn**	**15 14 12.6**	**+0.3**
	17nm,0.9s						
SPSI	**Sidrap Palu**	**10.32**	**264**	P	**Pn**	**15 14 15.0**	**+1.3**
	21nm,1.0s						
KAPI	**Kappang**	**10.49**	**258**	Pn	**Pn**	**15 14 19.2**	**+3.1**
	2.1nm,0.3s,baz=110,slow=6.9,SNR=6.6						
KAPI				LR	LR	15 18 23.9	
	comp=Z,218nm,21.9s,baz=74,slow=38						
KAPI	**Kappang**	**10.49**	**258**	Pn	**Pn**	**15 14 16.2**	**+0.2**
MPSI	**Mapaga**	**10.63**	**287**	P	**Pn**	**15 14 16.1**	**-1.8**
	19nm,0.9s						
DAV	**Davao City (W)**	**10.82**	**336**	LR	LR	15 19 05.7	
	comp=Z,380nm,20.8s,baz=105,slow=41						
KNRA	**Kununurra**	**12.80**	**186**	Pn	**Pn**	**15 14 45.8**	**-1.9**
MYLDM	**Lahad Datu**	**14.02**	**305**		**Pn**	**15 15 03.7**	**-0.7**
TWSI	**Taliwang, Sumb**	**14.34**	**245**	P	**Pn**	**15 15 10.9**	**+2.2**
FITZ	**Fitzroy Crossi**	**15.75**	**196**	Pn	**Pn**	**15 15 27.0**	**-0.5**
	0.8nm,0.3s,baz=40,slow=9.3,SNR=17						
FITZ				Sn	**Sn**	**15 18 23.1**	**+1.6**
	0.3nm,0.3s,baz=141,slow=14,SNR=2.5						
FITZ	**Fitzroy Crossi**	**15.75**	**196**	Pn	**Pn**	**15 15 26.2**	**-1.3**
KKM	**Kota Kinabalu**	**16.40**	**303**	Pn	**Pn**	**15 15 33.4**	**-2.5**
JAGI	**Jajag, Banyuwa**	**16.77**	**250**		**Pn**	**15 15 41.0**	**+0.5**
JAGI				IAmb	IAmb	15 15 50.7	
	comp=Z,72nm,1.4s						
COEN	**Coen**	**17.03**	**131**	Pn	**Pn**	**15 15 42.4**	**-1.4**
WB0	**Warramunga Arr**	**17.34**	**166**	Pn	**Pn**	**15 15 45.2**	**-2.5**
WRAB	**Tennant Creek**	**17.49**	**166**	P	**Pn**	**15 15 46.4**	**-3.1**
WRA	**Warramunga Arr**	**17.50**	**166**	P	**Pn**	**15 15 47.8**	**-1.8**
	comp=Z,2.5nm,0.3s,baz=345,slow=13,SNR=32						
WRA				S	**Sn**	**15 18 55.3**	**-8.5**
	comp=Z,0.5nm,0.3s,baz=347,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**17.50**	**166**	P	**Pn**	**15 15 46.3**	**-3.3**
WB2	**Warramunga Arr**	**17.50**	**166**	P	**Pn**	**15 15 46.3**	**-3.3**
WB2				IAmb	IAmb	15 15 52.9	
	comp=Z,60nm,1.4s						
WR0	**Warramunga Arr**	**17.56**	**166**		**Pn**	**15 15 47.3**	**-3.0**
WR0				IAmb	IAmb	15 15 59.0	
	comp=Z,50nm,1.4s						
SBUM	**Sibu**	**18.58**	**286**		**P**	**15 16 00.9**	**-1.6**
TGY	**Tagaytay City**	**19.11**	**332**	LR	LR	15 23 51.5	
	comp=Z,78nm,21.7s,baz=131,slow=38						
KSM	**Kuching**	**20.19**	**282**	P	**P**	**15 16 20.6**	**+0.3**
AS31	**Alice Springs**	**21.02**	**170**	P	**P**	**15 16 28.9**	**-0.4**
AS31				IAmb	IAmb	15 16 30.9	
	comp=Z,23nm,0.6s						
ASAR	**Alice Springs**	**21.02**	**170**	P	**P**	**15 16 29.7**	**+0.5**
	comp=Z,55nm,0.6s,baz=349,slow=9.9,SNR=676						
ASAR				S	**S**	**15 20 19.4**	**-2.9**
	comp=Z,9.1nm,1.0s,baz=350,slow=20,SNR=10						
ASAR	**Alice Springs**	**21.02**	**170**	P	**P**	**15 16 28.8**	**-0.5**
PSA00	**Pilbara Seismi**	**21.09**	**207**		**P**	**15 16 28.9**	**-1.0**
GUMO	**Guam**	**21.98**	**42**	LR	LR	15 24 44.8	
	comp=Z,74nm,21.5s,baz=233,slow=36						
KRVT	**Keravat (AS076**	**21.98**	**94**	P	**P**	**15 16 41.0**	**+1.4**
	comp=Z,100nm,1.3s,baz=202,slow=6.6,SNR=5.9						
CISI	**Cisompet, Garu**	**22.62**	**257**	P	**P**	**15 16 44.5**	**-1.9**
CTA	**Charters Tower**	**23.32**	**138**	P	**P**	**15 16 54.4**	**+0.8**
	comp=Z,8.5nm,0.7s,baz=312,slow=12,SNR=16						
CTAO	**Charters Tower**	**23.32**	**138**	P	**P**	**15 16 53.4**	**-0.1**
CTAO				IAmb	IAmb	15 17 02.9	
	comp=Z,32nm,0.9s						
MYKOM	**Kota Tinggi**	**26.59**	**280**	P	**P**	**15 17 23.9**	**+0.2**
MYKOM				IAmb	IAmb	15 17 25.9	
	comp=Z,14nm,0.9s						
FORT	**Forrest**	**27.84**	**184**	P	**P**	**15 17 33.6**	**-1.1**
FORT				IAmb	IAmb	15 17 54.7	
	comp=Z,20nm,1.1s						
MORW	**Morawa**	**29.28**	**206**	P	**P**	**15 17 46.1**	**-1.5**
MORW				IAmb	IAmb	15 18 00.4	
	comp=Z,16nm,1.3s						
BBOO	**Buckleboo**	**30.33**	**170**	P	**P**	**15 17 56.5**	**-0.4**
STKA	**Stephens Creek**	**30.85**	**161**	P	**P**	**15 18 02.1**	**+0.6**
	comp=Z,6.0nm,0.4s,baz=345,slow=8.0,SNR=54						
STKA	**Stephens Creek**	**30.85**	**161**	P	**P**	**15 18 01.7**	**+0.3**
RPSI	**Rantau Prapat**	**31.59**	**280**	P	**P**	**15 18 07.8**	**-0.5**
RPSI				IAmb	IAmb	15 18 09.1	
	comp=Z,13nm,0.9s						
GSI	**Gunungsitoli**	**32.72**	**277**	P	**P**	**15 18 16.4**	**-1.8**
GSI				IAmb	IAmb	15 18 17.9	
	comp=Z,13nm,0.8s						
LHMI	**Lhok Sumawe**	**34.02**	**284**	P	**P**	**15 18 29.3**	**-0.2**
CAN	**Canberra**	**36.78**	**154**	P	**P**	**15 18 54.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**37.23**	**306**	P	**P**	**15 18 58.1**	**+1.1**
	comp=Z,4.0nm,0.9s,baz=131,slow=6.8,SNR=38						
CMAR				PcP	**PcP**	**15 21 18.4**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=153,slow=2.0,SNR=5.0						
CMAR				LR	LR	15 35 47.9	
	comp=Z,45nm,21.3s,baz=115,slow=39						
CMAR	**Chiang Mai Arr**	**37.23**	**306**	P	**P**	**15 18 57.4**	**+0.4**
CMAR					**PcP**	**15 21 18.5**	**+1.9**
CHTO	**Chiang Mai**	**37.42**	**306**	P	**P**	**15 18 58.8**	**+0.2**
CHTO				IAmb	IAmb	15 19 00.5	
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**39.93**	**10**	LR	LR	15 35 22.8	
	comp=Z,46nm,20.1s,baz=210,slow=36						
KSRS	**Korea Array**	**40.15**	**357**	LR	LR	15 34 54.2	
	comp=Z,86nm,19.7s,baz=178,slow=35						
USRK	**Ussuriysk Ar.**	**46.87**	**2**	P	**P**	**15 20 15.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=184,slow=11,SNR=4.1						
USRK	**Ussuriysk Ar.**	**46.87**	**2**	P	**P**	**15 20 15.3**	**+0.1**
MDJ	**Mudanjiang**	**47.26**	**360**	P	**P**	**15 20 18.3**	**0.0**
MDJ				IAmb	IAmb	15 20 19.6	
	comp=Z,11nm,1.0s						
GTA	**Gaotai**	**50.41**	**330**	*e*P	**P**	**15 20 42.9**	**+0.1**
GTA				pP	pP	15 20 50.3	-0.1
GTA				sP	sP	15 20 53.8	+0.5
GTA	**Gaotai**	**50.41**	**330**	SS	**SS**	**15 31 27.8**	**-1.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,77nm,7.3s						
GTA				LR	LR		
	comp=N,78nm,17.1s						
GTA				LR	LR		
	comp=E,100nm,15.6s						
GTA				LR	LR		
	comp=Z,82nm,17.1s						
QRZ	**Quartz Range**	**53.76**	**141**	P	**P**	**15 21 10.0**	**+2.5**
ULN	**Ulaanbaatar**	**54.37**	**341**	P	**P**	**15 21 12.5**	**+0.5**
ULN				IAmb	IAmb	15 21 14.1	
	comp=Z,13nm,1.2s						
LBZ	**Lake Benmore**	**54.41**	**145**	P	**P**	**15 21 13.3**	**+1.0**
RPZ	**Rata Peaks**	**54.51**	**144**	P	**P**	**15 21 13.6**	**+0.6**
THZ	**Tophouse**	**54.51**	**141**	P	**P**	**15 21 14.3**	**+1.2**
NNZ	**Nelson**	**54.51**	**141**	P	**P**	**15 21 13.8**	**+0.8**
SONM	**Songino Array**	**54.56**	**341**	P	**P**	**15 21 14.0**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=158,slow=7.4,SNR=9.8						
SONM	**Songino Array**	**54.56**	**341**	P	**P**	**15 21 13.6**	**+0.2**
HYB	**Hyderabad**	**54.62**	**294**	*i* P	**P**	**15 21 13.0**	**-1.2**
TUWZ	**Tuamarina**	**54.99**	**140**	P	**P**	**15 21 17.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**55.10**	**141**	P	**P**	**15 21 17.8**	**+0.6**
KHZ	**Kahutara**	**55.27**	**142**	P	**P**	**15 21 19.2**	**+0.8**
BKZ	**Black Stump Fm**	**55.52**	**137**	P	**P**	**15 21 21.0**	**+0.6**
WMQ	**Urumqi**	**59.99**	**326**	*e*P	**P**	**15 21 54.3**	**+2.6**
PETK	**Petropavlovsk-**	**60.40**	**19**	LR	LR	15 52 54.5	
	comp=Z,22nm,18.0s,baz=177,slow=41						
CASY	**Casey**	**64.78**	**189**	P	**P**	**15 22 22.3**	**-1.0**
CASY				IAmb	IAmb	15 22 31.0	
	comp=Z,11nm,1.5s						
MK31	**Makanchi Array**	**64.82**	**326**	P	**P**	**15 22 24.0**	**0.0**
MK31				IAmb	IAmb	15 22 25.2	
	comp=Z,5.4nm,1.1s						
MKAR	**Makanchi Array**	**64.82**	**326**	P	**P**	**15 22 24.3**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=120,slow=7.8,SNR=20						
MKAR	**Makanchi Array**	**64.82**	**326**	P	**P**	**15 22 24.1**	**+0.1**
MAKZ	**Makanchi**	**65.01**	**326**	P	**P**	**15 22 25.2**	**0.0**
BOOM	**Boomskoye usch**	**66.43**	**319**	P	**P**	**15 22 34.0**	**-0.7**
BOOM				IAmb	IAmb	15 22 36.1	
	comp=Z,4.5nm,1.0s						
ZAA0	**Zalesovo Array**	**67.92**	**333**	P	**P**	**15 22 42.9**	**-0.7**
ZALV	**Zalesovo Beam**	**67.92**	**333**	P	**P**	**15 22 43.4**	**-0.2**
	comp=Z,6.2nm,1.0s,baz=104,slow=6.3,SNR=13						
ZALV	**Zalesovo Beam**	**67.92**	**333**	P	**P**	**15 22 42.8**	**-0.8**
KURK	**Kurchatov**	**69.04**	**328**	P	**P**	**15 22 50.7**	**0.0**
CHGR	**Chuyangaron**	**69.53**	**313**	P	**P**	**15 22 54.1**	**0.0**
CHGR				IAmb	IAmb	15 22 55.5	
	comp=Z,11nm,1.3s						
KK31	**Karatay Array**	**70.29**	**318**	P	**P**	**15 22 58.2**	**-0.4**
KK31				IAmb	IAmb	15 22 59.6	
	comp=Z,7.8nm,1.4s						
KKAR	**Karatay Array**	**70.29**	**318**	P	**P**	**15 22 57.9**	**-0.7**
BRVK	**Borovoye**	**74.68**	**327**	P	**P**	**15 23 24.1**	**-0.4**
BRVK				IAmb	IAmb	15 23 26.5	
	comp=Z,6.7nm,1.1s						
VNDA	**Vanda**	**76.53**	**173**	P	**P**	**15 23 35.4**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=323,slow=6.1,SNR=7.2						
VNDA	**Vanda**	**76.53**	**173**	P	**P**	**15 23 34.8**	**+0.1**
NRIK	**Noril'sk**	**77.58**	**346**	LR	LR	16 06 06.4	
	comp=Z,36nm,18.1s,baz=18,slow=42						
MAW	**Mawson**	**78.81**	**201**	P	**P**	**15 23 48.3**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=84,slow=7.4,SNR=4.0						
MAW	**Mawson**	**78.81**	**201**	P	**P**	**15 23 47.7**	**+0.2**
ABKAR	**Akbulak array**	**79.32**	**321**	P	**P**	**15 23 50.4**	**-0.3**
ABKAR				IAmb	IAmb	15 23 59.8	
	comp=Z,5.3nm,0.8s						
ARU	**Arti**	**82.24**	**328**	P	**P**	**15 24 06.1**	**-0.1**
ARU				IAmb	IAmb	15 24 07.6	
	comp=Z,12nm,1.3s						
TTA	**Tatalina**	**85.27**	**26**	P	**P**	**15 24 22.3**	**+0.7**
QSPA	**South Pole Qui**	**87.09**	**180**	P	**P**	**15 24 30.4**	**-0.3**
QSPA				IAmb	IAmb	15 24 36.6	
	comp=Z,8.4nm,1.3s						
SYO	**Syowa Base**	**87.52**	**201**	*e*P	**P**	**15 24 31.8**	**-0.7**
SYO	**Syowa Base**	**87.52**	**201**	*e*pP	pP	15 24 43.0	+2.4
ILAR	**Eielson Array**	**89.60**	**25**	P	**P**	**15 24 43.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=258,slow=4.4,SNR=4.9						
ARCES	**ARCESS Array B**	**97.73**	**340**	LR	LR	16 13 48.2	
	comp=Z,48nm,19.3s,baz=310,slow=38						
TORD	**Torodi Ar. Bea**	**127.94**	**284**	PKP	**PKPdf**	**15 30 52.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=72,slow=2.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**127.94**	**284**		**PKPdf**	**15 30 50.8**	**-1.2**
CPUP	**Villa Florida**	**150.12**	**167**	PKPbc	**PKiKP**	**15 31 37.1**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=187,slow=2.3,SNR=7.0						

CPUP	**Villa Florida**	**150.12**	**167**		**PKPbc**	**PKiKP**	**15 31 36.7 +0.1**
LPAZ	**La Paz**	**153.84**	**137**	PKPbc			**15 31 47.1 +1.0**
	comp=Z,1.4nm,0.7s,baz=171,slow=2.2,SNR=2.9						

JMA 21 15:18:39.6, 33°08′N×131°07′E, h8km±1km, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.17**	**285**	P		Pg 15 18 43.2	+0.1
JNU				S		Sg 15 18 45.8	+0.3
JNU	**Nakatsue**	**0.17**	**285**	P		Pg 15 18 46.0	+2.9

*IDC **21** 15:22:37.5±7.0, 35°.42N×142°.41E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/29, mbtmp3.1/3, ML1.9/1, Error ellipse: s-maj=172.2km s-min=39.5km az=45.0*
*JMA **21** 15:22:45.6±0.3, 34°.85N×141°.48E, h40km±3km, M2.4*
ISC 21 15:22:46.7±2.1, 34°.8N±0°.2×141°.4E±0°.2, h27km, n8, σ0°.22/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.36**	**247**	P		**Pn**	**15 22 55.6 0.0**
BSO3	**Boso 3**	**0.71**	**271**	P		**Pn**	**15 23 00.8 0.0**
BSO4	**Boso 4**	**0.88**	**283**	P		**Pb**	**15 23 03.1 -0.2**
KTR	**Katsuura**	**0.94**	**292**	S		**Sn**	**15 23 16.9 +0.2**
JKUC	**kamogawauchiur**	**1.03**	**291**	P		**Pb**	**15 23 05.6 -0.4**
JKUC				S		**Sb**	**15 23 19.4 +0.2**
MJAR	**Matsushiro Arr**	**3.12**	**305**	Pn		**Pn**	**15 23 34.2 +0.1**
	0.1nm,0.3s,baz=102,slow=14,SNR=8.5						
WRA	**Warramunga Arr**	**54.84**	**188**	P		**P**	**15 32 14.7 0.0**
	0.2nm,0.5s,baz=5.4,slow=7.5,SNR=6.8						
ASAR	**Alice Springs**	**58.57**	**188**	P		**P**	**15 32 41.2 +0.2**
	0.2nm,0.8s,baz=2.6,slow=7.4,SNR=1.4						

*IDC **21** 15:44:29.4±0.7, 15°.17S×173°.46W, h0km, mb4.5/11, mb1 4.7/11, mb1mx4.4/38, mbtmp4.5/11, MS3.7/23, Ms1 3.7/23, ms1mx3.6/34, Error ellipse: s-maj=30.4km s-min=16.6km az=130.0*
*NEIC **21** 15:44:30.3±2.6, 15°.21S±0°.08×173°.2W±0°.1, h10km±1km, mb4.8/48, Error ellipse: s-maj=20.2km s-min=11.7km az=110.0*
ISC 21 15:44:30.6±0.4, 15°.29S±0°.06×173°.3W±0°.1, h10km, n131, σ1s71/111, mb4.8/29, MS3.8/25, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.00**	**47**	Pn		**Pn**	**15 45 02.2 -2.4**
NIUE	**Niue**	**4.95**	**140**	Pn		**Pn**	**15 45 44.5 -0.7**
KNTN	**Kanton**	**12.53**	**7**	Pn		**Pn**	**15 45 47.7 -1.4**
RAR	**Rarotonga**	**14.12**	**117**	LR		LR	15 52 36.0
	comp=Z,50nm,19.8s,baz=282,slow=34						
DZM	**Mont Dzumac**	**20.34**	**248**	*e*P		Pn	15 49 13.0 +3.6
	92nm,1.2s						
DZM				*e*LR		LR	15 54 02.0
	comp=Z,577nm,27.2s						
DZM	**Mont Dzumac**	**20.34**	**248**	P		Pn	15 49 10.1 +0.7
	7.7nm,0.8s,baz=63,slow=18,SNR=2.7						
DZM				LR		LR	15 55 20.3
	comp=Z,192nm,20.8s,baz=62,slow=32						
DZM	**Mont Dzumac**	**20.34**	**248**	P		Pn	15 49 10.4 +1.0
DZM				IAmb		IAmb	15 49 16.4
	comp=Z,31nm,1.0s						
PPT2	**Papeete2**	**22.86**	**99**	*e*LR		LR	15 55 09.5
	comp=Z,90nm,23.5s						
OUZ	**Omahuta**	**23.08**	**208**	P		**P**	**15 49 36.5 0.0**
OUZ	**Omahuta**	**23.08**	**208**	P		**P**	**15 49 37.8 +1.3**
OUZ				IAmb		IAmb	15 49 40.9
	comp=Z,22nm,0.8s						
WCZ	**Waipu Caves**	**23.35**	**206**	P		**P**	**15 49 42.1 +2.8**
MXZ	**Matakaoa Point**	**23.40**	**197**	P		**P**	**15 49 39.9 +0.2**
MXZ	**Matakaoa Point**	**23.40**	**197**	P		**P**	**15 49 41.2 +1.4**
KUZ	**Kuaotunu**	**23.50**	**203**	P		**P**	**15 49 43.8 +3.0**
WMGZ	**Waiomatatini S**	**23.61**	**197**	P		**P**	**15 49 45.2 +3.3**
HAZ	**Te Kaha**	**23.74**	**198**	P		**P**	**15 49 43.5 +0.5**
WIAZ	**Waiheke Island**	**23.77**	**204**	P		**P**	**15 49 45.4 +2.0**
TBI	**Tubuai**	**23.85**	**113**	*e*LR		LR	15 55 35.6
	comp=Z,176nm,25.0s						
PUZ	**Puketiti**	**23.89**	**197**	P		**P**	**15 49 46.5 +1.9**
RUGZ	**Raukumara Rang**	**23.96**	**198**	P		**P**	**15 49 47.2 +1.9**
TWGZ	**Tauwhareparae**	**24.07**	**197**	P		**P**	**15 49 47.0 +0.7**
TWGZ				S		**S**	**15 53 59.8 -3.9**
CNGZ	**Carnagh Statio**	**24.29**	**196**	P		**P**	**15 49 50.6 +2.3**
CNGZ				S		**S**	**15 53 57.2 -10**
MWZ	**Matawai**	**24.35**	**198**	P		**P**	**15 49 50.3 +1.5**
MWZ				S		**S**	**15 54 08.9 +0.7**
URZ	**Urewera**	**24.40**	**199**	P		**P**	**15 49 50.0 +0.7**
	comp=Z,31nm,0.6s,baz=3.8,slow=2.9,SNR=33						
URZ				LR		LR	15 58 10.4
	comp=Z,292nm,21.0s,baz=31,slow=34						
URZ	**Urewera**	**24.40**	**199**	P		**P**	**15 49 50.1 +0.9**
URZ				S		**S**	**15 54 09.7 +0.8**
URZ	**Urewera**	**24.40**	**199**	P		**P**	**15 49 48.4 -0.9**
URZ				IAmb		IAmb	15 49 51.8
	comp=Z,29nm,0.6s						
KMRZ	**Kaimai**	**24.41**	**201**	P		**P**	**15 49 52.5 +3.1**
TOZ	**Tahuroa Road**	**24.46**	**202**	P		**P**	**15 49 52.5 +2.7**
RAGZ	**Rawiri**	**24.53**	**198**	P		**P**	**15 49 52.7 +2.2**
RIGZ	**Rimuhau**	**24.62**	**197**	P		**P**	**15 49 53.5 +2.2**
RIGZ				S		**S**	**15 54 12.0 -0.6**
TLZ	**Tolley Road**	**24.98**	**201**	P		**P**	**15 49 58.6 +4.0**
HIZ	**Hauiti**	**25.39**	**202**	P		**P**	**15 50 00.1 +2.0**
BKZ	**Black Stump Fm**	**25.43**	**199**	P		**P**	**15 49 57.1 -1.5**
BKZ				IAmb		IAmb	15 50 13.8
	comp=Z,34nm,1.4s						
HNR	**Honiara**	**26.77**	**279**	LR		LR	15 57 52.2
	comp=Z,37nm,21.8s,baz=94,slow=30						
BFZ	**Birch Farm**	**26.89**	**198**	P		**P**	**15 50 11.9 +0.1**
MSWZ	**Moikau Station**	**27.86**	**199**	P		**P**	**15 50 22.4 +1.9**
SNZO	**South Karori**	**27.94**	**200**	P		**P**	**15 50 22.8 +1.6**
BHW	**Baring Head**	**27.98**	**199**	P		**P**	**15 50 23.8 +2.3**
PLWZ	**Palliser**	**28.00**	**199**	P		**P**	**15 50 21.6 -0.2**
QRZ	**Quartz Range**	**28.28**	**203**	P		**P**	**15 50 24.4 +0.2**
TUWZ	**Tuamarina**	**28.30**	**201**	P		**P**	**15 50 24.0 -0.4**
NNZ	**Nelson**	**28.31**	**202**	P		**P**	**15 50 24.6 +0.2**
BSWZ	**Blackbirch Sta**	**28.58**	**200**	P		**P**	**15 50 25.5 -1.3**
THZ	**Tophouse**	**28.95**	**202**	P		**P**	**15 50 30.1 -0.2**
THZ				IAmb		IAmb	15 50 34.0
	comp=Z,39nm,1.3s						
KHZ	**Kahutara**	**29.32**	**200**	P		**P**	**15 50 32.5 -0.9**
KHZ				IAmb		IAmb	15 50 40.8
	comp=Z,17nm,1.1s						
LTZ	**Lake Taylor**	**30.07**	**201**	P		**P**	**15 50 38.0 -2.2**
LTZ				IAmb		IAmb	15 50 44.5
	comp=Z,21nm,0.9s						
MQZ	**McQueen's Vall**	**30.76**	**200**	P		**P**	**15 50 47.8 +1.7**
RPZ	**Rata Peaks**	**31.32**	**202**	P		**P**	**15 50 51.9 +0.7**
	comp=Z,7.8nm,0.6s,baz=284,slow=3.7,SNR=6.6						
RPZ	**Rata Peaks**	**31.32**	**202**	P		**P**	**15 50 49.5 -1.7**
RPZ				IAmb		IAmb	15 51 08.9
	comp=Z,18nm,1.0s						
FOZ	**Fox Glacier**	**31.63**	**204**	P		**P**	**15 50 52.0 -1.9**
WKZ	**Wanaka**	**33.03**	**203**	P		**P**	**15 51 04.9 -1.3**
MLZ	**Mavora Lakes**	**33.83**	**204**	P		**P**	**15 51 12.2 -1.0**
DCZ	**Deep Cove**	**34.30**	**205**	P		**P**	**15 51 17.5 +0.4**
WHZ	**Wether Hill Ro**	**34.34**	**203**	P		**P**	**15 51 17.6 0.0**
ARMA	**Armidale**	**35.49**	**239**	P		**P**	**15 51 26.8 -1.0**
ARMA				IAmb		IAmb	15 51 46.5
	comp=Z,27nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**38.92**	**329**	T		T	16 33 28.6
	baz=149						
H11S3	**WAKE ISLAND Hy**	**38.94**	**329**	T		T	16 33 28.6
	baz=149,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hy**	**38.94**	**329**	T		T	16 33 29.2
	baz=149,slow=74,SNR=27						
CAN	**Canberra**	**39.18**	**232**	P		**P**	**15 51 59.0 0.0**
CAN				IAmb		IAmb	15 52 03.0
	comp=Z,31nm,1.3s						
H11N3	**WAKE ISLAND Hy**	**39.87**	**330**	T		T	16 34 51.0
	baz=150,slow=76,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**39.87**	**330**	T		T	16 34 51.6
	baz=150,slow=76,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**39.88**	**330**	T		T	16 34 52.5
	baz=150,slow=76,SNR=8.0						
TOO	**Toolangi**	**42.62**	**231**	P		**P**	**15 52 27.8 +0.5**
STKA	**Stephens Creek**	**44.19**	**240**	P		**P**	**15 52 39.5 -0.5**
	comp=Z,7.6nm,0.7s,baz=60,slow=7.1,SNR=14						
STKA				LR		LR	16 08 43.9
	comp=Z,75nm,21.3s,baz=26,slow=33						
STKA	**Stephens Creek**	**44.19**	**240**	IAmb		IAmb	15 52 42.0
	comp=Z,1.9nm,0.8s						

BBOO	**Buckleboo**	**48.96**	**240**	P		**P**	**15 53 16.5 -1.0**
WR0	**Warramunga Arr**	**49.78**	**257**	P		**P**	**15 53 23.5 -0.5**
WB0	**Warramunga Arr**	**49.93**	**257**	P		**P**	**15 53 24.0 -1.1**
WB2	**Warramunga Arr**	**49.96**	**257**	P		**P**	**15 53 24.4 -1.0**
WRAB	**Tennant Creek**	**49.96**	**257**	P		**P**	**15 53 23.8 -1.5**
WRAB				IAmb		IAmb	15 53 39.6
	comp=Z,9.7nm,1.2s						
WRA	**Warramunga Arr**	**49.97**	**257**	P		**P**	**15 53 24.1 -1.3**
	comp=Z,3.7nm,0.7s,baz=92,slow=7.1,SNR=84						
WRA	**Warramunga Arr**	**49.97**	**257**	P		**P**	**15 53 24.2 -1.3**
AS31	**Alice Springs**	**50.25**	**252**	P		**P**	**15 53 26.4 -1.0**
ASAR	**Alice Springs**	**50.25**	**252**	P		**P**	**15 53 26.4 -1.1**
	comp=Z,11nm,0.8s,baz=90,slow=7.7,SNR=129						
ASAR				LR		LR	16 13 00.8
	comp=Z,138nm,21.7s,baz=89,slow=34						
ASAR	**Alice Springs**	**50.25**	**252**	P		**P**	**15 53 25.6 -1.9**
FORT	**Forrest**	**55.56**	**243**	P		**P**	**15 54 05.2 -1.3**
JCJ	**Chichijima**	**60.35**	**314**	LR		LR	16 15 11.1
	comp=Z,46nm,19.7s,baz=96,slow=31						
VNDA	**Vanda**	**63.50**	**186**	P		**P**	**15 55 01.9 +1.4**
	comp=Z,5.4nm,1.0s,baz=5.1,slow=6.8,SNR=14						
VNDA				LR		LR	16 16 28.2
	comp=Z,26nm,22.0s,baz=324,slow=30						
VNDA	**Vanda**	**63.50**	**186**	P		**P**	**15 55 00.4 -0.2**
VNDA				IAmb		IAmb	15 55 03.7
	comp=Z,7.7nm,1.1s						
MJAR	**Matsushiro Arr**	**68.92**	**320**	LR		LR	16 20 13.5
	comp=Z,42nm,22.0s,baz=70,slow=31						
CASY	**Casey**	**70.55**	**205**	P		**P**	**15 55 45.1 -0.5**
CASY				IAmb		IAmb	15 55 46.7
	comp=Z,8.1nm,1.0s						
PETK	**Petropavlovsk-**	**72.56**	**342**	LR		LR	16 23 32.9
	comp=Z,23nm,21.1s,baz=136,slow=32						
NVAR	**Mina Array Bea**	**74.17**	**42**	P		**P**	**15 56 08.4 +0.4**
	comp=Z,1.1nm,0.8s,baz=232,slow=9.9,SNR=6.6						
NVAR				LR		LR	16 20 28.5
	comp=Z,162nm,21.0s,baz=268,slow=29						
QSPA	**South Pole Qui**	**74.76**	**180**	P		**P**	**15 56 11.8 +1.0**
MOD	**Modoc Plateau**	**74.97**	**38**			**P**	**15 56 13.0 +0.6**
MOD				IAmb		IAmb	15 56 13.9
	comp=Z,7.9nm,0.9s						
KSRS	**Korea Array**	**76.15**	**315**	LR		LR	16 24 20.7
	comp=Z,41nm,19.5s,baz=34,slow=32						
TUC	**Tucson**	**76.24**	**51**			**P**	**15 56 20.4 +0.7**
TUC				IAmb		IAmb	15 56 21.5
	comp=Z,4.9nm,0.9s						
I07A	**Izee**	**76.75**	**37**	P		**P**	**15 56 23.1 +0.7**
I07A				IAmb		IAmb	15 56 24.2
	comp=Z,14nm,1.3s						
USRK	**Ussuriysk Ar.**	**77.36**	**323**	LR		LR	16 24 02.5
	comp=Z,50nm,20.6s,baz=104,slow=31						
G08A	**Pilot Rock**	**77.78**	**36**	pP		**P**	**15 56 28.6 +0.4**
MVU	**Marysvale**	**78.24**	**45**	P		**P**	**15 56 32.2 +1.1**
MSU	**Marysvale**	**78.27**	**45**	P		**P**	**15 56 32.1 +0.8**
E08A	**Dider Farm, El**	**78.44**	**35**	P		**P**	**15 56 32.4 +0.7**
E08A				IAmb		IAmb	15 56 33.2
	comp=Z,11nm,1.1s						
MFID	**Camas Ranch**	**78.53**	**39**			**P**	**15 56 31.7 -0.8**
MFID				IAmb		IAmb	15 56 33.8
	comp=Z,5.3nm,0.9s						
TMUT	**Trail Mountain**	**79.32**	**44**	P		**P**	**15 56 37.7 +0.6**
PLID	**Pearl Lake**	**79.37**	**37**	P		**P**	**15 56 37.0 -0.1**
B08A	**Colville Reser**	**79.43**	**33**	P		**P**	**15 56 36.6 -0.5**
HLID	**Hailey**	**79.47**	**39**			**P**	**15 56 37.0 -0.6**
HLID				IAmb		IAmb	15 56 39.4
	comp=Z,7.0nm,0.8s						
YAH	**Yahtse**	**79.55**	**15**	P		**P**	**15 56 38.5 +0.8**
SRU	**San Rafael Swe**	**79.69**	**45**	P		**P**	**15 56 38.0 -1.0**
NJ2	**Nanjing**	**80.18**	**307**	*e*P		**P**	**15 56 42.8 +1.3**
NJ2				pmax		pmax	
	comp=Z,9.0nm,0.5s						
TXAR	**Lajitas Array**	**80.46**	**56**	P		**P**	**15 56 44.0 +0.8**
	comp=Z,1.8nm,1.0s,baz=202,slow=6.3,SNR=8.3						
TXAR				LR		LR	16 24 47.3
	comp=Z,57nm,20.7s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**80.46**	**56**			**P**	**15 56 42.8 -0.4**
MCMT	**McKenzie Canyo**	**81.10**	**39**	P		**P**	**15 56 46.5 0.0**
S22A	**4UR Ranch, Cre**	**81.61**	**47**	pP		**P**	**15 56 50.3 +0.8**
PDAR	**Pinedale Array**	**82.11**	**42**	P		**P**	**15 56 52.0 +0.1**
	comp=Z,1.8nm,0.8s,baz=217,slow=3.7,SNR=13						
PDAR				LR		LR	16 26 56.7
	comp=Z,79nm,20.3s,baz=256,slow=31						
PDAR	**Pinedale Array**	**82.11**	**42**			**P**	**15 56 51.5 -0.3**
ILAR	**Eielson Array**	**82.31**	**11**	LR		LR	16 26 26.4
	comp=Z,56nm,20.4s,baz=200,slow=31						
MAW	**Mawson**	**87.93**	**199**	P		**P**	**15 57 21.0 +0.6**
	comp=Z,7.2nm,1.0s,baz=104,slow=4.9,SNR=9.9						
MAW				LR		LR	16 33 57.5
	comp=Z,50nm,21.7s,baz=61,slow=34						
MAW	**Mawson**	**87.93**	**199**	IAmb		IAmb	15 57 22.2
	comp=Z,3.9nm,1.4s						
HHC	**Hu-ho-hao-te**	**89.03**	**313**	*e*P		**P**	**15 57 26.0 -0.2**
HHC				pmax		pmax	
	comp=Z,21nm,0.9s						
HHC				pmax		pmax	
	comp=Z,120nm,5.7s						
PLCA	**Paso Flores**	**89.51**	**132**	LR		LR	16 27 30.5
	comp=Z,31nm,21.3s,baz=335,slow=29						
YKA	**Yellowknife Ar**	**89.95**	**23**	LR		LR	16 30 21.9
	comp=Z,73nm,21.5s,baz=0.0,slow=31						
CMAR	**Chiang Mai Arr**	**92.68**	**288**	P		**P**	**15 57 44.1 +0.5**
	comp=Z,0.6nm,0.9s,baz=101,slow=3.0,SNR=5.0						
CMAR				LR		LR	16 34 46.2
	comp=Z,10nm,21.2s,baz=55,slow=33						
SYO	**Syowa Base**	**92.73**	**191**	*e*P		**P**	**15 57 41.2 -1.6**
SYO	**Syowa Base**	**92.73**	**191**	*e*pP		**P**	**15 57 45.8 +3.0**
VNA3	**Neumayer Olymp**	**92.96**	**175**	P		**P**	**15 57 44.6 +0.7**
SNAA	**Sanae**	**93.01**	**177**	P		**P**	**15 57 44.5 +0.4**
LZH	**Lanzhou**	**93.24**	**306**	*e*P		**P**	**15 57 45.6 -0.4**
LZH				pP		sP	15 57 49.0 -0.5
LZH				sP		pwP	15 57 50.3 -1.1
LZH				*e*PP		**PP**	**16 01 32.8 +3.0**
LZH				pmax		pmax	
	comp=Z,19nm,1.4s						
LZH				pmax		pmax	
	comp=Z,83nm,6.2s						
LZH				LR		LR	
	comp=N,140nm,17.0s						
LZH				LR		LR	
	comp=E,160nm,16.7s						
LZH				LR		LR	
	comp=Z,230nm,19.5s						
VNA2	**Neumayer--Watz**	**93.45**	**175**	P		**P**	**15 57 46.7 +0.5**
VNA1	**Neumayer--Stat**	**93.65**	**175**	P		**P**	**15 57 47.5 +0.5**
ULM	**Lac du Bonnet**	**93.78**	**39**	LR		LR	16 32 59.4
	comp=Z,112nm,19.3s,baz=4.5,slow=31						
SONM	**Songino Array**	**94.83**	**318**	LR		LR	16 34 45.4
	comp=Z,51nm,20.8s,baz=52,slow=32						
TKL	**Tuckaleechee C**	**98.36**	**55**	LR		LR	16 40 33.1
	comp=Z,40nm,18.1s,baz=180,slow=34						
AKASG	**Malin Array Be**	**140.28**	**338**	PKP		**PKPdf**	**16 03 59.4 -0.4**
	comp=Z,0.2nm,0.3s,baz=33,slow=2.2,SNR=1.8						
CLL	**Collm**	**143.72**	**353**	*e*PKPdf		**PKPdf**	**16 04 07.0 +1.1**
DPC	**Dobruska-Polom**	**144.17**	**349**	*e*PKP		**PKiKP**	**16 04 12.1 +1.7**
KHC	**Kasperske Hory**	**145.78**	**352**	*e*PKP		**PKPab**	**16 04 10.6 +0.1**
KHC				*ex*		x	16 04 23.6
GERES	**GERESS Array B**	**146.05**	**352**	PKPbc		**PKPdf**	**16 04 09.8 -0.4**
	comp=Z,0.8nm,0.7s,baz=23,slow=4.4,SNR=8.0						
BRTR	**Keskin Array B**	**146.14**	**321**	PKPbc		**PKPbc**	**16 04 11.7 0.0**
	comp=Z,5.2nm,0.9s,baz=132,slow=1.8,SNR=14						
BRTR	**Keskin Array B**	**146.14**	**321**			**PKPab**	**16 04 12.1 -0.1**

*IDC **21** 15:49:41.0±1.5, 7°.25S×155°.28E, h104km±21km, mb3.2/3, mb1 3.5/6, mb1mx3.2/36, mbtmp3.7/6, Error ellipse: s-maj=34.3km s-min=12.4km az=33.0*
ISC 21 15:49:40.9±1.0, 7°.2S±0°.1×155°.29E±0°.09, h100km, n6, σ0s88/8, mb3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.35**	**312**	P		**Pn**	**15 50 44.2 -0.7**
	1.0nm,0.3s,baz=178,slow=21,SNR=1.6						
KRVT				S		**Sn**	**15 51 36.0 +1.5**
	2.9nm,0.3s,baz=201,slow=22,SNR=2.2						
HNR	**Honiara**	**5.11**	**116**	P		**Pn**	**15 50 55.1 0.0**
	3.4nm,0.3s,baz=263,slow=17,SNR=1.3						
HNR				S		**Sn**	**15 51 53.6 +0.7**
	2.3nm,0.3s,baz=250,slow=20,SNR=1.1						
PMG	**Port Moresby**	**8.33**	**254**	P		**Pn**	**15 51 39.2 +0.2**
	1.2nm,0.3s,baz=135,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**23.93**	**236**	P		**P**	**15 54 45.7 -0.3**
	0.7nm,0.5s,baz=59,slow=9.2,SNR=3.9						
ASAR	**Alice Springs**	**26.25**	**229**	P		**P**	**15 55 06.1 -0.8**
	0.4nm,0.7s,baz=64,slow=9.6,SNR=0.7						
CMAR	**Chiang Mai Arr**	**61.14**	**296**	P		**P**	**15 59 45.1 -0.2**
	0.7nm,0.6s,baz=104,slow=5.4,SNR=7.2						

*MEX **21** 15:52:10.4±0.4, 14°.53N×92°.94W, h53km±18km, MD4.0*
*GCG **21** 15:52:25.7±0.3, 14°.65N×91°.72W, h32km±999km, MD4.3*
ISC 21 15:52:08.4±3.0, 14°.5N±0°.1×93°.0W±0°.1, h51km, n8, σ1s64/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.87**	**60**	*e*P		**Pn**	**15 52 23.5 -0.9**
THIG				*i* S		**Sn**	**15 52 33.6 -2.5**
PCIG		**1.24**	**352**	*e*P		**Pn**	**15 52 29.3 0.0**
PCIG				*e*S		**Sn**	**15 52 43.2 -1.8**
ERG	**Entre ros, C**	**1.43**	**91**	*e*P		**Pn**	**15 52 32.7 +0.8**
CCIG	**Comitan**	**2.00**	**26**	*e*P		**Pn**	**15 52 41.9 +1.9**
CCIG				*e*S		**Sn**	**15 53 05.6 +1.7**
FUG	**Fuego 3**	**2.13**	**90**	*e*P		**Pn**	**15 52 42.2 +0.5**
PCG	**Pacaya**	**2.36**	**92**	*e*P		**Pn**	**15 52 45.8 +0.9**
NBG	**Las Nubes**	**2.61**	**87**	*e*P		Pn	15 52 52.3 +4.0
MRL	**Marmol**	**3.30**	**79**	*e*P		**Pn**	**15 52 58.3 +0.5**

IDC 21 16:02:44.0±1.2, 11°.16N×144°.28E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/40, mbtmp3.4/5, ML3.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/28, Error ellipse: s-maj=64.9km s-min=19.1km az=103.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.48**	**13**	Pn		Pn	16 03 25.9 +0.1
	3.0nm,0.3s,baz=156,slow=20,SNR=6.4						
GUMO				Sn		Sb	16 03 59.3 -1.4
	8.8nm,0.3s,baz=197,slow=19,SNR=1.8						
GUMO				LR		LR	16 04 40.6
	comp=Z,78nm,18.1s,baz=194,slow=47						
WRA	**Warramunga Arr**	**32.42**	**198**	P		P	16 09 16.0 0.0
	0.4nm,0.6s,baz=20,slow=9.7						
ASAR	**Alice Springs**	**36.07**	**196**	P		P	16 09 47.7 +0.1
	0.3nm,0.6s,baz=20,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**62.84**	**317**	P		P	16 13 11.9 0.0
	0.3nm,0.7s,baz=119,slow=5.1,SNR=2.6						
ILAR	**Eielson Array**	**71.00**	**25**	P		P	16 14 03.1 -0.3
	0.3nm,0.4s,baz=246,slow=6.2,SNR=5.0						

*KLM **21** 16:08:10.0, 2°.63N×128°.61E, h188km, mb4.8*
*NEIC **21** 16:08:12.0±1.6, 2°.51N±0°.06×128°.34E±0°.07, h205km±5km, mb4.7/76, Error ellipse: s-maj=9.9km s-min=8.7km az=74.0*
*IDC **21** 16:08:12.3±1.0, 2°.47N×128°.41E, h207km±9km, mb4.2/20, mb1 4.3/24, mb1mx4.1/37, mbtmp4.7/24, Error ellipse: s-maj=13.3km s-min=7.0km az=73.0*
*DJA **21** 16:08:12.6±0.3, 2°.N±3′×12°.8E±°, h186km±3km, M4.4/26, mb4.7/26, mB4.8/14, MLv4.8/16, Mw(mB)4.1/14*
ISC 21 16:08:11.5±0.7, 2°.49N±0°.04×128°.35E±0°.05, h198km±6km, n191, σ1s108/198, mb4.7/52, 2C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.97**	**210**	P		**Pn**	**16 08 50.2 +0.6**
TNTI				S		**Sn**	**16 09 18.6 -0.7**
TNTI	**Ternate**	**1.97**	**210**	Pn		**Pn**	**16 08 50.1 +0.6**
SGSI	**Sangihe**	**3.06**	**293**	P		**Pn**	**16 09 01.5 -0.2**
SGSI				S		**Sn**	**16 09 39.2 -1.8**
SIJI	**Sorong**	**4.43**	**139**	P		**Pn**	**16 09 20.3 +1.7**
	7.8nm,0.3s,baz=332,slow=19,SNR=24						
SIJI				S		**Sn**	**16 10 12.4 +1.0**
	baz=205,slow=19,SNR=6.9						
DDMP	**Don Marcelino,**	**4.45**	**324**	*e*P		**Pn**	**16 09 17.9 -1.0**
KMSI	**Cibinong**	**4.77**	**247**	P		**Pn**	**16 09 22.6 -0.3**
MATI	**Mati**	**4.89**	**335**	*e*P		**Pn**	**16 09 21.8 -2.7**
SANI	**Sanana**	**5.09**	**208**	P		**Pn**	**16 09 25.5 -1.5**
	2.8nm11μm941nm,0.8s						
DAV	**Davao City (W)**	**5.32**	**329**	P		**Pn**	**16 09 30.9 +0.9**
	96nm,0.3s,baz=92,slow=2.6,SNR=10						
DAV	**Davao City (W)**	**5.32**	**329**	Pn		**Pn**	**16 09 29.9 -0.1**
SKMP	**Bagumbayan, Su**	**5.52**	**317**	*e*P		**Pn**	**16 09 30.9 -1.7**
KCP	**Kidapawan**	**5.54**	**324**	*e*P		**Pn**	**16 09 33.2 +0.3**
GTOI	**Gorontalo**	**5.65**	**251**	P		**Pn**	**16 09

PWJI	Pagerwojo	19.53	238	P	P	16 12 23.8	-0.3	
FITZ	Fitzroy Crossi	20.63	187	P	P	16 12 35.0	-0.8	
	comp=Z,13nm,0.4s,baz=19,slow=8.2,SNR=88							
FITZ	Fitzroy Crossi	20.63	187	P	P	16 12 34.6	-1.2	
FITZ				IAmb	IAmb	16 12 37.0		
	comp=Z,15nm,0.5s							
TWG	Pinlang	21.41	341	P	P	16 12 41.8	-2.2	
TWG				IAmb	IAmb	16 12 44.3		
	comp=Z,14nm,0.5s							
DLV	T Lat	21.81	296	P	P	16 12 48.2	-0.2	
YULB	Yu-li	21.87	342	P	P	16 12 46.8	-1.9	
YULB				IAmb	IAmb	16 12 49.7		
	comp=Z,28nm,1.5s							
COEN	Coen	21.98	138	P	P	16 12 49.0	-0.7	
TPUB	Ta-pu	22.00	341	P	P	16 12 48.3	-1.7	
TPUB				IAmb	IAmb	16 12 53.4		
	comp=Z,16nm,0.4s							
SSLB	Suanglung	22.35	342	P	P	16 12 52.1	-1.1	
LEM	Lembang	22.67	246	P	P	16 12 56.8	+0.4	
	comp=Z,47nm,0.7s,baz=16,slow=11,SNR=11							
CISI	Cisompet, Garu	22.79	244	P	P	16 12 57.6	+0.2	
WRAB	Tennant Creek	23.05	165	P	P	16 12 58.8	-0.7	
WRA	Warramunga Arr	23.05	165	P	P	16 12 59.2	-0.4	
	comp=Z,68nm,0.6s,baz=345,slow=10,SNR=412							
WRA				S	S	16 16 54.5	-1.0	
	comp=Z,1.6nm,1.1s,baz=341,slow=19,SNR=2.4							
YHNB	Yeheng	23.06	344	P	P	16 12 59.2	-0.4	
YHNB				IAmb	IAmb	16 13 01.7		
	comp=Z,14nm,0.5s							
JMZ	Minamidaito 2	23.36	7	P	P	16 13 01.9	-0.4	
MYKOM	Kota Tinggi	24.50	269	P	P	16 13 13.3	+0.6	
MYKOM				IAmb	IAmb	16 13 17.1		
	comp=Z,29nm,1.1s							
MYKOM	Kota Tinggi	24.50	269	P	P	16 13 15.0	+2.2	
PSA00	Pilbara Seismi	25.32	199	P	P	16 13 19.3	-0.8	
PSA00	Pilbara Seismi	25.32	199	P	P	16 13 17.6	-2.5	
PSA00				IAmb	IAmb	16 13 31.7		
	comp=Z,4.5nm,0.8s							
UBPT	Khong Chiam	25.89	301	P	P	16 13 24.7	-0.6	
AS31	Alice Springs	26.55	169	P	P	16 13 29.8	-1.4	
AS31				IAmb	IAmb	16 13 56.2		
	comp=Z,5.0nm,0.5s							
ASAR	Alice Springs	26.55	169	P	P	16 13 30.9	-0.4	
	comp=Z,6.8nm,0.6s,baz=352,slow=7.7,SNR=268							
ASAR				ScP	ScP	16 20 10.5	-1.4	
	comp=Z,1.1nm,0.8s,baz=3.2,slow=3.7,SNR=6.1							
ASAR	Alice Springs	26.55	169	P	P	16 13 30.3	-0.9	
IPM	Ipoh	27.35	275	P	P	16 13 38.1	-0.3	
IPM				IAmb	IAmb	16 13 40.1		
	comp=Z,11nm,0.8s							
IPM	Ipoh	27.35	275	P	P	16 13 39.0	+0.6	
BKNI	Bangkinang	27.39	266	P	P	16 13 39.4	+0.6	
KULM	Kulim	27.78	277	P	P	16 13 42.6	+0.4	
KULM				IAmb	IAmb	16 13 43.8		
	comp=Z,10nm,0.8s							
KULM	Kulim	27.78	277	P	P	16 13 43.0	+0.8	
CTAO	Charters Tower	28.50	143	P	P	16 13 48.6	+0.1	
CTAO				IAmb	IAmb	16 13 55.2		
	comp=Z,26nm,1.3s							
GIRL	Giralia	28.53	208	P	P	16 13 49.2	+0.5	
PSI	Prapat	29.40	271	P	P	16 13 57.3	+0.5	
	comp=Z,19nm,0.7s,baz=210,slow=6.7,SNR=6.0							
RPSI	Rantau Prapat	29.40	271	P	P	16 13 56.6	0.0	
RPSI	Rantau Prapat	29.40	271	P	P	16 13 57.3	+0.7	
SLVN	Son La	30.29	310	P	P	16 14 05.0	+0.7	
GSI	Gunungsitoli	30.78	268	P	P	16 14 08.5	-0.3	
LHMI	Lhok Sumawe	31.45	276	P	P	16 14 15.2	+0.5	
GYA	Guiyang	31.64	321	*eP*	P	16 14 18.3	+2.0	
GYA				pmax	pmax			
	comp=Z,11nm,1.0s							
CM31	Chiang Mai Arr	32.90	301	P	P	16 14 28.5	+1.3	
CM31				IAmb	IAmb	16 14 29.8		
	comp=Z,16nm,0.8s							
CMAR	Chiang Mai Arr	32.90	301	P	P	16 14 28.4	+1.3	
	comp=Z,11nm,0.8s,baz=116,slow=7.1,SNR=108							
CMAR				PcP	PcP	16 17 08.1	+1.1	
	comp=Z,0.9nm,0.8s,baz=177,slow=1.8,SNR=6.2							
CMAR				ScP	ScP	16 20 32.7	+0.2	
	comp=Z,1.6nm,1.0s,baz=154,slow=2.2,SNR=9.0							
CMAR	Chiang Mai Arr	32.90	301	P	P	16 14 28.1	+1.0	
CMAR					PcP	16 17 07.8	+0.7	
ENH	Enshi	32.91	329	P	P	16 14 27.1	-0.1	
ENH				IAmb	IAmb	16 14 29.1		
	comp=Z,10nm,0.7s							
CHTO	Chiang Mai	33.05	301	P	P	16 14 29.2	+0.7	
CHTO				IAmb	IAmb	16 14 30.9		
	comp=Z,21nm,0.8s							
FORT	Forrest	33.09	180	P	P	16 14 27.9	-0.7	
FORT				IAmb	IAmb	16 14 28.4		
	comp=Z,15nm,0.6s							
JWT	Wachi	33.28	11	P	P	16 14 30.4	+0.2	
MORW	Morawa	33.53	200	P	P	16 14 31.4	-1.0	
MORW				IAmb	IAmb	16 14 38.4		
	comp=Z,20nm,1.4s							
KSRS	Korea Array	34.80	359	P	P	16 14 43.7	+0.5	
	comp=Z,1.0nm,0.5s,baz=177,slow=10.0,SNR=6.5							
MJAR	Matsushiro Arr	35.09	14	P	P	16 14 45.7	-0.1	
	comp=Z,2.0nm,0.6s,baz=197,slow=10,SNR=5.5							
MJAR	Matsushiro Arr	35.09	14	P	P	16 14 44.8	-1.0	
EIDS	Eidsvold	35.39	143	P	P	16 14 47.8	-0.7	
EIDS				IAmb	IAmb	16 14 57.2		
	comp=Z,22nm,1.3s							
BBOO	Buckleboo	35.86	169	P	P	16 14 52.1	-0.3	
XAN	Xi'an	36.25	332	P	P	16 14 56.3	+0.5	
XAN				pmax	pmax			
	comp=Z,16nm,0.8s							
XAN	Xi'an	36.25	332	P	P	16 14 55.6	-0.2	
XAN				IAmb	IAmb	16 14 56.6		
	comp=Z,10nm,0.5s							
STKA	Stephens Creek	36.42	161	P	P	16 14 57.0	-0.2	
	comp=Z,15nm,0.4s,baz=342,slow=7.8,SNR=94							
STKA	Stephens Creek	36.42	161	P	P	16 14 56.9	-0.3	
NWAO	Narrogin (SRO)	36.76	196	P	P	16 14 59.5	-0.6	
NWAO				IAmb	IAmb	16 15 23.8		
	comp=Z,35nm,1.5s							
NWAO	Narrogin (SRO)	36.76	196	P	P	16 14 59.5	-0.6	
NWAO				IAmb	IAmb	16 15 23.8		
	comp=Z,28nm,1.5s							
JMM	Marumori	37.01	16	P	P	16 15 02.4	+0.3	
BJT	Baijiatuau	38.96	345	P	P	16 15 18.3	0.0	
BJT				IAmb	IAmb	16 15 19.0		
	comp=Z,8.5nm,0.5s							
ARMA	Armidale	39.55	148	P	P	16 15 23.8	+0.3	
ARMA				IAmb	IAmb	16 15 35.1		
	comp=Z,32nm,1.5s							
H11S3	WAKE ISLAND Hy	40.77	64	T	T	16 59 39.2		
	baz=252,slow=74,SNR=32							
H11S2	WAKE ISLAND Hy	40.79	64	T	T	16 59 21.9		
	baz=252,slow=74,SNR=20							
H11S1	WAKE ISLAND Hy	40.79	64	T	T	16 59 29.2		
	baz=252,slow=74,SNR=18							
H11N1	WAKE ISLAND Hy	41.35	63	T	T	17 00 00.7		
	baz=250,slow=75,SNR=26							
H11N2	WAKE ISLAND Hy	41.36	63	T	T	17 00 01.6		
	baz=250,slow=75,SNR=8.3							
H11N3	WAKE ISLAND Hy	41.37	63	T	T	17 00 02.1		
	baz=250,slow=75,SNR=23							
SHL	Shillong	41.91	307	P	P	16 15 43.6	+0.6	
TOO	Toolangi	42.91	160	P	P	16 15 51.6	+0.9	
LSA	Lhasa	44.47	311	P	P	16 16 04.8	+1.0	
LSA				IAmb	IAmb	16 16 06.7		
	comp=Z,19nm,1.0s							
GTA	Gaotai	44.99	328	P	P	16 16 08.0	+0.7	
GTA				pP	pwP	16 16 51.8	-0.8	
GTA				sP	sP	16 17 15.3	+3.8	
GTA				PcP	PcP	16 17 46.4	+1.5	
GTA				S	S	16 22 33.3	+2.5	
GTA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,96nm,7.3s							
GTA				LR	LR			
	comp=Z,82nm,15.3s							
GTA				LR	LR			
	comp=Z,72nm,16.7s							
GTA				LR	LR			
	comp=Z,88nm,16.4s							
ULN	Ulaanbaatar	48.80	341	P	P	16 16 37.1	+0.4	
SONM	Songino Array	48.99	340	P	P	16 16 38.4	+0.3	
	comp=Z,4.1nm,0.6s,baz=152,slow=8.1,SNR=25							
SONM				PcP	PcP	16 17 59.7	+0.7	
	comp=Z,0.3nm,0.3s,baz=170,slow=2.9,SNR=3.7							
SONM	Songino Array	48.99	340	P	P	16 16 38.1	0.0	
HYB	Hyderabad	51.06	290	*i* P	P	16 16 54.5	+0.4	
WMQ	Urumqi	54.66	325	*eP*	P	16 17 21.6	+1.6	
WMQ				pmax	pmax			
	comp=Z,14nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,26nm,3.6s							
WMQ				LR	LR			
	comp=Z,310nm,29.0s							
WMQ				LR	LR			
	comp=Z,440nm,29.0s							
WMQ				LR	LR			
	comp=Z,7.0nm,29.7s							
PETK	Petropavlovsk-	55.98	21	P	P	16 17 29.0	-0.1	
	comp=Z,3.2nm,0.9s,baz=232,slow=7.0,SNR=1.4							
YAK	Yakutsk	59.41	1	P	P	16 17 52.7	-0.1	
MK31	Makanchi Array	59.49	325	P	P	16 17 54.0	+0.2	
MK31				IAmb	IAmb	16 17 55.0		
	comp=Z,9.3nm,0.8s							
MKAR	Makanchi Array	59.49	325	P	P	16 17 54.3	+0.5	
	comp=Z,13nm,0.4s,baz=116,slow=8.2,SNR=238							
MKAR				PcP	PcP	16 18 38.4	-0.8	
	comp=Z,1.6nm,0.5s,baz=123,slow=4.4,SNR=5.9							
MKAR				ScP	ScP	16 22 19.5	-1.6	
	comp=Z,0.3nm,0.6s,baz=100,slow=6.3,SNR=3.7							
MKAR	Makanchi Array	59.49	325	P	P	16 17 53.8	0.0	
MAKZ	Makanchi	59.68	325	P	P	16 17 55.0	-0.1	
NIL	Nilore	59.96	308	P	P	16 17 57.2	-0.1	
KHZ	Kahutara	60.50	143	P	P	16 18 00.0	-0.6	
KHZ				IAmb	IAmb	16 18 21.2		
	comp=Z,39nm,1.5s							
BKZ	Black Stump Fm	60.58	138	P	P	16 18 01.0	-0.4	
BKZ				IAmb	IAmb	16 18 28.6		
	comp=Z,20nm,1.5s							
BOOM	Boomskoye usch	61.33	318	P	P	16 18 06.9	+0.4	
TKM2	Tokmak 2	61.74	318	P	P	16 18 09.8	+0.5	
	SNR=9.1							
UCH	Uchtor	62.18	317	P	P	16 18 13.7	+1.2	
	SNR=11							
ZAA0	Zalesovo Array	62.42	333	P	P	16 18 12.0	-1.3	
ZALV	Zalesovo Beam	62.42	333	P	P	16 18 12.7	-0.6	
	comp=Z,2.7nm,0.4s,baz=116,slow=6.3,SNR=17							
ZALV				PcP	PcP	16 18 50.0	-0.8	
	comp=Z,1.4nm,0.7s,baz=178,slow=3.9,SNR=3.7							
ZALV	Zalesovo Beam	62.42	333	P	P	16 18 12.1	-1.2	
USP	Ospenovka	62.62	318	P	P	16 18 15.2	+0.3	
	SNR=11							
AML	Almayashu	62.70	317	P	P	16 18 16.8	+0.9	
	SNR=11							
EKS2	Erkin-Say	62.85	318	P	P	16 18 17.5	+0.9	
	SNR=9.7							
KBL	Kabul	63.56	308	P	P	16 18 21.2	-0.3	
KURK	Kurchatov	63.65	327	P	P	16 18 21.1	-0.4	
BTK	Batken	63.94	314	P	P	16 18 23.8	+0.1	
BTK				IAmb	IAmb	16 18 25.0		
	comp=Z,12nm,1.1s							
GAR	Garm	63.95	313	P	P	16 18 23.6	-0.2	
CHGR	Chuyangaron	64.70	312	P	P	16 18 28.5	-0.1	
CHGR				IAmb	IAmb	16 18 29.3		
	comp=Z,10.0nm,0.5s							
KK31	Karatay Array	65.24	317	P	P	16 18 31.8	-0.2	
KK31				IAmb	IAmb	16 18 32.9		
	comp=Z,13nm,1.0s							
KKAR	Karatay Array	65.24	317	P	P	16 18 31.8	-0.2	
KKAR				IAmb	IAmb	16 18 32.9		
	comp=Z,13nm,1.0s							
KKAR	Karatay Array	65.24	317	P	P	16 18 31.7	-0.2	
HRA	Herat	68.97	306	P	P	16 18 55.4	-0.5	
TIXI	Tiksi	69.06	0	P	P	16 18 55.1	-0.2	
BRVK	Borovoye	69.31	327	P	P	16 18 56.9	-0.3	
BRVK				IAmb	IAmb	16 18 58.0		
	comp=Z,18nm,1.0s							
CASY	Casey	69.80	188	P	P	16 19 00.2	+0.3	
NRIK	Noril'sk	72.02	346	P	P	16 19 13.4	+0.1	
	comp=Z,5.4nm,0.6s,baz=121,slow=4.3,SNR=12							
GEYT	Alibeck	72.93	309	P	P	16 19 19.7	+0.3	
	comp=Z,8.5nm,0.7s,baz=125,slow=4.4,SNR=12							
GYA0B	ALIBECK ARRAY	72.93	309	P	P	16 19 19.5	+0.1	
ABKAR	Akbulak array	74.13	321	P	P	16 19 25.4	-0.7	
ABKAR	Akbulak array	74.13	321	P	P	16 19 25.4	-0.7	
SOCY	Socotra	74.20	282	P	P	16 19 25.4	-1.9	
SOCY				IAmb	IAmb	16 19 26.9		
	comp=Z,14nm,0.9s							
VNDA	Vanda	82.00	173	P	P	16 20 08.8	0.0	
	comp=Z,1.0nm,0.5s,baz=312,slow=3.9,SNR=6.1							
IMAR	Indian Mountai	82.81	24	P	P	16 20 13.9	+0.7	
MAW	Mawson	83.17	201	P	P	16 20 15.8	+0.9	
	comp=Z,1.2nm,0.6s,baz=108,slow=3.2,SNR=4.6							
MAW	Mawson	83.17	201	IAmb	IAmb	16 20 17.1		
	comp=Z,0.7nm,1.2s							
KBZ	Khabaz	85.00	313	P	P	16 20 24.9	+0.1	
	comp=Z,1.8nm,0.7s,baz=79,slow=6.1,SNR=4.7							
ILAR	Eielson Array	85.52	25	P	P	16 20 25.6	-1.3	
	comp=Z,0.2nm,0.4s,baz=269,slow=4.7,SNR=1.9							
ARCES	ARCESS Array B	92.16	340	P	P	16 20 57.2	-0.9	
	comp=Z,3.7nm,0.6s,baz=83,slow=6.1,SNR=23							
FINES	FINESS Array B	93.68	332	P	P	16 21 04.4	-0.9	
	comp=Z,1.1nm,0.6s,baz=49,slow=5.8,SNR=10							
TXAR	Lajitas Array	121.05	53	PKP	PKPdf	16 26 39.9	-1.4	
	comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=2.3							
TORD	Torodi Ar. Bea	124.84	288	PKP	PKPdf	16 26 48.4	-0.4	
	comp=Z,1.0nm,0.3s,baz=87,slow=1.5,SNR=17							
TORD	Torodi Ar. Bea	124.84	288		PKPdf	16 26 48.0	-0.8	

*LSZ **21** 16:17:48.9±0.3, 12°.92S×32°.99E, h10km, MD3.5*

ISC 21 16:17:47.1±1.4, **11°.98S**±0°.06×**33°.35E**±0°.10, **h10**km, **n8,** σ2.8 **87**/12, **Malawi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VWZMW	Thunduwike	0.82	16	*i* P	Pn	16 18 04.5	-0.3
VWZMW				S	Sn	16 18 16.5	-0.7
KSMZ	Kasama	2.75	310	*i* P	Pg	16 18 40.2	+0.4
KSMZ				*i*		16 18 40.6	
	baz=148,slow=5.9						
KSMZ				*i* S	Sg	16 19 17.6	+2.1
LSZ	Lusaka	5.99	236	*i* P	Pb	16 19 30.4	-1.4
LSZ				*i* S	Sb	16 20 41.2	-2.5
LSZ	Lusaka	5.99	236	*i* P	Pb	16 19 30.4	-1.4
LSZ				*i* S	Sb	16 20 41.2	-2.5
BLWY	Bulawayo	9.31	209	*i* P	Pn	16 20 11.0	+9.4
BLWY				*i* S	Sn	16 21 51.6	+5.1
BLWY	Bulawayo	9.31	209	*i* P	Pn	16 20 11.0	+9.4
BLWY				*i* S	Sn	16 21 51.6	+5.1
MATP	Matopo	9.61	208	*i* P	Pn	16 20 10.8	+5.2
MATP				*i* S	Sn	16 21 54.0	+0.2
MATP	Matopo	9.61	208	*i* P	Pn	16 20 10.8	+5.2
MATP				*i* S	Sn	16 21 54.0	+0.2

*IDC **21** 16:22:03.6±2.1, 6°.82S×129°.84E, h147km±22km, mb3.4/2, mb1 3.6/7, mb1mx3.3/32, mbtmp4.0/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/15, Error ellipse: s-maj=26.2km s-min=18.5km az=107.0*

*NEIC **21** 16:22:04.5±1.5, 6°.76S±0°.09×129°.8E±0°.1, h155km±12km, mb4.1/4, Error ellipse: s-maj=16.7km s-min=12.6km az=99.0*

ISC 21 16:22:03.7±0.8, **6°.95S**±0°.07×**129°.89E**±0°.08, **h150**km, **n22,** σ2.5 **25**/25, **mb4.2**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.74	126	Pn	Pn	16 22 40.3	+4.4
FAKI	Fak Fak	4.64	31	Pn	Pn	16 23 10.8	-1.5
MTN	Manton Dam	5.99	168	Pn	Pn	16 23 32.8	+2.5
SIJI	Sorong	6.19	13	P	Pn	16 23 31.1	-1.8
	1.1nm,0.3s,baz=186,slow=18,SNR=21						
SIJI				S	Sn	16 24 34.4	-8.5
	6.9nm,0.3s,baz=234,slow=23,SNR=18						
SOEI	Soe	6.22	243	Pn	Pn	16 23 35.6	+2.1
BATI	Baumata	6.96	242	P	Pn	16 23 45.0	+1.8
	19nm,0.3s,baz=117,slow=0.7,SNR=27						
BATI				S	Sn	16 25 01.6	+0.3
	8.2nm,0.3s,baz=48,slow=20,SNR=6.9						
KNRA	Kununurra	8.75	187		Pn	16 24 07.9	+0.9
FITZ	Fitzroy Crossi	11.83	200	P	Pn	16 24 48.5	+0.7
	0.5nm,0.3s,baz=30,slow=9.4,SNR=19						
FITZ				S	Sn	16 26 54.1	-4.6
	1.0nm,0.3s,baz=60,slow=22,SNR=8.9						
FITZ	Fitzroy Crossi	11.83	200		Pn	16 24 47.9	+0.1
WB0	Warramunga Arr	13.48	161	P	Pn	16 25 08.2	-0.9
WRA	Warramunga Arr	13.62	162	P	Pn	16 25 10.7	-0.3
	0.5nm,0.3s,baz=340,slow=13,SNR=5.3						
WRA				S	Sn	16 27 37.3	-4.6
	1.0nm,0.3s,baz=328,slow=23,SNR=2.9						
WR0	Warramunga Arr	13.70	161	Pn	Pn	16 25 11.0	-0.9
COEN	Coen	14.80	119		P	16 25 29.7	+1.9
AS31	Alice Springs	17.07	167		Pn	16 25 55.1	+1.6
ASAR	Alice Springs	17.07	167	P	Pn	16 25 55.7	+2.2
	0.6nm,0.3s,baz=346,slow=9.4,SNR=88						
ASAR				S	S	16 29 01.1	-2.2
	0.3nm,0.3s,baz=346,slow=5.8,SNR=5.8						
ASAR	Alice Springs	17.07	167	P	Pn	16 25 55.2	+1.8
FORT	Forrest	23.77	184	P	P	16 27 04.9	+2.4
FORT				IAmb	IAmb	16 27 14.8	
	comp=Z,12nm,1.1s						
CMAR	Chiang Mai Arr	39.61	310	P	P	16 29 19.8	-1.0
	comp=Z,0.1nm,0.3s,baz=139,slow=7.2,SNR=2.4						
MJAR	Matsushiro Arr	43.96	10	LR	LR	16 51 10.0	
	comp=Z,11nm,18.0s,baz=270,slow=40						
MK31	Makanchi Array	68.12	327	P	P	16 32 47.0	-0.5
MK31				IAmb	IAmb	16 32 47.7	
	comp=Z,1.5nm,1.1s						
MKAR	Makanchi Array	68.12	327	P	P	16 32 47.0	-0.5
	comp=Z,1.3nm,0.4s,baz=126,slow=7.4,SNR=28						
MAKZ	Makanchi	68.30	327	P	P	16 32 47.8	-0.7
MAKZ				IAmb	IAmb	16 32 48.2	
	comp=Z,1.8nm,0.5s						

IDC 21 16:47:03.5±2.1, **50°.25N**×**154°.83E**, **h0**km, **mb3.6**/2, **mb1 3.9**/2, **mb1mx3.3**/27, **mbtmp3.6**/2, **ML1.6**/1, **Error ellipse: s-maj=264.1km s-min=26.0km az=118.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	3.37	31	Pn	Pn	16 47 57.2	-0.1
	0.3nm,0.3s,baz=210,slow=9.5,SNR=13						
PETK				Sn	Sn	16 48 39.5	+1.4
	0.2nm,0.3s,baz=159,slow=19,SNR=1.4						
WRA	Warramunga Arr	72.20	200	P	P	16 58 29.8	-0.3
	0.6nm,1.0s,baz=15,slow=6.2,SNR=2.8						
ASAR	Alice Springs	75.89	200	P	P	16 58 51.9	+0.2
	0.2nm,0.3s,baz=14,slow=5.1,SNR=16						

IDC 21 17:02:33.8±4.0, **49°.12S**×**105°.67E**, **h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.6**/18, **mbtmp3.6**/3, **Error ellipse: s-maj=145.5km s-min=29.5km az=108.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	Cape Leeuwin H	15.53	27	T	T	17 21 58.1	
	baz=201,slow=73,SNR=71						
H01W1	Cape Leeuwin H	15.54	27	T	T	17 22 05.7	
	baz=201,slow=73,SNR=50						
H01W3	Cape Leeuwin H	15.54	27	T	T	17 21 59.2	
	baz=201,slow=73,SNR=60						
ASAR	Alice Springs	33.73	51	P	P	17 09 16.8	-0.1
	0.2nm,0.5s,baz=211,slow=7.8,SNR=6.3						
VNDA	Vanda	35.37	162	P	P	17 09 30.4	-0.1
	1.1nm,0.7s,baz=294,slow=7.9,SNR=7.4						
WRA	Warramunga Arr	37.07	48	P	P	17 09 45.6	0.0
	0.3nm,0.5s,baz=213,slow=10,SNR=5.8						
NVAR	Mina Array Bea	146.93	92	PKPbc	PKPbc	17 22 17.4	-0.6
	0.7nm,0.7s,baz=212,slow=5.0,SNR=4.0						
TXAR	Lajitas Array	150.17	121	PKPbc	PKPbc	17 22 26.0	-0.5
	0.9nm,0.9s,baz=194,slow=5.8,SNR=8.6						

*NEIC **21** 17:14:20.3±1.2, 30°.39S±0°.06×178°.0W±0°.1, h14km±5km, mb4.6/18, Error ellipse: s-maj=17.9km s-min=7.3km az=101.0*

*IDC **21** 17:14:24.8±2.1, 30°.24S×177°.88W, h49km±19km, mb4.1/4, mb1 4.2/5, mb1mx3.7/36, mbtmp4.3/5, ML3.7/1, MS3.1/3, Ms1 3.0/3, ms1mx2.7/23, Error ellipse: s-maj=34.1km s-min=19.1km az=107.0*

ISC 21 17:14:24.0±0.6, **30°.36S**±0°.06×**177°.9W**±0°.1, **h46**km, **n47,** σ1.9 **77**/42, **mb4.5**/12, **MS3.2**/3, **2C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.11	360	P	Pn	17 14 42.2	-0.9
	217nm,0.3s,baz=59,slow=19,SNR=14						
RAO				S	Sn	17 14 55.7	-1.6
	1µm,0.3s,baz=233,slow=23,SNR=9.9						
RAO	Raoul Island	1.11	360		Pn	17 14 42.0	-1.2
URZ	Urewera	8.88	206	P	Pn	17 16 31.7	+2.0
	0.7nm,0.3s,baz=263,slow=5.1,SNR=2.1						
URZ				S	Sn	17 18 05.1	-3.3
	2.5nm,0.3s,baz=225,slow=22,SNR=13						
URZ	Urewera	8.88	206		Pn	17 16 25.5	-4.3
URZ					Sn	17 18 04.8	-3.7
HIZ	Hauiti	10.08	214	Pn	Pn	17 16 44.0	-2.2
BFZ	Birch Farm	11.34	203	Pn	Pn	17 16 59.7	-3.6
PLWZ	Palliser	12.47	204	Pn	Pn	17 17 16.5	-2.3
TUWZ	Tuamarina	12.86	209	Pn	Pn	17 17 23.1	-1.0
QRZ	Quartz Range	13.01	214	Pn	Pn	17 17 24.0	-2.2
NIUE	Niue	13.37	35	Pn	Pn	17 17 29.3	-1.9
THZ	Tophouse	13.57	211	Pn	Pn	17 17 32.7	-1.2
LTZ	Lake Taylor	14.68	210	Pn	Pn	17 17 46.4	-2.3
DZM	Mont Dzumac	16.27	297	LR	LR	17 22 59.9	
	comp=Z,60nm,20.7s,baz=138,slow=32						
FOZ	Fox Glacier	16.37	213	Pn	Pn	17 18 09.0	-1.5
FOZ				IAmb	IAmb	17 18 43.8	

*RSNC **21** 17:23:42.8±1.2,0.°82N×77.°97W, h0km±4km, ML3.0, Mw4.4*
*VAO **21** 17:23:46.3±0.3,0.°59N×77.°99W, h10km, mb4.2*
*NEIC **21** 17:23:46.7±2.9,0.°68N±0.°06×77.°96W±0.°08, h10km±5km, mb4.5/38, Error ellipse: s-maj=12.9km s-min=8.2km az=117.0*
*IDC **21** 17:23:46.7±0.9,0.°75N×77.°97W, h0km, mb3.7/5, mb1 4.1/10, mb1mx3.9/35, mbtmp4.0/10, ML3.1/4, MS3.7/14, Ms1 3.7/14, ms1mx3.5/30, Error ellipse: s-maj=30.7km s-min=15.9km az=63.0*

ISC 21 17:23:45.8±0.4, 0.75N±0.°03×77.°93W±0.°03, h10km, n121, σ2ᵠ12/125, mb4.4/22, MS3.7/8, 1C, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMBC	**Cumbal**	**0.22**	**28**	*eP*		**Pg**		**17 23 46.9**	**-3.7**
CMBC				*eS*		**Sg**		**17 23 50.6**	**-3.2**
CUSE	**Cuicocha Este**	**0.65**	**227**	*eP*		**Pg**		**17 23 55.0**	**-3.4**
CUSE				*eS*		**Sg**		**17 24 05.5**	**-1.5**
OTAV	**Otavalo**	**0.73**	**226**	*eP*		**Pg**		**17 23 56.6**	**-3.5**
OTAV				*eS*		**Sg**		**17 24 08.5**	**-1.1**
OTAV				*i*				17 24 11.9	
	comp=Z,1μm,0.6s								
OTAV	**Otavalo**	**0.73**	**226**	Pn		**Pg**		**17 23 56.5**	**-3.5**
OTAV	**Otavalo**	**0.73**	**226**	eS		**Sg**		**17 24 06.7**	**-3.0**
CPAS1	**Pasto**	**0.75**	**54**	*eP*		**Pg**		**17 23 57.0**	**-3.3**
CCUFI	**Cufio, Nario**	**0.75**	**51**	*eP*		**Pg**		**17 23 56.6**	**-3.9**
GCUF	**Volcan Galeras**	**0.75**	**51**	*eP*		**Pg**		**17 23 56.8**	**-3.6**
GCUF				*i*				17 24 07.3	
	comp=Z,600nm,0.7s								
GCUF				*eS*		**Sg**		**17 24 09.4**	**-0.9**
CPAS2	**Pasto**	**0.82**	**55**	*eP*		**Pg**		**17 23 57.9**	**-3.8**
PAC1	**Pacto, Paraso**	**0.99**	**241**	*eP*		**Pg**		**17 24 00.7**	**-4.2**
PAC1				*eS*		**Sg**		**17 24 15.0**	**-2.8**
TUMC	**Tumaco**	**1.34**	**323**	*eP*		**Pn**		**17 24 07.4**	**-3.2**
TUMC				*eS*		Sg		17 24 45.0	+16
TUMC				*i*				17 25 16.0	
	comp=Z,424nm,0.7s								
PUAC	**Puerto Asis, P**	**1.37**	**98**	*eP*		**Pn**		**17 24 08.5**	**-2.5**
PUAC				*eS*		**Sb**		**17 24 27.6**	**-1.6**
PUAC				*i*				17 24 58.3	
	comp=Z,72nm,0.7s								
BBAC	**Balboa, Cauca**	**1.44**	**28**	*eP*		**Pn**		**17 24 08.1**	**-4.0**
BBAC				*eS*		**Sn**		**17 24 28.9**	**-2.4**
BBAC				*i*				17 24 33.2	
	comp=Z,615nm,0.4s								
SOTA	**Rioblanco**	**1.91**	**44**	*eP*		**Pn**		**17 24 18.9**	**0.0**
POPC	**Popayan, Colom**	**2.18**	**35**	*eP*		**Pn**		**17 24 21.6**	**-0.8**
POPC				*eS*		**Sn**		**17 24 46.1**	**-3.4**
POPC				*i*				17 25 11.7	
	comp=Z,46nm,0.6s								
PCON	**Cinco Dias**	**2.19**	**44**	*eP*		**Pn**		**17 24 23.0**	**+0.1**
PCON				*eS*		**Sb**		**17 24 53.7**	**+0.3**
PCON				*i*				17 24 58.6	
	comp=Z,160nm,0.7s								
GR1C	**Gorgona, Isla**	**2.25**	**354**	*eP*		**Pn**		**17 24 18.8**	**-4.4**
FLOC	**Florencia**	**2.42**	**70**	*eP*		**Pn**		**17 24 24.9**	**-0.6**
FLOC				*eS*		**Sn**		**17 24 53.2**	**-2.1**
FLOC				*i*				17 25 08.6	
	comp=Z,194nm,0.7s								
GARC	**Garzon, Huila**	**2.82**	**60**	*eP*		**Pn**		**17 24 33.2**	**+1.9**
GARC				*eS*		**Sb**		**17 25 11.3**	**+0.1**
MARP	**Paez Belalcaza**	**2.87**	**43**	*eP*		**Pn**		**17 24 33.9**	**+2.0**
MARP				*i*				17 25 29.2	
	comp=Z,32nm,0.9s								
BETC	**Betania**	**3.14**	**52**	*eP*		**Pb**		**17 24 40.5**	**-1.4**
PTLC	**Puerto Leguiza**	**3.18**	**100**	*eP*		**Pn**		**17 24 36.8**	**+0.8**
PTLC				*eS*		**Sb**		**17 25 19.7**	**-1.7**
PTLC				*i*				17 25 31.4	
	comp=Z,88nm,0.2s								
MALC	**Bahia Malaga**	**3.30**	**10**	*eP*		**Pn**		**17 24 35.7**	**-1.9**
MALC				*eS*		**Sn**		**17 25 16.0**	**-0.9**
MALC				*i*				17 25 31.3	
	comp=Z,45nm,0.7s								
YOTC	**Yotoco, Valle**	**3.58**	**26**	*eP*		**Pn**		**17 24 43.6**	**+2.0**
YOTC				*eS*		**Sn**		**17 25 27.5**	**+3.4**
YOTC				*i*				17 25 43.4	
	comp=Z,23nm,0.6s								
ORTC	**Ortega, Tolima**	**4.13**	**40**	*eP*		**Pn**		**17 24 50.9**	**+1.8**
ORTC				*i*				17 26 03.3	
	comp=Z,19nm,0.6s								
PRAC	**Prado**	**4.23**	**46**	*eP*		**Pn**		**17 24 53.8**	**+3.3**
PRAC				*i*				17 26 06.2	
	comp=Z,21nm,0.6s								
MACC	**Macarena, Meta**	**4.31**	**71**	*eP*		**Pn**		**17 24 51.5**	**0.0**
MACC				*eS*		**Sb**		**17 25 50.3**	**-3.5**
ANIL	**Santa Ana**	**4.49**	**34**	*eP*		**Pn**		**17 24 57.3**	**+3.0**
TOLC	**Tolima**	**4.62**	**34**	*eP*		**Pn**		**17 24 57.4**	**+1.4**
GUY2C	**Guyana, Caldas**	**5.13**	**30**	*eP*		**Pn**		**17 25 05.4**	**+2.2**
GUY2C				*i*				17 26 31.2	
	comp=Z,7.6nm,0.6s								
VILC	**Villavicencio,**	**5.39**	**52**	*eP*		**Pn**		**17 25 08.4**	**+1.9**
ROSC	**El Rosal**	**5.43**	**41**	Pn		**Pn**		**17 25 11.6**	**+4.3**
	comp=Z,4.6nm,0.3s,baz=211,slow=8.0,SNR=16								
ROSC				LR		LR		17 27 35.4	
	comp=Z,2μm,21.8s,baz=260,slow=42								
ROSC	**El Rosal**	**5.43**	**41**	Pn		**Pn**		**17 25 11.3**	**+4.1**
CHIC	**Chingaza**	**5.69**	**47**	*eP*		**Pn**		**17 25 13.9**	**+3.0**
CHIC				*i*				17 26 49.6	
	comp=Z,9.8nm,0.7s								
HELC	**Santa Helena**	**5.91**	**24**	*eP*		**Pn**		**17 25 16.9**	**+3.0**
HELC				*i*				17 27 20.4	
	comp=Z,4.4nm,0.5s								
SPBC	**San Pablo de B**	**6.21**	**38**	*eP*		**Pn**		**17 25 20.5**	**+2.8**
SPBC				*i*				17 27 13.3	
	comp=Z,3.7nm,0.2s								
PTBC	**PUERTO BERRIO,**	**6.71**	**31**	*eP*		**Pn**		**17 25 25.1**	**+0.5**
PTBC				*i*				17 27 31.8	
	comp=Z,2.8nm,0.4s								
PTGC	**Puerto Gaitan,**	**6.72**	**59**	*eP*		**Pb**		**17 25 42.5**	**-0.4**
RUSC	**La Rusia**	**7.03**	**43**	*eP*		**Pn**		**17 25 32.6**	**+3.2**
RUSC				*i*				17 27 56.3	
	comp=Z,4.1nm,0.7s								
ZARC	**Zaragoza, Cauc**	**7.37**	**24**	*eP*		**Pn**		**17 25 35.2**	**+1.6**
ZARC				*i*				17 27 45.2	
	comp=Z,3.5nm,0.3s								
ATAH	**Atahualpa**	**7.84**	**183**	Pn		**Pn**		**17 25 43.4**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=309,slow=4.0,SNR=9.5								
ATAH				LR		LR		17 28 43.4	
	comp=Z,336nm,18.7s,baz=11,slow=38								
BCIP	**Isla Barro Col**	**8.58**	**347**	Pn		**Pn**		**17 25 52.2**	**+2.0**
CZSB	**Cruzeiro do Su**	**9.90**	**148**	*eP*		**Pn**		**17 26 07.3**	**-1.1**
SDV	**Santo Domingo**	**10.87**	**42**	Pn		**Pn**		**17 26 24.1**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=232,slow=13,SNR=10								
SDV				LR		LR		17 30 37.1	
	comp=Z,460nm,20.1s,baz=242,slow=38								
SDV	**Santo Domingo**	**10.87**	**42**	Pn		**Pn**		**17 26 23.2**	**+1.4**
SDV	**Santo Domingo**	**10.87**	**42**	*eP*		**Pn**		**17 26 24.2**	**+2.4**
JTS	**Las Juntas de**	**11.78**	**324**	LR		LR		17 30 41.1	
	comp=Z,158nm,18.4s,baz=238,slow=35								
NNA	**Nana**	**12.70**	**175**	LR		LR		17 31 52.9	
	comp=Z,273nm,20.4s,baz=342,slow=38								
MATN	**Matagalpa**	**14.47**	**327**	Pn		**P**		**17 27 15.1**	**-2.7**
ETMB	**Extrema**	**15.69**	**132**	*eP*		**Pn**		**17 27 26.2**	**-0.9**
SAML	**Samuel**	**17.56**	**124**			**Pn**		**17 27 49.8**	**-1.2**
MTO3	**Montecristo**	**17.66**	**321**	P		**P**		**17 27 55.9**	**+2.6**
MACA	**Manacapuru-AM**	**17.67**	**103**	*eP*		**P**		**17 27 53.1**	**-0.1**
PTGA	**Pitinga**	**18.02**	**95**	LR		LR		17 34 58.1	
	comp=Z,456nm,19.3s,baz=278,slow=37								
APG	**El Apazote**	**18.82**	**319**	P		**Pn**		**17 28 07.9**	**+1.3**
	comp=Z,2.2nm,0.3s,baz=144,slow=17,SNR=2.2								
SDDR	**Presa de Saban**	**19.26**	**19**	P		**Pn**		**17 28 13.1**	**+1.4**
SDDR				IAmb		IAmb		17 28 14.7	
	comp=Z,24nm,1.2s								
GTBY	**Guantanamo Bay**	**19.26**	**8**	P		**Pn**		**17 28 12.3**	**+0.6**
GTBY				IAmb		IAmb		17 28 26.5	
	comp=Z,61nm,1.3s								
LPAZ	**La Paz**	**19.49**	**151**	P		**Pn**		**17 28 16.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=337,slow=11,SNR=7.5								
LPAZ				LR		LR		17 37 26.2	
	comp=Z,283nm,20.5s,baz=292,slow=42								
LPAZ	**La Paz**	**19.49**	**151**			**P**		**17 28 13.9**	**0.0**
LPAZ	**La Paz**	**19.49**	**151**	*eP*		**P**		**17 28 13.0**	**-0.9**
PB16	**IPOC Station P**	**20.69**	**157**	P		**P**		**17 28 26.1**	**-0.8**
PB16				IAmb		IAmb		17 28 38.6	
	comp=Z,44nm,1.7s								
SJG	**San Juan**	**20.78**	**33**	LR		LR		17 37 35.3	
	comp=Z,116nm,19.2s,baz=132,slow=40								
GCPR	**Guaynabo City**	**20.97**	**33**	P		Pn		17 28 30.8	-1.2
MTP	**Monte Pirata**	**21.10**	**34**	P		**P**		**17 28 31.6**	**+1.0**
MNMC	**Minye Minye**	**21.38**	**158**	P		**P**		**17 28 30.7**	**-3.3**
MNMC				IAmb		IAmb		17 28 42.0	
	comp=Z,18nm,0.9s								
VILB	**Vilhena**	**22.23**	**128**	*eP*		**P**		**17 28 43.5**	**+0.5**
ITTB	**Itaituba**	**22.75**	**103**	*eP*		**P**		**17 28 49.4**	**+0.9**
SIV	**San Ignacio**	**23.53**	**136**	P		**P**		**17 28 57.7**	**+1.3**
	comp=Z,8.5nm,0.9s,baz=324,slow=11,SNR=29								
SIV				LR		LR		17 38 47.2	
	comp=Z,106nm,20.6s,baz=326,slow=38								
MALB	**Monte Alegre**	**23.80**	**96**	*eP*		**P**		**17 29 00.7**	**+1.6**
NPGB	**Novo Progresso**	**23.81**	**109**	*eP*		**P**		**17 28 59.6**	**+0.4**
PTLB	**Pontes e Lacer**	**24.57**	**132**	*eP*		**P**		**17 29 06.6**	**+0.4**
LVC	**Limon Verde**	**24.82**	**160**	LR		LR		17 40 10.4	
	comp=Z,121nm,19.6s,baz=322,slow=40								
LVC	**Limon Verde**	**24.82**	**160**	*eP*		**P**		**17 29 08.5**	**-0.4**
CLDB	**Colider**	**24.85**	**118**	*eP*		**P**		**17 29 09.4**	**+0.6**
MDP	**Montagnes des**	**25.61**	**80**	LR		LR		17 39 42.0	
	comp=Z,241nm,18.9s,baz=292,slow=37								
MCPB	**Macapa, AP**	**25.89**	**92**	*eP*		**P**		**17 29 19.0**	**+0.8**
ARAG	**Araguaiana, MT**	**30.54**	**123**	*eP*		**P**		**17 29 59.6**	**-0.2**
IPMB	**Ipameri, GO**	**34.66**	**124**	*eP*		**P**		**17 30 35.2**	**-0.7**
SDBA	**SÃO DESIDERIO**	**35.28**	**113**	*eP*		**P**		**17 30 40.9**	**-0.4**
V48A	**Smith Brothers**	**35.79**	**348**	P		**P**		**17 30 45.3**	**0.0**
V48A				IAmb		IAmb		17 30 47.9	
	comp=Z,8.4nm,1.0s								
TX31	**Lajitas Ar. Si**	**37.55**	**322**	P		**P**		**17 31 01.8**	**+1.1**
TX32	**Lajitas Array**	**37.55**	**322**	P		**P**		**17 31 01.3**	**+0.7**
TXAR	**Lajitas Array**	**37.55**	**322**	P		**P**		**17 31 02.3**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=149,slow=10.0,SNR=5.8								
TXAR	**Lajitas Array**	**37.55**	**322**	P		**P**		**17 31 01.0**	**+0.4**
PBMO	**Poplar Bluff**	**37.67**	**343**	P		**P**		**17 31 01.2**	**-0.1**
U40A	**Yellville**	**38.04**	**340**	P		**P**		**17 31 04.3**	**-0.2**
T42A	**Van Buren**	**38.10**	**343**	P		**P**		**17 31 04.7**	**-0.3**
T42A				IAmb		IAmb		17 31 06.6	
	comp=Z,5.0nm,0.7s								
TUL1	**Leonard**	**38.73**	**337**	P		**P**		**17 31 10.5**	**+0.2**
TUL1				IAmb		IAmb		17 31 17.8	
	comp=Z,7.3nm,0.7s								
MCWV	**Mont Chateau**	**38.77**	**358**	P		**P**		**17 31 11.7**	**+1.2**
MCWV				IAmb		IAmb		17 31 25.0	
	comp=Z,23nm,1.6s								
FVM	**French Village**	**38.80**	**344**	P		**P**		**17 31 09.6**	**-1.3**
FVM				IAmb		IAmb		17 31 27.5	
	comp=Z,10nm,1.3s								
O53A	**New Philadelph**	**39.43**	**356**	P		**P**		**17 31 17.1**	**+1.0**
T35A	**Sooner Cattle**	**39.89**	**337**	P		**P**		**17 31 20.3**	**+0.3**
T35A				IAmb		IAmb		17 31 37.1	
	comp=Z,11nm,0.8s								
N54A	**Moraine State**	**40.07**	**358**	P		**P**		**17 31 21.9**	**+0.5**
MNTX	**Cornudas Mount**	**40.26**	**323**	P		**P**		**17 31 25.0**	**+1.8**
KAN13	**South Haven SW**	**40.36**	**336**	P		**P**		**17 31 23.4**	**-0.5**
M57A	**Sunshine Farm,**	**40.41**	**1**	P		**P**		**17 31 24.2**	**0.0**
M57A				IAmb		IAmb		17 31 29.3	
	comp=Z,21nm,1.2s								
MSTX	**Muleshoe**	**40.42**	**327**	P		**P**		**17 31 25.5**	**+0.9**
PLCA	**Paso Flores**	**41.83**	**172**	P		**P**		**17 31 39.5**	**+3.4**
	comp=Z,1.7nm,0.9s,baz=355,slow=15,SNR=4.0								
PLCA	**Paso Flores**	**41.83**	**172**	IAmb		IAmb		17 31 44.0	
	comp=Z,7.1nm,1.4s								
121A	**Cookes Peak, D**	**42.32**	**321**	P		**P**		**17 31 42.9**	**+2.6**
121A				IAmb		IAmb		17 31 49.9	
	comp=Z,4.8nm,0.8s								
BNM	**Barren Site**	**42.73**	**324**	P		**P**		**17 31 45.9**	**+2.3**
ANMO	**Albuquerque**	**43.19**	**325**	P		**P**		**17 31 49.7**	**+2.3**
	comp=Z,0.2nm,1.0s,baz=141,slow=14,SNR=3.7								
ANMO	**Albuquerque**	**43.19**	**325**	P		**P**		**17 31 48.9**	**+1.5**
T25A	**Trinidad**	**43.70**	**329**	P		**P**		**17 31 54.0**	**+2.6**
T25A				IAmb		IAmb		17 31 56.6	
	comp=Z,7.0nm,1.1s								
TUC	**Tucson**	**44.10**	**319**	P		**P**		**17 31 57.4**	**+2.8**
SDCO	**Great Sand Dun**	**44.72**	**329**	P		**P**		**17 32 01.0**	**+1.2**
SDCO				IAmb		IAmb		17 32 30.5	
	comp=Z,8.8nm,1.7s								
W18A	**Petrified Fore**	**45.25**	**323**	P		**P**		**17 32 06.0**	**+2.1**
W18A				IAmb		IAmb		17 32 09.2	
	comp=Z,8.9nm,1.0s								
WUAZ	**Wupatki**	**46.52**	**322**	P		**P**		**17 32 15.6**	**+1.7**
PV13	**Radium Mtn., P**	**46.81**	**326**	P		**P**		**17 32 17.2**	**+1.0**
PV13				IAmb		IAmb		17 32 20.5	
	comp=Z,5.4nm,1.0s								
PHWY	**Pilot Hill**	**47.42**	**332**	P		**P**		**17 32 20.8**	**-0.2**
PHWY				IAmb		IAmb		17 32 23.0	
	comp=Z,5.6nm,0.8s								
K22A	**Casper**	**48.97**	**332**	P		**P**		**17 32 34.3**	**+1.5**
RSSD	**Black Hills**	**49.03**	**335**	P		**P**		**17 32 35.2**	**+1.9**
RSSD				IAmb		IAmb		17 32 50.6	
	comp=Z,11nm,1.6s								
PDAR	**Pinedale Array**	**50.53**	**330**	P		**P**		**17 32 46.9**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=123,slow=11,SNR=2.7								
BW06	**Boulder Array**	**50.53**	**330**	P		**P**		**17 32 45.9**	**+1.2**
NV11	**Mina Array Sit**	**52.59**	**320**	P		**P**		**17 33 02.2**	**+2.1**
NV11				IAmb		IAmb		17 33 14.1	
	comp=Z,9.7nm,1.8s								
NVAR	**Mina Array Bea**	**52.68**	**320**	P		**P**		**17 33 03.0**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=117,slow=7.7,SNR=6.8								
MFID	**Camas Ranch**	**54.28**	**327**	P		**P**		**17 33 14.1**	**+1.6**
YKA	**Yellowknife Ar**	**67.43**	**343**	LR		LR		18 07 56.8	
	comp=Z,44nm,18.2s,baz=0.0,slow=39								
TORD	**Torodi Ar. Bea**	**79.72**	**77**	LR		LR		18 09 12.6	
	comp=Z,51nm,21.4s,baz=135,slow=34								
RAR	**Rarotonga**	**82.67**	**249**	LR		LR		18 06 01.2	
	comp=Z,45nm,21.3s,baz=190,slow=31								
LZH	**Lanzhou**	**143.32**	**358**	*ePKP*		**PKPdf**		**17 43 20.3**	**-1.0**
LZH				pPKP		PKiKP		17 43 22.0	-2.6
LZH				sPKP				17 43 23.5	
LZH				LR		LR			
	comp=N,69nm,18.0s								
LZH				LR		LR			
	comp=E,72nm,18.1s								
LZH				LR		LR			
	comp=Z,100nm,20.3s								

*ATH **21** 17:28:29.0,38.°38N×20.°51E, h15km±2km, ML2.4/7, Error ellipse: s-maj=2.8km s-min=0.9km az=263.0*
*THE **21** 17:28:29.3,38.°39N×20.°48E, h11km±1km, ML2.5/8, Error ellipse: s-maj=1.4km s-min=0.3km az=110.0*

ISC 21 17:28:29.1±0.9, 38.°38N±0.°02×20.°50E±0.°04, h13km±5km, n26, σ0ᵠ43/42, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSK1	**VASILIKIADES**	**0.06**	**60**	P		**Pg**		**17 28 31.5**	**-0.2**
FSK	**Fiskardo**	**0.09**	**31**	P		**Pg**		**17 28 31.8**	**-0.2**
FSK				S		**Sg**		**17 28 33.9**	**-0.1**
	2μm,0.3s								
FSK	**Fiskardo**	**0.09**	**31**	P		**Pg**		**17 28 31.8**	**-0.2**
FSK				S		**Sg**		**17 28 34.0**	**-0.1**
FSK				AML		AML		17 28 34.3	
	comp=N,3692μm,0.4s								
FSK				AML		AML		17 28 34.4	
	comp=E,6214μm,0.2s								
KEF5	**Kardakata, Kep**	**0.11**	**195**	P		**Pg**		**17 28 32.0**	**-0.2**
KEF5				S		**Sg**		**17 28 34.5**	**+0.1**
DMLN	**Damoulianata-K**	**0.17**	**216**	P		**Pg**		**17 28 33.0**	**-0.2**
DMLN				S		**Sg**		**17 28 36.0**	**0.0**
	comp=E,5μm,0.3s								
VLS	**Valsamata**	**0.21**	**162**	P		**Pg**		**17 28 33.9**	**0.0**
VLS				S		**Sg**		**17 28 37.7**	**+0.7**
	comp=E,2μm,0.2s								
VLS	**Valsamata**	**0.21**	**162**	P		**Pg**		**17 28 33.8**	**0.0**
VLS				S		**Sg**		**17 28 37.8**	**+0.7**
VLS				AML		AML		17 28 38.0	
	comp=E,4601μm,0.1s								
VLS				AML		AML		17 28 38.0	
	comp=N,3734μm,0.2s								
EVGI	**Lefkada island**	**0.27**	**27**	P		**Pg**		**17 28 34.9**	**+0.1**
EVGI				S		**Sg**		**17 28 39.5**	**+0.9**
	comp=N,1μm,0.2s								
EVGI	**Lefkada island**	**0.27**	**27**	P		**Pg**		**17 28 34.8**	**+0.1**
EVGI				S		**Sg**		**17 28 39.4**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.27**	**167**	P		**Pg**		**17 28 35.0**	**+0.1**
PSDA				S		**Sg**		**17 28 39.6**	**+0.9**
	comp=N,168nm,0.2s								
PSDA	**Pessada-Kefalo**	**0.27**	**167**	P		**Pg**		**17 28 34.9**	**+0.1**
PSDA				S		**Sg**		**17 28 39.1**	**+0.5**
DRAG	**Dragano-Lefkad**	**0.31**	**10**	P		**Pg**		**17 28 35.2**	**-0.3**
DRAG				S		**Sg**		**17 28 40.1**	**+0.4**
	comp=N,5μm,0.3s								
MGNA	**Meganis**	**0.35**	**39**	P		**Pg**		**17 28 36.2**	**-0.1**
MGNA				S		**Sg**		**17 28 42.1**	**+0.9**
MGNA				AML		AML		17 28 42.5	
	comp=N,2613μm,0.1s								
MGNA				AML		AML		17 28 42.5	
	comp=E,1791μm,0.1s								
NYDR	**Nydri-Lefkada**	**0.36**	**25**	P		**Pg**		**17 28 36.3**	**-0.2**
NYDR				S		**Sg**		**17 28 42.0**	**+0.5**
	comp=E,662nm,0.4s								
TSLK	**Tsoukalades, L**	**0.46**	**15**	P		**Pg**		**17 28 38.0**	**-0.2**
TSLK				S		**Sb**		**17 28 45.5**	**-0.3**
	comp=E,465nm,0.3s								
TSLK	**Tsoukalades, L**	**0.46**	**15**	P		**Pg**		**17 28 38.0**	**-0.2**
TSLK				S		**Sb**		**17 28 45.7**	**-0.1**
TSLK				AML		AML		17 28 46.4	
	comp=E,870μm,0.2s								
TSLK				AML		AML		17 28 50.1	
	comp=N,984μm,0.4s								
VLMS	**Volimes, Zakyn**	**0.52**	**166**	P		**Pg**		**17 28 39.2**	**-0.2**
VLMS				S		**Sg**		**17 28 46.2**	**-0.1**
VLMS				AML		AML		17 28 51.4	
	comp=E,768μm,0.2s								
VLMS				AML		AML		17 28 52.7	
	comp=N,1381μm,0.3s								
AXS	**Araxos**	**0.71**	**105**	P		**Pg**		**17 28 42.9**	**0.0**
AXS				AML		AML		17 28 58.7	
	comp=E,231μm,0.4s								
AXS				AML		AML		17 28 58.8	
	comp=N,220μm,0.7s								
RLS	**Riolos of Patr**	**0.82**	**113**	P		**Pg**		**17 28 44.4**	**-0.7**
DRO	**Drossia**	**1.04**	**114**	P		**Pb**		**17 28 48.9**	**-0.1**
EFP	**Efpalio**	**1.10**	**87**	P		**Pb**		**17 28 49.5**	**-0.5**
KALE	**Kalithea**	**1.29**	**89**	P		**Pn**		**17 28 52.4**	**-0.4**
KLV	**Kalavryta, Ach**	**1.34**	**104**	P		**Pn**		**17 28 53.1**	**-0.4**
KEK	**Kerkira**	**1.44**	**338**	P		**Pb**		**17 28 55.9**	**+0.1**
GUR	**Goura**	**1.52**	**106**	P		**Pn**		**17 28 56.7**	**+0.7**
AGG	**Agios Georgios**	**1.57**	**65**	P		**Pg**		**17 28 59.1**	**-0.1**

*IDC **21** 17:35:20.5±4.1,36.°00N×70.°68E, h139km±35km, mb3.6/10, mb1 3.6/15, mb1mx3.3/48, mbtmp4.0/15, Error ellipse: s-maj=26.6km s-min=22.1km az=160.0*
*BJI **21** 17:35:23.9±0.0,36.°41N×70.°50E, h169km, mB4.8/10, mb4.5/12*
*NEIC **21** 17:35:25.3±1.8,36.°34N±0.°06×70.°5E±0.°1, h175km±8km, mb4.2/18, Error ellipse: s-maj=13.0km s-min=7.7km az=58.0*
*NNC **21** 17:35:27.8±6.9,36.°83N×70.°98E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=55.2km s-min=36.4km az=177.0*

ISC 21 17:35:23.4±0.5, 36.°23N±0.°05×70.°66E±0.°06, h150km, n75, σ1ᵠ92/84, mb4.2/18, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.14**	**219**	Pn		**Pn**		**17 36 03.8**	**+3.4**
CHGR	**Chuyangaron**	**2.70**	**334**	Pn		**Pn**		**17 36 08.3**	**+1.2**
GAR	**Garm**	**2.78**	**355**	Pn		**Pn**		**17 36 09.8**	**+1.7**
NIL	**Nilore**	**3.34**	**140**	Pn		Pn		17 36 20.2	+5.0
BTK	**Batken**	**3.83**	**2**	Pn		**Pn**		**17 36 24.0**	**+2.6**
TAS	**Tashkent**	**5.20**	**349**	Pn		**Pn**		**17 36 37.9**	**-1.5**
KSH	**Kashi**	**5.33**	**50**	P		**Pn**		**17 36 39.8**	**-1.5**
KSH				S		Sn		17 37 33.4	-8.7
KSH				smax		smax			
	comp=N,550nm,0.5s								
KSH				smax		smax			
	comp=E,300nm,0.4s								
DHRM	**DHARAMSHALA**	**6.13**	**129**	*eP*		**Pn**		**17 36 54.8**	**+2.7**
DHRM				*eS*		**Sn**		**17 38 02.7**	**+1.4**
DHRM				IAML				17 38 05.7	
	comp=E,444nm,0.4s								
DHRM				IAML				17 38 06.2	
	comp=N,707nm,0.4s								
AML	**Almayashu**	**6.35**	**21**	P		**Pn**		**17 36 55.8**	**+0.7**
	SNR=38								
UCH	**Uchtor**	**6.70**	**25**	P		**Pn**		**17 37 00.5**	**+0.8**
	SN

	comp=Z,69nm,14.5s							
GTA					LR	LR		
	comp=Z,79nm,16.0s							
TLY	**Talaya**	**28.03**	**46**	P	**P**	**17 41 00.0**	**-0.2**
TLY				IAmb	IAmb	17 41 25.2	
	comp=Z,4.6nm,0.9s							
SONM	**Songino Array**	**28.72**	**55**	P	**P**	**17 41 07.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**32.12**	**69**	*e*P	**P**	**17 41 38.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s							
HHC				pmax	pmax		
	comp=Z,96nm,6.6s							
NRIK	**Noril'sk**	**34.44**	**11**	P	**P**	**17 41 56.8**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=194,slow=6.7,SNR=4.4							
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**17 42 22.7**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=120,slow=8.5,SNR=4.0							
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**17 42 22.6**	**-0.1**
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**17 42 53.6**	**0.0**
	comp=Z,3.5nm,0.9s,baz=109,slow=8.1,SNR=5.5							
TIXI	**Tiksi**	**46.13**	**22**	P	**P**	**17 43 31.9**	**-0.2**
TIXI				IAmb	IAmb	17 43 52.2		
	comp=Z,8.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**65.44**	**269**	P	**P**	**17 45 48.2**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=67,slow=3.7,SNR=1.6							
TOLK	**Toolik Lake Re**	**71.25**	**14**	P	**P**	**17 46 25.2**	**-0.6**
INK	**Inuvik**	**74.22**	**9**	P	**P**	**17 46 43.1**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=343,slow=7.7,SNR=4.8							
INK	**Inuvik**	**74.22**	**9**	P	**P**	**17 46 43.1**	**-0.1**
ILAR	**Eielson Array**	**75.11**	**16**	P	**P**	**17 46 47.7**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=287,slow=4.7,SNR=6.2							
PPLA	**Purkeypile**	**75.43**	**19**	P	**P**	**17 46 49.7**	**-0.8**
TRF	**Thorofare Moun**	**75.45**	**18**	P	**P**	**17 46 50.0**	**-0.6**
TRF				IAmb	IAmb	17 46 58.2		
	comp=Z,7.6nm,1.3s							
DHY	**Denali Highway**	**76.47**	**17**	P	**P**	**17 46 55.3**	**-1.1**
DHY				IAmb	IAmb	17 47 21.2		
	comp=Z,5.7nm,1.2s							
DOT	**Dot Lake**	**76.70**	**15**	P	**P**	**17 46 56.7**	**-0.8**
DOT				IAmb	IAmb	17 47 16.7		
	comp=Z,9.2nm,1.5s							
PAX	**Paxson**	**76.99**	**16**	P	**P**	**17 46 58.6**	**-0.7**
PAX				IAmb	IAmb	17 47 02.1		
	comp=Z,7.3nm,1.3s							
YKA	**Yellowknife Ar**	**81.53**	**2**	P	**P**	**17 47 23.2**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=357,slow=5.3,SNR=4.2							
WRA	**Warramunga Arr**	**82.08**	**122**	P	**P**	**17 47 25.4**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=322,slow=4.9,SNR=7.5							

*IDC **21** 17:42:38.3±4.0, 49°.20S×105°.94E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/33, mbtmp3.8/3, MS3.6/15, Ms1 3.6/15, ms1mx3.4/29, Error ellipse: s-maj=146.0km s-min=28.3km az=109.0*
*NEIC **21** 17:42:39.5±1.1, 49°.2S±0°.2×105°.7E±0°.2, h15km±3km, mb4.6/8, Error ellipse: s-maj=21.9km s-min=18.3km az=161.0*

ISC 21 17:42:38.7±0.9, 49°.2S±0°.2×105°.5E±0°.2, h10km, n35, σ0s74/20, mb4.5/7, MS3.7/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**15.62**	**27**	T		T	18 02 11.9	
	baz=201,slow=74							
H01W1	**Cape Leeuwin H**	**15.63**	**27**	T		T	18 02 12.7	
	baz=201,slow=74							
H01W3	**Cape Leeuwin H**	**15.63**	**27**	T		T	18 02 13.0	
	baz=201							
NWAO	**Narrogin (SRO)**	**18.44**	**33**	LR		LR	17 52 18.8	
	comp=Z,132nm,18.9s,baz=70,slow=32							
MAW	**Mawson**	**28.13**	**213**	LR		LR	17 57 10.1	
	comp=Z,154nm,20.6s,baz=62,slow=31							
STKA	**Stephens Creek**	**32.04**	**71**	LR		LR	17 59 24.7	
	comp=Z,94nm,21.9s,baz=207,slow=32							
STKA	**Stephens Creek**	**32.04**	**71**	P		**P**	**17 49 05.6**	**+0.2**
ASAR	**Alice Springs**	**33.85**	**52**	P		**P**	**17 49 20.6**	**-0.7**
	0.9nm,0.8s,baz=208,slow=8.6,SNR=9.5							
ASAR				LR		LR	18 01 22.4	
	comp=Z,131nm,21.1s,baz=226,slow=33							
ASAR	**Alice Springs**	**33.85**	**52**	P		**P**	**17 49 20.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**35.01**	**35**	LR		LR	18 03 42.6	
	comp=Z,126nm,18.2s,baz=220,slow=36							
VNDA	**Vanda**	**35.37**	**162**	P		**P**	**17 49 34.0**	**+0.2**
	1.2nm,0.8s,baz=286,slow=8.6,SNR=7.7							
VNDA				LR		LR	18 02 25.4	
	comp=Z,140nm,21.6s,baz=316,slow=34							
VNDA	**Vanda**	**35.37**	**162**	P		**P**	**17 49 34.4**	**+0.6**
WRA	**Warramunga Arr**	**37.18**	**49**	P		**P**	**17 49 49.5**	**-0.5**
	1.3nm,0.6s,baz=211,slow=8.3,SNR=13							
WRA				LR		LR	18 03 55.4	
	comp=Z,124nm,19.8s,baz=200,slow=34							
WB2	**Warramunga Arr**	**37.19**	**49**	P		**P**	**17 49 49.5**	**-0.5**
WB2				IAmb		IAmb	17 50 13.8	
	comp=Z,13nm,1.6s							
WR0	**Warramunga Arr**	**37.27**	**49**	P		**P**	**17 49 50.1**	**-0.5**
WR0				IAmb		IAmb	17 50 00.6	
	comp=Z,24nm,2.0s							
WB0	**Warramunga Arr**	**37.36**	**49**	P		**P**	**17 49 51.3**	**-0.1**
QSPA	**South Pole Qui**	**40.97**	**180**	P		**P**	**17 50 21.4**	**+0.1**
QSPA				IAmb		IAmb	17 51 29.6	
	comp=Z,25nm,2.0s							
LEM	**Lembang**	**42.23**	**3**	LR		LR	18 03 36.0	
	comp=Z,150nm,21.9s,baz=202,slow=30							
COEN	**Coen**	**46.75**	**55**	P		**P**	**17 51 09.4**	**+1.2**
SNAA	**Sanae**	**49.43**	**203**	P		**P**	**17 51 28.4**	**0.0**
SNAA				IAmb		IAmb	17 52 58.6	
	comp=Z,10nm,1.7s							
PSI	**Prapat**	**52.07**	**352**	LR		LR	18 09 39.2	
	comp=Z,68nm,20.7s,baz=242,slow=31							
PMG	**Port Moresby**	**52.67**	**56**	LR		LR	18 13 45.3	
	comp=Z,29nm,18.2s,baz=244,slow=36							
BOSA	**Boshof**	**62.79**	**257**	LR		LR	18 14 10.8	
	comp=Z,51nm,18.8s,baz=182,slow=30							
CMAR	**Chiang Mai Arr**	**67.57**	**353**	LR		LR	18 20 39.5	
	comp=Z,16nm,19.6s,baz=198,slow=34							
GUMO	**Guam**	**71.50**	**41**	LR		LR	18 24 27.9	
	comp=Z,38nm,19.7s,baz=203,slow=35							
GTA	**Gaotai**	**88.34**	**356**	*e*P		**P**	**17 55 30.8**	**+0.6**
GTA				pP		pwP	17 55 39.8	+3.0
GTA				sP		sP	17 55 43.4	+10
PLCA	**Paso Flores**	**90.42**	**183**	LR		LR	18 36 10.8	
	comp=Z,52nm,18.3s,baz=154,slow=36							
SONM	**Songino Array**	**96.62**	**1**	LR		LR	18 42 01.9	
	comp=Z,15nm,18.1s,baz=232,slow=37							
CIMO	**Cimolais**	**124.61**	**303**			**PKPdf**	**18 01 37.8**	**+0.2**
BBB	**Bella Bella**	**146.53**	**64**			**PKPdf**	**18 02 17.1**	**-0.6**
NVAR	**Mina Array Bea**	**147.04**	**92**	PKPbc		**PKPbc**	**18 02 21.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=224,slow=5.0,SNR=4.5							
PRN	**Pahroc Range**	**148.60**	**97**			**PKPbc**	**18 02 25.3**	**-0.3**
TXAR	**Lajitas Array**	**150.25**	**121**	PKPbc		**PKPbc**	**18 02 29.9**	**0.0**
	comp=Z,1.2nm,0.9s,baz=191,slow=3.8,SNR=9.6							
TXAR	**Lajitas Array**	**150.25**	**121**			**PKPbc**	**18 02 28.2**	**-1.7**
MNTX	**Cornudas Mount**	**151.01**	**115**			**PKPbc**	**18 02 30.8**	**-0.8**

*IDC **21** 17:49:26.4±0.7, 7°.53N×94°.48E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.9/48, mbtmp3.9/16, ML3.7/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/41, Error ellipse: s-maj=28.0km s-min=16.1km az=65.0*
*DJA **21** 17:49:32.6±0.6, 8°N±7°×9°5E±1°0, h152km±13km, M4.4/7, mb4.3/6, mB4.6/2, MLv4.4/7, Mw(mB)3.8/2*
*NEIC **21** 17:49:33.7±2.9, 7°.60N±0°.08×94°.7E±0°.1, h61km±7km, mb4.4/28, Error ellipse: s-maj=17.2km s-min=8.4km az=56.0*

ISC 21 17:49:32.9±0.5, 7°.57N±0°.06×94°.60E±0°.07, h50km, n77, σ1s85/68, mb4.2/29, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LHMI	**Lhok Sumawe**	**3.30**	**135**	P		**Pn**	**17 50 21.4**	**-0.6**
LHMI				S		**Sn**	**17 51 01.8**	**+1.8**
LHMI	**Lhok Sumawe**	**3.30**	**135**	Pn		**Pn**	**17 50 22.3**	**+0.2**
MLSI	**Meulaboh, Aceh**	**3.74**	**151**	P		**Pn**	**17 50 30.8**	**+2.7**
PBA	**Port Blair**	**4.45**	**336**			Pn	17 50 41.6	+3.7
TPTI		**4.99**	**149**	P		**Pn**	**17 50 44.1**	**-1.2**
PSI	**Prapat**	**6.40**	**137**	Pn		**Pn**	**17 51 08.9**	**+4.1**
	1.2nm,0.3s,baz=228,slow=9.2,SNR=3.9							
PSI				Sn		**Sn**	**17 52 21.4**	**+4.8**
	1.3nm,0.3s,baz=250,slow=8.1,SNR=1.4							
PSI				LR		LR	17 54 24.6	
	comp=Z,157nm,19.9s,baz=264,slow=46							
KULM	**Kulim**	**6.43**	**110**	Pn		**Pn**	**17 51 05.6**	**+0.5**
RPSI	**Rantau Prapat**	**6.48**	**138**	Pn		**Pn**	**17 51 06.3**	**+0.5**
RPSI	**Rantau Prapat**	**6.48**	**138**			**Pn**	**17 51 08.9**	**+3.1**
RPSI						**Sn**	**17 52 21.4**	**+3.0**
GSI	**Gunungsitoli**	**6.90**	**154**	Pn		**Pn**	**17 51 09.8**	**-1.7**
IPM	**Ipoh**	**7.09**	**115**	Pn		**Pn**	**17 51 13.4**	**-0.8**
MNSI	**Mandailing Nat**	**8.36**	**143**	P		**Pn**	**17 51 28.5**	**-3.1**
	907nm32nm,0.6s							
SISI	**Saibi**	**9.91**	**153**	P		**Pn**	**17 51 50.0**	**-2.7**
MYKOM	**Kota Tinggi**	**10.86**	**121**	Pn		**Pn**	**17 52 06.2**	**+0.4**
CM31	**Chiang Mai Arr**	**11.62**	**21**	Pn		Pn	17 52 10.3	-5.9
CMAR	**Chiang Mai Arr**	**11.62**	**21**	Pn		**Pn**	**17 52 16.1**	**-0.1**
	0.2nm,0.3s,baz=209,slow=14,SNR=2.0							
CMAR				LR		LR	17 56 59.7	
	comp=Z,117nm,18.1s,baz=254,slow=39							
CHTO	**Chiang Mai**	**11.95**	**20**			Pn	17 52 28.3	+7.6
SLVN	**Son La**	**16.38**	**32**			**P**	**17 53 24.4**	**+2.7**
KSM	**Kuching**	**16.79**	**110**			**Pn**	**17 53 22.3**	**-2.4**
KOHI	**KOHIMA**	**18.06**	**359**	*e*P		**P**	**17 53 38.8**	**-1.5**
SHL	**Shillong**	**18.09**	**352**	P		**Pn**	**17 53 41.2**	**+0.5**
BOK	**Bokaro**	**18.17**	**334**	*e*P		**Pn**	**17 53 43.4**	**+1.7**
SBUM	**Sibu**	**18.27**	**105**	P		**P**	**17 53 38.7**	**-3.9**
QIZ	**Qiongzhong**	**18.69**	**51**	P		**P**	**17 53 46.8**	**-0.4**
QIZ				S		**Sn**	**17 57 15.3**	**-1.0**
QIZ				LR		LR		
	comp=N,350nm,14.7s							
QIZ				LR		LR		
	comp=E,190nm,15.1s							
QIZ				LR		LR		
	comp=Z,110nm,12.3s							
LSA	**Lhasa**	**22.25**	**352**	P		**P**	**17 54 28.1**	**+1.9**
LSA				IAmb		IAmb	17 54 32.2	
	comp=Z,8.0nm,0.8s							
MYLDM	**Lahad Datu**	**23.87**	**94**	P		**P**	**17 54 39.1**	**-2.9**
MYLDM				IAmb		IAmb	17 54 54.5	
	comp=Z,19nm,1.4s							
BKB	**Balikpapan**	**23.91**	**111**	P		**P**	**17 54 35.9**	**-6.5**
H08S3	**Diego Garcia H**	**26.72**	**236**	T		T	18 21 45.5	
	baz=54,slow=75,SNR=126							
H08S2	**Diego Garcia H**	**26.72**	**236**	T		T	18 21 46.9	
	baz=54,slow=75,SNR=16							
H08S1	**Diego Garcia H**	**26.74**	**236**	T		T	18 21 46.9	
	baz=54,slow=75,SNR=4.4							
LZH	**Lanzhou**	**29.62**	**15**	⇑P		**P**	**17 55 35.3**	**+1.6**
LZH				pP		sP	17 56 03.5	+12
LZH				sP		PnPn	17 56 19.0	-11
LZH				PP		**PP**	**17 56 39.6**	**-1.7**
LZH				pmax		pmax		
	comp=Z,23nm,1.0s							
LZH				pmax		pmax		
	comp=Z,100nm,5.2s							
GTA	**Gaotai**	**32.05**	**8**	*e*P		**P**	**17 55 56.0**	**+1.0**
GTA				pP		pP	17 56 02.4	-4.8
GTA				sP		pwP	17 56 05.1	-5.4
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
NIL	**Nilore**	**32.60**	**326**	P		**P**	**17 55 58.5**	**-1.4**
HHC	**Hu-ho-hao-te**	**36.43**	**22**	*e*P		**P**	**17 56 32.8**	**-0.1**
HHC				pmax		pmax		
	comp=Z,16nm,0.7s							
HHC				pmax		pmax		
	comp=Z,120nm,6.6s							
WMQ	**Urumqi**	**36.61**	**352**	*e*P		**P**	**17 56 35.8**	**+1.4**
GAR	**Garm**	**38.17**	**329**	P		**P**	**17 56 46.2**	**-1.6**
GAR				IAmb		IAmb	17 56 52.7	
	comp=Z,6.9nm,1.0s							
BOOM	**Boomskoye usch**	**38.48**	**338**	P		**P**	**17 56 47.8**	**-2.5**
BOOM				IAmb		IAmb	17 57 31.9	
	comp=Z,3.5nm,1.1s							
CHGR	**Chuyangaron**	**38.52**	**327**	P		**P**	**17 56 48.8**	**-1.9**
BTK	**Batken**	**38.72**	**330**	P		**P**	**17 56 52.4**	**+0.1**
BTK				IAmb		IAmb	17 57 01.7	
	comp=Z,4.5nm,0.9s							
MK31	**Makanchi Array**	**40.48**	**347**	P		**P**	**17 57 06.2**	**-0.6**
MK31				IAmb		IAmb	17 57 12.5	
	comp=Z,2.4nm,0.7s							
MKAR	**Makanchi Array**	**40.48**	**347**	P		**P**	**17 57 06.7**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=167,slow=8.0,SNR=22							
MKAR	**Makanchi Array**	**40.48**	**347**	P		**P**	**17 57 06.4**	**-0.4**
MAKZ	**Makanchi**	**40.57**	**347**	P		**P**	**17 57 06.8**	**-0.7**
MAKZ				IAmb		IAmb	17 57 13.0	
	comp=Z,4.3nm,0.6s							
KK31	**Karatay Array**	**41.24**	**333**	P		**P**	**17 57 12.0**	**-1.1**
KKAR	**Karatay Array**	**41.24**	**333**	P		**P**	**17 57 12.5**	**-0.5**
SONM	**Songino Array**	**41.36**	**12**	P		**P**	**17 57 15.9**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=202,slow=12,SNR=3.9							
SONM				LR		LR	18 17 39.7	
	comp=Z,33nm,18.8s,baz=20,slow=41							
KSRS	**Korea Array**	**42.40**	**40**	LR		LR	18 17 39.5	
	comp=Z,27nm,18.7s,baz=10.0,slow=40							
GEYT	**Alibeck**	**44.73**	**318**	P		**P**	**17 57 41.3**	**-0.1**
	comp=Z,19nm,0.8s,baz=155,slow=11,SNR=6.2							
GEYT	**Alibeck**	**44.73**	**318**	IAmb		IAmb	17 57 45.2	
	comp=Z,12nm,1.1s							
KURK	**Kurchatov**	**45.02**	**346**	P		**P**	**17 57 42.8**	**-0.5**
KURK				IAmb		IAmb	17 57 50.9	
	comp=Z,5.4nm,0.7s							
H01W3	**Cape Leeuwin H**	**46.08**	**158**	T		T	18 47 46.1	
	baz=331							
H01W2	**Cape Leeuwin H**	**46.10**	**158**	T		T	18 47 50.5	
	baz=331							
H01W1	**Cape Leeuwin H**	**46.10**	**158**	T		T	18 47 49.9	
	baz=331							
ZAA0	**Zalesovo Array**	**46.92**	**352**	P		**P**	**17 57 56.9**	**-1.4**
ZAA0				IAmb		IAmb	17 58 05.8	
	comp=Z,3.0nm,0.7s							
ZALV	**Zalesovo Beam**	**46.92**	**352**	P		**P**	**17 57 59.0**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=181,slow=8.2,SNR=7.5							
ZALV	**Zalesovo Beam**	**46.92**	**352**	P		**P**	**17 57 56.9**	**-1.4**
WRA	**Warramunga Arr**	**47.72**	**126**	P		**P**	**17 58 05.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=306,slow=8.5,SNR=9.6							
ASAR	**Alice Springs**	**49.38**	**130**	P		**P**	**17 58 18.4**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=297,slow=8.0,SNR=11							
ASAR				PcP		**PcP**	**17 59 41.0**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=300,slow=3.3,SNR=5.1							
ASAR	**Alice Springs**	**49.38**	**130**	P		**P**	**17 58 18.2**	**+0.4**
BRVK	**Borovoye**	**49.48**	**341**	P		**P**	**17 58 17.1**	**-1.1**
BRVK				IAmb		IAmb	17 58 23.7	
	comp=Z,3.0nm,0.7s							
ABKAR	**Akbulak array**	**50.71**	**331**	P		**P**	**17 58 26.6**	**-1.0**
ABKAR				IAmb		IAmb	17 58 33.6	
	comp=Z,4.0nm,0.9s							
ABKAR	**Akbulak array**	**50.71**	**331**	P		**P**	**17 58 26.7**	**-0.8**
BBOO	**Buckleboo**	**56.28**	**138**	P		P	17 59 04.2	-4.4
ARU	**Arti**	**56.34**	**337**	P		**P**	**17 59 08.5**	**-0.2**
AKASG	**Malin Array Be**	**68.67**	**322**	P		**P**	**18 00 30.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=86,slow=4.3,SNR=2.5							
FINES	**FINESS Array B**	**73.19**	**332**	P		**P**	**18 00 57.9**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=77,slow=7.4,SNR=4.0							
ARCES	**ARCESS Array B**	**75.70**	**340**	P		**P**	**18 01 13.5**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=347,slow=10,SNR=1.3							
BOSA	**Boshof**	**75.81**	**238**	P		**P**	**18 01 14.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=171,slow=1.8,SNR=1.9							
BOSA	**Boshof**	**75.81**	**238**	IAmb		IAmb	18 01 23.8	
	comp=Z,10nm,1.4s							
MAW	**Mawson**	**78.33**	**192**	P		**P**	**18 01 28.4**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=64,slow=3.4,SNR=7.5							
MAW	**Mawson**	**78.33**	**192**	IAmb		IAmb	18 01 37.6	
	comp=Z,1.4nm,1.6s							
GERES	**GERESS Array B**	**78.35**	**318**	P		**P**	**18 01 28.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=104,slow=7.2,SNR=1.7							
NB2	**NORSAR Subarra**	**80.22**	**331**	P		**P**	**18 01 38.3**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=90,slow=6.5							
NOA	**NORSAR Array B**	**80.22**	**331**	P		**P**	**18 01 39.0**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=19,slow=5.9,SNR=2.0							
TORD	**Torodi Ar. Bea**	**91.11**	**283**	P		**P**	**18 02 33.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=54,slow=5.0,SNR=1.5							
TORD	**Torodi Ar. Bea**	**91.11**	**283**	IAmb		IAmb	18 02 40.0	
	comp=Z,1.0nm,1.0s							
ILAR	**Eielson Array**	**94.86**	**22**	P		**P**	**18 02 48.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=240,slow=5.7,SNR=5.6							

IDC 21 17:57:58.0±4.7, 49°.48S×107°.60E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/34, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/14, Error ellipse: s-maj=166.2km s-min=30.8km az=106.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**15.34**	**21**	T		T	18 17 25.6	
	baz=200,slow=73,SNR=72							
H01W1	**Cape Leeuwin H**	**15.35**	**21**	T		T	18 17 24.9	
	baz=200,slow=73,SNR=77							
H01W3	**Cape Leeuwin H**	**15.36**	**21**	T		T	18 17 27.8	
	baz=200,slow=73,SNR=73							
NWAO	**Narrogin (SRO)**	**18.03**	**27**	LR		LR	18 06 34.9	
	comp=Z,56nm,21.9s,baz=290,slow=29							
ASAR	**Alice Springs**	**33.00**	**48**	P		P	18 04 35.0	+0.3
	0.6nm,0.8s,baz=208,slow=8.1,SNR=5.0							
VNDA	**Vanda**	**34.64**	**162**	P		P	18 04 48.8	+0.5
	0.4nm,0.6s,baz=300,slow=8.7,SNR=5.0							
WRA	**Warramunga Arr**	**36.39**	**46**	P		P	18 05 03.9	0.0
	0.9nm,0.8s,baz=209,slow=9.1,SNR=5.0							
NVAR	**Mina Array Bea**	**145.66**	**91**	PKPbc		PKPdf	18 17 37.3	-0.7
	0.7nm,0.8s,baz=223,slow=5.9,SNR=2.1							
TXAR	**Lajitas Array**	**148.90**	**119**	PKPbc		PKPbc	18 17 46.0	-1.5
	0.5nm,0.8s,baz=208,slow=3.1,SNR=2.4							

*ATH **21** 18:31:10.3, 36°.16Nx27°.95E, h61km±3km, ML2.9/7, Error ellipse: s-maj=3.7km s-min=1.4km az=93.0*
*DDA **21** 18:31:10.2, 35°.96Nx28°.01E, h8km±2km, ML2.4*
*ISK **21** 18:31:10.5, 36°.11Nx27°.93E, h26km, ML2.9/18*
*THE **21** 18:31:12.2, 36°.12Nx27°.96E, h46km±2km, ML2.8/5, Error ellipse: s-maj=2.1km s-min=0.9km az=83.0*
*NIC **21** 18:31:12.2±0.0, 35°.88Nx28°.10E, h29km±1km, Ml3.6/3*

ISC 21 18:31:11.2±1.2, 36°.10N±0°.03×27°.96E±0°.02, h55km±7km, n69, σ0s80/98, 3C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARG	**Arkhangelos**	**0.18**	**48**	P		**Pn**	**18 31 20.2**	**+0.1**
ARG				S		**Sn**	**18 31 25.1**	**-1.2**
	2μm,0.4s							
ARG	**Arkhangelos**	**0.18**	**48**	P		**Pn**	**18 31 20.1**	**+0.1**
ARG				S		**Sn**	**18 31 26.7**	**+0.4**
ARG				AML		AML	18 31 26.9	
	comp=N,2024μm,0.3s							
ARG				AML		AML	18 31 27.1	
	comp=E,4161μm,0.3s							
ARG	**Arkhangelos**	**0.18**	**48**	PG		**Pn**	**18 31 19.9**	**-0.1**
ARG	**Arkhangelos**	**0.18**	**48**	⇑P		**Pn**	**18 31 20.1**	**+0.1**
ARG				S		**Sn**	**18 31 26.7**	**+0.4**
DAT	**Datca**	**0.70**	**334**	P		**Pn**	**18 31 25.2**	**-0.1**
DAT				S		**Sn**	**18 31 35.2**	**-0.6**
DAT	**Datca**	**0.70**	**334**	PG		**Pn**	**18 31 25.0**	**-0.4**
DAT				SG		**Sn**	**18 31 35.1**	**-0.6**
DAT	**Datca**	**0.70**	**334**	*i* P		**Pn**	**18 31 25.3**	**-0.1**
DAT				*i* S		**Sn**	**18 31 35.6**	**-0.1**
DAT				IAML			18 31 36.0	
	comp=N,131nm,0.4s							
DAT				IAML			18 31 37.0	
	comp=E,129nm,0.1s							
DATC	**Datca-Mugla**	**0.70**	**340**	PG		**Pn**	**18 31 24.7**	**-0.6**
DATC				SG		**Sn**	**18 31 35.1**	**-0.4**
TURN	**Turunc**	**0.72**	**19**	PG		**Pn**	**18 31 25.2**	**-0.2**
TURN				SG		**Sn**	**18 31 35.9**	**+0.2**
TURN	**Turunc**	**0.72**	**19**	*i* P		**Pn**	**18 31 25.8**	**+0.4**
TURN				*i* S		**Sn**	**18 31 36.9**	**+1.2**
TURN				IAML			18 31 37.0	
	comp=N,376nm,0.5s							
TURN				IAML			18 31 37.0	
	comp=E,362nm,0.4s							
NIS1	**Nisyros Isl.**	**0.81**	**309**	P		**Pn**	**18 31 26.5**	**-0.1**
NIS1				S		**Sn**	**18 31 37.5**	**-0.4**
	comp=E,1μm,0.4s							
NIS1	**Nisyros Isl.**	**0.81**	**309**	P		**Pn**	**18 31 26.5**	**-0.1**
NIS1				S		**Sn**	**18 31 37.1**	**-0.8**
NIS1				AML		AML	18 31 41.3	
	comp=N,2067μm,0.3s							
NIS1				AML		AML	18 31 41.8	
	comp=E,2206μm,0.4s							
NIS1	**Nisyros Isl.**	**0.81**	**309**	PG		**Pn**	**18 31 26.1**	**-0.5**
NIS1				SG		**Sn**	**18 31 37.3**	**-0.6**
KARP	**Karpathos**	**0.85**	**230**	P		**Pn**	**18 31 27.7**	**+0.6**
KARP				S		**Sn**	**18 31 39.3**	**+0.5**
	comp=E,805nm,0.4s							
KARP	**Karpathos**	**0.85**	**230**	P		**Pn**	**18 31 27.7**	**+0.6**
KARP				S		**Sn**	**18 31 39.7**	**+0.8**
KARP				AML		AML	18 31 40.4	
	comp=N,1770μm,0.2s							
KARP				AML		AML	18 31 40.7	
	comp=E,1202μm,0.3s							

ALFC	**Alefka**	**3.89**	**103**	⇓P	**Pn**	**18 32 08.0**	**-0.6**
ALFC				AML	AML	18 32 51.5	
	comp=E,0.2nm,0.8s						
ALFC				AML	AML	18 32 51.8	
	comp=E,0.2nm,0.4s						
NATA	**Nata**	**3.99**	**108**	P	**Pn**	**18 32 09.3**	**-0.5**
VLI	**Veliai**	**4.10**	**280**	P	**Pn**	**18 32 12.7**	**+1.4**
SZAC	**Souni**	**4.24**	**107**	P	**Pn**	**18 32 12.9**	**-0.4**
SZAC				AML	AML	18 32 60.0	
	comp=E,0.4nm,0.4s						
SZAC				AML	AML	18 33 00.7	
	comp=E,0.3nm,0.2s						
MVOU	**Mavrovouni**	**4.75**	**101**	P	**Pn**	**18 32 19.8**	**-0.4**

WEL 21 18:43:59.7±0.9, 36°S±6″×17°8E±°, h146km±11km, M3.3/24, MLv3.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=59.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.23**	**164**	P	Pn	18 44 25.1	-1.0
MXZ				S	Sn	18 44 47.2	+0.7
HAZ	**Te Kaha**	**1.38**	**183**	P	Pn	18 44 27.8	+0.1
HAZ				S	Sn	18 44 50.0	+0.9
WMGZ	**Waiomatatini S**	**1.50**	**164**	P	Pn	18 44 29.6	+0.6
WMGZ				S	Sn	18 44 51.8	+0.4
RUGZ	**Raukumara Rang**	**1.60**	**186**	P	Pn	18 44 29.3	-0.7
PUZ	**Puketiti**	**1.72**	**170**	P	Pn	18 44 32.1	+0.7
PUZ				S	Sn	18 44 55.9	+0.3
KUZ	**Kuaotunu**	**1.78**	**257**	P	Pn	18 44 31.9	-0.1
TWGZ	**Tauwhareparae**	**1.80**	**178**	P	Pn	18 44 32.9	+0.6
TWGZ				S	Sn	18 44 58.6	+1.2
OPRZ	**Ohinepanea**	**1.81**	**215**	P	Pn	18 44 33.0	+0.6
MARZ	**Manawahe**	**1.88**	**211**	P	Pn	18 44 35.3	+2.2
GRZ	**Great Barrier**	**1.96**	**273**	P	Pn	18 44 33.4	-0.6
MWZ	**Matawai**	**1.98**	**188**	P	Pn	18 44 34.6	+0.3
MWZ				S	Sn	18 45 00.7	-0.3
URZ	**Urewera**	**1.98**	**198**	P	Pn	18 44 34.0	-0.3
URZ				S	Sn	18 45 01.1	+0.2
TKGZ	**Te Karaka**	**2.06**	**181**	P	Pn	18 44 35.5	+0.3
TKGZ				S	Sn	18 45 02.5	-0.1
CNGZ	**Carnagh Statio**	**2.12**	**173**	P	Pn	18 44 36.3	+0.3
RAGZ	**Rawiri**	**2.15**	**190**	P	Pn	18 44 36.4	0.0
RAGZ				S	Sn	18 45 05.0	+0.4
TARZ	**Mount Tarawera**	**2.16**	**210**	P	Pn	18 44 39.4	+2.9
WIAZ	**Waiheke Island**	**2.25**	**258**	P	Pn	18 44 36.4	-1.1
MUGZ	**Murupara**	**2.28**	**203**	P	Pn	18 44 38.4	+0.5
RIGZ	**Rimuhau**	**2.33**	**182**	P	Pn	18 44 37.9	-0.6
RIGZ				S	Sn	18 45 07.8	-0.7
TOZ	**Tahuroa Road**	**2.34**	**234**	P	Pn	18 44 39.5	+0.9
RTZ	**Ruatahuna**	**2.35**	**198**	P	Pn	18 44 38.0	-0.8
SNGZ	**Shannon Statio**	**2.44**	**190**	P	Pn	18 44 40.1	+0.2
SNGZ				S	Sn	18 45 11.6	+0.7
PRGZ	**Paritu Road**	**2.54**	**180**	P	Pn	18 44 40.6	-0.5
MTHZ	**Maungataniwha**	**2.61**	**198**	P	Pn	18 44 41.8	-0.2
MTHZ				S	Sn	18 45 14.2	-0.4
RAHZ	**Arahi**	**2.62**	**194**	P	Pn	18 44 41.7	-0.3
RAHZ				S	Sn	18 45 14.7	0.0
KNZ	**Kokohu**	**2.65**	**184**	P	Pn	18 44 41.4	-1.0
KUTZ	**Kaahu Road**	**2.67**	**217**	P	Pn	18 44 44.3	+1.5
TLZ	**Tolley Road**	**2.70**	**223**	P	Pn	18 44 44.1	+0.9
MRHZ	**Matea Rd**	**2.72**	**205**	P	Pn	18 44 43.9	+0.6
WHHZ	**Waihua**	**2.75**	**191**	S	Sn	18 45 17.9	+0.2
MHGZ	**Mahia Peninsul**	**2.77**	**180**	P	Pn	18 44 43.3	-0.7
NMHZ	**Naumai**	**2.85**	**197**	P	Pn	18 44 45.5	+0.5
WCZ	**Waipu Caves**	**2.90**	**278**	P	Pn	18 44 44.3	-1.2
ARHZ	**Aropaoanui**	**2.97**	**193**	P	Pn	18 44 45.6	-0.8
BKZ	**Black Stump Fm**	**3.00**	**201**	P	Pn	18 44 46.8	-0.1
KATZ	**Kakaramea**	**3.12**	**213**	P	Pn	18 44 51.3	+2.7
MCHZ	**McNeill Hill**	**3.21**	**197**	P	Pn	18 44 48.9	-0.6
MCHZ				S	Sn	18 45 27.5	-0.5
HIZ	**Hauiti**	**3.22**	**228**	P	Pn	18 44 49.2	-0.4
KRVZ	**Karewarewa**	**3.25**	**213**	P	Pn	18 44 52.4	+2.3
KWHZ	**Kaweka Forest**	**3.26**	**200**	P	Pn	18 44 49.2	-1.0
WTVZ	**West Tongariro**	**3.29**	**213**	P	Pn	18 44 50.1	-0.5
OTVZ	**Oturere**	**3.29**	**212**	P	Pn	18 44 50.6	-0.1
TWVZ	**Taurewa**	**3.32**	**215**	P	Pn	18 44 52.5	+1.4
NGZ	**Ngauruhoe**	**3.33**	**212**	P	Pn	18 44 52.3	+1.0
CKHZ	**Cape Kidnapper**	**3.34**	**191**	P	Pn	18 44 49.6	-1.6
CKHZ				S	Sn	18 45 29.2	-1.9
TUVZ	**Tukino**	**3.38**	**211**	P	Pn	18 44 52.5	+0.6
FWVZ	**Far West T-bar**	**3.42**	**212**	P	Pn	18 44 53.0	+0.6
WHVZ	**Whangaehu Hut**	**3.42**	**211**	P	Pn	18 44 53.5	+1.0
BHHZ	**Black Hill Sta**	**3.43**	**204**	P	Pn	18 44 51.7	-0.7
WNVZ	**Wahianoa**	**3.46**	**211**	P	Pn	18 44 53.7	+0.8
MOVZ	**Moawhango**	**3.46**	**208**	P	Pn	18 44 52.1	-0.8
MOVZ				S	Sn	18 45 32.4	-1.7
KRHZ	**Kereru**	**3.48**	**200**	P	Pn	18 44 50.9	-2.1
KRHZ				S	Sn	18 45 32.1	-2.2
KAHZ	**Kahuranaki**	**3.50**	**193**	P	Pn	18 44 51.7	-1.6
PKVZ	**Pokaka**	**3.54**	**214**	P	Pn	18 44 55.3	+1.5
PXZ	**Pawanui**	**3.74**	**192**	P	Pn	18 44 53.7	-2.6
PXZ				S	Sn	18 45 36.4	-3.9
PNHZ	**Pukenui**	**3.77**	**200**	P	Pn	18 44 54.5	-2.3
PNHZ				S	Sn	18 45 37.8	-3.4
WPHZ	**Waipukurau**	**3.85**	**197**	P	Pn	18 44 55.9	-1.9
WPHZ				S	Sn	18 45 39.8	-3.4
TSZ	**Takapari Road**	**3.98**	**202**	P	Pn	18 44 57.1	-2.4
PRHZ	**Porangahau**	**4.01**	**194**	P	Pn	18 44 57.6	-2.3
WAZ	**Wanganui**	**4.08**	**213**	P	Pn	18 45 01.6	+0.8
DVHZ	**Dannevirke**	**4.14**	**198**	P	Pn	18 44 59.0	-2.7
DVHZ				S	Sn	18 45 45.4	-4.5
PKE	**Pukeiti**	**4.18**	**226**	P	Pn	18 45 05.0	+2.9
POWZ	**Post Office Ro**	**4.34**	**202**	P	Pn	18 45 01.8	-2.5
PRWZ	**Pori Road**	**4.43**	**199**	P	Pn	18 45 03.5	-2.0
BFZ	**Birch Farm**	**4.49**	**196**	P	Pn	18 45 03.0	-3.2
MRZ	**Mangatainoka R**	**4.64**	**202**	P	Pn	18 45 04.9	-3.4
MRZ				S	Sn	18 45 55.4	-6.4
HOWZ	**Holdsworth Sta**	**4.88**	**202**	P	Pn	18 45 07.8	-3.6
HOWZ				S	Sn	18 46 00.9	-6.5
OGWZ	**Otaki Gorge**	**4.92**	**205**	P	Pn	18 45 08.5	-3.4
TMWZ	**Te Maipa**	**4.97**	**198**	P	Pn	18 45 09.1	-3.6
KIW	**Kapiti Island**	**5.05**	**207**	P	Pn	18 45 10.0	-3.6
CAW	**Cannon Point**	**5.21**	**204**	P	Pn	18 45 12.3	-3.5
TRWZ	**Traveller**	**5.30**	**198**	P	Pn	18 45 13.1	-3.9
DUWZ	**D'Urville Isla**	**5.40**	**214**	P	Pn	18 45 15.4	-2.9
MSWZ	**Moikau Station**	**5.44**	**201**	P	Pn	18 45 15.2	-3.6
PLWZ	**Palliser**	**5.58**	**201**	P	Pn	18 45 16.2	-4.5
TCW	**Tory Channel**	**5.59**	**209**	P	Pn	18 45 17.1	-3.7
TUWZ	**Tuamarina**	**5.91**	**210**	P	Pn	18 45 21.7	-3.4
QRZ	**Quartz Range**	**6.11**	**222**	P	Pn	18 45 24.7	-3.0
THZ	**Tophouse**	**6.63**	**214**	P	Pn	18 45 32.8	-2.0
KHZ	**Kahutara**	**6.91**	**208**	P	Pn	18 45 33.7	-4.6
GVZ	**Greta Valley S**	**7.57**	**208**	P	Pn	18 45 43.2	-4.1
LTZ	**Lake Taylor**	**7.73**	**212**	P	Pn	18 45 45.0	-4.4
OKCZ	**Okains Bay**	**8.22**	**205**	P	Pn	18 45 51.1	-4.9
MLZ	**Mavora Lakes**	**11.62**	**216**	P	Pn	18 46 39.3	-1.8

*INET **21** 19:06:02.6, 12°.33N×88°.55W, h15km, ML4.4*
*UCR **21** 19:06:04.8±1.6, 12°.47N×88°.54W, h36km±433km, ML4.4, MW3.8, mb4.6(NEIC)*
*NEIC **21** 19:06:05.3±1.8, 12°.44N±0°.07×88°.41W±0°.07, h66km±6km, mb4.6/117, Md4.4(SNET), Error ellipse: s-maj=11.6km s-min=7.5km az=46.0*
*IDC **21** 19:06:06.2±1.6, 12°.68N×88°.13W, h69km±15km, mb3.8/11, mb1 4.1/15, mb1mx3.9/40, mbtmp4.1/15, MS3.5/7, Ms1 3.6/7, ms1mx3.2/33, Error ellipse: s-maj=26.6km s-min=10.3km az=48.0*
*SNET **21** 19:06:06.0±1.3, 12°.54N×88°.57W, h35km±999km, ML4.4*
*UPA **21** 19:06:09.9±0.5, 12°.37N×88°.34W, h47km±23km, MW4.6*
*GCG **21** 19:06:13.6±0.4, 13°.31N×88°.95W, h206km±28km, MD4.5*

ISC 21 19:06:05.1±0.9, 12°47N±0°.05×88°47W±0°.04, h62km±8km, n368, σ1§13/379, mb4.6/61, 4C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuaŗn**	**0.80**	**15**	*eP*	**Pn**	**19 06 20.2**	**-0.7**
JUCU				*eS*	**Sn**	**19 06 32.0**	**-0.4**
JUCU				IAML		19 06 37.5	
	comp=Z,13μm,0.2s						
JUCU	**Jucuaŗn**	**0.80**	**15**	*eP*	**Pn**	**19 06 20.2**	**-0.7**
JUCU				*eS*	**Sn**	**19 06 32.0**	**-0.4**
JUCU				IAML		19 06 37.5	
	comp=Z,13μm,0.2s						
ALJI	**Alcalda de J**	**0.85**	**353**	⇓*iP*	**Pn**	**19 06 21.0**	**-0.4**
ALJI				*eS*	**Sn**	**19 06 31.2**	**-2.2**
ALJI				IAML		19 06 34.5	
	comp=Z,19μm,0.2s						
ALJI	**Alcalda de J**	**0.85**	**353**	⇓*iP*	**Pn**	**19 06 21.0**	**-0.4**
ALJI				*eS*	**Sn**	**19 06 31.2**	**-2.2**
ALJI				IAML		19 06 34.5	
	comp=Z,19μm,0.2s						
LCY	**Lacayo**	**0.96**	**10**	*eP*	**Pn**	**19 06 22.4**	**-0.4**
LCY	**Lacayo**	**0.96**	**10**	*eP*	**Pn**	**19 06 22.4**	**-0.4**
VSM	**San Miguel**	**0.97**	**11**	*eP*	**Pn**	**19 06 23.1**	**0.0**
VSM	**San Miguel**	**0.97**	**11**	*eP*	**Pn**	**19 06 23.1**	**0.0**
BLLM	**Bellamira**	**0.99**	**13**	*eP*	**Pn**	**19 06 23.1**	**0.0**
BLLM	**Bellamira**	**0.99**	**13**	*eP*	**Pn**	**19 06 23.1**	**0.0**
LCND	**La Caada**	**1.00**	**34**	⇑*iP*	**Pn**	**19 06 22.9**	**-0.4**
LCND				*eS*	**Sn**	**19 06 37.2**	**+0.5**
LCND				IAML		19 06 44.7	
	comp=Z,14μm,0.3s						
LCND	**La Caada**	**1.00**	**34**	⇑*iP*	**Pn**	**19 06 22.9**	**-0.4**
LCND				*eS*	**Sn**	**19 06 37.2**	**+0.5**
LCND				IAML		19 06 44.7	
	comp=Z,14μm,0.3s						
CSGN	**Cosiguina Volc**	**1.02**	**60**		**Pn**	**19 06 22.9**	**-0.6**
TECA	**Tecapa**	**1.02**	**358**	*eP*	**Pn**	**19 06 23.1**	**-0.5**
TECA	**Tecapa**	**1.02**	**358**	*eP*	**Pn**	**19 06 23.1**	**-0.5**
COEB	**Comit de Eme**	**1.02**	**356**	*eP*	**Pn**	**19 06 23.2**	**-0.4**
COEB				*eS*	**Sn**	**19 06 36.5**	**-0.9**
COEB				IAML		19 06 43.3	
	comp=Z,13μm,0.5s						
COEB	**Comit de Eme**	**1.02**	**356**	*eP*	**Pn**	**19 06 23.2**	**-0.4**
COEB				*eS*	**Sn**	**19 06 36.5**	**-0.9**
COEB				IAML		19 06 43.3	
	comp=Z,13μm,0.5s						
LFRS	**El Faro**	**1.28**	**333**	*eP*	**Pn**	**19 06 26.0**	**-1.1**
LFRS	**El Faro**	**1.28**	**333**	*eP*	**Pn**	**19 06 26.0**	**-1.1**
PAVA	**Las Pavas**	**1.32**	**340**	⇓*iP*	**Pn**	**19 06 27.1**	**-0.4**
PAVA				IAML		19 06 48.7	
	comp=Z,11μm,0.3s						
PAVA	**Las Pavas**	**1.32**	**340**	⇓*iP*	**Pn**	**19 06 27.1**	**-0.4**
PAVA				IAML		19 06 48.7	
	comp=Z,11μm,0.3s						
LBRS	**Las Brisas**	**1.38**	**336**	*eP*	**Pn**	**19 06 27.8**	**-0.5**
LBRS	**Las Brisas**	**1.38**	**336**	*eP*	**Pn**	**19 06 27.8**	**-0.5**
CRIN	**San Cristobal**	**1.40**	**81**		**Pn**	**19 06 28.1**	**-0.4**
LFU	**La Fuente**	**1.42**	**334**	*eP*	**Pn**	**19 06 28.2**	**-0.6**
LFU				*eS*	**Sn**	**19 06 46.3**	**-0.3**
LFU	**La Fuente**	**1.42**	**334**	*eP*	**Pn**	**19 06 28.2**	**-0.6**
LFU				*eS*	**Sn**	**19 06 46.3**	**-0.3**
SNET	**Serv Nac Est T**	**1.42**	**328**	*eP*	**Pn**	**19 06 27.8**	**-1.1**
SNET				IAML		19 06 52.5	
	comp=Z,5μm,0.3s						
SNET	**Serv Nac Est T**	**1.42**	**328**	*eP*	**Pn**	**19 06 27.8**	**-1.1**
SNET				IAML		19 06 52.5	
	comp=Z,5μm,0.3s						
SNET	**Serv Nac Est T**	**1.42**	**328**			**19 06 27.8**	**-1.1**
OPAM	**Oficina de Pla**	**1.42**	**330**	*eP*	**Pn**	**19 06 28.8**	**-0.1**
OPAM				IAML		19 06 49.5	
	comp=Z,6μm,0.3s						
OPAM	**Oficina de Pla**	**1.42**	**330**	*eP*	**Pn**	**19 06 28.8**	**-0.1**
OPAM				IAML		19 06 49.5	
	comp=Z,6μm,0.3s						
BOQS	**Boqueron**	**1.48**	**328**	*eP*	**Pn**	**19 06 29.2**	**-0.7**
BOQS				*eS*	**Sn**	**19 06 46.0**	**-2.5**
BOQS	**Boqueron**	**1.48**	**328**	*eP*	**Pn**	**19 06 29.2**	**-0.7**
BOQS				*eS*	**Sn**	**19 06 46.0**	**-2.5**
CEDA	**San Andres**	**1.60**	**326**	*eP*	**Pn**	**19 06 30.4**	**-0.9**
CEDA				IAML		19 07 01.2	
	comp=Z,9μm,0.4s						
CEDA	**San Andres**	**1.60**	**326**	*eP*	**Pn**	**19 06 30.4**	**-0.9**
CEDA				IAML		19 07 01.2	
	comp=Z,9μm,0.4s						
TACO	**Tacachico**	**1.72**	**330**	*eP*	**Pn**	**19 06 32.4**	**-0.4**
TACO				IAML		19 06 56.4	
	comp=Z,1μm,0.6s						
TACO	**Tacachico**	**1.72**	**330**	*eP*	**Pn**	**19 06 32.4**	**-0.4**
TACO				IAML		19 06 56.4	
	comp=Z,1μm,0.6s						
SBLS	**San Blas**	**1.77**	**320**	*eP*	**Pn**	**19 06 32.9**	**-0.7**
SBLS				*eS*	**Sn**	**19 06 54.4**	**-0.9**
SBLS	**San Blas**	**1.77**	**320**	*eP*	**Pn**	**19 06 32.9**	**-0.7**
SBLS				*eS*	**Sn**	**19 06 54.4**	**-0.9**
SNJE	**San Jose**	**1.78**	**321**	*eP*	**Pn**	**19 06 33.1**	**-0.7**
SNJE				*eS*	**Sn**	**19 06 54.6**	**-0.9**
SNJE	**San Jose**	**1.78**	**321**	*eP*	**Pn**	**19 06 33.1**	**-0.7**
SNJE				*eS*	**Sn**	**19 06 54.6**	**-0.9**
RTR	**El Retiro**	**1.82**	**321**	*eP*	**Pn**	**19 06 34.1**	**-0.3**
RTR	**El Retiro**	**1.82**	**321**	*eP*	**Pn**	**19 06 34.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.96**	**36**	⇑*eP*	**Pn**	**19 06 36.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.96**	**36**	⇑*eP*	**Pn**	**19 06 36.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.96**	**36**		**Pn**	**19 06 36.8**	**+0.7**
MTO3	**Montecristo**	**2.10**	**336**	*eP*	**Pn**	**19 06 38.5**	**+0.2**
MTO3	**Montecristo**	**2.10**	**336**	*eP*	**Pn**	**19 06 38.5**	**+0.2**
MTO3	**Montecristo**	**2.10**	**336**		**Pn**	**19 06 38.4**	**+0.3**
ESQI	**Esquipulas**	**2.24**	**338**	*eP*	**Pn**	**19 06 40.3**	**+0.3**
ESQI	**Esquipulas**	**2.24**	**338**		**Pn**	**19 06 40.5**	**+0.4**
MATN	**Matagalpa**	**2.52**	**79**		**Pn**	**19 06 43.0**	**-0.8**
NBG	**Las Nubes**	**2.79**	**319**	*eP*	**Pn**	**19 06 49.2**	**+1.6**
PCG	**Pacaya**	**2.83**	**313**	*eP*	Pn	19 06 53.4	+5.3
MRL	**Marmol**	**2.85**	**336**	*eP*	Pn	19 06 53.0	+4.6
FUG	**Fuego 3**	**3.03**	**311**	*eP*	Pn	19 06 55.7	+4.8
FUG				*eS*	**Sn**	**19 07 28.2**	**+2.1**
APG	**El Apazote**	**3.18**	**323**	P	**Pn**	**19 06 53.5**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=112,slow=8.4,SNR=7.4						
APG				S	Sn	19 07 42.0	+12
	comp=Z,10nm,0.3s,baz=286,slow=20,SNR=6.6						
ACON	**Acoyapa**	**3.26**	**99**		**Pn**	**19 06 52.3**	**-1.5**
BUEV	**Buena Vista**	**3.43**	**119**	*eP*	**Pn**	**19 06 56.2**	**0.0**
ERG	**Entre ros, C**	**3.60**	**303**	*eP*	**Pn**	**19 07 01.9**	**+3.5**
JTS	**Las Juntas de**	**4.07**	**122**	P	**Pn**	**19 07 05.3**	**+0.4**
	comp=Z,7.5nm,0.3s,baz=353,slow=21,SNR=7.9						
JTS				S	**Sn**	**19 07 49.3**	**-2.0**
	comp=Z,36nm,0.3s,baz=309,slow=18,SNR=6.5						
JTS	**Las Juntas de**	**4.07**	**122**	*eP*	**Pn**	**19 07 07.9**	**+3.0**
JTS				*eS*	**Sn**	**19 07 50.4**	**-1.0**
JTS	**Las Juntas de**	**4.07**	**122**	*eP*	**Pn**	**19 07 05.2**	**+0.3**
JTS	**Las Juntas de**	**4.07**	**122**	Pn	**Pn**	**19 07 05.2**	**+0.3**
ESPN	**Las Esperanzas**	**4.08**	**93**		**Pn**	**19 07 04.5**	**-0.6**
LAFE	**Finca La Fe, P**	**4.38**	**127**	⇓*eP*	**Pn**	**19 07 08.7**	**-0.4**
HDC	**Heredia**	**4.92**	**119**	*eP*	**Pn**	**19 07 19.1**	**+2.3**
HDC				*eS*	**Sn**	**19 08 12.9**	**+0.4**
LCR2	**La Lucha 2**	**5.15**	**121**	*eP*	**Pn**	**19 07 21.4**	**+1.5**
CCIG	**Comitan**	**5.20**	**317**		**Pn**	**19 07 21.3**	**+0.8**
CDM	**Cerro de Muert**	**5.45**	**122**	*eP*	**Pn**	**19 07 25.4**	**+1.2**
EDDO	**Dominical**	**5.54**	**125**	*eP*	**Pn**	**19 07 26.9**	**+1.9**
DRK0	**Durika**	**6.04**	**121**	*eP*	**Pn**	**19 07 34.9**	**+2.9**
DRK0				*eS*	**Sn**	**19 08 38.3**	**-1.6**
RIOS	**Rincon, Osa**	**6.14**	**127**	*eP*	**Pn**	**19 07 34.8**	**+1.5**
RIOS				*eS*	**Sn**	**19 08 36.0**	**-6.3**
PTJ1	**Puerto Jimnez**	**6.41**	**127**	*eP*	**Pn**	**19 07 39.8**	**+2.9**
PTJ1				*eS*	**Sn**	**19 08 47.1**	**-1.7**
BRU2	**Volcan**	**6.75**	**122**	*eP*	**Pn**	**19 07 44.2**	**+2.5**
BRU2				*eS*	**Sn**	**19 08 55.9**	**-1.5**
BCO2	**Palmira**	**6.93**	**122**	*eP*	**Pn**	**19 07 46.6**	**+2.4**
BCO2				*eS*	**Sn**	**19 09 00.7**	**-1.0**
CHGR2	**Aguacate**	**7.14**	**119**	*eP*	**Pn**	**19 07 48.8**	**+1.8**
CHGR2				*eS*	**Sn**	**19 09 04.7**	**-1.9**
CMIG	**Matias Romero**	**7.72**	**307**	P	**Pn**	**19 07 57.2**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=126,slow=9.4,SNR=7.6						
CMIG				S	**Sn**	**19 09 21.1**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=222,slow=16,SNR=1.8						
CMIG				LR	LR	19 11 16.7	
	comp=Z,104nm,19.8s,baz=84,slow=40						
MTDJ	**Mount Denham**	**11.99**	**60**	Pn	**Pn**	**19 08 55.6**	**+2.3**
GR1C	**Gorgona, Isla**	**13.87**	**132**	*eP*	P	19 09 33.6	+8.5
GUY2C	**Guyana, Caldas**	**14.81**	**118**	*eP*	**P**	**19 09 36.1**	**0.0**
RREF	**El Recreo**	**14.98**	**119**	*eP*	**Pn**	**19 09 34.8**	**+0.8**
PTBC	**PUERTO BERRIO,**	**15.02**	**112**	*eP*	**Pn**	**19 09 36.2**	**+2.3**
TOLC	**Tolima**	**15.17**	**120**	*eP*	**P**	**19 09 39.7**	**-0.2**
BBAC	**Balboa, Cauca**	**15.21**	**132**	*eP*	**P**	**19 09 41.8**	**+1.5**
ORTC	**Ortega, Tolima**	**15.60**	**122**	*eP*	**Pn**	**19 09 40.1**	**+0.8**
SOTA	**Rioblanco**	**15.60**	**130**	*eP*	**P**	**19 09 50.1**	**+5.2**
PAMC	**Pamplona, Colo**	**16.34**	**107**	*eP*	**Pn**	**19 09 48.0**	**-3.1**
CHIC	**Chingaza**	**16.51**	**117**	*eP*	**Pn**	**19 09 53.1**	**-0.1**
RUSC	**La Rusia**	**16.53**	**112**	*eP*	**Pn**	**19 09 47.9**	**-5.5**
MACC	**Macarena, Meta**	**17.75**	**124**	*eP*	**P**	**19 10 10.4**	**+2.3**
SDV	**Santo Domingo**	**17.88**	**100**	P	**P**	**19 10 07.7**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=296,slow=8.4,SNR=5.0						
SDV	**Santo Domingo**	**17.88**	**100**		**P**	**19 10 08.7**	**-1.1**
553A	**Crawfordville**	**18.02**	**11**	Pn	**Pn**	**19 10 14.2**	**+2.9**
553A				IAmb	IAmb	19 10 28.3	
	comp=Z,75nm,1.3s						
HKT	**Hockley**	**18.69**	**340**	P	**Pn**	**19 10 19.8**	**+0.5**
833A	**Chaparral WMA,**	**18.78**	**329**	P	**Pn**	**19 10 21.0**	**+0.5**
	baz=145,SNR=13						
833A	**Chaparral WMA,**	**18.78**	**329**	P	**Pn**	**19 10 20.9**	**+0.4**
344A	**Westbrook Farm**	**19.00**	**354**	P	**Pn**	**19 10 25.5**	**+2.4**
352A	**Blakely**	**19.20**	**9**	P	**Pn**	**19 10 26.2**	**+0.8**
TIGA	**Tifton**	**19.40**	**13**	P	**Pn**	**19 10 28.4**	**+0.6**
TIGA				IAmb	IAmb	19 10 31.3	
	comp=Z,35nm,0.8s						
VBMS	**Vicksburg**	**19.74**	**355**	P	**Pn**	**19 10 32.6**	**+0.8**
NATX	**Nacogdoches**	**20.03**	**344**	P	**Pn**	**19 10 35.0**	**-0.1**
	baz=182						
NATX	**Nacogdoches**	**20.03**	**344**	P	**Pn**	**19 10 34.7**	**-0.4**
NATX				IAmb	IAmb	19 10 35.6	
	comp=Z,30nm,0.9s						
146A	**Union**	**20.08**	**359**	P	Pn	19 10 34.8	-1.0
435B	**Jarrell**	**20.08**	**337**	P	Pn	19 10 34.3	-1.5
	baz=153						
435B	**Jarrell**	**20.08**	**337**	P	Pn	19 10 34.2	-1.6
255A	**Hazlehurst**	**20.13**	**15**	P	**P**	**19 10 35.1**	**+1.0**
255A				IAmb	IAmb	19 10 36.8	
	comp=Z,52nm,1.2s						
152A	**Waverly Hall**	**20.39**	**9**	P	Pn	19 10 38.4	-1.1
152A				IAmb	IAmb	19 10 39.9	
	comp=Z,25nm,0.7s						
LRAL	**Lakeview Retre**	**20.51**	**4**	P	**P**	**19 10 39.1**	**+0.9**
	baz=184						
LRAL	**Lakeview Retre**	**20.51**	**4**		Pn	19 10 40.1	-0.7
237A	**Washetta, Mont**	**20.58**	**342**	P	Pn	19 10 40.3	-1.3
154A	**Montrose**	**20.64**	**13**	P	**P**	**19 10 39.7**	**+0.1**
JCT	**Junction City**	**20.77**	**331**	P	**P**	**19 10 41.8**	**+0.8**
	baz=147						
JCT	**Junction City**	**20.77**	**331**	P	**P**	**19 10 41.6**	**+0.6**
JCT				IAmb	IAmb	19 10 42.3	
	comp=Z,15nm,0.6s						
Z51A	**Franklin**	**20.96**	**8**	P	**P**	**19 10 44.2**	**+1.1**
Z41A	**Richland Creek**	**21.07**	**350**	P	**P**	**19 10 46.4**	**+2.2**
Z41A				IAmb	IAmb	19 10 49.3	
	comp=Z,28nm,0.8s						
157A	**Early Branch**	**21.25**	**18**	P	**P**	**19 10 48.0**	**+2.0**
	baz=200						
GOGA	**Godfrey**	**21.34**	**12**	P	**P**	**19 10 48.0**	**+1.0**
	baz=193,SNR=6.5						
GOGA	**Godfrey**	**21.34**	**12**	P	**P**	**19 10 48.0**	**+1.0**
GOGA				IAmb	IAmb	19 10 50.5	
	comp=Z,24nm,1.1s						
Y49A	**Blount Mountai**	**21.37**	**5**	P	**P**	**19 10 48.1**	**+0.7**
Z38A	**Mt. Pleasant**	**21.53**	**345**	P	**P**	**19 10 50.5**	**+1.3**
Z38A				IAmb	IAmb	19 10 53.5	
	comp=Z,24nm,0.6s						
WLAR	**White Oak Lake**	**21.54**	**349**	P	**P**	**19 10 51.6**	**+2.4**
WLAR				IAmb	IAmb	19 10 53.5	
	comp=Z,37nm,0.9s						
CCAR	**Cane Creek**	**21.56**	**352**	P	**P**	**19 10 51.1**	**+1.7**
Y52A	**Lilburn**	**21.67**	**

baz=199
V52A Sevierville 23.68 10 P P 19 11 11.5 +0.4
W35A Tecumseh 23.83 343 P P 19 11 12.4 -0.1
W57A Gilead 23.85 17 P P 19 11 13.0 +0.4
baz=201
W57A Gilead 23.85 17 P P 19 11 12.1 -0.5
V54A Nebo 23.94 13 P P 19 11 13.8 +0.3
baz=196,SNR=9.8
W58A Raeford 23.96 19 P P 19 11 13.9 +0.2
baz=202
U49A Red Boiling Sp 24.06 5 P P 19 11 14.2 -0.4
WMOK Wichita Mounta 24.06 339 P P 19 11 14.4 -0.2
baz=155
WMOK Wichita Mounta 24.06 339 P P 19 11 14.1 -0.5
FNO Franklin 24.08 342 P P 19 11 15.7 +0.9
U40A Yellville 24.11 351 P P 19 11 16.2 +1.2
baz=169
U40A Yellville 24.11 351 P P 19 11 15.3 +0.3
V55A Taylorsville 24.18 14 P P 19 11 16.9 +1.2
baz=197,SNR=6.6
V55A Taylorsville 24.18 14 P P 19 11 16.7 +1.0
V55A IAmb IAmb 19 11 18.4
comp=Z,17nm,0.7s
HHAR Hobbs 24.21 349 P P 19 11 16.8 +0.8
HHAR IAmb IAmb 19 11 18.6
comp=Z,9.9nm,0.7s
TUL1 Leonard 24.25 345 P P 19 11 16.6 +0.2
baz=162
TUL1 Leonard 24.25 345 P P 19 11 16.4 0.0
TUL1 IAmb IAmb 19 11 17.4
comp=Z,16nm,0.7s
PBMO Poplar Bluff 24.27 356 P P 19 11 15.9 -0.5
V56A Mocksville 24.32 16 P P 19 11 17.4 +0.4
baz=199,SNR=5.3
TZTN Tazewell 24.37 10 P P 19 11 17.6 +0.2
baz=192
TZTN Tazewell 24.37 10 P P 19 11 17.1 -0.3
T47A Sharon Grove 24.44 3 P P 19 11 17.4 -0.6
T47A IAmb IAmb 19 11 18.3
comp=Z,15nm,0.7s
U38A Gravette 24.45 348 P P 19 11 18.8 +0.7
U38A IAmb IAmb 19 11 20.3
comp=Z,17nm,1.1s
W60A Pink Hill 24.50 22 P P 19 11 19.9 +1.4
baz=206
OK030 Cody Creek RV 24.53 344 P P 19 11 18.4 -0.5
T42A Van Buren 24.57 355 P P 19 11 18.6 -0.5
OK031 S. Brethren Rd 24.57 343 P P 19 11 18.7 -0.5
V57A Coltrane Farms 24.60 17 P P 19 11 19.6 +0.1
baz=201,SNR=5.8
OK029 Liberty Lake 24.60 342 P P 19 11 19.4 -0.1
MNTX Cornudas Mount 24.67 324 P P 19 11 21.0 +0.8
baz=157
MNTX Cornudas Mount 24.67 324 P P 19 11 20.8 +0.6
U54A Nelsons Funny 24.68 13 P P 19 11 21.0 +0.7
baz=196,SNR=8.6
U54A Nelsons Funny 24.68 13 P P 19 11 20.0 -0.3
V58A Windy Hill, Pi 24.71 18 P P 19 11 20.8 +0.3
baz=202,SNR=10.0
V58A Windy Hill, Pi 24.71 18 P P 19 11 20.5 +0.1
V58A IAmb IAmb 19 11 21.6
comp=Z,26nm,0.6s
QUOK Quay 24.74 344 P P 19 11 20.5 -0.2
MGMO Mountain Grove 24.81 353 P P 19 11 21.7 +0.2
MGMO IAmb IAmb 19 11 22.5
comp=Z,14nm,0.8s
U55A TA2, Sparta 24.84 14 P P 19 11 22.5 +0.7
baz=197,SNR=9.7
U56A King 24.86 16 P P 19 11 22.6 +0.7
U56A IAmb IAmb 19 11 25.2
comp=Z,17nm,0.7s
T53A Wise 24.98 11 P P 19 11 23.2 +0.2
baz=194
MSTX Muleshoe 25.06 331 P P 19 11 24.3 +0.5
MSTX IAmb IAmb 19 11 30.0
comp=Z,16nm,0.8s
S44A Carbondale 25.13 359 P P 19 11 23.8 -0.4
U57A Blanch 25.23 17 P P 19 11 25.8 +0.6
baz=201
T54A Tazewell 25.25 13 P P 19 11 25.9 +0.4
baz=196
V60A Jim Taylor Roa 25.30 22 P P 19 11 27.1 +1.3
baz=206
V60A Jim Taylor Roa 25.30 22 P P 19 11 26.5 +0.7
V60A IAmb IAmb 19 11 28.2
comp=Z,20nm,0.6s
AMTX Amarillo 25.33 334 P P 19 11 27.1 +0.8
baz=149
AMTX Amarillo 25.33 334 P P 19 11 26.5 +0.2
AMTX IAmb IAmb 19 11 28.3
comp=Z,54nm,1.4s
U58A Oxford 25.44 19 P P 19 11 27.1 0.0
baz=203
S39A Bolivar 25.49 351 P P 19 11 27.3 -0.3
T55A Pulaski 25.49 14 P P 19 11 27.7 0.0
baz=198
T56A Rocky Mt 25.60 16 P P 19 11 29.2 +0.6
baz=199
CCM Cathedral Cave 25.60 355 P P 19 11 28.3 -0.2
baz=174
CCM Cathedral Cave 25.60 355 P P 19 11 28.0 -0.5
CCM IAmb IAmb 19 11 29.7
comp=Z,18nm,0.7s
U32A Winter Ranch, 25.62 340 P P 19 11 29.1 +0.3
U32A IAmb IAmb 19 11 30.4
comp=Z,29nm,0.7s
U59A Littleton 25.65 20 P P 19 11 29.3 +0.3
baz=204
BLA Blacksburg 25.67 15 P P 19 11 30.0 +0.7
baz=198
WCI Wyandotte Cave 25.72 4 P P 19 11 29.0 -0.6
baz=185
WCI Wyandotte Cave 25.72 4 P P 19 11 29.0 -0.6
WCI IAmb IAmb 19 11 29.8
comp=Z,13nm,0.7s
KAN13 South Haven SW 25.74 343 P P 19 11 29.3 -0.5
T57A Hurt 25.78 17 P P 19 11 30.7 +0.5
baz=201
T57A Hurt 25.78 17 P P 19 11 30.5 +0.3
T57A IAmb IAmb 19 11 31.3
comp=Z,29nm,1.6s
VWCC Virginia Weste 25.82 16 P P 19 11 30.4 -0.1
R40A Maddies Statio 25.93 353 P P 19 11 31.0 -0.5
R40A IAmb IAmb 19 11 33.2
comp=Z,47nm,1.7s
S55A Lewisburg 26.18 14 P P 19 11 34.2 +0.3
baz=198
T59A Double "B" Far 26.29 20 P P 19 11 35.1 +0.4
baz=204
S56A Natural Bridge 26.33 16 P P 19 11 36.1 +0.9
baz=200
121A Cookes Peak, D 26.69 322 P P 19 11 42.3 +3.6
R55A Marlinton 26.76 15 P P 19 11 39.5 +0.4
baz=198
Q51A Peebles 26.83 9 P P 19 11 39.3 -0.4
Q51A IAmb IAmb 19 11 40.3
comp=Z,16nm,0.9s
Q52A Bidwell 26.95 11 P P 19 11 40.5 -0.2
baz=193
Q53A Leroy 26.99 12 P P 19 11 40.7 -0.4
baz=195
R56A Bull Pasture M 27.06 16 P P 19 11 42.5 +0.6
baz=200
R58B Mineral 27.09 19 P P 19 11 42.7 +0.7
baz=203
P40A Paris 27.14 354 P P 19 11 42.1 -0.3
P40A IAmb IAmb 19 11 42.8
comp=Z,16nm,0.7s
R57A Stanardsville 27.20 17 P P 19 11 43.4 +0.4
baz=202
Q54A Coxs Mills 27.26 13 P P 19 11 43.6 +0.1
baz=196
Q54A Coxs Mills 27.26 13 P P 19 11 43.3 -0.2
Q54A IAmb IAmb 19 11 44.3
comp=Z,7.9nm,0.6s
R58A Rapidan 27.36 18 P P 19 11 44.5 +0.1
baz=202
P38A Dawn 27.41 351 IAmb IAmb 19 11 45.3
comp=Z,16nm,0.8s
Q55A Buckhannon 27.44 14 P P 19 11 45.3 +0.1
baz=198
KSU1 Kansas State U 27.49 346 P P 19 11 45.4 -0.2
baz=163
P53A Whipple 27.63 12 P P 19 11 47.0 +0.3
baz=195
ANMO Albuquerque 27.69 327 PcP PcP 19 15 04.7 +1.3
comp=Z,0.1nm,0.6s,baz=169,slow=5.2,SNR=3.7
Q56A Snyder Ridge, 27.71 16 P P 19 11 47.8 +0.2
baz=200
SFIN Lafayette 27.82 2 P P 19 11 47.5 -1.0
baz=183
P54A Burton 27.93 13 P P 19 11 50.0 +0.5
baz=197
O51A Pataskala 28.05 10 P P 19 11 50.1 -0.4
baz=192
ACSO Alum Creek Sta 28.07 9 P P 19 11 50.5 -0.2
baz=191
CBKS Cedar Bluff 28.08 341 P P 19 11 51.1 +0.2
baz=156
O52A Adamsville 28.15 11 P P 19 11 51.5 0.0
baz=194
P56A Dayton Farm, R 28.24 16 P P 19 11 52.9 +0.6
baz=200
R61A Willards 28.28 22 P P 19 11 54.1 +1.5
baz=208
P57A Homestead Farm 28.45 17 P P 19 11 55.0 +0.9
baz=202
P57A Homestead Farm 28.45 17 P P 19 11 54.7 +0.6
P57A IAmb IAmb 19 11 56.6
comp=Z,9.1nm,0.6s
O54A Avella 28.51 13 P P 19 11 55.1 +0.5
baz=197
O57A Amberson 29.23 17 P P 19 12 01.7 +0.6
baz=202
M51A Elyria 29.27 10 P P 19 12 00.9 -0.5
baz=192
O58A Lewisberry 29.36 18 P P 19 12 03.1 +0.9
baz=203
N55A Marion Center 29.40 15 P P 19 12 03.4 +0.8
baz=199
P60A Greenville 29.50 20 P P 19 12 04.0 +0.7
baz=206
SCIA State Center 29.61 353 P P 19 12 04.2 -0.3
baz=171
W18A Petrified Fore 29.65 323 P P 19 12 03.6 -1.5
baz=134
M54A Oil Creek Stat 29.93 13 P P 19 12 07.3 +0.1
baz=197
AAM Ann Arbor 30.01 7 P P 19 12 08.0 +0.1
baz=189
O60A Telford 30.03 20 P P 19 12 08.4 +0.3
baz=206
BGNE Belgrade 30.05 345 P P 19 12 07.9 -0.4
baz=161
N58A Sunbury 30.08 18 P P 19 12 08.6 0.0
baz=203
JFWS Jewell Farm 30.37 357 P P 19 12 11.0 -0.1
baz=176
M57A Sunshine Farm, 30.42 17 P P 19 12 11.3 -0.2
baz=202
N59A State Game Lan 30.45 19 P P 19 12 11.8 0.0
baz=205
M59A Waymart 31.12 19 P P 19 12 17.9 +0.2
baz=205
M60A Port Jervis 31.19 20 P P 19 12 19.1 +0.7
baz=207
L58A Harry Jones Me 31.45 18 P P 19 12 20.1 -0.6
baz=204
M61A Granite Spring 31.48 21 P P 19 12 20.9 0.0
baz=208
K56A Middlesex 31.63 16 P P 19 12 21.6 -0.6
baz=201
I37A Lemond, Waseca 31.72 353 P P 19 12 23.0 0.0
L59A Walton 31.83 19 P P 19 12 24.7 +0.7
baz=205
L60A Shokan 31.92 20 P P 19 12 24.6 -0.1
baz=207
ECSD EROS Data Cent 31.93 349 P P 19 12 23.8 -1.1
baz=165
K58A Earlville 32.16 18 P P 19 12 27.0 0.0
baz=204
M63A Gales Ferry 32.20 24 P P 19 12 27.4 +0.2
baz=211
J56A Wolcott 32.29 16 P P 19 12 27.4 -0.5
baz=201
J58A Remsen 32.82 18 P P 19 12 32.6 -0.1
baz=204
SPMN Marine on St. 32.85 354 P P 19 12 31.9 -0.9
baz=17
K61A Williamstown 32.85 21 P P 19 12 33.3 +0.4
baz=208
SAML Samuel 32.92 129 P P 19 12 33.2 -0.6
H53A Bobcaygeon 33.09 13 P P 19 12 34.9 0.0
baz=198
SUSD Miller 33.11 346 P P 19 12 34.7 -0.4
baz=161
I58A Old Forge 33.21 18 P P 19 12 35.6 -0.4
baz=204
F36A Milaca 33.55 354 IAmb IAmb 19 12 38.6
comp=Z,9.9nm,1.1s
H58A Gabriels 34.11 18 P P 19 12 43.5 -0.3
baz=205
LONY Lake Ozonia 34.17 18 P P 19 12 43.8 -0.6
baz=204
LPAZ La Paz 34.94 144 P P 19 12 52.4 +0.4
comp=Z,0.6nm,0.3s,baz=318,slow=6.8,SNR=3.9
PDAR Pittsdale Array 35.29 333 P P 19 12 54.5 +0.1
comp=Z,0.2nm,0.3s,baz=126,slow=6.9,SNR=1.6
PDAR PcP PcP 19 15 24.5 +0.7
comp=Z,0.4nm,0.6s,baz=141,slow=5.8,SNR=1.9
EYMN Ely 35.45 356 P P 19 12 54.4 -1.0
baz=175
SCZ2 Santa Cruz Isl 35.54 312 P P 19 12 56.7 +0.3
baz=120
PB16 IPOC Station P 35.87 148 P P 19 12 59.9 0.0
PB16 IAmb IAmb 19 13 09.2
comp=Z,3.7nm,0.7s
G62A West of Eustis 36.04 22 P P 19 13 00.6 +0.1
baz=211
PKM Mcpherson Peak 36.11 313 P P 19 13 02.0 +0.6
baz=121
D55A Sainte-Anne-du 36.13 15 P P 19 13 00.5 -0.6
baz=202
AGMN Agassiz Nation 36.24 352 P P 19 13 01.1 -1.0
baz=168,SNR=8.5
AGMN Agassiz Nation 36.24 352 P P 19 13 01.0 -1.1
G63A Kingsbury 36.29 23 P P 19 13 03.0 +0.4
baz=212
REDW Red Top Meadow 36.34 332 IAmb IAmb 19 13 07.0
comp=Z,21nm,1.5s
D56A ZEC Mazanza, M 36.35 16 P P 19 13 02.9 -0.1
baz=203
SNOW Snow King Moun 36.38 332 IAmb IAmb 19 13 10.7
comp=Z,9.8nm,0.8s
MDND Maddock 36.48 347 P P 19 13 04.1 0.0
baz=162
TPAW Teton Pass 36.49 332 IAmb IAmb 19 13 19.0
comp=Z,11nm,1.4s
PKME Peaks-Kenny Pk 36.54 23 P P 19 13 04.7 0.0
baz=212
D58A Chemin du LacG 36.92 18 P P 19 13 07.8 -0.1
baz=206
NVAR Mina Array Bea 37.04 320 P P 19 13 12.1 +2.8
comp=Z,0.2nm,0.3s,baz=143,slow=6.2,SNR=5.3
NVAR PcP PcP 19 15 31.4 +2.4
comp=Z,1.2nm,0.6s,baz=142,slow=4.2,SNR=6.4
NVAR Mina Array Bea 37.04 320 P P 19 13 10.8 +1.5
LSQQ Lebel-sur-Quev 37.70 12 P P 19 13 13.9 -0.5
baz=198
E63A Oxbow 37.84 23 P P 19 13 16.1 +0.4
baz=213
E64A Bridgewater 38.07 23 P P 19 13 17.5 -0.1
baz=214
ULM Lac du Bonnet 38.16 352 P P 19 13 16.9 -1.4
comp=Z,23nm,0.6s,baz=169,slow=9.0,SNR=28
D62A Allapoint, All 38.17 22 P P 19 13 18.2 -0.2
baz=212
DGMT Dagmar 38.20 343 P P 19 13 18.9 +0.1
baz=155
MATQ Matagami 38.23 11 P P 19 13 18.2 -0.7
baz=197
MCMT McKenzie Canyo 38.39 332 P P 19 13 21.8 +1.2
D63A Stockholm 38.48 22 P P 19 13 20.8 -0.3
baz=213
LRM Limekiln Ridge 38.98 333 P P 19 13 26.7 +1.2
NEW Newport 42.92 332 P P 19 13 57.3 -0.4
baz=137
RPN Rapa Nui 44.27 207 LR LR 19 29 04.8
comp=Z,88nm,21.5s,baz=147,slow=31
SCHQ Schefferville 45.55 17 P P 19 14 15.8 -2.8
comp=Z,7.0nm,0.5s,baz=251,slow=9.7,SNR=5.6
CPUP Villa Florida 49.04 142 LR LR 19 36 39.8
comp=Z,43nm,18.5s,baz=34,slow=37
YKA Yellowknife Ar 53.33 345 P P 19 15 17.1 -0.6
comp=Z,1.7nm,0.5s,baz=135,slow=7.8,SNR=13
YKA PcP PcP 19 16 24.3 -0.1
comp=Z,0.7nm,0.4s,baz=135,slow=4.4,SNR=3.5
PLCA Paso Flores 55.48 164 P P 19 15 33.7 0.0
comp=Z,2.4nm,0.9s,baz=2.3,slow=7.6,SNR=2.6
PLCA LR LR 19 34 21.0
comp=Z,41nm,18.2s,baz=292,slow=30
PLCA Paso Flores 55.48 164 IAmb IAmb 19 15 42.1
comp=Z,21nm,1.6s
HDA Harding Lake 65.48 336 P P 19 16 40.3 -1.1
baz=114
ILAR Eielson Array 65.60 336 P P 19 16 41.6 -0.6
comp=Z,1.8nm,1.0s,baz=96,slow=5.0,SNR=7.3
ILAR LR LR 19 49 09.0
comp=Z,28nm,18.2s,baz=118,slow=39
ILAR Eielson Array 65.60 336 P P 19 16 41.0 -1.2
NEA2 Nenana 66.40 336 P P 19 16 46.2 -1.1
baz=112
I23K Minto, Yukon-K 66.72 336 P P 19 16 48.8 -0.5
baz=112
MLY Manley 67.22 336 P P 19 16 51.9 -0.7
baz=110
ESDC Sonseca Array 77.95 52 P P 19 17 55.0 -1.9
comp=Z,0.5nm,0.7s,baz=293,slow=6.0,SNR=4.3
MDT Midelt 78.24 59 LR LR 19 47 34.5
comp=Z,51nm,19.2s,baz=358,slow=32
ARCES ARCESS Array B 86.48 19 P P 19 18 39.4 -1.5
comp=Z,4.6nm,0.9s,baz=292,slow=4.8,SNR=4.5
DAVOX Davos/Dischmat 86.65 43 LR LR 19 53 45.8
comp=Z,62nm,18.5s,baz=263,slow=33
KURK Kurchatov 116.08 9 PKiKP 19 24 40.6 -0.5
KURBB Kurchatov Arra 116.15 9 PKP PKiKP 19 24 40.7 -0.7
comp=Z,0.2nm,0.4s,baz=317,slow=1.4,SNR=2.2
SONM Songino Array 118.52 349 PKP PKPdf 19 24 46.2 0.0
comp=Z,0.4nm,0.5s,baz=47,slow=0.5,SNR=3.7
MKAR Makanchi Array 120.43 7 PKP PKPdf 19 24 49.0 -0.7
comp=Z,0.3nm,0.3s,baz=307,slow=3.0,SNR=11
GTA Gaotai 127.81 352 *e*PKP **PKiKP 19 25 05.4 +0.6**
GTA sPKP 19 25 26.9
GTA LR LR
comp=N,62nm,18.5s
GTA LR LR
comp=E,73nm,17.8s
GTA LR LR
comp=Z,69nm,17.1s
LZH Lanzhou 130.32 347 *e*PKP **PKPdf 19 25 08.0 -1.2**
LZH pPKP pPKPdf 19 25 25.3 -1.9
LZH sPKP 19 25 32.5
LZH LR LR
comp=N,67nm,17.9s
LZH LR LR
comp=E,75nm,18.3s
LZH LR LR
comp=Z,100nm,20.1s
WRA Warramunga Arr 138.32 254 PKP PKPdf 19 25 22.7 -1.6
comp=Z,0.7nm,0.9s,baz=91,slow=3.0,SNR=5.3
ASAR Alice Springs 138.36 248 PKP PKPdf 19 25 23.1 -1.2
comp=Z,0.5nm,0.7s,baz=97,slow=2.8,SNR=5.1
CMAR Chiang Mai Arr 148.41 346 PKPbc PKPdf 19 25 43.6 +1.6
comp=Z,1.5nm,0.6s,baz=319,slow=2.3,SNR=14
CMAR Chiang Mai Arr 148.41 346 PKPdf 19 25 43.3 +1.3

WEL 21 19:06:28.8,44°S±16″×17°0E±6″3,h5km±138km,M2.4/7, ML2.4/6,MLv2.4/7,Error ellipse: s-maj=0.1km s-min=0.0km az=100.9,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.04**	**358**	P	Pg	19 06 31.3	+1.2
ODZ	**Otahua Downs**	**0.70**	**152**	P	Pg	19 06 40.8	-1.4
ARCZ	**Arundel**	**0.86**	**56**	P	Pb	19 06 45.7	-0.5
WKZ	**Wanaka**	**0.93**	**244**	P	Pb	19 06 47.2	-0.2
FOZ	**Fox Glacier**	**0.93**	**343**	P	Pn	19 06 48.0	-0.5
RPZ	**Rata Peaks**	**0.95**	**42**	P	Pb	19 06 47.6	-0.1
JCZ	**Jackson Bay**	**1.07**	**289**	P	Pn	19 06 50.8	+0.3
GCSZ	**Gaunt Creek Bo**	**1.11**	**5**	P	Pn	19 06 51.0	-0.1
WACZ	**Wakanui South**	**1.28**	**68**	P	Pb	19 06 53.9	+0.5

*NEIC **21** 19:20:09.3±0.8,21°3S±0°1×172°2W±0°2,h15km±6km, mb4.7/12, Error ellipse: s-maj=25.6km s-min=7.6km az=123.0*
*IDC **21** 19:20:19.3±59.0,21°70S×173°92W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/25,mbtmp3.9/3, Error ellipse: s-maj=1121.0km s-min=182.7km az=86.0*
ISC 21 19:20:15.3±0.9,21°0S±0°2×172°7W±0°1,h35km,n19, σ1s56/17,mb4.6/9,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.22**	**55**	Pn	Pn	19 20 57.3	-6.1
AFI	**Afiamalu**	**7.06**	**7**		**Pn**	**19 21 55.9**	**-0.5**
RAR	**Rarotonga**	**12.08**	**94**		**Pn**	**19 23 05.2**	**+0.2**
CTAO	**Charters Tower**	**38.37**	**264**	P	**P**	**19 27 33.4**	**+0.1**
CTAO				IAmb	IAmb	19 27 42.2	
comp=Z,46nm,1.8s							
STKA	**Stephens Creek**	**42.07**	**245**	P	**P**	**19 28 02.0**	**-2.0**
comp=Z,1.0nm,0.5s,baz=93,slow=6.7,SNR=5.2							
STKA	**Stephens Creek**	**42.07**	**245**	IAmb	IAmb	19 28 02.5	
comp=Z,3.6nm,1.8s							
BBOO	**Buckleboo**	**46.79**	**244**	P	**P**	**19 28 39.9**	**-1.8**
AS31	**Alice Springs**	**49.23**	**256**	P	**P**	**19 29 00.1**	**-0.6**
ASAR	**Alice Springs**	**49.23**	**256**	P	**P**	**19 28 59.7**	**-1.0**
comp=Z,0.7nm,0.4s,baz=94,slow=7.2,SNR=29							
WR0	**Warramunga Arr**	**49.24**	**261**	P	**P**	**19 29 00.7**	**-0.1**
WR0				IAmb	IAmb	19 29 08.8	
comp=Z,11nm,1.6s							
WB0	**Warramunga Arr**	**49.41**	**262**	P	**P**	**19 29 01.7**	**-0.4**
WB0				IAmb	IAmb	19 29 16.8	
comp=Z,15nm,1.6s							
WB2	**Warramunga Arr**	**49.42**	**261**	P	**P**	**19 29 02.2**	**0.0**
WRAB	**Tennant Creek**	**49.42**	**261**	P	**P**	**19 29 02.2**	**0.0**
WRAB				IAmb	IAmb	19 29 13.5	
comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**49.43**	**261**	P	**P**	**19 29 02.1**	**-0.1**
comp=Z,0.9nm,0.3s,baz=101,slow=8.2,SNR=36							
FORT	**Forrest**	**53.66**	**247**	P	**P**	**19 29 33.1**	**-0.6**
MTN	**Manton Dam**	**54.11**	**269**	P	**P**	**19 29 40.1**	**+3.0**
MTN				IAmb	IAmb	19 29 40.9	
comp=Z,12nm,1.1s							
KNRA	**Kununurra**	**55.56**	**265**	P	**P**	**19 29 50.6**	**+2.9**
FITZ	**Fitzroy Crossi**	**57.86**	**261**	P	**P**	**19 30 06.7**	**+2.7**
FITZ				IAmb	IAmb	19 30 30.6	
comp=Z,6.8nm,1.2s							
CLL	**Collm**	**149.38**	**353**	*e*PKPbc	**PKPbc**	**19 40 00.0**	**-0.4**

BUC 21 19:22:15.1±0.4,45°34N×26°30E,h145km±2km,ml3.5/36, 59C-49D,Error ellipse: s-maj=2.2km s-min=2.1km az=124.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.09**	**358**	↑P	Pn	19 22 35.0	+0.3
NEHR				↓S	Sn	19 22 50.1	+0.4
NEHR	**Nehoiu**	**0.09**	**358**	↑P	Pn	19 22 35.0	+0.3
ISR	**Istrita**	**0.28**	**142**	↓P	Pn	19 22 35.8	+0.7
ISR				↑S	Sn	19 22 51.3	+1.1
ISR	**Istrita**	**0.28**	**142**	↓P	Pn	19 22 35.8	+0.7
MLR	**Muntele Rosu**	**0.29**	**301**	↑P	Pn	19 22 35.6	+0.3
MLR				↑S	Sn	19 22 50.9	+0.4
MLR	**Muntele Rosu**	**0.29**	**301**	↑P	Pn	19 22 35.6	+0.3
SECR		**0.34**	**208**	↑P	Pn	19 22 36.0	+0.7
SECR		**0.34**	**208**	↑P	Pn	19 22 36.0	+0.7
BISRR	**Bisoca**	**0.36**	**54**	↑P	Pn	19 22 36.2	+0.8
BISRR				↑S	Sn	19 22 51.5	+0.7
BISRR	**Bisoca**	**0.36**	**54**	↑P	Pn	19 22 36.2	+0.8
PLAR	**PLOIESTI**	**0.47**	**204**	↑P	Pn	19 22 36.5	+0.8
PLAR				↑S	Sn	19 22 52.1	+0.8
PLAR	**PLOIESTI**	**0.47**	**204**	↑P	Pn	19 22 36.5	+0.8
GRER		**0.48**	**85**	↑P	Pn	19 22 36.0	+0.2
GRER				↓S	Sn	19 22 52.8	+1.3
GRER		**0.48**	**85**	↑P	Pn	19 22 36.0	+0.2
PLOR	**Plostina**	**0.57**	**26**	↑P	Pn	19 22 36.6	+0.3
PLOR				↓S	Sn	19 22 52.4	-0.1
PLOR	**Plostina**	**0.57**	**26**	↑P	Pn	19 22 36.6	+0.3
VRI	**Vrincioaia**	**0.61**	**30**	↑P	Pn	19 22 37.0	+0.5
VRI				↑S	Sn	19 22 52.7	-0.2
VRI	**Vrincioaia**	**0.61**	**30**	↑P	Pn	19 22 37.0	+0.5
PGOR	**Pogoanele**	**0.65**	**131**	↑S	Sn	19 22 54.6	+1.4
PGOR	**Pogoanele**	**0.65**	**131**	↑S	Sn	19 22 54.6	+1.4
SULR		**0.66**	**183**	↑P	Pn	19 22 37.3	+0.7
SULR				↑S	Sn	19 22 54.4	+1.1

SULR			**0.66**	**183**	⇑P		Pn	19 22 37.5	+0.7	
ODBI	**Odobesti**		**0.68**	**51**	⇓P		Pn	19 22 38.1	+1.2	
ODBI					⇓S		Sn	19 22 54.4	+0.8	
ODBI	**Odobesti**		**0.68**	**51**	⇓P		Pn	19 22 38.1	+1.2	
PETR	**Petresti**		**0.76**	**59**	⇑P		Pn	19 22 38.4	+0.9	
PETR					⇑S		Sn	19 22 55.2	+0.7	
PETR	**Petresti**		**0.76**	**59**	⇑P		Pn	19 22 38.4	+0.9	
OZUR			**0.84**	**335**	⇑P		Pn	19 22 37.8	-0.4	
OZUR			**0.84**	**335**	⇑P		Pn	19 22 37.8	-0.4	
DOPR	**Dopca**		**0.90**	**315**	⇓P		Pn	19 22 38.1	-0.4	
DOPR					⇑S		Sn	19 22 55.6	-0.8	
DOPR	**Dopca**		**0.90**	**315**	⇓P		Pn	19 22 38.1	-0.4	
LEHL	**Lehliu**		**0.94**	**157**	⇓S		Sn	19 22 58.0	+1.0	
LEHL	**Lehliu**		**0.94**	**157**	⇓S		Sn	19 22 58.0	+1.0	
TUDR			**1.00**	**75**	⇓P		Pn	19 22 39.6	+0.2	
TUDR					⇑S		Sn	19 22 57.8	0.0	
TUDR			**1.00**	**75**	⇓P		Pn	19 22 39.6	+0.2	
BUC1	**Bucharest**		**1.01**	**191**	⇓S		Sn	19 22 58.3	+0.3	
BUC1	**Bucharest**		**1.01**	**191**	⇓S		Sn	19 22 58.3	+0.3	
AMRR	**Amara**		**1.04**	**134**	⇑S		Sn	19 22 59.3	+0.9	
AMRR	**Amara**		**1.04**	**134**	⇑S		Sn	19 22 59.3	+0.9	
STFAR	**Stefanesti-Arg**		**1.06**	**244**	⇑P		Pn	19 22 40.4	+0.4	
STFAR					⇓S		Sn	19 22 59.5	+0.6	
STFAR	**Stefanesti-Arg**		**1.06**	**244**	⇑P		Pn	19 22 40.4	+0.4	
SCHL	**Schela**		**1.09**	**81**	⇑P		Pn	19 22 40.1	0.0	
SCHL					⇓S		Sn	19 22 59.0	-0.3	
SCHL	**Schela**		**1.09**	**81**	⇑P		Pn	19 22 40.1	0.0	
SGRR	**Singureni**		**1.14**	**192**	⇓S		Sn	19 22 59.8	-0.4	
SGRR	**Singureni**		**1.14**	**192**	⇓S		Sn	19 22 59.8	-0.4	
ARR	**Arges**		**1.17**	**272**	⇓P		Pn	19 22 40.8	-0.3	
ARR	**Arges**		**1.17**	**272**	⇓P		Pn	19 22 40.8	-0.3	
TESR	**Tescani**		**1.20**	**12**	⇓P		Pn	19 22 40.1	-1.1	
TESR	**Tescani**		**1.20**	**12**	⇓P		Pn	19 22 40.1	-1.1	
VARL	**Varlezi**		**1.22**	**62**	⇑P		Pn	19 22 41.8	+0.4	
VARL					⇑S		Sn	19 23 01.3	-0.2	
VARL	**Varlezi**		**1.22**	**62**	⇑P		Pn	19 22 41.8	+0.4	
HUMR	**Humele**		**1.24**	**230**	⇓P		Pn	19 22 41.5	-0.1	
HUMR					⇓S		Sn	19 23 01.2	-0.7	
HUMR	**Humele**		**1.24**	**230**	⇓P		Pn	19 22 41.5	-0.1	
RASA	**Rasa**		**1.28**	**151**	⇓S		Sn	19 23 03.3	+0.8	
RASA	**Rasa**		**1.28**	**151**	⇓S		Sn	19 23 03.3	+0.8	
CFR	**Carcaliu**		**1.31**	**96**	⇑P		Pn	19 22 42.4	+0.2	
CFR					⇑S		Sn	19 23 02.3	-0.7	
CFR	**Carcaliu**		**1.31**	**96**	⇑P		Pn	19 22 42.4	+0.2	
BIR	**Birlad**		**1.31**	**45**	⇑P		Pn	19 22 42.8	+0.5	
BIR					⇑S		Sn	19 23 02.9	-0.3	
BIR	**Birlad**		**1.31**	**45**	⇑P		Pn	19 22 42.8	+0.5	
HARR	**Harsova**		**1.33**	**119**	⇓P		Pn	19 22 42.9	+0.4	
HARR	**Harsova**		**1.33**	**119**	⇓P		Pn	19 22 42.9	+0.4	
COPA	**Copaceanca**		**1.43**	**213**	⇑P		Pn	19 22 43.6	0.0	
COPA					⇓S		Sn	19 23 04.6	-0.7	
COPA	**Copaceanca**		**1.43**	**213**	⇑P		Pn	19 22 43.6	0.0	
TLBR	**Topalu**		**1.47**	**122**	⇓S		Sn	19 23 06.5	+0.5	
TLBR	**Topalu**		**1.47**	**122**	⇓S		Sn	19 23 06.5	+0.5	
TPGR	**Topolog**		**1.58**	**107**	⇓P		Pn	19 22 45.5	+0.3	
TPGR					⇑S		Sn	19 23 07.3	-0.8	
TPGR	**Topolog**		**1.58**	**107**	⇓P		Pn	19 22 45.5	+0.3	
BIZ	**Bicaz**		**1.60**	**355**	⇑P		Pn	19 22 46.1	+0.7	
BIZ					⇓S		Sn	19 23 08.8	0.0	
BIZ	**Bicaz**		**1.60**	**355**	⇑P		Pn	19 22 46.1	+0.7	
VASR	**Vaslui**		**1.67**	**38**	⇓P		Pn	19 22 46.4	+0.3	
VASR					⇓S		Sn	19 23 08.9	-0.9	
VASR	**Vaslui**		**1.67**	**38**	⇓P		Pn	19 22 46.4	+0.3	
TIRR	**Tirgusor**		**1.74**	**120**	⇓P		Pn	19 22 47.2	+0.2	
TIRR					⇓S		Sn	19 23 10.8	-0.5	
TIRR	**Tirgusor**		**1.74**	**120**	⇓P		Pn	19 22 47.2	+0.2	
RAZG	**Razgrad**		**1.78**	**175**	⇑S		Sn	19 23 11.6	-0.5	
RAZG	**Razgrad**		**1.78**	**175**	⇑S		Sn	19 23 11.6	-0.5	
TLCR			**1.78**	**94**	⇑P		Pn	19 22 46.5	-0.9	
TLCR					⇑S		Sn	19 23 12.6	+0.4	
TLCR			**1.78**	**94**	⇑P		Pn	19 22 46.5	-0.9	
MILM	**Milestii Mici**		**2.36**	**47**	⇓P		Pn	19 22 54.3	+0.2	
MILM	**Milestii Mici**		**2.36**	**47**	⇓P		Pn	19 22 54.3	+0.2	
BURAR	**Bucovina Array**		**2.40**	**342**	⇓P		Pn	19 22 56.1	+1.3	
BURAR					⇑S		Sn	19 23 26.8	+1.5	
BURAR	**Bucovina Array**		**2.40**	**342**	⇓P		Pn	19 22 56.1	+1.3	
GZR	**Gura Zlata**		**2.48**	**272**	⇓P		Pn	19 22 54.9	-0.9	
GZR	**Gura Zlata**		**2.48**	**272**	⇓P		Pn	19 22 54.9	-0.9	

*REY **21** 19:50:33.4, 64.67N × 17.46W, h3km*
*NEIC **21** 19:50:34.5±1.9, 64.6N±0.1 × 17.9W±0.2, h7km±4km, mb4.6/23, Error ellipse: s-maj=15.4km s-min=9.6km az=199.0*
*IDC **21** 19:50:34.1±0.6, 64.63N × 17.59W, h0km, mb3.8/14, mb1 4.0/17, mb1mx3.8/54, mbtmp3.8/17, ML3.2/3, Error ellipse: s-maj=20.5km s-min=9.7km az=9.0*
ISC 21 19:50:34.9±0.4, **64.68N**±0.02 × **17.49W**±0.02, **h10**km, **n102**, **s209**/107, **mb4.2**/29, **Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**266**	P		**Pg**	**19 50 36.1**	**-1.8**
	baz=270							
IDYN	**Dyngjuhals**	**0.12**	**26**	P		**Pg**	**19 50 36.4**	**-1.5**
	baz=20							
IURH	**Urdarhals**	**0.20**	**46**	P		**Pg**	**19 50 37.7**	**-1.6**
	baz=42							
IURH				S		**Sg**	**19 50 41.6**	**-0.6**
	baz=42							
IDJK	**Dyngjujokull**	**0.21**	**148**	P		**Pg**	**19 50 37.4**	**-2.0**
	baz=150							
IGRF	**Grimsfjall**	**0.29**	**161**	P		**Pg**	**19 50 39.4**	**-1.5**
	baz=162							
IGRF				S		**Sg**	**19 50 44.4**	**-0.5**
	baz=162							
IKVE	**Kverkfjoll**	**0.35**	**90**	P		**Pg**	**19 50 40.3**	**-1.6**
	baz=89							
IHUS	**Husbondi**	**0.40**	**191**	P		**Pg**	**19 50 41.0**	**-1.8**
	baz=192							
IHUS				S		**Sg**	**19 50 46.2**	**-1.7**
	baz=192							
ISKR	**Skrokkalda**	**0.41**	**253**	P		**Pg**	**19 50 41.1**	**-1.8**
	baz=254							
IVOT	**Vottur**	**0.43**	**162**	P		**Pg**	**19 50 41.4**	**-2.1**
	baz=163							
IKRE	**Kreppuhraun**	**0.49**	**77**	P		**Pg**	**19 50 42.0**	**-2.4**
	baz=76							
IKRE				S		**Sg**	**19 50 48.6**	**-2.3**
	baz=76							
IJOK	**Jokulheimar**	**0.49**	**221**	P		**Pg**	**19 50 42.6**	**-1.9**
	baz=223							
IJOK				S		**Sg**	**19 50 49.8**	**-1.0**
	baz=223							
IASK	**Askja**	**0.52**	**44**	P		**Pg**	**19 50 42.8**	**-2.2**
	baz=42							
IASK				S		**Sg**	**19 50 49.7**	**-2.1**
	baz=42							
IMKO	**Mokollar**	**0.57**	**58**	P		**Pg**	**19 50 43.8**	**-2.3**
	baz=57							
IMKO				S		**Sg**	**19 50 52.5**	**-1.2**
	baz=57							
IIEY	**Innrieyrar**	**0.65**	**205**	P		**Pg**	**19 50 45.1**	**-2.5**
	baz=207							
IIEY				S		**Sg**	**19 50 54.2**	**-1.9**
	baz=207							
ISVA	**Svartarkot**	**0.67**	**9**	P		**Pg**	**19 50 45.5**	**-2.3**
	baz=7.5							
IKSK	**Karasker**	**0.68**	**139**	P		**Pg**	**19 50 44.9**	**-3.3**
	baz=140							
IKSK				S		**Sg**	**19 50 54.1**	**-3.0**
	baz=140							
IKAL	**Kalfafell**	**0.74**	**187**	P		**Pg**	**19 50 46.6**	**-2.6**
	baz=188							
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P		**Pg**	**19 50 46.7**	**-3.1**
	baz=79							
IVSH				S		**Sg**	**19 50 57.2**	**-2.5**
	baz=79							
IVAT	**Vatnsfell**	**0.80**	**232**	P		**Pg**	**19 50 47.9**	**-2.4**
	baz=233							
IADA	**Aoalbol**	**0.89**	**67**	P		**Pg**	**19 50 48.7**	**-3.3**
	baz=66							
IHVE	**Hveravellir**	**0.91**	**283**	P		**Pg**	**19 50 49.4**	**-3.0**
	baz=283							
IMEL	**Melhnausar**	**0.96**	**21**	P		**Pg**	**19 50 50.2**	**-3.1**
	baz=20							
IREN	**Reynihlio**	**1.00**	**14**	P		**Pg**	**19 50 51.0**	**-3.1**
	baz=13							
IKVO	**Krokottuvotn**	**1.07**	**14**	P		**Pg**	**19 50 52.0**	**-3.4**
	baz=13							
ISNB	**Snabyli**	**1.07**	**208**	P		**Pg**	**19 50 52.2**	**-3.3**
	baz=209							
ISLY	**Slysaalda**	**1.12**	**220**	P		**Pb**	**19 50 53.1**	**-3.3**
	baz=221							
IGRS	**Grimsstaoir**	**1.12**	**30**	P		**Pb**	**19 50 53.0**	**-3.3**
	baz=30							
IFED	**Fedgar**	**1.16**	**236**	P		**Pb**	**19 50 54.4**	**-2.7**
	baz=237							
IRJU	**Rjupnafell**	**1.19**	**206**	P		**Pb**	**19 50 54.4**	**-3.1**
	baz=207							
ISKI	**Skildingahlsh**	**1.21**	**9**	P		**Pn**	**19 50 54.5**	**-3.4**
	baz=8.5							
IMJO	**Mjoaskard**	**1.21**	**233**	P		**Pb**	**19 50 55.0**	**-3.0**
	baz=233							
IGHA	**Grjothals**	**1.22**	**16**	P		**Pn**	**19 50 54.4**	**-3.6**
	baz=16							
IGRA	**Granastaoir**	**1.24**	**358**	P		**Pn**	**19 50 54.9**	**-3.5**
	baz=358							
IHVO	**Lagu-Hvolar**	**1.30**	**208**	P		**Pn**	**19 50 56.6**	**-2.6**
	baz=208							
IDIM	**Dimmadalss**	**1.31**	**10**	P		**Pn**	**19 50 56.0**	**-3.2**
	baz=9.6							
IHLA	**Hella**	**1.32**	**344**	P		**Pn**	**19 50 56.5**	**-2.9**
	baz=344							
IHED	**Heoinshofoi**	**1.41**	**3**	P		**Pn**	**19 50 57.8**	**-2.8**
	baz=2.5							
IALF	**Alftagrof**	**1.41**	**213**	P		**Pn**	**19 50 57.7**	**-2.9**
	baz=213							
IESK	**Eystri-Skogar**	**1.45**	**217**	P		**Pn**	**19 50 58.6**	**-2.5**
	baz=218							
BORG	**Borgarnes**	**1.65**	**274**	Pg		**Pn**	**19 51 01.5**	**-2.4**
	20nm,0.3s,baz=98,slow=12,SNR=60							
BORG					Lg	Lg	19 51 25.7	
	33nm,0.3s,baz=55,slow=22,SNR=9.6							
BORG	**Borgarnes**	**1.65**	**274**			**Pn**	**19 51 01.1**	**-2.8**
IKRO	**Krokur**	**1.68**	**251**	P		**Pn**	**19 51 02.6**	**-1.8**
	baz=252							
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn		**Pn**	**19 52 36.6**	**-1.7**
SUMG	**Summit**	**10.93**	**325**	Pn		**Pn**	**19 53 10.9**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn		**Pn**	**19 53 22.7**	**+0.1**
	baz=322,slow=14,SNR=6.9							
ESK	**Eskdalemuir**	**11.77**	**136**	Pn		**Pn**	**19 53 23.1**	**+0.4**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn		**Pn**	**19 53 44.7**	**-2.0**
	0.0nm,0.3s,baz=297,slow=14,SNR=1.8							
FINES	**FINESS Array B**	**19.70**	**79**	P		**Pn**	**19 55 06.3**	**+0.9**
	0.1nm,0.3s,baz=302,slow=8.0,SNR=1.9							
FINES	**FINESS Array B**	**19.70**	**79**			**Pn**	**19 55 08.0**	**+2.7**
LVZ	**Lovozero**	**20.68**	**58**	P		Pn	19 55 16.3	-0.7
CLL	**Collm**	**20.71**	**116**	*e*P		Pn	19 55 17.0	-0.3
	comp=Z,9.0nm,1.1s							
CLL					*e*(PP)		19 55 31.0	
CLL	**Collm**	**20.71**	**116**			Pn	19 55 15.7	-1.7
GRA1	**Grafenberg Arr**	**21.34**	**121**	P		**P**	**19 55 22.7**	**+0.8**
GRA1					IAmb	IAmb	19 55 35.8	
	comp=Z,56nm,1.7s							
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P		**P**	**19 55 23.8**	**+1.1**
	comp=Z,8.2nm,1.1s							
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P		**P**	**19 55 38.3**	**+2.1**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**	**19 55 38.8**	**+1.7**
GEC2	**GERESS Array S**	**22.96**	**119**	P		**P**	**19 55 39.6**	**+0.4**
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**19 55 39.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=313,slow=8.8,SNR=4.6							
EUNU	**Eureka**	**23.66**	**336**	P		**P**	**19 55 48.4**	**+2.4**
OJC	**Ojcow**	**24.26**	**109**	P		**P**	**19 55 53.9**	**+2.0**
OJC					IAmb	IAmb	19 55 55.0	
	comp=Z,29nm,1.8s							
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**19 55 55.2**	**+0.4**
CTI					IAmb	IAmb	19 56 08.1	
	comp=Z,19nm,1.7s							
VYHS	**Vyhne**	**25.24**	**112**	*e*P		**P**	**19 56 01.3**	**+0.6**
KWP	**Kalwaria Pacla**	**25.91**	**106**	P		**P**	**19 56 09.4**	**+2.6**
PSZ	**Piszkesteto**	**26.12**	**112**	P		**P**	**19 56 09.4**	**+0.6**
PSZ					IAmb	IAmb	19 56 34.9	
	comp=Z,5.5nm,0.9s							
ESDC	**Sonseca Array**	**26.27**	**156**	P		**P**	**19 56 11.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=349,slow=10,SNR=8.9							
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P		**P**	**19 56 11.0**	**+0.9**
AKASG	**Malin Array Be**	**27.84**	**98**	P		**P**	**19 56 24.3**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=317,slow=9.5,SNR=4.1							
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**	**19 57 58.7**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=322,slow=6.3,SNR=4.1							
KBZ	**Khabaz**	**39.11**	**92**	P		**P**	**19 58 04.0**	**+2.1**
	comp=Z,3.1nm,0.9s,baz=318,slow=11,SNR=6.8							
ABKAR	**Akbulak array**	**41.98**	**73**	P		**P**	**19 58 26.8**	**+1.1**
R58B	**Mineral**	**43.86**	**263**	P		**P**	**19 58 37.3**	**-3.7**
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**19 58 56.8**	**+1.7**
	comp=Z,1.9nm,1.1s,baz=22,slow=6.3,SNR=9.3							
ILAR					PcP	**PcP**		
	comp=Z,0.6nm,1.0s,baz=354,slow=2.3,SNR=5.4							
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**19 58 56.2**	**+1.1**
MDM	**Murphy Dome**	**45.77**	**333**	P		**P**	**19 58 57.3**	**+1.3**
MDM					IAmb	IAmb	19 59 00.2	
	comp=Z,6.5nm,1.1s							
IMAR	**Indian Mountai**	**45.84**	**337**	P		**P**	**19 58 58.9**	**+2.4**
TZTN	**Tazewell**	**47.49**	**267**	P		**P**	**19 59 08.5**	**-1.2**
ZALV	**Zalesovo Beam**	**47.62**	**51**	P		**P**	**19 59 10.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=322,slow=9.4,SNR=5.0							
ZALV	**Zalesovo Beam**	**47.62**	**51**	P		**P**	**19 59 11.1**	**+0.5**
KURK	**Kurchatov**	**48.10**	**58**	P		**P**	**19 59 15.1**	**+0.8**
KURK					IAmb	IAmb	19 59 16.5	
	comp=Z,5.4nm,1.0s							
KURBB	**Kurchatov Arra**	**48.14**	**58**	P		**P**	**19 59 15.6**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=325,slow=7.4,SNR=16							
KKAR	**Karatay Array**	**51.27**	**70**	P		**P**	**19 59 40.3**	**+1.7**
MKAR	**Makanchi Array**	**52.71**	**58**	P		**P**	**19 59 50.2**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=327,slow=8.7,SNR=5.5							
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P		**P**	**19 59 52.5**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=335,slow=8.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**53.16**	**156**		IAmb	IAmb	19 59 54.0	
	comp=Z,1.3nm,1.1s							
PD31	**Pinedale Array**	**53.17**	**293**	P		**P**	**19 59 52.9**	**-0.1**
PDAR	**Pinedale Array**	**53.17**	**293**	P		**P**	**19 59 53.4**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=50,slow=7.9,SNR=10							
PDAR	**Pinedale Array**	**53.17**	**293**	P		**P**	**19 59 52.9**	**-0.1**
BTK	**Batken**	**53.95**	**72**	P		**P**	**19 59 59.8**	**+1.3**
BTK					IAmb	IAmb	20 00 01.6	
	comp=Z,7.2nm,1.0s							
CHGR	**Chuyangaron**	**54.46**	**74**	P		**P**	**20 00 04.0**	**+1.8**
CHGR					IAmb	IAmb	20 00 05.5	
	comp=Z,8.1nm,1.0s							
GAR	**Garm**	**54.64**	**73**	P		**P**	**20 00 05.4**	**+1.8**
KSH	**Kashi**	**56.49**	**68**	P		**P**	**20 00 19.5**	**+2.6**
KSH					pmax	pmax		
	comp=Z,22nm,1.7s							
PV13	**Radium Mtn., P**	**56.80**	**290**	P		**P**	**20 00 20.5**	**+1.2**
PV13					IAmb	IAmb	20 00 22.1	
	comp=Z,7.5nm,0.9s							
WMQ	**Urumqi**	**57.22**	**56**	*e*P		P	20 00 25.8	+3.9
WMQ					pP	sP	20 00 30.3	+3.3
WMQ					pmax	pmax		
	comp=Z,12nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,100nm,4.9s							
SONM	**Songino Array**	**59.63**	**40**	P		**P**	**20 00 39.6**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=331,slow=4.2,SNR=3.7							
SONM	**Songino Array**	**59.63**	**40**		IAmb	IAmb	20 00 41.3	
	comp=Z,0.9nm,1.1s							
TXAR	**Lajitas Array**	**62.28**	**280**	P		**P**	**20 00 58.3**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=41,slow=5.9,SNR=6.3							
GTA	**Gaotai**	**65.29**	**49**	P		**P**	**20 01 18.4**	**+1.7**
GTA					pP	sP	20 01 23.5	+1.7
GTA					sP	pP	20 01 26.4	+6.0
GTA					pmax	pmax		
	comp=Z,3.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e*P		**P**	**20 01 32.9**	**+2.1**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,68nm,7.6s							
LZH	**Lanzhou**	**69.61**	**48**	*e*P		**P**	**20 01 45.6**	**+1.4**
LZH					pP	sP	20 01 48.3	-1.0
LZH					sP	pP	20 01 49.3	+1.4
LZH					pmax	pmax		
	comp=Z,21nm,1.3s							
LZH					pmax	pmax		
	comp=Z,110nm,5.0s							
LZH					LR	LR		
	comp=N,150nm,15.8s							
LZH					LR	LR		
	comp=E,160nm,16.2s							
LZH					LR	LR		
	comp=Z,260nm,18.1s							
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**	**20 03 06.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=321,slow=5.5,SNR=8.4							
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**	**20 03 06.5**	**+0.6**
ASAR	**Alice Springs**	**134.95**	**38**	PKP		**PKiKP**	**20 09 54.3**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=356,slow=2.8,SNR=3.1							

*ISU **21** 20:17:41.0, 39.60N × 72.90E, h0km*
*KRNET **21** 20:17:42.0±0.1, 40.53N × 73.05E, h30km, mb2.8*
*SOME **21** 20:17:42.0, 40.63N × 72.98E, h5km*
*NNC **21** 20:17:44.6±3.2, 40.72N × 73.01E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=25.5km s-min=11.1km az=170.0*
ISC 21 20:17:42.4±0.9, **40.61N**±0.04 × **72.94E**±0.04, **h10**km, **n25**, **s136**/42, **17C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.14**	**234**	*e*P		**Pg**	**20 17 44.2**	**-1.5**
OHH				*e*S		**Sg**	**20 17 46.6**	**-1.4**
AML	**Almayashu**	**1.62**	**20**	⇓*i*P		**Pb**	**20 18 12.6**	**-0.1**
	baz=17							
AML				⇓*i*S		**Sg**	**20 18 34.7**	**0.0**
	baz=17							
ARLS	**Aral**	**1.63**	**39**	⇑*i*P		**Pn**	**20 18 12.1**	**+0.8**
	baz=35							
ARLS				⇑*i*S		**Sb**	**20 18 34.0**	**+0.7**
	baz=35							
BTK	**Batken**	**1.71**	**252**	⇑*i*P		**Pb**	**20 18 13.9**	**-0.1**
	baz=55							
BTK				⇑*i*S		**Sg**	**20 18 36.9**	**-0.5**
	baz=55							
BTK	**Batken**	**1.71**	**252**	*e*P		**Pb**	**20 18 13.7**	**-0.3**
BTK				*e*S		**Sg**	**20 18 37.7**	**+0.3**
MNAS	**Manas**	**1.90**	**350**	⇑*i*P		**Pb**	**20 18 17.0**	**-0.3**
	baz=49							
MNAS				⇑*i*S		**Sg**	**20 18 42.8**	**-0.8**
	baz=49							
UCH	**Uchtor**	**2.00**	**36**	⇑*i*P		**Pn**	**20 18 17.8**	**+1.1**
	baz=33							
UCH				⇑*i*S		**Sb**	**20 18 43.8**	**-0.6**
	baz=33							
EKS2	**Erkin-Say**	**2.15**	**17**	⇑*i*P		**Pn**	**20 18 19.6**	**+1.2**
	baz=14							
EKS2				⇑*i*S		**Sb**	**20 18 47.4**	**-0.7**
	baz=14							
MRKS	**Merke**	**2.15**	**6**	*e*P		**Pb**	**20 18 22.2**	**+0.8**
	18nm,0.3s							
MRKS				*e*S		**Sg**	**20 18 51.9**	**+0.6**
	27nm,0.2s							
MRKS	**Merke**	**2.15**	**6**	Pg		**Pb**	**20 18 22.2**	**+0.8**
	18nm,0.3s							
MRKS				Lg		Lg	20 18 51.9	
	27nm,0.2s							
AAK	**Ala-Archa**	**2.34**	**29**	⇑*i*P		**Pn**	**20 18 22.1**	**+1.0**
	baz=27							
AAK				⇑*i*S		**Sn**	**20 18 51.4**	**+1.5**
	baz=27							
AAK	**Ala-Archa**	**2.34**	**29**	⇓Pg		**Pb**	**20 18 26.0**	**+1.3**
	1.7nm,0.3s							
AAK				⇑Lg		Lg	20 18 54.7	
	4.8nm,0.3s							
GAR	**Garm**	**2.58**	**232**	⇓*i*P		**Pn**	**20 18 25.4**	**+1.1**
	baz=35							
GAR				⇓*i*S		**Sn**	**20 18 57.0**	**+1.2**
	baz=35							
IUG	**Iuzhnay**	**2.67**	**306**	*e*P		**Pg**	**20 18 32.6**	**-1.0**
	9.4nm,0.2s							
IUG				*e*S		**Sg**	**20 19 09.3**	**+1.0**
	46nm,0.4s							
IUG	**Iuzhnay**	**2.67**	**306**	Pg		**Pg**	**20 18 32.1**	**-1.5**
	9.4nm,0.2s							
IUG				Lg		Lg	20 19 08.8	
	44nm,0.4s							
BOOM	**Boomskoye usch**	**2.93**	**49**	⇑*i*P		**Pn**	**20 18 30.2**	**+1.0**
	baz=47							
BOOM				⇑*i*S		**Sn**	**20 19 04.8**	**+0.2**
	baz=47							
KK31	**Karatay Array**	**3.08**	**325**	⇑Pg		**Pg**	**20 18 39.4**	**-2.0**
	3.7nm,0.8s,baz=130,slow=16,SNR=13							
KK31				⇑Lg		Lg	20 19 18.8	
	1.6nm,0.3s,baz=132,slow=29,SNR=4.9							
KST	**Kastek**	**3.32**	**42**	*e*

KBL	Kabul	7.55	260	Pn		Pn	20 28 30.2	-1.9
KUDL	Kundal	8.11	190	*e*P		Pn	20 28 39.6	0.0
KUDL				*e*S		Sn	20 30 02.8	-6.8
KK31	Karatay Array	9.05	322	⇑Pn		Pn	20 28 53.9	+1.6
	comp=E,0.6nm,0.4s,baz=135,slow=12,SNR=7.4							
KK31				⇑Sn		Sn	20 30 31.8	-0.6
	comp=E,0.7nm,0.3s,baz=135,slow=22,SNR=7.3							
KK31	Karatay Array	9.05	322	Pn		Pn	20 28 47.5	-4.8
KKAR	Karatay Array	9.05	322	Pn		Pn	20 28 47.8	-4.5
KKAR	Karatay Array	9.05	322	Pn		Pn	20 28 48.1	-4.2
WMQ	Urumqi	10.62	41	*e*P		Pn	20 29 16.9	+3.1
MAKZ	Makanchi	11.03	14	⇑P		Pn	20 29 19.2	0.0
	comp=E,4.1nm,0.4s							
MAKZ				⇓S		Sn	20 31 16.9	-3.6
	comp=E,2.8nm,0.6s							
MAKZ	Makanchi	11.03	14			Pn	20 29 18.9	-0.4
MK31	Makanchi Array	11.08	15	P		Pn	20 29 19.6	-0.4
	comp=E,0.9nm,0.3s,baz=193,slow=13,SNR=126							
MK31				S		Sn	20 31 18.5	-3.3
	comp=E,11nm,1.1s,baz=196,slow=22,SNR=13							
MK31	Makanchi Array	11.08	15	Pn		Pn	20 29 19.7	-0.3
MKAR	Makanchi Array	11.08	15	Pn		Pn	20 29 19.3	-0.6
	comp=E,0.9nm,0.3s,baz=200,slow=13,SNR=98							
MKAR				Sn		Sn	20 31 16.8	-5.1
	comp=E,1.3nm,0.3s,baz=200,slow=24,SNR=12							
MKAR	Makanchi Array	11.08	15	Pn		Pn	20 29 19.1	-0.8
MKAR						Sn	20 31 16.0	-5.8
KURBB	Kurchatov Arra	14.45	1	Pn		Pn	20 30 03.7	-0.9
	comp=E,0.1nm,0.3s,baz=191,slow=11,SNR=1.5							
KURK	Kurchatov	14.55	1	P		P	20 30 10.4	+0.5
ZALV	Zalesovo Beam	16.39	13	P		P	20 30 52.2	-0.2
	comp=E,0.1nm,0.3s,baz=210,slow=9.7,SNR=1.9							
ABKAR	Akbulak array	18.60	320	P		Pn	20 30 56.6	+0.6
ABKAR	Akbulak array	18.60	320	P		P	20 30 55.8	+1.1
AKTO	Aktyubinsk	20.31	321	P		P	20 31 13.4	+0.1
	comp=E,0.5nm,0.3s,baz=135,slow=10.0,SNR=2.4							
LZH	Lanzhou	20.81	83	*e*P		Pn	20 31 24.5	+2.2
LZH				sP		sP	20 31 46.0	-3.2
LZH				pmax		pmax		
	comp=E,20nm,1.0s							
LZH				pmax		pmax		
	comp=E,85nm,4.8s							
SONM	Songino Array	23.93	52	P		P	20 31 51.2	+0.7
	comp=E,0.5nm,0.7s,baz=247,slow=9.3,SNR=4.4							
ARU	Arti	24.18	333	P		P	20 31 52.3	-0.1
	comp=E,0.7nm,0.3s,baz=92,slow=12,SNR=5.9							
ARU	Arti	24.18	333	P		P	20 31 53.9	+1.5
ARU				IAmb		IAmb	20 31 58.5	
	comp=Z,4.4nm,1.2s							
CHTO	Chiang Mai	25.25	128	P		P	20 32 05.1	+2.6
CHTO				IAmb		IAmb	20 32 15.6	
	comp=Z,4.4nm,1.6s							
CMAR	Chiang Mai Arr	25.51	128	P		P	20 32 03.9	-1.0
	comp=Z,0.2nm,0.4s,baz=319,slow=8.3,SNR=5.5							
HHC	Hu-ho-hao-te	26.53	70	*e*P		P	20 32 17.5	+3.4
HHC				pmax		pmax		
	comp=Z,8.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,69nm,6.6s							
AKASG	Malin Array Be	37.61	308	P		P	20 33 49.9	-0.7
	comp=Z,0.4nm,0.4s,baz=79,slow=8.0,SNR=4.6							
MLR	Muntele Rosu	39.90	300	P		P	20 34 09.7	-0.3
	comp=Z,2.0nm,0.7s,baz=101,slow=12,SNR=4.8							
MLR	Muntele Rosu	39.90	300	P		P	20 34 12.0	+2.0
MLR				IAmb		IAmb	20 34 15.4	
	comp=Z,2.1nm,0.7s							
BURAR	Bucovina Array	40.24	303	P		P	20 34 13.8	+1.1
BUR08	Bucovina Ar. S	40.25	303	P		P	20 34 13.3	+0.6
BUR08				IAmb		IAmb	20 34 17.2	
	comp=Z,5.4nm,1.4s							
ALN	Alexandroupoli	40.47	293	P		P	20 34 17.6	+3.0
ALN				IAmb		IAmb	20 34 42.7	
	comp=Z,8.8nm,1.2s							
FIA1	FINESS Array S	41.00	325	P		P	20 34 19.7	+1.2
FINES	FINESS Array B	41.00	325	P		P	20 34 18.9	+0.3
	comp=Z,4.0nm,1.0s,baz=117,slow=8.4,SNR=3.8							
FINES	FINESS Array B	41.00	325	P		P	20 34 19.9	+1.3
ARCES	ARCESS Array B	43.69	336	P		P	20 34 40.9	+0.6
	comp=Z,0.9nm,0.4s,baz=102,slow=8.1,SNR=6.6							
HFS	Hagfors	46.85	322	P		P	20 35 05.5	+0.1
	comp=Z,9.1nm,1.0s,baz=63,slow=7.1,SNR=4.0							
NOA	NORSAR Array B	48.08	323	P		P	20 35 15.3	+0.3
	comp=Z,0.1nm,0.3s,baz=99,slow=8.0,SNR=1.3							
DAVOX	Davos/Dischmat	50.69	304	P		P	20 35 35.6	+0.3
	comp=Z,1.5nm,0.4s,baz=108,slow=3.2,SNR=2.5							
ESDC	Sonseca Array	62.60	301	P		P	20 36 59.2	-0.3
	comp=Z,0.1nm,0.4s,baz=50,slow=5.0,SNR=1.9							
ESDC	Sonseca Array	62.60	301	IAmb		IAmb	20 37 06.4	
	comp=Z,3.5nm,1.3s							
TORD	Torodi Ar. Bea	71.42	273	P		P	20 37 55.3	-0.4
	comp=Z,0.3nm,0.6s,baz=46,slow=6.1,SNR=4.9							
TORD	Torodi Ar. Bea	71.42	273	IAmb		IAmb	20 37 55.6	
	comp=Z,1.5nm,1.3s							
WRA	Warramunga Arr	77.09	127	P		P	20 38 28.1	-0.4
	comp=Z,0.5nm,1.0s,baz=318,slow=6.5,SNR=2.2							

*IDC **21** 20:29:50.2±0.8, 73˚.63N×8˚.25E, h0km, mb3.7/12, mb1 3.7/17, mb1mx3.5/67, mbtmp3.7/17, ML2.6/3, MS3.2/11, Ms1 3.2/11, ms1mx2.9/53, Error ellipse: s-maj=16.5km s-min=11.3km az=75.0*

ISC 21 20:29:51.9±0.7, 73.69N±0.07×8.79E±0.09, h10km, n27, σ1s61/23, mb3.6/12, MS3.2/8, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	Spitsbergen Ar	4.87	19	Pn	Pn	20 31 03.5	-1.5
	baz=187,slow=14,SNR=116						
SPITS				Sn	Sn	20 32 00.9	-0.5
	baz=217,slow=28,SNR=1.2						
ARCES	ARCESS Array B	6.72	120	Pn	Pn	20 31 31.5	+1.1
	baz=323,slow=12,SNR=13						
ARCES				Sn	Sn	20 32 43.3	-3.5
	baz=319,slow=21,SNR=1.2						
ARCES				LR	LR	20 34 15.0	
	comp=Z,125nm,18.7s,baz=295,slow=39						
NOA	NORSAR Array B	12.75	175	Pn	Pn	20 32 52.0	-1.0
	0.0nm,0.3s,baz=352,slow=13,SNR=2.2						
NOA				LR	LR	20 37 15.3	
	comp=Z,44nm,19.7s,baz=315,slow=35						
HFS	Hagfors	13.75	170	Pn	Pn	20 33 09.7	+3.2
	0.2nm,0.3s,baz=352,slow=8.7,SNR=2.2						
FINES	FINESS Array B	13.86	143	Pn	Pn	20 33 06.0	-2.1
	0.2nm,0.3s,baz=351,slow=9.8,SNR=7.1						
FINES				LR	LR	20 37 45.6	
	comp=Z,106nm,18.3s,baz=324,slow=34						
EKA	Eskdalemuir Ar	19.06	201	P	P	20 34 11.6	-2.4
	baz=25,slow=11,SNR=1.5						
NACGM	Naroch	20.23	149	*e*	P	20 34 26.0	-0.7
KIRV	Kirov	21.65	112	P	P	20 34 42.2	+0.3
	8.6nm,0.6s,baz=347,slow=1.3,SNR=4.7						
AKASG	Malin Array Be	24.68	148	P	P	20 35 11.8	-0.7
	0.6nm,0.5s,baz=349,slow=9.3,SNR=2.5						
AKASG				LR	LR	20 44 12.8	
	comp=Z,42nm,21.5s,baz=310,slow=35						
ARU	Arti	25.98	104	P	P	20 35 25.4	+1.2
	0.4nm,0.5s,baz=260,slow=6.5,SNR=3.2						
MLR	Muntele Rosu	29.34	155	LR	LR	20 47 51.8	
	comp=Z,40nm,19.9s,baz=304,slow=37						
KVAR	Kislovodsk Arr	33.61	133	LR	LR	20 49 50.5	
	comp=Z,42nm,20.1s,baz=298,slow=36						
KBZ	Khabaz	33.87	133	LR	LR	20 50 05.7	
	comp=Z,47nm,20.3s,baz=357,slow=36						
ZALV	Zalesovo Beam	35.51	81	P	P	20 36 49.0	+0.8
	0.4nm,0.6s,baz=317,slow=10.0,SNR=2.4						
BRTR	Keskin Array B	36.07	147	P	P	20 36 53.6	+0.2
	1.0nm,0.8s,baz=10,slow=8.9,SNR=4.3						
BRTR				LR	LR	20 52 59.9	
	comp=Z,19nm,18.0s,baz=323,slow=38						
KURBB	Kurchatov Arra	36.70	89	P	P	20 36 59.4	+1.0
	1.5nm,0.2s,baz=333,slow=6.7,SNR=2.0						
YKA	Yellowknife Ar	38.98	322	P	P	20 37 16.8	-0.8
	1.0nm,0.7s,baz=14,slow=10,SNR=1.6						
ILAR	Eielson Array	40.85	344	P	P	20 37 33.9	+0.7
	0.4nm,0.8s,baz=4.4,slow=7.2,SNR=3.9						
MKAR	Makanchi Array	41.23	88	P	P	20 37 37.9	+1.4
	0.4nm,0.8s,baz=316,slow=6.0,SNR=2.3						
SONM	Songino Array	46.87	66	P	P	20 38 23.9	+2.1
	0.4nm,0.8s,baz=330,slow=6.6,SNR=3.6						
NEW	Newport	52.92	317	LR	LR	21 01 05.0	
	comp=Z,26nm,19.0s,baz=26,slow=36						
PDAR	Pinedale Array	56.62	309	LR	LR	21 03 17.7	
	comp=Z,50nm,18.1s,baz=34,slow=36						
YBH	Yreka Blue Hor	60.26	320	LR	LR	21 05 17.3	
	comp=Z,60nm,18.3s,baz=10,slow=35						
TORD	Torodi Ar. Bea	60.67	188	P	P	20 40 02.5	-0.3
	1.5nm,0.8s,baz=357,slow=6.8,SNR=8.4						
TXAR	Lajitas Array	68.08	300	P	P	20 40 51.6	+0.2
	0.5nm,0.9s,baz=76,slow=5.3,SNR=4.1						
ASAR	Alice Springs	122.13	62	PKP	PKPdf	20 48 44.5	-1.6
	0.3nm,0.7s,baz=358,slow=3.2,SNR=3.5						
MAW	Mawson	145.34	147	PKPbc	PKPbc	20 49 27.2	-0.5
	2.0nm,0.7s,baz=307,slow=12,SNR=6.8						

*IDC **21** 20:39:02.0±2.5, 46˚.28S×166˚.03E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/34, mbtmp3.4/3, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/10, Error ellipse: s-maj=79.6km s-min=34.9km az=177.0*

*WEL **21** 20:39:06.6±1.4, 46˚.5±6˚×16˚.6E±˚, h12km, M4.1/16, ML4.1/7, MLv4.1/16, Error ellipse: s-maj=0.0km s-min=0.0km az=70.1*

ISC 21 20:39:05.7±2.1, 46˚.23S±0˚.06×166˚.09E±0˚.08, h23km±14km, n36, σ1s81/43, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.41	82	P	Pn	20 39 15.6	-0.6
PYZ				S	Sb	20 39 20.6	+0.4
DCZ	Deep Cove	1.06	45	P	Pn	20 39 24.5	-0.6
DCZ				S	Sb	20 39 38.5	-0.3
WHZ	Wether Hill Ro	1.33	76	P	Pb	20 39 29.8	-0.2
WHZ				S	Sb	20 39 46.8	+0.2
APZ	The Paps	1.44	116	P	Pn	20 39 30.3	-0.1
APZ				S	Sn	20 39 47.5	-1.1
MLZ	Mavora Lakes	1.66	59	P	Pb	20 39 35.4	-0.1
MLZ				S	Sb	20 39 58.6	+2.6
MSZ	Milford Sound	2.02	40	P	Pn	20 39 39.6	+1.3
SYZ	Scrubby Hill	2.13	99	P	Pn	20 39 40.6	+0.8
TUZ	Tuapeka	2.48	85	P	Pn	20 39 45.9	+1.4
TUZ				S	Sn	20 40 16.0	+1.9
WKZ	Wanaka	2.49	57	P	Pb	20 39 47.9	-1.7
JCZ	Jackson Bay	2.87	42	P	Pb	20 39 53.7	-2.6
HHSZ	Highcliff Hill	3.15	85	P	Pn	20 39 55.1	+1.1
ODZ	Otahua Downs	3.40	71	P	Pn	20 39 57.5	+0.2
LBZ	Lake Benmore	3.42	59	P	Pn	20 39 58.6	+1.0
FOZ	Fox Glacier	3.77	46	P	Pn	20 40 05.7	+3.3
GCSZ	Gaunt Creek Bo	4.19	48	P	Pn	20 40 10.4	+2.2
ARCZ	Arundel	4.26	59	P	Pn	20 40 09.2	+0.1
RPZ	Rata Peaks	4.32	56	Pn	Pn	20 40 09.9	-0.1
	5.7nm,0.3s,baz=237,slow=4.8,SNR=11						
RPZ				Sn	Sn	20 40 56.8	-2.9
	6.8nm,0.3s,baz=63,slow=9.0,SNR=3.6						
RPZ				LR	LR	20 42 02.6	
	comp=Z,352nm,18.5s,baz=222,slow=41						
RPZ	Rata Peaks	4.32	56	P	Pn	20 40 10.4	+0.4
WVZ	Waitaha Valley	4.57	48	P	Pn	20 40 15.5	+2.1
INZ	Inchbonnie	5.19	49	P	Pn	20 40 23.0	+1.2
LTZ	Lake Taylor	5.60	54	P	Pn	20 40 27.8	+0.3
DSZ	Denniston Nort	6.08	45	P	Pn	20 40 37.7	+3.5
DSZ				S	Sn	20 41 41.4	-1.7
KHZ	Kahutara	6.56	57	P	Pn	20 40 41.7	+1.0
QRZ	Quartz Range	7.14	43	P	Pn	20 40 50.9	+2.2
DUWZ	D'Urville Isla	7.86	49	P	Pn	20 41 01.9	+3.4
MRZ	Mangatainoka R	8.86	54	P	Pn	20 41 12.7	+0.5
PKE	Pukeiti	9.11	42	P	Pn	20 41 18.5	+2.7
MTVZ	Mangateitei	9.70	49	P	Pn	20 41 25.2	+1.4
OTVZ	Oturere	9.97	48	P	Pn	20 41 31.0	+3.5
ASAR	Alice Springs	34.31	300	P	P	20 45 50.1	-0.3
	0.2nm,0.7s,baz=134,slow=9.4,SNR=1.8						
WRA	Warramunga Arr	36.93	305	P	P	20 46 12.4	-0.5
	0.2nm,0.4s,baz=136,slow=7.9,SNR=6.5						
SNAA	Sanae	62.15	184	P	P	20 49 27.3	+2.9
	baz=61,slow=8.3						
VNA3	Neumayer Olymp	62.80	182	P	P	20 49 26.5	-2.2
	baz=61,slow=8.3						
VNA1	Neumayer–Stat	63.36	182	P	P	20 49 24.7	-7.7
	baz=61,slow=8.3						
TORD	Torodi Ar. Bea	144.49	207	PKP	PKPdf	20 58 39.5	-0.8
	0.2nm,0.4s,baz=161,slow=2.1,SNR=5.5						
ARCES	ARCESS Array B	149.59	334	PKPbc	PKPbc	20 58 51.9	0.0
	1.0nm,0.6s,baz=96,slow=1.8,SNR=4.8						

*IDC **21** 20:42:54.5±0.9, 6˚.62N×72˚.86W, h175km±10km, mb2.6/1, mb1 3.4/3, mb1mx2.8/43, mbtmp3.6/3, Error ellipse: s-maj=48.2km s-min=7.9km az=132.0*

*RSNC **21** 20:42:56.7±1.1, 6˚.81N×73˚.15W, h148km±4km, ML3.4, Mw3.6*

ISC 21 20:42:55.1±1.1, 6˚.82N±0˚.03×73˚.12W±0˚.03, h159km±6km, n41, σ1s63/74, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	194	⇓*e*P	Pn	20 43 16.9	+0.1
BARC				*e*S	Sn	20 43 31.6	-1.7
BARC				*i*		20 43 34.7	
	comp=Z,547nm,0.3s						
BRRC	Barranca, Sant	0.65	296	⇑*e*P	Pn	20 43 18.6	+0.5
BRRC				*e*S	Sn	20 43 35.9	+0.1
BRRC				*i*		20 43 39.8	
	comp=Z,416nm,0.2s						
PAMC	Pamplona, Colo	0.67	39	⇑*i*P	Pn	20 43 19.6	+0.8
PAMC				*e*S	Sn	20 43 36.4	-0.7
PAMC				*i*		20 43 39.0	
	comp=Z,725nm,0.5s						
RUSC	La Rusia	0.92	177	*e*P	Pn	20 43 20.9	+0.3
RUSC				*e*S	Sn	20 43 39.1	-1.1
RUSC				*i*		20 43 40.7	
	comp=Z,488nm,0.3s						
PTBC	PUERTO BERRIO,	1.35	258	*e*P	Pn	20 43 23.3	-0.6
PTBC				*e*S	Sn	20 43 44.3	-1.6
PTBC				*i*		20 43 50.3	
	comp=Z,252nm,0.4s						
TAMC	Tame, Arauca	1.38	106	⇑*e*P	Pn	20 43 25.2	+1.1
TAMC				*e*S	Sn	20 43 46.6	+0.2
OCAC	Ocana	1.42	352	*e*P	Pn	20 43 25.1	+0.4
OCAC				*e*S	Sn	20 43 46.7	-0.8
OCAC				*i*		20 43 50.5	
	comp=Z,241nm,0.5s						
SPBC	San Pablo de B	1.50	219	*e*P	Pn	20 43 25.6	+0.2
SPBC				*e*S	Sn	20 43 47.4	-1.2
SPBC				*i*		20 43 50.4	
	comp=Z,563nm,0.3s						
ZARC	Zaragoza, Cauc	1.84	291	*e*P	Pn	20 43 29.4	+0.4
ZARC				*e*S	Sn	20 43 54.6	-0.5
ZARC				*i*		20 44 00.4	
	comp=Z,214nm,0.3s						
SMLC	San Martn de	2.18	335	*e*P	Pn	20 43 33.1	+0.3
SMLC				*e*S	Sn	20 44 01.6	-0.4
SMLC				*i*		20 44 05.1	
	comp=Z,484nm,0.1s						
CHIC	Chingaza	2.26	196	*e*P	Pn	20 43 34.6	+0.5
CHIC				*e*S	Sn	20 44 04.0	-0.4
CHIC				*i*		20 44 09.9	
	comp=Z,124nm,0.3s						
ROSC	El Rosal	2.30	211	P	Pn	20 43 36.5	+1.8
	comp=Z,77nm,0.3s,baz=130,slow=24,SNR=102						
ROSC				S	Sn	20 44 06.2	+1.0
	comp=Z,22nm,0.3s,baz=138,slow=19,SNR=9.3						
HELC	Santa Helena	2.47	255	*e*P	Pn	20 43 37.9	+1.2
HELC				*e*S	Sn	20 44 08.6	-0.1
HELC				*i*		20 44 14.3	
	comp=Z,84nm,0.4s						
UREC	San Jos de Ur	2.56	291	*e*P	Pn	20 43 36.6	-0.8
UREC				*e*S	Sn	20 44 06.9	-3.2
UREC				*i*		20 44 17.2	
	comp=Z,174nm,0.2s						
GUY2C	Guyana, Caldas	2.74	235	*e*P	Pn	20 43 41.1	+1.2
GUY2C				*e*S	Sn	20 44 16.1	+1.4
GUY2C				*i*		20 44 22.9	
	comp=Z,141nm,0.3s						
VILC	Villavicencio,	2.75	192	*e*P	Pn	20 43 40.1	+0.2
VILC				*e*S	Sn	20 44 13.3	-1.3
VILC				*i*		20 44 17.5	
	comp=Z,149nm,0.4s						
PTGC	Puerto Gaitan,	2.79	159	*e*P	Pn	20 43 40.0	-0.2
PTGC				*e*S	Sn	20 44 13.2	-1.9
PTGC				*i*		20 44 18.2	
	comp=Z,200nm,0.3s						
RREF	El Recreo	2.92	229	*e*P	Pn	20 43 40.7	-1.7
RREF				*e*S	Sn	20 44 16.7	-2.3
RREF				*i*		20 44 22.0	
	comp=Z,154nm,0.3s						
TOLC	Tolima	3.12	225	*e*P	Pn	20 43 46.3	+1.7
TOLC				*e*S	Sn	20 44 24.5	+1.5
TOLC				*i*		20 44 31.2	
	comp=Z,258nm,0.6s						
MOTC	Monteria, Cord	3.18	308	*e*P	Pn	20 43 43.9	-1.2
MOTC				*e*S	Sn	20 44 22.2	-1.7
MOTC				*i*		20 44 24.3	
	comp=Z,43nm,0.2s						
SDV	Santo Domingo	3.21	50	P	Pn	20 43 46.2	+0.6
	comp=Z,17nm,0.3s,baz=226,slow=9.6,SNR=29						
SDV				S	Sn	20 44 24.2	-0.6
	comp=Z,22nm,0.3s,baz=48,slow=20,SNR=32						
SDV	Santo Domingo	3.21	50	*e*P	Pn	20 43 46.4	+0.8
SDV				*e*S	Sn	20 44 23.5	-1.3
SDV				*i*		20 44 26.9	
	comp=Z,43nm,0.3s						
ARGC	Ariguani, Magd	3.21	340	*e*P	Pn	20 43 47.0	+1.4
ARGC				*e*S	Sn	20 44 24.4	-0.3
ARGC				*i*		20 44 30.6	
	comp=Z,53nm,0.2s						
ANIL	Santa Ana	3.24	225	*e*P	Pn	20 43 47.9	+1.8
ANIL				*e*S	Sn	20 44 27.0	+1.3
ANIL				*i*		20 44 36.1	
	comp=Z,31nm,0.3s						
PRAC	Prado	3.55	210	*e*P	Pn	20 43 50.2	+0.4
PRAC				*e*S	Sn	20 44 32.3	-0.1
PRAC				*i*		20 44 39.1	
	comp=Z,125nm,0.5s						
ORTC	Ortega, Tolima	3.58	216	*e*P	Pn	20 43 51.1	+0.9
ORTC				*e*S	Sn	20 44 34.4	+1.2
ORTC				*i*		20 44 40.7	
	comp=Z,93nm,0.4s						
SJCC	San Jacinto, C	3.67	326	*e*P	Pn	20 43 50.6	-0.7
SJCC				*e*S	Sn	20 44 31.7	-3.5
SJCC				*i*		20 44 36.5	
	comp=Z,40nm,0.6s						
LCBC	Los crdobas,	3.80	302	*e*S	Sn	20 44 38.1	+0.1
LCBC				*i*		20 44 43.1	
	comp=Z,44nm,0.3s						
YOTC	Yotoco, Valle	4.27	229	*e*P	Pn	20 43 59.5	+0.3
YOTC				*e*S	Sn	20 44 51.4	+2.2
YOTC				*i*		20 45 01.4	
	comp=Z,26nm,0.9s						
GUVC	San Jose del G	4.28	173	*e*P	Pn	20 43 59.1	-0.1
GUVC				*e*S	Sn	20 44 46.4	-2.9
GUVC				*i*		20 44 54.2	
	comp=Z,120nm,0.4s						
SMRC	Santa Marta, M	4.45	346	*e*P	Pn	20 44 01.6	+0.2
SMRC				*e*S	Sn	20 44 49.6	-3.6
SMRC				*i*		20 44 52.6	
	comp=Z,35nm,0.3s						
MACC	Macarena, Meta	4.70	189	*e*P	Pn	20 44 03.7	-1.0
MACC				*e*S	Sn	20 44 55.4	-3.8
MACC				*i*		20 45 04.4	
	comp=Z,27nm,0.6s						
MARP	Paez Belalcaza	4.86	216	*e*P	Pn	20 44 07.5	+0.5
MARP				*e*S	Sn	20 45 01.4	-1.8
GARC	Garzon, Huila	5.17	207	*e*P	Pn	20 44 10.3	-0.9
GARC				*e*S	Sn	20 45 05.8	-4.9
GARC				*i*		20 45 13.3	
	comp=Z,44nm,0.3s						
PCON	Cinco Dias	5.53	216	*e*P	Pn	20 44 17.1	+1.0
POPC	Popayan, Colom	5.53	220	*e*P	Pn	20 44 16.1	+0.1
POPC				*e*S	Sn	20 45 15.7	-3.5
FLOC	Florencia	5.78	206	*e*P	Pn	20 44 18.5	-0.6
SOTA	Rioblanco	5.81	217	*e*P	Pn	20 44 22.3	+2.5
TXAR	Lajitas Array	36.46	312	P	P	20 49 45.5	+0.5
	comp=Z,0.1nm,0.5s,baz=116,slow=8.1,SNR=2.7						
ASAR	Alice Springs	149.11	234	PKPbc	PKPdf	21 02 20.7	-0.5
	comp=Z,0.2nm,0.5s,baz=130,slow=3.7,SNR=2.2						
WRA	Warramunga Arr	150.33	241	PKPbc	PKPdf	21 02 27.2	+4.0
	comp=Z,0.3nm,0.5s,baz=110,slow=2.6,SNR=5.6						

*BJI **21** 20:55:50.7±0.0, 26˚.90N×127˚.53E, h110km, mB4.5/31, mb4.4/45*

*NIED **21** 20:55:53.4, 27˚.11N×127˚.37E, h92km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.64; Mθθ3.79; Mφφ-5.43; Mrθ-2.36; Mθφ1.30; Mφr-1.89; Fault plane solution: M0 5.84000×10^15^ NP1: φs212.00000°, δ76.00000°, λ146.00000°. NP2: φs312.00000°, δ57.00000°, λ17.00000°.*

*NEIC **21** 20:55:53.6±2.3, 27˚.03N±0˚.05×127˚.46E±0˚.06, h107km±3km, mb4.7/56 Error ellipse: s-maj=9.1km s-min=6.5km az=56.0*

*JMA **21** 20:55:53.4±0.2, 27˚.11N×127˚.37E, h92km±3km, M4.2*

JMA Felt I J1.

*IDC **21** 20:55:54.2±0.9, 27˚.11N×127˚.35E, h114km±7km, mb4.0/18, mb1 4.1/23, mb1mx3.9/45, mbtmp4.4/23, MS2.7/6, Ms1 2.8/6, ms1mx2.6/44, Error ellipse: s-maj=14.3km s-min=11.0km az=74.0*

ISC 21 20:55:53.3±0.5, 27.04N±0˚.04×127˚.42E±0˚.04, h105km±4km, h105km:pP-P, n139, σ1s79/158, mb4.5/48, 2C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.48	200	P	Pn	20 56 08.7	-0.8
JAGN				S	Sn	20 56 20.1	-1.4
JIH	Iheya	0.48	91	P	Pn	20 56 09.1	-0.4
JIH				S	Sn	20 56 20.3	-1.3
JNTH	Nagotoyohara	0.75	134	P	Pn	20 56 11.7	+0.1
JNTH				S	Sn	20 56 24.4	-0.9
JOW	Kunigami	0.79	105	P	Pn	20 56 11.8	-0

JMM				IAmb	IAmb	20 59 46.2			
	comp=Z,32nm,1.0s								
ENH	**Enshi**	**16.07 286**		P	**P**	**20 59 34.4**	**-0.2**		
CN2	**Changchun**	**16.80 355**	*eP*	P	**P**	**20 59 43.6**	**+1.1**		
CN2			*es*P	sP		21 00 15.6	+0.9		
CN2			*eS*	**Sn**		**21 02 45.5**	**-3.1**		
CN2			pmax	pmax					
	comp=Z,10.0nm,0.6s								
CN2			pmax	pmax					
	comp=Z,100nm,3.0s								
XAN	**Xi'an**	**17.39 298**	P	**P**		**20 59 48.1**	**-1.0**		
XAN			S	**Sn**		**21 02 53.0**	**-10**		
XAN			pmax	pmax					
	comp=Z,17nm,0.9s								
XAN			LR	LR					
	comp=Z,240nm,7.4s								
XAN			LR	LR					
	comp=Z,170nm,8.8s								
XAN	**Xi'an**	**17.39 298**		**Pn**		**20 59 49.7**	**+0.3**		
QIZ	**Qiongzhong**	**18.03 247**	P	**P**		**20 59 57.0**	**+0.8**		
QIZ			LR	LR					
	comp=Z,97nm,9.3s								
QIZ			LR	LR					
	comp=Z,98nm,15.2s								
GYA	**Guiyang**	**18.55 273**	⇑P	**Pn**		**21 00 05.0**	**+1.5**		
GYA			pmax	pmax					
	comp=Z,12nm,1.0s								
HHC	**Hu-ho-hao-te**	**19.01 320**	*eP*	**Pn**		**21 00 08.4**	**-0.3**		
HHC			pmax	pmax					
	comp=Z,13nm,0.9s								
HHC			pmax	pmax					
	comp=Z,53nm,6.6s								
DAV	**Davao City (W)**	**19.94 185**	LR	LR		21 07 40.0			
	comp=Z,17nm,21.7s,baz=2.5,slow=35								
GUMO	**Guam**	**21.10 126**	LR	LR		21 07 10.9			
	comp=Z,23nm,20.9s,baz=288,slow=32								
LZH	**Lanzhou**	**21.98 300**	⇓P	**P**		**21 00 39.1**	**+0.1**		
LZH			pP	pP		21 01 02.0	+3.3		
LZH			sP	sP		21 01 17.1	+5.5		
LZH			sS	sS		21 05 09.8	+0.7		
LZH			SS	**SnSn**		**21 05 17.3**	**+6.2**		
LZH			pmax	pmax					
	comp=Z,24nm,1.0s								
LZH			pmax	pmax					
	comp=Z,130nm,5.4s								
LZH			LR	LR					
	comp=Z,280nm,10.0s								
LZH			LR	LR					
	comp=Z,170nm,11.3s								
LZH			LR	LR					
	comp=Z,240nm,13.2s								
SLVN	**Son La**	**22.18 260**	P	**P**		**21 00 41.9**	**+0.8**		
KMI	**Kunming**	**22.25 271**	⇑*i*P	**P**		**21 00 42.8**	**+0.9**		
KMI			pP	pP		21 01 03.1	+1.4		
KMI			pmax	pmax					
	comp=Z,12nm,0.7s								
KMI			pmax	pmax					
	comp=Z,56nm,4.7s								
KMI			LR	LR					
	comp=Z,160nm,5.5s								
KMI			LR	LR					
	comp=Z,92nm,5.5s								
KMI			LR	LR					
	comp=Z,70nm,7.7s								
DLV	**T Lat**	**23.28 233**	P	**P**		**21 00 52.6**	**+0.4**		
MYLDM	**Lahad Datu**	**23.35 203**	P	**P**		**21 00 52.9**	**+0.3**		
UBPT	**Khong Chiam**	**23.54 245**	P	**P**		**21 00 55.1**	**+0.8**		
UBPT			IAmb	IAmb		21 00 58.3			
	comp=Z,34nm,1.1s								
GTA	**Gaotai**	**26.07 305**	*eP*	**P**		**21 01 15.5**	**-1.7**		
GTA			pP	pP		21 01 40.0	+0.3		
GTA			sP	sP		21 01 53.0	+1.2		
GTA			S	**S**		**21 05 40.6**	**-0.3**		
GTA			sS	sS		21 06 23.0	+2.1		
GTA			SS	**SnSn**		**21 07 00.6**	**+10**		
GTA			pmax	pmax					
	comp=Z,9.0nm,0.8s								
GTA			pmax	pmax					
	comp=Z,97nm,7.1s								
GTA			LR	LR					
	comp=Z,73nm,16.4s								
GTA			LR	LR					
	comp=Z,73nm,15.3s								
GTA			LR	LR					
	comp=Z,79nm,15.3s								
ULN	**Ulaanbaatar**	**26.19 328**	P	**P**		**21 01 18.6**	**+0.3**		
SONM	**Songino Array**	**26.48 327**	P	**P**		**21 01 20.5**	**-0.3**		
	comp=Z,3.0nm,0.6s,baz=142,slow=11,SNR=18								
SONM			pP	**pP**		**21 01 43.8**	**+0.4**		
	comp=Z,3.7nm,0.9s,baz=145,slow=10,SNR=6.8								
SONM			ScP	**ScP**		**21 08 11.5**	**-2.1**		
	comp=Z,0.2nm,0.4s,baz=127,slow=3.8,SNR=1.6								
SONM			LR	LR		21 12 39.2			
	comp=Z,29nm,20.7s,baz=122,slow=38								
SONM	**Songino Array**	**26.48 327**	P	**P**		**21 01 21.8**	**+1.0**		
CHTO	**Chiang Mai**	**27.43 259**	P	**P**		**21 01 29.2**	**-0.3**		
CHTO			IAmb	IAmb		21 01 30.7			
	comp=Z,9.4nm,0.7s								
CM31	**Chiang Mai Arr**	**27.57 258**	P	**P**		**21 01 31.0**	**+0.3**		
CMAR	**Chiang Mai Arr**	**27.57 258**	P	**P**		**21 01 31.0**	**+0.3**		
	comp=Z,2.8nm,0.6s,baz=59,slow=7.7,SNR=42								
CMAR			LR	LR		21 13 06.5			
	comp=Z,20nm,18.4s,baz=70,slow=38								
CMAR	**Chiang Mai Arr**	**27.57 258**	P	**P**		**21 01 31.2**	**+0.5**		
FAKI	**Fak Fak**	**30.15 170**	P	**P**		**21 01 54.7**	**+1.2**		
SHL	**Shillong**	**31.83 275**	P	**P**		**21 02 07.7**	**-0.9**		
SHL			IAmb	IAmb		21 02 09.3			
	comp=Z,7.3nm,0.8s								
LSA	**Lhasa**	**31.95 283**	P	**P**		**21 02 10.0**	**+0.1**		
KULM	**Kulim**	**33.45 234**	P	**P**		**21 02 23.5**	**+1.0**		
KULM			IAmb	IAmb		21 02 24.9			
	comp=Z,7.0nm,0.8s								
IPM	**Ipoh**	**33.74 233**	P	**P**		**21 02 25.6**	**+0.5**		
IPM			IAmb	IAmb		21 02 26.8			
	comp=Z,17nm,1.0s								
WMQ	**Urumqi**	**36.05 308**	*eP*	**P**		**21 02 45.3**	**+0.6**		
WMQ			pmax	pmax					
	comp=Z,12nm,0.7s								
WMQ			pmax	pmax					
	comp=Z,61nm,4.5s								
WMQ	**Urumqi**	**36.05 308**	P	**P**		**21 02 45.8**	**+1.1**		
H11N1	**WAKE ISLAND Hy**	**36.84 93**	T	T		21 40 38.1			
	baz=290,slow=75,SNR=3.6								
H11N2	**WAKE ISLAND Hy**	**36.84 93**	T	T		21 40 55.1			
	baz=290,slow=75,SNR=4.3								
H11N3	**WAKE ISLAND Hy**	**36.85 93**	T	T		21 40 43.8			
	baz=290,slow=75,SNR=4.6								
H11S3	**WAKE ISLAND Hy**	**37.07 95**	T	T		21 41 27.1			
	baz=290,slow=74,SNR=4.1								
H11S1	**WAKE ISLAND Hy**	**37.08 95**	T	T		21 41 27.1			
	baz=290,slow=74,SNR=4.0								
H11S2	**WAKE ISLAND Hy**	**37.09 95**	T	T		21 41 27.5			
	baz=290,slow=74,SNR=4.5								
MTN	**Manton Dam**	**39.81 174**	P	**P**		**21 03 16.0**	**-0.4**		
MK31	**Makanchi Array**	**40.46 311**	P	**P**		**21 03 20.4**	**-1.2**		
MKAR	**Makanchi Array**	**40.46 311**	P	**P**		**21 03 20.4**	**-1.2**		
	comp=Z,4.7nm,0.7s,baz=94,slow=10,SNR=32								
MKAR			pP	**pwP**		**21 03 46.9**	**-0.3**		
	comp=Z,0.9nm,0.6s,baz=97,slow=11,SNR=2.4								
MKAR			ScP	**ScP**		**21 08 58.9**	**-3.3**		
	comp=Z,0.8nm,0.8s,baz=90,slow=3.2,SNR=2.8								
MKAR	**Makanchi Array**	**40.46 311**	P	**P**		**21 03 20.2**	**-1.3**		
MAKZ	**Makanchi**	**40.67 311**	P	**P**		**21 03 22.1**	**-1.2**		
ZAA0	**Zalesovo Array**	**41.17 323**	P	**P**		**21 03 26.8**	**-0.4**		
ZALV	**Zalesovo Beam**	**41.17 323**	P	**P**		**21 03 24.7**	**-2.5**		
	comp=Z,1.7nm,0.4s,baz=122,slow=8.1,SNR=8.0								
ZALV			pP	**pP**		**21 03 52.3**	**+1.5**		
	comp=Z,0.7nm,0.4s,baz=103,slow=8.2,SNR=2.6								
ZALV			ScP	**ScP**		**21 09 03.6**	**-1.2**		
	comp=Z,0.2nm,0.3s,baz=114,slow=3.5,SNR=2.4								
ZALV	**Zalesovo Beam**	**41.17 323**	P	**P**		**21 03 26.5**	**-0.7**		
KNRA	**Kununurra**	**42.48 178**	P	**P**		**21 03 39.2**	**+1.0**		
COEN	**Coen**	**43.53 158**	P	**P**		**21 03 48.4**	**+1.7**		
COEN			IAmb	IAmb		21 04 09.1			
	comp=Z,30nm,1.4s								
KURK	**Kurchatov**	**43.74 316**	P	**P**		**21 03 47.7**	**-0.4**		
KURK			IAmb	IAmb		21 03 48.3			
	comp=Z,18nm,1.6s								
KURBB	**Kurchatov Arra**	**43.77 316**	P	**P**		**21 03 46.9**	**-1.4**		
	comp=Z,3.2nm,0.5s,baz=104,slow=8.8,SNR=9.3								
KSH	**Kashi**	**44.23 300**	P	**P**		**21 03 51.4**	**-1.0**		
KSH			S	**S**		**21 10 21.1**	**+2.9**		
KSH			pmax	pmax					
	comp=Z,7.0nm,0.4s								
KSH			pmax	pmax					
	comp=Z,87nm,5.0s								
WRAB	**Tennant Creek**	**47.18 171**	P	**P**		**21 04 16.1**	**+0.7**		
WRAB			IAmb	IAmb		21 04 17.1			
	comp=Z,16nm,0.8s								
WRA	**Warramunga Arr**	**47.18 171**	P	**P**		**21 04 16.1**	**+0.6**		
	comp=Z,13nm,0.7s,baz=353,slow=8.5,SNR=88								
PALK	**Pallekele**	**48.44 255**	P	**P**		**21 04 26.4**	**+1.0**		
PALK			IAmb	IAmb		21 04 27.7			
	comp=Z,8.7nm,0.8s								
BVAR	**Borovoye Array**	**49.19 318**	P	**P**		**21 04 30.2**	**-0.5**		
	comp=Z,0.3nm,0.3s,baz=100,slow=11,SNR=7.3								
BRVK	**Borovoye**	**49.26 318**	P	**P**		**21 04 31.5**	**+0.3**		
BRVK			IAmb	IAmb		21 04 32.8			
	comp=Z,7.9nm,1.4s								
KBL	**Kabul**	**50.12 294**	P	**P**		**21 04 37.9**	**-0.3**		
KBL			IAmb	IAmb		21 04 39.8			
	comp=Z,7.8nm,0.8s								
AS31	**Alice Springs**	**50.80 172**	P	**P**		**21 04 44.0**	**+0.9**		
AS31			IAmb	IAmb		21 04 45.9			
	comp=Z,2.4nm,0.6s								
ASAR	**Alice Springs**	**50.80 172**	P	**P**		**21 04 44.0**	**+0.8**		
	comp=Z,7.0nm,0.8s,baz=359,slow=8.9,SNR=55								
ASAR	**Alice Springs**	**50.80 172**	P	**P**		**21 04 43.4**	**+0.3**		
ABKAR	**Akbulak array**	**55.57 313**	P	**P**		**21 05 17.2**	**-0.6**		
ABKAR			pP	**pP**		**21 05 44.2**	**+1.5**		
ABKAR	**Akbulak array**	**55.57 313**	P	**P**		**21 05 17.0**	**-0.8**		
ABKAR				**pP**		**21 05 43.8**	**+1.1**		
MORW	**Morawa**	**56.85 192**	P	**P**		**21 05 28.0**	**+0.9**		
MORW			IAmb	IAmb		21 05 28.8			
	comp=Z,8.3nm,0.9s								
FORT	**Forrest**	**57.50 179**	P	**P**		**21 05 32.2**	**+0.6**		
GEYT	**Alibeck**	**58.26 300**	P	**P**		**21 05 37.1**	**0.0**		
	comp=Z,3.9nm,0.6s,baz=57,slow=5.3,SNR=4.9								
CHGN	**Chignik**	**59.26 39**	P	**P**		**21 05 44.2**	**+0.6**		
BBOO	**Buckleboo**	**60.09 172**	P	**P**		**21 05 50.2**	**+0.8**		
STKA	**Stephens Creek**	**60.13 166**	P	**P**		**21 05 49.4**	**-0.4**		
	comp=Z,5.3nm,0.6s,baz=339,slow=7.4,SNR=13								
STKA	**Stephens Creek**	**60.13 166**	P	**P**		**21 05 51.0**	**+1.2**		
TTA	**Tatalina**	**60.20 31**	P	**P**		**21 05 51.6**	**+1.5**		
TTA			IAmb	IAmb		21 05 59.2			
	comp=Z,11nm,1.5s								
NWAO	**Narrogin (SRO)**	**60.42 190**	P	**P**		**21 05 52.9**	**+1.1**		
PPLA	**Purkeypile**	**61.95 31**	P	**P**		**21 06 03.4**	**+1.4**		
PPLA			IAmb	IAmb		21 06 30.8			
	comp=Z,21nm,1.6s								
KDAK	**Kodiak Island**	**62.30 37**	P	**P**		**21 06 04.6**	**+0.5**		
BPAW	**Bear Paw Mtn.**	**62.38 29**	P	**P**		**21 06 05.8**	**+1.1**		
BPAW			IAmb	IAmb		21 06 20.6			
	comp=Z,7.9nm,1.5s								
KTH	**Kantishna Hill**	**62.46 30**	P	**P**		**21 06 06.0**	**+0.7**		
KTH			IAmb	IAmb		21 06 08.6			
	comp=Z,15nm,1.5s								
TOLK	**Toolik Lake Re**	**62.58 24**	P	**P**		**21 06 06.6**	**+0.7**		
TOLK			IAmb	IAmb		21 06 20.9			
	comp=Z,16nm,1.4s								
SUA	**Susitna One**	**62.77 32**	P	**P**		**21 06 08.6**	**+1.2**		
SUA			IAmb	IAmb		21 06 11.9			
	comp=Z,20nm,1.4s								
BRLK	**Bradley Lake**	**62.92 34**	P	**P**		**21 06 08.9**	**+0.6**		
MDM	**Murphy Dome**	**63.47 28**	P	**P**		**21 06 12.9**	**+1.0**		
MDM			IAmb	IAmb		21 06 14.4			
	comp=Z,6.1nm,0.9s								
ILAR	**Eielson Array**	**64.07 28**	P	**P**		**21 06 15.7**	**0.0**		
	comp=Z,0.4nm,0.7s,baz=294,slow=9.8,SNR=6.7								
HDA	**Harding Lake**	**64.10 29**	P	**P**		**21 06 16.5**	**+0.5**		
HDA			IAmb	IAmb		21 06 42.6			
	comp=Z,6.7nm,1.2s								
KBZ	**Khabaz**	**68.09 309**	P	**P**		**21 06 41.9**	**+0.1**		
	comp=Z,5.7nm,0.8s,baz=88,slow=4.1,SNR=12								
KIV	**Kislovodsk**	**68.17 309**	P	**P**		**21 06 42.7**	**+0.2**		
KIV			IAmb	IAmb		21 06 44.2			
	comp=Z,7.8nm,1.0s								
INK	**Inuvik**	**68.43 23**	P	**P**		**21 06 44.2**	**+0.7**		
	comp=Z,2.6nm,0.8s,baz=308,slow=8.1,SNR=1.3								
INK	**Inuvik**	**68.43 23**	IAmb	IAmb		21 07 06.7			
	comp=Z,16nm,1.2s								
SOCY	**Socotra**	**69.91 274**	P	**P**		**21 06 52.3**	**-1.4**		
MARD	**Mardin**	**71.67 303**	P	**P**		**21 07 04.3**	**+0.3**		
MARD			IAmb	IAmb		21 07 04.9			
	comp=Z,7.7nm,0.6s								
FINES	**FINESS Array B**	**71.80 330**	P	**P**		**21 07 03.6**	**-0.6**		
	comp=Z,1.9nm,0.6s,baz=72,slow=6.2,SNR=7.5								
AKASG	**Malin Array Be**	**74.45 319**	P	**P**		**21 07 18.2**	**-1.8**		
	comp=Z,2.2nm,0.5s,baz=58,slow=6.4,SNR=8.3								
BRTR	**Keskin Array B**	**75.97 308**	P	**P**		**21 07 29.0**	**-0.1**		
	comp=Z,4.3nm,0.8s,baz=90,slow=6.3,SNR=12								
BRTR	**Keskin Array B**	**75.97 308**	P	**P**		**21 07 28.8**	**-0.3**		
CSS	**Mathiatis**	**78.13 303**	P	**P**		**21 07 40.6**	**-0.6**		
CSS			IAmb	IAmb		21 07 41.7			
	comp=Z,10nm,0.6s								
NB2	**NORSAR Subarra**	**78.27 334**	P	**P**		**21 07 40.7**	**-0.8**		
	comp=Z,0.7nm,0.6s,baz=55,slow=5.6								
NOA	**NORSAR Array B**	**78.27 334**	P	**P**		**21 07 40.3**	**-1.2**		
	comp=Z,1.1nm,0.7s,baz=52,slow=5.7,SNR=4.8								
ELL	**Elmali**	**79.88 306**	P	**P**		**21 07 50.2**	**-0.6**		
VYHS	**Vyhne**	**81.46 320**	*eP*	**P**		**21 07 59.4**	**+0.5**		
CLL	**Collm**	**83.08 325**	*eP*	**P**		**21 08 07.0**	**-0.2**		
GERES	**GERESS Array B**	**84.12 323**	P	**P**		**21 08 11.9**	**-0.9**		
	comp=Z,1.4nm,0.7s,baz=38,slow=6.6,SNR=2.5								
PDG	**Podgorica**	**84.37 315**	P	**P**		**21 08 13.7**	**-0.3**		
PDG			IAmb	IAmb		21 08 15.1			
	comp=Z,6.0nm,0.8s								
ITM	**Ithomi**	**85.31 309**	P	**P**		**21 08 17.8**	**-1.0**		

SOME ***21*** *21:02:46.7, 41.32N× 71.88E, h5km*
ISU ***21*** *21:02:46.6, 41.28N× 71.96E, h15km*
KRNET ***21*** *21:02:46.1±0.1, 41.27N× 71.93E, h22km, mb3.6*
NNC ***21*** *21:02:49.2±1.1, 41.43N× 71.97E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=10.1km s-min=5.3km az=1.0

ISC 21 21:02:45.6±1.2, **41.33N**±0.03× **72.02E**±0.03, **h1**km±11km,
n59, σ1s48/95, 23C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
FRG	**Fergana**	**0.62**	**197**	*eP*	**Pn**	**21 03 04.6**	**+3.0**
FRG				*eS*	**Sn**	**21 03 17.7**	**+5.5**
OHH	**Osh**	**0.99**	**144**	*eP*	**Pg**	**21 03 04.9**	**+0.4**
OHH				*eS*	**Sg**	**21 03 18.3**	**+0.9**
MNAS	**Manas**	**1.21**	**17**	⇓*i*P	**Pn**	**21 03 10.4**	**+0.6**
	baz=19						
MNAS				⇓*i*S	**Sn**	**21 03 28.0**	**+1.1**
	baz=19						
AML	**Almayashu**	**1.48**	**57**	⇓*i*P	**Pb**	**21 03 15.5**	**+1.3**
	baz=56						
AML				⇓*i*S	**Sn**	**21 03 36.5**	**+2.5**
	baz=56						
AML	**Almayashu**	**1.48**	**57**	P	**Pb**	**21 03 15.6**	**+1.3**
	SNR=269						
BTK	**Batken**	**1.57**	**216**	⇓*i*P	**Pn**	**21 03 13.4**	**-1.2**
	baz=15						
BTK				⇓*i*S	**Sn**	**21 03 33.6**	**-2.0**
	baz=15						
BTK	**Batken**	**1.57**	**216**	*eP*	**Pn**	**21 03 13.5**	**-1.2**
BTK				*eS*	**Sn**	**21 03 32.9**	**-2.7**
CHRV	**Charvak**	**1.59**	**282**	*eP*	**Pn**	**21 03 15.1**	**+0.2**
CHRV				*eS*	**Sn**	**21 03 36.6**	**+0.5**
MRKS	**Merke**	**1.67**	**32**	⇑*e*P	**Pg**	**21 03 19.0**	**+1.4**
	140nm,0.3s						
MRKS				*eS*	**Sg**	**21 03 42.2**	**+2.8**
	219nm,0.3s						
MRKS	**Merke**	**1.67**	**32**	P	**Pg**	**21 03 19.1**	**+1.4**
	140nm,0.3s						
MRKS				S	**Sg**	**21 03 42.2**	**+2.8**
	219nm,0.3s						
IUG	**Iuzhnay**	**1.70**	**299**	⇓*e*P	**Pn**	**21 03 17.1**	**+0.7**
	101nm,0.3s						
IUG				*eS*	**Sn**	**21 03 38.8**	**-0.1**
	394nm,0.3s						
ARLS	**Aral**	**1.81**	**72**	⇑*i*P	**Pg**	**21 03 20.8**	**+0.6**
	baz=71						
ARLS				⇑*i*S	**Sg**	**21 03 46.2**	**+2.6**
	baz=71						
EKS2	**Erkin-Say**	**1.87**	**44**	⇓*i*P	**Pg**	**21 03 21.9**	**+0.6**
	baz=44						
EKS2				⇓*i*S	**Sg**	**21 03 47.9**	**+2.4**
	baz=44						
EKS2	**Erkin-Say**	**1.87**	**44**	P	**Pg**	**21 03 22.4**	**+1.1**
	SNR=105						
TAS	**Tashkent**	**2.05**	**271**	⇑*e*P	**Pn**	**21 03 22.0**	**+0.7**
	baz=73						
TAS				⇑*e*S	**Sn**	**21 03 48.2**	**+0.7**
	baz=73						
TAS	**Tashkent**	**2.05**	**271**	*eP*	**Pn**	**21 03 22.7**	**+1.4**
TAS				*eS*	**Sn**	**21 03 49.5**	**+2.0**
CHM	**Chimkent**	**2.06**	**299**	*eP*	**Pb**	**21 03 24.9**	**+1.2**
	3.7nm,0.3s						
CHM				*e*S	**Sg**	**21 03 51.8**	**0.0**
	541nm,0.4s						
UCH	**Uchtor**	**2.07**	**63**	⇑*i*P	**Pg**	**21 03 24.8**	**-0.4**
	baz=63						
UCH				⇑*i*S	**Sg**	**21 03 52.9**	**+0.9**
	baz=63						
UCH	**Uchtor**	**2.07**	**63**	P	**Pg**	**21 03 24.9**	**-0.3**
	SNR=30						
KK31	**Karatay Array**	**2.10**	**328**	Pn	**Pb**	**21 03 23.4**	**-1.1**
	5.1nm,0.2s,baz=141,slow=13,SNR=117						
KK31				Lg	Lg	21 03 52.3	
	36nm,0.3s,baz=149,slow=28,SNR=13						
AAK	**Ala-Archa**	**2.26**	**54**	⇓*i*P	**Pb**	**21 03 27.3**	**0.0**
	baz=54						
AAK				⇓*i*S	**Sg**	**21 03 57.2**	**-0.9**
	baz=54						
AAK	**Ala-Archa**	**2.26**	**54**	P	**Pg**	**21 03 29.5**	**+0.6**
	SNR=16						
AAK	**Ala-Archa**	**2.26**	**54**	⇑Pn	**Pg**	**21 03 29.5**	**+0.6**
	11nm,0.5s						
AAK				⇑Lg	Lg	21 04 00.3	
	33nm,0.5s						
BRLS	**Boroldav**	**2.35**	**317**	*eP*	**Pb**	**21 03 27.6**	**-1.1**
	71nm,0.3s						
BRLS				*eS*	**Sn**	**21 03 56.5**	**+1.7**
	284nm,0.3s						
FRU1	**Bishkek**	**2.44**	**52**	⇓*i*P	**Pb**	**21 03 29.7**	**-0.6**
	baz=52						
FRU1				⇓*i*S	**Sg**	**21 04 01.3**	**-2.7**
	baz=52						
KBK	**Karagaybulak**	**2.55**	**58**	⇑*e*P	**Pb**	**21 03 31.2**	**-1.1**
	baz=57						
KBK				⇑*i*S	**Sb**	**21 04 04.5**	**+0.3**
	baz=57						
KBK	**Karagaybulak**	**2.55**	**58**	P	**Pb**	**21 03 32.3**	**+0.1**
	SNR=13						
CHMS	**Chumysh**	**2.63**	**50**	⇓*e*P	**Pb**	**21 03 31.9**	**-1.5**
	baz=50						
CHMS				⇓*i*S	**Sb**	**21 04 05.9**	**-0.3**
	baz=50						
CHMS	**Chumysh**	**2.63**	**50**	P	**Pb**	**21 03 32.7**	**-0.7**
	SNR=6.7						
GAR	**Garm**	**2.67**	**210**	⇑*e*P	**Pn**	**21 03 29.8**	**0.0**
	baz=9.0						
GAR				⇑*i*S	**Sn**	**21 04 03.0**	**+0.2**
	baz=9.0						
SGDS	**Sogindy**	**2.87**	**41**	Pg	**Pg**	**21 03 39.6**	**-0.9**
	9.0nm,0.2s						
SGDS				Lg	Lg	21 04 16.8	
	50nm,0.8s						
TKM2	**Tokmak 2**	**3.10**	**58**	⇑*e*P	**Pb**	**21 03 38.9**	**-2.7**
	baz=58						
TKM2				⇑*i*S	**Sb**	**21 04 17.4**	**-2.5**
	baz=58						
TKM2	**Tokmak 2**	**3.10**	**58**	⇑Pg	**Pg**	**21 03 44.1**	**-0.8**
	3.3nm,0.3s						
TKM2				⇑Lg	Lg	21 04 26.6	
	39nm,0.7s						
BOOM	**Boomskoye usch**	**3.15**	**67**	⇑*e*P	**Pb**	**21 03 39.3**	**-3.1**
	baz=67						
BOOM				⇑*i*S	**Sb**	**21 04 18.6**	**-2.7**
	baz=67						
DGS	**Degeres**	**3.38**	**54**	*eP*	**Pg**	**21 03 50.1**	**-0.2**
	12nm,0.5s						
DGS				*eS*	**Sg**	**21 04 35.2**	**+1.3**
	39nm,0.6s						
DGS	**Degeres**	**3.38**	**54**	Pg	**Pg**	**21 03 50.1**	**-0.2**
	12nm,0.5s						
DGS				Lg	Lg	21 04 35.3	
	39nm,0.6s						
KST	**Kastek**	**3.39**	**58**	*eP*	**Pg**	**21 03 50.4**	**-0.2**
	5.9nm,0.4s						
KST				*eS*	**Sg**	**21 04 35.4**	**+0.9**
	24nm,0.4s						
KST	**Kastek**	**3.39**	**58**	Pg	**Pg**	**21 03 50.4**	**-0.2**
	5.9nm,0.4s						
KST				Lg	Lg	21 04 35.4	
	24nm,0.4s						
CHGR	**Chuyangaron**	**3.46**	**220**	⇑*e*P	**Pn**	**21 03 41.2**	**+0.6**
	baz=20						
CHGR				⇑*i*S	**Sn**	**21 04 21.6**	**-0.7**
	baz=20						
KRBS	**Karabastau**	**3.59**	**48**	*eP*	**Pg**	**21 03 53.5**	**-0.8**
	4.4nm,0.3s						
KRBS				*eS*	**Sg**	**21 04 41.1**	**+0.2**
	41nm,0.5s						
KRBS	**Karabastau**	**3.59**	**48**	Pg	**Pg**	**21 03 53.5**	**-0.8**
	4.4nm,0.3s						
KRBS				Lg	Lg	21 04 41.1	
	41nm,0.5s						
MTBS	**Maitube**	**3.73**	**60**	*eP*	**Pg**	**21 03 56.9**	**-0.2**
	5.1nm,0.2s						
MTBS				*eS*	**Sg**	**21 04 46.5**	**+0.9**
	16nm,0.5s						
MTBS	**Maitube**	**3.73**	**60**	Pg	**Pg**	**21 03 56.9**	**-0.2**
	5.1nm,0.2s						
MTBS				Lg	Lg	21 04 46.5	
	16nm,0.5s						
IZV	**Izvestkoviy**	**3.81**	**62**	*eP*	**Pg**	**21 03 57.6**	**-1.0**
	2.1nm,0.2s						
IZV				*eS*	**Sg**	**21 04 48.2**	**+0.1**
	15nm,0.5s						
IZV	**Izvestkoviy**	**3.81**	**62**	Pg	**Pg**	**21 03 57.6**	**-1.0**

s-min=19.9km az=97.0
*JMA **21** 21:09:26.4±0.3,29.°62N×128.°45E, h35km±4km, M3.5*
*NIED **21** 21:09:26.4,29.°62N×128.°46E, h35km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-0.73; Mθθ1.27; Mφφ-0.54; Mrθ-0.80; Mθφ0.42; Mφr0.54; Fault plane solution: M0 1.52000×10^15^ NP1: φs110.00000°,δ71.00000°,λ-52.00000°. NP2: φs223.00000°,δ42.00000°,λ-151.00000°.*

ISC 21 21:09:31.5±0.8, 29.42N±0.05×128.69E±0.07, h35km, n28, σ2s9/26, mb3.4/6, MS3.3/6, 1D, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.52**	**120**	P	**Pn**	**21 09 41.3**	**-1.1**
JTAJ				*eS*	**Sn**	**21 09 51.8**	**+1.8**
JNN	**Nakanoshima**	**1.11**	**67**	P	**Pn**	**21 09 48.0**	**-2.6**
JNN				*eS*	**Sn**	**21 10 05.7**	**+1.0**
JAMN	**Amaminishikomi**	**1.24**	**160**	P	**Pn**	**21 09 51.7**	**-0.7**
JAM	**Amami Oshima**	**1.28**	**141**	P	**Pn**	**21 09 52.3**	**-0.6**
JZK	**Kikaishima**	**1.57**	**134**	P	**Pn**	**21 09 57.4**	**+0.5**
JTK	**Tokunoshima**	**1.64**	**172**	P	**Pn**	**21 09 57.2**	**-0.6**
JKC	**Kuchinoerabu**	**1.67**	**51**	P	**Pn**	**21 09 55.0**	**-3.2**
JYAK	**Yakushimahirau**	**1.78**	**62**	P	**Pn**	**21 09 57.2**	**-2.5**
JOKE	**Okinoerabujima**	**2.05**	**183**	P	**Pn**	**21 10 02.9**	**-0.6**
JMTN	**Minamitane**	**2.15**	**62**	P	**Pn**	**21 10 02.9**	**-2.0**
JTN	**Tanegashima 3**	**2.33**	**58**	P	**Pn**	**21 10 05.4**	**-2.0**
JYRO	**Yoronjima**	**2.39**	**185**	P	**Pn**	**21 10 08.2**	**0.0**
JSJ	**Shimokoshiki**	**2.42**	**21**	P	Pn	21 10 03.8	-4.8
JIH	**Iheya**	**2.46**	**195**	P	**Pn**	**21 10 08.9**	**-0.2**
JSU	**Suzuyama**	**2.58**	**36**	P	**Pn**	**21 10 06.4**	**-4.4**
JNU	**Nakatsue** 1.1nm,0.3s,baz=274,slow=2.2,SNR=7.9	**4.14**	**26**	Pn	**Pn**	**21 10 33.8**	**+1.5**
JNU	0.7nm,0.3s,baz=70,slow=5.0,SNR=1.1			Sn	**Sn**	**21 11 24.9**	**+5.4**
JNU	comp=Z,88nm,18.4s,baz=269,slow=44			LR	LR	21 12 36.9	
KSRS	**Korea Array** 0.0nm,0.3s,baz=181,slow=13,SNR=1.4	**8.04**	**356**	Pn	**Pn**	**21 11 24.9**	**-0.9**
KSRS	0.4nm,0.3s,baz=174,slow=31,SNR=2.2			Lg	Lg	21 13 35.8	
KSRS	comp=Z,163nm,19.6s,baz=160,slow=38			LR	LR	21 14 34.7	
MJAR	**Matsushiro Arr** 0.0nm,0.3s,baz=237,slow=15,SNR=5.2	**10.69**	**46**	Pn	**Pn**	**21 12 03.3**	**+1.2**
JCJ	**Chichijima** comp=Z,46nm,18.8s,baz=151,slow=38	**12.12**	**98**	LR	LR	21 17 06.0	
SONM	**Songino Array** 0.4nm,0.8s,baz=123,slow=7.1,SNR=2.3	**25.18**	**323**	P	**P**	**21 14 52.6**	**-1.1**
SONM	comp=Z,32nm,19.8s,baz=310,slow=43			LR	LR	21 27 22.5	
TLY	**Talaya** comp=Z,73nm,18.6s,baz=122,slow=39	**29.01**	**327**	LR	LR	21 28 20.0	
CMAR	**Chiang Mai Arr** 0.4nm,0.8s,baz=56,slow=6.6,SNR=4.6	**29.22**	**255**	P	**P**	**21 15 29.4**	**-0.7**
CMAR	comp=Z,57nm,19.3s,baz=72,slow=39			LR	LR	21 28 31.0	
PETK	**Petropavlovsk-** comp=Z,28nm,18.0s,baz=68,slow=39	**31.80**	**34**	LR	LR	21 29 57.9	
MK31	**Makanchi Array** 0.8nm,0.8s,baz=138,slow=17,SNR=4.3	**39.79**	**309**	⇓P	**P**	**21 17 03.0**	**+2.0**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=97,slow=9.9,SNR=4.7	**39.79**	**309**	P	**P**	**21 17 01.2**	**+0.1**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=353,slow=8.2,SNR=5.1	**49.37**	**173**	P	**P**	**21 18 17.7**	**0.0**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=355,slow=9.5,SNR=2.6	**53.02**	**174**	P	**P**	**21 18 43.1**	**-1.8**
ASAR	comp=Z,33nm,20.0s,baz=151,slow=35			LR	LR	21 40 06.7	
NOA	**NORSAR Array B** comp=Z,16nm,19.1s,baz=285,slow=40	**76.65**	**334**	LR	LR	22 00 04.3	

*IDC **21** 21:33:40.4±1.0,0.°99N×121.°43E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/34, mbtmp3.8/6, ML4.1/2, MS2.6/4, Ms1 2.6/4, ms1mx2.5/40, Error ellipse: s-maj=66.8km s-min=17.4km az=70.0*
*DJA **21** 21:33:48.5±0.4, 1.°N±3.°×12.°1E±.°, h28km±4km, M4.3/12, mB5.6/2, mb4.3/6, MLv4.2/12, Mw(mB)5.1/2*

ISC 21 21:33:45.2±0.9, 0.85N±0.06×120.81E±0.06, h29km, n18, σ1s64/20, mb3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.04**	**241**	P	**Pn**	**21 34 04.3**	**+0.5**
APSI	**Ampana**	**1.94**	**154**	P	**Pn**	**21 34 17.8**	**+1.6**
APSI				S	**Sb**	**21 34 43.2**	**-0.5**
GTOI	**Gorontalo**	**2.21**	**95**	P	**Pb**	**21 34 23.4**	**-1.1**
GTOI				S	**Sb**	**21 34 50.6**	**-0.9**
LUWI	**Luwuk**	**2.72**	**134**	P	**Pb**	**21 34 31.5**	**-1.6**
LUWI				S	**Sb**	**21 35 06.2**	**+0.2**
KMSI	**Cibinong**	**3.19**	**95**	P	**Pb**	**21 34 40.2**	**-0.9**
KMSI				S	**Sb**	**21 35 21.5**	**+2.0**
TTSI	**Tana Toraja**	**3.99**	**194**	P	**Pn**	**21 34 46.9**	**+2.5**
SPSI	**Sidrap Palu**	**4.89**	**192**	P	**Pn**	**21 34 59.0**	**+2.2**
KDI	**Kendari** 0.1nm34nm,0.6s	**5.11**	**159**	P	**Pn**	**21 35 02.6**	**+2.8**
KAPI	**Kappang** 3.8nm,0.3s,baz=16,slow=1.0,SNR=5.0	**5.92**	**190**	Pn	**Pn**	**21 35 12.6**	**+1.7**
KAPI	baz=212,slow=19,SNR=1.1			Sn	**Sn**	**21 36 18.3**	**+0.4**
KAPI	comp=Z,13nm,21.7s,baz=42,slow=32			LR	LR	21 36 57.8	
DAV	**Davao City (W)** comp=Z,22nm,21.7s,baz=174,slow=33	**7.80**	**37**	LR	LR	21 37 44.3	
BATI	**Baumata** comp=Z,106nm,20.7s,baz=48,slow=36	**11.34**	**166**	LR	LR	21 40 32.9	
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=336,slow=10.0,SNR=9.1	**19.42**	**166**	P	**P**	**21 38 08.3**	**-0.9**
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=337,slow=9.3,SNR=32	**24.55**	**148**	P	**P**	**21 39 00.4**	**-2.3**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=345,slow=15,SNR=6.7	**27.49**	**153**	P	**P**	**21 39 27.3**	**-1.9**
CMAR	**Chiang Mai Arr** comp=Z,25nm,19.7s,baz=150,slow=38	**27.69**	**310**	LR	LR	21 51 32.3	
SONM	**Songino Array** 0.9nm,1.1s,baz=171,slow=6.6,SNR=3.9	**48.45**	**347**	P	**P**	**21 42 25.9**	**+0.8**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=131,slow=8.8,SNR=7.8	**56.76**	**329**	P	**P**	**21 43 27.4**	**+0.9**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=141,slow=5.5,SNR=4.6	**60.65**	**337**	P	**P**	**21 43 53.3**	**-0.2**

IDC 21 21:43:03.7±2.4, 62.82S×173.09E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/22, mbtmp3.7/3, ML3.5/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/20, Error ellipse: s-maj=89.8km s-min=42.9km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.2nm,0.3s,baz=24,slow=14,SNR=14	**15.20**	**189**	Pn	Pn	21 46 37.8	-1.4
VNDA	comp=Z,581nm,21.2s,baz=12,slow=30			LR	LR	21 50 47.4	
URZ	**Urewera** comp=Z,285nm,21.2s,baz=211,slow=34	**24.71**	**8**	LR	LR	21 56 55.4	
RAO	**Raoul Island** comp=Z,104nm,19.0s,baz=144,slow=32	**34.08**	**14**	LR	LR	22 00 57.9	
RAR	**Rarotonga** comp=Z,97nm,21.1s,baz=195,slow=30	**45.50**	**37**	LR	LR	22 05 56.1	
H01W1	**Cape Leeuwin H** baz=147,slow=76,SNR=37	**45.52**	**279**	T	T	22 38 47.5	
H01W2	**Cape Leeuwin H** baz=147,slow=76,SNR=39	**45.53**	**279**	T	T	22 38 48.0	
H01W3	**Cape Leeuwin H** baz=147,slow=76,SNR=38	**45.54**	**279**	T	T	22 38 48.8	
NWAO	**Narrogin (SRO)** comp=Z,235nm,21.9s,baz=248,slow=29	**45.79**	**284**	LR	LR	22 05 16.2	
ASAR	**Alice Springs** 1.3nm,0.9s,baz=158,slow=7.5,SNR=3.8	**47.08**	**308**	P	P	21 51 36.9	-0.1
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=163,slow=6.4,SNR=2.1	**50.35**	**310**	P	P	21 52 01.6	-0.6
H08S2	**Diego Garcia H** baz=153,slow=76,SNR=7.0	**88.07**	**257**	T	T	23 31 50.3	
H08S3	**Diego Garcia H** baz=151,slow=76,SNR=22	**88.09**	**257**	T	T	23 31 52.0	
ILAR	**Eielson Array** 0.2nm,0.5s,baz=188,slow=3.6,SNR=1.9	**130.68**	**21**	PKP	PKPdf	22 02 13.9	-0.9
BRTR	**Keskin Array B** 0.9nm,0.7s,baz=174,slow=1.4,SNR=2.5	**146.57**	**246**	PKPbc	PKPbc	22 02 46.8	+0.5

GCMT 21 21:52:38.0±0.4, 63.14S±0.05×171.0E±0.1, h22km±1km, MW4.9/64, Moment Tensor Solution. s19,c23; s64,c82; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.99±.27; Mθθ1.53±.18; Mφφ1.46±.19; Mrθ-1.61±.29; Mθφ0.75±.09; Mφr-0.87±.33; Best double couple: M0 3.18500×10^16^ NP1: φs223.00000°, δ28.00000°, λ-100.00000°. NP2: φs54.00000°, δ62.00000°, λ-85.00000°. Principal axes: T 2.7910, Plg17.0000°, Azm141.0000°; N 0.7880, Plg5.0000°, Azm232.0000°; P -3.5790, Plg72.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** comp=Z,256nm,22.3s	**41.16**	**354**	*e*LR	LR	22 11 40.5	
PAE	**Paea** 4.2nm,0.3s	**52.89**	**49**	*e*T	T	22 58 56.0	
PPT2	**Papeete2** comp=Z,73nm,24.5s	**52.96**	**49**	*e*LR	LR	22 17 04.2	
MEH	**Mehetia** 15nm,0.3s	**53.22**	**51**	*e*T	T	22 59 22.1	
VAH	**Vaihoa** 76nm,0.3s	**55.82**	**50**	*e*T	T	23 02 35.7	

*GCMT **21** 21:58:09.0±0.2, 63.07S±0.03×170.96E±0.06, h12km, MW4.9/83, Moment Tensor Solution. s24,c26; s83,c113; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.70±.08; Mθθ1.43±.08; Mφφ1.27±.10; Mrθ-1.19±.41; Mθφ0.86±.06; Mφr-1.49±.36; Best double couple: M0 3.10800×10^16^ NP1: φs231.00000°, δ26.00000°, λ-83.00000°. NP2: φs42.00000°, δ64.00000°, λ-94.00000°. Principal axes: T 2.8550, Plg19.0000°, Azm135.0000°; N 0.5040, Plg3.0000°, Azm44.0000°; P -3.3600, Plg71.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 21 21:58:07.5±2.3, 63.29S×170.32E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, ML3.6/1, MS4.1/14, Ms1 4.1/14, ms1mx4.1/17 Error ellipse: s-maj=96.0km s-min=39.6km az=70.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.3nm,0.3s,baz=30,slow=13,SNR=11	**14.55**	**187**	Pn	Pn	22 01 35.6	+1.3
VNDA	comp=Z,1μm,20.6s,baz=20,slow=32			LR	LR	22 05 59.8	
RPZ	**Rata Peaks** comp=Z,710nm,21.8s,baz=207,slow=32	**19.62**	**2**	LR	LR	22 08 39.7	
URZ	**Urewera** comp=Z,384nm,21.2s,baz=208,slow=32	**25.40**	**13**	LR	LR	22 11 47.6	
QSPA	**South Pole Qui** comp=Z,581nm,18.8s,baz=33,slow=33	**26.80**	**180**	LR	LR	22 12 55.2	
STKA	**Stephens Creek** comp=Z,498nm,19.5s,baz=193,slow=32	**36.30**	**316**	LR	LR	22 17 48.9	
MAW	**Mawson** comp=Z,385nm,19.2s,baz=115,slow=36	**39.46**	**215**	LR	LR	22 21 52.2	
DZM	**Mont Dzumac** comp=Z,501nm,22.2s	**41.28**	**355**	*e*LR	LR	22 17 16.6	
H01W1	**Cape Leeuwin H** baz=147,slow=76	**44.37**	**282**	T	T	22 54 05.4	
H01W2	**Cape Leeuwin H** baz=147,slow=76	**44.37**	**282**	T	T	22 54 06.0	
H01W3	**Cape Leeuwin H** baz=147,slow=76	**44.39**	**282**	T	T	22 54 06.9	
ASAR	**Alice Springs** 0.8nm,0.8s,baz=152,slow=8.0,SNR=4.3	**46.41**	**311**	P	P	22 06 36.0	+0.4
ASAR	comp=Z,272nm,18.7s,baz=146,slow=34			LR	LR	22 24 27.4	
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=162,slow=7.2,SNR=2.5	**49.72**	**314**	P	P	22 07 01.0	-0.3
PPT2	**Papeete2** comp=Z,96nm,28.2s	**53.30**	**50**	*e*LR	LR	22 07 18.9	
PPT2	**Papeete2** comp=Z,146nm,27.2s	**53.30**	**50**	*e*LR	LR	22 22 37.0	
PPT	**Papeete** comp=Z,51nm,19.1s,baz=222,slow=29	**53.32**	**50**	LR	LR	22 23 53.2	
MEH	**Mehetia** 14nm,0.3s	**53.57**	**52**	*e*T	T	23 04 50.5	
FITZ	**Fitzroy Crossi** comp=Z,166nm,18.3s,baz=154,slow=35	**54.48**	**305**	LR	LR	22 30 08.3	
VAH	**Vaihoa** 57nm,0.3s	**56.16**	**51**	*e*T	T	23 08 04.6	
PMG	**Port Moresby** comp=Z,188nm,19.8s,baz=166,slow=32	**56.30**	**332**	LR	LR	22 28 21.2	
BATI	**Baumata** comp=Z,181nm,20.0s,baz=172,slow=34	**62.46**	**306**	LR	LR	22 33 39.5	
PLCA	**Paso Flores** comp=Z,68nm,21.5s,baz=154,slow=31	**65.63**	**133**	LR	LR	22 31 44.8	
KAPI	**Kappang** comp=Z,89nm,19.8s,baz=142,slow=34	**68.69**	**304**	LR	LR	22 36 25.9	
DAV	**Davao City (W)** comp=Z,74nm,18.3s,baz=129,slow=36	**77.91**	**314**	LR	LR	22 45 34.4	
H08S2	**Diego Garcia H** baz=152,slow=76	**86.74**	**260**	T	T	23 47 15.7	
H08S1	**Diego Carcia H** baz=152	**86.75**	**260**	T	T	23 47 12.5	
H08S3	**Diego Garcia H** baz=152,slow=76	**86.76**	**260**	T	T	23 47 15.6	
ILAR	**Eielson Array** 0.5nm,0.7s,baz=216,slow=5.6,SNR=2.7	**131.60**	**23**	PKP	PKiKP	22 17 20.8	-0.5
KBZ	**Khabaz** 3.3nm,1.0s,baz=116,slow=16,SNR=5.9	**144.44**	**262**	PKP	PKPab	22 17 42.2	-0.6
BRTR	**Keskin Array B** 1.8nm,0.9s,baz=151,slow=3.3,SNR=8.6	**145.23**	**248**	PKPbc	PKPbc	22 17 44.8	-1.1

RSNC 21 21:58:09.5±1.4, 0.83N×77.98W, h4km±7km, ML3.0, Mw4.0, 2C, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBC	**Cumbal**	**0.19**	**53**	⇑*e*P	Pg	21 58 13.4	0.0
CMBC				*e*S	Sg	21 58 16.8	+0.9
CUSE	**Cuicocha Este**	**0.67**	**219**	*e*P	Pg	21 58 21.8	-0.6
CUSE				*e*S	Sg	21 58 31.7	+0.6
GCUF	**Volcan Galeras**	**0.75**	**58**	*e*P	Pg	21 58 23.5	-0.4
GCUF				*e*S	Sg	21 58 33.4	-0.2
GCUF	comp=Z,160nm,0.6s			*i*		21 58 53.4	
OTAV	**Otavalo**	**0.75**	**219**	⇑*e*P	Pg	21 58 23.2	-0.8
OTAV				*e*S	Sg	21 58 33.3	-0.5
OTAV	comp=Z,583nm,0.7s			*i*		21 58 37.4	
CPAS2	**Pasto**	**0.82**	**62**	*e*P	Pg	21 58 24.6	-0.8
CPAS2				*e*S	Sg	21 58 35.3	-0.8
TUMC	**Tumaco**	**1.24**	**323**	*e*P	Pg	21 58 30.4	-2.9
CRUC	**La Cruz**	**1.26**	**54**	*e*P	Pg	21 58 33.0	-0.8
BBAC	**Balboa, Cauca**	**1.39**	**32**	*e*P	Pn	21 58 34.5	-1.4
BBAC				*e*S	Sg	21 58 52.1	-2.3
BBAC	comp=Z,163nm,0.4s			*i*		21 58 58.9	
PUAC	**Puerto Asis, P**	**1.43**	**101**	*e*P	Pn	21 58 35.1	-1.2
PUAC				*e*S	Sb	21 58 53.6	-1.9
SOTA	**Rioblanco**	**1.89**	**46**	*e*P	Pg	21 58 46.9	+1.1
POPC	**Popayan, Colom**	**2.14**	**37**	*e*P	Pb	21 58 48.0	-1.1
GR1C	**Gorgona, Isla**	**2.17**	**355**	*e*P	Pn	21 58 45.7	-0.8
PCON	**Cinco Dias**	**2.17**	**47**	*e*P	Pb	21 58 50.0	+0.3
PCON				*e*S	Sg	21 59 19.4	0.0
FLOC	**Florencia**	**2.44**	**72**	*e*P	Pb	21 58 53.2	-0.8
FLOC				*e*S	Sn	21 59 22.5	+1.9
FLOC	comp=Z,77nm,0.3s			*i*		21 59 30.6	
GARC	**Garzon, Huila**	**2.83**	**61**	*e*P	Pb	21 59 00.0	-0.7
MARP	**Paez Belalcaza**	**2.85**	**45**	*e*P	Pb	21 59 01.5	+0.5
BETC	**Betania**	**3.13**	**54**	*e*P	Pb	21 59 07.3	+1.4
MALC	**Bahia Malaga**	**3.23**	**11**	*e*P	Pn	21 59 02.1	+1.1
PTLC	**Puerto Leguiza**	**3.25**	**102**	*e*P	Pn	21 59 03.5	+2.3
PTLC				*e*S	Sb	21 59 49.1	+1.4
PTLC	comp=Z,54nm,0.4s			*i*		21 59 56.3	
YOTC	**Yotoco, Valle**	**3.54**	**27**	*e*P	Pb	21 59 10.2	-2.5
YOTC				*e*S	Sn	21 59 46.9	-0.8
ORTC	**Ortega, Tolima**	**4.10**	**42**	*e*P	Pb	21 59 18.4	-4.0
PRAC	**Prado**	**4.21**	**47**	*e*P	Pb	21 59 21.7	-2.6
MACC	**Macarena, Meta**	**4.33**	**72**	*e*P	Pb	21 59 26.2	0.0
MACC				*e*S	Sb	22 00 18.6	-0.3
MACC	comp=Z,37nm,0.7s			*i*		22 00 32.2	
ANIL	**Santa Ana**	**4.46**	**35**	*e*P	Pb	21 59 23.5	-5.1
TOLC	**Tolima**	**4.58**	**35**	*e*P	Pb	21 59 26.5	-4.2
RREF	**El Recreo**	**4.83**	**33**	*e*P	Pn	21 59 26.9	+3.4
GUY2C	**Guyana, Caldas**	**5.09**	**31**	*e*P	Pn	21 59 31.3	+4.3
CBOC	**Ciudad Bolivar**	**5.38**	**21**	*e*P	Pn	21 59 35.5	+4.8
CHIC	**Chingaza**	**5.68**	**48**	*e*P	Pn	21 59 41.8	+6.7
PTBC	**PUERTO BERRIO,**	**6.67**	**32**	*e*P	Pn	21 59 51.2	+2.8
RUSC	**La Rusia**	**7.01**	**44**	*e*P	Pn	21 59 59.2	+5.7

*NNC **21** 22:20:55.6±1.3, 42.76N×79.37E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=8.7km s-min=3.6km az=144.0*
*KRNET **21** 22:20:55.2±0.1, 41.36N×79.12E, mb1.9*
*SOME **21** 22:20:56.3, 42.78N×79.33E, h10km*

ISC 21 22:20:55.0±1.6, 42.72N±0.06×79.36E±0.03, h3km±12km, n23, σ0s52/43, 11C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 0.3nm,0.2s	**0.61**	**9**	P	**Pg**	**22 21 06.9**	**+0.1**
PDGK	1.8nm,0.3s			S	**Sg**	**22 21 14.7**	**0.0**
PDGK	**Podgornoye** 0.7nm,0.7s	**0.61**	**9**	⇓P	**Pg**	**22 21 06.8**	**0.0**
PDGK	1.4nm,0.3s			⇑S	**Sg**	**22 21 14.9**	**+0.1**
SATY	**Saty** 0.6nm,0.1s	**0.78**	**296**	*e*P	**Pg**	**22 21 10.2**	**+0.2**
SATY	7.7nm,0.1s			*e*S	**Sg**	**22 21 20.1**	**+0.1**
SATY	**Saty** 0.6nm,0.1s	**0.78**	**296**	P	**Pg**	**22 21 10.2**	**+0.2**
SATY	7.7nm,0.1s			S	**Sg**	**22 21 20.1**	**+0.1**
ZHN	**Zhinishke** 0.8nm,0.1s	**0.81**	**303**	*e*P	**Pg**	**22 21 11.0**	**+0.4**
ZHN	2.3nm,0.1s			*e*S	**Sg**	**22 21 21.5**	**+0.4**
ZHN	**Zhinishke** 72nm,0.1s	**0.81**	**303**	P	**Pg**	**22 21 11.0**	**+0.4**
ZHN	2.7nm,0.3s			S	**Sg**	**22 21 21.5**	**+0.4**
KTMS	**Ketmen** 1.6nm,0.0s	**1.02**	**45**	*e*P	**Pg**	**22 21 14.9**	**+0.2**
KTMS	4.5nm,0.1s			*e*S	**Sg**	**22 21 28.2**	**+0.2**
KTMS	**Ketmen**	**1.02**	**45**	P	**Pg**	**22 21 14.9**	**+0.2**
KTMS				S	**Sg**	**22 21 28.2**	**+0.2**
ANVS	**Anan'yevo** baz=23	**1.25**	**273**	⇑*i*P	Pn	22 21 28.1	+8.5
ANVS	baz=23			⇑*i*S	Sn	22 21 52.2	+15
MNBS	**Baschi** 1.2nm,0.1s	**1.52**	**333**	*e*P	**Pg**	**22 21 23.9**	**-0.3**
MNBS	8.0nm,0.3s			*e*S	**Sg**	**22 21 43.9**	**-0.1**
MNBS	**Baschi** 1.2nm,0.1s	**1.52**	**333**	P	**Pg**	**22 21 23.9**	**-0.3**
MNBS	8.0nm,0.3s			S	**Sg**	**22 21 43.9**	**-0.1**
DJR	**Jarkent** 1.1nm,0.2s	**1.64**	**11**	*e*P	**Pb**	**22 21 25.6**	**-0.3**
DJR	3.7nm,0.3s			*e*S	**Sb**	**22 21 46.8**	**-0.3**
DJR	**Jarkent** 1.1nm,0.2s	**1.64**	**11**	P	**Pb**	**22 21 25.6**	**-0.3**
DJR	3.7nm,0.3s			S	**Sb**	**22 21 46.8**	**-0.3**
KDJ	**Kajisay** baz=99	**1.72**	**251**	⇑*i*P	**Pn**	**22 21 25.4**	**-0.7**
KDJ	baz=99			⇑*i*S	**Sn**	**22 21 47.4**	**-1.3**
KOTS	**Kotyrbulak** 1.6nm,0.2s	**1.73**	**288**	*e*P	**Pg**	**22 21 27.9**	**-0.2**
KOTS	9.0nm,0.4s			*e*S	**Sg**	**22 21 50.8**	**+0.3**
KOTS	**Kotyrbulak** 1.6nm,0.2s	**1.73**	**288**	P	**Pg**	**22 21 27.9**	**-0.2**
KOTS	9.0nm,0.4s			S	**Sg**	**22 21 50.8**	**+0.3**
KNDC	**Almaty** 3.8nm,0.4s	**1.82**	**286**	⇑P	**Pn**	**22 21 27.9**	**+0.4**
KNDC	5.1nm,0.5s			⇑S	**Sb**	**22 21 52.3**	**-0.1**
ARXS	**Arharly** 1.6nm,0.1s	**1.86**	**324**	*e*P	**Pb**	**22 21 29.8**	**0.0**
ARXS	2.6nm,0.2s			*e*S	**Sg**	**22 21 53.8**	**-1.0**
ARXS	**Arharly** 1.6nm,0.1s	**1.86**	**324**	P	**Pb**	**22 21 29.8**	**0.0**
ARXS	2.6nm,0.2s			S	**Sg**	**22 21 53.8**	**-1.0**
KTBS	**Karatobe** 0.2nm,0.1s	**2.19**	**298**	*e*P	**Pb**	**22 21 35.4**	**+0.1**
KTBS	4.7nm,0.3s			*e*S	**Sb**	**22 22 03.3**	**+0.3**
KTBS	**Karatobe** 0.2nm,0.1s	**2.19**	**298**	Pg	**Pb**	**22 21 35.4**	**+0.1**
KTBS	4.7nm,0.3s			Lg	Lg	22 22 03.3	
ULHL	**Ulahol** baz=93	**2.35**	**259**	⇑*i*P	**Pn**	**22 21 36.0**	**+1.1**
ULHL	baz=93			⇑*i*S	**Sn**	**22 22 05.8**	**+1.4**
BOOM	**Boomskoye usch** baz=97	**2.53**	**266**	⇑*i*P	**Pb**	**22 21 40.2**	**-1.1**
BOOM	baz=97			⇑*i*S	**Sb**	**22 22 12.9**	**-0.1**

*IDC **21** 22:23:43.9±0.7, 0.°68N×146.°30E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/43, mbtmp4.0/14, ML4.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/38, Error ellipse: s-maj=24.4km s-min=15.5km az=94.0*
*NEIC **21** 22:23:46.3±1.6, 0.°64N±0.°08×146.°3E±0.°1, h15km±4km, mb4.6/22, Error ellipse: s-maj=16.6km s-min=10.8km az=77.0*

ISC 21 22:23:49.1±0.5, 0.63N±0.07×146.40E±0.08, h35km, n56, σ0s96/54, mb4.4/24, MS3.4/4, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.82**	**160**	Pn	**Pn**	**22 24 31.1**	**-0.6**
MANU				Sn	**Sn**	**22 25 01.7**	**-2.9**
KRVT	**Keravat (AS076** 10nm,0.3s,baz=295,slow=23,SNR=5.4	**7.46**	**131**	Pn	**Pn**	**22 25 36.1**	**+0.6**
RABL	**Rabaul**	**7.49**	**130**	Pn	**Pn**	**22 25 37.3**	**+1.3**
PATS	**Pohnpei**	**13.39**	**62**	Pn	**Pn**	**22 26 55.5**	**-1.3**
MTN	**Manton Dam**	**20.21**	**228**	P	**P**	**22 28 20.1**	**-1.1**
MTN	comp=Z,15nm,0.8s			IAmb	IAmb	22 28 33.2	
CTA	**Charters Tower** comp=Z,5.6nm,1.0s,baz=2.8,slow=14,SNR=2.8	**20.59**	**180**	P	**P**	**22 28 26.3**	**+1.0**
WR0	**Warramunga Arr**	**23.53**	**209**	P	**P**	**22 28 55.8**	**-0.5**
WB2	**Warramunga Arr**	**23.61**	**209**	P	**P**	**22 28 56.7**	**-0.3**
WB2	comp=Z,10nm,0.7s			IAmb	IAmb	22 29 07.4	
WRA	**Warramunga Arr** comp=Z,3.8nm,0.5s,baz=31,slow=10,SNR=47	**23.61**	**209**	P	**P**	**22 28 56.2**	**-0.9**
WRA	comp=Z,0.4nm,0.7s,baz=29,slow=3.0,SNR=2.2			PcP	**PcP**	**22 32 42.2**	**+0.6**
WRA	comp=Z,134nm,20.7s,baz=110,slow=37			LR	LR	22 38 27.0	
KNRA	**Kununurra**	**23.79**	**226**	P	**P**	**22 28 58.5**	**-0.3**
KNRA	comp=Z,48nm,1.5s			IAmb	IAmb	22 29 03.2	
BATI	**Baumata** comp=Z,23nm,0.5s,baz=113,slow=15,SNR=2.1	**25.05**	**244**	P	**P**	**22 29 09.8**	**-0.6**
H11S3	**WAKE ISLAND Hy** baz=228	**26.69**

	comp=Z,1.7nm,0.7s,baz=339,slow=14,SNR=2.8									
STKA	**Stephens Creek**	**32.65**	**188**	P		**P**		**22 30 19.3**	**+1.5**	
YHNB	**Yeheng**	**34.02**	**317**	P		**P**		**22 30 29.8**	**-0.3**	
GIRL	**Giralia**	**38.94**	**231**	P		**P**		**22 31 13.1**	**+1.2**	
QIZ	**Qiongzhong**	**40.24**	**299**	P		**P**		**22 31 23.1**	**+0.3**	
QIZ				IAmb		IAmb		22 31 24.4		
	comp=Z,13nm,1.0s									
MORW	**Morawa**	**41.40**	**222**	P		**P**		**22 31 32.8**	**+0.4**	
MORW				IAmb		IAmb		22 31 42.1		
	comp=Z,15nm,1.4s									
UBPT	**Khong Chiam**	**42.95**	**292**	P		**P**		**22 31 45.0**	**-0.1**	
UBPT				IAmb		IAmb		22 31 47.4		
	comp=Z,8.5nm,1.1s									
KULM	**Kulim**	**45.91**	**277**	P		**P**		**22 32 08.2**	**-0.6**	
KULM				IAmb		IAmb		22 32 09.5		
	comp=Z,7.9nm,0.8s									
RPSI	**Rantau Prapat**	**47.50**	**273**	P		**P**		**22 32 20.6**	**-0.7**	
GSI	**Gunungsitoli**	**48.82**	**271**	P		**P**		**22 32 30.3**	**-1.3**	
CM31	**Chiang Mai Arr**	**49.82**	**294**	P		**P**		**22 32 40.1**	**+1.0**	
CM31				IAmb		IAmb		22 32 41.3		
	comp=Z,5.6nm,0.8s									
CMAR	**Chiang Mai Arr**	**49.82**	**294**	P		**P**		**22 32 39.5**	**+0.4**	
	comp=Z,4.1nm,0.7s,baz=110,slow=6.3,SNR=29									
CMAR				LR		LR		22 53 31.1		
	comp=Z,64nm,19.8s,baz=186,slow=36									
CMAR	**Chiang Mai Arr**	**49.82**	**294**	P		**P**		**22 32 39.7**	**+0.6**	
PETK	**Petropavlovsk-**	**53.14**	**8**	P		**P**		**22 33 03.8**	**+0.4**	
	comp=Z,3.2nm,0.7s,baz=145,slow=8.1,SNR=4.9									
PETK	**Petropavlovsk-**	**53.14**	**8**	P		**P**		**22 33 03.1**	**-0.2**	
SHL	**Shillong**	**58.07**	**300**	P		**P**		**22 33 39.5**	**0.0**	
SHL				IAmb		IAmb		22 33 40.6		
	comp=Z,7.5nm,0.9s									
SONM	**Songino Array**	**58.39**	**329**	P		**P**		**22 33 41.5**	**+0.2**	
	comp=Z,0.5nm,0.7s,baz=126,slow=7.4,SNR=3.2									
MK31	**Makanchi Array**	**72.07**	**319**	P		**P**		**22 35 09.6**	**-0.2**	
MKAR	**Makanchi Array**	**72.07**	**319**	P		**P**		**22 35 09.2**	**-0.7**	
	comp=Z,0.7nm,0.8s,baz=98,slow=7.7,SNR=6.3									
MKAR	**Makanchi Array**	**72.07**	**319**	P		**P**		**22 35 09.5**	**-0.4**	
ZALV	**Zalesovo Beam**	**73.14**	**327**	P		**P**		**22 35 15.3**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=72,slow=4.7,SNR=2.1									
OHAK	**Old Harbor**	**73.83**	**29**	P		**P**		**22 35 20.9**	**+0.9**	
OHAK				IAmb		IAmb		22 35 31.0		
	comp=Z,14nm,1.3s									
NIL	**Nilore**	**75.65**	**305**	P		**P**		**22 35 31.5**	**+0.3**	
IMAR	**Indian Mountai**	**77.56**	**21**	P		**P**		**22 35 42.0**	**+0.8**	
VNDA	**Vanda**	**78.52**	**177**	P		**P**		**22 35 46.3**	**0.0**	
	comp=Z,1.0nm,0.9s,baz=323,slow=8.9,SNR=3.9									
VNDA	**Vanda**	**78.52**	**177**	P		**P**		**22 35 46.9**	**+0.6**	
DHY	**Denali Highway**	**78.86**	**25**	P		**P**		**22 35 49.0**	**+0.4**	
DHY				IAmb		IAmb		22 35 57.7		
	comp=Z,10.0nm,1.4s									
WRH	**Wood River Hil**	**79.08**	**24**	P		**P**		**22 35 49.5**	**-0.1**	
WRH				IAmb		IAmb		22 35 50.4		
	comp=Z,7.2nm,1.2s									
ILAR	**Eielson Array**	**79.68**	**24**	P		**P**		**22 35 52.0**	**-0.9**	
	comp=Z,0.4nm,0.7s,baz=254,slow=4.6,SNR=4.1									
ILAR	**Eielson Array**	**79.68**	**24**	P		**P**		**22 35 51.9**	**-0.9**	
BCAR	**Beaver Creek A**	**81.27**	**26**	P		**P**		**22 36 02.8**	**+1.2**	
ABKAR	**Akbulak array**	**87.21**	**319**	P		**P**		**22 36 31.0**	**-0.9**	
NVAR	**Mina Array Bea**	**93.77**	**52**	P		**P**		**22 37 03.4**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=249,slow=6.7,SNR=1.6									
TORD	**Torodi Ar. Bea**	**142.43**	**293**	PKhKP		PKPpre		22 43 14.4		
	comp=Z,0.5nm,1.0s,baz=63,slow=1.7,SNR=2.7									
CPUP	**Villa Florida**	**145.72**	**140**	PKPbc		**PKPab**		**22 43 25.9**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=209,slow=1.0,SNR=4.0									
DBIC	**Dimbokro**	**150.41**	**285**	PKPbc		**PKPbc**		**22 43 36.9**	**-1.2**	
	comp=Z,3.7nm,0.7s,baz=36,slow=2.6,SNR=7.4									
DBIC	**Dimbokro**	**150.41**	**285**			**PKPbc**		**22 43 38.3**	**+0.2**	

*IDC **21** 22:35:28.4±1.7,63.°32S×170.°69E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.8/28,mbtmp3.7/5,ML3.5/1,MS4.4/7, Ms1 4.4/7,ms1mx4.2/15,Error ellipse: s-maj=66.3km s-min=24.8km az=75.0*

*GCMT **21** 22:35:33.0±0.3,63.°09S±0.°03×170.°61E±0.°06,h12km, MW5.0/72,Moment Tensor Solution. s31,c35; s72,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.39±.11; $M_{\theta\theta}$1.31±.11; $M_{\phi\phi}$2.08±.13; $M_{r\theta}$-1.75±.47; $M_{\theta\phi}$1.23±.09; $M_{\phi r}$-1.26±.40; Best double couple: M_o8.41×10^{16} NP1:ϕ_s210.00000°,δ29.00000°,λ-104.00000°. NP2: ϕ_s46.00000°,δ62.00000°,λ-82.00000°. Principal axes: T 3.5980, Plg17.0000°, Azm130.0000°; N 0.4850, Plg7.0000°, Azm222.0000°; P -4.0840, Plg72.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 21 22:35:29.3±1.4,63.°3S±0.°1×171.°0E±0.°4,h10km,n28, σ0s50/10,mb3.7/4,MS4.3/8,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.61**	**188**	Pn	**Pn**	**22 38 56.3**	**+0.6**
	0.2nm,0.3s,baz=30,slow=15,SNR=11						
VNDA				LR	LR	22 43 21.3	
	comp=Z,1μm,20.8s,baz=18,slow=32						
RPZ	**Rata Peaks**	**19.59**	**0**	LR	LR	22 46 47.9	
	comp=Z,659nm,18.4s,baz=203,slow=35						
QSPA	**South Pole Qui**	**26.83**	**180**	LR	LR	22 50 16.6	
	comp=Z,669nm,19.4s,baz=66,slow=33						
STKA	**Stephens Creek**	**36.48**	**315**	LR	LR	22 54 39.0	
	comp=Z,739nm,21.9s,baz=185,slow=32						
MAW	**Mawson**	**39.65**	**215**	P	**P**	**22 43 00.5**	**-0.1**
	1.2nm,0.9s,baz=113,slow=7.7,SNR=2.6						
MAW				LR	LR	22 59 14.2	
	comp=Z,438nm,19.4s,baz=97,slow=36						
DZM	**Mont Dzumac**	**41.28**	**354**	eLR	LR	22 54 23.2	
	comp=Z,654nm,21.9s						
H01W1	**Cape Leeuwin H**	**44.65**	**282**	T	T	23 31 27.5	
	baz=147,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**44.66**	**282**	T	T	23 31 30.4	
	baz=147,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**44.67**	**282**	T	T	23 31 27.7	
	baz=147,slow=76,SNR=20						
SNAA	**Sanae**	**45.27**	**183**	P	**P**	**22 43 45.7**	**-0.7**
	0.8nm,1.0s,baz=193,slow=8.9,SNR=2.2						
ASAR	**Alice Springs**	**46.62**	**310**	P	**P**	**22 43 57.2**	**-0.2**
	1.8nm,0.9s,baz=155,slow=7.7,SNR=9.9						
ASAR				LR	LR	23 01 48.5	
	comp=Z,354nm,18.3s,baz=156,slow=34						
WRA	**Warramunga Arr**	**49.92**	**313**	P	**P**	**22 44 23.1**	**+0.2**
	0.8nm,0.8s,baz=163,slow=6.2,SNR=6.5						
WRA				LR	LR	23 03 27.1	
	comp=Z,717nm,19.7s,baz=155,slow=34						
PAE	**Paea**	**52.99**	**49**	eT	T	23 41 39.5	
	4.5nm,0.3s						
PPT2	**Papeete2**	**53.06**	**49**	eLR	LR	22 59 57.3	
	comp=Z,192nm,26.8s						
MEH	**Mehetia**	**53.32**	**51**	eT	T	23 42 07.2	
	22nm,0.3s						
VAH	**Vaihoa**	**55.91**	**50**	eT	T	23 45 20.5	
	111nm,0.3s						
TAOE	**Nuku Hiva Isla**	**64.51**	**56**	eLR	LR	23 05 08.6	
	comp=Z,260nm,25.1s						
H03S2	**Juan Fernandez**	**68.60**	**123**	T	T	00 02 22.3	
	baz=205,slow=74						
H03S1	**Juan Fernandez**	**68.60**	**123**	T	T	00 02 20.5	
	baz=205,slow=74						
H03S3	**Juan Fernandez**	**68.61**	**123**	T	T	00 02 10.9	
	baz=205,slow=74						
H03N3	**Juan Fernandez**	**68.94**	**123**	T	T	00 02 45.5	
	baz=210						
H03N2	**Juan Fernandez**	**68.95**	**123**	T	T	00 02 43.7	
	baz=210						
H03N1	**Juan Fernandez**	**68.95**	**123**	T	T	00 02 38.3	
	baz=210						
ILAR	**Eielson Array**	**131.46**	**23**	PKP	**PKiKP**	**22 54 41.3**	**+0.2**
	1.0nm,0.8s,baz=251,slow=2.8,SNR=3.9						
NRIK	**Noril'sk**	**144.63**	**322**	PKP	**PKPdf**	**22 55 04.4**	**+0.2**
	0.9nm,0.3s,baz=159,slow=5.7,SNR=2.5						
KBZ	**Khabaz**	**144.74**	**261**	PKP	**PKPdf**	**22 55 05.8**	**+0.7**
	5.0nm,0.9s,baz=139,slow=4.7,SNR=7.3						
BRTR	**Keskin Array B**	**145.51**	**247**	PKPbc	**PKPbc**	**22 55 06.7**	**-0.3**
	3.3nm,0.9s,baz=162,slow=3.0,SNR=3.6						
ESDC	**Sonseca Array**	**156.18**	**190**	PKPab	**PKPab**	**22 55 50.4**	**-0.5**
	0.6nm,1.0s,baz=116,slow=4.4,SNR=4.3						

*INET **21** 22:44:23.4,12.°50N×88.°35W,h18km,ML3.5*

SNET 21 22:44:24.8±1.1,12.°62N×88.°46W,h13km±14km,ML3.3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.67**	**18**	*eP*	Pg	22 44 37.5	-0.3
JUCU				*eS*	Sb	22 44 47.7	+0.2
JUCU				IAML		22 44 53.2	
	comp=Z,2μm,0.4s						
LCY	**Lacayo**	**0.82**	**11**	*eP*	Pg	22 44 40.2	-0.4
LCY				*eS*	Sb	22 44 52.5	+0.5
VSM	**San Miguel**	**0.83**	**12**	*eP*	Pg	22 44 40.7	-0.2
VSM				*eS*	Sb	22 44 52.4	0.0
RANC	**El Ranchito**	**0.83**	**11**	*eP*	Pg	22 44 40.1	-0.8
BLLM	**Bellamira**	**0.85**	**14**	*eP*	Pg	22 44 40.4	-0.9
BLLM				*eS*	Sb	22 44 52.8	0.0
PACA	**Pacayal**	**0.86**	**9**	*eP*	Pg	22 44 41.1	-0.3
PACA				*eS*	Sb	22 44 53.4	+0.2
PACA				IAML		22 44 57.7	
	comp=Z,496nm,0.2s						
TECA	**Tecapa**	**0.87**	**357**	*eP*	Pg	22 44 41.3	-0.5
TECA				*eS*	Sb	22 44 53.5	-0.2
COEB	**Comit de Eme**	**0.88**	**355**	*eP*	Pg	22 44 41.3	-0.6
COEB				*eS*	Sb	22 44 54.6	+0.8
LCND	**La Caada**	**0.88**	**39**	*eP*	Pg	22 44 39.8	-2.1
LCND				IAML		22 44 60.0	
	comp=Z,1μm,0.2s						
COEG	**Centro de Oper**	**1.08**	**338**	*eP*	Pb	22 44 44.3	-1.1
COEG				*eS*	Sb	22 44 59.0	-0.4
COEG				IAML		22 45 04.7	
	comp=Z,728nm,0.3s						
LFRS	**El Faro**	**1.16**	**330**	*eP*	Pb	22 44 45.6	-1.3
LFRS				*eS*	Sb	22 45 01.5	-0.3
PAVA	**Las Pavas**	**1.19**	**337**	*eP*	Pn	22 44 46.1	-1.1
PAVA				IAML		22 45 07.5	
	comp=Z,766nm,0.3s						
LBRS	**Las Brisas**	**1.25**	**333**	*eP*	Pn	22 44 47.5	-0.7
LFU	**La Fuente**	**1.29**	**330**	*eP*	Pn	22 44 47.7	-1.0
LFU				*eS*	Sb	22 45 05.6	-0.1
TACO	**Tacachico**	**1.60**	**327**	*eP*	Pn	22 44 52.5	-0.4
SBLS	**San Blas**	**1.66**	**317**	*eP*	Pn	22 44 54.3	+0.3
RTR	**El Retiro**	**1.72**	**318**	*eP*	Pn	22 44 55.2	+0.6
MTO3	**Montecristo**	**1.98**	**334**	*eP*	Pn	22 44 57.6	-0.6

*NEIC **21** 22:46:60.0±1.8,27.°48N±0.°04×57.°51E±0.°05,h10km, Error ellipse: s-maj=8.0km s-min=7.7km az=254.0*

*DSN **21** 22:46:59.2±1.4,27.°76N×57.°55E,h10km,ML4.8/14, Error ellipse: s-maj=24.0km s-min=12.9km az=128.0*

*THR **21** 22:47:01.5±0.3,27.°40N×57.°34E,h15km,ML4.6*

*TEH **21** 22:47:02.9,27.°54N×57.°47E,h25km,ML4.6*

*IDC **21** 22:47:05.6±2.6,27.°59N×57.°44E,h54km±26km,mb3.8/21, mb1 3.9/26,mb1mx3.7/51,mbtmp4.0/26,ML3.9/5,MS3.4/5, Ms1 3.4/5,ms1mx2.9/39,Error ellipse: s-maj=16.3km s-min=12.7km az=161.0*

*OMAN **21** 22:47:08.3±0.5,27.°27N×57.°36E,h29km,mb5.7/9, ml4.2/22,ms2.6/3,Error ellipse: s-maj=10.6km s-min=7.1km az=3.0*

ISC 21 22:47:00.8±1.1,27.°49N±0.°02×57.°51E±0.°03,h17km±7km, n212,σ1s97/235,mb4.2/38,MS3.6/4,2C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.49**	**21**	*e*Pg	**Pn**	**22 47 12.6**	**-0.6**
KHNJ	**Kahnooj**	**0.49**	**21**	Pg	**Pn**	**22 47 12.5**	**-0.6**
IBND	**Bandar-abas**	**0.86**	**268**	*e*Pg	**Pn**	**22 47 19.6**	**+1.4**
IBND				*e*Sg	**Sn**	**22 47 31.9**	**+1.5**
IBND				*e*		22 47 41.1	
GENO	**Geno**	**1.19**	**266**	*e*Pg	**Pg**	**22 47 24.7**	**+0.8**
GENO				*e*Sg	**Sn**	**22 47 39.7**	**+0.9**
GENO				*e*		22 47 41.6	
GENO	**Geno**	**1.19**	**266**		**Pg**	**22 47 24.6**	**+0.7**
GENO				Sg	**Sn**	**22 47 39.7**	**+0.9**
KBAM	**BAM**	**1.84**	**27**	*e*Pg	**Pg**	**22 47 35.1**	**-1.1**
JSK1	**Jask**	**1.86**	**173**	*e*Pg	**Pg**	**22 47 37.0**	**+0.5**
JSK1	**Jask**	**1.86**	**173**	Pg	**Pg**	**22 47 37.0**	**+0.5**
SHME	**Shamm**	**1.88**	**221**	*e*P	**Pg**	**22 47 35.4**	**-1.6**
	SNR=255						
SHME				S	**Sg**	**22 48 02.1**	**+0.6**
SHME	**Shamm**	**1.88**	**221**	*e*Pn	**Pg**	**22 47 35.6**	**-1.4**
SHME	**Shamm**	**1.88**	**221**	Pn	**Pg**	**22 47 35.5**	**-1.4**
BANOM	**Banah**	**1.90**	**215**	*e*P	**Pg**	**22 47 35.8**	**-1.4**
	SNR=262						
BANOM				S	**Sg**	**22 48 02.7**	**+0.8**
BANOM	**Banah**	**1.90**	**215**	P	**Pg**	**22 47 36.1**	**-1.1**
	SNR=1299						
BANOM				S	**Sg**	**22 48 01.5**	**-0.4**
BANOM	**Banah**	**1.90**	**215**	*e*Pn	**Sg**	**22 47 36.3**	**-1.0**
NGRK	**Negar Kerman**	**2.26**	**343**	*e*Pn	**Pb**	**22 47 40.0**	**-1.4**
NGRK				*e*		22 48 12.4	
NGRK	**Negar Kerman**	**2.26**	**343**	Pn	**Pb**	**22 47 39.9**	**-1.4**
CHMN	**Cheshme madani**	**2.37**	**1**	*e*Pn	**Pb**	**22 47 42.9**	**-0.3**
CHMN				*e*		22 47 46.5	
CHMN	**Cheshme madani**	**2.37**	**1**	Pn	**Pb**	**22 47 42.9**	**-0.3**
MDH	**Madha**	**2.43**	**207**	*e*P	**Pn**	**22 47 41.4**	**+1.6**
	SNR=44						
MDH	**Madha**	**2.43**	**207**	P	**Pn**	**22 47 41.7**	**+1.9**
	SNR=44						
MSFE	**Esma-Masafi**	**2.44**	**210**	*e*P	**Pb**	**22 47 43.1**	**-1.2**
	SNR=19						
MSFE	**Esma-Masafi**	**2.44**	**210**	*e*Pn	**Pb**	**22 47 43.3**	**-1.0**
MSFE	**Esma-Masafi**	**2.44**	**210**	Pn	**Pb**	**22 47 43.3**	**-1.0**
UMQ	**Umm Al-Quwin**	**2.56**	**221**	*e*P	**Pb**	**22 47 45.5**	**-0.8**
	SNR=7						
UMQ	**Umm Al-Quwin**	**2.56**	**221**	P	**Pb**	**22 47 46.3**	**0.0**
UMQ	**Umm Al-Quwin**	**2.56**	**221**	*e*Pn	**Pb**	**22 47 46.0**	**-0.3**
KRBR	**Kerman**	**2.57**	**345**	*e*Pn	**Pb**	**22 47 45.5**	**-1.3**
KRBR				IAML		22 48 21.3	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**2.57**	**345**	*e*Pn	**Pb**	**22 47 45.5**	**-1.3**
KRBR	**Kerman**	**2.57**	**345**	Pn	**Pb**	**22 47 45.4**	**-1.3**
TVBK	**TV Kerman**	**2.58**	**345**	*e*Pn	**Pb**	**22 47 44.8**	**-2.0**
TVBK				*e*		22 48 23.6	
TVBK	**TV Kerman**	**2.58**	**345**	Pn	**Pb**	**22 47 44.8**	**-2.0**
LAR1	**LAR**	**2.79**	**274**	*e*Pn	**Pn**	**22 47 46.0**	**+1.2**
LAR1				*e*		22 48 24.3	
UOSS	**Minazif**	**2.79**	**205**	*i* P	**Pn**	**22 47 46.6**	**+1.9**
	SNR=15						
UOSS	**Minazif**	**2.79**	**205**	P	**Pb**	**22 47 47.4**	**-2.8**
UOSS	**Minazif**	**2.79**	**205**		**Pn**	**22 47 45.9**	**+1.1**
HATD	**Hatta, Dubai**	**2.92**	**205**	P	**Pn**	**22 47 49.0**	**+2.4**
HATD	**Hatta, Dubai**	**2.92**	**205**	P	**Pn**	**22 47 49.2**	**+2.6**
HATD	**Hatta, Dubai**	**2.92**	**205**	*e*Pn	**Pn**	**22 47 49.2**	**+2.6**
NAZ	**Nazwa, Dubai**	**2.99**	**214**	*i* P	**Pb**	**22 47 52.0**	**-1.6**
	SNR=8.6						
NAZ	**Nazwa, Dubai**	**2.99**	**214**	P	**Pb**	**22 47 52.1**	**-1.6**
	SNR=8.6						
NAZ	**Nazwa, Dubai**	**2.99**	**214**	*e*Pn	**Pb**	**22 47 52.1**	**-1.6**
KHGB	**Koh Gabri**	**3.02**	**343**	*e*Pn	**Pb**	**22 47 51.3**	**-3.0**
KHGB				*e*		22 48 32.4	
ASHO	**Ashiyiah**	**3.08**	**205**	*i* P	**Pb**	**22 47 53.1**	**-2.2**
	SNR=49						
ASHO	**Ashiyiah**	**3.08**	**205**	P	**Pb**	**22 47 53.3**	**-2.0**
	SNR=49						
ASHO	**Ashiyiah**	**3.08**	**205**	*e*Pn	**Pn**	**22 47 51.4**	**+2.6**
FAQ	**Al Faqa, Dubai**	**3.23**	**213**	*i* P	**Pb**	**22 47 54.5**	**-3.2**
	SNR=40						
FAQ	**Al Faqa, Dubai**	**3.23**	**213**	P	**Pb**	**22 47 54.8**	**-3.0**
	SNR=40						
FAQ	**Al Faqa, Dubai**	**3.23**	**213**	*e*Pn	**Pb**	**22 47 54.7**	**-3.0**
CHBR	**Chabahar**	**3.26**	**125**	*e*Pn	**Pb**	**22 47 55.2**	**-3.1**
CHBR	**Chabahar**	**3.26**	**125**	*e*Pn	**Pb**	**22 47 55.2**	**-3.1**
SOHO	**SOHO**	**3.45**	**195**	*i* P	**Pn**	**22 47 54.9**	**+1.1**
	SNR=15						
SOHO	**SOHO**	**3.45**	**195**	P	**Pn**	**22 47 55.3**	**+1.5**
ASUD	**Al Ashush, Dub**	**3.46**	**215**	*i* P	**Pb**	**22 47 58.1**	**-3.6**
	SNR=104						
ASUD	**Al Ashush, Dub**	**3.46**	**215**	P	**Pb**	**22 47 58.2**	**-3.4**
	SNR=104						
ASUD	**Al Ashush, Dub**	**3.46**	**215**	*e*Pn	**Pb**	**22 47 58.5**	**-3.1**
ZHSF	**Zahedan**	**3.57**	**53**	*e*Pn	**Pb**	**22 48 01.0**	**-2.6**
ZHSF	**Zahedan**	**3.57**	**53**	*e*Pn	**Pb**	**22 48 01.0**	**-2.6**
JHRM	**Jahrom**	**3.62**	**287**	*e*Pn	**Pn**	**22 47 58.0**	**+1.7**
JHRM				*e*		22 48 55.8	
AJN	**Ajban**	**3.69**	**218**	*i* P	**Pn**	**22 48 00.4**	**+3.3**
	SNR=15						
AJN	**Ajban**	**3.69**	**218**	P	**Pn**	**22 48 00.9**	**+3.8**
	SNR=15						
AJN				S	**Sn**	**22 48 43.2**	**+3.0**
	SNR=7.8						
AJN	**Ajban**	**3.69**	**218**	*e*Pn	**Pn**	**22 48 00.6**	**+3.5**
ALNE	**Al Ain**	**3.77**	**205**	*i* P	**Pn**	**22 48 02.0**	**+3.8**
	SNR=43						
ALNE	**Al Ain**	**3.77**	**205**	*e*Pn	**Pb**	**22 48 02.5**	**-4.4**
LMD1	**Lamerd**	**3.86**	**269**	*e*Pn	**Pn**	**22 48 01.0**	**+1.5**
HOQ	**Hoqain**	**3.89**	**183**	P	**Pn**	**22 48 02.1**	**+2.2**
	SNR=139						
HOQ				S	**Sn**	**22 48 44.5**	**-0.7**
BIDO	**Bidbid**	**3.99**	**172**	P	**Pn**	**22 48 04.0**	**+2.7**
	SNR=15						
BIDO				S	**Sn**	**22 48 48.6**	**+1.0**
GHIR	**Ghir-Karzin**	**4.08**	**282**	*e*Pn	**Pn**	**22 48 03.9**	**+1.3**
GHIR	**Ghir-Karzin**	**4.08**	**282**	*e*Pn	**Pn**	**22 48 03.9**	**+1.3**
ARQ	**Araqi**	**4.23**	**192**	P	Pn	22 48 09.2	+4.7
	SNR=105						
ARQ				S	**Sn**	**22 48 58.2**	**+4.6**
WSAR	**Wadi Sarin**	**4.35**	**166**	P	**Pn**	**22 48 09.8**	**+3.6**
	comp=N,17nm,0.3s,baz=8.9,slow=4.7,SNR=385						
WSAR				S	**Sn**	**22 48 56.7**	**+0.1**
	comp=N,35nm,0.3s,baz=56,slow=22,SNR=13						
WSAR	**Wadi Sarin**	**4.35**	**166**	P	**Pn**	**22 48 10.0**	**+3.8**
	SNR=444						
WSAR				S	**Sn**	**22 48 57.1**	**+0.5**
IBAF	**Bafgh**	**4.42**	**338**	*e*Pn	**Pn**	**22 48 09.5**	**+2.1**
SMDO	**Samad**	**4.44**	**174**	P	**Pn**	**22 48 11.0**	**+3.5**
	SNR=21						
SMDO				S	**Sn**	**22 49 01.2**	**+2.4**
NHDN	**Nehbandan**	**4.48**	**29**	*e*Pn	**Pn**	**22 48 11.3**	**+3.2**
IMEH	**Mehriz**	**4.64**	**328**	*e*Pn	**Pn**	**22 48 12.7**	**+2.3**
BSRN	**Basiran**	**4.68**	**17**	*e*Pn	Pn	22 48 15.8	+5.0
BSRN	**Basiran**	**4.68**	**17**	*e*Pn	Pn	22 48 15.8	+4.9
BSY	**Bisya**	**4.73**	**183**	P	**Pn**	**22 48 16.1**	**+4.6**
	SNR=34						
BSY				S	**Sn**	**22 49 09.5**	**+3.5**
SHI	**Shiraz**	**4.89**	**297**	*e*Pn	**Pn**	**22 48 15.8**	**+2.0**
MZWR	**Madinat Zayed**	**4.95**	**222**	*e*Pn	**Pn**	**22 48 16.6**	**+2.2**
WBK	**Wadi Bani Khal**	**5.03**	**164**	P	**Pn**	**22 48 18.9**	**+3.2**
	SNR=90						
WBK				S	**Sn**	**22 49 16.0**	**+2.5**
IKOO	**Kooshah**	**5.09**	**14**	*e*Pn	**Pn**	**22 48 19.2**	**+2.6**
JMDO	**Jabal Madar**	**5.12**	**174**	P	**Pn**	**22 48 21.1**	**+4.3**
	SNR=14						
JMDO				S	**Sn**	**22 49 18.4**	**+2.8**
UMZA	**Um Al Zommool**	**5.21**	**205**	*e*Pn	**Pn**	**22 48 20.7**	**+2.7**
ICHK	**Chekchek**	**5.45**	**331**	*e*Pn	**Pn**	**22 48 23.3**	**+1.7**
GHWR	**Ruwais**	**5.46**	**231**	*e*Pn	**Pn**	**22 48 22.6**	**+1.2**
ITEG	**Tejag**	**5.50**	**11**	*e*Pn	**Pn**	**22 48 25.0**	**+2.9**
KAZ1	**Kazerun**	**5.58**	**294**	*e*Pn	**Pn**	**22 48 25.1**	**+1.9**
JLN	**Jalan Bani Buh**	**5.59**	**162**	P	**Pn**	**22 48 26.8**	**+3.6**
	SNR=19						
JLN				S	**Sn**	**22 49 27.6**	**+0.6**
IDAH	**Dahanechah**	**5.62**	**21**	*e*Pn	**Pn**	**22 48 28.2**	**+4.3**
IMON	**Monand**	**5.98**	**18**	*e*Pn	**Pn**	**22 48 31.7**	**+2.8**
AFRZ	**Afriz**	**6.06**	**12**	*e*Pn	**Pn**	**22 48 32.2**	**+2.4**
TKDS	**Koohdasht(Taba**	**6.12**	**357**	*e*Pn	**Pn**	**22 48 33.2**	**+2.6**
IRAM	**Ramesheh**	**6.20**	**315**	*e*Pn	**Pn**	**22 48 32.5**	**+0.7**
KLNJ	**Kolanjah**	**6.25**	**306**	*e*Pn	**Pn**	**22 48 33.1**	**+0.5**
MHTO	**MHTO**	**6.49**	**176**	P	**Pn**	**22 48 39.6**	**+4.1**
	SNR=70						
MHTO				S	**Sn**	**22 49 51.0**	**+1.8**
	SNR=9.1						
TNSJ	**Nastanj**	**6.50**	**353**	*e*Pn	**Pn**	**22 48 37.8**	**+1.9**
ANAR	**Anarak**	**6.55**	**331**	*e*Pn	**Pn**	**22 48 38.0**	**+1.4**
IGAR	**Gharneh**	**6.82**	**317**	*e*Pn	**Pn**	**22 48 41.9**	**+1.6**
IZEF	**Zefreh**	**7.01**	**322**	*e*Pn	**Pn**	**22 48 43.6**	**+0.6**
ROKH	**ROKH**	**7.42**	**312**	*e*Pn	**Pn**	**22 48 49.9**	**+1.4**
DQM	**DQM**	**7.52**	**180**	P	**Pn**	**22 48 52.8**	**+3.0**
	SNR=49						
DQM				P	**Pn**	**22 48 52.8**	**+3.0**

AKTO	**Aktyubinsk**	**22.92**	**1**	P		**P**	**22 52 04.0**	**+0.1**
	comp=Z,7.8nm,0.6s,baz=178,slow=11,SNR=24							
AKTO				LR		LR	23 02 11.6	
	comp=Z,49nm,19.5s,baz=218,slow=40							
BR131	**Keskin Array S**	**23.25**	**308**	P		**P**	**22 52 08.6**	**+1.0**
BRTR	**Keskin Array B**	**23.25**	**308**	P		**P**	**22 52 07.7**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=128,slow=11,SNR=4.7							
ELL	**Elmali**	**25.06**	**299**	P		**P**	**22 52 24.9**	**+0.3**
AKAS	**Kas**	**25.18**	**297**	P		**P**	**22 52 25.4**	**-0.2**
AKAS				IAmb		IAmb	22 52 29.3	
	comp=Z,7.2nm,1.0s							
MAKZ	**Makanchi**	**27.24**	**38**	P		**P**	**22 52 44.2**	**+0.2**
BVAR	**Borovoye Array**	**27.25**	**17**	P		**P**	**22 52 43.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=207,slow=31,SNR=13							
BRVK	**Borovoye**	**27.25**	**17**	P		**P**	**22 52 44.1**	**+0.1**
BRVK				IAmb		IAmb	22 52 59.0	
	comp=Z,7.8nm,1.5s							
MK31	**Makanchi Array**	**27.41**	**39**	P		**P**	**22 52 45.7**	**+0.2**
MKAR	**Makanchi Array**	**27.41**	**39**	P		**P**	**22 52 45.8**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=222,slow=7.4,SNR=41							
MKAR	**Makanchi Array**	**27.41**	**39**	P		**P**	**22 52 45.4**	**-0.1**
KURBB	**Kurchatov Arra**	**28.10**	**29**	P		**P**	**22 52 51.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=229,slow=8.2,SNR=30							
KURK	**Kurchatov**	**28.21**	**29**	P		**P**	**22 52 52.5**	**-0.1**
SANT	**Santorini**	**28.50**	**296**	P		**P**	**22 52 54.7**	**-0.8**
IDI	**Anoyia**	**28.82**	**294**	P		**P**	**22 52 58.3**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=83,slow=8.7,SNR=6.9							
IDI	**Anoyia**	**28.82**	**294**	P		**P**	**22 52 58.1**	**-0.2**
IDI				IAmb		IAmb	22 53 11.3	
	comp=Z,3.7nm,0.6s							
WMQ	**Urumqi**	**29.24**	**48**	*eP*		**P**	**22 53 04.8**	**+2.9**
LSA	**Lhasa**	**29.56**	**78**	P		**P**	**22 53 06.2**	**+0.8**
LSA				IAmb		IAmb	22 53 21.9	
	comp=Z,2.8nm,0.6s							
SHL	**Shillong**	**30.76**	**86**	P		**P**	**22 53 15.9**	**+0.2**
SHL				IAmb		IAmb	22 53 17.4	
	comp=Z,3.8nm,1.2s							
ITM	**Ithomi**	**31.43**	**297**	P		**P**	**22 53 20.2**	**-1.1**
AKASG	**Malin Array Be**	**31.59**	**325**	P		**P**	**22 53 21.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=131,slow=8.2,SNR=1.5							
AKASG	**Malin Array Be**	**31.59**	**325**	P		**P**	**22 53 22.2**	**-0.3**
BURAR	**Bucovina Array**	**32.20**	**317**	P		**P**	**22 53 27.7**	**-0.4**
BUR08	**Bucovina Ar. S**	**32.23**	**317**	P		**P**	**22 53 27.9**	**-0.4**
BUR08				IAmb		IAmb	22 53 41.8	
	comp=Z,8.4nm,1.4s							
ZAA0	**Zalesovo Array**	**33.19**	**30**	P		**P**	**22 53 36.4**	**-0.1**
ZALV	**Zalesovo Beam**	**33.19**	**30**	P		**P**	**22 53 36.2**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=244,slow=9.8,SNR=29							
ZALV	**Zalesovo Beam**	**33.19**	**30**	P		**P**	**22 53 36.3**	**-0.2**
KOLS	**Kolonicke sedl**	**34.55**	**318**	*eP*		**P**	**22 53 48.2**	**-0.2**
KWP	**Kalwaria Pacla**	**34.60**	**319**	P		**P**	**22 53 48.7**	**-0.1**
CRVS	**Cervenica-Dubn**	**35.02**	**317**	*eP*		**P**	**22 53 53.1**	**+0.6**
TIP	**Timpagrande**	**35.71**	**300**	P		**P**	**22 53 58.9**	**+0.2**
TIP				IAmb		IAmb	22 54 15.4	
	comp=Z,5.8nm,1.0s							
LANS	**Liptovska Anna**	**36.33**	**317**	*e*P		**P**	**22 54 03.1**	**-0.6**
GTA	**Gaotai**	**36.94**	**60**	⇑P		**P**	**22 54 10.6**	**+1.4**
GTA				pP		sP	22 54 19.6	+2.9
GTA				sP		pP	22 54 23.8	+9.3
GTA				S		**S**	**22 59 57.0**	**+3.3**
GTA				sS		ScP	23 00 15.6	-1.0
GTA				SS		**SS**	**23 02 33.9**	**-1.4**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,68nm,6.2s							
GTA				LR		LR		
	comp=N,67nm,16.0s							
GTA				LR		LR		
	comp=E,66nm,17.1s							
GTA				LR		LR		
	comp=Z,65nm,15.3s							
PRED	**Cave del Predi**	**39.29**	**311**	P		**P**	**22 54 28.1**	**-0.7**
PRED				IAmb		IAmb	22 54 34.5	
	comp=Z,3.8nm,1.0s							
GERES	**GERESS Array B**	**39.81**	**314**	P		**P**	**22 54 32.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=135,slow=7.8,SNR=2.1							
FIA1	**FINESS Array S**	**39.93**	**337**	P		**P**	**22 54 33.0**	**-0.8**
FINES	**FINESS Array B**	**39.93**	**337**	P		**P**	**22 54 32.9**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=140,slow=9.5,SNR=18							
FUORN	**Ofenpass-Fuorn**	**41.55**	**310**	P		**P**	**22 54 46.9**	**-0.9**
FUORN				IAmb		IAmb	22 54 51.1	
	comp=Z,4.6nm,1.1s							
SONM	**Songino Array**	**42.88**	**48**	P		**P**	**22 54 58.8**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=254,slow=8.9,SNR=12							
SONM				LR		LR	23 14 54.7	
	comp=Z,109nm,19.8s,baz=169,slow=39							
SONM	**Songino Array**	**42.88**	**48**	P		**P**	**22 54 58.7**	**+0.3**
ULN	**Ulaanbaatar**	**43.32**	**48**	P		**P**	**22 55 01.9**	**-0.1**
ULN				IAmb		IAmb	22 55 03.0	
	comp=Z,2.7nm,0.6s							
SENIN	**Lac Senin/Sane**	**43.54**	**309**	P		**P**	**22 55 01.5**	**-2.4**
SENIN				IAmb		IAmb	22 55 03.1	
	comp=Z,6.9nm,1.2s							
NRIK	**Noril'sk**	**45.40**	**14**	LR		LR	23 17 56.1	
	comp=Z,84nm,18.9s,baz=199,slow=41							
NOA	**NORSAR Array B**	**45.59**	**330**	P		**P**	**22 55 18.8**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=358,slow=19,SNR=1.0							
ARCES	**ARCESS Array B**	**45.99**	**345**	P		**P**	**22 55 21.6**	**-1.3**
	comp=Z,4.0nm,0.9s,baz=142,slow=10,SNR=3.5							
HHC	**Hu-ho-hao-te**	**45.99**	**59**	*eP*		**P**	**22 55 24.4**	**+1.0**
HHC				pmax		pmax		
	comp=Z,15nm,0.8s							
HHC				pmax		pmax		
	comp=Z,71nm,7.6s							
TAM	**Tamanrasset**	**47.02**	**276**	P		**P**	**22 55 32.2**	**+0.4**
TAM				IAmb		IAmb	22 55 32.9	
	comp=Z,1.8nm,0.6s							
ESDC	**Sonseca Array**	**51.73**	**300**	P		**P**	**22 56 06.7**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=75,slow=7.6,SNR=2.2							
TOA0	**Torodi Ar. Sit**	**53.84**	**266**	P		**P**	**22 56 22.3**	**-1.0**
TOA0				IAmb		IAmb	22 56 23.7	
	comp=Z,6.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**53.84**	**266**	P		**P**	**22 56 22.3**	**-0.9**
	comp=Z,2.6nm,0.4s,baz=64,slow=7.5,SNR=96							
TORD	**Torodi Ar. Bea**	**53.84**	**266**	P		**P**	**22 56 22.3**	**-0.9**
KOWA	**Kowa**	**58.37**	**271**	P		**P**	**22 56 54.7**	**-0.9**
KOWA				IAmb		IAmb	22 57 02.9	
	comp=Z,1.8nm,0.7s							
KSRS	**Korea Array**	**59.00**	**61**	P		**P**	**22 56 58.6**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=277,slow=7.7,SNR=5.0							
BOSA	**Boshof**	**63.78**	**212**	P		**P**	**22 57 32.2**	**0.0**
SEY	**Seymchan**	**68.06**	**29**	P		**P**	**22 57 59.1**	**0.0**
	comp=Z,4.0nm,0.5s,baz=278,slow=5.8,SNR=17							
IMAR	**Indian Mountai**	**83.80**	**12**	P		**P**	**22 59 28.8**	**-0.2**
BMAR	**Burnt Mountain**	**83.93**	**8**	P		**P**	**22 59 30.2**	**+0.5**
BPAW	**Bear Paw Mtn.**	**86.01**	**12**	P		**P**	**22 59 40.0**	**-0.1**
ILAR	**Eielson Array**	**86.10**	**10**	P		**P**	**22 59 39.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=306,slow=2.1,SNR=4.3							
WRA	**Warramunga Array**	**88.01**	**114**	P		**P**	**22 59 51.6**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=316,slow=4.0,SNR=6.7							
WB2	**Warramunga Arr**	**88.02**	**114**	P		**P**	**22 59 51.4**	**+0.8**
SUA	**Susitna One**	**88.46**	**13**	P		**P**	**22 59 51.5**	**-0.7**

IDC ***21*** *22:54:26.5±1.0,30.°83N×107.°57E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.5/44,mbtmp3.7/7,ML3.4/1,Error ellipse: s-maj=59.7km s-min=19.6km az=63.0*

ISC 21 22:54:30.4±0.8,30.°81N±0.°06×107.°21E±0.°10,h10km,n10, σ3ᵖ91/12,mb3.9/5,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.97**	**273**	Pn	Pn	22 55 14.6	-3.0
CD2				Pg	Pb	22 55 20.3	-3.1
CD2				Sg	**Sn**	**22 55 56.9**	**+3.6**
CD2				smax	smax		
	comp=N,290nm,0.9s						
CD2				smax	smax		
	comp=E,260nm,0.7s						
XAN	**Xi'an**	**3.54**	**24**	Pg	**Pg**	**22 55 39.8**	**+1.6**
XAN				Sg	**Sg**	**22 56 28.3**	**+4.3**
XAN				smax	smax		
	comp=N,200nm,1.3s						
XAN				smax	smax		
	comp=E,140nm,1.1s						
GYA	**Guiyang**	**4.36**	**186**	⇑Pg	**Pb**	**22 55 45.5**	**-1.6**
GYA				Sg	**Sn**	**22 56 36.0**	**+8.3**
GYA				smax	smax		
	comp=N,67nm,0.7s						
GYA				smax	smax		
	comp=E,99nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.40**	**213**	Pn	**Pn**	**22 57 56.0**	**+1.6**
	baz=26,slow=10,SNR=1.2						
SONM	**Songino Array**	**17.02**	**358**	Pn	**Pn**	**22 58 27.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=162,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**24.99**	**317**	P	**P**	**22 59 53.0**	**-1.2**
	comp=E,0.3nm,0.5s,baz=118,slow=10.0,SNR=5.9						
WRA	**Warramunga Arr**	**56.80**	**149**	P	**P**	**23 04 11.5**	**-3.5**
	comp=E,0.5nm,0.4s,baz=338,slow=8.0,SNR=15						
ARCES	**ARCESS Array B**	**58.62**	**336**	P	**P**	**23 04 25.7**	**-1.6**
	comp=E,3.7nm,0.9s,baz=50,slow=8.4,SNR=3.9						
ASAR	**Alice Springs**	**59.91**	**152**	P	**P**	**23 04 33.5**	**-3.2**
	comp=E,0.4nm,0.4s,baz=326,slow=6.3,SNR=8.1						
NOA	**NORSAR Array B**	**66.33**	**328**	P	**P**	**23 05 17.5**	**-1.4**
	comp=E,1.5nm,1.1s,baz=78,slow=7.6,SNR=1.8						

NIED ***21*** *22:55:45.7,32.°51N×130.°58E,h10km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.61; Mθθ1.96; Mϕϕ-1.36; Mrθ-0.82; Mθϕ0.23; Mϕr1.17; Fault plane solution: M₀2.27000×10¹⁴ NP1: ϕs126.00000°,δ77.00000°,λ-41.00000°. NP2: ϕs227.00000°,δ50.00000°,λ-163.00000°.*

JMA 21 22:55:45.7,32.°51N×130.°58E,h10km±1km,M3.7,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**79**	⇓P	Pg	22 55 49.8	-0.1
JIU3				*e*S	Sg	22 55 53.0	+0.2
JZO	**Okuchi**	**0.37**	**178**	⇑P	Pg	22 55 53.1	+0.1
JZO				*e*S	Sg	22 55 58.2	+0.3
JHD	**Hondo**	**0.38**	**263**	⇓P	Pg	22 55 53.1	-0.1
JHD				*e*S	Sg	22 55 58.7	+0.5
JTA	**Tamana**	**0.45**	**355**	⇑P	Pg	22 55 54.7	+0.1
JTA				*e*S	Sg	22 56 00.6	0.0
JTZ	**Takazaki**	**0.74**	**145**	⇑P	Pb	22 56 00.6	-0.1
JTZ				S	Sg	22 56 10.2	+0.4

ANF ***21*** *22:57:21.0±0.8,32.°21N×115.°20W,h8km±2km,ML3.1/14, Error ellipse: s-maj=5.4km s-min=2.1km az=169.0*
PAS ***21*** *22:57:22.8±1.6,32.°19N±0.°03×115.°20W±0.°02,h25km±7km, Error ellipse: s-maj=4.5km s-min=2.1km az=211.0*
NEIC ***21*** *22:57:22.3±1.6,32.°18N±0.°03×115.°21W±0.°03,h24km±5km, Error ellipse: s-maj=4.6km s-min=3.2km az=202.0*
ECX ***21*** *22:57:22.3±0.5,32.°06N×115.°22W,h13km±3km,MD3.0, ML3.3*
SCEDC ***21*** *22:57:22.8,32.°19N×115.°20W,h25km,ML3.3,ML3.3, ML3.3*
MEX ***21*** *22:57:24.6±1.1,32.°14N×115.°25W,h5km,MD3.9*

ISC 21 22:57:22.5±0.9,32.°16N±0.°02×115.°22W±0.°02,h26km±5km, n71,σ1ᵖ104/98,8C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVIX	**Guadalupe Vict**	**0.19**	**40**		**Pb**	**22 57 27.6**	**-0.5**
GUVIX					**Sb**	**22 57 31.4**	**-0.4**
GUVIX	**Guadalupe Vict**	**0.19**	**40**	⇑*i*P	**Pb**	**22 57 27.6**	**-0.5**
GUVIX				*e*S	**Sb**	**22 57 31.5**	**-0.3**
RII	**Riito**	**0.22**	**89**	⇓*e*P	**Pb**	**22 57 28.4**	**-0.1**
RII				*e*S	**Sb**	**22 57 32.6**	**+0.2**
MBIG	**Mexicali**	**0.25**	**4**	*e*P	**Pb**	**22 57 28.8**	**0.0**
MBIG				*i* S	**Sb**	**22 57 34.1**	**+1.0**
MBIG	**Mexicali**	**0.25**	**4**		**Pb**	**22 57 28.8**	**0.0**
MBIG	**Mexicali**	**0.25**	**4**	⇑*e*P	**Pb**	**22 57 28.8**	**0.0**
MBIG				*e*S	**Sb**	**22 57 34.1**	**+1.0**
CPBX	**Cerro Prieto**	**0.27**	**344**		**Pb**	**22 57 28.8**	**-0.3**
CPBX				Sg	**Sb**	**22 57 32.5**	**-1.1**
CPBX	**Cerro Prieto**	**0.27**	**344**	*e*P	**Pb**	**22 57 28.8**	**-0.3**
CPBX				*e*S	**Sb**	**22 57 34.1**	**+0.5**
CPBX				IAML		22 57 38.0	
	comp=E,10μm,0.2s						
CPBX				⇑*e*		22 57 38.0	
CTLX	**Tlaxcala, TLX**	**0.32**	**11**	⇑*i*P	**Pb**	**22 57 29.6**	**-0.3**
CTLX				*e*S	**Sb**	**22 57 35.3**	**+0.5**
UABX	**UABC, Campus M**	**0.51**	**338**	*e*S	**Sn**	**22 57 41.7**	**-0.3**
EMSC	**East Mesa**	**0.61**	**19**		**Pb**	**22 57 34.4**	**-0.1**
EMSC	**East Mesa**	**0.61**	**19**	*e*P	**Pb**	**22 57 34.4**	**-0.1**
EMSC				⇑*e*P	**Pb**	**22 57 34.5**	**-0.1**
EMSC				*e*S	**Sn**	**22 57 43.3**	**-1.2**
ESJX	**Sierra Juarez**	**0.64**	**256**		**Pb**	**22 57 35.3**	**+0.2**
ESJX					**Sb**	**22 57 43.8**	**0.0**
SGL	**Mount Signal**	**0.65**	**319**		**Pb**	**22 57 34.7**	**-0.5**
SGL					**Sb**	**22 57 43.7**	**-0.1**
SGL	**Mount Signal**	**0.65**	**319**	*e*P	**Pb**	**22 57 34.7**	**-0.5**
DREC	**Desert Rsrch C**	**0.67**	**343**	*e*S	**Sn**	**22 57 46.4**	**+0.4**
COA	**Coachella**	**0.71**	**7**		**Pb**	**22 57 35.6**	**-0.5**
COA	**Coachella**	**0.71**	**7**	*e*P	**Pb**	**22 57 35.6**	**-0.5**
WESC	**Westside Schoo**	**0.74**	**324**		**Pb**	**22 57 36.3**	**-0.4**
WESC	**Westside Schoo**	**0.74**	**324**	⇓*e*P	**Pb**	**22 57 36.9**	**-0.2**
SJX	**San Joaquin**	**0.74**	**238**	⇑*e*P	**Pb**	**22 57 35.3**	**-1.5**
SJX				*e*S	**Sb**	**22 57 43.9**	**-2.6**
SJX				IAML		22 57 45.1	
	comp=N,2μm,0.1s						
SJX				*e*		22 57 45.1	
YUH	**Yuha Desert**	**0.77**	**309**		**Pb**	**22 57 36.5**	**-0.7**
YUH					**Sb**	**22 57 47.1**	**-0.2**
COK2	**Cook Ranch 2**	**0.81**	**328**		**Pb**	**22 57 37.7**	**-0.2**
RUN	**Ruthven**	**0.83**	**14**		**Pb**	**22 57 37.2**	**-1.1**
RMX	**La Rumorosa**	**0.85**	**301**		**Pb**	**22 57 37.3**	**-1.3**
RMX				Sg	**Sb**	**22 57 47.9**	**-1.9**
RMX	**La Rumorosa**	**0.85**	**301**	⇓*e*P	**Pb**	**22 57 37.4**	**-1.3**
RMX				*e*S	**Sb**	**22 57 47.2**	**-2.6**
IKP	**In-Ko-Pah, Jac**	**0.90**	**303**	P	**Pb**	**22 57 38.8**	**-0.7**
	baz=121,SNR=54						
IKP				S	**Sb**	**22 57 50.6**	**-0.4**
	baz=121						
IKP	**In-Ko-Pah, Jac**	**0.90**	**303**		**Pb**	**22 57 38.8**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**0.90**	**303**	⇓*e*P	**Pb**	**22 57 38.8**	**-0.7**
IKP				*e*S	**Sb**	**22 57 50.7**	**-0.4**
VTX	**Valle De La Tr**	**0.91**	**212**	⇑*e*P	**Pb**	**22 57 38.6**	**-1.0**
SWSC	**Sam W. Stewart**	**0.92**	**328**	P	**Pb**	**22 57 38.4**	**-1.4**
	baz=146,SNR=26						
SWSC				Sn	**Sn**	**22 57 53.2**	**+1.0**
	baz=146						
SWSC	**Sam W. Stewart**	**0.92**	**328**		**Pb**	**22 57 38.5**	**-1.4**
GLA	**Glamis**	**0.95**	**20**	P	**Pb**	**22 57 39.1**	**-1.2**
	baz=200,SNR=76						
GLA				S	**Sb**	**22 57 50.9**	**-1.6**
	baz=200						
GLA	**Glamis**	**0.95**	**20**		**Pb**	**22 57 39.2**	**-1.1**
GLA	**Glamis**	**0.95**	**20**		**Sb**	**22 57 51.2**	**-1.3**
GLA	**Glamis**	**0.95**	**20**	Pg	**Pb**	**22 57 39.0**	**-1.2**
GLA	**Glamis**	**0.95**	**20**	Sg	**Sb**	**22 57 50.9**	**-1.6**
SPIG	**San Pedro Mart**	**1.13**	**191**	*e*P	**Pn**	**22 57 42.9**	**-0.1**
SPIG				*e*S	**Sn**	**22 57 58.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.13**	**191**		**Pn**	**22 57 42.9**	**-0.1**
SPX	**San Pedro Mart**	**1.14**	**191**		**Pn**	**22 57 41.9**	**-1.2**
SPX					**Sn**	**22 57 58.1**	**0.0**
SFX	**San Felipe**	**1.16**	**164**		**Pb**	**22 57 44.3**	**+0.4**
SFX	**San Felipe**	**1.16**	**164**	⇑*e*P	**Pb**	**22 57 44.5**	**+0.6**
TKX	**Tecate**	**1.24**	**289**	Pn	**Pn**	**22 57 44.4**	**+0.1**
MONP2	**Monument Peak**	**1.25**	**306**	P	**Pn**	**22 57 44.1**	**-0.5**
	baz=124,SNR=39						
MONP2				S	**Sb**	**22 58 01.6**	**+0.3**
	baz=124						
MONP2	**Monument Peak**	**1.25**	**306**		**Pn**	**22 57 44.0**	**-0.5**
CCX	**Cicese**	**1.26**	**257**	Pn	**Pb**	**22 57 46.1**	**+0.6**
TJIG	**Tijuana**	**1.26**	**283**	*e*P	**Pn**	**22 57 44.5**	**+0.1**
TJIG				*e*S	**Sn**	**22 58 00.8**	**+0.2**
TJIG	**Tijuana**	**1.26**	**283**		**Pn**	**22 57 44.5**	**+0.1**
BAR	**Barrett**	**1.33**	**293**	Pn	**Pn**	**22 57 45.6**	**+0.1**
BC3	**Big Chuckawall**	**1.50**	**353**	P	**Pn**	**22 57 42.7**	**-0.7**
	baz=172,SNR=20						
BC3				S	**Sn**	**22 58 05.4**	**-1.4**
	baz=172						
TJX	**Tijuana**	**1.59**	**283**	Pn	**Pn**	**22 57 49.8**	**+0.8**
PIX	**Pinacate**	**1.61**	**111**		**Pn**	**22 57 49.5**	**+0.3**
PIX	**Pinacate**	**1.61**	**111**	*e*P	**Pn**	**22 57 49.5**	**+0.3**
109C	**Camp Elliot, M**	**1.75**	**295**	P	**Pn**	**22 57 51.1**	**-0.1**
	baz=113,SNR=8.2						
109C				S	**Sb**	**22 58 15.4**	**-0.1**
	baz=113						
109C	**Camp Elliot, M**	**1.75**	**295**		**Pn**	**22 57 50.9**	**-0.3**
PFO	**Pinyon Flats O**	**1.78**	**325**	P	**Pn**	**22 57 51.0**	**-0.8**
	baz=143,SNR=7.8						
IRM	**Iron Mountain**	**1.99**	**2**	S	**Sn**	**22 58 20.0**	**+1.3**
	baz=181						
214A	**Organ Pipe Nat**	**2.06**	**95**	Sb	**Sb**	**22 58 25.8**	**+1.6**
	baz=277						
214A	**Organ Pipe Nat**	**2.06**	**95**	*e*P	**Pn**	**22 57 54.6**	**-0.8**
214A				*i* S	**Sn**	**22 58 19.2**	**-1.0**
214A	**Organ Pipe Nat**	**2.06**	**95**	Pn	**Pn**	**22 57 54.8**	**-0.6**
MURC	**Murrieta**	**2.20**	**311**	Sb	**Sb**	**22 58 29.8**	**+1.5**
	baz=130						
BFSC	**Mount Baldy Ra**	**2.91**	**316**	Sb	**Sb**	**22 58 51.6**	**+2.6**
	baz=134						
CIS	**Catalina Islan**	**2.96**	**296**	Sb	**Sb**	**22 58 51.9**	**+1.6**
	baz=113						
FMP	**Fort Macarthur**	**3.01**	**302**	Sb	**Sb**	**22 58 53.5**	**+1.8**
	baz=120						
DECC	**Green Verdugo**	**3.34**	**309**	Sb	**Sb**	**22 59 04.4**	**+3.1**
	baz=127						
EDW2	**Edwards Air Fo**	**3.57**	**320**	Sb	**Sb**	**22 59 11.2**	**+3.4**
	baz=138						
TUC	**Tucson**	**3.76**	**87**		**Pn**	**22 58 18.6**	**-0.3**
WUAZ	**Wupatki**	**4.63**	**43**		**Pn**	**22 58 31.6**	**+0.7**
KNB	**Kanab**	**5.23**	**22**		**Pn**	**22 58 40.6**	**+1.4**
W18A	**Petrified Fore**	**5.44**	**56**	Pn	**Pn**	**22 58 42.2**	**+0.1**
121A	**Cookes Peak, D**	**6.30**	**85**	Pn	**Pn**	**22 58 54.4**	**+0.5**

IDC ***21*** *23:01:16.4±0.5,63.°55S×169.°79E,h0km,mb4.8/15, mb1 4.8/16,mb1mx4.7/27,mbtmp4.7/16,ML4.8/1,MS5.2/12, Ms1 5.2/12,ms1mx5.1/15,Error ellipse: s-maj=22.3km s-min=13.7km az=74.0*
BJI ***21*** *23:01:17.0±0.0,63.°50S×169.°80E,h8km,mB5.7/9, Ms5.3/12,Ms7 5.1/14*
NEIC ***21*** *23:01:18.3±2.0,63.°46S±0.°09×169.°7E±0.°2,h10km±1km, mb5.4/81,Ms_20 5.4/321,Mwb5.6/25,Mwc5.6(GCMT), Error ellipse: s-maj=18.4km s-min=14.6km az=72.0*
NEIC ***21*** *23:01:18.3,63.°47S×169.°67E,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.58; Mθθ2.77; Mϕϕ-3.34; Mrθ0.51; Mθϕ-0.77; Mϕr-0.26; Fault plane solution: M₀3.24000×10¹⁷ NP1:ϕs51.43000°, δ79.02000°,λ172.92000°. NP2:ϕs142.79000°,δ83.05000°, λ11.07000°. Principal axes: T 2.9843, Plg13.0000°, Azm7.0000°; N 0.4647, Plg77.0000°, Azm175.0000°; P -3.4490, Plg3.0000°, Azm277.0000°;*
MOS ***21*** *23:01:18.6±1.7,63.°55S×169.°24E,h13km,mb5.3/10, MS5.1/11 Error ellipse: s-maj=30.5km s-min=9.8km az=98.1*
GCMT ***21*** *23:01:19.3±0.1,63.°26S±0.°01×170.°04E±0.°02,h14km, MW5.6/139,Moment Tensor Solution. s119,c202; s139,c272; Duration: 1ᵖ5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.30±.04; Mθθ3.04±.04; Mϕϕ-2.74±.04; Mrθ-1.19±.11; Mθϕ-0.83±.03; Mϕr-0.10±.07; Best double couple: M₀3.19900×10¹⁷ NP1:ϕs324.00000°,δ73.00000°, λ8.00000°. NP2:ϕs232.00000°,δ83.00000°,λ163.00000°. Principal axes: T 3.5130, Plg17.0000°, Azm187.0000°; N -0.6250, Plg72.0000°, Azm29.0000°; P -2.8840, Plg6.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***21*** *23:01:20,63.°25S×169.°91E,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.28; Mθθ3.12; Mϕϕ-2.84; Mrθ-0.77; Mθϕ-0.91; Mϕr-0.08; Fault plane solution: M₀3.22000×10¹⁷ NP1:ϕs324.00000°, δ79.00000°,λ5.00000°. NP2:ϕs233.00000°,δ85.00000°, λ169.00000°. Principal axes: T 3.4105, Plg12.0000°, Azm188.0000°; N -0.4205, Plg78.0000°, Azm28.0000°; P -2.9900, Plg4.0000°, Azm279.0000°;*

ISC 21 23:01:18.6±0.2,63.°46S±0.°05×170.°01E±0.°07,h10km,n502, σ1ᵖ82/332,mb5.3/58,MS5.4/186,21C-15D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.36**	**187**	Pn	**Pn**	**23 04 42.3**	**+0.8**
	0.9nm,0.3s,baz=11,slow=13,SNR=88						
VNDA	**Vanda**	**14.36**	**187**	P	**Pn**	**23 04 42.0**	**+0.5**
VNDA	**Vanda**	**14.36**	**187**		**Pn**	**23 04 42.0**	**+0.5**
MLZ	**Mavora Lakes**	**18.17**	**356**		**Pn**	**23 05 29.2**	**-1.5**
MLZ				IAmb	IAmb	23 05 36.5	
	comp=Z,482nm,1.9s						
RPZ	**Rata Peaks**	**19.80**	**2**	P	**P**	**23 05 49.1**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=153,slow=2.4,SNR=14						
RPZ				LR	LR	23 11 49.7	
	comp=Z,17μm,21.6s,baz=212,slow=32						
LTZ	**Lake Taylor**	**20.76**	**5**	IAMs_20	IAMs_20	23 12 25.7	
	comp=Z,12μm,20.0s						
KHZ	**Kahutara**	**21.18**	**7**	I

baz=147,slow=76,SNR=500
SNAA Sanae 45.05 183 P P 23 09 32.7 -1.2
SNAA Sanae 45.05 183 *c i*P **P 23 09 32.8 -1.0**
SNAA pmax pmax
comp=Z,30nm,1.1s
SNAA Sanae 45.05 183 P P 23 09 32.8 -1.0
SNAA IAmb IAmb 23 09 34.8
comp=Z,69nm,1.3s
NVL N'lazarevskaya 45.19 190 *e*P **P 23 09 32.7 -2.2**
NVL *e*S **S 23 16 13.3 -0.7**
NVL pmax pmax
comp=Z,57nm,1.2s
VNA3 Neumayer Olymp 45.57 180 P P 23 09 37.5 -0.4
VNA2 Neumayer--Watz 45.87 181 P P 23 09 39.5 -0.8
baz=170,slow=8.2
MSVF Nonsavu 46.02 11‖ *e*P **P 23 09 43.0 +0.9**
MSVF pmax pmax
comp=Z,13nm,1.1s
MSVF Nonsavu 46.02 11 IAMs_20 IAMs_20 23 26 04.8
comp=Z,4µm,20.0s
PMSA Palmer Station 46.03 151 P P 23 09 41.8 +0.3
PMSA Palmer Station 46.03 151 IAMs_20 IAMs_20 23 27 44.8
comp=Z,3µm,19.0s
VNA1 Neumayer--Stat 46.16 181 P P 23 09 41.6 -0.9
CTAO Charters Tower 46.25 328 P P 23 09 43.3 -0.5
CTAO pmax pmax
comp=Z,75nm,1.4s
CTAO MLR MLR
comp=Z,3µm,20.0s
CTAO Charters Tower 46.25 328 P P 23 09 43.3 -0.5
ASAR Alice Springs 46.42 312 P P 23 09 43.7 -1.5
comp=Z,13nm,0.9s,baz=158,slow=7.4,SNR=20
ASAR PcP **PcP 23 11 19.6 -0.2**
comp=Z,8.2nm,1.0s,baz=144,slow=3.9,SNR=7.1
ASAR LR LR 23 26 02.9
comp=Z,1µm,19.1s,baz=150,slow=32
ASAR Alice Springs 46.42 312 PcP 23 11 21.9 +2.1
AS31 Alice Springs 46.42 312 P P 23 09 44.4 -0.8
SANVU Saraoutou 48.00 356 P P 23 09 58.0 +0.5
TBI Tubuai 48.25 53 *e*S **S 23 16 54.2 -4.5**
comp=Z,286nm,24.8s
TBI *e*LQ LQ 23 21 17.6
comp=Z,5µm,27.2s
TBI *e*LR LR 23 23 14.3
comp=Z,3µm,28.0s,baz=204
MORW Morawa 48.46 289 IAMs_20 IAMs_20 23 25 25.3
comp=Z,6µm,21.0s
WR0 Warramunga Arr 49.66 314 IAmb IAmb 23 10 17.4
comp=Z,63nm,1.4s
WB2 Warramunga Arr 49.74 314 P P 23 10 09.7 -1.1
WRA Warramunga Arr 49.74 314 P P 23 10 08.4 -2.5
comp=Z,8.8nm,0.9s,baz=155,slow=6.6,SNR=13
WRA PcP **PcP 23 11 30.8 -1.0**
comp=Z,12nm,1.0s,baz=164,slow=3.1,SNR=15
WRA LR LR 23 28 08.3
comp=Z,2µm,20.7s,baz=135,slow=32
WRA Warramunga Arr 49.74 314 P **P 23 10 09.0 -1.9**
WRAB Tennant Creek 49.75 314‖ *e*P **P 23 10 08.7 -2.2**
WRAB pmax pmax
comp=Z,27nm,1.5s
WRAB Tennant Creek 49.75 314 P P 23 10 09.1 -1.8
WRAB IAmb IAmb 23 10 17.2
comp=Z,73nm,1.5s
COEN Coen 52.90 327 P P 23 10 34.3 -0.2
COEN IAmb IAmb 23 10 43.4
comp=Z,94nm,1.6s
COEN IAMs_20 IAMs_20 23 29 34.0
comp=Z,2µm,18.0s
PAE Paea 53.45 50 *e*P **P 23 10 40.0 +1.5**
comp=Z,18nm,1.3s
PAE Paea 53.45 50 *e*T T 00 07 44.4
comp=Z,6.9nm,0.2s
TVO Taravao 53.45 51 *e*P **P 23 10 40.5 +1.9**
comp=Z,36nm,1.4s
TVO Taravao 53.45 51 *e*T T 00 07 45.2
comp=Z,3.0nm,0.3s
PSAD3 Pilbara Seismi 53.49 297 IAMs_20 IAMs_20 23 30 25.0
comp=Z,3µm,18.0s
PSAC2 Pilbara Seismi 53.52 297 IAMs_20 IAMs_20 23 30 36.6
comp=Z,3µm,19.0s
PPT2 Papeete2 53.52 50 *e*P **P 23 10 41.0 +1.8**
PPT2 *e*S **S 23 18 06.5 -5.4**
comp=Z,486nm,25.8s
PPT2 *e*LQ LQ 23 23 27.6
comp=Z,3µm,23.2s
PPT2 *e*LR LR 23 25 41.2
comp=Z,3µm,26.2s,baz=198
PPT2 Papeete2 53.52 50 *e*T T 00 07 50.0
comp=Z,22nm,0.3s
PSAA3 Pilbara Seismi 53.52 297 IAMs_20 IAMs_20 23 30 35.7
comp=Z,3µm,19.0s
PSA00 Pilbara Seismi 53.53 297 IAMs_20 IAMs_20 23 30 26.0
comp=Z,3µm,18.0s
PSAA1 Pilbara Seismi 53.53 297 IAMs_20 IAMs_20 23 30 36.0
comp=Z,4µm,20.0s
PPT Papeete 53.54 50 LR LR 23 28 46.8
comp=Z,799nm,18.9s,baz=206,slow=31
PSAB2 Pilbara Seismi 53.54 297 IAMs_20 IAMs_20 23 30 27.2
comp=Z,3µm,18.0s
PSAB1 Pilbara Seismi 53.54 297 IAMs_20 IAMs_20 23 30 36.3
comp=Z,3µm,19.0s
TIAR Tiarei 53.63 51 *e*P **P 23 10 41.8 +1.9**
comp=Z,25nm,1.2s
TIAR Tiarei 53.63 51 *e*T T 00 07 58.2
comp=Z,4.8nm,0.3s
PSAD1 Pilbara Seismi 53.64 297 IAMs_20 IAMs_20 23 30 28.9
comp=Z,3µm,18.0s
MEH Mehetia 53.78 52 *e*T T 00 08 10.9
comp=Z,49nm,0.3s
MBWA Marble Bar 53.95 297 IAMs_20 IAMs_20 23 30 57.0
comp=Z,3µm,18.0s
RKT Rikitea 54.13 69 *e*S **S 23 18 18.4 -1.6**
RKT *e*LR LR 23 26 05.0
comp=Z,700nm,30.2s
comp=Z,2µm,27.2s
FITZ Fitzroy Crossi 54.46 305 P P 23 10 45.5 -0.5
FITZ IAmb IAmb 23 10 58.1
comp=Z,41nm,1.5s
GIRL Giralia 54.87 291 IAMs_20 IAMs_20 23 29 40.3
comp=Z,4µm,20.0s
KNRA Kununurra 55.58 310 P P 23 10 53.6 -0.5
GO09 Cerro Castillo 55.65 138 P P 23 10 56.4 +2.1
VAH Vaihoa 56.38 51 *e*T T 00 11 24.6
comp=Z,311nm,0.3s
PMG Port Moresby 56.39 333 P P 23 11 01.0 +1.1
PMG pmax pmax
comp=Z,65nm,1.2s
PMG MLR MLR
comp=Z,2µm,21.0s
PMG Port Moresby 56.39 333 P P 23 11 01.0 +1.1
PMOR Pomariorio Ree 56.50 51 *e*T T 00 11 34.0
comp=Z,5.7nm,0.3s
MTN Manton Dam 57.43 313 P P 23 11 06.9 -0.3
MTN IAmb IAmb 23 11 10.2
comp=Z,52nm,1.4s
EFI East Falkland 59.19 147‖ *e*P **P 23 11 20.1 +1.0**
EFI pmax pmax
comp=Z,31nm,1.0s
RABL Rabaul 60.57 339 P P 23 11 30.1 +1.1
HOPE Hope Point 60.79 163 IAMs_20 IAMs_20 23 36 13.1
comp=Z,2µm,20.0s
BATI Baumata 62.45 307 P P 23 11 47.8 +6.0
SOEI Soe 62.65 307 P P 23 11 47.0 +3.8
comp=Z,74nm,1.2s
SOEI Soe 62.65 307 IAMs_20 IAMs_20 23 37 29.3
comp=Z,2µm,20.0s
LL01 San Ignacio de 63.52 133 IAMs_20 IAMs_20 23 32 28.7
comp=Z,2µm,22.0s
MMRI Maumere 64.42 306 P P 23 11 53.3 -1.4
TARA Tarawa 64.69 3 IAMs_20 IAMs_20 23 33 04.6
comp=Z,3µm,22.0s
TAOE Nuku Hiva Isla 64.98 56 *e*LR LR 23 31 05.5
comp=Z,2µm,25.4s
SMPI Sarmi 65.52 325 P P 23 12 02.8 +0.9
comp=Z,36nm,1.5s
PLCA Paso Flores 65.61 133 P P 23 12 02.8 +0.4
comp=Z,4.6nm,1.0s,baz=208,slow=8.6,SNR=5.0
PLCA Paso Flores 65.61 133 P P 23 12 03.4 +1.0
PLCA pmax pmax
comp=Z,40nm,1.5s
PLCA Paso Flores 65.61 133 P P 23 12 03.4 +1.0
PLCA IAmb IAmb 23 12 08.8
comp=Z,40nm,1.4s
FAKI Fak Fak 66.43 318 P P 23 12 06.5 -1.3
LC01 Cunco 66.82 132 IAMs_20 IAMs_20 23 39 34.1
comp=Z,2µm,19.0s

NLAI Namlea 67.75 313 P P 23 12 16.6 +0.5
KAPI Kappang 68.67 305 P P 23 12 22.7 +0.7
KAPI pmax pmax
comp=Z,53nm,1.4s
KAPI MLR MLR
comp=Z,1µm,19.0s
KAPI Kappang 68.67 305 P P 23 12 22.7 +0.7
H03S2 Juan Fernandez 68.85 124 T T 00 28 18.8
baz=204,slow=74
H03S1 Juan Fernandez 68.85 124 T T 00 28 20.2
baz=204,slow=74
H03S3 Juan Fernandez 68.87 124 T T 00 28 19.7
baz=204,slow=74
BI02 San Fabin de 69.04 131 P P 23 12 25.0 +0.8
BI02 IAmb IAmb 23 12 29.0
comp=Z,49nm,1.6s
XMIS Christmas Isla 69.35 289 IAMs_20 IAMs_20 23 36 47.8
comp=Z,2µm,20.0s
UGM Wanagama 69.63 294 IAMs_20 IAMs_20 23 39 08.4
comp=Z,3µm,20.0s
SPSI Sidrap Palu 69.64 305 P P 23 12 32.0 +4.1
TTSI Tana Toraja 70.47 306 P P 23 12 36.8 +3.8
CISI Cisompet, Garu 71.07 292 P P 23 12 35.5 -1.3
CISI IAMs_20 IAMs_20 23 38 50.5
comp=Z,2µm,21.0s
BBKI Banjar Baru 71.96 300 P P 23 12 45.7 +3.6
MT02 Curacav 72.18 130 P P 23 12 44.6 +1.4
MT02 IAMs_20 IAMs_20 23 38 56.2
comp=Z,1µm,18.0s
VA03 San Esteban 72.83 130 IAMs_20 IAMs_20 23 39 24.4
comp=Z,1µm,18.0s
MPSI Mapaga 73.57 307 P **P 23 12 50.0 -1.6**
comp=Z,28nm,1.2s
ZON Zonda 74.58 131 IAmb IAmb 23 13 05.8
comp=Z,44nm,1.3s
GO04 Tololo Observa 75.10 129 IAmb IAmb 23 13 04.8
comp=Z,46nm,1.2s
GO04 IAMs_20 IAMs_20 23 41 41.7
comp=Z,1µm,18.0s
CO01 Juntas del Tor 75.53 129 IAmb IAmb 23 13 11.9
comp=Z,50nm,1.4s
LCO Las Campanas 76.20 128 P P 23 13 07.8 +0.8
LCO pmax pmax
comp=Z,65nm,1.5s
LCO MLR MLR
comp=Z,1µm,18.0s
LCO Las Campanas 76.20 128 P P 23 13 07.8 +0.8
LCO IAmb IAmb 23 13 11.5
comp=Z,66nm,1.4s
AC05 El Transito 76.51 128 IAMs_20 IAMs_20 23 43 39.9
comp=Z,1µm,18.0s
PMBI Palembang 76.51 291 IAMs_20 IAMs_20 23 40 42.2
comp=Z,2µm,22.0s
KSI Kapahiang 76.78 289 P P 23 13 19.9 +10
AC04 Llanos de Chal 76.80 127 IAMs_20 IAMs_20 23 41 15.0
comp=Z,1µm,18.0s
KSM Kuching 78.25 298 P P 23 13 16.3 -2.0
SBUM Sibu 78.39 300 P P 23 13 18.7 -0.4
SBUM IAmb IAmb 23 13 23.5
comp=Z,31nm,1.2s
MYLDM Lahad Datu 78.56 307 IAmb IAmb 23 13 37.5
comp=Z,46nm,1.2s
AC02 Maricunga 78.74 129 IAmb IAmb 23 13 30.5
comp=Z,41nm,1.2s
AC01 Pan de Azucar 78.84 127 IAMs_20 IAMs_20 23 40 53.0
comp=Z,1µm,19.0s
GO02 Mina Guanaco 80.11 127 IAmb IAmb 23 13 33.5
comp=Z,59nm,1.4s
GO02 IAMs_20 IAMs_20 23 41 45.3
comp=Z,1µm,18.0s
KKM Kota Kinabalu 80.19 305 IAmb IAmb 23 13 32.4
comp=Z,31nm,1.0s
PB14 IPOC Station P 80.31 127 IAmb IAmb 23 13 38.1
comp=Z,61nm,1.4s
BKNI Bangkinang 81.02 289 IAMs_20 IAMs_20 23 42 29.0
comp=Z,1µm,22.0s
MYKOM Kota Tinggi 81.16 292 P P 23 13 33.5 -0.6
MYKOM IAMs_20 IAMs_20 23 44 13.0
comp=Z,2µm,21.0s
PB15 IPOC Station P 81.94 127 IAMs_20 IAMs_20 23 42 44.9
comp=Z,1µm,20.0s
MNSI Mandailing Nat 82.06 288 P P 23 13 43.0 +4.1
PB04 IPOC Station P 82.49 126 IAMs_20 IAMs_20 23 46 28.7
comp=Z,1µm,18.0s
LVC Limon Verde 82.69 127 P P 23 13 42.8 +0.2
LVC pmax pmax
comp=Z,54nm,1.1s
LVC MLR MLR
comp=Z,1µm,19.0s
LVC Limon Verde 82.69 127 P P 23 13 42.8 +0.2
CPUP Villa Florida 83.05 138 P P 23 13 42.9 -1.1
comp=Z,16nm,1.1s,baz=183,slow=3.6,SNR=9.9
CPUP LR LR 23 48 04.0
comp=Z,2µm,18.2s,baz=200,slow=34
CPUP Villa Florida 83.05 138 P P 23 13 43.3 -0.7
CPUP pmax pmax
comp=Z,47nm,1.4s
CPUP Villa Florida 83.05 138 P P 23 13 43.3 -0.7
CPUP IAmb IAmb 23 13 48.5
comp=Z,46nm,1.4s
PATCX Punta Patache 83.88 125 IAMs_20 IAMs_20 23 46 33.4
comp=Z,1µm,18.0s
PB01 IPOC Station P 83.92 126 IAmb IAmb 23 13 53.7
comp=Z,31nm,1.5s
RPSI Rantau Prapat 84.05 288 P P 23 13 47.3 -1.9
RPSI IAMs_20 IAMs_20 23 44 44.3
comp=Z,2µm,22.0s
BOSA Boshof 84.08 211 P P 23 13 47.3 -2.1
comp=Z,3.8nm,0.8s,baz=159,slow=6.3,SNR=6.2
BOSA LR LR 23 49 40.6
comp=Z,1µm,19.5s,baz=177,slow=35
BOSA Boshof 84.08 211 P P 23 13 47.8 -1.6
BOSA pmax pmax
comp=Z,43nm,1.9s
BOSA Boshof 84.08 211 P P 23 13 47.8 -1.6
BOSA IAmb IAmb 23 15 03.3
comp=Z,43nm,1.9s
PSI Prapat 84.14 288 P P 23 13 47.3 -2.5
PSI pmax pmax
comp=Z,13nm,1.2s
PSI MLR MLR
comp=Z,2µm,22.0s
IPM Ipoh 84.76 291 IAMs_20 IAMs_20 23 45 11.4
comp=Z,1µm,22.0s
PB08 IPOC Station P 84.87 126 IAMs_20 IAMs_20 23 47 11.5
comp=Z,1µm,18.0s
PSGCX Pisagua 85.01 125 IAMs_20 IAMs_20 23 43 48.4
comp=Z,1µm,20.0s
PB11 IPOC Station P 85.03 125 IAMs_20 IAMs_20 23 43 52.0
comp=Z,1µm,20.0s
MNMC Minye Minye 85.63 125 IAmb IAmb 23 14 02.6
comp=Z,46nm,1.3s
KULM Kulim 85.65 291 IAmb IAmb 23 14 03.6
comp=Z,39nm,1.3s
KULM IAMs_20 IAMs_20 23 45 10.9
comp=Z,2µm,22.0s
AP01 Chacalluta 86.05 124 IAMs_20 IAMs_20 23 43 40.1
comp=Z,1µm,20.0s
PB16 IPOC Station P 86.39 125 IAmb IAmb 23 14 10.8
comp=Z,51nm,1.5s
H08S2 Diego Garcia H 86.57 260 T T 00 49 54.8
baz=152,slow=76
H08S1 Diego Garcia H 86.58 260 T T 00 49 57.5
baz=152,slow=76
H08S3 Diego Garcia H 86.59 260 T T 00 49 56.4
baz=152,slow=76
ABPO Ambohimpanom 86.60 233 P P 23 14 02.0 -0.2
ABPO pmax pmax
comp=Z,54nm,1.4s
ABPO MLR MLR
comp=Z,800nm,21.0s
ABPO Ambohimpanom 86.60 233 P P 23 14 02.0 -0.2
DGAR Diego Garcia 86.80 260 IAMs_20 IAMs_20 23 44 44.1
comp=Z,1µm,18.0s
WRMHI West Rim 86.93 33 P P 23 14 03.6 +0.1
LHMI Lhok Sumawe 87.17 287 IAMs_20 IAMs_20 23 47 23.9
comp=Z,2µm,20.0s
LBTB Lobatse 87.46 212 P P 23 14 04.8 -1.5
comp=Z,2.2nm,0.8s,baz=193,slow=6.2,SNR=3.5
LBTB Lobatse 87.46 212 P P 23 14 04.5 -1.7
LBTB IAmb IAmb 23 14 06.9
comp=Z,27nm,1.6s
KIP Kipapa 88.25 30‖ *e*P **P 23 14 11.3 +1.7**
KIP pmax pmax
comp=Z,58nm,1.2s
LPAZ La Paz 88.78 125 P P 23 14 12.6 -0.6
comp=Z,15nm,1.1s,baz=137,slow=4.0,SNR=17

LPAZ LR LR 23 45 36.2
comp=Z,440nm,18.8s,baz=205,slow=30
LPAZ La Paz 88.78 125 P P 23 14 12.8 -0.4
LPAZ La Paz 88.78 125 P P 23 14 12.8 -0.4
NNA Nana 89.33 116‖ *e*P **P 23 14 18.8 +3.7**
NNA pmax pmax
comp=Z,23nm,1.3s
NNA Nana 89.33 116 IAMs_20 IAMs_20 23 47 02.8
comp=Z,1µm,18.0s
MATP Matopo 91.13 216 P P 23 14 21.2 -2.4
comp=Z,1.5nm,0.8s,baz=157,slow=6.1,SNR=2.4
SIV San Ignacio 91.53 132 P P 23 14 24.0 -1.3
comp=Z,2.9nm,1.0s,baz=207,slow=3.9,SNR=3.9
QIZ Qiongzhong 94.48 305 P P 23 14 39.8 +1.2
QIZ S **S 23 25 52.1 +1.4**
QIZ SS **SS 23 32 16.0 +2.4**
QIZ LR LR
comp=Z,230nm,19.1s
QIZ LR LR
comp=Z,430nm,20.1s
QIZ LR LR
comp=Z,460nm,20.1s
TPUB Ta-pu 94.73 316 P P 23 14 38.5 -1.2
TPUB IAmb IAmb 23 14 46.7
comp=Z,22nm,1.1s
BDFB Brasilia 95.83 143 LR LR 23 55 48.5
comp=Z,571nm,18.8s,baz=156,slow=34
BDFB Brasilia 95.83 143 P P 23 14 45.6 +0.4
BDFB pmax pmax
comp=Z,18nm,1.0s
BDFB MLR MLR
comp=Z,800nm,20.0s
BDFB Brasilia 95.83 143 P P 23 14 45.6 +0.4
BDFB IAmb IAmb 23 17 49.5
comp=Z,18nm,1.0s
LSZ Lusaka 96.13 217 IAMs_20 IAMs_20 23 54 48.5
comp=Z,2µm,21.0s
PALK Pallekele 96.14 274 IAMs_20 IAMs_20 23 50 13.2
comp=Z,1µm,20.0s
SAML Samuel 97.34 127 P Pdif 23 14 52.2 +0.2
SAML pmax pmax
comp=Z,19nm,2.0s
SAML Samuel 97.34 127 P Pdif 23 14 52.2 +0.2
SAML IAmb IAmb 23 17 27.1
comp=Z,19nm,2.0s
CM31 Chiang Mai Arr 98.21 295 P P 23 14 55.0 -0.6
CMAR Chiang Mai Arr 98.21 295 P P 23 14 54.4 -1.2
comp=Z,0.4nm,0.3s,baz=174,slow=3.6,SNR=1.6
CHTO Chiang Mai 98.53 295 P P 23 14 55.9 -1.1
CHTO pmax pmax
comp=Z,5.0nm,1.2s
CHTO MLR MLR
comp=Z,900nm,22.0s
CHTO Chiang Mai 98.53 295 P P 23 14 55.9 -1.1
CHTO Chiang Mai 98.53 295 IAMs_20 IAMs_20 23 54 21.5
comp=Z,906nm,22.0s
SLVN Son La 98.83 300 IAMs_20 IAMs_20 23 56 40.5
comp=Z,1µm,21.0s
OTAV Otavalo 99.70 109 IAMs_20 IAMs_20 23 49 43.8
comp=Z,1µm,21.0s
GYA Guiyang 102.43 305 *e*P **Pdif 23 15 19.6 +5.2**
GYA SKS 23 25 55.3
GYA S **Sdif 23 26 55.4 -2.8**
GYA LR LR
comp=Z,440nm,21.3s
GYA LR LR
comp=Z,180nm,20.4s
GYA LR LR
comp=Z,530nm,22.5s
KMI Kunming 102.70 301‖ *e*P **Pdif 23 15 11.3 -4.4**
KMI pP pPdif 23 15 14.5 -3.9
KMI PP **PP 23 19 29.5 -0.2**
KMI Kunming 102.70 301 sS sS 23 27 03.9 -1.7
KMI Kunming 102.70 301 SS SS 23 33 58.6 -11
KMI pmax pmax
comp=Z,5.0nm,0.6s
KMI pmax pmax
comp=Z,70nm,4.6s
KMI LR LR
comp=N,410nm,20.1s
KMI LR LR
comp=E,550nm,19.5s
KMI LR LR
comp=Z,520nm,22.2s
MACA Manacapuru-AM 103.60 127 *e*P **PKiKP 23 19 38.0 -0.2**
HDC Heredia 105.97 100 IAMs_20 IAMs_20 23 54 01.7
comp=Z,1µm,20.0s
TLIG Tlapa 106.18 83 IAMs_20 IAMs_20 23 52 53.7
comp=Z,1µm,20.0s
ESQI Esquipulas 107.67 93 IAMs_20 IAMs_20 23 54 33.0
comp=Z,756nm,20.0s
MATN Matagalpa 107.76 97 IAMs_20 IAMs_20 23 54 26.2
comp=Z,975nm,20.0s
XAN Xi'an 108.51 310 SS SS 23 35 25.8 -2.5
XAN LR LR
comp=N,490nm,21.7s
XAN LR LR
comp=E,400nm,22.8s
XAN LR LR
comp=Z,920nm,24.9s
XAN Xi'an 108.51 310 IAMs_20 IAMs_20 00 03 31.4
comp=Z,720nm,21.0s
ZAIG Zacatecas 108.97 77 IAMs_20 IAMs_20 23 56 08.9
comp=Z,1µm,18.0s
MBAR Mbarara 109.33 224 IAMs_20 IAMs_20 00 04 30.2
comp=Z,1µm,21.0s
JKA Kamikawa-asahi 109.42 339 IAMs_20 IAMs_20 00 01 37.6
comp=Z,1µm,20.0s
SDV Santo Domingo 110.78 113 IAMs_20 IAMs_20 23 58 37.1
comp=Z,1µm,20.0s
BAR Barrett 111.80 60 IAMs_20 IAMs_20 00 08 49.5
comp=Z,950nm,18.0s
LZH Lanzhou 112.14 307 *e*PKP **PKiKP 23 19 53.0 -0.6**
LZH sPKP 23 19 57.3
LZH SS SS 23 36 21.1 +4.0
LZH AMB AMB
comp=Z,340nm,9.4s
LZH LR LR
comp=Z,480nm,17.3s
LZH LR LR
comp=Z,470nm,17.9s
LZH LR LR
comp=Z,660nm,19.5s
YSS Yuzh-Sakhalins 112.17 340 IAMs_20 IAMs_20 00 02 10.3
comp=Z,1µm,22.0s
SOCY Socotra 112.34 252 IAMs_20 IAMs_20 23 59 14.9
comp=Z,675nm,19.0s
214A Organ Pipe Nat 112.70 64 IAMs_20 IAMs_20 23 58 14.3
comp=Z,1µm,18.0s
PFO Pinyon Flats O 112.70 60‖ *i*PKIKP **PKiKP 23 19 55.8 +1.1**
HHC Hu-ho-hao-te 113.82 315 *e*PKP **PKiKP 23 19 58.5 +2.0**
EPT El Paso 115.13 69 IAMs_20 IAMs_20 00 00 54.0
comp=Z,893nm,19.0s
121A Cookes Peak, D 115.26 68 IAMs_20 IAMs_20 00 04 23.3
comp=Z,1µm,20.0s
FURI Furi 115.49 235 IAMs_20 IAMs_20 00 12 26.3
comp=Z,870nm,19.0s
MTDJ Mount Denham 116.16 102 IAMs_20 IAMs_20 23 57 52.4
comp=Z,834nm,22.0s
VCNR Virginia City 116.50 55 IAMs_20 IAMs_20 23 59 08.9
comp=Z,1µm,21.0s
GTA Gaotai 116.56 305 *e*PKP **PKiKP 23 20 07.3 +5.4**
GTA AMB AMB
comp=Z,140nm,7.1s
GTA LR LR
comp=Z,360nm,21.4s
GTA LR LR
comp=Z,220nm,20.7s
GTA LR LR
comp=Z,530nm,20.4s
Y22D IRIS PASSCAL I 116.95 68 IAMs_20 IAMs_20 00 03 57.1
comp=Z,1µm,20.0s
ANMO Albuquerque 117.90 67‖ *i*PKIKP **PKiKP 23 20 08.0 +3.3**
ANMO Albuquerque 117.90 67 IAMs_20 IAMs_20 23 59 59.1
comp=Z,1µm,18.0s
HIA Hailar 119.14 325 IAMs_20 IAMs_20 00 20 49.9
comp=Z,2µm,21.0s
PV18 Skein Mesa, Pa 119.73 64 PKPdf **PKiKP 23 20 10.4 +2.2**
SRU San Rafael Swe 119.83 62 PKIKP **PKiKP 23 20 09.0 +0.7**
SRU San Rafael Swe 119.83 62 PKiKP 23 20 09.0 +0.7
PV15 Paradox Valley 119.99 64 IAMs_20 IAMs_20 00 05 00.3
comp=Z,913nm,19.0s
PV07 Paradox Valley 120.00 64 IAMs_20 IAMs_20 23 58 56.9
comp=Z,1µm,21.0s
S22A 4UR Ranch, Cre 120.15 66 IAMs_20 IAMs_20 23 59 52.6
comp=Z,762nm,20.0s

SC01	Santiago de lo	120.17	108		IAMs_20	IAMs_20	00 14 07.5		
	comp=Z,638nm,21.0s								
PDPR	Patillas Dam,	120.90	113		PKPdf	PKPdf	23 20 08.6	-2.1	
061Z	Ochoppi	121.33	95		IAMs_20	IAMs_20	00 01 59.8		
	comp=Z,664nm,21.0s								
ULN	Ulaanbaatar	121.53	315	⇓ *i*	PKIKP	PKPdf	23 20 10.7	-0.5	
ULN					pmax	pmax			
	comp=Z,7.0nm,1.7s								
ULN	Ulaanbaatar	121.53	315		PKPdf	PKPdf	23 20 11.2	0.0	
HWUT	Hardware Ranch	121.56	60		IAMs_20	IAMs_20	00 09 17.9		
	comp=Z,1μm,21.0s								
SONM	Songino Array	121.72	315		PKP	PKiKP	23 20 12.3	+0.6	
	comp=Z,0.7nm,0.8s,baz=90,slow=1.4,SNR=4.1								
OK029	Liberty Lake	122.44	74		IAMs_20	IAMs_20	00 02 17.5		
	comp=Z,894nm,18.0s								
BW06	Boulder Array	123.33	60		PKPdf	PKPdf	23 20 15.0	0.0	
PDAR	Pinedale Array	123.33	60		PKP	PKiKP	23 20 15.2	+0.1	
	comp=Z,3.0nm,1.2s,baz=184,slow=2.4,SNR=8.6								
PDAR	Pinedale Array	123.33	60		PKPdf	PKPdf	23 20 14.8	-0.1	
PHWY	Pilot Hill	123.72	64		IAMs_20	IAMs_20	00 07 37.3		
	comp=Z,609nm,18.0s								
CBKS	Cedar Bluff	124.00	70		IAMs_20	IAMs_20	00 08 55.9		
	comp=Z,1μm,18.0s								
B08A	Colville Reser	124.50	50		PKPdf	PKPdf	23 20 16.4	-0.3	
BOZ	Bozeman (W)	124.93	57		PKIKP	PKPdf	23 20 17.0	-0.8	
BOZ	Bozeman (W)	124.93	57			PKPdf	23 20 17.0	-0.8	
WMQ	Urumqi	124.96	299	*e*	PKP	PKiKP	23 20 19.4	+1.3	
WMQ					LR	LR			
	comp=Z,250nm,21.1s								
WMQ					LR	LR			
	comp=Z,150nm,26.1s								
WMQ	Urumqi	124.96	299		IAMs_20	IAMs_20	00 24 14.3		
	comp=Z,1μm,18.0s								
KBL	Kabul	125.09	278		PKIKP	PKPdf	23 20 18.6	+0.1	
KBL	Kabul	125.09	278		PKPdf	PKPdf	23 20 18.6	+0.1	
MSO	Missoula	125.11	55		PKPdf	PKPdf	23 20 17.9	-0.2	
KSU1	Kansas State U	125.58	73		IAMs_20	IAMs_20	00 02 36.5		
	comp=Z,970nm,20.0s								
PLAL	Pickwick Lake	125.88	83			PKPdf	23 20 19.4	-0.4	
PLAL					IAMs_20	IAMs_20	00 07 50.5		
	comp=Z,593nm,22.0s								
TLY	Talaya	125.95	315		IAMs_20	IAMs_20	00 21 58.3		
	comp=Z,813nm,20.0s								
CNPM	China Poot	126.17	23		IAMs_20	IAMs_20	00 06 00.5		
	comp=Z,1μm,22.0s								
KSH	Kashi	126.21	287		PKP	PKiKP	23 20 22.8	+1.9	
KSH					PP	PP	23 22 20.8	+5.2	
KSH					AMB	AMB			
	comp=Z,140nm,5.7s								
KSH					LR	LR			
	comp=Z,170nm,8.2s								
KSH					LR	LR			
	comp=Z,350nm,13.8s								
BRLK	Bradley Lake	126.45	23		IAMs_20	IAMs_20	00 06 20.7		
	comp=Z,863nm,20.0s								
RSSD	Black Hills	126.66	64		PKIKP	PKPdf	23 20 20.9	-0.3	
RSSD	Black Hills	126.66	64		PKPdf	PKPdf	23 20 20.9	-0.3	
SEW	Seward	127.03	24		IAMs_20	IAMs_20	00 09 58.4		
	comp=Z,998nm,19.0s								
CLTN	Cedars of Leba	127.58	83			PKPdf	23 20 22.1	-0.9	
EGMT	Eagleton	127.67	57		IAMs_20	IAMs_20	23 58 28.3		
	comp=Z,615nm,18.0s								
KDJ	Kajisay	127.85	290		IAMs_20	IAMs_20	00 23 44.6		
	comp=Z,995nm,21.0s								
HRA	Herat	128.00	272		PKPdf	PKPdf	23 20 23.4	-0.7	
HRA					IAMs_20	IAMs_20	00 08 29.2		
	comp=Z,872nm,22.0s								
GAR	Garm	128.24	282		IAMs_20	IAMs_20	00 27 51.8		
	comp=Z,966nm,21.0s								
SKT	Skwentna	128.42	22		IAMs_20	IAMs_20	00 07 22.0		
	comp=Z,899nm,21.0s								
KNK	Knik Glacier	128.43	24		IAMs_20	IAMs_20	00 10 15.5		
	comp=Z,901nm,18.0s								
CHGR	Chuyangaron	128.46	281		PKPdf	PKPdf	23 20 24.1	-0.7	
PMR	Palmer	128.48	24		IAMs_20	IAMs_20	00 09 25.6		
	comp=Z,986nm,21.0s								
BOOM	Boomskoye usch	128.67	289		PKIKP	PKPdf	23 20 24.0	-1.1	
BOOM	Boomskoye usch	128.67	289		PKPdf	PKPdf	23 20 24.0	-1.1	
YAK	Yakutsk	128.79	337	⇑ *i*	PKIKP	PKiKP	23 20 27.0	+2.0	
YAK					pmax	pmax			
	comp=Z,10.0nm,0.5s								
YAK	Yakutsk	128.79	337		IAMs_20	IAMs_20	00 16 14.6		
	comp=Z,675nm,20.0s								
SML	Sawmill	128.82	24		IAMs_20	IAMs_20	00 13 04.7		
	comp=Z,958nm,20.0s								
BTK	Batken	128.89	283		PKIKP	PKiKP	23 20 27.7	+1.5	
BTK	Batken	128.89	283		PKPdf	PKiKP	23 20 27.7	+1.5	
BTK					IAMs_20	IAMs_20	00 26 02.0		
	comp=Z,504nm,18.0s								
KLU	Klutina	128.98	25		IAMs_20	IAMs_20	00 08 33.1		
	comp=Z,1μm,20.0s								
ANM	Nome	129.01	13		IAMs_20	IAMs_20	00 07 43.0		
	comp=Z,896nm,21.0s								
SCM	Sheep Creek Mo	129.03	24		IAMs_20	IAMs_20	00 09 26.2		
	comp=Z,902nm,20.0s								
TOC4	Torodi Ar. Sit	129.06	195		IAMs_20	IAMs_20	00 10 21.8		
	comp=Z,1μm,20.0s								
TOC5	Torodi Ar. Sit	129.06	195		IAMs_20	IAMs_20	00 10 32.1		
	comp=Z,1μm,20.0s								
TOC3	Torodi Ar. Sit	129.07	195		IAMs_20	IAMs_20	00 10 23.2		
	comp=Z,1μm,20.0s								
TOB3	Torodi Ar. Sit	129.07	195		IAMs_20	IAMs_20	00 10 22.2		
	comp=Z,1μm,19.0s								
TOB4	Torodi Ar. Sit	129.07	195		IAMs_20	IAMs_20	00 10 23.3		
	comp=Z,1μm,19.0s								
TOA3	Torodi Ar. Sit	129.08	195		IAMs_20	IAMs_20	00 10 23.4		
	comp=Z,1μm,19.0s								
TOA0	Torodi Ar. Sit	129.08	195		IAMs_20	IAMs_20	00 10 23.5		
	comp=Z,1μm,19.0s								
TOA2	Torodi Ar. Sit	129.08	195		IAMs_20	IAMs_20	00 10 22.5		
	comp=Z,1μm,20.0s								
TORD	Torodi Ar. Bea	129.08	195		PKP	PKPdf	23 20 25.5	-1.0	
	comp=Z,2.1nm,0.9s,baz=255,slow=2.8,SNR=3.7								
TOC2	Torodi Ar. Sit	129.09	195		IAMs_20	IAMs_20	00 10 23.7		
	comp=Z,1μm,20.0s								
TOB5	Torodi Ar. Sit	129.09	195		IAMs_20	IAMs_20	00 10 23.7		
	comp=Z,1μm,19.0s								
TOB1	Torodi Ar. Sit	129.10	195		IAMs_20	IAMs_20	00 10 23.9		
	comp=Z,1μm,20.0s								
TOC7	Torodi Ar. Sit	129.10	195		IAMs_20	IAMs_20	00 10 33.0		
	comp=Z,889nm,20.0s								
PPLA	Purkeypile	129.17	21		IAMs_20	IAMs_20	00 08 48.8		
	comp=Z,970nm,20.0s								
GLB	Gilahina Butte	129.35	27		IAMs_20	IAMs_20	00 07 41.0		
	comp=Z,1μm,20.0s								
SCIA	State Center	129.35	73		PKPdf	PKiKP	23 20 28.0	+1.1	
CTGM	Chitina Glacie	129.43	28		IAMs_20	IAMs_20	00 06 42.2		
	comp=Z,1μm,21.0s								
BARN	Barnard Glacie	129.45	28		IAMs_20	IAMs_20	00 06 33.6		
	comp=Z,1μm,21.0s								
SKAG	Skagway	129.46	33		IAMs_20	IAMs_20	00 08 16.1		
	comp=Z,1μm,22.0s								
MCARA	McCarthy VSAT	129.46	27		IAMs_20	IAMs_20	00 07 22.8		
	comp=Z,1μm,21.0s								
FRU1	Bishkek	129.49	288		IAMs_20	IAMs_20	00 23 41.1		
	comp=Z,632nm,21.0s								
MK31	Makanchi Array	129.56	297		PKIKP	PKPdf	23 20 26.3	-0.1	
MK31	Makanchi Array	129.56	297		PKPdf	PKPdf	23 20 26.3	-0.1	
MKAR	Makanchi Array	129.56	297		PKP	PKPdf	23 20 25.4	-1.1	
	comp=Z,1.8nm,1.0s,baz=75,slow=2.2,SNR=8.2								
MKAR	Makanchi Array	129.56	297	*c* *i*	PKIKP	PKiKP	23 20 27.0	-0.2	
MKAR					pmax	pmax			
	comp=Z,2.0nm,1.0s								
MKAR	Makanchi Array	129.56	297		PKPdf	PKPdf	23 20 26.4	0.0	
MAKZ	Makanchi	129.70	297		PKIKP	PKiKP	23 20 27.5	0.0	
MAKZ	Makanchi	129.70	297		PKPdf	PKiKP	23 20 27.5	0.0	
DGZ	Jazzator, Alta	129.93	303	⇓ *i*	PKIKP	PKiKP	23 20 29.8	+1.8	
KTH	Kantishna Hill	129.99	22		IAMs_20	IAMs_20	00 11 04.6		
	comp=Z,899nm,20.0s								
TRF	Thorofare Moun	130.00	22		PKPdf	PKPdf	23 20 26.8	-0.1	
HYT	Haines Junctio	130.15	31		IAMs_20	IAMs_20	00 12 38.4		
	comp=Z,1μm,20.0s								
DHY	Denali Highway	130.16	24		IAMs_20	IAMs_20	00 14 11.3		
	comp=Z,956nm,19.0s								
BPAW	Bear Paw Mtn.	130.49	21		IAMs_20	IAMs_20	00 13 08.8		
	comp=Z,746nm,20.0s								
KOWA	Kowa	130.92	188		IAMs_20	IAMs_20	00 11 30.5		
	comp=Z,998nm,20.0s								
BCAR	Beaver Creek A	131.23	27			PKiKP	23 20 29.6	-0.4	
WRH	Wood River Hil	131.32	23		PKPdf	PKPdf	23 20 28.8	-0.3	
Q51A	Peebles	131.34	84			PKPdf	23 20 29.9	-0.2	
HDA	Harding Lake	131.47	23		IAMs_20	IAMs_20	00 07 50.7		
	comp=Z,903nm,20.0s								
KK31	Karatay Array	131.50	285		PKIKP	PKPdf	23 20 29.8	-0.4	
KK31	Karatay Array	131.50	285		PKPdf	PKPdf	23 20 29.8	-0.4	
KKAR	Karatay Array	131.50	285		PKIKP	PKPdf	23 20 29.8	-0.4	
KKAR	Karatay Array	131.50	285		PKPdf	PKPdf	23 20 29.8	-0.4	
COLA	College	131.74	23	*c* *i*	PKIKP	PKiKP	23 20 32.3	+1.4	
ILAR	Eielson Array	131.81	23		PKP	PKPdf	23 20 29.8	-0.3	
	comp=Z,12nm,1.1s,baz=261,slow=2.5,SNR=22								
ILAR	Eielson Array	131.81	23		PKIKP	PKPdf	23 20 30.1	0.0	
ILAR	Eielson Array	131.81	23			PKPdf	23 20 30.1	0.0	
IMAR	Indian Mountai	131.83	19			PKiKP	23 20 31.6	+0.5	
RDOG	Red Dog Mine	132.65	13		IAMs_20	IAMs_20	00 11 43.2		
	comp=Z,903nm,21.0s								
ASHT	Ashkhabad	132.68	271		IAMs_20	IAMs_20	00 11 46.2		
	comp=Z,777nm,21.0s								
GYA0B	ALIBECK ARRAY	132.79	271		IAMs_20	IAMs_20	00 11 29.1		
	comp=Z,780nm,21.0s								
COLD	Coldfoot	133.52	20		IAMs_20	IAMs_20	00 13 07.6		
	comp=Z,915nm,20.0s								
KURK	Kurchatov	134.15	298	⇓ *i*	PKIKP	PKiKP	23 20 38.6	+2.4	
KURK	Kurchatov	134.15	298		PKPdf	PKiKP	23 20 36.4	+0.1	
KURK	Kurchatov	134.15	298		IAMs_20	IAMs_20	00 23 51.8		
	comp=Z,726nm,20.0s								
ZAA0	Zalesovo Array	134.30	305		PKPdf	PKPdf	23 20 34.1	-1.0	
ZAA0					IAMs_20	IAMs_20	00 25 12.8		
	comp=Z,781nm,20.0s								
TOLK	Toolik Lake Re	134.91	20		IAMs_20	IAMs_20	00 20 02.5		
	comp=Z,804nm,18.0s								
YKA	Yellowknife Ar	137.62	42		PKhKP	PKPpre	23 20 36.6		
	comp=Z,0.3nm,0.5s,baz=310,slow=15,SNR=3.5								
TIXI	Tiksi	137.76	342	⇓ *i*	PKIKP	PKiKP	23 20 43.0	+0.1	
BRVK	Borovoye	139.30	294	⇑ *i*	PKIKP	PKiKP	23 20 46.7	0.0	
BRVK	Borovoye	139.30	294		PKPdf	PKPdf	23 20 44.1	-0.3	
BRVK	Borovoye	139.30	294		IAMs_20	IAMs_20	00 35 29.8		
	comp=Z,904nm,19.0s								
MARD	Mardin	139.98	254		IAMs_20	IAMs_20	00 35 09.1		
	comp=Z,857nm,19.0s								
ABKAR	Akbulak array	140.89	283		PKPdf	PKPdf	23 20 47.0	-0.4	
CSS	Mathiatis	141.09	244		PKPdf	PKPdf	23 20 47.4	-0.9	
CSS					IAMs_20	IAMs_20	00 31 09.3		
	comp=Z,881nm,20.0s								
GAZ	Gaziantep	141.38	250		PKPdf	PKPdf	23 20 47.6	-1.2	
GAZ					IAMs_20	IAMs_20	00 27 00.2		
	comp=Z,843nm,21.0s								
MAK	Makhachkala	141.62	266	*e*	P	Pdif	23 18 03.9	-4.1	
MAK				*i*			23 20 48.9		
MAK				*e*			23 23 49.4		
MAK				*e*			23 27 59.7		
MAK				*e*	SS	SS	23 42 14.1	-10	
MAK					pmax	pmax			
	comp=Z,98nm,1.3s								
KOPT	Kop Dagi	142.35	256		IAMs_20	IAMs_20	00 34 50.8		
	comp=Z,787nm,20.0s								
ZEI	Tsey	143.09	262	*i*	PKIKP	PKPdf	23 20 53.2	+1.4	
ZEI					pmax	pmax			
	comp=Z,6.0nm,1.4s								
AKAS	Kas	143.67	240		IAMs_20	IAMs_20	00 31 43.8		
	comp=Z,534nm,19.0s								
KARP	Karpathos	144.01	237		PKPdf	PKPbc	23 20 52.2	+0.8	
D62A	Allapoint, All	144.10	89			PKPbc	23 20 51.8	+0.5	
KBZ	Khabaz	144.28	262		PKP	PKPab	23 20 50.7	-0.9	
	comp=Z,14nm,1.0s,baz=183,slow=3.5,SNR=17								
LAST	Lasithi	144.29	235		P	PKPab	23 20 47.3	-4.7	
NPS	Neapolis	144.33	235		P	PKPab	23 20 50.5	-1.6	
TOKA	Tokat	144.33	252		PKPdf	PKPab	23 20 51.6	-0.4	
NRIK	Noril'sk	144.52	323		PKP	PKPab	23 20 50.8	-0.9	
	comp=Z,30nm,1.1s,baz=122,slow=3.7,SNR=14								
KIV	Kislovodsk	144.56	262	⇑	P	PKPab	23 20 51.6	-1.2	
KIV	Kislovodsk	144.56	262	*i*	PKIKP	PKPab	23 20 51.0	-1.7	
KIV					pmax	pmax			
	comp=Z,118nm,1.0s								
KIV	Kislovodsk	144.56	262		PKPdf	PKPab	23 20 51.2	-1.5	
KIV					IAMs_20	IAMs_20	00 34 55.3		
	comp=Z,456nm,20.0s								
IDI	Anoyia	144.62	234		P	PKPab	23 20 49.8	-3.4	
IDI	Anoyia	144.62	234	⇑	P	PKPab	23 20 50.6	-2.6	
IDI	Anoyia	144.62	234		PKPdf	PKPab	23 20 51.6	-1.6	
ISP	Isparta	144.69	243		PKIKP	PKPab	23 20 51.7	-1.7	
ISP	Isparta	144.69	243		PKPdf	PKPab	23 20 51.7	-1.7	
NIS1	Nisyros Isl.	144.93	238		P	PKPab	23 20 52.5	-1.7	
VAM	Vamos	144.97	233		P	PKPab	23 20 51.4	-3.0	
YER	Yerkesik	144.97	240		P	PKPab	23 20 51.8	-2.6	
KNDR	Palaiochora Ch	145.00	232		P	PKPbc	23 20 52.8	-1.7	
BRTR	Keskin Array B	145.03	248		PKP	PKPbc	23 20 52.7	-2.0	
	comp=Z,10nm,0.8s,baz=163,slow=5.2,SNR=22								
BRTR	Keskin Array B	145.03	248		PKPdf	PKPbc	23 20 52.3	-2.4	
BR131	Keskin Array S	145.03	248		PKIKP	PKPbc	23 20 53.2	-1.5	
BR131	Keskin Array S	145.03	248		PKPdf	PKPbc	23 20 53.2	-1.5	
LMN	Caledonia Moun	145.07	94			PKPdf	23 20 55.0	+0.1	
IMMV	Iera Moni Meta	145.10	233		P	PKPbc	23 20 53.2	-1.6	
ANAF	Anafi Island	145.24	236		P	PKPbc	23 20 52.1	-3.2	
GOF	Gofitskoye	145.26	264	⇓ *i*	PKIKP	PKPbc	23 20 53.6	-1.4	
GOF					pmax	pmax			
	comp=Z,22nm,0.9s								
BODT	Bodrum	145.28	238		P	PKPbc	23 20 53.1	-2.3	
SNT1	Gialos, Santor	145.42	235		P	PKPbc	23 20 53.0	-2.8	
CMBO	Columbo, Santo	145.48	235		P	PKPdf	23 20 53.5	-2.4	
BR231	Keskin MP Arra	145.49	247		PKPbc	PKPdf	23 20 53.5	-2.5	
SOC	Sochi	145.57	259	*e*	PKIKP	PKPdf	23 20 55.4	-0.4	
SOC				*i*			23 21 01.4		
SOC				*e*			23 24 14.7		
SOC				*e*	PPP	PPP	23 27 26.6		
SOC				*e*	SSS	SSS	23 48 30.8		
SOC					pmax	pmax			
	comp=Z,17nm,0.8s								
SOC					MLR	MLR			
	comp=Z,301nm,11.0s								
BATG	Bathurst New B	145.59	91			PKPab	23 20 56.5	+0.2	
AMGA	Amorgos Island	145.62	236		P	PKPdf	23 20 53.8	-2.4	
APE	Apeiranthos	145.96	236	⇑	P	PKPdf	23 20 54.3	-2.5	
APE	Apeiranthos	145.96	236	⇑	PKP2	PKPdf	23 20 54.3	-2.5	
KULA	Kula-Manisa	146.02	241		P	PKPab	23 20 58.1	-0.2	
SMG	Samos	146.03	238		P	PKPdf	23 20 55.2	-1.7	
ILGA	Ilgaz	146.11	250		PKPbc	PKPab	23 20 58.2	+0.1	
ILGA					IAMs_20	IAMs_20	00 38 01.4		
	comp=Z,714nm,20.0s								
KTHA	Kythira Island	146.14	232		P	PKPdf	23 20 56.6	-0.5	
ARU	Arti	146.53	290	*i*	PKIKP	PKPdf	23 20 56.6	-0.4	
ARU	Arti	146.53	290		PKPdf	PKPdf	23 20 56.8	-0.3	
MDUB	Mudurnu	146.67	246		PKPbc	PKPdf	23 20 57.9	-0.1	
CHOS	Chios island	146.92	238		P	PKPdf	23 20 53.5	-4.9	
KRND	KRANIDI	147.11	233		P	PKPdf	23 20 57.5	-1.2	
PYL	PYLOS	147.18	231		P	PKPdf	23 20 57.8	-1.0	
VLY	Voula,Athens	147.30	235		P	PKPdf	23 20 58.9	-0.1	
ITM	Ithomi	147.37	232		IAMs_20	IAMs_20	00 31 14.7		
	comp=Z,842nm,20.0s								
DION	Dionisos Attik	147.44	235		P	PKPdf	23 20 58.6	-0.6	
TRIP	Tripoli	147.56	232		P	PKPbc	23 21 01.1	-1.1	
ISK	Istanbul-Kandi	148.04	244		P	PKPdf	23 21 01.1	+1.0	
KLV	Kalavryta, Ach	148.06	233		P	PKPdf	23 21 00.6	+0.3	
EZN	Ezine	148.07	240		P	PKPdf	23 20 58.5	-1.6	
DRO	Drossia	148.13	232		P	PKPbc	23 21 02.6	-1.0	
LKR	Lokris	148.29	234		P	PKPbc	23 21 02.6	-1.4	
RLS	Riolos of Patr	148.31	232		P	PKPbc	23 21 03.4	-0.6	
ATAL	Atalanti	148.32	234		P	PKPdf	23 21 01.5	+0.9	
KALE	Kalithea	148.37	233		P	PKPdf	23 21 02.4	+1.6	
TRIZ	Trizonia	148.37	233		P	PKPbc	23 21 03.1	-1.1	
SERG	Sergoula	148.42	233		P	PKPab	23 21 09.2	+1.5	
AXS	Araxos	148.47	232		P	PKPbc	23 21 02.8	-1.6	
EFP	Efpalio	148.49	233		P	PKPbc	23 21 03.5	-1.0	
AXAR	Agios Charalam	148.52	234		P	PKPbc	23 21 03.2	-1.4	
ANX	Ano Chora	148.63	233		P	PKPdf	23 21 01.2	-0.1	
PSDA	Pessada-Kefalo	148.67	231		P	PKPbc	23 21 03.3	-1.7	
XOR	Xorichti	148.85	235		P	PKPdf	23 20 56.9	-4.6	
AGG	Agios Georgios	148.86	234		P	PKPdf	23 21 02.6	+1.0	
MAKR	Makrakomi, Fth	148.93	233		P	PKPdf	23 21 04.3	-1.4	
SMTH	Samothraki Isl	148.93	239		P	PKPdf	23 21 03.4	+1.8	
EVR	Evrytania	148.96	233		P	PKPdf	23 20 58.7	-3.1	
EVGI	Lefkada island	149.10	231		P	PKPdf	23 21 03.9	+2.0	
LKD2	Lefkada island	149.25	231		P	PKPdf	23 21 02.0	-0.2	
OUR	Ouranopolis	149.40	237		P	PKPdf	23 21 04.2	+1.9	
THL	Klokotos Trika	149.46	234		P	PKPbc	23 21 04.8	-2.1	
RDO	Rodhopi	149.51	240		P	PKPdf	23 20 52.7	-10	
PLG	Polygyros	149.64	236		P	PKPdf	23 21 01.4	-1.4	
LIT	Litokhoron	149.76	235		P	PKPdf	23 20 58.6	-4.3	
LIT	Litokhoron	149.76	235		PKIKP	PKPdf	23 21 05.3	+2.4	
LIT	Litokhoron	149.76	235		PKPbc	PKPdf	23 21 05.3	+2.4	
KAVA	Kavala	149.78	238		P	PKPbc	23 21 06.0	-1.6	
IGT	Igoumenitsa	150.03	231		P	PKPdf	23 21 04.9	+1.5	
KZN	Kozani	150.20	234		P	PKPbc	23 21 06.3	-2.5	
NVR	Nevrokopi	150.33	238		P	PKPdf	23 21 01.7	-2.1	
KEK	Kerkira	150.38	231		P	PKPdf	23 21 06.3	+2.4	
KTH	Novokhopyorsk	150.41	270	*e*	PKIKP	PKPbc	23 21 06.5	-2.3	
VRH					pmax	pmax			
	comp=Z,30nm,1.7s								
KNT	Kendrikon	150.53	236		P	PKPdf	23 21 04.4	+0.3	
SCHQ	Schefferville	150.56	80		PKPbc	PKPbc	23 21 08.2	-0.9	
	comp=Z,26nm,1.1s,baz=287,slow=2.9,SNR=4.4								
SCHQ	Schefferville	150.56	80			PKiKP	23 21 10.8	+1.0	
RES	Resolute Bay	150.68	33		PKIKP	PKPbc	23 21 08.6	-0.2	
RES	Resolute Bay	150.68	33			PKPbc	23 21 08.6	-0.2	
OHR	Ohrid	151.26	234	*i*	P	PKPbc	23 21 09.6	-1.6	
VORD	Divnogorie	151.33	268	*e*	PKIKP	PKPbc	23 21 08.4	-2.6	
VORD					pmax	pmax			
	comp=Z,10.0nm,0.7s								
VSR	Storozhevoye	151.57	268	*e*	PKIKP	PKPbc	23 21 09.1	-2.4	
VSR					pmax	pmax			
	comp=Z,20nm,0.8s								
KIRV	Kirov	151.74	288	*c* *i*	PKIKP	PKiKP	23 21 14.6	+2.6	
TIR	Tirane	151.80	232		IAMs_20	IAMs_20	00 35 47.1		
	comp=Z,813nm,20.0s								
CFR	Carcaliu	151.83	248	⇓	P	PKPbc	23 21 10.8	-1.5	
CFR	Carcaliu	151.83	248	⇓	PKIKP	PKPbc	23 21 10.8	-1.5	
LPSR	Galich'ya Gora	152.63	270	*e*	PKIKP	PKiKP	23 21 14.0	-0.1	
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
NEHR	Nehoiu	152.79	246	⇑	P	PKPbc	23 21 13.5	-1.1	
SFS	San Fernando	152.87	187		IAMs_20	IAMs_20	00 32 33.2		
	comp=Z,676nm,21.0s								
VRI	Vrincioaia	152.97	247	⇓	P	PKPdf	23 21 06.7	-0.9	
VRI	Vrincioaia	152.97	247	⇓	PKIKP	PKPdf	23 21 06.7	-0.9	
PDG	Podgorica	152.97	233			PKPbc	23 21 14.5	-0.4	
MLR	Muntele Rosu	152.98	245	⇑	P	PKiKP	23 21 15.3	0.0	
MLR	Muntele Rosu	152.98	245	⇑	PKIKP	PKiKP	23 21 15.3	0.0	
MLR	Muntele Rosu	152.98	245			PKPbc	23 21 13.3	-1.8	
PLOR	Plostina	152.99	247	⇑	P	PKPbc	23 21 12.3	-2.7	
PLOR	Plostina	152.99	247	⇑	PKIKP	PKPbc	23 21 12.3	-2.7	
CART	Cartagena	153.52	196		IAMs_20	IAMs_20	00 28 04.8		
	comp=Z,876nm,22.0s								
EUNU	Eureka	153.92	23			PKPbc	23 21 15.9	-0.2	
MDVR	Moldovita	154.08	239	⇓	P	PKPbc	23 21 15.8	-1.6	
DIVS	Divibare	154.15	236		IAMs_20	IAMs_20	00 33 52.1		

DBIC	**Dimbokro**	**20.48**	**27**	P		**P**	**23 15 45.9**	**+1.2**
	43nm,0.9s,baz=192,slow=10,SNR=26							
DBIC				LR		LR	23 21 52.0	
	comp=Z,942nm,19.0s,baz=176,slow=31							
DBIC	**Dimbokro**	**20.48**	**27**			**P**	**23 15 43.8**	**-0.8**
DBIC				IAmb		IAmb	23 15 56.9	
	comp=Z,54nm,0.9s							
RCBR	**Riachuelo**	**22.22**	**283**	P		**P**	**23 16 02.3**	**-1.2**
	comp=Z,22nm,0.9s,baz=105,slow=11,SNR=8.2							
RCBR				LR		LR	23 22 19.6	
	comp=Z,1μm,21.4s,baz=92,slow=30							
RCBR	**Riachuelo**	**22.22**	**283**	P		**P**	**23 16 01.5**	**-1.9**
RCBR				IAmb		IAmb	23 16 04.9	
	comp=Z,65nm,1.2s							
RCBR	**Riachuelo**	**22.22**	**283**	*e*P		**P**	**23 16 03.2**	**-0.3**
GDU01	**Guandu, BA**	**24.83**	**263**	*e*P		**P**	**23 16 29.3**	**+0.1**
GDU01				*e*S		**S**	**23 20 51.3**	**-1.2**
NAN01	**Guarapari, ES**	**25.78**	**253**	*e*P		**P**	**23 16 41.2**	**+3.3**
RIB01	**Linhares ES**	**26.32**	**250**	*e*P		**P**	**23 16 45.2**	**+2.4**
BSFB	**Barra de Sao F**	**26.64**	**251**	*e*P		**P**	**23 16 48.0**	**+2.4**
NBMO	**Morrinhos-CE**	**26.92**	**286**	*e*P		**P**	**23 16 48.3**	**+0.2**
SJMB	**Sao Joao De Ma**	**26.93**	**252**	*e*P		**P**	**23 16 51.6**	**+3.4**
KOWA	**Kowa**	**27.92**	**21**	P		**P**	**23 16 57.0**	**0.0**
	comp=Z,23nm,1.0s,baz=225,slow=7.0,SNR=29							
KOWA				LR		LR	23 26 41.9	
	comp=Z,2μm,18.1s,baz=218,slow=33							
KOWA	**Kowa**	**27.92**	**21**	P		**P**	**23 16 57.1**	**0.0**
TOA0	**Torodi Ar. Sit**	**29.30**	**33**	P		**P**	**23 17 09.0**	**-0.4**
TOA0				IAmb		IAmb	23 17 16.5	
	comp=Z,17nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.30**	**33**	P		**P**	**23 17 08.8**	**-0.5**
	comp=Z,10nm,1.0s,baz=219,slow=7.7,SNR=35							
TORD				LR		LR	23 26 58.4	
	comp=Z,791nm,21.6s,baz=255,slow=32							
TORD	**Torodi Ar. Bea**	**29.30**	**33**	P		**P**	**23 17 08.5**	**-0.9**
JANB	**Januaria**	**29.47**	**260**	*e*P		**P**	**23 17 12.5**	**+1.5**
VAS01	**Vassouras-RJ**	**29.82**	**245**	*e*P		**P**	**23 17 17.1**	**+3.0**
SDBA	**SAO DESIDERIO**	**30.02**	**265**	*e*P		**P**	**23 17 16.2**	**+0.2**
MAN01	**Angra dos Reis**	**30.44**	**245**	*e*P		**P**	**23 17 23.1**	**+3.5**
BSCB	**Bom Sucesso**	**30.70**	**249**	*e*P		**P**	**23 17 24.8**	**+2.8**
ESAR	**Angra dos Reis**	**30.91**	**245**	*e*P		**P**	**23 17 27.0**	**+3.4**
ROSB	**Rosrio**	**30.91**	**284**	*e*P		**P**	**23 17 22.0**	**-1.7**
PARB	**Paraibuna**	**32.04**	**245**	*e*P		**P**	**23 17 36.7**	**+3.0**
BDFB	**Brasilia**	**33.06**	**259**	LR		LR	23 29 11.1	
	comp=Z,283nm,18.2s,baz=103,slow=33							
VAO	**Valinhos**	**33.15**	**246**	*e*P		**P**	**23 17 45.3**	**+1.9**
IPMB	**Ipameri, GO**	**33.42**	**255**	*e*P		**P**	**23 17 48.4**	**+2.5**
SPB	**Sao Paulo**	**33.71**	**245**	*e*P		**P**	**23 17 51.1**	**+2.9**
PET01	**Itanhaem-SP**	**33.76**	**244**	*e*P		**P**	**23 17 51.8**	**+3.2**
BB19B	**Bebedouro**	**34.16**	**250**	*e*P		**P**	**23 17 52.5**	**+0.3**
BB19B				*e*pP		**pwP**	**23 17 57.1**	**-0.7**
TMAB	**Tom-Au,PA,Br**	**34.85**	**283**	*e*P		**P**	**23 17 57.8**	**-0.4**
TMAB				*e*pP		**sP**	**23 18 00.2**	**+0.5**
TIJ01	**Guaruva-PR**	**35.55**	**243**	*e*P		**P**	**23 18 07.0**	**+2.7**
FRTB	**Fartura**	**35.55**	**246**	*e*P		**P**	**23 18 04.9**	**+0.7**
PRPB	**Parauapebas**	**35.58**	**276**	*e*P		**P**	**23 18 03.3**	**-1.3**
ITRB	**Iturama**	**35.64**	**253**	*e*P		**P**	**23 18 07.0**	**+2.0**
ITRB				*e*pP		**pwP**	**23 18 09.9**	**-0.8**
ITRB				*e*S		**S**	**23 23 42.1**	**+0.1**
SNDB	**Serra Nova Dou**	**36.28**	**266**	*e*P		**P**	**23 18 10.4**	**-0.1**
ARAG	**Araguaiana, MT**	**36.72**	**259**	*e*P		**P**	**23 18 14.8**	**+0.5**
ARAG				*e*pP		**pwP**	**23 18 18.4**	**-1.5**
PCMB	**Pacaembu**	**36.76**	**250**	*e*P		**P**	**23 18 15.9**	**+1.4**
PCMB				*e*pP		**pwP**	**23 18 20.3**	**+0.1**
PTGB	**Pitanga**	**38.09**	**245**	*e*P		**P**	**23 18 28.2**	**+2.4**
CNLB	**Canela**	**38.33**	**237**	*e*P		**P**	**23 18 30.8**	**+3.0**
MCPB	**Macapa, AP**	**39.23**	**284**	*e*P		**P**	**23 18 35.0**	**-0.4**
TAM	**Tamanrasset**	**39.35**	**29**	P		**P**	**23 18 37.5**	**+1.0**
MALB	**Monte Alegre**	**40.91**	**281**	*e*P		**P**	**23 18 48.5**	**-1.0**
LSZ	**Lusaka**	**41.33**	**100**	P		**P**	**23 18 53.7**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=124,slow=19,SNR=10							
LSZ	**Lusaka**	**41.33**	**100**	P		**P**	**23 18 54.0**	**+1.0**
PLTB	**Pedras Altas**	**41.38**	**235**	*e*P		**P**	**23 18 57.3**	**+4.1**
PLTB				*e*pP		**pwP**	**23 18 59.9**	**+1.1**
ITTB	**Itaituba**	**41.72**	**277**	*e*P		**P**	**23 18 56.9**	**+0.8**
MATP	**Matopo**	**41.84**	**108**	P		**P**	**23 18 55.8**	**-1.4**
	comp=Z,2.6nm,1.0s,baz=267,slow=12,SNR=3.3							
CPUP	**Villa Florida**	**43.08**	**244**	P		**P**	**23 19 05.2**	**-1.7**
	comp=Z,3.3nm,1.0s,baz=96,slow=7.5,SNR=5.9							
CPUP	**Villa Florida**	**43.08**	**244**	P		**P**	**23 19 06.9**	**-0.1**
PTLB	**Pontes e Lacer**	**43.78**	**260**	*e*P		**P**	**23 19 14.2**	**+1.4**
SIV	**San Ignacio**	**45.63**	**259**	P		**P**	**23 19 26.2**	**-1.5**
	comp=Z,1.3nm,1.0s,baz=95,slow=11,SNR=2.7							
MBAR	**Mbarara**	**45.94**	**79**	P		**P**	**23 19 30.0**	**-0.3**
MBAR				IAmb		IAmb	23 19 38.9	
	comp=Z,19nm,1.3s							
PTGA	**Pitinga**	**46.70**	**280**	P		**P**	**23 19 36.3**	**+0.3**
SAML	**Samuel**	**48.22**	**268**	P		**P**	**23 19 47.6**	**-0.2**
ESDC	**Sonseca Array**	**51.99**	**10**	P		**P**	**23 20 16.4**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=190,slow=7.2,SNR=6.8							
ESDC				LR		LR	23 41 22.7	
	comp=Z,180nm,18.2s,baz=215,slow=35							
ESDC	**Sonseca Array**	**51.99**	**10**	P		**P**	**23 20 17.1**	**+1.0**
KEST	**Kesra**	**52.17**	**24**	P		**P**	**23 20 17.9**	**+0.4**
	comp=Z,13nm,1.0s,baz=200,slow=5.0,SNR=6.2							
KEST				LR		LR	23 42 21.9	
	comp=Z,638nm,18.9s,baz=202,slow=36							
KEST	**Kesra**	**52.17**	**24**	P		**P**	**23 20 19.1**	**+1.5**
LPAZ	**La Paz**	**52.41**	**258**	P		**P**	**23 20 17.6**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=67,slow=9.5,SNR=2.2							
LPAZ	**La Paz**	**52.41**	**258**	P		**P**	**23 20 19.7**	**-0.6**
LPAZ	**La Paz**	**52.41**	**258**	*e*P		**P**	**23 20 22.0**	**+1.7**
LVC	**Limon Verde**	**53.13**	**251**	P		**P**	**23 20 25.5**	**+0.2**
LVC	**Limon Verde**	**53.13**	**251**	*e*P		**P**	**23 20 27.4**	**+2.0**
PB08	**IPOC Station P**	**53.31**	**254**	P		**P**	**23 20 26.8**	**+0.1**
AC02	**Maricunga**	**53.60**	**245**	P		**P**	**23 20 26.6**	**-2.3**
AC02				IAmb		IAmb	23 20 35.8	
	comp=Z,17nm,1.2s							
PB16	**IPOC Station P**	**53.66**	**256**	P		**P**	**23 20 29.3**	**-0.2**
PB16				IAmb		IAmb	23 20 36.5	
	comp=Z,14nm,1.2s							
GO02	**Mina Guanaco**	**53.88**	**247**	P		**P**	**23 20 30.9**	**+0.2**
GO02				IAmb		IAmb	23 20 45.4	
	comp=Z,20nm,1.3s							
PSGCX	**Pisagua**	**54.22**	**254**	P		**P**	**23 20 32.4**	**-0.6**
GO03	**Copiap**	**54.65**	**244**	P		**P**	**23 20 36.0**	**-0.1**
CO01	**Juntas del Tor**	**54.78**	**242**	P		**P**	**23 20 36.3**	**-0.8**
AC05	**El Transito**	**54.80**	**243**	P		**P**	**23 20 37.6**	**+0.4**
LCO	**Las Campanas**	**55.19**	**243**	P		**P**	**23 20 39.7**	**-0.5**
PEL	**Peldehue**	**55.70**	**238**	P		**P**	**23 20 42.9**	**-0.6**
BO02	**Sierra Bellavi**	**56.05**	**236**	P		**P**	**23 20 46.4**	**+0.3**
BO02				IAmb		IAmb	23 21 06.2	
	comp=Z,14nm,0.9s							
BI02	**San Fabin de**	**56.77**	**234**	P		**P**	**23 20 51.6**	**+0.5**
CZSB	**Cruzeiro do Su**	**57.72**	**268**	*e*P		**P**	**23 20 59.7**	**+1.6**
TIP	**Timpagrande**	**58.26**	**28**	‖P		**P**	**23 21 03.8**	**+2.4**
VNA1	**Neumayer--Stat**	**59.02**	**178**	P		**P**	**23 21 05.8**	**-0.4**
VNA2	**Neumayer--Watz**	**59.33**	**177**	P		**P**	**23 21 07.6**	**-0.8**
VLI	**Veliai**	**59.51**	**34**	P		**P**	**23 21 11.8**	**+1.7**
SDV	**Santo Domingo**	**59.72**	**288**	P		**P**	**23 21 11.1**	**-1.1**
SDV				IAmb		IAmb	23 21 19.5	
	comp=Z,9.9nm,0.9s							
SDV	**Santo Domingo**	**59.72**	**288**	*e*P		**P**	**23 21 12.1**	**-0.1**
SNAA	**Sanae**	**60.33**	**176**	P		**P**	**23 21 14.0**	**-1.4**
SNAA	**Sanae**	**60.33**	**176**	P		**P**	**23 21 13.9**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=313,slow=5.2,SNR=9.6							
SNAA	**Sanae**	**60.33**	**176**	P		**P**	**23 21 14.3**	**-1.0**
ROSC	**El Rosal**	**62.00**	**282**	P		**P**	**23 21 26.9**	**-1.1**
DAVA	**Damuels**	**62.54**	**18**	*e*P		**P**	**23 21 32.3**	**+1.6**
	comp=Z,14nm,1.1s							
FETA	**Feichten**	**62.57**	**19**	*e*P		**P**	**23 21 31.6**	**+0.7**
	comp=Z,13nm,1.2s							
SQTA	**Sankt Quirin**	**62.90**	**19**	*e*P		**P**	**23 21 33.8**	**+0.8**
	comp=Z,11nm,1.2s							
ABTA	**Abfaltersbach**	**62.91**	**20**	P		**P**	**23 21 33.9**	**+0.8**
	comp=Z,12nm,1.6s							
MOTA	**Moosalm**	**62.97**	**19**	*e*P		**P**	**23 21 33.7**	**+0.2**
	comp=Z,9.1nm,1.2s							
RETA	**Reutte**	**62.99**	**19**	*e*P		**P**	**23 21 33.9**	**+0.3**
	comp=Z,6.3nm,1.2s							
WTTA	**Wattenberg**	**63.07**	**19**	P		**P**	**23 21 33.8**	**-0.5**
	comp=Z,16nm,1.3s							
PMSA	**Palmer Station**	**63.08**	**202**	*e*P		P	23 21 39.8	+6.0
SOKA	**Soboth**	**63.75**	**22**	*e*P		**P**	**23 21 40.5**	**+1.9**
	comp=Z,16nm,1.3s							
ARSA	**Arzberg**	**64.41**	**22**	*e*P		**P**	**23 21 44.1**	**+1.2**
	comp=Z,7.8nm,1.1s							
MOA	**Molln**	**64.47**	**21**	*e*P		**P**	**23 21 44.7**	**+1.4**
	comp=Z,8.8nm,1.1s							
OTAV	**Otavalo**	**64.87**	**276**	*e*P		**P**	**23 21 47.9**	**+0.8**
CONA	**Conrad Observa**	**65.11**	**22**	*e*P		**P**	**23 21 48.1**	**+0.7**
	comp=Z,24nm,2.0s							
GERES	**GERESS Array B**	**65.13**	**20**	P		**P**	**23 21 46.5**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=219,slow=6.1,SNR=2.3							
GERES				LR		LR	23 51 13.3	
	comp=Z,243nm,18.5s,baz=254,slow=37							
PSZ	**Piszkesteto**	**66.64**	**24**	P		**P**	**23 21 57.5**	**+0.1**
SYO	**Syowa Base**	**66.64**	**162**‖	*e*P		**P**	**23 21 55.0**	**-2.0**
SYO	**Syowa Base**	**66.64**	**162**‖	*e*P		**P**	**23 21 57.7**	**+0.7**
SYO	**Syowa Base**	**66.64**	**162**‖	*e*sP		sP	23 22 00.4	+1.8
BELA	**Belgrano 2**	**66.98**	**185**	P		**P**	**23 21 58.5**	**-0.6**
MORC	**Moravsky Berou**	**67.26**	**22**	P		**P**	**23 22 01.1**	**-0.1**
BRTR	**Keskin Array B**	**67.75**	**38**	P		**P**	**23 22 04.8**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=217,slow=4.5,SNR=1.1							
BRTR				LR		LR	23 51 56.0	
	comp=Z,74nm,21.9s,baz=222,slow=36							
GAZ	**Gaziantep**	**68.49**	**42**	P		**P**	**23 22 11.4**	**+2.1**
AKASG	**Malin Array Be**	**72.73**	**27**	P		**P**	**23 22 34.2**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=227,slow=6.1,SNR=11							
MAW	**Mawson**	**74.33**	**157**	P		**P**	**23 22 44.0**	**0.0**
	comp=Z,4.1nm,0.8s,baz=271,slow=9.2,SNR=8.4							
MAW	**Mawson**	**74.33**	**157**	P		**P**	**23 22 44.5**	**+0.6**
NOA	**NORSAR Array B**	**75.26**	**12**	P		**P**	**23 22 48.9**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=205,slow=6.2,SNR=2.6							
NOA				LR		LR	23 54 56.1	
	comp=Z,123nm,20.6s,baz=200,slow=35							
KBZ	**Khabaz**	**75.71**	**39**	P		**P**	**23 22 54.2**	**+2.0**
	comp=Z,6.2nm,1.0s,baz=55,slow=0.7,SNR=4.8							
T59A	**Double "B" Far**	**76.64**	**313**	P		**P**	**23 22 57.0**	**-0.7**
UOSS	**Minazif**	**77.67**	**61**	P		**P**	**23 23 04.5**	**+0.7**
T57A	**Hurt**	**77.88**	**312**	IAmb		IAmb	23 23 13.1	
	comp=Z,8.5nm,0.9s							
QSPA	**South Pole Qui**	**78.44**	**180**	P		**P**	**23 23 07.4**	**-0.2**
QSPA				IAmb		IAmb	23 23 17.3	
	comp=Z,13nm,0.9s							
KMSC	**Kings Mountain**	**78.67**	**310**	P		**P**	**23 23 08.6**	**-0.5**
KMSC				IAmb		IAmb	23 23 21.8	
	comp=Z,13nm,0.9s							
OBN	**Obninsk**	**78.99**	**27**	P		**P**	**23 23 10.3**	**-0.1**
OBN				IAmb		IAmb	23 23 34.0	
	comp=Z,19nm,1.2s							
FINES	**FINESS Array B**	**79.50**	**18**	P		**P**	**23 23 14.4**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=189,slow=3.7,SNR=8.1							
SCHQ	**Schefferville**	**79.66**	**332**	P		**P**	**23 23 15.3**	**+1.2**
	comp=Z,3.9nm,0.5s,baz=257,slow=14,SNR=3.7							
SCHQ	**Schefferville**	**79.66**	**332**	IAmb		IAmb	23 23 19.4	
	comp=Z,25nm,1.3s							
BG3	**Lake Jocassee**	**79.82**	**309**	IAmb		IAmb	23 23 25.0	
	comp=Z,13nm,1.0s							
Y52A	**Lilburn**	**80.28**	**308**	IAmb		IAmb	23 23 26.6	
	comp=Z,16nm,0.9s							
CCIG	**Comitan**	**81.92**	**288**	P		**P**	**23 23 26.4**	**-0.9**
T50A	**Nancy**	**82.00**	**310**	IAmb		IAmb	23 23 35.1	
	comp=Z,14nm,1.1s							
SWET	**Sewanee**	**82.20**	**308**	P		**P**	**23 23 27.6**	**-0.6**
LRAL	**Lakeview Retre**	**82.30**	**306**	IAmb		IAmb	23 23 37.0	
	comp=Z,13nm,1.1s							
U49A	**Red Boiling Sp**	**82.53**	**310**	IAmb		IAmb	23 23 37.4	
	comp=Z,8.9nm,1.0s							
CLTN	**Cedars of Leba**	**82.80**	**309**	IAmb		IAmb	23 23 39.3	
	comp=Z,11nm,1.1s							
GEYT	**Alibeck**	**83.58**	**49**	P		**P**	**23 23 37.2**	**+1.8**
	comp=Z,2.3nm,1.0s,baz=94,slow=14,SNR=4.0							
GEYT	**Alibeck**	**83.58**	**49**	IAmb		IAmb	23 23 38.5	
	comp=Z,7.4nm,0.9s							
GYA0B	**ALIBECK ARRAY**	**83.58**	**49**	P		**P**	**23 23 37.1**	**+1.8**
GYA0B				IAmb		IAmb	23 23 42.8	
	comp=Z,5.7nm,0.8s							
PLAL	**Pickwick Lake**	**83.78**	**307**	IAmb		IAmb	23 23 43.0	
	comp=Z,11nm,1.1s							
WVT	**Waverly**	**83.96**	**309**	P		**P**	**23 23 36.4**	**-0.8**
HRA	**Herat**	**85.61**	**54**	P		**P**	**23 23 46.9**	**+1.0**
PBMO	**Poplar Bluff**	**86.15**	**309**	IAmb		IAmb	23 23 54.5	
	comp=Z,9.8nm,1.0s							
T42A	**Van Buren**	**86.73**	**309**	IAmb		IAmb	23 23 57.7	
	comp=Z,10nm,1.2s							
CCM	**Cathedral Cave**	**87.15**	**310**	P		**P**	**23 23 52.8**	**-0.3**
TLIG	**Tlapa**	**88.20**	**288**	P		**P**	**23 23 58.7**	**-0.1**
ABKAR	**Akbulak array**	**88.68**	**39**	P		**P**	**23 23 58.3**	**-1.8**
ARU	**Arti**	**90.36**	**32**	P		**P**	**23 24 07.9**	**+0.1**
VNDA	**Vanda**	**90.91**	**179**	P		**P**	**23 24 09.9**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=272,slow=3.3,SNR=6.2							
VNDA	**Vanda**	**90.91**	**179**	P		**P**	**23 24 10.3**	**+0.2**
TXAR	**Lajitas Array**	**95.18**	**299**	P		**P**	**23 24 29.7**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=134,slow=5.4,SNR=5.1							
TXAR	**Lajitas Array**	**95.18**	**299**	P		**P**	**23 24 29.5**	**-1.3**
LZH	**Lanzhou**	**119.42**	**55**	*e*PKP		**PKPdf**	**23 29 50.1**	**-7.0**
LZH				pPKP		PKiKP	23 29 53.3	-3.8
LZH				sPKP			23 29 54.8	
LZH				LR		LR		
	comp=N,190nm,17.8s							
LZH				LR		LR		
	comp=E,200nm,18.0s							
LZH				LR		LR		
	comp=Z,280nm,20.1s							
CD2	**Chengdu**	**119.85**	**61**	PKP		**PKPdf**	**23 29 56.5**	**-1.4**
ASAR	**Alice Springs**	**133.00**	**139**	PKP		**PKPdf**	**23 30 23.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=222,slow=1.2,SNR=2.2							
WRA	**Warramunga Arr**	**135.87**	**135**	PKP		**PKPdf**	**23 30 28.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=247,slow=2.0,SNR=1.9							
MJAR	**Matsushiro Arr**	**144.94**	**40**	PKPbc		**PKPab**	**23 30 43.2**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=281,slow=0.6,SNR=5.6							
COEN	**Coen**	**146.04**	**138**	PKPbc		**PKiKP**	**23 30 50.3**	**-0.9**
MSVF	**Nonsavu**	**148.35**	**203**	PKPbc		**PKiKP**	**23 30 56.0**	**0.0**

*IDC **21** 23:20:13.3±4.5, 29.06S×178.71W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.6/2, Error ellipse: s-maj=231.6km s-min=47.1km az=160.0*
*NEIC **21** 23:20:55.2±2.0, 30.2S±0.1×179.5W±0.3, h377km±16km, mb4.0/3, Error ellipse: s-maj=38.0km s-min=10.2km az=109.0*

ISC 21 23:20:54.0±0.8, 30.41S±0.08×179.2W±0.1, h400km, n64, σ2s79/86, mb3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.62**	**45**	P		P	**Pn**	**23 21 49.0**	**+1.1**
GLKZ				S		S	**S**	**23 22 28.8**	**-2.5**
RIZ	**Raoul Island**	**1.63**	**45**	P		P	**Pn**	**23 21 46.9**	**-1.0**
RAO	**Raoul Island**	**1.63**	**45**				**Pn**	**23 21 46.6**	**-1.4**
MXZ	**Matakaoa Point**	**7.42**	**195**	P		P	**P**	**23 22 46.1**	**+3.3**
MXZ	**Matakaoa Point**	**7.42**	**195**				**P**	**23 22 44.7**	**+2.0**
WMGZ	**Waiomatatini S**	**7.64**	**194**	P		P	**P**	**23 22 48.8**	**+3.6**
WMGZ				S		S	**S**	**23 24 13.2**	**-2.2**
OUZ	**Omahuta**	**7.70**	**230**				**P**	**23 22 46.5**	**+0.5**
HAZ	**Te Kaha**	**7.73**	**198**	P		P	**P**	**23 22 48.1**	**+1.9**
HAZ				S		S	**S**	**23 24 14.1**	**-3.1**
PUZ	**Puketiti**	**7.92**	**194**	P		P	**P**	**23 22 51.3**	**+3.0**
PUZ				S		S	**S**	**23 24 18.9**	**-2.3**
RUGZ	**Raukumara Rang**	**7.95**	**198**	P		P	**P**	**23 22 49.6**	**+0.7**
RUGZ				S		S	**S**	**23 24 17.6**	**-4.6**
TWGZ	**Tauwhareparae**	**8.08**	**196**	P		P	**P**	23 22 55.1	+4.9
TWGZ				S		S	**S**	**23 24 25.0**	**+0.3**
CNGZ	**Carnagh Statio**	**8.32**	**194**	P		P	**P**	**23 22 56.6**	**+3.8**
MWZ	**Matawai**	**8.34**	**198**	P		P	**P**	**23 22 53.7**	**+0.6**
MWZ				S		S	**S**	**23 24 25.9**	**-4.3**
URZ	**Urewera**	**8.39**	**200**	P		P	**P**	**23 22 54.2**	**+0.7**
URZ				S		S	**S**	**23 24 28.7**	**-2.4**
URZ	**Urewera**	**8.39**	**200**	P		P	**P**	**23 22 57.4**	**+3.9**
RIGZ	**Rimuhau**	**8.63**	**196**	P		P	**P**	**23 22 60.0**	**+3.6**
RIGZ				S		S	**S**	**23 24 33.8**	**-2.6**
MUGZ	**Murupara**	**8.69**	**201**	P		P	**P**	**23 22 59.5**	**+2.5**
MUGZ				S		S	**S**	**23 24 32.6**	**-5.0**
RTZ	**Ruatahuna**	**8.76**	**200**	P		P	**P**	**23 22 58.0**	**+0.3**
SNGZ	**Shannon Statio**	**8.81**	**198**	P		P	**P**	**23 23 02.6**	**+4.3**
SNGZ				S		S	**S**	**23 24 37.6**	**-2.6**
PRGZ	**Paritu Road**	**8.81**	**195**	S		S	**S**	**23 24 34.8**	**-5.4**
KNZ	**Kokohu**	**8.96**	**196**	P		P	**P**	**23 23 03.4**	**+3.6**
TLZ	**Tolley Road**	**9.00**	**207**	P		P	**P**	23 23 05.9	+5.5
RAHZ	**Arahi**	**9.01**	**199**	P		P	**P**	**23 23 02.2**	**+1.7**
RAHZ				S		S	**S**	**23 24 41.3**	**-3.0**
MTHZ	**Maungataniwha**	**9.02**	**200**	P		P	**P**	**23 23 03.7**	**+3.1**
MTHZ				S		S	**S**	**23 24 39.3**	**-5.2**
MRHZ	**Matea Rd**	**9.13**	**202**	P		P	**Pn**	**23 23 04.5**	**+2.6**
ARHZ	**Aropaoanui**	**9.36**	**198**	P		P	**Pn**	**23 23 07.6**	**+3.2**
ARHZ				S		S	**S**	**23 24 47.2**	**-4.3**
BKZ	**Black Stump Fm**	**9.41**	**201**	P		P	**Pn**	**23 23 07.4**	**+2.3**
BKZ				S		S	**S**	**23 24 50.4**	**-2.3**
BKZ	**Black Stump Fm**	**9.41**	**201**	P		P	**Pn**	**23 23 07.5**	**+2.3**
HIZ	**Hauiti**	**9.43**	**209**	P		P	Pn	23 23 11.0	+5.6
HIZ	**Hauiti**	**9.43**	**209**	P		P	**Pn**	**23 23 09.6**	**+4.2**
KATZ	**Kakaramea**	**9.50**	**205**	P		P	**Pn**	**23 23 09.8**	**+3.5**
MCHZ	**McNeill Hill**	**9.61**	**199**	P		P	**Pn**	**23 23 09.9**	**+2.6**
MCHZ				S		S	**S**	**23 24 53.9**	**-2.8**
TMVZ	**Te Maari**	**9.62**	**204**	P		P	**Pn**	**23 23 10.6**	**+2.9**
ETVZ	**East Tongariro**	**9.64**	**204**	P		P	**Pn**	**23 23 10.7**	**+2.8**
WTVZ	**West Tongariro**	**9.66**	**205**	P		P	**Pn**	**23 23 10.8**	**+2.7**
KWHZ	**Kaweka Forest**	**9.67**	**200**	P		P	**Pn**	**23 23 10.2**	**+2.1**
KWHZ				S		S	**S**	**23 24 56.4**	**-1.6**
OTVZ	**Oturere**	**9.68**	**204**	P		P	**Pn**	**23 23 10.5**	**+2.1**
OTVZ				S		S	**S**	**23 24 56.7**	**-1.7**
TWVZ	**Taurewa**	**9.68**	**205**	P		P	**Pn**	**23 23 11.0**	**+2.6**
NGZ	**Ngauruhoe**	**9.71**	**204**	P		P	**Pn**	**23 23 11.7**	**+2.9**
NGZ				S		S	**S**	**23 24 58.6**	**-0.6**
WHVZ	**Whangaehu Hut**	**9.81**	**204**	P		P	**Pn**	**23 23 12.4**	**+2.4**
BHHZ	**Black Hill Sta**	**9.84**	**202**	P		P	**Pn**	**23 23 11.1**	**+1.0**
BHHZ				S		S	**S**	**23 24 57.6**	**-4.0**
WNVZ	**Wahianoa**	**9.85**	**204**	P		P	**Pn**	**23 23 12.2**	**+1.8**
WNVZ				S		S	**S**	**23 25 00.9**	**-1.1**
MOVZ	**Moawhango**	**9.87**	**203**	P		P	**Pn**	**23 23 12.1**	**+1.7**
MOVZ				S		S	**S**	**23 24 57.4**	**-4.7**
KAHZ	**Kahuranaki**	**9.88**	**198**	P		P	**Pn**	**23 23 12.9**	**+2.3**
KAHZ				S		S	**S**	**23 24 59.8**	**-2.6**
KRHZ	**Kereru**	**9.89**	**200**	P		P	**Pn**	**23 23 12.3**	**+1.7**
KRHZ				S		S	**S**	**23 24 57.1**	**-5.3**
PKVZ	**Pokaka**	**9.91**	**205**	P		P	**Pn**	**23 23 13.9**	**+3.0**
PXZ	**Pawanui**	**10.11**	**197**	P		P	**Pn**	**23 23 15.2**	**+2.1**
PXZ				S		S	**S**	**23 25 02.6**	**-4.3**
PNHZ	**Pukenui**	**10.19**	**200**	P		P	**Pn**	**23 23 14.6**	**+0.5**
PNHZ				S		S	**S**	**23 25 04.8**	**-3.8**
PRHZ	**Porangahau**	**10.39**	**198**	P		P	**Pn**	**23 23 17.4**	**+1.0**
TSZ	**Takapari Road**	**10.39**	**201**	P		P	**Pn**	**23 23 17.0**	**+0.5**
DVHZ	**Dannevirke**	**10.55**	**200**

VAO ***22*** *00:09:20.7±0.9, 14.˚44S×75.˚79W, h10km, mb4.2*

ISC 22 00:09:18.5±1.0, 14.˚59S±0.˚09×76.˚4W±0.˚1, h35km, n69, σ2s02/59, mb3.9/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.63**	**349**	Pn	**Pn**	**00 09 56.9**	**-1.6**
	5.5nm,0.3s,baz=166,slow=14,SNR=6.2						
NNA				Lg	Lg	00 10 31.9	
	196nm,0.3s,baz=193,slow=12,SNR=6.7						
AP01	**Chacalluta**	**6.88**	**124**	Pn	**Pn**	**00 10 56.0**	**-0.9**
PB16	**IPOC Station P**	**7.54**	**121**		**Pn**	**00 11 07.4**	**+0.8**
ATAH	**Atahualpa**	**7.67**	**345**	Pn	**Pn**	**00 11 05.3**	**-2.9**
	0.2nm,0.3s,baz=125,slow=13,SNR=1.6						
CZSB	**Cruzeiro do Su**	**7.69**	**28**	*e*P	**Pn**	**00 11 07.8**	**-0.3**
PSGCX	**Pisagua**	**7.76**	**131**		**Pn**	**00 11 09.3**	**+0.2**
MNMC	**Minye Minye**	**7.88**	**126**		**Pn**	**00 11 10.7**	**-0.3**
LPAZ	**La Paz**	**8.10**	**103**	Pn	**Pn**	**00 11 18.0**	**+3.8**
	1.4nm,0.3s,baz=290,slow=9.4,SNR=55						
LPAZ	**La Paz**	**8.10**	**103**		**Pn**	**00 11 15.9**	**+1.7**
LPAZ	**La Paz**	**8.10**	**103**	*e*P	**Pn**	**00 11 12.2**	**-2.1**
PB11	**IPOC Station P**	**8.21**	**130**		**Pn**	**00 11 15.0**	**-0.2**
TA01	**Diego Aracena**	**8.36**	**136**		**Pn**	**00 11 17.3**	**+0.1**
GO01	**Chusmiza**	**8.50**	**127**		**Pn**	**00 11 19.7**	**+0.1**
PB08	**IPOC Station P**	**8.81**	**130**		**Pn**	**00 11 23.7**	**-0.1**
PB01	**IPOC Station P**	**9.16**	**135**		**Pn**	**00 11 27.0**	**-1.3**
PB07	**IPOC Station P**	**9.39**	**140**		**Pn**	**00 11 30.6**	**-0.9**
PB09	**IPOC Station P**	**9.85**	**138**		**Pn**	**00 11 37.1**	**-0.7**
LVC	**Limon Verde**	**10.64**	**140**	Pn	**Pn**	**00 11 50.1**	**+1.2**
	1.2nm,0.3s,baz=321,slow=11,SNR=11						
LVC				Sn	**Sn**	**00 13 47.2**	**+0.1**
	0.8nm,0.3s,baz=52,slow=19,SNR=2.4						
LVC				Lg	Lg	00 14 46.8	
	0.6nm,0.3s,baz=104,slow=21,SNR=7.7						
LVC	**Limon Verde**	**10.64**	**140**		**Pn**	**00 11 48.8**	**-0.1**
LVC	**Limon Verde**	**10.64**	**140**	*e*P	**Pn**	**00 11 50.6**	**+1.7**
ETMB	**Extrema**	**10.98**	**66**	*e*P	**Pn**	**00 11 50.8**	**-2.4**
SIV	**San Ignacio**	**14.80**	**97**	Pn	**Pn**	**00 12 42.6**	**-2.9**
	0.3nm,0.3s,baz=279,slow=15,SNR=7.4						
SIV				LR	LR	00 19 31.2	
	comp=Z,192nm,19.9s,baz=283,slow=42						
OTAV	**Otavalo**	**14.88**	**352**	*e*P	**P**	**00 12 51.3**	**-0.9**
PUAC	**Puerto Asis, P**	**15.04**	**359**	*e*P	**Pn**	**00 12 49.7**	**+1.1**
VILB	**Vilhena**	**15.77**	**86**	*e*P	**Pn**	**00 12 57.1**	**-1.0**
SOTA	**Rioblanco**	**16.62**	**359**	*e*P	**P**	**00 13 12.1**	**+0.6**
PTLB	**Pontes e Lacer**	**16.65**	**95**	*e*P	**Pn**	**00 13 09.0**	**-0.2**
PCON	**Cinco Dias**	**16.81**	**360**	*e*P	**Pn**	**00 13 11.8**	**+0.1**
POPC	**Popayan, Colom**	**17.02**	**359**	*e*P	**P**	**00 13 16.0**	**+0.3**
PRAC	**Prado**	**18.24**	**5**	*e*P	Pn	00 13 40.1	+11
ORTC	**Ortega, Tolima**	**18.41**	**3**	*e*P	**Pn**	**00 13 37.1**	**+6.1**
YOTC	**Yotoco, Valle**	**18.45**	**0**	*e*P	Pn	00 13 42.4	+11
VILC	**Villavicencio,**	**18.76**	**8**	*e*P	**Pn**	**00 13 41.4**	**+5.9**
H03N1	**Juan Fernandez**	**18.91**	**187**	T	T	00 33 10.2	
	baz=8.0,slow=74,SNR=1131						
H03N2	**Juan Fernandez**	**18.92**	**187**	T	T	00 33 06.2	
	baz=8.0,slow=74,SNR=865						
H03N3	**Juan Fernandez**	**18.93**	**187**	T	T	00 33 09.0	
	baz=8.0,slow=74,SNR=1078						
TOLC	**Tolima**	**19.07**	**3**	*e*P	**Pn**	**00 13 42.7**	**+3.3**
RREF	**El Recreo**	**19.39**	**3**	*e*P	**P**	**00 13 41.8**	**-0.4**
GUY2C	**Guyana, Caldas**	**19.71**	**3**	*e*P	**P**	**00 13 44.0**	**-1.5**
CBOC	**Ciudad Bolivar**	**20.32**	**1**	*e*P	Pn	00 13 56.1	+2.0
CLDB	**Colider**	**20.38**	**82**	*e*P	**P**	**00 13 51.0**	**-1.4**
PTBC	**PUERTO BERRIO,**	**21.07**	**5**	*e*P	**P**	**00 13 58.3**	**-1.5**
PTGA	**Pitinga**	**21.25**	**51**	P	**P**	**00 14 00.5**	**-1.4**
	0.6nm,0.3s,baz=256,slow=16,SNR=2.5						
PTGA				LR	LR	00 21 36.9	
	comp=Z,237nm,19.2s,baz=220,slow=35						
PTGA	**Pitinga**	**21.25**	**51**	IAmb	IAmb	00 14 12.5	
	comp=Z,29nm,1.7s						
CPUP	**Villa Florida**	**21.27**	**126**	P	**P**	**00 14 02.4**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=291,slow=11,SNR=6.9						
CPUP	**Villa Florida**	**21.27**	**126**	P	**P**	**00 14 02.1**	**+0.2**
NPGB	**Novo Progresso**	**21.92**	**72**	*e*P	**P**	**00 14 07.5**	**-1.5**
ZARC	**Zaragoza, Cauc**	**21.99**	**4**	*e*P	**P**	**00 14 07.4**	**-2.2**
PAMC	**Pamplona, Colo**	**22.08**	**10**	*e*P	**P**	**00 14 17.3**	**+6.1**
ITTB	**Itaituba**	**22.70**	**65**	*e*P	**P**	**00 14 16.1**	**-1.3**
MOTC	**Monteria, Cord**	**23.22**	**2**	*e*P	**P**	**00 14 21.4**	**-1.2**
SMLC	**San Martn de**	**23.35**	**6**	*e*P	**P**	**00 14 21.2**	**-2.6**
ARAG	**Araguaiana, MT**	**23.71**	**96**	*e*P	**P**	**00 14 26.2**	**-1.2**
SDV	**Santo Domingo**	**24.00**	**14**	P	**P**	**00 14 30.6**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=209,slow=7.3,SNR=5.9						
SDV	**Santo Domingo**	**24.00**	**14**	P	**P**	**00 14 30.6**	**+0.4**
SDV				IAmb	IAmb	00 14 49.3	
	comp=Z,6.5nm,0.7s						
SJCC	**San Jacinto, C**	**24.35**	**3**	*e*P	**P**	**00 14 37.0**	**+3.6**
MALB	**Monte Alegre**	**25.21**	**62**	*e*P	**P**	**00 14 41.0**	**-0.2**
BDFB	**Brasilia**	**27.36**	**96**	P	**P**	**00 15 00.9**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=274,slow=15,SNR=3.7						
BDFB	**Brasilia**	**27.36**	**96**	IAmb	IAmb	00 15 20.3	
	comp=Z,19nm,1.5s						
TXAR	**Lajitas Array**	**51.02**	**329**	P	**P**	**00 18 18.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=150,slow=9.3,SNR=7.0						
TXAR	**Lajitas Array**	**51.02**	**329**	P	**P**	**00 18 14.6**	**-2.7**
TOA0	**Torodi Ar. Sit**	**82.02**	**74**	P	**P**	**00 21 35.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**82.02**	**74**	P	**P**	**00 21 36.4**	**+0.8**
	comp=Z,6.1nm,0.8s,baz=262,slow=5.2,SNR=43						
TORD	**Torodi Ar. Bea**	**82.02**	**74**	P	**P**	**00 21 36.5**	**+0.8**
ESDC	**Sonseca Array**	**86.16**	**47**	P	**P**	**00 21 56.6**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=240,slow=4.6,SNR=2.9						
H11N3	**WAKE ISLAND Hyl**	**19.63**	**285**	T	T	02 39 03.3	
	baz=96,slow=74,SNR=154						
H11N2	**WAKE ISLAND Hyl**	**19.64**	**285**	T	T	02 39 03.3	
	baz=96,slow=74,SNR=196						
H11N1	**WAKE ISLAND Hyl**	**19.65**	**285**	T	T	02 39 02.2	
	baz=96,slow=74,SNR=86						
SONM	**Songino Array**	**146.77**	**357**	PKPbc	**PKPab**	**00 28 58.8**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=359,slow=2.6,SNR=1.8						

IDC ***22*** *00:15:11.4±0.3, 27.˚58N×128.˚43E, h0km, mb5.4/39, mb1 5.5/40, mb1mx5.5/41, mbtmp5.4/40, ML3.0/2, MS5.1/39, Ms1 5.1/39, ms1mx5.1/43, Error ellipse: s-maj=11.7km s-min=9.3km az=75.0*

BJI ***22*** *00:15:13.5±0.0, 27.˚22N×128.˚81E, h50km, mB5.4/70, mb5.3/79, Ms5.4/92, Ms7 5.3/86*

MOS ***22*** *00:15:15.4±1.0, 27.˚56N×128.˚44E, h38km, mb5.9/93, MS5.3/36, Error ellipse: s-maj=5.9km s-min=3.8km az=111.9*

KEA ***22*** *00:15:15.8±0.0, 27.˚10N×128.˚40E, h38km, mB5.4/2, MS4.8/2*

NIED ***22*** *00:15:17.4, 27.˚44N×128.˚57E, h51km, MW5.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr3.35; Mθθ-1.21; Mθφ-2.14; Mrθ1.58; Mθφ-2.22; Mφr1.49; Fault plane solution: M₀4.24000×10¹⁷ NP1:ϕ₁≈44.00000°, δ60.00000°, λ95.00000°. NP2:ϕ₂≈214.00000°, δ30.00000°, λ81.00000°.*

JMA ***22*** *00:15:17.4, 27.˚44N×128.˚57E, h51km±1km, M5.6*

JMA Felt IV J1.

BGR ***22*** *00:15:18.0±0.0, 27.˚51N×128.˚66E, h43km, mb6.1, mB_BB6.3, Ms5.7*

NEIC ***22*** *00:15:17.4±1.9, 27.˚42N±0.˚05×128.˚55E±0.˚06, h43km±1km, mb5.8/392, Ms_20 5.3/227, Mwb5.8/47, Mww5.8, Mwc5.8(GCMT), Error ellipse: s-maj=9.4km s-min=7.1km az=133.0*

NEIC ***22*** *00:15:17.4, 27.˚42N×128.˚55E, h54km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.48; Mθθ-2.17; Mθφ-2.32; Mrθ2.08; Mθθ-3.09; Mφr2.15; Fault plane solution: M₀5.80000×10¹⁷ NP1:ϕ₁≈224.52000°, δ29.30000°, λ90.35000°. NP2:ϕ₂≈44.12000°, δ60.70000°, λ89.80000°. Principal axes: T 5.3247, Plg74.0000°, Azm314.0000°; N 0.8475, Plg0.0000°, Azm44.0000°; P -6.1722, Plg16.0000°, Azm134.0000°;*

GCMT ***22*** *00:15:19.4±0.1, 27.˚37N±0.˚01×128.˚59E±0.˚01, h46km, MW5.8/157, Moment Tensor Solution. s151,c304; s157,c427; Duration: 1ꜛ9 Moment tensor: Scale 10¹⁷ Nm; Mrr4.93±.05; Mθθ-1.87±.04; Mθθ-3.06±.04; Mrθ1.49±.04; Mθθ-2.61±.03; Mφr1.83±.04; Best double couple: M₀5.56100×10¹⁷ NP1:ϕ₁≈218.00000°, δ32.00000°, λ90.00000°. NP2:ϕ₂≈39.00000°, δ58.00000°, λ90.00000°. Principal axes: T 5.4560, Plg77.0000°, Azm310.0000°; N 0.2120, Plg0.0000°, Azm219.0000°; P -5.6670, Plg13.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *00:15:21, 27.˚32N×128.˚65E, h50km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr5.00; Mθθ-1.82; Mθθ-3.18; Mrθ1.35; Mθθ-2.85; Mφr1.82; Fault plane solution: M₀5.70000×10¹⁷ NP1:ϕ₁≈219.00000°, δ33.00000°, λ91.00000°. NP2:ϕ₂≈38.00000°, δ57.00000°, λ89.00000°. Principal axes: T 5.4715, Plg78.0000°, Azm305.0000°; N 0.4291, Plg1.0000°, Azm38.0000°; P -5.9007, Plg12.0000°, Azm128.0000°;*

NEIC ***22*** *00:15:26, 27.˚51N×128.˚54E, h36km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.58; Mθθ-2.03; Mθφ-2.55; Mrθ2.06; Mθθ-2.77; Mφr1.87; Fault plane solution: M₀5.58000×10¹⁷ NP1:ϕ₁≈219.00000°, δ30.00000°, λ85.00000°. NP2:ϕ₂≈45.00000°, δ60.00000°, λ93.00000°. Principal axes: T 5.3314, Plg75.0000°, Azm324.0000°; N 0.4741, Plg3.0000°, Azm224.0000°; P -5.8055, Plg15.0000°, Azm133.0000°;*

ISC 22 00:15:17.6±0.3, 27.˚46N±0.˚02×128.˚54E±0.˚02, h46km±2km, h47km:pP-P, n1555, σ1s56/1484, mb5.7/405, MS5.3/205, 115C-59D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.10**	**162**	P	**Pn**	**00 15 25.1**	**0.0**
JOKE				*e*S	**Sn**	**00 15 30.9**	**+0.6**
JYRO	**Yoronjima**	**0.44**	**190**	P	**Pn**	**00 15 27.8**	**-0.2**
JYRO				*e*S	**Sn**	**00 15 34.9**	**-0.4**
JTK	**Tokunoshima**	**0.49**	**49**	P	**Pn**	**00 15 28.5**	**-0.1**
JTK				*e*S	**Sn**	**00 15 36.1**	**-0.3**
JIH	**Iheya**	**0.66**	**230**	P	**Pn**	**00 15 30.8**	**+0.1**
JIH				*e*S	**Sn**	**00 15 40.1**	**0.0**
JOW	**Kunigami**	**0.67**	**200**	P	**Pn**	**00 15 30.7**	**-0.2**
JOW				*e*S	**Sn**	**00 15 40.1**	**-0.3**
JOW	**Kunigami**	**0.67**	**200**	Pn	**Pn**	**00 15 30.6**	**-0.3**
JOW				Sn	**Sn**	**00 15 40.5**	**+0.1**
JAMN	**Amaminishikomi**	**0.96**	**36**	P	**Pn**	**00 15 34.5**	**-0.3**
JAMN				*e*S	**Sn**	**00 15 46.8**	**-0.6**
JNTH	**Nagotoyohara**	**1.04**	**206**	P	**Pn**	**00 15 35.8**	**-0.1**
JNTH				*e*S	**Sn**	**00 15 49.7**	**+0.4**
JAM	**Amami Oshima**	**1.34**	**45**	P	**Pn**	**00 15 40.0**	**+0.1**
JAM				*e*S	**Sn**	**00 15 56.6**	**+0.1**
JAGN	**Aguni-jima**	**1.44**	**233**	P	**Pn**	**00 15 41.7**	**+0.4**
JAGN				*e*S	**Sn**	**00 15 59.8**	**+0.7**
JJT3	**Tamagusuku3**	**1.47**	**207**	P	**Pn**	**00 15 42.8**	**+1.0**
JZK	**Kikaishima**	**1.53**	**56**	P	**Pn**	**00 15 43.9**	**+1.4**
JTAJ	**Takarajima**	**1.79**	**19**	P	**Pn**	**00 15 45.9**	**-0.1**
JTAJ				S	**Sn**	**00 16 07.2**	**-0.3**
JKE	**Kume jima 2**	**1.93**	**234**	P	**Pn**	**00 15 48.3**	**+0.3**
JNN	**Nakanoshima**	**2.65**	**26**	P	**Pn**	**00 15 58.0**	**+0.1**
JNN				*e*S	**Sn**	**00 16 28.6**	**-0.1**
JKDJ	**Kitadaitoujima**	**2.89**	**121**	P	**Pn**	**00 15 59.3**	**-1.9**
JKDJ				*e*S	**Sn**	**00 16 30.8**	**-4.0**
JMZ	**Minamidaito 2**	**2.91**	**124**	P	**Pn**	**00 15 59.3**	**-2.1**
JMZ				*e*S	**Sn**	**00 16 31.3**	**-3.8**
JMZ	**Minamidaito 2**	**2.91**	**124**		**Pn**	**00 15 59.7**	**-1.7**
JMZ				Sn	**Sn**	**00 16 32.3**	**-2.8**
JYAK	**Yakushimahirau**	**3.26**	**32**	P	**Pn**	**00 16 06.6**	**+0.3**
JYAK				*e*S	**Sn**	**00 16 45.0**	**+1.1**
JKC	**Kuchinoerabu**	**3.33**	**26**	P	**Pn**	**00 16 07.6**	**+0.5**
JMTN	**Minamitane**	**3.59**	**35**	P	**Pn**	**00 16 12.2**	**+1.5**
JTN	**Tanegashima 3**	**3.83**	**33**	P	**Pn**	**00 16 15.0**	**+0.9**
JTN				*e*S	**Sn**	**00 16 58.8**	**+0.8**
JSU	**Suzuyama**	**4.36**	**22**	Pn	**Pn**	**00 16 23.3**	**+1.9**
JISG	**Ishigakijimahi**	**4.76**	**234**	P	**Pn**	**00 16 26.0**	**-0.8**
JTZ	**Takazaki**	**4.95**	**26**	P	**Pn**	**00 16 31.0**	**+1.5**
IRIF	**Iriomote-Funau**	**5.33**	**235**	P	**Pn**	**00 16 34.0**	**-0.7**
JKIT	**Kitakata**	**5.73**	**25**	P	**Pn**	**00 16 42.1**	**+1.9**
JTA	**Tamana**	**5.75**	**17**	P	**Pn**	**00 16 44.0**	**+3.0**
YOJ	**Yonaguni jima**	**5.80**	**240**	P	**Pn**	**00 16 41.6**	**+0.5**
YOJ	**Yonaguni jima**	**5.80**	**240**	P	**Pn**	**00 16 41.2**	**+0.1**
YOJ	**Yonaguni jima**	**5.80**	**240**		**Pn**	**00 16 41.2**	**+0.1**
JYNG	**Yonagunijimaku**	**5.86**	**240**	P	**Pn**	**00 16 42.5**	**+0.6**
JNU	**Nakatsue**	**5.99**	**19**	Pn	**Pn**	**00 16 46.9**	**+3.1**
	45nm,0.3s,baz=284,slow=2.8,SNR=162						
JNU				Sn	Sn	00 18 05.1	+14
	baz=279,slow=18,SNR=0.7						
JNU	**Nakatsue**	**5.99**	**19**	Pn	**Pn**	**00 16 46.1**	**+2.3**
TATO	**Taipei**	**6.80**	**250**	P	**Pn**	**00 16 57.4**	**+2.6**
TATO				P	**Pn**	**00 16 57.4**	**+2.6**
TATO	**Taipei**	**6.80**	**250**		**Pn**	**00 16 56.1**	**+1.3**
YHNB	**Yeheng**	**7.01**	**248**	Pn	**Pn**	**00 16 59.8**	**+2.0**
NAOB	**Ninganchiao**	**7.06**	**244**		**Pn**	**00 16 58.2**	**-0.2**
JTU	**Tsushima**	**7.08**	**6**	Pn	**Pn**	**00 17 02.4**	**+3.7**
SSE	**Sheshan**	**7.37**	**301**	Pn	**Pn**	**00 17 02.1**	**-0.5**
SSE				Sn	**Sn**	**00 18 21.0**	**-3.9**
SSE				smax	smax		
	comp=N,110nm,1.3s						
SSE				smax	smax		
	comp=E,89nm,1.3s						
SSE				LR	LR		
	comp=N,5μm,17.3s						
SSE				LR	LR		
	comp=E,7μm,17.7s						
SSE	**Sheshan**	**7.37**	**301**		**Pn**	**00 17 05.0**	**+2.4**
YULB	**Yu-li**	**7.70**	**240**		**Pn**	**00 17 04.2**	**-3.0**
SSLB	**Suanglung**	**7.76**	**244**	Pn	**Pn**	**00 17 06.8**	**-1.2**
JMN	**Monobe**	**7.76**	**35**	Pn	**Pn**	**00 17 08.2**	**+0.2**
TWG	**Pinlang**	**8.19**	**237**		**Pn**	**00 17 10.3**	**-3.6**
TPUB	**Ta-pu**	**8.26**	**242**	Pn	**Pn**	**00 17 14.0**	**-1.0**
JHS	**Saijyo**	**8.47**	**26**		**Pn**	**00 17 19.5**	**+1.7**
QZH	**Quanzhou**	**9.28**	**257**	*i*P	**Pn**	**00 17 30.8**	**+2.0**
QZH				S	**Sn**	**00 19 14.3**	**+2.5**
QZH				LR	LR		
	comp=E,10μm,17.7s						
QZH				LR	LR		
	comp=E,8μm,18.6s						
QZH				LR	LR		
	comp=E,12μm,19.5s						
NJ2	**Nanjing**	**9.57**	**301**	*i*P	**Pn**	**00 17 35.3**	**+2.5**
NJ2				sP		00 17 50.0	
NJ2				S	**Sn**	**00 19 23.3**	**+4.2**
NJ2				pmax	pmax		
	comp=E,100nm,0.7s						
NJ2				pmax	pmax		
	comp=E,1μm,3.5s						
NJ2				LR	LR		
	comp=E,11μm,10.0s						
NJ2				LR	LR		
	comp=E,15μm,18.5s						
NJ2				LR	LR		
	comp=E,20μm,19.9s						
KNMB	**Chin-men Tao**	**9.61**	**254**	Pn	**Pn**	**00 17 33.7**	**+0.4**
JWT	**Wachi**	**9.76**	**35**		**Pn**	**00 17 35.5**	**+0.2**
KSAR	**Wonju Array Be**	**9.97**	**357**	P	**Pn**	**00 17 40.6**	**+2.4**
KSAR	**Wonju Array Be**	**9.97**	**357**		**Pn**	**00 17 40.6**	**+2.4**
KSRS	**Korea Array**	**9.98**	**357**	Pn	**Pn**	**00 17 40.7**	**+2.4**
	comp=E,3.7nm,0.3s,baz=176,slow=14,SNR=59						
KSRS				Sn	Sn	00 19 39.7	+11
	baz=242,slow=37,SNR=0.7						
KSRS				LR	LR	00 21 47.9	
	comp=E,15μm,18.6s,baz=174,slow=40						
KS19	**Wonju Array Si**	**10.03**	**357**		**Pn**	**00 17 41.7**	**+2.7**
INCN	**Inchon**	**10.12**	**351**	P	**Pn**	**00 17 43.0**	**+2.6**
INCN	**Inchon**	**10.12**	**351**		**Pn**	**00 17 43.0**	**+2.6**
INU	**Inuyama**	**10.69**	**41**		**Pn**	**00 17 49.4**	**+1.3**
HJU	**Haeju**	**10.81**	**348**	P	**Pn**	**00 17 54.5**	**+4.7**
JGF	**Kuroka**	**11.06**	**41**		**Pn**	**00 17 54.2**	**+0.9**
JHJ	**Hachijo jima 2**	**11.23**	**57**	Pn	**Pn**	**00 17 57.8**	**+2.2**
	comp=E,16nm,0.3s,baz=222,slow=23,SNR=1.4						
JHJ				LR	LR	00 22 00.0	
	comp=E,13μm,21.0s,baz=262,slow=36						
PYAG	**Pyongyang**	**11.79**	**349**	P	**Pn**	**00 18 07.0**	**+3.9**
PYAG				pP		00 18 14.2	
PYAG				sP		00 18 20.5	
PYAG				S	**Sn**	**00 20 18.8**	**+5.6**
PYS	**Pyongsong**	**11.97**	**350**	P	**Pn**	**00 18 09.8**	**+4.3**
JCJ	**Chichijima**	**12.15**	**89**	Pn	**Pn**	**00 18 06.8**	**-1.2**
	comp=E,17nm,0.3s,baz=241,slow=1.7,SNR=10						
JCJ				Sn	**Sn**	**00 20 17.7**	**-4.4**
	comp=E,12nm,0.3s,baz=270,slow=20,SNR=2.1						
JCJ				LR	LR	00 22 18.5	
	comp=E,10μm,20.4s,baz=297,slow=35						
JCJ	**Chichijima**	**12.15**	**89**		**Pn**	**00 18 08.2**	**+0.2**
MAJO	**Matsushiro**	**12.21**	**40**	*e*P	**Pn**	**00 18 10.8**	**+1.9**
MAJO	**Matsushiro**	**12.21**	**40**		**Pn**	**00 18 09.1**	**+0.2**
MAT	**Matsushiro**	**12.21**	**40**	P	**Pn**	**00 18 10.9**	**+2.0**
MAT				S	**Sn**	**00 20 22.2**	**-1.5**
MJAR	**Matsushiro Arr**	**12.21**	**40**	Pn	**Pn**	**00 18 07.2**	**-1.7**
	comp=E,0.1nm,0.3s,baz=134,slow=40,SNR=6.6						
MJAR				LR	LR	00 23 07.9	
	comp=E,6μm,20.8s,baz=215,slow=39						
MJAR	**Matsushiro Arr**	**12.21**	**40**		**Pn**	**00 18 07.5**	**-1.5**
HHU	**Hamhung**	**12.46**	**356**	P	**Pn**	**00 18 15.0**	**+2.7**
HHU				pP	**P**	**00 18 23.2**	**+0.3**
HHU				sP		00 18 29.2	
DL2	**Dalian**	**12.79**	**335**	P	**P**	**00 18 22.4**	**-4.2**
DL2				pP	Pn	00 18 28.0	+11
DL2				sP		00 18 37.9	
DL2				S	S	00 20 50.3	-12
DL2				pmax	pmax		
	comp=E,72nm,1.0s						
DL2				pmax	pmax		
	comp=E,740nm,5.9s						
DL2				LR	LR		
	comp=E,9μm,18.9s						
DL2				LR	LR		
	comp=E,9μm,19.0s						
DL2				LR	LR		
	comp=E,11μm,19.5s						
WHN	**Wuhan**	**12.79**	**287**	⇑P	**Pn**	**00 18 19.8**	**+3.0**
WHN				S	Sn	00 20 47.9	+10
WHN				pmax	pmax		
	comp=E,550nm,1.2s						
WHN				LR	LR		
	comp=E,7μm,9.0s						
WHN				LR	LR		
	comp=E,16μm,12.0s						
WHN				LR	LR		
	comp=E,34μm,21.1s						
TIA	**Tai'an**	**13.04**	**315**	P	**Pn**	**00 18 23.8**	**+3.6**
TIA				sP	P	00 18 40.1	+11
TIA				S	S	00 20 57.3	-10
TIA				pmax	pmax		
	comp=E,66nm,1.7s						
TIA				pmax	pmax		
	comp=E,950nm,8.3s						
TIA				LR	LR		
	comp=E,10μm,17.6s						
TIA				LR	LR		
	comp=E,11μm,18.1s						
TIA				LR	LR		
	comp=E,18μm,18.1s						
SUJ	**Sinuiju**	**13.05**	**346**	P	**Pn**	**00 18 23.4**	**+3.2**
SUJ				pP	**P**	**00 18 30.1**	**+0.7**
SUJ				S	Sn	00 20 55.4	+12
JYT	**Yasato**	**13.20**	**46**	Pn	**Pn**	**00 18 24.1**	**+1.7**
CHJN	**Chongjin**	**14.34**	**4**	P	**Pn**	**00 18 36.0**	**-1.9**
PVCP	**Virac**	**14.39**	**197**	*e*P	**Pn**	**00 18 37.8**	**-0.8**
GZH	**Guangzhou**	**14.41**	**256**	P	Pn	00 18 33.3	-5.6
JMM	**Marumori**	**14.62**	**42**		**Pn**	**00 18 42.4**	**+0.8**
LQP	**Lukban**	**14.80**	**208**	⇑*e*P	**Pn**	**00 18 45.9**	**+1.7**
SNY	**Shenyang**	**14.90**	**345**	⇓P	**P**	**00 18 49.9**	**-0.1**
SNY				sP	Pn	00 19 02.3	+17
SNY				S	**Sn**	**00 21 31.1**	**+2.2**
SNY				pmax	pmax		
	comp=E,52nm,2.4s						
SNY				pmax	pmax		
	comp=E,2μm,7.3s						
SNY				LR	LR		
	comp=E,7μm,19.2s						
SNY				LR	LR		
	comp=E,5μm,15.8s						
SNY				LR	LR		
	comp=E,14μm,18.8s						
TGY	**Tagaytay City**	**15.06**	**210**	Pn	**P**	**00 18 52.3**	**+0.2**
	comp=E,66nm,0.3s,baz=327,slow=4.8,SNR=13						
TGY				LR	LR	00 23 59.3	
	comp=E,2μm,21.2s,baz=16,slow=35						
BOAC	**Boac**	**15.27**	**205**	*e*P	**P**	**00 18 55.4**	**+1.1**
CNP	**Catarman**	**15.31**	**194**	*e*P	**Pn**	**00 18 52.6**	**+1.9**
LUBP	**Lubang**	**15.70**	**211**	*e*P	**P**	**00 19 00.1**	**+1.0**
VLA	**Vladivostok**	**15.86**	**9**	⇑*e*P	**Pn**	**00 18 56.3**	**-1.3**
BJT	**Baijiatuao**	**16.18**	**324**	P	**P**	**00 19 03.3**	**-1.0**
BJT				pmax	pmax		
	comp=Z,245nm,1.1s						
BJT	**Baijiatuao**	**16.18**	**324**		**P**	**00 19 03.3**	**-1.0**
BJI	**Beijing**	**16.20**	**324**	P	**P**	**00 19 06.5**	**+2.1**
BJI				S	**Sn**	**00 22 03.3**	**+2.8**
BJI				pmax	pmax		
	comp=Z,220nm,0.9s						
BJI				pmax	pmax		
	comp=Z,6μm,9.6s						
BJI				LR	LR		
	comp=Z,8μm,17.8s						
BJI				LR	LR		
	comp=Z,6μm,18.6s						
OTRP	**Odiongan**	**16.21**	**203**	*e*P	**P**	**00 19 05.3**	**+0.5**
SJMP	**San Jose**	**16.46**	**206**	*e*P	P	00 19 20.5	+13
CN2	**Changchun**	**16.49**	**352**	*e*P	**P**	**00 19 07.3**	**-0.4**
CN2				*e*pP	pP	00 19 16.3	-2.0
CN2				*e*S	**Sn**	**00 22 08.4**	**+0.7**

JEM Erimo 18.81 36 IAMs_20 IAMs_20 00 27 20.9
comp=Z,11µm,20.0s
QIZ Qiongzhong 19.10 248 P P 00 19 37.1 +0.5
QIZ sP sP 00 19 51.8 -1.4
QIZ S Sn 00 23 11.9 +0.9
QIZ sS sS 00 23 27.4 -0.7
QIZ pmax pmax
comp=Z,1µm,6.9s
QIZ LR LR
comp=Z,4µm,23.9s
QIZ LR LR
comp=Z,6µm,20.1s
QIZ LR LR
comp=Z,7µm,19.1s
QIZ Qiongzhong 19.10 248 Pn 00 19 40.1 +2.3
CGP Cagayan de Oro 19.25 192⇓eP Pn 00 19 42.1 +2.5
HHC Hu-ho-hao-te 19.33 318 eP P 00 19 39.8 +0.6
HHC PP sP 00 19 57.8 +2.1
HHC S S 00 23 08.5 -7.0
HHC pmax pmax
comp=Z,31nm,1.3s
HHC pmax pmax
comp=Z,2µm,7.6s
HHC LR LR
comp=Z,7µm,19.2s
HHC LR LR
comp=Z,7µm,17.3s
HHC LR LR
comp=Z,15µm,19.4s
ANA2 Anatahan 19.38 121 P Pn 00 19 40.8 -0.3
ANA2 IAmb IAmb 00 20 02.6
comp=Z,441nm,0.9s
GYA Guiyang 19.52 272 ⇑P Pn 00 19 43.5 +0.6
GYA SS Sn 00 23 46.3 +25
GYA pmax pmax
comp=Z,44nm,1.3s
GYA pmax pmax
comp=Z,2µm,9.6s
GYA LR LR
comp=Z,5µm,18.0s
GYA LR LR
comp=Z,6µm,20.0s
GYA LR LR
comp=Z,8µm,20.5s
BUKP Musuan 19.75 190 eP Pn 00 19 45.4 -0.2
ASAJ Asahikawa 20.11 31 P P 00 19 46.5 -0.9
comp=Z,63nm,0.9s,baz=235,slow=22,SNR=8.1
ASAJ LR LR 00 28 19.7
comp=Z,8µm,21.4s,baz=232,slow=39
ASAJ Asahikawa 20.11 31 P P 00 19 47.6 +0.2
ASAJ pmax pmax
comp=Z,106nm,1.0s
ASAJ MLR MLR
comp=Z,7µm,21.0s
JKA Kamikawa-asahi 20.11 31 P P 00 19 47.6 +0.2
PAGZ Pagadian 20.11 195 eP Pn 00 19 48.8 -1.0
BTO Baotou 20.13 315 eP P 00 19 45.3 -2.5
BTO S Sn 00 23 41.6 +5.9
DAV Davao City (W) 20.47 188 P Pn 00 19 53.2 -0.9
comp=Z,137nm,0.3s,baz=94,slow=7.2,SNR=5.0
DAV LR LR 00 27 33.2
comp=Z,6µm,19.6s,baz=40,slow=36
DAV Davao City (W) 20.47 188 P P 00 19 51.5 -0.1
DAV IAmb IAmb 00 20 20.9
comp=Z,550nm,1.0s
DAV Davao City (W) 20.47 188⇓eP Pn 00 20 10.0 +16
MATI Mati 20.52 186 eP P 00 19 51.8 -0.3
GUMO Guam 20.57 129 P Pn 00 19 54.0 -1.2
comp=Z,321nm,0.9s,baz=196,slow=4.4,SNR=21
GUMO LR LR 00 26 19.4
comp=Z,9µm,20.9s,baz=292,slow=32
GUMO Guam 20.57 129 P Pn 00 19 54.0 -1.2
GUMO Guam 20.57 129 P P 00 19 53.4 +0.8
GUMO IAmb IAmb 00 19 60.0
comp=Z,766nm,1.1s
GUMO Guam 20.57 129 IAMs_20 IAMs_20 00 25 57.2
comp=Z,10µm,21.0s
BATP Bataraza 21.16 211 eP P 00 20 00.7 +1.8
DDMP Don Marcelino, 21.41 188 eP P 00 20 01.3 -0.3
YUK Yuzh-Kuril'sk 21.64 36c iP P 00 20 04.4 +0.6
YUK iS S 00 24 02.7 +1.8
YUK pmax pmax
comp=Z,829nm,1.0s
YUK pmax pmax
comp=E,489nm,1.1s
YUK pmax pmax
comp=N,299nm,0.6s
YUK pmax pmax
comp=Z,1µm,1.7s
YUK MLR MLR
comp=Z,5µm,23.0s
YUK MLR MLR
comp=E,2µm,18.0s
YUK MLR MLR
comp=N,4µm,22.0s
CD2 Chengdu 21.89 285 P P 00 20 05.3 -1.5
CD2 sP pP 00 20 20.3 +2.6
CD2 PP PnPn 00 20 29.3 -0.3
CD2 S S 00 23 54.1 -12
CD2 pmax pmax
comp=N,270nm,1.0s
CD2 LR LR
comp=N,12µm,19.2s
CD2 LR LR
comp=N,11µm,18.2s
CD2 LR LR
comp=N,12µm,26.9s
YSS Yuzh-Sakhalins 22.45 26c iP P 00 20 12.5 0.0
YSS e*SP sP 00 20 29.2 -0.1
YSS eS S 00 24 13.5 -2.4
YSS pmax pmax
comp=Z,1µm,7.8s
YSS pmax pmax
comp=Z,140nm,1.3s
YSS smax smax
comp=N,2µm,16.0s
YSS smax smax
comp=E,1µm,15.0s
YSS MLR MLR
comp=Z,3µm,16.0s
YSS MLR MLR
comp=N,2µm,19.0s
YSS MLR MLR
comp=E,2µm,15.0s
YSS Yuzh-Sakhalins 22.45 26 P P 00 20 12.0 -0.6
YSS IAmb IAmb 00 20 40.1
comp=Z,301nm,1.2s
LZH Lanzhou 22.64 298 ⇓P P 00 20 15.5 +0.6
LZH sP sP 00 20 31.3 -0.2
LZH PP PnPn 00 20 48.0 +8.1
LZH S S 00 24 09.3 -11
LZH SS SnSn 00 24 58.6 +6.4
LZH pmax pmax
comp=Z,180nm,1.0s
LZH pmax pmax
comp=Z,2µm,5.7s
LZH LR LR
comp=Z,7µm,12.1s
LZH LR LR
comp=Z,10µm,12.6s
LZH LR LR
comp=Z,12µm,14.5s
HIA Hailar 22.81 345 IAmb IAmb 00 20 58.1
comp=Z,46nm,1.1s
HIA Hailar 22.81 345 IAMs_20 IAMs_20 00 29 50.4
comp=Z,8µm,19.0s
SLVN Son La 23.23 260 IAMs_20 IAMs_20 00 30 15.2
comp=Z,7µm,20.0s
KMI Kunming 23.23 270⇑iP P 00 20 21.9 +0.8
KMI pP pP 00 20 29.4 -2.9
KMI sP sP 00 20 36.0 -2.0
KMI PP 00 20 52.3
KMI S S 00 24 25.3 -4.7
KMI pmax pmax
comp=Z,190nm,1.1s
KMI pmax pmax
comp=Z,1µm,6.5s
KMI LR LR
comp=Z,5µm,12.7s
KMI LR LR
comp=Z,7µm,14.8s
KMI LR LR
comp=Z,7µm,14.6s
KMI Kunming 23.23 270 IAmb IAmb 00 20 24.1
comp=Z,278nm,1.2s
KUR Kuril'sk 23.50 36c iP P 00 20 23.1 -0.1
KUR eS S 00 24 34.9 +1.4
KUR pmax pmax
comp=Z,3µm,4.7s
KUR pmax pmax
comp=N,1µm,4.1s
KUR pmax pmax
comp=E,1µm,4.6s
KUR pmax pmax
comp=Z,637nm,1.2s
KUR pmax pmax
comp=E,247nm,2.3s
KUR pmax pmax
comp=N,274nm,1.3s
KUR MLR MLR
comp=Z,1µm,18.0s
KUR MLR MLR
comp=E,1µm,13.0s
SGSI Sangihe 23.82 187 P P 00 20 25.6 -0.8
comp=E,332nm,0.7s
MYLDM Lahad Datu 24.13 205 P P 00 20 30.6 +1.3
MYLDM IAmb IAmb 00 21 15.7
comp=Z,319nm,1.1s
KKM Kota Kinabalu 24.31 211 P P 00 20 32.2 +1.1
UBPT Khong Chiam 24.61 245 P P 00 20 34.9 +1.2
UBPT IAmb IAmb 00 20 39.0
comp=Z,446nm,1.7s
TYV Tymovskoe 25.72 21 eP P 00 20 46.6 +3.2
TYV eS S 00 25 16.3 +7.4
TYV pmax pmax
comp=Z,24nm,1.0s
TYV pmax pmax
comp=Z,1µm,7.0s
TYV smax smax
comp=E,23nm,2.1s
TYV smax smax
comp=E,1µm,8.0s
TYV MLR MLR
comp=Z,3µm,21.0s
TYV MLR MLR
comp=E,4µm,21.0s
ZEA Zeya 26.27 358 eP P 00 20 45.1 -3.3
ZEA eS S 00 25 10.0 -7.5
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,400nm,10.1s
ZEA smax smax
comp=N,500nm,13.9s
ZEA MLR MLR
comp=N,2µm,21.0s
ZEA MLR MLR
comp=Z,3µm,21.0s
ULN Ulaanbaatar 26.38 326 P P 00 20 50.6 +0.9
ULN P P 00 20 50.6 +0.9
ULN P P 00 20 50.6 +0.9
ULN Ulaanbaatar 26.38 326⇑eP P 00 20 49.9 +0.2
ULN pmax pmax
comp=Z,64nm,1.0s
ULN MLR MLR
comp=Z,5µm,20.0s
ULN Ulaanbaatar 26.38 326 P P 00 20 49.8 +0.2
ULN IAmb IAmb 00 21 07.5
comp=Z,492nm,1.9s
ULN Ulaanbaatar 26.38 326 IAMs_20 IAMs_20 00 32 19.9
comp=Z,6µm,20.0s
TNTI Ternate 26.56 183 P P 00 20 49.5 -1.9
comp=Z,2µmcomp=Z,3µmcomp=Z,264nm,1.1s
GTA Gaotai 26.65 304 ⇑P P 00 20 51.1 -1.1
GTA pP pP 00 21 03.4 -0.8
GTA sP sP 00 21 08.5 -1.1
GTA PcP PcP 00 24 14.1 -1.1
GTA S S 00 25 22.6 -1.6
GTA PcS PcS 00 27 56.3 -0.2
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,760nm,7.3s
GTA LR LR
comp=Z,4µm,17.8s
GTA LR LR
comp=Z,7µm,20.0s
GTA LR LR
comp=Z,10µm,18.2s
SONM Songino Array 26.68 326 P P 00 20 50.9 -1.5
comp=Z,45nm,0.9s,baz=139,slow=8.6,SNR=83
SONM PcP PcP 00 24 16.6 +1.5
comp=Z,4.9nm,0.7s,baz=151,slow=4.4,SNR=3.2
SONM ScP ScP 00 27 56.6 +5.3
comp=Z,0.3nm,0.4s,baz=129,slow=52,SNR=3.9
SONM LR LR 00 32 41.3
comp=Z,6µm,19.8s,baz=134,slow=40
SONM Songino Array 26.68 326 P P 00 20 51.7 -0.7
CIT Chita 26.99 339 eP P 00 20 55.7 +0.7
CIT e 00 21 08.6
CIT e 00 21 39.2
CIT e 00 21 57.8
CIT pmax pmax
comp=Z,40nm,1.7s
KMSI Cibinong 27.09 190 P P 00 20 59.1 +3.0
comp=Z,283nm,0.5s
GTOI Gorontalo 27.20 192 P P 00 20 55.8 -1.3
comp=Z,1µmcomp=Z,111nm,1.2s
NKL Nikolayevsk 27.20 16 eP P 00 20 55.4 -1.4
NKL pmax pmax
comp=N,7.0nm,1.0s
NKL pmax pmax
comp=Z,53nm,1.2s
NKL MLR MLR
comp=N,263nm,19.0s
NKL MLR MLR
comp=Z,4µm,18.0s
LBMI Labuha 27.95 182 P P 00 21 02.9 -1.0
comp=Z,5µmcomp=Z,584nm,1.1s
MPSI Mapaga 28.22 199 P P 00 21 06.1 -0.1
comp=Z,1µmcomp=Z,82nm,1.3s
SIJI Sorong 28.29 174 P P 00 21 08.5 +1.6
comp=Z,6.9nm,0.3s,baz=354,slow=18,SNR=3.8
SIJI LR LR 00 31 53.4
comp=Z,5µm,19.7s,baz=13,slow=35
CHTO Chiang Mai 28.48 259 P P 00 21 09.0 +0.3
CHTO Chiang Mai 28.48 259 P P 00 21 08.7 +0.1
CHTO pmax pmax
comp=Z,129nm,0.8s
CHTO MLR MLR
comp=Z,3µm,18.0s
CHTO Chiang Mai 28.48 259 P P 00 21 08.7 +0.1
CHTO IAmb IAmb 00 21 10.9
comp=Z,130nm,0.8s
CM31 Chiang Mai Arr 28.62 258 P P 00 21 10.8 +1.0
SNR=36
CMAR Chiang Mai Arr 28.62 258 P P 00 21 10.0 +0.1
comp=Z,32nm,0.8s,baz=56,slow=7.3,SNR=201
CMAR PcP PcP 00 24 21.9 +1.8
comp=Z,24nm,0.7s,baz=40,slow=1.2,SNR=29
CMAR LR LR 00 34 08.7
comp=Z,4µm,18.8s,baz=108,slow=40
CMAR Chiang Mai Arr 28.62 258 P P 00 21 10.1 +0.2
LUWI Luwuk 28.88 192 P P 00 21 13.6 +1.5
comp=Z,4µmcomp=Z,127nm,1.2s
LUWI Luwuk 28.88 192 P P 00 21 12.9 +0.8
APSI Ampana 28.98 194 P P 00 21 13.6 +0.7
comp=Z,96nmcomp=Z,96nm,1.3s
LKP Lekhapani 28.98 277 eP P 00 21 12.3 -0.7
SBUM Sibu 29.36 215 P P 00 21 16.4 0.0
SANI Sanana 29.44 185 P P 00 21 14.5 -2.6
comp=Z,2µmcomp=Z,184nm,1.0s
SMKI Samarinda 29.81 203 P P 00 21 16.2 -4.1
comp=Z,193nm,0.9s
ZAK Zakamensk 29.90 327 eP P 00 21 18.2 -2.8
ZAK pmax pmax
comp=Z,10.0nm,1.0s
SRPI Serui, Papua 30.09 164 P P 00 21 21.9 -0.9
comp=Z,296nm,1.1s
FAKI Fak Fak 30.41 173 P P 00 21 25.4 -0.3
comp=Z,5µmcomp=Z,610nm,1.2s
FAKI Fak Fak 30.41 173 P P 00 21 25.9 +0.2
FAKI IAMs_20 IAMs_20 00 32 42.4
comp=Z,4µm,20.0s
NLAI Namlea 30.55 183 P P 00 21 24.5 -2.4
comp=Z,2µmcomp=Z,110nm,1.0s
TLY Talaya 30.59 329 P P 00 21 25.4 -1.6
comp=Z,4.9nm,0.7s,baz=118,slow=8.1,SNR=5.3
TLY LR LR 00 35 25.4
comp=Z,6µm,18.8s,baz=126,slow=40
TLY Talaya 30.59 329c iP P 00 21 25.9 -1.1
TLY e 00 22 48.6
TLY e 00 24 24.1
TLY eS S 00 26 25.4 -0.3
TLY pmax pmax
comp=Z,64nm,1.4s
TLY MLR MLR
comp=Z,13µm,17.0s
TLY Talaya 30.59 329 P P 00 21 27.1 +0.1
TLY IAMs_20 IAMs_20 00 35 12.5
comp=Z,7µm,19.0s
MSAI Masohi 30.63 179 P P 00 21 28.8 +1.2
comp=Z,1µmcomp=Z,132nm,1.2s
BKB Balikpapan 30.67 203 P P 00 21 27.8 -0.2
BKB IAmb IAmb 00 21 47.7
comp=Z,231nm,1.0s
ZIRO ZIRO 30.71 278 eP P 00 21 28.7 +0.2
ZIRO IAmb IAmb 00 21 30.2
comp=Z,31nm,0.8s
SMPI Sarmi 30.88 160 P P 00 21 27.5 -2.3
comp=Z,2µmcomp=Z,5µmcomp=Z,216nm,1.1s
AAI Ambon 30.97 181 P P 00 21 28.8 -1.8
comp=Z,3µmcomp=Z,387nm,1.1s
MTKI Muara Teweh, K 31.14 207 P P 00 21 33.1 +1.0
comp=Z,6µmcomp=Z,43nm,0.7s
KSM Kuching 31.19 217 P P 00 21 32.7 +0.1
SKR Severo-Kuril's 31.25 35 eP P 00 21 32.6 -0.1
SKR e 00 22 56.5
SKR eS S 00 26 36.3 +0.5
SKR pmax pmax
comp=Z,300nm,3.7s
SKR pmax pmax
comp=Z,115nm,0.9s
SKR pmax pmax
comp=Z,600nm,3.0s
SKR MLR MLR
comp=Z,700nm,14.0s
SKR MLR MLR
comp=Z,900nm,16.0s
KMPI Kaimana, Papua 31.34 170 P P 00 21 32.2 -1.6
comp=Z,503nm,1.1s
TTSI Tana Toraja 31.47 197 P P 00 21 31.1 -3.9
comp=Z,24nm,1.3s
KDI Kendari 31.75 191 P P 00 21 38.0 +0.5
comp=Z,7µmcomp=Z,100nm,1.3s
TEZP TEZPUR 31.78 277 eP P 00 21 37.4 -0.2
TEZP IAmb IAmb 00 21 38.9
comp=Z,56nm,0.7s
BNDI Bandanaira 31.82 177 P P 00 21 34.6 -3.5
comp=Z,9µmcomp=Z,313nm,1.2s
GENI Genyem 31.91 158 P P 00 21 38.9 0.0
comp=Z,3µmcomp=Z,162nm,1.0s
BOD Bodaibo 32.02 345 eP P 00 21 38.9 -0.6
BOD pmax pmax
comp=Z,10.0nm,1.9s
SAIH SAIHA 32.53 269 eP P 00 21 43.6 -0.9
SAIH IAmb IAmb 00 21 45.3
comp=Z,1µm,0.1s
SHL Shillong 32.78 275 eP P 00 21 46.5 -0.2
SHL IAmb IAmb 00 21 47.4
comp=Z,61nm,0.5s
SHL Shillong 32.78 275 P P 00 21 47.0 +0.3
SNR=40
SHL Shillong 32.78 275 P P 00 21 46.0 -0.7
SHL pmax pmax
comp=Z,116nm,1.0s
SHL MLR MLR
comp=Z,5µm,20.0s
SHL Shillong 32.78 275 P P 00 21 46.0 -0.7
SHL IAmb IAmb 00 21 47.3
comp=Z,116nm,1.0s
SHL IAMs_20 IAMs_20 00 36 05.4
comp=Z,5µm,20.0s
LSA Lhasa 32.81 283 P P 00 21 48.6 +1.3
LSA pmax pmax
comp=Z,190nm,0.7s
LSA LR LR
comp=Z,6µm,22.1s
LSA LR LR
comp=Z,14µm,28.5s
LSA LR LR
comp=Z,23µm,26.3s
LSA Lhasa 32.81 283 iP P 00 21 48.0 +0.6
SNR=10
LSA Lhasa 32.81 283 P P 00 21 47.9 +0.6
LSA pmax pmax
comp=Z,34nm,0.7s
LSA MLR MLR
comp=Z,5µm,22.0s
LSA Lhasa 32.81 283 P P 00 21 47.9 +0.6
LSA IAMs_20 IAMs_20 00 35 51.2
comp=Z,5µm,22.0s
KBKI Kotabaru 32.83 203 P P 00 21 46.1 -0.8
comp=Z,63nm,1.0s
GUWA GUWAHATI 32.83 276 eP P 00 21 46.3 -0.6
GUWA IAmb IAmb 00 21 47.5
comp=Z,82nm,0.6s
KAPI Kappang 33.38 196 P P 00 21 53.1 +1.4
KAPI pmax pmax
comp=Z,57nm,1.4s
KAPI MLR MLR
comp=Z,3µm,21.0s
KAPI Kappang 33.38 196 P P 00 21 53.1 +1.4
BBKI Banjar Baru 33.46 205 P P 00 21 52.1 -0.4
comp=Z,16µmcomp=Z,70nm,0.9s
PEA0B Petropavlovsk- 33.51 32ceP P 00 21 52.0 -0.5
PEA0B Petropavlovsk- 33.51 32 IAmb IAmb 00 21 53.5
comp=Z,122nm,0.9s
PEA0B IAMs_20 IAMs_20 00 35 12.5
comp=Z,4µm,22.0s
PETK Petropavlovsk- 33.51 32 P P 00 21 52.2 -0.3
comp=Z,78nm,0.8s,baz=210,slow=5.2,SNR=56
PETK PcP PcP 00 24 32.7 +0.2
comp=Z,9.3nm,0.8s,baz=197,slow=4.5,SNR=4.2
PETK LR LR 00 35 46.2
comp=Z,3µm,21.6s,baz=228,slow=37
BKSI Bulukumba 33.59 195 P P 00 21 49.3 -4.2
comp=Z,18nm,1.1s
BELO BELONIA 33.70 271 eP P 00 21 55.6 +1.1
AGT Agartala 33.71 272 eP P 00 21 55.3 +0.7
PET Petropavlovsk 33.92 33⇓iP P 00 21 56.3 +0.3
PET eS S 00 27 16.2 -1.1
PET pmax pmax
comp=Z,2µm,5.6s
PET pmax pmax
comp=Z,257nm,0.9s
PET pmax pmax
comp=Z,700nm,11.8s
PET MLR MLR
comp=Z,4µm,19.0s
PET MLR MLR
comp=Z,2µm,14.0s
PET Petropavlovsk 33.92 33 P P 00 21 55.8 -0.2
PET IAMs_20 IAMs_20 00 34 52.2
comp=Z,4µm,22.0s
KULM Kulim 34.50 235 P P 00 22 01.9 +0.4
KULM IAmb IAmb 00 22 04.5
comp=Z,210nm,1.5s
YAK Yakutsk 34.58 1 P P 00 22 00.8 -0.8
comp=Z,36nm,0.7s,baz=240,slow=0.7,SNR=5.4
YAK PcP PcP 00 24 35.9 +0.6
comp=Z,14nm,0.5s,baz=92,slow=0.2,SNR=2.7
YAK ScP ScP 00 28 20.8 +4.0
comp=Z,11nm,0.4s,baz=187,slow=1.5,SNR=2.3
YAK LR LR 00 36 14.1
comp=Z,2µm,21.1s,baz=176,slow=37
YAK Yakutsk 34.58 1 eP P 00 22 00.5 -1.1
YAK e 00 23 17.6
YAK ePPP PPP 00 23 29.8
YAK e 00 24 34.6
YAK eS S 00 27 30.0 +2.7
YAK e*SS sS 00 27 46.4 -1.2
YAK eSSS SSS 00 30 02.0
YAK pmax pmax
comp=Z,74nm,0.8s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,50nm,1.3s
YAK pmax pmax
comp=N,48nm,1.5s
YAK pmax pmax
comp=E,48nm,1.5s
YAK smax smax

comp=N,108nm,2.2s
YAK smax smax
comp=E,35nm,2.2s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,1µm,17.0s
YAK MLR MLR
comp=E,414nm,18.0s
YAK Yakutsk 34.58 1 P **P** **00 22 01.6 -0.1**
YAK IAmb IAmb 00 22 03.1
comp=Z,80nm,0.8s
YAK PcP **PcP** **00 24 35.0 -0.3**
IPM Ipoh 34.78 234 IAmb IAmb 00 22 06.3
comp=Z,191nm,1.2s
MYKOM **Kota Tinggi 34.79 227** P **P** **00 22 03.9 -0.1**
MYKOM IAmb IAmb 00 22 07.0
comp=Z,101nm,1.1s
PATS Pohnpei 34.91 120 IAmb IAmb 00 22 18.0
comp=Z,212nm,1.1s
PATS IAMs_20 IAMs_20 00 33 27.3
comp=Z,7µm,22.0s
SAUI Saumlaki 35.34 175 P **P** **00 22 09.2 +0.6**
comp=Z,960nm,1.1s
SAUI Saumlaki 35.34 175 P **P** **00 22 09.6 +0.9**
GTK Tadong 35.35 279 *eP* **P** **00 22 09.5 +0.6**
GTK IAmb IAmb 00 22 10.5
comp=Z,33nm,0.7s
H11N1 WAKE ISLAND Hy 35.88 94 T T 00 59 55.9
baz=291,slow=75
H11N2 WAKE ISLAND Hy 35.88 94 T T 00 59 52.6
baz=291,slow=75
H11N3 WAKE ISLAND Hy 35.89 94 T T 00 59 57.0
baz=291,slow=75
H11S3 WAKE ISLAND Hy 36.12 96 T T 01 00 23.1
baz=298,slow=75
TAPN Taplejung 36.13 280 *eP* **P** **00 22 15.1 -0.7**
comp=Z,57nm,0.4s
H11S1 WAKE ISLAND Hy 36.13 96 T T 01 00 31.0
baz=298,slow=75
DGPR DIGLIPUR 36.14 254 *eP* **P** **00 22 16.7 +1.1**
H11S2 WAKE ISLAND Hy 36.14 96 T T 01 00 22.2
baz=298,slow=75
TPI Tanjungpandan 36.16 217 P **P** **00 22 12.0 -3.8**
comp=Z,1µmcomp=Z,59nm,1.1s
MMRI Maumere 36.40 191 P P 00 22 12.5 -5.2
comp=Z,4µmcomp=Z,111nm,1.3s
MMRI Maumere 36.40 191 P **P** **00 22 16.7 -1.0**
MMRI IAmb IAmb 00 22 31.7
comp=Z,227nm,1.4s
ODAN Odare 36.49 279 *eP* **P** **00 22 18.8 -0.1**
comp=Z,392nm,0.6s
PPBI Pangkal Pinang 36.51 220 P P 00 22 10.9 -7.8
WMQ Urumqi 36.57 307 *eP* **P** **00 22 20.1 +1.0**
WMQ PP **PnPn** **00 23 46.6 +3.6**
WMQ PcP **PcP** **00 24 42.3 +0.6**
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ pmax pmax
comp=Z,190nm,6.9s
WMQ LR LR
comp=Z,750nm,13.3s
WMQ LR LR
comp=Z,1µm,14.3s
WMQ LR LR
comp=Z,3µm,23.5s
WMQ Urumqi 36.57 307 IAMs_20 IAMs_20 00 38 20.3
comp=Z,7µm,21.0s
EDFI Ende, Flores 36.60 191 P **P** **00 22 18.4 -1.2**
comp=Z,500nmcomp=Z,31nm,1.3s
RAMN Ramite 37.17 279 *eP* **P** **00 22 24.6 0.0**
comp=Z,78nm,0.6s
SOEI Soe 37.23 187 P **P** **00 22 20.6 -4.3**
comp=Z,2µmcomp=Z,164nm,1.0s
SOEI Soe 37.23 187 P **P** **00 22 23.5 -1.5**
SOEI IAmb IAmb 00 22 54.4
comp=Z,234nm,1.1s
TSI Tuntungan 37.23 235 P **P** **00 22 24.1 -0.8**
comp=Z,86nm,0.5s
LHMI Lhok Sumawe 37.31 239 P **P** **00 22 23.2 -2.4**
comp=Z,4µmcomp=Z,3µmcomp=Z,216nm,1.0s
LHMI Lhok Sumawe 37.31 239 P **P** **00 22 25.8 +0.2**
LHMI IAmb IAmb 00 22 41.8
comp=Z,182nm,1.0s
RGRI Rengat 37.39 227 P **P** **00 22 27.5 +1.2**
comp=Z,31µmcomp=Z,141nm,0.4s
PSI Prapat 37.45 234 P **P** **00 22 27.9 +1.0**
comp=Z,29nm,0.8s,baz=221,slow=16,SNR=13
RPSI Rantau Prapat 37.52 234 IAmb IAmb 00 22 46.2
comp=Z,127nm,1.4s
PLAI Plampang 37.55 198 P **P** **00 22 26.8 -0.7**
comp=Z,2µmcomp=Z,184nm,1.1s
TWSI Taliwang, Sumb 37.71 199 P **P** **00 22 27.8 -1.1**
comp=Z,1µmcomp=Z,65nm,0.9s
BKNI Bangkinang 37.74 229 P **P** **00 22 30.5 +1.3**
comp=Z,2µmcomp=Z,4µmcomp=Z,511nm,0.9s
BKNI Bangkinang 37.74 229 P **P** **00 22 29.1 -0.1**
BATI Baumata 37.74 188 P **P** **00 22 27.0 -2.2**
comp=Z,100nm,1.2s
PMBI Palembang 37.91 221 P **P** **00 22 32.4 +1.8**
comp=Z,398nm,0.4s
PKI Pulchoki 38.10 280 *eP* **P** **00 22 32.0 -0.6**
comp=Z,393nm,0.9s
PKIN Phulchoki 38.11 280 *eP* **P** **00 22 32.3 -0.3**
comp=Z,104nm,0.4s
KKN Kakani 38.18 281 *eP* **P** **00 22 33.3 +0.2**
comp=Z,384nm,0.9s
JAGI Jajag, Banyuwa 38.34 203 P **P** **00 22 33.2 -1.0**
comp=Z,72nm,1.1s
JAGI Jajag, Banyuwa 38.34 203 P **P** **00 22 33.8 -0.4**
MLSI Meulaboh, Aceh 38.34 239 P **P** **00 22 34.0 -0.3**
comp=Z,289nm,1.0s
DMN Daman 38.36 281 *eP* **P** **00 22 34.9 +0.2**
comp=Z,388nm,1.1s
MNSI Mandailing Nat 38.39 231 P **P** **00 22 35.2 +0.5**
comp=Z,3µmcomp=Z,117nm,1.0s
DGZ Jazzator, Alta 38.41 317 *deP* **P** **00 22 35.1 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,0.6s
DGZ MLR MLR
comp=Z,6µm,20.0s
SDSI Sungai Dareh 38.42 227 P **P** **00 22 35.2 +0.3**
comp=Z,4µmcomp=Z,121nm,1.1s
BOK Bokaro 38.49 274⇑ *iP* **P** **00 22 36.0 +0.5**
BOK *i* x x 00 24 04.9
GKN Gorkha 38.70 281 *eP* **P** **00 22 37.3 -0.1**
comp=Z,556nm,0.9s
SEY Seymchan 38.77 17 P **P** **00 22 36.8 -0.5**
comp=Z,15nm,0.8s,baz=238,slow=5.4,SNR=13
PWJI Pagerwojo 38.82 207 P **P** **00 22 33.9 -4.3**
comp=Z,126nm,1.1s
RABL Rabaul 38.86 140 P **P** **00 22 39.8 +1.1**
KRVT Keravat (AS076 38.88 141 P **P** **00 22 40.3 +1.5**
comp=Z,230nm,0.8s,baz=154,slow=2.1,SNR=24
WOJI Wonogiri, Jawa 39.01 208 P **P** **00 22 37.1 -2.7**
comp=Z,86nm,1.1s
UGM Wanagama 39.25 209 P **P** **00 22 42.6 +0.7**
KRJI Kerinci 39.28 226 P **P** **00 22 40.3 -1.9**
comp=Z,407nm,0.7s
LHSI Lahat 39.37 222 P **P** **00 22 41.5 -1.4**
comp=Z,3µmcomp=Z,103nm,1.0s
KLSI 39.37 219 P **P** **00 22 43.1 +0.2**
comp=Z,614nmcomp=Z,28nm,1.6s
DANN Dangsing 39.41 282 *eP* **P** **00 22 43.8 +0.3**
comp=Z,552nm,0.7s
GSI Gunungsitoli 39.45 234 P **P** **00 22 43.0 -0.6**
comp=Z,2µmcomp=Z,85nm,1.6s
GSI Gunungsitoli 39.45 234 IAmb IAmb 00 22 45.3
comp=Z,133nm,1.2s
KPJI Karang Pucung 39.45 212 P **P** **00 22 44.5 +1.0**
comp=Z,7µmcomp=Z,2µmcomp=Z,174nm,1.0s
MDSI Maura Dua 39.52 220 P **P** **00 22 44.9 +0.8**
comp=Z,1µmcomp=Z,61nm,0.9s
MASI Maura Aman, Be 39.60 224 P **P** **00 22 43.7 -1.2**
comp=Z,6µmcomp=Z,448nm,0.9s
LEM Lembang 39.64 214 P **P** **00 22 45.4 +0.1**
comp=Z,2µmcomp=Z,2µmcomp=Z,108nm,0.9s
KOLN Koldanda 39.65 281 *eP* **P** **00 22 45.0 -0.4**
comp=Z,424nm,0.9s
KSI Kapahiang 39.79 223 P **P** **00 22 45.8 -0.6**
comp=Z,129nm,0.8s
PBSI Pulau Batu 39.90 232 P P 00 22 41.4 -5.9
comp=Z,5µmcomp=Z,156nm,1.4s
LWLI Liwa 40.02 220 P **P** **00 22 49.5 +1.1**
comp=Z,141nm,0.7s
PYUN Piuthan 40.12 282 *eP* **P** **00 22 49.0 -0.3**
comp=Z,706nm,1.0s

MTN Manton Dam 40.14 176 P **P** **00 22 49.3 +0.1**
CISI Cisompet, Garu 40.17 213 P **P** **00 22 51.0 +1.4**
comp=Z,115nm,0.8s
CISI Cisompet, Garu 40.17 213 P **P** **00 22 50.0 +0.4**
CISI IAmb IAmb 00 23 09.7
comp=Z,162nm,1.2s
SISI Saibi 40.27 229 P **P** **00 22 49.2 -1.1**
comp=Z,75nm,0.9s
CGJI Cibinong 40.44 216 P **P** **00 22 51.0 -0.8**
PMG Port Moresby 40.85 151 P **P** **00 22 54.3 -0.8**
PMG pmax pmax
comp=Z,138nm,1.0s
PMG Port Moresby 40.85 151 P **P** **00 22 54.3 -0.8**
PMG IAmb IAmb 00 23 10.5
comp=Z,138nm,0.9s
MK31 Makanchi Array 40.93 311 *ceP* **P** **00 22 54.1 -1.4**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 40.93 311 P **P** **00 22 54.6 -0.9**
MKAR Makanchi Array 40.93 311 P **P** **00 22 54.1 -1.4**
comp=Z,17nm,0.6s,baz=96,slow=10,SNR=114
MKAR PcP **PcP** **00 24 55.5 +0.2**
comp=Z,18nm,0.8s,baz=71,slow=3.9,SNR=6.8
MKAR LR LR 00 42 30.9
comp=Z,2µm,18.1s,baz=84,slow=40
MAKZ Makanchi 41.14 311 P **P** **00 22 56.4 -0.9**
MAKZ pmax pmax
comp=Z,47nm,1.2s
MAKZ MLR MLR
comp=Z,4µm,18.0s
MAKZ Makanchi 41.14 311 P **P** **00 22 56.4 -0.9**
MAKZ IAMs_20 IAMs_20 00 42 00.6
comp=Z,4µm,18.0s
ZAA0 Zalesovo Array 41.44 322 P **P** **00 22 58.0 -1.6**
ZAA0 IAMs_20 IAMs_20 00 41 51.4
comp=Z,6µm,19.0s
ZALV Zalesovo Beam 41.44 322 P **P** **00 22 57.8 -1.7**
comp=Z,13nm,0.4s,baz=111,slow=7.0,SNR=101
ZALV PcP **PcP** **00 24 56.7 0.0**
comp=Z,25nm,0.8s,baz=122,slow=3.5,SNR=7.8
ZALV ScP **ScP** **00 28 48.8 +5.8**
comp=Z,6.3nm,0.8s,baz=139,slow=3.3,SNR=5.6
ZALV LR LR 00 42 11.7
comp=Z,6µm,18.3s,baz=113,slow=39
ZALV Zalesovo Beam 41.44 322 P **P** **00 22 57.4 -2.2**
ZALV PcP **PcP** **00 24 56.0 -0.7**
CHLP Challavanipeta 41.72 267 *eP* **P** **00 23 03.1 +0.8**
CHLP IVmB_BB 00 23 03.9
comp=Z,586nm,1.3s
CHLP IVMs_BB IVMs_BB 00 40 43.6
comp=Z,348nm,19.2s
PDGK Podgornoye 42.38 305 *i* P **P** **00 23 07.2 -0.4**
PDGK pmax pmax
comp=Z,96nm,0.7s
UZB Uzynbulak 42.71 305 *eP* **P** **00 23 09.2 -1.1**
comp=Z,61nm,1.6s
UZB *e*LR LR 00 40 37.1
UZB Uzynbulak 42.71 305 *eP* **P** **00 23 09.1 -1.1**
UZB pmax pmax
comp=Z,61nm,1.6s
KNRA Kununurra 42.88 180 P **P** **00 23 11.9 +0.3**
SATY Saty 43.15 305 *eP* **P** **00 23 14.3 +0.4**
comp=Z,48nm,1.3s
SATY *e*LR LR 00 42 18.5
SATY Saty 43.15 305 *eP* **P** **00 23 14.2 +0.4**
SATY pmax pmax
comp=Z,48nm,1.3s
TDK Taldyqorghan 43.33 307 *eP* **P** **00 23 13.6 -1.5**
comp=Z,109nm,1.2s
TDK *e*PP **PP** **00 24 54.3 -2.0**
TDK *e*LR LR 00 41 00.6
comp=Z,5µm,24.6s
TDK Taldyqorghan 43.33 307 *eP* **P** **00 23 13.6 -1.5**
TDK *e* 00 24 54.3
TDK pmax pmax
comp=Z,109nm,1.2s
TDK MLR MLR
comp=Z,5µm,25.0s
COEN Coen 43.55 159 P **P** **00 23 17.8 +0.7**
COEN IAmb IAmb 00 23 33.4
comp=Z,232nm,1.3s
DDI Dehra Dun 44.00 286 *eP* **P** **00 23 21.1 +0.3**
DDI IAmb IAmb 00 23 21.7
comp=Z,304nm,0.2s
KDJ Kajisay 44.00 303 P **P** **00 23 20.6 -0.2**
KDJ pmax pmax
comp=Z,121nm,1.0s
KDJ MLR MLR
comp=Z,5µm,22.0s
KDJ Kajisay 44.00 303 P **P** **00 23 20.6 -0.2**
KDJ IAmb IAmb 00 23 23.5
comp=Z,121nm,0.9s
KDJ IAMs_20 IAMs_20 00 42 57.3
comp=Z,5µm,22.0s
KURK Kurchatov 44.12 316 P **P** **00 23 20.5 -0.9**
KURK P **P** **00 23 20.5 -0.9**
KURK P **P** **00 23 20.5 -0.9**
KURK Kurchatov 44.12 316 P **P** **00 23 20.2 -1.1**
KURK 00 25 06.0
KURK Kurchatov 44.12 316 P **P** **00 23 19.8 -1.5**
MDOK Medeo 44.15 305 *i* P **P** **00 23 20.4 -1.5**
MDOK *e*PP **PP** **00 25 05.2 -0.1**
MDOK *e*S **S** **00 29 48.3 -3.4**
MDOK *e*LR LR 00 42 36.7
comp=Z,1µm,13.6s
MDOK Medeo 44.15 305 *i* P **P** **00 23 20.4 -1.5**
MDOK *e* 00 25 05.1
MDOK *e*S **S** **00 29 48.3 -3.4**
MDOK MLR MLR
comp=Z,1µm,14.0s
KURBB Kurchatov Arra 44.16 316 P **P** **00 23 20.2 -1.4**
comp=Z,50nm,0.5s,baz=101,slow=9.0,SNR=204
KURBB PcP **PcP** **00 25 06.0 +0.1**
comp=Z,14nm,0.8s,baz=108,slow=3.7,SNR=5.0
KURBB Kurchatov Arra 44.16 316 P **P** **00 23 18.9 -2.7**
TNSS Tian-Shan 44.22 305 *eP* **P** **00 23 22.1 -0.6**
TNSS Tian-Shan 44.22 305 *eP* **P** **00 23 22.1 -0.6**
TIXI Tiksi 44.23 0 *eP* **P** **00 23 21.6 -0.3**
TIXI Tiksi 44.23 0 P **P** **00 23 21.1 -0.8**
TIXI IAmb IAmb 00 23 40.4
comp=Z,89nm,0.8s
TIXI IAMs_20 IAMs_20 00 43 43.3
comp=Z,4µm,19.0s
CHKK Chushkaly 44.24 306 *eP* **P** **00 23 22.2 -0.3**
CHKK Chushkaly 44.24 306 *eP* **P** **00 23 22.1 -0.3**
PVM Polavaram 44.34 267 *eP* **P** **00 23 23.8 +0.3**
PVM IVmBBB 00 23 24.6
comp=Z,332nm,0.7s
PVM IVMs_BB IVMs_BB 00 46 08.2
comp=Z,292nm,15.4s
MTBS Maitube 44.60 305 *eP* **P** **00 23 24.5 -1.0**
MTBS Maitube 44.60 305 *eP* **P** **00 23 24.4 -1.0**
SMLA Simla 44.63 288 *eP* **P** **00 23 24.9 -0.8**
SMLA IAmb IAmb 00 23 26.9
comp=Z,147nm,0.4s
ULHL Ulahol 44.70 303 P **P** **00 23 28.0 +1.7**
SNR=19
KUU Kurty 44.71 306 *eP* **P** **00 23 25.1 -1.1**
comp=Z,61nm,0.7s
KUU *e*PP **PcP** **00 25 07.5 -0.5**
KUU *e*S **S** **00 29 51.9 -7.8**
KUU *e*LR LR 00 43 24.5
comp=Z,3µm,16.4s
KUU Kurty 44.71 306 *eP* **P** **00 23 25.1 -1.1**
KUU *e* 00 25 07.4
KUU *e*S **S** **00 29 51.8 -7.8**
KUU pmax pmax
comp=Z,61nm,0.7s
KUU MLR MLR
comp=Z,3µm,16.0s
AMKA Amchitka 44.79 44 P **P** **00 23 26.9 +0.2**
KSH Kashi 44.88 299 P **P** **00 23 31.0 +3.2**
KSH pP pP 00 23 41.8 +1.7
KSH sP sP 00 23 49.0 +3.5
KSH S **S** **00 30 05.9 +3.5**
KSH pmax pmax
comp=Z,51nm,0.9s
KSH pmax pmax
comp=Z,520nm,6.2s
KSH LR LR
comp=Z,2µm,18.0s
KSH LR LR
comp=Z,4µm,16.2s
KSH LR LR
comp=Z,5µm,15.9s

BOOM Boomskoye usch 44.93 304 P **P** **00 23 27.5 -0.7**
BOOM pmax pmax
comp=Z,40nm,0.8s
BOOM MLR MLR
comp=Z,3µm,20.0s
BOOM Boomskoye usch 44.93 304 P **P** **00 23 27.5 -0.7**
BOOM IAMs_20 IAMs_20 00 43 46.7
comp=Z,3µm,20.0s
NDI New Delhi 45.01 284 *eP* **P** **00 23 28.5 -0.3**
DHRM DHARAMSHALA 45.19 289 *eP* **P** **00 23 29.8 -0.6**
TKM2 Tokmak 2 45.20 304 P **P** **00 23 31.6 +1.2**
SNR=39
TKM2 Tokmak 2 45.20 304 *i* P **P** **00 23 31.0 +0.7**
TKM2 pmax pmax
comp=Z,91nm,0.7s
SONA Sohna 45.21 284 *eP* **P** **00 23 30.0 -0.3**
BHK Bhakra 45.22 288 *eP* **P** **00 23 31.8 +1.4**
BHK *ex* x 00 23 59.2
FITZ Fitzroy Crossi 45.38 184 P **P** **00 23 31.3 -0.3**
GGR Gangavaram 45.39 268 *eP* **P** **00 23 31.6 -0.3**
GGR IVmBBB 00 23 32.7
comp=Z,360nm,0.4s
GGR IVMs_BB IVMs_BB 00 42 00.4
comp=Z,404nm,25.4s
MYLAV Mylavaram 45.40 267 *eP* **P** **00 23 32.6 +0.6**
MYLAV IVmB_BB 00 23 33.3
comp=Z,389nm,1.2s
MYLAV IVMs_BB IVMs_BB 00 44 48.1
comp=Z,284nm,21.9s
THN Thein Dam 45.66 290 *eP* **P** **00 23 34.0 +0.2**
KBK Karagaybulak 45.67 304 P **P** **00 23 35.6 +1.6**
SNR=37
KUDL Kundal 45.74 284 *eP* **P** **00 23 33.2 -1.4**
CHMS Chumysh 45.82 304 P **P** **00 23 35.9 +0.8**
SNR=57
RPR Rampur 45.83 270 *eP* **P** **00 23 35.7 +0.3**
RPR IVmB_BB 00 23 36.0
comp=Z,295nm,0.7s
RPR IVMs_BB IVMs_BB 00 44 26.9
comp=Z,278nm,25.6s
FRU1 Bishkek 45.91 304 IAmb IAmb 00 23 37.8
comp=Z,63nm,0.7s
FRU1 IAMs_20 IAMs_20 00 46 21.5
comp=Z,4µm,18.0s
SGDS Sogindy 45.93 305⇑ *iP* **P** **00 23 35.4 -0.5**
comp=Z,15nm,0.7s
SGDS *e*LR LR 00 44 11.7
SGDS Sogindy 45.93 305 *c i*P **P** **00 23 35.4 -0.5**
SGDS pmax pmax
comp=Z,15nm,0.7s
UCH Uchtor 45.98 303 P **P** **00 23 38.2 +1.3**
SNR=27
AAK Ala-Archa 46.00 304 P **P** **00 23 38.0 +1.3**
SNR=41
AAK Ala-Archa 46.00 304 IAMs_20 IAMs_20 00 46 14.3
comp=Z,4µm,18.0s
USP Ospenovka 46.02 305 P **P** **00 23 37.1 +0.6**
SNR=45
BHPL Bhopal 46.12 277 *eP* **P** **00 23 36.7 -1.0**
ADKI Addanki 46.34 266 *eP* **P** **00 23 39.7 +0.4**
ADKI IVmBBB 00 23 40.9
comp=Z,398nm,1.3s
ADKI IVMs_BB IVMs_BB 00 45 05.4
comp=Z,309nm,21.6s
BTLS Baital 46.41 307 *eP* **P** **00 23 37.9 -1.7**
comp=Z,32nm,0.9s
BTLS Baital 46.41 307 *eP* **P** **00 23 37.9 -1.7**
BTLS pmax pmax
comp=Z,32nm,0.9s
BILL Bilibino 46.42 19 *ceP* **P** **00 23 38.9 -0.4**
BILL *e**PP **sP** **00 23 55.6 -1.7**
BILL *e* 00 25 14.4
BILL *e* 00 25 27.8
BILL S S 00 30 14.2 -9.3
BILL *e*SS **ScS** **00 33 28.4 -1.5**
BILL pmax pmax
comp=Z,39nm,1.0s
BILL MLR MLR
comp=Z,3µm,19.0s
BILL Bilibino 46.42 19 P **P** **00 23 39.7 +0.4**
EKS2 Erkin-Say 46.53 304 P **P** **00 23 41.5 +0.7**
SNR=27
AML Almayashu 46.59 303 P **P** **00 23 42.0 +0.5**
SNR=64
NJS Nagarjunasagar 46.65 267 *eP* **P** **00 23 42.1 +0.3**
NJS IVmBBB 00 23 42.8
comp=Z,276nm,1.2s
NJS IVMs_BB IVMs_BB 00 43 39.0
comp=Z,294nm,21.2s
CUPL Choutuppal 46.72 268 *eP* **P** **00 23 42.7 +0.4**
CUPL IVmB_BB 00 23 43.2
comp=Z,513nm,1.1s
CUPL IVMs_BB IVMs_BB 00 42 24.8
comp=Z,374nm,25.2s
HYB Hyderabad 47.00 269 *i* P **P** **00 23 43.0 -1.6**
comp=Z,80nm,1.0s
HYB *e*PcP **PcP** **00 25 17.0 +0.6**
HYB *e*S **S** **00 30 34.0 +0.8**
HYBB Hyderabad (bro 47.00 269 *eP* **P** **00 23 44.7 +0.1**
HYBB IVmBBB 00 23 45.2
comp=Z,341nm,1.2s
HYBB IVMs_BB IVMs_BB 00 43 14.1
comp=Z,390nm,16.3s
SRLM Srisailam 47.19 267 *eP* **P** **00 23 45.8 -0.3**
SRLM IVmBBB 00 23 46.9
comp=Z,495nm,1.3s
SRLM IVMs_BB IVMs_BB 00 41 39.9
comp=Z,232nm,24.2s
MDRS Chennai 47.22 262 *eP* **P** **00 23 46.4 +0.1**
SKHT Srikalahasti 47.41 263 *eP* **P** **00 23 48.4 +0.6**
SKHT IVmB_BB 00 23 49.5
comp=Z,869nm,1.3s
SKHT IVMs_BB IVMs_BB 00 41 35.6
comp=Z,214nm,33.9s
WRAB Tennant Creek 47.45 173⇑ *eP* **P** **00 23 47.7 -0.2**
WRAB pmax pmax
comp=Z,34nm,1.0s
WRAB Tennant Creek 47.45 173 P **P** **00 23 48.5 +0.6**
WRAB IAMs_20 IAMs_20 00 43 00.1
comp=Z,2µm,21.0s
WRA Warramunga Arr 47.46 173 P **P** **00 23 48.0 +0.1**
comp=Z,22nm,0.7s,baz=354,slow=8.4,SNR=141
WRA S **S** **00 30 37.9 -1.4**
comp=Z,8.6nm,1.2s,baz=350,slow=14,SNR=10
WRA LR LR 00 43 11.5
comp=Z,2µm,21.2s,baz=350,slow=35
NIL Nilore 47.54 292 P **P** **00 23 48.4 -0.2**
NIL pmax pmax
comp=Z,119nm,0.8s
NIL Nilore 47.54 292 P **P** **00 23 48.4 -0.2**
NIL IAmb IAmb 00 23 50.4
comp=Z,119nm,0.8s
BRZS Berezniki 47.76 314⇑ *iP* **P** **00 23 47.9 -2.1**
comp=Z,38nm,0.6s
BRZS *e*PP **PP** **00 25 40.7 -1.2**
BRZS Berezniki 47.76 314 *c iP* **P** **00 23 47.9 -2.1**
BRZS *e* 00 25 40.7
BRZS pmax pmax
comp=Z,38nm,0.6s
NRIK Noril'sk 48.17 342 P **P** **00 23 51.2 -1.7**
comp=Z,51nm,0.9s,baz=119,slow=8.6,SNR=70
NRIK PcP **PcP** **00 25 20.0 +0.4**
comp=Z,45nm,0.8s,baz=121,slow=3.4,SNR=6.7
NRIK LR LR 00 46 13.4
comp=Z,7µm,19.0s,baz=130,slow=39
DZA Taraz 48.33 304 *eP* **P** **00 23 53.5 -1.1**
DZA Taraz 48.33 304 *eP* **P** **00 23 53.5 -1.1**
KLRI Killari 48.50 270 *eP* **P** **00 23 56.0 -0.2**
KLRI IVmB_BB 00 23 56.7
comp=Z,1µm,0.7s
KLRI IVMs_BB IVMs_BB 00 49 38.3
comp=Z,369nm,13.4s
BTK Batken 48.83 300 IAMs_20 IAMs_20 00 46 38.8
comp=Z,3µm,20.0s
ATKA Atka Island 48.91 43 P **P** **00 23 59.0 +0.2**
KK31 Karatay Array 48.93 305 *ceP* **P** **00 23 59.3 +0.1**
KK31 pmax pmax
comp=Z,66nm,1.0s
KK31 Karatay Array 48.93 305 IAmb IAmb 00 24 01.7
comp=Z,57nm,0.9s
KKAR Karatay Array 48.93 305 P **P** **00 23 58.9 -0.3**
KKAR Karatay Array 48.93 305 P **P** **00 23 58.9 -0.3**
MBWA Marble Bar 49.08 191 P **P** **00 24 01.0 +0.7**
MBWA P **P** **00 24 01.0 +0.7**
URV Uravakonda 49.09 266 *eP* **P** **00 24 00.5 -0.2**

URV IVmB_BB 00 24 01.8
comp=Z,749nm,0.8s
URV IVMs_BB IVMs_BB 00 49 17.6
comp=Z,232nm,14.8s
IUG luzhnay 49.31 303 *e*P **P 00 24 02.8 +0.5**
comp=Z,42nm,1.1s
IUG luzhnay 49.31 303 *e*P **P 00 24 02.7 +0.5**
IUG pmax pmax
comp=Z,42nm,1.1s
PSA00 Pilbara Seismi 49.47 191 IAmb IAmb 00 24 17.3
comp=Z,87nm,1.0s
PALK Pallekele 49.50 255 P **P 00 24 04.9 +1.0**
PALK P **P 00 24 04.9 +1.0**
PALK Pallekele 49.50 255 P **P 00 24 03.8 -0.1**
PALK pmax pmax
comp=Z,55nm,1.0s
PALK MLR MLR
comp=Z,3µm,22.0s
PALK Pallekele 49.50 255 P **P 00 24 03.8 -0.1**
PALK Pallekele 49.50 255 IAMs_20 IAMs_20 00 44 28.1
comp=Z,3µm,22.0s
BRVK Borovoye 49.61 318 P **P 00 24 04.1 -0.1**
BRVK P **P 00 24 04.1 -0.1**
BRVK Borovoye 49.61 318 *c i*P **P 00 24 02.7 -1.5**
BRVK pmax pmax
comp=Z,91nm,0.8s
BRVK MLR MLR
comp=Z,15µm,19.0s
BRVK Borovoye 49.61 318 P **P 00 24 03.4 -0.8**
BRVK IAmb IAmb 00 24 05.9
comp=Z,86nm,0.8s
TARA Tarawa 49.79 114 IAMs_20 IAMs_20 00 41 46.1
comp=Z,3µm,22.0s
TAS Tashkent 49.91 302 P **P 00 24 07.3 +0.7**
TAS pmax pmax
comp=Z,139nm,0.7s
TAS Tashkent 49.91 302 P **P 00 24 07.3 +0.7**
CHGR Chuyangaron 50.23 299 P **P 00 24 09.0 -0.2**
CTA Charters Tower 50.29 158 LR LR 00 45 08.8
comp=Z,1µm,21.6s,baz=340,slow=36
CTAO Charters Tower 50.29 158 P **P 00 24 11.2 +1.6**
CTAO Charters Tower 50.29 158 P **P 00 24 11.2 +1.6**
CTAO Charters Tower 50.29 158 IAMs_20 IAMs_20 00 45 08.4
comp=Z,2µm,21.0s
POO Poona 50.78 272 ⇑ *i*P **P 00 24 11.0 -2.6**
comp=Z,160nm,1.0s
POO *e*P **P 00 24 13.3 -0.3**
KBL Kabul 50.85 294 P **P 00 24 14.4 +0.2**
KBL pmax pmax
comp=Z,157nm,0.7s
KBL Kabul 50.85 294 P **P 00 24 14.4 +0.2**
ASAR Alice Springs 51.09 174 P **P 00 24 16.2 +0.6**
comp=Z,25nm,0.9s,baz=4.4,slow=9.3,SNR=101
ASAR S **S 00 31 30.1 -0.1**
comp=Z,9.6nm,1.2s,baz=5.7,slow=20,SNR=7.4
ASAR LR LR 00 44 48.5
comp=Z,1µm,21.9s,baz=3.5,slow=35
ASAR PKP2bc 00 55 11.9
comp=Z,1.1nm,1.0s,baz=137,slow=2.0,SNR=4.1
ASAR PKP2ab 00 55 44.3
comp=Z,1.2nm,0.9s,baz=158,slow=3.7,SNR=4.7
ASAR P4KPbc 01 01 46.2
comp=Z,0.3nm,0.5s,baz=28,slow=5.7,SNR=4.4
ASAR Alice Springs 51.09 174 P **P 00 24 16.1 +0.4**
GOA Goa 51.92 269 *e*P **P 00 24 22.5 +0.4**
GOA IAmb IAmb 00 24 24.1
comp=Z,132nm,0.7s
NIKH Nikolski High 52.23 43 IAMs_20 IAMs_20 00 42 41.9
comp=Z,2µm,19.0s
TNA Tin City 54.42 27 P **P 00 24 41.0 +1.3**
baz=258
TNA Tin City 54.42 27 P **P 00 24 40.7 +1.0**
ANM Nome 55.30 29 IAmb IAmb 00 24 49.0
comp=Z,134nm,1.0s
SVE Sverdlovsk 55.46 322 *de*P **P 00 24 47.2 -0.2**
SVE *e*S **S 00 32 30.3 +1.5**
SVE pmax pmax
comp=Z,98nm,0.9s
SVE MLR MLR
comp=Z,6µm,14.0s
AB31 Akbulak array 56.01 313 *ce*P **P 00 24 50.6 -0.9**
AB31 pmax pmax
comp=Z,95nm,0.9s
ABKAR Akbulak array 56.01 313 P **P 00 24 50.3 -1.1**
HRA Herat 56.40 295 IAmb IAmb 00 24 56.8
comp=Z,59nm,0.8s
HRA IAMs_20 IAMs_20 00 52 01.3
comp=Z,4µm,22.0s
ARU Arti 56.60 321 *d i*P **P 00 24 54.5 -1.0**
ARU *PP **pP 00 25 06.4 -2.0**
ARU 00 25 50.7
ARU S **S 00 32 44.5 +0.5**
ARU pmax pmax
comp=Z,97nm,0.8s
ARU MLR MLR
comp=Z,6µm,16.0s
ARU Arti 56.60 321 P **P 00 24 54.2 -1.3**
ARU IAmb IAmb 00 24 56.5
comp=Z,111nm,0.9s
SANVU Saraoutou 56.80 134 P **P 00 24 58.8 +1.5**
SANVU IAmb IAmb 00 25 15.4
comp=Z,176nm,1.2s
RDOG Red Dog Mine 56.83 25 IAmb IAmb 00 24 59.1
comp=Z,113nm,1.2s
RDOG IAMs_20 IAMs_20 00 48 55.5
comp=Z,2µm,22.0s
EIDS Eidsvold 56.84 156 P **P 00 24 58.8 +1.2**
EIDS IAmb IAmb 00 25 13.1
comp=Z,98nm,1.1s
AKTO Aktyubinsk 57.17 314 *i* P **P 00 24 57.6 -2.1**
AKTO pmax pmax
comp=Z,30nm,0.8s
CNBA Chernabura Isl 57.72 41 P **P 00 25 03.6 +0.2**
CNBA IAmb IAmb 00 25 20.5
comp=Z,104nm,1.1s
FORT Forrest 57.92 180 P **P 00 25 04.6 -0.4**
CHGN Chignik 58.32 39 P **P 00 25 07.8 +0.2**
ASHT Ashkhabad 58.71 300 IAMs_20 IAMs_20 00 54 57.3
comp=Z,2µm,19.0s
GEYT Alibeck 58.92 300 P **P 00 25 12.0 -0.2**
comp=Z,20nm,0.8s,baz=35,slow=3.6,SNR=46
GEYT LR LR 00 54 11.4
comp=Z,3µm,20.8s,baz=50,slow=40
GEYT Alibeck 58.92 300 P **P 00 25 12.7 +0.5**
A21K Barrow 59.40 21 IAMs_20 IAMs_20 00 53 00.2
comp=Z,2µm,20.0s
SVW2 Sparrevohn 59.59 33 IAmb IAmb 00 25 19.2
comp=Z,49nm,0.9s
IMAR Indian Mountai 60.27 27 P **P 00 25 21.9 +0.9**
STKA Stephens Creek 60.31 167 P **P 00 25 22.4 +0.8**
comp=Z,9.2nm,0.6s,baz=338,slow=7.2,SNR=22
STKA LR LR 00 51 10.8
comp=Z,1µm,21.1s,baz=350,slow=36
STKA Stephens Creek 60.31 167 P **P 00 25 21.8 +0.3**
BBOO Buckleboo 60.37 173 P **P 00 25 21.6 -0.3**
SII Sitkinak Islan 60.64 38 IAMs_20 IAMs_20 00 48 50.0
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 61.01 191 P **P 00 25 26.2 -0.1**
NWAO pmax pmax
comp=Z,84nm,1.2s
NWAO Narrogin (SRO) 61.01 191 P **P 00 25 26.1 -0.1**
NWAO IAmb IAmb 00 25 43.9
comp=Z,84nm,1.1s
RSO Redoubt South 61.01 34 P **P 00 25 27.4 +1.1**
OHAK Old Harbor 61.06 37 IAmb IAmb 00 25 42.7
comp=Z,80nm,1.0s
PPLA Purkeypile 61.09 31 P **P 00 25 27.4 +0.6**
PPLA IAmb IAmb 00 25 52.7
comp=Z,110nm,1.0s
KDAK Kodiak Island 61.37 37 P **P 00 25 28.3 -0.3**
KDAK pmax pmax
comp=Z,156nm,0.9s
KDAK Kodiak Island 61.37 37 P **P 00 25 28.3 -0.3**
DZM Mont Dzumac 61.38 140 *e*P **P 00 25 30.6 +1.4**
comp=Z,69nm,1.2s
DZM *e*S **S 00 33 48.4 +1.5**
comp=Z,2µm,31.4s
DZM Mont Dzumac 61.38 140 *e*LR LR 00 43 48.7
comp=Z,6µm,23.1s
DZM Mont Dzumac 61.38 140 P **P 00 25 29.6 +0.4**
DZM IAmb IAmb 00 25 46.3
comp=Z,107nm,1.3s
DZM IAMs_20 IAMs_20 00 48 13.0
comp=Z,3µm,22.0s
KIRV Kirov 61.41 324 *c i*P **P 00 25 28.0 -0.7**
SKT Skwentna 61.47 32 IAmb IAmb 00 25 46.1
comp=Z,103nm,1.1s
BPAW Bear Paw Mtn. 61.53 30 IAmb IAmb 00 25 47.4
comp=Z,95nm,1.2s
MLY Manley 61.57 28 P **P 00 25 31.3 +1.4**
baz=274,SNR=52
MLY S **S 00 33 51.8 +3.7**
baz=274
KTH Kantishna Hill 61.61 30 IAMs_20 IAMs_20 00 51 56.1
comp=Z,1µm,22.0s
COLD Coldfoot 61.64 26 P **P 00 25 31.6 +1.4**
baz=274,SNR=16
COLD Coldfoot 61.64 26 IAmb IAmb 00 25 53.3
comp=Z,62nm,1.0s
ARMA Armidale 61.64 157 P **P 00 25 32.2 +1.4**
HOM Homer 61.65 35 P **P 00 25 31.9 +1.5**
baz=276
CAPN Captain Cook N 61.77 33 P **P 00 25 32.8 +1.6**
baz=276
TOLK Toolik Lake Re 61.79 24 P **P 00 25 32.5 +1.2**
baz=274,SNR=42
TOLK S **S 00 33 51.9 +1.0**
baz=274
TOLK Toolik Lake Re 61.79 24 IAMs_20 IAMs_20 00 52 52.6
comp=Z,2µm,21.0s
CNPM China Poot 61.87 35 IAmb IAmb 00 25 35.3
comp=Z,61nm,0.8s
TRF Thorofare Moun 61.90 30 IAmb IAmb 00 26 02.2
comp=Z,54nm,1.0s
TRF IAMs_20 IAMs_20 00 52 17.8
comp=Z,1µm,20.0s
CUT Chulitna 62.01 31 P **P 00 25 33.2 +0.4**
baz=276,SNR=13
I23K Minto, Yukon-K 62.14 28 P **P 00 25 34.9 +1.3**
baz=276,SNR=20
I23K S **S 00 33 57.8 +2.6**
baz=276
JLN Jalan Bani Buh 62.26 282 P **P 00 25 36.1 +1.0**
SNR=26
JLN P **P 00 25 36.1 +1.0**
SNR=26
NEA2 Nenana 62.32 29 P **P 00 25 35.9 +1.0**
baz=276,SNR=55
NEA2 S **S 00 34 00.4 +2.8**
baz=276
MCK McKinley 62.47 30 P **P 00 25 36.4 +0.5**
baz=277,SNR=32
WBK Wadi Bani Khal 62.48 282 P **P 00 25 37.7 +1.0**
SNR=19
WBK P **P 00 25 37.7 +1.0**
SNR=19
O22K Cooper Landing 62.50 34 P **P 00 25 36.7 +0.6**
baz=278
RND Reindeer 62.55 30 IAMs_20 IAMs_20 00 52 14.8
comp=Z,1µm,21.0s
WSAR Wadi Sarin 62.56 283 P **P 00 25 38.2 +1.1**
SNR=16
GHO Glory Hole Cre 62.72 32 IAmb IAmb 00 25 59.1
comp=Z,120nm,1.0s
WRH Wood River Hil 62.75 29 IAmb IAmb 00 25 56.6
comp=Z,62nm,1.0s
TCOL CIGO, UAF Yank 62.80 28 P **P 00 25 39.9 +1.9**
baz=277
COLA College 62.81 28 *c i*P **P 00 25 38.5 +0.5**
COLA pmax pmax
comp=Z,26nm,0.8s
COLA MLR MLR
comp=Z,581nm,19.0s
COLA College 62.81 28 P **P 00 25 38.6 +0.6**
COLA IAmb IAmb 00 25 42.1
comp=Z,52nm,0.8s
BIDO Bidbid 62.90 284 P **P 00 25 40.7 +1.3**
SNR=17
BIDO P **P 00 25 40.7 +1.3**
SNR=17
POKR Poker Flat Res 62.95 28 P **P 00 25 40.0 +0.9**
baz=277,SNR=56
POKR S **S 00 34 07.4 +1.9**
baz=277
SMDO Samad 63.13 283 P **P 00 25 41.6 +0.5**
SNR=23
SMDO P **P 00 25 41.6 +0.5**
SNR=23
ILAR Eielson Array 63.23 29 P **P 00 25 40.5 -0.4**
comp=Z,13nm,0.7s,baz=273,slow=5.3,SNR=80
ILAR PKPPKP **P'P'df** 00 54 40.4 -3.2
comp=Z,1.2nm,0.9s,baz=75,slow=2.2,SNR=7.6
ILAR PKP2bc 00 54 48.6
comp=Z,1.3nm,0.9s,baz=76,slow=0.4,SNR=5.4
ILAR Eielson Array 63.23 29 P **P 00 25 40.2 -0.7**
HDA Harding Lake 63.25 29 P **P 00 25 41.0 -0.1**
baz=278,SNR=59
JMDO Jabal Madar 63.32 283 P **P 00 25 42.9 +0.7**
SNR=12
JMDO P **P 00 25 42.9 +0.7**
SNR=12
HOQ Hoqain 63.58 284 P **P 00 25 44.5 +0.5**
SNR=21
HOQ P **P 00 25 44.5 +0.5**
SNR=21
BANOM Banah 63.67 287 *i* P **P 00 25 44.9 +0.4**
SNR=18
BANOM Banah 63.67 287 P **P 00 25 45.8 +1.3**
BANOM P **P 00 25 45.8 +1.3**
SHME Shamm 63.76 287 *i* P **P 00 25 45.3 +0.2**
SNR=16
BMAR Burnt Mountain 63.78 25 P **P 00 25 45.8 +1.3**
MDH Madha 63.87 286 P **P 00 25 45.7 -0.1**
MDH P **P 00 25 45.7 -0.1**
MHTO MHTO 63.92 281 P **P 00 25 46.6 +0.5**
SNR=34
MHTO P **P 00 25 46.6 +0.5**
SNR=34
M24K Tolsona, Glenn 63.95 31 P **P 00 25 47.1 +1.3**
baz=280,SNR=17
BSY Bisya 63.97 283 P **P 00 25 47.0 +0.5**
SNR=18
BSY P **P 00 25 47.0 +0.5**
SNR=18
MSFE Esma-Masafi 63.97 286 *i* P **P 00 25 46.8 +0.3**
SNR=8.3
SOHO SOHO 64.06 285 *i* P **P 00 25 46.8 -0.3**
SNR=64
SOHO SOHO 64.06 285 P **P 00 25 48.1 +1.0**
SOHO P **P 00 25 48.1 +1.0**
UOSS Minazif 64.07 286 P **P 00 25 46.2 -1.0**
UOSS Minazif 64.07 286 P **P 00 25 47.4 +0.2**
UOSS P **P 00 25 47.4 +0.2**
UOSS Minazif 64.07 286 P **P 00 25 46.7 -0.5**
PAX Paxson 64.13 30 IAmb IAmb 00 26 03.7
comp=Z,146nm,1.4s
PAX IAMs_20 IAMs_20 00 51 53.7
comp=Z,1µm,22.0s
HATD Hatta, Dubai 64.17 286 *i* P **P 00 25 47.8 0.0**
SNR=24
HATD Hatta, Dubai 64.17 286 P **P 00 25 49.0 +1.2**
SNR=7.2
HATD P **P 00 25 49.0 +1.2**
SNR=7.2
KLU Klutina 64.18 32 IAmb IAmb 00 26 03.4
comp=Z,82nm,1.1s
RIDG Independent Ri 64.27 30 IAmb IAmb 00 26 13.9
comp=Z,160nm,1.2s
RIDG IAMs_20 IAMs_20 00 53 40.5
comp=Z,1µm,22.0s
ASHO Ashiyiah 64.29 286 *i* P **P 00 25 49.0 +0.5**
SNR=45
ASHO Ashiyiah 64.29 286 P **P 00 25 49.6 +1.0**
SNR=13
ASHO P **P 00 25 49.6 +1.0**
SNR=13
ASHO P **P 00 25 49.6 +1.0**
SNR=13
UMQ Umm Al-Quwin 64.34 287 P **P 00 25 50.0 +1.2**
DGAR Diego Garcia 64.34 246 IAMs_20 IAMs_20 00 50 33.6
comp=Z,1µm,21.0s
ARQ Araqi 64.35 284 P **P 00 25 50.0 +1.0**
SNR=8.5
ARQ P **P 00 25 50.0 +1.0**
SNR=8.5
ARQ P **P 00 25 50.0 +1.0**
SNR=10
ARQ P **P 00 25 50.0 +1.0**
SNR=10
EYAK Cordova Ski Ar 64.43 33 IAmb IAmb 00 26 05.9
comp=Z,77nm,1.1s
NAZ Nazwa, Dubai 64.52 286 *i* P **P 00 25 50.1 +0.1**
SNR=20
NAZ Nazwa, Dubai 64.52 286 P **P 00 25 51.1 +1.0**
SNR=13
NAZ P **P 00 25 51.1 +1.0**
SNR=13
SCRK Sand Creek 64.60 29 P **P 00 25 50.4 +0.3**
baz=281,SNR=70
DOT Dot Lake 64.63 30 IAmb IAmb 00 26 06.9
comp=Z,127nm,1.0s
FAQ Al Faqa, Dubai 64.66 286 *i* P **P 00 25 50.9 -0.1**
SNR=42
FAQ Al Faqa, Dubai 64.66 286 P **P 00 25 51.9 +0.9**
SNR=23
DQM DQM 64.68 280 P **P 00 25 51.5 +0.3**
SNR=20
DQM P **P 00 25 51.5 +0.3**
SNR=20
ALNE Al Ain 64.76 285 *i* P **P 00 25 52.1 +0.4**
SNR=28
N25K Chitina, Valde 64.78 32 P **P 00 25 52.1 +0.9**
baz=281,SNR=12
N25K S **S 00 34 30.7 +2.3**
baz=281
KNTN Kanton 64.84 108 P **P 00 25 51.9 -0.4**
MENT Mentasta 64.92 30 IAmb IAmb 00 26 13.1
comp=Z,108nm,1.0s
MENT IAMs_20 IAMs_20 00 54 01.6
comp=Z,2µm,22.0s
ASUD Al Ashush, Dub 64.93 286 *i* P **P 00 25 53.0 +0.3**
SNR=17
ASUD Al Ashush, Dub 64.93 286 P **P 00 25 54.0 +1.3**
SNR=8.5
RAGM Ragged Mountai 64.98 33 IAMs_20 IAMs_20 00 52 38.4
comp=Z,1µm,22.0s
GLB Gilahina Butte 65.18 32 IAmb IAmb 00 26 10.1
comp=Z,129nm,1.1s
HMT Hamilton 65.20 33 IAmb IAmb 00 26 11.0
comp=Z,173nm,1.2s
AJN Ajban 65.24 286 *i* P **P 00 25 54.5 -0.3**
SNR=5.9
AJN Ajban 65.24 286 P **P 00 25 55.4 +0.7**
SNR=10
AJN P **P 00 25 55.4 +0.7**
SNR=10
CAN Canberra 65.37 162 P **P 00 25 56.7 +1.4**
CAN pmax pmax
comp=Z,177nm,1.2s
CAN Canberra 65.37 162 P **P 00 25 56.7 +1.4**
CAN IAmb IAmb 00 26 13.1
comp=Z,176nm,1.2s
CAN IAMs_20 IAMs_20 00 53 08.8
comp=Z,2µm,22.0s
VRDI Verde Repeater 65.39 32 IAmb IAmb 00 26 12.1
comp=Z,138nm,1.1s
K27K Chicken 65.42 29 P **P 00 25 56.4 +1.2**
baz=282,SNR=35
K27K S **S 00 34 38.3 +2.3**
baz=282
MAK Makhachkala 65.59 307 *e*P **P 00 25 55.4 -1.3**
MAK *e* 00 28 20.1
MAK *e*PPP PPP 00 29 53.9
MAK *e*S **S 00 34 37.7 -1.1**
MAK pmax pmax
comp=Z,85nm,1.2s
CRQM Cirque 65.65 33 IAmb IAmb 00 25 59.6
comp=Z,123nm,0.9s
MSVF Nonsavu 65.73 127 ⇓ *e*P **P 00 25 59.3 +1.3**
MSVF pmax pmax
comp=Z,18nm,1.3s
MSVF Nonsavu 65.73 127 P **P 00 25 59.4 +1.4**
MSVF IAmb IAmb 00 26 21.1
comp=Z,106nm,1.1s
BCAR Beaver Creek A 65.75 30 P **P 00 25 58.4 +0.9**
TGL Tana Glacier 65.80 33 IAmb IAmb 00 26 15.0
comp=Z,131nm,1.0s
BALM Baldy 65.96 32 IAmb IAmb 00 26 15.5
comp=Z,81nm,1.2s
ISLE Juniper Island 66.07 33 IAmb IAmb 00 26 18.4
comp=Z,223nm,1.6s
BARN Barnard Glacie 66.28 32 IAmb IAmb 00 26 03.3
comp=Z,50nm,0.9s
BARN IAMs_20 IAMs_20 00 52 25.7
comp=Z,1µm,22.0s
YAH Yahtse 66.41 33 IAmb IAmb 00 26 19.0
comp=Z,81nm,1.1s
CTGM Chitina Glacie 66.46 32 IAmb IAmb 00 26 04.5
comp=Z,81nm,0.9s
CTGM IAMs_20 IAMs_20 00 52 30.3
comp=Z,1µm,22.0s
TOO Toolangi 66.62 165 P **P 00 26 03.9 +0.7**
TOO pmax pmax
comp=Z,200nm,1.2s
TOO Toolangi 66.62 165 P **P 00 26 03.9 +0.7**
TOO IAMs_20 IAMs_20 00 53 01.8
comp=Z,3µm,22.0s
GROC Groznyy 66.73 308 *e*P **P 00 26 02.9 -1.1**
GROC *e**PP **pP 00 26 15.7 -1.4**
GROC *e**SP **sP 00 26 21.5 -0.7**
GROC *e* 00 26 31.6
GROC *e*S **S 00 34 53.0 +0.4**
GROC *e*S SKSac 00 35 08.2 -49
GROC pmax pmax
comp=Z,64nm,0.8s
APA Apatity 66.85 335 ⇓ *i*P **P 00 26 03.4 -0.9**
APA *i* 00 28 36.0
APA *i* PPP PPP 00 30 18.0
APA *i* S **S 00 34 49.0 -4.3**
APA pmax pmax
comp=Z,60nm,0.8s
APA MLR MLR
comp=Z,3µm,26.0s
SHAO Shalim 67.07 279 *i* P **P 00 26 06.5 -0.1**
SNR=6.3
SHAO Shalim 67.07 279 P **P 00 26 07.4 +0.8**
SNR=7.4
SHAO P **P 00 26 07.4 +0.8**
SNR=7.4
VRH Novokhopyorsk 67.19 317 *e*P **P 00 26 05.3 -1.5**
VRH pmax pmax
comp=Z,90nm,0.8s
VRH MLR MLR
comp=Z,4µm,17.0s
INK Inuvik 67.65 23 P **P 00 26 10.1 +0.7**
comp=Z,27nm,0.6s,baz=296,slow=6.1,SNR=49
INK Inuvik 67.65 23 IAmb IAmb 00 26 11.5
comp=Z,120nm,1.4s
INK IAMs_20 IAMs_20 00 59 12.6
comp=Z,2µm,20.0s
SPA0 Spitsbergen Ar 67.68 348 IAmb IAmb 00 27 00.5
comp=Z,69nm,1.1s
SPA0 Spitsbergen Ar 67.68 348 *e*P **P 00 26 08.9 -0.6**
DMTO DMTO 67.79 279 P **P 00 26 11.7 +0.6**
SNR=7.4
DMTO P **P 00 26 11.7 +0.6**
SNR=7.4
KBS Kingsbay 68.09 349 ⇑ *e*P **P 00 26 10.2 -1.8**
KBS pmax pmax
comp=Z,19nm,0.6s
KBS Kingsbay 68.09 349 P **P 00 26 13.1 +1.1**
KBS IAmb IAmb 00 26 22.7
comp=Z,163nm,1.9s
KBS Kingsbay 68.09 349 IAMs_20 IAMs_20 00 56 24.3
comp=Z,3µm,22.0s
KBS Kingsbay 68.09 349 *e*P **P 00 26 10.7 -1.3**
GOF Gofitskoye 68.09 310 ⇓ *i*P **P 00 26 12.6 0.0**
GOF pmax pmax
comp=Z,157nm,0.9s
ZEI Tsey 68.18 308 *e*P **P 00 26 09.0 -4.5**
ZEI pmax pmax
comp=Z,73nm,0.8s
MOS Moscow 68.26 322 *e*P **P 00 26 11.5 -1.9**
MOS *e* 00 26 35.2
MOS pmax pmax
comp=Z,85nm,0.8s
MOS MLR MLR
comp=N,3µm,17.0s
MOS MLR MLR
comp=E,5µm,17.0s
MOS MLR MLR
comp=Z,7µm,17.0s
HYT Haines Junctio 68.30 32 IAmb IAmb 00 26 31.9
comp=Z,87nm,1.1s
KEV Kevo 68.39 338 P **P 00 26 13.2 -0.8**
KEV pmax pmax
comp=Z,120nm,0.8s
KEV Kevo 68.39 338 P **P 00 26 13.2 -0.8**
KEV IAmb IAmb 00 26 15.0
comp=Z,120nm,0.8s
KEV IAMs_20 IAMs_20 01 01 44.5

comp=Z,2µm,20.0s
HSPB Hornsund (broa 68.39 347 *e*P P **00 26 13.3 -0.6**
HSPB eL L 00 59 09.7
comp=Z,3µm,18.6s
HSPB Hornsund (broa 68.39 347 *e*P P **00 26 15.3 +1.4**
LPSR Galich'ya Gora 68.45 319 *e*P P **00 26 13.6 -1.1**
LPSR pmax pmax
comp=Z,70nm,0.8s
LPSR MLR MLR
comp=Z,6µm,18.0s
RBK Rabkut 68.52 279 P P **00 26 16.3 +0.5**
SNR=34
RBK P P **00 26 16.3 +0.5**
SNR=34
RBK P P **00 26 16.3 +0.5**
SNR=34
VORR Voronezh 68.57 318 *e*P P **00 26 14.0 -1.4**
VORR pmax pmax
comp=Z,250nm,0.8s
KBZ Khabaz 68.59 309 P P **00 26 16.2 +0.5**
comp=Z,97nm,0.8s,baz=83,slow=5.3,SNR=161
KBZ LR LR 00 59 04.5
comp=Z,2µm,21.8s,baz=74,slow=38
KBZ Khabaz 68.59 309*c i*P P **00 26 15.9 +0.2**
KBZ pmax pmax
comp=Z,137nm,0.9s
KBZ MLR MLR
comp=Z,2µm,22.0s
KIV Kislovodsk 68.67 309 ⇓P P **00 26 16.9 +0.5**
KIV Kislovodsk 68.67 309 *i* P P **00 26 16.2 -0.2**
SNR=67
KIV Kislovodsk 68.67 309 P P **00 26 17.7 +1.3**
KIV Kislovodsk 68.67 309 *e*P P **00 26 15.7 -0.7**
KIV *e*S S **00 35 16.0 0.0**
KIV pmax pmax
comp=Z,450nm,1.0s
KIV pmax pmax
comp=Z,390nm,3.8s
KIV MLR MLR
comp=Z,3µm,17.0s
KIV Kislovodsk 68.67 309 P P **00 26 16.2 -0.2**
KIV IAmb IAmb 00 26 18.2
comp=Z,138nm,1.0s
KIV IAMs_20 IAMs_20 00 59 05.8
comp=Z,1µm,20.0s
VORD Divnogorie 68.73 317 *e*P P **00 26 15.5 -0.9**
VORD pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 68.73 318 *e*P P **00 26 15.5 -0.9**
VSR pmax pmax
comp=Z,80nm,0.8s
VSR MLR MLR
comp=Z,4µm,18.0s
WHFO Wadi Hawf 68.74 280 P P **00 26 17.1 0.0**
SNR=33
WHFO P P **00 26 17.1 0.0**
SNR=33
TASB TASBURUN-IGDIR 68.81 305 *e*P P **00 26 17.6 +0.3**
ARCES ARCESS Array B 68.96 338 P P **00 26 16.8 -0.8**
comp=Z,53nm,0.8s,baz=62,slow=8.5,SNR=53
ARCES LR LR 01 02 10.9
comp=Z,1µm,18.7s,baz=70,slow=41
OBN Obninsk 69.03 322*d i*P P **00 26 17.7 -0.5**
OBN *e* 00 26 26.0
OBN *e**PP **pP** **00 26 32.0 +0.6**
OBN *e**SP **sP** **00 26 38.3 +1.7**
OBN *e*S S **00 35 25.7 +6.1**
OBN *e* 00 36 12.6
OBN pmax pmax
comp=Z,23nm,0.6s
OBN MLR MLR
comp=Z,7µm,18.0s
OBN Obninsk 69.03 322 P P **00 26 17.7 -0.5**
HAMF Hammerfest 69.11 340 *e*P P **00 26 18.4 -0.1**
CLDR Caldiran 69.32 304 *e*P P **00 26 21.9 +1.3**
ABTO Aybut 69.38 279 P P **00 26 21.5 +0.4**
SNR=35
ABTO P P **00 26 21.5 +0.4**
SNR=35
KARS Kars 69.44 306 *e*P P **00 26 22.8 +1.5**
CHVG Ch'k'valeri 69.48 308 ⇑P P **00 26 21.7 +0.4**
WHY Whitehorse 69.57 31 IAmb IAmb 00 26 39.2
comp=Z,107nm,1.2s
NOR Nord 69.73 355 *i* P P **00 26 21.4 -0.8**
NOR Nord 69.73 355 *i* P P **00 26 21.4 -0.8**
NOR Nord 69.73 355 *i* P P **00 26 21.4 -0.8**
SKAG Skagway 69.76 33 IAmb IAmb 00 26 40.2
comp=Z,193nm,1.4s
AGRB Hanur-Agry 69.85 305 *e*P P **00 26 25.3 +1.4**
SENK Senkaya-Erzuru 69.99 306 *e*P P **00 26 26.2 +1.5**
BCA Borcka 70.22 307 ⇓P P **00 26 26.1 +0.2**
GEVA Gevas 70.22 304 IAmb IAmb 00 26 27.9
comp=Z,93nm,0.8s
AKDM Akdamar-Van 70.28 304 *e*P P **00 26 27.3 +0.8**
BESE Bessie Mountai 70.30 34 IAmb IAmb 00 26 43.6
comp=Z,102nm,1.2s
C36M Paulatuk 70.45 21 P P **00 26 27.3 +0.6**
baz=296
KOPR Koprukoy-ERZUR 70.54 306 *e*P P **00 26 28.7 +0.6**
SIT Sitka 70.59 35 IAmb IAmb 00 26 44.7
comp=Z,172nm,1.4s
PUL Pulkovo 70.64 328*ce*P P **00 26 28.8 +0.8**
PUL pmax pmax
comp=Z,140nm,0.8s
PUL MLR MLR
comp=Z,3µm,17.0s
SOC Sochi 70.83 310*c i*P P **00 26 28.7 -0.8**
SOC *e* 00 29 06.1
SOC *e*PPP PPP 00 30 47.9
SOC *e*S S **00 35 40.8 -0.3**
SOC *e*SS SS **00 40 16.4 +2.8**
SOC pmax pmax
comp=Z,79nm,0.5s
SOC MLR MLR
comp=Z,2µm,17.0s
SOCY Socotra 70.87 274 P P **00 26 30.0 -0.4**
SNR=17
SOCY Socotra 70.87 274 P P **00 26 28.8 -1.6**
GURO Guroymak-BITLI 70.90 304 *e*P P **00 26 31.2 +1.0**
CHOM Cayeli-Rize 70.95 307 *e*P P **00 26 31.1 +0.8**
SIRT Sirnak 70.96 303 *e*P P **00 26 30.8 +0.2**
TRO Tromso 71.02 340 *e*P P **00 26 29.8 -0.4**
EUNU Eureka 71.03 6 IAmb IAmb 00 26 32.4
comp=Z,83nm,0.8s
VRTB Varto-Mus 71.11 305 *e*P P **00 26 32.7 +1.2**
KARO Karliova-Bingo 71.36 305 *e*P P **00 26 33.4 +0.3**
KOPT Kop Dagi 71.51 306 IAmb IAmb 00 26 36.5
comp=Z,120nm,1.2s
SVAN Silvan-Diyarba 71.66 304 *e*P P **00 26 34.8 +0.1**
YEDI Yedisu-Bingol 71.68 305 *e*P P **00 26 35.7 +0.7**
KTUT Trabzon 71.69 307 ⇓P P **00 26 35.7 +0.7**
KTUT Trabzon 71.69 307 *e*P P **00 26 33.7 -1.1**
BNGB Bingl 71.74 305 *e*P P **00 26 35.9 +0.6**
FIA1 FINESS Array S 71.93 330 IAmb IAmb 00 26 36.4
comp=Z,57nm,0.8s
FINES FINESS Array B 71.93 330 P P **00 26 34.9 -0.9**
comp=Z,50nm,0.8s,baz=72,slow=5.9,SNR=108
FINES LR LR 01 01 55.3
comp=Z,4µm,18.9s,baz=65,slow=39
FINES FINESS Array B 71.93 330 P P **00 26 35.2 -0.6**
FINES FINESS Array B 71.93 330 P P **00 26 35.1 -0.6**
ANN Anapa 71.94 312 *e*P P **00 26 36.0 -0.2**
ANN *e**PP **pP** **00 26 49.1 -0.2**
ANN pmax pmax
comp=Z,165nm,0.8s
ANN MLR MLR
comp=Z,4µm,25.0s
TAU Tasmania Unive 72.13 166 P P **00 26 37.8 +0.8**
TAU pmax pmax
comp=Z,110nm,1.2s
TAU Tasmania Unive 72.13 166 P P **00 26 37.8 +0.8**
TAU IAmb IAmb 00 27 01.3
comp=Z,110nm,1.1s
MARD Mardin 72.27 303 P P **00 26 38.4 -0.1**
MARD IAmb IAmb 00 26 40.0
comp=Z,138nm,0.8s
DLBC Dease Lake 72.70 33 P P **00 26 40.3 -0.2**
comp=Z,17nm,0.8s,baz=299,slow=6.5,SNR=20
PTK Pertek 72.71 305 *e*P P **00 26 41.7 +0.5**
N2IH Innhavet 72.78 339 *e*P P **00 26 40.4 -0.4**
VSU Vasula 72.86 327 *e*P P **00 26 41.2 -0.1**
VSU Vasula 72.86 327*c i*P P **00 26 41.0 -0.4**
VSU pmax pmax
comp=Z,160nm,0.8s
VSU MLR MLR
comp=Z,4µm,19.0s
SVRC Sivrice-ELAZID 72.96 305 *e*P P **00 26 43.5 +0.9**
STEI Steigen 73.03 339 *e*P P **00 26 41.7 -0.5**
N2VI Vinje 73.15 339 *e*P P **00 26 42.5 -0.4**
N2ST Straumen 73.22 338 *e*P P **00 26 43.2 -0.1**
FAUS Fauske 73.30 338 *e*P P **00 26 43.7 -0.1**
LOF Lofoten 73.46 339 *e*P P **00 26 44.5 -0.3**
MALT Malatya 73.63 305 *e*P P **00 26 47.8 +1.3**
URFA Urfa 73.67 304 *e*P P **00 26 47.6 +0.9**
NBB05 Inndyr 73.90 338 *e*P P **00 26 47.3 -0.1**
MICGM Minsk 73.93 323 *e*P P **00 26 48.0 +0.2**
MICGM *e*PcP **PcP** **00 27 03.0 0.0**
MICGM *e*S S **00 36 16.0 -0.2**
MICGM *e*PS PnS 00 37 10.0 +16
MICGM *e*LQ LQ 00 54 30.0
MICGM *e*LR LR 00 58 50.0
MICGM LRM MLR 01 02 26.0
comp=E,3.1nm,16.0s
MICGM LRM MLR 01 02 28.0
comp=Z,7.7nm,18.0s
MNK Minsk 73.93 323 *e*P P **00 26 48.0 +0.2**
MNK *e* 00 27 03.0
MNK *e*S S **00 36 16.0 -0.2**
MNK *e*PS PnS 00 37 10.0 +16
MNK MLR MLR
comp=E,8µm,18.0s
MNK MLR MLR
comp=E,3µm,16.0s
N2VA Vr,y 73.99 339 *e*P P **00 26 48.2 +0.4**
NBB30 Finnes 74.03 338 *e*P P **00 26 47.9 -0.2**
DAG Danmarks Havn 74.07 353 ⇑*i*P P **00 26 47.4 -0.8**
DAG pmax pmax
comp=Z,31nm,0.7s
DAG Danmarks Havn 74.07 353 ⇑*i*P P **00 26 47.4 -0.8**
comp=Z,31nm,0.7s
DAG Danmarks Havn 74.07 353 ⇑*i*P P **00 26 47.5 -0.8**
DAG IAmb IAmb 00 26 48.5
comp=Z,31nm,0.7s
SIM Simferopol' 74.08 313 *i* P P **00 26 47.4 -1.4**
SIM pmax pmax
comp=Z,223nm,1.2s
TOKT Tokat 74.21 307 *e*P P **00 26 50.3 +0.5**
DARE Darende-Malaty 74.21 305 *e*P P **00 26 51.2 +1.3**
MOR8 Moi Rana 74.23 337 *e*P P **00 26 47.9 -1.5**
N2RO R,st 74.25 339 *e*P P **00 26 49.3 -0.1**
KVT Kavak 74.27 308 *e*P P **00 26 50.5 +0.4**
RES Resolute Bay 74.29 11 P P **00 26 49.8 +0.2**
comp=Z,132nm,0.8s,baz=321,slow=6.1,SNR=132
RES Resolute Bay 74.29 11 IAmb IAmb 00 26 51.1
comp=Z,140nm,0.8s
NACGM Naroch 74.34 324 *e*P P **00 26 48.0 -2.1**
NACGM *e*LQ LQ 00 54 46.0
NACGM *e*LR LR 00 58 24.0
NACGM LRM MLR 01 02 54.0
comp=Z,6.2nm,16.0s
ISAL Salakas 74.39 325 *e*P P **00 26 50.3 -0.1**
KONS Konsvik 74.50 338 *e*P P **00 26 51.1 +0.3**
DIKM Dikmen 74.59 309 ⇑P P **00 26 53.0 +1.1**
AKASG Malin Array Be 74.78 319 P P **00 26 51.6 -1.1**
comp=Z,16nm,0.5s,baz=56,slow=6.0,SNR=82
AKASG LR LR 01 02 30.5
comp=Z,8µm,18.7s,baz=65,slow=38
AKASG Malin Array Be 74.78 319 *i* P P **00 26 52.2 -0.6**
AKASG pmax pmax
comp=Z,16nm,0.4s
AKASG Malin Array Be 74.78 319 P P **00 26 51.8 -1.0**
AKBB Malin Array Si 74.78 319*c i*P P **00 26 52.0 -0.8**
GAZ Gaziantep 74.95 304 *e*P P **00 26 54.9 +0.7**
GAZ Gaziantep 74.95 304 IAmb IAmb 00 26 56.1
comp=Z,154nm,0.9s
SARI SarD1z-Kayseri 75.05 306 *e*P P **00 26 55.7 +0.9**
BNN Bunyan 75.28 306 *e*P P **00 26 56.6 +0.5**
BZK Bozkurt 75.33 310 ⇑P P **00 26 57.1 +1.0**
BZK Bozkurt 75.33 310 *e*P P **00 26 56.6 +0.5**
OUZ Omahuta 75.49 143 P P **00 26 57.9 +0.9**
OUZ IAmb IAmb 00 27 14.4
comp=Z,162nm,1.3s
PABE Paberze 75.52 325 *e*P P **00 26 57.2 +0.3**
CORM Corum 75.62 308 *e*P P **00 26 58.8 +0.8**
TULEG Thule 75.69 4 IAmb IAmb 00 26 58.7
comp=Z,166nm,0.8s
TULEG Thule 75.69 4⇑*i*P P **00 26 56.9 -0.7**
TULEG IAmb IAmb 00 26 58.4
comp=Z,160nm,0.8s
KOZT Kozan 75.84 305 *e*P P **00 26 59.7 +0.5**
NSS Namsos 76.01 337 *e*P P **00 26 58.9 -0.7**
TAHT Tahtakopru-Hat 76.03 304 *e*P P **00 27 00.9 +0.6**
CEYT Ceyhan 76.09 305 *e*P P **00 27 01.6 +1.0**
CANT Cankiri 76.15 309 *e*P P **00 27 01.3 +0.4**
KURC Kurucasile-Bar 76.24 310 *e*P P **00 27 00.2 -1.1**
PBUR Paburge 76.29 326 *e*P P **00 27 01.6 +0.3**
DBG Daneborg 76.43 352 *i* P P **00 27 01.3 -0.5**
DBG IAmb IAmb 00 27 02.2
comp=Z,60nm,0.9s
BR131 Keskin Array S 76.50 308 P P **00 27 03.8 +0.7**
SNR=53
BR131 P P **00 27 03.8 +0.7**
SNR=53
BR131 Keskin Array S 76.50 308*c i*P P **00 27 02.6 -0.4**
BR131 Keskin Array S 76.50 308 IAmb IAmb 00 27 04.2
comp=Z,84nm,0.9s
BRTR Keskin Array B 76.50 308 P P **00 27 02.7 -0.3**
comp=Z,75nm,0.8s,baz=100,slow=4.7,SNR=242
BRTR LR LR 01 06 16.9
comp=Z,598nm,21.1s,baz=71,slow=40
KARA Karaisali 76.50 305 *e*P P **00 27 03.6 +0.7**
KRTS Karatas 76.54 304 *e*P P **00 27 04.2 +1.1**
KIS Kishinev 76.60 316⇑*e*P P **00 27 01.0 -2.3**
comp=Z,80nm,0.9s
KIS Kishinev 76.60 316 *e*PP PP 00 29 59.0 +3.5
KIS eLR LR 01 01 18.0
comp=Z,900nm,20.0s
KIS Kishinev 76.60 316 ⇓P P **00 27 02.9 -0.3**
SUW Suwalki 76.62 324 *e*P P **00 27 03.0 -0.3**
SUW eL L 01 03 34.0
comp=Z,6µm,17.4s
YAYX Yaylak 76.70 307 *e*P P **00 27 03.0 -1.2**
SERE Sereflikochisa 76.87 307 *e*P P **00 27 04.9 -0.2**
AFSR Afar-Bala (An 77.01 308 *e*P P **00 27 05.4 -0.5**
ANTO Ankara 77.03 308 IAMs_20 IAMs_20 01 07 34.0
comp=Z,1µm,20.0s
LOD Lodumlu 77.04 308 *e*P P **00 27 06.4 +0.4**
MERS Mersin 77.05 305 *e*P P **00 27 06.1 0.0**
BR231 Keskin MP Arra 77.05 308 IAmb IAmb 00 27 07.5
comp=Z,83nm,0.9s
HWQ Hawqa 77.06 302 *e*P P **00 27 05.9 -0.4**
SULT Sultanhani-AKS 77.22 306 *e*P P **00 27 07.3 +0.2**
YESY Yesilyurt 77.23 306 *e*P P **00 27 07.7 +0.5**
IAS Iasi 77.28 317 ⇓P P **00 27 07.0 -0.1**
YKA Yellowknife Ar 77.30 25 P P **00 27 07.4 +0.5**
comp=Z,46nm,0.9s,baz=301,slow=5.7,SNR=112
YKA PKKPbc **PKKPbc** **00 46 11.6 -1.5**
comp=Z,0.9nm,0.8s,baz=121,slow=3.1,SNR=4.0
YKA LR LR 01 05 17.5
comp=Z,402nm,19.2s,baz=0.0,slow=39
TBLU Trondheim 77.37 336 *e*P P **00 27 06.1 -1.2**
VASR Vaslui 77.39 316 ⇓P P **00 27 08.2 +0.5**
TLCR 77.39 314 ⇑P P **00 27 08.4 +0.7**
BHL Bhannes 77.44 302 *e*P P **00 27 08.3 -0.1**
CHBY Cihanbeyli 77.50 307 *e*P P **00 27 07.9 -0.8**
QRWL Qaraoun 77.56 301 *e*P P **00 27 09.4 +0.3**
DQRL Deir Qamar 77.58 302 *e*P P **00 27 09.3 +0.1**
GIUM Giurgiulesti 77.65 315 ⇑P P **00 27 10.1 +1.0**
BIR Birlad 77.66 316 ⇑P P **00 27 09.9 +0.7**
VARL Varlezi 77.69 315 ⇑P P **00 27 09.7 +0.3**
SILI Silifke-Mersin 77.69 305 *e*P P **00 27 09.0 -0.6**
TPGR Topolog 77.79 314 ⇑P P **00 27 10.3 +0.2**
KEBE Kebeh-Mersin 77.81 305 *e*P P **00 27 10.4 0.0**
CFR Carcaliu 77.83 315 ⇓P P **00 27 10.3 +0.2**
EREN Erenkoy 77.86 304 *e*P P **00 27 10.5 -0.1**
SCHL Schela 77.88 315 ⇑P P **00 27 10.6 +0.2**
MDUB Mudurnu 77.88 309 *e*P P **00 27 10.9 +0.2**
IKL Isikli 77.92 305 *e*P P **00 27 10.6 -0.3**
TUDR 77.94 315 ⇑P P **00 27 12.0 +1.2**
TSCT Constanta Port 77.95 314 ⇓P P **00 27 12.2 +1.3**
TIRR Tirgusor 77.97 314 ⇑P P **00 27 11.1 +0.1**
TIRR Tirgusor 77.97 314 IAmb IAmb 00 27 12.6
comp=Z,80nm,0.9s
TEVE Tevekalti-Mers 78.02 305 *e*P P **00 27 10.9 -0.6**
PRAR RASCA 78.02 317 ⇓P P **00 27 11.6 +0.3**
LADK Ladik-KONYA 78.04 307 *e*P P **00 27 11.3 -0.4**
AKKU Akkuyu-Mersin 78.05 305 *e*P P **00 27 11.3 -0.3**
KIZT Kizilcal 78.09 308 *e*P P **00 27 11.9 0.0**
MFTR Murfatlar 78.09 314 ⇑P P **00 27 12.3 +0.6**
SVRH Sivrihisar-ESK 78.09 308 *e*P P **00 27 11.9 0.0**
KULLO Kullorsuaq 78.14 2 *i* P P **00 27 10.8 -0.6**
KULLO pmax pmax
comp=Z,150nm,0.9s
KULLO Kullorsuaq 78.14 2 *i* P P **00 27 10.8 -0.6**
comp=Z,145nm,0.9s
KULLO Kullorsuaq 78.14 2 *i* P P **00 27 10.8 -0.6**
KULLO IAmb IAmb 00 27 11.9
comp=Z,145nm,0.9s
LVV L'vov 78.15 320 *e*P P **00 27 11.6 -0.3**
LVV *e* 00 30 13.3
LVV *e*S S **00 37 01.3 -1.5**
LVV MLR MLR
comp=Z,6µm,20.0s
PETR Petresti 78.15 315 ⇓P P **00 27 13.2 +1.2**
TLBR Topalu 78.17 314 ⇓P P **00 27 12.6 +0.5**
HARR Harsova 78.18 314 ⇑P P **00 27 12.6 +0.5**
BERE Bereket-Mersin 78.21 305 *e*P P **00 27 12.6 -0.1**
ODBI Odobesti 78.24 316 ⇓P P **00 27 13.5 +1.0**
CVDA Cernavoda 78.27 314 ⇓P P **00 27 13.4 +0.7**
BIZ Bicaz 78.29 317 ⇓P P **00 27 12.9 +0.1**
NB2 NORSAR Subarra 78.33 334 P P **00 27 12.0 -0.8**
comp=Z,130nm,0.9s,baz=52,slow=5.6
NB2 NORSAR Subarra 78.33 334 P P **00 27 12.0 -0.8**
baz=52,slow=5.6
NOA NORSAR Array B 78.33 334 P P **00 27 11.8 -1.0**
comp=Z,84nm,0.8s,baz=51,slow=5.5,SNR=262
NOA LR LR 01 06 42.4
comp=Z,2µm,18.7s,baz=70,slow=40
GULT Gulveren 78.36 309 *e*P P **00 27 13.2 -0.2**
TEKE Tekeli-Mersin 78.38 305 *e*P P **00 27 12.7 -0.7**
NC602 NORSAR Array S 78.38 333 IAmb IAmb 00 27 12.9
comp=Z,98nm,1.0s
SPNC Sapanca-Adapaz 78.39 310 *e*P P **00 27 12.7 -0.7**
VRI Vrincioaia 78.40 316 ⇓P P **00 27 14.4 +1.0**
LFK Lefkose 78.44 304 *e*P P **00 27 13.9 0.0**
CIFT Cifteler, Eski 78.45 308 *e*P P **00 27 13.0 -0.9**
PLOR Plostina 78.45 316 ⇑P P **00 27 14.1 +0.4**
SRCK Saricakaya, Es 78.46 309 *e*P P **00 27 13.2 -0.6**
GRER 78.47 315 ⇓P P **00 27 13.9 +0.2**
ORH Orhaniye 78.48 310 P P **00 27 29.2 +15**
BUR08 Bucovina Ar. S 78.50 318 IAmb IAmb 00 27 15.5
comp=Z,61nm,0.8s
BURAR Bucovina Array 78.50 318 ⇓P P **00 27 14.1 0.0**
BURAR Bucovina Array 78.50 318 P P **00 27 13.2 -0.8**
NBO00 NORSAR Array S 78.51 334 IAmb IAmb 00 27 14.3
comp=Z,128nm,0.8s
ICOR Ion Corvin 78.52 314 ⇓P P **00 27 15.2 +1.2**
DOMB Dombas 78.55 335 *e*P P **00 27 14.0 +0.1**
BISRR Bisoca 78.56 315 ⇓P P **00 27 15.8 +1.4**
NAO01 NORSAR Array S 78.58 334 IAmb IAmb 00 27 14.5
comp=Z,135nm,0.9s
NAO01 NORSAR Array S 78.58 334 *e*P P **00 27 13.3 -0.8**
AMRR Amara 78.59 314 ⇓P P **00 27 15.1 +0.7**
SILT Sile 78.64 310 *e*P P **00 27 14.9 +0.1**
PGOR Pogoanele 78.68 315 ⇑P P **00 27 15.2 +0.3**
HRT Hereke 78.77 310 *e*P P **00 27 15.0 -0.6**
MOL Molde 78.77 336 *e*P P **00 27 15.3 +0.2**
NEHR Nehoiu 78.87 315 ⇓P P **00 27 17.1 +1.1**
OZUR 78.87 316 ⇓P P **00 27 16.6 +0.5**
ADVT Abdulvahap 78.89 310 *e*P P **00 27 16.1 -0.1**
GAZI Gazipasa 78.92 305 *e*P P **00 27 15.7 -0.8**
CAVI Cavuskoy 78.93 310 *e*P P **00 27 16.4 0.0**
BEL Belsk 78.95 323 *e*P P **00 27 16.8 +0.5**
BEL eL L 01 05 08.7
comp=Z,8µm,18.3s
LEHL Lehliu 78.98 314 ⇑P P **00 27 17.8 +1.2**
LEF Lefka 78.99 304 ⇓P P **00 27 17.3 +0.5**
LEF Lefka 78.99 304 *e*P P **00 27 16.5 -0.3**
KWP Kalwaria Pacla 78.99 320 *e*P P **00 27 17.1 +0.5**
KWP eL L 01 04 23.7
comp=Z,8µm,20.3s
KLYT Kilyos 79.00 311 *e*P P **00 27 15.9 -0.8**
MLR Muntele Rosu 79.06 316 ⇑P P **00 27 17.6 +0.5**
MLR Muntele Rosu 79.06 316 IAmb IAmb 00 27 19.2
comp=Z,86nm,1.0s
ISK Istanbul-Kandi 79.07 311 *e*P P **00 27 17.2 +0.1**
KAVV Kandilli-Istan 79.07 311 *e*P P **00 27 16.7 -0.4**
SHUT Suhut-Afyon 79.17 308 *e*P P **00 27 18.0 +0.1**
DOPR Dopca 79.18 316 ⇑P P **00 27 18.4 +0.7**
OSL Oslo 79.19 333 *e*P P **00 27 17.1 -0.3**
SECR 79.20 315 ⇑P P **00 27 18.8 +1.1**
PRD Provadia 79.20 313 P P **00 27 18.7 +0.9**
BGKT Bogazkoy 79.21 311 *e*P P **00 27 17.6 -0.3**
AKN Aaknes 79.22 336 *e*P P **00 27 17.5 -0.1**
SULR 79.25 315 ⇑P P **00 27 19.0 +1.1**
NEF NEVSHA 79.25 313 P P **00 27 18.7 +0.6**
ARCR ARCALIA 79.27 318 ⇑P P **00 27 19.2 +1.0**
PLAR PLOIESTI 79.28 315 ⇓P P **00 27 19.5 +1.3**
CTKS Kestanelik-??a 79.37 311 *e*P P **00 27 17.4 -1.3**
INCR INCERC-Sediu C 79.42 315 ⇑P P **00 27 20.2 +1.3**
ARMT Armutlu 79.43 310 *e*P P **00 27 18.9 -0.3**
BMR Baia Mare 79.50 318 ⇓P P **00 27 20.1 +0.8**
ISP Isparta 79.51 307 P P **00 27 19.2 -0.6**
ISP pmax pmax
comp=Z,88nm,0.9s
ISP Isparta 79.51 307 P P **00 27 19.2 -0.6**
ISP IAmb IAmb 00 27 20.3
comp=Z,88nm,0.9s
ISP Isparta 79.51 307 IAMs_20 IAMs_20 01 07 56.8
comp=Z,1µm,22.0s
TVSB Tavsanli 79.53 309 *e*P P **00 27 19.7 -0.1**
SLVT Silivri 79.57 311 *e*P P **00 27 20.3 +0.5**
KOLS Kolonicke sedl 79.59 320 *e*P P **00 27 18.7 -1.1**
KOLS pmax pmax
comp=Z,21nm,0.8s
KOLS Kolonicke sedl 79.59 320 *e*P P **00 27 18.7 -1.1**
RAZG Razgrad 79.61 314 ⇓P P **00 27 20.9 +0.8**
BCK Bucak 79.63 307 *e*P P **00 27 18.9 -1.4**
SGRR Singureni 79.64 314 ⇑P P **00 27 20.9 +0.8**
SKAR Skarslia 79.68 334 *e*P P **00 27 20.2 0.0**
MDB Medias 79.71 317 ⇑P P **00 27 21.7 +1.2**
UZH Uzhgorod 79.73 320 *i* P P **00 27 20.3 -0.2**
UZH *i* 00 27 24.8
UZH *e* 00 27 36.5
UZH *e* 00 30 25.7
UZH *i* S S **00 37 16.0 -3.6**
UZH *i* S S **00 37 16.0 -3.6**
UZH *i* PS PnS 00 38 26.0 +18
UZH MLR MLR
comp=N,500nm,18.0s
UZH MLR MLR
comp=E,2µm,18.0s
UZH MLR MLR
comp=Z,600nm,18.0s
MTUR Matau 79.73 316 ⇑P P **00 27 21.1 +0.3**
GEDZ Gediz 79.74 309 *e*P P **00 27 21.6 +0.6**
MXZ Matakaoa Point 79.77 142 IAMs_20 IAMs_20 00 56 44.9
comp=Z,1µm,22.0s
KONO Kongsberg 79.81 333⇓*e*P P **00 27 20.6 -0.2**
KONO pmax pmax
comp=Z,164nm,2.5s
KONO MLR MLR
comp=Z,3µm,20.0s
KONO Kongsberg 79.81 333 P P **00 27 20.7 -0.1**
KONO IAmb IAmb 00 27 21.5
comp=Z,79nm,0.9s
KONO Kongsberg 79.81 333 *e*P P **00 27 20.5 -0.2**
SUMG Summit 79.83 356⇑*i*P P **00 27 21.7 +0.5**
SUMG pmax pmax
comp=Z,420nm,0.8s
SUMG Summit 79.83 356 P P **00 27 21.1 -0.1**
SUMG Summit 79.83 356⇑*i*P P **00 27 21.7 +0.5**
comp=Z,424nm,0.8s
SUMG Summit 79.83 356⇑*i*P P **00 27 21.8 +0.5**
SUMG IAmb IAmb 00 27 22.8
comp=Z,425nm,0.8s
CJR Cluj-Napoca 79.91 318 ⇓P P **00 27 22.8 +1.2**
ARR Arges 79.93 316 ⇑P P **00 27 21.8 0.0**
CRLT Corlu 79.93 311 *e*P P **00 27 21.7 -0.1**
UPNV Upernavik 79.97 1⇑*i*P P **00 27 21.0 -0.4**
UPNV IAmb IAmb 00 27 22.1
comp=Z,90nm,0.7s
KORT Korkueli 80.00 306 *e*P P **00 27 21.8 -0.7**
SIMA Simav-Kutahya 80.02 309 *e*P P **00 27 21.9 -0.6**
GKP Gorka Klasztor 80.04 325 *e*P P **00 27 22.5 +0.4**
GKP eL L 01 06 33.4
comp=Z,9µm,17.1s
CRVS Cervenica-Dubn 80.06 320 *e*P P **00 27 23.1 +0.7**
CRVS pmax pmax
comp=Z,54nm,1.0s
CRVS Cervenica-Dubn 80.06 320 *e*P P **00 27 23.1 +0.7**

SZH Strazhica 80.11 314 P **P** **00 27 22.8 0.0**
HUMR Humele 80.12 315 ⇑P **P** **00 27 22.4 -0.4**
COPA Copaceanca 80.16 315 ⇓P **P** **00 27 23.3 +0.3**
BSD Bornholm Skovb 80.16 328 *i* P **P** **00 27 21.9 -0.8**
BSD pmax pmax
comp=Z,180nm,0.9s
BSD Bornholm Skovb 80.16 328 *i* P **P** **00 27 21.9 -0.8**
comp=Z,183nm,0.9s
BSD Bornholm Skovb 80.16 328 *i* P **P** **00 27 21.9 -0.8**
BSD IAmb IAmb 00 27 23.7
comp=Z,183nm,0.9s
HYA Hoyanger 80.17 335 *eP* **P** **00 27 22.9 +0.2**
EDC Edincik 80.21 310 *eP* **P** **00 27 22.7 -0.6**
EDRB Edirne 80.26 312 P **P** **00 27 22.3 -1.3**
EDRB Edirne 80.26 312 *eP* **P** **00 27 23.9 +0.3**
ZIMR 80.29 314 ⇑P **P** **00 27 24.5 +0.8**
FOO Floro 80.30 336 *eP* **P** **00 27 23.4 0.0**
OJC Ojcow 80.32 322 *eP* **P** **00 27 24.0 +0.3**
OJC *eL* L 01 05 45.7
comp=Z,5μm,17.7s
OJC Ojcow 80.32 322 P **P** **00 27 23.3 -0.5**
OJC pmax pmax
comp=Z,154nm,0.8s
OJC Ojcow 80.32 322 P **P** **00 27 23.3 -0.5**
LOT Lotru 80.42 316 ⇓P **P** **00 27 24.7 +0.2**
ELL Elmali 80.43 306 *eP* **P** **00 27 24.5 -0.3**
KULA Kula-Manisa 80.51 308 *eP* **P** **00 27 25.0 -0.1**
BALB Balikesir 80.53 310 *eP* **P** **00 27 25.2 +0.2**
MANT Manisa 80.59 308 P **P** **00 27 25.3 -0.4**
PGC Sidney 80.73 40 P **P** **00 27 27.0 +1.1**
DEV Deva 80.73 317 ⇓P **P** **00 27 27.3 +1.2**
SUE Sulen 80.76 336 *eP* **P** **00 27 25.9 +0.1**
ODD1 Odda 80.82 334 *eP* **P** **00 27 26.7 +0.5**
KECS Kecovo 80.83 320 *eP* **P** **00 27 27.4 +0.9**
KECS pmax pmax
comp=Z,15nm,0.7s
KECS Kecovo 80.83 320 *eP* **P** **00 27 27.4 +0.9**
RPZ Rata Peaks 80.85 150 IAmb IAmb 00 27 40.8
comp=Z,79nm,0.9s
AKAS Kas 80.88 306 *eP* **P** **00 27 26.2 -1.0**
DIM Dimitrovgrad 80.95 313 P **P** **00 27 28.6 +1.3**
ERIK Erikli-Kesan 80.97 311 *eP* **P** **00 27 27.4 0.0**
OXZ Oxford 80.98 149 IAMs_20 IAMs_20 01 01 45.4
comp=Z,1μm,19.0s
ASK Askoy 80.98 335 *eP* **P** **00 27 27.3 +0.2**
COP Copenhagen 80.99 329 *i* P **P** **00 27 27.6 +0.5**
COP pmax pmax
comp=Z,150nm,0.9s
COP Copenhagen 80.99 329 *i* P **P** **00 27 27.6 +0.5**
comp=Z,153nm,0.9s
COP Copenhagen 80.99 329 *i* P **P** **00 27 27.6 +0.5**
COP IAmb IAmb 00 27 28.6
comp=Z,154nm,0.9s
ATD Arta Tunnel 80.99 278 P **P** **00 27 30.5 +2.4**
SNR=9.9
BER Bergen 81.00 335 *eP* **P** **00 27 27.1 0.0**
GZR Gura Zlata 81.06 317 ⇓P **P** **00 27 28.6 +0.7**
LANS Liptovska Anna 81.06 321 *eP* **P** **00 27 28.6 +0.8**
LANS pmax pmax
comp=Z,18nm,0.7s
LANS Liptovska Anna 81.06 321 *eP* **P** **00 27 28.6 +0.8**
FETY Fethiye 81.07 307 P **P** **00 27 26.1 -2.0**
FETY Fethiye 81.07 307 *eP* **P** **00 27 27.5 -0.6**
HOMB Homborsund 81.12 332 *i* P **P** **00 27 27.2 -0.6**
GELI Tayfur-Gelibol 81.12 311 *eP* **P** **00 27 28.5 +0.3**
SRE Strehaia 81.16 316 ⇑P **P** **00 27 29.7 +1.4**
ALN Alexandroupoli 81.17 311 P **P** **00 27 25.8 -2.6**
ALN Alexandroupoli 81.17 311 IAMs_20 IAMs_20 01 09 14.4
comp=Z,980nm,22.0s
ENEZ Enez 81.18 311 *eP* **P** **00 27 28.7 +0.2**
BLS5 Blasjo 81.20 334 *eP* **P** **00 27 28.6 +0.3**
KDZ Kurdzhali 81.22 312 P **P** **00 27 28.8 0.0**
RGN Rugen 81.24 328 *eP* **P** **00 27 29.5 +1.0**
SIRR Siria 81.29 318 ⇓P **P** **00 27 29.0 0.0**
DALY Dalyan (Mula) 81.30 307 *eP* **P** **00 27 28.9 -0.3**
AYDB Zeytinkoy-Aydi 81.31 308 *eP* **P** **00 27 29.8 +0.4**
RDO Rodhopi 81.39 312 P **P** **00 27 28.4 -1.2**
YER Yerkesik 81.41 307 P **P** **00 27 28.8 -1.1**
YER Yerkesik 81.41 307 *eP* **P** **00 27 28.0 -1.9**
OKC Ostrava-Krasne 81.42 322 *eP* **P** **00 27 30.0 +0.4**
OKC AMS AMS 01 06 40.0
comp=Z,5μm,16.9s
OKC Ostrava-Krasne 81.42 322 *eP* **P** **00 27 30.0 +0.4**
OKC MLR MLR
comp=Z,5μm,16.9s
DKL Dikili 81.46 310 *eP* **P** **00 27 29.1 -0.9**
PSZ Piszkesteto 81.47 320 ⇑P **P** **00 27 30.6 +0.5**
PLD Plovdiv 81.47 313 P **P** **00 27 31.4 +1.4**
MPEP Malo Peshtene 81.47 315 P **P** **00 27 30.7 +0.7**
EZN Ezine 81.50 315 P **P** **00 27 28.1 -2.1**
EZN Ezine 81.50 310 *eP* **P** **00 27 29.7 -0.5**
D03D Eldon 81.52 41 P **P** **00 27 32.3 +2.1**
baz=302,SNR=9.0
PUNG Punghina 81.52 316 ⇓P **P** **00 27 31.1 +0.9**
HERR Herculane 81.53 316 ⇓P **P** **00 27 30.3 -0.1**
GOET G??ttrup 81.59 331 *i* P **P** **00 27 31.2 +0.9**
comp=Z,596nm,0.8s
GOET G??ttrup 81.59 331 *i* P **P** **00 27 31.3 +0.9**
GOET IAmb IAmb 00 27 32.2
comp=Z,597nm,0.8s
PGB Panagyurishte 81.60 314 P **P** **00 27 30.8 0.0**
SNART Snartemo 81.60 333 *eP* **P** **00 27 30.4 0.0**
SNART Snartemo 81.60 333 *i* P **P** **00 27 29.0 -1.4**
SNART *i* P **P** **00 27 30.3 0.0**
TURN Turunc 81.61 307 *eP* **P** **00 27 30.4 -0.4**
BZS Buzias 81.65 317 ⇑P **P** **00 27 30.7 -0.2**
RZN Rozhen 81.67 313 P **P** **00 27 31.9 +0.6**
BOZC Bozcaada 81.67 311 *eP* **P** **00 27 31.8 +0.7**
BLCB Balcova 81.69 309 P **P** **00 27 30.2 -1.1**
BLCB Balcova 81.69 309 *eP* **P** **00 27 31.2 -0.1**
MLSB Milas 81.69 308 *eP* **P** **00 27 31.9 +0.5**
B05A Bryant 81.70 40 P **P** **00 27 31.9 +0.8**
baz=302,SNR=6.0
VYHS Vyhne 81.76 321 *eP* **P** **00 27 31.6 +0.1**
VYHS pmax pmax
comp=Z,105nm,0.9s
VYHS Vyhne 81.76 321 *eP* **P** **00 27 31.6 +0.1**
MORC Moravsky Berou 81.78 322 ⇑P **P** **00 27 32.3 +0.6**
MORC Moravsky Berou 81.78 322 *eP* **P** **00 27 31.9 +0.3**
MORC Moravsky Berou 81.78 322 P **P** **00 27 30.8 -0.8**
MORC pmax pmax
comp=Z,70nm,1.0s
MORC MLR MLR
comp=Z,4μm,18.0s
MORC Moravsky Berou 81.78 322 P **P** **00 27 30.8 -0.8**
MORC IAmb IAmb 00 27 33.4
comp=Z,70nm,1.0s
PRK Paraskevi 81.81 310 P **P** **00 27 32.0 +0.1**
KSP Ksiaz 81.87 324 *eP* **P** **00 27 32.6 +0.6**
KSP *eS* **S** **00 37 38.7 -3.2**
KSP *eL* L 01 07 18.2
comp=Z,6μm,17.4s
ARG Arkhangelos 81.95 307 P **P** **00 27 31.4 -1.3**
MUD Monsted U'grnd 81.97 331 *i* P **P** **00 27 32.6 +0.3**
MUD pmax pmax
comp=Z,160nm,0.9s
MUD Monsted U'grnd 81.97 331 *i* P **P** **00 27 32.6 +0.3**
comp=Z,158nm,0.9s
MUD Monsted U'grnd 81.97 331 *i* P **P** **00 27 32.6 +0.3**
MUD IAmb IAmb 00 27 33.5
comp=Z,158nm,0.9s
URLA Izmir 82.01 309 *eP* **P** **00 27 32.9 -0.1**
MDVR Moldovita 82.02 316 ⇓P **P** **00 27 32.6 -0.3**
KRLC Kraliky 82.03 323 AMS AMS 01 07 20.0
comp=Z,6μm,16.9s
BANR Banloc 82.06 317 ⇑P **P** **00 27 33.9 +0.8**
OSTC Ostas 82.07 323 *eP* **P** **00 27 33.6 +0.6**
OSTC *ex* x 00 27 41.0
OSTC AMS AMS 01 07 20.0
comp=Z,6μm,17.1s
DPC Dobruska-Polom 82.12 323 *eP* **P** **00 27 33.6 +0.2**
DPC *ex* x 00 27 43.4
DPC AMS AMS 01 07 30.0
comp=Z,6μm,17.5s
DPC Dobruska-Polom 82.12 323 *eP* **P** **00 27 33.6 +0.2**
DPC *e* 00 27 43.4
DPC MLR MLR
comp=Z,6μm,17.5s
BODT Bodrum 82.13 308 *eP* **P** **00 27 33.7 +0.1**
CHVC Chvalec 82.13 324 *eP* **P** **00 27 33.5 +0.1**
CHVC AMS AMS 01 07 30.0
comp=Z,6μm,17.5s
SMG Samos 82.16 308 P **P** **00 27 29.8 -3.9**

VTS Vitosha 82.16 314 P **P** **00 27 34.2 +0.3**
THAS Thassos island 82.19 312 P **P** **00 27 32.8 -1.0**
UPC Upice 82.20 323 *eP* **P** **00 27 34.2 +0.5**
UPC AMS AMS 01 07 30.0
comp=Z,6μm,17.5s
UPC Upice 82.20 323 *eP* **P** **00 27 34.2 +0.5**
UPC MLR MLR
comp=Z,6μm,17.5s
JAVC Velka Javorina 82.22 321 *eP* **P** **00 27 35.6 +1.7**
RUE Ruedersdorf 82.22 326 *eP* **P** **00 27 34.9 +1.1**
RUE Ruedersdorf 82.22 326 *eP* **P** **00 27 35.1 +1.3**
comp=Z,163nm,1.0s,baz=53,slow=5.2
D05A Enumclaw 82.33 40 IAmb IAmb 00 27 51.1
comp=Z,64nm,1.0s
E04D Cinebar 82.33 41 P **P** **00 27 36.5 +2.0**
baz=302,SNR=6.0
MMB Musomiste 82.36 313 P **P** **00 27 34.7 -0.1**
NVR Nevrokopi 82.39 313 P **P** **00 27 32.3 -2.6**
SRO Srobarova 82.42 320 *eP* **P** **00 27 35.6 +0.7**
SRO pmax pmax
comp=Z,30nm,0.9s
SRO Srobarova 82.42 320 *eP* **P** **00 27 35.6 +0.7**
TEND Ethiopian Broa 82.49 279 *i* P **P** **00 27 38.1 +2.2**
SMOL Smolenice 82.54 321 *eP* **P** **00 27 36.9 +1.4**
SMOL pmax pmax
comp=Z,64nm,1.0s
SMOL Smolenice 82.54 321 *eP* **P** **00 27 36.9 +1.4**
VRAC Vranov 82.56 322 ⇓P **P** **00 27 36.4 +0.7**
VRAC Vranov 82.56 322 *eP* **P** **00 27 36.6 +1.0**
KKB Krupnik 82.64 313 P **P** **00 27 36.3 +0.1**
SRS Serrai 82.68 313 P **P** **00 27 35.2 -1.2**
MODS Modra-Piesok 82.70 321 *eP* **P** **00 27 36.4 0.0**
MODS pmax pmax
comp=Z,97nm,1.2s
MODS Modra-Piesok 82.70 321 *eP* **P** **00 27 36.4 0.0**
F04A Amboy 82.75 42 IAmb IAmb 00 27 39.1
comp=Z,61nm,0.9s
KRUC Moravsky 82.81 322 *eP* **P** **00 27 37.5 +0.6**
OUR Ouranopolis 82.82 312 P **P** **00 27 35.5 -1.6**
COR Corvallis 82.94 43 P **P** **00 27 38.9 +1.3**
COR pmax pmax
comp=Z,141nm,1.1s
COR Corvallis 82.94 43 P **P** **00 27 38.9 +1.3**
COR IAmb IAmb 00 27 41.0
comp=Z,141nm,1.1s
SKMB Sankelmark Bun 82.94 329 *eP* **P** **00 27 39.1 +1.7**
comp=Z,143nm,1.0s,baz=53,slow=5.2
PVCC Panska Ves 82.95 324 *eP* **P** **00 27 38.6 +1.0**
PVCC AMS AMS 01 08 00.0
comp=Z,6μm,17.1s
PVCC Panska Ves 82.95 324 *eP* **P** **00 27 38.6 +1.0**
PVCC MLR MLR
comp=Z,6μm,17.1s
KARP Karpathos 82.96 306 IAMs_20 IAMs_20 01 10 31.1
comp=Z,864nm,20.0s
BSEG Bad Segeberg 83.02 328 *eP* **P** **00 27 39.1 +1.2**
comp=Z,230nm,0.9s,baz=53,slow=5.2
BRG Berggiesshubel 83.07 325 ⇑*iP* **P** **00 27 38.6 +0.4**
comp=Z,56nm,1.0s
BRG *i* pP **pP** **00 27 51.5 -0.1**
comp=Z,18nm,1.4s
BRG PP **PP** **00 30 43.0 -6.0**
BRG SS SS 00 43 04.0 -14
BRG *e*PKPPKP P'P'df 00 54 00.5 -8.1
comp=Z,4.2nm,1.1s
comp=N,3μm,17.3s
comp=E,4μm,16.4s
comp=Z,6μm,16.7s
BRG Berggiesshubel 83.07 325 ⇑*iP* **P** **00 27 38.6 +0.4**
BRG *i* *PP **pP** **00 27 51.5 -0.1**
BRG 00 30 43.0
BRG pmax pmax
comp=Z,56nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.4s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,3μm,17.3s
BRG MLR MLR
comp=E,4μm,16.4s
BRG MLR MLR
comp=Z,6μm,16.7s
BRG Berggiesshubel 83.07 325 *eP* **P** **00 27 39.3 +1.1**
comp=Z,56nm,1.0s,baz=53,slow=5.2
MORH Mrgy, Hungar 83.10 319 ⇑*iP* **P** **00 27 37.7 -0.7**
KNT Kendrikon 83.11 313 P **P** **00 27 35.9 -2.8**
PLG Polygyros 83.15 312 P **P** **00 27 36.2 -2.7**
TREC Trest 83.17 323 *eP* **P** **00 27 39.7 +0.9**
TREC AMS AMS 01 08 00.0
comp=Z,5μm,16.8s
TREC Trest 83.17 323 *eP* **P** **00 27 39.7 +0.9**
TREC MLR MLR
comp=Z,5μm,16.8s
B08A Colville Reser 83.19 38 IAmb IAmb 00 27 41.2
comp=Z,66nm,0.9s
PRU Pruhonice 83.27 324 *eP* **P** **00 27 39.1 -0.2**
PRU *ep*P **pP** **00 27 53.5 +0.8**
PRU AMS AMS 01 08 10.0
comp=Z,5μm,16.2s
PRU Pruhonice 83.27 324 *eP* **P** **00 27 39.1 -0.2**
PRU *e* 00 27 53.5
PRU MLR MLR
comp=Z,5μm,16.2s
PRA Prague 83.28 324 AMS AMS 01 08 10.0
comp=Z,3μm,17.3s
J01E Myrtle Point 83.29 45 P **P** **00 27 41.5 +2.0**
baz=302,SNR=6.0
CLL Collm 83.30 325 *i* P **P** **00 27 39.4 0.0**
comp=Z,163nm,1.0s
CLL Lmax 00 09 00.0
CLL Collm 83.30 325 *i* P **P** **00 27 39.4 0.0**
CLL pmax pmax
comp=Z,163nm,1.0s
CLL Collm 83.30 325 *eP* **P** **00 27 40.2 +0.8**
comp=Z,162nm,1.0s,baz=53,slow=5.2
STIP Stip 83.30 314 *i* P **P** **00 27 38.6 -1.0**
H04D Lebanon 83.31 43 P **P** **00 27 41.1 +1.5**
baz=302
F05D White Salmon 83.34 41 P **P** **00 27 41.4 +1.7**
baz=303
ICESG Greenland Ices 83.34 356 ⇑*iP* **P** **00 27 40.0 +0.3**
ICESG IAmb IAmb 00 27 41.0
comp=Z,113nm,0.9s
FBE Freiberg 83.35 325 *eP* **P** **00 27 41.1 +1.4**
comp=Z,190nm,1.1s,baz=53,slow=5.2
FBE *ep*P **pP** **00 27 53.6 +0.6**
baz=53,slow=5.2
APE Apeiranthos 83.37 308 ⇓P **P** **00 27 39.2 -0.9**
APE Apeiranthos 83.37 308 *ceP* **P** **00 27 38.4 -1.7**
APE pmax pmax
comp=Z,30nm,1.0s
APE MLR MLR
comp=Z,1μm,25.0s
I03D Drain, OR 83.37 44 P **P** **00 27 42.0 +2.1**
baz=302,SNR=9.0
DIVS Divibare 83.42 317 ⇑*iP* **P** **00 27 40.0 -0.3**
DIVS Divibare 83.42 317 IAmb IAmb 00 27 41.5
comp=Z,85nm,0.9s
TEKS Tekeris 83.47 317 ⇑*iP* **P** **00 27 40.6 +0.2**
ANAF Anafi Island 83.55 308 P **P** **00 27 39.4 -1.6**
H04A Detroit Lake 83.56 43 P **P** **00 27 41.5 +0.5**
ILULI Ilulissat 83.61 360 P **P** **00 27 40.8 +0.1**
ILULI pmax pmax
comp=Z,150nm,1.0s
ILULI Ilulissat 83.61 360 P **P** **00 27 40.8 +0.1**
ILULI Ilulissat 83.61 360 *i* P **P** **00 27 40.7 +0.1**
comp=Z,140nm,1.0s
ILULI Ilulissat 83.61 360 *i* P **P** **00 27 40.8 +0.1**
ILULI IAmb IAmb 00 27 41.6
comp=Z,141nm,1.0s
SKO Skopje 83.64 314 *i* P **P** **00 27 41.9 +0.5**
K02D Willamette Mer 83.70 45 P **P** **00 27 43.1 +1.3**
baz=302,SNR=7.8
CONA Conrad Observa 83.74 321 *eP* **P** **00 27 42.7 +0.9**
comp=Z,46nm,0.7s,SNR=26
PBCC Pribram 83.74 324 *eP* **P** **00 27 41.8 +0.1**
SANT Santorini 83.77 308 ⇑P **P** **00 27 41.2 -1.0**
SANT Santorini 83.77 308 IAmb IAmb 00 27 41.8
comp=Z,120nm,1.1s
G05D Wamic, OR 83.78 42 P **P** **00 27 43.7 +1.6**
baz=303
THR6 Thira Island, 83.82 308 P **P** **00 27 38.2 -4.1**
XOR Xorichti 83.83 311 P **P** **00 27 37.2 -5.2**
ZKR Zakros 83.84 306 P **P** **00 27 41.6 -0.9**

SJES Sjenica 83.88 316 ⇑*iP* **P** **00 27 42.5 -0.2**
STIA Sitia Lasithi 83.89 306 P **P** **00 27 42.3 -0.4**
I04A Tendick Farm, 83.90 44 P **P** **00 27 44.0 +1.3**
baz=303,SNR=20
E07A Sunnyside 83.91 40 IAmb IAmb 00 27 59.0
comp=Z,70nm,1.0s
BBLS Lazići 83.91 317 ⇑*iP* **P** **00 27 42.9 +0.1**
LIT Litokhoron 83.92 312 P **P** **00 27 41.7 -1.1**
ASSE Asse, Remlinge 83.96 327 *eP* **P** **00 27 44.0 +1.3**
comp=Z,284nm,1.7s,baz=53,slow=5.2
ASSE *ep*P **pP** **00 27 56.5 +0.4**
baz=53,slow=5.2
NEUB Neuenburg 83.98 326 *eP* **P** **00 27 44.0 +1.1**
comp=Z,253nm,0.9s,baz=53,slow=5.2
NEUB *ep*P **pP** **00 27 56.6 +0.3**
baz=53,slow=5.2
NRDL Niedersach Rie 84.01 327 *eP* **P** **00 27 44.4 +1.5**
comp=Z,137nm,1.1s,baz=53,slow=5.2
L02E Cave Junction 84.03 45 P **P** **00 27 45.0 +1.6**
baz=302,SNR=5.7
BEHE Becsehely 84.04 320 ⇑*iP* **P** **00 27 45.7 +2.4**
RUDO Rudo 84.06 316 *eP* **P** **00 27 42.7 -0.8**
HAPS Han Pijesak,Bl 84.06 317 ⇑*iP* **P** **00 27 43.4 -0.2**
C09A Chrisman Ranch 84.09 39 IAmb IAmb 00 28 00.3
comp=Z,97nm,1.4s
TANN Tannenbergstha 84.11 325 *eP* **P** **00 27 44.7 +1.0**
comp=Z,161nm,1.1s,baz=53,slow=5.2
TANN *ep*P **pP** **00 27 57.1 +0.1**
baz=53,slow=5.2
ATHU Athens Univers 84.13 310 P **P** **00 27 41.9 -2.1**
IVA Berane 84.14 316 ⇑*iP* **P** **00 27 43.4 -0.6**
D08A Wollman Farm, 84.16 39 IAmb IAmb 00 27 46.2
comp=Z,59nm,0.9s
WERD Werda 84.17 325 *eP* **P** **00 27 44.8 +0.9**
comp=Z,48nm,1.0s,baz=53,slow=5.2
HAWA Hanford 84.18 40 IAmb IAmb 00 27 46.6
comp=Z,58nm,1.1s
VLY Voula,Athens 84.18 310 P **P** **00 27 41.1 -3.1**
NPS Neapolis 84.20 307 P **P** **00 27 42.9 -1.5**
GUNZ Gunzen 84.20 325 *eP* **P** **00 27 45.3 +1.2**
comp=Z,141nm,1.0s,baz=53,slow=5.2
GUNZ *ep*P **pP** **00 27 57.7 +0.2**
baz=53,slow=5.2
PLE Pljevlja 84.20 316 ⇓*iP* **P** **00 27 43.8 -0.6**
PLN Plauen 84.22 325 *eP* **P** **00 27 45.2 +1.0**
comp=Z,91nm,1.0s,baz=53,slow=5.2
NKC Novy Kostel 84.22 325 *eP* **P** **00 27 44.7 +0.5**
NKC AMS AMS 01 08 50.0
comp=Z,6μm,16.9s
NKC Novy Kostel 84.22 325 *eP* **P** **00 27 44.7 +0.5**
NKC MLR MLR
comp=Z,6μm,16.9s
WERN Wernitzgruen 84.23 325 *eP* **P** **00 27 45.4 +1.2**
comp=Z,169nm,1.0s,baz=53,slow=5.2
WERN *ep*P **pP** **00 27 57.9 +0.3**
baz=53,slow=5.2
F07A Phinny Hill Vi 84.23 41 IAmb IAmb 00 28 02.0
comp=Z,59nm,1.0s
PVY Plav 84.24 315 ⇑*iP* **P** **00 27 43.9 -0.7**
I05D Terrebonne, OR 84.25 43 P **P** **00 27 45.9 +1.4**
baz=303,SNR=9.8
KHC Kasperske Hory 84.28 323 *eP* **P** **00 27 44.7 +0.2**
KHC *ep*P **pP** **00 27 57.4 -0.5**
KHC AMS AMS 01 08 40.0
comp=Z,6μm,17.0s
KHC Kasperske Hory 84.28 323 *ciP* **P** **00 27 44.8 +0.2**
KHC pmax pmax
comp=Z,111nm,1.1s
KHC MLR MLR
comp=Z,10μm,17.0s
ATAL Atalanti 84.28 311 P **P** **00 27 42.7 -2.0**
KZN Kozani 84.28 313 P **P** **00 27 43.4 -1.4**
CLZ Clausthal 84.29 327 *eP* **P** **00 27 46.0 +1.5**
comp=Z,373nm,1.0s,baz=53,slow=5.2
ARSA Arzberg 84.31 321 *eP* **P** **00 27 45.1 +0.4**
comp=Z,31nm,1.4s,SNR=9.9
LKR Lokris 84.32 311 P **P** **00 27 42.2 -2.7**
LAST Lasithi 84.35 307 P **P** **00 27 44.4 -0.8**
KOGS Kog 84.35 320 *i* P **P** **00 27 44.5 -0.3**
VILL Villia 84.36 310 P **P** **00 27 42.0 -3.1**
J04D Umpqua Nationa 84.38 44 P **P** **00 27 46.8 +1.5**
baz=303,SNR=20
KOME Kolasin 84.38 316 ⇑*iP* **P** **00 27 44.7 -0.5**
GEC2 GERESS Array S 84.39 323 *eP* **P** **00 27 46.0 +0.9**
comp=Z,80nm,1.2s,baz=53,slow=5.2
GEC2 *ep*P **pP** **00 27 58.4 -0.1**
baz=53,slow=5.2
GEC2 GERESS Array S 84.39 323 IAmb IAmb 00 27 46.7
comp=Z,71nm,1.1s
GEC2 IAMs_20 IAMs_20 01 10 29.0
comp=Z,2μm,18.0s
GERES GERESS Array B 84.39 323 P **P** **00 27 45.4 +0.2**
comp=Z,37nm,0.9s,baz=53,slow=5.2,SNR=78
GERES LR LR 01 07 53.7
comp=Z,1μm,20.4s,baz=62,slow=38
GERES GERESS Array B 84.39 323 P **P** **00 27 45.7 +0.6**
GERES GERESS Array B 84.39 323 P **P** **00 27 45.7 +0.6**
E08A Dider Farm, El 84.40 40 IAmb IAmb 00 27 47.6
comp=Z,44nm,0.9s
MOX Moxa 84.40 325 *eP* **P** **00 27 46.1 +1.0**
comp=Z,75nm,1.1s,baz=53,slow=5.2
MOX *eL* L 01 14 16.6
comp=Z,2μm,21.0s
PHP Peshkopia 84.42 314 P **P** **00 27 44.0 -1.4**
NEW Newport 84.46 38 P **P** **00 27 46.4 +1.0**
comp=Z,59nm,0.8s,baz=302,slow=4.2,SNR=106
NEW Newport 84.46 38 P **P** **00 27 46.4 +1.0**
baz=306
NEW Newport 84.46 38 IAmb IAmb 00 27 47.7
comp=Z,60nm,0.8s
AXAR Agios Charalam 84.49 311 P **P** **00 27 43.3 -2.5**
OHR Ohrid 84.50 314 *i* P **P** **00 27 44.9 -0.9**
THL Klokotos Trika 84.51 312 P **P** **00 27 42.4 -3.4**
HRKL Herakleio 84.54 307 P **P** **00 27 42.6 -3.4**
MANZ Manzenberg 84.55 325 *eP* **P** **00 27 47.0 +1.2**
comp=Z,103nm,1.1s,baz=53,slow=5.2
MANZ *ep*P **pP** **00 27 59.4 +0.2**
baz=53,slow=5.2
KSTL Kastelli Herak 84.57 307 P **P** **00 27 45.1 -1.1**
UPM Unac-Piva 84.57 316 ⇑*iP* **P** **00 27 45.6 -0.7**
UPM Unac-Piva 84.57 316 ⇑*iP* **P** **00 27 46.6 +0.3**
AGG Agios Georgios 84.58 311 P **P** **00 27 43.1 -3.1**
ANKE Ethiopia-Afar 84.59 278 *iP* **P** **00 27 49.7 +2.6**
KHMM Horse Mountain 84.62 47 IAmb IAmb 00 28 03.1
comp=Z,112nm,1.4s
ROTZ Rotzenmuhle 84.62 324 *eP* **P** **00 27 47.6 +1.4**
comp=Z,179nm,1.1s,baz=53,slow=5.2
ROTZ *ep*P **pP** **00 27 59.9 +0.3**
baz=53,slow=5.2
WET Wettzell 84.65 324 *eP* **P** **00 27 47.6 +1.2**
comp=Z,71nm,1.3s,baz=53,slow=5.2
MOA Molln 84.66 322 *eP* **P** **00 27 47.0 +0.6**
comp=Z,59nm,1.1s,SNR=16
GTTG Gottingen 84.67 327 *eP* **P** **00 27 47.7 +1.3**
comp=Z,243nm,1.0s,baz=53,slow=5.2
NEST Nestorio 84.70 313 P **P** **00 27 44.7 -2.2**
IDI Anoyia 84.70 307 P **P** **00 27 44.7 -2.3**
IDI Anoyia 84.70 307 ⇑P **P** **00 27 46.1 -0.8**
IDI Anoyia 84.70 307 IAmb IAmb 00 28 31.7
comp=Z,73nm,1.0s
MAKR Makrakomi, Fth 84.72 311 P **P** **00 27 44.1 -2.8**
NKY Niksic 84.73 316 ⇓*iP* **P** **00 27 46.5 -0.5**
BLY Banja Luka 84.76 318 ⇑*iP* **P** **00 27 46.4 -0.6**
PDG Podgorica 84.77 315 ⇑P **P** **00 27 47.3 +0.3**
PDG Podgorica 84.77 315 ⇑*iP* **P** **00 27 46.6 -0.4**
TTG Podgorica 84.77 315 ⇑*iP* **P** **00 27 46.9 -0.1**
NKME Niksic 84.78 316 ⇓*iP* **P** **00 27 46.8 -0.4**
L04D Klamath Falls 84.81 45 P **P** **00 27 48.7 +1.3**
baz=303,SNR=18
YBH Yreka Blue Hor 84.82 45 P **P** **00 27 48.5 +1.0**
YBH pmax pmax
comp=Z,57nm,1.1s
YBH Yreka Blue Hor 84.82 45 P **P** **00 27 48.5 +1.0**
YBH IAmb IAmb 00 28 03.9
comp=Z,57nm,1.1s
KRND KRANIDI 84.86 310 P P 00 27 42.0 -5.6
J05D Fort Rock, OR 84.89 43 P **P** **00 27 49.5 +1.6**
baz=303,SNR=28
SIVA Sivas 84.89 307 P **P** **00 27 44.4 -3.4**
TMBK Timbaki Herakl 84.90 307 P P 00 27 43.0 -4.8
E09A Wood Farm, Sta 84.90 40 IAmb IAmb 00 27 50.3
comp=Z,59nm,1.0s
M02C Callahan 84.91 46 P **P** **00 27 49.5 +1.6**
baz=302,SNR=12
SOKA Soboth 84.91 321 *eP* **P** **00 27 48.0 +0.2**

	comp=Z,56nm,0.9s,SNR=18									
CEME	**Cevo**	**84.92**	**316**	⇑*i*	P		**P**	**00 27 47.6**	**-0.3**	
K04D	**Chiloquin, OR**	**84.93**	**44**		P		**P**	**00 27 49.5**	**+1.4**	
	baz=303,SNR=8.6									
DRME	**Dracevica, Mon**	**84.95**	**315**	⇑*i*	P		**P**	**00 27 47.8**	**-0.2**	
DRME	**Dracevica, Mon**	**84.95**	**315**	⇑*i*	P		**P**	**00 27 47.6**	**-0.4**	
BRY	**Bratogost**	**84.96**	**316**	⇑*i*	P		**P**	**00 27 47.7**	**-0.5**	
BRY	**Bratogost**	**84.96**	**316**	*eP*			**P**	**00 27 47.6**	**-0.6**	
TIR	**Tirane**	**84.97**	**314**	⇑P			**P**	**00 27 48.3**	**+0.2**	
KMRM	**Mail Ridge**	**84.98**	**47**		IAmb	IAmb		00 28 04.8		
	comp=Z,80nm,1.3s									
EVR	**Evrytania**	**84.98**	**311**		P		**P**	**00 27 45.3**	**-3.0**	
ULC	**Ulcinj**	**85.03**	**315**	⇑*i*	P		**P**	**00 27 48.1**	**-0.3**	
KALE	**Kalithea**	**85.03**	**311**		P		P	00 27 43.3	-5.3	
BUM	**Brajici-Budva**	**85.07**	**315**	⇑*i*	P		**P**	**00 27 48.2**	**-0.5**	
ANX	**Ano Chora**	**85.07**	**311**		P		**P**	**00 27 46.2**	**-2.6**	
UBBA	**Unterbreizbach**	**85.10**	**326**	*eP*			**P**	**00 27 49.8**	**+1.3**	
	comp=Z,213nm,1.7s,baz=53,slow=5.2									
GUR	**Goura**	**85.13**	**310**		P		**P**	**00 27 45.4**	**-3.7**	
LSK	**Leskovik**	**85.13**	**313**		P		**P**	**00 27 44.9**	**-4.1**	
VAM	**Vamos**	**85.13**	**307**		P		P	00 27 44.1	-4.9	
EFP	**Efpalio**	**85.17**	**311**		P		**P**	**00 27 46.2**	**-2.9**	
GRF	**Grafenberg Arr**	**85.18**	**325**	*eP*			**P**	**00 27 50.5**	**+1.5**	
	comp=Z,245nm,1.1s,baz=53,slow=5.2									
GRF				*eL*			L	01 09 49.2		
	comp=Z,5µm,18.1s									
KLV	**Kalavryta, Ach**	**85.20**	**311**		P		**P**	**00 27 46.4**	**-3.0**	
N02D	**Trinity Center**	**85.22**	**46**		P		**P**	**00 27 51.1**	**+1.6**	
	baz=303,SNR=10									
JAN	**Janina**	**85.23**	**312**		P		**P**	**00 27 47.1**	**-2.4**	
HCY	**Herceg Novi**	**85.23**	**316**	⇑*i*	P		**P**	**00 27 49.3**	**-0.1**	
HCY	**Herceg Novi**	**85.23**	**316**	*eP*			**P**	**00 27 49.3**	**-0.1**	
IBBN	**Ibbenburen**	**85.25**	**328**	*eP*			**P**	**00 27 50.2**	**+0.9**	
	comp=Z,268nm,1.0s,baz=53,slow=5.2									
IMMV	**Iera Moni Meta**	**85.26**	**308**		P		**P**	**00 27 45.4**	**-4.3**	
OBKA	**Obir**	**85.28**	**321**	*eP*			**P**	**00 27 49.6**	**-0.1**	
	comp=Z,40nm,0.9s,SNR=10									
PDKS	**Podkum**	**85.29**	**320**	*i* P			**P**	**00 27 49.9**	**+0.2**	
M04C	**Macdoel**	**85.34**	**45**		P		**P**	**00 27 51.6**	**+1.5**	
	baz=303,SNR=26									
KCPM	**Cahto Peak**	**85.34**	**47**		IAmb	IAmb		00 28 07.8		
	comp=Z,151nm,1.5s									
VLI	**Veliai**	**85.35**	**309**		P		**P**	**00 27 45.9**	**-4.2**	
RER	**Riviere de l'E**	**85.36**	**243**		P		**P**	**00 27 51.1**	**+0.7**	
RER					IAmb	IAmb		00 28 17.2		
	comp=Z,101nm,1.1s									
TRIP	**Tripoli**	**85.39**	**310**		P		P	00 27 44.8	-5.6	
K05A	**Summer Lake**	**85.41**	**44**		IAmb	IAmb		00 28 17.4		
	comp=Z,127nm,1.2s									
BOJS	**Bojanci**	**85.46**	**320**	*i* P			**P**	**00 27 50.4**	**-0.1**	
I07A	**Izee**	**85.50**	**42**		IAmb	IAmb		00 28 07.4		
	comp=Z,60nm,1.3s									
WDC	**Whiskeytown Da**	**85.54**	**46**		IAmb	IAmb		00 28 07.0		
	comp=Z,67nm,1.1s									
DRO	**Drossia**	**85.55**	**311**		P		P	00 27 46.1	-5.0	
LJU	**Ljubljana**	**85.56**	**320**	*i* P			**P**	**00 27 51.0**	**+0.1**	
LJU	**Ljubljana**	**85.56**	**320**	⇑*i*	P		**P**	**00 27 50.9**	**-0.1**	
KNDR	**Palaiochora Ch**	**85.58**	**307**		P		**P**	**00 27 48.8**	**-2.4**	
O02D	**Mt. Diablo Mer**	**85.60**	**47**		P		**P**	**00 27 53.1**	**+1.7**	
	baz=303,SNR=19									
KBA	**Koelnbreinsper**	**85.62**	**322**	*i* P			**P**	**00 27 51.2**	**-0.3**	
	comp=Z,24nm,0.7s									
IGT	**Igoumenitsa**	**85.63**	**313**		P		**P**	**00 27 47.9**	**-3.6**	
SRN	**Sarande**	**85.66**	**313**		P		**P**	**00 27 47.7**	**-3.9**	
WALA	**Waterton Lakes**	**85.69**	**36**		P		**P**	**00 27 53.2**	**+1.5**	
WALA					IAmb	IAmb		00 28 08.0		
	comp=Z,72nm,1.1s									
MYKA	**Terra Mystica**	**85.72**	**321**	*eP*			**P**	**00 27 51.1**	**-0.7**	
	comp=Z,38nm,0.7s									
CEY	**Cerknica**	**85.80**	**320**	⇑*i*	P		**P**	**00 27 51.4**	**-0.8**	
ITM	**Ithomi**	**85.80**	**310**		P		**P**	**00 27 49.7**	**-2.7**	
LKD2	**Lefkada island**	**85.81**	**312**		P		P	00 27 46.3	-6.1	
SFJD	**Kangerlussuaq**	**85.84**	**360**		P		**P**	**00 27 52.0**	**+0.1**	
SFJD					pmax	pmax				
	comp=Z,140nm,1.3s									
SFJD	**Kangerlussuaq**	**85.84**	**360**		P		**P**	**00 27 52.0**	**+0.1**	
SFJD	**Kangerlussuaq**	**85.84**	**360**	*i* P			**P**	**00 27 51.5**	**-0.3**	
SFJD	**Kangerlussuaq**	**85.84**	**360**	*i* P			**P**	**00 27 51.5**	**-0.3**	
KEK	**Kerkira**	**85.89**	**313**		P		**P**	**00 27 49.5**	**-3.2**	
JAVS	**Javornik**	**85.92**	**320**	*eP*			**P**	**00 27 52.1**	**-0.7**	
BUG	**Bochum--Univer**	**86.04**	**328**	*eP*			**P**	**00 27 54.1**	**+0.9**	
	comp=Z,115nm,1.2s,baz=53,slow=5.2									
PYL	**PYLOS**	**86.08**	**310**		P		**P**	**00 27 50.0**	**-3.7**	
FUR	**Furstenfeldbru**	**86.08**	**323**	*eP*			**P**	**00 27 55.0**	**+1.5**	
	comp=Z,256nm,1.0s,baz=53,slow=5.2									
FUR				*ep*	P		**pP**	**00 28 07.7**	**+0.8**	
	baz=53,slow=5.2									
ZOU	**Zoufplan**	**86.14**	**321**		IAmb	IAmb		00 27 54.6		
	comp=Z,49nm,0.9s									
O03E	**Paynes Creek**	**86.17**	**46**		P		**P**	**00 27 54.8**	**+0.6**	
	baz=303,SNR=16									
VLS	**Valsamata**	**86.18**	**311**		P		**P**	**00 27 51.2**	**-3.0**	
PSDA	**Pessada-Kefalo**	**86.22**	**311**		P		**P**	**00 27 50.9**	**-3.4**	
TNS	**Taunus Mts**	**86.25**	**326**	*eP*			**P**	**00 27 55.6**	**+1.2**	
	comp=Z,53nm,1.2s,baz=53,slow=5.2									
ABTA	**Abfaltersbach**	**86.28**	**322**	*eP*			**P**	**00 27 53.7**	**-0.9**	
	comp=Z,82nm,1.1s,SNR=18									
DMLN	**Damoulianata-K**	**86.29**	**311**		P		**P**	**00 27 52.4**	**-2.4**	
JTMT	**Jette**	**86.30**	**37**		IAmb	IAmb		00 27 57.3		
	comp=Z,46nm,0.9s									
GDXM	**Geysers**	**86.33**	**48**		IAmb	IAmb		00 28 12.8		
	comp=Z,90nm,1.2s									
DRUM	**Mains of Drumt**	**86.35**	**336**	*eP*			**P**	**00 27 54.2**	**-0.4**	
DRUM					IAmb	IAmb		00 27 57.1		
	comp=Z,127nm,1.2s									
WATA	**Walderalm**	**86.43**	**323**	*eP*			**P**	**00 27 54.9**	**-0.5**	
	comp=Z,48nm,0.8s,SNR=11									
WTTA	**Wattenberg**	**86.44**	**323**	*i* P			**P**	**00 27 55.0**	**-0.5**	
	comp=Z,112nm,1.2s,SNR=23									
J08A	**Circle Bar Ran**	**86.52**	**42**		IAmb	IAmb		00 28 13.1		
	comp=Z,120nm,1.3s									
SCTE	**Santa Cesarea**	**86.55**	**314**		IAmb	IAmb		00 28 14.6		
	comp=Z,38nm,1.0s									
CIMO	**Cimolais**	**86.58**	**321**		IAmb	IAmb		00 27 56.5		
	comp=Z,42nm,1.0s									
MOTA	**Moosalm**	**86.68**	**323**	*eP*			**P**	**00 27 56.2**	**-0.5**	
	comp=Z,51nm,0.8s,SNR=25									
SQTA	**Sankt Quirin**	**86.70**	**323**	*eP*			**P**	**00 27 56.2**	**-0.6**	
	comp=Z,89nm,1.3s,SNR=18									
ORV	**Oroville**	**86.77**	**47**		IAmb	IAmb		00 28 13.8		
	comp=Z,95nm,1.2s									
RETA	**Reutte**	**86.77**	**323**	*eP*			**P**	**00 27 56.8**	**-0.2**	
	comp=Z,18nm,0.7s,SNR=7.6									
STU	**Stuttgart**	**86.79**	**325**		P		**P**	**00 27 56.6**	**-0.4**	
STU					pmax	pmax				
	comp=Z,60nm,1.0s									
STU					MLR	MLR				
	comp=Z,5µm,18.0s									
STU	**Stuttgart**	**86.79**	**325**	*eP*			**P**	**00 27 57.9**	**+0.9**	
	comp=Z,79nm,1.2s,baz=53,slow=5.2									
STU	**Stuttgart**	**86.79**	**325**		P		**P**	**00 27 56.6**	**-0.4**	
STU					IAmb	IAmb		00 27 58.7		
	comp=Z,60nm,1.0s									
KAC	**Achnashellach**	**86.91**	**337**	*eP*			**P**	**00 27 56.9**	**-0.4**	
UBR	**Ueberruh**	**87.00**	**323**	*eP*			**P**	**00 27 59.2**	**+1.1**	
	comp=Z,83nm,1.0s,baz=53,slow=5.2									
MSO	**Missoula**	**87.05**	**38**		P		**P**	**00 27 59.0**	**+0.6**	
	baz=308,SNR=14									
MSO	**Missoula**	**87.05**	**38**		IAmb	IAmb		00 28 15.3		
	comp=Z,84nm,1.3s									
FETA	**Feichten**	**87.08**	**323**	*eP*			**P**	**00 27 58.3**	**-0.3**	
	comp=Z,32nm,0.8s,SNR=16									
FCC	**Fort Churchill**	**87.09**	**21**		IAmb	IAmb		00 27 59.5		
	comp=Z,89nm,0.9s									
ESY	**Stoneypath**	**87.14**	**335**	*eP*			**P**	**00 27 57.9**	**-0.6**	
KPL	**Plockton**	**87.16**	**337**	*eP*			**P**	**00 27 57.7**	**-0.8**	
CTI	**Castel Tesino**	**87.17**	**322**		IAmb	IAmb		00 27 59.9		
	comp=Z,40nm,0.9s									
MEM	**Membach**	**87.19**	**327**		P		**P**	**00 27 57.8**	**-1.0**	
MEM	**Membach**	**87.19**	**327**		PcP		**P**	**00 27 59.4**	**+0.6**	
INVG	**Invergeldie, C**	**87.28**	**336**	*eP*			**P**	**00 27 58.2**	**-1.0**	
SGRT	**San Giovanni R**	**87.32**	**316**		IAmb	IAmb		00 28 00.8		
	comp=Z,55nm,0.9s									
BEKR	**Beckworth**	**87.33**	**46**		IAmb	IAmb		00 28 16.4		
	comp=Z,114nm,1.2s									
DAVA	**Damuels**	**87.37**	**323**	*eP*			**P**	**00 27 59.5**	**-0.5**	
	comp=Z,44nm,0.6s,SNR=12									
FFC	**Flin Flon**	**87.37**	**27**		P		**P**	**00 28 00.0**	**+0.3**	
FFC					pmax	pmax				
	comp=Z,153nm,0.9s									
FFC	**Flin Flon**	**87.37**	**27**		P		**P**	**00 27 60.0**	**+0.3**	
EBL	**Broad Law**	**87.41**	**335**	*eP*			**P**	**00 27 59.4**	**-0.4**	
AFDM	**Forest Hills D**	**87.44**	**47**		IAmb	IAmb		00 28 17.5		
	comp=Z,96nm,1.3s									
BFO	**Black Forest**	**87.52**	**325**		P		**P**	**00 28 00.3**	**-0.2**	
BFO					pmax	pmax				
	comp=Z,40nm,1.1s									
BFO	**Black Forest**	**87.52**	**325**	*eP*			**P**	**00 28 01.6**	**+1.0**	
	comp=Z,58nm,1.3s,baz=53,slow=5.2									
BFO	**Black Forest**	**87.52**	**325**		P		**P**	**00 28 00.3**	**-0.2**	
BFO					IAmb	IAmb		00 28 02.3		
	comp=Z,40nm,1.1s									
EDMD	**Edmundbyers**	**87.69**	**334**	*eP*			**P**	**00 28 00.8**	**-0.4**	
EDMD					IAmb	IAmb		00 28 01.4		
	comp=Z,81nm,1.2s									
WLF	**Walferdange**	**87.74**	**327**		P		**P**	**00 28 01.1**	**-0.4**	
BGES	**Gesves**	**87.77**	**328**		PcP		**P**	**00 28 00.8**	**-0.9**	
ESK	**Eskdalemuir**	**87.81**	**335**	*eP*			**P**	**00 28 01.3**	**-0.4**	
LAWE	**Loch Awe, Argy**	**87.90**	**336**	*eP*			**P**	**00 28 00.9**	**-1.2**	
RUBR	**Rubicon Trail**	**87.92**	**47**		IAmb	IAmb		00 28 19.0		
	comp=Z,90nm,1.1s									
BMRD	**Maredsous**	**87.98**	**328**		P		**P**	**00 28 01.0**	**-1.6**	
BMRD					PcP		**PcP**	**00 28 02.7**	**-1.8**	
PAHR	**Pah Rah Range**	**88.04**	**46**		IAmb	IAmb		00 28 20.0		
	comp=Z,108nm,1.2s									
MFID	**Camas Ranch**	**88.05**	**41**		IAmb	IAmb		00 28 20.4		
	comp=Z,83nm,1.4s									
VCNR	**Virginia City**	**88.10**	**46**		IAmb	IAmb		00 28 20.5		
	comp=Z,33nm,0.9s									
TIP	**Timpagrande**	**88.14**	**314**	⇑P			**P**	**00 28 03.4**	**-0.4**	
TIP	**Timpagrande**	**88.14**	**314**		P		**P**	**00 28 03.0**	**-0.7**	
TUE	**Stuetta**	**88.17**	**323**		IAmb	IAmb		00 28 05.9		
	comp=Z,78nm,0.9s									
DOU	**Dourbes**	**88.20**	**328**		PcP		**P**	**00 28 03.7**	**0.0**	
NRCA	**Norcia**	**88.27**	**318**		IAmb	IAmb		00 28 07.7		
	comp=Z,72nm,1.1s									
INTR	**Introdaqua**	**88.29**	**317**		IAmb	IAmb		00 28 07.7		
	comp=Z,45nm,0.9s									
CMB	**Columbia Colle**	**88.33**	**47**		IAmb	IAmb		00 28 21.2		
	comp=Z,78nm,1.2s									
MURB	**Monte Urbino**	**88.36**	**319**		P		**P**	**00 28 05.1**	**+0.4**	
AQU	**L'Aquila**	**88.39**	**318**	⇑*i*	P		**P**	**00 28 04.6**	**-0.2**	
AQU	**L'Aquila**	**88.39**	**318**		IAmb	IAmb		00 28 23.9		
	comp=Z,71nm,0.9s									
EGMT	**Eagleton**	**88.48**	**35**		P		**P**	**00 28 06.2**	**+1.0**	
	baz=311,SNR=17									
EGMT	**Eagleton**	**88.48**	**35**		IAmb	IAmb		00 28 07.5		
	comp=Z,75nm,0.9s									
YERR	**Yerington**	**88.54**	**46**		IAmb	IAmb		00 28 22.7		
	comp=Z,87nm,1.3s									
NUUK	**Nuuk**	**88.67**	**0**	*eP*			**P**	**00 28 05.1**	**-0.5**	
WAKR	**Walker**	**88.69**	**47**		IAmb	IAmb		00 28 23.0		
	comp=Z,40nm,1.3s									
HLID	**Hailey**	**88.78**	**40**		P		**P**	**00 28 08.6**	**+1.8**	
	baz=308,SNR=57									
HLID	**Hailey**	**88.78**	**40**		IAmb	IAmb		00 28 09.9		
	comp=Z,42nm,0.9s									
CWF	**Charnwood Fore**	**88.97**	**332**	*eP*			**P**	**00 28 06.6**	**-0.7**	
CWF					IAmb	IAmb		00 28 08.1		
	comp=Z,36nm,1.1s									
CLGH	**Cloghs, Cushen**	**89.07**	**336**	*eP*			**P**	**00 28 06.3**	**-1.4**	
CLGH					IAmb	IAmb		00 28 07.4		
	comp=Z,60nm,1.0s									
BOZ	**Bozeman (W)**	**89.07**	**38**		P		**P**	**00 28 09.3**	**+1.2**	
	baz=310,SNR=31									
LATE	**Laterza**	**89.17**	**319**		P		**P**	**00 28 07.9**	**-0.6**	
RYN	**Ryan**	**89.20**	**46**		IAmb	IAmb		00 28 26.0		
	comp=Z,47nm,1.2s									
CEL	**Celeste**	**89.22**	**313**		IAmb	IAmb		00 28 34.4		
	comp=Z,43nm,0.9s									
KVN	**Kaiserville**	**89.23**	**46**		IAmb	IAmb		00 28 26.1		
	comp=Z,92nm,1.3s									
LHV	**Little Huntoon**	**89.43**	**46**		IAmb	IAmb		00 28 28.9		
	comp=Z,93nm,1.4s									
NVAR	**Mina Array Bea**	**89.46**	**46**		P		**P**	**00 28 11.4**	**+1.2**	
	comp=Z,7.7nm,0.9s,baz=287,slow=5.1,SNR=40									
NVAR					LR	LR		01 07 01.9		
	comp=Z,247nm,18.4s,baz=295,slow=35									
NVAR	**Mina Array Bea**	**89.46**	**46**		P		**P**	**00 28 11.1**	**+0.9**	
NV11	**Mina Array Sit**	**89.55**	**46**		IAmb	IAmb		00 28 27.6		
	comp=Z,47nm,1.4s									
PAGB	**Antelope Grade**	**89.71**	**49**		IAmb	IAmb		00 28 27.5		
	comp=Z,72nm,1.5s									
ELK	**Elko**	**90.01**	**43**		LR	LR		01 02 56.5		
	comp=Z,602nm,21.4s,baz=304,slow=32									
ELK	**Elko**	**90.01**	**43**		IAmb	IAmb		00 28 29.4		
	comp=Z,36nm,1.1s									
STRD	**Stroud**	**90.03**	**332**	*eP*			**P**	**00 28 12.1**	**-0.2**	
STRD					IAmb	IAmb		00 28 13.5		
	comp=Z,132nm,1.1s									
TIN	**Tinemaha, Big**	**90.30**	**47**		P		**P**	**00 28 15.9**	**+1.9**	
	baz=306									
H17A	**Grant Village**	**90.41**	**38**		P		**P**	**00 28 17.8**	**+3.3**	
	baz=310,SNR=18									
PKM	**Mcpherson Peak**	**90.48**	**50**		P		**P**	**00 28 16.3**	**+1.3**	
	baz=304									
BNI	**Bardonecchia**	**90.51**	**323**		IAmb	IAmb		00 28 36.2		
	comp=Z,43nm,1.5s									
IMW	**Indian Meadow**	**90.53**	**39**		IAmb	IAmb		00 28 32.9		
	comp=Z,47nm,1.1s									
RLMT	**Red Lodge**	**90.64**	**37**		P		**P**	**00 28 17.0**	**+1.5**	
	baz=311,SNR=23									
MOOW	**Moose Ponds**	**90.74**	**39**		P		**P**	**00 28 17.0**	**+1.0**	
CWC	**Cottonwood Cre**	**90.75**	**48**		P		**P**	**00 28 16.9**	**+0.7**	
	baz=306									
DGMT	**Dagmar**	**90.90**	**32**		P		**P**	**00 28 17.3**	**+0.8**	
	baz=315									
SNOW	**Snow King Moun**	**90.92**	**39**		IAmb	IAmb		00 28 33.7		
	comp=Z,34nm,1.1s									
REDW	**Red Top Meadow**	**90.93**	**39**		IAmb	IAmb		00 28 34.3		
	comp=Z,42nm,1.4s									
ISA	**Isabella, Lake**	**90.94**	**49**		P		**P**	**00 28 17.2**	**+0.3**	
	baz=305									
PPT	**Papeete**	**91.03**	**109**		LR	LR		01 05 40.1		
	comp=Z,682nm,18.1s,baz=288,slow=33									
PPT2	**Papeete2**	**91.04**	**109**	*eS*			**S**	**00 39 10.9**	**-1.2**	
	comp=Z,830nm,29.8s									
PPT2	**Papeete2**	**91.04**	**109**	*eLR*		LR		00 57 36.5		
	comp=Z,2µm,24.2s,baz=292									
LAO	**LASA Array**	**91.16**	**34**		P		**P**	**00 28 19.4**	**+1.7**	
	baz=314									
ABPO	**Ambohimpanom**	**91.23**	**249**		P		**P**	**00 28 18.9**	**+0.3**	
ABPO					pmax	pmax				
	comp=Z,26nm,0.9s									
ABPO					MLR	MLR				
	comp=Z,1µm,22.0s									
ABPO	**Ambohimpanom**	**91.23**	**249**		P		**P**	**00 28 18.9**	**+0.3**	
ABPO					IAmb	IAmb		00 28 20.1		
	comp=Z,26nm,0.9s									
ABPO					IAMs_20	IAMs_20		01 08 10.2		
	comp=Z,1µm,22.0s									
R11A	**Troy Canyon, C**	**91.23**	**45**		P		**P**	**00 28 19.7**	**+1.3**	
	baz=307,SNR=31									
R11A	**Troy Canyon, C**	**91.23**	**45**		IAmb	IAmb		00 28 34.8		
	comp=Z,36nm,1.2s									
R11A					IAMs_20	IAMs_20		01 05 43.5		
	comp=Z,713nm,19.0s									
PMOR	**Pomariorio Ree**	**91.25**	**106**	*eT*		T		02 06 20.3		
	comp=Z,5.0nm,0.2s									
MPMC	**Manual Prospec**	**91.36**	**48**		P		**P**	**00 28 20.1**	**+1.0**	
	baz=306,SNR=18									
OSI	**Osito Audit: C**	**91.37**	**50**		IAMs_20	IAMs_20		00 59 33.6		
	comp=Z,2µm,19.0s									
FURC	**Furnace Creek,**	**91.53**	**47**		P		**P**	**00 28 21.3**	**+1.8**	
	baz=306,SNR=13									
LRMC	**Laurel Mtn Rad**	**91.57**	**48**		P		**P**	**00 28 21.2**	**+1.3**	
	baz=306									
TPNV	**Topopah Spring**	**91.64**	**46**		P		**P**	**00 28 21.5**	**+1.2**	
	baz=307,SNR=35									
TPNV	**Topopah Spring**	**91.64**	**46**		IAmb	IAmb		00 28 37.1		
	comp=Z,59nm,1.2s									
EDW2	**Edwards Air Fo**	**91.71**	**49**		P		**P**	**00 28 22.0**	**+1.5**	
	baz=306,SNR=8.0									
DUG	**Dugway, Tooele**	**91.80**	**42**		P		**P**	**00 28 22.6**	**+1.7**	
	baz=309,SNR=33									
DUG	**Dugway, Tooele**	**91.80**	**42**		IAmb	IAmb		00 28 37.6		
	comp=Z,47nm,1.0s									
BW06	**Boulder Array**	**92.03**	**39**		P		**P**	**00 28 22.9**	**+0.9**	
	baz=311									
BW06	**Boulder Array**	**92.03**	**39**		IAmb	IAmb		00 28 37.7		
	comp=Z,25nm,1.0s									
PDAR	**Pinedale Array**	**92.03**	**39**		P		**P**	**00 28 22.7**	**+0.6**	
	comp=Z,13nm,0.9s,baz=318,slow=0.9,SNR=83									
PDAR					PP		**PP**	**00 32 02.0**	**+0.5**	
	comp=Z,1.1nm,0.8s,baz=316,slow=5.0,SNR=3.4									
PDAR					PKKPbc		**PKKPbc**	**00 45 38.0**	**-0.6**	
	comp=Z,0.7nm,0.7s,baz=110,slow=3.7,SNR=6.0									
PDAR	**Pinedale Array**	**92.03**	**39**		P		**P**	**00 28 22.5**	**+0.5**	
MWC	**Mount Wilson**	**92.05**	**50**		IAmb	IAmb		00 28 38.7		
	comp=Z,41nm,1.1s									
PRN	**Pahroc Range**	**92.14**	**46**		IAmb	IAmb		00 28 39.8		
	comp=Z,69nm,1.2s									
SHOC	**Shoshone, Teco**	**92.25**	**47**		P		**P**	**00 28 24.2**	**+1.2**	
	baz=307,SNR=10.0									
GSC	**Goldstone, Bar**	**92.25**	**48**		P		**P**	**00 28 24.3**	**+1.2**	
	baz=306,SNR=29									
GSC	**Goldstone, Bar**	**92.25**	**48**		P		**P**	**00 28 23.6**	**+0.5**	
GSC					pmax	pmax				
	comp=Z,52nm,1.1s									
GSC	**Goldstone, Bar**	**92.25**	**48**		P		**P**	**00 28 23.6**	**+0.5**	
GSC					IAmb	IAmb		00 28 39.2		
	comp=Z,52nm,1.1s									
BFSC	**Mount Baldy Ra**	**92.31**	**49**		P		**P**	**00 28 24.5**	**+1.1**	
	baz=306,SNR=12									
SHPR	**Sheep Range**	**92.61**	**46**		IAmb	IAmb		00 28 42.0		
	comp=Z,67nm,1.2s									
TUQ	**Turquoise Moun**	**92.76**	**48**		P		**P**	**00 28 26.7**	**+1.3**	
	baz=307,SNR=30									
HEC	**Hector,Ludlow**	**92.84**	**48**		P		**P**	**00 28 27.5**	**+1.7**	
	baz=307,SNR=14									
MURC	**Murrieta**	**92.99**	**50**		P		**P**	**00 28 27.8**	**+1.4**	
	baz=306,SNR=5.6									
ULM	**Lac du Bonnet**	**93.20**	**27**		P		**P**	**00 28 27.2**	**+0.2**	
	comp=Z,58nm,0.8s,baz=317,slow=4.9,SNR=41									
ULM					LR	LR		01 14 52.7		
	comp=Z,358nm,18.2s,baz=312,slow=38									
GMRC	**Granite Mounta**	**93.32**	**48**		P		**P**	**00 28 29.3**	**+1.3**	
	baz=307,SNR=26									
MDND	**Maddock**	**93.46**	**30**		P		**P**	**00 28 30.0**	**+1.7**	
	baz=319									
MDND	**Maddock**	**93.46**	**30**		P		**P**	**00 28 28.8**	**+0.6**	
109C	**Camp Elliot, M**	**93.47**	**50**		P		**P**	**00 28 30.0**	**+1.5**	
	baz=306									
PFO	**Pinyon Flats O**	**93.48**	**49**		LR	LR		01 06 39.1		
	comp=Z,545nm,19.4s,baz=294,slow=33									
PFO	**Pinyon Flats O**	**93.48**	**49**		P		**P**	**00 28 29.9**	**+1.2**	
	baz=306,SNR=24									
PFO	**Pinyon Flats O**	**93.48**	**49**	*c i* P			**P**	**00 28 29.4**	**+0.6**	
PFO					pmax	pmax				
	comp=Z,85nm,0.9s									
BELC	**Belle Mtn. Jos**	**93.56**	**49**		P		**P**	**00 28 30.0**	**+0.9**	
	baz=307,SNR=23									
K22A	**Casper**	**93.77**	**37**		P		**P**	**00 28 31.0**	**+1.0**	
	baz=313									
BAR	**Barrett**	**93.88**	**50**		IAmb	IAmb		00 28 46.5		
	comp=Z,60nm,1.2s									
**

TXAR PKKPbc **PKKPbc** **00 45 04.1 +0.8**
comp=Z,0.7nm,0.8s,baz=154,slow=6.1,SNR=6.1
RKT Rikitea 105.76 108 *e*SS SS 00 48 39.8 -3.6
comp=Z,869nm,33.8s
RKT Rikitea 105.76 108 *e*LR LR 01 04 24.8
comp=Z,2µm,23.0s
LSZ Lusaka 105.91 261 IAMs_20 IAMs_20 01 13 16.3
comp=Z,1µm,22.0s
MAW Mawson 106.46 201 Pdiff **Pdif** **00 29 25.5 -0.3**
comp=Z,1.1nm,0.8s,baz=64,slow=8.2,SNR=2.6
MAW PKiKP **PKiKP** **00 33 36.9 +0.5**
comp=Z,1.4nm,0.8s,baz=315,slow=4.3,SNR=2.7
MAW PP **PP** **00 33 50.0 -1.4**
comp=Z,1.9nm,0.9s,baz=32,slow=5.6,SNR=3.0
MAW PKKPbc **PKKPbc** **00 44 56.6 -2.3**
comp=Z,2.4nm,0.9s,baz=264,slow=5.3,SNR=4.4
MAW PKKP **PKKPdf** **00 45 11.0 -0.3**
comp=Z,1.9nm,0.8s,baz=151,slow=0.4,SNR=4.3
VNDA Vanda 106.63 173 PKiKP **PKiKP** **00 33 38.3 +1.7**
comp=Z,0.5nm,0.7s,baz=212,slow=2.0,SNR=1.8
VNDA PP **PP** **00 33 53.2 +0.7**
comp=Z,4.0nm,1.2s,baz=138,slow=18,SNR=7.3
U49A Red Boiling Sp 108.63 29 IAMs_20 IAMs_20 01 23 39.8
comp=Z,868nm,20.0s
S57A Dark Hollow, R 110.18 23 IAMs_20 IAMs_20 01 19 09.3
comp=Z,1µm,21.0s
T57A Hurt 110.76 24 IAMs_20 IAMs_20 01 21 40.6
comp=Z,1µm,21.0s
U56A King 110.93 25 IAMs_20 IAMs_20 01 21 11.2
comp=Z,1µm,22.0s
V55A Taylorsville 111.06 26 IAMs_20 IAMs_20 01 22 24.6
comp=Z,742nm,21.0s
T59A Double "B" Far 111.37 22 IAMs_20 IAMs_20 01 26 14.7
comp=Z,823nm,20.0s
T60A Surry 111.49 22 IAMs_20 IAMs_20 01 22 22.7
comp=Z,1µm,22.0s
Y52A Lilburn 111.62 29 IAMs_20 IAMs_20 01 21 51.9
comp=Z,993nm,21.0s
PMOZ Porto Moniz, M 111.77 329 *e*LR LR 01 15 19.1
comp=Z,1µm,20.0s
U59A Littleton 111.85 23 IAMs_20 IAMs_20 01 25 48.4
comp=Z,1µm,20.0s
V58A Windy Hill, Pi 111.89 24 IAMs_20 IAMs_20 01 25 30.5
comp=Z,1µm,20.0s
W57A Gilead 112.14 25 IAMs_20 IAMs_20 01 24 33.1
comp=Z,1µm,20.0s
250A Grady 112.23 32 IAMs_20 IAMs_20 01 24 45.3
comp=Z,543nm,20.0s
BIRD Birdtown, Kers 112.41 26 IAMs_20 IAMs_20 01 23 11.4
comp=Z,697nm,21.0s
V60A Jim Taylor Roa 112.56 23 IAMs_20 IAMs_20 01 25 48.2
comp=Z,683nm,19.0s
V61A Roper 112.77 22 IAMs_20 IAMs_20 01 25 42.7
comp=Z,1µm,21.0s
CNNC Cliffs of the 112.82 23 IAMs_20 IAMs_20 01 23 00.2
comp=Z,1µm,22.0s
X58A Rowland 112.91 25 IAMs_20 IAMs_20 01 25 00.7
comp=Z,995nm,21.0s
Y57A Sumter 112.99 26 IAMs_20 IAMs_20 01 28 04.8
comp=Z,786nm,19.0s
154A Montrose 113.10 29 IAMs_20 IAMs_20 01 25 55.1
comp=Z,675nm,20.0s
V62A Hyde County Ai 113.19 22 IAMs_20 IAMs_20 01 25 21.6
comp=Z,1µm,20.0s
Z56A Williston 113.21 27 IAMs_20 IAMs_20 01 26 47.7
comp=Z,670nm,20.0s
BOSA Boshof 113.45 249 PKiKP **PKiKP** **00 33 51.0 -0.1**
comp=Z,2.3nm,0.7s,baz=76,slow=2.3,SNR=6.7
BOSA Boshof 113.45 249 *i* PKIKP **PKiKP** **00 33 51.0 -0.1**
Y59A Loris 113.59 25 IAMs_20 IAMs_20 01 26 33.6
comp=Z,798nm,19.0s
Y60A Bolivia 113.82 24 IAMs_20 IAMs_20 01 28 01.5
comp=Z,906nm,21.0s
TIGA Tifton 113.90 30 IAMs_20 IAMs_20 01 26 41.3
comp=Z,754nm,20.0s
TORD Torodi Ar. Bea 114.54 301 PKiKP PKPdf 00 33 52.4 -1.0
comp=Z,4.7nm,0.8s,baz=18,slow=3.0,SNR=28
TORD PP **PP** **00 34 49.6 -0.5**
comp=Z,3.2nm,0.8s,baz=56,slow=6.3,SNR=5.8
TORD PKKPbc **PKKPbc** **00 44 31.1 0.0**
comp=Z,1.8nm,0.9s,baz=239,slow=1.2,SNR=7.9
TORD PKKP **PKKPdf** **00 44 52.3 -1.4**
comp=Z,7.2nm,1.2s,baz=238,slow=3.7,SNR=8.9
TORD Torodi Ar. Bea 114.54 301 PKiKP PKPdf 00 33 52.7 -0.7
SYO Syowa Base 114.96 203‖ *e*PKPdf **PKiKP** **00 33 51.4 -1.1**
SYO Syowa Base 114.96 203‖ *e*PKiKP PKPdf 00 33 54.5 +2.0
456A Hilliard 115.20 29 IAMs_20 IAMs_20 01 28 25.6
comp=Z,716nm,20.0s
656A Willston 116.14 30 IAMs_20 IAMs_20 01 29 37.6
comp=Z,744nm,20.0s
TSUM Tsumeb 116.76 261 **PKiKP** **00 33 57.8 +0.2**
QSPA South Pole Qui 117.23 180 PKP **PKPdf** **00 33 55.7 -1.3**
comp=Z,6.5nm,0.7s,baz=261,slow=1.6,SNR=29
QSPA PP **PP** **00 35 08.7 +0.1**
comp=Z,11nm,1.1s,baz=343,slow=3.4,SNR=2.0
QSPA PKKP **PKKPdf** **00 44 45.5 -5.8**
comp=Z,2.2nm,0.8s,baz=116,slow=4.9,SNR=4.2
QSPA South Pole Qui 117.23 180 **PKPdf** **00 33 56.7 -0.3**
QSPA South Pole Qui 117.23 180 IAMs_20 IAMs_20 01 22 16.7
comp=Z,881nm,22.0s
060A Indiantown 119.11 30 IAMs_20 IAMs_20 01 34 54.3
comp=Z,723nm,19.0s
061Z Ochoppi 119.88 31 IAMs_20 IAMs_20 01 22 36.8
comp=Z,642nm,22.0s
CCIG Comitan 121.30 47 IAMs_20 IAMs_20 01 18 48.0
comp=Z,710nm,21.0s
DBIC Dimbokro 123.60 300 PKP **PKPdf** **00 34 10.7 -0.2**
comp=Z,11nm,0.9s,baz=21,slow=1.8,SNR=11
KIC Kosan Boka 123.71 300 *e*PKP1 **PKPdf** **00 34 10.2 -0.9**
comp=Z,48nm,1.1s
TIC Toumodi 123.75 300 *e*PKP1 **PKPdf** **00 34 10.3 -0.9**
LIC Lamto 124.01 300 *e*PKP1 **PKPdf** **00 34 10.9 -0.7**
comp=Z,49nm,1.1s
NVL N'lazarevskaya 124.41 201 *e*PKIKP **PKPdf** **00 34 09.8 -0.8**
NVL *e*SS SS 00 52 54.4 +8.5
NVL pmax pmax
comp=Z,23nm,0.9s
MTO3 Montecristo 124.48 46 IAMs_20 IAMs_20 01 19 21.3
comp=Z,588nm,22.0s
TGUH Tegucigalpa,Un 126.06 45 IAMs_20 IAMs_20 01 21 41.9
comp=Z,438nm,21.0s
GRTK Grand Turk 127.73 23 IAMs_20 IAMs_20 01 30 10.9
comp=Z,905nm,21.0s
MTDJ Mount Denham 128.03 32 IAMs_20 IAMs_20 01 34 33.8
comp=Z,499nm,19.0s
SNAA Sanae 128.39 198 PKPdf **PKPdf** **00 34 18.4 +0.1**
SNAA Sanae 128.39 198*d* *i* PKIKP **PKPdf** **00 34 18.6 +0.3**
SNAA pmax pmax
comp=Z,13nm,1.0s
SNAA MLR MLR
comp=Z,398nm,21.0s
SNAA Sanae 128.39 198 **PKPdf** **00 34 18.3 0.0**
SNAA IAMs_20 IAMs_20 01 28 57.5
comp=Z,481nm,20.0s
BELA Belgrano 2 128.91 185 PKPdf **PKPdf** **00 34 19.4 +0.3**
ACON Acoyapa 128.96 44 **PKiKP** **00 34 21.5 -0.3**
SC01 Santiago de lo 129.79 24 IAMs_20 IAMs_20 01 31 48.6
comp=Z,971nm,21.0s
SDDR Presa de Saban 130.00 25 IAMs_20 IAMs_20 01 32 00.4
comp=Z,951nm,22.0s
VNA2 Neumayer--Watz 130.02 197 PKPdf **PKPdf** **00 34 21.0 -0.4**
baz=92,slow=1.5
JTS Las Juntas de 130.38 45 IAMs_20 IAMs_20 01 41 55.3
comp=Z,391nm,22.0s
VNA3 Neumayer Olymp 130.42 196 PKPdf **PKPdf** **00 34 21.0 -1.1**
VNA1 Neumayer--Stat 130.42 197 PKPdf **PKiKP** **00 34 22.6 -0.3**
DR12 Loma Pena Alta 130.85 23 PKPdf **PKiKP** **00 34 25.8 +0.2**
SJG San Juan 132.51 19 IAMs_20 IAMs_20 01 30 19.8
comp=Z,460nm,22.0s
LCBC Los crdobas, 136.58 37 *e*P **PKPdf** **00 34 33.9 -1.5**
MOTC Monteria, Cord 137.02 36 *e*P **PKPdf** **00 34 29.0 -7.2**
SMLC San Martn de 137.82 34 *e*P **PKPdf** **00 34 37.5 -0.2**
ZARC Zaragoza, Cauc 138.53 36 *e*P **PKPdf** **00 34 38.7 -0.3**
HELC Santa Helena 139.25 38 *e*P **PKPdf** **00 34 35.0 -5.8**
SDV Santo Domingo 139.38 30 *e*P **PKPdf** **00 34 36.8 -4.1**
SDV Santo Domingo 139.38 30 PKPpre 00 34 31.4
SDV PKPdf **PKPdf** **00 34 41.1 +0.3**
SDV Santo Domingo 139.38 30 IAMs_20 IAMs_20 01 37 41.5
comp=Z,660nm,22.0s
GRGR Grenville 139.42 15 IAMs_20 IAMs_20 01 34 37.5
comp=Z,518nm,20.0s
PTBC PUERTO BERRIO 139.54 37 *e*P PKPdf 00 34 30.8 -10
PAMC Pamplona, Colo 139.76 34 *e*P **PKPdf** **00 34 39.9 -2.0**
GUY2C Guyana, Caldas 140.14 39 *e*P PKPdf 00 34 33.5 -9.1
RREF El Recreo 140.41 39 *e*P **PKPdf** **00 34 39.8 -3.5**
YOTC Yotoco, Valle 140.58 41 *e*P **PKPdf** **00 34 35.5 -7.5**
TOLC Tolima 140.69 40 *e*P **PKPdf** **00 34 37.5 -5.9**

RUSC La Rusia 140.80 35 *e*P **PKPdf** **00 34 36.2 -7.6**
TAMC Tame, Arauca 140.99 33 *e*P **PKPdf** **00 34 37.8 -5.8**
ROSC El Rosal 141.03 38 PKhKP **PKPdf** **00 34 41.6 -2.5**
comp=Z,15nm,0.8s,baz=98,slow=9.3,SNR=5.6
ROSC El Rosal 141.03 38 IAMs_20 IAMs_20 01 45 50.3
comp=Z,422nm,19.0s
ORTC Ortega, Tolima 141.28 40 *e*P PKPdf 00 34 36.3 -7.8
CHIC Chingaza 141.53 37 *e*P **PKPdf** **00 34 38.0 -7.0**
POPC Popayan, Colom 141.53 43 *e*P **PKPdf** **00 34 37.7 -7.1**
PRAC Prado 141.64 40 *e*P **PKPdf** **00 34 37.9 -6.9**
PMSA Palmer Station 141.82 171 *e*P **PKPdf** **00 34 43.0 -0.4**
PCON Cinco Dias 141.87 43 *e*P PKPdf 00 34 38.0 -7.8
SOTA Rioblanco 141.89 43 *e*P **PKPdf** **00 34 40.4 -5.4**
VILC Villavicencio, 141.98 38 *e*P **PKPdf** **00 34 45.8 +0.3**
GCUF Volcan Galeras 142.14 45 *e*P PKPdf 00 34 35.4 -11
BETC Betania 142.16 41 *e*P PKPdf 00 34 37.8 -7.9
OTAV Otavalo 142.18 48 PKIKP **PKPdf** **00 34 44.3 -1.9**
OTAV Otavalo 142.18 48 PKPdf **PKPdf** **00 34 44.3 -1.9**
OTAV Otavalo 142.18 48 IAMs_20 IAMs_20 01 43 08.2
comp=Z,374nm,22.0s
OTAV Otavalo 142.18 48 *e*P **PKPdf** **00 34 45.0 -1.3**
GARC Garzon, Huila 142.53 42 *e*P **PKPdf** **00 34 40.6 -6.0**
FLOC Florencia 142.91 43 *e*P **PKPdf** **00 34 40.0 -7.0**
PUAC Puerto Asis, P 143.15 45 *e*P PKPbc 00 34 44.0 -0.4
MACC Macarena, Meta 143.51 40 *e*P PKPab 00 34 42.7 -1.7
PTLC Puerto Leguiza 144.54 43 *e*P PKPbc 00 34 48.9 +0.4
ATAH Atahualpa 147.44 57 PKPbc **PKPbc** **00 34 57.4 -0.4**
comp=Z,36nm,1.1s,baz=317,slow=3.2,SNR=23
MDP Montagnes des 147.61 2 PKPbc **PKPbc** **00 34 58.5 +0.8**
baz=0.1,slow=3.9
USHA Ushuaia 149.98 160 PKPbc **PKiKP** **00 35 03.4 0.0**
comp=Z,54nm,1.0s,baz=203,slow=1.0,SNR=5.3
HOPE Hope Point 151.03 198 PKIKP **PKPbc** **00 35 04.8 -0.2**
HOPE Hope Point 151.03 198 **PKPbc** **00 35 04.8 -0.2**
GO09 Cerro Castillo 151.46 152 **PKiKP** **00 35 06.8 +0.3**
NNA Nana 151.67 62 PKP **PKPdf** **00 35 02.7 +1.2**
comp=Z,19nm,0.9s,baz=349,slow=5.3,SNR=4.6
NNA PKPbc **PKiKP** **00 35 08.4 +0.2**
comp=Z,62nm,0.7s,baz=321,slow=5.5,SNR=26
NNA Nana 151.67 62 **PKPdf** **00 35 02.2 +0.8**
NNA **PKPbc** **00 35 07.6 -0.2**
CZSB Cruzeiro do Su 151.90 50 *e*P **PKPdf** **00 35 02.2 +0.4**
PTGA Pitinga 152.20 18 PKP **PKPdf** **00 35 03.4 +1.2**
comp=Z,7.1nm,0.8s,baz=17,slow=1.6,SNR=24
PTGA PKPbc **PKiKP** **00 35 09.6 +0.3**
comp=Z,32nm,0.8s,baz=347,slow=2.3,SNR=48
PTGA Pitinga 152.20 18 **PKPdf** **00 35 02.6 +0.3**
PTGA **PKPbc** **00 35 09.1 +0.1**
PTGA IAMs_20 IAMs_20 01 45 25.0
comp=Z,562nm,21.0s
MCPB Macapa, AP 153.05 1 *e*P **PKPdf** **00 35 04.1 +0.6**
RCBR Riachuelo 153.88 323 PKP **PKPdf** **00 35 05.6 +0.9**
comp=Z,8.9nm,0.9s,baz=15,slow=14,SNR=2.3
RCBR PKPab **PKPab** **00 35 25.0 -0.8**
comp=Z,16nm,0.8s,baz=71,slow=3.5,SNR=4.7
RCBR Riachuelo 153.88 323 *e*P **PKPdf** **00 35 05.7 +0.9**
MACA Manacapuru-AM 154.28 22 *e*P **PKPdf** **00 35 05.3 0.0**
MALB Monte Alegre 154.40 6 *e*P **PKPdf** **00 35 06.4 +1.0**
ROSB Rosrio 154.58 343 *e*P **PKPdf** **00 35 06.3 +0.6**
TMAB Tom-Au,PA,Br 154.84 352 *e*P **PKPdf** **00 35 06.7 +0.7**
ITTB Ituituba 156.68 11 *e*P **PKPdf** **00 35 07.4 -0.4**
ETMB Extrema 157.51 41 *e*P **PKPdf** **00 35 09.3 -0.1**
SAML Samuel 158.51 33 PKIKP **PKPdf** **00 35 09.9 -0.9**
SAML Samuel 158.51 33 **PKPdf** **00 35 09.9 -0.9**
SAML Samuel 158.51 33 IAMs_20 IAMs_20 01 47 38.1
comp=Z,652nm,22.0s
SAML Samuel 158.51 33 *e*P **PKPdf** **00 35 11.3 +0.5**
PRPB Parauapebas 158.77 355 *e*P **PKPdf** **00 35 11.5 +0.4**
NPGB Novo Progresso 159.36 11 *e*P **PKPdf** **00 35 11.9 +0.1**
PLCA Paso Flores 159.44 135 PKP **PKPdf** **00 35 12.0 +0.8**
comp=Z,3.9nm,1.1s,baz=167,slow=7.6,SNR=3.7
PLCA Paso Flores 159.44 135 *e*P **PKPdf** **00 35 11.5 +0.3**
LPAZ La Paz 160.98 58 PKP **PKPdf** **00 35 15.6 +1.4**
comp=Z,6.8nm,0.9s,baz=5.8,slow=3.7,SNR=18
LPAZ PKPab **PKPab** **00 35 56.2 -0.9**
comp=Z,10nm,1.1s,baz=8.5,slow=3.6,SNR=4.1
LPAZ PP **PP** **00 39 43.0 +3.2**
comp=Z,1.3nm,0.7s,baz=282,slow=7.5,SNR=3.8
LPAZ La Paz 160.98 58 **PKPdf** **00 35 15.1 +0.8**
SMTB Santa Maria do 161.14 348 *e*P **PKPdf** **00 35 14.5 +0.7**
BO02 Sierra Bellavi 161.94 119 **PKPdf** **00 35 13.8 -0.2**
PB01 IPOC Station P 162.38 73 **PKPdf** **00 35 15.8 +0.9**
PB01 PKPab **PKPab** **00 36 03.3 +0.7**
GDU01 Guandu, BA 162.39 319 *e*P **PKPdf** **00 35 14.6 -0.3**
CLDB Colider 163.00 15 *e*P **PKPdf** **00 35 15.8 +0.2**
VILB Vilhena 163.41 31 *e*P **PKPdf** **00 35 17.6 +1.6**
LVC Limon Verde 163.47 77 PKP **PKPdf** **00 35 17.2 +0.9**
comp=Z,5.4nm,0.9s,baz=212,slow=3.6,SNR=4.7
LVC PKPab **PKPab** **00 36 08.9 +1.1**
comp=Z,8.2nm,0.8s,baz=265,slow=4.0,SNR=5.8
LVC Limon Verde 163.47 77 **PKPdf** **00 35 16.6 +0.3**
LVC **PKPab** **00 36 09.0 +1.2**
LVC Limon Verde 163.47 77 *e*P **PKPdf** **00 35 18.5 +2.2**
SDBA SAO DESIDERIO 163.81 336 *e*P **PKPdf** **00 35 17.1 +0.7**
PEXB Peixe 164.44 348 *e*P **PKPdf** **00 35 17.0 0.0**
SNDB Serra Nova Dou 164.59 359 *e*P **PKPdf** **00 35 17.4 +0.4**
SIV San Ignacio 165.52 40 PKP **PKPdf** **00 35 18.4 +0.6**
comp=Z,9.8nm,0.9s,baz=272,slow=0.3,SNR=43
SIV PKPab **PKPab** **00 36 16.2 0.0**
comp=Z,5.0nm,0.9s,baz=26,slow=4.8,SNR=3.6
SIV PP **PP** **00 40 04.1 +1.6**
comp=Z,7.2nm,0.9s,baz=355,slow=5.7,SNR=7.9
NAN01 Guarapari, ES 165.83 310 *e*P **PKPdf** **00 35 18.8 +0.8**
JANB Januaria 165.98 330 *e*P **PKPdf** **00 35 18.5 +0.2**
PTLB Pontes e Lacer 166.08 32 *e*P **PKPdf** **00 35 19.3 +1.1**
TRQA Tornquist 166.23 143 *e*P **PKPdf** **00 35 19.0 +1.2**
BSFB Barra de Sao F 167.00 309 *e*P **PKPdf** **00 35 19.3 +0.4**
RIB01 Linhares ES 167.00 306 *e*P **PKPdf** **00 35 18.6 -0.3**
SJMB Sao Joao De Ma 167.14 311 *e*P **PKPdf** **00 35 19.3 +0.3**
BDFB Brasilia 167.81 344 PKP **PKPdf** **00 35 19.9 +0.2**
comp=Z,11nm,0.9s,baz=125,slow=1.3,SNR=14
BDFB PKPab **PKPab** **00 36 25.3 -1.0**
comp=Z,4.8nm,0.7s,baz=15,slow=8.1,SNR=3.2
BDFB PP **PP** **00 40 14.9 +1.2**
comp=Z,1.2nm,0.5s,baz=24,slow=3.2,SNR=1.9
BDFB Brasilia 167.81 344 **PKPdf** **00 35 20.3 +0.6**
BDFB PKPab **PKPab** **00 36 25.7 -0.6**
ARAG Araguaiana, MT 168.30 2 *e*P **PKPdf** **00 35 21.2 +1.4**
IPMB Ipameri, GO 170.10 342 *e*P **PKPdf** **00 35 20.7 -0.3**
VAS01 Vassouras-RJ 171.08 304 *e*P **PKPdf** **00 35 22.8 +1.4**
AQDB Aquidauana 172.04 30 *e*P **PKPdf** **00 35 22.2 +0.4**
ITRB Iturama 172.21 352 *e*P **PKPdf** **00 35 22.6 +0.6**
ESAR Angra dos Reis 172.25 303 *e*P **PKPdf** **00 35 21.9 +0.1**
BB19B Bebedouro 173.09 337 *e*P **PKPdf** **00 35 23.7 +1.3**
PARB Paraibuna 173.31 307 *e*P **PKPdf** **00 35 24.1 +1.7**
VAO Palinhos 173.37 316 *e*P **PKPdf** **00 35 23.4 +0.7**
PCMB Pacaembu 174.17 358 *e*P **PKPdf** **00 35 23.7 +1.0**
CPUP Villa Florida 174.64 79 PKP **PKPdf** **00 35 23.1 +0.4**
comp=Z,7.2nm,0.9s,baz=359,slow=2.1,SNR=18
CPUP PKPab **PKPab** **00 36 57.0 +0.4**
comp=Z,1.0nm,0.4s,baz=230,slow=7.2,SNR=2.0
CPUP PP **PP** **00 40 52.2 +2.7**
comp=Z,0.4nm,0.4s,baz=171,slow=9.8,SNR=1.6
CPUP Villa Florida 174.64 79 **PKPdf** **00 35 22.9 +0.2**
CPUP PKPab **PKPab** **00 36 57.0 +0.4**
CPUP Villa Florida 174.64 79 *e*P **PKPdf** **00 35 23.4 +0.7**
SPB Sao Paulo 174.70 316 *e*P **PKPdf** **00 35 23.5 +0.7**
PET01 Itanhaem-SP 175.08 309 *e*P **PKPdf** **00 35 23.7 +0.8**
TRCB Terra Rica 175.24 13 *e*P **PKPdf** **00 35 23.8 +0.8**
PLTB Pedras Altas 175.33 157 *e*P **PKPdf** **00 35 24.0 +1.2**
FRTB Fartura 175.55 337 *e*P **PKPdf** **00 35 23.8 +0.7**
PTGB Pitanga 177.21 11 *e*P **PKPdf** **00 35 26.3 +2.8**
CNLB Canela 178.08 196 *e*P **PKPdf** **00 35 25.7 +2.2**
ITAB Concordia 179.37 69 *e*P **PKPdf** **00 35 25.7 +2.2**

*NEIC **22** 00:20:44.6±1.9, 40.56N±0.07×142.5E±0.1, h56km±9km, mb4.2/9, Error ellipse: s-maj=13.1km s-min=8.0km az=126.0*
*JMA **22** 00:20:46.9±0.1, 40.55N×142.47E, h69km±2km, M4.1*
JMA Felt II J1.
*IDC **22** 00:20:47.8±3.2, 40.57N×142.46E, h87km±20km, mb3.9/5, mb1 3.9/9, mb1mx3.6/44, mbtmp4.2/9, Error ellipse: s-maj=45.1km s-min=19.0km az=116.0*
ISC 22 00:20:46.8±0.9, 40.56N±0.04×142.42E±0.05, h74km±8km, n50, σ0.980/55, mb4.2/7, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.65**	**237**	‖P		**Pn**	**Pn**	**00 21 01.6**	**+0.2**
JKEN				S		**Sn**	**Sn**	**00 21 12.1**	**-0.1**

JANG Nango 0.72 255 ‖P **Pn** **00 21 02.5 +0.3**
JANG S **Sn** **00 21 13.9 +0.4**
JTH Tanohata 0.76 215 ‖P **Pn** **00 21 02.6 0.0**
JTH S **Sn** **00 21 14.0 -0.3**
JTM Tenmabayashi 1.05 283 ‖P **Pn** **00 21 06.3 +0.2**
JTM S **Sn** **00 21 20.3 -0.3**
JTM Tenmabayashi 1.05 283 **Pn** **00 21 06.3 +0.2**
JOT Ohata 1.32 309 ‖P **Pn** **00 21 09.4 -0.2**
JOT S **Sn** **00 21 26.1 -0.6**
JOM Ohasama 1.39 219 ‖P **Pn** **00 21 10.9 +0.5**
JOM S **Sn** **00 21 28.6 +0.4**
JAH Hinai 1.42 255 ‖P **Pn** **00 21 11.4 +0.7**
JAH S **Sn** **00 21 29.6 +0.8**
ERM Erimo 1.55 21 Pn **Pn** **00 21 12.6 +0.1**
JEM Erimo 1.55 21 P **Pn** **00 21 13.1 +0.5**
JEM eS **Sn** **00 21 32.6 +0.6**
JKB Kayabe 1.69 322 ‖P **Pn** **00 21 14.3 0.0**
JKB eS **Sn** **00 21 34.6 -0.6**
JNBK Urakawa-nobuka 1.73 8 P **Pn** **00 21 15.9 +1.0**
JNBK eS **Sn** **00 21 38.3 +2.0**
JSR Shiriuchi 1.80 303 P **Pn** **00 21 16.4 +0.6**
JSR eS **Sn** **00 21 37.7 -0.1**
JRG Rokugo 1.80 230 ‖P **Pn** **00 21 16.7 +0.9**
JIW Iwasaki 1.84 272 P **Pn** **00 21 17.2 +0.8**
JIW eS **Sn** **00 21 40.3 +1.4**
JMK Ichinoseki 1.86 210 ‖P **Pn** **00 21 17.0 +0.4**
JMK S **Sn** **00 21 39.3 +0.1**
JEW Eniwo 2.39 343 Pn **Pn** **00 21 24.1 +0.3**
JMM Marumori 2.98 206 **Pn** **00 21 31.4 -0.3**
JKA Kamikawa-asahi 3.55 2 **Pn** **00 21 37.9 -1.7**
ASAJ Asahikawa 3.56 2 P **Pn** **00 21 40.4 +0.8**
4.7nm,0.3s,baz=192,slow=14,SNR=6.8
ASAJ S **Sn** **00 22 22.2 +1.8**
7.5nm,0.3s,baz=235,slow=22,SNR=2.3
JSD Sado 4.10 233 Pn **Pn** **00 21 48.5 +1.5**
JYT Yasato 4.67 203 Pn **Pn** **00 21 54.8 +0.1**
MJAR Matsushiro Arr 5.20 221 P **Pn** **00 22 03.5 +1.4**
0.2nm,0.3s,baz=29,slow=13,SNR=2.5
MJAR Matsushiro Arr 5.20 221 **Pn** **00 22 00.9 -1.1**
USA0B Ussuriysk Arra 8.54 299 Pn **Pn** **00 22 49.0 +1.5**
USRK Ussuriysk Ar. 8.54 299 P **Pn** **00 22 49.1 +1.6**
baz=105,slow=14,SNR=8.6
USRK Ussuriysk Ar. 8.54 299 **Pn** **00 22 48.4 +0.8**
PETK Petropavlovsk- 16.29 34 P **Pn** **00 24 30.6 -0.1**
0.2nm,0.3s,baz=197,slow=4.5,SNR=4.2
SONM Songino Array 26.65 298 P **P** **00 26 18.4 -0.2**
2.5nm,0.6s,baz=92,slow=8.8,SNR=4.1
H11N2 WAKE ISLAND Hy 29.47 128 T T 00 57 46.4
baz=321
H11N1 WAKE ISLAND Hy 29.48 128 T T 00 57 52.2
baz=321
H11N3 WAKE ISLAND Hy 29.49 128 T T 00 57 50.7
baz=321
H11S1 WAKE ISLAND Hy 30.30 129 T T 00 59 23.2
baz=322
H11S3 WAKE ISLAND Hy 30.30 129 T T 00 59 26.9
baz=322
H11S2 WAKE ISLAND Hy 30.32 129 T T 00 59 38.7
baz=322
ZAA0 Zalesovo Array 40.20 309 P **P** **00 28 15.9 +0.2**
ZALV Zalesovo Beam 40.20 309 P **P** **00 28 15.3 -0.4**
1.6nm,0.4s,baz=92,slow=8.6,SNR=5.1
MK31 Makanchi Array 43.00 299 P **P** **00 28 38.2 -0.6**
MK31 IAmb IAmb 00 28 39.7
comp=Z,9.9nm,1.5s
MKAR Makanchi Array 43.00 299 P **P** **00 28 38.4 -0.3**
comp=Z,2.3nm,0.6s,baz=88,slow=9.4,SNR=10
MAKZ Makanchi 43.21 299 P **P** **00 28 39.8 -0.6**
MAKZ IAmb IAmb 00 28 40.9
comp=Z,3.0nm,0.7s
KURK Kurchatov 44.45 305 P **P** **00 28 49.3 -0.9**
CHGR Chuyangaron 54.92 294 P **P** **00 30 10.1 +0.1**
ABKAR Akbulak array 56.31 309 P **P** **00 30 17.9 -0.8**
FINES FINESS Array B 66.07 332 P **P** **00 31 25.4 -0.1**
comp=Z,4.4nm,1.0s,baz=33,slow=11,SNR=5.3
AKASG Malin Array Be 72.00 322 P **P** **00 32 02.0 -0.4**
comp=Z,0.8nm,0.4s,baz=49,slow=5.7,SNR=2.1
SUW Suwalki 72.35 327 P **P** **00 32 04.4 +0.1**
MOOW Moose Ponds 73.35 46 P **P** **00 32 11.0 +0.2**
H03N2 Juan Fernandez 146.46 91 T T 03 23 58.4
baz=302
H03N3 Juan Fernandez 146.47 91 T T 03 23 59.2
baz=302
H03N1 Juan Fernandez 146.47 91 T T 03 23 59.6
baz=302

*IDC **22** 00:32:44.5±1.5, 63.2S×170.7E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/28, mbtmp4.0/6, ML3.7/1, MS4.1/1, Ms1 4.1/1, ms1mx3.4/22, Error ellipse: s-maj=65.5km s-min=21.0km az=75.0*
*NEIC **22** 00:32:45.6±1.1, 63.24S±0.08×170.9E±0.4, h10km±1km, mb4.3/4, Error ellipse: s-maj=33.4km s-min=13.0km az=96.0*
ISC 22 00:32:45.8±1.0, 63.2S±0.1×170.8E±0.3, h10km, n29, σ0.961/20, mb4.1/6, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.64**	**188**	Pn		**Pn**	**Pn**	**00 36 13.1**	**+0.5**
0.3nm,0.3s,baz=27,slow=14,SNR=18									
VNDA	**Vanda**	**14.64**	**188**			**Pn**	**Pn**	**00 36 12.5**	**-0.1**
QSPA	**South Pole Qui**	**26.87**	**180**	P		**P**	**P**	**00 38 26.1**	**-0.3**
5.2nm,1.1s,baz=293,slow=6.1,SNR=4.4									
QSPA	**South Pole Qui**	**26.87**	**180**	IAmb		IAmb	IAmb	00 38 27.5	
comp=Z,10.0nm,1.2s									
MAW	**Mawson**	**39.65**	**215**	P		**P**	**P**	**00 40 17.0**	**-0.1**
comp=Z,1.9nm,1.0s,baz=157,slow=7.7,SNR=2.7									
H01W1	**Cape Leeuwin H**	**44.58**	**282**	T		T	T	01 28 31.4	
baz=147,slow=76,SNR=237									
H01W2	**Cape Leeuwin H**	**44.59**	**282**	T		T	T	01 28 30.7	
baz=147,slow=76,SNR=257									
H01W3	**Cape Leeuwin H**	**44.60**	**282**	T		T	T	01 28 32.7	
baz=147,slow=76,SNR=210									
SNAA	**Sanae**	**45.31**	**183**	P		**P**	**P**	**00 41 03.2**	**+0.1**
SNAA	**Sanae**	**45.31**	**183**	P		**P**	**P**	**00 41 02.7**	**-0.4**
comp=Z,2.6nm,0.9s,baz=176,slow=8.8,SNR=5.3									
SNAA	**Sanae**	**45.31**	**183**	IAmb		IAmb	IAmb	00 41 09.7	
comp=Z,16nm,1.8s									
VNA3	**Neumayer Olymp**	**45.81**	**180**	P		**P**	**P**	**00 41 08.1**	**+1.1**
VNA2	**Neumayer--Watz**	**46.12**	**181**	P		**P**	**P**	**00 41 09.6**	**+0.1**
baz=174,slow=6.7									
VNA1	**Neumayer--Stat**	**46.40**	**180**	P		**P**	**P**	**00 41 12.3**	**+0.7**
ASAR	**Alice Springs**	**46.54**	**311**	P		**P**	**P**	**00 41 14.0**	**+0.7**
comp=Z,1.2nm,0.8s,baz=153,slow=8.0,SNR=8.8									
ASAR				PcP		**PcP**	**PcP**	**00 42 48.3**	**+0.8**
comp=Z,0.4nm,0.5s,baz=131,slow=3.8,SNR=2.1									
ASAR	**Alice Springs**	**46.54**	**311**	P		**P**	**P**	**00 41 12.6**	**-0.7**
AS31	**Alice Springs**	**46.54**	**311**	P		**P**	**P**	**00 41 13.8**	**+0.5**
AS31				IAmb		IAmb	IAmb	00 41 15.4	
comp=Z,5.3nm,1.9s									
WRA	**Warramunga Arr**	**49.85**	**313**	P		**P**	**P**	**00 41 39.2**	**+0.4**
comp=Z,1.1nm,1.1s,baz=154,slow=6.0,SNR=5.0									
WRA				PcP		**PcP**	**PcP**	**00 42 59.0**	**-0.3**
comp=Z,0.8nm,0.8s

ISC 22 00:41:03.9±1.3, 38.74N±0.05×38.81E±0.06, h10km, n7, σ0.24/10, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.28	150	iP	Pb	00 41 11.1	0.0
ELZG				iS	Sb	00 41 15.9	+0.1
ELZG				IAML		00 41 16.0	
	comp=E,73nm,0.3s						
ELZG				IAML		00 41 16.0	
	comp=N,55nm,0.3s						
KEMA	Kemaliye	0.58	335	eP	Pb	00 41 16.1	-0.2
KEMA				eS	Sb	00 41 25.0	+0.3
KEMA				IAML		00 41 28.3	
	comp=N,4.5nm,0.3s						
KEMA	Kemaliye	0.58	335	iP	Pb	00 41 16.1	-0.2
KEMA				iS	Sb	00 41 24.9	+0.3
KEMA				IAML		00 41 25.0	
	comp=E,18nm,0.2s						
KEMA				IAML		00 41 28.0	
	comp=N,15nm,0.2s						
REFA	Refahiye_ERZN	0.66	357	eP	Pn	00 41 28.0	+8.6
HEKM	Malatya_Hekimh	0.68	282	iP	Pb	00 41 17.9	0.0
HEKM				iS	Sb	00 41 27.6	+0.1
HEKM				IAML		00 41 29.0	
	comp=E,25nm,0.3s						
HEKM				IAML		00 41 30.0	
	comp=N,17nm,0.3s						
TNCL	Tunceli-Merkez	0.68	57	eP	Pn	00 41 26.4	+6.6
TNCL				IAML		00 41 31.6	
	comp=Z,7.3nm,0.2s						
AKCD	Akcadag	0.82	238	iP	Pg	00 41 19.6	-0.2
AKCD				iS	Sg	00 41 30.8	+0.2

IDC 22 01:03:06.8±2.0, 20.54S×70.94W, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.9/33, mbtmp4.2/6, ML4.3/2, Error ellipse: s-maj=45.4km s-min=26.1km az=98.0
VAO 22 01:03:08.6±0.6, 20.58S×70.84W, h10km, mb4.3
NEIC 22 01:03:11.1±1.5, 20.74S±0.04×70.88W±0.06, h42km±11km, mb3.8/6, ML4.2(GUC), Error ellipse: s-maj=8.3km s-min=5.6km az=94.0
GUC 22 01:03:12.3±0.8, 20.72S×70.83W, h50km±4km, ML4.1
ISC 22 01:03:08.4±1.7, 20.70S±0.03×71.02W±0.07, h23km±12km, n100, σ1.24/119, mb4.4/3, 4C-10D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TA01	Diego Aracena	0.80	81	eP	Pb	01 03 24.3	+0.6
TA01				iS	Sb	01 03 33.3	-0.8
TA01				IAML		01 03 34.2	
	comp=E,22μm,0.1s						
TA01	Diego Aracena	0.80	81		Pb	01 03 24.4	+0.8
TA01				Sn	Sb	01 03 33.9	-0.3
PATCX	Punta Patache	0.82	99	eP	Pb	01 03 24.7	+0.5
PATCX				iS	Sb	01 03 33.8	-1.1
PATCX				IAML		01 03 35.0	
	comp=N,19μm,0.4s						
PATCX	Punta Patache	0.82	99	Pn	Pb	01 03 24.9	+0.7
PATCX				Sn	Sb	01 03 34.7	-0.1
TA02	Huaiquique	0.94	63	⇑iP	Pb	01 03 26.6	+0.5
TA02				iS	Sb	01 03 37.3	-0.7
PSGC	Pisagua	1.39	38	⇓iP	Pn	01 03 33.1	+0.6
PSGC				iS	Sn	01 03 48.1	-2.0
PSGCX	Pisagua	1.39	38	Pn	Pn	01 03 33.3	+0.8
PSGCX				Sn	Sn	01 03 49.3	-0.8
PB07	IPOC Station P	1.47	134	⇓iP	Pn	01 03 34.7	+0.9
PB07				iS	Sn	01 03 51.1	-1.3
PB07	IPOC Station P	1.47	134	Pn	Pn	01 03 33.8	0.0
PB07				Sn	Sn	01 03 50.9	-1.5
PB01	IPOC Station P	1.48	104	⇑iP	Pn	01 03 34.3	+0.6
PB01				eS	Sn	01 03 50.5	-1.9
PB01				IAML		01 03 52.7	
	comp=N,7μm,0.4s						
PB01	IPOC Station P	1.48	104		Pn	01 03 33.8	+0.1
PB11	IPOC Station P	1.59	54	eP	Pn	01 03 36.0	+0.7
PB11				iS	Sn	01 03 53.2	-2.0
PB11				IAML		01 03 56.7	
	comp=N,5μm,0.3s						
PB11	IPOC Station P	1.59	54	Pn	Pn	01 03 36.1	+0.8
PB11				Sn	Sn	01 03 54.5	-0.7
PB04	IPOC Station P	1.82	154	⇓iP	Pn	01 03 39.7	+1.2
PB04				iS	Sn	01 04 01.2	+0.2
PB04	IPOC Station P	1.82	154	Pn	Pn	01 03 39.5	+1.0
PB08	IPOC Station P	1.84	73	⇑iP	Pn	01 03 39.8	+0.8
PB08				iS	Sn	01 04 00.2	-1.5
PB08	IPOC Station P	1.84	73	Pn	Pn	01 03 39.5	+0.5
PB09	IPOC Station P	1.99	124	⇓iP	Pn	01 03 42.9	+2.0
PB09				iS	Sn	01 04 05.2	+0.1
PB09	IPOC Station P	1.99	124		Pn	01 03 41.8	+0.9
GO01	Chusmiza	2.00	60	eP	Pn	01 03 42.2	+0.9
GO01				eS	Sn	01 04 05.4	-0.4
GO01				IAML		01 04 09.1	
	comp=N,4μm,0.1s						
GO01	Chusmiza	2.00	60	Pn	Pn	01 03 42.4	+1.1
MNMC	Minye Minye	2.06	41	⇑iP	Pn	01 03 43.1	+1.3
MNMC				iS	Sn	01 04 06.4	-0.6
MNMC				IAML		01 04 14.1	
	comp=E,3μm,0.5s						
MNMC	Minye Minye	2.06	41		Pn	01 03 42.8	+0.9
AP01	Chacalluta	2.40	16	eP	Pn	01 03 48.3	+2.0
AP01				iS	Sn	01 04 13.7	-1.4
AP01	Chacalluta	2.40	16		Pn	01 03 47.9	+1.6
PB06	IPOC Station P	2.41	146	⇓iP	Pn	01 03 47.6	+1.0
PB06				iS	Sn	01 04 15.2	-0.3
PB06	IPOC Station P	2.41	146		Pn	01 03 46.8	+0.1
LVC	Limon Verde	2.74	134	Pn	Pn	01 03 53.7	+2.4
	comp=E,42nm,0.3s,baz=338,slow=6.7,SNR=765						
LVC				Sn	Sn	01 04 25.0	+1.1
	comp=E,105nm,0.3s,baz=103,slow=15,SNR=5.0						
LVC	Limon Verde	2.74	134	⇓iP	Pn	01 03 53.7	+2.4
LVC				iS	Sn	01 04 22.8	-1.0
LVC	Limon Verde	2.74	134	Pn	Pn	01 03 51.5	+0.2
LVC					Sn	01 04 22.4	-1.4
LVC	Limon Verde	2.74	134	eP	Pn	01 03 53.5	+2.2
LVC				eS	Sn	01 04 25.2	+1.4
PB16	IPOC Station P	2.75	32	iP	Pn	01 03 53.5	+1.8
PB16				IAML		01 04 30.6	
	comp=N,520nm,0.2s						
PB16	IPOC Station P	2.75	32		Pn	01 03 52.9	+1.2
PB10	IPOC Station P	2.83	171	⇓iP	Pn	01 03 53.3	+1.0
PB10				iS	Sn	01 04 23.9	-1.9
PB10				IAML		01 04 26.7	
	comp=N,394nm,0.5s						
PB10	IPOC Station P	2.83	171	Pn	Pn	01 03 53.1	+0.8
PB15	IPOC Station P	2.88	150	⇓iP	Pn	01 03 54.2	+1.0
PB15				iS	Sn	01 04 28.0	+0.7
PB15	IPOC Station P	2.88	150	Pn	Pn	01 03 53.6	+0.5
PB14	IPOC Station P	3.95	172	⇓iP	Pn	01 04 08.5	+0.6
PB14				iS	Sn	01 04 50.9	-2.9
PB14	IPOC Station P	3.95	172	Pn	Pn	01 04 08.3	+0.3
GO02	Mina Guanaco	4.63	164	⇓iP	Pn	01 04 18.8	+1.4
GO02				iS	Sn	01 05 11.1	+0.5
GO02	Mina Guanaco	4.63	164	Pn	Pn	01 04 18.7	+1.4
LPAZ	La Paz	5.17	33	Pn	Pn	01 04 29.7	+4.6
	comp=N,2.4nm,0.3s,baz=227,slow=7.7,SNR=48						
LPAZ	La Paz	5.17	33		Pn	01 04 29.2	+4.2
AC01	Pan de Azucar	5.44	176	Pn	Pn	01 04 27.9	-0.2
AC02	Maricunga	6.35	165		Pn	01 04 41.0	-0.1
GO03	Copiap	6.90	174	Pn	Pn	01 04 47.9	-0.4
GO03					Sn	01 06 04.8	-1.4
AC04	Llanos de Chal	7.47	180	Pn	Pn	01 04 54.2	-1.9
AC05	El Transito	8.13	175	Pn	Pn	01 05 05.7	+0.4
LCO	Las Campanas	8.28	178	Pn	Pn	01 05 06.9	-0.5
CO01	Juntas del Tor	9.28	175	Pn	Pn	01 05 21.3	+0.2
GO04	Tololo Observa	9.44	179	Pn	Pn	01 05 21.8	-1.4
CO03	El Pedregal	10.10	178	Pn	Pn	01 05 31.3	-0.9
SIV	San Ignacio	10.54	65	Pn	Pn	01 05 37.5	-0.8
	comp=N,2.8nm,0.3s,baz=266,slow=10,SNR=41						
ETMB	Extrema	11.77	24	eP	Pn	01 05 54.5	-0.5
PTLB	Pontes e Lacer	12.45	67	eP	Pn	01 06 03.1	-1.2
VILB	Vilhena	12.91	55	eP	Pn	01 06 11.0	+0.4
AQDB	Aquidauana	14.35	92	eP	Pn	01 06 30.0	-0.3
H03N1	Juan Fernandez	14.50	207	T	T	01 21 44.3	
	baz=34,slow=72,SNR=89						
H03N2	Juan Fernandez	14.51	207	T	T	01 21 46.2	
	baz=34,slow=72,SNR=97						
H03N3	Juan Fernandez	14.52	207	T	T	01 21 44.9	
	baz=34,slow=72,SNR=67						
BI02	San Fabin de	15.91	181	Pn	Pn	01 06 51.4	+0.4
BI02				IAmb	IAmb	01 06 54.3	
	comp=Z,14nm,0.9s						
TRCB	Terra Rica	17.21	100	eP	Pn	01 07 08.2	+0.7
CLDB	Colider	17.60	59	eP	Pn	01 07 10.8	-1.5
LC01	Cunco	18.15	182		Pn	01 07 18.2	-0.8
LC01				IAmb	IAmb	01 07 18.5	
	comp=Z,6.9nm,1.1s						
ITAB	Concordia	18.44	114	eP	P	01 07 22.7	+0.2
PCMB	Pacaembu	18.46	96	eP	P	01 07 23.0	+0.3
ARAG	Araguaiana, MT	18.91	78	eP	P	01 07 26.6	-1.1
TRQA	Tornquist	18.99	158	P	P	01 07 26.5	-1.9
PLCA	Paso Flores	19.98	179	P	Pn	01 07 43.3	+2.3
	comp=Z,3.1nm,0.8s,baz=5.5,slow=11,SNR=5.1						
PLCA	Paso Flores	19.98	179	P	P	01 07 38.5	-0.7
PLCA				IAmb	IAmb	01 07 47.5	
	comp=Z,5.9nm,0.9s						
FRTB	Fartura	20.07	101	eP	P	01 07 40.6	+0.3
MACA	Manacapuru-AM	20.13	31	eP	P	01 07 42.1	+1.0
NPGB	Novo Progresso	20.36	50	eP	P	01 07 42.4	-1.0
SNDB	Serra Nova Dou	20.81	68	eP	P	01 07 46.9	-1.5
BB19B	Bebedouro	21.02	95	eP	P	01 07 51.4	+0.7
IPMB	Ipameri, GO	21.69	87	eP	P	01 07 57.8	-0.1
ITTB	Itaituba	22.02	45	eP	P	01 08 00.1	-1.2
BDFB	Brasilia	22.43	81	P	P	01 08 07.5	+1.6
	comp=Z,2.1nm,0.5s,baz=226,slow=8.9,SNR=4.5						
BDFB	Brasilia	22.43	81	P	P	01 08 05.0	-0.9
BDFB				IAmb	IAmb	01 08 14.5	
	comp=Z,2.1nm,1.1s						
VAO	Valinhos	22.44	100	eP	P	01 08 06.4	+0.4
PTGA	Pitinga	22.60	30	P	P	01 08 08.4	+0.9
	comp=Z,3.6nm,0.3s,baz=215,slow=18,SNR=19						
PTGA	Pitinga	22.60	30	P	P	01 08 07.9	+0.3
PEXB	Peixe	23.39	72	eP	P	01 08 15.0	-0.8
BSCB	Bom Sucesso	24.53	95	eP	P	01 08 26.6	+0.1
MALB	Monte Alegre	24.87	43	eP	P	01 08 29.7	+0.2
PRPB	Parauapebas	25.13	58	eP	P	01 08 31.5	-0.4
SMTB	Santa Maria do	25.49	66	eP	P	01 08 35.4	+0.2
JANB	Januaria	26.02	82	eP	P	01 08 39.6	-0.4
SDBA	SAO DESIDERIO	26.33	76	eP	P	01 08 44.1	+1.2
MCPB	Macapa, AP	27.43	45	eP	P	01 08 53.5	+0.8
SJMB	Sao Joao De Ma	28.15	91	eP	P	01 08 59.2	+0.1
TORD	Torodi Ar. Bea	78.96	71	P	P	01 15 10.8	0.0
	comp=Z,2.9nm,0.6s,baz=250,slow=5.4,SNR=51						
H11S2	WAKE ISLAND Hy	25.81	278	T	T	03 41 35.6	
	baz=102,slow=74,SNR=86						
H11S1	WAKE ISLAND Hy	25.82	278	T	T	03 41 33.9	
	baz=102,slow=74,SNR=81						
H11S3	WAKE ISLAND Hy	25.83	278	T	T	03 41 34.6	
	baz=102,slow=74,SNR=65						
H11N3	WAKE ISLAND Hy	25.88	280	T	T	03 41 32.7	
	baz=102,slow=75,SNR=24						
H11N2	WAKE ISLAND Hy	25.90	280	T	T	03 41 35.7	
	baz=102,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	25.90	280	T	T	03 41 35.9	
	baz=102,slow=75,SNR=25						
MKAR	Makanchi Array	146.10	34	PKPbc	PKPab	01 22 48.3	+1.0
	comp=Z,1.4nm,0.8s,baz=306,slow=1.2,SNR=7.8						
MKAR	Makanchi Array	146.10	34		PKPbc	01 22 47.1	+0.4

MAN 22 01:10:18.9, 6.77N×125.01E, h10km, mb5.0, ML4.0, MS4.0
IDC 22 01:10:18.9±0.9, 6.63N×124.94E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/48, mbtmp3.7/7, MS3.6/3, Ms1 3.6/3, ms1mx3.1/36, Error ellipse: s-maj=18.6km s-min=9.9km az=140.0
NEIC 22 01:10:24.1±1.5, 6.80N±0.08×125.5E±0.1, h45km±10km, mb4.2/10, Error ellipse: s-maj=14.7km s-min=11.4km az=77.0
DJA 22 01:10:24.0±0.8, 7°N±7°×12°6E±°, h10km, M4.6/7, mb4.4/7, mB5.8/1, MLv4.7/3, Mw(mB)5.3/1
ISC 22 01:10:20.1±0.6, 6.76N±0.03×125.05E±0.04, h10km, n42, σ1.58/43, mb3.9/12, MS3.4/3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.25	9	⇑iP	Pg	01 10 25.2	0.0
KCP				iS	Sg	01 10 29.1	+0.4
SKMP	Bagumbayan, Su	0.56	245	eP	Pg	01 10 29.2	-1.8
SKMP				eS	Sb	01 10 38.4	-1.7
DAV	Davao City (W)	0.61	60	Pg	Pb	01 10 33.2	+0.4
	503nm,0.3s,baz=260,slow=8.0,SNR=32						
DAV				Lg	Lg	01 10 45.4	
	707nm,0.3s,baz=135,slow=22,SNR=12						
DAV				LR	LR	01 10 56.2	
	comp=Z,7μm,20.0s,baz=346,slow=48						
DAV	Davao City (W)	0.61	60	Pn	Pb	01 10 33.0	+0.2
DAV				Sn	Sg	01 10 38.3	-1.6
DDMP	Don Marcelino,	0.93	135	eP	Pb	01 10 37.2	-1.0
DDMP				eS	Sn	01 10 52.8	+0.3
BUKP	Musuan	1.11	0	eP	Pb	01 10 39.1	-2.3
BUKP				eS	Sg	01 10 56.4	+0.5
MATI	Mati	1.21	81	eP	Pn	01 10 41.5	-1.6
MATI				eS	Sn	01 11 00.0	+0.5
CGP	Cagayan de Oro	1.72	348	⇓iP	Pn	01 10 50.5	+0.4
CGP				iS	Sb	01 11 13.6	+0.1
PAGZ	Pagadian	1.98	303	eP	Pn	01 10 52.3	-1.4
PAGZ				eS	Sn	01 11 17.7	-0.8
SGSI	Sangihe	3.09	171	P	Pb	01 11 13.6	-1.6
SGSI				S	Sg	01 12 01.6	+2.1
LLP	Lapu-Lapu	3.69	343	eP	Pn	01 11 16.7	-0.5
LLP				eS	Sb	01 12 08.1	-2.2
TNTI	Ternate	6.38	159	Pn	Pn	01 11 54.0	-0.3
GTOI	Gorontalo	6.42	199	P	Pn	01 11 55.4	+0.7
MYLDM	Lahad Datu	6.70	257	Pn	Pn	01 12 05.8	+7.1
LUWI	Luwuk	8.08	196	P	Pn	01 12 26.8	+9.2
	4μm121nm,1.0s						
LUWI	Luwuk	8.08	196	Pn	Pn	01 12 22.2	+4.6
APSI	Ampana	8.35	204	P	Pn	01 12 31.2	+10
	32nm,1.0s						
SANI	Sanana	8.80	174	P	Pn	01 12 30.7	+3.2
	26nm,1.1s						
I39PW	PALAU INFRASON	9.45	85	i		02 08 20.0	
	baz=266,slow=301,SNR=0.5						
TTSI	Tana Toraja	11.05	208	P	Pn	01 13 10.8	+12
KBKI	Kotabaru	13.36	222	P	P	01 13 43.9	+4.3
MTN	Manton Dam	20.39	163	P	P	01 14 55.0	-2.3
MTN				IAmb	IAmb	01 15 07.8	
	comp=Z,15nm,1.0s						
GUMO	Guam	20.64	69	LR	LR	01 21 45.4	
	comp=Z,82nm,20.5s,baz=233,slow=33						
KNRA	Kununurra	22.59	171	P	P	01 15 21.2	+0.1
IPM	Ipoh	24.02	266	P	P	01 15 39.3	+3.9
IPM				IAmb	IAmb	01 15 45.5	
	comp=Z,5.1nm,0.8s						
KULM	Kulim	24.31	268	P	P	01 15 39.0	+0.8
KULM				IAmb	IAmb	01 15 41.7	
	comp=Z,6.7nm,1.1s						
FITZ	Fitzroy Crossi	24.71	179	P	P	01 15 41.8	+0.2
	comp=Z,1.4nm,0.5s,baz=351,slow=8.3,SNR=12						
FITZ	Fitzroy Crossi	24.71	179	P	P	01 15 41.7	0.0
WB0	Warramunga Arr	27.92	161	P	P	01 16 08.7	-2.0
WB0				IAmb	IAmb	01 16 25.5	
	comp=Z,5.4nm,1.0s						
WRA	Warramunga Arr	28.07	161	P	P	01 16 11.0	-1.0
	comp=Z,1.2nm,1.0s,baz=343,slow=9.4,SNR=4.8						
WB2	Warramunga Arr	28.07	161	P	P	01 16 08.7	-3.4
WB2				IAmb	IAmb	01 16 24.5	
	comp=Z,4.2nm,0.9s						
WR0	Warramunga Arr	28.15	161	P	P	01 16 11.3	-1.4
KSRS	Korea Array	30.66	4	LR	LR	01 31 18.9	
	comp=Z,81nm,19.1s,baz=345,slow=41						
ASAR	Alice Springs	31.45	164	P	P	01 16 41.4	-0.6
	comp=Z,0.8nm,0.5s,baz=346,slow=7.7,SNR=9.2						
ASAR	Alice Springs	31.45	164	P	P	01 16 40.2	-1.8
SONM	Songino Array	43.91	342	P	P	01 18 29.2	+2.0
	comp=Z,0.4nm,0.7s,baz=169,slow=8.7,SNR=1.9						
SONM				LR	LR	01 37 05.3	
	comp=Z,149nm,21.0s,baz=302,slow=36						
TOO	Toolangi	48.05	158	P	P	01 18 57.7	-2.2
MKAR	Makanchi Array	54.13	325	P	P	01 19 46.3	+0.9
	comp=Z,0.5nm,0.8s,baz=126,slow=7.4,SNR=5.1						
MKAR	Makanchi Array	54.13	325	P	P	01 19 46.7	+1.2
KURBB	Kurchatov Arra	58.30	327	P	P	01 20 15.5	+0.4
	comp=Z,1.0nm,0.7s,baz=127,slow=6.0,SNR=14						
KURK	Kurchatov	58.30	327	P	P	01 20 16.4	+1.3
KURK				IAmb	IAmb	01 20 19.0	
	comp=Z,3.1nm,1.0s						
ILAR	Eielson Array	83.10	26	P	P	01 22 45.5	-0.4
	comp=Z,0.6nm,0.8s,baz=255,slow=5.5,SNR=2.5						

IDC 22 01:16:19.2±1.3, 5.10S×153.15E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.5/50, mbtmp3.6/6, Error ellipse: s-maj=27.1km s-min=18.0km az=48.0
ISC 22 01:16:21.1±1.3, 5.0S±0.2×153.1E±0.2, h10km, n8, σ1.05/8, mb3.6/6, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.29	304	Pg	Pg	01 16 46.0	0.0
	993nm,0.3s,baz=127,slow=5.1,SNR=182						
KRVT				Lg	Lg	01 17 02.4	
	406nm,0.3s,baz=342,slow=23,SNR=6.6						
WRA	Warramunga Arr	23.51	229	P	P	01 21 29.6	-1.9
	0.8nm,0.8s,baz=55,slow=10.0,SNR=4.2						
ASAR	Alice Springs	26.18	223	P	P	01 21 56.3	+0.3
	0.5nm,0.6s,baz=61,slow=9.6,SNR=5.9						
FITZ	Fitzroy Crossi	29.81	242	P	P	01 22 29.3	+0.8
	0.6nm,0.5s,baz=68,slow=11,SNR=1.4						
CMAR	Chiang Mai Arr	58.25	295	P	P	01 26 16.3	0.0
	0.6nm,0.3s,baz=111,slow=4.0,SNR=4.4						
ILAR	Eielson Array	82.27	22	P	P	01 28 43.0	+0.5
	0.3nm,0.6s,baz=250,slow=5.8,SNR=4.5						
KURBB	Kurchatov Arra	84.17	322	P	P	01 28 51.9	-0.7
	0.2nm,0.6s,baz=110,slow=5.7,SNR=2.2						
TORD	Torodi Ar. Bea	150.66	288	PKPbc	PKPbc	01 36 13.9	-0.7
	0.5nm,0.5s,baz=77,slow=2.7,SNR=6.7						

IDC 22 01:16:44.9±1.7, 63.01S×171.54E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/35, mbtmp3.8/4, ML3.0/1, MS3.8/5, Ms1 3.8/5, ms1mx3.6/14, Error ellipse: s-maj=87.1km s-min=31.4km az=54.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	14.90	188	Pn	Pn	01 20 16.3	-0.1
	0.1nm,0.3s,baz=15,slow=16,SNR=7.7						
VNDA				LR	LR	01 24 38.1	
	comp=Z,400nm,18.8s,baz=349,slow=32						
RPZ	Rata Peaks	19.33	359	LR	LR	01 27 27.1	
	comp=Z,120nm,19.4s,baz=202,slow=33						
URZ	Urewera	25.01	10	LR	LR	01 30 59.1	
	comp=Z,164nm,18.6s,baz=213,slow=34						
H01W1	Cape Leeuwin H	44.85	281	T	T	02 12 45.8	
	baz=145						
H01W2	Cape Leeuwin H	44.86	281	T	T	02 12 48.8	
	baz=145						
H01W3	Cape Leeuwin H	44.87	281	T	T	02 12 49.5	
	baz=145						
ASAR	Alice Springs	46.65	310	P	P	01 25 15.2	+0.3
	1.5nm,0.9s,baz=158,slow=7.7,SNR=8.4						
ASAR				LR	LR	01 42 46.4	
	comp=Z,108nm,19.1s,baz=18,slow=34						
WRA	Warramunga Arr	49.94	312	P	P	01 25 39.3	-0.9
	0.5nm,0.9s,baz=161,slow=7.6,SNR=2.9						
WRA				LR	LR	01 45 22.6	
	comp=Z,139nm,18.8s,baz=305,slow=34						
H03S2	Juan Fernandez	68.52	123	T	T	02 43 28.5	
	baz=204,slow=74,SNR=13						
H03S1	Juan Fernandez	68.52	123	T	T	02 43 27.4	
	baz=204,slow=74,SNR=14						
H03S3	Juan Fernandez	68.53	123	T	T	02 43 34.0	
	baz=204,slow=74,SNR=9.1						
CPUP	Villa Florida	82.92	137	P	P	01 29 11.2	-0.1
	1.5nm,0.8s,baz=120,slow=4.3,SNR=3.3						
H08S2	Diego Garcia H	87.33	259	T	T	03 05 56.9	
	baz=156,slow=76						
H08S1	Diego Carcia H	87.34	258	T	T	03 05 52.2	
	baz=156						
H08S3	Diego Garcia H	87.35	259	T	T	03 05 52.7	
	baz=156,slow=76						
KBZ	Khabaz	145.03	261	PKPbc	PKPbc	01 36 21.9	-0.4
	3.3nm,1.0s,baz=135,slow=2.9,SNR=6.0						

IDC 22 01:17:10.3±12.0, 13.28N×91.45E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.5/64, mbtmp4.0/5, ML3.7/1, Error ellipse: s-maj=230.2km s-min=46.5km az=172.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.86	54	Pn	Pn	01 19 19.5	-0.2
	0.3nm,0.3s,baz=224,slow=14,SNR=4.1						
MKAR	Makanchi Array	34.28	349	P	P	01 23 58.7	+0.4
	0.6nm,0.5s,baz=158,slow=8.6,SNR=6.8						
GEYT	Alibeck	38.47	316	P	P	01 24 34.0	-0.1
	4.2nm,0.7s,baz=108,slow=9.3,SNR=2.1						
KURBB	Kurchatov Arra	38.70	347	P	P	01 24 34.8	-1.0
	1.0nm,0.5s,baz=170,slow=6.9,SNR=13						
ZALV	Zalesovo Beam	40.91	354	P	P	01 24 54.7	+0.5
	0.6nm,0.3s,baz=165,slow=7.2,SNR=6.3						

WEL 22 01:22:08.2±1.0, 45°S±4°×16°7E±°, h12km, M3.8/8, ML4.0/8, MLv3.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.41	165	P	Pb	01 22 17.9	+0.5
DCZ				S	Sb	01 22 24.3	+0.7
MSZ	Milford Sound	0.77	59	P	Pb	01 22 23.3	-0.1
MSZ				S	Sb	01 22 33.6	-0.2
MLZ	Mavora Lakes	0.84	111	P	Pb	01 22 24.9	+0.1
MLZ				S	Sb	01 22 36.5	+0.4
WHZ	Wether Hill Ro	1.06	141	P	Pb	01 22 28.2	-0.3
WHZ				S	Sg	01 22 42.5	+0.1
PYZ	Puysegur Point	1.12	192	P	Pb	01 22 28.3	-1.2
WKZ	Wanaka	1.45	81	P	Pb	01 22 35.4	+0.2
WKZ				S	Sg	01 22 54.8	-0.1
JCZ	Jackson Bay	1.62	53	P	Pn	01 22 34.9	-1.7
APZ	The Paps	1.89	159	P	Pn	01 22 40.5	+0.1
TUZ	Tuapeka	2.05	117	P	Pn	01 22 43.1	+0.6
TUZ				S	Sn	01 23 07.5	-0.4
SYZ	Scrubby Hill	2.09	135	P	Pn	01 22 43.1	+0.1
SYZ				S	Sn	01 23 08.9	-0.1
LBZ	Lake Benmore	2.37	74	P	Pn	01 22 46.7	-0.2
FOZ	Fox Glacier	2.54	54	P	Pn	01 22 47.5	-1.7
ODZ	Otahua Downs	2.58	91	P	Pn	01 22 49.6	-0.2
ODZ				S	Sn	01 23 18.3	-2.8
HHSZ	Highcliff Hill	2.66	109	P	Pn	01 22 51.4	+0.5
HHSZ				S	Sn	01 23 20.8	-2.2
GCSZ	Gaunt Creek Bo	2.96	55	P	Pn	01 22 53.3	-1.8
RPZ	Rata Peaks	3.20	66	P	Pn	01 22 57.6	-0.8
WVZ	Waitaha Valley	3.35	55	P	Pn	01 22 58.1	-2.2
MHCZ	Mount Hutt	3.62	66	P	Pn	01 23 02.9	-1.2
WACZ	Wakanui South	3.64	74	P	Pn	01 23 03.6	-0.8
LTZ	Lake Taylor	4.44	61	P	Pn	01 23 15.1	-0.3
DSZ	Denniston Nort	4.82	48	P	Pn	01 23 19.3	-1.4
QRZ	Quartz Range	5.87	46	P	Pn	01 23 32.5	-2.5

IDC 22 01:22:47.6±0.7, 21.58N×62.04E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.7/50, mbtmp3.9/13, ML4.4/1, Error ellipse: s-maj=21.4km s-min=16.8km az=135.0
NEIC 22 01:22:49.7±1.9, 21.64N±0.09×62.03E±0.10, h15km±4km, mb4.0/11, Error ellipse: s-maj=14.5km s-min=12.5km az=135.0
OMAN 22 01:22:56.2±1.1, 21.65N×61.64E, h35km, mb5.1/4, ml4.5/12, Error ellipse: s-maj=41.4km s-min=11.3km az=258.0
DSN 22 01:23:00.6±2.5, 21.82N×60.96E, h10km, ML4.6/10, Error ellipse: s-maj=35.3km s-min=10.0km az=74.0
ISC 22 01:22:49.3±0.7, 21.73N±0.06×61.90E±0.06, h10km, n57, σ1.67/74, mb4.0/16, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JLN	Jalan Bani Buh	2.35	281	P	Pn	01 23 28.1	+0.1
	SNR=251						
JLN				S	Sn	01 23 54.7	-2.3
WBK	Wadi Bani Khal	2.85	288	P	Pn	01 23 36.3	+1.3
	SNR=1186						
WBK				S	Sn	01 24 09.2	-0.2
WSAR	Wadi Sarin	3.38	297	Pn	Pn	01 23 43.0	+0.8
	36nm,0.3s,baz=143,slow=8.8,SNR=205						
WSAR				Sn	Sn	01 24 19.0	-3.4
	89nm,0.3s,baz=6.7,slow=19,SNR=12						
WSAR	Wadi Sarin	3.38	297	P	Pn	01 23 43.1	+0.8
WSAR				S	Sn	01 24 19.5	-2.8
JMDO	Jabal Madar	3.58	281	P	Pn	01 23 47.3	+2.4
	SNR=1958						
JMDO				S	Sn	01 24 26.9	-0.5
MHTO	MHTO	3.74	259	P	Pn	01 23 47.5	+0.4
	SNR=721						
MHTO				S	Sn	01 24 29.0	-2.2

SMDO	**Samad**	**3.80**	**291**	P	**Pn**	**01 23 50.2**	**+2.1**
	SNR=1100							
SMDO				S	**Sn**	**01 24 32.6**	**-0.3**
BIDO	**Bidbid**	**3.92**	**298**	P	**Pn**	**01 23 51.5**	**+2.0**
	SNR=52							
BIDO				S	**Sn**	**01 24 32.8**	**-2.9**
	SNR=6.8							
DQM	**DQM**	**4.46**	**247**	P	**Pn**	**01 23 57.2**	**+0.3**
	SNR=385							
DQM				S	**Sn**	**01 24 47.1**	**-1.8**
BSY	**Bisya**	**4.47**	**284**	P	**Pn**	**01 23 58.9**	**+1.7**
	SNR=115							
BSY				S	**Sn**	**01 24 48.4**	**-1.0**
HOQ	**Hoqain**	**4.62**	**294**	P	**Pn**	**01 24 01.4**	**+2.1**
	SNR=240							
HOQ				S	**Sn**	**01 24 52.6**	**-0.5**
ARQ	**Araqi**	**5.22**	**289**	P	**Pn**	**01 24 09.9**	**+2.3**
	SNR=94							
ARQ				S	**Sn**	**01 25 07.4**	**-0.6**
SOHO	**SOHO**	**5.50**	**297**	P	**Pn**	**01 24 11.7**	**+0.5**
SOHO				P	**Pn**	**01 24 12.3**	**+1.0**
SOHO	**SOHO**	**5.50**	**297**	P	**Pn**	**01 24 12.0**	**+0.7**
SOHO				S	**Sn**	**01 25 12.3**	**-2.3**
ASHO	**Ashiyiah**	**6.13**	**300**	*i* P	**Pn**	**01 24 21.2**	**+1.2**
	SNR=11							
ASHO	**Ashiyiah**	**6.13**	**300**	P	**Pn**	**01 24 22.7**	**+2.7**
	SNR=39							
ASHO				S	**Sn**	**01 25 30.2**	**0.0**
	SNR=7.9							
HATD	**Hatta, Dubai**	**6.13**	**301**	*i* P	**Pn**	**01 24 22.3**	**+2.2**
	SNR=8.7							
UOSS	**Minazif**	**6.14**	**303**	*i* P	**Pn**	**01 24 21.1**	**+1.0**
	SNR=17							
UOSS	**Minazif**	**6.14**	**303**	P	**Pn**	**01 24 21.5**	**+1.4**
UOSS	**Minazif**	**6.14**	**303**		**Pn**	**01 24 20.7**	**+0.6**
MDH	**Madha**	**6.25**	**306**	*i* P	**Pn**	**01 24 21.4**	**-0.2**
	SNR=9.5							
MDH	**Madha**	**6.25**	**306**	P	**Pn**	**01 24 21.6**	**-0.1**
MSFE	**Esma-Masafi**	**6.39**	**306**	P	**Pn**	**01 24 23.4**	**-0.2**
FAQ	**Al Faqa, Dubai**	**6.53**	**299**	*i* P	**Pn**	**01 24 27.5**	**+2.0**
	SNR=16							
BANOM	**Banah**	**6.61**	**310**	*i* P	**Pn**	**01 24 27.0**	**+0.4**
	SNR=80							
BANOM				S	**Sn**	**01 25 35.8**	**-6.3**
ASUD	**Al Ashush, Dub**	**6.70**	**297**	*i* P	**Pn**	**01 24 30.1**	**+2.3**
	SNR=18							
SHME	**Shamm**	**6.80**	**310**	*i* P	**Pn**	**01 24 29.9**	**+0.7**
	SNR=21							
SHME				S	**Sn**	**01 25 42.5**	**-4.4**
SHAO	**Shalim**	**6.96**	**239**	P	**Pn**	**01 24 32.5**	**+1.1**
SHAO	**Shalim**	**6.96**	**239**	P	**Pn**	**01 24 32.7**	**+1.2**
	SNR=57							
SOCY	**Socotra**	**12.13**	**220**	Pn	**Pn**	**01 25 40.3**	**-2.1**
KBL	**Kabul**	**14.23**	**25**	Pn	**Pn**	**01 26 11.3**	**+0.2**
NIL	**Nilore**	**15.54**	**38**		**Pn**	**01 26 28.4**	**-0.3**
NIL				IAmb	IAmb	01 26 35.0	
	comp=Z,8.1nm,0.8s							
KK31	**Karatay Array**	**22.49**	**17**	P	**P**	**01 27 48.7**	**-0.3**
KK31				IAmb	IAmb	01 27 58.8	
	comp=Z,5.3nm,1.2s							
KKAR	**Karatay Array**	**22.49**	**17**	P	**P**	**01 27 49.9**	**+0.9**
KKAR				IAmb	IAmb	01 27 58.8	
	comp=Z,5.3nm,1.2s							
KKAR	**Karatay Array**	**22.49**	**17**	P	**P**	**01 27 49.5**	**+0.5**
MMAI	**Mount Meron Ar**	**26.01**	**301**	P	**P**	**01 28 24.4**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=106,slow=11,SNR=1.9							
ABKAR	**Akbulak array**	**27.51**	**357**	P	**P**	**01 28 36.2**	**+0.3**
ABKAR	**Akbulak array**	**27.51**	**357**	P	**P**	**01 28 36.6**	**+0.7**
ABKAR				IAmb	IAmb	01 28 44.8	
	comp=Z,6.9nm,1.5s							
MK31	**Makanchi Array**	**29.98**	**29**	P	**P**	**01 28 57.2**	**-0.7**
MKAR	**Makanchi Array**	**29.98**	**29**	P	**P**	**01 28 58.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=216,slow=11,SNR=13							
MKAR	**Makanchi Array**	**29.98**	**29**	P	**P**	**01 28 57.7**	**-0.3**
KURBB	**Kurchatov Arra**	**31.66**	**20**	P	**P**	**01 29 13.7**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=218,slow=8.5,SNR=5.1							
KURK	**Kurchatov**	**31.76**	**20**	P	**P**	**01 29 13.4**	**-0.2**
KURK				IAmb	IAmb	01 29 22.8	
	comp=Z,3.3nm,1.2s							
ZALV	**Zalesovo Beam**	**36.57**	**23**	P	**P**	**01 29 55.8**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=227,slow=9.0,SNR=11							
ZALV	**Zalesovo Beam**	**36.57**	**23**	P	**P**	**01 29 55.6**	**+0.4**
SONM	**Songino Array**	**44.04**	**43**	P	**P**	**01 30 58.8**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=246,slow=7.7,SNR=6.5							
SONM	**Songino Array**	**44.04**	**43**	P	**P**	**01 30 57.4**	**0.0**
FINES	**FINESS Array B**	**46.76**	**337**	P	**P**	**01 31 19.9**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=134,slow=11,SNR=3.5							
MATP	**Matopo**	**53.11**	**220**	P	**P**	**01 32 08.2**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=36,slow=8.3,SNR=21							
TORD	**Torodi Ar. Bea**	**57.78**	**272**	P	**P**	**01 32 41.3**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=74,slow=6.1,SNR=8.2							
TORD	**Torodi Ar. Bea**	**57.78**	**272**	P	**P**	**01 32 41.2**	**0.0**
ESDC	**Sonseca Array**	**58.16**	**304**	P	**P**	**01 32 44.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=72,slow=8.2,SNR=3.1							
BOSA	**Boshof**	**61.28**	**217**	P	**P**	**01 33 05.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=47,slow=5.7,SNR=5.8							
BOSA	**Boshof**	**61.28**	**217**	P	**P**	**01 33 03.7**	**-1.5**
WRA	**Warramunga Ar**	**82.00**	**115**	P	**P**	**01 35 08.0**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=312,slow=4.2,SNR=5.6							
WB2	**Warramunga Arr**	**82.01**	**115**	P	**P**	**01 35 08.0**	**-2.2**
ASAR	**Alice Springs**	**83.31**	**119**	P	**P**	**01 35 14.9**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=292,slow=4.4,SNR=6.4							

RSNC 22 01:40:36.5±0.5, 0°.81N×77°.92W, h19km±4km, ML1.7, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMBC	**Cumbal**	**0.16**	**34**	*e*P	Pg	01 40 41.3	-0.2
CMBC				*e*S	Sg	01 40 45.2	+0.4
CMBC				*i*		01 40 45.9	
	comp=Z,119nm,0.1s						
CMBC	**Cumbal**	**0.16**	**34**	*e*P	Pg	01 40 41.5	0.0
CMBC				*e*S	Sg	01 40 45.2	+0.3
CMBC				*i*		01 40 45.9	
	comp=Z,119nm,0.1s						
CUSE	**Cuicocha Este**	**0.69**	**224**	*e*P	Pb	01 40 49.4	-0.8
CUSE				*e*S	Sg	01 40 59.9	+0.2
CUSE	**Cuicocha Este**	**0.69**	**224**	*e*P	Pb	01 40 50.0	-0.2
CUSE				*e*S	Sg	01 41 00.1	+0.3
OTAV	**Otavalo**	**0.78**	**223**	*e*P	Pb	01 40 50.6	-1.1
OTAV				*e*S	Sb	01 41 02.0	-0.1
OTAV				*i*		01 41 02.8	
	comp=Z,7.9nm,0.3s						
OTAV	**Otavalo**	**0.78**	**223**	*e*P	Pb	01 40 50.7	-1.0
OTAV				*e*S	Sb	01 41 02.0	0.0
OTAV				*i*		01 41 02.7	
	comp=Z,7.9nm,0.3s						
PAC1	**Pacto, Paraso**	**1.03**	**238**	*e*P	Pb	01 40 54.7	-1.1
PAC1				*e*S	Sb	01 41 08.6	-0.3
PAC1				*i*		01 41 10.7	
	comp=Z,45nm,0.2s						
PAC1	**Pacto, Paraso**	**1.03**	**238**	*e*P	Pb	01 40 55.4	-0.4
PAC1				*e*S	Sb	01 41 08.7	-0.2
PAC1				*i*		01 41 10.7	
	comp=Z,45nm,0.2s						
PUAC	**Puerto Asis, P**	**1.37**	**101**	*e*S	Sn	01 41 17.5	-0.7

*TEH **22** 01:48:18.9, 32°.71N×47°.57E, h8km, ML2.8*
*ISN **22** 01:48:18.7±1.4, 32°.76N×47°.47E, h6km±8km, ML2.4*
ISC 22 01:48:16.5±1.5, 32°.50N±0°.08×47°.64E±0°.05, h10km, n15, σ1§16/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.03**	**10**	*e*Pg	**Pg**	**01 48 35.5**	**-0.9**
IKFM				*e*		01 48 54.8	
IKMR	**Kamar-syah**	**1.19**	**31**	*e*Pg	**Pn**	**01 48 39.8**	**+0.7**
IKMR				*e*		01 49 00.7	
IDOB	**Doab**	**1.36**	**19**	*e*Pg	**Pb**	**01 48 41.8**	**-0.3**
IDOB				*e*Sg	**Sn**	**01 48 59.2**	**-0.7**
IDOB				*e*		01 49 03.4	
IBDR	**Badra**	**1.56**	**293**	*e*Pg	**Pn**	**01 48 44.0**	**-0.3**
	baz=105						
IBDR				*e*Sg	**Sn**	**01 49 04.0**	**-0.6**
IBDR				AML	AML	01 49 14.8	
	comp=E,42nm,0.5s						
IBDR				AML	AML	01 49 15.8	
	comp=N,35nm,0.8s						
IKOM	**Komasi**	**1.67**	**356**	*e*Pg	**Pg**	**01 48 47.6**	**-1.0**
IKOM				*e*		01 49 12.1	
KCHF	**Cheshme Sefid,**	**1.84**	**344**	*e*Pg	**Pn**	**01 48 48.9**	**+0.6**
KCHF				*e*		01 49 16.7	
HSAM	**Samen**	**1.89**	**25**	*e*Pg	**Pg**	**01 48 51.7**	**-1.0**
HSAM				*e*		01 49 19.4	
KER	**Kermanshah**	**1.93**	**347**	*e*Pg	**Pb**	**01 48 51.4**	**-0.4**
KER				*e*		01 49 26.7	
IBZA	**Bozab**	**1.97**	**5**	*e*Pg	**Pb**	**01 48 52.5**	**-0.1**
IBZA				*e*		01 48 55.3	
IGHG	**Ghaleghazi**	**2.03**	**334**	*e*Pn	**Pb**	**01 48 53.2**	**-0.4**
IGHG				*e*		01 49 28.2	
IVIS	**Veis**	**2.12**	**342**	*e*Pn	**Pb**	**01 48 54.2**	**-0.9**
IVIS				*e*		01 49 27.1	
HAGD	**Aghdareh**	**2.63**	**28**	*e*Pn	**Pb**	**01 49 02.0**	**-1.8**
HAGD				*e*		01 49 44.9	
IPIR	**Pirpir**	**2.75**	**85**	*e*		01 49 55.7	
IPIR				*e*Pn	**Pb**	**01 49 06.0**	**+0.1**
HSRG	**Sareghieh**	**2.78**	**11**	*e*	**Sg**	**01 49 49.0**	**+3.1**
BHD	**Baghdad**	**2.85**	**286**	*e*Pn	**Pn**	**01 49 03.0**	**+1.0**
BHD				*e*Sn	**Sn**	**01 49 37.0**	**+0.7**
BHD				AML	AML	01 49 39.7	
	comp=E,80nm,0.4s						

*IDC **22** 01:59:53.1±2.5, 63°.02S×172°.29E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/22, mbtmp3.8/3, ML3.5/1, MS4.2/1, Ms1 4.1/1, ms1mx3.1/29, Error ellipse: s-maj=101.1km s-min=39.8km az=70.0*
ISC 22 01:59:55.0±1.6, 63°.0S±0°.2×172°.0E±0°.5, h10km, n19, σ1§48/10, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.94**	**189**	Pn	**Pn**	**02 03 24.5**	**-1.3**
	0.2nm,0.3s,baz=28,slow=15,SNR=13						
MAW	**Mawson**	**40.13**	**214**	LR	LR	02 23 36.8	
	comp=Z,309nm,19.7s,baz=230,slow=35						
H01W1	**Cape Leeuwin H**	**45.06**	**281**	T	T	02 55 42.7	
	baz=147,slow=76,SNR=132						
H01W2	**Cape Leeuwin H**	**45.06**	**281**	T	T	02 55 43.0	
	baz=147,slow=76,SNR=96						
H01W3	**Cape Leeuwin H**	**45.07**	**281**	T	T	02 55 43.9	
	baz=147,slow=76,SNR=72						
SNAA	**Sanae**	**45.55**	**182**	P	**P**	**02 08 15.7**	**+1.5**
VNA3	**Neumayer Olymp**	**46.02**	**179**	P	**P**	**02 08 19.6**	**+1.7**
VNA2	**Neumayer--Watz**	**46.34**	**180**	P	**P**	**02 08 22.1**	**+1.6**
	baz=175,slow=7.7						
ASAR	**Alice Springs**	**46.80**	**309**	P	**P**	**02 08 25.2**	**+0.6**
	1.6nm,1.0s,baz=156,slow=7.6,SNR=6.7						
ASAR				PcP	**PcP**	**02 09 58.7**	**+1.1**
	0.5nm,0.8s,baz=145,slow=3.4,SNR=4.1						
WRA	**Warramunga Arr**	**50.09**	**311**	P	**P**	**02 08 49.4**	**-0.5**
	1.4nm,1.2s,baz=152,slow=7.5,SNR=3.7						
H03S2	**Juan Fernandez**	**68.35**	**122**	T	T	03 26 46.0	
	baz=204,slow=74,SNR=28						
H03S1	**Juan Fernandez**	**68.35**	**122**	T	T	03 26 47.3	
	baz=204,slow=74,SNR=24						
H03S3	**Juan Fernandez**	**68.36**	**122**	T	T	03 26 46.8	
	baz=204,slow=74,SNR=24						
H08S2	**Diego Garcia H**	**87.54**	**258**	T	T	03 48 48.7	
	baz=153,slow=76,SNR=16						
H08S1	**Diego Carcia H**	**87.55**	**258**	T	T	03 48 45.6	
	baz=153,slow=76,SNR=7.6						
H08S3	**Diego Garcia H**	**87.56**	**258**	T	T	03 48 55.0	
	baz=153,slow=76,SNR=39						
YKA	**Yellowknife Ar**	**136.68**	**40**	PKP	**PKPdf**	**02 19 13.8**	**-1.9**
	0.7nm,0.7s,baz=233,slow=1.9,SNR=3.0						
KBZ	**Khabaz**	**145.24**	**261**	PKPbc	**PKPab**	**02 19 31.2**	**-0.3**
	2.7nm,0.9s,baz=162,slow=3.2,SNR=5.0						
BRTR	**Keskin Array B**	**146.04**	**247**	PKPbc	**PKPbc**	**02 19 33.6**	**-0.7**
	2.0nm,0.9s,baz=195,slow=4.3,SNR=5.7						

GUC 22 02:03:28.6±0.6, 23°.69S×67°.13W, h249km±8km, ML3.7, 10C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.96**	**303**	*e*P	Pn	02 04 10.4	-0.6
LVC				*e*S	S	02 04 42.4	-2.0
PB15	**IPOC Station P**	**2.20**	**282**	⇑*i*P	Pn	02 04 13.2	+0.2
PB15				*i* S	S	02 04 47.1	-1.0
PB06	**IPOC Station P**	**2.45**	**293**	⇑*i*P	Pn	02 04 15.7	+0.3
PB06				*i* S	S	02 04 51.0	-1.3
PB06				IAML		02 04 52.6	
	comp=E,222nm,0.2s						
GO02	**Mina Guanaco**	**2.68**	**236**	⇑*i*P	Pn	02 04 18.3	+0.4
GO02				*i* S	S	02 04 56.3	-0.6
PB09	**IPOC Station P**	**2.71**	**314**	*e*P	Pn	02 04 18.5	+0.4
PB09				*i* S	S	02 04 56.6	-0.6
PB09				IAML		02 05 02.1	
	comp=N,68nm,0.2s						
PB03	**IPOC Station P**	**2.92**	**304**	⇑*i*P	Pn	02 04 20.4	+0.1
PB03				*e*S	S	02 04 59.3	-1.9
PB05	**IPOC Station P**	**2.94**	**286**	⇑*i*P	Pn	02 04 20.9	+0.4
PB05				*i* S	S	02 04 60.0	-1.6
PB04	**IPOC Station P**	**3.09**	**295**	⇑*i*P	Pn	02 04 22.8	+0.6
PB04				*i* S	S	02 05 02.8	-1.7
PB14	**IPOC Station P**	**3.13**	**252**	⇑*i*P	Pn	02 04 23.4	+0.7
PB14				*i* S	S	02 05 04.7	-0.8
PB10	**IPOC Station P**	**3.14**	**272**	⇑*i*P	Pn	02 04 23.7	+1.1
PB10				*i* S	S	02 05 04.3	-0.9
PB07	**IPOC Station P**	**3.20**	**307**	⇑*i*P	Pn	02 04 23.6	+0.1
PB07				*i* S	S	02 05 04.7	-2.2
PB01	**IPOC Station P**	**3.42**	**320**	*e*P	Pn	02 04 25.6	-0.2
PB01				*i* S	S	02 05 08.4	-2.7
AC02	**Maricunga**	**3.62**	**210**	*e*P	Pn	02 04 28.6	+0.2
AC01	**Pan de Azucar**	**3.99**	**231**	⇑*i*P	Pn	02 04 32.0	-0.1
AC01				*i* S	S	02 05 21.3	-1.4
PATCX	**Punta Patache**	**3.99**	**315**	*e*P	Pn	02 04 32.2	-0.2
PATCX				*i* S	S	02 05 20.0	-3.1
PB08	**IPOC Station P**	**4.00**	**332**	*e*P	Pn	02 04 33.2	+0.5
PB08				*i* S	S	02 05 21.4	-2.2
GO01	**Chusmiza**	**4.43**	**334**	*e*P	Pn	02 04 38.6	+0.5
GO01				*i* S	S	02 05 32.3	-0.9
PB11	**IPOC Station P**	**4.56**	**329**	*e*P	Pn	02 04 38.1	-1.1
PB11				*i* S	S	02 05 31.6	-3.8
PSGC	**Pisagua**	**4.93**	**325**	*e*P	Pn	02 04 42.1	-1.5
PSGC				*i* S	S	02 05 37.9	-5.5
MNMC	**Minye Minye**	**5.08**	**333**	*e*P	Pn	02 04 45.7	0.0
MNMC				*i* S	S	02 05 43.6	-3.5
AC04	**Llanos de Chal**	**5.73**	**217**	*e*P	Pn	02 04 52.4	-0.9
AC04				*i* S	S	02 05 58.9	-2.1

GCMT 22 02:14:09.0±0.4, 63°.21S±0°.04×170°.57E±0°.09, h29km, MW5.0/65, Moment Tension Solution. s34,c40; s65,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.16±.34; $M_{\theta\theta}$1.82±.21; $M_{\phi\phi}$3.34±.24; $M_{r\theta}$-1.94±.26; $M_{\theta\phi}$0.61±.12; $M_{r\phi}$0.70±.32; Best double couple: M_w4.64700×10^{16} NP1:ϕ_s34.00000°,δ47.00000°, λ-68.00000°. NP2:ϕ_s184.00000°,δ47.00000°, λ-112.00000°. Principal axes: T 3.5540, Plg0.0000°, Azm289.0000°; N 2.1850, Plg16.0000°, Azm199.0000°; P -5.7390, Plg74.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Balleny Islands region

*IDC **22** 02:30:28.8±0.6, 6°.65N×124°.98E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.1/55, mbtmp4.3/14, ML4.6/2, MS4.0/22, Ms1 4.0/22, ms1mx3.8/43 Error ellipse: s-maj=13.2km s-min=8.9km az=138.0*
*MAN **22** 02:30:29.2, 6°.73N×125°.01E, h4km, mb5.7, ML4.7, MS5.0*
*GCMT **22** 02:30:31.2±0.4, 6°.97N±0°.02×124°.93E±0°.03, h26km±1km, MW4.9/70, Moment Tensor Solution. s15,c15; s70,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.11±.23; $M_{\theta\theta}$2.70±.17; $M_{\phi\phi}$-1.60±.15; $M_{r\theta}$2.32±.32; $M_{\theta\phi}$0.53±.12; $M_{r\phi}$-0.54±.30; Best double couple: M_w3.24500×10^{16} NP1:ϕ_s41.00000°,δ35.00000°,λ-156.00000°. NP2: ϕ_s292.00000°,δ77.00000°,λ-58.00000°. Principal axes: T 3.8080, Plg25.0000°, Azm357.0000°; N -1.1360, Plg31.0000°, Azm104.0000°; P -2.6820, Plg48.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 02:30:33.2±1.3, 6°.83N±0°.08×125°.18E±0°.07, h30km±5km, mb4.7/33 Error ellipse: s-maj=11.3km s-min=10.0km az=183.0*
*DJA **22** 02:30:34.9±0.3, 7°.N±4°×12°.5E±°, h43km±4km, M4.8/16, mb4.9/16, mB5.2/9, MLv5.0/6, Mw(mB)4.5/9, Mwp5.2/1*
ISC 22 02:30:31.3±0.9, 6°.78N±0°.03×125°.08E±0°.03, h13km±6km, n119, σ1§49/113, mb4.6/31, MS4.0/25, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.23**	**3**	⇓*i*P	**Pg**	**02 30 35.6**	**-0.6**
KCP				*i* S	**Sb**	**02 30 41.4**	**0.0**
DAV	**Davao City (W)**	**0.57**	**60**	Pg	**Pg**	**02 30 42.9**	**+0.3**
	3μm,0.3s,baz=245,slow=15,SNR=69						
DAV				Lg	Lg	02 30 53.7	
	4μm,0.3s,baz=50,slow=22,SNR=12						
DAV				LR	LR	02 31 06.3	
	comp=Z,23μm,20.2s,baz=351,slow=51						
DAV	**Davao City (W)**	**0.57**	**60**		**Pg**	**02 30 42.8**	**+0.3**
DAV				*e*	**Sb**	**02 30 50.8**	**-0.5**
DAV	**Davao City (W)**	**0.57**	**60**	⇑*e*P	**Pn**	**02 30 46.3**	**+1.1**
SKMP	**Bagumbayan, Su**	**0.59**	**244**	*e*P	Pg	02 30 38.9	-4.0
SKMP				*e*S	**Sg**	**02 30 49.0**	**-1.7**
DDMP	**Don Marcelino,**	**0.92**	**137**	*e*P	**Pb**	**02 30 47.0**	**-2.1**
DDMP				*e*S	**Sn**	**02 31 03.4**	**+0.4**
BUKP	**Musuan**	**1.09**	**359**	*e*P	**Pb**	**02 30 49.6**	**-2.5**
BUKP				*e*S	**Sg**	**02 31 07.2**	**+0.6**
MATI	**Mati**	**1.18**	**82**	*e*P	**Pn**	**02 30 52.3**	**-1.3**
MATI				*e*S	**Sn**	**02 31 08.9**	**-0.6**
CGP	**Cagayan de Oro**	**1.71**	**347**	⇑*i*P	**Pn**	**02 31 01.2**	**+0.4**
CGP				*i* S	**Sb**	**02 31 24.4**	**+0.4**
BIP	**Bislig**	**1.85**	**39**	⇓*e*P	**Pn**	**02 31 03.5**	**+0.8**
BIP				*e*S	**Sg**	**02 31 32.1**	**+1.4**
PAGZ	**Pagadian**	**1.99**	**302**	*e*P	**Pn**	**02 31 03.4**	**-1.3**
PAGZ				*e*S	**Sn**	**02 31 29.3**	**-0.2**
ZCP	**Zamboanga City**	**2.99**	**273**	⇓*i*P	**Pn**	**02 31 18.2**	**-0.2**
ZCP				*i* S	**Sb**	**02 31 58.5**	**-2.3**
GLSP	**General Luna,**	**3.16**	**19**	*e*P	**Pn**	**02 31 21.4**	**-0.7**
GLSP				*e*S	**Sb**	**02 32 02.4**	**-3.4**
LLP	**Lapu-Lapu**	**3.68**	**343**	*e*P	**Pn**	**02 31 30.8**	**+2.8**
LLP				*e*S	**Sb**	**02 32 20.9**	**0.0**
KMSI	**Cibinong**	**6.26**	**190**	P	Pb	02 32 15.4	-4.8
TNTI	**Ternate**	**6.39**	**159**	P	Pn	02 32 10.5	+5.3
	0.5nm1μm85nm,0.9s						
TNTI	**Ternate**	**6.39**	**159**	Pn	**Pn**	**02 32 05.7**	**+0.5**
GTOI	**Gorontalo**	**6.44**	**199**	P	**Pn**	**02 32 06.9**	**+1.0**
	0.5nm1μm136nm,0.6s						
MYLDM	**Lahad Datu**	**6.73**	**257**	Pn	**Pn**	**02 32 12.4**	**+2.5**
MYLDM				Sn	**Sn**	**02 33 28.8**	**+2.2**
PVCP	**Virac**	**6.83**	**352**	*e*P	**Pn**	**02 32 14.7**	**+3.4**
LBMI	**Labuha**	**7.75**	**162**	P	**Pb**	**02 32 46.9**	**+1.2**
LQP	**Lukban**	**8.07**	**335**	⇑*e*P	Pn	02 32 34.0	+5.4
LUWI	**Luwuk**	**8.10**	**197**	P	Pn	02 32 34.9	+6.2
	3μm203nm,0.6s						
LUWI	**Luwuk**	**8.10**	**197**	Pn	**Pn**	**02 32 32.1**	**+3.3**
TGY	**Tagaytay City**	**8.34**	**331**	LR	LR	02 35 21.8	
	comp=Z,630nm,21.9s,baz=130,slow=35						
APSI	**Ampana**	**8.37**	**204**	P	Pn	02 32 38.7	+6.3
	991nm98nm,0.7s						
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**02 32 38.7**	**+0.1**
I39PW	**PALAU INFRASON**	**9.43**	**85**	*i*		03 26 20.0	
	baz=266,slow=311,SNR=1.0						
SIJI	**Sorong**	**9.79**	**141**	Pn	**Pn**	**02 32 50.1**	**-1.8**
	1.6nm,0.3s,baz=336,slow=13,SNR=2.0						
SIJI				LR	LR	02 36 51.1	
	comp=Z,340nm,21.1s,baz=106,slow=39						
NLAI	**Namlea**	**10.15**	**168**	P	Pn	02 33 02.6	+5.7
	58nm,0.8s						
TTSI	**Tana Toraja**	**11.08**	**208**	P	Pn	02 33 23.7	+14
FAKI	**Fak Fak**	**12.00**	**143**	P	**P**	**02 33 33.2**	**-2.1**
FAKI	**Fak Fak**	**12.00**	**143**	Pn	**Pn**	**02 33 21.5**	**-0.7**
KAPI	**Kappang**	**12.87**	**205**	LR	LR	02 39 24.0	
	comp=Z,731nm,18.7s,baz=36,slow=42						
SBUM	**Sibu**	**13.52**	**252**	Pn	**Pn**	**02 33 44.8**	**+1.9**
KSM	**Kuching**	**15.64**	**251**	Pn	**Pn**	**02 34 12.8**	**+1.1**
SMPI	**Sarmi**	**16.16**	**122**	P	P	02 34 42.0	+21
SOEI	**Soe**	**16.45**	**183**	P	P	02 34 44.2	+19
SOEI	**Soe**	**16.45**	**183**	Pn	**Pn**	**02 34 23.0**	**+1.0**
SOEI				IAmb	IAmb	02 34 42.2	
	comp=Z,32nm,1.0s						
BATI	**Baumata**	**16.93**	**185**	Pn	**Pn**	**02 34 27.2**	**-0.9**
	comp=Z,7.1nm,0.3s,baz=278,slow=3.9,SNR=2.0						
BATI	**Baumata**	**16.93**	**185**	P	P	02 34 37.7	+7.6
TWSI	**Taliwang, Sumb**	**17.45**	**208**	P	P	02 34 53.9	+18
QZH	**Quanzhou**	**19.10**	**342**	P	**P**	**02 34 54.3**	**+0.4**
QZH				S	**S**	**02 38 31.3**	**+0.9**
QZH				LR	LR		
	comp=N,710nm,21.2s						
QZH				LR	LR		
	comp=E,410nm,17.8s						
QZH				LR	LR		
	comp=Z,670nm,19.8s						
QIZ	**Qiongzhong**	**19.18**	**311**

comp=N,210nm,10.8s
BJI LR LR
comp=E,190nm,7.1s
LZH Lanzhou 35.06 329 *eP* **P 02 37 26.8 +2.5**
LZH pP sP 02 37 37.3 +7.3
LZH sP pP 02 37 41.6 +13
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.2s
LZH LR LR
comp=N,390nm,13.0s
LZH LR LR
comp=E,400nm,13.4s
LZH LR LR
comp=Z,520nm,16.5s
HHC Hu-ho-hao-te 36.01 342 *eP* **P 02 37 33.1 +0.8**
HHC PP **PnPn 02 38 53.0 -0.2**
HHC S **S 02 43 08.9 -2.1**
HHC SS **SnSn 02 45 32.0 -3.5**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.1s
HHC LR LR
comp=N,310nm,17.2s
HHC LR LR
comp=E,190nm,16.9s
HHC LR LR
comp=Z,410nm,20.2s
SHL Shillong 36.78 304 P **P 02 37 38.4 -0.8**
SHL IAmb IAmb 02 37 45.8
comp=Z,11nm,0.8s
FORT Forrest 37.45 176 P **P 02 37 44.2 -0.3**
USA0B Ussuriysk Arra 37.76 8 P **P 02 37 45.7 -1.3**
USRK Ussuriysk Ar. 37.76 8 P **P 02 37 47.4 +0.4**
comp=Z,12nm,0.9s,baz=196,slow=8.2,SNR=19
USRK LR LR 02 52 28.0
comp=Z,184nm,21.2s,baz=175,slow=35
USRK Ussuriysk Ar. 37.76 8 P **P 02 37 46.3 -0.7**
GTA Gaotai 39.65 329 *eP* **P 02 38 04.3 +1.1**
GTA pP sP 02 38 13.3 +4.4
GTA sP pP 02 38 17.3 +10
GTA PP **PnPn 02 39 41.3 +3.9**
GTA S **S 02 44 06.3 0.0**
GTA sS sS 02 44 23.0 +10
GTA SS **SS 02 46 57.3 -4.4**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,60nm,7.1s
GTA LR LR
comp=N,270nm,19.3s
GTA LR LR
comp=E,230nm,17.8s
GTA LR LR
comp=Z,330nm,20.4s
BBOO Buckleboo 40.73 166 P **P 02 38 13.2 +1.2**
BBOO IAmb IAmb 02 38 22.5
comp=Z,14nm,0.8s
STKA Stephens Creek 41.55 159 P **P 02 38 17.4 -1.3**
comp=Z,4.7nm,0.7s,baz=324,slow=7.3,SNR=8.5
STKA Stephens Creek 41.55 159 P **P 02 38 18.8 0.0**
SONM Songino Array 43.91 342 P **P 02 38 38.3 +0.5**
comp=Z,1.1nm,0.7s,baz=162,slow=8.1,SNR=5.4
SONM LR LR 02 58 28.0
comp=Z,387nm,19.6s,baz=158,slow=38
SONM Songino Array 43.91 342 P **P 02 38 37.0 -0.9**
WMQ Urumqi 49.30 325 *eP* **P 02 39 21.8 +1.6**
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ pmax pmax
comp=Z,40nm,5.7s
WMQ LR LR
comp=N,100nm,28.8s
WMQ LR LR
comp=E,400nm,29.0s
WMQ LR LR
comp=Z,130nm,27.7s
MK31 Makanchi Array 54.13 325 P **P 02 39 56.1 -0.1**
MKAR Makanchi Array 54.13 325 P **P 02 39 56.7 +0.5**
comp=Z,1.8nm,0.5s,baz=123,slow=8.2,SNR=22
MKAR LR LR 03 03 38.9
comp=Z,149nm,21.5s,baz=94,slow=37
MKAR Makanchi Array 54.13 325 P **P 02 39 55.6 -0.6**
MAKZ Makanchi 54.32 325 P **P 02 39 57.1 -0.5**
MAKZ IAmb IAmb 02 40 15.8
comp=Z,6.8nm,1.1s
NIL Nilore 54.78 307 P **P 02 40 00.0 -1.2**
KDJ Kajisay 54.99 318 P **P 02 40 01.9 -0.8**
KDJ IAmb IAmb 02 40 15.2
comp=Z,7.0nm,0.8s
YAK Yakutsk 55.24 3 P **P 02 40 03.6 -0.3**
ZAA0 Zalesovo Array 57.14 333 P **P 02 40 18.3 +0.7**
ZALV Zalesovo Beam 57.14 333 P **P 02 40 18.3 +0.7**
comp=Z,0.4nm,0.3s,baz=134,slow=4.3,SNR=4.0
ZALV LR LR 03 06 15.4
comp=Z,158nm,19.8s,baz=138,slow=38
ZALV Zalesovo Beam 57.14 333 P **P 02 40 17.3 -0.3**
KURK Kurchatov 58.30 327 P **P 02 40 25.1 -0.7**
KURK IAmb IAmb 02 40 38.6
comp=Z,10nm,1.1s
BTK Batken 58.64 313 P **P 02 40 28.4 -0.1**
BTK IAmb IAmb 02 40 45.8
comp=Z,6.8nm,0.8s
CHGR Chuyangaron 59.43 311 P **P 02 40 33.9 -0.2**
KKAR Karatay Array 59.90 316 P **P 02 40 37.1 0.0**
KKAR IAmb IAmb 02 40 46.8
comp=Z,6.1nm,0.9s
BRVK Borovoye 63.96 327 P **P 02 41 04.2 0.0**
THZ Tophouse 65.10 142 P **P 02 41 13.3 +1.4**
NRIK Noril'sk 67.10 346 LR LR 03 12 56.7
comp=Z,276nm,18.7s,baz=196,slow=38
ABKAR Akbulak array 68.77 320 P **P 02 41 34.7 -0.3**
ABKAR Akbulak array 68.77 320 P **P 02 41 34.1 -1.0**
ABKAR IAmb IAmb 02 41 35.9
comp=Z,4.9nm,1.1s
AKTO Aktyubinsk 70.27 321 P **P 02 41 43.6 -0.8**
comp=Z,2.4nm,0.8s,baz=92,slow=9.2,SNR=10.0
AKTO LR LR 03 14 21.8
comp=Z,147nm,21.2s,baz=104,slow=38
ARU Arti 71.50 327 P **P 02 41 50.3 -1.4**
comp=Z,0.9nm,0.3s,baz=170,slow=7.4,SNR=5.1
ARU Arti 71.50 327 P **P 02 41 51.4 -0.2**
ARU IAmb IAmb 02 41 59.6
comp=Z,3.5nm,0.7s
CASY Casey 73.64 186 P **P 02 42 04.9 +0.7**
CASY IAmb IAmb 02 42 10.9
comp=Z,4.9nm,0.8s
KBZ Khabaz 79.70 313 LR LR 03 21 56.2
comp=Z,112nm,18.8s,baz=74,slow=39
BPAW Bear Paw Mtn. 81.29 26 P **P 02 42 44.6 -2.5**
BPAW IAmb IAmb 02 43 02.0
comp=Z,10nm,1.0s
ILAR Eielson Array 83.08 26 P **P 02 42 56.5 0.0**
comp=Z,1.1nm,0.9s,baz=244,slow=5.2,SNR=6.7
ILAR Eielson Array 83.08 26 P **P 02 42 53.9 -2.5**
ARCES ARCESS Array B 87.04 340 LR LR 03 26 23.8
comp=Z,79nm,19.7s,baz=20,slow=38
AKASG Malin Array Be 88.51 321 LR LR 03 26 00.6
comp=Z,54nm,20.8s,baz=285,slow=38
YKA Yellowknife Ar 97.41 24 LR LR 03 27 55.5
comp=Z,47nm,21.9s,baz=0.0,slow=35
TORD Torodi Ar. Bea 120.39 289 PKP **PKPdf 02 49 21.4 -2.2**
comp=Z,0.4nm,0.9s,baz=42,slow=2.0,SNR=2.3
TXAR Lajitas Array 120.97 50 PKP **PKiKP 02 49 25.0 +0.4**
comp=Z,0.5nm,1.0s,baz=68,slow=2.4,SNR=2.9

*IDC **22** 02:33:24.2±1.5, 6°.62N×124°.94E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/57, mbtmp3.8/4, Error ellipse: s-maj=31.0km s-min=12.1km az=134.0*
*MAN **22** 02:33:24.6, 6°.74N×124°.96E, h13km, mb4.8, ML3.7, MS3.6*
ISC 22 02:33:24.9±1.4, 6.74N±0.04×125.01E±0.05, h8km±10km, n11, σ1°05/16, mb3.8/4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.28**	**16**	*eP*	**Pg**	**02 33 31.1**	**+0.6**
SKMP	**Bagumbayan, Su**	**0.51**	**245**	*eP*	**Pg**	**02 33 34.8**	**-0.1**
SKMP				*eS*	**Sb**	**02 33 45.0**	**+1.2**
DAV	**Davao City (W)**	**0.65**	**60**	Pg	**Pb**	**02 33 38.4**	**-0.2**
	336nm,0.3s,baz=213,slow=16,SNR=2.0						
DAV				Lg	Lg	02 33 50.5	
	293nm,0.3s,baz=309,slow=22,SNR=2.5						
DDMP	**Don Marcello,**	**0.94**	**132**	*eP*	**Pg**	**02 33 43.2**	**+0.2**
DDMP				*eS*	**Sn**	**02 33 58.2**	**+0.1**
BUKP	**Musuan**	**1.14**	**3**	*eP*	**Pg**	**02 33 45.0**	**-1.8**
BUKP				*eS*	**Sg**	**02 34 01.8**	**+0.2**
CGP	**Cagayan de Oro**	**1.74**	**350**	*eP*	**Pg**	**02 33 59.8**	**+1.5**
CGP				*eS*	**Sn**	**02 34 18.8**	**+1.0**
PAGZ	**Pagadian**	**1.96**	**304**	*eP*	**Pn**	**02 33 56.9**	**-1.6**
PAGZ				*eS*	**Sn**	**02 34 22.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**24.68**	**179**	P	**P**	**02 38 46.8**	**+0.2**
	3.3nm,0.8s,baz=0.0,slow=9.1,SNR=1.9						
WRA	**Warramunga Arr**	**28.06**	**161**	P	**P**	**02 39 16.1**	**-1.0**
	1.8nm,1.1s,baz=337,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**31.44**	**164**	P	**P**	**02 39 47.0**	**-0.1**
	0.9nm,0.8s,baz=346,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**54.13**	**325**	P	**P**	**02 42 51.6**	**+1.0**
	0.6nm,0.7s,baz=122,slow=8.4,SNR=2.3						

*IDC **22** 02:36:14.1±1.4, 6°.63N×124°.90E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/57, mbtmp3.5/4, Error ellipse: s-maj=28.4km s-min=10.8km az=137.0*
*MAN **22** 02:36:15.6, 6°.73N×124°.96E, h13km, mb5.0, ML4.0, MS4.0*
ISC 22 02:36:15.3±1.4, 6.71N±0.05×124.97E±0.05, h8km±12km, n11, σ1°40/16, mb3.5/4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.32**	**22**	*eP*	**Pg**	**02 36 22.8**	**+1.0**
SKMP	**Bagumbayan, Su**	**0.46**	**246**	*eP*	**Pb**	**02 36 25.6**	**-0.1**
SKMP				*eS*	**Sb**	**02 36 36.3**	**+3.5**
DAV	**Davao City (W)**	**0.70**	**59**	Pg	**Pg**	**02 36 29.8**	**+0.8**
	284nm,0.3s,baz=235,slow=11,SNR=9.4						
DAV				Lg	Lg	02 36 40.7	
	350nm,0.3s,baz=290,slow=24,SNR=18						
DDMP	**Don Marcello,**	**0.95**	**129**	*eP*	**Pg**	**02 36 33.0**	**-0.6**
DDMP				*eS*	**Sn**	**02 36 49.1**	**+0.4**
BUKP	**Musuan**	**1.17**	**5**	*eP*	**Pg**	**02 36 36.0**	**-1.8**
BUKP				*eS*	**Sg**	**02 36 53.0**	**0.0**
CGP	**Cagayan de Oro**	**1.76**	**351**	*eP*	**Pg**	**02 36 49.7**	**+0.6**
CGP				*eS*	**Sg**	**02 37 12.0**	**+0.2**
PAGZ	**Pagadian**	**1.94**	**306**	*eP*	**Pn**	**02 36 48.2**	**-0.4**
PAGZ				*eS*	**Sg**	**02 37 15.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**24.66**	**178**	P	**P**	**02 41 36.5**	**-0.2**
	2.1nm,0.8s,baz=349,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**28.04**	**161**	P	**P**	**02 42 07.0**	**-0.3**
	0.6nm,0.8s,baz=341,slow=9.8,SNR=2.0						
ASAR	**Alice Springs**	**31.43**	**164**	P	**P**	**02 42 36.3**	**-1.0**
	0.5nm,0.7s,baz=346,slow=7.5,SNR=1.5						
MKAR	**Makanchi Array**	**54.12**	**325**	P	**P**	**02 45 41.0**	**0.0**
	0.1nm,0.4s,baz=132,slow=8.6,SNR=3.5						

*GCMT **22** 02:39:03.0±0.4, 63°.15S±0.04×170°.7E±0°.1, h23km±1km, MW5.0/63, Moment Tensor Solution. s31,c36; s63,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.89±.29; $M_{\theta\theta}$1.93±.19; $M_{\phi\phi}$1.96±.19; $M_{r\theta}$-1.61±.26; $M_{r\phi}$0.78±.09; $M_{\theta\phi}$-0.06±.31; Best double couple: M_o3.62600×10^{16} NP1:ϕ_S219.00000°, δ35.00000°, λ-107.00000°. NP2: ϕ_S60.00000°, δ56.00000°, λ-78.00000°. Principal axes: T 2.9430, Plg11.0000°, Azm141.0000°; N 1.3660, Plg10.0000°, Azm233.0000°; P -4.3090, Plg75.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 22 02:39:00.1±2.1, 63.13S×169.80E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/29, mbtmp3.8/5, ML3.3/1, MS4.0/15, Ms1 4.0/15, ms1mx3.9/24 Error ellipse: s-maj=74.3km s-min=25.4km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.68**	**187**	Pn	Pn	02 42 27.7	-0.9
	0.1nm,0.3s,baz=21,slow=14,SNR=18						
VNDA				LR	LR	02 46 52.7	
	comp=Z,848nm,21.1s,baz=28,slow=32						
RPZ	**Rata Peaks**	**19.46**	**3**	LR	LR	02 49 39.0	
	comp=Z,441nm,20.6s,baz=207,slow=33						
URZ	**Urewera**	**25.29**	**14**	LR	LR	02 52 38.7	
	comp=Z,398nm,21.7s,baz=210,slow=32						
QSPA	**South Pole Qui**	**26.96**	**180**	P	P	02 44 44.7	+1.7
	1.6nm,0.9s,baz=0.0,slow=5.1,SNR=3.8						
QSPA				LR	LR	02 53 38.3	
	comp=Z,399nm,19.9s,baz=40,slow=33						
MAW	**Mawson**	**39.46**	**215**	P	P	02 46 30.2	-1.1
	1.4nm,0.9s,baz=168,slow=5.8,SNR=2.6						
MAW				LR	LR	03 02 46.2	
	comp=Z,303nm,18.9s,baz=103,slow=36						
H01W1	**Cape Leeuwin H**	**44.11**	**283**	T	T	03 34 57.6	
	baz=147,slow=76,SNR=50						
H01W2	**Cape Leeuwin H**	**44.11**	**283**	T	T	03 34 57.8	
	baz=147,slow=76,SNR=56						
H01W3	**Cape Leeuwin H**	**44.12**	**283**	T	T	03 34 58.8	
	baz=147,slow=76,SNR=50						
ASAR	**Alice Springs**	**46.12**	**312**	P	P	02 47 26.6	+0.6
	1.6nm,1.0s,baz=158,slow=7.8,SNR=7.4						
ASAR				LR	LR	03 04 37.8	
	comp=Z,200nm,21.2s,baz=149,slow=33						
WRA	**Warramunga Arr**	**49.44**	**314**	P	P	02 47 51.5	-0.1
	1.0nm,1.0s,baz=173,slow=6.1,SNR=3.9						
WRA				LR	LR	03 06 58.0	
	comp=Z,425nm,20.5s,baz=160,slow=34						
BATI	**Baumata**	**62.17**	**307**	LR	LR	03 14 40.9	
	comp=Z,202nm,19.1s,baz=118,slow=34						
PLCA	**Paso Flores**	**65.91**	**134**	LR	LR	03 11 12.0	
	comp=Z,27nm,20.9s,baz=160,slow=29						
SIJI	**Sorong**	**68.35**	**318**	LR	LR	03 20 38.8	
	comp=Z,114nm,18.6s,baz=260,slow=37						
H03S2	**Juan Fernandez**	**69.12**	**124**	T	T	04 05 47.7	
	baz=205,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**69.12**	**124**	T	T	04 05 49.5	
	baz=205,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**69.13**	**124**	T	T	04 05 54.6	
	baz=205,slow=74,SNR=10						
LEM	**Lemang**	**71.59**	**292**	LR	LR	03 17 16.0	
	comp=Z,86nm,21.9s,baz=172,slow=32						
CPUP	**Villa Florida**	**83.37**	**139**	LR	LR	03 24 21.1	
	comp=Z,155nm,19.5s,baz=208,slow=33						
BOSA	**Boshof**	**84.32**	**211**	LR	LR	03 27 38.2	
	comp=Z,69nm,19.4s,baz=178,slow=35						
H08S2	**Diego Garcia H**	**86.54**	**260**	T	T	04 28 10.9	
	baz=152,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**86.55**	**260**	T	T	04 28 08.5	
	baz=152,slow=76,SNR=6.6						
H08S3	**Diego Garcia H**	**86.56**	**260**	T	T	04 28 08.2	
	baz=152,slow=76,SNR=31						
LPAZ	**La Paz**	**89.05**	**126**	LR	LR	03 23 12.5	
	comp=Z,34nm,21.3s,baz=201,slow=30						
CMAR	**Chiang Mai Arr**	**97.98**	**295**	LR	LR	03 34 52.9	
	comp=Z,35nm,19.1s,baz=182,slow=34						
ILAR	**Eielson Array**	**131.54**	**23**	PKP	PKPdf	02 58 11.6	-1.2
	0.4nm,0.9s,baz=202,slow=3.9,SNR=2.5						
KBZ	**Khabaz**	**144.23**	**263**	PKP	PKPab	02 58 34.4	-0.2
	3.1nm,0.9s,baz=148,slow=1.5,SNR=3.4						

MAN 22 02:45:04.2, 6°.73N×124°.96E, h13km, mb4.7, ML3.6, MS3.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.31**	**25**	*iP*	Pg	02 45 10.4	-0.3
SKMP	**Bagumbayan, Su**	**0.46**	**243**	*eP*	Pb	02 45 14.1	-0.1
SKMP				*eS*	Sn	02 45 25.1	+0.5
DDMP	**Don Marcelino,**	**0.97**	**129**	*eP*	Pb	02 45 21.5	-1.5
DDMP				*eS*	Sn	02 45 37.5	+0.3
BUKP	**Musuan**	**1.15**	**5**	*eP*	Pb	02 45 24.3	-1.8
BUKP				*eS*	Sn	02 45 42.5	+0.7
PAGZ	**Pagadian**	**1.92**	**306**	*eP*	Pn	02 45 37.0	+0.4
PAGZ				*eS*	Sg	02 46 06.1	+0.1

IDC 22 03:02:04.1±1.6, 8.63S×157.42E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/39, mbtmp3.8/6, Error ellipse: s-maj=60.9km s-min=29.2km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.00**	**241**	P	P	03 07 31.0	+1.1
	1.6nm,0.8s,baz=68,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**27.02**	**234**	P	P	03 07 47.0	-1.2
	0.3nm,0.3s,baz=70,slow=8.0,SNR=3.1						
STKA	**Stephens Creek**	**27.41**	**210**	P	P	03 07 51.5	-0.1
	1.9nm,0.7s,baz=16,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**32.27**	**250**	P	P	03 08 34.4	-0.4
	1.4nm,0.8s,baz=76,slow=8.3,SNR=2.0						
MKAR	**Makanchi Array**	**86.21**	**318**	P	P	03 14 47.7	0.0
	0.4nm,0.7s,baz=101,slow=3.6,SNR=3.2						
NVAR	**Mina Array Bea**	**90.85**	**51**	P	P	03 15 10.0	-0.1
	0.1nm,0.3s,baz=238,slow=6.3,SNR=3.9						

*IDC **22** 03:08:18.7±1.5, 6°.72N×124°.89E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/49, mbtmp3.6/4, MS3.8/1, Ms1 3.8/1, ms1mx2.7/43, Error ellipse: s-maj=28.0km s-min=10.7km az=142.0*
*MAN **22** 03:08:19.5, 6°.78N×125°.02E, h16km, mb5.0, ML3.9, MS3.9*
ISC 22 03:08:19.2±1.4, 6.75N±0.04×125.00E±0.04, h7km±11km, n13, σ1°17/18, mb3.5/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.27**	**20**	*iP*	**Pg**	**03 08 25.1**	**+0.5**
SKMP	**Bagumbayan, Su**	**0.51**	**243**	*eP*	**Pb**	**03 08 30.6**	**0.0**
SKMP				*eS*	**Sb**	**03 08 39.5**	**+1.3**
DAV	**Davao City (W)**	**0.66**	**61**	Pg	**Pg**	**03 08 32.6**	**+0.7**
	446nm,0.3s,baz=249,slow=19,SNR=25						
DAV				Lg	Lg	03 08 45.1	
	557nm,0.3s,baz=325,slow=23,SNR=14						
DAV				LR	LR	03 08 55.5	
	comp=Z,1μm,20.5s,baz=344,slow=48						
DDMP	**Don Marcelino,**	**0.96**	**132**	*eP*	**Pg**	**03 08 36.6**	**-1.1**
DDMP				*eS*	**Sb**	**03 08 52.3**	**+1.2**
BUKP	**Musuan**	**1.12**	**3**	*eP*	**Pg**	**03 08 39.7**	**-1.1**
BUKP				*eS*	**Sb**	**03 08 56.0**	**+0.2**
MATI	**Mati**	**1.26**	**81**	*eP*	**Pn**	**03 08 41.1**	**-2.3**
MATI				*eS*	**Sn**	**03 09 01.6**	**+0.9**
CGP	**Cagayan de Oro**	**1.72**	**350**	*iP*	**Pg**	**03 08 51.6**	**-0.7**
CGP				*iS*	**Sg**	**03 09 15.0**	**+0.5**
PAGZ	**Pagadian**	**1.94**	**304**	*eP*	**Pn**	**03 08 52.5**	**-0.2**
PAGZ				*eS*	**Sn**	**03 09 15.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**24.70**	**179**	P	**P**	**03 13 40.5**	**-0.7**
	2.3nm,0.9s,baz=5.2,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**03 14 13.2**	**+1.6**
	0.6nm,0.7s,baz=337,slow=9.5,SNR=5.6						
ASAR	**Alice Springs**	**31.46**	**164**	P	**P**	**03 14 42.2**	**+0.5**
	0.5nm,0.7s,baz=345,slow=7.4,SNR=1.6						
PETK	**Petropavlovsk-**	**53.34**	**24**	LR	LR	03 38 53.1	
	comp=Z,110nm,21.9s,baz=146,slow=34						
MKAR	**Makanchi Array**	**54.11**	**325**	P	**P**	**03 17 45.7**	**+0.8**
	0.1nm,0.5s,baz=120,slow=8.7,SNR=1.3						

*NEIC **22** 03:14:02.7±0.9, 52°.6N±0°.1×174°.29W±0°.09, h202km±4km, Error ellipse: s-maj=18.9km s-min=7.1km az=166.0*
*IDC **22** 03:14:03.6±1.0, 52°.84N×174°.39W, h210km±8km, mb3.5/9, mb1 3.8/11, mb1mx3.4/60, mbtmp4.1/11, Error ellipse: s-maj=24.9km s-min=11.0km az=6.0*
*AEIC **22** 03:14:04±1.1, 52°.7N±0°.1×174°.30W±0°.09, h199km±5km, ML4.1, mb4.3/53(NEIC), Error ellipse: s-maj=19.9km s-min=7.2km az=168.0*
ISC 22 03:14:03.0±0.6, 52.7N±0.1×174.29W±0.04, h205km±5km, n161, σ0°89/162, mb4.0/20, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONE	**Korovin Northe**	**0.32**	**161**		**Pn**	**03 14 29.9**	**-0.2**
KOWE	**Korovin West**	**0.33**	**176**		**Pn**	**03 14 30.0**	**-0.2**
KOSE	**Korovin Southe**	**0.38**	**157**		**Pn**	**03 14 30.2**	**-0.1**
KOFP	**Korovin Flat P**	**0.43**	**164**		**Pn**	**03 14 30.2**	**-0.3**
ATKA	**Atka Island**	**0.49**	**173**	Pn	**Pn**	**03 14 29.6**	**-1.0**
ATKA					**S**	**03 14 51.8**	**-0.2**
GSTR	**Great Sitkin T**	**1.24**	**242**	Pn	**Pn**	**03 14 34.6**	**-0.3**
GSTR					**S**	**03 14 58.7**	**-0.8**
GSMY	**Great Sitkin M**	**1.26**	**240**		**Pn**	**03 14 34.5**	**-0.7**
GSSP	**Great Sitkin S**	**1.30**	**243**		**Pn**	**03 14 35.1**	**-0.3**
GSSP					**S**	**03 14 58.0**	**-2.3**
GSTD	**Great Sitkin T**	**1.30**	**241**		**Pn**	**03 14 34.8**	**-0.7**
ADAG	**Mount Adagdak**	**1.59**	**244**		**Pn**	**03 14 37.7**	**-0.1**
ADK	**Adak**	**1.68**	**242**	Pn	**Pn**	**03 14 38.0**	**-0.7**
ADK					**S**	**03 15 04.2**	**-1.8**
KINC	**Kanaga Island**	**1.90**	**247**		**Pn**	**03 14 40.9**	**+0.1**
KICM	**Kanaga Island**	**1.94**	**248**		**Pn**	**03 14 41.4**	**+0.1**
KICM					**S**	**03 15 10.6**	**+0.1**
KIKV	**Kanaga Island**	**1.95**	**246**		**Pn**	**03 14 41.3**	**0.0**
KIMD	**Kanaga Island**	**2.04**	**244**		**Pn**	**03 14 42.0**	**-0.1**
TAFP	**Tanaga Falls P**	**2.40**	**252**		**Pn**	**03 14 45.9**	**-0.2**
TAFP					**S**	**03 15 18.7**	**-0.4**
TASE	**Tanaga Southea**	**2.46**	**251**		**Pn**	**03 14 46.8**	**+0.1**
GAEA	**Gareloi East**	**2.89**	**253**		**Pn**	**03 14 51.8**	**+0.3**
GAEA					**S**	**03 15 28.6**	**-0.2**
GALA	**Gareloi Lava P**	**2.91**	**253**		**Pn**	**03 14 51.5**	**0.0**
NIKH	**Nikolski High**	**3.31**	**83**		**S**	**03 15 35.3**	**-2.4**
CERAA	**Semis' Rag'd T**	**3.78**	**260**		**Pn**	**03 15 02.2**	**+0.1**
CERB	**Semis' Cerberu**	**3.81**	**261**		**Pn**	**03 15 03.0**	**+0.6**
CESW	**Semis' Southwe**	**3.85**	**261**		**Pn**	**03 15 02.9**	**-0.1**
AMKA	**Amchitka**	**4.17**	**254**	Pn	**Pn**	**03 15 06.3**	**-0.6**
LSPA	**Little Sitkin**	**4.44**	**263**		**Pn**	**03 15 11.0**	**+0.7**
LSSA	**Little Sitkin**	**4.48**	**263**		**Pn**	**03 15 10.9**	**+0.1**
MAPS	**Pakushin South**	**4.55**	**73**		**Pn**	**03 15 12.3**	**+0.5**
UNV	**Unalaska Valle**	**4.81**	**73**	Pn	**Pn**	**03 15 15.0**	**0.0**
ZRO	**Akutan Zero**	**5.17**	**71**		**Pn**	**03 15 20.4**	**+0.9**
AKUT	**Akutan**	**5.30**	**71**	Pn	**Pn**	**03 15 21.1**	**0.0**
CNBA	**Chernabura Isl**	**8.97**	**70**	Pn	**Pn**	**03 16 06.6**	**-2.0**
CHGN	**Chignik**	**9.91**	**62**	Pn	**Pn**	**03 16 18.9**	**-1.9**
SII	**Sitkinak Islan**	**12.27**	**64**	Pn	**Pn**	**03 16 50.7**	**-0.1**
OHAK	**Old Harbor**	**12.87**	**61**	Pn	**Pn**	**03 16 58.5**	**0.0**
SVW2	**Sparrevohn**	**13.20**	**43**		**Pn**	**03 17 02.7**	**+0.1**
KDAK	**Kodiak Island**	**13.37**	**59**	Pn	**Pn**	**03 17 04.7**	**+0.1**
TTA	**Tatalina**	**14.09**	**36**	Pn	**Pn**	**03 17 13.3**	**-0.2**
CNPM	**China Poot**	**14.52**	**53**		**Pn**	**03 17 18.7**	**-0.1**
BRLK	**Bradley Lake**	**14.76**	**52**		**Pn**	**03 17 21.4**	**-0.4**
PPLA	**Purkeypile**	**15.51**	**40**		**P**	**03 17 30.8**	**-0.2**
O22K	**Cooper Landing**	**15.54**	**50**	P	**Pn**	**03 17 31.4**	**+0.1**
	baz=251						
SEW	**Seward**	**15.55**	**52**	Pn	**P**	**03 17 30.5**	**-0.8**
PMR	**Palmer**	**16.20**	**47**	P	**P**	**03 17 38.5**	**0.0**
PMR				IAmb	IAmb	03 17 56.5	
	comp=Z,8.1nm,1.1s						
KTH	**Kantishna Hill**	**16.34**	**39**	P	**P**	**03 17 40.2**	**+0.1**
KNK	**Knik Glacier**	**16.44**	**48**	P	**P**	**03 17 41.3**	**+0.2**
KNK				IAmb	IAmb	03 17 43.8	
	comp=Z,12nm,0.8s						
TRF	**Thorofare Moun**	**16.53**	**40**		**P**	**03 17 42.3**	**0.0**
TRF				IAmb	IAmb	03 17 47.5	
	comp=Z,26nm,1.2s						
BPAW	**Bear Paw Mtn.**	**16.60**	**37**	P	**P**	**03 17 43.1**	**+0.2**
IMAR	**Indian Mountai**	**16.82**	**30**	P	**P**	**03 17 45.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**16.86**	**283**	P	**P**	**03 17 45.6**	**-0.2**
PEA0B				IAmb	IAmb	03 18 03.5	
	comp=Z,19nm,1.1s						
PETK	**Petropavlovsk-**	**16.86**	**283**	P	**Pn**	**03 17 46.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=92,slow=15,SNR=10						
PETK	**Petropavlovsk-**	**16.86**	**283**	P	**P**	**03 17 45.5**	**-0.3**
RND	**Reindeer**	**17.08**	**41**	P	**P**	**03 17 48.1**	**0.0**
SCM	**Sheep Creek Mo**

comp=Z,12nm,0.9s
N25K Chitina, Valde 18.26 49 P Pn 03 18 03.8 +0.3
baz=254,SNR=6.0
HDA Harding Lake 18.29 39 P Pn 03 18 02.7 -1.0
baz=243,SNR=18
HDA Harding Lake 18.29 39 P P 03 18 01.4 +0.2
POKR Poker Plat Res 18.44 37 P P 03 18 02.4 -0.5
baz=240
IL31 18.48 38 P P 03 18 03.5 +0.3
IL31 IAmb IAmb 03 18 06.3
comp=Z,8.1nm,0.7s
ILAR Eielson Array 18.48 38 P P 03 18 01.9 -1.4
comp=Z,1.0nm,0.3s,baz=240,slow=10,SNR=33
ILAR Eielson Array 18.48 38 P P 03 18 01.3 -2.0
GLB Gilahina Butte 18.58 50 P 03 18 05.0 +0.5
GLB IAmb IAmb 03 18 10.2
comp=Z,18nm,1.1s
VRDI Verde Repeater 18.70 51 P 03 18 05.8 0.0
VRDI IAmb IAmb 03 18 16.5
comp=Z,10nm,1.1s
COLD Coldfoot 18.71 30 P Pn 03 18 07.5 -1.2
baz=231
RIDG Independent Ri 18.85 43 P P 03 18 07.4 0.0
RIDG IAmb IAmb 03 18 08.4
comp=Z,16nm,0.7s
MENT Mentasta 19.05 45 P P 03 18 09.3 -0.2
MENT IAmb IAmb 03 18 15.6
comp=Z,7.4nm,0.7s
DOT Dot Lake 19.14 43 P P 03 18 10.1 -0.4
SCRK Sand Creek 19.29 42 P P 03 18 11.6 -0.6
baz=248,SNR=29
TOLK Toolik Lake Re 19.81 27 P P 03 18 18.3 +0.7
BCAR Beaver Creek A 19.93 46 P P 03 18 18.6 -0.3
FYU Fort Yukon 19.95 35 P P 03 18 19.1 +0.1
K27K Chicken 20.10 43 P P 03 18 21.2 +0.6
baz=251
SEY Seymchan 20.25 313 P P 03 18 22.4 +0.1
comp=Z,8.8nm,1.0s,baz=83,slow=8.2,SNR=5.7
EGAK Eagle 20.72 41 P P 03 18 27.4 +0.1
EGAK IAmb IAmb 03 18 30.5
comp=Z,6.8nm,0.7s
B08A Colville Reser 34.49 75 P P 03 20 31.6 +0.3
B08A IAmb IAmb 03 20 33.1
comp=Z,3.1nm,0.7s
NEW Newport 35.83 74 P P 03 20 43.3 +0.7
baz=299
NEW Newport 35.83 74 P P 03 20 42.9 +0.2
NEW IAmb IAmb 03 20 44.3
comp=Z,7.1nm,0.9s
H11N2 WAKE ISLAND Hy 36.00 211 T T 03 59 06.8
baz=20,slow=76
H11N3 WAKE ISLAND Hy 36.01 211 T T 03 59 03.1
baz=20
H11N1 WAKE ISLAND Hy 36.02 211 T T 03 59 04.7
baz=20,slow=76
M04C Macdoel 36.48 86 P P 03 20 50.8 +2.5
baz=306
I07A Izee 36.58 81 P P 03 20 49.1 -0.1
I07A IAmb IAmb 03 20 51.3
comp=Z,5.0nm,1.2s
H11S1 WAKE ISLAND Hy 37.21 211 T T 04 00 44.8
baz=20,slow=76,SNR=204
H11S2 WAKE ISLAND Hy 37.23 211 T T 04 00 39.4
baz=20,slow=76,SNR=203
H11S3 WAKE ISLAND Hy 37.23 211 T T 04 00 40.4
baz=20,slow=76,SNR=50
RES Resolute Bay 37.38 25 P P 03 20 56.3 +0.9
O03E Paynes Creek 37.38 88 P P 03 20 57.9 +1.9
baz=307
PNTR Pine Nut 39.46 88 P P 03 21 13.6 +0.1
PNTR IAmb IAmb 03 21 16.9
comp=Z,8.0nm,0.7s
HLID Hailey 39.92 78 P P 03 21 18.6 +1.5
baz=305
MCMT McKenzie Canyo 40.14 76 P P 03 21 19.0 0.0
BOZ Bozeman (W) 40.43 74 P P 03 21 21.4 +0.2
baz=304
BOZ Bozeman (W) 40.43 74 P P 03 21 21.2 0.0
BOZ IAmb IAmb 03 21 22.4
comp=Z,3.9nm,0.8s
NVAR Mina Array Bea 40.66 88 P P 03 21 24.8 +1.5
comp=Z,1.7nm,0.8s,baz=296,slow=8.2,SNR=12
NVAR Mina Array Bea 40.66 88 P P 03 21 23.2 -0.2
YHH Holmes Hill 41.34 75 P P 03 21 28.5 -0.3
RLMT Red Lodge 42.07 73 P P 03 21 35.6 +1.0
baz=305
ISA Isabella, Lake 42.35 91 P P 03 21 34.4 -2.5
baz=312,SNR=5.5
R11A Troy Canyon, C 42.37 86 P P 03 21 38.3 +1.2
baz=310
R11A Troy Canyon, C 42.37 86 P P 03 21 37.1 0.0
TPNV Topopah Spring 42.86 88 P P 03 21 43.3 +2.2
baz=311,SNR=7.3
TPNV Topopah Spring 42.86 88 P P 03 21 41.2 +0.1
TPNV IAmb IAmb 03 21 43.6
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 42.89 81 P P 03 21 42.7 +1.5
baz=308
BW06 Boulder Array 43.27 76 P P 03 21 44.6 +0.2
baz=307,SNR=5.2
BW06 Boulder Array 43.27 76 P P 03 21 44.2 -0.2
BW06 IAmb IAmb 03 21 45.6
comp=Z,4.2nm,0.8s
PD31 Pinedale Array 43.27 76 P P 03 21 44.5 +0.2
PDAR Pinedale Array 43.27 76 P P 03 21 44.4 0.0
comp=Z,3.2nm,0.6s,baz=311,slow=3.3,SNR=31
PDAR pP pP 03 22 29.3 +1.7
comp=Z,1.4nm,0.8s,baz=309,slow=3.8,SNR=4.8
PRN Pahroc Range 43.30 86 P P 03 21 44.8 +0.3
PRN IAmb IAmb 03 21 47.1
comp=Z,7.3nm,1.0s
SHOC Shoshone, Teco 43.53 89 P P 03 21 47.7 +1.4
baz=312
GSC Goldstone, Bar 43.61 90 P P 03 21 48.4 +1.5
baz=312
GSC Goldstone, Bar 43.61 90 P P 03 21 47.0 0.0
GSC IAmb IAmb 03 21 49.4
comp=Z,6.2nm,1.0s
RDMU Red Mountain 44.60 79 P P 03 21 54.9 0.0
GMRC Granite Mounta 44.65 90 P P 03 21 57.1 +1.8
baz=312
O20A White River Ci 45.66 78 P P 03 22 03.6 +0.3
baz=309
O20A White River Ci 45.66 78 P P 03 22 03.2 0.0
PV22 Blue Mesa, Par 46.35 80 P P 03 22 08.5 -0.2
PV03 Paradox Valley 46.50 81 P P 03 22 09.8 0.0
WUAZ Wupatki 46.77 85 P P 03 22 13.7 +1.8
baz=312
ISCO Idaho Springs 47.44 77 P P 03 22 18.8 +1.7
baz=310
W18A Petrified Fore 48.03 85 P P 03 22 22.9 +1.3
baz=312
S22A 4UR Ranch, Cre 48.04 80 P P 03 22 22.6 +0.8
baz=311
S22A 4UR Ranch, Cre 48.04 80 P P 03 22 21.6 -0.2
SONM Songino Array 48.52 298 P P 03 22 22.1 -3.0
comp=Z,0.3nm,0.3s,baz=53,slow=7.4,SNR=4.6
SONM Songino Array 48.52 298 P P 03 22 24.3 -0.8
SDCO Great Sand Dun 48.84 79 P P 03 22 29.2 +1.3
baz=311
SDCO Great Sand Dun 48.84 79 P P 03 22 27.3 -0.5
TUC Tucson 49.31 88 P P 03 22 32.9 +1.7
baz=314
HHC Hu-ho-hao-te 49.98 288 eP P 03 22 37.3 +1.1
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,91nm,7.4s
MSTX Muleshoe 53.01 81 P P 03 22 59.6 +0.9
baz=314
MNTX Cornudas Mount 53.02 85 P P 03 23 00.0 +1.3
baz=315
MNTX Cornudas Mount 53.02 85 P P 03 22 59.3 +0.6
TX32 Lajitas Array 55.73 85 P P 03 23 17.9 -0.5
TX32 IAmb IAmb 03 23 20.1
comp=Z,3.5nm,1.1s
TXAR Lajitas Array 55.73 85 P P 03 23 18.5 +0.1
comp=Z,1.3nm,0.8s,baz=299,slow=4.2,SNR=11
TXAR pP pP 03 24 04.9 +1.0
comp=Z,0.8nm,0.8s,baz=316,slow=7.7,SNR=4.9
TXAR Lajitas Array 55.73 85 P P 03 23 18.0 -0.4
GTA Gaotai 57.62 294 eP P 03 23 30.8 -0.8
GTA pP pP 03 24 18.0 +1.4
GTA sP sP 03 24 42.0 +3.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
MIAR Mount Ida 58.07 74 P P 03 23 34.8 +0.3
baz=315
KURK Kurchatov 60.08 315 P P 03 23 47.8 -0.3
WMQ Urumqi 60.92 305 eP P 03 23 55.9 +1.9
MKAR Makanchi Array 61.35 310 P P 03 23 55.4 -1.4
comp=Z,0.9nm,0.8s,baz=79,slow=6.3,SNR=5.9
MKAR pP pP 03 24 44.0 +1.7
comp=Z,0.4nm,0.8s,baz=38,slow=7.3,SNR=2.5
ABKAR Akbulak array 68.51 325 P P 03 24 42.7 -0.1
CMAR Chiang Mai Arr 73.60 279 P P 03 25 13.8 -0.1
comp=Z,0.8nm,0.3s,baz=27,slow=7.0,SNR=6.2
CMAR Chiang Mai Arr 73.60 279 P P 03 25 13.1 -0.7
WRA Warramunga Arr 84.92 228 P P 03 26 14.2 -0.5
comp=Z,0.8nm,0.6s,baz=31,slow=5.6,SNR=5.4
ASAR Alice Springs 88.37 226 P P 03 26 31.8 +0.4
comp=Z,2.9nm,0.9s,baz=30,slow=5.1,SNR=16
ASAR Alice Springs 88.37 226 P P 03 26 31.7 +0.3
H03N2 Juan Fernandez 118.86 108 T T 05 43 26.1
baz=317,slow=78,SNR=13
H03N1 Juan Fernandez 118.88 108 T T 05 43 27.4
baz=317,slow=78,SNR=15
H03N3 Juan Fernandez 118.88 108 T T 05 43 26.7
baz=317,slow=78,SNR=12

*IDC **22** 03:15:52.1±1.4, 13.˚40S×172.˚85E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/36, mbtmp4.0/8, Error ellipse: s-maj=90.6km s-min=20.7km az=148.0*
*NEIC **22** 03:16:47.0±0.8, 14.˚3S±0.˚1×172.˚3E±0.˚1, h563km±12km, mb4.3/10, Error ellipse: s-maj=20.5km s-min=14.9km az=222.0*

ISC 22 03:16:46.5±1.0, 14.˚1S±0.˚2×172.˚2E±0.˚2, h550km, n25, σ1§12/25, mb4.0/14, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**25.46**	**253**	P	**P**	**03 21 29.9**	**-1.6**
	6.6nm,1.1s,baz=90,slow=7.1,SNR=2.2						
STKA	**Stephens Creek**	**33.07**	**233**	P	**P**	**03 22 37.9**	**+0.7**
	1.9nm,0.4s,baz=52,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**33.07**	**233**	P	**P**	**03 22 37.6**	**+0.5**
WR0	**Warramunga Arr**	**36.40**	**256**	P	**P**	**03 23 05.4**	**+0.3**
WB0	**Warramunga Arr**	**36.53**	**256**	P	**P**	**03 23 07.0**	**+0.9**
WB2	**Warramunga Arr**	**36.58**	**256**	P	**P**	**03 23 06.5**	**-0.1**
WB2					IAmb IAmb	03 23 08.4	
	comp=Z,3.4nm,0.9s						
WRA	**Warramunga Arr**	**36.59**	**256**	P	**P**	**03 23 07.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=82,slow=7.2,SNR=12						
AS31	**Alice Springs**	**37.34**	**249**	P	**P**	**03 23 13.3**	**+0.5**
AS31					IAmb IAmb	03 23 14.2	
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**37.34**	**249**	P	**P**	**03 23 13.7**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=79,slow=9.1,SNR=36						
ASAR	**Alice Springs**	**37.34**	**249**	P	**P**	**03 23 13.1**	**+0.3**
BBOO	**Buckleboo**	**37.74**	**234**	P	**P**	**03 23 15.9**	**0.0**
BBOO					IAmb IAmb	03 23 27.5	
	comp=Z,11nm,1.1s						
MTN	**Manton Dam**	**39.91**	**267**	P	**P**	**03 23 34.4**	**+0.8**
MTN					IAmb IAmb	03 23 38.7	
	comp=Z,8.8nm,1.1s						
FORT	**Forrest**	**43.71**	**240**	P	**P**	**03 24 03.7**	**+0.3**
FORT					IAmb IAmb	03 24 05.3	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**44.80**	**258**	P	**P**	**03 24 14.0**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=99,slow=7.9,SNR=9.0						
FITZ	**Fitzroy Crossi**	**44.80**	**258**	P	**P**	**03 24 12.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**53.14**	**239**	P	**P**	**03 25 11.5**	**-2.0**
NWAO					IAmb IAmb	03 25 30.4	
	comp=Z,20nm,1.1s						
JEW	**Eniwo**	**63.34**	**335**	P	**P**	**03 26 22.5**	**+0.5**
AKUT	**Akutan**	**70.56**	**14**	P	**P**	**03 27 05.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**79.11**	**292**	P	**P**	**03 27 55.1**	**+0.3**
TRF	**Thorofare Moun**	**82.60**	**16**	P	**P**	**03 28 09.1**	**-3.0**
NVAR	**Mina Array Bea**	**83.31**	**48**	P	**P**	**03 28 17.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=243,slow=7.5,SNR=3.6						
NVAR	**Mina Array Bea**	**83.31**	**48**	P	**P**	**03 28 15.2**	**-1.1**
ILAR	**Eielson Array**	**84.56**	**16**	P	**P**	**03 28 21.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=234,slow=5.4,SNR=4.3						
ILAR	**Eielson Array**	**84.56**	**16**	P	**P**	**03 28 22.2**	**+0.6**
TXAR	**Lajitas Array**	**91.83**	**60**	P	**P**	**03 28 57.5**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.0,SNR=2.1						

*REY **22** 03:33:28.6, 64.˚67N×17.˚48W, h4km*
*IDC **22** 03:33:29.4±0.7, 64.˚68N×17.˚59W, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/40, mbtmp3.8/15, ML2.3/2, MS3.8/2, Ms1 3.8/2, ms1mx2.8/49, Error ellipse: s-maj=20.8km s-min=10.0km az=17.0*
*NEIC **22** 03:33:30.1±1.1, 64.˚7N±0.˚1×17.˚8W±0.˚2, h8km±2km, mb4.5/7, Error ellipse: s-maj=20.3km s-min=9.1km az=188.0*

ISC 22 03:33:29.7±0.4, 64.˚70N±0.˚02×17.˚52W±0.˚02, h10km, n70, σ1§91/83, mb4.0/17, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.10**	**256**	P	**Pg**	**03 33 31.1**	**-1.3**
	baz=270						
IDYN	**Dyngjuhals**	**0.11**	**36**	P	**Pg**	**03 33 31.4**	**-1.1**
IDYN	baz=22			S	**Sg**	**03 33 34.0**	**-0.6**
	baz=22						
IURH	**Urdarhals**	**0.20**	**53**	P	**Pg**	**03 33 32.9**	**-1.1**
	baz=44						
IDJK	**Dyngjujokull**	**0.23**	**148**	P	**Pg**	**03 33 32.7**	**-1.9**
	baz=148						
IDJK				S	**Sg**	**03 33 36.8**	**-1.0**
	baz=148						
IGRF	**Grimsfjall**	**0.31**	**159**	P	**Pg**	**03 33 34.2**	**-1.8**
	baz=161						
IGRF				S	**Sg**	**03 33 38.1**	**-2.1**
	baz=161						
IKVE	**Kverkfjoll**	**0.36**	**93**	S	**Sg**	**03 33 40.8**	**-1.0**
	baz=89						
IKVE				P	**Pg**	**03 33 35.7**	**-1.2**
	baz=89						
ISKR	**Skrokkalda**	**0.40**	**250**	P	**Pg**	**03 33 36.2**	**-1.3**
	baz=254						
IHUS	**Husbondi**	**0.41**	**188**	P	**Pg**	**03 33 35.9**	**-1.9**
	baz=192						
IVOT	**Vottur**	**0.46**	**161**	P	**Pg**	**03 33 36.6**	**-2.0**
	baz=162						
IJOK	**Jokulheimar**	**0.49**	**219**	P	**Pg**	**03 33 37.6**	**-1.7**
	baz=222						
IKRE	**Kreppuhraun**	**0.50**	**80**	P	**Pg**	**03 33 37.2**	**-2.2**
	baz=76						
IKRE				S	**Sg**	**03 33 44.5**	**-1.4**
	baz=76						
IASK	**Askja**	**0.51**	**46**	P	**Pg**	**03 33 37.9**	**-1.8**
	baz=43						
IASK				S	**Sg**	**03 33 45.3**	**-1.2**
	baz=43						
IMKO	**Mokollar**	**0.58**	**60**	S	**Sg**	**03 33 47.3**	**-1.2**
	baz=57						
IMKO				P	**Pg**	**03 33 38.9**	**-2.0**
	baz=57						
ISVA	**Svartarkot**	**0.65**	**10**	P	**Pg**	**03 33 40.6**	**-1.7**
	baz=8.0						
IIEY	**Innrieyrar**	**0.66**	**204**	P	**Pg**	**03 33 40.1**	**-2.3**
	baz=206						
IIEY				S	**Sg**	**03 33 49.4**	**-1.7**
	baz=206						
IKSK	**Karasker**	**0.71**	**139**	P	**Pg**	**03 33 39.9**	**-3.4**
	baz=139						
IKSK				S	**Sg**	**03 33 49.6**	**-2.9**
	baz=139						
IKAL	**Kalfafell**	**0.76**	**186**	P	**Pg**	**03 33 41.5**	**-2.7**
	baz=187						
IVSH	**V-Sauoahnukur**	**0.78**	**81**	P	**Pg**	**03 33 41.8**	**-2.9**
	baz=79						
IVSH				S	**Sg**	**03 33 52.6**	**-2.2**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**230**	P	**Pg**	**03 33 43.1**	**-1.9**
	baz=233						
IADA	**Aoalbol**	**0.89**	**68**	P	**Pg**	**03 33 43.6**	**-3.2**
	baz=66						
IHVE	**Hveravellir**	**0.89**	**282**	P	**Pg**	**03 33 44.6**	**-2.3**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**22**	P	**Pg**	**03 33 45.4**	**-2.5**
	baz=21						
IREN	**Reynihlio**	**0.99**	**15**	P	**Pg**	**03 33 46.0**	**-2.6**
	baz=14						
IKVO	**Krokottuvotn**	**1.05**	**15**	P	**Pg**	**03 33 47.2**	**-2.8**
	baz=13						
ISNB	**Snabyli**	**1.08**	**207**	P	**Pg**	**03 33 47.4**	**-3.0**
	baz=209						
ISNB				S	**Sg**	**03 34 02.0**	**-2.5**
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pb**	**03 33 48.1**	**-2.9**
	baz=30						
IFED	**Fedgar**	**1.16**	**235**	P	**Pb**	**03 33 49.2**	**-2.6**
	baz=237						
ISKI	**Skildingahlsh**	**1.19**	**10**	P	**Pn**	**03 33 49.6**	**-2.9**
	baz=8.8						
IGHA	**Grjothals**	**1.21**	**17**	P	**Pn**	**03 33 49.5**	**-3.1**
	baz=16						
IGRA	**Granastaoir**	**1.22**	**359**	P	**Pn**	**03 33 50.2**	**-2.6**
	baz=358						
IDIM	**Dimmadalss**	**1.29**	**11**	P	**Pn**	**03 33 51.1**	**-2.7**
	baz=9.8						
IHLA	**Hella**	**1.30**	**344**	P	**Pn**	**03 33 51.6**	**-2.3**
	baz=344						
IHLA				S	**Sb**	**03 34 08.5**	**-2.5**
	baz=344						
IHED	**Heoinshofoi**	**1.39**	**4**	P	**Pn**	**03 33 52.9**	**-2.2**
	baz=2.8						
BORG	**Borgarnes**	**1.63**	**273**	Pg	**Pn**	**03 33 57.3**	**-1.1**
	17nm,0.3s,baz=88,slow=7.0,SNR=39						
BORG				Lg	Lg	03 34 21.3	
	6.1nm,0.3s,baz=64,slow=16,SNR=4.1						
BORG	**Borgarnes**	**1.63**	**273**	Pn	**Pn**	**03 33 56.8**	**-1.6**
BORG				Sn	**Sn**	**03 34 17.8**	**-1.7**
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**03 36 17.7**	**0.0**
	baz=4.4,slow=23,SNR=3.6						
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**03 36 41.9**	**+0.3**
	0.0nm,0.3s,baz=298,slow=13,SNR=2.2						
WLF	**Walferdange**	**19.59**	**129**	P	**Pn**	**03 37 59.0**	**0.0**
WLF				IAmb	IAmb	03 38 08.7	
	comp=Z,56nm,1.8s						
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**03 38 00.1**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=282,slow=7.0,SNR=1.8						
BRG	**Berggiesshubel**	**21.44**	**115**	e(P)	**P**	**03 38 21.1**	**+3.5**
	comp=Z,10.0nm,1.1s						
KHC	**Kasperske Hory**	**22.70**	**118**	eP	**P**	**03 38 30.4**	**-0.8**
DPC	**Dobruska-Polom**	**22.78**	**113**	eP	**P**	**03 38 35.2**	**+3.1**
GERES	**GERESS Array B**	**22.98**	**119**	P	**P**	**03 38 35.5**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=306,slow=8.4,SNR=3.3						
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**03 39 06.1**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=348,slow=9.8,SNR=7.4						
RES	**Resolute Bay**	**26.43**	**324**	P	**P**	**03 39 06.0**	**0.0**
	comp=Z,1.4nm,0.2s,baz=71,slow=10,SNR=60						
AKASG	**Malin Array Be**	**27.86**	**98**	P	**P**	**03 39 19.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=319,slow=9.8,SNR=1.8						
MDT	**Midelt**	**32.89**	**160**	P	**P**	**03 40 06.2**	**+2.5**
	comp=Z,2.3nm,1.0s,baz=328,slow=8.1,SNR=4.5						
NRIK	**Noril'sk**	**36.44**	**35**	LR	LR	03 58 23.4	
	comp=Z,66nm,18.4s,baz=14,slow=41						
BRTR	**Keskin Array B**	**38.50**	**105**	P	**P**	**03 40 53.8**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=343,slow=9.3,SNR=3.1						
KBZ	**Khabaz**	**39.13**	**92**	P	**P**	**03 40 59.0**	**+2.1**
	comp=Z,2.9nm,0.9s,baz=321,slow=11,SNR=5.4						
ABKAR	**Akbulak array**	**41.99**	**73**	P	**P**	**03 41 22.4**	**+1.9**
ILAR	**Eielson Array**	**45.65**	**332**	P	**P**	**03 41 52.3**	**+2.6**
	comp=Z,1.8nm,1.1s,baz=21,slow=7.8,SNR=8.3						
ILAR				PcP	**PcP**	**03 43 27.9**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=353,slow=2.8,SNR=4.2						
ILAR	**Eielson Array**	**45.65**	**332**	P	**P**	**03 41 50.0**	**+0.3**
ILAR					**PcP**	**03 43 28.0**	**+0.4**
BCAR	**Beaver Creek A**	**46.07**	**328**	P	**P**	**03 41 54.0**	**+0.8**
ECSD	**EROS Data Cent**	**47.08**	**284**	P	**P**	**03 42 01.1**	**-0.2**
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	**P**	**03 42 05.8**	**+0.5**
KURK	**Kurchatov**	**48.10**	**58**	P	**P**	**03 42 10.3**	**+1.3**
KURK				IAmb	IAmb	03 42 12.0	
	comp=Z,3.8nm,0.9s						
T47A	**Sharon Grove**	**48.63**	**270**	P	**P**	**03 42 12.5**	**-0.7**
T47A				IAmb	IAmb	03 42 16.9	
	comp=Z,6.4nm,0.9s						
KK31	**Karatay Array**	**51.27**	**70**	P	**P**	**03 42 34.2**	**+0.9**
KK31				IAmb	IAmb	03 42 37.2	
	comp=Z,2.2nm,1.0s						
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**03 42 35.0**	**+1.6**
W41B	**Gary Mavity, V**	**52.37**	**274**	P	**P**	**03 42 41.2**	**-0.3**
W41B				IAmb	IAmb	03 42 48.7	
	comp=Z,11nm,1.9s						
MK31	**Makanchi Array**	**52.72**	**58**	P	**P**	**03 42 45.2**	**+1.2**
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**03 42 45.6**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=312,slow=7.4,SNR=5.3						
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**03 42 45.1**	**+1.1**
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**03 42 48.6**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=49,slow=7.3,SNR=8.7						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**03 42 48.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**53.18**	**156**	P	**P**	**03 42 48.0**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=342,slow=7.3,SNR=6.5						
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**03 43 53.1**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=45,slow=3.7,SNR=4.7						
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**03 43 51.9**	**+0.3**
JHJ	**Hachijo jima 2**	**80.89**	**19**	LR	LR	04 21 29.1	
	comp=Z,134nm,21.7s,baz=109,slow=36						

*NEIC **22** 03:36:01.5±1.1, 63.˚0S±0.˚1×170.˚5E±0.˚4, h10km±1km, mb4.3/6, Error ellipse: s-maj=33.1km s-min=21.9km az=277.0*
*IDC **22** 03:36:02.7±1.9, 63.˚30S×169.˚67E, h0km, mb3.9/4, mb1 4.2/5, mb1mx4.0/25, mbtmp4.0/5, ML3.2/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/30, Error ellipse: s-maj=66.8km s-min=24.2km az=77.0*
*GCMT **22** 03:36:02.5±0.3, 63.˚03S±0.˚03×171.˚18E±0.˚08, h13km±1km, MW4.8/66, Moment Tensor Solution. s16,c20; s66,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.04±.17; Mθθ 1.28±.12; Mϕϕ 0.76±.11; Mrθ -0.95±.32; Mϕθ 0.77±.07; Mϕr -0.80±.33; Best double couple: M₀2.29900×10¹⁶ NP1:ϕs236.00000°, δ29.00000°, λ-86.00000°. NP2: ϕs52.00000°, δ61.00000°, λ-92.00000°. Principal axes: T 2.1940, Plg16.0000°, Azm143.0000°; N 0.2180, Plg2.0000°, Azm53.0000°; P -2.4040, Plg74.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 03:36:02.4±1.1, 63.˚1S±0.˚1×170.˚4E±0.˚3, h10km, n44, σ1§05/18, mb4.0/6, MS4.0/14, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.71**	**187**	Pn	**Pn**	**03 39 30.5**	**+0.3**
	0.1nm,0.3s,baz=9.7,slow=14,SNR=18						
VNDA				LR	LR	03 43 55.3	
	comp=Z,595nm,20.6s,baz=21,slow=33						
VNDA	**Vanda**	**14.71**	**187**	Pn	**Pn**	**03 39 31.3**	**+1.1**
RPZ	**Rata Peaks**	**19.45**	**2**	LR	LR	03 47 00.7	
	comp=Z,346nm,19.6s,baz=202,slow=34						
CASY	**Casey**	**24.90**	**236**	P	**P**	**03 41 24.8**	**-0.1**
CASY				IAmb	IAmb	03 41 34.8	
	comp=Z,28nm,1.8s						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**03 41 44.4**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=37,slow=5.1,SNR=2.8						
QSPA				LR	LR	03 50 50.5	
	comp=Z,292nm,19.5s,baz=37,slow=33						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**03 41 44.8**	**+1.0**
QSPA				IAmb	IAmb	03 41 50.3	
	comp=Z,16nm,1.9s						
STKA	**Stephens Creek**	**36.19**	**316**	LR	LR	03 55 22.2	
	comp=Z,385nm,20.7s,baz=196,slow=32						
BELA	**Belgrano 2**	**38.41**	**172**	P	**P**	**03 43 22.5**	**-0.8**
MAW	**Mawson**	**39.60**	**215**	P	**P**	**03 43 31.8**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=131,slow=7.8,SNR=5.9						
MAW				LR	LR	03 59 48.8	
	comp=Z,240nm,18.3s,baz=88,slow=36						
MAW	**Mawson**	**39.60**	**215**	P	**P**	**03 43 33.5**	**+0.2**
DZM	**Mont Dzumac**	**41.12**	**354**	eLR	LR	03 54 59.9	
	comp=Z,320nm,21.9s						
H01W1	**Cape Leeuwin H**	**44.35**	**282**	T	T	04 32 01.1	
	baz=147,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**44.35**	**282**	T	T	04 32 01.3	
	baz=147,slow=76,SNR=41						
H01W3	**Cape Leeuwin H**	**44.37**	**282**	T	T	04 32 06.6	
	baz=147,slow=76,SNR=26						
NWAO	**Narrogin (SRO)**	**44.66**	**287**	LR	LR	03 58 34.4	
	comp=Z,369nm,18.6s,baz=164,slow=30						
SNAA	**Sanae**	**45.39**	**183**	P	**P**	**03 44 20.1**	**-0.3**
ASAR	**Alice Springs**

	comp=Z,1.3nm,0.9s,baz=165,slow=6.2,SNR=6.3							
PAE	**Paea**	**53.12**	**50**	*e*T		T	04 42 15.8	
	comp=Z,2.3nm,0.3s							
TVO	**Taravao**	**53.12**	**51**	*e*T		T	04 42 17.0	
	comp=Z,1.5nm,0.3s							
PPT2	**Papeete2**	**53.18**	**50**	*e*LR		LR	04 00 12.9	
	comp=Z,98nm,28.2s							
PPT2	**Papeete2**	**53.18**	**50**	*e*T		T	04 42 17.4	
	comp=Z,4.2nm,0.3s							
PPT	**Papeete**	**53.20**	**50**	LR		LR	04 02 15.4	
	comp=Z,26nm,19.9s,baz=138,slow=29							
MEH	**Mehetia**	**53.45**	**52**	*e*T		T	04 42 43.8	
	comp=Z,15nm,0.3s							
FITZ	**Fitzroy Crossi**	**54.39**	**305**	LR		LR	04 05 24.4	
	comp=Z,74nm,19.2s,baz=160,slow=32							
VAH	**Vaihoa**	**56.05**	**51**	*e*T		T	04 45 51.9	
	comp=Z,58nm,0.3s							
PMG	**Port Moresby**	**56.16**	**332**	LR		LR	04 06 03.6	
	comp=Z,145nm,20.1s,baz=130,slow=32							
KRVT	**Keravat (AS076**	**60.22**	**339**	LR		LR	04 07 26.2	
	comp=Z,45nm,19.2s,baz=318,slow=31							
H03S2	**Juan Fernandez**	**68.91**	**123**	T		T	05 03 02.3	
	baz=204,slow=74,SNR=12							
H03S1	**Juan Fernandez**	**68.91**	**123**	T		T	05 02 55.5	
	baz=204,slow=74,SNR=16							
H03S3	**Juan Fernandez**	**68.92**	**123**	T		T	05 02 57.7	
	baz=204,slow=74,SNR=11							
CPUP	**Villa Florida**	**83.20**	**138**	LR		LR	04 21 23.0	
	comp=Z,125nm,19.4s,baz=213,slow=33							
BOSA	**Boshof**	**84.45**	**210**	LR		LR	04 23 02.1	
	comp=Z,70nm,21.2s,baz=178,slow=34							
H08S2	**Diego Garcia H**	**86.78**	**260**	T		T	05 25 18.7	
	baz=152,slow=76,SNR=12							
H08S1	**Diego Carcia H**	**86.79**	**260**	T		T	05 25 15.1	
	baz=152,slow=76,SNR=9.5							
H08S3	**Diego Garcia H**	**86.80**	**260**	T		T	05 25 22.5	
	baz=152,slow=76,SNR=24							
LPAZ	**La Paz**	**88.85**	**125**	LR		LR	04 19 17.8	
	comp=Z,51nm,20.1s,baz=49,slow=29							
TPNV	**Topopah Spring**	**115.41**	**58**			**PKiKP**	**03 54 42.5**	**-1.2**
ILAR	**Eielson Array**	**131.44**	**23**	PKP		**PKiKP**	**03 55 15.9**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=235,slow=3.2,SNR=4.1							
KBZ	**Khabaz**	**144.48**	**262**	PKP		**PKPdf**	**03 55 37.1**	**-0.7**
	comp=Z,5.7nm,1.0s,baz=189,slow=2.3,SNR=6.9							
BRTR	**Keskin Array B**	**145.30**	**248**	PKP		**PKPab**	**03 55 39.5**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=131,slow=3.4,SNR=7.6							
AKASG	**Malin Array Be**	**155.85**	**257**	PKPab		**PKPab**	**03 56 22.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=118,slow=3.2,SNR=4.8							

MEX ***22*** *03:53:10.3±0.8, 32.˚52N×115.˚08W, h5km, MD4.1*
ECX ***22*** *03:53:11.3±0.5, 32.˚43N×115.˚20W, h6km±2km, MD2.5, ML2.7*

ISC 22 03:53:10.8±0.8, 32.˚41N±0.˚05×115.˚25W±0.˚04, h16km±5km, n13, σ1.9˚07/19, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.04**	**282**	⇑*e*	P	**Pg**	**03 53 14.6**	**+0.7**
CPBX				IAML			03 53 19.8	
	comp=E,11μm,0.4s							
CPBX				⇓*e*			03 53 19.8	
CPBX				⇑*e*			03 53 19.9	
CPBX				IAML			03 53 19.9	
	comp=N,14μm,0.3s							
MBIG	**Mexicali**	**0.05**	**94**	*e*P		**Pg**	**03 53 12.8**	**-1.0**
MBIG				*i* S		**Sg**	**03 53 15.4**	**-0.3**
MBIG	**Mexicali**	**0.05**	**94**	⇓*e*P		**Pg**	**03 53 13.2**	**-0.6**
MBIG				*e*S		**Sg**	**03 53 15.5**	**-0.3**
CTLX	**Tlaxcala, TLX**	**0.11**	**55**	⇓*e*P		**Pg**	**03 53 15.4**	**+1.0**
CTLX				*e*S		**Sg**	**03 53 18.6**	**+1.9**
GUVIX	**Guadalupe Vict**	**0.18**	**125**	⇓*e*P		**Pb**	**03 53 16.5**	**+0.7**
GUVIX				*e*S		**Sb**	**03 53 20.4**	**+1.2**
UABX	**UABC, Campus M**	**0.27**	**325**	*e*S		**Sn**	**03 53 25.1**	**-0.9**
EMSC	**East Mesa**	**0.40**	**34**	⇓*e*P		**Pn**	**03 53 20.8**	**-1.1**
COK2	**Cook Ranch 2**	**0.59**	**318**	*e*P		**Pn**	**03 53 24.0**	**-0.6**
CRR	**Carrizo Plain**	**0.77**	**308**	*e*P		**Pg**	**03 53 26.7**	**+0.9**
SJX	**San Joaquin**	**0.88**	**223**	*e*P		**Pb**	**03 53 26.4**	**-1.3**
SJX				⇓*e*			03 53 37.6	
SJX				IAML			03 53 37.6	
	comp=N,262nm,0.1s							
TJIG	**Tijuana**	**1.20**	**271**	*i* P		**Pn**	**03 53 32.8**	**-0.2**
TJIG				*i* S		**Sb**	**03 53 49.6**	**+1.0**
SPIG	**San Pedro Mart**	**1.37**	**188**	*e*P		**Pn**	**03 53 36.3**	**+0.7**
SPIG				*e*S		**Sn**	**03 53 52.9**	**-0.6**
214A	**Organ Pipe Nat**	**2.12**	**102**	*i* P		**Pn**	**03 53 44.4**	**-1.2**

TAP ***22*** *04:05:02.0, 24.˚68N×122.˚41E, h12km±1km, ML3.4, D*
JMA ***22*** *04:05:02.7±0.1, 24.˚63N×122.˚39E, h8km±4km, M2.6*

ISC 22 04:05:02.4±1.0, 24.˚66N±0.˚02×122.˚40E±0.˚02, h10km±9km, n68, σ0.948/101, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWC	**Suao**	**0.50**	**265**	P		**Pg**	**04 05 12.1**	**-0.1**
	baz=261							
TWC				*e*S		**Sb**	**04 05 20.7**	**0.0**
	baz=261							
TWB1	**Santiao Chiao**	**0.51**	**313**	*i* P		**Pg**	**04 05 12.1**	**-0.3**
	baz=311							
TWB1				*e*S		**Sg**	**04 05 18.2**	**-0.9**
	baz=311							
JYNG	**Yonagunijimaku**	**0.54**	**112**	P		**Pg**	**04 05 13.3**	**+0.4**
JYNG				S		**Sg**	**04 05 20.5**	**+0.5**
NTC	**Toucheng**	**0.55**	**291**	P		**Pg**	**04 05 13.2**	**+0.1**
	baz=288							
NTC				*e*S		**Sb**	**04 05 22.2**	**+0.1**
	baz=288							
ENAH	**Nanao**	**0.57**	**249**	P		**Pb**	**04 05 14.0**	**-0.5**
	baz=247							
YOJ	**Yonaguni jima**	**0.59**	**109**	*i* P		**Pg**	**04 05 14.2**	**+0.3**
	baz=111							
YOJ				*i* S		**Sb**	**04 05 22.6**	**-0.6**
	baz=111							
YOJ	**Yonaguni jima**	**0.59**	**109**	P		**Pg**	**04 05 14.0**	**+0.1**
YOJ				*e*S		**Sg**	**04 05 22.2**	**+0.6**
ILA	**Ilan**	**0.60**	**280**	*e*P		**Pb**	**04 05 14.5**	**-0.5**
	baz=277							
ILA				*e*S		**Sb**	**04 05 25.0**	**+1.5**
	baz=277							
TIPB	**Shuangxi**	**0.61**	**301**	P		**Pg**	**04 05 14.3**	**+0.1**
	baz=298							
TIPB				S		**Sb**	**04 05 23.6**	**-0.2**
	baz=298							
ENA	**Nanau**	**0.64**	**249**	*e*P		**Pg**	**04 05 14.8**	**0.0**
	baz=247							
ENA				S		**Sb**	**04 05 25.0**	**+0.3**
	baz=247							
TWE	**Neicheng**	**0.67**	**276**	P		**Pg**	**04 05 15.0**	**-0.3**
	baz=273							
TWE				*e*S		**Sb**	**04 05 25.9**	**+0.4**
	baz=273							
NWF	**Wu-fen Shan**	**0.70**	**306**	*e*P		**Pb**	**04 05 16.5**	**-0.1**
	baz=304							
NWF				S		**Sb**	**04 05 26.0**	**-0.3**
	baz=304							
WFSB	**Wu-fen Shan**	**0.70**	**306**	P		**Pb**	**04 05 16.6**	**0.0**
	baz=304							
ENTT	**Nioudou**	**0.76**	**269**	*e*P		**Pg**	**04 05 17.2**	**+0.2**
	baz=266							
ENTT				*e*S		**Sb**	**04 05 28.5**	**+0.5**
	baz=266							
TWA	**Mucha**	**0.81**	**294**	*e*P		**Pb**	**04 05 18.6**	**+0.1**
	baz=291							
TWA				*e*S		**Sb**	**04 05 29.7**	**+0.2**
	baz=291							
NDT	**Datong Townshi**	**0.81**	**266**	P		**Pg**	**04 05 18.2**	**+0.2**
	baz=264							
NDT				*e*S		**Sb**	**04 05 30.3**	**+0.8**
	baz=264							
NWLT	**Wulai**	**0.82**	**279**	*e*P		**Pb**	**04 05 18.9**	**+0.1**
	baz=276							
NACB	**Ningnanchiao**	**0.88**	**237**	P		**Pg**	**04 05 19.2**	**0.0**
	baz=235							
NACB				*e*S		**Sg**	**04 05 30.9**	**+0.2**
	baz=235							
TATO	**Taipei**	**0.89**	**291**	*e*P		**Pb**	**04 05 20.1**	**+0.3**
	baz=289							
TATO				S		**Sb**	**04 05 31.7**	**0.0**
	baz=289							
YM01	**YM01**	**0.90**	**303**	*e*P		**Pb**	**04 05 20.1**	**+0.1**
	baz=301							
YM01				*e*S		**Sg**	**04 05 31.5**	**+0.2**
	baz=301							
YM11	**YM11**	**0.90**	**304**	*e*P		**Pg**	**04 05 19.9**	**+0.1**
	baz=302							
YM08	**YM08**	**0.90**	**306**	*e*P		**Pg**	**04 05 19.9**	**+0.1**
	baz=304							
YM08				*e*S		**Sg**	**04 05 31.3**	**-0.3**
	baz=304							
YM10	**YM10**	**0.91**	**303**	*e*P		**Pb**	**04 05 20.3**	**0.0**
	baz=301							
YM04	**YM04**	**0.93**	**302**	P		**Pg**	**04 05 20.1**	**-0.1**
	baz=300							
YM04				*e*S		**Sg**	**04 05 32.5**	**+0.2**
	baz=300							
TWD	**Chiawan**	**0.93**	**232**	*e*P		**Pb**	**04 05 20.8**	**+0.2**
	baz=230							
TWD				*e*S		**Sb**	**04 05 33.5**	**+0.5**
	baz=230							
YHNB	**Yeheng**	**0.93**	**271**	*e*P		**Pb**	**04 05 20.5**	**-0.1**
	baz=269							
YHNB				S		**Sb**	**04 05 33.6**	**+0.5**
	baz=269							
YM03	**YM03**	**0.94**	**304**	*e*P		**Pn**	**04 05 21.7**	**0.0**
	baz=302							
NSK	**Sanguang**	**0.95**	**271**	*e*P		**Pg**	**04 05 20.6**	**0.0**
	baz=269							
ETLH	**Xiulin Townshi**	**0.95**	**242**	*e*P		**Pg**	**04 05 20.5**	**-0.2**
	baz=240							
ETLH				*e*S		**Sb**	**04 05 34.4**	**+0.8**
	baz=240							
TWY	**Chenhua**	**0.95**	**311**	*e*P		**Pb**	**04 05 21.3**	**+0.3**
	baz=309							
TWY				S		**Sg**	**04 05 33.3**	**+0.2**
	baz=309							
NNSB	**Datong**	**0.95**	**256**	*e*P		**Pg**	**04 05 20.6**	**-0.2**
	baz=254							
NNSH	**Datong**	**0.95**	**256**	P		**Pg**	**04 05 20.7**	**-0.1**
	baz=254							
NNSH				*e*S		**Sb**	**04 05 34.3**	**+0.6**
	baz=254							
ANP	**Anpu**	**0.96**	**304**	*e*P		**Pb**	**04 05 21.1**	**0.0**
	baz=302							
NNS	**Nan Shan**	**0.96**	**257**	*e*P		**Pn**	**04 05 21.8**	**-0.2**
	baz=255							
NNS				*e*S		**Sb**	**04 05 34.4**	**+0.5**
	baz=255							
TWS1	**Kuangyinshan**	**0.99**	**297**	S		**Sb**	**04 05 35.1**	**+0.3**
	baz=295							
NTST	**Danshui**	**1.00**	**301**	S		**Sb**	**04 05 35.4**	**+0.4**
	baz=298							
PCYT	**Pengchaiyu**	**1.01**	**343**	*e*P		**Pg**	**04 05 21.6**	**-0.2**
	baz=342							
FUSS	**Fushou**	**1.13**	**249**	*e*P		**Pn**	**04 05 24.4**	**-0.1**
	baz=247							
FUSS				S		**Sn**	**04 05 39.9**	**-0.2**
	baz=247							
WHF	**Hehuan Shan**	**1.15**	**244**	*e*P		**Pb**	**04 05 24.6**	**0.0**
	baz=242							
WHF				*e*S		**Sb**	**04 05 40.2**	**+0.4**
	baz=242							
TWT	**Tachien**	**1.18**	**250**	*e*P		**Pg**	**04 05 25.9**	**+0.8**
	baz=249							
TWT				*e*S		**Sn**	**04 05 41.9**	**+0.5**
	baz=249							
TDCB	**Techi**	**1.20**	**251**	*e*P		**Pg**	**04 05 25.7**	**+0.2**
	baz=249							
TDCB				*e*S		**Sn**	**04 05 41.5**	**-0.3**
	baz=249							
ESL	**Shilin**	**1.22**	**227**	*e*P		**Pn**	**04 05 25.1**	**-0.3**
	baz=225							
IRIF	**Iriomote-Funau**	**1.25**	**105**	P		**Pn**	**04 05 25.6**	**-0.3**
IRIF				*e*S		**Sb**	**04 05 42.5**	**+0.2**
LIOB	**Emei**	**1.26**	**270**	*e*P		**Pg**	**04 05 26.4**	**-0.1**
	baz=268							
CHGB	**Renai**	**1.27**	**242**	*e*P		**Pg**	**04 05 27.3**	**+0.6**
	baz=241							
NSTT	**Nanjuang**	**1.27**	**269**	*e*P		**Pg**	**04 05 27.0**	**+0.2**
	baz=267							
WHP	**Taichung City**	**1.38**	**254**	*e*P		**Pg**	**04 05 29.2**	**+0.4**
	baz=253							
HATJ	**Hateruma jima**	**1.42**	**115**	P		**Pb**	**04 05 28.7**	**-0.2**
VWDT	**VWDT**	**1.46**	**232**	*e*P		**Pg**	**04 05 30.8**	**+0.5**
	baz=231							
HGSD	**Ruisui**	**1.46**	**218**	*e*P		**Pb**	**04 05 29.7**	**0.0**
	baz=217							
EHY	**Hungye**	**1.51**	**221**	*e*P		**Pn**	**04 05 29.6**	**+0.1**
	baz=220							
JKRS	**Kuro-shima**	**1.53**	**106**	P		**Pg**	**04 05 31.5**	**-0.2**
SSLB	**Suanglung**	**1.58**	**237**	*e*P		**Pg**	**04 05 32.5**	**-0.2**
	baz=236							
YULB	**Yu-li**	**1.61**	**219**	*e*P		**Pn**	**04 05 31.1**	**+0.3**
	baz=218							
JIJ	**Ishigaki jima**	**1.62**	**100**	P		**Pn**	**04 05 31.0**	**+0.1**
JIJ				*e*S		**Sn**	**04 05 52.2**	**+0.4**
TWF1	**Yuli**	**1.64**	**218**	*e*P		**Pn**	**04 05 31.5**	**+0.2**
	baz=217							
FULB	**Fuli**	**1.77**	**215**	*e*P		**Pn**	**04 05 33.2**	**+0.2**
	baz=214							
FULB				*e*S		**Sn**	**04 05 56.2**	**+0.5**
	baz=214							
EDH	**Donghe**	**1.95**	**211**	*e*P		**Pn**	**04 05 35.6**	**0.0**
	baz=210							
EDH				*e*S		**Sn**	**04 05 58.9**	**-1.2**
	baz=210							
CHN4	**Tsaushan**	**2.10**	**232**	*e*P		**Pb**	**04 05 40.4**	**-0.1**
	baz=231							
TPUB	**Ta-pu**	**2.11**	**230**	*e*P		**Pb**	**04 05 40.6**	**-0.1**
	baz=229							
STYT	**Tauyuan**	**2.11**	**226**	*e*P		**Pb**	**04 05 39.8**	**-1.0**
	baz=224							
LDUT	**Ludao**	**2.15**	**204**	*e*P		**Pn**	**04 05 38.2**	**-0.1**
	baz=203							
WTP	**Ta-pu**	**2.15**	**230**	*e*P		**Pb**	**04 05 40.3**	**-1.2**
	baz=228							
TWG	**Pinlang**	**2.19**	**214**	*e*P		**Pb**	**04 05 41.8**	**-0.4**
	baz=213							
TWK	**Hsinying**	**2.23**	**232**	*e*P		**Pb**	**04 05 42.4**	**-0.4**
	baz=231							
CHN1	**Nanshi**	**2.25**	**230**	*e*P		**Pb**	**04 05 43.0**	**-0.2**
	baz=229							
SLGT	**Liugui**	**2.31**	**224**	*e*P		**Pb**	**04 05 42.9**	**-1.2**
	baz=223							
MASBT	**Mashibuluo**	**2.60**	**219**	*e*P		**Pb**	**04 05 46.9**	**-2.2**
	baz=218							

ANF ***22*** *04:05:50.7±1.0, 31.˚63N×115.˚62W, h6km±4km, ML3.3/15, Error ellipse: s-maj=8.5km s-min=3.8km az=38.0*
ECX ***22*** *04:05:51.7±0.7, 31.˚55N×115.˚64W, h0km±4km, MD3.2, ML3.5*
PAS ***22*** *04:05:51.0±2.5, 31.˚55N±0.˚02×115.˚63W±0.˚02, h2km±6km, Error ellipse: s-maj=3.0km s-min=2.2km az=47.0*
SCEDC ***22*** *04:05:51.0, 31.˚55N×115.˚63W, h2km, ML3.5, ML3.5, ML3.5*
MEX ***22*** *04:05:53.1±0.5, 31.˚49N×115.˚66W, h5km, MD3.7*

ISC 22 04:05:50.7±0.9, 31.˚57N±0.˚02×115.˚62W±0.˚02, h11km±8km, n101, σ0.994/139, 9C-10D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VTX	**Valle De La Tr**	**0.23**	**218**	⇑*e*	P	**Pg**	**04 05 55.5**	**+0.1**
VTX				*e*S		**Sg**	**04 05 58.9**	**+0.2**
VTX				IAML			04 05 59.8	
	comp=N,9μm,0.1s							
VTX				⇑*e*			04 05 59.8	
SJX	**San Joaquin**	**0.35**	**304**	⇓*i* P		**Pn**	**04 06 01.0**	**-0.7**
SJX				*e*S		**Sb**	**04 06 08.2**	**+3.7**
SJX				⇓*e*			04 06 08.6	
SJX				IAML			04 06 08.6	
	comp=E,3μm,0.1s							
ESJX	**Sierra Juarez**	**0.52**	**327**			**Pg**	**04 06 01.0**	**+0.1**
ESJX	**Sierra Juarez**	**0.52**	**327**			**Sg**	**04 06 08.1**	**+0.4**
SPIG	**San Pedro Mart**	**0.54**	**166**	*e*P		**Pg**	**04 06 01.8**	**+0.5**
SPIG				*i* S		**Sg**	**04 06 09.3**	**+0.8**
SPIG	**San Pedro Mart**	**0.54**	**166**	⇓*e*P		**Pg**	**04 06 01.8**	**+0.5**
SPIG				*e*S		**Sg**	**04 06 09.3**	**+0.8**
SPX	**San Pedro Mart**	**0.55**	**166**	Pg		**Pg**	**04 06 00.8**	**-0.7**
SPX	**San Pedro Mart**	**0.55**	**166**			**Sg**	**04 06 08.2**	**-0.6**
SPX	**San Pedro Mart**	**0.55**	**166**	*e*P		**Pg**	**04 06 00.8**	**-0.7**
SPX				*e*S		**Sg**	**04 06 08.3**	**-0.4**
SVX	**San Vicente**	**0.59**	**246**	*e*P		**Pg**	**04 06 02.7**	**+0.5**
SFX	**San Felipe**	**0.85**	**129**			**Pg**	**04 06 07.0**	**-0.1**
SFX	**San Felipe**	**0.85**	**129**			**Sg**	**04 06 17.6**	**-0.5**
SFX	**San Felipe**	**0.85**	**129**	⇓*e*P		**Pg**	**04 06 07.0**	**-0.1**
SFX				*e*			04 06 19.5	
SFX				IAML			04 06 19.5	
	comp=N,2μm,0.2s							
GUVIX	**Guadalupe Vict**	**0.87**	**32**			**Pg**	**04 06 07.6**	**+0.2**
GUVIX						**Sb**	**04 06 20.1**	**+0.7**
GUVIX	**Guadalupe Vict**	**0.87**	**32**	*e*P		**Pg**	**04 06 07.6**	**+0.2**
GUVIX				*e*S		**Sb**	**04 06 20.1**	**+0.7**
CPBX	**Cerro Prieto**	**0.89**	**18**			**Pg**	**04 06 07.9**	**0.0**
CPBX						**Sb**	**04 06 21.1**	**+1.0**
CPBX	**Cerro Prieto**	**0.89**	**18**	⇑*e*P		**Pg**	**04 06 07.9**	**0.0**
MBIG	**Mexicali**	**0.91**	**23**	*i* P		**Pb**	**04 06 09.1**	**+0.5**
MBIG				*i* S		**Sn**	**04 06 22.8**	**+0.3**
MBIG	**Mexicali**	**0.91**	**23**	*e*P		**Pb**	**04 06 09.0**	**+0.5**
CCX	**Cicese**	**0.94**	**289**			**Pg**	**04 06 08.7**	**-0.1**
CCX	**Cicese**	**0.94**	**289**			**Sb**	**04 06 21.8**	**+0.3**
CCX	**Cicese**	**0.94**	**289**	⇑*i* P		**Pg**	**04 06 08.8**	**0.0**
CCX				*e*S		**Sb**	**04 06 21.8**	**+0.3**
CTLX	**Tlaxcala, TLX**	**0.99**	**24**	*e*P		**Pg**	**04 06 09.4**	**-0.3**
SQX	**San Quintin**	**1.01**	**193**	⇓*e*P		**Pg**	**04 06 08.9**	**-1.3**
SQX				IAML			04 06 23.2	
	comp=E,3μm,0.2s							
SQX				⇑*e*			04 06 23.2	
UABX	**UABC, Campus M**	**1.07**	**8**			**Pb**	**04 06 11.5**	**+0.3**
UABX	**UABC, Campus M**	**1.07**	**8**			**Sn**	**04 06 26.6**	**0.0**
UABX	**UABC, Campus M**	**1.07**	**8**	*e*P		**Pn**	**04 06 11.8**	**+0.2**
SGL	**Mount Signal**	**1.08**	**355**			**Pg**	**04 06 10.4**	**-1.1**
SGL						**Sg**	**04 06 25.3**	**-0.3**
RMX	**La Rumorosa**	**1.10**	**339**			**Pg**	**04 06 10.2**	**-1.7**
RMX						**Sg**	**04 06 23.1**	**-3.1**
RMX	**La Rumorosa**	**1.10**	**339**	⇓*e*P		**Pg**	**04 06 10.2**	**-1.7**
RMX				*e*S		**Sg**	**04 06 23.2**	**-3.0**
YUH	**Yuha Desert**	**1.10**	**347**			**Pb**	**04 06 11.1**	**-0.8**
YUH						**Sg**	**04 06 25.3**	**-1.1**
IKP	**In-Ko-Pah, Jac**	**1.15**	**339**	P		**Pb**	**04 06 12.2**	**-0.5**
	baz=160,SNR=118							
IKP				S		**Sb**	**04 06 26.6**	**-1.3**
	baz=160							
IKP	**In-Ko-Pah, Jac**	**1.15**	**339**			**Pb**	**04 06 12.3**	**-0.5**
IKP						**Sb**	**04 06 26.5**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**1.15**	**339**	⇓*i* P		**Pb**	**04 06 12.3**	**-0.5**
IKP				*e*S		**Sb**	**04 06 26.6**	**-1.3**
WESC	**Westside Schoo**	**1.19**	**356**			**Pb**	**04 06 13.1**	**-0.2**
WESC						**Sn**	**04 06 29.9**	**+0.4**
WESC	**Westside Schoo**	**1.19**	**356**	⇑*e*P		**Pb**	**04 06 13.1**	**-0.2**
DREC	**Desert Rsrch C**	**1.24**	**7**			**Pn**	**04 06 14.4**	**+0.2**
DREC						**Sn**	**04 06 31.4**	**+0.6**
DREC	**Desert Rsrch C**	**1.24**	**7**	⇑*e*P		**Pb**	**04 06 14.3**	**+0.1**
TJIG	**Tijuana**	**1.24**	**314**	*e*P		**Pn**	**04 06 13.8**	**-0.3**
TJIG				*e*S		**Sb**	**04 06 29.8**	**-0.5**
COK2	**Cook Ranch 2**	**1.28**	**356**			**Pn**	**04 06 14.7**	**-0.5**
EMSC	**East Mesa**	**1.28**	**25**			**Pg**	**04 06 15.4**	**0.0**
EMSC						**Sg**	**04 06 33.0**	**+0.9**
SNR	**Schaffner Ranc**	**1.30**	**7**			**Pb**	**04 06 15.2**	**+0.1**
SNR						**Sg**	**04 06 33.4**	**+0.9**
TKX	**Tecate**	**1.30**	**320**			**Pn**	**04 06 14.7**	**-0.2**
TKX						**Sb**	**04 06 31.6**	**-0.4**
TKX	**Tecate**	**1.30**	**320**	⇓*e*P		**Pn**	**04 06 14.7**	**-0.2**
CRR	**Carrizo Plain**	**1.35**	**347**			**Pn**	**04 06 15.7**	**+0.2**
CRR						**Sn**	**04 06 33.6**	**+0.2**
COA	**Coachella**	**1.36**	**18**			**Pn**	**04 06 14.6**	**-1.1**
SWSC	**Sam W. Stewart**	**1.38**	**354**	P		**Pn**	**04 06 16.1**	**+0.1**
	baz=174,SNR=54							
SWSC				S		**Sg**	**04 06 35.3**	**+0.1**
	baz=174							
SWSC	**Sam W. Stewart**	**1.38**	**354**			**Pn**	**04 06 15.9**	**-0.1**
SWSC						**Sg**	**04 06 35.3**	**+0.1**
SWSC	**Sam W. Stewart**	**1.38**	**354**	⇓*e*P		**Pn**	**04 06 16.0**	**+0.1**
BAR	**Barrett**	**1.42**	**321**			**Pn**	**04 06 16.5**	**-0.1**
BAR						**Sn**	**04 06 35.1**	**-0.2**
BAR	**Barrett**	**1.42**	**321**	⇓*e*P		**Pn**	**04 06 16.5**	**-0.1**
CBKC	**Canebrake**	**1.43**	**338**			**Pn**	**04 06 17.1**	**+0.5**
MONP2	**Monument Peak**	**1.48**	**333**	P		**Pn**	**04 06 17.6**	**+0.1**
	baz=153,SNR=88							
MONP2				S		**Sn**	**04 06 36.7**	**-0.4**
	baz=153							
MONP2	**Monument Peak**	**1.48**	**333**			**Pn**	**04 06 17.6**	**+0.1**
MONP2						**Sn**	**04 06 36.6**	**-0.5**
MONP2	**Monument Peak**	**1.48**	**333**	⇑*e*P		**Pn**	**04 06 17.7**	**+0.1**
RUN	**Ruthven**	**1.50**	**21**			**Sn**	**04 06 37.2**	**0.0**
OLP	**Otay Lakes Par**	**1.52**	**313**			**Pn**	**04 06 18.4**	**+0.5**
OLP						**Sn**	**04 06 37.8**	**+0.2**
OLP	**Otay Lakes Par**	**1.52**	**313**	⇑*e*P		**Pn**	**04 06 18.4**	**+0.5**
TJX	**Tijuana**	**1.54**	**308**			**Pb**	**04 06 19.2**	**0.0**
TJX	**Tijuana**	**1.54**	**308**			**Sn**	**04 06 37.3**	**-0.8**
ERRC	**Elmore Ranch**	**1.55**	**354**			**Pg**	**04 06 20.2**	**-0.3**
SDRC	**San Diego Road**	**1.61**	**316**			**Pn**	**04 06 19.8**	**+0.6**
SDRC						**Sn**	**04 06 40.3**	**+0.3**
GLA	**Glamis**	**1.62**	**24**	P		**Pn**	**04 06 18.8**	**-0.6**
	baz=205,SNR=10.0							
GLA				S		**Sn**	**04 06 40.9**	**+0.6**
	baz=205							
GLA	**Glamis**	**1.62**	**24**			**Pn**	**04 06 18.8**	**-0.6**
GLA						**Sb**	**04 06 41.1**	**-0.2**
SLH	**Sleepy Hollow**	**1.71**	**342

SGSI			S	**Sb**	**04 12 11.7**	**-2.1**
TNTI	**Ternate**	**2.59 193**	P	**Pb**	**04 11 45.7**	**-0.8**
SIJI	**Sorong**	**5.33 141**	P	**Pn**	**04 12 23.0**	**+3.4**
	1.9nm,0.3s,baz=229,slow=23,SNR=13					
SIJI			S	**Sn**	**04 13 19.4**	**-1.7**
	1.8nm,0.3s,baz=189,slow=23,SNR=1.7					
GTOI	**Gorontalo**	**5.59 242**	P	**Pn**	**04 12 27.2**	**+3.9**
	0.0nm8.7nm,0.5s					
SANI	**Sanana**	**5.67 200**	P	**Pn**	**04 12 26.9**	**+2.6**
PMG	**Port Moresby**	**22.95 124**	LR	LR	04 24 31.4	
	comp=Z,69nm,20.6s,baz=72,slow=36					
WRA	**Warramunga Arr**	**23.95 165**	P	**P**	**04 16 13.3**	**-1.3**
	1.0nm,0.3s,baz=345,slow=10,SNR=14					
ASAR	**Alice Springs**	**27.44 168**	P	**P**	**04 16 45.4**	**-0.8**
	0.5nm,0.5s,baz=359,slow=8.5,SNR=12					
STKA	**Stephens Creek**	**37.33 161**	P	**P**	**04 18 11.3**	**-1.3**
	2.3nm,0.5s,baz=330,slow=8.3,SNR=4.6					
H11S3	**WAKE ISLAND Hy**	**40.80 65**	T	T	05 01 56.8	
	baz=254,slow=74					
H11S2	**WAKE ISLAND Hy**	**40.82 65**	T	T	05 01 56.9	
	baz=254,slow=74					
H11S1	**WAKE ISLAND Hy**	**40.82 65**	T	T	05 01 58.0	
	baz=254					
MKAR	**Makanchi Array**	**58.58 325**	P	**P**	**04 20 57.4**	**+0.4**
	0.3nm,0.4s,baz=114,slow=8.6,SNR=6.4					

*DJA **22** 04:14:41.5±0.2, 7°S±2°×10°5E±°, h10km, M4.7/21, mb4.7/21, mB5.2/6, MLv4.9/19, Mw(mB)4.5/6*
*NEIC **22** 04:14:42.6±1.4, 6°.95S±0°.05×105°.31E±0°.06, h43km±6km, mb4.6/41, Error ellipse: s-maj=9.1km s-min=7.0km az=52.0*
*IDC **22** 04:14:47.6±3.1, 6°.76S×105°.51E, h78km±28km, mb4.1/20, mb1 4.3/22, mb1mx4.2/37, mbtmp4.5/22, MS3.5/13, Ms1 3.6/13, ms1mx3.3/39, Error ellipse: s-maj=21.8km s-min=11.3km az=67.0*
ISC 22 04:14:42.8±0.7, 7°02S±0°.04×105°30E±0°.04, h40km±7km, **n167**, σ1**s74**/159, **mb4.6**/44, **MS3.6**/14, **1C-1D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.56**	**44**	P	**Pn**	**04 14 54.7**	**+0.4**
CGJI				S	**Sn**	**04 15 02.0**	**-0.5**
SKJI	**Sukabumi**	**1.25**	**89**	P	**Pn**	**04 15 06.0**	**+2.3**
SKJI				S	**Sn**	**04 15 21.8**	**+2.5**
DBJI	**Dramaga**	**1.51**	**72**	P	**Pn**	**04 15 08.9**	**+1.5**
DBJI				S	**Sn**	**04 15 28.0**	**+2.1**
TNG	**Tangerang**	**1.58**	**58**	P	**Pn**	**04 15 10.7**	**+2.4**
TNG				S	**Sn**	**04 15 30.2**	**+2.7**
BLSI	**Bandar Lampung**	**1.64**	**358**	P	**Pn**	**04 15 11.4**	**+2.2**
CBJI	**Citeko**	**1.65**	**69**	P	**Pn**	**04 15 11.2**	**+1.9**
KASI	**Kota Agung**	**1.69**	**332**	P	**Pn**	**04 15 13.0**	**+3.2**
KASI				S	**Sn**	**04 15 32.6**	**+2.4**
CNJI	**Cibinong**	**1.84**	**99**	P	**Pn**	**04 15 12.4**	**+0.6**
CNJI				S	**Sn**	**04 15 32.3**	**-1.6**
LEM	**Lembang**	**2.31**	**85**	P	**Pn**	**04 15 21.8**	**+3.3**
	119nm,0.3s,baz=272,slow=5.4,SNR=46						
LEM	**Lembang**	**2.31**	**85**	P	**Pn**	**04 15 22.4**	**+3.9**
LWLI	**Liwa**	**2.34**	**328**	P	**Pn**	**04 15 22.0**	**+3.1**
KLSI		**2.38**	**346**	P	**Pn**	**04 15 22.7**	**+3.3**
CISI	**Cisompet, Garu**	**2.55**	**102**	P	**Pn**	**04 15 22.6**	**+0.9**
CISI	**Cisompet, Garu**	**2.55**	**102**	Pn	**Pn**	**04 15 22.3**	**+0.6**
CISI				Sn	**Sn**	**04 15 51.2**	**-0.4**
MDSI	**Maura Dua**	**2.75**	**336**	P	**Pn**	**04 15 27.9**	**+3.5**
JCJI	**Jatiwangi**	**3.00**	**80**	P	Pn	04 15 40.3	+13
CMJI	**Cimerak**	**3.21**	**104**	P	**Pn**	**04 15 31.7**	**+0.9**
XMIS	**Christmas Isla**	**3.46**	**174**	Pn	**Pn**	**04 15 31.2**	**-2.9**
XMIS				Sn	**Sn**	**04 16 09.7**	**-4.1**
MNAI	**Manna**	**3.52**	**318**	P	**Pn**	**04 15 38.8**	**+3.7**
MNAI	**Manna**	**3.52**	**318**	Pn	**Pn**	**04 15 35.0**	**0.0**
MNAI				Sn	**Sn**	**04 16 14.4**	**-1.1**
KPJI	**Karang Pucung**	**3.62**	**95**	P	**Pn**	**04 15 38.2**	**+1.9**
PMBI	**Palembang**	**4.10**	**353**	P	Pn	04 15 49.6	+6.6
PMBI	**Palembang**	**4.10**	**353**	Pn	**Pn**	**04 15 42.0**	**-0.9**
KSI	**Kapahiang**	**4.30**	**321**	P	**Pn**	**04 15 49.1**	**+3.4**
TPI	**Tanjungpandan**	**4.84**	**29**	P	**Pn**	**04 15 54.0**	**+0.8**
PPBI	**Pangkal Pinang**	**4.90**	**10**	P	**Pn**	**04 15 56.5**	**+2.6**
MASI	**Maura Aman, Be**	**4.91**	**322**	P	**Pn**	**04 15 57.4**	**+3.2**
YOGI	**Yogyakarta**	**5.02**	**99**	P	Pn	04 16 00.6	+5.0
SMRI	**Semarang**	**5.10**	**91**	P	Pn	04 16 11.9	+15
SMRI	**Semarang**	**5.10**	**91**		**Pn**	**04 15 57.2**	**+0.4**
UGM	**Wanagama**	**5.25**	**100**	P	**Pn**	**04 16 00.6**	**+1.7**
	1.3nm192nm,1.1s						
UGM	**Wanagama**	**5.25**	**100**		**Pn**	**04 15 59.8**	**+1.0**
WOJI	**Wonogiri, Jawa**	**5.64**	**99**	P	**Pn**	**04 16 19.7**	**+16**
KRJI	**Kerinci**	**6.21**	**322**	P	Pn	04 16 28.4	+16
PWJI	**Pagerwojo**	**6.53**	**99**	P	**Pn**	**04 16 19.2**	**+2.9**
	0.9nm2µm104nm,0.6s						
GMJI	**Gumukmas**	**8.17**	**99**	P	**Pn**	**04 16 42.2**	**+3.4**
	2µm36nm,0.6s						
SISI	**Saibi**	**8.39**	**312**	P	**Pn**	**04 16 42.0**	**+0.2**
	37nm,1.0s						
MYKOM	**Kota Tinggi**	**8.87**	**351**	Pn	**Pn**	**04 16 47.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**8.89**	**100**	P	**Pn**	**04 16 51.1**	**+2.3**
JAGI	**Jajag, Banyuwa**	**8.89**	**100**	Pn	**Pn**	**04 16 49.5**	**+0.8**
ABJI	**Asem Bagus**	**8.89**	**96**	P	Pn	04 16 54.1	+5.3
MNSI	**Mandailing Nat**	**9.64**	**323**	P	**Pn**	**04 17 01.1**	**+2.1**
	18nm,0.5s						
COCO	**West Island**	**9.80**	**238**	Pn	**Pn**	**04 17 03.5**	**+2.3**
KSM	**Kuching**	**9.81**	**31**	Pn	**Pn**	**04 16 59.3**	**-2.0**
PBSI	**Pulau Batu**	**9.84**	**314**	P	**Pn**	**04 17 01.0**	**-0.8**
	75nm,0.7s						
GSI	**Gunungsitoli**	**11.30**	**317**	P	**Pn**	**04 17 22.3**	**+0.5**
	110nm,0.5s						
GSI	**Gunungsitoli**	**11.30**	**317**	Pn	**Pn**	**04 17 19.9**	**-2.0**
RPSI	**Rantau Prapat**	**11.56**	**326**		**Pn**	**04 17 24.2**	**-1.1**
TWSI	**Taliwang, Sumb**	**11.60**	**99**	P	**Pn**	**04 17 24.9**	**-1.0**
	17nm,0.6s						
PSI	**Prapat**	**11.65**	**327**	LR	LR	04 22 41.0	
	comp=Z,129nm,19.2s,baz=112,slow=41						
SBUM	**Sibu**	**11.67**	**37**	Pn	**Pn**	**04 17 27.3**	**+0.5**
PLAI	**Plampang**	**12.49**	**99**	P	**Pn**	**04 17 37.0**	**-1.0**
	658nm38nm,1.3s						
KULM	**Kulim**	**13.08**	**339**		**Pn**	**04 17 44.2**	**-1.9**
KAPI	**Kappang**	**14.51**	**83**	LR	LR	04 24 20.1	
	comp=Z,258nm,18.3s,baz=255,slow=40						
MPSI	**Mapaga**	**16.30**	**64**	P	**P**	**04 18 32.3**	**+0.9**
	12nm,0.9s						
EDFI	**Ende, Flores**	**16.33**	**97**	P	**Pn**	**04 18 25.9**	**-3.5**
GIRL	**Giralia**	**17.76**	**152**	Pn	**Pn**	**04 18 45.9**	**-1.2**
GIRL				IAmb	IAmb	04 19 05.5	
	comp=Z,43nm,1.1s						
BATI	**Baumata**	**18.43**	**101**	P	**Pn**	**04 18 56.1**	**+0.7**
	comp=Z,7.3nm,0.3s,baz=266,slow=2.6,SNR=2.1						
BATI	**Baumata**	**18.43**	**101**	P	**Pn**	**04 18 55.8**	**+0.4**
	comp=Z,712nmcomp=Z,31nm,0.6s						
SOEI	**Soe**	**18.96**	**100**	P	**Pn**	**04 19 02.1**	**+0.2**
	comp=Z,64nm,0.8s						
SOEI	**Soe**	**18.96**	**100**	P	**P**	**04 19 00.7**	**-0.2**
GTOI	**Gorontalo**	**19.24**	**67**	P	**P**	**04 19 02.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**22.67**	**121**	P	**P**	**04 19 41.8**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=303,slow=7.2,SNR=13						
FITZ	**Fitzroy Crossi**	**22.67**	**121**	P	**P**	**04 19 41.5**	**+0.6**
TNTI	**Ternate**	**23.34**	**71**	P	**P**	**04 19 46.8**	**-1.0**
TNTI				IAmb	IAmb	04 19 50.7	
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	**24.54**	**113**	P	**P**	**04 19 58.5**	**-0.4**
KNRA				IAmb	IAmb	04 20 12.7	
	comp=Z,20nm,0.7s						
DAV	**Davao City (W)**	**24.60**	**56**	LR	LR	04 29 49.3	
	comp=Z,92nm,21.4s,baz=331,slow=37						
CM31	**Chiang Mai Arr**	**26.08**	**346**	P	**P**	**04 20 10.6**	**-2.2**
CMAR	**Chiang Mai Arr**	**26.08**	**346**	P	**P**	**04 20 12.6**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=182,slow=9.1,SNR=21						
CMAR				LR	LR	04 30 45.1	
	comp=Z,124nm,20.1s,baz=191,slow=37						
CMAR	**Chiang Mai Arr**	**26.08**	**346**	P	**P**	**04 20 11.4**	**-1.5**
MTN	**Manton Dam**	**26.08**	**105**	P	**P**	**04 20 11.8**	**-1.2**
MTN				IAmb	IAmb	04 20 30.9	
	comp=Z,15nm,0.6s						
QIZ	**Qiongzhong**	**26.27**	**10**	P	**P**	**04 20 15.0**	**+0.5**
QIZ				S	**S**	**04 24 47.8**	**+3.3**
QIZ				LR	LR		
	comp=N,190nm,23.5s						
QIZ				LR	LR		
	comp=E,91nm,12.8s						
QIZ				LR	LR		
	comp=Z,210nm,20.1s						
CHTO	**Chiang Mai**	**26.42**	**346**	P	**P**	**04 20 13.8**	**-2.1**
SIJI	**Sorong**	**26.60**	**78**	LR	LR	04 33 21.7	
	comp=Z,50nm,20.5s,baz=301,slow=42						
NWAO	**Narrogin (SRO)**	**28.06**	**158**	LR	LR	04 31 02.1	
	comp=Z,159nm,21.1s,baz=252,slow=34						

H01W3	**Cape Leeuwin H**	**28.90**	**165**	T	T	04 50 57.9	
	baz=344,slow=76,SNR=40						
H01W1	**Cape Leeuwin H**	**28.91**	**165**	T	T	04 50 59.7	
	baz=344,slow=76,SNR=38						
H01W2	**Cape Leeuwin H**	**28.91**	**165**	T	T	04 50 59.0	
	baz=344,slow=76,SNR=46						
WB0	**Warramunga Arr**	**30.94**	**117**	P	**P**	**04 20 56.3**	**+0.1**
WB0				IAmb	IAmb	04 21 10.2	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**30.95**	**117**	P	**P**	**04 20 56.5**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=289,slow=10,SNR=25						
WRAB	**Tennant Creek**	**30.96**	**117**	P	**P**	**04 20 56.6**	**+0.2**
WRAB				IAmb	IAmb	04 21 10.6	
	comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**30.96**	**117**	P	**P**	**04 20 56.4**	**0.0**
WB2				IAmb	IAmb	04 21 08.7	
	comp=Z,5.8nm,0.6s						
WR0	**Warramunga Arr**	**31.14**	**117**	P	**P**	**04 20 58.4**	**+0.4**
WR0				IAmb	IAmb	04 21 12.2	
	comp=Z,6.6nm,0.8s						
ASAR	**Alice Springs**	**32.06**	**124**	P	**P**	**04 21 06.4**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=304,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**32.06**	**124**	P	**P**	**04 21 06.1**	**0.0**
AS31	**Alice Springs**	**32.06**	**124**	P	**P**	**04 21 06.3**	**+0.2**
H08S2	**Diego Garcia H**	**32.54**	**267**	T	T	04 55 27.5	
	baz=91,slow=75,SNR=222						
H08S3	**Diego Garcia H**	**32.55**	**267**	T	T	04 55 28.2	
	baz=91,slow=75,SNR=372						
H08S1	**Diego Garcia H**	**32.56**	**267**	T	T	04 55 28.7	
	baz=91,slow=75,SNR=228						
SHL	**Shillong**	**34.92**	**339**	P	**P**	**04 21 30.1**	**-0.9**
SHL				IAmb	IAmb	04 21 31.4	
	comp=Z,5.4nm,0.5s						
COEN	**Coen**	**37.84**	**104**	P	**P**	**04 21 55.0**	**-1.0**
COEN				IAmb	IAmb	04 22 09.6	
	comp=Z,5.4nm,0.7s						
ODAN	**Odare**	**37.89**	**333**	*eP*	**P**	**04 21 55.9**	**-0.6**
	comp=Z,23nm,0.5s						
TAPN	**Taplejung**	**38.17**	**334**	*eP*	**P**	**04 21 57.8**	**-1.2**
	comp=Z,18nm,0.6s						
RAMN	**Ramite**	**38.32**	**333**	*eP*	**P**	**04 21 59.0**	**-1.1**
	comp=Z,9.8nm,0.5s						
BBOO	**Buckleboo**	**38.39**	**136**	P	**P**	**04 22 00.1**	**-0.3**
BBOO				IAmb	IAmb	04 22 11.8	
	comp=Z,10nm,1.0s						
PKI	**Pulchoki**	**39.41**	**332**	*eP*	**P**	**04 22 08.3**	**-1.0**
	comp=Z,5.5nm,0.5s						
GUN	**Gumba**	**39.47**	**332**	*eP*	**P**	**04 22 08.9**	**-1.0**
	comp=Z,20nm,0.4s						
GKN	**Gorkha**	**40.14**	**331**	*eP*	**P**	**04 22 14.6**	**-0.6**
	comp=Z,14nm,0.3s						
KOLN	**Koldanda**	**40.45**	**330**	*eP*	**P**	**04 22 17.4**	**-0.5**
	comp=Z,9.9nm,0.3s						
DANN	**Dangsing**	**40.85**	**330**	*eP*	**P**	**04 22 20.0**	**-1.2**
	comp=Z,22nm,0.4s						
NJ2	**Nanjing**	**40.95**	**18**	*eP*	**P**	**04 22 22.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PYUN	**Piuthan**	**41.03**	**329**	*eP*	**P**	**04 22 22.6**	**0.0**
	comp=Z,21nm,0.4s						
STKA	**Stephens Creek**	**41.89**	**131**	P	**P**	**04 22 30.8**	**+1.4**
	comp=Z,5.1nm,0.4s,baz=317,slow=7.7,SNR=19						
STKA				LR	LR	04 41 07.0	
	comp=Z,75nm,20.7s,baz=296,slow=38						
STKA	**Stephens Creek**	**41.89**	**131**	P	**P**	**04 22 30.5**	**+1.1**
LZH	**Lanzhou**	**42.90**	**358**	*eP*	**P**	**04 22 41.0**	**+3.3**
LZH				pP	sP	04 22 54.5	+0.8
LZH				sP	pP	04 23 00.4	+11
LZH				*ePP*	**PcP**	**04 24 24.3**	**-3.8**
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.8s						
LZH				LR	LR		
	comp=N,370nm,14.0s						
LZH				LR	LR		
	comp=E,380nm,14.3s						
LZH				LR	LR		
	comp=Z,520nm,16.6s						
GTA	**Gaotai**	**46.47**	**354**	P	**P**	**04 23 07.3**	**+1.2**
GTA				pP	sP	04 23 18.8	-3.4
GTA				sP	pP	04 23 23.3	+5.9
GTA				S	**S**	**04 29 51.4**	**-0.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,79nm,7.5s						
GTA				LR	LR		
	comp=N,84nm,18.2s						
GTA				LR	LR		
	comp=E,160nm,18.9s						
GTA				LR	LR		
	comp=Z,99nm,15.6s						
HHC	**Hu-ho-hao-te**	**47.98**	**6**	*eP*	**P**	**04 23 18.9**	**+1.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.0s						
KSRS	**Korea Array**	**49.03**	**24**	P	**P**	**04 23 25.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=221,slow=7.2,SNR=4.3						
KSRS				LR	LR	04 42 50.5	
	comp=Z,25nm,21.9s,baz=215,slow=35						
JCJ	**Chichijima**	**49.25**	**45**	LR	LR	04 43 31.2	
	comp=Z,20nm,21.1s,baz=286,slow=35						
JHS	**Saijyo**	**49.35**	**30**	P	**P**	**04 23 27.1**	**-1.3**
JWT	**Wachi**	**50.75**	**32**	P	**P**	**04 23 35.5**	**-3.3**
WMQ	**Urumqi**	**53.05**	**344**	*eP*	**P**	**04 23 57.3**	**+1.3**
KBL	**Kabul**	**53.69**	**323**	P	**P**	**04 24 00.3**	**-0.7**
SONM	**Songino Array**	**54.62**	**1**	P	**P**	**04 24 06.6**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=176,slow=9.6,SNR=4.1						
SONM				PcP	**PcP**	**04 25 10.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=173,slow=3.7,SNR=5.2						
SONM				LR	LR	04 50 03.8	
	comp=Z,161nm,19.1s,baz=160,slow=39						
SONM	**Songino Array**	**54.62**	**1**	P	**P**	**04 24 06.1**	**-1.4**
SONM					**PcP**	**04 25 08.4**	**-1.7**
KDJ	**Kajisay**	**55.24**	**335**	P	**P**	**04 24 10.3**	**-1.8**
KDJ				IAmb	IAmb	04 24 25.9	
	comp=Z,3.2nm,0.7s						
GAR	**Garm**	**56.11**	**327**	P	**P**	**04 24 17.3**	**-1.0**
USA0B	**Ussuriysk Arra**	**56.39**	**23**	P	**P**	**04 24 18.8**	**-1.3**
USA0B				IAmb	IAmb	04 24 19.7	
	comp=Z,6.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**56.39**	**23**	P	**P**	**04 24 18.4**	**-1.7**
	comp=Z,4.9nm,0.6s,baz=210,slow=6.1,SNR=12						
USRK	**Ussuriysk Ar.**	**56.39**	**23**	P	**P**	**04 24 18.8**	**-1.3**
CHGR	**Chuyangaron**	**56.49**	**326**	P	**P**	**04 24 19.8**	**-1.3**
BTK	**Batken**	**56.62**	**329**	P	**P**	**04 24 21.2**	**-0.8**
BTK				IAmb	IAmb	04 24 22.6	
	comp=Z,7.1nm,0.8s						
MK31	**Makanchi Array**	**57.35**	**341**	P	**P**	**04 24 25.3**	**-1.6**
MKAR	**Makanchi Array**	**57.35**	**341**	P	**P**	**04 24 25.3**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=149,slow=8.6,SNR=25						
MKAR	**Makanchi Array**	**57.35**	**341**	P	**P**	**04 24 25.5**	**-1.4**
KKAR	**Karatay Array**	**59.04**	**331**	P	**P**	**04 24 38.0**	**-0.8**
CASY	**Casey**	**59.27**	**178**	P	**P**	**04 24 41.7**	**+1.7**
CASY				IAmb	IAmb	04 24 42.4	
	comp=Z,4.1nm,0.8s						
GEYT	**Alibeck**	**62.67**	**319**	P	**P**	**04 25 04.2**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=170,slow=9.9,SNR=7.7						
GEYT	**Alibeck**	**62.67**	**319**	P	**P**	**04 25 03.0**	**-0.6**
ZAA0	**Zalesovo Array**	**63.15**	**347**	P	**P**	**04 25 04.8**	**-1.5**
ZAA0				IAmb	IAmb	04 25 06.6	
	comp=Z,5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**63.15**	**347**	P	**P**	**04 25 04.4**	**-1.9**
	comp=Z,3.1nm,0.3s,baz=146,slow=4.5,SNR=17						
ZALV				LR	LR	04 54 54.9	
	comp=Z,87nm,18.1s,baz=138,slow=38						
ZALV	**Zalesovo Beam**	**63.15**	**347**	P	**P**	**04 25 04.6**	**-1.7**
BRVK	**Borovoye**	**66.81**	**338**	P	**P**	**04 25 29.8**	**-0.4**
BRVK				IAmb	IAmb	04 25 30.3	
	comp=Z,4.1nm,0.6s						
MAW	**Mawson**	**66.86**	**196**	P	**P**	**04 25 33.0**	**+2.7**
	comp=Z,5.4nm,0.6s,baz=53,slow=4.7,SNR=8.1						
MAW	**Mawson**	**66.86**	**196**	P	**P**	**04 25 32.5**	**+2.2**
ABKAR	**Akbulak array**	**68.58**	**330**	P	**P**	**04 25 41.2**	**-0.2**
ABKAR	**Akbulak array**	**68.58**	**330**	P	**P**	**04 25 41.1**	**-0.2**
ARU	**Arti**	**73.92**	**335**	P	**P**	**04 26 13.2**	**-0.3**
ARU				IAmb	IAmb	04 26 14.1	
	comp=Z,13nm,1.0s						
PETK	**Petropavlovsk-**	**74.44**	**30**	P	**P**	**04 26 15.5**	**-1.2**
	comp=Z,6.6nm,1.1s,baz=251,slow=4.4,SNR=2.1						
PETK	**Petropavlovsk-**	**74.44**	**30**	P	**P**	**04 26 15.6**	**-1.1**
SYO	**Syowa Base**	**74.91**	**200**	*eP*	**P**	**04 26 20.0**	**+0.9**
SYO	**Syowa Base**	**74.91**	**200**	*eP*	**P**	04 26 25.6	+6.5
KBZ	**Khabaz**	**75.54**	**318**	P	**P**	**04 26 25.8**	**+2.6**
	comp=Z,2.9nm,0.8s,baz=108,slow=7.7,SNR=5.7						
VNDA	**Vanda**	**76.26**	**169**	P	**P**	**04 26 28.4**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=314,slow=6.3,SNR=12						
VNDA	**Vanda**	**76.26**	**169**	P	**P**	**04 26 28.4**	**+1.6**
NRIK	**Noril'sk**	**77.17**	**354**	P	**P**	**04 26 31.0**	**-0.9**
	comp=Z,5.2nm,0.5s,baz=169,slow=3.7,SNR=8.4						
BOSA	**Boshof**	**77.95**	**242**	P	**P**	**04 26 39.7**	**+2.3**
	comp=Z,3.2nm,0.6s,baz=94,slow=6.1,SNR=6.8						
BOSA	**Boshof**	**77.95**	**242**	P	**P**	**04 26 37.6**	**+0.2**
BRTR	**Keskin Array B**	**80.58**	**312**	P	**P**	**04 26 51.7**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=132,slow=6.5,SNR=8.3						
BRTR	**Keskin Array B**	**80.58**	**312**	P	**P**	**04 26 51.0**	**-0.5**
QSPA	**South Pole Qui**	**82.97**	**180**	P	**P**	**04 27 04.5**	**+1.0**
QSPA				IAmb	IAmb	04 27 05.8	
	comp=Z,4.0nm,1.1s						
AKASG	**Malin Array Be**	**86.66**	**322**	P	**P**	**04 27 22.3**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=86,slow=4.4,SNR=5.5						
AKASG	**Malin Array Be**	**86.66**	**322**	P	**P**	**04 27 22.0**	**-0.2**
BURAR	**Bucovina Array**	**88.50**	**318**	P	**P**	**04 27 30.4**	**-0.8**
BUR08	**Bucovina Ar. S**	**88.51**	**318**	P	**P**	**04 27 30.6**	**-0.8**
BUR08				IAmb	IAmb	04 27 36.3	
	comp=Z,2.9nm,0.6s						
SNAA	**Sanae**	**89.00**	**198**	P	**P**	**04 27 36.0**	**+2.8**
SNAA	**Sanae**	**89.00**	**198**	P	**P**	**04 27 34.0**	**+0.9**
VNA2	**Neumayer--Watz**	**90.64**	**198**	P	**P**	**04 27 43.8**	**+3.1**
	baz=97,slow=4.3						
FINES	**FINESS Array B**	**90.99**	**332**	P	**P**	**04 27 43.8**	**+1.4**
	comp=Z,8.3nm,1.0s,baz=121,slow=7.0,SNR=13						
FINES				LR	LR	05 13 04.8	
	comp=Z,50nm,19.4s,baz=343,slow=38						
FINES	**FINESS Array B**	**90.99**	**332**	P	**P**	**04 27 42.1**	**-0.3**
VNA1	**Neumayer--Stat**	**91.02**	**198**	P	**P**	**04 27 45.7**	**+3.3**
VNA3	**Neumayer Olymp**	**91.18**	**197**	P	**P**	**04 27 46.1**	**+2.8**
ARCES	**ARCESS Array B**	**92.97**	**340**	P	**P**	**04 27 51.0**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=94,slow=5.5,SNR=10.0						
NOA	**NORSAR Array B**	**98.08**	**331**	LR	LR	05 17 35.8	
	comp=Z,32nm,20.0s,baz=270,slow=38						
TXAR	**Lajitas Array**	**144.83**	**47**	PKP	PKPbc	04 34 15.8	+0.4
	comp=Z,0.7nm,0.5s,baz=300,slow=1.4,SNR=16						
TXAR	**Lajitas Array**	**144.83**	**47**		**PKPab**	**04 34 15.1**	**-0.2**
BDFB	**Brasilia**	**145.28**	**229**	PKPbc	**PKPdf**	**04 34 18.9**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=170,slow=3.8,SNR=6.7						

WEL 22 04:29:54.3±0.3, 43°S±3°×17°1E±°, h5km, M3.4/12, ML4.4/17, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=173.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.21**	**346**	P	Pg	04 29 59.4	+0.9
WVZ				S	Sg	04 30 02.6	+1.3
GCSZ	**Gaunt Creek Bo**	**0.35**	**264**	P	Pg	04 30 01.9	+0.8
GCSZ				S	Sg	04 30 06.5	+0.7
RPZ	**Rata Peaks**	**0.47**	**158**	P	Pg	04 30 03.7	+0.3
RPZ				S	Sg	04 30 10.0	+0.6
MHCZ	**Mount Hutt**	**0.61**	**115**	P	Pg	04 30 06.1	+0.2
ARCZ	**Arundel**	**0.72**	**158**	P	Pg	04 30 08.1	+0.1
INZ	**Inchbonnie**	**0.73**	**40**	P	Pg	04 30 07.6	-0.7
FOZ	**Fox Glacier**	**0.77**	**251**	P	Pg	04 30 09.5	+0.5
FOZ				S	Sb	04 30 20.8	0.0
OXZ	**Oxford**	**0.90**	**93**	P	Pg	04 30 11.8	+0.3
OXZ				S	Sb	04 30 25.8	+1.1
WACZ	**Wakanui South**	**1.00**	**132**	P	Pb	04 30 13.8	-0.3
RACZ	**Rakaia**	**1.06**	**115**	P	Pg	04 30 15.0	+0.2
LTZ	**Lake Taylor**	**1.18**	**65**	P	Pg	04 30 17.0	0.0
LTZ				S	Sg	04 30 32.1	-0.2
LBZ	**Lake Benmore**	**1.19**	**202**	P	Pg	04 30 16.3	-0.9
AMCZ	**Amberley**	**1.35**	**86**	P

SNZO	**South Karori**	**3.50**	**57**		**Pn**	**04 31 09.0**	**+0.6**
BHW	**Baring Head**	**3.55**	**59**	Pn	**Pn**	**04 31 09.6**	**+0.5**
NMEZ	**Namu Road**	**4.51**	**32**	P	**Pn**	**04 31 24.1**	**+1.8**
NMEZ				S	**Sn**	**04 32 14.7**	**0.0**
NBEZ	**Newall Road No**	**4.63**	**31**	P	**Pn**	**04 31 25.4**	**+1.4**
KHEZ	**Kahui Hut**	**4.66**	**32**	P	**Pn**	**04 31 26.2**	**+1.7**
PREZ	**Palmer Road**	**4.68**	**34**	P	**Pn**	**04 31 26.4**	**+1.7**
PREZ				S	**Sn**	**04 32 15.2**	**-3.7**
NEZ	**North Egmont**	**4.71**	**33**	P	**Pn**	**04 31 27.5**	**+2.3**
NEZ				S	**Sn**	**04 32 20.6**	**+0.7**
WAZ	**Wanganui**	**4.72**	**43**	P	**Pn**	**04 31 27.2**	**+1.9**
PKE	**Pukeiti**	**4.74**	**31**	P	**Pn**	**04 31 27.2**	**+1.7**
PKE				S	**Sn**	**04 32 20.3**	**-0.1**
DREZ	**Durham Road**	**4.83**	**33**	P	**Pn**	**04 31 28.1**	**+1.4**
DREZ				S	**Sn**	**04 32 26.4**	**+3.8**
VRZ	**Vera Road**	**5.12**	**37**	P	**Pn**	**04 31 33.2**	**+2.6**
PKVZ	**Pokaka**	**5.26**	**42**	P	**Pn**	**04 31 34.4**	**+1.8**
PKVZ				S	**Sn**	**04 32 32.7**	**-0.6**
WHVZ	**Whangaehu Hut**	**5.38**	**44**	P	**Pn**	**04 31 37.4**	**+2.9**
FWVZ	**Far West T-bar**	**5.38**	**43**	P	**Pn**	**04 31 37.1**	**+2.5**
FWVZ				S	**Sn**	**04 32 38.8**	**+2.1**
TUVZ	**Tukino**	**5.43**	**44**	P	**Pn**	**04 31 37.9**	**+2.9**
TUVZ				S	**Sn**	**04 32 39.6**	**+2.1**
NGZ	**Ngauruhoe**	**5.47**	**43**	P	**Pn**	**04 31 38.8**	**+3.1**
NGZ				S	**Sn**	**04 32 43.1**	**+4.5**
TWVZ	**Taurewa**	**5.47**	**41**	P	**Pn**	**04 31 37.9**	**+2.3**
TWVZ				S	**Sn**	**04 32 40.5**	**+1.9**
BHHZ	**Black Hill Sta**	**5.48**	**48**	S	**Sn**	**04 32 38.6**	**-0.1**
WTVZ	**West Tongariro**	**5.51**	**42**	P	**Pn**	**04 31 39.5**	**+3.4**
KRHZ	**Kereru**	**5.54**	**51**	P	Pn	04 31 42.5	+5.9
KRHZ				S	**Sn**	**04 32 36.4**	**-3.8**
KRVZ	**Karewarewa**	**5.55**	**43**	P	**Pn**	**04 31 41.0**	**+4.2**
HIZ	**Hauiti**	**5.67**	**34**	P	**Pn**	**04 31 38.9**	**+0.6**
HIZ				S	**Sn**	**04 32 41.5**	**-1.9**
HIZ	**Hauiti**	**5.67**	**34**		**Pn**	**04 31 38.9**	**+0.6**
KWHZ	**Kaweka Forest**	**5.72**	**49**	P	Pn	04 31 45.1	+6.0
KWHZ				S	**Sn**	**04 32 42.5**	**-2.2**
KAHZ	**Kahuranaki**	**5.74**	**55**	S	**Sn**	**04 32 42.5**	**-2.5**
RATZ	**Rangitukua**	**5.79**	**42**	P	**Pn**	**04 31 43.6**	**+3.6**
BKZ	**Black Stump Fm**	**5.94**	**48**		**Pn**	**04 31 42.0**	**0.0**
TLZ	**Tolley Road**	**6.11**	**37**	P	**Pn**	**04 31 45.1**	**+0.7**
TLZ				S	**Sn**	**04 32 51.1**	**-3.3**
TOZ	**Tahuroa Road**	**6.60**	**34**	P	**Pn**	**04 31 51.3**	**+0.3**
KMRZ	**Kaimai**	**6.69**	**37**	P	**Pn**	**04 31 53.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**6.87**	**27**	P	**Pn**	**04 31 55.8**	**+1.0**
AWAZ				S	**Sn**	**04 33 06.1**	**-6.9**
URZ	**Urewera**	**6.93**	**46**	Pn	Pn	04 32 04.3	+8.7
	1.0nm,0.3s,baz=281,slow=17,SNR=2.2						
URZ				Sn	**Sn**	**04 33 11.4**	**-3.0**
	2.9nm,0.3s,baz=107,slow=22,SNR=5.7						
URZ	**Urewera**	**6.93**	**46**		**Pn**	**04 31 55.8**	**+0.2**
WTAZ	**Waiatarua**	**6.97**	**26**	P	**Pn**	**04 31 57.4**	**+1.3**
OUZ	**Omahuta**	**8.34**	**16**	Pn	**Pn**	**04 32 15.3**	**+0.4**
ASAR	**Alice Springs**	**36.09**	**291**	P	**P**	**04 37 15.8**	**-0.2**
	0.4nm,0.6s,baz=127,slow=7.1,SNR=4.2						
ASAR	**Alice Springs**	**36.09**	**291**	P	**P**	**04 37 15.9**	**-0.1**
WC3	**Warramunga Arr**	**38.33**	**296**	P	**P**	**04 37 35.0**	**0.0**
WB2	**Warramunga Ar**	**38.36**	**296**	P	**P**	**04 37 35.1**	**-0.1**
WB2				IAmb	IAmb	04 37 37.2	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Ar**	**38.36**	**296**	P	**P**	**04 37 35.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=132,slow=7.8,SNR=3.5						
ARCES	**ARCESS Array B**	**148.29**	**338**	PKPbc	**PKPbc**	**04 50 00.1**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=57,slow=3.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.53**	**201**	PKPbc	**PKPbc**	**04 50 01.3**	**0.0**
	comp=Z,0.9nm,0.8s,baz=173,slow=1.4,SNR=6.6						

WEL 22 04:34:12.1,43°S±25″×17°1E±1°8, h5km±9km, M2.6/6, ML2.6/6, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=146.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.32**	**332**	P	Pg	04 34 16.8	-1.4
RPZ	**Rata Peaks**	**0.37**	**167**	P	Pb	04 34 21.0	-0.1
GCSZ	**Gaunt Creek Bo**	**0.45**	**275**	P	Pb	04 34 22.6	+0.1
MHCZ	**Mount Hutt**	**0.49**	**111**	P	Pb	04 34 23.5	+0.3
ARCZ	**Arundel**	**0.61**	**164**	P	Pb	04 34 25.5	+0.1
INZ	**Inchbonnie**	**0.73**	**30**	P	Pg	04 34 25.0	-1.1
FOZ	**Fox Glacier**	**0.84**	**257**	P	Pg	04 34 26.9	-1.2
WACZ	**Wakanui South**	**0.88**	**132**	P	Pn	04 34 27.1	0.0
LTZ	**Lake Taylor**	**1.13**	**60**	P	Pn	04 34 34.4	-0.2
LBZ	**Lake Benmore**	**1.17**	**208**	P	Pn	04 34 35.3	+0.2
OKCZ	**Okains Bay**	**1.58**	**104**	P	Pb	04 34 41.6	-0.2
DSZ	**Denniston Nort**	**1.73**	**22**	P	Pn	04 34 43.4	+0.5

*IDC **22** 04:39:18.4±1.7, 63°.04S×170°.67E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/21, mbtmp3.9/5, ML3.5/1, MS4.1/9, Ms1 4.1/9, ms1mx4.0/14, Error ellipse: s-maj=64.9km s-min=24.7km az=77.0*

*GCMT **22** 04:39:19.0±0.3, 62°.95S±0°.03×171°.31E±0°.08, h14km±1km, MW4.8/75, Moment Tensor Solution. s17,c18; s75,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.06±.18; Mθθ 1.22±.12; Mφφ 0.83±.12; Mrθ -0.34±.32; Mrφ 0.67±.07; Mθφ -1.34±.34; Best double couple: Mo 2.31400×10^16 NP1: φs 244.00000°, δ 31.00000°, λ -64.00000°. NP2: φs 34.00000°, δ 63.00000°, λ -105.00000°. Principal axes: T 2.0420, Plg16.0000°, Azm134.0000°; N 0.5430, Plg13.0000°, Azm41.0000°; P -2.5860, Plg69.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 04:39:19.4±1.6, 63°.1S±0°.1×170°.8E±0°.4, h10km, n34, σ 0.9 44/10, mb3.8/4, MS4.1/12, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.82**	**188**	Pn	**Pn**	**04 42 48.2**	**-0.5**
	0.2nm,0.3s,baz=29,slow=18,SNR=29						
QSPA	**South Pole Qui**	**27.04**	**180**	P	**P**	**04 45 01.7**	**+0.1**
	1.6nm,0.9s,baz=30,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**36.28**	**315**	LR	LR	04 58 59.1	
	comp=Z,405nm,19.5s,baz=196,slow=33						
MAW	**Mawson**	**39.79**	**215**	P	**P**	**04 46 52.5**	**+0.6**
	1.8nm,0.8s,baz=135,slow=11,SNR=3.9						
MAW				LR	LR	05 03 05.0	
	comp=Z,342nm,18.8s,baz=94,slow=36						
DZM	**Mont Dzumac**	**41.06**	**354**	eLR	LR	04 58 34.7	
	comp=Z,432nm,22.2s						
H01W1	**Cape Leeuwin H**	**44.54**	**282**	T	T	05 35 18.5	
	baz=147,slow=76,SNR=41						
H01W2	**Cape Leeuwin H**	**44.55**	**282**	T	T	05 35 18.8	
	baz=147,slow=76,SNR=47						
H01W3	**Cape Leeuwin H**	**44.56**	**282**	T	T	05 35 19.7	
	baz=147,slow=76,SNR=45						
ASAR	**Alice Springs**	**46.42**	**311**	P	**P**	**04 47 45.9**	**-0.1**
	1.7nm,0.8s,baz=158,slow=7.9,SNR=12						
ASAR				LR	LR	05 05 37.2	
	comp=Z,212nm,19.0s,baz=148,slow=34						
WRA	**Warramunga Arr**	**49.72**	**313**	P	**P**	**04 48 11.3**	**-0.3**
	1.0nm,0.9s,baz=163,slow=6.1,SNR=5.5						
WRA				PcP	**PcP**	**04 49 32.3**	**-0.2**
	0.8nm,0.9s,baz=162,slow=3.4,SNR=2.2						
WRA				LR	LR	05 07 35.5	
	comp=Z,412nm,19.0s,baz=150,slow=34						
PAE	**Paea**	**52.90**	**50**	*e*T	T	05 45 31.6	
	3.5nm,0.3s						
TVO	**Taravao**	**52.90**	**50**	*e*T	T	05 45 32.2	
	0.9nm,0.3s						
PPT2	**Papeete2**	**52.97**	**50**	*e*LR	LR	05 03 43.6	
	comp=Z,124nm,27.5s						
PPT2	**Papeete2**	**52.97**	**50**	*e*T	T	05 45 37.1	
	5.6nm,0.3s						
TIAR	**Tiarei**	**53.08**	**50**	*e*T	T	05 45 45.4	
	1.4nm,0.3s						
MEH	**Mehetia**	**53.24**	**51**	*e*T	T	05 45 57.7	
	17nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.53**	**304**	LR	LR	05 11 00.9	
	comp=Z,108nm,19.1s,baz=156,slow=35						
VAH	**Vaihoa**	**55.83**	**51**	*e*T	T	05 49 11.5	
	105nm,0.3s						
TAOE	**Nuku Hiva Isla**	**64.44**	**56**	*e*LR	LR	05 09 09.0	
	comp=Z,68nm,23.8s						
H03S2	**Juan Fernandez**	**68.77**	**123**	T	T	06 06 03.6	
	baz=204,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**68.77**	**123**	T	T	06 06 10.5	
	baz=204,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**68.79**	**123**	T	T	06 06 14.5	
	baz=204,slow=74,SNR=13						
CPUP	**Villa Florida**	**83.11**	**138**	LR	LR	05 24 49.3	
	comp=Z,172nm,19.3s,baz=212,slow=33						
PSI	**Prapat**	**84.36**	**287**	LR	LR	05 25 51.7	
	comp=Z,62nm,19.0s,baz=105,slow=33						
H08S2	**Diego Garcia H**	**87.01**	**259**	T	T	06 28 27.7	
	baz=152,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**87.02**	**259**	T	T	06 28 34.6	
	baz=152,slow=76,SNR=6.8						
H08S3	**Diego Garcia H**	**87.03**	**259**	T	T	06 28 32.5	
	baz=152,slow=76,SNR=42						
BDFB	**Brasilia**	**95.94**	**143**	LR	LR	05 34 10.3	
	comp=Z,48nm,18.0s,baz=67,slow=34						
CMAR	**Chiang Mai Arr**	**98.37**	**294**	LR	LR	05 35 02.5	
	comp=Z,54nm,19.5s,baz=161,slow=34						
H06E1	**SOCORRO T-PHAS**	**101.36**	**71**	T	T	06 46 21.9	
	SNR=9.0						
ILAR	**Eielson Array**	**131.28**	**23**	PKP	**PKiKP**	**04 58 31.1**	**+0.2**
	0.8nm,0.8s,baz=238,slow=4.1,SNR=4.8						
NRIK	**Noril'sk**	**144.41**	**323**	PKP	**PKPdf**	**04 58 54.3**	**+0.4**
	2.8nm,0.7s,baz=130,slow=3.3,SNR=4.6						
KBZ	**Khabaz**	**144.70**	**262**	PKP	**PKPab**	**04 58 53.4**	**-0.6**
	5.4nm,0.9s,baz=150,slow=6.5,SNR=4.6						
BRTR	**Keskin Array B**	**145.53**	**248**	PKPbc	**PKPab**	**04 58 57.8**	**+0.4**
	3.2nm,0.9s,baz=160,slow=5.0,SNR=9.9						

*CNRM **22** 04:43:18.3±2.4, 36°.18N×10°.64W, h113km±42km, Error ellipse: s-maj=24.7km s-min=6.5km az=119.0*

*MDD **22** 04:43:21.3±1.3, 36°.31N×10°.28W, h0km, mbLg2.5/29, Error ellipse: s-maj=11.3km s-min=8.3km az=54.0, PRXIMO*

*IGIL **22** 04:43:22.7, 36°.13N×10°.44W, h31km, ML2.6*

*INMG **22** 04:43:22.2±1.4, 36°.15N×10°.45W, h28km±15km, ML2.4, Error ellipse: s-maj=8.9km s-min=4.9km az=54.0*

ISC 22 04:43:19.0±1.7, 36°.17N±0°.05×10°.51W±0°.07, h35km, n81, σ 1.8 74/136, 7C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.66**	**54**	⇑P	**Pn**	**04 43 47.3**	**+1.7**
	28nm,0.4s,SNR=18						
PFVI				S	**Sn**	**04 44 05.8**	**0.0**
	22nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.66**	**54**	P	**Pn**	**04 43 47.1**	**+1.4**
	SNR=48						
PFVI	**Vila Bisbo**	**1.66**	**54**	⇑*e*Pn	**Pn**	**04 43 47.3**	**+1.7**
PFVI				*e*Sn	**Sn**	**04 44 05.8**	**0.0**
PFVI				A	A	04 44 06.6	
	28nm,0.7s						
MORF	**Marmelete**	**1.88**	**52**	*e*P	**Pn**	**04 43 50.4**	**+1.8**
MORF				*e*S	**Sn**	**04 44 10.7**	**-0.5**
MORF				AML	AML	04 44 13.8	
	comp=E,44nm,0.2s						
MORF	**Marmelete**	**1.88**	**52**	P	**Pn**	**04 43 50.4**	**+1.8**
MORF				S	**Sn**	**04 44 10.7**	**-0.5**
	comp=E,44nm,0.2s						
MORF	**Marmelete**	**1.88**	**52**	⇑*e*Pn	**Pn**	**04 43 50.4**	**+1.8**
MORF				*e*Sn	**Sn**	**04 44 11.1**	**-0.1**
MORF				A	A	04 44 12.8	
	comp=E,26nm,0.1s						
PTEO	**Sao Teotonio**	**1.99**	**46**	P	**Pn**	**04 43 51.8**	**+1.7**
PTEO				S	**Sn**	**04 44 14.1**	**+0.3**
	comp=E,6.3nm,0.4s						
PTEO	**Sao Teotonio**	**1.99**	**46**	⇑*e*Pn	**Pn**	**04 43 51.8**	**+1.7**
PTEO				*e*Sn	**Sn**	**04 44 14.1**	**+0.3**
PTEO				A	A	04 44 17.4	
	comp=E,13nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.34**	**62**	P	**Pn**	**04 43 56.8**	**+1.9**
PBDV				S	**Sn**	**04 44 22.5**	**+0.1**
	comp=E,3.8nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.34**	**62**	⇑*e*Pn	**Pn**	**04 43 56.8**	**+1.9**
PBDV				*e*Sn	**Sn**	**04 44 22.5**	**+0.1**
PBDV				A	A	04 44 29.4	
	comp=E,3.8nm,0.4s						
PCVE	**Castro Verde**	**2.46**	**53**	P	**Pn**	**04 43 58.6**	**+2.0**
PCVE				S	**Sn**	**04 44 26.3**	**+0.8**
	comp=E,15nm,0.4s						
PCVE	**Castro Verde**	**2.46**	**53**	*e*Pn	**Pn**	**04 43 58.6**	**+2.0**
PCVE				*e*Sn	**Sn**	**04 44 26.3**	**+0.8**
PCVE				A	A	04 44 28.0	
	comp=E,15nm,0.4s						
PNCL	**Nicolau / Gran**	**2.51**	**39**	P	**Pn**	**04 43 58.9**	**+1.7**
PNCL				S	**Sn**	**04 44 26.8**	**+0.3**
	comp=E,14nm,0.1s						
PNCL	**Nicolau / Gran**	**2.51**	**39**	*e*Pn	**Pn**	**04 43 58.9**	**+1.7**
PNCL				*e*Sn	**Sn**	**04 44 26.8**	**+0.3**
PNCL				A	A	04 44 28.9	
	comp=E,14nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**60**	P	**Pn**	**04 43 59.8**	**+1.8**
PVAQ				S	**Sn**	**04 44 28.0**	**+0.1**
	comp=E,9.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**60**	P	**Pn**	**04 43 59.8**	**+1.8**
	SNR=128						
PVAQ	**Vaqueiros**	**2.56**	**60**	⇑*e*Pn	**Pn**	**04 43 59.8**	**+1.8**
PVAQ				*e*Sn	**Sn**	**04 44 28.0**	**+0.1**
PVAQ				A	A	04 44 30.7	
	comp=E,9.0nm,0.1s						
LIS	**Lisbon**	**2.77**	**23**	S	**Sn**	**04 44 34.1**	**+1.1**
LIS	**Lisbon**	**2.77**	**23**	*e*Sn	**Sn**	**04 44 34.1**	**+1.1**
EGRO	**El Granado**	**2.79**	**60**	⇑P	**Pn**	**04 44 02.8**	**+1.7**
	comp=E,4.0nm,0.1s,SNR=18						
EGRO				S	**Sn**	**04 44 33.0**	**-0.4**
	comp=E,3.8nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.81**	**48**	P	**Pn**	**04 44 02.9**	**+1.4**
PBEJ				S	**Sn**	**04 44 33.6**	**-0.6**
	comp=E,2.8nm,0.1s						
PBEJ	**Beja**	**2.81**	**48**	*e*Pn	**Pn**	**04 44 02.9**	**+1.4**
PBEJ				*e*Sn	**Sn**	**04 44 33.6**	**-0.6**
PBEJ				A	A	04 44 35.5	
	comp=E,5.5nm,0.1s						
PMAFR	**Mafra**	**2.95**	**19**	P	**Pn**	**04 44 05.1**	**+1.7**
	comp=E,4.0nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**04 44 38.5**	**+1.0**
	comp=E,35nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.95**	**19**	*e*Pn	**Pn**	**04 44 05.1**	**+1.7**
PMAFR				*e*Sn	**Sn**	**04 44 38.1**	**+0.6**
PMAFR				A	A	04 44 41.3	
	comp=E,34nm,0.2s						
EVO	**Evora**	**3.09**	**39**	P	**Pn**	**04 44 06.6**	**+1.4**
EVO				S	**Sn**	**04 44 40.4**	**-0.5**
EVO	**Evora**	**3.09**	**39**	*e*P	**Pn**	**04 44 06.6**	**+1.4**
EVO				*e*S	**Sn**	**04 44 40.4**	**-0.5**
EVO	**Evora**	**3.09**	**39**	*e*Pn	**Pn**	**04 44 06.7**	**+1.5**
EVO				*e*Sn	**Sn**	**04 44 40.4**	**-0.5**
EVO				A	A	04 44 42.1	
	comp=E,13nm,0.1s						
PBAR	**Barrancos**	**3.42**	**53**	P	**Pn**	**04 44 11.6**	**+1.8**
PBAR				S	**Sn**	**04 44 49.3**	**+0.1**
PBAR	**Barrancos**	**3.42**	**53**	*e*Pn	**Pn**	**04 44 11.6**	**+1.8**
PBAR				*e*Sn	**Sn**	**04 44 49.3**	**+0.1**
EMIN	**Mina Concepcio**	**3.47**	**61**	P	**Pn**	**04 44 11.7**	**+1.3**
	comp=E,2.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**04 44 50.3**	**+0.1**
	comp=E,1.1nm,0.1s,SNR=7.9						
PSBE	**So Bento**	**3.61**	**22**	*e*Pn	**Pn**	**04 44 14.5**	**+2.1**
PSBE				*e*Sn	**Sn**	**04 44 53.6**	**-0.2**
PSBE				A	A	04 44 56.5	
	comp=E,6.7nm,0.1s						
ESPR	**Espera**	**3.81**	**78**	P	**Pn**	**04 44 16.9**	**+1.7**
	comp=E,11nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**04 44 57.8**	**-1.0**
	comp=E,16nm,0.3s,SNR=7.9						
AVE	**Averroes**	**3.83**	**137**	P	**Pn**	**04 44 17.4**	**+1.9**
PMRV	**Marv??o**	**4.09**	**36**	P	**Pn**	**04 44 20.6**	**+1.6**
PMRV				S	**Sn**	**04 45 04.0**	**-1.6**
	comp=E,6.2nm,0.2s						
PMRV	**Marv??o**	**4.09**	**36**	*e*Pn	**Pn**	**04 44 20.6**	**+1.6**
PMRV				*e*Sn	**Sn**	**04 45 04.0**	**-1.6**
PMRV				A	A	04 45 05.4	
	comp=E,6.2nm,0.2s						
SMIR	**Smir Dam**	**4.19**	**95**	P	**Pn**	**04 44 21.9**	**+1.6**
SMIR				P		04 44 22.0	
	SNR=10						
PCAS	**Casmilo, Conde**	**4.19**	**22**	P	**Pn**	**04 44 22.6**	**+2.2**
PCAS				S	**Sn**	**04 45 07.5**	**-0.7**
	comp=E,3.8nm,0.5s						
PCAS	**Casmilo, Conde**	**4.19**	**22**	*e*Pn	**Pn**	**04 44 22.6**	**+2.2**
PCAS				*e*Sn	**Sn**	**04 45 07.5**	**-0.7**
PCAS				A	A	04 45 12.6	
	comp=E,3.8nm,0.5s						
COI	**Coimbra**	**4.36**	**22**	S	**Sn**	**04 45 11.2**	**-1.1**
COI	**Coimbra**	**4.36**	**22**	*e*Sn	**Sn**	**04 45 11.2**	**-1.1**
PCBR	**Castelo Branco**	**4.38**	**32**	P	**Pn**	**04 44 24.8**	**+1.8**
PCBR				S	**Sn**	**04 45 10.9**	**-1.9**
	comp=E,1.4nm,0.4s						
PCBR	**Castelo Branco**	**4.38**	**32**	*e*Pn	**Pn**	**04 44 24.8**	**+1.8**
PCBR				*e*Sn	**Sn**	**04 45 10.9**	**-1.9**
PCBR				A	A	04 45 14.2	
	comp=E,2.8nm,0.4s						
ECAB	**El Cabril**	**4.49**	**63**	P	**Pn**	**04 44 25.9**	**+1.3**
	comp=E,2.1nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**04 45 13.5**	**-2.1**
	comp=E,2.8nm,0.3s,SNR=7.9						
HORN	**Hornachuelos**	**4.53**	**67**	P	**Pn**	**04 44 26.3**	**+1.3**
EAH	**EAH**	**4.57**	**170**	P	**Pn**	**04 44 25.8**	**+0.2**
PVIS	**Viseu**	**4.99**	**24**	P	**Pn**	**04 44 34.4**	**+3.1**
PVIS				S	**Sn**	**04 45 26.9**	**-0.9**
	comp=E,3.1nm,0.4s						
PVIS	**Viseu**	**4.99**	**24**	*e*Pn	**Pn**	**04 44 34.4**	**+3.1**
PVIS				*e*Sn	**Sn**	**04 45 26.9**	**-0.9**
PVIS				A	A	04 45 29.8	
	comp=E,6.1nm,0.4s						
EADA	**Adamuz**	**5.14**	**65**	P	**Pn**	**04 44 34.9**	**+1.4**
	comp=E,1.5nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**04 45 30.5**	**-1.2**
	comp=E,1.8nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**5.23**	**41**	P	**Pn**	**04 44 35.7**	**+1.0**
	comp=E,0.1nm,0.5s,SNR=7.9						
EPLA				S	**Sn**	**04 45 31.6**	**-2.1**
	comp=E,3.7nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.23**	**78**	P	**Pn**	**04 44 36.3**	**+1.5**
	comp=E,0.6nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**04 45 33.1**	**-0.9**
	comp=E,1.9nm,0.4s,SNR=7.9						
OUK	**Oukaimeden**	**5.42**	**155**	P	**Pn**	**04 44 38.7**	**+1.2**
PALE	**Palemas**	**5.43**	**98**	P	**Pn**	**04 44 37.5**	**0.0**
CZD	**Col de Zad**	**5.49**	**123**	P	**Pn**	**04 44 39.0**	**+0.5**
PVRL	**Vila Real**	**5.55**	**22**	S	**Sn**	**04 45 39.0**	**-2.7**
PVRL	**Vila Real**	**5.55**	**22**	*e*Sn	**Sn**	**04 45 39.0**	**-2.7**
ELGU	**Los Guajares,**	**5.59**	**81**	P	**Pn**	**04 44 42.7**	**+3.0**
	comp=E,1.3nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**04 45 41.8**	**-0.9**
	comp=E,2.4nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**5.62**	**21**	P	**Pn**	**04 44 42.0**	**+1.9**
POLO				S	**Sn**	**04 45 40.7**	**-2.7**
	comp=E,1.5nm,0.6s						
POLO	**Lamas de Olo**	**5.62**	**21**	*e*Pn	**Pn**	**04 44 42.0**	**+1.9**
POLO				*e*Sn	**Sn**	**04 45 40.7**	**-2.7**
POLO				A	A	04 45 44.0	
	comp=E,1.5nm,0.6s						
MVO	**Moncorvo**	**5.69**	**28**	P	**Pn**	**04 44 42.1**	**+1.1**
	comp=E,0.4nm,0.3s,SNR=8.3						
MVO				S	**Sn**	**04 45 42.7**	**-2.4**
	comp=E,2.4nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.69**	**28**	*e*Pn	**Pn**	**04 44 42.2**	**+1.2**
MVO				*e*Sn	**Sn**	**04 45 43.5**	**-1.6**
MVO				A	A	04 45 44.7	
	comp=E,4.0nm,0.5s						
EQUE	**Quentar**	**5.78**	**78**	P	**Pn**	**04 44 44.8**	**+2.5**
	comp=E,0.8nm,0.6s,SNR=6.8						
EQUE				S	**Sn**	**04 45 46.2**	**-1.2**
	comp=E,0.9nm,0.3s,SNR=7.9						
MD31	**MD31**	**5.78**	**123**	P	**Pn**	**04 44 42.7**	**+0.4**
PCAB	**Cabril**	**5.87**	**19**	P	**Pn**	**04 44 44.5**	**+1.1**
PCAB				S	**Sn**	**04 45 46.9**	**-2.5**
	comp=E,1.7nm,0.7s						
PCAB	**Cabril**	**5.87**	**19**	*e*Pn	**Pn**	**04 44 44.5**	**+1.1**
PCAB				*e*Sn	**Sn**	**04 45 46.9**	**-2.5**
PCAB				A	A	04 45 51.4	
	comp=E,3.3nm,0.7s						
MDT	**Midelt**	**5.91**	**123**	P	**Pn**	**04 44 44.8**	**+0.7**
	SNR=41						
PAB	**San Pablo**	**5.93**	**53**	P	**Pn**	**04 44 45.5**	**+1.1**
	comp=E,0.1nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**04 45 48.3**	**-2.7**
	comp=E,0.4nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.00**	**18**	P	**Pn**	**04 44 46.9**	**+1.6**
	comp=E,0.2nm,0.4s,SNR=7.9						
ELOB				S	**Sn**	**04 45 50.4**	**-2.5**
	comp=E,2.7nm,0.2s,SNR=7.8						
PGAV	**Gavieira, Arco**	**6.05**	**16**	P	**Pn**	**04 44 48.0**	**+2.0**
PGAV				S	**Sn**	**04 45 52.5**	**-1.5**
	comp=E,3.3nm,0.5s						
PGAV	**Gavieira, Arco**	**6.05**	**16**	*e*Pn	**Pn**	**04 44 48.0**	**+2.0**
PGAV				*e*Sn	**Sn**	**04 45 52.5**	**-1.5

mb4.4/7, Error ellipse: s-maj=24.1km s-min=6.8km az=100.0

ISC 22 04:58:45.1±0.7, **63°13S**±0'09×**170°3E**±0'2, **h10**km, **n55**, σ0**s84**/36, **mb4.1**/8, **MS3.9**/12, **Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.71**	**187**	Pn	**Pn**	**05 02 12.7**	**0.0**
	0.5nm,0.3s,baz=29,slow=15,SNR=47						
VNDA				LR	LR	05 05 33.9	
	comp=Z,103nm,18.2s,baz=28,slow=28						
VNDA	**Vanda**	**14.71**	**187**		**Pn**	**05 02 12.3**	**-0.4**
ODZ	**Otahua Downs**	**18.13**	**1**		**Pn**	**05 02 55.6**	**-1.0**
ODZ				IAmb	IAmb	05 03 06.7	
	comp=Z,32nm,1.4s						
CASY	**Casey**	**24.89**	**236**	P	**P**	**05 04 08.0**	**+0.5**
URZ	**Urewera**	**25.24**	**13**	LR	LR	05 13 09.2	
	comp=Z,176nm,20.2s,baz=211,slow=34						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**05 04 26.4**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=34,slow=3.6,SNR=5.3						
QSPA				LR	LR	05 12 59.1	
	comp=Z,128nm,19.8s,baz=32,slow=32						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**05 04 26.1**	**-0.4**
QSPA				IAmb	IAmb	05 04 43.7	
	comp=Z,6.0nm,1.3s						
STKA	**Stephens Creek**	**36.19**	**316**	LR	LR	05 18 00.9	
	comp=Z,210nm,20.5s,baz=198,slow=32						
MAW	**Mawson**	**39.59**	**215**	P	**P**	**05 06 16.4**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=135,slow=10.0,SNR=5.8						
MAW				LR	LR	05 22 24.4	
	comp=Z,551nm,18.5s,baz=91,slow=36						
MAW	**Mawson**	**39.59**	**215**	P	**P**	**05 06 16.4**	**+0.5**
DZM	**Mont Dzumac**	**41.12**	**355**	*e*LR	LR	05 17 40.0	
	comp=Z,100nm,24.6s						
FORT	**Forrest**	**42.02**	**300**	P	**P**	**05 06 34.0**	**-2.3**
FORT				IAmb	IAmb	05 06 36.3	
	comp=Z,11nm,0.9s						
H01W1	**Cape Leeuwin H**	**44.34**	**282**	T	T	05 54 28.1	
	baz=147,slow=76,SNR=258						
H01W2	**Cape Leeuwin H**	**44.35**	**282**	T	T	05 54 28.3	
	baz=147,slow=76,SNR=294						
H01W3	**Cape Leeuwin H**	**44.36**	**282**	T	T	05 54 29.2	
	baz=147,slow=76,SNR=294						
NWAO	**Narrogin (SRO)**	**44.66**	**287**	LR	LR	05 19 27.9	
	comp=Z,67nm,21.0s,baz=21,slow=28						
SNAA	**Sanae**	**45.38**	**183**	P	**P**	**05 07 02.7**	**-0.3**
SNAA	**Sanae**	**45.38**	**183**	P	**P**	**05 07 02.5**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=187,slow=8.6,SNR=10						
SNAA				PcP	**PcP**	**05 08 42.3**	**+0.3**
	comp=Z,4.7nm,1.2s,baz=276,slow=2.1,SNR=4.7						
SNAA	**Sanae**	**45.38**	**183**	P	**P**	**05 07 02.5**	**-0.5**
SNAA				IAmb	IAmb	05 07 03.9	
	comp=Z,3.9nm,1.0s						
SNAA					**PcP**	**05 08 42.7**	**+0.7**
VNA3	**Neumayer Olymp**	**45.90**	**180**	P	**P**	**05 07 06.7**	**-0.3**
VNA2	**Neumayer--Watz**	**46.21**	**181**	P	**P**	**05 07 08.3**	**-1.1**
	baz=169,slow=6.6						
ASAR	**Alice Springs**	**46.31**	**311**	P	**P**	**05 07 11.8**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=156,slow=8.4,SNR=9.9						
ASAR				PcP	**PcP**	**05 08 46.9**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=154,slow=3.9,SNR=8.9						
ASAR				LR	LR	05 25 00.5	
	comp=Z,98nm,18.6s,baz=160,slow=34						
ASAR	**Alice Springs**	**46.31**	**311**	P	**P**	**05 07 09.7**	**-1.1**
ASAR					**PcP**	**05 08 45.6**	**-0.4**
VNA1	**Neumayer--Stat**	**46.49**	**181**	P	**P**	**05 07 10.3**	**-1.3**
WRA	**Warramunga Arr**	**49.62**	**313**	P	**P**	**05 07 37.4**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=6.5,slow=36,SNR=5.4						
WRA				PcP	**PcP**	**05 08 59.8**	**+2.0**
	comp=Z,2.4nm,1.0s,baz=155,slow=3.3,SNR=9.8						
WRA				LR	LR	05 27 26.1	
	comp=Z,170nm,18.2s,baz=145,slow=35						
PAE	**Paea**	**53.12**	**50**	*e*T	T	06 05 01.9	
	comp=Z,4.0nm,0.3s						
TVO	**Taravao**	**53.13**	**51**	*e*T	T	06 05 02.6	
	comp=Z,1.2nm,0.3s						
PPT2	**Papeete2**	**53.19**	**50**	*e*LR	LR	05 23 01.2	
	comp=Z,242nm,24.5s,baz=214						
PPT2	**Papeete2**	**53.19**	**50**	*e*T	T	06 05 08.0	
	comp=Z,7.3nm,0.3s						
PPT	**Papeete**	**53.21**	**50**	LR	LR	05 26 24.2	
	comp=Z,103nm,18.6s,baz=211,slow=31						
MEH	**Mehetia**	**53.46**	**52**	*e*T	T	06 05 27.6	
	comp=Z,17nm,0.3s						
VAH	**Vaihoa**	**56.05**	**51**	*e*T	T	06 08 41.7	
	comp=Z,118nm,0.3s						
TAOE	**Nuku Hiva Isla**	**64.67**	**56**	*e*LR	LR	05 28 20.3	
	comp=Z,166nm,23.2s						
H03S2	**Juan Fernandez**	**68.91**	**123**	T	T	06 25 37.7	
	baz=204,slow=74,SNR=67						
H03S1	**Juan Fernandez**	**68.91**	**123**	T	T	06 25 39.9	
	baz=204,slow=74,SNR=72						
H03S3	**Juan Fernandez**	**68.92**	**123**	T	T	06 25 40.1	
	baz=204,slow=74,SNR=59						
CPUP	**Villa Florida**	**83.20**	**138**	P	**P**	**05 11 11.7**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=284,slow=4.6,SNR=4.8						
CPUP	**Villa Florida**	**83.20**	**138**	P	**P**	**05 11 11.2**	**-0.1**
CPUP				IAmb	IAmb	05 11 12.9	
	comp=Z,4.0nm,1.1s						
BOSA	**Boshof**	**84.44**	**210**	LR	LR	05 45 35.5	
	comp=Z,143nm,20.6s,baz=178,slow=33						
H08S2	**Diego Garcia H**	**86.78**	**260**	T	T	06 47 37.3	
	baz=152,slow=76,SNR=27						
H08S1	**Diego Carcia H**	**86.78**	**260**	T	T	06 47 37.7	
	baz=152,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**86.80**	**260**	T	T	06 47 45.0	
	baz=152,slow=76,SNR=106						
LPAZ	**La Paz**	**88.85**	**125**	P	**P**	**05 11 40.7**	**+0.7**
	comp=Z,3.0nm,1.1s,baz=46,slow=2.0,SNR=5.7						
LPAZ	**La Paz**	**88.85**	**125**	P	**P**	**05 11 39.4**	**-0.7**
H06S1	**SOCORRO T**	**101.54**	**72**	T	T	07 06 07.7	
	SNR=8.4						
H06E1	**SOCORRO T-PHASE**	**101.59**	**72**	T	T	07 06 00.5	
	SNR=16						
ILAR	**Eielson Array**	**131.45**	**23**	PKP	**PKiKP**	**05 17 57.9**	**+1.0**
	comp=Z,20nm,0.5s,baz=253,slow=2.8,SNR=15						
NRIK	**Noril'sk**	**144.35**	**323**	PKP	**PKPdf**	**05 18 18.9**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=105,slow=2.0,SNR=4.2						
KBZ	**Khabaz**	**144.47**	**262**	PKP	**PKPab**	**05 18 19.1**	**+0.3**
	comp=Z,11nm,1.0s,baz=180,slow=3.5,SNR=14						
BRTR	**Keskin Array B**	**145.29**	**248**	PKPbc	**PKPbc**	**05 18 21.5**	**-0.5**
	comp=Z,11nm,1.0s,baz=163,slow=5.2,SNR=22						
BRTR	**Keskin Array B**	**145.29**	**248**		**PKPbc**	**05 18 21.6**	**-0.4**
AKASG	**Malin Array Be**	**155.84**	**257**	PKPab	**PKPab**	**05 19 05.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=124,slow=3.2,SNR=6.9						
AKASG	**Malin Array Be**	**155.84**	**257**		**PKPab**	**05 19 05.4**	**+0.5**
ESDC	**Sonseca Array**	**156.26**	**191**	PKPab	**PKPab**	**05 19 07.0**	**0.0**
	comp=Z,2.2nm,1.1s,baz=159,slow=4.3,SNR=5.8						
ESDC	**Sonseca Array**	**156.26**	**191**		**PKPab**	**05 19 07.0**	**0.0**

*TAP **22** 05:06:37.8, 24°.90N×122°.23E, h11km, ML3.4, C*
*JMA **22** 05:06:38.0±0.3, 24°.81N×122°.23E, h0km±3km, M3.4*

ISC 22 05:06:38.0±1.0, **24°.89N**±0°.02×**122°.24E**±0°.02, **h11**km±8km, **n92**, σ0**s76**/166, **1C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.26**	**298**	*i* P	**Pg**	**05 06 43.4**	**+0.1**
	baz=296						
TWB1				*i* S	**Sg**	**05 06 46.8**	**-0.1**
	baz=296						
NTC	**Toucheng**	**0.37**	**265**	*i* P	**Pg**	**05 06 45.7**	**+0.3**
	baz=271						
NTC				*e*S	**Sb**	**05 06 51.4**	**-1.1**
	baz=271						
TIPB	**Shuangxi**	**0.39**	**282**	*i* P	**Pg**	**05 06 45.9**	**+0.2**
	baz=281						
TIPB				*i* S	**Sg**	**05 06 51.4**	**+0.6**
	baz=281						
TWC	**Suao**	**0.45**	**232**	*i* P	**Pg**	**05 06 46.6**	**-0.2**
	baz=231						
TWC				S	**Sg**	**05 06 52.8**	**-0.1**
	baz=231						
NWF	**Wu-fen Shan**	**0.45**	**294**	*i* P	**Pb**	**05 06 47.4**	**-0.7**
	baz=292						
NWF				S	**Sg**	**05 06 53.5**	**+0.5**
	baz=292						
WFSB	**Wu-fen Shan**	**0.45**	**294**	P	**Pb**	**05 06 47.4**	**-0.6**
	baz=292						
WFSB				S	**Sg**	**05 06 53.3**	**+0.3**
	baz=292						
ILA	**Ilan**	**0.46**	**255**	P	**Pb**	**05 06 48.4**	**+0.2**
	baz=242						
ILA				*e*S	**Sb**	**05 06 55.5**	**+0.5**
	baz=242						
TWE	**Neicheng**	**0.55**	**252**	*i* P	**Pg**	**05 06 48.2**	**-0.4**
	baz=244						
TWE				S	**Sb**	**05 06 57.0**	**-0.5**
	baz=244						
ENAH	**Nanao**	**0.59**	**222**	*i* P	**Pg**	**05 06 49.5**	**0.0**
	baz=212						
ENAH				*i* S	**Sg**	**05 06 57.0**	**-0.1**
	baz=212						
TWA	**Mucha**	**0.60**	**279**	*i* P	**Pb**	**05 06 50.7**	**+0.1**
	baz=277						
TWA				*i* S	**Sb**	**05 06 59.2**	**+0.1**
	baz=277						
YM01	**YM01**	**0.66**	**293**	P	**Pb**	**05 06 51.6**	**0.0**
	baz=291						
YM01				S	**Sb**	**05 07 00.2**	**-0.5**
	baz=291						
YM08	**YM08**	**0.66**	**297**	*i* P	**Pb**	**05 06 51.3**	**-0.3**
	baz=295						
YM08				*e*S	**Sb**	**05 07 00.5**	**-0.3**
	baz=295						
ENTT	**Nioudou**	**0.66**	**248**	*i* P	**Pb**	**05 06 51.1**	**-0.5**
	baz=238						
ENTT				*e*S	**Sb**	**05 07 01.0**	**+0.2**
	baz=238						
YM11	**YM11**	**0.66**	**295**	P	**Pb**	**05 06 52.0**	**+0.4**
	baz=293						
YM11				S	**Sb**	**05 07 01.6**	**+0.7**
	baz=293						
TAP1	**Taipei**	**0.67**	**283**	P	**Pb**	**05 06 51.8**	**+0.2**
	baz=294						
TAP1				S	**Sb**	**05 07 00.9**	**0.0**
	baz=294						
YM10	**YM10**	**0.67**	**293**	P	**Pb**	**05 06 51.7**	**-0.1**
	baz=291						
YM10				S	**Sb**	**05 07 01.4**	**+0.3**
	baz=291						
NWLT	**Wulai**	**0.68**	**261**	P	**Pb**	**05 06 52.4**	**+0.5**
	baz=259						
TAP	**Taipei**	**0.68**	**283**	*e*S	**Sb**	**05 07 01.4**	**0.0**
	baz=294						
TATO	**Taipei**	**0.69**	**277**	P	**Pb**	**05 06 52.3**	**+0.3**
	baz=276						
TATO				S	**Sb**	**05 07 02.0**	**+0.5**
	baz=276						
YM04	**YM04**	**0.69**	**293**	P	**Pb**	**05 06 52.0**	**0.0**
	baz=291						
TWY	**Chenhua**	**0.70**	**304**	*i* P	**Pb**	**05 06 52.3**	**+0.1**
	baz=289						
TWY				*i* S	**Sb**	**05 07 02.2**	**+0.5**
	baz=289						
NDT	**Datong Townshi**	**0.72**	**247**	*i* P	**Pb**	**05 06 52.3**	**-0.3**
	baz=247						
NDT				S	**Sb**	**05 07 02.6**	**+0.1**
	baz=247						
PCYT	**Pengchaiyu**	**0.75**	**348**	*i* P	**Pb**	**05 06 53.2**	**+0.1**
	baz=340						
PCYT				S	**Sb**	**05 07 04.5**	**+1.0**
	baz=340						
NTST	**Danshui**	**0.77**	**291**	*i* P	**Pb**	**05 06 54.0**	**+0.7**
	baz=289						
NTST				S	**Sb**	**05 07 04.8**	**+1.0**
	baz=289						
TWS1	**Kuangyinshan**	**0.78**	**286**	*i* P	**Pb**	**05 06 53.7**	**+0.2**
	baz=295						
TWS1				*i* S	**Sb**	**05 07 05.0**	**+0.9**
	baz=295						
JYNG	**Yonaguni jima**	**0.78**	**124**	P	**Pg**	**05 06 52.6**	**-0.4**
JYNG				S	**Sg**	**05 07 03.6**	**+0.5**
YHNB	**Yeheng**	**0.81**	**255**	P	**Pb**	**05 06 53.9**	**-0.3**
	baz=263						
YHNB				*e*S	**Sb**	**05 07 05.0**	**-0.3**
	baz=263						
YOJ	**Yonaguni jima**	**0.82**	**121**	P	**Pb**	**05 06 54.2**	**-0.1**
	baz=123						
YOJ				S	**Sb**	**05 07 05.7**	**+0.4**
	baz=123						
YOJ	**Yonaguni jima**	**0.82**	**121**	P	**Pg**	**05 06 53.7**	**-0.1**
YOJ				S	**Sg**	**05 07 04.6**	**0.0**
NSK	**Sanguang**	**0.83**	**255**	*i* P	**Pb**	**05 06 54.0**	**-0.5**
	baz=264						
NSK				S	**Sb**	**05 07 05.7**	**0.0**
	baz=264						
NNSB	**Datong**	**0.91**	**240**	P	**Pb**	**05 06 55.4**	**-0.4**
	baz=231						
NNSB				S	**Sb**	**05 07 08.4**	**+0.5**
	baz=231						
NACB	**Ninganchiao**	**0.92**	**220**	P	**Pg**	**05 06 55.3**	**-0.5**
	baz=212						
NACB				S	**Sg**	**05 07 07.2**	**-0.6**
	baz=212						
NCUH	**Zhongli**	**0.96**	**275**	*e*P	**Pn**	**05 06 57.6**	**+0.2**
	baz=273						
ETLH	**Xiulin Townshi**	**0.97**	**226**	P	**Pg**	**05 06 56.5**	**-0.2**
	baz=216						
ETLH				S	**Sb**	**05 07 09.6**	**-0.1**
	baz=216						
TWD	**Chiawan**	**1.00**	**216**	*i* P	**Pg**	**05 06 56.6**	**-0.6**
	baz=218						
TWD				S	**Sb**	**05 07 10.6**	**+0.2**
	baz=218						
FUSS	**Fushou**	**1.11**	**235**	P	**Pg**	**05 06 58.9**	**-0.5**
	baz=228						
FUSS				S	**Sb**	**05 07 14.4**	**+0.5**
	baz=228						
LIOB	**Emei**	**1.14**	**258**	*i* P	**Pg**	**05 06 59.3**	**-0.6**
	baz=258						
LIOB				*e*S	**Sn**	**05 07 15.9**	**+0.3**
	baz=258						
NSTT	**Nanjuang**	**1.16**	**257**	*i* P	**Pn**	**05 07 00.3**	**+0.2**
	baz=257						
NSTT				*e*S	**Sn**	**05 07 16.4**	**+0.5**
	baz=257						
WHF	**Hehuan Shan**	**1.16**	**230**	*i* P	**Pb**	**05 07 00.1**	**-0.2**
	baz=231						
WHF				*i* S	**Sb**	**05 07 15.9**	**+0.4**
	baz=231						
TWT	**Tachien**	**1.16**	**237**	*i* P	**Pn**	**05 07 00.5**	**+0.2**
	baz=231						
TWT				*i* S	**Sn**	**05 07 16.1**	**-0.1**
	baz=231						
TDCB	**Techi**	**1.17**	**237**	P	**Pb**	**05 07 00.4**	**+0.1**
	baz=231						
TDCB				S	**Sb**	**05 07 16.4**	**+0.8**
	baz=231						
CHGB	**Renai**	**1.27**	**230**	P	**Pn**	**05 07 02.5**	**+0.5**
	baz=231						
CHGB				S	**Sn**	**05 07 19.8**	**+0.6**
	baz=231						
ESL	**Shilin**	**1.30**	**215**	P	**Pn**	**05 07 02.2**	**+0.1**
	baz=224						
ESL				S	**Sb**	**05 07 19.6**	**+0.5**
	baz=224						
WHP	**Taichung City**	**1.33**	**243**	*i* P	**Pg**	**05 07 03.4**	**-0.1**
	baz=244						
WHP				S	**Sn**	**05 07 20.9**	**+0.6**
	baz=244						
NMLH	**Miaoli**	**1.36**	**255**	*e*P	**Pg**	**05 07 03.9**	**-0.3**
	baz=255						
NMLH				*e*S	**Sn**	**05 07 23.0**	**+1.9**
	baz=255						
EGFH	**Guangfu**	**1.42**	**212**	P	**Pn**	**05 07 04.2**	**+0.4**
	baz=230						
EGFH				S	**Sg**	**05 07 23.4**	**-0.4**
	baz=230						
NSY	**Sanyi**	**1.43**	**251**	*e*P	**Pg**	**05 07 04.9**	**-0.5**
	baz=262						
NSY				*e*S	**Sg**	**05 07 25.2**	**+1.3**
	baz=262						
TWQ1	**Liyutan**	**1.44**	**248**	P	**Pg**	**05 07 05.3**	**-0.3**
	baz=265						
TWQ1				*e*S	**Sg**	**05 07 24.0**	**-0.3**
	baz=265						
IRIF	**Iriomote-Funau**	**1.47**	**112**	P	**Pb**	**05 07 05.6**	**+0.3**
IRIF				*e*S	**Sb**	**05 07 24.9**	**+1.0**
VWDT	**VWDT**	**1.51**	**222**	P	**Pb**	**05 07 06.2**	**+0.1**
	baz=232						
VWDT				S	**Sg**	**05 07 26.1**	**-0.5**
	baz=232						
HGSD	**Ruisui**	**1.58**	**208**	P	**Pn**	**05 07 06.4**	**+0.5**
	baz=211						
HGSD				S	**Sg**	**05 07 28.5**	**-0.3**
	baz=211						
SMLT	**Sun Moon Lake**	**1.58**	**231**	*i* P	**Pg**	**05 07 08.0**	**-0.4**
	baz=232						
SMLT				S	**Sg**	**05 07 29.0**	**+0.1**
	baz=232						
TYC	**Yuchr**	**1.60**	**232**	*i* P	**Pg**	**05 07 08.7**	**0.0**
	baz=226						
TYC				*e*S	**Sg**	**05 07 29.7**	**+0.3**
	baz=226						
SSLB	**Suanglung**	**1.61**	**227**	P	**Pb**	**05 07 07.8**	**+0.1**
	baz=229						
SSLB				S	**Sb**	**05 07 28.5**	**+0.5**
	baz=229						
EHY	**Hungye**	**1.61**	**212**	*i* P	**Pn**	**05 07 06.2**	**-0.2**
	baz=213						
EHY				S	**Sn**	**05 07 27.9**	**+0.7**
	baz=213						
HATJ	**Hateruma jima**	**1.65**	**120**	P	**Pb**	**05 07 08.6**	**+0.2**
HATJ				*e*S	**Sg**	**05 07 30.6**	**-0.5**
YULB	**Yu-li**	**1.72**	**210**	P	**Pn**	**05 07 07.7**	**-0.2**
	baz=212						
YULB				*e*S	**Sn**	**05 07 30.2**	**+0.3**
	baz=212						
WHYT	**Xinyi Township**	**1.73**	**227**	P	**Pb**	**05 07 10.2**	**+0.3**
	baz=215						
WHYT				*e*S	**Sg**	**05 07 33.8**	**-0.1**
	baz=215						
JKRS	**Kuro-shima**	**1.74**	**112**	P	**Pn**	**05 07 07.3**	**-0.8**
WNT	**Mingjian**	**1.74**	**235**	*e*S	**Sg**	**05 07 35.0**	**+1.1**
	baz=254						
WJS	**Zhushan**	**1.74**	**233**	S	**Sg**	**05 07 34.9**	**+0.9**
	baz=233						
EYUL	**Yuli**	**1.75**	**209**	*e*S	**Sb**	**05 07 31.8**	**-0.3**
	baz=226						
TWF1	**Yuli**	**1.76**	**210**	*e*P	**Pn**	**05 07 08.0**	**-0.4**
	baz=211						
TWF1				*e*S	**Sn**	**05 07 31.6**	**+0.9**
	baz=211						
JIJ	**Ishigaki jima**	**1.81**	**106**	P	**Pn**	**05 07 10.3**	**+1.2**
FULB	**Fuli**	**1.89**	**207**	*i* P	**Pn**	**05 07 10.3**	**0.0**
	baz=224						
FULB				S	**Sb**	**05 07 36.8**	**+0.6**
	baz=224						
ALS	**Alishan**	**1.90**	**224**	*i* P	**Pb**	**05 07 13.4**	**+0.5**
	baz=211						
ALS				S	**Sb**	**05 07 37.4**	**+0.7**
	baz=211						
CHN5	**Tsauling**	**1.92**	**228**	*i* P	**Pb**	**05 07 13.7**	**+0.6**
	baz=229						
CHN5				S	**Sb**	**05 07 37.8**	**+0.7**
	baz=229						
WDLH	**Douliu**	**1.96**	**233**	S	**Sg**	**05 07 39.9**	**-1.1**
	baz=233						
EDH	**Donghe**	**2.09**	**204**	P	**Pn**	**05 07 12.3**	**-0.7**
	baz=194						
EDH				S	**Sn**	**05 07 38.5**	**-0.5**
	baz=194						
TPUB	**Ta-pu**	**2.16**	**223**	P	**Pb**	**05 07 16.4**	**-0.8**
	baz=207						
TPUB				S	**Sb**	**05 07 45.1**	**+1.2**
	baz=207						
STYT	**Tauyuan**	**2.19**	**219**	P	**Pb**	**05 07 16.4**	**-1.3**
	baz=219						
STYT				S	**Sb**	**05 07 45.7**	**+0.9**
	baz=219						
WTP	**Ta-pu**	**2.21**	**223**	S	**Sb**	**05 07 46.8**	**+1.4**
	baz=207						
LONT	**Longtian**	**2.22**	**207**	*e*P	**Pn**	**05 07 15.0**	**+0.3**
	baz=198						
LONT				S	**Sn**	**05 07 42.3**	**+0.1**
	baz=198						
TWK	**Hsinying**	**2.27**	**225**	*i* P	**Pb**	**05 07 18.2**	**-1.0**
	baz=225						
TWK				S	**Sb**	**05 07 48.3**	**+1.0**
	baz=225						
CHN1	**Nanshi**	**2.31**	**223**	*i* P	**Pb**	**05 07 18.5**	**-1.2**
	baz=224						
CHN1				S	**Sb**	**05 07 48.9**	**+0.7**
	baz=224						
LDUT	**Ludao**	**2.32**	**198**	P	**Pn**	**05 07 14.7**	**-1.4**
	baz=202						
LDUT				S	**Sn**	**05 07 43.9**	**-0.7**
	baz=202						
PTTC	**Pingtan**	**2.32**	**286**	*e*P	**Pn**	**05 07 15.0**	**-1.1**
	baz=283						
PTTC				*e*S	**Sn**	**05 07 45.2**	**+0.6**
	baz=283						
TWG	**Pinlang**	**2.32**	**208**	*e*S	**Sn**	**05 07 45.4**	**+0.6**
	baz=199						
TWGBT	**Beinan**	**2.32**	**207**	*e*S	**Sn**	**05 07 44.5**	**-0.2**
	baz=199						
ICHU	**Yijhu**	**2.35**	**230**	*e*P	**Pn**	**05 07 18.5**	**+1.9**
	baz=231						
ICHU				*e*S	**Sb**	**05 07 50.4**	**+1.0**
	baz=231						
SGST	**Jiashian**	**2.35**	**220**	*e*S	**Sb**	**05 07 49.3**	**-0.2**
	baz=206						
SLGT	**Liugui**	**2.38**	**218**	P	**Pb**	**05 07 19.6**	**-1.4**
	baz=219						
SLGT				S	**Sb**	**05 07 50.6**	**+0.2**
	baz=219						
MATB	**Ma-tsu**	**2.42**	**302**	*e*P	**Pn**	**05 07 16.4**	**-1.1**
	baz=297						
MATB				*e*S	**Sn**	**05 07 44.6**	**-2.6**
	baz=297						
SSD	**Sandimen**	**2.59**	**215**	*e*P	**Pn**	**05 07 22.0**	**+2.1**
	baz=199						
TSMG	**Majia**	**2.62**	**214**	*e*P	**Pn**	**05 07 22.5**	**+2.2**
	baz=202						
TSMG				S	**Sb**	**05 07 55.7**	**-1.5**
	baz=202						
MASBT	**Mashibuluo**	**2.70**	**213**	P	**Pb**	**05 07 24.7**	**-1.7**
	baz=201						
MASBT				S	**Sb**	**05 07 58.0**	**-1.6**
	baz=201						
LYJJ	**Jianjiangzhen**	**2.78**	**307**	*e*P	**Pn**	**05 07 21.1**	**-1.4**
	baz=303						
LYJJ				*e*S	**Sn**	**05 07 53.5**	**-2.5**
	baz=303						
PHUB	**P'eng-hu**	**2.79**	**241**	*e*S	**Sn**	**05 07 57.9**	**+1.6**
	baz=240						
PTMZ	**Houxiangcun**	**2.83**	**274**	*e*P	**Pn**	**05 07 23.2**	**0.0**
	baz=272						
LAY	**Lan-yu**	**2.91**	**193**	P	**Pn**	**05 07 23.6**	**-0.7**
	baz=197						
SLIU	**Shizi**	**2.97**	**207**	*e*P	**Pn**	**05 07 26.4**	**+1.3**
	baz=201						
SLIU				*e*S	**Sn**	**05 08 01.2**	**+0.4**
	baz=201						
MHZQ	**Yeshan**	**3.14**	**293**	*e*P	**Pn**	**05 07 27.8**	**+0.4**
	baz=291						
MHZQ				*e*S	**Sn**	**05 08 05.8**	**+0.9**
	baz=291						

WEL 22 05:06:49.8, 43°S±2°×**17°1E**±°, **h5**km±3km, **M2.3**/6, **ML2.3**/7, **MLv2.3**/6, **Error ellipse: s-maj=0.0km s-min=0.0km az=168.2, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVZ	**Waitaha Valley**	**0.24**	**343**	P	Pg	05 06 56.0	+1.6
GCSZ	**Gaunt Creek Bo**	**0.37**	**268**	P	Pb	05 06 58.6	-0.2
RPZ	**Rata Peaks**	**0.44**	**159**	P	Pb	05 07 00.2	+0.1
MHCZ	**Mount Hutt**	**0.58**	**113**	P	Pb	05 07 02.7	+0.2
ARCZ	**Arundel**	**0.69**	**159**	P	Pb	05 07 04.7	+0.4
INZ	**Inchbonnie**	**0.73**	**38**	P	Pg	05 07 04.2	+0.4
FOZ	**Fox Glacier**	**0.78**	**253**	P	Pb	05 07 06.4	+0.7
WACZ	**Wakanui South**	**0.97**	**131**	P	Pn	05 07 10.3	+0.3
LTZ	**Lake Taylor**	**1.18**	**64**	P	Pn	05 07 13.7	+0.7
LBZ	**Lake

comp=E,330nm,0.1s
BOK Bokaro 5.56 81 *e*P **Pn 05 20 10.2 -0.8**
BOK *e*S **Sn 05 21 20.6 +5.7**
HYB Hyderabad 5.74 193 *i* P Pn 05 20 19.5 +6.0
HYB *e*S **Sn 05 21 16.0 -3.4**
PYUN Piuthan 5.76 28 *e*Pn **Pn 05 20 15.7 +1.7**
PYUN *e*Sn **Sn 05 21 18.7 -1.6**
comp=E,143nm,0.3s
KOLN Koldanda 5.78 35 *e*Pn **Pn 05 20 15.1 +0.9**
KOLN *e*Sn **Sn 05 21 19.1 -1.6**
comp=E,150nm,0.3s
BWNR Bhubaneshwar 6.14 115 *e*P **Pn 05 20 17.0 -2.0**
BWNR *e*S **Sn 05 21 29.4 +0.1**
BWNR IAML 05 21 35.7
comp=N,43nm,0.2s
BWNR IAML 05 21 38.4
comp=E,46nm,0.2s
DANN Dangsing 6.33 33 *e*Pn **Pn 05 20 23.4 +1.5**
DANN *e*Sn **Sn 05 21 31.8 -2.7**
comp=E,118nm,0.3s
GKN Gorkha 6.54 40 *e*Pn **Pn 05 20 25.7 +1.1**
GKN *e*Sn **Sn 05 21 36.4 -3.0**
comp=E,246nm,0.3s
DMN Daman 6.55 45 *e*Pn **Pn 05 20 26.4 +1.5**
PKIN Phulchoki 6.72 47 *e*Pn **Pn 05 20 28.4 +1.1**
PKIN *e*Sn **Sn 05 21 42.5 -1.6**
comp=E,115nm,0.5s
PKI Pulchoki 6.73 47 *e*Pn **Pn 05 20 28.5 +1.1**
KKN Kakani 6.79 45 *e*Pn **Pn 05 20 29.0 +0.9**
KKN *e*Sn **Sn 05 21 43.1 -2.5**
comp=E,48nm,0.2s
POO Poona 7.22 233 *e*P **Pn 05 20 35.3 +1.4**
POO *e*S **Sn 05 21 52.3 -3.7**
RAMN Ramite 7.22 56 *e*Pn **Pn 05 20 35.8 +1.7**
GUN Gumba 7.26 47 *e*Pn **Pn 05 20 35.2 +0.4**
GUN *e*Sn **Sn 05 21 55.0 -2.5**
comp=E,83nm,0.3s
ODAN Odare 7.79 59 *e*Pn **Pn 05 20 43.1 +1.2**
ODAN *e*Sn **Sn 05 22 07.8 -2.6**
comp=E,52nm,0.2s
SMLA Simla 8.41 344 *ex* Pn 05 20 44.9 -5.2
SMLA *e*S **Sn 05 22 19.9 -5.3**
CMAR Chiang Mai Arr 18.39 101 P **P 05 23 05.8 +2.4**
comp=E,1.1nm,0.3s,baz=294,slow=12,SNR=4.8
MKAR Makanchi Array 23.78 4 P **P 05 24 01.6 +0.7**
comp=E,0.5nm,0.6s,baz=198,slow=12,SNR=3.5
KURBB Kurchatov Arra 27.55 358 P **P 05 24 36.0 +0.9**
comp=E,0.8nm,0.9s,baz=188,slow=9.1,SNR=4.4
FINES FINESS Array B 52.94 331 P **P 05 28 04.3 -0.1**
comp=E,5.8nm,1.1s,baz=115,slow=13,SNR=4.0
ASAR Alice Springs 70.07 128 P **P 05 30 01.2 +0.4**
comp=E,0.8nm,1.0s,baz=311,slow=5.3,SNR=7.4

*IGQ **22** 05:18:56.1±0.7, 3°S±4°×8°1W±°, h10km, M4.2*
ISC 22 05:18:52.9±1.6, 3.33S±0.05×80.86W±0.10, h10km, n36, α2.9°01/37, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ISPG	**Isla Puna-Puer**	**0.78**	**63**	P			**Pn**	**05 19 13.6**	**+3.6**
ARNL	**Arenillas**	**0.82**	**105**	P			**Pn**	**05 19 11.1**	**+0.5**
MORR	**Playas El Morr**	**0.86**	**37**	P			**Pn**	**05 19 13.7**	**+2.7**
MORR				S			**Sn**	**05 19 26.0**	**+2.3**
MCRA	**Macar, Loja**	**1.37**	**139**	P			**Pg**	**05 19 19.5**	**+0.2**
MCRA				S			**Sg**	**05 19 36.0**	**-1.2**
AMIL	**Milagro (Trans**	**1.73**	**47**	P			**Pg**	**05 19 26.4**	**+0.2**
PPLP	**Puerto Lpez**	**1.77**	**3**	P			**Pg**	**05 19 26.8**	**-0.2**
PPLP				S			**Sb**	**05 19 47.8**	**-0.1**
COHC	**Cochancay**	**1.82**	**62**	P			**Pg**	**05 19 26.7**	**-1.1**
BOSC	**San Juan Bosco**	**2.37**	**86**	P			**Pb**	**05 19 35.7**	**0.0**
CAB1	**Cabo Pasado-Ma**	**2.96**	**8**	P			**Pb**	**05 19 44.2**	**-1.5**
CABP	**Cabo Pasado**	**2.96**	**8**	P			**Pb**	**05 19 44.2**	**-1.5**
BMAS	**Trigal station**	**2.99**	**53**	P			**Pb**	**05 19 44.8**	**-1.8**
ARRY	**Arrayan**	**3.01**	**53**	P			**Pb**	**05 19 44.9**	**-2.0**
BPAT	**Tungurahua Vol**	**3.03**	**53**	P			**Pn**	**05 19 42.6**	**+1.3**
RETU	**Refugio**	**3.05**	**52**	P			**Pb**	**05 19 46.9**	**-0.7**
BRUN	**Tungurahua Vol**	**3.09**	**52**	P			**Pb**	**05 19 46.3**	**-1.9**
FLFR	**Flavio Alfaro**	**3.12**	**19**	P			**Pb**	**05 19 45.9**	**-2.6**
PIS1	**Pisayambo**	**3.35**	**48**	P			**Pb**	**05 19 50.7**	**-2.0**
APUY	**Puyo**	**3.41**	**57**	P			**Pn**	**05 19 47.8**	**+1.5**
VCES	**Cotopaxi**	**3.52**	**44**	P			**Pb**	**05 19 54.4**	**-1.2**
BMOR	**Cotopaxi Volca**	**3.52**	**43**	P			**Pb**	**05 19 53.7**	**-2.1**
BNAS	**Cotopaxi Volca**	**3.55**	**42**	P			**Pb**	**05 19 53.7**	**-2.6**
BTAM	**Cotopaxi Volca**	**3.61**	**43**	P			**Pb**	**05 19 54.3**	**-2.8**
TAMB	**Tambo**	**3.61**	**44**	P			**Pb**	**05 19 55.9**	**-1.3**
VC1	**Cotopaxi 1**	**3.63**	**43**	P			**Pb**	**05 19 56.2**	**-1.3**
ARDO	**Archidona, Ten**	**3.84**	**53**	P			**Pb**	**05 19 57.3**	**-3.5**
ANTS	**Antisana-Sarah**	**3.89**	**44**	P			**Pb**	**05 19 59.4**	**-2.7**
ANTI	**Antisana**	**3.93**	**43**	P			**Pb**	**05 20 01.3**	**-1.4**
PULU	**Pululahua**	**4.08**	**35**	P			**Pb**	**05 20 01.8**	**-3.4**
PAC1	**Pacto, Paraso**	**4.13**	**30**	*e*P			**Pn**	**05 19 58.1**	**+1.9**
PAC1	**Pacto, Paraso**	**4.13**	**30**	P			**Pn**	**05 19 59.3**	**+3.1**
OTAV	**Otavalo**	**4.28**	**34**	*e*P			**Pn**	**05 19 59.5**	**+0.9**
CUSE	**Cuicocha Este**	**4.37**	**34**	*e*P			**Pn**	**05 20 00.4**	**+0.6**
CUIC	**Cuicocha-Domo**	**4.39**	**35**	P			**Pn**	**05 19 58.9**	**-1.1**
BBAC	**Balboa, Cauca**	**6.43**	**34**	*e*P			**Pn**	**05 20 30.4**	**+2.6**
SOTA	**Rioblanco**	**6.89**	**38**	*e*P			Pn	05 20 41.1	+6.5
POPC	**Popayan, Colom**	**7.17**	**36**	*e*P			Pn	05 20 45.9	+7.7

WEL 22 05:20:11.1, 43°S±47°×17°1E±2°4, h14km±17km, M2.1/6, ML2.2/6, MLv2.1/6, Error ellipse: s-maj=0.1km s-min=0.0km az=155.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.22**	**342**	P			Pb	05 20 17.3	+0.3
GCSZ	**Gaunt Creek Bo**	**0.37**	**265**	P			Pb	05 20 19.8	+0.3
RPZ	**Rata Peaks**	**0.46**	**159**	P			Pb	05 20 21.5	+0.5
MHCZ	**Mount Hutt**	**0.59**	**115**	P			Pb	05 20 23.9	+0.5
ARCZ	**Arundel**	**0.71**	**159**	P			Pb	05 20 25.9	+0.6
INZ	**Inchbonnie**	**0.72**	**39**	P			Pb	05 20 25.4	-0.1
FOZ	**Fox Glacier**	**0.78**	**251**	P			Pn	05 20 28.3	+0.6
WACZ	**Wakanui South**	**0.99**	**132**	P			Pn	05 20 32.3	+1.8
LTZ	**Lake Taylor**	**1.17**	**65**	P			Pg	05 20 34.8	+1.1
LBZ	**Lake Benmore**	**1.20**	**203**	P			Pg	05 20 36.1	+1.9
DSZ	**Denniston Nort**	**1.70**	**25**	P			Pg	05 20 43.9	+0.1

*MOS **22** 05:24:24.8±1.0, 64°54N×17°60W, h10km, mb4.6/15, Error ellipse: s-maj=14.9km s-min=10.0km az=111.2*
*IDC **22** 05:24:24.7±0.6, 64°63N×17°68W, h0km, mb4.0/15, mb1 4.3/17, mb1mx4.1/41, mbtmp4.0/17, ML3.5/2, Error ellipse: s-maj=19.8km s-min=11.5km az=15.0*
*REY **22** 05:24:24.3, 64°67N×17°51W, h8km*
*BGS **22** 05:24:24.9±2.2, 64°54N×17°73W, h5km, mb4.7(NEIC)*
*NEIC **22** 05:24:26.7±2.7, 64°5N±0°1×17°73W±0°06, h10km±1km, mb4.7/39, Error ellipse: s-maj=17.9km s-min=3.9km az=189.0*
ISC 22 05:24:26.4±0.3, 64°64N±0°02×17°59W±0°02, h10km, n172, α2.9°02/169, mb4.5/46, MS4.1/5, 7C-2D, Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.08**	**296**	P			**Pg**	**05 24 26.7**	**-2.1**
	baz=272								
IVON				S			**Sg**	**05 24 29.1**	**-1.5**
	baz=272								
IDYN	**Dyngjuhals**	**0.18**	**32**	P			**Pg**	**05 24 27.4**	**-2.9**
	baz=26								
IDYN				S			**Sg**	**05 24 30.3**	**-2.8**
	baz=26								
IDJK	**Dyngjujokull**	**0.20**	**131**	P			**Pg**	**05 24 28.6**	**-2.2**
	baz=145								
IURH	**Urdarhals**	**0.26**	**46**	P			**Pg**	**05 24 28.7**	**-3.2**
	baz=46								
IURH				S			**Sg**	**05 24 32.2**	**-3.2**
	baz=46								
IGRF	**Grimsfjall**	**0.27**	**149**	P			**Pg**	**05 24 29.8**	**-2.2**
	baz=158								
IGRF				S			**Sg**	**05 24 34.7**	**-1.0**
	baz=158								
IHUS	**Husbondi**	**0.35**	**185**	P			**Pg**	**05 24 31.9**	**-1.4**
	baz=190								
ISKR	**Skrokkalda**	**0.35**	**257**	P			**Pg**	**05 24 31.7**	**-1.7**
	baz=254								
IKVE	**Kverkfjoll**	**0.40**	**84**	P			**Pg**	**05 24 31.3**	**-3.0**
	baz=88								
IKVE				S			**Sg**	**05 24 36.4**	**-3.1**
	baz=88								
IVOT	**Vottur**	**0.41**	**154**	P			**Pg**	**05 24 32.1**	**-2.4**
	baz=160								
IJOK	**Jokulheimar**	**0.42**	**221**	P			**Pg**	**05 24 32.9**	**-1.9**
	baz=221								
IKRE	**Kreppuhraun**	**0.54**	**74**	P			Pg	05 24 33.1	-3.8
	baz=76								
IKRE				S			**Sg**	**05 24 40.4**	**-3.6**
	baz=76								
IASK	**Askja**	**0.58**	**44**	P			Pg	05 24 33.9	-3.8
	baz=43								
IASK				S			**Sg**	**05 24 41.7**	**-3.6**
	baz=43								
IIEY	**Innrieyrar**	**0.59**	**203**	P			**Pg**	**05 24 35.6**	**-2.4**
	baz=205								
IIEY				S			**Sb**	**05 24 44.5**	**-2.8**
	baz=205								
IMKO	**Mokollar**	**0.64**	**57**	P			Pg	05 24 34.9	-3.8
	baz=58								
IMKO				S			**Sg**	**05 24 43.8**	**-3.3**
	baz=58								
IKSK	**Karasker**	**0.68**	**134**	P			**Pg**	**05 24 36.0**	**-3.6**
	baz=138								
IKAL	**Kalfafell**	**0.69**	**183**	P			**Pg**	**05 24 37.1**	**-2.7**
	baz=186								
IKAL				S			**Sb**	**05 24 48.2**	**-2.0**
	baz=186								
ISVA	**Svartarkot**	**0.72**	**11**	P			Pg	05 24 36.5	-3.8
	baz=9.0								
ISVA				S			**Sg**	**05 24 46.3**	**-3.3**
	baz=9.0								
IVAT	**Vatnsfell**	**0.73**	**232**	P			**Pg**	**05 24 38.3**	**-2.2**
	baz=232								
IVSH	**V-Sauoahnukur**	**0.82**	**77**	P			Pg	05 24 37.8	-4.4
	baz=79								
IHVE	**Hveravellir**	**0.88**	**286**	P			**Pg**	**05 24 40.1**	**-3.2**
	baz=284								
IHVE				S			**Sg**	**05 24 52.5**	**-2.3**
	baz=284								
IADA	**Aoalbol**	**0.94**	**65**	P			Pg	05 24 39.8	-4.8
	baz=66								
ISNB	**Snabyli**	**1.01**	**207**	P			**Pg**	**05 24 42.8**	**-3.1**
	baz=208								
ISNB				S			**Sn**	**05 24 57.7**	**-3.3**
	baz=208								
IMEL	**Melhnausar**	**1.01**	**22**	P			Pb	05 24 41.2	-4.9
	baz=21								
IREN	**Reynihlio**	**1.05**	**16**	P			Pb	05 24 42.0	-4.7
	baz=14								
ISLY	**Slysaalda**	**1.05**	**220**	P			**Pg**	**05 24 43.6**	**-3.1**
	baz=220								
IFED	**Fedgar**	**1.10**	**237**	P			**Pg**	**05 24 44.6**	**-3.0**
	baz=237								
IKVO	**Krokottuvotn**	**1.12**	**15**	P			Pn	05 24 43.1	-5.1
	baz=14								
IRJU	**Pjupnafell**	**1.13**	**205**	P			**Pg**	**05 24 45.0**	**-3.1**
	baz=206								
IMJO	**Mjoaskard**	**1.15**	**233**	P			**Pg**	**05 24 45.4**	**-3.2**
	baz=233								
IGRS	**Grimsstaoir**	**1.18**	**31**	P			Pn	05 24 44.0	-4.9
	baz=30								
IHAU	**Haukadalur**	**1.23**	**238**	P			**Pb**	**05 24 46.7**	**-3.1**
	baz=238								
IHVO	**Lagu-Hvolar**	**1.25**	**207**	P			**Pb**	**05 24 46.9**	**-3.1**
	baz=208								
ISKI	**Skildingahlsh**	**1.26**	**11**	P			Pn	05 24 45.5	-4.6
	baz=9.3								
IGHA	**Grjothals**	**1.27**	**17**	P			Pn	05 24 45.4	-4.8
	baz=16								
IGRA	**Granastaoir**	**1.28**	**0**	P			Pn	05 24 45.7	-4.7
	baz=359								
IALF	**Alftagrof**	**1.35**	**212**	P			**Pn**	**05 24 48.5**	**-2.8**
	baz=213								
IHLA	**Hella**	**1.35**	**346**	P			**Pn**	**05 24 47.4**	**-4.0**
	baz=344								
IDIM	**Dimmadalss**	**1.36**	**11**	P			Pn	05 24 47.0	-4.5
	baz=10								
IESK	**Eystri-Skogar**	**1.39**	**217**	P			**Pn**	**05 24 49.0**	**-2.7**
	baz=218								
ISAU	**Saurbar**	**1.39**	**243**	P			**Pn**	**05 24 48.8**	**-3.1**
	baz=243								
IMID	**Miomork**	**1.41**	**227**	P			**Pn**	**05 24 49.8**	**-2.3**
	baz=227								
IHED	**Heoinshofoi**	**1.45**	**5**	P			Pn	05 24 48.5	-4.3
	baz=3.3								
IHED				S			**Sn**	**05 25 08.3**	**-3.5**
	baz=3.3								
IBRE	**Brettingsstaoi**	**1.50**	**355**	P			**Pn**	**05 24 49.3**	**-4.0**
	baz=354								
IGIL	**Gilhagi**	**1.54**	**19**	P			Pn	05 24 49.5	-4.4
	baz=18								
ISIG	**Siglufjorour**	**1.60**	**340**	P			**Pn**	**05 24 51.2**	**-3.5**
	baz=339								
BORG	**Borgarnes**	**1.61**	**276**	Pn			**Pn**	**05 24 52.0**	**-2.9**
	126nm,0.3s,baz=96,slow=8.8,SNR=159								
BORG							Sn	**Sb**	**05 25 14.9**	**-1.6**
	82nm,0.3s,baz=267,slow=23,SNR=11								
BORG							LR	LR	05 25 17.1	
	comp=Z,290nm,20.9s,baz=65,slow=33								
BORG	**Borgarnes**	**1.61**	**276**	Pn			**Pn**	**05 24 52.2**	**-2.7**
IKRO	**Krokur**	**1.63**	**252**	P			**Pn**	**05 24 52.2**	**-2.9**
	baz=252								
IHEI	**Heioarbar**	**1.64**	**256**	P			**Pn**	**05 24 52.8**	**-2.5**
	baz=255								
IHRN	**Hraun**	**1.82**	**325**	P			**Pn**	**05 24 54.6**	**-3.1**
	baz=324								
ISAN	**Sandskeio**	**1.83**	**253**	P			**Pn**	**05 24 55.2**	**-2.7**
	baz=253								
IKUD	**Kuludalsa**	**1.88**	**262**	P			**Pn**	**05 24 56.3**	**-2.3**
	baz=262								
IKAS	**Kald??rsel**	**1.96**	**253**	P			**Pn**	**05 24 57.0**	**-2.6**
	baz=253								
IVOS	**Vogsosar**	**1.96**	**248**	P			**Pn**	**05 24 58.0**	**-1.7**
	baz=248								
LEWI	**Lewis, Hebride**	**8.29**	**137**	*e*P			**Pn**	**05 26 24.7**	**-1.9**
KAC	**Achnashellach**	**9.30**	**135**	*e*P			**Pn**	**05 26 39.0**	**-1.4**
KPL	**Plockton**	**9.32**	**136**	*e*P			**Pn**	**05 26 39.4**	**-1.3**
MCD	**Coleburn Disti**	**9.89**	**129**	*e*P			**Pn**	**05 26 47.8**	**-0.6**
INVG	**Invergeldie, C**	**10.57**	**135**	*e*P			**Pn**	**05 26 56.6**	**-1.2**
EAB	**Aberfoyle**	**10.69**	**136**	*e*P			**Pn**	**05 26 58.7**	**-0.7**
SUMG	**Summit**	**10.94**	**326**	*e*P			Pn	05 27 08.9	+5.7
SUMG	**Summit**	**10.94**	**326**	Pn			**Pn**	**05 27 03.8**	**+0.7**
SUMG	**Summit**	**10.94**	**326**	*i* P			Pn	05 27 08.9	+5.7
SUMG	**Summit**	**10.94**	**326**	*e*P			Pn	05 27 08.9	+5.8
PGBU	**Glenifferbraes**	**10.97**	**138**	*e*P			**Pn**	**05 27 01.9**	**-1.3**
NEWG	**New Galloway**	**11.64**	**139**	*e*P			**Pn**	**05 27 11.4**	**-1.0**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn			**Pn**	**05 27 13.6**	**-0.5**
	baz=322,slow=13,SNR=15								
ESK	**Eskdalemuir**	**11.77**	**136**	*e*P			**Pn**	**05 27 13.6**	**-0.6**
ESK	**Eskdalemuir**	**11.77**	**136**	P			**Pn**	**05 27 13.4**	**-0.7**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn			**Pn**	**05 27 13.4**	**-0.7**
NOA	**NORSAR Array B**	**13.57**	**92**	Pn			**Pn**	**05 27 37.5**	**-1.3**
	0.0nm,0.3s,baz=297,slow=15,SNR=2.5								
CLL	**Collm**	**20.73**	**115**	*i* P			**P**	**05 29 07.0**	**+0.3**
	comp=Z,34nm,1.7s								
CLL				*i* PP			**PnPn**	**05 29 22.5**	**-2.0**
CLL	**Collm**	**20.73**	**115**	*i* P			**P**	**05 29 07.0**	**+0.3**
CLL				pmax			pmax		
	comp=Z,34nm,1.7s								
BRG	**Berggiesshubel**	**21.44**	**115**	*e*P			**P**	**05 29 14.4**	**+0.1**
	comp=Z,14nm,1.0s								
BRG	**Berggiesshubel**	**21.44**	**115**	*e*P			**P**	**05 29 14.4**	**+0.1**
BRG				pmax			pmax		
	comp=Z,14nm,1.0s								
VSU	**Vasula**	**21.61**	**86**	*e*P			**P**	**05 29 16.3**	**+0.2**
VSU				pmax			pmax		
	comp=Z,101nm,1.2s								
PRU	**Pruhonice**	**22.37**	**116**	*e*P			P	05 29 32.9	+8.5
PRU	**Pruhonice**	**22.37**	**116**	*e*P			P	05 29 32.9	+8.5
CHVC	**Chvalec**	**22.49**	**113**	*e*P			**P**	**05 29 24.7**	**-1.0**
KHC	**Kasperske Hory**	**22.70**	**118**	*e*P			**P**	**05 29 27.3**	**-0.6**
KHC	**Kasperske Hory**	**22.70**	**118**	*e*P			**P**	**05 29 27.3**	**-0.6**
KHC	**Kasperske Hory**	**22.70**	**118**	P			**P**	**05 29 27.6**	**-0.3**
DPC	**Dobruska-Polom**	**22.79**	**113**	*e*P			**P**	**05 29 29.4**	**+0.5**
DPC	**Dobruska-Polom**	**22.79**	**113**	*e*P			**P**	**05 29 29.4**	**+0.5**
GERES	**GERESS Array B**	**22.98**	**118**	P			**P**	**05 29 30.7**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=322,slow=8.5,SNR=4.8								
GERES	**GERESS Array B**	**22.98**	**118**	P			**P**	**05 29 29.4**	**-1.5**
EUNU	**Eureka**	**23.68**	**336**	P			**P**	**05 29 38.8**	**+1.1**
EUNU				IAmb			IAmb	05 29 41.4	
	comp=Z,18nm,1.1s								
MORC	**Moravsky Berou**	**23.72**	**112**	P			**P**	**05 29 38.1**	**-0.2**
MORC				pmax			pmax		
	comp=Z,23nm,1.5s								
MORC	**Moravsky Berou**	**23.72**	**112**	P			**P**	**05 29 38.1**	**-0.2**
MORC				IAmb			IAmb	05 29 50.2	
	comp=Z,22nm,1.5s								
OJC	**Ojcow**	**24.29**	**109**	P			**P**	**05 29 44.3**	**+0.7**
OJC				pmax			pmax		
	comp=Z,4.0nm,0.9s								
OJC	**Ojcow**	**24.29**	**109**	P			**P**	**05 29 44.3**	**+0.7**
VYHS	**Vyhne**	**25.26**	**112**	*e*P			**P**	**05 29 50.0**	**-2.4**
VYHS	**Vyhne**	**25.26**	**112**	*e*P			**P**	**05 29 50.0**	**-2.4**
ESDC	**Sonseca Array**	**26.24**	**156**	P			**P**	**05 30 01.7**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=347,slow=9.2,SNR=12								
AKASG	**Malin Array Be**	**27.88**	**97**	P			**P**	**05 30 15.8**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=324,slow=9.7,SNR=4.6								
OBN	**Obninsk**	**27.93**	**84**	*e*P			**P**	**05 30 16.5**	**+0.2**
OBN				*PP			**P**	**05 30 20.0**	**+3.7**
OBN								05 31 06.0	
OBN				pmax			pmax		
	comp=Z,9.0nm,1.0s								
OBN				MLR			MLR		
	comp=Z,116nm,15.0s								
KIRV	**Kirov**	**31.03**	**69**	*e*P			**P**	**05 30 44.3**	**+0.5**
NRIK	**Noril'sk**	**36.50**	**35**	*e*P			**P**	**05 31 31.3**	**+0.1**
NRIK				pmax			pmax		
	comp=Z,9.0nm,1.5s								
SOC	**Sochi**	**37.90**	**95**	*e*P			**P**	**05 31 46.2**	**+2.8**
SOC				*e*PPP			PPP	05 33 37.4	
SOC				*e*S			**S**	**05 37 40.8**	**+6.3**
SOC				*e*SS			**SnSn**	**05 40 14.7**	**-0.7**
SOC				MLR			MLR		
	comp=Z,101nm,12.0s								
KBZ	**Khabaz**	**39.15**	**92**	P			**P**	**05 31 55.2**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=293,slow=11,SNR=3.9								
KBZ	**Khabaz**	**39.15**	**92**	*e*P			**P**	**05 31 55.3**	**+1.4**
KBZ				pmax			pmax		
	comp=Z,12nm,1.9s								
YKA	**Yellowknife Ar**	**39.20**	**313**	P			**P**	**05 31 53.0**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=41,slow=9.6,SNR=3.9								
YKA	**Yellowknife Ar**	**39.20**	**313**	P			**P**	**05 31 53.0**	**-1.1**
ABKAR	**Akbulak array**	**42.04**	**73**	P			**P**	**05 32 18.8**	**+1.1**
ABKAR	**Akbulak array**	**42.04**	**73**	P			**P**	**05 32 17.1**	**-0.5**
TIXI	**Tiksi**	**42.07**	**15**	*e*P			**P**	**05 32 18.9**	**+1.3**
BMAR	**Burnt Mountain**	**42.90**	**333**	P			**P**	**05 32 28.5**	**+4.0**
BRVK	**Borovoye**	**43.18**	**62**	*e*P			**P**	**05 32 27.3**	**+0.4**
BRVK				pmax			pmax		
	comp=Z,4.0nm,1.0s								
BRVK	**Borovoye**	**43.18**	**62**	P			**P**	**05 32 27.3**	**+0.4**
ILAR	**Eielson Array**	**45.69**	**332**	P			**P**	**05 32 47.5**	**+0.7**
	comp=Z,4.7nm,1.2s,baz=22,slow=6.1,SNR=12								
ILAR				PcP			**PcP**	**05 34 24.4**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=355,slow=4.3,SNR=9.6								
ILAR	**Eielson Array**	**45.69**	**332**	P			**P**	**05 32 48.5**	**+1.7**
IMAR	**Indian Mountai**	**45.87**	**337**	P			**P**	**05 32 49.7**	**+1.5**
BCAR	**Beaver Creek A**	**46.11**	**328**	P			**P**	**05 32 51.8**	**+1.6**
WCI	**Wyandotte Cave**	**47.21**	**271**	P			**P**	**05 33 00.5**	**+1.5**
WCI				pmax			pmax		
	comp=Z,9.0nm,1.0s								
WCI	**Wyandotte Cave**	**47.21**	**271**	P			**P**	**05 33 00.5**	**+1.5**
WCI				IAmb			IAmb	05 33 00.6	
	comp=Z,8.7nm,0.9s								
ZALV	**Zalesovo Beam**	**47.68**	**51**	P			**P**	**05 33 02.5**	**0.0**
	comp=Z,1.4nm,0.7s,baz=345,slow=5.2,SNR=6.5								
ZALV	**Zalesovo Beam**	**47.68**	**51**	P			**P**	**05 33 02.2**	**-0.3**
KURK	**Kurchatov**	**48.16**	**58**	*e*P			**P**	**05 33 06.2**	**0.0**
KURK				pmax			pmax		
	comp=Z,8.0nm,1.0s								
KURK	**Kurchatov**	**48.16**	**58**	P			**P**	**05 33 04.5**	**-1.7**
KURK				IAmb			IAmb	05 33 09.1	
	comp=Z,6.7nm,0.9s								
KURBB	**Kurchatov Arra**	**48.20**	**58**	P			**P**	**05 33 05.9**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=324,slow=7.3,SNR=26								
T47A	**Sharon Grove**	**48.60**	**270**	P			**P**	**05 33 10.7**	**+0.9**
EGMT	**Eagleton**	**48.85**	**297**	P			**P**	**05 33 12.8**	**+1.1**
PMR	**Palmer**	**49.00**	**332**	P			**P**	**05 33 14.2**	**+1.7**
PMR				pmax			pmax		
	comp=Z,11nm,1.2s								
PMR	**Palmer**	**49.00**	**332**	P			**P**	**05 33 14.2**	**+1.7**
PMR				IAmb			IAmb	05 33 15.5	
	comp=Z,11nm,1.2s								
W50A	**Signal Mountai**	**49.34**	**268**	P			**P**	**05 33 17.1**	**+1.5**
KKAR	**Karatay Array**	**51.32**	**70**	P			**P**	**05 33 30.8**	**+0.3**
KKAR	**Karatay Array**	**51.32**	**70**	P			**P**	**05 33 30.8**	**+0.3**
BOZ	**Bozeman (W)**	**51.58**	**297**	P			**P**	**05 33 33.6**	**+1.1**
BOZ				pmax			pmax		
	comp=Z,6.0nm,1.0s								
BOZ	**Bozeman (W)**	**51.58**	**297**	P			**P**	**05 33 33.6**	**+1.1**
DGZ	**Jazzator, Alta**	**52.13**	**53**	*e*P			**P**	**05 33 37.7**	**+1.2**
DGZ				pmax			pmax		
	comp=Z,4.0nm,1.1s								
MK31	**Makanchi Array**	**52.77**

comp=Z,89nm,15.3s

HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P		**P**	**05 35 25.1**	**+2.4**
HHC				PP		**PP**	**05 37 56.1**	**+5.1**
HHC				S		**S**	**05 44 20.8**	**+1.7**
HHC	**Hu-ho-hao-te**	**67.56**	**40**	SS		SS	05 48 43.5	+5.0
HHC				pmax	pmax			
	comp=Z,19nm,0.9s							
HHC				pmax	pmax			
	comp=Z,83nm,6.3s							
HHC				LR	LR			
	comp=N,170nm,13.9s							
HHC				LR	LR			
	comp=E,130nm,17.3s							
HHC				LR	LR			
	comp=Z,110nm,14.0s							
LZH	**Lanzhou**	**69.68**	**47**	*e*P		**P**	**05 35 35.8**	**-0.3**
LZH				*e*PP		**PP**	**05 38 12.1**	**+2.6**
LZH				pmax	pmax			
	comp=Z,20nm,1.3s							
LZH				pmax	pmax			
	comp=Z,120nm,5.9s							
LZH				LR	LR			
	comp=N,150nm,16.0s							
LZH				LR	LR			
	comp=E,150nm,16.2s							
LZH				LR	LR			
	comp=Z,230nm,18.3s							
CMAR	**Chiang Mai Arr**	**84.18**	**59**	P		**P**	**05 36 57.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=318,slow=6.6,SNR=7.1							
ASAR	**Alice Springs**	**135.01**	**38**	PKP		**PKPdf**	**05 43 45.6**	**+0.3**
	comp=Z,1.1nm,1.1s,baz=337,slow=2.1,SNR=5.4							

BJI 22 05:34:53.6±0.0, 31.51N×115.51E, h8km, ML3.8/14, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHN	**Wuhan**	**1.39**	**226**	Pg	Pb	05 35 19.9	+0.2
WHN				Sg	Sg	05 35 38.5	+0.3
WHN				smax	smax		
	comp=N,6μm,1.2s						
WHN				smax	smax		
	comp=E,2μm,0.4s						
NJ2	**Nanjing**	**2.90**	**78**	*e*Pn	Pn	05 35 39.6	-0.4
NJ2				Pg	Pb	05 35 45.8	+0.3
NJ2				Sg	Sb	05 36 22.4	+1.2
NJ2				smax	smax		
	comp=N,280nm,0.5s						
NJ2				smax	smax		
	comp=E,210nm,0.5s						
TIA	**Tai'an**	**4.88**	**16**	Pg	Pg	05 36 26.1	-0.9
TIA				Sg	Sb	05 37 21.6	+3.5
TIA				smax	smax		
	comp=N,57nm,0.9s						
TIA				smax	smax		
	comp=E,76nm,0.9s						
XAN	**Xi'an**	**6.09**	**296**	Pn	Pn	05 36 25.6	+1.6
XAN				Pg	Pg	05 36 45.9	-4.5
XAN				Sn	Sn	05 37 31.8	-2.2
XAN				Sg	Sg	05 38 07.0	-2.3
XAN				smax	smax		
	comp=E,76nm,1.0s						
XAN				smax	smax		
	comp=E,88nm,0.9s						
QIZ	**Qiongzhong**	**13.44**	**204**	P	Pn	05 38 04.9	+0.2
QIZ				S	Sn	05 40 37.4	+3.1
GTA	**Gaotai**	**15.01**	**306**	*e*P	Pn	05 38 23.9	-2.3
GTA				pP	P	05 38 29.0	-2.7
GTA				sP	pP	05 38 32.3	-1.8
WMQ	**Urumqi**	**25.09**	**307**	*e*P	P	05 40 20.4	+1.7

WEL 22 06:05:50.4, 43°S±270°×17°2E±9°5, h7km±131km, M2.6/4, ML2.7/4, MLv2.6/4, Error ellipse: s-maj=0.4km s-min=0.1km az=177.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MHCZ	**Mount Hutt**	**0.79**	**195**	P	Pn	06 06 07.5	-0.5
WVZ	**Waitaha Valley**	**0.87**	**249**	P	Pn	06 06 08.9	-0.2
RPZ	**Rata Peaks**	**1.11**	**211**	P	Pn	06 06 13.4	+1.0
GCSZ	**Gaunt Creek Bo**	**1.24**	**243**	P	Pb	06 06 11.5	-2.7
ARCZ	**Arundel**	**1.28**	**202**	P	Pg	06 06 17.8	+2.9
FOZ	**Fox Glacier**	**1.67**	**242**	P	Pn	06 06 20.5	+0.4
LBZ	**Lake Benmore**	**2.02**	**216**	P	Pb	06 06 27.6	+0.2

IDC 22 06:09:01.0±2.7, 19.99N×38.50E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/37, mbtmp4.0/4, MS3.5/5, Ms1 3.5/5, ms1mx3.0/43, Error ellipse: s-maj=83.3km s-min=25.9km az=155.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**24.69**	**39**	LR	LR	06 25 35.8	
	comp=Z,40nm,18.2s,baz=5.0,slow=40						
GERES	**GERESS Array B**	**35.01**	**331**	P	P	06 15 55.1	-0.2
	0.9nm,0.8s,baz=142,slow=8.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**35.87**	**265**	P	P	06 16 02.9	-0.1
	2.6nm,0.8s,baz=74,slow=8.3,SNR=18						
TORD				LR	LR	06 31 55.1	
	comp=Z,99nm,18.1s,baz=95,slow=38						
KURBB	**Kurchatov Arra**	**43.89**	**36**	P	P	06 17 09.6	+0.3
	1.7nm,0.8s,baz=242,slow=8.0,SNR=6.0						
DBIC	**Dimbokro**	**44.07**	**259**	LR	LR	06 35 39.0	
	comp=Z,72nm,20.0s,baz=25,slow=36						
MKAR	**Makanchi Array**	**44.49**	**43**	P	P	06 17 13.7	-0.5
	1.7nm,0.9s,baz=248,slow=6.4,SNR=8.3						
CMAR	**Chiang Mai Arr**	**56.81**	**81**	LR	LR	06 46 21.1	
	comp=Z,9.6nm,18.0s,baz=305,slow=39						
YKA	**Yellowknife Ar**	**95.08**	**348**	LR	LR	07 07 18.0	
	comp=Z,65nm,18.4s,baz=0.0,slow=37						

IDC 22 06:10:53.6±7.8, 6.24S×127.49E, h474km±104km, mb3.4/2, mb1 3.5/4, mb1mx3.0/30, mbtmp4.3/4, Error ellipse: s-maj=129.9km s-min=39.6km az=62.0
DJA 22 06:10:54.3±0.2, 7.5S×12.7E±.7, h459km±4km, M4.2/18, mb4.2/18, mB4.6/9, MLv4.7/17, Mw(mB)3.8/9
ISC 22 06:10:53.9±0.8, 6.80S±0.07×126.65E±0.10, h450km, n23, σ1°66/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.45**	**27**	P	**P**	**06 12 06.8**	**+2.3**
NLAI	**Namlea**	**3.56**	**7**	P	**P**	**06 12 07.7**	**+2.3**
NLAI				S	**S**	**06 13 04.9**	**+1.4**
SOEI	**Soe**	**3.77**	**219**	P	**P**	**06 12 09.8**	**+2.5**
SOEI				S	**S**	**06 13 08.3**	**+1.5**
BATI	**Baumata**	**4.49**	**221**	P	**P**	**06 12 15.8**	**+2.2**
BATI				S	**S**	**06 13 19.8**	**+1.4**
MMRI	**Maumere**	**4.74**	**247**	P	**P**	**06 12 15.7**	**-0.1**
SANI	**Sanana**	**4.76**	**352**	P	**P**	**06 12 17.9**	**+1.8**
SAUI	**Saumlaki**	**4.76**	**105**	P	**P**	**06 12 17.4**	**+1.3**
EDFI	**Ende, Flores**	**5.28**	**248**	P	**P**	**06 12 21.0**	**-0.2**
	0.2nm550nm42nm,0.7s						
BSSI	**Bau Bau, Buton**	**6.15**	**276**	P	**P**	**06 12 31.6**	**+1.7**
	0.3nm795nm64nm,0.6s						
BKSI	**Bulukumba**	**6.65**	**282**	P	**P**	**06 12 35.9**	**+0.8**
	0.4nm984nm102nm,0.7s						
FAKI	**Fak Fak**	**6.78**	**56**	P	**P**	**06 12 36.2**	**-0.2**
	0.6nm3μm114nm,0.5s						
BASI	**Baing, Sumba**	**6.90**	**240**	P	**P**	**06 12 37.7**	**+0.1**
	0.5nm1μm37nm,0.5s						
LUWI	**Luwuk**	**6.90**	**326**	P	**P**	**06 12 39.4**	**+1.7**
	0.5nm4μm80nm,0.5s						
SPSI	**Sidrap Palu**	**7.40**	**292**	P	**P**	**06 12 43.6**	**+0.6**
	0.2nm28nm,0.6s						
APSI	**Ampana**	**7.68**	**319**	P	**P**	**06 12 48.2**	**+2.2**
TTSI	**Tana Toraja**	**7.76**	**298**	P	**P**	**06 12 48.8**	**+2.0**
	0.2nm995nm32nm,0.6s						
GTOI	**Gorontalo**	**8.23**	**334**	P	**P**	**06 12 53.9**	**+2.0**
	22nm,0.6s						
PLAI	**Plampang**	**9.02**	**256**	P	**P**	**06 12 58.9**	**-1.6**
MPSI	**Mapaga**	**9.78**	**316**	P	**P**	**06 13 09.4**	**+0.7**
	7.5nm,0.6s						
WRA	**Warramunga Arr**	**15.05**	**151**	P	**P**	**06 14 05.3**	**-0.4**
	1.5nm,0.3s,baz=333,slow=10,SNR=53						
ASAR	**Alice Springs**	**18.16**	**158**	P	**P**	**06 14 38.2**	**-0.2**
	1.7nm,0.3s,baz=349,slow=14,SNR=70						
STKA	**Stephens Creek**	**28.59**	**153**	P	**P**	**06 16 11.9**	**-0.1**
	5.3nm,0.5s,baz=335,slow=10,SNR=18						
KURBB	**Kurchatov Arra**	**70.63**	**330**	P	**P**	**06 21 20.0**	**-2.8**
	0.8nm,0.7s,baz=131,slow=5.1,SNR=5.1						

MOS 22 06:12:48.7±0.7, 54.28N×111.19E, h12km, mb4.4/2, Error ellipse: s-maj=11.0km s-min=5.9km az=75.8
IDC 22 06:12:48.6±0.8, 54.30N×111.18E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.8/40, mbtmp3.8/14, ML3.3/3, MS3.1/5, Ms1 3.1/5, ms1mx2.8/46, Error ellipse: s-maj=19.2km s-min=13.4km az=136.0
BYKL 22 06:12:49.9±0.2, 54.34N×111.16E
ISC 22 06:12:49.5±0.5, 54.30N±0.02×111.29E±0.02, h10km, n83, σ2°15/140, mb4.0/13, 12C-12D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.58**	**353**	↑*i*Pg	**Pg**	**06 12 59.7**	**-1.1**
YLYR				Pmax		06 13 01.0	
	3μm,0.7s						
YLYR				*e*Sg	**Sg**	**06 13 07.0**	**-1.4**
YLYR				Smax		06 13 07.5	
	14μm,0.3s						
YLYR	**Ulyunkhan**	**0.58**	**353**	↑*i*PG	**Pg**	**06 12 59.7**	**-1.1**
YLYR				*e*		06 13 07.0	
YLYR				pmax	pmax		
	comp=Z,2μm,0.3s						
YLYR				smax	smax		
	comp=N,9μm,0.5s						
SYVR	**Suvo**	**1.00**	**230**	↓↓*i*Pg	**Pg**	**06 13 07.6**	**-1.0**
	comp=N,102nm,0.5s						
SYVR				↓↓*i*Pg	**Pg**	**06 13 07.6**	**-1.0**
	comp=N,171nm,0.5s						
SYVR				↑↑*i*Pg	**Pg**	**06 13 07.6**	**-1.0**
	comp=N,220nm,0.5s						
SYVR				Pmax		06 13 10.4	
	comp=N,429nm,0.4s						
SYVR				*e*Sg	**Sg**	**06 13 21.0**	**-0.6**
SYVR				*e*Sb	**Sn**	**06 13 25.6**	**+2.0**
SYVR				max		06 13 26.1	
	comp=N,4μm,0.2s						
SYVR	**Suvo**	**1.00**	**230**	↑*i*PG	**Pg**	**06 13 07.6**	**-1.0**
SYVR				*e*		06 13 20.9	
SYVR				pmax	pmax		
	comp=Z,537nm,0.3s						
SYVR				smax	smax		
	comp=E,4μm,0.4s						
KMO	**Kumora**	**1.59**	**358**	↑*i*Pg	**Pn**	**06 13 17.8**	**+0.1**
KMO				Pmax		06 13 18.3	
	comp=E,2μm,0.5s						
KMO				*e*Sg	**Sn**	**06 13 38.6**	**+0.3**
KMO				Smax		06 13 42.1	
	comp=E,9μm,0.9s						
KMO	**Kumora**	**1.59**	**358**	↑*i*PN	**Pn**	**06 13 17.8**	**+0.1**
KMO				*e*		06 13 37.7	
KMO				pmax	pmax		
	comp=Z,2μm,0.4s						
KMO				smax	smax		
	comp=N,9μm,1.0s						
NIZ	**Nizh Angarsk**	**1.79**	**326**	↑*i*Pg	**Pn**	**06 13 20.7**	**+0.3**
NIZ				Pmax		06 13 21.5	
	comp=N,542nm,0.3s						
NIZ				*e*Sg	**Sn**	**06 13 43.9**	**+0.7**
NIZ				Smax		06 13 46.7	
	comp=N,4μm,0.5s						
NIZ	**Nizh Angarsk**	**1.79**	**326**	↑*i*PN	**Pn**	**06 13 21.0**	**+0.6**
NIZ				*e*		06 13 44.2	
NIZ				pmax	pmax		
	comp=Z,2μm,1.9s						
NIZ				smax	smax		
	comp=N,4μm,1.0s						
UKT	**Uakit**	**1.80**	**48**	↓↓*i*Pn	**Pn**	**06 13 22.3**	**+1.6**
UKT				↓↓*i*Pg	**Pb**	**06 13 23.0**	**+0.4**
UKT				Pmax		06 13 24.3	
	comp=N,977nm,0.7s						
UKT				*e*Sg	**Sg**	**06 13 47.8**	**+0.4**
UKT				Smax		06 13 52.4	
	comp=N,2μm,1.2s						
UKT	**Uakit**	**1.80**	**48**	↓↓*i*PN	**Pn**	**06 13 22.3**	**+1.6**
UKT				*e*		06 13 48.4	
UKT				pmax	pmax		
	comp=Z,978nm,0.8s						
UKT				smax	smax		
	comp=E,2μm,1.5s						
MXMB	**Maximikha**	**1.83**	**236**	*e*Pn	**Pn**	**06 13 21.0**	**0.0**
MXMB				*e*Pg	**Pb**	**06 13 21.9**	**-1.2**
MXMB				*e*Sg	**Sb**	**06 13 46.5**	**+0.5**
YOA	**Uoyan**	**1.85**	**8**	*e*Pg	**Pn**	**06 13 21.1**	**-0.2**
YOA				Pmax		06 13 24.3	
	comp=E,2μm,0.3s						
YOA				*e*Sg	**Sb**	**06 13 46.4**	**-0.3**
YOA				Smax		06 13 52.4	
	comp=E,26μm,1.1s						
YOA	**Uoyan**	**1.85**	**8**	*e*PN	**Pn**	**06 13 21.2**	**-0.1**
YOA				*i*		06 13 46.9	
YOA				pmax	pmax		
	comp=Z,2μm,0.2s						
YOA				smax	smax		
	comp=N,6μm,0.8s						
SVKR	**Severomuysk**	**2.24**	**35**	*e*Pn	**Pn**	**06 13 26.6**	**0.0**
SVKR				*e*Pg	**Pb**	**06 13 31.1**	**+1.1**
SVKR				Pmax		06 13 33.8	
	comp=N,1μm,0.8s						
SVKR				*e*Sn	**Sb**	**06 13 58.0**	**+0.2**
SVKR				*e*Sg	**Sg**	**06 14 02.0**	**+0.7**
SVKR				Smax		06 14 06.5	
	comp=N,7μm,1.0s						
SVKR	**Severomuysk**	**2.24**	**35**	*e*PN	**Pb**	**06 13 30.6**	**+0.6**
SVKR				*e*		06 14 01.1	
SVKR				pmax	pmax		
	comp=Z,1μm,1.0s						
SVKR				smax	smax		
	comp=N,7μm,1.2s						
OGRR	**Ongureny**	**2.28**	**255**	↓↓*i*Pn	**Pn**	**06 13 28.3**	**+1.2**
OGRR				*e*Pg	**Pb**	**06 13 30.4**	**-0.3**
OGRR				*e*		06 13 33.4	
OGRR				max		06 13 36.2	
	comp=N,252nm,0.5s						
OGRR				*e*Sn	**Sn**	**06 13 56.2**	**+0.9**
OGRR				*e*Sg	**Sb**	**06 14 00.1**	**+1.2**
OGRR				Smax		06 14 00.8	
	comp=N,1μm,0.5s						
OGRR	**Ongureny**	**2.28**	**255**	↓↓*i*PN	**Pn**	**06 13 28.5**	**+1.4**
OGRR				*e*		06 13 59.8	
OGRR				pmax	pmax		
	comp=Z,337nm,1.6s						
OGRR				smax	smax		
	comp=N,1μm,1.0s						
KELR	**Kotokel**	**2.46**	**232**	*e*Pn	**Pb**	**06 13 32.1**	**-1.6**
KELR				*e*Pg	**Pg**	**06 13 34.1**	**-2.5**
KELR				*e*Sn	**Sn**	**06 13 59.8**	**+0.1**
KELR				*e*Sg	**Sg**	**06 14 06.2**	**-2.2**
CIT	**Chita**	**2.66**	**148**	*e*Pg	**Pb**	**06 13 37.6**	**+0.4**
CIT				*e*		06 13 42.4	
CIT				max		06 13 42.8	
	comp=N,683nm,0.8s						
CIT				*e*Sg	**Sg**	**06 14 15.1**	**+0.3**
CIT				Smax		06 14 17.4	
	comp=N,3μm,0.5s						
CIT	**Chita**	**2.66**	**148**	*e*PN	**Pn**	**06 13 32.7**	**+0.3**
CIT				*e*		06 13 37.4	
CIT				*e*S	**Sn**	**06 14 05.1**	**+0.4**
CIT				*e*		06 14 13.9	
CIT				pmax	pmax		
	comp=Z,684nm,0.8s						
CIT				smax	smax		
	comp=E,3μm,0.4s						
UUDB	**Ulan-Yde**	**3.27**	**223**	*e*Pn	**Pn**	**06 13 41.7**	**+0.9**
UUDB				*e*Pg	**Pb**	**06 13 48.5**	**+0.9**
UUDB				Pmax		06 13 54.8	
	comp=E,222nm,0.4s						
UUDB				*e*Sg	**Sg**	**06 14 32.1**	**-2.4**
UUDB				Smax		06 14 38.2	
	comp=E,3μm,1.4s						
TRG	**Tyrgan**	**3.33**	**244**	↓↓*i*Pn	**Pn**	**06 13 41.7**	**+0.1**
TRG				*e*Pg	**Pb**	**06 13 47.5**	**-1.1**
TRG				Pmax		06 13 49.6	
	comp=E,81nm,0.6s						
TRG				*e*Sn	**Sn**	**06 14 20.6**	**-0.6**
TRG				*e*Sg	**Sb**	**06 14 30.5**	**+1.4**
TRG				Smax		06 14 34.9	
	comp=E,592nm,0.4s						
TRG	**Tyrgan**	**3.33**	**244**	↓↓*i*PN	**Pn**	**06 13 41.7**	**+0.1**
TRG				*e*		06 13 48.4	
TRG				*e*S	**Sn**	**06 14 20.3**	**-0.9**
TRG				*e*		06 14 30.5	
TRG				pmax	pmax		
	comp=Z,70nm,0.5s						
TRG				smax	smax		
	comp=N,584nm,0.3s						
NLYR	**Nelyaty**	**3.34**	**47**	*e*Pn	**Pn**	**06 13 43.1**	**+1.4**
NLYR				*e*Pg	**Pb**	**06 13 50.6**	**+1.8**
NLYR				Pmax		06 13 53.4	
	comp=N,385nm,0.6s						
NLYR				*e*Sg	**Sb**	**06 14 33.9**	**+4.5**
NLYR				Smax		06 14 46.2	
	comp=N,2μm,1.4s						
NLYR	**Nelyaty**	**3.34**	**47**	*e*PN	**Pn**	**06 13 43.2**	**+1.5**
NLYR				*e*		06 13 50.7	
NLYR				*e*		06 13 33.3	
NLYR				pmax	pmax		
	comp=Z,385nm,0.6s						
NLYR				smax	smax		
	comp=E,2μm,1.4s						
FFNB	**Fofonovo**	**3.54**	**232**	*e*Pn	**Pn**	**06 13 44.7**	**+0.3**
FFNB				*e*Pg	**Pb**	**06 13 52.7**	**+0.6**
FFNB				*e*Sg	**Sb**	**06 14 38.2**	**+3.1**
KAB	**Kabansk**	**3.58**	**233**	*e*Pg	**Pb**	**06 13 53.4**	**+0.5**
KAB				Pmax		06 14 00.4	
	comp=E,266nm,0.5s						
KAB				*e*Sg	**Sb**	**06 14 39.8**	**+3.3**
KAB				Smax		06 15 03.1	
	comp=E,5μm,1.8s						
STDB	**Stepnoy Dvoret**	**3.65**	**236**	*e*Pg	**Pb**	**06 13 55.6**	**+1.6**
STDB				*e*Sg	**Sg**	**06 14 43.8**	**-2.7**
HRMR	**Khuramsha**	**3.75**	**226**	*e*Pn	**Pn**	**06 13 48.7**	**+1.4**
HRMR				*e*Pg	**Pb**	**06 13 56.7**	**+1.0**
HRMR				Pmax		06 14 03.1	
	comp=E,321nm,0.5s						
HRMR				*e*Sn	**Sn**	**06 14 30.5**	**-0.9**
HRMR				*e*Sg	**Sg**	**06 14 46.5**	**-3.2**
HRMR				Smax		06 14 49.8	
	comp=E,3μm,0.7s						
BOD	**Bodaibo**	**3.84**	**22**	*e*Pn	**Pn**	**06 13 48.7**	**+0.1**
BOD				*e*Pg	**Pb**	**06 13 58.0**	**+0.7**
BOD				Pmax		06 14 00.5	
	comp=E,95nm,0.7s						
BOD				*e*		06 14 23.6	
BOD				*e*Sg	**Sb**	**06 14 47.5**	**+3.7**
BOD				Smax		06 14 54.5	
	comp=E,716nm,1.1s						
BOD	**Bodaibo**	**3.84**	**22**	*e*PN	**Pn**	**06 13 48.7**	**+0.1**
BOD				*e*		06 13 59.5	
BOD				*e*		06 14 48.2	
BOD				pmax	pmax		
	comp=Z,90nm,0.8s						
BOD				smax	smax		
	comp=E,720nm,0.5s						
LSTR	**Listvyanka**	**4.59**	**241**	↓↓*i*Pn	**Pn**	**06 13 59.0**	**+0.1**
LSTR				*e*Pg	**Pb**	**06 14 10.7**	**+0.6**
LSTR				Pmax		06 14 49.7	
	comp=E,31nm,0.6s						
LSTR				*e*		06 14 49.7	
LSTR				*e*Sg	**Sb**	**06 15 09.5**	**+4.1**
LSTR				Smax		06 15 19.9	
	comp=E,260nm,1.3s						
KPC	**Khapcheranga**	**4.65**	**171**	↑*i*Pn	**Pn**	**06 14 00.5**	**+0.7**
KPC				*e*Pg	**Pb**	**06 14 13.9**	**+2.7**
KPC				Pmax		06 14 19.8	
	comp=E,107nm,0.6s						
KPC				*e*		06 14 32.9	
KPC				*e*Sn	**Sn**	**06 14 52.8**	**-1.1**
KPC				*e*Sg	**Sg**	**06 15 14.9**	**-3.9**
KPC				Smax		06 15 18.8	
	comp=E,996nm,1.2s						
KPC	**Khapcheranga**	**4.65**	**171**	*e*PN	**Pn**	**06 14 00.5**	**+0.7**
KPC				*e*		06 14 12.9	
KPC				*e*S	**Sn**	**06 14 52.8**	**-1.1**
KPC				*e*		06 15 14.8	
KPC				pmax	pmax		
	comp=Z,107nm,0.6s						
KPC				smax	smax		
	comp=E,995nm,1.8s						
IRK	**Irkutsk**	**4.69**	**247**	*e*Sg	**Sb**	**06 15 12.6**	**+4.4**
IRK				Smax		06 15 27.2	
	comp=E,977nm,0.9s						
CRS	**Chara**	**4.74**	**54**	*e*Pn	**Pn**	**06 14 02.4**	**+1.4**
CRS				*e*		06 14 04.7	
CRS				*e*Pg	**Pb**	**06 14 15.9**	**+3.3**
CRS				Pmax		06 14 24.0	
	comp=E,190nm,1.3s						
CRS				*e*		06 15 03.6	
CRS				*e*Sg	**Sg**	**06 15 19.0**	**-2.5**
CRS				Smax		06 15 27.5	
	comp=E,785nm,1.9s						
CRS	**Chara**	**4.74**	**54**	*e*PN	**Pn**	**06 14 01.9**	**+0.9**
CRS				*e*		06 14 17.2	
CRS				*e*		06 15 18.3	
CRS				pmax	pmax		
	comp=Z,191nm,1.0s						
CRS				smax	smax		
	comp=E,685nm,1.1s						
IVK	**Ivanovka**	**4.84**	**242**	*e*Pn	**Pn**	**06 14 01.8**	**-0.6**
IVK				*e*Pg	**Pb**	**06 14 14.7**	**+0.3**
IVK				Pmax		06 14 18.2	
	comp=E,27nm,0.7s						
IVK				*e*Sn	**Sn**	**06 14 54.8**	**-3.7**
IVK				*e*Sg	**Sb**	**06 15 16.2**	**+3.6**
IVK				Smax		06 15 23.5	
	comp=E,323nm,0.8s						
TUP	**Tupik**	**5.07**	**85**	↑*i*Pn	**Pn**	**06 14 07.1**	**+1.5**
TUP				*e*Pg	**Pb**	**06 14 21.6**	**+3.4**
TUP				Pmax		06 14 26.7	
	comp=E,51nm,0.7s						
TUP				*e*Sn	**Sn**	**06 15 06.7**	**+2.6**
TUP				*e*Sg	**Sg**	**06 15 27.8**	**-4.3**
TUP				Smax		06 15 36.5	
	comp=E,2μm,1.9s						
TUP	**Tupik**	**5.07**	**85**	*e*PN	**Pn**	**06 14 07.0**	**+1.5**
TUP				*e*		06 14 21.9	
TUP				*e*S	**Sn**	**06 15 03.3**	**-0.8**
TUP				*e*		06 15 28.5	
TUP				pmax	pmax		
	comp=Z,49nm,0.5s						
TUP				smax	smax		
	comp=N,2μm,1.1s						
VTMR	**Vitim**	**5.20**	**7**	*e*Pn	**Pn**	**06 14 06.3**	**-0.9**
VTMR				*e*Pg	**Pb**	**06 14 22.3**	**+1.9**
VTMR				*e*Sg	**Sb**	**06 15 30.1**	**+7.3**
TLY	**Talaya**	**5.31**	**243**	Pn	**Pn**	**06 14 08.6**	**-0.2**
	comp=N,0.0nm,0.3s,baz=54,slow=4.8,SNR=19						
TLY				Lg	Lg	06 15 32.0	
	comp=N,0.1nm,0.3s,baz=217,slow=14,SNR=8.9						
TLY				LR	LR	06 16 37.2	
	comp=N,32nm,21.2s,baz=120,slow=44						
TLY	**Talaya**	**5.31**	**243**	*de*PN	**Pn**	**06 14 08.5**	**-0.3**
TLY				*e*		06 14 24.2	
TLY				*e*		06 15 32.2	
TLY				pmax	pmax		
	comp=Z,26nm,0.3s						
ARS	**Arshan**	**5.85**	**250**	*e*Pn	**Pn**	**06 14 14.6**	**-1.6**
ARS				max		06 14 33.1	
	comp=Z,80nm,0.6s						
ARS				*e*Sg	**Sb**	**06 15 47.6**	**+6.1**
ARS				Smax		06 15 56.1	
	comp=Z,677nm,0.9s						
ZAK	**Zakamensk**	**6.28**	**235**	*e*PN	**Pn**	**06 14 23.3**	**+1.1**
ZAK				*e*		06 14 43.4	
ZAK				*e*		06 16 03.6	
ZAK				pmax	pmax		
	comp=Z,17nm,0.4s						
ZAK				smax	smax		
	comp=N,299nm,1.2s						
YKLR	**Yuktali**	**6.33**	**65**	*e*Pn	**Pn**	**06 14 23.9**	**+1.1**
YKLR				*e*Pg	**Pb**	**06 14 43.9**	**+4.3**
YKLR				*e*Sg	**Sg**	**06 16 08.4**	**-4.1**
MOY	**Mondy**	**6.75**	**251**	*e*	**Pn**	**06 14 29.6**	**+0.9**
MOY				*e*		06 14 49.6	
MOY				*e*Sg	**Sb**	**06 16 15.3**	**+7.7**
MOY				Smax		06 16 29.7	
	comp=N,248nm,1.1s						
MOY	**Mondy**	**6.75**	**251**	*e*PN	**Pn**	**06 14 30.0**	**+1.3**
MOY				*e*		06 14 52.2	
MOY				*e*S	**Sn**	**06 15 46.9**	**+1.3**
MOY				*e*		06 16 15.1	
ULN	**Ulaanbaatar**	**6.97**	**204**	*ce*PN	**Pn**	**06 14 31.5**	**-0.3**

ORL				*e*Sg	Sg	06 16 26.7	-10		
ORL				Smax		06 16 36.1			
	comp=Z,282nm,1.1s								
ORL	**Orlik**	**7.08**	**260**	*e*PN	**Pn**	**06 14 33.3**	**+0.1**		
ORL				*e*		06 14 55.2			
ORL				*e*		06 16 27.4			
ORL				pmax	pmax				
	comp=Z,29nm,0.7s								
ORL				smax	smax				
	comp=N,282nm,1.3s								
SONM	**Songino Array**	**7.17**	**207**	Pn	**Pn**	**06 14 35.8**	**+1.3**		
	comp=N,1.0nm,0.3s,baz=21,slow=13,SNR=14								
SONM				Lg	Lg	06 16 34.5			
	comp=N,18nm,0.3s,baz=23,slow=27,SNR=11								
SONM				LR	LR	06 17 39.2			
	comp=N,74nm,19.9s,baz=30,slow=41								
CLNS	**Chul'man**	**8.12**	**66**	*e*	**Sn**	**06 16 14.9**	**-4.2**		
CLNS				*e*Sg	**Sg**	**06 17 02.9**	**-6.9**		
ZEA	**Zeya**	**9.42**	**87**	*e*P	Pn	06 15 14.0	+8.9		
ZEA				*e*		06 17 00.5			
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.3s								
ZEA				smax	smax				
	comp=E,33nm,0.9s								
ZEA				MLR	MLR				
	comp=E,400nm,5.0s								
ZEA				MLR	MLR				
	comp=Z,400nm,7.0s								
YAK	**Yakutsk**	**12.38**	**44**	Lg	Lg	06 19 12.5			
	comp=Z,0.2nm,0.3s,baz=312,slow=21,SNR=1.7								
DGZ	**Jazzator, Alta**	**15.37**	**262**	*i* P	**Pn**	**06 16 21.4**	**-4.9**		
ZALV	**Zalesovo Beam**	**15.49**	**279**	Pn	**Pn**	**06 16 26.4**	**-1.4**		
	comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=3.9								
ZALV				Lg	Lg	06 20 47.6			
	comp=Z,0.1nm,0.3s,baz=101,slow=21,SNR=4.2								
ZALV	**Zalesovo Beam**	**15.49**	**279**	*i* P	**Pn**	**06 16 27.2**	**-0.6**		
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
GTA	**Gaotai**	**16.80**	**212**	*e*P	**P**	**06 16 51.3**	**+4.3**		
GTA				pP	sP	06 16 56.0	+4.2		
GTA				sP	pP	06 16 58.3	+8.0		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GTA				smax	smax				
	comp=N,7.0nm,1.3s								
GTA				smax	smax				
	comp=E,9.0nm,1.6s								
USRK	**Ussuriysk Ar.**	**16.81**	**118**	Lg	Lg	06 21 46.1			
	baz=315,slow=28,SNR=7.4								
NRIK	**Noril'sk**	**18.57**	**333**	Lg	Lg	06 22 28.2			
	comp=E,0.2nm,0.3s,baz=31,slow=22,SNR=2.2								
NRIK				LR	LR	06 24 45.8			
	comp=E,131nm,21.8s,baz=195,slow=39								
NRIK	**Noril'sk**	**18.57**	**333**	*i* P	**P**	**06 17 02.7**	**-3.5**		
NRIK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**19.79**	**260**	Lg	Lg	06 23 11.3			
	comp=Z,0.0nm,0.3s,baz=67,slow=38,SNR=2.1								
KURK	**Kurchatov**	**20.10**	**273**	P	**P**	**06 17 23.9**	**+0.9**		
KURBB	**Kurchatov Arra**	**20.19**	**273**	P	**P**	**06 17 23.9**	**-0.1**		
	comp=Z,3.1nm,0.7s,baz=68,slow=10,SNR=12								
KURBB				Lg	Lg	06 23 17.2			
	comp=Z,1.5nm,1.2s,baz=69,slow=31,SNR=4.9								
KSRS	**Korea Array**	**20.36**	**139**	LR	LR	06 25 58.8			
	comp=Z,72nm,18.2s,baz=345,slow=39								
BVAR	**Borovoye Array**	**24.03**	**284**	P	**P**	**06 18 04.3**	**0.0**		
	comp=Z,0.9nm,0.7s,baz=206,slow=9.9,SNR=7.5								
BRVK	**Borovoye**	**24.08**	**284**	*ce*P	**P**	**06 18 02.8**	**-2.0**		
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ARU	**Arti**	**29.44**	**296**	LR	LR	06 32 24.5			
	comp=Z,106nm,18.8s,baz=118,slow=40								
FINES	**FINESS Array B**	**42.77**	**315**	P	**P**	**06 20 46.8**	**+0.2**		
	comp=Z,2.9nm,0.8s,baz=104,slow=8.0,SNR=5.8								
KIV	**Kislovodsk**	**44.37**	**286**	*e*P	**P**	**06 20 57.3**	**-2.5**		
KBZ	**Khabaz**	**44.39**	**286**	*i* P	**P**	**06 20 59.3**	**-0.5**		
KBZ				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ILAR	**Eielson Array**	**47.11**	**35**	P	**P**	**06 21 22.4**	**+1.2**		
	comp=Z,1.0nm,0.7s,baz=298,slow=7.0,SNR=10								
AKASG	**Malin Array Be**	**47.41**	**301**	P	**P**	**06 21 24.1**	**+0.5**		
	comp=Z,0.6nm,0.3s,baz=47,slow=7.9,SNR=6.4								
NB2	**NORSAR Subarra**	**48.86**	**320**	P	**P**	**06 21 34.9**	**+0.2**		
	comp=Z,0.9nm,0.6s,baz=48,slow=7.4								
NOA	**NORSAR Array B**	**48.86**	**320**	P	**P**	**06 21 34.7**	**0.0**		
	comp=Z,1.1nm,0.6s,baz=53,slow=7.7,SNR=5.0								
EKA	**Eskdalemuir Ar**	**58.24**	**322**	P	**P**	**06 22 44.0**	**+0.5**		
	comp=Z,1.6nm,0.7s,baz=49,slow=7.6,SNR=3.8								
ESDC	**Sonseca Array**	**71.20**	**312**	P	**P**	**06 24 09.5**	**+1.1**		
	comp=Z,0.9nm,0.9s,baz=32,slow=6.6,SNR=6.0								
WRA	**Warrnunga Arr**	**76.55**	**158**	P	**P**	**06 24 40.3**	**+0.7**		
	comp=Z,0.9nm,0.8s,baz=351,slow=5.8,SNR=5.1								
PDAR	**Pinedale Array**	**77.19**	**30**	P	**P**	**06 24 43.6**	**0.0**		
	comp=Z,0.3nm,0.6s,baz=36,slow=2.8,SNR=3.6								
ASAR	**Alice Springs**	**80.06**	**159**	P	**P**	**06 24 60.0**	**+0.9**		
	comp=Z,0.3nm,0.5s,baz=358,slow=5.6,SNR=5.1								
ASAR	**Alice Springs**	**80.06**	**159**	P	**P**	**06 25 00.0**	**+0.9**		
TORD	**Torodi Ar. Bea**	**90.48**	**293**	P	**P**	**06 25 51.5**	**0.0**		
	comp=Z,0.3nm,0.6s,baz=34,slow=3.4,SNR=2.5								

HLW ***22*** *06:34:13.4, 20.05N×38.82E, h15km±20km, Md3.9*
IDC ***22*** *06:34:14.8±5.8, 19.47N×38.79E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.5/46, mbtmp3.9/5, MS4.0/2, Ms1 4.0/2, ms1mx2.8/46, Error ellipse: s-maj=257.3km s-min=24.7km az=154.0*

ISC 22 06:34:19.1±1.4, 20.3N±0.1×38.4E±0.1, h10km, n13, σ0≥62/13, mb3.9/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAGS	**Hagol**	**5.14**	**323**	P		P	**Pn**	**06 35 35.8**	**-0.5**
	baz=322								
HAGS				S			**Sn**	**06 36 36.2**	**+0.4**
	baz=322								
BRNS	**Bernies**	**5.33**	**312**	P		Pn	**Pn**	**06 35 38.1**	**-0.7**
	baz=312								
NADB	**Abo Dabab**	**6.17**	**325**	P		P	**Pn**	**06 35 50.5**	**+0.1**
	baz=324								
NADB				S			**Sn**	**06 37 00.8**	**-0.3**
	baz=324								
NGWR	**NGWR**	**6.20**	**304**	P		P	**Pn**	**06 35 51.2**	**+0.5**
	baz=304								
HMSM	**Jabal Masmas**	**6.59**	**294**	P		P	**Pn**	**06 35 56.1**	**-0.1**
	baz=295								
ASHG	**Umm Shaghir**	**6.93**	**296**	P		P	**Pn**	**06 36 01.5**	**+0.7**
	baz=297								
GEYT	**Alibeck**	**24.50**	**40**	LR		LR		06 50 36.0	
	comp=Z,64nm,19.1s,baz=280,slow=39								
TORD	**Torodi Ar. Bea**	**35.82**	**264**	P		P	**P**	**06 41 18.6**	**-0.5**
	1.8nm,0.8s,baz=73,slow=7.3,SNR=12								
KURBB	**Kurchatov Arra**	**43.68**	**36**	P		P	**P**	**06 42 25.3**	**+1.2**
	1.4nm,0.7s,baz=245,slow=7.7,SNR=7.4								
MKAR	**Makanchi Array**	**44.31**	**43**	P		P	**P**	**06 42 29.4**	**+0.1**
	1.1nm,0.7s,baz=239,slow=7.8,SNR=9.3								
ZALV	**Zalesovo Beam**	**48.63**	**35**	P		P	**P**	**06 43 03.6**	**+0.5**
	0.5nm,0.5s,baz=249,slow=7.6,SNR=5.1								
SONM	**Songino Array**	**60.53**	**46**	P		P	**P**	**06 44 29.2**	**-0.5**
	0.5nm,0.3s,baz=287,slow=7.4,SNR=3.8								
SIJI	**Sorong**	**92.98**	**90**	LR		LR		07 34 09.1	
	comp=Z,324nm,18.1s,baz=106,slow=39								

JMA 22 06:36:55.8±0.1, 37.36N×141.32E, h34km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.35**	**271**	P		P	Pb	06 37 04.2	-0.2
JFK				S		S	Sn	06 37 09.7	-0.4
ONAJ	**Iwakimizuishiy**	**0.49**	**238**	P		P	Pb	06 37 05.9	-0.4
ONAJ				S		S	Sb	06 37 12.9	-0.7
JMST	**Minamisoumatoc**	**0.50**	**317**	P		P	Pb	06 37 06.0	-0.5
JMST				S		S	Sb	06 37 13.2	-0.6
JMM	**Marumori**	**0.66**	**321**	P		P	Pn	06 37 08.3	-0.3
JMM				S		S	Sn	06 37 17.1	-0.7
JFFD	**Fukushimafurud**	**0.66**	**246**	P		P	Pn	06 37 08.5	-0.2
JFFD				S		S	Sn	06 37 17.4	-0.6
JFT	**Otama**	**0.80**	**282**	P		P	Pb	06 37 11.4	+0.1
JFT				*e*S		S	Sb	06 37 22.0	+0.1
JHO	**Hitachi**	**0.96**	**219**	P		P	Pn	06 37 12.2	-0.7
JHO				*e*S		S	Sn	06 37 24.2	-1.1
JIO	**Ouri**	**1.09**	**1**	P		P	Pn	06 37 14.3	-0.4
JIO				*e*S		S	Sn	06 37 28.0	-0.6
JOU	**Okura**	**1.13**	**333**	P		P	Pn	06 37 15.9	+0.7
MAT	**Matsushiro**	**2.62**	**253**	P		P	Pn	06 37 38.0	+2.2
MAT				S		S	Sb	06 38 11.9	-2.1

IDC ***22*** *06:48:08.0±1.2, 63.03S×170.61E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.1/24, mbtmp4.1/7, ML3.2/1, MS4.3/9, Ms1 4.3/9, ms1mx4.1/25, Error ellipse: s-maj=45.6km s-min=22.8km az=70.0*
GCMT ***22*** *06:48:11.0±0.3, 63.02S±0.02×170.67E±0.06, h12km, MW5.0/90, Moment Tensor Solution. s33,c38; s90,c128; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=-3.33±. 11; Mθθ=2.11±. 11; Mϕϕ=1.23±. 14; Mrθ=-1.48±. 38; Mθϕ=1.50±. 09; Mϕr=0.83±. 40; Best double couple: M=3.64800×10^16 NP1: ϕ=215.00000°, δ=42.00000°, λ=-121.00000°. NP2: ϕ=74.00000°, δ=55.00000°, λ=-65.00000°. Principal axes: T 3.3130, Plg7.0000°, Azm146.0000°; N 0.6800, Plg20.0000°, Azm239.0000°; P -3.9830, Plg69.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 06:48:09.4±1.1, 63.1S±0.1×170.6E±0.3, h10km, n36, σ0≥94/14, mb4.1/6, MS4.4/11, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.78**	**187**	Pn		Pn	**Pn**	**06 51 37.7**	**-0.5**
	0.1nm,0.3s,baz=21,slow=14,SNR=19								
QSPA	**South Pole Qui**	**27.02**	**180**	P		P	**P**	**06 53 51.0**	**-0.4**
	0.7nm,0.7s,baz=41,slow=3.5,SNR=5.8								
STKA	**Stephens Creek**	**36.22**	**316**	LR		LR		07 07 48.8	
	comp=Z,786nm,19.9s,baz=181,slow=33								
MAW	**Mawson**	**39.71**	**215**	P		P	**P**	**06 55 42.7**	**+1.5**
	2.9nm,0.8s,baz=142,slow=6.9,SNR=5.5								
MAW				LR		LR		07 11 55.7	
	comp=Z,645nm,18.2s,baz=114,slow=36								
DZM	**Mont Dzumac**	**41.07**	**354**	*e*LR		LR		07 07 14.4	
	comp=Z,763nm,21.9s								
H01W1	**Cape Leeuwin H**	**44.44**	**282**	T		T		07 44 11.1	
	baz=147,slow=76,SNR=64								
H01W2	**Cape Leeuwin H**	**44.44**	**282**	T		T		07 44 11.8	
	baz=147,slow=76,SNR=48								
H01W3	**Cape Leeuwin H**	**44.46**	**282**	T		T		07 44 09.2	
	baz=147,slow=76,SNR=54								
SNAA	**Sanae**	**45.46**	**183**	P		P	**P**	**06 56 27.2**	**-0.7**
VNA2	**Neumayer--Watz**	**46.27**	**181**	P		P	**P**	**06 56 32.4**	**-1.9**
	baz=176,slow=7.3								
ASAR	**Alice Springs**	**46.35**	**311**	P		P	**P**	**06 56 35.8**	**+0.3**
	1.6nm,0.8s,baz=156,slow=7.7,SNR=12								
ASAR				PcP		PcP	**PcP**	**06 58 10.0**	**-0.5**
	0.5nm,0.8s,baz=158,slow=2.9,SNR=2.7								
VNA1	**Neumayer--Stat**	**46.56**	**181**	P		P	**P**	**06 56 37.6**	**+1.1**
WRA	**Warramunga Arr**	**49.66**	**313**	P		P	**P**	**06 57 00.6**	**-0.5**
	0.6nm,0.9s,baz=161,slow=5.8,SNR=3.7								
WRA				LR		LR		07 16 24.8	
	comp=Z,809nm,19.0s,baz=155,slow=34								
PAE	**Paea**	**53.00**	**50**	*e*T		T		07 54 18.0	
	5.9nm,0.3s								
TVO	**Taravao**	**53.00**	**50**	*e*T		T		07 54 18.6	
	1.9nm,0.3s								
PPT2	**Papete2**	**53.06**	**50**	*e*LR		LR		07 12 31.4	
	comp=Z,234nm,27.5s								
PPT2	**Papeete2**	**53.06**	**50**	*e*T		T		07 54 23.4	
	7.3nm,0.3s								
MEH	**Mehetia**	**53.33**	**52**	*e*T		T		07 54 43.9	
	14nm,0.2s								
VAH	**Vaihoa**	**55.93**	**51**	*e*T		T		07 57 57.7	
	122nm,0.3s								
PLCA	**Paso Flores**	**65.69**	**133**	LR		LR		07 21 34.2	
	comp=Z,129nm,18.5s,baz=188,slow=30								
KAPI	**Kappang**	**68.66**	**304**	LR		LR		07 26 16.0	
	comp=Z,132nm,21.2s,baz=140,slow=33								
H03S2	**Juan Fernandez**	**68.85**	**123**	T		T		08 14 51.5	
H03S1	**Juan Fernandez**	**68.86**	**123**	T		T		08 14 53.5	
	baz=205,slow=74,SNR=30								
H03S3	**Juan Fernandez**	**68.87**	**123**	T		T		08 15 00.8	
	baz=205,slow=74,SNR=37								
CPUP	**Villa Florida**	**83.17**	**138**	LR		LR		07 33 38.9	
	comp=Z,322nm,19.3s,baz=206,slow=33								
BOSA	**Boshof**	**84.55**	**210**	P		P	**P**	**07 00 42.8**	**+0.1**
	2.3nm,0.7s,baz=166,slow=4.9,SNR=5.2								
BOSA				LR		LR		07 35 19.5	
	comp=Z,186nm,21.1s,baz=181,slow=34								
H08S2	**Diego Garcia H**	**86.90**	**259**	T		T		08 37 26.0	
	baz=152,slow=76,SNR=18								
H08S1	**Diego Garcia H**	**86.90**	**259**	T		T		08 37 27.0	
	baz=152,slow=76,SNR=16								
H08S3	**Diego Garcia H**	**86.92**	**259**	T		T		08 37 28.2	
	baz=152,slow=76,SNR=37								
LPAZ	**La Paz**	**88.79**	**125**	P		P	**P**	**07 01 05.0**	**+0.9**
	2.5nm,1.0s,baz=186,slow=3.2,SNR=8.8								
LPAZ				LR		LR		07 31 26.5	
	comp=Z,58nm,19.8s,baz=174,slow=29								
BDFB	**Brasilia**	**95.99**	**143**	LR		LR		07 42 43.8	
	comp=Z,86nm,18.4s,baz=156,slow=34								
H06S1	**SOCORRO T**	**101.42**	**71**	T		T		08 55 09.9	
	SNR=6.8								
H06E1	**SOCORRO T-PHAS**	**101.47**	**71**	T		T		08 55 03.9	
	SNR=9.0								
NRIK	**Noril'sk**	**144.36**	**323**	PKP		PKP	**PKPdf**	**07 07 43.6**	**-0.2**
	1.0nm,0.5s,baz=119,slow=1.3,SNR=4.3								
KBZ	**Khabaz**	**144.59**	**262**	PKP		PKP	**PKPdf**	**07 07 44.7**	**-0.3**
	4.0nm,0.6s,baz=171,slow=5.3,SNR=4.4								
BRTR	**Keskin Array B**	**145.42**	**248**	PKPbc		PKPbc	**PKPbc**	**07 07 46.2**	**-0.6**
	3.3nm,0.9s,baz=152,slow=5.6,SNR=8.0								

IDC ***22*** *06:52:32.4±1.2, 63.03S×170.35E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.9/27, mbtmp3.8/5, ML3.2/1, MS4.4/3, Ms1 4.4/3, ms1mx3.8/25, Error ellipse: s-maj=45.8km s-min=28.7km az=67.0*
GCMT ***22*** *06:52:34.0±0.3, 62.89S±0.02×170.98E±0.06, h12km, MW5.0/85, Moment Tensor Solution. s32,c40; s85,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.56±. 12; Mθθ=2.14±. 10; Mϕϕ=1.41±. 14; Mrθ=-0.32±. 48; Mθϕ=1.00±. 09; Mϕr=-1.42±. 47; Best double couple: M=3.48200×10^16 NP1: ϕ=244.00000°, δ=36.00000°, λ=-71.00000°. NP2: ϕ=41.00000°, δ=56.00000°, λ=-103.00000°. Principal axes: T 3.0260, Plg10.0000°, Azm141.0000°; N 0.9010, Plg11.0000°, Azm49.0000°; P -3.9380, Plg75.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 06:52:33.6±1.1, 63.0S±0.1×170.4E±0.3, h10km, n31, σ0≥90/11, mb3.8/4, MS4.3/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.84**	**187**	Pn		Pn	**Pn**	**06 56 02.9**	**-0.2**
	0.1nm,0.3s,baz=14,slow=14,SNR=9.6								
RPZ	**Rata Peaks**	**19.32**	**1**	LR		LR		07 03 29.7	
	comp=Z,920nm,18.9s,baz=202,slow=34								
URZ	**Urewera**	**25.11**	**13**	LR		LR		07 05 44.3	
	comp=Z,1μm,20.9s,baz=188,slow=32								
MAW	**Mawson**	**39.72**	**215**	P		P	**P**	**07 00 05.9**	**+0.4**
	1.0nm,0.9s,baz=139,slow=19,SNR=4.7								
DZM	**Mont Dzumac**	**40.99**	**354**	*e*LR		LR		07 11 37.6	
	comp=Z,813nm,22.1s								
H01W1	**Cape Leeuwin H**	**44.34**	**282**	T		T		07 48 33.3	
	baz=147,slow=76,SNR=36								
H01W2	**Cape Leeuwin H**	**44.35**	**282**	T		T		07 48 33.6	
	baz=147,slow=76,SNR=36								
H01W3	**Cape Leeuwin H**	**44.36**	**282**	T		T		07 48 34.5	
	baz=147,slow=76,SNR=31								
SNAA	**Sanae**	**45.52**	**183**	P		P	**P**	**07 00 52.7**	**+0.1**
ASAR	**Alice Springs**	**46.24**	**311**	P		P	**P**	**07 00 59.9**	**+1.1**
	1.2nm,0.8s,baz=159,slow=8.3,SNR=9.0								
VNA2	**Neumayer--Watz**	**46.34**	**181**	P		P	**P**	**07 00 58.6**	**-0.4**
	baz=174,slow=6.3								
VNA1	**Neumayer--Stat**	**46.62**	**181**	P		P	**P**	**07 01 01.9**	**+0.7**
WRA	**Warramunga Arr**	**49.55**	**313**	P		P	**P**	**07 01 24.0**	**-0.5**
	0.7nm,1.0s,baz=157,slow=7.3,SNR=3.3								
PAE	**Paea**	**53.02**	**50**	*e*T		T		07 58 41.0	
	3.5nm,0.3s								
TVO	**Taravao**	**53.02**	**51**	*e*T		T		07 58 41.6	
	1.4nm,0.3s								
PPT2	**Papeete2**	**53.09**	**50**	*e*LR		LR		07 16 54.2	
	comp=Z,223nm,26.8s								
PPT2	**Papeete2**	**53.09**	**50**	*e*T		T		07 58 46.9	
	6.6nm,0.3s								
MEH	**Mehetia**	**53.36**	**52**	*e*T		T		07 59 07.3	
	14nm,0.2s								
FITZ	**Fitzroy Crossi**	**54.34**	**304**	LR		LR		07 23 20.6	
	comp=Z,199nm,18.0s,baz=150,slow=34								
VAH	**Vaihoa**	**55.95**	**51**	*e*T		T		08 02 21.0	
	87nm,0.3s								
H03S2	**Juan Fernandez**	**68.96**	**123**	T		T		08 19 23.6	
	baz=205,slow=74,SNR=17								
H03S1	**Juan Fernandez**	**68.96**	**123**	T		T		08 19 19.7	
	baz=205,slow=74,SNR=20								
H03S3	**Juan Fernandez**	**68.98**	**123**	T		T		08 19 23.9	
	baz=205,slow=74,SNR=15								
H08S2	**Diego Garcia H**	**86.83**	**260**	T		T		08 41 49.4	
	baz=152,slow=76,SNR=14								
H08S1	**Diego Carcia H**	**86.83**	**260**	T		T		08 41 50.2	
	baz=152,slow=76,SNR=15								
H08S3	**Diego Garcia H**	**86.85**	**260**	T		T		08 41 53.0	
	baz=152,slow=76,SNR=35								
LPAZ	**La Paz**	**88.90**	**125**	P		P	**P**	**07 05 29.3**	**+0.5**
	1.5nm,0.9s,baz=150,slow=4.7,SNR=5.5								
H06E1	**SOCORRO T-PHAS**	**101.53**	**71**	T		T		08 59 28.7	
	SNR=12								
ILAR	**Eielson Array**	**131.31**	**23**	PKP		PKP	**PKiKP**	**07 11 45.3**	**+0.1**
	1.9nm,1.2s,baz=284,slow=3.8,SNR=5.1								
KBZ	**Khabaz**	**144.52**	**262**	PKP		PKP	**PKPab**	**07 12 07.3**	**-0.2**
	3.6nm,0.8s,baz=189,slow=3.5,SNR=5.7								
BRTR	**Keskin Array B**	**145.37**	**248**	PKPbc		PKPbc	**PKPdf**	**07 12 08.9**	**-2.0**
	1.2nm,0.7s,baz=120,slow=5.5,SNR=2.6								

KRNET ***22*** *06:54:00.9±0.1, 41.49N×70.44E, mb2.4*
SOME ***22*** *06:54:01.3, 41.17N×71.10E, h0km*
NNC ***22*** *06:54:04.1±4.5, 41.22N×71.09E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=34.7km s-min=15.6km az=12.0*

ISC 22 06:54:02.8±1.6, 41.29N±0.05×71.11E±0.04, h3km±12km, n16, σ1≥44/29, 11C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.18**	**317**	*e*P		**Pn**	**Pn**	**06 54 25.6**	**-0.6**
	3.5nm,0.1s								
IUG				*e*S			**Sn**	**06 54 42.4**	**-0.4**
	11nm,0.2s								
IUG	**Iuzhnay**	**1.18**	**317**	P		**Pn**	**Pn**	**06 54 25.6**	**-0.6**
	3.5nm,0.1s								
IUG				S			**Sg**	**06 54 40.4**	**-0.2**
	11nm,0.2s								
BTK	**Batken**	**1.25**	**190**	⇓*i*P		**Pn**	**Pn**	**06 54 27.2**	**+0.1**
	baz=69								
BTK				⇓*i*S			**Sn**	**06 54 46.6**	**+2.1**
	baz=69								
MNAS	**Manas**	**1.59**	**40**	⇓*i*P		**Pg**	**Pg**	**06 54 32.9**	**-0.3**
	baz=56								
MNAS				⇓*i*S			**Sg**	**06 54 56.1**	**+2.3**
	baz=56								
KK31	**Karatay Array**	**1.87**	**346**	P		**Pg**	**Pg**	**06 54 39.0**	**+0.5**
	1.2nm,0.3s,baz=162,slow=15,SNR=24								
KK31				S			**Sg**	**06 55 05.6**	**+2.7**
	9.4nm,0.7s,baz=159,slow=26,SNR=20								
BRLS	**Borolday**	**1.98**	**332**	*e*P		**Pb**	**Pb**	**06 54 38.1**	**-1.4**
	26nm,0.2s								
BRLS				*e*S			**Sn**	**06 55 04.0**	**+1.4**
	8.7nm,0.4s								
BRLS	**Borolday**	**1.98**	**332**	P		**Pb**	**Pb**	**06 54 38.4**	**-1.1**
	26nm,0.2s								
BRLS				S			**Sn**	**06 55 02.3**	**-0.2**
	8.7nm,0.4s								
AML	**Almayashu**	**2.11**	**66**	⇑*e*P		**Pg**	**Pg**	**06 54 42.4**	**-0.8**
	baz=74								
AML				⇑*i*S			**Sg**	**06 55 12.4**	**+1.8**
	baz=74								
MRKS	**Merke**	**2.15**	**47**	*e*P		**Pg**	**Pg**	**06 54 43.7**	**-0.2**
	2.9nm,0.3s								
MRKS				*e*S			**Sg**	**06 55 13.5**	**+1.8**
	2.8nm,0.3s								
MRKS	**Merke**	**2.15**	**47**	Pg		**Pg**	**Pg**	**06 54 45.8**	**+1.9**
	2.9nm,0.3s								
MRKS				Lg		Lg		06 55 14.8	
	2.8nm,0.3s								
EKS2	**Erkin-Say**	**2.42**	**54**	⇑*e*P		**Pb**	**Pb**	**06 54 45.7**	**-1.2**
	baz=64								
EKS2				⇑*i*S			**Sb**	**06 55 18.0**	**+0.8**
	baz=64								
ARLS	**Aral**	**2.48**	**76**	⇑*e*P		**Pb**	**Pb**	**06 54 48.1**	**+0.1**
	baz=81								
ARLS				⇑*i*S			**Sg**	**06 55 22.2**	**-0.2**
	baz=81								
UCH	**Uchtor**	**2.71**	**69**	⇑*i*P		**Pb**	**Pb**	**06 54 51.1**	**-1.1**
	baz=75								
UCH				⇑*i*S			**Sb**	**06 55 27.4**	**+1.3**
	baz=75								
AAK	**Ala-Archa**	**2.86**	**61**	⇓*i*P		**Pb**	**Pb**	**06 54 52.3**	**-2.3**
	baz=68								
AAK

	comp=Z,54nm,19.1s,baz=80,slow=35							
H01W1	**Cape Leeuwin H**	**44.80**	**281**	T	T	08 13 22.7		
	baz=147,slow=76,SNR=4.0							
H01W2	**Cape Leeuwin H**	**44.80**	**281**	T	T	08 13 19.4		
	baz=147,slow=76,SNR=13							
H01W3	**Cape Leeuwin H**	**44.81**	**281**	T	T	08 13 20.3		
	baz=147,slow=76,SNR=11							
ASAR	**Alice Springs**	**46.58**	**310**	P	P	07 25 47.0	-0.3	
	0.8nm,0.8s,baz=152,slow=7.8,SNR=7.4							
WRA	**Warramunga Arr**	**49.87**	**312**	P	P	07 26 12.7	0.0	
	0.7nm,1.0s,baz=159,slow=5.8,SNR=2.9							
H03S2	**Juan Fernandez**	**68.58**	**123**	T	T	08 44 09.2		
	baz=204,slow=74,SNR=5.0							
H03S1	**Juan Fernandez**	**68.58**	**123**	T	T	08 44 10.3		
	baz=204,slow=74,SNR=4.4							
H03S3	**Juan Fernandez**	**68.60**	**123**	T	T	08 44 08.1		
	baz=204,slow=74,SNR=5.7							
KBZ	**Khabaz**	**144.99**	**261**	PKP	PKPab	07 36 55.4	+0.3	
	3.0nm,0.8s,baz=81,slow=4.3,SNR=4.2							
BRTR	**Keskin Array B**	**145.81**	**247**	PKPbc	PKPdf	07 36 57.0	-0.6	
	0.4nm,0.3s,baz=197,slow=4.5,SNR=2.2							

WEL 22 07:26:58.5, 43°S ± 5° × 17°1E ± °, h5km ± 3km, M2.2/7, ML2.1/6, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=138.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.23**	**341**	P	Pg	07 27 04.7	+1.6
GCSZ	**Gaunt Creek Bo**	**0.38**	**267**	P	Pb	07 27 07.3	-0.4
RPZ	**Rata Peaks**	**0.45**	**160**	P	Pb	07 27 09.0	+0.1
MHCZ	**Mount Hutt**	**0.58**	**114**	P	Pb	07 27 11.4	+0.2
ARCZ	**Arundel**	**0.69**	**160**	P	Pb	07 27 13.4	+0.3
INZ	**Inchbonnie**	**0.72**	**38**	P	Pg	07 27 12.9	+0.5
FOZ	**Fox Glacier**	**0.79**	**252**	P	Pb	07 27 14.9	+0.3
WACZ	**Wakanui South**	**0.97**	**132**	P	Pn	07 27 19.0	+0.2
LTZ	**Lake Taylor**	**1.17**	**64**	P	Pn	07 27 21.9	+0.4
LBZ	**Lake Benmore**	**1.19**	**203**	P	Pn	07 27 23.6	+1.8
DSZ	**Denniston Nort**	**1.71**	**25**	P	Pg	07 27 31.3	+0.1
ODZ	**Otahua Downs**	**1.75**	**185**	P	Pb	07 27 30.7	-0.5

RSNC 22 07:29:24.7 ± 0.6, 0.76N × 77°91W, h2km ± 12km, ML1.3, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBC	**Cumbal**	**0.20**	**24**	*e*P	Pg	07 29 29.6	+1.0
CMBC				*e*S	Sg	07 29 33.0	+1.7
CMBC				*i*		07 29 33.5	
	comp=Z,91nm,0.2s						
CMBC	**Cumbal**	**0.20**	**24**	*e*P	Pg	07 29 29.6	+1.0
CMBC				*e*S	Sg	07 29 32.8	+1.6
CMBC				*i*		07 29 33.5	
	comp=Z,91nm,0.2s						
CUSE	**Cuicocha Este**	**0.67**	**228**	*e*P	Pg	07 29 37.0	-0.6
CUSE				*e*S	Sg	07 29 47.3	+1.0
CUSE	**Cuicocha Este**	**0.67**	**228**	*e*P	Pg	07 29 38.4	+0.8
CUSE				*e*S	Sg	07 29 47.3	+1.0
OTAV	**Otavalo**	**0.75**	**226**	*e*P	Pg	07 29 39.0	-0.2
OTAV				*e*S	Sg	07 29 50.1	+1.2
OTAV				*i*		07 29 56.5	
	comp=Z,4.9nm,0.5s						
OTAV	**Otavalo**	**0.75**	**226**	*e*P	Pg	07 29 39.1	-0.1
OTAV				*e*S	Sg	07 29 49.2	+0.2
OTAV				*i*		07 29 56.5	
	comp=Z,4.9nm,0.5s						
PAC1	**Pacto, Paraso**	**1.01**	**241**	*e*P	Pg	07 29 43.0	-1.2
PAC1				*e*S	Sg	07 29 56.8	-0.6
PAC1	**Pacto, Paraso**	**1.01**	**241**	*e*P	Pg	07 29 43.4	-0.8
PAC1				*e*S	Sg	07 29 56.6	-0.7
PUAC	**Puerto Asis, P**	**1.35**	**99**	*e*P	Pb	07 29 51.6	+0.8
PUAC	**Puerto Asis, P**	**1.35**	**99**	*e*P	Pg	07 29 50.6	-0.1
PUAC				*e*S	Sn	07 30 10.0	+0.8
PUAC				*i*		07 30 14.4	
	comp=Z,4.5nm,0.3s						
BBAC	**Balboa, Cauca**	**1.42**	**28**	*e*P	Pb	07 29 52.5	+0.5
BBAC	**Balboa, Cauca**	**1.42**	**28**	*e*P	Pn	07 29 50.8	-1.0
BBAC				*i*		07 29 60.0	
	comp=Z,3.2nm,0.4s						
BBAC				*e*S	Sn	07 30 11.0	-0.1

IDC 22 07:30:21.9 ± 2.9, 0.41S × 87.97E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/45, mbtmp3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/43, Error ellipse: s-maj=85.1km s-min=31.2km az=58.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**20.61**	**108**	LR	LR	07 41 13.6	
	comp=Z,150nm,21.2s,baz=168,slow=32						
CMAR	**Chiang Mai Arr**	**21.63**	**29**	P	P	07 35 15.0	+0.9
	0.5nm,0.3s,baz=211,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**47.27**	**355**	P	P	07 38 56.8	-0.3
	0.5nm,0.7s,baz=157,slow=7.7,SNR=4.3						
WRA	**Warramunga Arr**	**49.35**	**116**	P	P	07 39 13.3	-0.2
	0.8nm,0.6s,baz=297,slow=8.6,SNR=5.5						
KURBB	**Kurchatov Arra**	**51.48**	**352**	P	P	07 39 30.4	+1.3
	0.2nm,0.4s,baz=171,slow=6.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**54.23**	**358**	P	P	07 39 47.9	-1.5
	1.0nm,0.4s,baz=176,slow=5.6,SNR=4.8						

HLW 22 07:31:42.6, 20.07N × 38.85E, h16km ± 18km, Md3.9
IDC 22 07:31:42.1 ± 11.0, 19.04N × 39.07E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/31, Error ellipse: s-maj=499.0km s-min=25.9km az=153.0
ISC 22 07:31:48.2 ± 1.7, 20.3N ± 0.2 × 38.4E ± 0.1, h10km, n9, σ0.62/9, mb3.8/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAGS	**Hagol**	**5.15**	**322**	P	**Pn**	**07 33 05.0**	**-0.5**
	baz=321						
HAGS				S	**Sn**	**07 34 05.2**	**+0.2**
	baz=321						
BRNS	**Bernies**	**5.33**	**312**	P	**Pn**	**07 33 08.4**	**+0.4**
	baz=312						
NADB	**Abo Dabab**	**6.18**	**325**	P	**Pn**	**07 33 19.1**	**-0.5**
	baz=324						
NGWR	**NGWR**	**6.21**	**304**	P	**Pn**	**07 33 20.1**	**+0.2**
	baz=304						
BRTR	**Keskin Array B**	**19.78**	**349**	LR	LR	07 44 29.7	
	comp=Z,21nm,18.9s,baz=305,slow=36						
TORD	**Torodi Ar. Bea**	**35.83**	**264**	P	**P**	**07 38 48.0**	**-0.3**
	1.8nm,0.8s,baz=76,slow=7.1,SNR=10						
KURBB	**Kurchatov Arra**	**43.67**	**36**	P	**P**	**07 39 54.3**	**+1.1**
	1.2nm,0.7s,baz=241,slow=8.1,SNR=8.7						
MKAR	**Makanchi Array**	**44.30**	**43**	P	**P**	**07 39 57.9**	**-0.4**
	1.1nm,0.9s,baz=233,slow=6.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**48.63**	**35**	P	**P**	**07 40 32.2**	**+0.1**
	0.3nm,0.3s,baz=232,slow=7.1,SNR=2.1						

IDC 22 07:34:38.4 ± 1.9, 8.58S × 110.23E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/30, mbtmp3.8/6, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/44, Error ellipse: s-maj=113.2km s-min=20.2km az=50.0
DJA 22 07:34:43.4 ± 0.3, 9°S ± 3' × 11°0E ± °, h10km, M4.3/19, mB5.7/2, mb4.5/8, MLv4.2/19, Mw(mB)5.2/2
ISC 22 07:34:41.5 ± 0.8, 8.98S ± 0.07 × 110.15E ± 0.05, h10km, n33, σ1.56/32, mb4.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.12**	**19**	P	**Pg**	**07 35 03.4**	**+0.2**
UGM				S	**Sb**	**07 35 17.6**	**-0.2**
YOGI	**Yogyakarta**	**1.16**	**7**	P	**Pg**	**07 35 04.2**	**+0.3**
YOGI				S	**Sb**	**07 35 18.5**	**-0.4**
WOJI	**Wonogiri, Jawa**	**1.37**	**34**	P	**Pn**	**07 35 07.1**	**+0.4**
WOJI				S	**Sb**	**07 35 24.0**	**-0.9**
PWJI	**Pagerwojo**	**1.90**	**60**	P	**Pn**	**07 35 14.6**	**+0.6**
SMRI	**Semarang**	**1.94**	**9**	P	**Pn**	**07 35 15.5**	**+0.9**
KPJI	**Karang Pucung**	**2.03**	**324**	P	**Pn**	**07 35 16.4**	**+0.6**
CMJI	**Cimerak**	**2.06**	**305**	P	**Pn**	**07 35 16.1**	**-0.1**
CISI	**Cisompet, Garu**	**2.71**	**301**	P	**Pn**	**07 35 25.3**	**+0.1**
GRJI	**Gresik**	**3.09**	**49**	P	**Pn**	**07 35 31.8**	**+1.4**
LEMJI	**Lembang**	**3.29**	**310**	P	**Pn**	**07 35 34.5**	**+1.2**
GMJI	**Gumukmas**	**3.34**	**78**	P	**Pn**	**07 35 35.5**	**+1.7**
CNJI	**Cibinong**	**3.42**	**299**	P	**Pn**	**07 35 35.1**	**+0.2**
BLJI	**Banyuglugur**	**3.63**	**71**	P	**Pn**	**07 35 40.3**	**+2.5**
JAGI	**Jajag, Banyuwa**	**3.99**	**83**	P	**Pn**	**07 35 44.7**	**+1.8**
SKJI	**Sukabumi**	**4.06**	**299**	P	**Pn**	**07 35 45.4**	**+1.6**
CGJI	**Cibinong**	**5.00**	**298**	P	**Pn**	**07 35 56.7**	**0.0**
KASI	**Kota Agung**	**6.57**	**301**	P	**Pg**	**07 36 48.7**	**+1.2**
TWSI	**Taliwang, Sumb**	**6.66**	**88**	P	**Pn**	**07 36 21.6**	**+2.1**
	0.1nm997nm17nm,0.8s						
PLAI	**Plampang**	**7.54**	**89**	P	**Pn**	**07 36 33.9**	**+2.3**
	0.2nm43nm,1.0s						
MNAI	**Manna**	**8.49**	**302**	P	**Pn**	**07 36 46.4**	**+1.8**
	2.12nm,1.1s						
SPSI	**Sidrap Palu**	**10.78**	**63**	P	**Pn**	**07 37 18.3**	**+2.2**
	11nm,0.5s						
EDFI	**Ende, Flores**	**11.41**	**90**	P	**Pn**	**07 37 26.6**	**+1.8**
	6.3nm,0.6s						
MMRI	**Maumere**	**11.96**	**89**	P	**Pn**	**07 37 35.1**	**+2.9**
FITZ	**Fitzroy Crossi**	**17.57**	**123**	P	**Pn**	**07 38 46.3**	**-0.4**
	0.1nm,0.3s,baz=302,slow=9.5,SNR=2.1						
FITZ				LR	LR	07 45 44.4	
	comp=Z,62nm,18.6s,baz=84,slow=38						
WRA	**Warramunga Arr**	**25.80**	**118**	P	**P**	**07 40 12.5**	**-0.6**
	1.1nm,0.6s,baz=292,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**27.01**	**126**	P	**P**	**07 40 25.1**	**+1.1**
	0.4nm,0.6s,baz=301,slow=9.3,SNR=6.0						
ASAR				PcP	**PcP**	**07 43 44.0**	**-1.6**
	0.4nm,0.6s,baz=302,slow=1.7,SNR=6.6						
STKA	**Stephens Creek**	**37.01**	**132**	P	**P**	**07 41 50.6**	**-1.0**
	1.5nm,0.6s,baz=305,slow=7.3,SNR=5.4						
H08S2	**Diego Garcia H**	**37.27**	**269**	T	T	08 21 44.3	
	baz=95						
H08S3	**Diego Garcia H**	**37.28**	**269**	T	T	08 21 49.5	
	baz=95						
H08S1	**Diego Garcia H**	**37.29**	**269**	T	T	08 21 45.2	
	baz=95						
MKAR	**Makanchi Array**	**60.83**	**338**	P	**P**	**07 44 50.4**	**-3.6**
	0.9nm,0.6s,baz=142,slow=7.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**66.25**	**344**	P	P	07 45 25.6	-4.0
	1.6nm,0.7s,baz=179,slow=7.2,SNR=1.8						
VRAC	**Vranov**	**99.05**	**319**	LR	LR	08 37 45.4	
	comp=Z,88nm,21.2s,baz=24,slow=38						

IDC 22 07:39:13.8 ± 3.5, 62.92S × 171.73E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.9/27, mbtmp3.9/5, ML3.5/1, MS4.0/7, Ms1 4.0/7, ms1mx3.7/20, Error ellipse: s-maj=121.8km s-min=25.5km az=74.0
GCMT 22 07:39:15.0 ± 0.4, 63.02S ± 0.03 × 171.42E ± 0.07, h14km ± 1km, MW4.9/58, Moment Tensor Solution. s23,c25; s58,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.12±.18; $M_{\theta\theta}$1.01±.12; $M_{\phi\phi}$1.11±.13; $M_{r\theta}$-0.63±.30; $M_{r\phi}$0.36±.07; $M_{\theta\phi}$-2.04±.35; Best double couple: M_o2.75800×10^{16} NP1:ϕs23.00000°, δ70.00000°, λ-96.00000°. NP2: ϕs219.00000°, δ20.00000°, λ-74.00000°. Principal axes: T 2.3690, Plg25.0000°, Azm117.0000°; N 0.7790, Plg5.0000°, Azm24.0000°; P -3.1470, Plg64.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function
ISC 22 07:39:15.4 ± 2.8, 62.9S ± 0.2 × 171.7E ± 0.6, h10km, n29, σ0.81/7, mb3.8/4, MS3.9/6, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.98**	**188**	Pn	**Pn**	**07 42 46.4**	**-0.4**
	0.2nm,0.3s,baz=31,slow=17,SNR=15						
VNDA				LR	LR	07 47 09.9	
	comp=Z,676nm,20.5s,baz=18,slow=32						
RPZ	**Rata Peaks**	**19.26**	**359**	LR	LR	07 50 22.9	
	comp=Z,412nm,18.2s,baz=195,slow=35						
URZ	**Urupera**	**24.93**	**10**	LR	LR	07 53 33.6	
	comp=Z,200nm,19.8s,baz=210,slow=34						
QSPA	**South Pole Qui**	**27.16**	**180**	P	**P**	**07 44 59.6**	**+1.0**
	1.7nm,1.0s,baz=51,slow=6.8,SNR=3.5						
QSPA				LR	LR	07 54 05.4	
	comp=Z,316nm,19.7s,baz=40,slow=33						
MAW	**Mawson**	**40.10**	**214**	P	**P**	**07 46 50.5**	**+0.1**
	1.6nm,0.9s,baz=157,slow=12,SNR=3.6						
DZM	**Mont Dzumac**	**40.99**	**353**	LR	LR	08 01 15.7	
	comp=Z,269nm,20.7s,baz=200,slow=32						
DZM	**Mont Dzumac**	**40.99**	**353**	eLR	LR	07 58 36.4	
	comp=Z,349nm,22.0s						
H01W1	**Cape Leeuwin H**	**44.89**	**281**	T	T	08 35 16.9	
	baz=147,slow=76,SNR=50						
H01W2	**Cape Leeuwin H**	**44.90**	**281**	T	T	08 35 17.3	
	baz=147,slow=76,SNR=44						
H01W3	**Cape Leeuwin H**	**44.91**	**281**	T	T	08 35 18.2	
	baz=147,slow=76,SNR=45						
CTA	**Charters Tower**	**46.21**	**326**	LR	LR	08 05 46.4	
	comp=Z,280nm,19.2s,baz=100,slow=34						
ASAR	**Alice Springs**	**46.64**	**309**	P	**P**	**07 47 44.0**	**+0.3**
	1.3nm,0.9s,baz=161,slow=7.9,SNR=8.7						
WRA	**Warramunga Arr**	**49.92**	**312**	P	**P**	**07 48 09.4**	**+0.4**
	1.1nm,1.0s,baz=169,slow=6.4,SNR=5.1						
PAE	**Paea**	**52.54**	**49**	*e*T	T	08 45 27.9	
	2.0nm,0.3s						
TVO	**Taravao**	**52.54**	**49**	*e*T	T	08 45 29.1	
	0.6nm,0.2s						
PPT2	**Papeete2**	**52.61**	**49**	eLR	LR	08 03 39.5	
	comp=Z,100nm,27.8s						
PPT2	**Papeete2**	**52.61**	**49**	*e*T	T	08 45 33.8	
	5.0nm,0.3s						
MEH	**Mehetia**	**52.87**	**51**	*e*T	T	08 45 54.0	
	13nm,0.2s						
FITZ	**Fitzroy Crossi**	**54.78**	**303**	LR	LR	08 11 07.5	
	comp=Z,103nm,19.1s,baz=156,slow=35						
VAH	**Vaihoa**	**55.46**	**50**	*e*T	T	08 49 07.8	
	67nm,0.3s						
H03S2	**Juan Fernandez**	**68.52**	**122**	T	T	09 06 04.9	
	baz=204,slow=74,SNR=20						
H03S1	**Juan Fernandez**	**68.52**	**122**	T	T	09 06 06.1	
	baz=204,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**68.53**	**122**	T	T	09 06 06.9	
	baz=204,slow=74,SNR=24						
H08S2	**Diego Garcia H**	**87.40**	**258**	T	T	09 28 25.4	
	baz=152,slow=76,SNR=10						
H08S1	**Diego Garcia H**	**87.41**	**258**	T	T	09 28 27.5	
	baz=152,slow=76,SNR=8.5						
H08S3	**Diego Garcia H**	**87.42**	**258**	T	T	09 28 28.8	
	baz=152,slow=76,SNR=20						
H06E1	**SOCORRO T-PHASE**	**90.96**	**70**	T	T	09 46 12.0	
	SNR=6.9						
KBZ	**Khabaz**	**145.10**	**261**	PKPbc	**PKPbc**	**07 58 50.3**	**-1.1**
	2.5nm,0.7s,baz=144,slow=1.7,SNR=4.6						
BRTR	**Keskin Array B**	**145.92**	**247**	PKPbc	**PKPdf**	**07 58 53.2**	**-0.4**
	2.2nm,0.8s,baz=151,slow=2.8,SNR=6.4						

GCG 22 07:50:41.6 ± 1.2, 15.20N × 92.74W, h50km ± 456km, MD4.3
MEX 22 07:50:44.9 ± 0.9, 14.58N × 92.64W, h68km ± 19km, MD3.6
ISC 22 07:50:46.2 ± 1.8, 14.7N ± 0.1 × 92.68W ± 0.10, h49km ± 21km, n9, σ1.49/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.46**	**63**	*i* P	**Pn**	**07 50 56.0**	**-0.9**
THIG				*i* S	**Sn**	**07 51 05.0**	**+0.5**
ERG	**Entre ros, C**	**1.11**	**103**	*e*P	**Pn**	**07 51 04.5**	**-0.9**
ERG				*e*S	**Sn**	**07 51 21.6**	**+1.9**
PCIG		**1.12**	**333**	*e*P	**Pn**	**07 51 05.3**	**-0.4**
PCIG				*e*S	**Sn**	**07 51 20.3**	**+0.3**
CCIG	**Comitan**	**1.66**	**18**	*e*P	Pn	07 51 13.8	+0.7
CCIG				*e*S	**Sn**	**07 51 34.6**	**+1.3**
FUG	**Fuego 3**	**1.80**	**98**	*e*P	**Pn**	**07 51 14.3**	**-0.7**
FUG				*e*S	**Sn**	**07 51 39.2**	**+2.3**
PCG	**Pacaya**	**2.03**	**98**	*e*P	**Pn**	**07 51 16.6**	**-1.6**
PCG				*e*S	**Sn**	**07 51 44.3**	**+1.6**
TGIG		**2.11**	**349**	*e*P	Pn	07 51 19.3	+0.1
TGIG				*e*S	**Sn**	**07 51 44.4**	**+0.2**
NBG	**Las Nubes**	**2.27**	**93**	*e*P	**Pn**	**07 51 19.2**	**-2.3**
CMIG	**Matias Romero**	**3.18**	**319**	*e*P	**Pn**	**07 51 33.6**	**-0.2**
CMIG				*e*S	**Sn**	**07 52 11.3**	**+0.7**

NEIC 22 07:52:07.9 ± 1.0, 4.81S ± 0.08 × 152.3E ± 0.2, h46km ± 13km, mb4.1/9, Error ellipse: s-maj=31.1km s-min=9.2km az=104.0
IDC 22 07:52:07.2 ± 4.2, 4.90S × 152.27E, h33km ± 24km, mb3.9/4, mb1 4.1/4, mb1mx3.5/38, mbtmp4.1/4, MS4.3/2, Ms1 4.3/2, ms1mx3.0/34, Error ellipse: s-maj=56.7km s-min=26.5km az=105.0
ISC 22 07:52:07.9 ± 1.7, 4.8S ± 0.1 × 152.4E ± 0.3, h55km, n21, σ1.07/18, mb4.1/8, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.62**	**326**	Pg	**Pn**	**07 52 19.9**	**-1.1**
	208nm,0.3s,baz=185,slow=2.3,SNR=100						
KRVT				Lg	Lg	07 52 29.0	
	447nm,0.3s,baz=96,slow=22,SNR=19						
RABL	**Rabaul**	**0.67**	**342**		**Pn**	**07 52 20.5**	**-1.1**
PMG	**Port Moresby**	**6.89**	**228**	Pn	**Pn**	**07 53 45.6**	**-0.7**
WB0	**Warramunga Arr**	**22.96**	**228**	P	**P**	**07 57 08.3**	**+0.4**
WB0				IAmb	IAmb	07 57 10.6	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**22.97**	**228**	P	**P**	**07 57 08.4**	**+0.4**
WR0				IAmb	IAmb	07 57 09.0	
	comp=Z,5.3nm,1.1s						
WC3	**Warramunga Arr**	**23.09**	**228**	P	**P**	**07 57 09.6**	**+0.3**
WRAB	**Tennant Creek**	**23.09**	**228**	P	**P**	**07 57 08.4**	**-0.8**
WRAB				IAmb	IAmb	07 57 10.7	
	comp=Z,8.2nm,1.1s						
WB2	**Warramunga Arr**	**23.10**	**228**	P	**P**	**07 57 09.8**	**+0.5**
WB2				IAmb	IAmb	07 57 11.3	
	comp=Z,5.7nm,0.5s						
WRA	**Warramunga Arr**	**23.11**	**228**	P	**P**	**07 57 09.4**	**0.0**
	comp=Z,3.3nm,0.4s,baz=53,slow=10.0,SNR=29						
KNRA	**Kununurra**	**25.58**	**243**	P	**P**	**07 57 32.3**	**+0.2**
AS31	**Alice Springs**	**25.84**	**222**	P	**P**	**07 57 36.1**	**+1.6**
ASAR	**Alice Springs**	**25.84**	**222**	P	**P**	**07 57 35.2**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=54,slow=8.8,SNR=18						
FITZ	**Fitzroy Crossi**	**29.27**	**241**	P	**P**	**07 58 05.1**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=69,slow=7.0,SNR=9.9						
FITZ	**Fitzroy Crossi**	**29.27**	**241**	IAmb	IAmb	07 58 05.6	
	comp=Z,6.1nm,1.1s						
BBOO	**Buckleboo**	**31.74**	**207**	P	**P**	**07 58 24.4**	**-2.4**
FORT	**Forrest**	**34.50**	**219**	P	**P**	**07 58 51.1**	**+0.2**
RAR	**Rarotonga**	**49.16**	**114**	LR	LR	08 18 23.5	
	comp=Z,151nm,21.7s,baz=264,slow=32						
CMAR	**Chiang Mai Arr**	**57.51**	**295**	P	**P**	**08 01 53.9**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=125,slow=5.4,SNR=7.9						
SYO	**Syowa Base**	**93.50**	**199**	*e*P	**P**	**08 05 18.2**	**+0.9**
RPN	**Rapa Nui**	**95.17**	**118**	LR	LR	08 40 16.2	
	comp=Z,394nm,20.3s,baz=118,slow=30						
TORD	**Torodi Ar. Bea**	**149.91**	**288**	PKPbc	**PKPbc**	**08 11 53.1**	**-0.1**
	comp=Z,204nm,1.2s,baz=79,slow=1.3,SNR=1.3						

IDC 22 07:52:31.7 ± 5.7, 4.06S × 151.41E, h24km ± 43km, mb3.9/2, mb1 4.2/2, mb1mx3.4/38, mbtmp4.0/2, Error ellipse: s-maj=50.7km s-min=33.6km az=162.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.66**	**111**	Pg	Pb	07 52 44.4	-0.2
	581nm,0.3s,baz=211,slow=18,SNR=5.8						
KRVT				Lg	Lg	07 52 53.9	
	937nm,0.3s,baz=4.4,slow=21,SNR=7.8						
WRA	**Warramunga Arr**	**22.93**	**225**	P	P	07 57 35.0	+0.6
	2.7nm,0.4s,baz=53,slow=10.0,SNR=5.9						
ASAR	**Alice Springs**	**25.79**	**219**	P	P	07 58 00.8	-0.4
	1.6nm,0.6s,baz=48,slow=9.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**148.76**	**289**	PKPbc	PKPbc	08 12 17.6	-0.7
	69nm,0.7s,baz=74,slow=2.8,SNR=1.2						

INET 22 07:54:50.0, 12.19N × 86.52W, h174km, ML3.7
UCR 22 07:54:50.6 ± 1.1, 12.18N × 86.47W, h171km ± 8km, MW3.9, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUAI	**Buenos Aires**	**1.71**	**139**	*i* P	Pn	07 55 24.3	+0.3
BUAI				*i* S	Sn	07 55 51.0	+1.2
GBS3	**Finca Las Img**	**1.71**	**144**	*i* P	Pn	07 55 23.8	-0.2
GBTA	**Boringuen Arri**	**1.71**	**142**	*i* P	Pn	07 55 24.6	+0.5
BUEV	**Buena Vista**	**1.72**	**143**	*i* P	Pn	07 55 24.9	+0.7
BUEV				*i* S	Sn	07 55 50.7	+0.5
LAPC	**Finca la Perla**	**1.73**	**144**	*i* P	Pn	07 55 24.4	+0.1
GPS1	**Guardaparques**	**1.77**	**142**	*i* P	Pn	07 55 25.8	+1.0
GPS1				*i* S	Sn	07 55 51.8	+0.6
GPS3	**Bodega del ICE**	**1.78**	**142**	*i* P	Pn	07 55 25.6	+0.8
GPS3				*i* S	Sn	07 55 52.0	+0.8
GPS2	**Hotel Rincn d**	**1.79**	**142**	*i* P	Pn	07 55 25.5	+0.6
GPS2				*i* S	Sn	07 55 52.5	+1.0
LIM1	**Limonal**	**1.89**	**141**	*i* P	Pn	07 55 26.6	+0.6
GUAB	**Guayabo de Bag**	**1.90**	**140**	*i* P	Pn	07 55 26.8	+0.8
HORNC	**Hornillas**	**1.93**	**139**	*i* P	Pn	07 55 27.0	+0.6
CUI	**Cuipilapa**	**1.98**	**140**	*i* P	Pn	07 55 27.6	+0.6
PTEN	**Parque Tenorio**	**2.06**	**135**	*i* P	Pn	07 55 28.1	+0.3
ORTG	**Ortega, Santa**	**2.06**	**151**	*e*P	Pn	07 55 28.7	+0.8
ACAL	**Aguas Claras**	**2.08**	**137**	*i* P	Pn	07 55 28.4	+0.3
ACAL				*i* S	Sn	07 55 58.9	+1.7
GUAI	**GUAI**	**2.12**	**154**	*i* P	Pn	07 55 29.1	+0.7
PLVR	**Palo Verde**	**2.12**	**149**	*e*P	Pn	07 55 29.6	+0.9
DUNO	**Dulce Nombre,**	**2.29**	**155**	*e*P	Pn	07 55 31.3

DAT					IAML		07 55 51.0	
	comp=E,149nm,0.8s							
DAT					IAML		07 55 54.0	
	comp=N,119nm,0.5s							
ZKR	**Zakros**	**1.32**	**253**	P	**Pg**		**07 55 31.6**	**+0.1**
ZKR	**Zakros**	**1.32**	**253**	P	**Pg**		**07 55 31.7**	**+0.1**
ZKR				AML	AML		07 55 59.6	
	comp=N,763μm,1.0s							
ZKR				AML	AML		07 56 00.3	
	comp=E,1695μm,0.8s							
TURN	**Turunc**	**1.32**	**18**	PN	**Pb**		**07 55 31.2**	**0.0**
TURN	**Turunc**	**1.32**	**18**	*i* P	**Pn**		**07 55 30.9**	**0.0**
TURN				*i* S	**Sn**		**07 55 51.2**	**+2.7**
TURN				IAML			07 55 55.0	
	comp=N,203nm,0.3s							
TURN				IAML			07 55 55.0	
	comp=E,240nm,0.5s							
KOSK	**Kos Island**	**1.38**	**333**	PN	**Pn**		**07 55 30.6**	**-1.1**
STIA	**Sitia Lasithi**	**1.39**	**257**	P	**Pg**		**07 55 33.0**	**0.0**
DALY	**Dalyan (Mula)**	**1.49**	**29**	PN	**Pn**		**07 55 33.7**	**+0.5**
DALY	**Dalyan (Mula)**	**1.49**	**29**	*i* P	**Pn**		**07 55 32.1**	**-1.1**
DALY				*i* S	**Sg**		**07 55 57.3**	**+3.1**
DALY				IAML			07 56 01.0	
	comp=E,133nm,0.7s							
FETY	**Fethiye**	**1.55**	**44**	P	**Pn**		**07 55 34.5**	**+0.4**
FETY	**Fethiye**	**1.55**	**44**	PN	**Pn**		**07 55 34.6**	**+0.4**
FETY	**Fethiye**	**1.55**	**44**	*i* P	**Pb**		**07 55 35.4**	**+0.1**
FETY				*i* S	**Sg**		**07 55 59.5**	**+3.3**
FETY				IAML			07 56 07.0	
	comp=N,63nm,0.7s							
BODT	**Bodrum**	**1.58**	**347**	P	**Pn**		**07 55 34.5**	**0.0**
BODT				S	**Sn**		**07 55 55.0**	**-0.1**
BODT	**Bodrum**	**1.58**	**347**	PN	**Pn**		**07 55 34.0**	**-0.5**
BODT				SN	**Sn**		**07 55 55.1**	**-0.1**
AKAS	**Kas**	**1.67**	**64**	PN	**Pn**		**07 55 35.9**	**+0.1**
AKAS	**Kas**	**1.67**	**64**	*i* P	**Pn**		**07 55 35.6**	**-0.2**
AKAS				*i* S	**Sn**		**07 55 56.3**	**-1.1**
AKAS				IAML			07 56 21.0	
	comp=E,57nm,0.6s							
YER	**Yerkesik**	**1.67**	**15**	PN	**Pn**		**07 55 36.1**	**+0.3**
NPS	**Neapolis**	**1.77**	**262**	P	**Pb**		**07 55 38.9**	**+0.1**
MLSB	**Milas**	**1.78**	**1**	PN	**Pn**		**07 55 37.3**	**+0.1**
ANAF	**Anafi Island**	**1.81**	**298**	P	**Pn**		**07 55 38.1**	**+0.5**
ANAF				S	**Sn**		**07 56 00.8**	**+0.1**
ANAF	**Anafi Island**	**1.81**	**298**	P	**Pn**		**07 55 38.3**	**+0.7**
ANAF				AML	AML		07 56 08.7	
	comp=E,2234μm,0.4s							
ANAF				AML	AML		07 56 12.4	
	comp=N,2449μm,0.4s							
LAST	**Lasithi**	**1.89**	**260**	P	**Pb**		**07 55 41.5**	**+0.5**
CAME	**Cameli-Denizli**	**1.90**	**41**	PN	**Pn**		**07 55 39.5**	**+0.5**
AMGA	**Amorgos Island**	**1.99**	**312**	P	**Pn**		**07 55 40.9**	**+0.7**
THR8	**Santorini-Mono**	**2.05**	**296**	P	**Pn**		**07 55 41.5**	**+0.6**
THR2	**Thira island,**	**2.09**	**297**	P	**Pn**		**07 55 41.9**	**+0.4**
THR3	**Thira Island,**	**2.10**	**296**	P	**Pn**		**07 55 42.3**	**+0.7**
ELL	**Elmali**	**2.14**	**54**	PN	**Pn**		**07 55 42.9**	**+0.7**
AYDN	**Tasoluk**	**2.14**	**3**	*i* P	**Pn**		**07 55 42.9**	**+0.6**
AYDN				*i* S	**Sn**		**07 56 07.8**	**-1.2**
AYDN				IAML			07 56 21.0	
	comp=E,67nm,0.6s							
THR5	**Thira Island,**	**2.15**	**295**	P	**Pn**		**07 55 43.7**	**+1.4**
TAVA	**DENIZLI_Tavas**	**2.16**	**25**	*i* P	**Pb**		**07 55 46.4**	**+0.8**
TAVA				*i* S	**Sg**		**07 55 14.9**	**-0.8**
GOLH	**Golhisar**	**2.25**	**40**	*i* P	**Pb**		**07 55 48.5**	**-1.5**
GOLH				*i* S	**Sg**		**07 56 20.9**	**+2.1**
GOLH				IAML			07 56 24.0	
	comp=N,64nm,0.6s							
SMG	**Samos**	**2.31**	**342**	P	**Pn**		**07 55 44.5**	**0.0**
SMG	**Samos**	**2.31**	**342**	P	**Pn**		**07 55 44.4**	**0.0**
IOSP	**Ios island**	**2.33**	**302**	P	**Pn**		**07 55 45.7**	**+0.9**
IDI	**Anoyia**	**2.35**	**265**	P	**Pb**		**07 55 47.3**	**-1.5**
APE	**Apeiranthos**	**2.37**	**311**	P	**Pn**		**07 55 45.7**	**+0.3**
APE	**Apeiranthos**	**2.37**	**311**	PN	**Pn**		**07 55 43.4**	**-2.0**
APE	**Apeiranthos**	**2.37**	**311**	P	**Pn**		**07 55 46.0**	**+0.7**
APE				S	**Sb**		**07 56 16.5**	**-2.0**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**3**	PN	**Pn**		**07 55 46.4**	**+0.1**
KORT	**Korkueli**	**2.57**	**54**	PN	**Pn**		**07 55 48.9**	**+0.7**
URLA	**Izmir**	**2.98**	**342**	PN	**Pn**		**07 55 53.6**	**-0.2**
KULA	**Kula-Manisa**	**3.08**	**13**	PN	**Pn**		**07 55 55.9**	**+0.7**
OSC1	**CSNet OBS 1**	**3.54**	**124**	P	**Pn**		**07 56 00.1**	**-1.3**
OSC1				S	**Sn**		**07 56 43.3**	**0.0**
AKMS	**Akamas**	**3.78**	**96**	P	**Pn**		**07 56 04.8**	**0.0**
AKMS				S	**Sn**		**07 56 49.9**	**+0.5**
AKMS				AML	AML		07 56 51.5	
	comp=N,0.2nm,0.3s							
AKMS				AML	AML		07 56 51.5	
	comp=N,0.2nm,0.3s							
AKMS				AML	AML		07 56 51.9	
	comp=N,0.2nm,0.4s							
AKMS				AML	AML		07 56 51.9	
	comp=N,0.2nm,0.4s							
ALFC	**Alefka**	**3.98**	**94**	P	**Pn**		**07 56 06.9**	**-0.6**
ALFC				S	**Sn**		**07 56 54.0**	**-0.3**
ALFC				AML	AML		07 56 58.5	
	comp=N,0.2nm,0.3s							
ALFC				AML	AML		07 56 58.5	
	comp=N,0.2nm,0.3s							
ALFC				AML	AML		07 57 00.2	
	comp=N,0.2nm,0.4s							
ALFC				AML	AML		07 57 00.2	
	comp=N,0.2nm,0.4s							
NATA	**Nata**	**4.02**	**99**	P	**Pn**		**07 56 07.5**	**-0.5**
OSC2	**CSNet OBS 4**	**4.46**	**122**	P	**Pn**		**07 56 13.6**	**-0.5**

IDC ***22*** *07:55:23.8±1.2, 62.°95S×171.°03E, h0km, mb4.2/4, mb1 4.2/5, mb1mx4.0/31, mbtmp4.1/5, ML3.3/1, MS4.3/7, Ms1 4.3/7, ms1mx4.0/18, Error ellipse: s-maj=43.0km s-min=27.1km az=73.0*

GCMT ***22*** *07:55:26.0±0.2, 63.°00S±0.°02×171.°03E±0.°06, h16km±1km, MW5.1/89, Moment Tensor Solution. s35,c37; s89,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.14±.23; Mθθ2.45±.15; Mϕϕ1.69±.16; Mrθ-2.98±.52; Mθϕ1.39±.09; Mϕr~0.98±.50; Best double couple: M○4.93500×10^16 NP1:ϕs226.00000°, δ26.00000°, λ-106.00000°. NP2: ϕs64.00000°, δ65.00000°, λ-82.00000°. Principal axes: T 4.5550, Plg19.0000°, Azm148.0000°; N 0.7590, Plg7.0000°, Azm240.0000°; P -5.3140, Plg69.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *07:55:28.1±2.0, 63.°21S±0.°09×170.°6E±0.°3, h17km±5km, mb4.3/8 Error ellipse: s-maj=22.6km s-min=12.3km az=102.0*

ISC 22 07:55:26.4±0.8, 63.°17S±0.°08×170.°7E±0.°2, h10km, n46, σ1ϕ49/22, mb4.2/5, MS4.2/8, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.69**	**188**	Pn		**Pn**	**Pn**	**07 58 53.8**	**0.0**
	0.1nm,0.3s,baz=23,slow=14,SNR=19								
VNDA				LR		LR	LR	08 03 19.3	
	comp=Z,1μm,20.9s,baz=18,slow=32								
VNDA	**Vanda**	**14.69**	**188**				**Pn**	**07 58 54.7**	**+0.8**
DCZ	**Deep Cove**	**17.85**	**352**				**P**	**07 59 35.8**	**+0.6**
DCZ				IAmb		IAmb	IAmb	07 59 40.8	
	comp=Z,29nm,1.0s								
MLZ	**Mavora Lakes**	**17.89**	**354**				**P**	**07 59 38.6**	**+2.8**
MLZ				IAmb		IAmb	IAmb	07 59 53.4	
	comp=Z,45nm,1.4s								
ODZ	**Otahua Downs**	**18.16**	**360**				**P**	**07 59 40.0**	**+1.3**
ODZ				IAmb		IAmb	IAmb	07 59 40.3	
	comp=Z,36nm,1.4s								
RPZ	**Rata Peaks**	**19.49**	**1**	LR		LR	LR	08 06 02.5	
	comp=Z,943nm,20.9s,baz=206,slow=33								
RPZ	**Rata Peaks**	**19.49**	**1**	Pn			**Pn**	**07 59 55.7**	**+1.2**
CASY	**Casey**	**24.99**	**236**	P			**P**	**08 00 50.0**	**+0.3**
URZ	**Urewera**	**25.24**	**12**	LR			LR	08 09 11.3	
	comp=Z,569nm,21.8s,baz=210,slow=33								
QSPA	**South Pole Qui**	**26.92**	**180**	P			**P**	**08 01 08.1**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=36,slow=3.3,SNR=3.4								
QSPA				LR			LR	08 10 14.5	
	comp=Z,662nm,19.4s,baz=35,slow=33								
QSPA	**South Pole Qui**	**26.92**	**180**	IAmb			IAmb	08 01 13.4	
	comp=Z,3.6nm,1.1s								
STKA	**Stephens Creek**	**36.31**	**316**	LR			LR	08 14 44.5	
	comp=Z,749nm,21.4s,baz=181,slow=32								
MAW	**Mawson**	**39.65**	**215**	P			**P**	**08 02 59.6**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=130,slow=9.8,SNR=12								
MAW				LR			LR	08 19 12.7	
	comp=Z,504nm,18.6s,baz=116,slow=36								
MAW	**Mawson**	**39.65**	**215**	P			**P**	**08 02 59.0**	**+1.3**
DZM	**Mont Dzumac**	**41.17**	**354**	*e*LR			LR	08 14 44.7	
	comp=Z,788nm,22.4s								
H01W1	**Cape Leeuwin H**	**44.49**	**282**	T			T	08 51 23.1	
	baz=147,slow=76,SNR=35								
H01W2	**Cape Leeuwin H**	**44.50**	**282**	T			T	08 51 23.4	
	baz=147,slow=76,SNR=34								
H01W3	**Cape Leeuwin H**	**44.51**	**282**	T			T	08 51 24.4	
	baz=147,slow=76,SNR=36								
SNAA	**Sanae**	**45.36**	**183**	P			**P**	**08 03 45.1**	**+1.0**
SNAA	**Sanae**	**45.36**	**183**	P			**P**	**08 03 43.6**	**-0.5**
SNAA				IAmb			IAmb	08 03 51.1	
	comp=Z,9.0nm,1.3s								
VNA3	**Neumayer Olymp**	**45.86**	**180**	P			**P**	**08 03 48.6**	**+0.6**
PMSA	**Palmer Station**	**46.15**	**151**	LR			LR	08 21 04.6	
	comp=Z,254nm,18.4s,baz=209,slow=33								
ASAR	**Alice Springs**	**46.44**	**311**	P			**P**	**08 03 52.3**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=159,slow=7.9,SNR=15								
ASAR	**Alice Springs**	**46.44**	**311**	P			**P**	**08 03 51.7**	**-1.5**
VNA1	**Neumayer--Stat**	**46.46**	**180**	P			**P**	**08 03 50.9**	**-1.8**
TBI	**Tubuai**	**47.84**	**53**	*e*LR			LR	08 17 26.2	
	comp=Z,238nm,25.8s,baz=198								
TBI	**Tubuai**	**47.84**	**53**	*e*T			T	08 55 03.8	
	comp=Z,6.6nm,0.3s								
PAE	**Paea**	**53.04**	**50**	*e*T			T	09 01 31.2	
	comp=Z,5.5nm,0.3s								
TVO	**Taravao**	**53.04**	**50**	*e*T			T	09 01 32.0	
	comp=Z,1.3nm,0.3s								
PPT2	**Papeete2**	**53.10**	**50**	*e*LR			LR	08 19 49.7	
	comp=Z,253nm,26.5s,baz=197								
PPT2	**Papeete2**	**53.10**	**50**	*e*T			T	09 01 36.3	
	comp=Z,8.6nm,0.3s								
MEH	**Mehetia**	**53.37**	**52**	*e*T			T	09 01 57.4	
	comp=Z,13nm,0.2s								
VAH	**Vaihoa**	**55.96**	**51**	*e*T			T	09 05 11.4	
	comp=Z,64nm,0.2s								
H03S2	**Juan Fernandez**	**68.77**	**123**	T			T	09 22 18.4	
	baz=204,slow=74,SNR=33								
H03S1	**Juan Fernandez**	**68.77**	**123**	T			T	09 22 19.5	
	baz=204,slow=74,SNR=30								
H03S3	**Juan Fernandez**	**68.79**	**123**	T			T	09 22 19.1	
	baz=204,slow=74,SNR=27								
H08S2	**Diego Garcia H**	**86.91**	**259**	T			T	09 44 40.9	
	baz=152,slow=76,SNR=19								
H08S1	**Diego Carcia H**	**86.92**	**259**	T			T	09 44 41.5	
	baz=152,slow=76,SNR=11								
H08S3	**Diego Garcia H**	**86.93**	**259**	T			T	09 44 42.5	
	baz=152,slow=76,SNR=48								
LPAZ	**La Paz**	**88.71**	**125**	P			**P**	**08 08 20.4**	**-0.3**
	comp=Z,4.3nm,1.1s,baz=197,slow=5.4,SNR=7.1								
LPAZ	**La Paz**	**88.71**	**125**	P			**P**	**08 08 21.1**	**+0.4**
H06E1	**SOCORRO T-PHASE**	**101.47**	**71**	T			T	10 02 24.4	
	SNR=14								
ILAR	**Eielson Array**	**131.42**	**23**	PKP			**PKPdf**	**08 14 35.0**	**-2.2**
	comp=Z,15nm,0.3s,baz=270,slow=2.9,SNR=4.0								
KBZ	**Khabaz**	**144.61**	**262**	PKP			**PKPab**	**08 14 59.4**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=102,slow=1.3,SNR=6.8								
BRTR	**Keskin Array B**	**145.41**	**248**	PKPbc			**PKPdf**	**08 15 01.8**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=139,slow=5.9,SNR=7.5								
BRTR	**Keskin Array B**	**145.41**	**248**				**PKPdf**	**08 15 01.3**	**-2.5**

DJA ***22*** *07:58:44.1±0.3, 3.°N±2.°×12.°6E±.°, h10km, M4.7/13, mb4.6/13, mB5.5/6, MLv4.4/12, Mw(mB)5.0/6, Mwp5.2/1*

IDC ***22*** *07:58:47.5±12.0, 2.°58N×125.°68E, h112km±122km, mb3.7/7, mb1 3.8/7, mb1mx3.4/38, mbtmp4.0/7, Error ellipse: s-maj=69.9km s-min=20.4km az=76.0*

ISC 22 07:58:37.1±0.8, 2.°94N±0.°07×126.°56E±0.°10, h10km, n27, σ2ϕ10/27, mb4.0/6, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**306**	P		P	**Pg**	**07 59 02.8**	**+1.4**
SGSI				S		S	**Sb**	**07 59 16.6**	**-0.8**
TNTI	**Ternate**	**2.30**	**159**	P		P	**Pg**	**07 59 22.2**	**+0.9**
TNTI				S		P	**Pg**	**07 59 21.3**	**0.0**
KMSI	**Cibinong**	**3.49**	**228**	P		P	**Pn**	**07 59 31.8**	**+0.4**
GTOI	**Gorontalo**	**4.22**	**237**	P		P	**Pn**	**07 59 40.5**	**-1.0**
KCP	**Kidapawan**	**4.30**	**340**	*e*P		P	**Pn**	**07 59 44.0**	**+1.4**
SANI	**Sanana**	**4.99**	**187**	P		P	**Pn**	**07 59 54.2**	**+2.1**
LUWI	**Luwuk**	**5.47**	**224**	P		P	**Pn**	**08 00 00.6**	**+1.8**
NLAI	**Namlea**	**6.16**	**175**	P		P	**Pn**	**08 00 10.4**	**+2.2**
	0.5nm2μm28nm,0.5s								
APSI	**Ampana**	**6.22**	**232**	P		P	**Pn**	**08 00 12.1**	**+3.1**
	0.4nm1μm92nm,0.7s								
MPSI	**Mapaga**	**7.14**	**249**	P		P	**Pn**	**08 00 20.3**	**-1.4**
	0.1nm26nm,1.2s								
FAKI	**Fak Fak**	**8.14**	**136**	P		P	Pn	08 00 46.9	+11
	15nm,0.9s								
TTSI	**Tana Toraja**	**8.98**	**229**	P		P	**Pn**	**08 00 49.4**	**+2.4**
	54nm,0.8s								
SMKI	**Samarinda**	**9.93**	**250**	P		P	**Pn**	**08 00 59.3**	**-0.7**
BKSI	**Bulukumba**	**10.42**	**218**	P		P	**Pn**	**08 01 07.3**	**+0.5**
	9.7nm,0.8s								
BSSI	**Bau Bau, Buton**	**10.87**	**214**	P		P	**Pn**	**08 01 14.1**	**+1.3**
	79.5nm19nm,1.7s								
SAUI	**Saumlaki**	**11.84**	**156**	P		P	Pn	08 01 34.8	+8.7
	280nm,0.9s								
MMRI	**Maumere**	**12.28**	**200**	P		P	**Pn**	**08 01 35.7**	**+3.5**
EDFI	**Ende, Flores**	**12.59**	**203**	P		P	**Pn**	**08 01 38.6**	**+2.1**
	7.4nm,0.9s								
SOEI	**Soe**	**12.82**	**190**	P		P	**Pn**	**08 01 44.4**	**+4.8**
	18nm,1.4s								
BBKI	**Banjar Baru**	**13.32**	**242**	P		P	**Pn**	**08 01 45.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.93**	**182**	P		P	**P**	**08 03 17.7**	**-2.4**
	1.7nm,0.7s,baz=10,slow=13,SNR=2.7								
WRA	**Warramunga Arr**	**23.99**	**162**	P		P	**P**	**08 03 50.8**	**-1.3**
	1.7nm,0.5s,baz=337,slow=11,SNR=87								
ASAR	**Alice Springs**	**27.40**	**165**	P		P	**P**	**08 04 21.6**	**-1.4**
	1.2nm,0.5s,baz=346,slow=8.0,SNR=26								
KSRS	**Korea Array**	**34.37**	**2**	P		P	**P**	**08 05 27.0**	**+2.7**
	1.8nm,0.5s,baz=189,slow=10,SNR=6.7								
STKA	**Stephens Creek**	**37.46**	**159**	P		P	**P**	**08 05 50.6**	**-0.3**
	2.9nm,0.8s,baz=340,slow=8.1,SNR=5.9								
MKAR	**Makanchi Array**	**58.10**	**326**	P		P	**P**	**08 08 27.7**	**-3.1**
	0.5nm,0.5s,baz=125,slow=8.2,SNR=6.6								
NRIK	**Noril'sk**	**71.15**	**346**	P		P	**P**	**08 09 54.5**	**-1.1**
	4.0nm,0.6s,baz=134,slow=8.5,SNR=12								

IDC ***22*** *08:13:54.9±1.0, 63.°16S×170.°15E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/19, mbtmp4.1/6, ML3.1/1, MS4.3/16, Ms1 4.3/16, ms1mx4.2/19, Error ellipse: s-maj=42.9km s-min=26.4km az=56.0*

GCMT ***22*** *08:13:57.0±0.2, 62.°98S±0.°02×170.°80E±0.°05, h12km, MW5.0/91, Moment Tensor Solution. s32,c38; s91,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.95±.10; Mθθ2.19±.09; Mϕϕ1.76±.12; Mrθ-1.34±.47; Mθϕ1.69±.08; Mϕr~0.92±.43; Best double couple: M○4.14500×10^16 NP1:ϕs226.00000°, δ34.00000°, λ-94.00000°. NP2: ϕs51.00000°, δ56.00000°, λ-87.00000°. Principal axes: T 4.0050, Plg11.0000°, Azm139.0000°; N 0.2790, Plg2.0000°, Azm230.0000°; P -4.2840, Plg78.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 08:13:56.4±0.9, 63.°1S±0.°1×170.°2E±0.°2, h10km, n42, σ0ϕ91/11, mb3.9/5, MS4.2/16, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.71**	**187**	Pn			**Pn**	**08 17 24.4**	**+0.2**
	0.1nm,0.3s,baz=34,slow=15,SNR=16								
VNDA				LR			LR	08 21 49.4	
	comp=Z,2μm,20.7s,baz=20,slow=32								
RPZ	**Rata Peaks**	**19.44**	**2**	LR			LR	08 24 33.2	
	comp=Z,1μm,20.7s,baz=206,slow=33								
URZ	**Urewera**	**25.24**	**13**	LR			LR	08 27 42.0	
	comp=Z,599nm,21.8s,baz=208,slow=33								
QSPA	**South Pole Qui**	**26.98**	**180**	LR			LR	08 28 44.6	
	comp=Z,789nm,19.1s,baz=32,slow=33								
RAO	**Raoul Island**	**34.74**	**18**	LR			LR	08 32 08.8	
	comp=Z,209nm,20.0s,baz=132,slow=31								
STKA	**Stephens Creek**	**36.12**	**316**	LR			LR	08 33 35.6	
	comp=Z,866nm,19.9s,baz=183,slow=33								
MAW	**Mawson**	**39.57**	**215**	P			**P**	**08 21 27.3**	**+0.4**
	1.0nm,0.6s,baz=146,slow=7.3,SNR=2.9								
DZM	**Mont Dzumac**	**41.10**	**355**	LR			LR	08 35 44.2	
	comp=Z,636nm,20.8s,baz=194,slow=32								
DZM	**Mont Dzumac**	**41.10**	**355**	*e*LR			LR	08 33 13.0	
	comp=Z,881nm,22.1s								
H01W1	**Cape Leeuwin H**	**44.27**	**282**	T			T	09 09 55.4	
	baz=147,slow=76,SNR=61								
H01W2	**Cape Leeuwin H**	**44.27**	**282**	T			T	09 09 55.8	
	baz=147,slow=76,SNR=62								
H01W3	**Cape Leeuwin H**	**44.28**	**282**	T			T	09 09 56.7	
	baz=147,slow=76,SNR=50								
ASAR	**Alice Springs**	**46.24**	**311**	P			**P**	**08 22 21.6**	**0.0**
	1.0nm,0.8s,baz=156,slow=7.5,SNR=4.7								
ASAR				LR			LR	08 40 22.9	
	comp=Z,415nm,18.6s,baz=150,slow=34								
TBI	**Tubuai**	**47.98**	**53**	*e*LR			LR	08 35 57.9	
	comp=Z,226nm,25.2s								
TBI	**Tubuai**	**47.98**	**53**	*e*T			T	09 13 37.3	
	8.8nm,0.3s								
WRA	**Warramunga Arr**	**49.55**	**314**	P			**P**	**08 22 48.1**	**+0.8**
	0.8nm,1.0s,baz=163,slow=5.9,SNR=4.6								
WRA				LR			LR	08 42 02.1	
	comp=Z,894nm,19.4s,baz=155,slow=34								
PAE	**Paea**	**53.17**	**50**	*e*T			T	09 20 04.8	
	3.5nm,0.3s								
TVO	**Taravao**	**53.18**	**51**	*e*T			T	09 20 05.7	
	1.1nm,0.3s								
PPT2	**Papeete2**	**53.24**	**50**	*e*LR			LR	08 38 18.5	
	comp=Z,263nm,27.2s								
PPT2	**Papeete2**	**53.24**	**50**	*e*T			T	09 20 10.7	
	6.0nm,0.3s								
PPT	**Papeete**	**53.26**	**50**	LR			LR	08 40 39.5	
	comp=Z,81nm,19.5s,baz=226,slow=30								
MEH	**Mehetia**	**53.51**	**52**	*e*T			T	09 20 31.4	
	28nm,0.3s								
VAH	**Vaihoa**	**56.10**	**51**	*e*T			T	09 23 45.0	
	81nm,0.3s								
PLCA	**Paso Flores**	**65.80**	**133**	LR			LR	08 48 08.6	
	comp=Z,143nm,21.3s,baz=176,slow=31								
H03S2	**Juan Fernandez**	**68.98**	**124**	T			T	09 40 45.3	
	baz=205,slow=74,SNR=27								
H03S1	**Juan Fernandez**	**68.99**	**124**	T			T	09 40 45.7	
	baz=205,slow=74,SNR=25								
H03S3	**Juan Fernandez**	**69.00**	**124**	T			T	09 40 38.0	
	baz=205,slow=74,SNR=28								
CPUP	**Villa Florida**	**83.27**	**138**	P			**P**	**08 26 23.0**	**0.0**
	2.0nm,0.9s,baz=273,slow=6.2,SNR=2.9								
CPUP				LR			LR	08 59 26.0	
	comp=Z,325nm,19.6s,baz=200,slow=33								
BOSA	**Boshof**	**84.42**	**211**	LR			LR	09 01 07.0	
	comp=Z,171nm,20.9s,baz=180,slow=34								
H08S2	**Diego Garcia H**	**86.70**	**260**	T			T	10 03 12.2	
	baz=152,slow=76,SNR=16								
H08S1	**Diego Carcia H**	**86.71**	**260**	T			T	10 03 19.0	
	baz=152,slow=76,SNR=9.8								
H08S3	**Diego Garcia H**	**86.72**	**260**	T			T	10 03 17.2	
	baz=152,slow=76,SNR=39								
LPAZ	**La Paz**	**88.92**	**125**	P			**P**	**08 26 51.7**	**-0.1**
	13nm,1.4s,baz=172,slow=5.1,SNR=10								
LPAZ				LR			LR	08 57 56.2	
	comp=Z,50nm,19.3s,baz=184,slow=30								
BDFB	**Brasilia**	**96.07**	**143**	LR			LR	09 08 57.5	
	comp=Z,58nm,18.1s,baz=275,slow=34								
CMAR	**Chiang Mai Arr**	**98.13**	**295**	LR			LR	09 09 39.0	
	comp=Z,84nm,19.6s,baz=192,slow=34								
H06S1	**SOCORRO T**	**101.61**	**72**	T			T	10 20 54.6	
	SNR=7.2								
H06E1	**SOCORRO T-PHASE**	**101.66**	**72**	T			T	10 20 55.4	
	SNR=9.2								
MKAR	**Makanchi Array**	**129.46**	**297**	PKP			**PKiKP**	**08 33 05.0**	**+0.2**
	0.3nm,0.7s,baz=160,slow=4.6,SNR=1.9								
ILAR	**Eielson Array**	**131.46**	**23**	PKP			**PKiKP**	**08 33 08.7**	**+0.5**
	1.0nm,0.9s,baz=215,slow=3.2,SNR=6.8								
NRIK	**Noril'sk**	**144.39**	**323**	PKP			**PKPab**	**08 33 28.9**	**+0.2**
	1.0nm,0.3s,baz=99,slow=2.2,SNR=5.4								
KBZ	**Khabaz**	**144.40**	**262**	PKP			**PKPab**	**08 33 29.5**	**-0.3**
	3.2nm,0.7s,baz=149,slow=1.6,SNR=3.0								
BRTR	**Keskin Array B**	**145.23**	**248**	PKPbc			**PKPbc**	**08 33 30.8**	**-2.3**
	8.2nm,1.2s,baz=138,slow=4.3,SNR=9.7								

IDC 22 08:25:29.5±4.3, 17.°44S×174.°04W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/27, mbtmp4.3/3, Error ellipse: s-maj=190.2km s-min=33.1km az=138.0, Tonga Islands

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

PPT2	**Papeete2**	**53.09**	**50**	*e*LR	LR	08 58 38.7		
	comp=Z,65nm,26.5s							
PPT2	**Papeete2**	**53.09**	**50**	*e*T	T	09 40 31.1		
	6.1nm,0.3s							
PPT	**Papeete**	**53.11**	**50**	LR	LR	09 02 23.4		
	comp=Z,26nm,19.1s,baz=170,slow=32							
MEH	**Mehetia**	**53.36**	**52**	*e*T	T	09 40 53.5		
	12nm,0.2s							
FITZ	**Fitzroy Crossi**	**54.43**	**304**	LR	LR	09 03 35.0		
	comp=Z,91nm,18.3s,baz=134,slow=32							
VAH	**Vaihoa**	**55.96**	**51**	*e*T	T	09 44 07.3		
	75nm,0.3s							
BATI	**Baumata**	**62.41**	**306**	LR	LR	09 09 45.1		
	comp=Z,89nm,18.2s,baz=165,slow=34							
H03S2	**Juan Fernandez**	**68.87**	**123**	T	T	10 01 05.8		
	baz=204,slow=74,SNR=12							
H03S1	**Juan Fernandez**	**68.87**	**123**	T	T	10 01 08.0		
	baz=204,slow=74,SNR=9.8							
H03S3	**Juan Fernandez**	**68.88**	**123**	T	T	10 01 05.4		
	baz=204,slow=74,SNR=9.9							
H08S2	**Diego Garcia H**	**86.87**	**259**	T	T	10 23 31.9		
	baz=152,slow=76,SNR=8.2							
H08S1	**Diego Garcia H**	**86.88**	**259**	T	T	10 23 32.0		
	baz=152,slow=76,SNR=4.6							
H08S3	**Diego Garcia H**	**86.89**	**259**	T	T	10 23 32.1		
	baz=152,slow=76,SNR=22							
LPAZ	**La Paz**	**88.81**	**125**	P	**P**	**08 47 11.4**	**+0.4**	
	2.4nm,1.1s,baz=181,slow=4.7,SNR=6.6							
H06E1	**SOCORRO T-PHASE**	**01.50**	**71**	T	T	10 41 15.7		
	SNR=8.1							
ILAR	**Eielson Array**	**131.37**	**23**	PKP	**PKiKP**	**08 53 27.6**	**-0.2**	
	17nm,0.5s,baz=217,slow=4.2,SNR=5.2							
KBZ	**Khabaz**	**144.56**	**262**	PKP	PKPbc	08 53 50.1	-0.3	
	2.9nm,0.8s,baz=165,slow=4.6,SNR=4.2							
BRTR	**Keskin Array B**	**145.39**	**248**	PKPbc	**PKPbc**	**08 53 52.3**	**-1.2**	
	3.4nm,0.9s,baz=174,slow=5.0,SNR=7.8							

IDC 22 08:50:33.0±5.0, 62.93S×171.13E, h0km, mb3.7/1, mb1 3.8/2, mb1mx3.6/21, mbtmp3.6/2, ML3.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=196.3km s-min=45.6km az=72.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.95**	**188**	Pn	Pn	08 54 04.6	-0.6
	0.1nm,0.3s,baz=25,slow=15,SNR=6.5						
VNDA				LR	LR	08 58 27.7	
	comp=Z,263nm,19.1s,baz=26,slow=32						
H01W1	**Cape Leeuwin H**	**44.66**	**281**	T	T	09 46 33.0	
	baz=147,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**44.66**	**281**	T	T	09 46 33.3	
	baz=147,slow=76,SNR=26						
H01W3	**Cape Leeuwin H**	**44.67**	**281**	T	T	09 46 34.2	
	baz=147,slow=76,SNR=20						
ASAR	**Alice Springs**	**46.45**	**310**	P	P	08 59 01.2	-0.3
	1.0nm,0.9s,baz=149,slow=8.0,SNR=5.8						
SIJI	**Sorong**	**68.62**	**317**	LR	LR	09 32 20.6	
	comp=Z,57nm,18.6s,baz=73,slow=36						
H03S2	**Juan Fernandez**	**68.72**	**123**	T	T	10 17 24.0	
	baz=204,slow=74,SNR=4.7						
H03S1	**Juan Fernandez**	**68.72**	**123**	T	T	10 17 27.3	
	baz=204,slow=74,SNR=4.8						
H03S3	**Juan Fernandez**	**68.74**	**123**	T	T	10 17 22.3	
	baz=204,slow=74,SNR=11						
H08S2	**Diego Garcia H**	**87.17**	**259**	T	T	10 39 44.2	
	baz=154,slow=76,SNR=5.7						
H08S1	**Diego Garcia H**	**87.17**	**259**	T	T	10 39 51.1	
	baz=154						
H08S3	**Diego Garcia H**	**87.19**	**259**	T	T	10 39 45.0	
	baz=154,slow=76,SNR=15						
KBZ	**Khabaz**	**144.86**	**262**	PKP	PKPbc	09 10 10.2	+0.3
	1.3nm,0.2s,baz=181,slow=3.6,SNR=4.9						
BRTR	**Keskin Array B**	**145.70**	**248**	PKPbc	PKPdf	09 10 12.6	0.0
	0.7nm,0.6s,baz=98,slow=2.9,SNR=2.6						

IDC 22 08:54:11.0±1.8, 34.21N×25.05E, h0km, mb3.6/1, mb1 3.6/2, mb1mx3.2/45, mbtmp3.6/2, ML4.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/45, Error ellipse: s-maj=33.1km s-min=22.5km az=105.0
ISK 22 08:54:12.9, 34.12N×24.96E, h84km, ML3.5/10
THE 22 08:54:13.7, 34.21N×25.02E, h0km±1km, ML2.9/4, Error ellipse: s-maj=2.8km s-min=0.8km az=161.0
ATH 22 08:54:14.5, 34.31N×25.06E, h26km±1km, ML2.7/8, Error ellipse: s-maj=5.1km s-min=1.6km az=356.0
ISC 22 08:54:12.1±1.9, 34.15N±0.07×25.04E±0.03, h6km±11km, n48, σ0°60/56, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.88**	**348**	P	**Pg**	**08 54 29.6**	**+0.5**
SIVA				S	**Sb**	**08 54 42.6**	**+0.7**
	3μm,0.6s						
SIVA	**Sivas**	**0.88**	**348**	P	**Pg**	**08 54 29.2**	**+0.1**
SIVA				S	**Sg**	**08 54 39.7**	**-0.9**
SIVA				AML	AML	08 54 48.0	
	comp=N,4579μm,0.7s						
SIVA				AML	AML	08 54 50.0	
	comp=E,5376μm,0.5s						
GVD	**Gavdhos**	**1.04**	**311**	P	**Pb**	**08 54 32.6**	**0.0**
GVD				S	**Sn**	**08 54 47.8**	**-0.4**
	comp=E,818nm,0.4s						
GVD	**Gavdhos**	**1.04**	**311**	P	**Pb**	**08 54 32.9**	**+0.2**
GVD				AML	AML	08 54 55.1	
	comp=E,1872μm,0.4s						
GVD				AML	AML	08 54 58.1	
	comp=N,1364μm,0.5s						
GVD	**Gavdhos**	**1.04**	**311**	PG	**Pn**	**08 54 33.2**	**-0.1**
GVDS	**Gavdos**	**1.04**	**311**	P	**Pb**	**08 54 33.0**	**+0.4**
GVDS				S	**Sn**	**08 54 48.4**	**+0.2**
	comp=N,402nm,0.3s						
GVDS	**Gavdos**	**1.04**	**311**	PG	**Pn**	**08 54 33.4**	**+0.1**
GVDS				SG	**Sn**	**08 54 48.3**	**+0.1**
LAST	**Lasithi**	**1.07**	**20**	P	**Pg**	**08 54 32.3**	**-0.3**
LAST				AML	AML	08 54 48.2	
	comp=E,674μm,0.5s						
LAST				AML	AML	08 54 58.5	
	comp=N,689μm,0.6s						
IDI	**Anoyia**	**1.14**	**354**	Pn	**Pg**	**08 54 33.6**	**-0.5**
	comp=N,15nm,0.3s,baz=174,slow=17,SNR=20						
IDI				Sn	**Sb**	**08 54 49.8**	**+0.4**
	comp=N,24nm,0.3s,baz=188,slow=21,SNR=10						
IDI	**Anoyia**	**1.14**	**354**	P	**Pg**	**08 54 33.7**	**-0.3**
IDI				S	**Sb**	**08 54 50.0**	**+0.6**
	comp=N,255nm,0.4s						
IDI	**Anoyia**	**1.14**	**354**	P	**Pg**	**08 54 33.5**	**-0.5**
IDI				AML	AML	08 54 55.4	
	comp=N,522μm,0.4s						
IDI				AML	AML	08 54 58.5	
	comp=E,513μm,0.5s						
IDI	**Anoyia**	**1.14**	**354**	PN	**Pn**	**08 54 35.1**	**+0.4**
HRKL	**Herakleio**	**1.16**	**2**	PN	**Pn**	**08 54 35.5**	**+0.6**
NPS	**Neapolis**	**1.20**	**23**	P	**Pg**	**08 54 34.6**	**-0.6**
NPS				AML	AML	08 55 00.7	
	comp=E,671μm,0.6s						
NPS				AML	AML	08 55 08.5	
	comp=N,587μm,0.5s						
PRNS	**Prines Rethymn**	**1.29**	**340**	P	**Pn**	**08 54 36.7**	**0.0**
STIA	**Sitia Lasithi**	**1.36**	**39**	P	**Pg**	**08 54 38.7**	**+0.5**
ZKR	**Zakros**	**1.36**	**45**	P	**Pb**	**08 54 38.1**	**0.0**
ZKR	**Zakros**	**1.36**	**45**	P	**Pn**	**08 54 37.8**	**+0.1**
ZKR				AML	AML	08 55 08.1	
	comp=E,543μm,1.0s						
ZKR				AML	AML	08 55 12.2	
	comp=N,281μm,0.5s						
ZKR	**Zakros**	**1.36**	**45**	PN	**Pg**	**08 54 38.6**	**+0.3**
ZKR				SN	**Sg**	**08 54 57.3**	**+1.3**
VAM	**Vamos**	**1.43**	**331**	P	**Pn**	**08 54 39.0**	**+0.4**
VAM	**Vamos**	**1.43**	**331**	P	**Pb**	**08 54 39.1**	**-0.1**
VAM				AML	AML	08 55 07.4	
	comp=E,565μm,0.4s						
VAM				AML	AML	08 55 10.2	
	comp=N,624μm,0.3s						
KNDR	**Palaiochora Ch**	**1.55**	**314**	PN	**Pn**	**08 54 40.3**	**0.0**
IMMV	**Iera Moni Meta**	**1.57**	**326**	P	**Pn**	**08 54 40.7**	**+0.2**
IMMV				AML	AML	08 55 21.8	
	comp=E,341μm,0.5s						
IMMV				AML	AML	08 55 22.4	
	comp=N,499μm,0.6s						
IMMV	**Iera Moni Meta**	**1.57**	**326**	PN	**Pn**	**08 54 40.3**	**-0.2**
RODP	**Rodopos**	**1.76**	**323**	PN	**Pn**	**08 54 42.7**	**-0.4**
KARP	**Karpathos**	**2.23**	**51**	P	**Pb**	**08 54 51.5**	**-1.4**
KARP	**Karpathos**	**2.23**	**51**	P	**Pb**	**08 54 51.4**	**-1.4**
KARP	**Karpathos**	**2.23**	**51**	PN	**Pn**	**08 54 50.4**	**+0.7**
KARP				SN	**Sn**	**08 55 17.9**	**+0.4**
STAX	**Taxiarchis Har**	**2.26**	**7**	P	**Pn**	**08 54 50.1**	**+0.1**
THR5	**Thira Island,**	**2.27**	**6**	P	**Pn**	**08 54 50.3**	**+0.1**
ANAF	**Anafi Island**	**2.28**	**15**	P	**Pn**	**08 54 50.7**	**+0.4**
IOSP	**Ios island**	**2.57**	**4**	P	**Pn**	**08 54 54.4**	**+0.1**
KTHA	**Kythira Island**	**2.65**	**323**	P	**Pn**	**08 54 56.9**	**+1.5**
APE	**Apeiranthos**	**2.94**	**8**	P	**Pn**	**08 54 59.1**	**-0.3**
APE	**Apeiranthos**	**2.94**	**8**	PN	**Pn**	**08 54 59.8**	**+0.4**
ARG	**Arkhangelos**	**3.26**	**50**	P	**Pn**	**08 55 05.2**	**+1.5**
ARG	**Arkhangelos**	**3.26**	**50**	PN	**Pn**	**08 55 04.3**	**+0.5**
DAT	**Datca**	**3.30**	**38**	PN	**Pn**	**08 55 05.0**	**+0.6**
TURN	**Turunc**	**3.70**	**44**	PN	**Pn**	**08 55 10.4**	**+0.6**
DALY	**Dalyan (Mula)**	**3.97**	**47**	PN	**Pn**	**08 55 14.1**	**+0.6**
YER	**Yerkesik**	**3.98**	**41**	PN	**Pn**	**08 55 14.0**	**+0.3**
FETY	**Fethiye**	**4.13**	**52**	PN	**Pn**	**08 55 16.1**	**+0.4**
AKAS	**Kas**	**4.27**	**60**	PN	**Pn**	**08 55 18.1**	**+0.3**
ELL	**Elmali**	**4.74**	**56**	PN	**Pn**	**08 55 24.4**	**+0.1**
AKASG	**Malin Array Be**	**16.82**	**9**	Pn	**Pn**	**08 58 08.0**	**-0.1**
	comp=N,0.9nm,0.3s,baz=199,slow=11,SNR=4.9						
TORD	**Torodi Ar. Bea**	**29.77**	**231**	P	**P**	**09 00 19.9**	**+0.2**
	comp=N,64nm,0.7s,baz=31,slow=9.8,SNR=1.3						
DBIC	**Dimbokro**	**38.87**	**232**	LR	LR	09 20 48.1	
	comp=N,107nm,20.8s,baz=137,slow=41						
MKAR	**Makanchi Array**	**44.41**	**56**	P	**P**	**09 02 22.8**	**-0.9**
	comp=N,0.6nm,0.6s,baz=274,slow=6.2,SNR=4.5						

NEIC 22 09:01:04.0±0.8, 4.7N±0.1×125.9E±0.2, h128km±10km, mb4.4/18, Error ellipse: s-maj=34.3km s-min=17.1km az=80.0
MAN 22 09:01:08.8, 4.71N×125.94E, h170km, mb4.8, ML3.7, MS3.7
IDC 22 09:01:08.6±11.0, 4.64N×125.90E, h174km±106km, mb3.5/7, mb1 3.7/8, mb1mx3.3/57, mbtmp4.0/8, MS3.4/3, Ms1 3.4/3, ms1mx2.7/33, Error ellipse: s-maj=91.2km s-min=13.9km az=58.0
ISC 22 09:01:07.0±0.6, 4.54N±0.06×125.8E±0.1, h150km, n41, σ1°68/44, mb4.2/16, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.56**	**357**	*e*P	**Pn**	**09 01 38.8**	**+1.5**
DDMP				*e*S	**Sn**	**09 02 03.5**	**+3.0**
SKMP	**Bagumbayan, Su**	**2.33**	**328**	*e*P	**Pn**	**09 01 48.2**	**+2.1**
SKMP				*e*S	**Sn**	**09 02 20.1**	**+3.8**
MATI	**Mati**	**2.44**	**11**	*e*P	**Pn**	**09 01 48.8**	**+1.4**
MATI				*e*S	**Sn**	**09 02 18.6**	**+0.1**
KCP	**Kidapawan**	**2.55**	**344**	*e*P	**Pn**	**09 01 52.2**	**+3.3**
BUKP	**Musuan**	**3.40**	**348**	*e*P	**Pn**	**09 02 01.7**	**+2.2**
BUKP				*e*S	**Sn**	**09 02 40.8**	**+0.5**
PAGZ	**Pagadian**	**4.07**	**324**	*e*P	**Pn**	**09 02 09.6**	**+1.4**
PAGZ				*e*S	**Sn**	**09 02 50.6**	**-5.3**
LUWI	**Luwuk**	**6.31**	**209**	Pn	**Pn**	**09 02 36.6**	**-1.3**
TGY	**Tagaytay City**	**10.64**	**334**	LR	LR	09 08 14.8	
	comp=Z,139nm,19.4s,baz=200,slow=40						
KAPI	**Kappang**	**11.25**	**213**	P	**Pn**	**09 03 46.1**	**+2.6**
	1.7nm,0.3s,baz=12,slow=10,SNR=3.8						
KNRA	**Kununurra**	**20.30**	**172**	P	**P**	**09 05 31.6**	**+0.3**
KNRA				IAmb	IAmb	09 05 35.5	
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.49**	**180**	P	**P**	**09 05 54.6**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=349,slow=5.3,SNR=12						
FITZ	**Fitzroy Crossi**	**22.49**	**180**	P	**P**	**09 05 54.8**	**+0.7**
UBPT	**Khong Chiam**	**22.67**	**300**	P	**P**	**09 05 56.3**	**+0.4**
UBPT				IAmb	IAmb	09 05 56.9	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**25.59**	**161**	P	**P**	**09 06 22.1**	**-0.3**
WB0				IAmb	IAmb	09 06 33.2	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**25.73**	**161**	P	**P**	**09 06 23.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=338,slow=10,SNR=35						
WRA				LR	LR	09 18 40.8	
	comp=Z,77nm,18.6s,baz=160,slow=41						
WB2	**Warramunga Arr**	**25.74**	**161**	P	**P**	**09 06 23.4**	**-0.4**
WB2				IAmb	IAmb	09 06 35.8	
	comp=Z,7.0nm,1.2s						
WC3	**Warramunga Arr**	**25.76**	**161**	P	**P**	**09 06 24.0**	**0.0**
WR0	**Warramunga Arr**	**25.82**	**161**	P	**P**	**09 06 24.1**	**-0.4**
PSAD1	**Pilbara Seismi**	**26.49**	**193**	P	**P**	**09 06 30.5**	**0.0**
PSAC2	**Pilbara Seismi**	**26.57**	**192**	P	**P**	**09 06 31.7**	**+0.4**
PSAA2	**Pilbara Seismi**	**26.59**	**192**	P	**P**	**09 06 31.6**	**+0.3**
PSA00	**Pilbara Seismi**	**26.60**	**192**	P	**P**	**09 06 32.0**	**+0.5**
PSA00				IAmb	IAmb	09 06 46.4	
	comp=Z,21nm,1.4s						
PSAA3	**Pilbara Seismi**	**26.60**	**192**	P	**P**	**09 06 31.7**	**+0.2**
ASAR	**Alice Springs**	**29.13**	**165**	P	**P**	**09 06 53.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=343,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**29.67**	**300**	P	**P**	**09 06 59.6**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=120,slow=7.5,SNR=5.5						
MORW	**Morawa**	**34.70**	**195**	P	**P**	**09 07 42.7**	**+0.1**
MORW				IAmb	IAmb	09 07 59.5	
	comp=Z,22nm,1.5s						
FORT	**Forrest**	**35.18**	**177**	P	**P**	**09 07 47.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**38.14**	**192**	P	**P**	**09 08 11.8**	**0.0**
BBOO	**Buckleboo**	**38.40**	**166**	P	**P**	**09 08 14.5**	**+0.6**
STKA	**Stephens Creek**	**39.21**	**159**	P	**P**	**09 08 21.4**	**+0.7**
	comp=Z,3.8nm,0.3s,baz=359,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**39.21**	**159**	P	**P**	**09 08 21.3**	**+0.6**
PETK	**Petropavlovsk-**	**55.04**	**23**	LR	LR	09 35 42.9	
	comp=Z,39nm,20.6s,baz=133,slow=38						
MKAR	**Makanchi Array**	**56.37**	**325**	P	**P**	**09 10 31.2**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=128,slow=8.0,SNR=15						
MKAR				PcP	**PcP**	**09 11 26.7**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=123,slow=4.5,SNR=4.8						
MAKZ	**Makanchi**	**56.55**	**325**	P	**P**	**09 10 35.4**	**+1.4**
MAKZ				IAmb	IAmb	09 10 36.9	
	comp=Z,3.8nm,1.3s						
KURBB	**Kurchatov Arra**	**60.56**	**328**	P	**P**	**09 10 59.9**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=129,slow=6.1,SNR=18						
KURK	**Kurchatov**	**60.56**	**328**	P	**P**	**09 11 00.3**	**-1.2**
KURK				IAmb	IAmb	09 11 03.0	
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**70.94**	**321**	P	**P**	**09 12 05.8**	**-2.2**
CASY	**Casey**	**71.51**	**186**	P	**P**	**09 12 11.5**	**+0.4**
CASY				IAmb	IAmb	09 12 17.5	
	comp=Z,7.0nm,1.3s						
KNK	**Knik Glacier**	**84.00**	**29**	P	**P**	**09 13 17.3**	**-3.2**
KNK				IAmb	IAmb	09 13 29.4	
	comp=Z,8.9nm,1.0s						
MAW	**Mawson**	**84.19**	**200**	P	**P**	**09 13 20.7**	**-0.4**
INK	**Inuvik**	**89.75**	**21**	P	P	09 13 39.0	-9.0

DDA 22 09:03:38.0, 35.36N×27.62E, h13km±2km, MW3.6
NIC 22 09:03:42.1±0.0, 35.58N×27.79E, h18km±1km, Ml3.8/4
ATH 22 09:03:43.0, 35.66N×27.72E, h23km±1km, ML3.3/12, Error ellipse: s-maj=3.5km s-min=1.3km az=322.0
ISK 22 09:03:42.5, 35.57N×27.75E, h9km, ML3.4/17
THE 22 09:03:42.9, 35.62N×27.74E, h0km±2km, ML3.4/3, Error ellipse: s-maj=5.1km s-min=0.9km az=143.0
ISC 22 09:03:42.5±1.1, 35.55N±0.03×27.76E±0.02, h15km±9km, n76, σ1°26/102, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.49**	**270**	P	**Pg**	**09 03 52.2**	**0.0**
KARP				S	**Sb**	**09 04 00.8**	**+1.0**
	4μm,0.4s						
KARP	**Karpathos**	**0.49**	**270**	P	**Pg**	**09 03 52.2**	**0.0**
KARP				S	**Sb**	**09 04 00.2**	**+0.4**
KARP				AML	AML	09 04 04.1	
	comp=N,8810μm,0.5s						
KARP				AML	AML	09 04 07.0	
	comp=E,6745μm,0.8s						
KARP	**Karpathos**	**0.49**	**270**	PG	**Pg**	**09 03 52.2**	**0.0**
KARP				SG	**Sb**	**09 03 59.6**	**-0.2**
KARP	**Karpathos**	**0.49**	**270**	P	**Pg**	**09 03 52.2**	**0.0**
KARP				S	**Sb**	**09 04 00.5**	**+0.7**
KARP				AML	AML	09 04 04.3	
	comp=E,9.1nm,0.8s						
KARP				AML	AML	09 04 04.3	
	comp=E,9.1nm,0.8s						
KARP				AML	AML	09 04 06.3	
	comp=E,6.7nm,0.8s						
KARP				AML	AML	09 04 06.3	
	comp=E,6.7nm,0.8s						
ARG	**Arkhangelos**	**0.73**	**24**	P	**Pg**	**09 03 56.0**	**-0.8**
ARG				S	**Sb**	**09 04 06.8**	**0.0**
	comp=E,2μm,0.4s						
ARG	**Arkhangelos**	**0.73**	**24**	P	**Pg**	**09 03 55.9**	**-0.8**
ARG				S	**Sg**	**09 04 05.4**	**-0.9**
ARG				AML	AML	09 04 09.8	
	comp=N,3134μm,0.3s						
ARG				AML	AML	09 04 14.6	
	comp=E,4192μm,0.3s						
ARG	**Arkhangelos**	**0.73**	**24**	PG	**Pg**	**09 03 55.9**	**-0.8**
ARG				SG	**Sb**	**09 04 06.9**	**+0.1**
ARG	**Arkhangelos**	**0.73**	**24**	P	**Pg**	**09 03 55.8**	**-0.9**
ARG				S	**Sg**	**09 04 05.6**	**-0.8**
NIS1	**Nisyros Isl.**	**1.15**	**336**	PN	**Pg**	**09 04 04.4**	**-0.3**
NISR	**Nisiros**	**1.18**	**334**	P	**Pb**	**09 04 02.4**	**-2.2**
NISR				AML	AML	09 04 26.3	
	comp=E,3659μm,1.0s						
NISR				AML	AML	09 04 27.4	
	comp=N,2213μm,0.5s						
DAT	**Datca**	**1.19**	**353**	P	**Pn**	**09 04 04.5**	**-0.2**
DAT				S	**Sn**	**09 04 20.9**	**+0.2**
DAT	**Datca**	**1.19**	**353**	PN	**Pg**	**09 04 05.1**	**-0.3**
DAT				SN	**Sn**	**09 04 21.8**	**+1.1**
DAT	**Datca**	**1.19**	**353**	*i* P	**Pn**	**09 04 04.6**	**-0.2**
DAT				*i* S	**Sn**	**09 04 21.8**	**+1.1**
DAT				IAML		09 04 26.0	
	comp=E,307nm,0.7s						
DAT				IAML		09 04 31.0	
	comp=N,270nm,0.5s						
TURN	**Turunc**	**1.29**	**18**	PN	**Pb**	**09 04 06.2**	**-0.2**
TURN	**Turunc**	**1.29**	**18**	*i* P	**Pb**	**09 04 06.1**	**-0.3**
TURN				*i* S	**Sg**	**09 04 29.0**	**+5.0**
TURN				IAML		09 04 31.0	
	comp=E,538nm,0.6s						
TURN				IAML		09 04 35.0	
	comp=N,527nm,0.4s						
ZKR	**Zakros**	**1.33**	**252**	P	**Pb**	**09 04 07.5**	**+0.3**
ZKR	**Zakros**	**1.33**	**252**	P	**Pb**	**09 04 07.6**	**+0.4**
ZKR				AML	AML	09 04 36.3	
	comp=N,2001μm,0.9s						
ZKR				AML	AML	09 04 37.0	
	comp=E,5071μm,1.1s						
KOSK	**Kos Island**	**1.36**	**332**	PN	**Pg**	**09 04 07.8**	**-0.8**
DALY	**Dalyan (Mula)**	**1.46**	**29**	PN	**Pb**	**09 04 09.4**	**+0.1**
DALY	**Dalyan (Mula)**	**1.46**	**29**	*i* P	**Pb**	**09 04 09.2**	**-0.1**
DALY				*i* S	**Sg**	**09 04 32.0**	**+2.5**
DALY				IAML		09 04 37.0	
	comp=N,311nm,0.6s						
DALY				IAML		09 04 40.0	
	comp=E,335nm,0.9s						
FETY	**Fethiye**	**1.52**	**44**	P	**Pb**	**09 04 10.3**	**-0.2**
FETY	**Fethiye**	**1.52**	**44**	PN	**Pb**	**09 04 10.4**	**-0.1**
FETY	**Fethiye**	**1.52**	**44**	*i* P	**Pb**	**09 04 10.6**	**+0.1**
FETY				*i* S	**Sg**	**09 04 35.2**	**+3.5**
FETY				IAML		09 04 42.0	
	comp=N,176nm,0.7s						
FETY				IAML		09 04 44.0	
	comp=E,130nm,0.6s						
BDRM	**Kayabasi**	**1.54**	**350**	*i* P	**Pn**	**09 04 09.5**	**+0.1**
BDRM				*i* S	**Sg**	**09 04 30.2**	**-1.8**
BDRM				IAML		09 04 34.0	
	comp=E,421nm,0.7s						
BODT	**Bodrum**	**1.56**	**347**	PN	**Pb**	**09 04 10.6**	**-0.4**
BODT				SN	**Sg**	**09 04 31.2**	**-1.4**
KSL	**Kastellorizon**	**1.60**	**67**	P	**Pn**	**09 04 11.1**	**+0.9**
YKAV	**Yalikavak-Bodr**	**1.62**	**346**	PN	**Pb**	**09 04 11.5**	**-0.6**
YER	**Yerkesik**	**1.64**	**15**	PN	**Pb**	**09 04 11.9**	**-0.6**
AKAS	**Kas**	**1.65**	**65**	PN	**Pb**	**09 04 12.2**	**-0.4**
AKAS	**Kas**	**1.65**	**65**	*i* P	**Pn**	**09 04 11.4**	**+0.4**
AKAS				*i* S	**Sg**	**09 04 36.7**	**+1.2**
AKAS				IAML		09 04 58.0	
	comp=E,119nm,0.8s						
MLSB	**Milas**	**1.75**	**0**	PN	**Pb**	**09 04 13.6**	**-0.6**
NPS	**Neapolis**	**1.78**	**261**	P	**Pb**	**09 04 14.9**	**+0.1**
NPS				AML	AML	09 04 44.2	
	comp=E,1487μm,0.6s						
NPS				AML	AML	09 04 49.8	
	comp=N,1344μm,0.8s						
ANAF	**Anafi Island**	**1.81**	**297**	P	**Pn**	**09 04 13.3**	**+0.2**
ANAF				S	**Sb**	**09 04 36.8**	**-0.9**
	comp=N,3μm,0.5s						
ANAF	**Anafi Island**	**1.81**	**297**	P	**Pn**	**09 04 13.1**	**0.0**
CAME	**Cameli-Denizli**	**1.87**	**41**	PN	**Pb**	**09 04 15.4**	**-1.0**
LAST	**Lasithi**	**1.91**	**259**	P	**Pb**	**09 04 16.6**	**-0.4**
LAST				AML	AML	09 04 54.9	
	comp=E,866μm,1.3s						
LAST				AML	AML	09 05 01.9	
	comp=N,847μm,0.9s						
AMGA	**Amorgos Island**	**1.98**	**311**	P	**Pn**	**09 04 15.0**	**-0.5**
AMGA				AML	AML	09 04 48.6	
	comp=E,1569μm,0.9s						
AMGA				AML	AML	09 04 50.1	
	comp=N,1247μm,0.5s						
THR8	**Santorini-Mono**	**2.04**	**296**	P	**Pn**	**09 04 15.8**	**-0.5**
THR6	**Thira Island,**	**2.08**	**294**	P	**Pn**	**09 04 17.8**	**+1.0**
THR2	**Thira island,**	**2.09**	**296**	P	**Pn**	**09 04 17.7**	**+0.7**
STAX	**Taxiarchis Har**	**2.09**	**295**	P	**Pn**	**09 04 18.0**	**+1.0**
THR3	**Thira Island,**	**2.10**	**295**	P	**Pn**	**09 04 18.0**	**+0.9**
ELL	**Elmali**	**2.11**	**55**	PN	**Pn**	**09 04 18.8**	**+1.4**
AYDN	**Tasoluk**	**2.11**	**3**	*i* P	**Pn**	**09 04 18.3**	**+1.0**
AYDN				IA

KEPZ				*i* S		**Sn**	**09 05 15.8**	**+1.0**
KEPZ				IAML			09 05 22.0	
	comp=N,32nm,1.2s							
KEPZ				IAML			09 05 22.0	
	comp=E,28nm,0.7s							
OSC1	**CSNet OBS 1**	**3.55**	**124**	P		**Pn**	**09 04 36.5**	**-0.5**
GAZI	**Gazipasa**	**3.76**	**78**	*i* P		**Pn**	**09 04 39.4**	**-0.6**
GAZI				*i* S		**Sn**	**09 05 21.9**	**-2.2**
GAZI				IAML			09 05 26.0	
	comp=N,41nm,0.8s							
GAZI				IAML			09 05 34.0	
	comp=E,41nm,0.5s							
AKMS	**Akamas**	**3.78**	**97**	P		**Pn**	**09 04 40.0**	**-0.2**
AKMS				AML	AML		09 05 26.9	
	comp=E,0.3nm,0.5s							
AKMS				AML	AML		09 05 35.2	
	comp=E,0.4nm,0.4s							
ALFC	**Alefka**	**3.97**	**94**	P		**Pn**	**09 04 42.5**	**-0.4**
ALFC				S		**Sn**	**09 05 29.1**	**-0.2**
ALFC				AML	AML		09 05 33.2	
	comp=E,0.5nm,0.5s							
ALFC				AML	AML		09 05 33.2	
	comp=E,0.5nm,0.5s							
ALFC				AML	AML		09 05 34.0	
	comp=E,0.5nm,0.5s							
ALFC				AML	AML		09 05 34.0	
	comp=E,0.5nm,0.5s							
NATA	**Nata**	**4.01**	**100**	P		**Pn**	**09 04 42.8**	**-0.6**
SZAC	**Souni**	**4.27**	**99**	P		**Pn**	**09 04 46.8**	**-0.1**
SZAC				AML	AML		09 05 42.7	
	comp=E,0.5nm,0.5s							
SZAC				AML	AML		09 05 44.0	
	comp=E,0.5nm,0.6s							
OSC2	**CSNet OBS 4**	**4.47**	**122**	P		**Pn**	**09 04 49.6**	**-0.1**

IDC 22 09:06:30.5±1.7, 63.09S×170.40E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/29, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=78.7km s-min=39.8km az=54.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VNDA	**Vanda**	**14.75**	**187**	Pn	Pn		09 09 59.1	-0.9
	0.1nm,0.3s,baz=11,slow=12,SNR=8.0							
H01W1	**Cape Leeuwin H**	**44.36**	**282**	T	T		10 02 29.5	
	baz=147,slow=76,SNR=18							
H01W2	**Cape Leeuwin H**	**44.37**	**282**	T	T		10 02 29.9	
	baz=147,slow=76,SNR=22							
H01W3	**Cape Leeuwin H**	**44.38**	**282**	T	T		10 02 30.8	
	baz=147,slow=76,SNR=19							
ASAR	**Alice Springs**	**46.30**	**311**	P	P		09 14 57.3	-0.5
	0.7nm,0.8s,baz=165,slow=7.7,SNR=3.2							
H03S2	**Juan Fernandez**	**68.91**	**123**	T	T		10 33 17.1	
	baz=205,slow=74,SNR=6.9							
H03S1	**Juan Fernandez**	**68.91**	**123**	T	T		10 33 18.3	
	baz=205,slow=74,SNR=5.2							
H03S3	**Juan Fernandez**	**68.93**	**123**	T	T		10 33 17.7	
	baz=205,slow=74,SNR=5.7							
H08S2	**Diego Garcia H**	**86.81**	**260**	T	T		10 55 40.5	
	baz=148,slow=76,SNR=4.8							
H08S1	**Diego Carcia H**	**86.82**	**260**	T	T		10 55 42.5	
	baz=148							
H08S3	**Diego Garcia H**	**86.83**	**260**	T	T		10 55 42.2	
	baz=148,slow=76,SNR=13							
LPAZ	**La Paz**	**88.85**	**125**	P	P		09 19 27.0	-0.2
	0.8nm,0.9s,baz=187,slow=7.8,SNR=1.9							
KBZ	**Khabaz**	**144.51**	**262**	PKP	PKPbc		09 26 06.7	+0.4
	2.8nm,0.9s,baz=124,slow=3.8,SNR=3.6							
BRTR	**Keskin Array B**	**145.33**	**248**	PKPbc	PKPbc		09 26 09.3	0.0
	0.6nm,0.4s,baz=187,slow=7.0,SNR=5.2							

*IDC **22** 09:08:24.7±1.6, 63.00S×170.36E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/27, mbtmp4.0/4, ML3.2/1, MS4.2/9, Ms1 4.2/9, ms1mx4.2/15, Error ellipse: s-maj=52.2km s-min=33.6km az=67.0*

*GCMT **22** 09:08:26.0±0.2, 62.92S±0.02×171.17E±0.05, h12km, MW5.0/91, Moment Tensor Solution. s31,c35; s91,c125; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.27±.09; Mθθ=2.10±.08; Mφφ=1.17±.10; Mrθ=-0.39±.40; Mθφ=1.18±.07; Mφr=1.99±.39; Best double couple: M0=3.64600×10^16 NP1: ϕ=249.00000°, δ=34.00000°, λ=-61.00000°. NP2: ϕ=36.00000°, δ=61.00000°, λ=-108.00000°. Principal axes: T 3.2610, Plg14.0000°, Azm139.0000°; N 0.7710, Plg16.0000°, Azm45.0000°; P -4.0320, Plg69.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 09:08:26.2±1.4, 63.05S±0.2×170.3E±0.3, h10km, n36, σ0.9s9/6, mb3.9/3, MS4.1/11, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VNDA	**Vanda**	**14.81**	**187**	Pn	**Pn**		**09 11 55.2**	**-0.1**
	0.1nm,0.3s,baz=17,slow=13,SNR=15							
VNDA				LR	LR		09 16 19.3	
	comp=Z,1μm,20.6s,baz=19,slow=32							
RPZ	**Rata Peaks**	**19.35**	**2**	LR	LR		09 19 40.6	
	comp=Z,776nm,18.1s,baz=202,slow=35							
URZ	**Urewera**	**25.14**	**13**	LR	LR		09 22 00.4	
	comp=Z,595nm,21.9s,baz=210,slow=32							
QSPA	**South Pole Qui**	**27.07**	**180**	LR	LR		09 23 14.6	
	comp=Z,732nm,19.0s,baz=36,slow=33							
STKA	**Stephens Creek**	**36.10**	**316**	LR	LR		09 28 05.1	
	comp=Z,750nm,19.8s,baz=192,slow=33							
MAW	**Mawson**	**39.68**	**215**	P	**P**		**09 15 58.0**	**+0.3**
	1.6nm,0.8s,baz=144,slow=8.7,SNR=3.8							
MAW				LR	LR		09 32 12.8	
	comp=Z,524nm,18.7s,baz=119,slow=36							
DZM	**Mont Dzumac**	**41.01**	**355**	*e*LR	LR		09 27 41.8	
	comp=Z,756nm,22.0s							
H01W1	**Cape Leeuwin H**	**44.31**	**282**	T	T		10 04 26.8	
	baz=147,slow=76,SNR=35							
H01W2	**Cape Leeuwin H**	**44.31**	**282**	T	T		10 04 27.7	
	baz=147,slow=76,SNR=35							
H01W3	**Cape Leeuwin H**	**44.32**	**282**	T	T		10 04 28.7	
	baz=147,slow=76,SNR=36							
NWAO	**Narrogin (SRO)**	**44.61**	**287**	LR	LR		09 30 47.8	
	comp=Z,752nm,21.2s,baz=167,slow=30							
ASAR	**Alice Springs**	**46.23**	**311**	P	**P**		**09 16 51.5**	**+0.1**
	0.9nm,0.8s,baz=157,slow=7.8,SNR=8.1							
RAR	**Rarotonga**	**46.45**	**40**	LR	LR		09 32 59.6	
	comp=Z,77nm,18.5s,baz=252,slow=32							
TBI	**Tubuai**	**47.88**	**53**	*e*LR	LR		09 30 12.6	
	comp=Z,235nm,29.8s							
TBI	**Tubuai**	**47.88**	**53**	*e*T	T		10 08 08.4	
	6.3nm,0.3s							
PAE	**Paea**	**53.07**	**50**	*e*T	T		10 14 36.0	
	3.3nm,0.3s							
TVO	**Taravao**	**53.07**	**51**	*e*T	T		10 14 36.9	
	1.6nm,0.3s							
PPT2	**Papeete2**	**53.13**	**50**	*e*LR	LR		09 32 48.8	
	comp=Z,246nm,26.2s							
PPT2	**Papeete2**	**53.13**	**50**	*e*T	T		10 14 41.5	
	7.0nm,0.4s							
PPT	**Papeete**	**53.15**	**50**	LR	LR		09 36 40.6	
	comp=Z,62nm,18.5s,baz=208,slow=32							
MEH	**Mehetia**	**53.41**	**52**	*e*T	T		10 15 02.2	
	14nm,0.2s							
VAH	**Vaihoa**	**56.00**	**51**	*e*T	T		10 18 15.9	
	94nm,0.3s							
TAOE	**Nuku Hiva Isla**	**64.63**	**56**	*e*LR	LR		09 37 59.5	
	comp=Z,185nm,27.4s							
H03S2	**Juan Fernandez**	**68.98**	**124**	T	T		10 35 14.0	
	baz=205,slow=74,SNR=16							
H03S1	**Juan Fernandez**	**68.98**	**124**	T	T		10 35 11.3	
	baz=205,slow=74,SNR=18							
H03S3	**Juan Fernandez**	**69.00**	**124**	T	T		10 35 16.7	
	baz=205,slow=74,SNR=15							
H03N3	**Juan Fernandez**	**69.32**	**123**	T	T		10 35 34.0	
	baz=206,slow=79,SNR=7.7							
H03N2	**Juan Fernandez**	**69.33**	**123**	T	T		10 35 38.7	
	baz=206,slow=79,SNR=24							
H03N1	**Juan Fernandez**	**69.34**	**123**	T	T		10 35 42.7	
	baz=206,slow=79,SNR=6.6							
H08S2	**Diego Garcia H**	**86.78**	**260**	T	T		10 57 42.0	
	baz=152,slow=76,SNR=10.0							
H08S1	**Diego Carcia H**	**86.79**	**260**	T	T		10 57 34.1	
	baz=152,slow=76,SNR=19							
H08S3	**Diego Garcia H**	**86.80**	**260**	T	T		10 57 35.9	
	baz=152,slow=76,SNR=22							
LPAZ	**La Paz**	**88.92**	**125**	P	**P**		**09 21 21.8**	**+0.3**
	1.8nm,1.1s,baz=226,slow=4.0,SNR=4.6							
H06E1	**SOCORRO T-PHASE**	**91.58**	**72**	T	T		11 15 21.1	
	SNR=8.2							
KBZ	**Khabaz**	**144.47**	**262**	PKP	**PKPab**		**09 27 60.0**	**0.0**
	1.6nm,0.5s,baz=86,slow=3.9,SNR=4.9							
BRTR	**Keskin Array B**	**145.32**	**248**	PKPbc	**PKPdf**		**09 28 02.5**	**-0.9**
	2.2nm,0.9s,baz=151,slow=4.5,SNR=2.4							

*IDC **22** 09:11:49.7±0.6, 64.67N×17.76W, h0km, mb4.1/17, mb1 4.4/18, mb1mx4.2/40, mbtmp4.2/18, ML4.5/1, MS3.7/17, Ms1 3.7/17, ms1mx3.5/49, Error ellipse: s-maj=19.0km s-min=11.2km az=16.0*

*REY **22** 09:11:49.0, 64.68N×17.49W, h6km*

*MOS **22** 09:11:50.6±1.4, 64.59N×17.68W, h14km, mb4.8/48, Error ellipse: s-maj=11.6km s-min=7.4km az=118.4*

*NEIC **22** 09:11:51.8±1.6, 64.64N±0.06×17.4W±0.2, h9km±4km, mb4.7/129, Error ellipse: s-maj=11.1km s-min=7.4km az=47.0*

ISC 22 09:11:51.1±0.6, 64.69N±0.02×17.49W±0.02, h7km±3km, n347, σ1.96/347, mb4.7/125, MS3.9/17, 9C-3D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IDYN	**Dyngjuhals**	**0.11**	**28**	S	**Sg**		**09 11 54.5**	**-1.0**
	baz=26							
IDYN				P	**Pg**		**09 11 51.9**	**-1.8**
	baz=26							
IVON	**Vonarskard**	**0.11**	**261**	P	**Pg**		09 11 51.4	-2.2
	baz=266							
IVON				S	**Sg**		09 11 53.7	-1.7
	baz=266							
IURH	**Urdarhals**	**0.20**	**49**	P	**Pg**		**09 11 53.1**	**-2.0**
	baz=46							
IURH				S	**Sg**		09 11 56.5	-1.2
	baz=46							
IDJK	**Dyngjujokull**	**0.22**	**149**	P	**Pg**		**09 11 53.4**	**-2.1**
	baz=148							
IGRF	**Grimsfjall**	**0.30**	**161**	S	**Sg**		**09 11 58.9**	**-2.2**
	baz=160							
IGRF				P	**Pg**		**09 11 54.8**	**-2.3**
	baz=160							
IHUS	**Husbondi**	**0.40**	**190**	P	**Pg**		**09 11 56.2**	**-2.7**
	baz=190							
IVOT	**Vottur**	**0.44**	**162**	P	**Pg**		**09 11 56.9**	**-2.8**
	baz=162							
IKRE	**Kreppuhraun**	**0.48**	**78**	P	**Pg**		**09 11 57.6**	**-2.9**
	baz=77							
IKRE				S	**Sg**		**09 12 04.4**	**-2.4**
	baz=77							
IJOK	**Jokulheimar**	**0.49**	**220**	P	**Pg**		**09 11 57.8**	**-2.7**
	baz=221							
IJOK				S	**Sg**		**09 12 04.1**	**-2.9**
	baz=221							
IASK	**Askja**	**0.51**	**44**	P	**Pg**		**09 11 58.0**	**-3.0**
	baz=44							
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**		**09 11 59.3**	**-2.8**
	baz=58							
IMKO				S	**Sg**		**09 12 07.6**	**-1.9**
	baz=58							
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**		**09 12 01.0**	**-2.7**
	baz=8.6							
IIEY	**Innrieyrar**	**0.66**	**205**	P	**Pg**		**09 12 00.6**	**-3.1**
	baz=205							
IIEY				S	**Sg**		**09 12 09.5**	**-2.8**
	baz=205							
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**		**09 12 01.0**	**-3.4**
	baz=139							
IKAL	**Kalfaell**	**0.75**	**187**	P	**Pg**		**09 12 01.8**	**-3.7**
	baz=187							
IVSH	**V-Saudoahnukur**	**0.77**	**80**	P	**Pg**		**09 12 02.2**	**-3.6**
	baz=80							
IVAT	**Vatnsfell**	**0.80**	**231**	P	**Pg**		**09 12 03.2**	**-3.2**
	baz=232							
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**		**09 12 04.2**	**-3.9**
	baz=67							
IHVE	**Hveravellir**	**0.91**	**282**	P	**Pg**		**09 12 04.5**	**-3.9**
	baz=283							
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**		**09 12 05.7**	**-3.6**
	baz=21							
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**		**09 12 06.4**	**-3.7**
	baz=14							
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**		**09 12 07.7**	**-3.7**
	baz=14							
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**		**09 12 08.1**	**-3.7**
	baz=208							
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pg**		**09 12 08.5**	**-4.0**
	baz=30							
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pg**		**09 12 08.6**	**-4.0**
	baz=220							
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pg**		**09 12 09.9**	**-4.2**
	baz=9.1							
IGHA	**Grjothals**	**1.21**	**16**	P	**Pg**		**09 12 10.3**	**-4.0**
	baz=16							
IGRA	**Granastaoir**	**1.23**	**358**	P	**Pb**		**09 12 10.4**	**-4.3**
	baz=358							
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**		**09 12 11.4**	**-4.3**
	baz=10							
IHLA	**Hella**	**1.31**	**344**	P	**Pn**		**09 12 11.8**	**-4.0**
	baz=344							
IHED	**Heoinshofoi**	**1.40**	**3**	P	**Pn**		**09 12 13.0**	**-4.0**
	baz=3.0							
IBRE	**Brettingsstaoi**	**1.45**	**353**	P	**Pn**		**09 12 13.7**	**-4.0**
	baz=353							
IGIL	**Gilhagi**	**1.47**	**18**	P	**Pn**		**09 12 13.9**	**-4.1**
	baz=18							
ISIG	**Siglufjorour**	**1.56**	**338**	P	**Pn**		**09 12 15.6**	**-3.7**
	baz=338							
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**		**09 12 16.5**	**-3.9**
	96nm,0.3s,baz=90,slow=8.8,SNR=45							
BORG				Sn	**Sn**		**09 12 39.7**	**-2.1**
	58nm,0.3s,baz=62,slow=22,SNR=17							
BORG	**Borgarnes**	**1.65**	**274**		**Pn**		**09 12 16.3**	**-4.1**
BORG				Sn	**Sn**		**09 12 40.9**	**-0.9**
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR		09 15 44.2	
	comp=Z,383nm,19.8s,baz=182,slow=32							
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn	**Pn**		**09 13 53.5**	**-1.2**
SUMG	**Summit**	**10.92**	**325**	*i* P	Pn		09 14 38.8	+11
SUMG	**Summit**	**10.92**	**325**	Pn	**Pn**		**09 14 28.2**	**+0.2**
SUMG	**Summit**	**10.92**	**325**	*i* P	Pn		09 14 38.8	+11
SUMG				*i*			09 14 53.0	
SUMG	**Summit**	**10.92**	**325**	*i* P	Pn		09 14 38.8	+11
SUMG				*i*			09 14 53.0	
EKB10	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**		**09 14 38.1**	**-0.8**
EKB8	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**		**09 14 38.2**	**-0.8**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**		**09 14 38.4**	**-0.9**
	baz=324,slow=13,SNR=12							
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**		**09 14 38.9**	**-0.4**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**		**09 14 38.9**	**-0.4**
DSB	**Dublin**	**12.80**	**148**	Pn	**Pn**		**09 14 51.4**	**-1.9**
NOA	**NORSAR Array B**	**13.53**	**92**	LR	LR		09 20 17.2	
	comp=Z,208nm,19.6s,baz=295,slow=37							
SFJD	**Kangerlussuaq**	**13.66**	**295**	LR	LR		09 19 37.7	
	comp=Z,536nm,18.1s,baz=98,slow=34							
HFS	**Hagfors**	**15.04**	**93**	LR	LR		09 21 13.7	
	comp=Z,280nm,19.9s,baz=282,slow=37							
ARCES	**ARCESS Array B**	**17.10**	**55**	LR	LR		09 20 49.7	
	comp=Z,198nm,20.9s,baz=265,slow=31							
BGES	**Gesves**	**18.61**	**130**	x	pP		09 16 11.4	+0.3
FINES	**Kalfaess Array B**	**19.70**	**79**	LR	LR		09 23 58.9	
	comp=Z,143nm,19.7s,baz=23,slow=37							
APA	**Apatity**	**20.31**	**59**	*i* P	Pn		09 16 30.3	+1.1
APA				pmax	pmax			
	comp=Z,13nm,1.1s							
APA				MLR	MLR			
	comp=Z,500nm,20.0s							
CLL	**Collm**	**20.71**	**116**	*i* P	Pn		09 16 33.1	-0.9
	comp=Z,33nm,1.1s							
CLL				*i*			09 16 42.9	
CLL				*e*			09 18 25.0	
CLL	**Collm**	**20.71**	**116**	*i* P	Pn		09 16 33.1	-0.9
CLL				pmax	pmax			
	comp=Z,33nm,1.1s							
CLL	**Collm**	**20.71**	**116**	P	**P**		**09 16 29.3**	**-2.4**
ECH	**Echery**	**21.17**	**129**	P	**P**		**09 16 33.9**	**-2.7**
ECH				pmax	pmax			
	comp=Z,21nm,1.1s							
ECH	**Echery**	**21.17**	**129**	P	**P**		**09 16 33.9**	**-2.7**
GRA1	**Grafenberg Arr**	**21.34**	**121**	P	**P**		**09 16 36.8**	**-1.7**
GRA1				IAmb	IAmb		09 16 55.6	
	comp=Z,66nm,1.4s							
GRF	**Grafenberg Arr**	**21.34**	**121**	P	**P**		**09 16 36.8**	**-1.7**
GRF				pmax	pmax			
	comp=Z,66nm,1.4s							
NKC	**Novy Kostel**	**21.36**	**118**	*e*P	**P**		**09 16 40.6**	**+1.9**
NKC	**Novy Kostel**	**21.36**	**118**	*e*P	**P**		**09 16 40.6**	**+1.9**
STU	**Stuttgart**	**21.39**	**125**	P	**P**		**09 16 38.0**	**-0.9**
STU	**Stuttgart**	**21.39**	**125**	P	**P**		**09 16 38.0**	**-0.9**
BRG	**Berggiesshubel**	**21.42**	**115**	*i* P	**P**		**09 16 40.5**	**+1.2**
	comp=Z,57nm,1.5s							
BRG				S	Sn		09 20 49.0	+4.4
BRG	**Berggiesshubel**	**21.42**	**115**	*i* P	**P**		**09 16 40.5**	**+1.2**
BRG				S	Sn		09 20 49.0	+4.4
BRG				pmax	pmax			
	comp=Z,57nm,1.5s							
BFO	**Black Forest**	**21.46**	**127**	P	**P**		**09 16 37.7**	**-2.1**
BFO				pmax	pmax			
	comp=Z,30nm,1.2s							
BFO	**Black Forest**	**21.46**	**127**	P	**P**		**09 16 37.7**	**-2.1**
VSU	**Vasula**	**21.56**	**86**	*i* P	**P**		**09 16 42.7**	**+2.0**
VSU				pmax	pmax			
	comp=Z,198nm,1.7s							
FRB	**Frobisher Bay**	**21.74**	**291**	LR	LR		09 23 52.3	
	comp=Z,265nm,18.5s,baz=78,slow=33							
PRU	**Pruhonice**	**22.36**	**116**	*e*P	**P**		**09 16 52.1**	**+2.7**
PRU	**Pruhonice**	**22.36**	**116**	*e*P	**P**		**09 16 52.1**	**+2.7**
CHVC	**Chvalec**	**22.48**	**113**	*e*P	**P**		**09 16 53.0**	**+2.4**
UPC	**Upice**	**22.52**	**113**	*e*P	**P**		**09 16 53.8**	**+2.7**
UPC	**Upice**	**22.52**	**113**	*e*P	**P**		**09 16 53.8**	**+2.7**
OSTC	**Ostas**	**22.56**	**113**	*e*P	**P**		**09 16 54.2**	**+2.6**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**		**09 16 55.4**	**+2.5**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**		**09 16 55.4**	**+2.5**
KHC	**Kasperske Hory**	**22.68**	**118**	P	**P**		**09 16 52.5**	**-0.4**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P	**P**		**09 16 55.5**	**+1.7**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P	**P**		**09 16 55.5**	**+1.7**
SENIN	**Lac Senin/Sane**	**22.84**	**132**	P	**P**		**09 16 53.9**	**-0.9**
SUW	**Suwalki**	**22.89**	**98**	P	**P**		**09 16 53.3**	**-1.6**
SUW	**Suwalki**	**22.89**	**98**	P	**P**		**09 16 53.3**	**-1.6**
DAVA	**Damuels**	**22.89**	**126**	*e*P	**P**		**09 16 58.7**	**+3.5**
	comp=Z,16nm,1.4s							
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**		**09 16 56.0**	**+0.1**
GEC2				IAmb	IAmb		09 17 07.3	
	comp=Z,41nm,1.4s							
GEC2B	**GERESS ARRAY S**	**22.96**	**119**	P	**P**		**09 16 54.8**	**-1.1**
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**		**09 16 56.1**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=325,slow=6.7,SNR=12							
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**		**09 16 54.9**	**-1.0**
RETA	**Reutte**	**23.03**	**125**	*e*P	**P**		**09 17 01.0**	**+4.5**
	comp=Z,17nm,1.2s							
MOTA	**Moosalm**	**23.27**	**125**	*e*P	**P**		**09 16 59.8**	**+0.7**
	comp=Z,23nm,1.3s							
SQTA	**Sankt Quirin**	**23.42**	**125**	*e*P	**P**		**09 17 01.4**	**+0.8**
	comp=Z,27nm,1.3s							
FETA	**Feichten**	**23.42**	**126**	*e*P	**P**		**09 17 04.1**	**+3.5**
	comp=Z,18nm,1.3s							
WATA	**Walderalm**	**23.45**	**124**	*e*P	**P**		**09 17 03.7**	**+2.8**
	comp=Z,18nm,1.3s							
WTTA	**Wattenberg**	**23.53**	**124**	*e*P	**P**		**09 17 04.6**	**+2.8**
	comp=Z,17nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**23.60**	**127**	P	**P**		**09 17 01.9**	**-0.6**
FUORN				IAmb	IAmb		09 17 26.9	
	comp=Z,33nm,1.3s							
EUNU	**Eureka**	**23.65**	**336**	P	**P**		**09 17 03.9**	**+1.4**
VRAC	**Vranov**	**23.70**	**114**	P	**P**		**09 17 05.0**	**+1.8**
	comp=Z,11nm,1.2s,baz=330,slow=14,SNR=5.9							
VRAC				LR	LR		09 27 31.5	
	comp=Z,193nm,19.2s,baz=360,slow=40							
VRAC	**Vranov**	**23.70**	**114**	*e*P	**P**		**09 17 04.8**	**+1.6**
VRAC	**Vranov**	**23.70**	**114**	P	**P**		**09 17 05.0**	**+1.8**
VRAC	**Vranov**	**23.70**	**114**	P	**P**		**09 17 05.0**	**+1.8**
MORC	**Moravsky Berou**	**23.70**	**112**	*e*P	**P**		**09 17 04.5**	**+1.2**
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**		**09 17 03.5**	**+0.2**
MORC				pmax	pmax			
	comp=Z,37nm,1.5s							
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**		**09 17 03.5**	**+0.2**
MORC				IAmb	IAmb		09 17 13.6	
	comp=Z,37nm,1.5s							
PBRG	**Braganca**	**23.74**	**160**	*e*P	P		09 17 18.8	+15
	comp=Z,22nm,1.9s							
NACGM	**Naroch**	**23.82**	**93**	*e*	**P**		**09 17 06.0**	**+1.8**
KRUC	**Moravsky**	**23.82**	**115**	*e*P	**P**		**09 17 05.2**	**+0.8**
MOA	**Molln**	**24.00**	**119**	*e*P	**P**		**09 17 08.5**	**+2.4**
	comp=Z,4.7nm,1.0s							
PVRL	**Vila Real**	**24.12**	**162**	*e*P	**P**		**09 17 11.1**	**+3.8**
	comp=Z,27nm,2.1s							
OJC	**Ojcow**	**24.27**	**109**	P	**P**		**09 17 08.6**	**+0.1**
OJC				pmax	pmax			
	comp=Z,21nm,1.4s							
OJC	**Ojcow**	**24.27**	**109**	P	**P**		**09 17 08.6**	**+0.1**
ABTA	**Abfaltersbach**	**24.29**	**123**	*e*P	**P**		**09 17 11.2**	**+2.4**
	comp=Z,21nm,1.4s							
MVO	**Moncorvo**	**24.33**	**161**	*e*P	**P**		**09 17 11.8**	**+2.5**
	comp=Z,40nm,1.7s							
JAVC	**Velka Javorina**	**24.49**	**113**	*e*P	**P**		**09 17 13.0**	**+2.4**
CONA	**Conrad Observa**	**24.54**	**117**	*e*P	**P**		**09 17 11.6**	**+0.4**
	comp=Z,7.8nm,1.0s							
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**		**09 17 10.0**	**-1.5**
CTI				pmax	pmax			
	comp=Z,27nm,1.2s							
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**		**09 17 10.0**	**-1.5**
CTI				IAmb	IAmb		09 17 30.3	
	comp=Z,27nm,1.2s							
PVIS	**Viseu**	**24.65**	**162**	*e*P	**P**		**09 17 14.7**	**+2.5**
	comp=Z,19nm,1.2s							
SMOL	**Smolenice**	**24.67**	**114**	*e*P	**P**		**09 17 13.7**	**+1.5**
SMOL				p

OBN Obninsk 27.88 84 P **P** **09 17 42.3 +1.3**
NRCA Norcia 27.90 127 P **P** **09 17 41.8 +0.3**
AQU L'Aquila 28.42 127 P **P** **09 17 45.9 -0.2**
AQU pmax pmax
comp=Z,35nm,1.2s
AQU L'Aquila 28.42 127 P **P** **09 17 45.9 -0.2**
BUR08 Bucovina Ar. S 28.50 106 P **P** **09 17 46.7 -0.2**
BURAR Bucovina Array 28.53 106 P **P** **09 17 47.2 +0.1**
KIRV Kirov 30.97 69 *ceP* **P** **09 18 09.5 +1.1**
TIP Timpagrande 32.41 125 P **P** **09 18 20.6 -0.7**
TIP IAmb IAmb 09 18 21.8
comp=Z,21nm,1.4s
ALN Alexandroupoli 34.40 112 P **P** **09 18 37.9 -0.7**
ALN pmax pmax
comp=Z,37nm,1.1s
ALN Alexandroupoli 34.40 112 P **P** **09 18 37.9 -0.7**
AGG Agios Georgios 34.58 118 P **P** **09 18 40.2 0.0**
AGG pmax pmax
comp=Z,27nm,1.2s
AGG Agios Georgios 34.58 118 P **P** **09 18 40.2 0.0**
ARU Arti 36.07 66 *d iP* **P** **09 18 54.4 +1.6**
ARU 09 20 11.5
ARU S **S** **09 24 33.6 +1.8**
ARU SS **SnSn** **09 26 54.0 -2.0**
ARU pmax pmax
comp=Z,10.0nm,1.5s
NRIK Noril'sk 36.44 35 P **P** **09 18 56.5 +0.7**
comp=Z,1.2nm,0.4s,baz=347,slow=2.9,SNR=5.8
NRIK Noril'sk 36.44 35 *ceP* **P** **09 18 56.5 +0.7**
NRIK pmax pmax
comp=Z,7.0nm,1.3s
SOC Sochi 37.87 96 *eP* **P** **09 19 09.2 +1.0**
SOC *e* 09 20 35.4
SOC *eS* **S** **09 24 59.3 -0.2**
SOC pmax pmax
comp=Z,127nm,10.4s
BRTR Keskin Array B 38.48 105 P **P** **09 19 15.1 +1.5**
comp=Z,3.5nm,0.9s,baz=328,slow=4.4,SNR=8.1
BRTR Keskin Array B 38.48 105 *ceP* **P** **09 19 16.6 +3.0**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 38.48 105 P **P** **09 19 14.1 +0.5**
KIV Kislovodsk 38.84 92 *eP* **P** **09 19 19.6 +3.1**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,162nm,16.0s
KIV Kislovodsk 38.84 92 P **P** **09 19 17.1 +0.6**
SHA1 Shidzhatmaz 39.00 93 *i P* **P** **09 19 19.9 +1.8**
KBZ Khabaz 39.11 92 P **P** **09 19 20.3 +1.6**
comp=Z,3.0nm,0.7s,baz=316,slow=7.6,SNR=4.0
KBZ LR LR 09 35 41.8
comp=Z,160nm,21.5s,baz=342,slow=36
KBZ Khabaz 39.11 92 *ceP* **P** **09 19 22.2 +3.5**
KBZ pmax pmax
comp=Z,10.0nm,1.4s
YKA Yellowknife Ar 39.20 313 P **P** **09 19 18.8 -0.3**
comp=Z,1.7nm,1.0s,baz=38,slow=8.1,SNR=3.6
INK Inuvik 39.82 329 P **P** **09 19 26.9 +2.6**
INK pmax pmax
comp=Z,25nm,1.5s
INK Inuvik 39.82 329 P **P** **09 19 26.9 +2.6**
INK IAmb IAmb 09 19 30.2
comp=Z,25nm,1.5s
MAK Makhachkala 41.71 89 *eP* **P** **09 19 37.3 -2.9**
MAK *eS* **S** **09 25 52.0 -5.0**
MAK pmax pmax
comp=Z,167nm,0.9s
MAK MLR MLR
comp=Z,86nm,11.0s
ABKAR Akbulak array 41.98 73 P **P** **09 19 42.6 +0.3**
ABKAR Akbulak array 41.98 73 P **P** **09 19 42.0 -0.3**
TIXI Tiksi 42.01 15 *eP* **P** **09 19 44.0 +1.7**
TIXI Tiksi 42.01 15 P **P** **09 19 43.4 +1.1**
GAZ Gaziantep 42.13 104 P **P** **09 19 43.0 -0.8**
O56A Blue Knob Stat 42.23 265 P **P** **09 19 46.7 +2.2**
O56A IAmb IAmb 09 20 15.2
comp=Z,20nm,1.3s
CSS Mathiatis 42.43 109 P **P** **09 19 47.2 +1.0**
CSS IAmb IAmb 09 19 49.5
comp=Z,20nm,1.2s
BMAR Burnt Mountain 42.87 333 P **P** **09 19 50.2 +0.8**
BRVK Borovoye 43.12 62 *ceP* **P** **09 19 53.2 +1.7**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 43.12 62 P **P** **09 19 51.9 +0.4**
MARD Mardin 43.51 100 P **P** **09 19 55.9 +0.9**
MARD IAmb IAmb 09 19 59.4
comp=Z,17nm,1.2s
F33A 5 Mile Ranch, 45.25 285 P **P** **09 20 12.7 +3.9**
F33A IAmb IAmb 09 20 16.0
comp=Z,13nm,1.1s
Q51A Peebles 45.32 269 P **P** **09 20 10.5 +1.2**
Q51A IAmb IAmb 09 20 13.6
comp=Z,10nm,0.9s
VWCC Virginia Weste 45.36 264 P **P** **09 20 11.9 +2.2**
I37A Lemond, Waseca 45.52 281 P **P** **09 20 12.3 +1.5**
I37A IAmb IAmb 09 20 19.7
comp=Z,8.1nm,0.9s
IL31 45.66 332 P **P** **09 20 13.6 +1.9**
IL31 IAmb IAmb 09 20 17.4
comp=Z,13nm,1.4s
ILAR Eielson Array 45.66 332 P **P** **09 20 11.4 -0.3**
comp=Z,4.8nm,1.1s,baz=26,slow=5.2,SNR=9.6
ILAR PcP **PcP** **09 21 48.9 -0.7**
comp=Z,1.2nm,0.9s,baz=349,slow=3.7,SNR=6.2
ILAR Eielson Array 45.66 332 P **P** **09 20 11.2 -0.5**
MDM Murphy Dome 45.76 333 P **P** **09 20 13.5 +1.0**
MDM IAmb IAmb 09 20 17.7
comp=Z,16nm,1.3s
IMAR Indian Mountai 45.84 337 P **P** **09 20 13.7 +0.7**
P48A Milroy 45.85 271 P **P** **09 20 16.1 +2.6**
CCB Clear Creek Bu 45.96 333 P **P** **09 20 16.2 +2.1**
CCB IAmb IAmb 09 20 19.0
comp=Z,14nm,1.5s
BCAR Beaver Creek A 46.09 329 P **P** **09 20 16.0 +0.8**
ZAA0 Zalesovo Array 47.62 51 P **P** **09 20 26.9 -0.2**
ZAA0 IAmb IAmb 09 20 31.2
comp=Z,8.6nm,1.4s
ZALV Zalesovo Beam 47.62 51 P **P** **09 20 26.9 -0.2**
comp=Z,4.8nm,1.1s,baz=327,slow=7.4,SNR=7.4
ZALV Zalesovo Beam 47.62 51 *i P* **P** **09 20 28.2 +1.1**
ZALV pmax pmax
comp=Z,5.0nm,1.1s
USIN University of 48.06 272 P **P** **09 20 33.0 +2.2**
VRDI Verde Repeater 48.08 328 P **P** **09 20 32.9 +2.0**
VRDI IAmb IAmb 09 20 36.8
comp=Z,14nm,1.4s
KURK Kurchatov 48.10 58 *ceP* **P** **09 20 30.8 -0.1**
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 48.10 58 P **P** **09 20 30.4 -0.5**
KURK IAmb IAmb 09 20 33.9
comp=Z,9.2nm,1.1s
T47A Sharon Grove 48.64 270 P **P** **09 20 34.5 -0.7**
EGMT Eagleton 48.87 297 P **P** **09 20 37.6 +0.6**
W50A Signal Mountai 49.38 268 P **P** **09 20 42.1 +1.1**
SUA Susitna One 49.42 333 P **P** **09 20 43.3 +2.2**
FPAL Fort Paine 50.07 267 P **P** **09 20 48.2 +1.9**
FPAL IAmb IAmb 09 20 49.0
comp=Z,21nm,1.5s
GEYT Alibeck 50.42 84 LR LR 09 43 01.5
comp=Z,45nm,18.8s,baz=205,slow=37
HRY Holter Researc 50.74 298 P **P** **09 20 51.5 +0.1**
X48A Hartselle 50.76 269 P **P** **09 20 53.3 +1.8**
X48A IAmb IAmb 09 20 54.2
comp=Z,8.9nm,1.1s
KSU1 Kansas State U 50.93 280 P **P** **09 20 54.5 +1.8**
KK31 Karatay Array 51.27 70 P **P** **09 20 55.3 +0.1**
KK31 pmax pmax
comp=Z,15nm,1.5s
KK31 Karatay Array 51.27 70 P **P** **09 20 55.3 +0.1**
KK31 IAmb IAmb 09 20 60.0
comp=Z,16nm,1.4s
KKAR Karatay Array 51.27 70 P **P** **09 20 55.0 -0.2**
KKAR 09 20 55.0
KKAR pmax pmax
comp=Z,15nm,1.5s
KKAR Karatay Array 51.27 70 P **P** **09 20 55.0 -0.2**
KKAR IAmb IAmb 09 20 59.9
comp=Z,16nm,1.4s
BOZ Bozeman (W) 51.60 297 P **P** **09 20 58.2 +0.4**
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 51.60 297 P **P** **09 20 58.2 +0.4**
BOZ IAmb IAmb 09 21 02.0
comp=Z,21nm,1.4s
YMP Mirror Lake Pl 51.75 295 P **P** **09 21 00.1 +1.0**
YHL Hebgen Lake 52.05 296 P **P** **09 21 03.9 +2.5**
K22A Casper 52.06 291 P **P** **09 21 03.0 +1.8**
K22A IAmb IAmb 09 21 03.6
comp=Z,14nm,1.4s
DGZ Jazzator, Alta 52.06 53 *i P* **P** **09 21 02.8 +1.6**
DGZ pmax pmax
comp=Z,5.0nm,1.2s
H17A Grant Village 52.20 295 P **P** **09 21 03.6 +1.2**
H17A IAmb IAmb 09 21 07.7
comp=Z,14nm,1.4s
MAKZ Makanchi 52.58 59 P **P** **09 21 04.9 -0.1**
MAKZ pmax pmax
comp=Z,14nm,1.5s
MAKZ Makanchi 52.58 59 P **P** **09 21 04.9 -0.1**
MAKZ IAmb IAmb 09 21 09.0
comp=Z,14nm,1.5s
MK31 Makanchi Array 52.71 58 *ceP* **P** **09 21 06.0 +0.1**
MK31 Makanchi Array 52.71 58 P **P** **09 21 05.0 -0.9**
MKAR Makanchi Array 52.71 58 P **P** **09 21 05.2 -0.7**
comp=Z,1.9nm,0.9s,baz=297,slow=8.0,SNR=7.6
MKAR Makanchi Array 52.71 58 *i P* **P** **09 21 05.4 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.71 58 P **P** **09 21 05.3 -0.6**
IMW Indian Meadow 52.76 295 P **P** **09 21 08.8 +2.2**
LOHW Long Hollow 52.87 295 P **P** **09 21 09.3 +2.0**
SNOW Snow King Moun 53.05 295 P **P** **09 21 09.5 +0.7**
TORD Torodi Ar. Bea 53.16 156 LR LR 09 45 31.7
comp=Z,75nm,18.1s,baz=175,slow=38
TORD Torodi Ar. Bea 53.16 156 P **P** **09 21 07.8 -1.7**
BW06 Boulder Array 53.17 293 P **P** **09 21 08.9 -0.7**
BW06 IAmb IAmb 09 21 15.4
comp=Z,20nm,1.4s
PD31 Pinedale Array 53.17 293 P **P** **09 21 08.8 -0.8**
PD31 IAmb IAmb 09 21 15.4
comp=Z,19nm,1.4s
PDAR Pinedale Array 53.17 293 P **P** **09 21 08.4 -1.2**
comp=Z,1.8nm,0.8s,baz=53,slow=6.9,SNR=14
PDAR LR LR 09 42 37.1
comp=Z,119nm,21.6s,baz=34,slow=35
PDAR Pinedale Array 53.17 293 P **P** **09 21 08.1 -1.5**
REDW Red Top Meadow 53.17 295 P **P** **09 21 10.4 +0.8**
KDAK Kodiak Island 53.18 332 P **P** **09 21 10.0 +0.9**
KDAK pmax pmax
comp=Z,47nm,1.5s
KDAK Kodiak Island 53.18 332 P **P** **09 21 10.0 +0.9**
N23A Red Feather La 53.30 289 P **P** **09 21 10.6 -0.1**
N23A IAmb IAmb 09 21 15.3
comp=Z,11nm,1.1s
KAN14 Manchester OK 53.31 280 P **P** **09 21 12.2 +1.8**
BCYI Bear Canyon 53.36 297 P **P** **09 21 10.3 -0.7**
PLID Pearl Lake 53.69 300 P **P** **09 21 14.5 +1.1**
PLID IAmb IAmb 09 21 15.9
comp=Z,10nm,1.5s
BOOM Boomskoye usch 53.94 66 P **P** **09 21 15.5 +0.3**
BOOM pmax pmax
comp=Z,8.0nm,1.2s
BOOM Boomskoye usch 53.94 66 P **P** **09 21 15.5 +0.3**
BOOM IAmb IAmb 09 21 28.9
comp=Z,7.6nm,1.2s
BTK Batken 53.95 72 P **P** **09 21 15.6 +0.4**
BTK pmax pmax
comp=Z,29nm,1.3s
BTK Batken 53.95 72 P **P** **09 21 15.6 +0.4**
ADOK Arcadia Dam 54.16 279 P **P** **09 21 16.2 -0.5**
CHGR Chuyangaron 54.45 74 P **P** **09 21 18.6 -0.2**
GAR Garm 54.64 73 P **P** **09 21 20.7 +0.5**
KDJ Kajisay 54.73 65 P **P** **09 21 21.2 +0.3**
KDJ pmax pmax
comp=Z,9.0nm,1.3s
KDJ Kajisay 54.73 65 P **P** **09 21 21.2 +0.3**
KDJ IAmb IAmb 09 21 25.0
comp=Z,9.1nm,1.3s
O20A White River Ci 54.87 290 P **P** **09 21 22.2 +0.2**
O20A IAmb IAmb 09 21 28.1
comp=Z,18nm,1.4s
344A Westbrook Farm 54.92 270 P **P** **09 21 23.6 +1.4**
HWUT Hardware Ranch 54.94 294 P **P** **09 21 22.3 -0.2**
HWUT IAmb IAmb 09 21 27.0
comp=Z,15nm,1.4s
RDMU Red Mountain 55.03 292 P **P** **09 21 23.5 +0.3**
HRA Herat 55.18 82 P **P** **09 21 24.7 +0.3**
X34A Smith Ranch, M 55.26 278 P **P** **09 21 24.2 -0.4**
TCUT Toone Canyon 55.30 294 P **P** **09 21 24.8 -0.4**
WMOK Wichita Mounta 55.54 279 P **P** **09 21 26.4 -0.3**
WMOK pmax pmax
comp=Z,8.0nm,1.3s
WMOK Wichita Mounta 55.54 279 P **P** **09 21 26.4 -0.3**
WMOK IAmb IAmb 09 21 30.9
comp=Z,8.4nm,1.2s
SPUT South Promonto 55.54 294 P **P** **09 21 25.7 -1.1**
JLU Jordanelle 55.75 293 P **P** **09 21 31.2 +2.7**
Z35A Perchaven, San 56.10 277 P **P** **09 21 33.0 +2.3**
Z35A IAmb IAmb 09 21 58.2
comp=Z,8.7nm,0.7s
NATX Nacogdoches 56.34 274 P **P** **09 21 33.3 +0.9**
ZAK Zakamensk 56.44 41 *eP* **P** **09 21 33.3 +0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
KSH Kashi 56.49 68 P **P** **09 21 33.8 +0.3**
KSH S **S** **09 29 21.8 -3.1**
KSH pmax pmax
comp=Z,25nm,1.1s
KSH pmax pmax
comp=Z,130nm,9.0s
KSH LR LR
comp=N,100nm,5.6s
KSH LR LR
comp=E,130nm,4.3s
KSH LR LR
comp=Z,200nm,6.3s
HUMP Col San Antoni 56.56 238 P **P** **09 21 35.5 +1.5**
DUG Dugway, Tooele 56.64 294 P **P** **09 21 37.3 +2.7**
DUG pmax pmax
comp=Z,7.0nm,1.3s
DUG Dugway, Tooele 56.64 294 P **P** **09 21 37.3 +2.7**
AMTX Amarillo 56.64 282 P **P** **09 21 35.4 +0.7**
PV12 Saucer Basin, 56.65 290 P **P** **09 21 34.6 -0.2**
PV12 IAmb IAmb 09 21 38.6
comp=Z,10nm,1.2s
SRU San Rafael Swe 56.66 292 P **P** **09 21 34.9 +0.1**
SRU pmax pmax
comp=Z,9.0nm,1.3s
SRU San Rafael Swe 56.66 292 P **P** **09 21 34.9 +0.1**
PV11 David Mesa, Pa 56.69 290 P **P** **09 21 38.7 +3.6**
PV11 IAmb IAmb 09 21 41.1
comp=Z,7.6nm,1.1s
PV16 Nyswonger Mesa 56.70 290 P **P** **09 21 37.1 +2.0**
PV01 Paradox Valley 56.71 289 P **P** **09 21 35.0 -0.3**
PV01 IAmb IAmb 09 21 40.4
comp=Z,13nm,1.4s
PV02 Paradox Valley 56.72 290 P **P** **09 21 35.4 +0.1**
PV02 IAmb IAmb 09 21 40.4
comp=Z,19nm,1.4s
PV03 Paradox Valley 56.72 290 P **P** **09 21 35.2 -0.1**
PV03 IAmb IAmb 09 21 39.0
comp=Z,10nm,1.4s
PV13 Radium Mtn., P 56.79 290 P **P** **09 21 35.6 -0.3**
PV13 IAmb IAmb 09 21 40.2
comp=Z,12nm,1.2s
ELK Elko 57.11 296 P **P** **09 21 37.6 -0.5**
ELK pmax pmax
comp=Z,6.0nm,1.5s
ELK Elko 57.11 296 P **P** **09 21 37.5 -0.5**
WMQ Urumqi 57.22 56 *eP* **P** **09 21 42.1 +3.5**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,12nm,4.3s
WMQ LR LR
comp=N,210nm,29.0s
WMQ LR LR
comp=E,670nm,29.0s
WMQ LR LR
comp=Z,65nm,28.8s
ABTX Abilene, Hawle 57.72 279 P **P** **09 21 43.9 +1.7**
ABTX IAmb IAmb 09 21 46.3
comp=Z,16nm,1.4s
MSU Marysvale 57.83 293 P **P** **09 21 43.9 +0.7**
MSU Marysvale 57.83 293 P **P** **09 21 43.9 +0.7**
MVU Marysvale 57.86 293 P **P** **09 21 44.2 +0.8**
TCRU Three Creeks R 57.86 293 P **P** **09 21 43.8 +0.4**
MTPU Mount Pierson 58.24 292 P **P** **09 21 49.6 +3.4**
ANMO Albuquerque 58.59 286 *ceP* **P** **09 21 52.6 +4.1**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
DBIC Dimbokro 58.61 165 P **P** **09 21 48.1 -0.4**
comp=Z,4.1nm,0.8s,baz=347,slow=7.9,SNR=4.2
DBIC Dimbokro 58.61 165 P **P** **09 21 48.1 -0.4**
DBIC pmax pmax
comp=Z,12nm,1.2s
DBIC Dimbokro 58.61 165 IAmb IAmb 09 21 50.2
comp=Z,12nm,1.1s
TIC Toumodi 58.62 165 *eP* **P** **09 21 45.5 -3.1**
PKCU Pink Cliffs 58.81 292 P **P** **09 21 53.7 +3.5**
KIC Kosan Boka 58.93 165 *eP* **P** **09 21 49.0 -1.8**
comp=Z,50nm,1.5s
LIC Lamto 59.03 166 *eP* **P** **09 21 49.6 -1.9**
comp=Z,12nm,0.6s
CCUT Cedar City 59.13 293 P **P** **09 21 53.0 +0.7**
R11A Troy Canyon, C 59.31 295 P **P** **09 21 53.8 +0.3**
R11A IAmb IAmb 09 21 57.8
comp=Z,8.0nm,1.4s
BNM Barren Site 59.34 285 P **P** **09 21 52.1 -1.6**
KNB Kanab 59.38 292 P **P** **09 21 56.3 +2.3**
KNB pmax pmax
comp=Z,13nm,1.5s
KNB Kanab 59.38 292 P **P** **09 21 56.3 +2.3**
LCMT Little Creek M 59.55 293 P **P** **09 21 55.5 +0.4**
PAHR Pah Rah Range 59.59 299 P **P** **09 21 56.5 +1.2**
SONM Songino Array 59.62 40 P **P** **09 21 55.2 -0.1**
comp=Z,0.9nm,0.8s,baz=315,slow=5.2,SNR=5.6
SONM LR LR 09 50 17.4
comp=Z,62nm,19.2s,baz=290,slow=39
SONM Songino Array 59.62 40 P **P** **09 21 54.7 -0.7**
JCT Junction City 59.65 278 P **P** **09 21 55.2 -0.4**
JCT pmax pmax
comp=Z,19nm,1.3s
JCT Junction City 59.65 278 P **P** **09 21 55.2 -0.4**
KVN Kaiserville 59.67 298 P **P** **09 21 57.4 +1.4**
KVN pmax pmax
comp=Z,7.0nm,1.4s
KVN Kaiserville 59.67 298 P **P** **09 21 57.4 +1.4**
KVN IAmb IAmb 09 22 00.4
comp=Z,7.3nm,1.4s
ULN Ulaanbaatar 59.77 40 *ceP* **P** **09 21 59.9 +3.4**
ULN pmax pmax
comp=Z,4.0nm,1.3s
WUAZ Wupatki 60.10 290 P **P** **09 21 59.0 +0.1**
YERR Yerington 60.16 298 P **P** **09 22 01.7 +2.4**
YERR IAmb IAmb 09 22 02.9
comp=Z,6.1nm,1.1s
NVAR Mina Array Bea 60.29 297 LR LR 09 48 50.1
comp=Z,153nm,20.1s,baz=22,slow=37
NIL Nilore 60.44 74 P **P** **09 22 00.4 -0.7**
NIL pmax pmax
comp=Z,16nm,1.0s
NIL Nilore 60.44 74 P **P** **09 22 00.4 -0.7**
SHPR Sheep Range 60.75 294 P **P** **09 22 04.4 +1.1**
SHPR IAmb IAmb 09 22 08.2
comp=Z,7.0nm,1.4s
MNTX Cornudas Mount 60.95 283 P **P** **09 22 05.6 +1.0**
TX32 Lajitas Array 62.28 280 P **P** **09 22 13.5 -0.2**
TXAR Lajitas Array 62.28 280 P **P** **09 22 13.2 -0.5**
comp=Z,1.8nm,1.0s,baz=35,slow=4.6,SNR=8.2
TXAR LR LR 09 48 39.1
comp=Z,92nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 62.28 280 P **P** **09 22 13.6 -0.1**
TXAR Lajitas Array 62.28 280 P **P** **09 22 13.6 -0.1**
TUC Tucson 62.65 288 P **P** **09 22 16.8 +0.7**
TUC pmax pmax
comp=Z,10.0nm,1.5s
TUC Tucson 62.65 288 P **P** **09 22 16.8 +0.7**
TUC IAmb IAmb 09 22 22.1
comp=Z,10.0nm,1.5s
319A Douglas 62.85 286 P **P** **09 22 18.2 +0.8**
319A IAmb IAmb 09 22 22.5
comp=Z,9.6nm,1.1s
GTA Gaotai 65.28 49 *eP* **P** **09 22 33.3 0.0**
GTA pP sP 09 22 37.6 +0.6
GTA sP pP 09 22 40.3 +4.3
GTA S **S** **09 31 12.1 -4.9**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,66nm,6.7s
GTA LR LR
comp=N,87nm,16.0s
GTA LR LR
comp=E,170nm,18.2s
GTA LR LR
comp=Z,87nm,17.8s
HHC Hu-ho-hao-te 67.49 40 *eP* **P** **09 22 49.1 +1.7**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,93nm,6.5s
LZH Lanzhou 69.61 48 *eP* **P** **09 22 58.8 -2.0**
LZH pP pP 09 23 02.1 -1.4
LZH sP sP 09 23 03.5 -1.0
LZH *e*PP **PP** **09 25 35.3 +1.2**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,95nm,5.2s
LZH LR LR
comp=N,230nm,16.5s
LZH LR LR
comp=E,240nm,16.3s
LZH LR LR
comp=Z,360nm,18.4s
CSGN Cosiguina Volc 69.86 257 P **P** **09 23 03.0 +0.6**
ROSC El Rosal 71.94 241 P **P** **09 23 15.9 +0.5**
ROSC IAmb IAmb 09 23 19.0
comp=Z,8.1nm,0.8s
PTGA Pitinga 72.21 225 P **P** **09 23 17.0 +0.5**
PTGA IAmb IAmb 09 23 19.5
comp=Z,8.7nm,1.4s
NJ2 Nanjing 77.72 37 *eP* **P** **09 23 49.3 +1.1**
NJ2 pmax pmax
comp=Z,11nm,0.6s
SAML Samuel 80.96 226 P **P** **09 24 05.8 -0.2**
SAML pmax pmax
comp=Z,5.0nm,1.5s
SAML Samuel 80.96 226 P **P** **09 24 05.8 -0.2**
CHTO Chiang Mai 83.79 59 P **P** **09 24 20.2 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,1.3s
CHTO Chiang Mai 83.79 59 P **P** **09 24 20.1 -0.8**
CHTO IAmb IAmb 09 24 23.6
comp=Z,7.4nm,1.2s
CMAR Chiang Mai Arr 84.12 59 P **P** **09 24 22.1 -0.5**
comp=Z,0.5nm,0.3s,baz=325,slow=5.9,SNR=8.4
CMAR Chiang Mai Arr 84.12 59 *i P* **P** **09 24 23.2 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
PALK Pallekele 86.98 80 P **P** **09 24 36.4 -0.5**
PALK pmax pmax
comp=Z,13nm,1.5s
PALK Pallekele 86.98 80 P **P** **09 24 36.4 -0.5**

IDC ***22*** *09:23:05.0±1.2, 7°.37S×120°.96E, h531km±11km, mb3.0/4, mb1 3.3/8, mb1mx2.9/36, mbtmp4.0/8, Error ellipse: s-maj=85.7km s-min=14.1km az=59.0*
DJA ***22*** *09:23:05.2±0.2, 8°S±2°×12°1E±°, h520km±3km, M4.1/24, mb4.0/24, mB4.7/3, MLv4.1/19, Mw(mB)3.9/3*
ISC 22 09:23:04.9±0.7, 7°.63S±0°.10×120°.7E±0°.1, h550km, n35, σ1°50/36, mb3.1/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.48**	**353**	P	**P**	**09 24 09.9**	**-2.8**
EDFI	**Ende, Flores**	**1.51**	**138**	P	**P**	**09 24 09.4**	**-3.4**
MMRI	**Maumere**	**1.85**	**123**	P	**P**	**09 24 11.8**	**-2.2**
WSI	**Waingapu**	**2.06**	**190**	P	**P**	**09 24 13.1**	**-1.8**
BKSI	**Bulukumba**	**2.35**	**347**	P	**P**	**09 24 13.9**	**-2.5**
BASI	**Baing, Sumba**	**2.58**	**182**	P	**P**	**09 24 16.8**	**-0.7**
KAPI	**Kappang**	**2.75**	**341**	P	**P**	**09 24 17.7**	**-0.8**
	4.6nm,0.3s,baz=141,slow=5.3,SNR=11						
PLAI	**Plampang**	**3.10**	**247**	P	**P**	**09 24 18.9**	**-1.7**
SPSI	**Sidrap Palu**	**3.75**	**346**	P	**P**	**09 24 23.5**	**-1.5**
TWSI	**Taliwang, Sumb**	**3.91**	**253**	P	**P**	**09 24 24.3**	**-1.8**
BATI	**Baumata**	**3.92**	**131**	P	**P**	**09 24 25.3**	**-0.9**

23nm,0.3s,baz=292,slow=5.4,SNR=9.5
BATI S **S** **09 25 28.9 -3.6**

20nm,0.3s,baz=309,slow=6.5,SNR=9.4
BATI Baumata 3.92 131 P **P** **09 24 25.2 -0.9**
SOEI Soe 4.14 121 P **P** **09 24 26.8 -1.2**
TTSI Tana Toraja 4.63 349 P **P** **09 24 30.6 -1.2**
JAGI Jajag, Banyuwa 6.50 262 P **P** **09 24 47.2 -1.0**

0.3nm58nm,0.5s
KMMI Kalianget 6.67 275 P **P** **09 24 49.5 -0.3**

0.2nm41nm,1.7s
APSI Ampana 6.74 8 P **P** **09 24 49.5 -1.0**

0.1nm20nm,0.8s
LUWI Luwuk 6.87 18 P **P** **09 24 50.7 -1.0**

0.3nm42nm,1.0s
GMJI Gumukmas 7.18 264 P **P** **09 24 53.9 -0.8**

0.2nm24nm,1.1s
SANI Sanana 7.67 44 P **P** **09 24 58.4 -1.0**

0.1nm13nm,0.7s
NLAI Namlea 7.75 56 P **P** **09 25 00.1 -0.1**

1.0nm2µm40nm,0.5s
MPSI Mapaga 7.95 354 P **P** **09 25 01.6 -0.6**

0.2nm30nm,1.0s
GTOI Gorontalo 8.54 16 P **P** **09 25 07.8 -0.2**

321nm30nm,0.7s
TBJI Tambak Boyo 8.79 275 P **P** **09 25 10.7 +0.2**

129nm,1.1s
PWJI Pagerwojo 8.79 267 P **P** **09 25 09.8 -0.8**

32nm,1.6s
BNDI Bandanaira 9.69 72 P **P** **09 25 19.9 +0.2**

143nm,1.2s
FITZ Fitzroy Crossi 11.48 156 P **P** **09 25 38.9 +0.8**

1.2nm,0.3s,baz=347,slow=12,SNR=43
KPJI Karang Pucung 11.64 271 P **P** **09 25 39.1 -0.7**

34nm,0.5s
FAKI Fak Fak 12.44 69 P **P** **09 25 48.4 +0.3**

17nm,1.4s
CNJI Cibinong 13.43 270 P **P** **09 25 58.6 +0.3**

44nm,0.9s
WRA Warramunga Arr 18.04 134 P **P** **09 26 44.6 +1.4**

0.5nm,0.3s,baz=312,slow=10,SNR=39
ASAR Alice Springs 20.39 143 P **P** **09 27 05.7 +1.1**

2.0nm,0.4s,baz=318,slow=8.4,SNR=64
STKA Stephens Creek 31.02 144 P **P** **09 28 40.0 +1.9**

1.6nm,0.4s,baz=318,slow=7.8,SNR=7.7
SONM Songino Array 56.65 349 P **P** **09 31 55.8 -0.4**

0.4nm,0.4s,baz=164,slow=7.5,SNR=2.5
MKAR Makanchi Array 64.02 332 P **P** **09 32 45.1 +0.4**

0.3nm,0.5s,baz=152,slow=5.0,SNR=3.7

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*IDC **22** 09:25:19.4±1.3,63.03S×170.69E,h0km,mb4.0/5, mb1 4.2/6,mb1mx4.0/25,mbtmp4.0/6,ML3.4/1,MS4.0/6, Ms1 3.9/6,ms1mx3.7/17, Error ellipse: s-maj=48.7km s-min=24.3km az=68.0*

ISC 22 09:25:20.9±1.2, 63.1S±0.1×170.6E±0.3, h10km, n29, σ0.99/9, mb4.0/5, MS4.0/7, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.78**	**187**	Pn	**Pn**	**09 28 48.9**	**-0.7**
	0.2nm,0.3s,baz=17,slow=13,SNR=19						
VNDA				LR	LR	09 33 13.2	
	comp=Z,513nm,20.3s,baz=16,slow=32						
RPZ	**Rata Peaks**	**19.39**	**1**	LR	LR	09 35 45.8	
	comp=Z,354nm,21.7s,baz=172,slow=32						
QSPA	**South Pole Qui**	**27.02**	**180**	P	**P**	**09 31 02.5**	**-0.4**
	2.5nm,1.1s,baz=14,slow=4.8,SNR=3.5						
STKA	**Stephens Creek**	**36.23**	**316**	LR	LR	09 44 28.1	
	comp=Z,301nm,21.2s,baz=200,slow=32						
MAW	**Mawson**	**39.72**	**215**	P	**P**	**09 32 54.1**	**+1.3**
	0.9nm,0.3s,baz=138,slow=9.3,SNR=4.9						
MAW				LR	LR	09 48 43.2	
	comp=Z,88nm,20.2s,baz=172,slow=35						
DZM	**Mont Dzumac**	**41.07**	**354**	eLR	LR	09 44 35.2	
	comp=Z,270nm,22.1s						
H01W1	**Cape Leeuwin H**	**44.45**	**282**	T	T	10 21 17.4	
	baz=147,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**44.45**	**282**	T	T	10 21 17.9	
	baz=147,slow=76,SNR=30						
H01W3	**Cape Leeuwin H**	**44.47**	**282**	T	T	10 21 22.7	
	baz=147,slow=76,SNR=26						
ASAR	**Alice Springs**	**46.36**	**311**	P	**P**	**09 33 47.9**	**+0.9**
	1.6nm,1.0s,baz=158,slow=8.2,SNR=7.5						
ASAR				LR	LR	09 51 46.4	
	comp=Z,167nm,18.4s,baz=130,slow=34						
TBI	**Tubuai**	**47.80**	**53**	eLR	LR	09 47 20.6	
	comp=Z,91nm,28.8s						
WRA	**Warramunga Arr**	**49.66**	**313**	P	**P**	**09 34 11.6**	**-1.0**
	2.1nm,1.2s,baz=152,slow=7.3,SNR=4.8						
WRA				LR	LR	09 53 44.8	
	comp=Z,266nm,18.0s,baz=120,slow=34						
PAE	**Paea**	**52.99**	**50**	eT	T	10 31 33.6	
	2.7nm,0.3s						
TVO	**Taravao**	**52.99**	**50**	eT	T	10 31 34.0	
	1.0nm,0.3s						
PPT2	**Papeete2**	**53.06**	**50**	eLR	LR	09 49 41.7	
	comp=Z,74nm,28.0s						
PPT2	**Papeete2**	**53.06**	**50**	eT	T	10 31 39.2	
	5.2nm,0.3s						
MEH	**Mehetia**	**53.33**	**52**	eT	T	10 31 59.3	
	10nm,0.3s						
VAH	**Vaihoa**	**55.92**	**51**	eT	T	10 35 13.2	
	53nm,0.3s						
H03S2	**Juan Fernandez**	**68.84**	**123**	T	T	10 52 08.5	
	baz=205,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**68.85**	**123**	T	T	10 52 11.5	
	baz=205,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**68.86**	**123**	T	T	10 52 11.5	
	baz=205,slow=74,SNR=11						
H08S2	**Diego Garcia H**	**86.91**	**259**	T	T	11 14 30.4	
	baz=156						
H08S1	**Diego Carcia H**	**86.91**	**259**	T	T	11 14 30.9	
	baz=156						
H08S3	**Diego Garcia H**	**86.92**	**259**	T	T	11 14 32.3	
	baz=156						
LPAZ	**La Paz**	**88.79**	**125**	P	**P**	**09 38 16.3**	**+0.8**
	4.3nm,1.2s,baz=216,slow=4.3,SNR=6.0						
H06E1	**SOCORRO T-PHAS**	**01.46**	**71**	T	T	11 32 09.6	
	SNR=17						
MKAR	**Makanchi Array**	**129.62**	**297**	PKP	**PKiKP**	**09 44 28.9**	**-0.8**
	0.4nm,0.8s,baz=8.5,slow=2.5,SNR=3.7						
KBZ	**Khabaz**	**144.60**	**262**	PKP	**PKPab**	**09 44 54.6**	**-0.4**
	5.1nm,1.0s,baz=220,slow=2.5,SNR=5.1						
BRTR	**Keskin Array B**	**145.43**	**248**	PKPbc	**PKPdf**	**09 44 57.8**	**-0.5**
	3.7nm,1.0s,baz=197,slow=2.6,SNR=8.8						

IDC 22 09:38:52.0±9.6, 63.15S×170.00E, h0km, mb3.4/1, mb1 3.8/2, mb1mx3.6/14, mbtmp3.6/2, ML3.0/1, MS3.5/1, Ms1 3.6/1, ms1mx3.1/10, Error ellipse: s-maj=351.9km s-min=45.4km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.67**	**187**	Pn	Pn	09 42 21.1	+0.7
	0.1nm,0.3s,baz=21,slow=14,SNR=9.7						
VNDA				LR	LR	09 46 44.1	
	comp=Z,202nm,20.1s,baz=14,slow=32						
H01W1	**Cape Leeuwin H**	**44.20**	**283**	T	T	10 34 52.2	
	baz=147,slow=76,SNR=9.6						
H01W2	**Cape Leeuwin H**	**44.20**	**283**	T	T	10 34 51.6	
	baz=147,slow=76,SNR=7.2						
H01W3	**Cape Leeuwin H**	**44.21**	**283**	T	T	10 34 53.4	
	baz=147,slow=76,SNR=6.3						
ASAR	**Alice Springs**	**46.20**	**312**	P	P	09 47 18.6	+0.1
	0.4nm,0.8s,baz=163,slow=9.7,SNR=4.1						
H03S2	**Juan Fernandez**	**69.03**	**124**	T	T	11 05 39.3	
	baz=205,slow=74,SNR=7.9						
H03S1	**Juan Fernandez**	**69.03**	**124**	T	T	11 05 42.0	
	baz=205,slow=74,SNR=6.6						
H03S3	**Juan Fernandez**	**69.05**	**124**	T	T	11 05 39.8	
	baz=205,slow=74,SNR=5.1						
H08S2	**Diego Garcia H**	**86.62**	**260**	T	T	11 28 02.2	
	baz=154						
H08S1	**Diego Carcia H**	**86.63**	**260**	T	T	11 28 06.1	
	baz=154						
H08S3	**Diego Garcia H**	**86.64**	**260**	T	T	11 28 03.8	
	baz=154,SNR=8.0						
BRTR	**Keskin Array B**	**145.15**	**249**	PKPbc	PKPbc	09 58 28.9	-1.2
	1.6nm,0.8s,baz=158,slow=4.7,SNR=5.4						

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*ATH **22** 09:41:00.2, 34.51N×23.94E, h26km±4km, ML2.6/6, Error ellipse: s-maj=10.3km s-min=2.6km az=22.0*
*THE **22** 09:41:00.8, 34.50N×23.90E, h9km, ML2.7/3, Error ellipse: s-maj=1.9km s-min=0.9km az=275.0*

ISC 22 09:40:59.7±3.2, 34.5N±0.1×23.9E±0.1, h10km, n12, σ0.21/17, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.36**	**28**	P	**Pb**	**09 41 08.1**	**-0.1**
GVD				S	**Sb**	**09 41 13.8**	**-0.1**
	3µm,0.5s						
GVD	**Gavdhos**	**0.36**	**28**	P	**Pb**	**09 41 08.1**	**-0.1**
GVD				S	**Sb**	**09 41 13.9**	**-0.1**
GVD				AML	AML	09 41 20.6	
	comp=N,5956µm,0.5s						
GVD				AML	AML	09 41 20.9	
	comp=E,5269µm,0.4s						
GVDS	**Gavdos**	**0.36**	**28**	P	**Pb**	**09 41 08.0**	**-0.3**
GVDS				S	**Sb**	**09 41 13.9**	**-0.1**
	comp=E,1µm,0.4s						
SIVA	**Sivas**	**0.91**	**57**	P	**Pb**	**09 41 17.5**	**-0.1**
SIVA	**Sivas**	**0.91**	**57**	P	**Pb**	**09 41 17.4**	**-0.2**
SIVA				AML	AML	09 41 42.0	
	comp=N,1649µm,0.7s						
SIVA				AML	AML	09 41 43.1	
	comp=E,2893µm,0.7s						
VAM	**Vamos**	**0.92**	**16**	P	**Pn**	**09 41 18.7**	**-0.1**
VAM				AML	AML	09 41 45.1	
	comp=E,635µm,0.6s						
VAM				AML	AML	09 41 49.5	
	comp=N,523µm,0.5s						
IMMV	**Iera Moni Meta**	**0.94**	**5**	P	**Pb**	**09 41 18.5**	**+0.4**
IMMV				S	**Sn**	**09 41 32.5**	**0.0**
	comp=N,408nm,0.5s						
IMMV	**Iera Moni Meta**	**0.94**	**5**	P	**Pn**	**09 41 18.7**	**-0.3**
IMMV				AML	AML	09 41 41.8	
	comp=N,629µm,0.4s						
IMMV				AML	AML	09 41 45.5	
	comp=E,983µm,0.7s						
IDI	**Anoyia**	**1.12**	**47**	P	**Pn**	**09 41 21.8**	**+0.2**
IDI				S	**Sn**	**09 41 37.5**	**+0.3**
IDI	**Anoyia**	**1.12**	**47**	P	**Pn**	**09 41 22.0**	**+0.3**
IDI				AML	AML	09 41 51.6	
	comp=N,248µm,0.6s						
IDI				AML	AML	09 41 56.7	
	comp=E,248µm,0.8s						
LAST	**Lasithi**	**1.46**	**64**	P	**Pn**	**09 41 26.2**	**0.0**
LAST	**Lasithi**	**1.46**	**64**	P	**Pn**	**09 41 26.1**	**-0.1**
LAST				AML	AML	09 42 04.5	
	comp=E,146µm,1.3s						
LAST				AML	AML	09 42 05.2	
	comp=N,199µm,1.2s						

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*NEIC **22** 09:45:31.6±2.2, 60.43N±0.03×158.3W±0.1, h25km±13km, Error ellipse: s-maj=11.0km s-min=3.2km az=106.0*

AEIC 22 09:45:31±1.7, 60.42N±0.04×158.1W±0.1, h18km±7km, ML3.5, Error ellipse: s-maj=10.2km s-min=6.3km az=101.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVW2	**Sparrevohn**	**1.42**	**60**		Pn	09 45 56.3	+0.4
SVW2					Sb	09 46 14.6	0.0
KELA	**Mount Kelaz**	**2.33**	**147**		Pn	09 46 08.9	+0.5
KELA					Sn	09 46 38.5	+2.0
ILS	**Iliamna Low So**	**2.56**	**98**		Pn	09 46 12.1	+0.4
OPT	**Oil Point**	**2.57**	**105**		Pn	09 46 13.1	+1.4
NCT	**North Crescent**	**2.57**	**85**		Pn	09 46 12.4	+0.7
NCT					Sn	09 46 42.1	-0.5
AUH	**Augustine H**	**2.58**	**112**		Pn	09 46 13.4	+1.5
ANCK	**Angle Creek**	**2.60**	**148**		Pn	09 46 12.6	+0.5
KBM	**Katmai Bkd Mtn**	**2.62**	**144**		Pn	09 46 12.6	+0.2
RDWB	**Redoubt West**	**2.62**	**86**		Pn	09 46 12.9	+0.4
RDWB					Sn	09 46 44.5	+0.7
RSO	**Redoubt South**	**2.66**	**87**		Pn	09 46 13.5	+0.4
TT01	**Tatalina**	**2.69**	**21**		Pn	09 46 14.2	+0.9
DFR	**Drift River**	**2.69**	**84**		Pn	09 46 14.1	+0.6
TTA	**Tatalina**	**2.71**	**21**		Pn	09 46 14.5	+0.7
PLK1	**Peulik 1**	**2.74**	**163**		Pn	09 46 15.2	+1.2
PLK2	**Peulik 2**	**2.82**	**160**		Pn	09 46 16.5	+1.4
SPWE	**Spurr West**	**2.85**	**70**		Pn	09 46 16.6	+1.0
STLK	**Strandline Lak**	**3.25**	**68**		Pn	09 46 22.1	+1.0
SKT	**Skwentna**	**3.55**	**61**	Pn	Pn	09 46 26.1	+0.9
BRLK	**Bradley Lake**	**3.68**	**97**	Pn	Pn	09 46 29.4	+2.4
KDAK	**Kodiak Island**	**3.89**	**130**		Pn	09 46 32.1	+2.3
OHAK	**Old Harbor**	**4.07**	**140**	Pn	Pn	09 46 34.6	+2.3
CHGN	**Chignik**	**4.13**	**182**		Pn	09 46 33.3	+0.3
SEW	**Seward**	**4.33**	**90**	Pn	Pn	09 46 39.6	+3.8
PMR	**Palmer**	**4.53**	**71**	Pn	Pn	09 46 40.8	+2.2
KTH	**Kantishna Hill**	**4.63**	**44**	Pn	Pn	09 46 41.9	+2.0
TRF	**Thorofare Moun**	**4.79**	**47**	Pn	Pn	09 46 44.1	+1.9
SML	**Sawmill**	**4.95**	**69**	Pn	Pn	09 46 44.8	+0.5
BPAW	**Bear Paw Mtn.**	**4.97**	**39**	Pn	Pn	09 46 42.9	-1.8
ANM	**Nome**	**5.35**	**324**	Pn	Pn	09 46 48.8	-1.0
SCM	**Sheep Creek Mo**	**5.42**	**70**	Pn	Pn	09 46 50.6	-0.2
MLY	**Manley**	**5.74**	**33**		Pn	09 46 55.4	+0.2
FID	**Port Fidalgo**	**5.75**	**82**	Pn	Pn	09 46 54.9	-0.4
IM03		**5.92**	**18**		Pn	09 46 59.1	+1.4
IMAR	**Indian Mountai**	**5.92**	**18**		Pn	09 46 59.5	+1.8
M24K	**Tolsona, Glenn**	**6.01**	**68**	Pn	Pn	09 47 00.7	+1.9
KLU	**Klutina**	**6.04**	**74**	Pn	Pn	09 47 00.5	+1.1
WRH	**Wood River Hil**	**6.18**	**45**	Pn	Pn	09 47 02.4	+1.2
CCB	**Clear Creek Bu**	**6.38**	**44**	Pn	Pn	09 47 04.5	+0.6
IL31		**6.77**	**45**	Pn	Pn	09 47 11.8	+2.5
ILAR	**Eielson Array**	**6.77**	**45**	Pn	Pn	09 47 10.6	+1.3
GLB	**Gilahina Butte**	**7.05**	**75**	Pn	Pn	09 47 13.4	+0.2
DOT	**Dot Lake**	**7.36**	**58**	Pn	Pn	09 47 18.4	+1.0
TGL	**Tana Glacier**	**7.54**	**81**	Pn	Pn	09 47 19.7	-0.2
BCAR	**Beaver Creek A**	**8.19**	**64**	Pn	Pn	09 47 29.1	+0.3
BMAR	**Burnt Mountain**	**9.20**	**34**	Pn	Pn	09 47 42.4	-0.2

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*IDC **22** 09:50:43.4±1.8, 63.05S×170.73E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.9/20, mbtmp3.8/5, ML3.2/1, MS4.1/10, Ms1 4.1/10, ms1mx3.9/26, Error ellipse: s-maj=66.3km s-min=24.1km az=77.0*

*GCMT **22** 09:50:44.0±0.4, 63.09S±0.02×171.41E±0.07, h14km, MW5.0/71, Moment Tensor Solution. s23,c25; s71,c95; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-1.96±.14; Mθθ 1.42±.10; Mφφ 0.53±.13; Mrθ-2.69±.28; Mθφ 0.88±.10; Mφr-3.24±.32; Best double couple: Mo4.64300×10^16 NP1:φs252.00000°, δ14.00000°, λ-61.00000°. NP2:φs42.00000°, δ78.00000°, λ-97.00000°. Principal axes: T 4.5590, Plg33.0000°, Azm137.0000°; N 0.1620, Plg7.0000°, Azm43.0000°; P -4.7260, Plg57.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 09:50:44.4±1.8, 63.1S±0.1×170.9E±0.4, h10km, n32, σ0.79/8, mb3.7/4, MS4.1/11, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.79**	**188**	Pn	**Pn**	**09 54 12.3**	**-0.9**
	0.1nm,0.3s,baz=25,slow=15,SNR=19						
VNDA				LR	LR	09 58 38.1	
	comp=Z,824nm,21.1s,baz=19,slow=32						
RPZ	**Rata Peaks**	**19.40**	**0**	LR	LR	10 01 11.0	
	comp=Z,585nm,21.8s,baz=206,slow=32						
URZ	**Urewera**	**25.14**	**12**	LR	LR	10 04 50.3	
	comp=Z,338nm,18.9s,baz=211,slow=34						
QSPA	**South Pole Qui**	**27.01**	**180**	P	**P**	**09 56 27.3**	**+1.0**
	1.1nm,0.8s,baz=67,slow=1.9,SNR=5.3						
STKA	**Stephens Creek**	**36.33**	**315**	LR	LR	10 10 33.5	
	comp=Z,423nm,18.8s,baz=192,slow=33						
MAW	**Mawson**	**39.79**	**215**	P	**P**	**09 58 17.6**	**+0.8**
	1.4nm,0.9s,baz=138,slow=8.8,SNR=6.6						
MAW				LR	LR	10 14 31.5	
	comp=Z,303nm,18.5s,baz=80,slow=36						
DZM	**Mont Dzumac**	**41.10**	**354**	eLR	LR	10 09 51.0	
	comp=Z,435nm,22.2s						
H01W1	**Cape Leeuwin H**	**44.59**	**282**	T	T	10 46 47.5	
	baz=147,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**44.59**	**282**	T	T	10 46 45.5	
	baz=147,slow=76,SNR=28						
H01W3	**Cape Leeuwin H**	**44.60**	**282**	T	T	10 46 51.5	
	baz=147,slow=76,SNR=13						
ASAR	**Alice Springs**	**46.47**	**310**	P	**P**	**09 59 11.6**	**+0.1**
	1.0nm,0.8s,baz=157,slow=8.0,SNR=12						
ASAR				LR	LR	10 17 11.6	
	comp=Z,211nm,18.7s,baz=148,slow=34						
TBI	**Tubuai**	**47.69**	**52**	eLR	LR	10 12 45.0	
	comp=Z,114nm,26.2s						
WRA	**Warramunga Arr**	**49.77**	**313**	P	**P**	**09 59 36.5**	**-0.5**
	0.9nm,0.9s,baz=150,slow=5.9,SNR=4.8						
WRA				LR	LR	10 19 09.4	
	comp=Z,414nm,18.3s,baz=170,slow=34						
PAE	**Paea**	**52.89**	**50**	eT	T	10 56 51.2	
	1.5nm,0.2s						
TVO	**Taravao**	**52.89**	**50**	eT	T	10 56 51.2	
	0.8nm,0.3s						
PPT2	**Papeete2**	**52.96**	**49**	eLR	LR	10 15 06.7	
	comp=Z,80nm,22.5s						
PPT2	**Papeete2**	**52.96**	**49**	eT	T	10 56 56.6	
	3.5nm,0.3s						
MEH	**Mehetia**	**53.23**	**51**	eT	T	10 57 16.7	
	9.7nm,0.2s						
HNR	**Honiara**	**54.14**	**347**	LR	LR	10 18 34.4	
	comp=Z,169nm,21.9s,baz=239,slow=31						
FITZ	**Fitzroy Crossi**	**54.58**	**304**	LR	LR	10 22 43.9	
	comp=Z,141nm,18.5s,baz=63,slow=35						
VAH	**Vaihoa**	**55.82**	**51**	eT	T	11 00 30.4	
	45nm,0.3s						
H03S2	**Juan Fernandez**	**68.72**	**123**	T	T	11 17 30.5	
	baz=205,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**68.72**	**123**	T	T	11 17 37.3	
	baz=205,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**68.74**	**123**	T	T	11 17 33.1	
	baz=205,slow=74,SNR=13						
H08S2	**Diego Garcia H**	**87.04**	**259**	T	T	11 39 58.3	
	baz=152,slow=76,SNR=9.2						
H08S1	**Diego Carcia H**	**87.05**	**259**	T	T	11 39 58.4	
	baz=152,slow=76,SNR=6.3						
H08S3	**Diego Garcia H**	**87.06**	**259**	T	T	11 39 59.9	
	baz=152,slow=76,SNR=24						
CMAR	**Chiang Mai Arr**	**98.42**	**294**	LR	LR	10 44 19.7	
	comp=Z,44nm,21.9s,baz=45,slow=33						
H06E1	**SOCORRO T-PHAS**	**01.33**	**71**	T	T	11 57 42.0	
	SNR=4.8						
ILAR	**Eielson Array**	**131.30**	**23**	PKP	**PKiKP**	**10 09 56.1**	**+0.2**
	1.2nm,1.0s,baz=259,slow=2.7,SNR=5.5						
KBZ	**Khabaz**	**144.74**	**262**	PKP	**PKPab**	**10 10 19.0**	**-0.1**
	3.8nm,0.8s,baz=125,slow=2.3,SNR=7.1						
BRTR	**Keskin Array B**	**145.55**	**248**	PKPbc	**PKPdf**	**10 10 21.4**	**-0.6**
	2.5nm,0.9s,baz=180,slow=5.9,SNR=7.5						

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*NEIC **22** 10:01:22.0±1.4, 22.40S±0.05×69.87W±0.10, h57km±14km, Error ellipse: s-maj=13.5km s-min=6.4km az=98.0*
*GUC **22** 10:01:22.0±0.8, 22.37S×69.77W, h71km±2km, ML3.5*

ISC 22 10:01:22.7±1.2, 22.39S±0.03×69.80W±0.05, h62km±8km, n49, σ1.902/64, 6C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.33**	**280**	↑iP	**Pn**	**10 01 33.7**	**+0.2**
PB04				*i* S	**Sn**	**10 01 42.1**	**+0.9**
PB04	**IPOC Station P**	**0.33**	**280**		**Pn**	**10 01 33.6**	**+0.2**
PB03	**IPOC Station P**	**0.34**	**7**	↓iP	**Pn**	**10 01 33.2**	**-0.4**
PB03				*i* S	**Sn**	**10 01 41.3**	**-0.1**
PB03				IAML		10 01 41.8	
	comp=N,6µm,0.2s						
PB06	**IPOC Station P**	**0.38**	**146**	↑iP	**Pn**	**10 01 33.5**	**-0.4**
PB06				*i* S	**Sn**	**10 01 42.0**	**+0.1**
PB06				IAML		10 01 42.4	
	comp=E,2µm,0.1s						
PB06	**IPOC Station P**	**0.38**	**146**		**Pn**	**10 01 33.5**	**-0.4**
PB05	**IPOC Station P**	**0.59**	**219**	↓iP	**Pn**	**10 01 36.1**	**+0.1**
PB05				*i* S	**Sn**	**10 01 46.3**	**+0.7**
PB05				IAML		10 01 48.1	
	comp=E,1µm,0.2s						
PB07	**IPOC Station P**	**0.67**	**353**	↓iP	**Pn**	**10 01 36.3**	**-0.6**
PB07				*i* S	**Sn**	**10 01 46.8**	**-0.4**
PB07				IAML		10 01 48.7	
	comp=E,3µm,0.1s						
PB07	**IPOC Station P**	**0.67**	**353**		**Pn**	**10 01 36.2**	**-0.6**
PB09	**IPOC Station P**	**0.79**	**41**	↓iP	**Pn**	**10 01 38.0**	**-0.3**
PB09				*i* S	**Sn**	**10 01 49.4**	**-0.3**
PB09				IAML		10 01 51.0	
	comp=E,3µm,0.6s						
PB09	**IPOC Station P**	**0.79**	**41**		**Pn**	**10 01 37.5**	**-0.8**
LVC	**Limon Verde**	**0.85**	**105**	↑iP	**Pn**	**10 01 39.1**	**-0.1**
LVC				*i* S	**Sn**	**10 01 51.3**	**-0.2**
LVC	**Limon Verde**	**0.85**	**105**		**Pn**	**10 01 39.2**	**-0.1**
PB15	**IPOC Station P**	**0.87**	**160**	↑iP	**Pn**	**10 01 39.0**	**-0.4**
PB15				*i* S	**Sn**	**10 01 52.5**	**+0.9**
PB15	**IPOC Station P**	**0.87**	**160**		**Pn**	**10 01 39.7**	**+0.4**
PB10	**IPOC Station P**	**1.31**	**212**	↑iP	**Pn**	**10 01 44.7**	**-0.3**
PB10				*i* S	**Sn**	**10 02 02.4**	**+0.7**
PB10				IAML		10 02 09.8	
	comp=E,436nm,0.4s						
PB10	**IPOC Station P**	**1.31**	**212**		**Pn**	**10 01 44.8**	**-0.2**
PB01	**IPOC Station P**	**1.37**	**12**	↓iP	**Pn**	**10 01 45.6**	**-0.2**
PB01				*i* S	**Sn**	**10 02 03.0**	**-0.2**
PB01				IAML		10 02 04.4	
	comp=E,2µm,0.2s						
PB01	**IPOC Station P**	**1.37**	**12**		**Pn**	**10 01 44.8**	**-1.1**
PATCX	**Punta Patache**	**1.60**	**348**	↓iP	**Pn**	**10 01 48.2**	**-0.6**
PATCX				*e*S	**Sn**	**10 02 08.4**	**-0.1**
PATCX				IAML		10 02 15.0	
	comp=E,1µm,0.2s						
PATCX	**Punta Patache**	**1.60**	**348**		**Pn**	**10 01 48.3**	**-0.6**
TA01	**Diego Aracena**	**1.85**	**349**	*e*P	**Pn**	**10 01 51.1**	**-1.1**
TA01				*i* S	**Sn**	**10 02 16.5**	**+2.0**
TA01				IAML		10 02 21.1	
	comp=E,650nm,0.4s						
TA01	**Diego Aracena**	**1.85**	**349**		**Pn**	**10 01 51.2**	**-1.1**
TA02	**Huaiquique**	**2.13**	**352**	*e*P	**Pn**	**10 01 56.2**	**+0.2**
TA02				IAML		10 02 29.2	
	comp=N,999nm,0.1s						
PB14	**IPOC Station P**	**2.29**	**194**	*e*P	**Pn**	**10 01 57.5**	**-1.0**
PB14				IAML		10 02 34.5	
	comp=E,114nm,0.1s						
PB14	**IPOC Station P**	**2.29**	**194**		**Pn**	**10 01 57.5**	**-1.0**
PB08	**IPOC Station P**	**2.32**	**15**	↑iP	**Pn**	**10 01 59.0**	**+0.1**
PB08				*i* S	**Sn**	**10 02 27.2**	**+0.7**
PB08				IAML		10 02 34.0	
	comp=E,265nm,0.2s						
PB08	**IPOC Station P**	**2.32**	**15**		**Pn**	**10 01 58.8**	**-0.1**
PB11	**IPOC Station P**	**2.62**	**3**	*e*P	**Pn**	**10 02 01.5**	**-1.3**
PB11				IAML		10 02 42.5	
	comp=N,462nm,0.3s						
PB11	**IPOC Station P**	**2.62**	**3**		**Pn**	**10 02 01.6**	**-1.3**

ZALV	**Zalesovo Beam**	**45.80**	**353**	P		P		10 12 23.9	-0.1
	1.2nm,0.6s,baz=187,slow=10,SNR=2.7								

GCG ***22*** *10:04:40.0±0.6, 12°.98N×90°.38W, h0km±9km, MD4.2*
SNET ***22*** *10:04:46.2±0.5, 13°.23N×90°.23W, h15km±11km, ML2.9*

ISC 22 10:04:41.2±2.8, 13°.0N±0°.1×90°.39W±0°.07, h7km±12km, n12, σ0§73/17, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SBLS	**San Blas**	**1.14**	**41**	*eP*		**Pn**	**10 05 03.8**	**0.0**
RTR	**El Retiro**	**1.18**	**38**	*eP*		**Pn**	**10 05 04.2**	**0.0**
SNJE	**San Jose**	**1.18**	**40**	*eP*		**Pn**	**10 05 04.2**	**-0.1**
BOQS	**Boqueron**	**1.32**	**55**	*eP*		**Pn**	**10 05 07.2**	**+0.9**
BOQS				*eS*		**Sn**	**10 05 23.7**	**-0.6**
SNET	**Serv Nac Est T**	**1.34**	**57**	*eP*		**Pn**	**10 05 06.9**	**+0.5**
SNET				*eS*		**Sn**	**10 05 23.2**	**-1.2**
SNET				IAML			10 05 26.9	
	comp=Z,281nm,0.2s							
PCG	**Pacaya**	**1.43**	**352**	*eS*		**Sn**	**10 05 27.6**	**+0.5**
LFRS	**El Faro**	**1.45**	**63**	*eP*		**Pg**	**10 05 08.8**	**-0.2**
LBRS	**Las Brisas**	**1.52**	**60**	*eP*		**Pg**	**10 05 10.1**	**-0.3**
FUG	**Fuego 3**	**1.54**	**343**	*eP*		**Pn**	**10 05 08.6**	**-0.7**
FUG				*eS*		**Sg**	**10 05 31.0**	**+0.3**
NBG	**Las Nubes**	**1.61**	**1**	*eP*		**Pg**	**10 05 11.7**	**-0.5**
NBG				*eS*		**Sg**	**10 05 33.8**	**+0.7**
ERG	**Entre ros, C**	**1.86**	**322**	*eP*		**Pn**	**10 05 12.9**	**-0.6**
ERG				*eS*		**Sn**	**10 05 38.7**	**+1.4**
TECA	**Tecapa**	**1.91**	**74**	*eP*		**Pg**	**10 05 17.9**	**0.0**

JMA ***22*** *10:08:19.4±0.2, 37°.32N×142°.04E, h32km±4km, M3.8*
NIED ***22*** *10:08:19.4, 37°.32N×142°.04E, h32km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.49; Mθθ2.16; Mϕϕ1.33; Mrθ0.50; Mϕθ1.81; Mϕr1.32; Fault plane solution: M03.82000×10¹⁴ NP1: ϕs221.00000°, δ55.00000°, λ-103.00000°. NP2: ϕs62.00000°, δ37.00000°, λ-72.00000°.*
IDC ***22*** *10:08:23.3±3.6, 37°.06N×142°.16E, h66km±36km, mb3.3/3, mb1 3.5/6, mb1mx3.2/65, mbtmp3.7/6, ML2.7/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/34 Error ellipse: s-maj=38.5km s-min=22.2km az=91.0*

ISC 22 10:08:17.5±3.4, 37°.32N±0°.05×142°.09E±0°.07, h11km±22km, n27, σ1§54/29, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.97**	**273**	P		**Pb**	**10 08 36.4**	**+0.1**
JFK				S		**Sb**	**10 08 47.7**	**-1.5**
JMST	**Minamisoumatoc**	**1.04**	**293**	P		**Pb**	**10 08 37.3**	**-0.2**
JMST				S		**Sb**	**10 08 49.2**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.05**	**259**	P		**Pb**	**10 08 37.4**	**-0.4**
ONAJ				S		**Sb**	**10 08 50.1**	**-1.5**
JIKH	**Ishinomakikobu**	**1.11**	**334**	P		**Pb**	**10 08 38.4**	**-0.3**
JIKH				S		**Sb**	**10 08 51.3**	**-1.8**
JMM	**Marumori**	**1.17**	**298**	P		**Pn**	**10 08 39.3**	**-0.5**
JIO	**Ouri**	**1.28**	**333**	P		**Pn**	**10 08 41.0**	**-0.3**
JHO	**Hitachi**	**1.41**	**240**	P		**Pn**	**10 08 42.4**	**-0.7**
JHO				S		**Sn**	**10 08 58.6**	**-3.0**
JFT	**Otama**	**1.41**	**279**	P		**Pn**	**10 08 43.7**	**+0.6**
JFT				S		**Sn**	**10 09 00.4**	**-1.3**
JOU	**Okura**	**1.54**	**313**	P		**Pn**	**10 08 45.5**	**+0.6**
JMK	**Ichinoseki**	**1.77**	**338**	P		**Pn**	**10 08 48.8**	**+0.7**
JYS	**Shirataka**	**1.84**	**300**	P		**Pn**	**10 08 50.7**	**+1.6**
JYS				*eS*		**Sn**	**10 09 12.9**	**+0.6**
JFY	**Yanaizu**	**1.90**	**273**	P		**Pn**	**10 08 51.1**	**+1.2**
JFY				S		**Sn**	**10 09 13.7**	**-0.2**
JYK	**Kaneyama**	**2.10**	**320**	P		**Pn**	**10 08 53.4**	**+0.8**
MJAR	**Matsushiro Arr**	**3.20**	**257**	P		**Pn**	**10 09 09.5**	**+1.7**
	0.5nm,0.3s,baz=88,slow=16,SNR=22							
MAT	**Matsushiro**	**3.20**	**257**	P		**Pn**	**10 09 10.5**	**+2.7**
MAT				S		**Sn**	**10 09 49.6**	**+3.6**
JHJ	**Hachijo jima 2**	**4.59**	**205**	P		**Pn**	**10 09 28.4**	**+1.5**
	5.0nm,0.3s,baz=276,slow=20,SNR=1.7							
JHJ				S		**Sn**	**10 10 17.9**	**-2.3**
	14nm,0.3s,baz=78,slow=22,SNR=5.5							
JCJ	**Chichijima**	**10.19**	**180**	LR		LR	10 15 23.4	
	comp=Z,30nm,21.1s,baz=74,slow=42							
USRK	**Usuriysk Ar.**	**10.29**	**315**	P		Pn	10 10 52.2	+7.2
	baz=133,slow=13,SNR=5.2							
H11N2	**WAKE ISLAND Hy**	**27.84**	**122**	T		T	10 43 39.9	
	baz=314,slow=75,SNR=27							
H11N1	**WAKE ISLAND Hy**	**27.84**	**122**	T		T	10 43 37.9	
	baz=314,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**27.85**	**122**	T		T	10 43 41.3	
	baz=314,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**28.57**	**124**	T		T	10 44 37.4	
	baz=316,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**28.57**	**124**	T		T	10 44 30.9	
	baz=316,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**28.58**	**124**	T		T	10 44 31.6	
	baz=316,slow=76,SNR=28							
MKAR	**Makanchi Array**	**44.42**	**302**	P		**P**	**10 16 29.0**	**+0.8**
	0.4nm,0.5s,baz=92,slow=9.8,SNR=3.4							
KURBB	**Kurchatov Arra**	**46.25**	**308**	P		**P**	**10 16 43.3**	**+0.7**
	0.9nm,0.5s,baz=82,slow=7.7,SNR=4.6							
ILAR	**Eielson Array**	**48.97**	**32**	P		**P**	**10 17 03.7**	**+0.1**
	0.3nm,0.8s,baz=254,slow=6.7,SNR=4.2							

IDC 22 10:09:52.0±6.2, 47°.98N×80°.78E, h0km, Error ellipse: s-maj=44.5km s-min=38.2km az=142.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**1.57**	**138**	Pg		Pn	10 10 20.7	-0.5
	0.3nm,0.3s,baz=322,slow=16,SNR=15							
MKAR				Lg		Lg	10 10 42.0	
	0.1nm,0.3s,baz=317,slow=28,SNR=2.8							
I46RU	**ZALESOVO INFRA**	**6.50**	**22**	*i*			10 48 50.0	
	baz=203,slow=319,SNR=1.1							
I34MN	**SONGINO INFRAS**	**17.17**	**81**	*i*			11 52 30.0	
	baz=280,slow=320,SNR=0.9							

INET ***22*** *10:12:26.1, 12°.14N×87°.94W, h21km, ML3.5*

SNET 22 10:12:30.7±1.4, 12°.46N×88°.18W, h16km±9km, ML2.8, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LCND	**La Caada**	**0.89**	**19**	*i*	P	Pb	10 12 46.1	-1.6
LCND				*eS*		Sg	10 13 00.1	+0.5
LCND				IAML			10 13 08.1	
	comp=Z,666nm,0.4s							
RANC	**El Ranchito**	**0.97**	**354**	*eP*		Pb	10 12 48.7	-0.5
BLLM	**Bellamira**	**0.97**	**357**	*eP*		Pb	10 12 48.0	-1.3
TECA	**Tecapa**	**1.07**	**343**	*eP*		Pb	10 12 50.5	-0.5
TECA				*eS*		Sb	10 13 04.8	+0.1
COEB	**Comit de Eme**	**1.08**	**342**	*eP*		Pb	10 12 50.7	-0.4
COEB				*eS*		Sb	10 13 05.3	+0.2
COEB				IAML			10 13 12.0	
	comp=Z,161nm,0.3s							
COEG	**Centro de Oper**	**1.33**	**329**	*eP*		Pn	10 12 54.6	-0.1
COEG				*eS*		Sg	10 13 13.5	-0.4
COEG				IAML			10 13 23.2	
	comp=Z,177nm,0.3s							
LFRS	**El Faro**	**1.44**	**323**	*eP*		Pb	10 12 56.7	-0.4
PAVA	**Las Pavas**	**1.44**	**329**	*eP*		Pn	10 12 55.9	-0.4
PAVA				*eS*		Sb	10 13 16.1	+0.6
PAVA				IAML			10 13 33.4	
	comp=Z,123nm,0.5s							
TACO	**Tacachico**	**1.88**	**323**	*eP*		Pn	10 13 01.7	-0.5
TACO				IAML			10 13 37.8	
	comp=Z,31nm,0.6s							

NEIC ***22*** *10:13:30.8±1.8, 3°.13S±0°.10×135°.6E±0°.1, h33km±7km, mb4.6/21, Error ellipse: s-maj=18.7km s-min=11.9km az=58.0*
IDC ***22*** *10:13:31.5±1.4, 3°.09S×135°.61E, h32km±4km, mb4.0/7, mb1 4.1/9, mb1mx3.8/43, mbtmp4.2/9, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/32, Error ellipse: s-maj=53.4km s-min=18.6km az=83.0*
DJA ***22*** *10:13:35.5±0.2, 3°.S14'×13°.6E±', h73km±4km, M4.7/19, mb4.7/19, mB5.3/8, MLv4.7/7, Mw(mB)4.7/8*

ISC 22 10:13:31.3±0.5, 3°.06S±0°.05×135°.69E±0°.05, h35km, n95, σ2§24/84, mb4.5/24, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.30**	**25**	P		**Pn**	**10 13 52.8**	**-0.3**
SRPI				S		**Sn**	**10 14 10.1**	**+0.8**
BAKI	**Biak**	**1.90**	**13**	P		**Pn**	**10 14 02.0**	**+0.7**
KMPI	**Kaimana, Papua**	**2.07**	**253**	P		Pn	10 14 08.9	+5.4
KMPI				S		**Sn**	**10 14 35.2**	**+7.1**
SMPI	**Sarmi**	**3.20**	**71**	P		**Pn**	**10 14 21.9**	**+2.8**
FAKI	**Fak Fak**	**3.44**	**272**	P		**Pn**	**10 14 22.1**	**-0.3**
FAKI	**Fak Fak**	**3.44**	**272**	Pn		**Pn**	**10 14 21.8**	**-0.6**
GENI	**Genyem**	**4.50**	**84**	P		**Pn**	**10 14 40.2**	**+3.2**
SIJI	**Sorong**	**4.93**	**296**	Pn		**Pn**	**10 14 42.0**	**-0.9**
	17nm,0.3s,baz=220,slow=21,SNR=58							
SIJI						**Sn**	**10 15 35.4**	**-3.4**
	21nm,0.3s,baz=108,slow=22,SNR=15							
SIJI				LR		LR	10 17 07.2	
	comp=Z,968nm,20.2s,baz=72,slow=44							
BNDI	**Bandanaira**	**5.95**	**256**	P		Pn	10 15 02.5	+5.5
	1.6nm209nm,1.4s							
MSAI	**Masohi**	**6.75**	**267**	P		**Pn**	**10 15 12.7**	**+4.7**
	0.1nm756nm24nm,0.7s							
SANI	**Sanana**	**9.74**	**276**	P		**Pn**	**10 15 51.6**	**+2.6**
	590nm31nm,0.7s							
MTN	**Manton Dam**	**10.71**	**205**	Pn		**Pn**	**10 16 02.2**	**-0.2**
LUWI	**Luwuk**	**13.06**	**279**	P		**Pn**	**10 16 36.2**	**+1.7**
	3µm27nm,1.3s							
KDI	**Kendari**	**13.07**	**266**	P		**Pn**	**10 16 38.7**	**+4.0**
	32nm,0.7s							
COEN	**Coen**	**13.11**	**146**	Pn		**Pn**	**10 16 35.2**	**0.0**
SOEI	**Soe**	**13.15**	**239**	P		**P**	**10 16 42.7**	**-2.7**
	64nm,1.1s							
GTOI	**Gorontalo**	**13.19**	**286**	P		**Pn**	**10 16 39.9**	**+3.6**
	15nm,0.9s							
APSI	**Ampana**	**14.19**	**278**	P		**Pn**	**10 16 52.8**	**+2.9**
	48nm,1.0s							
KNRA	**Kununurra**	**14.27**	**208**	Pn		**Pn**	**10 16 48.5**	**-2.5**
MMRI	**Maumere**	**14.48**	**247**	P		**P**	**10 16 59.0**	**-1.1**
	35nm,1.2s							
EDFI	**Ende, Flores**	**15.02**	**247**	P		**P**	**10 17 05.3**	**-0.9**
	10nm,1.2s							
TTSI	**Tana Toraja**	**15.85**	**270**	P		**Pn**	**10 17 13.1**	**+1.2**
	2µm16nm,0.9s							
SPSI	**Sidrap Palu**	**15.91**	**266**	P		**P**	**10 17 17.8**	**+1.8**
KAPI	**Kappang**	**16.01**	**263**	LR		LR	10 24 53.0	
	comp=Z,139nm,19.0s,baz=84,slow=43							
MPSI	**Mapaga**	**16.14**	**282**	P		**Pn**	**10 17 16.4**	**+0.8**
WSI	**Waingapu**	**16.64**	**246**	P		**P**	**10 17 27.9**	**+3.8**
	91µm1µm,0.5s							
WB0	**Warramunga Arr**	**16.65**	**184**	Pn		**Pn**	**10 17 18.9**	**-3.2**
WRAB	**Tennant Creek**	**16.82**	**184**			**Pn**	**10 17 20.9**	**-3.3**
WRAB				IAmb		IAmb	10 17 39.7	
	comp=Z,22nm,0.8s							
WB2	**Warramunga Arr**	**16.83**	**184**	Pn		**Pn**	**10 17 20.6**	**-3.7**
WB2				IAmb		IAmb	10 17 34.9	
	comp=Z,43nm,1.2s							
WRA	**Warramunga Arr**	**16.83**	**184**	Pn		**Pn**	**10 17 20.4**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=4.8,slow=13,SNR=18							
WRA					Sn	Sn	10 20 19.5	-11
	comp=Z,0.7nm,0.3s,baz=11,slow=23,SNR=6.7							
WR0	**Warramunga Arr**	**16.83**	**184**	Pn		**Pn**	**10 17 22.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**17.90**	**213**	P		**Pn**	**10 17 36.4**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=36,slow=10.0,SNR=12							
FITZ	**Fitzroy Crossi**	**17.90**	**213**	P		**Pn**	**10 17 35.9**	**-1.7**
MYLDM	**Lahad Datu**	**19.02**	**295**	P		**P**	**10 17 48.6**	**-1.8**
TWSI	**Taliwang, Sumb**	**19.53**	**252**	P		**Pn**	**10 17 59.4**	**+2.0**
	comp=Z,14nm,1.2s							
AS31	**Alice Springs**	**20.56**	**185**			**P**	**10 18 07.8**	**+0.7**
ASAR	**Alice Springs**	**20.56**	**185**	P		**P**	**10 18 07.5**	**+0.4**
	comp=Z,7.5nm,0.5s,baz=8.6,slow=12,SNR=64							
ASAR					pP	**pP**	**10 18 15.7**	**-0.7**
	comp=Z,25nm,0.8s,baz=8.5,slow=11,SNR=34							
ASAR	**Alice Springs**	**20.56**	**185**			Pn	10 18 08.4	-1.1
JAGI	**Jajag, Banyuwa**	**22.08**	**255**	P		**P**	**10 18 25.1**	**+1.5**
	comp=Z,44nm,1.4s							
BWJI	**Bawan**	**23.12**	**262**	P		**P**	**10 18 36.2**	**+1.6**
	comp=Z,9µmcomp=Z,190nm,1.6s							
GRJI	**Gresik**	**23.43**	**260**	P		**P**	**10 18 38.9**	**+1.3**
	comp=Z,55nm,1.2s							
PBKI	**Pangkalan Bun**	**23.99**	**270**	P		**P**	**10 18 43.0**	**+0.1**
	comp=Z,124nm,1.2s							
PSA00	**Pilbara Seismi**	**24.00**	**219**	P		**P**	**10 18 40.9**	**-2.0**
PSA00				IAmb		IAmb	10 18 55.7	
	comp=Z,25nm,1.2s							
SBUM	**Sibu**	**24.09**	**283**	P		**P**	**10 18 42.0**	**-1.8**
SBUM				IAmb		IAmb	10 18 58.6	
	comp=Z,14nm,1.3s							
HNR	**Honiara**	**24.92**	**106**	LR		LR	10 29 52.9	
	comp=Z,102nm,18.3s,baz=278,slow=39							
STKA	**Stephens Creek**	**29.20**	**170**	LR		LR	10 31 14.9	
	comp=Z,206nm,18.7s,baz=165,slow=36							
IPM	**Ipoh**	**35.44**	**282**	P		**P**	**10 20 23.0**	**-1.6**
IPM				IAmb		IAmb	10 20 44.0	
	comp=Z,5.9nm,0.9s							
TOO	**Toolangi**	**35.50**	**167**	P		**P**	**10 20 24.7**	**-0.1**
TOO				IAmb		IAmb	10 20 32.1	
	comp=Z,13nm,1.4s							
INCN	**Inchon**	**41.21**	**349**	P		**P**	**10 21 12.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.03**	**302**	P		**P**	**10 21 19.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=122,slow=5.6,SNR=4.1							
BJT	**Baijiatuan**	**46.46**	**339**	P		**P**	**10 21 55.2**	**+0.3**
BJT				IAmb		IAmb	10 22 19.0	
	comp=Z,5.4nm,0.6s							
NBEZ	**Newall Road No**	**50.00**	**141**	P		P	10 22 17.0	-5.3
PKE	**Pukeiti**	**50.03**	**141**	P		**P**	**10 22 18.9**	**-3.7**
NMEZ	**Namu Road**	**50.09**	**141**	P		P	10 22 15.2	-7.8
KHEZ	**Kahui Hut**	**50.11**	**141**	P		P	10 22 17.9	-5.3
QRZ	**Quartz Range**	**50.13**	**144**	P		**P**	**10 22 19.6**	**-3.6**
NEZ	**North Egmont**	**50.14**	**141**	P		P	10 22 18.5	-5.0
PREZ	**Palmer Road**	**50.23**	**141**	P		P	10 22 18.6	-5.4
DSZ	**Denniston Nort**	**50.29**	**145**	P		P	10 22 34.9	+10
VRZ	**Vera Road**	**50.48**	**141**	P		**P**	**10 22 25.6**	**-0.3**
NNZ	**Nelson**	**50.88**	**144**	P		**P**	10 22 23.1	-5.7
THZ	**Tophouse**	**50.94**	**144**	P		**P**	**10 22 31.7**	**+2.3**
DUWZ	**D'Urville Isla**	**50.95**	**143**	P		**P**	10 22 19.0	-10
NGZ	**Ngauruhoe**	**51.04**	**140**	P		**P**	**10 22 35.1**	**+4.7**
FWVZ	**Far West T-bar**	**51.06**	**140**	P		**P**	**10 22 32.7**	**+2.1**
OTVZ	**Oturere**	**51.08**	**140**	P		**P**	**10 22 34.5**	**+3.9**
MTVZ	**Mangateitei**	**51.08**	**140**	P		**P**	**10 22 27.5**	**-3.0**
TUVZ	**Tukino**	**51.13**	**140**	P		**P**	**10 22 34.3**	**+3.3**
TUWZ	**Tuamarina**	**51.34**	**143**	P		**P**	**10 22 27.9**	**-4.5**
TCW	**Tory Channel**	**51.41**	**143**	P		P	10 22 27.2	-5.7
BSWZ	**Blackbirch Sta**	**51.48**	**144**	P		**P**	**10 22 33.6**	**+0.2**
KIW	**Kapiti Island**	**51.59**	**142**	P		P	10 22 28.6	-5.7
CAW	**Cannon Point**	**51.83**	**142**	P		**P**	**10 22 33.6**	**-2.4**
MRZ	**Mangatainoka R**	**51.88**	**142**	P		**P**	**10 22 33.7**	**-2.7**
GTA	**Gaotai**	**53.61**	**326**	*eP*		**P**	**10 22 50.6**	**+1.3**
GTA				pP		pP	10 22 59.3	-0.6
GTA				sP		sP	10 23 02.9	-1.1
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**56.80**	**337**	pP		pP	10 23 24.9	+2.1
	comp=Z,0.5nm,0.5s,baz=154,slow=9.6,SNR=2.7							
MK31	**Makanchi Array**	**68.25**	**324**	P		**P**	**10 24 27.0**	**-1.6**
MKAR	**Makanchi Array**	**68.25**	**324**	P		**P**	**10 24 29.5**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=113,slow=8.1,SNR=29							
MKAR					pP	**pP**	**10 24 38.7**	**-0.7**
	comp=Z,8.3nm,0.7s,baz=111,slow=8.4,SNR=24							
MKAR	**Makanchi Array**	**68.25**	**324**	P		**P**	**10 24 29.3**	**+0.7**
MAKZ	**Makanchi**	**68.44**	**323**	P		**P**	**10 24 30.1**	**+0.3**
KDJ	**Kajisay**	**69.36**	**317**	P		**P**	**10 24 37.0**	**+1.2**
KDJ				IAmb		IAmb	10 24 49.5	
	comp=Z,7.3nm,0.8s							
ZAA0	**Zalesovo Array**	**70.75**	**331**	P		**P**	**10 24 43.6**	**-0.2**
ZAA0				IAmb		IAmb	10 24 56.4	
	comp=Z,5.1nm,0.9s							
ZALV	**Zalesovo Beam**	**70.75**	**331**	P		**P**	**10 24 43.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=123,slow=5.5,SNR=7.8							
ZALV					pP	**pP**	**10 24 54.3**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=118,slow=5.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**70.75**	**331**	P		**P**	**10 24 43.3**	**-0.5**
KURK	**Kurchatov**	**72.29**	**326**	P		**P**	**10 24 53.4**	**+0.2**
KURBB	**Kurchatov Arra**	**72.30**	**326**	P		**P**	**10 24 53.6**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=116,slow=5.2,SNR=14							
KURBB					pP	**pP**	**10 25 03.9**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=119,slow=5.6,SNR=13							
GAR	**Garm**	**73.08**	**312**	P		**P**	**10 24 57.5**	**-0.9**
KK31	**Karatay Array**	**74.28**	**316**	P		**P**	**10 25 05.7**	**+0.6**
KK31				IAmb		IAmb	10 25 18.2	
	comp=Z,6.2nm,1.0s							
KKAR	**Karatay Array**	**74.28**	**316**	P		**P**	**10 25 05.1**	**0.0**
BVAR	**Borovoye Array**	**77.89**	**326**	P		**P**	**10 25 26.2**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=184,slow=21,SNR=5.5							
BVAR					pP	**pP**	**10 25 36.8**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=216,slow=20,SNR=6.3							
BRVK	**Borovoye**	**77.96**	**326**	P		**P**	**10 25 26.2**	**+0.4**
BRVK				IAmb		IAmb	10 25 39.2	
	comp=Z,7.9nm,0.9s							
GEYT	**Alibeck**	**82.10**	**309**	P		**P**	**10 25 49.9**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=55,slow=34,SNR=1.4							
GEYT				pP		**pP**	**10 25 59.7**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=60,slow=3.6,SNR=3.3							
AKTO	**Aktyubinsk**	**84.52**	**321**	pP		pP	10 26 11.1	-0.7
	comp=Z,0.9nm,0.4s,baz=65,slow=3.2,SNR=3.2							
QSPA	**South Pole Qui**	**86.89**	**180**	pP		pP	10 26 22.1	-1.4
	comp=Z,2.9nm,1.0s,baz=343,slow=5.0,SNR=4.8							
ILAR	**Eielson Array**	**87.41**	**25**	pP		pP	10 26 23.5	-2.3
	comp=Z,1.6nm,0.9s,baz=242,slow=4.1,SNR=4.0							

IDC ***22*** *10:13:50.2±0.9, 34°.51S×108°.06W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/35, mbtmp4.0/5, MS4.2/8, Ms1 4.2/8, ms1mx4.0/25, Error ellipse: s-maj=32.8km s-min=26.6km az=101.0*
NEIC ***22*** *10:13:51.4±1.8, 34°.8S±0°.1×107°.9W±0°.2, h10km±1km, mb4.7/19, Error ellipse: s-maj=25.4km s-min=19.6km az=113.0*
GCMT ***22*** *10:13:55.4±0.2, 34°.98S±0°.01×108°.24W±0°.01, h24km, MW5.2/126, Moment Tensor Solution. s80,c115; s126,c218; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.52±.19; Mθθ-2.78±.19; Mϕϕ3.29±.19; Mrθ-0.13±.40; Mrϕ-7.82±.14; Mθϕ-3.57±.42; Best double couple: M09.10300×10¹⁶ NP1:ϕs100.00000°, δ67.00000°, λ179.00000°. NP2:ϕs190.00000°, δ89.00000°, λ23.00000°. Principal axes: T 9.4890, Plg16.0000°, Azm258.0000°; N -0.7800, Plg67.0000°, Azm192.0000°; P -8.7180, Plg15.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 10:13:51.6±0.6, 34°.7S±0°.1×107°.9W±0°.1, h10km, n54, σ1§17/37, mb4.5/13, MS4.3/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RPN	**Rapa Nui**	**7.65**	**350**	LR		LR	10 17 55.0	
	comp=Z,975nm,20.8s,baz=170,slow=33							
PLCA	**Paso Flores**	**29.99**	**113**	P		**P**	**10 20 02.7**	**+2.3**
	3.5nm,1.0s,baz=234,slow=4.8,SNR=4.8							
PLCA				LR		LR	10 28 23.9	
	comp=Z,280nm,21.2s,baz=276,slow=29							
PLCA	**Paso Flores**	**29.99**	**113**	P		**P**	**10 20 00.2**	**-0.1**
AC02	**Maricunga**	**34.06**	**87**	P		**P**	**10 20 35.4**	**-1.3**
AC02				IAmb		IAmb	10 20 57.4	
	comp=Z,7.2nm,1.1s							
PB10	**IPOC Station P**	**34.30**	**81**	P		**P**	**10 20 38.1**	**-0.1**
PB06	**IPOC Station P**	**35.48**	**81**	P		**P**	**10 20 46.9**	**-1.7**
LVC	**Limon Verde**	**36.06**	**81**	P		**P**	**10 20 51.9**	**-1.9**
LVC				IAmb		IAmb	10 20 59.0	
	comp=Z,17nm,1.6s							
TBI	**Tubuai**	**37.82**	**276**	*eLQ*		LQ	10 29 34.3	
	comp=Z,2µm,31.5s							
TBI				*eLR*		LR	10 31 09.9	
	comp=Z,1µm,26.0s,baz=113							
TAOE	**Nuku Hiva Isla**	**39.17**	**303**	*eS*		S	10 27 12.0	-8.1
	comp=Z,198nm,29.1s							
TAOE				*eLR*		LR	10 31 57.3	
	comp=Z,559nm,26.0s							
MEH	**Mehetia**	**39.42**	**285**	*eT*		T	11 02 22.2	
	comp=Z,22nm,0.3s							
LPAZ	**La Paz**	**39.99**	**73**	P		**P**	**10 21 26.8**	**-0.5**
	comp=Z,2.8nm,1.0s,baz=251,slow=5.6,SNR=7.0							
LPAZ	**La Paz**	**39.99**	**73**	P		**P**	**10 21 26.7**	**-0.6**
LPAZ				IAmb		IAmb	10 21 32.5	
	comp=Z,14nm,1.6s							
TVO	**Taravao**	**40.42**	**284**	*eT*		T	11 03 35.6	
	comp=Z,1.2nm,0.3s							
TIAR	**Tiarei**	**40.62**	**284**	*eT*		T	11 03 51.0	
	comp=Z,4.1nm,0.3s							
PPT2	**Papeete2**	**40.78**	**284**	*eS*		S	10 27 30.8	-

MS4.2/8, Error ellipse: s-maj=7.2km s-min=6.0km az=93.6
*AEIC **22** 10:16:18.0±1.8,51°.40N±0°.05×176°.80W±0°.06,h32km±3km, Error ellipse: s-maj=7.5km s-min=4.8km az=147.0*
*GCMT **22** 10:16:19.0±0.2,51°.54N±0°.02×176°.72W±0°.02,h46km±1km, MW5.1/96,Moment Tensor Solution. s72,c92; s96,c147; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.57±.17; Mθθ=-3.98±.13; Mφφ=0.58±.12; Mrθ=1.43±.12; Mrφ=-1.54±.09; Mθφ=2.06±.09; Best double couple: M=5.20700×10¹⁶ NP1:φ=262.00000°,δ=34.00000°,λ=114.00000°. NP2: φ=54.00000°,δ=59.00000°,λ=74.00000°. Principal axes: T 5.3720, Plg71.0000°, Azm287.0000°; N -0.3250, Plg13.0000°, Azm62.0000°; P -5.0420, Plg13.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 10:16:20.0±1.3,51°.66N±0°.07×176°.91W±0°.07,h53km±4km, mb5.2/403,ML4.9(AEIC) Error ellipse: s-maj=11.1km s-min=5.9km az=162.0*
*IDC **22** 10:16:21.0±1.4,51°.75N×176°.98W,h61km±10km,mb4.5/38, mb1 4.6/39,mb1mx4.5/55,mbtmp4.8/39,MS4.1/25, Ms1 4.1/25,ms1mx4.0/44,Error ellipse: s-maj=12.4km s-min=8.1km az=168.0*
ISC 22 10:16:18.5±0.6,51°.54N±0°.05×176°.88W±0°.03,h42km±4km, n844,σ1§14/747,mb5.2/272,MS4.1/43,21C-17D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
KIMD	**Kanaga Island**	**0.31**	**315**		**Pn**	**10 16 27.9**	**+1.0**
ADK	**Adak**	**0.36**	**20**	P	**Pn**	**10 16 28.5**	**+0.9**
ADK						10 16 36.1	
ADK	**Adak**	**0.36**	**20**		**Pn**	**10 16 28.5**	**+0.9**
ADK					**Sn**	**10 16 36.1**	**+2.1**
KIKV	**Kanaga Island**	**0.38**	**332**		**Pn**	**10 16 29.1**	**+1.3**
KICM	**Kanaga Island**	**0.42**	**333**		**Pn**	**10 16 29.8**	**+1.5**
ADAG	**Mount Adagdak**	**0.47**	**22**		**Pn**	**10 16 30.1**	**+1.1**
GSTD	**Great Sitkin T**	**0.69**	**41**		**Pn**	**10 16 32.4**	**+0.5**
GSMY	**Great Sitkin M**	**0.72**	**45**		**Pn**	**10 16 32.6**	**+0.4**
GSTR	**Great Sitkin T**	**0.75**	**42**		**Pn**	**10 16 33.2**	**+0.5**
GSTR					**Sn**	**10 16 43.1**	**+0.2**
TAFP	**Tanaga Falls P**	**0.77**	**298**		**Pn**	**10 16 34.0**	**+1.1**
TASE	**Tanaga Southea**	**0.78**	**293**		**Pn**	**10 16 34.4**	**+1.4**
GALAA	**Gareloi Lava P**	**1.20**	**281**		**Pn**	**10 16 40.2**	**+1.5**
ATKA	**Atka Island**	**1.79**	**67**	Pn	**Pn**	**10 16 46.9**	**+0.1**
ATKA				Sn	**Sn**	**10 17 08.7**	**+0.4**
KOWE	**Korovin West**	**1.83**	**62**		**Pn**	**10 16 48.4**	**+1.0**
KOFP	**Korovin Flat P**	**1.88**	**66**		**Pn**	**10 16 49.2**	**+1.1**
KOSE	**Korovin Southe**	**1.93**	**64**		**Pn**	**10 16 50.2**	**+1.4**
CERAA	**Semis' Rag'd T**	**2.17**	**281**		**Pn**	**10 16 53.5**	**+1.5**
CESW	**Semis' Southwe**	**2.24**	**281**		**Pn**	**10 16 54.6**	**+1.6**
CEAP	**Semis' Anvil P**	**2.25**	**283**		**Pn**	**10 16 55.1**	**+2.0**
AMKA	**Amchitka**	**2.39**	**268**		**Pn**	**10 16 55.9**	**+0.9**
LSPA	**Little Sitkin**	**2.85**	**280**		**Pn**	**10 17 03.4**	**+1.9**
LSPA					**Sn**	**10 17 39.4**	**+4.9**
LSNW	**Little Sitkin**	**2.89**	**280**		**Pn**	**10 17 03.9**	**+2.0**
LSSA	**Little Sitkin**	**2.89**	**280**		**Pn**	**10 17 04.1**	**+2.2**
NIKH	**Nikolski High**	**5.14**	**71**		**Pn**	**10 17 33.8**	**+1.1**
NIKH				Sn	**Sn**	**10 18 35.1**	**+4.4**
OKFG	**Magazine Ridge**	**5.79**	**68**		**Pn**	**10 17 42.8**	**+1.0**
MGOD	**Makushin Gods**	**6.49**	**66**		**Pn**	**10 17 53.4**	**+2.0**
MREP	**Makushin Rep't**	**6.57**	**66**		**Pn**	**10 17 54.9**	**+2.4**
MSW	**Makushin Switc**	**6.58**	**65**		**Pn**	**10 17 55.7**	**+3.1**
MNAT	**Makushin Natee**	**6.63**	**65**		**Pn**	**10 17 56.2**	**+3.0**
UNV	**Unalaska Valle**	**6.72**	**66**	Pn	**Pn**	**10 17 55.6**	**+1.2**
UNV				Sn	**Sn**	**10 19 16.7**	**+7.1**
SPIA	**Saint Paul Isl**	**6.85**	**32**		**Pn**	**10 17 58.7**	**+2.5**
AKMO	**Akutan Morgan**	**7.07**	**65**		**Pn**	**10 18 02.3**	**+3.1**
ZRO	**Akutan Zero**	**7.09**	**65**		**Pn**	**10 18 02.7**	**+3.2**
AKUT	**Akutan**	**7.21**	**65**	Pn	**Pn**	**10 18 01.1**	**-0.1**
WTUG	**Tugumak**	**8.20**	**61**		**Pn**	**10 18 17.4**	**+2.6**
FALS	**False Pass**	**8.74**	**62**		**Pn**	**10 18 21.6**	**-0.5**
DT1	**Dutton Round H**	**9.44**	**62**		**Pn**	**10 18 33.9**	**+2.2**
SDPT	**Sand Point**	**10.50**	**62**	Pn	**Pn**	**10 18 46.6**	**+0.4**
CNBA	**Chernabura Isl**	**10.88**	**66**		**Pn**	**10 18 51.0**	**-0.4**
CHGN	**Chignik**	**11.87**	**59**	Pn	**Pn**	**10 19 03.8**	**-1.1**
GAMB	**Gambell**	**12.57**	**11**	Pn	**Pn**	**10 19 15.3**	**+0.9**
CHIR	**Chirikof Islan**	**13.29**	**63**	Pn	**Pn**	**10 19 23.9**	**-0.4**
SII	**Sitkinak Islan**	**14.22**	**60**	Pn	**Pn**	**10 19 36.7**	**-0.3**
ANM	**Nome**	**14.37**	**20**	P	**Pn**	**10 19 41.1**	**+2.2**
ANM	**Nome**	**14.37**	**20**	Pn	**Pn**	**10 19 41.1**	**+2.2**
OHAK	**Old Harbor**	**14.84**	**58**	Pn	**Pn**	**10 19 43.4**	**-1.8**
PET	**Petropavlovsk**	**15.03**	**285**	*eP*	**Pn**	**10 19 48.1**	**+0.4**
PET				*eS*	**Sn**	**10 22 31.0**	**-1.8**
PET				pmax	pmax		
	comp=Z,100nm,9.1s						
PET				MLR	MLR		
	comp=Z,1μm,21.0s						
PET				MLR	MLR		
	comp=Z,900nm,20.0s						
PET	**Petropavlovsk**	**15.03**	**285**		**Pn**	**10 19 49.4**	**+1.7**
SVW2	**Sparrevohn**	**15.13**	**43**		**Pn**	**10 19 49.9**	**+0.8**
SVW2				IAmb	IAmb	10 19 57.4	
	comp=Z,127nm,0.9s						
KDAK	**Kodiak Island**	**15.33**	**56**	P	**Pn**	**10 19 50.6**	**-1.1**
KDAK				pmax	pmax		
	comp=Z,66nm,0.6s						
KDAK	**Kodiak Island**	**15.33**	**56**	Pn	**Pn**	**10 19 50.5**	**-1.1**
KDAK				IAmb	IAmb	10 20 10.4	
	comp=Z,66nm,0.6s						
PEA0B	**Petropavlovsk-**	**15.60**	**286**	*ceP*	**P**	**10 20 00.8**	**+2.0**
PEA0B	**Petropavlovsk-**	**15.60**	**286**		**Pn**	**10 19 54.0**	**-1.1**
PETK	**Petropavlovsk-**	**15.60**	**286**	P	**P**	**10 19 57.4**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=88,slow=13,SNR=14						
PETK				LR	LR	10 25 37.2	
	comp=Z,1μm,20.9s,baz=93,slow=36						
PETK	**Petropavlovsk-**	**15.60**	**286**	Pn	**Pn**	**10 19 53.9**	**-1.2**
TTA	**Tatalina**	**15.96**	**36**	P	**Pn**	**10 20 00.1**	**+0.3**
TTA				pmax	pmax		
	comp=Z,51nm,0.8s						
TTA	**Tatalina**	**15.96**	**36**	Pn	**Pn**	**10 20 00.1**	**+0.3**
RSO	**Redoubt South**	**16.09**	**47**		**Pn**	**10 20 02.6**	**+0.9**
CNPM	**China Poot**	**16.48**	**51**		**Pn**	**10 20 06.6**	**+0.2**
BRLK	**Bradley Lake**	**16.73**	**50**		**Pn**	**10 20 09.4**	**0.0**
SKT	**Skwentna**	**17.26**	**43**	P	**P**	**10 20 17.7**	**+0.5**
PPLA	**Purkeypile**	**17.41**	**40**		**P**	**10 20 19.4**	**+0.4**
O22K	**Cooper Landing**	**17.50**	**49**	P	**P**	**10 20 20.3**	**+0.5**
	baz=252						
SEW	**Seward**	**17.52**	**50**		**Pn**	**10 20 18.5**	**-0.7**
RDOG	**Red Dog Mine**	**17.91**	**17**	P	**Pn**	**10 20 23.4**	**-0.6**
CUT	**Chulitna**	**17.98**	**43**	P	**P**	**10 20 25.7**	**+0.7**
	baz=245,SNR=13						
PMR	**Palmer**	**18.16**	**46**	P	**Pn**	**10 20 27.2**	**+0.2**
PMR				pmax	pmax		
	comp=Z,48nm,1.5s						
PMR	**Palmer**	**18.16**	**46**	P	**Pn**	**10 20 27.1**	**+0.2**
KTH	**Kantishna Hill**	**18.24**	**39**	P	**Pn**	**10 20 29.5**	**+1.4**
KTH				IAmb	IAmb	10 20 53.0	
	comp=Z,272nm,1.3s						
GHO	**Glory Hole Cre**	**18.31**	**45**	P	**Pn**	**10 20 29.7**	**+0.6**
KNK	**Knik Glacier**	**18.39**	**47**	P	**Pn**	**10 20 30.3**	**+0.3**
TRF	**Thorofare Moun**	**18.44**	**39**	IAmb	IAmb	10 20 48.7	
	comp=Z,252nm,1.3s						
BILL	**Bilibino**	**18.47**	**340**	*ceP*	**Pn**	**10 20 32.1**	**+1.3**
BILL				pmax	pmax		
	comp=Z,45nm,1.3s						
BILL				MLR	MLR		
	comp=Z,1μm,18.0s						
BILL	**Bilibino**	**18.47**	**340**	P	**Pn**	**10 20 31.1**	**+0.3**
BPAW	**Bear Paw Mtn.**	**18.49**	**37**	P	**Pn**	**10 20 31.6**	**+0.5**
SML	**Sawmill**	**18.59**	**45**	P	**Pn**	**10 20 32.3**	**0.0**
IMAR	**Indian Mountai**	**18.62**	**30**	P	**Pn**	**10 20 33.3**	**+0.6**
RND	**Reindeer**	**19.00**	**41**	P	**P**	**10 20 34.0**	**-2.3**
RND				pmax	pmax		
	comp=Z,64nm,0.6s						
RND	**Reindeer**	**19.00**	**41**	P	**P**	**10 20 34.0**	**-2.3**
RND				IAmb	IAmb	10 20 41.0	
	comp=Z,64nm,0.6s						
MLY	**Manley**	**19.07**	**35**	P	**Pn**	**10 20 38.4**	**+0.3**
	baz=238,SNR=58						
MCK	**McKinley**	**19.11**	**40**	P	**P**	**10 20 37.2**	**-0.2**
	baz=244,SNR=35						
FID	**Port Fidalgo**	**19.11**	**49**	P	**P**	**10 20 37.0**	**-0.5**
NEA2	**Nenana**	**19.46**	**37**	P	**P**	**10 20 41.5**	**+0.3**
	baz=241,SNR=22						
DHY	**Denali Highway**	**19.47**	**42**	IAmb	IAmb	10 20 49.6	
	comp=Z,64nm,0.8s						
I23K	**Minto, Yukon-K**	**19.63**	**36**	P	**Pn**	**10 20 44.2**	**-0.5**
	baz=240,SNR=40						
M24K	**Tolsona, Glenn**	**19.65**	**46**	P	**P**	**10 20 43.6**	**+0.2**
	baz=252,SNR=6.4						
M24K	**Tolsona, Glenn**	**19.65**	**46**	P	**P**	**10 20 43.8**	**+0.4**
M24K				IAmb	IAmb	10 21 11.1	
	comp=Z,216nm,1.5s						
SEY	**Seymchan**	**19.94**	**317**	P	**Pn**	**10 20 48.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=103,slow=11,SNR=14						
SEY				LR	LR	10 28 02.7	
	comp=Z,2μm,21.7s,baz=114,slow=36						
SEY	**Seymchan**	**19.94**	**317**	*eP*	**Pn**	**10 20 48.3**	**-0.1**
MDM	**Murphy Dome**	**19.95**	**37**	IAmb	IAmb	10 21 06.4	
	comp=Z,172nm,1.2s						
TCOL	**CIGO, UAF Yank**	**20.05**	**37**	P	**P**	**10 20 47.1**	**-0.5**
	baz=242,SNR=9.2						
COLA	**College**	**20.05**	**37**	P	**P**	**10 20 47.3**	**-0.3**
COLA				pmax	pmax		
	comp=Z,51nm,0.9s						
COLA	**College**	**20.05**	**37**	P	**P**	**10 20 47.3**	**-0.3**
HDA	**Harding Lake**	**20.19**	**39**	P	**P**	**10 20 49.0**	**-0.2**
	baz=245,SNR=41						
N25K	**Chitina, Valde**	**20.22**	**48**	P	**P**	**10 20 50.2**	**+0.6**
	baz=255,SNR=13						
POKR	**Poker Plat Res**	**20.32**	**37**	P	**P**	**10 20 51.1**	**+0.4**
	baz=242,SNR=8.7						
ILAR	**Eielson Array**	**20.37**	**38**	P	**P**	**10 20 49.0**	**-2.2**
	comp=Z,7.1nm,0.6s,baz=240,slow=9.9,SNR=53						
ILAR				PcP	**PcP**	**10 25 01.3**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=288,slow=3.1,SNR=14						
ILAR				ScP	**ScP**	**10 28 32.6**	**-2.5**
	comp=Z,0.9nm,0.6s,baz=282,slow=3.4,SNR=6.3						
ILAR				LR	LR	10 29 49.0	
	comp=Z,606nm,19.0s,baz=246,slow=40						
ILAR	**Eielson Array**	**20.37**	**38**	P	**P**	**10 20 49.0**	**-2.2**
IL18	**Eielson Array**	**20.41**	**38**	P	**P**	**10 20 49.6**	**-2.0**
COLD	**Coldfoot**	**20.51**	**30**	P	**P**	**10 20 54.0**	**+1.4**
	baz=233,SNR=32						
COLD	**Coldfoot**	**20.51**	**30**		Pn	10 20 54.3	-0.7
GLB	**Gilahina Butte**	**20.54**	**48**	P	**P**	**10 20 53.7**	**+0.6**
RIDG	**Independent Ri**	**20.77**	**42**	IAmb	IAmb	10 21 10.7	
	comp=Z,86nm,1.0s						
TGL	**Tana Glacier**	**20.86**	**51**	P	**P**	**10 20 57.2**	**+0.6**
DOT	**Dot Lake**	**21.07**	**42**	P	**P**	**10 20 58.3**	**-0.5**
DOT				IAmb	IAmb	10 21 01.6	
	comp=Z,62nm,0.7s						
SCRK	**Sand Creek**	**21.21**	**41**	P	**P**	**10 20 59.4**	**-1.0**
	baz=250,SNR=29						
TOLK	**Toolik Lake Re**	**21.57**	**27**	P	**P**	**10 21 05.0**	**+1.0**
	baz=231,SNR=7.1						
TOLK	**Toolik Lake Re**	**21.57**	**27**	P	**P**	**10 21 05.2**	**+1.2**
TOLK				IAmb	IAmb	10 21 25.8	
	comp=Z,155nm,1.2s						
FYU	**Fort Yukon**	**21.80**	**34**	P	**P**	**10 21 07.2**	**+0.7**
FYU				IAmb	IAmb	10 21 28.5	
	comp=Z,72nm,1.1s						
BCAR	**Beaver Creek A**	**21.87**	**45**	P	**P**	**10 21 08.1**	**+0.7**
K27K	**Chicken**	**22.03**	**42**	P	**P**	**10 21 08.5**	**-0.4**
	baz=252						
BMAR	**Burnt Mountain**	**22.45**	**33**	P	**P**	**10 21 13.4**	**-0.1**
EGAK	**Eagle**	**22.64**	**41**	P	**P**	**10 21 15.0**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**25.91**	**268**	*eP*	**P**	**10 21 44.7**	**-1.6**
YUK				pmax	pmax		
	comp=Z,283nm,1.2s						
YUK				MLR	MLR		
	comp=Z,308nm,19.0s						
YSS	**Yuzh-Sakhalins**	**26.50**	**276**	*iP*	**P**	**10 21 53.1**	**+1.5**
YSS				*e*		10 22 08.1	
YSS				*eS*	**S**	**10 26 23.4**	**+0.8**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
YSS				pmax	pmax		
	comp=Z,200nm,3.3s						
YSS				MLR	MLR		
	comp=N,200nm,16.0s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS	**Yuzh-Sakhalins**	**26.50**	**276**	P	**P**	**10 21 53.0**	**+1.5**
YSS				IAmb	IAmb	10 21 53.8	
	comp=Z,68nm,1.0s						
INK	**Inuvik**	**26.64**	**35**	P	**P**	**10 21 52.2**	**-0.5**
	comp=Z,6.1nm,0.5s,baz=244,slow=7.3,SNR=30						
INK				PcP	**PcP**	**10 25 15.4**	**0.0**
	comp=Z,15nm,0.7s,baz=290,slow=3.4,SNR=13						
INK	**Inuvik**	**26.64**	**35**	P	**P**	**10 21 52.2**	**-0.5**
INK				pmax	pmax		
	comp=Z,12nm,1.0s						
INK	**Inuvik**	**26.64**	**35**	P	**P**	**10 21 52.2**	**-0.5**
DLBC	**Dease Lake**	**27.27**	**57**	PcP	**PcP**	**10 25 17.9**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=337,slow=3.8,SNR=3.4						
DLBC				LR	LR	10 33 42.8	
	comp=Z,404nm,18.2s,baz=278,slow=38						
JKA	**Kamikawa-asahi**	**27.90**	**271**	P	**P**	**10 22 05.4**	**+1.1**
JKA				IAmb	IAmb	10 22 06.3	
	comp=Z,56nm,1.0s						
ASAJ	**Asahikawa**	**27.90**	**271**	P	**P**	**10 22 05.4**	**+1.1**
	comp=Z,41nm,0.9s,baz=61,slow=5.4,SNR=13						
ASAJ				LR	LR	10 31 25.6	
	comp=Z,155nm,21.0s,baz=69,slow=32						
ASAJ	**Asahikawa**	**27.90**	**271**	P	**P**	**10 22 05.4**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,56nm,1.0s						
ERM	**Erimo**	**28.65**	**266**	*ceP*	**P**	**10 22 12.9**	**+2.0**
ERM				pmax	pmax		
	comp=Z,65nm,1.3s						
BBB	**Bella Bella**	**29.68**	**69**	P	**P**	**10 22 22.1**	**+2.3**
	comp=Z,53nm,1.1s,baz=273,slow=7.0,SNR=4.1						
BBB				LR	LR	10 31 35.0	
	comp=Z,401nm,21.7s,baz=276,slow=31						
YAK	**Yakutsk**	**30.21**	**311**	PcP	**PcP**	**10 25 23.8**	**-0.5**
	comp=Z,14nm,0.6s,baz=192,slow=1.7,SNR=9.2						
YAK				LR	LR	10 35 15.1	
	comp=Z,324nm,18.8s,baz=92,slow=38						
YAK	**Yakutsk**	**30.21**	**311**	PcP	**PcP**	**10 25 24.2**	**-0.2**
TIXI	**Tiksi**	**31.09**	**330**	*iP*	**P**	**10 22 32.7**	**+0.5**
TEY	**Ternei**	**31.19**	**277**	*iP*	**P**	**10 22 33.5**	**+0.2**
TEY				pmax	pmax		
	comp=N,30nm,1.1s						
TEY				pmax	pmax		
	comp=E,40nm,1.1s						
TEY				pmax	pmax		
	comp=Z,70nm,1.1s						
JMM	**Marumori**	**32.56**	**262**	IAmb	IAmb	10 22 46.9	
	comp=Z,77nm,1.1s						
ZEA	**Zeya**	**33.23**	**296**	*eP*	**P**	**10 22 49.3**	**-1.9**
ZEA				*e*		10 25 32.8	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZEA				MLR	MLR		
	comp=E,100nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,17.0s						
JYT	**Yasato**	**33.97**	**260**	P	**P**	**10 22 57.7**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**34.21**	**208**	T	T	10 59 23.4	
	baz=18,slow=76						
H11N3	**WAKE ISLAND Hy**	**34.22**	**208**	T	T	10 59 23.6	
	baz=18,slow=76						
H11N1	**WAKE ISLAND Hy**	**34.23**	**208**	T	T	10 59 26.1	
	baz=18,slow=76						
YKA	**Yellowknife Ar**	**34.25**	**47**	P	**P**	**10 22 59.0**	**-0.9**
	comp=Z,9.6nm,0.9s,baz=284,slow=8.2,SNR=16						
YKA				PcP	**PcP**	**10 25 35.7**	**+0.3**
	comp=Z,15nm,0.8s,baz=296,slow=2.5,SNR=21						
YKA				LR	LR	10 38 17.5	
	comp=Z,398nm,19.0s,baz=0.0,slow=39						
USA0B	**Ussuriysk Arra**	**34.46**	**278**	*iP*	**P**	**10 23 02.0**	**0.0**
USA0B	**Ussuriysk Arra**	**34.46**	**278**	P	**P**	**10 23 01.9**	**0.0**
USA0B				IAmb	IAmb	10 23 04.3	
	comp=Z,38nm,1.2s						
USRK	**Ussuriysk Ar.**	**34.46**	**278**	P	**P**	**10 23 01.3**	**-0.6**
	comp=Z,13nm,0.5s,baz=57,slow=9.3,SNR=35						
USRK				PcP	**PcP**	**10 25 36.6**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=60,slow=2.3,SNR=5.1						
USRK				LR	LR	10 36 30.7	
	comp=Z,225nm,21.3s,baz=45,slow=35						
D03D	**Eldon**	**34.48**	**75**	P	**P**	**10 23 04.1**	**+2.1**
	baz=297						
B05A	**Bryant**	**34.75**	**73**	P	**P**	**10 23 05.6**	**+1.2**
	baz=297						
D04E	**Lakebay**	**34.83**	**75**	P	**P**	**10 23 08.1**	**+3.0**
	baz=298						
MJAR	**Matsushiro Arr**	**34.99**	**262**	P	**P**	**10 23 07.1**	**+0.4**
	comp=Z,22nm,0.9s,baz=49,slow=7.7,SNR=35						
MJAR	**Matsushiro Arr**	**34.99**	**262**	P	**P**	**10 23 06.9**	**+0.2**
MAJO	**Matsushiro**	**34.99**	**262**	*eP*	**P**	**10 23 07.4**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,75nm,1.1s						
MAJO	**Matsushiro**	**34.99**	**262**	P	**P**	**10 23 07.3**	**+0.6**
MAT	**Matsushiro**	**34.99**	**262**	P	**P**	**10 23 07.1**	**+0.5**
MAT				*eS*	**S**	**10 28 36.2**	**+0.6**
VLA	**Vladivostok**	**35.09**	**277**	*i* P	**P**	**10 23 08.0**	**+0.7**
VLA				pmax	pmax		
	comp=Z,62nm,1.1s						
E04D	**Cinebar**	**35.25**	**76**	P	**P**	**10 23 11.2**	**+2.5**
	baz=299						
H11S1	**WAKE ISLAND Hy**	**35.42**	**208**	T	T	11 00 55.9	
	baz=17,slow=76						
H11S2	**WAKE ISLAND Hy**	**35.44**	**208**	T	T	11 00 57.1	
	baz=17,slow=76,SNR=5261						
H11S3	**WAKE ISLAND Hy**	**35.44**	**208**	T	T	11 00 51.5	
	baz=17,slow=76,SNR=5681						
F04A	**Amboy**	**35.64**	**77**	P	**P**	**10 23 14.1**	**+2.0**
F04A				IAmb	IAmb	10 23 31.9	
	comp=Z,33nm,1.1s						
MDJ	**Mudanjiang**	**35.73**	**280**	P	**P**	**10 23 12.0**	**-0.8**
JGF	**Kuroka**	**36.13**	**262**	IAmb	IAmb	10 23 18.6	
	comp=Z,45nm,0.9s						
B08A	**Colville Reser**	**36.35**	**72**	IAmb	IAmb	10 23 21.1	
	comp=Z,16nm,0.7s						
H04A	**Detroit Lake**	**36.41**	**79**	P	**P**	**10 23 18.7**	**-0.1**
H04A				IAmb	IAmb	10 23 33.7	
	comp=Z,34nm,0.9s						
G05D	**Wamic, OR**	**36.66**	**77**	P	**P**	**10 23 22.1**	**+1.3**
	baz=301						
I04A	**Tendick Farm,**	**36.73**	**80**	P	**P**	**10 23 23.4**	**+1.8**
	baz=302						
E07A	**Sunnyside**	**36.89**	**75**	P	**P**	**10 23 23.2**	**+0.5**
E07A				IAmb	IAmb	10 23 26.6	
	comp=Z,45nm,1.5s						
I05D	**Terrebonne, OR**	**37.11**	**79**	P	**P**	**10 23 26.4**	**+1.7**
	baz=302						
HAWA	**Hanford**	**37.16**	**75**	P	**P**	**10 23 24.8**	**-0.3**
HAWA				IAmb	IAmb	10 23 44.1	
	comp=Z,28nm,0.8s						
F07A	**Phinny Hill Vi**	**37.17**	**76**	P	**P**	**10 23 25.6**	**+0.5**
F07A				IAmb	IAmb	10 23 29.3	
	comp=Z,25nm,0.8s						
D08A	**Wollman Farm,**	**37.21**	**73**	P	**P**	**10 23 26.4**	**+1.0**
D08A				IAmb	IAmb	10 23 28.5	
	comp=Z,36nm,1.4s						
C09A	**Chrisman Ranch**	**37.24**	**72**	IAmb	IAmb	10 23 55.9	
	comp=Z,22nm,1.1s						
E08A	**Dider Farm, El**	**37.40**	**74**	P	**P**	**10 23 27.9**	**+0.8**
E08A				IAmb	IAmb	10 23 48.3	
	comp=Z,52nm,1.4s						
PINE	**Pine Mountain**	**37.64**	**79**	IAmb	IAmb	10 23 53.9	
	comp=Z,35nm,1.3s						
L04D	**Klamath Falls**	**37.65**	**82**	P	**P**	**10 23 30.8**	**+1.4**
	baz=304						
YBH	**Yreka Blue Hor**	**37.67**	**83**	P	**P**	**10 23 31.9**	**+2.4**
	comp=Z,6.1nm,0.9s,baz=265,slow=5.8,SNR=7.8						
YBH	**Yreka Blue Hor**	**37.67**	**83**	P	**P**	**10 23 32.4**	**+2.9**
YBH				pmax	pmax		
	comp=Z,11nm,1.0s						
YBH	**Yreka Blue Hor**	**37.67**	**83**	P	**P**	**10 23 32.4**	**+2.9**
NEW	**Newport**	**37.70**	**71**	P	**P**	**10 23 30.5**	**+0.9**
	comp=Z,29nm,0.5s,baz=299,slow=8.1,SNR=79						
NEW	**Newport**	**37.70**	**71**	P	**P**	**10 23 30.5**	**+0.9**
	baz=298,SNR=26						
NEW	**Newport**	**37.70**	**71**	P	**P**	**10 23 30.5**	**+0.9**
NEW				pmax	pmax		
	comp=Z,38nm,0.8s						
NEW	**Newport**	**37.70**	**71**	P	**P**	**10 23 30.5**	**+0.9**
NEW				IAmb	IAmb	10 23 32.0	
	comp=Z,38nm,0.8s						
J05D	**Fort Rock, OR**	**37.73**	**80**	P	**P**	**10 23 32.0**	**+1.9**
	baz=303						
M02C	**Callahan**	**37.77**	**84**	P	**P**	**10 23 33.1**	**+2.7**
	baz=305						
E09A	**Wood Farm, Sta**	**37.94**	**74**	IAmb	IAmb	10 23 52.3	
	comp=Z,28nm,1.0s						
G08A	**Pilot Rock**	**38.06**	**76**	P	**P**	**10 23 33.5**	**+0.6**
N02D	**Trinity Center**	**38.10**	**84**	P	**P**	**10 23 35.7**	**+2.5**
	baz=305						
M04C	**Macdoel**	**38.18**	**83**	P	**P**	**10 23 35.8**	**+1.9**
	baz=304,SNR=6.1						
K05A	**Summer Lake**	**38.24**	**81**	P	**P**	**10 23 36.6**	**+2.2**
K05A				IAmb	IAmb	10 23 54.7	
	comp=Z,21nm,0.8s						
I07A	**Izee**	**38.36**	**78**	P	**P**	**10 23 36.4**	**+1.0**
I07A				IAmb	IAmb	10 23 37.8	
	comp=Z,15nm,0.8s						
WDC	**Whiskeytown Da**	**38.43**	**85**	P	**P**	**10 23 36.2**	**+0.4**
WDC				pmax	pmax		
	comp=Z,11nm,1.1s						
WDC	**Whiskeytown Da**	**38.43**	**85**	P	**P**	**10 23 36.2**	**+0.4**
O02D	**Mt. Diablo Mer**	**38.51**	**85**	P	**P**	**10 23 38.7**	**+2.1**
	baz=306						
CN2	**Changchun**	**38.69**	**282**	*eP*	**P**	**10 23 39.8**	**+1.8**
CN2				*eS*	**S**	**10 29 31.1**

KVN	**Kaiserville**	**42.09**	**83**	P	**P**	**10 24 07.4 +1.0**				
KVN				pmax	pmax					
	comp=Z,8.0nm,0.9s									
KVN	**Kaiserville**	**42.09**	**83**	P	**P**	**10 24 07.4 +1.0**				
EGMT	**Eagleton**	**42.11**	**67**	P	**P**	**10 24 06.6 +0.3**				
	baz=301,SNR=21									
EGMT	**Eagleton**	**42.11**	**67**	IAmb	IAmb	10 24 07.8				
	comp=Z,39nm,0.8s									
BOZ	**Bozeman (W)**	**42.30**	**71**	P	**P**	**10 24 08.6 +0.6**				
	baz=303,SNR=32									
BOZ	**Bozeman (W)**	**42.30**	**71**	IAmb	IAmb	10 24 10.1				
	comp=Z,20nm,0.7s									
NVAR	**Mina Array Bea**	**42.34**	**84**	P	**P**	**10 24 09.5 +1.1**				
	comp=Z,8.9nm,0.8s,baz=290,slow=7.7,SNR=53									
NVAR				PcP	**PcP**	**10 26 02.2 +0.9**				
	comp=Z,6.1nm,0.8s,baz=286,slow=2.4,SNR=6.1									
NVAR				ScP	**ScP**	**10 29 47.4 -0.9**				
	comp=Z,1.1nm,0.8s,baz=313,slow=4.2,SNR=5.0									
NVAR				LR	LR	10 38 29.9				
	comp=Z,184nm,21.4s,baz=290,slow=31									
NVAR	**Mina Array Bea**	**42.34**	**84**	P	**P**	**10 24 09.3 +0.9**				
MDPB	**Devils Postpil**	**42.35**	**86**	P	**P**	**10 24 09.7 +1.1**				
OMMB	**Old Mammoth Mi**	**42.41**	**86**	P	**P**	**10 24 09.9 +0.8**				
MLAC	**Mammoth, Mammo**	**42.50**	**86**	P	**P**	**10 24 12.5 +2.7**				
	baz=309									
ELK	**Elko**	**42.85**	**79**	P	**P**	**10 24 12.9 +0.4**				
ELK				pmax	pmax					
	comp=Z,11nm,0.8s									
ELK	**Elko**	**42.85**	**79**	P	**P**	**10 24 12.9 +0.4**				
JSU	**Suzuyama**	**43.14**	**263**	P	**P**	**10 24 15.7 +1.0**				
JSU				IAmb	IAmb	10 24 17.9				
	comp=Z,65nm,1.0s									
TIN	**Tinemaha, Big**	**43.24**	**86**	P	**P**	**10 24 17.5 +1.9**				
	baz=309									
GCMT	**Greycliff**	**43.35**	**70**	P	**P**	**10 24 17.6 +1.2**				
VES	**Vestal, Richgr**	**43.47**	**88**	P	**P**	**10 24 18.2 +0.8**				
	baz=310									
H17A	**Grant Village**	**43.58**	**72**	P	**P**	**10 24 20.8 +2.4**				
	baz=304,SNR=21									
IMW	**Indian Meadow**	**43.64**	**73**	P	**P**	**10 24 19.3 +0.4**				
FLWY	**Flagg Ranch**	**43.68**	**73**	P	**P**	**10 24 20.1 +0.9**				
FLWY				IAmb	IAmb	10 24 23.1				
	comp=Z,43nm,1.3s									
CWC	**Cottonwood Cre**	**43.72**	**86**	P	**P**	**10 24 20.6 +1.1**				
	baz=310									
HVU	**Hansel Valley**	**43.75**	**77**	P	**P**	**10 24 20.8 +1.1**				
HVU				pmax	pmax					
	comp=Z,16nm,0.8s									
HVU	**Hansel Valley**	**43.75**	**77**	P	**P**	**10 24 20.8 +1.1**				
MOOW	**Moose Ponds**	**43.84**	**73**	P	**P**	**10 24 21.1 +0.6**				
DL2	**Dalian**	**43.85**	**278**	P	**P**	**10 24 20.4 +0.1**				
DL2				pP	**sP**	**10 24 34.8 -1.6**				
DL2				S	**S**	**10 30 46.0 -2.3**				
DL2				sS	**sS**	**10 31 05.6 -2.0**				
DL2				pmax	pmax					
	comp=Z,57nm,1.0s									
DL2				pmax	pmax					
	comp=Z,170nm,5.6s									
DL2				LR	LR					
	comp=Z,330nm,16.6s									
DL2				LR	LR					
	comp=Z,180nm,19.1s									
DL2				LR	LR					
	comp=Z,310nm,25.6s									
ECR	**Eagle Creek**	**43.86**	**74**	P	**P**	**10 24 21.6 +1.0**				
TPAW	**Teton Pass**	**43.87**	**74**	P	**P**	**10 24 21.0 +0.2**				
RLMT	**Red Lodge**	**43.95**	**71**	P	**P**	**10 24 22.5 +1.1**				
	baz=304,SNR=34									
ISA	**Isabella, Lake**	**43.97**	**88**	P	**P**	**10 24 22.1 +0.7**				
	baz=310,SNR=5.9									
ISA	**Isabella, Lake**	**43.97**	**88**	P	**P**	**10 24 22.1 +0.7**				
ISA				pmax	pmax					
	comp=Z,15nm,1.1s									
ISA	**Isabella, Lake**	**43.97**	**88**	P	**P**	**10 24 22.1 +0.7**				
REDW	**Red Top Meadow**	**44.00**	**74**	P	**P**	**10 24 22.0 +0.3**				
SNOW	**Snow King Moun**	**44.00**	**73**	P	**P**	**10 24 22.3 +0.5**				
LOHW	**Long Hollow**	**44.00**	**73**	P	**P**	**10 24 22.1 +0.3**				
R11A	**Troy Canyon, C**	**44.08**	**82**	P	**P**	**10 24 23.4 +0.9**				
	baz=308,SNR=22									
R11A	**Troy Canyon, C**	**44.08**	**82**	P	**P**	**10 24 22.8 +0.4**				
BGU	**Big Grassy Mou**	**44.09**	**78**	P	**P**	**10 24 22.8 +0.3**				
SPUT	**South Promonto**	**44.22**	**77**	P	**P**	**10 24 23.9 +0.4**				
MPMC	**Manual Prospec**	**44.33**	**86**	P	**P**	**10 24 25.5 +1.1**				
	baz=310,SNR=6.1									
FURC	**Furnace Creek,**	**44.46**	**85**	P	**P**	**10 24 26.5 +1.3**				
	baz=310,SNR=8.1									
TPNV	**Topopah Spring**	**44.54**	**85**	P	**P**	**10 24 27.3 +1.3**				
	baz=309,SNR=35									
TPNV	**Topopah Spring**	**44.54**	**85**	P	**P**	**10 24 26.8 +0.7**				
TPNV				pmax	pmax					
	comp=Z,24nm,0.8s									
TPNV	**Topopah Spring**	**44.54**	**85**	P	**P**	**10 24 26.8 +0.7**				
TPNV				IAmb	IAmb	10 24 28.4				
	comp=Z,24nm,0.8s									
LRMC	**Laurel Mtn Rad**	**44.58**	**87**	P	**P**	**10 24 27.1 +0.7**				
	baz=310									
HWUT	**Hardware Ranch**	**44.58**	**76**	P	**P**	**10 24 27.0 +0.5**				
DUG	**Dugway, Tooele**	**44.66**	**79**	P	**P**	**10 24 28.3 +1.2**				
	baz=307,SNR=20									
DUG	**Dugway, Tooele**	**44.66**	**79**	P	**P**	**10 24 27.8 +0.8**				
DUG				pmax	pmax					
	comp=Z,25nm,1.1s									
DUG	**Dugway, Tooele**	**44.66**	**79**	P	**P**	**10 24 27.8 +0.8**				
EDW2	**Edwards Air Fo**	**44.77**	**88**	P	**P**	**10 24 28.5 +0.7**				
	baz=311									
LAO	**LASA Array**	**44.86**	**67**	P	**P**	**10 24 29.1 +0.7**				
	baz=304,SNR=29									
NRIK	**Noril'sk**	**44.87**	**330**	P	**P**	**10 24 27.6 -0.5**				
	comp=Z,3.9nm,0.7s,baz=67,slow=5.4,SNR=6.6									
NRIK	**Noril'sk**	**44.87**	**330**	*i* P	**P**	**10 24 28.0 -0.1**				
NRIK				pmax	pmax					
	comp=Z,8.0nm,1.1s									
PRN	**Pahroc Range**	**44.99**	**83**	IAmb	IAmb	10 24 59.0				
	comp=Z,52nm,1.0s									
PSUT	**Pine Spring**	**45.03**	**81**	P	**P**	**10 24 30.4 +0.4**				
DGMT	**Dagmar**	**45.04**	**64**	P	**P**	**10 24 29.7 -0.1**				
	baz=303,SNR=5.1									
DGMT	**Dagmar**	**45.04**	**64**	IAmb	IAmb	10 24 31.1				
	comp=Z,42nm,1.2s									
BW06	**Boulder Array**	**45.12**	**74**	P	**P**	**10 24 31.4 +0.7**				
	baz=306,SNR=34									
BW06	**Boulder Array**	**45.12**	**74**	IAmb	IAmb	10 24 32.2				
	comp=Z,24nm,0.9s									
PD31	**Pinedale Array**	**45.12**	**74**	IAmb	IAmb	10 24 32.2				
	comp=Z,23nm,0.9s									
PDAR	**Pinedale Array**	**45.12**	**74**	P	**P**	**10 24 31.2 +0.5**				
	comp=Z,20nm,0.6s,baz=313,slow=3.4,SNR=163									
PDAR				LR	LR	10 41 09.7				
	comp=Z,218nm,21.6s,baz=312,slow=33									
PDAR	**Pinedale Array**	**45.12**	**74**	P	**P**	**10 24 31.0 +0.3**				
MWC	**Mount Wilson**	**45.16**	**89**	P	**P**	**10 24 31.3 +0.2**				
MWC				pmax	pmax					
	comp=Z,23nm,1.1s									
MWC	**Mount Wilson**	**45.16**	**89**	P	**P**	**10 24 31.3 +0.2**				
SHOC	**Shoshone, Teco**	**45.19**	**86**	P	**P**	**10 24 32.3 +1.2**				
	baz=310,SNR=8.1									
GSC	**Goldstone, Bar**	**45.24**	**87**	P	**P**	**10 24 32.9 +1.3**				
	baz=311,SNR=17									
GSC	**Goldstone, Bar**	**45.24**	**87**	P	**P**	**10 24 32.1 +0.5**				
GSC				pmax	pmax					
	comp=Z,28nm,0.9s									
GSC	**Goldstone, Bar**	**45.24**	**87**	P	**P**	**10 24 32.1 +0.5**				
GSC				IAmb	IAmb	10 24 51.0				
	comp=Z,28nm,0.8s									
JLU	**Jordanelle**	**45.25**	**77**	P	**P**	**10 24 32.2 +0.4**				
BFSC	**Mount Baldy Ra**	**45.40**	**88**	P	**P**	**10 24 34.0 +1.1**				
	baz=311,SNR=6.7									
SHPR	**Sheep Range**	**45.49**	**84**	P	**P**	**10 24 33.9 +0.2**				
TUQ	**Turquoise Moun**	**45.70**	**86**	P	**P**	**10 24 36.1 +0.8**				
	baz=311,SNR=6.4									
HEC	**Hector,Ludlow**	**45.84**	**87**	P	**P**	**10 24 37.3 +1.0**				
	baz=311									
BBRC	**Big Bear Solar**	**45.85**	**88**	P	**P**	**10 24 37.7 +1.2**				
	baz=311,SNR=5.0									
CCUT	**Cedar City**	**45.95**	**82**	P	**P**	**10 24 37.7 +0.3**				
SZCU	**Shurtz Canyon**	**46.09**	**82**	P	**P**	**10 24 39.1 +0.6**				
MURC	**Murrieta**	**46.11**	**89**	P	**P**	**10 24 39.0 +0.6**				
	baz=312									
GMRC	**Granite Mounta**	**46.29**	**86**	P	**P**	**10 24 40.8 +0.9**				
	baz=311,SNR=9.7									
LCMT	**Little Creek M**	**46.36**	**82**	P	**P**	**10 24 41.3 +0.8**				
MTPU	**Mount Pierson**	**46.37**	**80**	P	**P**	**10 24 41.5 +0.8**				
P17A	**Butcher Ranch,**	**46.37**	**78**	P	**P**	**10 24 41.3 +0.8**				
RDMU	**Red Mountain**	**46.41**	**76**	P	**P**	**10 24 41.7 +0.8**				
BJI	**Beijing**	**46.51**	**283**	P	**P**	**10 24 42.4 +1.0**				
BJI				pmax	pmax					
	comp=Z,44nm,0.9s									
BJI				LR	LR					
	comp=Z,310nm,17.1s									
BJI				LR	LR					
	comp=Z,280nm,19.0s									
BJI				LR	LR					
	comp=Z,470nm,22.2s									
BJT	**Baijiatuau**	**46.52**	**283**	P	**P**	**10 24 42.4 +0.9**				
BJT				pmax	pmax					
	comp=Z,38nm,0.9s									
BJT	**Baijiatuau**	**46.52**	**283**	P	**P**	**10 24 42.4 +0.9**				
BJT				IAmb	IAmb	10 24 43.1				
	comp=Z,38nm,0.9s									
PFO	**Pinyon Flats O**	**46.56**	**88**	P	**P**	**10 24 42.9 +0.8**				
	baz=312									
BELC	**Belle Mtn. Jos**	**46.59**	**87**	P	**P**	**10 24 42.6 +0.3**				
	baz=312									
KNB	**Kanab**	**46.62**	**82**	P	**P**	**10 24 43.1 +0.5**				
KNB				pmax	pmax					
	comp=Z,16nm,1.0s									
KNB	**Kanab**	**46.62**	**82**	P	**P**	**10 24 43.1 +0.5**				
PKCU	**Pink Cliffs**	**46.67**	**81**	P	**P**	**10 24 44.3 +1.2**				
TLY	**Talaya**	**46.98**	**303**	PcP	**PcP**	**10 26 17.6 +0.9**				
	comp=Z,7.3nm,0.6s,baz=138,slow=3.4,SNR=7.6									
K22A	**Casper**	**46.99**	**72**	P	**P**	**10 24 45.9 +0.5**				
	baz=307,SNR=15									
K22A	**Casper**	**46.99**	**72**	IAmb	IAmb	10 24 47.2				
	comp=Z,15nm,0.7s									
IRM	**Iron Mountain**	**47.02**	**87**	P	**P**	**10 24 46.3 +0.8**				
	baz=312,SNR=5.0									
MONP2	**Monument Peak**	**47.06**	**89**	P	**P**	**10 24 47.0 +0.9**				
	baz=312									
BC3	**Big Chuckawall**	**47.16**	**87**	P	**P**	**10 24 46.7 0.0**				
	baz=312									
ULN	**Ulaanbaatar**	**47.26**	**297**	P	**P**	**10 24 46.5 -0.9**				
ULN				pmax	pmax					
	comp=Z,10.0nm,0.7s									
ULN	**Ulaanbaatar**	**47.26**	**297**	P	**P**	**10 24 46.5 -0.9**				
IKP	**In-Ko-Pah, Jac**	**47.42**	**89**	P	**P**	**10 24 49.6 +0.8**				
	baz=313									
O20A	**White River Ci**	**47.48**	**76**	P	**P**	**10 24 49.8 +0.5**				
	baz=308,SNR=20									
O20A	**White River Ci**	**47.48**	**76**	IAmb	IAmb	10 25 09.1				
	comp=Z,27nm,0.8s									
PDMCI	**Parker Dam,Lak**	**47.55**	**86**	P	**P**	**10 24 50.0 +0.4**				
	baz=312,SNR=6.1									
RSSD	**Black Hills**	**47.59**	**69**	P	**P**	**10 24 50.1 0.0**				
	baz=306									
RSSD	**Black Hills**	**47.59**	**69**	P	**P**	**10 24 49.9 -0.1**				
RSSD				pmax	pmax					
	comp=Z,22nm,0.6s									
RSSD	**Black Hills**	**47.59**	**69**	P	**P**	**10 24 49.9 -0.1**				
RSSD				IAmb	IAmb	10 24 53.6				
	comp=Z,22nm,0.6s									
SONM	**Songino Array**	**47.64**	**297**	P	**P**	**10 24 49.6 -0.7**				
	comp=Z,8.7nm,0.7s,baz=55,slow=7.6,SNR=31									
SONM				PcP	**PcP**	**10 26 18.9 -0.4**				
	comp=Z,21nm,0.9s,baz=72,slow=2.7,SNR=18									
SONM				ScP	**ScP**	**10 30 08.8 -1.1**				
	comp=Z,4.3nm,1.1s,baz=72,slow=2.4,SNR=9.7									
SONM	**Songino Array**	**47.64**	**297**	P	**P**	**10 24 49.6 -0.7**				
SONM				pmax	pmax					
	comp=Z,7.0nm,0.8s									
SONM	**Songino Array**	**47.64**	**297**	P	**P**	**10 24 49.6 -0.7**				
ZAK	**Zakamensk**	**47.89**	**302**	*e*P	**P**	**10 24 53.4 +1.2**				
ZAK				pmax	pmax					
	comp=Z,9.0nm,1.0s									
GLA	**Glamis**	**47.95**	**88**	P	**P**	**10 24 53.7 +0.9**				
	baz=312									
PV21	**Cone Mtn., Par**	**48.01**	**78**	P	**P**	**10 24 52.9 -0.5**				
PV21				IAmb	IAmb	10 25 16.3				
	comp=Z,13nm,0.6s									
PV23	**Carpenter Ridg**	**48.06**	**78**	P	**P**	**10 24 54.0 +0.1**				
PV23				IAmb	IAmb	10 25 22.7				
	comp=Z,15nm,0.7s									
E28A	**Huff**	**48.07**	**64**	IAmb	IAmb	10 24 54.9				
	comp=Z,31nm,0.9s									
PV10	**Paradox Valley**	**48.09**	**78**	P	**P**	**10 24 54.2 +0.1**				
PV10				IAmb	IAmb	10 24 55.8				
	comp=Z,21nm,0.8s									
PV14	**Lion Creek, Pa**	**48.10**	**78**	P	**P**	**10 24 54.1 0.0**				
PV14				IAmb	IAmb	10 24 59.8				
	comp=Z,14nm,0.7s									
PV22	**Blue Mesa, Par**	**48.14**	**78**	IAmb	IAmb	10 24 58.3				
	comp=Z,23nm,1.0s									
PV20	**West Nyswonger**	**48.15**	**78**	P	**P**	**10 24 54.3 -0.2**				
PV20				IAmb	IAmb	10 25 09.0				
	comp=Z,13nm,0.7s									
PV04	**Paradox Valley**	**48.16**	**78**	P	**P**	**10 24 54.6 +0.1**				
PV04				IAmb	IAmb	10 24 55.9				
	comp=Z,22nm,0.8s									
PV19	**Morning Glory**	**48.16**	**78**	P	**P**	**10 24 54.6 0.0**				
PV19				IAmb	IAmb	10 25 17.3				
	comp=Z,18nm,0.8s									
PV17	**East Wray Mesa**	**48.20**	**78**	P	**P**	**10 24 54.9 0.0**				
PV17				IAmb	IAmb	10 24 56.1				
	comp=Z,27nm,0.7s									
PV16	**Nyswonger Mesa**	**48.20**	**78**	P	**P**	**10 24 55.1 +0.2**				
PV16				IAmb	IAmb	10 25 17.5				
	comp=Z,18nm,0.8s									
PV11	**David Mesa, Pa**	**48.24**	**78**	IAmb	IAmb	10 25 14.7				
	comp=Z,39nm,0.9s									
PV18	**Skein Mesa, Pa**	**48.25**	**78**	IAmb	IAmb	10 24 56.6				
	comp=Z,26nm,1.0s									
PV12	**Saucer Basin,**	**48.27**	**78**	IAmb	IAmb	10 25 15.4				
	comp=Z,24nm,0.8s									
PV03	**Paradox Valley**	**48.28**	**78**	IAmb	IAmb	10 24 56.8				
	comp=Z,29nm,1.0s									
PV07	**Paradox Valley**	**48.29**	**78**	IAmb	IAmb	10 24 56.8				
	comp=Z,17nm,1.1s									
TIA	**Tai'an**	**48.33**	**278**	P	**P**	**10 24 55.8 +0.2**				
TIA				pmax	pmax					
	comp=Z,61nm,0.9s									
PV02	**Paradox Valley**	**48.38**	**78**	IAmb	IAmb	10 24 57.7				
	comp=Z,30nm,0.8s									
N23A	**Red Feather La**	**48.40**	**73**	P	**P**	**10 24 57.2 +0.8**				
	baz=308,SNR=10									
N23A	**Red Feather La**	**48.40**	**73**	IAmb	IAmb	10 24 58.1				
	comp=Z,21nm,1.2s									
PV15	**Paradox Valley**	**48.45**	**78**	IAmb	IAmb	10 25 09.2				
	comp=Z,12nm,0.8s									
WUAZ	**Wupatki**	**48.48**	**83**	P	**P**	**10 24 58.3 +1.3**				
	baz=311,SNR=22									
WUAZ	**Wupatki**	**48.48**	**83**	IAmb	IAmb	10 25 09.4				
	comp=Z,22nm,0.8s									
PV01	**Paradox Valley**	**48.53**	**78**	IAmb	IAmb	10 24 58.8				
	comp=Z,22nm,0.8s									
ULM	**Lac du Bonnet**	**48.59**	**58**	P	**P**	**10 24 55.8 -1.6**				
	comp=Z,1.5nm,0.4s,baz=330,slow=16,SNR=3.0									
ULM				LR	LR	10 45 31.4				
	comp=Z,166nm,19.3s,baz=332,slow=36									
HHC	**Hu-ho-hao-te**	**48.79**	**287**	*e*P	**P**	**10 25 01.0 +1.7**				
HHC				PP	**PP**	**10 26 54.0 +1.6**				
HHC				S	**S**	**10 31 59.1 -0.2**				
HHC				pmax	pmax					
	comp=Z,27nm,1.0s									
HHC				pmax	pmax					
	comp=Z,120nm,7.8s									
HHC				LR	LR					
	comp=Z,230nm,18.8s									
HHC				LR	LR					
	comp=Z,190nm,17.3s									
HHC				LR	LR					
	comp=Z,200nm,19.2s									
MVCO	**Mesa Verde**	**49.16**	**79**	P	**P**	**10 25 02.7 +0.4**				
	baz=310,SNR=9.6									
MVCO	**Mesa Verde**	**49.16**	**79**	IAmb	IAmb	10 25 17.5				
	comp=Z,14nm,0.7s									
ISCO	**Idaho Springs**	**49.27**	**74**	P	**P**	**10 25 04.5 +1.3**				
	baz=309,SNR=10									
W18A	**Petrified Fore**	**49.75**	**82**	P	**P**	**10 25 07.3 +0.5**				
	baz=311									
W18A	**Petrified Fore**	**49.75**	**82**	IAmb	IAmb	10 25 08.7				
	comp=Z,25nm,0.8s									
S22A	**4UR Ranch, Cre**	**49.84**	**77**	P	**P**	**10 25 08.8 +1.3**				
	baz=310,SNR=16									
S22A	**4UR Ranch, Cre**	**49.84**	**77**	IAmb	IAmb	10 25 09.8				
	comp=Z,22nm,1.2s									
BTO	**Baotou**	**49.86**	**288**	*e*P	**P**	**10 25 05.3 -2.1**				
214A	**Organ Pipe Nat**	**49.95**	**87**	P	**P**	**10 25 08.6 +0.5**				
	baz=313									
NJ2	**Nanjing**	**50.00**	**273**	*e*P	**P**	**10 25 06.3 -2.1**				
NJ2				pmax	pmax					
	comp=Z,16nm,0.5s									
Q24A	**Divide**	**50.08**	**75**	P	**P**	**10 25 09.8 +0.5**				
	baz=310									
TIY	**Taiyuan**	**50.24**	**283**	*e*P	**P**	**10 25 11.6 +1.3**				
TIY				pmax	pmax					
	comp=Z,78nm,1.1s									
SPITS	**Spitsbergen Ar**	**50.29**	**356**	P	**P**	**10 25 08.9 -1.1**				
	comp=Z,7.6nm,0.6s,baz=54,slow=8.5,SNR=11									
SUSD	**Miller**	**50.32**	**66**	P	**P**	**10 25 10.7 -0.1**				
	baz=308,SNR=7.9									
SDCO	**Great Sand Dun**	**50.64**	**76**	P	**P**	**10 25 14.7 +1.1**				
	baz=310,SNR=22									
TUC	**Tucson**	**50.97**	**85**	P	**P**	**10 25 16.9 +1.0**				
	baz=313									
TUC	**Tucson**	**50.97**	**85**	P	**P**	**10 25 16.0 +0.1**				
TUC				pmax	pmax					
	comp=Z,13nm,0.8s									
TUC	**Tucson**	**50.97**	**85**	P	**P**	**10 25 16.0 +0.1**				
TUC				IAmb	IAmb	10 25 28.0				
	comp=Z,13nm,0.8s									
DAG	**Danmarks Havn**	**51.21**	**6**	*i* P	**P**	**10 25 15.2 -1.7**				
DAG				pmax	pmax					
	comp=Z,3.0nm,0.4s									
DAG	**Danmarks Havn**	**51.21**	**6**	*i* P	**P**	**10 25 15.2 -1.7**				
	comp=Z,3.2nm,0.4s									
DAG	**Danmarks Havn**	**51.21**	**6**	*i* P	**P**	**10 25 15.2 -1.7**				
DAG				IAmb	IAmb	10 25 16.4				
	comp=Z,3.2nm,0.4s									
KSCO	**Kaye Shedlock'**	**51.56**	**73**	P	**P**	**10 25 21.4 +1.1**				
	baz=310,SNR=10									
KSCO	**Kaye Shedlock'**	**51.56**	**73**	P	**P**	**10 25 20.8 +0.5**				
KSCO				IAmb	IAmb	10 25 22.2				
	comp=Z,38nm,0.9s									
T25A	**Trinidad**	**51.70**	**76**	P	**P**	**10 25 22.7 +1.3**				
	baz=311,SNR=24									
T25A	**Trinidad**	**51.70**	**76**	IAmb	IAmb	10 25 25.7				
	comp=Z,37nm,1.0s									
ANMO	**Albuquerque**	**51.89**	**80**	P	**P**	**10 25 23.8 +1.0**				
	baz=312									
ANMO	**Albuquerque**	**51.89**	**80**	P	**P**	**10 25 23.7 +0.9**				
ANMO				pmax	pmax					
	comp=Z,9.0nm,1.1s									
ANMO	**Albuquerque**	**51.89**	**80**	P	**P**	**10 25 23.7 +0.9**				
ECSD	**EROS Data Cent**	**52.08**	**65**	P	**P**	**10 25 22.8 -1.1**				
	baz=309,SNR=12									
ECSD	**EROS Data Cent**	**52.08**	**65**	IAmb	IAmb	10 25 23.6				
	comp=Z,17nm,0.9s									
FRB	**Frobisher Bay**	**52.25**	**32**	LR	LR	10 50 18.0				
	comp=Z,194nm,19.7s,baz=312,slow=39									
BGNE	**Belgrade**	**52.67**	**68**	P	**P**	**10 25 28.3 -0.1**				
	baz=310,SNR=13									
121A	**Cookes Peak, D**	**52.68**	**83**	P	**P**	**10 25 29.8 +1.0**				
	baz=313,SNR=6.2									
121A	**Cookes Peak, D**	**52.68**	**83**	P	**P**	**10 25 29.2 +0.5**				
SUMG	**Summit**	**52.84**	**15**	P	**P**	**10 25 30.6 +1.0**				
SUMG				pmax	pmax					
	comp=Z,11nm,1.0s									
SUMG	**Summit**	**52.84**	**15**	P	**P**	**10 25 30.6 +1.0**				
SUMG	**Summit**	**52.84**	**15**	*i* P	**P**	**10 25 29.0 -0.6**				
	comp=Z,4.7nm,0.4s									
SUMG	**Summit**	**52.84**	**15**	*i* P	**P**	**10 25 29.0 -0.6**				
SUMG				IAmb	IAmb	10 25 31.4				
	comp=Z,4.7nm,0.4s									
CBKS	**Cedar Bluff**	**53.41**	**72**	P	**P**	**10 25 34.5 +0.7**				
	baz=311,SNR=9.1									
CBKS	**Cedar Bluff**	**53.41**	**72**	P	**P**	**10 25 34.5 +0.7**				
CBKS				pmax	pmax					
	comp=Z,42nm,0.8s									
CBKS	**Cedar Bluff**	**53.41**	**72**	P	**P**	**10 25 34.5 +0.7**				
I37A	**Lemond, Waseca**	**53.70**	**63**	P	**P**	**10 25 35.0 -0.9**				
I37A				IAmb	IAmb	10 25 36.8				
	comp=Z,32nm,0.9s									
WHN	**Wuhan**	**53.84**	**275**	⇓P	**P**	**10 25 37.1 +0.1**				
WHN				S	**S**	**10 33 10.5 +1.7**				
WHN				pmax	pmax					
	comp=Z,240nm,1.7s									
WHN				LR	LR					
	comp=Z,760nm,14.0s									
R32A	**Long Quarter,**	**54.27**	**71**	IAmb	IAmb	10 25 41.0				
	comp=Z,21nm,0.8s									
SSLB	**Suanglung**	**54.52**	**264**	P	**P**	**10 25 41.6 -0.5**				
MNTX

comp=Z,27nm,0.9s
BCOK Bluff Creek, N 56.78 73 P **P** **10 25 58.0 -0.1**
BCOK IAmb IAmb 10 26 00.1
comp=Z,42nm,0.9s
OK031 S. Brethren Rd 57.03 72 IAmb IAmb 10 26 00.7
comp=Z,27nm,0.8s
E46A Sault Ste Mari 57.04 56 IAmb IAmb 10 25 59.9
comp=Z,15nm,0.7s
ENH Enshi 57.04 278 P **P** **10 25 60.0 -0.1**
OK030 Cody Creek RV 57.08 72 P **P** **10 26 00.5 +0.2**
OK030 IAmb IAmb 10 26 01.1
comp=Z,27nm,0.9s
L42A Oliver, Polo 57.09 62 IAmb IAmb 10 26 00.7
comp=Z,28nm,1.0s
FNO Franklin 57.17 73 P **P** **10 26 01.3 +0.4**
N41A Harden Midland 57.30 64 IAmb IAmb 10 26 01.7
comp=Z,32nm,0.8s
X34A Smith Ranch, M 57.36 74 P **P** **10 26 03.1 +0.8**
X34A IAmb IAmb 10 26 04.1
comp=Z,32nm,1.2s
TX32 Lajitas Array 57.44 83 IAmb IAmb 10 26 04.2
comp=Z,15nm,0.9s
TXAR Lajitas Array 57.44 83 P **P** **10 26 03.2 +0.1**
comp=Z,11nm,0.8s,baz=299,slow=4.7,SNR=79
TXAR PcP **PcP** **10 26 57.0 +0.6**
comp=Z,6.2nm,0.8s,baz=298,slow=2.7,SNR=3.7
TXAR Lajitas Array 57.44 83 P **P** **10 26 02.7 -0.4**
ABTX Abilene, Hawle 57.62 77 P **P** **10 26 04.3 +0.1**
baz=314,SNR=7.2
ABTX Abilene, Hawle 57.62 77 IAmb IAmb 10 26 05.5
comp=Z,31nm,1.2s
TUL1 Leonard 57.69 72 P **P** **10 26 04.4 -0.2**
baz=313,SNR=5.9
TUL1 Leonard 57.69 72 IAmb IAmb 10 26 05.3
comp=Z,25nm,0.8s
ARCES ARCESS Array B 58.13 351 P **P** **10 26 05.5 -1.7**
comp=Z,1.4nm,0.4s,baz=24,slow=8.9,SNR=13
U38A Gravette 58.15 70 IAmb IAmb 10 26 07.8
comp=Z,22nm,0.9s
HDIL Hopedale 58.27 64 P **P** **10 26 08.0 -0.6**
baz=313,SNR=8.6
HHAR Hobbs 58.52 70 P **P** **10 26 09.1 -1.3**
HHAR IAmb IAmb 10 26 10.2
comp=Z,18nm,0.9s
Z35A Perchaven, San 58.58 75 P **P** **10 26 11.2 +0.4**
Z35A IAmb IAmb 10 26 14.0
comp=Z,27nm,1.1s
X37A Clayton 58.84 72 IAmb IAmb 10 26 13.8
comp=Z,26nm,0.8s
CCM Cathedral Cave 58.87 67 P **P** **10 26 11.6 -1.1**
baz=314
CCM Cathedral Cave 58.87 67 P **P** **10 26 11.7 -1.1**
CCM pmax pmax
comp=Z,19nm,0.8s
CCM Cathedral Cave 58.87 67 P **P** **10 26 11.7 -1.1**
CCM IAmb IAmb 10 26 12.3
comp=Z,19nm,0.8s
JCT Junction City 59.02 79 P **P** **10 26 13.8 -0.2**
baz=315
JCT Junction City 59.02 79 IAmb IAmb 10 26 14.3
comp=Z,11nm,0.9s
U40A Yellville 59.11 69 P **P** **10 26 13.3 -1.1**
baz=314,SNR=25
VLDQ Val d'Or 59.26 50 P **P** **10 26 12.5 -2.8**
VLDQ IAmb IAmb 10 26 27.8
comp=Z,18nm,1.3s
W39A Magazine 59.36 71 P **P** **10 26 16.2 0.0**
baz=314,SNR=11
W39A Magazine 59.36 71 IAmb IAmb 10 26 17.0
comp=Z,43nm,1.2s
CHGQ Chibougamau 59.44 47 P **P** **10 26 15.2 -1.3**
baz=315
SFIN Lafayette 59.62 62 P **P** **10 26 17.8 -0.1**
baz=314,SNR=9.8
KURK Kurchatov 59.77 315 P **P** **10 26 17.9 -0.8**
KURK 10 27 05.1
KURK Kurchatov 59.77 315 P **P** **10 26 17.5 -1.3**
KURBB Kurchatov Arra 59.87 315 P **P** **10 26 17.9 -1.6**
comp=Z,3.7nm,0.5s,baz=42,slow=6.6,SNR=31
KURBB PcP **PcP** **10 27 05.1 -0.4**
comp=Z,5.0nm,0.9s,baz=50,slow=4.1,SNR=10
MIAR Mount Ida 59.94 71 P **P** **10 26 20.5 +0.3**
baz=314,SNR=19
CD2 Chengdu 60.11 283 P **P** **10 26 21.8 +0.3**
CD2 LR LR
comp=Z,440nm,9.4s
WHAR Wooly Hollow 60.18 70 IAmb IAmb 10 26 24.7
comp=Z,19nm,0.7s
WMQ Urumqi 60.25 304 *e*P **P** **10 26 21.6 -0.7**
WMQ pP sP 10 26 38.9 -0.1
WMQ PcP **PcP** **10 27 07.4 +0.1**
WMQ LR LR
comp=Z,140nm,9.9s
WMQ LR LR
comp=Z,130nm,19.7s
WMQ LR LR
comp=Z,96nm,25.1s
W41B Gary Mavity, V 60.28 70 P **P** **10 26 21.9 -0.7**
baz=315,SNR=5.5
W41B Gary Mavity, V 60.28 70 IAmb IAmb 10 26 22.7
comp=Z,34nm,1.1s
LCAR Lake Charles 60.30 68 IAmb IAmb 10 26 22.1
comp=Z,25nm,1.0s
X40A Basin Creek Fa 60.42 71 P **P** **10 26 23.4 0.0**
baz=315,SNR=8.6
X40A Basin Creek Fa 60.42 71 IAmb IAmb 10 26 24.2
comp=Z,16nm,0.8s
UALR University of 60.51 70 IAmb IAmb 10 26 24.6
comp=Z,49nm,1.4s
833A Chaparral WMA, 60.80 80 P **P** **10 26 26.5 +0.3**
baz=316
833A Chaparral WMA, 60.80 80 P **P** **10 26 26.7 +0.6**
833A IAmb IAmb 10 26 45.9
comp=Z,24nm,1.2s
N49A Columbus Grove 60.84 60 IAmb IAmb 10 26 26.4
comp=Z,43nm,1.2s
MK31 Makanchi Array 60.86 309 *ce*P **P** **10 26 27.0 +0.6**
MK31 Makanchi Array 60.86 309 P **P** **10 26 26.1 -0.3**
MKAR Makanchi Array 60.86 309 P **P** **10 26 25.0 -1.4**
comp=Z,16nm,0.5s,baz=54,slow=6.8,SNR=8.9
MKAR Makanchi Array 60.86 309 *i* P **P** **10 26 27.2 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 60.86 309 P **P** **10 26 25.7 -0.7**
HBAR Harrisburg 60.95 69 P **P** **10 26 27.0 0.0**
D55A Sainte-Anne-du 60.98 50 P **P** **10 26 26.0 -1.2**
baz=316
HICK Hickman 61.08 67 P **P** **10 26 27.6 -0.4**
H53A Bobcaygeon 61.20 54 P **P** **10 26 28.1 -0.5**
baz=315
O49A Covington 61.27 61 IAmb IAmb 10 26 29.1
comp=Z,12nm,0.8s
D56A ZEC Mazanza, M 61.30 50 P **P** **10 26 27.1 -2.2**
baz=316
GYA Guiyang 61.49 277 ⇓P **P** **10 26 31.1 +0.1**
GYA pmax pmax
comp=Z,33nm,1.2s
GYA pmax pmax
comp=Z,250nm,4.2s
P49A Miami Univ. Ec 61.52 62 P **P** **10 26 30.0 -0.9**
baz=315,SNR=6.3
BVAR Borovoye Array 61.53 321 P **P** **10 26 30.5 -0.2**
comp=Z,3.9nm,0.5s,baz=202,slow=14,SNR=25
E56A St. Veronique 61.53 50 P **P** **10 26 29.8 -1.1**
baz=316
X43A Marvell 61.54 70 P **P** **10 26 31.1 0.0**
baz=315
BRVK Borovoye 61.55 321 *ce*P **P** **10 26 30.2 -0.6**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 61.55 321 P **P** **10 26 30.8 -0.1**
BRVK IAmb IAmb 10 26 31.6
comp=Z,10nm,0.6s
WCI Wyandotte Cave 61.56 64 P **P** **10 26 30.9 -0.3**
baz=315
WCI Wyandotte Cave 61.56 64 P **P** **10 26 31.0 -0.2**
WCI pmax pmax
comp=Z,35nm,0.8s
WCI Wyandotte Cave 61.56 64 P **P** **10 26 31.0 -0.2**
HKT Hockley 61.82 77 P **P** **10 26 33.8 +0.9**
HKT pmax pmax
comp=Z,8.0nm,1.0s
HKT Hockley 61.82 77 P **P** **10 26 33.8 +0.9**
ACSO Alum Creek Sta 61.97 60 P **P** **10 26 34.2 +0.3**
baz=315
ACSO Alum Creek Sta 61.97 60 IAmb IAmb 10 26 34.8
comp=Z,19nm,0.8s

E57A Chemin Saint G 62.05 50 P **P** **10 26 33.3 -1.1**
baz=317
D58A Chemin du LacG 62.16 49 P **P** **10 26 32.8 -2.2**
baz=317
WVT Waverly 62.17 66 P **P** **10 26 35.1 -0.2**
baz=315
WVT Waverly 62.17 66 P **P** **10 26 35.1 -0.2**
WVT pmax pmax
comp=Z,15nm,0.7s
WVT Waverly 62.17 66 P **P** **10 26 35.1 -0.2**
WVT IAmb IAmb 10 26 35.9
comp=Z,15nm,0.7s
O51A Pataskala 62.23 60 P **P** **10 26 35.4 -0.3**
baz=316,SNR=10
N52A McGinn's Farm, 62.25 59 P **P** **10 26 35.5 -0.3**
baz=316
OXF Oxford 62.41 69 P **P** **10 26 36.9 0.0**
baz=316,SNR=18
P51A Williamsport 62.46 61 P **P** **10 26 36.9 -0.2**
baz=316
P51A Williamsport 62.46 61 IAmb IAmb 10 26 37.4
comp=Z,17nm,0.8s
BORG Borgarnes 62.51 12 LR LR 10 53 00.4
comp=Z,120nm,21.6s,baz=348,slow=35
K54A Basiliko Farm, 62.54 55 P **P** **10 26 37.1 -0.6**
baz=316
O52A Adamsville 62.67 59 P **P** **10 26 38.3 -0.3**
baz=316,SNR=12
N53A Lisbon 62.71 58 P **P** **10 26 38.4 -0.4**
baz=316
ZAIG Zacatecas 62.85 87 IAmb IAmb 10 26 41.5
comp=Z,14nm,1.1s
P52A Corning 62.85 60 P **P** **10 26 39.4 -0.4**
baz=316
O53A New Philadelph 62.91 59 P **P** **10 26 39.8 -0.4**
baz=316,SNR=5.4
O53A New Philadelph 62.91 59 IAmb IAmb 10 26 41.0
comp=Z,33nm,1.0s
V48A Smith Brothers 63.02 66 IAmb IAmb 10 26 42.0
comp=Z,39nm,1.3s
N54A Moraine State 63.05 58 P **P** **10 26 40.9 -0.2**
baz=316
N54A Moraine State 63.05 58 IAmb IAmb 10 26 41.7
comp=Z,31nm,1.1s
U49A Red Boiling Sp 63.06 65 IAmb IAmb 10 26 41.9
comp=Z,30nm,1.1s
ARU Arti 63.09 329 P **P** **10 26 40.6 -0.4**
comp=Z,3.0nm,0.3s,baz=29,slow=11,SNR=8.9
ARU Arti 63.09 329 *c i* P **P** **10 26 41.0 -0.1**
ARU 10 27 15.3
ARU S **S** **10 35 07.8 -0.7**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU MLR MLR
comp=Z,317nm,18.0s
ARU Arti 63.09 329 P **P** **10 26 40.8 -0.3**
ARU IAmb IAmb 10 26 42.5
comp=Z,9.8nm,0.7s
K56A Middlesex 63.17 55 P **P** **10 26 42.4 +0.4**
baz=317,SNR=5.8
Q52A Bidwell 63.26 60 P **P** **10 26 42.1 -0.4**
baz=316,SNR=6.8
P53A Whipple 63.36 60 P **P** **10 26 43.0 -0.1**
baz=316,SNR=5.6
P53A Whipple 63.36 60 IAmb IAmb 10 26 43.8
comp=Z,25nm,0.8s
VBMS Vicksburg 63.39 71 P **P** **10 26 44.3 +0.9**
baz=316
O54A Avella 63.40 58 P **P** **10 26 43.5 +0.1**
baz=316
O54A Avella 63.40 58 IAmb IAmb 10 26 44.6
comp=Z,33nm,1.1s
L56A Greenwood 63.46 55 P **P** **10 26 43.7 -0.2**
baz=317,SNR=7.0
S51A Beattyville 63.48 62 IAmb IAmb 10 26 44.5
comp=Z,27nm,0.8s
K57A Scipio Center 63.56 54 P **P** **10 26 44.7 +0.2**
baz=317
M56A Emporium 63.61 56 P **P** **10 26 44.9 0.0**
baz=317
Q53A Leroy 63.74 60 P **P** **10 26 45.8 +0.1**
baz=316,SNR=23
P54A Burton 63.77 59 P **P** **10 26 46.2 +0.3**
baz=316,SNR=9.4
344A Westbrook Farm 63.81 72 IAmb IAmb 10 26 47.8
comp=Z,22nm,0.9s
X48A Hartselle 63.81 67 IAmb IAmb 10 26 46.2
comp=Z,48nm,1.4s
R53A Hurricane 63.89 61 P **P** **10 26 47.0 +0.3**
baz=316,SNR=12
SWET Sewanee 63.90 66 IAmb IAmb 10 26 46.9
comp=Z,37nm,1.2s
L57A Andrews Acres 63.92 55 P **P** **10 26 46.8 0.0**
baz=317
D62A Allapoint, All 63.93 46 P **P** **10 26 46.5 -0.3**
baz=319
KIRV Kirov 63.94 335 P **P** **10 26 47.1 +0.5**
comp=Z,12nm,0.4s,baz=14,slow=5.0,SNR=4.7
KIRV Kirov 63.94 335 *i* P **P** **10 26 47.9 +1.3**
O55A Ligonier 63.95 58 P **P** **10 26 47.4 +0.4**
baz=317
Q54A Coxs Mills 64.02 60 P **P** **10 26 47.9 +0.3**
baz=317,SNR=5.5
Q54A Coxs Mills 64.02 60 IAmb IAmb 10 26 48.3
comp=Z,29nm,0.9s
MCWV Mont Chateau 64.06 58 P **P** **10 26 48.1 +0.3**
baz=317
P55A Reedsville 64.18 59 P **P** **10 26 49.3 +0.6**
baz=317
BINY Binghamton 64.22 54 P **P** **10 26 48.5 -0.3**
baz=317
S53A Williamson 64.26 61 P **P** **10 26 49.4 +0.3**
baz=317,SNR=5.9
M57A Sunshine Farm, 64.27 55 P **P** **10 26 49.1 0.0**
baz=317
TZTN Tazewell 64.29 63 P **P** **10 26 49.7 +0.3**
baz=316,SNR=7.9
TZTN Tazewell 64.29 63 IAmb IAmb 10 26 50.4
comp=Z,32nm,0.9s
V51A Loudon 64.38 64 IAmb IAmb 10 26 51.8
comp=Z,49nm,1.3s
SSPA Standing Stone 64.38 56 P **P** **10 26 49.6 -0.3**
baz=317
D63A Stockholm 64.39 46 P **P** **10 26 48.9 -0.9**
baz=319
L58A Harry Jones Me 64.40 54 P **P** **10 26 50.0 +0.1**
baz=317
Q55A Buckhannon 64.42 59 P **P** **10 26 50.5 +0.3**
baz=317,SNR=6.9
N57A Milroy 64.47 56 P **P** **10 26 50.7 +0.3**
baz=317
R54A Victor 64.52 60 P **P** **10 26 51.3 +0.5**
baz=317,SNR=21
CPCT Cooper Cave 64.53 65 IAmb IAmb 10 26 51.5
comp=Z,54nm,1.4s
T53A Wise 64.54 62 P **P** **10 26 51.6 +0.6**
baz=317,SNR=12
M58A Price's Panora 64.58 55 P **P** **10 26 51.2 0.0**
baz=317
Y49A Blount Mountai 64.61 67 IAmb IAmb 10 26 51.5
comp=Z,18nm,0.8s
S54A Dingess, Beckl 64.62 61 P **P** **10 26 52.0 +0.5**
baz=317,SNR=12
L59A Walton 64.70 54 P **P** **10 26 52.0 +0.1**
baz=318
P56A Dayton Farm, R 64.71 58 P **P** **10 26 52.8 +0.8**
baz=317,SNR=6.9
V52A Sevierville 64.77 64 IAmb IAmb 10 26 53.3
comp=Z,47nm,1.1s
O57A Amberson 64.83 57 P **P** **10 26 52.8 0.0**
baz=317
H62A Milan 64.83 49 P **P** **10 26 52.0 -0.7**
baz=319
LRAL Lakeview Retre 64.86 68 P **P** **10 26 52.5 -0.6**
baz=317,SNR=7.9
LRAL Lakeview Retre 64.86 68 IAmb IAmb 10 26 53.1
comp=Z,17nm,0.9s
KMI Kunming 64.89 279 ⇓ *i* P **P** **10 26 54.3 +0.7**
KMI pP sP 10 27 08.4 -1.6
KMI sP PcP 10 27 15.8 -11
KMI pmax pmax
comp=Z,83nm,0.9s
KMI pmax pmax
comp=Z,180nm,3.6s
KMI LR LR
comp=Z,110nm,9.3s
KMI LR LR
comp=Z,72nm,6.1s

KMI LR LR
comp=Z,290nm,24.2s
R55A Marlinton 64.91 60 P **P** **10 26 54.0 +0.5**
baz=317
R55A Marlinton 64.91 60 IAmb IAmb 10 26 54.5
comp=Z,20nm,0.9s
M59A Waymart 64.98 54 P **P** **10 26 53.5 -0.3**
baz=318
E64A Bridgewater 64.98 46 P **P** **10 26 52.5 -1.2**
baz=320
X51A Calhoun 64.98 66 IAmb IAmb 10 26 54.5
comp=Z,49nm,1.1s
T54A Tazewell 65.01 61 P **P** **10 26 54.5 +0.4**
baz=317,SNR=18
S55A Lewisburg 65.08 60 P **P** **10 26 55.0 +0.5**
baz=317,SNR=8.0
W52A Murphy 65.13 65 IAmb IAmb 10 26 55.5
comp=Z,52nm,1.2s
R56A Bull Pasture M 65.21 59 P **P** **10 26 55.5 +0.2**
baz=317
U54A Nelsons Funny 65.27 62 P **P** **10 26 56.0 +0.2**
baz=317,SNR=12
N59A State Game Lan 65.27 55 P **P** **10 26 55.7 0.0**
baz=318
Q57A Strasburg 65.28 58 P **P** **10 26 55.6 -0.1**
baz=317
V53A Saluda 65.34 63 IAmb IAmb 10 26 57.2
comp=Z,27nm,0.9s
T55A Pulaski 65.40 61 P **P** **10 26 57.2 +0.6**
baz=317,SNR=11
BLA Blacksburg 65.53 61 P **P** **10 26 57.9 +0.4**
baz=317,SNR=8.4
BLA Blacksburg 65.53 61 IAmb IAmb 10 26 58.5
comp=Z,37nm,0.8s
N60A Cedar Hill Far 65.65 55 P **P** **10 26 57.9 -0.2**
baz=318
S56A Natural Bridge 65.65 60 P **P** **10 26 58.4 +0.2**
baz=317,SNR=9.5
U55A TA2, Sparta 65.71 62 P **P** **10 26 59.1 +0.5**
baz=317,SNR=15
Q58A Fox Den Farm, 65.73 58 P **P** **10 26 58.2 -0.4**
baz=318
V54A Nebo 65.74 63 P **P** **10 26 59.1 +0.3**
baz=317,SNR=17
R57A Stanardsville 65.76 59 P **P** **10 26 59.1 +0.2**
baz=318,SNR=5.6
T56A Rocky Mt 65.88 61 P **P** **10 26 59.8 +0.2**
baz=318
FINES FINESS Array B 65.88 348 P **P** **10 26 57.3 -1.9**
comp=Z,2.1nm,0.7s,baz=30,slow=5.4,SNR=7.0
FINES LR LR 10 57 32.0
comp=Z,251nm,20.7s,baz=26,slow=38
FINES FINESS Array B 65.88 348 *i* P **P** **10 27 00.1 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.7s
S57A Dark Hollow, R 65.92 59 P **P** **10 27 00.4 +0.5**
baz=318
Y52A Lilburn 65.94 66 IAmb IAmb 10 27 00.8
comp=Z,39nm,0.8s
R58A Rapidan 66.03 58 P **P** **10 27 00.5 -0.1**
baz=318
V55A Taylorsville 66.09 62 P **P** **10 27 01.5 +0.5**
baz=317,SNR=8.9
W54A Cherokee Point 66.11 63 P **P** **10 27 01.3 +0.2**
baz=317,SNR=11
U56A King 66.18 61 P **P** **10 27 02.0 +0.3**
baz=318,SNR=8.4
U56A King 66.18 61 P **P** **10 27 01.9 +0.2**
T57A Hurt 66.32 60 P **P** **10 27 02.4 -0.1**
baz=318,SNR=7.6
T57A Hurt 66.32 60 IAmb IAmb 10 27 04.4
comp=Z,20nm,0.8s
R58B Mineral 66.35 58 P **P** **10 27 02.9 +0.3**
baz=318
X54A Belton 66.40 64 P **P** **10 27 03.2 +0.2**
baz=318,SNR=21
152A Waverly Hall 66.44 67 IAmb IAmb 10 27 03.2
comp=Z,24nm,0.8s
V56A Mocksville 66.52 62 P **P** **10 27 04.0 +0.3**
baz=318,SNR=11
KMSC Kings Mountain 66.54 63 P **P** **10 27 04.2 +0.3**
baz=318,SNR=19
GOGA Godfrey 66.61 65 P **P** **10 27 04.0 -0.4**
baz=318,SNR=16
U57A Blanch 66.69 61 P **P** **10 27 05.2 +0.3**
baz=318,SNR=7.7
T58A Grand View Acr 66.75 60 P **P** **10 27 04.8 -0.4**
baz=318
V57A Coltrane Farms 66.86 61 P **P** **10 27 05.7 -0.2**
baz=318
X55A Gracelyn & Ava 66.87 63 P **P** **10 27 06.1 +0.1**
baz=318,SNR=20
SLVN Son La 66.95 276 P **P** **10 27 07.7 +0.9**
SLVN IAmb IAmb 10 27 08.4
comp=Z,23nm,0.7s
W56A Indian Trail 66.97 62 P **P** **10 27 06.6 0.0**
baz=318,SNR=6.7
X56A White Oak 67.19 63 P **P** **10 27 08.3 +0.3**
baz=318,SNR=16
T59A Double "B" Far 67.25 59 P **P** **10 27 08.9 +0.5**
baz=318
T59A Double "B" Far 67.25 59 IAmb IAmb 10 27 30.9
comp=Z,20nm,1.1s
W57A Gilead 67.28 62 P **P** **10 27 08.8 +0.2**
baz=318,SNR=5.8
W57A Gilead 67.28 62 IAmb IAmb 10 27 09.2
comp=Z,23nm,0.7s
V58A Windy Hill, Pi 67.28 61 P **P** **10 27 08.9 +0.3**
baz=318,SNR=5.2
V58A Windy Hill, Pi 67.28 61 IAmb IAmb 10 27 09.6
comp=Z,28nm,0.8s
NB2 NORSAR Subarra 67.58 356 P **P** **10 27 09.9 -0.2**
comp=Z,0.9nm,0.5s,baz=5.0,slow=6.5
NOA NORSAR Array B 67.58 356 P **P** **10 27 09.6 -0.5**
comp=Z,1.2nm,0.5s,baz=4.4,slow=7.4,SNR=6.2
NOA LR LR 10 54 41.9
comp=Z,144nm,21.6s,baz=0.0,slow=34
U59A Littleton 67.59 60 P **P** **10 27 11.0 +0.5**
baz=318
X57A Johnson Farm, 67.73 62 P **P** **10 27 12.1 +0.7**
baz=318,SNR=7.1
V59A Middlesex 67.78 60 P **P** **10 27 12.2 +0.5**
baz=318,SNR=5.7
W58A Raeford 67.79 61 P **P** **10 27 12.3 +0.5**
baz=318,SNR=6.0
Z56A Williston 67.86 64 P **P** **10 27 12.7 +0.4**
baz=318,SNR=9.2
Y57A Sumter 67.90 63 P **P** **10 27 12.7 +0.2**
baz=318
TAOE Nuku Hiva Isla 67.97 140 *e*LR LR 10 47 58.7
comp=Z,403nm,26.7s
TIGA Tifton 67.99 67 P **P** **10 27 12.8 -0.3**
baz=318
SIJI Sorong 68.04 238 P **P** **10 27 13.9 +0.3**
comp=Z,94nm,0.8s,baz=24,slow=5.4,SNR=18
X58A Rowland 68.08 62 P **P** **10 27 14.1 +0.5**
baz=318
AKTO Aktyubinsk 68.23 326 P **P** **10 27 13.4 -0.9**
comp=Z,16nm,0.7s,baz=41,slow=5.8,SNR=44
Z57A Bowman 68.26 64 P **P** **10 27 15.4 +0.7**
baz=318,SNR=13
255A Hazlehurst 68.27 66 IAmb IAmb 10 27 15.6
comp=Z,44nm,0.9s
V60A Jim Taylor Roa 68.31 60 P **P** **10 27 15.3 +0.2**
baz=319
LSA Lhasa 68.51 291 IAmb IAmb 10 27 19.3
comp=Z,12nm,0.6s
ABKAR Akbulak array 68.52 324 P **P** **10 27 16.0 -0.2**
ABKAR Akbulak array 68.52 324 P **P** **10 27 15.6 -0.5**
157A Early Branch 68.55 64 P **P** **10 27 17.7 +1.2**
baz=318,SNR=6.4
NHSC New Hope 68.69 63 P **P** **10 27 18.4 +0.9**
baz=318,SNR=7.7
Z58A St. Stephen 68.73 63 P **P** **10 27 18.1 +0.5**
baz=319
X60A Albert Glenn T 68.81 61 P **P** **10 27 18.7 +0.5**
baz=319
KK31 Karatay Array 69.15 314 P **P** **10 27 19.4 -0.8**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KK31 Karatay Array 69.15 314 P **P** **10 27 19.4 -0.8**
KKAR Karatay Array 69.15 314 P **P** **10 27 18.8 -1.4**
KKAR Karatay Array 69.15 314 P **P** **10 27 18.8 -1.4**
KKAR Karatay Array 69.15 314 IAmb IAmb 10 27 20.4
comp=Z,7.8nm,0.6s
FAKI Fak Fak 69.26 236 P **P** **10 27 21.1 -0.1**
FAKI IAmb IAmb 10 27 22.4
comp=Z,56nm,1.0s

KSH	**Kashi**	**69.35**	**308**	P	**P**	**10 27 24.3**	**+2.6**	
KSH	comp=Z,31nm,1.4s			pmax	pmax			
MYLDM	**Lahad Datu**	**70.33**	**253**	P	**P**	**10 27 29.7**	**+1.9**	
PMOR	**Pomariorio Ree**	**70.92**	**150**	*e*T	T	11 44 54.0		
	comp=Z,23nm,0.2s							
KKM	**Kota Kinabalu**	**71.01**	**255**	IAmb	IAmb	10 27 33.9		
	comp=Z,52nm,1.2s							
GTOI	**Gorontalo**	**71.35**	**246**	P	**P**	**10 27 32.3**	**-1.6**	
	comp=Z,19nm,1.1s							
MSAI	**Masohi**	**71.37**	**239**	P	**P**	**10 27 34.6**	**+0.6**	
	comp=Z,730nmcomp=Z,14nm,1.0s							
BNDI	**Bandanaira**	**71.84**	**237**	P	**P**	**10 27 36.8**	**-0.1**	
	comp=Z,189nm,1.6s							
SANI	**Sanana**	**71.88**	**242**	P	**P**	**10 27 36.8**	**-0.3**	
	comp=Z,637nmcomp=Z,46nm,1.1s							
CHTO	**Chiang Mai**	**71.92**	**278**	P	**P**	**10 27 37.4**	**0.0**	
CHTO				pmax	pmax			
	comp=Z,26nm,1.3s							
CHTO	**Chiang Mai**	**71.92**	**278**	P	**P**	**10 27 37.4**	**0.0**	
CHTO				IAmb	IAmb	10 27 38.4		
	comp=Z,26nm,1.3s							
LPSR	**Galich'ya Gora**	**71.94**	**338**	*e*P	**P**	**10 27 35.3**	**-1.7**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CM31	**Chiang Mai Arr**	**72.18**	**277**	IAmb	IAmb	10 27 40.3		
	comp=Z,17nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.18**	**277**	P	**P**	**10 27 39.0**	**0.0**	
	comp=Z,13nm,0.8s,baz=28,slow=7.0,SNR=72							
CMAR				LR	LR	11 02 33.0		
	comp=Z,85nm,19.4s,baz=106,slow=38							
CMAR	**Chiang Mai Arr**	**72.18**	**277**	*i* P	**P**	**10 27 39.2**	**+0.2**	
CMAR				pmax	pmax			
	comp=Z,14nm,0.7s							
TAPN	**Taplejung**	**72.27**	**292**	*e*P	**P**	**10 27 38.1**	**-1.7**	
	comp=Z,52nm,0.7s							
VRH	**Novokhopyorsk**	**72.54**	**336**	*e*P	**P**	**10 27 39.6**	**-1.0**	
VRH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
LUWI	**Luwuk**	**72.85**	**245**	P	**P**	**10 27 42.0**	**-0.9**	
	comp=Z,2µmcomp=Z,213nm,0.8s							
PPT2	**Papeete2**	**72.86**	**153**	*e*S	**S**	**10 37 08.0**	**+2.0**	
	comp=Z,499nm,30.2s							
PPT2	**Papeete2**	**72.86**	**153**	*e*LR	LR	10 50 11.3		
	comp=Z,354nm,24.0s,baz=349							
PPT2	**Papeete2**	**72.86**	**153**	*e*T	T	11 47 20.4		
	comp=Z,12nm,0.3s							
TIAR	**Tiarei**	**72.90**	**153**	*e*T	T	11 47 22.6		
	comp=Z,6.1nm,0.3s							
GUN	**Gumba**	**72.90**	**293**	*e*P	**P**	**10 27 43.3**	**-0.3**	
	comp=Z,45nm,0.5s							
PAE	**Paea**	**72.93**	**153**	*e*T	T	11 47 25.0		
	comp=Z,2.6nm,0.3s							
TVO	**Taravao**	**73.14**	**152**	*e*T	T	11 47 40.7		
	comp=Z,1.4nm,0.2s							
VSR	**Storozhevoye**	**73.16**	**337**	*e*P	**P**	**10 27 41.1**	**-3.2**	
VSR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
RAMN	**Ramite**	**73.21**	**292**	*e*P	**P**	**10 27 45.4**	**+0.1**	
	comp=Z,69nm,0.6s							
CHGR	**Chuyangaron**	**73.30**	**312**	IAmb	IAmb	10 27 46.2		
	comp=Z,38nm,0.8s							
KKN	**Kakani**	**73.33**	**294**	*e*P	**P**	**10 27 46.0**	**0.0**	
	comp=Z,30nm,0.5s							
MPSI	**Mapaga**	**73.38**	**249**	P	**P**	**10 27 45.4**	**-0.7**	
	comp=Z,1µmcomp=Z,79nm,0.9s							
APSI	**Ampana**	**73.39**	**246**	P	**P**	**10 27 44.8**	**-1.3**	
	comp=Z,45nm,1.2s							
PKI	**Pulchoki**	**73.43**	**293**	*e*P	**P**	**10 27 46.0**	**-0.7**	
	comp=Z,24nm,0.8s							
PKIN	**Phulchoki**	**73.43**	**293**	*e*P	**P**	**10 27 46.0**	**-0.6**	
	comp=Z,26nm,0.7s							
GKN	**Gorkha**	**73.54**	**294**	*e*P	**P**	**10 27 45.4**	**-1.7**	
	comp=Z,17nm,0.4s							
DANN	**Dangsing**	**73.77**	**295**	*e*P	**P**	**10 27 48.2**	**-0.4**	
	comp=Z,36nm,0.7s							
KOLN	**Koldanda**	**74.31**	**295**	*e*P	**P**	**10 27 50.4**	**-1.3**	
	comp=Z,22nm,0.9s							
DZM	**Mont Dzumac**	**74.74**	**196**	*e*LR	LR	10 51 02.7		
	comp=Z,434nm,24.4s							
NIL	**Nilore**	**75.30**	**306**	P	**P**	**10 27 57.2**	**+0.1**	
NIL				pmax	pmax			
	comp=Z,15nm,0.9s							
NIL	**Nilore**	**75.30**	**306**	P	**P**	**10 27 57.2**	**+0.1**	
AKASG	**Malin Array Be**	**75.75**	**343**	P	**P**	**10 27 57.4**	**-1.9**	
	comp=Z,2.0nm,0.5s,baz=23,slow=5.9,SNR=8.1							
AKASG				LR	LR	11 06 25.5		
	comp=Z,126nm,18.4s,baz=355,slow=40							
AKASG	**Malin Array Be**	**75.75**	**343**	*i* P	**P**	**10 27 57.9**	**-1.4**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKBB	**Malin Array Si**	**75.75**	**343**	*ce*P	**P**	**10 27 58.9**	**-0.4**	
TTSI	**Tana Toraja**	**76.17**	**247**	P	**P**	**10 28 02.5**	**+0.3**	
	comp=Z,63nm,1.0s							
SBUM	**Sibu**	**76.27**	**256**	P	**P**	**10 28 03.0**	**+0.2**	
KBL	**Kabul**	**76.67**	**309**	P	**P**	**10 28 03.7**	**-1.4**	
KBL				pmax	pmax			
	comp=Z,17nm,1.0s							
KBL	**Kabul**	**76.67**	**309**	P	**P**	**10 28 03.7**	**-1.4**	
KBL				IAmb	IAmb	10 28 04.8		
	comp=Z,16nm,1.0s							
SPSI	**Sidrap Palu**	**76.95**	**246**	P	**P**	**10 28 06.5**	**-0.1**	
	comp=Z,28nm,0.9s							
CLL	**Collm**	**77.18**	**354**	*e*P	**P**	**10 28 07.0**	**-0.4**	
CLL				*e*S	**S**	**10 38 00.0**	**+6.7**	
CLL				*e*SS	**SS**	**10 42 48.0**	**-2.0**	
CLL				*e*SSS	SSS	10 46 24.0		
CLL	**Collm**	**77.18**	**354**	*e*P	**P**	**10 28 07.0**	**-0.4**	
KWP	**Kalwaria Pacla**	**77.83**	**347**	IAmb	IAmb	10 28 13.9		
	comp=Z,119nm,0.5s							
BKSI	**Bulukumba**	**77.85**	**245**	P	**P**	**10 28 11.4**	**-0.2**	
	comp=Z,872nmcomp=Z,91nm,0.9s							
KSM	**Kuching**	**78.20**	**257**	IAmb	IAmb	10 28 15.2		
	comp=Z,35nm,1.3s							
KSM	**Kuching**	**78.20**	**257**	P	**P**	**10 28 14.0**	**+0.4**	
CTA	**Charters Tower**	**78.29**	**215**	P	**P**	**10 28 13.8**	**0.0**	
	comp=Z,11nm,0.8s,baz=18,slow=8.5,SNR=6.2							
MAK	**Makhachkala**	**78.30**	**328**	*e*P	**P**	**10 28 13.7**	**-0.1**	
MAK				*e*		10 31 15.1		
MAK				*e*S	**S**	**10 38 05.1**	**-0.5**	
MAK				*e*SS	**SS**	**10 43 12.6**	**+5.3**	
MAK				pmax	pmax			
	comp=Z,199nm,1.2s							
TBI	**Tubuai**	**78.36**	**154**	*e*LR	LR	10 52 34.8		
	comp=Z,390nm,28.5s,baz=333							
TBI	**Tubuai**	**78.36**	**154**	*e*T	T	11 54 12.4		
	comp=Z,9.1nm,0.3s							
KOLS	**Kolonicke sedl**	**78.57**	**347**	*e*P	**P**	**10 28 14.2**	**-1.0**	
KOLS	**Kolonicke sedl**	**78.57**	**347**	*e*P	**P**	**10 28 14.2**	**-1.0**	
LANS	**Liptovska Anna**	**78.72**	**349**	*e*P	**P**	**10 28 18.5**	**+2.4**	
LANS	**Liptovska Anna**	**78.72**	**349**	*e*P	**P**	**10 28 18.5**	**+2.4**	
GEYT	**Alibeck**	**78.77**	**319**	P	**P**	**10 28 15.9**	**-0.6**	
	comp=Z,1.2nm,0.3s,baz=237,slow=8.1,SNR=4.5							
GEYT	**Alibeck**	**78.77**	**319**	P	**P**	**10 28 16.6**	**+0.1**	
TGUH	**Tegucigalpa,Un**	**78.89**	**81**	P	**P**	**10 28 18.3**	**+0.7**	
TGUH				IAmb	IAmb	10 28 20.4		
	comp=Z,30nm,0.9s							
KIV	**Kislovodsk**	**78.90**	**332**	*e*P	**P**	**10 28 13.7**	**-3.5**	
KIV				pmax	pmax			
	comp=Z,19nm,0.9s							
KIV				MLR	MLR			
	comp=Z,311nm,19.0s							
KBZ	**Khabaz**	**79.04**	**332**	P	**P**	**10 28 17.5**	**-0.4**	
	comp=Z,5.0nm,0.9s,baz=204,slow=1.5,SNR=6.0							
KBZ				LR	LR	11 09 13.1		
	comp=Z,119nm,18.9s,baz=12,slow=40							
SOEI	**Soe**	**79.22**	**239**	P	**P**	**10 28 18.5**	**-0.8**	
	comp=Z,27nm,1.1s							
SOEI	**Soe**	**79.22**	**239**	P	**P**	**10 28 20.1**	**+0.8**	
SOEI				IAmb	IAmb	10 28 23.0		
	comp=Z,33nm,1.1s							
BURAR	**Bucovina Array**	**79.42**	**345**	⇓P	**P**	**10 28 18.5**	**-1.5**	
BURAR	**Bucovina Array**	**79.42**	**345**	⇓P	**P**	**10 28 18.5**	**-1.5**	
BURAR	**Bucovina Array**	**79.42**	**345**	P	**P**	**10 28 19.1**	**-0.9**	
ANN	**Anapa**	**79.56**	**336**	*e*P	P	10 28 27.4	+6.8	
ANN				*e*S	**SKSac**	**10 38 30.8**	**-2.8**	
ANN				pmax	pmax			
	comp=Z,131nm,1.3s							
ZEI	**Tsey**	**79.60**	**331**	*e*P	**P**	**10 28 19.4**	**-1.8**	
ZEI				pmax	pmax			
	comp=Z,9.0nm,1.1s							
EDFI	**Ende, Flores**	**79.79**	**242**	P	**P**	**10 28 20.5**	**-1.9**	
	comp=Z,400nmcomp=Z,30nm,1.2s							
BATI	**Baumata**	**79.92**	**239**	P	**P**	**10 28 23.4**	**+0.4**	
	comp=Z,49nm,0.8s							
BIZ	**Bicaz**	**79.93**	**344**	⇓P	**P**	**10 28 21.5**	**-1.2**	

HRA	**Herat**	**79.97**	**314**	P	**P**	**10 28 22.9**	**-0.5**	
SOC	**Sochi**	**80.08**	**334**	*e*P	**P**	**10 28 22.3**	**-1.2**	
SOC				*e*		10 31 23.7		
SOC				*e*PPP	PPP	10 33 13.7		
SOC				*e*S	**S**	**10 38 23.7**	**-0.9**	
SOC				*e*SS	**SS**	**10 43 36.9**	**+3.0**	
SOC				MLR	MLR			
	comp=Z,127nm,17.0s							
MATN	**Matagalpa**	**80.59**	**81**	IAmb	IAmb	10 28 27.8		
	comp=Z,19nm,0.9s							
VRI	**Vrincioaia**	**80.86**	**344**	⇑P	**P**	**10 28 26.5**	**-1.2**	
VRI	**Vrincioaia**	**80.86**	**344**	⇑P	**P**	**10 28 26.5**	**-1.2**	
PLOR	**Plostina**	**80.89**	**344**	⇑P	**P**	**10 28 27.1**	**-0.8**	
PLOR	**Plostina**	**80.89**	**344**	⇑P	**P**	**10 28 27.1**	**-0.8**	
KULM	**Kulim**	**81.20**	**267**	IAmb	IAmb	10 28 31.0		
	comp=Z,29nm,1.1s							
KULM	**Kulim**	**81.20**	**267**	P	**P**	**10 28 30.0**	**+0.1**	
MLR	**Muntele Rosu**	**81.36**	**344**	⇓P	**P**	**10 28 29.6**	**-0.9**	
MLR	**Muntele Rosu**	**81.36**	**344**	⇓P	**P**	**10 28 29.6**	**-0.9**	
BCA	**Borcka**	**81.51**	**332**	⇑P	P	10 28 36.2	+5.0	
TPGR	**Topolog**	**81.52**	**342**	⇑P	**P**	**10 28 31.0**	**-0.2**	
IPM	**Ipoh**	**81.59**	**267**	IAmb	IAmb	10 28 32.5		
	comp=Z,22nm,1.1s							
IPM	**Ipoh**	**81.59**	**267**	P	**P**	**10 28 32.0**	**0.0**	
ARR	**Arges**	**81.70**	**345**	⇓P	**P**	**10 28 30.8**	**-1.4**	
ACON	**Acoyapa**	**81.80**	**81**	P	**P**	**10 28 33.2**	**+0.1**	
ACON				IAmb	IAmb	10 28 34.4		
	comp=Z,15nm,0.9s							
KNRA	**Kununurra**	**81.90**	**232**	P	**P**	**10 28 33.4**	**0.0**	
KNRA				IAmb	IAmb	10 28 34.6		
	comp=Z,27nm,0.9s							
TIRR	**Tirgusor**	**81.91**	**342**	⇓P	**P**	**10 28 33.4**	**+0.2**	
TIRR	**Tirgusor**	**81.91**	**342**	⇓P	**P**	**10 28 33.4**	**+0.2**	
BZS	**Buzias**	**81.91**	**347**	⇑P	**P**	**10 28 31.2**	**-2.0**	
BZS	**Buzias**	**81.91**	**347**	⇑P	**P**	**10 28 31.2**	**-2.0**	
GZR	**Gura Zlata**	**81.96**	**346**	⇓P	**P**	**10 28 31.9**	**-1.7**	
GZR	**Gura Zlata**	**81.96**	**346**	⇓P	**P**	**10 28 31.9**	**-1.7**	
ESPN	**Las Esperanzas**	**82.16**	**80**	P	**P**	**10 28 35.3**	**+0.4**	
HERR	**Herculane**	**82.52**	**346**	⇑P	**P**	**10 28 34.5**	**-1.9**	
WB0	**Warramunga Arr**	**82.79**	**226**	P	**P**	**10 28 37.7**	**-0.3**	
WB0				IAmb	IAmb	10 28 38.5		
	comp=Z,22nm,0.9s							
WRAB	**Tennant Creek**	**82.96**	**225**	P	**P**	**10 28 38.1**	**-0.8**	
WRAB				pmax	pmax			
	comp=Z,24nm,1.1s							
WRAB	**Tennant Creek**	**82.96**	**225**	P	**P**	**10 28 38.1**	**-0.8**	
WRAB				IAmb	IAmb	10 28 39.5		
	comp=Z,24nm,1.1s							
WB2	**Warramunga Arr**	**82.97**	**225**	P	**P**	**10 28 38.4**	**-0.6**	
WB2				IAmb	IAmb	10 28 39.5		
	comp=Z,27nm,1.0s							
WRA	**Warramunga Arr**	**82.97**	**225**	P	**P**	**10 28 38.6**	**-0.4**	
	comp=Z,13nm,0.8s,baz=33,slow=5.8,SNR=69							
WRA				PKKPbc	**PKKPbc**	**10 47 00.6**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=223,slow=2.4,SNR=6.3							
PSI	**Prapat**	**84.20**	**267**	P	**P**	**10 28 45.5**	**-0.1**	
PSI				pmax	pmax			
	comp=Z,56nm,0.9s							
RPSI	**Rantau Prapat**	**84.28**	**267**	P	**P**	**10 28 45.5**	**-0.4**	
PWJI	**Pagerwojo**	**84.84**	**250**	P	**P**	**10 28 47.7**	**-0.9**	
	comp=Z,67nm,1.0s							
HYB	**Hyderabad**	**85.27**	**292**	*i* P	**P**	**10 28 50.5**	**-0.4**	
BR131	**Keskin Array S**	**85.28**	**337**	P	**P**	**10 28 49.8**	**-1.0**	
BR131				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BR131	**Keskin Array S**	**85.28**	**337**	P	**P**	**10 28 49.8**	**-1.0**	
BRTR	**Keskin Array B**	**85.28**	**337**	P	**P**	**10 28 49.9**	**-1.0**	
	comp=Z,7.2nm,0.8s,baz=50,slow=1.7,SNR=22							
BRTR				LR	LR	11 12 18.7		
	comp=Z,45nm,19.7s,baz=16,slow=40							
FITZ	**Fitzroy Crossi**	**85.52**	**234**	P	**P**	**10 28 52.6**	**+0.8**	
MARD	**Mardin**	**85.57**	**331**	P	**P**	**10 28 51.8**	**-0.4**	
BANI	**BANI**	**85.63**	**66**	P	**P**	**10 28 50.5**	**-2.2**	
DR12	**Loma Pena Alta**	**85.87**	**65**	P	**P**	**10 28 54.6**	**+0.7**	
ARMA	**Armidale**	**86.18**	**207**	P	**P**	**10 28 56.2**	**+1.1**	
ARMA				IAmb	IAmb	10 28 57.4		
	comp=Z,20nm,0.9s							
GSI	**Gunungsitoli**	**86.20**	**267**	P	**P**	**10 28 55.2**	**-0.3**	
GSI				IAmb	IAmb	10 28 56.6		
	comp=Z,23nm,0.8s							
AS31	**Alice Springs**	**86.43**	**224**	P	**P**	**10 28 56.6**	**+0.3**	
ASAR	**Alice Springs**	**86.43**	**224**	P	**P**	**10 28 56.6**	**+0.3**	
	comp=Z,21nm,0.8s,baz=29,slow=4.7,SNR=92							
ASAR				PKKPbc	**PKKPbc**	**10 46 52.4**	**+0.4**	
	comp=Z,0.2nm,0.4s,baz=219,slow=1.7,SNR=5.6							
KLSI		**86.45**	**258**	P	**P**	**10 28 55.9**	**-0.8**	
	comp=Z,6.8nm,0.9s							
OBIP	**Obispado Ponce**	**88.02**	**63**	P	**P**	**10 29 04.1**	**-0.2**	
OBIP				IAmb	IAmb	10 29 05.5		
	comp=Z,29nm,1.0s							
GCPR	**Guaynabo City**	**88.10**	**63**	P	**P**	**10 29 04.8**	**+0.1**	
GCPR				IAmb	IAmb	10 29 06.1		
	comp=Z,22nm,0.8s							
SJG	**San Juan**	**88.22**	**63**	P	**P**	**10 29 04.9**	**-0.3**	
SJG				pmax	pmax			
	comp=Z,27nm,1.0s							
SJG	**San Juan**	**88.22**	**63**	P	**P**	**10 29 04.9**	**-0.3**	
SJG				IAmb	IAmb	10 29 07.0		
	comp=Z,27nm,1.0s							
HUMP	**Col San Antoni**	**88.36**	**63**	P	**P**	**10 29 05.7**	**-0.2**	
HUMP				IAmb	IAmb	10 29 08.4		
	comp=Z,20nm,1.0s							
PDPR	**Patillas Dam,**	**88.37**	**63**	P	**P**	**10 29 05.6**	**-0.3**	
PDPR				IAmb	IAmb	10 29 20.0		
	comp=Z,19nm,1.1s							
MTP	**Monte Pirata**	**88.56**	**62**	P	**P**	**10 29 07.5**	**+0.6**	
ESDC	**Sonseca Array**	**88.95**	**5**	P	**P**	**10 29 06.8**	**-1.7**	
	comp=Z,1.4nm,0.9s,baz=340,slow=4.8,SNR=5.1							
ESDC	**Sonseca Array**	**88.95**	**5**	P	**P**	**10 29 08.0**	**-0.4**	
CDVI	**St. Croix**	**89.28**	**62**	P	**P**	**10 29 10.9**	**+0.7**	
SJCC	**San Jacinto, C**	**89.51**	**75**	*e*P	**P**	**10 29 11.7**	**+0.3**	
URIC	**Uribia, Colomb**	**89.99**	**71**	*e*P	**P**	**10 29 12.9**	**-0.7**	
MOTC	**Monteria, Cord**	**90.10**	**76**	*e*P	**P**	**10 29 14.4**	**+0.3**	
STKA	**Stephens Creek**	**90.73**	**214**	P	**P**	**10 29 17.5**	**+1.0**	
	comp=Z,18nm,0.9s,baz=356,slow=5.9,SNR=24							
STKA	**Stephens Creek**	**90.73**	**214**	P	**P**	**10 29 17.2**	**+0.7**	
SMLC	**San Martn de**	**91.04**	**75**	*e*P	**P**	**10 29 18.8**	**+0.3**	
ZARC	**Zaragoza, Cauc**	**91.60**	**76**	*e*P	**P**	**10 29 20.6**	**-0.4**	
PALK	**Pallekele**	**92.00**	**284**	P	**P**	**10 29 23.2**	**+0.2**	
PALK				pmax	pmax			
	comp=Z,26nm,1.2s							
PALK	**Pallekele**	**92.00**	**284**	P	**P**	**10 29 23.2**	**+0.2**	
CBOC	**Ciudad Bolivar**	**92.17**	**78**	*e*P	**P**	**10 29 24.4**	**+0.5**	
PTBC	**PUERTO BERRIO,**	**92.59**	**76**	*e*P	**P**	**10 29 25.2**	**-0.5**	
SDV	**Santo Domingo**	**93.03**	**72**	P	**P**	**10 29 28.0**	**0.0**	
SDV				IAmb	IAmb	10 29 29.3		
	comp=Z,7.6nm,0.7s							
GUY2C	**Guyana, Caldas**	**93.07**	**78**	*e*P	**P**	**10 29 28.1**	**-0.4**	
BARC	**Barichara**	**93.32**	**75**	*e*P	**P**	**10 29 25.5**	**-3.8**	
SPBC	**San Pablo de B**	**93.52**	**76**	*e*P	**P**	**10 29 30.1**	**0.0**	
TOLC	**Tolima**	**93.60**	**78**	*e*P	**P**	**10 29 31.5**	**+0.8**	
RUSC	**La Rusia**	**93.93**	**76**	*e*P	**P**	**10 29 32.0**	**-0.5**	
POPC	**Popayan, Colom**	**94.37**	**80**	*e*P	**P**	**10 29 30.8**	**-3.3**	
CHIC	**Chingaza**	**94.53**	**77**	*e*P	P	10 29 28.5	-6.6	
TORD	**Torodi Ar. Bea**	**115.57**	**2**	PKP	**PKiKP**	**10 34 54.9**	**-1.1**	
	comp=Z,211nm,1.2s,baz=350,slow=2.5,SNR=1.6							
TORD	**Torodi Ar. Bea**	**115.57**	**2**		**PKiKP**	**10 34 55.2**	**-0.9**	
H03N2	**Juan Fernandez**	**120.04**	**107**	T	T	12 46 39.8		
	baz=317,slow=77,SNR=1021							
H03N1	**Juan Fernandez**	**120.05**	**107**	T	T	12 46 43.7		
	baz=317,slow=77,SNR=2555							
H03N3	**Juan Fernandez**	**120.06**	**107**	T	T	12 46 42.9		
	baz=317,slow=77,SNR=2247							
DBIC	**Dimbokro**	**121.62**	**9**	PKP	**PKPdf**	**10 35 06.6**	**-1.1**	
	comp=Z,7.8nm,0.6s,baz=344,slow=3.1,SNR=15							
DBIC	**Dimbokro**	**121.62**	**9**	PKIKP	**PKPdf**	**10 35 06.8**	**-0.9**	
DBIC	**Dimbokro**	**121.62**	**9**		**PKPdf**	**10 35 06.8**	**-0.9**	
TIC	**Toumodi**	**121.62**	**10**	*e*PKIKP	**PKPdf**	**10 35 06.6**	**-1.2**	
KIC	**Kosan Boka**	**121.93**	**9**	*e*PKIKP	**PKPdf**	**10 35 07.2**	**-1.2**	
	comp=Z,15nm,0.7s							
LIC	**Lamto**	**122.04**	**10**	*e*PKIKP	**PKPdf**	**10 35 07.3**	**-1.2**	
	comp=Z,36nm,0.7s							
BDFB	**Brasilia**	**125.93**	**68**	PKP	**PKPdf**	**10 35 15.5**	**-0.4**	
	comp=Z,1.3nm,0.4s,baz=181,slow=9.2,SNR=3.2							
BDFB	**Brasilia**	**125.93**	**68**	PKIKP	**PKPdf**	**10 35 15.8**	**-0.2**	
BDFB	**Brasilia**	**125.93**	**68**		**PKPdf**	**10 35 15.8**	**-0.2**	
CPUP	**Villa Florida**	**128.39**	**85**	PKP	**PKPdf**	**10 35 19.6**	**-0.7**	
	comp=Z,1.6nm,0.6s,baz=5.1,slow=4.3,SNR=4.8							
VNDA	**Vanda**	**129.47**	**186**	PKP	**PKPdf**	**10 35 20.9**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=301,slow=3.2,SNR=5.1							
VNDA				SKPbc	SKPab	10 38 38.8	+0.6	
	comp=Z,3.9nm,1.0s,baz=338,slow=4.3,SNR=11							
VNDA				SKP		10 38 50.0		
	comp=Z,1.2nm,1.0s,baz=327,slow=3.3,SNR=3.6							

VNDA	**Vanda**	**129.47**	**186**		**PKiKP**	**10 35 21.6**	**+0.1**	
PLCA	**Paso Flores**	**129.88**	**108**	PKP	**PKPdf**	**10 35 22.8**	**+0.1**	
	comp=Z,5.2nm,0.9s,baz=278,slow=1.6,SNR=12							
PLCA				SKPbc	SKPab	10 38 40.2	-0.9	
	comp=Z,1.6nm,0.6s,baz=288,slow=8.4,SNR=4.9							
PLCA				SKP		10 38 51.4		
	comp=Z,1.8nm,0.8s,baz=359,slow=3.6,SNR=4.5							
PMSA	**Palmer Station**	**144.05**	**138**	PKP	PKPbc	10 35 45.8	-0.2	
	comp=Z,18nm,0.8s,baz=265,slow=2.2,SNR=9.0							
TSUM	**Tsumeb**	**145.77**	**335**	PKPdf	**PKPdf**	**10 35 52.6**	**+0.1**	
MAW	**Mawson**	**147.35**	**218**	PKPbc	**PKPbc**	**10 35 56.1**	**+0.2**	
	comp=Z,50nm,0.9s,baz=86,slow=2.6,SNR=99							
MAW	**Mawson**	**147.35**	**218**	PKP2	**PKPbc**	**10 35 56.7**	**+0.7**	
MAW	**Mawson**	**147.35**	**218**		**PKPbc**	**10 35 56.7**	**+0.7**	
LBTB	**Lobatse**	**148.43**	**319**	PKP2	**PKPbc**	**10 36 00.6**	**+0.3**	
LBTB	**Lobatse**	**148.43**	**319**		**PKPbc**	**10 36 00.6**	**+0.3**	
BOSA	**Boshof**	**151.72**	**316**	PKPbc	**PKPbc**	**10 36 08.0**	**-0.2**	
	comp=Z,41nm,0.6s,baz=2.9,slow=1.8,SNR=47							
BOSA	**Boshof**	**151.72**	**316**	PKIKP	**PKPbc**	**10 36 08.2**	**0.0**	
BOSA	**Boshof**	**151.72**	**316**		**PKPbc**	**10 36 08.2**	**0.0**	
SYO	**Syowa Base**	**155.44**	**211**	⇑*e*X	PKPdf	10 36 18.4	+13	
SYO	**Syowa Base**	**155.44**	**211**	⇑*e*X	PKPab	10 36 41.6	+10	
SNAA	**Sanae**	**159.62**	**175**	PKPdf	**PKPdf**	**10 36 09.4**	**-1.6**	
SNAA	**Sanae**	**159.62**	**175**	PKP2	**PKPab**	**10 36 49.5**	**-0.3**	
SNAA	**Sanae**	**159.62**	**175**		**PKPab**	**10 36 49.5**	**-0.3**	

ATH 22 10:26:47.4, 38.61N×21.59E, h27km±3km, ML1.8/3, Error ellipse: s-maj=3.6km s-min=0.8km az=96.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANX	**Ano Chora**	**0.26**	**93**	P	Pb	10 26 53.9	-0.2
ANX				S	Sb	10 26 58.7	+0.1
ANX				AML	AML	10 26 59.1	
	comp=N,464µm,0.4s						
ANX				AML	AML	10 26 59.3	
	comp=E,764µm,0.3s						
EFP	**Efpalio**	**0.30**	**126**	P	Pb	10 26 54.6	-0.1
EFP				S	Sb	10 26 59.5	0.0
EFP				AML	AML	10 27 02.2	
	comp=N,364µm,0.2s						
EFP				AML	AML	10 27 03.0	
	comp=E,350µm,0.3s						
EVR	**Evrytania**	**0.35**	**29**	P	Pb	10 26 55.3	-0.2
EVR				S	Sb	10 27 01.2	+0.3
AXS	**Araxos**	**0.44**	**203**	P	Pb	10 26 56.8	+0.1
AXS				S	Sb	10 27 03.8	+0.7
TRIZ	**Trizonia**	**0.45**	**122**	P	Pb	10 26 56.7	-0.1
TRIZ				S	Sb	10 27 04.0	+0.8
KALE	**Kalithea**	**0.48**	**116**	P	Pn	10 26 58.1	-0.4
KALE				S	Sn	10 27 05.4	-0.7
RLS	**Riolos of Patr**	**0.56**	**190**	P	Pb	10 26 58.9	+0.3
RLS				S	Sn	10 27 07.8	-0.1
MAKR	**Makrakomi, Fth**	**0.59**	**46**	P	Pb	10 26 59.4	+0.2
MAKR				S	Sn	10 27 08.8	+0.1
DRO	**Drossia**	**0.66**	**172**	P	Pb	10 27 00.9	0.0
DRO				S	Sn	10 27 10.8	+0.3
DRO				AML	AML	10 27 12.4	
	comp=E,140µm,0.2s						
DRO				AML	AML	10 27 13.0	
	comp=N,212µm,0.3s						
NYDR	**Nydri-Lefkada**	**0.71**	**279**	P	Pb	10 27 01.1	0.0
NYDR				S	Sn	10 27 12.1	+0.5
AGG	**Agios Georgios**	**0.71**	**54**	P	Pn	10 27 02.4	+0.7
KLV	**K

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.42±.11; $M_{\theta\theta}$2.63±.10; $M_{\phi\phi}$0.79±.13; $M_{r\theta}$-1.01±.45; $M_{r\phi}$1.48±.08; $M_{\theta\phi}$-0.47±.40; Best double couple: M_o3.61300×10^{16} NP1:ϕ_S240.00000°, δ36.00000°, λ-92.00000°. NP2: ϕ_S62.00000°, δ54.00000°, λ-89.00000°. Principal axes: T 3.6290, Plg9.0000°, Azm151.0000°; N -0.0300, Plg1.0000°, Azm241.0000°; P -3.5970, Plg81.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 22 10:40:16.0±0.6, 63.07S±0.10×170.6E±0.2, h10km, n65, σ1.9/37/34, mb4.6/12, MS4.3/16, 1C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.78**	**187**	Pn		**Pn**	**10 43 44.4**	**-0.3**
	0.2nm,0.3s,baz=14,slow=13,SNR=22							
VNDA				LR		LR	10 48 10.2	
	comp=Z,2μm,21.0s,baz=17,slow=32							
VNDA	**Vanda**	**14.78**	**187**			**Pn**	**10 43 44.8**	**+0.1**
RPZ	**Rata Peaks**	**19.39**	**1**	LR		LR	10 50 52.9	
	comp=Z,1μm,20.5s,baz=206,slow=33							
URZ	**Urewera**	**25.16**	**12**	LR		LR	10 53 50.6	
	comp=Z,746nm,21.7s,baz=183,slow=32							
QSPA	**South Pole Qui**	**27.02**	**180**	P		**P**	**10 45 59.1**	**+1.1**
	2.1nm,1.1s,baz=254,slow=1.5,SNR=5.3							
QSPA	**South Pole Qui**	**27.02**	**180**	P		**P**	**10 46 00.1**	**+2.0**
QSPA				IAmb		IAmb	10 46 22.7	
	comp=Z,16nm,1.6s							
STKA	**Stephens Creek**	**36.21**	**316**	P		**P**	**10 47 19.8**	**+1.1**
	comp=Z,3.1nm,1.0s,baz=187,slow=8.0,SNR=3.8							
STKA				LR		LR	10 59 45.9	
	comp=Z,905nm,20.4s,baz=154,slow=32							
BELA	**Belgrano 2**	**38.46**	**172**	P		**P**	**10 47 36.5**	**-0.8**
MAW	**Mawson**	**39.70**	**215**	P		**P**	**10 47 49.1**	**+1.4**
	comp=Z,3.5nm,1.0s,baz=168,slow=9.1,SNR=6.6							
MAW				LR		LR	11 04 03.8	
	comp=Z,616nm,18.4s,baz=150,slow=36							
MAW	**Mawson**	**39.70**	**215**	P		**P**	**10 47 49.5**	**+1.8**
DZM	**Mont Dzumac**	**41.07**	**354**	*e*LR		LR	10 59 19.3	
	comp=Z,840nm,21.9s							
FORT	**Forrest**	**42.07**	**300**	P		**P**	**10 48 07.8**	**+0.2**
FORT				IAmb		IAmb	10 48 32.2	
	comp=Z,22nm,1.1s							
SYO	**Syowa Base**	**43.70**	**203**	↑*e*P		**P**	**10 48 19.8**	**-0.6**
H01W1	**Cape Leeuwin H**	**44.42**	**282**	T		T	11 36 16.4	
	baz=147,slow=76,SNR=44							
H01W2	**Cape Leeuwin H**	**44.43**	**282**	T		T	11 36 17.0	
	baz=147,slow=76,SNR=56							
H01W3	**Cape Leeuwin H**	**44.44**	**282**	T		T	11 36 16.3	
	baz=147,slow=76,SNR=38							
SNAA	**Sanae**	**45.46**	**183**	P		**P**	**10 48 34.9**	**+0.4**
CTA	**Charters Tower**	**46.04**	**328**	LR		LR	11 05 04.3	
	comp=Z,472nm,20.6s,baz=137,slow=32							
ASAR	**Alice Springs**	**46.34**	**311**	P		**P**	**10 48 42.1**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=152,slow=6.7,SNR=14							
ASAR	**Alice Springs**	**46.34**	**311**	P		**P**	**10 48 38.2**	**-3.8**
AS31	**Alice Springs**	**46.34**	**311**	P		**P**	**10 48 39.1**	**-2.9**
SANVU	**Saraoutou**	**47.62**	**356**	P		**P**	**10 48 54.6**	**+2.7**
TBI	**Tubuai**	**47.82**	**53**	*e*LR		LR	11 02 16.6	
	comp=Z,259nm,26.5s							
TBI	**Tubuai**	**47.82**	**53**	*e*T		T	11 39 50.2	
	comp=Z,6.2nm,0.3s							
WR0	**Warramunga Arr**	**49.56**	**313**	P		**P**	**10 49 05.8**	**-1.1**
WR0				IAmb		IAmb	10 49 09.2	
	comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**49.64**	**313**	P		**P**	**10 49 07.0**	**-0.5**
WB2				IAmb		IAmb	10 49 09.8	
	comp=Z,18nm,1.6s							
WRA	**Warramunga Arr**	**49.64**	**313**	P		**P**	**10 49 06.9**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=165,slow=5.2,SNR=5.7							
WRA				LR		LR	11 07 30.4	
	comp=Z,1μm,21.6s,baz=160,slow=33							
PAE	**Paea**	**53.01**	**50**	*e*T		T	11 46 18.6	
	comp=Z,2.8nm,0.3s							
TVO	**Taravao**	**53.01**	**50**	*e*T		T	11 46 19.0	
	comp=Z,1.3nm,0.3s							
PPT2	**Papeete2**	**53.08**	**50**	*e*LR		LR	11 04 38.2	
	comp=Z,257nm,26.5s,baz=206							
PPT2	**Papeete2**	**53.08**	**50**	*e*T		T	11 46 23.8	
	comp=Z,5.0nm,0.3s							
PPT	**Papeete**	**53.10**	**50**	LR		LR	11 08 21.7	
	comp=Z,61nm,18.5s,baz=242,slow=32							
MEH	**Mehetia**	**53.34**	**52**	*e*T		T	11 46 44.5	
	comp=Z,12nm,0.2s							
VAH	**Vaihoa**	**55.94**	**51**	*e*T		T	11 49 58.0	
	comp=Z,76nm,0.3s							
PLCA	**Paso Flores**	**65.70**	**133**	LR		LR	11 16 28.0	
	comp=Z,115nm,18.4s,baz=245,slow=33							
H03S2	**Juan Fernandez**	**68.87**	**123**	T		T	12 07 02.8	
	baz=205,slow=74,SNR=20							
H03S1	**Juan Fernandez**	**68.87**	**123**	T		T	12 07 03.7	
	baz=205,slow=74,SNR=17							
H03S3	**Juan Fernandez**	**68.88**	**123**	T		T	12 07 00.9	
	baz=205,slow=74,SNR=16							
H03N3	**Juan Fernandez**	**69.21**	**123**	T		T	12 07 35.7	
	baz=212,slow=72,SNR=9.0							
H03N2	**Juan Fernandez**	**69.22**	**123**	T		T	12 07 23.4	
	baz=212,slow=72,SNR=22							
H03N1	**Juan Fernandez**	**69.22**	**123**	T		T	12 07 28.3	
	baz=212,slow=72,SNR=6.9							
AC02	**Maricunga**	**78.80**	**128**	P		**P**	**10 52 19.2**	**-0.2**
AC02				IAmb		IAmb	10 52 34.0	
	comp=Z,20nm,1.5s							
PB06	**IPOC Station P**	**82.40**	**126**	P		**P**	**10 52 38.6**	**+0.3**
LVC	**Limon Verde**	**82.73**	**127**	LR		LR	11 22 39.7	
	comp=Z,95nm,18.0s,baz=293,slow=31							
LVC	**Limon Verde**	**82.73**	**127**	P		**P**	**10 52 39.5**	**-0.8**
LVC				IAmb		IAmb	10 52 42.9	
	comp=Z,15nm,1.3s							
CPUP	**Villa Florida**	**83.19**	**138**	P		**P**	**10 52 42.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=167,slow=7.6,SNR=2.8							
CPUP	**Villa Florida**	**83.19**	**138**	P		**P**	**10 52 41.8**	**-0.3**
BOSA	**Boshof**	**84.55**	**210**	LR		LR	11 27 16.9	
	comp=Z,188nm,21.2s,baz=169,slow=33							
TGY	**Tagaytay City**	**85.94**	**312**	LR		LR	11 32 49.7	
	comp=Z,65nm,19.1s,baz=165,slow=37							
LPAZ	**La Paz**	**88.81**	**125**	P		**P**	**10 53 11.3**	**+0.5**
	comp=Z,7.3nm,1.2s,baz=162,slow=4.0,SNR=11							
LPAZ	**La Paz**	**88.81**	**125**	P		**P**	**10 53 09.4**	**-1.4**
NNA	**Nana**	**89.29**	**115**	LR		LR	11 23 35.8	
	comp=Z,160nm,20.6s,baz=196,slow=29							
ATAH	**Atahualpa**	**93.01**	**112**	LR		LR	11 26 07.8	
	comp=Z,291nm,18.6s,baz=202,slow=30							
CMAR	**Chiang Mai Arr**	**98.27**	**294**	LR		LR	11 35 49.5	
	comp=Z,67nm,19.5s,baz=187,slow=34							
H06E1	**SOCORRO T-PHAS**	**101.48**	**71**	T		T	12 47 16.9	
	SNR=7.4							
MKAR	**Makanchi Array**	**129.59**	**297**	PKP		**PKiKP**	**10 59 23.9**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=117,slow=0.3,SNR=4.4							
MKAR	**Makanchi Array**	**129.59**	**297**			**PKPdf**	**10 59 22.8**	**-1.1**
ILAR	**Eielson Array**	**131.35**	**23**	PKP		**PKiKP**	**10 59 27.1**	**-0.5**
	comp=Z,2.2nm,1.1s,baz=238,slow=3.4,SNR=10.0							
ILAR	**Eielson Array**	**131.35**	**23**			**PKiKP**	**10 59 28.1**	**+0.5**
NRIK	**Noril'sk**	**144.35**	**323**	PKP		**PKPdf**	**10 59 49.0**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=151,slow=2.3,SNR=6.0							
KBZ	**Khabaz**	**144.58**	**262**	PKP		PKPbc	10 59 49.9	-0.4
	comp=Z,8.0nm,0.9s,baz=162,slow=2.6,SNR=7.9							
BRTR	**Keskin Array B**	**145.41**	**248**	PKPbc		**PKPdf**	**10 59 52.1**	**-1.3**
	comp=Z,10nm,1.2s,baz=154,slow=3.7,SNR=15							
BRTR	**Keskin Array B**	**145.41**	**248**			**PKPdf**	**10 59 52.0**	**-1.3**
AKASG	**Malin Array Be**	**155.95**	**257**	PKPab		**PKPab**	**11 00 35.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=136,slow=3.6,SNR=5.9							
AKASG	**Malin Array Be**	**155.95**	**257**			**PKPab**	**11 00 37.5**	**+1.3**

IDC 22 10:41:14.0±11.0, 8.02N×93.88E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/45, mbtmp3.5/4, Error ellipse: s-maj=584.5km s-min=26.1km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.39**	**234**	T		T	11 13 28.9	
	baz=64							
H08S2	**Diego Garcia H**	**26.39**	**234**	T		T	11 13 31.4	
	baz=64							
H08S1	**Diego Garcia H**	**26.41**	**234**	T		T	11 13 32.9	
	baz=64							
MKAR	**Makanchi Array**	**39.89**	**348**	P		P	10 48 49.2	-0.4
	0.6nm,0.6s,baz=164,slow=9.6,SNR=6.2							
ZALV	**Zalesovo Beam**	**46.38**	**353**	P		P	10 49 42.2	+0.3
	0.8nm,0.5s,baz=144,slow=10,SNR=3.7							
WRA	**Warramunga Arr**	**48.55**	**125**	P		P	10 49 59.2	-0.3
	0.4nm,0.8s,baz=308,slow=8.6,SNR=2.9							
ASAR	**Alice Springs**	**50.21**	**130**	P		P	10 50 12.0	0.0
	0.2nm,0.7s,baz=302,slow=7.1,SNR=1.8							

IDC 22 11:05:53.2±1.5, 62.96S×170.83E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/24, mbtmp4.0/5, ML2.9/1, MS4.0/2, Ms1 4.0/2, ms1mx3.4/22, Error ellipse: s-maj=51.7km s-min=29.4km az=70.0

NEIC 22 11:05:54.2±1.7, 62.9S±0.1×170.7E±0.3, h10km±2km, mb4.2/7, Error ellipse: s-maj=28.8km s-min=18.9km az=54.0

ISC 22 11:05:54.8±1.2, 63.0S±0.1×170.6E±0.2, h10km, n26, σ1.9/04/14, mb4.0/6, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.87**	**187**	Pn		**Pn**	**11 09 23.5**	**-1.2**
	0.1nm,0.3s,baz=35,slow=14,SNR=16							
VNDA	**Vanda**	**14.87**	**187**			**Pn**	**11 09 24.1**	**-0.5**
CASY	**Casey**	**25.07**	**236**	P		**P**	**11 11 19.8**	**+0.9**
QSPA	**South Pole Qui**	**27.11**	**180**	P		**P**	**11 11 38.3**	**+0.8**
	1.7nm,1.1s,baz=350,slow=1.0,SNR=3.7							
QSPA	**South Pole Qui**	**27.11**	**180**	P		**P**	**11 11 38.1**	**+0.6**
QSPA				IAmb		IAmb	11 11 39.7	
	comp=Z,7.1nm,1.4s							
CAN	**Canberra**	**30.77**	**324**	P		**P**	**11 12 10.9**	**+0.7**
MAW	**Mawson**	**39.79**	**215**	P		**P**	**11 13 28.0**	**+0.8**
	comp=Z,4.2nm,1.1s,baz=154,slow=8.4,SNR=5.3							
MAW	**Mawson**	**39.79**	**215**	P		**P**	**11 13 28.0**	**+0.8**
FORT	**Forrest**	**42.05**	**300**	P		**P**	**11 13 44.4**	**-1.9**
FORT				IAmb		IAmb	11 14 06.1	
	comp=Z,12nm,0.9s							
H01W1	**Cape Leeuwin H**	**44.44**	**282**	T		T	12 01 53.5	
	baz=147,slow=76,SNR=20							
H01W2	**Cape Leeuwin H**	**44.44**	**282**	T		T	12 01 53.8	
	baz=147,slow=76,SNR=22							
H01W3	**Cape Leeuwin H**	**44.45**	**282**	T		T	12 01 55.5	
	baz=147,slow=76,SNR=16							
ASAR	**Alice Springs**	**46.31**	**311**	P		**P**	**11 14 21.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=155,slow=7.6,SNR=6.2							
AS31	**Alice Springs**	**46.31**	**311**	P		**P**	**11 14 19.5**	**-1.1**
AS31				IAmb		IAmb	11 14 22.3	
	comp=Z,2.8nm,1.6s							
PMG	**Port Moresby**	**56.09**	**332**	LR		LR	11 36 21.5	
	comp=Z,199nm,20.6s,baz=102,slow=33							
H03S2	**Juan Fernandez**	**68.89**	**123**	T		T	12 32 37.5	
	baz=205,slow=74							
H03S1	**Juan Fernandez**	**68.89**	**123**	T		T	12 32 44.6	
	baz=205							
H03S3	**Juan Fernandez**	**68.90**	**123**	T		T	12 32 38.2	
	baz=205,slow=74							
LEM	**Lembang**	**71.88**	**291**	LR		LR	11 45 07.8	
	comp=Z,76nm,21.3s,baz=148,slow=33							
H08S2	**Diego Garcia H**	**86.92**	**259**	T		T	12 55 04.3	
	baz=152,slow=76,SNR=8.1							
H08S1	**Diego Garcia H**	**86.93**	**259**	T		T	12 55 13.2	
	baz=152,slow=76,SNR=5.7							
H08S3	**Diego Garcia H**	**86.94**	**259**	T		T	12 55 08.1	
	baz=152,slow=76,SNR=15							
LPAZ	**La Paz**	**88.83**	**125**	P		**P**	**11 18 49.6**	**0.0**
	comp=Z,1.8nm,1.1s,baz=100,slow=0.4,SNR=4.1							
LPAZ	**La Paz**	**88.83**	**125**	IAmb		IAmb	11 18 54.2	
	comp=Z,7.6nm,1.6s							
KBZ	**Khabaz**	**144.62**	**262**	PKP		**PKPab**	**11 25 29.4**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=198,slow=3.5,SNR=2.5							
BRTR	**Keskin Array B**	**145.46**	**248**	PKPbc		**PKPdf**	**11 25 31.1**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=189,slow=7.1,SNR=6.9							

IDC 22 11:08:17.9±1.0, 63.03S×170.59E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.1/25, mbtmp4.2/7, ML3.1/1, MS4.0/14, Ms1 4.0/14, ms1mx3.9/21, Error ellipse: s-maj=37.3km s-min=22.6km az=61.0

NEIC 22 11:08:18.9±0.8, 62.97S±0.06×170.9E±0.4, h10km±1km, mb4.4/10, Error ellipse: s-maj=28.0km s-min=9.7km az=93.0

GCMT 22 11:08:18.9±0.4, 63.06S±0.04×170.9E±0.1, h20km±1km, MW5.0/62, Moment Tensor Solution. s23,c23; s62,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.98±.25; $M_{\theta\theta}$1.80±.17; $M_{\phi\phi}$1.18±.17; $M_{r\theta}$-1.89±.37; $M_{r\phi}$0.70±.08; $M_{\theta\phi}$-0.70±.37; Best double couple: M_o3.30100×10^{16} NP1:ϕ_S234.00000°, δ27.00000°, λ-99.00000°. NP2: ϕ_S64.00000°, δ64.00000°, λ-86.00000°. Principal axes: T 2.9250, Plg19.0000°, Azm151.0000°; N 0.7510, Plg4.0000°, Azm242.0000°; P -3.6770, Plg71.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 22 11:08:18.7±0.7, 63.0S±0.1×170.8E±0.2, h10km, n60, σ0.9/93/32, mb4.3/10, MS4.0/15, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.91**	**188**	Pn		**Pn**	**11 11 48.8**	**-0.3**
	0.1nm,0.3s,baz=20,slow=14,SNR=14							
VNDA				LR		LR	11 16 12.5	
	comp=Z,782nm,20.3s,baz=20,slow=32							
VNDA	**Vanda**	**14.91**	**188**			**Pn**	**11 11 49.2**	**0.0**
RPZ	**Rata Peaks**	**19.27**	**1**	LR		LR	11 18 43.3	
	comp=Z,636nm,20.4s,baz=206,slow=32							
URZ	**Urewera**	**25.02**	**12**	LR		LR	11 23 20.1	
	comp=Z,324nm,18.8s,baz=188,slow=36							
QSPA	**South Pole Qui**	**27.14**	**180**	P		**P**	**11 14 02.3**	**+0.6**
	3.1nm,1.1s,baz=5.4,slow=4.5,SNR=4.4							
QSPA	**South Pole Qui**	**27.14**	**180**	P		**P**	**11 14 00.8**	**-0.9**
QSPA				IAmb		IAmb	11 14 03.4	
	comp=Z,9.7nm,1.4s							
STKA	**Stephens Creek**	**36.19**	**315**	LR		LR	11 27 58.0	
	comp=Z,360nm,19.8s,baz=189,slow=33							
BELA	**Belgrano 2**	**38.56**	**172**	P		**P**	**11 15 41.0**	**+0.2**
EIDS	**Eidsvold**	**39.78**	**332**	P		**P**	**11 15 52.3**	**+0.8**
EIDS				IAmb		IAmb	11 16 15.8	
	comp=Z,17nm,1.4s							
MAW	**Mawson**	**39.85**	**215**	P		**P**	**11 15 51.5**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=137,slow=12,SNR=6.2							
MAW				LR		LR	11 32 05.6	
	comp=Z,295nm,19.3s,baz=82,slow=36							
MAW	**Mawson**	**39.85**	**215**	P		**P**	**11 15 52.3**	**+0.7**
DZM	**Mont Dzumac**	**40.96**	**354**	*e*LR		LR	11 27 27.0	
	comp=Z,444nm,21.9s							
H01W1	**Cape Leeuwin H**	**44.49**	**282**	T		T	12 04 22.3	
	baz=147,slow=74,SNR=25							
H01W2	**Cape Leeuwin H**	**44.49**	**282**	T		T	12 04 24.1	
	baz=147,slow=74,SNR=25							
H01W3	**Cape Leeuwin H**	**44.51**	**282**	T		T	12 04 20.9	
	baz=147							
SNAA	**Sanae**	**45.58**	**183**	P		**P**	**11 16 38.3**	**+0.2**
SNAA	**Sanae**	**45.58**	**183**	P		**P**	**11 16 38.5**	**+0.3**
VNA3	**Neumayer Olymp**	**46.08**	**180**	P		**P**	**11 16 42.5**	**+0.4**
AS31	**Alice Springs**	**46.33**	**311**	P		**P**	**11 16 45.5**	**+0.9**
AS31				IAmb		IAmb	11 16 47.6	
	comp=Z,0.9nm,0.9s							
ASAR	**Alice Springs**	**46.33**	**311**	P		**P**	**11 16 45.9**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=158,slow=8.0,SNR=10							
ASAR				LR		LR	11 34 45.2	
	comp=Z,253nm,18.4s,baz=132,slow=34							
ASAR	**Alice Springs**	**46.33**	**311**	P		**P**	**11 16 45.1**	**+0.5**
VNA2	**Neumayer--Watz**	**46.40**	**181**	P		**P**	**11 16 45.5**	**+1.0**
VNA1	**Neumayer--Stat**	**46.68**	**180**	P		**P**	**11 16 47.5**	**+0.8**
TBI	**Tubuai**	**47.67**	**53**	*e*LR		LR	11 30 06.0	
	comp=Z,126nm,28.2s							
TBI	**Tubuai**	**47.67**	**53**	*e*T		T	12 07 57.9	
	comp=Z,3.8nm,0.3s							
WRA	**Warramunga Arr**	**49.63**	**313**	P		**P**	**11 17 11.1**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=152,slow=7.4,SNR=5.8							
WRA				LR		LR	11 35 43.3	
	comp=Z,455nm,20.4s,baz=170,slow=33							
PAE	**Paea**	**52.86**	**50**	*e*T		T	12 14 25.7	
	comp=Z,2.4nm,0.2s							
TVO	**Taravao**	**52.87**	**50**	*e*T		T	12 14 26.4	
	comp=Z,1.5nm,0.3s							
PPT2	**Papeete2**	**52.93**	**50**	*e*LR		LR	11 32 43.0	
	comp=Z,141nm,25.0s							
PPT2	**Papeete2**	**52.93**	**50**	*e*T		T	12 14 31.3	
	comp=Z,6.7nm,0.3s							
PPT	**Papeete**	**52.95**	**50**	LR		LR	11 33 23.7	
	comp=Z,64nm,20.8s,baz=192,slow=28							
MEH	**Mehetia**	**53.20**	**52**	*e*T		T	12 14 51.2	
	comp=Z,10nm,0.2s							
HNR	**Honiara**	**53.99**	**347**	LR		LR	11 38 20.4	
	comp=Z,124nm,18.5s,baz=206,slow=33							
FITZ	**Fitzroy Crossi**	**54.44**	**304**	LR		LR	11 40 17.1	
	comp=Z,110nm,18.4s,baz=144,slow=35							
VAH	**Vaihoa**	**55.80**	**51**	*e*T		T	12 18 06.5	
	comp=Z,46nm,0.3s							
PLCA	**Paso Flores**	**65.72**	**133**	LR		LR	11 42 54.5	
	comp=Z,40nm,20.7s,baz=206,slow=32							
H03S2	**Juan Fernandez**	**68.86**	**123**	T		T	12 35 06.1	
	baz=205,slow=74,SNR=8.5							
H03S1	**Juan Fernandez**	**68.86**	**123**	T		T	12 35 10.2	
	baz=205,slow=74,SNR=7.8							
H03S3	**Juan Fernandez**	**68.87**	**123**	T		T	12 35 08.4	
	baz=205,slow=74,SNR=7.3							
AC04	**Llanos de Chal**	**76.85**	**127**	P		**P**	**11 20 09.2**	**-1.4**
SBUM	**Sibu**	**78.42**	**300**	P		**P**	**11 20 16.4**	**-2.9**
SBUM				IAmb		IAmb	11 20 36.3	
	comp=Z,6.4nm,1.3s							
LVC	**Limon Verde**	**82.73**	**126**	P		**P**	**11 20 43.8**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=260,slow=5.0,SNR=4.2							
LVC	**Limon Verde**	**82.73**	**126**	P		**P**	**11 20 43.0**	**0.0**
CPUP	**Villa Florida**	**83.21**	**138**	LR		LR	11 53 58.5	
	comp=Z,129nm,19.3s,baz=212,slow=33							
CPUP	**Villa Florida**	**83.21**	**138**	P		**P**	**11 20 44.7**	**-0.2**
CPUP				IAmb		IAmb	11 20 49.3	
	comp=Z,11nm,1.6s							
PB16	**IPOC Station P**	**86.41**	**124**	P		**P**	**11 21 00.5**	**-1.4**
H08S2	**Diego Garcia H**	**86.99**	**259**	T		T	12 57 33.3	
	baz=152,SNR=11							
H08S1	**Diego Garcia H**	**87.00**	**259**	T		T	12 57 35.7	
	baz=152,SNR=6.5							
H08S3	**Diego Garcia H**	**87.01**	**259**	T		T	12 57 32.3	
	baz=152,SNR=20							
LPAZ	**La Paz**	**88.80**	**125**	P		**P**	**11 21 14.8**	**+1.4**
	comp=Z,3.3nm,1.0s,baz=156,slow=2.6,SNR=7.3							
LPAZ				LR		LR	11 52 27.0	
	comp=Z,31nm,20.1s,baz=146,slow=30							
LPAZ	**La Paz**	**88.80**	**125**	P		**P**	**11 21 13.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**98.30**	**294**	LR		LR	12 04 32.5	
	comp=Z,37nm,19.2s,baz=210,slow=34							
H06E1	**SOCORRO T-PHAS**	**101.36**	**71**	T		T	13 15 12.5	
	SNR=3.7							
ILAR	**Eielson Array**	**131.21**	**23**	PKP		**PKPdf**	**11 27 29.4**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=212,slow=3.2,SNR=2.5							
ILAR	**Eielson Array**	**131.21**	**23**			**PKiKP**	**11 27 29.9**	**-0.1**
KBZ	**Khabaz**	**144.68**	**262**	PKP		**PKPab**	**11 27 53.2**	**0.0**
	comp=Z,4.8nm,0.9s,baz=177,slow=4.0,SNR=6.5							
BRTR	**Keskin Array B**	**145.53**	**248**	PKPbc		**PKPdf**	**11 27 55.4**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=165,slow=5.1,SNR=7.8							
BRTR	**Keskin Array B**	**145.53**	**248**			**PKPdf**	**11 27 55.8**	**-0.5**
AKASG	**Malin Array Be**	**156.06**	**257**	PKPab		**PKPab**	**11 28 39.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=141,slow=3.4,SNR=4.4							
AKASG	**Malin Array Be**	**156.06**	**257**			**PKPab**	**11 28 40.3**	**+0.9**

KRSC 22 11:10:26.5±2.4, 48.20N×157.38E, h16km±35km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**342**	*e*P		Pb	11 11 11.0	-2.1
PAU	**Pauzhetka**	**3.29**	**354**	*e*P		Pn	11 11 20.5	+3.1
PAU				*e*S		Sb	11 12 01.6	-2.8
KDTR	**Khodutka, Kamc**	**3.65**	**7**	*e*P		Pn	11 11 25.4	+3.2
KDTR				*e*S		Sb	11 12 10.5	-3.9
RUS	**Russkaya**	**4.30**	**9**	*e*P		Pn	11 11 34.9	+3.7
RUS				*e*S		Sn	11 12 26.7	+5.7
GRL	**Gorelyy**	**4.38**	**6**	*e*P		Pn	11 11 36.3	+3.8
GRL				*e*S		Sn	11 12 29.1	+5.9
KRMR	**Karymshinskiy**	**4.66**	**6**	*e*P		Pn	11 11 40.1	+3.9
DALK	**Dalny**	**4.92**	**10**	*e*P		Pn	11 11 43.9	+4.2
DALK				*e*S		Sn	11 12 42.5	+6.3
SMAR	**Somma**	**5.15**	**10**	*e*P		Pn	11 11 48.5	+5.4
SPN	**Mys Shipunski**	**5.19**	**18**	*e*S		Sn	11 12 48.3	+5.5
KRX	**Arik**	**5.23**	**8**	*e*P		Pn	11 11 49.3	+5.2
GNL	**Ganaly**	**5.52**	**3**	*e*P		Pn	11 11 54.0	+6.0
MKZ	**Mys Kozlova**	**6.92**	**21**	*e*P		Pn	11 12 12.2	+5.0

MOS 22 11:20:02.4±1.5, 55.37N×113.82E, h11km, mb4.3/3, Error ellipse: s-maj=10.4km s-min=7.2km az=83.5

BYKL 22 11:20:04.3±0.2, 55.40N×113.79E, h15km±4km, FELT I=II MSK at Uakit

*IDC 22 11:20:05.7±2.

BOD Pmax 11 20 53.2
comp=E,521nm,0.9s
BOD eSn **Sn** **11 21 13.5 -1.1**
BOD eSg **Sb** **11 21 19.0 -0.1**
BOD Smax 11 21 20.7
comp=E,6µm,0.9s
BOD Bodaibo 2.47 4 ePN **Pn** **11 20 43.9 -0.7**
BOD e 11 20 47.4
BOD eS **Sb** **11 21 19.1 -0.1**
SYVR Suvo 2.74 233 ePg **Pb** **11 20 54.3 +0.8**
SYVR Pmax 11 20 59.8
comp=E,119nm,0.8s
SYVR eSg **Sg** **11 21 31.5 -1.0**
SYVR Smax 11 21 42.1
comp=E,995nm,1.8s
SYVR Suvo 2.74 233 ePN **Pn** **11 20 50.1 +1.7**
SYVR e 11 20 53.7
SYVR e 11 21 32.9
SYVR pmax pmax
comp=Z,121nm,0.8s
SYVR smax smax
comp=E,1µm,1.2s
CRS Chara 3.00 57 ePn **Pn** **11 20 50.7 -1.2**
CRS ⇓*i*Pg **Pb** **11 20 57.2 -0.6**
CRS Pmax 11 21 07.4
comp=E,398nm,0.7s
CRS eSg **Sb** **11 21 35.2 +0.8**
CRS Smax 11 21 36.8
comp=E,3µm,0.8s
CIT Chita 3.35 181 eSg **Sb** **11 21 48.1 +3.4**
CIT Smax 11 21 56.8
comp=E,621nm,0.8s
CIT Chita 3.35 181 ePN **Pn** **11 20 56.7 -0.1**
CIT e 11 21 05.0
CIT eS **Sn** **11 21 36.6 0.0**
CIT e 11 21 47.4
CIT pmax pmax
comp=Z,183nm,0.1s
CIT smax smax
comp=E,882nm,1.0s
MXMB Maximikha 3.57 236 eSg **Sg** **11 21 57.8 -1.3**
TUP Tupik 3.75 102 ePn **Pn** **11 21 01.4 -0.8**
TUP ePg **Pb** **11 21 11.3 +0.7**
TUP Pmax 11 21 12.2
comp=E,164nm,0.6s
TUP eSn **Sn** **11 21 43.8 -2.5**
TUP eSg **Sg** **11 22 00.2 -4.5**
TUP Smax 11 22 04.8
comp=E,4µm,0.9s
TUP Tupik 3.75 102 ePN **Pn** **11 21 01.5 -0.8**
TUP e 11 21 11.3
TUP eS **Sn** **11 21 46.3 0.0**
TUP e 11 22 00.1
TUP pmax pmax
comp=Z,165nm,0.6s
TUP smax smax
comp=N,4µm,0.8s
OGRR Ongureny 3.94 247 ePn **Pn** **11 21 07.7 +2.9**
OGRR ePg **Pb** **11 21 16.8 +2.9**
OGRR e 11 21 19.2
OGRR max 11 21 20.6
comp=N,171nm,1.5s
OGRR eSn **Sn** **11 21 50.9 -0.1**
OGRR eSg **Sg** **11 22 09.7 -1.2**
OGRR Smax 11 22 18.7
comp=N,374nm,1.6s
OGRR Ongureny 3.94 247 ePN **Pn** **11 21 07.8 +2.9**
OGRR e 11 21 18.1
OGRR e 11 22 10.5
OGRR pmax pmax
comp=Z,166nm,1.5s
OGRR smax smax
comp=N,374nm,2.2s
VTMR Vitim 4.13 352 ePg **Pb** **11 21 17.7 +0.6**
VTMR eSn **Sn** **11 21 53.0 -2.6**
VTMR eSg **Sb** **11 22 10.4 +3.5**
KELR Kotokel 4.20 234 ePg **Pb** **11 21 21.6 +3.2**
KELR eSg **Sg** **11 22 18.0 -1.3**
YKLR Yuktali 4.65 71 ePn **Pn** **11 21 13.9 -0.7**
YKLR ePg **Pb** **11 21 26.7 +0.8**
YKLR e 11 22 08.0
YKLR eSg **Sb** **11 22 26.5 +4.6**
UUDB Ulan-Yde 5.01 228 ePg **Pb** **11 21 36.3 +4.2**
UUDB Pmax 11 21 43.3
comp=N,59nm,1.3s
UUDB eSg **Sg** **11 22 42.8 -2.3**
UUDB Smax 11 22 45.7
comp=N,795nm,1.5s
TRG Tyrgan 5.04 242 ePn **Pn** **11 21 21.2 +1.2**
TRG ePg **Pb** **11 21 35.2 +2.5**
TRG Pmax 11 21 43.9
comp=N,31nm,1.2s
TRG e 11 22 21.1
TRG eSg **Sg** **11 22 41.8 -4.4**
TRG Smax 11 22 53.8
comp=N,250nm,1.8s
TRG Tyrgan 5.04 242 ePN **Pn** **11 21 21.6 +1.6**
TRG e 11 21 36.1
TRG eS **Sn** **11 22 18.0 -0.2**
TRG e 11 22 41.7
TRG pmax pmax
comp=Z,34nm,1.0s
TRG smax smax
comp=N,248nm,1.6s
FFNB Fofonovo 5.28 234 ePn **Pn** **11 21 24.8 +1.5**
FFNB ePg **Pb** **11 21 40.6 +3.9**
FFNB eSg **Sg** **11 22 51.2 -2.7**
HRMR Khuramsha 5.49 230 ePn **Pn** **11 21 27.6 +1.5**
HRMR ePg **Pb** **11 21 44.3 +4.1**
HRMR Pmax 11 22 00.2
comp=N,39nm,0.5s
HRMR e 11 22 48.4
HRMR eSg **Sg** **11 22 57.9 -2.5**
HRMR Smax 11 23 07.6
comp=N,1µm,1.3s
KPC Khapcheranga 5.73 188 ePn **Pn** **11 21 29.5 +0.1**
KPC ePg **Pb** **11 21 47.3 +2.9**
KPC Pmax 11 21 52.4
comp=N,25nm,1.2s
KPC eSg **Sg** **11 23 02.8 -5.4**
KPC Smax 11 23 20.9
comp=N,390nm,1.2s
KPC Khapcheranga 5.73 188 ePN **Pn** **11 21 29.6 +0.1**
KPC e 11 21 49.2
KPC e 11 23 03.3
KPC pmax pmax
comp=Z,18nm,0.5s
KPC smax smax
comp=E,390nm,1.6s
BGT Bolshoye Golou 5.93 239 eSg **Sg** **11 23 10.6 -4.0**
BGT Smax 11 23 22.2
comp=E,195nm,1.3s
CLNS Chul'man 6.45 72 ePg **Pb** **11 21 57.3 +0.7**
CLNS eSg **Sb** **11 23 18.8 +5.1**
IVK Ivanovka 6.57 241 ePg **Pb** **11 22 02.1 +3.5**
IVK eSn **Sn** **11 22 53.6 -2.1**
IVK eSg **Sg** **11 23 28.1 -7.0**
IVK Smax 11 23 38.9
comp=E,131nm,1.2s
TLY Talaya 7.03 242 eSg **Sg** **11 23 43.8 -6.0**
TLY Smax 11 23 56.1
comp=E,51nm,1.4s
TLY Talaya 7.03 242 ePG Pb 11 22 12.6 +6.2
TLY e 11 23 44.3
TLY pmax pmax
comp=Z,13nm,1.6s
TLY smax smax
comp=E,90nm,1.2s
HIA Hailar 7.15 146 eSg **Sg** **11 23 47.3 -6.5**
ARS Arshan 7.52 247 ePg **Pb** **11 22 19.6 +4.7**
ARS Pmax 11 22 24.8
comp=E,21nm,0.8s
ARS eSg **Sg** **11 23 58.1 -7.6**
ARS Smax 11 24 17.8
comp=E,256nm,1.2s
ARS Arshan 7.52 247 ePG Pg 11 22 23.1 -5.3
ZAK Zakamensk 8.02 236 ePG Pb 11 22 30.9 +7.4
ZAK pmax pmax
comp=Z,3.0nm,0.3s
ZEA Zeya 8.06 96 ePN **Pn** **11 22 00.9 -0.5**
ZEA e 11 23 28.3
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA smax smax
comp=N,10.0nm,0.6s
ZEA smax smax
comp=E,20nm,0.7s
ZEA MLR MLR
comp=E,400nm,6.0s
ZEA MLR MLR
comp=Z,500nm,5.0s
MOY Mondy 8.41 249 *e* Pn 11 22 16.8 +10
MOY ePg Pb 11 22 36.6 +6.5
MOY Pmax 11 22 51.5
comp=Z,32nm,1.4s
MOY *e* 11 22 52.1
MOY eSg **Sg** **11 24 26.2 -8.1**
MOY Smax 11 24 48.6
comp=Z,163nm,1.5s
MOY Mondy 8.41 249 ePN Pn 11 22 13.6 +7.3
ULN Ulaanbaatar 8.56 211 eSg **Sg** **11 24 32.5 -6.5**
ULN Ulaanbaatar 8.56 211 *i* PN **Pn** **11 22 08.9 +0.5**
ORL Orlik 8.65 257 ePn **Pn** **11 22 10.3 +0.7**
ORL *e* 11 22 20.7
ORL max 11 22 23.0
comp=Z,29nm,1.2s
ORL ePg Pg 11 22 42.5 -7.5
ORL *e* 11 24 02.3
ORL eSg **Sg** **11 24 36.1 -5.8**
ORL Smax 11 24 43.3
comp=Z,255nm,1.8s
ORL Orlik 8.65 257 ePN **Pn** **11 22 11.7 +2.1**
ORL *e* 11 22 41.9
ORL eS **Sn** **11 23 48.7 +1.6**
ORL *e* 11 24 36.2
ORL pmax pmax
comp=Z,33nm,1.1s
ORL smax smax
comp=N,255nm,1.8s
SONM Songino Array 8.79 214 Pn **Pn** **11 22 14.0 +2.5**
comp=N,0.1nm,0.3s,baz=27,slow=14,SNR=2.3
SONM Lg Lg 11 24 42.4
comp=N,1.3nm,0.3s,baz=11,slow=25,SNR=5.8
USRK Ussuriysk Ar. 16.21 126 Lg Lg 11 28 35.3
baz=323,slow=24,SNR=4.4
ZALV Zalesovo Beam 16.70 277 Pn **P** **11 24 01.4 +0.9**
comp=N,0.3nm,0.3s,baz=71,slow=15,SNR=4.1
ZALV Lg Lg 11 28 55.1
comp=N,0.1nm,0.3s,baz=65,slow=24,SNR=6.1
DGZ Jazzator, Alta 16.88 261 *i* P **Pn** **11 23 59.5 -1.2**
NRIK Noril'sk 18.29 330 P **P** **11 24 18.4 +0.5**
comp=N,0.4nm,0.3s,baz=119,slow=10,SNR=3.9
NRIK Noril'sk 18.29 330*ce* **Pn** **11 24 15.3 -2.5**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
KSRS Korea Array 20.36 146 LR LR 11 33 37.6
comp=Z,73nm,18.0s,baz=190,slow=40
MK31 Makanchi Array 21.34 259*ce* **P** **11 24 50.9 -0.5**
MKAR Makanchi Array 21.34 259 P **P** **11 24 52.7 +1.3**
comp=Z,1.2nm,0.8s,baz=62,slow=9.1,SNR=7.6
KURK Kurchatov 21.43 272 *i* P **P** **11 24 52.4 +0.2**
KURK pmax pmax
comp=Z,19nm,1.2s
AAK Ala-Archa 28.28 260 *i* P **P** **11 25 56.4 -1.4**
AAK pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 39.20 326 LR LR 11 45 48.1
comp=Z,76nm,20.4s,baz=185,slow=39
ILAR Eielson Array 45.44 36 P **P** **11 28 26.2 +3.4**
comp=Z,1.0nm,1.0s,baz=304,slow=8.6,SNR=5.2
AKASG Malin Array Be 48.03 302*ce* **P** **11 28 41.5 -1.7**
AKBB Malin Array Si 48.03 302*ce* **P** **11 28 43.8 +0.6**

VAO ***22*** *11:23:16.4±0.4, 15°.07S×72°.51W, h10km, mb4.9*
NEIC ***22*** *11:23:24.9±2.5, 15°.20S±0°.07×72°.76W±0°.07, h99km±6km, mb4.6/87, Error ellipse: s-maj=14.0km s-min=1.0km az=220.0*
GUC ***22*** *11:23:26.3±0.7, 15°.43S×72°.82W, h157km±6km, ML5.2, MW4.9*
IDC ***22*** *11:23:27.1±0.6, 14°.99S×72°.68W, h107km±4km, mb4.1/12, mb1 4.4/14, mb1mx4.2/36, mbtmp4.5/14, Error ellipse: s-maj=22.8km s-min=12.6km az=58.0*
ISC 22 11:23:24.7±0.4, 15°.08S±0°.04×72°.56W±0°.06, h96km±4km, h97km:pP-P, n230, σ1=57/256, mb4.7/48, 2C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
AP01	**Chacalluta**	**3.90**	**147**	*eP*		**Pn**	**11 24 23.9 +1.4**
AP01				*i* S		**Sn**	**11 25 07.5 +0.1**
AP01	**Chacalluta**	**3.90**	**147**			**Pn**	**11 24 24.0 +1.4**
AP01					Sn	**Sn**	**11 25 08.6 +1.2**
PB16	**IPOC Station P**	**4.36**	**138**	*eP*		**Pn**	**11 24 31.2 +1.9**
PB16				*i* S		**Sn**	**11 25 21.5 +2.1**
PB16	**IPOC Station P**	**4.36**	**138**			**Pn**	**11 24 31.7 +2.4**
PB16					Sn	**Sn**	**11 25 22.2 +2.9**
LPAZ	**La Paz**	**4.43**	**106**	P		**Pn**	**11 24 32.7 +2.4**
	52nm,0.3s,baz=310,slow=8.7,SNR=725						
MNMC	**Minye Minye**	**4.93**	**145**	*eP*		**Pn**	**11 24 37.2 +0.5**
MNMC				*eS*		**Sn**	**11 25 32.2 -0.5**
MNMC	**Minye Minye**	**4.93**	**145**			**Pn**	**11 24 37.1 +0.4**
MNMC					Sn	**Sn**	**11 25 32.1 -0.5**
PSGC	**Pisagua**	**5.06**	**153**	*eP*		**Pn**	**11 24 37.8 -0.5**
PSGC				*i* S		**Sn**	**11 25 33.2 -2.4**
PSGCX	**Pisagua**	**5.06**	**153**	Pn		**Pn**	**11 24 37.8 -0.5**
PSGCX					Sn	**Sn**	**11 25 33.6 -2.0**
NNA	**Nana**	**5.18**	**306**	P		**Pn**	**11 24 39.0 -0.9**
	54nm,0.3s,baz=138,slow=12,SNR=53						
NNA					S	**Sn**	**11 25 35.7 -2.8**
	52nm,0.3s,baz=77,slow=18,SNR=7.7						
PB11	**IPOC Station P**	**5.42**	**150**	*eP*		**Pn**	**11 24 42.9 -0.4**
PB11				*i* S		**Sn**	**11 25 41.0 -3.4**
PB11	**IPOC Station P**	**5.42**	**150**	Pn		**Pn**	**11 24 42.8 -0.4**
PB11					Sn	**Sn**	**11 25 42.0 -2.4**
GO01	**Chusmiza**	**5.58**	**145**	*eP*		**Pn**	**11 24 46.6 +0.8**
GO01				*eS*		**Sn**	**11 25 48.2 -0.7**
GO01	**Chusmiza**	**5.58**	**145**			**Pn**	**11 24 47.0 +1.2**
GO01					Sn	**Sn**	**11 25 48.6 -0.3**
TA01	**Diego Aracena**	**5.91**	**158**			**Pn**	**11 24 48.7 -1.1**
TA01					Sn	**Sn**	**11 25 53.6 -2.5**
PB08	**IPOC Station P**	**5.99**	**148**	⇑*iP*		**Pn**	**11 24 51.4 +0.1**
PB08				*i* S		**Sn**	**11 25 55.7 -3.0**
PB08	**IPOC Station P**	**5.99**	**148**	Pn		**Pn**	**11 24 51.9 +0.7**
PB08					Sn	**Sn**	**11 25 57.8 -0.9**
PATCX	**Punta Patache**	**6.15**	**159**			**Pn**	**11 24 52.5 -0.7**
PATCX					Sn	**Sn**	**11 26 00.6 -1.7**
PB01	**IPOC Station P**	**6.61**	**154**			**Pn**	**11 24 58.4 -1.1**
PB01					Sn	**Sn**	**11 26 10.4 -3.1**
PB07	**IPOC Station P**	**7.08**	**159**			**Pn**	**11 25 05.1 -0.9**
PB07					Sn	**Sn**	**11 26 21.8 -3.2**
CZSB	**Cruzeiro do Su**	**7.30**	**359**	*eP*		Pn	11 25 04.7 -4.1
PB09	**IPOC Station P**	**7.39**	**155**			**Pn**	**11 25 10.7 +0.7**
PB09					Sn	**Sn**	**11 26 30.9 -1.5**
PB04	**IPOC Station P**	**7.57**	**163**			**Pn**	**11 25 11.1 -1.4**
PB06	**IPOC Station P**	**8.10**	**160**			**Pn**	**11 25 18.4 -1.3**
PB06					Sn	**Sn**	**11 26 47.1 -2.6**
LVC	**Limon Verde**	**8.25**	**156**	P		**Pn**	**11 25 21.6 -0.4**
	3.9nm,0.3s,baz=351,slow=10,SNR=24						
LVC					S	**Sn**	**11 26 50.4 -3.3**
	13nm,0.3s,baz=208,slow=19,SNR=16						
LVC	**Limon Verde**	**8.25**	**156**	Pn		**Pn**	**11 25 22.0 0.0**
LVC	**Limon Verde**	**8.25**	**156**	*eS*		**Sn**	**11 26 50.2 -3.5**
PB15	**IPOC Station P**	**8.60**	**161**			**Pn**	**11 25 25.0 -1.6**
PB10	**IPOC Station P**	**8.60**	**168**	Pn		**Pn**	**11 25 24.1 -2.3**
PB14	**IPOC Station P**	**9.71**	**168**	Pn		**Pn**	**11 25 39.4 -2.4**
GO02	**Mina Guanaco**	**10.41**	**165**	Pn		**Pn**	**11 25 50.0 -1.4**
SAML	**Samuel**	**11.00**	**57**	*eP*		Pn	11 25 54.5 -4.7
SIV	**San Ignacio**	**11.11**	**96**	P		**Pn**	**11 25 58.4 -2.2**
	9.0nm,0.3s,baz=289,slow=10,SNR=114						
AC01	**Pan de Azucar**	**11.17**	**171**	Pn		**Pn**	**11 25 58.2 -3.1**
AC01					Sn	**Sn**	**11 28 00.8 -3.4**
AC02	**Maricunga**	**12.13**	**165**			**Pn**	**11 26 14.0 -0.7**
VILB	**Vilhena**	**12.18**	**82**	*eP*		Pn	11 26 10.5 -4.5
GO03	**Copiap**	**12.64**	**171**			**Pn**	**11 26 18.6 -2.5**
GO03						**Sn**	**11 28 36.6 -3.5**
PTLB	**Pontes e Lacer**	**12.96**	**93**	*eP*		Pn	11 26 21.6 -3.6
AC04	**Llanos de Chal**	**13.14**	**174**	Pn		**Pn**	**11 26 24.6 -2.9**
AC05	**El Transito**	**13.86**	**172**			**Pn**	**11 26 33.5 -3.6**
LCO	**Las Campanas**	**13.97**	**173**			**Pn**	**11 26 37.0 -1.7**
CO01	**Juntas del Tor**	**15.00**	**172**			**Pn**	**11 26 49.9 -2.0**
GO04	**Tololo Observa**	**15.11**	**174**			**P**	**11 26 54.6 -1.7**
CO03	**El Pedregal**	**15.78**	**174**	P		**P**	**11 27 01.3 -2.2**
CO02	**Combarbal**	**16.12**	**175**	Pn		**Pn**	**11 27 03.3 -2.5**

MACA Manacapuru-AM 16.65 46 eP **Pn** **11 27 08.5 -3.8**
ZON Zonda 16.77 168 P **P** **11 27 14.8 +0.4**
FLOC Florencia 16.83 349 eP **Pn** **11 27 15.4 +0.8**
CLDB Colider 16.86 78 eP **Pn** **11 27 12.4 -2.5**
MACC Macarena, Meta 17.16 356 eP **P** **11 27 16.4 -2.3**
SOTA Rioblanco 17.57 346 eP **Pn** **11 27 25.7 +1.6**
BBAC Balboa, Cauca 17.61 344 eP P 11 27 16.9 -7.0
PCON Cinco Dias 17.71 347 eP **Pn** **11 27 27.4 +1.6**
ROC1 El Roble 17.88 176 P **Pn** **11 27 26.3 -1.1**
POPC Popayan, Colom 17.97 347 eP **P** **11 27 24.6 -3.4**
CPUP Villa Florida 18.10 131 P **P** **11 27 27.8 -1.2**
0.9nm,0.3s,baz=314,slow=12,SNR=14
CPUP Villa Florida 18.10 131 P **P** **11 27 30.0 +1.0**
CPUP Villa Florida 18.10 131 eP **P** **11 27 27.8 -1.2**
MT02 Curacav 18.15 176 P **Pn** **11 27 29.1 -1.4**
NPGB Novo Progresso 18.66 67 eP **P** **11 27 33.6 -1.7**
PRAC Prado 18.81 353 eP **P** **11 27 37.7 +0.8**
PTGA Pitinga 18.92 42 P **P** **11 27 36.3 -1.7**
2.9nm,0.3s,baz=214,slow=13,SNR=40
PTGA Pitinga 18.92 42 IAmb IAmb 11 27 39.0
comp=Z,20nm,0.7s
ORTC Ortega, Tolima 19.05 352 eP **P** **11 27 41.4 +1.8**
H03N1 Juan Fernandez 19.17 196 T T 11 46 34.0
baz=17,slow=74,SNR=276
H03N2 Juan Fernandez 19.17 196 T T 11 46 29.3
baz=17,slow=74,SNR=366
H03N3 Juan Fernandez 19.19 196 T T 11 46 30.8
baz=17,slow=74,SNR=380
YOTC Yotoco, Valle 19.31 348 eP **Pn** **11 27 47.9 +3.5**
VA04 Juan Fernndez 19.34 196 P **Pn** **11 27 43.5 -1.1**
H03S3 Juan Fernandez 19.53 196 P **Pn** **11 27 49.5 +3.0**
baz=181,slow=74,SNR=6.1
H03S2 Juan Fernandez 19.55 196 P **Pn** **11 27 49.6 +3.0**
baz=181,slow=74,SNR=5.2
H03S1 Juan Fernandez 19.55 196 P **Pn** **11 27 49.5 +2.8**
baz=181,slow=74,SNR=6.5
CHIC Chingaza 19.61 357 eP **Pn** **11 27 49.2 +0.9**
ITTB Itaituba 19.68 59 eP **P** **11 27 44.7 -1.7**
BO02 Sierra Bellavi 19.70 176 Pn **Pn** **11 27 49.0 +0.2**
BO02 IAmb IAmb 11 27 50.8
comp=Z,52nm,1.0s
TOLC Tolima 19.73 352 eP **Pn** **11 27 50.1 +0.6**
ARAG Araguaiana, MT 20.01 95 eP **P** **11 27 48.5 -1.5**
RREF El Recreo 20.04 352 eP **P** **11 27 49.0 -1.9**
TRCB Terra Rica 20.33 115 eP **P** **11 27 53.2 -0.3**
GUY2C Guyana, Caldas 20.36 352 eP **P** **11 27 55.8 +1.5**
RUSC La Rusia 20.84 359 eP **P** **11 27 59.2 -0.2**
SNDB Serra Nova Dou 20.90 84 eP **P** **11 27 58.1 -1.4**
PCMB Pacaembu 21.22 111 eP **P** **11 28 02.9 0.0**
PTGB Pitanga 21.50 120 eP **P** **11 28 05.8 -0.1**
BI02 San Fabin de 21.53 177 P **P** **11 28 06.6 +0.4**
ITRB Iturama 21.67 105 eP **P** **11 28 06.6 -1.2**
BI03 Tigo 21.68 181 P **P** **11 28 09.7 +2.0**
MALB Monte Alegre 22.33 56 eP **P** **11 28 13.8 -0.9**
ITAB Concordia 22.52 126 eP **P** **11 28 15.8 -0.9**
ZARC Zaragoza, Cauc 22.54 354 eP **P** **11 28 15.8 -1.1**
FRTB Fartura 23.19 114 eP **P** **11 28 22.4 -1.0**
BB19B Bebedouro 23.59 108 eP **P** **11 28 25.9 -1.2**
BDFB Brasilia 23.67 95 P **P** **11 28 27.0 -0.8**
comp=Z,12nm,0.7s,baz=265,slow=11,SNR=14
BDFB Brasilia 23.67 95 P **P** **11 28 28.0 +0.1**
BDFB IAmb IAmb 11 28 28.0
comp=Z,15nm,0.8s
LC01 Cunco 23.74 179 P **P** **11 28 28.6 +0.4**
LC01 IAmb IAmb 11 28 31.1
comp=Z,24nm,1.0s
SMLC San Martn de 23.77 356 eP **P** **11 28 26.4 -2.2**
SDV Santo Domingo 23.88 5 eP **P** **11 28 30.4 +0.6**
PLTB Pedras Altas 23.98 137 eP **P** **11 28 30.7 +0.3**
PRPB Parauapebas 24.02 71 eP **P** **11 28 30.2 -0.7**
TIJ01 Guaruva-PR 24.30 119 eP **P** **11 28 34.0 +0.5**
CNLB Canela 24.53 129 eP **P** **11 28 35.5 +0.1**
TRQA Tornquist 24.73 160 P **P** **11 28 35.3 -1.8**
SJCC San Jacinto, C 24.95 354 eP **P** **11 28 37.9 -1.4**
MCPB Macapa, AP 24.98 56 eP **P** **11 28 38.6 -1.0**
SPB Sao Paulo 25.14 114 P **P** **11 28 41.3 +0.3**
SPB IAmb IAmb 11 28 43.5
comp=Z,25nm,0.7s
SPB Sao Paulo 25.14 114 eP **P** **11 28 41.5 +0.5**
SMTB Santa Maria do 25.18 79 eP **P** **11 28 42.4 +1.0**
VAO Valinhos 25.41 112 eP **P** **11 28 43.9 +0.3**
PET01 Itanhaem-SP 25.47 115 eP **P** **11 28 44.6 +0.6**
PLCA Paso Flores 25.62 176 P **P** **11 28 46.6 +1.4**
comp=Z,16nm,0.8s,baz=349,slow=10,SNR=27
PLCA PcP **PcP** **11 32 15.6 +1.9**
comp=Z,1.8nm,0.8s,baz=345,slow=4.9,SNR=3.5
PLCA Paso Flores 25.62 176 P **P** **11 28 46.2 +0.9**
PLCA IAmb IAmb 11 28 50.2
comp=Z,17nm,0.8s
PLCA Paso Flores 25.62 176 eP **P** **11 28 45.9 +0.6**
PARB Paraibuna 26.69 112 eP **P** **11 28 55.6 +0.4**
SDBA SAO DESIDERIO 26.98 88 eP **P** **11 28 58.2 +0.4**
BSCB Bom Sucesso 27.04 107 eP **P** **11 28 58.9 +0.6**
LL01 San Ignacio de 27.21 180 P **P** **11 28 59.9 +0.6**
LL01 IAmb IAmb 11 29 01.0
comp=Z,18nm,0.7s
ESAR Angra dos Reis 27.69 111 eP **P** **11 29 04.7 +0.7**
ROSB Rosrio 30.53 69 eP **P** **11 29 28.1 -1.1**
RIB01 Linhares ES 30.98 102 eP **P** **11 29 33.5 +0.3**
GDU01 Guandu, BA 31.96 92 eP **P** **11 29 41.9 +0.1**
Z56A Williston 48.86 350 P **P** **11 32 00.5 -0.1**
152A Waverly Hall 48.88 346 P **P** **11 31 59.2 -1.6**
152A IAmb IAmb 11 32 00.9
comp=Z,9.2nm,0.7s
152A pP **pP** **11 32 22.4 -3.0**
152A PcP **PcP** **11 33 19.2 -4.7**
KVTX Kingsville 48.98 330 P **P** **11 32 02.4 +0.8**
PMSA Palmer Station 49.99 175 eP **P** **11 32 11.3 +2.5**
833A Chaparral WMA, 50.36 329 P **P** **11 32 12.6 +0.5**
833A IAmb IAmb 11 32 13.7
comp=Z,8.3nm,0.8s
X48A Hartselle 51.15 345 P **P** **11 32 16.9 -1.0**
X48A IAmb IAmb 11 32 17.6
comp=Z,7.1nm,0.7s
T59A Double "B" Far 51.98 355 P **P** **11 32 24.3 +0.3**
MIAR Mount Ida 53.24 338 P **P** **11 32 33.5 0.0**
MIAR IAmb IAmb 11 32 34.0
comp=Z,8.3nm,0.8s
TXAR Lajitas Array 53.40 326 P **P** **11 32 34.9 +0.1**
comp=Z,1.9nm,0.7s,baz=153,slow=8.8,SNR=11
TXAR pP **pP** **11 33 01.3 +1.6**
comp=Z,1.6nm,0.9s,baz=152,slow=7.9,SNR=5.0
ABTX Abilene, Hawle 54.05 332 P **P** **11 32 39.8 +0.4**
U40A Yellville 54.63 340 P **P** **11 32 43.0 -0.5**
U40A IAmb IAmb 11 32 43.6
comp=Z,6.6nm,0.8s
S44A Carbondale 54.79 344 P **P** **11 32 43.9 -0.7**
MGMO Mountain Grove 55.17 341 P **P** **11 32 46.8 -0.6**
MGMO IAmb IAmb 11 32 47.5
comp=Z,9.4nm,1.0s
S39A Bolivar 56.00 340 P **P** **11 32 52.5 -0.9**
S39A IAmb IAmb 11 32 53.1
comp=Z,6.9nm,0.7s
MNTX Cornudas Mount 56.17 326 P **P** **11 32 54.6 -0.1**
R40A Maddies Statio 56.21 341 P **P** **11 32 53.6 -1.2**
R40A IAmb IAmb 11 32 54.3
comp=Z,6.2nm,0.6s
MSTX Muleshoe 56.63 330 P **P** **11 32 58.0 0.0**
MSTX IAmb IAmb 11 32 59.2
comp=Z,7.9nm,1.0s
P40A Paris 57.29 342 P **P** **11 33 01.1 -1.3**
ANMO Albuquerque 59.25 328 P **P** **11 33 16.8 +0.4**
comp=Z,0.1nm,0.6s,baz=148,slow=8.1,SNR=8.1
ANMO pP **pP** **11 33 43.6 +1.8**
comp=Z,0.1nm,0.7s,baz=138,slow=8.4,SNR=2.9
ANMO Albuquerque 59.25 328 P **P** **11 33 17.1 +0.7**
ANMO IAmb IAmb 11 33 18.3
comp=Z,3.8nm,1.1s
T25A Trinidad 59.98 331 P **P** **11 33 22.4 +0.9**
T25A IAmb IAmb 11 33 23.1
comp=Z,5.2nm,0.8s
SDCO Great Sand Dun 60.98 330 P **P** **11 33 27.1 -1.3**
SDCO IAmb IAmb 11 33 29.9
comp=Z,7.4nm,0.8s
SDCO **pP** **11 33 54.9 +1.1**
BGNE Belgrade 60.99 338 P **P** **11 33 27.7 -0.2**
D62A Allapoint, All 61.95 3 P **P** **11 33 34.4 +0.1**
MVCO Mesa Verde 62.05 328 P **P** **11 33 35.7 +0.3**
MVCO IAmb IAmb 11 34 04.7
comp=Z,7.1nm,1.2s
WUAZ Wupatki 62.32 325 P **P** **11 33 37.0 -0.2**
WUAZ IAmb IAmb 11 33 40.0
comp=Z,6.3nm,0.9s

ECSD	**EROS Data Cent**	**62.53**	**341**	P	**P**	**11 33 38.3**	**+0.1**	
ECSD				IAmb	IAmb	11 34 04.3		
	comp=Z,8.2nm,1.5s							
COWI	**Conover**	**62.71**	**347**	P	**P**	**11 33 37.9**	**-1.5**	
PV01	**Paradox Valley**	**62.79**	**329**	P	**P**	**11 33 41.2**	**+0.8**	
PV15	**Paradox Valley**	**62.91**	**329**	P	**P**	**11 33 41.7**	**+0.5**	
PV15				IAmb	IAmb	11 33 43.1		
	comp=Z,8.4nm,0.9s							
PV15				pP	**pP**	**11 34 08.0**	**+1.2**	
PV13	**Radium Mtn., P**	**62.94**	**328**	P	**P**	**11 33 41.2**	**-0.1**	
PV13				IAmb	IAmb	11 33 42.8		
	comp=Z,4.1nm,0.8s							
KNB	**Kanab**	**64.21**	**325**	P	**P**	**11 33 51.7**	**+2.0**	
MTPU	**Mount Pierson**	**64.61**	**326**	P	**P**	**11 33 53.9**	**+1.4**	
CCUT	**Cedar City**	**64.89**	**325**	P	**P**	**11 33 56.4**	**+2.2**	
MSU	**Marysvale**	**64.95**	**326**	P	**P**	**11 33 56.1**	**+1.6**	
MVU	**Marysvale**	**64.96**	**326**	P	**P**	**11 33 56.2**	**+1.6**	
SHPR	**Sheep Range**	**65.18**	**323**	P	**P**	**11 33 57.8**	**+1.8**	
SHPR				IAmb	IAmb	11 33 58.3		
	comp=Z,5.6nm,1.1s							
PSUT	**Pine Spring**	**65.87**	**325**	P	**P**	**11 34 02.2**	**+1.7**	
TPNV	**Topopah Spring**	**66.12**	**323**	P	**P**	**11 34 03.9**	**+1.9**	
TPNV				IAmb	IAmb	11 34 04.7		
	comp=Z,6.3nm,1.0s							
E28A	**Huff**	**66.39**	**339**	P	**P**	**11 34 04.3**	**+0.9**	
AGMN	**Agassiz Nation**	**66.42**	**343**	P	**P**	**11 34 03.6**	**+0.2**	
AGMN				IAmb	IAmb	11 34 03.6		
	comp=Z,7.3nm,0.7s							
DUG	**Dugway, Tooele**	**66.51**	**327**	P	**P**	**11 34 06.0**	**+1.6**	
DUG				IAmb	IAmb	11 34 06.6		
	comp=Z,7.3nm,1.1s							
R11A	**Troy Canyon, C**	**66.70**	**324**	P	**P**	**11 34 07.3**	**+1.6**	
PDAR	**Pinedale Array**	**66.84**	**331**	P	**P**	**11 34 06.5**	**-0.1**	
	comp=Z,0.7nm,0.7s,baz=126,slow=7.5,SNR=5.3							
PDAR				pP	**pP**	**11 34 32.9**	**+0.4**	
	comp=Z,1.3nm,0.9s,baz=152,slow=6.7,SNR=4.2							
HWUT	**Hardware Ranch**	**66.92**	**329**	P	**P**	**11 34 06.9**	**-0.2**	
MDND	**Maddock**	**67.14**	**341**	P	**P**	**11 34 08.8**	**+0.7**	
VNA3	**Neumayer Olymp**	**67.23**	**162**	P	**P**	**11 34 09.8**	**+1.4**	
TPH	**Tonopah**	**67.45**	**323**	P	**P**	**11 34 12.2**	**+1.7**	
VNA1	**Neumayer--Stat**	**67.46**	**161**	P	**P**	**11 34 11.7**	**+1.9**	
VNA2	**Neumayer--Watz**	**67.82**	**161**	P	**P**	**11 34 13.5**	**+1.4**	
	baz=280,slow=6.7							
OMMB	**Old Mammoth Mi**	**68.19**	**322**	P	**P**	**11 34 17.0**	**+1.7**	
OMMB				IAmb	IAmb	11 34 17.6		
	comp=Z,5.3nm,0.8s							
NVAR	**Mina Array Bea**	**68.32**	**323**	P	**P**	**11 34 17.2**	**+1.2**	
	comp=Z,1.3nm,0.8s,baz=158,slow=8.2,SNR=13							
NVAR				pP	**PcP**	**11 34 41.3**	**+0.4**	
	comp=Z,0.6nm,0.7s,baz=141,slow=5.1,SNR=3.5							
NVAR	**Mina Array Bea**	**68.32**	**323**	P	**P**	**11 34 15.4**	**-0.6**	
IMW	**Indian Meadow**	**68.36**	**331**	P	**P**	**11 34 15.9**	**-0.3**	
FLWY	**Flagg Ranch**	**68.39**	**331**	P	**P**	**11 34 17.2**	**+0.9**	
FLWY				IAmb	IAmb	11 34 18.1		
	comp=Z,6.5nm,0.9s							
RLMT	**Red Lodge**	**68.55**	**333**	P	**P**	**11 34 17.5**	**+0.3**	
RLMT				IAmb	IAmb	11 34 18.5		
	comp=Z,10nm,1.4s							
KVN	**Kaiserville**	**68.62**	**323**	P	**P**	**11 34 17.6**	**-0.1**	
YHH	**Holmes Hill**	**69.00**	**332**	P	**P**	**11 34 21.7**	**+1.6**	
YHB	**Horse Butte**	**69.13**	**332**	P	**P**	**11 34 21.2**	**+0.4**	
YHL	**Hebgen Lake**	**69.20**	**332**	P	**P**	**11 34 22.5**	**+1.1**	
YERR	**Yerington**	**69.23**	**323**	P	**P**	**11 34 23.6**	**+2.0**	
DGMT	**Dagmar**	**69.24**	**338**	P	**P**	**11 34 22.1**	**+0.9**	
DGMT				IAmb	IAmb	11 34 22.9		
	comp=Z,17nm,1.1s							
GCMT	**Greycliff**	**69.25**	**333**	P	**P**	**11 34 21.2**	**-0.3**	
SNAA	**Sanae**	**69.44**	**162**	P	**P**	**11 34 23.6**	**+1.4**	
SNAA	**Sanae**	**69.44**	**162**	P	**P**	**11 34 23.0**	**+0.7**	
PNTR	**Pine Nut**	**69.51**	**323**	P	**P**	**11 34 24.4**	**+1.0**	
PNTR				IAmb	IAmb	11 34 26.1		
	comp=Z,8.5nm,0.8s							
VCNR	**Virginia City**	**69.68**	**323**	P	**P**	**11 34 23.2**	**-1.1**	
PAHR	**Pah Rah Range**	**69.80**	**323**	P	**P**	**11 34 25.2**	**+0.3**	
PAHR				IAmb	IAmb	11 34 27.7		
	comp=Z,9.9nm,0.8s							
BCYI	**Bear Canyon**	**69.84**	**330**	P	**P**	**11 34 25.3**	**0.0**	
LIC	**Lamto**	**70.17**	**78**	*e*P	**P**	**11 34 30.7**	**+3.1**	
	comp=Z,16nm,0.6s							
TIC	**Toumodi**	**70.31**	**77**	*e*P	**P**	**11 34 31.5**	**+3.0**	
MFID	**Camas Ranch**	**70.40**	**328**	P	**P**	**11 34 28.8**	**+0.3**	
MFID				IAmb	IAmb	11 34 30.8		
	comp=Z,12nm,1.1s							
BEKR	**Beckworth**	**70.47**	**323**	P	**P**	**11 34 29.5**	**+0.4**	
DBIC	**Dimbokro**	**70.47**	**77**	P	**P**	**11 34 32.0**	**+2.6**	
	comp=Z,3.7nm,0.4s,baz=217,slow=6.2,SNR=15							
DBIC	**Dimbokro**	**70.47**	**77**	P	**P**	**11 34 29.3**	**-0.2**	
DBIC				IAmb	IAmb	11 34 33.3		
	comp=Z,24nm,1.4s							
KIC	**Kosan Boka**	**70.48**	**78**	*e*P	**P**	**11 34 32.8**	**+3.3**	
	comp=Z,23nm,0.6s							
ORV	**Oroville**	**70.94**	**322**	P	**P**	**11 34 33.9**	**+2.2**	
ORV				IAmb	IAmb	11 34 34.5		
	comp=Z,8.7nm,1.1s							
MOD	**Modoc Plateau**	**71.77**	**324**	P	**P**	**11 34 37.4**	**+0.5**	
MOD				IAmb	IAmb	11 34 39.1		
	comp=Z,6.6nm,0.8s							
YBH	**Yreka Blue Hor**	**73.03**	**323**	P	**P**	**11 34 44.3**	**-0.1**	
	comp=Z,3.4nm,0.9s,baz=61,slow=2.1,SNR=5.8							
QSPA	**South Pole Qui**	**75.08**	**180**	P	**P**	**11 34 58.0**	**+2.1**	
	comp=Z,12nm,0.6s,baz=168,slow=1.0,SNR=150							
TORD	**Torodi Ar. Bea**	**78.64**	**73**	P	**P**	**11 35 15.1**	**-1.6**	
ESDC	**Sonseca Array**	**83.81**	**46**	P	**P**	**11 35 43.8**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=255,slow=4.8,SNR=6.6							
ESDC	**Sonseca Array**	**83.81**	**46**	P	**P**	**11 35 43.7**	**+0.1**	
YKA	**Yellowknife Ar**	**84.02**	**342**	P	**P**	**11 35 43.7**	**-0.4**	
	comp=Z,7.9nm,0.9s,baz=135,slow=5.2,SNR=19							
YKA				pP	**pP**	**11 36 12.2**	**+1.2**	
	comp=Z,2.6nm,0.8s,baz=134,slow=5.2,SNR=4.4							
DLBC	**Dease Lake**	**86.94**	**334**	P	**P**	**11 35 60.0**	**+1.2**	
MAW	**Mawson**	**91.43**	**164**	P	**P**	**11 36 21.2**	**+1.4**	
	comp=Z,3.4nm,0.7s,baz=215,slow=6.0,SNR=16							
MAW	**Mawson**	**91.43**	**164**	P	**P**	**11 36 21.5**	**+1.8**	
INK	**Inuvik**	**93.77**	**341**	P	**P**	**11 36 30.1**	**-0.2**	
	comp=Z,6.5nm,1.1s,baz=99,slow=11,SNR=3.1							
INK	**Inuvik**	**93.77**	**341**	P	**P**	**11 36 29.6**	**-0.8**	
ILAR	**Eielson Array**	**96.99**	**335**	P	**P**	**11 36 44.5**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=149,slow=3.0,SNR=5.1							
ILAR				pP	**pP**	**11 37 13.3**	**+1.0**	
	comp=Z,0.5nm,0.8s,baz=138,slow=3.6,SNR=3.9							
ILAR	**Eielson Array**	**96.99**	**335**	P	**P**	**11 36 44.6**	**-0.6**	
BWN	**Browne**	**97.85**	**334**	P	Pdif	11 36 49.0	0.0	
ASAR	**Alice Springs**	**133.61**	**214**	PKhKP	PKPpre	11 42 23.4		
	comp=Z,0.2nm,0.5s,baz=114,slow=1.7,SNR=4.4							
ASAR				PKP	**PKiKP**	**11 42 31.1**	**-1.1**	
	comp=Z,1.2nm,0.6s,baz=122,slow=1.9,SNR=12							
WRA	**Warramunga Arr**	**136.29**	**218**	PKP	**PKiKP**	**11 42 36.6**	**-1.1**	
	comp=Z,2.7nm,0.7s,baz=144,slow=1.9,SNR=25							
ZALV	**Zalesovo Beam**	**137.35**	**20**	PKP	**PKPdf**	**11 42 37.6**	**+0.8**	
	comp=Z,8.0nm,0.7s,baz=295,slow=2.8,SNR=29							
ZALV				pPKP	**pPKPdf**	**11 43 07.1**	**+2.0**	
	comp=Z,1.8nm,0.7s,baz=345,slow=5.1,SNR=2.4							
ZALV	**Zalesovo Beam**	**137.35**	**20**		**PKiKP**	**11 42 38.7**	**0.0**	
MKAR	**Makanchi Array**	**142.06**	**28**	PKhKP	PKPpre	11 42 41.1		
	comp=Z,0.8nm,0.7s,baz=329,slow=2.1,SNR=6.8							
FITZ	**Fitzroy Crossi**	**142.47**	**209**	PKhKP	**PKPdf**	**11 42 43.3**	**-3.9**	
	comp=Z,2.2nm,0.6s,baz=173,slow=1.5,SNR=11							
USRK	**Ussuriysk Ar.**	**144.25**	**329**	PKP	PKPbc	11 42 48.2	+0.2	
	comp=Z,2.3nm,0.8s,baz=48,slow=3.0,SNR=5.0							
USRK	**Ussuriysk Ar.**	**144.25**	**329**		PKPbc	11 42 48.4	+0.4	
MJAR	**Matsushiro Arr**	**145.26**	**314**	PKPbc	**PKPdf**	**11 42 51.6**	**0.0**	
	comp=Z,12nm,1.0s,baz=117,slow=0.7,SNR=13							
MAT	**Matsushiro**	**145.26**	**314**	PKP	**PKPdf**	**11 42 51.7**	**+0.1**	
WMQ	**Urumqi**	**146.77**	**27**	*e*P	**PKPdf**	**11 42 54.1**	**+0.1**	
SONM	**Songino Array**	**147.33**	**1**	PKPbc	**PKPbc**	**11 42 57.9**	**+0.5**	
	comp=Z,8.5nm,0.8s,baz=324,slow=1.6,SNR=32							
SONM				pPKPbc	**pPKPab**	**11 43 27.0**	**+0.1**	
	comp=Z,2.0nm,0.7s,baz=294,slow=1.6,SNR=3.4							
SONM	**Songino Array**	**147.33**	**1**		**PKPdf**	**11 42 55.6**	**+0.7**	
KSRS	**Korea Array**	**151.25**	**325**	PKPbc	**PKiKP**	**11 43 08.1**	**+0.3**	
	comp=Z,5.1nm,0.9s,baz=20,slow=0.9,SNR=12							
KSRS				pPKPbc	**pPKPbc**	**11 43 37.8**	**+2.4**	
	comp=Z,3.3nm,0.9s,baz=40,slow=1.9,SNR=4.4							
HHC	**Hu-ho-hao-te**	**154.07**	**353**	*e*P	**PKPdf**	**11 43 04.0**	**-1.5**	
GTA	**Gaotai**	**154.85**	**14**	PKPbc	**PKPdf**	**11 43 08.3**	**+1.6**	
GTA				pPKP	pPKPdf	11 43 36.3	+1.2	
GTA				sPKP		11 43 44.9		
GTA				LR	LR			
	comp=N,94nm,19.6s							
GTA				LR	LR			
	comp=E,110nm,19.6s							
GTA				LR	LR			
	comp=Z,92nm,20.0s							
LZH	**Lanzhou**	**158.83**	**8**	*e*PKP	**PKPdf**	**11 43 10.5**	**-1.4**	
LZH				pPKP	pPKPdf	11 43 37.4	-2.9	
LZH				sPKP		11 43 48.6		
LZH				PKP	**sPKPdf**	**11 43 50.1**	**-0.7**	
LZH				LR	LR			
	comp=N,67nm,18.1s							
LZH				LR	LR			
	comp=E,72nm,18.3s							
LZH				LR	LR			
	comp=Z,93nm,20.2s							
NJ2	**Nanjing**	**160.15**	**330**	*e*P	**PKPdf**	**11 43 12.9**	**-0.4**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							

*SNET **22** 11:28:04.5±2.2, 13°.71N×91°.44W, h25km±18km, ML3.3*
*GCG **22** 11:28:07.9±0.4, 13°.88N×91°.30W, h24km±7km, MD4.2*
*IDC **22** 11:28:08.0±2.8, 13°.96N×91°.49W, h64km±25km, mb3.4/1, mb1 3.8/5, mb1mx3.4/45, mbtmp3.8/5, ML3.9/4, MS3.7/3, Ms1 3.8/3, ms1mx2.9/25, Error ellipse: s-maj=30.5km s-min=18.3km az=25.0*

ISC 22 11:28:04.7±2.0, 13.73N±0.09×91.49W±0.06, h30km±13km, n25, σ1°41/28, MS4.0/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ERG	**Entre ros, C**	**0.71**	**354**	*i* P	**Pb**	**11 28 19.6**	**+1.0**	
RTAL	**Retalhuleu**	**0.82**	**346**	*e*P	**Pb**	**11 28 19.8**	**-0.6**	
RTAL				*e*S	**Sn**	**11 28 31.7**	**+0.5**	
RTAL				IAML		11 28 44.9		
	comp=Z,753nm,0.4s							
FUG	**Fuego 3**	**0.95**	**41**	*e*P	**Pb**	**11 28 21.8**	**-0.9**	
PCG	**Pacaya**	**1.08**	**52**	*e*P	**Pb**	**11 28 24.0**	**-0.9**	
NBG	**Las Nubes**	**1.40**	**52**	*i* P	**Pn**	**11 28 29.6**	**+1.2**	
HUEH	**Huehuetenango**	**1.58**	**359**	*e*P	**Pn**	**11 28 32.4**	**+1.5**	
HUEH				*e*S	**Sb**	**11 28 52.9**	**-0.2**	
RTR	**El Retiro**	**1.80**	**84**	*e*P	**Pn**	**11 28 33.9**	**+0.1**	
SBLS	**San Blas**	**1.81**	**86**	*e*P	**Pn**	**11 28 33.8**	**-0.3**	
SNJE	**San Jose**	**1.83**	**85**	*e*P	**Pn**	**11 28 34.3**	**0.0**	
BOQS	**Boqueron**	**2.14**	**90**	*e*P	**Pn**	**11 28 38.9**	**+0.3**	
MTO3	**Montecristo**	**2.17**	**72**	*e*P	**Pn**	**11 28 38.6**	**-0.4**	
MTO3				*e*S	**Sn**	**11 29 05.5**	**+0.5**	
MTO3				IAML		11 29 08.3		
	comp=Z,133nm,0.5s							
SNET	**Serv Nac Est T**	**2.19**	**91**	*e*P	**Pn**	**11 28 39.4**	**+0.2**	
SNET				*e*S	**Sn**	**11 29 04.3**	**-1.1**	
SNET				IAML		11 29 07.9		
	comp=Z,636nm,0.3s							
MRL	**Marmol**	**2.20**	**52**	*e*P	**Pn**	**11 28 40.5**	**+1.0**	
ESQI	**Esquipulas**	**2.24**	**68**	*e*P	**Pn**	**11 28 39.8**	**0.0**	
ESQI				*e*S	**Sn**	**11 29 09.8**	**+3.3**	
ESQI				IAML		11 29 12.3		
	comp=Z,159nm,0.5s							
LFRS	**El Faro**	**2.36**	**92**	*e*P	**Pn**	**11 28 42.0**	**+0.5**	
LBRS	**Las Brisas**	**2.37**	**89**	*e*P	**Pn**	**11 28 42.4**	**+0.8**	
CMIG	**Matias Romero**	**4.68**	**316**	P	**Pn**	**11 29 14.0**	**+0.7**	
	comp=Z,3.6nm,0.3s,baz=122,slow=7.2,SNR=36							
CMIG				S	**Sn**	**11 30 05.4**	**-1.3**	
	comp=Z,3.1nm,0.3s,baz=82,slow=22,SNR=2.0							
TEIG	**Tepich**	**7.15**	**25**	P	**Pn**	**11 29 47.7**	**+0.4**	
	comp=Z,4.8nm,0.3s,baz=249,slow=0.8,SNR=39							
TEIG				S	**Sn**	**11 31 05.1**	**-2.5**	
	baz=58,slow=20,SNR=1.9							
JTS	**Las Juntas de**	**7.25**	**117**	P	**Pn**	**11 29 52.6**	**+4.0**	
	comp=Z,1.1nm,0.3s,baz=355,slow=15,SNR=5.3							
TXAR	**Lajitas Array**	**19.20**	**326**	P	**P**	**11 32 26.6**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=12							
SJG	**San Juan**	**24.74**	**77**	LR	LR	11 44 16.6		
	comp=Z,84nm,19.7s,baz=200,slow=39							
NVAR	**Mina Array Bea**	**34.20**	**321**	P	P	11 34 45.1	-2.6	
	comp=Z,0.8nm,0.8s,baz=125,slow=7.8,SNR=4.4							
NOA	**NORSAR Array B**	**84.14**	**29**	LR	LR	12 18 35.8		
	comp=Z,56nm,18.1s,baz=195,slow=36							
TORD	**Torodi Ar. Bea**	**89.96**	**77**	LR	LR	12 18 55.4		
	comp=Z,58nm,19.9s,baz=200,slow=34							
CMAR	**Chiang Mai Arr**	**146.41**	**342**	PKPbc	**PKPdf**	**11 47 41.2**	**-1.2**	
	comp=Z,0.7nm,0.4s,baz=348,slow=3.1,SNR=6.0							
CMAR				pPKPbc	pPKPbc	11 47 55.7	+2.2	
	comp=Z,0.5nm,0.4s,baz=348,slow=2.4,SNR=4.7							

*ATH **22** 11:30:32.3, 38°.39N×20°.49E, h13km±2km, ML2.5/5, Error ellipse: s-maj=2.5km s-min=0.7km az=270.0*
*THE **22** 11:30:32.3, 38°.39N×20°.49E, h12km±1km, ML2.5/6, Error ellipse: s-maj=1.0km s-min=0.2km az=271.0*

ISC 22 11:30:32.2±0.9, 38°.39N±0°.02×20°.50E±0°.04, h12km±5km, n30, σ0°40/51, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VSK1	**VASILIKIADES**	**0.06**	**67**	P	**Pg**	**11 30 34.6**	**0.0**	
FSK	**Fiskardo**	**0.09**	**35**	P	**Pg**	**11 30 34.8**	**-0.1**	
FSK				S	**Sg**	**11 30 37.1**	**+0.2**	
	5μm,0.3s							
FSK	**Fiskardo**	**0.09**	**35**	P	**Pg**	**11 30 34.9**	**-0.1**	
FSK				S	**Sg**	**11 30 36.9**	**0.0**	
FSK				AML	AML	11 30 37.3		
	comp=E,12741μm,0.4s							
FSK				AML	AML	11 30 39.0		
	comp=N,5737μm,0.4s							
KEF5	**Kardakata, Kep**	**0.11**	**192**	P	**Pg**	**11 30 35.1**	**0.0**	
KEF5				S	**Sg**	**11 30 37.4**	**+0.1**	
DMLN	**Damoulianata-K**	**0.18**	**213**	P	**Pg**	**11 30 36.1**	**0.0**	
DMLN				S	**Sg**	**11 30 39.0**	**+0.1**	
	comp=N,5μm,0.3s							
DMLN	**Damoulianata-K**	**0.18**	**213**	P	**Pg**	**11 30 36.1**	**0.0**	
DMLN				S	**Sg**	**11 30 39.2**	**+0.3**	
VLS	**Valsamata**	**0.22**	**161**	P	**Pg**	**11 30 37.0**	**+0.1**	
VLS				S	**Sg**	**11 30 40.6**	**+0.5**	
	comp=N,2μm,0.1s							
VLS	**Valsamata**	**0.22**	**161**	P	**Pg**	**11 30 37.0**	**+0.1**	
VLS				S	**Sg**	**11 30 40.7**	**+0.6**	
VLS				AML	AML	11 30 41.1		
	comp=N,3219μm,0.2s							
VLS				AML	AML	11 30 41.2		
	comp=E,3931μm,0.2s							
EVGI	**Lefkada island**	**0.27**	**28**	P	**Pg**	**11 30 37.8**	**+0.1**	
EVGI				S	**Sg**	**11 30 41.9**	**+0.5**	
	comp=E,1μm,0.1s							
EVGI	**Lefkada island**	**0.27**	**28**	P	**Pg**	**11 30 38.0**	**+0.3**	
EVGI				S	**Sb**	**11 30 42.4**	**-1.0**	
PSDA	**Pessada-Kefalo**	**0.28**	**166**	P	**Pg**	**11 30 37.9**	**0.0**	
PSDA				S	**Sg**	**11 30 42.7**	**+0.9**	
PSDA	**Pessada-Kefalo**	**0.28**	**166**	P	**Pg**	**11 30 38.0**	**+0.1**	
PSDA				S	**Sb**	**11 30 43.0**	**-0.8**	
DRAG	**Dragano-Lefkad**	**0.30**	**12**	P	**Pg**	**11 30 38.3**	**-0.1**	
DRAG				S	**Sg**	**11 30 43.3**	**+0.7**	
DRAG	**Dragano-Lefkad**	**0.30**	**12**	P	**Pg**	**11 30 38.5**	**+0.1**	
DRAG				S	**Sg**	**11 30 43.3**	**+0.7**	
MGNA	**Meganis**	**0.35**	**41**	P	**Pg**	**11 30 39.3**	**0.0**	
MGNA				S	**Sg**	**11 30 43.9**	**-0.2**	
MGNA				AML	AML	11 30 45.6		
	comp=N,4196μm,0.3s							
MGNA				AML	AML	11 30 45.7		
	comp=E,3256μm,0.2s							
NYDR	**Nydri-Lefkada**	**0.36**	**26**	P	**Pg**	**11 30 39.4**	**0.0**	
NYDR				S	**Sg**	**11 30 44.9**	**+0.6**	
	comp=E,995nm,0.4s							
NYDR	**Nydri-Lefkada**	**0.36**	**26**	P	**Pg**	**11 30 39.5**	**0.0**	
NYDR				S	**Sg**	**11 30 44.9**	**+0.6**	
TSLK	**Tsoukalades, L**	**0.46**	**16**	P	**Pg**	**11 30 41.2**	**0.0**	
TSLK				S	**Sb**	**11 30 48.3**	**-0.6**	
	comp=E,460nm,0.4s							
TSLK	**Tsoukalades, L**	**0.46**	**16**	P	**Pg**	**11 30 41.2**	**0.0**	
TSLK				S	**Sb**	**11 30 48.6**	**-0.3**	
VLMS	**Volimes, Zakyn**	**0.53**	**165**	P	**Pg**	**11 30 42.2**	**-0.2**	
VLMS				S	**Sb**	**11 30 51.0**	**+0.1**	
VLMS				AML	AML	11 30 58.4		
	comp=E,934μm,0.3s							
VLMS				AML	AML	11 31 00.3		
	comp=N,1936μm,0.4s							
AXS	**Araxos**	**0.72**	**105**	P	**Pg**	**11 30 46.1**	**0.0**	
AXS				S	**Sb**	**11 30 56.7**	**+0.3**	
AXS	**Araxos**	**0.72**	**105**	P	**Pg**	**11 30 46.2**	**+0.2**	
AXS				S	**Sb**	**11 30 56.9**	**+0.6**	
AXS				AML	AML	11 31 01.8		
	comp=E,247μm,0.5s							
AXS				AML	AML	11 31 04.8		
	comp=N,324μm,0.4s							
RLS	**Riolos of Patr**	**0.83**	**113**	P	**Pg**	**11 30 48.1**	**-0.1**	
RLS	**Riolos of Patr**	**0.83**	**113**	P	**Pg**	**11 30 48.2**	**0.0**	
ANX	**Ano Chora**	**1.14**	**79**	P	**Pb**	**11 30 53.5**	**-0.3**	
TRIZ	**Trizonia**	**1.24**	**90**	P	**Pn**	**11 30 54.9**	**-0.4**	
KALE	**Kalithea**	**1.29**	**89**	P	**Pn**	**11 30 55.7**	**-0.4**	
KLV	**Kalavryta, Ach**	**1.35**	**104**	P	**Pn**	**11 30 56.9**	**+0.1**	
KEK	**Kerkira**	**1.43**	**338**	P	**Pg**	**11 31 00.4**	**+0.7**	
GUR	**Goura**	**1.52**	**107**	P	**Pn**	**11 30 59.8**	**+0.5**	

*IDC **22** 11:32:03.9±1.6, 63°.08S×170°.45E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/25, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=68.5km s-min=31.3km az=63.0*
*NEIC **22** 11:32:04.5±1.4, 63°.15S±0°.15×170°.75E±0°.3, h10km±1km, mb4.6/11, Error ellipse: s-maj=25.6km s-min=9.3km az=49.0*

ISC 22 11:32:05.1±0.7, 63°.05S±0°.09×170°.4E±0°.2, h10km, n30, σ1°21/21, mb4.6/7, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VNDA	**Vanda**	**14.80**	**187**	Pn	**Pn**	**11 35 33.5**	**-0.4**	
	0.1nm,0.3s,baz=13,slow=15,SNR=14							
KHZ	**Kahutara**	**20.75**	**6**	P	**P**	**11 36 44.6**	**-1.0**	
CASY	**Casey**	**24.98**	**236**	P	**P**	**11 37 28.5**	**+0.2**	
CASY				IAmb	IAmb	11 37 36.7		
	comp=Z,19nm,1.5s							
QSPA	**South Pole Qui**	**27.04**	**180**	P	**P**	**11 37 47.8**	**+0.5**	
	comp=Z,1.1nm,0.8s,baz=67,slow=7.7,SNR=2.5							
QSPA	**South Pole Qui**	**27.04**	**180**	P	**P**	**11 37 47.1**	**-0.2**	
CAN	**Canberra**	**30.77**	**324**	P	**P**	**11 38 17.8**	**-2.7**	
STKA	**Stephens Creek**	**36.16**	**316**	P	**P**	**11 39 06.8**	**-0.5**	
BBOO	**Buckleboo**	**37.18**	**308**	P	**P**	**11 39 15.7**	**-0.3**	
BBOO				IAmb	IAmb	11 39 36.0		
	comp=Z,13nm,1.1s							
BELA	**Belgrano 2**	**38.48**	**172**	P	**P**	**11 39 26.3**	**-0.3**	
H01W1	**Cape Leeuwin H**	**44.37**	**282**	T	T	12 28 02.3		
	baz=147,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**44.38**	**282**	T	T	12 28 02.4		
	baz=147,slow=76,SNR=21							
H01W3	**Cape Leeuwin H**	**44.39**	**282**	T	T	12 28 04.7		
	baz=147,slow=76,SNR=18							
ASAR	**Alice Springs**	**46.29**	**311**	P	**P**	**11 40 31.8**	**+1.1**	
	comp=Z,0.5nm,0.8s,baz=152,slow=8.0,SNR=4.5							
ASAR	**Alice Springs**	**46.29**	**311**	P	**P**	**11 40 31.1**	**+0.4**	
SANVU	**Saraoutou**	**47.60**	**356**	P	**P**	**11 40 41.5**	**+0.7**	
WR0	**Warramunga Arr**	**49.51**	**314**	P	**P**	**11 40 58.2**	**+2.6**	
WB2	**Warramunga Arr**	**49.59**	**313**	P	**P**	**11 40 57.9**	**+1.7**	
WRAB	**Tennant Creek**	**49.60**	**313**	P	**P**	**11 40 57.6**	**+1.4**	
WRAB				IAmb	IAmb	11 41 11.8		
	comp=Z,12nm,1.5s							
H03S2	**Juan Fernandez**	**68.92**	**123**	T	T	12 58 55.0		
	baz=205,slow=74,SNR=6.7							
H03S1	**Juan Fernandez**	**68.92**	**123**	T	T	12 58 56.2		
	baz=205,slow=74,SNR=6.5							
H03S3	**Juan Fernandez**	**68.93**	**123**	T	T	12 58 50.3		
	baz=205,slow=74,SNR=6.9							
CO01	**Juntas del Tor**	**75.64**	**129**	P	**P**	**11 43 51.2**	**+0.8**	
CO01				IAmb	IAmb	11 43 59.3		
	comp=Z,8.1nm,1.4s							
H08S2	**Diego Garcia H**	**86.83**	**259**	T	T	13 21 20.4		
	baz=152,slow=76,SNR=7.0							
H08S1	**Diego Garcia H**	**86.84**	**259**	T	T	13 21 06.4		
	baz=152,slow=76,SNR=7.3							
H08S3	**Diego Garc

BOSA	**Boshof**	**84.59**	**210**	LR	LR	12 24 36.0		
	comp=Z,38nm,19.6s,baz=192,slow=34							
H08S2	**Diego Garcia H**	**86.87**	**259**	T	T	13 25 10.6		
	baz=152,slow=76,SNR=9.7							
H08S1	**Diego Garcia H**	**86.88**	**259**	T	T	13 25 35.5		
	baz=152,slow=76,SNR=4.9							
H08S3	**Diego Garcia H**	**86.89**	**259**	T	T	13 25 31.8		
	baz=152,slow=76,SNR=14							
LPAZ	**La Paz**	**88.87**	**125**	P	**P**	**11 49 13.3**	**+1.3**	
	comp=Z,2.3nm,1.1s,baz=214,slow=4.6,SNR=7.3							
LPAZ	**La Paz**	**88.87**	**125**	P	**P**	**11 49 12.0**	**+0.1**	
ILAR	**Eielson Array**	**131.30**	**23**	PKP	**PKiKP**	**11 55 28.1**	**-0.3**	
	comp=Z,1.3nm,1.0s,baz=256,slow=2.2,SNR=4.7							
ILAR	**Eielson Array**	**131.30**	**23**		**PKPdf**	**11 55 27.3**	**-0.2**	
KBZ	**Khabaz**	**144.56**	**262**	PKP	**PKPab**	**11 55 50.9**	**0.0**	
	comp=Z,4.7nm,0.9s,baz=56,slow=18,SNR=4.5							
BRTR	**Keskin Array B**	**145.41**	**248**	PKPbc	**PKPbc**	**11 55 52.8**	**-1.4**	
	comp=Z,5.2nm,1.1s,baz=183,slow=4.9,SNR=6.9							
BRTR	**Keskin Array B**	**145.41**	**248**		**PKPbc**	**11 55 52.6**	**-1.6**	
CLL	**Collm**	**163.20**	**236**	*e*PKPab	**PKPab**	**11 57 10.0**	**+1.3**	

*TEH **22** 12:02:17.2,29.75N×56.95E,h8km,ML3.6*
*THR **22** 12:02:18.2±0.4,29.70N×56.97E,h14km±5km,ML3.6*
ISC 22 12:02:18.9±1.0,29.71N±0.04×56.98E±0.04,h10km,n21,
σ1§44/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGRK	**Negar Kerman**	**0.22**	**253**	*e*Pg	**Pg**	**12 02 21.6**	**-2.1**
TVBK	**TV Kerman**	**0.33**	**326**	*e*Pg	**Pg**	**12 02 23.6**	**-2.1**
CHMN	**Cheshme madani**	**0.51**	**73**	*e*Pg	**Pg**	**12 02 27.6**	**-1.4**
CHMN				*e*Sg	**Sg**	**12 02 35.1**	**-0.7**
CHMN				*e*		12 02 35.8	
KHGB	**Koh Gabri**	**0.79**	**327**	*e*Pg	**Pg**	**12 02 31.7**	**-2.5**
IBAF	**Bafgh**	**2.23**	**327**	*e*Pn	**Pn**	**12 02 56.9**	**+0.8**
IBAF				*e*		12 03 30.2	
GENO	**Geno**	**2.41**	**197**	*e*Pn	**Pn**	**12 03 00.0**	**+1.5**
BNDS	**Bandar-Abbas**	**2.41**	**197**	*e*Pn	**Pn**	**12 02 59.1**	**+0.6**
BNDS				*e*Sg	**Sb**	**12 03 33.4**	**+1.1**
BNDS				IAML		12 03 35.6	
	comp=N,253nm,0.3s						
BNDS	**Bandar-Abbas**	**2.41**	**197**	*e*Pn	**Pn**	**12 02 59.1**	**+0.6**
IMEH	**Mehriz**	**2.64**	**310**	*e*Pn	**Pn**	**12 03 02.4**	**+0.7**
IMEH				*e*		12 03 41.0	
BSRN	**Basiran**	**2.91**	**39**	*e*Pn	**Pn**	**12 03 06.2**	**+0.8**
BSRN	**Basiran**	**2.91**	**39**	*e*Pn	**Pn**	**12 03 06.2**	**+0.8**
NHDN	**Nehbandan**	**3.14**	**57**	*e*Pn	**Pn**	**12 03 09.6**	**+1.0**
IKOO	**Kooshah**	**3.22**	**32**	*e*Pn	**Pn**	**12 03 10.0**	**+0.3**
IKOO				*e*		12 03 19.8	
TPRV	**Parvadeh(Tabas**	**3.32**	**356**	*e*Pn	**Pn**	**12 03 11.6**	**+0.6**
TPRV				*e*		12 04 18.1	
YZKH	**Yazd**	**3.36**	**323**	*e*Pn	**Pn**	**12 03 12.9**	**+1.3**
YZKH				*e*Sg	**Sb**	**12 04 03.2**	**+3.5**
YZKH	**Yazd**	**3.36**	**323**	*e*Pn	**Pn**	**12 03 12.9**	**+1.3**
ITEG	**Tejag**	**3.52**	**25**	*e*Pn	**Pn**	**12 03 14.4**	**+0.6**
ITEG				*e*		12 04 13.4	
TKDS	**Koohdasht(Taba**	**3.89**	**2**	*e*Pn	**Pn**	**12 03 19.5**	**+0.6**
TKDS				*e*		12 04 28.2	
TABS	**Tabas**	**3.93**	**2**	*e*Pn	**Pn**	**12 03 20.4**	**+1.0**
TABS	**Tabas**	**3.93**	**2**	*e*Pn	**Pn**	**12 03 20.4**	**+1.0**
TNSJ	**Nastanj**	**4.25**	**356**	*e*Pn	**Pn**	**12 03 23.7**	**-0.1**

IDC 22 12:04:56.7±2.6,20°34S×170°36E,h309km±29km,mb3.4/5,
mb1 3.5/6,mb1mx3.1/39,mbtmpg3.9/6,Error ellipse:
s-maj=57.1km s-min=15.4km az=177.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.04**	**244**	P	Pn	12 06 04.3	+0.4
	1.3nm,0.3s,baz=39,slow=18,SNR=13						
CTA	**Charters Tower**	**22.62**	**266**	P	P	12 09 32.1	+0.3
	4.4nm,0.8s,baz=97,slow=8.1,SNR=2.1						
RAR	**Rarotonga**	**27.92**	**97**	P	P	12 10 18.9	-0.4
	41nm,0.6s,baz=249,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**33.78**	**264**	P	P	12 11 09.0	-1.4
	0.3nm,0.3s,baz=92,slow=8.3,SNR=26						
ASAR	**Alice Springs**	**33.91**	**258**	P	P	12 11 12.2	+0.7
	3.5nm,0.6s,baz=80,slow=8.9,SNR=95						
SONM	**Songino Array**	**88.73**	**323**	P	P	12 17 16.2	+0.5
	0.4nm,0.4s,baz=134,slow=6.2,SNR=4.9						
ILAR	**Eielson Array**	**90.97**	**17**	P	P	12 17 26.1	+0.7
	0.5nm,0.8s,baz=234,slow=5.5,SNR=4.3						

*SOME **22** 12:06:08.8,40.88N×69.80E,h10km*
*KRNET **22** 12:06:09.6±0.1,40.67N×69.19E,mb3.0*
*NNC **22** 12:06:09.3±2.6,40.86N×69.84E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=18.9km s-min=12.2km az=47.0
ISC 22 12:06:02.2±2.2,40.53N±0.08×69.69E±0.07,h6km±12km,
n21,σ2§77/35,12C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.85**	**339**	⇓*i*P	**Pn**	**12 06 23.1**	**+2.2**
	baz=7.0						
TAS				⇓*i*S	**Sn**	**12 06 32.5**	**-1.2**
	baz=7.0						
BTK	**Batken**	**0.98**	**118**	⇓*e*P	**Sb**	**12 06 34.7**	**-0.1**
	baz=16						
IUG	**Iuzhnay**	**1.64**	**9**	*e*P	**Pg**	**12 06 33.8**	**+0.2**
	74nm,0.3s						
IUG				*e*S	**Sn**	**12 06 51.9**	**-1.3**
	109nm,0.4s						
IUG	**Iuzhnay**	**1.64**	**9**	P	**Pg**	**12 06 33.8**	**+0.2**
	74nm,0.3s						
IUG				S	**Sn**	**12 06 51.9**	**-1.3**
	109nm,0.4s						
BRLS	**Borolday**	**2.50**	**2**	*e*P	**Pn**	**12 06 42.7**	**-0.9**
	11nm,0.1s						
BRLS				*e*S	**Sn**	**12 07 07.2**	**-7.3**
	128nm,0.3s						
BRLS	**Borolday**	**2.50**	**2**	P	**Pn**	**12 06 42.7**	**-0.9**
	11nm,0.1s						
BRLS				S	**Sn**	**12 07 07.2**	**-7.3**
	128nm,0.3s						
KK31	**Karatay Array**	**2.65**	**13**	P	**Pb**	**12 06 49.5**	**-0.5**
	2.3nm,0.3s,baz=200,slow=16,SNR=27						
KK31				⇑S	**Sn**	**12 07 20.1**	**+2.1**
	13nm,0.5s,baz=205,slow=25,SNR=22						
MNAS	**Manas**	**2.88**	**46**	⇑*i*P	**Pg**	**12 06 57.9**	**+0.5**
	baz=53						
MNAS				⇑*i*S	**Sg**	**12 07 33.0**	**-1.7**
	baz=53						
AML	**Almayashu**	**3.41**	**61**	⇑*i*P	**Pg**	**12 07 06.4**	**-1.2**
	baz=65						
AML				⇑*i*S	**Sb**	**12 07 48.2**	**+3.0**
	baz=65						
MRKS	**Merke**	**3.45**	**49**	*e*P	**Pg**	**12 07 06.9**	**-1.5**
	5.6nm,0.5s						
MRKS				*e*S	**Sb**	**12 07 48.6**	**+2.5**
	7.4nm,0.5s						
MRKS	**Merke**	**3.45**	**49**	Pg	**Pg**	**12 07 06.9**	**-1.5**
	5.6nm,0.5s						
MRKS				Lg	Lg	12 07 48.6	
	7.4nm,0.5s						
EKS2	**Erkin-Say**	**3.73**	**54**	⇑*e*P	**Pb**	**12 07 10.1**	**+1.5**
	baz=58						
EKS2				⇑*i*S	**Sb**	**12 07 54.8**	**+0.6**
	baz=58						
ARLS	**Aral**	**3.74**	**68**	⇑*i*P	**Pb**	**12 07 11.3**	**+2.6**
	baz=71						
ARLS				⇑*i*S	**Sb**	**12 07 56.2**	**+1.8**
	baz=71						
UCH	**Uchtor**	**4.00**	**63**	⇑*i*P	**Pb**	**12 07 14.8**	**+1.3**
	baz=67						
UCH				⇑*i*S	**Sb**	**12 08 03.0**	**+0.7**
	baz=67						
AAK	**Ala-Archa**	**4.17**	**58**	⇓Pg	**Pg**	**12 07 21.1**	**-1.0**
	2.0nm,0.6s						
SGDS	**Sogindy**	**4.70**	**50**	Pg	**Pg**	**12 07 28.9**	**-3.3**
	3.8nm,0.6s						
SGDS				Lg	Lg	12 08 26.2	
	3.4nm,0.6s						
TKM2	**Tokmak 2**	**5.02**	**60**	⇓Pg	**Pb**	**12 07 33.6**	**+3.0**
	2.4nm,1.0s						
TKM2				⇑Lg	Lg	12 08 39.9	
	5.5nm,0.8s						
KST	**Kastek**	**5.32**	**60**	*e*P	**Pg**	**12 07 43.2**	**-0.8**
	1.5nm,0.4s						
KST				*e*S	**Sg**	**12 08 50.6**	**-2.4**
	3.4nm,0.4s						
KST	**Kastek**	**5.32**	**60**	Pg	**Pg**	**12 07 43.2**	**-0.8**
	1.5nm,0.4s						
KST				Lg	Lg	12 08 50.6	
	3.4nm,0.4s						
BTLS	**Baital**	**5.53**	**34**	*e*P	**Pb**	**12 07 42.9**	**+3.7**
	1.0nm,0.2s						
BTLS				*e*S	**Sb**	**12 08 50.4**	**+4.6**
	4.4nm,0.6s						
BTLS	**Baital**	**5.53**	**34**	Pg	**Pb**	**12 07 42.9**	**+3.7**
	1.0nm,0.2s						
BTLS				Lg	Lg	12 08 50.4	
	4.4nm,0.6s						

IDC 22 12:07:18.9±2.2,2.65N×126.15E,h0km,mb3.4/3,
mb1 3.6/3,mb1mx3.3/41,mbtmp3.4/3,MS3.2/1,Ms1 3.2/1,
ms1mx2.4/28,Error ellipse: s-maj=179.4km
s-min=28.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.85**	**161**	P	P	12 12 34.1	-0.1
	0.9nm,0.7s,baz=340,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**27.23**	**164**	P	P	12 13 05.3	+0.5
	0.2nm,0.5s,baz=344,slow=7.7,SNR=1.9						
ASAJ	**Asahikawa**	**43.78**	**17**	LR	LR	12 32 00.2	
	comp=Z,34nm,21.8s,baz=165,slow=34						
MKAR	**Makanchi Array**	**58.11**	**326**	P	P	12 17 14.0	-0.4
	0.3nm,0.5s,baz=113,slow=7.4,SNR=2.5						

*IDC **22** 12:07:22.0±0.8,19.27S×173.49W,h0km,mb4.1/13,*
mb1 4.4/13,mb1mx4.2/44,mbtmp4.2/13,MS3.6/4,
Ms1 3.6/4,ms1mx3.2/32,Error ellipse: s-maj=28.4km
s-min=18.9km az=137.0
*NEIC **22** 12:07:24.2±1.2,19.20S±0.08×173.6W±0.2,h10km±1km,*
mb4.7/15,Error ellipse: s-maj=26.6km s-min=13.9km
az=85.0
ISC 22 12:07:26.1±0.6,19.02S±0.10×173.5W±0.1,h28km,n48,
σ1§48/44,mb4.5/18,MS3.5/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.34**	**91**		Pn	12 08 06.2	-10
AFI	**Afiamalu**	**5.33**	**18**		**Pn**	**12 08 42.3**	**-1.7**
AFI					**Sn**	**12 09 41.2**	**-3.4**
DZM	**Mont Dzumac**	**19.07**	**257**	P	**Pn**	**12 11 47.9**	**+0.4**
	0.4nm,0.3s,baz=87,slow=20,SNR=6.4						
DZM	**Mont Dzumac**	**19.07**	**257**	*e*LR	LR	12 16 27.2	
	comp=Z,213nm,21.4s						
URZ	**Urewera**	**20.86**	**201**	P	**P**	**12 12 04.2**	**-1.5**
	6.6nm,0.4s,baz=63,slow=2.3,SNR=9.1						
BKZ	**Black Stump Fm**	**21.88**	**201**	P	**P**	**12 12 14.7**	**-2.2**
PPT2	**Papeete2**	**22.71**	**90**	*e*S	S	12 16 13.9	-19
	28nm,23.6s						
PPT2				*e*LR	LR	12 17 35.2	
	comp=Z,140nm,20.8s						
PPT	**Papeete**	**22.71**	**90**	LR	LR	12 19 29.5	
	comp=Z,212nm,18.7s,baz=258,slow=32						
TBI	**Tubuai**	**22.77**	**105**	*e*LR	LR	12 17 22.9	
	comp=Z,147nm,29.8s						
TUWZ	**Tuamarina**	**24.79**	**203**	P	**P**	**12 12 43.6**	**-2.1**
RPZ	**Rata Peaks**	**27.85**	**204**	P	**P**	**12 13 17.2**	**+3.9**
	14nm,0.6s,baz=298,slow=1.3,SNR=16						
CAN	**Canberra**	**36.88**	**236**	P	**P**	**12 14 31.6**	**-0.9**
CAN				IAmb	IAmb	12 14 56.2	
	comp=Z,16nm,1.3s						
CTA	**Charters Tower**	**37.92**	**262**	P	**P**	**12 14 40.5**	**-0.9**
	comp=Z,8.1nm,0.7s,baz=85,slow=11,SNR=9.6						
CTAO	**Charters Tower**	**37.92**	**262**	P	**P**	**12 14 40.2**	**-1.1**
CTAO				IAmb	IAmb	12 14 41.8	
	comp=Z,12nm,0.8s						
TOO	**Toolangi**	**40.22**	**234**	P	**P**	**12 14 59.6**	**-0.9**
TOO				IAmb	IAmb	12 14 59.7	
	comp=Z,8.5nm,0.9s						
STKA	**Stephens Creek**	**42.28**	**243**	P	**P**	**12 15 15.9**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=90,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**42.28**	**243**	P	**P**	**12 15 17.1**	**-0.3**
AS31	**Alice Springs**	**49.03**	**255**	P	**P**	**12 16 10.1**	**-0.9**
ASAR	**Alice Springs**	**49.03**	**255**	P	**P**	**12 16 09.4**	**-1.5**
	comp=Z,11nm,0.9s,baz=88,slow=8.4,SNR=89						
ASAR	**Alice Springs**	**49.03**	**255**	P	**P**	**12 16 09.7**	**-1.3**
WRA	**Warramunga Arr**	**49.06**	**260**	P	**P**	**12 16 10.0**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=96,slow=6.6,SNR=13						
WRA				PcP	**PcP**	**12 17 34.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=97,slow=3.3,SNR=1.2						
MTN	**Manton Dam**	**53.46**	**268**	P	**P**	**12 16 44.1**	**-0.2**
MTN				IAmb	IAmb	12 16 44.4	
	comp=Z,8.4nm,0.8s						
FORT	**Forrest**	**53.80**	**245**	P	**P**	**12 16 45.9**	**-0.7**
KNRA	**Kununurra**	**55.05**	**264**	P	**P**	**12 16 56.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**57.48**	**260**	P	**P**	**12 17 12.2**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=110,slow=5.7,SNR=2.9						
FITZ	**Fitzroy Crossi**	**57.48**	**260**	P	**P**	**12 17 12.4**	**-0.8**
FITZ				IAmb	IAmb	12 17 15.4	
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**59.79**	**186**	LR	LR	12 39 12.0	
	comp=Z,27nm,20.2s,baz=35,slow=32						
QSPA	**South Pole Qui**	**71.04**	**180**	P	**P**	**12 18 39.9**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=353,slow=0.7,SNR=8.0						
QSPA	**South Pole Qui**	**71.04**	**180**	P	**P**	**12 18 40.7**	**-0.7**
MJAR	**Matsushiro Arr**	**71.68**	**321**	P	**P**	**12 18 47.2**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=167,slow=6.5,SNR=4.2						
MJAR				LR	LR	12 46 02.2	
	comp=Z,35nm,21.1s,baz=195,slow=32						
MJAR	**Matsushiro Arr**	**71.68**	**321**	P	**P**	**12 18 47.8**	**+2.3**
NVAR	**Mina Array Bea**	**77.05**	**41**	P	**P**	**12 19 18.2**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=233,slow=8.9,SNR=5.7						
NVAR	**Mina Array Bea**	**77.05**	**41**	P	**P**	**12 19 17.4**	**+0.3**
KSM	**Kuching**	**77.48**	**276**	P	**P**	**12 19 20.3**	**+0.5**
KSM				IAmb	IAmb	12 19 22.3	
	comp=Z,10nm,1.0s						
USRK	**Ussuriysk Ar.**	**80.24**	**324**	LR	LR	12 50 37.0	
	comp=Z,71nm,20.8s,baz=119,slow=32						
TXAR	**Lajitas Array**	**82.67**	**56**	P	**P**	**12 19 47.7**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=243,slow=6.0,SNR=2.6						
MAW	**Mawson**	**84.36**	**199**	P	**P**	**12 19 55.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=135,slow=11,SNR=2.2						
MAW	**Mawson**	**84.36**	**199**	P	**P**	**12 19 55.6**	**+0.2**
WRH	**Wood River Hil**	**85.50**	**11**	P	**P**	**12 20 02.9**	**+1.9**
CCB	**Clear Creek Bu**	**85.71**	**11**	P	**P**	**12 20 04.0**	**+1.9**
CCB				IAmb	IAmb	12 20 06.2	
	comp=Z,3.8nm,1.0s						
ILAR	**Eielson Array**	**85.99**	**11**	P	**P**	**12 20 05.0**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=223,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**85.99**	**11**	P	**P**	**12 20 05.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**12 20 42.7**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=107,slow=3.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**12 20 41.4**	**+0.6**
CLL	**Collm**	**147.38**	**352**	*e*PKPbc	**PKiKP**	**12 27 10.0**	**+0.6**
BRTR	**Keskin Array B**	**148.85**	**317**	PKPbc	**PKPbc**	**12 27 12.4**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=90,slow=4.9,SNR=5.3						
BRTR	**Keskin Array B**	**148.85**	**317**	PKPdf	**PKPdf**	**12 27 08.3**	**+0.6**
BRTR					**PKiKP**	**12 27 13.2**	**+0.3**
GERES	**GERESS Array B**	**149.69**	**351**	PKPbc	**PKiKP**	**12 27 14.8**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=35,slow=3.6,SNR=1.5						

*IDC **22** 12:10:38.4±0.6,1.50N×126.33E,h0km,mb4.2/14,*
mb1 4.3/15,mb1mx4.1/40,mbtmp4.2/15,ML4.2/1,MS3.3/6,
Ms1 3.3/6,ms1mx2.9/35,Error ellipse: s-maj=31.6km
s-min=13.2km az=78.0
*DJA **22** 12:10:41.4±0.3,2°N±3°×12°6E±°,h10km,M4.2/12,*
mb4.5/12,mB4.8/4,MLv4.2/12,Mw(mB)4.1/4
*NEIC **22** 12:10:43.4±1.5,1.42N±0.07×126.49E±0.06,h33km±3km,*
mb4.6/27,Error ellipse: s-maj=11.2km s-min=7.3km
az=214.0
ISC 22 12:10:40.6±0.4,1.43N±0.05×126.50E±0.05,h10km,n76,
σ1§52/76,mb4.5/30,MS3.3/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.08**	**127**	P	**Pn**	**12 11 02.1**	**+0.2**
TNTI	**Ternate**	**1.08**	**127**		**Pn**	**12 11 02.0**	**+0.2**
TNTI				Sn	**Sn**	**12 11 16.6**	**-0.4**
SGSI	**Sangihe**	**2.44**	**337**	P	**Pn**	**12 11 19.4**	**-1.2**
KMSI	**Cibinong**	**2.66**	**251**	P	**Pn**	**12 11 23.7**	**+0.1**
SANI	**Sanana**	**3.50**	**188**	P	**Pn**	**12 11 35.9**	**+0.8**
GTOI	**Gorontalo**	**3.58**	**257**	P	**Pn**	**12 11 36.7**	**+0.5**
LUWI	**Luwuk**	**4.47**	**237**	P	**Pn**	**12 11 50.2**	**+1.7**
LUWI	**Luwuk**	**4.47**	**237**	Pn	**Pn**	**12 11 48.8**	**+0.3**
LUWI					**Pn**	**12 11 49.9**	**+1.4**
NLAI	**Namlea**	**4.68**	**173**	P	**Pn**	**12 11 53.6**	**+2.3**
SIJI	**Sorong**	**5.28**	**116**	LR	LR	12 14 18.6	
	comp=Z,221nm,19.3s,baz=262,slow=40						
APSI	**Ampana**	**5.38**	**244**	P	**Pn**	**12 12 02.9**	**+1.9**
	0.4nm978nm77nm,0.5s						
MPSI	**Mapaga**	**6.69**	**261**	P	**Pn**	**12 12 21.0**	**+1.9**
	0.1nm25nm,0.7s						
FAKI	**Fak Fak**	**7.19**	**127**	P	**Pn**	**12 12 29.2**	**+3.3**
	0.1nm41nm,1.1s						
FAKI	**Fak Fak**	**7.19**	**127**	Pn	**Pn**	**12 12 25.4**	**-0.4**
TTSI	**Tana Toraja**	**8.03**	**236**	P	**Pn**	**12 12 38.3**	**+0.9**
	789nm32nm,1.1s						
SPSI	**Sidrap Palu**	**8.60**	**231**	P	**Pn**	**12 12 47.6**	**+2.3**
	767nm14nm,0.5s						
MYLDM	**Lahad Datu**	**8.81**	**295**	Pn	**Pn**	**12 12 48.4**	**+0.2**
MYLDM				Sn	**Sn**	**12 14 26.7**	**-1.0**
EDFI	**Ende, Flores**	**11.19**	**205**	P	**Pn**	**12 13 22.3**	**+1.4**
	5.8nm,0.7s						
KKM	**Kota Kinabalu**	**11.24**	**294**	Pn	**Pn**	**12 13 23.9**	**+2.3**
SOEI	**Soe**	**11.33**	**191**	Pn	**Pn**	**12 13 19.7**	**-3.1**
BATI	**Baumata**	**11.90**	**194**	LR	LR	12 18 08.3	
	comp=Z,104nm,19.0s,baz=201,slow=38						
TWSI	**Taliwang, Sumb**	**13.93**	**223**	P	**P**	**12 14 06.9**	**+0.5**
SBUM	**Sibu**	**14.31**	**274**	Pn	**Pn**	**12 14 00.9**	**-2.6**
MTN	**Manton Dam**	**14.91**	**162**	Pn	**Pn**	**12 14 10.4**	**-1.2**
JAGI	**Jajag, Banyuwa**	**15.76**	**231**	P	**P**	**12 14 26.7**	**-0.1**
	32nm,0.9s						
KSM	**Kuching**	**16.19**	**270**	Pn	**Pn**	**12 14 24.7**	**-3.7**
GMJI	**Gumukmas**	**16.20**	**233**	P	**P**	**12 14 35.3**	**+3.6**
KNRA	**Kununurra**	**17.14**	**173**		**P**	**12 14 42.2**	**+0.1**
KNRA				IAmb	IAmb	12 14 45.2	
	comp=Z,53nm,1.3s						
SMRI	**Semarang**	**18.11**	**242**	P	**Pn**	**12 14 50.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**19.43**	**182**	P	**P**	**12 15 06.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=14,slow=9.9,SNR=16						
FITZ	**Fitzroy Crossi**	**19.43**	**182**	P	**P**	**12 15 07.1**	**-0.2**
LEM	**Lembang**	**20.56**	**246**	LR	LR	12 24 38.3	
	comp=Z,91nm,20.1s,baz=358,slow=41						
WRAB	**Tennant Creek**	**22.58**	**160**	P	**P**	**12 15 41.4**	**0.0**
WRAB				IAmb	IAmb	12 15 43.0	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**22.59**	**160**	P	**P**	**12 15 40.6**	**-0.8**
	comp=Z,13nm,0.6s,baz=340,slow=11,SNR=103						
WRA				PcP	**PcP**	**12 19 34.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=326,slow=2.2,SNR=1.8						
WRA				S	**S**	**12 19 49.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=336,slow=16,SNR=4.7						
PMG	**Port Moresby**	**23.22**	**118**	LR	LR	12 25 33.9	
	comp=Z,70nm,21.5s,baz=254,slow=38						
PSA00	**Pilbara Seismi**	**23.77**	**196**	P	**P**	**12 15 53.1**	**-0.4**
PSA00				IAmb	IAmb	12 16 14.8	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**25.96**	**164**	P	**P**	**12 16 14.1**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=344,slow=8.5,SNR=20						
ASAR				PcP	**PcP**	**12 19 41.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=344,slow=2.0,SNR=3.1						
KRVT	**Keravat (AS076**	**26.13**	**103**	P	**P**	**12 16 15.5**	**+0.3**
	comp=Z,13nm,0.4s,baz=303,slow=7.7,SNR=5.3						
NJ2	**Nanjing**	**31.30**	**347**	*e*P	**P**	**12 17 04.4**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MORW	**Morawa**	**31.94**	**197**	P	**P**	**12 17 06.3**	**-0.4**
MORW				IAmb	IAmb	12 17 24.2	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**35.23**	**166**	P	**P**	**12 17 34.9**	**-0.5**
BBOO				IAmb	IAmb	12 17 58.7	
	comp=Z,13nm,1.1s						
NWAO	**Narrogin (SRO)**	**35.28**	**194**	P	**P**	**12 17 35.5**	**-0.2**
	comp=Z,13nm,1.1s,baz=32,slow=11,SNR=2.4						
NWAO	**Narrogin (SRO)**	**35.28**	**194**	P	**P**	**12 17 35.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.28**	**194**	P	**P**	**12 17 35.6**	**-0.2**
NWAO				IAmb	IAmb	12 17 36.4	
	comp=Z,32nm,1.4s						
EIDS	**Eidsvold**	**35.72**	**140**	P	**P**	**12 17 39.4**	**-0.2**
EIDS				IAmb	IAmb	12 17 58.4	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**36.09**	**158**	P	**P**	**12 17 43.4**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=332,slow=8.9,SNR=8.6						
STKA	**Stephens Creek**	**36.09**	**158**	P	**P**	**12 17 43.2**	**+0.5**
JMM	**Marumori**	**38.57**	**18**	P	**P**	**12 18 04.6**	**+1.0**
ARMA	**Armidale**	**39.70**	**145**	P	**P**	**12 18 15.9**	**+2.4**
ARMA				IAmb	IAmb	12 18 39.2	
	comp=Z,15nm,1.2s						
LZH	**Lanzhou**	**40.38**	**331**

CASY	**Casey**	**25.07 236**	P	**P**	**12 19 57.4**	**-1.2**
CASY			IAmb	IAmb	12 20 03.2	
	comp=Z,20nm,1.4s					
URZ	**Urewera**	**25.08 12**	LR	LR	12 27 34.0	
	comp=Z,189nm,20.7s,baz=209,slow=31					
MAW	**Mawson**	**39.78 215**	P	**P**	**12 22 09.5**	**+2.5**
	comp=Z,2.6nm,1.0s,baz=115,slow=7.9,SNR=4.1					
MAW			LR	LR	12 37 59.4	
	comp=Z,51nm,19.0s,baz=100,slow=35					
MAW	**Mawson**	**39.78 215**	P	**P**	**12 22 08.4**	**+1.5**
EIDS	**Eidsvold**	**39.80 332**	P	**P**	**12 22 07.9**	**+0.3**
EIDS			IAmb	IAmb	12 22 08.5	
	comp=Z,11nm,1.1s					
SYO	**Syowa Base**	**43.78 203**‖*eX*		**P**	**12 22 35.0**	**-4.6**
SYO	**Syowa Base**	**43.78 203**‖*epP*		**P**	**12 22 38.9**	**-0.7**
H01W1	**Cape Leeuwin H**	**44.44 282**	T	T	13 10 35.0	
	baz=147,slow=76,SNR=19					
H01W2	**Cape Leeuwin H**	**44.45 282**	T	T	13 10 32.5	
	baz=147,slow=76,SNR=21					
H01W3	**Cape Leeuwin H**	**44.46 282**	T	T	13 10 37.5	
	baz=147,slow=76,SNR=21					
NWAO	**Narrogin (SRO)**	**44.74 286**	P	**P**	**12 22 47.1**	**-0.7**
NWAO			IAmb	IAmb	12 23 04.5	
	comp=Z,20nm,1.1s					
SNAA	**Sanae**	**45.53 183**	P	**P**	**12 22 53.8**	**+0.1**
NIUE	**Niue**	**45.89 26**	P	**P**	**12 22 56.6**	**-0.3**
CTAO	**Charters Tower**	**46.01 327**	P	**P**	**12 22 57.3**	**-0.6**
ASAR	**Alice Springs**	**46.32 311**	P	**P**	**12 23 02.4**	**+1.9**
	comp=Z,1.2nm,1.0s,baz=151,slow=8.5,SNR=4.6					
ASAR			LR	LR	12 40 22.3	
	comp=Z,78nm,21.1s,baz=124,slow=33					
ASAR	**Alice Springs**	**46.32 311**	P	**P**	**12 23 00.9**	**+0.5**
WRA	**Warramunga Arr**	**49.62 313**	LR	LR	12 42 51.4	
	comp=Z,168nm,18.2s,baz=225,slow=34					
H03S2	**Juan Fernandez**	**68.87 123**	T	T	13 41 22.1	
	baz=205,slow=74,SNR=12					
H03S1	**Juan Fernandez**	**68.88 123**	T	T	13 41 24.5	
	baz=205,slow=74,SNR=10					
H03S3	**Juan Fernandez**	**68.89 123**	T	T	13 41 24.2	
	baz=205,slow=74,SNR=11					
H08S2	**Diego Garcia H**	**86.93 259**	T	T	14 03 46.0	
	baz=154					
H08S1	**Diego Carcia H**	**86.94 259**	T	T	14 03 45.3	
	baz=154					
H08S3	**Diego Garcia H**	**86.95 259**	T	T	14 03 46.6	
	baz=154					
LPAZ	**La Paz**	**88.82 125**	P	**P**	**12 27 31.1**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=180,slow=4.0,SNR=5.3					
LPAZ	**La Paz**	**88.82 125**	P	**P**	**12 27 29.4**	**-0.1**
LPAZ			IAmb	IAmb	12 27 32.5	
	comp=Z,6.9nm,1.4s					
KBZ	**Khabaz**	**144.62 262**	PKP	**PKPdf**	**12 34 09.9**	**-0.3**
	comp=Z,3.7nm,1.0s,baz=146,slow=3.6,SNR=4.3					
BRTR	**Keskin Array B**	**145.46 248**	PKPbc	**PKPab**	**12 34 12.1**	**-0.2**
	comp=Z,3.7nm,1.1s,baz=144,slow=5.2,SNR=7.8					
BRTR	**Keskin Array B**	**145.46 248**		**PKPbc**	**12 34 11.6**	**-0.5**

WEL 22 12:21:02.9,44°S±1°×17°3E±°,h10km±2km,M2.5/7,ML2.6/7, MLv2.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=115.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.08**	**138**	P	Pg	12 21 06.4	+1.0
MQZ				S	Sg	12 21 08.1	+1.0
RACZ	**Rakaia**	**0.33**	**255**	P	Pb	12 21 11.3	+0.5
RACZ				S	Sb	12 21 16.4	+0.3
AKCZ	**Akaroa Harbour**	**0.33**	**133**	P	Pb	12 21 11.1	+0.2
AKCZ				S	Sb	12 21 15.9	-0.4
OKCZ	**Okains Bay**	**0.36**	**103**	P	Pb	12 21 11.5	+0.1
OKCZ				S	Sb	12 21 17.0	-0.1
AMCZ	**Amberley**	**0.47**	**7**	P	Pb	12 21 13.4	+0.2
WACZ	**Wakanui South**	**0.61**	**241**	P	Pn	12 21 16.9	-0.7
WACZ				S	Sn	12 21 25.9	-1.6
GVZ	**Greta Valley S**	**0.76**	**26**	P	Pb	12 21 18.9	+0.7
GVZ				S	Sb	12 21 29.5	+1.0
LTZ	**Lake Taylor**	**0.89**	**345**	P	Pn	12 21 21.0	-0.5
LTZ				S	Sb	12 21 33.2	+0.8
ARCZ	**Arundel**	**1.06**	**253**	P	Pn	12 21 24.6	+0.8
ARCZ				S	Sn	12 21 38.1	-0.4
RPZ	**Rata Peaks**	**1.11**	**266**	P	Pn	12 21 25.4	+1.0
RPZ				S	Sn	12 21 40.2	+0.4
INZ	**Inchbonnie**	**1.24**	**318**	P	Pg	12 21 27.6	+0.9
ODZ	**Otahua Downs**	**1.97**	**224**	P	Pn	12 21 36.8	+0.5
DSZ	**Denniston Nort**	**1.98**	**343**	P	Pb	12 21 38.5	-0.5

*IDC **22** 12:37:25.3±0.9,55°.35S×28°.17W,h0km,mb4.0/5, mb1 4.1/6,mb1mx4.0/21,mbtmp4.0/6,ML4.2/1,Error ellipse: s-maj=39.9km s-min=19.0km az=67.0*
*NEIC **22** 12:37:27.0±1.9,55°.3S±0°.1×27°.9W±0°.2,h10km±1km, mb4.4/12,Error ellipse: s-maj=26.0km s-min=18.7km az=39.0*

ISC 22 12:37:29.3±0.7,55°.3S±0°.1×28°.0W±0°.1,h26km,n28, σ1s06/28,mb4.3/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.00**	**279**	Pn	**Pn**	**12 38 42.6**	**+0.1**
VNA1	**Neumayer--Stat**	**17.65**	**158**	P	**P**	**12 41 35.0**	**+1.3**
VNA3	**Neumayer Olymp**	**17.83**	**161**	P	**Pn**	**12 41 34.7**	**-0.6**
VNA2	**Neumayer--Watz**	**18.04**	**158**	P	**Pn**	**12 41 37.0**	**-0.8**
	baz=315,slow=12						
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**12 41 54.4**	**-0.8**
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**12 41 54.0**	**-1.2**
	0.7nm,0.3s,baz=309,slow=11,SNR=11						
SNAA	**Sanae**	**19.60**	**156**	P	**Pn**	**12 41 55.6**	**-1.1**
PMSA	**Palmer Station**	**20.02**	**227**	P	**Pn**	**12 42 01.9**	**+0.3**
PMSA				IAmb	IAmb	12 42 05.4	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**12 44 17.9**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=96,slow=2.8,SNR=18						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**12 44 18.3**	**-0.3**
QSPA				IAmb	IAmb	12 44 30.9	
	comp=Z,7.5nm,1.2s						
CPUP	**Villa Florida**	**35.97**	**312**	P	**P**	**12 44 26.4**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=150,slow=5.3,SNR=2.9						
CPUP	**Villa Florida**	**35.97**	**312**	P	**P**	**12 44 26.7**	**-1.0**
CPUP				IAmb	IAmb	12 44 28.2	
	comp=Z,3.4nm,1.1s						
MAW	**Mawson**	**41.02**	**144**	P	**P**	**12 45 11.3**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=256,slow=14,SNR=4.1						
MAW	**Mawson**	**41.02**	**144**	P	**P**	**12 45 12.0**	**+2.4**
GO01	**Chusmiza**	**47.15**	**302**	P	**P**	**12 46 01.5**	**+1.6**
VNDA	**Vanda**	**47.27**	**183**	P	**P**	**12 45 59.0**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=189,slow=5.6,SNR=18						
VNDA	**Vanda**	**47.27**	**183**	P	**P**	**12 45 59.9**	**+0.2**
VNDA				IAmb	IAmb	12 46 00.5	
	comp=Z,2.7nm,0.8s						
PSGCX	**Pisagua**	**47.67**	**301**	P	**P**	**12 46 04.0**	**+0.5**
MNMC	**Minye Minye**	**47.81**	**302**	P	**P**	**12 46 06.0**	**+1.2**
MNMC				IAmb	IAmb	12 46 06.6	
	comp=Z,5.1nm,0.8s						
PB16	**IPOC Station P**	**48.45**	**303**	P	**P**	**12 46 11.3**	**+1.3**
PB16				IAmb	IAmb	12 46 30.1	
	comp=Z,9.7nm,1.5s						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**12 46 19.1**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=171,slow=9.0,SNR=6.2						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**12 46 20.3**	**+1.6**
LPAZ				IAmb	IAmb	12 46 33.8	
	comp=Z,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**12 48 55.0**	**+0.4**
	comp=Z,88nm,0.7s,baz=214,slow=5.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**12 48 54.0**	**-0.5**
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	**PKPbc**	**12 57 13.8**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=98,slow=1.2,SNR=18						
ILAR	**Eielson Array**	**149.27**	**313**		**PKiKP**	**12 57 14.5**	**-0.7**
SONM	**Songino Array**	**151.16**	**86**	PKPbc	**PKPbc**	**12 57 18.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=176,slow=2.7,SNR=4.8						
SONM	**Songino Array**	**151.16**	**86**		**PKPbc**	**12 57 19.1**	**-0.2**

*LDG **22** 12:38:02.5±0.0,44°.51N×6°.74E,h4km,Md2.4/2,Ml2.6/20, Error ellipse: s-maj=1.0km s-min=0.7km az=56.0*
*GEN **22** 12:38:02.1,44°.50N×6°.72E,h1km±2km,Ml1.8*
*ROM **22** 12:38:02.0±0.3,44°.502N±0°.007×6°.74E±0°.01,h10km±1km, ML2.0/4,Error ellipse: s-maj=0.9km s-min=0.6km az=45.0*
*STR **22** 12:38:02.2±0.6,45°N±2°×°±°,h0km±4km,MLv2.1/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ISC 22 12:38:02.6±0.8,44°.52N±0°.02×6°.75E±0°.02,h15km±5km,

n48,σ1s27/97,1C,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.06**	**132**	Pg	**Pg**	**12 38 04.1**	**-1.7**
SURF				Sg	**Sg**	**12 38 04.9**	**-3.0**
OGAG	**Argentiere**	**0.16**	**247**	Pg	**Pg**	**12 38 08.5**	**+1.7**
OGAG				Sg	**Sg**	**12 38 13.0**	**+3.3**
MBDF	**Montbardon**	**0.21**	**4**	*e*Pg	**Pg**	**12 38 06.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**12 38 10.3**	**-0.6**
	93nm,0.2s						
PZZ	**Stroppo**	**0.26**	**93**	P	**Pg**	**12 38 07.9**	**-0.5**
PZZ				S	**Sg**	**12 38 11.9**	**-0.4**
PZZ	**Stroppo**	**0.26**	**93**	‖P	**Pg**	**12 38 07.9**	**-0.5**
PZZ				S	**Sg**	**12 38 12.0**	**-0.3**
PZZ				AML	AML		
	comp=E,1575μm,0.2s						
PZZ				AML	AML		
	comp=N,1365μm,1.2s						
DOI	**San Damiano**	**0.35**	**92**	P	**Pg**	**12 38 09.4**	**-0.5**
DOI				S	**Sg**	**12 38 15.2**	**+0.3**
DOI				AML	AML		
	comp=E,347μm,0.4s						
DOI				AML	AML		
	comp=N,458μm,1.5s						
DOI				AML	AML		
	comp=N,459μm,1.5s						
ISO	**Isola**	**0.40**	**147**	Pg	**Pg**	**12 38 10.0**	**-0.7**
ISO				Sg	**Sg**	**12 38 15.4**	**-0.8**
RRL	**Rocca Remolon**	**0.40**	**4**	P	**Pg**	**12 38 10.6**	**-0.2**
RRL				S	**Sg**	**12 38 17.1**	**+0.6**
RRL	**Rocca Remolon**	**0.40**	**4**	P	**Pg**	**12 38 10.6**	**-0.2**
RRL				S	**Sb**	**12 38 17.4**	**-0.3**
RRL				AML	AML		
	comp=E,150μm,1.6s						
RRL				AML	AML		
	comp=N,178μm,0.4s						
RRL				AML	AML		
	comp=N,177μm,0.4s						
RRL				AML	AML		
	comp=E,150μm,1.6s						
BHB	**Bricherasio**	**0.49**	**48**	P	**Pg**	**12 38 12.0**	**-0.4**
BHB				S	**Sg**	**12 38 19.4**	**+0.6**
BHB	**Bricherasio**	**0.49**	**48**	P	**Pg**	**12 38 11.9**	**-0.4**
BHB				S	**Sb**	**12 38 19.8**	**0.0**
BHB				AML	AML		
	comp=E,213μm,0.7s						
BHB				AML	AML		
	comp=N,233μm,1.1s						
STV	**Sant Anna di V**	**0.49**	**124**	P	**Pg**	**12 38 12.0**	**-0.5**
STV				S	**Sg**	**12 38 19.0**	**-0.1**
STV	**Sant Anna di V**	**0.49**	**124**	P	**Pg**	**12 38 12.0**	**-0.5**
STV				S	**Sg**	**12 38 19.0**	**-0.1**
OGDI	**Digne**	**0.52**	**218**	Pg	**Pb**	**12 38 14.3**	**+0.8**
BNI	**Bardonecchia**	**0.54**	**354**	P	**Pg**	**12 38 13.3**	**+0.1**
BNI				S	**Sb**	**12 38 21.4**	**+0.1**
ENR	**Entracque**	**0.56**	**121**	P	**Pg**	**12 38 13.1**	**-0.6**
ENR				S	**Sg**	**12 38 21.2**	**0.0**
ENR	**Entracque**	**0.56**	**121**	P	**Pg**	**12 38 13.1**	**-0.6**
ENR				S	**Sg**	**12 38 21.4**	**+0.1**
TURF	**col de Turini**	**0.71**	**140**	Pg	**Pg**	**12 38 16.1**	**-0.4**
TURF				Sg	**Sg**	**12 38 25.7**	**-0.3**
ORIF	**Oris-en-Rattie**	**0.74**	**303**	*e*Pg	**Pg**	**12 38 16.0**	**-1.0**
ORIF				*e*Sg	**Sg**	**12 38 26.1**	**-0.7**
	comp=N,61nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.74**	**303**	P	**Pg**	**12 38 16.3**	**-0.8**
ORIF				S	**Sg**	**12 38 26.1**	**-0.7**
ORIF				AML	AML		
	comp=E,135μm,0.9s						
ORIF				AML	AML		
	comp=N,112μm,0.9s						
SAOF	**Saorge**	**0.79**	**132**	Pg	**Pg**	**12 38 17.5**	**-0.4**
SAOF				Sg	**Sg**	**12 38 27.7**	**-0.6**
GDM	**Grand'Maison**	**0.82**	**327**	Pg	**Pg**	**12 38 18.0**	**-0.6**
GDM				Sg	**Sg**	**12 38 28.9**	**-0.5**
SBF	**Sospel**	**0.82**	**143**	*e*Pg	**Pg**	**12 38 18.1**	**-0.5**
SBF				*e*Sg	**Sg**	**12 38 28.4**	**-1.0**
	comp=N,21nm,0.2s						
SBF				*e*Sn	**Sb**	**12 38 31.1**	**+1.7**
	comp=N,68nm,0.3s						
ESCA	**l'Escarene**	**0.82**	**147**	Pg	**Pg**	**12 38 18.2**	**-0.4**
ESCA				Sg	**Sg**	**12 38 29.5**	**+0.1**
GBOS	**Grotte di Boss**	**0.83**	**109**	P	**Pg**	**12 38 18.1**	**-0.6**
GBOS				S	**Sg**	**12 38 29.5**	**-0.2**
MGRO	**Montegrosso**	**0.90**	**122**	P	**Pg**	**12 38 19.3**	**-0.7**
MGRO				S	**Sg**	**12 38 31.4**	**-0.4**
FRF	**La Foret Royal**	**0.96**	**185**	*e*Pg	**Pg**	**12 38 20.7**	**-0.5**
FRF				*e*Sg	**Sg**	**12 38 32.7**	**-1.1**
	comp=N,15nm,0.2s						
FRF				*e*Sn	**Sb**	**12 38 34.4**	**+0.9**
	comp=N,73nm,0.2s						
LPG	**La Plagne**	**0.98**	**360**	*e*Pg	**Pg**	**12 38 21.3**	**-0.3**
LPG				*e*Sg	**Sg**	**12 38 33.9**	**-0.6**
	comp=N,17nm,0.2s						
LPL	**La Plagne**	**1.00**	**359**	*e*Pg	**Pg**	**12 38 21.5**	**-0.4**
LPL				*e*Sg	**Sg**	**12 38 34.3**	**-0.7**
	comp=N,21nm,0.4s						
SMRF	**Simiane la Rot**	**1.01**	**238**	*e*Pg	**Pb**	**12 38 21.9**	**+0.2**
SMRF				*e*Sg	**Sb**	**12 38 35.2**	**+0.4**
	comp=N,23nm,0.3s						
RUSF	**Rustrel**	**1.08**	**238**	Pg	**Pn**	**12 38 24.1**	**+1.0**
RUSF				Sg	**Sn**	**12 38 39.7**	**+1.8**
LMR	**La Mourre**	**1.20**	**188**	*e*Pg	**Pb**	**12 38 25.2**	**+0.2**
LMR				*e*Sg	**Sg**	**12 38 40.1**	**-1.2**
	comp=N,22nm,0.2s						
VIVF	**Saint-Julien-l**	**1.52**	**283**	*e*P	**Pn**	**12 38 30.4**	**+1.1**
VIVF				*e*Sn	**Sn**	**12 38 47.8**	**-1.0**
VIVF				*e*Sg	**Sb**	**12 38 50.4**	**+0.8**
	comp=N,16nm,0.2s						
OG35	**Corcelles**	**1.74**	**332**	Pg	**Pg**	**12 38 35.4**	**-0.6**
OG35				Sn	**Sn**	**12 38 56.5**	**+2.3**
LASF	**Ste Croix**	**2.12**	**259**	*e*P	**Pn**	**12 38 39.3**	**+1.7**
LASF	**Ste Croix**	**2.12**	**259**	*e*Pg	**Pg**	**12 38 43.2**	**-0.2**
LASF				*e*Sn	**Sn**	**12 39 02.0**	**-1.7**
	comp=N,1.3nm,0.2s						
CABF	**La Chapelle**	**2.14**	**348**	*e*P	**Pn**	**12 38 40.0**	**+2.1**
CABF				*e*Sn	**Sn**	**12 39 03.4**	**-0.8**
	comp=N,4.3nm,0.4s						
PGF	**Pioggiola**	**2.56**	**140**	*e*Pn	**Pn**	**12 38 43.5**	**-0.1**
PGF				*e*Sn	**Sn**	**12 39 13.3**	**-1.2**
	comp=N,6.0nm,0.2s						
SMF	**Signal de Mont**	**2.95**	**317**	*e*P	**Pn**	**12 38 51.5**	**+2.6**
SMF	**Signal de Mont**	**2.95**	**317**	*e*Pg	**Pg**	**12 38 57.8**	**-1.3**
SMF				*e*Sn	**Sn**	**12 39 22.2**	**-1.8**
SMF				*e*Sg	**Sg**	**12 39 35.7**	**-1.6**
	comp=N,4.5nm,0.3s						
AVF	**Avril sur Loir**	**3.29**	**315**	*e*P	**Pn**	**12 38 56.1**	**+2.5**
AVF	**Avril sur Loir**	**3.29**	**315**	*e*Pg	**Pg**	**12 39 03.9**	**-1.8**
AVF				*e*Sn	**Sn**	**12 39 30.8**	**-1.6**
AVF				*e*Sg	**Sg**	**12 39 46.5**	**-1.8**
	comp=N,3.3nm,0.4s						
SSF	**Saint Saulge**	**3.41**	**319**	*e*P	**Pn**	**12 38 57.5**	**+2.3**
SSF	**Saint Saulge**	**3.41**	**319**	*e*Pg	**Pg**	**12 39 06.8**	**-1.1**
SSF				*e*Sn	**Sn**	**12 39 34.1**	**-1.2**
SSF				*e*Sg	**Sg**	**12 39 48.9**	**-3.1**
	comp=N,1.4nm,0.2s						
LOR	**Lormes**	**3.41**	**325**	*e*P	**Pn**	**12 38 57.3**	**+2.1**
	baz=144						
LOR				*e*Sn	**Sn**	**12 39 34.0**	**-1.4**
	comp=N,2.1nm,0.2s,baz=144						
MTLF	**Montolieu**	**3.48**	**252**	*e*Pn	**Pn**	**12 38 55.3**	**-0.9**
MTLF				*e*Sn	**Sn**	**12 39 34.4**	**-2.7**
	comp=N,0.7nm,0.2s						
HAU	**Haudompre**	**3.50**	**356**	*e*P	**Pn**	**12 38 58.9**	**+2.5**
HAU				*e*Sn	**Sn**	**12 39 36.3**	**-1.2**
	comp=N,4.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.66**	**301**	*e*P	**Pn**	**12 39 01.1**	**+2.5**
TCF				*e*Sn	**Sn**	**12 39 39.7**	**-1.7**
	comp=N,1.7nm,0.3s						

*MOS **22** 12:38:20.1±1.1,55°.43S×28°.02W,h10km,mb5.1/11,Error ellipse: s-maj=20.4km s-min=12.4km az=122.8*
*NEIC **22** 12:38:21.5±1.1,55°.37S±0°.10×28°.0W±0°.1,h10km±1km, mb5.0/55,Error ellipse: s-maj=17.0km s-min=13.8km az=200.0*
*IDC **22** 12:38:25.3±1.9,55°.41S×27°.83W,h32km±13km,mb4.5/15, mb1 4.5/16,mb1mx4.4/22,mbtmp4.7/16,ML5.0/1,Error ellipse: s-maj=15.4km s-min=13.2km az=43.0*
*GCMT **22** 12:38:27.5±0.3,55°.31S±0°.02×27°.86W±0°.03,h19km±1km, MW5.0/78,Moment Tensor Solution. s30,c31; s78,c98; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.80±.21; Mθθ-0.56±.15; Mϕϕ-1.24±.14; Mrθ-1.32±.32; Mrϕ2.46±.10; Mθϕ3.35±.50; Best double couple: Mw4.53800×10^16^ NP1:ϕs106.00000°,δ25.00000°,λ38.00000°. NP2: ϕs340.00000°,δ75.00000°,λ111.00000°. Principal axes: T 3.9730, Plg56.0000°, Azm277.0000°; N 1.1340, Plg20.0000°, Azm155.0000°; P -5.1040, Plg27.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 12:38:23.9±0.3,55°.43S±0°.06×28°.02W±0°.06,h26km,n202, σ0s99/201,mb5.0/37,MS4.7/6,2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.03**	**280**	P	**Pn**	**12 39 37.0**	**-0.5**
HOPE						12 40 32.3	
HOPE	**Hope Point**	**5.03**	**280**	Pn	**Pn**	**12 39 37.0**	**-0.5**
HOPE				Sn	**Sn**	**12 40 32.3**	**-2.4**
VNA1	**Neumayer--Stat**	**17.55**	**158**	P	**P**	**12 42 28.5**	**+1.4**
VNA3	**Neumayer Olymp**	**17.73**	**160**	P	**P**	**12 42 29.3**	**0.0**
VNA2	**Neumayer--Watz**	**17.94**	**158**	P	**P**	**12 42 31.6**	**0.0**
	baz=315,slow=13						
EFI	**East Falkland**	**18.17**	**269**	*e*P	**Pn**	**12 42 34.6**	**+0.6**
EFI				pmax	pmax		
	comp=Z,99nm,1.2s						
EFI	**East Falkland**	**18.17**	**269**		**Pn**	**12 42 34.6**	**+0.6**
EFI				IAmb	IAmb	12 42 37.0	
	comp=Z,119nm,1.2s						
SNAA	**Sanae**	**19.50**	**156**	P	**Pn**	**12 42 48.8**	**-1.2**
SNAA	**Sanae**	**19.50**	**156**	P	**Pn**	**12 42 48.9**	**-1.2**
	comp=Z,4.2nm,0.3s,baz=297,slow=10,SNR=29						
SNAA				ScP	**ScP**	**12 50 41.4**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=301,slow=3.8,SNR=6.8						
SNAA	**Sanae**	**19.50**	**156**	P	**Pn**	**12 42 49.1**	**-0.9**
PMSA	**Palmer Station**	**19.96**	**228**	P	**Pn**	**12 42 56.9**	**+1.4**
	comp=Z,74nm,0.9s,baz=76,slow=9.3,SNR=16						
PMSA	**Palmer Station**	**19.96**	**228**	P	**P**	**12 42 54.6**	**+0.9**
PMSA				IAmb	IAmb	12 42 58.0	
	comp=Z,111nm,1.1s						
PMSA	**Palmer Station**	**19.96**	**228**	*e*P	**Pn**	**12 42 57.0**	**+1.6**
BELA	**Belgrano 2**	**22.66**	**184**	P	**P**	**12 43 23.0**	**+0.3**
NVL	**N'lazarevskaya**	**23.04**	**147**	*e*P	P	12 43 35.9	+9.3
NVL				pmax	pmax		
	comp=Z,13nm,0.9s						
GO09	**Cerro Castillo**	**26.43**	**260**	P	**P**	**12 43 56.9**	**-1.3**
PLTB	**Pedras Altas**	**29.73**	**312**	*e*P	**P**	**12 44 28.7**	**+0.8**
CNLB	**Canela**	**30.79**	**319**	*e*P	**P**	**12 44 37.7**	**+0.4**
CPSB	**Cacapava Do Su**	**30.85**	**314**	*e*P	**P**	**12 44 38.6**	**+0.9**
PLCA	**Paso Flores**	**31.43**	**280**	P	**P**	**12 44 43.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=172,slow=9.9,SNR=3.1						
PLCA	**Paso Flores**	**31.43**	**280**	*e*P	**P**	**12 44 43.3**	**+0.4**
PLCA	**Paso Flores**	**31.43**	**280**	P	**P**	**12 44 41.4**	**-1.5**
PLCA	**Paso Flores**	**31.43**	**280**	*e*P	**P**	**12 44 42.5**	**-0.4**
SYO	**Syowa Base**	**32.36**	**142**‖*ep*	P	**P**	**12 44 50.0**	**-0.6**
SYO	**Syowa Base**	**32.36**	**142**‖*es*	P	**P**	**12 44 52.5**	**+1.9**
ITAB	**Concordia**	**33.15**	**318**	*e*P	**P**	**12 44 58.2**	**+0.3**
MAN01	**Angra dos Reis**	**34.62**	**334**	*e*P	**P**	**12 45 12.3**	**+1.5**
QSPA	**South Pole Qui**	**34.82**	**180**	P	**P**	**12 45 12.9**	**+0.6**
	comp=Z,22nm,0.7s,baz=215,slow=3.9,SNR=27						
QSPA				ScP	**ScP**	**12 51 25.8**	**-2.3**
	comp=Z,1.1nm,0.8s,baz=153,slow=2.3,SNR=2.5						
QSPA	**South Pole Qui**	**34.82**	**180**	P	**P**	**12 45 12.5**	**+0.2**
VAO	**Valinhos**	**35.31**	**329**	*e*P	**P**	**12 45 17.6**	**+0.7**
PTGB	**Pitanga**	**35.41**	**320**	*e*P	**P**	**12 45 17.9**	**+0.3**
CPUP	**Villa Florida**	**36.05**	**312**	P	**P**	**12 45 22.9**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=150,slow=7.0,SNR=15						
CPUP				ScP	**ScP**	**12 51 32.9**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=200,slow=3.4,SNR=4.9						
CPUP	**Villa Florida**	**36.05**	**312**	P	**P**	**12 45 22.8**	**-0.2**
CPUP				IAmb	IAmb	12 45 24.1	
	comp=Z,41nm,1.4s						
CPUP	**Villa Florida**	**36.05**	**312**	*e*P	**P**	**12 45 23.0**	**0.0**
BSCB	**Bom Sucesso**	**36.61**	**333**	*e*P	**P**	**12 45 28.6**	**+0.6**
PEL	**Peldehue**	**36.99**	**289**	P	**P**	**12 45 31.3**	**+0.2**
PEL				pmax	pmax		
	comp=Z,35nm,0.9s						
PEL	**Peldehue**	**36.99**	**289**	P	**P**	**12 45 31.3**	**+0.2**
MT02	**Curacav**	**37.15**	**288**	P	**P**	**12 45 32.6**	**+0.3**
MT02				IAmb	IAmb	12 45 34.5	
	comp=Z,22nm,1.1s						
ZON	**Zonda**	**37.16**	**293**	P	**P**	**12 45 31.7**	**-0.8**
ZON				pmax	pmax		
	comp=Z,17nm,0.7s						
ZON	**Zonda**	**37.16**	**293**	P	**P**	**12 45 31.7**	**-0.8**
ZON				IAmb	IAmb	12 45 44.0	
	comp=Z,17nm,0.7s						
VA03	**San Esteban**	**37.21**	**290**	P	**P**	**12 45 32.7**	**-0.3**
VA03				IAmb	IAmb	12 45 43.7	
	comp=Z,39nm,1.2s						
RIB01	**Linhares ES**	**37.26**	**340**	*e*P	**P**	**12 45 33.7**	**+0.4**
TRCB	**Terra Rica**	**37.37**	**321**	*e

VNDA	**Vanda**	**47.17**	**183**	P	**P**	**12 46 54.6**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,15nm,0.8s						
VNDA	**Vanda**	**47.17**	**183**	P	**P**	**12 46 54.6**	**+1.2**
VNDA				IAmb	IAmb	12 46 59.5	
	comp=Z,15nm,0.8s						
GO01	**Chusmiza**	**47.22**	**302**	P	**P**	**12 46 54.7**	**-0.3**
PB11	**IPOC Station P**	**47.36**	**302**	P	**P**	**12 46 55.5**	**-0.3**
H10S2	**ASCENSION HYDR**	**47.55**	**18**	T	T	13 38 58.6	
	baz=30,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**47.55**	**18**	T	T	13 38 58.1	
	baz=190,slow=74,SNR=23						
PSGCX	**Pisagua**	**47.73**	**301**	P	**P**	**12 46 58.8**	**+0.2**
PSGCX				IAmb	IAmb	12 47 22.2	
	comp=Z,14nm,1.1s						
MNMC	**Minye Minye**	**47.87**	**302**	P	**P**	**12 46 59.5**	**-0.4**
PB16	**IPOC Station P**	**48.51**	**303**	P	**P**	**12 47 04.4**	**-0.8**
H10N1	**ASCENSION HYDR**	**48.67**	**18**	T	T	13 39 55.4	
	baz=189						
H10N3	**ASCENSION HYDR**	**48.67**	**18**	T	T	13 40 23.8	
	baz=189,slow=74						
H10N2	**ASCENSION HYDR**	**48.68**	**18**	T	T	13 40 10.0	
	baz=189,slow=74						
SMTB	**Santa Maria do**	**48.97**	**334**	*e*P	**P**	**12 47 08.7**	**+0.7**
VILB	**Vilhena**	**49.21**	**317**	*e*P	**P**	**12 47 10.1**	**+0.2**
LBTB	**Lobatse**	**49.29**	**75**	P	**P**	**12 47 09.8**	**-0.8**
	comp=Z,8.0nm,0.9s,baz=222,slow=8.4,SNR=8.4						
LBTB	**Lobatse**	**49.29**	**75**	P	**P**	**12 47 10.5**	**0.0**
LBTB				pmax	pmax		
	comp=Z,13nm,1.0s						
LBTB	**Lobatse**	**49.29**	**75**	P	**P**	**12 47 10.5**	**0.0**
LBTB				IAmb	IAmb	12 47 11.5	
	comp=Z,13nm,1.0s						
LPAZ	**La Paz**	**49.63**	**306**	P	**P**	**12 47 14.7**	**+0.9**
	comp=Z,9.4nm,0.6s,baz=137,slow=5.4,SNR=30						
LPAZ	**La Paz**	**49.63**	**306**	P	**P**	**12 47 14.7**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,15nm,0.7s						
LPAZ	**La Paz**	**49.63**	**306**	P	**P**	**12 47 14.7**	**+0.9**
LPAZ				IAmb	IAmb	12 47 15.3	
	comp=Z,15nm,0.7s						
LPAZ	**La Paz**	**49.63**	**306**	*e*P	**P**	**12 47 14.9**	**+1.1**
TSUM	**Tsumeb**	**49.80**	**62**	P	**P**	**12 47 14.1**	**-0.4**
	comp=Z,3.1nm,0.4s,baz=190,slow=5.8,SNR=6.4						
TSUM	**Tsumeb**	**49.80**	**62**	P	**P**	**12 47 14.5**	**0.0**
RCBR	**Riachuelo**	**49.87**	**350**	*e*P	**P**	**12 47 16.2**	**+1.3**
PRPB	**Parauapebas**	**52.12**	**332**	*e*P	**P**	**12 47 32.9**	**+1.0**
NPGB	**Novo Progresso**	**52.94**	**325**	*e*P	**P**	**12 47 38.1**	**+0.2**
SAML	**Samuel**	**54.03**	**315**	P	**P**	**12 47 45.5**	**-0.4**
SAML				pmax	pmax		
	comp=Z,26nm,1.4s						
SAML	**Samuel**	**54.03**	**315**	P	**P**	**12 47 45.5**	**-0.4**
SAML				IAmb	IAmb	12 47 46.8	
	comp=Z,26nm,1.4s						
SAML	**Samuel**	**54.03**	**315**	*e*P	**P**	**12 47 45.5**	**-0.4**
ETMB	**Extrema**	**54.50**	**312**	*e*P	**P**	**12 47 49.2**	**-0.1**
CASY	**Casey**	**54.65**	**161**	P	**P**	**12 47 50.3**	**+0.5**
CASY				IAmb	IAmb	12 47 51.3	
	comp=Z,11nm,0.9s						
ITTB	**Itaituba**	**55.58**	**326**	*e*P	**P**	**12 47 58.3**	**+1.3**
MALB	**Monte Alegre**	**57.50**	**328**	*e*P	**P**	**12 48 11.7**	**+1.0**
MCPB	**Macapa, AP**	**58.29**	**331**	*e*P	**P**	**12 48 17.6**	**+1.3**
MACA	**Manacapuru-AM**	**58.39**	**321**	*e*P	**P**	**12 48 16.3**	**-0.7**
LSZ	**Lusaka**	**58.59**	**70**	P	**P**	**12 48 17.3**	**-1.3**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSZ	**Lusaka**	**58.59**	**70**	P	**P**	**12 48 17.3**	**-1.3**
CZSB	**Cruzeiro do Su**	**59.24**	**306**	*e*P	**P**	**12 48 22.4**	**-0.6**
PTGA	**Pitinga**	**60.40**	**323**	P	**P**	**12 48 29.6**	**-1.2**
LIC	**Lamto**	**64.33**	**26**	*e*P	**P**	**12 48 57.2**	**+0.1**
	comp=Z,29nm,0.8s						
KIC	**Kosan Boka**	**64.53**	**26**	*e*P	**P**	**12 48 58.5**	**0.0**
	comp=Z,29nm,1.3s						
TIC	**Toumodi**	**64.74**	**25**	*e*P	**P**	**12 48 59.8**	**0.0**
DBIC	**Dimbokro**	**64.80**	**26**	P	**P**	**12 49 00.6**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=161,slow=6.6,SNR=5.7						
DBIC	**Dimbokro**	**64.80**	**26**	P	**P**	**12 49 00.3**	**+0.1**
OTAV	**Otavalo**	**68.92**	**304**	P	**P**	**12 49 25.0**	**-2.1**
OTAV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OTAV	**Otavalo**	**68.92**	**304**	P	**P**	**12 49 24.9**	**-2.1**
OTAV				IAmb	IAmb	12 49 30.3	
	comp=Z,8.2nm,1.1s						
OTAV	**Otavalo**	**68.92**	**304**	*e*P	**P**	**12 49 28.6**	**+1.6**
SACV	**Santiago Islan**	**70.22**	**5**	P	**P**	**12 49 34.4**	**0.0**
KOWA	**Kowa**	**72.55**	**24**	P	**P**	**12 49 49.4**	**+1.0**
KOWA				IAmb	IAmb	12 50 04.4	
	comp=Z,19nm,1.3s						
TORD	**Torodi Ar. Bea**	**72.75**	**30**	P	**P**	**12 49 49.9**	**+0.2**
	comp=Z,71nm,0.5s,baz=200,slow=6.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**72.75**	**30**	P	**P**	**12 49 49.5**	**-0.1**
SDV	**Santo Domingo**	**73.24**	**316**	P	**P**	**12 49 52.3**	**-0.6**
SDV				IAmb	IAmb	12 50 05.8	
	comp=Z,12nm,0.8s						
SDV	**Santo Domingo**	**73.24**	**316**	*e*P	**P**	**12 49 52.1**	**-0.7**
ANWB	**Willy Bob**	**78.23**	**327**	P	**P**	**12 50 20.9**	**-0.1**
JTS	**Las Juntas de**	**80.78**	**303**	*i* P	**P**	**12 50 34.8**	**-0.2**
JTS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ESPN	**Las Esperanzas**	**82.13**	**305**	P	**P**	**12 50 40.8**	**-1.3**
ACON	**Acoyapa**	**82.34**	**304**	P	**P**	**12 50 43.4**	**+0.2**
MATN	**Matagalpa**	**83.54**	**304**	P	**P**	**12 50 49.9**	**+0.4**
TBI	**Tubuai**	**87.10**	**232**	*e*S	**S**	**13 01 45.9**	**+1.1**
	comp=Z,90nm,28.0s						
TBI	**Tubuai**	**87.10**	**232**	*e*LR	LR	13 18 48.5	
	comp=Z,195nm,31.5s						
PPT2	**Papeete2**	**92.16**	**234**	*e*S	**S**	**13 02 30.8**	**-1.4**
	comp=Z,191nm,23.2s						
PPT2	**Papeete2**	**92.16**	**234**	*e*LR	LR	13 21 07.5	
	comp=Z,130nm,22.0s						
ASAR	**Alice Springs**	**99.72**	**163**	P	**Pdif**	**12 52 04.0**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=191,slow=4.4,SNR=14						
ASAR				PP	**PP**	**12 56 09.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=186,slow=6.7,SNR=4.8						
DZM	**Mont Dzumac**	**101.83**	**194**	*e*LR	LR	13 25 47.0	
	comp=Z,272nm,23.6s						
HKT	**Hockley**	**102.79**	**305**	*i* P	**Pdif**	**12 52 16.8**	**-1.8**
HKT				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA	**Warramunga Arr**	**103.44**	**163**	Pdiff	**Pdif**	**12 52 20.4**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=192,slow=4.1,SNR=1.5						
VYHS	**Vyhne**	**110.75**	**31**	*e*P	**Pdif**	**12 52 57.5**	**+3.9**
VYHS	**Vyhne**	**110.75**	**31**	*e*PDIFF	**Pdif**	**12 52 57.5**	**+3.9**
KIV	**Kislovodsk**	**115.61**	**49**	*i* PKIKP	**PKPdf**	**12 57 01.2**	**-1.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,220nm,22.0s						
PSUT	**Pine Spring**	**118.51**	**297**		**PKiKP**	**12 57 09.5**	**+0.7**
PDAR	**Pinedale Array**	**119.61**	**303**	PKP	**PKPdf**	**12 57 09.8**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=134,slow=3.9,SNR=4.0						
PDAR	**Pinedale Array**	**119.61**	**303**		**PKPdf**	**12 57 09.7**	**-1.1**
NVAR	**Mina Array Bea**	**120.72**	**294**	PKP	**PKiKP**	**12 57 13.9**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=134,slow=2.9,SNR=5.2						
NVAR	**Mina Array Bea**	**120.72**	**294**		**PKPdf**	**12 57 12.9**	**-0.1**
FINES	**FINESS Array B**	**124.05**	**28**	PKP	**PKPdf**	**12 57 18.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=148,slow=4.3,SNR=14						
FINES	**FINESS Array B**	**124.05**	**28**	PKIKP	**PKPdf**	**12 57 18.3**	**0.0**
FINES	**FINESS Array B**	**124.05**	**28**		**PKPdf**	**12 57 18.3**	**0.0**
CMAR	**Chiang Mai Arr**	**125.72**	**111**	PKP	**PKPdf**	**12 57 22.5**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=242,slow=3.3,SNR=7.2						
CMAR	**Chiang Mai Arr**	**125.72**	**111**	PKPdf	**PKPdf**	**12 57 22.0**	**-0.9**
ABKAR	**Akbulak array**	**127.41**	**56**		**PKPdf**	**12 57 25.0**	**-0.2**
ABKAR	**Akbulak array**	**127.41**	**56**		**PKPdf**	**12 57 24.8**	**-0.3**
KKAR	**Karatay Array**	**128.41**	**68**	PKIKP	**PKPdf**	**12 57 27.3**	**0.0**
KKAR	**Karatay Array**	**128.41**	**68**	PKPdf	**PKPdf**	**12 57 27.3**	**0.0**
AAK	**Ala-Archa**	**130.22**	**71**	*i* PKIKP	**PKPdf**	**12 57 30.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES	**ARCESS Array B**	**130.54**	**22**	PKP	**PKPdf**	**12 57 30.6**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=202,slow=1.0,SNR=5.7						
ARU	**Arti**	**131.63**	**48**	*i* PKIKP	**PKPdf**	**12 57 32.2**	**-0.7**
ARU				SS	SS	13 17 23.7	-2.8
BRVK	**Borovoye**	**134.81**	**57**	*i* PKIKP	**PKPdf**	**12 57 39.7**	**+0.7**
YKA	**Yellowknife Ar**	**135.40**	**319**	PKP	**PKPdf**	**12 57 39.9**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=120,slow=3.1,SNR=6.5						
YKA				SKPbc	**SKPbc**	**13 01 08.1**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=123,slow=2.3,SNR=5.7						
MKAR	**Makanchi Array**	**137.13**	**71**	PKP	**PKPdf**	**12 57 42.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=301,slow=3.0,SNR=3.3						
MKAR	**Makanchi Array**	**137.13**	**71**	PKIKP	**PKPdf**	**12 57 44.2**	**+0.5**
MKAR	**Makanchi Array**	**137.13**	**71**		**PKPdf**	**12 57 44.2**	**+0.5**
KURK	**Kurchatov**	**137.56**	**65**	*i* PKIKP	**PKiKP**	**12 57 45.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WMQ	**Urumqi**	**138.24**	**78**	*e*PKP	**PKPdf**	**12 57 46.6**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,69nm,4.1s						
WMQ				LR	LR		
	comp=Z,150nm,28.8s						
WMQ				LR	LR		
	comp=Z,340nm,28.9s						
CD2	**Chengdu**	**138.28**	**106**	PKP	**PKPdf**	**12 57 46.1**	**-0.2**
LZH	**Lanzhou**	**142.18**	**100**	*e*PKP	**PKiKP**	**12 57 55.4**	**-0.9**
LZH				pPKP	pPKPdf	12 57 58.6	-2.0
LZH				sPKP		12 58 00.1	
LZH				LR	LR		
	comp=Z,130nm,18.2s						
LZH				LR	LR		
	comp=Z,140nm,18.0s						
LZH				LR	LR		
	comp=Z,170nm,20.3s						
GTA	**Gaotai**	**142.22**	**93**	*e*PKP	**PKiKP**	**12 57 55.0**	**-1.3**
ZALV	**Zalesovo Beam**	**142.51**	**64**	PKhKP	PKPpre	12 57 48.4	
	comp=Z,0.5nm,0.5s,baz=222,slow=1.9,SNR=2.4						
ZALV				PKP	**PKPdf**	**12 57 52.7**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=228,slow=3.7,SNR=6.3						
XAN	**Xi'an**	**143.48**	**108**	PKP	PKPab	12 57 49.3	-2.6
XAN				pPKP	sPKPdf	12 58 20.8	+16
EPYK	**Eagle Plains**	**145.65**	**317**		**PKPdf**	**12 57 58.5**	**+0.2**
EGAK	**Eagle**	**146.97**	**314**	PKPdf	**PKPbc**	**12 58 02.3**	**-0.2**
NJ2	**Nanjing**	**147.06**	**121**	*e*PKPbc	**PKPdf**	**12 58 01.8**	**+0.1**
BTO	**Baotou**	**148.80**	**101**	*e*PKPbc	**PKPdf**	**12 58 06.3**	**+1.8**
NRIK	**Noril'sk**	**148.81**	**38**	PKPbc	**PKPbc**	**12 58 08.0**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=256,slow=4.2,SNR=2.0						
NRIK	**Noril'sk**	**148.81**	**38**	PKP2	**PKPbc**	**12 58 08.0**	**+0.6**
BMAR	**Burnt Mountain**	**148.91**	**318**		**PKPdf**	**12 58 05.5**	**+1.8**
HDA	**Harding Lake**	**149.30**	**312**	PKPdf	**PKPdf**	**12 58 06.0**	**+1.7**
ILAR	**Eielson Array**	**149.35**	**313**	PKPbc	**PKPbc**	**12 58 09.1**	**+0.3**
	comp=Z,15nm,0.9s,baz=118,slow=1.5,SNR=27						
ILAR	**Eielson Array**	**149.35**	**313**	PKP2	**PKiKP**	**12 58 09.7**	**-0.3**
ILAR	**Eielson Array**	**149.35**	**313**		**PKPdf**	**12 58 06.7**	**+2.2**
ILAR				PKPbc	**PKiKP**	**12 58 09.7**	**-0.3**
CCB	**Clear Creek Bu**	**149.71**	**312**		**PKPdf**	**12 58 04.6**	**-0.3**
WRH	**Wood River Hil**	**149.80**	**312**		**PKiKP**	**12 58 10.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**149.83**	**102**	*e*PKPbc	**PKPdf**	**12 58 02.8**	**-3.3**
MDM	**Murphy Dome**	**149.95**	**313**		**PKPdf**	**12 58 07.6**	**+2.2**
TRF	**Thorofare Moun**	**150.55**	**309**		**PKiKP**	**12 58 12.9**	**+0.3**
ZAK	**Zakamensk**	**150.70**	**79**	*e*PKIKP	**PKPbc**	**12 58 12.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.5s						
KTH	**Kantishna Hill**	**150.85**	**309**		**PKiKP**	**12 58 13.3**	**+0.1**
SONM	**Songino Array**	**151.16**	**86**	PKPbc	**PKPbc**	**12 58 13.8**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=222,slow=2.4,SNR=13						
SONM	**Songino Array**	**151.16**	**86**	PKIKP	**PKPbc**	**12 58 13.9**	**0.0**
SONM	**Songino Array**	**151.16**	**86**		**PKPbc**	**12 58 13.9**	**0.0**
TLY	**Talaya**	**151.51**	**77**	*e*PKIKP	**PKiKP**	**12 58 15.7**	**+0.9**
TLY				pmax	pmax		
	comp=Z,22nm,1.3s						
IMAR	**Indian Mountai**	**152.37**	**314**		**PKiKP**	**12 58 17.2**	**+1.1**

*IDC **22** 12:41:47.6±3.8, 12°.61N×92°.07W, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.5/26, mbtmpg3.2/3, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/12, Error ellipse: s-maj=261.0km s-min=65.6km az=54.0*

*GCG **22** 12:41:58.9±0.4, 13°.82N×91°.31W, h20km±8km, MD4.2*

ISC 22 12:41:56.1±2.4, 13°.6N±0°.3×91°.5W±0°.1, h28km, n10, σ1§22/9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.82**	**355**	*i* P	**Pn**	**12 42 11.4**	**-0.5**
FUG	**Fuego 3**	**1.04**	**37**	*e*P	**Pn**	**12 42 13.7**	**-1.3**
PCG	**Pacaya**	**1.16**	**48**	*e*P	**Pn**	**12 42 15.8**	**-0.8**
NBG	**Las Nubes**	**1.47**	**49**	*e*P	**Pn**	**12 42 21.3**	**+0.3**
MRL	**Marmol**	**2.28**	**50**	*e*P	**Pn**	**12 42 32.5**	**+0.4**
TXAR	**Lajitas Array**	**19.29**	**326**	P	**P**	**12 46 18.8**	**-0.1**
	0.1nm,0.3s,baz=151,slow=11,SNR=7.0						
PDAR	**Pinedale Array**	**32.98**	**335**	P	**P**	**12 48 30.9**	**+2.1**
	0.2nm,0.7s,baz=123,slow=9.8,SNR=1.9						
NVAR	**Mina Array Bea**	**34.28**	**321**	P	**P**	**12 48 40.3**	**0.0**
	0.3nm,0.7s,baz=128,slow=9.8,SNR=2.8						
DLBC	**Dease Lake**	**53.21**	**336**	LR	LR	13 14 46.6	
	comp=Z,50nm,19.6s,baz=1.0,slow=37						
CMAR	**Chiang Mai Arr**	**146.51**	**342**	PKPbc	**PKPdf**	**13 01 33.0**	**-1.3**
	0.8nm,0.7s,baz=345,slow=2.5,SNR=7.0						

WEL 22 12:45:04.6, 41°S±2°×17°4E±°, h64km±5km, M2.7/25, ML2.7/23, MLv2.7/25, Error ellipse: s-maj=0.0km s-min=0.0km az=96.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	**Tuamarina**	**0.20**	**178**	P	Pn	12 45 14.7	+0.3
TCW	**Tory Channel**	**0.26**	**85**	P	Pn	12 45 15.3	+0.5
NNZ	**Nelson**	**0.42**	**272**	P	Pn	12 45 15.4	-0.7
DUWZ	**D'Urville Isla**	**0.43**	**359**	P	Pn	12 45 15.6	-0.6
BSWZ	**Blackbirch Sta**	**0.48**	**185**	P	Pn	12 45 17.8	+1.1
WEL	**Wellington**	**0.63**	**95**	P	Pn	12 45 19.0	+0.8
KIW	**Kapiti Island**	**0.83**	**64**	P	Pn	12 45 21.4	+0.8
CAW	**Cannon Point**	**0.86**	**82**	P	Pn	12 45 21.7	+0.7
THZ	**Tophouse**	**0.94**	**235**	P	Pn	12 45 22.5	+0.5
OGWZ	**Otaki Gorge**	**1.02**	**67**	P	Pn	12 45 23.6	+0.6
QRZ	**Quartz Range**	**1.14**	**290**	P	Pn	12 45 24.2	-0.4
KHZ	**Kahutara**	**1.22**	**194**	P	Pn	12 45 26.6	+1.0
HOWZ	**Holdsworth Sta**	**1.24**	**75**	P	Pn	12 45 25.9	0.0
MRZ	**Mangatainoka R**	**1.37**	**66**	P	Pn	12 45 27.5	-0.1
TIWZ	**Tintock**	**1.55**	**74**	P	Pn	12 45 29.6	-0.4
POWZ	**Post Office Ro**	**1.62**	**60**	P	Pn	12 45 30.5	-0.5
DSZ	**Denniston Nort**	**1.68**	**252**	P	Pn	12 45 31.8	0.0
BFZ	**Birch Farm**	**1.83**	**73**	P	Pn	12 45 33.1	-0.8
PREZ	**Palmer Road**	**1.90**	**5**	P	Pn	12 45 36.0	+1.3
KHEZ	**Kahui Hut**	**1.94**	**2**	P	Pn	12 45 36.1	+0.8
TSZ	**Takapari Road**	**1.94**	**53**	P	Pn	12 45 34.8	-0.5
NEZ	**North Egmont**	**1.96**	**4**	P	Pn	12 45 37.1	+1.4
LTZ	**Lake Taylor**	**1.98**	**218**	P	Pn	12 45 36.2	+0.3
PKE	**Pukeiti**	**2.04**	**1**	P	Pn	12 45 37.4	+0.8
VRZ	**Vera Road**	**2.20**	**172**	P	Pn	12 45 39.8	+1.1
WNVZ	**Wahianoa**	**2.29**	**34**	P	Pn	12 45 40.6	+0.5
TUVZ	**Tukino**	**2.36**	**34**	P	Pn	12 45 43.5	+2.3
INZ	**Inchbonnie**	**2.38**	**230**	P	Pn	12 45 41.9	+0.7
OTVZ	**Oturere**	**2.46**	**33**	P	Pn	12 45 42.9	+0.5
MQZ	**McQueen's Vall**	**2.65**	**201**	P	Pn	12 45 44.0	-0.9
BKZ	**Black Stump Fm**	**2.85**	**44**	P	Pn	12 45 52.7	+5.1
ODZ	**Otahua Downs**	**4.51**	**211**	P	Pn	12 46 10.3	0.0
JCZ	**Jackson Bay**	**4.74**	**231**	P	Pn	12 46 13.3	-0.3

*IDC **22** 12:51:50.3±2.4, 6°.83N×124°.80E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/31, mbtmpg3.6/4, MS4.0/3, Ms1 4.0/3, ms1mx2.9/36, Error ellipse: s-maj=37.7km s-min=11.2km az=144.0*

*MAN **22** 12:51:52.7, 6°.74N×125°.01E, h15km, mb5.2, ML4.2, MS4.3*

*NEIC **22** 12:51:56.9±1.3, 6°.70N±0°.06×125°.37E±0°.10, h35km±8km, mb4.3/6, Error ellipse: s-maj=15.2km s-min=5.9km az=113.0*

ISC 22 12:51:52.6±1.4, 6°.76N±0°.04×125°.02E±0°.04, h4km±10km, n27, σ1§89/28, mb3.9/7, MS4.1/3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.26**	**161**	*e*P	**Pb**	**12 51 59.6**	**-0.4**
KCP				*i* S	Sb	12 52 18.9	+14
SKMP	**Bagumbayan, Su**	**0.53**	**244**	*e*P	**Pg**	**12 52 02.9**	**+0.2**
SKMP				*e*S	**Sn**	**12 52 14.5**	**-1.8**
DAV	**Davao City (W)**	**0.64**	**61**	Pg	**Pb**	**12 52 05.7**	**-0.7**
	176nm,0.3s,baz=253,slow=18,SNR=14						
DAV				Lg	Lg	12 52 16.9	
	184nm,0.3s,baz=163,slow=19,SNR=12						
DAV				LR	LR	12 52 28.8	
	comp=Z,1μm,19.8s,baz=344,slow=48						
DAV	**Davao City (W)**	**0.64**	**61**		**Pb**	**12 52 06.3**	**-0.1**
DDMP	**Don Marcelino,**	**0.94**	**133**	*e*P	**Pg**	**12 52 10.9**	**+0.1**
DDMP				*e*S	**Sn**	**12 52 31.0**	**+4.4**
BUKP	**Musuan**	**1.12**	**2**	*e*P	**Pb**	**12 52 11.6**	**-2.9**
BUKP				*e*S	**Sn**	**12 52 30.7**	**-0.3**
MATI	**Mati**	**1.25**	**81**	*e*P	**Pn**	**12 52 14.7**	**-2.1**
MATI				*e*S	**Sn**	**12 52 32.6**	**-1.5**
CGP	**Cagayan de Oro**	**1.72**	**349**	*e*P	**Pg**	**12 52 28.4**	**+2.8**
CGP				*i* S	Sg	12 52 59.0	+11
PAGZ	**Pagadian**	**1.95**	**304**	*e*P	**Pn**	**12 52 26.1**	**-0.5**
PAGZ				*e*S	**Sg**	**12 52 54.5**	**-0.9**
TNTI	**Ternate**	**6.39**	**158**	Pn	**Pn**	**12 53 26.3**	**-1.3**
MYLDM	**Lahad Datu**	**6.67**	**257**		Pn	12 53 37.0	+5.6
LUWI	**Luwuk**	**8.06**	**196**	Pn	**Pn**	**12 53 52.8**	**+2.2**
KNRA	**Kununurra**	**22.59**	**171**	P	**P**	**12 56 56.2**	**+1.8**
KNRA				IAmb	IAmb	12 57 08.4	
	comp=Z,31nm,1.2s						
FITZ	**Fitzroy Crossi**	**24.70**	**179**	P	**P**	**12 57 14.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=349,slow=11,SNR=2.1						
FITZ	**Fitzroy Crossi**	**24.70**	**179**	P	**P**	**12 57 13.3**	**-1.7**
WRAB	**Tennant Creek**	**28.07**	**161**	P	**P**	**12 57 43.0**	**-2.5**
WRAB				IAmb	IAmb	12 58 05.4	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**12 57 44.0**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=329,slow=11,SNR=1.4						
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**12 57 42.7**	**-2.8**
ASAR	**Alice Springs**	**31.46**	**164**	P	**P**	**12 58 14.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=343,slow=7.1,SNR=8.5						
ASAR	**Alice Springs**	**31.46**	**164**	P	**P**	**12 58 14.0**	**-1.5**
FORT	**Forrest**	**37.43**	**176**	P	**P**	**12 59 05.9**	**-1.2**
STKA	**Stephens Creek**	**41.55**	**159**	P	**P**	**12 59 41.3**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=352,slow=7.1,SNR=2.9						
ULN	**Ulaanbaatar**	**43.74**	**343**	P	**P**	**13 00 01.1**	**+1.8**
ULN				IAmb	IAmb	13 00 09.1	
	comp=Z,5.6nm,1.2s						
KKAR	**Karatay Array**	**59.87**	**316**	P	**P**	**13 02 01.2**	**+1.5**
KBZ	**Khabaz**	**79.68**	**313**	LR	LR	13 44 42.6	
	comp=Z,78nm,18.9s,baz=204,slow=40						
ARCES	**ARCESS Array B**	**87.04**	**340**	LR	LR	13 47 34.8	
	comp=Z,68nm,20.3s,baz=250,slow=38						
FINES	**FINESS Array B**	**88.38**	**332**	LR	LR	13 47 47.0	
	comp=Z,99nm,18.8s,baz=227,slow=38						

*IDC **22** 13:07:56.2±1.6, 63°.03S×170°.84E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/29, mbtmpg3.9/4, ML3.0/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/25, Error ellipse: s-maj=70.4km s-min=31.5km az=64.0*

*NEIC **22** 13:07:57.6±0.1, 63°.05S±0°.1×170°.7E±0°.1, h10km±2km, mb4.5/3, Error ellipse: s-maj=34.6km s-min=17.1km az=53.0*

ISC 22 13:07:57.8±1.0, 63°.05S±0°.1×170°.7E±0°.3, h10km, n29, σ0§73/13, mb4.0/3, MS3.9/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.86**	**188**	Pn	**Pn**	**13 11 27.1**	**-0.5**
	0.1nm,0.3s,baz=19,slow=12,SNR=11						
VNDA				LR	LR	13 15 52.8	
	comp=Z,418nm,21.2s,baz=23,slow=32						
RPZ	**Rata Peaks**	**19.32**	**1**	LR	LR	13 18 24.8	
	comp=Z,325nm,21.4s,baz=200,slow=32						
FOZ	**Fox Glacier**	**19.51**	**358**	P	**P**	**13 12 24.9**	**0.0**
FOZ				IAmb	IAmb	13 12 45.9	
	comp=Z,41nm,1.4s						
QSPA	**South Pole Qui**	**27.09**	**180**	P	**P**	**13 13 40.0**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=40,slow=4.7,SNR=2.2						
QSPA	**South Pole Qui**	**27.09**	**180**	IAmb	IAmb	13 13 47.1

ARMA Armidale 22.36 217 P **P** **13 17 09.9 +1.1**
MXZ Matakaoa Point 26.30 160 P **P** **13 17 43.6 -0.7**
URZ Urewera 26.56 162 P **P** **13 17 46.7 +0.1**
comp=Z,4.0nm,0.8s,baz=267,slow=18,SNR=1.3
URZ Urewera 26.56 162 P **P** **13 17 46.5 -0.1**
BKZ Black Stump Fm 27.23 164 P **P** **13 17 52.5 0.0**
BKZ IAmb IAmb 13 18 07.6
comp=Z,13nm,1.4s
CAN Canberra 27.47 213 P **P** **13 17 54.7 -0.1**
CAN IAmb IAmb 13 18 17.6
comp=Z,12nm,1.3s
BFZ Birch Farm 28.59 165 P **P** **13 18 04.0 -0.5**
TUWZ Tuamarina 28.81 169 P **P** **13 18 06.2 -0.4**
THZ Tophouse 28.96 171 P **P** **13 18 08.6 +0.6**
THZ IAmb IAmb 13 18 15.4
comp=Z,12nm,1.0s
BHW Baring Head 28.97 168 P **P** **13 18 07.7 -0.2**
MSWZ Moikau Station 29.06 167 P **P** **13 18 08.4 -0.3**
LTZ Lake Taylor 29.87 172 P **P** **13 18 16.0 0.0**
LTZ IAmb IAmb 13 18 27.8
comp=Z,14nm,1.4s
STKA Stephens Creek 29.91 227 P **P** **13 18 17.0 +0.6**
comp=Z,3.7nm,0.5s,baz=46,slow=9.8,SNR=18
STKA PcP **PcP** **13 21 14.3 +0.1**
comp=Z,1.9nm,0.5s,baz=78,slow=4.4,SNR=3.8
STKA Stephens Creek 29.91 227 P **P** **13 18 16.5 +0.1**
FOZ Fox Glacier 30.38 176 P **P** **13 18 20.9 +0.6**
RPZ Rata Peaks 30.66 174 P **P** **13 18 23.2 +0.4**
comp=Z,3.3nm,0.6s,baz=69,slow=17,SNR=1.3
RPZ Rata Peaks 30.66 174 IAmb IAmb 13 18 45.3
comp=Z,20nm,1.0s
TOO Toolangi 31.04 215 P **P** **13 18 26.6 +0.3**
TOO IAmb IAmb 13 18 40.5
comp=Z,15nm,1.4s
WR0 Warramunga Arr 31.89 253 P **P** **13 18 33.1 -0.9**
WB0 Warramunga Arr 32.01 254 P **P** **13 18 34.0 -1.0**
WB0 IAmb IAmb 13 18 35.1
comp=Z,9.4nm,1.1s
WB2 Warramunga Arr 32.06 253 P **P** **13 18 34.5 -1.0**
WB2 IAmb IAmb 13 18 59.2
comp=Z,14nm,1.4s
WRAB Tennant Creek 32.06 253 P **P** **13 18 34.4 -1.0**
WRA Warramunga Arr 32.08 253 P **P** **13 18 34.9 -0.7**
comp=Z,3.0nm,0.9s,baz=86,slow=8.9,SNR=14
WRA pP **pP** **13 19 14.8 -1.2**
comp=Z,0.6nm,0.7s,baz=85,slow=9.3,SNR=2.1
WRA PcP **PcP** **13 21 19.3 -0.9**
comp=Z,0.1nm,0.4s,baz=86,slow=3.4,SNR=4.7
WRA Warramunga Arr 32.08 253 P **P** **13 18 33.6 -2.0**
AS31 Alice Springs 33.10 247 P **P** **13 18 43.5 -1.0**
ASAR Alice Springs 33.11 247 P **P** **13 18 43.9 -0.7**
comp=Z,2.7nm,0.6s,baz=75,slow=9.2,SNR=53
ASAR pP **pP** **13 19 24.4 -0.7**
comp=Z,0.4nm,0.6s,baz=71,slow=8.9,SNR=1.4
ASAR PcP **PcP** **13 21 22.5 -0.6**
comp=Z,0.7nm,0.6s,baz=83,slow=2.2,SNR=5.6
ASAR Alice Springs 33.11 247 P **P** **13 18 43.1 -1.4**
ASAR **PcP** **13 21 22.3 -0.8**
BBOO Buckleboo 34.44 230 P **P** **13 18 55.4 -0.4**
BBOO IAmb IAmb 13 18 57.9
comp=Z,32nm,1.4s
MTN Manton Dam 35.02 266 P **P** **13 19 01.4 +0.4**
MTN IAmb IAmb 13 19 06.2
comp=Z,30nm,1.4s
KNRA Kununurra 37.18 261 P **P** **13 19 19.3 0.0**
KNRA IAmb IAmb 13 19 21.1
comp=Z,31nm,1.4s
FORT Forrest 39.98 238 P **P** **13 19 42.0 -0.5**
FITZ Fitzroy Crossi 40.16 257 P **P** **13 19 43.9 -0.2**
comp=Z,2.4nm,0.9s,baz=38,slow=12,SNR=6.8
FITZ Fitzroy Crossi 40.16 257 P **P** **13 19 43.7 -0.4**
PSA00 Pilbara Seismi 45.72 253 P **P** **13 20 29.1 +0.4**
PSA00 IAmb IAmb 13 20 55.0
comp=Z,15nm,1.1s
NWAO Narrogin (SRO) 49.43 238 P **P** **13 20 56.5 -0.6**
comp=Z,3.0nm,0.4s,baz=97,slow=5.1,SNR=6.2
NWAO Narrogin (SRO) 49.43 238 IAmb IAmb 13 21 21.0
comp=Z,17nm,1.1s
MORW Morawa 49.81 243 P **P** **13 20 59.9 -0.1**
MORW IAmb IAmb 13 21 08.9
comp=Z,15nm,1.3s
MJAR Matsushiro Arr 56.43 332 P **P** **13 21 48.1 +0.1**
comp=Z,1.3nm,0.7s,baz=170,slow=7.6,SNR=4.3
YOJ Yonaguni jima 57.00 311 P **P** **13 21 51.6 -0.7**
MNAI Manna 63.84 272 P **P** **13 22 37.5 -1.3**
VNDA Vanda 64.44 181 P **P** **13 22 41.6 0.0**
comp=Z,0.9nm,0.8s,baz=12,slow=6.3,SNR=6.4
VNDA Vanda 64.44 181 P **P** **13 22 41.6 0.0**
CASY Casey 64.93 202 P **P** **13 22 44.2 -0.8**
CASY IAmb IAmb 13 23 12.0
comp=Z,7.6nm,1.2s
USRK Ussuriysk Ar. 65.40 333 P **P** **13 22 49.7 +1.5**
comp=Z,2.1nm,0.8s,baz=152,slow=8.6,SNR=4.6
USRK Ussuriysk Ar. 65.40 333 P **P** **13 22 49.2 +1.0**
PEA0B Petropavlovsk- 66.47 354 P **P** **13 22 55.8 +0.8**
PETK Petropavlovsk- 66.47 354 P **P** **13 22 56.0 +1.1**
comp=Z,3.0nm,0.8s,baz=143,slow=5.6,SNR=5.2
CMAR Chiang Mai Arr 74.15 294 P **P** **13 23 43.4 +1.1**
comp=Z,1.0nm,0.4s,baz=124,slow=4.6,SNR=11
CMAR Chiang Mai Arr 74.15 294 P **P** **13 23 42.6 +0.4**
QSPA South Pole Qui 76.88 180 P **P** **13 23 57.1 +0.1**
comp=Z,4.0nm,0.6s,baz=299,slow=0.8,SNR=44
QSPA South Pole Qui 76.88 180 P **P** **13 23 57.0 -0.1**
QSPA IAmb IAmb 13 23 59.1
comp=Z,6.4nm,0.9s
OHAK Old Harbor 77.37 21 P **P** **13 24 00.1 +0.5**
SONM Songino Array 81.12 324 P **P** **13 24 20.7 +0.4**
comp=Z,0.7nm,0.4s,baz=141,slow=7.3,SNR=3.9
SONM Songino Array 81.12 324 P **P** **13 24 19.6 -0.7**
MAW Mawson 83.28 202 P **P** **13 24 30.9 -0.1**
comp=Z,0.6nm,0.5s,baz=110,slow=5.4,SNR=5.6
MAW Mawson 83.28 202 P **P** **13 24 30.7 -0.4**
IL31 85.08 18 P **P** **13 24 39.2 -0.8**
ILAR Eielson Array 85.08 18 P **P** **13 24 39.2 -0.8**
comp=Z,2.1nm,0.6s,baz=239,slow=5.1,SNR=39
ILAR pP **pP** **13 25 28.8 +0.3**
comp=Z,1.9nm,1.0s,baz=207,slow=7.1,SNR=6.5
NVAR Mina Array Bea 86.37 49 pP pP 13 25 38.7 +3.3
comp=Z,0.5nm,0.8s,baz=230,slow=8.1,SNR=3.9
VNA3 Neumayer Olymp 95.79 181 P **P** **13 25 29.4 -0.8**
MKAR Makanchi Array 95.94 317 P **P** **13 25 31.6 +0.3**
comp=Z,1.1nm,0.6s,baz=89,slow=5.6,SNR=15
MKAR Makanchi Array 95.94 317 P **P** **13 25 30.9 -0.4**
ARCES ARCESS Array B 118.68 346 PKP **PKPdf** **13 30 50.5 -0.3**
comp=Z,2.6nm,0.5s,baz=76,slow=2.0,SNR=20
FINES FINESS Array B 124.19 339 PKP **PKPdf** **13 31 01.4 -0.2**
comp=Z,4.5nm,1.0s,baz=148,slow=4.3,SNR=9.9
FINES FINESS Array B 124.19 339 **PKPdf** **13 31 01.1 -0.4**
NB2 NORSAR Subarra129.05 345 PKPdf **PKPdf** **13 31 11.0 0.0**
comp=Z,0.8nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 129.05 345 PKP **PKPdf** **13 31 11.0 0.0**
comp=Z,0.8nm,0.5s,baz=33,slow=2.1,SNR=3.7
AKASG Malin Array Be 129.33 327 PKP **PKPdf** **13 31 10.6 -1.1**
comp=Z,0.3nm,0.2s,baz=49,slow=2.7,SNR=2.0
GERES GERESS Array B 138.15 334 PKP **PKPdf** **13 31 27.6 -0.8**
comp=Z,0.4nm,0.2s,baz=35,slow=4.0,SNR=2.3
ESDC Sonseca Array 152.42 345 PKPbc **PKPbc** **13 31 60.0 +0.1**
comp=Z,2.0nm,0.7s,baz=6.6,slow=3.2,SNR=13
ESDC PKPab **PKPab** **13 32 11.1 +0.4**
comp=Z,0.8nm,0.6s,baz=4.7,slow=4.5,SNR=4.9
ESDC Sonseca Array 152.42 345 **PKPbc** **13 31 59.6 -0.3**
ESDC **PKPab** **13 32 09.7 -1.0**

*REY **22** 13:21:31.2,64.68N,17.49W,h5km*
*IDC **22** 13:21:32.3±0.6,64.63N×17.49W,h0km,mb4.0/18, mb1 4.2/21,mb1mx4.1/43,mbtmp4.0/21,ML2.7/2,Error ellipse: s-maj=18.5km s-min=12.1km az=29.0*
*NEIC **22** 13:21:33.3±1.3,64.62N±0.09×17.6W±0.1,h8km±4km, mb4.6/68,Error ellipse: s-maj=13.2km s-min=8.2km az=196.0*
ISC 22 13:21:33.3±0.3,64.62N±0.03×17.55W±0.02,h10km,n155, σ1.553/150,mb4.5/55,MS4.2/3,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.10**	**300**	P	**Pg**	**13 21 33.7**	**-2.4**
	baz=268						
IVON				S	**Sg**	**13 21 35.7**	**-2.3**
	baz=268						
IDJK	**Dyngjujokull**	**0.18**	**131**	P	**Pg**	**13 21 35.6**	**-1.6**
	baz=148						
IDYN	**Dyngjuhals**	**0.19**	**25**	P	Pg	13 21 34.0	-3.4
	baz=25						
IGRF	**Grimsfjall**	**0.25**	**150**	P	**Pg**	**13 21 37.1**	**-1.4**
	baz=160						
IGRF				S	**Sg**	**13 21 41.6**	**-0.3**
	baz=160						
IURH	**Urdarhals**	**0.26**	**41**	P	Pg	13 21 35.3	-3.4
	baz=46						
IHUS	**Husbondi**	**0.33**	**188**	P	**Pg**	**13 21 38.2**	**-1.8**
	baz=191						
ISKR	**Skrokkalda**	**0.37**	**260**	P	**Pg**	**13 21 38.5**	**-2.0**
	baz=253						
IKVE	**Kverkfjoll**	**0.38**	**81**	P	**Pg**	**13 21 38.1**	**-2.8**
	baz=90						
IKVE				S	**Sg**	**13 21 43.1**	**-2.8**
	baz=90						
IVOT	**Vottur**	**0.39**	**156**	P	**Pg**	**13 21 39.1**	**-1.9**
	baz=162						
IJOK	**Jokulheimar**	**0.43**	**224**	P	**Pg**	**13 21 40.1**	**-1.6**
	baz=222						
IKRE	**Kreppuhraun**	**0.53**	**72**	P	Pg	13 21 39.7	-3.9
	baz=77						
IKRE				S	**Sg**	**13 21 47.0**	**-3.6**
	baz=77						
IASK	**Askja**	**0.58**	**41**	P	Pg	13 21 40.8	-3.7
	baz=43						
IASK				S	**Sg**	**13 21 48.0**	**-4.2**
	baz=43						
IIEY	**Innrieyrar**	**0.59**	**205**	P	**Pg**	**13 21 42.7**	**-2.0**
	baz=206						
IIEY				S	**Sb**	**13 21 52.1**	**-2.0**
	baz=206						
IMKO	**Mokollar**	**0.63**	**55**	P	Pg	13 21 41.5	-4.0
	baz=58						
IMKO				S	**Sg**	**13 21 50.3**	**-3.5**
	baz=58						
IKSK	**Karasker**	**0.66**	**134**	P	**Pg**	**13 21 42.5**	**-3.6**
	baz=139						
IKSK				S	**Sg**	**13 21 51.8**	**-2.9**
	baz=139						
IKAL	**Kalfafell**	**0.68**	**185**	P	**Pg**	**13 21 44.1**	**-2.4**
	baz=187						
ISVA	**Svartarkot**	**0.73**	**10**	P	Pg	13 21 43.2	-4.2
	baz=8.5						
IVAT	**Vatnsfell**	**0.74**	**234**	P	**Pg**	**13 21 45.6**	**-1.9**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.80**	**76**	P	Pg	13 21 44.4	-4.4
	baz=79						
IVSH				S	**Sg**	**13 21 55.0**	**-4.3**
	baz=79						
IHVE	**Hveravellir**	**0.90**	**287**	P	**Pg**	**13 21 47.0**	**-3.6**
	baz=283						
IADA	**Aoalbol**	**0.93**	**64**	P	Pg	13 21 46.3	-5.0
	baz=66						
IADA				S	**Sg**	**13 21 58.6**	**-4.8**
	baz=66						
ISNB	**Snabyli**	**1.01**	**208**	P	**Pg**	**13 21 49.9**	**-2.8**
	baz=208						
IMEL	**Melhnausar**	**1.02**	**21**	P	Pb	13 21 47.9	-5.2
	baz=21						
ISLY	**Slysaalda**	**1.05**	**221**	P	**Pg**	**13 21 50.7**	**-2.9**
	baz=220						
IREN	**Reynihlio**	**1.06**	**15**	P	Pb	13 21 48.6	-5.2
	baz=14						
IFED	**Fedgar**	**1.11**	**238**	P	**Pg**	**13 21 51.7**	**-2.9**
	baz=237						
IKVO	**Krokottuvotn**	**1.13**	**14**	P	Pn	13 21 49.8	-5.4
	baz=14						
IGRS	**Grimsstaoir**	**1.18**	**30**	P	Pn	13 21 50.7	-5.3
	baz=30						
IHAU	**Haukadalur**	**1.24**	**239**	P	**Pb**	**13 21 54.0**	**-2.8**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.24**	**208**	P	**Pb**	**13 21 54.0**	**-2.8**
	baz=208						
ISKI	**Skildingahlsh**	**1.27**	**10**	P	Pn	13 21 52.1	-5.0
	baz=9.0						
IGHA	**Grjothals**	**1.28**	**17**	P	Pn	13 21 52.3	-5.0
	baz=16						
IGRA	**Granastaoir**	**1.30**	**359**	P	Pn	13 21 52.6	-4.8
	baz=358						
IDIM	**Dimmadalss**	**1.37**	**11**	P	Pn	13 21 53.7	-4.7
	baz=10.0						
IHLA	**Hella**	**1.37**	**346**	P	Pn	13 21 54.2	-4.3
	baz=344						
BORG	**Borgarnes**	**1.63**	**276**	Pn	**Pn**	**13 21 58.7**	**-3.3**
	36nm,0.3s,baz=87,slow=7.9,SNR=89						
BORG				Sn	**Sn**	**13 22 22.9**	**-0.1**
	18nm,0.3s,baz=63,slow=24,SNR=9.0						
BORG	**Borgarnes**	**1.63**	**276**	Pn	**Pn**	**13 21 59.3**	**-2.7**
SUMG	**Summit**	**10.96**	**326**	Pn	**Pn**	**13 24 11.2**	**+0.8**
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn	**Pn**	**13 24 19.8**	**-0.9**
	baz=323,slow=13,SNR=6.9						
ESK	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**13 24 21.1**	**+0.5**
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	**Pn**	**13 24 43.2**	**-2.2**
	0.0nm,0.3s,baz=301,slow=13,SNR=2.6						
KEV	**Kevo**	**17.67**	**54**		**Pn**	**13 25 39.7**	**+0.6**
FINES	**FINESS Array B**	**19.73**	**79**	P	**P**	**13 26 02.9**	**+0.2**
	0.1nm,0.3s,baz=303,slow=12,SNR=4.2						
FIA1	**FINESS Array S**	**19.73**	**79**	P	**P**	**13 26 02.7**	**0.0**
FIA1				IAmb	IAmb	13 26 29.1	
	comp=Z,33nm,1.3s						
TULEG	**Thule**	**19.88**	**327**	P	**P**	**13 26 04.8**	**+0.6**
TULEG				IAmb	IAmb	13 26 10.8	
	comp=Z,44nm,1.3s						
CLL	**Collm**	**20.71**	**116**	*i* P	Pn	13 26 14.1	-1.6
	comp=Z,15nm,1.2s						
CLL				*e*		13 26 23.0	
CLL	**Collm**	**20.71**	**116**	P	Pn	13 26 14.2	-1.5
LVZ	**Lovozero**	**20.74**	**58**	P	**P**	**13 26 14.6**	**+0.9**
LVZ				IAmb	IAmb	13 26 34.2	
	comp=Z,62nm,1.5s						
ECH	**Echery**	**21.14**	**129**	P	**P**	**13 26 19.1**	**+1.0**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**13 26 21.5**	**+0.5**
	comp=Z,18nm,1.4s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**13 26 22.3**	**+0.9**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**13 26 34.5**	**+2.1**
OSTC	**Ostas**	**22.56**	**112**	*e*P	**P**	**13 26 34.8**	**+1.5**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**13 26 35.6**	**+1.0**
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**13 26 34.4**	**-0.1**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**13 26 36.4**	**+0.9**
SUW	**Suwalki**	**22.90**	**98**	P	**P**	**13 26 36.4**	**-0.5**
SUW				IAmb	IAmb	13 26 37.9	
	comp=Z,26nm,0.9s						
GEC2	**GERESS Array S**	**22.95**	**119**	P	**P**	**13 26 36.9**	**-0.7**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**13 26 37.7**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=319,slow=7.5,SNR=5.8						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**13 26 35.8**	**-1.8**
DAVOX	**Davos/Dischmat**	**23.31**	**127**	P	**P**	**13 26 41.9**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=327,slow=17,SNR=2.7						
VRAC	**Vranov**	**23.70**	**114**	P	**P**	**13 26 46.3**	**+1.4**
	comp=Z,1.6nm,0.4s,baz=325,slow=11,SNR=3.1						
EUNU	**Eureka**	**23.70**	**336**	P	**P**	**13 26 45.5**	**+0.7**
EUNU				IAmb	IAmb	13 26 48.1	
	comp=Z,12nm,1.1s						
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**13 26 44.7**	**-0.3**
BNI	**Bardonecchia**	**23.79**	**134**	P	**P**	**13 26 46.2**	**+0.2**
BNI				IAmb	IAmb	13 27 14.8	
	comp=Z,17nm,1.5s						
VYHS	**Vyhne**	**25.24**	**112**	*e*P	**P**	**13 27 00.3**	**+1.2**
SCHQ	**Schefferville**	**26.02**	**271**	P	**P**	**13 27 05.9**	**-0.2**
SCHQ				IAmb	IAmb	13 27 08.5	
	comp=Z,24nm,1.4s						
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**13 27 06.4**	**-0.7**
PSZ				IAmb	IAmb	13 27 13.8	
	comp=Z,11nm,1.1s						
ESDC	**Sonseca Array**	**26.22**	**156**	P	**P**	**13 27 08.7**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=346,slow=8.9,SNR=11						
OSSC	**Osservatorio P**	**26.63**	**129**	P	**P**	**13 27 11.5**	**-0.3**
ROSA	**Rosais**	**26.70**	**199**	P	**P**	**13 27 13.9**	**+1.6**
AKASG	**Malin Array Be**	**27.86**	**97**	P	**P**	**13 27 22.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=325,slow=9.7,SNR=4.3						
BURAR	**Bucovina Array**	**28.54**	**106**	P	**P**	**13 27 28.2**	**-0.7**
NRIK	**Norsi'sk**	**36.51**	**35**	P	**P**	**13 28 38.5**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=316,slow=4.9,SNR=4.2						
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**13 28 56.8**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=340,slow=6.7,SNR=5.8						
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**13 28 55.6**	**+0.2**
KBZ	**Khabaz**	**39.13**	**92**	P	**P**	**13 29 02.5**	**+1.9**
	comp=Z,5.0nm,0.8s,baz=332,slow=12,SNR=5.3						
YKA	**Yellowknife Ar**	**39.23**	**313**	P	**P**	**13 29 01.3**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=39,slow=9.1,SNR=4.1						
ABKAR	**Akbulak array**	**42.02**	**73**	P	**P**	**13 29 24.3**	**-0.1**
TIXI	**Tiksi**	**42.08**	**15**	P	**P**	**13 29 26.1**	**+1.6**
S61A	**Accomac**	**43.13**	**260**	P	**P**	**13 29 34.0**	**+0.5**
BRVK	**Borovoye**	**43.17**	**62**	P	**P**	**13 29 33.9**	**+0.2**
N49A	**Columbus Grove**	**44.08**	**271**	P	**P**	**13 29 42.0**	**+0.8**
N49A				IAmb	IAmb	13 29 43.5	
	comp=Z,15nm,1.0s						
ILAR	**Eielson Array**	**45.71**	**332**	P	**P**	**13 29 55.1**	**+1.2**
	comp=Z,3.0nm,1.1s,baz=24,slow=5.7,SNR=14						
ILAR				PcP	**PcP**	**13 31 31.6**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=356,slow=2.9,SNR=6.0						
ILAR	**Eielson Array**	**45.71**	**332**	P	**P**	**13 29 54.5**	**+0.6**
MDM	**Murphy Dome**	**45.81**	**333**	P	**P**	**13 29 55.8**	**+1.1**
MDM				IAmb	IAmb	13 29 57.4	
	comp=Z,10nm,1.2s						
HDA	**Harding Lake**	**46.05**	**332**	P	**P**	**13 29 57.3**	**+0.8**
HDA				IAmb	IAmb	13 29 58.7	
	comp=Z,9.6nm,1.3s						
ZALV	**Zalesovo Beam**	**47.68**	**51**	P	**P**	**13 30 09.2**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=338,slow=11,SNR=6.2						
ZALV				PcP	**PcP**	**13 31 39.0**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=318,slow=2.0,SNR=3.7						
KURK	**Kurchatov**	**48.15**	**58**	P	**P**	**13 30 12.7**	**-0.4**
KURK				IAmb	IAmb	13 30 13.8	
	comp=Z,8.7nm,1.0s						
T47A	**Sharon Grove**	**48.62**	**270**	P	**P**	**13 30 17.7**	**+0.9**
T47A				IAmb	IAmb	13 30 19.0	
	comp=Z,7.4nm,0.8s						
EGMT	**Eagleton**	**48.87**	**297**	P	**P**	**13 30 19.3**	**+0.6**
W50A	**Signal Mountai**	**49.35**	**268**	P	**P**	**13 30 24.0**	**+1.5**
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**13 30 37.5**	**+0.2**
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**13 30 40.0**	**+0.4**
BOZ				IAmb	IAmb	13 30 42.3	
	comp=Z,6.6nm,1.1s						
MAKZ	**Makanchi**	**52.64**	**58**	P	**P**	**13 30 46.8**	**-0.3**
MCMT	**McKenzie Canyo**	**52.72**	**297**	P	**P**	**13 30 48.1**	**+0.1**
MK31	**Makanchi Array**	**52.77**	**58**	P	**P**	**13 30 47.8**	**-0.3**
MKAR	**Makanchi Array**	**52.77**	**58**	P	**P**	**13 30 48.1**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=325,slow=6.1,SNR=15						
MKAR	**Makanchi Array**	**52.77**	**58**	P	**P**	**13 30 47.8**	**-0.3**
LOHW	**Long Hollow**	**52.87**	**295**	P	**P**	**13 30 49.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**13 30 50.4**	**-0.4**
	comp=Z,5.1nm,0.5s,baz=340,slow=8.6,SNR=1.3						
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**13 30 49.9**	**-0.9**
TPAW	**Teton Pass**	**53.11**	**295**	P	**P**	**13 30 50.2**	**-0.8**
BW06	**Boulder Array**	**53.17**	**293**	P	**P**	**13 30 51.2**	**-0.2**
BW06				IAmb	IAmb	13 30 53.2	
	comp=Z,9.8nm,1.2s						
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**13 30 51.2**	**-0.1**
PD31				IAmb	IAmb	13 30 53.1	
	comp=Z,8.0nm,1.2s						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**13 30 51.5**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=60,slow=7.0,SNR=14						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**13 30 51.1**	**-0.3**
REDW	**Red Top Meadow**	**53.18**	**295**	P	**P**	**13 30 50.9**	**-0.5**
REDW				IAmb	IAmb	13 30 58.5	
	comp=Z,8.8nm,1.4s						
BOOM	**Boomskoye usch**	**53.99**	**66**	P	**P**	**13 30 58.0**	**+0.7**
BOOM				IAmb	IAmb	13 30 59.5	
	comp=Z,7.0nm,1.2s						
BTK	**Batken**	**53.99**	**72**	P	**P**	**13 30 57.8**	**+0.6**
CHGR	**Chuyangaron**	**54.50**	**74**	P	**P**	**13 31 01.0**	**+0.1**
GAR	**Garm**	**54.68**	**73**	P	**P**	**13 31 03.1**	**+0.8**
KDJ	**Kajisay**	**54.78**	**65**	P	**P**	**13 31 03.7**	**+0.7**
HWUT	**Hardware Ranch**	**54.95**	**294**	P	**P**	**13 31 04.8**	**+0.5**
HWUT				IAmb	IAmb	13 31 06.1	
	comp=Z,9.7nm,1.3s						
KSH	**Kashi**	**56.54**	**68**	P	**P**	**13 31 14.8**	**-0.8**
KSH				pmax	pmax		
	comp=Z,18nm,1.3s						
PV23	**Carpenter Ridg**	**56.62**	**290**	P	**P**	**13 31 16.4**	**+0.1**
PV23				IAmb	IAmb	13 31 18.0	
	comp=Z,6.2nm,0.9s						
PINE	**Pine Mountain**	**56.63**	**302**	P	**P**	**13 31 16.6**	**+0.3**
PINE				IAmb	IAmb	13 31 17.9	
	comp=Z,13nm,1.2s						
PV12	**Saucer Basin,**	**56.65**	**290**	P	**P**	**13 31 16.7**	**+0.2**
PV12				IAmb	IAmb	13 31 41.0	
	comp=Z,4.7nm,0.9s						
SRU	**San Rafael Swe**	**56.66**	**292**	P	**P**	**13 31 16.7**	**+0.1**
PV14	**Lion Creek, Pa**	**56.69**	**290**	P	**P**	**13 31 17.3**	**+0.4**
PV14				IAmb	IAmb	13 31 18.9	
	comp=Z,5.7nm,1.1s						
PV11	**David Mesa, Pa**	**56.69**	**290**	P	**P**	**13 31 17.1**	**+0.3**
PV11				IAmb	IAmb	13 31 18.0	
	comp=Z,4.3nm,0.8s						
PV02	**Paradox Valley**	**56.72**	**290**	P	**P**	**13 31 16.8**	**-0.3**
PV02				IAmb	IAmb	13 31 18.8	
	comp=Z,7.7nm,1.0s						
PV03	**Paradox Valley**	**56.72**	**290**	P	**P**	**13 31 17.4**	**+0.4**
PV03				IAmb	IAmb	13 31 19.2	
	comp=Z,3.8nm,1.0s						
PV17	**East Wray Mesa**	**56.74**	**290**	P	**P**	**13 31 17.7**	**+0.5**
PV17				IAmb	IAmb	13 31 41.4	
	comp=Z,8.1nm,1.4s						
PV18	**Skein Mesa, Pa**	**56.75**	**290**	P	**P**	**13 31 17.9**	**+0.6**
TMUT	**Trail Mountain**	**56.78**	**292**	P	**P**	**13 31 17.9**	**+0.3**
PV13	**Radium Mtn., P**	**56.79**	**290**	P	**P**	**13 31 18.1**	**+0.6**
ELK	**Elko**	**57.12**	**296**	P	**P**	**13 31 21.0**	**+1.2**
WMQ	**Urumqi**	**57.27**	**56**	*e*P	**P**	**13 31 23.8**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,51nm,4.7s						
WMQ				LR	LR		
	comp=N,160nm,29.0s						
WMQ				LR	LR		
	comp=E,600nm,29.0s						
WMQ				LR	LR		
	comp=Z,67nm,29.0s						
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**13 31 26.1**	**+1.1**
MVU	**Marysvale**	**57.86**	**293**	P	**P**	**13 31 25.8**	**+0.7**
PSUT	**Pine Spring**	**58.48**	**294**	P	**P**	**13 31 30.6**	**+1.2**
DBIC	**Dimbokro**	**58.55**	**165**	P	**P**	**13 31 30.0**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=346,slow=6.6,SNR=3.9						
JCT	**Junction City**	**59.63**	**277**	P	**P**	**13 31 38.1**	**+0.9**
JCT				IAmb	IAmb	13 31 39.5	
	comp=Z,7.5nm,0.9s						
KVN	**Kaiserville**	**59.68**	**298**	P	**P**	**13 31 38.2**	**+0.5**

XAN					pmax	pmax		
	comp=Z,5.0nm,1.2s							
NJ2	**Nanjing**	**77.79**	**37**	*e*P	**P**	**P**	**13 33 30.6**	**+0.3**
NJ2					pmax	pmax		
	comp=Z,13nm,0.5s							
CHTO	**Chiang Mai**	**83.85**	**59**	P	**P**		**13 34 02.4**	**-0.5**
CHTO					IAmb	IAmb	13 34 03.6	
	comp=Z,5.4nm,1.2s							
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**		**13 34 04.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=320,slow=6.5,SNR=12							
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**		**13 34 04.1**	**-0.5**
ASAR	**Alice Springs**	**135.01**	**38**	PKP	**PKPdf**		**13 40 52.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=343,slow=2.9,SNR=3.2							
QSPA	**South Pole Qui**	**154.54**	**180**	PKPbc	**PKiKP**		**13 41 33.4**	**+0.9**
	comp=Z,2.3nm,1.0s,baz=247,slow=3.3,SNR=4.0							

KRNET ***22*** *13:23:39.0±0.1, 40.°11N×71.°88E, mb2.0*
SOME ***22*** *13:23:45.4, 40.°47N×70.°08E, h0km*
NNC ***22*** *13:23:46.7±2.8, 40.°40N×70.°20E, h0km, mb2.6, mpv3.2, Error ellipse: s-maj=21.6km s-min=16.0km az=48.0*

ISC 22 13:23:41.8±1.3, 40.°42N±0.°06×71.°47E±0.°06, h10km, n10, σ1§24/14, 6C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.62**	**235**	⇑	*i*	P	**Pb**	**13 23 54.5**	**-0.2**
BTK	baz=67			⇑	*i*	S	**Sn**	**13 24 05.8**	**-0.9**
	baz=67								
IUG	**Iuzhnay**	**2.04**	**328**	*e*	P		**Pb**	**13 24 18.8**	**-0.3**
IUG	7.8nm,0.2s				*e*	S	**Sb**	**13 24 42.9**	**-1.7**
	16nm,0.3s								
IUG	**Iuzhnay**	**2.04**	**328**	P			**Pb**	**13 24 18.8**	**-0.3**
IUG	7.8nm,0.2s					S	**Sb**	**13 24 42.9**	**-1.7**
	16nm,0.3s								
MNAS	**Manas**	**2.21**	**20**	⇑	*i*	P	**Pb**	**13 24 21.5**	**-0.5**
MNAS	baz=11			⇑	*i*	S	**Sg**	**13 24 52.9**	**+0.1**
	baz=11								
ARLS	**Aral**	**2.59**	**55**	⇓	*i*	P	**Pn**	**13 24 23.9**	**-0.1**
ARLS	baz=46			⇓	*i*	S	**Sn**	**13 24 55.9**	**+0.3**
	baz=46								
MRKS	**Merke**	**2.67**	**29**	*e*	P		Pg	13 24 46.2	+13
MRKS	0.6nm,0.1s				*e*	S	Sg	13 25 29.9	+22
	4.0nm,0.3s								
MRKS	**Merke**	**2.67**	**29**	Pg		Pg	Pg	13 24 46.2	+13
MRKS	0.6nm,0.1s					Lg	Lg	13 25 29.9	
	4.0nm,0.3s								
KK31	**Karatay Array**	**2.78**	**345**	⇑	Pg		**Pg**	**13 24 35.9**	**+0.8**
KK31	0.5nm,0.3s,baz=185,slow=20,SNR=9.2			⇑	Lg		Lg	13 25 12.6	
	1.3nm,0.5s,baz=190,slow=32,SNR=11								
BRLS	**Borolday**	**2.88**	**335**	*e*	P		**Pn**	**13 24 29.8**	**+2.0**
BRLS	11nm,0.2s				*e*	S	**Sn**	**13 25 01.5**	**-1.2**
	5.5nm,0.2s								
BRLS	**Borolday**	**2.88**	**335**	Pg		Pg	**Pn**	**13 24 29.8**	**+2.0**
BRLS	11nm,0.2s					Lg	Lg	13 25 01.5	
	5.5nm,0.2s								

DSN ***22*** *13:27:23.7±1.8, 28.°63N×57.°14E, h10km, ML3.8/4, Error ellipse: s-maj=133.0km s-min=16.1km az=106.0*
IDC ***22*** *13:27:25.9±3.1, 27.°82N×55.°93E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/44, mbtmp3.6/4, Error ellipse: s-maj=74.1km s-min=29.6km az=160.0*
TEH ***22*** *13:27:30.9, 28.°15N×55.°85E, h10km, ML2.8*

ISC 22 13:27:29.9±0.8, 28.°22N±0.°04×55.°89E±0.°06, h10km, n17, σ1§13/17, mb3.8/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.85**	**163**	*e*	Pg		**Pg**	**13 27 46.1**	**-0.3**
GENO				*e*				13 28 07.1	
LAR1	**LAR**	**1.45**	**248**	*e*	Pg		**Pb**	**13 27 57.8**	**+0.8**
LAR1				*e*				13 28 37.3	
NGRK	**Negar Kerman**	**1.60**	**27**	*e*	Pn		**Pg**	**13 28 00.7**	**0.0**
NGRK				*e*				13 28 07.5	
SHME	**Shamm**	**2.17**	**174**	P			**Pn**	**13 28 07.2**	**+1.0**
CHMN	**Cheshme madani**	**2.19**	**41**	*e*	Pn		**Pg**	**13 28 11.3**	**-0.6**
CHMN				*e*				13 28 51.6	
KHGB	**Koh Gabri**	**2.21**	**13**	*e*	Pn		**Pb**	**13 28 10.7**	**+0.5**
KHGB				*e*				13 28 48.3	
BANOM	**Banah**	**2.31**	**171**	*e*	P		**Pn**	**13 28 10.0**	**+1.9**
	SNR=8.8								
BANOM					S		**Sg**	**13 28 43.5**	**-0.9**
KBAM	**BAM**	**2.43**	**67**	*e*	Pn		**Pb**	**13 28 14.3**	**+0.5**
KBAM				*e*				13 28 50.6	
UOSS	**Minazif**	**3.27**	**175**	P			**Pn**	**13 28 20.9**	**-0.4**
IMEH	**Mehriz**	**3.35**	**341**	*e*			Sg	13 29 27.5	+10
HATD	**Hatta, Dubai**	**3.38**	**176**	P			**Pn**	**13 28 24.7**	**+1.9**
ASHO	**Ashiyiah**	**3.52**	**177**	*i*	P		**Pn**	**13 28 25.3**	**+0.5**
	SNR=6.9								
BRTR	**Keskin Array B**	**21.67**	**308**	P			**P**	**13 32 21.6**	**+0.7**
	0.7nm,0.7s,baz=119,slow=12,SNR=1.7								
MKAR	**Makanchi Array**	**27.77**	**41**	P			**P**	**13 33 19.3**	**+0.4**
	0.2nm,0.6s,baz=231,slow=9.1,SNR=1.7								
ZALV	**Zalesovo Beam**	**33.29**	**31**	P			**P**	**13 34 07.5**	**0.0**
	1.1nm,0.6s,baz=246,slow=8.0,SNR=5.9								
HFS	**Hagfors**	**42.74**	**330**	P			**P**	**13 35 27.3**	**+0.2**
	1.5nm,0.8s,baz=116,slow=6.6,SNR=1.0								
TORD	**Torodi Ar. Bea**	**52.47**	**265**	P			**P**	**13 36 40.8**	**-2.5**
	114nm,0.9s,baz=59,slow=8.7,SNR=1.5								

IDC ***22*** *13:30:13.6±0.7, 63.°13S×171.°10E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/32, mbtmp4.4/13, ML4.1/1, MS4.3/16, Ms1 4.3/16, ms1mx4.1/26, Error ellipse: s-maj=29.9km s-min=16.3km az=73.0*
NEIC ***22*** *13:30:17.3±2.2, 63.°28S±0.°08×171.°0E±0.°2, h20km±2km, mb4.8/51, Error ellipse: s-maj=15.2km s-min=11.1km az=82.0*
GCMT ***22*** *13:30:17.3±0.2, 63.°10S±0.°01×171.°12E±0.°03, h15km±1km, MW5.1/96, Moment Tensor Solution. s45,c52; s96,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.18±.15; $M_{\theta\theta}$=4.44±.13; $M_{\phi\phi}$=-4.26±.13; $M_{r\theta}$=-5.18±.75; $M_{r\phi}$=-0.48±.12; $M_{\theta\phi}$=0.26±.41; Best double couple: M_0=6.05700×10^{16} NP1:ϕ_1=324.00000°, δ66.00000°, λ23.00000°. NP2: ϕ_2=224.00000°, δ69.00000°, λ154.00000°. Principal axes: T 7.8250, Plg33.0000°, Azm183.0000°; N -3.5420, Plg57.0000°, Azm7.0000°; P -4.2880, Plg2.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 13:30:15.5±0.4, 63.°22S±0.°05×171.°19E±0.°09, h10km, n106, σ1§49/81, mb4.8/26, MS4.3/20, 2C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**10.77**	**319**			Pn	**Pn**	**13 32 49.4**	**-0.2**
VNDA	**Vanda**	**14.67**	**188**			Pn	**Pn**	**13 33 41.5**	**-1.1**
	0.7nm,0.3s,baz=28,slow=17,SNR=50								
VNDA	**Vanda**	**14.67**	**188**			Pn	**Pn**	**13 33 40.9**	**-1.8**
PYZ	**Puysegur Point**	**17.28**	**349**			Pn	**Pn**	**13 34 16.5**	**0.0**
WHZ	**Wether Hill Ro**	**17.46**	**352**			Pn	**Pn**	**13 34 18.5**	**-0.3**
DCZ	**Deep Cove**	**17.94**	**351**				**P**	**13 34 27.2**	**+2.0**
DCZ						IAmb	IAmb	13 34 31.0	
	comp=Z,60nm,1.0s								
MLZ	**Mavora Lakes**	**17.97**	**353**				**P**	**13 34 26.6**	**+0.9**
ODZ	**Otahua Downs**	**18.21**	**359**				**Pn**	**13 34 28.2**	**+0.1**
WKZ	**Wanaka**	**18.47**	**355**			Pn	**Pn**	**13 34 34.0**	**+2.7**
WKZ						IAmb	IAmb	13 34 37.6	
	comp=Z,55nm,1.0s								
LBZ	**Lake Benmore**	**18.88**	**358**	P			**Pn**	**13 34 37.1**	**+0.9**
RPZ	**Rata Peaks**	**19.54**	**360**	P			**Pn**	**13 34 45.2**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=175,slow=13,SNR=4.1								
RPZ						LR	LR	13 40 42.9	
	comp=Z,2μm,21.7s,baz=206,slow=32								
RPZ	**Rata Peaks**	**19.54**	**360**				**Pn**	**13 34 45.9**	**+1.7**
RPZ						IAmb	IAmb	13 34 54.2	
	comp=Z,49nm,0.9s								
MQZ	**McQueen's Vall**	**19.57**	**3**	P			**Pn**	**13 34 44.8**	**+0.3**
MQZ						IAmb	IAmb	13 34 53.3	
	comp=Z,86nm,1.4s								
FOZ	**Fox Glacier**	**19.74**	**357**	P			**P**	**13 34 46.0**	**+1.0**
FOZ						IAmb	IAmb	13 34 51.7	
	comp=Z,79nm,1.4s								
OXZ	**Oxford**	**19.93**	**2**	P			**P**	**13 34 48.7**	**+1.5**
LTZ	**Lake Taylor**	**20.48**	**2**	P			**P**	**13 34 54.4**	**+1.2**
LTZ						IAmb	IAmb	13 35 10.8	
	comp=Z,39nm,1.1s								
THZ	**Tophouse**	**21.51**	**3**	P			**P**	**13 35 06.6**	**+2.2**
THZ						IAmb	IAmb	13 35 15.9	
	comp=Z,39nm,1.1s								
TUWZ	**Tuamarina**	**21.88**	**6**	P			**P**	**13 35 10.0**	**+1.7**
QRZ	**Quartz Range**	**22.44**	**3**	P			**P**	**13 35 15.2**	**+1.0**
BFZ	**Birch Farm**	**22.77**	**10**	P			**P**	**13 35 18.5**	**+0.8**
BFZ						IAmb	IAmb	13 35 34.5	
	comp=Z,50nm,1.0s								
BKZ	**Black Stump Fm**	**24.30**	**10**	P			**P**	**13 35 34.1**	**+1.3**
CASY	**Casey**	**25.16**	**236**	P			**P**	**13 35 41.8**	**+1.5**
CASY						IAmb	IAmb	13 35 46.0	
	comp=Z,18nm,0.9s								
URZ	**Urewera**	**25.25**	**11**	P			**P**	**13 35 39.6**	**-1.7**
	comp=Z,13nm,1.1s,baz=162,slow=18,SNR=3.2								
URZ						LR	LR	13 43 50.8	
	comp=Z,1μm,21.8s,baz=206,slow=32								
URZ	**Urewera**	**25.25**	**11**			IAmb	IAmb	13 35 58.3	
	comp=Z,23nm,1.0s								
QSPA	**South Pole Qui**	**26.87**	**180**	P			**P**	**13 35 55.8**	**-0.3**
	comp=Z,5.3nm,1.2s,baz=24,slow=5.1,SNR=7.2								
QSPA						LR	LR	13 44 51.9	
	comp=Z,833nm,20.7s,baz=27,slow=33								
QSPA	**South Pole Qui**	**26.87**	**180**	P			**P**	**13 35 55.9**	**-0.2**
STKA	**Stephens Creek**	**36.52**	**315**	P			**P**	**13 37 18.4**	**-2.3**
	comp=Z,2.6nm,1.0s,baz=156,slow=12,SNR=2.3								
STKA						LR	LR	13 50 27.0	
	comp=Z,391nm,18.4s,baz=152,slow=33								
STKA	**Stephens Creek**	**36.52**	**315**	P			**P**	**13 37 22.7**	**+1.9**
BELA	**Belgrano 2**	**38.27**	**171**	P			**P**	**13 37 35.3**	**+0.2**
MAW	**Mawson**	**39.75**	**215**	P			**P**	**13 37 48.7**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=132,slow=9.6,SNR=9.9								
MAW						LR	LR	13 54 01.2	
	comp=Z,976nm,19.8s,baz=137,slow=36								
MAW	**Mawson**	**39.75**	**215**	P			**P**	**13 37 47.4**	**-0.2**
DZM	**Mont Dzumac**	**41.25**	**353**	*e*			**S**	**13 44 09.5**	**-4.8**
	comp=Z,147nm,22.2s								
DZM					*e*	LR	LR	13 49 18.6	
	comp=Z,876nm,22.9s								
SYO	**Syowa Base**	**43.68**	**203**	⇑	*e*	P	**P**	**13 38 20.0**	**+0.3**
SYO	**Syowa Base**	**43.68**	**203**	⇑	*e*	pP	pP	13 38 24.8	+2.7
H01W1	**Cape Leeuwin H**	**44.74**	**282**			T	T	14 26 25.2	
	baz=147,slow=76,SNR=180								
H01W2	**Cape Leeuwin H**	**44.75**	**282**			T	T	14 26 25.4	
	baz=147,slow=76,SNR=163								
H01W3	**Cape Leeuwin H**	**44.76**	**282**			T	T	14 26 26.5	
	baz=147,slow=76,SNR=158								
NWAO	**Narrogin (SRO)**	**45.05**	**286**			LR	LR	13 52 41.4	
	comp=Z,823nm,20.9s,baz=119,slow=30								
SNAA	**Sanae**	**45.32**	**183**	P			**P**	**13 38 32.3**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=200,slow=12,SNR=8.8								
SNAA	**Sanae**	**45.32**	**183**	P			**P**	**13 38 32.2**	**-0.7**
MSVF	**Nonsavu**	**45.69**	**9**	P			**P**	**13 38 35.3**	**-1.0**
MSVF						IAmb	IAmb	13 38 57.3	
	comp=Z,23nm,1.4s								
VNA3	**Neumayer Olymp**	**45.81**	**180**	P			**P**	**13 38 37.6**	**+0.9**
NIUE	**Niue**	**45.97**	**25**	P			**P**	**13 38 38.7**	**+0.2**
PMSA	**Palmer Station**	**45.99**	**151**	P			**P**	**13 38 37.2**	**-0.9**
VNA2	**Neumayer--Watz**	**46.13**	**181**	P			**P**	**13 38 38.3**	**-0.9**
	baz=177,slow=7.2								
CTAO	**Charters Tower**	**46.33**	**327**	P			**P**	**13 38 41.1**	**-0.3**
RAR	**Rarotonga**	**46.35**	**39**	P			**P**	**13 38 43.4**	**+1.9**
VNA1	**Neumayer--Stat**	**46.41**	**180**	P			**P**	**13 38 42.3**	**+0.9**
ASAR	**Alice Springs**	**46.66**	**310**	P			**P**	**13 38 42.1**	**-1.8**
	comp=Z,3.8nm,0.9s,baz=158,slow=7.8,SNR=23								
ASAR						PcP	**PcP**		
	comp=Z,1.8nm,0.9s,baz=140,slow=4.0,SNR=5.6								
ASAR						LR	LR	13 56 42.3	
	comp=Z,181nm,18.5s,baz=148,slow=34								
ASAR	**Alice Springs**	**46.66**	**310**	P			**P**	**13 38 42.0**	**-2.0**
AS31	**Alice Springs**	**46.66**	**310**	P			**P**	**13 38 42.0**	**-1.9**
TBI	**Tubuai**	**47.68**	**52**	*e*		S	**S**	**13 45 45.0**	**-2.4**
	comp=Z,249nm,29.5s								
TBI					*e*	LQ	LQ	13 50 05.8	
	comp=Z,778nm,28.5s								
TBI					*e*	LR	LR	13 52 13.8	
	comp=Z,375nm,26.5s								
TBI	**Tubuai**	**47.68**	**52**	*e*		T	T	14 29 53.3	
	comp=Z,9.2nm,0.3s								
SANVU	**Saraoutou**	**47.80**	**355**	P			**P**	**13 38 51.6**	**-1.1**
MORW	**Morawa**	**48.89**	**288**	P			**P**	**13 39 00.7**	**-0.5**
WR0	**Warramunga Arr**	**49.88**	**313**	P			**P**	**13 39 05.8**	**-3.0**
WR0						IAmb	IAmb	13 39 10.1	
	comp=Z,16nm,1.4s								
WB2	**Warramunga Arr**	**49.96**	**313**	P			**P**	**13 39 06.1**	**-3.3**
WRA	**Warramunga Arr**	**49.96**	**313**	P			**P**	**13 39 06.5**	**-2.9**
	comp=Z,3.0nm,1.1s,baz=163,slow=6.3,SNR=8.3								
WRA						PcP	**PcP**	**13 40 29.5**	**+0.1**
	comp=Z,2.9nm,1.1s,baz=162,slow=3.2,SNR=8.4								
WRA						LR	LR	13 59 11.4	
	comp=Z,213nm,18.7s,baz=140,slow=35								
WB0	**Warramunga Arr**	**50.11**	**313**	P			**P**	**13 39 12.3**	**+1.8**
WB0						IAmb	IAmb	13 39 15.2	
	comp=Z,9.9nm,1.1s								
PAE	**Paea**	**52.88**	**49**	*e*		T	T	14 36 23.0	
	comp=Z,4.8nm,0.3s								
TVO	**Taravao**	**52.88**	**50**	*e*		T	T	14 36 19.2	
	comp=Z,2.6nm,0.3s								
PPT2	**Papeete2**	**52.95**	**49**	*e*		LQ	LQ	13 52 03.5	
	comp=Z,782nm,25.8s								
PPT2						eLR	LR	13 54 37.0	
	comp=Z,356nm,25.8s,baz=190								
PPT2	**Papeete2**	**52.95**	**49**	*e*		T	T	14 36 28.2	
	comp=Z,10nm,0.3s								
PPT	**Papeete**	**52.97**	**49**			LR	LR	13 57 23.0	
	comp=Z,115nm,18.1s,baz=220,slow=31								
COEN	**Coen**	**52.99**	**325**			P	**P**	**13 39 34.5**	**+2.4**
COEN						IAmb	IAmb	13 39 38.8	
	comp=Z,24nm,1.2s								
TIAR	**Tiarei**	**53.06**	**49**	*e*		T	T	14 36 35.4	
	comp=Z,3.5nm,0.3s								
MEH	**Mehetia**	**53.21**	**51**	*e*		T	T	14 36 47.9	
	comp=Z,36nm,0.3s								
PSA00	**Pilbara Seismi**	**53.90**	**296**	P			**P**	**13 39 37.9**	**-0.9**
PSA00	**Pilbara Seismi**	**53.90**	**296**	P			**P**	**13 39 37.7**	**-1.0**
PSA00						IAmb	IAmb	13 39 39.2	
	comp=Z,26nm,1.4s								
HNR	**Honiara**	**54.30**	**346**			LR	LR	13 58 07.6	
	comp=Z,223nm,21.8s,baz=216,slow=31								
FITZ	**Fitzroy Crossi**	**54.76**	**304**	P			**P**	**13 39 45.5**	**+0.5**
FITZ						IAmb	IAmb	13 39 47.1	
	comp=Z,14nm,1.4s								
VAH	**Vaihoa**	**55.81**	**50**	*e*		T	T	14 40 02.3	
	comp=Z,193nm,0.2s								
KNRA	**Kununurra**	**55.84**	**308**	P			**P**	**13 39 55.0**	**+2.2**
PMG	**Port Moresby**	**56.43**	**331**	P			**P**	**13 39 59.7**	**+2.8**
CRZF	**Crozet Islands**	**60.64**	**224**	P			**P**	**13 40 27.1**	**+1.1**
BATI	**Baumata**	**62.74**	**305**			LR	LR	14 05 31.8	
	comp=Z,163nm,21.2s,baz=177,slow=34								
TAOE	**Nuku Hiva Isla**	**64.40**	**55**	*e*		LR	LR	13 59 58.6	
	comp=Z,224nm,23.4s								
H03S2	**Juan Fernandez**	**68.54**	**123**			T	T	14 56 53.2	
	baz=205,slow=74,SNR=27								
H03S1	**Juan Fernandez**	**68.54**	**123**			T	T	14 57 09.1	
	baz=205,slow=74,SNR=32								
H03S3	**Juan Fernandez**	**68.56**	**123**			T	T	14 56 44.6	
	baz=205,slow=74,SNR=31								
KAPI	**Kappang**	**68.98**	**303**			P	**P**	**13 41 21.8**	**+1.1**
KAPI						IAmb	IAmb	13 41 33.5	
	comp=Z,11nm,1.1s								
LEM	**Lembang**	**72.21**	**291**	P			**P**	**13 41 40.5**	**-0.2**
	comp=Z,7.3nm,0.4s,baz=162,slow=10,SNR=1.8								
CO03	**El Pedregal**	**74.27**	**128**	P			**P**	**13 41 53.7**	**+1.1**
CO03						IAmb	IAmb	13 41 59.4	
	comp=Z,17nm,1.2s								
AC02	**Maricunga**	**78.47**	**128**	P			**P**	**13 42 16.9**	**-0.1**
AC02						IAmb	IAmb	13 42 23.9	
	comp=Z,12nm,1.2s								
SBUM	**Sibu**	**78.73**	**299**	P			**P**	**13 42 17.5**	**-0.4**
SBUM						IAmb	IAmb	13 42 26.1	
	comp=Z,20nm,1.5s								
LVC	**Limon Verde**	**82.41**	**126**	P			**P**	**13 42 38.7**	**+0.7**
LVC						IAmb	IAmb	13 42 46.6	
	comp=Z,12nm,1.2s								
CPUP	**Villa Florida**	**82.88**	**137**	P			**P**	**13 42 39.7**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=204,slow=7.0,SNR=4.0								
CPUP						LR	LR	14 16 35.5	
	comp=Z,260nm,18.2s,baz=208,slow=34								
CPUP	**Villa Florida**	**82.88**	**137**	P			**P**	**13 42 40.9**	**+1.0**
CPUP						IAmb	IAmb	13 42 48.3	
	comp=Z,13nm,1.4s								
BOSA	**Boshof**	**84.56**	**210**	P			**P**	**13 42 48.1**	**-0.7**
	comp=Z,7.4nm,1.2s,baz=173,slow=5.4,SNR=3.7								
BOSA						LR	LR	14 19 22.3	
	comp=Z,115nm,18.2s,baz=178,slow=35								
BOSA	**Boshof**	**84.56**	**210**			IAmb	IAmb	13 42 50.5	
	comp=Z,33nm,1.5s								
PSI	**Prapat**	**84.58**	**287**			LR	LR	14 15 07.3	
	comp=Z,113nm,20.3s,baz=104,slow=32								
MNMC	**Minye Minye**	**85.33**	**124**	P			**P**	**13 42 53.2**	**+0.3**
MNMC						IAmb	IAmb	13 43 01.9	
	comp=Z,7.9nm,1.0s								
PB16	**IPOC Station P**	**86.09**	**124**	P			**P**	**13 42 57.2**	**+0.1**
PB16						IAmb	IAmb	13 43 03.8	
	comp=Z,11nm,1.4s								
H08S2	**Diego Garcia H**	**87.14**	**259**			T	T	15 19 38.0	
	baz=152,slow=76,SNR=123								
H08S1	**Diego Garcia H**	**87.15**	**259**			T	T	15 19 40.0	
	baz=152,slow=76,SNR=106								
H08S3	**Diego Garcia H**	**87.16**	**259**			T	T	15 19 39.8	
	baz=152,slow=76,SNR=176								
LPAZ	**La Paz**	**88.48**	**124**	P			**P**	**13 43 08.9**	**+0.2**
	comp=Z,7.3nm,1.2s,baz=138,slow=3.4,SNR=7.6								
LPAZ						LR	LR	14 13 51.5	
	comp=Z,71nm,21.2s,baz=206,slow=30								
LPAZ	**La Paz**	**88.48**	**124**	P			**P**	**13 43 08.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**98.59**	**294**	P			Pdif	13 43 54.8	+0.6
	comp=Z,0.4nm,0.3s,baz=194,slow=3.3,SNR=4.5								
CMAR						LR	LR	14 25 41.8	
	comp=Z,66nm,20.3s,baz=195,slow=34								
GTA	**Gaotai**	**116.85**	**305**	*e*	PKP		**PKiKP**	**13 49 02.3**	**+2.9**
GTA						LR	LR		
	comp=N,83nm,17.4s								
GTA						LR	LR		
	comp=E,86nm,19.3s								
GTA						LR	LR		
	comp=Z,140nm,18.2s								
MKAR	**Makanchi Array**	**129.93**	**296**		PKP		**PKiKP**	**13 49 24.6**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=48,slow=2.1,SNR=5.9								
ILAR	**Eielson Array**	**131.38**	**22**		PKP		**PKiKP**	**13 49 26.9**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=244,slow=3.2,SNR=8.4								
NRIK	**Noril'sk**	**144.65**	**322**		PKP		**PKPab**	**13 49 48.2**	**-0.9**
	comp=Z,8.8nm,1.0s,baz=81,slow=4.2,SNR=6.1								
KBZ	**Khabaz**	**144.84**	**261**		PKP		**PKPdf**	**13 49 50.7**	**-0.7**
	comp=Z,17nm,0.9s,baz=158,slow=3.6,SNR=23								
BRTR	**Keskin Array B**	**145.62**	**247**		PKPbc		**PKPbc**	**13 49 52.9**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=165,slow=5.1,SNR=14								
AKASG	**Malin Array Ex**	**156.20**	**256**		PKPab		**PKPab**	**13 50 36.3**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=131,slow=3.4,SNR=12								

IDC ***22*** *13:59:52.0±1.6, 63.°07S×170.°32E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/21, mbtmp3.6/5, ML3.1/1, MS3.6/9, Ms1 3.6/9, ms1mx3.5/19, Error ellipse: s-maj=54.2km s-min=29.7km az=66.0*
NEIC ***22*** *13:59:53.4±1.0, 63.°06S±0.°09×170.°7E±0.°6, h17km±4km, mb4.2/4, Error ellipse: s-maj=35.9km s-min=13.0km az=84.0*

ISC 22 13:59:52.8±1.1, 63.°1S±0.°1×170.°5E±0.°3, h10km, n25, σ0§93/10, mb3.5/4, MS3.6/7, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.79**	**187**			Pn	**Pn**	**14 03 21.7**	**+0.1**
	0.1nm,0.3s,baz=15,slow=10,SNR=8.5								
VNDA						LR	LR	14 07 45.9	
	comp=Z,170nm,21.5s,baz=358,slow=32								
VNDA	**Vanda**	**14.79**	**187**				**Pn**	**14 03 21.5**	**-0.2**
RPZ	**Rata Peaks**	**19.38**	**1**			LR	LR	14 11 43.9	
	comp=Z,142nm,18.3s,baz=186,slow=37								
RPZ	**Rata Peaks**	**19.38**	**1**			Pn	**Pn**	**14 04 19.4**	**-0.2**
RPZ						IAmb	IAmb	14 04 33.2	
	comp=Z,31nm,1.4s								
QSPA	**South Pole Qui**	**27.03**	**180**			LR	LR	14 13 56.4	
	comp=Z,136nm,20.2s,baz=32,slow=31								
STKA	**Stephens Creek**	**36.20**	**316**			LR	LR	14 19 21.2	
	comp=Z,131nm,19.9s,baz=188,slow=32								
MAW	**Mawson**	**39.71**	**215**	P			**P**	**14 07 24.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=151,slow=13,SNR=2.0								
MAW	**Mawson**	**39.71**	**215**			IAmb	IAmb	14 07 29.6	
	comp=

STKA	**Stephens Creek**	**37.59**	**159**	P	**P**	**14 19 56.5**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=329,slow=9.5,SNR=3.8						
STKA	**Stephens Creek**	**37.59**	**159**	IAmb	IAmb	14 20 17.0	
	comp=Z,2.9nm,1.5s						
MKAR	**Makanchi Array**	**58.07**	**325**	P	**P**	**14 22 34.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=122,slow=7.0,SNR=4.7						
MKAR	**Makanchi Array**	**58.07**	**325**	P	**P**	**14 22 33.8**	**-0.8**
KURK	**Kurchatov**	**62.26**	**328**	P	**P**	**14 23 04.0**	**+0.9**
CASY	**Casey**	**70.30**	**187**	P	**P**	**14 23 54.5**	**+0.2**
CASY				IAmb	IAmb	14 24 04.2	
	comp=Z,3.1nm,0.8s						

IDC 22 14:37:55.3±4.9, 63°07S×171°42E, h0km, mb3.4/1, mb1 3.6/2, mb1mx3.4/26, mbtmp3.4/2, ML3.0/1, MS3.5/9, Ms1 3.5/9, ms1mx3.4/11, Error ellipse: s-maj=195.8km s-min=47.4km az=74.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.84**	**188**	Pn	Pn	14 41 26.1	+0.2
	0.1nm,0.3s,baz=13,slow=10.0,SNR=7.7						
VNDA				LR	LR	14 45 50.9	
	comp=Z,158nm,20.3s,baz=5.5,slow=32						
RPZ	**Rata Peaks**	**19.39**	**359**	LR	LR	14 48 54.3	
	comp=Z,102nm,19.8s,baz=196,slow=34						
URZ	**Urewera**	**25.08**	**11**	LR	LR	14 52 01.6	
	comp=Z,106nm,18.7s,baz=212,slow=34						
QSPA	**South Pole Qui**	**27.02**	**180**	LR	LR	14 52 36.1	
	comp=Z,111nm,19.1s,baz=33,slow=33						
STKA	**Stephens Creek**	**36.49**	**315**	LR	LR	14 57 25.7	
	comp=Z,80nm,19.8s,baz=202,slow=32						
MAW	**Mawson**	**39.93**	**214**	LR	LR	15 01 54.8	
	comp=Z,48nm,18.4s,baz=117,slow=36						
H01W1	**Cape Leeuwin H**	**44.81**	**281**	T	T	15 33 59.2	
	baz=147,slow=76,SNR=9.2						
H01W2	**Cape Leeuwin H**	**44.82**	**281**	T	T	15 34 00.2	
	baz=147,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**44.83**	**281**	T	T	15 34 00.0	
	baz=147,slow=76,SNR=12						
ASAR	**Alice Springs**	**46.65**	**310**	P	P	14 46 25.2	0.0
	0.4nm,0.8s,baz=163,slow=6.8,SNR=2.9						
ASAR				LR	LR	15 03 07.9	
	comp=Z,38nm,18.9s,baz=151,slow=32						
WRA	**Warramunga Arr**	**49.94**	**312**	LR	LR	15 06 04.0	
	comp=Z,74nm,19.5s,baz=165,slow=34						
PLCA	**Paso Flores**	**65.41**	**132**	LR	LR	15 14 00.2	
	comp=Z,43nm,18.2s,baz=150,slow=33						
H08S2	**Diego Garcia H**	**87.27**	**259**	T	T	16 27 17.2	
	baz=152						
H08S1	**Diego Garcia H**	**87.28**	**259**	T	T	16 27 10.3	
	baz=152						
H08S3	**Diego Garcia H**	**87.29**	**259**	T	T	16 27 11.4	
	baz=152						
KBZ	**Khabaz**	**144.97**	**261**	PKP	PKPbc	14 57 32.8	+0.3
	1.9nm,1.0s,baz=169,slow=4.1,SNR=3.6						
BRTR	**Keskin Array B**	**145.77**	**247**	PKPbc	PKPdf	14 57 34.4	-0.5
	0.3nm,0.4s,baz=169,slow=2.9,SNR=4.4						

IDC 22 15:01:42.7±4.3, 32°44N×140°66E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML1.9/1, Error ellipse: s-maj=165.8km s-min=30.1km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.57**	**334**	Pn	Pn	15 02 51.8	-14
	0.1nm,0.3s,baz=158,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**46.17**	**306**	P	P	15 10 09.5	-26
	0.4nm,0.8s,baz=94,slow=9.7,SNR=2.2						
WRA	**Warramunga Arr**	**52.43**	**188**	P	P	15 10 57.0	-71
	0.4nm,0.6s,baz=5.8,slow=7.7,SNR=9.3						

JMA 22 15:02:39.4, 35°06N×137°78E, h18km±1km, M-0.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYZW	**Yoshizawa**	**0.07**	**211**	P	Pg	15 02 42.7	-0.1
HMMJ	**Hamamatsu 2**	**0.21**	**193**	P	Pb	15 02 44.4	-0.1
HMMJ				eS	Sg	15 02 47.9	0.0
JHMK	**Hamakita**	**0.24**	**184**	S	Sg	15 02 48.4	-0.3

IDC 22 15:30:40.1±6.1, 4°52S×102°89E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=313.5km s-min=29.7km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W3	**Cape Leeuwin H**	**31.96**	**162**	T	T	16 11 07.4	
	baz=338,slow=76,SNR=4.5						
H01W2	**Cape Leeuwin H**	**31.98**	**162**	T	T	16 11 01.7	
	baz=338,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**31.98**	**162**	T	T	16 11 01.6	
	baz=338,slow=76,SNR=3.2						
WRA	**Warramunga Arr**	**34.25**	**119**	P	P	15 37 27.5	-0.6
	0.5nm,1.0s,baz=294,slow=8.8,SNR=1.3						
ASAR	**Alice Springs**	**35.45**	**125**	P	P	15 37 38.9	+0.4
	0.5nm,1.1s,baz=299,slow=7.7,SNR=2.3						
MKAR	**Makanchi Array**	**54.24**	**343**	P	P	15 40 07.7	-0.1
	0.4nm,0.5s,baz=150,slow=8.3,SNR=6.3						

*NEIC **22** 15:46:58.4±1.2, 9.4N±0.1×83.7W±0.1, h10km±2km, Mwr4.0(UCR), Error ellipse: s-maj=25.1km s-min=4.9km az=228.0*
*UCR **22** 15:47:00.6±1.7, 9.46N×83.71W, h13km±3km, MD3.5, MW3.9, mb4.0(NEIC)*
*UPA **22** 15:47:00.0±1.3, 9.44N×83.72W, h8km±4km, MW4.3*
*INET **22** 15:47:23.6, 10.82N×84.57W, h81km, ML2.3*

ISC 22 15:47:00.7±0.8, 9°43N±0.03×83°72W±0.03, h25km±5km, n66, σ0°95/105, 14C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.07**	**139**	*i* P	**Pb**	**15 47 05.0**	**-0.4**
PEZE				*eS*	**Sb**	**15 47 08.5**	**+0.1**
CDM	**Cerro de Muert**	**0.12**	**341**	↓ *i* P	**Pb**	**15 47 05.5**	**-0.7**
CDM				*eS*	**Sb**	**15 47 09.3**	**-0.5**
EDLM	**Las Mercedes**	**0.20**	**139**	*i* P	**Pb**	**15 47 06.2**	**-0.3**
EDLM				*i* S	**Sb**	**15 47 10.7**	**+0.2**
EDDO	**Dominical**	**0.23**	**218**	*i* P	**Pb**	**15 47 06.6**	**-0.2**
EDDO				*eS*	**Sb**	**15 47 11.4**	**+0.5**
RIMA	**Rio Macho**	**0.36**	**337**	↑ *eP*	**Pb**	**15 47 07.8**	**-1.0**
RIMA				*eS*	**Sb**	**15 47 13.4**	**-1.0**
LCR2	**La Lucha 2**	**0.41**	**318**	↑ *iP*	**Pb**	**15 47 08.8**	**-0.9**
LCR2				*eS*	**Sb**	**15 47 15.0**	**-0.8**
DRK0	**Durika**	**0.50**	**110**	↑ *iP*	**Pb**	**15 47 10.2**	**-0.9**
DRK0				*i* S	**Sb**	**15 47 17.9**	**-0.2**
DRK0	**Durika**	**0.50**	**110**	↑ *eP*	**Pb**	**15 47 10.2**	**-0.9**
DRK0				*eS*	**Sb**	**15 47 17.7**	**-0.5**
EDBA	**Buenos Aires**	**0.52**	**121**	↑ *iP*	**Pb**	**15 47 10.3**	**-1.0**
EDBA				*i* S	**Sb**	**15 47 17.7**	**-0.8**
SJS	**Escuela Geolog**	**0.60**	**327**	↑ *iP*	**Pb**	**15 47 11.8**	**-1.0**
SJS				*eS*	**Sb**	**15 47 20.7**	**-0.2**
HDC3	**Heredia 3**	**0.68**	**326**	↑ *iP*	**Pb**	**15 47 13.4**	**-0.7**
HDC3				*eS*	**Sb**	**15 47 22.9**	**-0.3**
HDC	**Heredia**	**0.68**	**326**	↑ *iP*	**Pb**	**15 47 13.4**	**-0.7**
HDC				*eS*	**Sb**	**15 47 24.2**	**+1.0**
HDC	**Heredia**	**0.68**	**326**	↑ *iP*	**Pb**	**15 47 13.2**	**-0.9**
HDC				*eS*	**Sb**	**15 47 23.2**	**-0.1**
HDC	**Heredia**	**0.68**	**326**		**Pb**	**15 47 13.3**	**-0.9**
HDC					**Pb**	**15 47 23.4**	**+0.1**
BATAN	**Batan**	**0.74**	**27**	↓ *iP*	**Pb**	**15 47 14.6**	**-0.5**
BATAN				*i* S	**Sn**	**15 47 25.9**	**-0.2**
RIOS	**Rincon, Osa**	**0.76**	**164**	*eP*	**Pb**	**15 47 13.7**	**-1.6**
EDSV	**San Vito**	**0.96**	**129**	*eP*	**Pb**	**15 47 18.2**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.98**	**155**	*eP*	**Pb**	**15 47 18.4**	**-0.7**
PTJ1				*eS*	**Sn**	**15 47 32.2**	**+0.2**
PTJ1	**Puerto Jimnez**	**0.98**	**155**	*eP*	**Pb**	**15 47 17.6**	**-1.6**
SRA1	**San Ramn**	**0.99**	**311**	↑ *eP*	**Pb**	**15 47 17.6**	**-1.7**
SRA1				*eS*	**Sb**	**15 47 30.9**	**-1.0**
MLIR3	**Monte Lirio, C**	**1.09**	**126**	*eP*	**Pn**	**15 47 20.9**	**+0.3**
MLIR3				*eS*	**Sn**	**15 47 37.3**	**+2.4**
CDITO	**Canoas**	**1.20**	**135**	*eP*	**Pn**	**15 47 21.6**	**-0.3**
BRU2	**Volcan**	**1.20**	**122**	*eP*	**Pn**	**15 47 22.2**	**+0.1**
BRU2				*eS*	**Sb**	**15 47 39.1**	**+0.9**
BRU2	**Volcan**	**1.20**	**122**	↑ *eP*	**Pn**	**15 47 21.6**	**-0.5**
LAFE	**Finca La Fe, P**	**1.23**	**288**	*eP*	**Pn**	**15 47 22.5**	**+0.2**
BC3P	**Paso Ancho**	**1.26**	**119**	*eP*	**Pn**	**15 47 22.7**	**-0.3**
BC3P				*eS*	**Sb**	**15 47 40.7**	**+0.9**
BCO2	**Palmira**	**1.38**	**121**	↓ *iP*	**Pn**	**15 47 24.6**	**0.0**
BCO2				*eS*	**Sn**	**15 47 42.8**	**+0.8**
FORC	**Fortuna**	**1.39**	**318**	*i* P	**Pn**	**15 47 24.5**	**0.0**
FORC				*i* S	**Sb**	**15 47 44.2**	**+0.9**
CASO	**Castillo**	**1.41**	**315**	*i* P	**Pn**	**15 47 24.2**	**-0.6**
CASO				*i* S	**Sb**	**15 47 43.7**	**-0.3**
ARE1	**Arenal 1**	**1.42**	**316**	↑ *iP*	**Pn**	**15 47 25.1**	**+0.2**
ARE1				*eS*	**Sb**	**15 47 44.9**	**+0.7**
PTAR3	**Potrerillos Ar**	**1.42**	**121**	*eP*	**Pn**	**15 47 25.2**	**+0.1**
PTAR3				*eS*	**Sb**	**15 47 44.6**	**+0.3**
CEDE	**Laguna Cedeo**	**1.42**	**317**	↑ *iP*	**Pn**	**15 47 25.3**	**+0.2**
CEDE				*eS*	**Sb**	**15 47 44.4**	**-0.1**
COVE	**Coope Vega, Sa**	**1.44**	**332**	↑ *iP*	**Pn**	**15 47 25.3**	**+0.1**
COVE				*eS*	**Sb**	**15 47 44.5**	**-0.3**
JTS	**Las Juntas de**	**1.48**	**305**	*eP*	**Pn**	**15 47 25.7**	**-0.1**
JTS				*eS*	**Sb**	**15 47 45.6**	**-0.5**
JTS	**Las Juntas de**	**1.48**	**305**	*eP*	**Pn**	**15 47 24.9**	**-1.0**
JTS				*eS*	**Sb**	**15 47 46.2**	**+0.2**
JTS	**Las Juntas de**	**1.48**	**305**	Pn	**Pn**	**15 47 25.4**	**-0.5**
BAGA3	**Bagala, Chiriq**	**1.52**	**129**	*eP*	**Pn**	**15 47 26.8**	**+0.4**
BAGA3				*eS*	**Sb**	**15 47 47.9**	**+0.7**
PSOM3	**Paja de Sombre**	**1.57**	**118**	↓ *iP*	**Pn**	**15 47 27.4**	**+0.3**
PSOM3				*i* S	**Sn**	**15 47 47.6**	**+1.0**
CHGR2	**Aguacate**	**1.64**	**107**	*eP*	**Pn**	**15 47 27.9**	**0.0**
CHGR2				*eS*	**Sb**	**15 47 49.6**	**-0.8**
LOCO3	**Loma Colorada,**	**1.64**	**128**	*eP*	**Pn**	**15 47 27.3**	**-0.7**
LOCO3				*eS*	**Sn**	**15 47 45.2**	**-3.2**
PEDE3	**Pedregal, Chir**	**1.66**	**129**	*eP*	**Pn**	**15 47 28.9**	**+0.7**
ACAL	**Aguas Claras**	**1.76**	**313**	*i* P	**Pn**	**15 47 30.0**	**+0.3**
ACAL				*i* S	**Sb**	**15 47 54.3**	**+0.2**
PTEN	**Parque Tenorio**	**1.78**	**316**	*i* P	**Pn**	**15 47 30.4**	**+0.4**
PLVR	**Palo Verde**	**1.84**	**300**	*eP*	**Pn**	**15 47 31.1**	**+0.1**
CUI	**Cuipilapa**	**1.87**	**311**	*i* P	**Pn**	**15 47 32.0**	**+0.8**
HORNC	**Hornillas**	**1.92**	**312**	*i* P	**Pn**	**15 47 32.5**	**+0.7**
GUAI	**GUAI**	**1.95**	**295**	*i* P	**Pn**	**15 47 32.4**	**+0.2**
GUAB	**Guayabo de Bag**	**1.95**	**311**	*i* P	**Pn**	**15 47 33.4**	**+1.1**
LIM1	**Limonal**	**1.96**	**310**	*i* P	**Pn**	**15 47 33.3**	**+0.8**
LIM1				*i* S	**Sb**	**15 48 00.4**	**+0.5**
GPS2	**Hotel Rincn d**	**2.07**	**309**	*i* P	**Pn**	**15 47 35.5**	**+1.5**
GPS2				*i* S	**Sb**	**15 48 02.6**	**-0.5**
GPS1	**Guardaparques**	**2.08**	**310**	*i* P	**Pn**	**15 47 35.6**	**+1.4**
BUAI	**Buenos Aires**	**2.14**	**312**	*i* P	**Pn**	**15 47 36.2**	**+1.3**
BUEV	**Buena Vista**	**2.14**	**309**	*eP*	**Pn**	**15 47 36.6**	**+1.6**
LAPC	**Finca la Perla**	**2.14**	**308**	*i* P	**Pn**	**15 47 35.5**	**+0.6**
LAPC				*i* S	**Sn**	**15 48 02.8**	**+2.1**
GB1A	**Borinquen Arpi**	**2.15**	**310**	*i* P	**Pn**	**15 47 36.4**	**+1.3**
GBS3	**Finca Las Img**	**2.17**	**308**	*i* P	**Pn**	**15 47 36.1**	**+0.8**
ESPN	**Las Esperanzas**	**2.80**	**348**	*eP*	**Pn**	**15 47 45.4**	**+1.4**
ESPN	**Las Esperanzas**	**2.80**	**348**	Pn	**Pn**	**15 47 44.1**	**+0.1**
ACON	**Acoyapa**	**2.89**	**331**	Pn	**Pn**	**15 47 30.4**	**+1.1**
SFRA3	**San Francisco,**	**2.96**	**113**	*eP*	**Pn**	**15 47 47.9**	**+1.7**
SFRA3				*eS*	**Sn**	**15 48 21.9**	**+0.9**
GMAL	**Guarumal, Vera**	**2.97**	**124**	*eP*	**Pn**	**15 47 46.7**	**+0.4**
CACAO	**El Cacao, Vera**	**3.51**	**126**	*eP*	**Pn**	**15 47 56.0**	**+2.3**
AZU	**Azuero**	**3.78**	**115**	*eP*	**Pn**	**15 47 59.3**	**+1.8**
AZU				*eS*	**Sn**	**15 48 41.1**	**-0.1**
MATN	**Matagalpa**	**4.09**	**328**	Pn	**Pn**	**15 48 02.3**	**+0.4**
MTO3	**Montecristo**	**7.40**	**312**	Pn	**Pn**	**15 48 50.1**	**+2.7**
BANI	**BANI**	**15.72**	**54**	P	**Pn**	**15 50 40.2**	**-0.7**

WEL 22 15:47:04.4, 44°S±7°×17°2E±°, h9km±11km, M2.1/7, ML2.0/7, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=142.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RACZ	**Rakaia**	**0.11**	**175**	P	Pg	15 47 08.5	+1.4
WACZ	**Wakanui South**	**0.39**	**213**	P	Pb	15 47 13.9	+0.6
MQZ	**McQueen's Vall**	**0.39**	**103**	P	Pg	15 47 12.5	+0.4
MHCZ	**Mount Hutt**	**0.41**	**282**	P	Pb	15 47 14.2	+0.3
AMCZ	**Amberley**	**0.58**	**41**	P	Pb	15 47 16.8	+0.1
AKCZ	**Akaroa Harbour**	**0.62**	**114**	P	Pg	15 47 15.5	-1.0
OKCZ	**Okains Bay**	**0.69**	**99**	P	Pb	15 47 19.3	+0.8
ARCZ	**Arundel**	**0.76**	**244**	P	Pb	15 47 20.6	+0.7
RPZ	**Rata Peaks**	**0.78**	**263**	P	Pn	15 47 21.1	-0.5
LTZ	**Lake Taylor**	**0.84**	**7**	P	Pb	15 47 21.4	+0.2
ODZ	**Otahua Downs**	**1.78**	**216**	P	Pg	15 47 38.6	+0.1

TUL 22 15:58:22.2±1.0, 36°50N±0°05×99°06W±0°04, h7km±7km, ML3.5, Error ellipse: s-maj=6.8km s-min=4.7km az=172.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.13**	**159**	Pg	Pg	15 58 25.4	+0.4
U32A				Sg	Sg	15 58 27.1	+0.1
CROK	**Carrier**	**0.87**	**90**		Pg	15 58 38.5	-0.4
CROK				Sg	Sg	15 58 49.9	-0.3
KAN14	**Manchester OK**	**0.99**	**62**		Pg	15 58 40.9	-0.3
KAN14				Sg	Sg	15 58 53.7	-0.4
KAN10	**Anthony SW Sta**	**0.99**	**51**		Pg	15 58 40.9	-0.4
KAN10				Sg	Sg	15 58 54.1	0.0
KAN05	**Bluff City Nor**	**1.13**	**57**		Pg	15 58 43.4	-0.4
KAN08	**Anthony NE Sta**	**1.13**	**50**		Pg	15 58 43.4	-0.6
KAN12	**Harper NE Stat**	**1.16**	**47**		Pg	15 58 43.9	-0.6
KAN09	**Caldwell North**	**1.32**	**61**		Pn	15 58 47.0	-0.1
KAN13	**South Haven SW**	**1.37**	**68**		Pn	15 58 47.5	-0.2
BCOK	**Bluff Creek, N**	**1.45**	**125**	Pn	Pn	15 58 48.6	-0.2
OK029	**Liberty Lake**	**1.48**	**118**		Pn	15 58 49.0	-0.2
OK025	**Westminster Rd**	**1.67**	**123**		Pn	15 58 52.3	+0.4
OKCFA	**Oklahoma City**	**1.70**	**129**		Pn	15 58 52.9	+0.6
OKCSW	**OKLAHOMA CITY**	**1.71**	**129**		Pn	15 58 52.6	+0.1
WMOK	**Wichita Mounta**	**1.78**	**173**	Pn	Pn	15 58 53.6	+0.2
FNO	**Franklin**	**1.83**	**132**		Pn	15 58 53.8	-0.4
OK031	**S. Brethren Rd**	**1.88**	**106**		Pn	15 58 55.2	+0.4
OK030	**Cody Creek RV**	**1.93**	**107**		Pn	15 58 55.3	-0.1
QUOK	**Quay**	**1.93**	**99**	Pn	Pn	15 58 55.2	-0.2
R32A	**Long Quarter,**	**1.94**	**8**	Pn	Pn	15 58 55.5	-0.1
T35A	**Sooner Cattle**	**2.09**	**78**	Pn	Pn	15 58 57.6	-0.1
W35A	**Tecumseh**	**2.23**	**127**		Pn	15 58 59.2	-0.3
CBKS	**Cedar Bluff**	**2.37**	**347**	Pn	Pn	15 59 01.9	+0.3
TUL1	**Leonard**	**2.71**	**102**	Pn	Pn	15 59 06.5	+0.4
Z35A	**Perchaven, San**	**3.50**	**154**	Pn	Pn	15 59 16.6	-0.4
X37A	**Clayton**	**3.56**	**121**		Pn	15 59 17.2	-0.7
U38A	**Gravette**	**3.77**	**90**	Pn	Pn	15 59 20.9	+0.2
ABTX	**Abilene, Hawle**	**3.90**	**187**	Pn	Pn	15 59 23.4	+0.8
HHAR	**Hobbs**	**4.14**	**92**	Pn	Pn	15 59 25.9	0.0
T25A	**Trinidad**	**4.34**	**280**	Pn	Pn	15 59 28.8	0.0
W39A	**Magazine**	**4.48**	**105**	Pn	Pn	15 59 30.5	0.0
S39A	**Bolivar**	**4.71**	**74**	Pn	Pn	15 59 34.1	+0.3
M1AR	**Mount Ida**	**4.88**	**112**	Pn	Pn	15 59 36.4	+0.4
U40A	**Yellville**	**5.01**	**90**	Pn	Pn	15 59 38.8	+1.0
P38A	**Dawn**	**5.36**	**53**	Pn	Pn	15 59 42.6	0.0
N38A	**Joes South For**	**6.25**	**45**	Pn	Pn	15 59 55.3	+0.4
P40A	**Paris**	**6.31**	**59**	Pn	Pn	15 59 55.4	-0.2
LCAR	**Lake Charles**	**6.40**	**92**	Pn	Pn	15 59 57.2	+0.3
T42A	**Van Buren**	**6.42**	**83**	Pn	Pn	15 59 57.9	+0.8
MNTX	**Cornudas Mount**	**7.10**	**229**	Pn	Pn	16 00 06.9	+0.3
ECSD	**EROS Data Cent**	**7.46**	**14**	Pn	Pn	16 00 10.8	-0.7
TX31	**Lajitas Ar. Si**	**8.13**	**210**	Pn	Pn	16 00 20.8	0.0
TX32	**Lajitas Array**	**8.13**	**210**		Pn	16 00 20.7	0.0
TXAR	**Lajitas Array**	**8.13**	**210**	Pn	Pn	16 00 20.6	-0.2
HWUT	**Hardware Ranch**	**10.97**	**301**		Pn	16 01 00.1	+0.3
R49A	**Shelbyville**	**11.19**	**77**		Pn	16 01 02.4	-0.2

*IDC **22** 16:05:30.5±1.7, 63°.28S×169°.77E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/33, mbtmp4.0/6, ML3.9/2, MS4.0/15, Ms1 4.0/15, ms1mx3.8/25, Error ellipse: s-maj=64.3km s-min=21.5km az=83.0*
*NEIC **22** 16:05:33.7±3.0, 63°.23S±0°.09×168°.9E±0°.4, h10km±1km, mb4.5/15, Error ellipse: s-maj=29.7km s-min=15.2km az=79.0*
*GCMT **22** 16:05:33.7±0.3, 63°.14S±0°.02×170°.81E±0°.05, h26km±1km, MW5.0/79, Moment Tensor Solution. s19,c23; s79,c121; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.89±.26; Mθθ=4.83±.19; Mϕϕ=-2.94±.17; Mrθ=-3.05±.34; Mrϕ=-0.73±.13; Mθϕ=0.00±.37; Best double couple: Mo=4.67700×10¹⁶ NP1:ϕs=320.00000°, δ42.00000°, λ=-20.00000°. NP2: ϕs=65.00000°, δ76.00000°, λ=-130.00000°. Principal axes: T 6.0590, Plg21.0000°, Azm185.0000°; N -2.7650, Plg39.0000°, Azm77.0000°; P -3.2940, Plg44.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 16:05:33.2±0.7, 63°26S±0°07×169°0E±0°2, h10km, n66, σ1°43/34, mb4.0/5, MS4.1/17, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**10.18**	**325**	Pn	**Pn**	**16 07 57.5**	**-1.6**
VNDA	**Vanda**	**14.51**	**186**	Pn	**Pn**	**16 08 58.7**	**+0.5**
	0.3nm,0.3s,baz=12,slow=14,SNR=28						
VNDA	**Vanda**	**14.51**	**186**		**Pn**	**16 08 59.4**	**+1.3**
WHZ	**Wether Hill Ro**	**17.41**	**358**	Pn	**Pn**	**16 09 32.9**	**-3.0**
DCZ	**Deep Cove**	**17.86**	**356**	P	**Pn**	**16 09 42.0**	**+0.6**
DCZ				IAmb	IAmb	16 09 46.0	
	comp=Z,20nm,0.7s						
MLZ	**Mavora Lakes**	**17.93**	**358**	P	**Pn**	**16 09 42.0**	**-0.5**
MLZ				IAmb	IAmb	16 09 45.1	
	comp=Z,46nm,1.4s						
ODZ	**Otahua Downs**	**18.28**	**4**	P	**Pn**	**16 09 46.1**	**-0.5**
ODZ				IAmb	IAmb	16 09 51.5	
	comp=Z,65nm,1.3s						
WKZ	**Wanaka**	**18.47**	**0**	P	**Pn**	**16 09 50.0**	**+1.1**
WKZ				IAmb	IAmb	16 09 52.6	
	comp=Z,75nm,1.5s						
LBZ	**Lake Benmore**	**18.92**	**3**	P	**Pn**	**16 09 54.8**	**+0.3**
LBZ				IAmb	IAmb	16 10 07.1	
	comp=Z,52nm,1.5s						
RPZ	**Rata Peaks**	**19.62**	**5**	P	**P**	**16 10 01.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=212,slow=1.3,SNR=7.9						
RPZ				LR	LR	16 15 58.1	
	comp=Z,1μm,21.7s,baz=212,slow=32						
RPZ	**Rata Peaks**	**19.62**	**5**	P	**P**	**16 10 02.2**	**+0.7**
MQZ	**McQueen's Vall**	**19.70**	**8**	P	**Pn**	**16 10 03.4**	**-0.4**
FOZ	**Fox Glacier**	**19.77**	**2**	P	**Pn**	**16 10 07.6**	**+3.0**
FOZ				IAmb	IAmb	16 10 14.9	
	comp=Z,20nm,0.9s						
LTZ	**Lake Taylor**	**20.60**	**7**	P	**P**	**16 10 13.5**	**+1.3**
LTZ				IAmb	IAmb	16 10 25.8	
	comp=Z,45nm,1.5s						
THZ	**Tophouse**	**21.66**	**8**	P	**P**	**16 10 25.4**	**+1.8**
URZ	**Urewera**	**25.51**	**15**	LR	LR	16 19 16.9	
	comp=Z,671nm,21.7s,baz=207,slow=32						
QSPA	**South Pole Qui**	**26.83**	**180**	P	**P**	**16 11 12.0**	**-1.4**
	comp=Z,5.1nm,1.2s,baz=346,slow=2.2,SNR=6.7						
QSPA				LR	LR	16 20 08.7	
	comp=Z,541nm,20.7s,baz=28,slow=33						
QSPA	**South Pole Qui**	**26.83**	**180**	P	**PKP**	**16 11 12.0**	**-1.4**
QSPA				IAmb	IAmb	16 11 17.5	
	comp=Z,13nm,1.4s						
RAO	**Raoul Island**	**35.06**	**20**	LR	LR	16 24 48.1	
	comp=Z,184nm,19.1s,baz=132,slow=33						
STKA	**Stephens Creek**	**35.85**	**318**	LR	LR	16 25 50.8	
	comp=Z,106nm,18.1s,baz=159,slow=34						
MAW	**Mawson**	**39.13**	**216**	P	**P**	**16 13 01.4**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=110,slow=8.0,SNR=3.1						
MAW				LR	LR	16 29 17.4	
	comp=Z,630nm,20.6s,baz=124,slow=36						
MAW	**Mawson**	**39.13**	**216**	P	**P**	**16 13 03.0**	**+2.9**
DZM	**Mont Dzumac**	**41.20**	**356**	*e*LR	LR	16 27 20.2	
	comp=Z,402nm,21.4s,baz=195,slow=32						
DZM	**Mont Dzumac**	**41.20**	**356**	*e*LR	LR	16 24 49.0	
	comp=Z,602nm,22.3s						
H01W1	**Cape Leeuwin H**	**43.77**	**284**	T	T	17 01 46.2	
	baz=147,slow=76,SNR=160						
H01W2	**Cape Leeuwin H**	**43.77**	**284**	T	T	17 01 46.6	
	baz=147,slow=76,SNR=150						
H01W3	**Cape Leeuwin H**	**43.78**	**284**	T	T	17 01 47.5	
	baz=147,slow=76,SNR=132						
SNAA	**Sanae**	**45.23**	**184**	P	**P**	**16 13 48.3**	**-1.5**
SNAA	**Sanae**	**45.23**

0.4nm,0.5s,baz=230,slow=4.4,SNR=3.4
WRA Warramunga Arr 131.95 207 PKP **PKPdf 16 26 11.2 -0.7**
0.3nm,0.9s,baz=154,slow=1.7,SNR=5.2
MKAR Makanchi Array 146.15 40 PKPbc **PKPbc 16 26 38.0 -0.1**
0.2nm,0.5s,baz=299,slow=2.5,SNR=2.4

IDC 22 16:12:15.1±5.0, 13°29N×94°16E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/61, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=107.9km s-min=43.6km az=97.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.90**	**41**	Pn	Pn	16 13 57.6	0.0
	0.1nm,0.3s,baz=235,slow=15,SNR=6.3						
CMAR				Sn	Sn	16 15 07.7	-9.2
	0.1nm,0.3s,baz=239,slow=26,SNR=4.5						
WRA	**Warramunga Arr**	**51.51**	**129**	P	P	16 21 22.8	-0.2
	0.4nm,0.9s,baz=312,slow=8.4,SNR=5.2						
ASAR	**Alice Springs**	**53.47**	**133**	P	P	16 21 37.5	0.0
	0.2nm,0.5s,baz=307,slow=6.9,SNR=5.6						

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*GUC **22** 16:17:07.2±0.8, 20°57S×69°18W, h91km±3km, ML3.9*
*IDC **22** 16:17:09.5±1.9, 20°65S×68°78W, h114km±16km, mb3.1/1, mb1 3.3/3, mb1mx3.1/23, mbtmp3.7/3, Error ellipse: s-maj=55.7km s-min=14.8km az=103.0*
ISC 22 16:17:07.3±0.9, 20°56S±0°03×69°19W±0°06, h92km±7km, n25, σ1§25/42, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.42**	**5**	*eP*	**Pn**	**16 17 22.2**	**+0.1**
PB08				*i* S	**Sn**	**16 17 33.7**	**+0.6**
PB08				IAML		16 17 34.1	
	comp=E,5μm,0.2s						
PB01	**IPOC Station P**	**0.55**	**210**	*eP*	**Pn**	**16 17 22.7**	**0.0**
PB01				*i* S	**Sn**	**16 17 34.9**	**+0.6**
PB01				IAML		16 17 37.0	
	comp=E,9μm,0.2s						
GO01	**Chusmiza**	**0.89**	**360**	*eP*	**Pn**	**16 17 26.9**	**+0.4**
GO01				*i* S	**Sn**	**16 17 41.7**	**+1.0**
GO01				IAML		16 17 43.9	
	comp=E,11μm,0.2s						
PB11	**IPOC Station P**	**0.91**	**331**	*eP*	**Pn**	**16 17 26.5**	**+0.2**
PB11				*i* S	**Sn**	**16 17 41.2**	**+0.7**
PB11				IAML		16 17 42.9	
	comp=E,6μm,0.5s						
TA01	**Diego Aracena**	**0.93**	**270**	*eP*	**Pn**	**16 17 26.3**	**+0.1**
TA01				*i* S	**Sn**	**16 17 40.9**	**+0.4**
TA01				IAML		16 17 44.9	
	comp=E,2μm,0.3s						
TA02	**Huaiquique**	**0.93**	**288**	*eP*	**Pn**	**16 17 26.7**	**+0.4**
TA02				*i* S	**Sn**	**16 17 42.0**	**+1.5**
PATCX	**Punta Patache**	**0.93**	**254**	*eP*	**Pn**	**16 17 26.7**	**+0.3**
PATCX				*i* S	**Sn**	**16 17 41.8**	**+1.0**
PB02	**IPOC Station P**	**1.00**	**221**	*eP*	**Pn**	**16 17 27.7**	**+0.5**
PB02				*i* S	**Sn**	**16 17 43.2**	**+1.0**
PB02				IAML		16 17 44.7	
	comp=E,10μm,0.4s						
PB09	**IPOC Station P**	**1.23**	**182**	*eP*	**Pn**	**16 17 30.5**	**+0.5**
PB09				*i* S	**Sn**	**16 17 48.4**	**+1.4**
PB09				IAML		16 17 51.5	
	comp=E,1μm,0.2s						
PSGC	**Pisagua**	**1.30**	**318**	*eP*	**Pn**	**16 17 30.9**	**+0.1**
PSGC				*i* S	**Sn**	**16 17 49.3**	**+0.9**
PSGC				IAML		16 17 50.4	
	comp=N,2μm,0.1s						
PB07	**IPOC Station P**	**1.33**	**209**	*eP*	**Pn**	**16 17 31.6**	**+0.4**
PB07				*i* S	**Sn**	**16 17 50.2**	**+1.0**
PB07				IAML		16 17 52.9	
	comp=E,2μm,0.3s						
MNMC	**Minye Minye**	**1.47**	**345**	*eP*	**Pn**	**16 17 33.8**	**+0.7**
MNMC				*i* S	**Sn**	**16 17 54.6**	**+2.1**
MNMC				IAML		16 18 01.6	
	comp=E,3μm,0.1s						
PB04	**IPOC Station P**	**1.98**	**207**	*eP*	**Pn**	**16 17 40.3**	**+0.9**
PB04				*i* S	**Sn**	**16 18 05.0**	**+1.1**
PB04				IAML		16 18 10.4	
	comp=N,849nm,0.1s						
LVC	**Limon Verde**	**2.06**	**173**	P	**Pn**	**16 17 41.8**	**+1.2**
	comp=N,22nm,0.3s,baz=0.2,slow=9.6,SNR=293						
LVC				S	**Sn**	**16 18 08.1**	**+2.1**
	comp=N,81nm,0.3s,baz=131,slow=22,SNR=33						
LVC	**Limon Verde**	**2.06**	**173**	*eP*	**Pn**	**16 17 41.9**	**+1.2**
LVC				*i* S	**Sn**	**16 18 07.8**	**+1.8**
PB06	**IPOC Station P**	**2.16**	**189**	*eP*	**Pn**	**16 17 41.9**	**0.0**
PB06				IAML		16 18 16.6	
	comp=E,840nm,0.2s						
PB12	**IPOC Station P**	**2.21**	**331**	*eP*	**Pn**	**16 17 42.7**	**+0.2**
PB12				*i* S	**Sn**	**16 18 11.1**	**+1.7**
PB12				IAML		16 18 16.9	
	comp=N,994nm,0.6s						
PB16	**IPOC Station P**	**2.23**	**352**	*eP*	**Pn**	**16 17 45.0**	**+1.8**
PB16				IAML		16 18 18.4	
	comp=E,327nm,0.3s						
AP01	**Chacalluta**	**2.43**	**333**	*eP*	**Pn**	**16 17 46.2**	**+1.0**
AP01				*i* S	**Sn**	**16 18 16.0**	**+1.6**
PB15	**IPOC Station P**	**2.65**	**186**	*eP*	**Pn**	**16 17 49.4**	**+1.1**
LPAZ	**La Paz**	**4.37**	**14**	P	**Pn**	**16 18 14.8**	**+2.8**
	comp=E,1.1nm,0.3s,baz=184,slow=7.2,SNR=18						
SIV	**San Ignacio**	**8.95**	**61**	P	**Pn**	**16 19 11.4**	**-2.5**
	comp=E,1.2nm,0.3s,baz=249,slow=12,SNR=42						
PLCA	**Paso Flores**	**20.14**	**183**	P	**P**	**16 21 32.6**	**-1.5**
	comp=E,1.7nm,0.8s,baz=12,slow=18,SNR=2.2						
TORD	**Torodi Ar. Bea**	**77.29**	**71**	P	**P**	**16 28 50.4**	**-1.8**
	comp=E,62nm,0.6s,baz=252,slow=5.0,SNR=4.7						
MKAR	**Makanchi Array**	**145.03**	**35**	PKP	**PKPbc**	**16 36 33.0**	**-0.4**
	comp=E,0.5nm,0.5s,baz=318,slow=1.9,SNR=5.2						

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*IDC **22** 16:27:50.5±1.6, 2°73S×122°80E, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, ML3.3/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/30, Error ellipse: s-maj=35.2km s-min=24.6km az=44.0*
*DJA **22** 16:27:55.5±1.4, 3°S±3°×12°3E±°, h26km±15km, M4.1/12, mb3.9/2, MLv4.1/12*
ISC 22 16:27:55.9±0.9, 2°89S±0°05×122°74E±0°06, h35km, n23, σ1§09/21, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.06**	**186**	P	**Pn**	**16 28 14.2**	**-0.2**
LUWI	**Luwuk**	**1.84**	**1**	P	**Pn**	**16 28 24.6**	**-0.4**
LUWI				S	**Sn**	**16 28 49.1**	**+2.0**
APSI	**Ampana**	**2.25**	**331**	P	**Pn**	**16 28 30.5**	**-0.2**
TTSI	**Tana Toraja**	**2.92**	**267**	P	**Pn**	**16 28 40.5**	**+0.6**
SPSI	**Sidrap Palu**	**3.15**	**250**	P	**Pn**	**16 28 42.6**	**-0.5**
SPSI				S	**Sn**	**16 29 19.2**	**-0.2**
SANI	**Sanana**	**3.35**	**76**	P	**Pn**	**16 28 45.6**	**-0.3**
GTOI	**Gorontalo**	**3.52**	**4**	P	**Pn**	**16 28 49.5**	**+1.4**
BKSI	**Bulukumba**	**3.55**	**227**	P	**Pn**	**16 28 48.9**	**+0.3**
KAPI	**Kappang**	**3.65**	**235**	Pn	**Pn**	**16 28 49.4**	**-0.5**
	2.8nm,0.3s,baz=37,slow=5.1,SNR=8.0						
KAPI				Sn	**Sn**	**16 29 30.6**	**-1.2**
	3.9nm,0.3s,baz=40,slow=12,SNR=5.3						
KMSI	**Cibinong**	**3.66**	**20**	P	**Pn**	**16 28 50.5**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.93**	**215**	P	**Pn**	**16 28 53.8**	**0.0**
MPSI	**Mapaga**	**4.29**	**318**	P	**Pn**	**16 28 57.4**	**-1.3**
EDFI	**Ende, Flores**	**5.91**	**190**	P	**Pn**	**16 29 21.6**	**+0.4**
BATI	**Baumata**	**7.32**	**173**	LR	LR	16 33 07.4	
	comp=Z,172nm,21.6s,baz=24,slow=42						
SIJI	**Sorong**	**8.76**	**77**	Pn	**Pn**	**16 29 57.4**	**-2.8**
	0.3nm,0.3s,baz=229,slow=19,SNR=1.1						
DAV	**Davao City (W)**	**10.30**	**16**	LR	LR	16 34 59.3	
	comp=Z,51nm,19.3s,baz=202,slow=42						
FITZ	**Fitzroy Crossi**	**15.38**	**170**	Pn	**Pn**	**16 31 31.8**	**+1.3**
	baz=0.0,slow=20						
FITZ				LR	LR	16 37 37.0	
	comp=Z,123nm,19.6s,baz=134,slow=38						
TGY	**Tagaytay City**	**16.98**	**354**	LR	LR	16 38 45.9	
	comp=Z,60nm,21.9s,baz=112,slow=39						
WRA	**Warramunga Arr**	**20.38**	**147**	P	**P**	**16 32 30.6**	**+0.7**
	1.9nm,1.0s,baz=328,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**23.30**	**153**	P	**P**	**16 33 01.3**	**+0.3**
	2.0nm,0.9s,baz=337,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**31.61**	**313**	P	**P**	**16 34 14.9**	**-0.8**
	0.3nm,0.4s,baz=142,slow=7.5,SNR=4.5						
STKA	**Stephens Creek**	**33.85**	**150**	LR	LR	16 49 05.7	
	comp=Z,74nm,18.8s,baz=19,slow=38						
PETK	**Petropavlovsk-**	**63.03**	**23**	LR	LR	17 05 45.0	
	comp=Z,148nm,21.8s,baz=149,slow=36						

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*IDC **22** 16:29:43.1±2.1, 7°23S×129°49E, h153km±25km, mb3.3/2, mb1 3.5/7, mb1mx3.2/34, mbtmp3.9/7, Error ellipse: s-maj=33.8km s-min=19.9km az=93.0*
ISC 22 16:29:41.0±0.9, 7°31S±0°06×129°66E±0°10, h150km, n7, σ3§74/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.58**	**244**	P	**Pn**	**16 31 17.7**	**+2.2**
	2.5nm,0.3s,baz=76,slow=4.2,SNR=1.4						
BATI				S	**Sn**	**16 32 27.0**	**-2.6**
	4.3nm,0.3s,baz=301,slow=23,SNR=1.8						
SIJI	**Sorong**	**6.60**	**14**	P	**Pn**	**16 31 17.0**	**+1.2**
	1.4nm,0.3s,baz=210,slow=20,SNR=12						
SIJI				S	**Sn**	**16 32 24.3**	**-5.7**
	2.8nm,0.3s,baz=273,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**11.41**	**200**	P	**Pn**	**16 32 20.9**	**+1.3**
	0.3nm,0.3s,baz=26,slow=10,SNR=31						
FITZ				S	**Sn**	**16 34 19.6**	**-6.2**
	1.1nm,0.3s,baz=268,slow=24,SNR=7.8						
WRA	**Warramunga Arr**	**13.35**	**161**	P	**Pn**	**16 32 47.0**	**+2.3**
	0.8nm,0.3s,baz=337,slow=12,SNR=34						
WRA				S	**Sn**	**16 35 10.9**	**-1.7**
	1.4nm,0.3s,baz=333,slow=23,SNR=9.3						
ASAR	**Alice Springs**	**16.77**	**166**	P	**Pn**	**16 33 31.9**	**+4.7**
	0.6nm,0.3s,baz=339,slow=12,SNR=5.1						
ASAR				S	**S**	**16 36 30.7**	**-2.9**
	0.1nm,0.3s,baz=333,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**39.67**	**311**	P	**P**	**16 36 58.7**	**0.0**
	0.3nm,0.6s,baz=143,slow=6.8,SNR=3.5						
MKAR	**Makanchi Array**	**68.30**	**327**	P	**P**	**16 40 26.7**	**+0.9**
	0.9nm,0.3s,baz=122,slow=7.6,SNR=22						

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*IDC **22** 16:34:18.3±6.5, 20°69S×178°88W, h592km±45km, mb3.1/4, mb1 3.3/4, mb1mx2.9/28, mbtmp4.2/4, Error ellipse: s-maj=162.5km s-min=48.2km az=151.0*
*NEIC **22** 16:34:20.6±0.8, 21°1S±0°1×178°9W±0°2, h626km±13km, mb4.1/12, Error ellipse: s-maj=33.0km s-min=11.2km az=65.0*
ISC 22 16:34:20.3±1.3, 21°0S±0°2×178°8W±0°2, h619km, n27, σ0§89/30, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.41**	**318**	P	**P**	**16 35 50.7**	**+0.5**
URZ	**Urewera**	**17.51**	**191**	P	**P**	**16 37 50.5**	**+0.1**
URZ				IAmb	IAmb	16 37 58.2	
	comp=Z,11nm,1.0s						
CTA	**Charters Tower**	**32.66**	**265**	P	**P**	**16 40 03.5**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=80,slow=11,SNR=1.6						
CTAO	**Charters Tower**	**32.66**	**265**	P	**P**	**16 40 03.9**	**+0.2**
BBOO	**Buckleboo**	**41.60**	**244**	P	**P**	**16 41 16.2**	**-0.1**
WR0	**Warramunga Arr**	**43.56**	**263**	P	**P**	**16 41 30.6**	**-1.0**
WR0				IAmb	IAmb	16 41 46.9	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**43.63**	**257**	P	**P**	**16 41 31.9**	**-0.3**
ASAR	**Alice Springs**	**43.63**	**257**	P	**P**	**16 41 31.9**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=94,slow=7.9,SNR=30						
ASAR				PcP	**PcP**	**16 43 05.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=110,slow=3.1,SNR=2.4						
ASAR				ScP	**ScP**	**16 46 01.1**	**+2.3**
	comp=Z,0.5nm,0.9s,baz=87,slow=3.2,SNR=4.6						
ASAR	**Alice Springs**	**43.63**	**257**	P	**P**	**16 41 32.0**	**-0.2**
ASAR				PcP	**PcP**	**16 43 06.3**	**+1.0**
WB0	**Warramunga Arr**	**43.73**	**263**	P	**P**	**16 41 32.4**	**-0.5**
WB0				IAmb	IAmb	16 41 37.4	
	comp=Z,6.3nm,1.2s						
WB2	**Warramunga Arr**	**43.74**	**263**	P	**P**	**16 41 32.1**	**-0.9**
WB2				IAmb	IAmb	16 41 43.7	
	comp=Z,5.5nm,1.1s						
WRAB	**Tennant Creek**	**43.74**	**263**		**P**	**16 41 32.6**	**-0.4**
WRAB				IAmb	IAmb	16 41 46.8	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**16 41 32.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.1,SNR=35						
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**16 41 31.8**	**-1.3**
MTN	**Manton Dam**	**48.39**	**271**	P	**P**	**16 42 07.7**	**-0.4**
MTN				IAmb	IAmb	16 42 15.1	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**49.84**	**267**	P	**P**	**16 42 18.7**	**-0.1**
KNRA				IAmb	IAmb	16 42 31.4	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.18**	**263**	P	**P**	**16 42 35.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=83,slow=4.9,SNR=6.7						
FITZ	**Fitzroy Crossi**	**52.18**	**263**	P	**P**	**16 42 35.9**	**+0.3**
PSAB3	**Pilbara Seismi**	**56.77**	**257**	P	**P**	**16 43 07.4**	**-0.2**
PSAB2	**Pilbara Seismi**	**56.77**	**257**	P	**P**	**16 43 07.5**	**0.0**
PSAD3	**Pilbara Seismi**	**56.83**	**257**	P	**P**	**16 43 07.8**	**-0.2**
KKAR	**Karatay Array**	**118.97**	**308**	PKPdf	**PKPdf**	**16 51 59.3**	**-0.6**
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	**PKPdf**	**16 52 43.0**	**-1.7**
	comp=Z,3.5nm,0.5s,baz=42,slow=4.0,SNR=9.6						
AKASG	**Malin Array Be**	**143.10**	**330**		**PKPdf**	**16 52 43.4**	**-1.4**
AKBB	**Malin Array Si**	**143.10**	**330**	PKPdf	**PKPdf**	**16 52 43.1**	**-1.7**
BRTR	**Keskin Array B**	**146.61**	**311**	PKPbc	**PKPbc**	**16 52 54.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=80,slow=2.6,SNR=2.3						
GERES	**GERESS Array B**	**150.50**	**343**	PKPbc	**PKiKP**	**16 53 04.7**	**+0.9**

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*DDA **22** 16:38:25.0, 38°07N×42°01E, h9km±5km, MW3.7*
*ISK **22** 16:38:25.1, 38°08N×42°08E, h1km, ML3.4/19*
*NSSP **22** 16:38:26.1, 38°07N×42°03E, h10km, Ms3.1*
ISC 22 16:38:26.5±1.0, 38°06N±0°02×42°03E±0°02, h13km±8km, n49, σ1§50/80, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTM	**Siirt_Merkez**	**0.11**	**233**	*i* P	**Pb**	**16 38 28.6**	**-1.9**
SRTM				*i* S	**Sb**	**16 38 31.4**	**-1.8**
SRTM				IAML		16 38 36.0	
	comp=E,16μm,0.7s						
SRTM				IAML		16 38 38.0	
	comp=N,20μm,0.5s						
BLIS	**Bitlis-Merkez**	**0.36**	**10**	*i* P	**Pg**	**16 38 32.0**	**-1.9**
BLIS				*i* S	**Sg**	**16 38 38.4**	**-0.5**
BLIS				IAML		16 38 39.0	
	comp=E,3μm,0.4s						
BLIS				IAML		16 38 45.0	
	comp=N,5μm,0.5s						
GURO	**Guroymak-BITLI**	**0.49**	**360**	PG	**Pg**	**16 38 34.7**	**-1.6**
GURO				SG	**Sg**	**16 38 42.6**	**-0.3**
BTMN	**Batman**	**0.63**	**255**	*i* P	**Pg**	**16 38 38.9**	**+0.2**
BTMN				*i* S	**Sn**	**16 38 49.0**	**-2.0**
BTMN				IAML		16 38 56.0	
	comp=N,1μm,0.5s						
BTMN				IAML		16 38 59.0	
	comp=E,2μm,1.3s						
SIRN	**Sirnak**	**0.64**	**152**	*i* P	**Pb**	**16 38 37.9**	**-1.6**
SIRN				*i* S	**Sb**	**16 38 49.6**	**+1.3**
SIRN				IAML		16 38 53.0	
	comp=N,3μm,0.7s						
SIRN				IAML		16 38 56.0	
	comp=E,2μm,1.0s						
SIRT	**Sirnak**	**0.64**	**150**	PG	**Pb**	**16 38 38.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**0.67**	**278**	PG	**Pg**	**16 38 39.7**	**+0.2**
SVAN				SG	**Sn**	**16 38 50.1**	**-1.9**
SVAN	**Silvan-Diyarba**	**0.67**	**278**	*i* P	**Pg**	**16 38 39.2**	**-0.3**
MUSM	**Mu-Merkez**	**0.78**	**329**	*i* P	**Pb**	**16 38 40.3**	**-1.8**
MUSM				*i* S	**Sg**	**16 38 52.4**	**+0.4**
MUSM				IAML		16 38 59.0	
	comp=N,543nm,0.4s						
AKDM	**Akdamar-Van**	**0.79**	**70**	PG	**Pb**	**16 38 40.6**	**-1.6**
GEVA	**Gevas**	**0.85**	**72**	*i* P	**Pb**	**16 38 41.6**	**-1.6**
GEVA				*i* S	**Sb**	**16 38 53.1**	**-1.3**
GEVA				IAML		16 38 57.0	
	comp=N,769nm,0.5s						
GEVA				IAML		16 38 59.0	
	comp=E,816nm,0.7s						
MLAZ	**Malazgirt-MUS**	**1.16**	**20**	PN	**Pn**	**16 38 47.3**	**-1.2**
MLAZ				SN	**Sn**	**16 39 03.8**	**-0.4**
TVAN	**Van**	**1.18**	**66**	*i* P	**Pn**	**16 38 48.5**	**-0.3**
TVAN				*i* S	**Sn**	**16 39 05.6**	**+0.8**
TVAN				IAML		16 39 12.0	
	comp=E,274nm,0.6s						
TVAN				IAML		16 39 21.0	
	comp=N,253nm,0.9s						
VRTB	**Varto-Mus**	**1.19**	**338**	PN	**Pn**	**16 38 48.9**	**-0.1**
VANB	**Van**	**1.19**	**63**	PN	**Pn**	**16 38 47.7**	**-1.3**
EKAR	**Karacoban**	**1.20**	**1**	*i* P	**Pn**	**16 38 48.4**	**-0.7**
EKAR				*i* S	**Sg**	**16 39 07.6**	**+2.4**
EKAR				IAML		16 39 10.0	
	comp=E,1μm,0.6s						
EKAR				IAML		16 39 12.0	
	comp=N,809nm,1.4s						
MARD	**Mardin**	**1.24**	**234**	*i* P	**Pg**	**16 38 50.6**	**+0.2**
MARD				*i* S	**Sg**	**16 39 07.7**	**+1.2**
MARD				IAML		16 39 10.0	
	comp=E,2μm,0.4s						
MARD				IAML		16 39 13.0	
	comp=N,3μm,0.5s						
HANI	**Diyarbakir_Han**	**1.34**	**286**	*i* P	**Pn**	**16 38 51.0**	**+0.1**
HANI				*i* S	**Sg**	**16 39 09.7**	**+0.1**
HANI				IAML		16 39 11.0	
	comp=N,569nm,0.6s						
HANI				IAML		16 39 15.0	
	comp=E,602nm,0.4s						
BNGB	**Bingl**	**1.41**	**312**	PN	**Pb**	**16 38 52.8**	**0.0**
KARO	**Karliova-Bingo**	**1.47**	**329**	PN	**Pb**	**16 38 53.6**	**-0.2**
KARO				SN	**Sg**	**16 39 14.7**	**+0.9**
DIYA	**Diyarbakir**	**1.52**	**266**	*i* P	**Pb**	**16 38 54.1**	**-0.4**
DIYA				*i* S	**Sb**	**16 39 14.3**	**+0.7**
DIYA				IAML		16 39 17.0	
	comp=N,644nm,0.3s						
DIYA				IAML		16 39 18.0	
	comp=E,720nm,0.3s						
VMUR	**Van-Muradiye**	**1.52**	**52**	*i* P	**Pn**	**16 38 54.5**	**+0.9**
VMUR				*i* S	**Sb**	**16 39 15.2**	**+1.2**
VMUR				IAML		16 39 25.0	
	comp=E,402nm,0.8s						
VMUR				IAML		16 39 28.0	
	comp=N,218nm,0.7s						
BASK	**Baskale_VAN**	**1.56**	**90**	*i* P	**Pb**	**16 38 56.0**	**+0.8**
BASK				*i* S	**Sg**	**16 39 18.7**	**+2.1**
BASK				IAML		16 39 23.0	
	comp=E,236nm,1.0s						
BASK				IAML		16 39 29.0	
	comp=N,199nm,1.7s						
AGRB	**Hanur-Agry**	**1.69**	**26**	PN	**Pn**	**16 38 56.2**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.81**	**320**	PN	**Pb**	**16 38 58.4**	**-1.1**
CLDR	**Caldiran**	**1.83**	**53**	PN	**Pn**	**16 38 58.2**	**+0.4**
EATA	**Eleskirt**	**1.84**	**11**	*i* P	**Pb**	**16 39 00.7**	**+0.6**
EATA				*i* S	**Sg**	**16 39 27.0**	**+1.3**
EATA				IAML		16 39 29.0	
	comp=N,129nm,0.9s						
EATA				IAML		16 39 35.0	
	comp=E,148nm,1.0s						
YOVA	**Hakkari_Yksek**	**1.85**	**104**	*i* P	**Pb**	**16 39 00.9**	**+0.7**
YOVA				*i* S	**Sg**	**16 39 26.6**	**+0.7**
YOVA				IAML		16 39 30.0	
	comp=E,171nm,0.6s						
YOVA				IAML		16 39 35.0	
	comp=N,199nm,0.7s						
ERZM	**Erzurum**	**1.92**	**344**	*i* P	**Pb**	**16 39 01.1**	**-0.4**
ERZM				*i* S	**Sb**	**16 39 26.8**	**+1.4**
KOPR	**Koprukoy-ERZUR**	**1.94**	**356**	PN	**Pn**	**16 38 59.8**	**+0.6**
ATA5	**Erzurum, Merke**	**1.94**	**342**	*i* P	**Pb**	**16 39 02.3**	**+0.4**
ATA5				IAML		16 39 38.0	
	comp=N,102nm,1.1s						
HOMI	**Horasan**	**1.99**	**357**	*i* P	**Pb**	**16 39 02.9**	**+0.3**
HOMI				*i* S	**Sg**	**16 39 31.1**	**+0.7**
HOMI				IAML		16 39 40.0	
	comp=N,206nm,0.6s						
HOMI				IAML		16 39 49.0	
	comp=E,240nm,0.7s						
EMRE	**Erzurum,Aziziy**	**2.14**	**338**	*i* P	**Pb**	**16 39 05.8**	**+0.7**
EMRE				*i* S	**Sg**	**16 39 37.6**	**+2.4**
EMRE				IAML		16 39 44.0	
	comp=N,200nm,1.4s						
EMRE				IAML		16 39 52.0	
	comp=E,181nm,1.2s						
SVRC	**Sivrice-ELAZID**	**2.17**	**279**	PN	**Pn**	**16 39 03.1**	**+0.6**
PTK	**Pertek**	**2.23**	**293**	PN	**Pn**	**16 39 04.9**	**+1.5**
KOPT	**Kop Dagi**	**2.29**	**329**	*i* P	**Pb**	**16 39 07.9**	**0.0**
KOPT				*i* S	**Sg**	**16 39 41.5**	**+1.2**
KOPT				IAML		16 39 50.0	
	comp=E,78nm,0.7s						
ERZN	**Erzincan**	**2.37**	**311**	PN	**Pn**	**16 39 06.6**	**+1.5**
KRIK	**Erzurum-spir**	**2.43**	**340**	*i* P	**Pb**	**16 39 08.4**	**-1.8**
KRIK				*i* S	**Sn**	**16 39 37.4**	**+1.5**
ELZG	**Elazig**	**2.44**	**281**	*i* P	**Pn**	**16 39 06.5**	**+0.4**
ELZG				*i* S	**Sb**	**16 39 41.1**	**+0.8**
ELZG				IAML		16 39 50.0	
	comp=N,147nm,0.5s						
ELZG				IAML		16 39 56.0	
	comp=E,181nm,0.6s						
EUZM	**Uzumlu**	**2.46**	**313**	*i* P	**Pb**	**16 39 10.9**	**+0.4**
EUZM				*i* S	**Sg**	**16 39 43.7**	**-1.8**
VNNZ	**Vanand**	**2.47**	**34**	⇑*i* P	**Pb**	**16 39 12.6**	**+1.8**
VNNZ				⇑*i* S	**Sg**	**16 39 49.1**	**+3.1**
SENK	**Senkaya-Erzuru**	**2.51**	**6**	PN	**Pn**	**16 39 08.0**	**+0.8**
TASB	**TASBÜRUN-IGDIR**	**2.58**	**41**	PN	**Pn**	**16 39 08.9**	**+0.9**
BAYB	**BAYBURT**	**2.60**	**328**	*i* P	**Pn**	**16 39 10.3**	**+2.0**
BAYB				*i* S	**Sg**	**16 39 49.8**	**-0.1**
KARS	**Kars**	**2.69**	**17**	PN	**Pn**	**16 39 10.4**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**2.76**	**328**	PN	**Pn**	**16 39 11.8**	**+1.3**
NRKZ	**NAREK**	**2.82**	**46**	⇓*i* P	**Pb**	**16 39 17.5**	**+0.8**
NRKZ				⇓*i* S	**Sg**	**16 39 55.7**	**-1.3**
SURC	**SANLIURFA_SURC**	**2.96**	**248**	*i* P	**Pn**	**16 39 14.1**	**+0.8**
SURC				*i* S	**Sb**	**16 39 57.9**	**+2.6**
SURC				IAML		16 40 09.0	

STKA	**Stephens Creek**	**28.25**	**234**	P	**P**	**16**	**51**	**56.0 +1.2**
	comp=Z,23nm,0.8s,baz=49,slow=7.6,SNR=44							
STKA	**Stephens Creek**	**28.25**	**234**	P	**P**	**16**	**51**	**56.0 +1.2**
TOO	**Toolangi**	**28.45**	**221**	P	**P**	**16**	**51**	**57.7 +1.1**
TOO				IAmb	IAmb	16	52	09.5
	comp=Z,24nm,1.4s							
WR0	**Warramunga Arr**	**32.25**	**260**	P	**P**	**16**	**52**	**29.5 -0.7**
WB0	**Warramunga Arr**	**32.39**	**261**	P	**P**	**16**	**52**	**30.7 -0.7**
WB0				IAmb	IAmb	16	52	33.3
	comp=Z,5.3nm,0.8s							
WB2	**Warramunga Arr**	**32.42**	**260**	P	**P**	**16**	**52**	**31.1 -0.6**
WRA	**Warramunga Arr**	**32.44**	**260**	P	**P**	**16**	**52**	**31.0 -0.8**
	comp=Z,1.2nm,0.3s,baz=84,slow=8.4,SNR=147							
WRA				PcP	**PcP**	**16**	**55**	**13.2 -1.1**
	comp=Z,0.5nm,0.8s,baz=89,slow=3.0,SNR=4.7							
WRA	**Warramunga Arr**	**32.44**	**260**	P	**P**	**16**	**52**	**30.9 -0.8**
WRA					**PcP**	**16**	**55**	**13.2 -1.1**
AS31	**Alice Springs**	**32.93**	**253**	P	**P**	**16**	**52**	**36.5 +0.4**
ASAR	**Alice Springs**	**32.93**	**253**	P	**P**	**16**	**52**	**36.0 0.0**
	comp=Z,78nm,0.5s,baz=82,slow=8.9,SNR=2506							
ASAR				PcP	**PcP**	**16**	**55**	**14.0 -1.7**
	comp=Z,0.5nm,0.7s,baz=106,slow=3.0,SNR=3.1							
ASAR				S	**S**	**16**	**57**	**36.2 -3.1**
	comp=Z,0.5nm,0.9s,baz=77,slow=16,SNR=4.3							
ASAR	**Alice Springs**	**32.93**	**253**	P	**P**	**16**	**52**	**35.9 -0.2**
ASAR					**PcP**	**16**	**55**	**14.1 -1.6**
BBOO	**Buckleboo**	**32.95**	**236**	P	**P**	**16**	**52**	**36.5 +0.4**
MTN	**Manton Dam**	**36.34**	**272**	P	**P**	**16**	**53**	**05.8 +0.4**
MTN				IAmb	IAmb	16	53	06.7
	comp=Z,11nm,0.9s							
KNRA	**Kununurra**	**38.10**	**267**	P	**P**	**16**	**53**	**20.1 0.0**
FORT	**Forrest**	**39.01**	**243**	P	**P**	**16**	**53**	**27.8 +0.2**
FITZ	**Fitzroy Crossi**	**40.77**	**262**	P	**P**	**16**	**53**	**42.5 +0.4**
	comp=Z,9.1nm,0.6s,baz=97,slow=5.3,SNR=38							
FITZ	**Fitzroy Crossi**	**40.77**	**262**	P	**P**	**16**	**53**	**42.6 +0.5**
PSA00	**Pilbara Seismi**	**45.91**	**257**	P	**P**	**16**	**54**	**23.9 +0.6**
NWAO	**Narrogin (SRO)**	**48.43**	**241**	P	**P**	**16**	**54**	**41.9 -0.7**
	comp=Z,9.7nm,0.6s,baz=59,slow=6.9,SNR=8.6							
NWAO	**Narrogin (SRO)**	**48.43**	**241**	P	**P**	**16**	**54**	**42.3 -0.3**
NWAO				IAmb	IAmb	16	54	57.8
	comp=Z,28nm,1.3s							
MORW	**Morawa**	**49.22**	**246**	P	**P**	**16**	**54**	**47.8 -0.8**
MORW				IAmb	IAmb	16	55	00.7
	comp=Z,11nm,1.1s							
JAGI	**Jajag, Banyuwa**	**53.58**	**272**	P	**P**	**16**	**55**	**20.1 -1.1**
JAGI				IAmb	IAmb	16	55	28.9
	comp=Z,37nm,1.3s							
IPM	**Ipoh**	**70.06**	**282**	P	**P**	**16**	**57**	**10.8 -0.4**
IPM				IAmb	IAmb	16	57	26.5
	comp=Z,19nm,1.5s							
KULM	**Kulim**	**70.69**	**282**	P	**P**	**16**	**57**	**14.7 -0.2**
KULM				IAmb	IAmb	16	57	23.3
	comp=Z,20nm,1.4s							
RPSI	**Rantau Prapat**	**71.44**	**279**	P	**P**	**16**	**57**	**19.7 +0.3**
GSI	**Gunungsitoli**	**72.26**	**277**	P	**P**	**16**	**57**	**24.9 +0.6**
GSI				IAmb	IAmb	16	57	35.5
	comp=Z,23nm,1.4s							
QSPA	**South Pole Qui**	**72.55**	**180**	P	**P**	**16**	**57**	**24.3 -1.0**
	comp=Z,1.5nm,0.7s,baz=44,slow=0.7,SNR=15							
QSPA	**South Pole Qui**	**72.55**	**180**	P	**P**	**16**	**57**	**24.2 -1.0**
CMAR	**Chiang Mai Arr**	**77.17**	**294**	P	**P**	**16**	**57**	**53.0 +0.7**
	comp=Z,1.1nm,0.8s,baz=140,slow=4.9,SNR=8.5							
MAW	**Mawson**	**79.79**	**202**	P	**P**	**16**	**58**	**05.0 -0.8**
	comp=Z,1.2nm,0.6s,baz=135,slow=4.3,SNR=4.5							
MAW	**Mawson**	**79.79**	**202**	P	**P**	**16**	**58**	**05.8 0.0**
BELA	**Belgrano 2**	**83.89**	**175**	P	**P**	**16**	**58**	**25.2 -1.9**
SNAA	**Sanae**	**90.87**	**183**	P	**P**	**16**	**58**	**59.1 -1.6**
PRED	**Cave del Predi**	**144.46**	**330**		**PKPab**	**17**	**05**	**30.4 -1.2**
ITM	**Ithomi**	**144.69**	**310**		**PKPab**	**17**	**05**	**31.5 -1.2**
TORD	**Torodi Ar. Bea**	**166.58**	**253**	PKPab	**PKPab**	**17**	**07**	**05.2 -0.8**
	comp=Z,0.6nm,0.6s,baz=110,slow=3.1,SNR=2.9							

IDC ***22*** *16:50:13.9±1.0,20.7°79N×121.7°75E,h0km,mb3.4/7, mb1 3.6/7,mb1mx3.4/44,mbtmp3.5/7,MS3.7/2,Ms1 3.7/2, ms1mx2.7/34,Error ellipse: s-maj=40.2km s-min=19.7km az=65.0*

MAN ***22*** *16:50:17.2,20.2°20N×120.2°24E,h30km,mb4.7,ML3.6, MS3.5*

ISC 22 16:50:18.4±0.9,20.2°12N±0.0°08×120.2°5E±0.1,h28km,n15, σ1§60/18,mb3.5/6,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**2.36**	**162**	*eP*	**Pn**	**16 50 57.0**	**+1.7**
APYP				*eS*	**Sb**	**16 51 28.0**	**-1.0**
SGCP	**Mt. Cagua**	**2.39**	**141**	*eP*	**Pn**	**16 50 57.6**	**+2.0**
SGCP				*eS*	**Sb**	**16 51 28.4**	**-1.4**
ABRA	**Dolores**	**2.47**	**175**	*eP*	**Pn**	**16 50 57.6**	**+0.9**
ABRA				*eS*	**Sn**	**16 51 27.4**	**+1.4**
CVP	**Callao Caves**	**2.72**	**152**	⇑*iP*	**Pb**	**16 51 03.7**	**-2.7**
CVP				*i* S	**Sb**	**16 51 40.0**	**+0.6**
CAUP	**Cauayan**	**3.41**	**158**	*eP*	**Pn**	**16 51 12.0**	**+2.3**
CAUP				*eS*	**Sb**	**16 51 57.5**	**-1.6**
SMPP	**San Manuel, Pa**	**3.95**	**177**	*eP*	**Pn**	**16 51 18.3**	**+1.1**
SMPP				*eS*	**Sn**	**16 52 01.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**20.38**	**269**	P	Pn	16 55 07.3	+12
	0.3nm,0.7s,baz=66,slow=9.0,SNR=4.1						
SONM	**Songino Array**	**29.91**	**341**	P	**P**	**16 56 22.5**	**-1.4**
	0.3nm,0.4s,baz=158,slow=12,SNR=2.6						
KRVT	**Keravat (AS076**	**39.38**	**125**	LR	LR	17 14 39.5	
	comp=Z,62nm,18.2s,baz=218,slow=38						
MKAR	**Makanchi Array**	**40.89**	**320**	P	**P**	**16 57 58.1**	**+0.1**
	0.3nm,0.5s,baz=123,slow=8.8,SNR=4.9						
WRA	**Warramunga Arr**	**42.07**	**160**	P	**P**	**16 58 08.9**	**+0.9**
	0.7nm,0.9s,baz=344,slow=9.1,SNR=4.0						
WRA				PcP	**PcP**	**17 00 03.5**	**+1.0**
	0.4nm,0.8s,baz=336,slow=3.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.35**	**330**	P	**P**	**16 58 17.5**	**-0.4**
	0.9nm,0.6s,baz=132,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**45.45**	**163**	P	**P**	**16 58 37.1**	**+2.0**
	0.4nm,0.5s,baz=344,slow=6.9,SNR=9.8						
NRIK	**Noril'sk**	**53.15**	**346**	LR	LR	17 25 48.4	
	comp=Z,89nm,19.4s,baz=14,slow=40						
ILAR	**Eielson Array**	**73.12**	**27**	P	P	17 01 40.2	-5.8
	0.2nm,0.4s,baz=274,slow=5.3,SNR=1.7						

IDC ***22*** *16:58:48.8±0.9,63.7°45S×170.7°44E,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.1/25,mbtmp4.1/8,ML3.9/1,MS4.1/19, Ms1 4.1/19,ms1mx4.1/22,Error ellipse: s-maj=35.5km s-min=20.9km az=73.0*

NEIC ***22*** *16:58:50.5±1.7,63.2°22S±0.0°04×170.6°6E±0.3°,h10km±1km, mb4.5/7,Error ellipse: s-maj=25.4km s-min=5.7km az=99.0*

GCMT ***22*** *16:58:51.5±0.3,63.2°25S±0.0°02×170.7°95E±0.0°05,h14km±2km, MW5.0/80,Moment Tensor Solution. s11,c12; s80,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.31±.13; Mθθ2.44±.13; Mϕϕ-2.12±.11; Mrθ-2.64±.50; Mϕθ-0.85±.10; Mϕr-0.80±.27; Best double couple: M₀3.60300×10¹⁶ NP1:ϕs329.00000°,δ41.00000°,λ-3.00000°. NP2: ϕs61.00000°,δ88.00000°,λ-131.00000°. Principal axes: T 4.0580, Plg31.0000°, Azm183.0000°; N -0.9010, Plg41.0000°, Azm63.0000°; P -3.1470, Plg34.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 16:58:50.4±0.6,63.27S±0.08×170.7E±0.2,h10km,n59, σ1§17/29,mb4.3/9,MS4.2/21,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**10.66**	**320**	Pn	**Pn**	**17 01 22.4**	**-0.5**
VNDA	**Vanda**	**14.59**	**188**	Pn	**Pn**	**17 02 17.2**	**+0.7**
	0.6nm,0.3s,baz=32,slow=17,SNR=67						
WHZ	**Wether Hill Ro**	**17.48**	**354**	P	**P**	**17 02 55.1**	**-0.1**
WHZ				IAmb	IAmb	17 03 07.7	
	comp=Z,67nm,1.4s						
RPZ	**Rata Peaks**	**19.59**	**1**	P	**Pn**	**17 03 21.8**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=54,slow=22,SNR=1.2						
RPZ				LR	LR	17 09 19.9	
	comp=Z,1μm,21.6s,baz=209,slow=32						
CASY	**Casey**	**24.94**	**236**	P	**P**	**17 04 16.1**	**+2.9**
CASY				IAmb	IAmb	17 04 27.2	
	comp=Z,20nm,1.1s						
URZ	**Urewera**	**25.34**	**12**	LR	LR	17 12 27.2	
	comp=Z,812nm,21.3s,baz=206,slow=32						
QSPA	**South Pole Qui**	**26.82**	**180**	P	**P**	**17 04 30.4**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=28,slow=2.4,SNR=10						
QSPA				LR	LR	17 13 44.3	
	comp=Z,603nm,19.2s,baz=28,slow=34						
QSPA	**South Pole Qui**	**26.82**	**180**	P	**P**	**17 04 30.5**	**-0.1**
QSPA				IAmb	IAmb	17 04 40.0	
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**36.40**	**316**	LR	LR	17 18 56.0	
	comp=Z,254nm,18.3s,baz=161,slow=33						
MAW	**Mawson**	**39.57**	**215**	P	**P**	**17 06 19.0**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=164,slow=4.7						
MAW				LR	LR	17 22 35.2	
	comp=Z,934nm,18.7s,baz=122,slow=36						
MAW	**Mawson**	**39.57**	**215**	P	**P**	**17 06 20.3**	**-0.7**
DZM	**Mont Dzumac**	**41.28**	**354**	*e*LR	LR	17 17 59.1	
	comp=Z,529nm,22.3s						
H01W1	**Cape Leeuwin H**	**44.53**	**282**	T	T	17 55 09.2	
	baz=147,slow=76,SNR=304						
H01W2	**Cape Leeuwin H**	**44.53**	**282**	T	T	17 55 14.7	
	baz=147,slow=76,SNR=266						
H01W3	**Cape Leeuwin H**	**44.54**	**282**	T	T	17 55 10.4	
	baz=147,slow=76,SNR=255						
NWAO	**Narrogin (SRO)**	**44.85**	**287**	LR	LR	17 21 18.6	
	comp=Z,734nm,20.6s,baz=211,slow=30						
SNAA	**Sanae**	**45.26**	**183**	P	**P**	**17 07 07.6**	**+0.3**
SNAA	**Sanae**	**45.26**	**183**	P	**P**	**17 07 07.2**	**-0.1**
SNAA				IAmb	IAmb	17 07 18.0	
	comp=Z,3.5nm,1.0s						
VNA3	**Neumayer Olymp**	**45.76**	**180**	P	**P**	**17 07 14.1**	**+2.9**
VNA2	**Neumayer--Watz**	**46.07**	**181**	P	**P**	**17 07 13.9**	**+0.3**
CTA	**Charters Tower**	**46.25**	**327**	LR	LR	17 24 19.6	
	comp=Z,391nm,20.8s,baz=127,slow=33						
VNA1	**Neumayer--Stat**	**46.35**	**180**	P	**P**	**17 07 16.5**	**+0.7**
ASAR	**Alice Springs**	**46.52**	**311**	P	**P**	**17 07 18.1**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=168,slow=8.0,SNR=7.6						
ASAR				LR	LR	17 23 43.8	
	comp=Z,109nm,19.9s,baz=149,slow=32						
ASAR	**Alice Springs**	**46.52**	**311**	P	**P**	**17 07 17.7**	**-0.1**
TBI	**Tubuai**	**47.89**	**53**	*e*LQ	LQ	17 18 40.6	
	comp=Z,304nm,31.0s						
TBI				*e*LR	LR	17 20 48.8	
	comp=Z,301nm,26.2s,baz=192						
TBI	**Tubuai**	**47.89**	**53**	*e*T	T	17 58 19.3	
	comp=Z,14nm,0.3s						
WRA	**Warramunga Arr**	**49.83**	**313**	P	**P**	**17 07 43.0**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=157,slow=7.0,SNR=4.7						
WRA				LR	LR	17 25 58.3	
	comp=Z,166nm,21.3s,baz=145,slow=33						
PAE	**Paea**	**53.09**	**50**	*e*T	T	18 04 51.5	
	comp=Z,3.7nm,0.3s						
TVO	**Taravao**	**53.09**	**50**	*e*T	T	18 04 51.6	
	comp=Z,2.8nm,0.3s						
PPT2	**Papeete2**	**53.16**	**50**	*e*LQ	LQ	17 20 40.0	
	comp=Z,331nm,24.0s						
PPT2				*e*LR	LR	17 23 12.6	
	comp=Z,304nm,26.0s,baz=195						
PPT2	**Papeete2**	**53.16**	**50**	*e*T	T	18 04 56.5	
	comp=Z,7.7nm,0.3s						
PPT	**Papeete**	**53.18**	**50**	LR	LR	17 25 30.0	
	comp=Z,98nm,18.2s,baz=229,slow=30						
TIAR	**Tiarei**	**53.27**	**50**	*e*T	T	18 05 04.6	
	comp=Z,2.6nm,0.3s						
MEH	**Mehetia**	**53.42**	**51**	*e*T	T	18 05 14.7	
	comp=Z,32nm,0.3s						
HNR	**Honiara**	**54.30**	**347**	LR	LR	17 26 56.0	
	comp=Z,128nm,21.9s,baz=202,slow=31						
FITZ	**Fitzroy Crossi**	**54.60**	**304**	LR	LR	17 28 46.8	
	comp=Z,82nm,19.5s,baz=162,slow=33						
VAH	**Vaihoa**	**56.02**	**51**	*e*T	T	18 08 29.6	
	comp=Z,119nm,0.3s						
PMG	**Port Moresby**	**56.36**	**332**	LR	LR	17 27 09.6	
	comp=Z,127nm,21.7s,baz=118,slow=30						
PLCA	**Paso Flores**	**65.52**	**133**	LR	LR	17 32 45.6	
	comp=Z,94nm,18.0s,baz=166,slow=31						
H03S2	**Juan Fernandez**	**68.70**	**123**	T	T	18 25 23.3	
	baz=204,slow=74,SNR=22						
H03S1	**Juan Fernandez**	**68.70**	**123**	T	T	18 25 25.3	
	baz=204,slow=74,SNR=28						
H03S3	**Juan Fernandez**	**68.72**	**123**	T	T	18 25 24.6	
	baz=204,slow=74,SNR=25						
KAPI	**Kappang**	**68.82**	**304**	LR	LR	17 37 13.4	
	comp=Z,60nm,20.3s,baz=162,slow=34						
LEM	**Lembang**	**72.02**	**291**	LR	LR	17 37 22.6	
	comp=Z,179nm,20.2s,baz=174,slow=32						
CPUP	**Villa Florida**	**82.99**	**138**	P	**P**	**17 11 14.2**	**-1.3**
	comp=Z,2.5nm,1.0s,baz=268,slow=4.5,SNR=4.1						
CPUP				LR	LR	17 45 07.4	
	comp=Z,185nm,18.0s,baz=213,slow=34						
CPUP	**Villa Florida**	**82.99**	**138**	P	**P**	**17 11 15.5**	**0.0**
CPUP				IAmb	IAmb	17 11 25.5	
	comp=Z,4.2nm,1.1s						
BOSA	**Boshof**	**84.40**	**210**	P	**P**	**17 11 20.7**	**-2.1**
	comp=Z,5.8nm,1.0s,baz=261,slow=8.8,SNR=4.4						
BOSA				LR	LR	17 45 56.7	
	comp=Z,132nm,21.9s,baz=188,slow=34						
BOSA	**Boshof**	**84.40**	**210**	P	**P**	**17 11 23.2**	**+0.4**
H08S2	**Diego Garcia H**	**86.90**	**259**	T	T	18 48 12.5	
	baz=152,slow=76,SNR=80						
H08S1	**Diego Carcia H**	**86.91**	**259**	T	T	18 48 12.9	
	baz=152,slow=76,SNR=40						
H08S3	**Diego Garcia H**	**86.92**	**259**	T	T	18 48 17.1	
	baz=152,slow=76,SNR=253						
LPAZ	**La Paz**	**88.64**	**125**	P	**P**	**17 11 44.5**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=5.4,slow=0.6,SNR=7.7						
LPAZ				LR	LR	17 43 04.3	
	comp=Z,61nm,20.1s,baz=206,slow=30						
TORD	**Torodi Ar. Bea**	**129.34**	**194**	PKPdf	**PKPdf**	**17 17 58.1**	**-0.7**
ILAR	**Eielson Array**	**131.51**	**23**	PKP	**PKPdf**	**17 18 01.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=263,slow=2.3,SNR=3.6						
DELO	**Deloro Mine**	**137.97**	**83**	PKPdf	**PKiKP**	**17 18 16.4**	**+0.4**
NRIK	**Noril'sk**	**144.55**	**323**	PKP	**PKPdf**	**17 18 24.1**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=117,slow=2.3,SNR=2.0						
KBZ	**Khabaz**	**144.61**	**262**	PKP	**PKPdf**	**17 18 26.1**	**+0.2**
	comp=Z,5.6nm,0.9s,baz=184,slow=6.0,SNR=5.9						
BRTR	**Keskin Array B**	**145.39**	**248**	PKPbc	**PKPbc**	**17 18 27.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=251,slow=30,SNR=4.0						
MDT	**Midelt**	**149.38**	**188**	PKPbc	**PKPbc**	**17 18 38.3**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=192,slow=8.0,SNR=1.9						

IDC ***22*** *17:11:05.0±0.6,40.7°39N×30.7°10E,h0km,mb3.9/17, mb1 4.0/23,mb1mx3.9/55,mbtmp3.9/23,ML3.6/5,MS3.3/13, Ms1 3.3/13,ms1mx3.0/53,Error ellipse: s-maj=11.8km s-min=6.9km az=30.0*

DDA ***22*** *17:11:05.1,40.4°41N×30.7°10E,h8km±2km,MW4.5*

ISK ***22*** *17:11:05.6,40.4°41N×30.7°12E,h8km,ML4.5/39*

MED_RC ***22*** *17:11:05.0±0.8,40.4°41N×30.7°10E,h10km,MW4.3/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; Mrr-0.75±.24; Mθθ2.36±.22; Mϕϕ-1.61±.24; Mrθ-1.78±.68; Mϕθ-0.33±.25; Mϕr-1.75±.70; Best double couple: M₀3.27000×10¹⁵ NP1:ϕs314.00000°,δ39.00000°, λ-14.00000°. NP2:ϕs54.00000°,δ81.00000°, λ-128.00000°. Principal axes: T 3.2100, Plg26.0000°, Azm174.0000°; N 0.1200, Plg38.0000°, Azm61.0000°; P -3.3300, Plg41.0000°, Azm289.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***22*** *17:11:05.6,40.4°41N×30.7°12E,h9km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.18; Mθθ3.10; Mϕϕ-2.92; Mrθ-0.57; Mϕθ-0.58; Mϕr-1.22; Fault plane solution: M₀3.35000×10¹⁵ NP1:ϕs318.54000°, δ69.06000°,λ-9.52000°. NP2:ϕs51.97000°,δ81.11000°, λ-158.80000°. Principal axes: T 3.2209, Plg8.0000°, Azm184.0000°; N 0.2465, Plg67.0000°, Azm74.0000°; P -3.4674, Plg21.0000°, Azm277.0000°;*

NEIC ***22*** *17:11:08.0±2.1,40.4°41N±0.05°×30.7°12E±0.05°,h17km±5km Error ellipse: s-maj=6.8km s-min=6.1km az=190.0*

ISC 22 17:11:06.4±0.9,40.42N±0.01°×30.10E±0.01°,h8km±6km, n328,σ1§15/401,mb4.2/30,MS3.4/7,60C-31D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYV	**SAKARYA_Geyve**	**0.17**	**66**	⇑*iP*	**Pg**	**17 11 09.2**	**-0.7**
GEYV				*i* S	**Sg**	**17 11 11.3**	**-0.9**
GEYV					IAML	17 11 12.0	
	comp=N,68μm,0.5s						
GEYV					IAML	17 11 12.0	
	comp=E,45μm,0.8s						
ADVT	**Abdulvahap**	**0.28**	**274**	PG	**Pg**	**17 11 11.8**	**-0.1**
ADVT				SG	**Sg**	**17 11 16.5**	**+0.9**
CAVI	**Cavuskoy**	**0.29**	**222**	PG	**Pg**	**17 11 12.0**	**-0.2**
CAVI				SG	**Sg**	**17 11 16.7**	**+0.7**
SPNC	**Sapanca-Adapaz**	**0.31**	**31**	PG	**Pg**	**17 11 12.4**	**-0.2**
SPNC				SG	**Sg**	**17 11 17.3**	**+0.5**
GULT	**Gulveren**	**0.32**	**87**	PG	**Pg**	**17 11 12.1**	**-0.7**
GULT				SG	**Sg**	**17 11 16.9**	**-0.1**
SAUV	**Serdivan-Sakar**	**0.37**	**28**	PG	**Pg**	**17 11 13.4**	**-0.2**
SAUV				SG	**Sg**	**17 11 19.1**	**+0.6**
AUBOZ	**BOZOYUK**	**0.51**	**186**	⇑*iP*	**Pg**	**17 11 15.4**	**-0.9**
AUBOZ				*i* S	**Sg**	**17 11 22.1**	**-0.9**
AUBOZ					IAML	17 11 26.0	
	comp=E,11μm,0.3s						
AUBOZ					IAML	17 11 31.0	
	comp=N,8μm,0.4s						
HRT	**Hereke**	**0.52**	**321**	PG	**Pg**	**17 11 16.2**	**-0.3**
HRT				SG	**Sg**	**17 11 23.8**	**+0.4**
SRCK	**Saricakaya, Es**	**0.55**	**133**	PG	**Pg**	**17 11 16.4**	**-0.7**
BORA	**Eskisehir**	**0.60**	**153**	⇑*iP*	**Pg**	**17 11 17.1**	**-0.9**
BORA				*i* S	**Sg**	**17 11 25.8**	**-0.1**
BORA					IAML	17 11 33.0	
	comp=E,4μm,0.2s						
YLVH	**Yalova**	**0.62**	**297**	PG	**Pg**	**17 11 18.4**	**0.0**
LAFA	**Gebze-Kocaeli**	**0.66**	**301**	PG	**Pg**	**17 11 19.2**	**0.0**
LAFA				SG	**Sb**	**17 11 29.2**	**-0.4**
KAND	**Kocaeli-Kandir**	**0.68**	**6**	⇑*iP*	**Pg**	**17 11 19.6**	**0.0**
KAND				*i* S	**Sg**	**17 11 27.9**	**-0.5**
KAND					IAML	17 11 29.0	
	comp=E,4μm,0.6s						
GEMT	**Gemlik**	**0.69**	**272**	PG	**Pg**	**17 11 19.6**	**-0.2**
GEMT				SG	**Sb**	**17 11 29.8**	**-0.7**
IGD	**Bursa**	**0.70**	**258**	⇓*iP*	**Pg**	**17 11 18.9**	**-1.1**
IGD				*i* S	**Sg**	**17 11 29.4**	**+0.3**
IGD					IAML	17 11 33.0	
	comp=E,7μm,0.5s						
IGD					IAML	17 11 33.0	
	comp=N,5μm,0.3s						
SAHE	**Sakarya_HENDEK**	**0.72**	**53**	⇑*iP*	**Pg**	**17 11 19.6**	**-0.7**
TRML	**Termal-Yalova**	**0.73**	**286**	PG	**Pg**	**17 11 19.5**	**-1.0**
TUZL	**Tuzla-Istanbul**	**0.75**	**302**	PG	**Pg**	**17 11 20.9**	**+0.1**
TUZL				SG	**Sb**	**17 11 31.6**	**-0.4**
ULDT	**Uludag**	**0.79**	**250**	*i*P	**Pg**	**17 11 20.3**	**-1.2**
ULDT				*i* S	**Sb**	**17 11 33.7**	**+0.3**
ULDT					IAML	17 11 38.0	
	comp=E,13μm,0.2s						
ULDT					IAML	17 11 39.0	
	comp=N,28μm,0.4s						
SILT	**Sile**	**0.81**	**335**	PG	**Pg**	**17 11 22.2**	**+0.1**
MDUB	**Mudurnu**	**0.84**	**86**	PG	**Pg**	**17 11 21.8**	**-0.8**
MDUB				SG	**Sg**	**17 11 33.9**	**+0.3**
MDUB	**Mudurnu**	**0.84**	**86**	Pg	**Pg**	**17 11 21.6**	**-1.0**
MDUB					**Sb**	**17 11 36.3**	**+1.4**
BUY	**Buyukada**	**0.86**	**301**	⇓*iP*	**Pg**	**17 11 23.0**	**0.0**
BUY				*i* S	**Sg**	**17 11 33.7**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.93**	**267**	PG	**Pg**	**17 11 24.1**	**-0.2**
ARMT	**Armutlu**	**0.95**	**279**	PG	**Pg**	**17 11 24.2**	**-0.6**
ORLT	**Orhaneli**	**0.99**	**248**	PG	**Pg**	**17 11 24.6**	**-0.9**
KAVV	**Kandilli-Istan**	**1.02**	**310**	PG	**Pg**	**17 11 25.8**	**-0.2**
ISK	**Istanbul-Kandi**	**1.02**	**310**	P	**Pg**	**17 11 25.7**	**-0.4**
ISK				S	**Sb**	**17 11 39.6**	**-0.4**
ISK	**Istanbul-Kandi**	**1.02**	**310**	PG	**Pg**	**17 11 25.8**	**-0.2**
TVSB	**Tavsanli**	**1.08**	**207**	PN	**Pg**	**17 11 26.8**	**-0.4**
KLYT	**Kilyos**	**1.16**	**317**	PN	**Pg**	**17 11 28.3**	**-0.4**
YIGI	**Dzce**	**1.16**	**62**	⇑*iP*	**Pb**	**17 11 26.8**	**-2.1**
YIGI				*i* S	**Sg**	**17 11 41.9**	**-2.0**
YIGI					IAML	17 11 47.0	
	comp=N,3μm,0.6s						
YIGI					IAML	17 11 48.0	
	comp=E,3μm,0.6s						
AUKIR	**Kırka- Seyitga**	**1.19**	**164**	⇑*iP*	**Pg**	**17 11 27.5**	**-1.7**
AUKIR				*i* S	**Sg**	**17 11 44.1**	**-0.4**
AUKIR					IAML	17 11 51.0	
	comp=E,10μm,0.7s						
AUKIR					IAML	17 11 52.0	
	comp=N,6μm,0.4s						
AUMIH	**MIHALICIK**	**1.20**	**117**	⇓*iP*	**Pb**	**17 11 27.5**	**-1.9**
AUMIH				*i* S	**Sg**	**17 11 45.3**	**+0.4**
AUMIH					IAML	17 11 52.0	
	comp=E,7μm,0.6s						
AUMIH					IAML	17 11 53.0	
	comp=N,5μm,0.5s						
AVCI	**Avcilar-stanb**	**1.20**	**299**	PN	**Pb**	**17 11 29.1**	**-0.2**
YUVA	**Yuva-Kibriscik**	**1.21**	**91**	PN	**Pb**	**17 11 28.9**	**-0.8**
YKBL	**Y

KZIL	**AFYON_Kizioren**	**2.16 179**	*i* P		**Pn**	**17 11 43.4 +0.6**
KZIL			*i* S		**Sb**	**17 12 12.7 -0.1**
KZIL			IAML			17 12 21.0
	comp=E,550nm,0.9s					
KULA	**Kula-Manisa**	**2.20 211**	P		**Pb**	**17 11 47.4 +0.9**
KULA			S		**Sg**	**17 12 15.6 -1.6**
SART	**Tekirdag**	**2.24 278**	*i* S		**Sn**	**17 12 11.8 0.0**
MANT	**Manisa**	**2.26 212**	Pn		**Pn**	**17 11 44.2 -0.2**
AKHS	**Akhisar**	**2.34 230**	⇓*i* P		**Pn**	**17 11 44.6 -0.6**
AKHS			*i* S		**Sb**	**17 12 16.0 -1.9**
KDHN	**Kadinhani**	**2.45 140**	*i* P		**Pn**	**17 11 46.4 -0.5**
KDHN			*i* S		**Sb**	**17 12 19.8 -1.5**
KDHN			IAML			17 12 34.0
	comp=E,424nm,0.9s					
BAGO	**Egridir - ISPA**	**2.48 167**	*i* P		**Pn**	**17 11 48.1 +0.9**
BAGO			*i* S		**Sb**	**17 12 21.0 -1.1**
BBAL	**Bala**	**2.48 110**	*e*P		**Pn**	**17 11 48.2 +0.9**
KKUL	**Konya-Kulu**	**2.50 119**	*i* P		**Pn**	**17 11 48.5 +0.9**
KKUL			IAML			17 12 42.0
	comp=E,589nm,1.1s					
KKUL			IAML			17 12 54.0
	comp=N,455nm,1.0s					
PELI	**Kastamonı-Ara**	**2.59 69**	*i* P		**Pn**	**17 11 49.1 +0.3**
PELI			*i* S		**Sg**	**17 12 28.2 -1.5**
DOGA	**KONYA_Doganhis**	**2.61 152**	*i* P		**Pn**	**17 11 48.9 -0.2**
DOGA			*i* S		**Sb**	**17 12 25.0 -0.8**
DOGA			IAML			17 12 43.0
	comp=E,427nm,0.7s					
ISP	**Isparta**	**2.61 173**			**Pn**	**17 11 49.7 +0.7**
KESN	**Edirne-Kesan**	**2.63 280**	⇓*i* P		**Pn**	**17 11 49.1 -0.5**
KESN			*i* S		**Sn**	**17 12 23.7 +1.8**
BRDR	**BURDUR-Merkez**	**2.72 181**	*i* P		**Pn**	**17 11 50.7 +0.3**
BRDR			*i* S		**Sg**	**17 12 33.2 -0.4**
BRDR			IAML			17 12 47.0
	comp=E,540nm,0.8s					
BRDR			IAML			17 12 48.0
	comp=N,532nm,0.8s					
ZEDA	**zmir-Bergama**	**2.74 239**	⇓*i* P		**Pn**	**17 11 50.5 -0.3**
ZEDA			*i* S		**Sg**	**17 12 32.8 -1.8**
ZEDA			IAML			17 12 42.0
	comp=E,1µm,0.7s					
ZEDA			IAML			17 12 43.0
	comp=N,1µm,1.0s					
BR131	**Keskin Array S**	**2.80 103**	Pn		**Pn**	**17 11 51.4 -0.3**
BRTR	**Keskin Array B**	**2.80 103**	Pn		**Pn**	**17 11 51.1 -0.6**
	comp=N,3.7nm,0.3s,baz=277,slow=13,SNR=90					
BRTR			Pg		**Pg**	**17 11 59.2 -1.0**
	comp=N,15nm,0.3s,baz=253,slow=40,SNR=33					
BRTR			Sn		**Sn**	**17 12 26.0 +0.2**
	comp=N,8.4nm,0.3s,baz=299,slow=38,SNR=3.6					
BRTR			Lg		Lg	17 12 35.4
	comp=N,7.6nm,0.3s,baz=274,slow=17,SNR=5.1					
BRTR			LR		LR	17 12 43.3
	comp=N,88nm,20.5s,baz=343,slow=35					
BAYC	**CANAKKALE_Bayr**	**2.81 257**	*i* P		**Pn**	**17 11 51.3 -0.3**
BAYC			*i* S		**Sg**	**17 12 34.5 -2.1**
BAYC			IAML			17 12 44.0
	comp=N,1µm,0.5s					
BAYC			IAML			17 12 45.0
	comp=E,1µm,0.4s					
ILGA	**Ilgaz**	**2.82 76**	*i* P		**Pn**	**17 11 52.3 +0.3**
ILGA			*i* S		**Sg**	**17 12 36.6 -0.5**
ILGA			IAML			17 12 45.0
	comp=E,501nm,1.2s					
ILGA			IAML			17 12 45.0
	comp=N,457nm,0.9s					
ILGA	**Ilgaz**	**2.82 76**	Pn		**Pn**	**17 11 51.9 -0.1**
AYVA	**Ayvalik**	**2.85 248**	⇓*i* P		**Pn**	**17 11 51.9 -0.2**
AYVA			*i* S		**Sg**	**17 12 37.8 -0.1**
AYVA			IAML			17 12 44.0
	comp=N,3µm,0.7s					
AYVA			IAML			17 12 46.0
	comp=E,3µm,0.7s					
EDRB	**Edirne**	**2.91 301**	P		**Pn**	**17 11 52.7 -0.3**
EZN	**Ezine**	**2.95 260**	P		**Pn**	**17 11 54.0 +0.4**
DELI	**KIRIKKALE**	**2.96 97**	*i* P		**Pn**	**17 11 53.4 -0.4**
DELI			*i* S		**Sb**	**17 12 37.6 +1.8**
ENEZ	**Enez**	**3.02 277**	P		**Pn**	**17 11 54.9 +0.3**
TAVA	**DENIZLI_Tavas**	**3.09 198**	*i* P		**Pn**	**17 11 56.1 +0.5**
BLCB	**Balcova**	**3.12 230**	P		**Pn**	**17 11 55.2 -0.7**
ALN	**Alexandroupoli**	**3.12 280**	P		**Pn**	**17 11 55.8 -0.1**
ALN	**Alexandroupoli**	**3.12 280**	Pn		**Pn**	**17 11 55.6 -0.3**
BOZC	**Bozcaada**	**3.15 261**	*i* P		**Pn**	**17 11 57.1 +0.7**
BOZC			*i* S		**Sg**	**17 12 45.8 -1.9**
PRK	**Paraskevi**	**3.17 250**	P		**Pn**	**17 11 57.8 +1.2**
KMER	**Konya-Meram**	**3.18 146**	*i* P		**Pn**	**17 11 57.7 +0.9**
KMER			*i* S		**Sg**	**17 12 49.0 +0.4**
GOLH	**Golhisar**	**3.20 188**	*e*P		**Pn**	**17 11 57.7 +0.5**
GOLH			*i* S		**Sg**	**17 12 53.4 +4.1**
KIRS	**Kırehir-Merke**	**3.21 112**	*i* P		**Pn**	**17 11 57.2 -0.1**
GOKA	**anakkale-Gk**	**3.21 267**	⇓*i* P		**Pn**	**17 11 57.3 +0.1**
GADA	**Gvkgeada**	**3.22 267**	P		**Pn**	**17 11 57.6 +0.3**
AYDN	**Tasoluk**	**3.25 213**	*i* P		**Pg**	**17 12 06.8 -1.8**
AYDN			*i* S		**Sg**	**17 12 51.6 +0.8**
AYDN			IAML			17 12 56.0
	comp=E,704nm,1.5s					
AYDN			IAML			17 13 02.0
	comp=N,439nm,0.9s					
BZK	**Bozkurt**	**3.33 61**	⇑P		**Pn**	**17 11 59.7 +1.0**
BZK	**Bozkurt**	**3.33 61**			**Pn**	**17 11 59.7 +1.0**
CDAG	**Cicekdag**	**3.38 102**	*i* P		**Pn**	**17 11 59.4 -0.2**
CDAG			*i* S		**Sb**	**17 12 51.2 +3.4**
URLA	**Izmir**	**3.40 234**	*i* P		**Pn**	**17 11 58.9 -1.0**
KORT	**Korkueli**	**3.42 177**	*i* P		**Pn**	**17 12 00.8 +0.7**
KORT			*i* S		**Sb**	**17 12 52.2 +3.2**
DGB	**zmir**	**3.44 228**	*i* P		**Pb**	**17 12 07.2 -0.4**
DGB			IAML			17 13 02.0
	comp=E,278nm,0.8s					
DGB			IAML			17 13 04.0
	comp=N,381nm,0.5s					
SIGR	**SIGRI**	**3.48 251**	P		**Pn**	**17 12 00.8 -0.1**
SMTH	**Samothraki Isl**	**3.49 272**	P		**Pn**	**17 12 00.5 -0.5**
RDO	**Rodhopi**	**3.54 283**	P		**Pn**	**17 12 01.5 -0.2**
YER	**Yerkesik**	**3.57 204**	P		**Pn**	**17 12 04.4 +2.2**
MANR	**Mangalia**	**3.58 342**	⇑P		**Pn**	**17 12 03.0 +0.8**
MANR	**Mangalia**	**3.58 342**	⇓S		**Sn**	**17 12 44.2 -0.5**
MANR	**Mangalia**	**3.58 342**			**Pn**	**17 12 03.0 +0.8**
MANR					**Sn**	**17 12 44.2 -0.5**
CTAK	**Corum_Osmancik**	**3.58 85**	*i* P		**Pn**	**17 11 59.1 -3.4**
ELL	**Elmali**	**3.67 182**	Pn		**Pn**	**17 12 04.6 +1.0**
KEPZ	**Antalya-Kepez**	**3.70 161**	*i* P		**Pn**	**17 12 04.4 +0.4**
KEPZ			*i* S		**Sn**	**17 12 51.6 +3.8**
SMG	**Samos**	**3.71 224**	P		**Pn**	**17 12 03.0 -1.0**
CHOS	**Chios island**	**3.73 238**	P		**Pn**	**17 12 04.1 -0.3**
COAL	**Corum-Alaca**	**3.74 91**	*i* P		**Pn**	**17 12 05.3 +0.7**
COAL			*i* S		**Sb**	**17 13 02.6 +4.3**
COAL			IAML			17 13 12.0
	comp=E,272nm,1.0s					
COAL			IAML			17 13 13.0
	comp=N,268nm,1.1s					
LIA	**Limnos Island**	**3.80 264**	P		**Pn**	**17 12 05.7 +0.4**
FETY	**Fethiye**	**3.86 192**	*i* P		**Pn**	**17 12 06.6 +0.5**
SIRC	**Yozgat**	**4.03 104**	*i* P		**Pn**	**17 12 09.7 +1.1**
SIRC			*i* S		**Sg**	**17 13 15.9 0.0**
AKUM	**Antalya-Kumluc**	**4.09 177**	*i* P		**Pn**	**17 12 11.0 +1.8**
DIKM	**Dikmen**	**4.09 71**	⇑P		**Pn**	**17 12 11.2 +1.9**
DIKM	**Dikmen**	**4.09 71**			**Pn**	**17 12 11.2 +1.9**
RAZG	**Razgrad**	**4.13 321**	⇑P		**Pn**	**17 12 10.2 +0.4**
RAZG	**Razgrad**	**4.13 321**			**Pn**	**17 12 10.2 +0.4**
AKAS	**Kas**	**4.20 185**	Pn		**Pn**	**17 12 12.1 +1.2**
CVDA	**Cernavoda**	**4.20 339**	⇑P		**Pn**	**17 12 12.0 +1.3**
CVDA	**Cernavoda**	**4.20 339**	⇑S		**Sn**	**17 12 59.4 -0.6**
CVDA	**Cernavoda**	**4.20 339**			**Sn**	**17 12 12.0 +1.3**
CVDA					**Sn**	**17 12 59.4 -0.6**
TIRR	**Tirgusor**	**4.23 343**	⇑P		**Pn**	**17 12 12.1 +1.0**
TIRR	**Tirgusor**	**4.23 343**	⇑S		**Sn**	**17 12 59.4 -1.2**
TIRR	**Tirgusor**	**4.23 343**	Pn		**Pn**	**17 12 11.8 +0.6**
TIRR	**Tirgusor**	**4.23 343**			**Pn**	**17 12 12.2 +1.0**
TIRR					**Sn**	**17 12 59.4 -1.2**
KAVA	**Kavala**	**4.28 280**	P		**Pn**	**17 12 11.8 -0.1**
KERG	**Konya-Eregli**	**4.34 132**	*i* P		**Pn**	**17 12 09.8 -3.1**
TLBR	**Topalu**	**4.39 340**	⇑P		**Pn**	**17 12 14.5 +1.0**
TLBR	**Topalu**	**4.39 340**	⇑S		**Sn**	**17 13 03.6 -1.2**
HARR	**Harsova**	**4.56 340**	⇑P		**Pn**	**17 12 16.1 +0.3**
HARR	**Harsova**	**4.56 340**			**Pn**	**17 12 16.1 +0.3**
TPGR	**Topolog**	**4.61 345**	⇑P		**Pn**	**17 12 17.2 +0.8**
TPGR	**Topolog**	**4.61 345**	⇑S		**Sn**	**17 13 08.4 -1.7**
AMRR	**Amara**	**4.66 335**	⇓P		**Pn**	**17 12 17.8 +0.7**
AMRR	**Amara**	**4.66 335**			**Pn**	**17 12 17.8 +0.7**
OUR	**Ouranopolis**	**4.67 271**	P		**Pn**	**17 12 16.4 -0.8**
GULE	**Gulek**	**4.81 129**	*i* P		**Pn**	**17 12 20.2 +0.9**
CUSAR	**Sarkisla-SIVAS**	**4.83 100**	*i* P		**Pn**	**17 12 19.8 +0.2**
CUSAR			IAML			17 13 50.0
	comp=N,86nm,0.9s					
CUSAR			IAML			17 13 58.0
	comp=E,100nm,0.9s					
TLCR		**4.86 349**	⇓P		**Pn**	**17 12 20.7 +0.9**
TLCR		**4.86 349**	⇑S		**Sn**	**17 13 15.5 -0.7**
TLCR		**4.86 349**			**Pn**	**17 12 20.7 +0.9**
TLCR					**Sn**	**17 13 15.6 -0.7**
TOKA	**Tokat**	**4.88 89**			**Pn**	**17 12 21.5 +1.4**
CFR	**Carcaliu**	**4.97 344**	⇑P		**Pn**	**17 12 21.7 +0.3**
CFR	**Carcaliu**	**4.97 344**	⇑S		**Sn**	**17 13 18.0 -1.0**
CFR	**Carcaliu**	**4.97 344**			**Pn**	**17 12 21.7 +0.3**
CFR					**Sn**	**17 13 18.0 -1.0**
GULN	**MERSIN_Gulnar**	**5.02 146**	*i* P		**Pn**	**17 12 26.7 +4.7**
GULN			*i* S		**Sg**	**17 13 48.3 +0.6**
COPA	**Copaceanca**	**5.19 317**	⇑P		**Pn**	**17 12 25.3 +0.9**
COPA	**Copaceanca**	**5.19 317**			**Pn**	**17 12 25.3 +0.9**
SCHL	**Schela**	**5.35 343**	⇓P		**Pn**	**17 12 27.4 +0.9**
SCHL	**Schela**	**5.35 343**	⇑S		**Sn**	**17 13 27.3 -1.0**
ISR	**Istrita**	**5.38 332**	⇑P		**Pn**	**17 12 28.4 +1.4**
ISR	**Istrita**	**5.38 332**	⇑S		**Sn**	**17 13 29.5 +0.3**
ISR	**Istrita**	**5.38 332**			**Pn**	**17 12 28.4 +1.4**
ISR					**Sn**	**17 13 29.5 +0.3**
KARP	**Karpathos**	**5.39 206**	Pn		**Pn**	**17 12 27.6 +0.5**
SANT	**Santorini**	**5.44 224**	Pn		**Pn**	**17 12 27.6 -0.3**
GRER		**5.46 336**	⇓P		**Pn**	**17 12 29.5 +1.4**
GRER		**5.46 336**	⇑S		**Sn**	**17 13 32.2 +1.0**
GRER		**5.46 336**			**Pn**	**17 12 29.5 +1.4**
GRER					**Sn**	**17 13 32.2 +1.0**
TUDR		**5.47 342**	⇓P		**Pn**	**17 12 29.5 +1.3**
TUDR		**5.47 342**	⇑S		**Sn**	**17 13 30.9 -0.5**
TUDR		**5.47 342**			**Pn**	**17 12 29.5 +1.3**
TUDR					**Sn**	**17 13 30.9 -0.5**
HUMR	**Humele**	**5.58 319**	⇑P		**Pn**	**17 12 30.7 +0.9**
HUMR	**Humele**	**5.58 319**			**Pn**	**17 12 30.7 +0.9**
BISRR	**Bisoca**	**5.70 335**	⇓P		**Pn**	**17 12 33.0 +1.6**
BISRR	**Bisoca**	**5.70 335**	⇑S		**Sn**	**17 13 37.9 +0.9**
BISRR	**Bisoca**	**5.70 335**			**Pn**	**17 12 33.0 +1.6**
BISRR					**Sn**	**17 13 37.9 +0.9**
PETR	**Petresti**	**5.70 339**	⇑P		**Pn**	**17 12 33.2 +1.8**
PETR	**Petresti**	**5.70 339**	⇑S		**Sn**	**17 13 38.4 +1.4**
PETR	**Petresti**	**5.70 339**			**Pn**	**17 12 33.2 +1.8**
PETR					**Sn**	**17 13 38.4 +1.4**
VARL	**Varlezi**	**5.72 344**	⇓P		**Pn**	**17 12 33.0 +1.3**
VARL	**Varlezi**	**5.72 344**	⇑S		**Sn**	**17 13 37.1 -0.4**
NEHR	**Nehoiu**	**5.73 332**	⇓P		**Pn**	**17 12 33.9 +1.5**
CUKAN	**kangal_SIVAS**	**5.78 99**	*i* P		**Pn**	**17 12 32.4 -0.2**
CUKAN			IAML			17 14 25.0
	comp=N,54nm,1.5s					
CUKAN			IAML			17 14 38.0
	comp=E,62nm,1.5s					
ODBI	**Odobesti**	**5.79 338**	⇑P		**Pn**	**17 12 34.3 +1.7**
ODBI	**Odobesti**	**5.79 338**	⇓S		**Sn**	**17 13 38.6 -0.6**
ODBI	**Odobesti**	**5.79 338**			**Pn**	**17 12 34.3 +1.7**
ODBI					**Sn**	**17 13 38.6 -0.6**
LIT	**Litokhoron**	**5.83 269**			**Pn**	**17 12 33.0 -0.2**
MLR	**Muntele Rosu**	**5.92 330**	Pn		**Pn**	**17 12 36.3 +1.8**
	comp=E,2.4nm,0.3s,baz=171,slow=5.0,SNR=19					
MLR			Sn		**Sn**	**17 13 43.1 +0.6**
	comp=E,2.7nm,0.3s,baz=318,slow=23,SNR=6.7					
MLR			LR		LR	17 15 20.1
	comp=E,306nm,19.6s,baz=156,slow=43					
MLR	**Muntele Rosu**	**5.92 330**	⇑P		**Pn**	**17 12 36.2 +1.8**
VRI	**Vrincioaia**	**5.98 337**	⇓P		**Pn**	**17 12 36.1 +0.8**
VRI	**Vrincioaia**	**5.98 337**	⇑S		**Sn**	**17 13 43.8 -0.1**
VRI	**Vrincioaia**	**5.98 337**			**Pn**	**17 12 36.0 +0.8**
VRI					**Sn**	**17 13 43.8 -0.1**
PLOR	**Plostina**	**5.99 336**	⇑P		**Pn**	**17 12 37.1 +1.7**
PLOR	**Plostina**	**5.99 336**			**Pn**	**17 12 37.1 +1.7**
CSS	**Mathiatis**	**6.02 154**			**Pn**	**17 12 36.4 +0.7**
MTUR	**Matau**	**6.07 324**	⇑P		**Pn**	**17 12 37.9 +1.4**
MTUR	**Matau**	**6.07 324**			**Pn**	**17 12 37.9 +1.4**
STIP	**Stip**	**6.12 285**	*i* Pn		**Pn**	**17 12 35.5 -1.7**
BIR	**Birlad**	**6.12 344**	⇑P		**Pn**	**17 12 37.8 +0.7**
BIR	**Birlad**	**6.12 344**	⇑S		**Sn**	**17 13 47.3 +0.1**
BIR	**Birlad**	**6.12 344**			**Pn**	**17 12 37.8 +0.7**
BIR					**Sn**	**17 13 47.3 +0.1**
AGG	**Agios Georgios**	**6.15 259**	P		**Pn**	**17 12 38.0 +0.4**
AGG	**Agios Georgios**	**6.15 259**	Pn		**Pn**	**17 12 38.3 +0.7**
ARR	**Arges**	**6.37 323**	⇑P		**Pn**	**17 12 41.7 +1.1**
ARR	**Arges**	**6.37 323**			**Pn**	**17 12 41.7 +1.1**
VASR	**Vaslui**	**6.44 346**	⇑P		**Pn**	**17 12 42.6 +1.0**
VASR	**Vaslui**	**6.44 346**	⇑S		**Sn**	**17 13 53.9 -1.4**
OZUR		**6.49 332**	⇑P		**Pn**	**17 12 43.7 +1.4**
OZUR		**6.49 332**	⇑S		**Sn**	**17 13 55.4 -1.1**
OZUR		**6.49 332**			**Pn**	**17 12 43.7 +1.4**
OZUR					**Sn**	**17 13 55.4 -1.1**
DOPR	**Dopca**	**6.53 330**	⇑P		**Pn**	**17 12 44.0 +1.3**
DOPR	**Dopca**	**6.53 330**			**Pn**	**17 12 44.0 +1.3**
KEMA	**Kemaliye**	**6.56 97**	*i* P		**Pn**	**17 12 45.7 +2.4**
MILM	**Milestii Mici**	**6.57 352**	⇑P		**Pn**	**17 12 42.8 -0.5**
MILM	**Milestii Mici**	**6.57 352**			**Pn**	**17 12 42.8 -0.5**
IDI	**Anoyia**	**6.57 220**	LR		LR	17 15 37.2
	comp=E,175nm,21.6s,baz=55,slow=42					
TESR	**Tescani**	**6.59 339**	⇑P		**Pn**	**17 12 44.2 +0.6**
TESR	**Tescani**	**6.59 339**	⇓S		**Sn**	**17 13 58.1 -0.8**
TESR	**Tescani**	**6.59 339**			**Pn**	**17 12 44.2 +0.6**
TESR					**Sn**	**17 13 58.1 -0.8**
LOT	**Lotru**	**6.84 319**	⇑P		**Pn**	**17 12 47.9 +0.7**
LOT	**Lotru**	**6.84 319**	⇑S		**Sn**	**17 14 04.7 -0.7**
LOT	**Lotru**	**6.84 319**			**Pn**	**17 12 47.9 +0.7**
LOT					**Sn**	**17 14 04.7 -0.7**
GIRR	**Girov**	**7.04 339**	⇓P		**Pn**	**17 12 50.2 +0.4**
GIRR	**Girov**	**7.04 339**			**Pn**	**17 12 50.1 +0.4**
BIZ	**Bicaz**	**7.13 337**	⇑P		**Pn**	**17 12 51.4 +0.3**
BIZ	**Bicaz**	**7.13 337**	⇑S		**Sn**	**17 14 10.8 -1.5**
BIZ	**Bicaz**	**7.13 337**			**Pn**	**17 12 51.4 +0.3**
BIZ					**Sn**	**17 14 10.8 -1.5**
ITM	**Ithomi**	**7.15 246**			**Pn**	**17 12 53.4 +2.0**
HERR	**Herculane**	**7.21 311**	⇓P		**Pn**	**17 12 52.1 0.0**
HERR	**Herculane**	**7.21 311**			**Pn**	**17 12 52.1 0.0**
GZR	**Gura Zlata**	**7.32 315**	⇓P		**Pn**	**17 12 53.9 +0.2**
GZR	**Gura Zlata**	**7.32 315**			**Pn**	**17 12 53.9 +0.2**
SORM	**Soroca**	**7.82 351**	⇓P		**Pn**	**17 12 59.8 -0.7**
SORM	**Soroca**	**7.82 351**			**Pn**	**17 12 59.8 -0.7**
BURAR	**Bucovina Array**	**8.01 336**	⇓P		**Pn**	**17 13 04.8 +1.7**
BURAR	**Bucovina Array**	**8.01 336**	Pn		**Pn**	**17 13 05.5 +2.3**
BURAR	**Bucovina Array**	**8.01 336**			**Pn**	**17 13 04.8 +1.7**
BUR08	**Bucovina Ar. S**	**8.04 336**			**Pn**	**17 13 05.1 +1.5**
BZS	**Buzias**	**8.10 313**	⇓P		**Pn**	**17 13 04.2 -0.1**
BZS	**Buzias**	**8.10 313**			**Pn**	**17 13 04.2 -0.1**
DIVS	**Divibare**	**8.35 299**			**Pn**	**17 13 07.4 -0.4**
PDG	**Podgorica**	**8.39 287**	Pn		**Pn**	**17 13 09.6 +1.3**
MMAI	**Mount Meron Ar**	**8.53 148**	Pn		**Pn**	**17 13 09.7 -0.6**
	comp=E,3.5nm,0.3s,baz=339,slow=11,SNR=21					
MMAI			LR		LR	17 17 18.8
	comp=E,206nm,18.6s,baz=330,slow=44					
BMR	**Baia Mare**	**8.67 329**	⇓P		**Pn**	**17 13 13.1 +0.9**
BMR	**Baia Mare**	**8.67 329**			**Pn**	**17 13 13.1 +0.9**
STON	**Ston**	**9.60 289**	Sg		**Pn**	**17 13 26.8 +1.9**
ASF	**Jabal al Asfar**	**9.88 144**	Pn		**Pn**	**17 13 29.2 +0.3**
	comp=E,0.2nm,0.3s,baz=138,slow=23,SNR=1.6					
KBZ	**Khabaz**	**10.08 67**	Pn		**Pn**	**17 13 31.5 +0.2**
	comp=E,0.1nm,0.3s,baz=358,slow=8.9,SNR=1.4					
RICI	**Ricice**	**10.13 292**	Sg		**Pn**	**17 13 35.1 +2.9**
KOLS	**Kolonicke sedl**	**10.17 329**	*e*PN		**Pn**	**17 13 33.1 +0.4**
GEVA	**Gevas**	**10.26 98**	Pn		**Pn**	**17 13 33.1 -1.0**
AKASG	**Malin Array Be**	**10.30 357**	Pn		**Pn**	**17 13 32.7 -1.8**
	comp=E,10nm,0.3s,baz=174,slow=12,SNR=87					
AKASG			Sn		**Sn**	**17 15 23.5 -6.6**
	comp=E,3.3nm,0.3s,baz=157,slow=25,SNR=5.3					
AKASG	**Malin Array Be**	**10.30 357**			**Pn**	**17 13 32.4 -2.1**
AKBB	**Malin Array Si**	**10.30 357**	Pn		**Pn**	**17 13 33.4 -1.1**
TIP	**Timpagrande**	**10.34 267**	Pn		**Pn**	**17 13 36.0 +0.8**
KIJV	**Kijevo**	**10.77 294**	Sg		**Pn**	**17 13 44.1 +3.2**
MORI	**Morici**	**11.23 293**	Sn		**Pn**	**17 13 51.2 +4.1**
EIL	**Elat**	**11.43 158**	Pn		**Pn**	**17 13 51.8 +1.7**
	comp=E,0.2nm,0.3s,baz=13,slow=6.1,SNR=2.2					
PAOL	**Paolisi**	**11.80 278**	Pn		**Pn**	**17 13 56.6 +1.5**
RAFF	**Raffo Rosso**	**12.68 260**	Pn		**Pn**	**17 14 07.5 +0.4**
NRCA	**Norcia**	**12.94 286**	Pn		**Pn**	**17 14 12.3 +1.7**
VRAC	**Vranov**	**13.05 317**	LR		LR	17 20 18.7
	comp=E,51nm,19.2s,baz=148,slow=42					
MURB	**Monte Urbino**	**13.41 288**	Pn		**Pn**	**17 14 19.2 +2.1**
NACGM	**Naroch**	**14.66 352**	*e*		Pn	17 14 25.0 -9.0
OBN	**Obninsk**	**15.32 14**	LR		LR	17 21 37.9
	comp=E,30nm,18.5s,baz=197,slow=41					
DAVOX	**Davos/Dischmat**	**15.95 300**	Pn		**P**	**17 14 54.1 -0.8**
	comp=E,0.1nm,0.3s,baz=319,slow=14,SNR=4.6					
KEST	**Kesra**	**16.99 261**	Pn		**P**	**17 15 06.9 +0.5**
	comp=E,0.3nm,0.3s,baz=226,slow=5.7,SNR=4.5					
KEST	**Kesra**	**16.99 261**	P		**P**	**17 15 08.4 +2.0**
KEST			IAmb	IAmb		17 15 26.5
	comp=Z,92nm,1.9s					
SENIN	**Lac Senin/Sane**	**17.58 297**	P		**P**	**17 15 14.6 +1.6**
FINES	**FINESS Array B**	**21.20 355**	P		**P**	**17 15 53.5 +1.3**
	comp=Z,4.0nm,0.5s,baz=162,slow=12,SNR=17					
FINES			S	S		17 19 33.6 -14
	comp=Z,5.7nm,1.0s,baz=169,slow=23,SNR=2.3					
FINES			LR	LR		17 24 58.9
	comp=Z,66nm,21.1s,baz=280,slow=39					
FINES	**FINESS Array B**	**21.20 355**	P		**P**	**17 15 51.6 -0.6**
GEYT	**Alibeck**	**21.83 87**	P		**P**	**17 15 58.6 -0.6**
	comp=Z,4.1nm,0.7s,baz=262,slow=18,SNR=5.3					
GEYT			LR	LR		17 25 40.5
	comp=Z,46nm,21.6s,baz=235,slow=40					
GEYT	**Alibeck**	**21.83 87**	P		**P**	**17 15 58.4 -0.9**
GYA0B	**ALIBECK ARRAY**	**21.83 87**	P		**P**	**17 15 59.8 +0.6**
GYA0B			IAmb	IAmb		17 16 06.4
	comp=Z,10nm,1.1s					
AKTO	**Aktyubinsk**	**21.89 53**	P		**P**	**17 15 59.5 -0.2**
	comp=Z,1.5nm,0.6s,baz=253,slow=15,SNR=4.1					
KIRV	**Kirov**	**21.95 28**	P		**P**	**17 15 59.4 -0.8**
	comp=Z,3.6nm,0.5s,baz=264,slow=9.2,SNR=1.9					
HFS	**Hagfors**	**22.23 338**	P		**P**	**17 16 03.3 +0.1**
	comp=Z,2.6nm,0.6s,baz=134,slow=8.5,SNR=4.1					
HFS			LR	LR		17 26 07.0
	comp=Z,130nm,20.0s,baz=219,slow=40					
ABKAR	**Akbulak array**	**22.81 57**	P		**P**	**17 16 09.8 +0.2**
ABKAR	**Akbulak array**	**22.81 57**	P		**P**	**17 16 09.2 -0.4**
NB201	**NORSAR Array S**	**23.67 337**	P		**P**	**17 16 18.7 +0.5**
NB2	**NORSAR Subarra**	**23.69 337**	P		**P**	**17 16 20.4 +2.0**
	comp=Z,9.2nm,1.2s,baz=142,slow=9.3					
NOA	**NORSAR Array B**	**23.69 337**	P		**P**	**17 16 18.0 -0.4**
	comp=Z,0.5nm,0.7s,baz=232,slow=24,SNR=1.7					
NOA			LR	LR		17 27 31.3
	comp=Z,31nm,18.9s,baz=240,slow=42					
ARU	**Arti**	**24.51 40**	P		**P**	**17 16 26.9 +0.8**
	comp=Z,0.7nm,0.5s,baz=191,slow=20,SNR=2.8					
ARU	**Arti**	**24.51 40**	IAmb	IAmb		17 16 47.8
	comp=Z,6.9nm,0.9s					
ESDC	**Sonseca Array**	**26.00 280**	P		**P**	**17 16 39.4 -0.3**
	comp=Z,1.9nm,0.9s,baz=69,slow=9.4,SNR=9.1					
ARCES	**ARCESS Array B**	**29.28 357**	P		**P**	**17 17 08.6 -0.3**
	comp=Z,1.9nm,0.8s,baz=170,slow=12,SNR=1.6					
CHGR	**Chuyangaron**	**30.01 81**	P		**P**	**17 17 16.5 +0.8**
CHGR			IAmb	IAmb		17 17 19.7
	comp=Z,6.3nm,1.0s					
KK31	**Karatay Array**	**30.06 71**	P		**P**	**17 17 16.7 +0.6**
KK31			IAmb	IAmb		17 18 00.7
	comp=Z,8.3nm,1.7s	

FITZ	**Fitzroy Crossi**	**18.95**	**170**	P		**P**	**17 18 46.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=358,slow=6.3,SNR=25							
FITZ	**Fitzroy Crossi**	**18.95**	**170**	P		**P**	**17 18 46.9**	**-0.4**
WB0	**Warramunga Arr**	**23.58**	**150**	P		**P**	**17 19 34.9**	**-0.7**
WRA	**Warramunga Arr**	**23.70**	**150**	P		**P**	**17 19 35.8**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=330,slow=7.8,SNR=29							
WRA				PcP		**PcP**	**17 23 17.9**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=334,slow=2.1,SNR=1.9							
WRA	**Warramunga Arr**	**23.70**	**150**	P		**P**	**17 19 35.7**	**-1.1**
WR0	**Warramunga Arr**	**23.81**	**150**	P		**P**	**17 19 37.3**	**-0.5**
WR0				IAmb		IAmb	17 20 18.9	
	comp=Z,23nm,1.8s							
GSI	**Gunungsitoli**	**24.60**	**272**	P		**P**	**17 19 44.6**	**-0.3**
ASAR	**Alice Springs**	**26.74**	**156**	P		**P**	**17 20 03.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=334,slow=10,SNR=18							
ASAR				PcP		**PcP**	**17 23 24.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=346,slow=2.1,SNR=5.6							
ASAR				ScP		**ScP**	**17 26 54.7**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=338,slow=3.0,SNR=8.7							
ASAR	**Alice Springs**	**26.74**	**156**	P		**P**	**17 20 03.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**33.73**	**187**	P		**P**	**17 21 06.2**	**+0.4**
	comp=Z,9.4nm,0.9s,baz=352,slow=7.1,SNR=9.8							
NWAO	**Narrogin (SRO)**	**33.73**	**187**	P		**P**	**17 21 06.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**33.73**	**187**	P		**P**	**17 21 06.3**	**+0.4**
NWAO				IAmb		IAmb	17 21 11.5	
	comp=Z,109nm,1.9s							
BBOO	**Buckleboo**	**35.78**	**160**	P		**P**	**17 21 22.6**	**-0.9**
BBOO				IAmb		IAmb	17 21 35.5	
	comp=Z,30nm,1.4s							
STKA	**Stephens Creek**	**37.23**	**152**	P		**P**	**17 21 36.1**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=320,slow=8.0,SNR=3.1							
STKA	**Stephens Creek**	**37.23**	**152**	P		**P**	**17 21 36.1**	**+0.4**
STKA				IAmb		IAmb	17 21 54.0	
	comp=Z,5.8nm,2.0s							
SONM	**Songino Array**	**48.94**	**346**	P		**P**	**17 23 11.3**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=162,slow=8.7,SNR=3.6							
SONM	**Songino Array**	**48.94**	**346**	P		**P**	**17 23 11.4**	**+1.4**
MKAR	**Makanchi Array**	**57.62**	**329**	P		**P**	**17 24 14.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=132,slow=8.2,SNR=6.9							
MKAR	**Makanchi Array**	**57.62**	**329**	P		**P**	**17 24 14.3**	**+0.8**
ZALV	**Zalesovo Beam**	**61.37**	**336**	P		**P**	**17 24 39.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.2,SNR=2.0							
KURK	**Kurchatov**	**61.99**	**330**	P		**P**	**17 24 43.7**	**+0.3**
KURK				IAmb		IAmb	17 25 15.2	
	comp=Z,7.7nm,1.6s							
TIXI	**Tiksi**	**71.01**	**2**	P		**P**	**17 25 40.2**	**-0.1**
TIXI				IAmb		IAmb	17 27 20.3	
	comp=Z,14nm,1.5s							

*SKHL **22** 17:15:13.2±0.7, 43°.27N×146°.13E, h53$^{km}_{\pm}$1km, mb4.4/2*
*JMA **22** 17:15:14.0±0.1, 43°.35N×146°.18E, h50$^{km}_{\pm}$1km, M3.3*

ISC 22 17:15:14.7±1.7**, 43°.40N**±0°.06×**146°.18E**±0°.07**, h40**$^{km}_{\pm}$12**km**, **n14**, σ°**62**/28**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.32**	**265**	P	**Pn**	**17 15 23.3**	**+0.2**
NEM2				*e*S	**Sn**	**17 15 29.9**	**+0.9**
NMR	**Nemuro--Hokkai**	**0.33**	**266**	*i* P	**Pn**	**17 15 23.0**	**-0.3**
NMR				*i* S	**Sn**	**17 15 29.0**	**-0.3**
GLVR	**Golovnino**	**0.59**	**306**	*e*P	**Pn**	**17 15 26.0**	**-0.6**
GLVR				*i* S	**Sn**	**17 15 35.3**	**+0.2**
GLVR				A	A	17 15 39.0	
	2μm,0.3s						
GLVR				A	A	17 15 39.0	
	4μm,0.3s						
GRPR	**Tuman**	**0.67**	**334**	*e*P	**Pn**	**17 15 27.5**	**-0.2**
GRPR				*i* S	**Sn**	**17 15 36.0**	**-1.0**
GRPR				A	A	17 15 37.0	
	2μm,0.2s						
GRPR				A	A	17 15 37.0	
	2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.68**	**340**	*e*P	**Pn**	**17 15 27.0**	**-0.8**
YUK				AMB	AMB	17 15 27.0	
	270nm,0.2s						
YUK				*i* S	**Sn**	**17 15 37.0**	**-0.3**
YUK				A	A	17 15 40.0	
	1μm,0.2s						
YUK				A	A	17 15 40.0	
	1μm,0.2s						
JKHN	**Kushirohamanak**	**0.81**	**248**	P	**Pn**	**17 15 29.4**	**-0.1**
JKHN				*e*S	**Sn**	**17 15 40.2**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.94**	**294**	P	**Pn**	**17 15 31.2**	**-0.1**
JNSB				*e*S	**Sn**	**17 15 44.1**	**+0.6**
JRA	**Rausu**	**0.94**	**306**	P	**Pn**	**17 15 31.4**	**0.0**
JRA				*e*S	**Sn**	**17 15 44.2**	**+0.6**
JNK	**Nakash**	**1.08**	**281**	P	**Pn**	**17 15 32.8**	**-0.5**
JNK				*e*S	**Sn**	**17 15 46.5**	**-0.6**
JAK	**Akkeshi**	**1.16**	**250**	P	**Pn**	**17 15 33.7**	**-0.6**
JAK				*e*S	**Sn**	**17 15 48.1**	**-0.8**
JTKR	**Abashiri--Toko**	**1.75**	**290**	P	**Pn**	**17 15 43.1**	**+0.7**
JTKR				*e*S	**Sn**	**17 16 04.2**	**+0.8**
JAR	**Ashorobuto**	**1.76**	**268**	P	**Pn**	**17 15 42.8**	**+0.2**
JAR				*e*S	**Sn**	**17 16 05.4**	**+1.6**
JOB	**Onbets**	**1.79**	**255**	P	**Pn**	**17 15 42.8**	**-0.2**
JOB				*e*S	**Sn**	**17 16 04.2**	**-0.2**
KUR	**Kuril'sk**	**2.20**	**33**	*e*P	**Pn**	**17 15 49.0**	**+0.3**
KUR				AMB	AMB	17 15 51.0	
	15nm,0.2s						
KUR				*i* S	**Sn**	**17 16 15.0**	**+0.4**
KUR				A	A	17 16 18.0	
	321nm,0.3s						
KUR				A	A	17 16 18.0	
	167nm,0.3s						

*IDC **22** 17:24:41.1±3.9, 2°.66S×129°.32E, h0km, mb3.8/2,*
mb1 3.9/5, mb1mx3.5/31, mbtmp3.7/5, ML3.2/3, Error ellipse: s-maj=86.2km s-min=27.8km az=111.0
*DJA **22** 17:24:48.5±1.5, 3°.S±4°×13°.0E±°, h14km±12km, M3.1/8, MLv3.1/8*

ISC 22 17:24:44.6±0.9**, 2°.65S**±0°.06×**130°.19E**±0°.04**, h10**km**, n10**, σ°**68**/13**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.43**	**241**	P	**Pg**	**17 25 12.8**	**+0.7**
MSAI				S	**Sg**	**17 25 31.3**	**+0.5**
BNDI	**Bandanaira**	**1.88**	**189**	P	**Pb**	**17 25 19.7**	**+0.7**
SIJI	**Sorong**	**2.07**	**31**	Pn	**Pg**	**17 25 24.6**	**+0.2**
	3.5nm,0.3s,baz=230,slow=22,SNR=16						
SIJI					Sn	**Sg**	**17 25 51.4**	**+0.1**
	8.4nm,0.3s,baz=220,slow=24,SNR=5.0							
FAKI	**Fak Fak**	**2.08**	**97**	P	**Pg**	**17 25 24.6**	**+0.1**
FAKI				S	**Sg**	**17 25 52.8**	**+1.4**
NLAI	**Namlea**	**3.14**	**259**	P	**Pn**	**17 25 34.9**	**+0.8**
SANI	**Sanana**	**4.24**	**278**	P	**Pn**	**17 25 49.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.98**	**196**	Pn	**Pn**	**17 28 25.0**	**-4.7**
	0.0nm,0.3s,baz=4.1,slow=14,SNR=2.2							
WRA	**Warramunga Arr**	**17.66**	**167**	P	**Pn**	**17 28 49.5**	**-1.4**
	0.2nm,0.3s,baz=346,slow=13,SNR=17							
ASAR	**Alice Springs**	**21.20**	**171**	P	**P**	**17 29 30.9**	**+0.3**
	3.1nm,0.6s,baz=347,slow=9.9,SNR=89							
STKA	**Stephens Creek**	**30.99**	**161**	P	**P**	**17 31 02.9**	**+0.5**
	1.8nm,0.9s,baz=339,slow=12,SNR=3.7							

*SNET **22** 17:31:51.9±1.0, 13°.90N×90°.85W, h82$^{km}_{\pm}$9km, ML3.6*
*GCG **22** 17:31:52.1±0.5, 13°.73N×90°.84W, h67$^{km}_{\pm}$19km, MD3.7*
*UCR **22** 17:31:52.0±1.0, 13°.91N×90°.85W, h81$^{km}_{\pm}$10km, ML3.6*

ISC 22 17:31:52.4±1.8**, 13°.8N**±0°.1×**90°.90W**±0°.06**, h73**$^{km}_{\pm}$**, n17**, σ°**63**/23**, 2C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.67**	**5**	*e*P	**Pn**	**17 32 07.3**	**-0.2**
PCG	**Pacaya**	**0.68**	**25**	*i* P	**Pn**	**17 32 07.7**	**+0.1**
ERG	**Entre ros, C**	**0.93**	**316**	*e*P	**Pn**	**17 32 10.5**	**+0.3**
NBG	**Las Nubes**	**0.97**	**33**	*e*P	**Pn**	**17 32 11.5**	**+0.5**
NBG				*e*S	**Sn**	**17 32 26.1**	**+1.3**
RTAL	**Retalhuleu**	**1.07**	**314**	*e*P	**Pn**	**17 32 11.4**	**-0.6**
RTAL				*e*S	**Sn**	**17 32 26.6**	**-0.1**
SBLS	**San Blas**	**1.24**	**87**	*e*P	**Pn**	**17 32 14.2**	**-0.1**
SBLS				*e*S	**Sn**	**17 32 31.6**	**+0.9**
SBLS	**San Blas**	**1.24**	**87**	*e*P	**Pn**	**17 32 14.2**	**-0.1**
SBLS				*e*S	**Sn**	**17 32 31.6**	**+0.9**
SNJE	**San Jose**	**1.26**	**86**	*e*P	**Pn**	**17 32 14.4**	**-0.1**
SNJE	**San Jose**	**1.26**	**86**	*e*P	**Pn**	**17 32 14.4**	**-0.1**
MTO3	**Montecristo**	**1.61**	**67**	*i* P	**Pn**	**17 32 18.1**	**-1.1**
MTO3				*e*S	**Sn**	**17 32 38.7**	**-0.8**
MTO3	**Montecristo**	**1.61**	**67**	*i* P	**Pn**	**17 32 18.1**	**-1.1**
MTO3				*e*S	**Sn**	**17 32 38.7**	**-0.8**
ESQI	**Esquipulas**	**1.70**	**62**	*e*S	**Sn**	**17 32 41.3**	**0.0**
MRL	**Marmol**	**1.75**	**42**	*i* P	**Pn**	**17 32 21.1**	**0.0**
LFRS	**El Faro**	**1.79**	**95**	*e*P	**Pn**	**17 32 21.4**	**0.0**
LFRS				IAML		17 32 47.1	
	comp=Z,822nm,0.2s						
LFRS	**El Faro**	**1.79**	**95**	*e*P	**Pn**	**17 32 21.4**	**0.0**
LFRS				IAML		17 32 47.1	
	comp=Z,822nm,0.2s						
PAVA	**Las Pavas**	**1.91**	**92**	*e*P	**Pn**	**17 32 22.9**	**0.0**
PAVA	**Las Pavas**	**1.91**	**92**	*e*P	**Pn**	**17 32 22.9**	**0.0**

*THR **22** 17:31:59.2±0.3, 32°.63N×47°.43E, h14$^{km}_{\pm}$5km, ML3.1*
*TEH **22** 17:32:00.8, 32°.71N×47°.39E, h10km, ML2.9*
*ISN **22** 17:32:02.5±1.1, 32°.77N×47°.30E, h8$^{km}_{\pm}$6km, ML2.8*

ISC 22 17:31:58.6±2.2**, 32°.55N**±0°.09×**47°.41E**±0°.03**, h3**$^{km}_{\pm}$**, n15**, σ°**12**/20**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.04**	**21**	*e*Pg	**Pg**	**17 32 18.0**	**-0.5**
SHGR	**Shooshtar-Gavs**	**1.26**	**110**	*e*Pg	**Pn**	**17 32 22.6**	**-0.5**
SHGR				*e*Sg	**Sb**	**17 32 39.8**	**+0.3**
SHGR				IAML		17 32 43.7	
	comp=N,301nm,0.4s						
SHGR				IAML		17 32 44.1	
	comp=E,530nm,0.6s						
IKMR	**Kamar-syah**	**1.26**	**40**	*e*Pg	**Pg**	**17 32 23.0**	**+0.2**
IBDR	**Badra**	**1.37**	**294**	*e*Pg	**Pn**	**17 32 25.0**	**+0.5**
	baz=106						
IBDR				*e*Sg	**Sg**	**17 32 43.0**	**+0.5**
IBDR				AML	AML	17 32 53.0	
	comp=E,156nm,0.5s						
IBDR				AML	AML	17 32 54.1	
	comp=N,260nm,0.4s						
IDOB	**Doab**	**1.39**	**27**	*e*Pg	**Pg**	**17 32 25.6**	**+0.4**
IDOB				*e*		17 32 49.1	
IKOM	**Komasi**	**1.62**	**3**	*e*Pg	**Pg**	**17 32 30.4**	**+0.8**
IKOM				*e*		17 32 31.4	
IGHG	**Ghaleghazi**	**1.91**	**339**	*e*Pg	**Pg**	**17 32 35.1**	**-0.1**
IGHG				*e*		17 33 15.8	
HSAM	**Samen**	**1.93**	**31**	*e*Pg	**Pg**	**17 32 34.9**	**-0.7**
HSAM				*e*Sg	**Sg**	**17 33 01.3**	**+0.6**
HSAM				*e*		17 33 04.7	
IBZA	**Bozab**	**1.95**	**11**	*e*Pg	**Pg**	**17 32 35.7**	**-0.3**
IBZA				*e*		17 33 09.8	
IVIS	**Veis**	**2.02**	**347**	*e*Pg	**Pg**	**17 32 36.1**	**-1.3**
IVIS				*e*		17 33 13.5	
IDHR	**Dehrash**	**2.31**	**339**	*e*Pg	**Pb**	**17 32 40.3**	**-0.7**
IDHR				*e*		17 33 17.7	
KHMZ	**Khomeyn**	**2.44**	**60**	*e*Pn	**Pn**	**17 32 40.2**	**+0.6**
KHMZ				*e*Sg	**Sb**	**17 33 14.3**	**+0.5**
BHD	**Baghdad**	**2.65**	**286**	*e*Pn	**Pn**	**17 32 45.0**	**+2.8**
BHD				*e*Sn	**Sb**	**17 33 17.0**	**-2.6**
ASAO	**Ashtian**	**2.95**	**47**	*e*Pn	**Pn**	**17 32 47.0**	**+0.4**
ASAO				IAML		17 33 41.2	
	comp=E,48nm,0.6s						
ASAO				IAML		17 33 42.9	
	comp=N,44nm,0.6s						
GHVR	**GHOM**	**3.77**	**58**	*e*Pn	**Pn**	**17 32 57.6**	**-0.1**

*NEIC **22** 17:34:12.4±1.1, 13°.12N±0°.03×143°.9E±0°.1, h137$^{km}_{\pm}$7km, mb4.5/20, Error ellipse: s-maj=17.4km s-min=3.5km az=80.0*
*IDC **22** 17:34:12.1±0.8, 13°.12N×143°.89E, h132$^{km}_{\pm}$6km, mb3.9/19, mb1 4.1/19, mb1mx3.9/45, mbtmp4.3/19, MS3.4/1, Ms1 3.4/1, ms1mx2.6/35, Error ellipse: s-maj=15.9km s-min=11.8km az=86.0*

ISC 22 17:34:12.5±0.5**, 13°.13N**±0°.09×**143°.93E**±0°.10**, h138**km**, n52**, σ°**70**/55**, mb4.4**/27**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.02**	**64**	P	**Pn**	**17 34 36.8**	**+0.5**
	63nm,0.3s,baz=175,slow=22,SNR=70						
GUMO				S	**Sn**	**17 34 53.7**	**-0.6**
	987nm,0.3s,baz=4.5,slow=23,SNR=29						
GUMO				LR	LR	17 34 59.2	
	comp=Z,66nm,19.8s,baz=222,slow=44						
H11N1	**WAKE ISLAND Hy**	**22.96**	**70**	T	T	18 02 20.6	
	baz=256,slow=75,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**22.97**	**70**	T	T	18 02 19.3	
	baz=256,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**22.98**	**70**	T	T	18 02 22.5	
	baz=256,slow=75,SNR=12						
JNU	**Nakatsue**	**23.19**	**331**	P	**P**	**17 39 07.7**	**+0.5**
	8.9nm,0.7s,baz=192,slow=3.3,SNR=7.7						
JNU	**Nakatsue**	**23.19**	**331**	P	**P**	**17 39 07.5**	**+0.3**
MJAR	**Matsushiro Arr**	**23.87**	**349**	P	**P**	**17 39 13.1**	**-0.1**
	3.8nm,0.6s,baz=169,slow=10,SNR=10						
MJAR	**Matsushiro Arr**	**23.87**	**349**	P	**P**	**17 39 12.5**	**-0.7**
KSRS	**Korea Array**	**28.12**	**332**	P	**P**	**17 39 52.0**	**+0.6**
	1.3nm,0.5s,baz=143,slow=9.1,SNR=9.4						
WRAB	**Tennant Creek**	**34.18**	**196**	P	**P**	**17 40 44.6**	**-0.2**
WRAB				IAmb	IAmb	17 40 45.1	
	comp=Z,7.3nm,0.8s						
WRA	**Warramunga Arr**	**34.20**	**196**	P	**P**	**17 40 44.4**	**-0.5**
	comp=Z,6.8nm,0.7s,baz=18,slow=9.4,SNR=73						
WRA	**Warramunga Arr**	**34.20**	**196**	P	**P**	**17 40 44.2**	**-0.7**
AS31	**Alice Springs**	**37.86**	**195**	P	**P**	**17 41 15.7**	**-0.5**
ASAR	**Alice Springs**	**37.87**	**195**	P	**P**	**17 41 15.8**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=19,slow=12,SNR=47						
MYKOM	**Kota Tinggi**	**41.23**	**258**	P	**P**	**17 41 44.3**	**+0.1**
MYKOM				IAmb	IAmb	17 41 45.5	
	comp=Z,11nm,0.9s						
DZM	**Mont Dzumac**	**41.37**	**147**	P	**P**	**17 41 46.8**	**+1.5**
	comp=Z,7.5nm,0.9s,baz=97,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**41.37**	**147**	P	**P**	**17 41 45.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**43.53**	**283**	P	**P**	**17 42 03.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=83,slow=6.5,SNR=9.3						
CMAR				PcP	**PcP**	**17 43 49.0**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=91,slow=1.9,SNR=8.5						
STKA	**Stephens Creek**	**44.81**	**183**	P	**P**	**17 42 11.8**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=359,slow=9.1,SNR=3.1						
SONM	**Songino Array**	**46.58**	**326**	P	**P**	**17 42 27.6**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=142,slow=7.1,SNR=7.3						
SONM				PcP	**PcP**	**17 43 58.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=164,slow=1.5,SNR=2.4						
SONM				ScP	**ScP**	**17 47 38.2**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=120,slow=5.6,SNR=1.9						
SONM	**Songino Array**	**46.58**	**326**	P	**P**	**17 42 27.5**	**+0.9**
MK31	**Makanchi Array**	**61.18**	**316**	P	**P**	**17 44 12.4**	**-0.2**
MKAR	**Makanchi Array**	**61.18**	**316**	P	**P**	**17 44 12.6**	**0.0**
	comp=Z,1.0nm,0.6s,baz=92,slow=8.7,SNR=9.9						
MKAR				LR	LR	18 11 59.2	
	comp=Z,31nm,20.2s,baz=124,slow=37						
MKAR	**Makanchi Array**	**61.18**	**316**	P	**P**	**17 44 12.9**	**+0.3**
MAKZ	**Makanchi**	**61.40**	**316**	P	**P**	**17 44 14.0**	**0.0**
MAKZ				IAmb	IAmb	17 44 14.9	
	comp=Z,12nm,1.6s						
ZALV	**Zalesovo Beam**	**61.46**	**325**	P	**P**	**17 44 13.7**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=114,slow=7.0,SNR=5.3						
ZALV				PcP	**PcP**	**17 44 54.3**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=140,slow=4.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.46**	**325**	P	**P**	**17 44 14.2**	**-0.1**
ZALV					**PcP**	**17 44 54.5**	**-0.4**
KURK	**Kurchatov**	**64.34**	**320**	P	**P**	**17 44 33.3**	**-0.1**
KURK				IAmb	IAmb	17 44 37.7	
	comp=Z,2.8nm,0.6s						
KKAR	**Karatay Array**	**69.06**	**311**	P	**P**	**17 45 02.9**	**-0.6**
ILAR	**Eielson Array**	**69.37**	**25**	P	**P**	**17 45 03.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=250,slow=6.6,SNR=2.2						
BRVK	**Borovoye**	**69.78**	**322**	P	**P**	**17 45 07.8**	**+0.1**
ABKAR	**Akbulak array**	**76.27**	**318**	P	**P**	**17 45 45.4**	**-0.6**
ABKAR	**Akbulak array**	**76.27**	**318**	P	**P**	**17 45 45.3**	**-0.6**
YKA	**Yellowknife Ar**	**83.68**	**27**	P	**P**	**17 46 25.5**	**0.0**
	comp=Z,1.3nm,0.6s,baz=284,slow=4.7,SNR=6.7						
YBH	**Yreka Blue Hor**	**83.86**	**49**	P	**P**	**17 46 28.6**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=307,slow=5.1,SNR=6.1						
YBH	**Yreka Blue Hor**	**83.86**	**49**	P	**P**	**17 46 28.3**	**+1.3**
BEKR	**Beckworth**	**86.01**	**50**	P	**P**	**17 46 38.7**	**+0.8**
BEKR				IAmb	IAmb	17 46 39.2	
	comp=Z,4.8nm,0.9s						
NEW	**Newport**	**86.17**	**41**	P	**P**	**17 46 39.1**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=194,slow=4.2,SNR=4.4						
NEW	**Newport**	**86.17**	**41**	P	**P**	**17 46 38.7**	**+0.3**
BMO	**Blue Mountains**	**86.96**	**45**	P	**P**	**17 46 42.8**	**+0.4**
BMO				IAmb	IAmb	17 46 44.2	
	comp=Z,6.9nm,1.0s						
KVN	**Kaiserville**	**87.91**	**51**	P	**P**	**17 46 47.0**	**-0.1**
KVN				IAmb	IAmb	17 46 48.9	
	comp=Z,2.9nm,0.7s						
NVAR	**Mina Array Bea**	**87.92**	**51**	P	**P**	**17 46 48.5**	**+1.2**
	comp=Z,6.2nm,0.7s,baz=266,slow=5.7,SNR=32						
NVAR	**Mina Array Bea**	**87.92**	**51**	P	**P**	**17 46 48.0**	**+0.8**
NV11	**Mina Array Sit**	**88.03**	**51**	P	**P**	**17 46 48.0**	**+0.4**
NV11				IAmb	IAmb	17 46 49.9	
	comp=Z,3.9nm,0.8s						
ELK	**Elko**	**89.56**	**48**	P	**P**	**17 46 55.9**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=308,slow=6.6,SNR=9.3						
ELK	**Elko**	**89.56**	**48**	P	**P**	**17 46 55.6**	**+0.7**
ELK				IAmb	IAmb	17 46 56.5	
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**91.19**	**335**	P	**P**	**17 47 00.8**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=116,slow=3.2,SNR=7.2						
FINES	**FINESS Array B**	**91.19**	**335**	P	**P**	**17 47 00.6**	**-1.0**
PDAR	**Pinedale Array**	**92.93**	**45**	P	**P**	**17 47 10.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=234,slow=3.6,SNR=5.9						
PDAR	**Pinedale Array**	**92.93**	**45**	P	**P**	**17 47 10.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**134.36**	**303**	PKP	**PKPdf**	**17 53 15.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=35,slow=3.5,SNR=3.1						
LPAZ	**La Paz**	**148.85**	**100**	PKPbc	**PKiKP**	**17 53 46.7**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=282,slow=12,SNR=2.0						

*MEX **22** 17:40:37.2±0.5, 27°.70N×111°.67W, h5km, MD4.0*
*ECX **22** 17:40:37.3±0.5, 27°.68N×111°.65W, h20km±11km, MD3.7*

ISC 22 17:40:35.8±1.4**, 27°.5N**±0°.1×**111°.52W**±0°.07**, h27**$^{km}_{\pm}$1.9**km**, **n8**, σ°**75**/16**, 1C, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.67**	**256**	*e*P	**Pb**	**17 40 48.7**	**-0.1**
SRIG				*e*S	**Sb**	**17 40 57.7**	**0.0**
SRIG	**Santa Rosalia**	**0.67**	**256**	*i* P	**Pb**	**17 40 48.8**	**0.0**
SRIG				*e*S	**Sb**	**17 40 57.7**	**0.0**
GUYB	**Guaymas**	**0.70**	**54**	*e*P	**Pb**	**17 40 49.6**	**+0.1**
GUYB				*e*S	**Sn**	**17 41 00.5**	**+0.6**
GUYB	**Guaymas**	**0.70**	**54**	*e*P	**Pn**	**17 40 49.8**	**-0.1**
GUYB				*e*S	**Sn**	**17 41 00.1**	**+0.2**
HSIG		**1.61**	**18**	*e*P	**Pn**	**17 41 00.6**	**-1.8**
HSIG				*e*S	**Sn**	**17 41 18.5**	**-3.7**
HSIG		**1.61**	**18**	*e*P	**Pn**	**17 41 02.3**	**-0.1**
HSIG				*e*S	**Sn**	**17 41 21.2**	**-1.1**
NZIG	**Nacozari, Sono**	**3.35**	**30**	*e*P	**Pn**	**17 41 27.0**	**+0.4**
NZIG				*e*S	**Sn**	**17 42 05.0**	**-0.6**
TUC	**Tucson**	**4.85**	**7**	*i* P	**Pn**	**17 41 47.8**	**+0.7**
TUC				*e*S	**Sn**	**17 42 46.5**	**+4.1**

*IDC **22** 17:44:18.8±1.2, 63°.19S×170°.30E, h0km, mb3.9/6,*
mb1 4.1/7, mb1mx4.0/23, mbtmp4.0/7, ML3.5/1, MS4.3/20, Ms1 4.3/20, ms1mx4.2/25, Error ellipse: s-maj=47.2km s-min=25.2km az=72.0
*NEIC **22** 17:44:20.5±2.3, 63°.3S±0°.1×170°.0E±0°.3, h10$^{km}_{\pm}$1km, mb4.2/6, Error ellipse: s-maj=27.0km s-min=20.7km az=117.0*
*GCMT **22** 17:44:22.5±0.2, 63°.06S±0°.01×170°.87E±0°.03, h13$^{km}_{\pm}$1km, MW5.1/98, Moment Tensor Solution. s31,c35; s98,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.72±.20; $M_{\theta\theta}$=4.98±.17; $M_{\phi\phi}$=-3.25±.12; $M_{r\theta}$=-4.78±.64; $M_{r\phi}$=-0.58±.10; $M_{\theta\phi}$=0.68±.32; Best double couple: M_o=5.92600×10^{16} NP1:ϕ=243.00000°, δ=22.00000°, λ=-132.00000°. NP2: ϕ=107.00000°, δ=74.00000°, λ=-75.00000°. Principal axes: T 7.5310, Plg28.0000°, Azm185.0000°; N -3.2010, Plg14.0000°, Azm283.0000°; P -4.3200, Plg58.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 17:44:20.1±0.8**, 63°.2S**±0°.1×**170°.2E**±0°.2**, h10**km**, n62**, σ°**110**/26**, mb4.0**/6**, MS4.3**/22**, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op

	baz=207,slow=79,SNR=13					
H03N2	**Juan Fernandez**	**69.28 123**	T	T	19 11 23.8	
	baz=207,slow=79,SNR=53					
H03N1	**Juan Fernandez**	**69.29 123**	T	T	19 11 32.6	
	baz=207,slow=79,SNR=13					
CPUP	**Villa Florida**	**83.20 138**	LR	LR	18 30 33.6	
	comp=Z,254nm,18.4s,baz=212,slow=33					
PSI	**Prapat**	**84.13 288**	LR	LR	18 29 12.3	
	comp=Z,92nm,20.2s,baz=114,slow=32					
BOSA	**Boshof**	**84.36 211**	P	**P**	**17 56 51.9**	**-0.5**
	comp=Z,6.5nm,1.2s,baz=72,slow=7.9,SNR=3.1					
BOSA			LR	LR	18 33 20.3	
	comp=Z,180nm,18.7s,baz=182,slow=35					
BOSA	**Boshof**	**84.36 211**	P	**P**	**17 56 52.0**	**-0.4**
TGY	**Tagaytay City**	**85.91 313**	LR	LR	18 36 59.1	
	comp=Z,39nm,18.9s,baz=124,slow=37					
H08S2	**Diego Garcia H**	**86.70 260**	T	T	19 33 45.2	
	baz=152,slow=76,SNR=56					
H08S1	**Diego Garcia H**	**86.71 260**	T	T	19 33 40.2	
	baz=152,slow=76,SNR=22					
H08S3	**Diego Garcia H**	**86.72 260**	T	T	19 33 41.9	
	baz=152,slow=76,SNR=173					
LPAZ	**La Paz**	**88.87 125**	P	**P**	**17 57 14.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=173,slow=5.6,SNR=3.6					
LPAZ			LR	LR	18 28 08.9	
	comp=Z,76nm,19.9s,baz=206,slow=30					
LPAZ	**La Paz**	**88.87 125**	P	**P**	**17 57 15.2**	**+0.1**
LPAZ			IAmb	IAmb	17 57 26.5	
	comp=Z,6.6nm,1.4s					
BDFB	**Brasilia**	**96.00 143**	LR	LR	18 37 59.1	
	comp=Z,90nm,20.4s,baz=255,slow=34					
CMAR	**Chiang Mai Arr**	**98.17 295**	LR	LR	18 37 57.3	
	comp=Z,68nm,22.0s,baz=192,slow=33					
TORD	**Torodi Ar. Bea**	**129.37 195**	PKP	**PKPdf**	**18 03 26.8**	**-1.7**
	comp=Z,64nm,0.5s,baz=139,slow=3.5,SNR=2.7					
ILAR	**Eielson Array**	**131.53 23**	PKP	**PKiKP**	**18 03 31.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=253,slow=2.5,SNR=2.5					
WVL	**Waterville**	**141.82 90**		**PKPdf**	**18 03 50.3**	**-0.4**
NRIK	**Noril'sk**	**144.35 323**	PKP	**PKPdf**	**18 03 56.2**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=245,slow=1.7,SNR=1.4					
KBZ	**Khabaz**	**144.40 262**	PKP	**PKPdf**	**18 03 56.4**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=137,slow=3.8,SNR=9.5					
KIV	**Kislovodsk**	**144.67 262**		**PKPdf**	**18 03 55.5**	**-0.5**
BRTR	**Keskin Array B**	**145.21 248**	PKPbc	**PKPdf**	**18 03 57.9**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=156,slow=6.7,SNR=6.1					
BRTR	**Keskin Array B**	**145.21 248**		**PKPbc**	**18 03 55.4**	**-1.4**

IDC 22 18:24:34.3±2.3, **7°83N×93°86E, h0km, mb3.4**/4, **mb1 3.5**/5, **mb1mx3.3**/40, **mbtmp3.4**/5, **ML3.9**/1, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.6**/33, **Error ellipse: s-maj=87.9km s-min=24.4km az=63.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**25**	Pn	Pn	18 27 21.7	-0.4
	0.2nm,0.3s,baz=212,slow=15,SNR=2.0						
H08S3	**Diego Garcia H**	**26.27**	**235**	T	T	18 57 01.7	
	baz=54,slow=74						
H08S2	**Diego Garcia H**	**26.27**	**235**	T	T	18 56 53.4	
	baz=54,slow=74						
H08S1	**Diego Garcia H**	**26.29**	**235**	T	T	18 56 51.1	
	baz=54						
MKAR	**Makanchi Array**	**40.07**	**348**	P	P	18 32 09.7	-1.7
	0.6nm,0.6s,baz=171,slow=8.2,SNR=6.8						
GEYT	**Alibeck**	**44.05**	**318**	LR	LR	18 54 24.4	
	comp=Z,38nm,20.0s,baz=200,slow=41						
ZALV	**Zalesovo Beam**	**46.56**	**353**	P	P	18 33 05.6	+1.9
	0.9nm,0.6s,baz=150,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**48.46**	**125**	P	P	18 33 20.8	+1.7
	0.3nm,0.7s,baz=306,slow=8.9,SNR=2.3						
ASAR	**Alice Springs**	**50.10**	**130**	P	P	18 33 29.9	-1.6
	0.1nm,0.5s,baz=300,slow=8.2,SNR=4.8						

*AEIC **22** 18:30:00.1±1.9, 58.32N±0.04°×137.03W±0.09, h2km±6km, Error ellipse: s-maj=7.2km s-min=4.9km az=65.0*
*NEIC **22** 18:30:03.1±1.5, 58.35N±0.04°×136.89W±0.08, h7km±8km, Error ellipse: s-maj=6.8km s-min=4.7km az=62.0*
*PGC **22** 18:30:03.8±1.2, 58.39N×137.03W, h5km, ML3.2/10, ML3.5, 131km Wsw of Haines, Ak Southeastern Alaska*
ISC 22 18:30:02.9±1.9, **58.38N**±0.05°×**136.90W**±0.04, **h5km**±16km, **n102**, σ0.92/120, **Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**1.09**	**78**	P	**Pn**	**18 30 24.4**	**-0.4**
BESE	**Bessie Mountai**	**1.09**	**78**		**Pb**	**18 30 24.3**	**0.0**
BESE					**Sn**	**18 30 39.5**	**-0.8**
PLBC	**Pleasant Camp**	**1.12**	**14**	P	**Pb**	**18 30 24.3**	**-0.4**
PLBC				S	**Sb**	**18 30 38.2**	**-1.3**
PLBC	**Pleasant Camp**	**1.12**	**14**		**Pb**	**18 30 24.3**	**-0.4**
PLBC					**Sb**	**18 30 38.2**	**-1.3**
JIS	**Juneau Island**	**1.33**	**93**	Pn	**Pn**	**18 30 27.8**	**-0.2**
JIS				Sn	**Sg**	**18 30 45.7**	**+0.1**
SKAG	**Skagway**	**1.36**	**36**		**Pn**	**18 30 28.5**	**+0.1**
SKAG	**Skagway**	**1.36**	**36**		**Sn**	**18 30 46.8**	**+0.3**
SIT	**Sitka**	**1.57**	**147**		**Pn**	**18 30 30.7**	**-0.6**
PNL	**Peninsula**	**1.83**	**316**	Pn	**Pn**	**18 30 34.1**	**-0.8**
PNL				Sn	**Sn**	**18 30 58.0**	**-0.6**
PNL	**Peninsula**	**1.83**	**316**		**Pn**	**18 30 34.5**	**-0.4**
PNL					**Sb**	**18 31 00.1**	**+0.1**
BCPM	**Bancas Point**	**2.12**	**319**	Pn	**Pn**	**18 30 39.1**	**+0.2**
BCPM	**Bancas Point**	**2.12**	**319**		Lg	18 31 08.9	
YUK7	**Dusty Glacier**	**2.25**	**344**	Pn	**Pn**	**18 30 41.4**	**+0.4**
PCA	**Pinnacle**	**2.44**	**316**	Pn	**Pn**	**18 30 43.1**	**-0.3**
PCA					**Sg**	**18 31 18.2**	**+0.5**
PCA	**Pinnacle**	**2.44**	**316**	Pn	**Pn**	**18 30 43.3**	**-0.1**
HYT	**Haines Junctio**	**2.48**	**353**	Pn	**Pn**	**18 30 45.1**	**+1.1**
HYT					**Sg**	**18 31 19.1**	**+0.4**
WHY	**Whitehorse**	**2.51**	**23**	Pn	**Pn**	**18 30 45.1**	**+0.7**
WHY					**Sg**	**18 31 22.3**	**-1.2**
WHY	**Whitehorse**	**2.51**	**23**	Pn	**Pn**	**18 30 45.5**	**+1.1**
SAMH	**Samovar Hills**	**2.66**	**313**	Pn	**Pn**	**18 30 46.7**	**+0.3**
SAMH					**Sb**	**18 31 25.9**	**+1.9**
SAMH	**Samovar Hills**	**2.66**	**313**		**Pn**	**18 30 47.2**	**+0.8**
YUK6	**Outpost Mounta**	**2.68**	**345**	Pn	**Pn**	**18 30 47.0**	**+0.1**
YUK6					**Sb**	**18 31 26.2**	**+1.5**
CHX	**Chaix Hills**	**2.75**	**310**		**Pn**	**18 30 48.9**	**+1.3**
YUK5	**Granite Creek**	**2.81**	**350**	Pn	**Pn**	**18 30 49.2**	**+0.7**
YUK5					**Sg**	**18 31 30.3**	**+2.1**
RKAV	**Rock Avalanche**	**2.99**	**312**	Pn	**Pn**	**18 30 51.2**	**+0.2**
RKAV					**Sb**	**18 31 34.9**	**+1.5**
RKAV	**Rock Avalanche**	**2.99**	**312**		**Pn**	**18 30 52.1**	**+1.2**
TABL	**Table Mountain**	**3.00**	**315**	Pn	**Pn**	**18 30 51.6**	**+0.4**
TABL					**Sb**	**18 31 34.4**	**+0.6**
TABL	**Table Mountain**	**3.00**	**315**		**Pn**	**18 30 51.6**	**+0.4**
YUK4	**Talbot Arm**	**3.11**	**344**	Pn	**Pn**	**18 30 54.0**	**+1.3**
WRAK	**Wrangell Islan**	**3.15**	**127**		**Pn**	**18 30 52.7**	**-0.3**
MESA	**MESA**	**3.16**	**307**	Pn	**Pn**	**18 30 53.0**	**-0.4**
MESA	**MESA**	**3.16**	**307**	Pn	**Pn**	**18 30 53.1**	**-0.3**
YAH	**Yahtse**	**3.18**	**311**		**Pn**	**18 30 54.0**	**+0.2**
LOGN	**Logan Glacier**	**3.22**	**321**	Pn	**Pn**	**18 30 54.7**	**+0.5**
LOGN				Sn	**Sn**	**18 31 31.9**	**-1.1**
LOGN				Sg	**Sb**	**18 31 40.5**	**+0.3**
LOGN	**Logan Glacier**	**3.22**	**321**		**Pn**	**18 30 54.8**	**+0.5**
GRNC	**Granite Creek**	**3.42**	**316**	Pn	**Pn**	**18 30 57.2**	**+0.2**
GRNC	**Granite Creek**	**3.42**	**316**		**Pn**	**18 30 57.2**	**+0.2**
CTGM	**Chitina Glacie**	**3.44**	**321**	Pn	**Pn**	**18 30 57.5**	**+0.5**
CTGM				Sg	**Sb**	**18 31 47.1**	**+0.8**
CTGM	**Chitina Glacie**	**3.44**	**321**		**Pn**	**18 30 57.6**	**+0.5**
BARK	**Barkley Ridge**	**3.51**	**308**		**Pn**	**18 30 57.6**	**-0.5**
SNH	**Sunshine Point**	**3.54**	**303**		**Pn**	**18 30 57.9**	**-0.6**
ISLE	**Juniper Island**	**3.56**	**311**		**Pn**	**18 30 59.1**	**+0.3**
CRAG	**Craig**	**3.57**	**143**		**Pn**	**18 30 58.5**	**-0.3**
BARN	**Barnard Glacie**	**3.62**	**320**		**Pn**	**18 30 59.6**	**0.0**
DLBC	**Dease Lake**	**3.62**	**86**	Pn	**Pn**	**18 31 00.7**	**+1.1**
DLBC				Sg	**Sg**	**18 31 56.8**	**-2.1**
DLBC	**Dease Lake**	**3.62**	**86**	Pn	**Pn**	**18 30 59.9**	**+0.4**
KIAG	**Kiagna River**	**3.77**	**315**	Pn	**Pn**	**18 31 01.9**	**+0.1**
KIAG	**Kiagna River**	**3.77**	**315**		**Pn**	**18 31 02.5**	**+0.7**
BALM	**Baldy**	**3.84**	**316**	Pn	**Pn**	**18 31 02.9**	**+0.3**
BALM	**Baldy**	**3.84**	**316**		**Pn**	**18 31 02.9**	**+0.3**
TGL	**Tana Glacier**	**3.85**	**311**		**Pn**	**18 31 03.0**	**+0.2**
YUK3	**Moose Creek**	**3.85**	**334**	Pn	**Pn**	**18 31 03.8**	**+1.0**
KHIT	**Khitrov Hills**	**3.85**	**305**		**Pn**	**18 31 03.5**	**+0.7**
SUCK	**Suckling Hills**	**3.92**	**299**	Pn	**Pn**	**18 31 04.1**	**+0.4**
YUK2	**White River**	**3.95**	**332**	Pn	**Pn**	**18 31 05.1**	**+0.9**
CRQM	**Cirque**	**3.97**	**310**		**Pn**	**18 31 03.9**	**-0.7**
PTPK	**Patty Peak**	**3.98**	**317**	Pn	**Pn**	**18 31 05.5**	**+0.8**
PTPK				Sg	**Sb**	**18 32 01.0**	**-1.1**
PTPK	**Patty Peak**	**3.98**	**317**		**Pn**	**18 31 06.5**	**+1.8**
BERG	**Berg Lake**	**4.03**	**303**		**Pn**	**18 31 06.2**	**+1.1**
YUK1	**Sand Pete Hill**	**4.20**	**336**	Pn	**Pn**	**18 31 08.8**	**+1.2**
HMT	**Hamilton**	**4.25**	**301**		**Pn**	**18 31 07.4**	**-0.8**
MCARA	**McCarthy VSAT**	**4.32**	**317**		**Pn**	**18 31 09.6**	**+0.5**
VRDI	**Verde Repeater**	**4.38**	**314**	Pn	**Pn**	**18 31 10.4**	**+0.3**
RAGM	**Ragged Mountai**	**4.46**	**300**	Pn	**Pn**	**18 31 10.5**	**-0.6**
BVCY	**Beaver Creek**	**4.50**	**336**	Pn	**Pn**	**18 31 13.4**	**+1.7**
GLB	**Gilahina Butte**	**4.64**	**314**	Pn	**Pn**	**18 31 13.9**	**+0.3**
BMRM	**Bremner River**	**4.69**	**307**		**Pn**	**18 31 15.5**	**+1.2**
N25K	**Chitina, Valde**	**5.04**	**313**		**Pn**	**18 31 20.1**	**+1.0**
DIV	**Divide**	**5.27**	**305**	Pn	**Pn**	**18 31 23.1**	**+0.9**
HIN	**Hinchinbrook I**	**5.31**	**297**	Pn	**Pn**	**18 31 21.9**	**-0.9**
FID	**Port Fidalgo**	**5.42**	**300**	Pn	**Pn**	**18 31 24.0**	**-0.2**
KLU	**Klutina**	**5.51**	**308**		**Pn**	**18 31 25.9**	**+0.4**
GLI	**Glacier Island**	**5.75**	**300**	Pn	**Pn**	**18 31 28.0**	**-0.8**
M24K	**Tolsona, Glenn**	**5.94**	**313**	Pn	**Pn**	**18 31 33.1**	**+1.6**
GRNB	**Grenville Isla**	**5.97**	**137**	Sg	**Sg**	**18 33 17.0**	**+2.6**
SCM	**Sheep Creek Mo**	**6.26**	**308**		**Pn**	**18 31 36.1**	**+0.3**
PWL	**Port Wells**	**6.32**	**298**		**Pn**	**18 31 35.6**	**-0.9**
DOT	**Dot Lake**	**6.33**	**330**	Pn	**Pn**	**18 31 35.7**	**-1.1**
KNK	**Knik Glacier**	**6.56**	**303**	Pn	**Pn**	**18 31 40.1**	**+0.1**
RIDG	**Independent Ri**	**6.62**	**328**	Pn	**Pn**	**18 31 40.5**	**-0.2**
SEW	**Seward**	**6.67**	**290**	Pn	**Pn**	**18 31 41.3**	**-0.1**
SML	**Sawmill**	**6.67**	**306**	Pn	**Pn**	**18 31 42.0**	**+0.6**
EGAK	**Eagle**	**6.74**	**344**	Pn	**Pn**	**18 31 43.1**	**+0.9**
WAT6	**Susitna Watana**	**6.81**	**313**		**Pn**	**18 31 45.3**	**+1.8**
DHY	**Denali Highway**	**6.97**	**317**		**Pn**	**18 31 47.2**	**+1.6**
SLKM	**Skilak Lake**	**7.12**	**293**		**Pn**	**18 31 47.1**	**-0.5**
BRLK	**Bradley Lake**	**7.34**	**287**	Pn	**Pn**	**18 31 50.7**	**0.0**
CNPM	**China Poot**	**7.51**	**285**	Pn	**Pn**	**18 31 52.2**	**-0.7**
HDA	**Harding Lake**	**7.73**	**326**	Pn	**Pn**	**18 31 56.4**	**+0.4**
IL18	**Eielson Array**	**7.94**	**328**	Pn	**Pn**	**18 31 59.4**	**+0.5**
WRH	**Wood River Hil**	**8.12**	**323**	Pn	**Pn**	**18 32 02.8**	**+1.5**
SKT	**Skwentna**	**8.14**	**303**	Pn	**Pn**	**18 32 01.8**	**+0.3**
CCB	**Clear Creek Bu**	**8.16**	**325**	Pn	**Pn**	**18 32 03.3**	**+1.5**
TRF	**Thorofare Moun**	**8.27**	**314**	Pn	**Pn**	**18 32 04.8**	**+1.4**
KDAK	**Kodiak Island**	**8.34**	**273**	Pn	**Pn**	**18 32 03.1**	**-1.1**
RSO	**Redoubt South**	**8.35**	**291**	Pn	**Pn**	**18 32 04.6**	**0.0**
BWN	**Browne**	**8.38**	**319**		**Pn**	**18 32 05.4**	**+0.6**
MDM	**Murphy Dome**	**8.51**	**326**	Pn	**Pn**	**18 32 08.1**	**+1.5**
KTH	**Kantishna Hill**	**8.56**	**313**	Pn	**Pn**	**18 32 08.9**	**+1.6**
PPLA	**Purkeypile**	**8.77**	**308**	Pn	**Pn**	**18 32 11.2**	**+1.0**
OHAK	**Old Harbor**	**8.83**	**269**	Pn	**Pn**	**18 32 09.4**	**-1.5**
BPAW	**Bear Paw Mtn.**	**8.88**	**316**	Pn	**Pn**	**18 32 11.9**	**+0.2**
SVW2	**Sparrevohn**	**9.81**	**294**	Pn	**Pn**	**18 32 25.1**	**+0.7**

*IDC **22** 18:38:52.9±3.0, 30.22N×131.19E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/49, mbtmp3.7/9, ML3.2/3, Error ellipse: s-maj=60.1km s-min=37.8km az=137.0*
*NEIC **22** 18:39:00.4±1.6, 30.49N±0.07°×131.29E±0.10, h43km±10km, mb4.0/29, Error ellipse: s-maj=12.5km s-min=9.4km az=62.0*
*JMA **22** 18:39:00.0±0.1, 30.55N×131.33E, h43km±1km, M3.3*
ISC 22 18:39:00.0±1.0, **30.53N**±0.05°×**131.31E**±0.06, **h45km**±8km, **n77**, σ0.96/84, **mb3.9**/10, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.32**	**294**	P	**Pn**	**18 39 08.5**	**-0.4**
JTN				*eS*	**Sn**	**18 39 14.9**	**-0.2**
JMTN	**Minamitane**	**0.38**	**250**	P	**Pn**	**18 39 09.6**	**0.0**
JMTN				*eS*	**Sn**	**18 39 17.3**	**+1.0**
JTSR	**Tashiro 2**	**0.72**	**332**	P	**Pn**	**18 39 13.7**	**-0.2**
JTSR				*eS*	**Sn**	**18 39 23.9**	**-0.1**
JYAK	**Yakushimahirau**	**0.75**	**248**	P	**Pn**	**18 39 14.5**	**+0.2**
JYAK				S	**Sn**	**18 39 25.4**	**+0.8**
JKC	**Kuchinoerabu**	**0.97**	**266**	P	**Pn**	**18 39 17.5**	**+0.3**
JKC				S	**Sn**	**18 39 30.7**	**+0.9**
JNAR	**Kushima--Naru**	**1.00**	**358**	P	**Pn**	**18 39 17.9**	**+0.3**
JNAR				S	**Sn**	**18 39 30.8**	**+0.2**
JNKG	**Nichinankitago**	**1.13**	**3**	P	**Pn**	**18 39 19.4**	**+0.4**
JNKG				S	**Sn**	**18 39 34.5**	**+0.6**
JSU	**Suzuyama**	**1.22**	**323**	P	**Pn**	**18 39 20.3**	**-0.4**
JSU				*eS*	**Sn**	**18 39 36.0**	**-0.1**
JSU	**Suzuyama**	**1.22**	**323**		**Pn**	**18 39 20.5**	**-0.2**
JTZ	**Takazaki**	**1.38**	**352**	P	**Pn**	**18 39 23.5**	**+0.6**
JTZ				S	**Sn**	**18 39 40.9**	**+0.9**
JNN	**Nakanoshima**	**1.42**	**242**	P	**Pn**	**18 39 23.9**	**+0.5**
JNN				S	**Sn**	**18 39 42.0**	**+1.1**
JZO	**Okuchi**	**1.72**	**339**	P	**Pn**	**18 39 27.6**	**0.0**
JTSN	**Tsuno**	**1.72**	**5**	P	**Pn**	**18 39 27.6**	**+0.1**
JTSN				S	**Sn**	**18 39 47.7**	**-0.6**
JNU	**Nakatsue**	**2.61**	**352**	Pn	**Pn**	**18 39 40.4**	**+0.6**
	5.5nm,0.3s,baz=186,slow=20,SNR=81						
JNU				Sn	**Sn**	**18 40 10.3**	**0.0**
	5.4nm,0.3s,baz=170,slow=20,SNR=18						
JNU	**Nakatsue**	**2.61**	**352**		**Pn**	**18 39 40.2**	**+0.4**
JMN	**Monobe**	**3.86**	**34**	Pn	**Pn**	**18 39 57.2**	**+0.3**
JTU	**Tsushima**	**4.30**	**338**	Pn	**Pn**	**18 40 03.6**	**+0.6**
JMZ	**Minamidaito 2**	**4.69**	**181**	Pn	**Pn**	**18 40 08.5**	**+0.2**
JHS	**Saijyo**	**4.71**	**18**	Pn	**Pn**	**18 40 09.0**	**+0.4**
JWT	**Wachi**	**5.86**	**35**	Pn	**Pn**	**18 40 25.1**	**+0.8**
INU	**Inuyama**	**6.79**	**43**		**Pn**	**18 40 38.5**	**+1.5**
JGF	**Kuroka**	**7.16**	**43**		**Pn**	**18 40 42.8**	**+0.5**
KSRS	**Korea Array**	**7.46**	**339**	Pn	**Pn**	**18 40 48.2**	**+1.9**
	0.4nm,0.3s,baz=159,slow=15,SNR=6.6						
MAJO	**Matsushiro**	**8.31**	**42**	Pn	**Pn**	**18 40 59.1**	**+1.1**
MAT	**Matsushiro**	**8.31**	**42**	P	**Pn**	**18 40 58.9**	**+0.9**
MJAR	**Matsushiro Arr**	**8.31**	**42**	Pn	**Pn**	**18 40 59.2**	**+1.2**
	0.3nm,0.3s,baz=212,slow=13,SNR=40						
MJAR	**Matsushiro Arr**	**8.31**	**42**		**Pn**	**18 40 58.7**	**+0.7**
JEM	**Erimo**	**14.90**	**36**	P	P	18 42 47.4	+15
ANA2	**Anatahan**	**19.31**	**134**	P	**P**	**18 43 20.0**	**-1.4**
SONM	**Songino Array**	**25.75**	**319**	P	**P**	**18 44 25.7**	**-0.7**
	0.6nm,0.5s,baz=137,slow=10,SNR=4.1						
SONM	**Songino Array**	**25.75**	**319**	P	**P**	**18 44 25.7**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**33.83**	**100**	T	T	19 21 45.7	
	baz=294,slow=74						
H11N1	**WAKE ISLAND Hy**	**33.84**	**100**	T	T	19 21 48.6	
	baz=294						
H11N3	**WAKE ISLAND Hy**	**33.85**	**100**	T	T	19 21 48.2	
	baz=294,slow=74						
ZAA0	**Zalesovo Array**	**40.64**	**319**	P	**P**	**18 46 35.0**	**-0.5**
ZAA0				IAmb	IAmb	18 46 35.2	
	comp=Z,1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**40.64**	**319**	P	**P**	**18 46 34.6**	**-0.9**
MK31	**Makanchi Array**	**40.89**	**308**	P	**P**	**18 46 34.9**	**-2.9**
MKAR	**Makanchi Array**	**40.89**	**308**	P	**P**	**18 46 37.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=104,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**40.89**	**308**	P	**P**	**18 46 35.7**	**-2.1**
BRVK	**Borovoye**	**49.06**	**316**	P	**P**	**18 47 42.2**	**-0.3**
BRVK				IAmb	IAmb	18 47 43.3	
	comp=Z,1.8nm,1.0s						
AB31	**Akbulak array**	**55.78**	**311**	P	**P**	**18 48 31.1**	**-1.2**
ABKAR	**Akbulak array**	**55.78**	**311**	P	**P**	**18 48 32.4**	**+0.1**
ABKAR				IAmb	IAmb	18 48 38.6	
	comp=Z,2.2nm,1.2s						
ABKAR	**Akbulak array**	**55.78**	**311**	P	**P**	**18 48 32.4**	**+0.1**
AB03	**Akbulak array**	**55.78**	**311**	P	**P**	**18 48 31.3**	**-1.0**
AB04	**Akbulak array**	**55.78**	**311**	P	**P**	**18 48 30.8**	**-1.6**
AB08	**Akbulak array**	**55.79**	**311**	P	**P**	**18 48 32.2**	**-0.2**
AB09	**Akbulak array**	**55.79**	**311**	P	**P**	**18 48 31.9**	**-0.5**
ARD3	**ARCESS Array S**	**67.00**	**338**	P	**P**	**18 49 49.1**	**+1.2**
ARD2	**ARCESS Array S**	**67.00**	**338**	P	**P**	**18 49 49.6**	**+1.8**
ARC2	**ARCESS Array S**	**67.01**	**338**	P	**P**	**18 49 49.1**	**+1.2**
ARD1	**ARCESS Array S**	**67.01**	**338**	P	**P**	**18 49 49.8**	**+1.9**
ARD4	**ARCESS Array S**	**67.01**	**338**	P	**P**	**18 49 48.9**	**+1.0**
ARC3	**ARCESS Array S**	**67.01**	**338**	P	**P**	**18 49 48.9**	**+1.0**
ARB1	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 49.4**	**+1.5**
ARA1	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.6**	**+0.7**
ARA0	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.6**	**+0.7**
ARA2	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 49.1**	**+1.1**
ARB3	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 49.4**	**+1.4**
ARC4	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.9**	**+1.0**
ARA3	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.8**	**+0.8**
ARB5	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.9**	**+0.9**
ARC7	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.8**	**+0.9**
ARB4	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 49.1**	**+1.1**
ARD5	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 49.0**	**+1.0**
ARC5	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 49.5**	**+1.5**
ARC6	**ARCESS Array S**	**67.02**	**338**	P	**P**	**18 49 48.9**	**+0.9**
ARD6	**ARCESS Array S**	**67.03**	**338**	P	**P**	**18 49 49.0**	**+1.0**
KBZ	**Khabaz**	**68.57**	**309**	P	**P**	**18 49 59.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=167,slow=1.4,SNR=4.5						
FINES	**FINESS Array B**	**70.47**	**331**	P	**P**	**18 50 09.3**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=68,slow=4.4,SNR=7.3						
AKASG	**Malin Array Be**	**74.03**	**320**	P	**P**	**18 50 31.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=54,slow=6.0,SNR=4.0						
AKBB	**Malin Array Si**	**74.03**	**320**	P	**P**	**18 50 31.0**	**0.0**
AKBB				IAmb	IAmb	18 50 56.1	
	comp=Z,6.2nm,1.3s						
BR131	**Keskin Array S**	**76.53**	**308**	P	**P**	**18 50 45.5**	**-0.3**
BR131				IAmb	IAmb	18 50 46.9	
	comp=Z,1.2nm,0.8s						
BRTR	**Keskin Array B**	**76.53**	**308**	P	**P**	**18 50 46.9**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=82,slow=8.9,SNR=5.1						
BRTR	**Keskin Array B**	**76.53**	**308**	P	**P**	**18 50 45.4**	**-0.4**
BURAR	**Bucovina Array**	**77.86**	**318**	P	**P**	**18 50 53.9**	**+0.9**
CLL	**Collm**	**82.15**	**326**	*eP*	**P**	**18 51 17.0**	**+1.1**
CBYP	**Canovanas**	**128.75**	**21**		PKPpre	18 57 50.2	

*SNET **22** 18:44:40.6±0.3, 13.86N×90.85W, h64km±5km, ML3.1*
*GCG **22** 18:44:43.5±0.4, 14.00N×90.84W, h57km±13km, MD3.5*
ISC 22 18:44:41.5±2.0, **13.9N**±0.1°×**90.82W**±0.09, **h73km**, **n7**, σ0.52/10, **1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.56**	**22**	*eP*	**Pn**	**18 44 55.5**	**-0.1**
FUG	**Fuego 3**	**0.58**	**358**	*eP*	**Pn**	**18 44 55.4**	**-0.3**
NBG	**Las Nubes**	**0.85**	**33**	*eP*	**Pn**	**18 44 59.2**	**+0.5**
NBG				*eS*	**Sn**	**18 45 11.4**	**-0.1**
ERG	**Entre ros, C**	**0.92**	**308**	*eP*	**Pn**	**18 44 59.1**	**-0.1**
SBLS	**San Blas**	**1.17**	**91**	*eP*	**Pn**	**18 45 02.1**	**-0.4**
SBLS				*eS*	**Sn**	**18 45 18.9**	**+0.7**
MRL	**Marmol**	**1.64**	**42**	↑/*P*	**Pn**	**18 45 07.9**	**-0.7**
LFRS	**El Faro**	**1.73**	**98**	*eP*	**Pn**	**18 45 09.4**	**-0.4**
LFRS				*eS*	**Sn**	**18 45 31.6**	**+0.5**

*IDC **22** 19:00:29.9±0.8, 3.89S×153.00E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/49, mbtmp4.1/12, ML5.1/1, MS3.3/11, Ms1 3.3/11, ms1mx3.1/34, Error ellipse: s-maj=19.7km s-min=11.9km az=159.0*
*NEIC **22** 19:00:33.6±1.2, 3.19S±0.1°×152.90E±0.07, h26km±5km, mb4.4/10, Error ellipse: s-maj=15.7km s-min=10.3km az=176.0*
ISC 22 19:00:35.2±0.7, **3.94S**±0.09×**152.91E**±0.08, **h35

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.62**	**185**	P	**Pn**	**19 25 45.6**	**+2.7**
	97nm,0.3s,baz=55,slow=16,SNR=2.9						
RAO				S	**Sn**	**19 26 38.1**	**+0.4**
	318nm,0.3s,baz=132,slow=23,SNR=12						
RAO	**Raoul Island**	**4.62**	**185**		**Pn**	**19 25 40.4**	**-2.5**
RAO					**Sn**	**19 26 34.9**	**-2.8**
MSVF	**Nonsavu**	**8.05**	**328**		**Pn**	**19 26 26.3**	**-1.3**
NIUE	**Niue**	**8.90**	**53**	Pn	Pn	19 26 27.9	-11
URZ	**Urewera**	**14.35**	**198**	P	**Pn**	**19 27 48.4**	**+0.9**
	1.3nm,0.3s,baz=27,slow=4.5,SNR=2.1						
URZ				S	S	19 30 16.4	-11
	1.4nm,0.3s,baz=243,slow=20,SNR=11						
URZ	**Urewera**	**14.35**	**198**	P	**Pn**	**19 27 47.0**	**-0.6**
DZM	**Mont Dzumac**	**15.02**	**277**	P	**Pn**	**19 27 55.1**	**-1.0**
	0.1nm,0.3s,baz=260,slow=12,SNR=1.9						
DZM				LR	LR	19 31 46.9	
	comp=Z,73nm,21.1s,baz=245,slow=29						
DZM	**Mont Dzumac**	**15.02**	**277**	P	**Pn**	**19 27 55.8**	**-0.3**
DZM				IAmb	IAmb	19 28 02.5	
	comp=Z,44nm,1.2s						
BFZ	**Birch Farm**	**16.85**	**197**	P	**P**	**19 28 14.2**	**-2.4**
SANVU	**Saraoutou**	**17.07**	**300**	P	**Pn**	**19 28 20.4**	**-0.3**
RPZ	**Rata Peaks**	**21.24**	**204**	LR	LR	19 36 09.8	
	comp=Z,54nm,20.0s,baz=248,slow=33						
PPT	**Papeete**	**26.90**	**80**	LR	LR	19 41 23.2	
	comp=Z,23nm,18.3s,baz=236,slow=38						
ARMA	**Armidale**	**27.97**	**251**	P	**P**	**19 30 04.7**	**-1.0**
ARMA				IAmb	IAmb	19 30 26.4	
	comp=Z,8.9nm,1.1s						
CTAO	**Charters Tower**	**33.82**	**270**	P	**P**	**19 30 59.2**	**+2.3**
CTAO				IAmb	IAmb	19 30 59.8	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**36.63**	**249**	P	**P**	**19 31 20.9**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=95,slow=8.1,SNR=4.0						
STKA	**Stephens Creek**	**36.63**	**249**	P	**P**	**19 31 20.7**	**-0.1**
AS31	**Alice Springs**	**44.22**	**261**	P	**P**	**19 32 23.1**	**-0.1**
ASAR	**Alice Springs**	**44.22**	**261**	P	**P**	**19 32 24.2**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=88,slow=7.7,SNR=48						
ASAR	**Alice Springs**	**44.22**	**261**	P	**P**	**19 32 23.7**	**+0.6**
WR0	**Warramunga Arr**	**44.50**	**266**	P	**P**	**19 32 26.3**	**+1.0**
WR0				IAmb	IAmb	19 32 44.0	
	comp=Z,6.7nm,1.2s						
WC3	**Warramunga Arr**	**44.65**	**266**	P	**P**	**19 32 27.2**	**+0.7**
WB2	**Warramunga Arr**	**44.68**	**266**	P	**P**	**19 32 27.3**	**+0.5**
WB2				IAmb	IAmb	19 32 47.5	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**44.68**	**266**	P	**P**	**19 32 27.1**	**+0.4**
WRAB				IAmb	IAmb	19 32 30.1	
	comp=Z,8.7nm,1.3s						
WB0	**Warramunga Arr**	**44.68**	**266**	P	**P**	**19 32 27.0**	**+0.2**
WB0				IAmb	IAmb	19 32 29.6	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**44.69**	**266**	P	**P**	**19 32 27.2**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=102,slow=8.1,SNR=47						
WRA	**Warramunga Arr**	**44.69**	**266**	P	**P**	**19 32 26.9**	**+0.1**
VNDA	**Vanda**	**53.86**	**185**	LR	LR	19 50 14.5	
	comp=Z,14nm,21.8s,baz=10,slow=28						
MJAR	**Matsushiro Arr**	**73.84**	**324**	P	**P**	**19 35 45.6**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=157,slow=4.6,SNR=2.9						
PETK	**Petropavlovsk-**	**80.39**	**345**	P	**P**	**19 36 21.9**	**-0.3**
	comp=Z,6.2nm,0.8s,baz=153,slow=8.2,SNR=5.0						
USRK	**Ussuriysk Ar.**	**82.67**	**326**	P	**P**	**19 36 35.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=147,slow=8.6,SNR=4.6						
USRK	**Ussuriysk Ar.**	**82.67**	**326**	P	**P**	**19 36 34.2**	**-0.1**
H03N3	**Juan Fernandez**	**83.41**	**124**	T	T	21 08 48.8	
	baz=250,slow=73,SNR=7.5						
H03N2	**Juan Fernandez**	**83.41**	**124**	T	T	21 08 49.9	
	baz=250,slow=73,SNR=5.4						
H03N1	**Juan Fernandez**	**83.42**	**124**	T	T	21 08 53.3	
	baz=250,slow=73,SNR=4.6						
NVAR	**Mina Array Bea**	**83.65**	**43**	P	**P**	**19 36 39.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=2.7						
SNAA	**Sanae**	**83.88**	**178**	P	**P**	**19 36 41.5**	**+1.2**
VNA3	**Neumayer Olymp**	**84.00**	**176**	P	**P**	**19 36 42.1**	**+1.2**
VNA2	**Neumayer--Watz**	**84.44**	**177**	P	**P**	**19 36 44.8**	**+1.7**
	baz=166,slow=5.2						
VNA1	**Neumayer--Stat**	**84.67**	**176**	P	**P**	**19 36 45.9**	**+1.7**
TXAR	**Lajitas Array**	**88.86**	**57**	P	**P**	**19 37 05.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=224,slow=5.0,SNR=6.8						
TXAR	**Lajitas Array**	**88.86**	**57**	P	**P**	**19 37 05.1**	**-0.2**
PDAR	**Pinedale Array**	**91.61**	**43**	P	**P**	**19 37 17.6**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=238,slow=5.1,SNR=4.4						
PDAR	**Pinedale Array**	**91.61**	**43**	P	**P**	**19 37 17.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**91.97**	**289**	P	**P**	**19 37 21.6**	**+1.8**
	comp=Z,1.8nm,0.9s,baz=143,slow=3.1,SNR=17						
CMAR	**Chiang Mai Arr**	**91.97**	**289**	P	**P**	**19 37 19.4**	**-0.4**
AKASG	**Malin Array Be**	**146.84**	**329**	PKPbc	**PKPbc**	**19 43 51.0**	**-0.8**
	comp=Z,4.7nm,0.8s,baz=44,slow=4.2,SNR=8.5						
BRTR	**Keskin Array B**	**149.88**	**307**	PKPbc	**PKiKP**	**19 44 01.0**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=84,slow=4.5,SNR=4.2						
CLL	**Collm**	**152.19**	**346**	*e*PKPbc	**PKiKP**	**19 44 07.0**	**+1.8**
CLL				*e*(PKPab)	**PKPab**	**19 44 13.0**	**-2.4**
TORD	**Torodi Ar. Bea**	**168.54**	**176**	PKPab	**PKPab**	**19 45 28.3**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=192,slow=4.1,SNR=6.0						

IDC ***22*** *19:43:28.0±3.0, 18°.84N×39°.12E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/45, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/40, Error ellipse: s-maj=95.9km s-min=22.9km az=159.0*

HLW ***22*** *19:43:43.3, 20°.65N×37°.88E, h15km±26km, Md4.2*

ISC 22 19:43:34.2±1.6, 20°.3N±0°.2×38°.4E±0°.1, h10km, n17, σ1=2°.02/15, mb3.8/8, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAGS	**Hagol**	**5.19**	**323**	P	**Pn**	**19 44 51.3**	**-0.6**
	baz=325						
HAGS				S	Sn	19 45 41.6	-10
	baz=325						
BRNS	**Bernies**	**5.36**	**313**	P	**Pn**	**19 44 54.0**	**-0.3**
	baz=314						
NADB	**Abo Dabab**	**6.21**	**325**	P	**Pn**	**19 45 06.0**	**-0.1**
	baz=328						
NGWR	**NGWR**	**6.22**	**304**	P	**Pn**	**19 45 06.4**	**+0.3**
	baz=304						
AWAL	**West Alisa**	**6.24**	**301**	P	**Pn**	**19 45 06.3**	**-0.1**
	baz=300						
NAHD	**NAHD**	**6.30**	**305**	P	**Pn**	**19 45 08.0**	**+0.8**
	baz=305						
HMSM	**Jabal Masmas**	**6.61**	**295**	P	**Pn**	**19 45 11.0**	**-0.4**
	baz=293						
HKFR	**Khafra**	**7.01**	**291**	P	**Pn**	**19 45 17.0**	**0.0**
	baz=289						
GEYT	**Alibeck**	**24.55**	**40**	LR	LR	19 59 43.0	
	comp=Z,52nm,19.3s,baz=50,slow=39						
AKTO	**Aktyubinsk**	**33.89**	**23**	P	**P**	**19 50 16.4**	**-0.7**
	0.6nm,0.4s,baz=24,slow=1.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**35.80**	**264**	P	**P**	**19 50 34.0**	**-0.1**
	49nm,0.4s,baz=68,slow=8.1,SNR=8.2						
BVAR	**Borovoye Array**	**40.95**	**29**	P	**P**	**19 51 20.0**	**+3.1**
	0.3nm,0.6s,baz=226,slow=7.8,SNR=1.7						
ESDC	**Sonseca Array**	**41.05**	**308**	P	P	19 51 24.8	+6.9
	0.8nm,1.0s,baz=87,slow=6.5,SNR=4.0						
KURBB	**Kurchatov Array**	**43.73**	**36**	P	**P**	**19 51 40.2**	**+0.6**
	1.0nm,0.7s,baz=241,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**44.36**	**43**	P	**P**	**19 51 44.9**	**+0.1**
	1.5nm,0.8s,baz=234,slow=6.5,SNR=11						
ZALV	**Zalesovo Beam**	**48.69**	**35**	P	**P**	**19 52 18.8**	**+0.3**
	0.5nm,0.5s,baz=232,slow=7.1,SNR=2.7						
SONM	**Songino Array**	**60.57**	**46**	P	**P**	**19 53 44.5**	**-0.6**
	0.6nm,0.5s,baz=264,slow=9.8,SNR=4.5						

NEIC ***22*** *20:07:35.2±1.6, 6°.1S×102°.2E×0°.1, h76km±21km, mb4.3/7, Error ellipse: s-maj=27.9km s-min=4.5km az=144.0*

IDC ***22*** *20:07:40.0±1.3, 5°.50S×151°.33E, h91km±10km, mb3.6/7, mb1 3.9/8, mb1mx3.5/39, mbtmp4.0/8, MS2.4/1, Ms1 2.4/1, ms1mx2.2/31, Error ellipse: s-maj=54.8km s-min=9.9km az=126.0*

ISC 22 20:07:38.7±1.5, 5°.7S±0°.2×151°.6E±0°.3, h100km, n26, σ1=3°.53/27, mb4.1/13, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.44**	**16**	P	**Pn**	**20 08 02.8**	**-1.4**
	63nm,0.3s,baz=80,slow=1.1,SNR=40						
KRVT				S	**Sn**	**20 08 22.6**	**-0.8**
	167nm,0.3s,baz=140,slow=23,SNR=35						
RABL	**Rabaul**	**1.59**	**20**		**Pn**	**20 08 04.4**	**-1.7**
PMG	**Port Moresby**	**5.76**	**230**	P	**Pn**	**20 09 01.9**	**+0.1**
	14nm,0.3s,baz=58,slow=6.5,SNR=23						
PMG				S	**Sn**	**20 10 05.2**	**-1.4**
	20nm,0.3s,baz=161,slow=20,SNR=8.8						
PMG				LR	LR	20 10 31.0	
	comp=Z,37nm,19.3s,baz=114,slow=30						
PMG	**Port Moresby**	**5.76**	**230**	Pn	**Pn**	**20 09 00.7**	**-1.1**
PMG				Sn	**Sn**	**20 10 03.0**	**-3.6**
COEN	**Coen**	**11.69**	**225**	Pn	**Pn**	**20 10 21.6**	**-0.6**
WB0	**Warramunga Arr**	**21.83**	**229**	P	**P**	**20 12 24.1**	**+1.0**
WB0				IAmb	IAmb	20 12 26.4	
	comp=Z,7.1nm,0.8s						
WR0	**Warramunga Arr**	**21.84**	**228**		**P**	**20 12 24.5**	**+1.3**
WR0				IAmb	IAmb	20 12 26.4	
	comp=Z,8.5nm,0.8s						
WC3	**Warramunga Arr**	**21.96**	**228**	P	**P**	**20 12 25.0**	**+0.5**
WRAB	**Tennant Creek**	**21.96**	**228**	P	**P**	**20 12 25.0**	**+0.5**
WRAB				IAmb	IAmb	20 12 27.5	
	comp=Z,8.8nm,0.6s						
WB2	**Warramunga Arr**	**21.97**	**228**	P	**P**	**20 12 25.1**	**+0.5**
WB2				IAmb	IAmb	20 12 27.6	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**21.98**	**228**	P	**P**	**20 12 27.1**	**+2.4**
	comp=Z,13nm,0.8s,baz=52,slow=9.8,SNR=60						
WRA	**Warramunga Arr**	**21.98**	**228**	P	**P**	**20 12 24.3**	**-0.4**
KNRA	**Kununurra**	**24.53**	**244**	P	**P**	**20 12 49.8**	**+0.7**
AS31	**Alice Springs**	**24.70**	**222**		**P**	**20 12 50.2**	**-0.5**
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**20 12 52.9**	**+2.2**
	comp=Z,4.4nm,0.6s,baz=58,slow=8.8,SNR=42						
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**20 12 50.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P	**P**	**20 13 22.4**	**+0.2**
	comp=Z,4.5nm,0.4s,baz=39,slow=3.6,SNR=62						
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P	**P**	**20 13 22.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.21**	**296**	P	**P**	**20 17 16.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=121,slow=5.2,SNR=4.1						
HHC	**Hu-ho-hao-te**	**59.10**	**325**	*e*P	P	20 17 33.8	+5.0
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,69nm,6.3s						
LZH	**Lanzhou**	**61.06**	**317**	⇑P	P	20 17 48.5	+6.1
LZH				pP	pP	20 18 08.6	+0.9
LZH				sP	sP	20 18 17.3	-1.6
LZH				PP	PP	20 20 08.3	+10
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,80nm,7.2s						
WMQ	**Urumqi**	**75.61**	**318**	*e*P	**P**	**20 19 17.1**	**+4.2**
MKAR	**Makanchi Array**	**80.23**	**319**	P	**P**	**20 19 38.7**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=101,slow=4.7,SNR=1.7						
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**20 19 43.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=89,slow=4.4,SNR=2.7						
ILAR	**Eielson Array**	**83.42**	**22**	P	**P**	**20 19 55.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=254,slow=6.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.45**	**286**	PKPbc	**PKiKP**	**20 27 18.8**	**+0.5**
	comp=Z,1nm,0.6s,baz=76,slow=2.2,SNR=36						

IDC ***22*** *20:21:07.6±0.8, 63°.16S×170°.98E, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.3/35, mbtmp4.4/10, ML4.1/2, MS4.6/28, Ms1 4.6/28, ms1mx4.5/33, Error ellipse: s-maj=33.1km s-min=17.6km az=71.0*

NEIC ***22*** *20:21:08.7±2.1, 63°.03S±0°.05×171°.1E±0°.3, h10km±1km, mb4.8/30, Error ellipse: s-maj=24.1km s-min=5.9km az=102.0*

GCMT ***22*** *20:21:11.7±0.1, 63°.03S±0°.01×171°.00E±0°.02, h12km, MW5.3/107, Moment Tensor Solution. s82,c107; s107,c184; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.26±.02; Mθθ 1.13±.02; Mφφ -0.87±.02; Mrθ-0.68±.04; Mθφ-0.14±.02; Mφr0.10±.05; Best double couple: Mo1.15600×10^17 NP1:φs226.00000°, δ89.00000°, λ169.00000°. NP2:φs320.00000°, δ80.00000°, λ21.00000°. Principal axes: T 1.4200, Plg22.0000°, Azm185.0000°; N -0.5310, Plg66.0000°, Azm344.0000°; P -0.8920, Plg7.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 20:21:08.5±0.4, 63°.07S±0°.06×171°.1E±0°.1, h10km, n104, σ1=3°.38/67, mb4.6/13, MS4.7/31, 1D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.81**	**188**	Pn	**Pn**	**20 24 37.7**	**+0.1**
	0.3nm,0.3s,baz=8.2,slow=13,SNR=62						
VNDA				LR	LR	20 29 03.5	
	comp=Z,6μm,21.4s,baz=16,slow=32						
VNDA	**Vanda**	**14.81**	**188**	Pn	**Pn**	**20 24 38.2**	**+0.6**
WHZ	**Wether Hill Ro**	**17.30**	**353**	Pn	**Pn**	**20 25 08.9**	**-1.0**
WHZ				IAmb	IAmb	20 25 12.5	
	comp=Z,89nm,1.4s						
MLZ	**Mavora Lakes**	**17.82**	**353**	P	**Pn**	**20 25 14.8**	**-1.6**
MLZ				IAmb	IAmb	20 25 30.8	
	comp=Z,94nm,1.5s						
WKZ	**Wanaka**	**18.31**	**355**	Pn	**Pn**	**20 25 19.8**	**-2.6**
WKZ				IAmb	IAmb	20 25 33.5	
	comp=Z,115nm,1.3s						
LBZ	**Lake Benmore**	**18.73**	**358**		**Pn**	**20 25 27.5**	**+0.1**
RPZ	**Rata Peaks**	**19.39**	**360**	P	**Pn**	**20 25 36.8**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=218,slow=2.3,SNR=10						
RPZ				LR	LR	20 31 36.3	
	comp=Z,5μm,21.7s,baz=208,slow=32						
RPZ	**Rata Peaks**	**19.39**	**360**	P	**P**	**20 25 34.4**	**+0.1**
RPZ				IAmb	IAmb	20 25 47.0	
	comp=Z,41nm,1.0s						
KHZ	**Kahutara**	**20.74**	**5**	P	**P**	**20 25 49.2**	**+0.2**
NNZ	**Nelson**	**21.93**	**5**	P	**P**	**20 26 02.1**	**+0.4**
QRZ	**Quartz Range**	**22.29**	**3**	P	**P**	**20 26 05.8**	**+0.1**
HIZ	**Hauiti**	**24.69**	**7**	P	**P**	**20 26 29.4**	**-0.1**
URZ	**Urewera**	**25.11**	**11**	LR	LR	20 34 55.3	
	comp=Z,3μm,21.7s,baz=194,slow=33						
CASY	**Casey**	**25.20**	**236**	P	**P**	**20 26 34.9**	**+1.2**
QSPA	**South Pole Qui**	**27.02**	**180**	P	**P**	**20 26 49.6**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=324,slow=1.3,SNR=9.8						
QSPA				LR	LR	20 35 48.8	
	comp=Z,2μm,20.7s,baz=26,slow=33						
QSPA	**South Pole Qui**	**27.02**	**180**	P	**P**	**20 26 50.5**	**0.0**
QSPA				IAmb	IAmb	20 27 00.9	
	comp=Z,25nm,1.4s						
ARMA	**Armidale**	**34.97**	**330**	P	**P**	**20 28 01.7**	**+1.1**
ARMA				IAmb	IAmb	20 28 02.6	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**36.37**	**315**	P	**P**	**20 28 14.8**	**+2.2**
	comp=Z,4.4nm,1.1s,baz=155,slow=9.2,SNR=4.7						
STKA				LR	LR	20 40 36.4	
	comp=Z,749nm,19.8s,baz=150,slow=32						
STKA	**Stephens Creek**	**36.37**	**315**	P	**P**	**20 28 10.8**	**-1.7**
BELA	**Belgrano 2**	**38.42**	**172**	P	**P**	**20 28 28.3**	**-1.2**
MAW	**Mawson**	**39.84**	**215**	P	**P**	**20 28 42.3**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=140,slow=9.8,SNR=5.6						
MAW				LR	LR	20 44 57.3	
	comp=Z,3μm,19.6s,baz=139,slow=36						
MAW	**Mawson**	**39.84**	**215**	P	**P**	**20 28 41.6**	**+0.3**
EIDS	**Eidsvold**	**39.95**	**331**	P	**P**	**20 28 42.2**	**-0.6**
EIDS				IAmb	IAmb	20 28 51.9	
	comp=Z,14nm,1.1s						
DZM	**Mont Dzumac**	**41.09**	**353**	LR	LR	20 42 58.4	
	comp=Z,2μm,21.5s,baz=206,slow=32						
DZM	**Mont Dzumac**	**41.09**	**353**	*e*S	**S**	**20 35 05.8**	**+0.8**
	comp=Z,338nm,23.7s						
DZM				*e*LR	LR	20 40 09.5	
	comp=Z,3μm,22.4s						
DZM	**Mont Dzumac**	**41.09**	**353**	P	**P**	**20 28 52.4**	**0.0**
SYO	**Syowa Base**	**43.79**	**203**	‖*e*sP	sP	20 29 19.9	+3.0
H01W1	**Cape Leeuwin H**	**44.65**	**282**	T	T	21 17 18.8	
	baz=147,slow=76,SNR=392						
H01W2	**Cape Leeuwin H**	**44.66**	**281**	T	T	21 17 19.1	
	baz=147,slow=76,SNR=462						
H01W3	**Cape Leeuwin H**	**44.67**	**282**	T	T	21 17 20.0	
	baz=147,slow=76,SNR=346						
NWAO	**Narrogin (SRO)**	**44.95**	**286**	LR	LR	20 43 35.6	
	comp=Z,2μm,20.5s,baz=118,slow=30						
SNAA	**Sanae**	**45.47**	**183**	P	**P**	**20 29 26.5**	**-0.6**
SNAA	**Sanae**	**45.47**	**183**	P	**P**	**20 29 26.2**	**-0.9**
VNA3	**Neumayer Olymp**	**45.96**	**180**	P	**P**	**20 29 29.9**	**-1.1**
CTA	**Charters Tower**	**46.17**	**327**	LR	LR	20 46 27.6	
	comp=Z,929nm,18.4s,baz=154,slow=33						
VNA2	**Neumayer--Watz**	**46.28**	**181**	P	**P**	**20 29 33.1**	**-0.3**
	baz=178,slow=7.0						
ASAR	**Alice Springs**	**46.52**	**310**	P	**P**	**20 29 35.5**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=159,slow=8.0,SNR=10						
ASAR				LR	LR	20 47 36.4	
	comp=Z,596nm,18.9s,baz=150,slow=34						
ASAR	**Alice Springs**	**46.52**	**310**	P	**P**	**20 29 34.7**	**-1.1**
AS31	**Alice Springs**	**46.52**	**310**	P	**P**	**20 29 35.0**	**-0.9**
VNA1	**Neumayer--Stat**	**46.56**	**180**	P	**P**	**20 29 34.9**	**-0.7**
TBI	**Tubuai**	**47.63**	**52**	*e*S	**S**	**20 36 41.5**	**+1.6**
	comp=Z,446nm,26.2s						
TBI				*e*LQ	LQ	20 40 46.0	
	comp=Z,2μm,27.5s						
TBI				*e*LR	LR	20 43 08.4	
	comp=Z,987nm,26.2s,baz=199						
TBI	**Tubuai**	**47.63**	**52**	*e*T	T	21 20 46.4	
	comp=Z,15nm,0.3s						
WR0	**Warramunga Arr**	**49.73**	**313**	P	**P**	**20 29 58.5**	**-2.2**
WR0				IAmb	IAmb	20 30 10.2	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**49.81**	**313**	P	**P**	**20 30 00.3**	**-1.1**
	comp=Z,4.4nm,1.2s,baz=157,slow=6.8,SNR=9.2						
WRA				LR	LR	20 49 27.1	
	comp=Z,486nm,19.0s,baz=150,slow=34						
WRA	**Warramunga Arr**	**49.81**	**313**	P	**P**	**20 29 59.7**	**-1.6**
WB0	**Warramunga Arr**	**49.96**	**313**	P	**P**	**20 30 02.2**	**-0.3**
WB0				IAmb	IAmb	20 30 03.0	
	comp=Z,18nm,1.4s						
PAE	**Paea**	**52.83**	**49**	*e*T	T	21 27 15.5	
	comp=Z,12nm,0.2s						
TVO	**Taravao**	**52.84**	**50**	*e*T	T	21 27 14.6	
	comp=Z,5.3nm,0.3s						
PPT2	**Papeete2**	**52.90**	**49**	*e*S	**S**	**20 37 52.1**	**-1.4**
	comp=Z,796nm,28.2s						
PPT2				*e*LQ	LQ	20 42 57.3	
	comp=Z,1μm,23.5s						
PPT2				*e*LR	LR	20 45 30.4	
	comp=Z,1μm,26.2s,baz=195						
PPT2	**Papeete2**	**52.90**	**49**	*e*T	T	21 27 20.6	
	comp=Z,23nm,0.3s						
PPT	**Papeete**	**52.92**	**49**	LR	LR	20 47 08.4	
	comp=Z,336nm,18.8s,baz=200,slow=30						
TIAR	**Tiarei**	**53.01**	**50**	*e*T	T	21 27 22.9	
	comp=Z,5.5nm,0.3s						
MEH	**Mehetia**	**53.16**	**51**	*e*T	T	21 27 40.3	
	comp=Z,65nm,0.3s						
HNR	**Honiara**	**54.14**	**346**	LR	LR	20 50 53.6	
	comp=Z,539nm,19.5s,baz=178,slow=33						
FITZ	**Fitzroy Crossi**	**54.62**	**304**	LR	LR	20 50 53.1	
	comp=Z,332nm,20.6s,baz=159,slow=33						
VAH	**Vaihoa**	**55.76**	**50**	*e*T	T	21 30 54.7	
	comp=Z,316nm,0.3s						
PMOR	**Pomariorio Ree**	**55.88**	**50**	*e*T	T	21 31 03.3	
	comp=Z,5.0nm,0.3s						
BATI	**Baumata**	**62.60**	**305**	LR	LR	20 56 23.9	
	comp=Z,380nm,20.1s,baz=166,slow=34						
TAOE	**Nuku Hiva Isla**	**64.37**	**56**	*e*LR	LR	20 50 54.0	
	comp=Z,592nm,25.7s						
H03S2	**Juan Fernandez**	**68.67**	**123**	T	T	21 47 54.8	
	baz=205,slow=74,SNR=48						
H03S1	**Juan Fernandez**	**68.67**	**123**	T	T	21 47 58.1	
	baz=205,slow=74,SNR=47						
H03S3	**Juan Fernandez**	**68.69**	**123**	T	T	21 47 58.5	
	baz=205,slow=74,SNR=47						
SIJI	**Sorong**	**68.70**	**317**	LR	LR	21 02 36.2	
	comp=Z,401nm,18.1s,baz=171,slow=36						
KAPI	**Kappang**	**68.84**	**304**	LR	LR	21 01 02.2	
	comp=Z,217nm,20.8s,baz=161,slow=35						
DAV	**Davao City (W)**	**77.99**	**314**	LR	LR	21 06 46.0	
	comp=Z,124nm,20.8s,baz=142,slow=35						
SBUM	**Sibu**	**78.60**	**299**	P	**P**	**20 33 10.5**	**+0.3**
SBUM				IAmb	IAmb	20 33 12.8	
	comp=Z,12nm,1.4s						
PB06	**IPOC Station P**	**82.22**	**126**	P	**P**	**20 33 29.9**	**0.0**
LVC	**Limon Verde**	**82.55**	**126**	LR	LR	21 02 26.7	
	comp=Z,201nm,18.7s,baz=192,slow=30						
LVC	**Limon Verde**	**82.55**	**126**	P	**P**	**20 33 31.5**	**-0.4**
PB07	**IPOC Station P**	**82.99**	**125**	P	**P**	**20 33 35.0**	**+1.1**
CPUP	**Villa Florida**	**83.03**	**137**	P	**P**	**20 33 33.9**	**0.0**
CPUP				LR	LR	21 07 32.3	
	comp=Z,532nm,18.3s,baz=204,slow=34						
CPUP	**Villa Florida**	**83.03**	**137**	P	**P**	**20 33 34.2**	**+0.4**
CPUP				IAmb	IAmb	20 33 37.5	
	comp=Z,10.0nm,1.4s						
BOSA	**Boshof**	**84.66**	**210**	P	**P**	**20 33 41.5**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=161,slow=4.0,SNR=5.3						
BOSA				LR	LR	21 10 18.5	
	comp=Z,370nm,18.3s,baz=172,slow=35						
BOSA	**Boshof**	**84.66**	**210**	P	**P**	**20

REY ***22*** *20:49:19.4, 64°.69N×17°.40W, h10km*
IDC ***22*** *20:49:20.6±0.7, 64°.57N×17°.58W, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.8/46, mbtmp3.9/14, ML4.2/1, MS3.5/2, Ms1 3.6/2, ms1mx2.8/45, Error ellipse: s-maj=21.5km s-min=10.1km az=10.0*
NEIC ***22*** *20:49:21.7±2.2, 64°.49N±0°.10×17°.6W±0°.2, h8km±3km, mb4.5/19, Error ellipse: s-maj=14.0km s-min=10.0km az=197.0*

ISC 22 20:49:21.8±0.4**, 64°.62N**±0°.04×**17°.48W**±0°.03**, h10**km**, n72,** σ1$**65/71, mb4.0**/21**, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.13**	**294**	P	**Pg**	**20 49 22.8**	**-2.0**
	baz=264						
IVON				S	**Sg**	**20 49 25.7**	**-1.3**
	baz=264						
IDJK	**Dyngjujokull**	**0.16**	**138**	P	**Pg**	**20 49 23.5**	**-1.9**
	baz=159						
IDYN	**Dyngjuhals**	**0.18**	**16**	S	**Sg**	**20 49 24.1**	**-4.2**
	baz=7.8						
IDYN				P	Pg	20 49 21.9	-3.7
	baz=7.8						
IGRF	**Grimsfjall**	**0.23**	**157**	P	**Pg**	**20 49 25.6**	**-1.0**
	baz=169						
IURH	**Urdarhals**	**0.25**	**36**	P	Pg	20 49 23.2	-3.7
	baz=39						
IURH				S	**Sg**	**20 49 27.1**	**-3.1**
	baz=39						
IHUS	**Husbondi**	**0.34**	**193**	P	**Pg**	**20 49 27.4**	**-1.1**
	baz=196						
IKVE	**Kverkfjoll**	**0.35**	**80**	P	Pg	20 49 25.8	-3.0
	baz=92						
IKVE				S	**Sg**	**20 49 30.7**	**-2.8**
	baz=92						
IVOT	**Vottur**	**0.38**	**160**	P	**Pg**	**20 49 27.2**	**-2.0**
	baz=167						
IVOT				S	**Sg**	**20 49 33.3**	**-0.9**
	baz=167						
ISKR	**Skrokkalda**	**0.40**	**261**	P	**Pg**	**20 49 27.7**	**-1.9**
	baz=254						
ISKR				S	**Sb**	**20 49 34.3**	**-2.7**
	baz=254						
IJOK	**Jokulheimar**	**0.45**	**227**	P	**Pg**	**20 49 28.7**	**-1.8**
	baz=224						
IKRE	**Kreppuhraun**	**0.50**	**71**	P	Pg	20 49 27.4	-4.1
	baz=77						
IKRE				S	**Sg**	**20 49 34.2**	**-3.9**
	baz=77						
IASK	**Askja**	**0.56**	**39**	P	Pg	20 49 28.4	-4.3
	baz=41						
IIEY	**Innrieyrar**	**0.60**	**208**	P	**Pg**	**20 49 31.2**	**-2.2**
	baz=208						
IMKO	**Mokollar**	**0.61**	**53**	P	Pg	20 49 29.2	-4.3
	baz=57						
IKSK	**Karasker**	**0.64**	**136**	P	**Pg**	**20 49 30.5**	**-3.6**
	baz=142						
IKAL	**Kalfafell**	**0.68**	**188**	P	**Pg**	**20 49 32.5**	**-2.4**
	baz=190						
IKAL				S	**Sb**	**20 49 43.0**	**-2.2**
	baz=190						
ISVA	**Svartarkot**	**0.72**	**8**	P	Pg	20 49 31.2	-4.6
	baz=5.3						
IVAT	**Vatnsfell**	**0.76**	**236**	P	**Pg**	**20 49 34.1**	**-2.4**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.78**	**75**	P	Pg	20 49 32.0	-4.7
	baz=80						
IADA	**Aoalbol**	**0.91**	**63**	P	Pg	20 49 34.1	-5.2
	baz=66						
BORG	**Borgarnes**	**1.66**	**276**	Pg	**Pn**	**20 49 48.7**	**-2.1**
	21nm,0.3s,baz=91,slow=8.8,SNR=48						
BORG				Lg	Lg	20 50 12.4	
	15nm,0.3s,baz=335,slow=23,SNR=7.3						
BORG	**Borgarnes**	**1.66**	**276**		**Pn**	**20 49 49.1**	**-1.8**
ANGG	**Ammassalik, Gr**	**8.55**	**286**	Pn	**Pn**	**20 51 26.1**	**+0.7**
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn	**Pn**	**20 52 08.3**	**-0.5**
	baz=324,slow=13,SNR=9.9						
NOA	**NORSAR Array B**	**13.53**	**92**	LR	LR	20 57 55.7	
	comp=Z,64nm,19.2s,baz=305,slow=38						
ARC3	**ARCESS Array S**	**17.14**	**54**		**P**	**20 53 23.6**	**+0.9**
ARD2	**ARCESS Array S**	**17.15**	**54**		**P**	**20 53 24.0**	**+1.3**
ARD2				IAmb	IAmb	20 53 45.8	
	comp=Z,40nm,1.3s						
ARD4	**ARCESS Array S**	**17.15**	**54**		**P**	**20 53 24.4**	**+1.6**
ARD4				IAmb	IAmb	20 53 34.9	
	comp=Z,41nm,1.3s						
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**	**20 53 51.4**	**+0.5**
	baz=292,slow=7.4,SNR=1.9						
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**20 53 53.5**	**+1.1**
CLL	**Collm**	**20.68**	**116**	*e*P	**P**	**20 54 00.0**	**-1.5**
	comp=Z,62nm,2.3s						
CLL				*i*		20 54 08.4	
CLL				*i* PP	**PnPn**	**20 54 18.7**	**-0.4**
CLL				LmV		22 04 00.0	
	comp=Z,300nm,19.3s						
BRG	**Berggiesshubel**	**21.39**	**115**	*e*P	**P**	**20 54 09.4**	**+0.2**
	comp=Z,9.0nm,1.2s						
CHVC	**Chvalec**	**22.44**	**113**	*e*P	**P**	**20 54 22.0**	**+1.4**
OSTC	**Ostas**	**22.53**	**113**	*e*P	**P**	**20 54 21.9**	**+0.4**
KHC	**Kasperske Hory**	**22.65**	**118**	*e*P	**P**	**20 54 25.0**	**+2.3**
DPC	**Dobruska-Polom**	**22.74**	**113**	*e*P	**P**	**20 54 24.6**	**+0.9**
GERES	**GERESS Array B**	**22.93**	**119**	P	**P**	**20 54 26.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=323,slow=8.4,SNR=5.2						
GERES	**GERESS Array B**	**22.93**	**119**	P	**P**	**20 54 26.0**	**+0.3**
KWP	**Kalwaria Pacla**	**25.89**	**106**	P	**P**	**20 54 55.2**	**+1.8**
KWP				IAmb	IAmb	20 55 05.1	
	comp=Z,22nm,1.1s						
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**20 54 54.3**	**-0.5**
	comp=Z,6.1nm,1.0s,baz=267,slow=16,SNR=2.1						
SCHQ	**Schefferville**	**26.05**	**271**	P	**P**	**20 54 54.5**	**-0.4**
PSZ	**Piszkesteto**	**26.09**	**112**	P	**P**	**20 54 56.9**	**+1.5**
PSZ				IAmb	IAmb	20 54 59.0	
	comp=Z,7.9nm,1.0s						
ESDC	**Sonseca Array**	**26.21**	**156**	P	**P**	**20 54 57.1**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=344,slow=10.0,SNR=8.2						
KBZ	**Khabaz**	**39.11**	**92**	P	**P**	**20 56 50.6**	**+1.9**
	comp=Z,2.9nm,0.9s,baz=316,slow=13,SNR=6.1						
ABKAR	**Akbulak array**	**42.00**	**73**	P	**P**	**20 57 13.1**	**+0.5**
ILAR	**Eielson Array**	**45.73**	**332**	P	**P**	**20 57 44.3**	**+1.9**
	comp=Z,1.7nm,1.0s,baz=29,slow=7.7,SNR=7.8						
ILAR	**Eielson Array**	**45.73**	**332**	P	**P**	**20 57 44.0**	**+1.6**
MDM	**Murphy Dome**	**45.83**	**333**	P	**P**	**20 57 45.2**	**+2.0**
MDM				IAmb	IAmb	20 57 49.0	
	comp=Z,7.7nm,1.2s						
IMAR	**Indian Mountai**	**45.90**	**337**	P	**P**	**20 57 44.4**	**+0.6**
BCAR	**Beaver Creek A**	**46.15**	**329**	P	**P**	**20 57 47.7**	**+1.8**
ZALV	**Zalesovo Beam**	**47.66**	**51**	P	**P**	**20 57 58.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=323,slow=9.1,SNR=2.4						
V52A	**Sevierville**	**48.10**	**266**	P	**P**	**20 57 58.9**	**-2.4**
KURK	**Kurchatov**	**48.13**	**58**	P	**P**	**20 58 01.0**	**-0.4**
KURK				IAmb	IAmb	20 58 03.5	
	comp=Z,4.5nm,0.9s						
TKL	**Tuckaleechee C**	**48.33**	**267**	P	**P**	**20 58 01.6**	**-1.5**
TKL				IAmb	IAmb	20 58 06.2	
	comp=Z,8.7nm,1.0s						
V51A	**Loudon**	**48.46**	**267**	P	**P**	**20 58 04.5**	**+0.5**
GEYT	**Alibeck**	**50.42**	**84**	P	**P**	**20 58 19.9**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=335,slow=9.9,SNR=2.3						
KKAR	**Karatay Array**	**51.28**	**70**	P	**P**	**20 58 26.6**	**+1.1**
KKAR	**Karatay Array**	**51.28**	**70**	P	**P**	**20 58 26.2**	**+0.7**
KKAR				IAmb	IAmb	20 58 28.7	
	comp=Z,6.2nm,1.4s						
MKAR	**Makanchi Array**	**52.74**	**58**	P	**P**	**20 58 36.0**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=347,slow=5.0,SNR=6.9						
MKAR	**Makanchi Array**	**52.74**	**58**		**P**	**20 58 36.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**53.10**	**156**	P	**P**	**20 58 38.5**	**-0.7**
	comp=Z,123nm,1.0s,baz=343,slow=8.5,SNR=5.5						
BW06	**Boulder Array**	**53.20**	**293**	P	**P**	**20 58 39.7**	**-0.3**
PD31	**Pinedale Array**	**53.20**	**293**	P	**P**	**20 58 39.8**	**-0.2**
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	**20 58 39.5**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=56,slow=6.3,SNR=13						
PDAR				LR	LR	21 22 33.0	
	comp=Z,139nm,19.6s,baz=248,slow=38						
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	**20 58 40.6**	**+0.5**
BTK	**Batken**	**53.97**	**72**		**P**	**20 58 46.4**	**+0.9**
BTK				IAmb	IAmb	20 58 51.9	
	comp=Z,6.0nm,1.1s						
GAR	**Garm**	**54.66**	**73**		**P**	**20 58 51.8**	**+1.2**
PV13	**Radium Mtn., P**	**56.82**	**290**	P	**P**	**20 59 07.3**	**+1.1**
PV13				IAmb	IAmb	20 59 10.0	
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**59.67**	**40**	P	**P**	**20 59 26.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=308,slow=4.7,SNR=5.3						
SONM	**Songino Array**	**59.67**	**40**	P	**P**	**20 59 25.9**	**0.0**
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**20 59 45.7**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=15,slow=5.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**84.15**	**59**	P	**P**	**21 01 53.0**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=313,slow=6.6,SNR=7.7						

VAO ***22*** *21:01:58.8±0.3, 21°.52S×67°.32W, h290km±5km, mb4.1*
NEIC ***22*** *21:01:59.5±1.6, 21°.54S±0°.07×66°.61W±0°.10, h218km±6km, mb4.0/12, Error ellipse: s-maj=12.9km s-min=9.5km az=91.0*
IDC ***22*** *21:01:59.2±0.8, 21°.48S×66°.58W, h214km±9km, mb3.8/4, mb1 3.8/11, mb1mx3.6/35, mbtmp4.3/11, Error ellipse: s-maj=16.0km s-min=10.3km az=122.0*
SCB ***22*** *21:02:01.2±1.5, 21°.49S×66°.72W, h226km±10km, ML3.6/2, Error ellipse: s-maj=6.6km s-min=4.1km az=0.0*

ISC 22 21:01:59.7±0.6**, 21°.48S**±0°.05×**66°.71W**±0°.04**, h224**km±6km**, n124,** σ1$**34/146, mb4.0/9, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.03**	**77**	P	**Pn**	**21 02 34.0**	**+1.3**
MOCB				S	**S**	**21 02 58.6**	**+0.2**
YJA	**Yavi**	**1.31**	**122**	P	**Pn**	**21 02 35.7**	**+1.1**
LVC	**Limon Verde**	**2.33**	**241**	P	**Pn**	**21 02 44.6**	**+0.9**
	44nm,0.3s,baz=54,slow=7.0,SNR=227						
LVC				S	**S**	**21 03 18.0**	**0.0**
	20nm,0.3s,baz=214,slow=19,SNR=36						
LVC	**Limon Verde**	**2.33**	**241**	*e*P	**Pn**	**21 02 44.7**	**+0.9**
LVC				*e*S	**S**	**21 03 17.9**	**0.0**
PB09	**IPOC Station P**	**2.37**	**262**	*e*P	**Pn**	**21 02 45.1**	**+1.1**
PB09				*i* S	**S**	**21 03 19.5**	**+1.0**
PB09	**IPOC Station P**	**2.37**	**262**		**Pn**	**21 02 45.1**	**+1.1**
PB09				S	**S**	**21 03 19.8**	**+1.3**
PB09	**IPOC Station P**	**2.37**	**262**	P	**Pn**	**21 02 45.2**	**+1.2**
PB01	**IPOC Station P**	**2.62**	**279**	*e*P	**Pn**	**21 02 47.0**	**+0.4**
PB01				*i* S	**S**	**21 03 22.8**	**-0.3**
PB01	**IPOC Station P**	**2.62**	**279**		**Pn**	**21 02 47.2**	**+0.6**
PB01				S	**S**	**21 03 23.2**	**+0.1**
PB01	**IPOC Station P**	**2.62**	**279**	P	**Pn**	**21 02 47.7**	**+1.1**
PB08	**IPOC Station P**	**2.65**	**300**	*e*P	**Pn**	**21 02 48.6**	**+1.4**
PB08				*i* S	**S**	**21 03 24.8**	**+0.7**
PB08	**IPOC Station P**	**2.65**	**300**		**Pn**	**21 02 48.8**	**+1.7**
PB08				S	**S**	**21 03 25.0**	**+0.9**
PB08	**IPOC Station P**	**2.65**	**300**	P	**Pn**	**21 02 48.2**	**+1.0**
PB06	**IPOC Station P**	**2.92**	**245**	*e*P	**Pn**	**21 02 50.2**	**+0.3**
PB06				*i* S	**S**	**21 03 28.6**	**-0.5**
PB06	**IPOC Station P**	**2.92**	**245**		**Pn**	**21 02 49.7**	**-0.2**
PB06	**IPOC Station P**	**2.92**	**245**	P	**Pn**	**21 02 50.7**	**+0.8**
PB06				S	**S**	**21 03 28.2**	**-0.9**
PB06				IAML		21 03 30.0	
	123nm,0.4s						
GO01	**Chusmiza**	**2.94**	**307**	*e*P	**Pn**	**21 02 51.6**	**+1.0**
GO01	**Chusmiza**	**2.94**	**307**		**Pn**	**21 02 51.8**	**+1.2**
PB07	**IPOC Station P**	**2.96**	**265**	*e*P	**Pn**	**21 02 51.0**	**+0.5**
PB07				*i* S	**S**	**21 03 28.7**	**-1.3**
PB07	**IPOC Station P**	**2.96**	**265**		**Pn**	**21 02 51.0**	**+0.5**
PB02	**IPOC Station P**	**2.97**	**273**	*e*P	**Pn**	**21 02 50.6**	**+0.2**
PB02				*i* S	**S**	**21 03 28.5**	**-1.5**
PB02	**IPOC Station P**	**2.97**	**273**	P	**Pn**	**21 02 51.3**	**+0.9**
PB02				S	**S**	**21 03 28.6**	**-1.5**
PB02				IAML		21 03 30.8	
	114nm,0.5s						
PB15	**IPOC Station P**	**3.08**	**236**		**Pn**	**21 02 52.3**	**+0.5**
PB11	**IPOC Station P**	**3.25**	**301**	*e*P	**Pn**	**21 02 54.0**	**+0.4**
PB11	**IPOC Station P**	**3.25**	**301**		**Pn**	**21 02 54.2**	**+0.5**
PB11	**IPOC Station P**	**3.25**	**301**	P	**Pn**	**21 02 54.5**	**+0.8**
PATCX	**Punta Patache**	**3.28**	**281**	*e*P	**Pn**	**21 02 54.2**	**+0.3**
PATCX				*i* S	**S**	**21 03 34.6**	**-1.7**
PATCX	**Punta Patache**	**3.28**	**281**		**Pn**	**21 02 54.4**	**+0.4**
PB04	**IPOC Station P**	**3.30**	**255**	*e*P	**Pn**	**21 02 54.7**	**+0.4**
PB04				*i* S	**S**	**21 03 35.0**	**-2.0**
PB04	**IPOC Station P**	**3.30**	**255**		**Pn**	**21 02 54.6**	**+0.4**
PB04	**IPOC Station P**	**3.30**	**255**	P	**Pn**	**21 02 55.0**	**+0.7**
TA01	**Diego Aracena**	**3.37**	**285**	*e*P	**Pn**	**21 02 54.5**	**-0.3**
TA01				*i* S	**S**	**21 03 35.5**	**-2.5**
TA01	**Diego Aracena**	**3.37**	**285**	Pn	**Pn**	**21 02 54.9**	**0.0**
SLA	**San Lorenzo**	**3.41**	**161**	P	**Pn**	**21 02 55.7**	**+0.2**
MNMC	**Minye Minye**	**3.58**	**310**	*e*P	**Pn**	**21 02 58.6**	**+1.0**
MNMC				*i* S	**S**	**21 03 42.8**	**-0.3**
MNMC	**Minye Minye**	**3.58**	**310**		**Pn**	**21 02 58.7**	**+1.0**
MNMC	**Minye Minye**	**3.58**	**310**	P	**Pn**	**21 02 58.7**	**+1.0**
PSGC	**Pisagua**	**3.71**	**300**	*e*P	**Pn**	**21 02 58.3**	**-0.7**
PSGC				*i* S	**S**	**21 03 43.0**	**-2.5**
PSGC	**Pisagua**	**3.71**	**300**	P	**Pn**	**21 02 59.4**	**+0.4**
PSGCX	**Pisagua**	**3.71**	**300**		**Pn**	**21 02 58.6**	**-0.4**
GO02	**Mina Guanaco**	**4.52**	**215**		**Pn**	**21 03 09.1**	**+0.1**
AP01	**Chacalluta**	**4.61**	**312**	Pn	**Pn**	**21 03 09.8**	**-0.1**
PB14	**IPOC Station P**	**4.62**	**227**		**Pn**	**21 03 10.4**	**+0.1**
BBOE	**La Paz, Chanca**	**4.80**	**345**	P	**Pn**	**21 03 13.6**	**+0.7**
LPAZ	**La Paz**	**5.34**	**345**	P	**Pn**	**21 03 20.9**	**+1.3**
	14nm,0.3s,baz=97,slow=3.3,SNR=111						
LPAZ				S	**S**	**21 04 23.4**	**+0.6**
	baz=322,slow=18,SNR=1.0						
LPAZ	**La Paz**	**5.34**	**345**		**Pn**	**21 03 21.1**	**+1.4**
LPAZ	**La Paz**	**5.34**	**345**	P	**Pn**	**21 03 20.5**	**+0.8**
LPAZ	**La Paz**	**5.34**	**345**	*e*P	**Pn**	**21 03 20.6**	**+0.9**
LPAZ				*e*S	**S**	**21 04 23.2**	**+0.3**
BS09	**Huarina**	**5.56**	**341**	P	**Pn**	**21 03 23.3**	**+0.9**
AC02	**Maricunga**	**5.77**	**202**	Pn	**Pn**	**21 03 24.6**	**-0.3**
AC01	**Pan de Azucar**	**5.85**	**217**	Pn	**Pn**	**21 03 23.8**	**-1.6**
GO03	**Copiap**	**6.88**	**207**		**Pn**	**21 03 36.6**	**-2.0**
SIV	**San Ignacio**	**7.64**	**45**	P	**Pn**	**21 03 47.4**	**-1.1**
	5.6nm,0.3s,baz=255,slow=8.7,SNR=78						
SIV				S	**S**	**21 05 11.1**	**-4.4**
	0.5nm,0.3s,baz=304,slow=18,SNR=3.9						
SIV	**San Ignacio**	**7.64**	**45**	P	**Pn**	**21 03 48.3**	**-0.2**
AC05	**El Transito**	**8.00**	**203**		**Pn**	**21 03 51.5**	**-1.5**
LCO	**Las Campanas**	**8.32**	**205**		**Pn**	**21 03 54.9**	**-2.3**
CO01	**Juntas del Tor**	**8.99**	**199**		**Pn**	**21 04 05.2**	**-0.6**
CPUP	**Villa Florida**	**9.85**	**121**	P	**Pn**	**21 04 16.6**	**-0.1**
	0.2nm,0.3s,baz=310,slow=11,SNR=5.1						
CPUP	**Villa Florida**	**9.85**	**121**		**Pn**	**21 04 16.6**	**0.0**
CO03	**El Pedregal**	**9.98**	**200**	Pn	**Pn**	**21 04 16.3**	**-2.1**
ZON	**Zonda**	**10.17**	**190**		**Pn**	**21 04 19.0**	**-1.8**
VILB	**Vilhena**	**10.52**	**37**	*e*P	**Pn**	**21 04 28.0**	**+2.7**
ETMB	**Extrema**	**11.61**	**2**	*e*P	**Pn**	**21 04 38.1**	**-1.1**
VA03	**San Esteban**	**11.74**	**196**		**Pn**	**21 04 40.1**	**-0.7**
SAML	**Samuel**	**12.92**	**16**		**Pn**	**21 04 55.1**	**-0.5**
SAML	**Samuel**	**12.92**	**16**	*e*P	**Pn**	**21 04 55.1**	**-0.5**
TRCB	**Terra Rica**	**13.11**	**98**	*e*P	**P**	**21 05 02.1**	**+1.8**
NNA	**Nana**	**13.53**	**313**	P	**P**	**21 05 05.9**	**+0.9**
	1.6nm,0.3s,baz=152,slow=14,SNR=4.7						
PTGB	**Pitanga**	**13.86**	**106**	*e*P	**P**	**21 05 11.1**	**+2.5**
PCMB	**Pacaembu**	**14.38**	**93**	*e*P	**P**	**21 05 15.7**	**+1.4**
ITAB	**Concordia**	**14.46**	**116**	*e*P	**P**	**21 05 15.8**	**+0.7**
CZSB	**Cruzeiro do Su**	**14.85**	**336**	*e*P	Pn	21 05 12.8	-6.4
CLDB	**Colider**	**14.86**	**46**	*e*P	**P**	**21 05 19.9**	**+0.2**
CPSB	**Cacapava Do Su**	**14.87**	**129**	*e*P	**P**	**21 05 20.3**	**+0.7**
ARAG	**Araguaiana, MT**	**15.24**	**70**	*e*P	**Pn**	**21 05 24.9**	**+0.9**
ITRB	**Iturama**	**15.42**	**86**	*e*P	**Pn**	**21 05 27.9**	**+1.8**
BI02	**San Fabin de**	**15.64**	**194**	P	**Pn**	**21 05 28.3**	**-0.4**
FRTB	**Fartura**	**15.97**	**100**	*e*P	**Pn**	**21 05 33.0**	**+0.4**
CNLB	**Canela**	**16.30**	**122**	*e*P	**P**	**21 05 35.7**	**+0.2**
TIJ01	**Guaruva-PR**	**16.70**	**107**	*e*P	**Pn**	**21 05 41.6**	**+0.2**
BB19B	**Bebedouro**	**16.96**	**92**	*e*P	**Pn**	**21 05 43.6**	**-0.8**
SNDB	**Serra Nova Dou**	**17.52**	**60**	*e*P	**P**	**21 05 49.0**	**+0.1**
IPMB	**Ipameri, GO**	**17.76**	**82**	*e*P	**P**	**21 05 52.1**	**+0.6**
NPGB	**Novo Progresso**	**18.07**	**39**	*e*P	**P**	**21 05 54.1**	**-0.7**
PET01	**Itanhaem-SP**	**18.13**	**103**	*e*P	**P**	**21 05 55.4**	**0.0**
VAO	**Valinhos**	**18.34**	**98**	*e*P	**P**	**21 05 57.8**	**-0.1**
BDFB	**Brasilia**	**18.65**	**75**	P	**P**	**21 06 00.8**	**-0.4**
	1.4nm,0.3s,baz=229,slow=7.9,SNR=7.4						
BDFB	**Brasilia**	**18.65**	**75**	P	**P**	**21 06 00.8**	**-0.4**
BDFB				IAmb	IAmb	21 06 02.2	
	comp=Z,6.1nm,1.1s						
MACA	**Manacapuru-AM**	**19.13**	**19**	*e*P	**P**	**21 06 03.1**	**-3.2**
PLCA	**Paso Flores**	**19.46**	**189**	P	**P**	**21 06 11.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=17,slow=10,SNR=4.6						
PLCA	**Paso Flores**	**19.46**	**189**	P	**P**	**21 06 11.0**	**+1.3**
PLCA				IAmb	IAmb	21 06 13.9	
	comp=Z,3.8nm,1.1s						
PLCA	**Paso Flores**	**19.46**	**189**	*e*P	**P**	**21 06 02.7**	**-7.0**
PARB	**Paraibuna**	**19.59**	**99**	*e*P	**P**	**21 06 10.4**	**-0.7**
ITTB	**Itaituba**	**20.08**	**34**	*e*P	**P**	**21 06 15.4**	**-1.0**
BSCB	**Bom Sucesso**	**20.46**	**93**	*e*P	**P**	**21 06 20.9**	**+0.4**
MAN01	**Angra dos Reis**	**21.11**	**98**	*e*P	**P**	**21 06 26.2**	**-1.2**
VAS01	**Vassouras-RJ**	**21.61**	**96**	*e*P	**P**	**21 06 31.6**	**-0.7**
JANB	**Januaria**	**22.20**	**77**	*e*P	**P**	**21 06 36.6**	**-1.3**
SMTB	**Santa Maria do**	**22.29**	**59**	*e*P	**P**	**21 06 37.5**	**-1.2**
SDBA	**SAO DESIDERIO**	**22.71**	**70**	*e*P	**P**	**21 06 41.4**	**-1.1**
GDU01	**Guandu, BA**	**26.96**	**78**	*e*P	**P**	**21 07 19.2**	**-1.7**
SNAA	**Sanae**	**61.63**	**161**	P	**P**	**21 11 53.4**	**+0.1**
TXAR	**Lajitas Array**	**61.81**	**323**	P	**P**	**21 11 58.7**	**+3.5**
TX31	**Lajitas Ar. Si**	**61.81**	**323**	P	**P**	**21 11 58.7**	**+3.6**
TX31				IAmb	IAmb	21 12 02.1	
	comp=Z,2.8nm,1.1s						
QSPA	**South Pole Qui**	**68.71**	**180**	P	**P**	**21 12 39.9**	**+1.0**
QSPA				IAmb	IAmb	21 12 41.1	
	comp=Z,5.2nm,0.9s						
KOWA	**Kowa**	**71.14**	**65**	P	**P**	**21 12 53.3**	**-1.1**
KOWA				IAmb	IAmb	21 12 54.3	
	comp=Z,2.3nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.43**	**69**	P	**P**	**21 13 18.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**75.43**	**69**	P	**P**	**21 13 18.4**	**-1.0**
	comp=Z,4.8nm,0.5s,baz=256,slow=5.2,SNR=69						
SPUT	**South Promonto**	**75.51**	**326**	P	**P**	**21 13 20.7**	**+1.1**
BOSA	**Boshof**	**81.64**	**117**	P	**P**	**21 13 53.3**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=253,slow=5.6,SNR=10						
BOSA	**Boshof**	**81.64**	**117**	P	**P**	**21 13 53.2**	**-0.1**
BOSA				IAmb	IAmb	21 14 09.4	
	comp=Z,4.1nm,1.1s						
LBTB	**Lobatse**	**83.16**	**114**	P	**P**	**21 14 00.9**	**-0.3**
LBTB				IAmb	IAmb	21 14 06.3	
	comp=Z,4.3nm,1.1s						
MAW	**Mawson**	**83.75**	**163**	P	**P**	**21 14 04.5**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=246,slow=6.2,SNR=4.7						
MAW	**Mawson**	**83.75**	**163**	P	**P**	**21 14 03.9**	**+0.7**
ESDC	**Sonseca Array**	**84.40**	**44**	P	**P**	**21 14 07.4**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=251,slow=4.5,SNR=6.3						
YKA	**Yellowknife Ar**	**91.86**	**340**	P	**P**	**21 14 42.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=133,slow=4.2,SNR=6.2						
ASAR	**Alice Springs**	**130.84**	**205**	PKP	**PKiKP**	**21 20 45.0**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=131,slow=1.8,SNR=13						
WRA	**Warramunga Arr**	**133.97**	**208**	PKP	**PKiKP**	**21 20 51.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=154,slow=1.8,SNR=19						
WRA	**Warramunga Arr**	**133.97**	**208**		**PKiKP**	**21 20 51.5**	**-0.9**
KURBB	**Kurchatov Arra**	**140.18**	**35**	PKP	**PKiKP**	**21 21 02.2**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=290,slow=3.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**141.05**	**27**	PKP	**PKiKP**	**21 21 03.6**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=330,slow=5.1,SNR=5.0						
MKAR	**Makanchi Array**	**144.40**	**37**	PKP	**PKPdf**	**21 21 08.7**	**-0.4**
	comp=Z,8.5nm,0.8s,baz=317,slow=4.0,SNR=49						
MKAR	**Makanchi Array**	**144.40**	**37**		**PKPdf**	**21 21 08.9**	**-0.3**
SONM	**Songino Array**	**153.13**	**10**	PKP	**PKPdf**	**21 21 24.7**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=316,slow=2.1,SNR=5.5						
SONM				PKPbc	**PKiKP**	**21 21 31.6**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=320,slow=2.2,SNR=7.6						

IDC 22 21:15:47.7±5.7**, 49°.16N**×**129°.43W, h0**km**, mb3.3**/1**, mb1 3.8**/4**, mb1mx3.3**/55**, mbtmp3.4**/4**, ML3.3**/3**, MS4.0**/1**, Ms1 3.9**/1**, ms1mx2.8**/20**, Error ellipse: s-maj=121.5km s-min

UCH	**Uchtor**	**5.91**	**20**	P		**Pn**	**21 47 50.8**	**+0.2**
	SNR=19							
EKS2	**Erkin-Say**	**6.15**	**14**	P		**Pn**	**21 47 57.9**	**+4.2**
	SNR=7.1							
AAK	**Ala-Archa**	**6.29**	**19**	P		**Pn**	**21 47 56.3**	**+0.8**
	SNR=15							
AAK	**Ala-Archa**	**6.29**	**19**	⇑Pn		**Pn**	**21 47 55.9**	**+0.4**
	8.1nm,0.5s							
AAK				⇑Sn		**Sn**	**21 49 06.3**	**-1.2**
	42nm,0.8s							
KK31	**Karatay Array**	**6.47**	**352**	Pn		**Pn**	**21 47 58.1**	**+0.1**
	6.0nm,0.7s,baz=178,slow=15,SNR=48							
KK31				⇑Sn		**Sn**	**21 49 07.1**	**-4.7**
	8.2nm,0.6s,baz=173,slow=17,SNR=3.7							
ULHL	**Ulahol**	**6.52**	**30**	P		**Pn**	**21 47 59.6**	**+0.8**
	SNR=6.3							
CHMS	**Chumysh**	**6.69**	**19**	P		**Pn**	**21 48 00.5**	**-0.5**
	SNR=11							
TKM2	**Tokmak 2**	**6.87**	**24**	⇑Pn		**Pn**	**21 48 04.8**	**+1.2**
	3.2nm,0.6s							
TKM2				⇓Sn		**Sn**	**21 49 22.8**	**+0.9**
	5.1nm,0.7s							
SGDS	**Sogindy**	**7.09**	**17**	Lg	Lg		21 49 24.5	
	13nm,0.7s							
KST	**Kastek**	**7.10**	**26**	P		**Pn**	**21 48 08.6**	**+1.9**
	7.5nm,0.8s							
DGS	**Degeres**	**7.21**	**24**	P		**Pn**	**21 48 10.1**	**+1.8**
	4.5nm,0.8s							
MTBS	**Maitube**	**7.34**	**28**	P		**Pn**	**21 48 12.2**	**+2.2**
	11nm,0.5s							
TNSS	**Tian-Shan**	**7.47**	**30**	P		**Pn**	**21 48 13.9**	**+1.9**
	3.4nm,0.8s							
KOTS	**Kotyrbulak**	**7.70**	**30**	P		**Pn**	**21 48 17.3**	**+2.4**
	6.6nm,0.3s							
KTBS	**Karatobe**	**7.94**	**27**	P		**Pn**	**21 48 21.0**	**+2.8**
	2.8nm,0.5s							
KUU	**Kurty**	**7.98**	**24**	P		**Pn**	**21 48 21.9**	**+3.3**
	1.2nm,0.5s							
SATY	**Saty**	**8.13**	**37**	P		**Pn**	**21 48 23.7**	**+2.8**
	3.9nm,0.8s							
CHKK	**Chushkaly**	**8.17**	**27**	P		**Pn**	**21 48 23.8**	**+2.5**
	2.0nm,0.2s							
KURS	**Kuram**	**8.36**	**34**	P		**Pn**	**21 48 27.8**	**+3.9**
	6.4nm,1.2s							
GEYT	**Alibeck**	**10.96**	**281**	Pn		**Pn**	**21 49 01.0**	**+1.4**
	1.2nm,0.3s,baz=116,slow=10,SNR=8.9							
GEYT				Sn		**Sn**	**21 51 02.1**	**-0.2**
	0.3nm,0.3s,baz=41,slow=14,SNR=3.4							
GYA0B	**ALIBECK ARRAY**	**10.96**	**281**	⇑Pn		**Pn**	**21 49 00.4**	**+0.8**
GYA0B				⇑Sn		**Sn**	**21 51 01.9**	**-0.4**
MK31	**Makanchi Array**	**12.76**	**35**	⇑Pn		**Pn**	**21 49 27.7**	**+3.6**
	1.3nm,0.7s,baz=228,slow=14,SNR=4.1							
MKAR	**Makanchi Array**	**12.76**	**35**	Pn		**Pn**	**21 49 26.9**	**+2.8**
	0.1nm,0.3s,baz=225,slow=14,SNR=4.2							
PYUN	**Piuthan**	**12.76**	**129**	*eP*		**Pn**	**21 49 22.9**	**-1.5**
	18nm,0.6s							
DANN	**Dangsing**	**13.08**	**126**	*eP*		**Pn**	**21 49 28.3**	**-0.5**
	6.8nm,0.4s							
KOLN	**Koldanda**	**13.37**	**128**	*eP*		**Pn**	**21 49 30.6**	**-2.1**
	10nm,0.7s							
GKN	**Gorkha**	**13.88**	**125**	*eP*		**Pn**	**21 49 39.0**	**-0.7**
	11nm,0.6s							
KKN	**Kakani**	**14.45**	**124**	*eP*		**Pn**	**21 49 44.6**	**-2.9**
	9.6nm,0.6s							
DMN	**Daman**	**14.46**	**125**	*eP*		**Pn**	**21 49 44.9**	**-2.7**
	8.1nm,0.6s							
PKIN	**Phulchoki**	**14.67**	**124**	*eP*		**Pn**	**21 49 47.0**	**-3.5**
	6.7nm,0.5s							
PKI	**Pulchoki**	**14.68**	**124**	*eP*		**Pn**	**21 49 47.8**	**-2.9**
	9.8nm,0.7s							
KURBB	**Kurchatov Arra**	**14.74**	**17**	Pn		**Pn**	**21 49 53.3**	**+2.3**
	0.1nm,0.3s,baz=208,slow=10,SNR=13							
KURBB	**Kurchatov Arra**	**14.74**	**17**	⇑Pn		**Pn**	**21 49 52.5**	**+1.4**
	4.5nm,0.9s							
GUN	**Gumba**	**14.78**	**122**	*eP*		**Pn**	**21 49 50.2**	**-1.8**
	4.4nm,0.5s							
AB31	**Akbulak array**	**15.23**	**329**	Pn		**Pn**	**21 49 54.5**	**-3.1**
	0.5nm,0.4s,baz=141,slow=13,SNR=20							
BVAR	**Borovoye Array**	**16.35**	**357**	Pn		**Pn**	**21 50 13.3**	**+1.1**
	0.1nm,0.3s,baz=205,slow=20,SNR=2.3							
BRVK	**Borovoye**	**16.39**	**357**	⇓Pn		**Pn**	**21 50 13.1**	**+0.4**
	6.8nm,1.6s							
AKTO	**Aktyubinsk**	**16.93**	**328**	Pn		**Pn**	**21 50 21.1**	**+1.5**
	0.5nm,0.3s,baz=153,slow=8.9,SNR=11							
AKTO				Sn		**Sn**	**21 53 23.5**	**-4.2**
	0.0nm,0.3s,baz=137,slow=17,SNR=3.1							
AKTO	**Aktyubinsk**	**16.93**	**328**	⇑Pn		**Pn**	**21 50 19.8**	**+0.2**
	11nm,1.0s							
ZALV	**Zalesovo Beam**	**19.47**	**24**	P		**P**	**21 50 47.6**	**-1.8**
	0.2nm,0.3s,baz=196,slow=10,SNR=8.6							
SONM	**Songino Array**	**27.70**	**55**	P		**P**	**21 52 12.1**	**+1.1**
	0.8nm,0.9s,baz=264,slow=7.1,SNR=3.3							
CMAR	**Chiang Mai Arr**	**30.00**	**120**	P		**P**	**21 52 30.3**	**-1.2**
	0.2nm,0.3s,baz=310,slow=9.1,SNR=2.5							
NOA	**NORSAR Array B**	**44.60**	**323**	P		**P**	**21 54 38.4**	**+3.6**
	1.1nm,0.8s,baz=93,slow=8.0,SNR=3.7							
ESDC	**Sonseca Array**	**57.93**	**298**	P		**P**	**21 56 16.4**	**+1.2**
	0.6nm,0.9s,baz=90,slow=9.0,SNR=3.2							
TORD	**Torodi Ar. Bea**	**66.36**	**269**	P		**P**	**21 57 11.5**	**-0.4**
	100nm,0.9s,baz=40,slow=5.3,SNR=2.6							
WRA	**Warramunga Arr**	**81.56**	**122**	P		**P**	**21 58 40.4**	**-0.3**
	0.4nm,0.8s,baz=323,slow=5.0,SNR=6.7							
ASAR	**Alice Springs**	**83.85**	**125**	P		**P**	**21 58 51.0**	**-1.6**
	0.2nm,0.4s,baz=316,slow=5.2,SNR=1.6							

*KRNET **22** 21:53:35.5±0.1, 42.˚68N×72.˚95E, h21km, mb1.9*
*SOME **22** 21:53:35.2, 42.˚73N×72.˚95E, h5km*
*NNC **22** 21:53:36.1±0.6, 42.˚78N×72.˚99E, h0km, mb2.7, mpv2.5,*
Error ellipse: s-maj=14.4km s-min=3.2km az=171.0
ISC 22 21:53:35.9±0.9, **42.˚67N**±0.˚04×**72.˚96E**±0.˚02, **h15**km±7km, **n22**, σ0**86**/38, **21C-1D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.21**	**69**	*eP*		**Pg**	**21 53 40.8**	**0.0**
	baz=71							
MRKS				*eS*		**Sg**	**21 53 44.0**	**-0.1**
	baz=71							
MRKS	**Merke**	**0.21**	**69**	*eP*		**Pg**	**21 53 40.8**	**0.0**
	7.9nm,0.1s							
MRKS				*eS*		**Sg**	**21 53 44.0**	**-0.1**
	83nm,0.1s							
MNAS	**Manas**	**0.38**	**242**	⇑*iP*		**Pg**	**21 53 43.2**	**-0.5**
	baz=40							
MNAS				⇑*iS*		**Sg**	**21 53 48.6**	**-0.4**
	baz=40							
EKS2	**Erkin-Say**	**0.60**	**91**	⇑*iP*		**Pg**	**21 53 47.6**	**-0.2**
	baz=91							
EKS2				⇑*iS*		**Sg**	**21 53 55.9**	**+0.1**
	baz=91							
AML	**Almayashu**	**0.77**	**134**	⇑*iP*		**Pg**	**21 53 50.4**	**-0.5**
	baz=35							
AML				⇑*iS*		**Sg**	**21 54 00.8**	**-0.2**
	baz=35							
AAK	**Ala-Archa**	**1.13**	**91**	⇑*iP*		**Pg**	**21 53 57.0**	**-0.8**
	baz=91							
AAK				⇑*iS*		**Sg**	**21 54 12.1**	**-0.5**
	baz=91							
UCH	**Uchtor**	**1.23**	**111**	⇑*iP*		**Pg**	**21 53 58.9**	**-0.8**
	baz=11							
UCH				⇑*iS*		**Sg**	**21 54 15.4**	**-0.4**
	baz=11							
USP	**Ospenovka**	**1.28**	**62**	⇑*iP*		**Pg**	**21 53 59.1**	**-1.4**
	baz=62							
USP				⇑*iS*		**Sg**	**21 54 15.9**	**-1.3**
	baz=62							
ARLS	**Aral**	**1.30**	**128**	⇑*iP*		**Pn**	**21 53 59.4**	**-0.2**
	baz=28							
ARLS				⇑*iS*		**Sg**	**21 54 16.3**	**-1.4**
	baz=28							
CHMS	**Chumysh**	**1.36**	**75**	⇑*iP*		**Pn**	**21 54 00.5**	**+0.1**
	baz=76							
CHMS				⇑*iS*		**Sg**	**21 54 18.2**	**-1.5**
	baz=76							
SGDS	**Sogindy**	**1.45**	**57**	P		**Pn**	**21 54 02.1**	**+0.4**
	1.5nm,0.1s							
SGDS				S		**Sb**	**21 54 20.9**	**-0.1**
	2.4nm,0.1s							
KBK	**Karagaybulak**	**1.47**	**90**	⇑*iP*		**Pn**	**21 54 02.8**	**+0.8**
	baz=90							
KBK				⇑*iS*		**Sb**	**21 54 21.8**	**+0.3**
	baz=90							
KK31	**Karatay Array**	**1.85**	**284**	⇑Pg		**Pb**	**21 54 09.1**	**-0.3**
	0.2nm,0.3s							
KK31				⇑Lg		Lg	21 54 34.8	
	0.6nm,0.5s							
TKM2	**Tokmak 2**	**1.96**	**82**	⇑Pg		**Pn**	**21 54 10.3**	**+1.5**
	1.7nm,0.5s							
TKM2				⇓Lg		Lg	21 54 36.2	
	3.3nm,0.7s							
DGS	**Degeres**	**2.14**	**74**	*eP*		**Pb**	**21 54 15.1**	**+0.6**
	0.5nm,0.1s							
DGS				*eS*		**Sg**	**21 54 43.0**	**-1.8**
	3.1nm,0.2s							
DGS	**Degeres**	**2.14**	**74**	Pg		**Pb**	**21 54 15.1**	**+0.6**
	0.5nm,0.1s							
DGS				Lg		Lg	21 54 43.0	
	3.1nm,0.2s							
IUG	**luzhnay**	**2.23**	**257**	*eP*		**Pg**	**21 54 17.7**	**-1.0**
	1.2nm,0.3s							
IUG				*eS*		**Sg**	**21 54 47.9**	**+0.3**
	4.9nm,0.5s							
IUG	**luzhnay**	**2.23**	**257**	Pg		**Pg**	**21 54 18.6**	**0.0**
	2.1nm,0.5s							
IUG				Lg		Lg	21 54 49.4	
	4.4nm,0.5s							
KRBS	**Karabastau**	**2.24**	**62**	*eP*		**Pb**	**21 54 16.4**	**+0.3**
	0.7nm,0.2s							
KRBS				*eS*		**Sb**	**21 54 44.9**	**+1.4**
	1.8nm,0.5s							
KRBS	**Karabastau**	**2.24**	**62**	Pg		**Pb**	**21 54 16.4**	**+0.3**
	0.7nm,0.2s							
KRBS				Lg		Lg	21 54 44.9	
	1.8nm,0.5s							
KST	**Kastek**	**2.24**	**79**	*eP*		**Pb**	**21 54 17.2**	**+1.1**
	0.9nm,0.2s							
KST				*eS*		**Sg**	**21 54 46.4**	**-1.5**
	3.6nm,0.7s							
KST	**Kastek**	**2.24**	**79**	Pg		**Pb**	**21 54 17.2**	**+1.1**
	0.9nm,0.2s							
KST				Lg		Lg	21 54 46.4	
	3.6nm,0.7s							

*MOS **22** 21:56:54.9±0.9, 14.˚99N×44.˚94W, h15km, mb5.2/25, Error ellipse: s-maj=6.6km s-min=5.1km az=137.5*
*IDC **22** 21:56:54.9±0.4, 15.˚00N×44.˚91W, h0km, mb4.6/28, mb1 4.8/30, mb1mx4.7/38, mbtmp4.6/30, ML4.2/2, MS4.0/27, Ms1 4.0/27, ms1mx3.9/37, Error ellipse: s-maj=12.7km s-min=10.7km az=137.0*
*NEIC **22** 21:56:56.0±1.0, 14.˚95N±0.˚09×44.˚94W±0.˚08, h10km±1km, mb5.3/257, Error ellipse: s-maj=14.8km s-min=13.4km az=158.0*
*BJI **22** 21:56:55.1±0.0, 15.˚10N×45.˚23W, h15km, mB5.5/7, Ms5.2/4, Ms7 4.9/4*
*BGR **22** 21:56:58.0±0.0, 13.˚79N×44.˚07W, h33km, mb5.3*
*GCMT **22** 21:57:00.0±0.3, 14.˚95N±0.˚03×44.˚87W±0.˚02, h22km±1km, MW4.9/88, Moment Tensor Solution. s26,c27; s88,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06±.17; $M_{\theta\theta}$0.17±.10; $M_{\phi\phi}$1.88±.11; $M_{r\theta}$-1.28±.20; $M_{r\phi}$-0.70±.07; $M_{\theta\phi}$-0.35±.15; Best double couple: M≈2.42700×10^{16} NP1:φ×4.00000°, δ49.00000°, λ-54.00000°. NP2: φ≈136.00000°, δ52.00000°, λ-124.00000°. Principal axes: T 2.1310, Plg2.0000°, Azm249.0000°; N 0.5850, Plg27.0000°, Azm159.0000°; P -2.7230, Plg63.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 21:56:56.4±0.5, **15.˚01N**±0.˚05×**44.˚91W**±0.˚05, **h12**km±3km, **h12**km:**pP-P, n819,** σ1**9**/**04**/816, **mb5.2**/221, **MS4.0**/28, **13C-30D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.44**	**218**	Pn		**Pn**	**21 59 53.7**	**+0.2**
	2.2nm,0.3s,baz=26,slow=14,SNR=52							
MDP				Sn		Sn	22 02 03.2	-8.9
	0.5nm,0.3s,baz=292,slow=22,SNR=2.6							
MDP				LR		LR	22 03 46.6	
	comp=Z,935nm,20.0s,baz=47,slow=33							
BBGH	**Gun Hill**	**14.34**	**264**	*e*		**P**	**22 00 25.0**	**-1.5**
H05S1	**Guadeloupe/Mar**	**15.42**	**270**	T		T	22 16 28.8	
	SNR=25							
ILAM	**Ilet Lapin Mar**	**15.44**	**271**	*e*		**Pn**	**22 00 35.6**	**+1.4**
MPOM	**Morne Pois Mar**	**15.44**	**270**	*e*		**Pn**	**22 00 35.9**	**+1.6**
SLBI	**Saint Lucia, B**	**15.59**	**268**	*e*		**Pn**	**22 00 37.2**	**+1.1**
MCLT	**Moule a Chique**	**15.59**	**267**	*e*		**P**	**22 00 38.9**	**-1.5**
H05N1	**Guadeloupe/Mar**	**15.61**	**277**	T		T	22 16 36.5	
	SNR=12							
BIM	**Bigot**	**15.64**	**270**	*e*		**Pn**	**22 00 38.3**	**+1.4**
TOSP	**Speyside**	**15.66**	**258**	*e*		**P**	**22 00 39.3**	**-1.9**
TOSP	**Speyside**	**15.66**	**258**			**Pn**	**22 00 36.7**	**-0.4**
FDF	**Fort de France**	**15.71**	**271**	*e*		**P**	**22 00 40.4**	**-1.4**
FDF	**Fort de France**	**15.71**	**271**	P		**Pn**	**22 00 38.0**	**+0.2**
FDF				pmax		pmax		
	comp=Z,486nm,1.5s							
FDF	**Fort de France**	**15.71**	**271**			**Pn**	**22 00 38.0**	**+0.2**
DLPL	**La Plaine**	**15.78**	**273**	*e*		**P**	**22 00 44.1**	**+1.5**
DLPL	**La Plaine**	**15.78**	**273**	Pn		**Pn**	**22 00 39.2**	**+0.5**
MAGL	**Barre de l'ile**	**15.81**	**276**	*e*		**Pn**	**22 00 40.3**	**+1.2**
DSLB	**Salisbury**	**15.95**	**274**	*e*		**Pn**	**22 00 42.3**	**+1.5**
SVB	**Belmont**	**15.95**	**266**	*e*		**Pn**	**22 00 42.3**	**+1.5**
SVB	**Belmont**	**15.95**	**266**			**Pn**	**22 00 41.1**	**+0.2**
SVB				IAmb		IAmb	22 00 46.8	
	comp=Z,209nm,0.9s							
ABD	**La Joyeuse, An**	**16.03**	**277**	*e*		**P**	**22 00 43.8**	**-1.5**
CBE	**Ff, Capester**	**16.13**	**276**	*e*		**Pn**	**22 00 44.3**	**+1.1**
TDBA	**Terre de Bas,**	**16.15**	**275**	*e*		**Pn**	**22 00 44.6**	**+1.1**
GCMP	**Grenada, Carri**	**16.24**	**263**	*e*		**P**	**22 00 47.7**	**0.0**
ANBD	**Bethesda, Anti**	**16.33**	**279**	*e*		**Pn**	**22 00 44.6**	**-1.2**
ANWB	**Willy Bob**	**16.41**	**282**	*e*		**Pn**	**22 00 45.5**	**-1.3**
ANWB	**Willy Bob**	**16.41**	**282**	Pn		**Pn**	**22 00 46.2**	**-0.6**
BPA	**Boggy Peak**	**16.42**	**279**	*e*		**Pn**	**22 00 46.6**	**-0.3**
GRSS	**Sisters**	**16.46**	**263**	*e*		**P**	**22 00 51.6**	**+1.5**
GRHS	**Sauteurs**	**16.50**	**262**	*e*		**P**	**22 00 50.4**	**-0.1**
GRGR	**Grenville**	**16.53**	**262**	*e*		**Pn**	**22 00 49.4**	**+1.1**
GRGR	**Grenville**	**16.53**	**262**			**Pn**	**22 00 48.0**	**-0.3**
TRN	**Trinidad (W)**	**16.66**	**257**	*e*		**Pn**	**22 00 50.9**	**+1.0**
MLYT	**Lee's Yard**	**16.72**	**278**	*e*		**Pn**	**22 00 51.8**	**+1.1**
MCPB	**Macapa, AP**	**16.83**	**205**	*eP*		**P**	**22 00 53.4**	**-0.8**
SKI	**Saint Kitts**	**17.29**	**280**	*e*		**Pn**	**22 00 57.4**	**-0.5**
SKI	**Saint Kitts**	**17.29**	**280**	P		**Pn**	**22 00 56.8**	**-1.0**
SKI				pmax		pmax		
	comp=Z,274nm,1.5s							
SKI	**Saint Kitts**	**17.29**	**280**	Pn		**Pn**	**22 00 56.8**	**-1.0**
SKI				IAmb		IAmb	22 01 13.8	
	comp=Z,274nm,1.5s							
TMAB	**Tom-Au,PA,Br**	**17.55**	**191**	*eP*		**Pn**	**22 01 01.5**	**+0.3**
ROSB	**Rosrio**	**17.81**	**177**	*eP*		**Pn**	**22 01 04.5**	**+0.3**
ORIV	**Oritupano**	**19.03**	**254**	*e*		**Pn**	**22 01 20.2**	**+1.0**
MALB	**Monte Alegre**	**19.14**	**210**	*eP*		**P**	**22 01 19.9**	**+0.2**
CDVI	**St. Croix**	**19.25**	**281**	P		**P**	**22 01 19.7**	**-1.2**
CUPR	**Culebra, Puert**	**19.80**	**282**	P		**P**	**22 01 26.7**	**-0.2**
PLCV	**Puerto La Cruz**	**19.80**	**258**	P		**P**	**22 01 27.7**	**+0.8**
PCRV	**Puerto La Cruz**	**19.84**	**258**	P		**P**	**22 01 27.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=32,slow=18,SNR=6.7							
MTP	**Monte Pirata**	**20.03**	**282**	P		**P**	**22 01 29.5**	**+0.1**
HUMP	**Col San Antoni**	**20.31**	**282**	P		**P**	**22 01 32.0**	**-0.5**
HUMP				IAmb		IAmb	22 01 39.1	
	comp=Z,168nm,1.4s							
CBYP	**Canovanas**	**20.33**	**282**	P		**P**	**22 01 31.8**	**-1.0**
CBYP				IAmb		IAmb	22 01 36.6	
	comp=Z,214nm,1.9s							
PDPR	**Patillas Dam,**	**20.46**	**281**	P		**P**	**22 01 33.7**	**-0.5**
GCPR	**Guaynabo City**	**20.55**	**282**	P		**P**	**22 01 34.6**	**-0.5**
SACV	**Santiago Islan**	**20.57**	**87**			**P**	**22 01 33.9**	**-1.5**
SACV				IAmb		IAmb	22 01 38.1	
	comp=Z,114nm,1.2s							
SJG	**San Juan**	**20.59**	**282**	P		**P**	**22 01 36.6**	**+1.0**
	comp=Z,25nm,0.6s,baz=91,slow=10,SNR=8.6							
SJG				LR		LR	22 08 14.9	
	comp=Z,516nm,21.4s,baz=104,slow=33							
SJG	**San Juan**	**20.59**	**282**	P		**P**	**22 01 35.3**	**-0.3**
SJG				pmax		pmax		
	comp=Z,388nm,1.8s							
SJG	**San Juan**	**20.59**	**282**	P		**P**	**22 01 35.2**	**-0.3**
ICMP	**Isla Caja de M**	**20.93**	**281**	P		**P**	**22 01 39.1**	**-0.1**
OBIP	**Obispado Ponce**	**21.02**	**281**	P		**P**	**22 01 39.9**	**-0.3**
AOPR	**Arecibo Observ**	**21.19**	**282**	P		**P**	**22 01 40.5**	**-1.5**
AOPR				IAmb		IAmb	22 01 45.7	
	comp=Z,178nm,1.6s							
MLPR	**Magueyes Islan**	**21.43**	**281**	P		**P**	**22 01 43.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**21.49**	**281**	P		**P**	**22 01 43.8**	**-1.5**
PTGA	**Pitinga**	**21.60**	**225**	P		**P**	**22 01 46.6**	**+0.2**
	comp=Z,29nm,0.9s,baz=44,slow=12,SNR=41							
PTGA				LR		LR	22 09 18.9	
	comp=Z,426nm,19.2s,baz=44,slow=34							
PTGA	**Pitinga**	**21.60**	**225**	P		**P**	**22 01 46.1**	**-0.3**

PRPB	**Parauapebas**	**21.60**	**193**	*eP*		**P**	**22 01 46.7**	**+0.3**
ITTB	**Itaituba**	**22.04**	**210**	*eP*		**P**	**22 01 50.9**	**-0.3**
RCBR	**Riachuelo**	**22.54**	**156**	P		**P**	**22 01 56.8**	**+0.2**
	comp=Z,29nm,1.1s,baz=333,slow=12,SNR=7.1							
RCBR				LR		LR	22 08 34.2	
	comp=Z,736nm,19.3s,baz=330,slow=31							
RCBR	**Riachuelo**	**22.54**	**156**	P		**P**	**22 01 55.8**	**-0.8**
RCBR				pmax		pmax		
	comp=Z,172nm,1.9s							
RCBR	**Riachuelo**	**22.54**	**156**	P		**P**	**22 01 55.8**	**-0.8**
RCBR				IAmb		IAmb	22 01 57.8	
	comp=Z,172nm,1.9s							
RCBR	**Riachuelo**	**22.54**	**156**	*eP*		**P**	**22 01 57.0**	**+0.4**
DR12	**Loma Pena Alta**	**23.71**	**283**	P		**P**	**22 02 08.3**	**-0.2**
SMTB	**Santa Maria do**	**23.86**	**187**	*eP*		**P**	**22 02 10.2**	**+0.3**
MACA	**Manacapuru-AM**	**23.88**	**222**	*eP*		**P**	**22 02 10.9**	**+0.9**
NPGB	**Novo Progresso**	**24.24**	**206**	*eP*		**P**	**22 02 13.2**	**-0.3**
SC01	**Santiago de lo**	**25.04**	**284**	P		**P**	**22 02 20.7**	**0.0**
SDDR	**Presa de Saban**	**25.53**	**283**	P		**P**	**22 02 24.2**	**-1.0**
SDDR				IAmb		IAmb	22 02 28.8	
	comp=Z,90nm,1.2s							
SDV	**Santo Domingo**	**25.88**	**259**	P		**P**	**22 02 29.2**	**+0.6**
	comp=Z,8.2nm,0.6s,baz=57,slow=6.9,SNR=10							
SDV				LR		LR	22 12 19.2	
	comp=Z,133nm,20.6s,baz=88,slow=36							
SDV	**Santo Domingo**	**25.88**	**259**	*eP*		**P**	**22 02 34.0**	**+5.3**
SDV	**Santo Domingo**	**25.88**	**259**	P		**P**	**22 02 27.8**	**-0.8**
SDV	**Santo Domingo**	**25.88**	**259**	*eP*		**P**	**22 02 28.7**	**+0.1**
URIC	**Uribia, Colomb**	**26.55**	**266**	*eP*		**P**	**22 02 31.1**	**-3.4**
SDBA	**SAO DESIDERIO**	**27.24**	**180**	*eP*		**P**	**22 02 41.1**	**+0.4**
SNDB	**Serra Nova Dou**	**27.54**	**194**	*eP*		**P**	**22 02 44.0**	**+0.7**
CLDB	**Colider**	**27.89**	**203**	*eP*		**P**	**22 02 46.3**	**-0.2**
SMRC	**Santa Marta, M**	**28.80**	**266**	*eP*		**P**	**22 02 52.2**	**-2.4**
BARC	**Barichara**	**28.98**	**256**	*eP*		**P**	**22 02 55.1**	**-1.4**
GDU01	**Guandu, BA**	**29.03**	**169**	*eP*		**P**	**22 02 55.8**	**-0.8**
ARGC	**Ariguani, Magd**	**29.09**	**263**	*eP*		**P**	**22 02 56.0**	**-1.2**
JANB	**Januaria**	**29.88**	**179**	*eP*		**P**	**22 03 03.2**	**-0.9**
SAML	**Samuel**	**29.91**	**218**	P		**P**	**22 03 04.3**	**-0.1**
SAML				pmax		pmax		
	comp=Z,96nm,2.0s							
SAML	**Samuel**	**29.91**	**218**	P		**P**	**22 03 04.3**	**-0.1**
SAML				IAmb		IAmb	22 03 08.4	
	comp=Z,96nm,2.0s							
SAML	**Samuel**	**29.91**	**218**	*eP*		**P**	**22 03 04.8**	**+0.4**
BDFB	**Brasilia**	**30.61**	**186**	P		**P**	**22 03 11.1**	**+0.5**
	comp=Z,13nm,0.9s,baz=12,slow=9.2,SNR=13							
BDFB	**Brasilia**	**30.61**	**186**	P		**P**	**22 03 10.6**	**-0.1**
BDFB				pmax		pmax		
	comp=Z,33nm,1.2s							
BDFB	**Brasilia**	**30.61**	**186**	P		**P**	**22 03 10.6**	**-0.1**
BDFB				IAmb		IAmb	22 03 13.5	
	comp=Z,33nm,1.2s							
ROSC	**El Rosal**	**30.64**	**254**	LR		LR	22 15 12.9	
	comp=Z,345nm,21.3s,baz=82,slow=36							
PMOZ	**Porto Moniz, M**	**30.78**	**50**	T		T	22 35 10.0	
FUL	**Funchal**	**30.92**	**50**	T		T	22 35 19.0	
PMAR	**Madeira**	**30.94**	**50**	T		T	22 35 16.1	
ARAG	**Araguaiana, MT**	**31.27**	**193**	*eP*		**P**	**22 03 16.9**	**+0.5**
VILB	**Vilhena**	**31.64**	**209**	*eP*		**P**	**22 03 20.4**	**+0.7**
ETMB	**Extrema**	**32.47**	**222**	*eP*		**P**	**22 03 27.3**	**+0.3**
ETMB				epP		**sP**	**22 03 30.4**	**-0.1**
IPMB	**Ipameri, GO**	**32.94**	**186**	*eP*		**P**	**22 03 30.8**	**-0.4**
IPMB				*eS*		**S**	**22 08 49.9**	**+0.7**
NAN01	**Guarapari, ES**	**32.98**	**172**	*eP*		**P**	**22 03 32.2**	**+0.8**
NAN01				epP		**sP**	**22 03 35.1**	**-0.2**
PTLB	**Pontes e Lacer**	**33.37**	**206**	*eP*		**P**	**22 03 36.3**	**+1.5**
SJMB	**Sao Joao De Ma**	**33.70**	**174**	*eP*

H58A Gabriels 38.42 326 P P 22 04 19.0 +1.1
baz=131
P56A Dayton Farm, R 38.43 316 P P 22 04 19.5 +1.5
baz=120
SPB Sao Paulo 38.44 184 P P 22 04 17.9 -0.3
SPB IAmb IAmb 22 04 21.5
comp=Z,55nm,1.2s
SPB Sao Paulo 38.44 184 eP P 22 04 19.0 +0.8
SPB eS S 22 10 15.0 +1.7
Q56A Snyder Ridge, 38.44 315 P P 22 04 19.6 +1.4
baz=119
Q56A Snyder Ridge, 38.44 315 P P 22 04 18.1 -0.1
Q56A IAmb IAmb 22 04 21.2
comp=Z,80nm,1.6s
BLA Blacksburg 38.47 312 P P 22 04 19.7 +1.1
baz=116
V55A Taylorsville 38.49 309 P P 22 04 20.4 +1.7
baz=113
V55A Taylorsville 38.49 309 P P 22 04 19.1 +0.4
U55A TA2, Sparta 38.63 310 P P 22 04 20.9 +1.0
baz=114
LPAZ La Paz 38.64 217 P P 22 04 21.2 +0.5
comp=Z,9,3nm,0.9s,baz=21,slow=8.6,SNR=26
LPAZ LR LR 22 20 07.2
comp=Z,373nm,18.8s,baz=26,slow=36
LPAZ La Paz 38.64 217 P P 22 04 20.0 -0.7
LPAZ pmax pmax
comp=Z,72nm,1.8s
LPAZ La Paz 38.64 217 P P 22 04 20.0 -0.7
LPAZ IAmb IAmb 22 04 24.6
comp=Z,72nm,1.8s
LPAZ La Paz 38.64 217 eP P 22 04 21.2 +0.5
O56A Blue Knob Stat 38.64 317 P P 22 04 21.6 +1.7
baz=121
HODGE Hodges 38.69 306 P P 22 04 20.6 +0.3
T55A Pulaski 38.70 311 P P 22 04 21.8 +1.5
baz=115
R55A Marlinton 38.73 314 P P 22 04 22.5 +1.8
baz=117
S55A Lewisburg 38.77 313 P P 22 04 22.8 +1.8
baz=116
N56A West Decatur 38.80 318 P P 22 04 22.2 +1.0
baz=122
G58A Ormstown 38.83 327 P P 22 04 19.3 -2.0
baz=132
X54A Belton 38.89 307 P P 22 04 22.9 +0.9
baz=111
W54A Cherokee Point 38.94 308 P P 22 04 23.6 +1.2
baz=112
L56A Greenwood 39.00 320 P P 22 04 24.1 +1.3
baz=124
V54A Nebo 39.02 309 P P 22 04 24.2 +1.1
baz=113
M56A Emporium 39.03 319 P P 22 04 23.8 +0.7
baz=123
Q55A Buckhannon 39.03 315 P P 22 04 26.1 +2.9
baz=118
MORF Marmelete 39.05 48 eP P 22 04 25.2 +1.9
comp=Z,65nm,1.5s
ZGR Zagora 39.06 61 P P 22 04 22.6 -1.0
SNR=11
O55A Ligonier 39.09 317 P P 22 04 24.9 +1.3
baz=120
PTEO Sao Teotonio 39.09 48 eP P 22 04 26.4 +2.8
comp=Z,59nm,1.8s
P55A Reedsville 39.10 315 P P 22 04 25.4 +1.7
baz=119
PET01 Itanhaem-SP 39.13 183 eP P 22 04 24.6 +0.7
ACON Acoyapa 39.24 271 P P 22 04 23.9 -1.3
T54A Tazewell 39.25 311 P P 22 04 26.3 +1.3
baz=114,SNR=5.2
E58A La Victoria 39.25 329 P P 22 04 26.0 +1.2
baz=134
TZRR Tazzarine 39.26 60 P P 22 04 26.2 +1.0
SNR=15
R54A Victor 39.30 313 P P 22 04 27.4 +2.0
baz=116
S54A Dingess, Beckl 39.36 312 P P 22 04 27.6 +1.6
baz=116
GOGA Godfrey 39.37 305 P P 22 04 26.9 +0.9
baz=108
PNCL Nicolau / Gran 39.48 47 eP P 22 04 26.9 +0.1
comp=Z,22nm,2.0s
BG3 Lake Jocassee 39.48 307 P P 22 04 27.5 +0.6
KOWA Kowa 39.51 85 P P 22 04 27.1 -0.2
KOWA IAmb IAmb 22 04 29.2
comp=Z,65nm,1.2s
PBDV Barranco-do-Ve 39.54 49 eP P 22 04 29.7 +2.2
comp=Z,50nm,2.0s
P54A Burton 39.59 315 P P 22 04 29.1 +1.3
baz=118
PCVE Castro Verde 39.62 48 eP P 22 04 29.6 +1.5
comp=Z,77nm,1.7s
V53A Saluda 39.63 308 P P 22 04 28.2 0.0
E57A Chemin Saint G 39.72 328 P P 22 04 30.2 +1.4
baz=133
PVAQ Vaqueiros 39.76 49 eP P 22 04 31.3 +2.0
comp=Z,42nm,1.7s
PVAQ Vaqueiros 39.76 49 P P 22 04 29.1 -0.1
MATN Matagalpa 39.82 272 P P 22 04 30.6 +0.5
MATN IAmb IAmb 22 04 33.1
comp=Z,101nm,1.5s
PBEJ Beja 39.91 48 eP P 22 04 33.3 +2.8
comp=Z,29nm,1.9s
T53A Wise 39.92 310 P P 22 04 31.8 +1.2
baz=113
N54A Moraine State 39.92 317 P P 22 04 31.5 +0.9
baz=120
TIC Toumodi 39.99 98 eP P 22 04 30.7 -0.7
GOLM Goulmima 40.01 58 P P 22 04 33.6 +2.0
EVO Evora 40.02 47 eP P 22 04 31.4 0.0
comp=Z,44nm,2.1s
LIC Lamto 40.09 98 eP P 22 04 31.7 -0.6
comp=Z,128nm,1.6s
PTGB Pitanga 40.09 190 eP P 22 04 32.9 +0.7
DBIC Dimbokro 40.14 98 P P 22 04 32.1 -0.5
comp=Z,36nm,1.2s,baz=277,slow=8.8,SNR=11
DBIC LR LR 22 17 58.2
comp=Z,242nm,20.4s,baz=292,slow=32
DBIC Dimbokro 40.14 98 P P 22 04 31.9 -0.7
DBIC pmax pmax
comp=Z,84nm,1.4s
DBIC Dimbokro 40.14 98 P P 22 04 31.9 -0.7
DBIC IAmb IAmb 22 04 33.6
comp=Z,84nm,1.4s
152A Waverly Hall 40.16 303 P P 22 04 32.4 -0.2
P53A Whipple 40.16 314 P P 22 04 34.2 +1.6
baz=117
CZD Col de Zad 40.30 56 P P 22 04 35.5 +1.4
SNR=23
KIC Kosan Boka 40.33 98 eP P 22 04 33.6 -0.7
comp=Z,145nm,1.7s
TKL Tuckaleechee C 40.36 308 P P 22 04 35.2 +1.0
comp=Z,4.9nm,0.8s,baz=95,slow=5.6,SNR=4.2
PCAS Casmilo, Conde 40.37 45 eP P 22 04 35.7 +1.4
comp=Z,24nm,2.0s
O53A New Philadelph 40.39 316 P P 22 04 36.1 +1.6
baz=118
O53A New Philadelph 40.39 316 P P 22 04 34.4 0.0
O53A IAmb IAmb 22 04 38.0
comp=Z,60nm,1.4s
SICH Sidi Chahed 40.40 55 P P 22 04 35.9 +1.2
SNR=11
N53A Lisbon 40.41 317 P P 22 04 35.5 +1.0
baz=119
D56A ZEC Mazanza, M 40.46 328 P P 22 04 35.7 +0.8
baz=132,SNR=5.3
MD31 MD31 40.48 57 P P 22 04 36.5 +1.1
TZTN Tazewell 40.50 309 P P 22 04 36.3 +0.8
baz=112
TZTN Tazewell 40.50 309 P P 22 04 35.6 +0.2
TZTN IAmb IAmb 22 04 38.0
comp=Z,60nm,1.4s
Q52A Bidwell 40.54 313 P P 22 04 36.8 +1.1
baz=116
ARF Arif 40.55 59 P P 22 04 37.2 +1.3
SNR=7.3
MDT Midelt 40.59 57 P P 22 04 37.8 +1.5
SNR=19
CHEFC Chefchaouen 40.70 53 P P 22 04 39.3 +2.1
SNR=5.7
Z51A Franklin 40.71 304 P P 22 04 37.5 +0.4
P52A Corning 40.74 314 P P 22 04 38.5 +1.2
baz=117
D55A Sainte-Anne-du 40.80 328 P P 22 04 38.9 +1.1
baz=131
X51A Calhoun 40.83 306 P P 22 04 38.0 -0.1
X51A IAmb IAmb 22 04 40.7
comp=Z,89nm,1.6s
PMRV Marv??o 40.85 46 eP P 22 04 39.3 +1.0
comp=Z,41nm,1.6s
CRIN San Cristobal 40.94 272 P P 22 04 38.8 -0.5
S51A Beattyville 40.95 311 P P 22 04 39.6 +0.5
PCBR Castelo Branco 40.97 46 eP P 22 04 40.3 +1.1
comp=Z,60nm,2.2s
N52A McGinn's Farm, 40.98 316 P P 22 04 41.2 +2.0
baz=118
H53A Bobcaygeon 41.00 323 P P 22 04 40.3 +0.9
baz=125
PVIS Viseu 41.09 44 eP P 22 04 41.6 +1.4
comp=Z,45nm,1.8s
MTE Manteigas 41.18 45 eP P 22 04 42.0 +1.0
comp=Z,51nm,1.4s
MTE Manteigas 41.18 45 P P 22 04 41.5 +0.5
250A Grady 41.24 302 P P 22 04 41.1 -0.5
250A IAmb IAmb 22 04 44.0
comp=Z,89nm,1.5s
P51A Williamsport 41.32 314 P P 22 04 43.2 +1.1
baz=116
Q51A Peebles 41.33 313 P P 22 04 42.5 +0.3
Q51A IAmb IAmb 22 04 44.5
comp=Z,66nm,1.4s
FPAL Fort Paine 41.41 306 P P 22 04 42.9 -0.1
PGAV Gavieira, Arco 41.43 42 eP P 22 04 44.1 +1.0
comp=Z,56nm,2.0s
POLO Lamas de Olo 41.46 43 eP P 22 04 46.6 +3.2
comp=Z,18nm,1.4s
PVRL Vila Real 41.47 43 eP P 22 04 44.7 +1.4
comp=Z,56nm,1.7s
NNA Nana 41.47 231 ceP P 22 04 42.0 -1.6
NNA pmax pmax
comp=Z,62nm,1.3s
NNA Nana 41.47 231 P P 22 04 42.3 -1.4
NNA IAmb IAmb 22 04 44.2
comp=Z,64nm,1.4s
ACSO Alum Creek Sta 41.59 315 P P 22 04 45.3 +1.0
baz=116
T50A Nancy 41.64 309 P P 22 04 44.5 -0.3
MNMC Minye Minye 41.73 216 P P 22 04 44.1 -1.9
PALE Palemas 41.83 54 P P 22 04 47.3 +0.9
SNR=9.1
SWET Sewanee 41.87 306 P P 22 04 46.6 -0.1
MVO Moncorvo 41.87 44 eP P 22 04 48.4 +1.7
comp=Z,26nm,1.8s
GO01 Chusmiza 41.93 215 P P 22 04 46.0 -1.8
I51A Listowel 42.04 320 P P 22 04 48.9 +0.9
baz=122
LRAL Lakeview Retre 42.10 303 P P 22 04 49.9 +1.3
baz=105,SNR=6.8
LRAL Lakeview Retre 42.10 303 P P 22 04 48.7 +0.1
U49A Red Boiling Sp 42.17 308 P P 22 04 48.7 -0.5
CHGQ Chibougamau 42.25 332 P P 22 04 50.8 +1.3
baz=135,SNR=5.4
PB11 IPOC Station P 42.27 216 P P 22 04 49.1 -1.1
R49A Shelbyville 42.35 311 P P 22 04 50.9 +0.3
PBRG Braganca 42.36 43 eP P 22 04 50.5 -0.1
comp=Z,42nm,1.8s
PSGCX Pisagua 42.40 217 P P 22 04 48.6 -2.6
PSGCX IAmb IAmb 22 04 53.4
comp=Z,59nm,1.4s
O49A Covington 42.51 314 P P 22 04 51.7 -0.1
P49A Miami Univ. Ec 42.51 313 P P 22 04 52.9 +1.1
baz=114
X48A Hartselle 42.52 305 P P 22 04 52.1 +0.1
ITAB Concordia 42.57 190 eP P 22 04 53.5 +1.1
JBK JBK 42.65 55 P P 22 04 53.9 +0.6
N49A Columbus Grove 42.71 315 P P 22 04 53.4 0.0
V48A Smith Brothers 42.73 307 P P 22 04 54.0 +0.3
TDRA Tendrara 42.74 57 P P 22 04 55.0 +0.9
CPUP Villa Florida 42.83 196 P P 22 04 54.6 +0.1
comp=Z,42nm,1.3s,baz=11,slow=8.2,SNR=16
CPUP Villa Florida 42.83 196 P P 22 04 54.3 -0.2
CPUP pmax pmax
comp=Z,53nm,1.4s
CPUP Villa Florida 42.83 196 P P 22 04 54.3 -0.2
CPUP IAmb IAmb 22 04 57.6
comp=Z,53nm,1.4s
CPUP Villa Florida 42.83 196 eP P 22 04 54.6 +0.1
TAF Taforalt 42.90 55 P P 22 04 56.4 +1.3
LSQQ Lebel-sur-Quev 42.91 329 P P 22 04 55.5 +0.6
baz=131
MTO3 Montecristo 42.95 275 P P 22 04 55.4 -0.6
MTO3 IAmb IAmb 22 04 57.2
comp=Z,71nm,1.8s
AAM Ann Arbor 42.98 317 P P 22 04 55.7 +0.1
AAM pmax pmax
comp=Z,39nm,1.1s
AAM Ann Arbor 42.98 317 P P 22 04 55.7 +0.1
P48A Milroy 42.98 312 P P 22 04 55.2 -0.5
Z47A Carrollton 43.01 303 P P 22 04 55.9 -0.1
Z47A IAmb IAmb 22 04 58.5
comp=Z,86nm,1.5s
WCI Wyandotte Cave 43.15 310 P P 22 04 58.2 +1.1
baz=111
FIGM Figuig 43.16 59 P P 22 04 57.8 +0.4
SNR=16
PB01 IPOC Station P 43.20 215 P P 22 04 56.2 -1.4
PETF Flores 43.20 279 P P 22 04 57.4 -0.3
SCHQ Schefferville 43.24 342 P P 22 04 58.8 +1.3
comp=Z,14nm,1.0s,baz=151,slow=8.2,SNR=4.7
SCHQ LR LR 22 19 49.6
comp=Z,164nm,19.1s,baz=80,slow=32
SCHQ Schefferville 43.24 342 P P 22 04 58.0 +0.4
L48A N Adams 43.33 316 P P 22 04 58.1 -0.4
L48A IAmb IAmb 22 05 00.6
comp=Z,75nm,1.4s
T47A Sharon Grove 43.34 308 P P 22 04 58.4 -0.2
ESDC Sonseca Array 43.37 47 P P 22 05 00.3 +1.4
comp=Z,8.9nm,1.1s,baz=247,slow=8.2,SNR=29
ESDC LR LR 22 19 10.2
comp=Z,200nm,21.1s,baz=300,slow=31
ESDC Sonseca Array 43.37 47 P P 22 04 58.8 -0.1
ESBB Sonseca Array 43.37 47 P P 22 04 59.0 +0.1
PATCX Punta Patache 43.39 216 P P 22 04 58.4 -0.8
PLAL Pickwick Lake 43.48 305 P P 22 04 59.3 -0.5
PLAL IAmb IAmb 22 05 01.3
comp=Z,72nm,1.4s
WVT Waverly 43.62 307 P P 22 05 01.6 +0.7
baz=108
WVT Waverly 43.62 307 P P 22 05 00.5 -0.4
WVT pmax pmax
comp=Z,54nm,1.5s
WVT Waverly 43.62 307 P P 22 05 00.5 -0.4
WVT IAmb IAmb 22 05 02.9
comp=Z,54nm,1.5s
MATQ Matagami 43.69 329 P P 22 05 01.6 +0.4
baz=131
N47A Urbana 43.74 314 P P 22 05 01.6 -0.1
LVC Limon Verde 44.16 213 P P 22 05 04.5 -1.2
LVC pmax pmax
comp=Z,61nm,1.9s
LVC Limon Verde 44.16 213 P P 22 05 04.5 -1.2
LVC IAmb IAmb 22 05 08.1
comp=Z,61nm,1.9s
LVC Limon Verde 44.16 213 eP P 22 05 05.3 -0.5
J47A Sunmer 44.17 318 P P 22 05 05.3 +0.2
J47A IAmb IAmb 22 05 07.3
comp=Z,56nm,1.2s
W45A Hickory Valley 44.41 305 P P 22 05 07.0 -0.2
OXF Oxford 44.42 304 P P 22 05 07.4 +0.1
baz=105
OXF Oxford 44.42 304 P P 22 05 07.5 +0.2
OXF pmax pmax
comp=Z,61nm,1.3s
OXF Oxford 44.42 304 P P 22 05 07.5 +0.2
OXF IAmb IAmb 22 05 08.6
comp=Z,61nm,1.3s
CNLB Canela 44.44 187 eP P 22 05 08.1 +0.7
PB06 IPOC Station P 44.59 213 P P 22 05 08.0 -0.9
PB06 IAmb IAmb 22 05 11.6
comp=Z,103nm,1.7s
OLIL Olney 44.66 310 P P 22 05 09.5 +0.4
OLIL IAmb IAmb 22 05 11.7
comp=Z,76nm,1.4s
PB15 IPOC Station P 44.95 213 P P 22 05 11.3 -0.6
TOA0 Torodi Ar. Sit 45.18 86 P P 22 05 12.9 -0.7
TOA0 IAmb IAmb 22 05 14.7
comp=Z,67nm,1.3s
TORD Torodi Ar. Bea 45.18 86 P P 22 05 13.1 -0.5
comp=Z,108nm,0.8s,baz=286,slow=6.5,SNR=64
TORD LR LR 22 23 17.2
comp=Z,351nm,18.8s,baz=240,slow=35
S44A Carbondale 45.18 309 P P 22 05 13.3 -0.1
S44A IAmb IAmb 22 05 15.7
comp=Z,54nm,1.2s
E46A Sault Ste Mari 45.35 322 P P 22 05 14.8 +0.2
E46A IAmb IAmb 22 05 16.0
comp=Z,31nm,1.2s
Q44A Meyer Farm, Va 45.39 310 P P 22 05 14.9 -0.1
CCIG Comitan 45.42 278 P P 22 05 15.2 -0.6
CCIG IAmb IAmb 22 05 20.5
comp=Z,51nm,1.1s
G45A Suttons Bay 45.53 320 P P 22 05 16.3 +0.3
G45A IAmb IAmb 22 05 18.4
comp=Z,65nm,1.4s
PBMO Poplar Bluff 45.82 307 P P 22 05 17.4 -1.0
PBMO IAmb IAmb 22 05 18.8
comp=Z,36nm,1.4s
HDIL Hopedale 46.15 312 P P 22 05 21.9 +1.0
baz=111
FVM French Village 46.16 309 P P 22 05 20.9 -0.2
FVM pmax pmax
comp=Z,29nm,0.9s
FVM French Village 46.16 309 P P 22 05 20.9 -0.2
FVM IAmb IAmb 22 05 23.0
comp=Z,29nm,0.9s
CCAR Cane Creek 46.19 303 P P 22 05 20.8 -0.5
LCAR Lake Charles 46.19 306 P P 22 05 20.8 -0.5
GO02 Mina Guanaco 46.62 211 P P 22 05 24.3 -0.8
GO02 IAmb IAmb 22 05 26.8
comp=Z,44nm,1.4s
CCM Cathedral Cave 46.80 308 P P 22 05 26.5 +0.4
baz=107
CCM Cathedral Cave 46.80 308 P P 22 05 26.2 +0.1
CCM pmax pmax
comp=Z,71nm,1.5s
CCM Cathedral Cave 46.80 308 P P 22 05 26.1 +0.1
UALR University of 46.83 304 P P 22 05 26.2 -0.1
W41B Gary Mavity, V 46.84 304 P P 22 05 26.7 +0.2
baz=103,SNR=12
W41B Gary Mavity, V 46.84 304 P P 22 05 26.4 -0.1
W41B IAmb IAmb 22 05 28.0
comp=Z,23nm,0.9s
WHAR Wooly Hollow 46.90 304 P P 22 05 26.4 -0.5
FCAR Ozark Folk Cen 46.91 305 P P 22 05 26.1 -0.9
L42A Oliver, Polo 46.92 314 P P 22 05 26.6 -0.4
X40A Basin Creek Fa 47.17 303 P P 22 05 29.6 +0.6
baz=102
WLAR White Oak Lake 47.23 302 P P 22 05 30.0 +0.5
PLTB Pedras Altas 47.25 190 eP P 22 05 30.6 +1.0
U40A Yellville 47.59 306 P P 22 05 32.1 -0.3
baz=104,SNR=9.4
U40A Yellville 47.59 306 P P 22 05 31.9 -0.5
U40A IAmb IAmb 22 05 32.7
comp=Z,40nm,1.4s
R40A Maddies Statio 47.63 308 P P 22 05 32.3 -0.3
R40A IAmb IAmb 22 05 34.0
comp=Z,31nm,1.1s
JFWS Jewell Farm 47.66 315 P P 22 05 33.2 +0.5
baz=112
JFWS Jewell Farm 47.66 315 P P 22 05 32.8 +0.1
JFWS pmax pmax
comp=Z,18nm,0.8s
JFWS Jewell Farm 47.66 315 P P 22 05 32.8 +0.1
JFWS IAmb IAmb 22 05 34.7
comp=Z,18nm,0.8s
MIAR Mount Ida 47.78 303 P P 22 05 34.4 +0.6
baz=102
MIAR Mount Ida 47.78 303 P P 22 05 33.8 0.0
MIAR pmax pmax
comp=Z,52nm,1.7s
MIAR Mount Ida 47.78 303 P P 22 05 33.8 0.0
MIAR IAmb IAmb 22 05 54.3
comp=Z,52nm,1.6s
AC02 Maricunga 47.79 210 P P 22 05 33.1 -1.4
AC02 IAmb IAmb 22 05 36.9
comp=Z,53nm,2.0s
P40A Paris 47.82 310 P P 22 05 33.5 -0.5
P40A IAmb IAmb 22 05 35.4
comp=Z,37nm,1.1s
L40A Anamosa 48.03 314 P P 22 05 35.6 0.0
W39A Magazine 48.08 304 P P 22 05 37.0 +0.9
baz=102,SNR=13
W39A Magazine 48.08 304 P P 22 05 36.5 +0.4
NATX Nacogdoches 48.20 299 P P 22 05 37.3 +0.2
baz=98
NATX Nacogdoches 48.20 299 P P 22 05 37.0 -0.1
I40A Norwalk 48.27 316 P P 22 05 37.8 +0.3
S39A Bolivar 48.28 307 P P 22 05 37.2 -0.5
S39A IAmb IAmb 22 05 38.9
comp=Z,40nm,1.2s
G40A Rib Lake 48.53 318 P P 22 05 40.0 +0.5
G40A IAmb IAmb 22 05 41.8
comp=Z,39nm,1.2s
Z38A Mt. Pleasant 48.70 301 P P 22 05 40.6 -0.3
P38A Dawn 48.95 310 P P 22 05 42.6 -0.1
P38A IAmb IAmb 22 05 44.2
comp=Z,48nm,1.2s
HKT Hockley 48.97 297 P P 22 05 43.2 +0.2
HKT pmax pmax
comp=Z,40nm,1.6s
HKT Hockley 48.97 297 P P 22 05 43.2 +0.2
HKT IAmb IAmb 22 05 45.0
comp=Z,40nm,1.6s
N38A Joes South For 49.06 311 P P 22 05 43.0 -0.6
N38A IAmb IAmb 22 05 45.4
comp=Z,31nm,0.8s
237A Washetta, Mont 49.20 299 P P 22 05 44.7 -0.1
X37A Clayton 49.24 303 P P 22 05 44.9 -0.2
K38A Parkersburg 49.31 314 P P 22 05 44.7 -0.8
K38A IAmb IAmb 22 05 46.6
comp=Z,29nm,0.9s
SCIA State Center 49.38 313 P P 22 05 46.5 +0.4
baz=108
TUL1 Leonard 49.82 304 P P 22 05 49.5 0.0
baz=101
TUL1 Leonard 49.82 304 P P 22 05 49.1 -0.4
TUL1 IAmb IAmb 22 05 50.8
comp=Z,32nm,1.1s
AC04 Llanos de Chal 49.88 211 P P 22 05 48.9 -0.9
AC05 El Transito 50.02 209 P P 22 05 50.0 -1.1
AC05 IAmb IAmb 22 05 53.5
comp=Z,60nm,1.4s
I37A Lemond, Waseca 50.19 315 P P 22 05 52.3 +0.1
SPMN Marine on St. 50.21 317 P P 22 05 53.0 +0.7
baz=111
435B Jarrell 50.56 298 P P 22 05 55.3 +0.1
baz=96
435B Jarrell 50.56 298 P P 22 05 55.2 +0.1
WHTX Lake Whitney, 50.58 299 P P 22 05 55.4 +0.2
baz=97,SNR=7.1
WHTX Lake Whitney, 50.58 299 P P 22 05 55.5 +0.2
CLF Chambon-Foret 50.82 39 P P 22 05 57.7 +0.9
CLF IAmb IAmb 22 05 59.6
comp=Z,60nm,1.3s
CO01 Juntas del Tor 50.89 208 P P 22 05 57.3 -0.5
KSU1 Kansas State U 51.13 308 P P 22 05 58.8 -0.5
baz=103
KSU1 Kansas State U 51.13 308 P P 22 05 58.6 -0.7
SSB Saint Sauveur 51.26 43 P P 22 06 01.2 +1.0
SSB pmax pmax
comp=Z,80nm,1.7s
SSB Saint Sauveur 51.26 43 P P 22 06 01.2 +1.0
SSB IAmb IAmb 22 06 03.5
comp=Z,80nm,1.7s
ZON Zonda 51.61 206 P P 22 06 02.5 -0.4
ZON pmax pmax
comp=Z,78nm,1.6s
ZON Zonda 51.61 206 P P 22 06 02.5 -0.4
ZON IAmb IAmb 22 06 06.2
comp=Z,78nm,1.6s
L34A Svendsen Farm, 51.66 312 P P 22 06 03.0 -0.3
KAN10 Anthony SW Sta 51.87 306 P P 22 06 04.8 -0.2
CO03 El Pedregal 51.89 208 P P 22 06 04.2 -0.9
CO03 IAmb IAmb 22 06 07.6
comp=Z,59nm,1.6s
833A Chaparral WMA, 51.95 294 P P 22 06 06.2 +0.5
baz=93,SNR=7.8
WMOK Wichita Mounta 52.04 302 P P 22 06 05.7 -0.6
baz=98,SNR=14
WMOK Wichita Mounta 52.04 302 P P 22 06 05.3 -0.9
WMOK pmax pmax
comp=Z,24nm,1.2s
WMOK Wichita Mounta 52.04 302 P P 22 06 05.3 -0.9
ECSD EROS Data Cent 52.31 314 P P 22 06 07.4 -0.8
baz=107,SNR=5.5
ECSD EROS Data Cent 52.31 314 P P 22 06 07.6 -0.5

JCT Junction City 52.44 297 P **P** **22 06 08.8 -0.5**
baz=94,SNR=5.5
JCT Junction City 52.44 297 P **P** **22 06 08.6 -0.7**
JCT pmax pmax
comp=Z,47nm,1.4s
JCT Junction City 52.44 297 P **P** **22 06 08.6 -0.7**
JCT IAmb IAmb 22 06 10.2
comp=Z,47nm,1.4s
KEST Kesra 52.49 56 LR LR 22 27 49.8
comp=Z,136nm,18.3s,baz=254,slow=35
ABTX Abilene, Hawle 52.49 300 P **P** **22 06 09.3 -0.4**
baz=96,SNR=12
ABTX Abilene, Hawle 52.49 300 P **P** **22 06 08.8 -0.8**
ABTX IAmb IAmb 22 06 10.7
comp=Z,60nm,1.3s
BGNE Belgrade 52.80 311 P **P** **22 06 12.1 +0.3**
baz=104
BGNE Belgrade 52.80 311 P **P** **22 06 11.7 -0.1**
DOU Dourbes 53.06 38 PcP **PcP** **22 07 21.1 -0.7**
UCC Uccle 53.20 37 P **P** **22 06 14.3 -0.2**
UCC pmax pmax
comp=Z,63nm,1.5s
UCC Uccle 53.20 37 P **P** **22 06 14.3 -0.2**
UCC IAmb IAmb 22 06 15.6
comp=Z,62nm,1.5s
BMRD Maredsous 53.24 38 P P 22 06 19.6 +4.8
AGMN Agassiz Nation 53.27 320 P **P** **22 06 15.1 0.0**
baz=111
CBKS Cedar Bluff 53.45 307 P **P** **22 06 17.3 +0.6**
baz=101
CBKS Cedar Bluff 53.45 307 P **P** **22 06 16.7 0.0**
CBKS pmax pmax
comp=Z,53nm,1.0s
CBKS Cedar Bluff 53.45 307 P **P** **22 06 16.7 0.0**
BGES Gesves 53.46 38 P **P** **22 06 17.7 +1.3**
comp=Z,35nm,2.4s
BSTI Sart Tilman 53.82 38 P **P** **22 06 20.1 +1.1**
BSTI PcP **PcP** **22 07 24.2 -0.5**
ROC1 El Roble 53.84 207 P **P** **22 06 19.4 -0.3**
ULM Lac du Bonnet 53.99 322 P **P** **22 06 19.7 -0.6**
comp=Z,14nm,0.9s,baz=102,slow=8.1,SNR=8.0
ULM LR LR 22 26 57.6
comp=Z,152nm,19.2s,baz=86,slow=33
ULM Lac du Bonnet 53.99 322 P **P** **22 06 19.5 -0.8**
ULM pmax pmax
comp=Z,92nm,1.8s
ULM Lac du Bonnet 53.99 322 P **P** **22 06 19.5 -0.8**
MEM Membach 54.09 38 P **P** **22 06 22.0 +1.0**
MEM x x 22 07 02.0
MEM PcP **PcP** **22 07 25.0 -0.8**
SUSD Miller 54.13 314 P **P** **22 06 21.4 -0.1**
baz=105
AMTX Amarillo 54.42 302 P **P** **22 06 23.8 -0.1**
baz=96
AMTX Amarillo 54.42 302 P **P** **22 06 23.6 -0.3**
AMTX IAmb IAmb 22 06 25.0
comp=Z,48nm,1.2s
BFO Black Forest 54.72 41 P **P** **22 06 25.9 +0.2**
BFO pmax pmax
comp=Z,32nm,1.6s
BFO Black Forest 54.72 41 *e*P **P** **22 06 27.4 +1.7**
comp=Z,38nm,1.6s,baz=251,slow=7.1
BFO Black Forest 54.72 41 P **P** **22 06 25.9 +0.2**
BFO IAmb IAmb 22 06 27.7
comp=Z,32nm,1.6s
ZAIG Zacatecas 54.82 287 P **P** **22 06 27.1 -0.1**
ZAIG IAmb IAmb 22 06 30.0
comp=Z,26nm,1.2s
BUG Bochum--Univer 55.14 37 *e*P **P** **22 06 30.7 +2.1**
comp=Z,54nm,1.7s,baz=251,slow=7.1
TRQA Tornquist 55.16 196 *e*P **P** **22 06 29.7 +0.8**
MSTX Muleshoe 55.23 301 P **P** **22 06 30.0 +0.2**
baz=95,SNR=12
MSTX Muleshoe 55.23 301 P **P** **22 06 29.2 -0.6**
BO02 Sierra Bellavi 55.29 206 P **P** **22 06 29.8 -0.3**
BO02 IAmb IAmb 22 06 33.5
comp=Z,58nm,1.6s
OSSC Osservatorio P 55.38 47 P **P** **22 06 31.8 +1.2**
STU Stuttgart 55.40 41 P **P** **22 06 31.1 +0.5**
STU Stuttgart 55.40 41 P **P** **22 06 31.1 +0.5**
FUORN Ofenpass-Fuorn 55.47 43 P **P** **22 06 32.1 +0.7**
FUORN IAmb IAmb 22 06 41.1
comp=Z,37nm,1.6s
MDND Maddock 55.50 318 P **P** **22 06 31.8 +0.4**
baz=107
MDND Maddock 55.50 318 P **P** **22 06 31.5 +0.1**
TXAR Lajitas Array 55.74 295 P **P** **22 06 33.3 -0.2**
comp=Z,4.7nm,0.9s,baz=100,slow=5.7,SNR=26
TXAR LR LR 22 31 07.1
comp=Z,96nm,19.4s,baz=0.0,slow=37
TXAR Lajitas Array 55.74 295 P **P** **22 06 33.1 -0.4**
TXAR Lajitas Array 55.74 295 P **P** **22 06 33.1 -0.4**
TX31 Lajitas Ar. Si 55.74 295 P **P** **22 06 33.3 -0.2**
TX31 IAmb IAmb 22 06 34.1
comp=Z,58nm,1.5s
E28A Huff 55.87 316 P **P** **22 06 33.9 -0.1**
E28A IAmb IAmb 22 06 35.1
comp=Z,42nm,1.0s
FETA Feichten 55.88 43 *i*P **P** **22 06 34.6 +0.3**
comp=Z,21nm,1.4s,SNR=5.9
RETA Reutte 56.03 42 *e*P **P** **22 06 35.9 +0.6**
comp=Z,21nm,1.6s
TEOL Teolo 56.10 45 P **P** **22 06 35.8 +0.1**
TEOL IAmb IAmb 22 06 36.7
comp=Z,44nm,1.2s
MOTA Moosalm 56.22 43 *i*P **P** **22 06 37.1 +0.4**
comp=Z,23nm,1.2s,SNR=6.4
CTI Castel Tesino 56.25 44 P **P** **22 06 36.9 0.0**
CTI pmax pmax
comp=Z,43nm,1.2s
CTI Castel Tesino 56.25 44 P **P** **22 06 36.9 0.0**
CTI IAmb IAmb 22 06 38.6
comp=Z,43nm,1.2s
SQTA Sankt Quirin 56.25 43 *i*P **P** **22 06 37.4 +0.5**
comp=Z,30nm,1.5s,SNR=8.8
WATA Walderalm 56.52 43 *e*P **P** **22 06 39.5 +0.7**
comp=Z,21nm,1.4s
WTTA Wattenberg 56.55 43 *e*P **P** **22 06 40.3 +1.2**
comp=Z,26nm,1.8s
AQU L'Aquila 56.70 49 P **P** **22 06 40.0 -0.1**
AQU pmax pmax
comp=Z,92nm,1.5s
AQU L'Aquila 56.70 49 P **P** **22 06 40.0 -0.1**
GTTG Gottingen 56.76 38 *e*P **P** **22 06 42.6 +2.3**
comp=Z,31nm,1.1s,baz=251,slow=7.1
T25A Trinidad 56.87 305 P **P** **22 06 42.6 +1.1**
baz=96,SNR=5.4
GRF Grafenberg Arr 56.95 40 *e*P **P** **22 06 43.0 +1.4**
comp=Z,196nm,2.7s,baz=251,slow=7.1
ABTA Abfaltersbach 57.00 44 *i*P **P** **22 06 43.0 +0.8**
comp=Z,22nm,1.3s,SNR=5.9
CLZ Clausthal 57.09 37 *e*P **P** **22 06 44.6 +1.9**
comp=Z,20nm,1.2s,baz=251,slow=7.1
BI02 San Fabin de 57.10 205 P **P** **22 06 43.0 +0.1**
NRDL Niedersach Rie 57.15 37 *e*P **P** **22 06 45.5 +2.6**
comp=Z,78nm,1.5s,baz=251,slow=7.1
ZOU Zoufplan 57.26 44 P **P** **22 06 44.4 +0.2**
ZOU IAmb IAmb 22 06 45.7
comp=Z,33nm,1.2s
MNTX Cornudas Mount 57.28 298 P **P** **22 06 44.3 -0.1**
baz=92,SNR=25
MNTX Cornudas Mount 57.28 298 P **P** **22 06 43.8 -0.6**
MNTX IAmb IAmb 22 06 45.7
comp=Z,35nm,1.3s
ASSE Asse, Remlinge 57.36 37 *e*P **P** **22 06 46.9 +2.5**
comp=Z,103nm,1.8s,baz=251,slow=7.1
RJOB Jochberg 57.43 43 *e*P **P** **22 06 45.2 +0.1**
comp=Z,18nm,1.4s,baz=251,slow=7.1
MOX Moxa 57.47 39 *e*P **P** **22 06 47.2 +1.9**
comp=Z,40nm,1.8s,baz=251,slow=7.1
HPIG 57.50 293 P **P** **22 06 46.0 -0.2**
MANZ Manzenberg 57.58 40 *e*P **P** **22 06 48.0 +1.8**
comp=Z,89nm,2.5s,baz=251,slow=7.1
ROTZ Rotzenmuhle 57.58 40 *e*P **P** **22 06 47.6 +1.5**
comp=Z,33nm,2.0s,baz=251,slow=7.1
PRED Cave del Predi 57.63 44 P **P** **22 06 47.2 +0.5**
SUMG Summit 57.68 2 *i*P **P** **22 06 48.0 +1.1**
SUMG pmax pmax
comp=Z,78nm,1.5s
SUMG Summit 57.68 2 P **P** **22 06 47.6 +0.7**
SUMG Summit 57.68 2 *i*P **P** **22 06 48.0 +1.1**
comp=Z,78nm,1.5s
SUMG Summit 57.68 2 *i*P **P** **22 06 48.0 +1.1**
SUMG IAmb IAmb 22 06 51.5
comp=Z,78nm,1.5s
MYKA Terra Mystica 57.73 44 *i*P **P** **22 06 48.3 +1.0**
comp=Z,49nm,1.5s,SNR=9.6
PLN Plauen 57.75 39 *e*P **P** **22 06 49.1 +1.8**
comp=Z,52nm,1.9s,baz=251,slow=7.1
BSEG Bad Segeberg 57.76 35 *e*P **P** **22 06 49.3 +2.0**
comp=Z,113nm,1.7s,baz=251,slow=7.1
SDCO Great Sand Dun 57.79 305 P **P** **22 06 49.0 +0.8**
baz=96,SNR=19
SDCO Great Sand Dun 57.79 305 P **P** **22 06 48.1 -0.1**
WERN Wernitzgruen 57.83 40 *e*P **P** **22 06 49.8 +1.9**
comp=Z,37nm,1.4s,baz=251,slow=7.1
NKC Novy Kostel 57.86 40 *e*P **P** **22 06 49.1 +1.0**
NKC Novy Kostel 57.86 40 *e*P **P** **22 06 49.1 +1.0**
TANN Tannenbergstha 57.92 39 *e*P **P** **22 06 50.5 +2.0**
comp=Z,54nm,1.6s,baz=251,slow=7.1
ISCO Idaho Springs 58.11 308 P **P** **22 06 51.7 +1.3**
baz=97,SNR=17
ISCO Idaho Springs 58.11 308 P **P** **22 06 51.0 +0.6**
ISCO pmax pmax
comp=Z,85nm,1.6s
ISCO Idaho Springs 58.11 308 P **P** **22 06 51.0 +0.6**
KHC Kasperske Hory 58.28 41 *e*P **P** **22 06 50.9 -0.2**
KHC Kasperske Hory 58.28 41 *ce*P **P** **22 06 50.1 -1.0**
KHC pmax pmax
comp=Z,41nm,1.7s
KHC Kasperske Hory 58.28 41 P **P** **22 06 51.1 +0.1**
GEC2 GERESS Array S 58.28 42 *e*P **P** **22 06 52.4 +1.2**
comp=Z,19nm,1.5s,baz=251,slow=7.1
GERES GERESS Array B 58.28 42 P **P** **22 06 51.6 +0.4**
comp=Z,1.8nm,0.9s,baz=235,slow=4.7,SNR=9.8
GERES GERESS Array B 58.28 42 P **P** **22 06 50.9 -0.3**
GERES GERESS Array B 58.28 42 P **P** **22 06 50.9 -0.3**
OBKA Obir 58.31 44 *i*P **P** **22 06 52.6 +1.2**
comp=Z,34nm,1.6s,SNR=5.1
ANMO Albuquerque 58.34 302 P **P** **22 06 52.6 +0.7**
baz=94
ANMO Albuquerque 58.34 302 *ce*P **P** **22 06 49.9 -2.1**
ANMO pmax pmax
comp=Z,32nm,2.5s
ANMO Albuquerque 58.34 302 P **P** **22 06 51.9 -0.1**
ANMO IAmb IAmb 22 06 54.4
comp=Z,44nm,1.9s
MOA Molln 58.42 43 *e*P **P** **22 06 52.7 +0.6**
comp=Z,20nm,1.6s
BNM Barren Site 58.44 301 P **P** **22 06 52.8 +0.1**
CLL Collm 58.49 39 *i*P **P** **22 06 52.9 +0.5**
comp=Z,33nm,1.5s
CLL Collm 58.49 39 P **P** **22 06 53.0 +0.5**
CLL pmax pmax
comp=Z,29nm,1.4s
CLL Collm 58.49 39 *e*P **P** **22 06 54.2 +1.7**
comp=Z,33nm,1.5s,baz=251,slow=7.1
CLL Collm 58.49 39 P **P** **22 06 53.0 +0.5**
CLL IAmb IAmb 22 06 54.5
comp=Z,29nm,1.4s
N23A Red Feather La 58.50 309 P **P** **22 06 53.9 +0.8**
baz=98
FBE Freiberg 58.60 39 *e*P **P** **22 06 55.5 +2.2**
comp=Z,23nm,1.3s,baz=251,slow=7.1
DGMT Dagmar 58.63 318 P **P** **22 06 53.6 0.0**
baz=104,SNR=7.1
DGMT Dagmar 58.63 318 P **P** **22 06 53.2 -0.3**
S22A 4UR Ranch, Cre 58.84 305 P **P** **22 06 56.6 +1.1**
baz=95,SNR=12
S22A 4UR Ranch, Cre 58.84 305 P **P** **22 06 55.6 0.0**
S22A IAmb IAmb 22 06 58.2
comp=Z,31nm,1.2s
BRG Berggiesshubel 58.95 39 *e*P **P** **22 06 56.4 +0.8**
comp=Z,18nm,1.6s
BRG Berggiesshubel 58.95 39 *e*P **P** **22 06 56.4 +0.8**
BRG pmax pmax
comp=Z,18nm,1.6s
BRG Berggiesshubel 58.95 39 *e*P **P** **22 06 57.5 +1.8**
comp=Z,34nm,2.1s,baz=251,slow=7.1
FFC Flin Flon 59.05 325 P **P** **22 06 56.3 0.0**
FFC pmax pmax
comp=Z,54nm,1.5s
FFC Flin Flon 59.05 325 P **P** **22 06 56.3 0.0**
PRU Pruhonice 59.10 40 *e*P **P** **22 06 55.7 -1.0**
PRU Pruhonice 59.10 40 *e*P **P** **22 06 55.7 -1.0**
ARSA Arzberg 59.12 44 *i*P **P** **22 06 57.5 +0.6**
comp=Z,24nm,1.7s,SNR=5.5
LC01 Cunco 59.26 204 P **P** **22 06 56.5 -1.4**
LC01 IAmb IAmb 22 06 59.9
comp=Z,38nm,1.1s
RUE Ruedersdorf 59.29 37 *e*P **P** **22 06 59.9 +1.9**
comp=Z,92nm,1.4s,baz=251,slow=7.1
121A Cookes Peak, D 59.35 299 P **P** **22 06 59.6 +0.6**
baz=91
121A Cookes Peak, D 59.35 299 P **P** **22 06 58.9 -0.1**
121A IAmb IAmb 22 07 17.9
comp=Z,46nm,1.8s
CONA Conrad Observa 59.48 43 *i*P **P** **22 07 00.3 +0.7**
comp=Z,28nm,1.6s,SNR=9.5
LAO LASA Array 59.61 316 P **P** **22 07 01.1 +0.7**
baz=101
LAO LASA Array 59.61 316 P **P** **22 07 00.4 0.0**
LAO IAmb IAmb 22 07 01.5
comp=Z,28nm,1.2s
KRUC Moravsky 60.06 42 *e*P **P** **22 07 03.7 +0.3**
MVCO Mesa Verde 60.13 304 P **P** **22 07 05.5 +1.1**
baz=94,SNR=5.8
MVCO Mesa Verde 60.13 304 P **P** **22 07 04.3 -0.1**
MVCO IAmb IAmb 22 07 06.9
comp=Z,35nm,1.2s
CHVC Chvalec 60.18 40 *e*P **P** **22 07 03.6 -0.6**
H09N1 TRISTAN DA CUN 60.21 150 T T 23 11 59.2
SNR=8.7
H09W1 TRISTAN DA CUN 60.23 150 T T 23 12 10.8
SNR=25
VRAC Vranov 60.24 41 ⇓P **P** **22 07 05.4 +0.8**
VRAC Vranov 60.24 41 *e*P **P** **22 07 05.3 +0.7**
VRAC Vranov 60.24 41 ⇓P **P** **22 07 05.4 +0.8**
PV01 Paradox Valley 60.24 306 P **P** **22 07 05.7 +0.5**
PV01 IAmb IAmb 22 07 07.8
comp=Z,42nm,1.4s
OSTC Ostas 60.27 40 *e*P **P** **22 07 05.5 +0.7**
DPC Dobruska-Polom 60.29 40 *e*P **P** **22 07 06.0 +1.0**
DPC Dobruska-Polom 60.29 40 *e*P **P** **22 07 06.0 +1.0**
PLCA Paso Flores 60.35 202 P **P** **22 07 05.4 0.0**
comp=Z,21nm,1.2s,baz=33,slow=9.8,SNR=18
PLCA LR LR 22 35 43.1
comp=Z,65nm,18.7s,baz=6.5,slow=39
PLCA Paso Flores 60.35 202 P **P** **22 07 05.5 0.0**
PLCA pmax pmax
comp=Z,100nm,1.6s
PLCA Paso Flores 60.35 202 P **P** **22 07 05.5 0.0**
PLCA Paso Flores 60.35 202 *e*P **P** **22 07 05.5 0.0**
KSP Ksiaz 60.39 40 *e*P **P** **22 07 05.0 -0.5**
MODS Modra-Piesok 60.50 43 *e*P **P** **22 07 06.5 +0.1**
MODS pmax pmax
comp=Z,38nm,1.4s
MODS Modra-Piesok 60.50 43 *e*P **P** **22 07 06.5 +0.1**
KRLC Kraliky 60.52 41 *e*P **P** **22 07 07.3 +0.7**
KRLC Kraliky 60.52 41 *e*P **P** **22 07 07.3 +0.7**
319A Douglas 60.61 298 P **P** **22 07 07.7 +0.1**
319A IAmb IAmb 22 07 10.2
comp=Z,44nm,1.6s
SMOL Smolenice 60.62 43 *e*P **P** **22 07 08.2 +0.9**
SMOL Smolenice 60.62 43 *e*P **P** **22 07 08.2 +0.9**
NC204 NORSAR Array S 60.75 27 P **P** **22 07 07.8 -0.2**
NB2 NORSAR Subarra 60.86 28 P **P** **22 07 09.7 +1.1**
comp=Z,1.5nm,0.8s,baz=247,slow=7.4
NOA NORSAR Array B 60.86 28 P **P** **22 07 09.8 +1.1**
comp=Z,4.8nm,1.0s,baz=242,slow=6.6,SNR=5.8
NOA LR LR 22 29 25.7
comp=Z,44nm,18.8s,baz=270,slow=32
MORC Moravsky Berou 60.94 41 ⇓P **P** **22 07 11.0 +1.6**
MORC Moravsky Berou 60.94 41 *e*P **P** **22 07 10.3 +0.9**
MORC Moravsky Berou 60.94 41 ⇓P **P** **22 07 11.0 +1.6**
MORC Moravsky Berou 60.94 41 P **P** **22 07 10.0 +0.5**
MORC IAmb IAmb 22 07 11.8
comp=Z,44nm,1.7s
SRO Srobarova 61.08 43 *e*P **P** **22 07 11.3 +1.0**
SRO pmax pmax
comp=Z,28nm,1.2s
SRO Srobarova 61.08 43 *e*P **P** **22 07 11.3 +1.0**
BW06 Boulder Array 61.40 311 P **P** **22 07 12.7 -0.3**
baz=96,SNR=10
PD31 Pinedale Array 61.40 311 P **P** **22 07 12.2 -0.7**
PD31 IAmb IAmb 22 07 13.8
comp=Z,31nm,1.4s
PDAR Pinedale Array 61.40 311 P **P** **22 07 12.3 -0.6**
comp=Z,3.3nm,0.5s,baz=112,slow=7.0,SNR=17
PDAR LR LR 22 30 51.3
comp=Z,178nm,21.8s,baz=116,slow=33
PDAR Pinedale Array 61.40 311 P **P** **22 07 12.1 -0.9**
RLMT Red Lodge 61.46 313 P **P** **22 07 14.2 +0.9**
baz=98,SNR=5.2
VYHS Vyhne 61.54 43 *e*P **P** **22 07 13.8 +0.3**
VYHS pmax pmax
comp=Z,36nm,1.6s
VYHS Vyhne 61.54 43 *e*P **P** **22 07 13.8 +0.3**
TUC Tucson 61.88 299 P **P** **22 07 16.6 +0.4**
baz=90
TUC Tucson 61.88 299 P **P** **22 07 16.4 +0.2**
TUC pmax pmax
comp=Z,24nm,1.3s
TUC Tucson 61.88 299 P **P** **22 07 16.4 +0.2**
TUC IAmb IAmb 22 07 18.2
comp=Z,24nm,1.3s
P17A Butcher Ranch, 62.02 307 P **P** **22 07 16.8 -0.4**
YMP Mirror Lake Pl 62.04 313 P **P** **22 07 16.9 -0.4**
PSZ Piszkesteto 62.15 44 ⇑P **P** **22 07 19.4 +1.7**
PSZ Piszkesteto 62.15 44 ⇑P **P** **22 07 19.4 +1.7**
PSZ Piszkesteto 62.15 44 P **P** **22 07 18.1 +0.5**
PSZ IAmb IAmb 22 07 19.8
comp=Z,20nm,1.3s
EGMT Eagleton 62.20 317 P **P** **22 07 18.3 +0.3**
baz=99
FLWY Flagg Ranch 62.36 312 P **P** **22 07 19.5 +0.2**
MOOW Moose Ponds 62.36 312 P **P** **22 07 19.1 -0.3**
MOOW IAmb IAmb 22 07 25.6
comp=Z,37nm,1.7s
WUAZ Wupatki 62.38 302 P **P** **22 07 21.1 +1.5**
baz=91,SNR=5.4
WUAZ Wupatki 62.38 302 P **P** **22 07 20.3 +0.7**
OJC Ojcow 62.45 41 *e*P **P** **22 07 20.7 +1.1**
OJC Ojcow 62.45 41 P **P** **22 07 19.9 +0.3**
OJC Ojcow 62.45 41 P **P** **22 07 19.9 +0.3**
LL01 San Ignacio de 62.47 203 P **P** **22 07 19.9 +0.3**
LL01 IAmb IAmb 22 07 21.2
comp=Z,32nm,1.2s
YHH Holmes Hill 62.54 313 P **P** **22 07 19.9 -0.7**
KECS Kecovo 62.62 43 *e*P **P** **22 07 22.0 +1.3**
KECS Kecovo 62.62 43 *e*P **P** **22 07 22.0 +1.3**
JLU Jordanelle 62.63 308 P **P** **22 07 21.3 0.0**
BANR Banloc 62.67 46 ⇓P **P** **22 07 23.7 +2.7**
QLMT Earthquake Lak 62.95 313 P **P** **22 07 23.9 +0.6**
MDVR Moldovita 63.02 47 ⇓P **P** **22 07 22.4 -1.1**
BZS Buzias 63.03 46 ⇓P **P** **22 07 25.3 +1.8**
BZS Buzias 63.03 46 ⇓P **P** **22 07 25.3 +1.8**
MSU Marysvale 63.10 306 P **P** **22 07 24.7 +0.3**
MSU Marysvale 63.10 306 P **P** **22 07 24.7 +0.3**
SIRR Siria 63.13 46 ⇓P **P** **22 07 24.0 -0.2**
CRVS Cervenica-Dubn 63.32 43 *e*P **P** **22 07 27.3 +1.9**
CRVS pmax pmax
comp=Z,68nm,1.5s
CRVS Cervenica-Dubn 63.32 43 *e*P **P** **22 07 27.3 +1.9**
HRY Holter Researc 63.43 315 P **P** **22 07 26.0 -0.3**
SPUT South Promonto 63.43 309 P **P** **22 07 26.1 -0.4**
HERR Herculane 63.52 47 ⇓P **P** **22 07 29.8 +3.0**
214A Organ Pipe Nat 63.61 298 P **P** **22 07 28.6 +0.9**
baz=88
214A Organ Pipe Nat 63.61 298 P **P** **22 07 28.0 +0.3**
214A IAmb IAmb 22 07 30.2
comp=Z,17nm,1.1s
DUG Dugway, Tooele 63.65 308 P **P** **22 07 28.2 +0.3**
baz=92,SNR=5.6
DUG Dugway, Tooele 63.65 308 P **P** **22 07 28.4 +0.5**
DUG pmax pmax
comp=Z,17nm,1.2s
DUG Dugway, Tooele 63.65 308 P **P** **22 07 28.4 +0.5**
DUG IAmb IAmb 22 07 29.9
comp=Z,17nm,1.2s
GZR Gura Zlata 63.82 47 ⇓P **P** **22 07 28.6 -0.2**
GZR Gura Zlata 63.82 47 ⇓P **P** **22 07 28.6 -0.2**
UZH Uzhgorod 63.83 43 ⇓*i*P **P** **22 07 27.6 -1.1**
UZH *e* 22 07 36.0
UZH *e* 22 08 03.0
KOLS Kolonicke sedl 63.86 43 *e*P **P** **22 07 29.2 +0.3**
KOLS pmax pmax
comp=Z,23nm,1.5s
KOLS Kolonicke sedl 63.86 43 *e*P **P** **22 07 29.2 +0.3**
MCMT McKenzie Canyo 63.96 313 P **P** **22 07 30.2 +0.2**
KWP Kalwaria Pacla 64.23 42 *e*P **P** **22 07 32.8 +1.4**
KWP Kalwaria Pacla 64.23 42 P **P** **22 07 32.8 +1.4**
KWP Kalwaria Pacla 64.23 42 P **P** **22 07 32.8 +1.4**
CJR Cluj-Napoca 64.51 45 ⇓P **P** **22 07 36.4 +3.1**
CJR Cluj-Napoca 64.51 45 ⇓P **P** **22 07 36.4 +3.1**
PDMCI Parker Dam,Lak 64.66 301 P **P** **22 07 35.7 +1.3**
baz=89
HLID Hailey 65.00 311 P **P** **22 07 36.8 +0.1**
baz=93,SNR=10
HLID Hailey 65.00 311 P **P** **22 07 36.4 -0.4**
HLID IAmb IAmb 22 07 39.2
comp=Z,16nm,1.2s
ARCR ARCALIA 65.06 45 ⇓P **P** **22 07 36.3 -0.5**
LVV L'vov 65.10 42 *e*P **P** **22 07 37.2 +0.2**
ARR Arges 65.12 47 ⇓P **P** **22 07 38.5 +1.2**
SUW Suwalki 65.13 37 P **P** **22 07 37.3 +0.2**
SUW Suwalki 65.13 37 P **P** **22 07 37.3 +0.2**
IRM Iron Mountain 65.50 301 P **P** **22 07 41.3 +1.3**
baz=88,SNR=18
BUR08 Bucovina Ar. S 65.67 44 P **P** **22 07 41.5 +0.6**
BURAR Bucovina Array 65.68 44 P **P** **22 07 41.7 +0.7**
DOPR Dopca 65.69 46 ⇓P **P** **22 07 41.9 +1.0**
R11A Troy Canyon, C 65.77 306 P **P** **22 07 42.3 +0.5**
baz=90,SNR=10.0
BC3 Big Chuckawall 65.77 300 P **P** **22 07 42.5 +0.7**
baz=88
GMRC Granite Mounta 65.90 302 P **P** **22 07 43.4 +0.7**
baz=88,SNR=11
OZUR 65.97 46 ⇓P **P** **22 07 41.5 -1.3**
MLR Muntele Rosu 66.05 47 ⇓P **P** **22 07 44.0 +0.6**
MLR Muntele Rosu 66.05 47 ⇓P **P** **22 07 44.0 +0.6**
MLR Muntele Rosu 66.05 47 P **P** **22 07 44.3 +0.9**
SWSC Sam W. Stewart 66.09 300 P **P** **22 07 45.1 +1.4**
baz=87
TUQ Turquoise Moun 66.10 302 P **P** **22 07 45.1 +1.2**
baz=88,SNR=5.8
BELC Belle Mtn. Jos 66.21 301 P **P** **22 07 45.9 +1.2**
baz=88,SNR=9.5
BIZ Bicaz 66.24 45 ⇓P **P** **22 07 45.2 +0.8**
TPNV Topopah Spring 66.32 304 P **P** **22 07 46.9 +1.5**
baz=89,SNR=7.3
TPNV Topopah Spring 66.32 304 P **P** **22 07 45.8 +0.4**
TPNV pmax pmax
comp=Z,25nm,1.5s
TPNV Topopah Spring 66.32 304 P **P** **22 07 45.8 +0.4**
TPNV IAmb IAmb 22 07 51.2
comp=Z,25nm,1.4s
PRAR RASCA 66.35 45 ⇓P **P** **22 07 47.3 +2.2**
HEC Hector,Ludlow 66.45 302 P **P** **22 07 46.7 +0.5**
baz=88
PLOR Plostina 66.56 46 ⇓P **P** **22 07 47.8 +1.2**
PLOR Plostina 66.56 46 ⇓P **P** **22 07 47.8 +1.2**
PFO Pinyon Flats O 66.61 300 P **P** **22 07 48.6 +1.3**
baz=87
PFO Pinyon Flats O 66.61 300 P **P** **22 07 47.7 +0.5**
PFO pmax pmax
comp=Z,45nm,1.9s
PFO Pinyon Flats O 66.61 300 P **P** **22 07 47.7 +0.5**
PFO IAmb IAmb 22 08 11.5
comp=Z,45nm,1.9s
VRI Vrincioaia 66.62 46 ⇓P **P** **22 07 47.4 +0.5**
VRI Vrincioaia 66.62 46 ⇓P **P** **22 07 47.4 +0.5**
MONP2 Monument Peak 66.62 300 P **P** **22 07 48.5 +1.1**
baz=87
GSC Goldstone, Bar 66.82 302 P **P** **22 07 49.8 +1.3**
baz=88,SNR=7.3
FURC Furnace Creek, 66.83 304 P **P** **22 07 49.8 +1.4**
baz=88
TPH Tonopah 67.06 305 P **P** **22 07 50.1 -0.1**
TPH pmax pmax
comp=Z,92nm,1.3s
TPH Tonopah 67.06 305 P **P** **22 07 50.1 -0.1**
NEW Newport 67.13 316 P **P** **22 07 50.2 +0.1**
baz=93,SNR=14
NEW Newport 67.13 316 P **P** **22 07 50.1 -0.1**
NEW pmax pmax
comp=Z,30nm,1.2s
NEW Newport 67.13 316 P **P** **22 07 50.1 -0.1**
NEW IAmb IAmb 22 07 51.4
comp=Z,30nm,1.1s
NACGM Naroch 67.33 36 *e* **P** **22 07 51.0 -0.2**
MPMC Manual Prospec 67.35 303 P **P** **22 07 52.8 +0.8**
baz=88,SNR=6.3
YKA Yellowknife Ar 67.44 332 P **P** **22 07 51.2 -0.6**
comp=Z,6.4nm,1.1s,baz=100,slow=7.2,SNR=8.8

LRMC	Laurel Mtn Rad	67.53	302	P		P	22 07 53.7	+0.7
	baz=87,SNR=6.0							
BFSC	Mount Baldy Ra	67.58	301	P		P	22 07 54.2	+0.9
	baz=87							
CWC	Cottonwood Cre	67.81	304	P		P	22 07 56.0	+1.1
	baz=88							
EDW2	Edwards Air Fo	67.81	302	P		P	22 07 55.9	+1.1
	baz=87,SNR=8.7							
SORM	Soroca	67.82	44	⇓P		P	22 07 53.6	-0.8
SORM	Soroca	67.82	44	⇓P		P	22 07 53.6	-0.8
FINES	FINESS Array B	67.85	29	P		P	22 07 56.8	+2.4
	comp=Z,4.4nm,0.8s,baz=298,slow=4.1,SNR=4.6							
FINES				LR		LR	22 32 48.9	
	comp=Z,97nm,19.7s,baz=270,slow=32							
FINES	FINESS Array B	67.85	29	P		P	22 07 55.8	+1.4
FINES	FINESS Array B	67.85	29	P		P	22 07 55.8	+1.4
C09A	Chrisman Ranch	67.88	316	P		P	22 07 54.5	-0.4
C09A				IAmb		IAmb	22 07 58.9	
	comp=Z,43nm,1.6s							
NVAR	Mina Array Bea	67.91	306	P		P	22 07 55.7	+0.2
	comp=Z,2.3nm,1.0s,baz=111,slow=6.8,SNR=7.2							
NVAR				LR		LR	22 37 41.4	
	comp=Z,147nm,18.4s,baz=90,slow=36							
NVAR	Mina Array Bea	67.91	306	P		P	22 07 54.9	-0.6
MICGM	Minsk	67.93	37	*e*		P	22 07 55.0	0.0
MNK	Minsk	67.93	37	*eP*		P	22 07 55.0	0.0
ISA	Isabella, Lake	68.16	303	P		P	22 07 58.6	+1.6
	baz=87,SNR=9.1							
ISA	Isabella, Lake	68.16	303	P		P	22 07 57.7	+0.7
ISA				pmax		pmax		
	comp=Z,23nm,1.3s							
ISA	Isabella, Lake	68.16	303	P		P	22 07 57.7	+0.7
ISA				IAmb		IAmb	22 07 59.9	
	comp=Z,23nm,1.3s							
D08A	Wollman Farm,	68.30	315	P		P	22 07 57.5	-0.1
D08A				IAmb		IAmb	22 07 58.2	
	comp=Z,29nm,1.5s							
OMMB	Old Mammoth Mi	68.49	305	P		P	22 07 59.9	+0.6
AKASG	Malin Array Be	68.49	41	P		P	22 07 58.4	-0.2
	comp=Z,4.1nm,0.7s,baz=269,slow=5.8,SNR=22							
AKASG				LR		LR	22 36 03.4	
	comp=Z,18nm,21.1s,baz=310,slow=34							
AKASG	Malin Array Be	68.49	41	*i* P		P	22 07 58.4	-0.2
AKASG				pmax		pmax		
	comp=Z,6.0nm,0.9s							
AKASG	Malin Array Be	68.49	41	P		P	22 07 58.1	-0.5
AKBB	Malin Array Si	68.49	41	*ce*P		P	22 07 57.2	-1.4
MDPB	Devils Postpil	68.55	305	P		P	22 07 59.7	+0.1
MDPB				IAmb		IAmb	22 08 25.9	
	comp=Z,24nm,1.6s							
WAKR	Walker	68.79	306	P		P	22 08 01.3	+0.2
WAKR				IAmb		IAmb	22 08 06.7	
	comp=Z,31nm,1.3s							
E07A	Sunnyside	68.94	314	P		P	22 08 01.4	-0.1
ELL	Elmali	69.11	56	P		P	22 08 03.8	+0.9
ELL				pmax		pmax		
	comp=Z,102nm,1.1s							
ELL	Elmali	69.11	56	P		P	22 08 03.8	+0.9
ARCES	ARCESS Array B	69.22	21	P		P	22 08 03.1	+0.3
	comp=Z,5.9nm,0.9s,baz=264,slow=4.4,SNR=5.9							
ARCES				LR		LR	22 34 44.3	
	comp=Z,66nm,18.3s,baz=150,slow=33							
SMMC	Simmler	69.43	302	P		P	22 08 05.4	+0.6
	baz=86							
LTY	Liberty	69.50	315	P		P	22 08 04.5	-0.6
PUL	Pulkovo	69.72	31	*i* P		P	22 08 04.4	-1.6
PUL				pmax		pmax		
	comp=Z,51nm,0.8s							
K05A	Summer Lake	69.73	310	P		P	22 08 07.7	+0.9
MDUB	Mudurnu	69.91	52	P		P	22 08 07.3	-0.5
J05D	Fort Rock, OR	69.97	311	P		P	22 08 09.9	+1.7
	baz=88							
AFDM	Forest Hills D	69.97	306	P		P	22 08 08.2	+0.2
F05D	White Salmon	70.06	314	P		P	22 08 09.2	+0.8
	baz=89,SNR=6.8							
TSUM	Tsumeb	70.26	117	P		P	22 08 10.1	-0.2
TSUM				IAmb		IAmb	22 08 12.3	
	comp=Z,47nm,1.6s							
ORV	Oroville	70.34	307	P		P	22 08 10.5	+0.2
ORV				pmax		pmax		
	comp=Z,26nm,1.5s							
ORV	Oroville	70.34	307	P		P	22 08 10.5	+0.2
ORV				IAmb		IAmb	22 08 12.2	
	comp=Z,26nm,1.4s							
M04C	Macdoel	70.48	309	P		P	22 08 12.0	+0.7
	baz=87							
O03E	Paynes Creek	70.53	308	P		P	22 08 10.8	-0.8
	baz=87							
L04D	Klamath Falls	70.80	310	P		P	22 08 13.5	+0.2
	baz=87							
I04A	Tendick Farm,	70.80	312	P		P	22 08 13.3	+0.2
	baz=88							
N02D	Trinity Center	71.17	309	P		P	22 08 14.6	-0.9
	baz=86							
ILGA	Ilgaz	71.79	51	P		P	22 08 19.6	+0.3
ILGA				IAmb		IAmb	22 09 28.1	
	comp=Z,11nm,0.6s							
BR131	Keskin Array S	71.83	53	P		P	22 08 19.9	+0.4
BR131				pmax		pmax		
	comp=Z,14nm,1.4s							
BR131	Keskin Array S	71.83	53	P		P	22 08 19.9	+0.4
BRTR	Keskin Array B	71.83	53	P		P	22 08 20.2	+0.7
	comp=Z,4.3nm,1.0s,baz=258,slow=6.2,SNR=13							
BRTR				LR		LR	22 38 25.8	
	comp=Z,32nm,20.2s,baz=276,slow=35							
BRTR	Keskin Array B	71.83	53	P		P	22 08 19.9	+0.4
BRTR	Keskin Array B	71.83	53	P		P	22 08 19.9	+0.4
KMRM	Mail Ridge	71.99	308	P		P	22 08 21.4	+1.0
OBN	Obninsk	72.97	36⇑	*eP*		P	22 08 25.6	-0.2
OBN				*e	*PP	pP	22 08 27.6	-0.8
OBN					*SP	sP	22 08 30.0	+0.6
OBN							22 08 39.0	
OBN				S		S	22 17 53.0	+0.7
OBN				pmax		pmax		
	comp=Z,45nm,1.7s							
OBN				MLR		MLR		
	comp=Z,87nm,17.0s							
OBN	Obninsk	72.97	36	P		P	22 08 26.2	+0.5
MOS	Moscow	73.55	36	*eP*		P	22 08 27.8	-1.4
MOS				pmax		pmax		
	comp=Z,45nm,1.2s							
TOKA	Tokat	73.95	52	P		P	22 08 31.0	-1.0
TOKA				IAmb		IAmb	22 08 32.9	
	comp=Z,38nm,1.9s							
ANN	Anapa	74.19	47	*eP*		P	22 08 30.3	-2.9
ANN				*eS*		SKiKP	22 18 00.6	-0.4
ANN				pmax		pmax		
	comp=Z,123nm,1.9s							
LPSR	Galich'ya Gora	74.50	39	*eP*		P	22 08 35.0	+0.2
LPSR				pmax		pmax		
	comp=Z,20nm,1.2s							
VSR	Storozhevoye	74.76	40	*eP*		P	22 08 36.1	-0.3
VSR				pmax		pmax		
	comp=Z,30nm,1.3s							
GAZ	Gaziantep	74.89	55	P		P	22 08 38.4	+0.9
GAZ				IAmb		IAmb	22 08 40.3	
	comp=Z,75nm,1.8s							
INK	Inuvik	75.67	337	P		P	22 08 40.9	-0.3
INK				pmax		pmax		
	comp=Z,25nm,1.3s							
INK	Inuvik	75.67	337	P		P	22 08 40.9	-0.3
INK				IAmb		IAmb	22 08 43.4	
	comp=Z,25nm,1.2s							
SOC	Sochi	75.96	48	*eP*		P	22 08 44.1	+0.7
SOC				*ePPP*		PPP	22 13 21.7	
SOC				*eS*		S	22 18 30.9	+4.6
SOC				*eSS*		SS	22 23 18.6	0.0
SOC				*eSSS*		SSS	22 26 34.9	
SOC				pmax		pmax		
	comp=Z,25nm,1.0s							
MBAR	Mbarara	76.30	94	P		P	22 08 46.3	+0.2
MBAR				pmax		pmax		
	comp=Z,27nm,1.3s							
MBAR	Mbarara	76.30	94	P		P	22 08 46.3	+0.2
MBAR				IAmb		IAmb	22 08 48.9	
	comp=Z,26nm,1.2s							
VRH	Novokhopyorsk	76.36	40	*eP*		P	22 08 46.0	+0.5
VRH				pmax		pmax		
	comp=Z,20nm,1.1s							
KOPT	Kop Dagi	77.04	52	P		P	22 08 51.0	+1.0
KOPT				IAmb		IAmb	22 08 53.0	
	comp=Z,49nm,1.7s							
MARD	Mardin	77.68	54	P		P	22 08 53.9	+0.4
MARD				IAmb		IAmb	22 08 55.8	
	comp=Z,22nm,1.2s							
KIV	Kislovodsk	78.03	48	P		P	22 08 55.7	+0.4
KIV				pmax		pmax		
	comp=Z,16nm,1.2s							
KIV	Kislovodsk	78.03	48	P		P	22 08 55.7	+0.4
SHA1	Shidzhatmaz	78.05	48	*i* P		P	22 08 54.1	-1.4
GOF	Gofitskoye	78.11	46⇑	*eP*		P	22 08 57.1	+1.6
GOF				pmax		pmax		
	comp=Z,32nm,1.2s							
KBZ	Khabaz	78.22	48	P		P	22 08 57.2	+1.1
	comp=Z,3.6nm,1.0s,baz=285,slow=8.4,SNR=5.9							
KBZ	Khabaz	78.22	48	*ce*P		P	22 08 55.2	-0.9
KBZ				pmax		pmax		
	comp=Z,5.0nm,1.1s							
LSZ	Lusaka	78.24	109	P		P	22 08 57.0	+0.2
LSZ				pmax		pmax		
	comp=Z,48nm,1.6s							
LSZ	Lusaka	78.24	109	P		P	22 08 57.0	+0.2
LSZ				IAmb		IAmb	22 08 59.6	
	comp=Z,48nm,1.6s							
SUR	Sutherland	78.52	128	LR		LR	22 37 10.7	
	comp=Z,236nm,18.9s,baz=313,slow=31							
DAWY	Dawson	78.59	333	P		P	22 08 57.8	-0.1
ZEI	Tsey	79.11	49	*eP*		P	22 09 01.6	+0.3
ZEI				pmax		pmax		
	comp=Z,12nm,1.9s							
LBTB	Lobatse	79.37	120	LR		LR	22 37 36.7	
	comp=Z,124nm,20.2s,baz=311,slow=31							
KIRV	Kirov	79.57	32	*ce*P		P	22 09 02.6	-0.6
BCAR	Beaver Creek A	79.84	333	P		P	22 09 04.7	-0.1
MATP	Matopo	80.24	114	LR		LR	22 40 24.1	
	comp=Z,126nm,18.1s,baz=324,slow=32							
BOSA	Boshof	80.46	123	P		P	22 09 08.7	-0.1
	comp=Z,13nm,1.2s,baz=302,slow=7.2,SNR=5.6							
BOSA				LR		LR	22 37 19.3	
	comp=Z,95nm,18.5s,baz=338,slow=30							
BOSA	Boshof	80.46	123	P		P	22 09 08.2	-0.5
BOSA				pmax		pmax		
	comp=Z,63nm,1.6s							
BOSA	Boshof	80.46	123	P		P	22 09 08.2	-0.5
BOSA				IAmb		IAmb	22 09 10.2	
	comp=Z,63nm,1.6s							
SCRK	Sand Creek	80.58	334	P		P	22 09 08.6	-0.2
	baz=75							
MENT	Mentasta	80.73	333	P		P	22 09 09.4	-0.1
PMSA	Palmer Station	80.87	188	*eP*		P	22 09 10.9	+1.0
IL31		81.57	335	P		P	22 09 13.9	0.0
IL31				IAmb		IAmb	22 09 18.7	
	comp=Z,59nm,1.7s							
ILAR	Eielson Array	81.57	335	P		P	22 09 14.2	+0.2
	comp=Z,5.3nm,0.6s,baz=71,slow=4.0,SNR=52							
ILAR	Eielson Array	81.57	335	P		P	22 09 13.4	-0.5
ILAR	Eielson Array	81.57	335	P		P	22 09 13.4	-0.5
HDA	Harding Lake	81.71	335	P		P	22 09 14.3	-0.4
	baz=73							
COLA	College	81.94	335	P		P	22 09 15.7	-0.1
COLA				pmax		pmax		
	comp=Z,15nm,1.0s							
COLA	College	81.94	335	P		P	22 09 15.7	-0.1
CCB	Clear Creek Bu	81.99	335	P		P	22 09 16.2	+0.1
CCB				IAmb		IAmb	22 09 20.7	
	comp=Z,63nm,1.9s							
MDM	Murphy Dome	82.06	335	P		P	22 09 16.2	-0.3
COLD	Coldfoot	82.08	338	P		P	22 09 17.4	+0.9
	baz=70							
WRH	Wood River Hil	82.16	335	P		P	22 09 17.0	0.0
I23K	Minto, Yukon-K	82.46	336	P		P	22 09 19.4	+0.9
	baz=71,SNR=5.9							
NEA2	Nenana	82.52	335	P		P	22 09 18.9	0.0
	baz=71,SNR=5.4							
BWN	Browne	82.82	335	P		P	22 09 20.6	+0.2
MLY	Manley	83.05	336	P		P	22 09 21.8	+0.1
	baz=70							
KTH	Kantishna Hill	83.64	334	P		P	22 09 24.5	-0.3
IMAR	Indian Mountai	83.86	337	P		P	22 09 26.5	+0.8
PPLA	Purkeypile	84.42	334	P		P	22 09 28.9	0.0
ARU	Arti	84.90	33	*d i* P		P	22 09 31.1	-0.1
ARU							22 12 42.7	
ARU				S		S	22 19 54.8	-4.8
ARU				SS		SS	22 25 27.2	-4.2
ARU				pmax		pmax		
	comp=Z,28nm,1.7s							
ARU	Arti	84.90	33	P		P	22 09 31.9	+0.7
ARU				IAmb		IAmb	22 09 33.7	
	comp=Z,32nm,1.5s							
SVE	Sverdlovsk	85.84	32	*eP*		P	22 09 37.7	+1.8
ABKAR	Akbulak array	88.16	39	P		P	22 09 47.4	0.0
ABKAR				IAmb		IAmb	22 09 49.7	
	comp=Z,17nm,1.2s							
ABKAR	Akbulak array	88.16	39	P		P	22 09 47.4	0.0
VNA1	Neumayer--Stat	89.09	169	P		P	22 09 52.0	+0.9
VNA3	Neumayer Olymp	89.32	169	P		P	22 09 52.3	+0.1
NRIK	Noril'sk	89.48	15	P		P	22 09 54.0	+0.8
	comp=Z,1.8nm,0.6s,baz=312,slow=3.9,SNR=5.8							
NRIK	Noril'sk	89.48	15	*ce*P		P	22 09 53.5	+0.3
NRIK				pmax		pmax		
	comp=Z,5.0nm,1.4s							
VNA2	Neumayer--Watz	89.48	168	P		P	22 09 53.2	+0.2
GEYT	Alibeck	90.84	50	P		P	22 10 01.4	+1.1
	comp=Z,1.0nm,0.4s,baz=29,slow=46,SNR=1.8							
SNAA	Sanae	90.98	168	P		P	22 10 00.0	0.0
SNAA	Sanae	90.98	168	*ce*P		P	22 09 57.5	-2.5
SNAA				pmax		pmax		
	comp=Z,9.0nm,1.2s							
SNAA	Sanae	90.98	168	P		P	22 10 00.1	0.0
SNAA				IAmb		IAmb	22 10 02.3	
	comp=Z,14nm,1.3s							
BRVK	Borovoye	92.47	33	*ce*P		P	22 10 05.2	-2.2
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
BRVK	Borovoye	92.47	33	P		P	22 10 07.8	+0.4
NVL	N'lazarevskaya	93.85	164	*eP*		P	22 10 20.6	+7.4
NVL				pmax		pmax		
	comp=Z,7.0nm,0.6s							
KURK	Kurchatov	98.09	32	*i* P		P	22 10 31.9	-1.1
KURK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
ZALV	Zalesovo Beam	99.06	27	LR		LR	22 52 52.3	
	comp=Z,43nm,19.1s,baz=332,slow=34							
KSH	Kashi	102.74	43	P		Pdif	22 10 54.9	+0.6
KSH				S		Sdif	22 22 33.3	-6.6
KSH				LR		LR		
	comp=Z,110nm,4.6s							
KSH				LR		LR		
	comp=Z,100nm,4.7s							
KSH				LR		LR		
	comp=Z,130nm,4.6s							
HHC	Hu-ho-hao-te	120.29	21	*e*PKP		PKPdf	22 15 44.3	-3.8
LZH	Lanzhou	121.22	29	*e*PKP		PKPdf	22 15 50.1	0.0
LZH				sPKP			22 15 54.6	
LZH				LR		LR		
	comp=Z,120nm,18.1s							
LZH				LR		LR		
	comp=Z,130nm,18.3s							
LZH				LR		LR		
	comp=Z,190nm,20.2s							
CD2	Chengdu	125.30	33	PKP		PKPdf	22 15 56.4	-1.5
MJAR	Matsushiro Arr	128.65	357	PKP		PKPdf	22 16 04.2	0.0
	comp=Z,2.5nm,0.9s,baz=358,slow=3.0,SNR=5.6							
ENH	Enshi	128.67	29			PKiKP	22 16 04.7	-0.3
KMI	Kunming	129.15	39	*e*PKP		PKPdf	22 16 05.3	-0.3
KMI				sPKP			22 16 11.1	
KMI				AMB		AMB		
	comp=Z,77nm,5.3s							
KMI				LR		LR		
	comp=Z,180nm,9.1s							
KMI				LR		LR		
	comp=Z,140nm,9.1s							
KMI				LR		LR		
	comp=Z,77nm,9.5s							
GYA	Guiyang	130.37	34	*e*PKP		PKiKP	22 16 09.3	+0.7
NJ2	Nanjing	130.69	18	*e*PKP		PKPdf	22 16 07.0	-1.1
CHTO	Chiang Mai	131.04	48	PKiKP		PKPdf	22 16 09.3	+0.2
CHTO	Chiang Mai	131.04	48			PKPdf	22 16 09.3	+0.2
CMAR	Chiang Mai Arr	131.27	48	PKP		PKiKP	22 16 10.6	+0.1
	comp=Z,1.0nm,0.6s,baz=295,slow=3.2,SNR=9.1							
CMAR	Chiang Mai Arr	131.27	48	PKiKP		PKiKP	22 16 10.1	-0.4
CMAR	Chiang Mai Arr	131.27	48	PKPdf		PKiKP	22 16 10.1	-0.4
KSM	Kuching	150.51	58			PKiKP	22 16 49.6	-0.3
SBUM	Sibu	151.47	54			PKPbc	22 16 51.5	+0.1
KKM	Kota Kinabalu	151.93	43			PKPbc	22 16 52.0	-0.7
MYLDM	Lahad Datu	154.06	41	PKPdf		PKPdf	22 16 50.2	+1.1
MYLDM				PKPab		pPKPab	22 17 11.8	-1.4
ASAR	Alice Springs	171.31	173	PKIKP		PKPdf	22 17 05.8	+0.1
ASAR							22 18 24.2	

ASAR	Alice Springs	171.31	173			PKPdf	22 17 05.8	+0.1
ASAR				PKPab		PKPab	22 18 24.2	-1.3
WRA	Warramunga Arr	175.04	172	PKP		PKPdf	22 17 07.5	+0.3
	comp=Z,1.3nm,1.1s,baz=193,slow=0.9,SNR=4.7							
WRA	Warramunga Arr	175.04	172	PKIKP		PKPdf	22 17 06.8	-0.4
WRA	Warramunga Arr	175.04	172			PKPdf	22 17 06.8	-0.4

IDC 22 22:53:16.1±2.5, 25°.41S×177°.24W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/23, mbtmp4.2/4, Error ellipse: s-maj=66.6km s-min=41.8km az=35.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.01	271	P		P	P	23 00 03.5	+1.5
	1.6nm,0.5s,baz=107,slow=14,SNR=1.3								
ASAR	Alice Springs	44.29	261	P		P	P	23 01 27.5	-0.4
	1.9nm,0.9s,baz=106,slow=6.8,SNR=9.1								
WRA	Warramunga Arr	44.82	267	P		P	P	23 01 31.4	-0.8
	1.0nm,0.5s,baz=107,slow=8.0,SNR=25								
MAW	Mawson	77.21	200	P		P	P	23 05 11.8	+0.2
	3.0nm,0.5s,baz=143,slow=5.6,SNR=22								
AKASG	Malin Array Be	147.59	328	PKPbc		PKPbc		23 13 01.1	-1.0
	0.5nm,0.4s,baz=48,slow=3.7,SNR=2.1								

ZUR 22 23:41:41.5, 46°.69N×10°.79E, h4km±3km, MLh1.1/10, Error ellipse: s-maj=7.4km s-min=1.0km az=46.0
VIE 22 23:41:41.2±0.3, 46°.69N×10°.78E, h6km±3km, mb1.0/1, ml1.5/9, Error ellipse: s-maj=1.7km s-min=1.3km az=157.0
6 km N of Silandro

ROM 22 23:41:40.9±0.1, 46°.674N±0°.004×10°.770E±0°.005, h12km±1km, ML1.5/2, 3C, Error ellipse: s-maj=0.5km s-min=0.3km az=165.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOSI	Grossmontoni	0.16	249	⇑P		g	g	23 41 45.2	+0.5
MOSI				⇑P		g	g	23 41 45.2	+0.5
	0.2nm,SNR=2.2								
MOSI						S	S	23 41 48.0	+0.5
MOSI	Grossmontoni	0.16	249	P		g	g	23 41 45.1	+0.4
MOSI				S		S	g	23 41 48.0	+0.6
MOSI				AML		AML			
	comp=E,166μm,0.8s								
MOSI				AML		AML			
	comp=N,134μm,0.4s								
CARE	Lago del Cares	0.25	192	⇑*e*P		g	g	23 41 46.9	+0.6
CARE				*e*S		g	g	23 41 50.4	+0.5
OZOL	Ozolo	0.33	144	*e*P		g	b	23 41 48.3	-0.5
OZOL				*e*S		g	g	23 41 52.9	+0.8
BRMO	Bormio	0.34	234	P		g	b	23 41 48.4	-0.6
	comp=N,0.1nm,SNR=1.6								
BRMO				P		g	b	23 41 48.4	-0.6
BRMO	Bormio	0.34	234	P		g	g	23 41 48.1	+0.4
BRMO				S		g	g	23 41 52.9	+0.6
BORM	Bormio	0.34	233	P		g	b	23 41 48.4	-0.6
BORM				S		g	g	23 41 52.9	+0.6
FETA	Feichten	0.35	355	P		g	g	23 41 48.4	+0.4
	comp=N,0.1nm,SNR=1.3								
FETA				P		g	g	23 41 48.4	+0.4
FETA				S		g	g	23 41 53.0	+0.4
FETA	Feichten	0.35	355	*i* P		g	g	23 41 48.3	+0.4
	comp=N,0.8nm,0.0s								
FETA				*i* Sg		Sg		23 41 52.8	+0.2
	comp=N,2.3nm,0.1s								
FUORN	Ofenpass-Fuorn	0.35	261	P		g	g	23 41 48.4	+0.4
FUORN				S		g	g	23 41 53.5	+0.7
APPI	Appiano	0.37	122	P		g	g	23 41 48.7	+0.4
APPI				S		g	g	23 41 54.0	+0.7
ABSI	Aberstueckl	0.38	82	Pg		g	g	23 41 48.9	+0.4
	comp=N,0.1nm,SNR=2.0								
ABSI				Pg		g	g	23 41 48.9	+0.4
ABSI				Sg		g	g	23 41 54.3	+0.6
ABSI	Aberstueckl	0.38	82	P		g	g	23 41 48.8	+0.3
ABSI				S		g	g	23 41 54.2	+0.5
ABSI				AML		AML			
	comp=E,138μm,0.2s								
ABSI				AML		AML			
	comp=N,131μm,0.4s								
ABSI				AML		AML			
	comp=E,138μm,0.2s								
ABSI				AML		AML			
	comp=N,131μm,0.4s								
KOSI	Kohlern	0.47	116	Pg		Pb	b	23 41 51.0	-0.1
KOSI				Pg		Pb	b	23 41 51.0	-0.1
	comp=N,0.1nm,SNR=1.1								
KOSI	Kohlern	0.47	116	P		Pb	b	23 41 50.7	-0.5
KOSI				S		Sb	b	23 41 57.5	-0.7
ROSI	Rosskopf	0.51	60	Pg		Pg	g	23 41 51.2	+0.4
ROSI				Pg		Pg	g	23 41 51.2	+0.4
	comp=N,0.1nm,SNR=1.3								
ROSI	Rosskopf	0.51	60	P		Pg	g	23 41 50.9	0.0
ROSI				S		Sg	g	23 41 58.2	+0.5
DAVOX	Davos/Dischmat	0.62	280	P		Pg	g	23 41 53.3	+0.3
DAVOX				S		Sg	g	23 42 01.7	+0.4
SQTA	Sankt Quirin	0.62	29	*i* Pg		Pb	b	23 41 53.5	-0.3
	comp=N,1.4nm,0.1s								
SQTA				*e*Sg		Sg	g	23 42 01.2	-0.1
	comp=N,2.5nm,0.1s								
MABI	Malga Bissina	0.64	196	P		Pg	g	23 41 53.6	+0.2
MABI				S		Sg	g	23 42 02.2	+0.3
MOTA	Moosalm	0.71	19	*i* Pg		Pb	b	23 41 55.0	-0.3
	comp=N,0.4nm,0.1s								
MOTA				*i* Sg		Sg		23 42 04.1	+0.1
	comp=N,1.4nm,0.1s								
WTTA	Wattenberg	0.84	45	P		Pg	g	23 41 56.6	-0.4
ABTA	Abfaltersbach	1.20	86	*e*Pg		Pg	g	23 42 04.1	+0.2
	comp=N,0.1nm,0.1s								
ABTA				*i* Sg		Sb		23 42 19.1	-0.1
	comp=N,0.7nm,0.1s								

STR 22 23:43:18.2±0.8, 46°.N±2°×±°, h3km, MLv0.7/3,
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/alpes_taup-2.11 preliminary

LDG 22 23:43:18.3±0.1, 45.49N×6.68E, h2km, Md0.8/2, MI1.1/2, Error ellipse: s-maj=2.6km s-min=1.7km az=87.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPL	La Plagne	0.05	51	*e*Pg		g	g	23 43 19.9	+0.5
LPL				*e*Sg		Sg		23 43 20.8	+0.6

KAN14	**Manchester OK**	**0.10**	**205**		**Pg**		**23 48 09.9**	**+0.1**
KAN14				Sg	**Sg**		**23 48 11.6**	**+0.4**
KAN10	**Anthony SW Sta**	**0.17**	**298**		**Pg**		**23 48 10.8**	**-0.3**
KAN10				Sg	**Sg**		**23 48 13.2**	**-0.1**
KAN08	**Anthony NE Sta**	**0.19**	**345**		**Pg**		**23 48 11.2**	**-0.3**
KAN08				Sg	**Sg**		**23 48 13.9**	**0.0**
KAN09	**Caldwell North**	**0.25**	**69**		**Pg**		**23 48 12.6**	**0.0**
KAN12	**Harper NE Stat**	**0.26**	**344**		**Pg**		**23 48 12.5**	**-0.3**
KAN13	**South Haven SW**	**0.35**	**95**		**Pg**		**23 48 14.5**	**0.0**
CROK	**Carrier**	**0.54**	**186**	Pg	**Pg**		**23 48 18.0**	**-0.2**
U32A	**Winter Ranch,**	**1.10**	**233**		**Pg**		**23 48 27.9**	**-1.0**
T35A	**Sooner Cattle**	**1.13**	**96**	Pg	**Pg**		**23 48 28.7**	**-0.7**
OK029	**Liberty Lake**	**1.30**	**163**		**Pn**		**23 48 31.8**	**-0.9**
QUOK	**Quay**	**1.30**	**132**		**Pn**		**23 48 31.8**	**-0.9**
OK031	**S. Brethren Rd**	**1.39**	**141**		**Pn**		**23 48 33.2**	**-0.7**
BCOK	**Bluff Creek, N**	**1.41**	**170**	Pn	**Pn**		**23 48 33.4**	**-0.7**
OK030	**Cody Creek RV**	**1.44**	**141**		**Pn**		**23 48 33.9**	**-0.6**
R32A	**Long Quarter,**	**1.51**	**335**	Pn	**Pn**		**23 48 35.1**	**-0.6**
OK025	**Westminster Rd**	**1.53**	**162**		**Pn**		**23 48 35.7**	**-0.2**
OKCFA	**Oklahoma City**	**1.67**	**167**		**Pn**		**23 48 37.7**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.68**	**167**		**Pn**		**23 48 38.0**	**+0.1**
FNO	**Franklin**	**1.83**	**167**		**Pn**		**23 48 40.6**	**+0.6**
TUL1	**Leonard**	**2.05**	**123**	P	**Pn**		**23 48 42.6**	**-0.4**
	baz=304							
TUL1				S	**Sn**		**23 49 09.2**	**+0.3**
	baz=304							
TUL1	**Leonard**	**2.05**	**123**		**Pn**		**23 48 42.7**	**-0.2**
TUL1				lAmb_Lg			23 49 12.9	
	comp=Z,192nm,0.9s							
W35A	**Tecumseh**	**2.07**	**156**		**Pn**		**23 48 43.2**	**0.0**
CBKS	**Cedar Bluff**	**2.28**	**321**	P	**Pn**		**23 48 46.2**	**+0.1**
	baz=140							
CBKS				S	**Sn**		**23 49 14.6**	**-0.1**
	baz=140							
CBKS	**Cedar Bluff**	**2.28**	**321**	Pn	**Pn**		**23 48 46.3**	**+0.1**
KSU1	**Kansas State U**	**2.29**	**26**	P	**Pn**		**23 48 46.0**	**-0.3**
	baz=206							
KSU1				S	**Sn**		**23 49 15.6**	**+0.7**
	baz=206							
KSU1	**Kansas State U**	**2.29**	**26**	Pn	**Pn**		**23 48 46.6**	**+0.3**
KSU1				lAmb_Lg			23 49 24.2	
	comp=Z,184nm,0.8s							
WMOK	**Wichita Mounta**	**2.41**	**197**	P	**Pn**		**23 48 48.0**	**0.0**
	baz=17							
WMOK				S	**Sn**		**23 49 18.2**	**+0.3**
	baz=17							
WMOK	**Wichita Mounta**	**2.41**	**197**		**Pn**		**23 48 47.9**	**0.0**
X34A	**Smith Ranch, M**	**2.44**	**178**		**Pn**		**23 48 48.6**	**+0.3**
X34A				lAmb_Lg			23 49 25.6	
	comp=Z,95nm,0.8s							
U38A	**Gravette**	**2.90**	**101**		**Pn**		**23 48 54.7**	**+0.1**
X37A	**Clayton**	**3.20**	**139**		**Pn**		**23 48 59.1**	**+0.3**
X37A				lAmb_Lg			23 49 56.1	
	comp=Z,85nm,0.8s							
HHAR	**Hobbs**	**3.28**	**102**		**Pn**		**23 49 00.3**	**+0.4**
HHAR				lAmb_Lg			23 49 59.5	
	comp=Z,73nm,0.8s							
N33A	**J Bar K, Exete**	**3.71**	**5**	lAmb_Lg			23 50 14.5	
	comp=Z,85nm,0.7s							
S39A	**Bolivar**	**3.71**	**79**		**Pn**		**23 49 05.8**	**0.0**
S39A				lAmb_Lg			23 50 04.5	
	comp=Z,58nm,1.0s							
AMTX	**Amarillo**	**3.74**	**236**	P	**Pn**		**23 49 06.6**	**+0.2**
	baz=54							
AMTX	**Amarillo**	**3.74**	**236**	Pn	**Pn**		**23 49 07.0**	**+0.7**
AMTX				lAmb_Lg			23 50 13.8	
	comp=Z,63nm,0.8s							
W39A	**Magazine**	**3.82**	**118**	P	**Pn**		**23 49 07.1**	**-0.1**
	baz=300							
W39A	**Magazine**	**3.82**	**118**		**Pn**		**23 49 07.6**	**+0.4**
U40A	**Yellville**	**4.12**	**98**	P	**Pn**		**23 49 11.8**	**+0.3**
	baz=281							
U40A	**Yellville**	**4.12**	**98**	lAmb_Lg			23 50 22.4	
	comp=Z,93nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.21**	**299**	P	**Pn**		**23 49 13.3**	**+0.5**
	baz=116							
KSCO	**Kaye Shedlock'**	**4.21**	**299**	lAmb_Lg			23 50 33.2	
	comp=Z,68nm,0.8s							
P38A	**Dawn**	**4.30**	**52**	lAmb_Lg			23 50 24.4	
	comp=Z,47nm,0.7s							
MIAR	**Mount Ida**	**4.32**	**124**	lAmb_Lg			23 50 28.8	
	comp=Z,67nm,0.8s							
BGNE	**Belgrade**	**4.36**	**358**	lAmb_Lg			23 50 37.4	
	comp=Z,94nm,0.8s							
R40A	**Maddies Statio**	**4.65**	**73**	lAmb_Lg			23 50 35.9	
	comp=Z,44nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.80**	**102**	lAmb_Lg			23 50 52.1	
	comp=Z,46nm,1.0s							
X40A	**Basin Creek Fa**	**4.85**	**120**	lAmb_Lg			23 50 42.8	
	comp=Z,70nm,0.8s							
W41B	**Gary Mavity, V**	**4.95**	**110**	lAmb_Lg			23 50 46.2	
	comp=Z,54nm,0.8s							
UALR	**University of**	**5.05**	**115**	lAmb_Lg			23 50 57.8	
	comp=Z,64nm,0.8s							
WLAR	**White Oak Lake**	**5.16**	**129**	lAmb_Lg			23 51 03.1	
	comp=Z,54nm,0.9s							
T25A	**Trinidad**	**5.20**	**273**	lAmb_Lg			23 50 52.5	
	comp=Z,47nm,0.8s							
N38A	**Joes South For**	**5.22**	**43**	lAmb_Lg			23 50 55.5	
	comp=Z,60nm,0.8s							
CCM	**Cathedral Cave**	**5.39**	**77**	lAmb_Lg			23 51 02.4	
	comp=Z,39nm,0.8s							
LCAR	**Lake Charles**	**5.53**	**98**	lAmb_Lg			23 51 04.0	
	comp=Z,35nm,0.8s							
Z41A	**Richland Creek**	**5.64**	**131**	lAmb_Lg			23 51 15.3	
	comp=Z,49nm,0.8s							
CCAR	**Cane Creek**	**5.90**	**120**	lAmb_Lg			23 51 28.0	
	comp=Z,56nm,0.7s							
FVM	**French Village**	**6.02**	**79**	lAmb_Lg			23 51 16.1	
	comp=Z,37nm,0.8s							
Q24A	**Divide**	**6.03**	**291**	lAmb_Lg			23 51 23.7	
	comp=Z,39nm,0.7s							
435B	**Jarrell**	**6.25**	**177**	lAmb_Lg			23 51 31.5	
	comp=Z,43nm,0.9s							
N41A	**Harden Midland**	**6.61**	**54**	lAmb_Lg			23 51 35.0	
	comp=Z,32nm,0.7s							
JCT	**Junction City**	**6.74**	**194**	lAmb_Lg			23 51 50.7	
	comp=Z,29nm,0.8s							
S44A	**Carbondale**	**6.92**	**82**	lAmb_Lg			23 51 50.9	
	comp=Z,46nm,0.7s							
L40A	**Anamosa**	**7.20**	**44**	lAmb_Lg			23 51 57.0	
	comp=Z,40nm,0.8s							
ANMO	**Albuquerque**	**7.24**	**256**	lAmb_Lg			23 52 02.5	
	comp=Z,10nm,1.1s							
PHWY	**Pilot Hill**	**7.24**	**308**	lAmb_Lg			23 51 56.1	
	comp=Z,41nm,1.0s							
Q44A	**Meyer Farm, Va**	**7.27**	**73**	lAmb_Lg			23 52 07.3	
	comp=Z,49nm,0.9s							
W45A	**Hickory Valley**	**7.31**	**102**	lAmb_Lg			23 52 06.5	
	comp=Z,49nm,0.8s							
OXF	**Oxford**	**7.36**	**108**	lAmb_Lg			23 52 06.2	
	comp=Z,45nm,0.8s							
SUSD	**Miller**	**7.43**	**354**	lAmb_Lg			23 52 14.1	
	comp=Z,44nm,0.8s							
Y45A	**Yeager Farm, C**	**7.53**	**112**	lAmb_Lg			23 52 10.3	
	comp=Z,34nm,0.7s							
HDIL	**Hopedale**	**7.59**	**60**	lAmb_Lg			23 52 13.7	
	comp=Z,35nm,0.8s							
O44A	**Mansfield**	**8.02**	**64**	lAmb_Lg			23 52 28.5	
	comp=Z,27nm,0.8s							
L42A	**Oliver, Polo**	**8.07**	**50**	lAmb_Lg			23 52 30.1	
	comp=Z,29nm,0.8s							
WVT	**Waverly**	**8.16**	**93**	lAmb_Lg			23 52 27.6	
	comp=Z,15nm,0.7s							
JFWS	**Jewell Farm**	**8.30**	**43**	lAmb_Lg			23 52 28.5	
	comp=Z,31nm,0.8s							
146A	**Union**	**8.50**	**119**	lAmb_Lg			23 52 53.4	
	comp=Z,31nm,1.0s							
T47A	**Sharon Grove**	**8.64**	**87**	lAmb_Lg			23 52 39.6	
	comp=Z,20nm,0.8s							
K22A	**Casper**	**8.67**	**313**	lAmb_Lg			23 52 52.6	
	comp=Z,16nm,1.0s							
PV11	**David Mesa, Pa**	**8.78**	**282**	lAmb_Lg			23 53 00.9	
	comp=Z,19nm,1.1s							
M44A	**Midewin, Midew**	**8.80**	**57**	lAmb_Lg			23 52 54.6	
	comp=Z,39nm,1.3s							
I40A	**Norwalk**	**8.81**	**37**	lAmb_Lg			23 52 53.8	
	comp=Z,19nm,0.9s							
F33A	**5 Mile Ranch,**	**8.87**	**7**	lAmb_Lg			23 52 47.7	
	comp=Z,22nm,1.0s							
SPMN	**Marine on St.**	**9.03**	**24**	lAmb_Lg			23 52 53.4	
	comp=Z,27nm,1.1s							
WCI	**Wyandotte Cave**	**9.29**	**79**	lAmb_Lg			23 53 06.6	
	comp=Z,24nm,0.8s							
I42A	**Draeger Farm,**	**9.68**	**42**	lAmb_Lg			23 53 14.9	
	comp=Z,20nm,1.1s							
Y49A	**Blount Mountai**	**9.90**	**105**	lAmb_Lg			23 53 20.9	
	comp=Z,20nm,1.0s							

IDC ***23*** *00:12:42.1±0.7,9.62S×158.52E, h0km, mb4.2/12, mb1 4.4/13,mb1mx4.3/37,mbtmp4.2/13,ML3.7/1, MS3.5/12, Ms1 3.5/12,ms1mx3.3/29,Error ellipse: s-maj=22.8km s-min=16.6km az=145.0*

NEIC ***23*** *00:12:47.0±1.2,9.6S±0.1×158.60E±0.06, h34km±5km, mb4.6/32,Error ellipse: s-maj=14.7km s-min=9.2km az=174.0*

ISC 23 00:12:47.0±0.4,**9.62S**±0.08×**158.60E**±0.06,**h35**km,**n70,** σ0:**88**/67,**mb4.5**/27,**MS3.5**/10,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.34**	**82**	Pn		**Pn**		**00 13 08.3**	**-0.9**
	242nm,0.3s,baz=241,slow=3.2,SNR=39								
HNR				Sn		**Sn**		**00 13 25.9**	**+0.1**
	775nm,0.3s,baz=272,slow=22,SNR=9.9								
HNR				LR		LR		00 13 45.5	
	comp=Z,1μm,18.5s,baz=114,slow=45								
HNR	**Honiara**	**1.34**	**82**			**Pn**		**00 13 08.2**	**-0.9**
HNR				Sn		**Sn**		**00 13 24.0**	**-1.8**
SANVU	**Saraoutou**	**10.20**	**125**	Pn		**Pn**		**00 15 11.7**	**+0.7**
PMG	**Port Moresby**	**11.29**	**270**	LR		LR		00 19 19.9	
	comp=Z,269nm,20.0s,baz=60,slow=36								
DZM	**Mont Dzumac**	**14.49**	**150**	LR		LR		00 21 10.0	
	comp=Z,363nm,18.6s,baz=30,slow=35								
DZM	**Mont Dzumac**	**14.49**	**150**			**Pn**		**00 16 09.9**	**+0.2**
COEN	**Coen**	**15.70**	**253**	Pn		**Pn**		**00 16 26.2**	**+0.5**
CTA	**Charters Tower**	**15.82**	**227**	Pn		**Pn**		**00 16 24.8**	**-2.5**
	0.2nm,0.3s,baz=58,slow=12,SNR=5.6								
CTAO	**Charters Tower**	**15.82**	**227**			**Pn**		**00 16 25.7**	**-1.6**
EIDS	**Eidsvold**	**17.22**	**204**	P		**P**		**00 16 45.6**	**-0.5**
MSVF	**Nonsavu**	**20.53**	**115**	P		**P**		**00 17 23.2**	**+0.6**
MSVF				lAmb		lAmb		00 17 38.4	
	comp=Z,28nm,1.2s								
ARMA	**Armidale**	**21.69**	**196**	P		**P**		**00 17 35.9**	**+0.8**
ARMA				lAmb		lAmb		00 17 43.3	
	comp=Z,35nm,1.5s								
WR0	**Warramunga Arr**	**25.40**	**243**	P		**P**		**00 18 10.9**	**-0.5**
WR0				lAmb		lAmb		00 18 21.4	
	comp=Z,15nm,0.7s								
WB0	**Warramunga Arr**	**25.46**	**244**	P		**P**		**00 18 11.0**	**-1.0**
WB0				lAmb		lAmb		00 18 19.2	
	comp=Z,7.3nm,0.6s								
WB2	**Warramunga Arr**	**25.56**	**244**	P		**P**		**00 18 12.0**	**-0.9**
WB2				lAmb		lAmb		00 18 21.3	
	comp=Z,9.0nm,0.8s								
WRA	**Warramunga Arr**	**25.57**	**244**	P		**P**		**00 18 12.1**	**-0.9**
	comp=Z,6.8nm,0.6s,baz=70,slow=10,SNR=69								
WRA				PcP		**PcP**		**00 21 44.5**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=71,slow=2.7,SNR=4.5								
WRA				LR		LR		00 28 15.5	
	comp=Z,173nm,19.1s,baz=90,slow=37								
GUMO	**Guam**	**26.79**	**329**	LR		LR		00 27 20.2	
	comp=Z,36nm,21.8s,baz=123,slow=33								
STKA	**Stephens Creek**	**27.19**	**213**	P		**P**		**00 18 27.1**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=19,slow=12,SNR=5.1								
STKA				LR		LR		00 29 22.0	
	comp=Z,286nm,19.0s,baz=27,slow=37								
STKA	**Stephens Creek**	**27.19**	**213**	P		**P**		**00 18 27.9**	**+0.5**
AS31	**Alice Springs**	**27.41**	**236**	P		**P**		**00 18 28.5**	**-1.1**
ASAR	**Alice Springs**	**27.41**	**236**	P		**P**		**00 18 27.7**	**-1.9**
	comp=Z,3.0nm,0.8s,baz=69,slow=10.0,SNR=8.1								
ASAR				LR		LR		00 28 55.4	
	comp=Z,149nm,18.6s,baz=60,slow=36								
ASAR	**Alice Springs**	**27.41**	**236**	P		**P**		**00 18 28.1**	**-1.5**
KNRA	**Kununurra**	**29.71**	**255**	P		**P**		**00 18 50.5**	**+0.4**
KNRA				lAmb		lAmb		00 18 54.3	
	comp=Z,23nm,1.4s								
BBOO	**Buckleboo**	**31.07**	**219**	P		**P**		**00 19 02.3**	**+0.3**
BBOO				lAmb		lAmb		00 19 03.1	
	comp=Z,11nm,0.9s								
FITZ	**Fitzroy Crossi**	**33.05**	**252**	P		**P**		**00 19 19.7**	**+0.3**
FITZ				lAmb		lAmb		00 19 32.2	
	comp=Z,8.6nm,1.3s								
THZ	**Tophouse**	**34.41**	**161**	P		**P**		**00 19 31.3**	**+0.2**
THZ				lAmb		lAmb		00 19 50.6	
	comp=Z,21nm,1.4s								
YHNB	**Yeheng**	**49.80**	**314**	P		**P**		**00 21 37.0**	**+0.3**
PPT	**Papeete**	**50.86**	**105**	LR		LR		00 40 56.1	
	comp=Z,17nm,19.0s,baz=118,slow=33								
KSRS	**Korea Array**	**54.94**	**330**	P		**P**		**00 22 13.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=147,slow=8.5,SNR=4.6								
KSRS				LR		LR		00 43 12.5	
	comp=Z,26nm,20.7s,baz=220,slow=33								
PETK	**Petropavlovsk-**	**62.48**	**359**	LR		LR		00 46 26.9	
	comp=Z,35nm,21.5s,baz=161,slow=32								
XAN	**Xi'an**	**64.07**	**315**	P		**P**		**00 23 17.3**	**-0.4**
XAN				lAmb		lAmb		00 23 25.2	
	comp=Z,5.8nm,0.7s								
ADK	**Adak**	**64.85**	**17**	P		**P**		**00 23 22.4**	**0.0**
CMAR	**Chiang Mai Arr**	**65.13**	**295**	P		**P**		**00 23 25.3**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=118,slow=4.8,SNR=7.6								
CMAR				LR		LR		00 49 51.8	
	comp=Z,9.1nm,21.7s,baz=135,slow=34								
CMAR	**Chiang Mai Arr**	**65.13**	**295**	P		**P**		**00 23 24.8**	**0.0**
VNDA	**Vanda**	**67.90**	**179**	P		**P**		**00 23 42.5**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=334,slow=5.9,SNR=5.9								
VNDA	**Vanda**	**67.90**	**179**	P		**P**		**00 23 42.6**	**+1.1**
ULN	**Ulaanbaatar**	**73.13**	**327**	P		**P**		**00 24 14.3**	**+0.2**
ULN				lAmb		lAmb		00 24 23.0	
	comp=Z,5.8nm,1.1s								
SONM	**Songino Array**	**73.47**	**326**	P		**P**		**00 24 16.5**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=129,slow=5.4,SNR=8.1								
SONM	**Songino Array**	**73.47**	**326**	P		**P**		**00 24 16.1**	**0.0**
SHL	**Shillong**	**73.69**	**300**	P		**P**		**00 24 17.2**	**-0.8**
SHL				lAmb		lAmb		00 24 19.9	
	comp=Z,15nm,1.1s								
LSA	**Lhasa**	**75.69**	**304**	P		**P**		**00 24 29.6**	**-0.2**
LSA				lAmb		lAmb		00 24 46.2	
	comp=Z,4.2nm,0.6s								
OHAK	**Old Harbor**	**77.36**	**25**	P		**P**		**00 24 38.7**	**+0.8**
CNPM	**China Poot**	**79.68**	**23**	P		**P**		**00 24 51.4**	**+0.6**
IMAR	**Indian Mountai**	**83.08**	**18**	P		**P**		**00 25 09.2**	**+0.5**
CCB	**Clear Creek Bu**	**84.14**	**20**	P		**P**		**00 25 13.4**	**-0.6**
CCB				lAmb		lAmb		00 25 21.6	
	comp=Z,6.9nm,1.1s								
IL31		**84.53**	**21**	P		**P**		**00 25 15.4**	**-0.6**
IL31				lAmb		lAmb		00 25 24.8	
	comp=Z,6.5nm,1.1s								
ILAR	**Eielson Array**	**84.53**	**21**	P		**P**		**00 25 15.7**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=251,slow=5.1,SNR=10								
ILAR				LR		LR		00 55 30.7	
	comp=Z,35nm,21.5s,baz=249,slow=30								
ILAR	**Eielson Array**	**84.53**	**21**	P		**P**		**00 25 16.6**	**+0.6**
IL18	**Eielson Array**	**84.56**	**21**	P		**P**		**00 25 15.6**	**-0.7**
DOT	**Dot Lake**	**84.90**	**22**	P		**P**		**00 25 18.3**	**+0.3**
EGAK	**Eagle**	**86.58**	**22**	P		**P**		**00 25 27.0**	**+0.8**
EGAK				lAmb		lAmb		00 25 36.2	
	comp=Z,5.7nm,0.9s								
MK31	**Makanchi Array**	**87.72**	**318**	P		**P**		**00 25 31.4**	**-0.9**
MKAR	**Makanchi Array**	**87.72**	**318**	P		**P**		**00 25 31.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=98,slow=6.3,SNR=7.5								
MKAR	**Makanchi Array**	**87.72**	**318**	P		**P**		**00 25 31.5**	**-0.8**
ZALV	**Zalesovo Beam**	**88.35**	**325**	P		**P**		**00 25 36.5**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=107,slow=5.0,SNR=1.2								
ZALV	**Zalesovo Beam**	**88.35**	**325**	P		**P**		**00 25 35.1**	**+0.1**
PRZ	**Przheval'sk**	**89.29**	**313**	P		**P**		**00 25 40.2**	**+0.2**
KDJ	**Kajisay**	**90.09**	**313**	P		**P**		**00 25 42.8**	**-1.0**
KDJ				lAmb		lAmb		00 25 44.7	
	comp=Z,2.1nm,0.8s								
LHV	**Little Huntoon**	**90.36**	**51**	P		**P**		**00 25 45.4**	**+0.6**
NVAR	**Mina Array Bea**	**90.55**	**51**	P		**P**		**00 25 48.2**	**+2.1**
	comp=Z,3.9nm,1.0s,baz=238,slow=5.9,SNR=15								
NVAR	**Mina Array Bea**	**90.55**	**51**	P		**P**		**00 25 46.1**	**+0.1**
KVN	**Kaiserville**	**90.83**	**51**	P		**P**		**00 25 47.4**	**+0.1**
YKA	**Yellowknife Ar**	**96.97**	**28**	LR		LR		01 05 05.8	
	comp=Z,32nm,19.7s,baz=0.0,slow=32								
PDAR	**Pinedale Array**	**97.80**	**48**	P		Pdif		00 26 20.0	+0.8
	comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=3.8								
PDAR	**Pinedale Array**	**97.80**	**48**	P		**P**		**00 26 18.9**	**-0.3**
AKASG	**Malin Array Be**	**121.73**	**325**	PKP		**PKiKP**		**00 31 37.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=65,slow=2.1,SNR=4.9								
AKASG	**Malin Array Be**	**121.73**	**325**			**PKPdf**		**00 31 37.0**	**-0.2**
GERES	**GERESS Array B**	**131.12**	**330**	PKP		**PKiKP**		**00 31 56.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=67,slow=2.6,SNR=5.2								
GERES	**GERESS Array B**	**131.12**	**330**			**PKiKP**		**00 31 56.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**157.10**	**281**	PKP		**PKPdf**		**00 32 40.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=12,slow=2.2,SNR=3.5								
TORD				PKPab		**PKPab**		**00 33 13.0**	**+2.3**
	comp=Z,0.9nm,0.9s,baz=88,slow=3.2,SNR=3.8								

SJA ***23*** *00:21:23.6±0.6,28.70S×69.26W,h128km±3km, ML4.6, MW4.5*

VAO ***23*** *00:21:24.7±0.6,28.72S×69.18W,h94km±5km, mb4.5*

BJI ***23*** *00:21:25.0±0.0,28.70S×69.20W,h91km, mB5.2/6*

GUC ***23*** *00:21:25.4±0.8,28.71S×69.50W,h133km±6km, ML4.5*

NEIC ***23*** *00:21:27.3±2.8,28.71S±0.04×69.42W±0.08,h119km±4km, mb4.8/83,Md4.6(SJA), Error ellipse: s-maj=9.5km s-min=6.1km az=90.0*

IDC ***23*** *00:21:27.1±0.7,28.65S×69.07W,h116km±5km,mb4.2/15, mb1 4.2/18,mb1mx4.1/32,mbtmp4.5/18, MS3.1/4, Ms1 3.1/4,ms1mx2.8/25,Error ellipse: s-maj=16.2km s-min=13.1km az=68.0*

ISC 23 00:21:24.9±0.5,**28.70S**±0.02×**69.26W**±0.03,**h101**km±4km, **n376,** σ1:**27**/421,**mb4.8**/50,**11C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AC05	**El Transito**	**0.90**	**261**	||*i*P		**Pn**	**00 21 45.9**	**+1.3**
AC05				*i* S			**Sn**	**00 22 01.1**	**+1.8**
AC05				IAML				00 22 02.1	
	comp=E,21μm,0.2s								
AC05	**El Transito**	**0.90**	**261**				**Pn**	**00 21 46.0**	**+1.5**
VCA	**Vinchina**	**0.92**	**92**	*e*P			Pn	00 21 47.3	+2.5
VCA				*e*S			**Sn**	**00 22 03.5**	**+3.9**
VCA				IAML				00 22 06.7	
	comp=Z,14μm,0.5s								
AGUA	**GUANDACOL**	**1.03**	**140**	*e*P			**Pn**	**00 21 47.3**	**+1.5**
AGUA				*e*S			**Sn**	**00 22 04.8**	**+3.2**
AGUA				IAML				00 22 11.8	
	comp=Z,7μm,0.8s								
LCO	**Las Campanas**	**1.30**	**256**	*i* S			**Sn**	**00 22 08.5**	**+1.1**
LCO	**Las Campanas**	**1.30**	**256**				**Pn**	**00 21 49.9**	**+0.7**
LCO					Sn		**Sn**	**00 22 08.7**	**+1.3**
GO03	**Copiap**	**1.40**	**322**	||*iP*		**Pn**	**00 21 51.4**	**+1.3**
GO03				*i* S			**Sn**	**00 22 10.7**	**+1.5**
GO03				IAML				00 22 13.1	
	comp=N,5μm,0.2s								
GO03	**Copiap**	**1.40**	**322**				**Pn**	**00 21 51.4**	**+1.3**
GO03					Sn		**Sn**	**00 22 11.2**	**+2.0**
GO03	**Copiap**	**1.40**	**322**	*e*P			**Pn**	**00 21 51.4**	**+1.3**
GO03				*e*S			**Sn**	**00 22 11.9**	**+2.8**
CO01	**Juntas del Tor**	**1.47**	**210**	||*iP*		**Pn**	**00 21 52.8**	**+1.7**
CO01				*i* S			**Sn**	**00 22 13.5**	**+2.7**
CO01				IAML				00 22 15.1	
	comp=N,3μm,0.5s								
CO01	**Juntas del Tor**	**1.47**	**210**				**Pn**	**00 21 52.6**	**+1.6**
CO01					Sn		**Sn**	**00 22 13.7**	**+2.9**
ACDV	**Cuesta del Vie**	**1.47**	**175**	*e*P			**Pn**	**00 21 52.6**	**+1.6**
ACDV				*e*S			**Sn**	**00 22 13.9**	**+3.2**
ACDV				IAML				00 22 15.7	
	comp=Z,4μm,0.3s								
AROD	**Rodeo**	**1.47**	**187**	*e*P			**Pn**	**00 21 53.0**	**+1.8**
AROD				*e*S			**Sn**	**00 22 13.7**	**+2.6**
AC04	**Llanos de Chal**	**1.68**	**287**	||*iP*		**Pn**	**00 21 53.8**	**+0.4**
AC04				*i* S			**Sn**	**00 22 15.4**	**+0.3**
AC04				IAML				00 22 16.2	
	comp=E,5μm,0.1s								
AC04	**Llanos de Chal**	**1.68**	**287**	Pn			Pn	**00 21 53.2**	**-0.2**
AC04					Sn		**Sn**	**00 22 14.8**	**-0.2**
AC02	**Maricunga**	**1.86**	**3**	||*iP*		**Pn**	**00 21 58.8**	**+2.6**
AC02				*i* S			**Sn**	**00 22 24.8**	**+4.7**
AC02				IAML				00 22 26.0	
	comp=N,4μm,0.4s								
AC02	**Maricunga**	**1.86**	**3

PB15 eS Sn 00 23 48.0 +1.8
PB15 IAML 00 23 50.2
comp=Z,909nm,0.3s
PB06 IPOC Station P 5.98 357 Pn Pn 00 22 50.1 -1.0
LVC Limon Verde 6.08 3 P Pn 00 22 52.2 -0.4
comp=Z,15nm,0.3s,baz=192,slow=8.5,SNR=117
LVC S Sn 00 23 57.3 -3.7
comp=Z,19nm,0.3s,baz=210,slow=16,SNR=7.3
LVC Limon Verde 6.08 3 eP Pn 00 22 52.2 -0.4
RFA San Rafael 6.09 174 eP Pn 00 22 50.7 -1.7
RFA eS Sn 00 23 59.9 -0.8
RFA IAML 00 24 30.2
comp=Z,167nm,0.4s
LAMA Las Malvinas 6.21 180 eP Pn 00 22 52.8 -1.3
PB04 IPOC Station P 6.39 353 Pn 00 22 54.5 -2.3
HJA Humahuaca 6.47 33 eS Sn 00 24 00.9 -10
PB09 IPOC Station P 6.88 0 Pn 00 23 02.7 -0.7
PB07 IPOC Station P 6.97 355 Pn 00 23 02.3 -2.3
PB01 IPOC Station P 7.63 358 Pn 00 23 11.2 -2.3
BI02 San Fabin de 8.12 192 Pn Pn 00 23 18.2 -1.8
VA04 Juan Fernndez 9.56 237 Pn Pn 00 23 36.8 -2.9
LC01 Cunco 10.40 191 Pn 00 23 46.8 -4.2
CPUP Villa Florida 10.85 80 P Pn 00 23 55.9 -1.2
comp=Z,0.4nm,0.3s,baz=251,slow=12,SNR=5.3
CPUP LR LR 00 27 58.7
comp=Z,64nm,21.1s,baz=252,slow=37
CPUP Villa Florida 10.85 80 Pn Pn 00 23 56.3 -0.9
CPUP Villa Florida 10.85 80 eP Pn 00 23 55.7 -1.5
PLCA Paso Flores 12.05 185 P Pn 00 24 12.1 -1.1
comp=Z,0.3nm,0.3s,baz=360,slow=13,SNR=15
PLCA Paso Flores 12.05 185 eP Pn 00 24 12.8 -0.4
LPAZ La Paz 12.40 5 P Pn 00 24 17.4 -1.1
comp=Z,0.4nm,0.3s,baz=200,slow=5.6,SNR=22
LPAZ La Paz 12.40 5 Pn 00 24 16.1 -2.4
LPAZ La Paz 12.40 eP Pn 00 24 17.4 -1.1
PLTB Pedras Altas 13.87 107 eP Pn 00 24 34.1 -3.0
LL01 San Ignacio de 13.88 190 Pn 00 24 35.1 -2.1
SIV San Ignacio 14.73 33 P Pn 00 24 45.5 -2.8
comp=Z,0.2nm,0.3s,baz=219,slow=14,SNR=8.8
SIV LR LR 00 31 36.6
comp=Z,66nm,21.6s,baz=129,slow=42
AQDB Aquidauana 14.79 59 eP Pn 00 24 49.1 +0.1
ITAB Concordia 15.20 89 eP P 00 24 56.5 -0.3
PTGB Pitanga 15.87 79 eP Pn 00 25 02.4 -0.2
CNLB Canela 16.11 97 eP Pn 00 25 05.3 -0.3
PTLB Pontes e Lacer 16.17 37 eP Pn 00 25 06.2 -0.1
PCMB Pacaembu 17.75 71 eP P 00 25 24.7 -0.3
VILB Vilhena 17.80 30 eP Pn 00 25 26.1 -0.1
FRTB Fartura 18.48 78 eP P 00 25 33.0 -0.1
ETMB Extrema 19.00 9 eP Pn 00 25 40.0 -0.7
ITRB Iturama 19.41 67 eP P 00 25 42.7 -0.5
SPB Sao Paulo 20.23 80 eP P 00 25 52.2 +0.1
BB19B Bebedouro 20.27 73 eP P 00 25 52.4 -0.1
SAML Samuel 20.46 17 P P 00 25 54.0 -0.6
SAML Samuel 20.46 17 eP P 00 25 55.0 +0.4
ARAG Araguaiana, MT 20.66 55 eP P 00 25 56.9 +0.2
VAO Valinhos 20.84 79 eP P 00 25 58.3 -0.4
CZSB Cruzeiro do Su 21.11 350 eP P 00 26 02.9 +1.3
CLDB Colider 21.76 38 eP P 00 26 07.0 -1.5
IPMB Ipameri, GO 22.04 66 eP P 00 26 10.6 -0.9
ATAH Atahualpa 23.13 336 P P 00 26 22.0 -0.9
comp=Z,5.8nm,0.8s,baz=156,slow=9.7,SNR=4.4
MAN01 Angra dos Reis 23.48 81 eP P 00 26 25.6 -0.1
BDFB Brasilia 23.53 61 P P 00 26 25.6 -0.7
comp=Z,18nm,0.9s,baz=240,slow=6.0,SNR=24
BDFB Brasilia 23.53 61 P P 00 26 25.5 -0.7
BDFB IAmb IAmb 00 26 27.4
comp=Z,34nm,1.0s
SNDB Serra Nova Dou 23.62 49 eP P 00 26 25.7 -1.3
NPGB Novo Progresso 25.23 34 eP P 00 26 41.4 -0.2
USHA Ushuaia 26.12 179 LR LR 00 36 53.3
comp=Z,1µm,21.8s,baz=328,slow=35
MACA Manacapuru-AM 26.68 19 eP P 00 26 56.5 +1.9
JANB Januaria 26.76 65 eP P 00 26 55.4 -0.1
ITTB Itaituba 27.40 30 eP P 00 27 00.3 -0.8
SJMB Sao Joao De Ma 27.50 75 eP P 00 27 01.4 -0.6
SDBA SAO DESIDERIO 27.89 59 eP P 00 27 04.9 -0.6
RIB01 Linhares ES 27.91 77 eP P 00 27 05.5 -0.1
SMTB Santa Maria do 28.37 50 eP P 00 27 10.4 +0.6
PRPB Paraupebas 28.99 43 eP P 00 27 14.3 -0.9
PTGA Pitinga 29.20 19 P P 00 27 16.5 -0.6
comp=Z,1.7nm,0.4s,baz=195,slow=12,SNR=13
PTGA Pitinga 29.20 19 P P 00 27 16.5 -0.6
MALB Monte Alegre 30.29 31 eP P 00 27 26.7 -0.1
POPC Popayan, Colom 31.87 346 eP P 00 27 43.4 +2.5
MCPB Macapa, AP 32.63 33 eP P 00 27 47.3 0.0
ORTC Ortega, Tolima 32.93 349 eP P 00 27 51.1 +1.1
TMAB Tom-Au,PA,Br 33.05 41 eP P 00 27 52.3 +1.3
RREF El Recreo 33.92 349 eP P 00 27 58.0 -1.2
GUY2C Guyana, Caldas 34.24 349 eP P 00 28 03.9 +2.1
RUSC La Rusia 34.59 353 eP P 00 28 05.5 +0.6
CBOC Ciudad Bolivar 34.98 348 eP P 00 28 08.7 +0.8
HELC Santa Helena 35.22 349 eP P 00 28 10.0 0.0
MDP Montagnes des 37.22 28 P P 00 28 26.3 -0.5
comp=Z,16nm,0.7s,baz=201,slow=11,SNR=8.7
SDV Santo Domingo 37.39 358 P P 00 28 27.1 -1.3
SDV IAmb IAmb 00 28 28.9
comp=Z,9.4nm,0.8s
SDV Santo Domingo 37.39 358 eP P 00 28 28.3 -0.1
RCBR Riachuelo 38.90 61 LR LR 00 46 00.9
comp=Z,28nm,19.2s,baz=310,slow=38
OBIP Obispado Ponce 46.54 3 P P 00 29 41.5 -1.0
OBIP IAmb IAmb 00 29 43.2
comp=Z,14nm,0.8s
SC01 Santiago de lo 47.87 358 P P 00 29 52.8 0.0
BELA Belgrano 2 51.70 171 P P 00 30 21.5 +0.3
TEIG Tepich 52.00 337 P P 00 30 23.7 -0.3
VNA3 Neumayer Olymp 53.42 160 P P 00 30 33.9 -0.1
VNA1 Neumayer--Stat 53.67 159 P P 00 30 36.4 +0.7
VNA2 Neumayer--Watz 54.02 159 P P 00 30 38.6 +0.2
baz=286,slow=8.4
SNAA Sanae 55.64 159 P P 00 30 50.0 -0.1
SNAA Sanae 55.64 159 P P 00 30 49.8 -0.2
comp=Z,5.6nm,0.9s,baz=279,slow=7.4,SNR=48
SNAA Sanae 55.64 159 P P 00 30 50.1 0.0
SNAA IAmb IAmb 00 30 51.0
comp=Z,14nm,1.3s
QSPA South Pole Qui 61.52 180 P P 00 31 31.5 +0.5
QSPA IAmb IAmb 00 31 32.6
comp=Z,11nm,0.7s
Z57A Bowman 62.61 349 P P 00 31 38.7 +0.3
baz=169
GOGA Godfrey 63.23 347 P P 00 31 41.6 -0.9
GOGA IAmb IAmb 00 31 53.3
comp=Z,12nm,1.3s
833A Chaparral WMA, 63.62 330 P P 00 31 46.5 +1.3
baz=151
833A Chaparral WMA, 63.62 330 P P 00 31 43.3 -1.9
LRAL Lakeview Retre 63.67 343 P P 00 31 44.5 -0.9
baz=163
X55A Gracelyn & Ava 63.91 349 P P 00 31 47.5 +0.5
baz=168
W58A Raeford 64.08 351 P P 00 31 48.5 +0.4
baz=170
W57A Gilead 64.32 350 P P 00 31 50.5 +0.9
baz=170
W56A Indian Trail 64.39 350 P P 00 31 50.6 +0.5
baz=169
KMSC Kings Mountain 64.52 349 P P 00 31 51.6 +0.6
baz=168
X51A Calhoun 64.63 346 P P 00 31 51.9 +0.2
NATX Nacogdoches 64.81 336 P P 00 31 54.5 +1.6
baz=156
NATX Nacogdoches 64.81 336 P P 00 31 53.6 +0.7
V58A Windy Hill, Pi 64.82 351 P P 00 31 53.5 +0.6
baz=170
V58A Windy Hill, Pi 64.82 351 P P 00 31 53.2 +0.3
V58A IAmb IAmb 00 31 54.2
comp=Z,12nm,0.8s
X48A Hartselle 65.03 344 P P 00 31 54.2 -0.1
X48A IAmb IAmb 00 31 55.3
comp=Z,16nm,0.8s
V56A Mocksville 65.04 350 P P 00 31 55.2 +0.9
baz=169
V55A Taylorsville 65.19 349 P P 00 31 56.0 +0.6
baz=168
V54A Nebo 65.24 349 P P 00 31 55.6 0.0
baz=168
CPCT Cooper Cave 65.42 346 P P 00 31 56.7 0.0
CPCT IAmb IAmb 00 31 57.8
comp=Z,11nm,0.9s
U57A Blanch 65.48 351 P P 00 31 57.4 +0.3
baz=170
Z41A Richland Creek 65.55 338 P P 00 31 58.9 +1.3
baz=157
U56A King 65.55 350 P P 00 31 58.7 +1.1
baz=169
V52A Sevierville 65.61 347 P P 00 31 58.0 0.0
V52A IAmb IAmb 00 31 58.7
comp=Z,18nm,0.9s
JCT Junction City 65.67 331 P P 00 31 59.7 +1.1
baz=151
OXF Oxford 65.70 342 P P 00 31 58.5 -0.1
baz=161
PLAL Pickwick Lake 65.79 343 P P 00 31 58.9 -0.2
PLAL IAmb IAmb 00 31 59.3
comp=Z,8.8nm,0.9s
T58A Grand View Acr 65.88 352 P P 00 32 00.5 +0.8
baz=171
U54A Nelsons Funny 65.95 349 P P 00 31 59.7 -0.5
baz=168
WLAR White Oak Lake 66.04 338 P P 00 32 01.4 +0.6
WHTX Lake Whitney, 66.05 334 P P 00 32 01.8 +0.9
baz=153
WHTX Lake Whitney, 66.05 334 P P 00 32 01.4 +0.5
T56A Rocky Mt 66.17 351 P P 00 32 02.3 +0.7
baz=170
V48A Smith Brothers 66.20 344 P P 00 32 02.1 +0.3
V48A IAmb IAmb 00 32 02.9
comp=Z,18nm,1.0s
T55A Pulaski 66.36 350 P P 00 32 03.5 +0.6
baz=169
TXAR Lajitas Array 66.42 327 P P 00 32 04.8 +1.2
comp=Z,2.7nm,0.8s,baz=146,slow=7.9,SNR=29
TXAR pP PcP 00 32 33.5 +1.0
comp=Z,1.6nm,0.8s,baz=142,slow=6.3,SNR=5.4
TXAR Lajitas Array 66.42 327 P P 00 32 04.3 +0.8
CLTN Cedars of Leba 66.43 345 P P 00 32 03.5 +0.3
TX31 Lajitas Ar. Si 66.43 327 P P 00 32 04.4 +0.8
TX31 IAmb IAmb 00 32 05.8
comp=Z,14nm,0.9s
T54A Tazewell 66.43 349 P P 00 32 03.5 +0.2
baz=168
S58A Poland Farm, P 66.48 352 P P 00 32 04.6 +1.0
baz=172
T53A Wise 66.52 348 P P 00 32 03.9 0.0
baz=167
U49A Red Boiling Sp 66.71 346 P P 00 32 05.0 0.0
U49A IAmb IAmb 00 32 05.7
comp=Z,9.0nm,0.8s
S57A Dark Hollow, R 66.74 352 P P 00 32 06.1 +0.9
baz=171
R58B Mineral 66.81 353 P P 00 32 06.9 +1.3
baz=172
WVT Waverly 66.82 344 P P 00 32 05.8 +0.1
baz=162
WVT Waverly 66.82 344 P P 00 32 05.5 -0.2
S55A Lewisburg 66.96 350 P P 00 32 07.5 +0.8
baz=169
MIAR Mount Ida 66.98 338 P P 00 32 07.4 +0.6
baz=157,SNR=5.5
MIAR Mount Ida 66.98 338 P P 00 32 07.7 +1.0
MIAR IAmb IAmb 00 32 08.9
comp=Z,9.6nm,0.9s
W41B Gary Mavity, V 67.14 340 P P 00 32 08.5 +0.7
baz=158,SNR=5.3
Z35A Perchaven, San 67.17 335 P P 00 32 09.1 +1.1
R57A Stanardsville 67.21 352 P P 00 32 09.2 +1.0
baz=171
WHAR Wooly Hollow 67.26 340 P P 00 32 09.1 +0.6
WHAR IAmb IAmb 00 32 10.0
comp=Z,14nm,1.0s
R55A Marlinton 67.41 351 P P 00 32 09.9 +0.4
baz=170
R54A Victor 67.44 350 P P 00 32 10.0 +0.3
baz=169
ABTX Abilene, Hawle 67.47 332 P P 00 32 10.6 +0.6
baz=151
ABTX Abilene, Hawle 67.47 332 P P 00 32 10.8 +0.8
ABTX IAmb IAmb 00 32 12.0
comp=Z,21nm,1.1s
W39A Magazine 67.64 338 P P 00 32 12.0 +1.1
baz=157,SNR=7.2
LCAR Lake Charles 67.65 341 P P 00 32 11.3 +0.4
FCAR Ozark Folk Cen 67.77 340 P P 00 32 11.8 +0.1
FCAR IAmb IAmb 00 32 12.9
comp=Z,25nm,1.4s
Q57A Strasburg 67.93 352 P P 00 32 14.2 +1.5
baz=171
PBMO Poplar Bluff 68.11 342 P P 00 32 13.8 0.0
Q53A Leroy 68.18 350 P P 00 32 14.8 +0.6
baz=168
Q54A Coxs Mills 68.20 350 P P 00 32 14.4 0.0
baz=169
P59A Jarrettsville 68.29 354 P P 00 32 16.6 +1.7
baz=173
P57A Homestead Farm 68.33 353 P P 00 32 16.7 +1.6
baz=172
U40A Yellville 68.42 340 P P 00 32 16.2 +0.4
baz=158,SNR=8.4
U40A Yellville 68.42 340 P P 00 32 16.0 +0.2
U40A IAmb IAmb 00 32 17.2
comp=Z,17nm,0.9s
P56A Dayton Farm, R 68.44 352 P P 00 32 17.4 +1.5
baz=171
WCI Wyandotte Cave 68.47 346 P P 00 32 15.7 -0.3
baz=164
HHAR Hobbs 68.69 339 P P 00 32 18.1 +0.6
HHAR IAmb IAmb 00 32 19.0
comp=Z,13nm,0.9s
P54A Burton 68.75 351 P P 00 32 18.4 +0.5
baz=169
P53A Whipple 68.78 350 P P 00 32 18.5 +0.5
baz=169
TUL1 Leonard 68.96 337 P P 00 32 19.8 +0.6
baz=155,SNR=5.3
WMOK Wichita Mounta 68.99 334 P P 00 32 19.9 +0.5
baz=152
O57A Amberson 69.00 353 P P 00 32 20.8 +1.4
baz=172
P52A Corning 69.04 349 P P 00 32 19.5 0.0
baz=168
P51A Williamsport 69.05 349 P P 00 32 19.6 0.0
baz=167
MNTX Cornudas Mount 69.21 327 P P 00 32 21.3 +0.5
baz=146
MNTX Cornudas Mount 69.21 327 P P 00 32 21.0 +0.2
FVM French Village 69.24 342 P P 00 32 21.2 +0.3
N61A South Mountain 69.26 356 P P 00 32 22.4 +1.5
baz=175
P49A Miami Univ. Ec 69.40 347 P P 00 32 21.7 -0.1
baz=166
OK029 Liberty Lake 69.44 336 P P 00 32 22.5 +0.4
OK029 IAmb IAmb 00 32 24.0
comp=Z,25nm,1.1s
CCM Cathedral Cave 69.53 342 P P 00 32 23.1 +0.5
baz=160
CCM Cathedral Cave 69.53 342 P P 00 32 22.8 +0.2
N59A State Game Lan 69.53 355 P P 00 32 24.3 +1.7
baz=174
N57A Milroy 69.53 353 P P 00 32 23.7 +1.1
baz=172
N58A Sunbury 69.54 354 P P 00 32 23.8 +1.2
baz=173
O51A Pataskala 69.62 349 P P 00 32 23.5 +0.4
baz=168
N55A Marion Center 69.72 352 P P 00 32 24.9 +1.1
baz=171
VNDA Vanda 69.73 190 P P 00 32 25.0 +1.5
comp=Z,0.9nm,0.8s,baz=161,slow=6.0,SNR=5.4
VNDA Vanda 69.73 190 P P 00 32 24.6 +1.1
ACSO Alton Creek Sta 69.76 349 P P 00 32 24.1 +0.1
baz=167
N56A West Decatur 69.77 353 P P 00 32 25.2 +1.1
baz=172
S39A Bolivar 69.79 340 P P 00 32 25.2 +0.9
SYO Syowa Base 69.91 159‖eP P 00 32 23.2 -1.4
SYO Syowa Base 69.91 159‖pP pP 00 32 52.6 +1.3
MSTX Muleshoe 69.94 331 P P 00 32 26.4 +1.0
baz=149,SNR=6.6
MSTX Muleshoe 69.94 331 P P 00 32 26.2 +0.8
MSTX IAmb IAmb 00 32 27.1
comp=Z,21nm,0.9s
R40A Maddies Statio 70.04 341 P P 00 32 26.0 +0.3
M59A Waymart 70.13 355 P P 00 32 27.6 +1.4
baz=174
M56A Emporium 70.32 353 P P 00 32 27.0 -0.5
baz=172
N49A Columbus Grove 70.64 348 P P 00 32 29.4 +0.1
L58A Harry Jones Me 70.66 355 P P 00 32 30.8 +1.4
baz=174
SFIN Lafayette 70.70 346 P P 00 32 29.3 -0.4
baz=163
L59A Walton 70.74 355 P P 00 32 31.5 +1.5
baz=175
N47A Urbana 70.89 347 P P 00 32 30.3 -0.6
N47A IAmb IAmb 00 32 31.3
comp=Z,24nm,1.1s
L56A Greenwood 70.90 353 P P 00 32 32.0 +1.0
baz=172
KAN08 Anthony NE Sta 70.91 336 P P 00 32 32.4 +1.4
121A Cookes Peak, D 71.05 326 P P 00 32 34.5 +2.2
baz=145
121A Cookes Peak, D 71.05 326 P P 00 32 33.9 +1.6
121A IAmb IAmb 00 32 35.3
comp=Z,8.7nm,0.9s
L54A Sinclairville 71.19 352 P P 00 32 33.6 +1.0
baz=171
DBIC Dimbokro 71.22 71 P P 00 32 32.9 -0.6
comp=Z,7.7nm,0.7s,baz=210,slow=8.1,SNR=10
DBIC Dimbokro 71.22 71 P P 00 32 33.7 +0.2
DBIC IAmb IAmb 00 32 34.8
comp=Z,12nm,0.8s
K58A Earlville 71.36 355 P P 00 32 34.6 +0.9
baz=174
I58A Old Forge 72.23 356 P P 00 32 39.8 +0.9
baz=175
TUC Tucson 72.38 324 P P 00 32 42.4 +2.3
baz=142
ANMO Albuquerque 72.40 329 P P 00 32 41.9 +1.6
baz=146
ANMO Albuquerque 72.40 329 P P 00 32 41.7 +1.4
I57A Carthage 72.53 355 P P 00 32 41.5 +0.9
baz=174
H61A Lyndonville 72.92 358 P P 00 32 44.7 +1.7
baz=178
214A Organ Pipe Nat 73.17 322 P P 00 32 46.7 +2.0
baz=141,SNR=10
214A Organ Pipe Nat 73.17 322 P P 00 32 45.7 +1.0
214A IAmb IAmb 00 32 47.8
comp=Z,18nm,1.1s
L40A Anamosa 73.28 343 P P 00 32 45.2 +0.1
T25A Trinidad 73.34 331 P P 00 32 47.6 +1.8
baz=148,SNR=5.9
F64A Sherman 74.22 1 P P 00 32 51.4 +0.9
SDCO Great Sand Dun 74.31 331 P P 00 32 53.0 +1.3
baz=147
ALGO Algonquin Park 74.73 354 P P 00 32 53.9 +0.4
baz=172
E62A Clayton Lake 74.97 360 P P 00 32 56.5 +1.6
baz=180
E62A Clayton Lake 74.97 360 P P 00 32 56.0 +1.2
E62A IAmb IAmb 00 32 57.2
comp=Z,19nm,0.9s
Q24A Divide 75.19 332 P P 00 32 58.5 +1.8
baz=148,SNR=5.0
MVCO Mesa Verde 75.20 329 P P 00 32 58.6 +1.9
baz=145,SNR=5.6
WUAZ Wupatki 75.21 326 P P 00 32 58.9 +2.2
baz=143,SNR=8.4
WUAZ Wupatki 75.21 326 P P 00 32 57.3 +0.6
WUAZ IAmb IAmb 00 32 59.9
comp=Z,13nm,1.0s
D63A Stockholm 75.39 1 P P 00 32 58.5 +1.3
baz=181
D62A Allapoint, All 75.43 0 P P 00 32 58.9 +1.5
baz=180
D62A Allapoint, All 75.43 0 P P 00 32 58.2 +0.8
D62A IAmb IAmb 00 32 59.9
comp=Z,20nm,0.8s
D58A Chemin du LacG 75.52 357 P P 00 32 59.1 +1.1
baz=177
D55A Sainte-Anne-du 75.58 356 P P 00 32 58.2 -0.1
baz=174
BC3 Big Chuckawall 75.90 322 P P 00 33 02.6 +2.0
baz=139,SNR=6.0
E46A Sault Ste Mari 75.95 349 P P 00 33 00.4 -0.1
E46A IAmb IAmb 00 33 01.3
comp=Z,19nm,0.9s
ISCO Idaho Springs 76.09 332 P P 00 33 03.2 +1.5
baz=148,SNR=5.4
ISCO Idaho Springs 76.09 332 P P 00 33 02.3 +0.5
IRM Iron Mountain 76.11 322 P P 00 33 03.6 +1.9
baz=140
KOWA Kowa 76.26 65 P P 00 33 03.0 +0.1
comp=Z,8.2nm,0.7s
KOWA Kowa 76.26 65 P P 00 33 03.2 +0.3
KOWA IAmb IAmb 00 33 04.2
comp=Z,12nm,0.8s
ECSD EROS Data Cent 76.33 340 P P 00 33 03.3 +0.7
baz=156,SNR=5.2
ECSD EROS Data Cent 76.33 340 P P 00 33 03.0 +0.4
ECSD IAmb IAmb 00 33 04.0
comp=Z,12nm,1.0s
TPFO Pinon Flats 76.41 321 P P 00 33 05.5 +2.0
baz=139
BELC Belle Mtn. Jos 76.46 322 P P 00 33 05.8 +2.0
baz=139
MURC Murrieta 76.82 320 P P 00 33 07.8 +2.1
baz=138
GMRC Granite Mounta 76.86 322 P P 00 33 08.0 +1.9
baz=139,SNR=6.5
N23A Red Feather La 77.15 332 P P 00 33 09.2 +1.5
baz=148
HEC Hector,Ludlow 77.26 322 P P 00 33 10.3 +2.0
baz=139
LCMT Little Creek M 77.32 325 P P 00 33 09.9 +1.4
O20A White River Ci 77.48 330 P P 00 33 11.4 +1.9
baz=146,SNR=7.1
TUQ Turquoise Moun 77.50 323 P P 00 33 11.6 +2.0
baz=139
BFSC Mount Baldy Ra 77.55 321 P P 00 33 11.8 +1.8
baz=138
LSQQ Lebel-sur-Quev 77.72 355 P P 00 33 10.7 +0.4
baz=173
GSC Goldstone, Bar 77.87 322 P P 00 33 13.7 +2.1
baz=139
SHPR Sheep Range 77.91 324 P P 00 33 13.1 +1.2
MSU Marysvale 77.97 327 P P 00 33 13.5 +1.3
EDW2 Edwards Air Fo 78.21 321 P P 00 33 15.1 +1.6
baz=138
DRLN Deer Lake 78.31 8 P P 00 33 14.5 +0.9
LRMC Laurel Mtn Rad 78.48 321 P P 00 33 16.8 +1.8
baz=138
MPMC Manual Prospec 78.81 322 P P 00 33 18.4 +1.6
baz=138
PSUT Pine Spring 78.81 326 P P 00 33 17.9 +1.1
TPNV Topopah Spring 78.81 323 P P 00 33 19.1 +2.2
baz=139,SNR=8.3
TPNV Topopah Spring 78.81 323 P P 00 33 17.8 +1.0
K22A Casper 78.86 333 P P 00 33 18.7 +1.7
ISA Isabella, Lake 79.05 321 P P 00 33 20.0 +1.9
baz=138
RSSD Black Hills 79.15 335 P P 00 33 19.6 +1.0
baz=149
RSSD Black Hills 79.15 335 P P 00 33 19.6 +1.0
RSSD IAmb IAmb 00 33 21.0
comp=Z,15nm,1.4s
PKM Mcpherson Peak 79.24 320 P P 00 33 20.8 +1.6
baz=136
CWC Cottonwood Cre 79.41 322 P P 00 33 21.9 +1.8
baz=138
R11A Troy Canyon, C 79.53 325 P P 00 33 22.4 +1.7
baz=140,SNR=8.4
DUG Dugway, Tooele 79.60 328 P P 00 33 22.6 +1.6
baz=142
SMMC Simmler 79.65 320 P P 00 33 23.9 +2.6
baz=136
B35A Bob, Littlefor 79.79 344 P P 00 33 21.9 +0.3
TIN Tinemaha, Big 79.94 322 P P 00 33 25.5 +2.6
baz=138
TOA0 Torodi Ar. Sit 80.14 69 P P 00 33 24.2 -0.1
TOA0 IAmb IAmb 00 33 25.4
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 80.14 69 P P 00 33 24.2 -0.1
comp=Z,9.1nm,0.7s,baz=259,slow=5.1,SNR=47
TORD pP pP 00 33 52.3 +0.5
comp=Z,2.8nm,0.7s,baz=268,slow=4.9,SNR=4.8
HWUT Hardware Ranch 80.15 329 P P 00 33 24.8 +0.8
TPH Tonopah 80.17 323 P P 00 33 25.4 +1.2
BW06 Boulder Array 80.21 331 P P 00 33 26.3 +1.9
baz=145
BW06 Boulder Array 80.21 331 P P 00 33 24.9 +0.5
PDAR Pinedale Array 80.21 331 P P 00 33 25.3 +0.9
comp=Z,2.9nm,0.8s,baz=130,slow=4.6,SNR=22
PDAR Pinedale Array 80.21 331 P P 00 33 24.9 +0.5
AGMN Agassiz Nation 80.28 342 P P 00 33 24.9 +0.6
baz=156

BOSA	**Boshof**	**80.39**	**117**	P		**P**	**00 33 25.1**	**-0.7**	
	comp=Z,2.0nm,0.8s,baz=212,slow=3.4,SNR=5.2								
BOSA	**Boshof**	**80.39**	**117**	P		**P**	**00 33 25.3**	**-0.5**	
OMMB	**Old Mammoth Mi**	**80.77**	**322**	P		**P**	**00 33 28.5**	**+0.9**	
MDND	**Maddock**	**80.94**	**340**	P		**P**	**00 33 29.2**	**+1.4**	
	baz=153								
MDND	**Maddock**	**80.94**	**340**	P		**P**	**00 33 28.8**	**+0.9**	
NVAR	**Mina Array Bea**	**81.00**	**323**	P		**P**	**00 33 29.8**	**+1.1**	
	comp=Z,3.5nm,0.9s,baz=158,slow=6.4,SNR=20								
RLMT	**Red Lodge**	**82.02**	**333**	P		**P**	**00 33 35.3**	**+1.4**	
	baz=145,SNR=7.0								
RLMT	**Red Lodge**	**82.02**	**333**	P		**P**	**00 33 35.0**	**+1.1**	
RLMT				IAmb		IAmb	00 33 35.9		
	comp=Z,7.8nm,0.8s								
ULM	**Lac du Bonnet**	**82.08**	**343**	P		**P**	**00 33 33.2**	**-0.6**	
	comp=Z,7.0nm,1.0s,baz=138,slow=3.7,SNR=4.8								
ULM				LR		LR	01 09 26.4		
	comp=Z,24nm,21.3s,baz=234,slow=35								
LAO	**LASA Array**	**82.15**	**335**	P		**P**	**00 33 35.3**	**+1.0**	
	baz=148,SNR=5.2								
PNTR	**Pine Nut**	**82.17**	**323**	P		**P**	**00 33 36.5**	**+1.7**	
PNTR				IAmb		IAmb	00 33 37.9		
	comp=Z,13nm,0.7s								
YHH	**Holmes Hill**	**82.39**	**332**	P		**P**	**00 33 37.2**	**+1.3**	
PAHR	**Pah Rah Range**	**82.51**	**323**	P		**P**	**00 33 37.6**	**+1.1**	
PAHR				IAmb		IAmb	00 33 39.1		
	comp=Z,9.5nm,1.0s								
HLID	**Hailey**	**82.98**	**329**	P		**P**	**00 33 40.5**	**+1.6**	
	baz=141,SNR=5.8								
BEKR	**Beckworth**	**83.14**	**323**	P		**P**	**00 33 40.1**	**+0.3**	
MCMT	**McKenzie Canyo**	**83.28**	**330**	P		**P**	**00 33 41.8**	**+1.3**	
BOZ	**Bozeman (W)**	**83.37**	**332**	P		**P**	**00 33 41.8**	**+1.0**	
	baz=144								
ORV	**Oroville**	**83.52**	**322**	P		**P**	**00 33 42.5**	**+0.9**	
O03E	**Paynes Creek**	**84.21**	**322**	P		**P**	**00 33 45.7**	**+0.6**	
	baz=136								
J08A	**Circle Bar Ran**	**84.74**	**326**	P		**P**	**00 33 48.8**	**+1.1**	
J08A				IAmb		IAmb	00 33 50.0		
	comp=Z,9.7nm,0.9s								
CASY	**Casey**	**85.32**	**180**	P		**P**	**00 33 51.5**	**+1.2**	
PINE	**Pine Mountain**	**86.28**	**325**	P		**P**	**00 33 57.0**	**+1.5**	
PINE				IAmb		IAmb	00 33 57.9		
	comp=Z,15nm,0.8s								
MDT	**Midelt**	**86.61**	**50**	P		**P**	**00 33 57.8**	**+0.6**	
	comp=Z,4.6nm,1.1s,baz=224,slow=5.9,SNR=5.5								
I05D	**Terrebonne, OR**	**86.87**	**325**	P		**P**	**00 33 59.8**	**+1.6**	
	baz=136								
CLL	**Collm**	**107.32**	**41**	*e*PKiKP		**PKiKP**	**00 39 39.0**	**-0.1**	
CLL				*e*PP		**PP**	**00 39 56.0**	**-3.7**	
ASAR	**Alice Springs**	**123.36**	**206**	PKP		**PKPdf**	**00 40 09.8**	**-1.0**	
	comp=Z,1.4nm,0.8s,baz=146,slow=2.0,SNR=11								
ASAR	**Alice Springs**	**123.36**	**206**			**PKPdf**	**00 40 09.9**	**-0.9**	
KBZ	**Khabaz**	**124.70**	**55**	PKP		**PKPdf**	**00 40 12.6**	**0.0**	
	comp=Z,2.2nm,0.9s,baz=179,slow=0.9,SNR=6.3								
WRA	**Warramunga Arr**	**126.54**	**208**	PKP		**PKPdf**	**00 40 16.4**	**-0.6**	
	comp=Z,2.7nm,0.7s,baz=166,slow=1.6,SNR=33								
WRA	**Warramunga Arr**	**126.54**	**208**			**PKPdf**	**00 40 16.1**	**-0.9**	
SEY	**Seymchan**	**136.49**	**334**	PKP		**PKPdf**	**00 40 35.2**	**+0.9**	
	comp=Z,2.1nm,0.2s,baz=77,slow=4.8,SNR=5.6								
YAK	**Yakutsk**	**144.40**	**345**	PKP		**PKPab**	**00 40 47.3**	**+0.4**	
	comp=Z,21nm,0.6s,baz=147,slow=0.7,SNR=8.5								
ZALV	**Zalesovo Beam**	**148.47**	**30**	PKPbc		**PKPbc**	**00 40 59.6**	**+0.2**	
	comp=Z,17nm,0.7s,baz=298,slow=4.5,SNR=50								
ZALV				pPKPbc		**sPKPdf**	**00 41 31.4**	**-4.2**	
	comp=Z,4.1nm,0.7s,baz=312,slow=3.3,SNR=3.4								
ZALV	**Zalesovo Beam**	**148.47**	**30**			**PKPdf**	**00 40 55.8**	**+0.1**	
ZALV				PKPbc		**PKPbc**	**00 40 59.9**	**+0.5**	
MKAR	**Makanchi Array**	**151.38**	**43**	PKPbc		**PKPbc**	**00 41 06.9**	**+0.2**	
	comp=Z,13nm,0.7s,baz=317,slow=2.1,SNR=89								
MKAR				pPKPbc		**sPKPdf**	**00 41 37.9**	**-2.6**	
	comp=Z,4.2nm,0.9s,baz=298,slow=2.6,SNR=3.6								
MKAR	**Makanchi Array**	**151.38**	**43**	PKPdf		**PKPdf**	**00 41 01.1**	**+0.5**	
MKAR						**PKPbc**	**00 41 06.9**	**+0.2**	
MKAR				PKPab		**PKPab**	**00 41 16.1**	**+0.8**	
WMQ	**Urumqi**	**156.17**	**45**	*e*PKP		**PKPdf**	**00 41 07.4**	**-0.1**	
WMQ				AMB		AMB			
	comp=Z,47nm,6.7s								
SONM	**Songino Array**	**160.60**	**9**	PKPab		**PKPab**	**00 41 54.9**	**+0.1**	
	comp=Z,1.3nm,0.7s,baz=319,slow=4.6,SNR=6.5								
SONM	**Songino Array**	**160.60**	**9**	PKPdf		**PKPdf**	**00 41 10.9**	**-1.9**	
SONM						**PKPab**	**00 41 55.2**	**+0.4**	
GTA	**Gaotai**	**166.01**	**37**	*e*PKP		**PKPdf**	**00 41 14.8**	**-3.4**	
GTA				pPKP		pPKPdf	00 41 41.3	-6.0	
GTA				sPKP			00 41 52.8		
GTA				PKPab		**PKPab**	**00 42 19.8**	**+0.9**	
HHC	**Hu-ho-hao-te**	**167.86**	**357**	*e*PKP		**PKPdf**	**00 41 18.4**	**-1.1**	
LZH	**Lanzhou**	**170.61**	**37**	*e*PKP		**PKPdf**	**00 41 21.0**	**-0.4**	
LZH				sPKP			00 42 00.3		
LZH				LR		LR			
	comp=Z,100nm,18.1s								
LZH				LR		LR			
	comp=Z,110nm,18.0s								
LZH				LR		LR			
	comp=Z,140nm,20.3s								
NJ2	**Nanjing**	**172.24**	**297**	*e*PKP		**PKPdf**	**00 41 22.3**	**+0.2**	

BJI 23 00:35:03.9±0.0, 27.72N×119.93E, h4km, ML3.8/9, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NJ2	**Nanjing**	**4.42**	**348**	*e*Pg	Pb	00 36 25.1	+3.0
NJ2				Sg	Sb	00 37 20.5	+4.8
NJ2				smax	smax		
	comp=N,140nm,0.9s						
NJ2				smax	smax		
	comp=E,83nm,0.9s						
WHN	**Wuhan**	**5.63**	**301**	Pn	Pn	00 36 27.5	-0.9
WHN				Sn	Sn	00 37 29.0	-4.6
WMQ	**Urumqi**	**30.45**	**310**	*e*P	P	00 41 18.3	+0.6

*JMA **23** 00:53:40.7, 23.68N×120.73E, h0km, M3.7*
*NIED **23** 00:53:40.7, 23.69N×120.73E, h0km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.14; $M_{\theta\theta}$=2.91; $M_{\phi\phi}$=0.23; $M_{r\theta}$=4.67; $M_{r\phi}$=0.05; $M_{\theta\phi}$=2.73; Fault plane solution: M_0=6.17000×10^{14} NP1: ϕ_s=244.00000°, δ=76.00000°, λ=-100.00000°. NP2: ϕ_s=101.00000°, δ=17.00000°, λ=-54.00000°.*
*ASIES **23** 00:53:41.3, 23.68N×120.74E, h23km, MW3.5*
*NEIC **23** 00:53:41.4±1.0, 23.67N±0.04×120.72E±0.04, h24km±4km, Error ellipse: s-maj=5.1km s-min=4.9km az=128.0*
*TAP **23** 00:53:41.5, 23.66N×120.74E, h21km, ML4.0, B*
ISC 23 00:53:41.8±0.8, 23.68N±0.01×120.71E±0.01, h18km±1km, n146, σ0.89/248, 21C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN5	**Tsauling**	**0.08**	**200**	⇑*i*P	**Pg**	**00 53 45.8**	**+0.4**
	baz=220						
CHN5				*i* S	**Sg**	**00 53 48.9**	**+1.1**
	baz=220						
WHYT	**Xinyi Township**	**0.13**	**81**	⇑*i*P	**Pb**	**00 53 46.0**	**+0.6**
	baz=73						
WHYT				*i* S	**Sg**	**00 53 49.2**	**+0.6**
	baz=73						
WGK	**Gukeng**	**0.14**	**275**	⇓*i*P	**Pg**	**00 53 46.7**	**+0.9**
	baz=278						
WGK				S	**Sg**	**00 53 50.8**	**+2.2**
	baz=278						
WJS	**Zhushan**	**0.15**	**7**	⇑*i*P	**Pg**	**00 53 46.6**	**+0.6**
	baz=350						
WJS				S	**Sg**	**00 53 50.4**	**+1.6**
	baz=350						
WDLH	**Douliu**	**0.16**	**275**	⇓*i*P	**Pg**	**00 53 47.1**	**+1.0**
	baz=277						
WDLH				S	**Sg**	**00 53 51.7**	**+2.6**
	baz=277						
ALS	**Alishan**	**0.19**	**152**	⇓*i*P	**Pb**	**00 53 47.1**	**+0.5**
	baz=149						
ALS				*i* S	**Sg**	**00 53 51.0**	**+0.9**
	baz=149						
WNT	**Mingjian**	**0.20**	**353**	⇑*i*P	**Pg**	**00 53 47.6**	**+0.8**
	baz=349						
WNT				S	**Sg**	**00 53 52.1**	**+1.9**
	baz=349						
SSLB	**Suanglung**	**0.25**	**64**	⇑*i*P	**Pb**	**00 53 47.6**	**-0.2**
	baz=58						
SSLB				*i* S	**Sb**	**00 53 51.7**	**-0.1**
	baz=58						
SSLB	**Suanglung**	**0.25**	**64**		**Pb**	**00 53 47.5**	**-0.2**
SSLB					**Sb**	**00 53 51.6**	**-0.1**
CHN2	**Minshiung**	**0.26**	**236**	⇓*i*P	**Pg**	**00 53 48.5**	**+0.9**
	baz=242						
CHN2				*i* S	**Sg**	**00 53 53.9**	**+2.3**
	baz=242						
TYC	**Yuchr**	**0.27**	**31**	⇑*i*P	**Pb**	**00 53 48.2**	**+0.2**
	baz=27						
TYC				*i* S	**Sg**	**00 53 53.2**	**+1.4**
	baz=27						
SMLT	**Sun Moon Lake**	**0.27**	**40**	⇑*i*P	**Pb**	**00 53 48.2**	**+0.1**
	baz=45						
SMLT				*i* S	**Sg**	**00 53 53.4**	**+1.3**
	baz=45						
WTK	**Tuku**	**0.29**	**272**	P	**Pg**	**00 53 49.0**	**+0.8**
	baz=275						
WTK				*i* S	**Sg**	**00 53 55.0**	**+2.4**
	baz=275						
CHY	**Chiayi**	**0.32**	**236**	*i* P	**Pg**	**00 53 49.4**	**+0.9**
	baz=239						
CHY				S	**Sb**	**00 53 55.5**	**+1.8**
	baz=239						
CHN4	**Tsaushan**	**0.34**	**198**	⇑*i*P	**Pg**	**00 53 49.4**	**+0.4**
	baz=203						
CHN4				*e*S	**Sb**	**00 53 55.9**	**+1.4**
	baz=203						
TPUB	**Ta-pu**	**0.38**	**191**	⇑*i*P	**Pg**	**00 53 49.7**	**0.0**
	baz=195						
TPUB				*i* S	**Sg**	**00 53 55.5**	**+0.4**
	baz=195						
TPUB	**Ta-pu**	**0.38**	**191**		**Pg**	**00 53 49.6**	**-0.1**
TPUB					**Sg**	**00 53 55.6**	**+0.6**
RLNB	**Erlin**	**0.39**	**304**	P	**Pg**	**00 53 50.2**	**+0.4**
	baz=304						
RLNB				S	**Sb**	**00 53 57.3**	**+1.5**
	baz=304						
VWDT	**VWDT**	**0.40**	**79**	⇓*i*P	**Pg**	**00 53 50.4**	**+0.3**
	baz=76						
VWDT				*i* S	**Sb**	**00 53 56.7**	**+0.4**
	baz=76						
WLGB	**Puzi**	**0.42**	**242**	*e*P	**Pg**	**00 53 50.1**	**-0.4**
	baz=257						
WLGB				*i* S	**Sb**	**00 53 57.4**	**+0.6**
	baz=257						
WCHH	**Zhanghua**	**0.42**	**341**	P	**Pg**	**00 53 51.0**	**+0.5**
	baz=338						
WCHH				*i* S	**Sb**	**00 53 58.4**	**+1.5**
	baz=338						
WTCT	**Ta-ch'eng**	**0.43**	**296**	⇓*i*P	**Pg**	**00 53 50.8**	**+0.1**
	baz=296						
WTCT				S	**Sb**	**00 53 58.2**	**+1.1**
	baz=296						
WTP	**Ta-pu**	**0.44**	**192**	⇑*i*P	**Pg**	**00 53 50.7**	**-0.1**
	baz=194						
WTP				*i* S	**Sg**	**00 53 57.2**	**+0.4**
	baz=194						
WSF	**Szhu**	**0.45**	**265**	⇓*i*P	**Pg**	**00 53 51.0**	**+0.1**
	baz=267						
WSF				*i* S	**Sb**	**00 53 58.6**	**+1.0**
	baz=267						
TWK	**Hsinying**	**0.46**	**207**	⇑*i*P	**Pg**	**00 53 51.3**	**+0.2**
	baz=208						
TWK				*i* S	**Sb**	**00 53 58.4**	**+0.6**
	baz=208						
WMLT	**Mailiao**	**0.46**	**286**	P	**Pg**	**00 53 51.4**	**+0.2**
	baz=287						
WMLT				S	**Sb**	**00 53 59.2**	**+1.2**
	baz=287						
TCU	**Taichung**	**0.47**	**356**	*e*P	**Pg**	**00 53 51.9**	**+0.6**
	baz=344						
TCU				*e*S	**Sb**	**00 53 59.1**	**+0.8**
	baz=344						
SNST	**Tainan City**	**0.49**	**203**	⇑*i*P	**Pb**	**00 53 51.9**	**-0.1**
	baz=207						
SNST				*i* S	**Sg**	**00 53 59.2**	**+0.8**
	baz=207						
ICHU	**Yijhu**	**0.50**	**232**	P	**Pb**	**00 53 52.4**	**+0.2**
	baz=235						
ICHU				S	**Sg**	**00 54 00.9**	**+2.2**
	baz=235						
OWD	**Renai**	**0.51**	**57**	P	**Pb**	**00 53 52.1**	**-0.3**
	baz=54						
OWD				S	**Sg**	**00 53 59.0**	**-0.1**
	baz=54						
STYT	**Tauyuan**	**0.51**	**175**	⇑*i*P	**Pb**	**00 53 52.0**	**-0.4**
	baz=171						
STYT				*i* S	**Sb**	**00 53 59.4**	**-0.1**
	baz=171						
CHN1	**Nanshi**	**0.52**	**199**	⇑*i*P	**Pb**	**00 53 52.1**	**-0.3**
	baz=202						
CHN1				*i* S	**Sg**	**00 54 00.2**	**+1.1**
	baz=202						
ELDTW	**Lidau**	**0.56**	**150**	⇓*i*P	**Pb**	**00 53 52.7**	**-0.4**
	baz=151						
ELDTW				S	**Sb**	**00 54 00.3**	**-0.5**
	baz=151						
CHN8	**Yiju**	**0.56**	**234**	P	**Pb**	**00 53 53.1**	**0.0**
	baz=236						
CHN8				S	**Sg**	**00 54 02.4**	**+1.8**
	baz=236						
CHGB	**Renai**	**0.57**	**48**	⇓*i*P	**Pb**	**00 53 52.9**	**-0.6**
	baz=45						
CHGB				S	**Sb**	**00 54 00.8**	**-0.6**
	baz=45						
EHY	**Hungye**	**0.59**	**107**	⇓*i*P	**Pb**	**00 53 53.2**	**-0.3**
	baz=96						
EHY				*e*S	**Sb**	**00 54 01.0**	**-0.5**
	baz=96						
SGST	**Jiashian**	**0.60**	**191**	⇑*i*P	**Pb**	**00 53 52.5**	**-1.3**
	baz=193						
SGST				S	**Sb**	**00 54 01.5**	**-0.4**
	baz=193						
YULB	**Yu-li**	**0.61**	**117**	⇓*i*P	**Pb**	**00 53 53.4**	**-0.6**
	baz=117						
YULB				S	**Sb**	**00 54 01.1**	**-1.0**
	baz=117						
YULB	**Yu-li**	**0.61**	**117**		**Pb**	**00 53 53.3**	**-0.6**
YULB					**Sb**	**00 54 01.2**	**-1.0**
TWF1	**Yuli**	**0.63**	**121**	⇓*i*P	**Pb**	**00 53 54.0**	**-0.3**
	baz=121						
TWF1				S	**Sb**	**00 54 02.4**	**-0.3**
	baz=121						
WHP	**Taichung City**	**0.64**	**20**	⇑*i*P	**Pb**	**00 53 54.4**	**-0.1**
	baz=17						
WHP				S	**Sg**	**00 54 03.9**	**+0.9**
	baz=17						
EYUL	**Yuli**	**0.65**	**120**	⇓*i*P	**Pb**	**00 53 54.3**	**-0.3**
	baz=120						
EYUL				S	**Sb**	**00 54 02.6**	**-0.7**
	baz=120						
EGFH	**Guangfu**	**0.66**	**90**	*i* P	**Pb**	**00 53 54.5**	**-0.2**
	baz=89						
EGFH				S	**Sb**	**00 54 03.2**	**-0.4**
	baz=89						
TWQ1	**Liyutan**	**0.67**	**5**	P	**Pb**	**00 53 55.2**	**+0.2**
	baz=4.0						
TWQ1				*i* S	**Sg**	**00 54 05.1**	**+1.1**
	baz=4.0						
WDJ	**Dajia District**	**0.67**	**355**	*i* P	**Pg**	**00 53 55.7**	**+0.7**
	baz=343						
WDJ				*i* S	**Sn**	**00 54 05.9**	**-0.7**
	baz=343						
CHN3	**Shinhua**	**0.68**	**208**	P	**Pg**	**00 53 55.8**	**+0.7**
	baz=221						
CHN3				*e*S	**Sn**	**00 54 07.4**	**+0.8**
	baz=221						
ESL	**Shilin**	**0.68**	**78**	P	**Pb**	**00 53 54.8**	**-0.3**
	baz=86						
ESL				*e*S	**Sg**	**00 54 05.0**	**+0.8**
	baz=86						
HGSD	**Ruisui**	**0.68**	**105**	⇓*i*P	**Pb**	**00 53 55.1**	**0.0**
	baz=98						
HGSD				*e*S	**Sb**	**00 54 04.7**	**+0.4**
	baz=98						
SLGT	**Liugui**	**0.68**	**185**	*e*P	**Pb**	**00 53 54.9**	**-0.2**
	baz=178						
SLGT				S	**Sg**	**00 54 05.6**	**+1.3**
	baz=178						
SCLT	**Jiali**	**0.69**	**224**	*e*P	**Pb**	**00 53 55.1**	**-0.2**
	baz=225						
SCLT				S	**Sn**	**00 54 06.5**	**-0.3**
	baz=225						
WHF	**Hehuan Shan**	**0.69**	**47**	⇓*i*P	**Pb**	**00 53 55.2**	**-0.4**
	baz=54						
WHF				*e*S	**Sb**	**00 54 04.6**	**-0.3**
	baz=54						
TDCB	**Techi**	**0.71**	**35**	⇑*i*P	**Pb**	**00 53 55.0**	**-0.7**
	baz=41						
TDCB				*e*S	**Sb**	**00 54 03.3**	**-1.8**
	baz=41						
TWT	**Tachien**	**0.72**	**36**	⇑*i*P	**Pb**	**00 53 55.0**	**-0.8**
	baz=38						
TWT				*e*S	**Sb**	**00 54 04.0**	**-1.5**
	baz=38						
FULB	**Fuli**	**0.72**	**131**	*i* P	**Pb**	**00 53 56.1**	**+0.3**
	baz=132						
NSY	**Sanyi**	**0.74**	**4**	P	**Pb**	**00 53 56.6**	**+0.4**
	baz=2.0						
NSY				*e*S	**Sg**	**00 54 07.2**	**+1.0**
	baz=2.0						
FUSS	**Fushou**	**0.75**	**41**	*e*P	**Pb**	**00 53 55.8**	**-0.8**
	baz=38						
FUSS				*e*S	**Sb**	**00 54 06.0**	**-0.5**
	baz=38						
PTSB	**Yuanli**	**0.77**	**360**	*e*P	**Pb**	**00 53 56.8**	**+0.2**
	baz=358						
PTSB				S	**Sg**	**00 54 08.3**	**+1.3**
	baz=358						
TAI1	**Yung-k'ang**	**0.77**	**215**	*e*P	**Pb**	**00 53 56.7**	**0.0**
	baz=217						
TAI1				*e*S	**Sn**	**00 54 08.7**	**-0.2**
	baz=217						
SCST	**Cishan**	**0.81**	**194**	*e*P	**Pn**	**00 53 58.9**	**+0.5**
	baz=196						
SCST				*e*S	**Sn**	**00 54 11.3**	**+1.4**
	baz=196						
CHKT	**Chengkung**	**0.83**	**133**	P	**Pb**	**00 53 58.4**	**+0.6**
	baz=134						
CHKT				*e*S	**Sb**	**00 54 08.8**	**+0.2**
	baz=134						
LONT	**Longtian**	**0.86**	**153**	*e*P	**Pb**	**00 53 58.2**	**0.0**
	baz=145						
LONT				*e*S	**Sb**	**00 54 09.4**	**0.0**
	baz=145						
NMLH	**Miaoli**	**0.86**	**5**	*e*P	**Pb**	**00 53 58.6**	**+0.3**
	baz=3.0						
NMLH				*e*S	**Sg**	**00 54 10.3**	**+0.3**
	baz=3.0						
HWA	**Hwalien**	**0.87**	**70**	*e*P	**Pb**	**00 53 58.4**	**0.0**
	baz=57						
HWA				S	**Sb**	**00 54 10.5**	**+0.7**
	baz=57						
ETLH	**Xiulin Townshi**	**0.88**	**53**	P	**Pb**	**00 53 58.1**	**-0.6**
	baz=48						
ETLH				*e*S	**Sb**	**00 54 09.3**	**-0.8**
	baz=48						
EDH	**Donghe**	**0.89**	**142**	*e*P	**Pb**	**00 53 58.8**	**+0.1**
	baz=127						
EDH				*e*S	**Sg**	**00 54 11.1**	**+0.3**
	baz=127						
TWM1	**Shoushan**	**0.89**	**197**	*e*P	**Pg**	**00 53 59.7**	**+0.5**
	baz=199						
TWD	**Chiawan**	**0.91**	**63**	*e*P	**Pb**	**00 53 58.7**	**-0.3**
	baz=62						
TWD				*e*S	**Sb**	**00 54 09.8**	**-0.9**
	baz=62						
TWG	**Pinlang**	**0.91**	**159**	P	**Pb**	**00 53 59.0**	**-0.1**
	baz=159						
TWG				*e*S	**Sb**	**00 54 11.1**	**+0.1**
	baz=159						
TWG	**Pinlang**	**0.91**	**159**	Pn	**Pb**	**00 53 59.0**	**-0.1**
TWG					**Sb**	**00 54 11.1**	**+0.1**
TWGBT	**Beinan**	**0.92**	**158**	P	**Pb**	**00 53 58.9**	**-0.3**
	baz=159						
TWGBT				*e*S	**Sb**	**00 54 11.3**	**+0.2**
	baz=159						
SSD	**Sandimen**	**0.93**	**184**	*e*P	**Pb**	**00 53 59.1**	**-0.3**
	baz=186						
SSD				*e*S	**Sg**	**00 54 12.5**	**+0.4**
	baz=186						
NACB	**Ninganchiao**	**0.95**	**58**	*e*P	**Pb**	**00 53 58.9**	**-0.8**
	baz=57						
NACB				*e*S	**Sb**	**00 54 11.4**	**-0.7**
	baz=57						
NACB	**Ninganchiao**	**0.95**	**58**	Pn	**Pb**	**00 53 59.0**	**-0.8**
TSMG	**Majia**	**0.97**	**184**	*e*P	**Pb**	**00 53 59.5**	**-0.5**
	baz=185						
TSMG				*e*S	**Sg**	**00 54 13.7**	**+0.4**
	baz=185						
NNSB	**Datong**	**0.97**	**39**	⇑P	**Pb**	**00 53 59.5**	**-0.7**
	baz=38						
NNSB				*e*S	**Sb**	**00 54 11.3**	**-1.4**
	baz=38						
NNSH	**Datong**	**0.97**	**39**	⇑P	**Pb**	**00 53 59.5**	**-0.7**
	baz=27						
NNSH				*e*S	**Sb**	**00 54 11.1**	**-1.6**
	baz=27						
NNS	**Nan Shan**	**0.97**	**38**	P	**Pb**	**00 53 59.7**	**-0.5**
	baz=37						
NNS				*e*S	**Sb**	**00 54 11.9**	**-0.9**
	baz=37						
SNJT	**Kaohsiung City**	**0.98**	**201**	*e*P	**Pg**	**00 54 01.4**	**+0.5**
	baz=203						
NSTT	**Nanjuang**	**0.99**	**16**	*e*P	**Pb**	**00 54 00.2**	**-0.3**
	baz=15						
NSTT				*e*S	**Sb**	**00 54 13.1**	**0.0**
	baz=15						
TTN	**Taitung**	**1.00**	**156**	*e*P	**Pn**	**00 54 01.3**	**+0.3**
	baz=157						
TTN				*e*S	**Sg**	**00 54 16.2**	**+1.8**
	baz=157						
LIOB	**Emei**	**1.01**	**16**	*e*P	**Pb**	**00 54 00.8**	**0.0**
	baz=15						
LIOB				*e*S	**Sb**	**00 54 14.1**	**+0.4**
	baz=15						
WDGT	**Dungji**	**1.05**	**247**	P	**Pb**	**00 54 00.5**	**-0.9**
	baz=248						
WDGT				*e*S	**Sb**	**00 54 13.5**	**-1.3**
	baz=248						
PHUB	**P'eng-hu**	**1.06**	**261**	P	**Pb**	**00 53 60.0**	**-1.6**
	baz=263						
PHUB				S	**Sb**	**00 54 14.0**	**-1.0**
	baz=263						
MASBT	**Mashibuluo**	**1.06**	**184**	⇑*i*P	**Pb**	**00 54 01.1**	**-0.5**
	baz=185						
MASBT				S	**Sb**	**00 54 16.0**	**+0.8**
	baz=185						
PNG	**Penghu**	**1.06**	**264**	*e*P	**Pb**	**00 54 00.5**	**-1.2**
	baz=265						
PNG				*e*S	**Sb**	**00 54 14.5**	**-0.8**
	baz=265						
ECL	**Taimali**	**1.10**	**168**	P	**Pn**	**00 54 02.4**	**+0.1**
	baz=160						
ECL				*e*S	**Sb**	**00 54 16.6**	**+0.4**
	baz=160						
SBCB	**Hsinchu**	**1.14**	**13**	*e*P	**Pn**	**00 54 01.8**	**-1.1**
	baz=356						
SBCB				*e*S	**Sb**	**00 54 17.8**	**+0.3**
	baz=356						
NSK	**Sanguang**	**1.16**	**31**	*e*P	**Pn**	**00 54 03.1**	**-0.1**
	baz=30						
NSK				*e*S	**Sb**	**00 54 17.8**	**-0.3**
	baz=30						
YHNB	**Yeheng**	**1.16**	**31**	*e*P	**Pn**	**00 54 03.0**	**-0.3**
	baz=22						
YHNB				*e*S	**Sb**	**00 54 18.4**	**+0.2**
	baz=22						
YHNB	**Yeheng**	**1.16**	**31**	Pn	**Pn**	**00 54 03.0**	**-0.3**
NDT	**Datong Townshi**	**1.18**	**38**	*e*P	**Pn**	**00 54 02.9**	**-0.5**
	baz=37						
NDT				*e*S	**Sn**	**00 54 19.3**	**+0.2**
	ba

TWE	**Neicheng**	**1.36**	**40**	*e*P		**Pn**	**00 54 05.7**	**-0.2**
	baz=39								
TWE				*e*S		**Sn**	**00 54 23.4**	**-0.1**
	baz=39								
TWC	**Suao**	**1.40**	**48**	*e*P		**Pn**	**00 54 06.8**	**+0.4**
	baz=47								
SLIU	**Shizi**	**1.46**	**177**	*e*P		**Pn**	**00 54 07.0**	**-0.3**
	baz=178								
TATO	**Taipei**	**1.48**	**29**	*e*P		**Pn**	**00 54 08.3**	**+0.8**
	baz=28								
TATO	**Taipei**	**1.48**	**29**	Pn		**Pn**	**00 54 06.9**	**-0.6**
TWA	**Mucha**	**1.52**	**31**	*e*P		**Pb**	**00 54 10.2**	**+0.7**
	baz=31								
TWA				*e*S		**Sn**	**00 54 27.4**	**-0.2**
	baz=31								
NTC	**Toucheng**	**1.56**	**41**	*e*P		**Pb**	**00 54 10.4**	**+0.3**
	baz=26								
EGS		**1.61**	**44**	*e*P		**Pb**	**00 54 12.2**	**+1.2**
	baz=55								
TIPB	**Shuangxi**	**1.64**	**38**	*e*P		**Pn**	**00 54 11.0**	**+1.1**
	baz=24								
YM04	**YM04**	**1.65**	**27**	*e*P		**Pn**	**00 54 09.9**	**-0.1**
	baz=27								
YM01	**YM01**	**1.66**	**28**	*e*P		**Pb**	**00 54 11.7**	**-0.2**
	baz=28								
YM10	**YM10**	**1.67**	**28**	*e*P		**Pn**	**00 54 09.7**	**-0.5**
	baz=27								
YM05	**YM05**	**1.68**	**28**	*e*P		**Pn**	**00 54 09.8**	**-0.5**
	baz=27								
ANP	**Anpu**	**1.68**	**26**	*e*P		**Pn**	**00 54 10.3**	**-0.1**
	baz=26								
YM03	**YM03**	**1.68**	**27**	*e*P		**Pn**	**00 54 11.5**	**+1.1**
	baz=27								
YM11	**YM11**	**1.68**	**28**	*e*P		**Pn**	**00 54 11.2**	**+0.8**
	baz=28								
NWF	**Wu-fen Shan**	**1.70**	**35**	*e*P		**Pb**	**00 54 12.7**	**+0.1**
	baz=35								
WFSB	**Wu-fen Shan**	**1.70**	**35**	*e*P		**Pb**	**00 54 13.2**	**+0.7**
	baz=35								
YM08	**YM08**	**1.71**	**28**	*e*P		**Pb**	**00 54 13.1**	**+0.4**
	baz=28								
VWUC	**VWUC**	**1.74**	**319**	*e*P		**Pn**	**00 54 09.7**	**-1.5**
	baz=317								
TWB1	**Santiao Chiao**	**1.77**	**41**	*e*P		**Pb**	**00 54 13.1**	**-0.6**
	baz=25								
LAY	**Lan-yu**	**1.81**	**154**	*e*P		**Pn**	**00 54 11.7**	**-0.4**
	baz=155								
PTMZ	**Houxiangcun**	**1.99**	**313**	*e*P		**Pn**	**00 54 13.4**	**-1.1**
	baz=311								
PTTC	**Pingtan**	**2.01**	**335**	*e*P		**Pn**	**00 54 15.2**	**+0.4**
	baz=332								
JYNG	**Yonagunijimaku**	**2.19**	**69**	P		**Pn**	**00 54 18.6**	**+1.4**
JYNG				*e*S		**Sb**	**00 54 46.7**	**-0.9**
KNM	**Kinmen**	**2.21**	**290**	*e*P		**Pn**	**00 54 17.5**	**-0.1**
	baz=288								
YOJ	**Yonaguni jima**	**2.25**	**69**	*e*P		**Pn**	**00 54 17.6**	**-0.4**
	baz=69								
YOJ	**Yonaguni jima**	**2.25**	**69**	P		**Pn**	**00 54 19.3**	**+1.2**
YOJ				S		**Sn**	**00 54 46.9**	**+1.6**
YOJ	**Yonaguni jima**	**2.25**	**69**	Pn		**Pn**	**00 54 16.2**	**-1.9**
KNMB	**Chin-men Tao**	**2.26**	**291**	*e*P		**Pn**	**00 54 16.8**	**-1.5**
	baz=290								
KNMB	**Chin-men Tao**	**2.26**	**291**	Pn		**Pn**	**00 54 16.4**	**-1.9**
QZH	**Quanzhou**	**2.31**	**304**	*e*Pn		**Pn**	**00 54 18.5**	**-0.4**
QZH				Pg		**Pb**	**00 54 24.4**	**+1.5**
QZH				Sg		**Sn**	**00 54 44.9**	**-2.0**
QZH				smax		smax		
	comp=N,140nm,0.3s								
QZH				smax		smax		
	comp=E,160nm,0.3s								
MATB	**Ma-tsu**	**2.56**	**344**	*e*P		**Pn**	**00 54 22.2**	**-0.3**
	baz=341								
AXDP	**Jialang**	**2.78**	**297**	*e*P		**Pn**	**00 54 24.1**	**-1.3**
	baz=295								
IRIF	**Iriomote-Funau**	**2.84**	**76**	P		**Pn**	**00 54 27.8**	**+1.5**
IRIF				*e*S		**Sn**	**00 55 02.7**	**+2.7**
MHZQ	**Yeshan**	**2.85**	**328**	*e*P		**Pn**	**00 54 26.4**	**0.0**
	baz=325								
HATJ	**Hateruma jima**	**2.86**	**82**	P		**Pn**	**00 54 27.8**	**+1.3**
HATJ				*e*S		**Sn**	**00 55 02.3**	**+1.8**
ZZJH	**Jiuhuzhen**	**2.92**	**286**	*e*P		**Pn**	**00 54 26.6**	**-0.8**
	baz=285								
LYJJ	**Jianjiangzhen**	**2.99**	**343**	*e*P		**Pn**	**00 54 29.0**	**+0.7**
	baz=341								
JKRS	**Kuro-shima**	**3.07**	**79**	P		**Pn**	**00 54 30.4**	**+1.0**
JKRS				*e*S		**Sn**	**00 55 07.6**	**+1.9**
JIJ	**Ishigaki jima**	**3.21**	**77**	P		**Pn**	**00 54 31.8**	**+0.4**
JIJ				S		**Sn**	**00 55 09.8**	**+0.5**
XPSS	**Dashiqiu**	**3.27**	**352**	*e*P		**Pn**	**00 54 30.9**	**-1.3**
	baz=349								
JISG	**Ishigakijimahi**	**3.41**	**74**	P		**Pn**	**00 54 33.3**	**-0.8**
JISG				S		**Sn**	**00 55 16.3**	**+2.1**
JTJ	**Tarama**	**3.77**	**74**	P		**Pn**	**00 54 40.4**	**+1.3**
JTJ				*e*S		**Sn**	**00 55 23.8**	**+0.8**
HKPS	**Hong Kong Po S**	**6.21**	**258**	Pn		**Pn**	**00 55 11.4**	**-1.2**

REY ***23*** *01:36:57.8, 64°.67N ± 17°.46W, h2km*
MOS ***23*** *01:36:58.9 ± 1.0, 64°.66N ± 17°.51W, h11km, mb4.6/28, Error ellipse: s-maj=12.7km s-min=8.5km az=112.3*
IDC ***23*** *01:36:59.0 ± 0.6, 64°.58N ± 17°.60W, h0km, mb4.0/17, mb1 4.2/19, mb1mx4.1/44, mbtmp4.0/19, ML3.5/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/43, Error ellipse: s-maj=18.7km s-min=9.3km az=15.0*
NEIC ***23*** *01:37:00.4 ± 0.5, 64°.7N ± 0°.1 × 17°.5W ± 0°.1, h8km ± 4km, mb4.6/45, Error ellipse: s-maj=15.7km s-min=8.2km az=189.0*

ISC 23 01:37:00.0 ± 0.3, 64°.68N ± 0°.02 × 17°.47W ± 0°.02, h10km, n194, σ1 §64/209, mb4.4/65, MS2.9/3, 10C, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**22**	P		**Pg**	**01 37 01.0**	**-2.0**
	baz=17							
IDYN				S		**Sg**	**01 37 02.9**	**-2.3**
	baz=17							
IVON	**Vonarskard**	**0.12**	**266**	P		**Pg**	**01 37 00.7**	**-2.3**
	baz=272							
IVON				S		**Sg**	**01 37 02.7**	**-2.5**
	baz=272							
IURH	**Urdarhals**	**0.20**	**45**	P		**Pg**	**01 37 02.2**	**-2.0**
	baz=41							
IURH				S		**Sg**	**01 37 06.2**	**-0.9**
	baz=41							
IDJK	**Dyngjujokull**	**0.20**	**150**	P		**Pg**	**01 37 02.0**	**-2.4**
	baz=150							
IDJK				S		**Sg**	**01 37 06.1**	**-1.3**
	baz=150							
IGRF	**Grimsfjall**	**0.29**	**162**	P		**Pg**	**01 37 03.4**	**-2.5**
	baz=163							
IKVE	**Kverkfjoll**	**0.34**	**90**	P		**Pg**	**01 37 04.7**	**-2.2**
	baz=88							
IKVE				S		**Sg**	**01 37 09.4**	**-2.0**
	baz=88							
ISKR	**Skrokkalda**	**0.41**	**253**	P		**Pg**	**01 37 05.7**	**-2.5**
	baz=255							
IVOT	**Vottur**	**0.43**	**163**	P		**Pg**	**01 37 06.0**	**-2.5**
	baz=163							
IKRE	**Kreppuhraun**	**0.48**	**77**	P		**Pg**	**01 37 06.7**	**-2.7**
	baz=75							
IKRE				S		**Sg**	**01 37 13.7**	**-2.0**
	baz=75							
IJOK	**Jokulheimar**	**0.49**	**222**	P		**Pg**	**01 37 07.2**	**-2.4**
	baz=224							
IJOK				S		**Sg**	**01 37 14.4**	**-1.7**
	baz=224							
IASK	**Askja**	**0.51**	**43**	P		**Pg**	**01 37 07.4**	**-2.6**
	baz=41							
IASK				S		**Sg**	**01 37 14.7**	**-2.1**
	baz=41							
IMKO	**Mokollar**	**0.57**	**58**	P		**Pg**	**01 37 08.5**	**-2.6**
	baz=56							
IMKO				S		**Sg**	**01 37 17.0**	**-1.5**
	baz=56							
IIEY	**Innrieyrar**	**0.65**	**206**	P		**Pg**	**01 37 09.7**	**-3.0**
	baz=207							
IIEY				S		**Sg**	**01 37 19.1**	**-2.2**
	baz=207							
ISVA	**Svartarkot**	**0.66**	**8**	P		**Pg**	**01 37 10.2**	**-2.7**
	baz=7.1							
IKSK	**Karasker**	**0.68**	**140**	P		**Pg**	**01 37 09.5**	**-3.6**
	baz=140							
IKSK				S		**Sg**	**01 37 19.1**	**-3.0**
	baz=140							
IKAL	**Kalfafell**	**0.74**	**187**	P		**Pg**	**01 37 11.2**	**-3.1**
	baz=188							
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P		**Pg**	**01 37 11.2**	**-3.4**
	baz=78							
IVSH				S		**Sg**	**01 37 21.7**	**-2.8**
	baz=78							
IVAT	**Vatnsfell**	**0.80**	**232**	P		**Pg**	**01 37 12.7**	**-2.7**
	baz=233							
IVAT				S		**Sg**	**01 37 24.2**	**-1.7**
	baz=233							
IADA	**Aoalbol**	**0.88**	**66**	P		**Pg**	**01 37 13.4**	**-3.5**
	baz=66							
IADA				S		**Sg**	**01 37 25.3**	**-3.0**
	baz=66							
IHVE	**Hveravellir**	**0.92**	**283**	P		**Pg**	**01 37 14.4**	**-3.3**
	baz=284							
IHVE				S		**Sg**	**01 37 27.0**	**-2.6**
	baz=284							
IMEL	**Melhnausar**	**0.96**	**21**	P		**Pg**	**01 37 14.9**	**-3.6**
	baz=20							
IMEL				S		**Sg**	**01 37 28.2**	**-2.6**
	baz=20							
IREN	**Reynihlio**	**1.00**	**14**	P		**Pg**	**01 37 15.6**	**-3.6**
	baz=13							
IKVO	**Krokottuvotn**	**1.07**	**13**	P		**Pg**	**01 37 16.7**	**-3.8**
	baz=13							
ISNB	**Snabyli**	**1.08**	**209**	P		**Pg**	**01 37 17.3**	**-3.4**
	baz=209							
IGRS	**Grimsstaoir**	**1.12**	**30**	P		Pb	01 37 17.6	-3.9
	baz=29							
ISLY	**Slysaalda**	**1.12**	**221**	P		**Pg**	**01 37 17.8**	**-3.7**
	baz=221							
IRJU	**Rjupnafell**	**1.19**	**207**	P		**Pb**	**01 37 19.1**	**-3.6**
	baz=207							
ISKI	**Skildingahlsh**	**1.21**	**9**	P		**Pn**	**01 37 19.1**	**-3.9**
	baz=8.3							
IGHA	**Grjothals**	**1.22**	**16**	P		**Pn**	**01 37 19.2**	**-3.9**
	baz=15							
IGRA	**Granastaoir**	**1.24**	**358**	P		**Pn**	**01 37 19.7**	**-3.7**
	baz=358							
IGRA				S		**Sb**	**01 37 37.2**	**-2.4**
	baz=358							
BORG	**Borgarnes**	**1.66**	**274**	Pg		**Pn**	**01 37 26.3**	**-2.8**
	35nm,0.3s,baz=94,slow=8.7,SNR=74							
BORG				Lg		Lg	01 37 50.5	
	32nm,0.3s,baz=64,slow=23,SNR=9.2							
BORG	**Borgarnes**	**1.66**	**274**	P		**Pn**	**01 37 26.9**	**-2.2**
BORG							01 37 50.4	
BORG	**Borgarnes**	**1.66**	**274**	Pn		**Pn**	**01 37 26.9**	**-2.2**
BORG				Sn		**Sn**	**01 37 50.4**	**0.0**
JMIC	**Jan Mayen**	**7.17**	**24**	LR		LR	01 40 34.6	
	comp=Z,76nm,20.5s,baz=218,slow=30							
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**	**01 39 45.8**	**-1.8**
	baz=323,slow=13,SNR=12							
ESK	**Eskdalemuir**	**11.76**	**136**	P		**Pn**	**01 39 48.3**	**+0.6**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn		**Pn**	**01 39 48.3**	**+0.6**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn		**Pn**	**01 40 08.2**	**-3.4**
	0.0nm,0.3s,baz=299,slow=13,SNR=3.4							
HFS	**Hagfors**	**15.04**	**93**	Pn		**P**	**01 40 38.0**	**+0.3**
	0.1nm,0.3s,baz=327,slow=11,SNR=7.0							
HFS				LR		LR	01 46 29.5	
	comp=Z,73nm,18.1s,baz=290,slow=38							
ARCES	**ARCESS Array B**	**17.10**	**55**	LR		LR	01 46 43.4	
	comp=Z,35nm,18.6s,baz=290,slow=34							
ARB3	**ARCESS Array S**	**17.10**	**55**	Pn		**Pn**	**01 40 59.7**	**+0.9**
FINES	**FINESS Array B**	**19.69**	**79**	P		**Pn**	**01 41 31.6**	**+1.3**
	0.1nm,0.3s,baz=316,slow=9.7,SNR=1.4							
FINES	**FINESS Array B**	**19.69**	**79**	P		**P**	**01 41 28.2**	**-0.8**
CLL	**Collm**	**20.70**	**116**	*e*P		**P**	**01 41 40.0**	**0.0**
	comp=Z,15nm,1.3s							
CLL				*i* Pmax			01 41 42.9	
	comp=Z,22nm,1.3s							
CLL				*e*			01 41 49.0	
CLL	**Collm**	**20.70**	**116**	*e*P		**P**	**01 41 39.0**	**-1.0**
CLL				*i*			01 41 42.9	
CLL				pmax		pmax		
	comp=Z,15nm,1.3s							
CLL	**Collm**	**20.70**	**116**	P		**P**	**01 41 40.8**	**+0.7**
ECH	**Echery**	**21.15**	**129**	P		**P**	**01 41 45.9**	**+0.9**
ECH				pmax		pmax		
	comp=Z,13nm,1.1s							
ECH	**Echery**	**21.15**	**129**	P		**P**	**01 41 45.9**	**+0.9**
STU	**Stuttgart**	**21.37**	**125**	P		**P**	**01 41 47.8**	**+0.5**
STU				pmax		pmax		
	comp=Z,19nm,0.9s							
STU	**Stuttgart**	**21.37**	**125**	P		**P**	**01 41 47.8**	**+0.5**
STU				IAmb		IAmb	01 41 49.4	
	comp=Z,19nm,0.9s							
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**	**01 41 48.1**	**+0.5**
	comp=Z,20nm,1.1s							
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**	**01 41 48.1**	**+0.5**
BRG				pmax		pmax		
	comp=Z,20nm,1.1s							
BFO	**Black Forest**	**21.45**	**127**	P		**P**	**01 41 49.1**	**+0.9**
BFO				pmax		pmax		
	comp=Z,14nm,1.1s							
BFO	**Black Forest**	**21.45**	**127**	P		**P**	**01 41 49.1**	**+0.9**
PRU	**Pruhonice**	**22.34**	**116**	*e*P		**P**	**01 41 58.9**	**+1.2**
PRU	**Pruhonice**	**22.34**	**116**	*e*P		**P**	**01 41 58.9**	**+1.2**
PBCC	**Pribram**	**22.38**	**117**	*e*P		**P**	**01 42 01.2**	**+3.1**
CHVC	**Chvalec**	**22.46**	**113**	*e*P		**P**	**01 42 01.2**	**+2.2**
OSTC	**Ostas**	**22.55**	**113**	*e*P		**P**	**01 42 02.0**	**+2.1**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P		**P**	**01 42 01.4**	**+0.2**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P		**P**	**01 42 01.4**	**+0.2**
KHC	**Kasperske Hory**	**22.67**	**118**	P		**P**	**01 42 01.6**	**+0.4**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P		**P**	**01 42 03.5**	**+1.4**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P		**P**	**01 42 03.5**	**+1.4**
GEC2	**GERESS Array S**	**22.95**	**119**	P		**P**	**01 42 05.2**	**+0.9**
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**01 42 05.2**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=301,slow=15,SNR=6.2							
RETA	**Reutte**	**23.02**	**125**	*e*P		**P**	**01 42 07.7**	**+2.8**
	comp=Z,7.4nm,1.1s							
TREC	**Trest**	**23.27**	**116**	*e*P		**P**	**01 42 08.1**	**+0.7**
TREC	**Trest**	**23.27**	**116**	*e*P		**P**	**01 42 08.1**	**+0.7**
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P		**P**	**01 42 08.2**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=269,slow=13,SNR=3.2							
SQTA	**Sankt Quirin**	**23.40**	**125**	*e*P		**P**	**01 42 10.4**	**+1.5**
	comp=Z,6.7nm,1.0s							
WATA	**Walderalm**	**23.43**	**124**	*e*P		**P**	**01 42 11.3**	**+2.0**
	comp=Z,5.5nm,1.0s							
VRAC	**Vranov**	**23.69**	**114**	LR		LR	01 50 24.9	
	comp=Z,27nm,20.9s,baz=332,slow=34							
CONA	**Conrad Observa**	**24.53**	**117**	*e*P		**P**	**01 42 20.1**	**+0.6**
	comp=Z,7.0nm,1.2s							
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**01 42 20.6**	**+0.7**
CTI				pmax		pmax		
	comp=Z,8.0nm,0.9s							
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**01 42 20.6**	**+0.7**
CTI				IAmb		IAmb	01 42 28.4	
	comp=Z,8.2nm,0.9s							
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**	**01 42 22.0**	**+1.5**
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**	**01 42 22.0**	**+1.5**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P		**P**	**01 42 20.3**	**-0.8**
MODS	**Modra-Piesok**	**24.71**	**115**	*e*P		**P**	**01 42 20.3**	**-0.8**
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P		**P**	**01 42 24.1**	**+0.8**
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P		**P**	**01 42 24.1**	**+0.8**
ARSA	**Arzberg**	**24.96**	**118**	*e*P		**P**	**01 42 22.0**	**-1.3**
	comp=Z,0.8nm,0.5s							
MTE	**Manteigas**	**25.00**	**162**	P		**P**	**01 42 24.4**	**+0.7**
MTE				IAmb		IAmb	01 42 27.1	
	comp=Z,15nm,1.1s							
VYHS	**Vyhne**	**25.23**	**112**	*e*P		**P**	**01 42 25.3**	**-0.4**
VYHS				pmax		pmax		
	comp=Z,13nm,1.4s							
VYHS	**Vyhne**	**25.23**	**112**	*e*P		**P**	**01 42 25.3**	**-0.4**
KWP	**Kalwaria Pacla**	**25.90**	**106**	P		**P**	**01 42 32.8**	**+1.0**
KWP				pmax		pmax		
	comp=Z,43nm,1.3s							
KWP	**Kalwaria Pacla**	**25.90**	**106**	P		**P**	**01 42 32.8**	**+1.0**
PSZ	**Piszkesteto**	**26.11**	**112**	P		**P**	**01 42 34.8**	**+1.0**
PSZ				pmax		pmax		
	comp=Z,18nm,1.6s							
PSZ	**Piszkesteto**	**26.11**	**112**	P		**P**	**01 42 34.8**	**+1.0**
PSZ				IAmb		IAmb	01 42 46.0	
	comp=Z,18nm,1.6s							
ESDC	**Sonseca Array**	**26.26**	**156**	P		**P**	**01 42 35.2**	**0.0**
	comp=Z,2.4nm,0.9s,baz=348,slow=9.9,SNR=14							
ESDC	**Sonseca Array**	**26.26**	**156**	P		**P**	**01 42 35.9**	**+0.7**
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P		**P**	**01 42 35.0**	**-0.1**
KOLS				pmax		pmax		
	comp=Z,15nm,1.4s							
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P		**P**	**01 42 35.0**	**-0.1**
LVV	**L'vov**	**26.31**	**104**	*e*P		**P**	**01 42 38.3**	**+2.8**
RES	**Resolute Bay**	**26.46**	**324**	LR		LR	01 51 53.8	
	comp=Z,34nm,18.9s,baz=64,slow=34							
AKASG	**Malin Array Be**	**27.83**	**98**	P		**P**	**01 42 49.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=324,slow=9.6,SNR=4.1							
AKASG	**Malin Array Be**	**27.83**	**98**	*i* P		**P**	**01 42 50.4**	**+1.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**27.83**	**98**	P		**P**	**01 42 50.1**	**+1.0**
AKBB	**Malin Array Si**	**27.83**	**98**	*i* P		**P**	**01 42 48.0**	**-1.1**
OBN	**Obninsk**	**27.87**	**84**	*ce*P		**P**	**01 42 48.3**	**-1.1**
OBN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KIRV	**Kirov**	**30.96**	**69**	*ce*P		**P**	**01 43 16.5**	**-0.3**
NRIK	**Noril'sk**	**36.44**	**35**	*ce*P		**P**	**01 44 04.2**	**-0.1**
NRIK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GOF	**Gofitskoye**	**38.10**	**91⇑**	*e*P		**P**	**01 44 20.0**	**+1.4**
BRTR	**Keskin Array B**	**38.47**	**105**	P		**P**	**01 44 23.5**	**+1.6**
	comp=Z,2.5nm,0.9s,baz=306,slow=6.2,SNR=6.6							
BRTR	**Keskin Array B**	**38.47**	**105**	P		**P**	**01 44 22.6**	**+0.6**
KIV	**Kislovodsk**	**38.83**	**92**	*e*P		**P**	**01 44 24.6**	**-0.3**
KIV				pmax		pmax		
	comp=Z,19nm,1.1s							
KIV				MLR		MLR		
	comp=Z,71nm,16.0s							
SHA1	**Shidzhatmaz**	**38.99**	**93**	*i* P		**P**	**01 44 25.3**	**-1.1**
KBZ	**Khabaz**	**39.10**	**92**	P		**P**	**01 44 28.8**	**+1.8**
	comp=Z,4.5nm,0.9s,baz=341,slow=7.8,SNR=7.7							
KBZ	**Khabaz**	**39.10**	**92**	*ce*P		**P**	**01 44 27.0**	**0.0**
KBZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ABKAR	**Akbulak array**	**41.98**	**73**	P		**P**	**01 44 51.4**	**+0.7**
ABKAR	**Akbulak array**	**41.98**	**73**	P		**P**	**01 44 51.3**	**+0.6**
TIXI	**Tiksi**	**42.01**	**15**	*ce*P		**P**	**01 44 52.3**	**+1.5**
BRVK	**Borovoye**	**43.11**	**62**	*ce*P		**P**	**01 44 59.7**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**	**01 45 21.8**	**+1.5**
	comp=Z,3.0nm,1.1s,baz=22,slow=7.3,SNR=13							
ILAR				PcP		**PcP**	**01 46 58.5**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=358,slow=4.3,SNR=6.7							
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**	**01 45 21.5**	**+1.2**
ILAR						**PcP**	**01 46 58.7**	**+0.7**
MDM	**Murphy Dome**	**45.77**	**333**	P		**P**	**01 45 22.3**	**+1.2**
MDM				IAmb		IAmb	01 45 24.6	
	comp=Z,7.2nm,1.1s							
COLA	**College**	**45.78**	**333**	*i* P		**P**	**01 45 22.0**	**+1.0**
COLA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
IMAR	**Indian Mountai**	**45.85**	**337**	P		**P**	**01 45 22.8**	**+1.2**
BILL	**Bilibino**	**47.53**	**358**	*e*P		**P**	**01 45 35.7**	**+0.9**
BILL				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ZALV	**Zalesovo Beam**	**47.61**	**51**	P		**P**	**01 45 36.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=318,slow=8.7,SNR=4.8							
ZALV	**Zalesovo Beam**	**47.61**	**51**	*i* P		**P**	**01 45 37.2**	**+1.6**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**47.61**	**51**	P		**P**	**01 45 36.4**	**+0.8**
KURK	**Kurchatov**	**48.09**	**58**	*ce*P		**P**	**01 45 38.7**	**-0.6**
KURK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**48.09**	**58**	P		**P**	**01 45 40.1**	**+0.8**
KURK				IAmb		IAmb	01 45 41.1	
	comp=Z,5.9nm,0.9s							
T47A	**Sharon Grove**	**48.65**	**270**	P		**P**	**01 45 44.4**	**+0.6**
T47A				IAmb		IAmb	01 45 46.1	
	comp=Z,11nm,0.9s							
EGMT	**Eagleton**	**48.88**	**297**	P		**P**	**01 45 46.3**	**+0.8**
GEYT	**Alibeck**	**50.41**	**84**	P		**P**	**01 45 58.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=354,slow=9.0,SNR=2.1							
GEYT	**Alibeck**	**50.41**	**84**	P		**P**	**01 45 58.5**	**+1.2**
KK31	**Karatay Array**	**51.26**	**70**	P		**P**	**01 46 04.9**	**+1.3**
KK31				pmax		pmax		
	comp=Z,5.0nm,1.2s							
KK31	**Karatay Array**	**51.26**	**70**	P		**P**	**01 46 04.9**	**+1.3**
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**	**01 46 04.8**	**+1.2**
KKAR				pmax		pmax		
	comp=Z,5.0nm,1.2s							
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**	**01 46 04.8**	**+1.2**
KKAR				IAmb		IAmb	01 46 08.4	
	comp=Z,5.4nm,1.2s							
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**	**01 46 04.8**	**+1.2**
BOZ	**Bozeman (W)**	**51.61**	**297**	P		**P**	**01 46 07.2**	**+0.8**
BOZ				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BOZ	**Bozeman (W)**	**51.61**	**297**	P		**P**	**01 46 07.2**	**+0.8**
BOZ				IAmb		IAmb	01 46 14.2	
	comp=Z,4.4nm,0.7s							
DGZ	**Jazzator, Alta**	**52.06**	**53**	*i* P		**P**	**01 46 10.1**	**+0.5**
DGZ				pmax		pmax		
	comp=Z,4.0nm,1.1s							
H17A	**Grant Village**	**52

SONM	**Songino Array**	**59.62**	**40**	P		**P**	**01 47 04.7**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=330,slow=8.7,SNR=4.8							
SONM	**Songino Array**	**59.62**	**40**	P		**P**	**01 47 05.0**	**+1.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**59.62**	**40**	P		**P**	**01 47 05.0**	**+1.2**
ULN	**Ulaanbaatar**	**59.78**	**40**	*ce*P		**P**	**01 47 05.7**	**+0.8**
ULN				pmax		pmax		
	comp=Z,6.0nm,2.5s							
WUAZ	**Wupatki**	**60.11**	**290**	P		**P**	**01 47 08.1**	**+0.7**
WUAZ				IAmb		IAmb	01 47 08.8	
	comp=Z,6.1nm,1.1s							
NVAR	**Mina Array Bea**	**60.31**	**297**	P		**P**	**01 47 10.2**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=55,slow=3.2,SNR=3.6							
NVAR	**Mina Array Bea**	**60.31**	**297**	P		**P**	**01 47 09.4**	**+0.6**
NIL	**Nilore**	**60.43**	**74**	P		**P**	**01 47 10.7**	**+1.2**
NIL				pmax		pmax		
	comp=Z,10.0nm,1.1s							
NIL	**Nilore**	**60.43**	**74**	P		**P**	**01 47 10.7**	**+1.2**
NIL				IAmb		IAmb	01 47 11.9	
	comp=Z,10nm,1.1s							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**01 47 23.2**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=35,slow=4.6,SNR=8.8							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**01 47 22.9**	**+0.8**
GLA	**Glamis**	**63.65**	**292**	P		**P**	**01 47 31.8**	**+0.7**
GLA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GLA	**Glamis**	**63.65**	**292**	P		**P**	**01 47 31.8**	**+0.7**
GTA	**Gaotai**	**65.28**	**49**	*e*P		**P**	**01 47 43.0**	**+1.2**
GTA				pP		sP	01 47 48.3	+1.5
GTA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P		**P**	**01 49 31.4**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=309,slow=6.2,SNR=6.0							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	*i* P		**P**	**01 49 32.0**	**+1.0**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P		**P**	**01 49 32.0**	**+1.0**
ASAR	**Alice Springs**	**134.95**	**38**	PKP		**PKPdf**	**01 56 19.9**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=345,slow=3.2,SNR=2.7							
ASAR	**Alice Springs**	**134.95**	**38**			**PKPdf**	**01 56 20.1**	**+1.3**

VAO ***23*** *01:44:42.8±0.6, 20.°99S×68.°86W, h126km±9km, mb4.2*
NEIC ***23*** *01:44:42.7±1.1, 21.°04S±0.°03×68.°78W±0.°07, h121km±4km, Error ellipse: s-maj=9.7km s-min=4.9km az=88.0*
IDC ***23*** *01:44:44.3±1.1, 21.°05S×68.°41W, h110km±12km, mb3.4/5, mb1 3.6/9, mb1mx3.5/26, mbtmp3.9/9, Error ellipse: s-maj=22.8km s-min=13.4km az=114.0*
GUC ***23*** *01:44:44.0±0.7, 21.°05S×68.°73W, h116km±3km, ML4.0*

ISC 23 01:44:42.8±0.6, 21.°01S±0.°03×68.°68W±0.°05, h115km±6km, n84, σ1°25/109, mb4.0/8, 12C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.75**	**267**	⇑	*i*	P	**Pn**	**01 45 02.0**	**-0.1**
PB01					*i*	S	**Sn**	**01 45 15.9**	**-0.8**
PB01					IAML			01 45 18.3	
	comp=E,5μm,0.3s								
PB01	**IPOC Station P**	**0.75**	**267**				**Pn**	**01 45 01.5**	**-0.6**
PB01					Sn		**Sn**	**01 45 16.7**	**0.0**
PB09	**IPOC Station P**	**0.94**	**214**	⇑	*i*	P	**Pn**	**01 45 04.5**	**+0.5**
PB09					*i*	S	**Sn**	**01 45 20.5**	**+0.5**
PB09					IAML			01 45 22.3	
	comp=E,2μm,0.1s								
PB09	**IPOC Station P**	**0.94**	**214**				**Pn**	**01 45 04.5**	**+0.5**
PB09					Sn		**Sn**	**01 45 20.2**	**+0.2**
PB08	**IPOC Station P**	**0.97**	**333**	⇓	*i*	P	**Pn**	**01 45 05.7**	**+1.1**
PB08					*i*	S	**Sn**	**01 45 22.0**	**+1.1**
PB08					IAML			01 45 22.8	
	comp=N,3μm,0.3s								
PB08	**IPOC Station P**	**0.97**	**333**				**Pn**	**01 45 05.0**	**+0.4**
PB08					Sn		**Sn**	**01 45 21.9**	**+1.1**
PB07	**IPOC Station P**	**1.33**	**237**	⇑	*i*	P	**Pn**	**01 45 08.0**	**-0.1**
PB07					*i*	S	**Sn**	**01 45 26.9**	**-0.3**
PB07					IAML			01 45 32.5	
	comp=N,2μm,0.4s								
PB07	**IPOC Station P**	**1.33**	**237**				**Pn**	**01 45 07.7**	**-0.4**
PB07					Sn		**Sn**	**01 45 27.0**	**-0.3**
PATCX	**Punta Patache**	**1.39**	**278**	⇑	*i*	P	**Pn**	**01 45 08.9**	**+0.2**
PATCX					*i*	S	**Sn**	**01 45 27.9**	**-0.4**
PATCX					IAML			01 45 29.7	
	comp=E,5μm,0.5s								
PATCX	**Punta Patache**	**1.39**	**278**				**Pn**	**01 45 08.8**	**+0.2**
GO01	**Chusmiza**	**1.42**	**340**	⇓	*i*	P	**Pn**	**01 45 10.6**	**+1.1**
GO01					*e*S		**Sn**	**01 45 31.5**	**+1.9**
GO01					IAML			01 45 33.5	
	comp=N,6μm,0.2s								
GO01	**Chusmiza**	**1.42**	**340**				**Pn**	**01 45 10.6**	**+1.1**
TA01	**Diego Aracena**	**1.47**	**287**	⇑	*i*	P	**Pn**	**01 45 09.4**	**-0.1**
TA01					*i*	S	**Sn**	**01 45 29.4**	**-0.5**
TA01					IAML			01 45 30.8	
	comp=E,4μm,0.3s								
TA01	**Diego Aracena**	**1.47**	**287**		Pn		**Pn**	**01 45 09.4**	**-0.1**
PB11	**IPOC Station P**	**1.54**	**324**	⇑	*i*	P	**Pn**	**01 45 11.1**	**+0.6**
PB11					*i*	S	**Sn**	**01 45 32.2**	**+0.5**
PB11	**IPOC Station P**	**1.54**	**324**		Pn		**Pn**	**01 45 10.8**	**+0.2**
TA02	**Huaiquique**	**1.54**	**298**	⇑	*i*	P	**Pn**	**01 45 10.8**	**+0.4**
TA02					*i*	S	**Sn**	**01 45 31.2**	**-0.2**
TA02					IAML			01 45 35.4	
	comp=N,8μm,0.1s								
LVC	**Limon Verde**	**1.61**	**188**		P		**Pn**	**01 45 12.6**	**+1.0**
	comp=N,36nm,0.3s,baz=3.6,slow=8.8,SNR=375								
LVC					S		**Sn**	**01 45 34.5**	**+1.1**
	comp=N,85nm,0.3s,baz=123,slow=23,SNR=13								
LVC	**Limon Verde**	**1.61**	**188**	⇓	*i*	P	**Pn**	**01 45 12.6**	**+1.0**
LVC					*i*	S	**Sn**	**01 45 34.3**	**+0.9**
LVC	**Limon Verde**	**1.61**	**188**		*e*P		**Pn**	**01 45 12.5**	**+1.0**
LVC					*e*S		**Sn**	**01 45 34.4**	**+1.1**
PB06	**IPOC Station P**	**1.88**	**206**	⇑	*i*	P	**Pn**	**01 45 14.9**	**+0.3**
PB06					*i*	S	**Sn**	**01 45 38.8**	**-0.1**
PB06					IAML			01 45 40.0	
	comp=E,1μm,0.4s								
PB06	**IPOC Station P**	**1.88**	**206**		Pn		**Pn**	**01 45 14.1**	**-0.6**
PB04	**IPOC Station P**	**1.90**	**226**	⇑	*i*	P	**Pn**	**01 45 14.5**	**-0.4**
PB04					*i*	S	**Sn**	**01 45 38.3**	**-1.1**
PB04					IAML			01 45 45.7	
	comp=N,1μm,0.7s								
PB04	**IPOC Station P**	**1.90**	**226**				**Pn**	**01 45 14.4**	**-0.4**
PSGC	**Pisagua**	**1.95**	**316**	⇑	*i*	P	**Pn**	**01 45 15.6**	**+0.1**
PSGC					*i*	S	**Sn**	**01 45 40.3**	**-0.2**
PSGC					IAML			01 45 41.7	
	comp=E,1μm,0.2s								
PSGCX	**Pisagua**	**1.95**	**316**		Pn		**Pn**	**01 45 15.5**	**0.0**
MNMC	**Minye Minye**	**2.06**	**335**	⇑	*i*	P	**Pn**	**01 45 18.3**	**+1.3**
MNMC					*e*S		**Sn**	**01 45 44.7**	**+1.6**
MNMC					IAML			01 45 47.2	
	comp=N,2μm,0.2s								
MNMC	**Minye Minye**	**2.06**	**335**				**Pn**	**01 45 18.2**	**+1.1**
PB15	**IPOC Station P**	**2.31**	**198**	⇑	*i*	P	**Pn**	**01 45 20.6**	**+0.4**
PB15					*i*	S	**Sn**	**01 45 49.0**	**+0.3**
PB15	**IPOC Station P**	**2.31**	**198**				**Pn**	**01 45 20.0**	**-0.1**
PB16	**IPOC Station P**	**2.77**	**344**		*e*P		**Pn**	**01 45 28.6**	**+2.0**
PB16					IAML			01 46 09.0	
	comp=N,166nm,0.5s								
PB10	**IPOC Station P**	**3.04**	**214**		*e*P		**Pn**	**01 45 29.0**	**-0.4**
PB10					IAML			01 46 17.4	
	comp=N,323nm,0.3s								
AP01	**Chacalluta**	**3.06**	**329**		*e*P		**Pn**	**01 45 30.4**	**+0.7**
AP01					*i* S		**Sn**	**01 46 06.2**	**+0.4**
PB14	**IPOC Station P**	**3.93**	**203**		*e*P		**Pn**	**01 45 41.9**	**+0.3**
PB14	**IPOC Station P**	**3.93**	**203**		Pn		**Pn**	**01 45 40.7**	**-1.0**
GO02	**Mina Guanaco**	**4.22**	**191**		*e*P		**Pn**	**01 45 45.2**	**-0.3**
GO02	**Mina Guanaco**	**4.22**	**191**		Pn		**Pn**	**01 45 44.6**	**-0.8**
LPAZ	**La Paz**	**4.73**	**6**		P		**Pn**	**01 45 56.1**	**+3.5**
	comp=N,3.4nm,0.3s,baz=192,slow=4.8,SNR=86								
LPAZ					S		**Sn**	**01 46 45.3**	**-1.5**
	comp=N,1.0nm,0.3s,baz=171,slow=12,SNR=4.3								
LPAZ	**La Paz**	**4.73**	**6**		Pn		**Pn**	**01 45 52.7**	**+0.1**
LPAZ							**Sn**	**01 46 47.0**	**+0.2**
AC01	**Pan de Azucar**	**5.41**	**199**		Pn		**Pn**	**01 45 59.2**	**-2.0**
AC02	**Maricunga**	**5.81**	**184**		Pn		**Pn**	**01 46 06.2**	**-0.9**
AC05	**El Transito**	**7.92**	**190**		Pn		**Pn**	**01 46 32.9**	**-2.5**
SIV	**San Ignacio**	**8.78**	**57**		P		**Pn**	**01 46 45.4**	**-1.5**
	comp=N,7.7nm,0.3s,baz=248,slow=10,SNR=158								
SIV					S		**Sn**	**01 48 18.1**	**-6.0**
	comp=N,0.3nm,0.3s,baz=320,slow=11,SNR=4.5								
ETMB	**Extrema**	**11.38**	**12**		*e*P		**Pn**	**01 47 22.4**	**+0.4**
VILB	**Vilhena**	**11.40**	**47**		*e*P		**Pn**	**01 47 22.7**	**+0.4**
CPUP	**Villa Florida**	**11.67**	**119**		P		**Pn**	**01 47 24.6**	**-1.2**
	comp=N,0.2nm,0.3s,baz=308,slow=14,SNR=4.0								
CPUP	**Villa Florida**	**11.67**	**119**				**Pn**	**01 47 25.4**	**-0.4**

AQDB	**Aquidauana**	**12.16**	**90**	*e*P		**Pn**	**01 47 33.7**	**+1.4**
TRCB	**Terra Rica**	**15.00**	**100**	*e*P		**P**	**01 48 10.1**	**-1.5**
PTGB	**Pitanga**	**15.75**	**107**	*e*P		**P**	**01 48 21.7**	**+1.7**
CLDB	**Colider**	**15.96**	**53**	*e*P		**P**	**01 48 22.7**	**+0.5**
BI03	**Tigo**	**16.23**	**193**			**Pn**	**01 48 23.3**	**-0.8**
BI03					IAmb	IAmb	01 48 40.4	
	comp=Z,22nm,1.1s							
ARAG	**Araguaiana, MT**	**16.86**	**75**	*e*P		**P**	**01 48 33.3**	**+1.1**
BB19B	**Bebedouro**	**18.82**	**94**	*e*P		**Pn**	**01 48 54.6**	**-0.9**
SNDB	**Serra Nova Dou**	**18.92**	**64**	*e*P		**P**	**01 48 55.4**	**+0.5**
NPGB	**Novo Progresso**	**18.95**	**45**	*e*P		**P**	**01 48 54.8**	**-0.3**
IPMB	**Ipameri, GO**	**19.53**	**85**	*e*P		**P**	**01 49 01.8**	**+0.3**
PLCA	**Paso Flores**	**19.73**	**184**	P		**Pn**	**01 49 05.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=1,9,slow=11,SNR=8.5							
PLCA	**Paso Flores**	**19.73**	**184**	P		**P**	**01 49 02.5**	**-0.9**
PLCA					IAmb	IAmb	01 49 09.4	
	comp=Z,3.5nm,0.8s							
BDFB	**Brasilia**	**20.33**	**78**	P		**P**	**01 49 09.0**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=256,slow=11,SNR=4.3							
BDFB	**Brasilia**	**20.33**	**78**	P		**P**	**01 49 10.1**	**-0.1**
ITTB	**Itaituba**	**20.79**	**39**	*e*P		**P**	**01 49 14.6**	**-0.4**
PTGA	**Pitinga**	**21.88**	**24**	P		**P**	**01 49 25.9**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=308,slow=22,SNR=5.7							
PTGA	**Pitinga**	**21.88**	**24**	P		**P**	**01 49 26.6**	**0.0**
SMTB	**Santa Maria do**	**23.65**	**62**	*e*P		**P**	**01 49 44.5**	**+0.5**
MALB	**Monte Alegre**	**23.67**	**38**	*e*P		**P**	**01 49 43.4**	**-0.7**
OBIP	**Obispado Ponce**	**38.87**	**3**	P		**P**	**01 51 55.8**	**-1.2**
PDPR	**Patillas Dam,**	**38.87**	**4**	P		**P**	**01 51 56.5**	**-0.7**
PDPR					IAmb	IAmb	01 51 58.8	
	comp=Z,7.5nm,0.8s							
CBYP	**Canovanas**	**39.14**	**4**	P		**P**	**01 51 59.0**	**-0.5**
GCPR	**Guaynabo City**	**39.16**	**4**	P		**P**	**01 51 57.7**	**-1.8**
GCPR					IAmb	IAmb	01 52 12.6	
	comp=Z,3.5nm,0.8s							
PMSA	**Palmer Station**	**43.85**	**177**	P		**P**	**01 52 36.0**	**-1.2**
PMSA					IAmb	IAmb	01 52 41.2	
	comp=Z,11nm,1.0s							
TXAR	**Lajitas Array**	**60.35**	**325**	P		**P**	**01 54 42.0**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=145,slow=9.7,SNR=3.2							
TXAR	**Lajitas Array**	**60.35**	**325**	P		**P**	**01 54 38.8**	**-1.2**
VNA3	**Neumayer Olymp**	**60.47**	**161**	P		**P**	**01 54 42.4**	**+2.3**
VNA1	**Neumayer--Stat**	**60.67**	**161**	P		**P**	**01 54 43.8**	**+2.4**
VNA2	**Neumayer--Watz**	**61.04**	**161**	P		**P**	**01 54 46.3**	**+2.3**
	baz=282,slow=7.7							
SNAA	**Sanae**	**62.67**	**161**	P		**P**	**01 54 57.0**	**+2.0**
QSPA	**South Pole Qui**	**69.18**	**180**	P		**P**	**01 55 36.1**	**-0.7**
QSPA					IAmb	IAmb	01 55 51.1	
	comp=Z,2.4nm,1.1s							
NVAR	**Mina Array Bea**	**75.24**	**322**	P		**P**	**01 56 16.6**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=165,slow=7.5,SNR=2.0							
TORD	**Torodi Ar. Bea**	**76.99**	**70**	P		**P**	**01 56 24.2**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=254,slow=5.5,SNR=14							
WRA	**Warramunga Arr**	**133.48**	**210**	PKP		**PKiKP**	**02 03 48.3**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=174,slow=1.9,SNR=5.9							
ZALV	**Zalesovo Beam**	**141.42**	**25**	PKP		**PKiKP**	**02 04 02.2**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=290,slow=4.3,SNR=4.3							
MKAR	**Makanchi Array**	**145.11**	**36**	PKPbc		**PKiKP**	**02 04 08.7**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=320,slow=2.7,SNR=18							
MKAR	**Makanchi Array**	**145.11**	**36**			**PKPdf**	**02 04 06.1**	**-0.6**

VIE ***23*** *01:49:15.3±0.9, 50.°32N×18.°93E, h0km, mb2.0/2, ml2.6/4, Error ellipse: s-maj=10.5km s-min=3.6km az=168.0 9 km NNW of Katowice Suspected Mining induced.*
PRU ***23*** *01:49:16.7±0.0, 50.°20N×18.°92E, h0km*

ISC 23 01:49:15.7±0.9, 50.°21N±0.°04×18.°95E±0.°03, h0km, n24, σ0°90/43, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**88**			*e*Pg	**Pg**	**01 49 26.1**	**-0.1**
OJC						*e*Sg	**Sg**	**01 49 33.3**	**+0.1**
OKC	**Ostrava-Krasne**	**0.64**	**235**			*e*PG	**Pb**	**01 49 29.3**	**-0.4**
OKC						*e*SG	**Sg**	**01 49 36.1**	**0.0**
	comp=Z,32nm,0.3s								
MORC	**Moravsky Berou**	**1.00**	**245**			*e*PG	**Pb**	**01 49 35.5**	**-0.5**
MORC						*e*SG	**Sb**	**01 49 49.4**	**-0.4**
LANS	**Liptovska Anna**	**1.11**	**162**			*e*PG	**Pn**	**01 49 38.1**	**-0.5**
LANS						*e*SG	**Sb**	**01 49 53.4**	**+0.6**
LANS						*e*LG	Lg	01 50 00.8	
KRLC	**Kraliky**	**1.40**	**265**			*e*PG	**Pg**	**01 49 42.0**	**-0.6**
KRLC						*e*SG	**Sn**	**01 50 01.3**	**-0.5**
	comp=Z,29nm,0.4s								
JAVC	**Velka Javorina**	**1.58**	**212**			*e*PN	**Pn**	**01 49 45.1**	**0.0**
DPC	**Dobruska-Polom**	**1.69**	**276**			*e*PG	**Pb**	**01 49 47.0**	**-0.7**
DPC						*e*SG	**Sg**	**01 50 10.8**	**+0.8**
	comp=Z,22nm,0.4s								
VYHS	**Vyhne**	**1.71**	**183**			*e*PN	**Pn**	**01 49 46.8**	**-0.1**
VYHS						*e*SN	**Sn**	**01 50 09.5**	**0.0**
VRAC	**Vranov**	**1.77**	**240**			*e*PN	**Pb**	**01 49 48.4**	**-0.7**
VRAC						*e*SG	**Sb**	**01 50 11.5**	**-0.4**
OSTC	**Ostas**	**1.79**	**282**			*e*PG	**Pg**	**01 49 49.9**	**0.0**
OSTC						*e*SG	**Sg**	**01 50 12.7**	**-0.3**
	comp=Z,17nm,0.8s								
KSP	**Ksiaz**	**1.81**	**292**			*e*Pg	**Pg**	**01 49 51.3**	**+0.9**
KSP						*e*Sg	**Sg**	**01 50 15.2**	**+1.3**
CHVC	**Chvalec**	**1.89**	**283**			*e*PG	**Pb**	**01 49 50.2**	**-0.9**
CHVC						*e*SG	**Sb**	**01 50 15.3**	**0.0**
	comp=Z,9.8nm,0.5s								
UPC	**Upice**	**1.91**	**280**			*e*PG	**Pb**	**01 49 50.9**	**-0.5**
UPC						*e*SG	**Sg**	**01 50 16.6**	**-0.3**
	comp=Z,14nm,0.3s								
KRUC	**Moravsky**	**2.02**	**236**			*e*PN	**Pn**	**01 49 50.3**	**-0.7**
KRUC						*e*SG	**Sg**	**01 50 20.1**	**-0.4**
TREC	**Trest**	**2.42**	**249**			*e*SG	**Sg**	**01 50 32.1**	**-1.4**
	comp=Z,14nm,0.3s								
PVCC	**Panska Ves**	**2.82**	**278**			*e*PG	**Pb**	**01 50 07.7**	**+0.7**
PVCC						*e*SG	**Sg**	**01 50 46.4**	**0.0**
	comp=Z,16nm,0.3s								
PRU	**Pruhonice**	**2.85**	**267**			*e*SG	**Sg**	**01 50 46.2**	**-0.9**
	comp=Z,13nm,0.9s								
PRA	**Prague**	**2.91**	**269**			*e*SG	**Sg**	**01 50 49.3**	**+0.2**
CONA	**Conrad Observa**	**3.05**	**223**			Pg	**Pg**	**01 50 14.4**	**+0.2**
	0.7nm,0.4s								
CONA						*e*Sn	**Sn**	**01 50 43.0**	**+0.5**
	1.7nm,0.3s								
BRG	**Berggiesshubel**	**3.26**	**284**			PG	**Pg**	**01 50 17.9**	**-0.4**
BRG						SG	**Sg**	**01 50 60.0**	**-0.5**
	4.9nm,0.5s								
KHC	**Kasperske Hory**	**3.65**	**255**			*e*PG	**Pb**	**01 50 21.9**	**+0.8**
KHC						*e*SG	**Sg**	**01 51 10.9**	**-2.1**
	comp=Z,7.2nm,0.4s								
MOA	**Molln**	**3.88**	**234**			Pg	**Pg**	**01 50 31.0**	**+0.9**
	0.4nm,0.2s								
MOA						*i* Sn	**Sn**	**01 51 04.0**	**+1.1**
	1.3nm,0.3s								
CLL	**Collm**	**3.93**	**289**			*e*Pg	**Pg**	**01 50 33.0**	**+1.9**
CLL						*e*Sg	**Sg**	**01 51 21.0**	**-1.0**
MOTA	**Moosalm**	**5.92**	**244**			Sg	**Sg**	**01 52 28.8**	**+2.9**
	2.5nm,0.6s								

IDC 23 01:58:20.3±7.6, 63.°01S×171.°69E, h0km, mb3.8/1, mb1 4.0/2, mb1mx3.7/24, mbtmp3.8/2, ML3.2/1, MS3.5/5, Ms1 3.4/5, ms1mx3.1/23, Error ellipse: s-maj=275.1km s-min=44.6km az=74.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.91**	**188**			Pn	Pn	02 01 52.1	+0.1
VNDA	0.1nm,0.3s,baz=21,slow=16,SNR=18					LR	LR	02 06 04.9	
	comp=Z,56nm,21.5s,baz=27,slow=31								
QSPA	**South Pole Qui**	**27.09**	**180**			LR	LR	02 13 14.9	
	comp=Z,56nm,18.7s,baz=30,slow=33								
STKA	**Stephens Creek**	**36.53**	**314**			LR	LR	02 17 48.4	
	comp=Z,81nm,19.2s,baz=206,slow=32								
MAW	**Mawson**	**40.05**	**214**			LR	LR	02 22 02.1	
	comp=Z,149nm,20.0s,baz=72,slow=36								
H01W1	**Cape Leeuwin H**	**44.92**	**281**			T	T	02 54 07.0	
	baz=147,slow=76,SNR=78								
H01W2	**Cape Leeuwin H**	**44.93**	**281**			T	T	02 54 06.2	
	baz=147,slow=76,SNR=84								
H01W3	**Cape Leeuwin H**	**44.94**	**281**			T	T	02 54 08.5	
	baz=147,slow=76,SNR=84								
ASAR	**Alice Springs**	**46.70**	**309**			P	P	02 06 50.6	-0.1
	1.2nm,0.8s,baz=159,slow=7.7,SNR=7.7								
H03S2	**Juan Fernandez**	**68.46**	**122**			T	T	03 25 12.6	
	baz=204,slow=74,SNR=15								
H03S1	**Juan Fernandez**	**68.46**	**122**			T	T	03 25 13.7	
	baz=204,slow=74,SNR=16								
H03S3	**Juan Fernandez**	**68.48**	**122**			T	T	03 25 13.4	
	baz=204,slow=74,SNR=12								
BOSA	**Boshof**	**84.86**	**209**			LR	LR	02 45 33.3	
	comp=Z,42nm,19.9s,baz=179,slow=33								

H08S2	**Diego Garcia H**	**87.40**	**258**		T		T	03 47 09.2
	baz=152,slow=76,SNR=16							
H08S1	**Diego Garcia H**	**87.41**	**258**		T		T	03 47 10.1
	baz=152,slow=76,SNR=10							
H08S3	**Diego Garcia H**	**87.42**	**258**		T		T	03 47 20.7
	baz=152,slow=76,SNR=25							
BRTR	**Keskin Array B**	**145.91**	**247**		PKPbc		PKPdf	02 18 00.0 -0.2
	2.6nm,1.0s,baz=160,slow=3.9,SNR=8.0							

IDC ***23*** *02:05:44.2±1.1, 36.°65N×9.°71W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/46, mbtmp3.7/7, ML4.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/46, Error ellipse: s-maj=33.2km s-min=21.3km az=72.0*
CNRM ***23*** *02:05:48.6, 36.°71N×9.°73W, h48km*
SFS ***23*** *02:05:49.0, 36.°70N×9.°70W, h40km, ML3.7, SW. CABO DE SAN VICENTE*
MDD ***23*** *02:05:49.6±0.5, 36.°72N×9.°76W, h40km, mbLg4.0/91, Error ellipse: s-maj=4.9km s-min=4.6km az=74.0, PRXIMO MDD EMS: II INTENSIDAD MAXIMA.*
NEIC ***23*** *02:05:49.8±1.3, 36.°73N±0.°07×9.°66W±0.°07, h34km±9km, Error ellipse: s-maj=12.3km s-min=4.3km az=215.0*
IGIL ***23*** *02:05:50.8, 36.°72N×9.°70W, h32km, ML4.2*
INMG ***23*** *02:05:50.6±2.5, 36.°72N×9.°73W, h32km±8km, MD3.5, ML3.9, Error ellipse: s-maj=3.8km s-min=2.5km az=111.0*
LDG ***23*** *02:05:51.6±0.2, 36.°80N×9.°66W, h30km, Ml4.0/22, Error ellipse: s-maj=3.4km s-min=2.4km az=52.0*

ISC 23 02:05:48.6±1.3, 36.°72N±0.°03×9.°73W±0.°04, h29km±10km, n241, σ1°57/289, mb3.6/7, 4C-14D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.83**	**60**	⇑		P	**Pb**	**02 06 04.9**	**+0.5**
	410nm,0.1s,SNR=18								
PFVI						S	**Sb**	**02 06 14.8**	**-0.4**
	1μm,0.1s,SNR=20								
PFVI	**Vila Bisbo**	**0.83**	**60**			P	**Pb**	**02 06 04.7**	**+0.3**
PFVI						S	**Sb**	**02 06 15.5**	**+0.3**
PFVI	**Vila Bisbo**	**0.83**	**60**	⇑		*e*P	**Pb**	**02 06 04.9**	**+0.5**
PFVI						*e*S	**Sb**	**02 06 15.2**	**0.0**
PFVI						A	A	02 06 15.9	
	2μm,0.3s								
PFVI	**Vila Bisbo**	**0.83**	**60**				**Pb**	**02 06 04.1**	**-0.3**
PFVI						Sn	**Sb**	**02 06 14.9**	**-0.4**
PFVI	**Vila Bisbo**	**0.83**	**60**				**Pb**	**02 06 04.8**	**+0.5**
PFVI							**Sb**	**02 06 14.9**	**-0.4**
MORF	**Marmelete**	**1.04**	**56**		*e*P		**Pn**	**02 06 07.8**	**+0.6**
MORF					*e*S		**Sn**	**02 06 19.9**	**-0.9**
MORF					AML		AML	02 06 20.9	
	comp=N,3μm,0.2s								
MORF	**Marmelete**	**1.04**	**56**		P		**Pn**	**02 06 07.9**	**+0.6**
MORF					S		**Sn**	**02 06 20.3**	**-0.5**
	comp=N,1μm,0.5s								
MORF	**Marmelete**	**1.04**	**56**		*e*P		**Pn**	**02 06 07.9**	**+0.6**
MORF		

PBAR Barrancos 2.58 55 Pn **Pn 02 06 28.9 +0.6**
PBAR Sn **Sn 02 06 57.2 -1.5**
EMIN Mina Concepcio 2.65 66 ⇓P **Pn 02 06 29.5 +0.2**
comp=N,22nm,0.1s,SNR=18
EMIN S **Sn 02 06 58.4 -2.0**
comp=N,338nm,0.3s,SNR=70
SFS San Fernando 2.84 94 P **Pn 02 06 32.0 +0.1**
SFS S Sn 02 06 55.7 -10
SFS San Fernando 2.84 94 *e*P **Pn 02 06 32.0 +0.1**
SFS *e*S Sn 02 06 55.7 -10
PSBE So Bento 2.88 14⇓*e*P **Pn 02 06 33.1 +0.6**
PSBE S **Sn 02 07 04.7 -1.5**
PSBE A A 02 07 19.8
comp=N,196nm,0.6s
CNIL Conil 2.98 96 P **Pn 02 06 35.0 +1.2**
CNIL S **Sn 02 07 05.0 -3.5**
CNIL Conil 2.98 96 *e*P **Pn 02 06 35.0 +1.2**
CNIL *e*S **Sn 02 07 05.0 -3.5**
ESPR Espera 3.11 86 ⇓P **Pn 02 06 36.3 +0.7**
comp=N,42nm,0.1s,SNR=18
ESPR S **Sn 02 07 10.3 -1.4**
comp=N,580nm,0.2s,SNR=11
CPS Cap Spartel 3.23 106 S **Sn 02 07 15.6 +1.0**
PMRV Marv??o 3.27 34 P **Pn 02 06 38.3 +0.5**
PMRV S **Sn 02 07 13.0 -2.8**
comp=N,276nm,0.5s
PMRV Marv??o 3.27 34 *e*P **Pn 02 06 38.3 +0.5**
PMRV S **Sn 02 07 13.0 -2.8**
PMRV A A 02 07 15.7
comp=N,276nm,0.5s
PMRV Marv??o 3.27 34 Pn **Pn 02 06 38.1 +0.3**
PCAS Casmilo, Conde 3.46 16 P **Pn 02 06 41.0 +0.5**
PCAS S **Sn 02 07 18.3 -2.2**
comp=N,107nm,0.3s
PCAS Casmilo, Conde 3.46 16 *e*P **Pn 02 06 41.0 +0.5**
PCAS S **Sn 02 07 18.3 -2.2**
PCAS A A 02 07 21.4
comp=N,107nm,0.3s
PCBR Castelo Branco 3.58 29 P **Pn 02 06 42.7 +0.6**
PCBR S **Sn 02 07 21.0 -2.4**
comp=N,118nm,0.5s
PCBR Castelo Branco 3.58 29⇓*e*P **Pn 02 06 42.7 +0.6**
PCBR S **Sn 02 07 21.0 -2.4**
PCBR A A 02 07 23.5
comp=N,236nm,0.5s
ECEU Ceuta 3.61 102 P **Pn 02 06 42.6 +0.2**
comp=N,8.8nm,0.1s,SNR=12
ECEU S **Sn 02 07 23.1 -1.0**
comp=N,132nm,0.9s,SNR=7.9
CEU Ceuta 3.61 102 P **Pn 02 06 44.6 +2.2**
CEU S **Sn 02 07 24.7 +0.6**
CEU Ceuta 3.61 102 *e*P **Pn 02 06 44.6 +2.2**
CEU *e*S **Sn 02 07 24.7 +0.6**
COI Coimbra 3.63 16 P **Pn 02 06 43.2 +0.5**
COI S **Sn 02 07 22.8 -1.8**
comp=N,109nm,0.6s
COI Coimbra 3.63 16 *e*P **Pn 02 06 43.2 +0.5**
COI S **Sn 02 07 22.8 -1.8**
COI A A 02 07 27.6
comp=N,218nm,0.6s
COI Coimbra 3.63 16 **Pn 02 06 43.0 +0.2**
REAL Reales 3.64 92 P **Pn 02 06 45.0 +1.9**
REAL Reales 3.64 92 *e*P **Pn 02 06 45.0 +1.9**
SMIR Smir Dam 3.66 105 P **Pn 02 06 43.9 +0.7**
SMIR S **Sn 02 07 24.9 -0.5**
RSA Sarsar 3.67 119 P **Pn 02 06 43.7 +0.3**
RSA S **Sn 02 07 23.5 -2.1**
ECAB El Cabril 3.69 67 P **Pn 02 06 43.8 +0.2**
comp=N,12nm,0.1s,SNR=204
ECAB S **Sn 02 07 23.6 -2.5**
comp=N,44nm,0.1s,SNR=11
HORN Hornachuelos 3.73 71 P **Pn 02 06 43.9 -0.4**
HORN S **Sn 02 07 24.8 -2.4**
AVE Averroes 3.91 150 P **Pn 02 06 47.0 +0.3**
AVE S **Sn 02 07 29.0 -2.5**
AVE Averroes 3.91 150⇓*i*P **Pn 02 06 47.2 +0.6**
AVE *e*S **Sn 02 07 28.2 -3.3**
MTE Manteigas 4.05 24 P **Pn 02 06 49.0 +0.4**
MTE S **Sn 02 07 31.6 -3.5**
comp=N,86nm,0.5s
MTE Manteigas 4.05 24 *e*P **Pn 02 06 49.0 +0.4**
MTE S **Sn 02 07 31.6 -3.5**
MTE A A 02 07 37.6
comp=N,172nm,0.5s
MTE Manteigas 4.05 24 **Pn 02 06 48.8 +0.1**
PVIS Viseu 4.24 19 P **Pn 02 06 51.4 +0.2**
PVIS S **Sn 02 07 36.4 -3.2**
comp=N,84nm,0.4s
PVIS Viseu 4.24 19 *e*P **Pn 02 06 51.4 +0.2**
PVIS S **Sn 02 07 36.4 -3.2**
PVIS A A 02 07 40.0
comp=N,168nm,0.4s
EMAL Malaga-Limoner 4.25 88 P **Pn 02 06 52.3 +1.0**
EMAL S **Sn 02 07 37.0 -3.0**
EMAL Malaga-Limoner 4.25 88 *e*P **Pn 02 06 52.3 +1.0**
EMAL *e*S **Sn 02 07 37.0 -3.0**
EADA Adamuz 4.34 69 P **Pn 02 06 52.8 +0.2**
comp=N,7.4nm,0.1s,SNR=130
EADA S **Sn 02 07 39.3 -3.0**
comp=N,102nm,0.1s,SNR=13
EPLA Plasencia 4.40 40 ⇓P **Pn 02 06 53.4 +0.1**
comp=N,30nm,0.2s,SNR=18
EPLA S **Sn 02 07 40.0 -3.5**
comp=N,144nm,0.1s,SNR=19
EGOR Sierra Gorda, 4.52 83 P **Pn 02 06 56.0 +0.9**
comp=N,3.5nm,0.2s,SNR=7.9
EGOR S **Sn 02 07 44.0 -2.8**
comp=N,56nm,0.3s,SNR=7.9
PVRL Vila Real 4.81 18 P **Pn 02 06 59.2 +0.2**
PVRL S **Sn 02 07 49.9 -3.8**
comp=N,120nm,0.5s
PVRL Vila Real 4.81 18 *e*P **Pn 02 06 59.2 +0.2**
PVRL S **Sn 02 07 49.9 -3.8**
PVRL A A 02 07 53.3
comp=N,240nm,0.5s
POLO Lamas de Olo 4.88 17 P **Pn 02 07 00.0 -0.1**
POLO S **Sn 02 07 51.6 -4.0**
comp=N,39nm,0.5s
POLO Lamas de Olo 4.88 17 *e*P **Pn 02 07 00.0 -0.1**
POLO S **Sn 02 07 51.6 -4.0**
POLO A A 02 07 57.0
comp=N,39nm,0.5s
ELGU Los Guajares, 4.90 86 P **Pn 02 07 00.3 +0.1**
comp=N,4.0nm,0.1s,SNR=7.9
ELGU S **Sn 02 07 51.9 -4.1**
comp=N,30nm,0.2s,SNR=7.9
MVO Moncorvo 4.91 25 ⇓P **Pn 02 07 00.2 -0.2**
comp=N,42nm,0.1s,SNR=18
MVO S **Sn 02 07 52.6 -3.6**
comp=N,156nm,0.2s,SNR=18
MVO Moncorvo 4.91 25 *e*P **Pn 02 07 00.3 -0.1**
MVO S **Sn 02 07 52.7 -3.5**
MVO A A 02 07 55.3
comp=N,222nm,0.6s
PALE Palemas 4.93 106 P **Pn 02 07 01.3 +0.7**
PALE S **Sn 02 07 54.5 -2.2**
IFR Ifrane 4.94 129⇓*i*P **Pn 02 07 00.4 -0.6**
IFR *e*S **Sn 02 07 52.4 -4.9**
EQUE Quentar 5.06 83 P **Pn 02 07 03.3 +0.9**
comp=N,2.7nm,0.2s,SNR=19
EQUE S **Sn 02 07 56.1 -3.9**
comp=N,46nm,0.3s,SNR=7.9
EAH EAH 5.06 179 P **Pn 02 07 02.3 -0.2**
PAB San Pablo 5.09 55 P **Pn 02 07 02.8 -0.1**
comp=N,8.0nm,0.1s,SNR=7.9
PAB S **Sn 02 07 56.5 -4.3**
comp=N,26nm,0.1s,SNR=7.9
PAB San Pablo 5.09 55 **Pn 02 07 02.5 -0.4**
PCAB Cabril 5.15 14 P **Pn 02 07 03.8 +0.1**
PCAB S Sn 02 07 57.3 -4.9
comp=N,46nm,0.2s
PCAB Cabril 5.15 14 *e*P **Pn 02 07 03.8 +0.1**
PCAB S Sn 02 07 57.3 -4.9
PCAB A A 02 08 01.2
comp=N,92nm,0.2s
ELOB Lobios 5.30 14 P **Pn 02 07 05.7 -0.1**
comp=N,62nm,0.1s,SNR=345
ELOB S Sn 02 08 00.6 -5.3
comp=N,39nm,0.1s,SNR=8.0
CZD Col de Zad 5.33 132 P **Pn 02 07 06.3 -0.1**
PGAV Gavieira, Arco 5.36 12 P **Pn 02 07 06.6 0.0**
PGAV S Sn 02 08 02.6 -4.7
comp=N,76nm,0.4s
PGAV Gavieira, Arco 5.36 12 *e*P **Pn 02 07 06.6 0.0**
PGAV S Sn 02 08 02.6 -4.7
PGAV A A 02 08 05.8
comp=N,76nm,0.4s
GORA Gorafe 5.40 80 P **Pn 02 07 07.2 0.0**
comp=N,8.4nm,0.2s,SNR=7.9
GORA S **Sn 02 08 05.2 -3.1**
comp=N,49nm,0.3s,SNR=7.9
ESDC Sonseca Array 5.41 55 Pn Pn 02 07 06.8 -0.5
comp=N,7.4nm,0.3s,baz=242,slow=13,SNR=340
ESDC Sn **Sn 02 08 05.8 -2.8**
comp=N,22nm,0.3s,baz=240,slow=23,SNR=41
ESDC LR LR 02 09 15.6
comp=N,66nm,20.3s,baz=270,slow=39
ESDC Sonseca Array 5.41 55 P **Pn 02 07 07.7 +0.4**
comp=N,19nm,0.1s,baz=240,slow=13,SNR=334
ESDC S Sn 02 08 04.0 -4.6
comp=N,2.6nm,0.2s,baz=242,slow=23,SNR=4.6
ESDC Sonseca Array 5.41 55 Pn 02 07 06.5 -0.8
ESDC **Sn 02 08 05.0 -3.6**
ESBB Sonseca Array 5.41 55 **Pn 02 07 07.1 -0.2**
EQES Quesada 5.42 77 P **Pn 02 07 07.7 +0.3**
comp=N,3.2nm,0.1s,SNR=85
EQES S **Sn 02 08 04.6 -4.3**
comp=N,46nm,0.2s,SNR=10
EALB Alboran 5.46 96 S **Sn 02 08 05.3 -4.3**
comp=N,16nm,0.3s,SNR=7.9
EZAM Zamans 5.48 8 ⇓P **Pn 02 07 08.1 -0.1**
comp=N,50nm,0.2s,SNR=18
EZAM S **Sn 02 08 06.2 -4.0**
comp=N,14nm,0.1s,SNR=7.9
EBER Berja 5.49 86 P **Pn 02 07 08.5 0.0**
comp=N,1.2nm,0.2s,SNR=7.8
EBER S **Sn 02 08 08.6 -2.1**
comp=N,40nm,0.4s,SNR=6.0
PBRG Braganca 5.58 24 P **Pn 02 07 09.5 -0.1**
PBRG S Sn 02 08 08.0 -4.7
comp=N,25nm,0.2s
PBRG Braganca 5.58 24 *e*P **Pn 02 07 09.5 -0.1**
PBRG S Sn 02 08 08.0 -4.7
PBRG A A 02 08 10.1
comp=N,51nm,0.2s
MD31 MD31 5.61 132 P **Pn 02 07 09.6 -0.5**
GOG Mont Gurugu 5.66 103 P Pn 02 07 09.0 -1.8
EMEL Melilla 5.67 103 P **Pn 02 07 11.0 +0.2**
comp=N,14nm,0.1s,SNR=7.9
EMEL S Sn 02 08 09.4 -5.5
comp=N,80nm,0.2s,SNR=7.9
ECAL Calabor 5.70 23 ⇓P **Pn 02 07 11.1 -0.2**
comp=N,36nm,0.1s,SNR=18
ECAL S Sn 02 08 11.0 -4.9
comp=N,172nm,0.4s,SNR=5.8
OUK Oukaimeden 5.71 164 P **Pn 02 07 11.4 -0.3**
MDT Midelt 5.74 131 Pn **Pn 02 07 11.2 -0.7**
comp=N,44nm,0.3s,baz=309,slow=5.5,SNR=1206
MDT Sn Sn 02 08 10.9 -5.9
comp=N,51nm,0.3s,baz=218,slow=18,SNR=27
MDT Midelt 5.74 131 P **Pn 02 07 11.6 -0.2**
SESP Santiago Espad 5.88 74 P **Pn 02 07 13.9 0.0**
comp=N,2.4nm,0.1s,SNR=7.9
SESP S Sn 02 08 15.8 -4.6
comp=N,17nm,0.1s,SNR=7.9
SESP Santiago Espad 5.88 74 P **Pn 02 07 13.8 0.0**
ENIJ Nijar 6.04 85 P **Pn 02 07 15.9 0.0**
comp=N,5.0nm,0.3s,SNR=7.9
ENIJ S Sn 02 08 19.1 -4.9
comp=N,19nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 6.20 11 P **Pn 02 07 18.0 -0.1**
comp=N,35nm,0.1s,SNR=7.9
EAGO S Sn 02 08 22.1 -5.9
SNR=7.9
UCM Universidad Co 6.21 53 P **Pn 02 07 19.1 +0.8**
UCM S **Sn 02 08 24.1 -4.3**
UCM Universidad Co 6.21 53 *e*P **Pn 02 07 19.1 +0.8**
UCM *e*S **Sn 02 08 24.1 -4.3**
EMAZ Mazaricos 6.25 5 ⇑P **Pn 02 07 18.1 -0.6**
comp=N,101nm,0.2s,SNR=18
EMAZ S Sn 02 08 22.2 -6.9
comp=N,42nm,0.1s,SNR=7.9
JBK JBK 6.30 110 P Pn 02 07 18.9 -0.8
TLOR Lorca, Murcia 6.48 79 S Sn 02 08 29.4 -5.5
comp=N,58nm,0.2s,SNR=7.9
PMPST Porto Santo, M 6.53 238 *e*P **Pn 02 07 21.4 -1.3**
PMPST S Sn 02 08 25.3 -11
PMPST A A 02 08 32.9
comp=N,57nm,0.3s
PMPS Porto Santo 6.55 238 P **Pn 02 07 21.4 -1.4**
PMPS S Sn 02 08 27.5 -9.0
comp=N,21nm,0.2s
PMPS Porto Santo 6.55 238 *e*P **Pn 02 07 22.1 -0.7**
PMPS S Sn 02 08 27.5 -9.0
PMPS A A 02 08 31.9
comp=N,41nm,0.2s
ETOB Tobarra 6.76 71 P **Pn 02 07 25.9 0.0**
comp=N,2.5nm,0.1s,SNR=50
ETOB S Sn 02 08 36.8 -5.2
comp=N,10nm,0.2s,SNR=7.9
EMUR La Murta 6.86 78 P **Pn 02 07 26.8 -0.4**
comp=N,0.5nm,0.1s,SNR=5.8
EMUR S Sn 02 08 39.5 -4.7
comp=N,12nm,0.3s,SNR=7.9
EPON Pontenova 6.88 16 P **Pn 02 07 27.0 -0.5**
comp=N,12nm,0.1s,SNR=52
EPON S Sn 02 08 39.7 -5.1
comp=N,6.9nm,0.2s,SNR=7.9
PMAR Madeira 7.14 238 P **Pn 02 07 30.3 -0.8**
PMAR S Sn 02 08 40.2 -11
comp=N,34nm,0.3s
PMAR Madeira 7.14 238 *e*P **Pn 02 07 30.3 -0.8**
PMAR S Sn 02 08 40.2 -11
PMAR A A 02 08 47.3
comp=N,68nm,0.3s
ETOR Torete 7.25 53 P **Pn 02 07 32.2 -0.4**
comp=N,53nm,0.3s,SNR=90
ETOR S Sn 02 08 48.0 -6.1
comp=N,155nm,0.3s,SNR=6.8
PMOZ Porto Moniz, M 7.27 240 P **Pn 02 07 32.5 -0.5**
comp=N,23nm,0.5s,SNR=7.9
PMOZ S Sn 02 08 47.6 -7.0
comp=N,147nm,0.4s,SNR=7.9
PMOZ Porto Moniz, M 7.27 240 *e*P **Pn 02 07 32.8 -0.2**
PMOZ S **Sn 02 08 48.5 -6.1**
EARI Arriondas 7.43 26 P **Pn 02 07 35.1 +0.1**
comp=N,8.1nm,0.3s,SNR=35
EARI S **Sn 02 08 53.8 -4.4**
comp=N,2.2nm,0.1s,SNR=7.9
ECHE Chera 7.47 65 P **Pn 02 07 35.7 +0.1**
comp=N,0.7nm,0.1s,SNR=7.9
ECHE S Sn 02 08 52.8 -6.5
comp=N,8.4nm,0.2s,SNR=7.9
AFON Font Roja 7.54 72 P **Pn 02 07 36.6 +0.1**
comp=N,4.9nm,0.3s,SNR=7.9
AFON S Sn 02 08 53.7 -7.3
comp=N,13nm,0.4s,SNR=7.9
EBEN2 Beniarda presa 7.81 73 P **Pn 02 07 40.3 +0.1**
comp=N,1.7nm,0.1s,SNR=7.9
EBEN2 S Sn 02 09 01.3 -6.2
comp=N,25nm,0.5s,SNR=7.9
ELAN Lanestosa 8.10 35 P **Pn 02 07 44.5 +0.4**
comp=N,2.6nm,0.2s,SNR=22
ELAN S Sn 02 09 08.7 -5.9
comp=N,17nm,0.6s,SNR=7.9
EMOS Mosqueruela 8.11 61 P **Pn 02 07 45.4 +1.0**
comp=N,5.5nm,0.3s,SNR=23
EMOS S Sn 02 09 09.1 -6.2
comp=N,33nm,0.2s,SNR=7.9
EFAM Famara 8.22 204 P **Pn 02 07 44.2 -1.6**
comp=N,8.0nm,0.3s,SNR=7.9
EFAM S Sn 02 09 09.4 -8.3
comp=N,30nm,0.3s,SNR=7.9
EARA Aranguren 8.71 44 P **Pn 02 07 52.6 +0.1**
comp=N,3.9nm,0.2s,SNR=6.0
EARA S Sn 02 09 22.4 -7.3
comp=N,51nm,0.6s,SNR=7.9
ESAC San Caprasio 8.74 52 P **Pn 02 07 53.7 +0.7**
comp=N,6.2nm,0.3s,SNR=7.9
ESAC S Sn 02 09 23.7 -6.9
comp=N,78nm,0.4s,SNR=7.9
CFUE Fuerteventura 8.80 205 P Pn 02 07 49.8 -4.0
comp=N,3.5nm,0.2s,SNR=7.9
CFUE S Sn 02 09 23.8 -8.1
comp=N,13nm,0.1s,SNR=7.9
ERTA Horta de San J 8.91 59 P **Pn 02 07 55.8 +0.5**
comp=N,0.7nm,0.1s,SNR=5.6
ERTA S Sn 02 09 28.1 -6.6
comp=N,12nm,0.5s,SNR=7.9
EORO Oroz-Betelu 8.94 44 P **Pn 02 07 56.0 +0.3**
comp=N,3.1nm,0.1s,SNR=46
EORO S Sn 02 09 27.9 -7.4
comp=N,30nm,0.6s,SNR=7.9
EALK Alkurruntz 9.05 42 P **Pn 02 07 57.4 +0.2**
comp=N,7.1nm,0.3s,SNR=98
EALK S Sn 02 09 31.0 -7.1
comp=N,54nm,0.6s,SNR=7.9
CFTV Fuerteventura 9.06 205 P Pn 02 07 54.1 -3.3
comp=N,1.6nm,0.3s,SNR=7.9
CFTV S Sn 02 09 29.7 -8.8
comp=N,3.6nm,0.2s,SNR=7.9
SJPF Ste Jean 9.13 43 P **Pn 02 07 58.0 -0.2**
SJPF S Sn 02 09 31.5 -8.5
comp=N,12nm,0.5s
SJPF Ste Jean 9.13 43 *e*Pn **Pn 02 07 58.0 -0.2**
SJPF *e*Sn Sn 02 09 31.5 -8.5
comp=N,23nm,0.5s
ETSF Etsaut 9.37 46 P **Pn 02 08 01.5 -0.1**
ETSF S Sn 02 09 37.4 -8.5
comp=N,11nm,0.5s
ETSF Etsaut 9.37 46 *e*Pn **Pn 02 08 01.5 -0.1**
ETSF *e*Sn Sn 02 09 37.4 -8.5
comp=N,22nm,0.5s
ATE Arette 9.40 45 P **Pn 02 08 02.9 +0.9**
comp=N,3.1nm,0.1s,SNR=7.9
ATE S Sn 02 09 40.8 -5.9
comp=N,25nm,0.6s,SNR=7.9
EPOB Poblet 9.59 58 P **Pn 02 08 04.9 +0.2**
comp=N,2.5nm,0.3s,SNR=7.9
EPOB S Sn 02 09 43.4 -8.0
comp=N,2.8nm,0.4s,SNR=7.9
ECHI Chisagues Biel 9.67 49 P **Pn 02 08 06.1 +0.2**
comp=N,5.1nm,0.2s,SNR=7.9
ECHI S Sn 02 09 46.0 -7.5
comp=N,20nm,0.3s,SNR=7.9
EPF Esparros 9.97 48 P **Pn 02 08 10.0 +0.1**
EPF S Sn 02 09 51.9 -8.9
comp=N,15nm,0.4s
EPF Esparros 9.97 48 *e*Pn **Pn 02 08 10.0 +0.1**
EPF *e*Sn Sn 02 09 51.9 -8.9
comp=N,30nm,0.4s
CSOR Sort 10.11 53 P **Pn 02 08 11.4 -0.3**
comp=N,1.1nm,0.1s,SNR=16
CSOR S Sn 02 09 56.5 -7.6
comp=N,6.9nm,0.3s,SNR=6.2
CGUI Guimar, Teneri 10.11 216 S Sn 02 09 53.3 -11
comp=N,38nm,0.3s,SNR=7.9
MACI Morro de la Ar 10.20 216 P Pn 02 08 10.0 -3.2
comp=N,0.7nm,0.2s,SNR=4.0
MACI S Sn 02 09 55.5 -11
comp=N,4.8nm,0.3s,SNR=7.9
CRAJ Montana Rajada 10.23 216 S Sn 02 09 56.6 -11
comp=N,27nm,0.2s,SNR=5.8
TBT Taburiente 10.57 223 S Sn 02 10 01.2 -14
comp=N,4.5nm,0.3s,SNR=7.9
EGOM La Gomera 10.62 219 S Sn 02 10 04.4 -12
comp=N,14nm,0.3s,SNR=7.9
CFON Fontmartina 10.69 58 P **Pn 02 08 19.4 -0.3**
comp=N,0.9nm,0.2s,SNR=7.9
CLLI Llivia 10.70 54 P **Pn 02 08 20.4 +0.5**
comp=N,0.2nm,0.1s,SNR=9.7
CLLI S Sn 02 10 11.7 -7.0
comp=N,3.9nm,0.3s,SNR=7.0
MTLF Montolieu 11.29 50 P **Pn 02 08 27.7 -0.1**
MTLF S Sn 02 10 22.8 -10
comp=N,3.5nm,0.5s
MTLF Montolieu 11.29 50 *e*Pn **Pn 02 08 27.7 -0.1**
MTLF *e*Sn Sn 02 10 22.8 -10
comp=N,7.0nm,0.5s
LFF La Frestale 11.40 41 P Pn 02 08 28.6 -0.8
LFF S Sn 02 10 25.9 -10
comp=N,3.9nm,0.6s
LFF La Frestale 11.40 41 *e*Pn Pn 02 08 28.6 -0.8
LFF *e*Sn Sn 02 10 25.9 -10
comp=N,7.8nm,0.6s
RJF Les Rejaudoux 12.05 41 P Pn 02 08 37.0 -1.3
RJF S Sn 02 10 41.1 -11
comp=N,3.8nm,0.5s
RJF Les Rejaudoux 12.05 41 *e*Pn Pn 02 08 37.0 -1.3
RJF *e*Sn Sn 02 10 41.1 -11
comp=N,7.6nm,0.5s
CAF Calviac 12.11 44 P Pn 02 08 37.7 -1.4
CAF S Sn 02 10 43.6 -9.5
comp=N,7.0nm,0.6s
CAF Calviac 12.11 44 *e*Pn Pn 02 08 37.7 -1.4
CAF *e*Sn Sn 02 10 43.6 -9.5
comp=N,14nm,0.6s
MFF Saint Martin d 12.19 33 P Pn 02 08 38.7 -1.4
MFF S Sn 02 10 45.1 -10
comp=N,2.7nm,0.6s
MFF Saint Martin d 12.19 33 *e*Pn Pn 02 08 38.7 -1.4
MFF *e*Sn Sn 02 10 45.1 -10
comp=N,5.3nm,0.6s
QUIF Quistinic 12.19 21 P Pn 02 08 39.3 -0.8
QUIF S Sn 02 10 45.3 -10
comp=N,4.3nm,0.5s
QUIF Quistinic 12.19 21 *e*Pn Pn 02 08 39.3 -0.8
QUIF *e*Sn Sn 02 10 45.3 -10
comp=N,8.7nm,0.5s
ROSF Rostrenen 12.54 20 P Pn 02 08 44.1 -0.7
ROSF S Sn 02 10 53.0 -10
comp=N,0.3nm,0.2s
ROSF Rostrenen 12.54 20 *e*Pn Pn 02 08 44.1 -0.7
ROSF *e*Sn Sn 02 10 53.0 -10
comp=N,0.7nm,0.2s
SGMF Saint Gilles 12.67 22 P Pn 02 08 45.2 -1.5
SGMF S Sn 02 10 56.3 -10
comp=N,2.6nm,0.5s
SGMF Saint Gilles 12.67 22 *e*Pn Pn 02 08 45.2 -1.5
SGMF *e*Sn Sn 02 10 56.3 -10
comp=N,5.2nm,0.5s
LASF Ste Croix 12.68 50 P Pn 02 08 46.2 -0.7
LASF S Sn 02 10 56.4 -11
comp=N,1.2nm,0.4s
LASF Ste Croix 12.68 50 *e*Pn Pn 02 08 46.2 -0.7
LASF *e*Sn Sn 02 10 56.4 -11
comp=N,2.3nm,0.4s
TCF Toulx Ste Croi 13.07 39 P Pn 02 08 50.7 -1.5
TCF S Sn 02 11 05.0 -12
comp=N,0.9nm,0.3s
TCF Toulx Ste Croi 13.07 39 *e*Pn Pn 02 08 50.7 -1.5
TCF *e*Sn Sn 02 11 05.0 -12
comp=N,1.9nm,0.3s
GRR Gorron 13.35 26 P Pn 02 08 55.1 -0.9
GRR S Sn 02 11 13.0 -10
comp=N,1.1nm,0.3s
GRR Gorron 13.35 26 *e*Pn Pn 02 08 55.1 -0.9
GRR *e*Sn Sn 02 11 13.0 -10
comp=N,2.2nm,0.3s
VIVF Saint-Julien-l 13.59 49 P Pn 02 08 58.4 -0.8
VIVF S Sn 02 11 17.1 -12
comp=N,0.8nm,0.4s
VIVF Saint-Julien-l 13.59 49 *e*Pn Pn 02 08 58.4 -0.8
VIVF *e*Sn Sn 02 11 17.1 -12
comp=N,1.5nm,0.4s
SMRF Simiane la Rot 13.72 53 P **Pn 02 09 00.7 -0.4**
SMRF Simiane la Rot 13.72 53 *e*Pn **Pn 02 09 00.7 -0.4**
LDF La Druitiere 13.79 28 *e*Pn Pn 02 09 00.6 -1.4
LDF *e*Sn Sn 02 11 22.9 -11
comp=N,1.3nm,0.4s
FLN La Foliniere 13.80 26 P Pn 02 09 00.6 -1.5
FLN S Sn 02 11 22.7 -12
comp=N,0.8nm,0.3s
FLN La Foliniere 13.80 26 *e*Pn Pn 02 09 00.6 -1.5
baz=206
FLN *e*Sn Sn 02 11 22.7 -12
comp=N,1.5nm,0.3s
HYF Humbligny 13.96 37 P Pn 02 09 03.5 -0.9
HYF S Sn 02 11 27.0 -11
comp=N,21nm,0.4s
HYF Humbligny 13.96 37 *e*Pn Pn 02 09 03.5 -0.9
HYF *e*Sn Sn 02 11 27.0 -11
comp=N,21nm,0.4s
AVF Avril sur Loir 14.00 40 P Pn 02 09 03.4 -1.4
AVF S Sn 02 11 27.9 -11
comp=N,0.6nm,0.4s
AVF Avril sur Loir 14.00 40 *e*Pn Pn 02 09 03.4 -1.4
AVF *e*Sn Sn 02 11 27.9 -11
comp=N,1.1nm,0.4s
LMR La Mourre 14.07 57 P **Pn 02 09 05.7 -0.1**
LMR La Mourre 14.07 57 *e*Pn **Pn 02 09 05.7 -0.1**
SMF Signal de Mont 14.16 41 P Pn 02 09 06.0 -1.0
SMF Signal de Mont 14.16 41 *e*Pn Pn 02 09 06.0 -1.0
FRF La Foret Royal 14.25 56 P **Pn 02 09 07.7 -0.6**
FRF La Foret Royal 14.25 56 *e*Pn **Pn 02 09 07.7 -0.6**
SSF Saint Saulge 14.26 39 P Pn 02 09 06.8 -1.5
SSF S Sn 02 11 32.9 -12

comp=N,0.8nm,0.5s
SSF Saint Saulge 14.26 39 *e*Pn Pn 02 09 06.8 -1.5
SSF *e*Sn Sn 02 11 32.9 -12
comp=N,1.6nm,0.5s
CLF Chambon-Foret 14.33 34 Pn **Pn** **02 09 09.8 +0.5**
KEST Kesra 15.43 88 Pn **Pn** **02 09 25.4 +1.2**
SFTF Sexfontaines 15.79 39 P **Pn** **02 09 29.2 +0.5**
SFTF Sexfontaines 15.79 39 *e*Pn **Pn** **02 09 29.2 +0.5**
baz=237
PAGF Fort de Pagny 16.36 39 *e*Pn **Pn** **02 09 36.5 +0.4**
DSB Dublin 16.69 7 Pn **Pn** **02 09 39.6 -0.4**
DSB IAmb IAmb 02 09 40.0
comp=Z,22nm,1.1s
BAIF Baives 16.70 33 P **Pn** **02 09 40.8 +0.5**
BAIF Baives 16.70 33 *e*Pn **Pn** **02 09 40.8 +0.5**
GIVF Givet 17.00 34 P **Pn** **02 09 45.2 +1.1**
GIVF Givet 17.00 34 *e*Pn **Pn** **02 09 45.2 +1.1**
CDF Champ du Feu 17.08 42 P **Pn** **02 09 46.5 +1.3**
CDF Champ du Feu 17.08 42 *e*Pn **Pn** **02 09 46.5 +1.3**
WLF Walferdange 17.31 37 Pn **P** **02 09 49.7 +0.5**
WLF IAmb IAmb 02 09 50.6
comp=Z,8.5nm,0.8s
EKR10 Eskdalemuir Ar 19.14 12 P **Pn** **02 10 11.6 +1.4**
EKA Eskdalemuir Ar 19.15 11 P **Pn** **02 10 13.9 +3.6**
baz=196,slow=13,SNR=4.7
GERES GERESS Array B 20.94 47 P Pn 02 10 31.1 -0.4
KOWA Kowa 22.71 166 P **P** **02 10 46.8 -1.3**
comp=Z,1.1nm,0.6s,baz=352,slow=5.9,SNR=6.3
KOWA Kowa 22.71 166 P **P** **02 10 46.9 -1.2**
KOWA IAmb IAmb 02 10 59.2
comp=Z,2.3nm,1.0s
TOA0 Torodi Ar. Sit 25.61 154 P **P** **02 11 17.1 +1.6**
TOA0 IAmb IAmb 02 11 28.8
comp=Z,2.9nm,1.1s
TORD Torodi Ar. Bea 25.61 154 P **P** **02 11 14.4 -1.1**
comp=Z,0.4nm,0.5s,baz=336,slow=8.3,SNR=5.8
TORD Torodi Ar. Bea 25.61 154 P **P** **02 11 15.7 +0.3**
NOA NORSAR Array B 27.71 22 LR LR 02 21 27.6
comp=Z,28nm,19.2s,baz=320,slow=34
HFS Hagfors 27.82 25 LR LR 02 24 04.0
comp=Z,66nm,18.2s,baz=250,slow=39
ANGG Ammassalik, Gr 33.24 339 P **P** **02 12 24.9 +2.2**
KURBB Kurchatov Arra 61.67 46 P **P** **02 16 03.7 +0.1**
comp=Z,0.9nm,0.7s,baz=295,slow=7.8,SNR=5.3
BOSA Boshof 72.83 148 P **P** **02 17 14.4 -0.2**
comp=Z,2.1nm,0.7s,baz=349,slow=6.9,SNR=3.7
BOSA Boshof 72.83 148 P **P** **02 17 14.4 -0.2**
BOSA IAmb IAmb 02 17 27.0
comp=Z,2.4nm,1.1s
ILAR Eielson Array 73.42 342 P **P** **02 17 18.5 +0.9**
comp=Z,0.2nm,0.5s,baz=22,slow=5.8,SNR=2.6
TXAR Lajitas Array 76.00 296 P **P** **02 17 34.0 +0.8**
comp=Z,0.2nm,0.7s,baz=67,slow=6.9,SNR=3.4

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*NEIC **23** 02:06:07.1±0.8, 31.10N±0.07×141.7E±0.2, h40km±9km, mb4.2/8, Error ellipse: s-maj=26.2km s-min=9.3km az=79.0*
*IDC **23** 02:06:07.6±3.6, 31.09N×141.68E, h39km±32km, mb3.6/10, mb1 3.9/12, mb1mx3.6/54, mbtmp3.8/12, ML3.5/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/35, Error ellipse: s-maj=27.3km s-min=15.8km az=70.0*

ISC 23 02:06:06.8±0.7, 31.09N±0.07×141.8E±0.2, h35km, n35, σ0^{s}80/35, mb4.0/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.00**	**175**	Pn	**Pn**	**02 07 06.3**	**+0.7**
	9.6nm,0.3s,baz=4.6,slow=20,SNR=10						
JCJ				Sn	**Sn**	**02 07 51.6**	**+0.4**
	13nm,0.3s,baz=110,slow=22,SNR=4.0						
JCJ				LR	LR	02 08 41.9	
	comp=Z,154nm,18.1s,baz=53,slow=38						
JCJ	**Chichijima**	**4.00**	**175**		**Pn**	**02 07 06.0**	**+0.4**
JCJ					**Sn**	**02 07 50.6**	**-0.7**
MJAR	**Matsushiro Arr**	**6.20**	**332**	Pn	**Pn**	**02 07 36.0**	**+0.2**
	0.3nm,0.3s,baz=158,slow=11,SNR=13						
MJAR				LR	LR	02 10 04.1	
	comp=Z,124nm,18.9s,baz=135,slow=39						
MJAR	**Matsushiro Arr**	**6.20**	**332**		**Pn**	**02 07 35.9**	**+0.1**
MAJO	**Matsushiro**	**6.20**	**332**	Pn	**Pn**	**02 07 36.7**	**+0.8**
MAT	**Matsushiro**	**6.20**	**332**	P	**Pn**	**02 07 36.4**	**+0.6**
MAT				S	**Sn**	**02 08 47.6**	**+2.1**
JMM	**Marumori**	**6.81**	**353**	Pn	**Pn**	**02 07 42.3**	**-1.9**
JNU	**Nakatsue**	**9.47**	**285**	LR	LR	02 11 51.7	
	comp=Z,143nm,19.1s,baz=154,slow=37						
KSRS	**Korea Array**	**13.10**	**303**	LR	LR	02 14 25.9	
	comp=Z,72nm,18.1s,baz=134,slow=38						
SONM	**Songino Array**	**31.69**	**312**	P	**P**	**02 12 26.9**	**-0.3**
	0.8nm,0.7s,baz=116,slow=6.9,SNR=4.3						
SONM	**Songino Array**	**31.69**	**312**	P	**P**	**02 12 26.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**40.65**	**262**	LR	LR	02 31 03.8	
	comp=Z,29nm,19.7s,baz=140,slow=37						
ZALV	**Zalesovo Beam**	**46.30**	**317**	P	**P**	**02 14 29.3**	**+0.4**
	0.5nm,0.3s,baz=111,slow=8.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**46.30**	**317**	P	**P**	**02 14 28.7**	**-0.2**
MK31	**Makanchi Array**	**47.74**	**307**	P	**P**	**02 14 38.5**	**-1.7**
MKAR	**Makanchi Array**	**47.74**	**307**	P	**P**	**02 14 39.8**	**-0.4**
	0.3nm,0.4s,baz=88,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**47.74**	**307**	P	**P**	**02 14 39.5**	**-0.8**
KURK	**Kurchatov**	**50.00**	**312**	P	**P**	**02 14 57.0**	**-0.5**
KURK				IAmb	IAmb	02 15 05.3	
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**50.06**	**312**	P	**P**	**02 14 57.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=88,slow=6.9,SNR=13						
WB0	**Warramunga Arr**	**51.07**	**189**	P	**P**	**02 15 05.8**	**0.0**
WB0				IAmb	IAmb	02 15 05.9	
	comp=Z,3.2nm,1.1s						
WR0	**Warramunga Arr**	**51.24**	**189**	P	**P**	**02 15 07.3**	**+0.2**
WB2	**Warramunga Arr**	**51.24**	**189**	P	**P**	**02 15 07.1**	**0.0**
WB2				IAmb	IAmb	02 15 14.2	
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**51.25**	**189**	P	**P**	**02 15 07.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=5.6,slow=7.6,SNR=24						
WRA	**Warramunga Arr**	**51.25**	**189**	P	**P**	**02 15 06.8**	**-0.4**
ASAR	**Alice Springs**	**54.97**	**189**	P	**P**	**02 15 35.0**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=5.2,slow=5.8,SNR=11						
ASAR	**Alice Springs**	**54.97**	**189**	P	**P**	**02 15 34.4**	**-0.2**
KKAR	**Karatay Array**	**56.53**	**304**	P	**P**	**02 15 44.7**	**-0.9**
ABKAR	**Akbulak array**	**62.10**	**313**	P	**P**	**02 16 23.3**	**-0.7**
ABKAR	**Akbulak array**	**62.10**	**313**	P	**P**	**02 16 23.6**	**-0.4**
ABKAR				IAmb	IAmb	02 16 26.9	
	comp=Z,1.9nm,0.7s						
NVAR	**Mina Array Bea**	**78.33**	**52**	P	**P**	**02 18 04.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=297,slow=5.1,SNR=6.8						
NVAR	**Mina Array Bea**	**78.33**	**52**	P	**P**	**02 18 03.8**	**-0.1**
AKASG	**Malin Array Be**	**79.21**	**323**	P	**P**	**02 18 08.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=64,slow=27,SNR=2.4						
PDAR	**Pinedale Array**	**81.62**	**45**	P	**P**	**02 18 22.3**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=286,slow=0.7,SNR=3.8						
TXAR	**Lajitas Array**	**93.48**	**53**	P	**P**	**02 19 20.4**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=318,slow=2.5,SNR=8.9						
LPAZ	**La Paz**	**149.01**	**69**	PKPbc	**PKPbc**	**02 25 52.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=343,slow=1.8,SNR=7.1						

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*IDC **23** 02:10:41.5±1.4, 31.07N×141.76E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/49, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=55.9km s-min=21.9km az=78.0*

ISC 23 02:10:45.1±1.1, 31.1N±0.1×141.8E±0.3, h24km, n6, σ0^{s}63/7, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.00**	**175**	Pn	**Pn**	**02 11 45.9**	**+0.9**
	4.7nm,0.3s,baz=241,slow=20,SNR=2.0						
JCJ				Sn	**Sn**	**02 12 30.5**	**-0.7**
	3.6nm,0.3s,baz=76,slow=23,SNR=1.4						
MJAR	**Matsushiro Arr**	**6.19**	**332**	Pn	**Pn**	**02 12 15.2**	**+0.2**
	0.1nm,0.3s,baz=155,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**47.73**	**307**	P	**P**	**02 19 19.9**	**-0.1**
	0.2nm,0.6s,baz=80,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**51.25**	**189**	P	**P**	**02 19 46.6**	**-0.4**
	0.5nm,0.3s,baz=5.4,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**54.97**	**189**	P	**P**	**02 20 14.1**	**-0.3**
	0.3nm,0.4s,baz=2.4,slow=5.1,SNR=8.8						
TXAR	**Lajitas Array**	**93.48**	**53**	P	**P**	**02 23 59.1**	**-0.2**
	0.4nm,0.9s,baz=309,slow=4.4,SNR=3.6						

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*IDC **23** 02:15:27.4±3.6, 15.91S×173.80W, h48km±34km, mb4.6/24, mb1 4.8/26, mb1mx4.7/38, mbtmp4.9/26, ML4.4/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/27, Error ellipse: s-maj=14.9km s-min=12.8km az=137.0*

*BJI **23** 02:15:27.4±0.0, 16.08S×174.03W, h53km, mB5.2/10, mb5.1/14, Ms5.0/2, Ms7 4.7/2*
*NEIC **23** 02:15:28.9±1.5, 15.93S±0.07×173.81W±0.09, h69km±5km, mb4.9/215, Error ellipse: s-maj=12.6km s-min=9.6km az=83.0*
*GCMT **23** 02:15:34.9±0.2, 15.94S±0.02×173.49W±0.02, h106km±2km, MW5.0/117, Moment Tensor Solution. s51,c60; s117,c163; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.49±.12; $M_{\theta\theta}$-2.97±.12; $M_{\phi\phi}$0.47±.13; $M_{r\theta}$-1.81±.09; $M_{\theta\phi}$-1.33±.13; $M_{\phi r}$-2.17±.08; Best double couple: M_o4.15800×10^{16} NP1:ϕ_s97.00000°, δ31.00000°, λ135.00000°. NP2:ϕ_s228.00000°, δ69.00000°, λ67.00000°. Principal axes: T 3.9840, Plg60.0000°, Azm105.0000°; N 0.3450, Plg21.0000°, Azm237.0000°; P -4.3320, Plg21.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 02:15:32.6±0.3, 16.09S±0.05×173.70W±0.05, h100km, n449, σ1^{s}12/409, mb4.8/120, 19C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.86**	**41**	Pn	Pn	02 16 11.6	-5.0
AFI				Sn	Sn	02 16 41.1	-9.3
NIUE	**Niue**	**4.67**	**130**	P	**Pn**	**02 16 39.3**	**-1.5**
	baz=4.9,SNR=1000						
NIUE				S	**Sn**	**02 17 28.5**	**-5.4**
	baz=4.9						
NIUE	**Niue**	**4.67**	**130**	Pn	**Pn**	**02 16 39.9**	**-1.0**
NIUE				Sn	**Sn**	**02 17 31.5**	**-2.4**
KNTN	**Kanton**	**13.38**	**9**	Pn	Pn	02 18 33.7	-4.8
GLKZ	**Green Lake**	**13.67**	**196**	P	**Pn**	**02 18 39.6**	**-2.7**
GLKZ				S	Sn	02 21 03.3	-9.5
RAR	**Rarotonga**	**14.15**	**113**	P	**Pn**	**02 18 48.0**	**-0.5**
	22nm,0.3s,baz=258,slow=9.1,SNR=30						
RAR	**Rarotonga**	**14.15**	**113**	Pn	**Pn**	**02 18 48.2**	**-0.3**
DZM	**Mont Dzumac**	**19.68**	**249**	P	**P**	**02 19 54.3**	**+0.4**
	0.9nm,0.3s,baz=93,slow=20,SNR=8.6						
DZM				LR	LR	02 25 42.5	
	comp=Z,196nm,18.8s,baz=42,slow=31						
DZM	**Mont Dzumac**	**19.68**	**249**	*e*P	**P**	**02 19 53.9**	**-0.1**
	123nm,1.5s						
DZM				*e*LR	LR	02 24 28.6	
	comp=Z,546nm,28.6s						
DZM	**Mont Dzumac**	**19.68**	**249**	P	**P**	**02 19 51.6**	**-2.4**
OUZ	**Omahuta**	**22.18**	**208**	P	**P**	**02 20 24.5**	**+3.9**
OUZ	**Omahuta**	**22.18**	**208**	P	**P**	**02 20 20.3**	**-0.3**
WCZ	**Waipu Caves**	**22.46**	**206**	P	**P**	**02 20 24.7**	**+1.2**
MXZ	**Matakaoa Point**	**22.52**	**197**	P	**P**	**02 20 24.6**	**+0.5**
MXZ	**Matakaoa Point**	**22.52**	**197**	P	**P**	**02 20 23.9**	**-0.2**
HAZ	**Te Kaha**	**22.85**	**198**	S	**S**	**02 24 29.3**	**0.0**
WIAZ	**Waiheke Island**	**22.88**	**204**	P	**P**	**02 20 28.3**	**+0.6**
MYRZ	**Mayor Island**	**22.91**	**201**	P	**P**	**02 20 27.9**	**-0.1**
PUZ	**Puketiti**	**23.02**	**196**	P	**P**	**02 20 32.2**	**+3.1**
RUGZ	**Raukumara Rang**	**23.08**	**198**	P	**P**	**02 20 31.5**	**+1.7**
RUGZ				S	**S**	**02 24 33.1**	**0.0**
PPT	**Papeete**	**23.14**	**97**	P	**P**	**02 20 29.8**	**-0.6**
	21nm,0.7s,baz=58,slow=22,SNR=4.0						
PPT				LR	LR	02 27 57.1	
	comp=Z,64nm,18.7s,baz=245,slow=32						
PPT2	**Papeete2**	**23.14**	**97**	*e*LQ	LQ	02 25 10.0	
	645nm,28.5s						
PPT2				*e*LR	LR	02 25 52.7	
	comp=Z,600nm,30.2s						
PPT2	**Papeete2**	**23.14**	**97**	*e*T	T	02 44 18.1	
	0.3s						
TWGZ	**Tauwhareparae**	**23.19**	**197**	P	**P**	**02 20 33.7**	**+3.0**
TWGZ				S	**S**	**02 24 41.4**	**+6.7**
WTAZ	**Waiatarua**	**23.22**	**204**	P	**P**	**02 20 33.1**	**+2.1**
AWAZ	**Awhitu Peninsu**	**23.30**	**204**	P	**P**	**02 20 33.2**	**+1.5**
TIAR	**Tiarei**	**23.36**	**97**	*e*T	T	02 44 21.2	
	2.1nm,0.3s						
CNGZ	**Carnagh Statio**	**23.41**	**196**	P	**P**	**02 20 34.8**	**+2.1**
MWZ	**Matawai**	**23.46**	**198**	P	**P**	**02 20 35.1**	**+1.8**
MWZ				S	**S**	**02 24 45.3**	**+6.1**
URZ	**Urewera**	**23.52**	**198**	P	**P**	**02 20 33.8**	**+0.1**
	25nm,0.4s,baz=53,slow=0.1,SNR=24						
URZ	**Urewera**	**23.52**	**198**	P	**P**	**02 20 34.3**	**+0.6**
URZ				S	**S**	**02 24 43.6**	**+3.7**
URZ	**Urewera**	**23.52**	**198**	P	**P**	**02 20 33.7**	**0.0**
URZ				IAmb	IAmb	02 20 40.1	
	comp=Z,29nm,0.7s						
TOZ	**Tahuroa Road**	**23.57**	**202**	P	**P**	**02 20 36.2**	**+2.0**
RAGZ	**Rawiri**	**23.65**	**198**	P	**P**	**02 20 37.5**	**+2.6**
MUGZ	**Murupara**	**23.82**	**199**	P	**P**	**02 20 38.9**	**+2.5**
TBI	**Tubuai**	**23.91**	**111**	eLQ	LQ	02 25 33.6	
	comp=Z,692nm,29.5s						
TBI				eLR	LR	02 26 22.7	
	comp=Z,725nm,31.8s						
TBI	**Tubuai**	**23.91**	**111**	*e*T	T	02 45 01.3	
	comp=Z,6.4nm,0.2s						
HIZ	**Hauiti**	**24.50**	**202**	P	**P**	**02 20 43.6**	**+1.0**
HIZ	**Hauiti**	**24.50**	**202**	P	**P**	**02 20 42.1**	**-0.4**
HIZ				IAmb	IAmb	02 20 52.5	
	comp=Z,24nm,0.7s						
BKZ	**Black Stump Fm**	**24.54**	**199**	P	**P**	**02 20 42.9**	**-0.1**
PMOR	**Pomariorio Ree**	**24.89**	**91**	*e*T	T	02 46 27.4	
	comp=Z,2.4nm,0.2s						
VRZ	**Vera Road**	**25.08**	**202**	P	**P**	**02 20 47.7**	**-0.1**
BFZ	**Birch Farm**	**26.01**	**198**	P	**P**	**02 20 56.6**	**+0.4**
BFZ				IAmb	IAmb	02 21 01.5	
	comp=Z,30nm,0.9s						
QRZ	**Quartz Range**	**27.39**	**203**	P	**P**	**02 21 09.4**	**+0.9**
QRZ				IAmb	IAmb	02 21 14.2	
	comp=Z,25nm,0.7s						
NNZ	**Nelson**	**27.42**	**201**	P	**P**	**02 21 08.9**	**+0.1**
NNZ				IAmb	IAmb	02 21 14.1	
	comp=Z,31nm,1.1s						
RPZ	**Rata Peaks**	**30.43**	**202**	P	**P**	**02 21 36.3**	**+0.8**
	comp=Z,5.6nm,0.5s,baz=60,slow=0.9,SNR=5.1						
RPZ	**Rata Peaks**	**30.43**	**202**	P	**P**	**02 21 35.7**	**+0.1**
TAOE	**Nuku Hiva Isla**	**33.51**	**82**	eLR	LR	02 30 30.5	
	comp=Z,358nm,33.6s						
TAOE	**Nuku Hiva Isla**	**33.51**	**82**	*e*T	T	02 56 51.8	
	comp=Z,40nm,0.2s						
EIDS	**Eidsvold**	**34.12**	**248**	P	**P**	**02 22 06.6**	**-1.4**
	baz=34						
EIDS	**Eidsvold**	**34.12**	**248**	P	**P**	**02 22 06.8**	**-1.2**
EIDS				IAmb	IAmb	02 22 07.6	
	comp=Z,7.8nm,0.7s						
ARMA	**Armidale**	**34.74**	**240**	P	**P**	**02 22 13.2**	**-0.3**
	baz=35,SNR=9.0						
ARMA	**Armidale**	**34.74**	**240**	P	**P**	**02 22 13.3**	**-0.3**
PATS	**Pohnpei**	**35.87**	**307**	P	**P**	**02 22 22.3**	**-0.8**
	baz=36,SNR=3.0						
RMQ	**Roma**	**36.36**	**247**	P	**P**	**02 22 26.8**	**-0.4**
	baz=36,SNR=5.8						
CNB	**Canberra Magne**	**38.10**	**233**	P	**P**	**02 22 41.8**	**-0.2**
	baz=38,SNR=6.1						
CTAO	**Charters Tower**	**38.21**	**258**	P	**P**	**02 22 41.4**	**-1.6**
H11S2	**WAKE ISLAND Hy**	**39.41**	**330**	T	T	03 03 56.5	
	baz=146,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.42**	**330**	T	T	03 03 59.7	
	baz=146,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**39.42**	**330**	T	T	03 04 15.2	
	baz=146,slow=76,SNR=9.4						
CMSA	**Cobar Meteorol**	**39.95**	**240**	P	**P**	**02 22 56.6**	**-0.7**
	baz=40,SNR=38						
WAKE	**Wake Island**	**40.11**	**330**	P	**P**	**02 22 56.8**	**-1.9**
MTSU	**Mount Surprise**	**40.11**	**261**	P	**P**	**02 22 57.8**	**-1.1**
	baz=40,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**40.37**	**331**	T	T	03 05 47.8	
	baz=150,slow=76,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**40.37**	**331**	T	T	03 05 48.0	
	baz=150,slow=76,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**40.38**	**331**	T	T	03 05 23.4	
	baz=150,slow=76,SNR=10						
QLP	**Quilpie**	**40.38**	**248**	P	**P**	**02 22 59.9**	**-1.1**
	baz=40,SNR=6.0						
COEN	**Coen**	**41.65**	**267**	P	**P**	**02 23 11.5**	**0.0**
	baz=42,SNR=7.1						
TOO	**Toolangi**	**41.81**	**231**	P	**P**	**02 23 12.6**	**0.0**
	baz=42						
STKA	**Stephens Creek**	**43.44**	**240**	P	**P**	**02 23 25.5**	**-0.3**
	comp=Z,25nm,0.9s,baz=84,slow=9.6,SNR=34						
STKA	**Stephens Creek**	**43.44**	**240**	P	**P**	**02 23 25.6**	**-0.3**
	baz=44,SNR=25						
STKA	**Stephens Creek**	**43.44**	**240**	P	**P**	**02 23 25.2**	**-0.7**
ARPS	**Mount Arapiles**	**44.35**	**234**	P	**P**	**02 23 32.3**	**-0.6**
	baz=44						
HTT	**Hallett**	**45.94**	**239**	P	**P**	**02 23 45.2**	**-0.5**
	baz=46,SNR=7.6						
BBOO	**Buckleboo**	**48.22**	**240**	P	**P**	**02 24 02.7**	**-0.7**
	baz=48,SNR=29						
BBOO	**Buckleboo**	**48.22**	**240**	P	**P**	**02 24 02.8**	**-0.6**
WR0	**Warramunga Arr**	**49.22**	**257**	P	**P**	**02 24 10.1**	**-1.2**
WB0	**Warramunga Arr**	**49.37**	**258**	P	**P**	**02 24 11.2**	**-1.1**
WB0				IAmb	IAmb	02 24 12.3	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**49.39**	**257**	P	**P**	**02 24 11.3**	**-1.3**
WB2				IAmb	IAmb	02 24 12.7	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**49.40**	**257**	P	**P**	**02 24 11.4**	**-1.2**
WRAB				IAmb	IAmb	02 24 12.6	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**02 24 11.2**	**-1.5**
	comp=Z,8.5nm,0.6s,baz=92,slow=7.5,SNR=111						
WRA				PcP	**PcP**	**02 25 34.5**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=92,slow=3.7,SNR=2.8						
WRA				LR	LR	02 44 18.6	
	comp=Z,71nm,18.8s,baz=100,slow=35						
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**02 24 11.0**	**-1.7**
AS31	**Alice Springs**	**49.62**	**252**	P	**P**	**02 24 12.3**	**-2.0**
AS31				IAmb	IAmb	02 24 15.6	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**49.62**	**252**	P	**P**	**02 24 13.2**	**-1.2**
	comp=Z,57nm,0.7s,baz=85,slow=8.4,SNR=220						
ASAR				S	**S**	**02 31 12.7**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=84,slow=14,SNR=5.7						
ASAR				LR	LR	02 45 25.4	
	comp=Z,59nm,18.5s,baz=110,slow=36						
ASAR	**Alice Springs**	**49.62**	**252**	P	**P**	**02 24 12.7**	**-1.6**
KDU	**Kakadu**	**52.13**	**266**	P	**P**	**02 24 33.0**	**-0.1**
	baz=52,SNR=4.5						
WRKA	**Warakurna**	**54.69**	**251**	P	**P**	**02 24 51.0**	**-0.9**
	baz=55,SNR=93						
FORT	**Forrest**	**54.85**	**244**	P	**P**	**02 24 51.8**	**-1.0**
	baz=55,SNR=10						
KNRA	**Kununurra**	**55.18**	**262**	P	**P**	**02 24 55.1**	**-0.3**
	baz=55,SNR=4.3						
KNRA	**Kununurra**	**55.18**	**262**	P	**P**	**02 24 54.1**	**-1.3**
KNRA				IAmb	IAmb	02 24 57.2	
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**57.78**	**259**	P	**P**	**02 25 13.8**	**0.0**
	baz=58,SNR=17						
FITZ	**Fitzroy Crossi**	**57.78**	**259**	P	**P**	**02 25 12.5**	**-1.4**
SOEI	**Soe**	**60.61**	**268**	P	**P**	**02 25 32.8**	**-0.7**
	comp=Z,90nm,1.0s						
JCJ	**Chichijima**	**60.62**	**315**	LR	LR	02 48 34.3	
	comp=Z,34nm,18.4s,baz=81,slow=33						
VNDA	**Vanda**	**62.66**	**186**	P	**P**	**02 25 48.8**	**+2.6**
	comp=Z,21nm,0.8s,baz=6.5,slow=6.4,SNR=127						
VNDA	**Vanda**	**62.66**	**186**	P	**P**	**02 25 47.7**	**+1.6**
PSA00	**Pilbara Seismi**	**62.73**	**254**	P	**P**	**02 25 47.2**	**-0.4**
MEEK	**Meekatharra**	**63.28**	**248**	P	**P**	**02 25 50.3**	**-0.9**
	baz=63,SNR=19						
EDFI	**Ende, Flores**	**63.31**	**268**	P	**P**	**02 25 50.4**	**-1.2**
	comp=Z,15nm,0.7s						
KLBR	**Kellerberrin**	**63.66**	**242**	P	**P**	**02 25 53.2**	**-0.4**
	baz=64,SNR=15						
NWAO	**Narrogin (SRO)**	**64.03**	**241**	P	**P**	**02 25 55.9**	**0.0**
	baz=64,SNR=6.8						
BLDU	**Ballidu**	**64.62**	**243**	P	**P**	**02 25 59.6**	**-0.3**
	baz=65,SNR=17						
MUN	**Mundaring**	**64.95**	**242**	P	**P**	**02 26 02.1**	**+0.1**
	baz=65,SNR=7.1						
MORW	**Morawa**	**65.33**	**245**	P	**P**	**02 26 03.9**	**-0.6**
	baz=65,SNR=5.2						
MPSI	**Mapaga**	**67.46**	**277**	P	**P**	**02 26 16.4**	**-1.9**
	comp=Z,16nm,0.7s						
MJAR	**Matsushiro Arr**	**69.28**	**320**	P	**P**	**02 26 28.8**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=156,slow=5.8,SNR=4.2						
CASY	**Casey**	**69.66**	**205**	P	**P**	**02 26 32.0**	**+1.0**
CASY				IAmb	IAmb	02 26 32.6	
	comp=Z,15nm,0.9s						
JAGI	**Jajag, Banyuwa**	**70.62**	**267**	P	**P**	**02 26 35.4**	**-2.5**
JAGI	**Jajag, Banyuwa**	**70.62**	**267**	P	**P**	**02 26 36.6**	**-1.2**
KMRM	**Mail Ridge**	**72.78**	**38**	P	**P**	**02 26 50.5**	**+0.1**
ARVC	**Arvin**	**72.81**	**45**	P	**P**	**02 26 51.5**	**+1.0**
	baz=236						
VES	**Vestal, Richgr**	**73.04**	**44**	P	**P**	**02 26 52.5**	**+0.6**
	baz=235,SNR=5.6						
MURC	**Murrieta**	**73.08**	**47**	P	**P**	**02 26 52.7**	**+0.5**
	baz=237						
BFSC	**Mount Baldy Ra**	**73.11**	**46**	P	**P**	**02 26 53.2**	**+0.7**
	baz=236						
ESJX	**Sierra Juarez**	**73.11**	**49**	P	**P**	**02 26 53.1**	**+0.5**
ESJX				IAmb	IAmb	02 26 54.8	
	comp=Z,21nm,1.1s						
PETK	**Petropavlovsk-**	**73.20**	**342**	P	**P**	**02 26 52.3**	**-0.1**
	comp=Z,12nm,0.7s,baz=108,slow=8.0,SNR=13						
PETK				LR	LR	02 56 48.1	
	comp=Z,11n

L04D Klamath Falls 74.86 37 P **P** **02 27 03.6 +1.1**
baz=231
FURC Furnace Creek, 74.88 44 P **P** **02 27 03.4 +0.8**
baz=237,SNR=5.2
TUQ Turquoise Moun 74.96 46 P **P** **02 27 04.0 +0.8**
baz=238,SNR=9.0
SHOC Shoshone, Teco 74.97 45 P **P** **02 27 03.9 +0.7**
baz=237
NVAR Mina Array Bea 75.03 42 P **P** **02 27 04.5 +0.8**
comp=Z,5.2nm,0.6s,baz=228,slow=9.7,SNR=36
NVAR Mina Array Bea 75.03 42 P **P** **02 27 03.8 +0.1**
NV11 Mina Array Sit 75.13 42 IAmb IAmb 02 27 06.1
comp=Z,11nm,1.0s
214A Organ Pipe Nat 75.38 50 P **P** **02 27 06.8 +1.2**
baz=240,SNR=10
214A Organ Pipe Nat 75.38 50 IAmb IAmb 02 27 07.7
comp=Z,23nm,1.1s
TPNV Topopah Spring 75.56 44 P **P** **02 27 07.6 +0.9**
baz=237,SNR=8.5
PDMCI Parker Dam,Lak 75.60 47 P **P** **02 27 08.0 +1.3**
baz=239
MOD Modoc Plateau 75.84 38 IAmb IAmb 02 27 09.4
comp=Z,10nm,0.8s
J05D Fort Rock, OR 76.14 37 P **P** **02 27 10.6 +0.7**
baz=232
KSRS Korea Array 76.45 316 P **P** **02 27 12.3 +0.8**
comp=Z,0.7nm,0.3s,baz=129,slow=7.1,SNR=5.6
KSRS LR LR 02 58 19.9
comp=Z,12nm,20.1s,baz=143,slow=34
PRN Pahroc Range 76.61 44 IAmb IAmb 02 27 15.7
comp=Z,12nm,1.1s
PINE Pine Mountain 76.63 36 IAmb IAmb 02 27 14.7
comp=Z,17nm,1.1s
R11A Troy Canyon, C 76.76 43 P **P** **02 27 13.7 +0.2**
baz=237,SNR=7.7
TUC Tucson 77.05 51 P **P** **02 27 16.5 +1.4**
baz=242
TUC Tucson 77.05 51 P **P** **02 27 15.2 +0.1**
TUC IAmb IAmb 02 27 17.5
comp=Z,20nm,0.8s
J08A Circle Bar Ran 77.79 38 IAmb IAmb 02 27 21.3
comp=Z,14nm,1.2s
WUAZ Wupatki 78.18 48 P **P** **02 27 22.8 +1.3**
baz=240
WUAZ Wupatki 78.18 48 IAmb IAmb 02 27 23.8
comp=Z,13nm,1.1s
MTPU Mount Pierson 78.88 45 P **P** **02 27 27.1 +1.6**
E07A Sunnyside 78.93 35 IAmb IAmb 02 27 27.6
comp=Z,12nm,1.1s
121A Cookes Peak, D 79.40 52 P **P** **02 27 29.7 +1.5**
baz=243,SNR=12
121A Cookes Peak, D 79.40 52 IAmb IAmb 02 27 30.7
comp=Z,21nm,0.9s
DUG Dugway, Tooele 79.56 43 P **P** **02 27 29.3 +0.4**
baz=239
D08A Wollman Farm, 79.75 35 IAmb IAmb 02 27 31.1
comp=Z,18nm,1.2s
GHO Glory Hole Cre 80.06 12 IAmb IAmb 02 27 31.7
comp=Z,17nm,0.7s
HLID Hailey 80.34 39 P **P** **02 27 33.9 +0.9**
baz=237,SNR=16
HLID Hailey 80.34 39 P **P** **02 27 32.9 -0.1**
HLID IAmb IAmb 02 27 34.9
comp=Z,11nm,0.9s
NJ2 Nanjing 80.35 307 *e*P **P** **02 27 33.9 +0.8**
NJ2 pmax pmax
comp=Z,19nm,0.5s
SCM Sheep Creek Mo 80.43 12 P **P** **02 27 32.8 -0.2**
N25K Chitina, Valde 80.82 14 P **P** **02 27 35.3 +0.2**
baz=208
GLB Gilahina Butte 80.86 14 P **P** **02 27 35.3 +0.1**
GLB IAmb IAmb 02 27 38.2
comp=Z,19nm,1.2s
MNTX Cornudas Mount 80.87 53 P **P** **02 27 36.9 +1.0**
baz=245,SNR=28
MNTX Cornudas Mount 80.87 53 P **P** **02 27 36.3 +0.4**
MNTX IAmb IAmb 02 27 37.5
comp=Z,13nm,0.8s
M24K Tolsona, Glenn 80.92 13 P **P** **02 27 36.4 +0.9**
baz=207
PV05 Paradox Valley 81.01 46 P **P** **02 27 37.6 +0.8**
PV05 IAmb IAmb 02 27 39.2
comp=Z,15nm,0.8s
MVCO Mesa Verde 81.03 47 P **P** **02 27 37.4 +0.5**
baz=242
PV10 Paradox Valley 81.20 46 IAmb IAmb 02 27 39.3
comp=Z,17nm,0.8s
PV19 Morning Glory 81.20 46 P **P** **02 27 37.9 +0.1**
PV19 IAmb IAmb 02 27 39.5
comp=Z,15nm,1.0s
PV14 Lion Creek, Pa 81.21 46 P **P** **02 27 37.8 -0.1**
PV14 IAmb IAmb 02 27 39.6
comp=Z,19nm,1.0s
PV17 East Wray Mesa 81.21 46 P **P** **02 27 37.9 +0.1**
PV17 IAmb IAmb 02 27 39.1
comp=Z,10nm,0.8s
PV18 Skein Mesa, Pa 81.23 46 IAmb IAmb 02 27 39.6
comp=Z,17nm,1.2s
PV20 West Nyswonger 81.23 46 IAmb IAmb 02 27 39.7
comp=Z,16nm,0.9s
TX31 Lajitas Ar. Si 81.24 56 P **P** **02 27 38.2 +0.1**
TX32 Lajitas Array 81.24 56 P **P** **02 27 38.5 +0.5**
TX32 IAmb IAmb 02 27 41.1
comp=Z,24nm,1.1s
TXAR Lajitas Array 81.24 56 P **P** **02 27 39.2 +1.2**
comp=Z,7.0nm,0.7s,baz=221,slow=7.1,SNR=96
TXAR Lajitas Array 81.24 56 P **P** **02 27 38.2 +0.2**
PV13 Radium Mtn., P 81.25 46 P **P** **02 27 38.4 +0.3**
PV13 IAmb IAmb 02 27 39.9
comp=Z,10nm,1.0s
PV16 Nyswonger Mesa 81.25 46 P **P** **02 27 38.3 +0.3**
PV23 Carpenter Ridg 81.25 46 P **P** **02 27 38.5 +0.3**
PV03 Paradox Valley 81.27 46 P **P** **02 27 36.8 -1.3**
PV03 IAmb IAmb 02 27 39.9
comp=Z,13nm,1.1s
PV11 David Mesa, Pa 81.28 46 IAmb IAmb 02 27 41.7
comp=Z,8.0nm,0.7s
PV04 Paradox Valley 81.30 46 P **P** **02 27 38.4 +0.1**
PV04 IAmb IAmb 02 27 40.1
comp=Z,14nm,0.8s
PV02 Paradox Valley 81.33 46 IAmb IAmb 02 27 40.4
comp=Z,10.0nm,0.9s
PV21 Cone Mtn., Par 81.33 46 P **P** **02 27 38.5 0.0**
PV21 IAmb IAmb 02 27 40.3
comp=Z,13nm,0.7s
PV12 Saucer Basin, 81.33 46 IAmb IAmb 02 27 40.4
comp=Z,16nm,1.0s
TRF Thorofare Moun 81.35 10 P **P** **02 27 37.3 -0.6**
TRF IAmb IAmb 02 27 42.1
comp=Z,10nm,0.9s
PV01 Paradox Valley 81.41 46 P **P** **02 27 37.3 -1.6**
PV01 IAmb IAmb 02 27 40.7
comp=Z,13nm,0.9s
ANMO Albuquerque 81.47 50 P **P** **02 27 40.3 +1.0**
baz=244
ANMO Albuquerque 81.47 50 P **P** **02 27 39.6 +0.3**
ANMO IAmb IAmb 02 27 40.8
comp=Z,7.8nm,0.7s
PV07 Paradox Valley 81.50 46 P **P** **02 27 38.3 -1.0**
PV15 Paradox Valley 81.57 46 P **P** **02 27 38.8 -1.0**
PV15 IAmb IAmb 02 27 41.5
comp=Z,14nm,0.9s
MCK McKinley 81.85 11 P **P** **02 27 40.0 -0.3**
baz=204
MCMT McKenzie Canyo 81.97 39 P **P** **02 27 40.8 -1.0**
MSO Missoula 82.41 37 P **P** **02 27 43.6 -0.2**
baz=237
MSO Missoula 82.41 37 P **P** **02 27 42.8 -1.0**
DLMT Dillon 82.41 39 IAmb IAmb 02 27 45.6
comp=Z,12nm,1.1s
REDW Red Top Meadow 82.44 41 P **P** **02 27 43.1 -1.1**
REDW IAmb IAmb 02 27 45.9
comp=Z,19nm,1.1s
DLBC Dease Lake 82.45 21 P **P** **02 27 43.3 -0.4**
comp=Z,3.2nm,0.8s,baz=161,slow=4.8,SNR=5.1
S22A 4UR Ranch, Cre 82.45 47 P **P** **02 27 45.7 +1.3**
baz=243,SNR=29
S22A 4UR Ranch, Cre 82.45 47 P **P** **02 27 44.4 -0.1**
SNOW Snow King Moun 82.56 41 P **P** **02 27 43.7 -1.1**
SNOW IAmb IAmb 02 27 46.6
comp=Z,22nm,1.0s
O20A White River Ci 82.58 45 P **P** **02 27 45.8 +0.9**
baz=242,SNR=9.6
O20A White River Ci 82.58 45 IAmb IAmb 02 27 48.3
comp=Z,11nm,0.8s
NEA2 Nenana 82.62 10 P **P** **02 27 44.6 +0.3**
baz=204

RIDG Independent Ri 82.66 13 P **P** **02 27 44.9 +0.3**
RIDG IAmb IAmb 02 27 47.6
comp=Z,11nm,1.0s
IMW Indian Meadow 82.66 40 P **P** **02 27 44.5 -0.9**
IMW IAmb IAmb 02 27 47.2
comp=Z,18nm,1.1s
WRH Wood River Hil 82.68 11 P **P** **02 27 44.8 +0.2**
WRH IAmb IAmb 02 27 47.5
comp=Z,23nm,1.0s
LOHW Long Hollow 82.73 41 IAmb IAmb 02 27 47.2
comp=Z,13nm,1.1s
DOT Dot Lake 82.74 13 IAmb IAmb 02 27 45.8
comp=Z,11nm,0.7s
MLY Manley 82.74 10 P **P** **02 27 44.4 -0.6**
baz=202
QLMT Earthquake Lak 82.84 39 P **P** **02 27 45.4 -0.8**
HDA Harding Lake 82.84 11 P **P** **02 27 45.3 -0.1**
baz=206
HDA Harding Lake 82.84 11 IAmb IAmb 02 27 46.0
comp=Z,11nm,0.6s
CCB Clear Creek Bu 82.89 11 P **P** **02 27 45.8 +0.1**
CCB IAmb IAmb 02 27 48.3
comp=Z,18nm,0.8s
FLWY Flagg Ranch 82.91 40 P **P** **02 27 46.6 0.0**
FLWY IAmb IAmb 02 27 48.6
comp=Z,23nm,0.9s
YHB Horse Butte 82.94 40 P **P** **02 27 45.9 -0.9**
BW06 Boulder Array 82.97 42 P **P** **02 27 47.1 +0.2**
baz=241,SNR=24
BW06 Boulder Array 82.97 42 P **P** **02 27 46.1 -0.8**
BW06 IAmb IAmb 02 27 48.0
comp=Z,16nm,0.8s
PD31 Pinedale Array 82.97 42 P **P** **02 27 47.2 +0.2**
PD31 IAmb IAmb 02 27 48.0
comp=Z,15nm,0.8s
PDAR Pinedale Array 82.97 42 P **P** **02 27 47.0 0.0**
comp=Z,15nm,0.8s,baz=213,slow=3.0,SNR=134
PDAR LR LR 02 56 48.9
comp=Z,28nm,19.4s,baz=326,slow=30
PDAR Pinedale Array 82.97 42 P **P** **02 27 47.1 +0.2**
YMR Madison River 83.04 40 P **P** **02 27 46.5 -0.7**
SCRK Sand Creek 83.05 13 P **P** **02 27 46.8 +0.1**
baz=209
I23K Minto, Yukon-K 83.08 10 P **P** **02 27 46.5 -0.2**
baz=204
TCOL CIGO, UAF Yank 83.09 11 P **P** **02 27 46.5 -0.2**
baz=205
COLA College 83.09 11 P **P** **02 27 45.8 -0.9**
COLA IAmb IAmb 02 27 49.4
comp=Z,21nm,0.8s
MDM Murphy Dome 83.10 11 P **P** **02 27 46.5 -0.4**
MDM IAmb IAmb 02 27 49.4
comp=Z,15nm,1.2s
SEY Seymchan 83.11 345 P **P** **02 27 46.8 0.0**
comp=Z,5.6nm,0.6s,baz=120,slow=4.3,SNR=8.0
BOZ Bozeman (W) 83.11 39 P **P** **02 27 48.0 +0.5**
baz=239,SNR=7.5
BOZ Bozeman (W) 83.11 39 P **P** **02 27 46.5 -1.0**
BOZ IAmb IAmb 02 27 49.1
comp=Z,14nm,1.1s
H17A Grant Village 83.14 40 P **P** **02 27 49.8 +2.0**
baz=240,SNR=9.8
H17A Grant Village 83.14 40 P **P** **02 27 47.8 0.0**
H17A IAmb IAmb 02 27 50.5
comp=Z,13nm,0.8s
YHH Holmes Hill 83.17 40 P **P** **02 27 48.0 0.0**
IL31 83.18 11 P **P** **02 27 46.9 -0.3**
IL31 IAmb IAmb 02 27 51.1
comp=Z,13nm,1.1s
ILAR Eielson Array 83.18 11 P **P** **02 27 46.6 -0.6**
comp=Z,4.3nm,0.5s,baz=232,slow=6.0,SNR=58
ILAR LR LR 02 58 10.9
comp=Z,19nm,19.2s,baz=288,slow=31
ILAR Eielson Array 83.18 11 P **P** **02 27 46.9 -0.3**
IMAR Indian Mountai 83.19 8 P **P** **02 27 47.6 +0.4**
YNR Norris Junctio 83.24 40 P **P** **02 27 47.5 -0.8**
WHN Wuhan 83.24 304 ⇑P P 02 27 38.0 -10
LKWY Lake 83.33 40 P **P** **02 27 48.0 -0.8**
LKWY IAmb IAmb 02 27 51.7
comp=Z,17nm,0.8s
POKR Poker Plat Res 83.39 11 P **P** **02 27 48.0 -0.3**
baz=206
SDCO Great Sand Dun 83.39 48 P **P** **02 27 49.8 +0.5**
baz=244,SNR=11
SDCO Great Sand Dun 83.39 48 P **P** **02 27 49.4 0.0**
K27K Chicken 83.51 13 P **P** **02 27 49.7 +0.8**
baz=211
PMSA Palmer Station 83.67 156 P **P** **02 27 51.3 +1.4**
comp=Z,10nm,0.8s,baz=68,slow=5.4,SNR=2.4
PMSA Palmer Station 83.67 156 P **P** **02 27 50.8 +1.0**
PMSA IAmb IAmb 02 27 58.0
comp=Z,17nm,1.1s
MSTX Muleshoe 83.81 52 P **P** **02 27 52.0 +0.7**
baz=246
MSTX Muleshoe 83.81 52 P **P** **02 27 51.5 +0.2**
T25A Trinidad 83.91 49 P **P** **02 27 52.7 +0.8**
baz=245,SNR=6.7
T25A Trinidad 83.91 49 P **P** **02 27 51.0 -0.9**
T25A IAmb IAmb 02 27 53.3
comp=Z,10nm,1.0s
RWWY Rawlins 83.99 44 P **P** **02 27 51.3 -1.0**
Q24A Divide 84.17 47 P **P** **02 27 54.0 +0.7**
baz=244
ISCO Idaho Springs 84.22 46 P **P** **02 27 54.0 +0.5**
baz=244
833A Chaparral WMA, 84.31 59 P **P** **02 27 55.1 +1.3**
baz=248
833A Chaparral WMA, 84.31 59 IAmb IAmb 02 27 55.5
comp=Z,13nm,0.7s
RLMT Red Lodge 84.31 40 P **P** **02 27 54.0 +0.3**
baz=241
EGAK Eagle 84.36 13 P **P** **02 27 52.6 -0.6**
EGAK IAmb IAmb 02 27 57.1
comp=Z,13nm,1.1s
N23A Red Feather La 84.48 45 P **P** **02 27 55.5 +0.8**
baz=244,SNR=9.4
N23A Red Feather La 84.48 45 IAmb IAmb 02 27 56.4
comp=Z,13nm,0.9s
JCT Junction City 84.77 56 P **P** **02 27 56.5 +0.3**
baz=248
JCT Junction City 84.77 56 P **P** **02 27 55.7 -0.5**
JCT IAmb IAmb 02 28 01.6
comp=Z,6.3nm,0.8s
COLD Coldfoot 84.87 9 P **P** **02 27 56.5 +0.7**
baz=203
COLD Coldfoot 84.87 9 P **P** **02 27 55.5 -0.2**
COLD IAmb IAmb 02 28 01.2
comp=Z,14nm,1.1s
K22A Casper 84.89 43 P **P** **02 27 56.8 +0.2**
baz=243
AMTX Amarillo 85.00 52 P **P** **02 27 58.1 +0.8**
baz=247
AMTX Amarillo 85.00 52 P **P** **02 27 56.6 -0.7**
EGMT Eagleton 85.45 37 P **P** **02 27 59.1 -0.1**
baz=240
EGMT Eagleton 85.45 37 IAmb IAmb 02 28 01.6
comp=Z,9.2nm,0.9s
ABTX Abilene, Hawle 85.70 54 P **P** **02 28 01.4 +0.7**
baz=248
ABTX Abilene, Hawle 85.70 54 P **P** **02 28 00.4 -0.3**
TOLK Toolik Lake Re 86.27 9 P **P** **02 28 03.4 +0.7**
baz=203
435B Jarrell 86.66 57 P **P** **02 28 06.4 +0.9**
baz=249
435B Jarrell 86.66 57 P **P** **02 28 04.7 -0.8**
EPYK Eagle Plains 86.71 14 P **P** **02 28 04.9 0.0**
baz=216
LAO LASA Array 86.92 40 P **P** **02 28 07.5 +1.1**
baz=243
LAO LASA Array 86.92 40 P **P** **02 28 05.9 -0.5**
MAW Mawson 87.05 199 P **P** **02 28 08.2 +1.5**
comp=Z,15nm,0.7s,baz=122,slow=6.6,SNR=40
MAW Mawson 87.05 199 P **P** **02 28 08.2 +1.5**
baz=87,SNR=21
MAW Mawson 87.05 199 P **P** **02 28 07.8 +1.1**
RSSD Black Hills 87.16 43 P **P** **02 28 07.6 -0.3**
baz=245
RSSD Black Hills 87.16 43 P **P** **02 28 07.4 -0.5**
RSSD IAmb IAmb 02 28 08.6
comp=Z,5.8nm,0.7s
WHTX Lake Whitney, 87.19 56 P **P** **02 28 08.5 +0.5**
baz=249
WHTX Lake Whitney, 87.19 56 P **P** **02 28 07.0 -1.0**
WHTX IAmb IAmb 02 28 10.4
comp=Z,9.0nm,0.8s
LL01 San Ignacio de 87.39 133 P **P** **02 28 09.4 +0.6**

LL01 IAmb IAmb 02 28 12.4
comp=Z,15nm,1.1s
HKT Hockley 87.79 58 P **P** **02 28 10.7 -0.1**
HKT IAmb IAmb 02 28 12.6
comp=Z,9.1nm,1.1s
X34A Smith Ranch, M 87.83 53 IAmb IAmb 02 28 16.7
comp=Z,7.7nm,0.9s
LC01 Cunco 88.94 130 P **P** **02 28 19.2 +2.9**
DGMT Dagmar 88.95 39 P **P** **02 28 16.6 +0.7**
baz=244
DGMT Dagmar 88.95 39 P **P** **02 28 15.6 -0.3**
PLCA Paso Flores 89.27 132 P **P** **02 28 20.8 +3.0**
comp=Z,7.2nm,1.0s,baz=243,slow=6.8,SNR=15
PLCA LR LR 02 59 29.4
comp=Z,36nm,21.7s,baz=246,slow=30
PLCA Paso Flores 89.27 132 P **P** **02 28 18.2 +0.3**
PLCA IAmb IAmb 02 28 21.2
comp=Z,7.6nm,0.9s
HHC Hu-ho-hao-te 89.28 313 *e*P **P** **02 28 18.0 +0.2**
HHC pmax pmax
comp=Z,14nm,0.9s
T35A Sooner Cattle 89.65 51 IAmb IAmb 02 28 20.3
comp=Z,8.5nm,0.8s
BI02 San Fabin de 90.15 128 P **P** **02 28 22.5 +0.4**
KSU1 Kansas State U 90.34 49 P **P** **02 28 22.8 +0.1**
baz=250
KSU1 Kansas State U 90.34 49 P **P** **02 28 22.2 -0.5**
KSU1 IAmb IAmb 02 28 23.3
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 90.84 23 P **P** **02 28 25.6 +1.2**
comp=Z,2.4nm,0.8s,baz=246,slow=3.9,SNR=3.6
YKA LR LR 03 02 57.3
comp=Z,11nm,20.7s,baz=0.0,slow=31
MIAR Mount Ida 91.11 54 P **P** **02 28 26.4 0.0**
baz=251
WLAR White Oak Lake 91.20 55 P **P** **02 28 25.8 -1.0**
Z41A Richland Creek 91.31 56 P **P** **02 28 28.1 +0.8**
baz=252
MATN Matagalpa 91.43 77 P **P** **02 28 27.7 -0.6**
JTS Las Juntas de 91.62 80 P **P** **02 28 29.0 -0.2**
SYO Syowa Base 91.87 191‖ *e*P **P** **02 28 28.2 -1.0**
SYO Syowa Base 91.87 191‖ *e*PcP **PcP** **02 28 30.0 0.0**
VNA3 Neumayer Olymp 92.20 175 P **P** **02 28 32.1 +1.3**
SNAA Sanae 92.23 177 P **P** **02 28 32.1 +1.1**
SNAA Sanae 92.23 177 P **P** **02 28 31.8 +0.8**
SNAA IAmb IAmb 02 28 33.4
comp=Z,6.4nm,0.9s
U40A Yellville 92.25 53 P **P** **02 28 31.8 +0.2**
baz=252
U40A Yellville 92.25 53 P **P** **02 28 31.4 -0.2**
U40A IAmb IAmb 02 28 34.4
comp=Z,3.5nm,0.9s
W41B Gary Mavity, V 92.35 54 P **P** **02 28 32.9 +0.9**
baz=252
CMAR Chiang Mai Arr 92.55 288 P **P** **02 28 34.5 +1.1**
comp=Z,1.0nm,0.3s,baz=101,slow=2.3,SNR=9.5
CMAR LR LR 03 04 54.9
comp=Z,18nm,21.3s,baz=181,slow=32
CMAR Chiang Mai Arr 92.55 288 P **P** **02 28 31.9 -1.5**
VNA2 Neumayer--Watz 92.69 176 P **P** **02 28 34.2 +1.2**
baz=174,slow=3.8
VNA1 Neumayer--Stat 92.89 175 P **P** **02 28 35.5 +1.6**
MGMO Mountain Grove 92.94 52 P **P** **02 28 34.3 -0.5**
LCO Las Campanas 93.24 121 P **P** **02 28 36.8 0.0**
LZH Lanzhou 93.40 306 *e*P **P** **02 28 38.6 +1.5**
LZH pP pP 02 28 54.8 -8.3
LZH sP sP 02 29 01.8 -12
LZH *e*PP **PP** **02 32 25.4 +2.7**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,110nm,6.3s
LZH LR LR
comp=Z,170nm,17.0s
LZH LR LR
comp=Z,180nm,17.2s
LZH LR LR
comp=Z,220nm,19.7s
T42A Van Buren 93.80 53 IAmb IAmb 02 28 39.3
comp=Z,7.0nm,1.0s
CCM Cathedral Cave 93.98 52 P **P** **02 28 39.0 -0.6**
baz=253
AGMN Agassiz Nation 94.00 41 P **P** **02 28 38.2 -1.1**
baz=251
ULM Lac du Bonnet 94.65 39 P **P** **02 28 41.4 -0.9**
comp=Z,2.4nm,0.6s,baz=293,slow=6.1,SNR=5.0
ULM Lac du Bonnet 94.65 39 IAmb IAmb 02 28 42.1
comp=Z,5.2nm,0.8s
SPMN Marine on St. 95.02 44 P **P** **02 28 44.3 +0.2**
baz=252
SONM Songino Array 95.16 318 P **P** **02 28 45.4 +0.5**
comp=Z,0.2nm,0.3s,baz=14,slow=41,SNR=2.1
SONM LR LR 03 06 20.7
comp=Z,22nm,21.7s,baz=104,slow=32
SONM Songino Array 95.16 318 P **P** **02 28 43.6 -1.3**
JFWS Jewell Farm 96.11 47 P **P** **02 28 48.8 -0.3**
baz=254
JFWS Jewell Farm 96.11 47 P **P** **02 28 48.9 -0.2**
MNMC Minye Minye 97.57 112 P **P** **02 28 56.6 -0.1**
COWI Conover 97.73 44 P **P** **02 28 56.0 -0.4**
LPAZ La Paz 99.85 110 P **Pdif** **02 29 09.6 +2.3**
comp=Z,0.8nm,0.5s,baz=287,slow=1.7,SNR=5.3
MKAR Makanchi Array 111.10 314 PKiKP **PKiKP** **02 33 53.8 -0.7**
comp=Z,0.7nm,0.7s,baz=135,slow=0.5,SNR=5.5
MKAR PKKPbc **PKKPab** **02 45 03.1 +2.5**
comp=Z,1.1nm,0.7s,baz=258,slow=4.1,SNR=6.8
ARCES ARCESS Array B 125.25 352 PKP **PKPdf** **02 34 20.4 -0.6**
comp=Z,6.6nm,0.7s,baz=30,slow=1.7,SNR=15
BOSA Boshof 131.92 203 PKP **PKiKP** **02 34 36.7 +0.5**
comp=Z,2.5nm,0.7s,baz=150,slow=2.7,SNR=4.4
FINES FINESS Array B 132.55 347 PKP **PKPdf** **02 34 35.5 +0.5**
comp=Z,6.7nm,1.0s,baz=27,slow=3.5,SNR=13
NOA NORSAR Array B 134.97 357 PKP **PKPdf** **02 34 40.6 +0.9**
comp=Z,0.9nm,0.7s,baz=14,slow=2.3,SNR=3.6
KBZ Khabaz 138.52 319 PKP **PKiKP** **02 34 48.3 -0.5**
comp=Z,2.1nm,1.0s,baz=124,slow=2.6,SNR=4.3
AKASG Malin Array Be 140.86 337 PKhKP PKPpre 02 34 44.6
comp=Z,0.3nm,0.3s,baz=35,slow=3.6,SNR=1.1
SORM Soroca 143.26 335 ⇑P PKPbc 02 34 53.0 +0.6
CLL Collm 144.46 353 *i* PKPpre PKPbc 02 34 55.1 -0.8
comp=Z,9.0nm,0.8s
CLL *e*PKPdf **PKPdf** **02 34 57.0 -0.1**
comp=Z,7.0nm,0.7s
OSTC Ostas 144.70 349 *e*PKP PKPbc 02 34 57.3 +0.6
KOLS Kolonicke sedl 144.74 342 *e*PKP **PKPab** **02 34 56.1 -0.7**
DPC Dobruska-Polom 144.88 349 *e*PKP PKPbc 02 34 57.5 +0.2
BURAR Bucovina Array 144.89 338 ⇑P **PKPdf** **02 34 58.1 0.0**
OKC Ostrava-Krasne 144.99 347 *e*PKP **PKPbc** **02 34 57.6 0.0**
CRVS Cervenica-Dubn 145.00 342 *e*PKP **PKPdf** **02 34 58.3 +0.1**
PVCC Panska Ves 145.01 351 *e*PKP **PKPdf** **02 34 58.4 +0.3**
KRLC Kraliky 145.05 348 *e*PKP **PKPbc** **02 34 57.8 -0.1**
BIZ Bicaz 145.12 336 ⇑P **PKPdf** **02 34 58.9 +0.5**
MORC Moravsky Berou 145.18 347 ⇑P **PKPab** **02 34 58.6 +0.2**
MORC Moravsky Berou 145.18 347 *e*PKP **PKPdf** **02 34 58.8 +0.3**
LANS Liptovska Anna 145.32 345 *e*PKP **PKPab** **02 34 59.9 +1.0**
TLCR 145.36 332 ⇑P **PKPab** **02 34 59.9 +0.8**
BEBN Eben Emael 145.38 1 PKPdf **PKPab** **02 34 59.2 +0.2**
PRU Pruhonice 145.53 351 *e*PKP **PKPbc** **02 34 59.4 +0.1**
MEM Membach 145.57 0 PKPdf **PKPab** **02 35 00.1 +0.3**
NKC Novy Kostel 145.58 353 *e*PKP **PKPbc** **02 34 59.7 +0.2**
BSTI Sart Tilman 145.59 1 PKPdf **PKPdf** **02 34 59.4 +0.3**
BTNL Ternell 145.59 0 PKPdf **PKPdf** **02 34 59.4 +0.2**
KECS Kecovo 145.66 343 *e*PKP **PKPbc** **02 35 00.1 +0.3**
CFR Carcaliu 145.67 332 ⇑P **PKPbc** **02 34 59.9 +0.1**
VRI Vrincioaia 145.74 334 ⇑P **PKPdf** **02 34 59.9 +0.4**
BCLA Clavier 145.75 1 PKPdf **PKPbc** **02 35 00.1 +0.1**
BGES Gesves 145.78 1 PKPdf **PKPbc** **02 35 00.3 +0.3**
PLOR Plostina 145.78 334 ⇑P **PKPbc** **02 35 00.3 0.0**
TPGR Topolog 145.79 332 ⇑P **PKPab** **02 35 00.8 0.0**
VRAC Vranov 145.82 348 *e*PKP **PKPab** **02 35 00.9 +0.1**
BMRD Maredsous 145.85 2 PKPdf **PKPbc** **02 35 00.7 +0.4**
JAVC Velka Javorina 146.02 347 *e*PKP **PKPbc** **02 35 01.4 +0.5**
TREC Trest 146.05 349 *e*PKP **PKPbc** **02 35 01.0 +0.1**
DOU Dourbes 146.05 2 PKPdf **PKPbc** **02 35 01.4 +0.5**
VYHS Vyhne 146.09 345 *e*PKP **PKPbc** **02 35 01.1 0.0**
KRUC Moravsky 146.10 348 *e*PKP **PKPdf** **02 35 00.5 +0.5**
HARR Harsova 146.14 332 ⇑P **PKPab** **02 35 02.2 0.0**
DOPR Dopca 146.20 336 ⇑P **PKPab** **02 35 02.4 0.0**
GRF Grafenberg Arr 146.25 354 *e*PKP **PKPbc** **02 35 02.1 +0.6**
baz=8.8,slow=2.2
MLR Muntele Rosu 146.37 335 ⇑P **PKPab** **02 35 03.0 -0.2**
BRTR Keskin Array B 146.50 320 PKPbc **PKPbc** **02 35 02.6 -0.1**
comp=Z,13nm,0.9s,baz=102,slow=1.8,SNR=46
BRTR Keskin Array B 146.50 320 **PKPdf** **02 35 02.0 +0.8**
WLF Walferdange 146.51 0 PKPdf **PKPbc** **02 35 02.9 +0.6**

KHC	Kasperske Hory	146.51	351	*e*PKP		PKPdf	02 35 01.4	+0.6
GERES	GERESS Array B	146.78	351	PKPbc		PKPbc	02 35 03.1	-0.1
	comp=Z,4.2nm,0.8s,baz=30,slow=3.5,SNR=10							
GERES	GERESS Array B	146.78	351			PKPbc	02 35 03.0	-0.2
ARR	Arges	147.00	336	⇑P		PKPbc	02 35 03.6	-0.3
CONA	Conrad Observa	147.29	348	*e*P		PKPdf	02 35 03.1	+0.9
	comp=Z,17nm,1.0s							
SIRR	Siria	147.29	340	⇑P		PKPbc	02 35 04.9	+0.3
MOA	Molln	147.65	350	*e*P		PKPbc	02 35 05.7	+0.1
	comp=Z,4.0nm,0.6s							
GZR	Gura Zlata	147.67	338	⇑P		PKPbc	02 35 06.2	+0.5
BZS	Buzias	147.88	340	⇑P		PKPbc	02 35 06.5	+0.3
ARSA	Arzberg	148.00	348	*e*P		PKPbc	02 35 07.3	+0.8
	comp=Z,7.8nm,1.0s							
HERR	Herculane	148.24	338	⇑P		PKPbc	02 35 07.7	+0.5
RETA	Reutte	148.47	354	*e*P		PKPbc	02 35 08.1	+0.3
	comp=Z,12nm,1.3s							
MOTA	Moosalm	148.58	354	*e*P		PKPbc	02 35 07.7	-0.5
	comp=Z,18nm,1.2s							
WTTA	Wattenberg	148.60	353	*i* P		PKPbc	02 35 08.4	+0.1
	comp=Z,12nm,0.5s,SNR=6.3							
SQTA	Sankt Quirin	148.69	354	*e*P		PKPdf	02 35 04.8	+0.2
	comp=Z,2.6nm,0.6s							
SQTA				*e*P		PKPbc	02 35 09.1	+0.6
	comp=Z,13nm,1.2s							
DAVA	Damuels	148.75	355	*e*P		PKPbc	02 35 09.0	+0.4
	comp=Z,11nm,1.0s							
FETA	Feichten	148.94	354	*e*P		PKPbc	02 35 09.7	+0.5
	comp=Z,14nm,1.2s							
ABTA	Abfaltersbach	149.00	352	*e*P		PKPbc	02 35 08.7	-0.5
	comp=Z,9.7nm,0.7s							
LEF	Lefka	149.59	314	⇑P		PKPbc	02 35 10.6	-0.2
PDG	Podgorica	151.49	340	⇓P		PKPbc	02 35 15.2	+0.1
PCAB	Cabril	151.64	23	*e*PKPbc		PKiKP	02 35 16.3	+0.3
POLO	Lamas de Olo	152.02	23	*e*PKPbc		PKiKP	02 35 17.3	+0.4
PBRG	Braganca	152.02	21	*e*PKPbc		PKiKP	02 35 16.8	0.0
PVRL	Vila Real	152.13	23	*e*PKPbc		PKiKP	02 35 17.4	+0.4
MVO	Moncorvo	152.48	22	*e*PKPdf		PKPdf	02 35 11.8	+1.2
MVO	Moncorvo	152.48	22	*e*PKPbc		PKiKP	02 35 18.3	+0.5
PVIS	Viseu	152.55	24	*e*PKPbc		PKiKP	02 35 18.1	+0.2
PCAS	Casmilo, Conde	152.87	25	*e*PKPbc		PKiKP	02 35 18.9	+0.4
MTE	Manteigas	152.96	24	*e*PKPbc		PKiKP	02 35 19.0	+0.2
PSBE	So Bento	153.19	27	*e*PKPbc		PKiKP	02 35 19.8	+0.5
PCBR	Castelo Branco	153.46	24	*e*PKPbc		PKiKP	02 35 20.1	+0.4
PMRV	Marv??o	153.85	25	*e*PKPbc		PKiKP	02 35 21.0	+0.4
ESDC	Sonseca Array	154.85	19	PKP		PKPdf	02 35 14.8	+0.8
	comp=Z,0.9nm,0.8s,baz=352,slow=2.1,SNR=6.4							
ESDC				PKPbc		PKiKP	02 35 23.1	+0.3
	comp=Z,0.7nm,0.6s,baz=323,slow=2.9,SNR=8.6							
ESDC	Sonseca Array	154.85	19	PKPdf		PKPdf	02 35 13.8	-0.2
ESDC						PKPbc	02 35 22.5	-0.2
DBIC	Dimbokro	165.61	129	PKPab		PKPab	02 36 27.2	+1.5
	comp=Z,11nm,1.0s,baz=189,slow=5.4,SNR=6.3							
DBIC	Dimbokro	165.61	129			PKPab	02 36 25.6	-0.1
TORD	Torodi Ar. Bea	174.67	123	PKP		PKPdf	02 35 30.4	-1.2
	comp=Z,2.0nm,1.0s,baz=340,slow=2.4,SNR=9.4							
TORD				PKPab		PKPab	02 37 06.5	+0.7
	comp=Z,8.5nm,0.9s,baz=260,slow=3.9,SNR=29							
TORD				PP		PP	02 40 52.9	-5.1
	comp=Z,1.1nm,1.2s,baz=264,slow=2.9,SNR=2.5							
TORD	Torodi Ar. Bea	174.67	123			PKPdf	02 35 30.8	-0.8
TORD						PKPab	02 37 05.7	-0.1

IDC 23 02:28:20.2±11.0, 43.78S×77.17W, h0km, mb4.0/1, mb1 3.8/2, mb1mx3.4/22, mbtmp3.7/2, ML3.5/1, Error ellipse: s-maj=1323.0km s-min=51.1km az=147.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.78	60	Pn	Pn	02 29 46.5	-0.7
	0.3nm,0.3s,baz=210,slow=14,SNR=5.7						
PLCA				Sn	Sn	02 30 56.7	+2.6
	0.3nm,0.3s,baz=295,slow=23,SNR=3.0						
TORD	Torodi Ar. Bea	91.12	73	P	P	02 41 26.7	-0.2
	0.7nm,0.8s,baz=218,slow=6.1,SNR=6.2						
MKAR	Makanchi Array	165.23	71	PKPab	PKPab	02 49 23.5	0.0
	0.3nm,0.4s,baz=264,slow=3.6,SNR=3.1						

IDC 23 02:40:49.4±1.5, 51.66N×177.21W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.6/42, mbtmp3.5/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=56.7km s-min=30.7km az=145.0

AEIC 23 02:40:56±1.2, 51.48N±0.06×176.81W±0.06, h38km±8km, ML3.6, mb3.7/9(NEIC), Error ellipse: s-maj=8.7km s-min=4.4km az=159.0

ISC 23 02:40:57.4±1.4, 51.6N±0.2×176.81W±0.04, h48km±12km, n51, σ0985/50, mb3.5/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.33	14		Pn	02 41 06.1	-0.5
ADK	Adak	0.33	14	Sn	Sn	02 41 13.4	+0.2
KIMD	Kanaga Island	0.33	307		Pn	02 41 06.0	-0.6
KIKV	Kanaga Island	0.39	324		Pn	02 41 07.2	-0.1
KICM	Kanaga Island	0.43	326		Pn	02 41 07.8	+0.2
ADAG	Mount Adagdak	0.43	17		Pn	02 41 08.1	+0.3
GSTD	Great Sitkin T	0.64	40		Pn	02 41 10.3	-0.1
GSTD					Sn	02 41 20.1	+0.4
GSSP	Great Sitkin S	0.66	36		Pn	02 41 10.8	+0.3
GSMY	Great Sitkin M	0.67	44		Pn	02 41 10.5	-0.2
GSTR	Great Sitkin T	0.70	41		Pn	02 41 11.4	+0.3
TAFP	Tanaga Falls P	0.80	295		Pn	02 41 12.2	-0.2
TASE	Tanaga Southea	0.81	290		Pn	02 41 12.5	0.0
TANO	Tanaga North	0.89	294		Pn	02 41 13.8	+0.3
GAEA	Gareloi East	1.23	281		Pn	02 41 18.4	+0.3
GAEA					Sn	02 41 34.8	+1.3
GALAA	Gareloi Lava P	1.24	280		Pn	02 41 18.4	+0.2
ATKA	Atka Island	1.74	68		Pn	02 41 24.9	-0.2
ATKA					Sn	02 41 47.8	+1.8
KOWE	Korovin West	1.77	62		Pn	02 41 26.2	+0.6
KOWE					Sn	02 41 49.7	+2.7
KOKL	Mount Kliuchef	1.78	64		Pn	02 41 26.2	+0.4
KOKV	Korovin Volcan	1.82	63		Pn	02 41 26.4	+0.1
KOFP	Korovin Flat P	1.82	66		Pn	02 41 26.8	+0.5
CERAA	Semis' Rag'd T	2.21	280		Pn	02 41 31.9	+0.5
CESW	Semis' Southwe	2.28	280		Pn	02 41 33.1	+0.6
CESW					Sn	02 42 00.7	+1.4
AMKA	Amchitka	2.44	267		Pn	02 41 34.2	-0.4
AMKA					Sn	02 42 05.5	+2.3
LSPA	Little Sitkin	2.90	280		Pn	02 41 41.6	+0.7
LSNW	Little Sitkin	2.93	280		Pn	02 41 41.9	+0.5
KDAK	Kodiak Island	15.28	57	Pn	Pn	02 44 29.6	0.0
CNPM	China Poot	16.43	51	Pn	Pn	02 44 43.8	-0.6
KTH	Kantishna Hill	18.19	39	P	P	02 45 05.5	-0.3
KTH				IAmb	IAmb	02 45 16.1	
	comp=Z,7.3nm,1.1s						
BPAW	Bear Paw Mtn.	18.44	37	P	P	02 45 08.4	-0.1
DHY	Denali Highway	19.42	42	P	P	02 45 19.5	+0.1
DHY				IAmb	IAmb	02 45 23.3	
	comp=Z,2.6nm,0.7s						
MDM	Murphy Dome	19.90	37	P	P	02 45 24.4	-0.1
ILAR	Eielson Array	20.32	38	P	P	02 45 28.8	-0.2
	comp=Z,0.4nm,0.6s,baz=232,slow=9.4,SNR=2.6						
ILAR	Eielson Array	20.32	38	P	P	02 45 28.5	-0.5
RIDG	Independent Ri	20.73	42		P	02 45 34.7	+1.3
RIDG				IAmb	IAmb	02 45 38.1	
	comp=Z,2.4nm,0.6s						
TOLK	Toolik Lake Re	21.52	27	P	P	02 45 42.2	+0.3
EGAK	Eagle	22.59	41	P	P	02 45 52.4	-0.9
EGAK				IAmb	IAmb	02 46 05.7	
	comp=Z,4.0nm,1.1s						
INK	Inuvik	26.59	35	P	P	02 46 29.0	-1.5
	comp=Z,1.5nm,0.8s,baz=218,slow=6.1,SNR=1.1						
INK	Inuvik	26.59	35	P	P	02 46 29.5	-1.0
INK				IAmb	IAmb	02 46 39.1	
	comp=Z,1.6nm,0.8s						
H11N2	WAKE ISLAND Hy	34.25	208	T	T	03 24 02.7	
	baz=18,slow=76,SNR=365						
H11N3	WAKE ISLAND Hy	34.26	208	T	T	03 23 59.0	
	baz=18,slow=76,SNR=343						
H11N1	WAKE ISLAND Hy	34.27	208	T	T	03 23 59.6	
	baz=18,slow=76,SNR=390						
H11S1	WAKE ISLAND Hy	35.47	208	T	T	03 25 34.1	
	baz=17,slow=76,SNR=304						
H11S2	WAKE ISLAND Hy	35.48	208	T	T	03 25 34.3	
	baz=17,slow=76,SNR=179						
H11S3	WAKE ISLAND Hy	35.48	208	T	T	03 25 30.0	
	baz=17,slow=76,SNR=139						
NVAR	Mina Array Bea	42.29	84	P	P	02 48 46.9	+0.7
	comp=Z,0.3nm,0.3s,baz=273,slow=9.6,SNR=2.7						
PDAR	Pinedale Array	45.06	74	P	P	02 49 08.8	+0.3
	comp=Z,0.5nm,0.4s,baz=335,slow=4.0,SNR=8.8						
PDAR	Pinedale Array	45.06	74	P	P	02 49 08.2	-0.3
ZALV	Zalesovo Beam	54.80	314	LR	LR	03 16 45.3	
	comp=Z,17nm,21.0s,baz=86,slow=40						
TXAR	Lajitas Array	57.40	83	P	P	02 50 40.8	0.0
	comp=Z,0.2nm,0.5s,baz=310,slow=4.6,SNR=3.7						
WRA	Warramunga Arr	83.02	226	P	P	02 53 16.3	-1.1
	comp=Z,0.3nm,0.7s,baz=32,slow=5.8,SNR=2.1						
TORD	Torodi Ar. Bea	115.55	2	PKP	PKiKP	02 59 32.8	-1.3
	comp=Z,0.4nm,1.1s,baz=0.3,slow=2.2,SNR=4.5						

ISU 23 02:52:49.0, 39.40N×73.40E, h0km
SOME 23 02:52:50.3, 39.48N×73.43E, h5km
KRNET 23 02:52:51.2±0.1, 39.47N×73.42E, mb3.6
NNC 23 02:52:53.1±1.1, 39.56N×73.38E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=9.4km s-min=5.4km az=160.0

ISC 23 02:52:52.4±1.2, 39.36N±0.06×73.30E±0.03, h10km, n51, σ2820/81, 22C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	1.23	341	*e*P	Pb	02 53 12.6	-3.1
OHH				*e*S	Sn	02 53 39.0	+6.6
ANR	Andizhan	1.57	333	*e*P	Pn	02 53 19.4	-0.9
ANR				*e*S	Sg	02 53 42.0	-0.9
BTK	Batken	2.04	291	⇑*i*P	Pb	02 53 29.2	-0.4
	baz=87						
BTK				⇑*i*S	Sg	02 53 56.9	-1.0
	baz=87						
BTK	Batken	2.04	291	*e*P	Pn	02 53 28.1	+1.2
BTK				*e*S	Sg	02 53 58.4	+0.5
GAR	Garm	2.35	262	⇑*i*P	Pb	02 53 34.4	-0.5
	baz=60						
GAR				⇑*i*S	Sg	02 54 06.0	-1.8
	baz=60						
ARLS	Aral	2.62	17	⇑*i*P	Pn	02 53 34.6	-0.3
	baz=16						
ARLS				⇑*i*S	Sn	02 54 07.0	+0.2
	baz=16						
AML	Almayashu	2.78	6	⇑*i*P	Pn	02 53 37.4	0.0
	baz=4.0						
AML				⇑*i*S	Sn	02 54 11.2	0.0
	baz=4.0						
AML	Almayashu	2.78	6	P	Pn	02 53 37.9	+0.5
	SNR=36						
UCH	Uchtor	3.01	17	⇑*i*P	Pn	02 53 40.3	-0.2
	baz=16						
UCH				⇑*i*S	Sn	02 54 16.3	-0.5
	baz=16						
UCH	Uchtor	3.01	17	P	Pn	02 53 41.2	+0.7
	SNR=67						
MNAS	Manas	3.18	349	⇓*i*P	Pn	02 53 43.5	+0.9
	baz=47						
MNAS				⇓*i*S	Sn	02 54 21.4	+0.7
	baz=47						
EKS2	Erkin-Say	3.32	6	⇓*e*P	Pn	02 53 44.5	0.0
	baz=5.0						
EKS2				⇓*i*S	Sn	02 54 23.6	-0.4
	baz=5.0						
EKS2	Erkin-Say	3.32	6	P	Pn	02 53 45.6	+1.2
	SNR=15						
MRKS	Merke	3.38	359	*e*P	Pb	02 53 51.1	-1.3
	28nm,0.3s						
MRKS				*e*S	Sb	02 54 34.6	+0.9
	31nm,0.5s						
MRKS	Merke	3.38	359	Pg	Pb	02 53 51.1	-1.3
	28nm,0.3s						
MRKS				Lg	Lg	02 54 34.6	
	31nm,0.5s						
KBK	Karagaybulak	3.52	20	⇑*e*P	Pn	02 53 47.2	-0.1
	baz=19						
KBK				⇑*i*S	Sn	02 54 28.0	-1.1
	baz=19						
KBK	Karagaybulak	3.52	20	P	Pn	02 53 49.7	+2.4
	SNR=11						
ULHL	Ulahol	3.65	37	⇑*e*P	Pn	02 53 48.7	-0.3
	baz=37						
ULHL				⇑*i*S	Sn	02 54 30.9	-1.3
	baz=37						
ULHL	Ulahol	3.65	37	P	Pb	02 53 54.9	-2.1
	SNR=21						
BOOM	Boomskoye usch	3.71	32	⇑*i*P	Pn	02 53 50.0	+0.1
	baz=31						
BOOM				⇑*i*S	Sn	02 54 32.5	-1.3
	baz=31						
IUG	Iuzhnay	3.73	319	*e*P	Pb	02 53 59.2	+0.8
	68nm,0.9s						
IUG				*e*S	Sg	02 54 48.1	-4.1
	84nm,0.9s						
CHMS	Chumysh	3.80	16	P	Pn	02 53 51.8	+0.8
	SNR=5.2						
TKM2	Tokmak 2	3.96	25	⇓Pg	Pb	02 54 01.9	-0.4
	7.1nm,0.6s						
TKM2				⇑Lg	Lg	02 54 53.1	
	10nm,0.5s						
KDJ	Kajisay	4.04	46	⇓*i*P	Pn	02 53 54.5	+0.1
	baz=46						
KDJ				⇓*i*S	Sn	02 54 41.0	-0.9
	baz=46						
KST	Kastek	4.19	28	*e*P	Pb	02 54 06.3	+0.1
	17nm,0.4s						
KST				*e*S	Sb	02 55 00.4	+3.4
	23nm,0.7s						
KST	Kastek	4.19	28	Pg	Pb	02 54 06.3	+0.1
	17nm,0.4s						
KST				Lg	Lg	02 55 01.1	
	23nm,0.7s						
SGDS	Sogindy	4.21	13	Pg	Pb	02 54 05.3	-1.2
	9.3nm,0.5s						
SGDS				Lg	Lg	02 54 59.4	
	25nm,0.6s						
KK31	Karatay Array	4.29	332	Pn	Pn	02 53 58.7	+1.0
	0.6nm,0.3s,baz=133,slow=12,SNR=18						
KK31				⇓Pg	Pb	02 54 09.5	+1.6
	4.5nm,0.5s,baz=142,slow=13,SNR=23						
KK31				⇓Lg	Lg	02 55 04.2	
	9.2nm,0.3s,baz=148,slow=28,SNR=4.6						
DGS	Degeres	4.30	25	*e*P	Pb	02 54 08.0	-0.1
	9.1nm,0.4s						
DGS				*e*S	Sb	02 55 03.3	+3.2
	30nm,0.8s						
DGS	Degeres	4.30	25	Pg	Pb	02 54 08.0	-0.1
	9.1nm,0.4s						
DGS				Lg	Lg	02 55 03.3	
	30nm,0.8s						
IZV	Izvestkoviy	4.44	33	*e*P	Pb	02 54 09.8	-0.7
	9.3nm,0.5s						
IZV				*e*S	Sb	02 55 06.6	+2.4
	24nm,0.7s						
IZV	Izvestkoviy	4.44	33	Pg	Pb	02 54 09.8	-0.7
	9.3nm,0.5s						
IZV				Lg	Lg	02 55 07.7	
	24nm,0.7s						
TNSS	Tian-Shan	4.59	36	*e*P	Pb	02 54 13.0	-0.2
	7.3nm,0.4s						
TNSS				*e*S	Sb	02 55 11.6	+3.0
	11nm,0.7s						
TNSS	Tian-Shan	4.59	36	Pg	Pb	02 54 13.0	-0.2
	7.3nm,0.4s						
TNSS				Lg	Lg	02 55 12.4	
	11nm,0.7s						
KRBS	Karabastau	4.68	22	*e*P	Pb	02 54 14.2	-0.4
	10.0nm,0.9s						
KRBS				*e*S	Sb	02 55 14.2	+3.1
	14nm,0.7s						
KRBS	Karabastau	4.68	22	Pg	Pb	02 54 14.2	-0.4
	10.0nm,0.9s						
KRBS				Lg	Lg	02 55 14.7	
	14nm,0.7s						
ANVS	Anan'yevo	4.75	43	⇑*e*P	Pn	02 54 04.6	+0.4
	baz=43						
ANVS				⇑*i*S	Sn	02 54 57.6	-1.8
	baz=43						
KOTS	Kotyrbulak	4.82	35	*e*P	Pb	02 54 17.1	+0.2
	22nm,0.5s						
KOTS				*e*S	Sb	02 55 18.7	+3.6
	102nm,1.0s						
KOTS	Kotyrbulak	4.82	35	Pg	Pb	02 54 17.1	+0.2
	22nm,0.5s						
KOTS				Lg	Lg	02 55 19.6	
	102nm,1.0s						
PRZ	Przheval'sk	4.96	49	⇑*i*P	Pn	02 54 07.6	+0.5
	baz=50						
PRZ				⇑*i*S	Sn	02 55 02.8	-1.9
	baz=50						
KTBS	Karatobe	5.03	29	*e*P	Pb	02 54 20.9	+0.4
	5.2nm,0.6s						
KTBS				*e*S	Sb	02 55 25.3	+4.2
	24nm,0.5s						
KTBS	Karatobe	5.03	29	Pg	Pb	02 54 20.9	+0.4
	5.2nm,0.6s						
KTBS				Lg	Lg	02 55 26.4	
	24nm,0.5s						
KUU	Kurty	5.07	26	*e*P	Pb	02 54 22.5	+1.4
	4.1nm,0.5s						
KUU				*e*S	Sb	02 55 28.0	+5.9
	17nm,0.5s						
SATY	Saty	5.33	45	*e*P	Pb	02 54 26.8	+1.1
	11nm,0.8s						
SATY				*e*S	Sb	02 55 35.6	+5.8
	13nm,1.1s						
SATY	Saty	5.33	45	Pg	Pb	02 54 26.8	+1.1
	11nm,0.8s						
SATY				Lg	Lg	02 55 35.6	
	13nm,1.1s						
ARXS	Arharly	5.91	33	*e*P	Pb	02 54 36.3	+0.8
	9.8nm,0.4s						
ARXS				*e*S	Sb	02 55 52.3	+5.9
	17nm,0.7s						
ARXS	Arharly	5.91	33	Pg	Pb	02 54 36.3	+0.8
	9.8nm,0.4s						
ARXS				Lg	Lg	02 55 53.3	
	17nm,0.7s						
MNBS	Baschi	6.06	37	*e*P	Pb	02 54 41.9	+3.7
	3.1nm,0.8s						
MNBS				*e*S	Sg	02 56 01.5	-5.5
	12nm,0.9s						
MNBS	Baschi	6.06	37	Pg	Pb	02 54 41.9	+3.7
	3.1nm,0.8s						
MNBS				Lg	Lg	02 56 01.5	
	12nm,0.9s						
AB31	Akbulak array	13.74	320	⇑P	Pn	02 56 03.7	-3.4
	0.5nm,0.6s,baz=125,slow=15,SNR=4.0						
AKTO	Aktyubinsk	15.46	321	⇓P	Pn	02 56 28.2	-2.2
	0.5nm,0.6s						

IDC 23 02:53:21.1±3.7, 31.12N×141.67E, h40km±36km, mb3.4/3, mb1 3.6/5, mb1mx3.2/40, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=59.4km s-min=25.6km az=94.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.03	173	Pn	Pn	02 54 20.0	-0.3
	6.6nm,0.3s,baz=356,slow=20,SNR=10.0						
JCJ				Sn	Sn	02 55 02.5	-3.8
	1.8nm,0.3s,baz=280,slow=20,SNR=1.7						
MJAR	Matsushiro Arr	6.13	333	Pn	Pn	02 54 48.8	-0.3
	0.1nm,0.3s,baz=157,slow=10,SNR=4.8						
WRA	Warramunga Arr	51.25	189	P	P	03 02 20.9	-0.1
	0.5nm,0.3s,baz=6.0,slow=7.6,SNR=18						
ASAR	Alice Springs	54.98	189	P	P	03 02 48.3	-0.1
	0.3nm,0.4s,baz=360,slow=4.7,SNR=6.1						
NVAR	Mina Array Bea	78.41	52	P	P	03 05 17.9	-0.1
	0.3nm,0.7s,baz=294,slow=6.5,SNR=2.1						

SSNC 23 02:59:38.8±1.4, 19.42N×77.97W, h20km±13km, MD3.3, ML3.2, MW3.2

JSN 23 02:59:39.9±0.9, 19.46N×77.82W, h6km±15km, MD3.8

ISC 23 02:59:35.8±1.4, 19.58N±0.03×77.84W±0.05, h13km±12km, n12, σ1891/21, 2C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.92	58	⇑*i*P	Pn	02 59 56.5	+2.0
LMGC				*i* S	Sn	03 00 09.0	+1.5
LMGC				IAML		03 00 12.1	
	comp=E,450nm,0.1s						
LMGC				IAML		03 00 13.1	
	comp=N,497nm,0.1s						
BBJ	Bamboo Saint A	1.31	155	*i* P	Pn	03 00 01.0	+1.1
BNJ	Bonny Gate	1.51	146	⇓*i*P	Pg	03 00 04.5	-0.3
CCCC	Cccc	1.61	2	*i* P	Pg	03 00 07.8	+0.9
CCCC				*e*S	Sg	03 00 28.5	+0.7
CCCC				IAML		03 00 33.6	
	comp=E,121nm,0.5s						
CCCC				IAML		03 00 36.9	
	comp=N,165nm,0.4s						
MCJ	Malvern	1.65	175	⇓*i*P	Pb	03 00 06.0	-0.1
MCJ				*i* S	Sn	03 00 26.0	+0.2
STH	Stony Hill	1.79	147	*i* P	Pb	03 00 07.6	-0.8
PCJ	Portland Cotta	1.94	160	⇑*i*P	Pb	03 00 10.8	-0.2
CMJ	Castle Mountai	2.00	136	⇓*i*P	Pb	03 00 11.6	-0.5
RCC	Rio Carpintero	2.06	78	*i* P	Pb	03 00 12.2	-0.7
RCC				*e*S	Sn	03 00 36.9	+1.2
RCC				IAML		03 00 38.5	
	comp=N,43nm,0.4s						
RCC				IAML		03 00 40.5	
	comp=E,31nm,0.2s						
GTMO	Guantanamo	2.59	78	*e*P	Pb	03 00 21.4	-0.8
GTMO				*e*S	Sb	03 00 53.2	-0.7
GTMO				IAML		03 00 55.2	
	comp=E,1μm,0.1s						
GTMO				IAML		03 00 55.3	
	comp=N,2μm,0.2s						
MGV	Manicaragua	3.22	322	*e*P	Pn	03 00 26.5	+0.4
MGV				*i* S	Sn	03 01 03.0	-1.3
MGV				IAML		03 01 21.5	
	comp=N,30nm,0.3s						
MGV				IAML		03 01 26.1	
	comp=E,22nm,0.5s						
MASC	Masc	3.45	79	*e*P	Pn	03 00 31.8	+2.6
MASC				*e*Pg	Pb	03 00 33.7	-3.0
MASC				*e*S	Sn	03 01 11.8	+1.8
MASC				*e*Sg	Sb	03 01 13.3	-5.3

SNET 23 03:07:04.4±1.5, 13.47N×90.90W, h14km±9km, ML3.2

GCG 23 03:07:04.5±0.3, 13.66N×91.08W, h24km±3km, MD3.6

ISC 23 03:07:01.6±3.5, 13.5N±0.1×91.08W±0.08, h13km±21km, n10, σ0964/17, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.96	14	*e*P	Pb	03 07 20.3	0.0
PCG	Pacaya	0.99	28	*e*P	Pb	03 07 21.1	+0.3
ERG	Entre ros, C	1.04	333	*e*P	Pb	03 07 21.1	-0.4
NBG	Las Nubes	1.29	33	*e*P	Pn	03 07 26.0	+0.5
NBG				*e*S	Sg	03 07 43.0	-0.3
CEDA	San Andres	1.67	80	*e*P	Pn	03 07 30.7	+0.2
CEDA				*e*S	Sn	03 07 51.0	-0.7
BOQS	Boqueron	1.77	82	*e*P	Pn	03 07 32.4

BBAC	**Balboa, Cauca**	**1.42**	**31**	*e*P		Pg	03 10 41.4	-1.5
BBAC				*e*S		Sg	03 11 01.1	-0.1
BBAC				*i*			03 11 08.4	
	comp=Z,48nm,0.5s							
PUAC	**Puerto Asis, P**	**1.43**	**100**	*e*P		Pn	03 10 42.0	-0.9
PUAC				*e*S		Sg	03 11 00.7	-0.9
PUAC				*i*			03 11 04.2	
	comp=Z,20nm,0.2s							
SOTA	**Rioblanco**	**1.91**	**46**	*e*P		Pg	03 10 52.4	+0.2
POPC	**Popayan, Colom**	**2.17**	**37**	*e*P		Pn	03 10 53.9	+0.7
PCON	**Cinco Dias**	**2.19**	**46**	*e*P		Pb	03 10 55.5	-1.1
FLOC	**Florencia**	**2.45**	**72**	*e*P		Pb	03 11 00.6	-0.1
FLOC				*e*S		Sb	03 11 31.6	+0.1
FLOC				*i*			03 11 42.1	
	comp=Z,15nm,0.5s							
GARC	**Garzon, Huila**	**2.84**	**61**	*e*P		Pb	03 11 07.2	-0.2
GARC				*e*S		Sb	03 11 43.6	+0.7
GARC				*i*			03 11 49.6	
	comp=Z,15nm,0.4s							
PTLC	**Puerto Leguiza**	**3.24**	**101**	*e*P		Pn	03 11 11.0	+3.1
PTLC				*e*S		Sb	03 11 53.1	-1.1
PTLC				*i*			03 12 04.6	
	comp=Z,12nm,0.4s							
YOTC	**Yotoco, Valle**	**3.56**	**27**	*e*P		Pn	03 11 14.2	+2.0
ORTC	**Ortega, Tolima**	**4.12**	**41**	*e*P		Pb	03 11 26.4	-2.8
PRAC	**Prado**	**4.24**	**47**	*e*P		Pb	03 11 27.5	-3.6
RREF	**El Recreo**	**4.85**	**33**	*e*P		Pn	03 11 33.9	+3.4
GUY2C	**Guyana, Caldas**	**5.11**	**31**	*e*P		Pn	03 11 37.5	+3.5
CBOC	**Ciudad Bolivar**	**5.40**	**21**	*e*P		Pn	03 11 40.0	+2.4

*JMA **23** 03:22:33.6,40°.28N×141°.58E,h79km±1km,M3.8*
JMA Felt II J1.
*NEIC **23** 03:22:33.7±1.8,40°.36N±0°.05×141°.39E±0°.09,h81km±6km, mb4.4/3,Error ellipse: s-maj=10.9km s-min=6.9km az=111.0*
*IDC **23** 03:22:33.2±0.8,40°.20N×141°.35E,h80km±7km,mb3.6/10, mb1 3.9/11,mb1mx3.6/33,mbtmp3.9/11,MS2.7/5, Ms1 2.7/5,ms1mx2.5/49,Error ellipse: s-maj=23.3km s-min=14.7km az=109.0*
*NIED **23** 03:22:33.7,40°.28N×141°.58E,h79km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.74; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$0.01; $M_{r\theta}$0.48; $M_{\theta\phi}$0.07; $M_{\phi r}$-0.69; Fault plane solution: $M_0$1.11000×10^{15} NP1: ϕ_s127.00000°,δ70.00000°,λ112.00000°. NP2: ϕ_s257.00000°,δ30.00000°,λ44.00000°.*

ISC 23 03:22:33.3±0.6,40°.29N±0°.03×141°.60E±0°.05,h79km±4km, n65,σ0°98°79,mb4.0/12,8C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.10**	**322**	⇑P	**Pn**	**03 22 44.9**	**+0.2**
JANG				S	**Sn**	**03 22 53.2**	**+0.1**
JKEN	**Kujiedanarisaw**	**0.12**	**135**	⇑P	**Pn**	**03 22 45.2**	**+0.5**
JKEN				S	**Sn**	**03 22 53.8**	**+0.7**
JKZ	**Kuzumaki**	**0.37**	**214**	⇑P	**Pn**	**03 22 46.4**	**+0.4**
JKZ				S	**Sn**	**03 22 55.7**	**+0.3**
JTH	**Tanohata**	**0.41**	**150**	⇑P	**Pn**	**03 22 46.6**	**+0.3**
JTH				S	**Sn**	**03 22 56.1**	**+0.3**
JTM	**Tenmabayashi**	**0.64**	**321**	⇑P	**Pn**	**03 22 48.5**	**+0.3**
JTM				S	**Sn**	**03 22 59.7**	**+0.4**
JTM	**Tenmabayashi**	**0.64**	**321**	Pn	**Pn**	**03 22 48.5**	**+0.3**
JTM				Sn	**Sn**	**03 22 59.9**	**+0.5**
JAH	**Hinai**	**0.74**	**262**	⇑P	**Pn**	**03 22 49.3**	**0.0**
JAH				*e*S	**Sn**	**03 23 00.9**	**-0.4**
JOM	**Ohasama**	**0.85**	**196**	⇓P	**Pn**	**03 22 50.7**	**+0.1**
JOM				S	**Sn**	**03 23 03.5**	**+0.1**
JRG	**Rokugo**	**1.16**	**220**	⇑P	**Pn**	**03 22 54.7**	**+0.4**
JRG				S	**Sn**	**03 23 10.8**	**+0.8**
JOT	**Ohata**	**1.17**	**339**	⇓P	**Pn**	**03 22 54.8**	**+0.5**
JOT				S	**Sn**	**03 23 10.7**	**+0.7**
JIW	**Iwasaki**	**1.25**	**284**	⇑P	**Pn**	**03 22 55.8**	**+0.4**
JIW				*e*S	**Sn**	**03 23 12.8**	**+0.8**
JMK	**Ichinoseki**	**1.37**	**192**	⇓P	**Pn**	**03 22 57.1**	**+0.2**
JMK				*e*S	**Sn**	**03 23 15.3**	**+0.6**
JSR	**Shiriuchi**	**1.52**	**324**	⇓P	**Pn**	**03 22 59.6**	**+0.7**
JSR				S	**Sn**	**03 23 19.5**	**+1.3**
JKB	**Kayabe**	**1.65**	**345**	⇓P	**Pn**	**03 23 01.4**	**+0.9**
JKB				S	**Sn**	**03 23 22.2**	**+1.1**
JYK	**Kaneyama**	**1.67**	**215**	P	**Pn**	**03 23 01.2**	**+0.3**
JYK				*e*S	**Sn**	**03 23 22.1**	**+0.4**
ERM	**Erimo**	**2.08**	**34**	Pn	**Pn**	**03 23 07.5**	**+1.3**
ERM				Sn	**Sn**	**03 23 32.8**	**+1.3**
JMM	**Marumori**	**2.50**	**195**	Pn	**Pn**	**03 23 12.2**	**+0.3**
JEW	**Eniwo**	**2.55**	**358**	Pn	**Pn**	**03 23 12.6**	**+0.2**
JEW				Sn	**Sn**	**03 23 42.0**	**-0.6**
JSD	**Sado**	**3.44**	**230**	Pn	**Pn**	**03 23 25.3**	**+0.8**
ASAJ	**Asahikawa**	**3.89**	**11**	P	**Pn**	**03 23 32.2**	**+1.5**
	5.3nm,0.3s,baz=234,slow=9.9,SNR=22						
ASAJ				S	**Sn**	**03 24 14.2**	**-1.0**
	4.4nm,0.3s,baz=79,slow=7.3,SNR=3.7						
JKA	**Kamikawa-asahi**	**3.89**	**11**	Pn	**Pn**	**03 23 31.2**	**+0.5**
JKA					**Sn**	**03 24 14.8**	**-0.4**
JYT	**Yasato**	**4.21**	**196**		**Pn**	**03 23 36.8**	**+1.8**
MAJO	**Matsushiro**	**4.59**	**216**		**Pn**	**03 23 41.8**	**+1.4**
MAJO				Sn	**Sn**	**03 24 32.1**	**-0.3**
MAT	**Matsushiro**	**4.59**	**216**	P	**Pn**	**03 23 42.3**	**+2.0**
MAT				S	**Sn**	**03 24 35.1**	**+2.7**
MJAR	**Matsushiro Arr**	**4.59**	**216**	P	**Pn**	**03 23 41.7**	**+1.4**
	0.7nm,0.3s,baz=23,slow=14,SNR=69						
JGF	**Kuroka**	**5.76**	**217**	Pn	**Pn**	**03 23 57.3**	**+1.0**
INU	**Inuyama**	**6.12**	**218**		**Pn**	**03 24 02.0**	**+0.9**
JWT	**Wachi**	**7.00**	**226**		**Pn**	**03 24 14.4**	**+1.2**
USRK	**Ussuriysk Ar.**	**8.12**	**302**	P	**Pn**	**03 24 30.5**	**+2.1**
	baz=108,slow=15,SNR=6.6						
USRK	**Ussuriysk Ar.**	**8.12**	**302**		**Pn**	**03 24 26.5**	**-1.9**
KSRS	**Korea Array**	**11.03**	**259**	LR	LR	03 28 27.2	
	comp=Z,28nm,21.7s,baz=75,slow=33						
JCJ	**Chichijima**	**13.17**	**178**	LR	LR	03 30 57.6	
	comp=Z,12nm,20.9s,baz=2.0,slow=38						
PETK	**Petropavlovsk-**	**16.87**	**35**	LR	LR	03 33 21.2	
	comp=Z,19nm,20.7s,baz=303,slow=38						
SONM	**Songino Array**	**26.22**	**298**	LR	LR	03 37 47.8	
	comp=Z,25nm,20.0s,baz=35,slow=35						
H11N2	**WAKE ISLAND Hy**	**29.82**	**126**	T	T	03 59 26.0	
	baz=318,slow=75,SNR=118						
H11N1	**WAKE ISLAND Hy**	**29.83**	**126**	T	T	03 59 27.7	
	baz=318,slow=75,SNR=98						
H11N3	**WAKE ISLAND Hy**	**29.84**	**126**	T	T	03 59 31.2	
	baz=318,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy**	**30.63**	**128**	T	T	04 00 28.2	
	baz=319,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**30.63**	**128**	T	T	04 00 28.3	
	baz=319,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**30.64**	**128**	T	T	04 00 21.0	
	baz=319,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**39.89**	**310**	P	**P**	**03 29 58.8**	**-0.3**
	0.7nm,0.3s,baz=98,slow=9.6,SNR=4.0						
ZALV				PcP	**PcP**	**03 32 02.3**	**-0.8**
	0.9nm,0.5s,baz=64,slow=3.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**39.89**	**310**	P	**P**	**03 29 58.5**	**-0.6**
ZALV					**PcP**	**03 32 02.8**	**-0.4**
MKAR	**Makanchi Array**	**42.58**	**299**	P	**P**	**03 30 20.2**	**-1.0**
	0.5nm,0.4s,baz=78,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**42.58**	**299**	P	**P**	**03 30 20.0**	**-1.3**
ILAR	**Eielson Array**	**46.69**	**34**	P	**P**	**03 30 54.9**	**+1.2**
	0.8nm,0.6s,baz=268,slow=6.0,SNR=15						
ILAR	**Eielson Array**	**46.69**	**34**	P	**P**	**03 30 54.0**	**+0.4**
INK	**Inuvik**	**51.44**	**28**	P	**P**	**03 31 30.0**	**+0.3**
	6.8nm,1.1s,baz=322,slow=7.0,SNR=7.6						
INK	**Inuvik**	**51.44**	**28**	P	**P**	**03 31 30.4**	**+0.7**
INK				IAmb	IAmb	03 31 32.2	
	comp=Z,5.1nm,0.9s						
DLBC	**Dease Lake**	**55.99**	**39**	LR	LR	03 59 04.2	
	comp=Z,38nm,18.2s,baz=158,slow=39						
WB0	**Warramunga Arr**	**60.12**	**188**	P	**P**	**03 32 31.3**	**-1.2**
WB0				IAmb	IAmb	03 32 37.0	
	comp=Z,2.0nm,0.9s						
WB2	**Warramunga Arr**	**60.30**	**188**	P	**P**	**03 32 32.6**	**-1.0**
WB2				IAmb	IAmb	03 32 40.2	
	comp=Z,3.4nm,1.1s						
WRA	**Warramunga Arr**	**60.30**	**188**	P	**P**	**03 32 32.3**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=5.1,slow=6.9,SNR=12						
WRA				pP	**pP**	**03 32 52.2**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=5.1,slow=6.9,SNR=4.4						
ASAR	**Alice Springs**	**64.03**	**188**	P	**P**	**03 32 57.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=10.0,slow=15,SNR=9.5						
ASAR				pP	**pP**	**03 33 18.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=1.8,slow=4.7,SNR=5.0						
ASAR	**Alice Springs**	**64.03**	**188**	P	**P**	**03 32 58.8**	**+0.2**

FINES	**FINESS Array B**	**66.01**	**332**	P	**P**		**03 33 10.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=60,slow=4.6,SNR=3.4							
NVAR	**Mina Array Bea**	**72.94**	**54**	P	**P**		**03 33 56.5**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=293,slow=5.1,SNR=6.0							
NVAR	**Mina Array Bea**	**72.94**	**54**	P	**P**		**03 33 54.4**	**+0.1**
PDAR	**Pinedale Array**	**75.29**	**46**	P	**P**		**03 34 08.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=277,slow=1.2,SNR=15							
PDAR	**Pinedale Array**	**75.29**	**46**	P	**P**		**03 34 07.7**	**-0.3**
CLL	**Colim**	**78.35**	**330**	*e*P	**P**		**03 34 25.0**	**+0.3**
TXAR	**Lajitas Array**	**88.02**	**53**	P	**P**		**03 35 15.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=302,slow=3.5,SNR=7.1							
TXAR				pP	**pP**		**03 35 37.7**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=316,slow=6.4,SNR=2.0							
TXAR	**Lajitas Array**	**88.02**	**53**	P	**P**		**03 35 15.2**	**+0.2**
H06N1	**SOCORRO T-PHAS**	**90.56**	**65**	T	T		05 16 41.2	
	SNR=2.7							
LPAZ	**La Paz**	**144.83**	**56**	PKPbc	**PKPdf**		**03 42 01.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=336,slow=2.6,SNR=9.8							
LPAZ	**La Paz**	**144.83**	**56**		**PKPab**		**03 42 00.4**	**-0.9**

*DDA **23** 03:32:33.2,38°.42N×44°.46E,h7km±1km,ML2.7*
*TEH **23** 03:32:33.9,38°.98N×44°.41E,h10km,ML2.9*
*ISK **23** 03:32:35.6,38°.47N×44°.24E,h5km,ML2.5/7*

ISC 23 03:32:34.2±1.1,38°.43N±0°.03×44°.41E±0°.02,h10km±10km, n24,σ1°28°40,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASK	**Baskale_VAN**	**0.49**	**220**	*i* P	**Pg**	**03 32 43.5**	**-0.4**
BASK				*i* S	**Sg**	**03 32 51.6**	**+1.2**
BASK				IAML		03 32 52.0	
	comp=N,664nm,0.5s						
BASK				IAML		03 32 53.0	
	comp=E,778nm,0.5s						
TVAN	**Van**	**0.79**	**277**	*i* P	**Pg**	**03 32 49.5**	**0.0**
TVAN				*i* S	**Sb**	**03 33 01.2**	**0.0**
CLDR	**Caldiran**	**0.81**	**332**	PG	**Pb**	**03 32 50.0**	**-0.5**
CLDR				SG	**Sn**	**03 33 02.1**	**-2.0**
CLDR	**Caldiran**	**0.81**	**332**	*i* P	**Pg**	**03 32 49.3**	**-0.5**
CLDR				*i* S	**Sb**	**03 33 01.5**	**-0.1**
CLDR				IAML		03 33 03.0	
	comp=E,405nm,0.4s						
CLDR				IAML		03 33 04.0	
	comp=N,349nm,0.3s						
VANB	**Van**	**0.82**	**282**	PG	**Pg**	**03 32 49.6**	**-0.3**
VANB				SG	**Sg**	**03 32 59.5**	**-1.1**
YOVA	**Hakkari_Yksek**	**0.85**	**186**	*i* P	**Pg**	**03 32 49.5**	**-1.1**
YOVA				*i* S	**Sg**	**03 33 00.7**	**-0.9**
VMUR	**Van-Muradiye**	**0.86**	**311**	*i* P	**Pn**	**03 32 52.5**	**-0.1**
VMUR				*i* S	**Sn**	**03 33 05.6**	**+0.3**
IMRD	**Marand**	**1.05**	**74**	*e*Pg	**Pg**	**03 32 53.4**	**-1.1**
IMRD				*e*Sg	**Sb**	**03 33 08.5**	**-0.1**
IMRD				*e*		03 33 10.9	
GEVA	**Gevas**	**1.07**	**264**	*i* P	**Pg**	**03 32 53.5**	**-1.2**
GEVA				*i* S	**Sn**	**03 33 10.7**	**+0.3**
AKDM	**Akdamar-Van**	**1.13**	**265**	PG	**Pg**	**03 32 55.6**	**-0.3**
ITBZ	**Tabriz**	**1.38**	**98**	*e*Pg	**Pn**	**03 32 58.0**	**-1.7**
ITBZ				*e*		03 33 00.4	
TASB	**TASBURUN-IGDIR**	**1.56**	**355**	PN	**Pg**	**03 33 04.6**	**+0.6**
AGRB	**Hanur-Agry**	**1.59**	**316**	PN	**Pg**	**03 33 04.6**	**-0.1**
BLIS	**Bitlis-Merkez**	**1.80**	**270**	*i* P	**Pg**	**03 33 08.1**	**-0.6**
BLIS				*i* S	**Sg**	**03 33 34.6**	**+2.5**
SIRT	**Sirnak**	**1.81**	**240**	PN	**Pb**	**03 33 07.9**	**+0.4**
SIRT				SN	**Sg**	**03 33 32.2**	**-0.3**
SIRN	**Sirnak**	**1.83**	**240**	*i* P	**Pg**	**03 33 08.9**	**-0.5**
SIRN				*i* S	**Sg**	**03 33 32.9**	**-0.2**
SIRN				IAML		03 33 47.0	
	comp=N,67nm,1.0s						
SIRN				IAML		03 33 54.0	
	comp=E,62nm,0.7s						
GURO	**Guroymak-BITLI**	**1.87**	**274**	PN	**Pb**	**03 33 07.9**	**-0.6**
SRTM	**Siirt_Merkez**	**2.01**	**258**	*i* P	**Pb**	**03 33 11.4**	**+0.6**
SRTM				*i* S	**Sb**	**03 33 37.1**	**+1.1**
SRTM				IAML		03 33 46.0	
	comp=E,52nm,0.6s						
SRTM				IAML		03 33 49.0	
	comp=N,60nm,0.7s						
EATA	**Eleskirt**	**2.06**	**314**	*i* P	**Pg**	**03 33 13.8**	**0.0**
EATA				*i* S	**Sg**	**03 33 39.9**	**-0.7**
IHSH	**Hashtrud**	**2.25**	**92**	*e*Pn	**Pg**	**03 33 20.8**	**+3.5**
MUSM	**Mu-Merkez**	**2.29**	**278**	*i* P	**Pg**	**03 33 16.6**	**-1.4**
MUSM				*i* S	**Sg**	**03 33 50.8**	**+3.0**
SVAN	**Silvan-Diyarba**	**2.54**	**265**	PN	**Pn**	**03 33 17.4**	**+1.8**
SVAN	**Silvan-Diyarba**	**2.54**	**265**	*i* P	**Pb**	**03 33 18.3**	**-1.6**
SVAN				*i* S	**Sg**	**03 33 58.0**	**+2.1**
ISRB	**Sarab**	**2.64**	**102**	*e*Pn	**Pb**	**03 33 21.4**	**-0.3**
ISRB				*e*		03 33 28.5	

*IDC **23** 03:34:29.6±1.4,34°.18N×25°.09E,h0km,mb3.9/3, mb1 3.8/5,mb1mx3.5/41,mbtmp3.7/5,ML3.6/2,Error ellipse: s-maj=81.0km s-min=23.1km az=137.0*
*ATH **23** 03:34:31.8,34°.24N×25°.05E,h21km±3km,ML2.6/5,Error ellipse: s-maj=5.4km s-min=1.9km az=7.0*
*THE **23** 03:34:32.7,34°.41N×25°.33E,h0km±1km,ML2.6/3,Error ellipse: s-maj=5.5km s-min=1.3km az=95.0*

ISC 23 03:34:31.6±2.0,34°.23N±0°.08×25°.06E±0°.05,h12km±11km, n16,σ0°65°23,mb3.8/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.81**	**345**	P	**Pb**	**03 34 47.5**	**-0.3**
SIVA				S	**Sb**	**03 34 58.9**	**+0.1**
	2μm,0.5s						
SIVA	**Sivas**	**0.81**	**345**	P	**Pb**	**03 34 47.5**	**-0.3**
SIVA				S	**Sb**	**03 34 59.2**	**+0.4**
SIVA				AML	AML	03 35 08.5	
	comp=E,3210μm,0.6s						
SIVA				AML	AML	03 35 12.2	
	comp=N,3205μm,0.5s						
LAST	**Lasithi**	**0.99**	**20**	P	**Pb**	**03 34 50.8**	**-0.1**
LAST				AML	AML	03 35 20.5	
	comp=E,341μm,0.6s						
LAST				AML	AML	03 35 22.0	
	comp=N,364μm,0.7s						
GVD	**Gavdhos**	**1.01**	**307**	P	**Pg**	**03 34 50.8**	**-0.3**
GVD				S	**Sn**	**03 35 05.5**	**-0.3**
GVD				AML	AML	03 35 14.9	
	comp=E,903μm,0.4s						
GVD				AML	AML	03 35 16.4	
	comp=N,947μm,0.5s						
IDI	**Anoyia**	**1.07**	**352**	P	**Pg**	**03 34 51.6**	**-0.6**
IDI				S	**Sg**	**03 35 05.4**	**-0.7**
	comp=N,142nm,0.6s						
IDI	**Anoyia**	**1.07**	**352**	P	**Pg**	**03 34 51.4**	**-0.8**
IDI				S	**Sb**	**03 35 06.1**	**0.0**
IDI				AML	AML	03 35 12.4	
	comp=E,276μm,0.6s						
IDI				AML	AML	03 35 18.5	
	comp=N,180μm,0.5s						
NPS	**Neapolis**	**1.13**	**24**	P	**Pg**	**03 34 53.0**	**-0.4**
ZKR	**Zakros**	**1.30**	**47**	P	**Pg**	**03 34 56.7**	**0.0**
VAM	**Vamos**	**1.37**	**329**	P	**Pb**	**03 34 57.2**	**-0.1**
VAM				S	**Sg**	**03 35 17.6**	**+1.7**
	comp=N,248nm,0.5s						
VAM	**Vamos**	**1.37**	**329**	P	**Pn**	**03 34 57.0**	**+0.3**
VAM				S	**Sg**	**03 35 16.7**	**+0.7**
VAM				AML	AML	03 35 27.2	
	comp=N,281μm,0.4s						
VAM				AML	AML	03 35 27.2	
	comp=E,604μm,0.5s						
IMMV	**Iera Moni Meta**	**1.52**	**324**	P	**Pb**	**03 34 59.7**	**0.0**
AKASG	**Malin Array Be**	**16.74**	**9**	Pn	**Pn**	**03 38 25.9**	**0.0**
	comp=E,0.3nm,0.3s,baz=200,slow=11,SNR=2.8						
KBZ	**Khabaz**	**16.77**	**50**	Pn	**P**	**03 38 29.6**	**+1.1**
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=1.9						
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P	**P**	**03 40 38.6**	**-0.3**
	comp=E,0.5nm,0.5s,baz=34,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**44.36**	**56**	P	**P**	**03 42 42.1**	**+0.3**
	comp=E,0.7nm,0.5s,baz=269,slow=9.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**45.71**	**46**	P	**P**	**03 42 51.4**	**-1.0**
	comp=E,1.0nm,0.3s,baz=270,slow=9.3,SNR=4.4						

*IDC **23** 03:39:44.0±5.7,51°.88N×178°.50E,h98km±52km,mb3.7/11, mb1 3.9/12,mb1mx3.6/52,mbtmp4.0/12,MS3.0/2, Ms1 3.0/2,ms1mx2.5/40,Error ellipse: s-maj=30.3km s-min=13.2km az=176.0*
*AEIC **23** 03:39:44±2.2,51°.8N±0°.1×178°.6E±0°.1,h101km±4km, ML4.0,mb3.9/19(NEIC),Error ellipse: s-maj=21.7km s-min=9.9km az=183.0*

*NEIC **23** 03:39:44.2±1.8,51°.7N±0°.1×178°.5E±0°.1,h102km±4km, Error ellipse: s-maj=17.8km s-min=9.1km az=163.0*

ISC 23 03:39:44.2±0.8,51°.7N±0°.1×178°.51E±0°.06,h103km±6km, n81,σ1°10°81,mb4.0/20,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.21**	**11**		**Pn**	**03 39 58.6**	**-0.1**
LSSA	**Little Sitkin**	**0.23**	**1**		**Pn**	**03 39 58.6**	**-0.2**
LSPA	**Little Sitkin**	**0.24**	**10**		**Pn**	**03 39 58.6**	**-0.2**
LSPA					**Sn**	**03 40 10.2**	**+0.4**
LSNW	**Little Sitkin**	**0.25**	**2**		**Pn**	**03 39 58.5**	**-0.4**
AMKA	**Amchitka**	**0.61**	**125**	Pn	**Pn**	**03 40 01.4**	**+0.4**
AMKA	**Amchitka**	**0.61**	**125**		**Sn**	**03 40 13.8**	**+0.2**
CETU	**Semis' Tuman**	**0.66**	**68**		**Pn**	**03 40 02.1**	**+0.6**
CESW	**Semis' Southwe**	**0.68**	**75**		**Pn**	**03 40 01.5**	**-0.1**
CEAP	**Semis' Anvil P**	**0.72**	**67**		**Pn**	**03 40 02.1**	**+0.1**
CEAP					**Sn**	**03 40 14.6**	**-0.8**
CERAA	**Semis' Rag'd T**	**0.76**	**76**		**Pn**	**03 40 02.3**	**0.0**
GALAA	**Gareloi Lava P**	**1.69**	**88**		**Pn**	**03 40 13.4**	**+0.5**
TANO	**Tanaga North**	**2.10**	**83**		**Pn**	**03 40 18.4**	**+0.3**
TASE	**Tanaga Southea**	**2.15**	**86**		**Pn**	**03 40 19.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.19**	**84**		**Pn**	**03 40 19.3**	**+0.1**
TAFP					**Sn**	**03 40 46.1**	**0.0**
KIMD	**Kanaga Island**	**2.65**	**88**		**Pn**	**03 40 25.3**	**+0.1**
KICM	**Kanaga Island**	**2.68**	**84**		**Pn**	**03 40 26.3**	**+0.7**
KIKV	**Kanaga Island**	**2.69**	**85**		**Pn**	**03 40 26.0**	**+0.2**
KINC	**Kanaga Island**	**2.72**	**84**		**Pn**	**03 40 26.7**	**+0.5**
ADK	**Adak**	**2.99**	**85**	Pn	**Pn**	**03 40 29.4**	**-0.4**
ADAG	**Mount Adagdak**	**3.05**	**83**		**Pn**	**03 40 30.4**	**-0.1**
GSTD	**Great Sitkin T**	**3.33**	**82**		**Pn**	**03 40 34.4**	**0.0**
GSMY	**Great Sitkin M**	**3.39**	**82**		**Pn**	**03 40 34.9**	**-0.2**
KOWE	**Korovin West**	**4.52**	**79**		**Pn**	**03 40 51.0**	**+0.7**
ATKA	**Atka Island**	**4.54**	**81**	Pn	**Pn**	**03 40 50.2**	**-0.3**
KOKL	**Mount Kliuchef**	**4.54**	**80**		**Pn**	**03 40 51.1**	**+0.4**
KOFP	**Korovin Flat P**	**4.61**	**80**		**Pn**	**03 40 52.4**	**+0.9**
NIKH	**Nikolski High**	**7.84**	**76**		**Pn**	**03 41 36.9**	**+1.5**
OKSP	**Okmok Steeple**	**8.21**	**74**		**Pn**	**03 41 42.5**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**8.37**	**73**		**Pn**	**03 41 45.1**	**+2.5**
OKFG	**Magazine Ridge**	**8.45**	**73**		**Pn**	**03 41 46.4**	**+2.8**
SPIA	**Saint Paul Isl**	**8.53**	**46**		**Pn**	**03 41 46.7**	**+2.1**
MAPS	**Pakushin South**	**9.07**	**71**		**Pn**	**03 41 54.0**	**+2.0**
MGOD	**Makushin Gods**	**9.11**	**71**		**Pn**	**03 41 54.5**	**+1.9**
MSW	**Makushin Switc**	**9.18**	**70**		**Pn**	**03 41 55.6**	**+2.1**
MREP	**Makushin Rep't**	**9.19**	**71**		**Pn**	**03 41 55.8**	**+2.1**
MNAT	**Makushin Natee**	**9.23**	**71**		**Pn**	**03 41 56.5**	**+2.2**
UNV	**Unalaska Valle**	**9.33**	**71**		**Pn**	**03 41 57.4**	**+1.9**
AKBBA	**Akutan Broad B**	**9.70**	**70**		**Pn**	**03 42 02.6**	**+2.0**
PEA0B	**Petropavlovsk-**	**12.77**	**284**	Pn	**Pn**	**03 42 41.9**	**+0.1**
PETK	**Petropavlovsk-**	**12.77**	**284**	P	**Pn**	**03 42 41.6**	**-0.2**
	1.4nm,0.3s,baz=96,slow=19,SNR=15						
PETK				LR	LR	03 47 57.2	
	comp=Z,7.4nm,18.0s,baz=80,slow=39						
PETK	**Petropavlovsk-**	**12.77**	**284**	Pn	**Pn**	**03 42 41.9**	**+0.1**
SDPT	**Sand Point**	**13.00**	**66**	Pn	**Pn**	**03 42 43.2**	**-1.6**
MDM	**Murphy Dome**	**21.58**	**39**	P	**P**	**03 44 25.6**	**+0.4**
KLU	**Klutina**	**21.61**	**49**	P	**P**	**03 44 24.2**	**-1.3**
KLU				IAmb	IAmb	03 44 28.7	
	comp=Z,8.0nm,1.0s						
M24K	**Tolsona, Glenn**	**21.61**	**48**	P	**P**	**03 44 25.2**	**-0.4**
ILAR	**Eielson Array**	**22.05**	**40**	P	**P**	**03 44 28.2**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=226,slow=8.5,SNR=8.6						
ILAR	**Eielson Array**	**22.05**	**40**	P	**P**	**03 44 28.6**	**-1.5**
RIDG	**Independent Ri**	**22.59**	**44**	P	**P**	**03 44 35.0**	**-0.8**
GLB	**Gilahina Butte**	**22.60**	**

mb4.8/57, Error ellipse: s-maj=9.3km s-min=2.7km az=85.0

ISC 23 04:05:35.3±0.3, **34°90N**±0°03×**73°84E**±0°03, **h35**km, **n350**, σ1s**81**/382, **mb4.8**/97, **MS3.7**/25, **35C-9D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NIL	**Nilore**	**1.34**	**202**	P		**Pn**	**04 05 57.9**	**+0.3**
NIL	**Nilore**	**1.34**	**202**	Pn		**Pn**	**04 05 57.9**	**+0.3**
CEP	**Cherat**	**1.93**	**237**	P		**Pn**	**04 06 08.9**	**+3.1**
CEP				S		Sn	04 06 39.0	+10
SARP	**Sargodha**	**3.13**	**199**	P		**Pn**	**04 06 24.3**	**+2.2**
SARP				S		**Sn**	**04 07 05.0**	**+6.7**
DHRM	**DHARAMSHALA**	**3.34**	**141**	*e*P		**Pn**	**04 06 28.0**	**+2.6**
DHRM				*e*S		**Sn**	**04 07 09.9**	**+5.9**
DHRM				IAML			04 07 12.4	
	comp=E,4μm,0.7s							
KBL	**Kabul**	**3.97**	**266**			**Pn**	**04 06 35.0**	**+1.1**
KBL				Sn		**Sn**	**04 07 19.2**	**-0.1**
SMLA	**Simla**	**4.68**	**142**	*e*P		**Pn**	**04 06 45.5**	**+2.0**
SMLA				*e*S		**Sn**	**04 07 38.8**	**+2.2**
SMLA				IAML			04 07 41.8	
	comp=E,1μm,0.6s							
SMLA				IAML			04 07 44.1	
	comp=N,977nm,0.5s							
KSH	**Kashi**	**4.91**	**20**	P		**Pn**	**04 06 44.0**	**-2.8**
KSH	**Kashi**	**4.91**	**20**	S		Sn	04 07 30.8	-12
GAR	**Garm**	**4.97**	**326**	Pn		**Pn**	**04 06 47.3**	**-0.3**
CHGR	**Chuyangaron**	**5.31**	**316**	Pn		**Pn**	**04 06 52.0**	**-0.3**
KKR	**Kurukshetra**	**5.53**	**152**	*e*P		**Pn**	**04 06 58.5**	**+3.3**
KKR				*e*S		**Sn**	**04 07 58.2**	**+0.7**
BTK	**Batken**	**5.68**	**336**	P		**Pn**	**04 06 57.1**	**-0.3**
BTK	**Batken**	**5.68**	**336**	Pn		**Pn**	**04 06 57.0**	**-0.3**
DDI	**Dehra Dun**	**5.78**	**141**	*e*P		**Pn**	**04 07 00.2**	**+1.5**
DDI				*e*S		**Sn**	**04 08 06.0**	**+2.1**
NDI	**New Delhi**	**6.83**	**154**	*i* P		**Pn**	**04 07 16.2**	**+3.2**
NDI				*e*P		**Pn**	**04 07 16.8**	**+3.7**
NDI				*e*S		**Sn**	**04 08 30.5**	**+0.9**
NDI				*i* S		**Sn**	**04 08 30.8**	**+1.3**
BISR	**Bishrakh**	**7.01**	**153**	*e*S		**Sn**	**04 08 32.5**	**-1.5**
KUDL	**Kundal**	**7.10**	**161**	*e*P		**Pn**	**04 07 16.5**	**-0.3**
KUDL				*e*S		**Sn**	**04 08 33.5**	**-2.8**
SONA	**Sohna**	**7.18**	**156**	*e*P		**Pn**	**04 07 17.0**	**-0.8**
SONA				*ex*		x	04 08 34.4	
SONA				IAML			04 08 41.9	
	comp=E,392nm,0.3s							
SONA				IAML			04 08 42.3	
	comp=N,134nm,0.4s							
AML	**Almayashu**	**7.22**	**359**	P		**Pn**	**04 07 20.2**	**+1.5**
	SNR=142							
UCH	**Uchtor**	**7.34**	**4**	P		**Pn**	**04 07 22.1**	**+1.8**
	SNR=88							
ULHL	**Ulahol**	**7.57**	**14**	P		**Pn**	**04 07 25.6**	**+2.2**
	SNR=28							
KDJ	**Kajisay**	**7.68**	**19**	P		**Pn**	**04 07 24.1**	**-0.7**
KDJ	**Kajisay**	**7.68**	**19**	Pn		**Pn**	**04 07 24.1**	**-0.7**
AAK	**Ala-Archa**	**7.74**	**4**	P		Pn	04 07 30.9	+5.2
	SNR=27							
AAK	**Ala-Archa**	**7.74**	**4**	⇓Pn		**Pn**	**04 07 28.6**	**+2.8**
	comp=N,18nm,0.3s							
AAK				⇑Sn		**Sn**	**04 08 54.0**	**+1.8**
	comp=N,86nm,1.1s							
AAK	**Ala-Archa**	**7.74**	**4**	P		**Pn**	**04 07 28.5**	**+2.8**
AAK							04 08 53.9	
EKS2	**Erkin-Say**	**7.75**	**360**	P		**Pn**	**04 07 27.6**	**+1.9**
	SNR=120							
BOOM	**Boomskoye usch**	**7.75**	**12**	P		**Pn**	**04 07 25.7**	**-0.2**
BOOM	**Boomskoye usch**	**7.75**	**12**	Pn		**Pn**	**04 07 25.7**	**-0.2**
KBK	**Karagaybulak**	**7.79**	**6**	P		**Pn**	**04 07 28.9**	**+2.5**
	SNR=14							
IUG	**luzhnay**	**7.83**	**339**	*e*P		**Pn**	**04 07 28.5**	**+1.7**
IUG				*e*S		**Sn**	**04 08 52.0**	**-2.2**
IUG				eLR		LR	04 10 15.2	
IUG	**luzhnay**	**7.83**	**339**	*e*P		**Pn**	**04 07 28.5**	**+1.7**
IUG				*e*S		**Sn**	**04 08 52.0**	**-2.2**
CHMS	**Chumysh**	**8.12**	**5**	P		**Pn**	**04 07 32.7**	**+1.9**
	SNR=18							
TKM2	**Tokmak 2**	**8.13**	**9**	P		**Pn**	**04 07 32.4**	**+1.4**
	SNR=44							
TKM2	**Tokmak 2**	**8.13**	**9**	⇑Pn		**Pn**	**04 07 32.4**	**+1.4**
	comp=N,29nm,0.6s							
TKM2				⇓Sn		**Sn**	**04 09 02.2**	**+0.5**
	comp=N,106nm,0.9s							
TKM2	**Tokmak 2**	**8.13**	**9**	*i* P		**Pn**	**04 07 32.4**	**+1.4**
TKM2				pmax	pmax			
	comp=Z,29nm,0.6s							
DZA	**Taraz**	**8.22**	**347**	*e*P		**Pn**	**04 07 32.6**	**+0.5**
DZA	**Taraz**	**8.22**	**347**	*e*P		**Pn**	**04 07 32.6**	**+0.5**
PRZ	**Przheval'sk**	**8.37**	**24**	P		**Pn**	**04 07 33.7**	**-0.6**
PRZ	**Przheval'sk**	**8.37**	**24**			**Pn**	**04 07 33.6**	**-0.6**
MTBS	**Maitube**	**8.46**	**13**	*e*P		**Pn**	**04 07 36.5**	**+1.0**
MTBS	**Maitube**	**8.46**	**13**	*e*P		**Pn**	**04 07 36.5**	**+1.0**
TNSS	**Tian-Shan**	**8.48**	**16**	*e*P		**Pn**	**04 07 36.9**	**+0.9**
TNSS	**Tian-Shan**	**8.48**	**16**	*e*P		**Pn**	**04 07 36.8**	**+0.9**
SGDS	**Sogindy**	**8.56**	**4**	*i* P		**Pn**	**04 07 38.0**	**+1.2**
SGDS				eLR		LR	04 10 42.5	
SGDS	**Sogindy**	**8.56**	**4**	*i* P		**Pn**	**04 07 38.0**	**+1.2**
KK31	**Karatay Array**	**8.59**	**343**	⇑Pn		**Pn**	**04 07 37.7**	**+0.5**
	comp=Z,19nm,0.2s,baz=169,slow=14,SNR=423							
KK31				⇑Sn		**Sn**	**04 09 12.4**	**-0.4**
	comp=Z,24nm,0.3s,baz=31,slow=44,SNR=9.1							
KK31	**Karatay Array**	**8.59**	**343**	*i* P		**Pn**	**04 07 37.7**	**+0.5**
KK31							04 09 12.4	
KK31	**Karatay Array**	**8.59**	**343**	Pn		**Pn**	**04 07 36.8**	**-0.4**
KKAR	**Karatay Array**	**8.59**	**343**	P		**Pn**	**04 07 36.9**	**-0.3**
KKAR	**Karatay Array**	**8.59**	**343**			**Pn**	**04 07 36.9**	**-0.3**
KKAR	**Karatay Array**	**8.59**	**343**	Pn		**Pn**	**04 07 36.9**	**-0.3**
MDOK	**Medeo**	**8.62**	**16**	*e*P		**Pn**	**04 07 38.5**	**+0.8**
MDOK				*e*S		**Sn**	**04 09 07.5**	**-6.2**
MDOK				eLR		LR	04 10 44.0	
MDOK	**Medeo**	**8.62**	**16**	*e*P		**Pn**	**04 07 38.5**	**+0.8**
MDOK				*e*S		**Sn**	**04 09 07.5**	**-6.2**
SATY	**Saty**	**8.89**	**22**	*e*P		**Pn**	**04 07 42.3**	**+1.0**
SATY				eLR		LR	04 11 08.5	
SATY	**Saty**	**8.89**	**22**	*e*P		**Pn**	**04 07 42.3**	**+1.0**
UZB	**Uzynbulak**	**9.17**	**24**	*e*P		**Pn**	**04 07 45.4**	**+0.2**
UZB				eLR		LR	04 11 19.5	
UZB	**Uzynbulak**	**9.17**	**24**	*e*P		**Pn**	**04 07 45.4**	**+0.2**
KUU	**Kurty**	**9.19**	**11**	*e*P		**Pn**	**04 07 46.0**	**+0.7**
KUU				eLR		LR	04 11 08.5	
KUU	**Kurty**	**9.19**	**11**	*e*P		**Pn**	**04 07 46.0**	**+0.7**
CHKK	**Chushkaly**	**9.27**	**14**	*e*P		**Pn**	**04 07 46.6**	**+0.2**
CHKK	**Chushkaly**	**9.27**	**14**	*e*P		**Pn**	**04 07 46.6**	**+0.2**
KPKS	**Kokpek**	**9.34**	**22**	*e*P		**Pn**	**04 07 47.4**	**-0.1**
KPKS				eLR		LR	04 11 22.3	
KPKS	**Kokpek**	**9.34**	**22**	*e*P		**Pn**	**04 07 47.4**	**-0.1**
PDGK	**Podgornoye**	**9.49**	**26**	⇓Pn		**Pn**	**04 07 49.6**	**-0.1**
	comp=Z,24nm,0.8s							
PDGK	**Podgornoye**	**9.49**	**26**	P		**Pn**	**04 07 49.5**	**-0.1**
PYUN	**Piuthan**	**10.33**	**128**	*e*P		**Pn**	**04 07 59.4**	**-1.9**
	comp=Z,113nm,0.3s							
DANN	**Dangsing**	**10.68**	**125**	*e*P		**Pn**	**04 08 04.2**	**-1.9**
	comp=Z,48nm,0.2s							
TDK	**Taldyqorghan**	**10.68**	**18**	*e*P		**Pn**	**04 08 06.0**	**+0.3**
TDK				eLR		LR	04 11 59.8	
TDK	**Taldyqorghan**	**10.68**	**18**	*e*P		**Pn**	**04 08 06.0**	**+0.3**
KOLN	**Koldanda**	**10.95**	**128**	*e*P		**Pn**	**04 08 07.6**	**-2.2**
	comp=Z,50nm,0.3s							
GKN	**Gorkha**	**11.49**	**124**	*e*P		**Pn**	**04 08 15.1**	**-2.0**
	comp=Z,50nm,0.3s							
BHPL	**Bhopal**	**12.03**	**164**	*e*P		**Pn**	**04 08 22.9**	**-1.4**
BHPL				*e*S		**Sn**	**04 10 31.1**	**-6.3**
DMN	**Daman**	**12.06**	**124**	*e*P		**Pn**	**04 08 22.5**	**-2.5**
	comp=Z,213nm,0.7s							
KKN	**Kakani**	**12.07**	**123**	*e*P		**Pn**	**04 08 22.1**	**-2.9**
	comp=Z,287nm,0.7s							
BHUJ	**Bhuj**	**12.17**	**199**	*e*P		**Pn**	**04 08 25.1**	**-1.0**
BHUJ				*e*S		**Sn**	**04 10 36.4**	**-4.1**
PKIN	**Phulchoki**	**12.28**	**123**	*e*P		**Pn**	**04 08 24.6**	**-3.4**
	comp=Z,51nm,0.6s							
PKI	**Pulchoki**	**12.29**	**123**	*e*P		**Pn**	**04 08 24.7**	**-3.5**
	comp=Z,55nm,0.6s							
GUN	**Gumba**	**12.41**	**121**	*e*P		**Pn**	**04 08 26.7**	**-3.2**
	comp=Z,153nm,0.7s							
JBP	**Jabalpur**	**12.86**	**154**	*e*P		Pn	04 08 28.8	-6.9
JBP				*e*S		**Sn**	**04 10 51.9**	**-5.7**
GEYT	**Alibeck**	**13.02**	**288**	Pn		**Pn**	**04 08 36.4**	**-1.5**
	comp=Z,1.8nm,0.3s,baz=110,slow=13,SNR=11							
GEYT				Sn		**Sn**	**04 10 59.9**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=100,slow=17,SNR=5.3							
GEYT	**Alibeck**	**13.02**	**288**			**Pn**	**04 08 36.6**	**-1.3**
GEYT						**Sn**	**04 11 01.7**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**13.02**	**288**	Pn		**Pn**	**04 08 37.2**	**-0.6**
MAKZ	**Makanchi**	**13.38**	**25**	P		**Pn**	**04 08 42.5**	**-0.3**
MAKZ	**Makanchi**	**13.38**	**25**	Pn		**Pn**	**04 08 42.5**	**-0.3**
MK31	**Makanchi Array**	**13.48**	**26**	Pn		**Pn**	**04 08 43.9**	**-0.2**
	comp=Z,18nm,0.8s,baz=211,slow=14,SNR=52							
MK31	**Makanchi Array**	**13.48**	**26**	*e*P		**Pn**	**04 08 43.9**	**-0.2**
MK31	**Makanchi Array**	**13.48**	**26**	Pn		**Pn**	**04 08 43.8**	**-0.3**
MKAR	**Makanchi Array**	**13.48**	**26**	Pn		**Pn**	**04 08 44.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=212,slow=14,SNR=19							
MKAR	**Makanchi Array**	**13.48**	**26**	*i* P		**Pn**	**04 08 44.4**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**13.48**	**26**	Pn		**Pn**	**04 08 43.8**	**-0.3**
RAMN	**Ramite**	**13.51**	**122**	*e*P		**Pn**	**04 08 40.3**	**-4.4**
	comp=Z,48nm,0.5s							
WMQ	**Urumqi**	**13.92**	**46**	*e*P		**Pn**	**04 08 52.6**	**+2.5**
WMQ				pmax	pmax			
	comp=Z,17nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,66nm,4.9s							
WMQ				LR	LR			
	comp=Z,170nm,11.3s							
WMQ				LR	LR			
	comp=Z,290nm,14.1s							
TAPN	**Taplejung**	**14.05**	**119**	*e*P		**Pn**	**04 08 48.7**	**-3.5**
	comp=Z,206nm,0.7s							
ODAN	**Odare**	**14.12**	**121**	*e*P		**Pn**	**04 08 50.0**	**-3.0**
	comp=Z,90nm,0.8s							
NGP	**Nagpur**	**14.44**	**160**	*e*P		**Pn**	**04 08 53.1**	**-4.2**
NGP				IAmb		IAmb	04 08 55.6	
	comp=Z,55nm,1.1s							
NGP				*e*S		**Sn**	**04 11 27.5**	**-8.8**
ZSN	**Zaisan**	**15.02**	**30**	*e*P		**Pn**	**04 09 06.3**	**+1.4**
ZSN				eLR		LR	04 15 01.3	
ZSN	**Zaisan**	**15.02**	**30**	*e*P		**Pn**	**04 09 06.3**	**+1.4**
BRZS	**Berezniki**	**15.10**	**357**	*e*P		**Pn**	**04 09 04.9**	**-1.0**
BRZS	**Berezniki**	**15.10**	**357**	*e*P		**Pn**	**04 09 04.9**	**-1.0**
BOK	**Bokaro**	**15.24**	**133**	*e*P		**Pn**	**04 09 09.7**	**+1.8**
BOK				IAmb		IAmb	04 09 11.6	
	comp=Z,12nm,0.6s							
LSA	**Lhasa**	**15.52**	**105**	P		**Pn**	**04 09 11.3**	**-0.7**
LSA				pmax	pmax			
	comp=Z,30nm,0.8s							
LSA	**Lhasa**	**15.52**	**105**	Pn		**Pn**	**04 09 11.3**	**-0.7**
KURBB	**Kurtadov Arra**	**16.08**	**11**	Pn		**Pn**	**04 09 15.5**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=202,slow=11,SNR=24							
KURK	**Kurchatov**	**16.19**	**11**	⇓P		**Pn**	**04 09 17.6**	**-2.3**
	comp=Z,74nm,0.9s							
KURK	**Kurchatov**	**16.19**	**11**	*ce*P		**Pn**	**04 09 18.6**	**-1.3**
KURK				pmax	pmax			
	comp=Z,69nm,1.3s							
KURK	**Kurchatov**	**16.19**	**11**	Pn		**Pn**	**04 09 18.8**	**-1.1**
KURK				IAmb		IAmb	04 09 24.9	
	comp=Z,74nm,0.9s							
KLRI	**Killari**	**16.94**	**171**	*e*P		**Pn**	**04 09 29.2**	**-0.5**
AB31	**Akbulak array**	**17.63**	**329**	⇓P		**Pn**	**04 09 36.6**	**-1.5**
	comp=Z,33nm,1.0s							
AB31	**Akbulak array**	**17.63**	**329**	P		**Pn**	**04 09 36.5**	**-1.5**
ABKAR	**Akbulak array**	**17.63**	**329**	Pn		**Pn**	**04 09 36.0**	**-2.0**
ABKAR	**Akbulak array**	**17.63**	**329**	Pn		**Pn**	**04 09 36.1**	**-2.0**
ABKAR				IAmb		IAmb	04 09 41.4	
	comp=Z,31nm,1.0s							
WSAR	**Wadi Sarin**	**17.63**	**233**	P		**P**	**04 09 41.1**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=82,slow=10,SNR=7.3							
DGZ	**Jazzator, Alta**	**17.84**	**30**	*d* P		**Pn**	**04 09 39.9**	**-0.9**
DGZ				pmax	pmax			
	comp=Z,19nm,0.7s							
HYBB	**Hyderabad (bro**	**17.91**	**165**	*e*P		**Pn**	**04 09 39.4**	**-2.3**
HYB	**Hyderabad**	**17.91**	**165**	*i* P		**Pn**	**04 09 38.0**	**-3.8**
HYB				*e*S		Sn	04 12 46.0	-14
GGR	**Gangavaram**	**17.93**	**160**	*e*P		**Pn**	**04 09 37.7**	**-4.2**
BWNR	**Bhubaneshwar**	**17.98**	**141**	*ex*		**Pn**	**04 09 39.3**	**-3.2**
BWNR				IAmb		IAmb	04 09 44.2	
	comp=Z,17nm,0.8s							
BWNR				*ex*		Sn	04 12 48.5	-14
SHL	**Shillong**	**18.13**	**116**	P		**Pn**	**04 09 39.6**	**-5.0**
SHL				pmax	pmax			
	comp=Z,25nm,0.8s							
SHL	**Shillong**	**18.13**	**116**	P		**Pn**	**04 09 39.6**	**-5.0**
BVAR	**Borovoye Array**	**18.29**	**353**	P		**P**	**04 09 45.8**	**-0.2**
	comp=Z,6.1nm,0.3s,baz=201,slow=29,SNR=70							
BRVK	**Borovoye**	**18.33**	**353**	⇑P		**P**	**04 09 45.6**	**-0.9**
	comp=Z,36nm,0.7s							
BRVK	**Borovoye**	**18.33**	**353**	*ce*P		**P**	**04 09 45.4**	**-1.0**
BRVK				pmax	pmax			
	comp=Z,34nm,0.6s							
BRVK	**Borovoye**	**18.33**	**353**	P		**P**	**04 09 46.3**	**-0.2**
BRVK				IAmb		IAmb	04 09 49.1	
	comp=Z,39nm,0.7s							
ZIRO	**ZIRO**	**18.61**	**108**	*e*P		**Pn**	**04 09 51.0**	**+0.7**
CHLP	**Challavanipeta**	**18.68**	**148**	*e*P		**P**	**04 09 49.0**	**-1.5**
PVM	**Polavaram**	**18.90**	**156**	*e*P		**P**	**04 09 52.1**	**-0.8**
NJS	**Nagarjunasagar**	**18.91**	**164**	*e*P		**Pn**	**04 09 53.7**	**-0.2**
MYLAV	**Mylavaram**	**19.07**	**160**	*e*P		**Pn**	**04 09 55.7**	**-0.1**
SRLM	**Srisailam**	**19.26**	**165**	*e*P		**P**	**04 09 56.5**	**-0.4**
AKTO	**Aktyubinsk**	**19.34**	**328**	P		**P**	**04 09 57.7**	**+0.2**
	comp=Z,6.0nm,0.3s,baz=133,slow=9.8,SNR=53							
AKTO				S		**S**	**04 13 26.8**	**-7.5**
	comp=Z,0.1nm,0.3s,baz=105,slow=23,SNR=3.0							
AKTO				LR		LR	04 17 59.9	
	comp=Z,159nm,19.0s,baz=145,slow=39							
AKTO	**Aktyubinsk**	**19.34**	**328**	⇑P		**P**	**04 09 57.5**	**0.0**
	comp=Z,69nm,0.9s							
ADKI	**Addanki**	**19.75**	**162**	*e*P		**P**	**04 10 01.6**	**-0.6**
ZAA0	**Zalesovo Array**	**20.55**	**19**	P		**P**	**04 10 09.3**	**-1.3**
ZAA0				IAmb		IAmb	04 10 12.5	
	comp=Z,47nm,0.9s							
ZALV	**Zalesovo Beam**	**20.55**	**19**	P		**P**	**04 10 09.4**	**-1.2**
	comp=Z,36nm,0.5s,baz=214,slow=10,SNR=116							
ZALV				S		**S**	**04 13 56.1**	**-2.4**
	comp=Z,10nm,1.1s,baz=206,slow=19,SNR=3.7							
ZALV	**Zalesovo Beam**	**20.55**	**19**	P		**P**	**04 10 09.1**	**-1.6**
GTA	**Gaotai**	**21.16**	**70**	⇑P		**P**	**04 10 16.8**	**-0.7**
GTA				pP		pP	04 10 22.8	-5.0
GTA				sP		sP	04 10 26.0	-6.7
GTA				S		**S**	**04 14 13.0**	**+2.0**
GTA				sS		sS	04 14 24.8	-2.7
GTA				pmax	pmax			
	comp=Z,23nm,1.3s							
GTA				pmax	pmax			
	comp=Z,62nm,6.4s							
GTA				LR	LR			
	comp=Z,220nm,10.2s							
GTA				LR	LR			
	comp=Z,150nm,12.0s							
GTA				LR	LR			
	comp=Z,140nm,12.0s							
SKHT	**Srikalahasti**	**21.72**	**164**	*e*P		**P**	**04 10 24.4**	**+0.9**
MAK	**Makhachkala**	**21.95**	**299**	*e*P		**P**	**04 10 28.4**	**+2.6**
MAK				*e*S		**S**	**04 14 30.4**	**+4.2**
MAK				pmax	pmax			
	comp=Z,38nm,0.4s							
MAK				MLR	MLR			
	comp=Z,248nm,15.0s							
GROC	**Groznyy**	**23.23**	**299**	*e*P		**P**	**04 10 40.5**	**+1.3**
GROC				*e**PP		**pP**	**04 10 50.9**	**+1.0**
GROC				*e**SP		**sP**	**04 10 58.5**	**+3.7**
GROC				*e*			04 11 07.0	
GROC				*e*S		**S**	**04 14 51.3**	**+2.5**
GROC				pmax	pmax			
	comp=Z,25nm,0.5s							
SVE	**Sverdlovsk**	**23.70**	**342**	*e*P		**P**	**04 10 45.2**	**+1.5**
SVE				pmax	pmax			
	comp=Z,46nm,0.8s							
ARU	**Arti**	**23.93**	**339**	P		**P**	**04 10 46.4**	**+0.5**
	comp=Z,9.0nm,0.5s,baz=168,slow=6.7,SNR=28							
ARU				LR		LR	04 21 24.4	
	comp=Z,124nm,19.4s,baz=144,slow=40							
ARU	**Arti**	**23.93**	**339**	*c* P		**P**	**04 10 46.2**	**+0.4**
ARU							04 11 18.3	
ARU				S		**S**	**04 14 59.1**	**-0.7**
ARU				SS		**SnSn**	**04 15 40.7**	**-0.4**
ARU				pmax	pmax			
	comp=Z,39nm,0.7s							
ARU	**Arti**	**23.93**	**339**	P		**P**	**04 10 46.0**	**+0.2**
ARU				IAmb		IAmb	04 10 49.7	
	comp=Z,36nm,0.7s							
LZH	**Lanzhou**	**24.41**	**78**	*e*P		**P**	**04 10 50.5**	**-0.2**
LZH				pP		pP	04 10 58.8	-3.2
LZH				sP		sP	04 11 02.1	-4.6
LZH				sS		sS	04 15 20.3	-6.5
LZH				SS		**SnSn**	**04 16 02.8**	**+9.2**
LZH				pmax	pmax			
	comp=Z,32nm,1.0s							
LZH				pmax	pmax			
	comp=Z,120nm,4.6s							
LZH				LR	LR			
	comp=Z,280nm,10.5s							
LZH				LR	LR			
	comp=Z,160nm,10.6s							
LZH				LR	LR			
	comp=Z,290nm,13.5s							
ZEI	**Tsey**	**24.52**	**298**	*e*P		**P**	**04 10 51.6**	**-0.1**
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CD2	**Chengdu**	**25.38**	**91**	P		**P**	**04 10 59.0**	**-0.4**
CD2				S		**S**	**04 15 25.4**	**+1.7**
CD2				pmax	pmax			
	comp=Z,20nm,0.9s							
CD2				pmax	pmax			
	comp=Z,70nm,4.2s							
CD2				LR	LR			
	comp=Z,270nm,15.7s							
CD2				LR	LR			
	comp=Z,330nm,9.0s							
CD2				LR	LR			
	comp=Z,200nm,18.6s							
KBZ	**Khabaz**	**25.40**	**300**	P		**P**	**04 10 59.5**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=107,slow=8.1,SNR=9.9							
KBZ				LR		LR	04 22 58.1	
	comp=Z,134nm,20.7s,baz=55,slow=41							
KBZ	**Khabaz**	**25.40**	**300**	*ce*P		**P**	**04 11 01.0**	**+1.7**
KBZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
GOF	**Gofitskoye**	**25.55**	**303**	⇑*e*P		**P**	**04 11 05.5**	**+4.7**
GOF				pmax	pmax			
	comp=Z,85nm,1.3s							
SHA1	**Shidzhatmaz**	**25.57**	**300**	*i* P		**P**	**04 11 01.3**	**+0.1**
KVAR	**Kislovodsk Arr**	**25.58**	**300**	LR		LR	04 23 20.8	
	comp=Z,98nm,19.7s,baz=263,slow=42							
KIV	**Kislovodsk**	**25.59**	**300**	*e*P		**P**	**04 11 03.3**	**+2.1**
KIV				*e*S		**S**	**04 15 27.6**	**+0.8**
KIV				pmax	pmax			
	comp=Z,26nm,1.0s							
KIV				MLR	MLR			
	comp=Z,187nm,15.0s							
MOY	**Mondy**	**25.70**	**41**	*e*P		**P**	**04 11 03.0**	**+0.9**
MOY				pmax	pmax			
	comp=Z,16nm,1.0s							
ZAK	**Zakamensk**	**26.39**	**45**	*e*P		**P**	**04 11 08.1**	**-0.3**
ZAK				pmax	pmax			
	comp=Z,12nm,1.1s							
KMI	**Kunming**	**26.77**	**103**	⇑P		**P**	**04 11 12.3**	**+0.1**
KMI				pP		pP	04 11 18.0	-5.4
KMI				S		**S**	**04 15 54.0**	**+7.9**
KMI				pmax	pmax			
	comp=Z,28nm,1.0s							
KMI				pmax	pmax			
	comp=Z,40nm,3.5s							
KMI				LR	LR			
	comp=Z,120nm,23.3s							
KMI				LR	LR			
	comp=Z,160nm,32.7s							
KMI				LR	LR			
	comp=Z,160nm,15.8s							
TLY	**Talaya**	**27.16**	**43**	P		**P**	**04 11 16.2**	**+1.0**
	comp=Z,4.3nm,0.7s,baz=228,slow=18,SNR=4.6							
TLY				LR		LR	04 23 37.7	
	comp=Z,45nm,18.5s,baz=242,slow=40							
TLY	**Talaya**	**27.16**	**43**	*c* P		**P**	**04 11 14.3**	**-0.9**
TLY				pmax	pmax			
	comp=Z,7.0nm,1.0s							
TLY	**Talaya**	**27.16**	**43**	P		**P**	**04 11 15.1**	**-0.1**
SONM	**Songino Array**	**27.42**	**52**	P		**P**	**04 11 18.2**	**+0.5**
	comp=Z,7.7nm,0.9s,baz=253,slow=9.3,SNR=27							
SONM				LR		LR	04 23 13.0	
	comp=Z,56nm,19.0s,baz=248,slow=39							
SONM	**Songino Array**	**27.42**	**52**	P		**P**	**04 11 17.7**	**0.0**
CHTO	**Chiang Mai**	**27.42**	**119**	P		**P**	**04 11 17.8**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CHTO	**Chiang Mai**	**27.42**	**119**	P		**P**	**04 11 17.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.66**	**120**	P		**P**	**04 11 20.1**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=307,slow=11,SNR=13							
CMAR				PcP		**PcP**	**04 14 37.5**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=279,slow=3.8,SNR=5.3							
CMAR	**Chiang Mai Arr

	comp=Z,27nm,0.9s						
AKASG	**Malin Array Be**	**35.75**	**310**	P	**P**	**04 12 29.9**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=80,slow=6.8,SNR=17						
AKASG				PP	**PP**	**04 13 54.0**	**+2.0**
	comp=Z,11nm,1.0s,baz=81,slow=11,SNR=6.8						
AKASG				LR	LR	04 29 51.0	
	comp=Z,59nm,18.0s,baz=70,slow=41						
AKASG	**Malin Array Be**	**35.75**	**310**	P	**P**	**04 12 30.3**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	**Malin Array Be**	**35.75**	**310**	P	**P**	**04 12 30.2**	**-0.4**
AKBB	**Malin Array Si**	**35.75**	**310**	*ce*P	**P**	**04 12 30.4**	**-0.2**
AKBB	**Malin Array Si**	**35.75**	**310**	P	**P**	**04 12 30.9**	**+0.3**
AKBB				IAmb	IAmb	04 12 32.7	
	comp=Z,7.4nm,0.8s						
TPGR	**Topolog**	**35.84**	**300**	⇑P	**P**	**04 12 32.3**	**+0.7**
SORM	**Soroca**	**36.02**	**306**	⇑P	**P**	**04 12 31.9**	**-1.0**
SORM	**Soroca**	**36.02**	**306**	⇑P	**P**	**04 12 31.9**	**-1.0**
VRI	**Vrincioaia**	**37.03**	**302**	⇑P	**P**	**04 12 43.2**	**+1.5**
VRI	**Vrincioaia**	**37.03**	**302**	⇑P	**P**	**04 12 43.2**	**+1.5**
PLOR	**Plostina**	**37.09**	**302**	⇑P	**P**	**04 12 43.0**	**+0.8**
PLOR	**Plostina**	**37.09**	**302**	⇑P	**P**	**04 12 43.0**	**+0.8**
NJ2	**Nanjing**	**37.42**	**81**	*e*P	**P**	**04 12 45.4**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MLR	**Muntele Rosu**	**37.58**	**301**	⇑P	**P**	**04 12 48.1**	**+1.6**
MLR	**Muntele Rosu**	**37.58**	**301**	⇑P	**P**	**04 12 48.1**	**+1.6**
DOPR	**Dopca**	**37.97**	**302**	⇑P	**P**	**04 12 50.1**	**+0.5**
BURAR	**Bucovina Array**	**38.10**	**305**	⇑P	**P**	**04 12 50.7**	**-0.1**
BURAR	**Bucovina Array**	**38.10**	**305**	⇑P	**P**	**04 12 50.7**	**-0.1**
ARR	**Arges**	**38.51**	**301**	⇑P	**P**	**04 12 54.1**	**-0.1**
VSU	**Vasula**	**38.87**	**322**	*i* P	**P**	**04 12 57.7**	**+0.7**
VSU				pmax	pmax		
	comp=Z,114nm,1.0s						
GSI	**Gunungsitoli**	**40.08**	**141**	P	**P**	**04 13 07.2**	**-0.3**
GSI				IAmb	IAmb	04 13 09.2	
	comp=Z,18nm,0.9s						
KOLS	**Kolonicke sedl**	**40.09**	**307**	*e*P	**P**	**04 13 09.1**	**+1.8**
KOLS	**Kolonicke sedl**	**40.09**	**307**	*e*P	**P**	**04 13 09.1**	**+1.8**
FINES	**FINESS Array B**	**40.10**	**326**	P	**P**	**04 13 07.4**	**+0.3**
	comp=Z,16nm,0.6s,baz=109,slow=8.4,SNR=37						
FINES				LR	LR	04 30 16.1	
	comp=Z,137nm,19.3s,baz=106,slow=37						
FINES	**FINESS Array B**	**40.10**	**326**	P	**P**	**04 13 07.5**	**+0.4**
CN2	**Changchun**	**40.32**	**61**	*e*P	**P**	**04 13 10.0**	**+0.7**
SIRR	**Siria**	**40.55**	**303**	⇑P	**P**	**04 13 12.4**	**+1.2**
MDVR	**Moldovita**	**40.61**	**300**	⇑P	**P**	**04 13 12.8**	**+1.1**
BZS	**Buzias**	**40.62**	**302**	⇓P	**P**	**04 13 11.5**	**-0.2**
BZS	**Buzias**	**40.62**	**302**	⇓P	**P**	**04 13 11.5**	**-0.2**
VYHS	**Vyhne**	**42.37**	**306**	*e*P	**P**	**04 13 26.4**	**+0.3**
VYHS	**Vyhne**	**42.37**	**306**	*e*P	**P**	**04 13 26.4**	**+0.3**
MDJ	**Mudanjiang**	**43.19**	**60**	P	**P**	**04 13 33.9**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.1s						
KSRS	**Korea Array**	**43.23**	**70**	P	**P**	**04 13 33.0**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=275,slow=7.1,SNR=7.7						
KSRS				PcP	**PcP**	**04 15 22.2**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=295,slow=1.1,SNR=5.9						
KSRS				LR	LR	04 33 24.1	
	comp=Z,28nm,18.4s,baz=290,slow=39						
KSRS	**Korea Array**	**43.23**	**70**	P	**P**	**04 13 33.0**	**-0.1**
ARCES	**ARCESS Array B**	**43.50**	**338**	P	**P**	**04 13 35.2**	**+0.3**
	comp=Z,18nm,0.8s,baz=106,slow=8.9,SNR=26						
ARCES				LR	LR	04 30 23.1	
	comp=Z,93nm,19.5s,baz=130,slow=34						
KRLC	**Kraliky**	**43.65**	**308**	*e*P	**P**	**04 13 37.4**	**+0.9**
KRLC	**Kraliky**	**43.65**	**308**	*e*P	**P**	**04 13 37.4**	**+0.9**
DPC	**Dobruska-Polom**	**43.94**	**309**	*e*P	**P**	**04 13 40.9**	**+2.2**
DPC	**Dobruska-Polom**	**43.94**	**309**	*e*P	**P**	**04 13 40.9**	**+2.2**
YAK	**Yakutsk**	**43.95**	**34**	*e*P	**P**	**04 13 38.5**	**-0.1**
YAK				*e**PP	**sP**	**04 13 55.0**	**+0.1**
YAK				*e*		04 15 23.3	
YAK				*e*S	**S**	**04 20 05.6**	**-2.1**
YAK				*e*		04 23 31.6	
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				smax	smax		
	comp=N,79nm,3.0s						
YAK				smax	smax		
	comp=E,52nm,3.3s						
CHVC	**Chvalec**	**44.10**	**309**	*e*P	**P**	**04 13 41.7**	**+1.7**
CONA	**Conrad Observa**	**44.39**	**305**	*e*P	**P**	**04 13 43.6**	**+1.1**
	comp=E,8.6nm,1.1s						
PRU	**Pruhonice**	**45.10**	**308**	*e*P	**P**	**04 13 50.3**	**+2.3**
PRU	**Pruhonice**	**45.10**	**308**	*e*P	**P**	**04 13 50.3**	**+2.3**
BRG	**Berggiesshubel**	**45.43**	**310**	*e*P	**P**	**04 13 50.7**	**+0.2**
	comp=E,11nm,1.0s						
BRG	**Berggiesshubel**	**45.43**	**310**	*e*P	**P**	**04 13 50.7**	**+0.2**
BRG				pmax	pmax		
	comp=Z,11nm,1.0s						
MOA	**Molln**	**45.47**	**305**	*e*P	**P**	**04 13 51.8**	**+0.8**
	comp=Z,8.9nm,1.5s						
GERES	**GERESS Array B**	**45.74**	**307**	P	**P**	**04 13 53.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=86,slow=15,SNR=2.8						
GERES				LR	LR	04 35 22.5	
	comp=Z,61nm,18.9s,baz=60,slow=39						
GERES	**GERESS Array B**	**45.74**	**307**	P	**P**	**04 13 52.7**	**-0.4**
KHC	**Kasperske Hory**	**45.79**	**307**	*e*P	**P**	**04 13 54.8**	**+1.3**
KHC	**Kasperske Hory**	**45.79**	**307**	*e*P	**P**	**04 13 54.8**	**+1.3**
CLL	**Collm**	**45.99**	**310**	*e*P	**P**	**04 13 55.0**	**0.0**
CLL	**Collm**	**45.99**	**310**	*e*P	**P**	**04 13 55.0**	**0.0**
TIXI	**Tiksi**	**46.41**	**21**	*ce*P	**P**	**04 13 56.7**	**-1.3**
TIXI	**Tiksi**	**46.41**	**21**	P	**P**	**04 13 58.1**	**+0.1**
NC405	**NORSAR Array S**	**46.80**	**324**	P	**P**	**04 14 01.3**	**+0.1**
KSI	**Kapahiang**	**46.91**	**139**	P	**P**	**04 14 01.0**	**-1.6**
	comp=Z,36nm,0.5s						
NC303	**NORSAR Array S**	**46.98**	**324**	P	**P**	**04 14 03.0**	**+0.4**
NB2	**NORSAR Subarra**	**47.04**	**324**	P	**P**	**04 14 02.5**	**-0.6**
	comp=Z,15nm,0.8s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**47.04**	**324**	P	**P**	**04 14 02.8**	**-0.4**
	comp=Z,15nm,0.9s,baz=94,slow=7.6,SNR=19						
NOA				LR	LR	04 35 41.3	
	comp=Z,57nm,18.1s,baz=290,slow=38						
NOA				PKKPbc	PKKPdf	04 37 34.7	+38
	comp=Z,1.8nm,0.9s,baz=179,slow=5.0,SNR=3.6						
WTTA	**Wattenberg**	**47.31**	**305**	*e*P	**P**	**04 14 06.7**	**+1.1**
	comp=Z,12nm,1.2s						
MURB	**Monte Urbino**	**47.38**	**299**	P	**P**	**04 14 06.1**	**0.0**
KKM	**Kota Kinabalu**	**48.43**	**116**	P	**P**	**04 14 14.4**	**-0.1**
DAVA	**Damuels**	**48.48**	**305**	*e*P	**P**	**04 14 14.7**	**0.0**
	comp=Z,10nm,0.9s						
MJAR	**Matsushiro Arr**	**51.39**	**68**	P	**P**	**04 14 35.8**	**-0.9**
	comp=Z,4.4nm,0.9s,baz=292,slow=8.0,SNR=5.3						
MJAR				LR	LR	04 38 57.8	
	comp=Z,16nm,21.5s,baz=65,slow=39						
MJAR	**Matsushiro Arr**	**51.39**	**68**	P	**P**	**04 14 35.9**	**-0.8**
KEST	**Kesra**	**51.75**	**291**	P	**P**	**04 14 39.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=33,slow=3.9,SNR=7.1						
KEST	**Kesra**	**51.75**	**291**	P	**P**	**04 14 39.5**	**-0.1**
KEST				IAmb	IAmb	04 14 49.6	
	comp=Z,19nm,1.0s						
SEY	**Seymchan**	**54.47**	**33**	*i* P	**P**	**04 14 57.7**	**-1.3**
MPSI	**Mapaga**	**54.99**	**118**	P	**P**	**04 15 04.0**	**+0.6**
	comp=Z,18nm,1.1s						
DAG	**Danmarks Havn**	**56.91**	**344**	*i* P	**P**	**04 15 15.8**	**-0.4**
DAG				pmax	pmax		
	comp=Z,20nm,0.8s						
DAG	**Danmarks Havn**	**56.91**	**344**	*i* P	**P**	**04 15 15.8**	**-0.4**
	comp=Z,20nm,0.8s						
DAG	**Danmarks Havn**	**56.91**	**344**	*i* P	**P**	**04 15 15.8**	**-0.4**
DAG				IAmb	IAmb	04 15 19.1	
	comp=Z,20nm,0.8s						
BILL	**Bilibino**	**59.03**	**26**	*e*P	**P**	**04 15 31.3**	**+0.1**
BILL				*e*		04 15 45.0	
BILL				*e*		04 16 19.2	
BILL				*e*		04 17 40.8	
BILL				pmax	pmax		
	comp=Z,35nm,1.7s						
ESBB	**Sonseca Array**	**60.25**	**300**	P	**P**	**04 15 40.3**	**0.0**
ESBB				IAmb	IAmb	04 15 40.8	
	comp=Z,5.8nm,0.8s						
ESDC	**Sonseca Array**	**60.25**	**300**	P	**P**	**04 15 39.8**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=58,slow=7.1,SNR=36						
ESDC	**Sonseca Array**	**60.25**	**300**	P	**P**	**04 15 40.2**	**0.0**
PAB	**San Pablo**	**60.58**	**300**	P	**P**	**04 15 41.7**	**-0.8**
PAB				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PAB	**San Pablo**	**60.58**	**300**	P	**P**	**04 15 41.7**	**-0.8**
PAB				IAmb	IAmb	04 15 44.9	
	comp=Z,7.2nm,1.1s						

MVO	**Moncorvo**	**61.84**	**302**	*e*P	**P**	**04 15 53.1**	**+2.1**
	comp=Z,18nm,1.3s						
MTE	**Manteigas**	**62.50**	**302**	*e*P	**P**	**04 15 56.0**	**+0.6**
	comp=Z,27nm,1.2s						
MTE	**Manteigas**	**62.50**	**302**	P	**P**	**04 15 55.5**	**+0.1**
PVIS	**Viseu**	**62.62**	**302**	*e*P	**P**	**04 15 56.5**	**+0.3**
	comp=Z,22nm,1.6s						
PMRV	**Marv??o**	**62.79**	**301**	*e*P	**P**	**04 15 59.5**	**+2.2**
	comp=Z,22nm,1.4s						
COI	**Coimbra**	**63.19**	**302**	*e*P	**P**	**04 16 00.6**	**+0.7**
	comp=Z,33nm,1.8s						
SUMG	**Summit**	**63.31**	**342**	*i* P	**P**	**04 16 01.4**	**+0.7**
SUMG				pmax	pmax		
	comp=Z,55nm,0.9s						
SUMG	**Summit**	**63.31**	**342**	P	**P**	**04 16 00.6**	**-0.1**
SUMG	**Summit**	**63.31**	**342**	*i* P	**P**	**04 16 01.4**	**+0.7**
	comp=Z,54nm,0.9s						
SUMG	**Summit**	**63.31**	**342**	*i* P	**P**	**04 16 01.4**	**+0.7**
SUMG				IAmb	IAmb	04 16 03.0	
	comp=Z,54nm,0.9s						
EVO	**Evora**	**63.60**	**300**	*e*P	**P**	**04 16 01.5**	**-1.2**
	comp=Z,16nm,1.3s						
PBEJ	**Beja**	**63.70**	**299**	*e*P	**P**	**04 16 03.6**	**+0.2**
	comp=Z,11nm,1.5s						
PSBE	**So Bento**	**63.74**	**301**	*e*P	**P**	**04 16 04.3**	**+0.7**
	comp=Z,44nm,1.1s						
PVAQ	**Vaqueiros**	**63.86**	**299**	*e*P	**P**	**04 16 04.5**	**+0.1**
	comp=Z,27nm,1.7s						
PBDV	**Barranco-do-Ve**	**64.08**	**299**	*e*P	**P**	**04 16 06.5**	**+0.6**
	comp=Z,30nm,1.6s						
SOEI	**Soe**	**65.14**	**123**	P	P	04 16 22.2	+9.1
ICESG	**Greenland Ices**	**65.55**	**339**	*i* P	**P**	**04 16 16.8**	**+1.5**
ICESG				IAmb	IAmb	04 16 18.1	
	comp=Z,17nm,1.0s						
LSZ	**Lusaka**	**66.09**	**229**	P	**P**	**04 16 19.1**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSZ	**Lusaka**	**66.09**	**229**	P	**P**	**04 16 19.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**68.03**	**271**	P	**P**	**04 16 30.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**68.03**	**271**	P	**P**	**04 16 30.9**	**-0.6**
	comp=Z,8.9nm,0.6s,baz=46,slow=5.5,SNR=103						
TORD				LR	LR	04 49 55.0	
	comp=Z,42nm,18.7s,baz=315,slow=39						
TORD	**Torodi Ar. Bea**	**68.03**	**271**	P	**P**	**04 16 30.9**	**-0.6**
SMPI	**Sarmi**	**70.78**	**107**	P	**P**	**04 16 49.6**	**+1.1**
KOWA	**Kowa**	**72.00**	**275**	P	**P**	**04 16 55.7**	**-0.2**
KOWA				IAmb	IAmb	04 16 56.4	
	comp=Z,8.5nm,0.7s						
KNRA	**Kununurra**	**72.42**	**124**	P	**P**	**04 16 58.2**	**0.0**
COLD	**Coldfoot**	**72.87**	**16**	IAmb	IAmb	04 17 02.2	
	comp=Z,8.8nm,1.0s						
IMAR	**Indian Mountai**	**72.98**	**18**	P	**P**	**04 17 00.9**	**0.0**
INK	**Inuvik**	**75.09**	**10**	P	**P**	**04 17 13.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,12nm,1.1s						
INK	**Inuvik**	**75.09**	**10**	P	**P**	**04 17 13.7**	**+0.6**
INK				IAmb	IAmb	04 17 14.5	
	comp=Z,12nm,1.1s						
LBTB	**Lobatse**	**75.10**	**224**	P	**P**	**04 17 14.1**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,14nm,1.0s						
LBTB	**Lobatse**	**75.10**	**224**	P	**P**	**04 17 14.1**	**+0.2**
LBTB				IAmb	IAmb	04 17 15.9	
	comp=Z,14nm,0.9s						
BPAW	**Bear Paw Mtn.**	**75.19**	**19**	P	**P**	**04 17 14.1**	**+0.2**
BPAW				IAmb	IAmb	04 17 19.4	
	comp=Z,13nm,1.2s						
COLA	**College**	**75.35**	**17**	*i* P	**P**	**04 17 14.8**	**+0.1**
COLA				pmax	pmax		
	comp=Z,11nm,0.9s						
KTH	**Kantishna Hill**	**75.64**	**19**	P	**P**	**04 17 17.1**	**+0.5**
KTH				IAmb	IAmb	04 17 17.8	
	comp=Z,12nm,1.0s						
ILAR	**Eielson Array**	**75.66**	**17**	P	**P**	**04 17 16.1**	**-0.4**
	comp=Z,5.3nm,1.0s,baz=316,slow=5.2,SNR=24						
DBIC	**Dimbokro**	**76.95**	**269**	P	**P**	**04 17 23.3**	**-1.4**
	comp=Z,4.7nm,0.7s,baz=31,slow=7.0,SNR=6.8						
DBIC	**Dimbokro**	**76.95**	**269**	P	**P**	**04 17 24.8**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,13nm,1.1s						
DBIC	**Dimbokro**	**76.95**	**269**	P	**P**	**04 17 24.8**	**+0.1**
DBIC				IAmb	IAmb	04 17 28.7	
	comp=Z,13nm,1.1s						
DHY	**Denali Highway**	**76.96**	**18**	IAmb	IAmb	04 17 29.5	
	comp=Z,6.6nm,0.9s						
RIDG	**Independent Ri**	**77.02**	**17**	IAmb	IAmb	04 17 24.9	
	comp=Z,15nm,1.2s						
KIC	**Kosan Boka**	**77.03**	**269**	*e*P	**P**	**04 17 25.0**	**-0.1**
	comp=Z,32nm,1.2s						
TIC	**Toumodi**	**77.10**	**269**	*e*P	**P**	**04 17 25.2**	**-0.4**
LIC	**Lamto**	**77.34**	**269**	*e*P	**P**	**04 17 26.5**	**-0.4**
	comp=Z,81nm,1.7s						
PAX	**Paxson**	**77.52**	**17**	IAmb	IAmb	04 17 29.2	
	comp=Z,14nm,1.2s						
SML	**Sawmill**	**77.77**	**19**	IAmb	IAmb	04 17 39.3	
	comp=Z,18nm,1.2s						
DAWY	**Dawson**	**77.92**	**14**	IAmb	IAmb	04 17 30.5	
	comp=Z,6.7nm,0.9s						
BOSA	**Boshof**	**78.07**	**222**	P	**P**	**04 17 31.1**	**+0.4**
	comp=Z,11nm,0.6s,baz=28,slow=4.3,SNR=30						
BOSA	**Boshof**	**78.07**	**222**	P	**P**	**04 17 31.1**	**+0.4**
BCAR	**Beaver Creek A**	**78.30**	**16**	P	**P**	**04 17 32.0**	**+0.6**
WRA	**Warramunga Arr**	**79.18**	**124**	P	**P**	**04 17 36.6**	**-0.2**
	comp=Z,6.8nm,0.8s,baz=324,slow=5.5,SNR=36						
WRA				PKKPbc	**PKKPbc**	**04 36 29.8**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=146,slow=1.8,SNR=4.8						
WRA	**Warramunga Arr**	**79.18**	**124**	P	**P**	**04 17 37.1**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**79.18**	**124**	P	**P**	**04 17 37.1**	**+0.3**
WRAB	**Tennant Creek**	**79.18**	**124**	P	**P**	**04 17 37.2**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**79.18**	**124**	P	**P**	**04 17 37.1**	**+0.3**
WRAB				IAmb	IAmb	04 17 38.2	
	comp=Z,16nm,1.0s						
WB2	**Warramunga Arr**	**79.19**	**124**	IAmb	IAmb	04 17 38.1	
	comp=Z,14nm,0.9s						
WR0	**Warramunga Arr**	**79.33**	**123**	IAmb	IAmb	04 17 38.9	
	comp=Z,9.9nm,0.9s						
HYT	**Haines Junctio**	**81.23**	**15**	IAmb	IAmb	04 17 49.8	
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**81.44**	**127**	P	**P**	**04 17 49.3**	**+0.3**
	comp=Z,6.7nm,0.8s,baz=316,slow=5.4,SNR=46						
ASAR				LR	LR	05 03 43.1	
	comp=Z,37nm,19.1s,baz=148,slow=43						
YKA	**Yellowknife Ar**	**82.71**	**4**	P	**P**	**04 17 55.4**	**+0.4**
	comp=Z,13nm,0.9s,baz=337,slow=5.5,SNR=16						
ULM	**Lac du Bonnet**	**94.73**	**353**	P	**P**	**04 18 52.9**	**-0.1**
	comp=Z,6.1nm,1.1s,baz=13,slow=5.1,SNR=3.0						
ULM				LR	LR	05 05 04.9	
	comp=Z,29nm,18.4s,baz=123,slow=38						
ULM	**Lac du Bonnet**	**94.73**	**353**	P	**P**	**04 18 53.4**	**+0.5**
ULM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULM	**Lac du Bonnet**	**94.73**	**353**	P	**P**	**04 18 53.4**	**+0.5**
ULM				IAmb	IAmb	04 18 53.6	
	comp=Z,3.9nm,0.8s						
TXAR	**Lajitas Array**	**116.07**	**358**	PKP	**PKPdf**	**04 24 15.8**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=150,slow=2.7,SNR=3.5						
TXAR	**Lajitas Array**	**116.07**	**358**		**PKiKP**	**04 24 14.6**	**-0.5**
SNAA	**Sanae**	**118.71**	**201**	PKiKP	**PKiKP**	**04 24 18.8**	**+0.1**
VNA2	**Neumayer--Watz**	**119.78**	**202**	PKiKP	**PKiKP**	**04 24 21.0**	**+0.3**
VNA1	**Neumayer--Stat**	**119.96**	**202**	PKiKP	**PKiKP**	**04 24 21.3**	**+0.3**
VNA3	**Neumayer Olymp**	**120.59**	**202**	PKiKP	**PKiKP**	**04 24 22.3**	**0.0**
QSPA	**South Pole Qui**	**124.69**	**180**	PKP	**PKPdf**	**04 24 28.9**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=255,slow=2.3,SNR=8.1						
QSPA	**South Pole Qui**	**124.69**	**180**		**PKPdf**	**04 24 30.4**	**+0.1**
ROSC	**El Rosal**	**130.40**	**316**	PKP	**PKiKP**	**04 24 44.5**	**+0.4**
	comp=Z,6.7nm,0.7s,baz=305,slow=13,SNR=4.7						
SIV	**San Ignacio**	**135.57**	**283**	PKP	**PKPdf**	**04 24 52.9**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=134,slow=3.8,SNR=4.9						
NNA	**Nana**	**144.97**	**303**	PKP	PKPbc	04 25 08.9	+0.2
	comp=Z,9.0nm,0.6s,baz=337,slow=3.6,SNR=4.4						
NNA	**Nana**	**144.97**	**303**		**PKPab**	**04 25 08.5**	**-0.2**
LVC	**Limon Verde**	**145.32**	**281**	PKPbc	**PKPbc**	**04 25 10.1**	**0.0**
	comp=Z,9.3nm,0.7s,baz=22,slow=2.7,SNR=12						
LVC	**Limon Verde**	**145.32**	**281**		**PKPbc**	**04 25 09.8**	**-0.3**
PLCA	**Paso Flores**	**151.41**	**248**	PKPbc	**PKiKP**	**04 25 26.2**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=16,slow=2.4,SNR=12						
PLCA	**Paso Flores**	**151.41**	**248**	PKIKP	**PKiKP**	**04 25 25.9**	**+0.1**
PLCA	**Paso Flores**	**151.41**	**248**		**PKiKP**	**04 25 25.9**	**+0.1**

IDC 23 04:41:45.5±7.6, 31.05S×178.88W, h0km, mb3.5/2,
mb1 3.7/2, mb1mx3.5/23, mbtmpg3.5/2, Error ellipse:
s-maj=316.2km s-min=60.6km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.32**	**268**	P	P	04 49 41.5	+0.1
	0.4nm,0.6s,baz=103,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**43.37**	**273**	P	P	04 49 49.5	-0.4
	0.3nm,0.4s,baz=112,slow=8.1,SNR=8.5						
FINES	**FINESS Array B**	**145.48**	**339**	PKPbc	PKPdf	05 01 24.1	-0.7
	2.4nm,0.9s,baz=57,slow=5.1,SNR=4.6						

UCR ***23*** *04:56:42.8±1.3, 14.11N×91.22W, h12km±8km, ML3.5*
SNET ***23*** *04:56:42.7±1.1, 14.11N×91.22W, h12km±7km, ML3.6*
GCG ***23*** *04:56:43.1±0.3, 13.92N×91.34W, h24km±2km, MD3.8*
ISC 23 04:56:41.6±1.8, 14.00N±0.09×91.30W±0.08, h13km±16km, n33, σ0=97/46, 3C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.51**	**330**	⇑*e*P	**Pb**	**04 56 53.9**	**+1.5**
FUG	**Fuego 3**	**0.64**	**45**	*e*P	**Pn**	**04 56 57.0**	**+0.5**
RTAL	**Retalhuleu**	**0.65**	**324**	⇑*i*P	**Pg**	**04 56 54.0**	**-0.3**
RTAL				*e*S	**Sb**	**04 57 03.6**	**-0.2**
RTAL				IAML		04 57 11.0	
	comp=Z,1μm,0.5s						
PCG	**Pacaya**	**0.78**	**60**	*e*P	**Pn**	**04 56 59.4**	**+0.8**
NBG	**Las Nubes**	**1.10**	**58**	⇑*i*P	**Pn**	**04 57 04.7**	**+1.7**
NBG				*e*S	**Sn**	**04 57 21.5**	**+3.3**
HUEH	**Huehuetenango**	**1.33**	**352**	*e*P	**Pn**	**04 57 04.9**	**-1.3**
HUEH				*e*S	**Sn**	**04 57 22.8**	**-1.0**
HUEH				IAML		04 57 27.2	
	comp=Z,823nm,0.4s						
RTR	**El Retiro**	**1.61**	**93**	*e*P	**Pn**	**04 57 10.4**	**+0.4**
RTR	**El Retiro**	**1.61**	**93**	*e*P	**Pn**	**04 57 10.4**	**+0.4**
SBLS	**San Blas**	**1.64**	**95**	*e*P	**Pn**	**04 57 10.8**	**+0.4**
SBLS	**San Blas**	**1.64**	**95**	*e*P	**Pn**	**04 57 10.8**	**+0.4**
SNJE	**San Jose**	**1.65**	**94**	*e*P	**Pn**	**04 57 11.0**	**+0.4**
SNJE	**San Jose**	**1.65**	**94**	*e*P	**Pn**	**04 57 11.0**	**+0.4**
UNIC	**Universidad Ca**	**1.71**	**90**	*e*P	**Pn**	**04 57 11.1**	**-0.1**
UNIC				*e*S	**Sb**	**04 57 33.1**	**-1.2**
UNIC	**Universidad Ca**	**1.71**	**90**	*e*P	**Pn**	**04 57 11.1**	**-0.1**
UNIC				*e*S	**Sb**	**04 57 33.1**	**-1.2**
TACO	**Tacachico**	**1.89**	**91**	⇓*e*P	**Pn**	**04 57 13.3**	**-0.4**
TACO				*e*S	**Sb**	**04 57 38.1**	**-1.6**
TACO	**Tacachico**	**1.89**	**91**	⇓*e*P	**Pn**	**04 57 13.3**	**-0.4**
TACO				*e*S	**Sb**	**04 57 38.1**	**-1.6**
MRL	**Marmol**	**1.90**	**55**	*e*P	**Pn**	**04 57 13.6**	**-0.5**
MRL	**Marmol**	**1.90**	**55**	*e*P	**Pn**	**04 57 13.6**	**-0.5**
UEES	**Universidad Ev**	**2.02**	**98**	*e*P	**Pn**	**04 57 15.7**	**+0.1**
UEES				*e*S	**Sn**	**04 57 41.3**	**+0.5**
UEES				IAML		04 57 47.7	
	comp=Z,305nm,0.3s						
UEES	**Universidad Ev**	**2.02**	**98**	*e*P	**Pn**	**04 57 15.7**	**+0.1**
UEES				*e*S	**Sn**	**04 57 41.3**	**+0.5**
UEES				IAML		04 57 47.7	
	comp=Z,305nm,0.3s						
LFRS	**El Faro**	**2.21**	**99**	*e*P	**Pn**	**04 57 18.7**	**+0.6**
LFRS				*e*S	**Sb**	**04 57 47.1**	**-1.8**
LFRS	**El Faro**	**2.21**	**99**	*e*P	**Pn**	**04 57 18.7**	**+0.6**
LFRS				*e*S	**Sb**	**04 57 47.1**	**-1.8**
LBRS	**Las Brisas**	**2.21**	**96**	*e*P	**Pn**	**04 57 18.3**	**+0.2**
LBRS	**Las Brisas**	**2.21**	**96**	*e*P	**Pn**	**04 57 18.3**	**+0.2**
PAVA	**Las Pavas**	**2.32**	**97**	*e*P	**Pn**	**04 57 19.7**	**+0.1**
PAVA				*e*S	**Sn**	**04 57 47.4**	**-0.6**
PAVA				IAML		04 58 04.4	
	comp=Z,174nm,0.4s						
PAVA	**Las Pavas**	**2.32**	**97**	*e*P	**Pn**	**04 57 19.7**	**+0.1**
PAVA				*e*S	**Sn**	**04 57 47.4**	**-0.6**
PAVA				IAML		04 58 04.4	
	comp=Z,174nm,0.4s						
COEG	**Centro de Oper**	**2.38**	**99**	*e*P	**Pn**	**04 57 20.9**	**+0.4**
COEG				IAML		04 58 08.3

	baz=306							
ANP	**Anpu**	**0.72**	**297**	S	**Sb**	**04 57 58.1**	**-0.6**
	baz=296							
JYNG	**Yonagunijimaku**	**0.77**	**122**	P	**Pg**	**04 57 48.4**	**-0.5**
JYNG				S	**Sg**	**04 57 59.8**	**+0.8**
TWS1	**Kuangyinshan**	**0.77**	**288**	*eP*	**Pb**	**04 57 49.4**	**-0.2**
	baz=287							
PCYT	**Pengchaiyu**	**0.78**	**349**	*eP*	**Pg**	**04 57 48.8**	**-0.2**
	baz=352							
YHNB	**Yeheng**	**0.80**	**256**	P	**Pg**	**04 57 49.6**	**+0.1**
	baz=253							
NSK	**Sanguang**	**0.81**	**257**	P	**Pg**	**04 57 49.8**	**+0.1**
	baz=254							
NSK				S	**Sb**	**04 58 01.5**	**+0.1**
	baz=254							
YOJ	**Yonaguni jima**	**0.82**	**119**	*eP*	**Pg**	**04 57 49.3**	**-0.5**
	baz=119							
YOJ	**Yonaguni jima**	**0.82**	**119**	P	**Pg**	**04 57 49.3**	**-0.5**
YOJ				S	**Sg**	**04 58 00.2**	**-0.2**
NNSB	**Datong**	**0.88**	**241**	*eP*	**Pg**	**04 57 51.0**	**-0.1**
	baz=238							
NNSB				S	**Sb**	**04 58 04.1**	**+0.6**
	baz=238							
NNSH	**Datong**	**0.88**	**241**	P	**Pb**	**04 57 51.3**	**-0.3**
	baz=238							
NNSH				*eS*	**Sb**	**04 58 03.9**	**+0.4**
	baz=238							
NNS	**Nan Shan**	**0.89**	**242**	*eP*	**Pb**	**04 57 51.5**	**-0.1**
	baz=238							
NNS				*eS*	**Sb**	**04 58 04.1**	**+0.5**
	baz=238							
NACB	**Ninganchiao**	**0.90**	**220**	*eP*	**Pg**	**04 57 51.1**	**-0.3**
	baz=217							
NACB				*eS*	**Sb**	**04 58 03.2**	**-0.6**
	baz=217							
ETLH	**Xiulin Townshi**	**0.94**	**226**	*eP*	**Pg**	**04 57 52.1**	**-0.2**
	baz=223							
ETLH				*eS*	**Sb**	**04 58 05.3**	**+0.1**
	baz=223							
TWD	**Chiawan**	**0.97**	**217**	*eP*	**Pg**	**04 57 52.2**	**-0.5**
	baz=213							
FUSS	**Fushou**	**1.09**	**236**	P	**Pb**	**04 57 54.9**	**-0.2**
	baz=233							
FUSS				*eS*	**Sb**	**04 58 09.8**	**+0.3**
	baz=233							
WHF	**Hehuan Shan**	**1.13**	**231**	*eP*	**Pb**	**04 57 55.9**	**-0.1**
	baz=228							
WHF				*eS*	**Sb**	**04 58 11.8**	**+0.8**
	baz=228							
NSTT	**Nanjuang**	**1.14**	**258**	*eP*	**Pg**	**04 57 55.4**	**-0.6**
	baz=256							
TDCB	**Techi**	**1.15**	**238**	*eP*	**Pb**	**04 57 56.1**	**0.0**
	baz=235							
TDCB				*eS*	**Sb**	**04 58 11.5**	**+0.3**
	baz=235							
CHGB	**Renai**	**1.25**	**230**	P	**Pb**	**04 57 57.9**	**0.0**
	baz=228							
ESL	**Shilin**	**1.27**	**215**	*eP*	**Pg**	**04 57 57.8**	**-0.7**
	baz=212							
WHP	**Taichung City**	**1.31**	**244**	*eP*	**Pb**	**04 57 58.8**	**0.0**
	baz=241							
OWD	**Renai**	**1.32**	**227**	*eP*	**Pb**	**04 57 59.2**	**+0.2**
	baz=224							
OWD				*eS*	**Sn**	**04 58 16.9**	**+0.4**
	baz=224							
IRIF	**Iriomote-Funau**	**1.47**	**111**	P	**Pb**	**04 58 01.8**	**+0.4**
IRIF				S	**Sb**	**04 58 20.7**	**+0.6**
VWDT	**VWDT**	**1.49**	**222**	*eP*	**Pb**	**04 58 01.5**	**-0.2**
	baz=220							
HGSD	**Ruisui**	**1.55**	**208**	*eP*	**Pn**	**04 58 01.8**	**0.0**
	baz=206							
SMLT	**Sun Moon Lake**	**1.56**	**231**	*eP*	**Pg**	**04 58 04.0**	**+0.1**
	baz=229							
TYC	**Yuchr**	**1.57**	**233**	*eP*	**Pg**	**04 58 04.2**	**0.0**
	baz=230							
EHY	**Hungye**	**1.59**	**212**	*eP*	**Pn**	**04 58 01.8**	**-0.4**
	baz=209							
YULB	**Yu-li**	**1.69**	**210**	*eP*	**Pn**	**04 58 03.1**	**-0.7**
	baz=208							
JKRS	**Kuro-shima**	**1.74**	**111**	*eS*	**Sn**	**04 58 27.4**	**+0.9**
FULB	**Fuli**	**1.87**	**207**	*eP*	**Pn**	**04 58 05.9**	**-0.2**
	baz=205							
ALS	**Alishan**	**1.87**	**224**	*eP*	**Pb**	**04 58 08.6**	**+0.1**
	baz=222							
CHN5	**Tsauling**	**1.90**	**229**	*eP*	**Pb**	**04 58 09.0**	**+0.2**
	baz=227							
CHN4	**Tsaushan**	**2.12**	**225**	*eP*	**Pb**	**04 58 12.0**	**-0.6**
	baz=223							

TEH ***23*** *05:03:25.9, 33.71N×45.56E, h16km, ML3.4*
ISN ***23*** *05:03:28.6±1.2, 33.72N×45.67E, h8km±465km, ML2.7*
ISC 23 05:03:27.8±1.0**, 33.74N**±0.06×**45.64E**±0.06**, h13**km**, n19,**
σ 0.86/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.67**	**159**	*e*Pg	**Pg**	**05 03 40.0**	**-0.8**
	baz=340						
IBDR				*e*Sg	**Sb**	**05 03 50.0**	**-0.5**
IBDR				AML	AML	05 03 53.6	
	comp=E,345nm,0.5s						
IBDR				AML	AML	05 03 57.7	
	comp=N,330nm,0.3s						
IGHG	**Ghaleghazi**	**0.97**	**52**	*e*Pg	**Pb**	**05 03 45.6**	**-1.1**
IGHG				*e*		05 04 03.3	
IDHR	**Dehrash**	**1.15**	**33**	*e*Pg	**Pb**	**05 03 48.7**	**-0.9**
IDHR				*e*		05 03 51.8	
BHD	**Baghdad**	**1.15**	**247**	*e*Pg	**Pg**	**05 03 50.0**	**+0.1**
BHD				*e*Sg	**Sn**	**05 04 05.0**	**-0.1**
BHD				AML	AML	05 04 21.0	
	comp=E,144nm,0.8s						
IVIS	**Veis**	**1.28**	**52**	*e*Pg	**Pn**	**05 03 51.1**	**-0.4**
IVIS				*e*		05 04 16.4	
KCHF	**Cheshme Sefid,**	**1.28**	**65**	*e*Pg	**Pb**	**05 03 51.8**	**-0.1**
KCHF				*e*		05 04 14.8	
KER	**Kermanshah**	**1.40**	**62**	*e*Pg	**Pb**	**05 03 54.1**	**+0.2**
ILIN	**Lien**	**1.61**	**43**	*e*Pg	**Pb**	**05 03 57.3**	**-0.3**
ILIN				*e*		05 04 22.2	
IKOM	**Komasi**	**1.62**	**74**	*e*Pg	**Pb**	**05 03 57.3**	**-0.3**
IKOM				*e*		05 04 28.5	
IKFM	**Kafar-mosalman**	**1.85**	**96**	*e*Pg	**Pb**	**05 04 01.7**	**+0.2**
IKFM				*e*		05 04 35.4	
IBZA	**Bozab**	**1.98**	**68**	*e*Pn	**Pn**	**05 04 02.4**	**+1.1**
IBZA				*e*		05 04 34.4	
IDOB	**Doab**	**2.12**	**88**	*e*Pn	**Pn**	**05 04 03.5**	**+0.4**
IKMR	**Kamar-syah**	**2.30**	**95**	*e*		05 04 46.2	
IKMR				*e*Pn	**Pn**	**05 04 05.8**	**+0.4**
IALM	**Almabolaq**	**2.38**	**61**	*e*Pn	**Pn**	**05 04 08.1**	**+1.4**
HSAM	**Samen**	**2.51**	**78**	*e*		05 04 51.3	
HSAM				*e*Pn	**Pn**	**05 04 09.0**	**+0.5**
HSRG	**Sareghieh**	**2.65**	**55**	*e*Pn	**Pn**	**05 04 12.2**	**+1.7**
HSRG				*e*		05 04 55.8	
HAGD	**Aghdareh**	**3.10**	**69**	*e*Pn	**Pn**	**05 04 17.6**	**+1.0**
HAGD				*e*		05 05 07.7	
QABG	**Abgarm-Qazvin**	**3.80**	**58**	*e*Pn	**Pn**	**05 04 26.3**	**+0.1**
IKLH	**Kolahrood**	**4.98**	**93**	*e*Pn	**Pn**	**05 04 44.1**	**+1.6**

WEL 23 05:11:59.5, 43.6S±0.9×**17.3E**±°**, h11**km±2km**, M2.1/7, ML2.3/7, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.09**	**170**	P	Pg	05 12 03.3	+1.1
MQZ				S	Sg	05 12 05.2	+1.1
AKCZ	**Akaroa Harbour**	**0.33**	**142**	P	Pb	05 12 07.8	+0.4
AKCZ				S	Sb	05 12 12.6	-0.1
OKCZ	**Okains Bay**	**0.33**	**110**	P	Pb	05 12 07.5	+0.1
RACZ	**Rakaia**	**0.38**	**252**	P	Pb	05 12 09.1	+0.9
RACZ				S	Sb	05 12 14.8	+0.8
AMCZ	**Amberley**	**0.44**	**2**	P	Pb	05 12 09.4	+0.2
WACZ	**Wakanui South**	**0.66**	**240**	P	Pn	05 12 14.4	-0.4
WACZ				S	Sn	05 12 24.4	-0.8
GVZ	**Greta Valley S**	**0.71**	**25**	P	Pb	05 12 14.6	+0.7
MHCZ	**Mount Hutt**	**0.78**	**276**	P	Pn	05 12 15.9	-0.5
LTZ	**Lake Taylor**	**0.87**	**342**	P	Pn	05 12 17.4	-0.4
LTZ				S	Sn	05 12 29.6	-0.9
ARCZ	**Arundel**	**1.10**	**252**	P	Pn	05 12 22.7	+1.7
ARCZ				S	Sn	05 12 37.3	+1.1
INZ	**Inchbonnie**	**1.24**	**315**	P	Pg	05 12 24.4	+1.0
ODZ	**Otahua Downs**	**2.02**	**224**	P	Pg	05 12 39.3	+1.1
TUWZ	**Tuamarina**	**2.39**	**24**	P	Pn	05 12 38.3	-0.3
KRVZ	**Karewarewa**	**5.05**	**28**	P	Pb	05 13 21.8	-6.2

TEH ***23*** *05:27:47.1, 33.73N×45.70E, h14km, ML2.6*
ISN ***23*** *05:27:47.6±0.5, 33.73N×45.62E, h58km±32km, ML2.1*
ISC 23 05:27:45.4±1.0**, 33.74N**±0.05×**45.66E**±0.05**, h13**km**, n12,**
σ 1.14/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.67**	**160**	*e*Pg	**Pn**	**05 28 02.0**	**+1.5**
	baz=337						
IBDR				*e*Sg	**Sn**	**05 28 12.0**	**+1.2**
IBDR				AML	AML	05 28 18.8	
	comp=E,70nm,0.4s						
IBDR				AML	AML	05 28 22.8	
	comp=N,70nm,0.6s						
IGHG	**Ghaleghazi**	**0.96**	**52**	*e*		05 28 07.8	
IGHG				*e*Pg	**Pn**	**05 28 05.3**	**+0.5**
IGHG				*e*Sg	**Sn**	**05 28 18.8**	**+0.4**
IDHR	**Dehrash**	**1.13**	**32**	*e*		05 28 09.8	
IDHR				*e*Pg	**Pg**	**05 28 08.6**	**+1.3**
BHD	**Baghdad**	**1.17**	**247**	*e*Pg	**Pg**	**05 28 08.0**	**+0.1**
BHD				*e*Sg	**Sn**	**05 28 23.0**	**-0.3**
BHD				AML	AML	05 28 43.0	
	comp=E,25nm,0.9s						
IVIS	**Veis**	**1.26**	**51**	*e*Pg	**Pg**	**05 28 10.6**	**+0.9**
IVIS				*e*		05 28 32.0	
KCHF	**Cheshme Sefid,**	**1.26**	**65**	*e*Pg	**Pg**	**05 28 10.7**	**+0.9**
KCHF				*e*		05 28 33.8	
KER	**Kermanshah**	**1.38**	**62**	*e*Pg	**Pg**	**05 28 12.9**	**+0.9**
KER				*e*		05 28 34.6	
ILIN	**Lien**	**1.59**	**42**	*e*Pg	**Pg**	**05 28 16.3**	**+0.2**
ILIN				*e*		05 28 16.7	
IKOM	**Komasi**	**1.60**	**74**	*e*Pg	**Pg**	**05 28 16.1**	**0.0**
IKOM				*e*		05 28 42.4	
IKFM	**Kafar-mosalman**	**1.83**	**96**	*e*Pn	**Pg**	**05 28 20.4**	**-0.2**
IKFM				*e*		05 28 50.9	
HSAM	**Samen**	**2.49**	**78**	*e*Pn	**Pb**	**05 28 27.9**	**-2.3**
HSAM				*e*		05 28 34.3	
HSRG	**Sareghieh**	**2.63**	**54**	*e*Pn	**Pb**	**05 28 31.1**	**-1.5**
HSRG				*e*		05 29 15.0	

DJA 23 05:34:12.7±0.4**, 3.7N**±3.7×**12.6E**±°**, h10**km**, M4.2/7, mB5.5/1, mb4.9/1, MLv3.8/7, Mw(mB)5.0/1, Northern Moluccas Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.14**	**333**	P	Pb	05 34 33.6	-0.9
SGSI				S	Sg	05 34 49.5	+0.2
TNTI	**Ternate**	**2.30**	**145**	P	Pn	05 34 51.8	+1.1
GTOI	**Gorontalo**	**3.65**	**236**	P	Pn	05 35 09.3	0.0
SANI	**Sanana**	**4.69**	**181**	P	Pn	05 35 21.4	-2.2
SANI				S	Sn	05 36 11.2	-6.9
NLAI	**Namlea**	**5.96**	**170**	P	Pn	05 35 40.1	-1.0

IDC ***23*** *05:51:46.8±1.4, 17.62S×178.83W, h514km±14km, mb4.3/23, mb1 4.4/25, mb1mx4.2/34, mbtmp5.1/25, Error ellipse: s-maj=16.0km s-min=10.2km az=155.0*
NEIC ***23*** *05:51:49.5±1.3, 17.47S±0.06×178.93W±0.09, h542km±5km, mb4.8/260, Error ellipse: s-maj=12.5km s-min=8.9km az=77.0*
BGR ***23*** *05:51:49.5±0.0, 16.35S×177.41W, h500km*
ISC 23 05:51:49.5±0.3**, 17.63S**±0.06×**178.82W**±0.05**, h550**km**, n586,** σ **0.97/601, mb4.8/148, 26C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.99**	**268**	P	**P**	**05 53 04.4**	**-0.2**
MSVF				S	**S**	**05 54 06.9**	**+1.2**
AFI	**Afiamalu**	**7.72**	**62**	P		05 53 40.2	-4.4
AFI				S	**S**	**05 55 14.4**	**-4.5**
NIUE	**Niue**	**8.56**	**101**	P	**P**	**05 53 50.9**	**-1.9**
FUNA	**Funafuti**	**9.26**	**348**	P	**P**	**05 53 56.3**	**-3.7**
SANVU	**Saraoutou**	**13.58**	**277**	P	**P**	**05 54 42.5**	**-2.0**
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**05 54 52.2**	**-2.3**
	1.9nm,0.3s,baz=112,slow=19,SNR=11						
DZM	**Mont Dzumac**	**14.55**	**250**	*eP*	**P**	**05 54 52.2**	**-2.3**
	119nm,1.0s						
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**05 54 52.0**	**-2.5**
KNTN	**Kanton**	**16.32**	**26**	P	**P**	**05 55 10.2**	**-2.1**
RAR	**Rarotonga**	**18.31**	**104**	P	**P**	**05 55 30.8**	**+0.6**
	1.9nm,0.3s,baz=224,slow=5.6,SNR=7.0						
RAR	**Rarotonga**	**18.31**	**104**	P	**P**	**05 55 30.4**	**+0.1**
OUZ	**Omahuta**	**18.78**	**200**	P	**P**	**05 55 35.3**	**+1.0**
URZ	**Urewera**	**20.86**	**189**	P	**P**	**05 55 50.6**	**-2.6**
	12nm,0.6s,baz=336,slow=8.9,SNR=4.2						
URZ	**Urewera**	**20.86**	**189**	P	**P**	**05 55 52.8**	**-0.4**
URZ				IAmb	IAmb	05 55 53.6	
	comp=Z,16nm,0.8s						
WKZ	**Wanaka**	**28.97**	**198**	P	**P**	**05 57 03.3**	**-1.6**
EIDS	**Eidsvold**	**29.00**	**249**	P	**P**	**05 57 04.9**	**-0.6**
MLZ	**Mavora Lakes**	**29.73**	**199**	P	**P**	**05 57 11.7**	**+0.1**
MLZ				IAmb	IAmb	05 57 29.8	
	comp=Z,50nm,1.3s						
ARMA	**Armidale**	**29.75**	**239**	P	**P**	**05 57 12.6**	**+0.6**
RABL	**Rabaul**	**31.40**	**292**	P	**P**	**05 57 23.7**	**-2.5**
KRVT	**Keravat (AS076**	**31.47**	**291**	P	**P**	**05 57 24.8**	**-2.1**
	comp=Z,41nm,0.3s,baz=37,slow=20,SNR=4.2						
CTA	**Charters Tower**	**33.11**	**260**	P	**P**	**05 57 40.0**	**-0.7**
	comp=Z,38nm,0.7s,baz=89,slow=10,SNR=40						
CTAO	**Charters Tower**	**33.11**	**260**	P	**P**	**05 57 40.3**	**-0.4**
CAN	**Canberra**	**33.57**	**232**	P	**P**	**05 57 44.8**	**+0.4**
CAN				IAmb	IAmb	05 57 45.0	
	comp=Z,15nm,0.8s						
PMG	**Port Moresby**	**34.03**	**279**	P	**P**	**05 57 48.3**	**-0.2**
	comp=Z,38nm,0.8s,baz=58,slow=5.4,SNR=7.1						
PMG	**Port Moresby**	**34.03**	**279**	P	**P**	**05 57 48.8**	**+0.3**
JOHN	**Johnston Islan**	**35.35**	**15**	P	**P**	**05 57 59.2**	**-0.2**
COEN	**Coen**	**36.72**	**270**	P	**P**	**05 58 10.3**	**-0.5**
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**05 58 13.9**	**+0.6**
TOO				IAmb	IAmb	05 58 14.6	
	comp=Z,32nm,0.9s						
TAU	**Tasmania Unive**	**38.19**	**221**	P	**P**	**05 58 21.6**	**-0.8**
TAU				IAmb	IAmb	05 58 47.4	
	comp=Z,57nm,1.4s						
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**05 58 24.9**	**+0.3**
	comp=Z,30nm,0.5s,baz=89,slow=9.7,SNR=66						
STKA				ScP	**ScP**	**06 03 23.4**	**+3.9**
	comp=Z,5.0nm,1.0s,baz=110,slow=7.3,SNR=3.4						
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**05 58 24.7**	**+0.2**
GENI	**Genyem**	**42.92**	**286**	P	**P**	**05 59 01.0**	**+0.5**
	comp=Z,2μmcomp=Z,200nm,0.7s						
BBOO	**Buckleboo**	**43.20**	**241**	P	**P**	**05 59 02.5**	**0.0**
KHLU	**Kahalu`u**	**43.30**	**32**	P	**P**	**05 59 03.9**	**+0.5**
HUH	**Hualalai**	**43.41**	**32**	P	**P**	**05 59 05.3**	**+0.8**
MLOA	**Mauna Loa Obse**	**43.42**	**33**	P	**P**	**05 59 05.4**	**+0.6**
HMH	**Humu`ula Sheep**	**43.52**	**33**	P	**P**	**05 59 06.1**	**+0.7**
POHA	**Pohakuloa**	**43.63**	**33**	P	**P**	**05 59 06.6**	**+0.5**
HPAH	**Hawaii Prepara**	**43.77**	**32**	P	**P**	**05 59 06.9**	**-0.1**
KIP	**Kipapa**	**43.84**	**29**	P	**P**	**05 59 06.5**	**-0.9**
HLK	**Haleakala**	**44.11**	**31**	P	**P**	**05 59 10.3**	**+0.5**
WR0	**Warramunga Arr**	**44.11**	**259**	P	**P**	**05 59 08.5**	**-1.2**
WR0				IAmb	IAmb	05 59 09.5	
	comp=Z,30nm,1.4s						
WB0	**Warramunga Arr**	**44.27**	**260**	P	**P**	**05 59 09.4**	**-1.5**
WB0				IAmb	IAmb	05 59 10.6	
	comp=Z,30nm,1.0s						
WB2	**Warramunga Arr**	**44.29**	**259**	P	**P**	**05 59 09.4**	**-1.7**
WB2				IAmb	IAmb	05 59 10.8	
	comp=Z,28nm,0.7s						
WRAB	**Tennant Creek**	**44.29**	**259**	P	**P**	**05 59 09.3**	**-1.8**
WRAB				IAmb	IAmb	05 59 10.8	
	comp=Z,22nm,0.7s						
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**05 59 09.7**	**-1.5**
	comp=Z,15nm,0.5s,baz=93,slow=7.0,SNR=213						
WRA				ScP	**ScP**	**06 03 46.6**	**+3.3**
	comp=Z,3.6nm,0.9s,baz=88,slow=4.1,SNR=7.0						
WRA				S	**S**	**06 05 02.7**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=96,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**05 59 10.2**	**-1.0**
AS31	**Alice Springs**	**44.49**	**254**	P	**P**	**05 59 12.3**	**-0.4**
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**05 59 12.2**	**-0.5**
	comp=Z,169nm,0.7s,baz=88,slow=8.2,SNR=1574						
ASAR				ScP	**ScP**	**06 03 47.6**	**+3.5**
	comp=Z,3.5nm,0.7s,baz=104,slow=4.4,SNR=8.8						
ASAR				S	**S**	**06 05 05.8**	**-2.6**
	comp=Z,5.5nm,0.9s,baz=89,slow=15,SNR=19						
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**05 59 11.8**	**-0.9**
GUMO	**Guam**	**47.40**	**309**	P	**P**	**05 59 35.1**	**+0.4**
MTN	**Manton Dam**	**48.42**	**268**	P	**P**	**05 59 41.7**	**-0.7**
MTN				IAmb	IAmb	05 59 42.4	
	comp=Z,46nm,0.8s						

FORT	**Forrest**	**49.78**	**244**	P	**P**	**05 59 51.7**	**-0.5**
KNRA	**Kununurra**	**50.13**	**264**	P	**P**	**05 59 54.7**	**-0.3**
FAKI	**Fak Fak**	**50.14**	**281**	P	**P**	**05 59 55.1**	**0.0**
FAKI				IAmb	IAmb	06 00 06.1	
	comp=Z,54nm,1.3s						
SIJI	**Sorong**	**51.80**	**283**	P	**P**	**06 00 07.5**	**+0.3**
	comp=Z,104nm,0.7s,baz=129,slow=5.5,SNR=14						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**06 00 13.5**	**0.0**
	comp=Z,9.1nm,0.4s,baz=69,slow=7.6,SNR=68						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**06 00 13.8**	**+0.3**
SOEI	**Soe**	**55.68**	**270**	P	**P**	**06 00 36.2**	**+1.5**
	comp=Z,139nm,0.7s						
SOEI	**Soe**	**55.68**	**270**	P	**P**	**06 00 36.4**	**+1.6**
BATI	**Baumata**	**56.15**	**269**	P	**P**	**06 00 39.1**	**+1.3**
	comp=Z,18nm,0.3s,baz=251,slow=5.0,SNR=3.9						
SANI	**Sanana**	**56.31**	**280**	P	**P**	**06 00 39.2**	**+0.3**
	comp=Z,51nm,1.2s						
PSA00	**Pilbara Seismi**	**57.60**	**255**	P	**P**	**06 00 47.3**	**-0.4**
PSA00				IAmb	IAmb	06 00 48.0	
	comp=Z,31nm,0.7s						
PSA00	**Pilbara Seismi**	**57.60**	**255**	P	**P**	**06 00 46.3**	**-1.3**
PSA00				IAmb	IAmb	06 00 47.2	
	comp=Z,15nm,0.7s						
EDFI	**Ende, Flores**	**58.40**	**270**	P	**P**	**06 00 52.8**	**-0.5**
	comp=Z,222nmcomp=Z,22nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.00**	**242**	P	**P**	**06 00 57.1**	**+0.2**
NWAO				IAmb	IAmb	06 01 14.3	
	comp=Z,62nm,1.4s						
MORW	**Morawa**	**60.24**	**246**	P	**P**	**06 01 04.8**	**-0.4**
KAPI	**Kappang**	**61.29**	**274**	P	**P**	**06 01 11.5**	**-0.8**
	comp=Z,6.9nm,0.5s,baz=106,slow=5.3,SNR=5.8						
KAPI	**Kappang**	**61.29**	**274**	P	**P**	**06 01 11.5**	**-0.8**
PLAI	**Plampang**	**62.11**	**269**	P	**P**	**06 01 17.5**	**-0.2**
	comp=Z,46nm,0.7s						
GIRL	**Giralia**	**62.60**	**253**	P	**P**	**06 01 21.5**	**+0.8**
MPSI	**Mapaga**	**62.85**	**280**	P	**P**	**06 01 22.7**	**+0.2**
	comp=Z,20nm,0.8s						
TWSI	**Taliwang, Sumb**	**62.99**	**269**	P	**P**	**06 01 23.5**	**+0.1**
	comp=Z,43nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.66**	**269**	P	**P**	**06 01 39.1**	**-1.2**
JAGI				IAmb	IAmb	06 01 39.8	
	comp=Z,42nm,1.0s						
MYLDM	**Lahad Datu**	**65.87**	**284**	P	**P**	**06 01 42.5**	**+0.9**
MJAR	**Matsushiro Arr**	**67.45**	**324**	P	**P**	**06 01 50.7**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=162,slow=6.3,SNR=14						
MJAR	**Matsushiro Arr**	**67.45**	**324**	P	**P**	**06 01 49.3**	**-1.6**
MAT	**Matsushiro**	**67.46**	**324**	P	**P**	**06 01 50.9**	**0.0**
ATKA	**Atka Island**	**69.65**	**3**	P	**P**	**06 02 03.0**	**-0.7**
LEM	**Lembang**	**72.34**	**268**	P	**P**	**06 02 21.4**	**+0.8**
	comp=Z,25nm,0.5s,baz=231,slow=6.1,SNR=3.8						
QSPA	**South Pole Qui**	**72.42**	**180**	P	**P**	**06 02 21.1**	**+1.0**
PET	**Petropavlovsk**	**73.01**	**346**	P	**P**	**06 02 22.6**	**-0.8**
PET				IAmb	IAmb	06 02 48.4	
	comp=Z,45nm,1.0s						
PETK	**Petropavlovsk-**	**73.31**	**345**	P	**P**	**06 02 25.4**	**+0.2**
	comp=Z,30nm,0.9s,baz=119,slow=8.6,SNR=18						
PETK	**Petropavlovsk-**	**73.31**	**345**	P	**P**	**06 02 24.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**76.17**	**326**	P	**P**	**06 02 42.9**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=125,slow=3.6,SNR=4.5						
USRK	**Ussuriysk Ar.**	**76.17**	**326**	P	**P**	**06 02 40.4**	**-0.9**
SCZ2	**Santa Cruz Isl**	**76.21**	**47**	P	**P**	**06 02 43.3**	**+1.4**
	baz=238						
SAO	**San Andreas Ge**	**76.50**	**44**	P	**P**	**06 02 43.5**	**+0.1**
SAO				IAmb	IAmb	06 02 45.6	
	comp=Z,33nm,0.8s						
PKM	**Mcpherson Peak**	**76.57**	**46**	P	**P**	**06 02 45.6**	**+1.6**
	baz=237,SNR=6.5						
PMPB	**Monarch Peak**	**76.62**	**45**	P	**P**	**06 02 44.5**	**+0.4**
PMPB				IAmb	IAmb	06 02 46.5	
	comp=Z,37nm,0.9s						
SMMC	**Simmler**	**76.67**	**46**	P	**P**	**06 02 46.1**	**+1.7**
	baz=237,SNR=5.2						
PAGB	**Antelope Grade**	**76.72**	**46**	P	**P**	**06 02 45.1**	**+0.4**
CIS	**Catalina Islan**	**76.76**	**48**	P	**P**	**06 02 45.7**	**+0.9**
	baz=238						
KMRM	**Mail Ridge**	**77.05**	**40**	P	**P**	**06 02 48.0**	**+1.5**
KMRM				IAmb	IAmb	06 02 49.0	
	comp=Z,51nm,0.7s						
DECC	**Green Verdugo**	**77.26**	**48**	P	**P**	**06 02 48.8**	**+1.2**
	baz=238						
PASC	**Pasadena Art C**	**77.32**	**48**	P	**P**	**06 02 48.3**	**+0.4**
PASC				IAmb	IAmb	06 02 49.6	
	comp=Z,25nm,0.8s						
ARVC	**Arvin**	**77.38**	**47**	P	**P**	**06 02 49.3**	**+1.1**
	baz=238,SNR=6.6						
109C	**Camp Elliot, M**	**77.43**	**49**	P	**P**	**06 02 49.4**	**+0.9**
	baz=239						
109C	**Camp Elliot, M**	**77.43

GSC **Goldstone, Bar** 78.88 47 P P 06 02 57.2 +0.9
baz=239,SNR=9.5
GSC **Goldstone, Bar** 78.88 47 P P 06 02 57.3 +0.9
HUMO **Hull Mountain** 78.93 39 P P 06 02 57.4 +1.1
BEKR **Beckworth** 78.94 42 P P 06 02 57.5 +0.8
BEKR IAmb IAmb 06 02 58.1
comp=Z,18nm,0.7s
HEC **Hector,Ludlow** 78.97 48 P P 06 02 57.8 +1.0
baz=240,SNR=19
PNTR **Pine Nut** 79.00 43 P P 06 02 58.0 +0.9
BC3 **Big Chuckawall** 79.01 49 P P 06 02 58.6 +1.5
baz=240,SNR=8.7
VCNR **Virginia City** 79.08 43 P P 06 02 57.6 +0.1
VCNR IAmb IAmb 06 02 59.6
comp=Z,22nm,0.8s
L04D **Klamath Falls** 79.09 39 P P 06 02 58.6 +1.2
baz=234,SNR=5.9
M04C **Macdoel** 79.11 40 P P 06 02 58.7 +1.2
baz=235,SNR=5.6
GLA **Glamis** 79.17 50 P P 06 02 59.6 +1.7
baz=241,SNR=16
GLA **Glamis** 79.17 50 P P 06 02 58.9 +1.0
GLA IAmb IAmb 06 03 00.6
comp=Z,25nm,0.8s
YERR **Yerington** 79.18 43 P P 06 02 58.6 +0.6
YERR IAmb IAmb 06 02 59.9
comp=Z,42nm,0.7s
LHV **Little Huntoon** 79.27 44 P P 06 02 59.3 +1.1
LHV IAmb IAmb 06 03 00.8
comp=Z,38nm,0.9s
I03D **Drain, OR** 79.35 37 P P 06 02 59.7 +1.2
baz=233
GMRC **Granite Mounta** 79.43 48 P P 06 03 00.4 +1.1
baz=240,SNR=10
FURC **Furnace Creek,** 79.44 46 P P 06 03 00.1 +1.0
baz=239,SNR=9.5
RYN **Ryan** 79.46 44 P P 06 03 00.0 +0.6
PIX **Pinacate** 79.47 52 P P 06 03 00.1 +0.7
PAHR **Pah Rah Range** 79.48 42 P P 06 03 00.3 +0.8
PAHR IAmb IAmb 06 03 01.5
comp=Z,23nm,0.8s
IRM **Iron Mountain** 79.48 49 P P 06 03 00.9 +1.3
baz=240,SNR=11
NVAR **Mina Array Bea** 79.49 44 P P 06 03 00.7 +1.0
comp=Z,19nm,0.7s,baz=225,slow=9.0,SNR=150
SHOC **Shoshone, Teco** 79.56 47 P P 06 03 00.9 +1.1
baz=239,SNR=10.0
CN2 **Changchun** 79.57 323 *e*P P 06 03 00.8 +1.1
CN2 *e*pP pP 06 04 56.8 +0.9
CN2 *e*S S 06 12 18.3 +1.7
CN2 pmax pmax
comp=Z,10.0nm,1.0s
TUQ **Turquoise Moun** 79.57 48 P P 06 03 01.3 +1.3
baz=240,SNR=13
NV11 **Mina Array Sit** 79.59 44 P P 06 03 00.8 +0.6
NV11 IAmb IAmb 06 03 02.2
comp=Z,29nm,1.0s
I04A **Tendick Farm,** 79.95 38 P P 06 03 02.4 +0.6
baz=234
KVN **Kaiserville** 79.96 44 P P 06 03 02.8 +0.7
KVN IAmb IAmb 06 03 03.5
comp=Z,20nm,0.7s
TPH **Tonopah** 80.03 45 P P 06 03 03.3 +0.8
TPNV **Topopah Spring** 80.11 46 P P 06 03 04.0 +1.1
baz=239,SNR=18
TPNV **Topopah Spring** 80.11 46 P P 06 03 03.4 +0.5
MOD **Modoc Plateau** 80.12 40 P P 06 03 03.8 +0.9
MOD IAmb IAmb 06 03 04.8
comp=Z,26nm,0.7s
214A **Organ Pipe Nat** 80.15 52 P P 06 03 04.8 +1.7
baz=242,SNR=12
214A **Organ Pipe Nat** 80.15 52 P P 06 03 04.4 +1.3
NEE2 **Needles Airpor** 80.16 49 P P 06 03 04.5 +1.4
baz=241
K05A **Summer Lake** 80.23 39 P P 06 03 04.3 +0.9
K05A IAmb IAmb 06 03 05.7
comp=Z,49nm,1.0s
PDMCI **Parker Dam,Lak** 80.28 49 P P 06 03 05.1 +1.5
baz=241,SNR=6.9
J05D **Fort Rock, OR** 80.35 39 P P 06 03 05.4 +1.4
baz=235,SNR=11
BRLK **Bradley Lake** 80.40 14 P P 06 03 03.9 +0.2
RSO **Redoubt South** 80.62 13 P P 06 03 04.1 -1.0
SHPR **Sheep Range** 80.64 47 P P 06 03 06.1 +0.5
PINE **Pine Mountain** 80.81 38 P P 06 03 07.4 +0.9
PINE IAmb IAmb 06 03 08.8
comp=Z,40nm,0.9s
I05D **Terrebonne, OR** 80.90 38 P P 06 03 07.9 +1.3
baz=235
SEW **Seward** 81.04 14 P P 06 03 06.2 -0.7
SEW IAmb IAmb 06 03 07.5
comp=Z,32nm,0.8s
PRN **Pahroc Range** 81.17 46 P P 06 03 09.2 +0.9
PRN IAmb IAmb 06 03 10.9
comp=Z,35nm,0.9s
R11A **Troy Canyon, C** 81.27 45 P P 06 03 09.6 +0.7
baz=240,SNR=15
R11A **Troy Canyon, C** 81.27 45 P P 06 03 08.9 0.0
O22K **Cooper Landing** 81.31 14 P P 06 03 08.4 +0.1
baz=208
G05D **Wamic, OR** 81.43 37 P P 06 03 10.3 +0.9
baz=234
E04D **Cinebar** 81.50 35 P P 06 03 10.9 +1.3
baz=233
F05D **White Salmon** 81.73 36 P P 06 03 11.8 +1.0
baz=234
D03D **Eldon** 81.81 34 P P 06 03 12.3 +1.1
baz=233
I07A **Izee** 81.83 39 P P 06 03 10.4 -1.2
I07A IAmb IAmb 06 03 13.7
comp=Z,32nm,0.9s
TUC **Tucson** 81.84 52 P P 06 03 13.9 +2.0
baz=243
TUC **Tucson** 81.84 52 P P 06 03 13.4 +1.6
TUC IAmb IAmb 06 03 14.8
comp=Z,28nm,0.9s
RC01 **Rabbit Creek A** 81.84 14 P P 06 03 10.6 -0.5
baz=208
SUA **Susitna One** 81.95 13 P P 06 03 11.1 -0.6
J08A **Circle Bar Ran** 82.05 40 P P 06 03 13.6 +0.9
J08A IAmb IAmb 06 03 14.8
comp=Z,55nm,1.2s
D05A **Enumclaw** 82.20 35 P P 06 03 13.8 +0.7
D05A IAmb IAmb 06 03 16.3
comp=Z,75nm,1.4s
LCMT **Little Creek M** 82.23 47 P P 06 03 13.7 -0.1
TTA **Tatalina** 82.27 10 P P 06 03 13.5 +0.2
TTA IAmb IAmb 06 03 14.8
comp=Z,25nm,1.0s
GLI **Glacier Island** 82.29 15 P P 06 03 12.7 -0.6
CCUT **Cedar City** 82.40 47 P P 06 03 15.9 +1.2
KNK **Knik Glacier** 82.42 14 P P 06 03 13.2 -0.8
KNK IAmb IAmb 06 03 14.8
comp=Z,36nm,0.8s
PMR **Palmer** 82.43 14 P P 06 03 13.6 -0.4
PMR IAmb IAmb 06 03 15.3
comp=Z,67nm,1.4s
KNB **Kanab** 82.53 48 P P 06 03 16.7 +1.4
319A **Douglas** 82.58 54 P P 06 03 17.2 +1.6
319A IAmb IAmb 06 03 18.7
comp=Z,36nm,0.9s
F07A **Phinny Hill Vi** 82.61 37 P P 06 03 15.7 +0.4
F07A IAmb IAmb 06 03 17.1
comp=Z,23nm,0.9s
SZCU **Shurtz Canyon** 82.62 47 P P 06 03 16.7 +0.9
GHO **Glory Hole Cre** 82.63 14 P P 06 03 14.8 -0.3
ELK **Elko** 82.72 43 P P 06 03 16.8 +0.5
ELK IAmb IAmb 06 03 18.2
comp=Z,20nm,0.8s
B05A **Bryant** 82.78 34 P P 06 03 16.8 +0.8
baz=234,SNR=6.6
SML **Sawmill** 82.80 14 P P 06 03 15.6 -0.4
SML IAmb IAmb 06 03 29.6
comp=Z,26nm,1.0s
G08A **Pilot Rock** 82.83 38 P P 06 03 17.2 +0.7
G08A IAmb IAmb 06 03 18.5
comp=Z,33nm,1.1s
WUAZ **Wupatki** 82.86 49 P P 06 03 18.5 +1.5
baz=243,SNR=25
WUAZ **Wupatki** 82.86 49 P P 06 03 18.0 +1.0
WUAZ IAmb IAmb 06 03 19.6
comp=Z,30nm,1.0s
CUT **Chulitna** 82.90 13 P P 06 03 16.0 -0.3
baz=207,SNR=8.6
PPLA **Purkeypile** 82.94 12 P P 06 03 16.1 -0.7
LTY **Liberty** 82.97 36 P P 06 03 16.9 -0.2

E07A **Sunnyside** 83.03 37 P P 06 03 17.9 +0.5
E07A IAmb IAmb 06 03 19.3
comp=Z,34nm,1.0s
SCM **Sheep Creek Mo** 83.06 14 P P 06 03 17.1 -0.2
MESA **MESA** 83.07 18 P P 06 03 17.6 +0.1
PKCU **Pink Cliffs** 83.09 47 P P 06 03 19.1 +0.8
KLU **Klutina** 83.11 15 P P 06 03 16.8 -0.7
KLU IAmb IAmb 06 03 18.4
comp=Z,33nm,1.1s
HAWA **Hanford** 83.12 37 P P 06 03 18.5 +0.7
HAWA IAmb IAmb 06 03 19.8
comp=Z,39nm,1.0s
CRQM **Cirque** 83.22 17 P P 06 03 18.0 -0.2
CRQM IAmb IAmb 06 03 19.3
comp=Z,44nm,0.9s
YAH **Yahtse** 83.28 18 P P 06 03 18.8 +0.2
TGL **Tana Glacier** 83.30 17 P P 06 03 18.8 +0.2
TGL IAmb IAmb 06 03 20.2
comp=Z,40nm,0.9s
ISLE **Juniper Island** 83.31 17 P P 06 03 18.5 -0.1
TNA **Tin City** 83.35 5 P P 06 03 18.2 -0.3
baz=190
E08A **Dider Farm, El** 83.44 37 P P 06 03 20.0 +0.6
E08A IAmb IAmb 06 03 21.2
comp=Z,20nm,0.7s
MTPU **Mount Pierson** 83.46 47 P P 06 03 21.2 +1.0
TABL **Table Mountain** 83.52 18 P P 06 03 19.6 -0.2
VRDI **Verde Repeater** 83.52 16 P P 06 03 19.3 -0.4
VRDI IAmb IAmb 06 03 20.3
comp=Z,26nm,0.7s
N25K **Chitina, Valde** 83.54 16 P P 06 03 20.0 +0.3
baz=213
M24K **Tolsona, Glenn** 83.57 15 P P 06 03 20.6 +0.8
baz=211
M24K **Tolsona, Glenn** 83.57 15 P P 06 03 20.0 +0.2
BMO **Blue Mountains** 83.57 39 P P 06 03 20.5 +0.3
GLB **Gilahina Butte** 83.61 16 P P 06 03 19.6 -0.4
HPIG 83.62 59 P P 06 03 22.1 +1.0
MVU **Marysvale** 83.66 46 P P 06 03 21.6 +0.6
BALM **Baldy** 83.67 17 P P 06 03 20.2 -0.2
MSU **Marysvale** 83.69 46 P P 06 03 22.8 +1.6
MFID **Camas Ranch** 83.72 41 P P 06 03 21.7 +0.7
MFID IAmb IAmb 06 03 23.1
comp=Z,26nm,1.1s
MCARA **McCarthy VSAT** 83.77 16 P P 06 03 21.5 +0.8
MCARA IAmb IAmb 06 03 21.9
comp=Z,40nm,1.1s
KTH **Kantishna Hill** 83.79 12 P P 06 03 19.4 -1.4
KTH IAmb IAmb 06 03 20.7
comp=Z,37nm,0.9s
TRF **Thorofare Moun** 83.82 12 P P 06 03 20.2 -1.0
D08A **Wollman Farm,** 83.84 37 P P 06 03 21.8 +0.4
D08A IAmb IAmb 06 03 23.3
comp=Z,25nm,0.9s
W18A **Petrified Fore** 83.87 50 P P 06 03 23.0 +0.9
W18A IAmb IAmb 06 03 24.5
comp=Z,21nm,1.2s
BARN **Barnard Glacie** 83.88 17 P P 06 03 21.3 -0.2
CTGM **Chitina Glacie** 83.89 17 P P 06 03 20.9 -0.7
CTGM IAmb IAmb 06 03 22.7
comp=Z,36nm,0.8s
E09A **Wood Farm, Sta** 83.98 37 P P 06 03 22.8 +0.7
MAW **Mawson** 83.99 200 P P 06 03 22.0 +0.2
comp=Z,1.9nm,0.7s,baz=109,slow=8.7,SNR=7.0
MAW **Mawson** 83.99 200 P P 06 03 21.7 -0.1
DUG **Dugway, Tooele** 84.06 45 P P 06 03 23.6 +0.7
baz=241
DUG **Dugway, Tooele** 84.06 45 P P 06 03 23.3 +0.5
BESE **Bessie Mountai** 84.08 21 P P 06 03 21.2 -1.1
BESE IAmb IAmb 06 03 24.3
comp=Z,31nm,1.0s
DHY **Denali Highway** 84.12 14 P P 06 03 22.0 -0.7
DHY IAmb IAmb 06 03 22.8
comp=Z,14nm,0.6s
121A **Cookes Peak, D** 84.22 53 P P 06 03 25.6 +1.7
baz=245,SNR=5.8
121A **Cookes Peak, D** 84.22 53 P P 06 03 25.1 +1.2
F10A **Beach Ranch, E** 84.22 38 P P 06 03 23.6 +0.2
F10A IAmb IAmb 06 03 24.9
comp=Z,43nm,1.0s
BGU **Big Grassy Mou** 84.27 44 P P 06 03 23.2 -0.7
BPAW **Bear Paw Mtn.** 84.27 12 P P 06 03 22.2 -0.9
B08A **Colville Reser** 84.34 35 P P 06 03 23.6 -0.3
B08A IAmb IAmb 06 03 24.9
comp=Z,20nm,0.8s
MCK **McKinley** 84.36 13 P P 06 03 23.4 -0.2
baz=209,SNR=16
PLID **Pearl Lake** 84.48 39 P P 06 03 24.8 -0.2
Q16A **Castle Valley** 84.57 46 P P 06 03 26.1 +0.7
SKAG **Skagway** 84.58 21 P P 06 03 25.5 +0.8
SKAG IAmb IAmb 06 03 27.0
comp=Z,21nm,1.2s
C09A **Chrisman Ranch** 84.61 36 P P 06 03 24.1 -1.1
C09A IAmb IAmb 06 03 26.8
comp=Z,30nm,1.2s
BWN **Browne** 84.64 12 P P 06 03 24.5 -0.4
HLID **Hailey** 84.68 41 P P 06 03 27.2 +1.4
baz=240
HLID **Hailey** 84.68 41 P P 06 03 26.6 +0.8
HLID IAmb IAmb 06 03 28.1
comp=Z,20nm,0.8s
TMUT **Trail Mountain** 84.72 46 P P 06 03 27.7 +1.4
SPUT **South Promonto** 84.83 44 P P 06 03 27.4 +0.8
HVU **Hansel Valley** 84.85 43 P P 06 03 27.6 +0.9
MENT **Mentasta** 84.89 15 P P 06 03 26.1 -0.1
MENT IAmb IAmb 06 03 27.4
comp=Z,23nm,0.9s
CTU **Camp Tracy** 85.01 45 P P 06 03 28.2 +0.7
NEA2 **Nenana** 85.09 12 P P 06 03 26.1 -1.0
baz=208,SNR=6.6
SRU **San Rafael Swe** 85.11 47 P P 06 03 28.8 +0.7
MLY **Manley** 85.15 12 P P 06 03 26.3 -1.1
baz=207,SNR=10
JLU **Jordanelle** 85.17 45 P P 06 03 28.1 -0.2
WRH **Wood River Hil** 85.19 13 P P 06 03 26.6 -1.0
WRH IAmb IAmb 06 03 28.8
comp=Z,30nm,0.9s
RIDG **Independent Ri** 85.28 14 P P 06 03 27.5 -0.6
RIDG IAmb IAmb 06 03 29.0
comp=Z,35nm,0.9s
HDA **Harding Lake** 85.38 13 P P 06 03 28.2 -0.3
baz=210,SNR=18
HDA **Harding Lake** 85.38 13 P P 06 03 27.5 -1.0
HDA IAmb IAmb 06 03 29.1
comp=Z,23nm,0.8s
DOT **Dot Lake** 85.40 15 P P 06 03 28.7 +0.1
DOT IAmb IAmb 06 03 29.6
comp=Z,32nm,0.8s
CCB **Clear Creek Bu** 85.40 13 P P 06 03 27.2 -1.4
CCB IAmb IAmb 06 03 30.1
comp=Z,25nm,0.9s
TCUT **Toone Canyon** 85.44 44 P P 06 03 29.7 +0.1
IMAR **Indian Mountai** 85.48 10 P P 06 03 28.4 -0.6
BCAR **Beaver Creek A** 85.49 16 P P 06 03 28.8 -0.3
NEW **Newport** 85.52 36 P P 06 03 29.9 +0.3
baz=237,SNR=10
NEW **Newport** 85.52 36 P P 06 03 29.1 -0.5
NEW IAmb IAmb 06 03 30.8
comp=Z,13nm,0.8s
LENM **Lemitar** 85.52 52 P P 06 03 30.2 +0.1
I23K **Minto, Yukon-K** 85.52 12 P P 06 03 29.2 0.0
baz=208
HWUT **Hardware Ranch** 85.56 44 P P 06 03 30.3 +0.2
MDM **Murphy Dome** 85.58 13 P P 06 03 28.4 -1.2
MDM IAmb IAmb 06 03 29.7
comp=Z,27nm,1.1s
TCOL **CIGO, UAF Yank** 85.59 13 P P 06 03 29.0 -0.4
baz=210,SNR=9.7
COLA **College** 85.59 13 P P 06 03 28.1 -1.4
WHY **Whitehorse** 85.63 20 P P 06 03 30.2 +0.3
WHY IAmb IAmb 06 03 31.6
comp=Z,18nm,0.9s
BCYI **Bear Canyon** 85.68 41 P P 06 03 31.4 +0.7
MVCO **Mesa Verde** 85.69 49 P P 06 03 31.5 +0.5
baz=244
MVCO **Mesa Verde** 85.69 49 P P 06 03 32.3 +1.3
SCRK **Sand Creek** 85.69 15 P P 06 03 30.2 0.0
baz=213,SNR=15
IL31 85.71 13 P P 06 03 29.4 -0.6
IL31 IAmb IAmb 06 03 30.4
comp=Z,14nm,0.7s
ILAR **Eielson Array** 85.71 13 P P 06 03 29.2 -0.8
comp=Z,10nm,0.7s,baz=226,slow=5.0,SNR=98
ILAR PP PP 06 07 02.1 +2.4
comp=Z,3.1nm,1.1s,baz=216,slow=8.3,SNR=5.2
ILAR **Eielson Array** 85.71 13 P P 06 03 28.7 -1.4
DLBC **Dease Lake** 85.73 23 P P 06 03 25.4 -5.1
DLBC IAmb IAmb 06 03 32.3
comp=Z,19nm,0.9s
MNTX **Cornudas Mount** 85.73 55 P P 06 03 32.4 +1.4
baz=246,SNR=18
MNTX **Cornudas Mount** 85.73 55 P P 06 03 31.9 +0.9
MNTX IAmb IAmb 06 03 33.4
comp=Z,17nm,1.2s
BNM **Barren Site** 85.77 52 P P 06 03 32.0 +0.6
XAN **Xi'an** 85.78 308 P P 06 03 32.5 +1.3
XAN pP pP 06 05 30.5 +0.3
XAN pmax pmax
comp=Z,9.0nm,0.8s
PV14 **Lion Creek, Pa** 85.83 48 P P 06 03 32.2 +0.6
PV14 IAmb IAmb 06 03 35.5
comp=Z,12nm,0.9s
PV19 **Morning Glory** 85.83 48 P P 06 03 31.2 -0.3
PV17 **East Wray Mesa** 85.83 48 P P 06 03 32.2 +0.6
PV18 **Skein Mesa, Pa** 85.85 48 P P 06 03 32.7 +1.1
PV20 **West Nyswonger** 85.85 48 P P 06 03 33.0 +1.4
PV20 IAmb IAmb 06 03 35.1
comp=Z,16nm,1.2s
PV23 **Carpenter Ridg** 85.87 48 P P 06 03 32.5 +0.7
PV23 IAmb IAmb 06 03 33.7
comp=Z,12nm,0.8s
PV16 **Nyswonger Mesa** 85.87 48 P P 06 03 33.3 +1.5
POKR **Poker Plat Res** 85.89 13 P P 06 03 30.2 -0.8
baz=210,SNR=5.2
PV03 **Paradox Valley** 85.90 48 P P 06 03 33.4 +1.5
PV11 **David Mesa, Pa** 85.90 48 P P 06 03 32.5 +0.7
PV04 **Paradox Valley** 85.92 48 P P 06 03 32.3 +0.4
PV21 **Cone Mtn., Par** 85.94 48 P P 06 03 32.9 +0.7
PV02 **Paradox Valley** 85.95 48 P P 06 03 32.7 +0.5
PV12 **Saucer Basin,** 85.96 48 P P 06 03 32.8 +0.6
PV12 IAmb IAmb 06 03 34.8
comp=Z,9.3nm,0.7s
PV01 **Paradox Valley** 86.04 48 P P 06 03 32.8 +0.2
PV22 **Blue Mesa, Par** 86.06 48 P P 06 03 33.6 +0.9
PV07 **Paradox Valley** 86.12 48 P P 06 03 34.0 +1.1
BILL **Bilibino** 86.12 354 P P 06 03 31.8 -0.1
BILL IAmb IAmb 06 03 33.2
comp=Z,22nm,0.8s
TX31 **Lajitas Ar. Si** 86.17 58 P P 06 03 34.1 +0.8
TX32 **Lajitas Array** 86.17 58 P P 06 03 34.5 +1.3
TX32 IAmb IAmb 06 03 36.4
comp=Z,26nm,0.9s
TXAR **Lajitas Array** 86.17 58 P P 06 03 35.2 +1.9
comp=Z,16nm,0.8s,baz=220,slow=6.2,SNR=182
TXAR **Lajitas Array** 86.17 58 P P 06 03 34.4 +1.1
PV15 **Paradox Valley** 86.19 48 P P 06 03 34.1 +0.7
K27K **Chicken** 86.21 15 P P 06 03 32.8 +0.4
baz=215
ANMO **Albuquerque** 86.23 52 P P 06 03 34.4 +0.9
baz=246
ANMO **Albuquerque** 86.23 52 P P 06 03 34.6 +1.1
MCMT **McKenzie Canyo** 86.28 41 P P 06 03 34.7 +1.1
ECR **Eagle Creek** 86.37 43 P P 06 03 35.3 +1.3
AHID **Auburn Hatcher** 86.41 43 P P 06 03 34.9 +0.7
AHID IAmb IAmb 06 03 36.3
comp=Z,31nm,1.4s
RDMU **Red Mountain** 86.42 46 P P 06 03 34.9 +0.5
MSO **Missoula** 86.61 39 P P 06 03 34.8 -0.1
baz=240,SNR=6.0
MSO **Missoula** 86.61 39 P P 06 03 35.0 +0.1
DLMT **Dillon** 86.70 40 P P 06 03 36.1 +0.7
DLMT IAmb IAmb 06 03 37.5
comp=Z,19nm,0.9s
HHC **Hu-ho-hao-te** 86.80 315 *e*P P 06 03 36.3 +0.3
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,76nm,5.9s
REDW **Red Top Meadow** 86.85 43 P P 06 03 36.7 +0.4
REDW IAmb IAmb 06 03 38.4
comp=Z,31nm,1.0s
JTMT **Jette** 86.87 38 P P 06 03 35.9 -0.3
DAWY **Dawson** 86.93 16 P P 06 03 35.8 -0.1
SNOW **Snow King Moun** 86.96 43 P P 06 03 36.5 -0.4
SNOW IAmb IAmb 06 03 39.1
comp=Z,30nm,0.9s
LRM **Limekiln Ridge** 87.01 40 P P 06 03 37.4 +0.4
IMW **Indian Meadow** 87.04 42 P P 06 03 38.3 +1.0
IMW IAmb IAmb 06 03 39.5
comp=Z,30nm,0.8s
EGAK **Eagle** 87.05 15 P P 06 03 36.0 -0.3
EGAK IAmb IAmb 06 03 37.4
comp=Z,14nm,0.7s
MOOW **Moose Ponds** 87.10 42 P P 06 03 38.1 +0.7
S22A **4UR Ranch, Cre** 87.12 49 P P 06 03 38.9 +1.1
baz=245,SNR=15
S22A **4UR Ranch, Cre** 87.12 49 P P 06 03 38.3 +0.5
S22A IAmb IAmb 06 03 40.1
comp=Z,13nm,0.9s
LOHW **Long Hollow** 87.12 42 P P 06 03 38.0 +0.4
LOHW IAmb IAmb 06 03 39.5
comp=Z,12nm,0.7s
O20A **White River Ci** 87.14 46 P P 06 03 38.7 +1.0
baz=244,SNR=7.6
O20A **White River Ci** 87.14 46 P P 06 03 38.7 +1.0
O20A IAmb IAmb 06 03 39.7
comp=Z,24nm,1.3s
QLMT **Earthquake Lak** 87.17 41 P P 06 03 38.9 +1.2
COLD **Coldfoot** 87.22 11 P P 06 03 37.7 +0.5
baz=207
COLD **Coldfoot** 87.22 11 P P 06 03 37.2 +0.1
COLD IAmb IAmb 06 03 38.5
comp=Z,20nm,0.8s
YHB **Horse Butte** 87.28 41 P P 06 03 38.1 -0.2
FLWY **Flagg Ranch** 87.28 42 P P 06 03 39.0 +0.7
FLWY IAmb IAmb 06 03 40.8
comp=Z,27nm,0.9s
YPP **Pitchstone Pla** 87.30 42 P P 06 03 40.5 +2.0
YHL **Hebgen Lake** 87.33 41 P P 06 03 39.9 +1.3
YMR **Madison River** 87.38 41 P P 06 03 40.3 +1.6
BOZ **Bozeman (W)** 87.41 40 P P 06 03 39.9 +1.1
baz=242,SNR=12
BOZ **Bozeman (W)** 87.41 40 P P 06 03 39.9 +1.1
BOZ IAmb IAmb 06 03 41.0
comp=Z,19nm,1.2s
BW06 **Boulder Array** 87.42 44 P P 06 03 39.5 +0.6
baz=243,SNR=24
BW06 **Boulder Array** 87.42 44 P P 06 03 39.4 +0.4
BW06 IAmb IAmb 06 03 40.4
comp=Z,36nm,1.4s
PD31 **Pinedale Array** 87.42 44 P P 06 03 39.2 +0.2
PD31 IAmb IAmb 06 03 40.4
comp=Z,30nm,1.4s
PDAR **Pinedale Array** 87.42 44 P P 06 03 39.4 +0.4
comp=Z,7.7nm,0.5s,baz=213,slow=3.2,SNR=92
PDAR PP PP 06 07 13.1 -1.1
comp=Z,0.6nm,0.9s,baz=251,slow=9.0,SNR=4.7
PDAR **Pinedale Array** 87.42 44 P P 06 03 39.1 +0.2
H17A **Grant Village** 87.50 42 P P 06 03 41.8 +2.4
baz=242,SNR=19
H17A **Grant Village** 87.50 42 P P 06 03 41.6 +2.2
H17A IAmb IAmb 06 03 42.6
comp=Z,22nm,0.9s
YHH **Holmes Hill** 87.51 41 P P 06 03 40.8 +1.3
YNR **Norris Junctio** 87.59 41 P P 06 03 38.8 -0.9
WALA **Waterton Lakes** 87.75 37 P P 06 03 40.7 +0.5
WALA IAmb IAmb 06 03 43.3
comp=Z,15nm,1.2s
HRY **Holter Researc** 87.81 39 P P 06 03 41.3 +0.7
YMP **Mirror Lake Pl** 87.93 42 P P 06 03 42.5 +1.0
SDCO **Great Sand Dun** 88.08 49 P P 06 03 43.1 +0.9
baz=246,SNR=7.5
SDCO **Great Sand Dun** 88.08 49 P P 06 03 42.2 0.0
CMAR **Chiang Mai Arr** 88.43 290 P P 06 03 44.3 +0.4
comp=Z,4.0nm,0.2s,baz=102,slow=3.9,SNR=4.8
CMAR PP PP 06 07 23.1 +0.9
comp=Z,0.6nm,0.2s,baz=107,slow=4.8,SNR=4.3
CMAR **Chiang Mai Arr** 88.43 290 P P 06 03 44.0 +0.1
RWWY **Rawlins** 88.52 45 P P 06 03 43.8 -0.4
RWWY IAmb IAmb 06 03 46.5
comp=Z,29nm,1.4s
TOLK **Toolik Lake Re** 88.58 10 P P 06 03 43.7 +0.1
baz=208
MSTX **Muleshoe** 88.64 54 P P 06 03 45.4 +0.7
baz=248
MSTX **Muleshoe** 88.64 54 P P 06 03 45.1 +0.4
MSTX IAmb IAmb 06 03 46.4
comp=Z,15nm,0.8s
Q24A **Divide** 88.82 48 P P 06 03 47.2 +1.4

baz=246
ISCO Idaho Springs 88.83 48 P P 06 03 46.7 +1.0
baz=246
ISCO Idaho Springs 88.83 48 P P 06 03 46.9 +1.1
N23A Red Feather La 89.05 46 P P 06 03 48.0 +1.3
baz=246,SNR=11
N23A Red Feather La 89.05 46 P P 06 03 47.3 +0.6
833A Chaparral WMA, 89.30 60 P P 06 03 49.1 +1.4
baz=250
833A Chaparral WMA, 89.30 60 P P 06 03 48.2 +0.4
833A IAmb IAmb 06 03 50.2
comp=Z,18nm,0.9s
K22A Casper 89.38 45 P P 06 03 48.8 +0.7
baz=245
K22A Casper 89.38 45 P P 06 03 49.0 +0.9
K22A IAmb IAmb 06 03 49.8
comp=Z,21nm,1.3s
EPYK Eagle Plains 89.44 16 P P 06 03 47.7 +0.1
baz=220,SNR=7.2
EPYK Eagle Plains 89.44 16 P P 06 03 47.3 -0.3
EPYK IAmb IAmb 06 03 48.6
comp=Z,18nm,1.0s
JCT Junction City 89.72 58 P P 06 03 50.6 +0.9
baz=250
JCT Junction City 89.72 58 P P 06 03 50.1 +0.4
JCT IAmb IAmb 06 03 51.3
comp=Z,12nm,0.8s
AMTX Amarillo 89.82 53 P P 06 03 50.9 +0.7
baz=248
AMTX Amarillo 89.82 53 P P 06 03 49.8 -0.4
AMTX IAmb IAmb 06 03 51.6
comp=Z,17nm,1.1s
LZH Lanzhou 90.42 308 ⇑P P 06 03 54.6 +1.6
LZH pP pP 06 05 53.0 -0.7
LZH sP sP 06 06 45.8 -3.1
LZH PP **PP** **06 07 41.5 +3.8**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,130nm,6.2s
ABTX Abilene, Hawle 90.59 56 P P 06 03 54.8 +1.1
baz=250
ABTX Abilene, Hawle 90.59 56 P P 06 03 54.1 +0.4
SNAA Sanae 90.88 179 P P 06 03 54.0 -0.3
VNA3 Neumayer Olymp 91.04 177 P P 06 03 54.9 -0.1
LAO LASA Array 91.26 41 P P 06 03 58.2 +1.7
baz=246,SNR=17
LAO LASA Array 91.26 41 P P 06 03 58.0 +1.5
VNA2 Neumayer--Watz 91.47 177 P P 06 03 57.0 0.0
baz=171,slow=3.7
435B Jarrell 91.61 58 P P 06 03 59.6 +1.2
baz=251
RSSD Black Hills 91.64 44 P P 06 03 58.9 +0.4
baz=247
RSSD Black Hills 91.64 44 P P 06 03 58.7 +0.2
RSSD IAmb IAmb 06 03 59.8
comp=Z,14nm,1.0s
VNA1 Neumayer--Stat 91.70 177 P P 06 03 58.4 +0.4
INK Inuvik 91.72 15 P P 06 03 57.7 -0.3
U32A Winter Ranch, 92.39 53 P P 06 04 02.8 +0.9
SONM Songino Array 93.09 319 P P 06 04 05.7 +0.8
comp=Z,0.4nm,0.4s,baz=122,slow=5.4,SNR=4.4
SONM Songino Array 93.09 319 P P 06 04 04.2 -0.7
DGMT Dagmar 93.23 40 P P 06 04 06.4 +0.9
baz=247,SNR=7.0
DGMT Dagmar 93.23 40 P P 06 04 06.0 +0.5
FNO Franklin 93.24 54 P P 06 04 06.8 +1.1
R32A Long Quarter, 93.30 51 P P 06 04 06.9 +0.9
YKA Yellowknife Ar 94.24 25 P P 06 04 09.2 -0.5
comp=Z,6.0nm,0.8s,baz=247,slow=4.0,SNR=5.5
GTA Gaotai 94.56 310 *e*P P 06 04 13.3 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.0s
K31A O'Neill 94.68 47 P P 06 04 12.7 +0.5
BGNE Belgrade 94.70 48 P P 06 04 13.8 +1.5
baz=251
BGNE Belgrade 94.70 48 P P 06 04 13.3 +1.0
KSU1 Kansas State U 95.08 51 P P 06 04 15.4 +1.4
baz=252
KSU1 Kansas State U 95.08 51 P P 06 04 15.2 +1.2
ECSD EROS Data Cent 96.52 46 P P 06 04 20.3 -0.2
baz=252
S39A Bolivar 97.11 53 P Pdif 06 04 22.6 -0.6
S39A IAmb IAmb 06 04 36.3
comp=Z,9.9nm,1.5s
JFWS Jewell Farm 100.76 48 P **Pdif** **06 04 40.8 +1.5**
baz=256
ZALV Zalesovo Beam 107.78 322 PKiKP **PKiKP** **06 09 13.1 -1.2**
comp=Z,0.7nm,0.5s,baz=160,slow=1.0,SNR=5.2
MKAR Makanchi Array 108.67 314 PKiKP **PKiKP** **06 09 15.4 -0.8**
comp=Z,0.8nm,0.5s,baz=243,slow=1.3,SNR=10
ARCES ARCESS Array B 125.97 350 PKP **PKPdf** **06 09 48.9 +0.2**
comp=Z,6.2nm,1.0s,baz=20,slow=3.9,SNR=3.5
FINES FINESS Array B 132.82 344 PKP **PKPdf** **06 10 02.0 +0.2**
comp=Z,5.3nm,0.9s,baz=90,slow=2.8,SNR=4.5
FINES SKPbc **SKPab** **06 12 41.2 +0.7**
comp=Z,3.3nm,0.8s,baz=82,slow=2.9,SNR=6.7
FINES FINESS Array B 132.82 344 **PKPdf** **06 10 01.8 -0.1**
AKASG Malin Array Be 140.14 332 PKhKP PKPpre 06 10 05.2
comp=Z,0.8nm,0.3s,baz=38,slow=3.1,SNR=5.5
BSEG Bad Segeberg 143.08 351 *e*PKPbc PKPbc 06 10 19.3 +0.4
baz=15,slow=2.9
KWP Kalwaria Pacla 143.66 336 *e*PKP PKPbc 06 10 21.5 +0.6
VASR Vaslui 143.67 329 ⇑P **PKPdf** **06 10 21.9 -0.2**
RUE Ruedersdorf 143.84 347 *e*PKPbc PKPab 06 10 21.9 +0.5
baz=15,slow=2.9
TLCR 144.13 326 ⇑P **PKPdf** **06 10 23.2 +0.3**
WLF1 Llynfaes 144.15 6 *e*P PKPbc 06 10 21.9 -0.3
YRC Rhoscolyn 144.17 6 *e*P PKPbc 06 10 22.1 -0.3
BUR08 Bucovina Ar. S 144.17 332 PKPbc 06 10 23.0 +0.3
BURAR Bucovina Array 144.19 332 ⇑P **PKPdf** **06 10 24.2 +1.1**
BURAR Bucovina Array 144.19 332 **PKPdf** **06 10 23.3 +0.2**
OJC Ojcow 144.22 339 *e*PKP **PKPdf** **06 10 23.1 +0.2**
OJC Ojcow 144.22 339 PKPbc 06 10 22.6 -0.1
BIZ Bicaz 144.28 330 ⇑P **PKPab** **06 10 24.1 +0.8**
BR131 Keskin Array S 144.31 315 PKPbc 06 10 23.3 -0.2
BRTR Keskin Array B 144.31 315 PKP **PKPdf** **06 10 23.8 +0.1**
comp=Z,5.3nm,0.8s,baz=123,slow=4.6,SNR=16
BRTR Keskin Array B 144.31 315 PKPbc 06 10 22.9 -0.6
YLL Lianberis 144.32 6 *e*P PKPbc 06 10 21.6 -1.2
KOLS Kolonicke sedl 144.40 336 *e*PKP PKPbc 06 10 23.1 -0.2
NRDL Niedersach Rie 144.51 351 *e*PKPbc **PKPab** **06 10 24.1 +0.2**
baz=15,slow=2.9
STNC Stoke 144.51 4 *e*P **PKPdf** **06 10 23.6 +0.3**
TPGR Topolog 144.56 326 ⇑P **PKPab** **06 10 24.9 +0.4**
LLW Llanuwchllyn 144.65 5 *e*P **PKPdf** **06 10 22.4 -1.2**
CRVS Cervenica-Dubn 144.73 337 *e*PKP **PKPab** **06 10 25.6 +0.6**
KSP Ksiaz 144.74 343 *e*PKP **PKPab** **06 10 25.3 +0.4**
VRI Vrincioaia 144.74 329 ⇑P **PKPdf** **06 10 24.2 +0.2**
ASSE Asse, Remlinge 144.77 350 *e*PKPbc **PKPab** **06 10 25.0 +0.1**
baz=15,slow=2.9
TIRR Tirgusor 144.82 325 ⇑P **PKPab** **06 10 25.3 -0.2**
BMR Baia Mare 144.90 334 ⇑P **PKPab** **06 10 25.9 +0.2**
CWF Charnwood Fore 144.91 3 *e*P **PKPdf** **06 10 24.2 +0.1**
HARR Harsova 144.93 326 ⇑P **PKPab** **06 10 25.6 -0.2**
ARCR ARCALIA 144.97 332 ⇑P **PKPab** **06 10 26.0 0.0**
IBBN Ibbenburen 145.01 353 *e*PKPbc **PKPab** **06 10 25.8 -0.1**
baz=15,slow=2.9
OSTC Ostas 145.02 343 *e*PKP **PKPbc** **06 10 25.6 +0.5**
OSTC *ex* x 06 10 29.1
CHVC Chvalec 145.03 343 *e*PKP **PKPbc** **06 10 25.8 +0.6**
HLM1 Long Mynd 145.04 4 *e*P **PKPdf** **06 10 23.3 -1.0**
OKC Ostrava-Krasne 145.09 341 *e*PKP **PKPbc** **06 10 25.8 +0.5**
CLZ Clausthal 145.10 350 *e*PKPbc **PKPab** **06 10 26.3 0.0**
baz=15,slow=2.9
CLL Collm 145.11 347 ⇑ *i*PKPbc **PKPbc** **06 10 25.7 +0.4**
comp=Z,33nm,0.7s
CLL ⇑ *i*PKPab **PKPab** **06 10 26.9 +0.6**
comp=Z,35nm,0.9s
CLL Collm 145.11 347 *e*PKPbc **PKPbc** **06 10 26.0 +0.7**
baz=15,slow=2.9
CLL Collm 145.11 347 PKPdf **PKPbc** **06 10 25.2 -0.1**
UPC Upice 145.12 343 *e*PKP **PKPbc** **06 10 26.1 +0.7**
DPC Dobruska-Polom 145.17 343 *e*PKP **PKPab** **06 10 26.4 -0.3**
KRLC Kraliky 145.29 342 *e*PKP **PKPbc** **06 10 26.5 +0.5**
BRG Berggiesshubel 145.30 346 *i* PKP **PKPbc** **06 10 26.4 +0.4**
comp=Z,21nm,0.8s
BRG Berggiesshubel 145.30 346 *e*PKPbc **PKPab** **06 10 26.9 -0.2**
baz=15,slow=2.9
DOPR Dopca 145.32 330 ⇑P **PKPab** **06 10 27.5 +0.1**
MORC Moravsky Berou 145.33 341 ⇑P **PKPbc** **06 10 26.7 +0.6**
MORC Moravsky Berou 145.33 341 *e*PKP **PKPbc** **06 10 26.7 +0.6**
MORC Moravsky Berou 145.33 341 PKPdf **PKPdf** **06 10 24.2 -0.7**
FBE Freiberg 145.40 346 *e*PKPbc **PKPab** **06 10 27.4 0.0**
baz=15,slow=2.9
MLR Muntele Rosu 145.40 329 ⇑P **PKPbc** **06 10 26.4 -0.1**
MLR Muntele Rosu 145.40 329 PKPdf **PKPdf** **06 10 25.8 +0.5**
GTTG Gottingen 145.45 350 *e*PKPbc **PKPab** **06 10 27.3 -0.3**
baz=15,slow=2.9
NEUB Neuenburg 145.45 348 *e*PKPbc **PKPbc** **06 10 27.1 +0.8**
baz=15,slow=2.9
PVCC Panska Ves 145.47 345 *e*PKP **PKPbc** **06 10 27.3 +0.9**
MCH1 Michaelchurch 145.55 5 *e*P **PKPbc** **06 10 26.4 -0.2**
MONM Monmouth 145.72 4 *e*P **PKPbc** **06 10 26.9 -0.2**
VOIR 145.87 329 ⇑P **PKPbc** **06 10 28.0 +0.2**
BUG Bochum--Univer 145.92 353 *e*PKPbc **PKPbc** **06 10 28.1 +0.4**
baz=15,slow=2.9
PRU Pruhonice 145.98 345 *e*PKP **PKPbc** **06 10 28.5 +0.6**
MOX Moxa 146.02 348 *e*PKPbc **PKPbc** **06 10 28.8 +0.8**
baz=15,slow=2.9
VYHS Vyhne 146.02 339 *e*PKP **PKPbc** **06 10 28.9 +0.8**
VRAC Vranov 146.03 342 ⇑P **PKPbc** **06 10 29.0 +0.9**
VRAC Vranov 146.03 342 *e*PKP **PKPbc** **06 10 28.6 +0.5**
PLN Plauen 146.06 347 *e*PKPbc **PKPbc** **06 10 29.0 +0.9**
baz=15,slow=2.9
TANN Tannenbergstha 146.07 347 *e*PKPbc **PKPbc** **06 10 29.1 +0.9**
baz=15,slow=2.9
WERD Werda 146.07 347 *e*PKPbc **PKPbc** **06 10 29.1 +0.9**
baz=15,slow=2.9
JAVC Velka Javorina 146.09 340 *e*PKP **PKPab** **06 10 30.0 -0.4**
ARR Arges 146.12 330 ⇑P **PKPab** **06 10 30.0 -0.7**
PSZ Piszkesteto 146.13 337 ⇑P **PKPbc** **06 10 29.1 +0.6**
PSZ Piszkesteto 146.13 337 PKPdf **PKPbc** **06 10 28.8 +0.3**
GUNZ Gunzen 146.14 347 *e*PKPbc **PKPbc** **06 10 29.4 +1.1**
baz=15,slow=2.9
NKC Novy Kostel 146.24 347 *e*PKP **PKPbc** **06 10 28.7 +0.1**
NKC *ex* x 06 10 31.6
KRUC Moravsky 146.31 342 *e*PKP **PKPbc** **06 10 29.4 +0.6**
PBCC Pribram 146.39 345 *e*PKP **PKPbc** **06 10 29.3 +0.2**
HTL Hartland 146.41 6 *e*P **PKPbc** **06 10 28.8 -0.1**
LOT Lotru 146.47 331 ⇑P **PKiKP** **06 10 30.8 -0.9**
MANZ Manzenberg 146.55 347 *e*PKPbc **PKPbc** **06 10 30.5 +1.0**
baz=15,slow=2.9
SIRR Siria 146.78 334 ⇑P **PKPbc** **06 10 31.1 +0.8**
MEM Membach 146.87 354 PKPbc **PKPbc** **06 10 30.8 +0.5**
BTNL Ternell 146.88 354 PKPbc **PKPbc** **06 10 30.6 +0.2**
GZR Gura Zlata 146.97 332 ⇑P **PKPbc** **06 10 31.1 +0.2**
GRF Grafenberg Arr 147.01 348 *e*PKPbc **PKiKP** **06 10 31.9 -0.6**
baz=15,slow=2.9
KHC Kasperske Hory 147.01 345 *e*PKP **PKPbc** **06 10 31.7 +0.9**
KHC *ex* x 06 10 34.5
KHC Kasperske Hory 147.01 345 **PKPbc** **06 10 31.3 +0.5**
SNF Seneffe 147.11 356 PKPbc **PKPbc** **06 10 31.0 +0.1**
SNF PKPab **PKPab** **06 10 34.0 -0.2**
BCLA Clavier 147.12 355 PKPbc **PKPbc** **06 10 31.4 +0.5**
BCLA PKPab **PKPab** **06 10 34.3 0.0**
BHOU Houvegnez 147.13 354 PKPbc **PKPbc** **06 10 32.0 +1.0**
WET Wettzell 147.17 346 *e*PKPbc **PKPbc** **06 10 32.2 +1.0**
baz=15,slow=2.9
GEC2 GERESS Array S 147.25 345 *e*PKPbc **PKPbc** **06 10 32.3 +0.9**
baz=15,slow=2.9
GEC2 GERESS Array S 147.25 345 **PKPbc** **06 10 31.2 -0.3**
GERES GERESS Array B 147.25 345 PKP **PKPdf** **06 10 28.6 +0.4**
comp=Z,9.0nm,0.7s,baz=298,slow=2.1,SNR=23
GERES PKPbc **PKPbc** **06 10 32.0 +0.5**
comp=Z,9.4nm,0.7s,baz=29,slow=3.0,SNR=23
GERES GERESS Array B 147.25 345 **PKPdf** **06 10 28.5 +0.2**
GERES PKPbc **PKPbc** **06 10 32.2 +0.7**
BMRD Maredsous 147.28 356 PKPbc **PKPbc** **06 10 31.6 +0.3**
BMRD PKPab **PKPab** **06 10 34.7 -0.3**
BZS Buzias 147.31 333 ⇑P **PKPbc** **06 10 32.0 +0.4**
RCHB Rochefort 147.39 355 PKiKP **PKiKP** **06 10 33.3 +0.1**
CONA Conrad Observa 147.48 342 *i* P **PKPbc** **06 10 33.0 +0.9**
comp=Z,18nm,0.8s,SNR=6.4
DOU Dourbes 147.50 356 PKPbc **PKPbc** **06 10 32.4 +0.5**
HERR Herculane 147.53 331 ⇑P **PKPbc** **06 10 32.4 +0.3**
WLF Walferdange 147.79 354 PKPbc **PKPbc** **06 10 33.5 +0.8**
WLF PKPab **PKPab** **06 10 37.7 +0.6**
WLF Walferdange 147.79 354 *e*PKPbc **PKiKP** **06 10 34.2 0.0**
baz=15,slow=2.9
WLF Walferdange 147.79 354 **PKiKP** **06 10 33.9 -0.2**
MDVR Moldovita 147.92 332 ⇑ **PKiKP** **06 10 34.3 -0.4**
MOA Molln 148.01 343 *e*P **PKiKP** **06 10 34.6 -0.1**
comp=Z,6.4nm,0.6s
ARSA Arzberg 148.19 341 *e*P **PKPbc** **06 10 34.1 +0.3**
comp=Z,6.4nm,1.0s
JSA Saint Aubin 148.41 4 *e*P **PKPbc** **06 10 33.1 -1.1**
BFO Black Forest 148.83 351 *e*PKPbc **PKiKP** **06 10 36.2 -0.2**
baz=15,slow=2.9
BFO Black Forest 148.83 351 **PKPbc** **06 10 35.9 +0.5**
BFO PKPab **PKPab** **06 10 41.6 +0.2**
ECH Echery 149.11 352 **PKPbc** **06 10 35.8 -0.3**
ECH **PKPab** **06 10 42.4 -0.1**
UBR Ueberruh 149.15 348 *e*PKPbc **PKPbc** **06 10 36.8 +0.6**
baz=15,slow=2.9
WATA Walderalm 149.17 346 *e*P **PKPbc** **06 10 36.7 +0.3**
comp=Z,7.7nm,0.5s
RETA Reutte 149.20 347 *e*P **PKPbc** **06 10 36.8 +0.4**
comp=Z,5.0nm,0.4s
DIVS Divibare 149.22 333 **PKiKP** **06 10 37.3 -0.1**
WTTA Wattenberg 149.22 346 *i* P **PKPbc** **06 10 37.0 +0.5**
comp=Z,27nm,0.8s,SNR=7.3
MOTA Moosalm 149.26 347 *e*P **PKPbc** **06 10 36.8 +0.1**
comp=Z,12nm,0.8s
MOTA *e*P **PKPab** **06 10 43.9 +0.5**
comp=Z,19nm,1.0s
MYKA Terra Mystica 149.30 343 *e*P **PKPbc** **06 10 36.3 -0.3**
comp=Z,7.8nm,0.5s
SQTA Sankt Quirin 149.36 347 *i* P **PKPbc** **06 10 37.3 +0.5**
comp=Z,12nm,0.6s,SNR=5.4
GCIS Gornji Cirnik 149.39 340 *i* PKPbc **PKPbc** **06 10 37.2 +0.5**
ABTA Abfaltersbach 149.49 345 *i* P **PKPbc** **06 10 37.0 -0.1**
comp=Z,32nm,1.2s,SNR=7.0
PRED Cave del Predi 149.49 343 **PKPbc** **06 10 37.0 -0.1**
PRED PKPab **PKPab** **06 10 43.8 -0.6**
DAVA Damuels 149.57 348 *i* P **PKiKP** **06 10 38.2 +0.1**
comp=Z,27nm,1.2s,SNR=5.7
LJU Ljubljana 149.57 341 *i* PKPbc **PKPbc** **06 10 37.5 +0.3**
FETA Feichten 149.65 347 *e*P **PKPdf** **06 10 32.8 +0.5**
comp=Z,4.1nm,0.7s
FETA *e*P **PKPbc** **06 10 38.1 +0.5**
comp=Z,17nm,1.0s
CLF Chambon-Foret 149.67 359 **PKPbc** **06 10 36.6 -0.8**
CLF PKPab **PKPab** **06 10 43.3 -1.5**
BOJS Bojanci 149.83 340 *i* PKPbc **PKiKP** **06 10 38.4 0.0**
STAL STALIGIAL 149.89 344 PKPdf **PKPdf** **06 10 32.7 +0.2**
STAL **PKPbc** **06 10 37.8 -0.2**
CIMO Cimolais 149.92 344 **PKPbc** **06 10 38.0 -0.1**
CIMO PKPab **PKPab** **06 10 45.8 -0.2**
FUORN Ofenpass-Fuorn 150.13 347 **PKiKP** **06 10 39.7 +0.3**
TUE Stuetta 150.46 349 PKPdf **PKPdf** **06 10 32.9 -0.7**
TUE **PKiKP** **06 10 40.1 0.0**
SENIN Lac Senin/Sane 150.90 351 PKPbc **PKPbc** **06 10 41.0 +0.4**
SENIN **PKPab** **06 10 51.0 +0.6**
TEOL Teolo 151.00 345 PKPdf **PKPdf** **06 10 33.2 -1.0**
TEOL **PKPbc** **06 10 39.8 -0.8**
TEOL PKPab **PKPab** **06 10 51.4 +0.9**
PCAB Cabril 154.74 16 *e*PKPab **PKPab** **06 11 07.0 +0.4**
PBRG Braganca 154.97 14 *e*PKPab **PKPab** **06 11 07.9 +0.3**
POLO Lamas de Olo 155.11 16 *e*PKPab **PKPab** **06 11 08.8 +0.5**
PVRL Vila Real 155.22 16 *e*PKPab **PKPab** **06 11 09.3 +0.6**
MVO Moncorvo 155.50 15 *e*PKPdf PKPdf 06 10 51.2 +10
MVO Moncorvo 155.50 15 *e*PKPab **PKPab** **06 11 10.8 +0.8**
PVIS Viseu 155.70 17 *e*PKPab **PKPab** **06 11 11.5 +0.7**
MTE Manteigas 156.09 17 *e*PKPab **PKPab** **06 11 13.0 +0.5**
MTE Manteigas 156.09 17 PKPab **PKPab** **06 11 12.0 -0.5**
PCAS Casmilo, Conde 156.13 19 *e*PKPab **PKPab** **06 11 12.9 +0.3**
PCBR Castelo Branco 156.63 17 *e*PKPab **PKPab** **06 11 15.1 +0.4**
PMRV Marv??o 157.04 17 *e*PKPab **PKPab** **06 11 17.0 +0.4**
ESDC Sonseca Array 157.59 10 PKPab **PKPab** **06 11 18.0 -1.0**
comp=Z,4.2nm,0.9s,baz=342,slow=3.9,SNR=12
ESDC Sonseca Array 157.59 10 PKPab **PKPab** **06 11 18.9 -0.1**
PNCL Nicolau / Gran 157.89 21 *e*PKPab **PKPab** **06 11 20.4 +0.1**
PCVE Castro Verde 158.49 20 *e*PKPab **PKPab** **06 11 23.8 +0.9**
PVAQ Vaqueiros 158.80 20 *e*PKPab **PKPab** **06 11 25.1 +0.8**
PBDV Barranco-do-Ve 158.88 21 *e*PKPab **PKPab** **06 11 24.4 -0.3**

*IDC **23** 06:26:59.9±0.8, 64.°55N×17.°71W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.8/37, mbtmp3.8/10, ML3.6/2, MS3.3/15, Ms1 3.3/15, ms1mx3.0/48, Error ellipse: s-maj=24.6km s-min=10.7km az=15.0*
*REY **23** 06:26:59.1, 64.°68N×17.°48W, h9km*
*NEIC **23** 06:27:02.1±1.5, 64.°56N±0.°10×17.°5W±0.°1, h10km±1km, mb4.6/35, Error ellipse: s-maj=16.2km s-min=8.0km az=177.0*

*MOS **23** 06:27:02.1±2.0, 64.°50N×17.°40W, h10km, mb4.4/15, Error ellipse: s-maj=16.2km s-min=11.7km az=111.4*
ISC 23 06:27:01.7±0.4, **64.°65N**±0.°03×**17.°54W**±0.°02, **h10km**, **n142,**
σ1=91/127, mb4.3/39, MS3.4/10, 5C-5D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.09**	**283**	S	**Sg**	**06 27 05.0**	**-1.2**
	baz=266						
IVON				P	**Pg**	**06 27 02.0**	**-2.3**
	baz=266						
IDYN	**Dyngjuhals**	**0.16**	**28**	P	Pg	06 27 01.7	-3.6
	baz=23						
IDYN				S	**Sg**	**06 27 04.7**	**-3.0**
	baz=23						
IDJK	**Dyngjujokull**	**0.20**	**138**	P	**Pg**	**06 27 03.9**	**-2.1**
	baz=150						
IURH	**Urdarhals**	**0.24**	**45**	P	Pg	06 27 03.2	-3.4
	baz=45						
IGRF	**Grimsfjall**	**0.27**	**154**	P	**Pg**	**06 27 04.7**	**-2.6**
	baz=162						
IHUS	**Husbondi**	**0.36**	**188**	P	**Pg**	**06 27 06.5**	**-2.3**
	baz=192						
IHUS				S	**Sg**	**06 27 12.6**	**-1.1**
	baz=192						
IKVE	**Kverkfjoll**	**0.37**	**86**	P	Pg	06 27 05.8	-3.3
	baz=90						
IKVE				S	**Sg**	**06 27 10.8**	**-3.3**
	baz=90						
ISKR	**Skrokkalda**	**0.38**	**256**	P	**Pg**	**06 27 06.7**	**-2.4**
	baz=253						
ISKR				S	**Sb**	**06 27 12.9**	**-3.5**
	baz=253						
IVOT	**Vottur**	**0.41**	**158**	P	**Pg**	**06 27 07.1**	**-2.7**
	baz=163						
IJOK	**Jokulheimar**	**0.45**	**221**	P	**Pg**	**06 27 08.0**	**-2.5**
	baz=222						
IKRE	**Kreppuhraun**	**0.52**	**75**	P	Pg	06 27 07.8	-3.9
	baz=77						
IASK	**Askja**	**0.55**	**43**	P	Pg	06 27 08.5	-3.9
	baz=43						
IMKO	**Mokollar**	**0.61**	**57**	P	Pg	06 27 09.4	-4.1
	baz=58						
IMKO				S	**Sg**	**06 27 18.4**	**-3.2**
	baz=58						
IIEY	**Innrieyrar**	**0.61**	**205**	P	**Pg**	**06 27 10.7**	**-2.9**
	baz=206						
IKSK	**Karasker**	**0.68**	**136**	P	**Pg**	**06 27 10.5**	**-4.3**
	baz=140						
IKSK				S	**Sg**	**06 27 20.1**	**-3.5**
	baz=140						
ISVA	**Svartarkot**	**0.70**	**10**	P	Pg	06 27 11.2	-3.9
	baz=8.0						
ISVA				S	**Sg**	**06 27 21.0**	**-3.4**
	baz=8.0						
IKAL	**Kalfafell**	**0.71**	**185**	P	**Pg**	**06 27 12.2**	**-3.1**
	baz=187						
IVAT	**Vatnsfell**	**0.76**	**233**	P	**Pg**	**06 27 13.5**	**-2.8**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.79**	**78**	P	Pg	06 27 12.4	-4.6
	baz=80						
IVSH				S	**Sg**	**06 27 22.8**	**-4.6**
	baz=80						
IHVE	**Hveravellir**	**0.90**	**285**	P	**Pg**	**06 27 15.1**	**-3.8**
	baz=283						
IHVE				S	**Sg**	**06 27 27.9**	**-2.6**
	baz=283						
IADA	**Aoalbol**	**0.92**	**65**	P	Pg	06 27 14.3	-5.0
	baz=67						
IMEL	**Melhnausar**	**0.99**	**22**	P	Pb	06 27 16.0	-5.0
	baz=21						
IREN	**Reynihlio**	**1.03**	**15**	P	Pb	06 27 16.7	-5.0
	baz=14						
ISNB	**Snabyli**	**1.04**	**208**	P	**Pg**	**06 27 17.9**	**-3.6**
	baz=208						
ISLY	**Slysaalda**	**1.08**	**220**	P	**Pg**	**06 27 18.9**	**-3.5**
	baz=220						
IKVO	**Krokottuvotn**	**1.10**	**14**	P	Pn	06 27 17.8	-5.4
	baz=13						
IFED	**Fedgar**	**1.13**	**237**	P	**Pg**	**06 27 20.0**	**-3.3**
	baz=237						
IRJU	**Rjupnafell**	**1.15**	**206**	P	**Pg**	**06 27 20.0**	**-3.8**
	baz=207						
IGRS	**Grimsstaoir**	**1.16**	**31**	P	Pn	06 27 18.7	-5.2
	baz=30						
ISKI	**Skildingahlsh**	**1.24**	**10**	P	Pn	06 27 20.2	-4.9
	baz=8.8						
IGRA	**Granastaoir**	**1.27**	**359**	P	Pn	06 27 20.7	-4.8
	baz=358						
IGRA				S	**Sn**	**06 27 38.2**	**-4.3**
	baz=358						
IDIM	**Dimmadalss**	**1.34**	**11**	P	Pn	06 27 21.7	-4.7
	baz=9.8						
IHLA	**Hella**	**1.34**	**345**	P	Pn	06 27 22.2	-4.2
	baz=344						
IHLA				S	**Sn**	**06 27 40.2**	**-4.1**
	baz=344						
BORG	**Borgarnes**	**1.63**	**275**	Pg	**Pn**	**06 27 27.1**	**-3.3**
	79nm,0.3s,baz=91,slow=8.6,SNR=86						
BORG				Lg	Lg	06 27 50.9	
	48nm,0.3s,baz=197,slow=24,SNR=10						
BORG	**Borgarnes**	**1.63**	**275**	Pn	**Pn**	**06 27 27.1**	**-3.3**
BORG				Sn	**Sg**	**06 27 54.6**	**+0.6**
JMIC	**Jan Mayen**	**7.21**	**24**	LR	LR	06 30 54.2	
	comp=Z,128nm,21.7s,baz=54,slow=32						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**06 29 48.6**	**-0.7**
	baz=325,slow=13,SNR=6.3						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**06 29 48.9**	**-0.4**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**06 29 48.9**	**-0.4**
NOA	**NORSAR Array B**	**13.55**	**92**	LR	LR	06 35 27.7	
	comp=Z,45nm,18.6s,baz=295,slow=37						
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR	06 34 25.6	
	comp=Z,107nm,18.4s,baz=90,slow=33						
NC405	**NORSAR Array S**	**13.73**	**91**	Pn	**Pn**	**06 30 16.2**	**+0.1**
HFS	**Hagfors**	**15.06**	**93**	LR	LR	06 35 55.2	
	comp=Z,82nm,19.3s,baz=268,slow=35						
ARCES	**ARCESS Array B**	**17.14**	**55**	LR	LR	06 35 59.5	
	comp=Z,63nm,21.8s,baz=240,slow=31						
FINES	**FINESS Array B**	**19.73**	**79**	P	**P**	**06 31 31.5**	**+0.5**
	0.1nm,0.3s,baz=298,slow=12,SNR=2.5						
FINES				LR	LR	06 37 50.2	
	comp=Z,98nm,18.7s,baz=242,slow=33						
FINES	**FINESS Array B**	**19.73**	**79**	P	**P**	**06 31 31.6**	**+0.6**
FINES	**FINESS Array B**	**19.73**	**79**	P	**P**	**06 31 31.6**	**+0.6**
CLL	**Collm**	**20.71**	**116**	*e*P	**P**	**06 31 43.0**	**+1.2**
CLL				*e*		06 31 48.0	
CLL				*e*(PP)		06 32 05.0	
CLL	**Collm**	**20.71**	**116**	*e*P	**P**	**06 31 43.0**	**+1.2**
LVZ	**Lovozero**	**20.72**	**58**	*e*P	**P**	**06 31 44.5**	**+2.7**
LVZ				pmax	pmax		
	comp=Z,79nm,1.6s						
ECH	**Echery**	**21.16**	**129**	P	**P**	**06 31 47.6**	**+0.9**
ECH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ECH	**Echery**	**21.16**	**129**	P	**P**	**06 31 47.6**	**+0.9**
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P	**P**	**06 31 49.1**	**-0.4**
	comp=Z,5.6nm,0.9s						
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P	**P**	**06 31 49.1**	**-0.4**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VSU	**Vasula**	**21.59**	**86**	*e*P	**P**	**06 31 52.6**	**+1.5**
VSU				pmax	pmax		
	comp=Z,87nm,1.5s						
OSTC	**Ostas**	**22.57**	**113**	*e*P	**P**	**06 32 04.5**	**+2.7**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**	**06 32 03.3**	**+0.3**
**KH

AKASG	Malin Array Be	27.86	97	ceP	P	06 32 53.7	+2.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	Obninsk	27.90	84	iP	P	06 32 53.2	+1.9
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KIRV	Kirov	31.00	69	LR	LR	06 45 10.1	
	comp=Z,70nm,19.7s,baz=314,slow=35						
ARU	Arti	36.10	66	LR	LR	06 47 13.2	
	comp=Z,44nm,19.8s,baz=282,slow=34						
NRIK	Noril'sk	36.48	35⇑	eP	P	06 34 06.7	+0.4
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BRTR	Keskin Array B	38.49	105	P	P	06 34 25.3	+1.4
	comp=Z,1.4nm,0.8s,baz=319,slow=5.4,SNR=4.8						
BRTR	Keskin Array B	38.49	105	P	P	06 34 24.5	+0.7
KBZ	Khabaz	39.13	92	LR	LR	06 50 31.2	
	comp=Z,49nm,18.6s,baz=14,slow=36						
KBZ	Khabaz	39.13	92⇑	eP	P	06 34 30.7	+1.8
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	Aktyubinsk	40.31	73	LR	LR	06 51 07.8	
	comp=Z,58nm,18.7s,baz=346,slow=36						
P60A	Greenville	41.34	262	P	P	06 34 47.8	+0.6
PAGS	Pennsylvania G	41.45	263	P	P	06 34 49.2	+1.0
EYMN	Ely	41.57	283	P	P	06 34 49.4	+0.3
EYMN				IAmb	IAmb	06 34 58.0	
	comp=Z,24nm,1.5s						
ABKAR	Akbulak array	42.01	73	P	P	06 34 53.0	+0.3
ABKAR	Akbulak array	42.01	73	P	P	06 34 52.8	+0.1
BRVK	Borovoye	43.16	62⇑	eP	P	06 35 02.4	+0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SPMN	Marine on St.	44.27	282	P	P	06 35 11.3	+0.3
SPMN				IAmb	IAmb	06 35 11.5	
	comp=Z,9.9nm,1.3s						
L42A	Oliver, Polo	45.55	276	P	P	06 35 22.8	+1.6
ILAR	Eielson Array	45.69	332	P	P	06 35 22.4	+0.4
	comp=Z,2.2nm,1.1s,baz=21,slow=6.2,SNR=8.5						
ILAR	Eielson Array	45.69	332	P	P	06 35 23.4	+1.3
ILAR	Eielson Array	45.69	332	P	P	06 35 23.4	+1.3
P48A	Milroy	45.83	271	P	P	06 35 23.3	-0.2
P48A				IAmb	IAmb	06 35 25.1	
	comp=Z,12nm,1.2s						
IMAR	Indian Mountai	45.86	337	P	P	06 35 24.8	+1.4
ZALV	Zalesovo Beam	47.66	51	P	P	06 35 38.3	+0.7
	comp=Z,0.6nm,0.4s,baz=338,slow=11,SNR=2.3						
KURK	Kurchatov	48.14	58⇑	eP	P	06 35 41.8	+0.5
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURK	Kurchatov	48.14	58	P	P	06 35 39.7	-1.6
KURK				IAmb	IAmb	06 35 42.1	
	comp=Z,3.2nm,0.9s						
T47A	Sharon Grove	48.62	270	P	P	06 35 46.3	+1.1
EGMT	Eagleton	48.86	297	P	P	06 35 48.5	+1.5
GCMT	Greycliff	50.68	295	P	P	06 36 02.5	+1.5
KK31	Karatay Array	51.30	70	P	P	06 36 06.3	+0.8
KK31				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KK31	Karatay Array	51.30	70	P	P	06 36 06.3	+0.8
KKAR	Karatay Array	51.30	70	P	P	06 36 06.3	+0.8
KKAR	Karatay Array	51.30	70	P	P	06 36 06.3	+0.8
YNE	Yellowstone No	51.46	295	P	P	06 36 08.2	+1.2
BOZ	Bozeman (W)	51.60	297	P	P	06 36 09.0	+1.1
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BOZ	Bozeman (W)	51.60	297	P	P	06 36 09.0	+1.1
YMP	Mirror Lake Pl	51.74	295	P	P	06 36 10.3	+1.1
DGZ	Jazzator, Alta	52.10	53⇓	iP	P	06 36 12.8	+1.2
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.5s						
H17A	Grant Village	52.20	295	P	P	06 36 14.5	+2.0
H17A				IAmb	IAmb	06 36 17.9	
	comp=Z,12nm,1.4s						
MCMT	McKenzie Canyo	52.71	297	P	P	06 36 16.2	-0.1
UALR	University of	52.74	274	P	P	06 36 17.7	+1.4
UALR				IAmb	IAmb	06 36 25.9	
	comp=Z,10nm,1.1s						
MKAR	Makanchi Array	52.75	58	P	P	06 36 16.0	-0.3
	comp=Z,0.6nm,0.8s,baz=320,slow=8.6,SNR=4.3						
MKAR	Makanchi Array	52.75	58	P	P	06 36 16.5	+0.2
MKAR	Makanchi Array	52.75	58	P	P	06 36 16.5	+0.2
TORD	Torodi Ar. Bea	53.14	156	P	P	06 36 18.2	-1.1
	comp=Z,1.4nm,0.8s,baz=341,slow=8.8,SNR=7.6						
PD31	Pinedale Array	53.16	293	P	P	06 36 18.7	-1.0
PD31				IAmb	IAmb	06 36 21.0	
	comp=Z,7.4nm,1.4s						
PDAR	Pinedale Array	53.16	293	P	P	06 36 18.6	-1.0
	comp=Z,1.5nm,0.8s,baz=64,slow=5.1,SNR=11						
PDAR				LR	LR	06 59 26.6	
	comp=Z,52nm,20.1s,baz=25,slow=37						
PDAR	Pinedale Array	53.16	293	P	P	06 36 18.3	-1.4
AAK	Ala-Archa	53.28	67⇓	eP	P	06 36 21.8	+1.4
AAK				pmax	pmax		
	comp=Z,30nm,2.5s						
BCYI	Bear Canyon	53.36	297	P	P	06 36 21.9	+0.8
BTK	Batken	53.98	72	P	P	06 36 24.8	-0.7
BTK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BTK	Batken	53.98	72	P	P	06 36 24.8	-0.7
BTK				IAmb	IAmb	06 36 29.4	
	comp=Z,9.4nm,1.1s						
GAR	Garm	54.67	73	P	P	06 36 31.4	+0.8
HWUT	Hardware Ranch	54.94	294	P	P	06 36 32.8	+0.3
HWUT				IAmb	IAmb	06 36 37.9	
	comp=Z,5.6nm,1.2s						
KSH	Kashi	56.52	68	P	P	06 36 46.4	+2.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PV01	Paradox Valley	56.70	289	P	P	06 36 46.0	+0.7
PV01				IAmb	IAmb	06 36 47.5	
	comp=Z,7.1nm,1.3s						
PV13	Radium Mtn., P	56.78	290	P	P	06 36 45.9	0.0
PV13				IAmb	IAmb	06 36 51.3	
	comp=Z,10nm,1.3s						
WMQ	Urumqi	57.26	56	eP	P	06 36 52.4	+3.5
MSU	Marysvale	57.83	293	P	P	06 36 54.4	+1.1
MSU	Marysvale	57.83	293	P	P	06 36 54.4	+1.1
MVU	Marysvale	57.85	293	P	P	06 36 54.0	+0.5
CCUT	Cedar City	59.13	293	P	P	06 37 02.5	+0.1
R11A	Troy Canyon, C	59.31	295	P	P	06 37 04.8	+1.3
SONM	Songino Array	59.66	40	P	P	06 37 05.9	+0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	Songino Array	59.66	40	P	P	06 37 05.9	+0.1
WUAZ	Wupatki	60.09	290	P	P	06 37 10.1	+1.1
WUAZ				IAmb	IAmb	06 37 13.9	
	comp=Z,6.4nm,1.3s						
NVAR	Mina Array Bea	60.29	297	LR	LR	07 05 09.8	
	comp=Z,68nm,18.0s,baz=68,slow=38						
TXAR	Lajitas Array	62.27	280	P	P	06 37 23.8	+0.1
	comp=Z,0.9nm,1.0s,baz=57,slow=4.6,SNR=5.4						
TXAR				LR	LR	07 02 46.8	
	comp=Z,40nm,18.2s,baz=0.0,slow=34						
TUC	Tucson	62.65	288	P	P	06 37 26.6	+0.5
TUC				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TUC	Tucson	62.65	288	P	P	06 37 26.6	+0.5
TUC				IAmb	IAmb	06 37 38.1	
	comp=Z,4.4nm,1.4s						
HHC	Hu-ho-hao-te	67.53	40	eP	P	06 38 00.3	+2.5
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,54nm,6.8s						
LZH	Lanzhou	69.65	48	eP	P	06 38 12.6	+1.4
LZH				pP	pP	06 38 15.9	+1.1
LZH				sP	sP	06 38 17.5	+1.3
LZH				ePP	PP	06 40 48.8	+4.2
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.2s						
LZH				LR	LR		
	comp=N,160nm,16.1s						
LZH				LR	LR		
	comp=E,170nm,16.3s						
LZH				LR	LR		
	comp=Z,230nm,18.4s						
NJ2	Nanjing	77.76	37	eP	P	06 38 58.3	-0.3
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						

*JMA **23** 06:47:48.2±0.1, 43°.32N×145°.34E, h76km±1km, M2.5*
*SKHL **23** 06:47:49.2±0.2, 43°.48N×145°.03E, h75km±6km, mb4.1/3*
ISC 23 06:47:48.2±2.3**, 43°.32N**±0°.06×**145°.34E**±0°.07**, h76**km±14km**, n14,** σ**0s.39**/25**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	Kushirohamanak	0.27	209	P	Pn	06 48 00.0	+0.1
JKHN				eS	Sn	06 48 09.0	+0.5
NMR	Nemuro--Hokkai	0.29	80	iS	Sn	06 48 08.0	-0.6
NEM2	Nemuro 2	0.30	81	P	Pn	06 48 00.1	+0.1
NEM2				eS	Sn	06 48 08.7	0.0
GLVR	Golovnino	0.44	17	eP	Pn	06 48 01.0	0.0
GLVR				AMB	AMB	06 48 02.0	
	176nm,0.2s						
GLVR				iS	Sn	06 48 11.0	+0.5
GLVR				A	A	06 48 12.0	
	2µm,0.3s						
GLVR				A	A	06 48 12.0	
	2µm,0.3s						
JNSB	Nemuroshibetsu	0.52	332	P	Pn	06 48 01.7	0.0
JNK	Nakash	0.53	300	P	Pn	06 48 01.5	-0.3
JNK				eS	Sn	06 48 11.1	-0.8
JAK	Akkeshi	0.57	236	P	Pn	06 48 02.2	0.0
JAK				eS	Sn	06 48 12.8	+0.2
JRA	Rausu	0.64	346	P	Pn	06 48 03.1	+0.2
JRA				eS	Sn	06 48 14.2	+0.4
GRPR	Tuman	0.74	25	eP	Pn	06 48 04.0	0.0
GRPR				AMB	AMB	06 48 05.0	
	47nm,0.2s						
GRPR				iS	Sn	06 48 15.0	-0.7
GRPR				A	A	06 48 17.0	
	388nm,0.2s						
GRPR				A	A	06 48 17.0	
	383nm,0.2s						
YUK	Yuzh-Kuril'sk	0.81	28	eP	Pn	06 48 05.0	+0.3
YUK				AMB	AMB	06 48 07.0	
	105nm,0.3s						
YUK				iS	Sn	06 48 17.0	0.0
YUK				A	A	06 48 19.0	
	668nm,0.3s						
YUK				A	A	06 48 19.0	
	763nm,0.3s						
JAR	Ashorobuto	1.15	269	P	Pn	06 48 09.1	+0.3
JAR				eS	Sn	06 48 24.5	+0.2
JOB	Onbets	1.18	250	P	Pn	06 48 09.4	+0.2
JOB				eS	Sn	06 48 25.2	+0.2
JTKR	Abashiri--Toko	1.23	302	P	Pn	06 48 10.0	+0.2
JCH	Churui	1.62	245	P	Pn	06 48 14.8	-0.1
JCH				eS	Sn	06 48 34.3	-0.7

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*MOS **23** 06:59:17.3±0.9, 1°.77N×127°.36E, h86km, mb5.2/44, Error ellipse: s-maj=10.6km s-min=4.8km az=114.0*
*KLM **23** 06:59:18.0, 1°.85N×127°.64E, h96km, mb5.3*
*GCMT **23** 06:59:19.6±0.3, 1°.84N±0°.02×127°.37E±0°.02, h88km±3km, MW4.8/88, Moment Tensor Solution. s28,c32; s88,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.88±.11; $M_{\theta\theta}$0.04±.11; $M_{\phi\phi}$-0.91±.12; $M_{r\theta}$-1.49±.05; $M_{\theta\phi}$-1.57±.09; $M_{\phi r}$-0.35±.07; Best double couple: $M_0$2.35400×10^{16} NP1:ϕ_s358.00000°, δ43.00000°, λ21.00000°. NP2: ϕ_s252.00000°, δ76.00000°, λ130.00000°. Principal axes: T 2.1890, Plg44.0000°, Azm201.0000°; N 0.3300, Plg39.0000°, Azm60.0000°; P -2.5190, Plg20.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **23** 06:59:20.3±0.2, 2°N±2°×12°7E±°, h98km±2km, M5.1/70, mB5.5/37, mb5.3/70, MLv5.3/19, Mw(mB)5.0/37, Mwp6.6/3*
*IDC **23** 06:59:20.8±1.1, 1°.73N×127°.38E, h104km±9km, mb4.6/22, mb1 4.7/27, mb1mx4.6/35, mbtmp5.0/27, MS3.5/19, Ms1 3.4/19, ms1mx3.3/31, Error ellipse: s-maj=16.2km s-min=7.8km az=77.0*
*NEIC **23** 06:59:20.6±1.5, 1°.72N±0°.06×127°.33E±0°.07, h103km±3km, mb5.2/93, Error ellipse: s-maj=9.8km s-min=7.8km az=69.0*
ISC 23 06:59:20.0±0.4**, 1°.75N**±0°.03×**127°.34E**±0°.05**, h98**km±3km**, h98**km**:pP-P, n397,** σ**1s.24**/434**, mb5.1**/125**, 11C-26D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.97	178	P	Pn	06 59 41.3	+1.4
TNTI	Ternate	0.97	178	Pn	Pn	06 59 41.6	+1.6
LBMI	Labuha	2.37	176	P	Pn	06 59 59.6	+2.2
SGSI	Sangihe	2.64	317	P	Pn	07 00 00.3	-0.7
KMSI	Cibinong	3.55	251	P	Pn	07 00 14.2	+1.0
SANI	Sanana	4.00	200	P	Pn	07 00 19.1	-0.2
GTOI	Gorontalo	4.47	256	P	Pn	07 00 27.5	+2.0
DDMP	Don Marcelino,	4.62	339	eP	Pn	07 00 25.3	-2.4
DDMP				eS	Sn	07 01 15.6	-4.7
SIJI	Sorong	4.71	123	P	Pn	07 00 30.8	+2.0
	17nm,0.3s,baz=158,slow=22,SNR=16						
SIJI				LR	LR	07 02 38.8	
	comp=Z,679nm,20.1s,baz=279,slow=42						
NLAI	Namlea	4.96	183	P	Pn	07 00 33.0	+0.8
	2.8nm9µm382nm,0.8s						
MATI	Mati	5.28	348	eP	Pn	07 00 36.5	0.0
MATI				eS	Sn	07 01 32.8	-3.3
MSAI	Masohi	5.30	163	P	Pn	07 00 40.0	+3.1
	0.6nm5µm199nm,0.8s						
LUWI	Luwuk	5.34	239	P	Pn	07 00 39.5	+2.1
	14nm14µm890nm,0.8s						
LUWI	Luwuk	5.34	239	Pn	Pn	07 00 38.3	+0.9
LUWI				Sn	Sn	07 01 38.5	+0.8
AAI	Ambon	5.46	171	P	Pn	07 00 41.7	+2.6
	1.7nm5µm458nm,0.8s						
SKMP	Bagumbayan, Su	5.50	330	eP	Pn	07 00 39.0	-0.6
SKMP				eS	Sn	07 01 37.8	-3.8
DAV	Davao City (W)	5.57	342	P	Pn	07 00 42.6	+2.0
	61nm,0.3s,baz=218,slow=5.9,SNR=7.7						
DAV				S	Sn	07 01 45.3	+1.9
	127nm,0.3s,baz=271,slow=22,SNR=4.5						
DAV				LR	LR	07 02 24.4	
	comp=Z,470nm,19.5s,baz=144,slow=33						
DAV	Davao City (W)	5.57	342		Pn	07 00 41.4	+0.8
DAV					Sn	07 01 44.5	+1.1
APSI	Ampana	6.27	245	P	Pn	07 00 51.7	+1.6
	5.2nm5µm307nm,0.6s						
BUKP	Musuan	6.50	340	eP	Pn	07 00 52.5	-0.7
BUKP				eS	Sn	07 02 06.4	+0.3
FAKI	Fak Fak	6.75	133	P	Pn	07 00 59.0	+2.4
	0.5nm2µm147nm,0.7s						
FAKI	Fak Fak	6.75	133		Pn	07 00 59.1	+2.5
CGP	Cagayan de Oro	7.17	339⇓	eP	Pn	07 01 02.5	+0.2
CGP				eS	Sn	07 02 19.9	-2.2
PAGZ	Pagadian	7.23	327	eP	Pn	07 01 00.6	-2.5
PAGZ				eS	Sn	07 02 20.8	-3.0
KDI	Kendari	7.37	220	P	Pn	07 01 06.2	+1.2
	1.2nm78µm326nm,0.7s						
MPSI	Mapaga	7.57	259	P	Pn	07 01 10.1	+2.4
	0.6nm78nm,1.1s						
GLSP	General Luna,	8.08	351	eP	Pn	07 01 14.7	0.0
GLSP				eS	Sn	07 02 32.2	-12
TTSI	Tana Toraja	8.90	238	P	Pn	07 01 25.6	-0.2
	7µm915nm,0.7s						
SPSI	Sidrap Palu	9.46	233	P	Pn	07 01 33.9	+0.5
	8µm954nm,0.8s						
MYLDM	Lahad Datu	9.46	291	Pn	Pn	07 01 35.1	+1.7
BKSI	Bulukumba	10.06	226	P	Pn	07 01 42.8	+1.1
	2µm209nm,0.6s						
KAPI	Kappang	10.13	228	P	Pn	07 01 44.0	+1.4
	26nm,0.3s,baz=55,slow=6.7,SNR=32						
KAPI				S	Sn	07 03 29.1	-5.2
	4.2nm,0.3s,baz=148,slow=17,SNR=5.4						
KAPI	Kappang	10.13	228	P	Pn	07 01 44.0	+1.4
KAPI	Kappang	10.13	228	Pn	Pn	07 01 42.5	-0.1
KAPI					Sn	07 03 33.7	-0.6
BSSI	Bau Bau, Buton	10.40	221	P	Pn	07 01 46.0	-0.3
	1µm88nm,0.6s						
SAUI	Saumlaki	10.44	158	P	Pn	07 01 47.9	+1.1
	732nm,0.9s						
BKB	Balikpapan	10.86	254	P	Pn	07 01 53.5	+0.9
	144nm,0.9s						
SPMM	Sapulut	11.25	285	P	Pn	07 02 00.0	+2.2
SOEI	Soe	11.83	195	P	Pn	07 02 08.2	+2.5
	3µm193nm,0.9s						
SOEI	Soe	11.83	195	Pn	Pn	07 02 02.9	-2.8
EDFI	Ende, Flores	11.85	208	P	Pn	07 02 06.0	+0.1
	795nm55nm,0.9s						
KKM	Kota Kinabalu	11.89	291	Pn	Pn	07 02 06.9	+0.4
SMPI	Sarmi	11.96	108	P	Pn	07 02 12.9	+5.6
KBKI	Kotabaru	12.24	246	P	Pn	07 02 10.8	-0.3
	51nm,1.0s						
BATI	Baumata	12.42	197	P	Pn	07 02 15.8	+2.3
	9.8nm,0.3s,baz=23,slow=0.8,SNR=11						
BATI	Baumata	12.42	197	P	Pn	07 02 14.9	+1.4
	1µm96nm,0.8s						
BBKI	Banjar Baru	13.52	248	P	Pn	07 02 29.2	+1.2
	35nm,1.5s						
GENI	Genyem	13.53	109	P	Pn	07 02 25.4	-2.7
	2µm247nm,1.0s						
LQP	Lukban	13.56	335⇓	eP	Pn	07 02 28.5	-0.1
BASI	Baing, Sumba	13.66	209	P	P	07 02 35.5	+0.4
PLAI	Plampang	14.18	222	P	P	07 02 39.0	-2.0
	6µm635nm,0.9s						
TWSI	Taliwang, Sumb	14.73	225	P	Pn	07 02 45.3	+1.7
	2µm247nm,1.2s						
MTN	Manton Dam	14.97	166	P	Pn	07 02 45.8	-0.9
	baz=15,SNR=12						
MTN	Manton Dam	14.97	166	Pn	Pn	07 02 46.3	-0.3
SBUM	Sibu	15.13	273	Pn	Pn	07 02 48.2	-0.4
SBUM				IAmb	IAmb	07 02 56.0	
	comp=Z,81nm,1.0s						
SBUM	Sibu	15.13	273	P	P	07 02 54.0	+2.5
KDU	Kakadu	15.22	161	P	Pn	07 02 48.0	-1.7
	baz=15,SNR=7.4						
SRBI	Singaraja	15.54	231	P	P	07 02 57.6	+1.5
	comp=Z,3µmcomp=Z,343nm,1.4s						
KMMI	Kalianget	15.95	237	P	P	07 03 01.1	+0.5
	comp=Z,5µmcomp=Z,351nm,0.8s						
ABJI	Asem Bagus	16.15	234	P	P	07 03 07.8	+5.0
JAGI	Jajag, Banyuwa	16.61	232	P	P	07 03 09.4	+1.5
	comp=Z,3µmcomp=Z,230nm,1.1s						
JAGI	Jajag, Banyuwa	16.61	232	Pn	Pn	07 03 05.6	-1.5
JAGI				IAmb	IAmb	07 03 12.8	
	comp=Z,136nm,0.7s						
KSM	Kuching	17.03	269	P	Pn	07 03 12.3	0.0
KSM	Kuching	17.03	269	P	P	07 03 15.0	+2.4
GMJI	Gumukmas	17.06	234	P	P	07 03 15.1	+2.2
	comp=Z,2µmcomp=Z,186nm,0.8s						
KNRA	Kununurra	17.37	175	P	P	07 03 15.8	-0.4
	baz=17,SNR=44						
KNRA	Kununurra	17.37	175	P	P	07 03 14.9	-1.4
KNRA				IAmb	IAmb	07 03 18.1	
	comp=Z,121nm,0.7s						
PWJI	Pagerwojo	18.28	238	P	Pn	07 03 28.0	+0.6
	comp=Z,3µmcomp=Z,184nm,0.7s						
WOJI	Wonogiri, Jawa	18.94	240	P	Pn	07 03 35.7	+0.4
	comp=Z,84nm,0.9s						
UGM	Wanagama	19.32	240	P	Pn	07 03 39.1	-0.7
	comp=Z,215nm,1.0s						
YOGI	Yogyakarta	19.48	241	P	Pn	07 03 42.1	+0.5
	comp=Z,235nm,0.7s						
FITZ	Fitzroy Crossi	19.79	185	P	P	07 03 41.9	-0.8
	comp=Z,8.3nm,0.3s,baz=18,slow=8.3,SNR=269						
FITZ	Fitzroy Crossi	19.79	185	P	P	07 03 41.9	-0.8
	baz=20,SNR=155						
FITZ	Fitzroy Crossi	19.79	185	P	P	07 03 42.1	-0.7
FITZ				IAmb	IAmb	07 03 44.2	
	comp=Z,101nm,0.8s						
KPJI	Karang Pucung	20.46	244	P	P	07 03 50.0	-0.1
	comp=Z,84µmcomp=Z,2µmcomp=Z,123nm,1.1s						
DLV	T Lat	21.26	299	P	P	07 03 58.9	0.0
DLV				IAmb	IAmb	07 04 01.8	
	comp=Z,52nm,0.7s						
LEM	Lembang	21.45	246	P	P	07 04 04.2	+3.3
	comp=Z,94nm,0.8s,baz=60,slow=11,SNR=7.2						
CISI	Cisompet, Garu	21.56	244	P	P	07 04 03.6	+1.7
	comp=Z,4µmcomp=Z,98nm,1.0s						
CISI	Cisompet, Garu	21.56	244	P	P	07 04 00.8	-1.1
TWG	Pinlang	21.82	344	P	P	07 04 01.7	-2.8
TWG				IAmb	IAmb	07 04 09.4	
	comp=Z,72nm,0.6s						
CBJI	Citeko	22.00	248	P	P	07 04 08.9	+2.3
	comp=Z,118nm,0.8s						
CNJI	Cibinong	22.08	246	P	P	07 04 08.4	+1.0
	comp=Z,306nm,1.0s						
COEN	Coen	22.13	135	P	P	07 04 07.9	0.0
YULB	Yu-li	22.30	345	P	P	07 04 07.0	-2.7
YULB				IAmb	IAmb	07 04 09.7	
	comp=Z,89nm,0.8s						
TPUB	Ta-pu	22.39	344	P	P	07 04 09.1	-1.5
TPUB				IAmb	IAmb	07 04 09.9	
	comp=Z,160nm,1.0s						
WB0	Warramunga Arr	22.47	162	P	P	07 04 10.5	-0.9
WB0				IAmb	IAmb	07 04 18.6	
	comp=Z,134nm,0.9s						
WRAB	Tennant Creek	22.61	163c	iP	P	07 04 12.0	-0.8
WRAB				pmax	pmax		
	comp=Z,181nm,1.7s						
WRAB	Tennant Creek	22.61	163	P	P	07 04 12.1	-0.8
WRAB				IAmb	IAmb	07 04 20.3	
	comp=Z,99nm,0.7s						
WRA	Warramunga Arr	22.62	163	P	P	07 04 12.0	-0.9
	comp=Z,50nm,0.4s,baz=340,slow=11,SNR=372						
WRA				S	S	07 08 10.8	-3.0
	comp=Z,9.4nm,1.0s,baz=346,slow=17,SNR=7.2						
WRA				ScP	ScP	07 11 29.4	-2.4
	comp=Z,2.0nm,0.9s,baz=336,slow=3.3,SNR=4.6						
WRA				LR	LR	07 13 50.2	
	comp=Z,112nm,21.3s,baz=335,slow=38						
WRA	Warramunga Arr	22.62	163	iP	P	07 04 12.0	-0.9
WRA				pmax	pmax		
	comp=Z,57nm,0.4s						
WRA	Warramunga Arr	22.62	163	P	P	07 04 10.8	-2.1
WB2	Warramunga Arr	22.62	163	P	P	07 04 12.3	-0.7
WB2				IAmb	IAmb	07 04 20.3	
	comp=Z,113nm,0.7s						
WR0	Warramunga Arr	22.70	162	P	P	07 04 12.9	-0.8
WR0				IAmb	IAmb	07 04 13.4	
	comp=Z,60nm,0.6s						
SSLB	Suanglung	22.77	345	P	P	07 04 13.9	-0.5
YOJ	Yonaguni jima	22.97	350	P	P	07 04 16.3	-0.1
YOJ				pmax	pmax		
	comp=Z,142nm,0.6s						
YOJ	Yonaguni jima	22.97	350	P	P	07 04 16.2	-0.1
NACB	Ninganchiao	22.98	346	P	P	07 04 15.7	-0.7
CGJI	Cibinong	23.15	249	P	P	07 04 17.8	-0.4
	comp=Z,7µmcomp=Z,212nm,0.7s						
KLSI		23.48	254	P	P	07 04 19.3	-1.9
	comp=Z,8.0nm,0.8s						
YHNB	Yeheng	23.51	346	P	P	07 04 20.7	-0.8
MDSI	Maura Dua	23.96	255	P	P	07 04 26.0	+0.5
	comp=Z,23nm,1.4s						
KNMB	Chin-men Tao	24.19	340	P	P	07 04 27.6	+0.2
KNMB				IAmb	IAmb	07 04 38.7	
	comp=Z,81nm,0.8s						
QIZ	Qiongzhong	24.27	316	P	P	07 04 28.3	0.0
QIZ				S	S	07 08 38.1	-2.2
QIZ				pmax	pmax		
	comp=Z,93nm,0.9s						
QIZ				LR	LR		
	comp=Z,210nm,15.3s						
QIZ				LR	LR		
	comp=Z,240nm,17.3s						
QIZ				LR	LR		
	comp=Z,260nm,25.5s						
QIZ	Qiongzhong	24.27	316	P	P	07 04 28.6	+0.3
QIZ				IAmb	IAmb	07 04 29.4	
	comp=Z,91nm,0.9s						
PSA00	Pilbara Seismi	24.30	197	P	P	07 04 28.1	-0.5
PSA00				IAmb	IAmb	07 04 29.5	
	comp=Z,98nm,0.9s						
XMIS	Christmas Isla	24.77	240	P	P	07 04 32.4	-0.5
MNAI	Manna	25.11	256	P	P	07 04 37.9	+1.8
QIS	Mount Isa	25.21	152	P	P	07 04 37.1	+0.2
	baz=25,SNR=57						
UBPT	Khong Chiam	25.42	303	P	P	07 04 38.8	0.0
UBPT				IAmb	IAmb	07 04 40.7	
	comp=Z,62nm,0.8s						
MTSU	Mount Surprise	25.88	140	P	P	07 04 42.7	-0.2
	baz=26,SNR=5.9						
AS31	Alice Springs	26.05	166	P	P	07 04 43.8	-0.7
ASAR	Alice Springs	26.05	166	P	P	07 04 43.9	-0.6
	comp=Z,32nm,0.5s,baz=351,slow=7.5,SNR=521						
ASAR				S	S	07 09 05.7	-2.9
	comp=Z,1.1nm,0.7s,baz=348,slow=17,SNR=2.6						
ASAR				ScP	ScP	07 11 39.2	-2.0
	comp=Z,3.0nm,0.9s,baz=350,slow=2.5,SNR=7.7						
ASAR				LR	LR	07 15 05.4	
	comp=Z,132nm,21.4s,baz=340,slow=36						
ASAR	Alice Springs	26.05	166	P	P	07 04 44.0	-0.5
IPM	Ipoh	26.41	277	P	P	07 04 52.0	+4.1
WRKA	Warakurna	26.64	178	P	P	07 04 49.0	-0.7
	baz=27,SNR=176						
GIRL	Giralia	27.40	207	P	P	07 04 57.6	+1.0

baz=27,SNR=4.7
GIRL Giralia 27.40 207 P P 07 04 56.6 0.0
RPSI Rantau Prapat 28.41 272 P P 07 05 05.2 -0.5
RPSI Rantau Prapat 28.41 272 P P 07 05 05.9 +0.3
PSI Prapat 28.41 273 P P 07 05 05.9 +0.1
comp=Z,18nm,0.8s,baz=211,slow=8.9,SNR=4.1
PSI LR LR 07 18 15.1
comp=Z,77nm,21.5s,baz=69,slow=40
CTA Charters Tower 28.55 140 P P 07 05 06.8 -0.1
comp=Z,12nm,1.1s,baz=297,slow=11,SNR=3.1
CTAO Charters Tower 28.55 140 P P 07 05 08.1 +1.3
CTAO pmax pmax
comp=Z,28nm,1.2s
CTAO Charters Tower 28.55 140 P P 07 05 08.1 +1.3
MEEK Meekatharra 29.45 196 P P 07 05 13.9 -0.8
baz=29,SNR=20
GSI Gunungsitoli 29.76 270 P P 07 05 16.9 -0.7
comp=Z,36nm,0.9s
GSI Gunungsitoli 29.76 270 P P 07 05 16.7 -1.0
SLVN Son La 30.01 312 P P 07 05 19.2 -0.6
WHN Wuhan 31.18 338 ⇑P P 07 05 31.9 +2.0
NJ2 Nanjing 31.19 346 *eP* **P 07 05 31.3 +1.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
JNU Nakatsue 31.39 6 P P 07 05 31.9 0.0
JNU IAmb IAmb 07 05 58.9
comp=Z,52nm,1.5s
GYA Guiyang 31.60 323 ⇑P P 07 05 34.8 +0.9
GYA sP sP 07 06 12.1 +5.9
GYA pmax pmax
comp=Z,16nm,1.0s
FORT Forrest 32.35 179 P P 07 05 39.4 -0.8
baz=32,SNR=43
FORT Forrest 32.35 179 P P 07 05 39.1 -1.1
JMN Monobe 32.40 10 P P 07 05 41.5 +0.8
JMN IAmb IAmb 07 05 42.7
comp=Z,58nm,1.2s
CM31 Chiang Mai Arr 32.42 303 P P 07 05 41.4 +0.3
CMAR Chiang Mai Arr 32.42 303 P P 07 05 41.9 +0.8
comp=Z,7.4nm,0.9s,baz=120,slow=6.9,SNR=32
CMAR ScP **ScP 07 12 01.1 -0.5**
comp=Z,1.0nm,0.3s,baz=140,slow=2.3,SNR=9.7
CMAR Chiang Mai Arr 32.42 303 P P 07 05 41.0 0.0
MORW Morawa 32.49 199 P P 07 05 41.0 -0.5
baz=32,SNR=10
MORW Morawa 32.49 199 P P 07 05 40.9 -0.7
MORW IAmb IAmb 07 05 42.0
comp=Z,29nm,0.8s
QLP Quilpie 32.54 151 P P 07 05 42.5 +0.6
baz=32,SNR=5.8
CHTO Chiang Mai 32.59 303 P P 07 05 41.5 -1.0
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO Chiang Mai 32.59 303 P P 07 05 41.5 -1.0
ENH Enshi 33.05 331 P P 07 05 46.0 -0.3
ENH IAmb IAmb 07 05 48.5
comp=Z,38nm,0.8s
KMI Kunming 33.22 316 ⇑P P 07 05 49.6 +1.5
KMI pmax pmax
comp=Z,28nm,1.4s
KMBL Kambalda 33.34 189 P P 07 05 48.2 -0.6
baz=33,SNR=28
BLDU Ballidu 33.74 197 P P 07 05 51.7 -0.6
baz=34,SNR=16
JWT Wachi 34.20 12 P P 07 05 56.4 +0.2
JWT IAmb IAmb 07 05 57.4
comp=Z,40nm,0.8s
KLBR Kellerberrin 34.38 195 P P 07 05 56.8 -1.1
baz=34,SNR=39
TJN Taejon 34.46 0 *ce* **P P 07 05 58.6 +0.1**
INU Inuyama 34.62 14 P P 07 05 59.1 -0.8
JGF Kuroka 34.95 14 P P 07 06 01.7 -1.0
JGF IAmb IAmb 07 06 04.1
comp=Z,26nm,1.3s
MUN Mundaring 35.16 197 P P 07 06 04.3 -0.3
baz=35,SNR=15
BBOO Buckleboo 35.34 167 P P 07 06 05.5 -0.6
baz=35,SNR=173
BBOO Buckleboo 35.34 167 P P 07 06 05.4 -0.7
EIDS Eidsvold 35.43 141 P P 07 06 06.4 -0.6
baz=35,SNR=4.0
EIDS Eidsvold 35.43 141 P P 07 06 06.4 -0.6
KSAR Wonju Array Be 35.53 1 P P 07 06 07.6 0.0
KSAR Wonju Array Be 35.53 1 P P 07 06 07.6 0.0
KSRS Korea Array 35.54 1 P P 07 06 08.2 +0.4
comp=Z,12nm,0.7s,baz=179,slow=10,SNR=43
KSRS ScP **ScP 07 12 11.2 -1.0**
comp=Z,0.8nm,0.4s,baz=207,slow=3.6,SNR=6.7
KSRS LR LR 07 22 44.8
comp=Z,27nm,19.8s,baz=185,slow=40
TIA Tai'an 35.58 346 P P 07 06 08.5 +0.4
TIA pmax pmax
comp=Z,16nm,0.9s
KS19 Wonju Array Si 35.59 1 P P 07 06 08.1 0.0
KS19 IAmb IAmb 07 06 08.7
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 35.78 195 P P 07 06 09.6 -0.3
baz=36,SNR=16
NWAO Narrogin (SRO) 35.78 195 P P 07 06 09.3 -0.6
NWAO pmax pmax
comp=Z,30nm,0.8s
NWAO Narrogin (SRO) 35.78 195 P P 07 06 09.3 -0.6
NWAO IAmb IAmb 07 06 10.9
comp=Z,30nm,0.8s
NWAO Narrogin (SRO) 35.78 195 P P 07 06 09.3 -0.6
NWAO IAmb IAmb 07 06 10.9
comp=Z,24nm,0.8s
MJAR Matsushiro Arr 36.05 15 P P 07 06 11.1 -1.1
comp=Z,13nm,0.6s,baz=196,slow=9.2,SNR=28
MJAR ScP **ScP 07 12 13.5 -0.6**
comp=Z,1.3nm,0.6s,baz=175,slow=7.1,SNR=2.3
MJAR LR LR 07 17 58.6
comp=Z,67nm,21.7s,baz=210,slow=31
MJAR Matsushiro Arr 36.05 15 P P 07 06 10.6 -1.6
MAJO Matsushiro 36.06 15 *de* **P P 07 06 10.8 -1.4**
MAJO pmax pmax
comp=Z,23nm,0.6s
MAJO Matsushiro 36.06 15 P P 07 06 10.3 -1.9
MAT Matsushiro 36.06 15 P P 07 06 10.7 -1.5
STKA Stephens Creek 36.07 159 P P 07 06 12.3 -0.1
comp=Z,84nm,0.7s,baz=334,slow=8.9,SNR=169
STKA PP **PP 07 07 35.8 -0.6**
comp=Z,14nm,0.9s,baz=330,slow=14,SNR=3.2
STKA LR LR 07 21 36.3
comp=Z,72nm,21.0s,baz=17,slow=37
STKA Stephens Creek 36.07 159 P P 07 06 12.3 -0.1
baz=36,SNR=76
STKA Stephens Creek 36.07 159 P P 07 06 12.3 -0.1
STKA IAmb IAmb 07 06 13.2
comp=Z,19nm,0.8s
XAN Xi'an 36.45 334 P P 07 06 15.5 -0.1
XAN pP sP 07 06 44.5 -3.8
XAN pmax pmax
comp=Z,85nm,1.1s
XAN LR LR
comp=Z,150nm,16.3s
XAN LR LR
comp=Z,200nm,16.3s
XAN LR LR
comp=Z,200nm,19.5s
XAN Xi'an 36.45 334 P P 07 06 15.6 -0.1
XAN pmax pmax
comp=Z,55nm,0.8s
XAN Xi'an 36.45 334 P P 07 06 15.6 -0.1
CD2 Chengdu 36.60 325 P P 07 06 17.3 +0.3
CD2 S **S 07 11 53.8 +1.0**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,190nm,5.2s
HTT Hallett 36.65 164 P P 07 06 17.2 -0.1
baz=37,SNR=21
DL2 Dalian 37.35 353 P P 07 06 28.9 +5.8
DL2 pmax pmax
comp=Z,34nm,0.7s
CMSA Cobar Meteorol 37.41 154 P P 07 06 24.2 +0.5
baz=37,SNR=14
RKGY Rocky Gully 37.45 194 P P 07 06 24.8 +0.8
baz=37,SNR=40
JSD Sado 37.48 14 P P 07 06 23.2 -1.0
JSD IAmb IAmb 07 06 24.1
comp=Z,23nm,0.7s
JMM Marumori 38.01 17 P P 07 06 28.8 +0.1
SAIH SAIHA 39.22 304 *eP* **P 07 06 39.0 -0.2**
SAIH IAmb IAmb 07 06 41.5
comp=Z,33nm,0.5s

BJT Baijiatuao 39.43 346 P P 07 06 41.0 +0.5
BJT pmax pmax
comp=Z,34nm,0.8s
BJT Baijiatuao 39.43 346 P P 07 06 41.0 +0.5
BJT IAmb IAmb 07 06 41.9
comp=Z,34nm,0.8s
BJI Beijing 39.45 346 P P 07 06 41.1 +0.5
BJI pmax pmax
comp=Z,43nm,0.7s
ARMA Armidale 39.49 146 P P 07 06 42.6 +1.3
baz=40,SNR=4.0
ARMA Armidale 39.49 146 P P 07 06 41.8 +0.5
ARMA IAmb IAmb 07 06 43.7
comp=Z,32nm,0.7s
LZH Lanzhou 40.52 330 ⇓P P 07 06 51.4 +1.6
LZH pP pwP 07 07 15.0 +0.2
LZH sP sP 07 07 26.3 +3.7
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,190nm,5.0s
LZH LR LR
comp=Z,170nm,13.1s
LZH LR LR
comp=Z,160nm,13.0s
LZH LR LR
comp=Z,200nm,15.2s
ARPS Mount Arapiles 40.62 162 P P 07 06 50.7 +0.2
baz=41,SNR=26
YNG Young 40.95 153 P P 07 06 54.3 +1.1
baz=41,SNR=10
ZIRO ZIRO 41.05 312 *eP* **P 07 06 54.6 +0.2**
ZIRO IAmb IAmb 07 06 56.5
comp=Z,47nm,0.4s
TEZP TEZPUR 41.36 310 *eP* **P 07 06 56.5 -0.2**
TEZP IAmb IAmb 07 06 57.4
comp=Z,12nm,0.5s
VLA Vladivostok 41.39 5⇑ *eP* **P 07 06 57.6 +0.9**
HHC Hu-ho-hao-te 41.46 342 *eP* **P 07 06 58.3 +0.9**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,130nm,7.2s
SHL Shillong 41.55 308 *eP* **P 07 06 58.4 -0.1**
SHL IAmb IAmb 07 06 59.8
comp=Z,30nm,0.6s
SHL Shillong 41.55 308 P P 07 06 58.4 -0.1
SHL pmax pmax
comp=Z,63nm,0.7s
SHL Shillong 41.55 308 P P 07 06 58.4 -0.1
CN2 Changchun 41.91 358 *eP* **P 07 07 02.6 +1.7**
CAN Canberra 42.08 153 P P 07 07 02.5 +0.1
CAN pmax pmax
comp=Z,48nm,0.9s
CAN Canberra 42.08 153 P P 07 07 02.5 +0.1
CAN IAmb IAmb 07 07 04.5
comp=Z,48nm,0.9s
CNB Canberra Magne 42.24 153 P P 07 07 04.8 +1.1
baz=42,SNR=5.9
USA0B Ussuriysk Arra 42.48 5 P P 07 07 05.7 +0.3
USA0B pmax pmax
comp=Z,30nm,1.0s
USA0B Ussuriysk Arra 42.48 5 P P 07 07 05.7 +0.3
USA0B IAmb IAmb 07 07 06.9
comp=Z,30nm,1.0s
USRK Ussuriysk Ar. 42.48 5 P P 07 07 06.1 +0.7
comp=Z,18nm,0.8s,baz=192,slow=7.4,SNR=26
USRK Ussuriysk Ar. 42.48 5 P P 07 07 05.6 +0.2
TOO Toolangi 42.58 159 P P 07 07 07.6 +1.1
baz=43,SNR=14
MDJ Mudanjiang 42.74 2 P P 07 07 08.6 +1.0
MDJ pmax pmax
comp=Z,38nm,0.8s
MDJ pmax pmax
comp=Z,80nm,4.0s
MDJ Mudanjiang 42.74 2 P P 07 07 07.4 -0.1
MDJ IAmb IAmb 07 07 09.7
comp=Z,33nm,1.0s
TEY Ternei 43.88 9⇑ *eP* **P 07 07 16.9 +0.2**
TEY pmax pmax
comp=Z,80nm,0.7s
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=E,10.0nm,0.8s
LSA Lhasa 44.21 313 P P 07 07 21.6 +1.4
LSA Lhasa 44.21 313 P P 07 07 21.4 +1.1
LSA pmax pmax
comp=Z,33nm,0.7s
LSA Lhasa 44.21 313 P P 07 07 21.4 +1.1
LSA IAmb IAmb 07 07 23.6
comp=Z,33nm,0.7s
GTA Gaotai 45.10 330 P P 07 07 27.5 +0.7
GTA pP pwP 07 07 54.1 +2.0
GTA sP sP 07 08 06.1 +6.1
GTA PcP **PcP 07 09 06.9 +1.0**
GTA ScP **ScP 07 12 49.9 +0.1**
GTA S **S 07 13 59.5 +0.6**
GTA sS sS 07 14 47.6 +9.4
GTA SS **ScS 07 17 14.1 -0.2**
GTA pmax pmax
comp=Z,38nm,1.0s
GTA pmax pmax
comp=Z,69nm,6.2s
GTA LR LR
comp=Z,84nm,16.7s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,110nm,18.2s
BOK Bokaro 45.71 302 *eP* **P 07 07 32.5 +0.8**
BOK IAmb IAmb 07 07 34.0
comp=Z,8.9nm,0.7s
ODAN Odare 45.72 307 *eP* **P 07 07 32.2 +0.2**
comp=Z,91nm,0.8s
RAMN Ramite 46.40 306 *eP* **P 07 07 37.9 +0.6**
comp=Z,78nm,0.8s
YSS Yuzh-Sakhalins 46.99 14⇓ *eP* **P 07 07 42.6 +1.3**
YSS pmax pmax
comp=Z,51nm,1.7s
GUN Gumba 47.39 307 *eP* **P 07 07 45.4 +0.2**
comp=Z,107nm,0.7s
PKI Pulchoki 47.62 307 *eP* **P 07 07 46.8 -0.1**
comp=Z,25nm,0.8s
HIA Hailar 47.79 353 P P 07 07 48.0 +0.5
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 47.79 353 P P 07 07 48.0 +0.5
DMN Daman 47.88 306 *eP* **P 07 07 49.1 +0.2**
comp=Z,75nm,1.0s
GKN Gorkha 48.42 307 *eP* **P 07 07 52.9 0.0**
comp=Z,64nm,1.0s
KOLN Koldanda 49.16 306 *eP* **P 07 07 59.2 +0.6**
comp=Z,134nm,0.8s
ULN Ulaanbaatar 49.18 342 *d iP* **P 07 07 59.2 +0.8**
ULN pmax pmax
comp=Z,36nm,1.0s
ULN Ulaanbaatar 49.18 342 P P 07 07 58.5 +0.2
ULN IAmb IAmb 07 08 00.2
comp=Z,46nm,1.2s
DANN Dangsing 49.27 307 *eP* **P 07 07 59.7 +0.1**
comp=Z,104nm,0.7s
SONM Songino Array 49.36 341 P P 07 08 00.4 +0.7
comp=Z,9.9nm,0.6s,baz=156,slow=8.4,SNR=50
SONM PP **PP 07 09 57.7 +3.1**
comp=Z,3.0nm,1.1s,baz=150,slow=6.5,SNR=3.9
SONM ScP **ScP 07 13 06.8 -0.6**
comp=Z,0.9nm,0.7s,baz=150,slow=4.4,SNR=3.5
SONM LR LR 07 29 55.9
comp=Z,64nm,21.3s,baz=168,slow=37
SONM Songino Array 49.36 341 P P 07 08 00.2 +0.6
PYUN Piuthan 49.79 306 *eP* **P 07 08 04.0 +0.6**
comp=Z,126nm,0.8s
HYB Hyderabad 50.38 291 *i P* **P 07 08 08.0 +0.2**
HYB *es* P **sP 07 08 45.0 +3.8**
ZEA Zeya 51.82 360 *eP* **P 07 08 17.3 -0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=Z,15nm,1.0s
ZAK Zakamensk 52.59 341 *eP* **P 07 08 24.0 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
BHPL Bhopal 52.85 298 *eP* **P 07 08 25.8 -0.4**
MSVF Nonsavu 53.55 114 ⇓ *iP* **P 07 08 32.9 +1.5**
MSVF Nonsavu 53.55 114 P P 07 08 32.1 +0.7

MSVF IAmb IAmb 07 08 33.8
comp=Z,31nm,1.1s
TLY Talaya 53.59 342⇓ *eP* **P 07 08 32.5 +1.5**
TLY pmax pmax
comp=Z,8.0nm,1.2s
TLY Talaya 53.59 342 P P 07 08 30.0 -1.0
MOY Mondy 54.44 340 *eP* **P 07 08 38.5 +1.1**
MOY pmax pmax
comp=Z,35nm,2.6s
SONA Sohna 54.69 304 *eP* **P 07 08 38.6 -0.8**
SONA IAmb IAmb 07 08 40.4
comp=Z,30nm,0.8s
WMQ Urumqi 54.69 326 P P 07 08 41.0 +1.7
WMQ pP pwP 07 09 05.4 +0.2
WMQ sP sP 07 09 17.5 +4.5
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,94nm,4.1s
WMQ Urumqi 54.69 326 P P 07 08 40.9 +1.7
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ Urumqi 54.69 326 P P 07 08 40.9 +1.6
KUDL Kundal 55.15 303 *eP* **P 07 08 42.2 -0.5**
SMLA Simla 55.63 307 *eP* **P 07 08 47.2 +1.1**
SMLA IAmb IAmb 07 08 50.1
comp=Z,65nm,0.7s
DHRM DHARAMSHALA 56.73 308 *eP* **P 07 08 54.7 +0.5**
DHRM IAmb IAmb 07 08 56.5
comp=Z,104nm,0.7s
DHRM *i* pP **sP 07 09 25.1 -2.9**
DHRM *i* x x 07 09 28.3
BOD Bodaibo 56.90 352 *eP* **P 07 08 54.9 +0.2**
BOD pmax pmax
comp=Z,19nm,1.5s
PETK Petropavlovsk- 57.04 21 P P 07 08 56.3 +0.6
comp=Z,7.4nm,0.8s,baz=192,slow=4.1,SNR=7.3
PETK LR LR 07 32 21.8
comp=Z,15nm,21.6s,baz=188,slow=35
PETK Petropavlovsk- 57.04 21 P P 07 08 56.1 +0.4
ZSN Zaisan 58.49 327 *eP* **P 07 09 05.1 -1.0**
ZSN Zaisan 58.49 327 *eP* **P 07 09 05.1 -1.0**
DGZ Jazzator, Alta 58.61 331 *d iP* **P 07 09 07.6 +0.6**
DGZ pmax pmax
comp=Z,8.0nm,0.7s
PDGK Podgornoye 59.33 321 P P 07 09 12.3 +0.3
MK31 Makanchi Array 59.52 326 P P 07 09 13.9 +0.7
MK31 pmax pmax
comp=Z,21nm,0.7s
MK31 Makanchi Array 59.52 326 P P 07 09 13.8 +0.7
MKAR Makanchi Array 59.52 326 P P 07 09 13.9 +0.7
comp=Z,28nm,0.5s,baz=121,slow=8.5,SNR=268
MKAR LR LR 07 35 43.0
comp=Z,41nm,18.3s,baz=110,slow=37
MKAR Makanchi Array 59.52 326 P P 07 09 13.7 +0.4
UZB Uzynbulak 59.53 321 *eP* **P 07 09 13.7 +0.2**
comp=Z,8.3nm,0.7s
UZB Uzynbulak 59.53 321 *eP* **P 07 09 13.7 +0.2**
UZB pmax pmax
comp=Z,8.0nm,0.7s
PRZ Przheval'sk 59.60 320 P P 07 09 15.9 +1.9
PRZ pmax pmax
comp=Z,54nm,0.6s
PRZ Przheval'sk 59.60 320 P P 07 09 15.9 +1.9
NIL Nilore 59.62 308 P P 07 09 14.6 +0.5
NIL pmax pmax
comp=Z,32nm,1.2s
NIL Nilore 59.62 308 P P 07 09 14.6 +0.5
LBZ Lake Benmore 59.71 146 P P 07 09 13.9 -0.6
MAKZ Makanchi 59.71 326 P P 07 09 14.8 +0.3
MAKZ Makanchi 59.71 326 P P 07 09 14.7 +0.3
THZ Tophouse 59.77 142 P P 07 09 14.9 -0.1
THZ IAmb IAmb 07 09 15.5
comp=Z,14nm,0.7s
KSH Kashi 59.88 316 P P 07 09 17.4 +1.5
KSH S **S 07 17 21.4 +1.0**
KSH pmax pmax
comp=Z,10.0nm,0.6s
KSH pmax pmax
comp=Z,74nm,2.9s
KSH LR LR
comp=Z,100nm,6.3s
KSH LR LR
comp=Z,81nm,5.6s
KSH LR LR
comp=Z,180nm,5.8s
SATY Saty 59.88 320 *eP* **P 07 09 16.7 +0.9**
comp=Z,24nm,0.7s
SATY Saty 59.88 320 *eP* **P 07 09 16.7 +0.9**
SATY pmax pmax
comp=Z,24nm,0.7s
KPKS Kokpek 59.90 321⇓ *iP* **P 07 09 16.6 +0.6**
comp=Z,30nm,0.7s
KPKS Kokpek 59.90 321 *d iP* **P 07 09 16.6 +0.6**
KPKS pmax pmax
comp=Z,30nm,0.7s
YAK Yakutsk 60.16 1 *eP* **P 07 09 17.2 0.0**
YAK *e* *PP **pwP 07 09 42.6 -1.2**
YAK *e* 07 10 03.1
YAK *e* 07 11 29.0
YAK *e* PPP PPP 07 12 54.8
YAK *e* S **S 07 17 21.1 -1.9**
YAK *e* *SS **sS 07 18 01.8 -1.1**
YAK *e* 07 18 53.9
YAK *e* SS **SS 07 21 20.1 -1.6**
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,76nm,2.9s
YAK pmax pmax
comp=N,61nm,3.8s
YAK pmax pmax
comp=E,17nm,1.6s
YAK smax smax
comp=E,39nm,2.5s
YAK smax smax
comp=N,36nm,2.0s
YAK Yakutsk 60.16 1 P P 07 09 17.2 0.0
KDJ Kajisay 60.23 319 P P 07 09 19.4 +1.1
KDJ pmax pmax
comp=Z,29nm,0.7s
KDJ Kajisay 60.23 319 P P 07 09 19.4 +1.1
MDOK Medeo 60.80 320 *eP* **P 07 09 22.8 +0.7**
MDOK Medeo 60.80 320 *eP* **P 07 09 22.8 +0.7**
TNSS Tian-Shan 60.80 320⇓ *iP* **P 07 09 23.4 +0.8**
TNSS Tian-Shan 60.80 320⇓ *iP* **P 07 09 23.3 +0.8**
TDK Taldyqorghan 60.85 322 *eP* **P 07 09 22.7 +0.5**
TDK Taldyqorghan 60.85 322 *eP* **P 07 09 22.7 +0.5**
ULHL Ulahol 60.90 319 P P 07 09 24.0 +1.1
SNR=19
CHKK Chushkaly 61.17 321 *eP* **P 07 09 24.2 -0.3**
CHKK Chushkaly 61.17 321 *eP* **P 07 09 24.1 -0.3**
MTBS Maitube 61.18 320 *eP* **P 07 09 24.2 -0.4**
MTBS Maitube 61.18 320 *eP* **P 07 09 24.2 -0.4**
BOOM Boomskoye usch 61.21 319 P P 07 09 25.7 +0.7
BOOM pmax pmax
comp=Z,12nm,0.8s
BOOM Boomskoye usch 61.21 319 P P 07 09 25.7 +0.7
BOOM IAmb IAmb 07 09 28.0
comp=Z,12nm,0.8s
KUU Kurty 61.60 320⇓ *iP* **P 07 09 27.9 +0.6**
comp=Z,51nm,0.6s
KUU Kurty 61.60 320 *d iP* **P 07 09 27.9 +0.6**
KUU pmax pmax
comp=Z,51nm,0.6s
TKM2 Tokmak 2 61.63 319 P P 07 09 28.8 +1.0
SNR=43
TKM2 Tokmak 2 61.63 319 *i P* **P 07 09 28.2 +0.4**
TKM2 pmax pmax
comp=Z,22nm,0.6s
KBK Karagaybulak 61.94 319 P P 07 09 32.7 +2.8
SNR=8.6
UCH Uchtor 62.04 318 P P 07 09 32.3 +1.4
SNR=53
AAK Ala-Archa 62.23 318 P P 07 09 32.9 +1.1
SNR=11
AAK Ala-Archa 62.23 318 *d iP* **P 07 09 33.1 +1.3**
AAK pmax pmax
comp=Z,72nm,1.7s
SGDS Sogindy 62.50 319⇓ *iP* **P 07 09 33.5 -0.1**
comp=Z,4.1nm,0.5s

SGDS	**Sogindy**	**62.50**	**319**	*d* iP	**P**	**07 09 33.4**	**-0.1**
SGDS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
USP	**Ospenovka**	**62.50**	**319**	P	**P**	**07 09 34.2**	**+0.8**
	SNR=30						
AML	**Almayashu**	**62.55**	**318**	P	**P**	**07 09 35.5**	**+1.3**
	SNR=35						
ZAA0	**Zalesovo Array**	**62.62**	**333**	P	**P**	**07 09 33.0**	**-0.9**
ZALV	**Zalesovo Beam**	**62.62**	**333**	P	**P**	**07 09 33.2**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=117,slow=5.7,SNR=15						
ZALV				LR	LR	07 37 46.4	
	comp=Z,38nm,20.7s,baz=84,slow=37						
ZALV	**Zalesovo Beam**	**62.62**	**333**	P	**P**	**07 09 33.1**	**-0.9**
EKS2	**Erkin-Say**	**62.72**	**318**	P	**P**	**07 09 36.4**	**+1.4**
	SNR=11						
KBL	**Kabul**	**63.21**	**308**	P	**P**	**07 09 39.0**	**+0.5**
KBL				pmax	pmax		
	comp=Z,18nm,0.8s						
KBL	**Kabul**	**63.21**	**308**	P	**P**	**07 09 39.0**	**+0.5**
KBL				IAmb	IAmb	07 09 40.5	
	comp=Z,18nm,0.8s						
GAR	**Garm**	**63.71**	**313**	P	**P**	**07 09 42.3**	**+0.7**
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	**P**	**07 09 41.4**	**+0.1**
BTK	**Batken**	**63.73**	**314**	P	**P**	**07 09 42.0**	**+0.3**
BTK				pmax	pmax		
	comp=Z,23nm,1.0s						
BTK	**Batken**	**63.73**	**314**	P	**P**	**07 09 42.0**	**+0.3**
BTK				IAmb	IAmb	07 09 44.5	
	comp=Z,23nm,0.9s						
KURK	**Kurchatov**	**63.73**	**328**	*d* iP	**P**	**07 09 41.5**	**+0.2**
KURK				pmax	pmax		
	comp=Z,123nm,0.7s						
KURK	**Kurchatov**	**63.73**	**328**	P	**P**	**07 09 41.6**	**+0.2**
SEY	**Seymchan**	**63.82**	**12**	⇑*i*P	**P**	**07 09 43.5**	**+1.8**
CHGR	**Chuyangaron**	**64.44**	**312**	P	**P**	**07 09 46.4**	**0.0**
CHGR				IAmb	IAmb	07 09 48.7	
	comp=Z,41nm,1.0s						
DZA	**Taraz**	**64.46**	**318**	*e*P	**P**	**07 09 46.9**	**+0.5**
DZA	**Taraz**	**64.46**	**318**	*e*P	**P**	**07 09 46.8**	**+0.5**
IUG	**luzhnay**	**65.06**	**316**	⇓*i*P	**P**	**07 09 51.0**	**+0.6**
	comp=Z,17nm,0.7s						
IUG	**luzhnay**	**65.06**	**316**	*d* iP	**P**	**07 09 50.9**	**+0.6**
IUG				pmax	pmax		
	comp=Z,17nm,0.7s						
KK31	**Karatay Array**	**65.09**	**317**	P	**P**	**07 09 50.7**	**+0.2**
KK31				pmax	pmax		
	comp=Z,19nm,0.8s						
KK31	**Karatay Array**	**65.09**	**317**	P	**P**	**07 09 50.7**	**+0.2**
KK31				IAmb	IAmb	07 09 53.2	
	comp=Z,19nm,0.8s						
KKAR	**Karatay Array**	**65.09**	**317**	P	**P**	**07 09 50.6**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,19nm,0.8s						
KKAR	**Karatay Array**	**65.09**	**317**	P	**P**	**07 09 51.1**	**+0.6**
KKAR				IAmb	IAmb	07 09 53.2	
	comp=Z,19nm,0.8s						
KKAR	**Karatay Array**	**65.09**	**317**	P	**P**	**07 09 50.6**	**+0.2**
BRZS	**Berezniki**	**66.65**	**325**	⇓*e*P	**P**	**07 10 00.1**	**-0.3**
	comp=Z,8.2nm,0.5s						
BRZS	**Berezniki**	**66.65**	**325**	*de*P	**P**	**07 10 00.0**	**-0.3**
BRZS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CASY	**Casey**	**68.93**	**187**	P	**P**	**07 10 13.7**	**-0.5**
BRVK	**Borovoye**	**69.38**	**327**	*d* iP	**P**	**07 10 17.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,27nm,0.9s						
BRVK	**Borovoye**	**69.38**	**327**	P	**P**	**07 10 17.2**	**0.0**
BRVK				IAmb	IAmb	07 10 21.0	
	comp=Z,25nm,0.8s						
BILL	**Bilibino**	**71.31**	**14**	*e*P	**P**	**07 10 29.2**	**+0.5**
BILL				*e*		07 13 10.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NRIK	**Noril'sk**	**72.49**	**346**	P	**P**	**07 10 35.5**	**-0.3**
	comp=Z,9.1nm,0.6s,baz=122,slow=6.1,SNR=23						
GEYT	**Alibeck**	**72.61**	**309**	P	**P**	**07 10 38.3**	**+1.1**
	comp=Z,5.3nm,0.6s,baz=141,slow=5.2,SNR=4.0						
AB31	**Akbulak array**	**74.06**	**321**	*i* P	**P**	**07 10 44.8**	**-0.6**
ABKAR	**Akbulak array**	**74.06**	**321**	P	**P**	**07 10 45.1**	**-0.4**
SVE	**Sverdlovsk**	**75.96**	**329**	⇓*e*P	**P**	**07 10 56.1**	**-0.1**
SVE				pmax	pmax		
	comp=Z,22nm,0.8s						
ARU	**Arti**	**76.93**	**328**	*c i*P	**P**	**07 11 00.8**	**-0.8**
ARU				*PP	**pP**	**07 11 23.7**	**-2.5**
ARU						07 13 52.3	
ARU				S	**S**	**07 20 42.1**	**+0.3**
ARU				SS	**SS**	**07 25 38.4**	**-1.9**
ARU				pmax	pmax		
	comp=Z,11nm,0.7s						
ARU	**Arti**	**76.93**	**328**	P	**P**	**07 11 00.8**	**-0.8**
OPO	**Ambohidratompo**	**81.22**	**251**	P	**P**	**07 11 26.0**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=38,slow=11,SNR=3.8						
VNDA	**Vanda**	**81.39**	**173**	P	**P**	**07 11 25.1**	**-0.4**
	comp=Z,9.6nm,0.6s,baz=317,slow=6.7,SNR=48						
VNDA				LR	LR	07 47 35.6	
	comp=Z,30nm,18.8s,baz=356,slow=36						
VNDA	**Vanda**	**81.39**	**173**	P	**P**	**07 11 25.1**	**-0.4**
MAW	**Mawson**	**82.12**	**200**	P	**P**	**07 11 29.7**	**+0.2**
	comp=Z,16nm,0.9s,baz=79,slow=6.0,SNR=56						
MAW				LR	LR	07 47 32.9	
	comp=Z,18nm,19.6s,baz=236,slow=35						
MAW	**Mawson**	**82.12**	**200**	P	**P**	**07 11 30.0**	**+0.5**
	baz=82,SNR=20						
MAW	**Mawson**	**82.12**	**200**	P	**P**	**07 11 29.6**	**+0.1**
KIRV	**Kirov**	**82.22**	**329**	LR	LR	07 51 08.5	
	comp=Z,42nm,19.1s,baz=75,slow=38						
KIRV	**Kirov**	**82.22**	**329**	*ce*P	**P**	**07 11 29.9**	**-0.3**
IMAR	**Indian Mountai**	**83.90**	**24**	P	**P**	**07 11 39.5**	**+0.7**
GEVA	**Gevas**	**84.43**	**308**	P	**P**	**07 11 43.0**	**+0.7**
GEVA				IAmb	IAmb	07 11 47.6	
	comp=Z,23nm,0.8s						
KBZ	**Khabaz**	**84.78**	**314**	P	**P**	**07 11 42.9**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=13,slow=9.1,SNR=2.6						
KBZ				LR	LR	07 55 24.0	
	comp=Z,9.5nm,19.1s,baz=50,slow=40						
KBZ	**Khabaz**	**84.78**	**314**	*ce*P	**P**	**07 11 43.8**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
VRH	**Novokhopyorsk**	**85.90**	**321**	*e*P	**P**	**07 11 47.6**	**-1.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KOPT	**Kop Dagi**	**86.47**	**310**	P	**P**	**07 11 53.3**	**+0.7**
KOPT				IAmb	IAmb	07 12 02.7	
	comp=Z,14nm,0.8s						
ILAR	**Eielson Array**	**86.62**	**25**	P	**P**	**07 11 50.9**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=249,slow=4.2,SNR=8.2						
ILAR				LR	LR	07 49 18.0	
	comp=Z,14nm,21.0s,baz=330,slow=35						
VORD	**Divnogorie**	**87.42**	**321**	*e*P	**P**	**07 11 59.5**	**+3.0**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**87.50**	**321**	*e*P	**P**	**07 11 59.6**	**+2.7**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LPSR	**Galich'ya Gora**	**87.66**	**322**	*e*P	**P**	**07 11 58.7**	**+1.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
OBN	**Obninsk**	**89.02**	**325**	*e*P	**P**	**07 12 03.2**	**-0.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SYO	**Syowa Base**	**90.81**	**201**	⇓*e*P	**P**	**07 12 10.4**	**-1.6**
QSPA	**South Pole Qui**	**91.66**	**180**	P	**P**	**07 12 15.8**	**-0.4**
	comp=Z,3.4nm,0.4s,baz=144,slow=1.7,SNR=86						
QSPA	**South Pole Qui**	**91.66**	**180**	P	**P**	**07 12 15.9**	**-0.4**
ARCES	**ARCESS Array B**	**92.51**	**340**	P	**P**	**07 12 19.2**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=45,slow=5.3,SNR=3.7						
ARCES				LR	LR	08 00 08.1	
	comp=Z,42nm,18.0s,baz=265,slow=39						
FINES	**FINESS Array B**	**93.86**	**332**	P	**P**	**07 12 24.4**	**-1.8**
	comp=Z,2.2nm,0.9s,baz=56,slow=7.4,SNR=1.4						
FINES				LR	LR	07 56 34.2	
	comp=Z,30nm,18.6s,baz=58,slow=37						
FINES	**FINESS Array B**	**93.86**	**332**	P	**P**	**07 12 25.2**	**-1.1**
FINES	**FINESS Array B**	**93.86**	**332**	P	**P**	**07 12 25.2**	**-1.1**
NVAR	**Mina Array Bea**	**107.76**	**49**	PKKPbc	PKKPbc	07 28 51.9	+0.3
	comp=Z,0.2nm,0.5s,baz=150,slow=5.9,SNR=3.9						
PDAR	**Pinedale Array**	**112.43**	**42**	PKKPbc	PKKPbc	07 28 34.8	-1.9
	comp=Z,0.5nm,0.6s,baz=112,slow=6.3,SNR=5.8						
MNTX	**Cornudas Mount**	**120.02**	**52**		**PKiKP**	**07 18 00.4**	**+0.3**
TXAR	**Lajitas Array**	**122.31**	**53**	PKP	**PKiKP**	**07 18 04.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=243,slow=0.8,SNR=7.6						
TXAR				PKKPbc	**PKKPab**	**07 28 01.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=116,slow=6.6,SNR=6.1						
SCHQ	**Schefferville**	**122.41**	**10**	PKP	**PKPdf**	**07 18 03.6**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=6.9,slow=4.0,SNR=5.1						
SCHQ	**Schefferville**	**122.41**	**10**		**PKiKP**	**07 18 04.1**	**0.0**
TORD	**Torodi Ar. Bea**	**124.10**	**287**	PKP	**PKPdf**	**07 18 07.3**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=29,slow=2.0,SNR=14						
TORD				PP	**PP**	**07 19 57.7**	**+4.0**
	comp=Z,1.0nm,0.9s,baz=76,slow=7.5,SNR=4.5						
TORD				SKP		07 21 34.8	
	comp=Z,0.8nm,0.8s,baz=23,slow=4.8,SNR=3.8						
TORD				PKKPbc	**PKKPab**	**07 27 55.1**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=268,slow=3.5,SNR=4.6						
JCT	**Junction City**	**124.87**	**50**	PKIKP	**PKPdf**	**07 18 08.9**	**-0.5**
JCT	**Junction City**	**124.87**	**50**	PKPdf	**PKPdf**	**07 18 08.9**	**-0.5**
S39A	**Bolivar**	**125.67**	**40**		**PKPdf**	**07 18 10.7**	**0.0**
R40A	**Maddies Statio**	**125.97**	**38**		**PKPdf**	**07 18 11.2**	**+0.1**
DBIC	**Dimbokro**	**131.56**	**280**	SKPbc	**SKPbc**	**07 21 38.0**	**-1.3**
	comp=Z,7.8nm,1.0s,baz=51,slow=8.8,SNR=4.0						
PLCA	**Paso Flores**	**137.94**	**160**	PKP	**PKPdf**	**07 18 34.8**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=168,slow=2.3,SNR=4.2						
PLCA				SKPbc	**SKPbc**	**07 21 58.3**	**-0.9**
	comp=Z,3.3nm,1.1s,baz=236,slow=3.6,SNR=4.1						
VA03	**San Esteban**	**144.86**	**153**		PKPbc	07 18 46.0	+0.2
CO02	**Combarbal**	**145.95**	**151**		**PKPbc**	**07 18 49.4**	**+0.1**
CO03	**El Pedregal**	**146.40**	**151**		**PKPbc**	**07 18 50.4**	**-0.2**
ZON	**Zonda**	**146.72**	**155**	PKP2	**PKPbc**	**07 18 51.5**	**+0.1**
ZON	**Zonda**	**146.72**	**155**		**PKPbc**	**07 18 51.5**	**+0.1**
CO01	**Juntas del Tor**	**147.40**	**151**		**PKPbc**	**07 18 53.6**	**0.0**
LCO	**Las Campanas**	**147.89**	**149**	PKP2	**PKPbc**	**07 18 55.4**	**+0.4**
LCO	**Las Campanas**	**147.89**	**149**		**PKPbc**	**07 18 55.4**	**+0.4**
AC05	**El Transito**	**148.25**	**150**		**PKPbc**	**07 18 56.2**	**+0.5**
AC02	**Maricunga**	**150.47**	**149**		**PKiKP**	**07 19 02.5**	**0.0**
PB14	**IPOC Station P**	**151.51**	**144**		**PKPbc**	**07 19 04.2**	**+0.2**
PB14				PKPab	**PKPab**	**07 19 13.8**	**+1.2**
GO02	**Mina Guanaco**	**151.56**	**146**		**PKiKP**	**07 19 04.6**	**0.0**
GO02				PKPab	**PKPab**	**07 19 14.1**	**+1.3**
CPUP	**Villa Florida**	**155.15**	**170**	PKPab	**PKPab**	**07 19 27.2**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=181,slow=3.3,SNR=9.3						
CPUP	**Villa Florida**	**155.15**	**170**	PKP2	**PKPab**	**07 19 27.8**	**+0.4**
CPUP	**Villa Florida**	**155.15**	**170**		**PKPab**	**07 19 27.8**	**+0.4**
MNMC	**Minye Minye**	**156.05**	**137**		**PKPab**	**07 19 33.3**	**+1.4**
LPAZ	**La Paz**	**159.00**	**134**	PKPab	**PKPab**	**07 19 45.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=195,slow=4.4,SNR=7.3						
LPAZ	**La Paz**	**159.00**	**134**		**PKPab**	**07 19 46.3**	**+1.1**
BDFB	**Brasilia**	**165.45**	**198**	PKPab	**PKPab**	**07 20 12.2**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=22,slow=14,SNR=3.2						

*IDC **23** 07:05:33.8±1.1,29.°16S×74.°79E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/32, mbtmp3.7/4, MS3.3/5, Ms1 3.3/5, ms1mx2.9/40, Error ellipse: s-maj=36.0km s-min=32.2km az=28.0*
*NEIC **23** 07:05:36.6±1.3,29.°3S±0.°1×75.°1E±0.°1, h10km±1km, mb4.3/12, Error ellipse: s-maj=22.2km s-min=11.6km az=149.0*

ISC 23 07:05:36.1±0.7, 29.°3S±0.°1×75.°0E±0.°1, h10km, n30, σ1s 04/20, mb4.3/11, MS3.4/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.63**	**353**	T	T	07 32 39.9	
	baz=174,slow=76,SNR=86						
H08S1	**Diego Garcia H**	**21.63**	**353**	T	T	07 32 51.8	
	baz=174,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**21.65**	**353**	T	T	07 32 53.1	
	baz=174,slow=76,SNR=88						
H01W2	**Cape Leeuwin H**	**33.48**	**110**	T	T	07 47 39.0	
	baz=268,slow=74,SNR=44						
H01W3	**Cape Leeuwin H**	**33.48**	**110**	T	T	07 47 39.1	
	baz=268,slow=74,SNR=36						
H01W1	**Cape Leeuwin H**	**33.50**	**110**	T	T	07 47 40.2	
	baz=268,slow=74,SNR=45						
MAW	**Mawson**	**39.06**	**187**	P	**P**	**07 13 03.0**	**+0.2**
PSAD2	**Pilbara Seismi**	**41.11**	**90**	P	**P**	**07 13 20.4**	**0.0**
KULM	**Kulim**	**42.28**	**40**	P	**P**	**07 13 29.8**	**-0.1**
CASY	**Casey**	**42.92**	**160**	P	**P**	**07 13 35.3**	**+0.7**
CASY				IAmb	IAmb	07 13 44.0	
	comp=Z,7.4nm,1.2s						
BOSA	**Boshof**	**43.27**	**258**	LR	LR	07 27 49.2	
	comp=Z,52nm,19.5s,baz=114,slow=31						
KAPI	**Kappang**	**48.66**	**69**	LR	LR	07 31 33.2	
	comp=Z,22nm,20.8s,baz=305,slow=32						
ASAR	**Alice Springs**	**52.56**	**99**	P	**P**	**07 14 51.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=249,slow=6.5,SNR=5.5						
ASAR				LR	LR	07 34 21.8	
	comp=Z,26nm,20.6s,baz=41,slow=33						
ASAR	**Alice Springs**	**52.56**	**99**	P	**P**	**07 14 50.4**	**+0.3**
WRA	**Warramunga Arr**	**54.26**	**94**	P	**P**	**07 15 03.2**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=249,slow=7.0,SNR=4.8						
WB2	**Warramunga Arr**	**54.27**	**94**	P	**P**	**07 15 03.2**	**+0.6**
WB2				IAmb	IAmb	07 15 19.7	
	comp=Z,2.9nm,1.0s						
WB0	**Warramunga Arr**	**54.37**	**94**	P	**P**	**07 15 03.9**	**+0.4**
WB0				IAmb	IAmb	07 15 12.3	
	comp=Z,5.8nm,1.4s						
WR0	**Warramunga Arr**	**54.43**	**95**	P	**P**	**07 15 01.2**	**-2.6**
STKA	**Stephens Creek**	**56.57**	**111**	P	**P**	**07 15 18.9**	**-0.3**
UOSS	**Minazif**	**56.84**	**340**	P	**P**	**07 15 22.4**	**+1.5**
SNAA	**Sanae**	**58.70**	**201**	P	**P**	**07 15 34.2**	**+0.7**
SNAA				IAmb	IAmb	07 15 52.5	
	comp=Z,3.4nm,1.4s						
QSPA	**South Pole Qui**	**60.88**	**180**	P	**P**	**07 15 48.5**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=270,slow=8.1,SNR=11						
QSPA	**South Pole Qui**	**60.88**	**180**	P	**P**	**07 15 47.5**	**-1.3**
BTK	**Batken**	**69.07**	**357**	P	**P**	**07 16 43.0**	**+0.9**
BTK				IAmb	IAmb	07 16 57.8	
	comp=Z,3.1nm,0.9s						
KK31	**Karatay Array**	**72.12**	**357**	P	**P**	**07 17 00.9**	**+0.3**
KK31				IAmb	IAmb	07 17 01.3	
	comp=Z,2.1nm,0.8s						
KKAR	**Karatay Array**	**72.12**	**357**	P	**P**	**07 17 01.1**	**+0.6**
MKAR	**Makanchi Array**	**75.98**	**5**	P	**P**	**07 17 21.8**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=193,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**82.27**	**290**	P	**P**	**07 17 56.8**	**-1.4**
	comp=Z,89nm,0.8s,baz=121,slow=4.9,SNR=4.5						
KSRS	**Korea Array**	**82.83**	**40**	LR	LR	07 55 46.3	
	comp=Z,14nm,18.2s,baz=131,slow=36						
AKASG	**Malin Array Be**	**89.30**	**333**	LR	LR	07 58 57.7	
	comp=Z,14nm,19.1s,baz=300,slow=36						

*TUL **23** 07:06:03±1.9, 36.°68N±0.°03×97.°72W±0.°06, h4km±7km, ML3.1, Error ellipse: s-maj=7.2km s-min=1.6km az=62.0*
*NEIC **23** 07:06:03.3±0.9, 36.°65N±0.°02×97.°73W±0.°06, h5km±2km, Error ellipse: s-maj=8.7km s-min=3.0km az=65.0*
*ANF **23** 07:06:03.7±0.5, 36.°66N×97.°71W, h5km, ML3.5/8, Error ellipse: s-maj=6.7km s-min=6.1km az=67.0*

ISC 23 07:06:03.1±1.1, 36.°65N±0.°02×97.°72W±0.°03, h2km±10km, n63, σ0s 94/79, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.36**	**328**	Pg	**Pg**	**07 06 10.2**	**0.0**
KAN14				Sg	**Sg**	**07 06 15.2**	**+0.2**
KAN13	**South Haven SW**	**0.41**	**28**	Pg	**Pg**	**07 06 11.0**	**-0.1**
KAN13				Sg	**Sg**	**07 06 16.4**	**0.0**
KAN05	**Bluff City Nor**	**0.48**	**345**	Pg	**Pg**	**07 06 12.2**	**-0.1**
KAN05				Sg	**Sg**	**07 06 19.0**	**+0.5**
KAN09	**Caldwell North**	**0.49**	**9**	Pg	**Pg**	**07 06 12.4**	**-0.2**
KAN09				Sg	**Sg**	**07 06 19.2**	**+0.1**
KAN10	**Anthony SW Sta**	**0.56**	**328**	Pg	**Pg**	**07 06 13.9**	**-0.1**
KAN10				Sg	**Sg**	**07 06 21.5**	**+0.2**
KAN08	**Anthony NE Sta**	**0.61**	**341**	Pg	**Pg**	**07 06 14.8**	**-0.1**
KAN12	**Harper NE Stat**	**0.69**	**341**	Pg	**Pg**	**07 06 16.5**	**+0.2**
KAN12				Sg	**Sg**	**07 06 25.2**	**0.0**
QUOK	**Quay**	**0.94**	**120**	Pg	**Pg**	**07 06 21.1**	**-0.1**
QUOK				Sg	**Sg**	**07 06 33.6**	**+0.1**
OK031	**S. Brethren Rd**	**0.99**	**134**	Pg	**Pg**	**07 06 22.2**	**0.0**
OK031				Sg	**Sg**	**07 06 35.6**	**+0.6**
BCOK	**Bluff Creek, N**	**0.99**	**175**	Pg	**Pg**	**07 06 22.3**	**+0.1**
T35A	**Sooner Cattle**	**1.00**	**74**	Pg	**Pg**	**07 06 21.8**	**-0.6**
OK030	**Cody Creek RV**	**1.04**	**133**	Pg	**Pg**	**07 06 23.0**	**-0.1**
U32A	**Winter Ranch,**	**1.07**	**256**	Pg	**Pg**	**07 06 23.3**	**-0.3**
OK025	**Westminster Rd**	**1.11**	**164**	Pg	**Pg**	**07 06 24.4**	**0.0**
OKCFA	**Oklahoma City**	**1.25**	**170**	Pn	**Pg**	**07 06 26.9**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**1.26**	**170**	Pn	**Pg**	**07 06 27.1**	**-0.2**
FNO	**Franklin**	**1.41**	**169**	Pn	**Pn**	**07 06 29.9**	**0.0**
TUL1	**Leonard**	**1.72**	**115**	P	**Pn**	**07 06 34.3**	**+0.2**
	baz=296						
TUL1				S	**Sb**	**07 06 57.4**	**-0.2**
	baz=296						
TUL1	**Leonard**	**1.72**	**115**	Pn	**Pn**	**07 06 34.1**	**0.0**
R32A	**Long Quarter,**	**1.94**	**336**		**Pn**	**07 06 37.5**	**+0.3**
X34A	**Smith Ranch, M**	**2.04**	**183**	Pn	**Pn**	**07 06 39.5**	**+0.9**
WMOK	**Wichita Mounta**	**2.09**	**205**	P	**Pn**	**07 06 39.5**	**+0.2**
	baz=24						
WMOK				S	**Sb**	**07 07 07.3**	**-1.0**
	baz=24						
WMOK	**Wichita Mounta**	**2.09**	**205**	Pn	**Pn**	**07 06 39.6**	**+0.3**
KSU1	**Kansas State U**	**2.60**	**19**	P	**Pn**	**07 06 46.3**	**+0.1**
	baz=200						
KSU1				S	**Sn**	**07 07 18.6**	**+0.2**
	baz=200						
KSU1	**Kansas State U**	**2.60**	**19**		**Pn**	**07 06 46.2**	**-0.1**
CBKS	**Cedar Bluff**	**2.69**	**324**	P	**Pn**	**07 06 48.1**	**+0.6**
	baz=143						
CBKS				S	**Sn**	**07 07 21.3**	**+0.6**
	baz=143						
CBKS	**Cedar Bluff**	**2.69**	**324**	Pn	**Pn**	**07 06 48.2**	**+0.7**
U38A	**Gravette**	**2.69**	**93**		**Pn**	**07 06 47.8**	**+0.3**
X37A	**Clayton**	**2.81**	**136**	Pn	**Pn**	**07 06 50.1**	**+1.1**
HHAR	**Hobbs**	**3.07**	**96**	Pn	**Pn**	**07 06 52.6**	**0.0**
Z35A	**Perchaven, San**	**3.33**	**173**	Pn	**Pn**	**07 06 56.5**	**+0.2**
W39A	**Magazine**	**3.51**	**113**	P	**Pn**	**07 06 59.3**	**+0.7**
	baz=296						
W39A				S	**Sn**	**07 07 41.5**	**+0.7**
	baz=296						
W39A	**Magazine**	**3.51**	**113**	Pn	**Pn**	**07 06 59.0**	**+0.3**
AMTX	**Amarillo**	**3.67**	**243**	P	**Pn**	**07 07 01.3**	**+0.3**
	baz=60						
AMTX				S	**Sn**	**07 07 46.0**	**+1.1**
	baz=60						
AMTX	**Amarillo**	**3.67**	**243**	Pn	**Pn**	**07 06 59.2**	**-1.8**
U40A	**Yellville**	**3.93**	**93**	P	**Pn**	**07 07 04.6**	**+0.1**
	baz=276						
U40A				S	**Sn**	**07 07 50.7**	**-0.5**
	baz=276						
U40A	**Yellville**	**3.93**	**93**		**Pn**	**07 07 04.1**	**-0.4**
MIAR	**Mount Ida**	**3.97**	**121**	P	**Pn**	**07 07 06.1**	**+1.0**
	baz=303						
MIAR				S	**Sn**	**07 07 52.3**	**0.0**
	baz=303						
Z38A	**Mt. Pleasant**	**4.06**	**146**	Pn	**Pn**	**07 07 05.9**	**-0.3**
N33A	**J Bar K, Exete**	**4.09**	**3**	Pn	**Pn**	**07 07 08.4**	**+1.7**
MGMO	**Mountain Grove**	**4.40**	**82**		**Pn**	**07 07 11.7**	**+0.7**
P38A	**Dawn**	**4.44**	**47**	Pn	**Pn**	**07 07 09.5**	**-2.0**
N35A	**Tabor**	**4.51**	**20**	Pn	**Pn**	**07 07 12.5**	**+0.1**
KSCO	**Kaye Shedlock'**	**4.55**	**303**	Pn	**Pn**	**07 07 13.0**	**0.0**
FCAR	**Ozark Folk Cen**	**4.58**	**98**		**Pn**	**07 07 24.5**	**+0.2**
WHAR	**Wooly Hollow**	**4.61**	**106**	Pn	**Pn**	**07 07 12.2**	**-1.6**
R40A	**Maddies Statio**	**4.63**	**68**	Pn	**Pn**	**07 07 13.9**	**-0.2**
WHTX	**Lake Whitney,**	**4.65**	**177**	Pn	**Pn**	**07 07 13.0**	**-1.4**
W41B	**Gary Mavity, V**	**4.68**	**107**	Pn	**Pn**	**07 07 15.6**	**+0.9**
UALR	**University of**	**4.76**	**112**	Pn	**Pn**	**07 07 12.6**	**-3.2**
WLAR	**White Oak Lake**	**4.79**	**127**	Pn	**Pn**	**07 07 17.3**	**+0.9**
237A	**Washetta, Mont**	**4.90**	**161**	Pn	**Pn**	**07 07 19.7**	**+1.9**
Z41A	**Richland Creek**	**5.27**	**129**	Pn	**Pn**	**07 07 21.7**	**-1.1**
T25A	**Trinidad**	**5.39**	**277**	Pn	**Pn**	**07 07 20.8**	**-4.0**
N38A	**Joes South For**	**5.42**	**39**	Pn	**Pn**	**07 07 24.4**	**-0.6**
SDCO	**Great Sand Dun**	**6.31**	**282**	Pn	**Pn**	**07 07 38.2**	**+0.7**
Q24A	**Divide**	**6.32**	**294**	Pn	**Pn**	**07 07 37.8**	**+0.2**
ECSD	**EROS Data Cent**	**7.13**	**6**	Pn	**Pn**	**07 07 47.1**	**-1.3**
L40A	**Anamosa**	**7.38**	**41**	Pn	**Pn**	**07 07 51.5**	**-0.4**
PLAL	**Pickwick Lake**	**8.01**	**99**	Pn	**Pn**	**07 08 01.9**	**+1.4**
MNTX	**Cornudas Mount**	**8.04**	**234**	Pn	**Pn**	**07 08 00.9**	**-0.1**
JFWS	**Jewell Farm**	**8.50**	**40**	Pn	**Pn**	**07 08 09.0**	**+1.8**
I40A	**Norwalk**	**9.04**	**35**	Pn	**

VTX			⇑*e*			08 12 12.5		
SPIG	**San Pedro Mart**	**0.41**	**186**	*i* P	**Pb**	**08 12 10.4**	**+0.7**	
SPIG				*i* S	**Sb**	**08 12 16.4**	**+0.4**	
SPIG	**San Pedro Mart**	**0.41**	**186**⇓	*e*P	**Pb**	**08 12 10.3**	**+0.7**	
SPIG				*e*S	**Sb**	**08 12 16.5**	**+0.4**	
SPX	**San Pedro Mart**	**0.42**	**186**	*e*P	**Pb**	**08 12 09.4**	**-0.4**	
SPX				*e*S	**Sb**	**08 12 15.5**	**-0.8**	
SPX				IAML		08 12 16.1		
	comp=N,439nm,0.1s							
SPX				⇓*e*		08 12 16.1		
SPX				IAML		08 12 16.4		
	comp=E,337nm,0.3s							
SJX	**San Joaquin**	**0.56**	**304**⇓	*e*P	**Pn**	**08 12 14.1**	**0.0**	
SJX				*e*S	**Sn**	**08 12 23.6**	**+0.2**	
SJX				IAML		08 12 26.2		
	comp=N,342nm,0.1s							
SJX				*e*		08 12 26.2		
SFX	**San Felipe**	**0.64**	**131**⇑	*e*P	**Pn**	**08 12 15.1**	**-0.1**	
SFX				*e*S	**Sn**	**08 12 24.5**	**-0.8**	
SVX	**San Vicente**	**0.73**	**260**	*e*P	**Pg**	**08 12 14.3**	**0.0**	
GUVIX	**Guadalupe Vict**	**0.89**	**19**	*e*P	**Pn**	**08 12 19.6**	**+0.9**	
SQX	**San Quintin**	**0.96**	**205**⇓	*e*P	**Pg**	**08 12 18.6**	**-0.1**	
SQX				*e*S	**Sg**	**08 12 31.3**	**+0.1**	
MBIG	**Mexicali**	**0.97**	**11**	*i* P	**Pb**	**08 12 19.4**	**+0.4**	
MBIG				*i* S	**Sg**	**08 12 31.4**	**0.0**	
CTLX	**Tlaxcala, TLX**	**1.04**	**13**	*e*P	**Pn**	**08 12 20.8**	**0.0**	
RMX	**La Rumorosa**	**1.28**	**334**⇓	*e*P	**Pg**	**08 12 23.1**	**-1.6**	
WESC	**Westside Schoo**	**1.33**	**348**	*e*P	**Pg**	**08 12 26.3**	**+0.6**	
IKP	**In-Ko-Pah, Jac**	**1.33**	**334**⇓	*e*P	**Pn**	**08 12 25.0**	**+0.2**	
TJIG	**Tijuana**	**1.45**	**313**	*e*P	**Pn**	**08 12 26.9**	**+0.5**	
TJIG				*e*S	**Sn**	**08 12 44.8**	**-0.7**	

IDC ***23*** *08:16:52.8±2.5, 36.5°S N×141.79°E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/41, mbtmp3.4/3, ML2.3/1, MS3.0/3, Ms1 3.1/3, ms1mx2.6/47, Error ellipse: s-maj=52.5km s-min=29.4km az=47.0*

JMA ***23*** *08:16:53.1±0.1, 37.30N×141.67E, h44km±2km, M3.6*

JMA Felt I J1.

NIED ***23*** *08:16:53.1, 37.30N×141.67E, h44km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.61; Mθθ 1.60; Mϕϕ -0.99; Mrθ 2.02; Mrϕ -1.12; Mθϕ 0.80; Fault plane solution: M₀2.82000×10¹⁴ NP1: ϕs252.00000°, δ82.00000°, λ-127.00000°. NP2: ϕs151.00000°, δ37.00000°, λ-13.00000°.*

ISC 23 08:16:49.6±2.0, 37.30N±0.05×141.82E±0.08, h11km±10km, n25, σ1¶47/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.76**	**276**	P	**Pg**		**08 17 05.8**		**+1.5**
JFK				S	**Sg**		**08 17 14.5**		**+0.2**
ONAJ	**Iwakimizuishiy**	**0.84**	**257**	P	**Pg**		**08 17 07.0**		**+1.1**
ONAJ				*i* S	**Sg**		**08 17 16.5**		**-0.4**
JMST	**Minamisoumatoc**	**0.86**	**300**	P	**Pg**		**08 17 07.2**		**+1.0**
JMST				S	**Sg**		**08 17 17.3**		**-0.1**
JMM	**Marumori**	**1.00**	**305**	P	**Pg**		**08 17 09.3**		**+0.5**
JMM				S	**Sg**		**08 17 20.6**		**-1.2**
JFFD	**Fukushimafurud**	**1.03**	**259**	P	**Pg**		**08 17 09.5**		**+0.1**
JFFD				S	**Sg**		**08 17 21.3**		**-1.5**
JFT	**Otama**	**1.20**	**281**	P	**Pn**		**08 17 12.9**		**+0.5**
JFT				S	**Sb**		**08 17 26.8**		**-1.2**
JIO	**Ouri**	**1.22**	**342**	P	**Pn**		**08 17 13.1**		**+0.6**
JIO				S	**Sb**		**08 17 27.2**		**-1.1**
JHO	**Hitachi**	**1.22**	**236**	P	**Pb**		**08 17 11.9**		**-0.7**
JHO				S	**Sg**		**08 17 25.3**		**-3.5**
JOU	**Okura**	**1.41**	**320**	P	**Pn**		**08 17 16.0**		**+0.8**
JOU				S	**Sn**		**08 17 33.2**		**-0.5**
JYS	**Shirataka**	**1.67**	**304**	P	**Pn**		**08 17 20.0**		**+1.2**
JYS				*e*S	**Sn**		**08 17 40.2**		**0.0**
JFY	**Yanaizu**	**1.69**	**274**	P	**Pn**		**08 17 19.5**		**+0.4**
JFY				S	**Sn**		**08 17 39.3**		**-1.4**
JMK	**Ichinoseki**	**1.72**	**344**	P	**Pn**		**08 17 20.8**		**+1.4**
JMK				*e*S	**Sn**		**08 17 41.3**		**0.0**
MJAR	**Matsushiro Arr**	**2.99**	**257**	Pn	**Pn**		**08 17 39.3**		**+2.3**
	0.4nm,0.3s,baz=86,slow=27,SNR=7.3								
MJAR				Sn	**Sn**		**08 18 15.3**		**+2.5**
	0.7nm,0.3s,baz=185,slow=14,SNR=5.1								
MAT	**Matsushiro**	**2.99**	**257**	P	**Pn**		**08 17 39.9**		**+2.9**
MAT				*e*S	Sn		08 18 06.3		-6.6
H11N2	**WAKE ISLAND Hy**	**28.00**	**122**	T	T		08 52 07.3		
	baz=314,slow=75,SNR=36								
H11N1	**WAKE ISLAND Hy**	**28.01**	**122**	T	T		08 52 13.6		
	baz=314,slow=75,SNR=24								
H11N3	**WAKE ISLAND Hy**	**28.02**	**122**	T	T		08 52 15.3		
	baz=314,slow=75,SNR=25								
H11S1	**WAKE ISLAND Hy**	**28.73**	**124**	T	T		08 53 08.2		
	baz=316,slow=76,SNR=28								
H11S3	**WAKE ISLAND Hy**	**28.73**	**124**	T	T		08 53 07.1		
	baz=316,slow=76,SNR=9.4								
H11S2	**WAKE ISLAND Hy**	**28.75**	**124**	T	T		08 53 07.3		
	baz=316,slow=76,SNR=21								
CMAR	**Chiang Mai Arr**	**41.88**	**255**	LR	LR		08 42 43.8		
	comp=Z,7.5nm,20.2s,baz=90,slow=37								
NRIK	**Noril'sk**	**43.17**	**335**	LR	LR		08 44 04.3		
	comp=Z,23nm,18.9s,baz=18,slow=37								
MKAR	**Makanchi Array**	**44.26**	**302**	P	P		08 25 07.4		+8.4
	0.5nm,0.7s,baz=95,slow=7.2,SNR=3.0								
WRA	**Warramunga Arr**	**57.37**	**188**	P	**P**		**08 26 37.2**		**-0.7**
	0.7nm,0.6s,baz=6.3,slow=7.3,SNR=14								
DAVOX	**Davos/Dischmat**	**85.87**	**329**	LR	LR		09 11 41.2		
	comp=Z,20nm,19.3s,baz=260,slow=38								

NEIC ***23*** *08:21:43.0±2.2, 10.89S±0.08×165.99E±0.10, h70km±3km, mb4.4/14, Error ellipse: s-maj=14.8km s-min=11.3km az=62.0*

IDC ***23*** *08:21:43.9±3.5, 10.88S×166.01E, h76km±29km, mb3.7/7, mb1 4.0/9, mb1mx3.7/33, mbtmp4.1/9, MS3.2/6, Ms1 3.2/6, ms1mx2.9/33, Error ellipse: s-maj=26.4km s-min=18.0km az=62.0*

ISC 23 08:21:46.6±0.7, 11.11S±0.07×165.85E±0.09, h100km, n43, σ1¶84/39, mb4.0/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.51**	**163**	Pn	**Pn**		**08 22 51.1**		**-1.5**
HNR	**Honiara**	**6.04**	**285**	P	**Pn**		**08 23 12.4**		**-1.2**
	29nm,0.3s,baz=354,slow=2.4,SNR=6.5								
HNR				S	**Sn**		**08 24 21.7**		**+0.3**
	7.6nm,0.3s,baz=193,slow=22,SNR=1.2								
HNR				LR	LR		08 24 54.1		
	comp=Z,53nm,19.4s,baz=115,slow=31								
HNR	**Honiara**	**6.04**	**285**		**Pn**		**08 23 12.2**		**-1.3**
HNR				Sn	**Sn**		**08 24 18.9**		**-2.5**
DZM	**Mont Dzumac**	**10.91**	**177**	P	**Pn**		**08 24 20.0**		**+0.2**
	1.2nm,0.3s,baz=138,slow=23,SNR=24								
DZM				S	**Sn**		**08 26 14.3**		**-5.7**
	0.6nm,0.3s,baz=79,slow=20,SNR=1.5								
DZM				LR	LR		08 28 13.9		
	comp=Z,159nm,21.4s,baz=28,slow=35								
DZM	**Mont Dzumac**	**10.91**	**177**	*e*Pn	**Pn**		**08 24 19.7**		**-0.1**
	3.8nm,0.2s								
DZM				*e*Sn	**Sn**		**08 26 15.0**		**-5.0**
	4.7nm,0.3s								
DZM				*e*LR	LR		08 26 54.7		
DZM	**Mont Dzumac**	**10.91**	**177**		**Pn**		**08 24 19.5**		**-0.3**
FUNA	**Funafuti**	**13.40**	**80**	Pn	Pn		08 24 47.4		-5.4
PATS	**Pohnpei**	**19.34**	**337**	P	**P**		**08 26 01.4**		**-2.9**
PATS				IAmb	IAmb		08 26 05.7		
	comp=Z,64nm,1.2s								
EIDS	**Eidsvold**	**19.92**	**223**	P	**P**		**08 26 11.8**		**+1.4**
EIDS				IAmb	IAmb		08 26 15.3		
	comp=Z,11nm,0.7s								
CTAO	**Charters Tower**	**20.86**	**242**	P	**P**		**08 26 22.4**		**+1.7**
CTAO				IAmb	IAmb		08 26 46.0		
	comp=Z,19nm,1.4s								
URZ	**Urewera**	**28.85**	**161**	P	**P**		**08 27 37.6**		**+2.0**
H11S2	**WAKE ISLAND Hy**	**29.43**	**2**	T	T		08 58 04.9		
	baz=181,slow=76,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	**29.43**	**2**	T	T		08 58 06.6		
	baz=181,slow=76,SNR=4.3								
H11S1	**WAKE ISLAND Hy**	**29.44**	**2**	T	T		08 58 13.6		
	baz=181,slow=76,SNR=5.5								
BKZ	**Black Stump Fm**	**29.50**	**163**	P	**P**		**08 27 41.8**		**+0.4**
STKA	**Stephens Creek**	**30.46**	**224**	P	**P**		**08 27 52.3**		**+2.3**
	comp=Z,1.0nm,0.6s,baz=59,slow=8.5,SNR=3.6								
STKA				LR	LR		08 39 21.9		
	comp=Z,80nm,19.2s,baz=26,slow=34								
STKA	**Stephens Creek**	**30.46**	**224**	P	**P**		**08 27 52.2**		**+2.3**
H11N1	**WAKE ISLAND Hy**	**30.65**	**2**	T	T		08 59 38.6		
	baz=182,slow=76,SNR=7.4								
H11N3	**WAKE ISLAND Hy**	**30.65**	**2**	T	T		08 59 37.6		
	baz=182,slow=76,SNR=7.3								
H11N2	**WAKE ISLAND Hy**	**30.67**	**2**	T	T		08 59 38.2		
	baz=182,slow=76,SNR=5.6								
WB0	**Warramunga Arr**	**31.47**	**250**	P	**P**		**08 27 58.1**		**-0.9**
WB0				IAmb	IAmb		08 28 03.0		
	comp=Z,4.6nm,0.7s								
WRAB	**Tennant Creek**	**31.55**	**250**	P	**P**		**08 28 00.8**		**+1.2**
WRAB				IAmb	IAmb		08 28 17.3		
	comp=Z,5.1nm,0.9s								
WRA	**Warramunga Arr**	**31.56**	**250**	P	**P**		**08 28 01.3**		**+1.5**
	comp=Z,1.9nm,0.6s,baz=82,slow=8.9,SNR=16								
WRA				PcP	**PcP**		**08 30 51.1**		**+0.8**
	comp=Z,0.2nm,0.6s,baz=76,slow=3.4,SNR=1.5								
WRA				LR	LR		08 39 26.1		
	comp=Z,55nm,21.4s,baz=170,slow=33								
WRA	**Warramunga Arr**	**31.56**	**250**	P	**P**		**08 28 00.2**		**+0.4**
RPZ	**Rata Peaks**	**32.80**	**173**	P	**P**		**08 28 11.7**		**+1.4**
	comp=Z,16nm,0.5s,baz=301,slow=2.9,SNR=12								
RPZ	**Rata Peaks**	**32.80**	**173**	P	**P**		**08 28 10.4**		**+0.1**
AS31	**Alice Springs**	**32.85**	**243**	P	**P**		**08 28 11.2**		**0.0**
ASAR	**Alice Springs**	**32.85**	**243**	P	**P**		**08 28 12.5**		**+1.4**
	comp=Z,1.5nm,0.7s,baz=70,slow=9.8,SNR=19								
ASAR				PcP	**PcP**		**08 30 54.9**		**+1.1**
	comp=Z,0.4nm,0.7s,baz=72,slow=3.0,SNR=2.5								
ASAR	**Alice Springs**	**32.85**	**243**	P	**P**		**08 28 11.2**		**0.0**
PPT2	**Papeete2**	**43.58**	**104**	*e*LR	LR		08 41 51.9		
	comp=Z,51nm,25.5s								
ASAJ	**Asahikawa**	**58.89**	**341**	LR	LR		08 54 39.9		
	comp=Z,14nm,18.3s,baz=188,slow=34								
CASY	**Casey**	**66.36**	**201**	P	**P**		**08 32 26.2**		**+1.9**
CASY				IAmb	IAmb		08 32 36.5		
	comp=Z,12nm,1.4s								
VNDA	**Vanda**	**66.43**	**181**	P	**P**		**08 32 26.3**		**+1.6**
	comp=Z,1.3nm,0.9s,baz=340,slow=9.5,SNR=3.0								
SONM	**Songino Array**	**78.78**	**324**	P	**P**		**08 33 38.6**		**+0.2**
	comp=Z,0.4nm,0.5s,baz=102,slow=6.1,SNR=1.8								
QSPA	**South Pole Qui**	**78.89**	**180**	P	**P**		**08 33 40.1**		**+1.3**
QSPA				IAmb	IAmb		08 33 43.2		
	comp=Z,2.1nm,0.9s								
IMAR	**Indian Mountai**	**82.46**	**16**	P	**P**		**08 33 57.2**		**-0.3**
ILAR	**Eielson Array**	**83.54**	**18**	P	**P**		**08 34 01.9**		**-1.2**
	comp=Z,1.0nm,0.6s,baz=232,slow=5.3,SNR=16								
ILAR	**Eielson Array**	**83.54**	**18**	P	**P**		**08 34 02.7**		**-0.5**
YBH	**Yreka Blue Hor**	**83.87**	**46**	LR	LR		09 08 02.1		
	comp=Z,17nm,18.2s,baz=321,slow=33								
MAW	**Mawson**	**84.70**	**202**	P	**P**		**08 34 09.0**		**-0.1**
MKAR	**Makanchi Array**	**93.64**	**317**	P	**P**		**08 34 50.9**		**-1.0**
	comp=Z,1.0nm,0.7s,baz=99,slow=5.6,SNR=7.8								
MKAR	**Makanchi Array**	**93.64**	**317**	P	**P**		**08 34 50.1**		**-1.7**
ARCES	**ARCESS Array B**	**116.42**	**345**	PKP	**PKPdf**		**08 40 17.3**		**-0.8**
	comp=Z,4.4nm,0.9s,baz=46,slow=2.6,SNR=1.7								

IDC ***23*** *08:39:30.9±1.3, 63.03S×171.07E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/28, mbtmp4.1/5, ML3.5/1, MS4.2/17, Ms1 4.2/17, ms1mx4.1/26, Error ellipse: s-maj=62.6km s-min=29.0km az=56.0*

NEIC ***23*** *08:39:31.8±1.2, 62.86S±0.05×170.6E±0.3, h10km±1km, mb4.6/16, Error ellipse: s-maj=20.9km s-min=7.1km az=106.0*

GCMT ***23*** *08:39:34.8±0.2, 63.01S±0.01×170.90E±0.04, h12km, MW5.0/91, Moment Tensor Solution. s26, c30; s91, c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.13±.12; Mθθ 3.45±.08; Mϕϕ -2.32±.11; Mrθ -3.03±.26; Mϕθ -0.32±.10; Mϕr -0.71±.35; Best double couple: M₀4.11700×10¹⁶ NP1:ϕs319.00000°, δ36.00000°, λ-17.00000°. NP2: ϕs63.00000°, δ80.00000°, λ-125.00000°. Principal axes: T 4.9580, Plg26.0000°, Azm180.0000°; N -1.6820, Plg34.0000°, Azm70.0000°; P -3.2760, Plg44.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 08:39:31.7±0.6, 62.87S±0.07×170.7E±0.2, h10km, n63, σ0¶98/31, mb4.5/10, MS4.2/18, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**10.37**	**319**	Pn	**Pn**		**08 41 58.6**		**-1.6**
VNDA	**Vanda**	**14.99**	**187**	Pn	**Pn**		**08 43 01.7**		**-1.6**
	0.2nm,0.3s,baz=12,slow=12,SNR=22								
VNDA				LR	LR		08 47 26.5		
	comp=Z,2μm,21.0s,baz=15,slow=32								
VNDA	**Vanda**	**14.99**	**187**	Pn	**Pn**		**08 43 02.4**		**-0.8**
MLZ	**Mavora Lakes**	**17.60**	**354**		**Pn**		**08 43 36.4**		**-0.5**
MLZ				IAmb	IAmb		08 43 54.8		
	comp=Z,56nm,1.4s								
ODZ	**Otahua Downs**	**17.86**	**360**	P	**Pn**		**08 43 39.6**		**-0.5**
WKZ	**Wanaka**	**18.10**	**356**	P	**P**		**08 43 44.2**		**+0.7**
WKZ				IAmb	IAmb		08 43 56.6		
	comp=Z,86nm,1.3s								
LBZ	**Lake Benmore**	**18.52**	**359**	P	**Pn**		**08 43 48.7**		**+0.6**
RPZ	**Rata Peaks**	**19.19**	**1**	LR	LR		08 49 59.4		
	comp=Z,1μm,21.9s,baz=200,slow=32								
MQZ	**McQueen's Vall**	**19.23**	**4**	P	**Pn**		**08 43 56.0**		**-0.7**
KHZ	**Kahutara**	**20.55**	**6**	P	**P**		**08 44 10.1**		**-0.1**
URZ	**Urewera**	**24.95**	**12**	LR	LR		08 53 18.3		
	comp=Z,836nm,22.0s,baz=188,slow=33								
CASY	**Casey**	**25.18**	**236**	P	**P**		**08 44 56.0**		**-0.8**
CASY				IAmb	IAmb		08 45 08.3		
	comp=Z,8.8nm,1.1s								
QSPA	**South Pole Qui**	**27.22**	**180**	LR	LR		08 54 31.9		
	comp=Z,630nm,19.2s,baz=26,slow=33								
QSPA	**South Pole Qui**	**27.22**	**180**	P	**P**		**08 45 15.2**		**-0.3**
QSPA				IAmb	IAmb		08 45 27.5		
	comp=Z,14nm,1.4s								
STKA	**Stephens Creek**	**36.12**	**315**	LR	LR		08 58 14.0		
	comp=Z,239nm,21.9s,baz=158,slow=31								
BBOO	**Buckleboo**	**37.17**	**308**	P	**P**		**08 46 42.8**		**+0.2**
BBOO				IAmb	IAmb		08 46 46.5		
	comp=Z,20nm,1.4s								
BELA	**Belgrano 2**	**38.65**	**172**	P	**P**		**08 46 55.1**		**+0.5**
MAW	**Mawson**	**39.91**	**215**	LR	LR		09 03 20.4		
	comp=Z,928nm,19.7s,baz=122,slow=36								
MAW	**Mawson**	**39.91**	**215**	P	**P**		**08 47 06.2**		**+1.0**
DZM	**Mont Dzumac**	**40.88**	**354**	LR	LR		09 01 21.4		
	comp=Z,474nm,21.4s,baz=200,slow=32								
DZM	**Mont Dzumac**	**40.88**	**354**	*e*S	S		08 53 10.0	-15	
	comp=Z,119nm,24.7s								
DZM				*e*LR	LR		08 58 08.5		
	comp=Z,722nm,22.5s								
H01W1	**Cape Leeuwin H**	**44.46**	**282**	T	T		09 35 47.6		
	baz=147,slow=76,SNR=99								
H01W2	**Cape Leeuwin H**	**44.47**	**282**	T	T		09 35 47.7		
	baz=147,slow=76,SNR=118								
H01W3	**Cape Leeuwin H**	**44.48**	**282**	T	T		09 35 44.3		
	baz=147,slow=76,SNR=85								
NWAO	**Narrogin (SRO)**	**44.75**	**286**	LR	LR		09 02 07.0		
	comp=Z,468nm,18.3s,baz=99,slow=30								
SNAA	**Sanae**	**45.66**	**183**	P	**P**		**08 47 52.1**		**+0.3**
SNAA	**Sanae**	**45.66**	**183**	P	**P**		**08 47 52.2**		**+0.4**
SNAA				IAmb	IAmb		08 47 57.3		
	comp=Z,5.7nm,1.1s								
CTA	**Charters Tower**	**45.92**	**327**	LR	LR		09 05 18.0		
	comp=Z,400nm,19.1s,baz=146,slow=34								
ASAR	**Alice Springs**	**46.27**	**311**	P	**P**		**08 47 59.4**		**+2.2**
	comp=Z,1.1nm,0.8s,baz=156,slow=7.4,SNR=8.0								
ASAR				LR	LR		09 05 49.4		
	comp=Z,146nm,18.4s,baz=150,slow=34								
ASAR	**Alice Springs**	**46.27**	**311**	P	**P**		**08 47 56.9**		**-0.2**
VNA2	**Neumayer--Watz**	**46.48**	**181**	P	**P**		**08 47 57.9**		**-0.3**
	baz=174,slow=6.9								
VNA1	**Neumayer--Stat**	**46.76**	**180**	P	**P**		**08 48 00.3**		**-0.1**
TBI	**Tubuai**	**47.63**	**53**	*e*LQ	LQ		08 59 09.6		
	comp=Z,594nm,26.8s								
TBI				*e*LR	LR		09 01 13.3		
	comp=Z,424nm,28.8s,baz=199								
WRA	**Warramunga Arr**	**49.56**	**313**	P	**P**		**08 48 25.7**		**+3.0**
	comp=Z,0.8nm,0.9s,baz=160,slow=8.0,SNR=5.1								
WRA				LR	LR		09 08 36.0		
	comp=Z,110nm,18.1s,baz=125,slow=35								
WRA	**Warramunga Arr**	**49.56**	**313**	P	**P**		**08 48 22.4**		**-0.3**
PAE	**Paea**	**52.82**	**50**	*e*T	T		09 45 37.3		
	comp=Z,6.0nm,0.3s								
TVO	**Taravao**	**52.82**	**50**	*e*T	T		09 45 37.7		
	comp=Z,2.1nm,0.3s								
PPT2	**Papeete2**	**52.89**	**50**	*e*LQ	LQ		09 01 07.8		
	comp=Z,386nm,24.8s								
PPT2				*e*LR	LR		09 03 40.3		
	comp=Z,411nm,25.8s,baz=192								
PPT2	**Papeete2**	**52.89**	**50**	*e*T	T		09 45 42.5		
	comp=Z,8.7nm,0.3s								
PPT	**Papeete**	**52.91**	**50**	LR	LR		09 05 32.3		
	comp=Z,118nm,18.9s,baz=209,slow=30								
TIAR	**Tiarei**	**53.00**	**50**	*e*T	T		09 45 47.0		
	comp=Z,2.6nm,0.3s								
MEH	**Mehetia**	**53.16**	**52**	*e*T	T		09 46 03.0		
	comp=Z,38nm,0.3s								
HNR	**Honiara**	**53.91**	**347**	LR	LR		09 07 34.6		
	comp=Z,165nm,21.4s,baz=200,slow=31								
VAH	**Vaihoa**	**55.75**	**51**	*e*T	T		09 49 16.7		
	comp=Z,123nm,0.3s								
PMG	**Port Moresby**	**56.02**	**332**	LR	LR		09 08 23.5		
	comp=Z,158nm,21.9s,baz=124,slow=31								
TAOE	**Nuku Hiva Isla**	**64.38**	**56**	*e*LR	LR		09 09 03.3		
	comp=Z,256nm,25.8s								
H03S2	**Juan Fernandez**	**68.91**	**123**	T	T		10 06 22.3		
	baz=205,slow=74,SNR=6.5								
H03S1	**Juan Fernandez**	**68.91**	**123**	T	T		10 06 23.0		
	baz=205,slow=74,SNR=6.0								
H03S3	**Juan Fernandez**	**68.93**	**123**	T	T		10 06 23.4		
	baz=205,slow=74,SNR=6.2								
AC02	**Maricunga**	**78.86**	**128**	P	**P**		**08 51 35.9**		**+0.5**
AC02				IAmb	IAmb		08 51 44.5		
	comp=Z,8.3nm,1.4s								
SUR	**Sutherland**	**82.07**	**205**	P	**P**		**08 51 52.3**		**+0.1**
SUR				IAmb	IAmb		08 52 02.2		
	comp=Z,12nm,1.4s								
LVC	**Limon Verde**	**82.79**	**127**	P	**P**		**08 51 55.2**		**-1.2**
CPUP	**Villa Florida**	**83.28**	**138**	LR	LR		09 25 46.4		
	comp=Z,157nm,18.3s,baz=202,slow=33								
BOSA	**Boshof**	**84.76**	**210**	P	**P**		**08 52 06.8**		**+0.8**
	comp=Z,3.2nm,0.9s,baz=166,slow=4.4,SNR=1.6								
BOSA				LR	LR		09 28 22.6		
	comp=Z,121nm,19.0s,baz=164,slow=35								
H08S2	**Diego Garcia H**	**86.99**	**259**	T	T		10 28 49.5		
	baz=152,slow=76,SNR=22								
H08S1	**Diego Garcia H**	**87.00**	**259**	T	T		10 29 05.9		
	baz=152,slow=76,SNR=6.3								
H08S3	**Diego Garcia H**	**87.01**	**259**	T	T		10 29 04.8		
	baz=152,slow=76,SNR=110								
LPAZ	**La Paz**	**88.86**	**125**	P	**P**		**08 52 26.8**		**+0.1**
	comp=Z,1.9nm,0.9s,baz=209,slow=6.6,SNR=7.0								
LPAZ				LR	LR		09 23 00.2		
	comp=Z,52nm,20.7s,baz=198,slow=29								
ILAR	**Eielson Array**	**131.13**	**23**	PKhKP	PKPpre		08 58 35.2		
	comp=Z,0.5nm,0.8s,baz=191,slow=3.9,SNR=4.4								
NRIK	**Noril'sk**	**144.24**	**323**	PKP	**PKPdf**		**08 59 05.5**		**-0.4**
	comp=Z,1.2nm,0.4s,baz=220,slow=1.5,SNR=3.9								
KBZ	**Khabaz**	**144.68**	**262**	PKP	**PKPdf**		**08 59 07.2**		**-0.2**
	comp=Z,5.0nm,0.8s,baz=176,slow=3.1,SNR=9.3								
BRTR	**Keskin Array B**	**145.55**	**248**	PKPbc	**PKPbc**		**08 59 09.9**		**+0.4**
	comp=Z,1.6nm,0.8s,baz=150,slow=5.1,SNR=5.6								
ARU	**Arti**	**146.62**	**291**	PKPbc	**PKPbc**		**08 59 12.1**		**+0.1**
	comp=Z,2.3nm,0.2s,baz=283,slow=8.8,SNR=1.1								

AEIC ***23*** *08:46:23.2±2.3, 52.3N±0.2×175.4W±0.1, h228km±6km, ML3.6, mb4.0/41(NEIC), Error ellipse: s-maj=35.4km s-min=8.7km az=168.0*

NEIC ***23*** *08:46:23.1±1.2, 52.6N±0.2×175.5W±0.1, h216km±9km, Error ellipse: s-maj=34.1km s-min=6.9km az=168.0*

IDC ***23*** *08:46:27.7±9.7, 53.39N×175.37W, h251km±104km, mb3.1/4, mb1 3.4/6, mb1mx3.0/59, mbtmp3.7/6, MS2.6/1, Ms1 2.7/1, ms1mx2.2/21, Error ellipse: s-maj=84.1km s-min=30.3km az=169.0*

ISC 23 08:46:22.4±0.7, 52.9N±0.1×175.52W±0.05, h200km, n87, σ1¶24/86, mb3.9/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.91**	**202**				**Sn**	**08 47 16.4**	**+2.3**
GSTR	**Great Sitkin T**	**0.91**	**202**				**Pn**	**08 46 53.0**	**+1.4**
GSMY	**Great Sitkin M**	**0.95**	**200**				**Pn**	**08 46

baz=18,slow=76,SNR=4.7
H11N3 WAKE ISLAND Hy 35.85 209 T T 09 30 19.4
baz=18,slow=76,SNR=4.1
H11N1 WAKE ISLAND Hy 35.86 209 T T 09 30 19.5
baz=18,slow=76,SNR=3.8
H11S1 WAKE ISLAND Hy 37.05 209 T T 09 31 47.8
baz=17,slow=76,SNR=8.8
H11S2 WAKE ISLAND Hy 37.07 209 T T 09 31 48.3
baz=17,slow=76,SNR=5.6
H11S3 WAKE ISLAND Hy 37.07 209 T T 09 31 49.0
baz=17,slow=76,SNR=5.5
I07A Izee 37.28 81 P **P** **08 53 15.4 +0.5**
I07A IAmb IAmb 08 53 27.9
comp=Z,5.9nm,1.3s
MCMT McKenzie Canyo 40.80 75 P **P** **08 53 43.1 -1.1**
NVAR Mina Array Bea 41.40 87 P **P** **08 53 48.9 -0.2**
comp=Z,0.7nm,0.7s,baz=301,slow=6.4,SNR=6.6
NVAR Mina Array Bea 41.40 87 P **P** **08 53 46.9 -2.2**
ELK Elko 41.79 82 P **P** **08 53 51.8 -0.5**
comp=Z,0.6nm,0.4s,baz=323,slow=10,SNR=2.9
ELK Elko 41.79 82 IAmb IAmb 08 53 52.6
comp=Z,0.9nm,0.6s
R11A Troy Canyon, C 43.09 85 P **P** **08 54 02.8 +0.1**
DUG Dugway, Tooele 43.59 81 P **P** **08 54 06.5 -0.1**
TPNV Topopah Spring 43.60 87 P **P** **08 54 07.0 +0.2**
BW06 Boulder Array 43.94 76 P **P** **08 54 08.4 -1.1**
PD31 Pinedale Array 43.94 76 P **P** **08 54 08.3 -1.1**
PDAR Pinedale Array 43.94 76 P **P** **08 54 08.3 -1.1**
comp=Z,0.4nm,0.4s,baz=331,slow=2.9,SNR=11
PDAR Pinedale Array 43.94 76 P **P** **08 54 08.7 -0.8**
PSUT Pine Spring 44.01 83 P **P** **08 54 09.8 -0.3**
PV21 Cone Mtn., Par 46.92 80 P **P** **08 54 32.0 -0.9**
PV21 IAmb IAmb 08 54 40.0
comp=Z,6.9nm,1.4s
PV14 Lion Creek, Pa 47.01 80 P **P** **08 54 32.8 -0.8**
PV17 East Wray Mesa 47.11 80 P **P** **08 54 34.0 -0.4**
PV17 IAmb IAmb 08 54 34.3
comp=Z,4.5nm,0.6s
PV03 Paradox Valley 47.19 80 P **P** **08 54 34.3 -0.7**
PV03 IAmb IAmb 08 54 34.6
comp=Z,2.6nm,0.6s
TX31 Lajitas Ar. Si 56.45 85 P **P** **08 55 42.3 -1.0**
TX31 IAmb IAmb 08 56 00.3
comp=Z,8.0nm,1.4s
TX32 Lajitas Array 56.45 85 P **P** **08 55 42.4 -0.9**
TXAR Lajitas Array 56.45 85 P **P** **08 55 42.2 -1.1**
comp=Z,1.0nm,0.7s,baz=306,slow=5.2,SNR=16
TXAR PcP **PcP** **08 56 36.6 -1.2**
comp=Z,0.1nm,0.6s,baz=267,slow=2.5,SNR=3.5
TXAR Lajitas Array 56.45 85 P **P** **08 55 42.5 -0.9**
R40A Maddies Statio 56.83 69 P **P** **08 55 42.5 -3.2**
R40A IAmb IAmb 08 56 09.6
comp=Z,2.3nm,1.1s

*IDC **23** 08:52:16.3±4.7, 22°.47N×94°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/64, mbtmp3.4/3, Error ellipse: s-maj=370.3km s-min=27.6km az=60.0*
ISC 23 08:52:31.0±1.5, 21°.9N±0.6×94°.1E±0.5, h100km, n12, σ0.34/11, mb3.7/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODAN	**Odare**	**7.90**	**310**	*eP*	**Pn**	**08 54 23.5**	**+0.1**
	11nm,0.2s						
TAPN	**Taplejung**	**7.99**	**314**	*eP*	**Pn**	**08 54 24.6**	**-0.1**
	19nm,0.3s						
TAPN				*eS*	Sn	08 55 34.5	-19
RAMN	**Ramite**	**8.52**	**308**	*eP*	**Pn**	**08 54 32.0**	**+0.1**
	11nm,0.2s						
GUN	**Gumba**	**9.60**	**310**	*eP*	**Pn**	**08 54 46.5**	**-0.1**
	16nm,0.2s						
PKI	**Pulchoki**	**9.75**	**307**	*eP*	**Pn**	**08 54 48.2**	**-0.4**
	8.0nm,0.3s						
PKIN	**Phulchoki**	**9.76**	**307**	*eP*	**Pn**	**08 54 48.9**	**+0.2**
	17nm,0.3s						
GKN	**Gorkha**	**10.55**	**307**	*eP*	**Pn**	**08 54 59.6**	**+0.2**
	17nm,0.3s						
KOLN	**Koldanda**	**11.22**	**304**	*eP*	**Pn**	**08 55 08.6**	**+0.1**
	17nm,0.2s						
DANN	**Dangsing**	**11.39**	**307**	*eP*	**Pn**	**08 55 10.7**	**-0.2**
	7.7nm,0.2s						
MKAR	**Makanchi Array**	**26.65**	**342**	P	P	08 57 52.0	-8.4
	0.2nm,0.5s,baz=153,slow=9.7,SNR=5.6						
WRA	**Warramunga Arr**	**57.20**	**134**	P	**P**	**09 02 08.5**	**+0.5**
	0.4nm,0.5s,baz=321,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**59.55**	**137**	P	**P**	**09 02 23.8**	**-0.6**
	0.3nm,0.5s,baz=322,slow=6.8,SNR=7.6						

IDC 23 09:08:43.8±7.5, 12°.35S×166°.34E, h195km±77km, mb3.1/4, mb1 3.3/5, mb1mx3.1/33, mbtmp3.6/5, Error ellipse: s-maj=72.3km s-min=28.2km az=147.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.67**	**179**	P	Pn	09 10 58.6	-0.2
	0.1nm,0.3s,baz=336,slow=22,SNR=1.2						
DZM				S	Sn	09 12 41.9	-5.1
	0.1nm,0.3s,baz=277,slow=3.5,SNR=0.9						
STKA	**Stephens Creek**	**29.92**	**226**	P	P	09 14 33.3	-0.3
	0.8nm,0.4s,baz=34,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**31.61**	**252**	P	P	09 14 49.0	+0.5
	0.2nm,0.8s,baz=84,slow=8.4,SNR=1.5						
ASAR	**Alice Springs**	**32.75**	**245**	P	P	09 14 58.5	0.0
	0.2nm,0.5s,baz=71,slow=9.4,SNR=1.6						
ASAR				PcP	PcP	09 17 38.9	-0.3
	0.3nm,0.8s,baz=66,slow=3.4,SNR=2.9						
ILAR	**Eielson Array**	**84.56**	**18**	P	P	09 20 54.4	-0.1
	0.7nm,0.5s,baz=231,slow=4.9,SNR=13						

IDC 23 09:20:27.3±1.9, 4°.29S×151°.96E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/32, mbtmp3.5/4, Error ellipse: s-maj=116.7km s-min=25.6km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.17**	**226**	P	P	09 25 35.6	-0.1
	0.6nm,0.8s,baz=53,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**25.98**	**220**	P	P	09 26 02.2	+0.3
	0.2nm,0.6s,baz=55,slow=8.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**29.18**	**240**	P	P	09 26 30.9	+0.2
	1.1nm,0.7s,baz=49,slow=9.3,SNR=1.5						
ILAR	**Eielson Array**	**82.01**	**22**	P	P	09 32 48.4	-0.5
	0.4nm,0.8s,baz=254,slow=5.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.35**	**289**	PKPbc	PKPbc	09 40 19.2	-0.1
	0.4nm,0.6s,baz=63,slow=1.5,SNR=4.9						

IDC 23 09:23:43.2±1.7, 1°.80N×125°.08E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/35, mbtmp3.7/4, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/44, Error ellipse: s-maj=125.0km s-min=22.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.78**	**178**	P	Pn	09 28 15.9	-0.7
	0.1nm,0.3s,baz=2.4,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**23.44**	**158**	P	P	09 28 54.5	+0.1
	2.8nm,0.6s,baz=336,slow=10,SNR=31						
PMG	**Port Moresby**	**24.65**	**117**	LR	LR	09 39 50.7	
	comp=Z,40nm,21.9s,baz=210,slow=39						
ASAR	**Alice Springs**	**26.73**	**162**	P	P	09 29 24.1	-0.5
	0.4nm,0.5s,baz=335,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**58.22**	**327**	P	P	09 33 39.5	0.0
	0.7nm,0.4s,baz=124,slow=7.8,SNR=10.0						

*REY **23** 09:48:43.9, 64°.69N×17°.45W, h10km*
*IDC **23** 09:48:44.2±0.6, 64°.57N×17°.66W, h0km, mb3.9/12, mb1 4.2/14, mb1mx4.0/47, mbtmp4.0/14, ML3.3/3, MS3.0/2, Ms1 3.1/2, ms1mx2.6/47, Error ellipse: s-maj=22.3km s-min=9.5km az=13.0*
*NEIC **23** 09:48:45.8±1.4, 64°.6N±0°.1×17°.6W±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=19.2km s-min=11.4km az=193.0*
ISC 23 09:48:45.2±0.7, 64°.71N±0°.02×17°.46W±0°.03, h8km±4km, n78, σ1.976/81, mb4.1/19, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.09**	**24**	P	**Pg**	**09 48 46.6**	**-0.9**
	baz=18						
IDYN				S	**Sg**	**09 48 49.3**	**0.0**
	baz=18						
IVON	**Vonarskard**	**0.13**	**256**	P	**Pg**	**09 48 46.6**	**-1.5**
	baz=265						
IVON				S	**Sg**	**09 48 49.3**	**-0.8**
	baz=265						
IURH	**Urdarhals**	**0.18**	**49**	P	**Pg**	**09 48 47.9**	**-0.9**
	baz=43						
IDJK	**Dyngjujokull**	**0.22**	**155**	P	**Pg**	**09 48 48.4**	**-1.3**
	baz=153						
IDJK				S	**Sg**	**09 48 51.3**	**-1.4**
	baz=153						
ISKR	**Skrokkalda**	**0.43**	**250**	P	**Pg**	**09 48 52.2**	**-1.2**
	baz=253						
IVOT	**Vottur**	**0.45**	**165**	P	**Pg**	**09 48 52.1**	**-1.8**
	baz=164						
IKRE	**Kreppuhraun**	**0.47**	**80**	P	**Pg**	**09 48 52.3**	**-2.0**
	baz=77						
IASK	**Askja**	**0.49**	**44**	P	**Pg**	**09 48 53.0**	**-1.6**
	baz=42						
IASK				S	**Sg**	**09 48 59.8**	**-1.3**
	baz=42						
IJOK	**Jokulheimar**	**0.51**	**221**	P	**Pg**	**09 48 53.1**	**-2.0**
	baz=223						
IJOK				S	**Sg**	**09 49 00.9**	**-0.9**
	baz=223						
ISVA	**Svartarkot**	**0.64**	**8**	P	**Pg**	**09 48 55.9**	**-1.6**
	baz=7.0						
IKSK	**Karasker**	**0.69**	**142**	P	**Pg**	**09 48 55.1**	**-3.4**
	baz=141						
IKAL	**Kalfafell**	**0.77**	**188**	P	**Pg**	**09 48 56.6**	**-3.3**
	baz=188						
IKAL				S	**Sg**	**09 49 08.3**	**-1.6**
	baz=188						
IVAT	**Vatnsfell**	**0.82**	**231**	P	**Pg**	**09 48 58.6**	**-2.3**
	baz=233						
IADA	**Aoalbol**	**0.86**	**68**	P	**Pg**	**09 48 58.9**	**-2.8**
	baz=66						
IMEL	**Melhnausar**	**0.93**	**21**	P	**Pg**	**09 49 00.5**	**-2.5**
	baz=20						
IREN	**Reynihlio**	**0.97**	**14**	P	**Pg**	**09 49 01.2**	**-2.6**
	baz=13						
IKVO	**Krottuvotn**	**1.04**	**13**	P	**Pg**	**09 49 02.4**	**-2.7**
	baz=13						
IGRS	**Grimsstaoir**	**1.09**	**30**	P	**Pg**	**09 49 03.3**	**-2.8**
	baz=30						
ISKI	**Skildingahlsh**	**1.18**	**9**	P	**Pg**	**09 49 04.8**	**-3.1**
	baz=8.2						
IGHA	**Grjothals**	**1.19**	**16**	P	**Pg**	**09 49 04.8**	**-3.2**
	baz=16						
IDIM	**Dimmadalss**	**1.28**	**10**	P	**Pg**	**09 49 06.2**	**-3.5**
	baz=9.3						
IHLA	**Hella**	**1.30**	**343**	P	**Pg**	**09 49 07.0**	**-3.2**
	baz=343						
IHED	**Heoinshofoi**	**1.38**	**2**	P	**Pg**	**09 49 07.9**	**-3.7**
	baz=2.3						
IBRE	**Brettingsstaoi**	**1.44**	**353**	P	**Pn**	**09 49 08.7**	**-2.8**
	baz=353						
IGIL	**Gilhagi**	**1.45**	**18**	P	**Pn**	**09 49 08.5**	**-3.2**
	baz=18						
ISIG	**Siglufjorour**	**1.56**	**338**	P	**Pn**	**09 49 10.7**	**-2.4**
	baz=338						
BORG	**Borgarnes**	**1.66**	**273**	Pg	**Pn**	**09 49 11.9**	**-2.6**
	36nm,0.3s,baz=82,slow=7.7,SNR=50						
BORG				Lg	Lg	09 49 34.9	
	16nm,0.3s,baz=272,slow=21,SNR=8.4						
IHRN	**Hraun**	**1.80**	**323**	P	**Pn**	**09 49 14.2**	**-2.2**
	baz=323						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**09 51 31.5**	**-1.7**
	baz=322,slow=13,SNR=4.0						
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**09 51 33.6**	**+0.4**
NOA	**NORSAR Array B**	**13.52**	**93**	LR	LR	09 56 41.1	
	comp=Z,43nm,19.7s,baz=315,slow=35						
SFJD	**Kangerlussuaq**	**13.67**	**294**	LR	LR	09 57 03.5	
	comp=Z,108nm,18.9s,baz=120,slow=37						
HFS	**Hagfors**	**15.03**	**93**	Pn	**Pn**	**09 52 18.0**	**+0.4**
	0.1nm,0.3s,baz=333,slow=8.8,SNR=1.7						
FINES	**FINESS Array B**	**19.68**	**79**	P	**Pn**	**09 53 15.1**	**-0.6**
	0.1nm,0.3s,baz=308,slow=10,SNR=2.9						
CLL	**Collm**	**20.70**	**116**	*eP*	**P**	**09 53 26.0**	**+0.5**
	comp=Z,19nm,1.4s						
CLL				*e*		09 53 34.0	
CLL				*e*		09 53 51.0	
BRG	**Berggiesshubel**	**21.41**	**115**	*eP*	**P**	**09 53 33.4**	**+0.3**
	comp=Z,22nm,1.3s						
CHVC	**Chvalec**	**22.47**	**113**	*eP*	**P**	**09 53 46.7**	**+2.2**
KHC	**Kasperske Hory**	**22.68**	**119**	*eP*	**P**	**09 53 47.2**	**+0.5**
KHC				*ep*	**sP**	**09 53 52.7**	**+2.1**
DPC	**Dobruska-Polom**	**22.76**	**113**	*eP*	**P**	**09 53 48.9**	**+1.3**
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**	**09 53 50.0**	**+0.2**
GEC2				IAmb	IAmb	09 53 59.5	
	comp=Z,18nm,1.4s						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**09 53 50.2**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=350,slow=10,SNR=2.7						
EUNU	**Eureka**	**23.64**	**336**	P	**P**	**09 53 57.2**	**+0.8**
VYHS	**Vyhne**	**25.23**	**113**	*eP*	**P**	**09 54 12.5**	**+1.3**
SCHQ	**Schefferville**	**26.06**	**271**	P	**P**	**09 54 18.0**	**-0.6**
	comp=Z,8.9nm,1.0s,baz=48,slow=12,SNR=3.7						
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**09 54 19.4**	**+0.2**
PSZ				IAmb	IAmb	09 54 30.4	
	comp=Z,14nm,1.4s						
KOLS	**Kolonicke sedl**	**26.27**	**108**	*eP*	**P**	**09 54 22.6**	**+2.0**
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**09 54 20.6**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=353,slow=9.2,SNR=7.5						
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**09 54 20.0**	**-0.8**
AKASG	**Malin Array Be**	**27.83**	**98**	P	**P**	**09 54 34.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=326,slow=9.8,SNR=4.8						
NRIK	**Noril'sk**	**36.42**	**35**	P	**P**	**09 55 51.1**	**+1.6**
	comp=Z,1.3nm,0.4s,baz=296,slow=7.3,SNR=2.2						
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**09 56 08.6**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=339,slow=6.6,SNR=6.8						
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**09 56 09.0**	**+1.5**
KBZ	**Khabaz**	**39.10**	**93**	P	**P**	**09 56 14.1**	**+1.7**
	comp=Z,4.8nm,0.9s,baz=318,slow=9.5,SNR=6.3						
ILAR	**Eielson Array**	**45.66**	**332**	P	**P**	**09 57 07.2**	**+1.6**
	comp=Z,2.0nm,1.1s,baz=20,slow=8.5,SNR=8.7						
ILAR				PcP	**PcP**	**09 58 43.6**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=18,slow=4.2,SNR=4.1						
ILAR	**Eielson Array**	**45.66**	**332**	P	**P**	**09 57 05.8**	**+0.2**
IMAR	**Indian Mountai**	**45.83**	**337**	P	**P**	**09 57 09.1**	**+2.1**
BCAR	**Beaver Creek A**	**46.08**	**329**	P	**P**	**09 57 10.4**	**+1.4**
KURK	**Kurchatov**	**48.08**	**58**	P	**P**	**09 57 24.2**	**-0.5**
KURK				IAmb	IAmb	09 57 25.9	
	comp=Z,5.6nm,0.9s						
T47A	**Sharon Grove**	**48.66**	**270**	P	**P**	**09 57 30.3**	**+1.0**
EGMT	**Eagleton**	**48.87**	**297**	P	**P**	**09 57 32.0**	**+1.1**
KK31	**Karatay Array**	**51.24**	**70**	P	**P**	**09 57 49.9**	**+1.0**
KKAR	**Karatay Array**	**51.24**	**70**	P	**P**	**09 57 49.9**	**+1.0**
KKAR	**Karatay Array**	**51.24**	**70**	P	**P**	**09 57 49.5**	**+0.5**
BOZ	**Bozeman (W)**	**51.61**	**297**	IAmb	IAmb	09 58 00.2	
	comp=Z,10nm,1.4s						
MK31	**Makanchi Array**	**52.69**	**58**	P	**P**	**09 58 00.5**	**+0.9**
MKAR	**Makanchi Array**	**52.69**	**58**	P	**P**	**09 57 59.9**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=320,slow=5.4,SNR=9.2						
MKAR	**Makanchi Array**	**52.69**	**58**	P	**P**	**09 58 00.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**09 58 02.7**	**-0.7**
	comp=Z,108nm,0.8s,baz=343,slow=8.7,SNR=5.8						
BW06	**Boulder Array**	**53.18**	**293**	IAmb	IAmb	09 58 04.7	
	comp=Z,3.7nm,1.1s						
PD31	**Pinedale Array**	**53.18**	**293**	IAmb	IAmb	09 58 04.7	
	comp=Z,3.7nm,1.1s						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**09 58 03.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=47,slow=6.5,SNR=9.8						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**09 58 02.7**	**-0.8**
CHGR	**Chuyangaron**	**54.44**	**74**	P	**P**	**09 58 13.1**	**+0.5**
HWUT	**Hardware Ranch**	**54.95**	**294**	P	**P**	**09 58 18.0**	**+1.5**
HWUT				IAmb	IAmb	09 58 23.0	
	comp=Z,7.8nm,1.3s						
BANI	**BANI**	**58.04**	**243**	P	**P**	**09 58 38.7**	**+0.1**
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**09 58 54.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=44,slow=5.2,SNR=4.3						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**09 59 08.0**	**+0.3**
	comp=Z,1.1nm,1.1s,baz=37,slow=3.1,SNR=5.5						
ASAR	**Alice Springs**	**134.92**	**38**	PKP	**PKPdf**	**10 08 04.7**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=343,slow=2.9,SNR=3.1						

*MAN **23** 09:50:12.5, 5°.46N×125°.82E, h100km, mb5.1, ML4.1, MS4.2*
MAN Intensity II - Davao City; General Santos City.
*MOS **23** 09:50:12.6±1.1, 5°.75N×125°.55E, h111km, mb4.8/17, Error ellipse: s-maj=12.8km s-min=6.2km az=105.1*
*DJA **23** 09:50:14.8±0.3, 6°.N±3°×12°.6E±°, h110km±3km, M4.8/74, mB5.3/39, mb5.0/74, MLv5.4/13, Mw(mB)4.7/39, Mwp5.5/4*

*IDC **23** 09:50:16.1±0.6, 5°.77N×125°.71E, h128km±5km, mb4.5/35, mb1 4.5/37, mb1mx4.4/55, mbtmp4.9/37, MS3.5/13, Ms1 3.6/13, ms1mx3.3/40, Error ellipse: s-maj=12.7km s-min=6.4km az=82.0*
*GCMT **23** 09:50:16.2±0.2, 5°.70N±0°.02×125°.90E±0°.02, h112km±2km, MW5.0/112, Moment Tensor Solution. s51,c59; s112,c165; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.66±.10; Mθθ1.17±.11; Mϕϕ-3.83±.12; Mrθ-1.30±.07; Mθϕ-0.42±.12; Mϕr1.91±.09; Best double couple: Mo4.11100×10^16 NP1:ϕs213.00000°, δ38.00000°, λ136.00000°. NP2:ϕs340.00000°, δ65.00000°, λ61.00000°. Principal axes: T 3.8710, Plg59.0000°, Azm208.0000°; N 0.4800, Plg26.0000°, Azm353.0000°; P -4.3510, Plg15.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 09:50:16.2±2.8, 5°.78N±0°.05×125°.84E±0°.08, h129km±1km, mb4.9/83 Error ellipse: s-maj=12.3km s-min=7.1km az=71.0*
*KLM **23** 09:50:17.0, 5°.90N×125°.97E, h139km, mb5.1*
ISC 23 09:50:15.3±0.5, 5°.72N±0°.03×125°.87E±0°.05, h117km±3km, n332, σ1.993/343, mb4.8/106, 16C-12D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.42**	**338**	*eP*	**Pn**	**09 50 30.7**	**-1.8**
DDMP				*eS*	**Sn**	**09 50 44.5**	**-0.8**
MATI	**Mati**	**1.28**	**17**	*eP*	**Pn**	**09 50 38.7**	**-1.4**
MATI				*eS*	**Sn**	**09 51 01.2**	**+2.4**
DAV	**Davao City (W)**	**1.38**	**348**	P	**Pn**	**09 50 41.5**	**+0.4**
	299nm,0.3s,baz=125,slow=1.7,SNR=26						
DAV				S	**Sn**	**09 51 01.3**	**+0.6**
	1μm,0.3s,baz=314,slow=21,SNR=9.6						
DAV				LR	LR	09 51 15.0	
	comp=Z,2μm,19.2s,baz=163,slow=45						
DAV	**Davao City (W)**	**1.38**	**348**		**Pn**	**09 50 40.9**	**-0.2**
DAV	**Davao City (W)**	**1.38**	**348**	*eP*	**Pn**	**09 50 40.3**	**-0.8**
KCP	**Kidapawan**	**1.50**	**329**	*iP*	**Pn**	**09 50 43.4**	**+0.7**
KCP				*i*	**Sn**	**09 51 08.4**	**+5.0**
SKMP	**Bagumbayan, Su**	**1.54**	**301**	*eP*	**Pn**	**09 50 41.1**	**-1.9**
SKMP				*eS*	**Sn**	**09 51 03.3**	**-0.8**
SGSI	**Sangihe**	**2.04**	**190**	P	**Pn**	**09 50 50.2**	**+1.0**
BUKP	**Musuan**	**2.29**	**340**	*eP*	**Pn**	**09 50 52.9**	**+0.5**
BUKP				*eS*	**Sn**	**09 51 22.1**	**+1.3**
BIP	**Bislig**	**2.52**	**9**	*eP*	**Pn**	**09 50 56.6**	**+1.3**
BIP				*i*	**Sn**	**09 51 29.4**	**+3.3**
CGP	**Cagayan de Oro**	**2.96**	**337**	*eP*	**Pn**	**09 51 04.4**	**+3.4**
CGP				*eS*	Sn	09 51 49.1	+13
PAGZ	**Pagadian**	**3.25**	**311**	*eP*	**Pn**	**09 51 03.8**	**-1.0**
TBP	**Tagbilaran**	**4.42**	**333**	*eP*	**Pn**	**09 51 23.1**	**+2.6**
LLP	**Lapu-Lapu**	**4.94**	**338**	*eP*	**Pn**	**09 51 28.5**	**+1.0**
LLP				*eS*	**Sn**	**09 52 31.9**	**+8.2**
TNTI	**Ternate**	**5.13**	**163**	P	**Pn**	**09 51 31.2**	**+1.1**
	2.0nm5μm290nm,1.2s						
TNTI	**Ternate**	**5.13**	**163**	Pn	**Pn**	**09 51 30.9**	**+0.8**
CNOP	**Candoni, Negro**	**5.19**	**322**	*eP*	**Pn**	**09 51 30.9**	**+0.1**
CNOP				*eS*	Sn	09 52 21.1	-8.4
KMSI	**Cibinong**	**5.44**	**200**	P	**Pn**	**09 51 35.7**	**+1.4**
	2.6nm8μm772nm,1.1s						
GTOI	**Gorontalo**	**5.80**	**210**	P	**Pn**	**09 51 39.5**	**+0.5**
	1.4nm5μm397nm,1.2s						
MYLDM	**Lahad Datu**	**7.36**	**266**	Pn	**Pn**	**09 52 02.4**	**+2.2**
LUWI	**Luwuk**	**7.39**	**205**	P	**Pn**	**09 52 04.8**	**+4.2**
	2.3nm3μm7μm605nm,1.2s						
LUWI	**Luwuk**	**7.39**	**205**	Pn	**Pn**	**09 52 05.0**	**+4.3**
SANI	**Sanana**	**7.71**	**179**	P	**Pn**	**09 52 02.8**	**-2.2**
	1.0nm4μm283nm,0.7s						
APSI	**Ampana**	**7.82**	**213**	P	**Pn**	**09 52 10.4**	**+4.0**
	0.7nm2μm149nm,1.1s						
MPSI	**Mapaga**	**8.01**	**228**	P	**Pn**	**09 52 08.1**	**-0.8**
	1μm52nm,1.1s						
SIJI	**Sorong**	**8.47**	**140**	P	**Pn**	**09 52 15.7**	**+0.4**
	9.3nm,0.3s,baz=188,slow=19,SNR=9.3						
SIJI				S	**Sn**	**09 53 47.4**	**-1.9**
	baz=214,slow=22,SNR=1.8						
NLAI	**Namlea**	**8.98**	**172**	P	**Pn**	**09 52 20.2**	**-1.9**
	5μm153nm,1.2s						
LQP	**Lukban**	**9.37**	**333**	*eP*	**Pn**	**09 52 31.4**	**+3.9**
SPMM	**Sapulut**	**9.42**	**264**	P	**Pn**	**09 52 32.0**	**+3.9**
KKM	**Kota Kinabalu**	**9.61**	**272**	Pn	**Pn**	**09 52 29.9**	**-0.9**
TGY	**Tagaytay City**	**9.64**	**330**	LR	LR	09 57 04.5	
	comp=Z,127nm,18.5s,baz=128,slow=43						
TTSI	**Tana Toraja**	**10.60**	**215**	P	**Pn**	**09 52 46.6**	**+2.6**
	2μm174nm,1.1s						
FAKI	**Fak Fak**	**10.69**	**143**	P	**Pn**	**09 52 45.1**	**-0.1**
	94nm,1.1s						
FAKI	**Fak Fak**	**10.69**	**143**	Pn	**Pn**	**09 52 45.2**	**0.0**
SPSI	**Sidrap Palu**	**11.38**	**212**	P	**Pn**	**09 52 56.6**	**+2.1**
	902nm93nm,0.9s						
KAPI	**Kappang**	**12.29**	**210**	P	**Pn**	**09 53 07.7**	**+1.2**
	2.0nm,0.3s,baz=18,slow=7.4,SNR=19						
KAPI				LR	LR	09 58 09.0	
	comp=Z,230nm,18.9s,baz=44,slow=39						
KAPI	**Kappang**	**12.29**	**210**	Pn	**Pn**	**09 53 08.7**	**+2.3**
BKSI	**Bulukumba**	**12.38**	**208**	P	**Pn**	**09 53 08.5**	**+0.9**
	1μm83nm,1.4s						
SBUM	**Sibu**	**13.99**	**257**		**P**	**09 53 31.7**	**-1.1**
SBUM	**Sibu**	**13.99**	**257**	P	**P**	**09 53 32.0**	**-0.8**
BBKI	**Banjar Baru**	**14.30**	**231**	P	**Pn**	**09 53 33.2**	**+0.7**
	5μm193nm,1.3s						
MMRI	**Maumere**	**14.71**	**194**	P	P	09

QIZ LR LR
comp=Z,260nm,17.7s
KPJI Karang Pucung 21.30 233 P P 09 54 57.5 +4.6
comp=Z,1µmcomp=Z,58nm,1.7s
KNRA Kununurra 21.45 172 P P 09 54 55.0 +0.6
baz=22,SNR=144
KNRA Kununurra 21.45 172 P P 09 54 55.1 +0.7
TPRI Tanjung Pinang 21.83 258 P P 09 55 01.6 +3.1
LEM Lembang 22.07 236 P P 09 55 00.1 -1.1
comp=Z,15nm,0.4s,baz=109,slow=5.8,SNR=6.1
DSRI Dabo 22.13 255 P P 09 55 03.5 +1.8
comp=Z,2µmcomp=Z,85nm,1.5s
MYKOM Kota Tinggi 22.31 261 P P 09 55 05.1 +1.5
MYKOM Kota Tinggi 22.31 261 P P 09 55 06.0 +2.5
CBJI Citeko 22.49 238 P P 09 55 09.1 +3.8
comp=Z,161nm,0.6s
PMBI Palembang 22.75 248 P P 09 55 13.8 +5.8
comp=Z,435nm,1.0s
PMBI Palembang 22.75 248 P P 09 55 08.6 +0.6
BLSI Bandar Lampung 23.35 242 P P 09 55 17.7 +4.1
comp=Z,130nm,0.4s
KLSI 23.50 244 P P 09 55 17.4 +2.4
comp=Z,555nmcomp=Z,38nm,1.1s
FITZ Fitzroy Crossi 23.66 181 P P 09 55 16.8 +0.5
comp=Z,26nm,0.5s,baz=5.8,slow=8.7,SNR=130
FITZ Fitzroy Crossi 23.66 181 P P 09 55 16.6 +0.3
baz=24,SNR=149
FITZ Fitzroy Crossi 23.66 181 P P 09 55 16.4 +0.1
FITZ IAmb IAmb 09 55 18.1
comp=Z,57nm,1.1s
MDSI Maura Dua 23.91 245 P P 09 55 21.0 +2.3
comp=Z,1µmcomp=Z,77nm,1.3s
KASI Kota Agung 24.08 243 P P 09 55 23.2 +3.0
comp=Z,96nm,1.2s
LHSI Lahat 24.25 247 P P 09 55 25.2 +3.5
comp=Z,105nm,1.3s
LWLI Liwa 24.25 244 P P 09 55 24.7 +2.9
comp=Z,152nm,1.5s
IPM Ipoh 24.77 268 P P 09 55 25.9 -0.6
IPM IAmb IAmb 09 55 28.2
comp=Z,66nm,1.3s
IPM Ipoh 24.77 268 P P 09 55 27.0 +0.4
KSI Kapahiang 25.04 249 P P 09 55 33.1 +4.1
comp=Z,60nm,0.5s
KULM Kulim 25.11 270 P P 09 55 29.0 -0.5
KULM IAmb IAmb 09 55 31.4
comp=Z,83nm,1.4s
KULM Kulim 25.11 270 P P 09 55 31.0 +1.5
SDSI Sungai Dareh 25.28 256 P P 09 55 33.5 +2.4
comp=Z,9µmcomp=Z,67nm,0.8s
BKNI Bangkinang 25.36 259 P P 09 55 31.7 -0.1
PMG Port Moresby 26.00 125 P P 09 55 38.0 +0.4
comp=Z,31nm,0.8s,baz=321,slow=6.3,SNR=5.5
PMG Port Moresby 26.00 125 *de* P **P 09 55 38.3 +0.7**
PMG pmax pmax
comp=Z,44nm,1.3s
PMG Port Moresby 26.00 125 IAmb IAmb 09 55 39.5
comp=Z,38nm,0.9s
JSU Suzuyama 26.01 9 IAmb IAmb 09 55 39.1
comp=Z,29nm,0.8s
COEN Coen 26.02 139 P P 09 55 38.8 +1.0
baz=26,SNR=23
COEN Coen 26.02 139 P P 09 55 38.8 +1.0
JCJ Chichijima 26.34 34 P P 09 55 39.0 -1.5
comp=Z,63nm,0.6s,baz=221,slow=5.2,SNR=9.4
WB0 Warramunga Arr 26.68 162 P P 09 55 43.8 +0.1
WB0 IAmb IAmb 09 55 54.9
comp=Z,19nm,0.7s
MNSI Mandailing Nat 26.69 260 P P 09 55 45.1 +1.3
WRAB Tennant Creek 26.82 162 P P 09 55 45.4 +0.5
WRA Warramunga Arr 26.82 162 P P 09 55 45.0 +0.1
comp=Z,6.6nm,1.0s,baz=334,slow=11,SNR=47
WRA S **S 10 00 10.8 -2.0**
comp=Z,2.0nm,1.0s,baz=325,slow=16,SNR=4.7
WRA Warramunga Arr 26.82 162 P P 09 55 45.0 +0.1
WB2 Warramunga Arr 26.83 162 P P 09 55 44.7 -0.3
WB2 IAmb IAmb 09 55 57.9
comp=Z,19nm,0.8s
NJ2 Nanjing 27.01 347 *eP* **P 09 55 49.0 +2.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
RPSI Rantau Prapat 27.04 265 IAmb IAmb 09 55 48.4
comp=Z,28nm,1.0s
GYA Guiyang 27.59 320 *eP* **P 09 55 54.1 +2.2**
GYA pP pP 09 56 21.8 +4.3
GYA PcP **PcP 09 59 07.1 +0.2**
GYA S **S 10 00 27.9 +2.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA LR LR
comp=Z,170nm,11.7s
SISI Saibi 27.64 256 P P 09 55 52.9 +0.6
comp=Z,1µmcomp=Z,94nm,1.3s
JNU Nakatsue 27.66 9 P P 09 55 50.7 -1.7
comp=Z,42nm,0.9s,baz=200,slow=3.4,SNR=10
JNU Nakatsue 27.66 9 P **P 09 55 51.6 -0.7**
JNU IAmb IAmb 09 55 54.3
comp=Z,45nm,0.9s
PSA00 Pilbara Seismi 27.75 192 P P 09 55 53.0 -0.2
PSA00 Pilbara Seismi 27.75 192 IAmb IAmb 09 55 54.3
comp=Z,40nm,0.8s
GSI Gunungsitoli 28.57 262 P P 09 55 59.9 -0.7
comp=Z,132nm,0.9s
CMAR Chiang Mai Arr 29.16 298 P P 09 56 04.1 -1.6
comp=Z,1.4nm,0.4s,baz=121,slow=7.5,SNR=14
CMAR ScP **ScP 10 02 38.9 -2.9**
comp=Z,1.1nm,0.3s,baz=139,slow=2.3,SNR=1.8
CMAR LR LR 10 08 30.9
comp=Z,92nm,18.4s,baz=126,slow=38
CMAR Chiang Mai Arr 29.16 298 P **P 09 56 04.8 -1.0**
CHTO Chiang Mai 29.29 299 P **P 09 56 06.6 -0.4**
KMI Kunming 29.39 313 ⇑P **P 09 56 10.3 +2.3**
KMI pP pP 09 56 35.1 +1.5
KMI sP sP 09 56 52.0 +4.9
KMI S **S 10 00 59.8 +6.2**
KMI sS sS 10 01 41.5 +5.0
KMI pmax pmax
comp=Z,7.0nm,1.3s
KMI pmax pmax
comp=Z,39nm,4.6s
KMI LR LR
comp=Z,220nm,17.4s
KMI LR LR
comp=Z,190nm,17.4s
KMI LR LR
comp=Z,170nm,17.3s
QIS Mount Isa 29.39 153 P P 09 56 08.6 +0.8
baz=30,SNR=11
AS31 Alice Springs 30.24 165 P P 09 56 14.3 -1.0
ASAR Alice Springs 30.24 165 P P 09 56 15.5 +0.2
comp=Z,1.6nm,0.3s,baz=341,slow=7.7,SNR=45
ASAR PcP **PcP 09 59 13.1 -0.3**
comp=Z,1.4nm,0.4s,baz=327,slow=2.1,SNR=4.2
ASAR S **S 10 01 08.2 +1.7**
comp=Z,4.4nm,1.2s,baz=348,slow=20,SNR=5.1
TJN Taejon 30.55 2⇑ *eP* **P 09 56 18.6 +0.8**
WRKA Warakurna 30.66 176 P **P 09 56 19.5 +0.6**
baz=31,SNR=86
INU Inuyama 31.23 18 P **P 09 56 24.6 +0.8**
INU IAmb IAmb 09 56 25.1
comp=Z,22nm,0.6s
KSAR Wonju Array Be 31.63 3 P **P 09 56 28.2 +0.9**
KSRS Korea Array 31.65 3 P **P 09 56 27.8 +0.4**
comp=Z,8.1nm,0.7s,baz=187,slow=9.8,SNR=36
KSRS PcP **PcP 09 59 16.3 -0.6**
comp=Z,1.1nm,0.9s,baz=194,slow=2.5,SNR=4.3
KSRS LR LR 10 10 08.0
comp=Z,48nm,20.6s,baz=182,slow=38
KS19 Wonju Array Si 31.69 3 P **P 09 56 27.6 -0.3**
KS19 IAmb IAmb 09 56 31.4
comp=Z,14nm,0.8s
XAN Xi'an 32.27 333 P **P 09 56 31.8 -1.2**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN LR LR
comp=Z,220nm,13.7s
XAN LR LR
comp=Z,170nm,12.8s
XAN LR LR
comp=Z,170nm,18.4s
XAN Xi'an 32.27 333 P **P 09 56 31.2 -1.9**
CD2 Chengdu 32.55 323 P **P 09 56 35.0 -0.5**
CD2 S **S 10 01 42.3 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,80nm,8.7s
CTA Charters Tower 32.55 143 P **P 09 56 37.1 +1.5**
comp=Z,11nm,0.9s,baz=329,slow=12,SNR=3.3
CTAO Charters Tower 32.55 143 P **P 09 56 38.5 +3.0**
CTAO IAmb IAmb 09 56 42.9
comp=Z,24nm,0.8s
MAJO Matsushiro 32.70 19⇑ *iP* **P 09 56 36.2 -0.5**
MAJO Matsushiro 32.70 19 P **P 09 56 36.6 -0.1**
MAT Matsushiro 32.70 19 P **P 09 56 35.7 -1.0**
MAT *eS* **S 10 01 42.8 -1.8**
MJAR Matsushiro Arr 32.70 19 P **P 09 56 35.9 -0.7**
comp=Z,6.2nm,0.8s,baz=198,slow=9.6,SNR=16
MJAR LR LR 10 11 43.4
comp=Z,60nm,18.1s,baz=215,slow=39
MJAR Matsushiro Arr 32.70 19 P **P 09 56 36.0 -0.7**
MEEK Meekatharra 32.92 192 P **P 09 56 38.6 -0.2**
baz=33,SNR=15
DL2 Dalian 33.26 354 P **P 09 56 42.6 +1.1**
DL2 pP **pP 09 57 05.3 -1.4**
DL2 S **S 10 01 58.6 +5.4**
DL2 pmax pmax
comp=Z,33nm,1.2s
BJI Beijing 35.27 347 P **P 09 56 59.3 +0.5**
BJI pmax pmax
comp=Z,9.0nm,0.9s
MORW Morawa 35.85 195 P **P 09 57 03.9 0.0**
baz=36,SNR=6.1
MORW Morawa 35.85 195 IAmb IAmb 09 57 04.8
comp=Z,26nm,0.9s
FORT Forrest 36.35 177 P **P 09 57 08.8 +0.6**
baz=36,SNR=30
LZH Lanzhou 36.37 329 ⇓P **P 09 57 11.3 +2.8**
LZH pP pP 09 57 37.4 +2.7
LZH sP sP 09 57 53.8 +5.6
LZH sS sS 10 03 31.0 +6.0
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,240nm,13.0s
LZH LR LR
comp=Z,200nm,12.5s
LZH LR LR
comp=Z,220nm,15.6s
KMBL Kambalda 37.07 186 P **P 09 57 14.7 +0.4**
baz=37,SNR=14
BLDU Ballidu 37.17 193 P **P 09 57 15.0 -0.1**
baz=37,SNR=26
HHC Hu-ho-hao-te 37.26 342 *eP* **P 09 57 16.8 +0.9**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.9s
VLA Vladivostok 37.63 7 *ce* P **P 09 57 21.7 +2.9**
VLA pmax pmax
comp=Z,41nm,0.8s
KLBR Kellerberrin 37.90 191 P **P 09 57 21.4 +0.2**
baz=38,SNR=9.4
SHL Shillong 38.03 305 P **P 09 57 21.0 -1.7**
SHL IAmb IAmb 09 57 24.0
comp=Z,25nm,0.8s
MUN Mundaring 38.60 193 P **P 09 57 27.6 +0.4**
baz=39,SNR=5.4
USA0B Ussuriysk Arra 38.70 7 P **P 09 57 29.3 +1.5**
USA0B IAmb IAmb 09 57 31.1
comp=Z,21nm,0.8s
USRK Ussuriysk Ar. 38.70 7 P **P 09 57 27.2 -0.6**
comp=Z,16nm,0.8s,baz=191,slow=7.9,SNR=30
USRK Ussuriysk Ar. 38.70 7 P **P 09 57 27.9 +0.1**
MDJ Mudanjiang 38.88 4 P **P 09 57 31.0 +1.7**
MDJ pP pwP 09 57 59.1 +1.4
MDJ sP sP 09 58 11.9 +3.9
MDJ PP **PnPn 09 59 04.9 +0.5**
MDJ S **S 10 03 24.3 +5.5**
MDJ pmax pmax
comp=Z,33nm,0.7s
MDJ pmax pmax
comp=Z,110nm,3.6s
MDJ Mudanjiang 38.88 4 IAmb IAmb 09 57 31.9
comp=Z,26nm,0.9s
NWAO Narrogin (SRO) 39.30 192 P **P 09 57 33.5 +0.6**
comp=Z,25nm,0.5s,baz=30,slow=7.8,SNR=33
NWAO Narrogin (SRO) 39.30 192 P **P 09 57 33.6 +0.7**
baz=39,SNR=7.6
NWAO Narrogin (SRO) 39.30 192 P **P 09 57 33.9 +0.9**
NWAO Narrogin (SRO) 39.30 192 IAmb IAmb 09 57 34.6
comp=Z,35nm,0.8s
EIDS Eidsvold 39.44 143 P **P 09 57 36.1 +1.9**
baz=40,SNR=3.8
EIDS Eidsvold 39.44 143 P **P 09 57 35.2 +1.0**
BBOO Buckleboo 39.52 166 P **P 09 57 35.7 +0.9**
baz=40,SNR=78
TEY Ternei 40.27 12⇑ *eP* **P 09 57 41.5 +0.7**
TEY pmax pmax
comp=Z,10.0nm,1.6s
STKA Stephens Creek 40.28 159 P **P 09 57 42.1 +1.0**
comp=Z,19nm,0.7s,baz=335,slow=8.8,SNR=53
STKA Stephens Creek 40.28 159 P **P 09 57 42.2 +1.2**
baz=40,SNR=27
STKA Stephens Creek 40.28 159 P **P 09 57 42.3 +1.2**
HTT Hallett 40.85 163 P **P 09 57 47.6 +1.7**
baz=41,SNR=13
GTA Gaotai 40.96 329 *eP* **P 09 57 46.1 -0.7**
GTA pP pP 09 58 14.4 +0.9
GTA sP sP 09 58 28.5 +1.7
GTA PcP **PcP 09 59 44.8 -0.2**
GTA ScP **ScP 10 03 23.3 -0.8**
GTA sS sS 10 04 39.0 +4.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,77nm,7.6s
GTA LR LR
comp=Z,85nm,16.4s
GTA LR LR
comp=Z,91nm,16.4s
GTA LR LR
comp=Z,92nm,18.2s
ASAJ Asahikawa 40.97 18 P **P 09 57 46.2 -0.4**
comp=Z,24nm,0.8s,baz=212,slow=11,SNR=9.8
JKA Kamikawa-asahi 40.97 18 P **P 09 57 46.2 -0.4**
JKA Kamikawa-asahi 40.97 18 IAmb IAmb 09 57 49.7
comp=Z,45nm,1.0s
RKGY Rocky Gully 40.98 191 P **P 09 57 48.5 +1.8**
baz=41,SNR=24
CMSA Cobar Meteorol 41.60 154 P **P 09 57 53.7 +1.8**
baz=42,SNR=7.6
H11N1 WAKE ISLAND Hy 42.23 67 T T 10 43 21.5
baz=265,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 42.24 67 T T 10 43 05.8
baz=265,slow=75,SNR=20
H11N3 WAKE ISLAND Hy 42.25 67 T T 10 43 03.3
baz=265,slow=75,SNR=13
RAMN Ramite 42.92 304 *eP* **P 09 58 02.4 -0.7**
comp=Z,19nm,0.9s
YSS Yuzh-Sakhalins 43.58 17⇑ *eP* **P 09 58 10.0 +2.3**
YSS pmax pmax
comp=Z,68nm,1.9s
ARMA Armidale 43.59 147 P **P 09 58 11.6 +3.5**
baz=44,SNR=4.0
ARMA Armidale 43.59 147 P **P 09 58 10.2 +2.0**
ARMA IAmb IAmb 09 58 20.2
comp=Z,17nm,0.8s
KLR Kul'dur 43.65 6 P **P 09 58 08.2 -0.1**
comp=Z,7.3nm,0.7s,baz=242,slow=4.9,SNR=16
GUN Gumba 43.88 305 *eP* **P 09 58 10.4 -0.5**
comp=Z,68nm,0.9s
PKI Pulchoki 44.14 304 *eP* **P 09 58 11.5 -1.4**
comp=Z,5.0nm,0.6s
KKN Kakani 44.33 304 *eP* **P 09 58 13.0 -1.3**
ARPS Mount Arapiles 44.83 162 P **P 09 58 19.5 +1.7**
baz=45,SNR=31
ULN Ulaanbaatar 44.98 342⇑ *eP* **P 09 58 18.9 -0.2**
ULN pmax pmax
comp=Z,5.0nm,1.0s
YNG Young 45.13 153 P **P 09 58 22.5 +2.2**
baz=45,SNR=6.4
SONM Songino Array 45.15 342 P **P 09 58 19.5 -1.0**
comp=Z,1.4nm,0.7s,baz=160,slow=9.3,SNR=5.3
SONM PcP **PcP 09 59 58.2 -0.7**
comp=Z,7.0nm,0.9s,baz=147,slow=3.1,SNR=7.9
SONM ScP **ScP 10 03 38.8 -2.1**
comp=Z,0.6nm,0.5s,baz=125,slow=2.3,SNR=3.6
SONM LR LR 10 19 47.2
comp=Z,48nm,18.6s,baz=140,slow=39
SONM Songino Array 45.15 342 P **P 09 58 18.1 -2.3**
SONM Songino Array 45.15 342 **ScP 10 03 39.9 -1.0**
KOLN Koldanda 45.70 304 *eP* **P 09 58 24.8 -0.4**
comp=Z,17nm,0.3s
DANN Dangsing 45.78 304 *eP* **P 09 58 25.3 -0.6**
comp=Z,42nm,0.7s
CNB Canberra Magne 46.42 153 P **P 09 58 33.1 +2.7**
baz=47,SNR=5.0
TOO Toolangi 46.79 159 P **P 09 58 35.9 +2.7**
baz=47,SNR=8.2
TOO Toolangi 46.79 159 P **P 09 58 35.1 +1.9**
TOO IAmb IAmb 09 58 36.9
comp=Z,36nm,1.2s
HYB Hyderabad 47.66 288 *i* P **P 09 58 40.0 -0.4**
ZEA Zeya 47.89 1 *eP* **P 09 58 41.5 0.0**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA pmax pmax
comp=Z,16nm,0.9s
DZM Mont Dzumac 48.38 126 P **P 09 58 46.9 +1.0**
comp=Z,15nm,0.6s,baz=126,slow=9.5,SNR=14
TLY Talaya 49.39 342⇓ *eP* **P 09 58 54.3 +1.3**
TLY pmax pmax
comp=Z,5.0nm,0.8s
WMQ Urumqi 50.62 325 *eP* **P 09 59 05.1 +2.6**
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ pmax pmax
comp=Z,75nm,4.3s
BOD Bodaibo 52.79 352 *eP* **P 09 59 17.4 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.6s
PETK Petropavlovsk- 53.94 23 P **P 09 59 27.0 +0.2**
comp=Z,15nm,0.7s,baz=190,slow=4.2,SNR=26
PETK Petropavlovsk- 53.94 23 P **P 09 59 27.0 +0.2**
PETK Petropavlovsk- 53.94 23 P **P 09 59 27.7 +0.9**
ZSN Zaisan 54.38 327 *eP* **P 09 59 28.3 -1.9**
ZSN Zaisan 54.38 327 *eP* **P 09 59 28.2 -1.9**
MK31 Makanchi Array 55.45 325 *cP* **P 09 59 36.5 -1.4**
MK31 Makanchi Array 55.45 325 P **P 09 59 36.9 -0.9**
MKAR Makanchi Array 55.45 325 P **P 09 59 36.7 -1.1**
comp=Z,7.9nm,0.7s,baz=128,slow=7.7,SNR=49
MKAR ScP **ScP 10 04 21.9 -3.1**
comp=Z,0.9nm,0.7s,baz=117,slow=5.7,SNR=3.7
MKAR LR LR 10 25 10.1
comp=Z,65nm,18.4s,baz=114,slow=38
MKAR Makanchi Array 55.45 325 P **P 09 59 36.5 -1.4**
UZB Uzynbulak 55.56 320 *eP* **P 09 59 36.9 -2.0**
UZB Uzynbulak 55.56 320 *eP* **P 09 59 36.9 -2.0**
MAKZ Makanchi 55.63 325 P **P 09 59 38.3 -0.9**
MAKZ IAmb IAmb 09 59 39.0
comp=Z,8.7nm,0.8s
SATY Saty 55.92 319 *eP* **P 09 59 40.2 -1.3**
SATY Saty 55.92 319 *eP* **P 09 59 40.1 -1.3**
KPKS Kokpek 55.93 320 *eP* **P 09 59 39.2 -2.3**
KPKS Kokpek 55.93 320 *eP* **P 09 59 39.1 -2.3**
KSH Kashi 56.04 314 P **P 09 59 42.1 -0.3**
KSH S **S 10 07 22.4 +0.2**
KSH pmax pmax
comp=Z,32nm,1.6s
KSH pmax pmax
comp=Z,130nm,4.6s
KSH LR LR
comp=Z,250nm,7.6s
KSH LR LR
comp=Z,170nm,6.0s
KSH LR LR
comp=Z,100nm,5.8s
NIL Nilore 56.05 307 P **P 09 59 42.3 -0.1**
YAK Yakutsk 56.27 2 P **P 09 59 43.0 -0.3**
comp=Z,77nm,0.8s,baz=358,slow=0.8,SNR=43
YAK Yakutsk 56.27 2 *eP* **P 09 59 43.3 0.0**
YAK *e* 10 00 38.9
YAK *e* 10 01 50.9
YAK *eS* **S 10 07 25.8 +1.8**
YAK *e* 10 09 16.7
YAK *eSS* **SS 10 11 17.8 +5.4**
YAK pmax pmax
comp=Z,129nm,0.8s
YAK pmax pmax
comp=N,24nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK smax smax
comp=E,98nm,3.1s
YAK smax smax
comp=N,72nm,3.1s
YAK Yakutsk 56.27 2 P **P 09 59 43.3 0.0**
KDJ Kajisay 56.30 318 P **P 09 59 43.2 -1.1**
MDOK Medeo 56.85 319 *eP* **P 09 59 44.5 -3.6**
MDOK Medeo 56.85 319 *eP* **P 09 59 44.5 -3.6**
TNSS Tian-Shan 56.86 319 *eP* **P 09 59 46.8 -1.7**
TNSS Tian-Shan 56.86 319 *eP* **P 09 59 46.8 -1.7**
CHKK Chushkaly 57.20 320 *eP* **P 09 59 47.4 -3.0**
CHKK Chushkaly 57.20 320 *eP* **P 09 59 47.4 -3.0**
KUU Kurty 57.64 319 *eP* **P 09 59 50.8 -2.7**
KUU Kurty 57.64 319 *eP* **P 09 59 50.7 -2.7**
AAK Ala-Archa 58.32 317⇓ *eP* **P 09 59 55.7 -2.7**
ZALV Zalesovo Beam 58.44 333 P **P 09 59 56.9 -1.9**
comp=N,2.8nm,0.6s,baz=125,slow=7.2,SNR=6.2
ZALV LR LR 10 26 05.6
comp=N,45nm,18.2s,baz=167,slow=37
KURK Kurchatov 59.62 327 *c iP* **P 10 00 05.3 -1.7**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 59.62 327 P **P 10 00 04.6 -2.3**
KURK IAmb IAmb 10 00 06.4
comp=Z,14nm,0.8s
KBL Kabul 59.65 307 P **P 10 00 06.6 -1.2**
KBL IAmb IAmb 10 00 07.5
comp=Z,12nm,0.8s
BTK Batken 59.94 313 IAmb IAmb 10 00 09.7
comp=Z,14nm,1.1s
SEY Seymchan 60.31 14 P **P 10 00 12.8 +1.4**
comp=Z,5.8nm,0.9s,baz=194,slow=9.9,SNR=6.4
SEY Seymchan 60.31 14⇓ *eP* **P 10 00 11.7 +0.2**
CHGR Chuyangaron 60.71 311 IAmb IAmb 10 00 15.7
comp=Z,17nm,0.9s
KK31 Karatay Array 61.21 317 P **P 10 00 16.8 -1.1**
KK31 IAmb IAmb 10 00 17.6
comp=Z,9.8nm,1.0s
KKAR Karatay Array 61.21 317 P **P 10 00 15.9 -2.1**
KKAR Karatay Array 61.21 317 IAmb IAmb 10 00 17.6
comp=Z,9.8nm,1.0s
BRVK Borovoye 65.27 327⇑ *iP* **P 10 00 42.6 -2.0**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 65.27 327 P **P 10 00 42.4 -2.2**
BRVK IAmb IAmb 10 00 44.1
comp=Z,11nm,1.1s
TIXI Tiksi 65.88 1 *dP* **P 10 00 48.0 -0.1**
TIXI pmax pmax
comp=Z,97nm,0.8s
TIXI Tiksi 65.88 1 P **P 10 00 47.8 -0.4**
BILL Bilibino 67.87 15 *eP* **P 10 01 03.6 +2.8**
BILL *e* 10 01 25.0
BILL *e* 10 03 32.4
BILL pmax pmax
comp=Z,8.0nm,1.2s
NRIK Noril'sk 68.31 346 P **P 10 01 02.2 -1.3**
comp=Z,10nm,0.8s,baz=132,slow=4.9,SNR=10
NRIK LR LR 10 34 17.0
comp=Z,52nm,18.6s,baz=192,slow=39
NRIK Noril'sk 68.31 346 *c iP* **P 10 01 02.4 -1.1**
NRIK pmax pmax
comp=Z,13nm,0.9s
GEYT Alibeck 68.99 308 P **P 10 01 07.2 -1.2**
comp=Z,4.3nm,0.7s,baz=131,slow=2.7,SNR=7.3
ABKAR Akbulak array 70.08 320 P **P 10 01 12.9 -1.9**
ABKAR Akbulak array 70.08 320 IAmb IAmb 10 01 14.2
comp=Z,6.7nm,0.9s
CASY Casey 72.68 186 P **P 10 01 30.8 +0.8**
CASY IAmb IAmb 10 01 31.8
comp=Z,24nm,1.1s
ARU Arti 72.81 328 *d iP* **P 10 01 28.6 -2.5**
ARU *PP **pP** **10 01 55.1 -5.4**
ARU 10 04 08.0
ARU S **S 10 10 45.5 -2.1**
ARU SS **SS 10 15 24.4 -5.3**

ARU					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CHGN	**Chignik**	**77.35**	**34**	P		**P**	**10 01 55.1**	**-2.0**
CHGN						**PcP**	**10 02 07.9**	**+0.7**
IMAR	**Indian Mountai**	**80.89**	**24**	P		**P**	**10 02 17.4**	**+1.2**
KBZ	**Khabaz**	**81.00**	**313**	P		**P**	**10 02 15.9**	**-1.4**
	comp=Z,2.7nm,1.0s,baz=127,slow=7.0,SNR=4.3							
KIV	**Kislovodsk**	**81.16**	**313**	*eP*		**P**	**10 02 17.4**	**-0.9**
KIV					pmax	pmax		
	comp=Z,15nm,0.9s							
BPAW	**Bear Paw Mtn.**	**81.89**	**26**	P		**P**	**10 02 19.7**	**-1.9**
BPAW					IAmb	IAmb	10 02 23.9	
	comp=Z,16nm,1.1s							
MLY	**Manley**	**82.06**	**25**	P		**P**	**10 02 23.4**	**+0.9**
	baz=266							
ATD	**Arta Tunnel**	**82.06**	**281**	LR		LR	10 38 04.0	
	comp=Z,18nm,19.8s,baz=356,slow=35							
TRF	**Thorofare Moun**	**82.16**	**27**	P		**P**	**10 02 20.6**	**-2.6**
O22K	**Cooper Landing**	**82.30**	**30**	P		**P**	**10 02 24.0**	**+0.2**
	baz=268							
RC01	**Rabbit Creek A**	**82.32**	**29**	P		**P**	**10 02 24.2**	**+0.4**
	baz=268							
COLD	**Coldfoot**	**82.41**	**23**	P		**P**	**10 02 25.7**	**+1.5**
	baz=267							
I23K	**Minto, Yukon-K**	**82.65**	**25**	P		**P**	**10 02 26.6**	**+1.1**
	baz=268							
TOLK	**Toolik Lake Re**	**82.72**	**22**	P		**P**	**10 02 27.6**	**+1.7**
	baz=267							
NEA2	**Nenana**	**82.75**	**26**	P		**P**	**10 02 27.4**	**+1.4**
	baz=268							
MCK	**McKinley**	**82.78**	**27**	P		**P**	**10 02 27.2**	**+1.0**
	baz=268							
KOPT	**Kop Dagi**	**82.82**	**310**	P		**P**	**10 02 31.3**	**+4.0**
KNK	**Knik Glacier**	**82.94**	**29**	IAmb		IAmb	10 02 29.2	
	comp=Z,28nm,1.1s							
MDM	**Murphy Dome**	**83.12**	**25**	P		**P**	**10 02 26.6**	**-1.4**
WRH	**Wood River Hil**	**83.17**	**26**	P		**P**	**10 02 27.4**	**-0.8**
WRH					IAmb	IAmb	10 02 29.5	
	comp=Z,12nm,1.0s							
TCOL	**CIGO, UAF Yank**	**83.27**	**25**	P		**P**	**10 02 29.1**	**+0.4**
	baz=269							
COLA	**College**	**83.28**	**25**⇑	*iP*		**P**	**10 02 28.6**	**-0.1**
COLA					pmax	pmax		
	comp=Z,9.0nm,1.0s							
COLA	**College**	**83.28**	**25**	P		**P**	**10 02 29.9**	**+1.2**
CCB	**Clear Creek Bu**	**83.30**	**26**	IAmb		IAmb	10 02 29.9	
	comp=Z,21nm,1.4s							
POKR	**Poker Plat Res**	**83.46**	**25**	P		**P**	**10 02 30.9**	**+1.2**
	baz=269							
HDA	**Harding Lake**	**83.66**	**26**	P		**P**	**10 02 30.6**	**-0.1**
	baz=270							
HDA	**Harding Lake**	**83.66**	**26**	IAmb		IAmb	10 02 32.5	
	comp=Z,12nm,0.8s							
IL31		**83.69**	**26**	P		**P**	**10 02 29.1**	**-1.7**
ILAR	**Eielson Array**	**83.69**	**26**	P		**P**	**10 02 30.1**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=244,slow=4.4,SNR=26							
ILAR	**Eielson Array**	**83.69**	**26**	P		**P**	**10 02 28.2**	**-2.6**
BMAR	**Burnt Mountain**	**84.59**	**23**	P		**P**	**10 02 37.1**	**+1.7**
RIDG	**Independent Ri**	**84.60**	**27**	IAmb		IAmb	10 02 52.5	
	comp=Z,20nm,1.1s							
N25K	**Chitina, Valde**	**84.79**	**29**	P		**P**	**10 02 36.3**	**-0.3**
	baz=272							
OBN	**Obninsk**	**84.95**	**325**	*eP*		**P**	**10 02 35.8**	**-1.6**
OBN					pmax	pmax		
	comp=Z,18nm,1.0s							
SCRK	**Sand Creek**	**84.97**	**26**	P		**P**	**10 02 37.8**	**+0.3**
	baz=273							
MAW	**Mawson**	**85.31**	**200**	P		**P**	**10 02 38.5**	**-0.3**
	comp=Z,6.6nm,0.9s,baz=63,slow=7.2,SNR=12							
MAW	**Mawson**	**85.31**	**200**	P		**P**	**10 02 39.3**	**+0.4**
	baz=85,SNR=8.5							
MAW	**Mawson**	**85.31**	**200**	P		**P**	**10 02 39.2**	**+0.4**
VNDA	**Vanda**	**85.49**	**173**	LR		LR	10 40 17.0	
	comp=Z,47nm,19.6s,baz=353,slow=35							
K27K	**Chicken**	**85.81**	**26**	P		**P**	**10 02 42.1**	**+0.6**
	baz=274							
BCAR	**Beaver Creek A**	**86.01**	**27**	P		**P**	**10 02 43.5**	**+0.9**
EPYK	**Eagle Plains**	**87.78**	**24**	P		**P**	**10 02 50.8**	**-0.3**
	baz=279							
BRTR	**Keskin Array B**	**88.10**	**310**	P		**P**	**10 02 50.0**	**-3.3**
	comp=Z,2.4nm,0.8s,baz=116,slow=5.6,SNR=6.9							
BRTR	**Keskin Array B**	**88.10**	**310**	*i* P		**P**	**10 02 51.0**	**-2.3**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**88.10**	**310**	P		**P**	**10 02 49.8**	**-3.5**
ARCES	**ARCESS Array B**	**88.30**	**340**	P		**P**	**10 02 51.6**	**-1.8**
	comp=Z,5.1nm,0.7s,baz=77,slow=5.2,SNR=6.4							
SPITS	**Spitsbergen Ar**	**88.38**	**349**	P		**P**	**10 02 52.5**	**-1.2**
	comp=Z,7.2nm,0.7s,baz=92,slow=7.9,SNR=14							
FINES	**FINESS Array B**	**89.69**	**332**	P		**P**	**10 02 58.0**	**-2.0**
	comp=Z,5.4nm,0.7s,baz=70,slow=6.0,SNR=13							
FINES	**FINESS Array B**	**89.69**	**332**	P		**P**	**10 02 57.6**	**-2.5**
NOR	**Nord**	**91.05**	**355**	*i* P		**P**	**10 03 04.5**	**-1.6**
NOR					pmax	pmax		
	comp=Z,5.0nm,0.8s							
NOR	**Nord**	**91.05**	**355**	*i* P		**P**	**10 03 04.5**	**-1.6**
	comp=Z,5.0nm,0.8s							
NOR	**Nord**	**91.05**	**355**	*i* P		**P**	**10 03 04.5**	**-1.6**
NOR					IAmb	IAmb	10 03 06.1	
	comp=Z,5.0nm,0.8s							
SYO	**Syowa Base**	**93.96**	**201**⇑	*i*P		**P**	**10 03 18.4**	**-1.2**
SYO	**Syowa Base**	**93.96**	**201**⇑	*e*PcP		**PcP**	**10 03 22.2**	**+2.2**
DAG	**Danmarks Havn**	**95.18**	**352**	*i* P		**P**	**10 03 23.4**	**-1.7**
DAG					pmax	pmax		
	comp=Z,19nm,1.0s							
DAG	**Danmarks Havn**	**95.18**	**352**	*i* P		**P**	**10 03 23.4**	**-1.7**
	comp=Z,18nm,1.0s							
DAG	**Danmarks Havn**	**95.18**	**352**	*i* P		**P**	**10 03 23.4**	**-1.7**
DAG					IAmb	IAmb	10 03 24.5	
	comp=Z,18nm,1.0s							
HFS	**Hagfors**	**95.87**	**332**	P		**P**	**10 03 25.7**	**-2.9**
	comp=Z,2.3nm,0.7s,baz=96,slow=14,SNR=4.6							
NB2	**NORSAR Subarra**	**96.64**	**334**	P		**P**	**10 03 29.3**	**-2.8**
	comp=Z,7.8nm,1.0s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**96.64**	**334**	P		**P**	**10 03 29.5**	**-2.6**
	comp=Z,2.7nm,0.8s,baz=66,slow=4.5,SNR=7.9							
NOA					LR	LR	10 49 55.1	
	comp=Z,42nm,19.1s,baz=60,slow=37							
KHC	**Kasperske Hory**	**99.98**	**322**⇓	*eP*		**Pdif**	**10 03 46.0**	**-1.4**
KHC					pmax	pmax		
	comp=Z,15nm,2.5s							
TXAR	**Lajitas Array**	**121.04**	**51**	PKP		**PKiKP**	**10 08 55.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=204,slow=1.1,SNR=11							
TOA0	**Torodi Ar. Sit**	**121.47**	**289**			**PKiKP**	**10 08 55.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**121.47**	**289**	PKP		**PKPdf**	**10 08 55.0**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=52,slow=2.2,SNR=15							
PLCA	**Paso Flores**	**142.15**	**160**	PKhKP		PKPpre	10 09 29.6	
	comp=Z,1.2nm,0.9s,baz=103,slow=10,SNR=2.3							
AAGR	**Agrelo**	**149.52**	**155**	*eP*		**PKiKP**	**10 09 52.7**	**-0.1**
ASAL	**Salagasta**	**149.95**	**155**	*eP*		**PKiKP**	**10 09 53.6**	**-0.1**
AUSP	**Uspallata**	**150.02**	**153**	*eP*		**PKiKP**	**10 09 54.4**	**+0.3**
RTLS	**Leoncito**	**150.42**	**153**	*eP*		**PKiKP**	**10 09 55.0**	**+0.1**
ACCO	**Cerro Coronel**	**151.55**	**152**	*eP*		**PKiKP**	**10 09 57.6**	**+0.3**
AROD	**Rodeo**	**151.71**	**151**	*eP*		**PKiKP**	**10 09 58.4**	**+0.7**
ACDV	**Cuesta del Vie**	**151.87**	**152**	*eP*		**PKiKP**	**10 09 58.1**	**+0.3**
TCA	**Tanti**	**152.69**	**160**	*eP*		**PKiKP**	**10 09 59.4**	**0.0**
AGUA	**GUANDACOL**	**152.74**	**152**	*eP*		**PKiKP**	**10 10 00.5**	**+0.9**
ACLC	**CERRO LA CRUZ**	**153.49**	**154**	*eP*		**PKPbc**	**10 10 00.1**	**-1.0**
CPUP	**Villa Florida**	**159.27**	**172**	PKPab		**PKPab**	**10 10 37.0**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=162,slow=7.8,SNR=3.8							

IDC ***23*** *09:56:34.7±0.9, 63.03°S×171.18°E, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.3/27, mbtmp4.4/6, ML3.8/1, MS4.1/17, Ms1 4.1/17, ms1mx4.0/28, Error ellipse: s-maj=49.9km s-min=22.3km az=72.0*

GCMT ***23*** *09:56:40.0±0.3, 63.07°S±0.01°×170.83°E±0.05, h12km, MW5.0/81, Moment Tensor Solution. s20,c20; s81,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.57±.14; Mθθ3.19±.09; Mφφ-2.62±.12; Mrθ-3.06±.31; Mθφ-0.04±.13; Mφr0.84±.42; Best double couple: M=4.06300×10^16 NP1:ϕ=220.00000°, δ=42.00000°, λ=-176.00000°. NP2: ϕ=127.00000°, δ=87.00000°, λ=-48.00000°. Principal axes: T 4.9270, Plg29.0000°, Azm184.0000°; N -1.7330, Plg42.0000°, Azm305.0000°; P -3.1980, Plg34.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 23 09:56:35.8±0.8, 63.05°S±0.1×171.2°E±0.3, h10km, n47, σ0=77/15, mb4.3/5, MS4.1/19, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.87**	**188**	Pn	**Pn**	**10 00 06.0**	**+0.2**
	0.4nm,0.3s,baz=12,slow=13,SNR=41						
VNDA				LR	LR	10 04 28.6	
	comp=Z,1μm,21.0s,baz=16,slow=32						
RPZ	**Rata Peaks**	**19.34**	**360**	LR	LR	10 07 03.9	
	comp=Z,1μm,21.7s,baz=196,slow=32						
URZ	**Urewera**	**25.05**	**11**	LR	LR	10 10 43.8	
	comp=Z,626nm,20.4s,baz=191,slow=34						
QSPA	**South Pole Qui**	**27.07**	**180**	P	**P**	**10 02 18.3**	**0.0**
	7.1nm,1.2s,baz=17,slow=6.7,SNR=5.4						
QSPA				LR	LR	10 11 13.9	
	comp=Z,591nm,20.4s,baz=26,slow=32						
MAW	**Mawson**	**39.91**	**215**	LR	LR	10 20 23.1	
	comp=Z,751nm,19.6s,baz=130,slow=36						
DZM	**Mont Dzumac**	**41.05**	**353**	P	**P**	**10 04 19.2**	**-0.1**
	7.6nm,1.0s,baz=147,slow=11,SNR=3.8						
DZM	**Mont Dzumac**	**41.05**	**353**	*e*LR	LR	10 15 32.6	
	comp=Z,584nm,22.6s						
H01W1	**Cape Leeuwin H**	**44.70**	**281**	T	T	10 52 38.5	
	baz=147,slow=76,SNR=194						
H01W2	**Cape Leeuwin H**	**44.70**	**281**	T	T	10 52 38.9	
	baz=147,slow=76,SNR=183						
H01W3	**Cape Leeuwin H**	**44.72**	**281**	T	T	10 52 39.7	
	baz=147,slow=76,SNR=242						
CTA	**Charters Tower**	**46.16**	**327**	P	**P**	**10 05 00.8**	**+0.4**
	7.1nm,1.0s,baz=153,slow=14,SNR=3.8						
RAR	**Rarotonga**	**46.19**	**39**	LR	LR	10 18 59.8	
	comp=Z,172nm,19.7s,baz=244,slow=29						
ASAR	**Alice Springs**	**46.53**	**310**	P	**P**	**10 05 04.2**	**+0.9**
	2.4nm,0.8s,baz=155,slow=7.7,SNR=8.2						
ASAR				PcP	**PcP**	**10 06 38.0**	**+0.5**
	0.6nm,0.8s,baz=159,slow=2.8,SNR=2.2						
ASAR				LR	LR	10 21 26.6	
	comp=Z,116nm,19.2s,baz=145,slow=32						
TBI	**Tubuai**	**47.55**	**52**	*e*LQ	LQ	10 16 14.0	
	655nm,27.8s						
TBI				*e*LR	LR	10 18 34.2	
	comp=Z,268nm,26.0s,baz=205						
WRA	**Warramunga Arr**	**49.82**	**312**	PcP	**PcP**	**10 06 48.7**	**-0.6**
	0.8nm,0.9s,baz=149,slow=3.4,SNR=2.8						
WRA				LR	LR	10 23 38.7	
	comp=Z,120nm,19.1s,baz=160,slow=33						
PAE	**Paea**	**52.75**	**49**	*e*T	T	11 02 40.6	
	6.1nm,0.3s						
TVO	**Taravao**	**52.76**	**50**	*e*T	T	11 02 41.4	
	2.7nm,0.3s						
PPT2	**Papeete2**	**52.82**	**49**	*e*LQ	LQ	10 18 25.5	
	363nm,23.5s						
PPT2				*e*LR	LR	10 20 58.2	
	comp=Z,302nm,26.2s,baz=208						
PPT2	**Papeete2**	**52.82**	**49**	*e*T	T	11 02 46.6	
	12nm,0.3s						
PPT	**Papeete**	**52.84**	**49**	LR	LR	10 24 57.9	
	comp=Z,98nm,18.2s,baz=216,slow=32						
TIAR	**Tiarei**	**52.93**	**49**	*e*T	T	11 02 54.0	
	3.7nm,0.3s						
MEH	**Mehetia**	**53.09**	**51**	*e*T	T	11 03 05.7	
	36nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.65**	**304**	LR	LR	10 26 20.5	
	comp=Z,105nm,20.7s,baz=154,slow=33						
VAH	**Vaihoa**	**55.68**	**50**	*e*T	T	11 06 20.2	
	172nm,0.2s						
PMOR	**Pomariorio Ree**	**55.80**	**50**	*e*T	T	11 06 29.7	
	3.2nm,0.3s						
TAOE	**Nuku Hiva Isla**	**64.29**	**55**	*e*LR	LR	10 26 21.1	
	comp=Z,165nm,26.0s						
H03S2	**Juan Fernandez**	**68.65**	**123**	T	T	11 23 27.4	
	baz=205,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**68.65**	**123**	T	T	11 23 26.9	
	baz=205,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**68.67**	**123**	T	T	11 23 29.9	
	baz=205,slow=74,SNR=16						
LEM	**Lembang**	**72.14**	**291**	LR	LR	10 35 05.2	
	comp=Z,160nm,20.4s,baz=148,slow=32						
CPUP	**Villa Florida**	**83.03**	**137**	LR	LR	10 43 07.0	
	comp=Z,160nm,18.0s,baz=212,slow=34						
BOSA	**Boshof**	**84.74**	**210**	LR	LR	10 45 44.1	
	comp=Z,94nm,18.2s,baz=175,slow=35						
H08S2	**Diego Garcia H**	**87.18**	**259**	T	T	11 45 54.3	
	baz=152,slow=76,SNR=63						
H08S1	**Diego Carcia H**	**87.19**	**259**	T	T	11 45 58.9	
	baz=152,slow=76,SNR=58						
H08S3	**Diego Garcia H**	**87.20**	**259**	T	T	11 46 05.2	
	baz=152,slow=76,SNR=153						
LPAZ	**La Paz**	**88.60**	**124**	P	**P**	**10 09 30.5**	**+0.9**
	1.5nm,0.9s,baz=177,slow=5.7,SNR=5.6						
LPAZ				LR	LR	10 39 51.6	
	comp=Z,53nm,20.0s,baz=202,slow=29						
PALK	**Pallekele**	**96.65**	**273**	LR	LR	10 44 41.9	
	comp=Z,41nm,21.8s,baz=257,slow=30						
CMAR	**Chiang Mai Arr**	**98.51**	**294**	LR	LR	10 52 11.8	
	comp=Z,36nm,19.8s,baz=190,slow=34						
JHJ	**Hachijo jima 2**	**99.04**	**334**	LR	LR	10 48 53.3	
	comp=Z,99nm,18.8s,baz=250,slow=32						
H02S1	**DAWSON INLET T**	**123.97**	**37**	T	T	12 32 05.5	
	SNR=5.9						
MKAR	**Makanchi Array**	**129.83**	**297**	PKP	**PKPdf**	**10 15 42.3**	**-2.0**
	0.5nm,0.9s,baz=132,slow=2.1,SNR=2.1						
ILAR	**Eielson Array**	**131.19**	**22**	PKP	**PKiKP**	**10 15 47.2**	**+0.1**
	1.7nm,1.0s,baz=213,slow=2.8,SNR=7.8						
KURBB	**Kuuv Arra**	**134.39**	**297**	PKP	**PKiKP**	**10 15 53.7**	**-0.3**
	0.4nm,0.3s,baz=174,slow=3.2,SNR=4.9						
NRIK	**Noril'sk**	**144.49**	**323**	PKP	**PKPdf**	**10 16 09.8**	**-0.6**
	2.7nm,0.7s,baz=144,slow=3.7,SNR=4.7						
KBZ	**Khabaz**	**144.87**	**261**	PKP	**PKPdf**	**10 16 11.6**	**-0.3**
	10nm,0.9s,baz=147,slow=2.0,SNR=14						
BRTR	**Keskin Array B**	**145.70**	**247**	PKPbc	**PKPbc**	**10 16 13.8**	**-0.3**
	4.0nm,0.9s,baz=151,slow=3.8,SNR=12						
ARU	**Arti**	**146.87**	**290**	PKPbc	**PKPbc**	**10 16 16.7**	**-0.1**
	0.8nm,0.3s,baz=100,slow=3.6,SNR=2.1						

IDC ***23*** *09:56:40.9±2.7, 6.94°S×154.98°E, h62km±23km, mb4.4/21, mb1 4.5/24, mb1mx4.3/44, mbtmp4.6/24, ML3.7/3, MS3.8/2, Ms1 3.8/2, ms1mx3.0/33, Error ellipse: s-maj=15.4km s-min=13.4km az=73.0*

NEIC ***23*** *09:56:45.2±2.0, 7.05°S±0.08°×154.83°E±0.07°, h99km±2km, mb4.7/61, Error ellipse: s-maj=12.6km s-min=9.1km az=213.0*

DJA ***23*** *09:56:48.6±0.5, 7.5°S±.5°×.15°E±.°, h179km±9km, M4.6/9, mb4.5/9, mB4.2/2, MLv4.7/2, Mw(mB)3.3/2*

ISC 23 09:56:45.5±0.4, 7.14°S±0.06°×154.81°E±0.06, h100km, n126, σ1=9.59/116, mb4.7/60, 3C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.94**	**318**	Pn	**Pn**	**09 57 42.4**	**-1.6**
HNR	**Honiara**	**5.57**	**114**	P	**Pn**	**09 58 01.3**	**-4.6**
	9.2nm,0.3s,baz=274,slow=6.0,SNR=4.0						
HNR				S	**Sn**	**09 59 15.1**	**+6.4**
	14nm,0.3s,baz=264,slow=23,SNR=1.2						
HNR				LR	LR	10 00 06.1	
	comp=Z,1μm,19.2s,baz=260,slow=37						
HNR	**Honiara**	**5.57**	**114**		**Pn**	**09 58 05.7**	**-0.3**
PMG	**Port Moresby**	**7.90**	**253**	P	**Pn**	**09 58 36.9**	**-0.8**
	9.2nm,0.3s,baz=69,slow=8.5,SNR=13						
PMG				S	**Sn**	**10 00 03.5**	**-2.0**
	0.5nm,0.3s,baz=274,slow=12,SNR=1.2						
PMG	**Port Moresby**	**7.90**	**253**	Pn	**Pn**	**09 58 36.8**	**-0.9**
SANVU	**Saraoutou**	**14.68**	**125**		**PcP**	**10 05 13.7**	**-0.6**
CTAO	**Charters Tower**	**15.31**	**212**	Pn	**Pn**	**10 00 16.2**	**-0.1**
EIDS	**Eidsvold**	**18.47**	**191**		**P**	**10 00 52.6**	**-1.0**
EIDS					**S**	**10 04 17.0**	**-2.3**
DZM	**Mont Dzumac**	**18.61**	**144**	P	**P**	**10 00 54.2**	**-1.1**
	0.8nm,0.3s,baz=312,slow=14,SNR=2.2						
DZM	**Mont Dzumac**	**18.61**	**144**		**P**	**10 00 53.8**	**-1.5**
FAKI	**Fak Fak**	**22.86**	**279**	P	**P**	**10 01 42.6**	**+1.9**
FAKI				IAmb	IAmb	10 01 47.1	
	comp=Z,29nm,1.1s						
ARMA	**Armidale**	**23.35**	**187**	P	**P**	**10 01 45.9**	**+0.7**
WR0	**Warramunga Arr**	**23.43**	**235**	P	**P**	**10 01 46.9**	**+0.9**
WR0				IAmb	IAmb	10 01 48.1	
	comp=Z,30nm,0.8s						
WB0	**Warramunga Arr**	**23.45**	**236**	P	**P**	**10 01 46.8**	**+0.6**
WB0				IAmb	IAmb	10 01 50.2	
	comp=Z,21nm,0.7s						
WRAB	**Tennant Creek**	**23.57**	**235**	P	**P**	**10 01 48.6**	**+1.3**
WRAB				IAmb	IAmb	10 01 49.4	
	comp=Z,24nm,0.8s						
WB2	**Warramunga Arr**	**23.57**	**235**	P	**P**	**10 01 48.7**	**+1.4**
WB2				IAmb	IAmb	10 01 51.8	
	comp=Z,21nm,0.6s						
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**10 01 48.3**	**+0.9**
	comp=Z,25nm,0.8s,baz=58,slow=9.8,SNR=37						
WRA				PcP	**PcP**	**10 05 31.4**	**+1.4**
	comp=Z,6.3nm,0.6s,baz=60,slow=2.4,SNR=25						
WRA	**Warramunga Arr**	**23.58**	**235**		**PcP**	**10 05 31.8**	**+1.9**
MTN	**Manton Dam**	**23.99**	**254**	P	**P**	**10 01 50.8**	**-0.3**
MTN				IAmb	IAmb	10 02 01.6	
	comp=Z,18nm,0.8s						
SIJI	**Sorong**	**24.29**	**284**	P	**P**	**10 01 55.0**	**+1.2**
	comp=Z,17nm,0.7s,baz=146,slow=23,SNR=2.7						
AS31	**Alice Springs**	**25.94**	**228**	P	**P**	**10 02 09.5**	**+0.8**
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**10 02 09.2**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=61,slow=8.5,SNR=25						
ASAR				PcP	**PcP**	**10 05 36.0**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=72,slow=2.5,SNR=7.8						
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**10 02 08.8**	**+0.1**
KNRA	**Kununurra**	**26.88**	**249**	P	**P**	**10 02 17.2**	**0.0**
KNRA				IAmb	IAmb	10 02 33.8	
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**27.52**	**205**	P	**P**	**10 02 22.6**	**-0.2**
	comp=Z,5.8nm,0.7s,baz=32,slow=7.3,SNR=6.3						
STKA	**Stephens Creek**	**27.52**	**205**	P	**P**	**10 02 23.7**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**28.04**	**25**	T	T	10 30 52.4	
	baz=203,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.05**	**25**	T	T	10 30 42.9	
	baz=203,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**28.06**	**25**	T	T	10 30 49.1	
	baz=203,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**29.22**	**24**	T	T	10 32 24.3	
	baz=206						
H11N3	**WAKE ISLAND Hy**	**29.23**	**24**	T	T	10 32 17.9	
	baz=206						
H11N2	**WAKE ISLAND Hy**	**29.24**	**24**	T	T	10 32 35.0	
	baz=206						
FITZ	**Fitzroy Crossi**	**30.43**	**246**	P	**P**	**10 02 49.3**	**+0.6**
	comp=Z,4.7nm,0.5s,baz=71,slow=8.4,SNR=14						
FITZ				PcP	**PcP**	**10 05 47.4**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=22,slow=3.9,SNR=4.0						
FITZ	**Fitzroy Crossi**	**30.43**	**246**	P	**P**	**10 02 49.7**	**+1.0**
SGSI	**Sangihe**	**31.14**	**289**	P	**P**	**10 02 51.5**	**-3.6**
	comp=Z,125nm,0.6s						
EDFI	**Ende, Flores**	**32.84**	**265**	P	**P**	**10 03 09.4**	**-0.7**
KAPI	**Kappang**	**34.92**	**271**	P	**P**	**10 03 28.6**	**+0.6**
	comp=Z,11nm,0.7s,baz=122,slow=9.1,SNR=4.8						
KAPI	**Kappang**	**34.92**	**271**	IAmb	IAmb	10 03 30.4	
	comp=Z,17nm,0.9s						
RPZ	**Rata Peaks**	**39.11**	**161**	P	**P**	**10 04 03.5**	**+0.4**
	comp=Z,14nm,0.9s,baz=333,slow=6.8,SNR=2.1						
KSRS	**Korea Array**	**50.98**	**332**	P	**P**	**10 05 35.5**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=142,slow=7.0,SNR=3.2						
NJ2	**Nanjing**	**51.91**	**321**	*eP*	**P**	**10 05 46.3**	**+2.2**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s						
GYA	**Guiyang**	**57.40**	**308**	*eP*	**P**	**10 06 25.3**	**+1.2**
GYA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	**59.69**	**316**	P	**P**	**10 06 39.5**	**-0.2**
XAN				pP	pP	10 07 03.0	+0.9
XAN					pmax	pmax		
	comp=Z,11nm,0.6s							
XAN	**Xi'an**	**59.69**	**316**	P	**P**	**10 06 40.4**	**+0.6**
KMI	**Kunming**	**59.95**	**304**	⇑P	**P**	**10 06 43.6**	**+1.7**
KMI					pmax	pmax		
	comp=Z,26nm,0.8s							
PETK	**Petropavlovsk-**	**60.07**	**2**	P	**P**	**10 06 40.1**	**-1.8**
	comp=Z,3.0nm,0.6s,baz=142,slow=7.0,SNR=4.3							
CM31	**Chiang Mai Arr**	**60.68**	**296**	P	**P**	**10 06 44.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**60.68**	**296**	P	**P**	**10 06 47.1**	**+0.4**
	comp=Z,20nm,0.9s,baz=121,slow=5.2,SNR=50							
CMAR	**Chiang Mai Arr**	**60.68**	**296**	P	**P**	**10 06 47.3**	**+0.5**
CHTO	**Chiang Mai**	**60.80**	**296**	P	**P**	**10 06 48.9**	**+1.3**
CHTO				IAmb	IAmb	10 06 51.2		
	comp=Z,7.1nm,0.8s							
CD2	**Chengdu**	**61.77**	**311**	P	**P**	**10 06 53.6**	**-0.4**
CD2					pmax	pmax		
	comp=Z,50nm,0.6s							
HHC	**Hu-ho-hao-te**	**62.10**	**324**	*eP*	**P**	**10 06 56.8**	**+0.7**
HHC					pmax	pmax

	comp=Z,9.4nm,0.7s						
HDA	**Harding Lake**	**83.36**	**22**	IAmb	IAmb	10 09 03.1	
	comp=Z,8.1nm,1.0s						
MKAR	**Makanchi Array**	**83.39**	**319**	P	**P**	**10 09 01.5**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=104,slow=5.0,SNR=16						
MKAR	**Makanchi Array**	**83.39**	**319**	P	**P**	**10 09 01.6**	**-0.2**
MCARA	**McCarthy VSAT**	**83.41**	**25**	P	**P**	**10 09 01.9**	**+0.4**
BALM	**Baldy**	**83.54**	**26**	P	**P**	**10 09 01.5**	**-0.8**
BALM				IAmb	IAmb	10 09 19.4	
	comp=Z,16nm,1.2s						
IL31		**83.58**	**22**	IAmb	IAmb	10 09 01.0	
	comp=Z,5.5nm,0.8s						
ILAR	**Eielson Array**	**83.58**	**22**	P	**P**	**10 08 59.9**	**-2.4**
	comp=Z,2.3nm,0.4s,baz=242,slow=5.1,SNR=43						
MAKZ	**Makanchi**	**83.60**	**319**	P	**P**	**10 09 03.0**	**+0.2**
TABL	**Table Mountain**	**83.80**	**27**	P	**P**	**10 09 02.5**	**-1.2**
COLD	**Coldfoot**	**83.81**	**19**	P	**P**	**10 09 03.0**	**-0.4**
RIDG	**Independent Ri**	**83.81**	**23**	IAmb	IAmb	10 09 04.2	
	comp=Z,21nm,1.4s						
MENT	**Mentasta**	**83.86**	**24**	IAmb	IAmb	10 09 12.7	
	comp=Z,6.3nm,0.7s						
PCA	**Pinnacle**	**84.05**	**27**	P	**P**	**10 09 05.2**	**+0.3**
DOT	**Dot Lake**	**84.07**	**23**	P	**P**	**10 09 04.2**	**-0.7**
DOT				IAmb	IAmb	10 09 04.8	
	comp=Z,11nm,0.7s						
MAW	**Mawson**	**84.19**	**203**	P	**P**	**10 09 05.8**	**+0.4**
	comp=Z,8.1nm,0.6s,baz=100,slow=6.5,SNR=32						
MAW	**Mawson**	**84.19**	**203**	P	**P**	**10 09 07.1**	**+1.7**
ZAA0	**Zalesovo Array**	**84.20**	**326**	P	**P**	**10 09 04.6**	**-1.1**
ZALV	**Zalesovo Beam**	**84.20**	**326**	P	**P**	**10 09 04.2**	**-1.4**
	comp=Z,8.8nm,0.6s,baz=121,slow=5.6,SNR=11						
ZALV	**Zalesovo Beam**	**84.20**	**326**	P	**P**	**10 09 04.1**	**-1.6**
BCAR	**Beaver Creek A**	**84.70**	**24**	P	**P**	**10 09 07.4**	**-0.7**
TOLK	**Toolik Lake Re**	**84.82**	**18**	P	**P**	**10 09 08.1**	**-0.5**
TOLK				IAmb	IAmb	10 09 08.5	
	comp=Z,6.9nm,0.7s						
HYT	**Haines Junctio**	**85.59**	**27**	IAmb	IAmb	10 09 13.8	
	comp=Z,11nm,0.8s						
EGAK	**Eagle**	**85.72**	**23**	P	**P**	**10 09 12.8**	**-0.3**
EGAK				IAmb	IAmb	10 09 13.6	
	comp=Z,8.3nm,0.9s						
BMAR	**Burnt Mountain**	**85.75**	**20**	P	**P**	**10 09 13.1**	**-0.1**
DAWY	**Dawson**	**86.11**	**24**	IAmb	IAmb	10 09 16.7	
	comp=Z,5.2nm,0.8s						
KURK	**Kurchatov**	**86.83**	**322**	P	**P**	**10 09 17.7**	**-1.1**
KURBB	**Kurchatov Arra**	**86.86**	**322**	P	**P**	**10 09 17.7**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=94,slow=4.8,SNR=5.2						
NVAR	**Mina Array Bea**	**91.96**	**52**	P	**P**	**10 09 41.8**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=253,slow=6.7,SNR=9.4						
SYO	**Syowa Base**	**92.13**	**199**⇑	*e*P	**P**	**10 09 43.0**	**-0.3**
SYO	**Syowa Base**	**92.13**	**199**⇓	*e*sP	sP	10 10 19.2	+0.8
SYO	**Syowa Base**	**92.13**	**199**⇑	*e*PP	PP	10 13 24.4	+0.3
YKA	**Yellowknife Ar**	**95.55**	**28**	P	**P**	**10 10 02.6**	**-1.1**
	comp=Z,4.8nm,0.8s,baz=284,slow=5.0,SNR=4.7						
PDAR	**Pinedale Array**	**98.93**	**48**	P	**P**	**10 10 13.1**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=242,slow=1.9,SNR=4.2						
PDAR				LR	LR	10 50 40.0	
	comp=Z,30nm,18.9s,baz=292,slow=33						
BOSA	**Boshof**	**119.78**	**231**	PKP	**PKPdf**	**10 15 24.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=102,slow=4.8,SNR=5.0						
GERES	**GERESS Array B**	**127.08**	**329**	PKP	**PKPdf**	**10 15 37.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=21,slow=1.4,SNR=4.0						
DAVOX	**Davos/Dischmat**	**130.38**	**329**	PKP	**PKPdf**	**10 15 44.1**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=9.7,slow=12,SNR=2.4						
LPAZ	**La Paz**	**131.55**	**119**	PKP	**PKPdf**	**10 15 48.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=222,slow=2.5,SNR=6.6						
LPAZ	**La Paz**	**131.55**	**119**		**PKiKP**	**10 15 49.0**	**-0.3**
BDFB	**Brasilia**	**148.00**	**135**	PKP	**PKPdf**	**10 16 16.6**	**-0.8**
BDFB				PKPbc	**PKPbc**	**10 16 20.4**	**-0.1**
	comp=Z,6.1nm,0.6s,baz=208,slow=4.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**152.89**	**285**	PKP	**PKPdf**	**10 16 24.9**	**+0.1**
	comp=Z,87nm,0.8s,baz=67,slow=1.2,SNR=4.3						
TORD				PKPbc	**PKiKP**	**10 16 32.5**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=81,slow=2.1,SNR=20						

KRNET ***23*** *10:01:43.0±0.1,42.99N×79.02E,h13km,mb1.9*
NNC ***23*** *10:01:50.8±0.5,43.20N×78.58E,h0km,mb2.8,mpv2.8, Error ellipse: s-maj=4.5km s-min=2.7km az=174.0*
SOME ***23*** *10:01:51.5,43.23N×78.57E,h10km*
ISC 23 10:01:50.9±0.8,43.18N±0.03×78.58E±0.02,h15km±6km, n30,σ9s4/57,7C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.18**	**226**	*e*P	**Pg**	**10 01 55.3**	**-0.1**
	46nm,0.1s						
SATY				*e*S	**Sg**	**10 01 58.2**	**-0.1**
	774nm,0.1s						
SATY	**Saty**	**0.18**	**226**	P	**Pg**	**10 01 55.3**	**-0.1**
	46nm,0.1s						
SATY				S	**Sg**	**10 01 58.2**	**-0.1**
	774nm,0.1s						
UZB	**Uzynbulak**	**0.32**	**96**⇓	*e*P	**Pg**	**10 01 57.7**	**0.0**
	8.8nm,0.1s						
UZB				*e*S	**Sg**	**10 02 02.1**	**-0.2**
	51nm,0.1s						
UZB	**Uzynbulak**	**0.32**	**96**	P	**Pg**	**10 01 57.7**	**0.0**
	8.8nm,0.1s						
UZB				S	**Sg**	**10 02 02.1**	**-0.2**
	51nm,0.1s						
KURS	**Kuram**	**0.43**	**316**	*e*P	**Pg**	**10 01 59.2**	**-0.4**
	1.6nm,0.1s						
KURS				*e*S	**Sg**	**10 02 05.0**	**-0.4**
	8.3nm,0.2s						
KURS	**Kuram**	**0.43**	**316**	P	**Pg**	**10 01 59.2**	**-0.4**
	1.6nm,0.1s						
KURS				S	**Sg**	**10 02 05.0**	**-0.4**
	8.3nm,0.2s						
PDGK	**Podgornoye**	**0.68**	**77**	P	**Pg**	**10 02 03.7**	**-0.6**
	1.6nm,0.2s						
PDGK				S	**Sg**	**10 02 12.6**	**-0.6**
	4.3nm,0.2s						
PDGK	**Podgornoye**	**0.68**	**77**	⇑P	**Pg**	**10 02 03.6**	**-0.7**
	1.2nm,0.3s						
PDGK				⇓S	**Sg**	**10 02 12.7**	**-0.6**
	1.7nm,0.2s						
PRZ	**Przheval'sk**	**0.71**	**191**⇑	*i*P	Pg	10 01 56.0	-8.9
	baz=22						
PRZ				⇑*i*S	**Pb**	**10 02 05.3**	**+0.1**
	baz=22						
ANVS	**Anan'yevo**	**0.78**	**240**⇓	*i*P	**Pg**	**10 02 02.3**	**-3.9**
	baz=59						
ANVS				⇓*i*S	**Sg**	**10 02 16.4**	**-0.1**
	baz=59						
MNBS	**Baschi**	**0.91**	**352**	*e*P	**Pg**	**10 02 08.1**	**-0.4**
	7.1nm,0.3s						
MNBS				*e*S	**Sb**	**10 02 20.1**	**-0.3**
	6.8nm,0.2s						
MNBS	**Baschi**	**0.91**	**352**	P	**Pg**	**10 02 08.1**	**-0.4**
	7.1nm,0.3s						
MNBS				S	**Sb**	**10 02 20.1**	**-0.3**
	6.8nm,0.2s						
KOTS	**Kotyrbulak**	**1.08**	**273**	*e*P	**Pg**	**10 02 11.4**	**-0.3**
	3.9nm,0.1s						
KOTS				*e*S	**Sg**	**10 02 25.7**	**-0.1**
	17nm,0.2s						
KOTS	**Kotyrbulak**	**1.08**	**273**	P	**Pg**	**10 02 11.4**	**-0.3**
	3.9nm,0.1s						
KOTS				S	**Sg**	**10 02 25.7**	**-0.1**
	17nm,0.2s						
ARXS	**Arharly**	**1.17**	**332**	*e*P	**Pb**	**10 02 12.4**	**-0.5**
	7.6nm,0.2s						
ARXS				*e*S	**Sg**	**10 02 27.4**	**-1.3**
	6.0nm,0.2s						
ARXS	**Arharly**	**1.17**	**332**	P	**Pb**	**10 02 12.4**	**-0.5**
	7.6nm,0.2s						
ARXS				S	**Sg**	**10 02 27.4**	**-1.3**
	6.0nm,0.2s						
TNSS	**Tian-Shan**	**1.21**	**264**	*e*P	**Pb**	**10 02 13.4**	**-0.3**
	0.7nm,0.1s						
TNSS				*e*S	**Sg**	**10 02 29.3**	**-0.7**
	3.1nm,0.2s						
TNSS	**Tian-Shan**	**1.21**	**264**	P	**Pb**	**10 02 13.4**	**-0.3**
	0.7nm,0.1s						
TNSS				S	**Sg**	**10 02 29.3**	**-0.7**
	3.1nm,0.2s						
KTMS	**Ketmen**	**1.32**	**78**	*e*P	**Pn**	**10 02 15.3**	**+0.3**
	1.4nm,0.0s						
KTMS				*e*S	**Sb**	**10 02 32.3**	**0.0**
	3.2nm,0.0s						
DJR	**Jarkent**	**1.44**	**37**	*e*P	**Pb**	**10 02 17.9**	**+0.3**
	2.2nm,0.2s						
DJR				*e*S	**Sg**	**10 02 36.8**	**-0.8**
	10.0nm,0.2s						
DJR	**Jarkent**	**1.44**	**37**	P	**Pb**	**10 02 17.9**	**+0.3**
	2.2nm,0.2s						
DJR				S	**Sg**	**10 02 36.8**	**-0.8**
	10.0nm,0.2s						
IZV	**Izvestkoviy**	**1.45**	**265**	*e*P	**Pn**	**10 02 17.9**	**+1.1**
	1.2nm,0.1s						
IZV				*e*S	**Sn**	**10 02 36.9**	**+1.2**
	9.7nm,0.4s						
IZV	**Izvestkoviy**	**1.45**	**265**	P	**Pn**	**10 02 18.0**	**+1.1**
	1.2nm,0.1s						
IZV				S	**Sn**	**10 02 36.9**	**+1.2**
	9.7nm,0.4s						
KDJ	**Kajisay**	**1.48**	**225**⇑	*i*P	Pn	10 02 12.7	-4.5
	baz=38						
KDJ				⇑*i*S	**Sn**	**10 02 34.6**	**-1.7**
	baz=38						
KUU	**Kurty**	**1.78**	**294**	*e*P	**Pb**	**10 02 23.5**	**+0.2**
	1.4nm,0.2s						
KUU				*e*S	**Sb**	**10 02 46.2**	**+0.8**
	9.2nm,0.2s						
KUU	**Kurty**	**1.78**	**294**	P	**Pb**	**10 02 23.3**	**0.0**
	1.3nm,0.1s						
KUU				S	**Sb**	**10 02 46.1**	**+0.7**
	9.2nm,0.2s						
KST	**Kastek**	**1.92**	**267**	P	**Pb**	**10 02 26.2**	**+0.4**
	2.2nm,0.9s						
KST				S	**Sb**	**10 02 51.1**	**+1.4**
	3.1nm,0.3s						
BOOM	**Boomskoye usch**	**2.06**	**251**⇑	*i*P	**Pn**	**10 02 23.8**	**-1.5**
	baz=59						
BOOM				⇑*i*S	**Sn**	**10 02 53.1**	**+2.3**
	baz=59						
KRBS	**Karabastau**	**2.18**	**285**	*e*P	**Pb**	**10 02 30.7**	**+0.6**
	1.3nm,0.3s						
KRBS				*e*S	**Sb**	**10 02 58.7**	**+1.7**
	5.2nm,0.1s						
KRBS	**Karabastau**	**2.18**	**285**	Pg	**Pb**	**10 02 30.4**	**+0.2**
	2.0nm,0.6s						
KRBS				Lg	Lg	10 02 58.1	
	5.2nm,0.1s						

WEL 23 10:08:34.5,39°S±3°×17°5E±°,h225km±3km,M2.7/37, MLv2.7/37,Error ellipse: s-maj=0.0km s-min=0.0km az=6.4,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.10**	**267**	P	Pn	10 09 03.2	-0.5
VRZ				S	S	10 09 24.5	-2.0
PKVZ	**Pokaka**	**0.40**	**115**	P	Pn	10 09 04.2	-0.1
PKVZ				S	S	10 09 25.7	-1.9
TWVZ	**Taurewa**	**0.43**	**84**	P	Pn	10 09 04.2	-0.2
MHEZ	**Mangahewa**	**0.44**	**276**	P	Pn	10 09 04.6	+0.2
MTVZ	**Mangateitei**	**0.53**	**120**	P	Pn	10 09 04.7	0.0
MTVZ				S	S	10 09 26.9	-1.4
FWVZ	**Far West T-bar**	**0.54**	**105**	P	Pn	10 09 04.9	-0.1
TRVZ	**Turoa**	**0.55**	**109**	P	Pn	10 09 04.9	0.0
TRVZ				S	S	10 09 26.9	-1.8
WTVZ	**West Tongariro**	**0.55**	**90**	P	Pn	10 09 04.8	-0.1
WTVZ				S	S	10 09 26.7	-1.8
NGZ	**Ngauruhoe**	**0.56**	**96**	P	Pn	10 09 04.9	0.0
NGZ				S	S	10 09 27.3	-1.3
WHVZ	**Whangaehu Hut**	**0.57**	**107**	P	Pn	10 09 05.1	+0.1
KRVZ	**Karewarewa**	**0.59**	**88**	P	Pn	10 09 05.0	0.0
WNVZ	**Wahianoa**	**0.59**	**111**	P	Pn	10 09 05.1	+0.1
WNVZ				S	S	10 09 26.2	-2.7
PREZ	**Palmer Road**	**0.60**	**248**	P	Pn	10 09 05.0	+0.1
HIZ	**Hauiti**	**0.61**	**358**	P	Pn	10 09 04.5	-0.5
HIZ				S	S	10 09 27.1	-1.6
TUVZ	**Tukino**	**0.62**	**104**	P	Pn	10 09 05.3	+0.1
NEZ	**North Egmont**	**0.63**	**256**	P	Pn	10 09 05.1	0.0
WAZ	**Wanganui**	**0.64**	**173**	P	Pn	10 09 05.4	+0.3
WAZ				S	S	10 09 28.0	-1.0
PKE	**Pukeiti**	**0.70**	**264**	P	Pn	10 09 05.3	-0.1
MOVZ	**Moawhango**	**0.73**	**113**	P	Pn	10 09 05.2	-0.3
MOVZ				S	S	10 09 27.0	-2.8
RATZ	**Rangitukua**	**0.74**	**70**	P	Pn	10 09 05.4	-0.2
WATZ	**Wairara**	**0.78**	**58**	P	Pn	10 09 05.9	+0.2
TLZ	**Tolley Road**	**0.94**	**33**	P	Pn	10 09 06.3	-0.3
HATZ	**Hinemaiaia**	**0.97**	**77**	P	Pn	10 09 06.3	-0.5
HATZ				S	S	10 09 29.4	-2.5
BHHZ	**Black Hill Sta**	**0.99**	**112**	P	Pn	10 09 06.7	-0.2
BHHZ				S	S	10 09 28.9	-3.2
OHWZ	**Ohakea**	**1.14**	**163**	P	Pn	10 09 08.3	+0.6
OHWZ				S	S	10 09 33.2	-0.5
MRHZ	**Matea Rd**	**1.23**	**77**	P	Pn	10 09 07.9	-0.6
MRHZ				S	S	10 09 31.4	-3.5
BKZ	**Black Stump Fm**	**1.25**	**93**	P	Pn	10 09 08.4	-0.2
BKZ				S	S	10 09 32.4	-2.8
TSZ	**Takapari Road**	**1.25**	**139**	P	Pn	10 09 08.8	+0.3
TSZ				S	S	10 09 33.7	-1.5
KRHZ	**Kereru**	**1.27**	**115**	P	Pn	10 09 08.9	+0.3
KRHZ				S	S	10 09 33.6	-1.7
PNHZ	**Pukenui**	**1.29**	**128**	P	Pn	10 09 09.1	+0.3
PNHZ				S	S	10 09 34.5	-1.2
TOZ	**Tahuroa Road**	**1.47**	**20**	P	Pn	10 09 09.9	-0.3
WPHZ	**Waipukurau**	**1.53**	**129**	P	Pn	10 09 11.1	+0.4
WPHZ				S	S	10 09 37.5	-1.4
DVHZ	**Dannevirke**	**1.54**	**140**	P	Pn	10 09 10.6	-0.2
DVHZ				S	S	10 09 37.5	-1.6
MUGZ	**Murupara**	**1.61**	**67**	P	Pn	10 09 10.6	-0.8
MRZ	**Mangatainoka R**	**1.63**	**161**	P	Pn	10 09 11.1	-0.4
MRZ				S	S	10 09 38.2	-2.2
ARHZ	**Aropaoanui**	**1.65**	**96**	P	Pn	10 09 12.4	+0.7
PRWZ	**Pori Road**	**1.66**	**150**	P	Pn	10 09 11.9	+0.1
KAHZ	**Kahuranaki**	**1.68**	**114**	P	Pn	10 09 12.8	+0.7
OGWZ	**Otaki Gorge**	**1.71**	**173**	P	Pn	10 09 12.0	-0.2
RTZ	**Ruatahuna**	**1.71**	**74**	P	Pn	10 09 12.0	-0.4
RAHZ	**Arahi**	**1.73**	**84**	P	Pn	10 09 12.8	+0.3
KIW	**Kapiti Island**	**1.74**	**179**	P	Pn	10 09 12.0	-0.4
PRHZ	**Porangahau**	**1.77**	**131**	P	Pn	10 09 13.1	+0.4
PXZ	**Pawanui**	**1.78**	**121**	P	Pn	10 09 13.1	+0.3
DUWZ	**D'Urville Isla**	**1.83**	**203**	P	Pn	10 09 12.8	-0.6
HOWZ	**Holdsworth Sta**	**1.84**	**165**	P	Pn	10 09 12.7	-0.7
URZ	**Urewera**	**1.94**	**64**	P	Pn	10 09 13.7	-0.7
SNGZ	**Shannon Statio**	**1.94**	**81**	S	S	10 09 43.6	-1.9
CAW	**Cannon Point**	**1.99**	**176**	P	Pn	10 09 14.2	-0.5
AWAZ	**Awhitu Peninsu**	**2.06**	**355**	P	Pn	10 09 15.5	-0.1
MTW	**Mount Morrison**	**2.09**	**167**	P	Pn	10 09 15.1	-0.6
TMWZ	**Te Maipa**	**2.13**	**159**	P	Pn	10 09 15.6	-0.5
TCW	**Tory Channel**	**2.14**	**192**	P	Pn	10 09 15.8	-0.4
ETAZ	**East Tamaki Re**	**2.16**	**1**	P	Pn	10 09 16.5	-0.1
WEL	**Wellington**	**2.16**	**182**	P	Pn	10 09 15.7	-0.8
KNZ	**Kokohu**	**2.17**	**88**	P	Pn	10 09 16.7	+0.1
WTAZ	**Waiatarua**	**2.20**	**354**	P	Pn	10 09 17.0	0.0
MWZ	**Matawai**	**2.21**	**70**	P	Pn	10 09 16.7	-0.4
RIGZ	**Rimuhau**	**2.28**	**80**	P	Pn	10 09 18.0	+0.2
MSWZ	**Moikau Station**	**2.31**	**173**	P	Pn	10 09 17.1	-0.9
WIAZ	**Waiheke Island**	**2.33**	**5**	P	Pn	10 09 18.2	-0.1
PRGZ	**Paritu Road**	**2.34**	**86**	P	Pn	10 09 18.6	+0.2
MBAZ	**Motutapu North**	**2.35**	**0**	P	Pn	10 09 17.7	-0.8
MHGZ	**Mahia Peninsul**	**2.35**	**92**	P	Pn	10 09 19.0	+0.6
RVAZ	**Riverhead Bore**	**2.36**	**354**	P	Pn	10 09 18.3	-0.3
TRWZ	**Traveller**	**2.36**	**165**	P	Pn	10 09 17.9	-0.6
NNZ	**Nelson**	**2.39**	**208**	P	Pn	10 09 17.8	-1.0
NNZ				S	S	10 09 50.5	-2.9
TKGZ	**Te Karaka**	**2.42**	**75**	P	Pn	10 09 19.2	+0.1
TUWZ	**Tuamarina**	**2.42**	**197**	P	Pn	10 09 18.3	-0.7
KUZ	**Kuaotunu**	**2.46**	**16**	P	Pn	10 09 19.3	-0.3
PLWZ	**Palliser**	**2.46**	**173**	P	Pn	10 09 18.6	-1.0
RUGZ	**Raukumara Rang**	**2.48**	**63**	P	Pn	10 09 18.3	-1.6
QRZ	**Quartz Range**	**2.48**	**226**	P	Pn	10 09 18.0	-1.8
HAZ	**Te Kaha**	**2.65**	**60**	P	Pn	10 09 20.1	-1.5
BSWZ	**Blackbirch Sta**	**2.70**	**196**	P	Pn	10 09 21.6	-0.5
PUZ	**Puketiti**	**2.84**	**69**	P	Pn	10 09 23.7	-0.1
THZ	**Tophouse**	**3.04**	**209**	P	Pn	10 09 24.5	-1.4
WMGZ	**Waiomatatini S**	**3.06**	**66**	P	Pn	10 09 26.0	-0.2
WCZ	**Waipu Caves**	**3.20**	**352**	P	Pn	10 09 27.7	-0.2
KHZ	**Kahutara**	**3.45**	**197**	P	Pn	10 09 29.3	-1.2
GVZ	**Greta Valley S**	**4.09**	**199**	P	Pn	10 09 36.7	-1.6
LTZ	**Lake Taylor**	**4.16**	**208**	P	Pn	10 09 37.3	-1.8
AMCZ	**Amberley**	**4.39**	**202**	P	Pn	10 09 40.2	-1.6
INZ	**Inchbonnie**	**4.44**	**215**	P	Pn	10 09 40.0	-2.6
OKCZ	**Okains Bay**	**4.80**	**196**	P	Pn	10 09 44.8	-2.2
MQZ	**McQueen's Vall**	**4.88**	**199**	P	Pn	10 09 45.0	-2.9
AKCZ	**Akaroa Harbour**	**4.97**	**197**	P	Pn	10 09 46.9	-2.3
WVZ	**Waitaha Valley**	**5.04**	**217**	P	Pn	10 09 47.7	-2.2
RACZ	**Rakaia**	**5.04**	**203**	P	Pn	10 09 47.6	-2.3
MHCZ	**Mount Hutt**	**5.07**	**208**	P	Pn	10 09 48.0	-2.3
WACZ	**Wakanui South**	**5.33**	**204**	P	Pn	10 09 51.3	-2.3
RPZ	**Rata Peaks**	**5.42**	**211**	P	Pn	10 09 52.5	-2.2
GCSZ	**Gaunt Creek Bo**	**5.42**	**218**	P	Pn	10 09 51.7	-3.0
ARCZ	**Arundel**	**5.57**	**209**	P	Pn	10 09 54.0	-2.6
FOZ	**Fox Glacier**	**5.83**	**219**	P	Pn	10 09 56.7	-3.1
LBZ	**Lake Benmore**	**6.33**	**212**	P	Pn	10 10 03.4	-2.8
ODZ	**Otahua Downs**	**6.71**	**207**	P	Pn	10 10 09.1	-1.9
JCZ	**Jackson Bay**	**6.74**	**221**	P	Pn	10 10 08.2	-3.3

IDC ***23*** *10:14:07.9±1.2,5.58S×152.92E,h0km,mb4.0/13, mb1 4.1/14,mb1mx4.0/34,mbtmp4.0/14,ML1.9/1,MS3.4/3, Ms1 3.4/3,ms1mx2.9/36,Error ellipse: s-maj=42.9km s-min=16.7km az=107.0*
ISC 23 10:14:08.4±0.9,5.6S±0.1×153.2E±0.2,h10km,n18, σ1s28/19,mb4.1/14,MS3.2/3,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.07**	**237**	Pn	**Pn**	**10 15 50.5**	**-1.5**
	1.4nm,0.3s,baz=169,slow=20,SNR=1.8						
PMG				Sn	**Sn**	**10 17 14.3**	**+1.8**
	1.9nm,0.3s,baz=216,slow=7.1,SNR=2.2						
GUMO	**Guam**	**20.77**	**337**	LR	LR	10 25 22.5	
	comp=Z,38nm,19.4s,baz=133,slow=33						
WRA	**Warramunga Arr**	**23.22**	**230**	P	**P**	**10 19 14.9**	**-1.1**
	1.0nm,0.8s,baz=55,slow=11,SNR=8.2						
WRA				PcP	**PcP**	**10 23 04.2**	**+0.1**
	0.1nm,0.3s,baz=95,slow=8.1,SNR=9.1						
ASAR	**Alice Springs**	**25.83**	**224**	P	**P**	**10 19 39.4**	**-0.9**
	1.8nm,0.9s,baz=56,slow=8.9,SNR=15						
ASAR				PcP	**PcP**	**10 23 11.2**	**+1.5**
	0.3nm,0.5s,baz=62,slow=1.9,SNR=5.1						
STKA	**Stephens Creek**	**28.31**	**201**	P	**P**	**10 20 03.5**	**+1.1**
	0.8nm,0.4s,baz=30,slow=10,SNR=2.8						
STKA				LR	LR	10 30 18.1	
	comp=Z,58nm,19.6s,baz=25,slow=34						
FITZ	**Fitzroy Crossi**	**29.62**	**243**	P	**P**	**10 20 13.6**	**-0.7**
	2.6nm,0.9s,baz=58,slow=8.7,SNR=8.9						
KSRS	**Korea Array**	**48.87**	**333**	P	**P**	**10 22 54.2**	**-0.2**
	1.3nm,0.7s,baz=147,slow=7.4,SNR=5.0						
USRK	**Ussuriysk Ar.**	**53.12**	**341**	P	**P**	**10 23 27.7**	**+1.4**
	0.7nm,0.4s,baz=165,slow=30,SNR=1.7						
CMAR	**Chiang Mai Arr**	**58.55**	**295**	P	**P**	**10 24 05.0**	**-0.8**
	0.4nm,0.3s,baz=123,slow=5.3,SNR=4.8						
PETK	**Petropavlovsk-**	**58.60**	**3**	P	**P**	**10 24 07.0**	**+1.5**
	7.4nm,1.1s,baz=169,slow=4.9,SNR=5.2						
SONM	**Songino Array**	**67.19**	**328**	P	**P**	**10 25 03.8**	**+0.8**
	0.6nm,0.5s,baz=181,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**81.17**	**319**	P	**P**	**10 26 25.4**	**+1.0**
	0.6nm,0.6s,baz=108,slow=5.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**82.02**	**326**	P	**P**	**10 26 27.7**	**-1.0**
	1.3nm,0.4s,baz=111,slow=5.9,SNR=7.4						
ILAR	**Eielson Array**	**82.75**	**22**	P	**P**	**10 26 29.8**	**-2.5**
	0.7nm,0.9s,baz=246,slow=4.4,SNR=3.1						
MAW	**Mawson**	**84.99**	**203**	P	**P**	**10 26 44.4**	**+0.6**
	0.6nm,0.5s,baz=218,slow=4.8,SNR=1.9						
NRIK	**Noril'sk**	**86.83**	**341**	P	**P**	**10 26 52.9**	**+0.1**
	2.3nm,0.7s,baz=145,slow=4.1,SNR=5.1						
YKA	**Yellowknife Ar**	**95.95**	**28**	LR	LR	11 06 06.1	
	comp=Z,66nm,21.1s,baz=0.0,slow=32						
TORD	**Torodi Ar. Bea**	**150.90**	**287**	PKPbc	**PKPbc**	**10 34 01.6**	**-0.9**
	1.6nm,0.6s,baz=47,slow=2.5,SNR=10						

IDC 23 10:19:36.2±8.9,2.21N×126.99E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.6/36,mbtmp3.7/4,Error ellipse: s-maj=141.2km s-min=106.5km az=143.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.23**	**184**	P	Pn	10 24 14.0	-0.9
	0.4nm,0.3s,baz=26,slow=13,SNR=1.5						
WRA	**Warramunga Arr**	**23.17**	**162**	P	P	10 24 44.

0.6nm2µm84nm,0.5s
MYLDM Lahad Datu 6.83 268 Pn **Pn 10 39 06.2 0.0**
LUWI Luwuk 6.98 202 P **Pn 10 39 08.7 +0.4**
0.9nm3µm104nm,0.7s
LUWI Luwuk 6.98 202 Pn **Pn 10 39 10.9 +2.6**
MPSI Mapaga 7.47 227 P **Pn 10 39 15.3 +0.3**
SANI Sanana 7.52 175 P **Pn 10 39 15.5 -0.2**
0.2nm1µm21nm,0.6s
FAKI Fak Fak 10.83 140 Pn **Pn 10 40 02.5 +1.5**
KAPI Kappang 11.84 208 LR LR 10 45 02.6
comp=Z,82nm,19.9s,baz=62,slow=38
SBUM Sibu 13.44 258 Pn **Pn 10 40 39.5 +2.9**
GUMO Guam 20.85 66 LR LR 10 48 50.3
comp=Z,34nm,20.8s,baz=268,slow=32
KNRA Kununurra 21.30 171 P **P 10 42 12.4 +2.0**
KNRA IAmb IAmb 10 42 25.1
comp=Z,13nm,0.6s
FITZ Fitzroy Crossi 23.44 179 P **P 10 42 33.4 +0.7**
comp=Z,1.1nm,0.6s,baz=353,slow=7.4,SNR=14
FITZ Fitzroy Crossi 23.44 179 P **P 10 42 32.8 +0.1**
PMG Port Moresby 26.30 124 P **P 10 43 00.5 +1.7**
comp=Z,20nm,0.8s,baz=198,slow=16,SNR=3.7
PMG Port Moresby 26.30 124 IAmb IAmb 10 43 03.3
comp=Z,36nm,1.2s
WB0 Warramunga Arr 26.63 161 P **P 10 43 02.6 +0.9**
WB0 IAmb IAmb 10 43 19.5
comp=Z,7.7nm,0.9s
WRAB Tennant Creek 26.77 161 P **P 10 43 02.7 -0.3**
WRAB IAmb IAmb 10 43 20.0
comp=Z,7.8nm,1.1s
WRA Warramunga Arr 26.78 161 P **P 10 43 03.0 0.0**
comp=Z,2.2nm,0.6s,baz=331,slow=11,SNR=23
WRA Warramunga Arr 26.78 161 P **P 10 43 03.8 +0.8**
WB2 Warramunga Arr 26.78 161 P **P 10 43 03.8 +0.8**
WB2 IAmb IAmb 10 43 20.0
comp=Z,6.3nm,0.9s
JCJ Chichijima 26.81 35 P **P 10 43 02.4 -1.0**
comp=Z,33nm,0.5s,baz=306,slow=16,SNR=3.8
JCJ Chichijima 26.81 35 IAmb IAmb 10 43 02.5
comp=Z,115nm,1.1s
WR0 Warramunga Arr 26.86 161 P **P 10 43 04.3 +0.5**
AS31 Alice Springs 30.16 164 P **P 10 43 35.3 +2.1**
ASAR Alice Springs 30.16 164 P **P 10 43 33.6 +0.4**
comp=Z,0.9nm,0.5s,baz=352,slow=7.5,SNR=16
ASAR ScP **ScP 10 50 10.0 -0.6**
comp=Z,0.6nm,0.7s,baz=346,slow=3.8,SNR=5.8
JWT Wachi 31.06 16 P **P 10 43 41.1 +0.1**
KSRS Korea Array 31.90 4 P **P 10 43 47.5 -0.7**
comp=Z,1.9nm,0.7s,baz=186,slow=9.8,SNR=9.8
MJAR Matsushiro Arr 33.08 19 P **P 10 43 56.8 -1.9**
comp=Z,1.7nm,0.8s,baz=167,slow=11,SNR=4.0
JMM Marumori 35.16 21 P **P 10 44 16.3 -0.4**
USRK Ussuriysk Ar. 38.99 8 P **P 10 44 48.0 -1.1**
comp=Z,2.3nm,0.7s,baz=192,slow=7.7,SNR=5.9
STKA Stephens Creek 40.26 158 P **P 10 44 59.8 0.0**
comp=Z,4.0nm,0.8s,baz=336,slow=7.3,SNR=6.9
STKA LR LR 11 05 39.4
comp=Z,48nm,18.1s,baz=175,slow=42
STKA Stephens Creek 40.26 158 P **P 10 45 01.7 +1.9**
KLR Kul'dur 43.92 6 P **P 10 45 27.3 -2.0**
comp=Z,1.5nm,0.6s,baz=248,slow=5.2,SNR=5.9
SONM Songino Array 45.20 342 LR LR 11 06 41.7
comp=Z,59nm,19.9s,baz=163,slow=39
PETK Petropavlovsk- 54.35 23 P **P 10 46 49.1 +0.1**
comp=Z,4.3nm,0.8s,baz=134,slow=4.3,SNR=2.8
MKAR Makanchi Array 55.33 325 P **P 10 46 55.5 -0.7**
comp=Z,1.1nm,0.7s,baz=132,slow=7.8,SNR=8.2
ZALV Zalesovo Beam 58.41 333 LR LR 11 12 05.0
comp=Z,25nm,19.4s,baz=126,slow=36
KURBB Kurchatov Arra 59.52 327 P **P 10 47 24.6 -1.0**
comp=Z,1.0nm,0.7s,baz=119,slow=7.4,SNR=9.5
KURK Kurchatov 59.52 328 P **P 10 47 24.6 -1.1**
KURK Kurchatov 59.52 328 IAmb IAmb 10 47 25.4
comp=Z,1.7nm,0.7s
SEY Seymchan 60.65 14 P **P 10 47 34.0 +0.9**
comp=Z,3.4nm,0.7s,baz=202,slow=6.7,SNR=10
ILAR Eielson Array 84.12 26 P **P 10 49 51.7 -1.1**
comp=Z,0.8nm,0.7s,baz=248,slow=4.9,SNR=9.2
BMAR Burnt Mountain 85.00 23 P **P 10 49 58.0 +0.8**
FINES FINESS Array B 89.64 332 P **P 10 50 18.0 -1.7**
comp=Z,0.9nm,0.6s,baz=4.2,slow=29,SNR=1.0
FINES LR LR 11 36 17.4
comp=Z,67nm,18.9s,baz=15,slow=39
TXAR Lajitas Array 121.58 51 PKP **PKiKP 10 56 16.1 -0.3**
comp=Z,0.3nm,0.7s,baz=247,slow=1.0,SNR=4.0

*VAO **23** 10:41:45.5±0.8,20.°99S×69.°02W,h133km±8km, mb4.2*
*NEIC **23** 10:41:45.1±1.8,20.°91S±0.°05×69.°0W±0.°1,h113km±8km, Error ellipse: s-maj=19.1km s-min=6.9km az=93.0*
*IDC **23** 10:41:45.7±1.3,20.°89S×68.°73W,h106km±14km, mb3.4/4, mb1 3.6/7,mb1mx3.4/26,mbtmp3.7/7, Error ellipse: s-maj=25.1km s-min=14.8km az=105.0*
*GUC **23** 10:41:46.0±0.6,20.°93S×68.°94W,h106km±2km, ML3.9*
ISC 23 10:41:45.0±0.7,**20.°90S**±0.°03×**68.°92W**±0.°06,**h110**km±6km, **n69,σ**t**139**/87,**mb3.6**/4,**11C-5D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.55**	**255**	⇓*iP*	**Pn**	**10 42 01.8**	**-0.5**
PB01				*i* S	**Sn**	**10 42 14.5**	**-0.8**
PB01				IAML		10 42 15.9	
comp=E,7µm,0.2s							
PB01	**IPOC Station P**	**0.55**	**255**		**Pn**	**10 42 01.8**	**-0.5**
PB08	**IPOC Station P**	**0.79**	**344**	⇑*iP*	**Pn**	**10 42 05.1**	**+0.5**
PB08				*i* S	**Sn**	**10 42 19.8**	**+0.5**
PB08				IAML		10 42 20.3	
comp=E,8µm,0.3s							
PB08	**IPOC Station P**	**0.79**	**344**		**Pn**	**10 42 05.0**	**+0.3**
PB09	**IPOC Station P**	**0.94**	**198**	⇑*iP*	**Pn**	**10 42 06.2**	**+0.4**
PB09				*i* S	**Sn**	**10 42 21.5**	**+0.1**
PB09				IAML		10 42 22.6	
comp=N,2µm,0.4s							
PB09	**IPOC Station P**	**0.94**	**198**		**Pn**	**10 42 06.3**	**+0.5**
PATCX	**Punta Patache**	**1.15**	**274**	⇓*iP*	**Pn**	**10 42 07.8**	**-0.2**
PATCX				*i* S	**Sn**	**10 42 24.7**	**-0.6**
PATCX				IAML		10 42 29.1	
comp=E,2µm,0.5s							
PATCX	**Punta Patache**	**1.15**	**274**		**Pn**	**10 42 07.8**	**-0.2**
PB07	**IPOC Station P**	**1.22**	**227**	⇓*iP*	**Pn**	**10 42 08.5**	**-0.2**
PB07				*i* S	**Sn**	**10 42 26.1**	**-0.6**
PB07				IAML		10 42 27.9	
comp=N,3µm,0.3s							
PB07	**IPOC Station P**	**1.22**	**227**		**Pn**	**10 42 08.6**	**-0.2**
TA01	**Diego Aracena**	**1.23**	**286**	⇓*iP*	**Pn**	**10 42 08.3**	**-0.3**
TA01				*i* S	**Sn**	**10 42 25.5**	**-1.0**
TA01				IAML		10 42 27.1	
comp=N,2µm,0.2s							
TA01	**Diego Aracena**	**1.23**	**286**		**Pn**	**10 42 08.3**	**-0.3**
GO01	**Chusmiza**	**1.25**	**348**	*eP*	**Pn**	**10 42 09.8**	**+0.3**
GO01				*i* S	**Sn**	**10 42 28.9**	**+0.9**
GO01				IAML		10 42 31.4	
comp=N,3µm,0.1s							
GO01	**Chusmiza**	**1.25**	**348**		**Pn**	**10 42 09.9**	**+0.4**
TA02	**Huaiquique**	**1.30**	**299**	⇑*iP*	**Pn**	**10 42 09.6**	**+0.1**
TA02				*i* S	**Sn**	**10 42 27.4**	**-0.5**
TA02				IAML		10 42 31.1	
comp=E,6µm,0.2s							
PB11	**IPOC Station P**	**1.33**	**329**	⇑*iP*	**Pn**	**10 42 10.2**	**+0.1**
PB11				*i* S	**Sn**	**10 42 29.1**	**+0.2**
PB11				IAML		10 42 30.7	
comp=N,4µm,0.3s							
PB11	**IPOC Station P**	**1.33**	**329**	Pn	**Pn**	**10 42 10.2**	**+0.1**
PB03	**IPOC Station P**	**1.38**	**214**	⇑*iP*	**Pn**	**10 42 10.4**	**-0.1**
PB03				*i* S	**Sn**	**10 42 29.2**	**-0.7**
PB03				IAML		10 42 31.3	
comp=N,2µm,0.3s							
LVC	**Limon Verde**	**1.70**	**180**	P	**Pn**	**10 42 15.5**	**+0.9**
comp=N,70nm,0.3s,baz=339,slow=6.4,SNR=966							
LVC				S	**Sn**	**10 42 38.0**	**+0.9**
comp=N,244nm,0.3s,baz=276,slow=14,SNR=29							
LVC				LR	LR	10 42 54.4	
comp=N,123nm,18.2s,baz=206,slow=40							
LVC	**Limon Verde**	**1.70**	**180**	*eP*	**Pn**	**10 42 15.3**	**+0.6**
LVC				*i* S	**Sn**	**10 42 38.2**	**+1.1**
LVC	**Limon Verde**	**1.70**	**180**	*eP*	**Pn**	**10 42 15.5**	**+0.9**
LVC				*e*S	**Sn**	**10 42 38.2**	**+1.1**
PSGC	**Pisagua**	**1.72**	**319**	⇑*iP*	**Pn**	**10 42 14.3**	**-0.3**
PSGC				*i* S	**Sn**	**10 42 36.6**	**-0.5**
PSGC				IAML		10 42 41.8	
comp=N,1µm,0.5s							
PSGCX	**Pisagua**	**1.72**	**319**		**Pn**	**10 42 14.2**	**-0.4**
PB04	**IPOC Station P**	**1.82**	**218**	⇓*iP*	**Pn**	**10 42 16.4**	**+0.3**
PB04				*e*P		10 42 16.4	
PB04				IAML		10 42 47.9	
comp=N,1µm,0.2s							
PB04	**IPOC Station P**	**1.82**	**218**	Pn	**Pn**	**10 42 16.3**	**+0.3**
MNMC	**Minye Minye**	**1.87**	**340**	⇑*iP*	**Pn**	**10 42 17.3**	**+0.6**
MNMC				*i* S	**Sn**	**10 42 41.9**	**+1.1**
MNMC	**Minye Minye**	**1.87**	**340**		**Pn**	**10 42 16.9**	**+0.2**
PB06	**IPOC Station P**	**1.89**	**198**	⇑*iP*	**Pn**	**10 42 16.8**	**-0.1**
PB06				*i* S	**Sn**	**10 42 40.9**	**-0.3**
PB06				IAML		10 42 42.7	
comp=E,1µm,0.3s							
PB06	**IPOC Station P**	**1.89**	**198**	Pn	**Pn**	**10 42 16.9**	**0.0**
PB05	**IPOC Station P**	**2.28**	**211**	⇑*iP*	**Pn**	**10 42 21.1**	**-0.6**
PB05				IAML		10 42 58.2	
comp=E,443nm,0.2s							
PB15	**IPOC Station P**	**2.35**	**192**	⇑*iP*	**Pn**	**10 42 22.8**	**+0.1**
PB15				*i* S	**Sn**	**10 42 52.0**	**+0.4**
PB15	**IPOC Station P**	**2.35**	**192**	Pn	**Pn**	**10 42 23.0**	**+0.3**
PB16	**IPOC Station P**	**2.61**	**348**	⇑*iP*	**Pn**	**10 42 27.7**	**+1.2**
PB16				*i* S	**Sn**	**10 43 00.5**	**+2.2**
PB16				IAML		10 43 06.6	
comp=E,156nm,0.3s							
AP01	**Chacalluta**	**2.85**	**332**	*i* S	**Sn**	**10 43 03.4**	**+0.4**
AP01				IAML		10 43 24.6	
PB10	**IPOC Station P**	**3.01**	**210**	*eP*	**Pn**	**10 42 29.9**	**-1.3**
PB10				IAML		10 43 03.1	
comp=N,176nm,0.5s							
PB14	**IPOC Station P**	**3.95**	**200**	*eP*	**Pn**	**10 42 43.3**	**-0.7**
PB14	**IPOC Station P**	**3.95**	**200**		**Pn**	**10 42 42.7**	**-1.3**
GO02	**Mina Guanaco**	**4.29**	**188**	*eP*	**Pn**	**10 42 47.4**	**-1.1**
GO02	**Mina Guanaco**	**4.29**	**188**		**Pn**	**10 42 47.4**	**-1.1**
LPAZ	**La Paz**	**4.65**	**9**	P	**Pn**	**10 42 55.0**	**+1.2**
comp=N,4.2nm,0.3s,baz=193,slow=4.8,SNR=88							
LPAZ				S	**Sn**	**10 43 40.0**	**-7.0**
comp=N,0.8nm,0.3s,baz=242,slow=7.3,SNR=2.1							
LPAZ	**La Paz**	**4.65**	**9**		**Pn**	**10 42 55.7**	**+2.0**
LPAZ	**La Paz**	**4.65**	**9**	*eP*	**Pn**	**10 42 56.0**	**+2.2**
AC01	**Pan de Azucar**	**5.44**	**196**	Pn	**Pn**	**10 43 01.5**	**-2.4**
AC02	**Maricunga**	**5.91**	**182**	Pn	**Pn**	**10 43 09.9**	**-0.8**
GO03	**Copiap**	**6.77**	**190**	Pn	**Pn**	**10 43 18.9**	**-2.9**
AC04	**Llanos de Chal**	**7.53**	**195**	Pn	**Pn**	**10 43 27.6**	**-4.5**
AC05	**El Transito**	**7.99**	**189**	Pn	**Pn**	**10 43 35.0**	**-3.6**
LCO	**Las Campanas**	**8.23**	**191**	Pn	Pn	10 43 36.9	-5.1
SIV	**San Ignacio**	**8.91**	**58**	P	**Pn**	**10 43 48.3**	**-2.6**
comp=N,0.6nm,0.3s,baz=249,slow=11,SNR=7.9							
PTLB	**Pontes e Lacer**	**10.76**	**61**	*eP*	**Pn**	**10 44 17.8**	**+1.7**
VILB	**Vilhena**	**11.49**	**48**	*eP*	**Pn**	**10 44 27.1**	**+1.2**
SAML	**Samuel**	**13.11**	**26**	*eP*	**Pn**	**10 44 47.7**	**+0.5**
BI02	**San Fabin de**	**15.84**	**187**	P	**Pn**	**10 45 21.6**	**-0.2**
BI02				IAmb	IAmb	10 45 22.0	
comp=Z,8.6nm,0.7s							
CLDB	**Colider**	**16.08**	**54**	*eP*	**P**	**10 45 25.3**	**-0.8**
SNDB	**Serra Nova Dou**	**19.08**	**65**	*eP*	**P**	**10 45 58.6**	**-0.6**
IPMB	**Ipameri, GO**	**19.74**	**85**	*eP*	**P**	**10 46 06.5**	**+0.1**
PLCA	**Paso Flores**	**19.82**	**184**	P	**Pn**	**10 46 08.7**	**-0.9**
comp=Z,0.2nm,0.3s,baz=359,slow=9.3,SNR=7.1							
PLCA	**Paso Flores**	**19.82**	**184**	P	**Pn**	**10 46 08.4**	**-1.2**
PLCA				IAmb	IAmb	10 46 14.7	
comp=Z,8.4nm,1.4s							
BDFB	**Brasilia**	**20.52**	**79**	P	**P**	**10 46 14.7**	**-0.2**
comp=Z,2.0nm,0.4s,baz=225,slow=2.9,SNR=3.4							
ITTB	**Itaituba**	**20.84**	**40**	*eP*	**P**	**10 46 17.5**	**-0.7**
PTGA	**Pitinga**	**21.87**	**25**	P	**P**	**10 46 27.8**	**-1.4**
JANB	**Januaria**	**24.11**	**80**	*eP*	**P**	**10 46 50.2**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.49**	**74**	*eP*	**P**	**10 46 54.0**	**-0.3**
CSGN	**Cosiguina Volc**	**38.33**	**330**	P	**P**	**10 48 55.6**	**+0.2**
TXAR	**Lajitas Array**	**60.13**	**325**	P	**P**	**10 51 42.3**	**+1.0**
comp=Z,0.3nm,0.9s,baz=141,slow=5.8,SNR=2.2							
ULM	**Lac du Bonnet**	**74.75**	**342**	P	**P**	**10 53 13.2**	**+0.5**
comp=Z,1.4nm,0.7s,baz=170,slow=16,SNR=1.9							
NVAR	**Mina Array Bea**	**75.02**	**322**	P	**P**	**10 53 17.0**	**+2.1**
comp=Z,0.4nm,0.7s,baz=153,slow=6.9,SNR=2.4							
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**10 53 27.0**	**-0.3**
comp=Z,65nm,0.7s,baz=256,slow=5.4,SNR=16							
MKAR	**Makanchi Array**	**145.16**	**35**	PKPbc	**PKPdf**	**11 01 10.9**	**+1.3**
comp=Z,3.1nm,0.8s,baz=325,slow=3.4,SNR=22							
MKAR				pPKPbc	pPKPbc	11 01 40.5	0.0
comp=Z,1.6nm,0.9s,baz=316,slow=3.3,SNR=4.0							

*KRNET **23** 10:53:54.0±0.1,41.°10N×73.°73E,h12km, mb2.4*
*SOME **23** 10:53:53.6,41.°12N×73.°68E,h0km*
*NNC **23** 10:53:54.7±1.3,41.°07N×73.°75E,h0km,mb3.2,mpv3.0, Error ellipse: s-maj=9.6km s-min=5.0km az=169.0*
ISC 23 10:53:52.6±1.5,**41.°04N**±0.°05×**73.°76E**±0.°03,**h5**km±12km, **n25,σ**0**86**/43,**22C-6D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.93**	**27**	⇓*iP*	**Pg**	**10 54 10.9**	**+0.5**
baz=30							
ARLS				⇓*i*S	**Sb**	**10 54 23.6**	**-0.3**
baz=30							
AML	**Almayashu**	**1.09**	**357**	⇓*iP*	**Pg**	**10 54 13.8**	**+0.2**
baz=59							
AML				⇓*i*S	**Sn**	**10 54 28.7**	**-2.1**
baz=59							
UCH	**Uchtor**	**1.32**	**25**	⇑*iP*	**Pb**	**10 54 18.3**	**+0.2**
baz=27							
UCH				⇑*i*S	**Sn**	**10 54 36.6**	**+0.3**
baz=27							
EKS2	**Erkin-Say**	**1.62**	**0**	⇑*iP*	**Pg**	**10 54 23.5**	**-0.2**
baz=1.0							
EKS2				⇑*i*S	**Sg**	**10 54 44.8**	**0.0**
baz=1.0							
MNAS	**Manas**	**1.73**	**327**	⇑*iP*	**Pb**	**10 54 25.2**	**+0.3**
baz=27							
MNAS				⇑*i*S	**Sg**	**10 54 48.6**	**+0.5**
baz=27							
MRKS	**Merke**	**1.75**	**347**	*eP*	**Pg**	**10 54 26.3**	**+0.1**
11nm,0.1s							
MRKS				*e*S	**Sg**	**10 54 49.5**	**+0.6**
28nm,0.2s							
MRKS	**Merke**	**1.75**	**347**	P	**Pg**	**10 54 26.3**	**+0.1**
11nm,0.1s							
MRKS				S	**Sg**	**10 54 49.5**	**+0.6**
28nm,0.2s							
KBK	**Karagaybulak**	**1.84**	**28**	⇑*iP*	**Pg**	**10 54 27.9**	**-0.1**
baz=30							
KBK				⇑*i*S	**Sg**	**10 54 52.9**	**+1.0**
baz=30							
CHMS	**Chumysh**	**2.10**	**20**	⇑*iP*	**Pb**	**10 54 31.8**	**+0.7**
baz=22							
CHMS				⇑*i*S	**Sg**	**10 54 59.3**	**-0.6**
baz=22							
BOOM	**Boomskoye usch**	**2.18**	**48**	⇑*iP*	**Pb**	**10 54 33.5**	**+0.8**
baz=49							
BOOM				⇑*i*S	**Sg**	**10 55 02.5**	**-0.2**
baz=49							
USP	**Ospenovka**	**2.30**	**14**	⇑*iP*	**Pb**	**10 54 34.6**	**+0.1**
baz=15							
USP				⇑*i*S	**Sg**	**10 55 04.2**	**-2.1**
baz=15							
TKM2	**Tokmak 2**	**2.33**	**35**	⇑*eP*	**Pb**	**10 54 35.4**	**+0.2**
baz=37							
TKM2				⇑*i*S	**Sb**	**10 55 05.7**	**+1.4**
baz=37							
TKM2	**Tokmak 2**	**2.33**	**35**	⇓Pg	**Pb**	**10 54 36.2**	**+1.0**
2.9nm,0.6s							
TKM2				⇑Lg	Lg	10 55 07.0	
2.9nm,0.4s							
BTK	**Batken**	**2.45**	**247**	⇑*iP*	**Pb**	**10 54 37.5**	**+0.4**
baz=46							
BTK				⇑*i*S	**Sb**	**10 55 09.2**	**+1.6**
baz=46							
SGDS	**Sogindy**	**2.50**	**15**	Pg	**Pg**	**10 54 39.8**	**-0.7**
1.6nm,0.2s							
SGDS				Lg	Lg	10 55 12.8	
10.0nm,0.4s							
KST	**Kastek**	**2.59**	**39**	*eP*	**Pg**	**10 54 41.8**	**-0.5**
2.5nm,0.2s							
KST				*e*S	**Sg**	**10 55 16.3**	**+0.5**
5.3nm,0.3s							
KST	**Kastek**	**2.59**	**39**	Pg	**Pg**	**10 54 41.7**	**-0.5**
3.1nm,0.3s							
KST				Lg	Lg	10 55 16.2	
4.7nm,0.3s							
DGS	**Degeres**	**2.66**	**33**	*eP*	**Pg**	**10 54 43.1**	**-0.5**
3.6nm,0.7s							
DGS				*e*S	**Sg**	**10 55 18.6**	**+0.5**
9.8nm,0.6s							
DGS	**Degeres**	**2.66**	**33**	Pg	**Pg**	**10 54 43.1**	**-0.5**
3.6nm,0.7s							
DGS				Lg	Lg	10 55 18.9	
9.8nm,0.6s							
KDJ	**Kajisay**	**2.79**	**66**	⇑*iP*	**Pb**	**10 54 42.6**	**-0.4**
baz=67							
KDJ				⇑*i*S	**Sb**	**10 55 18.1**	**+0.6**
baz=67							
IUG	**luzhnay**	**3.01**	**293**	*eP*	**Pg**	**10 54 48.9**	**-1.4**
5.4nm,0.4s							
IUG				*e*S	**Sg**	**10 55 28.6**	**-0.7**
26nm,0.6s							
IUG	**luzhnay**	**3.01**	**293**	Pg	**Pg**	**10 54 48.8**	**-1.4**
5.8nm,0.2s							
IUG				Lg	Lg	10 55 28.0	
28nm,0.3s							
KRBS	**Karabastau**	**3.01**	**27**	*eP*	**Pg**	**10 54 49.1**	**-1.2**
1.4nm,0.3s							
KRBS				*e*S	**Sg**	**10 55 28.7**	**-0.7**
4.9nm,0.5s							
KRBS	**Karabastau**	**3.01**	**27**	Pg	**Pg**	**10 54 49.4**	**-0.9**
1.9nm,0.5s							
KRBS				Lg	Lg	10 55 28.8	
7.3nm,0.5s							
KK31	**Karatay Array**	**3.18**	**312**	⇓Pg	**Pg**	**10 54 54.6**	**+1.1**
0.3nm,0.3s,baz=121,slow=17,SNR=7.2							
KK31				⇑Lg	Lg	10 55 32.7	
1.8nm,0.3s,baz=135,slow=28,SNR=13							

*IDC **23** 10:54:47.8±2.5,6.°66S×130.°63E,h68km±26km, mb3.9/3, mb1 4.4/8,mb1mx3.9/27,mbtmp4.6/8, Error ellipse: s-maj=26.6km s-min=18.4km az=85.0*
*NEIC **23** 10:54:47.8±2.8,6.°72S±0.°07×130.°8E±0.°1,h76km±12km, mb4.2/4, Error ellipse: s-maj=15.6km s-min=10.7km az=95.0*
ISC 23 10:54:49.7±0.7,**6.°77S**±0.°06×**130.°66E**±0.°09,**h100**km,**n22,σ**2**s40**/25,**mb3.8**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.14**	**23**		**Pn**	**10 55 48.3**	**-2.7**
SIJI	**Sorong**	**5.90**	**6**	P	**Pn**	**10 56 11.2**	**-3.5**
26nm,0.3s,baz=211,slow=9.4,SNR=33							
SIJI				S	Sn	10 57 09.8	-11
19nm,0.3s,baz=262,slow=23,SNR=12							
MTN	**Manton Dam**	**6.05**	**176**		**Pn**	**10 56 19.7**	**+3.0**
BATI	**Baumata**	**7.71**	**243**	P	**Pn**	**10 56 39.9**	**+0.4**
8.7nm,0.3s,baz=56,slow=5.4,SNR=2.8							
BATI				S	**Sn**	**10 58 04.4**	**-0.9**
19nm,0.3s,baz=179,slow=23,SNR=7.2							
KNRA	**Kununurra**	**9.04**	**192**		**Pn**	**10 56 59.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**12.27**	**203**	P	**Pn**	**10 57 39.9**	**-1.2**
2.8nm,0.3s,baz=26,slow=9.1,SNR=76							
FITZ				S	Sn	10 59 48.3	-7.8
4.1nm,0.3s,baz=254,slow=15,SNR=8.1							
FITZ	**Fitzroy Crossi**	**12.27**	**203**		**Pn**	**10 57 39.1**	**-2.0**
WB0	**Warramunga Arr**	**13.41**	**165**		**Pn**	**10 57 55.2**	**-1.0**
WRAB	**Tennant Creek**	**13.56**	**165**		**Pn**	**10 57 57.0**	**-1.0**
WRA	**Warramunga Arr**	**13.57**	**165**	P	**Pn**	**10 57 57.0**	**-1.2**
3.7nm,0.3s,baz=349,slow=13,SNR=121							
WRA				S	**Sn**	**11 00 23.6**	**-4.0**
2.7nm,0.3s,baz=342,slow=21,SNR=8.8							
WB2	**Warramunga Arr**	**13.57**	**165**		**Pn**	**10 57 57.4**	**-0.8**
WR0	**Warramunga Arr**	**13.64**	**164**		**Pn**	**10 57 58.4**	**-0.6**
COEN	**Coen**	**14.22**	**121**	P	**Pn**	**10 58 07.8**	**+1.1**
AS31	**Alice Springs**	**17.08**	**170**		**P**	**10 58 44.6**	**+2.0**
AS31				IAmb	IAmb	10 58 48.9	
comp=Z,5.1nm,0.5s							
ASAR	**Alice Springs**	**17.08**	**170**	P	**P**	**10 58 44.4**	**+1.7**
comp=Z,2.1nm,0.3s,baz=346,slow=9.9,SNR=117							
ASAR				S	**Sn**	**11 01 45.8**	**-6.6**
comp=Z,0.3nm,0.3s,baz=192,slow=8.2,SNR=3.7							
ASAR	**Alice Springs**	**17.08**	**170**		**P**	**10 58 44.6**	**+2.0**
PSA00	**Pilbara Seismi**	**18.05**	**214**	P	**P**	**10 58 54.4**	**+1.2**
PSA00				IAmb	IAmb	10 59 25.2	
comp=Z,26nm,1.2s							
STKA	**Stephens Creek**	**26.98**	**159**	P	**P**	**11 00 25.0**	**+2.8**
comp=Z,1.4nm,0.4s,baz=328,slow=10,SNR=4.2							
SONM	**Songino Array**	**58.44**	**341**	P	**P**	**11 04 36.5**	**+1.3**
comp=Z,3.3nm,0.4s,baz=129,slow=5.7,SNR=2.0							
MKAR	**Makanchi Array**	**68.40**	**326**	P	**P**	**11 05 41.7**	**+0.9**
comp=Z,1.8nm,0.4s,baz=119,slow=8.0,SNR=20							
MKAR	**Makanchi Array**	**68.40**	**326**	P	**P**	**11 05 41.5**	**+0.8**
ZALV	**Zalesovo Beam**	**71.67**	**333**	P	**P**	**11 06 00.6**	**0.0**
comp=Z,0.9nm,0.5s,baz=145,slow=8.1,SNR=3.9							

*TAP **23** 10:55:10.6,24.°82N×121.°97E,h6km, ML3.4,B*
*JMA **23** 10:55:11.6±0.1,24.°83N×121.°90E,h36km,M2.7*
ISC 23 10:55:11.1±0.8,**24.°82N**±0.°02×**121.°98E**±0.°02,**h12**km±6km, **n74,σ**0**64**/119,**10C-3D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.05**	**298**	⇓*iP*	**Pg**	**10 55 12.0**	**-1.4**
baz=313							
NTC	**Toucheng**	**0.14**	**284**	*i* P	**Pg**	**10 55 14.4**	**-0.1**
baz=285							
TWB1	**Santiao Chiao**	**0.19**	**2**	⇑*iP*	**Pg**	**10 55 15.4**	**+0.2**
baz=6.0							
TWB1				*i* S	**Sg**	**10 55 18.5**	**+0.4**
baz=6.0							
TIPB	**Shuangxi**	**0.20**	**317**	⇑*iP*	**Pg**	**10 55 15.8**	**+0.2**
baz=319							
TIPB				*i* S	**Sg**	**10 55 19.2**	**+0.6**
baz=319							
ILA	**Ilan**	**0.22**	**255**	P	**Pg**	**10 55 15.4**	**-0.3**
baz=254							
ILA	

YM04	**YM04** baz=310	**0.52**	**310**	⇑P		**Pb**	**10 55 22.3**	**+0.1**
YM04				*e*S		**Sb**	**10 55 29.4**	**-0.4**
YM03	**YM03** baz=312	**0.54**	**312**	P		**Pb**	**10 55 22.5**	**0.0**
ANP	**Anpu** baz=312	**0.55**	**311**	*i* P		**Pb**	**10 55 22.6**	**-0.3**
TWY	**Chenhua** baz=323	**0.57**	**323**	P		**Pb**	**10 55 22.7**	**-0.4**
TWY				S		**Sb**	**10 55 30.6**	**-0.6**
YHNB	**Yeheng** baz=254	**0.57**	**255**	P		**Pb**	**10 55 22.2**	**-0.9**
YHNB				*e*S		**Sb**	**10 55 32.0**	**+0.8**
TWS1	**Kuangyinshan** baz=299	**0.58**	**299**	P		**Pb**	**10 55 23.3**	**+0.1**
TWS1				*i* S		**Sg**	**10 55 30.3**	**+0.2**
NSK	**Sanguang** baz=255	**0.58**	**256**	⇑*i*P		**Pb**	**10 55 22.5**	**-0.9**
NSK				S		**Sb**	**10 55 30.9**	**-0.7**
NTST	**Danshui** baz=306	**0.59**	**305**	*e*P		**Pb**	**10 55 23.5**	**+0.1**
NTST				*e*S		**Sb**	**10 55 31.7**	**-0.1**
NNSB	**Datong** baz=234	**0.67**	**234**	P		**Pb**	**10 55 24.3**	**-0.5**
NNSB				S		**Sb**	**10 55 35.0**	**+0.9**
NNSH	**Datong** baz=234	**0.67**	**234**	P		**Pb**	**10 55 24.6**	**-0.3**
NNSH				S		**Sb**	**10 55 34.4**	**+0.3**
NNS	**Nan Shan** baz=234	**0.67**	**236**	*i* P		**Pb**	**10 55 24.3**	**-0.5**
NNS				S		**Sb**	**10 55 34.3**	**+0.1**
NACB	**Ninganchiao** baz=208	**0.73**	**209**	P		**Pb**	**10 55 25.9**	**0.0**
NACB				S		**Sb**	**10 55 36.4**	**+0.5**
NCU	**National Centr** baz=281	**0.73**	**282**	*e*S		**Sb**	**10 55 36.2**	**+0.3**
NCUH	**Zhongli** baz=281	**0.74**	**282**	*e*P		**Pb**	**10 55 25.8**	**-0.1**
NCUH				*e*S		**Sb**	**10 55 36.4**	**+0.5**
ETLH	**Xiulin Townshi** baz=216	**0.76**	**217**	P		**Pb**	**10 55 26.0**	**-0.3**
ETLH				S		**Sb**	**10 55 37.2**	**+0.5**
PCYT	**Pengchaiyu** baz=6.0	**0.81**	**6**	P		**Pb**	**10 55 26.9**	**-0.2**
PCYT				S		**Sb**	**10 55 39.3**	**+1.2**
TWD	**Chiawan** baz=204	**0.82**	**205**	*i* P		**Pb**	**10 55 27.1**	**-0.1**
TWD				S		**Sb**	**10 55 37.9**	**-0.3**
NHW	**Xinwu Township** baz=282	**0.87**	**282**	*e*P		**Pb**	**10 55 28.1**	**0.0**
NHW				*e*S		**Sb**	**10 55 40.2**	**+0.5**
FUSS	**Fushou** baz=229	**0.88**	**230**	P		**Pb**	**10 55 28.6**	**+0.1**
FUSS				S		**Sn**	**10 55 41.8**	**-0.6**
LIOB	**Emei** baz=258	**0.89**	**259**	*i* P		**Pn**	**10 55 29.3**	**-0.3**
LIOB				*e*S		**Sb**	**10 55 41.6**	**+1.1**
SBCB	**Hsinchu** baz=268	**0.90**	**268**	*e*P		**Pb**	**10 55 29.1**	**+0.4**
SBCB				*e*S		**Sn**	**10 55 42.5**	**-0.2**
NSTT	**Nanjuang** baz=257	**0.91**	**258**	*i* P		**Pb**	**10 55 29.3**	**+0.4**
NSTT				S		**Sb**	**10 55 42.0**	**+1.1**
TWT	**Tachien** baz=232	**0.93**	**232**	P		**Pb**	**10 55 28.8**	**-0.4**
TWT				S		**Sn**	**10 55 44.6**	**+1.2**
TDCB	**Techi** baz=232	**0.94**	**233**	P		**Pg**	**10 55 28.8**	**-0.4**
TDCB				S		**Sn**	**10 55 44.2**	**+0.5**
JYNG	**Yonagunijimaku**	**0.95**	**113**	P		**Pb**	**10 55 29.6**	**0.0**
JYNG				*e*S		**Sb**	**10 55 43.4**	**+1.2**
YOJ	**Yonaguni jima** baz=110	**1.00**	**111**	*e*P		**Pn**	**10 55 31.2**	**+0.2**
YOJ	**Yonaguni jima**	**1.00**	**111**	P		**Pb**	**10 55 30.8**	**+0.3**
CHGB	**Renai** baz=223	**1.05**	**224**	P		**Pb**	**10 55 31.2**	**-0.3**
CHGB				S		**Sn**	**10 55 47.5**	**+0.7**
WHP	**Taichung City** baz=240	**1.09**	**240**	P		**Pb**	**10 55 32.1**	**+0.2**
NMLH	**Miaoli** baz=255	**1.12**	**256**	*i* P		**Pn**	**10 55 34.0**	**+1.4**
ESL	**Shilin** baz=205	**1.12**	**207**	P		**Pg**	**10 55 31.9**	**-0.8**
ESL				S		**Sn**	**10 55 48.8**	**+0.7**
OWD	**Renai** baz=220	**1.13**	**220**	*e*P		**Pg**	**10 55 32.1**	**-0.9**
OWD				*e*S		**Sn**	**10 55 49.6**	**+1.1**
EGFH	**Guangfu** baz=203	**1.25**	**204**	*e*P		**Pn**	**10 55 34.7**	**+0.2**
EGFH				S		**Sn**	**10 55 52.0**	**+0.7**
WDJ	**Dajia District** baz=248	**1.31**	**249**	*e*P		**Pg**	**10 55 35.5**	**-0.7**
VWDT	**VWDT** baz=215	**1.31**	**216**	P		**Pg**	**10 55 36.1**	**-0.1**
VWDT				*e*S		**Sb**	**10 55 52.3**	**-0.2**
SMLT	**Sun Moon Lake** baz=226	**1.36**	**227**	P		**Pn**	**10 55 35.4**	**-0.6**
TYC	**Yuchr** baz=227	**1.37**	**228**	*e*P		**Pn**	**10 55 36.4**	**+0.3**
SSLB	**Suanglung** baz=222	**1.39**	**222**	P		**Pg**	**10 55 37.1**	**-0.8**
HGSD	**Ruisui** baz=200	**1.42**	**201**	P		**Pg**	**10 55 38.1**	**-0.2**
EHY	**Hungye** baz=204	**1.44**	**205**	P		**Pg**	**10 55 38.1**	**-0.7**
YULB	**Yu-li** baz=203	**1.55**	**204**	P		**Pb**	**10 55 39.9**	**0.0**
EYUL	**Yuli** baz=202	**1.59**	**202**	*e*P		**Pg**	**10 55 41.4**	**-0.2**
TWF1	**Yuli** baz=202	**1.59**	**203**	P		**Pb**	**10 55 40.5**	**+0.1**
IRIF	**Iriomote-Funau**	**1.67**	**107**	P		**Pn**	**10 55 39.3**	**-0.9**
FULB	**Fuli** baz=201	**1.73**	**201**	P		**Pb**	**10 55 42.7**	**-0.2**
HATJ	**Hateruma jima**	**1.83**	**114**	P		**Pn**	**10 55 40.9**	**-1.5**
HATJ				*e*S		**Sn**	**10 56 05.2**	**-0.3**
CHN4	**Tsaushan** baz=220	**1.94**	**221**	*e*P		**Pb**	**10 55 45.7**	**-0.6**
JKRS	**Kuro-shima**	**1.94**	**107**	P		**Pn**	**10 55 43.8**	**-0.1**
EDH	**Donghe** baz=198	**1.94**	**199**	*e*P		**Pb**	**10 55 46.4**	**-0.1**
JIJ	**Ishigaki jima**	**2.02**	**103**	P		**Pn**	**10 55 44.6**	**-0.5**
JIJ				*e*S		**Sn**	**10 56 10.1**	**-0.2**
TWK	**Hsinying** baz=221	**2.06**	**222**	*e*P		**Pb**	**10 55 48.1**	**-0.4**
SGST	**Jiashian** baz=216	**2.15**	**217**	*e*P		**Pb**	**10 55 48.6**	**-1.5**

IDC 23 11:21:29.8±2.1, 3°17'N×126°37'E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/32, mbtmp3.3/4, Error ellipse: s-maj=121.8km s-min=27.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.7nm,1.0s,baz=356,slow=13,SNR=1.7	**21.15**	**182**	P	P	11 26 16.9	+0.3
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=341,slow=11,SNR=18	**24.27**	**162**	P	P	11 26 48.2	-0.7
ASAR	**Alice Springs** 0.2nm,0.4s,baz=341,slow=7.3,SNR=5.0	**27.67**	**165**	P	P	11 27 20.9	+1.3
MKAR	**Makanchi Array**	**57.81**	**326**	P	P	11 31 22.5	-0.6
	0.1nm,0.3s,baz=118,slow=7.9,SNR=1.8						

*ISK **23** 11:22:13.6, 34°.99N×32°.12E, h11km, ML2.8/9*
*NIC **23** 11:22:13.9±0.0, 34°.96N×32°.11E, h18km, Ml3.3/5*
*DDA **23** 11:22:15.8, 35°.20N×32°.21E, h8km±7km, ML2.3*

ISC 23 11:22:13.3±1.6, 34°.94N±0°.03×32°.10E±0°.06, h11km±10km, n34, σ1.827/45, 1C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.21**	**69**	P	**Pb**	**11 22 19.3**	**+0.2**
AKMS	29nm,0.2s			AML	AML	11 22 22.2	
AKMS	29nm,0.2s			AML	AML	11 22 22.2	
AKMS	47nm,0.3s			AML	AML	11 22 22.5	
AKMS	47nm,0.3s			AML	AML	11 22 22.5	
AKMS				S	**Sb**	**11 22 22.5**	**+1.9**
NATA	**Nata**	**0.42**	**113**	P	**Pb**	**11 22 22.9**	**+0.1**
NATA				S	**Sb**	**11 22 29.7**	**+0.6**
NATA	13nm,0.5s			AML	AML	11 22 30.4	
NATA	13nm,0.5s			AML	AML	11 22 30.4	
NATA	13nm,0.3s			AML	AML	11 22 33.6	
NATA	13nm,0.3s			AML	AML	11 22 33.6	
ALFC	**Alefka**	**0.46**	**62**	⇓P	**Pb**	**11 22 23.2**	**-0.2**
ALFC				S	**Sb**	**11 22 30.5**	**+0.2**
ALFC	8.9nm,0.4s			AML	AML	11 22 31.3	
ALFC	8.9nm,0.4s			AML	AML	11 22 31.3	
ALFC	10nm,0.4s			AML	AML	11 22 31.9	
ALFC	10nm,0.4s			AML	AML	11 22 31.9	
SZAC	**Souni**	**0.67**	**106**	⇑P	**Pg**	**11 22 26.6**	**+0.4**
SZAC				S	**Sb**	**11 22 37.0**	**+0.6**
SZAC	2.4nm,0.2s			AML	AML	11 22 38.8	
SZAC	2.4nm,0.2s			AML	AML	11 22 38.8	
SZAC	1.9nm,0.3s			AML	AML	11 22 40.8	
SZAC	1.9nm,0.3s			AML	AML	11 22 40.8	
LEF	**Lefka**	**0.67**	**75**	PG	**Pg**	**11 22 26.1**	**-0.2**
LEF				SG	**Sg**	**11 22 34.8**	**-0.3**
LEF	**Lefka**	**0.67**	**75**	*i* P	**Pg**	**11 22 25.9**	**-0.4**
LEF	comp=N,271nm,0.6s			IAML		11 22 37.0	
LEF	comp=E,359nm,0.5s			IAML		11 22 41.0	
AKDN	**Akdeniz- Kıbrı**	**0.79**	**63**	PG	**Pg**	**11 22 29.0**	**+0.4**
AKDN				SG	**Sb**	**11 22 39.8**	**-0.1**
ASGA	**Asgata**	**0.96**	**99**	P	**Pg**	**11 22 32.0**	**+0.3**
ASGA	comp=E,3.5nm,0.8s			AML	AML	11 22 46.1	
ASGA	comp=E,3.5nm,0.8s			AML	AML	11 22 46.1	
ASGA	comp=E,2.4nm,1.1s			AML	AML	11 22 46.2	
ASGA	comp=E,2.4nm,1.1s			AML	AML	11 22 46.2	
ASGA				S	**Sn**	**11 22 46.5**	**+0.2**
CSS	**Mathiatis**	**1.01**	**89**	PG	**Pb**	**11 22 32.8**	**0.0**
CSS				SG	**Sn**	**11 22 47.4**	**-0.2**
CSS	**Mathiatis**	**1.01**	**89**	⇓P	**Pb**	**11 22 32.5**	**-0.3**
CSS				S	**Sn**	**11 22 47.7**	**0.0**
ATHAL	**Athalassa**	**1.08**	**79**	S	**Sn**	**11 22 49.7**	**+0.4**
AKIN	**Akıncılar- Kıb**	**1.12**	**86**	PN	**Pg**	**11 22 35.4**	**+0.5**
MVOU	**Mavrovouni**	**1.26**	**86**	P	**Pn**	**11 22 36.6**	**-0.2**
MVOU				S	**Sn**	**11 22 53.9**	**+0.1**
GAZI	**Gazipasa**	**1.30**	**8**	PN	**Pn**	**11 22 37.4**	**0.0**
GAZI	**Gazipasa**	**1.30**	**8**	*i* P	**Pn**	**11 22 36.6**	**-0.8**
GAZI	comp=N,79nm,0.8s			IAML		11 22 55.0	
GAZI	comp=E,72nm,0.4s			IAML		11 23 00.0	
TEKE	**Tekeli-Mersin**	**1.45**	**34**	PN	**Pn**	**11 22 39.6**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.69**	**44**	PN	**Pb**	**11 22 43.9**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.71**	**43**	*i* P	**Pb**	**11 22 44.6**	**-0.1**
GULN				*i* S	**Sn**	**11 23 03.5**	**-1.4**
GULN	comp=E,29nm,1.7s			IAML		11 23 06.0	
GULN	comp=N,24nm,0.9s			IAML		11 23 07.0	
EREN	**Erenkoy**	**1.79**	**70**	PN	**Pb**	**11 22 45.2**	**-0.9**
IKL	**Isikli**	**1.83**	**45**	PN	**Pn**	**11 22 44.9**	**+0.3**
OSC2	**CSNet OBS 4**	**1.87**	**176**	P	**Pn**	**11 22 45.2**	**0.0**
KEBE	**Keben-Mersin**	**1.99**	**41**	PN	**Pn**	**11 22 48.1**	**+1.1**
KEPZ	**Antalya-Kepez**	**2.00**	**348**	*i* P	**Pn**	**11 22 47.6**	**+0.6**
KEPZ				*i* S	**Sb**	**11 23 14.2**	**-0.3**
KEPZ	comp=E,32nm,0.7s			IAML		11 23 21.0	
KEPZ	comp=N,24nm,0.8s			IAML		11 23 24.0	
SILI	**Silifke-Mersin**	**2.06**	**46**	PN	**Pn**	**11 22 48.7**	**+0.9**
KERG	**Konya-Eregli**	**2.96**	**33**	*i* P	**Pn**	**11 23 02.8**	**+2.4**
KERG	comp=E,23nm,0.7s			IAML		11 23 41.0	
KERG	comp=N,16nm,0.6s			IAML		11 23 48.0	
QRNJ	**Al-Qirein**	**3.89**	**131**	P	Pg	11 23 38.9	+11
UJAP	**Al Uja**	**4.10**	**136**	P	**Pb**	**11 23 25.4**	**0.0**
WALJ	**Wala**	**4.59**	**136**	P	**Pn**	**11 23 25.1**	**+2.5**
GHAJ	**Ghor Haditha**	**4.65**	**140**	P	**Pn**	**11 23 22.8**	**-0.6**
LISJ	**El Lisan**	**4.66**	**142**	P	**Pn**	**11 23 23.0**	**-0.5**
ASF	**Jabal al Asfar**	**4.87**	**123**	P	**Pb**	**11 23 38.1**	**-0.5**
SWQJ	**Swaqa**	**4.96**	**137**	P	**Pn**	**11 23 23.7**	**-4.2**
ZFRI	**Zfri**	**5.09**	**149**	P	**Pn**	**11 23 26.5**	**-2.9**
KRMI	**Paran Flat**	**5.30**	**155**	P	**Pn**	**11 23 36.2**	**+3.8**

IDC 23 11:54:26.1±25.0, 13°.06N×41°.80E, h0km, mb3.6/2, mb1 3.6/2, mb1mx3.3/27, mbtmp3.6/2, Error ellipse: s-maj=920.4km s-min=33.0km az=156.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea** 48nm,0.4s,baz=75,slow=6.8,SNR=4.6	**39.03**	**275**	P	P	12 01 54.8	-0.1
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=230,slow=8.7,SNR=5.2	**47.75**	**37**	P	P	12 03 04.9	-0.1
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=232,slow=11,SNR=1.8	**52.97**	**30**	P	P	12 03 44.1	-0.2

*WEL **23** 12:18:30.9±0.7, 34°.5E×6°×17°.8W±1°.5, h33km, M5.9/62, mB6.2/59, ML6.4/62, MLv6.2/62, Mw(mB)5.9/59, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*
*BJI **23** 12:18:31.5±0.0, 33°.44S×179°.40W, h48km, mB5.6/20, mb5.2/24, Ms5.0/12, Ms7 4.7/15*
*MOS **23** 12:18:31.7±1.2, 33°.18S×179°.51W, h40km, mb5.7/25, Error ellipse: s-maj=10.1km s-min=8.8km az=112.6*
*NEIC **23** 12:18:32.1±2.2, 33°.24S±0°.06×179°.5W±0°.1, h35km±1km, mb5.5/164, Mwc5.3(GCMT), Error ellipse: s-maj=17.4km s-min=8.9km az=112.0*
*NEIC **23** 12:18:35, 33°.28S×179°.19W, h56km, Moment Tension Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.00; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-1.08; $M_{r\theta}$-0.22; $M_{r\phi}$-0.28; $M_{\theta\phi}$-0.70; Fault plane solution: $M_0$1.30000×10^{17} NP1:ϕ_s10.00000°, δ28.00000°, λ85.00000°. NP2:ϕ_s196.00000°, δ62.00000°, λ93.00000°. Principal axes: T 1.2244, Plg73.0000°, Azm113.0000°; N 0.1450, Plg3.0000°, Azm15.0000°; P -1.3695, Plg17.0000°, Azm284.0000°;*
*GCMT **23** 12:18:35.1±0.1, 33°.27S±0°.01×179°.21W±0°.01, h56km, MW5.3/134, Moment Tensor Solution. s125,c212; s134,c239; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.00±.02; $M_{\theta\theta}$0.09±.01; $M_{\phi\phi}$-1.09±.01; $M_{r\theta}$-0.22±.01; $M_{r\phi}$-0.29±.01; $M_{\theta\phi}$-0.69±.01; Best double couple: $M_0$1.29800×10^{17} NP1:ϕ_s9.00000°, δ28.00000°, λ84.00000°. NP2:ϕ_s196.00000°, δ62.00000°, λ93.00000°. Principal axes: T 1.2210, Plg73.0000°, Azm114.0000°; N 0.1520, Plg3.0000°, Azm15.0000°; P -1.3750, Plg17.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **23** 12:18:37.1±1.4, 33°.11S×179°.71W, h78km±10km, mb4.8/20, mb1 5.0/20, mb1mx4.9/26, mbtmp5.1/20, MS4.6/26, Ms1 4.6/26, ms1mx4.6/31 Error ellipse: s-maj=13.6km s-min=11.7km az=18.0*

ISC 23 12:18:32.0±0.2, 33°.25S±0°.03×179°.39W±0°.04, h35km, n696, σ1.980/673, mb5.5/133, MS4.6/33, 26C-14D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.17**	**18**	P	**Pn**	**12 19 33.5**	**+0.3**
GLKZ				S	**Sn**	**12 20 19.7**	**-1.0**
RAO	**Raoul Island** 277nm,0.3s,baz=84,slow=9.9,SNR=12	**4.18**	**18**	P	**Pn**	**12 19 33.8**	**+0.4**
RAO	622nm,0.3s,baz=191,slow=21,SNR=5.1			S	**Sn**	**12 20 23.3**	**+2.3**
RAO	comp=Z,7μm,21.4s,baz=169,slow=37			LR	LR	12 21 10.7	
RAO	**Raoul Island**	**4.18**	**18**		**Pn**	**12 19 33.2**	**-0.1**
RIZ	**Raoul Island**	**4.18**	**18**	P	**Pn**	**12 19 33.7**	**+0.3**
RIZ				S	**Sn**	**12 20 21.8**	**+0.7**
MXZ	**Matakaoa Point**	**4.69**	**203**	P	**Pn**	**12 19 41.8**	**+1.4**
MXZ				S	**Sn**	**12 20 34.1**	**+0.5**
MXZ	**Matakaoa Point**	**4.69**	**203**	Pn	**Pn**	**12 19 41.9**	**+1.5**
WMGZ	**Waiomatatini S**	**4.90**	**201**	P	**Pn**	**12 19 44.7**	**+1.6**
WMGZ				S	**Sn**	**12 20 39.0**	**+0.5**
HAZ	**Te Kaha**	**5.05**	**206**	P	**Pn**	**12 19 47.3**	**+2.0**
HAZ				S	**Sn**	**12 20 45.3**	**+3.0**
WIZ	**White Island**	**5.10**	**212**	P	Pn	12 19 50.7	+4.8
WIZ				S	**Sn**	**12 20 45.2**	**+1.7**
PUZ	**Puketiti**	**5.18**	**201**	P	**Pn**	**12 19 47.9**	**+0.9**
PUZ				S	**Sn**	**12 20 44.0**	**-1.5**
RUGZ	**Raukumara Rang**	**5.28**	**206**	P	**Pn**	**12 19 50.0**	**+1.5**
RUGZ				S	**Sn**	**12 20 51.2**	**+3.1**
TWGZ	**Tauwhareparae**	**5.36**	**203**	P	**Pn**	**12 19 50.9**	**+1.3**
TWGZ				S	**Sn**	**12 20 52.2**	**+2.1**
MYRZ	**Mayor Island**	**5.38**	**220**	P	Pn	12 19 56.4	+6.6
WHRZ	**Whale Island**	**5.47**	**212**	P	**Pn**	**12 19 54.9**	**+3.9**
CNGZ	**Carnagh Statio**	**5.57**	**200**	P	**Pn**	**12 19 53.5**	**+1.1**
TKGZ	**Te Karaka**	**5.64**	**203**	P	**Pn**	**12 19 55.0**	**+1.7**
TKGZ				S	**Sn**	**12 20 56.7**	**-0.2**
OPRZ	**Ohinepanea**	**5.65**	**215**	P	**Pn**	**12 19 57.2**	**+3.7**
MWZ	**Matawai**	**5.66**	**205**	P	**Pn**	**12 19 54.3**	**+0.7**
TGRZ	**Tauranga**	**5.70**	**217**	P	Pn	12 19 59.2	+5.0
MARZ	**Manawahe**	**5.71**	**213**	P	**Pn**	**12 19 58.4**	**+4.1**
URZ	**Urewera** 102nm,0.3s,baz=271,slow=3.6,SNR=120	**5.75**	**209**	P	**Pn**	**12 19 56.1**	**+1.3**
URZ	308nm,0.3s,baz=63,slow=23,SNR=9.9			S	**Sn**	**12 21 00.9**	**+1.4**
URZ	**Urewera**	**5.75**	**209**	P	**Pn**	**12 19 55.9**	**+1.1**
URZ	**Urewera**	**5.75**	**209**		**Pn**	**12 19 56.3**	**+1.5**
EDRZ	**Edgecumbe**	**5.78**	**212**	P	**Pn**	**12 19 59.5**	**+4.2**
RAGZ	**Rawiri**	**5.84**	**205**	P	**Pn**	**12 19 57.5**	**+1.4**
LIRZ	**Lichensteins R**	**5.86**	**215**	P	Pn	12 20 02.7	+6.4
RIGZ	**Rimuhau**	**5.91**	**202**	P	**Pn**	**12 19 57.5**	**+0.4**
KARZ	**Kaharoa**	**5.94**	**216**	P	**Pn**	**12 20 01.6**	**+4.1**
OMRZ	**Omania**	**5.95**	**214**	P	**Pn**	**12 20 01.5**	**+4.2**
KMRZ	**Kaimai**	**5.96**	**218**	P	Pn	12 20 03.4	+5.6
TARZ	**Mount Tarawera**	**5.99**	**213**	P	Pn	12 20 04.1	+5.8
NGRZ	**Ngongotaha**	**6.03**	**215**	P	Pn	12 20 03.8	+5.0
RRRZ	**Republican Roa**	**6.07**	**212**	P	**Pn**	**12 20 01.9**	**+2.6**
HLRZ	**Highlands Stat**	**6.07**	**214**	P	**Pn**	**12 20 03.8**	**+4.5**
MUGZ	**Murupara**	**6.07**	**210**	P	**Pn**	**12 20 00.2**	**+0.8**
PRGZ	**Paritu Road**	**6.07**	**201**	P	**Pn**	**12 19 59.5**	**+0.2**
UTU	**Utuhina**	**6.09**	**215**	P	Pn	12 20 05.9	+6.4
RTZ	**Ruatahuna**	**6.11**	**208**	P	**Pn**	**12 20 00.2**	**+0.4**
TOZ	**Tahuroa Road**	**6.11**	**222**	P	Pn	12 20 05.4	+5.7
SNGZ	**Shannon Statio**	**6.12**	**205**	P	**Pn**	**12 20 00.6**	**+0.6**
HSRZ	**Hossack Road**	**6.17**	**214**	P	Pn	12 20 05.8	+5.1
HRRZ	**Handcock Road**	**6.21**	**213**	P	Pn	12 20 06.6	+5.3
PRRZ	**Plateau Road**	**6.25**	**212**	P	**Pn**	**12 20 04.6**	**+2.8**
GRRZ	**Galatos Road**	**6.26**	**214**	P	Pn	12 20 07.2	+5.3
MHGZ	**Mahia Peninsul**	**6.28**	**200**	P	**Pn**	**12 20 02.2**	**0.0**
ALRZ	**Allen Road**	**6.33**	**212**	P	**Pn**	**12 20 06.0**	**+3.1**
MTNZ	**Maungataniwha**	**6.37**	**208**	P	**Pn**	**12 20 05.0**	**+1.7**
WPRZ	**Whakapapatarin**	**6.38**	**213**	P	**Pn**	**12 20 07.9**	**+4.5**
WHHZ	**Waihua**	**6.42**	**204**	P	**Pn**	**12 20 05.1**	**+1.0**
KUTZ	**Kaahu Road**	**6.51**	**215**	P	**Pn**	**12 20 09.4**	**+4.1**
MRHZ	**Matea Rd**	**6.52**	**210**	P	**Pn**	**12 20 07.5**	**+2.0**
TLZ	**Tolley Road**	**6.53**	**218**	P	**Pn**	**12 20 10.0**	**+4.4**
WHTZ	**Whakaora**	**6.59**	**214**	P	**Pn**	**12 20 10.9**	**+4.5**
NMHZ	**Naumai**	**6.59**	**207**	P	**Pn**	**12 20 08.4**	**+1.9**
HATZ	**Hinemaiaia**	**6.71**	**212**	P	**Pn**	**12 20 09.1**	**+1.0**
WATZ	**Wairara**	**6.73**	**215**	P	**Pn**	**12 20 11.6**	**+3.3**
BKZ	**Black Stump Fm**	**6.77**	**208**	P	**Pn**	**12 20 08.8**	**-0.1**
BKZ	**Black Stump Fm**	**6.77**	**208**		**Pn**	**12 20 09.1**	**+0.1**
RATZ	**Rangitukua**	**6.83**	**214**	P	**Pn**	**12 20 12.9**	**+3.1**
RITZ	**Rihia Road**	**6.88**	**213**	P	**Pn**	**12 20 14.3**	**+3.8**
MCHZ	**McNeill Hill**	**6.94**	**206**	P	**Pn**	**12 20 12.0**	**+0.9**
KATZ	**Kakaramea**	**6.96**	**213**	P	Pn	12 20 16.4	+4.8
CKHZ	**Cape Kidnapper**	**7.00**	**203**	P	**Pn**	**12 20 10.7**	**-1.3**
KWHZ	**Kaweka Forest**	**7.02**	**208**	P	**Pn**	**12 20 14.3**	**+1.9**
HIZ	**Hauiti**	**7.03**	**220**	P	Pn	12 20 17.3	+5.0
HIZ	**Hauiti**	**7.03**	**220**		**Pn**	**12 20 16.5**	**+4.1**
TMVZ	**Te Maari**	**7.07**	**213**	P	**Pn**	**12 20 14.2**	**+1.1**
KRVZ	**Karewarewa**	**7.08**	**213**	P	**Pn**	**12 20 15.7**	**+2.5**
ETVZ	**East Tongariro**	**7.08**	**213**	P	**Pn**	**12 20 14.6**	**+1.4**
WTVZ	**West Tongariro**	**7.12**	**213**	P	**Pn**	**12 20 16.1**	**+2.3**
OTVZ	**Oturere**	**7.12**	**213**	P	**Pn**	**12 20 16.9**	**+3.0**
TWVZ	**Taurewa**	**7.16**	**214**	P	**Pn**	**12 20 16.9**	**+2.6**
NGZ	**Ngauruhoe**	**7.16**	**213**	P	**Pn**	**12 20 16.0**	**+1.6**
KAHZ	**Kahuranaki**	**7.19**	**204**	P	**Pn**	**12 20 13.9**	**-0.7**
TUVZ	**Tukino**	**7.21**	**212**	P	**Pn**	**12 20 17.0**	**+1.9**
BHHZ	**Black Hill Sta**	**7.22**	**209**	P	**Pn**	**12 20 16.1**	**+1.0**
KRHZ	**Kereru**	**7.24**	**207**	P	**Pn**	**12 20 15.1**	**-0.1**
FWVZ	**Far West T-bar**	**7.25**	**213**	P	**Pn**	**12 20 17.4**	**+1.7**
WHVZ	**Whangaehu Hut**	**7.26**	**213**	P	**Pn**	**12 20 17.1**	**+1.4**
DRZ	**Dome Shelter**	**7.26**	**213**	P	**Pn**	**12 20 18.4**	**+2.5**
MOVZ	**Moawhango**	**7.29**	**211**	P	**Pn**	**12 20 15.6**	**-0.4**
TRVZ	**Turoa**	**7.29**	**213**	P	**Pn**	**12 20 18.8**	**+1.8**
WNVZ	**Wahianoa**	**7.29**	**212**	P	**Pn**	**12 20 17.5**	**+1.3**
MTVZ	**Mangateitei**	**7.39**	**213**	P	**Pn**	**12 20 20.2**	**+2.7**
PXZ	**Pawanui**	**7.41**	**203**	P	**Pn**	**12 20 16.3**	**-1.3**
PNHZ	**Pukenui**	**7.53**	**207**	P	**Pn**	**12 20 18.9**	**-0.5**
WPHZ	**Waipukurau**	**7.58**	**205**	P	**Pn**	**12 20 19.5**	**-0.5**
PRHZ	**Porangahau**	**7.69**	**203**	P	**Pn**	**12 20 20.6**	**-0.9**
TSZ	**Takapari Road**	**7.75**	**207**	P	**Pn**	**12 20 21.2**	**-1.2**
ANWZ	**Angora Road**	**7.92**	**204**	P	**Pn**	**12 20 25.8**	**+1.2**
ANWZ				S	**Sn**	**12 21 47.1**	**-5.9**
BFZ	**Birch Farm**	**8.20**	**204**	Pn	**Pn**	**12 20 27.0**	**-1.4**
MSWZ	**Moikau Station**	**9.20**	**206**		**Pn**	**12 20 40.8**	**-1.4**
SNZO	**South Karori**	**9.32**	**209**	Pn	**Pn**	**12 20 40.9**	**-2.9**
PLWZ	**Palliser**	**9.33**	**206**		**Pn**	**12 20 41.7**	**-2.3**
BHW	**Baring Head**	**9.33**	**208**	Pn	**Pn**	**12 20 41.6**	**-2.4**
TUWZ	**Tuamarina**	**9.73**	**211**		**Pn**	**12 20 46.3**	**-3.2**
NNZ	**Nelson**	**9.82**	**214**	Pn

DZM Mont Dzumac 16.76 308 P **P** **12 22 28.2 +2.1**
comp=Z,2.4nm,0.3s,baz=120,slow=14,SNR=74
DZM LR LR 12 27 36.3
comp=Z,7μm,20.4s,baz=131,slow=33
DZM Mont Dzumac 16.76 308 *e*Pn **P** **12 22 29.8 +3.7**
comp=Z,650nm,1.0s
DZM *e*S **S** **12 25 32.0 -7.3**
comp=Z,4μm,26.8s
DZM *e*LR LR 12 26 23.5
comp=Z,14μm,25.1s
DZM Mont Dzumac 16.76 308 **P** **12 22 27.0 +0.9**
DZM IAmb IAmb 12 22 31.6
comp=Z,310nm,1.0s
AFI Afiamalu 20.46 22 P **P** **12 23 06.8 0.0**
AFI pmax pmax
comp=Z,100nm,1.1s
AFI Afiamalu 20.46 22 P **P** **12 23 06.8 0.0**
RAR Rarotonga 21.13 60 P **P** **12 23 16.4 +2.6**
comp=Z,104nm,1.1s,baz=232,slow=6.6,SNR=11
RAR LR LR 12 30 04.3
comp=Z,898nm,19.5s,baz=211,slow=32
SANVU Saraoutou 21.48 322 P **P** **12 23 21.8 +4.1**
SANVU IAmb IAmb 12 23 32.0
comp=Z,258nm,0.8s
MGCD Mangrove Creek 24.64 262 P **P** **12 23 50.2 +0.9**
baz=25,SNR=9.8
ARMA Armidale 24.75 269 P **P** **12 23 51.6 +1.2**
baz=25,SNR=12
ARMA Armidale 24.75 269 P **P** **12 23 55.4 +5.0**
CNB Canberra Magne 25.85 257 P **P** **12 24 01.3 +1.0**
baz=26,SNR=15
CAN Canberra 26.14 257 P **P** **12 24 07.4 +4.4**
CAN pmax pmax
comp=Z,47nm,1.2s
CAN Canberra 26.14 257 P **P** **12 24 07.4 +4.4**
YNG Young 26.74 259 P **P** **12 24 09.3 +1.0**
baz=27,SNR=6.9
EIDS Eidsvold 26.85 279 P **P** **12 24 12.2 +2.8**
baz=27,SNR=37
EIDS Eidsvold 26.85 279 P **P** **12 24 12.7 +3.3**
TAU Tasmania Unive 27.77 240 P **P** **12 24 19.1 +1.7**
TAU pmax pmax
comp=Z,118nm,1.5s
TAU Tasmania Unive 27.77 240 P **P** **12 24 19.1 +1.7**
TAU IAmb IAmb 12 24 46.4
comp=Z,118nm,1.4s
MOO Moorlands 27.79 241 P **P** **12 24 17.4 -0.3**
baz=28,SNR=10
TBI Tubuai 28.05 77 *e*S **S** **12 29 02.4 -0.2**
comp=Z,589nm,39.8s
TBI *e*LR LR 12 31 29.6
comp=Z,5μm,29.0s,baz=240
TBI Tubuai 28.05 77 *e*T T 12 53 17.0
comp=Z,213nm,0.4s
RMQ Roma 28.36 275 P **P** **12 24 25.5 +2.6**
baz=29,SNR=32
TOO Toolangi 28.84 251 P **P** **12 24 27.4 +0.3**
baz=29,SNR=12
TOO Toolangi 28.84 251 P **P** **12 24 30.1 +3.0**
TOO pmax pmax
comp=Z,59nm,1.6s
TOO Toolangi 28.84 251 P **P** **12 24 30.1 +3.0**
CMSA Cobar Meteorol 29.45 264 P **P** **12 24 33.2 +0.6**
baz=30,SNR=20
HNR Honiara 30.41 317 P **P** **12 24 42.5 +1.4**
HNR pmax pmax
comp=Z,222nm,0.8s
HNR Honiara 30.41 317 P **P** **12 24 42.5 +1.4**
PAE Paea 30.93 67 *e*T T 12 56 44.7
comp=Z,43nm,0.2s
PPT2 Papeete2 30.98 67 *e*S **S** **12 29 48.4 -0.3**
PPT2 *e*LR LR 12 32 45.5
comp=Z,4μm,27.8s,baz=228
PPT2 Papeete2 30.98 67 *e*T T 12 56 49.5
comp=Z,26nm,0.2s
PPT Papeete 30.99 67 LR LR 12 37 10.8
comp=Z,634nm,18.5s,baz=250,slow=36
TVO Taravao 31.11 68 *e*T T 12 56 59.7
comp=Z,5.6nm,0.3s
TIAR Tiarei 31.17 67 *e*T T 12 57 02.9
comp=Z,5.7nm,0.2s
ARPS Mount Arapiles 31.80 253 P **P** **12 24 52.8 -0.4**
baz=32,SNR=15
MEH Mehetia 31.99 69 *e*T T 12 58 06.0
comp=Z,59nm,0.3s
QLP Quilpie 32.10 272 P **P** **12 24 57.0 +1.0**
baz=32,SNR=10.0
STKA Stephens Creek 32.78 262 P **P** **12 25 03.6 +1.7**
comp=Z,6.7nm,0.6s,baz=108,slow=11,SNR=21
STKA LR LR 12 37 20.7
comp=Z,2μm,18.9s,baz=100,slow=34
STKA Stephens Creek 32.78 262 P **P** **12 25 02.4 +0.5**
baz=33,SNR=15
STKA Stephens Creek 32.78 262 P **P** **12 25 04.6 +2.7**
STKA pmax pmax
comp=Z,5.0nm,1.2s
STKA Stephens Creek 32.78 262 P **P** **12 25 04.6 +2.7**
CTA Charters Tower 33.22 285 P **P** **12 25 08.7 +2.8**
comp=Z,48nm,0.5s
CTA LR LR 12 36 49.8
comp=Z,1μm,21.0s,baz=118,slow=33
CTAO Charters Tower 33.22 285 P **P** **12 25 08.9 +3.1**
CTAO pmax pmax
comp=Z,57nm,0.6s
CTAO Charters Tower 33.22 285 P **P** **12 25 08.9 +3.1**
CTAO IAmb IAmb 12 25 09.9
comp=Z,57nm,0.6s
PMOR Pomariorio Ree 33.82 65 *e*T T 13 00 19.7
baz=33,SNR=14
comp=Z,13nm,0.3s
VAH Vaihoa 33.88 66 *e*T T 13 00 24.2
comp=Z,120nm,0.2s
HTT Hallett 34.66 258 P **P** **12 25 19.2 +1.0**
baz=35,SNR=15
MTSU Mount Surprise 35.80 286 P **P** **12 25 31.0 +2.9**
baz=36,SNR=39
BBOO Buckleboo 37.14 258 P **P** **12 25 39.7 +0.2**
baz=37,SNR=14
BBOO Buckleboo 37.14 258 P **P** **12 25 40.4 +1.0**
QIS Mount Isa 38.45 279 P **P** **12 25 52.2 +1.5**
baz=39,SNR=39
PMG Port Moresby 38.88 300 P **P** **12 25 56.5 +2.3**
comp=Z,50nm,0.8s
PMG LR LR 12 39 24.8
comp=Z,2μm,20.9s,baz=120,slow=32
PMG Port Moresby 38.88 300*c i*P **P** **12 25 56.0 +1.7**
PMG pmax pmax
comp=Z,39nm,1.0s
PMG Port Moresby 38.88 300 P **P** **12 25 55.9 +1.7**
PMG IAmb IAmb 12 25 57.4
comp=Z,51nm,0.8s
COEN Coen 39.03 290 P **P** **12 25 58.2 +2.6**
baz=39,SNR=16
COEN Coen 39.03 290 P **P** **12 25 58.0 +2.4**
RABL Rabaul 39.24 311 P **P** **12 25 59.1 +1.8**
XMAS Kiritimati 40.76 35 P **P** **12 26 11.6 +1.7**
XMAS IAmb IAmb 12 26 12.3
comp=Z,163nm,1.2s
AS31 Alice Springs 41.87 271 P **P** **12 26 20.1 +1.1**
ASAR Alice Springs 41.87 271 P **P** **12 26 18.6 -0.3**
comp=Z,73nm,0.6s,baz=111,slow=6.8,SNR=448
ASAR PcP **PcP** **12 28 12.8 -1.6**
comp=Z,5.4nm,0.6s,baz=117,slow=4.4,SNR=1.6
ASAR ScP **ScP** **12 31 58.1 -4.0**
comp=Z,1.4nm,0.8s,baz=112,slow=4.7,SNR=1.8
ASAR S S 12 32 24.9 -10
comp=Z,2.1nm,0.9s,baz=108,slow=12,SNR=4.1
ASAR LR LR 12 42 33.7
comp=Z,1μm,21.5s,baz=126,slow=34
ASAR P3KPbc 12 55 47.1
comp=Z,0.2nm,0.9s,baz=310,slow=4.2,SNR=4.8
ASAR Alice Springs 41.87 271 P **P** **12 26 19.5 +0.5**
WR0 Warramunga Arr 42.94 276 P **P** **12 26 27.5 -0.2**
WB2 Warramunga Arr 43.10 276 IAmb IAmb 12 26 31.9
comp=Z,70nm,0.6s
WRAB Tennant Creek 43.11 276*c i*P **P** **12 26 30.0 +0.9**
WRAB pmax pmax
comp=Z,54nm,0.6s
WRAB Tennant Creek 43.11 276 P **P** **12 26 29.4 +0.3**
WRAB IAmb IAmb 12 26 31.9
comp=Z,63nm,0.7s
WRA Warramunga Arr 43.12 276 P **P** **12 26 28.8 -0.3**
comp=Z,55nm,0.6s,baz=115,slow=7.5,SNR=351
WRA ScP **ScP** **12 32 02.4 -4.7**
comp=Z,5.7nm,0.9s,baz=121,slow=4.1,SNR=11
WRA S **S** **12 32 47.0 -6.2**
comp=Z,4.8nm,1.0s,baz=117,slow=14,SNR=8.5
WRA LR LR 12 43 29.9
comp=Z,1μm,21.7s,baz=125,slow=35
WRA Warramunga Arr 43.12 276 P **P** **12 26 27.6 -1.5**
WB0 Warramunga Arr 43.15 276 IAmb IAmb 12 26 31.9
comp=Z,66nm,0.7s
FORT Forrest 44.24 258 P **P** **12 26 38.6 +0.6**
baz=44,SNR=29
FORT Forrest 44.24 258 P **P** **12 26 38.3 +0.3**
PATS Pohnpei 45.14 328 P **P** **12 26 44.7 -0.6**
PATS IAmb IAmb 12 26 46.3
comp=Z,76nm,0.9s
VNDA Vanda 45.15 186 P **P** **12 26 47.2 +2.6**
comp=Z,6.9nm,0.6s,baz=360,slow=7.9,SNR=37
VNDA PcP **PcP** **12 28 25.2 +0.7**
comp=Z,12nm,0.7s,baz=326,slow=2.5,SNR=6.0
VNDA ScP **ScP** **12 32 10.9 -3.5**
comp=Z,3.7nm,0.9s,baz=25,slow=6.7,SNR=3.3
VNDA LR LR 12 41 40.1
comp=Z,463nm,21.9s,baz=23,slow=31
VNDA Vanda 45.15 186 P **P** **12 26 46.4 +1.7**
WRKA Warakurna 46.02 266 P **P** **12 26 52.2 -0.2**
baz=46,SNR=135
KDU Kakadu 48.33 283 P **P** **12 27 11.3 +0.9**
baz=49,SNR=15
GENI Genyem 48.58 300 P **P** **12 27 13.9 +1.7**
comp=Z,99nm,0.9s
KMBL Kambalda 49.10 255 P **P** **12 27 15.5 -0.6**
baz=49,SNR=6.2
MTN Manton Dam 49.34 282 P **P** **12 27 19.2 +1.1**
baz=50,SNR=24
MTN Manton Dam 49.34 282 P **P** **12 27 19.2 +1.1**
MTN IAmb IAmb 12 27 36.6
comp=Z,43nm,1.1s
KNRA Kununurra 49.82 278 P **P** **12 27 22.8 +1.1**
baz=50,SNR=25
KNRA Kununurra 49.82 278 IAmb IAmb 12 27 27.2
comp=Z,44nm,0.7s
FITZ Fitzroy Crossi 51.24 273 P **P** **12 27 33.1 +0.6**
baz=52,SNR=75
FITZ Fitzroy Crossi 51.24 273 IAmb IAmb 12 27 34.3
comp=Z,58nm,0.9s
CASY Casey 52.08 209 P **P** **12 27 37.5 -0.5**
CASY IAmb IAmb 12 28 05.0
comp=Z,37nm,0.8s
NWAO Narrogin (SRO) 52.33 252 LR LR 12 47 16.2
comp=Z,524nm,21.7s,baz=88,slow=33
NWAO Narrogin (SRO) 52.33 252 P **P** **12 27 40.0 -0.5**
baz=52,SNR=6.5
NWAO Narrogin (SRO) 52.33 252 P **P** **12 27 39.8 -0.7**
NWAO pmax pmax
comp=Z,105nm,1.7s
NWAO Narrogin (SRO) 52.33 252 P **P** **12 27 39.6 -0.9**
NWAO IAmb IAmb 12 27 57.7
comp=Z,85nm,1.6s
NWAO Narrogin (SRO) 52.33 252 P **P** **12 27 39.8 -0.7**
NWAO IAmb IAmb 12 27 57.8
comp=Z,105nm,1.6s
KLBR Kellerberrin 52.35 254 P **P** **12 27 39.9 -0.7**
baz=52,SNR=14
BAKI Biak 52.50 298 P **P** **12 27 44.6 +2.7**
comp=Z,106nm,0.7s
MEEK Meekatharra 53.45 260 P **P** **12 27 47.9 -0.9**
baz=54,SNR=19
MUN Mundaring 53.46 253 P **P** **12 27 48.2 -0.6**
baz=54,SNR=3.6
BLDU Ballidu 53.53 254 P **P** **12 27 48.5 -0.9**
baz=54,SNR=7.0
FAKI Fak Fak 54.29 293 P **P** **12 27 55.1 +0.1**
FAKI IAmb IAmb 12 27 57.0
comp=Z,37nm,0.9s
PSA00 Pilbara Seismi 54.52 266 P **P** **12 27 55.5 -1.2**
PSA00 Pilbara Seismi 54.52 266 IAmb IAmb 12 27 56.9
comp=Z,32nm,0.8s
MORW Morawa 54.63 256 P **P** **12 27 56.8 -0.6**
baz=55,SNR=16
MORW Morawa 54.63 256 IAmb IAmb 12 27 57.5
comp=Z,39nm,0.8s
SOEI Soe 56.66 281 P **P** **12 28 14.4 +2.2**
comp=Z,102nm,1.0s
QSPA South Pole Qui 56.87 180 P **P** **12 28 15.3 +2.2**
comp=Z,95nm,0.8s,baz=25,slow=1.0,SNR=423
QSPA South Pole Qui 56.87 180 P **P** **12 28 15.2 +2.2**
BATI Baumata 56.91 280 P **P** **12 28 16.5 +2.6**
comp=Z,41nm,0.7s
KHLU Kahalu`u 57.14 27 P **P** **12 28 16.7 +1.3**
MLH Mauna Loa 57.24 27 P **P** **12 28 16.9 +0.6**
HMH Humu'ula Sheep 57.30 27 P **P** **12 28 17.6 +0.8**
POHA Pohakuloa 57.42 27 P **P** **12 28 18.3 +0.8**
KIP Kipapa 58.07 24‖ *e*P **P** **12 28 23.0 +1.2**
KIP pmax pmax
comp=Z,119nm,1.7s
GIRL Giralia 58.73 262 P **P** **12 28 27.7 +1.1**
baz=59,SNR=5.9
GIRL Giralia 58.73 262 P **P** **12 28 26.5 -0.1**
MMRI Maumere 58.94 281 P **P** **12 28 28.8 +0.7**
comp=Z,2μmcomp=Z,109nm,0.9s
MMRI Maumere 58.94 281 P **P** **12 28 28.0 -0.1**
EDFI Ende, Flores 59.33 280 P **P** **12 28 30.9 0.0**
comp=Z,12nm,0.8s
SANI Sana 59.72 289 P **P** **12 28 33.6 +0.1**
comp=Z,764nmcomp=Z,68nm,1.1s
BKSI Bulukumba 62.53 282 P **P** **12 28 53.0 +0.5**
comp=Z,566nmcomp=Z,48nm,1.1s
PLAI Plampang 62.53 278 P **P** **12 28 53.0 +0.5**
comp=Z,763nmcomp=Z,81nm,1.2s
LUWI Luwuk 62.88 288 P **P** **12 28 56.3 +1.4**
LUWI Luwuk 62.88 288 P **P** **12 28 54.2 -0.6**
KAPI Kappang 63.00 282 P **P** **12 28 55.0 -0.7**
KAPI pmax pmax
comp=Z,29nm,0.9s
KAPI Kappang 63.00 282 P **P** **12 28 55.0 -0.7**
KAPI IAmb IAmb 12 28 57.1
comp=Z,29nm,0.8s
TWSI Taliwang, Sumb 63.32 277 P **P** **12 28 58.1 +0.3**
comp=Z,538nmcomp=Z,61nm,1.1s
SPSI Sidrap Palu 63.59 283 P **P** **12 28 59.1 -0.5**
comp=Z,53nm,1.0s
APSI Ampana 63.85 287 P **P** **12 29 01.8 +0.5**
comp=Z,347nmcomp=Z,27nm,0.9s
TTSI Tana Toraja 64.08 284 P **P** **12 29 03.0 +0.2**
comp=Z,8μmcomp=Z,952nmcomp=Z,34nm,0.9s
JAGI Jajag, Banyuwa 65.73 276 P **P** **12 29 13.3 -0.3**
comp=Z,84nm,1.2s
JAGI Jajag, Banyuwa 65.73 276 IAmb IAmb 12 29 14.0
comp=Z,96nm,1.2s
MPSI Mapaga 66.00 287 P **P** **12 29 14.5 -0.8**
comp=Z,29nm,1.0s
GMJI Gumukmas 66.43 276 P **P** **12 29 17.7 -0.4**
comp=Z,1μmcomp=Z,117nm,1.0s
KBKI Kotabaru 66.91 282 P **P** **12 29 21.9 +0.8**
comp=Z,1μmcomp=Z,58nm,1.0s
BBKI Banjar Baru 67.91 281 P **P** **12 29 28.4 +0.9**
comp=Z,46nm,1.6s
PWJI Pagerwojo 67.93 275 P **P** **12 29 28.0 +0.4**
comp=Z,45nm,1.2s
WOJI Wonogiri, Jawa 68.77 275 P **P** **12 29 33.3 +0.5**
comp=Z,40nm,1.6s
MAW Mawson 69.23 201 P **P** **12 29 35.0 +0.1**
comp=Z,23nm,0.8s,baz=133,slow=8.0,SNR=38
MAW LR LR 12 58 54.9
comp=Z,679nm,19.3s,baz=92,slow=35
MAW Mawson 69.23 201 P **P** **12 29 34.9 +0.1**
baz=69,SNR=53
MAW Mawson 69.23 201 P **P** **12 29 35.0 +0.1**
MAW Mawson 69.23 201 P **P** **12 29 34.9 +0.1**
MYLDM Lahad Datu 70.03 291 P **P** **12 29 40.3 -0.3**
PMSA Palmer Station 70.16 156 P **P** **12 29 41.2 +0.6**
comp=Z,9.1nm,0.7s,baz=173,slow=6.5,SNR=5.0
PMSA Palmer Station 70.16 156 P **P** **12 29 41.8 +1.2**
PMSA IAmb IAmb 12 29 58.9
comp=Z,34nm,1.1s
CISI Cisompet, Garu 71.52 273 P **P** **12 29 49.4 -0.4**
comp=Z,85nm,1.1s
CISI Cisompet, Garu 71.52 273 P **P** **12 29 48.4 -1.4**
DBJI Dramaga 72.94 273 P **P** **12 29 57.9 -0.3**
comp=Z,617μmcomp=Z,13μmcomp=Z,37nm,0.7s
SBUM Sibu 73.43 284 P **P** **12 30 00.2 -0.8**
SBUM Sibu 73.43 284 P **P** **12 30 01.0 -0.1**
SYO Syowa Base 74.08 194‖ *i*P **P** **12 30 01.8 -2.2**
SYO Syowa Base 74.08 194‖ *i*pP pP 12 30 13.4 -0.9
SYO Syowa Base 74.08 194‖ *e*PP PP 12 32 46.0 -2.9
GO09 Cerro Castillo 74.32 141 IAmb IAmb 12 30 25.1
comp=Z,93nm,1.1s
KSM Kuching 74.43 282 P **P** **12 30 05.4 -1.5**
SNAA Sanae 75.34 179 P **P** **12 30 11.9 +0.5**
SNAA Sanae 75.34 179*c i*P **P** **12 30 11.8 +0.5**
SNAA pmax pmax
comp=Z,99nm,1.7s
SNAA Sanae 75.34 179 P **P** **12 30 11.3 0.0**
SNAA IAmb IAmb 12 30 29.3
comp=Z,50nm,0.9s
VNA3 Neumayer Olymp 75.54 177 P **P** **12 30 12.9 +0.4**
KLSI 75.63 274 P **P** **12 30 11.9 -2.0**
comp=Z,19nm,0.9s
VNA2 Neumayer--Watz 75.96 177 P **P** **12 30 15.7 +0.8**
baz=173,slow=4.8
NVL N'lazarevskaya 75.97 184‖ *i*P **P** **12 30 14.3 -0.5**
NVL *e*S **S** **12 39 52.5 -2.4**
NVL pmax pmax
comp=Z,64nm,0.8s
VNA1 Neumayer--Stat 76.20 177 P **P** **12 30 17.0 +0.9**
MDSI Maura Dua 76.21 274 P **P** **12 30 15.1 -2.1**
comp=Z,58nm,0.8s
LHSI Lahat 77.11 274 P **P** **12 30 21.1 -1.2**
comp=Z,68nm,0.9s
KSI Kapahiang 77.98 274 P **P** **12 30 25.4 -1.8**
DSRI Dabo 78.06 277 P **P** **12 30 26.3 -1.3**
comp=Z,5.5nm,0.8s
MASI Maura Aman, Be 78.56 274 P **P** **12 30 29.6 -0.8**
comp=Z,248nm,0.9s
LL01 San Ignacio de 79.33 134 P **P** **12 30 33.9 -0.2**
LL01 IAmb IAmb 12 30 36.0
comp=Z,33nm,1.1s
H03S2 Juan Fernandez 79.88 124 T T 13 58 58.4
baz=235,slow=74,SNR=298
H03S1 Juan Fernandez 79.89 124 T T 13 59 06.5
baz=235,slow=74,SNR=321
H03S3 Juan Fernandez 79.89 124 T T 13 58 58.3
baz=235,slow=74,SNR=242
MJAR Matsushiro Arr 79.93 327 P **P** **12 30 35.7 -1.5**
comp=Z,6.8nm,0.9s,baz=173,slow=5.4,SNR=9.0
MJAR LR LR 13 03 19.3
comp=Z,127nm,20.0s,baz=150,slow=34
MJAR Matsushiro Arr 79.93 327 P **P** **12 30 35.1 -2.2**
MAJO Matsushiro 79.93 327‖ *e*P **P** **12 30 36.7 -0.6**
MAJO pmax pmax
comp=Z,10.0nm,1.1s
MAT Matsushiro 79.93 327 P **P** **12 30 35.8 -1.5**
H03N3 Juan Fernandez 80.09 123 T T 13 59 09.1
baz=240,slow=72,SNR=321
H03N2 Juan Fernandez 80.09 123 T T 13 59 05.1
baz=240,slow=72,SNR=356
H03N1 Juan Fernandez 80.10 123 T T 13 59 17.3
baz=240,slow=72,SNR=418
JNU Nakatsue 80.92 320 LR LR 13 00 13.2
comp=Z,72nm,21.6s,baz=102,slow=31
EFI East Falkland 81.04 147*ce*P **P** **12 30 43.7 +0.5**
EFI pmax pmax
comp=Z,108nm,1.1s
PLCA Paso Flores 81.43 133 P **P** **12 30 47.3 +1.7**
comp=Z,48nm,0.8s,baz=232,slow=5.2,SNR=97
PLCA LR LR 13 02 06.9
comp=Z,246nm,18.3s,baz=244,slow=32
MNSI Mandailing Nat 82.93 276 P **P** **12 30 51.8 -1.9**
BI02 San Fabin de 83.40 130 P **P** **12 30 57.4 +1.4**
IPM Ipoh 83.76 279 P **P** **12 30 57.0 -1.0**
RPSI Rantau Prapat 84.52 277 P **P** **12 30 59.9 -2.0**
RPSI IAmb IAmb 12 31 01.0
comp=Z,30nm,1.2s
KULM Kulim 84.52 280 P **P** **12 31 01.0 -0.8**
PSI Prapat 84.57 277 P **P** **12 30 59.9 -2.4**
PSI pmax pmax
comp=Z,30nm,1.2s
GSI Gunungsitoli 84.88 275 P **P** **12 31 03.3 -0.4**
comp=Z,1μmcomp=Z,95nm,1.0s
GSI Gunungsitoli 84.88 275 P **P** **12 31 03.0 -0.7**
QIZ Qiongzhong 85.17 296 P **P** **12 31 05.3 +0.4**
QIZ S **S** **12 41 32.8 +0.3**
QIZ sS **sS** **12 41 50.9 +1.1**
QIZ LR LR
comp=Z,240nm,12.3s
QIZ LR LR
comp=Z,250nm,32.4s
QIZ LR LR
comp=Z,380nm,35.8s
TJN Taejon 85.27 320‖ *e*P **P** **12 31 03.7 -1.3**
MT02 Curacav 85.53 127 IAmb IAmb 12 31 15.2
comp=Z,44nm,1.1s
KSRS Korea Array 85.77 321 P **P** **12 31 06.8 -0.7**
comp=Z,3.6nm,0.8s,baz=137,slow=6.1,SNR=14
KSRS LR LR 13 06 35.5
comp=Z,166nm,19.7s,baz=140,slow=34
KSAR Wonju Array Be 85.78 321 P **P** **12 31 06.3 -1.2**
KSAR Wonju Array Be 85.78 321 P **P** **12 31 06.3 -1.2**
VA03 San Esteban 86.22 127 IAmb IAmb 12 31 12.0
comp=Z,29nm,0.8s
TPTI 86.28 276 P **P** **12 31 08.9 -1.7**
CO02 Combarbal 86.86 125 P **P** **12 31 14.7 +1.3**
AAGR Agrelo 87.17 128 *i* P **P** **12 31 16.7 +1.8**
NJ2 Nanjing 87.22 312 *e*P **P** **12 31 16.5 +1.8**
NJ2 pmax pmax
comp=Z,17nm,0.8s
SCI2 San Clemente I 87.28 47 P **P** **12 31 16.1 +1.1**
baz=227
SCZ2 Santa Cruz Isl 87.31 46 P **P** **12 31 17.1 +1.9**
baz=226,SNR=5.1
AUSP Uspallata 87.33 127 *i* P **P** **12 31 18.1 +2.2**
ASAL Salagasta 87.47 128 *i* P **P** **12 31 17.6 +1.3**
CIS Catalina Islan 87.65 47 P **P** **12 31 17.9 +1.0**
baz=227,SNR=5.2
PKM Mcpherson Peak 87.82 45 P **P** **12 31 19.5 +1.6**
baz=226,SNR=8.7
SMMC Simmler 88.00 45 P **P** **12 31 20.5 +2.0**
baz=226,SNR=5.1
PET Petropavlovsk 88.02 347 *e*P **P** **12 31 18.3 +0.3**
PET *e* 12 34 47.2
PET *e* 12 41 38.5
PET *e*S **S** **12 42 00.5 +1.8**
PET *e*SS **SS** **12 47 46.6 -1.6**
PET *e*SSS SSS 12 51 25.4
PET pmax pmax
comp=Z,41nm,1.0s
PET pmax pmax
comp=Z,100nm,16.9s
109C Camp Elliot, M 88.11 48 P **P** **12 31 19.6 +0.7**
109C IAmb IAmb 12 31 20.9
comp=Z,22nm,1.1s
PAGB Antelope Grade 88.14 44 P **P** **12 31 19.9 +0.8**
SAO San Andreas Ge 88.17 43 IAmb IAmb 12 31 21.1
comp=Z,25nm,1.2s
TKX Tecate 88.21 49 IAmb IAmb 12 31 22.2
comp=Z,50nm,1.1s
ZON Zonda 88.22 127 P **P** **12 31 20.9 +1.0**
ZON pmax pmax
comp=Z,114nm,1.7s
ZON Zonda 88.22 127 P **P** **12 31 20.9 +1.0**
CO01 Juntas del Tor 88.22 125 P **P** **12 31 20.4 +0.3**
CO01 IAmb IAmb 12 31 47.4
comp=Z,28nm,1.3s
BAR Barrett 88.24 49 IAmb IAmb 12 31 22.4
comp=Z,24nm,1.1s
ESJX Sierra Juarez 88.25 49 IAmb IAmb 12 31 22.5
comp=Z,21nm,0.9s
OSI Osito Audit: C 88.28 46 P **P** **12 31 21.8 +2.0**
baz=227
PEA0B Petropavlovsk- 88.28 346*ce*P **P** **12 31 19.4 +0.1**
PEA0B Petropavlovsk- 88.28 346 P **P** **12 31 20.8 +1.4**
PETK Petropavlovsk- 88.28 346 P **P** **12 31 19.3 0.0**
comp=Z,23nm,0.8s,baz=123,slow=6.9,SNR=22
PETK LR LR 13 04 35.2
comp=Z,447nm,21.7s,baz=167,slow=31
PASC Pasadena Art C 88.31 47 IAmb IAmb 12 31 21.7
comp=Z,22nm,1.1s
LCO Las Campanas 88.39 124 P **P** **12 31 21.2 +0.2**
LCO pmax pmax
comp=Z,30nm,1.0s
LCO Las Campanas 88.39 124 P **P** **12 31 21.2 +0.2**
LCO IAmb IAmb 12 31 24.5
comp=Z,30nm,0.9s
MWC Mount Wilson 88.42 47 IAmb IAmb 12 31 23.2
comp=Z,23nm,0.9s
AROD Rodeo 88.53 125 *i* P **P** **12 31 23.1 +1.4**
MURC Murrieta 88.53 48 P **P** **12 31 22.9 +1.9**
baz=228,SNR=14
MONP2 Monument Peak 88.54 49 P **P** **12 31 23.2 +1.9**
baz=228,SNR=24
ACCO Cerro Coronel 88.55 126 *i* P **P** **12 31 23.2 +1.4**
RMX La Rumorosa 88.57 49 IAmb IAmb 12 31 24.4
comp=Z,44nm,1.1s
ARVC Arvin 88.57 46 P **P** **12 31 22.8 +1.7**
baz=227,SNR=9.2
IKP In-Ko-Pah, Jac 88.58 49 P **P** **12 31 23.3 +1.9**

baz=228,SNR=13
AC04 Llanos de Chal 88.62 123 IAmb IAmb 12 31 24.0
comp=Z,33nm,1.1s
BFSC Mount Baldy Ra 88.68 47 P **P** **12 31 23.3 +1.5**
baz=228,SNR=25
ACDV Cuesta del Vie 88.77 126 *i* P **P** **12 31 24.1 +1.5**
USRK Ussuriysk Ar. 88.89 327 P **P** **12 31 22.2 -0.2**
comp=Z,5.1nm,0.9s,baz=130,slow=4.2,SNR=6.7
USRK LR LR 13 08 07.0
comp=Z,204nm,19.0s,baz=127,slow=34
USRK Ussuriysk Ar. 88.89 327 P **P** **12 31 22.0 -0.4**
VES Vestal, Richgr 88.90 45 P **P** **12 31 23.9 +1.2**
baz=227,SNR=9.8
EDW2 Edwards Air Fo 88.91 46 P **P** **12 31 24.3 +1.5**
baz=227,SNR=27
SWSC Sam W. Stewart 88.97 49 P **P** **12 31 24.8 +1.8**
baz=229,SNR=13
PFO Pinyon Flats O 89.00 48 P **P** **12 31 25.0 +1.7**
baz=228,SNR=24
PFO Pinyon Flats O 89.00 48⇑ *i* P **P** **12 31 24.5 +1.2**
PFO pmax pmax
comp=Z,54nm,1.0s
PFO Pinyon Flats O 89.00 48 P **P** **12 31 24.7 +1.4**
PFO IAmb IAmb 12 31 25.6
comp=Z,27nm,0.9s
BBRC Big Bear Solar 89.14 47 P **P** **12 31 26.0 +1.9**
baz=228,SNR=8.8
ISA Isabella, Lake 89.15 45 P **P** **12 31 25.4 +1.5**
baz=227,SNR=41
ISA Isabella, Lake 89.15 45 P **P** **12 31 24.9 +1.0**
ISA pmax pmax
comp=Z,45nm,1.0s
ISA Isabella, Lake 89.15 45 P **P** **12 31 24.9 +1.0**
ISA IAmb IAmb 12 31 26.7
comp=Z,45nm,1.0s
LRMC Laurel Mtn Rad 89.50 46 P **P** **12 31 27.2 +1.6**
baz=228,SNR=10
BELC Belle Mtn. Jos 89.54 48 P **P** **12 31 27.8 +1.9**
baz=229,SNR=47
PIX Pinacate 89.57 51 IAmb IAmb 12 31 28.6
comp=Z,24nm,1.0s
AGUA GUANDACOL 89.62 125 *i* P **P** **12 31 28.5 +1.9**
HSIG 89.64 55 IAmb IAmb 12 31 28.2
comp=Z,18nm,0.9s
BC3 Big Chuckawall 89.65 49 P **P** **12 31 28.6 +2.2**
baz=229,SNR=36
GLA Glamis 89.66 49 P **P** **12 31 28.8 +2.5**
baz=229,SNR=8.4
CMB Columbia Colle 89.66 43 P **P** **12 31 27.1 +0.9**
CMB pmax pmax
comp=Z,25nm,1.0s
CMB Columbia Colle 89.66 43 P **P** **12 31 27.1 +0.9**
CMB IAmb IAmb 12 31 28.4
comp=Z,25nm,1.0s
O02D Mt. Diablo Mer 89.84 40 P **P** **12 31 29.2 +2.1**
baz=224,SNR=10
HEC Hector,Ludlow 89.88 47 P **P** **12 31 28.8 +1.4**
baz=228,SNR=16
CWC Cottonwood Cre 89.91 45 P **P** **12 31 28.8 +1.2**
baz=227
GSC Goldstone, Bar 89.91 47 P **P** **12 31 29.2 +1.7**
baz=228,SNR=29
GSC Goldstone, Bar 89.91 47 IAmb IAmb 12 31 30.3
comp=Z,37nm,1.1s
AFDM Forest Hills D 89.97 42 P **P** **12 31 28.3 +0.7**
AFDM IAmb IAmb 12 31 29.7
comp=Z,19nm,1.1s
MPMC Manual Prospec 90.00 46 P **P** **12 31 29.4 +1.3**
baz=228,SNR=15
MDPB Devils Postpil 90.13 44 IAmb IAmb 12 31 47.1
comp=Z,19nm,1.1s
OMMB Old Mammoth Mi 90.17 44 IAmb IAmb 12 31 31.5
comp=Z,40nm,1.8s
IRM Iron Mountain 90.18 48 P **P** **12 31 30.8 +2.1**
baz=229,SNR=57
AC01 Pan de Azucar 90.20 122 IAmb IAmb 12 31 30.8
comp=Z,19nm,0.8s
TIN Tinemaha, Big 90.23 44 P **P** **12 31 30.7 +1.7**
baz=227
214A Organ Pipe Nat 90.25 51 P **P** **12 31 31.1 +2.0**
baz=230
214A Organ Pipe Nat 90.25 51 IAmb IAmb 12 31 32.3
comp=Z,27nm,1.1s
WDC Whiskeytown Da 90.27 40 P **P** **12 31 29.1 +0.2**
WDC pmax pmax
comp=Z,34nm,1.3s
WDC Whiskeytown Da 90.27 40 P **P** **12 31 29.1 +0.2**
WDC IAmb IAmb 12 31 31.3
comp=Z,34nm,1.3s
GMRC Granite Mounta 90.27 48 P **P** **12 31 31.0 +1.7**
baz=229,SNR=15
MDJ Mudanjiang 90.31 326 P **P** **12 31 31.0 +2.0**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,160nm,3.8s
APLL PUNTA DE LOS L 90.38 127 *i* P **P** **12 31 31.4 +1.3**
N02D Trinity Center 90.46 39 P **P** **12 31 31.7 +1.8**
baz=224,SNR=7.5
O03E Paynes Creek 90.46 40 P **P** **12 31 30.7 +0.8**
baz=225,SNR=8.1
TUQ Turquoise Moun 90.53 47 P **P** **12 31 32.2 +1.7**
baz=228,SNR=5.5
SHOC Shoshone, Teco 90.63 46 P **P** **12 31 32.1 +1.4**
baz=228,SNR=5.9
FURC Furnace Creek, 90.65 46 P **P** **12 31 32.1 +1.3**
baz=228,SNR=6.2
M02C Callahan 90.68 39 P **P** **12 31 32.7 +1.7**
baz=224
PNTR Pine Nut 90.84 42 IAmb IAmb 12 31 34.1
comp=Z,24nm,1.1s
PDMCI Parker Dam,Lak 90.90 49 P **P** **12 31 34.0 +2.0**
baz=230,SNR=13
NEE2 Needles Airpor 90.90 48 P **P** **12 31 33.7 +1.6**
baz=229,SNR=6.0
YERR Yerington 90.97 43 IAmb IAmb 12 31 33.9
comp=Z,12nm,0.9s
NVAR Mina Array Bea 91.12 43 P **P** **12 31 33.8 +0.6**
comp=Z,9.7nm,0.9s,baz=218,slow=7.9,SNR=56
NVAR LR LR 13 03 58.1
comp=Z,242nm,21.5s,baz=259,slow=30
NVAR Mina Array Bea 91.12 43 P **P** **12 31 33.7 +0.4**
K02D Willamette Mer 91.19 38 P **P** **12 31 34.1 +0.8**
baz=224
NV11 Mina Array Sit 91.21 44 P **P** **12 31 34.0 +0.4**
NV11 IAmb IAmb 12 31 35.7
comp=Z,20nm,1.2s
TPNV Topopah Spring 91.34 46 P **P** **12 31 35.7 +1.4**
baz=228,SNR=18
TPNV Topopah Spring 91.34 46 IAmb IAmb 12 31 36.8
comp=Z,15nm,0.9s
M04C Macdoel 91.49 39 P **P** **12 31 34.9 +0.1**
baz=225
L04D Klamath Falls 91.56 39 P **P** **12 31 35.6 +0.5**
baz=225
CN2 Changchun 91.71 324 *e*P **P** **12 31 34.5 -1.0**
CN2 *e*S **S** **12 42 31.0 -2.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,170nm,20.0s
CN2 LR LR
comp=Z,210nm,20.0s
CN2 LR LR
comp=Z,300nm,22.0s
TUC Tucson 91.80 52 P **P** **12 31 38.4 +2.0**
baz=231
TUC Tucson 91.80 52 P **P** **12 31 38.4 +2.0**
TUC pmax pmax
comp=Z,27nm,1.1s
TUC Tucson 91.80 52 P **P** **12 31 38.4 +2.0**
TUC IAmb IAmb 12 31 39.8
comp=Z,27nm,1.1s
ZAIG Zacatecas 91.93 64 P **P** **12 31 38.3 +0.8**
GYA Guiyang 91.95 300 *e*P **P** **12 31 37.1 -0.2**
GYA SKS **SKSac** **12 42 01.8 -6.0**
GYA S **S** **12 42 34.3 -2.4**
GYA pmax pmax
comp=Z,12nm,2.0s
GYA LR LR
comp=Z,190nm,20.5s
I03D Drain, OR 92.08 37 P **P** **12 31 38.4 +1.2**
baz=224
319A Douglas 92.23 54 IAmb IAmb 12 31 41.5
comp=Z,22nm,1.1s
PRN Pahroc Range 92.36 46 IAmb IAmb 12 31 42.0
comp=Z,21nm,1.1s

I04A Tendick Farm, 92.62 37 P **P** **12 31 40.6 +0.7**
baz=225
R11A Troy Canyon, C 92.66 45 P **P** **12 31 40.7 +0.4**
baz=229
J05D Fort Rock, OR 92.87 38 P **P** **12 31 42.1 +1.0**
baz=225
KLR Kul'dur 92.91 330 LR LR 13 10 20.1
comp=Z,371nm,19.9s,baz=184,slow=34
KLR Kul'dur 92.91 330⇑ *e*P **P** **12 31 41.2 +0.3**
KLR pmax pmax
comp=Z,13nm,1.9s
CMAR Chiang Mai Arr 93.23 290 P **P** **12 31 42.6 -0.6**
comp=Z,1.6nm,0.9s,baz=141,slow=3.2,SNR=10
CMAR PP **PP** **12 35 29.0 +1.6**
comp=Z,2.7nm,0.8s,baz=138,slow=7.4,SNR=12
CMAR PKKPbc **PKKPbc** **12 48 51.8 +1.4**
comp=Z,1.1nm,0.7s,baz=297,slow=4.9,SNR=8.2
CMAR LR LR 13 17 09.8
comp=Z,173nm,19.1s,baz=204,slow=38
CMAR Chiang Mai Arr 93.23 290 *i* P **P** **12 31 43.5 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 93.23 290 P **P** **12 31 42.5 -0.7**
PINE Pine Mountain 93.37 38 IAmb IAmb 12 32 00.1
comp=Z,45nm,1.2s
PB07 IPOC Station P 93.40 119 IAmb IAmb 12 31 46.8
comp=Z,27nm,1.1s
WUAZ Wupatki 93.43 49 P **P** **12 31 45.6 +1.6**
baz=231
WUAZ Wupatki 93.43 49 P **P** **12 31 45.4 +1.4**
WUAZ IAmb IAmb 12 31 46.9
comp=Z,34nm,1.7s
I05D Terrebonne, OR 93.55 38 P **P** **12 31 45.3 +1.2**
baz=225
LVC Limon Verde 93.57 120 P **P** **12 31 46.5 +1.2**
comp=Z,14nm,0.8s,baz=246,slow=4.7,SNR=16
LVC Limon Verde 93.57 120 P **P** **12 31 47.3 +2.0**
LVC pmax pmax
comp=Z,20nm,0.9s
LVC Limon Verde 93.57 120 P **P** **12 31 47.3 +2.0**
LVC IAmb IAmb 12 31 48.4
comp=Z,20nm,0.9s
NNA Nana 93.76 107⇓ *e*P **P** **12 31 48.7 +2.8**
NNA pmax pmax
comp=Z,26nm,1.6s
PB09 IPOC Station P 93.83 119 IAmb IAmb 12 31 49.4
comp=Z,29nm,1.0s
TA01 Diego Aracena 93.89 118 P **P** **12 31 47.9 +1.6**
TA01 IAmb IAmb 12 32 05.5
comp=Z,35nm,1.1s
121A Cookes Peak, D 93.94 53 P **P** **12 31 47.5 +1.1**
baz=233
121A Cookes Peak, D 93.94 53 P **P** **12 31 46.4 0.0**
BJI Beijing 94.13 316 P **P** **12 31 50.5 +3.7**
BJI SKS **SKSac** **12 42 14.4 -4.5**
BJI S **S** **12 42 54.8 -0.2**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,180nm,19.6s
BJI LR LR
comp=Z,180nm,22.9s
W18A Petrified Fore 94.23 50 P **P** **12 31 49.9 +2.2**
baz=232
J08A Circle Bar Ran 94.37 40 IAmb IAmb 12 32 09.2
comp=Z,21nm,1.3s
PB11 IPOC Station P 94.77 117 P **P** **12 31 49.4 -1.1**
PB11 IAmb IAmb 12 31 52.4
comp=Z,28nm,0.8s
TX31 Lajitas Ar. Si 94.91 58 IAmb IAmb 12 31 53.2
comp=Z,45nm,1.2s
TX32 Lajitas Array 94.91 58 P **P** **12 31 51.1 +0.3**
TX32 IAmb IAmb 12 31 53.2
comp=Z,15nm,1.2s
TXAR Lajitas Array 94.91 58 P **P** **12 31 52.1 +1.3**
comp=Z,6.0nm,1.0s,baz=202,slow=6.3,SNR=24
TXAR PKKPbc **PKKPbc** **12 48 46.7 +0.2**
comp=Z,0.4nm,0.7s,baz=126,slow=4.0,SNR=4.7
TXAR LR LR 13 07 06.3
comp=Z,226nm,20.9s,baz=0.0,slow=31
TXAR Lajitas Array 94.91 58 P **P** **12 31 51.3 +0.5**
MNTX Cornudas Mount 95.08 55 P **P** **12 31 52.2 +0.8**
baz=234
MNMC Minye Minye 95.19 117 IAmb IAmb 12 31 54.9
comp=Z,23nm,0.8s
ATAH Atahualpa 95.24 102 P **P** **12 31 55.0 +1.8**
comp=Z,6.7nm,0.9s,baz=278,slow=2.2,SNR=3.7
G08A Pilot Rock 95.43 38 P **P** **12 31 53.8 +1.0**
G08A IAmb IAmb 12 32 10.7
comp=Z,32nm,1.7s
E07A Sunnyside 95.84 37 IAmb IAmb 12 33 03.5
comp=Z,67nm,2.0s
ANMO Albuquerque 96.27 52 P **P** **12 31 58.0 +1.0**
baz=234
ANMO Albuquerque 96.27 52⇓ *i* P **P** **12 31 58.2 +1.2**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
CD2 Chengdu 96.61 303 *e*P **P** **12 31 58.3 -0.2**
CD2 SKS **SKSac** **12 42 31.9 -0.8**
CD2 S **S** **12 43 16.8 -0.3**
CD2 SS **SS** **12 49 53.4 +0.8**
CD2 pmax pmax
comp=Z,220nm,7.1s
CD2 LR LR
comp=Z,260nm,21.0s
CD2 LR LR
comp=Z,280nm,12.2s
CD2 LR LR
comp=Z,320nm,22.1s
PV13 Radium Mtn., P 96.66 48 P **P** **12 31 58.1 -0.7**
HLID Hailey 96.73 42 P **P** **12 32 00.0 +1.2**
baz=230
HLID Hailey 96.73 42 P **P** **12 31 59.4 +0.6**
PLID Pearl Lake 96.85 40 P **P** **12 32 00.1 +0.7**
PLID IAmb IAmb 12 32 09.1
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 97.37 314 *e*P Pdif 12 32 02.9 +1.1
HHC PP **PP** **12 36 02.4 +3.1**
HHC S **S** **12 43 20.9 -2.4**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,72nm,6.4s
HHC LR LR
comp=Z,150nm,18.8s
HHC LR LR
comp=Z,220nm,18.7s
HHC LR LR
comp=Z,300nm,18.7s
S22A 4UR Ranch, Cre 97.68 50 P **P** **12 32 04.3 +0.8**
baz=234
LPAZ La Paz 98.03 115 P **P** **12 32 07.0 +1.0**
comp=Z,4.7nm,0.7s,baz=209,slow=3.9,SNR=20
LPAZ LR LR 13 06 44.8
comp=Z,162nm,21.3s,baz=206,slow=29
LPAZ La Paz 98.03 115 P **P** **12 32 07.0 +1.0**
LPAZ La Paz 98.03 115 P **P** **12 32 05.7 -0.3**
MSTX Muleshoe 98.19 55 P **P** **12 32 06.3 +0.7**
baz=235
N25K Chitina, Valde 98.65 16 P Pdif 12 32 09.5 +2.5
baz=209
BW06 Boulder Array 99.00 44 P **Pdif** **12 32 09.1 -0.1**
baz=233
PDAR Pinedale Array 99.00 44 P **Pdif** **12 32 08.7 -0.5**
comp=Z,1.3nm,0.8s,baz=219,slow=3.5,SNR=11
PDAR PKKPbc **PKKPbc** **12 48 35.5 -0.5**
comp=Z,0.3nm,0.5s,baz=91,slow=5.6,SNR=4.7
PDAR LR LR 13 09 24.0
comp=Z,206nm,21.5s,baz=239,slow=31
PDAR Pinedale Array 99.00 44 **Pdif** **12 32 08.1 -1.1**
CPUP Villa Florida 99.12 130 P **Pdif** **12 32 10.2 +0.2**
comp=Z,1.0nm,0.5s,baz=174,slow=2.8,SNR=3.8
CPUP LR LR 13 08 54.7
comp=Z,583nm,21.8s,baz=225,slow=30
CPUP Villa Florida 99.12 130 IAmb IAmb 12 33 51.4
comp=Z,22nm,1.9s
LZH Lanzhou 99.47 307 *e*P **Pdif** **12 32 11.4 0.0**
LZH pP pP 12 32 22.9 +1.0
LZH sP sP 12 32 27.0 +1.4
LZH PP **PP** **12 36 18.1 +2.5**
LZH SKS **SKSac** **12 42 40.6 -6.6**
LZH SS **SS** **12 50 33.3 +0.3**
LZH pmax pmax
comp=Z,27nm,1.4s
LZH pmax pmax
comp=Z,140nm,7.6s

LZH LR LR
comp=Z,210nm,19.0s
LZH LR LR
comp=Z,230nm,18.4s
LZH LR LR
comp=Z,260nm,19.5s
MCK McKinley 99.63 13 P **Pdif** **12 32 14.2 +3.1**
baz=206
NEA2 Nenana 100.39 13 P **Pdif** **12 32 17.9 +3.4**
baz=206
MLY Manley 100.49 12 P **Pdif** **12 32 18.2 +3.3**
baz=204
HDA Harding Lake 100.63 14 P **Pdif** **12 32 18.6 +3.0**
baz=207
SCRK Sand Creek 100.86 15 P **Pdif** **12 32 16.9 +0.1**
baz=210
COLA College 100.87 13⇑ *e*P **Pdif** **12 32 19.1 +2.5**
COLA pmax pmax
comp=Z,11nm,1.2s
ILAR Eielson Array 100.96 14 P **Pdif** **12 32 16.6 -0.4**
comp=Z,3.4nm,0.9s,baz=204,slow=6.2,SNR=15
ILAR PKiKP **PKiKP** **12 36 40.8 -1.4**
comp=Z,3.9nm,1.2s,baz=207,slow=8.6,SNR=4.1
ILAR PKKPbc **PKKPbc** **12 48 28.9 -1.9**
comp=Z,0.8nm,0.7s,baz=35,slow=3.1,SNR=8.7
ILAR Eielson Array 100.96 14 **Pdif** **12 32 15.6 -1.5**
BILL Bilibino 101.55 355 *e*P **Pdif** **12 32 19.3 -0.3**
BILL pmax pmax
comp=Z,13nm,1.5s
SIV San Ignacio 103.47 119 Pdiff **Pdif** **12 32 30.9 +1.4**
comp=Z,1.3nm,0.8s,baz=294,slow=2.9,SNR=6.6
SONM Songino Array 104.46 318 PKKPbc PKKPbc 12 48 20.3 +0.3
comp=Z,1.7nm,0.9s,baz=289,slow=4.5,SNR=7.1
PTGA Pitinga 113.88 108 PKP **PKiKP** **12 37 07.2 -0.6**
comp=Z,1.0nm,0.3s,baz=228,slow=5.6,SNR=6.0
WMQ Urumqi 114.04 308 *e*PKP **PKiKP** **12 37 07.3 0.0**
WMQ AMB AMB
comp=Z,77nm,4.5s
WMQ LR LR
comp=Z,150nm,24.9s
WMQ LR LR
comp=Z,90nm,27.3s
BOSA Boshof 114.18 204 PKP **PKiKP** **12 37 08.0 -0.2**
comp=Z,3.4nm,0.7s,baz=78,slow=2.2,SNR=6.5
ZSN Zaisan 117.24 311 *e*PKP **PKPdf** **12 37 11.9 -1.3**
ZSN Zaisan 117.24 311 *e*PKIKP **PKPdf** **12 37 11.9 -1.3**
MK31 Makanchi Array 118.67 309 *c i*PKIKP **PKPdf** **12 37 14.5 -1.5**
MKAR Makanchi Array 118.67 309 PKP **PKPdf** **12 37 14.1 -1.9**
comp=Z,1.3nm,0.5s,baz=213,slow=1.5,SNR=15
MKAR SKP 12 40 42.5
comp=Z,2.4nm,1.0s,baz=93,slow=2.4,SNR=4.6
MKAR PKKPbc **PKKPbc** **12 47 33.0 +0.4**
comp=Z,1.4nm,0.6s,baz=284,slow=3.8,SNR=13
MKAR Makanchi Array 118.67 309 PKPdf **PKPdf** **12 37 13.2 -2.9**
MAKZ Makanchi 118.88 309 PKIKP **PKPdf** **12 37 14.4 -2.0**
MAKZ Makanchi 118.88 309 PKPdf **PKPdf** **12 37 14.4 -2.0**
ZALV Zalesovo Beam 119.35 318 PKP **PKPdf** **12 37 14.8 -2.2**
comp=Z,0.8nm,0.4s,baz=138,slow=2.2,SNR=7.0
ZALV Zalesovo Beam 119.35 318 PKPdf **PKPdf** **12 37 14.5 -2.5**
SHLS Shalkode 119.37 305 *e*PKP **PKPdf** **12 37 15.4 -2.3**
SHLS Shalkode 119.37 305 *e*PKIKP **PKPdf** **12 37 15.3 -2.3**
UZB Uzynbulak 119.67 304 *e*PKP **PKPdf** **12 37 16.8 -1.5**
UZB Uzynbulak 119.67 304 *e*PKIKP **PKPdf** **12 37 16.7 -1.5**
KPKS Kokpek 120.01 305 *e*PKP **PKPdf** **12 37 17.1 -1.8**
KPKS Kokpek 120.01 305 *e*PKIKP **PKPdf** **12 37 17.0 -1.8**
SATY Saty 120.07 304 *e*PKP **PKPdf** **12 37 17.4 -1.6**
SATY Saty 120.07 304 *e*PKIKP **PKPdf** **12 37 17.4 -1.6**
RES Resolute Bay 120.31 18 PKIKP **PKPdf** **12 37 17.5 -0.8**
RES Resolute Bay 120.31 18 PKPdf **PKPdf** **12 37 17.5 -0.8**
MDOK Medeo 121.05 304 *e*PKP **PKPdf** **12 37 19.3 -1.6**
MDOK Medeo 121.05 304 *e*PKIKP **PKPdf** **12 37 19.2 -1.6**
TNSS Tian-Shan 121.08 304 *e*PKP **PKPdf** **12 37 19.3 -1.9**
TNSS Tian-Shan 121.08 304 *e*PKIKP **PKPdf** **12 37 19.3 -1.9**
CHKK Chushkaly 121.30 305 *e*PKP **PKPdf** **12 37 19.2 -1.9**
CHKK Chushkaly 121.30 305 *e*PKIKP **PKPdf** **12 37 19.2 -1.9**
ULHL Ulahol 121.33 303 P **PKPdf** **12 37 20.4 -1.1**
SNR=7.6
NRIK Noril'sk 121.74 335 PKP **PKPdf** **12 37 18.6 -2.5**
comp=Z,3.8nm,0.5s,baz=92,slow=3.4,SNR=8.1
NRIK PKKP **PKKPdf** **12 47 58.9 +1.4**
comp=Z,1.2nm,0.4s,baz=202,slow=0.9,SNR=3.6
NRIK Noril'sk 121.74 335 *c i*PKIKP **PKPdf** **12 37 19.7 -1.5**
KUU Kurty 121.76 305 *e*PKP **PKPdf** **12 37 19.8 -2.3**
KUU Kurty 121.76 305 *e*PKIKP **PKPdf** **12 37 19.7 -2.3**
TKM2 Tokmak 2 121.99 303 P **PKPdf** **12 37 20.5 -2.3**
SNR=9.8
KURK Kurchatov 122.13 313⇓ *i*PKIKP **PKPdf** **12 37 20.7 -1.8**
KURK pmax pmax
comp=Z,14nm,1.3s
KURK Kurchatov 122.13 313 PKPdf **PKPdf** **12 37 20.7 -1.8**
KURBB Kurchatov Arra 122.17 313 PKP **PKPdf** **12 37 20.1 -2.5**
comp=Z,3.9nm,0.5s,baz=114,slow=1.8,SNR=26
KURBB PKKPbc **PKKPbc** **12 47 21.9 +2.4**
comp=Z,0.3nm,0.3s,baz=278,slow=4.8,SNR=4.6
D55A Sainte-Anne-du 122.41 52 P **PKPdf** **12 37 22.1 -1.1**
baz=254
UCH Uchtor 122.54 302 P **PKPdf** **12 37 23.3 -0.9**
SNR=12
AAK Ala-Archa 122.68 303 *d i*PKIKP **PKPdf** **12 37 23.2 -0.8**
AAK pmax pmax
comp=Z,12nm,0.8s
SGDS Sogindy 122.82 304 *e*PKP **PKPdf** **12 37 22.4 -1.8**
SGDS Sogindy 122.82 304 *e*PKIKP **PKPdf** **12 37 22.4 -1.8**
EUNU Eureka 123.02 12 PKPdf **PKPdf** **12 37 22.9 -0.6**
AML Almayashu 123.10 302 P **PKPdf** **12 37 23.9 -1.2**
SNR=11
EKS2 Erkin-Say 123.19 302 P **PKPdf** **12 37 23.7 -1.2**
SNR=7.0
MDP Montagnes des 123.20 107 PKP **PKPdf** **12 37 25.5 -0.2**
comp=Z,9.7nm,0.7s,baz=194,slow=3.4,SNR=5.0
D58A Chemin du LacG 124.14 52 P **PKPdf** **12 37 25.4 -1.1**
baz=256
KBL Kabul 124.21 292 PKIKP **PKPdf** **12 37 25.7 -1.6**
KBL Kabul 124.21 292 PKPdf **PKPdf** **12 37 25.7 -1.6**
F60A Warwick 124.49 54 P **PKPdf** **12 37 27.0 -0.2**
baz=256
E60A Ste Agathe de 124.92 53 P **PKPdf** **12 37 27.2 -0.8**
baz=257
LSZ Lusaka 125.03 213 PKIKP **PKPdf** **12 37 29.3 0.0**
LSZ Lusaka 125.03 213 **PKPdf** **12 37 29.3 0.0**
G62A West of Eustis 125.28 55 P **PKPdf** **12 37 28.7 -0.1**
baz=256
TSUM Tsumeb 125.38 200 PKPdf **PKPdf** **12 37 30.1 +0.2**
E61A Lac Etchemin 125.58 54 P **PKPdf** **12 37 28.9 -0.4**
baz=257
KKAR Karatay Array 125.62 302 PKIKP **PKPdf** **12 37 27.5 -2.0**
KKAR Karatay Array 125.62 302 PKPdf **PKPdf** **12 37 27.5 -2.0**
BRZS Berezniki 125.68 311 *e*PKP **PKPdf** **12 37 27.0 -2.4**
BRZS Berezniki 125.68 311 *e*PKIKP **PKPdf** **12 37 26.9 -2.4**
IUG Iuzhnay 125.72 301 *e*PKP **PKPdf** **12 37 28.9 -1.0**
IUG Iuzhnay 125.72 301 *e*PKIKP **PKPdf** **12 37 28.8 -1.0**
E62A Clayton Lake 126.28 54 P **PKPdf** **12 37 30.3 -0.2**
baz=258
E62A Clayton Lake 126.28 54 **PKPdf** **12 37 30.4 -0.2**
G64A Maxfield 126.51 55 P **PKPdf** **12 37 31.2 +0.1**
baz=257
D62A Allapoint, All 126.69 53 P **PKPdf** **12 37 30.9 -0.4**
baz=258
E63A Oxbow 126.98 54 P **PKPdf** **12 37 31.3 -0.6**
baz=258
PQI Presque Isle 127.30 54 **PKPdf** **12 37 32.0 -0.5**
D63A Stockholm 127.31 53 P **PKPdf** **12 37 31.6 -0.9**
baz=259
BVAR Borovoye Array 127.58 314 PKP **PKPdf** **12 37 31.9 -1.0**
comp=Z,0.9nm,0.5s,baz=146,slow=41,SNR=5.6
BRVK Borovoye 127.65 314 *d i*PKIKP **PKPdf** **12 37 32.2 -0.8**
BRVK Borovoye 127.65 314 PKPdf **PKPdf** **12 37 32.4 -0.6**
RCBR Riachuelo 127.95 131 PKP **PKPdf** **12 37 34.7 -0.2**
comp=Z,12nm,0.8s,baz=318,slow=2.6,SNR=4.3
NOR Nord 131.10 3 *i* PKIKP **PKPdf** **12 37 37.5 -1.3**
NOR Nord 131.10 3 *i* P **PKPdf** **12 37 37.5 -1.3**
NOR Nord 131.10 3 *i* P **PKPdf** **12 37 37.5 -1.3**
GEYT Alibeck 133.63 293 PKP **PKPdf** **12 37 43.9 -1.0**
comp=Z,5.2nm,0.7s,baz=220,slow=3.5,SNR=8.7
GEYT SKPbc **SKPbc** **12 41 04.7 -6.1**
comp=Z,5.6nm,0.9s,baz=56,slow=3.7,SNR=6.9
GEYT Alibeck 133.63 293 **PKPdf** **12 37 44.4 -0.5**
KBS Kingsbay 133.97 357 *ce*PKIKP **PKPdf** **12 37 42.4 -1.9**
KBS Kingsbay 133.97 357 *e*PKPdf **PKPdf** **12 37 44.7 +0.4**
KBS Kingsbay 133.97 357 *i* P **PKPdf** **12 37 43.2 -1.0**
KBS IAmb IAmb 12 37 44.5
comp=Z,81nm,1.0s
SPA0 Spitsbergen Ar 134.45 356 *e*PKPdf **PKPdf** **12 37 45.7 +0.4**
ARU Arti 134.49 319 PKP **PKPdf** **12 37 45.8 0.0**
comp=Z,1.5nm,0.4s,baz=123,slow=7.0,SNR=5.1

ARU					SKPbc	**SKPbc**	**12 41 08.2**	**-4.7**
	comp=Z,2.9nm,0.7s,baz=63,slow=0.8,SNR=12								
ARU	**Arti**	**134.49**	**319**	*i*	PKIKP	**PKPdf**	**12 37 46.2**	**+0.4**
ARU							12 40 19.1		
ARU					SS	SS	12 58 03.9	-3.6
AKTO	**Aktyubinsk**	**135.09**	**310**		PKP	**PKPdf**	**12 37 46.0**	**-1.1**
	comp=Z,5.5nm,0.7s,baz=107,slow=4.7,SNR=15								
AKTO					SKPbc	**SKPbc**	**12 41 09.1**	**-6.0**
	comp=Z,4.3nm,1.0s,baz=53,slow=5.0,SNR=7.0								
DAG	**Danmarks Havn**	**135.50**	**6**	*i*	PKIKP	**PKPdf**	**12 37 45.4**	**-1.7**
DAG					pmax	pmax			
	comp=Z,9.0nm,0.9s								
DAG	**Danmarks Havn**	**135.50**	**6**	*i*	P	**PKPdf**	**12 37 45.4**	**-1.7**
	comp=Z,9.3nm,0.9s								
DAG	**Danmarks Havn**	**135.50**	**6**	*i*	P	**PKPdf**	**12 37 45.5**	**-1.7**
DAG					IAmb	IAmb	12 37 46.5		
	comp=Z,9.3nm,0.9s								
H10S2	**ASCENSION HYDR**	**135.58**	**158**		T	T	15 09 57.7		
	baz=205,slow=74,SNR=13								
H10S3	**ASCENSION HYDR**	**135.59**	**158**		T	T	15 10 00.7		
	baz=15,slow=74,SNR=26								
SUMG	**Summit**	**135.76**	**16**	*i*	PKIKP	**PKiKP**	**12 37 50.1**	**+0.2**
SUMG					pmax	pmax			
	comp=Z,71nm,1.3s								
SUMG	**Summit**	**135.76**	**16**		PKPdf	**PKPdf**	**12 37 49.2**	**+0.9**
SUMG	**Summit**	**135.76**	**16**	*i*	P	**PKiKP**	**12 37 50.1**	**+0.2**
	comp=Z,71nm,1.3s								
SUMG	**Summit**	**135.76**	**16**	*i*	P	**PKiKP**	**12 37 50.2**	**+0.2**
SUMG					IAmb	IAmb	12 37 51.0		
	comp=Z,71nm,1.3s								
H10N3	**ASCENSION HYDR**	**136.68**	**158**		T	T	15 11 15.7		
	baz=204,slow=75,SNR=42								
H10N1	**ASCENSION HYDR**	**136.69**	**158**		T	T	15 11 12.5		
	baz=204,slow=75,SNR=53								
H10N2	**ASCENSION HYDR**	**136.70**	**158**		T	T	15 11 13.5		
	baz=204,slow=75,SNR=47								
DBG	**Daneborg**	**137.59**	**8**	*i*	P	**PKPdf**	**12 37 49.3**	**-1.8**
ICESG	**Greenland Ices**	**137.64**	**20**	*i*	P	**PKPdf**	**12 37 52.1**	**+0.3**
ICESG					IAmb	IAmb	12 37 55.9		
	comp=Z,22nm,0.9s								
KIRV	**Kirov**	**138.93**	**323**⇑	*e*	PKIKP	**PKPdf**	**12 37 53.8**	**-0.1**
ARCES	**ARCESS Array B**	**141.09**	**346**		PKhKP	**PKPdf**	**12 37 53.5**	**-4.2**
	comp=Z,2.6nm,0.5s,baz=46,slow=2.4,SNR=13								
ARCES					SKP		12 41 23.0		
	comp=Z,6.7nm,1.0s,baz=3.4,slow=6.2,SNR=1.9								
STEI	**Steigen**	**144.26**	**351**	*e*	PKPdf	**PKPab**	**12 38 00.8**	**-0.4**
FAUS	**Fauske**	**144.76**	**350**	*e*	PKPbc	**PKPab**	**12 38 02.4**	**-0.7**
ZEI	**Tsey**	**144.92**	**299**	*i*	PKIKP	**PKPab**	**12 38 02.0**	**-2.7**
ZEI					pmax	pmax			
	comp=Z,13nm,0.7s								
VRH	**Novokhopyorsk**	**145.22**	**314**	*e*	PKP2	**PKPbc**	**12 38 02.5**	**-2.6**
VRH					pmax	pmax			
	comp=Z,10.0nm,0.4s								
GOF	**Gofitskoye**	**145.42**	**303**⇑	*e*	PKIKP	**PKPbc**	**12 38 05.4**	**-0.6**
KBZ	**Khabaz**	**145.62**	**300**		PKPbc	**PKPdf**	**12 38 05.5**	**-0.9**
	comp=Z,6.4nm,0.5s,baz=85,slow=5.1,SNR=15								
KBZ	**Khabaz**	**145.62**	**300**	*c*	PKP2	**PKPdf**	**12 38 04.7**	**-1.6**
BORG	**Borgarnes**	**145.73**	**17**		PKPbc	**PKPdf**	**12 38 05.9**	**+0.1**
	comp=Z,71nm,0.9s,baz=347,slow=0.9,SNR=8.0								
KIV	**Kislovodsk**	**145.76**	**301**	*i*	PKIKP	**PKPdf**	**12 38 05.3**	**-1.4**
KIV					pmax	pmax			
	comp=Z,32nm,0.9s								
KONS	**Konsvik**	**145.89**	**351**		PKPdf	**PKPdf**	**12 38 06.1**	**0.0**
MOS	**Moscow**	**145.94**	**323**		PKIKP	**PKPdf**	**12 38 04.3**	**-2.2**
MOS					*e*		12 38 18.3		
MOS					pmax	pmax			
	comp=Z,157nm,1.4s								
MOS					pmax	pmax			
	comp=Z,300nm,1.6s								
MOR8	**Moi Rana**	**146.02**	**350**	*e*	PKPdf	**PKPdf**	**12 38 05.8**	**-0.5**
CHVG	**Ch'k'valeri**	**146.26**	**299**	⇑	P	**PKPdf**	**12 38 07.5**	**0.0**
LPSR	**Galich'ya Gora**	**146.46**	**317**	*e*	PKIKP	**PKPdf**	**12 38 06.8**	**-0.7**
LPSR					pmax	pmax			
	comp=Z,60nm,0.8s								
BCA	**Borcka**	**146.64**	**296**	⇑	P	**PKPdf**	**12 38 07.9**	**-0.3**
OBN	**Obninsk**	**146.76**	**322**	*e*	PKIKP	**PKPdf**	**12 38 08.0**	**+0.1**
OBN					*e*		12 38 23.3		
OBN					*e*		12 41 33.2		
OBN					*e*	PPP	PPP	12 44 50.1	
OBN					pmax	pmax			
	comp=Z,50nm,1.6s								
VORD	**Divnogorie**	**146.76**	**314**	*e*	PKIKP	**PKPdf**	**12 38 08.1**	**+0.1**
VORD					pmax	pmax			
	comp=Z,50nm,1.4s								
VSR	**Storozhevoye**	**146.76**	**314**	*e*	PKP2	**PKPdf**	**12 38 08.3**	**+0.3**
VSR					pmax	pmax			
	comp=Z,40nm,0.6s								
PUL	**Pulkovo**	**147.03**	**333**⇓	*e*	PKP2	**PKPdf**	**12 38 09.0**	**+0.8**
MARD	**Mardin**	**147.13**	**289**		PKPdf	**PKPdf**	**12 38 10.3**	**+1.0**
FIA1	**FINESS Array S**	**147.36**	**337**		PKPdf	**PKPdf**	**12 38 08.8**	**0.0**
FINES	**FINESS Array B**	**147.36**	**337**		PKPbc	**PKPdf**	**12 38 09.6**	**+0.9**
	comp=Z,30nm,0.4s,baz=48,slow=3.8,SNR=188								
FINES	**FINESS Array B**	**147.36**	**337**			**PKPdf**	**12 38 08.2**	**-0.5**
KOPT	**Kop Dagi**	**147.49**	**294**			**PKPbc**	**12 38 12.7**	**+0.1**
NSS	**Namsos**	**147.92**	**351**	*e*	PKPdf	**PKPdf**	**12 38 11.3**	**+1.8**
SOC	**Sochi**	**147.93**	**300**	*e*	PKIKP	**PKPdf**	**12 38 08.5**	**-1.7**
SOC					*e*		12 41 37.7		
SOC					*e*	PPP	PPP	12 44 57.2	
VSU	**Vasula**	**149.28**	**333**	*c*	PKP2	**PKPbc**	**12 38 15.4**	**-0.9**
TBLU	**Trondheim**	**149.37**	**351**	*e*	PKPbc	**PKPbc**	**12 38 15.5**	**-0.9**
MOL	**Molde**	**150.33**	**354**	*e*	PKPbc	**PKPbc**	**12 38 18.2**	**-0.5**
DOMB	**Dombas**	**150.69**	**352**	*e*	PKPbc	**PKPbc**	**12 38 18.9**	**-0.7**
NB2	**NORSAR Subarra**	**151.35**	**349**		PKP	**PKPbc**	**12 38 20.2**	**-1.1**
	comp=Z,16nm,0.7s,baz=18,slow=2.6								
NB2	**NORSAR Subarra**	**151.35**	**349**		PKP	**PKPbc**	**12 38 20.2**	**-1.1**
	comp=Z,16nm,0.7s,baz=18,slow=2.6								
NOA	**NORSAR Array B**	**151.35**	**349**		PKPbc	**PKPbc**	**12 38 20.1**	**-1.2**
	comp=Z,36nm,0.9s,baz=17,slow=4.0,SNR=21								
DIKM	**Dikmen**	**151.39**	**297**	⇓	P	**PKPbc**	**12 38 20.8**	**-1.1**
SACV	**Santiago Islan**	**151.49**	**124**			**PKPbc**	**12 38 23.6**	**+0.7**
FOO	**Floro**	**151.49**	**356**	*e*	PKPbc	**PKPbc**	**12 38 21.0**	**-0.5**
NACGM	**Naroch**	**151.62**	**328**	*e*		**PKPbc**	**12 38 21.0**	**-1.0**
NACGM					eLR	LR	13 44 26.0		
HFS	**Hagfors**	**151.76**	**346**		PKPbc	**PKPbc**	**12 38 21.0**	**-1.2**
	comp=Z,57nm,0.8s,baz=172,slow=1.0,SNR=37								
HFS	**Hagfors**	**151.76**	**346**		PKIKP	**PKPbc**	**12 38 21.0**	**-1.2**
HYA	**Hoyanger**	**151.84**	**354**	*e*	PKPbc	**PKPbc**	**12 38 22.0**	**-0.3**
SKAR	**Skarslia**	**152.10**	**352**	*e*	PKPbc	**PKPbc**	**12 38 22.8**	**-0.2**
BZK	**Bozkurt**	**152.29**	**298**	⇑	P	**PKPbc**	**12 38 22.5**	**-1.4**
LIC	**Lamto**	**152.60**	**168**	*e*	PKP1	**PKPdf**	**12 38 18.4**	**-0.1**
	comp=Z,122nm,0.8s								
AKASG	**Malin Array Be**	**152.74**	**318**		PKPbc	**PKPbc**	**12 38 22.9**	**-1.7**
	comp=Z,6.3nm,0.6s,baz=58,slow=2.3,SNR=15								
AKASG	**Malin Array Be**	**152.74**	**318**		PKIKP	**PKPbc**	**12 38 23.0**	**-1.7**
AKASG	**Malin Array Be**	**152.74**	**318**			**PKPdf**	**12 38 20.4**	**+2.8**
AKBB	**Malin Array Si**	**152.74**	**318**	⇓	*e*	PKIKP	**PKPbc**	**12 38 19.8**	**+2.3**
BR131	**Keskin Array S**	**152.77**	**293**	*d*	*i*	PKIKP	**PKPbc**	**12 38 23.5**	**-1.8**
BRTR	**Keskin Array B**	**152.77**	**293**		PKPbc	**PKPbc**	**12 38 23.9**	**-1.4**
	comp=Z,12nm,0.7s,baz=136,slow=3.5,SNR=46								
BRTR	**Keskin Array B**	**152.77**	**293**		PKIKP	**PKPbc**	**12 38 23.1**	**-2.2**
BRTR	**Keskin Array B**	**152.77**	**293**			**PKPbc**	**12 38 23.1**	**-2.2**
KIC	**Kosan Boka**	**152.79**	**168**	*e*	PKP1	**PKPdf**	**12 38 18.8**	**0.0**
	comp=Z,59nm,0.8s								
KONO	**Kongsberg**	**152.93**	**350**	⇑	*i*	PKIKP	**PKPbc**	**12 38 23.0**	**-1.8**
KONO	**Kongsberg**	**152.93**	**350**	*e*	PKPbc	**PKPbc**	**12 38 24.1**	**-0.7**
TIC	**Toumodi**	**153.01**	**168**	*e*	PKP1	**PKPdf**	**12 38 19.3**	**+0.2**
ODD1	**Odda**	**153.03**	**353**	*e*	PKPbc	**PKPbc**	**12 38 24.9**	**-0.2**
DBIC	**Dimbokro**	**153.07**	**168**		PKP	**PKPdf**	**12 38 19.3**	**+0.1**
	comp=Z,12nm,1.0s,baz=91,slow=3.1,SNR=8.9								
DBIC					PKPab		**pPKPbc**	**12 38 38.1**	**+1.0**
	comp=Z,44nm,0.7s,baz=171,slow=5.0,SNR=16								
BLS5	**Blasjo**	**153.53**	**353**	*e*	PKPbc	**PKPbc**	**12 38 25.9**	**-0.2**
SORM	**Soroca**	**154.42**	**314**	⇑	P	**PKPdf**	**12 38 21.3**	**+1.3**
BURAR	**Bucovina Array**	**156.54**	**315**	⇑	P	PKPab	12 38 44.2	-7.8
BURAR	**Bucovina Array**	**156.54**	**315**		PKPdf	**PKPdf**	**12 38 24.6**	**+1.5**
BURAR						**PKPab**	**12 38 51.6**	**-0.4**
MLR	**Muntele Rosu**	**157.02**	**310**	⇑	P	**PKPdf**	**12 38 30.0**	**+6.2**
UZH	**Uzhgorod**	**157.66**	**320**	*e*	PKIKP	**PKPdf**	**12 38 26.4**	**+2.1**
UZH					*e*		12 38 37.5		
OSTC	**Ostas**	**159.24**	**331**	*e*	PKPDF	**PKPdf**	**12 38 24.6**	**-1.6**
OSTC					*ex*	x	12 38 32.4		
MORC	**Moravsky Berou**	**159.26**	**328**	⇓	P	**PKPdf**	**12 38 25.1**	**-1.1**
MORC	**Moravsky Berou**	**159.26**	**328**		PKIKP	**PKPdf**	**12 38 25.0**	**-1.3**
MORC	**Moravsky Berou**	**159.26**	**328**			**PKPdf**	**12 38 25.0**	**-1.3**
KRLC	**Kraliky**	**159.37**	**329**	*e*	PKPDF	**PKPdf**	**12 38 25.6**	**-0.8**
KRLC					*ex*	x	12 38 28.3		
KRLC	**Kraliky**	**159.37**	**329**	*e*	PKIKP	**PKPdf**	**12 38 25.6**	**-0.8**
VYHS	**Vyhne**	**159.54**	**323**	*e*	PKP2	**PKPab**	**12 39 04.3**	**-0.5**
CLL	**Collm**	**159.81**	**337**	*e*	PKPdf	**PKPdf**	**12 38 27.0**	**+0.3**
CLL					*e*	PKPdiff	**sPKPdf**	**12 38 42.0**	**+0.9**
CLL					*i*	PKPab	**PKPab**	**12 39 04.9**	**-0.9**
	comp=Z,18nm,1.4s								
CLL					*e*	pPKPab	**sPKPab**	**12 39 19.0**	**-1.2**
CLL					*i*			12 39 31.2	
CLL					*e*	PPPP		12 48 48.0	
CLL					*e*	PSKS		12 53 12.0	
CLL					*e*	PPS	PPS	12 56 12.0	
CLL					*e*			13 00 48.0	
CLL					*e*	SSS	SSS	13 08 54.0	
CLL					*e*			13 11 18.0	
CLL	**Collm**	**159.81**	**337**	*e*	PKIKP	**PKPdf**	**12 38 27.0**	**+0.3**
CLL					*e*			12 38 42.0	
CLL					*i*			12 39 04.9	
CLL					pmax	pmax			
	comp=Z,18nm,1.4s								
BRG	**Berggiesshubel**	**159.85**	**335**	*e*	PKP	**PKPdf**	**12 38 25.5**	**-1.3**
	comp=Z,20nm,1.6s								
BRG					*e*		12 39 04.5		
	comp=Z,7.6nm,0.9s								
BRG	**Berggiesshubel**	**159.85**	**335**	*e*	PKIKP	**PKPdf**	**12 38 25.5**	**-1.3**
BRG					*e*		12 39 04.5		
BRG					pmax	pmax			
	comp=Z,20nm,1.6s								
BRG					pmax	pmax			
	comp=Z,8.0nm,0.9s								
TOA0	**Torodi Ar. Sit**	**159.96**	**183**		PKPdf	**PKPdf**	**12 38 28.0**	**0.0**
TORD	**Torodi Ar. Bea**	**159.96**	**183**		PKP	**PKPdf**	**12 38 27.0**	**-1.0**
	comp=Z,9.6nm,0.8s,baz=349,slow=1.2,SNR=39								
TORD					PKPab	**PKPab**	**12 39 07.2**	**-0.1**
	comp=Z,61nm,0.8s,baz=172,slow=3.3,SNR=44								
TORD					PP	**PP**	**12 42 47.2**	**-0.6**
	comp=Z,2.7nm,1.1s,baz=207,slow=1.6,SNR=2.8								
MODS	**Modra-Piesok**	**160.38**	**325**	*e*	PKP2	**PKPab**	**12 39 09.2**	**+0.7**
KOWA	**Kowa**	**160.86**	**166**		PKPdf	**PKPdf**	**12 38 29.1**	**+0.1**
KHC	**Kasperske Hory**	**161.42**	**332**	*e*	PKPDF	**PKPdf**	**12 38 28.2**	**-0.4**
KHC					*ex*	x	12 38 36.9		
KHC	**Kasperske Hory**	**161.42**	**332**	*e*	PKIKP	**PKPdf**	**12 38 28.2**	**-0.4**
KHC					*e*		12 38 36.9		
KHC	**Kasperske Hory**	**161.42**	**332**		PKPdf	**PKPdf**	**12 38 27.6**	**-1.1**
GERES	**GERESS Array B**	**161.60**	**332**		PKP	**PKPdf**	**12 38 27.6**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=69,slow=7.3,SNR=4.5								
GERES	**GERESS Array B**	**161.60**	**332**		PKIKP	**PKPdf**	**12 38 27.7**	**-1.2**
GERES	**GERESS Array B**	**161.60**	**332**		PKPdf	**PKPdf**	**12 38 27.6**	**-1.2**
BTNL	**Ternell**	**162.21**	**348**		PKPdf	**PKPdf**	**12 38 28.1**	**-1.3**
BMRD	**Maredsous**	**162.69**	**351**		PKPdf	**PKPdf**	**12 38 29.1**	**-0.8**
MOTA	**Moosalm**	**163.83**	**334**	*e*	P	**PKPdf**	**12 38 31.0**	**-0.2**
	comp=Z,9.9nm,1.0s								
SQTA	**Sankt Quirin**	**163.89**	**333**		P	**PKPdf**	**12 38 30.0**	**-1.2**
	comp=Z,8.1nm,1.0s								
FETA	**Feichten**	**164.24**	**334**	*e*	P	**PKPdf**	**12 38 30.2**	**-1.4**
	comp=Z,16nm,1.7s								
PGAV	**Gavieira, Arco**	**168.82**	**36**	*e*	PKPdf	**PKPdf**	**12 38 35.8**	**+0.6**
PGAV				*i*	LQ	LQ	12 38 50.2		
PCAB	**Cabril**	**169.13**	**37**	*e*	PKPdf	**PKPdf**	**12 38 36.3**	**+0.9**
POLO	**Lamas de Olo**	**169.49**	**37**	*e*	PKPdf	**PKPdf**	**12 38 36.4**	**+0.7**
POLO				*i*	LQ	LQ	12 38 54.0		
PVRL	**Vila Real**	**169.61**	**37**	*e*	PKPdf	**PKPdf**	**12 38 36.7**	**+1.0**
PBRG	**Braganca**	**169.66**	**32**	*e*	PKPdf	**PKPdf**	**12 38 36.0**	**+0.3**
PVIS	**Viseu**	**169.92**	**40**	*e*	PKPdf	**PKPdf**	**12 38 36.6**	**+0.7**
PVIS				*i*	LQ	LQ	12 38 53.1		
PCAS	**Casmilo, Conde**	**170.03**	**45**	*e*	PKPdf	**PKPdf**	**12 38 36.5**	**+0.6**
MVO	**Moncorvo**	**170.03**	**35**	*e*	PKPdf	**PKPdf**	**12 38 36.9**	**+0.9**
MVO				*i*	LQ	LQ	12 38 51.1		
PMAFR	**Mafra**	**170.18**	**52**	*e*	PKPdf	**PKPdf**	**12 38 37.1**	**+1.1**
MTE	**Manteigas**	**170.33**	**40**	*e*	PKPdf	**PKPdf**	**12 38 36.8**	**+0.6**
MTE				*i*	LQ	LQ	12 38 51.4		
MTE	**Manteigas**	**170.33**	**40**			**PKPdf**	**12 38 36.5**	**+0.3**
PCBR	**Castelo Branco**	**170.75**	**42**	*e*	PKPdf	**PKPdf**	**12 38 37.1**	**+0.8**
PCBR				*i*	LQ	LQ	12 38 54.1		
PMRV	**Marv??o**	**171.08**	**44**	*e*	PKPdf	**PKPdf**	**12 38 37.1**	**+0.6**
PMRV				*i*	LQ	LQ	12 38 54.0		
PNCL	**Nicolau / Gran**	**171.13**	**54**	*e*	PKPdf	**PKPdf**	**12 38 37.7**	**+1.2**
PNCL				*i*	LQ	LQ	12 38 52.3		
EVO	**Evora**	**171.25**	**51**	*e*	PKPdf	**PKPdf**	**12 38 37.6**	**+1.0**
EVO				*i*	LQ	LQ	12 38 52.2		
PTEO	**Sao Teotonio**	**171.26**	**58**	*e*	PKPdf	**PKPdf**	**12 38 38.0**	**+1.4**
PTEO				*i*	LQ	LQ	12 38 54.8		
PFVI	**Vila Bisbo**	**171.36**	**61**	*e*	PKPdf	**PKPdf**	**12 38 38.3**	**+1.6**
PFVI				*i*	LQ	LQ	12 38 55.0		
MORF	**Marmelete**	**171.42**	**59**	*e*	PKPdf	**PKPdf**	**12 38 37.0**	**+0.2**
MORF	**Marmelete**	**171.42**	**59**	*e*	PKPdf	**PKPdf**	**12 38 38.1**	**+1.3**
MORF				*i*	LQ	LQ	12 38 55.4		
PBEJ	**Beja**	**171.62**	**53**	*e*	PKPdf	**PKPdf**	**12 38 38.1**	**+1.3**
PBEJ				*i*	LQ	LQ	12 38 54.9		
PCVE	**Castro Verde**	**171.70**	**56**	*e*	PKPdf	**PKPdf**	**12 38 38.0**	**+1.1**
PCVE				*i*	LQ	LQ	12 38 55.1		
PBDV	**Barranco-do-Ve**	**171.96**	**58**	*e*	PKPdf	**PKPdf**	**12 38 38.6**	**+1.6**
PBDV				*i*	LQ	LQ	12 38 55.5		
KEST	**Kesra**	**172.37**	**291**		PKP	**PKPdf**	**12 38 37.4**	**0.0**
	comp=Z,10nm,0.8s,baz=298,slow=6.1,SNR=5.8								
PAB	**San Pablo**	**172.56**	**31**		PKIKP	**PKPdf**	**12 38 38.4**	**+1.1**
PAB	**San Pablo**	**172.56**	**31**			**PKPdf**	**12 38 38.4**	**+1.1**
ESBB	**Sonseca Array**	**172.61**	**29**			**PKPdf**	**12 38 38.1**	**+0.9**
ESDC	**Sonseca Array**	**172.61**	**29**		PKP	**PKPdf**	**12 38 37.7**	**+0.4**
	comp=Z,9.4nm,1.1s,baz=339,slow=2.6,SNR=35								
ESDC					PKPab	**PKPab**	**12 40 02.0**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=324,slow=4.9,SNR=5.8								
ESDC	**Sonseca Array**	**172.61**	**29**			**PKPdf**	**12 38 37.5**	**+0.2**

MAN 23 12:27:19.7, 13.91N×120.55E, h104km, mb4.1, ML2.9, MS2.5, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**240**	*eP*	Pn	12 27 36.4	+1.4
LUBP				*eS*	Sn	12 27 49.5	+3.1
PGP	**Puerto Galera**	**0.56**	**136**⇑	*eP*	Pn	12 27 38.3	+1.9
PGP				*i S*	Sn	12 27 51.0	+2.1
SJMP	**San Jose**	**1.54**	**159**	*eP*	Pn	12 27 47.6	+0.9
SJMP				*eS*	Sn	12 28 08.8	+1.5
BUSP	**Coron**	**1.93**	**190**	*eP*	Pn	12 27 51.7	+0.2
BUSP				*eS*	Sn	12 28 15.9	+0.1
KCP	**Kidapawan**	**8.18**	**146**⇑	*eP*	Pn	12 29 15.3	-0.5

IDC 23 12:34:35.4±2.2, 7.26N×94.05E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/59, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=90.0km s-min=23.5km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.11**	**23**	Pn	Pn	12 37 29.7	+0.4
	0.3nm,0.3s,baz=230,slow=15,SNR=2.7						
H08S3	**Diego Garcia H**	**26.10**	**236**	T	T	13 06 48.0	
	baz=55,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**26.10**	**236**	T	T	13 06 46.7	
	baz=55,slow=75,SNR=4.7						
H08S1	**Diego Garcia H**	**26.11**	**236**	T	T	13 06 46.8	
	baz=55,slow=75,SNR=4.6						
MKAR	**Makanchi Array**	**40.67**	**348**	P	P	12 42 15.9	-1.5
	1.3nm,0.8s,baz=166,slow=6.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**45.12**	**346**	P	P	12 42 54.2	+0.8
	1.2nm,0.5s,baz=167,slow=7.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**47.15**	**353**	P	P	12 43 09.6	+0.2
	0.8nm,0.3s,baz=172,slow=7.6,SNR=5.9						
WRA	**Warramunga Arr**	**47.98**	**125**	P	P	12 43 15.5	-0.9
	0.2nm,0.4s,baz=306,slow=8.3,SNR=1.8						
ASAR	**Alice Springs**	**49.59**	**129**	P	P	12 43 29.4	+0.6
	0.2nm,0.6s,baz=300,slow=8.7,SNR=1.7						

*JMA **23** 12:59:26.1±0.3, 36.73N×142.15E, h21km, M3.5*
*IDC **23** 12:59:28.1±3.6, 37.12N×141.79E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.5/62, mbtmp3.6/6, ML3.1/3, Error ellipse: s-maj=75.6km s-min=24.1km az=148.0*
ISC 23 12:59:27.2±1.5, 36.84N±0.08×142.03E±0.09, h10km, n28, σ1§27/27, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.02**	**285**	P	**Pb**	**12 59 46.6**	**-0.4**
JFK	**Kawauchi**	**1.06**	**300**	P	**Pn**	**12 59 47.6**	**-0.6**
JHO	**Hitachi**	**1.20**	**259**	P	**Pb**	**12 59 48.8**	**-1.2**
JHO				S	**Sn**	**13 00 05.5**	**-0.9**
JFFD	**Fukushimafurud**	**1.20**	**282**	P	**Pn**	**12 59 49.7**	**-0.5**
JHYU	**Hitachinakayam**	**1.27**	**247**	P	**Pn**	**12 59 49.7**	**-1.3**
JHYU				*eS*	**Sb**	**13 00 06.1**	**-1.4**
JMM	**Marumori**	**1.42**	**316**	P	**Pn**	**12 59 53.0**	**-0.1**
JFT	**Otama**	**1.51**	**297**	P	**Pb**	**12 59 54.9**	**-0.5**
JIO	**Ouri**	**1.70**	**342**	P	**Pn**	**12 59 57.1**	**+0.2**
JIO				S	**Sb**	**13 00 19.6**	**-0.4**
JOU	**Okura**	**1.87**	**325**	P	**Pb**	**13 00 00.2**	**-1.3**
JFY	**Yanaizu**	**1.94**	**288**	P	**Pb**	**13 00 01.4**	**-1.4**
JYS	**Shirataka**	**2.08**	**312**	P	**Pb**	**13 00 03.5**	**-1.6**
JAG	**Ashikaga**	**2.12**	**259**	P	**Pn**	**13 00 02.3**	**-0.4**
JMK	**Ichinoseki**	**2.20**	**343**	P	**Pn**	**13 00 04.7**	**+0.8**
JYK	**Kaneyama**	**2.46**	**328**	P	**Pn**	**13 00 08.6**	**+1.2**
MJAR	**Matsushiro Ar**	**3.09**	**266**	Pn	**Pn**	**13 00 16.6**	**+0.5**
	1.0nm,0.3s,baz=228,slow=24,SNR=55						
MJAR				Sn	**Sn**	**13 00 50.6**	**-2.5**
	0.5nm,0.3s,baz=103,slow=22,SNR=1.7						
MAT	**Matsushiro**	**3.09**	**266**	P	**Pn**	**13 00 17.5**	**+1.4**
MAT				*eS*	**Sn**	**13 00 54.8**	**+1.7**
MAT	**Matsushiro**	**3.09**	**266**	P	**Pg**	**13 00 29.1**	**+2.7**
ASAJ	**Asahikawa**	**7.28**	**3**	Pn	**Pn**	**13 01 12.3**	**-1.3**
	0.4nm,0.3s,baz=212,slow=16,SNR=9.9						
ASAJ				Sn	Sn	13 02 25.0	-11
	baz=26,slow=30,SNR=1.2						
JNU	**Nakatsue**	**9.87**	**251**	Pn	**Pn**	**13 01 50.2**	**+0.9**
	0.2nm,0.3s,baz=213,slow=18,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**27.62**	**121**	T	T	13 34 17.7	
	baz=313,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**27.63**	**121**	T	T	13 34 07.5	
	baz=313,slow=75,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**27.64**	**121**	T	T	13 34 13.1	
	baz=313,slow=75,SNR=6.7						
SONM	**Songino Array**	**28.30**	**304**	P	**P**	**13 05 20.9**	**-0.1**
	1.0nm,0.6s,baz=108,slow=9.1,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	13 34 49.1	
	baz=316,slow=75,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	13 34 49.9	
	baz=316,slow=75,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**28.36**	**123**	T	T	13 34 49.0	
	baz=316,slow=75,SNR=3.4						
MKAR	**Makanchi Array**	**44.64**	**302**	P	**P**	**13 07 39.1**	**-0.8**
	0.4nm,0.8s,baz=91,slow=10,SNR=3.6		

comp=Z,100nm,19.8s,baz=348,slow=38
GERES GERESS Array B 22.93 118 P **P** 13 12 12.9 -0.5
KRLC Kraliky 23.15 112 *eP* **P** 13 12 16.4 +0.8
KRLC Kraliky 23.15 112 *eP* **P** 13 12 16.4 +0.8
VRAC Vranov 23.68 114 LR LR 13 23 20.4
comp=Z,102nm,18.7s,baz=288,slow=41
VRAC Vranov 23.68 114 *eP* **P** 13 12 21.5 +0.6
MORC Moravsky Berou 23.69 112 *eP* **P** 13 12 21.2 +0.2
MORC Moravsky Berou 23.69 112 P **P** 13 12 20.8 -0.2
MORC Moravsky Berou 23.69 112 P **P** 13 12 20.8 -0.2
KRUC Moravsky 23.80 114 *eP* **P** 13 12 22.4 +0.4
EUNU Eureka 23.80 336 P **P** 13 12 23.8 +2.0
EUNU IAmb IAmb 13 12 37.9
comp=Z,33nm,1.5s
OJC Ojcow 24.27 108 P **P** 13 12 24.4 -2.0
OJC Ojcow 24.27 108 P **P** 13 12 24.4 -2.0
MICGM Minsk 24.62 92 *e* **P** 13 12 30.0 +0.5
MNK Minsk 24.62 92 *eP* **P** 13 12 30.0 +0.5
SMOL Smolenice 24.65 114 *eP* **P** 13 12 31.4 +1.5
SMOL Smolenice 24.65 114 *eP* **P** 13 12 31.4 +1.5
MODS Modra-Piesok 24.70 114 *eP* **P** 13 12 31.2 +0.8
MODS Modra-Piesok 24.70 114 *eP* **P** 13 12 31.2 +0.8
VYHS Vyhne 25.23 112 *eP* **P** 13 12 36.0 +0.9
VYHS pmax pmax
comp=Z,25nm,1.6s
VYHS Vyhne 25.23 112 *eP* **P** 13 12 36.0 +0.9
PSZ Piszkesteto 26.11 111 P **P** 13 12 43.3 +0.1
PSZ Piszkesteto 26.11 111 P **P** 13 12 43.3 +0.1
ESDC Sonseca Array 26.12 155 P **P** 13 12 43.0 -0.3
comp=Z,2.0nm,0.9s,baz=340,slow=9.2,SNR=7.0
ESDC LR LR 13 22 53.4
comp=Z,81nm,20.1s,baz=0.0,slow=36
ESDC Sonseca Array 26.12 155 P **P** 13 12 43.9 +0.5
KOLS Kolonicke sedl 26.28 107 *eP* **P** 13 12 44.8 +0.1
KOLS Kolonicke sedl 26.28 107 *eP* **P** 13 12 44.8 +0.1
UZH Uzhgorod 26.53 108 *eP* **P** 13 12 49.8 +3.0
UZH *e* 13 12 53.2
UZH *e* 13 12 56.3
UZH *eS* **S** 13 17 22.9 +2.2
OBN Obninsk 27.96 84 *eP* **P** 13 13 01.9 +2.3
OBN *e* 13 13 50.6
OBN pmax pmax
comp=Z,15nm,1.3s
MOS Moscow 28.01 82 *eP* P 13 13 07.1 +7.1
KIRV Kirov 31.10 69⇓*eP* **P** 13 13 30.3 +2.9
NRIK Noril'sk 36.64 35 P **P** 13 14 16.0 +0.6
comp=Z,1.2nm,0.6s,baz=317,slow=5.7,SNR=5.6
NRIK Noril'sk 36.64 35⇓*eP* **P** 13 14 18.6 +3.3
NRIK pmax pmax
comp=Z,10.0nm,1.5s
GOF Gofitskoye 38.18 91⇑*eP* **P** 13 14 30.4 +1.8
BRTR Keskin Array B 38.50 105 P **P** 13 14 32.1 +0.6
comp=Z,1.4nm,0.8s,baz=350,slow=6.3,SNR=6.7
BRTR Keskin Array B 38.50 105 P **P** 13 14 31.5 -0.1
KBZ Khabaz 39.17 92 P **P** 13 14 38.0 +1.1
comp=Z,1.2nm,0.5s,baz=321,slow=7.1,SNR=2.7
KBZ Khabaz 39.17 92⇓*eP* **P** 13 14 37.2 +0.2
KBZ pmax pmax
comp=Z,15nm,2.0s
AKTO Aktyubinsk 40.40 73 P **P** 13 14 46.6 -0.5
comp=Z,2.6nm,1.1s,baz=319,slow=9.2,SNR=5.2
ABKAR Akbulak array 42.10 73 P **P** 13 14 59.5 -1.7
ABKAR Akbulak array 42.10 73 P **P** 13 14 57.8 -3.3
TIXI Tiksi 42.22 15⇑*eP* **P** 13 15 03.1 +1.3
TIXI pmax pmax
comp=Z,140nm,2.5s
TIXI Tiksi 42.22 15 P **P** 13 15 03.0 +1.2
BRVK Borovoye 43.27 62*ceP* **P** 13 15 10.4 -0.2
BRVK pmax pmax
comp=Z,17nm,2.5s
BVAR Borovoye Array 43.34 62 P **P** 13 15 10.3 -0.8
comp=Z,0.3nm,0.4s,baz=171,slow=24,SNR=6.0
ILAR Eielson Array 45.81 332 P **P** 13 15 31.4 +0.7
comp=Z,1.9nm,1.1s,baz=14,slow=4.5,SNR=12
ILAR PcP **PcP** 13 17 08.5 +0.6
comp=Z,1.2nm,1.0s,baz=318,slow=1.3,SNR=5.2
ILAR LR LR 13 35 54.4
comp=Z,47nm,18.6s,baz=254,slow=38
ILAR Eielson Array 45.81 332 P **P** 13 15 29.3 -1.4
MDM Murphy Dome 45.91 333 P **P** 13 15 33.7 +2.2
COLA College 45.91 333⇓*eP* **P** 13 15 32.4 +0.9
COLA pmax pmax
comp=Z,19nm,2.1s
IMAR Indian Mountai 45.99 337 P **P** 13 15 33.4 +1.3
BCAR Beaver Creek A 46.22 329 P **P** 13 15 35.9 +1.8
ZALV Zalesovo Beam 47.79 51 P **P** 13 15 46.9 +0.6
comp=Z,0.7nm,0.6s,baz=321,slow=12,SNR=3.8
ZALV Zalesovo Beam 47.79 51 *i P* **P** 13 15 49.2 +2.9
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 47.79 51 P **P** 13 15 45.2 -1.2
KURK Kurchatov 48.26 58⇑*eP* **P** 13 15 49.7 -0.3
KURK pmax pmax
comp=Z,10.0nm,2.3s
BOZ Bozeman (W) 51.63 297 P **P** 13 16 15.6 -0.2
BOZ pmax pmax
comp=Z,15nm,1.4s
BOZ Bozeman (W) 51.63 297 P **P** 13 16 15.6 -0.2
BOZ IAmb IAmb 13 16 21.5
comp=Z,15nm,1.4s
DGZ Jazzator, Alta 52.24 52⇓*eP* **P** 13 16 21.9 +1.6
DGZ pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 52.87 58⇑*eP* **P** 13 16 28.7 +3.8
MKAR Makanchi Array 52.87 58 P **P** 13 16 24.6 -0.3
comp=Z,1.9nm,1.1s,baz=335,slow=5.4,SNR=6.9
MKAR Makanchi Array 52.87 58*ceP* **P** 13 16 27.6 +2.7
MKAR pmax pmax
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 52.87 58 P **P** 13 16 23.8 -1.1
TORD Torodi Ar. Bea 53.01 156 P **P** 13 16 26.1 0.0
comp=Z,1.7nm,1.1s,baz=342,slow=9.3,SNR=5.8
TORD LR LR 13 41 08.6
comp=Z,107nm,19.1s,baz=185,slow=38
BW06 Boulder Array 53.19 293 P **P** 13 16 28.8 +1.2
BW06 IAmb IAmb 13 16 31.5
comp=Z,6.7nm,1.1s
PDAR Pinedale Array 53.19 293 P **P** 13 16 28.1 +0.6
comp=Z,3.2nm,0.9s,baz=57,slow=6.0,SNR=13
AAK Ala-Archa 53.39 67⇑*eP* **P** 13 16 30.2 +1.3
AAK pmax pmax
comp=Z,31nm,1.6s
SONM Songino Array 59.81 40 P **P** 13 17 12.9 -1.6
comp=Z,0.5nm,0.4s,baz=12,slow=41,SNR=2.2
ULN Ulaanbaatar 59.97 40⇑*eP* **P** 13 17 20.2 +4.6
ULN pmax pmax
comp=Z,3.0nm,1.0s
NVAR Mina Array Bea 60.33 297 P **P** 13 17 17.0 -1.2
comp=Z,0.2nm,0.4s,baz=80,slow=16,SNR=1.8
JHJ Hachijo jima 2 81.10 19 LR LR 13 53 01.6
comp=Z,126nm,18.6s,baz=300,slow=34
CMAR Chiang Mai Arr 84.28 59 P **P** 13 19 39.8 -1.4
comp=Z,0.5nm,0.7s,baz=328,slow=6.2,SNR=5.1
CMAR Chiang Mai Arr 84.28 59 *i P* **P** 13 19 41.2 0.0
CMAR pmax pmax
comp=Z,1.0nm,0.7s

IDC ***23*** *13:07:50.8±1.2,3˚.54S×138˚.26E, h0km, mb3.9/6, mb1 4.2/10, mb1mx3.9/31, mbtmp4.0/10, ML3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/33, Error ellipse: s-maj=37.3km s-min=19.0km az=75.0*
DJA ***23*** *13:07:52.0±0.3, 4˚S±2˚×13˚8E±˚, h10km, M4.2/6, mb4.4/4, MLv4.1/6*
ISC 23 13:07:51.3±0.7,3˚53S±0˚.06×138˚47E±0˚.06, h10km, n18, σ2§14/20, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.55**	**9**	P		**Pn**	**13 08 18.5**	**-0.5**
SMPI				S		**Sg**	**13 08 39.8**	**-1.4**
GENI	**Genyem**	**1.94**	**61**	P		**Pn**	**13 08 25.0**	**+0.7**
GENI				S		**Sb**	**13 08 50.8**	**-0.2**
SRPI	**Serui, Papua**	**2.77**	**306**	P		**Pn**	**13 08 36.1**	**+0.4**
SRPI				S		**Sn**	**13 09 10.1**	**+0.9**
BAKI	**Biak**	**3.31**	**315**	P		**Pn**	**13 08 43.2**	**0.0**
FAKI	**Fak Fak**	**6.24**	**275**	P		**Pn**	**13 09 26.1**	**+2.6**
	0.2nm44nm,0.9s							
SIJI	**Sorong**	**7.66**	**290**	Pn		**Pn**	**13 09 43.2**	**+0.1**
	4.0nm,0.3s,baz=104,slow=11,SNR=9.4							
PMG	**Port Moresby**	**10.43**	**124**	LR		LR	13 15 11.1	
	comp=Z,133nm,20.2s,baz=274,slow=42							
SOEI	**Soe**	**15.39**	**246**	P		P	13 11 40.7	+7.1
WRA	**Warramunga Arr**	**16.80**	**194**	Pn		**Pn**	**13 11 46.7**	**-0.2**
	0.5nm,0.3s,baz=14,slow=12,SNR=17							
WRA				Sn		Sn	13 14 41.1	-13
	0.1nm,0.3s,baz=12,slow=26,SNR=4.5							
CTA	**Charters Tower**	**18.13**	**156**	P		**Pn**	**13 12 03.5**	**+0.1**
	0.1nm,0.3s,baz=148,slow=23,SNR=3.1							
PCI	**Palu**	**18.79**	**278**	P		**P**	**13 12 08.6**	**-2.5**
FITZ	**Fitzroy Crossi**	**19.17**	**220**	P		**P**	**13 12 13.7**	**-1.4**
	0.1nm,0.3s,baz=63,slow=16,SNR=2.5							
FITZ				S		Sn	13 15 38.5	-13
	0.2nm,0.3s,baz=58,slow=22,SNR=2.5							
ASAR	**Alice Springs**	**20.50**	**192**	P		**P**	**13 12 30.1**	**+0.4**
	15nm,0.9s,baz=20,slow=10,SNR=40							
ASAR				S		**S**	**13 16 12.7**	**-6.5**
	0.7nm,0.9s,baz=226,slow=6.6,SNR=1.8							
STKA	**Stephens Creek**	**28.35**	**174**	P		**P**	**13 13 47.9**	**+2.2**
	0.9nm,0.8s,baz=3.7,slow=16,SNR=1.5							
CMAR	**Chiang Mai Arr**	**44.64**	**301**	P		**P**	**13 16 04.3**	**-0.2**
	2.4nm,1.0s,baz=124,slow=6.3,SNR=16							
MKAR	**Makanchi Array**	**70.28**	**323**	P		**P**	**13 19 04.8**	**-0.2**
	0.9nm,0.7s,baz=106,slow=8.7,SNR=6.5							
ZALV	**Zalesovo Beam**	**72.52**	**330**	P		**P**	**13 19 17.6**	**-0.7**
	0.3nm,0.3s,baz=76,slow=6.3,SNR=4.7							
ILAR	**Eielson Array**	**86.67**	**24**	P		**P**	**13 20 38.3**	**+3.2**
	0.2nm,0.6s,baz=270,slow=4.5,SNR=1.9							

DNK ***23*** *13:09:42.6±1.9,59˚.01N×19˚.15E, h41km±999km, Explosion*
UPP ***23*** *13:09:43.7±0.2,58˚.99N×18˚.20E, h2km±4km, ML2.4, Explosion*
HEL ***23*** *13:09:44.3±0.0,58˚.98N×18˚.21E, h0km, ML1.8, ML2.4(UPP), Explosion*
IDC ***23*** *13:09:45.7±2.0,59˚.18N×18˚.05E, h0km, mb1 3.3/3, mb1mx3.0/48, mbtmp3.2/3, ML1.9/2, Error ellipse: s-maj=26.4km s-min=6.5km az=0.0*
BER ***23*** *13:09:46.9±3.7,59˚.22N×18˚.12E, h0km, ML2.3(NAO), Suspected explosion*
NAO ***23*** *13:09:46.1±1.9,59˚.19N×18˚.07E, ML2.3*
ISC 23 13:09:43.3±0.8,58˚.99N±0˚.03×18˚.15E±0˚.02, h0km, n76, σ1§18/108, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.73**	**19**	P		**Pg**	**13 09 57.2**	**-0.1**
NRTU				S		**Sg**	**13 10 06.8**	**0.0**
NRTU	**Norrtaelje**	**0.73**	**19**	*i* P		**Pg**	**13 09 57.2**	**-0.1**
NRTU				*i* S		**Sg**	**13 10 06.8**	**0.0**
NRTU	**Norrtaelje**	**0.73**	**19**	P		**Pg**	**13 09 57.2**	**-0.1**
NRTU				S		**Sg**	**13 10 06.8**	**0.0**
VIKU	**Vikbolandet**	**0.90**	**238**	P		**Pg**	**13 10 00.9**	**+0.4**
VIKU	**Vikbolandet**	**0.90**	**238**	*eP*		**Pg**	**13 10 00.9**	**+0.4**
VIKU	**Vikbolandet**	**0.90**	**238**	P		**Pg**	**13 10 00.9**	**+0.4**
UPP	**Uppsala**	**0.91**	**343**	P		**Pg**	**13 10 00.8**	**+0.1**
UPP	**Uppsala**	**0.91**	**343**	*eP*		**Pg**	**13 10 00.8**	**+0.1**
ESKU	**Eskilstuna**	**0.94**	**286**	P		**Pg**	**13 10 01.3**	**+0.1**
ESKU	**Eskilstuna**	**0.94**	**286**	*eP*		**Pg**	**13 10 01.3**	**+0.1**
ESKU	**Eskilstuna**	**0.94**	**286**	P		**Pg**	**13 10 01.3**	**+0.1**
FIBU	**Brunna**	**1.00**	**336**	P		**Pg**	**13 10 02.5**	**0.0**
FIBU	**Brunna**	**1.00**	**336**	P		**Pg**	**13 10 02.5**	**0.0**
BACU	**Backbrunna**	**1.02**	**329**	P		**Pg**	**13 10 02.7**	**-0.1**
BACU	**Backbrunna**	**1.02**	**329**	*eP*		**Pg**	**13 10 02.7**	**-0.1**
BACU	**Backbrunna**	**1.02**	**329**	P		**Pg**	**13 10 02.7**	**-0.1**
GOTU	**Gotland**	**1.33**	**170**	P		**Pg**	**13 10 07.8**	**-0.9**
GOTU	**Gotland**	**1.33**	**170**	*eP*		**Pg**	**13 10 07.8**	**-0.9**
GOTU	**Gotland**	**1.33**	**170**	P		**Pg**	**13 10 07.8**	**-0.9**
OSTU	**Oestervaala**	**1.35**	**338**	P		**Pg**	**13 10 08.6**	**-0.5**
OSTU	**Oestervaala**	**1.35**	**338**	*eP*		**Pg**	**13 10 08.6**	**-0.5**
OSTU	**Oestervaala**	**1.35**	**338**	P		**Pg**	**13 10 08.6**	**-0.5**
GRAU	**Graesoe**	**1.36**	**8**	P		**Pg**	**13 10 08.9**	**-0.5**
GRAU	**Graesoe**	**1.36**	**8**	*eP*		**Pg**	**13 10 08.9**	**-0.5**
GRAU	**Graesoe**	**1.36**	**8**	P		**Pg**	**13 10 08.9**	**-0.5**
FORU	**Forsmark**	**1.40**	**1**	P		**Pn**	**13 10 09.6**	**-0.5**
FORU	**Forsmark**	**1.40**	**1**	*eP*		**Pn**	**13 10 09.6**	**-0.5**
FORU	**Forsmark**	**1.40**	**1**	P		**Pn**	**13 10 09.6**	**-0.5**
AAL	**Aland**	**1.52**	**37**	P		**Pn**	**13 10 11.2**	**-0.5**
AAL	**Aland**	**1.52**	**37**	*eP*		**Pn**	**13 10 11.1**	**-0.5**
AAL				*eS*		**Sg**	**13 10 31.0**	**-0.9**
VSTU	**Vaestervik**	**1.58**	**213**	P		**Pn**	**13 10 13.0**	**+0.5**
VSTU	**Vaestervik**	**1.58**	**213**	*eP*		**Pn**	**13 10 13.0**	**+0.5**
VSTU	**Vaestervik**	**1.58**	**213**	P		**Pn**	**13 10 13.0**	**+0.5**
LNKU	**Linkoeping**	**1.58**	**242**	P		**Pn**	**13 10 13.0**	**+0.5**
LNKU	**Linkoeping**	**1.58**	**242**	*eP*		**Pn**	**13 10 13.0**	**+0.5**
LNKU	**Linkoeping**	**1.58**	**242**	P		**Pn**	**13 10 13.0**	**+0.5**
NRAU	**Nora**	**1.70**	**291**	P		**Pb**	**13 10 15.1**	**-0.3**
NRAU	**Nora**	**1.70**	**291**	*eP*		**Pb**	**13 10 15.1**	**-0.3**
NRAU	**Nora**	**1.70**	**291**	P		**Pb**	**13 10 15.1**	**-0.3**
ASKU	**Askersund**	**1.73**	**268**	P		**Pb**	**13 10 15.4**	**-0.4**
ASKU	**Askersund**	**1.73**	**268**	*eP*		**Pb**	**13 10 15.4**	**-0.4**
ASKU	**Askersund**	**1.73**	**268**	P		**Pb**	**13 10 15.4**	**-0.4**
HFS	**Hagfors**	**2.54**	**299**	Pn		**Pn**	**13 10 27.3**	**+1.5**
	baz=130,slow=16							
HFS				Lg		Lg	13 11 00.9	
	baz=113,slow=28							
HFS	**Hagfors**	**2.54**	**299**	Pg		**Pn**	**13 10 27.6**	**+1.8**
	0.8nm,0.3s,baz=120,slow=16,SNR=26							
HFS				Lg		Lg	13 11 01.0	
	5.2nm,0.3s,baz=115,slow=31,SNR=24							
HFS	**Hagfors**	**2.54**	**299**	Pn		**Pn**	**13 10 27.3**	**+1.5**
	baz=130,slow=16							
HFS				Sg		**Sb**	**13 11 00.9**	**-0.7**
	baz=113,slow=28							
RAF	**Rauma**	**2.73**	**40**	*eP*		**Pn**	**13 10 29.4**	**+1.1**
RAF				*eS*		**Sn**	**13 11 03.2**	**+1.2**
RAF				MSG			13 11 10.7	
	comp=Z,2.9nm,0.1s							
MTSE	**Matsula**	**2.96**	**93**	*eP*		**Pn**	**13 10 31.7**	**+0.4**
MTSE				*eS*		**Sn**	**13 11 06.9**	**-0.6**
MEF	**Metsahovi**	**3.40**	**66**	*eP*		**Pn**	**13 10 37.9**	**+0.4**
MEF				*eS*		**Sn**	**13 11 18.9**	**+0.3**
MEF				MSG			13 11 32.8	
	comp=Z,1.7nm,0.1s							
HEMU	**Hemsoen**	**3.70**	**359**	*eP*		**Pn**	**13 10 41.8**	**+0.2**
HEMU				*eS*		**Sn**	**13 11 25.5**	**-0.4**
NRA0	**NORESS Array S**	**3.77**	**301**	Pn		**Pn**	**13 10 43.3**	**+0.8**
	baz=105,slow=12							
NRA0				Pg		**Pb**	**13 10 52.0**	**+1.5**
	baz=108,slow=18							
NRA0				Lg		Lg	13 11 41.2	
	baz=113,slow=28							
NRA0	**NORESS Array S**	**3.77**	**301**	Pn		**Pn**	**13 10 43.3**	**+0.8**
	baz=105,slow=12							
NRA0				Pg		**Pb**	**13 10 52.0**	**+1.5**
	baz=108,slow=18							
NRA0				Sg		**Sg**	**13 11 41.2**	**-2.9**
	baz=113,slow=28							
NB2	**NORSAR Subarra**	**4.04**	**304**	Pn		**Pn**	**13 10 47.2**	**+0.8**
	baz=126,slow=14							
NB2				Pg		**Pb**	**13 10 56.2**	**+0.9**
	baz=111,slow=16							
NB2				Lg		Lg	13 11 48.8	
	baz=118,slow=37							
NB2	**NORSAR Subarra**	**4.04**	**304**	Pn		**Pn**	**13 10 47.2**	**+0.8**
	baz=126,slow=14							
NB2				Pg		**Pb**	**13 10 56.2**	**+0.9**
	baz=111,slow=16							
NB2				Sg		**Sb**	**13 11 48.8**	**+4.1**
	baz=118,slow=37							
NOA	**NORSAR Array B**	**4.04**	**304**	Pn		**Pn**	**13 10 46.9**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=239,slow=7.3,SNR=6.9							
NOA				Lg		Lg	13 11 47.7	
	comp=Z,0.1nm,0.3s,baz=153,slow=19,SNR=8.6							
PVF	**Pernaja**	**4.20**	**65**	*eP*		**Pn**	**13 10 48.9**	**+0.4**
PVF				*eS*		**Sn**	**13 11 36.8**	**-1.3**
BSD	**Bornholm Skovb**	**4.27**	**206**	*i P*		**Pn**	**13 10 49.0**	**-0.4**
BSD	**Bornholm Skovb**	**4.27**	**206**	*i P*		**Pn**	**13 10 49.0**	**-0.4**
KEF	**Keuruu**	**4.60**	**43**	*eP*		**Pn**	**13 10 55.3**	**+1.3**
KEF				*eS*		**Sn**	**13 11 47.4**	**-0.6**
VAF	**Ylistaro**	**4.62**	**26**	*eP*		**Pn**	**13 10 55.6**	**+1.3**
VAF				*eS*		**Sn**	**13 11 48.2**	**-0.3**
FIA0	**FINESS Array S**	**4.66**	**55**	Pn		**Pn**	**13 10 56.1**	**+1.3**
	baz=241,slow=12							
FIA0				Pg		**Pb**	**13 11 06.2**	**+0.4**
	baz=242,slow=16							
FIA0				Sn		**Sn**	**13 11 49.5**	**+0.1**
	baz=242,slow=22							
FIA0				Lg		Lg	13 12 06.6	
	baz=243,slow=28							
FIA0	**FINESS Array S**	**4.66**	**55**	*eP*		**Pn**	**13 10 55.8**	**+1.0**
FIA0				*eS*		**Sn**	**13 11 49.0**	**-0.4**
FIA0	**FINESS Array S**	**4.66**	**55**	Pn		**Pn**	**13 10 56.1**	**+1.3**
	baz=241,slow=12							
FIA0				Pg		**Pb**	**13 11 06.2**	**+0.4**
	baz=242,slow=16							
FIA0				Sn		**Sn**	**13 11 49.5**	**+0.1**
	baz=242,slow=22							
FIA0				Sg		**Sb**	**13 12 06.6**	**+4.3**
	baz=243,slow=28							
FINES	**FINESS Array B**	**4.66**	**55**	Pn		**Pn**	**13 10 55.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=246,slow=12,SNR=18							
FINES				Sn		**Sn**	**13 11 48.8**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=244,slow=22,SNR=9.8							
FINES				Lg		Lg	13 12 08.3	
	comp=Z,1.4nm,0.3s,baz=246,slow=28,SNR=10.0							
FIA1	**FINESS Array S**	**4.66**	**55**	*eP*		**Pn**	**13 10 55.8**	**+1.0**
FIA1				*eS*		**Sn**	**13 11 48.9**	**-0.5**
KAF	**Kangasniemi**	**5.10**	**49**	*eP*		**Pn**	**13 11 01.9**	**+1.1**
KAF				*eS*		**Sn**	**13 11 59.4**	**-1.0**
SUF	**Sumiainen**	**5.41**	**43**	*eP*		**Pn**	**13 11 05.6**	**+0.5**
SUF				*eS*		**Sn**	**13 12 06.1**	**-1.9**
OBF0	**Syolatti, Pyha**	**6.24**	**25**	*eP*		**Pn**	**13 11 17.1**	**+0.7**
OBF0				*eS*		**Sn**	**13 12 26.3**	**-2.0**
OUF	**Merijarvi**	**6.24**	**27**	*eP*		**Pn**	**13 11 17.1**	**+0.6**
OUF				*eS*		**Sn**	**13 12 26.3**	**-2.0**
OBF4	**Vikkela, Lumij**	**6.70**	**26**	*eP*		**Pn**	**13 11 22.9**	**+0.1**
OUL	**Oulu**	**7.11**	**27**	*eP*		**Pn**	**13 11 28.3**	**-0.1**
OUL				*eS*		**Sn**	**13 12 47.8**	**-2.1**
TOF	**Tornio**	**7.66**	**19**	*eP*		**Pn**	**13 11 35.5**	**-0.5**
TOF				*eS*		**Sn**	**13 12 59.8**	**-3.5**
APA0	**Apatity Array**	**10.89**	**31**	Pn		**Pn**	**13 12 19.0**	**-1.1**
	baz=224,slow=12							
APA0	**Apatity Array**	**10.89**	**31**	Pn		**Pn**	**13 12 19.0**	**-1.1**
	baz=224,slow=12							
ARA0	**ARCESS Array S**	**11.05**	**14**	Pn		**Pn**	**13 12 19.4**	**-3.0**
ARA0	**ARCESS Array S**	**11.05**	**14**	Pn		**Pn**	**13 12 19.4**	**-3.0**
ARCES	**ARCESS Array B**	**11.05**	**14**	Pn		**Pn**	**13 12 19.6**	**-2.8**
	baz=203,slow=14,SNR=1.6							

MEX ***23*** *13:14:13.7±0.8,27˚.91N×111˚.89W, h12km±14km, MD4.1*
ECX 23 13:14:13.0±0.4,27˚.89N×111˚.90W, h2km±5km, MD3.6, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.65**	**208**	*eP*		**Pg**	13 14 24.6	-0.8
SRIG				*i* S		Sg	13 14 33.7	-0.1
SRIG	**Santa Rosalia**	**0.65**	**208**⇓	*eP*		**Pg**	13 14 24.6	-0.8
SRIG				*eS*		Sg	13 14 33.7	-0.1
GUYB	**Guaymas**	**0.91**	**89**	*eP*		**Pg**	13 14 28.8	-1.7
GUYB				*i* S		Sg	13 14 39.4	-2.9
GUYB	**Guaymas**	**0.91**	**89**⇑	*eP*		**Pg**	13 14 28.9	-1.5
GUYB				*eS*		Sg	13 14 41.7	-0.5
HSIG		**1.40**	**37**	*eP*		Pn	13 14 37.6	-1.9
HSIG				*eS*		Sg	13 14 56.1	-1.9

IDC ***23*** *13:21:17.9±2.0,38˚.58N×141˚.20E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/48, mbtmp3.6/4, ML3.0/3, Error ellipse: s-maj=41.8km s-min=16.4km az=132.0*
JMA ***23*** *13:21:19.8, 38˚.71N×140˚.98E, h16km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs91.00000˚, δ39.00000˚, λ23.00000˚. NP2: φs343.00000˚, δ76.00000˚, λ127.00000˚. Principal axes: T Plg46.0000˚, Azm291.0000˚; N Plg36.0000˚, Azm153.0000˚; P Plg22.0000˚, Azm46.0000˚;*
JMA Felt III J1.
NIED ***23*** *13:21:19.8, 38˚.71N×140˚.98E, h16km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.30; Mθθ-0.68; Mφφ0.38; Mrθ0.71; Mθφ1.32; Mφr1.09; Fault plane solution: M₀1.87000×10¹⁴ NP1: φs344.00000˚, δ67.00000˚, λ153.00000˚. NP2: φs85.00000˚, δ65.00000˚, λ25.00000˚.*
ISC 23 13:21:19.9±0.8,38˚.69N±0˚.03×140˚.99E±0˚.03, h17km±6km, n23, σ1§29/30, 5C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOFO	**Osakifurukawao**	**0.11**	**214**	⇓P		**Pg**	**13 21 23.4**	**-0.1**
JOFO				S		**Sg**	**13 21 26.4**	**+0.4**
JMK	**Ichinoseki**	**0.32**	**35**	P		**Pg**	**13 21 26.2**	**-0.5**
JMK				S		**Sg**	**13 21 30.8**	**-0.5**
JIO	**Ouri**	**0.37**	**130**	⇑P		**Pb**	**13 21 27.5**	**-0.5**
JIO				S		**Sb**	**13 21 32.8**	**-0.6**
JKMT	**Kesennumamotoy**	**0.40**	**72**	⇓P		**Pb**	**13 21 27.9**	**-0.6**
JKMT				S		**Sb**	**13 21 33.6**	**-0.6**
JOU	**Okura**	**0.41**	**218**	⇓P		**Pb**	**13 21 28.3**	**-0.5**
JOU				S		**Sb**	**13 21 34.0**	**-0.7**
JYK	**Kaneyama**	**0.54**	**295**	⇑P		**Pg**	**13 21 30.1**	**-0.6**
JYK				S		**Sg**	**13 21 37.1**	**-0.9**
JRG	**Rokugo**	**0.76**	**339**	⇑P		**Pg**	**13 21 34.0**	**-0.7**
JRG				S		**Sg**	**13 21 44.3**	**-0.4**
JOM	**Ohasama**	**0.81**	**17**	⇓P		**Pg**	**13 21 34.9**	**-0.9**
JOM				S		**Sg**	**13 21 45.8**	**-0.8**
JMM	**Marumori**	**0.84**	**191**	⇓P		**Pb**	**13 21 35.2**	**-0.8**
JMM				S		**Sb**	**13 21 46.7**	**-0.2**
JYS	**Shirataka**	**0.86**	**237**	⇑P		**Pg**	**13 21 35.9**	**-0.8**
JYS				S		**Sb**	**13 21 47.7**	**0.0**
JYA	**Atsumi**	**1.00**	**265**	⇑P		**Pg**	**13 21 38.1**	**-1.3**
JYA				S		**Sg**	**13 21 51.4**	**-1.2**
MJAR	**Matsushiro Arr**	**3.08**	**227**	Pn		**Pn**	**13 22 09.5**	**+1.7**
	0.1nm,0.3s,baz=23,slow=15,SNR=3.7							
MJAR				Pg		**Pg**	**13 22 16.2**	**-2.7**
	0.4nm,0.3s,baz=29,slow=16,SNR=11							
MJAR				Lg		Lg	13 22 54.2	
	0.6nm,0.3s,baz=52,slow=30,SNR=6.1							
MAT	**Matsushiro**	**3.08**	**227**	P		**Pn**	**13 22 09.7**	**+2.0**
ASAJ	**Asahikawa**	**5.55**	**12**	Pn		**Pn**

CTA	**Charters Tower**	**17.35**	**239**	P	**P**	**13 29 31.5**	**+2.5**
	1.0nm,0.3s,baz=79,slow=15,SNR=7.3						
CAN	**Canberra**	**26.43**	**204**	P	**P**	**13 30 58.0**	**-4.0**
CAN				IAmb	IAmb	13 31 13.7	
	comp=Z,25nm,1.3s						
STKA	**Stephens Creek**	**27.62**	**220**	P	**P**	**13 31 12.8**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=78,slow=14,SNR=2.9						
STKA				LR	LR	13 41 41.5	
	comp=Z,95nm,19.0s,baz=28,slow=36						
WR0	**Warramunga Arr**	**27.69**	**249**	P	**P**	**13 31 10.6**	**-2.8**
WB0	**Warramunga Arr**	**27.78**	**250**	P	**P**	**13 31 14.1**	**-0.1**
WRAB	**Tennant Creek**	**27.86**	**249**	P	**P**	**13 31 14.4**	**-0.5**
WRAB				IAmb	IAmb	13 31 21.7	
	comp=Z,10.0nm,1.2s						
WB2	**Warramunga Arr**	**27.86**	**249**	P	**P**	**13 31 14.0**	**-0.9**
WB2				IAmb	IAmb	13 31 22.7	
	comp=Z,8.5nm,1.2s						
WRA	**Warramunga Arr**	**27.87**	**249**	P	**P**	**13 31 14.2**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=77,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**27.87**	**249**	P	**P**	**13 31 14.6**	**-0.4**
AS31	**Alice Springs**	**29.30**	**242**	P	**P**	**13 31 27.6**	**-0.1**
ASAR	**Alice Springs**	**29.30**	**242**	P	**P**	**13 31 27.1**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=66,slow=9.7,SNR=33						
ASAR	**Alice Springs**	**29.30**	**242**	P	**P**	**13 31 26.9**	**-0.8**
TOO	**Toolangi**	**29.83**	**207**	P	**P**	**13 31 33.3**	**+1.0**
TOO				IAmb	IAmb	13 31 45.1	
	comp=Z,18nm,1.1s						
GUMO	**Guam**	**30.23**	**325**	LR	LR	13 42 40.2	
	comp=Z,48nm,21.9s,baz=150,slow=34						
BBOO	**Buckleboo**	**31.84**	**224**	P	**P**	**13 31 50.4**	**+0.3**
BBOO				IAmb	IAmb	13 31 51.3	
	comp=Z,5.6nm,0.7s						
KNRA	**Kununurra**	**32.55**	**259**	P	**P**	**13 31 56.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**35.71**	**255**	P	**P**	**13 32 22.6**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=61,slow=3.7,SNR=6.2						
FITZ	**Fitzroy Crossi**	**35.71**	**255**	P	**P**	**13 32 22.9**	**-0.9**
FITZ				IAmb	IAmb	13 32 23.7	
	comp=Z,3.2nm,0.9s						
FORT	**Forrest**	**36.77**	**233**	P	**P**	**13 32 33.0**	**+0.3**
JCJ	**Chichijima**	**42.99**	**334**	LR	LR	13 49 50.0	
	comp=Z,47nm,20.6s,baz=310,slow=34						
MORW	**Morawa**	**46.17**	**241**	P	**P**	**13 33 50.0**	**+0.1**
ASAJ	**Asahikawa**	**58.17**	**344**	LR	LR	13 59 21.9	
	comp=Z,42nm,18.8s,baz=98,slow=35						
PETK	**Petropavlovsk-**	**64.53**	**357**	LR	LR	14 00 39.0	
	comp=Z,24nm,21.0s,baz=19,slow=33						
CMAR	**Chiang Mai Arr**	**68.99**	**295**	P	**P**	**13 36 31.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=143,slow=6.7,SNR=2.3						
SONM	**Songino Array**	**76.96**	**325**	P	**P**	**13 37 18.8**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=150,slow=6.0,SNR=4.1						
YAK	**Yakutsk**	**77.61**	**345**	LR	LR	14 09 59.1	
	comp=Z,21nm,18.9s,baz=248,slow=34						
ILAR	**Eielson Array**	**85.20**	**20**	P	**P**	**13 38 01.2**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=250,slow=3.9,SNR=1.9						
MKAR	**Makanchi Array**	**91.41**	**317**	P	**P**	**13 38 30.7**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=91,slow=6.2,SNR=2.0						

RSNC 23 13:37:30.0±1.2, 0.81N×77.97W, h0km±3km, ML3.0, Mw3.9, 1C, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBC	**Cumbal**	**0.19**	**47**	*e*P	Pg	13 37 34.3	+0.5
CMBC				*e*S	Sg	13 37 37.8	+1.5
CUSE	**Cuicocha Este**	**0.66**	**221**	*e*P	Pg	13 37 42.7	-0.1
CUSE				*e*S	Sg	13 37 53.0	+1.6
CCUFI	**Cufio, Nario**	**0.75**	**56**	*e*P	Pg	13 37 44.6	+0.3
CCUFI				*e*S	Sg	13 37 55.5	+1.5
CPAS1	**Pasto**	**0.75**	**60**	*e*P	Pg	13 37 44.3	0.0
CPAS1				*e*S	Sg	13 37 54.5	+0.5
GCUF	**Volcan Galeras**	**0.75**	**56**	*e*P	Pg	13 37 44.0	-0.4
GCUF				*e*S	Sg	13 37 54.8	+0.8
GCUF				*i*		13 37 55.8	
	comp=Z,284nm,0.6s						
OTAV	**Otavalo**	**0.75**	**221**	*e*P	Pg	13 37 43.9	-0.4
OTAV				*e*S	Sg	13 37 54.2	+0.2
OTAV				*i*		13 37 58.1	
	comp=Z,182nm,0.4s						
PAC1	**Pacto, Paraso**	**0.99**	**237**	*e*P	Pg	13 37 48.2	-0.7
PAC1				*e*S	Sg	13 38 01.9	+0.2
PAC1				*i*		13 38 03.3	
	comp=Z,1μm,0.3s						
CRUC	**La Cruz**	**1.26**	**53**	*e*P	Pg	13 37 53.1	-1.2
TUMC	**Tumaco**	**1.26**	**323**	*e*P	Sg	13 38 07.4	-3.2
BBAC	**Balboa, Cauca**	**1.40**	**31**	*e*P	Pg	13 37 55.3	-1.7
BBAC				*e*S	Sg	13 38 15.0	-0.2
BBAC				*i*		13 38 19.5	
	comp=Z,115nm,0.3s						
PUAC	**Puerto Asis, P**	**1.42**	**100**	*e*P	Pn	13 37 55.8	-1.3
PUAC				*e*S	Sg	13 38 15.0	-0.6
PUAC				*i*		13 38 17.4	
	comp=Z,356nm,0.2s						
SOTA	**Rioblanco**	**1.89**	**46**	*e*P	Pb	13 38 05.8	+0.1
POPC	**Popayan, Colom**	**2.15**	**37**	*e*P	Pn	13 38 08.4	+1.1
PCON	**Cinco Dias**	**2.18**	**46**	*e*P	Pb	13 38 10.6	-0.1
FLOC	**Florencia**	**2.44**	**72**	*e*P	Pb	13 38 13.5	-1.2
FLOC				*e*S	Sb	13 38 45.3	-0.1
FLOC				*i*		13 38 57.3	
	comp=Z,55nm,0.5s						
GARC	**Garzon, Huila**	**2.83**	**61**	*e*P	Pb	13 38 20.5	-1.0
GARC				*e*S	Sb	13 38 58.4	+1.6
GARC				*i*		13 39 01.6	
	comp=Z,106nm,0.2s						
MARP	**Paez Belalcaza**	**2.85**	**45**	*e*P	Pb	13 38 22.5	+0.5
BETC	**Betania**	**3.13**	**54**	*e*P	Pb	13 38 27.8	+1.1
PTLC	**Puerto Leguiza**	**3.23**	**101**	*e*P	Pn	13 38 24.3	+2.3
PTLC				*e*S	Sb	13 39 09.4	+1.2
PTLC				*i*		13 39 18.4	
	comp=Z,68nm,0.2s						
MALC	**Bahia Malaga**	**3.25**	**11**	*e*P	Pn	13 38 22.7	+0.5
YOTC	**Yotoco, Valle**	**3.54**	**27**	*e*P	Pb	13 38 32.0	-1.7
YOTC				*e*S	Sb	13 39 14.7	-2.7
ORTC	**Ortega, Tolima**	**4.11**	**41**	*e*P	Pb	13 38 39.4	-3.9
PRAC	**Prado**	**4.22**	**47**	*e*P	Pn	13 38 39.8	+4.2
TOLC	**Tolima**	**4.59**	**35**	*e*P	Pb	13 38 47.0	-4.6
CHIC	**Chingaza**	**5.68**	**48**	*e*P	Pn	13 39 02.5	+6.5

IDC 23 13:37:53.6±3.9, 2.27S×141.15E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/44, mbtmp3.6/4, ML3.6/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/32, Error ellipse: s-maj=119.7km s-min=31.2km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.79**	**200**	P	Pn	13 42 15.3	+0.2
	0.2nm,0.3s,baz=24,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**21.89**	**223**	P	P	13 42 47.8	-0.5
	1.4nm,0.7s,baz=27,slow=14,SNR=2.2						
ASAR	**Alice Springs**	**22.40**	**198**	P	P	13 42 53.9	0.0
	0.8nm,0.4s,baz=26,slow=11,SNR=32						
CMAR	**Chiang Mai Arr**	**46.35**	**296**	LR	LR	14 08 19.5	
	comp=Z,9.0nm,18.2s,baz=215,slow=39						
MKAR	**Makanchi Array**	**70.94**	**322**	P	P	13 49 13.0	0.0
	0.3nm,0.6s,baz=96,slow=6.4,SNR=2.4						

*IDC **23** 13:45:36.0±1.8, 1.97N×125.07E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.5/41, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=135.2km s-min=22.1km az=67.0*
*NEIC **23** 13:45:53.4±2.0, 1.2N±0.1×123.7E±0.2, h154km±11km, mb4.1/13, Error ellipse: s-maj=22.9km s-min=15.2km az=68.0*
*DJA **23** 13:46:03.4±0.7, 1.1N±6.6×12.5E±*, h190km±5km, M3.4/8, mb3.7/1, MLv3.2/8*

ISC 23 13:45:59.9±0.8, 1.34N±0.07×124.60E±0.08, h200km, n27, σ2.5°44/27, mb4.2/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.98**	**219**	P	**Pn**	**13 46 31.7**	**+2.2**
GTOI	**Gorontalo**	**1.73**	**246**	P	**Pn**	**13 46 39.1**	**+3.3**
GTOI				S	**Sn**	**13 47 07.4**	**+3.8**
SGSI	**Sangihe**	**2.51**	**22**	P	**Pn**	**13 46 47.3**	**+3.4**
TNTI	**Ternate**	**2.82**	**101**	P	**Pn**	**13 46 50.4**	**+2.9**
TNTI	**Ternate**	**2.82**	**101**		**Pn**	**13 46 50.2**	**+2.7**
SANI	**Sanana**	**3.64**	**158**	P	**Pn**	**13 46 58.8**	**+1.5**
NLAI	**Namlea**	**5.19**	**151**	P	**Pn**	**13 47 18.7**	**+2.0**
KNRA	**Kununurra**	**17.40**	**166**	Pn	**Pn**	**13 49 49.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.34**	**177**	P	**P**	**13 50 09.6**	**-0.8**
	0.3nm,0.3s,baz=353,slow=8.4,SNR=22						
MBWA	**Marble Bar**	**22.86**	**192**	P	P	13 50 38.3	-7.8
WB0	**Warramunga Arr**	**23.07**	**156**	P	**P**	**13 50 47.6**	**-0.4**
WB0				IAmb	IAmb	13 50 48.9	
	comp=Z,3.7nm,0.6s						
WRAB	**Tennant Creek**	**23.20**	**156**	P	**P**	**13 50 48.8**	**-0.4**
WRAB				IAmb	IAmb	13 50 49.2	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**23.21**	**156**	P	**P**	**13 50 48.6**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=336,slow=9.7,SNR=120						
WRA	**Warramunga Arr**	**23.21**	**156**	P	**P**	**13 50 47.4**	**-1.8**
WB2	**Warramunga Arr**	**23.21**	**156**	P	**P**	**13 50 49.0**	**-0.3**
WB2				IAmb	IAmb	13 50 49.3	
	comp=Z,5.2nm,0.6s						
WR0	**Warramunga Arr**	**23.30**	**156**	P	**P**	**13 50 49.6**	**-0.5**
WR0				IAmb	IAmb	13 50 51.5	
	comp=Z,6.1nm,1.0s						
AS31	**Alice Springs**	**26.45**	**161**	P	**P**	**13 51 17.9**	**-0.7**
ASAR	**Alice Springs**	**26.45**	**161**	P	**P**	**13 51 18.4**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=339,slow=7.2,SNR=34						
ASAR	**Alice Springs**	**26.45**	**161**	P	**P**	**13 51 18.1**	**-0.5**
CTAO	**Charters Tower**	**30.07**	**136**	P	**P**	**13 51 54.5**	**+3.8**
JNU	**Nakatsue**	**32.16**	**10**	P	**P**	**13 52 07.8**	**-1.1**
BBOO	**Buckleboo**	**35.65**	**163**	P	**P**	**13 52 34.8**	**-4.1**
BBOO				IAmb	IAmb	13 52 38.1	
	comp=Z,7.2nm,1.1s						
CAN	**Canberra**	**43.02**	**150**	P	**P**	**13 53 40.9**	**+1.1**
CAN				IAmb	IAmb	13 53 58.4	
	comp=Z,2.3nm,0.8s						
MK31	**Makanchi Array**	**58.34**	**327**	P	**P**	**13 55 30.9**	**-3.2**
MKAR	**Makanchi Array**	**58.34**	**327**	P	**P**	**13 55 31.5**	**-2.6**
	comp=Z,0.6nm,0.4s,baz=124,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**58.34**	**327**	P	**P**	**13 55 31.4**	**-2.7**
MAKZ	**Makanchi**	**58.52**	**327**	P	**P**	**13 55 31.7**	**-3.7**

*ISK **23** 14:03:57.2, 37.05N×30.60E, h6km, ML2.5/11*
*DDA **23** 14:03:58.5, 37.08N×30.53E, h7km±5km, ML1.9*

ISC 23 14:03:57.5±1.3, 37.08N±0.03×30.59E±0.03, h1km±11km, n22, σ1.938/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.21**	**248**	PG	**Pg**	**14 04 00.8**	**-0.7**
KORT				SG	**Sg**	**14 04 05.0**	**+0.8**
KORT	**Korkueli**	**0.21**	**248**	*i* P	**Pg**	**14 04 00.6**	**-0.8**
KORT				*i* S	**Sg**	**14 04 05.2**	**+1.0**
BCK	**Bucak**	**0.38**	**360**	PG	**Pg**	**14 04 05.7**	**+0.9**
KEMT	**Kemer-ANTALYA**	**0.47**	**183**	PG	**Pg**	**14 04 06.3**	**-0.2**
ELL	**Elmali**	**0.64**	**239**	PG	**Pg**	**14 04 10.2**	**+0.5**
ISP	**Isparta**	**0.75**	**356**	PG	**Pg**	**14 04 12.9**	**+1.1**
ISP				SG	**Sb**	**14 04 23.8**	**-0.2**
BRDR	**BURDUR-Merkez**	**0.75**	**326**	*i* P	**Pg**	**14 04 10.5**	**-1.3**
BRDR				*i* S	**Sb**	**14 04 23.1**	**-1.0**
AKUM	**Antalya-Kumluc**	**0.78**	**195**	*i* P	**Pg**	**14 04 12.4**	**0.0**
AKUM				*i* S	**Sn**	**14 04 25.9**	**-2.0**
AKUM				IAML		14 04 30.0	
	comp=N,48nm,0.7s						
AKUM				IAML		14 04 30.0	
	comp=E,50nm,0.5s						
KEPZ	**Antalya-Kepez**	**0.83**	**102**	*i* P	**Pg**	**14 04 13.3**	**-0.1**
KEPZ				*i* S	**Sn**	**14 04 29.4**	**+0.2**
GOLH	**Golhisar**	**0.84**	**281**	*i* P	**Pg**	**14 04 13.0**	**-0.6**
GOLH				*i* S	**Sn**	**14 04 27.6**	**-1.9**
GOLH				IAML		14 04 31.0	
	comp=N,71nm,0.7s						
BAGO	**Egridir - ISPA**	**0.93**	**10**	*i* P	**Pg**	**14 04 15.6**	**+0.4**
BAGO				*i* S	**Sn**	**14 04 30.9**	**-0.7**
BASM	**Basmaki-Afyon**	**0.94**	**333**	PG	**Pb**	**14 04 16.7**	**0.0**
CAME	**Cameli-Denizli**	**1.04**	**263**	PG	**Pb**	**14 04 17.7**	**-0.6**
SEYD	**Seydisehir-KON**	**1.05**	**71**	PG	**Pg**	**14 04 17.5**	**-0.1**
AKAS	**Kas**	**1.16**	**224**	PN	**Pb**	**14 04 19.8**	**-0.5**
AKAS	**Kas**	**1.16**	**224**	*i* P	**Pn**	**14 04 20.9**	**0.0**
AKAS				*i* S	**Sn**	**14 04 41.4**	**+4.1**
AKAS				IAML		14 04 45.0	
	comp=E,31nm,0.7s						
AKAS				IAML		14 04 47.0	
	comp=Z,21nm,0.7s						
FETY	**Fethiye**	**1.29**	**250**	PN	**Pg**	**14 04 22.4**	**+0.3**
FETY	**Fethiye**	**1.29**	**250**	*i* P	**Pn**	**14 04 21.2**	**-1.3**
FETY				*i* S	**Sn**	**14 04 44.6**	**+4.2**
FETY				IAML		14 04 48.0	
	comp=E,42nm,1.6s						
TAVA	**DENIZLI_Tavas**	**1.39**	**287**	*i* P	**Pn**	**14 04 23.6**	**-0.5**
TAVA				*i* S	**Sn**	**14 04 44.2**	**+1.1**
TAVA				IAML		14 04 47.0	
	comp=E,20nm,0.6s						
DALY	**Dalyan (Mula)**	**1.57**	**261**	PN	**Pb**	**14 04 26.9**	**-0.4**
LADK	**Ladik-KONYA**	**1.80**	**51**	PN	**Pn**	**14 04 29.4**	**-0.3**
YER	**Yerkesik**	**1.85**	**272**	PN	**Pn**	**14 04 30.5**	**+0.2**

*REN **23** 14:16:25±0.9, 40.30N±0.01×119.72W±0.03, h12km±6km, ML2.6/12, Error ellipse: s-maj=3.9km s-min=0.8km az=110.0*

NEIC 23 14:16:23.0±1.0, 40.42N±0.03×119.70W±0.04, h8km±7km, Error ellipse: s-maj=5.2km s-min=4.3km az=215.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVA	**Winnemucca Val**	**0.48**	**191**		Pg	14 16 32.4	-0.1
BEKR	**Beckworth**	**0.75**	**223**		Pg	14 16 37.5	+0.1
PAHR	**Pah Rah Range**	**0.75**	**161**		Pg	14 16 37.3	-0.2
PEAR	**Peavine Mounta**	**0.84**	**194**		Pg	14 16 39.0	-0.2
LOY	**Loyalton**	**0.87**	**209**		Pg	14 16 39.4	-0.3
VPK	**Verdi Peak**	**0.98**	**195**		Pg	14 16 41.8	-0.1
KBF	**Kyburz Flat**	**0.99**	**203**		Pg	14 16 41.8	-0.4
IND	**Independence**	**1.08**	**205**		Pg	14 16 43.9	0.0
VCNR	**Virginia City**	**1.12**	**178**		Pg	14 16 44.6	-0.1
MPK	**Martis Peak**	**1.15**	**193**		Pg	14 16 45.2	+0.1
TAHR	**Tahoe**	**1.32**	**196**		Pb	14 16 48.2	0.0
PNTR	**Pine Nut**	**1.33**	**177**		Pn	14 16 47.8	-0.3
EMB	**Emerald Bay**	**1.48**	**192**		Pn	14 16 50.3	+0.1
YERR	**Yerington**	**1.48**	**166**		Pb	14 16 50.6	-0.2
MOD	**Modoc Plateau**	**1.55**	**343**		Pg	14 16 55.9	+3.1
ORV	**Oroville**	**1.63**	**239**		Pb	14 16 52.8	-0.6
AFDM	**Forest Hills D**	**1.77**	**214**		Pn	14 16 54.4	+0.4
KVN	**Kaiserville**	**1.84**	**137**		Pb	14 16 57.0	-0.1
WAKR	**Walker**	**1.92**	**174**		Pb	14 16 58.4	-0.1
RYN	**Ryan**	**2.01**	**153**		Pn	14 16 58.5	+1.1
WDC	**Whiskeytown Da**	**2.17**	**275**		Pg	14 17 03.7	-1.0
NVAR	**Mina Array Bea**	**2.26**	**151**		Pb	14 17 03.8	-0.5
LHV	**Little Huntoon**	**2.36**	**156**		Pb	14 17 05.7	0.0
K05A	**Summer Lake**	**2.47**	**339**	Pn	Pn	14 17 04.7	+0.9
YBH	**Yreka Blue Hor**	**2.63**	**301**	Pn	Pn	14 17 05.0	-0.8
PINE	**Pine Mountain**	**3.49**	**345**	Pn	Pn	14 17 17.2	-0.6

*IDC **23** 14:20:20.6±1.1, 7.40N×93.94E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/30, mbtmp3.6/9, ML3.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/43, Error ellipse: s-maj=45.9km s-min=19.1km az=56.0*

ISC 23 14:20:23.6±1.0, 7.4N±0.1×94.0E±0.2, h20km, n14, σ1.8°12/11, mb3.6/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.01**	**23**	Pn	**Pn**	**14 23 14.0**	**+0.2**
	0.1nm,0.3s,baz=211,slow=14,SNR=1.2						
CMAR				LR	LR	14 27 47.2	
	comp=Z,85nm,19.1s,baz=210,slow=37						
PALK	**Pallekele**	**13.15**	**270**	LR	LR	14 27 48.6	
	comp=Z,83nm,21.3s,baz=212,slow=34						
LEM	**Lembang**	**19.64**	**136**	LR	LR	14 34 19.2	
	comp=Z,79nm,18.8s,baz=306,slow=43						
H08S3	**Diego Garcia H**	**26.11**	**236**	T	T	14 52 40.5	
	baz=56,slow=74,SNR=70						
H08S2	**Diego Garcia H**	**26.11**	**236**	T	T	14 52 40.5	
	baz=56,slow=74,SNR=3.9						
H08S1	**Diego Garcia H**	**26.12**	**236**	T	T	14 52 44.4	
	baz=56						
MKAR	**Makanchi Array**	**40.50**	**348**	P	**P**	**14 28 01.8**	**+0.6**
	0.8nm,0.6s,baz=169,slow=8.0,SNR=9.9						
SONM	**Songino Array**	**41.66**	**13**	P	**P**	**14 28 10.3**	**-0.5**
	0.3nm,0.4s,baz=195,slow=9.0,SNR=1.9						
GEYT	**Alibeck**	**44.42**	**319**	P	**P**	**14 28 33.5**	**+0.2**
	1.3nm,0.5s,baz=132,slow=9.9,SNR=2.8						
GEYT				LR	LR	14 48 16.7	
	comp=Z,28nm,18.2s,baz=65,slow=38						
ZALV	**Zalesovo Beam**	**46.99**	**353**	P	**P**	**14 28 52.1**	**-1.1**
	1.1nm,0.6s,baz=177,slow=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**48.14**	**125**	P	**P**	**14 29 03.7**	**+0.9**
	0.5nm,0.9s,baz=305,slow=8.3,SNR=5.3						
WRA				PcP	**PcP**	**14 30 31.8**	**+1.7**
	0.3nm,0.8s,baz=315,slow=2.9,SNR=2.3						
ASAR	**Alice Springs**	**49.76**	**130**	P	**P**	**14 29 13.4**	**-1.8**
	0.3nm,0.8s,baz=296,slow=7.7,SNR=4.8						
ASAR				PcP	**PcP**	**14 30 36.3**	**+0.3**
	0.4nm,1.0s,baz=296,slow=3.2,SNR=1.6						
BRTR	**Keskin Array B**	**62.59**	**311**	P	**P**	**14 30 46.1**	**-0.7**
	0.3nm,0.5s,baz=134,slow=6.2,SNR=1.8						
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**14 31 52.8**	**+0.9**
	2.0nm,0.8s,baz=131,slow=4.2,SNR=1.7						

IDC 23 14:33:05.5±30.0, 13.67N×57.38E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, Error ellipse: s-maj=981.7km s-min=49.5km az=85.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.07**	**27**	P	P	14 40 34.2	0.0
	0.2nm,0.8s,baz=202,slow=8.0,SNR=2.1						
H01W3	**Cape Leeuwin H**	**72.28**	**134**	T	T	16 03 59.5	
	baz=302						
H01W2	**Cape Leeuwin H**	**72.29**	**134**	T	T	16 03 58.9	
	baz=302						
H01W1	**Cape Leeuwin H**	**72.30**	**134**	T	T	16 03 57.8	
	baz=302						
WRA	**Warramunga Arr**	**82.72**	**112**	P	P	14 45 32.0	+0.2
	0.6nm,1.0s,baz=304,slow=4.4,SNR=2.3						
ASAR	**Alice Springs**	**83.46**	**116**	P	P	14 45 35.5	-0.1
	0.4nm,0.7s,baz=289,slow=4.4,SNR=5.0						

*GUC **23** 14:39:58.8±0.7, 21.45S×67.02W, h258km±8km, ML4.0*
*SCB **23** 14:39:59.4±2.0, 21.41S×66.72W, h217km±12km, ML3.9/5, Error ellipse: s-maj=6.7km s-min=5.5km az=0.0*
*IDC **23** 14:40:01.8±8.3, 21.06S×66.49W, h248km±75km, mb5.5/1, mb1 5.5/1, mb1mx3.4/24, mbtmp6.1/1, Error ellipse: s-maj=95.0km s-min=58.8km az=164.0*

ISC 23 14:39:57.4±0.9, 21.45S±0.04×66.74W±0.05, h223km±7km, n44, σ1.923/70, 4C-9D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.05**	**79**	P	**Pn**	**14 40 31.2**	**+0.8**
MOCB				S	**S**	**14 40 55.0**	**-0.9**
MOCB				IAML		14 40 55.7	
	782nm,0.4s						
YJA	**Yavi**	**1.35**	**123**	P	**Pn**	**14 40 33.0**	**+0.5**
PB09	**IPOC Station P**	**2.35**	**261**	*i*P	**Pn**	**14 40 42.6**	**+1.2**
PB09				*i* S	**S**	**14 41 16.5**	**+1.0**
PB09	**IPOC Station P**	**2.35**	**261**	P	**Pn**	**14 40 42.7**	**+1.3**
PB01	**IPOC Station P**	**2.59**	**278**	*e*P	**Pn**	**14 40 44.2**	**+0.3**
PB01				*e*S	**S**	**14 41 19.9**	**-0.1**
PB01				IAML		14 41 20.8	
	comp=N,222nm,0.2s						
PB01	**IPOC Station P**	**2.59**	**278**	P	**Pn**	**14 40 44.8**	**+1.0**
PB01				S	**S**	**14 41 19.9**	**-0.1**
PB01				IAML		14 41 25.3	
	comp=N,123nm,0.2s						
PB08	**IPOC Station P**	**2.60**	**300**	*e*P	**Pn**	**14 40 45.5**	**+1.2**
PB08				*e*S	**S**	**14 41 21.7**	**+0.9**
PB08	**IPOC Station P**	**2.60**	**300**	P	**Pn**	**14 40 45.5**	**+1.2**
GO01	**Chusmiza**	**2.90**	**307**	*e*P	**Pn**	**14 40 48.7**	**+1.0**
GO01				IAML		14 41 33.1	
	comp=N,205nm,0.1s						
PB06	**IPOC Station P**	**2.91**	**244**	*e*P	**Pn**	**14 40 48.6**	**+1.2**
PB06				*e*S	**S**	**14 41 26.4**	**0.0**
PB06				IAML		14 41 28.6	
	comp=N,115nm,0.2s						
PB06	**IPOC Station P**	**2.91**	**244**	P	**Pn**	**14 40 48.1**	**+0.7**
PB07	**IPOC Station P**	**2.94**	**264**	*e*P	**Pn**	**14 40 48.3**	**+0.5**
PB07				*e*S	**S**	**14 41 25.6**	**-1.4**
PB07				IAML		14 41 26.4	
	comp=E,314nm,0.3s						
PB02	**IPOC Station P**	**2.94**	**272**	*e*P	**Pn**	**14 40 48.0**	**+0.3**
PB02				*e*S	**S**	**14 41 25.3**	**-1.7**
PB02	**IPOC Station P**	**2.94**	**272**	P	**Pn**	**14 40 48.6**	**+0.9**
PB02				S	**S**	**14 41 25.7**	**-1.3**
PB02				IAML		14 41 28.3	
	comp=E,492nm,0.3s						
PB15	**IPOC Station P**	**3.08**	**235**	*e*P	**Pn**	**14 40 51.1**	**+1.8**
PB15				*e*S	**S**	**14 41 30.2**	**+0.4**
PB11	**IPOC Station P**	**3.21**	**301**	*e*P	**Pn**	**14 40 51.1**	**+0.3**
PB11				*e*S	**S**	**14 41 31.5**	**-1.0**
PB11	**IPOC Station P**	**3.21**	**301**	P	**Pn**	**14 40 51.6**	**+0.8**
PB11				S	**S**	**14 41 31.5**	**-1.0**

s-min=18.6km az=32.0
*NEIC **23** 14:53:19.2±1.8, 13°.9N±0°.1×57°.0E±0°.1, h10km±1km, mb4.5/6, Error ellipse: s-maj=17.8km s-min=16.0km az=136.0*
*OMAN **23** 14:53:26.1±0.9, 14°.10N×56°.47E, h34km±7km, ml3.0/5, Error ellipse: s-maj=13.9km s-min=4.1km az=305.0*

ISC 23 14:53:19.2±0.7, 13°.89N±0°.07×56°.74E±0°.09, h10km, n35, σ1s56/30, mb4.1/14, MS2.9/3, Socotra region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**3.17**	**238**	P	**Pn**	**14 54 09.1**	**-0.3**
SOCY				S	**Sn**	**14 54 43.7**	**-3.6**
SOCY	**Socotra**	**3.17**	**238**	Pn	**Pn**	**14 54 09.4**	**+0.1**
DMTO	**DMTO**	**4.18**	**336**	P	**Pn**	**14 54 22.4**	**-0.8**
	SNR=7.6						
DMTO				S	**Sn**	**14 55 07.9**	**-4.2**
SHAO	**Shalim**	**4.25**	**345**	P	**Pn**	**14 54 23.1**	**-1.0**
SHAO				S	Sn	14 55 06.4	-7.5
RBK	**Rabkut**	**4.35**	**326**	P	**Pn**	**14 54 26.6**	**+1.1**
ABTO	**Aybut**	**4.79**	**317**	P	**Pn**	**14 54 32.5**	**+1.0**
WHFO	**Wadi Hawf**	**4.92**	**325**	P	**Pn**	**14 54 34.8**	**+1.4**
	SNR=6.9						
WSAR	**Wadi Sarin**	**9.47**	**11**	LR	LR	14 58 53.6	
	comp=Z,140nm,19.6s,baz=232,slow=36						
UOSS	**Minazif**	**11.01**	**357**	Pn	**Pn**	**14 55 55.6**	**-1.3**
GEYT	**Alibeck**	**23.98**	**3**	LR	LR	15 08 35.4	
	comp=Z,38nm,18.9s,baz=330,slow=38						
PALK	**Pallekele**	**24.44**	**103**	LR	LR	15 06 41.4	
	comp=Z,29nm,18.5s,baz=8.2,slow=33						
KBZ	**Khabaz**	**32.02**	**341**	P	**P**	**14 59 47.3**	**+1.4**
	2.8nm,0.9s,baz=167,slow=8.1,SNR=5.5						
BRTR	**Keskin Array B**	**32.78**	**326**	P	**P**	**14 59 55.1**	**+2.3**
	0.5nm,0.7s,baz=110,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**39.17**	**28**	P	**P**	**15 00 48.1**	**+0.8**
	0.7nm,0.8s,baz=220,slow=7.3,SNR=4.9						
MKAR				LR	LR	15 18 45.5	
	comp=Z,33nm,18.0s,baz=305,slow=39						
CMAR	**Chiang Mai Arr**	**40.72**	**78**	P	**P**	**15 01 01.7**	**+1.1**
	0.2nm,0.3s,baz=264,slow=8.7,SNR=6.3						
AKASG	**Malin Array Be**	**42.97**	**334**	P	**P**	**15 01 18.9**	**+0.5**
	1.3nm,0.7s,baz=130,slow=7.4,SNR=5.1						
BOSA	**Boshof**	**52.09**	**216**	P	**P**	**15 02 28.0**	**-1.8**
BOSA				IAmb	IAmb	15 02 41.7	
	comp=Z,12nm,1.4s						
FIA1	**FINESS Array S**	**52.37**	**342**	P	**P**	**15 02 31.0**	**-0.3**
FINES	**FINESS Array B**	**52.37**	**342**	P	**P**	**15 02 31.7**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=108,slow=4.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**53.43**	**276**	P	**P**	**15 02 42.1**	**+2.3**
	comp=Z,103nm,0.8s,baz=89,slow=8.1,SNR=5.3						
ESDC	**Sonseca Array**	**58.78**	**308**	P	**P**	**15 03 18.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=87,slow=5.2,SNR=3.0						
ARCES	**ARCESS Array B**	**58.98**	**348**	P	**P**	**15 03 18.3**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=134,slow=5.2,SNR=1.7						
KSRS	**Korea Array**	**66.81**	**55**	P	**P**	**15 04 09.7**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=273,slow=6.2,SNR=2.2						
H01W3	**Cape Leeuwin H**	**72.88**	**134**	T	T	16 24 12.6	
	baz=302,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**72.88**	**134**	T	T	16 24 11.0	
	baz=302,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**72.89**	**134**	T	T	16 24 13.3	
	baz=302,slow=75,SNR=15						
ILULI	**Ilulissat**	**83.31**	**340**	P	**P**	**15 05 46.4**	**+0.5**
WRA	**Warramunga Arr**	**83.37**	**112**	P	**P**	**15 05 47.3**	**0.0**
	comp=Z,1.0nm,0.7s,baz=299,slow=4.3,SNR=11						
WRA	**Warramunga Arr**	**83.37**	**112**	P	**P**	**15 05 46.4**	**-0.9**
WRAB	**Tennant Creek**	**83.38**	**112**	P	**P**	**15 05 47.3**	**0.0**
WRAB				IAmb	IAmb	15 06 06.5	
	comp=Z,2.3nm,1.1s						
WB2	**Warramunga Arr**	**83.38**	**112**	P	**P**	**15 05 46.2**	**-1.1**
ASAR	**Alice Springs**	**84.11**	**116**	P	**P**	**15 05 51.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=292,slow=4.8,SNR=17						
ASAR	**Alice Springs**	**84.11**	**116**	P	**P**	**15 05 50.2**	**-0.8**
AS31	**Alice Springs**	**84.11**	**116**	P	**P**	**15 05 49.1**	**-1.9**
MDPB	**Devils Postpil**	**128.60**	**356**		PKPpre	15 12 17.9	

*DDA **23** 14:53:49.9, 40°.72N×27°.39E, h10km±1km, ML3.5*
*ISK **23** 14:53:50.0, 40°.74N×27°.40E, h9km, ML3.4/40*
*ATH **23** 14:53:50.4, 40°.80N×27°.31E, h25km±2km, ML3.4/5, Error ellipse: s-maj=4.2km s-min=1.9km az=51.0*
*SOF **23** 14:53:51.6, 40°.77N×27°.01E, h6km, MD3.5*
*THE **23** 14:53:52.0, 40°.77N×27°.23E, h3km±1km, ML3.2/7, Error ellipse: s-maj=2.2km s-min=1.0km az=47.0*

ISC 23 14:53:50.5±0.9, 40°.74N±0°.02×27°.39E±0°.01, h12km±4km, n100, σ0s99/125, 7C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAR2	**Marsite Statio**	**0.06**	**247**	PG	**Pg**	**14 53 52.7**	**-0.2**
MAR2				SG	**Sg**	**14 53 54.6**	**-0.1**
MAR3	**Marsite Statio**	**0.07**	**272**	PG	**Pg**	**14 53 52.7**	**-0.3**
MAR3				SG	**Sg**	**14 53 54.2**	**-0.7**
MAR4	**Marsite Statio**	**0.08**	**306**	PG	**Pg**	**14 53 52.7**	**-0.6**
MAR4				SG	**Sg**	**14 53 54.6**	**-0.7**
MAR6	**Marsite Statio**	**0.10**	**248**	PG	**Pg**	**14 53 53.3**	**-0.1**
SART	**Tekirdag**	**0.16**	**252**	*i* P	**Pg**	**14 53 54.1**	**-0.3**
SART				*i* S	**Sg**	**14 53 57.0**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.17**	**251**	PG	**Pg**	**14 53 54.2**	**-0.2**
RKY				SG	**Sg**	**14 53 57.0**	**-0.1**
MRMT	**Marmara Adasi**	**0.21**	**131**	PG	**Pg**	**14 53 54.4**	**-0.7**
MRMT				SG	**Sg**	**14 53 57.7**	**-0.6**
MAR9	**Marsite Statio**	**0.27**	**117**	PG	**Pg**	**14 53 55.7**	**-0.4**
MAR9				SG	**Sg**	**14 53 59.6**	**-0.2**
TKR	**Tekirdag**	**0.27**	**25**	PG	**Pg**	**14 53 56.0**	**-0.2**
TKR				SG	**Sg**	**14 54 00.3**	**+0.3**
CRLT	**Corlu**	**0.47**	**34**	PG	**Pg**	**14 53 59.6**	**-0.2**
KNL	**Balıkesir**	**0.48**	**167**	*i* P	**Pg**	**14 53 60.0**	**0.0**
KNL				*i* S	**Sg**	**14 54 07.2**	**+0.8**
BOTS	**Marmara Eregli**	**0.52**	**61**	PG	**Pg**	**14 54 00.4**	**-0.2**
EDC	**Edincik**	**0.54**	**137**	PG	**Pg**	**14 54 00.7**	**-0.3**
EDC				SG	**Sg**	**14 54 08.4**	**+0.3**
KESN	**Edirne-Kesan**	**0.54**	**279**	*i* P	**Pg**	**14 54 00.7**	**-0.5**
KESN				*i* S	**Sg**	**14 54 07.9**	**-0.6**
KESN				IAML		14 54 15.0	
	comp=E,2μm,0.4s						
LPK	**Lapseki**	**0.60**	**233**	PG	**Pg**	**14 54 02.2**	**0.0**
LPK				SG	**Sg**	**14 54 11.1**	**+0.9**
ERIK	**Erikli-Kesan**	**0.67**	**264**	PG	**Pg**	**14 54 03.5**	**0.0**
UKOP	**Uzunkopru-Edir**	**0.69**	**304**	PG	**Pg**	**14 54 04.1**	**+0.2**
UKOP				SG	**Sg**	**14 54 13.9**	**+0.9**
GONE	**Gonen-Balikesi**	**0.73**	**162**	PG	**Pg**	**14 54 04.7**	**0.0**
GELI	**Tayfur-Gelibol**	**0.77**	**244**	PG	**Pg**	**14 54 05.0**	**-0.5**
SLVT	**Silivri**	**0.79**	**52**	PG	**Pg**	**14 54 05.9**	**0.0**
ELBA	**Catalca**	**0.89**	**63**	*i* P	**Pg**	**14 54 06.7**	**-1.0**
ELBA				*i* S	**Sg**	**14 54 18.6**	**-0.7**
PHSR	**Pinarhisar**	**0.90**	**7**	PG	**Pg**	**14 54 07.8**	**0.0**
ENEZ	**Enez**	**0.94**	**270**	PG	**Pg**	**14 54 08.4**	**-0.2**
CTKS	**Kestanelik-??a**	**0.98**	**59**	PG	**Pg**	**14 54 09.2**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.00**	**43**	PG	**Pg**	**14 54 09.6**	**-0.2**
BALY	**Balya**	**1.01**	**170**	*i* P	**Pg**	**14 54 09.3**	**-0.8**
BALY				*i* S	**Sg**	**14 54 23.6**	**+0.3**
BALY				IAML		14 54 26.0	
	comp=N,2μm,1.0s						
BALY				IAML		14 54 26.0	
	comp=E,2μm,0.4s						
ALN	**Alexandroupoli**	**1.03**	**279**	P	**Pg**	**14 54 09.3**	**-1.0**
ALN				S	**Sg**	**14 54 22.3**	**-1.4**
	comp=E,1μm,0.5s						
ALN	**Alexandroupoli**	**1.03**	**279**	P	**Pg**	**14 54 09.3**	**-1.0**
ALN				S	**Sg**	**14 54 22.3**	**-1.4**
ALN				AML	AML	14 54 24.9	
	comp=N,1870μm,0.4s						
ALN				AML	AML	14 54 26.1	
	comp=E,2841μm,0.4s						
ALN	**Alexandroupoli**	**1.03**	**279**	PG	**Pg**	**14 54 10.1**	**-0.2**
ALN				SG	**Sg**	**14 54 24.8**	**+1.1**
AVCI	**Avcilar-stanb**	**1.05**	**75**	PG	**Pg**	**14 54 10.5**	**-0.2**
AVCI				SG	**Sg**	**14 54 25.2**	**+0.9**
ARMT	**Armutlu**	**1.14**	**98**	PN	**Pg**	**14 54 12.2**	**-0.2**
BGKT	**Bogazkoy**	**1.14**	**67**	PN	**Pg**	**14 54 12.2**	**-0.2**
BALB	**Balikesir**	**1.16**	**161**	PN	**Pg**	**14 54 12.5**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.19**	**213**	*i* P	**Pg**	**14 54 12.2**	**-1.1**
BAYC				*i* S	**Sg**	**14 54 28.7**	**0.0**
BAYC				IAML		14 54 31.0	
	comp=E,693nm,0.3s						
MDNY	**Mudanya-Bursa**	**1.20**	**108**	PN	**Pg**	**14 54 13.2**	**-0.4**
MDNY				SN	**Sg**	**14 54 30.2**	**+1.0**
EDRB	**Edirne**	**1.21**	**337**	PN	**Pg**	**14 54 13.5**	**-0.2**
EZN	**Ezine**	**1.22**	**222**	PN	**Pg**	**14 54 13.3**	**-0.7**
GOKA	**anakkale-Gk**	**1.25**	**244**	*i* P	**Pg**	**14 54 13.5**	**-1.1**
GOKA				*i* S	**Sg**	**14 54 31.5**	**+0.6**
GOKA				IAML		14 54 34.0	
	comp=N,2μm,0.6s						
GOKA				IAML		14 54 34.0	
	comp=E,2μm,0.6s						
GADA	**Gvkgeada**	**1.26**	**245**	PN	**Pg**	**14 54 14.1**	**-0.6**
ISK	**Istanbul-Kandi**	**1.31**	**75**	PN	**Pg**	**14 54 14.3**	**-1.4**
KAVV	**Kandilli-Istan**	**1.31**	**75**	PN	**Pg**	**14 54 14.7**	**-1.0**
ORLT	**Orhaneli**	**1.35**	**121**	PN	**Pg**	**14 54 15.4**	**-1.0**
KLYT	**Kilyos**	**1.35**	**67**	PN	**Pg**	**14 54 15.3**	**-1.2**
BOZC	**Bozcaada**	**1.36**	**229**	PN	**Pg**	**14 54 15.6**	**-1.0**
BOZC	**Bozcaada**	**1.36**	**229**	*i* P	**Pg**	**14 54 15.4**	**-1.2**
BOZC				*i* S	**Sg**	**14 54 34.5**	**+0.3**
BOZC				IAML		14 54 35.0	
	comp=E,1μm,0.3s						
BOZC				IAML		14 54 36.0	
	comp=N,835nm,0.2s						
TRML	**Termal-Yalova**	**1.37**	**95**	PN	**Pg**	**14 54 15.6**	**-1.2**
STEP	**BALIKESIR_Sava**	**1.39**	**169**	*i* P	Pg	14 54 15.5	-1.6
STEP				*i* S	**Sg**	**14 54 33.8**	**-1.3**
GEMT	**Gemlik**	**1.41**	**102**	PN	**Pn**	**14 54 16.3**	**+0.4**
SMTH	**Samothraki Isl**	**1.44**	**260**	P	Pn	14 54 15.8	-0.6
SMTH				S	**Sg**	**14 54 35.1**	**-1.7**
	comp=N,910nm,0.3s						
SMTH	**Samothraki Isl**	**1.44**	**260**	P	Pn	14 54 15.8	-0.6
SMTH				S	**Sg**	**14 54 35.1**	**-1.7**
SMTH				AML	AML	14 54 38.0	
	comp=E,1464μm,0.3s						
SMTH				AML	AML	14 54 38.8	
	comp=N,2149μm,0.3s						
RDO	**Rodhopi**	**1.46**	**287**	P	**Pn**	**14 54 16.8**	**+0.2**
RDO				S	**Sg**	**14 54 35.3**	**-2.1**
	comp=N,2μm,0.3s						
RDO	**Rodhopi**	**1.46**	**287**	P	**Pn**	**14 54 16.8**	**+0.2**
RDO				S	**Sg**	**14 54 35.3**	**-2.1**
RDO				AML	AML	14 54 37.8	
	comp=E,3997μm,0.2s						
RDO				AML	AML	14 54 38.5	
	comp=N,2895μm,0.3s						
RDO	**Rodhopi**	**1.46**	**287**	PN	**Pn**	**14 54 16.9**	**+0.3**
ULDT	**Uludag**	**1.46**	**114**	*i* P	Pn	14 54 15.7	-1.2
ULDT				*i* S	**Sg**	**14 54 34.6**	**-3.1**
IGD	**Bursa**	**1.47**	**108**	*i* P	**Pn**	**14 54 17.2**	**+0.5**
IGD				*i* S	**Sg**	**14 54 34.5**	**-3.2**
DST	**Dursunbey**	**1.48**	**140**	PN	**Pn**	**14 54 17.4**	**+0.4**
AYVA	**Ayvalik**	**1.53**	**201**	*i* P	**Pn**	**14 54 18.9**	**+1.3**
AYVA				*i* S	**Sn**	**14 54 37.4**	**+0.1**
DKL	**Dikili**	**1.71**	**193**	PN	**Pn**	**14 54 20.9**	**+0.8**
PRK	**Paraskevi**	**1.72**	**210**	P	**Pn**	**14 54 21.2**	**+1.0**
PRK				S	**Sn**	**14 54 44.4**	**+2.3**
	comp=N,2μm,0.7s						
PRK	**Paraskevi**	**1.72**	**210**	P	**Pn**	**14 54 21.2**	**+1.0**
PRK				S	**Sn**	**14 54 44.4**	**+2.3**
PRK				AML	AML	14 54 47.4	
	comp=N,4454μm,0.7s						
PRK				AML	AML	14 54 50.3	
	comp=E,3896μm,0.7s						
HRT	**Hereke**	**1.74**	**87**	PN	**Pn**	**14 54 20.7**	**+0.2**
KDZ	**Kurdzhali**	**1.74**	**302**	*i* P	**Pn**	**14 54 20.8**	**+0.2**
KDZ	**Kurdzhali**	**1.74**	**302**	PN	**Pn**	**14 54 21.9**	**+1.3**
SILT	**Sile**	**1.76**	**76**	PN	**Pn**	**14 54 20.9**	**+0.1**
ZEDA	**zmir-Bergama**	**1.79**	**188**	*i* P	Pn	14 54 22.0	0.0
ZEDA				*i* S	**Sn**	**14 54 43.4**	**-0.4**
ADVT	**Abdulvahap**	**1.82**	**99**	PN	**Pn**	**14 54 21.9**	**+0.3**
JMB	**Yambol**	**1.83**	**341**	*i* P	**Pn**	**14 54 24.6**	**+2.9**
LIA	**Limnos Island**	**1.88**	**244**	P	Pn	14 54 22.0	-0.4
LIA				S	**Sn**	**14 54 47.0**	**+0.9**
	comp=E,420nm,0.5s						
LIA	**Limnos Island**	**1.88**	**244**	P	Pn	14 54 22.0	-0.4
LIA				S	**Sn**	**14 54 47.0**	**+0.9**
AKHS	**Akhisar**	**1.89**	**170**	*i* P	**Pn**	**14 54 22.8**	**+0.2**
AKHS				*i* S	**Sn**	**14 54 46.7**	**+0.4**
DIM	**Dimitrovgrad**	**1.91**	**314**	*i* P	**Pn**	**14 54 22.6**	**-0.3**
CAVI	**Cavuskoy**	**1.95**	**105**	PN	**Pn**	**14 54 24.0**	**+0.6**
TVSB	**Tavsanli**	**2.05**	**128**	PN	**Pn**	**14 54 25.3**	**+0.4**
SIMA	**Simav-Kutahya**	**2.06**	**143**	PN	**Pn**	**14 54 25.7**	**+0.7**
KAND	**Kocaeli-Kandir**	**2.16**	**80**	*i* P	Pn	14 54 24.8	-1.4
AUBOZ	**BOZOYUK**	**2.19**	**111**	*i* P	**Pn**	**14 54 29.6**	**+2.9**
KAVA	**Kavala**	**2.19**	**278**	P	**Pn**	**14 54 26.6**	**-0.1**
KAVA				S	**Sn**	**14 54 53.1**	**-0.7**
	comp=E,282nm,0.5s						
KAVA	**Kavala**	**2.19**	**278**	P	**Pn**	**14 54 26.6**	**-0.1**
KAVA				S	**Sn**	**14 54 52.4**	**-1.4**
KAVA				AML	AML	14 55 02.7	
	comp=E,578μm,0.7s						
KAVA				AML	AML	14 55 03.2	
	comp=N,652μm,0.5s						
SHAP	**Saphane-Kutahy**	**2.22**	**140**	PN	**Pn**	**14 54 27.9**	**+0.6**
RZN	**Rozhen**	**2.23**	**296**	*i* P	**Pn**	**14 54 27.3**	**-0.1**
GEYV	**SAKARYA_Geyve**	**2.23**	**96**	*i* P	Pn	14 54 26.1	-1.2
GDZ	**Gediz**	**2.31**	**135**	*i* P	Pn	14 54 28.4	-0.1
PRD	**Provadia**	**2.46**	**0**	*e*P	**Pn**	**14 54 32.5**	**+2.1**
NVR	**Nevrokopi**	**2.73**	**284**	P	**Pn**	**14 54 34.7**	**+0.5**
NVR				S	**Sn**	**14 55 07.2**	**0.0**
	comp=N,132nm,0.3s						
MMB	**Musomiste**	**2.89**	**288**	*e*P	**Pn**	**14 54 36.6**	**+0.2**
RAZG	**Razgrad**	**2.90**	**347**	⇓P	**Pn**	**14 54 36.7**	**+0.2**
TIRR	**Tirgusor**	**3.79**	**11**	⇓P	**Pn**	**14 54 48.7**	**0.0**
APE	**Apeiranthos**	**3.94**	**202**	⇑P	Pn	14 54 49.9	-0.9
HARR	**Harsova**	**3.97**	**6**	⇑P	**Pn**	**14 54 52.2**	**+1.1**
STIP	**Stip**	**4.04**	**285**	*i* Pn	Pn	14 54 50.4	-1.7
STIP				*i* Sn	Sn	14 55 48.1	+8.8
TPGR	**Topolog**	**4.18**	**10**	⇑P	**Pn**	**14 54 54.7**	**+0.6**
CFR	**Carcaliu**	**4.47**	**7**	⇓P	**Pn**	**14 54 58.4**	**+0.4**
NEHR	**Nehoiu**	**4.75**	**351**	⇓P	**Pn**	**14 55 03.1**	**+1.1**
MLR	**Muntele Rosu**	**4.86**	**348**	⇓P	**Pn**	**14 55 04.7**	**+1.1**
VOIR		**5.00**	**341**	⇑P	**Pn**	**14 55 06.2**	**+0.8**
VRI	**Vrincioaia**	**5.15**	**355**	⇓P	**Pn**	**14 55 08.3**	**+1.0**
HERR	**Herculane**	**5.52**	**320**	⇑P	Pn	14 55 11.3	-1.1
MDVR	**Moldovita**	**5.81**	**316**	⇓P	Pn	14 55 15.4	-1.0
BZS	**Buzias**	**6.44**	**321**	⇑P	Pn	14 55 23.8	-1.4
BURAR	**Bucovina Array**	**7.05**	**348**	⇑P	**Pn**	**14 55 34.1**	**+0.6**

*NEIC **23** 15:03:27.2±1.7, 19°.2S±0°.1×174°.9W±0°.1, h94km±6km, mb4.8/32, Error ellipse: s-maj=16.4km s-min=14.9km az=163.0*
*IDC **23** 15:03:41.3±3.9, 19°.53S×175°.06W, h218km±35km, mb3.8/12, mb1 4.0/14, mb1mx3.7/52, mbtmp4.4/14, Error ellipse: s-maj=19.1km s-min=12.8km az=99.0*

ISC 23 15:03:28.0±0.5, 19°.17S±0°.09×174°.85W±0°.09, h100km, n63, σ1s20/65, mb4.7/26, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.65**	**90**		**Pn**	**15 04 36.2**	**+0.2**
AFI	**Afiamalu**	**6.00**	**30**	Pn	**Pn**	**15 04 53.8**	**-0.6**
MSVF	**Nonsavu**	**6.89**	**281**		Pn	15 05 16.9	+10
DZM	**Mont Dzumac**	**17.75**	**257**	P	**Pn**	**15 07 31.5**	**+2.7**
	0.6nm,0.3s,baz=89,slow=11,SNR=6.6						
DZM	**Mont Dzumac**	**17.75**	**257**	P	**Pn**	**15 07 32.7**	**+3.9**
DZM				IAmb	IAmb	15 07 57.9	
	comp=Z,93nm,1.9s						
URZ	**Urewera**	**20.27**	**199**	P	**P**	**15 07 55.4**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=310,slow=4.1,SNR=21						
URZ				S	S	15 11 23.7	-14
	comp=Z,0.3nm,0.3s,baz=318,slow=12,SNR=1.8						
URZ	**Urewera**	**20.27**	**199**	P	**P**	**15 07 55.4**	**-0.1**
HIZ	**Hauiti**	**21.25**	**203**	P	**P**	**15 08 08.0**	**+2.0**
HIZ	**Hauiti**	**21.25**	**203**	P	**P**	**15 08 07.7**	**+1.6**
HIZ				IAmb	IAmb	15 09 01.4	
	comp=Z,174nm,1.8s						
BKZ	**Black Stump Fm**	**21.29**	**199**	P	**P**	**15 08 06.4**	**-0.1**
BKZ	**Black Stump Fm**	**21.29**	**199**		**P**	**15 08 04.8**	**-1.7**
BKZ				IAmb	IAmb	15 08 29.1	
	comp=Z,83nm,1.7s						
VRZ	**Vera Road**	**21.82**	**202**	P	P	15 08 03.8	-8.4
KHZ	**Kahutara**	**25.18**	**201**	P	**P**	**15 08 46.9**	**+2.9**
RPZ	**Rata Peaks**	**27.18**	**203**	P	**P**	**15 09 02.5**	**+0.4**
	comp=Z,19nm,1.0s,baz=29,slow=6.5,SNR=6.9						
RPZ	**Rata Peaks**	**27.18**	**203**	IAmb	IAmb	15 09 06.5	
	comp=Z,88nm,1.6s						
FOZ	**Fox Glacier**	**27.50**	**205**	P	**P**	**15 09 06.9**	**+2.1**
FOZ				IAmb	IAmb	15 09 48.5	
	comp=Z,76nm,1.2s						
EIDS	**Eidsvold**	**32.07**	**253**	P	**P**	**15 09 46.0**	**+0.5**
EIDS				IAmb	IAmb	15 09 48.9	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**32.31**	**243**	P	**P**	**15 09 47.7**	**0.0**
ARMA				IAmb	IAmb	15 10 34.5	
	comp=Z,26nm,1.6s						
CTAO	**Charters Tower**	**36.59**	**262**	P	**P**	**15 10 24.5**	**-0.2**
CTAO				IAmb	IAmb	15 11 06.1	
	comp=Z,19nm,1.2s						
TOO	**Toolangi**	**39.07**	**234**	P	**P**	**15 10 43.9**	**-1.5**
COEN	**Coen**	**40.50**	**271**	P	**P**	**15 10 57.5**	**+0.1**
COEN				IAmb	IAmb	15 11 24.3	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**45.79**	**243**	P	**P**	**15 11 38.0**	**-1.9**
BBOO				IAmb	IAmb	15 12 11.2	
	comp=Z,34nm,1.6s						
WR0	**Warramunga Arr**	**47.55**	**260**	P	**P**	**15 11 52.7**	**-1.1**
WR0				IAmb	IAmb	15 11 54.3	
	comp=Z,27nm,1.9s						
WB0	**Warramunga Arr**	**47.71**	**260**	P	**P**	**15 11 53.3**	**-1.7**
WB0				IAmb	IAmb	15 11 55.2	
	comp=Z,26nm,1.8s						
AS31	**Alice Springs**	**47.72**	**255**	P	**P**	**15 11 54.4**	**-0.7**
ASAR	**Alice Springs**	**47.72**	**255**	P	**P**	**15 11 54.5**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=89,slow=8.7,SNR=84						
ASAR				PcP	**PcP**	**15 13 22.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=110,slow=4.0,SNR=2.5						
ASAR	**Alice Springs**	**47.72**	**255**	P	**P**	**15 11 54.1**	**-1.0**
WB2	**Warramunga Arr**	**47.73**	**260**	P	**P**	**15 11 53.8**	**-1.3**
WB2				IAmb	IAmb	15 11 55.7	
	comp=Z,20nm,1.7s						
WB2				PcP	**PcP**	**15 13 22.5**	**-0.5**
WRAB	**Tennant Creek**	**47.73**	**260**	P	**P**	**15 11 53.5**	**-1.7**
WRAB				IAmb	IAmb	15 11 55.7	
	comp=Z,19nm,1.6s						
WRAB				PcP	**PcP**	**15 13 22.7**	**-0.2**
WRA	**Warramunga Arr**	**47.74**	**260**	P	**P**	**15 11 53.8**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=95,slow=5.6,SNR=82						
WRA				PcP	**PcP**	**15 13 22.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=87,slow=4.3,SNR=2.8						
WRA	**Warramunga Arr**	**47.74**	**260**	P	**P**	**15 11 53.6**	**-1.6**
MTN	**Manton Dam**	**52.14**	**268**	P	**P**	**15 12 27.4**	**-1.2**
MTN				IAmb	IAmb	15 12 28.6	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**53.73**	**264**	P	**P**	**15 12 38.9**	**-1.3**
SIJI	**Sorong**	**55.81**	**282**	P	**P**	**15 12 54.3**	**-1.0**
	comp=Z,5.2nm,0.7s,baz=92,slow=2.4,SNR=3.5						
FITZ	**Fitzroy Crossi**	**56.16**	**261**	P	**P**	**15 12 56.5**	**-1.2**
SOEI	**Soe**	**59.45**	**270**	P	**P**	**15 13 22.4**	**+1.5**
NWAO	**Narrogin (SRO)**	**61.61**	**242**	P	**P**	**15 13 35.1**	**-0.1**
QSPA	**South Pole Qui**	**70.89**	**180**	P	**P**	**15 14 33.8**	**-0.3**
	comp=Z,3.2nm,1.0s,baz=33,slow=0.9,SNR=13						
QSPA	**South Pole Qui**	**70.89**	**180**	P	**P**	**15 14 33.8**	**-0.3**
MJAR	**Matsushiro Arr**	**70.96**	**322**	P	**P**	**15 14 35.6**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=165,slow=7.7,SNR=4.3						
MJAR	**Matsushiro Arr**	**70.96**	**322**	IAmb	IAmb	15 14 40.9	
	comp=Z,4.0nm,1.4s						
PETK	**Petropavlovsk-**	**75.80**	**343**	P	**P**	**15 15 03.2**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=156,slow=7.4,SNR=1.7						
NVAR	**Mina Array Bea**	**78.04**	**42**	P	**P**	**15 15 17.1**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=227,slow=9.0,SNR=9.1						
NVAR	**Mina Array Bea**	**78.04**	**42**	P	**P**	**15 15 16.7**	**+0.7**
NV11	**Mina Array Sit**	**78.14**	**42**	P	**P**	**15 15 17.6**	**+1.2**
TPNV	**Topopah Spring**	**78.51**	**44**	P	**P**	**15 15 19.0**	**+0.4**
HLID	**Hailey**	**83.40**	**40**	P	**P**	**15 15 45.3**	**+0.9**
TRF	**Thorofare Moun**	**84.56**	**11**	P	**P**	**15 15 49.2**	**-0.6**
SEY	**Seymchan**	**85.80**	**346**	P	**P**	**15 15 55.7**	**0.0**

LOHW	**Long Hollow**	**3.86**	**271**		**Pn**	**15 06 18.4**	**+1.3**
H17A	**Grant Village**	**3.89**	**283**	P	**Pn**	**15 06 20.1**	**+2.7**
	baz=99,SNR=64						
H17A	**Grant Village**	**3.89**	**283**		**Pn**	**15 06 18.5**	**+1.0**
H17A				IAML		15 07 21.1	
	comp=N,140nm,0.5s						
H17A				IAML		15 07 21.5	
	comp=E,151nm,0.4s						
YUF	**Upper Falls**	**3.90**	**288**		**Pn**	**15 06 17.2**	**-0.5**
FLWY	**Flagg Ranch**	**3.94**	**278**		**Pn**	**15 06 19.7**	**+1.6**
FLWY				IAML		15 07 26.9	
	comp=E,115nm,1.6s						
FLWY				IAML		15 07 39.7	
	comp=E,139nm,1.1s						
MOOW	**Moose Ponds**	**3.96**	**273**	Pn	**Pn**	**15 06 19.9**	**+1.5**
SNOW	**Snow King Moun**	**3.98**	**269**		**Pn**	**15 06 21.2**	**+2.5**
SNOW				IAML		15 07 36.5	
	comp=E,174nm,0.8s						
SNOW				IAML		15 07 36.6	
	comp=E,226nm,0.9s						
YNR	**Norris Junctio**	**4.02**	**287**		**Pn**	**15 06 20.8**	**+1.5**
YPP	**Pitchstone Pla**	**4.03**	**281**		**Pn**	**15 06 20.9**	**+1.4**
REDW	**Red Top Meadow**	**4.06**	**268**		**Pn**	**15 06 21.5**	**+1.7**
REDW				IAML		15 07 35.9	
	comp=E,221nm,0.7s						
REDW				IAML		15 07 36.9	
	comp=E,198nm,0.9s						
IMW	**Indian Meadow**	**4.10**	**275**		**Pn**	**15 06 22.2**	**+1.7**
IMW				IAML		15 07 32.4	
	comp=E,138nm,0.6s						
IMW				IAML		15 07 38.6	
	comp=E,166nm,0.6s						
O20A	**White River Ci**	**4.15**	**213**	P	**Pn**	**15 06 22.8**	**+1.7**
	baz=30,SNR=43						
O20A	**White River Ci**	**4.15**	**213**	Pn	**Pn**	**15 06 22.9**	**+1.9**
O20A				IAML		15 07 35.8	
	comp=E,156nm,0.8s						
O20A				IAML		15 08 07.8	
	comp=N,166nm,2.1s						
YHH	**Holmes Hill**	**4.16**	**288**	Pn	**Pn**	**15 06 22.3**	**+1.0**
YMR	**Madison River**	**4.21**	**286**		**Pn**	**15 06 22.9**	**+1.0**
AHID	**Auburn Hatcher**	**4.34**	**260**		**Pn**	**15 06 24.6**	**+0.9**
AHID				IAML		15 07 39.0	
	comp=E,199nm,1.2s						
E28A	**Huff**	**4.37**	**46**		**Pn**	**15 06 25.1**	**+1.1**
YHB	**Horse Butte**	**4.39**	**287**		**Pn**	**15 06 25.6**	**+1.2**
YHL	**Hebgen Lake**	**4.40**	**288**		**Pn**	**15 06 25.5**	**+0.9**
RDMU	**Red Mountain**	**4.43**	**227**	Pn	**Pn**	**15 06 26.7**	**+1.8**
ECR	**Eagle Creek**	**4.48**	**264**		**Pn**	**15 06 27.0**	**+1.5**
QLMT	**Earthquake Lak**	**4.57**	**287**		**Pn**	**15 06 28.0**	**+1.2**
SUSD	**Miller**	**4.63**	**78**	P	**Pn**	**15 06 29.1**	**+1.5**
	baz=263						
SUSD	**Miller**	**4.63**	**78**		**Pn**	**15 06 28.9**	**+1.4**
Q24A	**Divide**	**4.69**	**179**	Pn	**Pn**	**15 06 30.6**	**+2.1**
	baz=358						
Q24A				Pb	**Pb**	**15 06 40.4**	**+1.0**
	baz=358						
Q24A	**Divide**	**4.69**	**179**		**Pn**	**15 06 30.4**	**+1.8**
Q24A				IAML		15 07 46.9	
	comp=E,115nm,0.7s						
DGMT	**Dagmar**	**4.88**	**9**	P	**Pn**	**15 06 33.0**	**+2.1**
	baz=190						
DGMT	**Dagmar**	**4.88**	**9**	Pn	**Pn**	**15 06 32.8**	**+1.9**
K31A	**O'Neill**	**4.89**	**100**		**Pn**	**15 06 32.4**	**+1.3**
BOZ	**Bozeman (W)**	**4.93**	**295**	P	**Pn**	**15 06 32.3**	**+0.6**
	baz=111,SNR=7.3						
BOZ	**Bozeman (W)**	**4.93**	**295**		**Pn**	**15 06 32.3**	**+0.6**
BOZ				IAML		15 07 59.9	
	comp=E,56nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.05**	**156**	P	**Pn**	**15 06 34.9**	**+1.5**
	baz=337,SNR=8.3						
KSCO	**Kaye Shedlock'**	**5.05**	**156**		**Pn**	**15 06 34.8**	**+1.4**
HWUT	**Hardware Ranch**	**5.06**	**248**	Pn	**Pn**	**15 06 34.5**	**+1.0**
HWUT				IAML		15 08 00.2	
	comp=E,90nm,0.5s						
HWUT				IAML		15 08 07.1	
	comp=E,83nm,1.1s						
TCUT	**Toone Canyon**	**5.19**	**243**		**Pn**	**15 06 36.9**	**+1.5**
EGMT	**Eagleton**	**5.37**	**326**	P	**Pn**	**15 06 38.6**	**+0.9**
	baz=143,SNR=17						
EGMT	**Eagleton**	**5.37**	**326**	Pn	**Pn**	**15 06 38.6**	**+0.9**
DLMT	**Dillon**	**5.50**	**291**		**Pn**	**15 06 40.5**	**+1.0**
JLU	**Jordanelle**	**5.50**	**238**		**Pn**	**15 06 41.4**	**+1.7**
HRY	**Holter Researc**	**5.54**	**306**		**Pn**	**15 06 41.1**	**+1.0**
LRM	**Limekiln Ridge**	**5.54**	**296**		**Pn**	**15 06 41.0**	**+0.8**
MCMT	**McKenzie Canyo**	**5.56**	**285**	Pn	**Pn**	**15 06 41.6**	**+1.2**
CTU	**Camp Tracy**	**5.64**	**241**	Pn	**Pn**	**15 06 42.9**	**+1.4**
BGNE	**Belgrade**	**5.73**	**111**	Pg	**Pg**	**15 07 06.5**	**+0.4**
MDND	**Maddock**	**5.78**	**41**	P	**Pn**	**15 06 43.6**	**+0.4**
	baz=226						
MDND	**Maddock**	**5.78**	**41**	Pn	**Pn**	**15 06 43.6**	**+0.4**
SPUT	**South Promonto**	**5.79**	**249**		**Pn**	**15 06 44.9**	**+1.3**
PV07	**Paradox Valley**	**5.79**	**207**	Pn	**Pn**	**15 06 45.4**	**+1.8**
PV21	**Cone Mtn., Par**	**5.80**	**210**		**Pn**	**15 06 45.6**	**+1.8**
PV15	**Paradox Valley**	**5.83**	**206**		**Pn**	**15 06 46.4**	**+2.2**
P17A	**Butcher Ranch,**	**5.84**	**226**		**Pn**	**15 06 46.0**	**+1.7**
BCYI	**Bear Canyon**	**5.89**	**279**		**Pn**	**15 06 46.4**	**+1.4**
SDCO	**Great Sand Dun**	**5.90**	**182**	P	**Pn**	**15 06 48.0**	**+2.8**
	baz=1.2,SNR=12						
SDCO				Sb	**Sg**	**15 08 22.0**	**-3.9**
	baz=1.2						
SDCO	**Great Sand Dun**	**5.90**	**182**	Pn	**Pn**	**15 06 47.0**	**+1.8**
PV23	**Carpenter Ridg**	**5.91**	**210**		**Pn**	**15 06 46.8**	**+1.6**
PV04	**Paradox Valley**	**5.92**	**209**		**Pn**	**15 06 47.5**	**+2.1**
PV12	**Saucer Basin,**	**5.96**	**208**		**Pn**	**15 06 47.8**	**+1.9**
PV14	**Lion Creek, Pa**	**5.98**	**209**		**Pn**	**15 06 48.4**	**+2.1**
PV20	**West Nyswonger**	**5.99**	**209**		**Pn**	**15 06 47.8**	**+1.4**
PV11	**David Mesa, Pa**	**6.00**	**208**		**Pn**	**15 06 48.1**	**+1.7**
PV16	**Nyswonger Mesa**	**6.00**	**208**		**Pn**	**15 06 48.7**	**+2.2**
SRU	**San Rafael Swe**	**6.01**	**223**		**Pn**	**15 06 47.2**	**+0.6**
S22A	**4UR Ranch, Cre**	**6.02**	**192**	Pn	**Pn**	**15 06 48.8**	**+2.0**
PV19	**Morning Glory**	**6.03**	**209**		**Pn**	**15 06 48.4**	**+1.6**
PV03	**Paradox Valley**	**6.03**	**208**		**Pn**	**15 06 48.5**	**+1.7**
PV02	**Paradox Valley**	**6.03**	**207**	Pn	**Pn**	**15 06 48.6**	**+1.6**
PV17	**East Wray Mesa**	**6.04**	**209**		**Pn**	**15 06 48.8**	**+1.7**
PV18	**Skein Mesa, Pa**	**6.06**	**208**	Pn	**Pn**	**15 06 49.2**	**+2.0**
PV05	**Paradox Valley**	**6.27**	**209**		**Pn**	**15 06 50.6**	**+0.3**
ECSD	**EROS Data Cent**	**6.29**	**86**	P	**Pn**	**15 06 51.5**	**+1.3**
	baz=272						
ECSD	**EROS Data Cent**	**6.29**	**86**		**Pn**	**15 06 50.9**	**+0.7**
BGU	**Big Grassy Mou**	**6.36**	**247**	Pn	**Pn**	**15 06 52.1**	**+0.7**
CBKS	**Cedar Bluff**	**6.39**	**137**	P	**Pn**	**15 06 52.8**	**+1.1**
	baz=321						
CBKS	**Cedar Bluff**	**6.39**	**137**	Pn	**Pn**	**15 06 52.9**	**+1.1**
T25A	**Trinidad**	**6.54**	**174**	P	**Pn**	**15 06 55.8**	**+1.8**
	baz=354,SNR=6.3						
DUG	**Dugway, Tooele**	**6.59**	**241**	P	**Pn**	**15 06 55.5**	**+1.0**
	baz=56,SNR=23						
HLID	**Hailey**	**6.63**	**272**	P	**Pn**	**15 06 58.1**	**+3.1**
	baz=86,SNR=13						
MSO	**Missoula**	**6.88**	**300**	P	**Pn**	**15 06 59.0**	**+0.5**
	baz=114,SNR=8.4						
MSO	**Missoula**	**6.88**	**300**	Pn	**Pn**	**15 06 59.2**	**+0.7**
MVCO	**Mesa Verde**	**6.88**	**202**	P	**Pn**	**15 07 02.9**	**+4.2**
	baz=19,SNR=11						
MSU	**Marysvale**	**7.31**	**228**	Pn	**Pn**	**15 07 06.4**	**+1.9**
JTMT	**Jette**	**7.51**	**306**	Pn	**Pn**	**15 07 08.2**	**+1.1**
MTPU	**Mount Pierson**	**7.66**	**225**	Pn	**Pn**	**15 07 11.1**	**+1.6**
ELK	**Elko**	**7.94**	**252**	Pn	**Pn**	**15 07 13.3**	**+0.2**
	comp=E,0.5nm,0.3s,baz=65,slow=14,SNR=8.4						
ELK				Lg	Lg	15 09 20.8	
	comp=E,0.2nm,0.3s,baz=18,slow=19,SNR=1.8						
ELK				LR	LR	15 10 21.4	
	comp=E,43nm,19.8s,baz=116,slow=39						
AGMN	**Agassiz Nation**	**8.04**	**51**	P	**Pn**	**15 07 14.0**	**-0.3**
	baz=238						
ANMO	**Albuquerque**	**8.74**	**186**	Pg	**Pg**	**15 08 02.1**	**-1.6**
	comp=E,0.3nm,0.3s,baz=354,slow=14,SNR=4.0						
ANMO				LR	LR	15 11 02.3	
	comp=E,39nm,18.8s,baz=38,slow=38						
KNB	**Kanab**	**8.77**	**223**	Pn	**Pn**	**15 07 26.7**	**+2.2**
I10CA	**LAC DU BONNET**	**9.11**	**41**	*i*		16 02 25.0	
	baz=220,slow=317,SNR=19						
AMTX	**Amarillo**	**9.19**	**161**	P	**Pn**	**15 07 30.9**	**+0.8**
	baz=343						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**15 07 29.3**	**-1.0**
	comp=E,11nm,0.3s,baz=230,slow=11,SNR=40						
ULM				Lg	Lg	15 09 58.0	
	comp=E,1.0nm,0.3s,baz=301,slow=18,SNR=2.0						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**15 07 28.4**	**-1.9**
WUAZ	**Wupatki**	**9.38**	**212**	P	**Pn**	**15 07 34.5**	**+1.7**
	baz=28,SNR=7.3						
R11A	**Troy Canyon, C**	**9.41**	**239**	P	**Pn**	**15 07 35.5**	**+2.2**
	baz=52						
NEW	**Newport**	**9.44**	**303**	Pn	**Pn**	**15 07 30.6**	**-2.9**
	comp=E,0.7nm,0.3s,baz=111,slow=17,SNR=2.8						
EYMN	**Ely**	**10.54**	**61**	P	**Pn**	**15 07 47.9**	**-0.7**
	baz=251						
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn	**Pn**	**15 07 58.6**	**+1.8**
	comp=E,0.3nm,0.3s,baz=64,slow=11,SNR=12						
NVAR				Lg	Lg	15 11 03.2	
	comp=E,0.1nm,0.3s,baz=44,slow=22,SNR=1.7						
NVAR	**Mina Array Bea**	**11.12**	**246**		**Pn**	**15 07 56.6**	**-0.2**
YBH	**Yreka Blue Hor**	**12.96**	**267**	Pn	**Pn**	**15 08 21.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=56,slow=15,SNR=1.3						
YBH	**Yreka Blue Hor**	**12.96**	**267**		**Pn**	**15 08 21.7**	**-0.1**
TXAR	**Lajitas Array**	**14.35**	**174**	Pn	**P**	**15 08 49.7**	**+1.7**
	comp=E,0.1nm,0.3s,baz=355,slow=9.3,SNR=7.9						
TXAR				Lg	Lg	15 12 55.1	
	comp=E,0.1nm,0.3s,baz=2.8,slow=28,SNR=5.3						
BBB	**Bella Bella**	**17.46**	**307**	LR	LR	15 16 21.6	
	comp=E,93nm,18.3s,baz=247,slow=39						
YKA	**Yellowknife Ar**	**19.65**	**347**	P	**P**	**15 09 45.5**	**-0.8**
	comp=E,0.4nm,0.3s,baz=160,slow=10,SNR=8.6						
ILAR	**Eielson Array**	**31.34**	**327**	P	**P**	**15 11 37.3**	**-0.7**
	comp=E,0.5nm,0.6s,baz=110,slow=7.6,SNR=4.4						
ROSC	**El Rosal**	**47.33**	**136**	P	P	15 13 58.8	+6.6
	comp=E,10.0nm,0.4s,baz=245,slow=16,SNR=2.7						
SEY	**Seymchan**	**57.27**	**328**	P	**P**	**15 15 05.6**	**+0.5**
	comp=E,1.3nm,0.6s,baz=53,slow=20,SNR=1.9						
ARCES	**ARCESS Array B**	**61.50**	**18**	P	**P**	**15 15 34.3**	**0.0**
	comp=E,1.9nm,0.4s,baz=332,slow=6.9,SNR=13						
FINES	**FINESS Array B**	**68.11**	**23**	P	**P**	**15 16 17.8**	**+0.3**
	comp=E,3.0nm,0.8s,baz=332,slow=6.3,SNR=6.8						
GERES	**GERESS Array B**	**73.50**	**37**	P	**P**	**15 16 51.5**	**+0.9**
	comp=E,0.4nm,0.5s,baz=340,slow=7.5,SNR=2.0						
AKASG	**Malin Array Be**	**78.04**	**28**	P	**P**	**15 17 16.1**	**-0.2**
	comp=E,0.7nm,0.3s,baz=326,slow=5.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**82.39**	**354**	P	**P**	**15 17 39.0**	**-0.8**
	comp=E,2.5nm,0.7s,baz=18,slow=6.7,SNR=8.1						
ZALV	**Zalesovo Beam**	**82.39**	**354**	P	**P**	**15 17 40.1**	**+0.3**
SONM	**Songino Array**	**84.71**	**339**	P	**P**	**15 17 52.8**	**+0.7**
	comp=E,0.9nm,0.6s,baz=1.7,slow=3.8,SNR=5.5						
MKAR	**Makanchi Array**	**89.69**	**355**	P	**P**	**15 18 16.2**	**+0.2**
	comp=E,0.6nm,0.7s,baz=19,slow=5.1,SNR=7.9						

WEL 23 15:07:27.8, 41°S ± 1°, × 17°4E ± °, h36km ± 2km, M2.4/13, ML2.5/12, MLv2.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=145.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.14**	**269**	P	Pn	15 07 34.6	-4.1
WEL	**Wellington**	**0.24**	**109**	P	Pn	15 07 35.7	-0.5
BHW	**Baring Head**	**0.37**	**123**	P	Pn	15 07 37.1	+0.8
TUWZ	**Tuamarina**	**0.45**	**240**	P	Pn	15 07 38.0	+0.4
CAW	**Cannon Point**	**0.47**	**78**	P	Pn	15 07 38.5	+0.6
KIW	**Kapiti Island**	**0.48**	**44**	P	Pn	15 07 38.5	+0.3
DUWZ	**D'Urville Isla**	**0.58**	**314**	P	Pn	15 07 40.1	+0.4
MSWZ	**Moikau Station**	**0.63**	**110**	P	Pn	15 07 40.9	+0.6
OGWZ	**Otaki Gorge**	**0.66**	**54**	P	Pn	15 07 41.4	+0.6
BSWZ	**Blackbirch Sta**	**0.67**	**221**	P	Pn	15 07 42.2	+1.3
PLWZ	**Palliser**	**0.69**	**122**	P	Pn	15 07 41.7	+0.4
PAWZ	**Paruwai Farm**	**0.74**	**104**	P	Pn	15 07 42.3	+0.5
MTW	**Mount Morrison**	**0.78**	**87**	P	Pn	15 07 42.9	+0.6
NNZ	**Nelson**	**0.82**	**269**	P	Pn	15 07 43.4	+0.6
HOWZ	**Holdsworth Sta**	**0.85**	**69**	P	Pn	15 07 44.2	+0.9
MRZ	**Mangatainoka R**	**1.00**	**57**	P	Pn	15 07 46.4	+1.0
THZ	**Tophouse**	**1.30**	**244**	P	Pn	15 07 50.9	+1.5
QRZ	**Quartz Range**	**1.51**	**284**	P	Pn	15 07 54.2	+1.9

*NEIC **23** 15:10:05.7±1.2, 55°S ± 0°, 2× 28°W ± 0°, 2, h43km ± 7km, mb4.3/7, Error ellipse: s-maj=27.7km s-min=17.8km az=198.0*

*IDC **23** 15:10:05.2±0.8, 55°S × 23°× 28°W, 38v, h33km ± 5km, mb4.0/5, mb1 4.1/6, mb1mx3.8/24, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=32.5km s-min=19.8km az=71.0*

ISC 23 15:10:04.9±0.7, 55°2S ± 0°1 × 28°5W ± 0°1, h35km, n20, σ0°674/22, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.71**	**278**	Pn	**Pn**	**15 11 12.5**	**-0.9**
VNA3	**Neumayer Olymp**	**18.04**	**160**	P	**Pn**	**15 14 12.3**	**-0.1**
VNA2	**Neumayer--Watz**	**18.26**	**158**	P	**P**	**15 14 14.2**	**-0.9**
	baz=316,slow=14						
SNAA	**Sanae**	**19.82**	**156**	P	**P**	**15 14 31.1**	**-1.1**
SNAA	**Sanae**	**19.82**	**156**	P	**P**	**15 14 31.3**	**-0.9**
	0.6nm,0.3s,baz=294,slow=11,SNR=30						
SNAA	**Sanae**	**19.82**	**156**	P	**P**	**15 14 31.2**	**-0.9**
BELA	**Belgrano 2**	**22.88**	**183**	P	**P**	**15 15 05.6**	**+0.8**
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**15 16 54.0**	**-0.1**
	0.7nm,0.5s,baz=234,slow=3.1,SNR=2.7						
QSPA				PcP	**PcP**	**15 19 25.0**	**-0.1**
	0.6nm,0.7s,baz=230,slow=3.2,SNR=1.6						
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**15 16 54.1**	**0.0**
QSPA				IAmb	IAmb	15 17 15.6	
	comp=Z,6.6nm,1.4s						
CPUP	**Villa Florida**	**35.69**	**312**	P	**P**	**15 17 00.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=164,slow=7.8,SNR=4.5						
CPUP	**Villa Florida**	**35.69**	**312**	IAmb	IAmb	15 17 02.0	
	comp=Z,5.1nm,1.1s						
VNDA	**Vanda**	**47.39**	**183**	P	**P**	**15 18 36.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=187,slow=6.2,SNR=2.2						
LPAZ	**La Paz**	**49.27**	**306**	P	**P**	**15 18 51.9**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=122,slow=4.6,SNR=3.7						
LPAZ	**La Paz**	**49.27**	**306**	IAmb	IAmb	15 18 53.7	
	comp=Z,3.4nm,1.1s						
TOA0	**Torodi Ar. Sit**	**72.69**	**31**	P	**P**	**15 21 29.2**	**+0.2**
TOA0				IAmb	IAmb	15 21 30.4	
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.69**	**31**	P	**P**	**15 21 29.4**	**+0.4**
	comp=Z,177nm,1.1s,baz=192,slow=5.3,SNR=9.3						
TORD				pP	**sP**	**15 21 40.2**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=195,slow=5.3,SNR=4.1						
CMIG	**Matias Romero**	**91.12**	**299**	P	**P**	**15 23 05.3**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=240,slow=19,SNR=2.3						
ILAR	**Eielson Array**	**148.99**	**313**	PKPbc	**PKiKP**	**15 29 48.6**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=127,slow=1.7,SNR=23						
ILAR				pPKPbc	**sPKPbc**	**15 29 59.1**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=128,slow=1.8,SNR=7.4						
ILAR	**Eielson Array**	**148.99**	**313**		**PKPbc**	**15 29 47.6**	**0.0**
SONM	**Songino Array**	**151.42**	**86**	PKPbc	**PKiKP**	**15 29 54.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=244,slow=4.1,SNR=3.9						
SONM				pPKPbc	**pPKPbc**	**15 30 03.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=225,slow=0.8,SNR=2.1						

*IDC **23** 15:13:15.8±1.1, 21°96N × 120°30E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.4/64, mbtmp3.5/6, MS3.0/3, Ms1 3.0/3, ms1mx2.6/36, Error ellipse: s-maj=34.2km s-min=20.6km az=67.0*

*TAP **23** 15:13:18.2, 22°06N × 120°20E, h43km, ML3.9, C*

*JMA **23** 15:13:19.4±0.2, 22°07N × 120°26E, h69km ± 3km, M3.9*

ISC 23 15:13:18.6±1.3, 22°04N ± 0°03 × 120°17E ± 0°03, h23km ± 10km, n136, σ1s24/226, mb3.5/5, MS3.0/3, 2C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.35**	**31**	*i* P	**Pb**	**15 13 27.6**	**+1.3**
	baz=29						
TWP				S	**Sn**	**15 13 35.2**	**+0.6**
	baz=29						
WLCH	**Liuqiu**	**0.36**	**32**	P	**Pn**	**15 13 28.1**	**-0.4**
	baz=26						
WLCH				*e*S	**Sn**	**15 13 35.8**	**+0.9**
	baz=26						
HEN	**Hengchun**	**0.53**	**94**	P	**Pn**	**15 13 30.1**	**-0.7**
	baz=96						
HEN				*e*S	**Sn**	**15 13 39.7**	**+0.7**
	baz=96						
SCZT	**Fangliau**	**0.53**	**52**	P	**Pb**	**15 13 29.6**	**+0.2**
	baz=52						
SCZT				*e*S	**Sn**	**15 13 39.2**	**+0.2**
	baz=52						
KAU	**Kaohsiung**	**0.54**	**14**	P	**Pb**	**15 13 30.6**	**+1.1**
	baz=12						
KAU				S	**Sn**	**15 13 39.6**	**+0.3**
	baz=12						
SSPT	**Xinbi**	**0.57**	**40**	P	**Pb**	**15 13 30.6**	**+0.6**
	baz=51						
SSPT				*e*S	**Sn**	**15 13 39.5**	**-0.7**
	baz=51						
TWK1	**Hengchun**	**0.60**	**99**	*e*P	**Pn**	**15 13 30.8**	**-0.9**
	baz=102						
TWK1				*e*S	**Sn**	**15 13 40.7**	**0.0**
	baz=102						
TWKBT	**Hengchun**	**0.61**	**99**	P	**Pb**	**15 13 30.8**	**+0.2**
	baz=102						
TWKBT				*e*S	**Sn**	**15 13 39.8**	**-1.1**
	baz=102						
SLIU	**Shizi**	**0.61**	**73**	P	**Pb**	**15 13 30.6**	**0.0**
	baz=66						
SLIU				S	**Sn**	**15 13 39.5**	**-1.6**
	baz=66						
TSEB	**Hengchuen, Pin**	**0.69**	**102**	*e*P	**Pb**	**15 13 31.8**	**-0.2**
	baz=105						
TSEB				*e*S	**Sn**	**15 13 41.4**	**-1.6**
	baz=105						
MASBT	**Mashibuluo**	**0.71**	**37**	P	**Pb**	**15 13 31.9**	**-0.5**
	baz=36						
MASBT				*e*S	**Sb**	**15 13 41.3**	**-0.5**
	baz=36						
EAST	**Anshuo**	**0.71**	**62**	⇑P	**Pb**	**15 13 32.4**	**0.0**
	baz=62						
EAST				*e*S	**Sn**	**15 13 42.3**	**-1.3**
	baz=62						
SNJT	**Kaohsiung City**	**0.72**	**12**	*e*P	**Pb**	**15 13 33.0**	**+0.4**
	baz=360						
SNJT				*e*S	**Sn**	**15 13 43.5**	**-0.3**
	baz=360						
SGLT	**Jiouru**	**0.74**	**24**	*e*P	**Pn**	**15 13 33.9**	**+0.1**
	baz=35						
SGLT				*e*S	**Sn**	**15 13 45.5**	**+1.3**
	baz=35						
TAW	**Tawu**	**0.74**	**65**	P	**Pb**	**15 13 32.5**	**-0.4**
	baz=66						
TAW				*e*S	**Sn**	**15 13 43.1**	**-1.2**
	baz=66						
TSMG	**Majia**	**0.79**	**34**	P	**Pn**	**15 13 33.3**	**-1.1**
	baz=33						
TSMG				S	**Sb**	**15 13 43.6**	**-0.5**
	baz=33						
TWM1	**Shoushan**	**0.81**	**17**	P	**Pn**	**15 13 34.8**	**+0.1**
	baz=6.0						
TWM1				*e*S	**Sn**	**15 13 48.0**	**+1.9**
	baz=6.0						
SSD	**Sandimen**	**0.82**	**31**	P	**Pn**	**15 13 33.7**	**-1.1**
	baz=31						
SSD				*e*S	**Sb**	**15 13 44.4**	**-0.5**
	baz=31						
SCST	**Cishan**	**0.89**	**20**	*e*P	**Pn**	**15 13 33.2**	**-2.5**
	baz=30						
ECL	**Taimali**	**0.91**	**53**	*e*P	**Pn**	**15 13 34.9**	**-1.2**
	baz=53						
TAI1	**Yung-k'ang**	**0.99**	**3**	*e*S	**Sn**	**15 13 50.7**	**+0.2**
	baz=2.0						
CHN3	**Shinhua**	**1.04**	**10**	*e*P	**Pn**	**15 13 37.6**	**-0.3**
	baz=9.0						
CHN3				*e*S	**Sb**	**15 13 52.9**	**+1.6**
	baz=9.0						
SLGT	**Liugui**	**1.04**	**25**	*e*P	**Pn**	**15 13 36.9**	**-1.0**
	baz=24						
SLGT				*e*S	**Sn**	**15 13 50.1**	**-1.7**
	baz=24						
SGST	**Jiashian**	**1.10**	**20**	⇑P	**Pn**	**15 13 37.0**	**-1.7**
	baz=20						
SGST				S	**Sn**	**15 13 51.4**	**-1.9**
	baz=20						
SCLT	**Jiali**	**1.13**	**1**	*e*P	**Pn**	**15 13 38.3**	**-0.7**
SCLT				*e*S	**Sn**	**15 13 53.2**	**-0.6**
TWG	**Pinlang**	**1.14**	**47**	*e*P	**Pn**	**15 13 38.6**	**-0.6**
	baz=47						
TWGBT	**Beinan**	**1.14**	**47**	*e*P	**Pn**	**15 13 39.0**	**-0.2**
	baz=36						
TWGBT				*e*S	**Sb**	**15 13 53.8**	**-0.4**
	baz=36						
TTN	**Taitung**	**1.15**	**52**	*e*P	**Pb**	**15 13 39.8**	**0.0**
	baz=52						
CHN1	**Nanshi**	**1.19**	**16**	P	**Pn**	**15 13 38.9**	**-0.9**
	baz=15						
CHN1				*e*S	**Sn**	**15 13 53.9**	**-1.4**
	baz=15						
SNST	**Tainan City**	**1.21**	**14**	*e*P	**Pn**	**15 13 39.5**	**-0.7**
	baz=14						
SNST				*e*S	**Sn**	**15 13 55.1**	**-0.8**
	baz=14						
LONT	**Longtian**	**1.24**	**46**	*e*P	**Pn**	**15 13 39.8**	**-0.7**
	baz=45						
STYT	**Tauyuan**	**1.24**	**26**	*e*P	**Pn**	**15 13 39.5**	**-1.2**
	baz=26						
STYT				*e*S	**Sn**	**15 13 55.2**	**-1.5**

TWF1					eS		Sn	15 14 06.0	-1.2	
	baz=31									
WDLH	**Douliu**	**1.67**	**12**	eP			Pn	15 13 45.7	-0.8	
	baz=11									
WDLH					eS		Sn	15 14 06.0	-1.3	
	baz=11									
WGK	**Gukeng**	**1.68**	**12**	eP			Pn	15 13 45.8	-0.8	
	baz=12									
WGK					eS		Sn	15 14 06.0	-1.3	
	baz=12									
EYUL	**Yuli**	**1.68**	**39**	eP			Pn	15 13 46.6	0.0	
	baz=39									
YULB	**Yu-li**	**1.70**	**38**	eP			Pn	15 13 46.6	-0.3	
	baz=30									
YULB					eS		Sn	15 14 06.6	-1.4	
	baz=30									
WHYT	**Xinyi Township**	**1.76**	**21**	eP			Pn	15 13 47.1	-0.7	
	baz=20									
WHYT					eS		Sn	15 14 07.7	-1.9	
	baz=20									
EHY	**Hungye**	**1.80**	**36**	eP			Pn	15 13 48.5	+0.2	
	baz=36									
EHY					eS		Sn	15 14 08.5	-2.1	
	baz=36									
WTCT	**Ta-ch'eng**	**1.82**	**3**	eS			Sn	15 14 09.1	-1.7	
	baz=352									
WJS	**Zhushan**	**1.84**	**16**	eP			Pn	15 13 48.2	-0.7	
	baz=16									
WJS					eS		Sn	15 14 09.1	-2.4	
	baz=16									
RLNB	**Erlin**	**1.85**	**5**	eP			Pn	15 13 47.6	-1.3	
	baz=15									
RLNB					eS		Sn	15 14 10.0	-1.5	
	baz=15									
HGSD	**Ruisui**	**1.85**	**39**	eP			Pn	15 13 49.1	+0.2	
	baz=26									
HGSD					eS		Sb	15 14 12.8	-1.7	
	baz=26									
SSLB	**Suanglung**	**1.88**	**22**	eP			Pn	15 13 48.2	-1.2	
	baz=22									
SSLB					eS		Sn	15 14 11.3	-1.2	
	baz=22									
WNT	**Mingjian**	**1.89**	**14**	eP			Pn	15 13 48.2	-1.3	
	baz=25									
WNT					eS		Sn	15 14 10.7	-1.9	
	baz=25									
VWDT	**VWDT**	**1.93**	**28**	eP			Pn	15 13 48.8	-1.2	
	baz=27									
SMLT	**Sun Moon Lake**	**1.95**	**20**	eP			Pn	15 13 49.8	-0.7	
	baz=20									
SMLT					eS		Sn	15 14 13.5	-0.9	
	baz=20									
TYC	**Yuchr**	**1.96**	**19**	eP			Pn	15 13 49.5	-1.0	
	baz=19									
TYC					eS		Sn	15 14 12.2	-2.1	
	baz=19									
EGFH	**Guangfu**	**1.99**	**35**	eP			Pn	15 13 50.7	-0.2	
	baz=35									
EGFH					eS		Sn	15 14 14.4	-0.8	
	baz=35									
WCHH	**Zhanghua**	**2.06**	**10**	eP			Pn	15 13 50.7	-1.1	
	baz=9.0									
WCHH					eS		Sn	15 14 15.6	-1.2	
	baz=9.0									
ESL	**Shilin**	**2.11**	**33**	eP			Pn	15 13 52.6	0.0	
	baz=22									
ESL					eS		Sn	15 14 17.8	-0.3	
	baz=22									
OWD	**Renai**	**2.12**	**26**	eP			Pn	15 13 52.2	-0.5	
	baz=25									
OWD					eS		Sn	15 14 16.9	-1.6	
	baz=25									
TCU	**Taichung**	**2.15**	**12**	eS			Sn	15 14 17.5	-1.5	
	baz=22									
CHGB	**Renai**	**2.21**	**25**	eP			Pn	15 13 54.1	0.0	
	baz=15									
CHGB					eS		Sn	15 14 19.7	-1.2	
	baz=15									
WHF	**Hehuan Shan**	**2.32**	**26**	eP			Pn	15 13 55.7	-0.2	
	baz=15									
WHF					eS		Sn	15 14 24.4	+0.4	
	baz=15									
WDJ	**Dajia District**	**2.33**	**11**	eS			Sn	15 14 22.2	-1.4	
	baz=21									
WHP	**Taichung City**	**2.34**	**18**	eP			Pn	15 13 55.4	-0.4	
	baz=26									
WHP					eS		Sn	15 14 22.8	-1.0	
	baz=26									
TWQ1	**Liyutan**	**2.36**	**14**	eP			Pn	15 13 55.7	-0.3	
	baz=13									
TWQ1					eS		Sn	15 14 23.7	-0.6	
	baz=13									
TDCB	**Techi**	**2.38**	**22**	eP			Pn	15 13 56.0	-0.4	
	baz=22									
TDCB					eS		Sn	15 14 24.1	-0.9	
	baz=22									
TWT	**Tachien**	**2.39**	**23**	eP			Pn	15 13 56.3	-0.2	
	baz=22									
TWT					eS		Sn	15 14 24.1	-1.1	
	baz=22									
FUSS	**Fushou**	**2.41**	**24**	eP			Pn	15 13 55.7	-1.2	
	baz=24									
FUSS					eS		Sn	15 14 25.6	-0.2	
	baz=24									
TWD	**Chiawan**	**2.42**	**33**	eP			Pn	15 13 55.7	-1.1	
	baz=23									
TWD					eS		Sn	15 14 25.9	+0.3	
	baz=23									
NSY	**Sanyi**	**2.42**	**13**	eP			Pn	15 13 55.1	-1.8	
	baz=13									
NSY					eS		Sn	15 14 24.1	-1.8	
	baz=13									
ETLH	**Xiulin Townshi**	**2.47**	**29**	eP			Pn	15 13 57.9	+0.3	
	baz=20									
ETLH					eS		Sn	15 14 26.9	-0.2	
	baz=20									
NACB	**Ninganchiao**	**2.50**	**31**	eP			Pn	15 13 55.7	-2.1	
	baz=31									
NACB					eS		Sn	15 14 27.2	-0.4	
	baz=31									
NMLH	**Miaoli**	**2.55**	**13**	eS			Sn	15 14 29.4	+0.5	
	baz=13									
NNSB	**Datong**	**2.62**	**25**	eP			Pn	15 13 59.4	-0.3	
	baz=17									
NNSB					eS		Sn	15 14 30.3	-0.6	
	baz=17									
NNSH	**Datong**	**2.62**	**25**	eP			Pn	15 13 59.1	-0.6	
	baz=17									
NNSH					eS		Sn	15 14 29.4	-1.6	
	baz=17									
NSTT	**Nanjuang**	**2.69**	**16**	eP			Pn	15 13 59.7	-0.7	
	baz=16									
NSTT					eS		Sn	15 14 30.3	-2.0	
	baz=16									
LIOB	**Emei**	**2.71**	**17**	eP			Pn	15 14 00.4	-0.4	
	baz=16									
LIOB					eS		Sn	15 14 31.2	-1.6	
	baz=16									
NDT	**Datong Townshi**	**2.83**	**26**	eP			Pn	15 14 02.9	+0.4	
	baz=25									
NDT					eS		Sn	15 14 35.6	-0.3	
	baz=25									
NSK	**Sanguang**	**2.84**	**22**	eP			Pn	15 14 02.5	-0.1	
	baz=22									
NSK					eS		Sn	15 14 36.2	0.0	
	baz=22									
YHNB	**Yeheng**	**2.84**	**23**	eP			Pn	15 14 02.2	-0.4	
	baz=23									
YHNB					eS		Sn	15 14 35.6	-0.6	
	baz=23									
KNM	**Kinmen**	**2.85**	**326**	eS			Sn	15 14 35.9	-0.4	
	baz=324									
ENTT	**Nioudou**	**2.89**	**26**	eP			Pn	15 14 04.1	+0.9	
	baz=26									
ENTT					eS		Sn	15 14 36.2	-1.0	
	baz=26									
KNMB	**Chin-men Tao**	**2.91**	**326**	eP			Pn	15 14 03.2	-0.4	
	baz=326									
KNMB					eS		Sn	15 14 35.3	-2.6	
	baz=326									
ZPLA	**Ao Xicun**	**2.92**	**311**	eP			Pn	15 14 01.9	-1.7	
	baz=310									
TWE	**Neicheng**	**3.00**	**27**	eP			Pn	15 14 05.0	+0.3	
	baz=38									
TWE					eS		Sn	15 14 40.9	+0.9	
	baz=38									
VWUC	**VWUC**	**3.01**	**347**	eP			Pn	15 14 04.1	-0.8	
	baz=347									
VWUC					eS		Sn	15 14 36.9	-3.4	
	baz=347									
PTMZ	**Houxiangcun**	**3.13**	**342**	eP			Pn	15 14 05.0	-1.6	
	baz=342									
PTMZ					eS		Sn	15 14 40.0	-3.4	
	baz=342									
NTC	**Toucheng**	**3.19**	**28**	eP			Pn	15 14 10.3	+3.0	
	baz=38									
TIPB	**Shuangxi**	**3.29**	**27**	eP			Pn	15 14 09.1	+0.3	
	baz=38									
YM04	**YM04**	**3.34**	**22**	eP			Pn	15 14 08.5	-1.0	
	baz=22									
YM01	**YM01**	**3.35**	**22**	eP			Pn	15 14 08.5	-1.1	
	baz=22									
YM10	**YM10**	**3.35**	**22**	eP			Pn	15 14 07.5	-2.1	
	baz=22									
YM05	**YM05**	**3.36**	**22**	eP			Pn	15 14 08.8	-1.0	
	baz=22									
YM03	**YM03**	**3.37**	**22**	eP			Pn	15 14 09.1	-0.8	
	baz=22									
YM11	**YM11**	**3.37**	**22**	eP			Pn	15 14 08.5	-1.4	
	baz=22									
VDOS	**Pratas Island**	**3.47**	**248**	eP			Pn	15 14 11.6	+0.3	
	baz=247									
AXDP	**Jialang**	**3.49**	**325**	eP			Pn	15 14 10.7	-0.8	
	baz=325									
JYNG	**Yonaguni jima**	**3.50**	**46**	P			Pn	15 14 12.0	+0.3	
JYNG					eS		Sn	15 14 52.1	-0.3	
YOJ	**Yonaguni jima**	**3.55**	**47**	eP			Pn	15 14 12.8	+0.4	
	baz=37									
YOJ	**Yonaguni jima**	**3.55**	**47**	P			Pn	15 14 13.3	+0.9	
YOJ					eS		Sn	15 14 53.1	-0.6	
HATJ	**Hateruma jima**	**3.90**	**58**	P			Pn	15 14 16.7	-0.5	
HATJ					eS		Sn	15 15 00.6	-1.7	
IRIF	**Iriomote-Funau**	**3.99**	**54**	P			Pn	15 14 18.5	+0.1	
IRIF					eS		Sn	15 15 04.6	+0.1	
MATB	**Ma-tsu**	**4.10**	**357**	eP			Pn	15 14 19.1	-0.8	
	baz=357									
JKRS	**Kuro-shima**	**4.16**	**58**	P			Pn	15 14 20.6	-0.1	
JKRS					eS		Sn	15 15 07.6	-0.9	
MHZQ	**Yeshan**	**4.17**	**346**	eP			Pn	15 14 20.0	-0.9	
	baz=346									
JIJ	**Ishigaki jima**	**4.33**	**57**	P			Pn	15 14 22.5	-0.5	
JIJ					eS		Sn	15 15 10.2	-2.5	
LYJJ	**Jianjiangzhen**	**4.50**	**355**	eP			Pn	15 14 24.7	-0.7	
	baz=356									
JISG	**Ishigakijimahi**	**4.57**	**56**	P			Pn	15 14 25.6	-0.8	
JISG					eS		Sn	15 15 16.7	-2.1	
XPSS	**Dashiqiu**	**4.87**	**0**	eP			Pn	15 14 29.1	-1.4	
	baz=1.0									
JTJ	**Tarama**	**4.90**	**57**	P			Pn	15 14 30.4	-0.5	
JTJ					S		Sn	15 15 25.5	-1.5	
JMJ2	**Miyako jima3**	**5.45**	**59**	P			Pn	15 14 38.2	-0.2	
JMJ	**Miyako jima 2**	**5.46**	**59**	eP			Pn	15 14 38.1	-0.4	
	baz=59									
JIKM	**Ikemajima**	**5.47**	**57**	P			Pn	15 14 38.1	-0.7	
CMAR	**Chiang Mai Arr**	**20.23**	**264**	P			**P**	15 17 53.5	+1.2	
	0.2nm,0.3s,baz=75,slow=7.1,SNR=1.6									
MJAR	**Matsushiro Arr**	**21.31**	**43**	P			**P**	15 18 03.8	**0.0**	
	1.4nm,0.7s,baz=233,slow=9.0,SNR=4.4									
MJAR					LR		LR	15 27 50.8		
	comp=Z,58nm,18.6s,baz=95,slow=41									
GUMO	**Guam**	**24.95**	**106**	LR			LR	15 26 10.9		
	comp=Z,13nm,20.3s,baz=28,slow=31									
SONM	**Songino Array**	**28.01**	**340**	P			**P**	15 19 10.1	+2.1	
	0.2nm,0.5s,baz=139,slow=6.8,SNR=1.7									
ASAJ	**Asahikawa**	**28.77**	**35**	LR			LR	15 31 26.9		
	comp=Z,47nm,18.5s,baz=166,slow=38									
MKAR	**Makanchi Array**	**39.26**	**318**	P			**P**	15 20 47.2	+1.8	
	0.6nm,0.6s,baz=111,slow=9.4,SNR=8.9									
WRA	**Warramunga Arr**	**43.97**	**161**	P			**P**	15 21 23.4	-0.8	
	0.3nm,0.3s,baz=343,slow=8.9,SNR=10									
ASAR	**Alice Springs**	**47.36**	**163**	P			**P**	15 21 51.2	+0.2	
	0.3nm,0.3s,baz=345,slow=7.3,SNR=14									

*IDC **23** 15:39:08.2±1.8,2.°45N×89.°56E,h0km,mb3.4/4,mb1 3.6/5, mb1mx3.3/46,mbtmp3.5/5,ML3.2/1,Error ellipse: s-maj=65.5km s-min=24.0km az=52.0*

ISC 23 15:39:08.5±1.4,2.°3N±0.°3×89.°3E±0.°2,h10km,n12,σ1s94/7, mb3.6/4,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.84**	**300**	Pn	**Pn**	**15 41 32.3**	**+2.1**
	0.2nm,0.3s,baz=132,slow=9.5,SNR=1.7						
PALK				Sn	**Sn**	**15 43 18.0**	**-2.9**
	1.5nm,0.3s,baz=42,slow=5.6,SNR=9.5						
H08S3	**Diego Garcia H**	**19.43**	**239**	T	T	16 04 05.9	
	baz=59,slow=74,SNR=34						
H08S2	**Diego Garcia H**	**19.43**	**239**	T	T	16 04 05.2	
	baz=59,slow=74,SNR=5.3						
H08S1	**Diego Carcia H**	**19.45**	**239**	T	T	16 04 05.2	
	baz=59						
H01W3	**Cape Leeuwin H**	**43.75**	**150**	T	T	16 33 46.5	
	baz=324,slow=76,SNR=8.2						
H01W2	**Cape Leeuwin H**	**43.76**	**150**	T	T	16 33 47.2	
	baz=324,slow=76,SNR=8.5						
H01W1	**Cape Leeuwin H**	**43.77**	**150**	T	T	16 33 49.2	
	baz=324,slow=76,SNR=7.1						
MKAR	**Makanchi Array**	**44.71**	**353**	P	**P**	**15 47 22.7**	**+0.9**
	0.2nm,0.5s,baz=175,slow=9.0,SNR=3.7						
SONM	**Songino Array**	**47.70**	**16**	P	**P**	**15 47 44.8**	**-0.7**
	0.5nm,0.5s,baz=195,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**49.45**	**119**	P	**P**	**15 47 58.4**	**-0.9**
	0.6nm,0.5s,baz=298,slow=8.7,SNR=7.7						
ASAR	**Alice Springs**	**50.52**	**123**	P	**P**	**15 48 07.2**	**-0.2**
	0.2nm,0.4s,baz=297,slow=7.3,SNR=9.4						
TXAR	**Lajitas Array**	**146.18**	**21**	PKPbc	**PKPab**	**15 58 50.4**	**-0.1**
	0.3nm,0.5s,baz=1.7,slow=2.6,SNR=6.1						

*NEIC **23** 15:43:52.1±0.6, 17.°39S±0.°08×172.°6W±0.°1, h27km±8km, mb4.5/8, Error ellipse: s-maj=14.4km s-min=11.7km az=101.0*

*IDC **23** 15:43:57.9±1.7, 17.°71S×173.°95W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/36, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=58.2km s-min=33.9km az=148.0*

ISC 23 15:44:03.2±1.4, 17.°8S±0.°3×174.°0W±0.°3, h35km, n14, σ0s24/10, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.06**	**109**	Pn	Pn	15 44 38.6	-24
AFI	**Afiamalu**	**4.38**	**29**		Pn	15 44 45.7	-22
RAR	**Rarotonga**	**13.83**	**107**	LR	LR	15 50 54.0	
	comp=Z,63nm,19.0s,baz=262,slow=30						
URZ	**Urewera**	**21.86**	**199**	P	**P**	**15 48 52.7**	**-0.1**
	5.8nm,0.7s,baz=319,slow=19,SNR=1.9						
BKZ	**Black Stump Fm**	**22.88**	**199**	P	**P**	**15 49 04.1**	**+0.3**
BKZ				IAmb	IAmb	15 49 32.3	
	comp=Z,30nm,1.4s						
BFZ	**Birch Farm**	**24.35**	**198**	P	**P**	**15 49 17.4**	**-0.4**
WB0	**Warramunga Arr**	**48.77**	**259**	P	**P**	**15 52 45.2**	**+0.1**
WB0				IAmb	IAmb	15 52 54.5	
	comp=Z,3.0nm,1.0s						
WB2	**Warramunga Arr**	**48.79**	**259**	P	**P**	**15 52 45.1**	**-0.2**
WRAB	**Tennant Creek**	**48.79**	**259**	P	**P**	**15 52 45.1**	**-0.2**
WRAB				IAmb	IAmb	15 53 11.3	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**48.80**	**259**	P	**P**	**15 52 45.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=95,slow=6.9,SNR=8.4						
WRA	**Warramunga Arr**	**48.80**	**259**	IAmb	IAmb	15 52 54.0	
	comp=Z,0.1nm,0.8s						
AS31	**Alice Springs**	**48.89**	**254**	P	**P**	**15 52 45.9**	**-0.1**
ASAR	**Alice Springs**	**48.89**	**254**	P	**P**	**15 52 46.2**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=89,slow=8.5,SNR=36						
TXAR	**Lajitas Array**	**82.38**	**56**	P	**P**	**15 56 22.1**	**0.0**
	comp=Z,0.4nm,1.0s,baz=220,slow=6.8,SNR=1.8						

IDC 23 15:44:49.5±1.9,0.°95N×126.°56E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/37,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=114.6km s-min=25.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**183**	P	P	15 49 12.1	-0.4
	0.1nm,0.3s,baz=5.7,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**22.12**	**160**	P	P	15 49 47.0	+0.1
	2.1nm,0.7s,baz=339,slow=11,SNR=25						
ASAR	**Alice Springs**	**25.49**	**164**	P	P	15 50 19.8	+0.1
	0.4nm,0.3s,baz=341,slow=9.8,SNR=18						
MKAR	**Makanchi Array**	**59.74**	**326**	P	P	15 54 56.2	0.0
	0.2nm,0.5s,baz=114,slow=8.2,SNR=4.7						

*NIC **23** 15:52:01.9±0.0,36.°19N×27.°52E,h147km,Ml3.7/3*
*ATH **23** 15:52:01.3,36.°78N×27.°04E,h107km±9km,ML3.2/3,Error ellipse: s-maj=9.8km s-min=1.6km az=148.0*
*THE **23** 15:52:03.6,36.°73N×27.°09E,h120km±9km,ML3.0/5,Error ellipse: s-maj=9.4km s-min=1.4km az=100.0*
*DDA **23** 15:52:04.0,36.°72N×27.°47E,h110km±11km,ML2.5*
*HLW **23** 15:52:07.6,35.°97N×27.°43E,h33km±53km,Md3.9,Ml3.9*

ISC 23 15:51:58.2±1.5,36.71N±0.06×27.24E±0.04,h147km±8km, n50,σ1s48/76,1C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.28**	**86**	P	**Pn**	**15 52 19.4**	**+1.0**
DAT	**Datca**	**0.28**	**86**	*i* P	**Pn**	**15 52 19.5**	**+1.0**
DAT				*i* S	**Sn**	**15 52 30.8**	**-3.1**
DAT				IAML		15 52 34.0	
	comp=E,65nm,0.5s						
ARG	**Arkhangelos**	**0.87**	**124**	P	**Pn**	**15 52 23.1**	**+1.5**
ARG				S	**Sn**	**15 52 39.1**	**-0.4**
	comp=E,580nm,0.3s						
ARG	**Arkhangelos**	**0.87**	**124**	P	**Pn**	**15 52 23.1**	**+1.5**
ARG				S	**Sn**	**15 52 39.1**	**-0.4**
ARG				AML	AML	15 52 39.7	
	comp=N,832μm,0.3s						
ARG				AML	AML	15 52 40.6	
	comp=E,1479μm,0.2s						
ARG	**Arkhangelos**	**0.87**	**124**	P	**Pn**	**15 52 23.1**	**+1.5**
ARG				S	**Sn**	**15 52 39.4**	**-0.1**
YER	**Yerkesik**	**0.94**	**63**	P	**Pn**	**15 52 24.0**	**+1.7**
YER				S	**Sn**	**15 52 40.4**	**-0.2**
AYDN	**Tasoluk**	**1.08**	**28**	*i* P	**Pn**	**15 52 25.4**	**+1.9**
AYDN				IAML		15 52 43.0	
	comp=N,54nm,0.5s						
AMGA	**Amorgos Island**	**1.08**	**277**	P	**Pn**	**15 52 25.0**	**+1.5**
DALY	**Dalyan (Mula)**	**1.14**	**84**	*i* P	**Pn**	**15 52 25.8**	**+1.8**
DALY				*i* S	**Sn**	**15 52 43.2**	**-0.3**
DALY				IAML		15 52 45.0	
	comp=N,360nm,0.3s						
DALY				IAML		15 52 47.0	
	comp=E,97nm,0.3s						
KARP	**Karpathos**	**1.16**	**183**	P	**Pn**	**15 52 25.3**	**+1.1**
KARP				S	**Sn**	**15 52 43.4**	**-0.7**
KARP	**Karpathos**	**1.16**	**183**	P	**Pn**	**15 52 25.3**	**+1.1**
KARP				S	**Sn**	**15 52 43.4**	**-0.7**
KARP	**Karpathos**	**1.16**	**183**	P	**Pn**	**15 52 25.3**	**+1.1**
KARP				S	**Sn**	**15 52 41.9**	**-2.2**
KARP				AML	AML	15 52 43.8	
	comp=E,0.8nm,0.4s						
KARP				AML	AML	15 52 43.8	
	comp=E,0.8nm,0.4s						
KARP				AML	AML	15 52 46.4	
	comp=E,0.5nm,0.2s						
KARP				AML	AML	15 52 46.4	
	comp=E,0.5nm,0.2s						
DGB	**zmir**	**1.37**	**348**	*i* P	**Pn**	**15 52 28.0**	**+1.9**
APE	**Apeiranthos**	**1.41**	**285**	P	**Pn**	**15 52 26.2**	**-0.5**
APE	**Apeiranthos**	**1.41**	**285**	P	**Pn**	**15 52 26.2**	**-0.5**
FETY	**Fethiye**	**1.49**	**92**	*i* P	**Pn**	**15 52 28.5**	**+1.1**
FETY				*i* S	**Sn**	**15 52 47.9**	**-1.9**
FETY				IAML		15 52 51.0	
	comp=E,73nm,0.2s						
FETY				IAML		15 52 51.0	
	comp=N,58nm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.54**	**60**	*i* P	**Pn**	**15 52 29.8**	**+1.7**
TAVA				*i* S	**Sn**	**15 52 47.3**	**-3.6**
ZKR	**Zakros**	**1.79**	**208**	P	**Pn**	**15 52 32.8**	**+1.9**
ZKR				S	**Sn**	**15 52 55.7**	**-0.1**
	comp=N,195nm,0.5s						
ZKR	**Zakros**	**1.79**	**208**	P	**Pn**	**15 52 32.8**	**+1.9**
ZKR				S	**Sn**	**15 52 55.7**	**-0.1**
GOLH	**Golhisar**	**1.94**	**74**	*i* P	**Pn**	**15 52 35.1**	**+2.6**
GOLH				*i* S	**Sn**	**15 52 57.0**	**-1.8**
GOLH				IAML		15 53 01.0	
	comp=N,34nm,0.5s						
NPS	**Neapolis**	**1.95**	**223**	P	**Pn**	**15 52 33.9**	**+1.2**
NPS				S	**Sn**	**15 52 57.8**	**-1.3**
	comp=N,488nm,0.3s						
NPS	**Neapolis**	**1.95**	**223**	P	**Pn**	**15 52 33.9**	**+1.2**
NPS				S	**Sn**	**15 52 57.8**	**-1.3**
NPS				AML	AML	15 52 59.3	
	comp=E,1132μm,0.2s						
NPS				AML	AML	15 52 59.9	
	comp=N,813μm,0.4s						
AKAS	**Kas**	**1.97**	**103**	*i* P	**Pn**	**15 52 32.6**	**-0.3**
AKAS				*i* S	**Sn**	**15 52 56.6**	**-2.9**
KSL	**Kastellorizon**	**1.97**	**106**	⇓P	**Pn**	**15 52 34.6**	**+1.8**
KSL				S	**Sn**	**15 52 58.2**	**-1.2**
LAST	**Lasithi**	**2.10**	**223**	P	**Pn**	**15 52 36.0**	**+1.5**
LAST				S	**Sn**	**15 53 00.9**	**-1.4**
	comp=N,162nm,0.3s						
LAST	**Lasithi**	**2.10**	**223**	P	**Pn**	**15 52 36.0**	**+1.5**
LAST				S	**Sn**	**15 53 00.9**	**-1.4**
ELL	**Elmali**	**2.15**	**88**	P	**Pn**	**15 52 37.3**	**+2.3**
ELL				S	**Sn**	**15 53 05.6**	**+2.3**
IDI	**Anoyia**	**2.37**	**234**	P	**Pn**	**15 52 38.9**	**+1.2**
IDI				S	**Sn**	**15 53 06.4**	**-1.7**
	comp=N,178nm,0.2s						
IDI	**Anoyia**	**2.37**	**234**	P	**Pn**	**15 52 38.9**	**+1.2**
IDI				S	**Sn**	**15 53 06.4**	**-1.7**
IDI				AML	AML	15 53 07.9	
	comp=E,384μm,0.2s						
IDI				AML	AML	15 53 09.5	
	comp=N,324μm,0.2s						
KORT	**Korkueli**	**2.52**	**82**	*i* P	**Pn**	**15 52 40.4**	**+0.9**
KORT				IAML		15 53 19.0	
	comp=E,15nm,0.7s						
AKUM	**Antalya-Kumluc**	**2.53**	**98**	*i* P	**Pn**	**15 52 41.0**	**+1.5**
AKUM				*i* S	**Sn**	**15 53 10.4**	**-1.0**
AKUM				IAML		15 53 15.0	
	comp=N,24nm,0.3s						
AKUM				IAML		15 53 18.0	
	comp=E,33nm,0.6s						
VAM	**Vamos**	**2.78**	**243**	P	**Pn**	**15 52 44.5**	**+1.8**
VAM	**Vamos**	**2.78**	**243**	P	**Pn**	**15 52 44.5**	**+1.8**
VAM				S	**Sn**	**15 53 15.5**	**-1.5**
IMMV	**Iera Moni Meta**	**2.92**	**246**	P	**Pn**	**15 52 45.8**	**+1.4**
IMMV	**Iera Moni Meta**	**2.92**	**246**	P	**Pn**	**15 52 45.8**	**+1.4**
IMMV				S	**Sn**	**15 53 18.8**	**-1.2**
AKMS	**

s-min=9.1km az=38.0
*DDA **23** 16:29:10.2, 40.38N×30.12E, h10km±2km, MW3.7*
*ISK **23** 16:29:10.3, 40.41N×30.12E, h7km, ML3.8/38*
ISC 23 16:29:10.8±0.9, 40.42N±0.02×30.14E±0.02, h8km±6km, n102, σ1§38/125, mb3.5/5, 15C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYV	**SAKARYA_Geyve**	**0.13**	**60**	*i* P	**Pg**	**16 29 13.7**	**0.0**
GEYV				*i* S	**Sg**	**16 29 14.7**	**-1.1**
GULT	**Gulveren**	**0.28**	**87**	PG	**Pg**	**16 29 16.6**	**+0.2**
GULT				SG	**Sg**	**16 29 21.6**	**+1.3**
SPNC	**Sapanca-Adapaz**	**0.30**	**25**	PG	**Pg**	**16 29 17.0**	**+0.4**
SPNC				SG	**Sg**	**16 29 21.9**	**+1.3**
ADVT	**Abdulvahap**	**0.31**	**273**	PG	**Pg**	**16 29 16.7**	**-0.2**
ADVT				SG	**Sg**	**16 29 21.4**	**+0.4**
CAVI	**Cavuskoy**	**0.32**	**227**	PG	**Pg**	**16 29 16.8**	**-0.2**
CAVI				SG	**Sg**	**16 29 21.5**	**+0.3**
SAUV	**Serdivan-Sakar**	**0.35**	**23**	PG	**Pg**	**16 29 17.9**	**+0.2**
SAUV				SG	**Sg**	**16 29 23.3**	**+1.0**
AUBOZ	**BOZOYUK**	**0.51**	**190**	*i* P	**Pg**	**16 29 19.9**	**-0.8**
AUBOZ				*i* S	**Sg**	**16 29 25.3**	**-2.1**
SRCK	**Saricakaya, Es**	**0.53**	**135**	PG	**Pg**	**16 29 20.9**	**-0.1**
HRT	**Hereke**	**0.54**	**318**	PG	**Pg**	**16 29 21.1**	**-0.2**
HRT				SG	**Sg**	**16 29 28.6**	**+0.2**
BORA	**Eskisehir**	**0.59**	**156**	*i* P	**Pg**	**16 29 21.9**	**-0.3**
YLVH	**Yalova**	**0.65**	**295**	PG	**Pg**	**16 29 23.9**	**+0.6**
KAND	**Kocaeli-Kandir**	**0.68**	**3**	*i* P	**Pg**	**16 29 24.2**	**+0.3**
SAHE	**Sakarya_HENDEK**	**0.69**	**51**	*i* P	**Pg**	**16 29 24.0**	**-0.1**
GEMT	**Gemlik**	**0.73**	**272**	PG	**Pg**	**16 29 24.3**	**-0.5**
IGD	**Bursa**	**0.74**	**258**	*i* P	**Pg**	**16 29 23.9**	**-1.0**
TRML	**Termal-Yalova**	**0.76**	**285**	PG	**Pg**	**16 29 24.3**	**-1.2**
TUZL	**Tuzla-Istanbul**	**0.78**	**301**	PG	**Pg**	**16 29 25.6**	**-0.1**
MDUB	**Mudurnu**	**0.81**	**86**	PG	**Pg**	**16 29 26.8**	**+0.5**
ULDT	**Uludag**	**0.82**	**251**	*i* P	**Pg**	**16 29 25.8**	**-0.7**
ULDT				*i* S	**Sg**	**16 29 37.2**	**+0.1**
SILT	**Sile**	**0.83**	**333**	PG	**Pg**	**16 29 26.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.96**	**268**	PG	**Pg**	**16 29 28.9**	**-0.4**
ARMT	**Armutlu**	**0.99**	**279**	PG	**Pg**	**16 29 28.9**	**-0.9**
ORLT	**Orhaneli**	**1.02**	**249**	PG	**Pg**	**16 29 30.1**	**-0.3**
KAVV	**Kandilli-Istan**	**1.05**	**308**	PG	**Pg**	**16 29 30.7**	**-0.2**
ISK	**Istanbul-Kandi**	**1.05**	**308**	PG	**Pg**	**16 29 30.3**	**-0.6**
TVSB	**Tavsanli**	**1.10**	**209**	PN	**Pg**	**16 29 31.8**	**+0.1**
HVHR	**Bakirkoy-Istan**	**1.13**	**300**	PN	**Pg**	**16 29 32.2**	**-0.3**
YIGI	**Dzce**	**1.13**	**61**	*i* P	**Pg**	**16 29 32.2**	**-0.3**
YIGI				*i* S	**Sg**	**16 29 45.1**	**-2.1**
AUMIH	**MIHALICIK**	**1.17**	**118**	*i* P	**Pn**	**16 29 33.9**	**+0.5**
AUMIH				*i* S	**Sg**	**16 29 47.7**	**-0.6**
AUKIR	**Kırka- Seyitga**	**1.18**	**165**	*i* P	**Pg**	**16 29 32.9**	**-0.5**
AUKIR				*i* S	**Sg**	**16 29 48.5**	**-0.1**
YUVA	**Yuva-Kibriscik**	**1.18**	**91**	PN	**Pg**	**16 29 33.7**	**+0.3**
KLYT	**Kilyos**	**1.18**	**315**	PN	**Pg**	**16 29 32.9**	**-0.5**
AVCI	**Avcilar-stanb**	**1.23**	**299**	PN	**Pb**	**16 29 33.9**	**-0.2**
YKBL	**Yakuplu-Istanb**	**1.26**	**298**	PN	**Pn**	**16 29 34.6**	**0.0**
CIFT	**Cifteler, Eski**	**1.27**	**146**	PN	**Pn**	**16 29 35.1**	**+0.2**
BGKT	**Bogazkoy**	**1.29**	**307**	PN	**Pn**	**16 29 35.1**	**+0.1**
KIBS	**BOLU**	**1.30**	**89**	*i* P	**Pn**	**16 29 35.4**	**0.0**
KIBS				*i* S	**Sb**	**16 29 52.5**	**0.0**
KDZE	**Karadeniz Ereo**	**1.33**	**47**	⇓S	**Sn**	**16 29 55.9**	**+2.4**
KDZE	**Karadeniz Ereo**	**1.33**	**47**	PN	**Pb**	**16 29 36.1**	**+0.1**
GDZ	**Gediz**	**1.42**	**201**	*i* P	**Pn**	**16 29 37.2**	**+0.3**
GDZ				*i* S	**Sb**	**16 29 55.5**	**-0.4**
DST	**Dursunbey**	**1.43**	**236**	PN	**Pn**	**16 29 36.9**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.44**	**132**	PN	**Pn**	**16 29 37.2**	**0.0**
AUSIV	**SIVRIHISAR**	**1.45**	**132**	*i* P	**Pn**	**16 29 37.0**	**-0.3**
AUSIV				*i* S	**Sn**	**16 29 54.0**	**-2.6**
GEDZ	**Gediz**	**1.48**	**203**	PN	**Pn**	**16 29 37.8**	**0.0**
CTKS	**Kestanelik-??a**	**1.49**	**304**	PN	**Pn**	**16 29 37.9**	**+0.2**
ELBA	**Catalca**	**1.49**	**300**	*i* P	**Pn**	**16 29 37.4**	**-0.5**
ELBA				*i* S	**Sn**	**16 29 57.6**	**+0.2**
BCAM	**Yenicaga**	**1.52**	**74**	*i* P	**Pn**	**16 29 38.6**	**+0.4**
SHAP	**Saphane-Kutahy**	**1.56**	**207**	PN	**Pn**	**16 29 38.9**	**0.0**
GRDE	**Gerede-Bolu**	**1.62**	**76**	PN	**Pn**	**16 29 40.2**	**+0.5**
SLVT	**Silivri**	**1.68**	**300**	PN	**Pn**	**16 29 40.7**	**+0.3**
BOTS	**Marmara Eregli**	**1.74**	**290**	PN	**Pn**	**16 29 41.7**	**+0.5**
EDC	**Edincik**	**1.74**	**268**	PN	**Pn**	**16 29 41.5**	**+0.2**
CTYL	**Yalikoy Yolu**	**1.76**	**308**	PN	**Pn**	**16 29 41.9**	**+0.4**
CMDR	**Camlidere-ANKA**	**1.78**	**87**	*i* P	**Pn**	**16 29 43.1**	**+1.2**
MAR9	**Marsite Statio**	**1.87**	**277**	PN	**Pn**	**16 29 43.4**	**+0.4**
SHUT	**Suhut-Afyon**	**1.89**	**170**	PN	**Pn**	**16 29 43.8**	**+0.4**
BALB	**Balikesir**	**1.90**	**247**	PN	**Pn**	**16 29 43.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.92**	**260**	PN	**Pn**	**16 29 44.0**	**+0.3**
MRMT	**Marmara Adasi**	**1.95**	**276**	PN	**Pn**	**16 29 44.6**	**+0.4**
KIZT	**Kizilcal**	**2.04**	**138**	PN	**Pn**	**16 29 46.1**	**+0.6**
BALY	**Balya**	**2.05**	**252**	*i* P	**Pn**	**16 29 45.4**	**-0.2**
BALY				*i* S	**Sg**	**16 30 17.1**	**+0.4**
BALY				IAML		16 30 20.0	
	comp=E,304nm,0.3s						
BALY				IAML		16 30 20.0	
	comp=N,582nm,0.5s						
LOD	**Lodumlu**	**2.08**	**104**	PN	**Pn**	**16 29 46.7**	**+0.8**
AKHS	**Akhisar**	**2.37**	**230**	*i* P	**Pn**	**16 29 49.2**	**-0.6**
AKHS				*i* S	**Sn**	**16 30 16.9**	**-2.1**
AKHS				IAML		16 30 27.0	
	comp=E,2μm,1.3s						
KURC	**Kurucasile-Bar**	**2.43**	**53**	PN	**Pn**	**16 29 51.9**	**+1.2**
PELI	**Kastamonı-Ara**	**2.56**	**69**	*i* P	**Pn**	**16 29 53.5**	**+0.9**
BRTR	**Keskin Array B**	**2.77**	**103**	Pn	**Pn**	**16 29 55.7**	**+0.1**
	comp=E,1.6nm,0.3s,baz=274,slow=13,SNR=40						
BRTR				Sn	**Sn**	**16 30 29.9**	**+0.7**
	comp=E,3.1nm,0.3s,baz=296,slow=16,SNR=5.4						
BRTR				Lg	Lg	16 30 39.0	
	comp=E,2.0nm,0.3s,baz=279,slow=16,SNR=3.8						
BRTR				LR	LR	16 30 47.7	
	comp=E,24nm,20.4s,baz=298,slow=36						
AYVA	**Ayvalik**	**2.88**	**248**	*i* P	**Pn**	**16 29 57.6**	**+0.8**
AYVA				*i* S	**Sg**	**16 30 43.9**	**+0.7**
AYVA				IAML		16 30 51.0	
	comp=E,314nm,0.7s						
AYVA				IAML		16 30 53.0	
	comp=N,348nm,0.6s						
DELI	**KIRIKKALE**	**2.92**	**97**	*i* P	**Pn**	**16 29 57.6**	**0.0**
AYDN	**Tasoluk**	**3.27**	**213**	*i* P	**Pb**	**16 30 10.9**	**+1.9**
AYDN				*i* S	**Sg**	**16 30 59.8**	**+4.0**
AYDN				IAML		16 31 01.0	
	comp=E,68nm,1.6s						
AYDN				IAML		16 31 03.0	
	comp=N,41nm,0.8s						
BZK	**Bozkurt**	**3.29**	**61**	⇑P	**Pb**	**16 30 08.1**	**-1.3**
BZK	**Bozkurt**	**3.29**	**61**	⇑S	**Sb**	**16 30 47.4**	**-2.2**
MANR	**Mangalia**	**3.59**	**342**	⇑S	**Sn**	**16 30 49.0**	**-0.2**
EFOR	**EFORIE**	**3.83**	**343**	⇓S	**Sn**	**16 30 54.2**	**-0.8**
DIKM	**Dikmen**	**4.06**	**71**	⇓P	**Pb**	**16 30 19.2**	**-3.2**
TIRR	**Tirgusor**	**4.24**	**343**	⇑P	**Pn**	**16 30 16.8**	**+1.3**
TIRR	**Tirgusor**	**4.24**	**343**	⇑S	**Sn**	**16 31 03.6**	**-1.5**
TLBR	**Topalu**	**4.41**	**340**	⇓P	**Pn**	**16 30 20.0**	**+2.1**
TLBR	**Topalu**	**4.41**	**340**	⇓S	**Sn**	**16 31 08.5**	**-0.8**
HARR	**Harsova**	**4.57**	**340**	⇑P	**Pn**	**16 30 20.8**	**+0.7**
TPGR	**Topolog**	**4.62**	**345**	⇑P	**Pn**	**16 30 21.6**	**+0.8**
TPGR	**Topolog**	**4.62**	**345**	⇑S	**Sn**	**16 31 12.7**	**-1.8**
TLCR		**4.87**	**349**	⇑P	**Pn**	**16 30 24.9**	**+0.7**
TLCR		**4.87**	**349**	⇑S	**Sn**	**16 31 19.8**	**-0.9**
CFR	**Carcaliu**	**4.98**	**343**	⇓P	**Pn**	**16 30 26.7**	**+0.9**
CFR	**Carcaliu**	**4.98**	**343**	⇓S	**Sn**	**16 31 23.5**	**+0.1**
TUDR		**5.48**	**341**	⇑P	**Pn**	**16 30 34.6**	**+2.0**
MLR	**Muntele Rosu**	**5.93**	**330**	Pn	**Pn**	**16 30 41.8**	**+2.9**
	comp=N,0.4nm,0.3s,baz=155,slow=7.1,SNR=3.0						
MLR				Sn	**Sn**	**16 31 48.6**	**+1.5**
	comp=N,0.5nm,0.3s,baz=280,slow=24,SNR=1.4						
MLR				LR	LR	16 33 32.4	
	comp=N,55nm,19.4s,baz=338,slow=44						
MLR	**Muntele Rosu**	**5.93**	**330**	⇑P	**Pn**	**16 30 41.4**	**+2.5**
MLR	**Muntele Rosu**	**5.93**	**330**	⇓S	**Sn**	**16 31 45.6**	**-1.6**
VRI	**Vrincioaia**	**5.99**	**336**	⇓P	**Pn**	**16 30 42.2**	**+2.5**
VRI	**Vrincioaia**	**5.99**	**336**	⇓S	**Sn**	**16 31 48.2**	**-0.3**
PLOR	**Plostina**	**6.00**	**336**	⇓P	**Pn**	**16 30 41.9**	**+2.0**
PLOR	**Plostina**	**6.00**	**336**	⇓S	**Sn**	**16 31 48.7**	**-0.1**
VOIR		**6.25**	**325**	⇑P	**Pn**	**16 30 45.2**	**+1.8**
MILM	**Milestii Mici**	**6.57**	**352**	⇑P	**Pn**	**16 30 47.4**	**-0.1**
MMAI	**Mount Meron Ar**	**8.51**	**149**	Pn	**Pn**	**16 31 16.1**	**+1.8**
	comp=N,0.9nm,0.3s,baz=333,slow=14,SNR=2.7						
AKASG	**Malin Array Be**	**10.30**	**357**	Pn	**Pn**	**16 31 37.4**	**-1.4**
	comp=N,2.0nm,0.3s,baz=174,slow=12,SNR=14						
AKASG				Sn	**Sn**	**16 33 25.6**	**-8.8**
	comp=N,1.3nm,0.3s,baz=176,slow=23,SNR=3.5						
FINES	**FINESS Array B**	**21.20**	**355**	P	**P**	**16 33 59.0**	**+2.5**
	comp=N,1.7nm,0.8s,baz=162,slow=15,SNR=4.2						
NOA	**NORSAR Array B**	**23.70**	**337**	P	**P**	**16 34 21.6**	**-1.1**
	comp=N,0.8nm,0.8s,baz=155,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**36.88**	**231**	P	**P**	**16 36 19.9**	**0.0**
	comp=N,144nm,1.0s,baz=35,slow=9.8,SNR=4.7						
MKAR	**Makanchi Array**	**37.71**	**62**	P	**P**	**16 36 26.8**	**+0.2**
	comp=N,0.5nm,0.5s,baz=265,slow=9.3,SNR=10						
ZALV	**Zalesovo Beam**	**38.57**	**51**	P	**P**	**16 36 35.2**	**+1.4**
	comp=N,0.4nm,0.3s,baz=292,slow=8.7,SNR=2.6						

*IDC **23** 16:30:23.7±0.5, 65.13N×148.98W, h0km, mb4.3/33, mb1 4.4/36, mb1mx4.3/64, mbtmp4.3/36, ML4.6/3, MS4.1/29, Ms1 4.2/29, ms1mx3.9/49, Error ellipse: s-maj=15.0km s-min=6.2km az=28.0*
*UAF **23** 16:30:24.0, 65.16N×149.05W, h13km, MW4.8, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.48; Mθθ=1.02; Mφφ=1.50; Mrθ=0.70; Mrφ=-1.13; Mθφ=0.68; Fault plane solution: M₀1.99495×10¹⁶ NP1: ϕs200.00000°, δ75.70000°, λ-30.00000°.*
*ANF **23** 16:30:23.9±0.4, 65.16N×149.01W, h8km±3km, ML5.5/17 Error ellipse: s-maj=3.6km s-min=2.9km az=35.0*
*NEIC **23** 16:30:24.2, 65.15N×148.98W, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.33; Mθθ-1.11; Mφφ 1.44; Mrθ=0.69; Mrφ=-1.37; Mθφ=0.34; Fault plane solution: M₀2.05000×10¹⁶ NP1:ϕs294.04000°, δ72.63000°, λ-163.10000°. NP2:ϕs198.86000°, δ73.90000°, λ-18.11000°. Principal axes: T 2.0401, Plg1.0000°, Azm247.0000°; N 0.0149, Plg66.0000°, Azm339.0000°; P -2.0550, Plg24.0000°, Azm156.0000°;*
*MOS **23** 16:30:24.7±1.6, 65.20N×148.67W, h12km, mb5.0/26, MS4.3/6 Error ellipse: s-maj=16.4km s-min=5.4km az=99.1*
*NEIC **23** 16:30:24.3±2.4, 65.13N±0.04×149.03W±0.09, h11km±3km, Error ellipse: s-maj=6.1km s-min=5.0km az=213.0*
*PMR **23** 16:30:24±2.0, 65.20N±0.04×149.03W±0.09, h10km±1km, Error ellipse: s-maj=7.0km s-min=5.6km az=229.0*
*AEIC **23** 16:30:24.1±2.3, 65.17N±0.03×149.06W±0.06, h20km±3km, ML5.0, mb4.8/150(NEIC), Mwr4.8/67(NEIC), Mww4.9(NEIC), Error ellipse: s-maj=4.4km s-min=3.3km az=205.0*
*BJI **23** 16:30:25.9±0.0, 65.26N×149.69W, h13km, mB5.1/34, mb4.7/44, Ms5.2/39, Ms7 4.8/27*
*GCMT **23** 16:30:27.0±0.2, 65.20N±0.01×149.11W±0.03, h24km±1km, MW5.0/110, Moment Tensor Solution. s41,c45; s110,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.14±.15; Mθθ-1.23±.12; Mφφ2.37±.11; Mrθ1.23±.19; Mθφ-2.46±.09; Mrφ1.72±.22; Best double couple: M₀3.83900×10¹⁶ NP1:ϕs294.00000°, δ55.00000°, λ-161.00000°. NP2:ϕs193.00000°, δ75.00000°, λ-36.00000°. Principal axes: T 3.8340, Plg12.0000°, Azm247.0000°; N 0.0090, Plg51.0000°, Azm353.0000°; P -3.8430, Plg36.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 16:30:27, 65.14N×149.06W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.64; Mθθ-1.25; Mφφ 1.89; Mrθ=0.67; Mrφ=-2.09; Mθφ=0.60; Fault plane solution: M₀2.82000×10¹⁶ NP1:ϕs291.00000°, δ71.00000°, λ-165.00000°. NP2:ϕs196.00000°, δ77.00000°, λ-19.00000°. Principal axes: T 2.9520, Plg4.0000°, Azm244.0000°; N -0.2840, Plg66.0000°, Azm343.0000°; P -2.6680, Plg23.0000°, Azm152.0000°;*
ISC 23 16:30:25.6±0.6, 65.12N±0.02×149.01W±0.02, h13km±3km, n521, σ1§84/501, mb4.8/127, MS4.3/45, 21C-25D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23K	**Minto, Yukon-K**	**0.15**	**281**	P	**Pg**	**16 30 27.2**	**-2.0**
	baz=82,SNR=1000						
I23K				S	**Sg**	**16 30 29.8**	**-1.9**
	baz=82						
PS07	**TAPS Pump Stn7**	**0.36**	**58**		**Pg**	**16 30 31.6**	**-1.3**
MDM	**Murphy Dome**	**0.37**	**115**		**Pg**	**16 30 32.1**	**-0.9**
MDM				Sg	**Sg**	**16 30 37.5**	**-0.5**
NEA2	**Nenana**	**0.53**	**183**	P	**Pg**	**16 30 35.2**	**-0.7**
	baz=0.6,SNR=1000						
NEA2				S	**Sg**	**16 30 42.5**	**-0.4**
	baz=0.6						
NEA2	**Nenana**	**0.53**	**183**		**Pg**	**16 30 35.6**	**-0.3**
NEA2					**Sg**	**16 30 42.5**	**-0.4**
I53US	**FAIRBANKS INFR**	**0.55**	**116**	Pg	**Pg**	**16 30 35.5**	**-0.7**
	baz=299,slow=30,SNR=0.4						
I53US				Lg	Lg	16 30 43.4	
	baz=311,slow=44						
TCOL	**CIGO, UAF Yank**	**0.55**	**116**	P	**Pg**	**16 30 35.6**	**-0.7**
	baz=301,SNR=1000						
TCOL				S	**Sg**	**16 30 43.3**	**-0.2**
	baz=301						
TCOL	**CIGO, UAF Yank**	**0.55**	**116**		**Pg**	**16 30 35.9**	**-0.4**
COLA	**College**	**0.55**	**116**	*ce*P	**Pg**	**16 30 35.5**	**-0.8**
COLA	**College**	**0.55**	**116**		**Pg**	**16 30 35.7**	**-0.6**
COLA				Sg	**Sg**	**16 30 43.8**	**+0.2**
POKR	**Poker Plat Res**	**0.67**	**89**	P	**Pg**	**16 30 37.1**	**-1.5**
	baz=275,SNR=1000						
POKR				S	**Sg**	**16 30 45.7**	**-1.7**
	baz=275						
POKR	**Poker Plat Res**	**0.67**	**89**		**Pg**	**16 30 37.4**	**-1.2**
POKR					**Sg**	**16 30 47.0**	**-0.3**
CCB	**Clear Creek Bu**	**0.70**	**132**		**Pg**	**16 30 38.4**	**-0.7**
MLY	**Manley**	**0.74**	**264**	P	**Pg**	**16 30 37.7**	**-2.1**
	baz=78,SNR=1000						
MLY				S	**Sg**	**16 30 47.5**	**-2.0**
	baz=78						
MLY	**Manley**	**0.74**	**264**		**Pg**	**16 30 38.0**	**-1.8**
MLY					**Sg**	**16 30 47.4**	**-2.0**
WRH	**Wood River Hil**	**0.76**	**148**		**Pg**	**16 30 39.7**	**-0.6**
WRH				Sg	**Sb**	**16 30 50.6**	**-0.3**
PS06	**TAPS Pump Stn6**	**0.80**	**338**		**Pg**	**16 30 39.1**	**-1.8**
PS06					**Sg**	**16 30 48.4**	**-3.0**
IL31		**0.97**	**110**		**Pb**	**16 30 42.9**	**-1.3**
ILAR	**Eielson Array**	**0.97**	**110**	Pg	**Pb**	**16 30 43.1**	**-1.1**
	2μm,0.3s,baz=295,slow=17,SNR=1918						
ILAR				Lg	Lg	16 30 55.2	
	7μm,0.3s,baz=298,slow=26,SNR=58						
ILAR	**Eielson Array**	**0.97**	**110**		**Pb**	**16 30 42.4**	**-1.9**
BWN	**Browne**	**0.97**	**192**		**Pb**	**16 30 42.9**	**-1.3**
IL18	**Eielson Array**	**1.02**	**110**	Pn	**Pb**	**16 30 43.9**	**-1.1**
PS08	**TAPS Pump Stn8**	**1.10**	**121**		**Pb**	**16 30 45.3**	**-1.1**
HDA	**Harding Lake**	**1.14**	**128**	Pn	**Pb**	**16 30 45.1**	**-1.9**
	baz=311,SNR=1000						
HDA				Pg	**Pn**	**16 30 46.3**	**-0.9**
	baz=311						
HDA				S	**Sb**	**16 31 00.9**	**-0.8**
	baz=311						
BPAW	**Bear Paw Mtn.**	**1.33**	**221**		**Pn**	**16 30 47.6**	**-2.3**
MCK	**McKinley**	**1.39**	**179**	Pn	**Pn**	**16 30 49.2**	**-1.5**
	baz=358,SNR=1000						
MCK				Pg	**Pb**	**16 30 50.9**	**-0.5**
	baz=358						
MCK				S	**Sn**	**16 31 08.6**	**-0.4**
	baz=358						
MCK	**McKinley**	**1.39**	**179**		**Pn**	**16 30 49.5**	**-1.3**
RND	**Reindeer**	**1.72**	**178**		**Pn**	**16 30 54.1**	**-1.2**
TRF	**Thorofare Moun**	**1.77**	**199**	Pn	**Pn**	**16 30 54.3**	**-1.7**
KTH	**Kantishna Hill**	**1.78**	**209**		**Pn**	**16 30 53.8**	**-2.3**
PS05	**TAPS Pump Stn5**	**1.83**	**339**		**Pn**	**16 30 54.9**	**-1.8**
CHUM	**Lake Minchumin**	**1.89**	**231**		**Pn**	**16 30 55.4**	**-2.2**
FYU	**Fort Yukon**	**2.13**	**45**		**Pn**	**16 30 58.2**	**-2.6**
IM03		**2.15**	**296**		**Pn**	**16 30 58.5**	**-2.6**
IMAR	**Indian Mountai**	**2.15**	**296**		**Pn**	**16 30 57.8**	**-3.3**
HUR	**Hurricane**	**2.17**	**188**		**Pn**	**16 30 59.9**	**-1.5**
CAST	**Castle Rocks**	**2.17**	**220**		**Pn**	**16 30 59.5**	**-1.8**
COLD	**Coldfoot**	**2.17**	**348**	Pn	**Pn**	**16 30 59.1**	**-2.3**
	baz=167,SNR=1000						
COLD				Pg	**Pb**	**16 31 04.1**	**-0.6**
	baz=167						
COLD				Sb	**Sb**	**16 31 30.0**	**-1.5**
	baz=167						
COLD	**Coldfoot**	**2.17**	**348**	Pn	**Pn**	**16 30 59.1**	**-2.3**
WAT2	**Susitna Watana**	**2.17**	**175**		**Pn**	**16 31 00.9**	**-0.6**
DHY	**Denali Highway**	**2.17**	**160**		**Pn**	**16 31 01.2**	**-0.4**
RIDG	**Independent Ri**	**2.28**	**126**		**Pn**	**16 31 00.5**	**-2.4**
WAT1	**Susitna Watana**	**2.31**	**175**		**Pn**	**16 31 02.6**	**-0.7**
SCRK	**Sand Creek**	**2.46**	**116**	P	**Pn**	**16 31 03.2**	**-2.3**
	baz=301,SNR=176						
SCRK				Sb	**Sb**	**16 31 40.6**	**+0.9**
	baz=301						
SCRK	**Sand Creek**	**2.46**	**116**		**Pn**	**16 31 03.1**	**-2.3**
DOT	**Dot Lake**	**2.61**	**122**	Pn	**Pn**	**16 31 04.8**	**-2.6**
WAT6	**Susitna Watana**	**2.61**	**167**		**Pn**	**16 31 06.6**	**-1.0**
PPLA	**Purkeypile**	**2.63**	**214**	Pn	**Pn**	**16 31 05.7**	**-2.2**
PAX	**Paxson**	**2.66**	**143**		**Pn**	**16 31 07.5**	**-0.8**
CUT	**Chulitna**	**2.78**	**192**	P	**Pn**	**16 31 09.3**	**-0.4**
	baz=10,SNR=19						
CUT				Sb	**Sb**	**16 31 50.2**	**+1.2**
	baz=10						
CUT	**Chulitna**	**2.78**	**192**		**Pn**	**16 31 09.4**	**-0.3**
BM03	**Burnt Mountain**	**2.92**	**36**		**Pn**	**16 31 09.0**	**-2.7**
BMAR	**Burnt Mountain**	**2.93**	**36**		**Pn**	**16 31 09.1**	**-2.8**
K27K	**Chicken**	**3.19**	**107**		**Pn**	**16 31 14.0**	**-1.4**
MENT	**Mentasta**	**3.20**	**131**		**Pn**	**16 31 13.3**	**-2.2**
M24K	**Tolsona, Glenn**	**3.28**	**156**	P	**Pn**	**16 31 17.3**	**+0.6**
	baz=339,SNR=423						
M24K	**Tolsona, Glenn**	**3.28**	**156**		**Pn**	**16 31 17.4**	**+0.7**
PS04	**TAPS Pump Stn4**	**3.32**	**358**		**Pn**	**16 31 15.9**	**-1.3**
SML	**Sawmill**	**3.34**	**174**		**Pn**	**16 31 16.4**	**-1.1**
SKT	**Skwentna**	**3.35**	**201**		**Pn**	**16 31 16.5**	**-1.0**
EGAK	**Eagle**	**3.36**	**92**	Pn	**Pn**	**16 31 15.6**	**-2.1**
GHO	**Glory Hole Cre**	**3.36**	**179**		**Pn**	**16 31 16.8**	**-1.0**
SCM	**Sheep Creek Mo**	**3.38**	**166**		**Pn**	**16 31 17.5**	**-0.6**
PS11	**TAPS Pump St11**	**3.44**	**151**		**Pn**	**16 31 19.5**	**+0.8**
PMR	**Palmer**	**3.54**	**181**		**Pn**	**16 31 19.5**	**-0.7**
TOLK	**Toolik Lake Re**	**3.54**	**357**	P	**Pn**	**16 31 19.8**	**-0.5**
	baz=176,SNR=229						
TOLK				Sb	**Sb**	**16 32 12.8**	**+1.8**
	baz=176						
TOLK	**Toolik Lake Re**	**3.54**	**357**		**Pn**	**16 31 19.6**	**-0.7**
KNK	**Knik Glacier**	**3.73**	**176**		**Pn**	**16 31 22.4**	**-0.4**
SUA	**Susitna One**	**3.75**	**193**		**Pn**	**16 31 22.0**	**-1.2**
TTA	**Tatalina**	**3.78**	**238**	Pn	**Pn**	**16 31 20.5**	**-3.1**
BC03		**3.78**	**120**		**Pn**	**16 31 21.0**	**-2.5**
BCAR	**Beaver Creek A**	**3.78**	**120**		**Pn**	**16 31 20.4**	**-3.1**
TT01	**Tatalina**	**3.80**	**237**		**Pn**	**16 31 20.9**	**-2.9**
STLK	**Strandline Lak**	**3.85**	**201**		**Pn**	**16 31 24.0**	**-0.5**
KLU	**Klutina**	**3.90**	**158**		**Pn**	**16 31 25.4**	**+0.2**
FIS	**Fire Island**	**4.03**	**188**		**Pn**	**16 31 28.0**	**+1.1**
N25K	**Chitina, Valde**	**4.05**	**149**	P	**Pn**	**16 31 26.5**	**-0.7**
	baz=333,SNR=123						
N25K	**Chitina, Valde**	**4.05**	**149**		**Pn**	**16 31 26.3**	**-1.0**
RC01	**Rabbit Creek A**	**4.06**	**185**	P	**Pn**	**16 31 27.4**	**+0.1**
	baz=4.0,SNR=229						
RC01	**Rabbit Creek A**	**4.06**	**185**		**Pn**	**16 31 27.3**	**0.0**
SPCG	**Spurr Capps Gl**	**4.08**	**201**		**Pn**	**16 31 26.9**	**-0.7**
SPCP	**Crater Peak Br**	**4.12**	**202**		**Pn**	**16 31 27.7**	**-0.6**
SPBG	**Spurr Blockage**	**4.16**	**203**		**Pn**	**16 31 28.8**	**0.0**
SPCN	**Chakachatna No**	**4.16**	**202**		**Pn**	**16 31 28.9**	**+0.1**
SPCR	**Spurr Chakacha**	**4.19**	**202**		**Pn**	**16 31 29.0**	**-0.2**
DIV	**Divide**	**4.27**	**158**		**Pn**	**16 31 30.5**	**+0.3**
PWL	**Port Wells**	**4.29**	**176**		**Pn**	**16 31 31.1**	**+0.6**
GLI	**Glacier Island**	**4.34**	**168**		**Pn**	**16 31 31.3**	**+0.1**
GLB	**Gilahina Butte**	**4.37**	**145**		**Pn**	**16 31 31.0**	**-0.7**
CAPN	**Captain Cook N**	**4.47**	**194**	P	**Pn**	**16 31 35.3**	**+2.3**
	baz=11,SNR=9.1

RES Resolute Bay 20.05 39 P **P** **16 34 57.8 -0.1**
comp=Z,4.4nm,0.7s,baz=267,slow=17,SNR=3.5
RES LR LR 16 45 14.8
comp=Z,477nm,21.4s,baz=276,slow=44
RES Resolute Bay 20.05 39 P **P** **16 34 57.7 -0.1**
PGC Sidney 21.36 128 P **P** **16 35 11.7 -0.6**
B06A Marblemount 22.14 125 P **P** **16 35 19.3 -1.3**
B05A Bryant 22.15 127 P **P** **16 35 20.6 -0.2**
baz=330
B08A Colville Reser 23.03 122 P **P** **16 35 29.2 -1.0**
B08A IAmb IAmb 16 35 43.5
comp=Z,24nm,0.9s
D05A Enumclaw 23.12 128 P **P** **16 35 28.8 -2.2**
E03A Lebam 23.17 131 P **P** **16 35 28.2 -3.2**
LTY Liberty 23.51 126 P **P** **16 35 33.9 -1.0**
LTY IAmb IAmb 16 35 42.7
comp=Z,39nm,1.2s
LON Longmire 23.56 128 P **P** **16 35 35.5 0.0**
LON IAmb IAmb 16 36 03.4
comp=Z,22nm,0.9s
C09A Chrisman Ranch 23.89 122 P **P** **16 35 38.2 -0.4**
C09A IAmb IAmb 16 35 45.8
comp=Z,19nm,0.8s
NEW Newport 23.91 119 P **P** **16 35 37.7 -1.2**
comp=Z,7.5nm,1.0s,baz=347,slow=8.4,SNR=6.8
NEW Lg Lg 16 42 59.7
comp=Z,2.7nm,0.7s,baz=260,slow=17,SNR=6.2
NEW LR LR 16 44 35.7
comp=Z,881nm,18.1s,baz=320,slow=36
NEW Newport 23.91 119 P **P** **16 35 39.4 +0.5**
baz=327
NEW Newport 23.91 119 P **P** **16 35 38.4 -0.5**
F04A Amboy 24.08 130 P **P** **16 35 39.9 -0.5**
F04A IAmb IAmb 16 35 55.1
comp=Z,24nm,1.0s
D08A Wollman Farm, 24.29 124 P **P** **16 35 42.0 -0.3**
D08A IAmb IAmb 16 35 43.4
comp=Z,20nm,1.0s
E07A Sunnyside 24.39 126 P **P** **16 35 42.5 -0.8**
E07A IAmb IAmb 16 35 44.8
comp=Z,24nm,1.1s
WALA Waterton Lakes 24.47 114 P **P** **16 35 42.7 -1.4**
WALA IAmb IAmb 16 35 60.0
comp=Z,24nm,0.9s
HAWA Hanford 24.65 125 P **P** **16 35 44.9 -0.7**
E08A Dider Farm, El 24.73 124 P **P** **16 35 46.4 +0.1**
E08A IAmb IAmb 16 35 47.9
comp=Z,32nm,1.3s
F07A Phinny Hill Vi 24.94 126 P **P** **16 35 48.0 -0.2**
F07A IAmb IAmb 16 36 02.6
comp=Z,20nm,0.9s
SEY Seymchan 24.97 292 P **P** **16 35 47.6 -0.7**
comp=Z,7.6nm,1.0s,baz=85,slow=9.0,SNR=9.6
SEY LR LR 16 45 53.4
comp=Z,680nm,19.1s,baz=56,slow=37
SEY Seymchan 24.97 292⇓ *e*P **P** **16 35 50.5 +2.2**
E09A Wood Farm, Sta 25.03 123 P **P** **16 35 48.5 -0.5**
FFC Flin Flon 25.13 92 P **P** **16 35 49.8 -0.1**
FFC IAmb IAmb 16 36 28.0
comp=Z,18nm,1.0s
H04A Detroit Lake 25.27 131 P **P** **16 35 51.2 0.0**
JTMT Jette 25.41 116 IAmb IAmb 16 36 07.6
comp=Z,28nm,0.9s
G08A Pilot Rock 25.80 126 IAmb IAmb 16 36 10.3
comp=Z,30nm,1.4s
F10A Beach Ranch, E 25.82 122 IAmb IAmb 16 36 16.8
comp=Z,22nm,1.1s
MSO Missoula 26.30 117 **P** **16 35 58.9 -1.8**
PINE Pine Mountain 26.47 130 P **P** **16 36 01.8 -0.5**
PINE IAmb IAmb 16 36 20.2
comp=Z,18nm,1.0s
J05D Fort Rock, OR 26.83 131 P **P** **16 36 06.5 +1.0**
baz=334
EGMT Eagleton 26.94 110 P **P** **16 36 04.7 -1.6**
EGMT IAmb IAmb 16 37 00.7
comp=Z,16nm,0.8s
PLID Pearl Lake 27.02 122 P **P** **16 36 05.8 -1.5**
MA2 Magadan 27.51 287⇓ *e*P **P** **16 36 12.8 +1.5**
MA2 pmax pmax
comp=Z,53nm,1.7s
J08A Circle Bar Ran 27.67 127 P **P** **16 36 12.6 -0.4**
J08A IAmb IAmb 16 36 50.4
comp=Z,29nm,1.7s
YBH Yreka Blue Hor 27.78 135 P **P** **16 36 13.1 -0.8**
comp=Z,1.2nm,0.6s,baz=275,slow=16,SNR=2.3
YBH Yreka Blue Hor 27.78 135 IAmb IAmb 16 36 43.2
comp=Z,46nm,1.8s
DLMT Dillon 28.04 117 **P** **16 36 14.1 -2.2**
DLMT IAmb IAmb 16 36 48.4
comp=Z,46nm,2.0s
BOZ Bozeman (W) 28.21 116 P **P** **16 36 18.1 +0.2**
baz=327
BOZ Bozeman (W) 28.21 116 P **P** **16 36 16.4 -1.4**
N02D Trinity Center 28.48 135 P **P** **16 36 22.5 +2.3**
baz=337
MFID Camas Ranch 28.53 123 P **P** **16 36 20.3 -0.4**
PET Petropavlovsk 28.57 270 *e*P **P** **16 36 17.8 -2.9**
PET *e*S **S** **16 41 02.1 -6.1**
PET MLR MLR
comp=Z,600nm,14.0s
PET Petropavlovsk 28.57 270 P **P** **16 36 20.4 -0.3**
TIXI Tiksi 28.62 319⇓ *e*P **P** **16 36 23.3 +2.3**
TIXI Tiksi 28.62 319 P **P** **16 36 21.0 -0.1**
TIXI IAmb IAmb 16 37 11.2
comp=Z,24nm,1.4s
WDC Whiskeytown Da 28.89 135 P **P** **16 36 21.9 -1.8**
WDC IAmb IAmb 16 36 38.6
comp=Z,26nm,1.2s
PEA0B Petropavlovsk- 28.91 271 P **P** **16 36 22.8 -1.1**
PETK Petropavlovsk- 28.91 271 P **P** **16 36 25.8 +1.9**
comp=Z,3.3nm,0.8s,baz=66,slow=11,SNR=1.8
PETK LR LR 16 47 55.4
comp=Z,436nm,19.8s,baz=34,slow=36
HLID Hailey 28.91 121 P **P** **16 36 24.6 +0.5**
baz=330,SNR=15
YNR Norris Junctio 29.31 115 P **P** **16 36 26.8 -1.0**
O03E Paynes Creek 29.37 135 P **P** **16 36 27.9 -0.2**
baz=337
LAO LASA Array 29.43 108 P **P** **16 36 29.1 +0.5**
baz=324
LAO LASA Array 29.43 108 P **P** **16 36 27.2 -1.3**
LAO IAmb IAmb 16 37 09.5
comp=Z,30nm,1.3s
FLWY Flagg Ranch 29.84 116 IAmb IAmb 16 37 10.3
comp=Z,36nm,1.1s
IMW Indian Meadow 29.91 117 IAmb IAmb 16 36 47.3
comp=Z,17nm,0.9s
REDW Red Top Meadow 30.40 117 IAmb IAmb 16 37 21.1
comp=Z,24nm,1.4s
ULM Lac du Bonnet 30.95 93 P **P** **16 36 41.5 -0.4**
comp=Z,8.4nm,0.6s,baz=326,slow=9.9,SNR=4.9
ULM Lg Lg 16 46 34.5
comp=Z,4.2nm,0.9s,baz=71,slow=18,SNR=3.4
ULM LR LR 16 49 48.3
comp=Z,731nm,18.8s,baz=324,slow=38
ULM Lac du Bonnet 30.95 93⇓ *e*P **P** **16 36 41.7 -0.1**
ULM Lac du Bonnet 30.95 93 P **P** **16 36 40.5 -1.3**
ULM IAmb IAmb 16 36 48.9
comp=Z,49nm,1.6s
ELK Elko 31.09 125 P **P** **16 36 41.6 -1.9**
BW06 Boulder Array 31.40 116 P **P** **16 36 46.8 +0.7**
baz=329,SNR=12
BW06 Boulder Array 31.40 116 IAmb IAmb 16 36 59.4
comp=Z,12nm,1.0s
PD31 Pinedale Array 31.40 116 IAmb IAmb 16 36 59.4
comp=Z,11nm,1.0s
PDAR Pinedale Array 31.40 116 P **P** **16 36 46.9 +0.7**
comp=Z,6.9nm,0.9s,baz=331,slow=6.0,SNR=27
PDAR LR LR 16 50 32.0
comp=Z,502nm,18.4s,baz=8.5,slow=38
PDAR Pinedale Array 31.40 116 P **P** **16 36 46.0 -0.2**
KVN Kaiserville 31.66 130 IAmb IAmb 16 37 48.3
comp=Z,29nm,2.0s
WAKR Walker 31.74 133 P **P** **16 36 48.4 -0.8**
WAKR IAmb IAmb 16 37 04.7
comp=Z,12nm,1.2s
NVAR Mina Array Bea 32.16 131 P **P** **16 36 54.0 +1.1**
comp=Z,2.3nm,0.7s,baz=322,slow=7.8,SNR=18
NVAR LR LR 16 49 05.5
comp=Z,377nm,19.1s,baz=341,slow=35
NVAR Mina Array Bea 32.16 131 P **P** **16 36 52.9 0.0**
NV11 Mina Array Sit 32.21 131 IAmb IAmb 16 37 09.1
comp=Z,9.3nm,0.9s
DUG Dugway, Tooele 32.44 122 P **P** **16 36 56.1 +0.9**
baz=332
AGMN Agassiz Nation 32.45 95 P **P** **16 36 54.6 -0.4**
baz=321,SNR=6.1
AGMN Agassiz Nation 32.45 95 P **P** **16 36 53.5 -1.6**
R11A Troy Canyon, C 33.12 128 P **P** **16 37 01.9 +0.6**
baz=335,SNR=8.7
PSUT Pine Spring 33.55 125 P **P** **16 37 05.0 0.0**
YAK Yakutsk 33.98 304 *e*P **P** **16 37 10.8 +2.5**
YAK *e**PP **sP** **16 37 19.8 +6.0**
YAK *e* 16 38 23.6
YAK *e*S **S** **16 42 35.8 +3.3**
YAK *e*SS **SnSn** **16 44 46.2 +7.7**
YAK *e* 16 47 30.7
YAK pmax pmax
comp=Z,18nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,45nm,2.2s
YAK pmax pmax
comp=E,35nm,2.0s
YAK smax smax
comp=N,59nm,3.0s
YAK smax smax
comp=E,30nm,2.8s
YAK MLR MLR
comp=Z,657nm,14.0s
YAK MLR MLR
comp=E,464nm,13.0s
CWC Cottonwood Cre 34.06 132 P **P** **16 37 10.9 +1.5**
baz=337
TPNV Topopah Spring 34.17 129 P **P** **16 37 11.0 +0.6**
baz=336,SNR=6.9
EYMN Ely 34.56 91 P **P** **16 37 13.3 -0.2**
baz=321,SNR=10
MPMC Manual Prospec 34.59 132 P **P** **16 37 16.8 +2.7**
baz=337
ISA Isabella, Lake 34.65 133 P **P** **16 37 14.9 +0.5**
baz=338
PKM Mcpherson Peak 34.96 136 P **P** **16 37 17.6 +0.3**
baz=339
SUMG Summit 34.99 29 P **P** **16 37 15.9 -1.5**
SUMG IAmb IAmb 16 37 25.2
comp=Z,35nm,1.5s
DAG Danmarks Havn 35.05 18 *i* P **P** **16 37 18.8 +1.4**
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 35.05 18 *i* P **P** **16 37 18.8 +1.4**
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 35.05 18 *i* P **P** **16 37 18.8 +1.4**
DAG IAmb IAmb 16 37 26.8
comp=Z,6.0nm,0.8s
LRMC Laurel Mtn Rad 35.06 132 P **P** **16 37 19.1 +1.0**
baz=338
F36A Milaca 35.35 96 P **P** **16 37 18.4 -1.8**
F36A IAmb IAmb 16 37 46.0
comp=Z,11nm,0.9s
PV22 Blue Mesa, Par 35.36 119 IAmb IAmb 16 37 36.8
comp=Z,9.4nm,0.9s
ISCO Idaho Springs 35.46 114 P **P** **16 37 22.4 +0.7**
baz=330
ISCO Idaho Springs 35.46 114 IAmb IAmb 16 37 37.2
comp=Z,12nm,0.9s
GSC Goldstone, Bar 35.50 131 IAmb IAmb 16 37 44.1
comp=Z,12nm,1.1s
PV11 David Mesa, Pa 35.54 119 IAmb IAmb 16 37 41.9
comp=Z,37nm,1.6s
E38A The Farm, Brul 35.59 93 P **P** **16 37 21.3 -1.0**
TUQ Tuoise Moun 35.66 130 P **P** **16 37 24.7 +1.5**
baz=337,SNR=5.5
PV13 Radium Mtn., P 35.68 119 IAmb IAmb 16 37 55.2
comp=Z,11nm,1.0s
ECSD EROS Data Cent 35.78 101 P **P** **16 37 23.2 -0.8**
baz=325
ECSD EROS Data Cent 35.78 101 P **P** **16 37 22.3 -1.7**
ECSD IAmb IAmb 16 37 30.4
comp=Z,50nm,1.9s
PV01 Paradox Valley 35.80 119 IAmb IAmb 16 37 40.1
comp=Z,19nm,1.1s
GMRC Granite Mounta 36.35 130 P **P** **16 37 29.7 +0.6**
baz=337
S22A 4UR Ranch, Cre 36.79 117 P **P** **16 37 33.2 +0.2**
baz=332
I37A Lemond, Waseca 36.89 97 P **P** **16 37 32.3 -1.2**
DBG Daneborg 36.89 21 *i* P **P** **16 37 36.2 +3.1**
DBG IAmb IAmb 16 37 39.7
comp=Z,9.8nm,0.8s
BELC Belle Mtn. Jos 36.96 131 P **P** **16 37 35.0 +0.7**
baz=338
IRM Iron Mountain 37.09 130 P **P** **16 37 36.5 +1.2**
baz=337
WUAZ Wupatki 37.12 124 P **P** **16 37 36.7 +0.9**
baz=335,SNR=9.2
WUAZ Wupatki 37.12 124 IAmb IAmb 16 37 37.5
comp=Z,13nm,0.8s
PFO Pinyon Flats O 37.17 132⇑ *e*P **P** **16 37 37.7 +1.6**
PFO pmax pmax
comp=Z,38nm,4.2s
G40A Rib Lake 37.23 93 P **P** **16 37 33.5 -2.8**
SDCO Great Sand Dun 37.29 116 P **P** **16 37 38.1 +0.8**
baz=331,SNR=7.7
ICESG Greenland Ices 37.31 34 *i* P **P** **16 37 38.9 +1.7**
L34A Svendsen Farm, 37.33 102 P **P** **16 37 35.8 -1.4**
BC3 Big Chuckawall 37.45 131 P **P** **16 37 39.2 +0.8**
baz=338
MONP2 Monument Peak 37.85 132 P **P** **16 37 42.8 +0.9**
baz=338
IKP In-Ko-Pah, Jac 38.17 132 P **P** **16 37 45.6 +1.1**
baz=338
JFWS Jewell Farm 39.11 95 P **P** **16 37 51.8 -0.4**
baz=325
ANMO Albuquerque 39.41 119 P **P** **16 37 56.1 +1.1**
baz=333
ANMO Albuquerque 39.41 119⇓ *e*P **P** **16 37 55.6 +0.6**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 39.41 119 P **P** **16 37 53.9 -1.1**
SCHQ Schefferville 39.43 64 P **P** **16 37 56.4 +1.6**
comp=Z,7.5nm,0.8s,baz=336,slow=11,SNR=4.0
SCHQ LR LR 16 54 42.6
comp=Z,254nm,19.2s,baz=316,slow=37
SCHQ Schefferville 39.43 64 IAmb IAmb 16 38 39.2
comp=Z,36nm,1.5s
214A Organ Pipe Nat 39.88 128 P **P** **16 37 59.5 +0.8**
baz=337
NRIK Noril'sk 40.15 333 P **P** **16 38 01.8 +1.3**
comp=Z,8.8nm,1.0s,baz=34,slow=5.4,SNR=12
NRIK Noril'sk 40.15 333⇓ *e*P **P** **16 38 02.4 +1.9**
P38A Dawn 40.47 101 IAmb IAmb 16 38 16.1
comp=Z,17nm,0.8s
ZEA Zeya 40.86 295 *e*P **P** **16 38 10.0 +3.4**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA pmax pmax
comp=Z,23nm,1.4s
ZEA MLR MLR
comp=Z,400nm,20.0s
121A Cookes Peak, D 41.09 122 P **P** **16 38 09.7 +0.8**
baz=335
121A Cookes Peak, D 41.09 122 P **P** **16 38 08.9 0.0**
P40A Paris 41.17 100 P **P** **16 38 08.0 -1.3**
P40A IAmb IAmb 16 38 09.2
comp=Z,15nm,0.9s
AMTX Amarillo 41.27 114 P **P** **16 38 09.9 -0.4**
baz=332
L48A N Adams 42.37 91 P **P** **16 38 18.2 -0.9**
BOD Bodaibo 42.45 308 *e*P **P** **16 38 17.9 -1.6**
BOD pmax pmax
comp=Z,42nm,1.2s
WMOK Wichita Mounta 42.54 111 P **P** **16 38 20.5 -0.1**
baz=331
KLR Kul'dur 42.60 288 P **P** **16 38 22.4 +1.5**
comp=Z,2.1nm,0.7s,baz=9.7,slow=7.6,SNR=4.1
KLR Kul'dur 42.60 288⇓ *e*P **P** **16 38 23.2 +2.3**
KLR pmax pmax
comp=Z,10.0nm,1.4s
U38A Gravette 42.83 105 P **P** **16 38 20.9 -2.0**
U38A IAmb IAmb 16 38 25.5
comp=Z,11nm,0.8s
MGMO Mountain Grove 43.09 102 IAmb IAmb 16 38 51.9
comp=Z,14nm,0.8s
FVM French Village 43.15 100 P **P** **16 38 22.1 -3.4**
FVM IAmb IAmb 16 38 29.8
comp=Z,12nm,0.7s
U40A Yellville 43.53 103 P **P** **16 38 26.5 -2.1**
baz=330
U40A Yellville 43.53 103 P **P** **16 38 25.8 -2.8**
U40A IAmb IAmb 16 38 41.6
comp=Z,15nm,1.1s
T42A Van Buren 43.68 101 P **P** **16 38 28.1 -1.7**
PBMO Poplar Bluff 44.17 101 IAmb IAmb 16 38 38.2
comp=Z,14nm,0.7s
MIAR Mount Ida 44.80 105 P **P** **16 38 37.8 -1.0**
baz=330
MIAR Mount Ida 44.80 105 P **P** **16 38 36.7 -2.0**
O52A Adamsville 44.98 90 P **P** **16 38 39.1 -1.0**
baz=327
TX32 Lajitas Array 45.47 119 IAmb IAmb 16 39 00.4
comp=Z,9.4nm,0.8s
TXAR Lajitas Array 45.47 119 P **P** **16 38 44.8 +0.6**
comp=Z,2.0nm,0.6s,baz=328,slow=7.8,SNR=28
TXAR Lajitas Array 45.47 119 P **P** **16 38 43.8 -0.5**
O54A Avella 45.54 88 P **P** **16 38 43.9 -0.7**
baz=327
ARCES ARCESS Array B 45.56 3 P **P** **16 38 44.5 0.0**
comp=Z,7.4nm,1.0s,baz=6.8,slow=8.4,SNR=2.5
WVT Waverly 45.81 98 P **P** **16 38 46.3 -0.5**
baz=329
WVT Waverly 45.81 98 P **P** **16 38 45.3 -1.5**
WVT IAmb IAmb 16 39 36.2
comp=Z,35nm,1.6s
JCT Junction City 45.90 114 IAmb IAmb 16 39 03.3
comp=Z,10.0nm,0.8s
P54A Burton 45.98 89 P **P** **16 38 47.1 -1.0**
baz=327
P55A Reedsville 46.34 88 P **P** **16 38 50.0 -0.9**
baz=327
OXF Oxford 46.54 101 P **P** **16 38 52.5 0.0**
baz=330
USRK Ussuriysk Ar. 46.56 284 LR LR 17 00 14.4
comp=Z,241nm,18.1s,baz=27,slow=38
MDJ Mudanjiang 47.20 286 P **P** **16 38 54.4 -3.1**
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,250nm,3.9s
U55A TA2, Sparta 48.35 92 P **P** **16 39 05.6 -1.1**
baz=328
Y52A Lilburn 49.34 96 P **P** **16 39 12.1 -2.0**
CN2 Changchun 49.55 288 *e*P **P** **16 39 14.4 -1.3**
MJAR Matsushiro Arr 50.35 273 P **P** **16 39 22.8 +0.9**
comp=Z,0.6nm,0.5s,baz=14,slow=6.9,SNR=2.2
MJAR LR LR 17 02 12.3
comp=Z,171nm,18.8s,baz=45,slow=38
TLY Talaya 50.91 310 *e*P **P** **16 39 30.1 +4.2**
TLY *e*S **S** **16 46 40.5 -1.2**
TLY *e*SS **SS** **16 50 15.4 -0.3**
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,1μm,16.0s
MOY Mondy 51.77 312 *e*P **P** **16 39 37.2 +4.7**
MOY pmax pmax
comp=Z,31nm,2.2s
ZAK Zakamensk 52.14 309 *e*P **P** **16 39 37.8 +2.6**
ZAK pmax pmax
comp=Z,5.0nm,1.9s
ULN Ulaanbaatar 53.04 305⇓ *e*P **P** **16 39 43.2 +1.2**
ULN pmax pmax
comp=Z,10.0nm,1.3s
NB2 NORSAR Subarra 53.29 12 P **P** **16 39 46.1 +2.6**
comp=Z,12nm,1.2s,baz=352,slow=7.4
NOA NORSAR Array B 53.29 12 P **P** **16 39 43.0 -0.5**
comp=Z,1.0nm,0.8s,baz=352,slow=7.0,SNR=2.5
NOA NORSAR Array B 53.29 12 P **P** **16 39 43.0 -0.5**
SONM Songino Array 53.29 306 P **P** **16 39 44.2 +0.4**
comp=Z,5.8nm,1.0s,baz=30,slow=6.1,SNR=19
SONM Songino Array 53.29 306 P **P** **16 39 39.5 -4.3**
FINES FINESS Array B 53.69 3 P **P** **16 39 45.6 -0.7**
comp=Z,2.6nm,0.8s,baz=325,slow=2.3,SNR=11
KSRS Korea Array 53.89 282 P **P** **16 39 48.0 -0.1**
comp=Z,1.5nm,0.7s,baz=29,slow=7.7,SNR=4.8
KSRS LR LR 17 03 23.0
comp=Z,122nm,19.9s,baz=28,slow=37
KSRS Korea Array 53.89 282 P **P** **16 39 48.0 -0.1**
KSAR Wonju Array Be 53.92 282 P **P** **16 39 46.9 -1.4**
ZAA0 Zalesovo Array 54.32 324 P **P** **16 39 49.1 -2.0**
ZAA0 IAmb IAmb 16 39 54.7
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 54.32 324 P **P** **16 39 49.7 -1.3**
comp=Z,6.5nm,0.7s,baz=31,slow=6.8,SNR=5.4
ZALV LR LR 17 04 55.4
comp=Z,358nm,19.8s,baz=19,slow=38
ZALV Zalesovo Beam 54.32 324 *i* P **P** **16 39 54.0 +3.0**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 54.32 324 P **P** **16 39 49.1 -2.0**
HFS Hagfors 54.39 11 P **P** **16 39 51.1 -0.4**
comp=Z,3.9nm,0.8s,baz=356,slow=5.8,SNR=2.7
KIRV Kirov 55.83 348⇑ *e*P **P** **16 40 04.1 +2.2**
SVE Sverdlovsk 56.30 341 *e*P **P** **16 40 07.8 +2.5**
SVE pmax pmax
comp=Z,21nm,1.4s
VSU Vasula 56.70 3⇑ *e*P **P** **16 40 08.6 +0.6**
VSU pmax pmax
comp=Z,51nm,0.9s
ARU Arti 56.97 342 P **P** **16 40 10.1 +0.1**
comp=Z,2.2nm,0.8s,baz=23,slow=7.7,SNR=4.0
ARU Arti 56.97 342 *c i*P **P** **16 40 10.4 +0.4**
ARU 16 41 04.9
ARU 16 42 15.6
ARU S **S** **16 48 06.3 +2.9**
ARU SS **SS** **16 51 53.9 +3.1**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 56.97 342 P **P** **16 40 07.5 -2.5**
ARU IAmb IAmb 16 40 15.0
comp=Z,10nm,1.0s
EKA Eskdalemuir Ar 57.07 22 P **P** **16 40 10.2 -0.6**
comp=Z,11nm,0.7s,baz=335,slow=5.4,SNR=7.1
HHC Hu-ho-hao-te 57.46 297 *e*P **P** **16 40 15.0 +1.1**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,140nm,6.8s
HHC LR LR
comp=Z,400nm,19.2s
HHC LR LR
comp=Z,430nm,13.1s
HHC LR LR
comp=Z,320nm,14.7s
DGZ Jazzator, Alta 57.50 320 *d i*P **P** **16 40 17.8 +3.7**
DGZ pmax pmax
comp=Z,17nm,1.6s
BRVK Borovoye 58.34 333 *de*P **P** **16 40 20.8 +1.0**
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 58.34 333 P **P** **16 40 18.9 -0.9**
BRVK IAmb IAmb 16 40 24.0
comp=Z,28nm,1.6s
BVAR Borovoye Array 58.36 333 P **P** **16 40 21.2 +1.3**
comp=Z,3.2nm,0.8s,baz=158,slow=24,SNR=13
KURK Kurchatov 58.79 327 P **P** **16 40 23.6 +0.7**
KURK 16 41 15.3
KURK Kurchatov 58.79 327 P **P** **16 40 21.6 -1.3**
KURBB Kurchatov Arra 58.90 327 P **P** **16 40 23.6 -0.1**
comp=Z,10nm,1.1s,baz=22,slow=6.7,SNR=26
KURBB PcP **PcP** **16 41 15.2 +2.5**
comp=Z,2.2nm,0.7s,baz=22,slow=4.9,SNR=2.0
MOS Moscow 59.36 356 *e*P P 16 40 37.3 +11
CMIG Matias Romero 59.88 116 LR LR 17 06 24.0
comp=Z,222nm,18.1s,baz=300,slow=36
OBN Obninsk 60.02 356 *e*P **P** **16 40 33.9 +2.6**
OBN *e* 16 41 19.8
OBN *e* 16 42 41.3
OBN pmax pmax
comp=Z,38nm,1.7s
OBN MLR MLR
comp=Z,140nm,17.0s
ZSN Zaisan 60.25 321 *e*P **P** **16 40 32.7 -0.4**
ZSN Zaisan 60.25 321 *e*P **P** **16 40 32.7 -0.4**
BRZS Berezniki 60.79 331 *e*P **P** **16 40 36.1 -0.6**
BRZS Berezniki 60.79 331 *e*P **P** **16 40 36.0 -0.6**
MK31 Makanchi Array 61.53 322 *d i*P **P** **16 40 44.0 +2.2**
MK31 Makanchi Array 61.53 322 IAmb IAmb 16 40 46.0
comp=Z,7.4nm,1.4s
MKAR Makanchi Array 61.53 322 P **P** **16 40 40.0 -1.8**
comp=Z,2.2nm,0.8s,baz=53,slow=6.7,SNR=13
MKAR LR LR 17 09 34.9
comp=Z,289nm,22.0s,baz=12,slow=38
MKAR Makanchi Array 61.53 322 *i*P **P** **16 40 42.5 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.8s

MKAR	**Makanchi Array**	**61.53**	**322**	P		**P**	**16 40 39.4**	**-2.4**
MAKZ	**Makanchi**	**61.60**	**323**	P		**P**	**16 40 40.7**	**-1.5**
NJ2	**Nanjing**	**62.28**	**287**	*eP*		**P**	**16 40 45.0**	**-1.9**
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
NJ2				LR	LR			
	comp=Z,410nm,13.7s							
NJ2				LR	LR			
	comp=Z,610nm,13.3s							
LPSR	**Galich'ya Gora**	**62.45**	**355**	*eP*		**P**	**16 40 50.0**	**+2.2**
LPSR				pmax	pmax			
	comp=Z,20nm,0.9s							
WMQ	**Urumqi**	**62.80**	**317**	*eP*		**P**	**16 40 49.8**	**-0.6**
WMQ				pP	pP		16 40 54.4	-0.1
WMQ				pmax	pmax			
	comp=Z,11nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,52nm,5.1s							
WMQ				LR	LR			
	comp=Z,210nm,16.5s							
WMQ				LR	LR			
	comp=Z,160nm,19.7s							
AKTO	**Aktyubinsk**	**62.90**	**341**	P		**P**	**16 40 49.2**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=37,slow=7.4,SNR=6.0							
GTA	**Gaotai**	**62.96**	**306**	P		**P**	**16 40 55.3**	**+3.7**
GTA				pP	sP		16 40 59.3	+2.0
GTA				sP	pP		16 41 02.3	+6.5
GTA				pmax	pmax			
	comp=Z,12nm,1.3s							
GTA				pmax	pmax			
	comp=Z,72nm,7.3s							
GTA				LR	LR			
	comp=Z,350nm,17.1s							
GTA				LR	LR			
	comp=Z,630nm,16.0s							
GTA				LR	LR			
	comp=Z,570nm,16.7s							
BRG	**Berggiesshubel**	**63.59**	**12**	*eP*		**P**	**16 40 59.8**	**+4.4**
	comp=Z,5.3nm,1.0s							
BRG	**Berggiesshubel**	**63.59**	**12**	*eP*		**P**	**16 40 59.8**	**+4.4**
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VRH	**Novokhopyorsk**	**63.72**	**352**	*eP*		**P**	**16 40 55.9**	**-0.3**
VRH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ABKAR	**Akbulak array**	**63.77**	**339**	P		**P**	**16 40 53.8**	**-2.8**
ABKAR	**Akbulak array**	**63.77**	**339**	IAmb	IAmb		16 41 06.4	
	comp=Z,11nm,0.9s							
VSR	**Storozhevoye**	**63.83**	**354**	*eP*		**P**	**16 40 58.5**	**+1.5**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VORD	**Divnogorie**	**64.07**	**354**	*eP*		**P**	**16 40 59.2**	**+0.6**
VORD				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TDK	**Taldyqorghan**	**64.18**	**325**	*eP*		**P**	**16 41 00.7**	**+1.3**
TDK	**Taldyqorghan**	**64.18**	**325**	*eP*		**P**	**16 41 00.7**	**+1.3**
DPC	**Dobruska-Polom**	**64.31**	**10**	*eP*		**P**	**16 41 03.6**	**+3.4**
DPC	**Dobruska-Polom**	**64.31**	**10**	*eP*		**P**	**16 41 03.6**	**+3.4**
XAN	**Xi'an**	**64.44**	**296**	P		**P**	**16 41 03.4**	**+2.1**
XAN				pP	sP		16 41 14.6	+7.6
XAN				LR	LR			
	comp=Z,860nm,18.4s							
XAN				LR	LR			
	comp=Z,1μm,18.4s							
XAN				LR	LR			
	comp=Z,650nm,16.3s							
MTO3	**Montecristo**	**64.47**	**112**	P		**P**	**16 41 00.3**	**-1.6**
MTO3				IAmb	IAmb		16 41 01.3	
	comp=Z,8.0nm,0.9s							
AKASG	**Malin Array Be**	**64.51**	**1**	P		**P**	**16 40 59.0**	**-2.4**
	comp=Z,1.5nm,0.6s,baz=360,slow=6.4,SNR=14							
AKASG	**Malin Array Be**	**64.51**	**1**	*i P*		**P**	**16 41 02.5**	**+1.1**
AKASG				pmax	pmax			
	comp=Z,9.0nm,0.7s							
AKASG	**Malin Array Be**	**64.51**	**1**	IAmb	IAmb		16 41 07.2	
	comp=Z,1.7nm,0.9s							
AKBB	**Malin Array Si**	**64.51**	**1⇓**	*eP*		**P**	**16 41 01.9**	**+0.5**
AKBB	**Malin Array Si**	**64.51**	**1**	P		**P**	**16 41 01.1**	**-0.3**
AKBB				IAmb	IAmb		16 41 06.8	
	comp=Z,9.1nm,0.8s							
LZH	**Lanzhou**	**64.51**	**301**	*eP*		**P**	**16 41 01.8**	**-0.1**
LZH				pP	sP		16 41 07.0	-0.6
LZH				sP	pP		16 41 09.3	+3.3
LZH				PP	**PP**		**16 43 24.1**	**+0.8**
LZH				pmax	pmax			
	comp=Z,29nm,1.3s							
LZH				pmax	pmax			
	comp=Z,140nm,6.2s							
LZH				LR	LR			
	comp=Z,700nm,16.0s							
LZH				LR	LR			
	comp=Z,1μm,16.3s							
LZH				LR	LR			
	comp=Z,560nm,18.0s							
KRLC	**Kraliky**	**64.61**	**10**	*eP*		**P**	**16 41 02.3**	**+0.1**
KRLC	**Kraliky**	**64.61**	**10**	*eP*		**P**	**16 41 02.3**	**+0.1**
KHC	**Kasperske Hory**	**65.29**	**12**	*eP*		**P**	**16 41 11.3**	**+4.7**
KHC	**Kasperske Hory**	**65.29**	**12**	*eP*		**P**	**16 41 11.3**	**+4.7**
GERES	**GERESS Array B**	**65.58**	**12**	P		**P**	**16 41 08.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=358,slow=5.9,SNR=2.0							
SHLS	**Shalkode**	**65.65**	**323**	*eP*		**P**	**16 41 07.7**	**-1.5**
SHLS	**Shalkode**	**65.65**	**323**	*eP*		**P**	**16 41 07.6**	**-1.5**
UZB	**Uzynbulak**	**65.77**	**323**	*eP*		**P**	**16 41 10.9**	**+0.9**
UZB	**Uzynbulak**	**65.77**	**323**	*eP*		**P**	**16 41 10.8**	**+0.9**
KOLS	**Kolonicke sedl**	**66.08**	**6**	*eP*		**P**	**16 41 11.7**	**0.0**
KOLS	**Kolonicke sedl**	**66.08**	**6**	*eP*		**P**	**16 41 11.7**	**0.0**
MDOK	**Medeo**	**66.25**	**325**	*eP*		**P**	**16 41 14.8**	**+1.8**
MDOK	**Medeo**	**66.25**	**325**	*eP*		**P**	**16 41 14.8**	**+1.8**
VYHS	**Vyhne**	**66.33**	**9**	*eP*		**P**	**16 41 11.6**	**-1.7**
VYHS	**Vyhne**	**66.33**	**9**	*eP*		**P**	**16 41 11.6**	**-1.7**
MODS	**Modra-Piesok**	**66.34**	**10**	*eP*		**P**	**16 41 15.4**	**+2.0**
MODS	**Modra-Piesok**	**66.34**	**10**	*eP*		**P**	**16 41 15.4**	**+2.0**
CONA	**Conrad Observa**	**66.68**	**11**	P		**P**	**16 41 18.8**	**+3.2**
	comp=Z,6.8nm,1.4s							
SQTA	**Sankt Quirin**	**66.94**	**15**	*eP*		**P**	**16 41 17.5**	**+0.2**
	comp=Z,7.3nm,1.0s							
WTTA	**Wattenberg**	**66.95**	**14**	*eP*		**P**	**16 41 20.7**	**+3.2**
	comp=Z,9.7nm,1.0s							
SORM	**Soroca**	**67.07**	**2**	⇓P		**P**	**16 41 16.1**	**-1.8**
SORM	**Soroca**	**67.07**	**2**	⇓P		**P**	**16 41 16.1**	**-1.8**
MATN	**Matagalpa**	**67.16**	**109**	P		**P**	**16 41 18.0**	**-1.0**
DAVOX	**Davos/Dischmat**	**67.23**	**16**	P		**P**	**16 41 20.9**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=345,slow=15,SNR=5.9							
AAK	**Ala-Archa**	**67.35**	**327**	*c iP*		**P**	**16 41 22.7**	**+2.6**
AAK				pmax	pmax			
	comp=Z,53nm,1.3s							
BMR	**Baia Mare**	**67.39**	**5**	⇑P		**P**	**16 41 23.0**	**+2.9**
BMR	**Baia Mare**	**67.39**	**5**	⇑P		**P**	**16 41 23.0**	**+2.9**
BUR08	**Bucovina Ar. S**	**67.49**	**4**	P		**P**	**16 41 19.8**	**-1.0**
BUR08				IAmb	IAmb		16 41 31.9	
	comp=Z,16nm,1.4s							
BURAR	**Bucovina Array**	**67.52**	**4**	⇑P		**P**	**16 41 19.9**	**-1.1**
BURAR	**Bucovina Array**	**67.52**	**4**	⇑P		**P**	**16 41 19.9**	**-1.1**
ABTA	**Abfaltersbach**	**67.55**	**14**	*eP*		P	16 41 26.3	+5.2
	comp=Z,6.8nm,1.3s							
SDDR	**Presa de Saban**	**67.78**	**93**	P		**P**	**16 41 21.7**	**-1.3**
SDDR				IAmb	IAmb		16 42 01.7	
	comp=Z,15nm,1.1s							
KK31	**Karatay Array**	**67.80**	**330**	P		**P**	**16 41 21.0**	**-1.7**
KK31				IAmb	IAmb		16 41 26.6	
	comp=Z,13nm,1.2s							
KKAR	**Karatay Array**	**67.80**	**330**			pP	16 41 25.0	-1.9
KKAR	**Karatay Array**	**67.80**	**330**	P		**P**	**16 41 20.9**	**-1.9**
DZA	**Taraz**	**67.82**	**329**	*eP*		**P**	**16 41 24.2**	**+1.3**
DZA	**Taraz**	**67.82**	**329**	*eP*		**P**	**16 41 24.2**	**+1.3**
OBKA	**Obir**	**67.97**	**12**	*eP*		P	16 41 29.2	+5.4
	comp=Z,12nm,0.8s							
BIZ	**Bicaz**	**68.22**	**4**	⇓P		**P**	**16 41 27.1**	**+1.9**
MILM	**Milestii Mici**	**68.29**	**2**	⇓P		**P**	**16 41 30.3**	**+4.6**
SIRR	**Siria**	**68.72**	**7**	⇑P		**P**	**16 41 31.8**	**+3.4**
IUG	**Iuzhnay**	**68.81**	**330**	*eP*		**P**	**16 41 29.3**	**0.0**
IUG	**Iuzhnay**	**68.81**	**330**	*eP*		**P**	**16 41 29.2**	**0.0**
DOPR	**Dopca**	**69.17**	**4**	⇓P		**P**	**16 41 30.2**	**-1.1**
VRI	**Vrincioaia**	**69.30**	**3**	⇓P		**P**	**16 41 29.2**	**-2.9**
VRI	**Vrincioaia**	**69.30**	**3**	⇓P		**P**	**16 41 29.2**	**-2.9**
PLOR	**Plostina**	**69.32**	**3**	⇓P		**P**	**16 41 33.4**	**+1.2**
PLOR	**Plostina**	**69.32**	**3**	⇓P		**P**	**16 41 33.4**	**+1.2**
BZS	**Buzias**	**69.36**	**7**	⇑P		**P**	**16 41 35.7**	**+3.3**
BZS	**Buzias**	**69.36**	**7**	⇑P		**P**	**16 41 35.7**	**+3.3**
GZR	**Gura Zlata**	**69.64**	**6**	⇑P		**P**	**16 41 37.0**	**+2.8**
GZR	**Gura Zlata**	**69.64**	**6**	⇑P		**P**	**16 41 37.0**	**+2.8**
MLR	**Muntele Rosu**	**69.66**	**4**	⇑P		P	16 41 41.1	+6.7
MLR	**Muntele Rosu**	**69.66**	**4**	⇑P		P	16 41 41.1	+6.7
VOIR		**69.69**	**4**	⇑P		**P**	**16 41 37.8**	**+3.3**
VOIR		**69.69**	**4**	⇑P		**P**	**16 41 37.8**	**+3.3**
GOF	**Gofitskoye**	**69.76**	**351⇑**	*eP*		**P**	**16 41 38.8**	**+3.9**
JTS	**Las Juntas de**	**69.94**	**110**	LR	LR		17 17 39.0	
	comp=Z,180nm,18.3s,baz=48,slow=40							
KSH	**Kashi**	**69.95**	**324**	P		**P**	**16 41 37.4**	**+1.1**
KSH				S		**S**	**16 50 46.6**	**+0.7**
KSH				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KSH				pmax	pmax			
	comp=Z,49nm,3.1s							
KSH				LR	LR			
	comp=Z,280nm,12.7s							
KSH				LR	LR			
	comp=Z,970nm,16.3s							
MDVR	**Moldovita**	**70.20**	**7**	⇓P		**P**	**16 41 40.3**	**+2.7**
BTK	**Batken**	**70.64**	**329**	P		**P**	**16 41 38.5**	**-2.0**
KIV	**Kislovodsk**	**70.88**	**351**	*eP*		**P**	**16 41 45.1**	**+3.2**
KIV				pmax	pmax			
	comp=Z,23nm,1.0s							
KIV				MLR	MLR			
	comp=Z,155nm,17.0s							
KBZ	**Khabaz**	**71.09**	**351**	P		**P**	**16 41 44.6**	**+1.6**
	comp=Z,3.1nm,0.8s,baz=112,slow=5.4,SNR=3.4							
KBZ	**Khabaz**	**71.09**	**351⇑**	*eP*		**P**	**16 41 44.4**	**+1.4**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ZEI	**Tsey**	**71.96**	**350**	*eP*		P	16 41 54.0	+5.5
ZEI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ESDC	**Sonseca Array**	**72.03**	**28**	P		**P**	**16 41 48.5**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=341,slow=5.6,SNR=12							
ESDC				LR	LR		17 13 38.9	
	comp=Z,82nm,21.5s,baz=30,slow=36							
ESDC	**Sonseca Array**	**72.03**	**28**	P		**P**	**16 41 49.0**	**+0.2**
GYA	**Guiyang**	**72.08**	**294**	⇓P		**P**	**16 41 52.8**	**+3.4**
GYA				S		**S**	**16 51 11.5**	**+0.6**
GYA				SS		**SS**	**16 55 43.3**	**-3.9**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
GYA				LR	LR			
	comp=Z,270nm,11.4s							
GYA				LR	LR			
	comp=Z,300nm,14.1s							
PDG	**Podgorica**	**72.40**	**9**	⇓P		**P**	**16 41 54.6**	**+3.8**
TAOE	**Nuku Hiva Isla**	**74.07**	**171**	*e* LR	LR		17 04 41.4	
	comp=Z,149nm,22.6s							
KMI	**Kunming**	**74.78**	**297**	⇓P		P	16 42 10.8	+5.4
KMI				pmax	pmax			
	comp=Z,18nm,0.9s							
GEYT	**Alibeck**	**75.11**	**338**	P		**P**	**16 42 08.0**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=306,slow=3.5,SNR=5.9							
GEYT	**Alibeck**	**75.11**	**338**			pP	16 42 11.0	-0.2
BRTR	**Keskin Array B**	**75.47**	**358**	P		**P**	**16 42 08.6**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=163,slow=1.3,SNR=4.0							
BRTR	**Keskin Array B**	**75.47**	**358**			pP	16 42 12.8	-0.5
NIL	**Nilore**	**76.20**	**325**	P		**P**	**16 42 11.5**	**-1.7**
QIZ	**Qiongzhong**	**77.51**	**288**	P		**P**	**16 42 19.6**	**-1.1**
QIZ				S		**S**	**16 52 11.0**	**-0.3**
QIZ				LR	LR			
	comp=Z,250nm,17.7s							
QIZ				LR	LR			
	comp=Z,480nm,18.1s							
QIZ				LR	LR			
	comp=Z,330nm,15.2s							
MARD	**Mardin**	**77.61**	**352**	P		**P**	**16 42 19.9**	**-1.4**
TAPN	**Taplejung**	**78.02**	**311**	*eP*		**P**	**16 42 27.4**	**+3.5**
	comp=Z,34nm,0.8s							
GUN	**Gumba**	**78.08**	**312**	*eP*		**P**	**16 42 26.9**	**+2.7**
	comp=Z,35nm,1.1s							
DANN	**Dangsing**	**78.32**	**314**	*eP*		**P**	**16 42 28.0**	**+2.5**
	comp=Z,36nm,0.9s							
GKN	**Gorkha**	**78.38**	**313**	*eP*		**P**	**16 42 29.1**	**+3.4**
	comp=Z,9.8nm,0.5s							
KKN	**Kakani**	**78.38**	**313**	*eP*		**P**	**16 42 29.2**	**+3.5**
	comp=Z,24nm,1.0s							
MDT	**Midelt**	**78.52**	**30**	P		**P**	**16 42 29.5**	**+3.2**
	comp=Z,1.6nm,0.5s,baz=348,slow=3.9,SNR=4.9							
PKIN	**Phulchoki**	**78.54**	**313**	*eP*		**P**	**16 42 29.0**	**+2.3**
	comp=Z,12nm,0.9s							
PKI	**Pulchoki**	**78.54**	**313**	*eP*		**P**	**16 42 29.1**	**+2.3**
	comp=Z,37nm,1.3s							
ODAN	**Odare**	**78.58**	**311**	*eP*		**P**	**16 42 29.7**	**+2.8**
PYUN	**Piuthan**	**78.79**	**315**	*eP*		**P**	**16 42 30.3**	**+2.3**
	comp=Z,41nm,1.0s							
KOLN	**Koldanda**	**78.91**	**314**	*eP*		**P**	**16 42 31.0**	**+2.3**
	comp=Z,16nm,0.9s							
CMAR	**Chiang Mai Arr**	**82.28**	**297**	P		**P**	**16 42 45.4**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=4.1,slow=5.5,SNR=3.9							
CMAR				LR	LR		17 22 13.7	
	comp=Z,239nm,18.1s,baz=35,slow=38							
CMAR	**Chiang Mai Arr**	**82.28**	**297**	*i P*		**P**	**16 42 49.5**	**+2.9**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**82.28**	**297**	P		**P**	**16 42 45.1**	**-1.5**
PPT	**Papeete**	**82.43**	**181**	LR	LR		17 13 36.3	
	comp=Z,174nm,20.4s,baz=348,slow=31							
PPT2	**Papeete2**	**82.45**	**181**	*e* LR	LR		17 08 30.7	
	comp=Z,152nm,21.5s,baz=358							
HNR	**Honiara**	**83.40**	**231**	LR	LR		17 15 03.7	
	comp=Z,75nm,20.4s,baz=52,slow=32							
TBI	**Tubuai**	**88.18**	**180**	*e* LR	LR		17 11 08.0	
	comp=Z,162nm,22.2s							
ATAH	**Atahualpa**	**88.42**	**111**	LR	LR		17 26 53.6	
	comp=Z,77nm,18.4s,baz=359,slow=38							
PTGA	**Pitinga**	**90.25**	**91**	LR	LR		17 26 32.2	
	comp=Z,52nm,18.3s,baz=334,slow=37							
DZM	**Mont Dzumac**	**93.37**	**221**	LR	LR		17 25 32.4	
	comp=Z,68nm,18.6s,baz=18,slow=35							
DZM	**Mont Dzumac**	**93.37**	**221**	*e* LR	LR		17 13 33.4	
	comp=Z,153nm,28.1s							
NNA	**Nana**	**93.45**	**111**	LR	LR		17 30 29.8	
	comp=Z,57nm,18.2s,baz=3.0,slow=39							
RAO	**Raoul Island**	**96.71**	**205**	LR	LR		17 22 34.0	
	comp=Z,48nm,20.4s,baz=294,slow=32							
RPN	**Rapa Nui**	**96.94**	**145**	LR	LR		17 18 09.2	
	comp=Z,122nm,21.4s,baz=193,slow=30							
CTA	**Charters Tower**	**98.03**	**239**	LR	LR		17 23 45.5	
	comp=Z,75nm,19.3s,baz=248,slow=33							
TORD	**Torodi Ar. Bea**	**98.89**	**29**	LR	LR		17 29 07.6	
	comp=Z,38nm,21.9s,baz=285,slow=36							
PLCA	**Paso Flores**	**121.65**	**119**	PKP		**PKiKP**	**16 49 18.9**	**+0.7**
	comp=Z,1.6nm,1.0s,baz=243,slow=8.6,SNR=3.0							
BOSA	**Boshof**	**143.30**	**8**	PKP		**PKPdf**	**16 49 58.2**	**-0.8**
	comp=Z,3.9nm,0.8s,baz=347,slow=2.5,SNR=8.0							
VNDA	**Vanda**	**145.51**	**197**	PKPbc		**PKPdf**	**16 50 00.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=72,slow=2.1,SNR=2.4							
VNA3	**Neumayer Olymp**	**163.99**	**130**	Pdiff		**PKPab**	**16 51 18.3**	**-1.6**
SNAA	**Sanae**	**166.11**	**133**	Pdiff		**PKPab**	**16 51 28.2**	**-1.1**

*DDA **23** 16:38:58.5, 40.39N×30.14E, h7km±2km, ML2.1*

ISK 23 16:38:58.9, 40.42N×30.13E, h5km, ML2.5/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYV	**SAKARYA_Geyve**	**0.14**	**61**	*i* P	Pg	16 39 02.0	+0.2
GEYV				IAML		16 39 04.0	
	comp=N,1μm,0.4s						
GEYV				*i* S	Sg	16 39 04.5	+0.8
GEYV				IAML		16 39 07.0	
	comp=E,659nm,0.6s						
GULT	**Gulveren**	**0.29**	**87**	PG	Pg	16 39 04.8	+0.2
GULT				SG	Sg	16 39 09.8	+1.3
SPNC	**Sapanca-Adapaz**	**0.30**	**26**	PG	Pg	16 39 05.3	+0.5
SPNC				SG	Sg	16 39 10.2	+1.4
ADVT	**Abdulvahap**	**0.30**	**273**	PG	Pg	16 39 05.1	+0.3
ADVT				SG	Sg	16 39 09.9	+1.1
CAVI	**Cavuskoy**	**0.31**	**226**	PG	Pg	16 39 05.2	+0.3
CAVI				SG	Sg	16 39 10.4	+1.4
SAUV	**Serdivan-Sakar**	**0.36**	**24**	PG	Pg	16 39 06.3	+0.5
SAUV				SG	Sg	16 39 11.2	+0.7
AUBOZ	**BOZOYUK**	**0.51**	**189**	*i* P	Pg	16 39 08.5	-0.3
AUBOZ				*i* S	Sg	16 39 15.5	+0.1
SRCK	**Saricakaya, Es**	**0.53**	**135**	PG	Pg	16 39 09.2	+0.1
SRCK				SG	Sg	16 39 16.9	+0.9
HRT	**Hereke**	**0.54**	**319**	PG	Pg	16 39 09.6	+0.3
HRT				SG	Sg	16 39 16.3	0.0
BORA	**Eskisehir**	**0.59**	**155**	*i* P	Pg	16 39 09.9	-0.3
BORA				*i* S	Sg	16 39 18.7	+0.8
BORA				IAML		16 39 19.0	
	comp=E,89nm,0.2s						
YLVH	**Yalova**	**0.65**	**296**	PG	Pb	16 39 12.1	-0.5
YLVH				SG	Sb	16 39 20.9	-1.0
KAND	**Kocaeli-Kandir**	**0.68**	**4**	*i* P	Pg	16 39 12.1	+0.2
KAND				*i* S	Sb	16 39 22.0	-0.9
KAND				IAML		16 39 23.0	
	comp=N,27nm,0.3s						
GEMT	**Gemlik**	**0.72**	**272**	PG	Pb	16 39 13.7	-0.2
IGD	**Bursa**	**0.73**	**258**	*i* P	Pg	16 39 12.2	-0.7
IGD				*i* S	Sb	16 39 23.8	-0.5
ULDT	**Uludag**	**0.81**	**251**	*i* P	Pg	16 39 11.8	-2.6
ULDT				*i* S	Sb	16 39 28.0	+1.1
MDUB	**Mudurnu**	**0.81**	**86**	PG	Pb	16 39 15.2	-0.4
MDUB				SG	Sb	16 39 27.0	+0.1
SILT	**Sile**	**0.82**	**333**	PG	Pb	16 39 15.6	-0.1
ARMT	**Armutlu**	**0.98**	**279**	PG	Pg	16 39 17.7	0.0
ARMT				SG	Sb	16 39 32.1	+0.5
ORLT	**Orhaneli**	**1.02**	**249**	PG	Pn	16 39 19.7	-0.1
KAVV	**Kandilli-Istan**	**1.04**	**309**	PG	Pn	16 39 19.8	-0.3
KAVV				SG	Sb	16 39 33.9	+0.6
ISK	**Istanbul-Kandi**	**1.04**	**309**	PG	Pb	16 39 19.3	-0.1
ISK				SG	Sn	16 39 34.2	-0.8
TVSB	**Tavsanli**	**1.09**	**208**	PN	Pb	16 39 20.4	+0.1
TVSB				SN	Sn	16 39 36.1	-0.4
KLYT	**Kilyos**	**1.18**	**316**	PN	Pg	16 39 21.4	-0.1
YUVA	**Yuva-Kibriscik**	**1.19**	**91**	PN	Pn	16 39 22.4	+0.2
BGKT	**Bogazkoy**	**1.28**	**307**	PN	Pg	16 39 24.0	+0.5
SVRH	**Sivrihisar-ESK**	**1.44**	**132**	PN	Pb	16 39 26.3	0.0
GEDZ	**Gediz**	**1.48**	**202**	PN	Pb	16 39 27.0	+0.1
CTKS	**Kestanelik-??a**	**1.48**	**304**	PN	Pn	16 39 26.5	+0.4
SIMA	**Simav-Kutahya**	**1.60**	**214**	PN	Pn	16 39 28.3	+0.4
SLVT	**Silivri**	**1.67**	**300**	PN	Pb	16 39 29.7	-0.4
CTYL	**Yalikoy Yolu**	**1.75**	**308**	PN	Pb	16 39 31.1	-0.4

INET 23 16:59:31.0, 11.4°45N×87.9°90W, h15km, ML3.5, Near coast of Nicaragua

IDC 23 17:02:34.5±2.5, 13.74°N×56.46°E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/40, mbtmp3.6/5, ML2.9/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/43, Error ellipse: s-maj=84.3km s-min=32.7km az=71.0, Socotra region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.67**	**12**	Pn	Pn	17 04 54.1	-0.8
	0.1nm,0.3s,baz=112,slow=16,SNR=1.5						
WSAR				LR	LR	17 08 12.0	
	comp=Z,233nm,19.1s,baz=204,slow=35						
MKAR	**Makanchi Array**	**39.42**	**28**	P	P	17 10 06.5	+0.2
	0.1nm,0.4s,baz=220,slow=6.0,SNR=1.8						
FINES	**FINESS Array B**	**52.42**	**342**	P	P	17 11 48.5	0.0
	4.7nm,1.1s,baz=155,slow=15,SNR=1.6						
NOA	**NORSAR Array B**	**57.37**	**336**	LR	LR	17 39 54.7	
	comp=Z,14nm,18.0s,baz=350,slow=39						
H01W3	**Cape Leeuwin H**	**72.97**	**133**	T	T	18 33 30.1	
	baz=302,slow=75,SNR=32						
H01W2	**Cape Leeuwin H**	**72.98**	**133**	T	T	18 33 31.8	
	baz=302,slow=75,SNR=34						
H01W1	**Cape Leeuwin H**	**72.99**	**133**	T	T	18 33 33.0	
	baz=302,slow=75,SNR=32						
WRA	**Warramunga Arr**	**83.57**	**112**	P	P	17 15 05.6	+0.4
	0.4nm,0.8s,baz=299,slow=4.3,SNR=2.7						
ASAR	**Alice Springs**	**84.29**	**116**	P	P	17 15 08.5	-0.4
	0.4nm,0.8s,baz=295,slow=5.2,SNR=6.2						

*IDC **23** 17:04:38.1±1.2, 13.88°N×56.87E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/37, mbtmp3.7/8, Error ellipse: s-maj=40.1km s-min=23.4km az=40.0*

ISC 23 17:04:39.8±1.2, 13.9°N±0.2×56.8°E±0.2, h10km, n12, σ0°71/9, mb3.8/9, Socotra region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBZ	**Khabaz**	**32.05**	**341**	P	**P**	**17 11 07.3**	**+0.7**
	1.6nm,0.8s,baz=177,slow=8.0,SNR=4.0						
BRTR	**Keskin Array B**	**32.84**	**326**	P	**P**	**17 11 13.6**	**-0.2**
	0.6nm,0.9s,baz=163,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**39.12**	**28**	P	**P**	**17 12 08.0**	**+0.6**
	0.3nm,0.7s,baz=188,slow=8.7,SNR=2.3						
AKASG	**Malin Array Be**	**43.01**	**334**	P	**P**	**17 12 38.8**	**-0.5**
	1.0nm,0.7s,baz=142,slow=6.7,SNR=3.2						
FINES	**FINESS Array B**	**52.40**	**342**	P	**P**	**17 13 51.5**	**-0.5**
	2.6nm,0.9s,baz=98,slow=12,SNR=4.1						
TORD	**Torodi Ar

AAK	**Ala-Archa**	**6.55**	**28**	⇑P	Pn	17 18 22.9	-0.2
	0.7nm,0.3s							
AAK				⇑S	Sn	17 19 39.3	+0.7
	2.1nm,0.6s							
AB31	**Akbulak array**	**14.49**	**332**	⇓P	Pn	17 20 09.7	-1.9
	0.3nm,0.3s,baz=170,slow=13,SNR=20							

INET ***23*** *17:16:55.9, 11°.92N×87°.55W, h12km, ML3.3*
NEIC ***23*** *17:16:56.1±2.3, 12°.16N±0°.06×87°.52W±0°.08, h55km±22km, mb4.2/4, Error ellipse: s-maj=14.2km s-min=3.9km az=56.0*
IDC ***23*** *17:16:58.5±2.4, 12°.59N×86°.83W, h58km±36km, mb3.7/2, mb1 3.8/4, mb1mx3.4/49, mbtmp3.7/4, ML3.1/2, Error ellipse: s-maj=102.3km s-min=15.9km az=47.0*

ISC 23 17:16:55.4±1.1, 12°.09N±0°.09×87°.53W±0°.09, h48km, n18, σ1§20/18, mb4.2/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.76**	**38**	Pn	**Pn**	**17 17 12.3**	**+2.4**
CSGN	**Cosiguina Volc**	**0.88**	**358**	Pn	**Pn**	**17 17 12.9**	**+1.3**
MATN	**Matagalpa**	**1.77**	**62**		**Pn**	**17 17 23.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.97**	**7**		**Pn**	**17 17 27.2**	**+0.8**
ACON	**Acoyapa**	**2.30**	**93**	Pn	**Pn**	**17 17 30.2**	**-0.7**
MTO3	**Montecristo**	**2.91**	**322**	Pn	**Pn**	**17 17 38.9**	**-0.5**
JTS	**Las Juntas de**	**3.10**	**125**	P	**Pn**	**17 17 44.3**	**+2.5**
	1.6nm,0.3s,baz=341,slow=15,SNR=12							
JTS				S	**Sn**	**17 18 17.0**	**-0.5**
	3.5nm,0.3s,baz=334,slow=14,SNR=4.9							
JTS	**Las Juntas de**	**3.10**	**125**		**Pn**	**17 17 43.0**	**+1.2**
ESPN	**Las Esperanzas**	**3.16**	**88**	Pn	**Pn**	**17 17 41.5**	**-1.1**
APG	**El Apazote**	**4.07**	**316**	P	Pn	17 18 03.1	+7.8
	1.4nm,0.3s,baz=128,slow=19,SNR=1.7							
TXAR	**Lajitas Array**	**22.80**	**321**	P	**P**	**17 21 55.2**	**+0.9**
	2.0nm,0.8s,baz=137,slow=11,SNR=12							
TXAR	**Lajitas Array**	**22.80**	**321**	P	**P**	**17 21 53.7**	**-0.6**
TX31	**Lajitas Ar. Si**	**22.80**	**321**	P	**P**	**17 21 54.6**	**+0.3**
TX32	**Lajitas Array**	**22.80**	**321**	P	**P**	**17 21 53.8**	**-0.5**
JSC	**Jenkinsville**	**22.82**	**13**	P	**P**	**17 21 53.6**	**-0.6**
JSC				IAmb	IAmb	17 22 11.4	
	comp=Z,7.3nm,0.7s							
MIAR	**Mount Ida**	**23.02**	**347**	P	**P**	**17 21 57.3**	**+1.0**
MIAR				IAmb	IAmb	17 21 58.4	
	comp=Z,7.2nm,0.8s							
ULM	**Lac du Bonnet**	**38.66**	**351**	P	**P**	**17 24 13.3**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=157,slow=13,SNR=2.9							
CMAR	**Chiang Mai Arr**	**148.98**	**348**	PKPbc	**PKiKP**	**17 36 40.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=341,slow=3.6,SNR=9.6							

UCR 23 17:17:51.2±0.3, 9°.74N×84°.26W, h16km±10km, MD3.9, Costa Rica

SJA ***23*** *17:19:54.9±0.6, 22°.54S×65°.17W, h366km±11km, ML4.2, MW4.5*
NEIC ***23*** *17:19:56.6±1.4, 22°.61S±0°.08×65°.1W±0°.1, h336km±9km, mb4.2/10, Md3.9(SJA), Error ellipse: s-maj=13.6km s-min=12.3km az=96.0*
IDC ***23*** *17:19:56.1±0.9, 22°.55S×65°.13W, h330km±12km, mb3.3/3, mb1 3.6/8, mb1mx3.3/40, mbtmp4.2/8, Error ellipse: s-maj=16.6km s-min=14.4km az=113.0*
VAO ***23*** *17:19:57.7±0.4, 22°.56S×65°.25W, h360km±5km, mb4.3*
GUC ***23*** *17:19:57.8±0.8, 22°.59S×65°.43W, h349km±4km, MW4.5*

ISC 23 17:19:57.0±0.5, 22°.62S±0°.04×65°.32W±0°.05, h350km, n131, σ1§41/167, mb4.1/7, 17C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**0.48**	**338**	*eP*	**Pn**	**17 20 42.0**	**+0.1**
YJA				*eS*	**S**	**17 21 16.7**	**-1.0**
HJA	**Humahuaca**	**0.59**	**188**	*eP*	**Pn**	**17 20 42.3**	**+0.3**
ASTB	**Santa Barbara**	**1.54**	**149**	*eP*	**Pn**	**17 20 45.7**	**+0.1**
AZAP	**Zapla**	**1.61**	**172**	*eP*	**Pn**	**17 20 45.8**	**-0.3**
AZAP				*eS*	S	17 21 15.4	-10
AZAP				IAML		17 21 24.9	
	comp=Z,203nm,1.8s						
SLA	**San Lorenzo**	**2.10**	**185**	⇓*iP*	**Pn**	**17 20 49.8**	**+0.6**
SLA				*eS*	**S**	**17 21 30.1**	**-1.0**
SLA	**San Lorenzo**	**2.10**	**185**	*eP*	**Pn**	**17 20 49.9**	**+0.7**
SLA				*eS*	**S**	**17 21 31.1**	**0.0**
LVC	**Limon Verde**	**3.32**	**269**	P	**Pn**	**17 21 00.6**	**+0.9**
	comp=Z,172nm,0.3s,baz=94,slow=5.6,SNR=236						
LVC				S	**S**	**17 21 49.0**	**-1.1**
	comp=Z,6.2nm,0.3s,baz=340,slow=22,SNR=7.3						
LVC	**Limon Verde**	**3.32**	**269**	*eP*	**Pn**	**17 21 00.6**	**+0.9**
LVC				*eS*	**S**	**17 21 48.7**	**-1.4**
LVC	**Limon Verde**	**3.32**	**269**	*eP*	**Pn**	**17 21 00.7**	**+0.9**
LVC	**Limon Verde**	**3.32**	**269**	*eP*	**Pn**	**17 21 00.6**	**+0.9**
FSA	**Cafayete**	**3.53**	**190**	*eP*	**Pn**	**17 21 01.4**	**-0.1**
PB09	**IPOC Station P**	**3.73**	**282**	⇑*iP*	**Pn**	**17 21 04.7**	**+1.2**
PB09				*eS*	**S**	**17 21 55.5**	**-1.5**
PB09	**IPOC Station P**	**3.73**	**282**	Pn	**Pn**	**17 21 04.7**	**+1.2**
PB15	**IPOC Station P**	**3.87**	**260**	⇑*iP*	**Pn**	**17 21 05.8**	**+0.8**
PB15				*eS*	**S**	**17 21 58.2**	**-1.5**
PB15	**IPOC Station P**	**3.87**	**260**		**Pn**	**17 21 05.8**	**+0.8**
PB15				S	**S**	**17 21 57.9**	**-1.8**
PB06	**IPOC Station P**	**3.93**	**268**	⇑*iP*	**Pn**	**17 21 06.0**	**+0.5**
PB06	**IPOC Station P**	**3.93**	**268**	Pn	**Pn**	**17 21 06.0**	**+0.5**
PB06				S	**S**	**17 21 59.1**	**-1.6**
PB03	**IPOC Station P**	**4.14**	**277**	⇑*iP*	**Pn**	**17 21 08.2**	**+0.5**
PB03				*eS*	**S**	**17 22 02.5**	**-2.2**
AHML	**Horco Molle**	**4.15**	**180**	⇓*eP*	**Pn**	**17 21 07.5**	**0.0**
AHML				*eS*	**S**	**17 22 02.4**	**-2.1**
AHML	**Horco Molle**	**4.15**	**180**	*eP*	**Pn**	**17 21 07.9**	**+0.3**
AHML				*eS*	**S**	**17 22 04.6**	**+0.1**
PB01	**IPOC Station P**	**4.18**	**291**	⇑*iP*	**Pn**	**17 21 08.5**	**+0.5**
PB01				*eS*	**S**	**17 22 03.0**	**-2.2**
PB01	**IPOC Station P**	**4.18**	**291**		**Pn**	**17 21 08.5**	**+0.5**
PB01					**S**	**17 22 02.8**	**-2.4**
PB07	**IPOC Station P**	**4.32**	**281**	⇑*eP*	**Pn**	**17 21 10.1**	**+0.4**
PB07				*eS*	**S**	**17 22 05.8**	**-2.3**
PB07	**IPOC Station P**	**4.32**	**281**		**Pn**	**17 21 10.0**	**+0.4**
PB08	**IPOC Station P**	**4.34**	**304**	⇑*iP*	**Pn**	**17 21 11.1**	**+1.0**
PB08				*eS*	**S**	**17 22 07.5**	**-1.4**
PB08	**IPOC Station P**	**4.34**	**304**		**Pn**	**17 21 11.0**	**+1.0**
PB08					**S**	**17 22 07.2**	**-1.7**
PB02	**IPOC Station P**	**4.44**	**286**	⇑*eP*	**Pn**	**17 21 11.0**	**+0.2**
PB02				*eS*	**S**	**17 22 08.0**	**-2.3**
PB04	**IPOC Station P**	**4.47**	**273**	⇑*iP*	**Pn**	**17 21 11.3**	**+0.1**
PB04				*eS*	**S**	**17 22 09.1**	**-1.9**
PB04	**IPOC Station P**	**4.47**	**273**		**Pn**	**17 21 11.2**	**+0.1**
PB05	**IPOC Station P**	**4.51**	**266**	⇑*iP*	**Pn**	**17 21 11.2**	**-0.3**
GO02	**Mina Guanaco**	**4.66**	**236**	*eP*	**Pn**	**17 21 13.7**	**+0.5**
GO02	**Mina Guanaco**	**4.66**	**236**	Pn	**Pn**	**17 21 13.7**	**+0.5**
GO02				S	**S**	**17 22 12.9**	**-1.9**
GO01	**Chusmiza**	**4.66**	**308**	⇑*eP*	**Pn**	**17 21 14.1**	**+0.5**
GO01	**Chusmiza**	**4.66**	**308**		**Pn**	**17 21 14.1**	**+0.5**
GO01				S	**S**	**17 22 12.1**	**-3.1**
PATCX	**Punta Patache**	**4.84**	**291**	⇑*iP*	**Pn**	**17 21 15.2**	**+0.2**
PATCX				*eS*	**S**	**17 22 14.9**	**-3.1**
PATCX	**Punta Patache**	**4.84**	**291**		**Pn**	**17 21 15.2**	**+0.2**
PATCX					**S**	**17 22 14.8**	**-3.2**
PB10	**IPOC Station P**	**4.90**	**259**	⇑*iP*	**Pn**	**17 21 15.2**	**-0.4**
PB10				*eS*	**S**	**17 22 16.1**	**-3.0**
PB11	**IPOC Station P**	**4.95**	**304**	⇑*iP*	**Pn**	**17 21 16.1**	**-0.1**
PB11				*eS*	**S**	**17 22 17.5**	**-2.8**
PB11	**IPOC Station P**	**4.95**	**304**		**Pn**	**17 21 16.2**	**-0.1**
PB11					**S**	**17 22 17.3**	**-3.0**
TA01	**Diego Aracena**	**4.96**	**293**	⇑*iP*	**Pn**	**17 21 16.2**	**-0.2**
TA01				*eS*	**S**	**17 22 16.6**	**-3.8**
TA01	**Diego Aracena**	**4.96**	**293**	Pn	**Pn**	**17 21 16.1**	**-0.2**
TA01					**S**	**17 22 16.6**	**-3.8**
TA02	**Huaiquique**	**5.05**	**297**	*eP*	**Pn**	**17 21 17.1**	**-0.2**
PB14	**IPOC Station P**	**5.07**	**246**	⇑*iP*	**Pn**	**17 21 17.6**	**-0.2**
PB14				*i* S	**S**	**17 22 20.7**	**-2.3**
PB14	**IPOC Station P**	**5.07**	**246**		**Pn**	**17 21 17.4**	**-0.3**
PB14	**IPOC Station P**	**5.07**	**246**	*eP*	**Pn**	**17 21 18.1**	**+0.3**
PB14				*eS*	**S**	**17 22 20.9**	**-2.1**
MNMC	**Minye Minye**	**5.29**	**310**	⇑*eP*	**Pn**	**17 21 20.7**	**+0.4**
MNMC	**Minye Minye**	**5.29**	**310**		**Pn**	**17 21 20.6**	**+0.4**
MNMC					**S**	**17 22 25.5**	**-2.1**
PSGCX	**Pisagua**	**5.40**	**303**		**Pn**	**17 21 20.6**	**-0.6**
PSGC	**Pisagua**	**5.40**	**303**	*eP*	**Pn**	**17 21 20.2**	**-1.0**
AC02	**Maricunga**	**5.44**	**219**	*eP*	**Pn**	**17 21 23.1**	**+1.1**
AC02	**Maricunga**	**5.44**	**219**	Pn	**Pn**	**17 21 23.1**	**+1.1**
CYA	**Choya**	**5.81**	**184**	*eP*	**Pn**	**17 21 26.4**	**+0.7**
CYA				*eS*	**S**	**17 22 37.6**	**0.0**
AC01	**Pan de Azucar**	**5.96**	**233**	*eP*	**Pn**	**17 21 26.9**	**-0.5**
AC01				*eS*	**S**	**17 22 38.2**	**-2.4**
AC01	**Pan de Azucar**	**5.96**	**233**		**Pn**	**17 21 27.0**	**-0.3**
AP01	**Chacalluta**	**6.33**	**311**	Pn	**Pn**	**17 21 32.3**	**+0.6**
GO03	**Copiap**	**6.66**	**221**		**Pn**	**17 21 35.1**	**-0.4**
LPAZ	**La Paz**	**6.83**	**337**	P	**Pn**	**17 21 38.5**	**+0.2**
	comp=Z,14nm,0.3s,baz=118,slow=6.1,SNR=157						
LPAZ				S	**S**	**17 22 57.0**	**-3.2**
	comp=Z,2.5nm,0.3s,baz=263,slow=25,SNR=14						
LPAZ	**La Paz**	**6.83**	**337**	Pn	**Pn**	**17 21 38.3**	**+0.1**
LPAZ	**La Paz**	**6.83**	**337**	*eP*	**Pn**	**17 21 38.4**	**+0.2**
ACLC	**CERRO LA CRUZ**	**6.93**	**192**	*eP*	**Pn**	**17 21 38.1**	**-0.6**
ACLC				*eS*	**S**	**17 22 58.1**	**-3.3**
ACLC				IAML		17 22 59.7	
	comp=Z,76nm,0.5s						
AGUA	**GUANDACOL**	**7.41**	**202**	*eS*	**S**	**17 23 07.2**	**-4.3**
AC04	**Llanos de Chal**	**7.61**	**222**	Pn	**Pn**	**17 21 45.6**	**-0.9**
AC05	**El Transito**	**7.63**	**215**	Pn	**Pn**	**17 21 47.5**	**+0.6**
SIV	**San Ignacio**	**7.72**	**32**	P	**Pn**	**17 21 46.2**	**-1.8**
	comp=Z,6.4nm,0.3s,baz=216,slow=12,SNR=199						
APLL	**PUNTA DE LOS L**	**7.82**	**188**	*eP*	**Pn**	**17 21 47.8**	**-1.3**
LCO	**Las Campanas**	**8.00**	**216**	Pn	**Pn**	**17 21 51.5**	**+0.1**
CPUP	**Villa Florida**	**8.16**	**119**	P	**Pn**	**17 21 50.9**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=319,slow=12,SNR=5.2						
CO01	**Juntas del Tor**	**8.48**	**209**	Pn	**Pn**	**17 21 58.4**	**+1.3**
TCA	**Tanti**	**8.71**	**176**	*eP*	**Pn**	**17 21 59.0**	**-0.6**
TCA				*eS*	**S**	**17 23 35.6**	**-4.2**
TCA				IAML		17 23 42.3	
	comp=Z,6.1nm,3.8s						
GO04	**Tololo Observa**	**8.98**	**212**	Pn	**Pn**	**17 22 03.9**	**+0.8**
PTLB	**Pontes e Lacer**	**9.22**	**40**	*eP*	**Pn**	**17 22 04.5**	**-1.3**
ZON	**Zonda**	**9.38**	**198**	Pn	**Pn**	**17 22 07.0**	**-0.5**
CO03	**El Pedregal**	**9.49**	**209**	Pn	**Pn**	**17 22 09.9**	**+1.0**
CO02	**Combarbal**	**9.94**	**209**	Pn	**Pn**	**17 22 15.1**	**+0.9**
VILB	**Vilhena**	**10.78**	**28**	*eP*	**Pn**	**17 22 23.6**	**-0.9**
VA03	**San Esteban**	**11.11**	**203**		**P**	**17 22 29.3**	**+0.4**
ROC1	**El Roble**	**11.48**	**205**		**P**	**17 22 33.3**	**+0.2**
PEL	**Peldehue**	**11.50**	**203**		**P**	**17 22 33.9**	**+0.8**
TRCB	**Terra Rica**	**11.71**	**93**	*eP*	**Pn**	**17 22 34.6**	**-0.9**
MT05	**Reca**	**11.75**	**203**		**P**	**17 22 38.6**	**+2.8**
MT02	**Curacav**	**11.78**	**205**		**P**	**17 22 36.9**	**+0.8**
PTGB	**Pitanga**	**12.33**	**102**	*eP*	**Pn**	**17 22 42.3**	**-0.5**
ETMB	**Extrema**	**12.76**	**356**	*eP*	**Pn**	**17 22 47.3**	**-0.6**
ITAB	**Concordia**	**12.82**	**114**	*eP*	**Pn**	**17 22 47.9**	**-0.5**
BO02	**Sierra Bellavi**	**13.04**	**200**		**Pn**	**17 22 52.6**	**+1.6**
PCMB	**Pacaembu**	**13.07**	**88**	*eP*	**P**	**17 22 50.4**	**-0.2**
SAML	**Samuel**	**13.75**	**9**		**P**	**17 22 57.4**	**-0.7**
SAML	**Samuel**	**13.75**	**9**	*eP*	**P**	**17 22 58.0**	**0.0**
PLTB	**Pedras Altas**	**13.83**	**134**	*eP*	**Pn**	**17 23 00.0**	**-0.3**
ITRB	**Iturama**	**14.26**	**81**	*eP*	**P**	**17 23 03.6**	**0.0**
ARAG	**Araguaiana, MT**	**14.49**	**64**	*eP*	**P**	**17 23 06.3**	**0.0**
FRTB	**Fartura**	**14.53**	**96**	*eP*	**P**	**17 23 06.5**	**-0.1**
CLDB	**Colider**	**14.81**	**39**	*eP*	**P**	**17 23 08.7**	**-1.0**
BI02	**San Fabin de**	**14.91**	**199**		**P**	**17 23 11.8**	**+1.1**
BB19B	**Bebedouro**	**15.67**	**88**	*eP*	**P**	**17 23 18.9**	**-0.1**
CZSB	**Cruzeiro do Su**	**16.42**	**333**	*eP*	**P**	**17 23 28.0**	**+0.8**
IPMB	**Ipameri, GO**	**16.70**	**77**	*eP*	**P**	**17 23 29.6**	**-0.6**
VAO	**Valinhos**	**16.93**	**95**	*eP*	**P**	**17 23 32.0**	**-0.8**
SNDB	**Serra Nova Dou**	**17.06**	**54**	*eP*	**P**	**17 23 33.1**	**-0.9**
LC01	**Cunco**	**17.17**	**198**		**P**	**17 23 34.1**	**-0.9**
LC01				IAmb	IAmb	17 23 38.8	
	comp=Z,17nm,0.7s						
BDFB	**Brasilia**	**17.76**	**70**	P	**P**	**17 23 39.8**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=254,slow=9.4,SNR=5.2						
BDFB	**Brasilia**	**17.76**	**70**		**P**	**17 23 40.5**	**-1.2**
BDFB				IAmb	IAmb	17 23 44.8	
	comp=Z,6.1nm,0.8s						
PLCA	**Paso Flores**	**18.59**	**193**	P	**P**	**17 23 51.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=14,slow=10,SNR=32						
PLCA	**Paso Flores**	**18.59**	**193**	P	**P**	**17 23 52.8**	**+2.6**
PLCA				IAmb	IAmb	17 23 54.5	
	comp=Z,9.6nm,0.8s						
PLCA	**Paso Flores**	**18.59**	**193**	*eP*	**P**	**17 23 51.4**	**+1.2**
BSCB	**Bom Sucesso**	**19.15**	**89**	*eP*	**P**	**17 23 55.6**	**-0.8**
ITTB	**Itaituba**	**20.38**	**28**	*eP*	**P**	**17 24 06.1**	**-2.6**
JANB	**Januaria**	**21.24**	**73**	*eP*	**P**	**17 24 15.7**	**-0.9**
SMTB	**Santa Maria do**	**21.84**	**54**	*eP*	**P**	**17 24 21.6**	**-0.3**
SDBA	**SAO DESIDERIO**	**21.93**	**66**	*eP*	**P**	**17 24 22.1**	**-0.8**
PRPB	**Parauapebas**	**22.16**	**45**	*eP*	**P**	**17 24 24.5**	**-0.4**
PTGA	**Pitinga**	**22.37**	**14**	P	**P**	**17 24 26.0**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=201,slow=12,SNR=10						
PTGA	**Pitinga**	**22.37**	**14**	P	**P**	**17 24 26.0**	**-0.8**
GDU01	**Guandu, BA**	**25.98**	**75**	*eP*	**P**	**17 24 57.8**	**-1.5**
ROSB	**Rosrio**	**28.41**	**49**	*eP*	**P**	**17 25 20.6**	**-0.1**
X48A	**Hartselle**	**60.40**	**339**	P	**P**	**17 29 31.7**	**+1.2**
X48A				IAmb	IAmb	17 29 32.6	
	comp=Z,5.7nm,1.0s						
JSRW	**J. Sargeant Re**	**61.15**	**349**	P	**P**	**17 29 35.1**	**-0.3**
RCRC	**Randolf Colleg**	**61.16**	**347**	P	**P**	**17 29 37.2**	**+1.7**
BLA	**Blacksburg**	**61.19**	**346**	P	**P**	**17 29 37.5**	**+1.8**
TXAR	**Lajitas Array**	**63.49**	**323**	P	**P**	**17 29 53.0**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=135,slow=9.0,SNR=2.5						
DBIC	**Dimbokro**	**65.90**	**71**	P	**P**	**17 30 06.0**	**-0.8**
	comp=Z,17nm,0.7s,baz=194,slow=4.2,SNR=4.1						
DBIC	**Dimbokro**	**65.90**	**71**	P	**P**	**17 30 05.8**	**-0.9**
KOWA	**Kowa**	**70.45**	**64**	P	**P**	**17 30 34.3**	**-0.4**
KOWA				IAmb	IAmb	17 30 35.0	
	comp=Z,3.0nm,0.6s						
ISCO	**Idaho Springs**	**72.59**	**329**	P	**P**	**17 30 49.5**	**+2.2**
TOA0	**Torodi Ar. Sit**	**74.63**	**68**	P	**P**	**17 30 58.5**	**-0.7**
TOA0				IAmb	IAmb	17 30 59.4	
	comp=Z,5.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.63**	**68**	P	**P**	**17 30 58.6**	**-0.5**
	comp=Z,6.1nm,0.6s,baz=256,slow=5.4,SNR=30						
ASAR	**Alice Springs**	**130.34**	**203**	PKP	**PKiKP**	**17 38 29.2**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=132,slow=1.9,SNR=6.1						
WRA	**Warramunga Arr**	**133.54**	**206**	PKP	**PKiKP**	**17 38 35.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=154,slow=2.0,SNR=9.0						
MK31	**Makanchi Array**	**144.48**	**39**		**PKPdf**	**17 38 52.8**	**+0.7**
MKAR	**Makanchi Array**	**144.48**	**39**	PKP	**PKPdf**	**17 38 53.0**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=311,slow=3.7,SNR=22						
MKAR	**Makanchi Array**	**144.48**	**39**		**PKPdf**	**17 38 52.6**	**+0.6**

ANF ***23*** *17:25:22.9±0.3, 65°.16N×149°.07W, h11km±2km, ML3.8/16, Error ellipse: s-maj=2.7km s-min=2.0km az=17.0*
AEIC ***23*** *17:25:23±1.9, 65°.16N±0°.04×149°.09W±0°.03, h16km±7km, ML3.4, Mwr3.4/12(SLM), Error ellipse: s-maj=5.9km s-min=1.9km az=187.0*
NEIC ***23*** *17:25:23.2±1.6, 65°.16N±0°.04×149°.07W±0°.04, h13km±9km, Error ellipse: s-maj=5.7km s-min=2.3km az=184.0*
NEIC ***23*** *17:25:23, 65°.17N×149°.05W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=0.26; Mθθ=0.68; Mφφ 0.93; Mrθ=0.57; Mrφ=-1.14; Mθφ=0.16; Fault plane solution: Mo^1.53000×10^14 NP1:φs 195.00000°, δ 70.00000°, λ=-15.00000°. NP2:φs 290.00000°, δ 76.00000°, λ=-159.00000°. Principal axes: T 1.5316, Plg4.0000°, Azm62.0000°; N -0.0005, Plg65.0000°, Azm323.0000°; P -1.5311, Plg24.0000°, Azm154.0000°;*

ISC 23 17:25:23.0±0.8, 65°.16N±0°.02×149°.08W±0°.02, h14km±6km, n97, σ1§10/118, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23K	**Minto, Yukon-K**	**0.12**	**263**	P	**Pg**	**17 25 26.1**	**-0.3**
	baz=84,SNR=1000						
I23K				S	**Sg**	**17 25 28.6**	**-0.1**
	baz=84						
I23K	**Minto, Yukon-K**	**0.12**	**263**		**Pg**	**17 25 26.4**	**0.0**
I23K					**Sg**	**17 25 28.5**	**-0.1**
PS07	**TAPS Pump Stn7**	**0.37**	**66**		**Pg**	**17 25 30.9**	**+0.3**
PS07					**Sb**	**17 25 36.8**	**-0.1**
MDM	**Murphy Dome**	**0.41**	**119**		**Pg**	**17 25 31.2**	**-0.1**
MDM				Sg	**Sg**	**17 25 36.6**	**-0.3**
NEA2	**Nenana**	**0.57**	**179**	P	**Pb**	**17 25 34.5**	**-0.3**
	baz=359,SNR=518						
NEA2				S	**Sg**	**17 25 41.5**	**-0.3**
	baz=359						
NEA2	**Nenana**	**0.57**	**179**		**Pb**	**17 25 34.5**	**-0.3**
NEA2					**Sg**	**17 25 41.7**	**-0.1**
TCOL	**CIGO, UAF Yank**	**0.59**	**119**	P	**Pg**	**17 25 34.8**	**+0.1**
	baz=299,SNR=555						
TCOL				S	**Sg**	**17 25 42.7**	**+0.2**
	baz=299						
TCOL	**CIGO, UAF Yank**	**0.59**	**119**		**Pg**	**17 25 34.8**	**+0.1**
COLA	**College**	**0.60**	**118**		**Pb**	**17 25 35.0**	**-0.2**
COLA				Sg	**Sg**	**17 25 42.5**	**-0.1**
POKR	**Poker Plat Res**	**0.70**	**93**	P	**Pg**	**17 25 36.5**	**-0.1**
	baz=274,SNR=316						
POKR				S	**Sb**	**17 25 46.2**	**-0.2**
	baz=274						
POKR	**Poker Plat Res**	**0.70**	**93**		**Pb**	**17 25 36.8**	**-0.1**
POKR					**Sg**	**17 25 45.3**	**-0.5**
MLY	**Manley**	**0.71**	**260**	P	**Pg**	**17 25 36.7**	**-0.2**
	baz=79,SNR=1000						
MLY				S	**Sg**	**17 25 46.4**	**0.0**
	baz=79						
MLY	**Manley**	**0.71**	**260**		**Pg**	**17 25 37.0**	**0.0**
MLY					**Sg**	**17 25 46.4**	**0.0**
PS06	**TAPS Pump Stn6**	**0.75**	**339**		**Pb**	**17 25 37.9**	**+0.2**
CCB	**Clear Creek Bu**	**0.75**	**133**		**Pb**	**17 25 37.7**	**-0.1**
CCB				Sg	**Sg**	**17 25 47.0**	**-0.4**
WRH	**Wood River Hil**	**0.81**	**148**		**Pb**	**17 25 38.9**	**0.0**
BWN	**Browne**	**1.01**	**190**		**Pb**	**17 25 42.0**	**-0.2**
IL31		**1.01**	**112**		**Pb**	**17 25 42.1**	**-0.1**
ILAR	**Eielson Array**	**1.01**	**112**		**Pb**	**17 25 41.5**	**-0.8**
PS08	**TAPS Pump Stn8**	**1.15**	**122**		**Pb**	**17 25 44.0**	**-0.6**
HDA	**Harding Lake**	**1.19**	**129**	Pn	**Pn**	**17 25 44.4**	**-0.7**
	baz=310,SNR=243						
HDA				Pg	**Pg**	**17 25 45.6**	**-0.3**
	baz=310						
HDA				S	**Sg**	**17 26 00.8**	**-0.5**
	baz=310						
HDA	**Harding Lake**	**1.19**	**129**		**Pn**	**17 25 44.4**	**-0.7**
BPAW	**Bear Paw Mtn.**	**1.35**	**218**		**Pn**	**17 25 46.5**	**-0.8**
MCK	**McKinley**	**1.44**	**177**	Pn	**Pn**	**17 25 48.3**	**-0.2**
	baz=357,SNR=138						
MCK				Pg	**Pg**	**17 25 50.0**	**-0.6**
	baz=357						
MCK				S	**Sb**	**17 26 07.7**	**0.0**
	baz=357						
MCK	**McKinley**	**1.44**	**177**		**Pn**	**17 25 48.4**	**-0.2**
RND	**Reindeer**	**1.77**	**177**		**Pn**	**17 25 53.2**	**+0.1**
TRF	**Thorofare Moun**	**1.80**	**198**		**Pn**	**17 25 53.4**	**-0.3**
KTH	**Kantishna Hill**	**1.80**	**207**	Pn	**Pn**	**17 25 52.9**	**-0.8**
CHUM	**Lake Minchumin**	**1.90**	**229**		**Pn**	**17 25 54.4**	**-0.5**
IM03		**2.11**	**295**		**Pn**	**17 25 57.5**	**-0.3**
FYU	**Fort Yukon**	**2.12**	**47**		**Pn**	**17 25 57.5**	**-0.4**
COLD	**Coldfoot**	**2.12**	**348**	Pn	**Pn**	**17 25 58.3**	**+0.3**
	baz=167,SNR=88						
COLD				Pg	**Pg**	**17 26 03.0**	**-0.7**
	baz=167						
COLD				Sb	**Sb**	**17 26 29.1**	**+1.7**
	baz=167						
COLD	**Coldfoot**	**2.12**	**348**		**Pn**	**17 25 58.4**	**+0.4**
CAST	**Castle Rocks**	**2.19**	**218**		**Pn**	**17 25 58.8**	**0.0**
WAT2	**Susitna Watana**	**2.22**	**174**		**Pn**	**17 26 00.1**	**+0.7**
DHY	**Denali Highway**	**2.23**	**160**		**Pn**	**17 26 00.3**	**+0.8**
RIDG	**Independent Ri**	**2.33**	**126**		**Pn**	**17 25 60.0**	**-0.9**
WAT1	**Susitna Watana**	**2.35**	**174**		**Pn**	**17 26 02.0**	**+0.8**
SCRK	**Sand Creek**	**2.50**	**116**	P	**Pn**	**17 26 02.7**	**-0.6**
	baz=301,SNR=29						
SCRK				Sb	**Sb**	**17 26 39.9**	**+1.6**
	baz=

comp=E,2µm,0.6s
CMDR IAML 17 34 35.0
comp=N,2µm,0.6s
GRDE Gerede-Bolu 0.97 259 PG **Pg** **17 34 16.8 +0.2**
KURC Kurucasile-Bar 1.01 328 PG **Pg** **17 34 17.8 +0.4**
KURC SG **Sb** **17 34 32.5 +0.9**
BZK Bozkurt 1.05 22 ⇑P **Pg** **17 34 17.3 -0.8**
BZK Bozkurt 1.05 22 ⇓S **Sb** **17 34 32.7 +0.1**
BZK Bozkurt 1.05 22 PG **Pg** **17 34 18.3 +0.2**
BZK SG **Sn** **17 34 33.5 -0.8**
DELI KIRIKKALE 1.05 161 *i* P **Pg** **17 34 16.8 -1.2**
DELI *i* S **Sg** **17 34 31.4 -0.2**
DELI IAML 17 34 35.0
comp=E,815nm,0.6s
DELI IAML 17 34 36.0
comp=N,901nm,0.5s
CTAK Corum_Osmancik 1.06 108 *i* P **Pg** **17 34 17.9 -0.4**
CTAK IAML 17 34 38.0
comp=E,312nm,1.1s
CTAK IAML 17 35 03.0
comp=N,198nm,2.0s
BCAM Yenicaga 1.08 261 *i* P **Pg** **17 34 17.8 -0.8**
BCAM *i* S **Sg** **17 34 33.1 +0.5**
BCAM IAML 17 34 38.0
comp=E,470nm,0.9s
BCAM IAML 17 34 39.0
comp=N,619nm,0.6s
BTIN Bartın 1.12 306 *i* P **Pg** **17 34 18.5 -0.9**
BTIN *i* S **Sg** **17 34 34.4 +0.3**
BTIN IAML 17 34 37.0
comp=N,976nm,0.7s
BTIN IAML 17 34 37.0
comp=E,894nm,0.5s
CORM Corum 1.20 132 PN **Pg** **17 34 20.5 -0.4**
CORM SN **Sn** **17 34 38.7 +0.5**
LOD Lodumlu 1.22 206 PN **Pg** **17 34 21.6 +0.2**
LOD SN **Sn** **17 34 39.3 +0.6**
BRTR Keskin Array B 1.27 174 PN **Pn** **17 34 22.2 -0.3**
KIBS BOLU 1.35 246 *i* P **Pn** **17 34 22.9 -0.7**
KIBS *i* S **Sb** **17 34 41.3 -0.3**
KIBS IAML 17 34 47.0
comp=N,772nm,0.6s
KIBS IAML 17 34 48.0
comp=E,510nm,0.8s
COAL Corum-Alaca 1.37 122 *i* P **Pn** **17 34 22.8 -1.0**
COAL IAML 17 34 46.0
comp=E,169nm,0.7s
COAL IAML 17 34 50.0
comp=N,164nm,0.6s
BBAL Bala 1.47 190 *i* P **Pb** **17 34 25.9 0.0**
BBAL *i* S **Sg** **17 34 46.7 +1.6**
BBAL IAML 17 34 48.0
comp=E,292nm,0.5s
BBAL IAML 17 34 49.0
comp=N,502nm,0.6s
YUVA Yuva-Kibriscik 1.48 247 PN **Pn** **17 34 25.7 +0.4**
YUVA SN **Sg** **17 34 46.2 +0.7**
DIKM Dikmen 1.50 63 ⇑P **Pb** **17 34 25.9 -0.3**
DIKM Dikmen 1.50 63 ⇑S **Sg** **17 34 47.0 +0.9**
DIKM Dikmen 1.50 63 PN **Pb** **17 34 26.2 -0.1**
DIKM SN **Sg** **17 34 47.4 +1.3**
CDAG Cicekdag 1.53 153 *i* P **Pn** **17 34 25.1 -0.9**
CDAG *i* S **Sn** **17 34 46.1 -0.3**
CDAG IAML 17 35 01.0
comp=N,329nm,0.7s
CDAG IAML 17 35 01.0
comp=E,243nm,0.8s
YIGI Dzce 1.53 270 *i* P **Pn** **17 34 26.2 +0.3**
YIGI *i* S **Sb** **17 34 46.3 -0.1**
YIGI IAML 17 34 51.0
comp=N,381nm,0.9s
YIGI IAML 17 34 58.0
comp=E,135nm,0.7s
KDZE Karadeniz Ereo 1.56 283 ⇑P **Pn** **17 34 25.9 -0.5**
KDZE Karadeniz Ereo 1.56 283 ⇑S **Sg** **17 34 48.2 0.0**
KDZE Karadeniz Ereo 1.56 283 PN **Pb** **17 34 27.1 -0.3**
KDZE SN **Sg** **17 34 48.6 +0.4**
AFSR Afar-Bala (An 1.57 191 PN **Pn** **17 34 27.0 +0.4**
AFSR SN **Sg** **17 34 49.0 +0.6**
SINO SINOP_Merkez 1.66 51 *i* P **Pn** **17 34 27.2 -0.5**
SINO IAML 17 34 55.0
comp=E,173nm,1.3s
SINO IAML 17 34 57.0
comp=N,133nm,0.7s
SNOP Sinop 1.66 51 PN **Pb** **17 34 28.7 -0.3**
HAVZ Havza 1.70 86 *i* P **Pn** **17 34 28.8 +0.4**
HAVZ *i* S **Sb** **17 34 51.7 +0.2**
HAVZ IAML 17 34 57.0
comp=N,220nm,0.6s
HAVZ IAML 17 35 02.0
comp=E,268nm,0.6s
KAYA Kayacik-Havza(1.73 91 PN **Pn** **17 34 29.4 +0.7**
MDUB Mudurnu 1.80 254 PN **Pn** **17 34 30.2 +0.4**
KKUL Konya-Kulu 1.86 193 *i* P **Pn** **17 34 30.3 -0.3**
KKUL *i* S **Sn** **17 34 55.0 +0.4**
KKUL IAML 17 35 02.0
comp=E,243nm,0.6s
KKUL IAML 17 35 06.0
comp=N,154nm,0.7s
AUMIH MIHALICIK 1.89 234 *i* P **Pn** **17 34 30.4 -0.5**
AUMIH *i* S **Sn** **17 34 55.6 +0.4**
AUMIH IAML 17 35 05.0
comp=E,271nm,0.7s
AUMIH IAML 17 35 07.0
comp=N,205nm,0.5s
KIRS Kırehir-Merke 1.89 169 *i* P **Pb** **17 34 32.2 -0.7**
KIRS *i* S **Sb** **17 34 55.9 -0.9**
KIRS IAML 17 35 01.0
comp=E,124nm,0.5s
KIRS IAML 17 35 09.0
comp=N,100nm,0.7s
KVT Kavak 1.95 86 PN **Pn** **17 34 32.8 +1.0**
KULU Kulu 1.98 191 PN **Pn** **17 34 32.8 +0.6**
SAHE Sakarya_HENDEK 1.99 267 *i* P **Pn** **17 34 32.3 +0.1**
SERE Sereflikochisa 2.04 178 PN **Pn** **17 34 34.1 +1.0**
YAYX Yaylak 2.06 173 PN **Pn** **17 34 34.1 +0.7**
SAMS Samsun-Alacam 2.08 79 *i* P **Pn** **17 34 34.0 +0.5**
SAMS IAML 17 35 11.0
comp=N,135nm,1.0s
SAMS IAML 17 35 13.0
comp=E,107nm,1.6s
AUSIV SIVRIHISAR 2.14 224 *i* P **Pn** **17 34 34.4 0.0**
AUSIV IAML 17 35 15.0
comp=N,79nm,0.8s
SVRH Sivrihisar-ESK 2.14 225 PN **Pn** **17 34 35.2 +0.8**
GULT Gulveren 2.31 257 PN **Pn** **17 34 38.4 +1.6**
AKSY AKSARAY - Alti 2.35 174 *i* P **Pb** **17 34 39.7 -1.1**
AKSY *i* S **Sb** **17 35 09.5 -0.6**
AKSY IAML 17 35 23.0
comp=N,187nm,0.5s
AKSY IAML 17 35 24.0
comp=E,86nm,0.8s
SRCK Saricakaya, Es 2.37 247 PN **Pn** **17 34 38.2 +0.8**
TOKA Tokat 2.38 105 *i* P **Pn** **17 34 39.3 +1.6**
TOKA IAML 17 35 18.0
comp=N,130nm,0.8s
SAUV Serdivan-Sakar 2.40 265 PN **Pn** **17 34 38.8 +1.0**
SPNC Sapanca-Adapaz 2.42 264 PN **Pn** **17 34 39.3 +1.2**
AVNS Nevsehir-Avano 2.42 154 *i* P **Pb** **17 34 40.3 -1.8**
AVNS *i* S **Sb** **17 35 12.0 -0.3**
AVNS IAML 17 35 21.0
comp=E,299nm,0.6s
AVNS IAML 17 35 22.0
comp=N,334nm,0.7s
TOKT Tokat 2.43 105 PN **Pn** **17 34 39.8 +1.4**
KIZT Kizilcal 2.44 211 PN **Pn** **17 34 39.8 +1.3**
CHBY Cihanbeyli 2.44 191 PN **Pn** **17 34 39.8 +1.2**
CIFT Cifteler, Eski 2.46 229 PN **Pn** **17 34 39.7 +0.9**
GEYV SAKARYA_Geyve 2.46 259 *i* P **Pn** **17 34 39.9 +1.2**
GEYV IAML 17 35 28.0
comp=N,129nm,0.7s
GEYV IAML 17 35 30.0
comp=E,93nm,0.8s
KAND Kocaeli-Kandir 2.48 273 *i* P **Pn** **17 34 38.8 -0.2**
KAND IAML 17 35 22.0
comp=N,116nm,0.9s
KAND IAML 17 35 22.0
comp=E,80nm,0.6s
ERBA Erbaa 2.51 96 *i* P **Pn** **17 34 40.3 +0.8**
BORA Eskisehir 2.56 245 *i* P **Pn** **17 34 39.1 -1.0**
BORA IAML 17 35 32.0
comp=N,37nm,0.7s
CUSAR Sarkisla-SIVAS 2.64 126 *i* P **Pn** **17 34 42.2 +0.8**
CUSAR IAML 17 35 37.0
comp=E,63nm,0.8s
CUSAR IAML 17 35 40.0
comp=N,49nm,1.1s
GUNE Kayseri 2.66 141 *i* P **Pb** **17 34 44.8 -1.3**
GUNE *i* S **Sb** **17 35 20.6 +1.4**
GUNE IAML 17 35 25.0
comp=E,733nm,0.8s
GUNE IAML 17 35 29.0
comp=N,731nm,0.8s
KDHN Kadinhani 2.68 203 *i* P **Pn** **17 34 40.9 -0.9**
GULA Gulagac 2.71 167 PN **Pn** **17 34 43.8 +1.6**
SULT Sultanhani-AKS 2.79 179 PN **Pn** **17 34 44.7 +1.4**
BNN Bunyan 2.81 139 PN **Pn** **17 34 44.9 +1.3**
AUKIR Kırka- Seyitga 2.83 234 *i* P **Pn** **17 34 42.1 -1.7**
AUKIR IAML 17 35 39.0
comp=N,127nm,0.6s
AUKIR IAML 17 35 41.0
comp=E,137nm,1.2s
AUBOZ BOZOYUK 2.83 249 *i* P **Pn** **17 34 46.3 +2.4**
AUBOZ *i* S **Sb** **17 35 25.6 +1.5**
AUBOZ IAML 17 35 35.0
comp=E,116nm,0.7s
AUBOZ IAML 17 35 36.0
comp=N,96nm,0.6s
SVSK Karacayir 2.90 111 PN **Pn** **17 34 46.2 +1.5**
LADK Ladik-KONYA 2.91 197 PN **Pn** **17 34 46.3 +1.3**
CUALT Altinyayla-SIV 3.04 123 *i* P **Pn** **17 34 48.2 +1.3**
CUALT IAML 17 35 47.0
comp=N,66nm,1.0s
CUALT IAML 17 35 50.0
comp=E,61nm,1.0s
YAHY KAYSERI_Yahyal 3.24 153 *i* P **Pb** **17 34 54.9 -1.1**
ORDU Ordu-Boztepe 3.32 89 *i* P **Pb** **17 34 55.3 -2.0**
ORDU IAML 17 35 53.0
comp=N,82nm,1.0s
ORDU IAML 17 35 53.0
comp=E,75nm,0.9s
MFTR Murfatlar 4.90 312 ⇓P **Pn** **17 35 11.7 -0.6**
TIRR Tirgusor 5.09 315 ⇑P **Pn** **17 35 15.3 +0.5**
TPGR Topolog 5.36 318 ⇓P **Pn** **17 35 17.8 -0.6**
TPGR Topolog 5.36 318 ⇓S **Sn** **17 36 20.4 -0.1**
TLCR 5.40 322 ⇑P **Pn** **17 35 19.5 +0.3**
HARR Harsova 5.50 314 ⇑P **Pn** **17 35 20.6 +0.2**
CFR Carcaliu 5.72 319 ⇓P **Pn** **17 35 24.1 +0.5**
CFR Carcaliu 5.72 319 ⇑S **Sn** **17 36 29.6 +0.1**
VRI Vrincioaia 6.92 317 ⇓P **Pn** **17 35 40.2 +0.3**
PLOR Plostina 6.95 317 ⇓P **Pn** **17 35 40.6 +0.2**
MLR Muntele Rosu 7.10 312 ⇑P **Pn** **17 35 42.9 +0.3**
VOIR 7.59 309 ⇓P **Pn** **17 35 48.9 -0.2**
VOIR 7.59 309 ⇑S **Sn** **17 37 15.4 -0.2**
DOPR Dopca 7.70 313 ⇑P **Pn** **17 35 50.3 -0.4**
SORM Soroca 8.02 335 ⇑P **Pn** **17 35 54.4 -0.6**
BURAR Bucovina Array 8.88 321 ⇑P **Pn** **17 36 08.3 +1.4**

*DJA **23** 17:38:23.4±0.5, 9°S±5°×11°0E±°, h10km, M4.0/15, mb3.6/1, MLv4.2/15*
*NEIC **23** 17:38:26.7±2.4, 9.06S±0.09×109.81E±0.06, h49km±5km, mb4.0/7, Error ellipse: s-maj=13.1km s-min=8.8km az=191.0*
*IDC **23** 17:38:29.9±2.3, 8.65S×110.20E, h67km±32km, mb3.5/4, mb1 3.8/7, mb1mx3.3/48, mbtmp3.9/7, ML3.8/3, MS3.4/2, Ms1 3.3/2, ms1mx2.6/28, Error ellipse: s-maj=64.3km s-min=16.5km az=38.0*
ISC 23 17:38:24.9±0.7, 9.19S±0.07×109.78E±0.04, h35km, n36, σ2s04/37, mb4.1/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOGI	**Yogyakarta**	**1.46**	**20**	P	**Pn**	**17 38 48.0**	**-0.8**
UGM	**Wanagama**	**1.47**	**30**	P	**Pn**	**17 38 47.9**	**-1.0**
UGM	**Wanagama**	**1.47**	**30**		**Pn**	**17 38 48.0**	**-1.0**
WOJI	**Wonogiri, Jawa**	**1.76**	**40**	P	**Pn**	**17 38 52.2**	**-0.7**
CMJI	**Cimerak**	**1.92**	**317**	P	**Pn**	**17 38 55.2**	**+0.1**
KPJI	**Karang Pucung**	**2.03**	**336**	P	**Pn**	**17 38 58.0**	**+1.4**
SMRI	**Semarang**	**2.23**	**17**	P	**Pn**	**17 39 01.1**	**+1.7**
SMRI	**Semarang**	**2.23**	**17**		**Pn**	**17 39 01.0**	**+1.7**
PWJI	**Pagerwojo**	**2.32**	**60**	P	**Pn**	**17 39 00.9**	**+0.4**
CISI	**Cisompet, Garu**	**2.54**	**310**	P	**Pn**	**17 39 04.3**	**+0.7**
CISI	**Cisompet, Garu**	**2.54**	**310**		**Pn**	**17 39 04.1**	**+0.5**
LEM	**Lembang**	**3.18**	**318**	P	**Pn**	**17 39 16.2**	**+3.7**
	16nm,0.3s,baz=57,slow=17,SNR=13						
LEM				S	**Sn**	**17 39 54.5**	**+5.1**
	19nm,0.3s,baz=179,slow=20,SNR=6.5						
LEM	**Lembang**	**3.18**	**318**	P		**17 39 12.2**	**-0.4**
CNJI	**Cibinong**	**3.22**	**305**	P		**17 39 13.7**	**+0.7**
GMJI	**Gumukmas**	**3.74**	**76**	P		**17 39 21.1**	**+1.0**
XMIS	**Christmas Isla**	**4.26**	**252**	Pn		**17 39 28.7**	**+1.3**
XMIS				Sn		**17 40 12.5**	**-3.5**
JAGI	**Jajag, Banyuwa**	**4.38**	**81**	P		**17 39 29.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.38**	**81**			**17 39 29.9**	**+0.9**
CGJI	**Cibinong**	**4.79**	**302**	P		**17 39 36.2**	**+1.6**
BATI	**Baumata**	**13.72**	**95**	P		**17 41 36.0**	**-1.1**
	2.0nm,0.3s,baz=254,slow=21,SNR=1.4						
GSI	**Gunungsitoli**	**16.02**	**310**	Pn		**17 42 01.8**	**-5.9**
FITZ	**Fitzroy Crossi**	**17.76**	**122**	P		**17 42 31.7**	**+1.7**
	0.1nm,0.3s,baz=315,slow=11,SNR=7.0						
WB0	**Warramunga Arr**	**26.01**	**117**	P		**17 43 57.0**	**+2.2**
WRA	**Warramunga Arr**	**26.02**	**117**	P		**17 43 56.7**	**+1.8**
	1.7nm,0.8s,baz=290,slow=11,SNR=20						
WRA	**Warramunga Arr**	**26.02**	**117**	P		**17 43 55.2**	**+0.3**
WRAB	**Tennant Creek**	**26.03**	**117**	P		**17 43 56.7**	**+1.7**
WRAB				IAmb	IAmb	17 44 11.4	
	comp=Z,6.9nm,1.3s						
WB2	**Warramunga Arr**	**26.03**	**117**	P		**17 43 55.8**	**+0.8**
WB2				IAmb	IAmb	17 44 24.1	
	comp=Z,7.5nm,1.4s						
WR0	**Warramunga Arr**	**26.20**	**117**	P		**17 43 58.9**	**+2.3**
WR0				IAmb	IAmb	17 44 04.1	
	comp=Z,5.9nm,1.2s						
ASAR	**Alice Springs**	**27.18**	**125**	P		**17 44 07.2**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=300,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**27.18**	**125**	P		**17 44 06.0**	**+0.6**
STKA	**Stephens Creek**	**37.14**	**132**	P		**17 45 34.5**	**+2.1**
	comp=Z,2.0nm,0.5s,baz=314,slow=6.9,SNR=11						
STKA				LR	LR	18 01 17.3	
	comp=Z,42nm,20.1s,baz=207,slow=37						
STKA	**Stephens Creek**	**37.14**	**132**	P		**17 45 34.5**	**+2.1**
DZM	**Mont Dzumac**	**55.77**	**110**	LR	LR	18 14 02.6	
	comp=Z,41nm,19.1s,baz=65,slow=38						
MKAR	**Makanchi Array**	**60.89**	**339**	P		**17 48 32.7**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=136,slow=7.2,SNR=2.0						
MKAR	**Makanchi Array**	**60.89**	**339**	P		**17 48 32.5**	**-1.5**
ABKAR	**Akbulak array**	**72.70**	**328**	P		**17 49 48.9**	**-0.3**
ABKAR				IAmb	IAmb	17 50 04.5	
	comp=Z,3.5nm,1.4s						

WEL 23 18:01:59.4, 43°S±40°×17°1E±°, h13km±11km, M2.3/7, ML2.3/7, MLv2.3/7, Error ellipse: s-maj=0.1km s-min=0.0km az=179.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVZ	**Waitaha Valley**	**0.22**	**341**	P	Pb	18 02 05.5	+0.2
GCSZ	**Gaunt Creek Bo**	**0.37**	**264**	P	Pb	18 02 08.2	+0.3
RPZ	**Rata Peaks**	**0.46**	**160**	P	Pb	18 02 09.9	+0.5
MHCZ	**Mount Hutt**	**0.59**	**115**	P	Pb	18 02 12.2	+0.5
ARCZ	**Arundel**	**0.71**	**159**	P	Pb	18 02 14.3	+0.7
INZ	**Inchbonnie**	**0.71**	**39**	P	Pb	18 02 13.6	-0.1
FOZ	**Fox Glacier**	**0.78**	**251**	P	Pn	18 02 16.7	+0.6
LTZ	**Lake Taylor**	**1.17**	**65**	P	Pg	18 02 23.1	+1.2
LBZ	**Lake Benmore**	**1.20**	**203**	P	Pg	18 02 24.3	+1.8
DSZ	**Denniston Nort**	**1.70**	**25**	P	Pg	18 02 32.1	+0.1
PNHZ	**Pukenui**	**5.25**	**52**	P	Pn	18 03 20.1	+2.6
WPHZ	**Waipukurau**	**5.29**	**54**	P	Pn	18 03 19.1	+1.1
BHHZ	**Black Hill Sta**	**5.46**	**48**	P	Pn	18 03 23.2	+2.7

*NEIC **23** 18:03:02.9±1.2, 43.77N±0.05×105.27W±0.06, h0km±2km, ML3.5/63, Error ellipse: s-maj=9.5km s-min=6.5km az=148.0*
*IDC **23** 18:03:02.9±1.2, 44.00N×105.76W, h0km, mb4.0/2, mb1 3.9/6, mb1mx3.6/43, mbtmp3.8/6, ML3.5/4, Error ellipse: s-maj=38.7km s-min=8.1km az=146.0*
ISC 23 18:03:02.0±0.9, 43.75N±0.06×105.30W±0.06, h0km, n95, σ1s26/92, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.99**	**68**		**Pg**	**18 03 21.1**	**+0.1**
K22A	**Casper**	**1.42**	**219**		**Pg**	**18 03 28.2**	**-1.0**
K22A					IAML	18 03 53.0	
	comp=N,918nm,0.3s						
K22A					IAML	18 03 53.3	
	comp=E,524nm,0.3s						
PHWY	**Pilot Hill**	**2.45**	**183**	Pn	**Pn**	**18 03 44.0**	**+0.4**
RWWY	**Rawlins**	**2.50**	**215**		**Pn**	**18 03 45.5**	**+1.4**
RWWY					IAML	18 04 22.5	
	comp=E,283nm,0.6s						
RWWY					IAML	18 04 22.6	
	comp=E,269nm,0.9s						
N23A	**Red Feather La**	**2.90**	**190**	Pn	**Pn**	**18 03 51.0**	**+1.4**
N23A					IAML	18 04 33.8	
	comp=N,162nm,0.7s						
N23A					IAML	18 04 38.0	
	comp=E,114nm,0.6s						
LAO	**LASA Array**	**3.01**	**348**	Pn	**Pn**	**18 03 51.1**	**+0.2**
RLMT	**Red Lodge**	**3.15**	**297**	Pn	**Pn**	**18 03 53.9**	**+0.7**
RLMT					IAML	18 04 44.8	
	comp=E,92nm,0.4s						
RLMT					IAML	18 04 58.4	
	comp=E,108nm,0.7s						
PD31	**Pinedale Array**	**3.26**	**254**		**Pn**	**18 03 55.4**	**+0.8**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**18 03 55.2**	**+0.6**
	comp=E,6.1nm,0.3s,baz=69,slow=16,SNR=94						
PDAR				Lg	Lg	18 04 38.0	
	comp=E,15nm,0.3s,baz=60,slow=18,SNR=4.7						
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**18 03 55.0**	**+0.4**
BW06	**Boulder Array**	**3.26**	**254**		**Pn**	**18 03 55.0**	**+0.4**
BW06					IAML	18 04 46.5	
	comp=E,89nm,0.5s						
YNE	**Yellowstone No**	**3.60**	**292**	Pn	**Pn**	**18 03 59.9**	**+0.6**
YMP	**Mirror Lake Pl**	**3.62**	**287**		**Pn**	**18 04 00.8**	**+1.1**
GCMT	**Greycliff**	**3.72**	**305**		**Pn**	**18 04 01.8**	**+1.0**
LOHW	**Long Hollow**	**3.85**	**270**		**Pn**	**18 04 03.7**	**+1.1**
H17A	**Grant Village**	**3.85**	**281**		**Pn**	**18 04 04.4**	**+1.6**
H17A					IAML	18 05 08.7	
	comp=N,51nm,0.6s						
FLWY	**Flagg Ranch**	**3.91**	**277**		**Pn**	**18 04 04.4**	**+0.8**
FLWY					IAML	18 05 18.1	
	comp=N,48nm,1.1s						
FLWY					IAML	18 05 40.5	
	comp=N,62nm,1.2s						
MOOW	**Moose Ponds**	**3.94**	**272**	Pn	**Pn**	**18 04 05.5**	**+1.6**
ISCO	**Idaho Springs**	**3.96**	**183**	Pn	**Pn**	**18 04 05.2**	**+0.9**
SNOW	**Snow King Moun**	**3.97**	**268**		**Pn**	**18 04 05.6**	**+1.2**
SNOW					IAML	18 05 10.3	
	comp=N,57nm,1.1s						
SNOW					IAML	18 05 26.5	
	comp=N,61nm,1.2s						
YNR	**Norris Junctio**	**3.98**	**286**		**Pn**	**18 04 06.8**	**+2.2**
REDW	**Red Top Meadow**	**4.05**	**266**		**Pn**	**18 04 06.1**	**+0.6**
REDW					IAML	18 05 13.4	
	comp=N,63nm,0.7s						
REDW					IAML	18 05 15.7	
	comp=N,69nm,0.7s						
IMW	**Indian Meadow**	**4.08**	**274**		**Pn**	**18 04 07.7**	**+1.7**
IMW					IAML	18 04 38.2	
	comp=N,58nm,0.6s						
IMW					IAML	18 05 14.6	
	comp=N,43nm,0.6s						
YHH	**Holmes Hill**	**4.12**	**286**	Pn	**Pn**	**18 04 08.0**	**+1.6**
YMR	**Madison River**	**4.17**	**285**	Pn	**Pn**	**18 04 07.8**	**+0.7**
O20A	**White River Ci**	**4.23**	**212**	Pn	**Pn**	**18 04 08.9**	**+1.1**
O20A					IAML	18 05 23.2	
	comp=E,54nm,0.6s						
O20A					IAML	18 05 33.5	
	comp=N,58nm,1.2s						
E28A	**Huff**	**4.31**	**48**		**Pn**	**18 04 09.9**	**+1.1**
AHID	**Auburn Hatcher**	**4.35**	**259**		**Pn**	**18 04 11.1**	**+1.5**
AHID					IAML	18 05 33.2	
	comp=E,56nm,0.8s						
YHL	**Hebgen Lake**	**4.36**	**287**		**Pn**	**18 04 10.2**	**+0.4**
ECR	**Eagle Creek**	**4.47**	**263**		**Pn**	**18 04 12.8**	**+1.5**
RDMU	**Red Mountain**	**4.49**	**226**	Pn	**Pn**	**18 04 13.4**	**+1.9**
QLMT	**Earthquake Lak**	**4.53**	**286**		**Pn**	**18 04 13.8**	**+1.8**
DGMT	**Dagmar**	**4.78**	**9**	Pn	**Pn**	**18 04 16.9**	**+1.5**
Q24A	**Divide**	**4.79**	**179**		**Pn**	**18 04 16.0**	**+0.3**
Q24A					IAML	18 05 36.6	
	comp=E,30nm,0.6s						
Q24A					IAML	18 05 36.8	
	comp=N,21nm,0.9s						
BOZ	**Bozeman (W)**	**4.87**	**294**	Pn	**Pn**	**18 04 17.6**	**+0.9**
BOZ					IAML	18 05 35.9	
	comp=N,30nm,0.8s						
BOZ					IAML	18 05 44.4	
	comp=N,24nm,0.8s						
HWUT	**Hardware Ranch**	**5.09**	**247**	Pn	**Pn**	**18 04 20.5**	**+0.8**
KSCO	**Kaye Shedlock'**	**5.15**	**156**		**Pn**	**18 04 20.8**	**+0.3**
TCUT	**Toone Canyon**	**5.23**	**242**		**Pn**	**18 04 22.8**	**+1.1**
EGMT	**Eagleton**	**5.28**	**326**	Pn	**Pn**	**18 04 22.4**	**+0.2**
HRY	**Holter Researc**	**5.48**	**305**		**Pn**	**18 04 25.9**	**+1.0**
LRM	**Limekiln Ridge**	**5.49**	**295**		**Pn**	**18 04 26.4**	**+1.2**
MCMT	**McKenzie Canyo**	**5.52**	**284**		**Pn**	**18 04 27.7**	**+2.0**
CTU	**Camp Tracy**	**5.68**	**240**	Pn	**Pn**	**18 04 28.8**	**+1.0**
SPUT	**South Promonto**	**5.82**	**248**		**Pn**	**18 04 30.8**	**+1.2**
PV22	**Blue Mesa, Par**	**5.84**	**208**		**Pn**	**18 04 31.8**	**+1.8**
PV07	**Paradox Valley**	**5.88**	**207**	Pn	**Pn**	**18 04 32.2**	**+1.7**
PV21	**Cone Mtn., Par**	**5.88**	**209**		**Pn**	**18 04 31.8**	**+1.1**
P17A	**Butcher Ranch,**	**5.91**	**225**		**Pn**	**18 04 32.9**	**+2.0**
PV15	**Paradox Valley**	**5.91**	**205**		**Pn**	**18 04 32.6**	**+1.5**
PV23	**Carpenter Ridg**	**5.99**	**209**		**Pn**	**18 04 33.6**	**+1.5**
SDCO	**Great Sand Dun**	**6.00**	**181**	Pn	**Pn**	**18 04 34.1**	**+1.7**
PV04	**Paradox Valley**	**6.00**	**208**		**Pn**	**18 04 33.9**	**+1.6**
PV12	**Saucer Basin,**	**6.04**	**207**		**Pn**	**18 04 34.4**	**+1.6**
PV14	**Lion Creek, Pa**	**6.06**	**209**		**Pn**	**18 04 34.5**	**+1.3**
PV10	**Paradox Valley**	**6.07**	**209**	Pn	**Pn**	**18 04 35.3**	**+2.0**
PV20	**West Nyswonger**	**6.07**	**208**		**Pn**	**18 04 34.4**	**+1.2**
SRU	**San Rafael Swe**	**6.07**	**222**		**Pn**	**18 04 33.6**	**+0.4**
PV11	**David Mesa, Pa**	**6.08**	**208**		**Pn**	**18 04 34.8**	**+1.4**
PV16	**Nyswonger Mesa**	**6.08**	**208**		**Pn**	**18 04 34.9**	**+1.5**
PV19	**Morning Glory**	**6.11**	**208**		**Pn**	**18 04 34.9**	**+1.1**
PV03	**Paradox Valley**	**6.11**	**207**		**Pn**	**18 04 35.0**	**+1.3**
S22A	**4UR Ranch, Cre**	**6.11**	**191**	Pn	**Pn**	**18 04 35.2**	**+1.3**
PV02	**Paradox Valley**	**6.12**	**206**	Pn	**Pn**	**18 04 35.6**	**+1.7**
PV17	**East Wray Mesa**	**6.13**	**208**		**Pn**	**18 04 35.1**	**+1.1**
PV01	**Paradox Valley**	**6.13**	**205**		**Pn**	**18 04 35.1**	**+1.0**
PV18	**Skein Mesa, Pa**	**6.14**	**208**	Pn	**Pn**	**18 04 35.4**	**+1.2**
PV13	**Radium Mtn., P**	**6.19**	**207**		**Pn**	**18 04 36.4**	**+1.5**
TMUT	**Trail Mountain**	**6.28**	**227**		**Pn**	**18 04 37.3**	**+1.1**
ECSD	**EROS Data Cent**	**6.30**	**87**	Pn	**Pn**	**18 04 36.8**	**+0.7**
NLU	**North Lily Min**	**6.32**	**235**	Pn	**Pn**	**18 04 37.8**	**+1.1**
PV05	**Paradox Valley**	**6.36**	**208**		**Pn**	**18 04 36.7**	**-0.5**
BGU	**Big Grassy Mou**	**6.38**	**246**	Pn	**Pn**	**18 04 38.3**	**+0.9**
CBKS	**Cedar Bluff**	**6.47**	**138**	Pn	**Pn**	**18 04 38.7**	**+0.1**
Q16A	**Castle Valley**	**6.54**	**224**		**Pn**	**18 04 40.7**	**+1.0**
HLID	**Hailey**	**6.61**	**271**	Pn	**Pn**	**18 04 42.6**	**+2.0**
DUG	**Dugway, Tooele**	**6.63**	**240**		**Pn**	**18 04 41.5**	**+0.7**
T25A	**Trinidad**	**6.64**	**174**	Pn	**Pn**	**18 04 41.3**	**+0.3**
MVCO	**Mesa Verde**	**6.97**	**201**	Pn	**Pn**	**18 04 47.5**	**+1.9**
MSU	**Marysvale**	**7.37**	**227**		**Pn**	**18 04 52.2**	**+1.2**
MVU	**Marysvale**	**7.39**	**227**		**Pn**	**18 04 53.2**	**+1.8**
JTMT	**Jette**	**7.44**	**306**	Pn	**Pn**	**18 04 53.5**	**+1.5**
TCRU	**Three Creeks R**	**7.44**	**229**	Pn	**Pn**	**18 04 53.6**	**+1.5**
MTPU	**Mount Pierson**	**7.72**	**225**	Pn	**Pn**	**18 04 56.9**	**+0.9**
ELK	**Elko**	**7.96**	**251**	Pn	**Pn**	**18 05 00.4**	**+1.3**
	comp=N,0.6nm,0.3s,baz=66,slow=12,SNR=9.4						
WALA	**Waterton Lakes**	**7.97**	**315**	Pn	**Pn**	**18 04 59.1**	**-0.1**
PSUT	**Pine Spring**	**8.29**	**234**	Pn	**Pn**	**18 05 05.8**

*TAP **23** 18:16:21.3,23.45N×121.82E,h20km,ML2.7,C*
ISC 23 18:16:20.5±1.1,23.42N±0.02×121.86E±0.02,h21km±2km, n85,σ086/138,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.41**	**281**	*i* P	**Pb**	**18 16 28.9**	**-0.1**
	baz=277						
HGSD				S	**Sb**	**18 16 34.5**	**-0.2**
	baz=277						
EGFH	**Guangfu**	**0.47**	**302**	P	**Pb**	**18 16 30.1**	**0.0**
	baz=301						
EGFH				*e*S	**Sb**	**18 16 36.8**	**+0.2**
	baz=301						
EYUL	**Yuli**	**0.50**	**262**	*e*P	**Pb**	**18 16 30.9**	**+0.3**
	baz=249						
EYUL				*e*S	**Sb**	**18 16 38.5**	**+0.9**
	baz=249						
EHY	**Hungye**	**0.51**	**280**	P	**Pb**	**18 16 30.8**	**+0.1**
	baz=268						
EHY				*e*S	**Sb**	**18 16 36.3**	**-1.3**
	baz=268						
YULB	**Yu-li**	**0.52**	**268**	P	**Pb**	**18 16 31.0**	**+0.1**
	baz=263						
YULB				S	**Sb**	**18 16 39.3**	**+1.2**
	baz=263						
CHKT	**Chengkung**	**0.56**	**236**	P	**Pb**	**18 16 31.3**	**-0.3**
	baz=220						
CHKT				S	**Sb**	**18 16 38.8**	**-0.3**
	baz=220						
ESL	**Shilin**	**0.56**	**315**	P	**Pb**	**18 16 31.0**	**-0.7**
	baz=316						
ESL				*e*S	**Sb**	**18 16 37.8**	**-1.5**
	baz=316						
FULB	**Fuli**	**0.57**	**248**	P	**Pb**	**18 16 31.5**	**-0.3**
	baz=231						
FULB				*e*S	**Sb**	**18 16 38.6**	**-0.9**
	baz=231						
HWA	**Hwalien**	**0.61**	**337**	*e*P	**Pb**	**18 16 32.7**	**+0.2**
	baz=340						
EDH	**Donghe**	**0.68**	**230**	P	**Pb**	**18 16 33.2**	**-0.4**
	baz=216						
EDH				S	**Sb**	**18 16 42.0**	**-0.7**
	baz=216						
TWD	**Chiawan**	**0.70**	**340**	*e*P	**Pb**	**18 16 33.5**	**-0.6**
	baz=342						
TWD				*e*S	**Sb**	**18 16 42.1**	**-1.3**
	baz=342						
VWDT	**VWDT**	**0.74**	**297**	P	**Pb**	**18 16 35.0**	**+0.3**
	baz=296						
VWDT				*e*S	**Sn**	**18 16 45.4**	**-1.0**
	baz=296						
NACB	**Ninganchiao**	**0.79**	**342**	P	**Pb**	**18 16 34.6**	**-1.0**
	baz=353						
NACB				*e*S	**Sb**	**18 16 45.0**	**-0.9**
	baz=353						
ELDTW	**Lidau**	**0.81**	**254**	P	**Pb**	**18 16 35.4**	**-0.6**
	baz=238						
ELDTW				*e*S	**Sb**	**18 16 45.8**	**-0.7**
	baz=238						
LDUT	**Ludao**	**0.82**	**206**	*e*P	**Pb**	**18 16 35.2**	**-0.8**
	baz=203						
LDUT				S	**Sb**	**18 16 45.2**	**-1.5**
	baz=203						
OWD	**Renai**	**0.83**	**311**	P	**Pb**	**18 16 35.9**	**-0.4**
	baz=310						
OWD				*e*S	**Sb**	**18 16 46.4**	**-0.6**
	baz=310						
LONT	**Longtian**	**0.84**	**233**	P	**Pb**	**18 16 36.2**	**-0.2**
	baz=221						
LONT				*e*S	**Sb**	**18 16 47.5**	**+0.2**
	baz=221						
ETLH	**Xiulin Townshi**	**0.86**	**336**	P	**Pb**	**18 16 36.1**	**-0.7**
	baz=337						
ETLH				S	**Sb**	**18 16 47.5**	**-0.5**
	baz=337						
CHGB	**Renai**	**0.90**	**316**	*e*P	**Pb**	**18 16 37.2**	**-0.4**
	baz=326						
CHGB				*e*S	**Sb**	**18 16 48.3**	**-0.9**
	baz=326						
WHF	**Hehuan Shan**	**0.91**	**323**	P	**Pb**	**18 16 37.0**	**-0.9**
	baz=324						
WHF				*e*S	**Sb**	**18 16 48.6**	**-1.1**
	baz=324						
SSLB	**Suanglung**	**0.91**	**294**	*e*P	**Pb**	**18 16 37.4**	**-0.2**
	baz=293						
TTN	**Taitung**	**0.93**	**225**	*e*P	**Pb**	**18 16 38.0**	**+0.1**
	baz=212						
TWGBT	**Beinan**	**0.94**	**231**	*e*P	**Pb**	**18 16 37.3**	**-0.7**
	baz=219						
TWGBT				*e*S	**Sb**	**18 16 49.5**	**-0.4**
	baz=219						
TWG	**Pinlang**	**0.94**	**231**	P	**Pb**	**18 16 37.4**	**-0.7**
	baz=219						
TWG				*e*S	**Sb**	**18 16 49.2**	**-0.9**
	baz=219						
WHYT	**Xinyi Township**	**0.97**	**287**	*e*P	**Pb**	**18 16 38.6**	**+0.1**
	baz=285						
ALS	**Alishan**	**0.98**	**276**	P	**Pb**	**18 16 39.0**	**+0.1**
	baz=273						
ALS				*e*S	**Sb**	**18 16 52.0**	**+0.5**
	baz=273						
SMLT	**Sun Moon Lake**	**1.00**	**298**	P	**Pb**	**18 16 39.0**	**-0.1**
	baz=306						
SMLT				*e*S	**Sb**	**18 16 51.8**	**-0.1**
	baz=306						
FUSS	**Fushou**	**1.00**	**326**	P	**Pb**	**18 16 38.8**	**-0.5**
	baz=326						
FUSS				*e*S	**Sb**	**18 16 51.2**	**-1.0**
	baz=326						
ENAH	**Nanao**	**1.03**	**357**	*e*P	**Pb**	**18 16 38.8**	**-0.8**
	baz=359						
TWT	**Tachien**	**1.04**	**323**	*e*P	**Pb**	**18 16 39.9**	**-0.1**
	baz=333						
TDCB	**Techi**	**1.05**	**322**	*e*P	**Pb**	**18 16 39.5**	**-0.6**
	baz=333						
NNSB	**Datong**	**1.10**	**337**	*i* P	**Pn**	**18 16 40.3**	**-0.6**
	baz=337						
NNSB				*e*S	**Sb**	**18 16 52.9**	**-1.9**
	baz=337						
NNSH	**Datong**	**1.10**	**337**	*i* P	**Pn**	**18 16 40.3**	**-0.6**
	baz=337						
NNSH				*e*S	**Sb**	**18 16 53.4**	**-1.4**
	baz=337						
CHN5	**Tsauling**	**1.10**	**280**	P	**Pb**	**18 16 41.6**	**+0.7**
	baz=278						
CHN5				*e*S	**Sn**	**18 16 55.9**	**+0.4**
	baz=278						
NNS	**Nan Shan**	**1.11**	**336**	P	**Pn**	**18 16 40.4**	**-0.6**
	baz=337						
NNS				S	**Sb**	**18 16 54.3**	**-1.0**
	baz=337						
WJS	**Zhushan**	**1.12**	**291**	*e*P	**Pb**	**18 16 41.5**	**+0.4**
	baz=290						
TPUB	**Ta-pu**	**1.14**	**264**	P	**Pb**	**18 16 41.7**	**+0.2**
	baz=262						
TPUB				*e*S	**Sn**	**18 16 57.4**	**+1.1**
	baz=262						
WTP	**Ta-pu**	**1.16**	**262**	P	**Pb**	**18 16 42.1**	**+0.2**
	baz=259						
WTP				*e*S	**Sn**	**18 16 58.1**	**+1.2**
	baz=259						
ECL	**Taimali**	**1.17**	**226**	P	**Pn**	**18 16 40.2**	**-1.4**
	baz=234						
WNT	**Mingjian**	**1.18**	**293**	*e*P	**Pb**	**18 16 42.3**	**+0.2**
	baz=292						
TWC	**Suao**	**1.19**	**359**	P	**Pn**	**18 16 41.8**	**-0.1**
	baz=1.0						
TWC				*e*S	**Sb**	**18 16 56.3**	**-1.0**
	baz=1.0						
SLGT	**Liugui**	**1.20**	**250**	P	**Pn**	**18 16 42.2**	**+0.2**
	baz=240						
SLGT				*e*S	**Sn**	**18 16 59.2**	**+1.5**
	baz=240						
WHP	**Taichung City**	**1.20**	**316**	*e*P	**Pb**	**18 16 43.2**	**+0.7**
	baz=325						
WHP				*e*S	**Sb**	**18 16 57.2**	**-0.5**
	baz=325						
SGST	**Jiashian**	**1.22**	**254**	*e*P	**Pn**	**18 16 42.2**	**-0.2**
	baz=242						
SGST				*e*S	**Sb**	**18 16 57.8**	**-0.5**
	baz=242						
NDT	**Datong Townshi**	**1.22**	**345**	*e*P	**Pn**	**18 16 42.1**	**-0.4**
	baz=348						
NDT				*e*S	**Sb**	**18 16 57.6**	**-0.7**
	baz=346						
WGK	**Gukeng**	**1.22**	**283**	*e*P	**Pb**	**18 16 45.0**	**+2.1**
	baz=281						
WDLH	**Douliu**	**1.25**	**283**	*e*P	**Pb**	**18 16 44.4**	**+1.1**
	baz=281						
CHN1	**Nanshi**	**1.25**	**260**	*e*P	**Pb**	**18 16 43.8**	**+0.4**
	baz=257						
CHN1				*e*S	**Sb**	**18 17 00.3**	**+1.3**
	baz=257						
ENTT	**Nioudou**	**1.25**	**347**	P	**Pn**	**18 16 42.2**	**-0.5**
	baz=349						
ENTT				*e*S	**Sn**	**18 16 58.7**	**-0.3**
	baz=349						
SNST	**Tainan City**	**1.27**	**261**	*e*P	**Pb**	**18 16 44.2**	**+0.5**
	baz=259						
SNST				*e*S	**Sb**	**18 17 02.2**	**+2.6**
	baz=259						
TWK	**Hsinying**	**1.27**	**264**	P	**Pb**	**18 16 44.3**	**+0.5**
	baz=261						
TWK				*e*S	**Sb**	**18 17 01.7**	**+2.0**
	baz=261						
TWE	**Neicheng**	**1.31**	**352**	*e*P	**Pn**	**18 16 43.6**	**-0.1**
	baz=354						
TWE				*e*S	**Sn**	**18 16 59.8**	**-0.7**
	baz=354						
SSD	**Sandimen**	**1.31**	**240**	P	**Pn**	**18 16 43.9**	**+0.2**
	baz=232						
SSD				*e*S	**Sn**	**18 16 57.7**	**-2.9**
	baz=232						
TSMG	**Majia**	**1.33**	**238**	*e*P	**Pn**	**18 16 43.5**	**-0.3**
	baz=231						
TSMG				*e*S	**Sn**	**18 16 58.3**	**-2.5**
	baz=231						
YHNB	**Yeheng**	**1.33**	**340**	P	**Pn**	**18 16 43.7**	**-0.2**
	baz=341						
YHNB				*e*S	**Sn**	**18 17 00.3**	**-0.6**
	baz=341						
NSK	**Sanguang**	**1.34**	**340**	P	**Pn**	**18 16 44.0**	**-0.1**
	baz=340						
NSK				*e*S	**Sn**	**18 16 59.5**	**-1.7**
	baz=340						
TWQ1	**Liyutan**	**1.36**	**313**	P	**Pb**	**18 16 46.0**	**+0.7**
	baz=312						
TWQ1				*e*S	**Sb**	**18 17 02.9**	**+0.6**
	baz=312						
SCST	**Cishan**	**1.37**	**248**	*e*P	**Pn**	**18 16 43.8**	**-0.6**
	baz=234						
MASBT	**Mashibuluo**	**1.39**	**235**	*e*P	**Pn**	**18 16 44.3**	**-0.3**
	baz=225						
MASBT				*e*S	**Sn**	**18 17 00.8**	**-1.6**
	baz=225						
EAST	**Anshuo**	**1.39**	**223**	P	**Pn**	**18 16 43.9**	**-0.8**
	baz=220						
JYNG	**Yonaguni jima**	**1.43**	**44**	P	**Pn**	**18 16 44.4**	**-0.8**
JYNG				*e*S	**Sn**	**18 17 03.1**	**-0.3**
NSTT	**Nanjuang**	**1.44**	**327**	*e*P	**Pb**	**18 16 46.5**	**-0.1**
	baz=327						
LIOB	**Emei**	**1.45**	**328**	*e*P	**Pb**	**18 16 46.8**	**0.0**
	baz=328						
YOJ	**Yonaguni jima**	**1.48**	**45**	*e*P	**Pn**	**18 16 46.0**	**+0.1**
	baz=46						
YOJ				*e*S	**Sn**	**18 17 05.1**	**+0.4**
	baz=46						
YOJ	**Yonaguni jima**	**1.48**	**45**	P	**Pn**	**18 16 45.6**	**-0.3**
YOJ				*e*S	**Sn**	**18 17 03.4**	**-1.2**
SSPT	**Xinbi**	**1.51**	**232**	*e*P	**Pn**	**18 16 46.6**	**+0.2**
	baz=223						
SLIU	**Shizi**	**1.55**	**220**	*e*P	**Pn**	**18 16 45.7**	**-1.1**
	baz=218						
SCZT	**Fangliau**	**1.55**	**228**	*e*P	**Pn**	**18 16 47.5**	**+0.7**
	baz=219						
TIPB	**Shuangxi**	**1.55**	**359**	*e*P	**Pn**	**18 16 47.7**	**+0.8**
	baz=11						
TIPB				*e*S	**Sn**	**18 17 06.3**	**-0.1**
	baz=11						
YM01	**YM01**	**1.74**	**351**	*e*P	**Pb**	**18 16 51.8**	**0.0**
	baz=352						
YM10	**YM10**	**1.75**	**351**	*e*P	**Pb**	**18 16 50.9**	**-1.1**
	baz=351						
YM04	**YM04**	**1.76**	**350**	*e*P	**Pb**	**18 16 51.8**	**-0.2**
	baz=351						
TWKBT	**Hengchun**	**1.76**	**214**	*e*P	**Pn**	**18 16 49.7**	**-0.1**
	baz=212						
YM05	**YM05**	**1.76**	**351**	*e*P	**Pb**	**18 16 51.1**	**-1.0**
	baz=352						
YM11	**YM11**	**1.76**	**351**	*e*P	**Pb**	**18 16 51.6**	**-0.5**
	baz=352						
YM08	**YM08**	**1.78**	**352**	*e*P	**Pn**	**18 16 50.7**	**+0.6**
	baz=336						
TWY	**Chenhua**	**1.87**	**353**	*e*P	**Pn**	**18 16 51.4**	**+0.1**
	baz=336						
HATJ	**Hateruma jima**	**1.89**	**70**	S	**Sn**	**18 17 14.2**	**-0.6**
IRIF	**Iriomote-Funau**	**1.94**	**61**	*e*S	**Sn**	**18 17 16.3**	**+0.3**
JKRS	**Kuro-shima**	**2.13**	**67**	P	**Pn**	**18 16 54.9**	**+0.1**
JIJ	**Ishigaki jima**	**2.29**	**65**	P	**Pn**	**18 16 57.5**	**+0.4**
JIJ				*e*S	**Sn**	**18 17 23.4**	**-1.3**
JISG	**Ishigakijimahi**	**2.52**	**62**	P	**Pn**	**18 17 00.3**	**0.0**
JISG				*e*S	**Sn**	**18 17 29.0**	**-1.4**
JTJ	**Tarama**	**2.87**	**64**	P	**Pn**	**18 17 05.7**	**+0.7**
JTJ				*e*S	**Sn**	**18 17 39.6**	**+0.7**
JIRB	**Irabujima**	**3.33**	**64**	S	**Sn**	**18 17 50.5**	**+0.1**
JMJ2	**Miyako jima3**	**3.43**	**67**	*e*S	**Sn**	**18 17 52.4**	**-0.4**

*IDC **23** 19:07:45.5±2.8,42.99N×105.03W,h0km,mb1 3.8/2, mb1mx3.3/40,mbtmp3.6/2,ML2.4/1,Error ellipse: s-maj=51.5km s-min=11.2km az=157.0*
*NEIC **23** 19:07:50.5±1.8,43.60N±0.05×105.11W±0.06,h0km±2km, ML3.5/59,Error ellipse: s-maj=10.2km s-min=3.8km az=143.0*
ISC 23 19:07:46.3±1.2,43.64N±0.06×104.87W±0.07,h0km,n79, σ243/75,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.77**	**52**		**Pn**	**19 08 08.1**	**+3.5**
RSSD				IAML		19 08 24.6	
	1μm,0.6s						
K22A	**Casper**	**1.56**	**231**	Pn	**Pn**	**19 08 14.1**	**-1.4**
K22A				IAML		19 08 36.2	
	comp=N,634nm,0.3s						
PHWY	**Pilot Hill**	**2.38**	**191**		**Pn**	**19 08 29.1**	**+2.3**
RWWY	**Rawlins**	**2.60**	**222**		**Pn**	**19 08 31.4**	**+1.5**
RWWY				IAML		19 09 06.8	
	comp=N,400nm,0.9s						
RWWY				IAML		19 09 08.4	
	comp=N,373nm,0.9s						
N23A	**Red Feather La**	**2.86**	**196**	Pn	**Pn**	**19 08 35.6**	**+2.2**
N23A				IAML		19 09 21.1	
	comp=N,202nm,0.7s						
N23A				IAML		19 09 21.2	
	comp=E,146nm,0.6s						
LAO	**LASA Array**	**3.19**	**343**		**Pb**	**19 08 41.8**	**-2.0**
RLMT	**Red Lodge**	**3.48**	**297**		**Pn**	**19 08 43.3**	**+1.4**
RLMT				IAML		19 09 38.4	
	comp=E,109nm,0.8s						
RLMT				IAML		19 09 43.1	
	comp=E,79nm,0.8s						
BW06	**Boulder Array**	**3.54**	**257**		**Pn**	**19 08 43.0**	**+0.4**
BW06				IAML		19 09 36.7	
	comp=E,84nm,0.8s						
PD31	**Pinedale Array**	**3.54**	**257**		**Pn**	**19 08 43.1**	**+0.4**
PDAR	**Pinedale Array**	**3.54**	**257**	Pn	**Pn**	**19 08 42.3**	**-0.3**
	comp=E,6.3nm,0.3s,baz=74,slow=16,SNR=80						
PDAR				Lg	Lg	19 09 29.4	
	comp=E,10nm,0.3s,baz=90,slow=24,SNR=6.6						
PDAR	**Pinedale Array**	**3.54**	**257**		**Pn**	**19 08 42.6**	**0.0**
ISCO	**Idaho Springs**	**3.88**	**188**		**Pn**	**19 08 51.3**	**+3.8**
YNE	**Yellowstone No**	**3.93**	**292**		**Pn**	**19 08 48.9**	**+0.8**
YMP	**Mirror Lake Pl**	**3.95**	**288**		**Pn**	**19 08 49.5**	**+1.0**
GCMT	**Greycliff**	**4.04**	**304**		**Pn**	**19 08 52.6**	**+3.2**
LOHW	**Long Hollow**	**4.16**	**272**		**Pn**	**19 08 52.9**	**+1.7**
E28A	**Huff**	**4.17**	**44**		**Pb**	**19 08 55.9**	**-4.5**
FLWY	**Flagg Ranch**	**4.24**	**278**		**Pn**	**19 08 54.5**	**+2.3**
FLWY				IAML		19 10 19.8	
	comp=E,52nm,1.0s						
MOOW	**Moose Ponds**	**4.26**	**273**		**Pn**	**19 08 54.5**	**+1.9**
SNOW	**Snow King Moun**	**4.28**	**270**		**Pn**	**19 08 55.9**	**+3.0**
SNOW				IAML		19 10 00.4	
	comp=E,88nm,1.2s						
SNOW				IAML		19 10 04.3	
	comp=E,87nm,1.1s						
YNR	**Norris Junctio**	**4.31**	**286**		**Pn**	**19 08 55.6**	**+2.3**
O20A	**White River Ci**	**4.31**	**217**		**Pn**	**19 08 55.8**	**+2.5**
O20A				IAML		19 10 05.4	
	comp=E,88nm,0.8s						
O20A				IAML		19 10 07.3	
	comp=N,90nm,0.8s						
YPP	**Pitchstone Pla**	**4.33**	**280**		**Pn**	**19 08 55.6**	**+2.1**
REDW	**Red Top Meadow**	**4.36**	**268**		**Pn**	**19 08 56.0**	**+2.1**
REDW				IAML		19 10 19.6	
	comp=N,88nm,0.8s						
IMW	**Indian Meadow**	**4.40**	**275**		**Pn**	**19 08 56.2**	**+1.6**
IMW				IAML		19 10 10.3	
	comp=N,62nm,0.6s						
IMW				IAML		19 10 19.4	
	comp=N,43nm,0.7s						
YHH	**Holmes Hill**	**4.45**	**287**		**Pn**	**19 08 57.6**	**+2.4**
RDMU	**Red Mountain**	**4.65**	**230**		**Pn**	**19 09 00.4**	**+2.5**
Q24A	**Divide**	**4.68**	**183**		**Pn**	**19 09 01.4**	**+2.9**
Q24A				IAML		19 10 17.4	
	comp=E,51nm,0.8s						
Q24A				IAML		19 10 23.6	
	comp=N,32nm,0.7s						
YHL	**Hebgen Lake**	**4.69**	**287**		**Pn**	**19 09 00.6**	**+2.1**
ECR	**Eagle Creek**	**4.78**	**265**		**Pn**	**19 09 02.1**	**+2.4**
DGMT	**Dagmar**	**4.85**	**5**		**Pn**	**19 09 04.1**	**+3.6**
QLMT	**Earthquake Lak**	**4.86**	**286**		**Pn**	**19 09 04.1**	**+3.3**
KSCO	**Kaye Shedlock'**	**4.93**	**159**		**Pn**	**19 09 05.1**	**+3.4**
BOZ	**Bozeman (W)**	**5.20**	**294**		**Pn**	**19 09 06.9**	**+1.5**
BOZ				IAML		19 10 35.1	
	comp=N,24nm,0.8s						
BOZ				IAML		19 11 52.1	
	comp=N,25nm,4.9s						
HWUT	**Hardware Ranch**	**5.34**	**250**		**Pn**	**19 09 08.3**	**+0.9**
HWUT				IAML		19 10 42.8	
	comp=N,41nm,1.1s						
HWUT				IAML		19 10 44.7	
	comp=N,45nm,0.8s						
TCUT	**Toone Canyon**	**5.46**	**245**		**Pn**	**19 09 09.2**	**+0.2**
EGMT	**Eagleton**	**5.55**	**324**		**Pn**	**19 09 12.4**	**+2.2**
DLMT	**Dillon**	**5.78**	**290**		**Pn**	**19 09 15.5**	**+2.1**
HRY	**Holter Researc**	**5.79**	**304**		**Pn**	**19 09 16.3**	**+2.7**
LRM	**Limekiln Ridge**	**5.82**	**295**		**Pn**	**19 09 16.6**	**+2.6**
MCMT	**McKenzie Canyo**	**5.85**	**284**		**Pn**	**19 09 17.2**	**+2.7**
PV22	**Blue Mesa, Par**	**5.90**	**211**		**Pn**	**19 09 17.8**	**+2.7**
SDCO	**Great Sand Dun**	**5.91**	**185**	Pn	**Pn**	**19 09 18.6**	**+3.3**
PV07	**Paradox Valley**	**5.93**	**210**		**Pn**	**19 09 19.3**	**+3.8**
PV21	**Cone Mtn., Par**	**5.95**	**213**		**Pn**	**19 09 18.9**	**+3.1**
PV15	**Paradox Valley**	**5.96**	**208**		**Pn**	**19 09 19.2**	**+3.3**
ECSD	**EROS Data Cent**	**5.99**	**86**		**Pn**	19 09 22.4	+6.2
PV23	**Carpenter Ridg**	**6.06**	**212**		**Pn**	**19 09 19.0**	**+1.7**
P17A	**Butcher Ranch,**	**6.06**	**229**	Pn	**Pn**	**19 09 16.2**	**-1.0**
PV04	**Paradox Valley**	**6.07**	**212**		**Pn**	**19 09 20.5**	**+3.1**
SPUT	**South Promonto**	**6.07**	**250**		**Pn**	**19 09 18.0**	**+0.6**
S22A	**4UR Ranch, Cre**	**6.08**	**195**		**Pn**	**19 09 19.7**	**+2.1**
PV12	**Saucer Basin,**	**6.09**	**211**		**Pn**	**19 09 19.3**	**+1.6**
PV14	**Lion Creek, Pa**	**6.13**	**212**		**Pn**	**19 09 21.0**	**+2.7**
PV10	**Paradox Valley**	**6.13**	**212**	Pn	**Pn**	**19 09 21.5**	**+3.2**
PV20	**West Nyswonger**	**6.13**	**212**		**Pn**	**19 09 21.2**	**+2.8**
PV11	**David Mesa, Pa**	**6.14**	**211**		**Pn**	**19 09 21.8**	**+3.5**
PV16	**Nyswonger Mesa**	**6.14**	**211**		**Pn**	**19 09 21.4**	**+2.9**
PV03	**Paradox Valley**	**6.17**	**211**		**Pn**	**19 09 21.3**	**+2.6**
PV02	**Paradox Valley**	**6.17**	**210**		**Pn**	**19 09 22.1**	**+3.3**
PV01	**Paradox Valley**	**6.17**	**208**		**Pn**	**19 09 21.7**	**+2.8**
PV17	**East Wray Mesa**	**6.19**	**211**		**Pn**	**19 09 21.1**	**+2.1**
BCYI	**Bear Canyon**	**6.19**	**279**		**Pn**	**19 09 21.3**	**+2.2**
PV18	**Skein Mesa, Pa**	**6.20**	**211**		**Pn**	**19 09 21.6**	**+2.4**
SRU	**San Rafael Swe**	**6.21**	**225**		**Pn**	**19 09 19.5**	**+0.2**
PV13	**Radium Mtn., P**	**6.24**	**210**		**Pn**	**19 09 22.2**	**+2.4**
TMUT	**Trail Mountain**	**6.44**	**230**		**Pn**	**19 09 24.6**	**+2.0**
BGU	**Big Grassy Mou**	**6.63**	**249**	Pn	**Pn**	**19 09 26.3**	**+1.2**
Q16A	**Castle Valley**	**6.69**	**227**	Pn	**Pn**	**19 09 27.2**	**+1.2**
MSU	**Marysvale**	**7.53**	**230**	Pn	**Pn**	**19 09 39.8**	**+2.4**
MVU	**Marysvale**	**7.55**	**230**	Pn	**Pn**	**19 09 40.6**	**+2.8**
JTMT	**Jette**	**7.76**	**305**	Pn	**Pn**	**19 09 43.1**	**+2.5**
MTPU	**Mount Pierson**	**7.87**	**227**	Pn	**Pn**	**19 09 43.8**	**+1.4**
ELK	**Elko**	**8.22**	**253**	Pn	**Pn**	**19 09 48.3**	**+1.3**
WALA	**Waterton Lakes**	**8.27**	**314**	Pn	**Pn**	**19 09 49.8**	**+2.3**
PSUT	**Pine Spring**	**8.49**	**236**	Pn	**Pn**	**19 09 51.3**	**+0.7**
I10CA	**LAC DU BONNET**	**8.92**	**40**	*i*		20 01 10.0	
	baz=220,slow=314,SNR=6.1						
ULM	**Lac du Bonnet**	**9.03**	**40**	Pn	Pn	19 10 02.7	+5.0
	comp=N,0.5nm,0.3s,baz=230,slow=13,SNR=3.0						
ULM				Lg	Lg	19 12 39.3	
	comp=N,0.4nm,0.3s,baz=323,slow=22,SNR=3.9						
I56US	**NEWPORT INFRAS**	**9.70**	**303**	*i*		20 17 30.0	
	baz=115,slow=324,SNR=1.1						

*INET **23** 19:20:13.7,13.42N×90.60W,h15km,ML3.5*
*SNET **23** 19:20:14.2±1.6,13.38N×90.59W,h31km±6km,ML3.7*
*IDC **23** 19:20:15.7±3.0,13.30N×90.71W,h40km±28km,mb3.4/1, mb1 3.8/4,mb1mx3.4/44,mbtmp3.5/4,ML3.6/3,MS2.9/1, Ms1 2.9/1,ms1mx2.2/34,Error ellipse: s-maj=21.0km s-min=18.1km az=99.0*
*GCG **23** 19:20:17.6±0.5,13.59N×90.67W,h27km±33km,MD4.0*
ISC 23 19:20:14.2±2.3,13.37N±0.09×90.60W±0.05,h31km±15km, n32,σ1917/42,1C-5D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.02**	**360**	*i*P	**Pn**	**19 20 33.1**	**+0.6**
SBLS	**San Blas**	**1.06**	**64**	*e*P	**Pn**	**19 20 32.9**	**-0.2**
RTR	**El Retiro**	**1.06**	**60**	*e*P	**Pn**	**19 20 33.2**	**0.0**
SNJE	**San Jose**	**1.09**	**63**	*e*P	**Pn**	**19 20 33.4**	**-0.1**
FUG	**Fuego 3**	**1.10**	**348**	*e*P	**Pn**	**19 20 34.0**	**+0.4**
NBG	**Las Nubes**	**1.23**	**11**	*e*P	**Pb**	**19 20 37.4**	**+0.3**
CEDA	**San Andres**	**1.25**	**70**	*i*P	**Pn**	**19 20 35.6**	**+0.1**
CEDA				*e*S	**Sn**	**19 20 51.8**	**+0.5**
BOQS	**Boqueron**	**1.33**	**74**	*e*P	**Pn**	**19 20 37.0**	**+0.1**
TACO	**Tacachico**	**1.35**	**64**	*e*P	**Pn**	**19 20 37.3**	**+0.4**
TACO				*e*S	**Sn**	**19 20 53.7**	**-0.1**
UEES	**Universidad Ev**	**1.37**	**75**	*e*P	**Pn**	**19 20 37.6**	**+0.3**
UEES				*e*S	**Sn**	**19 20 54.9**	**+0.6**
UEES				IAML		19 21 00.1	
	comp=Z,2μm,0.2s						
OPAM	**Oficina de Pla**	**1.41**	**76**	*i*P	**Pn**	**19 20 38.6**	**+0.9**
OPAM				IAML		19 20 39.6	
	comp=Z,1μm,0.2s						
ERG	**Entre ros, C**	**1.42**	**319**	*e*P	**Pn**	**19 20 38.7**	**+0.9**
LFU	**La Fuente**	**1.49**	**75**	*e*P	**Pn**	**19 20 39.8**	**+0.8**
LFRS	**El Faro**	**1.52**	**80**	*e*P	**Pn**	**19 20 39.0**	**-0.3**
LBRS	**Las Brisas**	**1.56**	**76**	*e*P	**Pn**	**19 20 40.3**	**+0.5**
RTAL	**Retalhuleu**	**1.56**	**317**	*e*P	**Pn**	**19 20 39.3**	**-0.6**
RTAL				*e*S	**Sn**	**19 20 59.2**	**+0.1**
MTO3	**Montecristo**	**1.58**	**49**	*

mb1 3.5/10,mb1mx3.3/54,mbtmp3.6/10,ML3.3/3,MS2.6/3, Ms1 2.6/3,ms1mx2.3/33,Error ellipse: s-maj=18.9km s-min=11.1km az=80.0

NIED ***23*** *19:30:41.0,36˚.41N×141˚.02E,h46km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.31; $M_{\theta\theta}$0.57; $M_{\phi\phi}$-1.88; $M_{r\theta}$-0.81; $M_{r\phi}$-3.08; $M_{\theta\phi}$3.53; Fault plane solution: M_o5.04000×10^{14} NP1: ϕ_s355.00000°,δ80.00000°,λ49.00000°. NP2: ϕ_s254.00000°,δ42.00000°,λ165.00000°.*

NEIC ***23*** *19:30:42.0±2.3,36˚.43N±0˚.05×141˚.02E±0˚.08,h38km±9km, mb4.5/14 Error ellipse: s-maj=10.5km s-min=5.6km az=124.0*

ISC 23 19:30:41.3±0.9,**36˚.42N**±0˚.04×**141˚.08E**±0˚.07,**h38**km±1km, **n60**,σ1**^{s}05**/61,**mb4.2**/13,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.40**	**259**	P	**Pn**	**19 30 50.3**	**-0.1**
JHYU				S	**Sn**	**19 30 56.7**	**-0.5**
JHO	**Hitachi**	**0.45**	**295**	P	**Pn**	**19 30 50.8**	**-0.3**
JHO				S	**Sn**	**19 30 57.6**	**-0.6**
JIHU	**Itakohorinouch**	**0.64**	**225**	P	**Pn**	**19 30 53.8**	**-0.1**
JIHU				S	**Sn**	**19 31 02.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.72**	**342**	P	**Pn**	**19 30 54.4**	**-0.6**
ONAJ				S	**Sn**	**19 31 03.7**	**-1.1**
JYT	**Yasato**	**0.74**	**255**	P	**Pn**	**19 30 54.3**	**-0.9**
JYT				*eS*	**Sn**	**19 31 03.4**	**-1.7**
JYT	**Yasato**	**0.74**	**255**		**Pn**	**19 30 54.2**	**-1.0**
JYT				Sn	**Sn**	**19 31 03.6**	**-1.5**
JSMT	**Sammumatsuo**	**0.93**	**213**	P	**Pn**	**19 30 57.5**	**-0.3**
JFK	**Kawauchi**	**0.96**	**350**	P	**Pn**	**19 30 57.7**	**-0.5**
JFK				S	**Sn**	**19 31 09.3**	**-1.4**
JFT	**Otama**	**1.25**	**332**	P	**Pn**	**19 31 03.0**	**+0.8**
JFT				S	**Sn**	**19 31 18.5**	**+0.8**
JAG	**Ashikaga**	**1.31**	**271**	P	**Pn**	**19 31 02.5**	**-0.5**
JMM	**Marumori**	**1.46**	**351**	Pn	**Pn**	**19 31 05.1**	**0.0**
JMM				Sn	**Sn**	**19 31 22.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.31**	**274**	P	**Pn**	**19 31 16.7**	**-0.1**
	3.2nm,0.3s,baz=111,slow=8.5,SNR=199						
MJAR				S	**Sn**	**19 31 43.6**	**-0.5**
	3.8nm,0.3s,baz=336,slow=40,SNR=2.1						
MJAR				LR	LR	19 32 20.0	
	comp=Z,94nm,20.3s,baz=220,slow=44						
MJAR	**Matsushiro Arr**	**2.31**	**274**	Pn	**Pn**	**19 31 16.2**	**-0.6**
MAJO	**Matsushiro**	**2.32**	**274**	Pn	**Pn**	**19 31 17.8**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.32**	**274**	Pn	**Pn**	**19 31 17.8**	**+0.9**
JSD	**Sado**	**2.77**	**307**	Pn	**Pn**	**19 31 23.5**	**+0.5**
JSG	**Sagara**	**2.93**	**234**	Pn	**Pn**	**19 31 26.6**	**+1.3**
JGF	**Kuroka**	**3.12**	**256**	Pn	**Pn**	**19 31 29.9**	**+1.9**
JHJ2	**Mitsune**	**3.46**	**198**	Pn	**Pn**	**19 31 34.0**	**+1.5**
JHJ	**Hachijo jima 2**	**3.46**	**198**	P	**Pn**	**19 31 32.2**	**-0.4**
	39nm,0.3s,baz=78,slow=19,SNR=1.6						
JHJ				S	**Sn**	**19 32 12.5**	**+0.2**
	37nm,0.3s,baz=44,slow=23,SNR=5.6						
INU	**Inuyama**	**3.47**	**253**	Pn	**Pn**	**19 31 34.1**	**+1.5**
JTM	**Tenmabayashi**	**4.36**	**360**	Pn	**Pn**	**19 31 46.7**	**+1.8**
JWT	**Wachi**	**4.75**	**258**	Pn	**Pn**	**19 31 50.5**	**+0.2**
ERM	**Erimo**	**5.82**	**15**	Pn	**Pn**	**19 32 05.2**	**+0.3**
JMN	**Monobe**	**6.48**	**248**	Pn	**Pn**	**19 32 15.8**	**+1.6**
JHS	**Saijyo**	**6.63**	**260**	Pn	**Pn**	**19 32 18.5**	**+2.4**
ASAJ	**Asahikawa**	**7.78**	**8**	P	**Pn**	**19 32 30.9**	**-0.9**
	0.4nm,0.3s,baz=138,slow=30,SNR=0.9						
ASAJ				S	**Sn**	**19 33 58.8**	**+0.3**
	0.4nm,0.3s,baz=5.9,slow=22,SNR=1.1						
USRK	**Ussuriysk Ar.**	**10.41**	**321**	P	**Pn**	**19 33 10.7**	**+2.8**
	baz=123,slow=14,SNR=4.4						
KSRS	**Korea Array**	**10.58**	**280**	LR	LR	19 36 15.8	
	comp=Z,16nm,19.4s,baz=105,slow=32						
YULB	**Yu-li**	**21.45**	**238**	P	**P**	**19 35 27.5**	**+1.2**
YULB				IAmb	IAmb	19 35 44.8	
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**27.91**	**305**	P	**P**	**19 36 26.1**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=112,slow=9.3,SNR=3.3						
SONM				LR	LR	19 49 12.5	
	comp=Z,23nm,18.4s,baz=128,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.07**	**119**	T	T	20 06 27.3	
	baz=312,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.08**	**119**	T	T	20 06 25.4	
	baz=312,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.09**	**119**	T	T	20 06 29.5	
	baz=312,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.76**	**121**	T	T	20 07 15.2	
	baz=314,slow=75,SNR=140						
H11S3	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	20 07 21.8	
	baz=314,slow=75,SNR=108						
H11S2	**WAKE ISLAND Hy**	**28.78**	**121**	T	T	20 07 24.6	
	baz=314,slow=75,SNR=76						
FAKI	**Fak Fak**	**39.99**	**194**	P	**P**	**19 38 13.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**41.08**	**256**	P	**P**	**19 38 19.4**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=63,slow=8.2,SNR=1.6						
ZALV	**Zalesovo Beam**	**42.13**	**313**	P	**P**	**19 38 29.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=96,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**44.22**	**303**	P	**P**	**19 38 46.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=88,slow=9.7,SNR=3.7						
KURK	**Kurchatov**	**46.10**	**309**	P	**P**	**19 39 01.4**	**0.0**
SVW2	**Sparrevohn**	**46.17**	**37**	P	**P**	**19 39 02.3**	**+0.4**
SVW2				IAmb	IAmb	19 39 09.6	
	comp=Z,15nm,1.4s						
KLU	**Klutina**	**50.82**	**36**	P	**P**	**19 39 38.6**	**+0.9**
KLU				IAmb	IAmb	19 39 49.1	
	comp=Z,8.9nm,1.2s						
BRVK	**Borovoye**	**50.84**	**313**	P	**P**	**19 39 39.0**	**+1.0**
KNRA	**Kununurra**	**53.10**	**195**	P	**P**	**19 39 56.0**	**+0.9**
GSI	**Gunungsitoli**	**53.25**	**239**	P	**P**	**19 39 56.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**56.15**	**198**	P	**P**	**19 40 18.0**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=39,slow=6.5,SNR=1.5						
FITZ	**Fitzroy Crossi**	**56.15**	**198**	P	**P**	**19 40 17.2**	**+0.1**
FITZ				IAmb	IAmb	19 40 31.1	
	comp=Z,4.8nm,1.1s						
WB0	**Warramunga Arr**	**56.24**	**188**	P	**P**	**19 40 17.1**	**-0.7**
WRAB	**Tennant Creek**	**56.41**	**188**	P	P	19 40 14.1	-4.9
WRAB				IAmb	IAmb	19 40 18.6	
	comp=Z,4.1nm,1.1s						
WR0	**Warramunga Arr**	**56.41**	**187**	P	**P**	**19 40 18.4**	**-0.5**
WR0				IAmb	IAmb	19 40 28.5	
	comp=Z,5.8nm,1.4s						
WB2	**Warramunga Arr**	**56.42**	**188**	P	**P**	**19 40 17.7**	**-1.3**
WB2				IAmb	IAmb	19 40 20.5	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**56.42**	**188**	P	**P**	**19 40 18.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=3.1,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**56.42**	**188**	P	**P**	**19 40 18.5**	**-0.5**
ABKAR	**Akbulak array**	**58.13**	**310**	P	**P**	**19 40 30.6**	**-0.2**
ASAR	**Alice Springs**	**60.15**	**188**	P	**P**	**19 40 44.6**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=9.7,slow=7.1,SNR=2.0						
H03N2	**Juan Fernandez**	**147.22**	**97**	T	T	22 35 20.5	
	baz=291,slow=76,SNR=3.9						
H03N3	**Juan Fernandez**	**147.24**	**97**	T	T	22 35 18.3	
	baz=291,slow=76,SNR=4.6						
H03N1	**Juan Fernandez**	**147.24**	**97**	T	T	22 35 22.5	
	baz=291,slow=76,SNR=3.6						

KRNET ***23*** *19:31:15.7±0.1,41˚.63N×79˚.20E,h16km,mb2.9*

SOME ***23*** *19:31:15.4,41˚.70N×79˚.20E,h5km*

NNC ***23*** *19:31:16.2±1.0,41˚.69N×79˚.20E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=6.7km s-min=4.2km az=155.0*

ISC 23 19:31:18.1±1.6,**41˚.74N**±0˚.07×**79˚.27E**±0˚.04,**h10**km,**n55**, σ1**^{s}26**/93,**22C-13D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.98**	**319**	⇑*iP*	**Pg**	**19 31 35.5**	**-1.6**
	baz=26						
PRZ				⇑*iS*	**Sg**	**19 31 50.3**	**+0.4**
	baz=26						
UZB	**Uzynbulak**	**1.41**	**353**	*eP*	**Pn**	**19 31 43.0**	**-1.1**
	9.7nm,0.2s						
UZB				*eS*	**Sb**	**19 32 03.4**	**+0.5**
	43nm,0.4s						
UZB	**Uzynbulak**	**1.41**	**353**	P	**Pn**	**19 31 43.2**	**-0.9**
	11nm,0.3s						
UZB				S	**Sb**	**19 32 03.4**	**+0.5**
	43nm,0.4s						
SHLS	**Shalkode**	**1.42**	**6**	⇓*eP*	**Pb**	**19 31 44.6**	**-0.2**
	103nm,0.3s						
SHLS				*eS*	**Sg**	**19 32 06.0**	**+2.1**
	175nm,0.3s						
SHLS	**Shalkode**	**1.42**	**6**	P	**Pb**	**19 31 44.6**	**-0.2**
	103nm,0.3s						
SHLS				S	**Sg**	**19 32 06.1**	**+2.2**
	175nm,0.3s						
SATY	**Saty**	**1.46**	**334**	⇓*eP*	**Pn**	**19 31 43.9**	**-0.9**
	10nm,0.3s						
SATY				*eS*	**Sb**	**19 32 04.5**	**+0.3**
	62nm,0.3s						
SATY	**Saty**	**1.46**	**334**	P	**Pn**	**19 31 43.8**	**-0.9**
	14nm,0.4s						
SATY				S	**Sb**	**19 32 04.4**	**+0.2**
	85nm,0.1s						
ZHN	**Zhinishke**	**1.55**	**337**	*eP*	**Pn**	**19 31 45.6**	**-0.3**
	9.3nm,0.2s						
ZHN				*eS*	**Sb**	**19 32 07.7**	**+0.9**
	94nm,0.2s						
ZHN	**Zhinishke**	**1.55**	**337**	P	**Pn**	**19 31 45.9**	**-0.1**
	9.6nm,0.2s						
ZHN				S	**Sg**	**19 32 07.9**	**-0.2**
	101nm,0.2s						
ANVS	**Anan'yevo**	**1.58**	**312**	⇑*iP*	**Pn**	**19 31 46.3**	**-0.1**
	baz=16						
ANVS				⇑*iS*	**Sb**	**19 32 08.4**	**+0.8**
	baz=16						
PDGK	**Podgornoye**	**1.59**	**6**	P	**Pn**	**19 31 46.0**	**-0.5**
	9.7nm,0.2s						
PDGK				S	**Sb**	**19 32 08.9**	**+0.9**
	137nm,0.6s						
PDGK	**Podgornoye**	**1.59**	**6**	⇑P	**Pn**	**19 31 45.8**	**-0.7**
	7.2nm,0.3s						
PDGK				⇓S	**Sb**	**19 32 08.9**	**+0.9**
	90nm,0.6s						
KDJ	**Kajisay**	**1.60**	**285**	⇓*eP*	**Pn**	**19 31 45.2**	**-1.5**
	baz=89						
KDJ				⇓*iS*	**Sn**	**19 32 07.1**	**-0.5**
	baz=89						
KPKS	**Kokpek**	**1.77**	**346**	⇓*eP*	**Pn**	**19 31 49.5**	**+0.5**
	54nm,0.3s						
KPKS				*eS*	**Sb**	**19 32 14.2**	**+1.1**
	186nm,0.5s						
KTMS	**Ketmen**	**1.88**	**25**	*eP*	**Pn**	**19 31 51.2**	**+0.7**
	10nm,0.2s						
KTMS				*eS*	**Sb**	**19 32 16.7**	**+0.4**
	118nm,0.6s						
KTMS	**Ketmen**	**1.88**	**25**	Pg	**Pb**	**19 31 51.9**	**-0.8**
	10nm,0.2s						
KTMS				Lg	Lg	19 32 17.1	
	118nm,0.6s						
KURS	**Kuram**	**1.92**	**335**	*eP*	**Pb**	**19 31 52.1**	**-1.2**
	17nm,0.3s						
KURS				*eS*	**Sb**	**19 32 18.6**	**+1.2**
	45nm,0.5s						
KURS	**Kuram**	**1.92**	**335**	Pg	**Pn**	**19 31 51.9**	**+0.9**
	17nm,0.3s						
KURS				Lg	Lg	19 32 18.0	
	45nm,0.5s						
TNSS	**Tian-Shan**	**2.15**	**308**	*eP*	**Pb**	**19 31 55.7**	**-1.8**
	9.1nm,0.4s						
TNSS				*eS*	**Sb**	**19 32 24.8**	**+0.5**
	22nm,0.5s						
TNSS	**Tian-Shan**	**2.15**	**308**	Pg	**Pb**	**19 31 55.7**	**-1.8**
	9.1nm,0.4s						
TNSS				Lg	Lg	19 32 24.8	
	22nm,0.5s						
MDOK	**Medeo**	**2.17**	**312**	*eP*	**Pb**	**19 31 56.3**	**-1.4**
	4.9nm,0.2s						
MDOK				*eS*	**Sb**	**19 32 25.5**	**+0.9**
	36nm,0.6s						
MDOK	**Medeo**	**2.17**	**312**	Pg	**Pb**	**19 31 56.3**	**-1.4**
	4.9nm,0.2s						
MDOK				Lg	Lg	19 32 25.5	
	36nm,0.6s						
KOTS	**Kotyrbulak**	**2.18**	**314**	*eP*	**Pb**	**19 31 56.2**	**-1.6**
	18nm,0.2s						
KOTS				*eS*	**Sb**	**19 32 25.3**	**+0.3**
	127nm,0.5s						
KOTS	**Kotyrbulak**	**2.18**	**314**	Pg	**Pb**	**19 31 56.2**	**-1.6**
	18nm,0.2s						
KOTS				Lg	Lg	19 32 25.3	
	127nm,0.5s						
ULHL	**Ulahol**	**2.31**	**284**	⇑*iP*	**Pn**	**19 31 56.6**	**+0.1**
	baz=87						
ULHL				⇑*iS*	**Sb**	**19 32 27.1**	**-1.6**
	baz=87						
MNBS	**Baschi**	**2.42**	**345**	*eP*	**Pb**	**19 32 01.1**	**-0.8**
	16nm,0.4s						
MNBS				*eS*	**Sb**	**19 32 33.8**	**+2.1**
	105nm,0.2s						
MNBS	**Baschi**	**2.42**	**345**	Pg	**Pb**	**19 32 01.1**	**-0.8**
	16nm,0.4s						
MNBS				Lg	Lg	19 32 33.8	
	105nm,0.2s						
MTBS	**Maitube**	**2.52**	**304**	*eP*	**Pb**	**19 32 02.0**	**-1.5**
	1.0nm,0.1s						
MTBS				*eS*	**Sb**	**19 32 35.2**	**+0.6**
	21nm,0.4s						
MTBS	**Maitube**	**2.52**	**304**	Pg	**Pb**	**19 32 02.0**	**-1.5**
	5.1nm,0.2s						
MTBS				Lg	Lg	19 32 35.3	
	21nm,0.3s						
BOOM	**Boomskoye usch**	**2.59**	**288**	⇑*iP*	**Pn**	**19 32 01.0**	**+0.8**
	baz=91						
BOOM				⇑*iS*	**Sn**	**19 32 33.4**	**+1.6**
	baz=91						
DJR	**Jarkent**	**2.61**	**8**	*eP*	**Pb**	**19 32 05.0**	**-0.2**
	8.1nm,0.3s						
DJR				*eS*	**Sg**	**19 32 40.1**	**-2.0**
	46nm,0.4s						
DJR	**Jarkent**	**2.61**	**8**	Pg	**Pb**	**19 32 05.0**	**-0.2**
	7.1nm,0.5s						
DJR				Lg	Lg	19 32 40.1	
	45nm,0.5s						
ARXS	**Arharly**	**2.68**	**337**	*eP*	**Pb**	**19 32 05.0**	**-1.3**
	12nm,0.4s						
ARXS				*eS*	**Sb**	**19 32 40.6**	**+1.3**
	21nm,0.3s						
ARXS	**Arharly**	**2.68**	**337**	Pg	**Pn**	**19 32 03.4**	**+2.0**
	12nm,0.4s						
ARXS				Lg	Lg	19 32 37.7	
	21nm,0.3s						
KTBS	**Karatobe**	**2.74**	**317**	*eP*	**Pb**	**19 32 05.6**	**-1.7**
	7.4nm,0.5s						
KTBS				*eS*	**Sb**	**19 32 41.4**	**+0.5**
	45nm,0.3s						
KTBS	**Karatobe**	**2.74**	**317**	Pg	**Pb**	**19 32 05.6**	**-1.7**
	7.4nm,0.5s						
KTBS				Lg	Lg	19 32 41.4	
	45nm,0.3s						
KST	**Kastek**	**2.77**	**299**	*eP*	**Pb**	**19 32 07.1**	**-0.8**
	6.9nm,0.4s						
KST				*eS*	**Sg**	**19 32 44.6**	**-2.5**
	31nm,0.5s						
KST	**Kastek**	**2.77**	**299**	Pg	**Pb**	**19 32 07.1**	**-0.8**
	6.9nm,0.4s						
KST				Lg	Lg	19 32 44.6	
	31nm,0.5s						
TKM2	**Tokmak 2**	**2.96**	**295**	⇑Pg	**Pb**	**19 32 12.5**	**+1.3**
	2.7nm,0.4s						
TKM2				⇓Lg	Lg	19 32 49.3	
	11nm,0.4s						
KUU	**Kurty**	**3.04**	**316**	*eP*	**Pb**	**19 32 11.5**	**-0.9**
	1.3nm,0.2s						
KUU				*eS*	**Sb**	**19 32 51.6**	**+2.0**
	19nm,0.4s						
KUU	**Kurty**	**3.04**	**316**	Pg	**Pb**	**19 32 11.5**	**-0.9**
	1.3nm,0.2s						
KUU				Lg	Lg	19 32 51.6	
	19nm,0.4s						
KRBS	**Karabastau**	**3.29**	**308**	*eP*	**Pb**	**19 32 15.0**	**-1.6**
	2.2nm,0.2s						
KRBS				*eS*	**Sb**	**19 32 57.6**	**+0.8**
	8.9nm,0.3s						
KRBS	**Karabastau**	**3.29**	**308**	Pg	**Pb**	**19 32 15.0**	**-1.6**
	2.2nm,0.2s						
KRBS				Lg	Lg	19 32 57.6	
	8.9nm,0.3s						
KBK	**Karagaybulak**	**3.34**	**287**	⇑*eP*	**Pn**	**19 32 11.2**	**+0.7**
	baz=89						
KBK				⇑*iS*	**Sn**	**19 32 51.8**	**+1.5**
	baz=89						
UCH	**Uchtor**	**3.58**	**279**	⇑*iP*	**Pn**	**19 32 14.6**	**+0.5**
	baz=81						
UCH				⇑*iS*	**Sn**	**19 32 57.5**	**+0.9**
	baz=81						
AAK	**Ala-Archa**	**3.66**	**286**	⇑*iP*	**Pn**	**19 32 15.6**	**+0.7**
	baz=88						
AAK				⇑*iS*	**Sn**	**19 32 59.4**	**+1.2**
	baz=88						
AAK	**Ala-Archa**	**3.66**	**286**	⇓Pg	**Pb**	**19 32 22.8**	**-0.1**
	1.2nm,0.5s						
AAK				⇑Lg	Lg	19 33 09.6	
	6.6nm,0.7s						
ARLS	**Aral**	**3.70**	**273**	⇑*iP*	**Pn**	**19 32 15.7**	**+0.2**
	baz=75						
ARLS				⇑*iS*	**Sn**	**19 32 59.5**	**+0.3**
	baz=75						
SGDS	**Sogindy**	**3.83**	**298**	Pg	**Pb**	**19 32 25.2**	**-0.6**
	2.6nm,0.4s						
SGDS				Lg	Lg	19 33 15.2	
	4.8nm,0.4s						
USP	**Ospenovka**	**3.84**	**295**	⇑*iP*	**Pn**	**19 32 18.5**	**+1.2**
	baz=97						
USP				⇑*iS*	**Sn**	**19 33 04.2**	**+1.7**
	baz=97						
AML	**Almayashu**	**4.18**	**277**	⇓*iP*	**Pn**	**19 32 22.8**	**+0.5**
	baz=79						
AML				⇓*iS*	**Sn**	**19 33 11.7**	**+0.4**
	baz=79						
EKS2	**Erkin-Say**	**4.18**	**284**	⇓*eP*	**Pn**	**19 32 23.0**	**+0.9**
	baz=86						
EKS2				⇓*iS*	**Sn**	**19 33 12.0**	**+0.9**
	baz=86						
MRKS	**Merke**	**4.60**	**285**	*eP*	**Pb**	**19 32 38.9**	**0.0**
	2.4nm,0.4s						
MRKS				*eS*	**Sb**	**19 33 38.8**	**+4.4**
	4.1nm,0.6s						
MRKS	**Merke**	**4.60**	**285**	Pg	**Pb**	**19 32 38.9**	**0.0**
	2.4nm,0.4s						
MRKS				Lg	Lg	19 33 38.8	
	4.1nm,0.6s						
MK31	**Makanchi Array**	**5.49**	**22**	⇑Pn	**Pn**	**19 32 37.3**	**-2.7**
	0.2nm,0.2s,baz=203,slow=13,SNR=11						
MK31				⇓Sn	**Sn**	**19 33 45.0**	**+1.7**
	0.3nm,0.3s,baz=197,slow=24,SNR=6.2						

DJA ***23*** *19:41:53.5±1.4,7˚.5S×6˚×13˚0E±1˚0,h226km±23km,M5.3/6, mB5.4/3,mb5.3/3,MLv5.3/6,Mw(mB)4.8/3*

IDC ***23*** *19:41:56.6±1.2,6˚.99S×129˚.85E,h132km±10km,mb4.3/19, mb1 4.4/23,mb1mx4.3/33,mbtmp4.7/23,MS3.3/4, Ms1 3.3/4,ms1mx2.8/33,Error ellipse: s-maj=14.3km s-min=9.6km az=88.0*

NEIC ***23*** *19:41:57.3±1.6,6˚.99S±0˚.07×129˚.85E±0˚.08,h142km±5km, mb4.7/73,Error ellipse: s-maj=11.0km s-min=9.6km az=82.0*

ISC 23 19:41:57.6±0.3,**7˚.06S**±0˚.04×**129˚.91E**±0˚.05,**h150**km,**n198**, σ1**^{s}56**/206,**mb4.7**/53,**3C-4D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.66**	**124**	P	**Pn**	**19 42 28.5**	**-0.3**
SAUI	**Saumlaki**	**1.66**	**124**	Pn	**Pn**	**19 42 28.7**	**-0.1**
SAUI				Sn	**Sn**	**19 42 48.5**	**-4.3**
BNDI	**Bandanaira**	**2.52**	**360**	P	**Pn**	**19 42 41.2**	**+2.2**
MSAI	**Masohi**	**3.82**	**345**	P	**Pn**	**19 42 56.4**	**+0.9**
NLAI	**Namlea**	**4.72**	**324**	P	**Pn**	**19 43 08.7**	**+1.4**
	2.0nm6µm526nm,0.8s						
FAKI	**Fak Fak**	**4.73**	**30**	P	**Pn**	**19 43 05.4**	**-2.1**
FAKI	**Fak Fak**	**4.73**	**30**	Pn	**Pn**	**19 43 04.8**	**-2.7**
MTN	**Manton Dam**	**5.87**	**168**	Pn	**Pn**	**19 43 20.4**	**-2.2**
SOEI	**Soe**	**6.19**	**244**	P	**Pn**	**19 43 25.8**	**-1.1**
SOEI	**Soe**	**6.19**	**244**	Pn	**Pn**	**19 43 25.7**	**-1.2**
SIJI	**Sorong**	**6.30**	**12**	P	**Pn**	**19 43 25.8**	**-2.6**
	27nm,0.3s,baz=55,slow=8.7,SNR=91						
SIJI				S	**Sn**	**19 44 32.4**	**-7.1**
	64nm,0.3s,baz=278,slow=20,SNR=29						
BATI	**Baumata**	**6.92**	**243**	P	**Pn**	**19 43 35.4**	**-1.2**
	101nm,0.3s,baz=63,slow=2.1,SNR=182						
BATI				S	**Sn**	**19 44 48.3**	**-5.9**
	175nm,0.3s,baz=80,slow=17,SNR=11						
MMRI	**Maumere**	**7.75**	**258**	Pn	**Pn**	**19 43 46.9**	**-0.9**
TNTI	**Ternate**	**8.19**	**342**	Pn	**Pn**	**19 43 53.1**	**-0.4**
KNRA	**Kununurra**	**8.63**	**187**	Pn	**Pn**	**19 43 56.2**	**-3.3**
KAPI	**Kappang**	**10.30**	**281**	P	**Pn**	**19 44 18.2**	**-3.4**
	0.5nm,0.3s,baz=62,slow=12,SNR=1.7						
KAPI				LR	LR	19 48 09.2	
	comp=Z,81nm,19.0s,baz=75,slow=36						
FITZ	**Fitzroy Crossi**	**11.73**	**200**	P	**Pn**	**19 44 35.7**	**-4.6**
	8.6nm,0.3s,baz=26,slow=10,SNR=412						
FITZ				S	Sn	19 46 35.1	-15
	9.6nm,0.3s,baz=255,slow=21,SNR=8.1						
FITZ				LR	LR	19 49 16.9	
	comp=Z,116nm,18.8s,baz=28,slow=37						
WB0	**Warramunga Arr**	**13.36**	**161**	Pn	**Pn**	**19 44 57.0**	**-4.4**
WRAB	**Tennant Creek**	**13.50**	**162**	P	**Pn**	**19 44 58.9**	**-4.3**
WRA	**Warramunga Arr**	**13.51**	**162**	P	**Pn**	**19 44 58.8**	**-4.5**
	11nm,0.3s,baz=334,slow=14,SNR=196						
WRA				S	Sn	19 47 19.8	-13
	8.5nm,0.3s,baz=333,slow=22,SNR=8.7						
WRA	**Warramunga Arr**	**13.51**	**162**	P	Pn	19 44 57.0	-6.3
WB2	**Warramunga Arr**	**13.51**	**162**		**Pn**	**19 44 58.7**	**-4.7**
WR0	**Warramunga Arr**	**13.59**	**161**	Pn	**Pn**	**19 45 00.1**	**-4.2**
DDMP	**Don Marcelino,**	**13.73**	**342**	*eP*	**Pn**	**19 45 02.9**	**-3.3**
MATI	**Mati**	**14.38**	**345**	*eP*	**Pn**	**19 45 14.6**	**+0.1**
SKMP	**Bagumbayan, Su**	**14.52**	**338**	*eP*	P	19 45 38.4	+20
COEN	**Coen**	**14.73**	**119**	Pn	**Pn**	**19 45 17.1**	**-1.7**
KCP	**Kidapawan**	**14.78**	**341**	⇓*eP*	**Sn**	**19 48 02.6**	**-1.2**
KCP	**Kidapawan**	**14.78**	**341**	⇓*iP*	**Pn**	**19 45 19.9**	**+0.4**
BUKP	**Musuan**	**15.61**	**342**	*eP*	**Pn**	**19 45 29.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**15.67**	**264**	Pn	**Pn**	**19 45 25.2**	**-5.2**
JAGI				IAmb	IAmb	19 45 30.4	
	comp=Z,46nm,0.7s						
PAGZ	**Pagadian**	**16.18**	**336**

MYKOM	**Kota Tinggi**	**27.45**	**288**	P		**P**		**19 47 32.0 +2.3**
ANA2	**Anatahan**	**28.03**	**34**	P		**P**		**19 47 35.9 +1.1**
NWAO	**Narrogin (SRO)**	**28.30**	**203**	P		**P**		**19 47 37.6 +0.5**
	comp=Z,5.4nm,0.5s,baz=34,slow=9.1,SNR=7.7							
NWAO	**Narrogin (SRO)**	**28.30**	**203**	P		**P**		**19 47 37.8 +0.7**
NWAO	**Narrogin (SRO)**	**28.30**	**203**	P		**P**		**19 47 37.9 +0.8**
NWAO				IAmb	IAmb			19 47 46.9
	comp=Z,45nm,1.4s							
IPM	**Ipoh**	**31.02**	**291**	P		**P**		**19 48 02.6 +1.2**
IPM				IAmb	IAmb			19 48 03.8
	comp=Z,7.8nm,0.6s							
IPM	**Ipoh**	**31.02**	**291**	P		**P**		**19 48 03.0 +1.6**
KULM	**Kulim**	**31.67**	**292**	P		**P**		**19 48 06.2 -0.8**
KULM				IAmb	IAmb			19 48 09.5
	comp=Z,14nm,1.0s							
KULM	**Kulim**	**31.67**	**292**	P		**P**		**19 48 09.0 +1.9**
RPSI	**Rantau Prapat**	**32.41**	**286**	P		**P**		**19 48 12.1 -1.4**
UBPT	**Khong Chiam**	**32.85**	**313**	P		**P**		**19 48 17.1 -0.3**
UBPT				IAmb	IAmb			19 48 22.6
	comp=Z,14nm,0.9s							
CAN	**Canberra**	**33.15**	**151**	P		**P**		**19 48 21.4 +1.7**
CAN				IAmb	IAmb			19 48 41.0
	comp=Z,28nm,1.4s							
GSI	**Gunungsitoli**	**33.31**	**283**	P		**P**		**19 48 21.2 -0.2**
JCJ	**Chichijima**	**35.98**	**19**	P		**P**		**19 48 42.7 -1.4**
JSU	**Suzuyama**	**38.35**	**1**	P		**P**		**19 49 04.2 +0.1**
JSU				IAmb	IAmb			19 49 04.5
	comp=Z,21nm,0.9s							
CM31	**Chiang Mai Arr**	**39.70**	**310**	P		**P**		**19 49 15.4 0.0**
CM31				IAmb	IAmb			19 49 16.4
	comp=Z,8.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**39.70**	**310**	P		**P**		**19 49 15.3 -0.1**
	comp=Z,7.0nm,0.7s,baz=139,slow=7.3,SNR=95							
CMAR				PcP		**PcP**		**19 51 21.0 +1.7**
	comp=Z,1.3nm,0.7s,baz=177,slow=2.6,SNR=5.7							
CMAR				ScP		**ScP**		**19 54 55.6 +1.4**
	comp=Z,2.2nm,0.9s,baz=149,slow=3.8,SNR=9.8							
CMAR	**Chiang Mai Arr**	**39.70**	**310**	P		**P**		**19 49 14.8 -0.6**
CMAR						**PcP**		**19 51 20.7 +1.4**
CMAR						**ScP**		**19 54 55.2 +0.9**
CHTO	**Chiang Mai**	**39.91**	**311**	P		**P**		**19 49 17.7 +0.5**
CHTO				IAmb	IAmb			19 49 18.4
	comp=Z,12nm,0.7s							
GYA	**Guiyang**	**40.24**	**327**	*e*P		**P**		**19 49 21.0 +1.1**
GYA				pmax		pmax		
	comp=Z,110nm,3.5s							
WHN	**Wuhan**	**40.26**	**339**	⇑P		**P**		**19 49 21.0 +1.1**
JMN	**Monobe**	**40.74**	**5**	P		**P**		**19 49 24.2 +0.3**
JMN				IAmb	IAmb			19 49 30.4
	comp=Z,33nm,1.2s							
JHS	**Saijyo**	**41.95**	**4**	P		**P**		**19 49 33.9 +0.3**
JHS				IAmb	IAmb			19 49 34.9
	comp=Z,21nm,1.0s							
ENH	**Enshi**	**41.98**	**333**	P		**P**		**19 49 33.5 -0.5**
JWT	**Wachi**	**42.44**	**7**	P		**P**		**19 49 37.8 +0.2**
INU	**Inuyama**	**42.71**	**9**	P		**P**		**19 49 39.8 0.0**
INU				IAmb	IAmb			19 49 59.8
	comp=Z,23nm,1.3s							
JGF	**Kuroka**	**43.01**	**9**	P		**P**		**19 49 42.0 -0.3**
MAJO	**Matsushiro**	**44.07**	**10**	P		**P**		**19 49 50.0 -0.7**
MAJO				IAmb	IAmb			19 49 51.0
	comp=Z,25nm,0.8s							
MJAR	**Matsushiro Arr**	**44.07**	**10**	P		**P**		**19 49 49.8 -0.9**
	comp=Z,17nm,0.8s,baz=192,slow=10,SNR=45							
MJAR	**Matsushiro Arr**	**44.07**	**10**	P		**P**		**19 49 49.3 -1.4**
MJB9	**Matsu-Tunnel**	**44.07**	**10**	P		**P**		**19 49 49.8 -0.9**
JYT	**Yasato**	**44.13**	**12**	P		**P**		**19 49 50.5 -0.7**
KSRS	**Korea Array**	**44.32**	**358**	P		**P**		**19 49 53.1 +0.5**
	comp=Z,2.5nm,0.6s,baz=175,slow=8.8,SNR=13							
CD2	**Chengdu**	**45.31**	**328**	*e*P		**P**		**19 50 00.8 +0.2**
XAN	**Xi'an**	**45.46**	**335**	P		**P**		**19 50 01.3 -0.5**
XAN				pmax		pmax		
	comp=Z,14nm,0.8s							
XAN	**Xi'an**	**45.46**	**335**	P		**P**		**19 50 01.1 -0.6**
XAN				IAmb	IAmb			19 50 01.6
	comp=Z,8.2nm,0.8s							
JSD	**Sado**	**45.54**	**9**	P		**P**		**19 50 02.3 +0.1**
JSD				IAmb	IAmb			19 50 09.1
	comp=Z,15nm,1.2s							
JMM	**Marumori**	**45.84**	**12**	P		**P**		**19 50 04.9 +0.3**
BJT	**Baijiatuan**	**48.53**	**346**	P		**P**		**19 50 25.7 +0.2**
BJT				IAmb	IAmb			19 50 26.1
	comp=Z,13nm,0.6s							
BJI	**Beijing**	**48.55**	**346**	P		**P**		**19 50 25.5 -0.1**
BJI				pmax		pmax		
	comp=Z,18nm,0.6s							
SHL	**Shillong**	**49.17**	**313**	P		**P**		**19 50 30.0 -0.8**
LZH	**Lanzhou**	**49.42**	**332**	⇑P		**P**		**19 50 33.5 +1.0**
LZH				pP		pP		19 51 03.3 -2.4
LZH				sP		sP		19 51 18.6 -3.4
LZH				PP		**PP**		**19 52 30.4 +2.3**
LZH				pmax		pmax		
	comp=Z,22nm,1.3s							
LZH				pmax		pmax		
	comp=Z,78nm,6.5s							
HHC	**Hu-ho-hao-te**	**50.58**	**342**	*e*P		**P**		**19 50 41.8 +0.8**
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,48nm,6.4s							
USA0B	**Ussuriysk Arra**	**51.06**	**2**	P		**P**		**19 50 45.0 +0.6**
USA0B				IAmb	IAmb			19 50 45.3
	comp=Z,7.5nm,0.6s							
USRK	**Ussuriysk Ar.**	**51.06**	**2**	P		**P**		**19 50 44.8 +0.4**
	comp=Z,6.7nm,0.5s,baz=180,slow=7.3,SNR=20							
USRK	**Ussuriysk Ar.**	**51.06**	**2**	P		**P**		**19 50 45.0 +0.6**
MDJ	**Mudanjiang**	**51.44**	**360**	P		**P**		**19 50 48.0 +0.7**
MDJ				IAmb	IAmb			19 50 48.6
	comp=Z,7.9nm,0.7s							
LSA	**Lhasa**	**52.18**	**316**	P		**P**		**19 50 54.2 +0.6**
LSA				IAmb	IAmb			19 51 01.9
	comp=Z,4.6nm,0.6s							
ODAN	**Odare**	**53.23**	**311**	*e*P		**P**		**19 51 00.9 -0.2**
	comp=Z,17nm,0.5s							
TAPN	**Taplejung**	**53.26**	**312**	*e*P		**P**		**19 51 01.3 -0.1**
	comp=Z,15nm,0.4s							
RAMN	**Ramite**	**53.87**	**311**	*e*P		**P**		**19 51 06.1 +0.3**
	comp=Z,29nm,0.5s							
GTA	**Gaotai**	**53.98**	**331**	⇑P		**P**		**19 51 07.1 +0.9**
GTA				pP		pP		19 51 39.6 -0.7
GTA				sP		sP		19 51 55.8 -0.7
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,24nm,5.8s							
GTA				LR		LR		
	comp=N,66nm,15.6s							
GTA				LR		LR		
	comp=E,54nm,15.6s							
GTA				LR		LR		
	comp=Z,46nm,15.3s							
GUN	**Gumba**	**54.92**	**311**	*e*P		**P**		**19 51 13.4 -0.1**
	comp=Z,32nm,0.6s							
PKI	**Pulchoki**	**55.10**	**311**	*e*P		**P**		**19 51 14.2 -0.5**
	comp=Z,11nm,0.5s							
PKIN	**Phulchoki**	**55.11**	**311**	*e*P		**P**		**19 51 14.0 -0.8**
	comp=Z,10nm,0.5s							
KKN	**Kakani**	**55.31**	**311**	*e*P		**P**		**19 51 15.6 -0.5**
	comp=Z,12nm,0.5s							
DMN	**Daman**	**55.34**	**311**	*e*P		**P**		**19 51 16.3 -0.1**
	comp=Z,6.7nm,0.5s							
GKN	**Gorkha**	**55.90**	**311**	*e*P		**P**		**19 51 19.7 -0.6**
	comp=Z,22nm,0.5s							
KOLN	**Koldanda**	**56.57**	**310**	*e*P		**P**		**19 51 24.7 -0.4**
	comp=Z,12nm,0.6s							
DANN	**Dangsing**	**56.74**	**311**	*e*P		**P**		**19 51 25.8 -0.6**
	comp=Z,13nm,0.6s							
PYUN	**Piuthan**	**57.20**	**310**	*e*P		**P**		**19 51 29.2 -0.3**
	comp=Z,29nm,0.6s							
ULN	**Ulaanbaatar**	**58.30**	**342**	P		**P**		**19 51 37.6 +0.9**
ULN				IAmb	IAmb			19 51 38.5
	comp=Z,9.8nm,0.7s							
SONM	**Songino Array**	**58.47**	**342**	P		**P**		**19 51 38.7 +0.7**
	comp=Z,3.2nm,0.6s,baz=155,slow=6.6,SNR=23							
SONM	**Songino Array**	**58.47**	**342**	P		**P**		**19 51 38.5 +0.6**
CASY	**Casey**	**60.62**	**189**	P		**P**		**19 51 53.0 +0.8**
CASY				IAmb	IAmb			19 51 54.2
	comp=Z,6.9nm,0.9s							
WMQ	**Urumqi**	**63.40**	**327**	*e*P		**P**		**19 52 13.3 +2.1**
WMQ				pmax		pmax		
	comp=Z,53nm,4.1s							
PETK	**Petropavlovsk-**	**64.41**	**18**	P		**P**		**19 52 18.8 +1.3**
	comp=Z,12nm,0.5s,baz=169,slow=4.1,SNR=34							
PETK	**Petropavlovsk-**	**64.41**	**18**	P		**P**		**19 52 19.0 +1.5**
NIL	**Nilore**	**67.19**	**311**	P		**P**		**19 52 35.8 +0.1**
NIL				IAmb	IAmb			19 52 37.4
	comp=Z,5.9nm,0.6s							
ZSN	**Zaisan**	**67.28**	**329**	*e*P		**P**		**19 52 35.8 -0.2**
SHLS	**Shalkode**	**67.71**	**322**	*e*P		**P**		**19 52 37.1 -1.8**
UZB	**Uzynbulak**	**67.97**	**322**	*e*P		**P**		**19 52 40.8 +0.1**
MK31	**Makanchi Array**	**68.23**	**327**	P		**P**		**19 52 42.7 +0.7**
MK31				IAmb	IAmb			19 52 43.9
	comp=Z,8.9nm,0.7s							
MKAR	**Makanchi Array**	**68.23**	**327**	P		**P**		**19 52 43.0 +0.9**
	comp=Z,14nm,0.6s,baz=124,slow=8.0,SNR=144							
MKAR	**Makanchi Array**	**68.23**	**327**	P		**P**		**19 52 42.5 +0.5**
SATY	**Saty**	**68.30**	**322**	*e*P		**P**		**19 52 43.1 +0.4**
KPKS	**Kokpek**	**68.36**	**322**	*e*P		**P**		**19 52 43.0 0.0**
MAKZ	**Makanchi**	**68.41**	**327**	P		**P**		**19 52 43.7 +0.6**
MAKZ				IAmb	IAmb			19 52 44.8
	comp=Z,9.7nm,0.7s							
YAK	**Yakutsk**	**68.89**	**360**	P		**P**		**19 52 46.1 +0.4**
TNSS	**Tian-Shan**	**69.19**	**321**	*e*P		**P**		**19 52 49.1 +0.6**
MDOK	**Medeo**	**69.19**	**321**	*e*P		**P**		**19 52 48.3 +0.1**
TKM2	**Tokmak 2**	**69.97**	**321**	P		**P**		**19 52 54.3 +1.2**
	SNR=12							
KUU	**Kurty**	**70.02**	**322**	*e*P		**P**		**19 52 53.6 +0.5**
	comp=Z,12nm,0.5s							
KBK	**Karagaybulak**	**70.25**	**320**	P		**P**		**19 52 56.6 +1.9**
	SNR=5.0							
UCH	**Uchtor**	**70.31**	**320**	P		**P**		**19 52 57.0 +1.5**
	SNR=8.9							
AAK	**Ala-Archa**	**70.53**	**320**	P		**P**		**19 52 58.0 +1.5**
	SNR=5.9							
AML	**Almayashu**	**70.80**	**319**	P		**P**		**19 52 59.9 +1.6**
	SNR=8.5							
USP	**Osipenovka**	**70.84**	**320**	P		**P**		**19 52 59.4 +1.2**
	SNR=13							
EKS2	**Erkin-Say**	**71.00**	**320**	P		**P**		**19 53 00.9 +1.7**
	SNR=14							
ZAA0	**Zalesovo Array**	**71.60**	**334**	P		**P**		**19 53 02.4 0.0**
ZALV	**Zalesovo Beam**	**71.60**	**334**	P		**P**		**19 53 01.4 -1.0**
	comp=Z,1.3nm,0.4s,baz=116,slow=3.4,SNR=10							
ZALV	**Zalesovo Beam**	**71.60**	**334**	P		**P**		**19 53 02.2 -0.2**
BTK	**Batken**	**71.76**	**316**	P		**P**		**19 53 04.2 +0.4**
BTLS	**Baital**	**72.02**	**322**	*e*P		**P**		**19 53 05.5 +0.4**
VNDA	**Vanda**	**72.40**	**173**	P		**P**		**19 53 08.0 +1.1**
	comp=Z,2.0nm,0.7s,baz=316,slow=7.4,SNR=7.5							
VNDA	**Vanda**	**72.40**	**173**	P		**P**		**19 53 07.9 +1.1**
KURK	**Kurchatov**	**72.52**	**329**	P		**P**		**19 53 08.5 +0.5**
DZA	**Taraz**	**72.69**	**319**	*e*P		**P**		**19 53 08.9 -0.3**
IUG	**Iuzhnay**	**73.22**	**318**	*e*P		**P**		**19 53 13.4 +1.0**
KK31	**Karatay Array**	**73.33**	**319**	P		**P**		**19 53 12.8 -0.1**
KKAR	**Karatay Array**	**73.33**	**319**	P		**P**		**19 53 13.0 +0.1**
KKAR	**Karatay Array**	**73.33**	**319**	P		**P**		**19 53 13.1 +0.1**
MAW	**Mawson**	**74.86**	**201**	P		**P**		**19 53 22.9 +1.6**
	comp=Z,8.7nm,0.6s,baz=72,slow=5.9,SNR=16							
MAW	**Mawson**	**74.86**	**201**	P		**P**		**19 53 22.9 +1.6**
BRZS	**Berezniki**	**75.31**	**326**	*e*P		**P**		**19 53 24.1 -0.1**
HRA	**Herat**	**75.92**	**308**	P		**P**		**19 53 28.6 +0.3**
BRVK	**Borovoye**	**78.14**	**328**	P		**P**		**19 53 40.4 +0.5**
TIXI	**Tiksi**	**78.55**	**360**	P		**P**		**19 53 42.0 +0.1**
GEYT	**Alibeck**	**80.18**	**310**	P		**P**		**19 53 52.3 +0.8**
	comp=Z,3.0nm,0.6s,baz=167,slow=7.0,SNR=8.6							
GEYT	**Alibeck**	**80.18**	**310**	P		**P**		**19 53 52.1 +0.6**
GYA0B	**ALIBECK ARRAY**	**80.18**	**310**	P		**P**		**19 53 52.3 +0.8**
ABKAR	**Akbulak array**	**82.50**	**322**	P		**P**		**19 54 03.9 +0.5**
ABKAR	**Akbulak array**	**82.50**	**322**	P		**P**		**19 54 04.1 +0.7**
QSPA	**South Pole Qui**	**82.91**	**180**	P		**P**		**19 54 05.9 +0.5**
QSPA				IAmb	IAmb			19 54 06.8
	comp=Z,9.7nm,0.7s							
SYO	**Syowa Base**	**83.57**	**201⇓**	*e*P		**P**		**19 54 08.2 -0.3**
SYO	**Syowa Base**	**83.57**	**201⇓**	*e*PcP		**PcP**		**19 54 14.6 +2.2**
KBZ	**Khabaz**	**92.67**	**314**	P		**P**		**19 54 53.4 +0.9**
	comp=Z,1.0nm,0.7s,baz=13,slow=4.6,SNR=3.9							
WRH	**Wood River Hil**	**92.88**	**25**	P		**P**		**19 54 52.7 -0.4**
WRH				IAmb	IAmb			19 54 53.6
	comp=Z,5.3nm,1.0s							
CCB	**Clear Creek Bu**	**93.03**	**25**	P		**P**		**19 54 53.4 -0.3**
CCB				IAmb	IAmb			19 55 12.2
	comp=Z,5.3nm,1.2s							
HDA	**Harding Lake**	**93.36**	**26**	P		**P**		**19 54 54.9 -0.4**
HDA				IAmb	IAmb			19 54 55.3
	comp=Z,5.3nm,1.1s							
ILAR	**Eielson Array**	**93.44**	**25**	P		**P**		**19 54 54.7 -1.0**
	comp=Z,1.3nm,0.8s,baz=259,slow=4.4,SNR=8.7							
ILAR				PKKPbc		**PKKPdf**		**20 12 02.9 +0.2**
	comp=Z,0.4nm,1.0s,baz=27,slow=1.3,SNR=4.7							
SNAA	**Sanae**	**95.58**	**194**	P		**P**		**19 55 06.4 +0.9**
SNAA	**Sanae**	**95.58**	**194**	P		**P**		**19 55 06.4 +0.9**
VNA2	**Neumayer--Watz**	**97.15**	**193**	P		Pdif		19 55 14.1 +1.5
	baz=129,slow=4.3							
VNA3	**Neumayer Olymp**	**97.40**	**192**	P		Pdif		19 55 14.1 +0.4
TORD	**Torodi Ar. Bea**	**128.73**	**281**	PKP		**PKiKP**		**20 00 48.9 +0.1**
	comp=Z,48nm,0.4s,baz=63,slow=2.0,SNR=11							
TORD				SKPbc		SKPbc		20 03 56.1
	comp=Z,4.6nm,0.9s,baz=71,slow=3.1,SNR=19							
SCHQ	**Schefferville**	**130.51**	**13**	SKPbc		**SKPab**		**20 04 01.6 +1.3**
	comp=Z,9.1nm,0.8s,baz=360,slow=2.5,SNR=5.1							
MDT	**Midelt**	**130.68**	**308**	SKPbc		**SKPab**		**20 04 03.1 +1.3**
	comp=Z,1.6nm,0.7s,baz=79,slow=5.5,SNR=6.6							
KOWA	**Kowa**	**134.21**	**283**	PKP		**PKiKP**		**20 01 00.3 +0.5**
	comp=Z,1.1nm,0.5s,baz=82,slow=9.8,SNR=3.6							
KOWA				SKPbc		**SKPbc**		**20 04 14.9 +0.6**
	comp=Z,1.9nm,0.7s,baz=97,slow=3.0,SNR=4.8							
KOWA	**Kowa**	**134.21**	**283**			**SKPbc**		**20 04 14.8 +0.5**
DBIC	**Dimbokro**	**135.10**	**272**	PKP		**PKiKP**		**20 01 02.2 +0.5**
	comp=Z,2.2nm,0.5s,baz=155,slow=6.2,SNR=5.4							
DBIC				SKPbc		**SKPbc**		**20 04 17.9 +0.7**
	comp=Z,2.1nm,0.5s,baz=85,slow=4.9,SNR=4.9							
CPUP	**Villa Florida**	**146.07**	**168**	PKPbc		**PKPab**		**20 01 22.4 +1.0**
	comp=Z,10.0nm,0.6s,baz=174,slow=2.3,SNR=19							
CPUP				SKPbc		**SKiKP**		**20 04 48.0 +1.7**
	comp=Z,4.4nm,0.8s,baz=115,slow=2.1,SNR=6.6							
CPUP	**Villa Florida**	**146.07**	**168**			**PKPab**		**20 01 22.2 +0.7**
CPUP						**SKiKP**		**20 04 47.7 +1.5**
LPAZ	**La Paz**	**150.72**	**143**	PKPbc		**PKiKP**		**20 01 36.0 +1.5**
	comp=Z,4.2nm,0.4s,baz=24,slow=2.4,SNR=24							
RCBR	**Riachuelo**	**160.91**	**228**	PKPab		**PKPab**		**20 02 26.4 +2.2**
	comp=Z,9.9nm,0.7s,baz=118,slow=6.6,SNR=5.5							

*TEH **23** 20:17:20.3, 32.60N×47.82E, h14km, ML3.1*
*ISN **23** 20:17:22.2±1.2, 32.71N×47.68E, h6km±7km, ML2.8*
ISC 23 20:17:20.9±1.0, 32.59N±0.04×47.84E±0.04, h10km, n36,
σ1§14/39, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.93**	**1**	*e*Pg	**Pg**	**20 17 37.5**	**-1.4**
IKFM				*e*		20 18 00.5	
SHGR	**Shooshtar-Gavs**	**0.95**	**120**	*e*Pg	**Pg**	**20 17 39.7**	**+0.5**
IKMR	**Kamar-syah**	**1.03**	**26**	*e*Pg	**Pg**	**20 17 39.8**	**-1.0**
IKMR				*e*		20 17 44.8	
IDOB	**Doab**	**1.23**	**13**	*e*Pg	**Pb**	**20 17 42.5**	**-1.9**
AHWZ	**Ahwaz**	**1.43**	**151**	*e*Pg	**Pn**	**20 17 46.7**	**-0.3**
AHWZ				*e*Sg	**Sg**	**20 18 08.5**	**+1.5**
IKOM	**Komasi**	**1.60**	**350**	*e*Pg	**Pn**	**20 17 50.1**	**+0.6**
IKOM				*e*		20 17 53.6	
IBDR	**Badra**	**1.69**	**288**	*e*Pg	**Pn**	**20 17 51.0**	**+0.5**
	baz=105						
IBDR				*e*Sg	**Sn**	**20 18 13.0**	**+0.9**
IBDR				AML	AML	20 18 21.1	
	comp=N,187nm,0.6s						
IBDR				AML	AML	20 18 27.9	
	comp=E,147nm,0.6s						
HSAM	**Samen**	**1.74**	**21**	*e*Pg	**Pn**	**20 17 52.9**	**+1.4**
HSAM				*e*		20 18 23.7	
KCHF	**Cheshme Sefid,**	**1.81**	**339**	*e*Pg	**Pn**	**20 17 53.6**	**+1.3**
KCHF				*e*		20 17 58.5	
IBZA	**Bozab**	**1.88**	**1**	*e*Pg	**Pn**	**20 17 54.6**	**+1.3**
IBZA				*e*		20 17 58.8	
IGHG	**Ghaleghazi**	**2.03**	**329**	*e*Pn	**Pn**	**20 17 56.7**	**+1.2**
IGHG				*e*		20 18 39.7	
IVIS	**Veis**	**2.10**	**337**	*e*Pn	**Pn**	**20 17 57.0**	**+0.7**
IVIS				*e*		20 18 40.6	
KHMZ	**Khomeyn**	**2.12**	**57**	*e*Pn	**Pn**	**20 17 58.3**	**+1.7**
IALM	**Almabolaq**	**2.28**	**7**	*e*Pn	**Pn**	**20 17 59.5**	**+0.6**
IDHR	**Dehrash**	**2.43**	**331**	*e*Pn	**Pn**	**20 18 01.7**	**+0.8**
IDHR				*e*		20 18 42.7	
ILIN	**Lien**	**2.43**	**343**	*e*Pn	**Pn**	**20 18 02.2**	**+1.2**
ILIN				*e*		20 18 49.7	
HAGD	**Aghdareh**	**2.48**	**26**	*e*Pn	**Pn**	**20 18 02.2**	**+0.6**
HAGD				*e*		20 18 47.8	
IPIR	**Pirpir**	**2.58**	**87**	*e*Pn	**Pn**	**20 18 03.7**	**+0.6**
IPIR				*e*		20 18 54.0	
HSRG	**Sareghieh**	**2.67**	**8**	*e*		20 18 52.1	
HSRG				*e*Pn	**Pn**	**20 18 06.3**	**+2.0**
ASAO	**Ashtian**	**2.67**	**43**	*e*Pn	**Pn**	**20 18 06.7**	**+2.4**
BHD	**Baghdad**	**2.98**	**284**	*e*Pn	**Pn**	**20 18 09.0**	**+0.7**
BHD				*e*Sn	**Sn**	**20 18 45.0**	**+0.8**
IKLH	**Kolahrood**	**3.23**	**76**	*e*Pn	**Pn**	**20 18 12.9**	**+0.9**
IKLH				*e*		20 19 09.7	
QABG	**Abgarm-Qazvin**	**3.43**	**24**	*e*Pn	**Pn**	**20 18 15.8**	**+1.1**
GHVR	**GHOM**	**3.45**	**56**	*e*Pn	**Pn**	**20 18 16.1**	**+1.3**
IQOM	**Qom**	**3.51**	**49**	*e*Pn	**Pn**	**20 18 16.6**	**+0.8**
IGAR	**Gharneh**	**3.56**	**92**	*e*Pn	**Pn**	**20 18 16.4**	**-0.1**
IGAR				*e*		20 19 05.5	
KLNJ	**Kolanjah**	**3.56**	**115**	*e*Pn	**Pn**	**20 18 16.3**	**-0.4**
KLNJ				*e*		20 19 25.7	
IZEF	**Zefreh**	**3.80**	**84**	*e*Pn	**Pn**	**20 18 20.3**	**+0.5**
KRSH	**Karshahi**	**3.85**	**68**	*e*Pn	**Pn**	**20 18 21.6**	**+1.1**
IRAM	**Ramesheh**	**3.93**	**100**	*e*Pn	**Pn**	**20 18 20.7**	**-0.9**
QALM	**Alamut, Qazvin**	**4.48**	**30**	*e*Pn	**Pn**	**20 18 29.7**	**+0.6**
IDMV	**Damavand**	**4.58**	**48**	*e*Pn	**Pn**	**20 18 32.1**	**+1.5**
ANAR	**Anarak**	**4.99**	**82**	*e*Pn	**Pn**	**20 18 35.8**	**-0.3**
ILAS	**Lasjerd**	**5.08**	**55**	*e*Pn	**Pn**	**20 18 37.6**	**+0.1**
ISHM	**Shahmirzad**	**5.54**	**53**	*e*Pn	**Pn**	**20 18 45.1**	**+1.3**
IANJ	**Anjilo**	**5.80**	**59**	*e*Pn	**Pn**	**20 18 48.3**	**+1.0**

*NEIC **23** 20:17:50.2±1.2, 29.91N±0.08×138.8E±0.1, h400km±8km, mb4.0/28, Error ellipse: s-maj=17.3km s-min=12.2km az=83.0*
*IDC **23** 20:17:51.0±1.0, 29.95N×138.93E, h409km±10km, mb3.3/14, mb1 3.4/19, mb1mx3.3/41, mbtmp4.1/19, Error ellipse: s-maj=17.5km s-min=10.6km az=80.0*
*JMA **23** 20:17:51.9±0.2, 30.07N×139.50E, h402km, M3.6*
ISC 23 20:17:50.3±0.6, 30.00N±0.06×138.85E±0.09, h400km, n83,
σ1§43/88, mb3.8/27, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.21**	**14**	P	**Pn**	**20 18 57.9**	**+2.7**
	34nm,0.3s,baz=228,slow=13,SNR=1.9						
JHJ				S	**S**	**20 19 49.0**	**+1.3**
	24nm,0.3s,baz=81,slow=20,SNR=1.5						
JHJ2	**Mitsune**	**3.21**	**15**	Pn	**Pn**	**20 18 55.8**	**+0.7**
CBIJ	**Chichi jima**	**4.12**	**134**	P	**Pn**	**20 19 02.2**	**-1.4**
JCJ	**Chichijima**	**4.12**	**134**		**Pn**	**20 19 02.3**	**-1.3**
JIE	**Ise**	**4.74**	**338**	P	Pn	20 19 14.4	+4.9
BSO1	**Boso 1**	**4.98**	**21**	P	**Pn**	**20 19 13.0**	**+1.7**
BSO3	**Boso 3**	**4.99**	**16**	*e*S	**S**	**20 20 15.4**	**-2.7**
JOD2	**Odawara 2**	**5.25**	**2**	P	**Pn**	**20 19 17.1**	**+2.3**
JHU	**Hanno**	**5.85**	**3**	P	**Pn**	**20 19 21.8**	**+0.7**
JHU				*e*S	**S**	**20 20 32.0**	**-3.2**
JRY	**Ryogami san**	**6.00**	**0**	P	**Pn**	**20 19 24.5**	**+1.7**
JRY				S	**S**	**20 20 35.5**	**-2.8**
JYT	**Yasato**	**6.31**	**10**	*e*S	**S**	**20 20 40.3**	**-4.1**
JYT	**Yasato**	**6.31**	**10**		**Pn**	**20 19 26.1**	**-0.1**
JAG	**Ashikaga**	**6.43**	**4**	P	**Pn**	**20 19 27.7**	**+0.2**
JAG				S	**S**	**20 20 41.6**	**-5.2**
MJAR	**Matsushiro Arr**	**6.55**	**355**	P	**P**	**20 19 29.9**	**+0.5**
	0.2nm,0.3s,baz=179,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**6.55**	**355**		**Pn**	**20 19 29.7**	**+0.9**
MAJO	**Matsushiro**	**6.55**	**355**		**P**	**20 19 30.4**	**+1.0**
JHO	**Hitachi**	**6.75**	**12**	S	**S**	**20 20

INK					IAmb	IAmb	20 27 39.9		
	comp=Z,7.7nm,1.2s								
BBOO	**Buckleboo**	**62.52**	**183**		P	**P**	**20 27 33.0**	**-0.1**	
BBOO					IAmb	IAmb	20 27 36.5		
	comp=Z,14nm,1.4s								
NWAO	**Narrogin (SRO)**	**65.85**	**200**		P	**P**	**20 27 53.4**	**-1.0**	
ARCES	**ARCESS Array B**	**69.83**	**340**		P	**P**	**20 28 19.1**	**+0.6**	
	comp=Z,12nm,1.3s,baz=60,slow=7.3,SNR=4.5								
KBZ	**Khabaz**	**73.89**	**311**		P	**P**	**20 28 43.2**	**+0.5**	
	comp=Z,1.9nm,0.7s,baz=65,slow=6.9,SNR=6.9								
FINES	**FINESS Array B**	**74.04**	**333**		P	**P**	**20 28 43.4**	**+0.1**	
	comp=Z,1.2nm,0.4s,baz=71,slow=5.2,SNR=9.0								
NOA	**NORSAR Array B**	**79.82**	**337**		P	**P**	**20 29 14.1**	**-1.1**	
	comp=Z,0.7nm,0.8s,baz=52,slow=4.5,SNR=1.6								
NVAR	**Mina Array Bea**	**81.00**	**51**		P	**P**	**20 29 22.9**	**+0.8**	
	comp=Z,1.0nm,0.7s,baz=288,slow=7.8,SNR=5.5								
NVAR	**Mina Array Bea**	**81.00**	**51**		P	**P**	**20 29 22.6**	**+0.5**	
BRTR	**Keskin Array B**	**81.89**	**311**		P	**P**	**20 29 26.5**	**0.0**	
	comp=Z,1.5nm,0.8s,baz=67,slow=3.2,SNR=7.1								
BRTR	**Keskin Array B**	**81.89**	**311**		P	**P**	**20 29 26.8**	**+0.3**	

UPA ***23*** *20:28:07.9±0.6,8.˚48N×83.˚88W, h14km±21km, MW4.3*
UCR ***23*** *20:28:07.7±1.4,8.˚47N×83.˚87W, h7km±6km, MW3.9*
ISC 23 20:28:07.3±2.1,8.˚46N±0.˙08×83.˚87W±0.˙06, h14km±10km,
n19,σ0°79/34,1D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOS	**Rincon, Osa**	**0.43**	**56**	*e*P	**Pg**	**20 28 16.2**	**+0.4**
RIOS				*e*S	**Sb**	**20 28 22.9**	**0.0**
PTJ1	**Puerto Jimnez**	**0.57**	**83**	*e*P	**Pb**	**20 28 19.4**	**+0.3**
PTJ1				*e*S	**Sb**	**20 28 28.4**	**+1.3**
EDPN	**Palmar Norte**	**0.65**	**40**	*e*P	**Pg**	**20 28 20.2**	**+0.3**
EDPN				*e*S	**Sb**	**20 28 30.2**	**+1.0**
EDDO	**Dominical**	**0.79**	**1**	*e*P	**Pg**	**20 28 22.3**	**-0.3**
EDDO				*e*S	**Sb**	**20 28 33.9**	**+0.7**
EDBA	**Buenos Aires**	**0.91**	**40**	*e*S	**Sb**	**20 28 37.6**	**+0.6**
EDSV	**San Vito**	**0.96**	**68**	*e*P	**Pg**	**20 28 25.8**	**-0.1**
EDSV				*e*S	**Sb**	**20 28 40.1**	**+1.6**
CDITO	**Canoas**	**1.00**	**84**	*i* P	**Pg**	**20 28 25.9**	**-0.7**
CDITO				*e*S	**Sg**	**20 28 39.4**	**-0.3**
DRK0	**Durika**	**1.01**	**38**	*e*P	**Pg**	**20 28 26.4**	**-0.5**
DRK0				*e*S	**Sg**	**20 28 39.9**	**-0.2**
DRK0	**Durika**	**1.01**	**38**	*e*P	**Pg**	**20 28 26.0**	**-0.9**
DRK0				*e*S	**Sb**	**20 28 40.4**	**+0.5**
BRU2	**Volcan**	**1.22**	**74**	*e*P	**Pn**	**20 28 29.7**	**-0.3**
BRU2				*e*S	**Sb**	**20 28 46.7**	**+0.9**
BRU2	**Volcan**	**1.22**	**74**	*e*P	**Pn**	**20 28 29.5**	**-0.5**
BRU2				*e*S	**Sb**	**20 28 46.5**	**+0.7**
LCR2	**La Lucha 2**	**1.28**	**354**	*e*P	**Pn**	**20 28 30.5**	**-0.5**
LCR2				*e*S	**Sb**	**20 28 48.0**	**+0.3**
RIMA	**Rio Macho**	**1.30**	**0**	*e*P	**Pn**	**20 28 30.9**	**-0.3**
RIMA				*e*S	**Sb**	**20 28 48.7**	**+0.5**
BC3P	**Paso Ancho**	**1.30**	**74**	*e*P	**Pn**	**20 28 30.8**	**-0.5**
BCO2	**Palmira**	**1.35**	**79**	*e*P	**Pn**	**20 28 31.8**	**-0.1**
BCO2				*e*S	**Sb**	**20 28 49.6**	**-0.2**
DVD	**David**	**1.41**	**91**	*e*S	**Sn**	**20 28 51.5**	**+0.6**
PEDE3	**Pedregal, Chir**	**1.44**	**93**	*e*P	**Pn**	**20 28 33.3**	**+0.4**
PEDE3				*e*S	**Sn**	**20 28 49.6**	**-2.0**
PSOM3	**Paja de Sombre**	**1.55**	**82**	⇓*i* P	**Pn**	**20 28 34.5**	**-0.1**
JTS	**Las Juntas de**	**2.10**	**330**	*e*P	**Pn**	**20 28 43.7**	**+1.5**
JTS				*e*S	**Sb**	**20 29 10.4**	**-0.9**

WEL 23 21:12:26.9,43˚S±2˚×17˚1E±˚, h7km±2km**, M2.4/6, ML2.4/6, MLv2.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=171.6, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHCZ	**Mount Hutt**	**0.25**	**113**	P	Pb	21 12 33.6	-0.3
RPZ	**Rata Peaks**	**0.31**	**207**	P	Pb	21 12 34.8	-0.1
RPZ				S	Sb	21 12 39.3	-0.9
ARCZ	**Arundel**	**0.52**	**186**	P	Pb	21 12 38.4	+0.1
WVZ	**Waitaha Valley**	**0.52**	**314**	P	Pb	21 12 38.5	+0.2
WVZ				S	Sb	21 12 45.5	-0.6
WACZ	**Wakanui South**	**0.67**	**140**	P	Pb	21 12 41.7	+0.8
WACZ				S	Sb	21 12 51.3	+1.0
GCSZ	**Gaunt Creek Bo**	**0.68**	**280**	P	Pb	21 12 41.5	+0.4
INZ	**Inchbonnie**	**0.72**	**12**	P	Pb	21 12 42.1	+0.3
LTZ	**Lake Taylor**	**0.99**	**49**	P	Pn	21 12 48.3	+1.0
LTZ				S	Sn	21 13 01.1	-0.5
FOZ	**Fox Glacier**	**1.05**	**264**	P	Pn	21 12 48.4	+0.4
MQZ	**McQueen's Vall**	**1.06**	**105**	P	Pn	21 12 48.5	+0.4
LBZ	**Lake Benmore**	**1.22**	**219**	P	Pn	21 12 51.1	+0.7
ODZ	**Otahua Downs**	**1.67**	**195**	P	Pn	21 12 56.8	+0.3

CNRM ***23*** *21:27:29.7±2.1,36.˚37N×9.˚82W, h3km±11km, Error ellipse: s-maj=23.1km s-min=6.3km az=112.0*
MDD ***23*** *21:27:32.9±1.1,36.˚48N×9.˚97W, h40km, mbLg2.8/42, Error ellipse: s-maj=10.4km s-min=7.4km az=44.0, PRXIMO*
SFS ***23*** *21:27:33.0,36.˚53N×9.˚95W, h30km, ML3.0, SW. CABO DE SAN VICENTE*
IGIL ***23*** *21:27:34.3,36.˚55N×9.˚80W, h15km, ML2.7*
INMG ***23*** *21:27:34.1±1.3,36.˚48N×9.˚93W, h31km, ML2.5, Error ellipse: s-maj=4.7km s-min=3.4km az=67.0*
ISC 23 21:27:30.5±1.9,36.˚46N±0.˙06×9.˚96W±0.˙08, h35km**, n82,**
σ1°93/146, 4C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.13**	**53**	⇑P	**Pn**	**21 27 51.8**	**+2.0**
	25nm,0.1s,SNR=18						
PFVI				S	**Sn**	**21 28 04.9**	**+0.8**
	96nm,0.1s,SNR=26						
PFVI	**Vila Bisbo**	**1.13**	**53**	P	**Pn**	**21 27 51.8**	**+2.0**
PFVI				S	**Sn**	**21 28 05.1**	**+1.0**
PFVI	**Vila Bisbo**	**1.13**	**53**	⇑*i*P	**Pn**	**21 27 51.8**	**+2.0**
PFVI				*e*S	**Sn**	**21 28 05.0**	**+0.9**
PFVI				A	A	21 28 05.9	
	60nm,0.1s						
MORF	**Marmelete**	**1.34**	**51**	*e*P	**Pn**	**21 27 54.8**	**+2.0**
MORF				*e*S	**Sn**	**21 28 09.7**	**+0.1**
MORF				AML	AML	21 28 10.8	
	comp=N,114nm,0.1s						
MORF	**Marmelete**	**1.34**	**51**	P	**Pn**	**21 27 54.9**	**+2.0**
MORF				S	**Sn**	**21 28 10.3**	**+0.8**
	comp=N,100nm,0.1s						
MORF	**Marmelete**	**1.34**	**51**	*e*P	**Pn**	**21 27 54.9**	**+2.0**
MORF				*e*S	**Sn**	**21 28 10.3**	**+0.8**
MORF				A	A	21 28 11.0	
	comp=N,100nm,0.1s						
PTEO	**Sao Teotonio**	**1.47**	**42**	P	**Pn**	**21 27 56.8**	**+2.4**
PTEO				S	**Sn**	**21 28 13.3**	**+0.9**
	comp=N,16nm,0.3s						
PTEO	**Sao Teotonio**	**1.47**	**42**	*e*P	**Pn**	**21 27 56.8**	**+2.4**
PTEO				*e*S	**Sn**	**21 28 13.3**	**+0.9**
PTEO				A	A	21 28 17.3	
	comp=N,31nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.80**	**64**	P	**Pn**	**21 28 01.2**	**+2.1**
PBDV				S	**Sn**	**21 28 21.1**	**+0.3**
	comp=N,18nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.80**	**64**	⇑*e*P	**Pn**	**21 28 01.2**	**+2.1**
PBDV				*e*Sn	**Sn**	**21 28 21.1**	**+0.3**
PBDV				A	A	21 28 24.8	
	comp=N,18nm,0.2s						
PCVE	**Castro Verde**	**1.93**	**52**	P	**Pn**	**21 28 03.1**	**+2.3**
PCVE				S	**Sn**	**21 28 24.9**	**+1.0**
	comp=N,36nm,0.4s						
PCVE	**Castro Verde**	**1.93**	**52**	*e*Pn	**Pn**	**21 28 03.1**	**+2.3**
PCVE				*e*Sn	**Sn**	**21 28 24.9**	**+1.0**
PCVE				A	A	21 28 26.6	
	comp=N,36nm,0.4s						
PNCL	**Nicolau / Gran**	**2.00**	**34**	P	**Pn**	**21 28 03.8**	**+2.0**
PNCL				S	**Sn**	**21 28 26.1**	**+0.5**
	comp=N,23nm,0.1s						
PNCL	**Nicolau / Gran**	**2.00**	**34**	*e*Pn	**Pn**	**21 28 03.8**	**+2.0**
PNCL				*e*Sn	**Sn**	**21 28 26.1**	**+0.5**
PNCL				A	A	21 28 29.5	
	comp=N,23nm,0.1s						
PVAQ	**Vaqueiros**	**2.03**	**62**	P	**Pn**	**21 28 04.2**	**+2.0**
PVAQ				S	**Sn**	**21 28 26.6**	**+0.3**
	comp=N,31nm,0.1s						
PVAQ	**Vaqueiros**	**2.03**	**62**	P	**Pn**	**21 28 04.0**	**+1.9**
PVAQ	**Vaqueiros**	**2.03**	**62**	⇑*e*Pn	**Pn**	**21 28 04.2**	**+2.0**
PVAQ				*e*Sn	**Sn**	**21 28 26.6**	**+0.3**
PVAQ				A	A	21 28 29.1	
	comp=N,31nm,0.1s						
EGRO	**El Granado**	**2.25**	**61**	P	**Pn**	**21 28 07.1**	**+1.9**
	comp=N,2.6nm,0.1s,SNR=24						
EGRO				S	**Sn**	**21 28 32.0**	**+0.2**
	comp=N,24nm,0.1s,SNR=14						
PBEJ	**Beja**	**2.29**	**46**	P	**Pn**	**21 28 07.6**	**+1.9**
PBEJ				S	**Sn**	**21 28 32.5**	**-0.2**
	comp=N,7.9nm,0.2s						
PBEJ	**Beja**	**2.29**	**46**	*e*Pn	**Pn**	**21 28 07.6**	**+1.9**
PBEJ				*e*Sn	**Sn**	**21 28 32.5**	**-0.2**
PBEJ				A	A	21 28 33.8	
	comp=N,16nm,0.2s						
PMAFR	**Mafra**	**2.54**	**12**	P	**Pn**	**21 28 11.0**	**+1.7**
	comp=N,3.9nm,0.1s,SNR=6.3						
PMAFR				S	**Sn**	**21 28 38.6**	**-0.4**
	comp=N,34nm,0.2s,SNR=13						
PMAFR	**Mafra**	**2.54**	**12**	*e*Pn	**Pn**	**21 28 11.2**	**+1.9**
PMAFR				*e*Sn	**Sn**	**21 28 39.1**	**0.0**
PMAFR				A	A	21 28 43.0	
	comp=N,29nm,0.2s						
EVO	**Evora**	**2.58**	**36**	P	**Pn**	**21 28 11.5**	**+1.7**
EVO				S	**Sn**	**21 28 39.6**	**-0.3**
	comp=N,24nm,0.1s						
EVO	**Evora**	**2.58**	**36**	*e*P	**Pn**	**21 28 11.8**	**+2.0**
EVO				*e*S	**Sn**	**21 28 39.3**	**-0.7**
EVO	**Evora**	**2.58**	**36**	*e*Pn	**Pn**	**21 28 11.5**	**+1.7**
EVO				*e*Sn	**Sn**	**21 28 39.6**	**-0.3**
EVO				A	A	21 28 41.8	
	comp=N,24nm,0.1s						
PBAR	**Barrancos**	**2.89**	**53**	S	**Sn**	**21 28 47.6**	**+0.1**
	comp=N,21nm,0.5s						
PBAR	**Barrancos**	**2.89**	**53**	S	**Sn**	**21 28 47.6**	**+0.1**
PBAR				A		21 29 14.3	
	comp=N,21nm,0.5s						
EMIN	**Mina Concepcio**	**2.93**	**63**	P	**Pn**	**21 28 16.1**	**+1.4**
	comp=N,1.2nm,0.1s,SNR=31						
EMIN				S	**Sn**	**21 28 47.4**	**-1.2**
	comp=N,4.6nm,0.1s						
PSBE	**So Bento**	**3.18**	**16**	*e*Pn	**Pn**	**21 28 20.5**	**+2.4**
PSBE				*e*Sn	**Sn**	**21 28 55.1**	**+0.3**
PSBE				A	A	21 28 56.4	
	comp=N,13nm,0.5s						
ESPR	**Espera**	**3.33**	**82**	⇓P	**Pn**	**21 28 22.0**	**+2.0**
	comp=N,9.8nm,0.1s,SNR=18						
ESPR				S	**Sn**	**21 28 58.0**	**-0.3**
	comp=N,52nm,0.3s,SNR=8.9						
PMRV	**Marv??o**	**3.59**	**34**	P	**Pn**	**21 28 25.8**	**+2.1**
PMRV				S	**Sn**	**21 29 03.7**	**-1.1**
	comp=N,11nm,0.3s						
PMRV	**Marv??o**	**3.59**	**34**	*e*Pn	**Pn**	**21 28 25.8**	**+2.1**
PMRV				*e*Sn	**Sn**	**21 29 03.7**	**-1.1**
PMRV				A	A	21 29 06.5	
	comp=N,11nm,0.3s						
PCAS	**Casmilo, Conde**	**3.76**	**17**	P	**Pn**	**21 28 28.1**	**+2.1**
PCAS				S	**Sn**	**21 29 08.1**	**-1.0**
	comp=N,3.7nm,0.1s						
PCAS	**Casmilo, Conde**	**3.76**	**17**	*e*Pn	**Pn**	**21 28 28.1**	**+2.1**
PCAS				*e*Sn	**Sn**	**21 29 08.1**	**-1.0**
PCAS				A	A	21 29 12.0	
	comp=N,3.7nm,0.1s						
AVE	**Averroes**	**3.79**	**146**	P	**Pn**	**21 28 27.4**	**+1.0**
SMIR	**Smir Dam**	**3.79**	**101**	P	**Pn**	**21 28 28.0**	**+1.6**
PCBR	**Castelo Branco**	**3.90**	**29**	P	**Pn**	**21 28 29.6**	**+1.7**
PCBR				S	**Sn**	**21 29 11.6**	**-0.8**
	comp=N,1.2nm,0.2s						
PCBR	**Castelo Branco**	**3.90**	**29**	*e*Pn	**Pn**	**21 28 29.6**	**+1.7**
PCBR				*e*Sn	**Sn**	**21 29 11.6**	**-0.8**
PCBR				A	A	21 29 13.6	
	comp=N,2.5nm,0.2s						
ECAB	**El Cabril**	**3.96**	**65**	P	**Pn**	**21 28 30.3**	**+1.5**
	comp=N,1.9nm,0.1s,SNR=36						
ECAB				S	**Sn**	**21 29 12.4**	**-1.7**
	comp=N,6.0nm,0.3s						
HORN	**Hornachuelos**	**4.00**	**68**	P	**Pn**	**21 28 30.9**	**+1.6**
MTE	**Manteigas**	**4.36**	**25**	P	**Pn**	**21 28 36.3**	**+2.0**
MTE				S	**Sn**	**21 29 23.5**	**-0.5**
	comp=N,2.3nm,0.6s						
MTE	**Manteigas**	**4.36**	**25**	*e*Pn	**Pn**	**21 28 36.3**	**+2.0**
MTE				*e*Sn	**Sn**	**21 29 23.5**	**-0.5**
MTE				A	A	21 29 25.8	
	comp=N,4.7nm,0.6s						
PVIS	**Viseu**	**4.54**	**20**	P	**Pn**	**21 28 38.3**	**+1.5**
PVIS				S	**Sn**	**21 29 27.6**	**-0.8**
	comp=N,3.5nm,0.1s						
PVIS	**Viseu**	**4.54**	**20**	*e*Pn	**Pn**	**21 28 38.3**	**+1.5**
PVIS				*e*Sn	**Sn**	**21 29 27.6**	**-0.8**
PVIS				A	A	21 29 29.7	
	comp=N,6.9nm,0.1s						
EADA	**Adamuz**	**4.62**	**67**	P	**Pn**	**21 28 39.5**	**+1.8**
	comp=N,4.2nm,0.2s,SNR=30						
EADA				S	**Sn**	**21 29 27.4**	**-2.7**
	comp=N,3.6nm,0.1s						
EPLA	**Plasencia**	**4.72**	**39**	P	**Pn**	**21 28 40.7**	**+1.5**
	comp=N,0.8nm,0.1s,SNR=8.7						
EPLA				S	**Sn**	**21 29 30.7**	**-1.9**
	comp=N,5.6nm,0.1s						
EGOR	**Sierra Gorda,**	**4.74**	**80**	P	**Pn**	**21 28 42.1**	**+2.5**
	comp=N,0.7nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**21 29 32.9**	**-0.6**
	comp=N,3.7nm,0.4s,SNR=7.9						
IFR	**Ifrane**	**4.94**	**125**	*e*S	**Sn**	**21 29 33.4**	**-4.9**
ELGU	**Los Guajares,**	**5.11**	**84**	P	**Pn**	**21 28 46.0**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**21 29 40.8**	**-1.6**
	comp=N,4.3nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.11**	**19**	S	**Sn**	**21 29 39.1**	**-3.3**
	comp=N,2.8nm,0.1s						
PVRL	**Vila Real**	**5.11**	**19**	*e*Sn	**Sn**	**21 29 39.1**	**-3.3**
PVRL				A	A	21 29 43.9	
	comp=N,5.6nm,0.1s						
POLO	**Lamas de Olo**	**5.18**	**18**	P	**Pn**	**21 28 47.5**	**+1.8**
POLO				S	**Sn**	**21 29 41.6**	**-2.7**
	comp=N,1.3nm,0.2s						
POLO	**Lamas de Olo**	**5.18**	**18**	*e*Pn	**Pn**	**21 28 47.5**	**+1.8**
POLO				*e*Sn	**Sn**	**21 29 41.6**	**-2.7**
POLO				A	A	21 29 45.0	
	comp=N,1.3nm,0.2s						
MVO	**Moncorvo**	**5.22**	**25**	P	**Pn**	**21 28 47.3**	**+1.2**
	comp=N,1.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 29 41.9**	**-3.3**
	comp=N,2.4nm,0.3s,SNR=7.2						
MVO	**Moncorvo**	**5.22**	**25**	*e*Pn	**Pn**	**21 28 47.6**	**+1.5**
MVO				*e*Sn	**Sn**	**21 29 42.5**	**-2.6**
MVO				A	A	21 29 45.8	
	comp=N,3.7nm,0.3s						
EQUE	**Quentar**	**5.28**	**80**	P	**Pn**	**21 28 49.3**	**+2.3**
	comp=N,0.7nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**21 29 43.3**	**-3.4**
	comp=N,2.8nm,0.5s,SNR=7.9						
PAB	**San Pablo**	**5.39**	**54**	P	**Pn**	**21 28 50.1**	**+1.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**21 29 46.3**	**-3.1**
	comp=N,1.6nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.45**	**15**	P	**Pn**	**21 28 51.0**	**+1.8**
PCAB				S	**Sn**	**21 29 48.8**	**-1.9**
	comp=N,1.6nm,0.6s						
PCAB	**Cabril**	**5.45**	**15**	*e*Pn	**Pn**	**21 28 51.0**	**+1.8**
PCAB				*e*Sn	**Sn**	**21 29 48.8**	**-1.9**
PCAB				A	A	21 29 50.1	
	comp=N,3.2nm,0.6s						
OUK	**Oukaimeden**	**5.53**	**161**	P	**Pn**	**21 28 50.5**	**-0.1**
MD31	**MD31**	**5.59**	**128**	P	**Pn**	**21 28 52.2**	**+1.0**
ELOB	**Lobios**	**5.59**	**15**	P	**Pn**	**21 28 51.9**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**21 29 50.2**	**-4.2**
	comp=N,2.2nm,0.2s,SNR=5.4						
GORA	**Gorafe**	**5.63**	**78**	S	**Sn**	**21 29 53.6**	**-1.7**
	comp=N,6.8nm,0.5s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.65**	**13**	P	**Pn**	**21 28 53.5**	**+1.5**
PGAV				S	**Sn**	**21 29 52.9**	**-2.8**
	comp=N,2.7nm,0.6s						
PGAV	**Gavieira, Arco**	**5.65**	**13**	*e*Pn	**Pn**	**21 28 53.5**	**+1.5**
PGAV				*e*Sn	**Sn**	**21 29 52.9**	**-2.8**
PGAV				A	A	21 29 55.7	
	comp=N,2.7nm,0.6s						
EQES	**Quesada**	**5.67**	**74**	P	**Pn**	**21 28 53.5**	**+1.3**
	comp=N,0.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**21 29 54.2**	**-1.9**
	comp=N,3.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**5.71**	**54**	P	**Pn**	**21 28 54.5**	**+1.6**
	comp=N,1.2nm,0.1s,baz=239,slow=13,SNR=154						
ESDC				S	**Sn**	**21 29 55.3**	**-1.9**
	comp=N,5.5nm,0.2s,baz=239,slow=23,SNR=34						
MDT	**Midelt**	**5.72**	**128**	P	**Pn**	**21 28 54.2**	**+1.2**
EZAM	**Zamans**	**5.76**	**9**	P	**Pn**	**21 28 54.9**	**+1.4**
	comp=N,1.2nm,0.2s,SNR=7.9						
EZAM				S	**Sn**	**21 29 54.7**	**-3.6**
	comp=N,4.0nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.89**	**24**	P	**Pn**	**21 28 56.6**	**+1.3**
PBRG				S	**Sn**	**21 30 00.2**	**-1.4**
	comp=N,0.9nm,0.5s						
PBRG	**Braganca**	**5.89**	**24**	*e*Pn	**Pn**	**21 28 56.6**	**+1.3**
PBRG				*e*Sn	**Sn**	**21 30 00.2**	**-1.4**
PBRG				A	A	21 30 01.2	
	comp=N,1.9nm,0.5s						
ECAL	**Calabor**	**6.01**	**24**	P	**Pn**	**21 28 58.6**	**+1.6**
	comp=N,0.8nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**21 30 01.3**	**-3.4**
	comp=N,3.0nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.14**	**72**	P	**Pn**	**21 28 59.9**	**+1.1**
	comp=N,0.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 30 04.6**	**-3.3**
	comp=N,2.2nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.14**	**72**	P	**Pn**	**21 29 00.1**	**+1.3**
OUZM	**OUZ**	**6.15**	**153**	P	**Pn**	**21 28 59.8**	**+0.9**
GUD	**Guadarrama**	**6.17**	**46**	P	**Pn**	**21 29 00.8**	**+1.5**
	comp=N,0.8nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**21 30 05.8**	**-2.9**
	comp=N,2.8nm,0.3s,SNR=6.0						
JBK	**JBK**	**6.40**	**107**	P	**Pn**	**21 29 00.8**	**-1.7**
EAGO	**Agolada(Pontev**	**6.49**	**12**	P	**Pn**	**21 29 04.2**	**+0.7**
	comp=N,0.9nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.52**	**6**	P	**Pn**	**21 29 04.3**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**21 30 11.4**	**-5.7**
	comp=N,3.5nm,0.4s,SNR=7.9						
TZRR	**Tazzarine**	**6.74**	**146**	P	**Pn**	**21 29 08.0**	**+0.9**
ETOB	**Tobarra**	**7.03**	**69**	P	**Pn**	**21 29 11.9**	**+0.9**
	comp=N,0.7nm,0.2s,SNR=6.6						
ETOB				S	**Sn**	**21 30 25.5**	**-4.2**
	comp=N,0.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**7.56**	**53**	P	**Pn**	**21 29 19.8**	**+1.5**
	comp=N,3.8nm,0.2s,SNR=9.8						
ETOR				S	**Sn**	**21 30 37.9**	**-4.9**
	comp=N,4.3nm,0.3s						

NEIC ***23*** *21:31:55.6±1.9,20.˚25S±0.˚04×69.˚13W±0.˚08, h97km±4km, mb4.5/19, Mwr4.5/27, ML5.0(GUC), Error ellipse: s-maj=10.9km s-min=5.1km az=87.0*
SJA ***23*** *21:31:55.4±0.7,20.˚27S×69.˚27W, h101km±3km, ML4.7, MW4.4*
VAO ***23*** *21:31:55.9±0.6,20.˚17S×69.˚10W, h105km±6km, mb4.8*
NEIC ***23*** *21:31:55.7,20.˚24S×69.˚14W, h95km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.50; $M_{\theta\theta}$-6.86; $M_{\phi\phi}$2.36; $M_{r\theta}$2.33; $M_{\theta\phi}$-1.89; $M_{\phi r}$-1.98; Fault plane solution: $M_0$7.03000×10^{15} NP1:∅s228.45000°, δ45.49000°, λ41.27000°. NP2:∅s106.85000°, δ61.94000°, λ127.40000°. Principal axes: T 6.3502, Plg56.0000°, Azm67.0000°; N 1.1966, Plg32.0000°, Azm267.0000°; P -7.5468, Plg9.0000°, Azm171.0000°;*
GUC ***23*** *21:31:56.5±0.9,20.˚26S×69.˚18W, h98km±3km, ML4.8*
IDC ***23*** *21:31:56.6±0.5,20.˚16S×68.˚97W, h104km±3km, mb4.3/14, mb1 4.3/19, mb1mx4.2/32, mbtmp4.6/19, MS3.2/4, Ms1 3.2/4, ms1mx2.8/32, Error ellipse: s-maj=15.3km s-min=12.2km az=96.0*
ISC 23 21:31:55.6±0.4,20.˚24S±0.˚03×69.˚19W±0.˚04, h99km±3km**,**
n181,σ1°35/222, mb4.5/22, 10C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.10**	**19**	⇓*i*P	**Pn**	**21 32 10.5**	**+0.6**
PB08				*e*S	**Sn**	**21 32 21.4**	**+0.9**
PB08				IAML		21 32 22.2	
	comp=E,108μm,0.3s						
PB08	**IPOC Station P**	**0.10**	**19**		**Pn**	**21 32 10.0**	**+0.1**
PB08				Sn	**Sn**	**21 32 21.3**	**+0.8**
PB08	**IPOC Station P**	**0.10**	**19**	*e*P	**Pn**	**21 32 10.6**	**+0.7**
PB08				*e*S	**Sn**	**21 32 21.7**	**+1.2**
PB08				IAML		21 32 24.7	
	comp=Z,31μm,0.7s						
GO01	**Chusmiza**	**0.56**	**359**	*e*P	**Pn**	**21 32 12.8**	**+0.5**
GO01				*e*S	**Sn**	**21 32 25.5**	**+0.7**
GO01				IAML		21 32 27.3	
	comp=E,99μm,0.3s						
GO01	**Chusmiza**	**0.56**	**359**		**Pn**	**21 32 12.9**	**+0.5**
GO01				Sn	**Sn**	**21 32 26.2**	**+1.4**
PB11	**IPOC Station P**	**0.65**	**317**	⇑*i*P	**Pn**	**21 32 13.1**	**+0.5**
PB11				*i* S	**Sn**	**21 32 26.1**	**+0.7**
PB11				IAML		21 32 27.5	
	comp=E,108μm,0.5s						
PB11	**IPOC Station P**	**0.65**	**317**		**Pn**	**21 32 13.2**	**+0.6**
PB11				Sn

comp=Z,5µm,0.8s
PB16 IPOC Station P 1.91 351 ||*i*P **Pn** **21 32 29.6 +2.0**
PB16 *i* S **Sn** **21 32 54.1 +2.3**
AP01 Chacalluta 2.15 329 *e*P **Pn** **21 32 30.2 +0.1**
AP01 IAML 21 33 07.0
comp=E,8µm,0.6s
AP01 Chacalluta 2.15 329 **Pn** **21 32 30.9 +0.9**
AP01 Sn **Sn** **21 32 53.9 -2.6**
PB04 IPOC Station P 2.27 203 *e*P **Pn** **21 32 31.7 -0.1**
PB04 IAML 21 33 16.6
comp=E,4µm,0.6s
PB04 IPOC Station P 2.27 203 **Pn** **21 32 31.7 -0.1**
PB04 Sn **Sn** **21 32 58.2 -1.3**
PB04 IPOC Station P 2.27 203 *e*P **Pn** **21 32 32.1 +0.2**
PB04 *e*S **Sn** **21 32 57.9 -1.6**
PB04 IAML 21 33 09.3
comp=Z,3µm,0.7s
LVC Limon Verde 2.38 174 P **Pn** **21 32 36.0 +2.6**
comp=Z,198nm,0.3s,baz=347,slow=9.9,SNR=468
LVC S **Sn** **21 33 02.9 +0.7**
comp=Z,263nm,0.3s,baz=154,slow=19,SNR=24
LVC Limon Verde 2.38 174 *e*P **Pn** **21 32 34.5 +1.1**
LVC *i* S **Sn** **21 33 03.3 +1.1**
LVC Limon Verde 2.38 174 Pn **Pn** **21 32 34.4 +1.1**
LVC Limon Verde 2.38 174 *e*P **Pn** **21 32 34.5 +1.1**
LVC Limon Verde 2.38 174 *e*P **Pn** **21 32 34.2 +0.8**
LVC *e*S **Sn** **21 33 05.2 +2.9**
PB06 IPOC Station P 2.48 188 *e*P **Pn** **21 32 33.4 -1.2**
PB06 IAML 21 33 03.5
comp=E,4µm,0.3s
PB06 IPOC Station P 2.48 188 Pn **Pn** **21 32 34.5 -0.1**
PB06 IPOC Station P 2.48 188 *e*P **Pn** **21 32 34.8 +0.2**
PB06 *e*S **Sn** **21 33 02.9 -1.6**
PB06 IAML 21 33 10.1
comp=Z,2µm,0.4s
PB05 IPOC Station P 2.77 200 *e*P **Pn** **21 32 37.6 -0.7**
PB05 IAML 21 33 21.0
comp=E,3µm,0.8s
PB05 IPOC Station P 2.77 200 *e*P **Pn** **21 32 38.0 -0.3**
PB05 *e*S **Sn** **21 33 05.5 -5.7**
PB05 IAML 21 33 36.0
comp=Z,2µm,0.8s
PB15 IPOC Station P 2.97 185 *e*P **Pn** **21 32 41.4 +0.2**
PB15 IPOC Station P 2.97 185 **Pn** **21 32 41.2 +0.1**
PB15 IPOC Station P 2.97 185 *e*P **Pn** **21 32 42.0 +0.8**
PB15 IAML 21 33 20.6
comp=Z,5µm,0.3s
PB10 IPOC Station P 3.50 201 *e*P **Pn** **21 32 46.6 -1.4**
PB10 IPOC Station P 3.50 201 *e*P **Pn** **21 32 46.9 -1.1**
PB10 IAML 21 33 47.9
comp=Z,828nm,1.3s
YJA Yavi 3.93 120 *e*P **Pn** **21 32 57.2 +2.9**
LPAZ La Paz 4.05 15 P **Pn** **21 32 57.4 +1.4**
comp=Z,14nm,0.3s,baz=238,slow=13,SNR=236
LPAZ S **Sn** **21 33 37.0 -5.8**
comp=Z,6.1nm,0.3s,baz=254,slow=4.0,SNR=2.2
LPAZ LR LR 21 34 32.6
comp=Z,146nm,21.0s,baz=202,slow=40
LPAZ La Paz 4.05 15 Pn **Pn** **21 32 59.0 +3.0**
LPAZ La Paz 4.05 15 *e*P **Pn** **21 32 59.0 +3.0**
LPAZ *e*S Sn 21 33 28.6 -14
PB14 IPOC Station P 4.51 194 **Pn** **21 32 59.9 -2.1**
HJA Humahuaca 4.59 131 *e*P **Pn** **21 33 05.8 +2.6**
GO02 Mina Guanaco 4.92 184 *e*P **Pn** **21 33 06.8 -0.6**
GO02 Mina Guanaco 4.92 184 **Pn** **21 33 06.7 -0.8**
AZAP Zapla 5.51 137 *e*P **Pn** **21 33 17.4 +2.1**
AC01 Pan de Azucar 6.03 192 Pn **Pn** **21 33 19.6 -2.6**
AC02 Maricunga 6.57 180 Pn **Pn** **21 33 29.1 -0.9**
GO03 Copiap 7.39 187 **Pn** **21 33 39.5 -1.3**
AC04 Llanos de Chal 8.12 192 Pn **Pn** **21 33 51.2 +0.6**
AC05 El Transito 8.62 186 Pn **Pn** **21 33 56.8 -0.9**
SIV San Ignacio 8.79 63 P **Pn** **21 33 58.0 -2.0**
comp=Z,11nm,0.3s,baz=262,slow=12,SNR=126
LCO Las Campanas 8.85 189 Pn **Pn** **21 34 02.1 +1.3**
CO01 Juntas del Tor 9.73 185 Pn **Pn** **21 34 13.6 +0.8**
GO04 Tololo Observa 10.00 188 Pn **Pn** **21 34 17.0 +0.5**
CO03 El Pedregal 10.64 187 **Pn** **21 34 26.8 +1.6**
PTLB Pontes e Lacer 10.69 65 *e*P **Pn** **21 34 24.2 -1.5**
ETMB Extrema 10.75 16 *e*P **Pn** **21 34 26.0 -0.5**
NNA Nana 11.01 317 P **Pn** **21 34 32.1 +2.0**
comp=Z,1.3nm,0.3s,baz=166,slow=19,SNR=1.5
NNA Nana 11.01 317 **Pn** **21 34 30.8 +0.6**
CO02 Combarbal 11.04 188 Pn **Pn** **21 34 31.0 +0.5**
VILB Vilhena 11.25 51 *e*P **Pn** **21 34 32.2 -1.1**
CPUP Villa Florida 12.47 121 P **Pn** **21 34 47.6 -1.8**
comp=Z,0.5nm,0.3s,baz=307,slow=12,SNR=20
CPUP LR LR 21 39 20.4
comp=Z,78nm,20.0s,baz=300,slow=36
CPUP Villa Florida 12.47 121 Pn **Pn** **21 34 48.3 -1.2**
VA03 San Esteban 12.54 185 Pn **Pn** **21 34 50.3 -0.2**
SAML Samuel 12.63 28 Pn **Pn** **21 34 49.9 -1.8**
SAML Samuel 12.63 28 *e*P **Pn** **21 34 50.2 -1.5**
ROC1 El Roble 12.79 187 Pn **Pn** **21 34 54.1 +0.1**
MT05 Renca 13.18 186 Pn **Pn** **21 34 58.3 -0.5**
BO02 Sierra Bellavi 14.57 185 Pn **Pn** **21 35 16.6 -0.3**
GO05 Huala 14.92 189 Pn **Pn** **21 35 22.4 +1.1**
TRCB Terra Rica 15.62 102 *e*P **Pn** **21 35 29.5 -0.7**
CLDB Colider 15.90 56 *e*P **Pn** **21 35 32.0 -1.7**
PTGB Pitanga 16.44 109 *e*P **P** **21 35 41.0 -0.5**
BI02 San Fabin de 16.47 186 **Pn** **21 35 41.0 +0.3**
PCMB Pacaembu 16.80 98 *e*P **Pn** **21 35 43.9 -1.1**
ITAB Concordia 17.09 117 *e*P **Pn** **21 35 48.3 -0.1**
ARAG Araguaiana, MT 17.13 78 *e*P **Pn** **21 35 48.2 -0.7**
CPSB Cacapava Do Su 17.45 129 *e*P **P** **21 35 50.9 -1.6**
ITRB Iturama 17.71 92 *e*P **P** **21 35 55.0 -0.5**
FRTB Fartura 18.48 103 *e*P **P** **21 36 03.4 -0.6**
LC01 Cunco 18.74 187 **P** **21 36 05.7 -0.9**
LC01 IAmb IAmb 21 36 08.8
comp=Z,24nm,0.9s
NPGB Novo Progresso 18.75 48 *e*P **P** **21 36 05.1 -1.8**
MACA Manacapuru-AM 18.89 27 *e*P **P** **21 36 07.7 -0.7**
CNLB Canela 18.93 122 *e*P **P** **21 36 08.5 -0.3**
SNDB Serra Nova Dou 19.04 67 *e*P **P** **21 36 08.9 -1.2**
BB19B Bebedouro 19.35 96 *e*P **P** **21 36 12.5 -1.0**
IPMB Ipameri, GO 19.95 87 *e*P **P** **21 36 18.5 -1.5**
SPB Sao Paulo 20.46 103 P **P** **21 36 24.6 -0.7**
SPB IAmb IAmb 21 36 26.1
comp=Z,16nm,0.8s
SPB Sao Paulo 20.46 103 *e*P **P** **21 36 23.8 -1.5**
PLCA Paso Flores 20.46 183 P **P** **21 36 26.1 +0.7**
comp=Z,40nm,0.9s,baz=6.7,slow=12,SNR=62
PLCA Paso Flores 20.46 183 P **P** **21 36 26.0 +0.7**
PLCA Paso Flores 20.46 183 *e*P **P** **21 36 25.9 +0.6**
ITTB Itaituba 20.50 41 *e*P **P** **21 36 24.2 -1.7**
BDFB Brasilia 20.65 81 P **P** **21 36 25.7 -1.9**
comp=Z,32nm,0.5s,baz=262,slow=12,SNR=38
BDFB Brasilia 20.65 81 P **P** **21 36 26.8 -0.8**
BDFB IAmb IAmb 21 36 30.6
comp=Z,41nm,1.0s
PET01 Itanhaem-SP 20.67 105 *e*P **P** **21 36 27.2 -0.5**
VAO Valinhos 20.84 102 *e*P **P** **21 36 28.1 -1.5**
PTGA Pitinga 21.38 26 P **P** **21 36 33.1 -2.2**
comp=Z,6.9nm,0.3s,baz=206,slow=12,SNR=24
PTGA Pitinga 21.38 26 IAmb IAmb 21 36 37.3
comp=Z,16nm,1.0s
PARB Paraibuna 22.09 102 *e*P **P** **21 36 41.4 -1.5**
OTAV Otavalo 22.28 335 P **P** **21 36 44.8 -0.4**
BSCB Bom Sucesso 22.86 96 *e*P **P** **21 36 49.2 -1.7**
MALB Monte Alegre 23.37 40 *e*P **P** **21 36 53.8 -1.9**
PRPB Parauapebas 23.43 56 *e*P **P** **21 36 54.1 -2.1**
MAN01 Angra dos Reis 23.60 101 *e*P **P** **21 36 56.7 -1.0**
SMTB Santa Maria do 23.73 65 *e*P **P** **21 36 58.4 -0.5**
JANB Januaria 24.25 82 *e*P **P** **21 37 02.3 -1.3**
SDBA SAO DESIDERIO 24.55 75 *e*P **P** **21 37 05.1 -1.2**
MCPB Macapa, AP 25.91 42 *e*P **P** **21 37 17.1 -1.5**
SJMB Sao Joao De Ma 26.43 91 *e*P **P** **21 37 22.5 -0.9**
BSFB Barra de Sao F 26.73 92 *e*P **P** **21 37 25.6 -0.5**
RIB01 Linhares ES 27.10 93 *e*P **P** **21 37 28.8 -0.5**
SDV Santo Domingo 28.97 357 P **P** **21 37 45.2 -0.9**
comp=Z,3.4nm,0.3s,baz=162,slow=3.2,SNR=1.7
GDU01 Guandu, BA 29.02 82 *e*P **P** **21 37 45.8 -0.7**
ROSB Rosrio 29.91 58 *e*P **P** **21 37 54.5 +0.2**
MDP Montagnes des 29.97 35 P **P** **21 37 53.8 -1.0**
comp=Z,7.2nm,0.9s,baz=180,slow=7.8,SNR=5.3
PLCV Puerto La Cruz 30.55 9 P **P** **21 37 59.9 0.0**
PCRV Puerto La Cruz 30.55 9 P **P** **21 37 59.9 -0.1**
comp=Z,6.5nm,0.6s,baz=108,slow=1.5,SNR=1.7
JTS Las Juntas de 34.07 331 P **P** **21 38 30.8 0.0**
RCBR Riachuelo 35.35 71 P **P** **21 38 41.2 -0.7**
comp=Z,13nm,0.5s,baz=239,slow=9.1,SNR=11
RCBR Riachuelo 35.35 71 IAmb IAmb 21 38 42.1
comp=Z,21nm,0.9s
MLPR Magueyes Islan 38.03 3 P **P** **21 39 03.2 -1.1**
SJG San Juan 38.23 5 P **P** **21 39 04.2 -1.8**
comp=Z,19nm,0.7s,baz=217,slow=4.6,SNR=11
BIRD Birdtown, Kers 55.62 349 P **P** **21 41 21.9 +0.8**
TXAR Lajitas Array 59.45 325 P **P** **21 41 49.3 +1.1**
comp=Z,0.2nm,0.7s,baz=134,slow=7.8,SNR=2.4
VNA3 Neumayer Olymp 61.35 161 P **P** **21 42 01.3 +0.7**
VNA2 Neumayer--Watz 61.92 161 P **P** **21 42 05.1 +0.7**
baz=279,slow=7.4
S39A Bolivar 61.93 338 P **P** **21 42 05.2 +0.4**
S39A IAmb IAmb 21 42 06.9
comp=Z,3.6nm,0.7s
SNAA Sanae 63.55 161 P **P** **21 42 15.1 -0.2**
SNAA Sanae 63.55 161 P **P** **21 42 16.0 +0.7**
SNAA IAmb IAmb 21 42 16.6
comp=Z,4.6nm,0.7s
SADO Sadowa 65.32 352 LR LR 22 12 42.8
comp=Z,21nm,18.6s,baz=232,slow=38
LIC Lamto 68.29 74 *e*P **P** **21 42 45.1 -1.4**
comp=Z,12nm,0.6s
TIC Toumodi 68.47 74 *e*P **P** **21 42 46.8 -0.9**
KIC Kosan Boka 68.61 74 *e*P **P** **21 42 47.4 -1.1**
comp=Z,8.3nm,0.6s
DBIC Dimbokro 68.63 74 P **P** **21 42 47.7 -0.9**
comp=Z,5.3nm,0.6s,baz=224,slow=6.8,SNR=8.6
DBIC pP **pP** **21 43 14.0 -0.9**
comp=Z,11nm,1.0s,baz=218,slow=6.7,SNR=5.1
DBIC Dimbokro 68.63 74 IAmb IAmb 21 42 48.1
comp=Z,9.1nm,0.8s
QSPA South Pole Qui 69.95 180 P **P** **21 42 57.5 +1.4**
QSPA IAmb IAmb 21 42 58.6
comp=Z,8.0nm,1.0s
KOWA Kowa 72.76 67 P **P** **21 43 12.8 -0.9**
comp=Z,3.9nm,0.5s,baz=249,slow=8.0,SNR=24
KOWA pP **pP** **21 43 39.3 -1.0**
comp=Z,6.9nm,0.6s,baz=241,slow=6.1,SNR=8.0
KOWA sP **sP** **21 43 49.5 -2.0**
comp=Z,4.4nm,0.6s,baz=217,slow=7.0,SNR=4.2
KOWA Kowa 72.76 67 IAmb IAmb 21 43 15.4
comp=Z,3.2nm,0.6s
TOA0 Torodi Ar. Sit 77.18 71 IAmb IAmb 21 43 44.8
comp=Z,6.8nm,0.5s
TORD Torodi Ar. Bea 77.18 71 P **P** **21 43 37.9 -1.2**
comp=Z,71nm,0.7s,baz=253,slow=5.2,SNR=90
TORD pP **pP** **21 44 05.5 -0.5**
comp=Z,7.5nm,0.6s,baz=252,slow=5.5,SNR=7.0
TORD sP **sP** **21 44 16.9 -0.2**
comp=Z,3.3nm,0.5s,baz=261,slow=5.5,SNR=3.0
TORD LR LR 22 16 49.8
comp=Z,27nm,18.1s,baz=340,slow=35
SYO Syowa Base 77.77 160 ||*i*P **P** **21 43 41.2 -0.2**
VNDA Vanda 78.04 190 P **P** **21 43 44.2 +1.4**
comp=Z,1.0nm,0.7s,baz=122,slow=5.5,SNR=4.3
EVO Evora 81.85 44 *e*P **PcP** **21 44 13.7 +4.4**
comp=Z,14nm,2.0s
PCAS Casmilo, Conde 82.39 42 *e*P **PcP** **21 44 18.9 +7.2**
comp=Z,16nm,1.6s
MVO Moncorvo 83.94 42 *e*P **P** **21 44 15.3 +0.6**
comp=Z,21nm,1.7s
PBRG Braganca 84.47 42 *e*P **P** **21 44 17.6 +0.2**
comp=Z,25nm,1.8s
ESDC Sonseca Array 85.12 45 P **P** **21 44 20.6 -0.2**
comp=Z,1.2nm,1.0s,baz=254,slow=6.0,SNR=7.2
ESDC pP **pP** **21 44 47.6 -0.5**
comp=Z,2.4nm,1.1s,baz=243,slow=5.7,SNR=5.8
ESDC Sonseca Array 85.12 45 P **P** **21 44 21.1 +0.4**
MAW Mawson 85.61 163 P **P** **21 44 22.9 +0.3**
comp=Z,1.3nm,0.5s,baz=247,slow=10,SNR=4.5
MAW Mawson 85.61 163 IAmb IAmb 21 44 24.5
comp=Z,0.7nm,1.1s
YKA Yellowknife Ar 89.91 341 P **P** **21 44 43.7 +0.7**
comp=Z,1.5nm,0.6s,baz=133,slow=5.2,SNR=2.6
YKA pP **pP** **21 45 10.5 +0.5**
comp=Z,2.7nm,0.6s,baz=126,slow=6.0,SNR=4.5
YKA sP **sP** **21 45 22.4 +1.6**
comp=Z,3.1nm,0.8s,baz=129,slow=4.7,SNR=3.4
ASAR Alice Springs 130.90 208 PKP **PKPdf** **21 50 56.5 +0.2**
comp=Z,1.1nm,0.8s,baz=144,slow=2.2,SNR=9.2
WRA Warramunga Arr 133.90 211 PKP **PKPdf** **21 51 02.0 0.0**
comp=Z,1.1nm,0.7s,baz=157,slow=1.7,SNR=18
WRA pPKP **pPKPdf** **21 51 29.7 -0.1**
comp=Z,0.4nm,0.6s,baz=150,slow=1.4,SNR=2.4
WRA Warramunga Arr 133.90 211 **PKiKP** **21 51 02.6 -0.7**
ZALV Zalesovo Beam 140.92 24 PKP **PKPdf** **21 51 14.8 +1.0**
comp=Z,1.1nm,0.7s,baz=276,slow=2.7,SNR=5.4
ZALV pPKP **pPKPdf** **21 51 42.4 +0.2**
comp=Z,1.4nm,0.7s,baz=193,slow=2.6,SNR=4.1
ZALV Zalesovo Beam 140.92 24 **PKiKP** **21 51 17.8 +1.3**
MKAR Makanchi Array 144.76 35 PKP **PKPdf** **21 51 20.5 -0.4**
comp=Z,1.5nm,0.7s,baz=312,slow=3.9,SNR=17
MKAR pPKP **pPKPdf** **21 51 47.2 -2.1**
comp=Z,1.2nm,0.6s,baz=329,slow=4.5,SNR=4.9
MKAR Makanchi Array 144.76 35 PKPdf PKPbc 21 51 20.2 +0.2
MKAR pPKPdf pPKPdf 21 51 48.2 -1.1
USRK Ussuriysk Ar. 150.30 328 PKPbc **PKiKP** **21 51 36.0 -0.1**
comp=Z,1.9nm,0.7s,baz=222,slow=1.9,SNR=4.3
USRK Ussuriysk Ar. 150.30 328 PKPbc **PKiKP** **21 51 35.6 -0.5**
SONM Songino Array 152.24 6 PKPbc **PKiKP** **21 51 40.8 +0.7**
comp=Z,0.7nm,0.4s,baz=300,slow=1.3,SNR=7.1
SONM pPKPbc **pPKPbc** **21 52 08.9 +1.1**
comp=Z,2.4nm,0.7s,baz=328,slow=1.7,SNR=7.1
SONM Songino Array 152.24 6 PKPbc **PKiKP** **21 51 41.1 +0.9**

INET 23 21:36:59.5, 11.89N×87.80W, h12km, ML3.7, Near coast of Nicaragua

*INMG **23** 22:13:24.2± 1.4, 35.18N×4.56W, h31km, ML1.9, Error ellipse: s-maj=4.9km s-min=3.4km az=77.0*
*SFS **23** 22:13:25.0, 35.46N×4.51W, ML1.8, ALBORAN W.*
*MDD **23** 22:13:25.1± 1.9, 35.26N×4.57W, h20km, mbLg1.9/8, Error ellipse: s-maj=19.3km s-min=8.1km az=177.0, PRXIMO*
CNRM 23 22:13:21.8± 0.9, 35.16N×4.47W, h93km±9km, Error ellipse: s-maj=6.1km s-min=4.5km az=29.0, Strait of Gibraltar

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PALE Palemas 0.44 83 P Pn 22 13 36.9 +0.5
PALE S Sn 22 13 46.7 -0.6
SMIR Smir Dam 0.91 305 P Pn 22 13 41.4 +0.8
SMIR S Sn 22 13 55.7 +1.0
RSA Sarsar 1.14 256 P Pn 22 13 44.7 +1.4
RSA S Sn 22 14 01.7 +2.1
SICH Sidi Chahed 1.26 214 P Pn 22 13 44.2 -0.5
SICH S Sn 22 14 02.3 +0.2
EMAL Malaga-Limoner 1.60 1 P Pn 22 13 49.4 +0.5
EMAL Malaga-Limoner 1.60 1 *e*P Pn 22 13 49.4 +0.5
TAF Taforalt 1.73 101 P Pn 22 13 50.5 -0.1
TAF S Sn 22 14 12.3 -0.2
JBK JBK 1.77 117 P Pn 22 13 52.2 +0.9
JBK S Sn 22 14 13.0 -0.7
ELGU Los Guajares, 1.84 22 P Pn 22 13 53.0 +1.0
1.4nm,0.1s,SNR=7.9
ELGU S Sn 22 14 14.2 -0.8
2.3nm,0.1s,SNR=7.9
EBER Berja 2.16 36 P Pn 22 13 58.0 +1.7
0.8nm,0.2s,SNR=7.9
EBER S Sn 22 14 22.3 -0.3
4.2nm,0.5s,SNR=7.9
EQUE Quentar 2.20 22 P Pn 22 13 59.2 +2.3
0.3nm,0.2s,SNR=7.9
MD31 MD31 2.30 186 P Pn 22 13 59.2 +1.1
MD31 S Sn 22 14 24.7 -1.1
MDT Midelt 2.34 183 P Pn 22 13 59.9 +1.2
MDT S Sn 22 14 26.1 -0.8
EQES Quesada 2.87 23 P Pn 22 14 09.9 +4.3
0.4nm,0.1s,SNR=7.9
EQES S Sn 22 14 41.0 +1.6
0.3nm,0.3s,SNR=4.0
EADA Adamuz 3.00 358 P Pn 22 14 10.1 +2.7
0.2nm,0.2s,SNR=7.9
EADA S Sn 22 14 42.4 -0.2
0.1nm,0.2s,SNR=7.9
ECAB El Cabril 3.01 346 P Pn 22 14 10.7 +3.3
0.1nm,0.1s,SNR=4.0
ECAB S Sn 22 14 41.3 -1.3
0.9nm,0.3s,SNR=7.9
EMIN Mina Concepcio 3.15 326 P Pn 22 14 11.2 +1.9
0.3nm,0.3s,SNR=7.9
EMIN S Sn 22 14 43.8 -2.2
0.2nm,0.2s,SNR=7.9
EGRO El Granado 3.39 315 S Sn 22 14 50.1 -1.8
1.8nm,0.3s,SNR=7.9
PVAQ Vaqueiros 3.45 311 P Pn 22 14 14.7 +1.4
PVAQ S Sn 22 14 51.6 -1.6
3.1nm,0.4s
PVAQ Vaqueiros 3.45 311 P Pn 22 14 13.0 -0.3
PVAQ S Sn 22 14 51.6 -1.6
PVAQ Vaqueiros 3.45 311 *e*Pn Pn 22 14 14.7 +1.4
PVAQ *e*Sn Sn 22 14 51.6 -1.6
PVAQ A A 22 14 52.7
3.1nm,0.4s
PBDV Barranco-do-Ve 3.48 308 P Pn 22 14 15.2 +1.3
PBDV S Sn 22 14 52.4 -1.8
2.8nm,0.8s
PBDV Barranco-do-Ve 3.48 308 *e*Pn Pn 22 14 15.2 +1.3
PBDV *e*Sn Sn 22 14 52.4 -1.8
PBDV A A 22 15 06.7
2.8nm,0.8s
PCVE Castro Verde 3.79 312 P Pn 22 14 19.4 +1.4
PCVE S Sn 22 15 00.1 -1.4
1.6nm,0.3s
PCVE Castro Verde 3.79 312 *e*Pn Pn 22 14 19.4 +1.4
PCVE *e*Sn Sn 22 15 00.1 -1.4
PCVE A A 22 15 02.5
1.6nm,0.3s
PFVI Vila Bisbo 4.04 300 *e*Sn Sn 22 15 06.3 -1.2
PTEO Sao Teotonio 4.18 306 S Sn 22 15 09.4 -1.4
1.7nm,0.7s
PTEO Sao Teotonio 4.18 306 *e*Sn Sn 22 15 09.4 -1.4
PTEO A A 22 15 17.4
3.3nm,0.7s
PNCL Nicolau / Gran 4.39 313 S Sn 22 15 14.3 -1.8
1.4nm,0.3s
PNCL Nicolau / Gran 4.39 313 *e*Sn Sn 22 15 14.3 -1.8
PNCL A A 22 15 15.3
1.4nm,0.3s
EVO Evora 4.40 321 S Sn 22 15 14.7 -1.6
EVO Evora 4.40 321 *e*Sn Sn 22 15 14.7 -1.6
PMRV Marv??o 4.85 332 S Sn 22 15 25.6 -1.7
PMRV Marv??o 4.85 332 *e*Sn Sn 22 15 25.6 -1.7

*NEIC **23** 22:17:25.5± 1.3, 20.97S×70.2×178.5W±0.1, h527km±11km, mb4.2/23, Error ellipse: s-maj=22.2km s-min=17.9km az=160.0*
*IDC **23** 22:17:25.2± 6.1, 20.97S×178.36W, h534km±66km, mb3.3/5, mb1 3.5/7, mb1mx3.1/37, mbtmp4.3/7, Error ellipse: s-maj=45.0km s-min=33.6km az=31.0*
ISC 23 22:17:27.0± 0.7, 20.9S±0.1×178.5W±0.1, h550km, n37, σ0s91/34, mb4.0/14, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MSVF Nonsavu 4.56 313 P **P** **22 18 54.8 +1.4**
NIUE Niue 8.25 79 P **P** **22 19 25.5 -1.7**
AFI Afiamalu 9.46 44 P **P** **22 19 36.5 -3.1**
DZM Mont Dzumac 14.08 263 P **P** **22 20 25.6 -1.5**
0.4nm,0.3s,baz=341,slow=22,SNR=1.7
URZ Urewera 17.70 191 P **P** **22 21 00.7 -1.2**
1.7nm,0.3s,baz=279,slow=2.5,SNR=7.8
URZ Urewera 17.70 191 IAmb IAmb 22 21 07.7
comp=Z,8.5nm,0.9s
BKZ Black Stump Fm 18.69 192 P **P** **22 21 10.7 -0.4**
QRZ Quartz Range 21.27 199 P **P** **22 21 34.6 +0.3**
NNZ Nelson 21.38 197 P **P** **22 21 35.8 +0.5**
THZ Tophouse 22.02 197 P **P** **22 21 41.1 0.0**
KHZ Kahutara 22.46 196 P **P** **22 21 44.0 -0.9**
LTZ Lake Taylor 23.14 198 P **P** **22 21 50.1 -1.0**
LTZ IAmb IAmb 22 21 56.5
comp=Z,23nm,1.2s
WHZ Wether Hill Ro 27.28 201 P **P** **22 22 27.5 -0.1**
ARMA Armidale 28.48 245 P **P** **22 22 37.5 -0.9**
ARMA IAmb IAmb 22 22 49.8
comp=Z,4.8nm,1.1s
CTA Charters Tower 33.00 265 P **P** **22 23 17.3 +0.1**
comp=Z,6.2nm,0.4s,baz=93,slow=10,SNR=12
CTAO Charters Tower 33.00 265 P **P** **22 23 17.3 +0.1**
CTAO IAmb IAmb 22 23 18.1
comp=Z,7.4nm,0.6s
COEN Coen 37.16 274 P **P** **22 23 51.6 -0.2**
COEN IAmb IAmb 22 23 54.3
comp=Z,6.6nm,0.9s
STKA Stephens Creek 37.20 245 P **P** **22 23 52.2 +0.2**
comp=Z,1.0nm,0.4s,baz=89,slow=14,SNR=4.3
BBOO Buckleboo 41.96 244 P **P** **22 24 30.0 -0.2**
BBOO IAmb IAmb 22 24 49.8
comp=Z,7.7nm,1.0s
WR0 Warramunga Arr 43.91 263 P **P** **22 24 45.5 -0.1**
AS31 Alice Springs 43.98 257 P **P** **22 24 45.8 -0.4**
ASAR Alice Springs 43.98 257 P **P** **22 24 46.1 0.0**
comp=Z,2.7nm,0.5s,baz=95,slow=8.0,SNR=40
WB0 Warramunga Arr 44.08 263 P **P** **22 24 46.6 -0.2**
WB0 IAmb IAmb 22 24 46.7
comp=Z,3.6nm,0.8s
WB2 Warramunga Arr 44.09 263 P **P** **22 24 46.6 -0.4**
WB2 IAmb IAmb 22 24 47.3
comp=Z,5.4nm,1.0s
WRAB Tennant Creek 44.09 263 P **P** **22 24 46.3 -0.6**
WRA Warramunga Arr 44.10 263 P **P** **22 24 46.6 -0.4**
comp=Z,1.4nm,0.3s,baz=96,slow=6.9,SNR=139
WRA Warramunga Arr 44.10 263 P **P** **22 24 46.1 -0.9**
FORT Forrest 48.72 247 P **P** **22 25 21.1 -0.6**
FORT IAmb IAmb 22 25 28.7
comp=Z,15nm,1.1s
KNRA Kununurra 50.18 267 P **P** **22 25 32.5 -0.2**
KNRA IAmb IAmb 22 25 34.4
comp=Z,5.0nm,0.8s
FITZ Fitzroy Crossi 52.53 263 P **P** **22 25 50.3 +0.6**
QSPA South Pole Qui 69.15 180 P **P** **22 27 40.7 +2.4**
QSPA IAmb IAmb 22 27 41.5
comp=Z,3.4nm,0.8s
BELA Belgrano 2 79.20 173 P **P** **22 28 35.6 +1.0**
BCYI Bear Canyon 87.95 41 P **P** **22 29 17.8 -1.0**
IMAR Indian Mountai 88.64 10 P **P** **22 29 23.1 +1.9**
ILAR Eielson Array 88.82 13 P **P** **22 29 22.4 +0.3**
comp=Z,0.4nm,0.5s,baz=214,slow=5.4,SNR=2.4
AKASG Malin Array Be 143.16 330 PKP PKPab 22 35 56.0 -0.3
comp=Z,1.1nm,0.6s,baz=40,slow=4.3,SNR=10
BRTR Keskin Array B 146.78 312 PKPbc **PKPbc** **22 36 08.2 +0.2**
comp=Z,0.4nm,0.5s,baz=60,slow=3.3,SNR=2.4

*INMG **23** 22:22:37.5± 1.2, 35.99N×10.81W, h31km, ML1.7, Error ellipse: s-maj=14.0km s-min=6.6km az=109.0*
*IGIL **23** 22:22:37.2, 35.91N×10.81W, h31km*
*CNRM **23** 22:22:40.3± 2.1, 35.90N×10.15W, h83km±53km, Error ellipse: s-maj=16.7km s-min=11.1km az=102.0*
MDD 23 22:22:37.0± 1.9, 36.11N×10.54W, h0km, mbLg1.8/8, 1C, Error ellipse: s-maj=18.9km s-min=16.3km az=126.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PFVI Vila Bisbo 1.71 53 P Pn 22 23 06.6 -1.4
SNR=7.9
PFVI S Sn 22 23 28.5 -2.2
1.5nm,0.1s,SNR=7.9
PFVI Vila Bisbo 1.71 53 P Pn 22 23 06.6 -1.5
PFVI S Sn 22 23 28.1 -2.6
PFVI Vila Bisbo 1.71 53 *e*Pn Pn 22 23 06.9 -1.2
PFVI *e*Sn Sn 22 23 28.8 -1.9
PFVI A A 22 23 32.4
6.1nm,0.7s
MORF Marmelete 1.93 51 *e*P Pn 22 23 10.0 -1.1
MORF Marmelete 1.93 51 P Pn 22 23 10.0 -1.1
MORF Marmelete 1.93 51 *e*Pn Pn 22 23 10.0 -1.1
PTEO Sao Teotonio 2.04 45 P Pn 22 23 11.3 -1.3
PTEO S Sn 22 23 36.8 -1.9
1.8nm,0.9s
PTEO Sao Teotonio 2.04 45 *e*Pn Pn 22 23 11.3 -1.3
PTEO *e*Sn Sn 22 23 36.8 -1.9
PTEO A A 22 23 38.5
3.5nm,0.9s
PBDV Barranco-do-Ve 2.38 61 P Pn 22 23 16.5 -0.8
PBDV S Sn 22 23 45.4 -1.8
2.3nm,0.7s
PBDV Barranco-do-Ve 2.38 61 *e*Pn Pn 22 23 16.5 -0.8
PBDV *e*Sn Sn 22 23 45.4 -1.8
PBDV A A 22 23 52.9
2.3nm,0.7s
PCVE Castro Verde 2.51 52 P Pn 22 23 18.1 -1.0
PCVE S Sn 22 23 48.7 -1.7
PCVE Castro Verde 2.51 52 *e*Pn Pn 22 23 18.1 -1.0
PCVE *e*Sn Sn 22 23 48.7 -1.7
PNCL Nicolau / Gran 2.56 38 P Pn 22 23 18.2 -1.5
PNCL S Sn 22 23 49.7 -1.9

	3.1nm,0.3s							
PNCL	**Nicolau / Gran**	**2.56**	**38**	*e*Pn		Pn	22 23 18.2	-1.5
PNCL				*e*Sn		Sn	22 23 49.7	-1.9
PNCL				A		A	22 23 51.5	
	3.1nm,0.3s							
PVAQ	**Vaqueiros**	**2.60**	**60**	P		Pn	22 23 19.4	-1.0
PVAQ				S		Sn	22 23 51.0	-1.7
	2.9nm,0.9s							
PVAQ	**Vaqueiros**	**2.60**	**60**	P		Pn	22 23 19.2	-1.2
PVAQ				S		Sn	22 23 50.3	-2.4
PVAQ	**Vaqueiros**	**2.60**	**60**	*e*Pn		Pn	22 23 19.4	-1.0
PVAQ				*e*Sn		Sn	22 23 51.0	-1.7
PVAQ				A		A	22 23 51.6	
	2.9nm,0.9s							
EGRO	**El Granado**	**2.83**	**59**	P		Pn	22 23 21.7	-1.8
	SNR=7.9							
EGRO				S		Sn	22 23 54.9	-3.4
	0.9nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.01**	**19**	S		Sn	22 23 59.4	-3.3
	2.1nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**3.01**	**19**	*e*Sn		Sn	22 24 00.1	-2.5
EVO	**Evora**	**3.14**	**39**	P		Pn	22 23 26.5	-1.3
EVO				S		Sn	22 24 03.5	-2.5
	1.9nm,0.1s							
EVO	**Evora**	**3.14**	**39**	*e*Pn		Pn	22 23 26.5	-1.3
EVO				*e*Sn		Sn	22 24 03.5	-2.5
EVO				A		A	22 24 07.6	
	1.9nm,0.1s							
EMIN	**Mina Concepcio**	**3.51**	**61**	P		Pn	22 23 31.7	-1.1
	SNR=7.9							
EMIN				S		Sn	22 24 10.9	-4.1
	0.2nm,0.1s,SNR=7.9							
PSBE	**So Bento**	**3.66**	**22**	*e*Sn		Sn	22 24 17.2	-1.7
ESPR	**Espera**	**3.85**	**77**	P		Pn	22 23 35.3	-2.1
	SNR=7.9							
ESPR				S		Sn	22 24 20.1	-3.2
	3.1nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**4.14**	**36**	P		Pn	22 23 40.0	-1.5
PMRV				S		Sn	22 24 26.2	-4.5
	0.9nm,0.2s							
PMRV	**Marv??o**	**4.14**	**36**	*e*Pn		Pn	22 23 40.0	-1.5
PMRV				*e*Sn		Sn	22 24 26.2	-4.5
PMRV				A		A	22 24 30.9	
	0.9nm,0.2s							
ECAB	**El Cabril**	**4.54**	**63**	P		Pn	22 23 45.3	-1.6
	SNR=7.9							
ECAB				S		Sn	22 24 35.6	-4.8
	0.2nm,0.1s,SNR=7.9							
HORN	**Hornachuelos**	**4.57**	**66**	P		Pn	22 23 45.1	-2.2
HORN				S		Sn	22 24 30.9	-10
EMAL	**Malaga-Limoner**	**4.97**	**81**	S		Pg	22 24 09.8	-2.3
EMAL	**Malaga-Limoner**	**4.97**	**81**	*e*S		Pg	22 24 09.8	-2.3
EADA	**Adamuz**	**5.18**	**65**	P		Pn	22 23 54.5	-1.4
	SNR=7.9							
EADA				S		Sn	22 24 52.7	-3.7
	0.4nm,0.1s,SNR=7.9							
OUK	**Oukaimeden**	**5.38**	**155**	P		Pn	22 23 53.0	-5.8
OUK				S		Sn	22 24 50.3	-11
CZD	**Col de Zad**	**5.48**	**123**	S		Sn	22 24 54.1	-10
MD31	**MD31**	**5.77**	**123**	P		Pn	22 23 59.7	-4.2
MD31				S		Sn	22 24 59.4	-11
MDT	**Midelt**	**5.90**	**122**	P		Pn	22 24 01.9	-3.9
MDT				S		Sn	22 25 02.5	-12
PAB	**San Pablo**	**5.98**	**53**	P		Pn	22 24 05.1	-1.7
	SNR=7.9							
ELOB	**Lobios**	**6.06**	**18**	S		Sn	22 25 12.8	-5.2
	0.3nm,0.1s,SNR=7.9							
OUZM	**OUZ**	**6.07**	**148**	P		Pn	22 24 03.0	-5.2

*MAN **23** 22:29:55.7, 6.39N×123.76E, h1km, mb4.8, ML3.7, MS3.7*
*IDC **23** 22:29:58.3±0.9, 6.06N×123.95E, h0km, mb3.8/7,*
mb1 3.9/7, mb1mx3.7/33, mbtmp3.8/7, MS3.1/2, Ms1 3.2/2,
ms1mx2.6/42, Error ellipse: s-maj=27.5km s-min=16.7km
az=78.0
*NEIC **23** 22:30:00.6±1.8, 5.8N±0.2×124.0E±0.1, h33km±8km,*
mb4.3/8, Error ellipse: s-maj=27.5km s-min=8.0km
az=147.0

ISC 23 22:29:58.4±0.6, **6.20N**±0.06×**123.87E**±0.04, **h10**km, **n29,**
σ**2**s**22**/33, **mb3.9**/10, **1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.75**	**64**	*e*P	**Pg**	**22 30 10.4**	**-2.5**
KCP	**Kidapawan**	**1.46**	**56**	⇓*i*P	**Pn**	**22 30 23.3**	**-1.6**
KCP				*i* S	**Sg**	**22 30 45.9**	**+0.4**
PAGZ	**Pagadian**	**1.71**	**344**	*e*P	**Pn**	22 30 23.4	-4.9
PAGZ				*e*S	**Sn**	**22 30 44.7**	**-5.5**
DDMP	**Don Marcelino,**	**1.84**	**93**	*e*P	**Pn**	**22 30 30.7**	**+0.6**
DDMP				*e*S	**Sg**	**22 30 57.4**	**-0.2**
DAV	**Davao City (W)**	**1.91**	**63**	Pn	**Pn**	**22 30 31.5**	**+0.4**
	112nm,0.3s,baz=331,slow=0.7,SNR=14						
DAV				Sn	**Sb**	**22 30 57.4**	**0.0**
	53nm,0.3s,baz=115,slow=18,SNR=3.8						
DAV				LR	LR	22 31 25.8	
	comp=Z,1μm,18.8s,baz=160,slow=46						
DAV	**Davao City (W)**	**1.91**	**63**		**Pb**	**22 30 32.8**	**-0.6**
ZCP	**Zamboanga City**	**1.92**	**292**	⇑*i*P	**Pn**	**22 30 28.8**	**-2.4**
ZCP				*i* S	**Sn**	**22 30 51.0**	**-4.5**
BUKP	**Musuan**	**2.05**	**35**	*e*P	**Pn**	**22 30 30.9**	**-2.2**
BUKP				*e*S	**Sn**	**22 30 57.1**	**-1.6**
CGP	**Cagayan de Oro**	**2.39**	**20**	⇓*e*P	**Pn**	**22 30 38.9**	**+1.3**
CGP				*e*S	**Sb**	**22 31 10.7**	**-0.5**
MYLDM	**Lahad Datu**	**5.43**	**260**		**Pn**	**22 31 20.4**	**+0.9**
KKM	**Kota Kinabalu**	**7.61**	**269**	Pn	**Pn**	**22 31 50.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**17.49**	**214**	Pn	**Pn**	**22 33 57.8**	**-4.9**
JAGI				IAmb	IAmb	22 33 59.6	
	comp=Z,21nm,1.1s						
NACB	**Ninganchiao**	**18.01**	**353**		**P**	**22 34 11.2**	**+1.8**
NACB				IAmb	IAmb	22 34 17.7	
	comp=Z,17nm,0.9s						
MYKOM	**Kota Tinggi**	**20.44**	**258**	P	**P**	**22 34 35.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**24.20**	**176**	P	**P**	**22 35 13.7**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=18,slow=9.6,SNR=1.3						
CMAR	**Chiang Mai Arr**	**27.18**	**299**	LR	LR	22 46 36.3	
	comp=Z,28nm,19.4s,baz=110,slow=36						
WRA	**Warramunga Arr**	**27.94**	**159**	P	**P**	**22 35 49.0**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=336,slow=9.8,SNR=7.8						
ASAR	**Alice Springs**	**31.26**	**162**	P	**P**	**22 36 18.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=336,slow=6.9,SNR=6.5						
JSD	**Sado**	**34.29**	**20**	P	**P**	**22 36 46.2**	**+1.3**
JSD				IAmb	IAmb	22 36 50.6	
	comp=Z,4.5nm,1.1s						
STKA	**Stephens Creek**	**41.47**	**157**	P	**P**	**22 37 47.0**	**+1.3**
	comp=Z,3.5nm,0.7s,baz=301,slow=5.7,SNR=8.6						
SONM	**Songino Array**	**44.09**	**343**	P	**P**	**22 38 09.9**	**+2.9**
	comp=Z,1.5nm,0.8s,baz=150,slow=8.1,SNR=7.2						
SONM	**Songino Array**	**44.09**	**343**	IAmb	IAmb	22 38 10.9	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**53.92**	**326**	P	**P**	**22 39 24.6**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=121,slow=8.1,SNR=5.9						
MKAR				LR	LR	23 03 32.2	
	comp=Z,25nm,18.9s,baz=331,slow=37						
ZALV	**Zalesovo Beam**	**57.12**	**334**	P	**P**	**22 39 47.4**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=126,slow=7.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**57.12**	**334**	P	**P**	**22 39 46.9**	**+1.8**
KURK	**Kurchatov**	**58.15**	**328**	P	**P**	**22 39 53.8**	**+1.5**
KURK				IAmb	IAmb	22 39 56.0	
	comp=Z,3.1nm,0.8s						
GAR	**Garm**	**58.16**	**312**	P	**P**	**22 39 55.3**	**+2.4**
GAR				IAmb	IAmb	22 40 05.4	
	comp=Z,4.6nm,0.9s						
KKAR	**Karatay Array**	**59.49**	**317**	P	**P**	**22 40 04.2**	**+2.3**
ABKAR	**Akbulak array**	**68.45**	**321**	P	**P**	**22 40 59.7**	**-1.0**

*IDC **23** 22:53:54.9±57.0, 23.07S×179.77W, h0km, mb3.9/3,*
mb1 4.0/3, mb1mx3.7/27, mbtmp3.9/3, Error ellipse:
s-maj=1025.0km s-min=151.2km az=86.0
*NEIC **23** 22:54:31.5±2.6, 26.0S±0.1×178.2W±0.1, h495km±10km,*
mb4.5/22, Error ellipse: s-maj=21.5km s-min=16.0km
az=144.0

ISC 23 22:54:31.8±0.6, **26.0S**±0.1×**178.2W**±0.1, **h500**km, **n33,**
σ1§**45**/31, **mb4.3**/13, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.27**	**175**		**P**	**22 55 46.2**	**+1.7**
OUZ	**Omahuta**	**11.59**	**215**	P	**P**	**22 57 04.9**	**-1.0**
PLWZ	**Palliser**	**16.46**	**198**	P	**P**	**22 57 56.7**	**-0.4**
QRZ	**Quartz Range**	**16.68**	**205**	P	**P**	**22 57 59.8**	**+0.4**
NNZ	**Nelson**	**16.71**	**203**	P	**P**	**22 57 58.0**	**-1.7**
LHI	**Lord Howe Isla**	**20.66**	**249**	P	**P**	**22 58 33.9**	**-2.6**
LHI				IAmb	IAmb	22 58 42.1	
	comp=Z,28nm,1.1s						
DCZ	**Deep Cove**	**22.71**	**207**	P	**P**	**22 58 55.2**	**+0.5**
KNTN	**Kanton**	**23.91**	**16**	P	**P**	**22 59 06.2**	**+0.4**
KNTN				IAmb	IAmb	22 59 11.1	
	comp=Z,37nm,1.1s						
PPT	**Papeete**	**27.83**	**78**	P	**P**	**22 59 41.5**	**+1.0**
CTAO	**Charters Tower**	**33.15**	**273**	P	**P**	**23 00 25.6**	**-0.8**
CTAO				IAmb	IAmb	23 00 42.1	
	comp=Z,9.1nm,1.1s						
STKA	**Stephens Creek**	**35.52**	**251**	P	P	23 00 50.6	+4.6
	comp=Z,0.9nm,0.4s,baz=80,slow=11,SNR=4.6						
COEN	**Coen**	**38.07**	**281**	P	**P**	**23 01 06.4**	**-0.9**
COEN				IAmb	IAmb	23 01 15.8	
	comp=Z,15nm,1.1s						
BBOO	**Buckleboo**	**40.17**	**249**	P	**P**	**23 01 26.6**	**+2.4**
BBOO				IAmb	IAmb	23 01 44.4	
	comp=Z,5.0nm,1.1s						
ASAR	**Alice Springs**	**43.33**	**262**	P	**P**	**23 01 51.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=94,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**43.33**	**262**	P	**P**	**23 01 51.1**	**+1.8**
WR0	**Warramunga Arr**	**43.73**	**268**	P	**P**	**23 01 53.1**	**+0.7**
WC3	**Warramunga Arr**	**43.88**	**268**	P	**P**	**23 01 53.8**	**+0.1**
WB2	**Warramunga Arr**	**43.91**	**268**	P	**P**	**23 01 53.6**	**-0.2**
WRA	**Warramunga Arr**	**43.92**	**268**	P	**P**	**23 01 53.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=102,slow=8.7,SNR=15						
WRA	**Warramunga Arr**	**43.92**	**268**	P	**P**	**23 01 53.9**	**0.0**
WRA	**Warramunga Arr**	**43.92**	**268**	IAmb	IAmb	23 01 55.6	
	comp=Z,0.1nm,0.9s						
WB0	**Warramunga Arr**	**43.92**	**268**	P	**P**	**23 01 54.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.31**	**267**	P	**P**	**23 02 58.7**	**+2.0**
VNDA	**Vanda**	**52.46**	**185**	P	**P**	**23 02 55.9**	**-1.0**
MMRI	**Maumere**	**58.93**	**276**	P	**P**	**23 03 42.1**	**-0.8**
NACB	**Ninganchiao**	**76.63**	**305**	P	**P**	**23 05 32.6**	**+1.8**
NACB				IAmb	IAmb	23 05 45.5	
	comp=Z,16nm,0.8s						
PAGB	**Antelope Grade**	**82.23**	**44**	P	**P**	**23 05 59.9**	**-0.4**
TKX	**Tecate**	**82.65**	**48**	P	**P**	**23 06 03.2**	**+0.7**
TKX				IAmb	IAmb	23 06 04.7	
	comp=Z,16nm,0.6s						
WDC	**Whiskeytown Da**	**84.02**	**39**	P	**P**	**23 06 09.6**	**+0.5**
SML	**Sawmill**	**90.74**	**14**	P	**P**	**23 06 36.7**	**-3.8**
SML				IAmb	IAmb	23 06 41.8	
	comp=Z,3.0nm,0.7s						
KLU	**Klutina**	**90.99**	**15**	P	**P**	**23 06 42.7**	**+1.1**
KLU				IAmb	IAmb	23 06 47.1	
	comp=Z,6.1nm,1.2s						
N25K	**Chitina, Valde**	**91.40**	**15**	P	**P**	**23 06 44.3**	**+0.8**
N25K				IAmb	IAmb	23 07 04.2	
	comp=Z,2.0nm,0.8s						
833A	**Chaparral WMA,**	**92.97**	**60**	P	**P**	**23 06 49.5**	**-2.0**
833A				IAmb	IAmb	23 06 52.0	
	comp=Z,4.9nm,0.7s						

*JMA **23** 22:55:22.4±0.3, 43.93N×147.96E, h0km, M3.6*
*SKHL **23** 22:55:24.3±0.2, 44.54N×148.06E, h76km±3km, mb4.5/3*

ISC 23 22:55:19.0±3.3, **44.4N**±0.1×**148.1E**±0.2, **h2**km±15km, **n15,**
σ**1**s**54**/23, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.89**	**348**	*i* P	**Pn**	**22 55 39.0**	**+0.4**
KUR				AMB	AMB	22 55 40.0	
	160nm,0.2s						
KUR				*i* S	**Sb**	**22 55 50.0**	**+0.5**
KUR				A	A	22 55 52.0	
	667nm,0.2s						
KUR				A	A	22 55 52.0	
	517nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.66**	**259**	*e*P	**Pg**	**22 55 50.6**	**-0.2**
YUK				AMB	AMB	22 55 51.0	
	220nm,0.3s						
YUK				*e*S	**Sn**	**22 56 10.5**	**-0.4**
YUK				A	A	22 56 16.0	
	529nm,0.3s						
YUK				A	A	22 56 16.0	
	375nm,0.3s						
GRPR	**Tuman**	**1.73**	**259**	*e*P	**Pb**	**22 55 51.5**	**0.0**
GRPR				AMB	AMB	22 55 54.0	
	110nm,0.3s						
GRPR				*e*S	**Sn**	**22 56 11.8**	**-0.9**
GRPR				A	A	22 56 17.0	
	346nm,0.4s						
GRPR				A	A	22 56 17.0	
	447nm,0.4s						
GLVR	**Golovnino**	**1.98**	**253**	*e*P	**Pb**	**22 55 55.5**	**-0.2**
GLVR				*e*S	**Sn**	**22 56 19.0**	**+0.3**
GLVR				A	A	22 56 24.0	
	678nm,0.3s						
GLVR				A	A	22 56 24.0	
	357nm,0.3s						
NEM2	**Nemuro 2**	**1.99**	**241**	P	**Pn**	**22 55 53.9**	**+0.3**
NEM2				*e*S	**Sn**	**22 56 16.9**	**-2.1**
NMR	**Nemuro--Hokkai**	**1.99**	**241**	*i* S	**Sn**	**22 56 16.0**	**-3.2**
JRA	**Rausu**	**2.20**	**260**	P	**Pb**	**22 55 58.8**	**-0.7**
JNSB	**Nemuroshibetsu**	**2.32**	**257**	P	**Pb**	**22 56 00.2**	**-1.4**
JNK	**Nakash**	**2.58**	**254**	P	**Pn**	**22 56 03.5**	**+1.8**
JNK				*e*S	**Sn**	**22 56 32.8**	**-0.8**
JAK	**Akkeshi**	**2.83**	**242**	P	**Pn**	**22 56 06.1**	**+0.9**
JAK				*e*S	**Sn**	**22 56 39.1**	**-0.8**
JTKR	**Abashiri--Toko**	**3.06**	**264**	P	**Pb**	**22 56 12.4**	**-1.7**
JAR	**Ashorobuto**	**3.32**	**253**	P	**Pb**	**22 56 14.7**	**+2.7**
JAR				*e*S	**Sn**	**22 56 52.7**	**+0.7**
JCH	**Churui**	**3.88**	**245**	P	**Pn**	**22 56 21.8**	**+2.2**
JNBK	**Urakawa-nobuka**	**4.43**	**244**	P	**Pn**	**22 56 29.2**	**+2.0**
JOT	**Ohata**	**5.99**	**243**	P	**Pn**	**22 56 50.0**	**+1.4**

*NEIC **23** 23:03:35.9±2.6, 10.66S±0.06×160.93E±0.05, h51km±9km,*
mb4.9/16, Error ellipse: s-maj=9.3km s-min=7.8km
az=190.0
*IDC **23** 23:03:36.1±3.0, 10.30S×161.13E, h92km±19km, mb3.2/3,*
mb1 3.7/5, mb1mx3.4/28, mbtmp4.0/5, Error ellipse:
s-maj=43.8km s-min=25.3km az=60.0

ISC 23 23:03:35.1±0.8, **10.5S**±0.1×**161.1E**±0.1, **h62**km, **n21,**
σ1§**46**/16, **mb3.3**/4, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.51**	**312**	P	**Pn**	**23 04 01.1**	**+1.1**
	143nm,0.3s,baz=168,slow=14,SNR=21						
HNR				S	**Sn**	**23 04 20.5**	**+1.9**
	302nm,0.3s,baz=8.2,slow=23,SNR=21						
SANVU	**Saraoutou**	**7.76**	**130**	Pn	**Pn**	**23 05 26.5**	**+1.0**
SANVU				Sn	**Sn**	**23 06 52.0**	**0.0**
KRVT	**Keravat (AS076**	**10.85**	**304**	P	**Pn**	**23 06 07.7**	**-0.1**
	6.1nm,0.3s,baz=36,slow=21,SNR=1.8						
DZM	**Mont Dzumac**	**12.65**	**157**	P	**Pn**	**23 06 34.7**	**+2.4**
	0.2nm,0.3s,baz=337,slow=15,SNR=1.8						
WB0	**Warramunga Arr**	**27.34**	**247**	P	**P**	**23 09 15.2**	**+0.7**
WC3	**Warramunga Arr**	**27.41**	**247**	P	**P**	**23 09 15.6**	**+0.4**
WB2	**Warramunga Arr**	**27.43**	**247**	P	**P**	**23 09 15.2**	**-0.1**
WRA	**Warramunga Arr**	**27.44**	**247**	P	**P**	**23 09 14.8**	**-0.5**
	0.2nm,0.4s,baz=77,slow=8.9,SNR=4.8						
WRA	**Warramunga Arr**	**27.44**	**247**	IAmb	IAmb	23 09 16.7	
	comp=Z,0.1nm,0.9s						
ASAR	**Alice Springs**	**29.04**	**240**	P	**P**	**23 09 28.5**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=68,slow=9.7,SNR=2.4						
NIUE	**Niue**	**29.28**	**110**	P	**P**	**23 09 32.9**	**+1.1**
H11S2	**WAKE ISLAND Hy**	**29.29**	**11**	T	T	23 38 29.8	
	baz=194,slow=76,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**29.29**	**11**	T	T	23 38 41.4	
	baz=194,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**29.31**	**11**	T	T	23 38 21.5	
	baz=194,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**30.52**	**11**	T	T	23 40 16.8	
	baz=192,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**30.53**	**11**	T	T	23 40 21.8	
	baz=192,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**30.54**	**11**	T	T	23 40 35.2	
	baz=192,slow=76,SNR=14						
QRZ	**Quartz Range**	**31.90**	**163**	P	**P**	**23 09 53.4**	**-1.3**
BBOO	**Buckleboo**	**32.02**	**222**	P	**P**	**23 09 55.8**	**0.0**
BBOO				IAmb	IAmb	23 10 06.3	
	comp=Z,2.2nm,0.9s						
BFZ	**Birch Farm**	**32.96**	**159**	P	**P**	**23 10 02.2**	**-1.8**
SONM	**Songino Array**	**75.53**	**325**	P	**P**	**23 15 10.2**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=141,slow=5.0,SNR=3.9						

IDC 23 23:05:02.6±22.0, **17.28S×177.38W, h175**km±155km,
mb3.7/3, **mb1 3.8**/4, **mb1mx3.4**/28, **mbtmp4.2**/4, **ML3.8**/1,
MS3.9/8, **Ms1 3.9**/8, **ms1mx3.5**/43, **Error ellipse:**
s-maj=294.3km s-min=98.9km az=139.0, Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.93**	**182**	LR	LR	23 11 19.9	
	comp=Z,782nm,20.7s,baz=330,slow=32						
DZM	**Mont Dzumac**	**15.96**	**250**	P	Pn	23 08 37.7	-0.2
	0.3nm,0.3s,baz=137,slow=21,SNR=12						
DZM	**Mont Dzumac**	**15.96**	**250**	*e*LR	LR	23 13 03.5	
	comp=Z,722nm,25.3s						
URZ	**Urewera**	**21.45**	**192**	LR	LR	23 16 40.5	
	comp=Z,530nm,21.0s,baz=31,slow=32						
HNR	**Honiara**	**23.38**	**287**	LR	LR	23 17 46.7	
	comp=Z,413nm,19.2s,baz=75,slow=33						
PPT2	**Papeete2**	**26.52**	**95**	*e*LR	LR	23 16 40.5	
	comp=Z,819nm,27.5s,baz=258						
PPT	**Papeete**	**26.52**	**95**	LR	LR	23 17 46.0	
	comp=Z,152nm,19.9s,baz=250,slow=29						
TBI	**Tubuai**	**26.84**	**108**	*e*LR	LR	23 16 54.4	
	comp=Z,838nm,28.5s,baz=289						
RPZ	**Rata Peaks**	**28.11**	**198**	LR	LR	23 21 28.1	
	comp=Z,597nm,18.9s,baz=38,slow=35						
KRVT	**Keravat (AS076**	**32.63**	**290**	LR	LR	23 23 29.2	
	comp=Z,328nm,19.3s,baz=145,slow=34						
CTA	**Charters Tower**	**34.52**	**260**	P	P	23 11 35.0	+0.5
	1.4nm,0.4s,baz=90,slow=10,SNR=1.8						
PMG	**Port Moresby**	**35.33**	**278**	LR	LR	23 24 50.4	
	comp=Z,75nm,18.7s,baz=88,slow=34						
STKA	**Stephens Creek**	**39.79**	**241**	LR	LR	23 27 55.2	
	comp=Z,75nm,18.0s,baz=32,slow=34						
WRA	**Warramunga Arr**	**45.71**	**259**	P	P	23 13 06.0	-0.6
	1.0nm,0.8s,baz=97,slow=7.8,SNR=6.2						
ASAR	**Alice Springs**	**45.90**	**254**	P	P	23 13 08.1	-0.1
	5.3nm,0.7s,baz=85,slow=8.5,SNR=56						
BRTR	**Keskin Array B**	**145.03**	**316**	PKPbc	PKPbc	23 24 18.4	-0.9
	1.0nm,0.9s,baz=47,slow=1.5,SNR=4.1						

*IDC **23** 23:05:31.9±0.5, 13.21N×88.30W, h66km±3km, mb4.3/20,*
mb1 4.5/24, mb1mx4.3/44, mbtmp4.6/24, MS3.7/15,
Ms1 3.7/15, ms1mx3.5/40, Error ellipse: s-maj=16.7km
s-min=8.4km az=54.0
*INET **23** 23:05:32.1, 12.90N×88.72W, h33km, ML4.8*
*UCR **23** 23:05:32.6±1.1, 12.99N×88.72W, h53km±8km, ML5.2,*
MW4.4, mb4.9(NEIC)
*SNET **23** 23:05:32.1±0.7, 12.95N×88.73W, h51km±6km, ML5.3*
*NEIC **23** 23:05:32.0±2.1, 12.98N±0.05×88.66W±0.06, h61km±4km,*
Error ellipse: s-maj=9.8km s-min=5.5km az=224.0
*GCMT **23** 23:05:34.0±0.3, 12.89N±0.02×88.76W±0.03, h64km±1km,*
MW4.9/74, Moment Tensor Solution. s37,c41; s74,c95;
*Duration: 0 Moment tensor: Scale 10**16 Nm; Mrr2.46±.10;*
Mθθ-1.83±.08; Mφφ-0.63±.09; Mrθ0.38±.06; Mrφ1.36±.08;
*Mθφ-0.48±.06; Best double couple: Mo2.66000×10**16*
NP1:φs298.00000°, δ39.00000°, λ82.00000°. NP2:
φs128.00000°, δ51.00000°, λ96.00000°. Principal axes: T
2.5390, Plg82.0000°, Azm271.0000°; N 0.2400, Plg5.0000°,
Azm304.0000°; P -2.7800, Plg6.0000°, Azm214.0000°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to
surface waves, cutoff=50s. Triangular moment-rate
function
*GCG **23** 23:05:55.3±0.3, 15.26N×90.40W, h8km, MD4.6*

ISC 23 23:05:31.8±0.3, **13.00N**±0.04×**88.67W**±0.03, **h69**km±3km,
h69km:**pP-P, n772,** σ**1**§**32**/784, **mb4.9**/146, **3C-54D, El**
Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.34**	**16**	⇓*i*P	**Pn**	**23 05 42.8**	**-0.3**
ALJI				*e*S	**Sn**	**23 05 50.6**	**-0.7**
ALJI				IAML		23 05 52.5	
	comp=Z,206μm,0.6s						
ALJI	**Alcalda de J**	**0.34**	**16**	⇓*i*P	**Pn**	**23 05 42.8**	**-0.3**
ALJI				*e*S	**Sn**	**23 05 50.6**	**-0.7**
ALJI				IAML		23 05 52.5	
	comp=Z,206μm,0.6s						
JUCU	**Jucuarɲn**	**0.48**	**58**	⇓*i*P	**Pn**	**23 05 44.0**	**-0.4**
JUCU				*e*S	**Sn**	**23 05 53.4**	**-0.2**
JUCU				IAML		23 05 55.3	
	comp=Z,79μm,0.7s						
JUCU	**Jucuarɲn**	**0.48**	**58**	⇓*i*P	**Pn**	**23 05 44.0**	**-0.4**
JUCU				*e*S	**Sn**	**23 05 53.4**	**-0.2**
JUCU				IAML		23 05 55.3	
	comp=Z,79μm,0.7s						
COEB	**Comit de Eme**	**0.51**	**15**	⇓*i*P	**Pn**	**23 05 44.6**	**-0.1**
COEB				IAML		23 05 57.5	
	comp=Z,70μm,0.6s						
COEB	**Comit de Eme**	**0.51**	**15**	⇓*i*P	**Pn**	**23 05 44.6**	**-0.1**
COEB				IAML		23 05 57.5	
	comp=Z,70μm,0.6s						
TECA	**Tecapa**	**0.52**	**18**	⇓*i*P	**Pn**	**23 05 44.9**	**0.0**
TECA	**Tecapa**	**0.52**	**18**	⇓*i*P	**Pn**	**23 05 44.9**	**0.0**
LCY	**Lacayo**	**0.55**	**41**	⇓*i*P	**Pn**	**23 05 45.2**	**+0.1**
LCY	**Lacayo**	**0.55**	**41**	⇓*i*P	**Pn**	**23 05 45.2**	**+0.1**
PACA	**Pacayal**	**0.

SNET Serv Nac Est T 0.88 321 Pn 23 05 48.4 -0.4
SNET Sn **Sn** 23 05 59.1 -2.3
FAGO Alcalda de S 0.88 38 ǁ iP Pn 23 05 49.1 +0.4
FAGO Alcalda de S 0.88 38 ǁ iP Pn 23 05 49.1 +0.4
UESS Universidad de 0.89 324 *i P* **Pn** 23 05 48.8 -0.1
UESS Universidad de 0.89 324 *i P* **Pn** 23 05 48.8 -0.1
SEMO Seminario San 0.89 322 *eP* **Pn** 23 05 48.5 -0.4
UEES Universidad Ev 0.91 322 ǁ iP Pn 23 05 48.9 -0.2
UEES *eS* **Sn** 23 06 01.7 -0.3
UEES Universidad Ev 0.91 322 ǁ iP Pn 23 05 48.9 -0.2
UEES *eS* **Sn** 23 06 01.7 -0.3
BOQS Boqueron 0.94 321 ǁ iP Pn 23 05 49.7 -0.1
BOQS Boqueron 0.94 321 ǁ iP Pn 23 05 49.7 -0.1
QUEZ Alcaldia de Qu 1.02 325 *i P* **Pn** 23 05 50.8 +0.3
CEDA San Andres 1.07 318 ǁ iP Pn 23 05 51.0 -0.2
CEDA IAML 23 06 11.6
comp=Z,64µm,0.6s
CEDA San Andres 1.07 318 ǁ iP Pn 23 05 51.0 -0.2
CEDA IAML 23 06 11.6
comp=Z,64µm,0.6s
CSGN Cosiguina Volc 1.08 91 Pn Pn 23 05 51.8 +0.5
TACO Tacachico 1.17 325 ǁ iP Pn 23 05 52.5 0.0
TACO Tacachico 1.17 325 ǁ iP Pn 23 05 52.5 0.0
LLGN La Laguna 1.19 347 ǁ iP Pn 23 05 53.1 +0.4
LLGN La Laguna 1.19 347 ǁ iP Pn 23 05 53.1 +0.4
SBLS San Blas 1.25 312 *i P* **Pn** 23 05 53.8 +0.1
SBLS San Blas 1.25 312 *i P* **Pn** 23 05 53.8 +0.1
SNJE San Jose 1.25 313 ǁ iP Pn 23 05 53.7 0.0
SNJE San Jose 1.26 313 ǁ iP Pn 23 05 53.7 0.0
UNIC Universidad Ca 1.30 319 *eP* **Pn** 23 05 54.1 0.0
UNIC *eS* **Sn** 23 06 11.5 +0.7
UNIC Universidad Ca 1.30 319 *eP* **Pn** 23 05 54.1 0.0
UNIC *eS* **Sn** 23 06 11.5 +0.7
RTR El Retiro 1.31 313 ǁ iP Pn 23 05 54.6 +0.3
RTR El Retiro 1.31 313 ǁ iP Pn 23 05 54.6 +0.3
MTO3 Montecristo 1.55 334 ǁ iP Pn 23 05 58.0 +0.5
MTO3 Montecristo 1.55 334 ǁ iP Pn 23 05 58.0 +0.5
MTO3 Montecristo 1.55 334 Pn 23 05 58.0 +0.5
CRIN San Cristobal 1.60 101 Pn 23 05 58.7 +0.6
ESQI Esquipulas 1.68 337 ǁ iP Pn 23 06 00.2 +1.0
ESQI Esquipulas 1.68 337 Pn 23 06 00.4 +1.1
TGUH Tegucigalpa,Un 1.71 52 ǁ iP Pn 23 06 00.9 +1.2
TGUH Tegucigalpa,Un 1.71 52 ǁ iP Pn 23 06 00.9 +1.2
TGUH Tegucigalpa,Un 1.71 52 Pn Pn 23 06 00.9 +1.2
NBG Las Nubes 2.27 314 ǁ eP Pn 23 06 09.2 +1.9
MRL Marmol 2.29 335 ǁ eP Pn 23 06 09.7 +2.1
PCG Pacaya 2.34 306 *eP* **Pn** 23 06 09.7 +1.5
FUG Fuego 3 2.56 304 *eP* **Pn** 23 06 12.6 +1.5
APG El Apazote 2.65 319 P Pn 23 06 13.4 +1.0
comp=Z,34nm,0.3s,baz=148,slow=15,SNR=368
APG S Sn 23 06 32.8 -11
comp=Z,196nm,0.3s,baz=157,slow=13,SNR=12
MATN Matagalpa 2.67 91 Pn Pn 23 06 13.0 +0.4
ERG Entre ros, C 3.16 297 *eP* **Pn** 23 06 20.2 +1.0
RTAL Retalhuleu 3.31 298 Pn Pn 23 06 21.9 +0.7
ACON Acoyapa 3.56 106 Pn Pn 23 06 24.6 0.0
HUEH Huehuetenango 3.59 310 Pn 23 06 27.3 +2.1
BUEV Buena Vista 3.87 124 *i P* **Pn** 23 06 31.0 +2.1
GPS2 Hotel Rincn d 3.94 124 *i P* **Pn** 23 06 31.5 +1.7
LIM1 Limonal 4.05 124 *i P* **Pn** 23 06 32.7 +1.3
GUAB Guayabo de Bag 4.06 124 *i P* **Pn** 23 06 33.6 +2.1
PETF Flores 4.06 344 Pn 23 06 34.1 +2.6
HORNC Hornillas 4.10 123 *i P* **Pn** 23 06 33.1 +1.0
GUAI GUAI 4.11 131 *i P* **Pn** 23 06 33.2 +1.1
CUI Cuipilapa 4.14 124 *i P* **Pn** 23 06 33.9 +1.3
ACAL Aguas Claras 4.26 123 *i P* **Pn** 23 06 35.8 +1.5
ESPN Las Esperanzas 4.34 100 Pn 23 06 35.6 +0.4
JTS Las Juntas de 4.53 126 P Pn 23 06 38.4 +0.5
comp=Z,6.8nm,0.3s,baz=202,slow=3.4,SNR=16
JTS S **Sn** 23 07 26.8 -2.4
comp=Z,23nm,0.3s,baz=326,slow=17,SNR=3.7
JTS Las Juntas de 4.53 126 Pn Pn 23 06 39.2 +1.4
CCIG Comitan 4.68 315 Pn 23 06 42.5 +2.3
HDC Heredia 5.37 123 Pn 23 06 51.2 +1.8
LCR2 La Lucha 2 5.60 125 *eP* **Pn** 23 06 55.5 +2.7
RIMA Rio Macho 5.70 124 *eP* **Pn** 23 06 56.0 +1.9
CDM Cerro de Muert 5.90 125 *eP* **Pn** 23 06 59.6 +2.5
EDDO Dominical 6.00 128 *eP* **Pn** 23 07 00.9 +2.8
PEZE Perez Zeledon, 6.07 126 *eP* **Pn** 23 07 01.8 +2.7
EDLM Las Mercedes 6.20 126 *eP* **Pn** 23 07 03.8 +3.0
DRK0 Durika 6.49 124 *eP* **Pn** 23 07 07.0 +2.2
RIOS Rincon, Osa 6.62 130 *eP* **Pn** 23 07 08.6 +2.0
BRU2 Volcan 7.20 125 *eP* **Pn** 23 07 16.8 +2.2
CMIG Matias Romero 7.25 305 P Pn 23 07 17.4 +2.3
comp=Z,10nm,0.3s,baz=130,slow=12,SNR=51
CMIG S **Sn** 23 08 36.8 +0.7
comp=Z,31nm,0.3s,baz=273,slow=23,SNR=10
FSCY Frank Sound, 9.54 48 Pn Pn 23 07 48.8 +2.4
MTDJ Mount Denham 11.91 63 Pn 23 08 20.9 +2.0
MOTC Monteria, Cord 13.44 107 *eP* **Pn** 23 08 41.4 +1.9
SJCC San Jacinto, C 13.57 102 *eP* **P** 23 08 48.3 +0.2
PAYG Puerto Ayora 13.68 187 Pn 23 08 42.4 -0.4
CBOC Ciudad Bolivar 14.35 118 *eP* **Pn** 23 08 52.9 +1.2
GTBY Guantanamo Bay 14.71 60 Pn Pn 23 08 57.1 +0.9
SMLC San Martn de 14.92 105 *eP* **P** 23 09 02.4 -0.6
YOTC Yotoco, Valle 15.12 125 *eP* **Pn** 23 09 01.7 +0.1
GUY2C Guyana, Caldas 15.23 119 *eP* **P** 23 09 08.2 +1.2
PTBC PUERTO BERRIO, 15.40 113 *eP* **Pn** 23 08 58.6 -6.5
RREF El Recreo 15.41 120 *eP* **Pn** 23 09 04.4 -1.5
TOLC Tolima 15.61 121 *eP* **P** 23 09 11.4 +0.5
BBAC Balboa, Cauca 15.71 133 *eP* **P** 23 09 11.4 -0.6
BBAC Balboa, Cauca 15.71 133 *eP* **P** 23 09 11.2 -0.8
OCAC Ocana 15.80 106 *eP* **P** 23 09 12.9 -0.1
SOTA Rioblanco 16.09 131 *eP* **P** 23 09 19.0 +2.5
PCON Cinco Dias 16.12 130 *eP* **P** 23 09 19.4 +2.4
MARP Paez Belalcaza 16.12 128 *eP* **P** 23 09 19.3 +2.6
ROSC El Rosal 16.32 119 P Pn 23 09 15.5 -1.6
comp=Z,1.5nm,0.3s,baz=300,slow=20,SNR=1.9
ROSC LR LR 23 16 10.7
comp=Z,99nm,21.5s,baz=352,slow=40
PRAC Prado 16.45 123 *eP* **P** 23 09 19.6 -0.4
PAMC Pamplona, Colo 16.69 108 *eP* **P** 23 09 22.6 -0.6
KVTX Kingsville 16.85 331 Pn Pn 23 09 24.2 -0.1
KVTX IAmb IAmb 23 09 27.8
comp=Z,56nm,0.7s
RUSC La Rusia 16.91 113 *eP* **Pn** 23 09 24.6 +0.1
CHIC Chingaza 16.93 118 *eP* **P** 23 09 26.6 +0.8
FLOC Florencia 17.17 130 *eP* **P** 23 09 31.0 +3.0
656A Willston 17.25 18 P P 23 09 30.6 +1.8
553A Crawfordville 17.55 12 P P 23 09 34.5 +2.5
553A IAmb IAmb 23 09 41.3
comp=Z,83nm,0.9s
SDDR Presa de Saban 17.73 68 P Pn 23 09 36.2 +2.0
735A Kenedy 17.92 333 P Pn 23 09 37.6 +1.2
735A IAmb IAmb 23 10 02.2
comp=Z,45nm,0.5s
HKT Hockley 18.13 340 Pn 23 09 40.2 +1.5
BRAL Brewton 18.14 4 P Pn 23 09 41.4 +2.4
BRAL IAmb IAmb 23 10 07.0
comp=Z,110nm,1.4s
441A DeRidder 18.15 347 P Pn 23 09 39.8 +0.6
SDV Santo Domingo 18.17 101 P P 23 09 36.9 -2.3
comp=Z,2.2nm,0.3s,baz=296,slow=10,SNR=18
SDV PcP **PcP** 23 14 10.8 +0.7
comp=Z,0.8nm,0.3s,baz=296,slow=0.3,SNR=4.0
SDV Santo Domingo 18.17 101 *eP* **P** 23 09 37.9 -1.3
SDV Santo Domingo 18.17 101 P P 23 09 39.3 +0.1
SDV Santo Domingo 18.17 101 *epP* pP 23 09 53.2 -0.1
MACC Macarena, Meta 18.20 125 *eP* **Pn** 23 09 42.2 +2.2
833A Chaparral WMA, 18.23 328 P Pn 23 09 41.9 +1.7
baz=145,SNR=7.1
833A Chaparral WMA, 18.23 328 P Pn 23 09 41.3 +1.1
346A Big Creek Wild 18.32 358 P Pn 23 09 43.6 +2.5
SC01 Santiago de lo 18.36 67 P Pn 23 09 43.9 +2.1
SC01 IAmb IAmb 23 09 50.8
comp=Z,52nm,0.7s
344A Westbrook Farm 18.46 354 P Pn 23 09 44.7 +1.8
342A Flagon Creek P 18.60 350 Pn 23 09 46.6 +2.2
342A IAmb IAmb 23 09 56.9
comp=Z,156nm,1.6s
456A Hilliard 18.68 18 P Pn 23 09 46.6 +1.2
456A IAmb IAmb 23 10 18.2
comp=Z,92nm,1.1s
352A Blakely 18.71 10 P Pn 23 09 47.2 +1.4
PTLC Puerto Leguiza 18.75 132 *eP* **Pn** 23 09 50.6 +4.2
TIGA Tifton 18.94 13 P Pn 23 09 50.9 +2.3
baz=195,SNR=13
TIGA Tifton 18.94 13 P Pn 23 09 49.3 +0.7
250A Grady 19.02 6 P Pn 23 09 49.6 0.0
VBMS Vicksburg 19.20 355 P Pn 23 09 54.1 +2.3
baz=175,SNR=11
VBMS Vicksburg 19.20 355 P Pn 23 09 52.5 +0.8

DR12 Loma Pena Alta 19.41 70 P Pn 23 09 55.4 +0.9
NATX Nacogdoches 19.47 345 P P 23 09 53.9 +0.8
baz=163
NATX Nacogdoches 19.47 345 P Pn 23 09 54.8 0.0
435B Jarrell 19.52 336 P Pn 23 09 55.3 -0.2
baz=154,SNR=6.5
435B Jarrell 19.52 336 P Pn 23 09 55.3 -0.2
435B IAmb IAmb 23 10 01.2
comp=Z,46nm,0.6s
146A Union 19.55 359 P Pn 23 09 55.3 -0.5
146A IAmb IAmb 23 10 06.2
comp=Z,73nm,0.9s
255A Hazlehurst 19.68 16 P Pn 23 09 57.1 -0.2
143A Socs Landing, 19.77 353 P Pn 23 09 58.9 +0.5
152A Waverly Hall 19.91 10 P Pn 23 10 00.8 +0.7
152A IAmb IAmb 23 10 03.0
comp=Z,66nm,0.8s
LRAL Lakeview Retre 20.00 4 P Pn 23 10 02.3 +1.1
baz=185,SNR=18
LRAL Lakeview Retre 20.00 4 P Pn 23 10 02.2 +1.1
LRAL IAmb IAmb 23 10 03.7
comp=Z,31nm,0.8s
237A Washetta, Mont 20.02 342 P Pn 23 10 02.0 +0.7
Z47A Carrollton 20.11 1 P Pn 23 10 02.0 -0.4
Z47A IAmb IAmb 23 10 04.4
comp=Z,52nm,0.7s
257A Skidaway Islan 20.15 19 P P 23 10 01.5 +1.1
154A Montrose 20.18 14 P Pn 23 10 03.7 +0.5
JCT Junction City 20.21 331 P Pn 23 10 02.5 -1.2
baz=147,SNR=12
JCT Junction City 20.21 331 P Pn 23 10 02.7 -1.0
Z51A Franklin 20.47 8 P Pn 23 10 06.0 -0.7
Z41A Richland Creek 20.52 350 P Pn 23 10 09.5 +2.3
baz=169
Z41A Richland Creek 20.52 350 P Pn 23 10 07.1 -0.1
Z41A IAmb IAmb 23 10 12.7
comp=Z,50nm,0.9s
WHTX Lake Whitney, 20.55 338 P Pn 23 10 06.8 -0.9
baz=155
WHTX Lake Whitney, 20.55 338 P Pn 23 10 06.8 -0.9
Y45A Yeager Farm, C 20.79 358 P P 23 10 08.4 +1.1
Y45A IAmb IAmb 23 10 35.8
comp=Z,53nm,0.9s
157A Early Branch 20.81 18 P Pn 23 10 11.0 +0.4
baz=201,SNR=14
GOGA Godfrey 20.86 12 P Pn 23 10 10.5 -0.8
baz=194,SNR=18
GOGA Godfrey 20.86 12 P Pn 23 10 10.8 -0.5
GOGA IAmb IAmb 23 10 13.1
comp=Z,39nm,0.7s
Y49A Blount Mountai 20.86 5 P Pn 23 10 10.2 -1.2
Y49A IAmb IAmb 23 10 12.4
comp=Z,28nm,0.6s
Z38A Mt. Pleasant 20.98 345 P Pn 23 10 12.0 -0.6
Z38A IAmb IAmb 23 10 28.3
comp=Z,58nm,0.9s
WLAR White Oak Lake 20.99 350 P 23 10 10.7 +1.2
WLAR IAmb IAmb 23 10 39.7
comp=Z,46nm,0.8s
CCAR Cane Creek 21.01 353 P P 23 10 12.6 +2.9
Y52A Lilburn 21.19 11 P P 23 10 13.8 +2.2
Y52A IAmb IAmb 23 10 16.6
comp=Z,60nm,0.7s
RGRS Roger Stewart 21.28 20 P P 23 10 14.2 +1.7
Z56A Williston 21.30 17 P P 23 10 15.8 +3.0
baz=200,SNR=11
Z56A Williston 21.30 17 P P 23 10 14.9 +2.1
CSU Charleston Sou 21.39 20 P P 23 10 16.5 +2.7
TX32 Lajitas Array 21.41 322 P P 23 10 16.3 +2.2
TXAR Lajitas Array 21.41 322 P P 23 10 16.0 +1.9
comp=Z,15nm,0.6s,baz=146,slow=9.8,SNR=66
TXAR PcP **PcP** 23 14 17.0 +1.5
comp=Z,1.4nm,0.7s,baz=142,slow=4.6,SNR=6.4
TXAR LR LR 23 20 03.1
comp=Z,45nm,19.8s,baz=0.0,slow=41
TXAR Lajitas Array 21.41 322 P P 23 10 15.7 +1.6
TX31 Lajitas Ar. Si 21.41 322 P P 23 10 16.3 +2.2
TX31 IAmb IAmb 23 10 17.1
comp=Z,45nm,0.8s
X48A Hartselle 21.41 4 P P 23 10 15.7 +1.8
OXF Oxford 21.43 358 P P 23 10 15.8 +1.6
baz=178,SNR=5.7
OXF Oxford 21.43 358 P P 23 10 16.0 +1.9
NHSC New Hope 21.46 20 P P 23 10 18.3 +3.8
baz=203
NHSC New Hope 21.46 20 P P 23 10 16.8 +2.3
Z57A Bowman 21.47 18 P P 23 10 17.9 +3.3
baz=202
FPAL Fort Paine 21.62 7 P P 23 10 18.1 +1.8
FPAL IAmb IAmb 23 10 20.6
comp=Z,34nm,0.6s
Z35A Perchaven, San 21.70 340 P P 23 10 19.2 +2.1
Z35A IAmb IAmb 23 10 22.3
comp=Z,34nm,0.8s
X40A Basin Creek Fa 21.72 351 P P 23 10 20.2 +2.8
baz=169
X40A Basin Creek Fa 21.72 351 P P 23 10 20.1 +2.8
X40A IAmb IAmb 23 10 47.2
comp=Z,61nm,1.4s
X51A Calhoun 21.75 9 P P 23 10 20.4 +2.8
Y56A Pelion 21.76 17 P P 23 10 20.8 +3.1
baz=200
Z58A St. Stephen 21.80 20 P P 23 10 21.6 +3.5
baz=204
PLAL Pickwick Lake 21.89 1 P P 23 10 20.6 +1.4
MIAR Mount Ida 21.91 349 P P 23 10 20.9 +1.6
baz=167,SNR=22
MIAR Mount Ida 21.91 349 P P 23 10 20.7 +1.4
MIAR IAmb IAmb 23 10 42.7
comp=Z,39nm,0.9s
HODGE Hodges 21.92 14 P P 23 10 21.3 +1.8
HODGE IAmb IAmb 23 10 23.0
comp=Z,41nm,1.1s
ABTX Abilene, Hawle 21.97 335 P P 23 10 21.3 +1.3
baz=151,SNR=14
ABTX Abilene, Hawle 21.97 335 P P 23 10 20.5 +0.4
ABTX IAmb IAmb 23 10 24.2
comp=Z,38nm,0.7s
X54A Belton 22.20 14 P P 23 10 24.5 +2.0
baz=196,SNR=11
JSC Jenkinsville 22.23 16 P P 23 10 24.8 +2.0
Y57A Sumter 22.23 18 P P 23 10 25.4 +2.5
baz=202,SNR=14
Y57A Sumter 22.23 18 P P 23 10 24.9 +2.0
SWET Sewanee 22.26 6 P P 23 10 24.3 +1.1
SWET IAmb IAmb 23 10 44.6
comp=Z,106nm,1.8s
SJG San Juan 22.27 74 P P 23 10 20.7 -2.7
comp=Z,4.9nm,0.3s,baz=307,slow=15,SNR=3.9
X55A Grayn & Ava 22.31 15 P P 23 10 25.8 +2.2
baz=196,SNR=14
W50A Signal Mountai 22.31 7 P P 23 10 24.8 +1.1
W41B Gary Mavity, V 22.31 352 P P 23 10 25.5 +1.8
baz=171,SNR=15
W41B Gary Mavity, V 22.31 352 P P 23 10 25.3 +1.6
W41B IAmb IAmb 23 10 47.6
comp=Z,30nm,0.8s
W41B **S** 23 14 30.4 +5.7
X37A Clayton 22.34 345 P P 23 10 26.1 +2.1
X37A IAmb IAmb 23 10 47.6
comp=Z,64nm,0.9s
WHAR Wooly Hollow 22.43 352 P P 23 10 25.5 +0.5
WHAR IAmb IAmb 23 10 48.2
comp=Z,31nm,0.9s
ATAH Atahualpa 22.46 152 P P 23 10 27.8 +1.9
comp=Z,6.1nm,0.8s,baz=327,slow=4.0,SNR=4.0
X56A White Oak 22.49 17 P P 23 10 28.0 +2.4
baz=200,SNR=7.8
BG3 Lake Jocassee 22.50 12 P P 23 10 26.9 +1.1
BG3 IAmb IAmb 23 10 28.8
comp=Z,55nm,1.6s
HBAR Harrisburg 22.53 356 P P 23 10 27.6 +1.7
W39A Magazine 22.58 349 P P 23 10 28.1 +1.6
baz=167,SNR=12
W39A Magazine 22.58 349 P P 23 10 28.0 +1.4
PAULI Pauline 22.59 15 P P 23 10 28.8 +2.1
PAULI IAmb IAmb 23 10 51.2
comp=Z,44nm,1.3s
CPCT Cooper Cave 22.66 9 P P 23 10 28.9 +1.4
CPCT IAmb IAmb 23 10 51.4
comp=Z,35nm,0.7s
Y59A Loris 22.71 21 P P 23 10 29.5 +1.5
baz=205
X57A Johnson Farm, 22.74 19 P P 23 10 29.9 +1.7
baz=202

W54A Cherokee Point 22.76 14 P P 23 10 30.4 +1.9
baz=196,SNR=14
BIRD Birdtown, Kers 22.80 18 P P 23 10 30.6 +1.7
Y60A Bolivia 22.97 23 P P 23 10 32.3 +1.7
baz=207
TKL Tuckaleechee C 22.99 10 P P 23 10 30.2 -0.5
comp=Z,21nm,0.7s,baz=183,slow=10.0,SNR=35
TKL Tuckaleechee C 22.99 10 P P 23 10 31.8 +1.0
TKL IAmb IAmb 23 10 55.3
comp=Z,38nm,0.8s
FCAR Ozark Folk Cen 23.00 353 P P 23 10 31.5 +0.6
FCAR IAmb IAmb 23 10 55.9
comp=Z,52nm,0.9s
KMSC Kings Mountain 23.02 16 P P 23 10 32.5 +1.4
baz=198,SNR=6.8
KMSC Kings Mountain 23.02 16 P P 23 10 31.6 +0.5
WVT Waverly 23.04 2 P P 23 10 31.4 +0.1
baz=182
WVT Waverly 23.04 2 P P 23 10 31.4 +0.1
X34A Smith Ranch, M 23.06 340 P P 23 10 32.7 +1.2
X58A Rowland 23.07 20 P P 23 10 32.8 +1.3
baz=204,SNR=9.0
X58A Rowland 23.07 20 P P 23 10 32.8 +1.3
LCAR Lake Charles 23.08 355 P P 23 10 32.3 +0.7
CLTN Cedars of Leba 23.09 5 P P 23 10 32.6 +0.9
V53A Saluda 23.18 12 P P 23 10 34.1 +1.4
V52A Sevierville 23.20 11 P P 23 10 33.8 +1.0
V52A IAmb IAmb 23 10 55.4
comp=Z,47nm,1.4s
W56A Indian Trail 23.22 17 P P 23 10 34.3 +1.3
baz=200,SNR=8.3
LPIG La Paz 23.27 301 P P 23 10 37.3 +3.8
comp=Z,24nm,0.3s,baz=90,slow=6.1,SNR=1.6
W35A Tecumseh 23.27 343 P P 23 10 34.0 +0.4
X59A McDuffie Farm, 23.34 21 P P 23 10 35.5 +1.4
baz=205
W57A Gilead 23.41 18 P P 23 10 35.7 +0.9
baz=202
W57A Gilead 23.41 18 P P 23 10 35.8 +1.0
V54A Nebo 23.47 14 P P 23 10 36.5 +1.1
baz=197,SNR=9.8
WMOK Wichita Mounta 23.50 339 P P 23 10 36.5 +0.8
baz=155,SNR=18
WMOK Wichita Mounta 23.50 339 P P 23 10 36.3 +0.6
FNO Franklin 23.52 342 P P 23 10 37.2 +1.3
W58A Raeford 23.53 20 P P 23 10 36.9 +1.1
baz=204,SNR=13
U49A Red Boiling Sp 23.56 6 P P 23 10 36.1 0.0
U49A IAmb IAmb 23 11 00.6
comp=Z,29nm,1.0s
U40A Yellville 23.56 352 P P 23 10 37.4 +1.3
baz=170,SNR=50
U40A Yellville 23.56 352 P P 23 10 37.2 +1.1
X60A Albert Glenn T 23.57 23 P P 23 10 37.1 +0.8
baz=207,SNR=6.1
HHAR Hobbs 23.66 349 P P 23 10 38.9 +1.8
HHAR IAmb IAmb 23 10 40.3
comp=Z,33nm,0.6s
OKCSW OKLAHOMA CITY 23.67 342 P P 23 10 37.6 +0.4
OKCFA Oklahoma City 23.69 342 P P 23 10 37.6 +0.3
OKCFA IAmb IAmb 23 10 39.1
comp=Z,30nm,0.5s
TUL1 Leonard 23.70 345 P P 23 10 38.1 +0.7
baz=163,SNR=8.3
TUL1 Leonard 23.70 345 P P 23 10 37.9 +0.5
TUL1 IAmb IAmb 23 11 12.8
comp=Z,60nm,1.1s
PCRV Puerto La Cruz 23.70 94 P P 23 10 36.9 -0.8
comp=Z,11nm,0.6s,baz=225,slow=6.2,SNR=6.9
V55A Taylorsville 23.72 15 P P 23 10 38.8 +1.1
baz=198,SNR=7.3
V55A Taylorsville 23.72 15 P P 23 10 38.8 +1.1
V55A IAmb IAmb 23 10 39.5
comp=Z,83nm,1.9s
PBMO Poplar Bluff 23.73 356 P P 23 10 38.0 +0.4
PBMO IAmb IAmb 23 10 41.5
comp=Z,36nm,0.9s
PLCV Puerto La Cruz 23.75 94 P P 23 10 36.9 -1.2
OK025 Westminster Rd 23.81 342 P P 23 10 39.7 +1.3
V56A Mocksville 23.88 17 P P 23 10 40.0 +1.0
baz=200,SNR=7.2
TZTN Tazewell 23.89 10 P P 23 10 39.7 +0.5
baz=192
TZTN Tazewell 23.89 10 P P 23 10 40.0 +0.9
TZTN IAmb IAmb 23 11 06.5
comp=Z,50nm,1.2s
U38A Gravette 23.90 349 P P 23 10 39.6 +0.4
T45A Paducah 23.92 0 P P 23 10 39.9 +0.5
GDL2 Guadalupe Moun 23.93 326 P P 23 10 40.2 +0.5
T47A Sharon Grove 23.93 3 P P 23 10 39.4 0.0
T47A IAmb IAmb 23 10 40.3
comp=Z,34nm,0.7s
BCOK Bluff Creek, N 23.96 342 P P 23 10 40.5 +0.7
OK030 Cody Creek RV 23.97 344 P P 23 10 40.1 +0.3
OK031 S. Brethren Rd 24.01 344 P P 23 10 40.5 +0.3
OK031 IAmb IAmb 23 10 41.6
comp=Z,30nm,0.6s
T42A Van Buren 24.03 355 P P 23 10 40.5 +0.1
T42A IAmb IAmb 23 10 58.6
comp=Z,57nm,1.2s
OK029 Liberty Lake 24.04 342 P P 23 10 41.0 +0.5
W60A Pink Hill 24.09 22 P P 23 10 42.1 +1.2
baz=207
MNTX Cornudas Mount 24.13 323 P P 23 10 42.0 +0.6
baz=137,SNR=20
MNTX Cornudas Mount 24.13 323 P P 23 10 42.0 +0.6
V57A Coltrane Farms 24.16 18 P P 23 10 42.3 +0.8
baz=202,SNR=6.1
T50A Nancy 24.16 7 P P 23 10 43.3 +1.7
QUOK Quay 24.18 344 P P 23 10 42.1 +0.4
QUOK IAmb IAmb 23 10 43.2
comp=Z,36nm,0.6s
CNNC Cliffs of the 24.19 22 P P 23 10 43.1 +1.3
baz=206
CNNC Cliffs of the 24.19 22 P P 23 10 43.0 +1.2
CNNC IAmb IAmb 23 11 37.1
comp=Z,30nm,0.6s
U54A Nelsons Funny 24.21 14 P P 23 10 43.2 +1.0
baz=196,SNR=14
U54A Nelsons Funny 24.21 14 P P 23 10 43.1 +1.0
MGMO Mountain Grove 24.27 353 P P 23 10 43.2 +0.6
V58A Windy Hill, Pi 24.27 19 P P 23 10 43.6 +1.0
baz=203,SNR=14
V58A Windy Hill, Pi 24.27 19 P P 23 10 43.5 +1.0
U55A TA2, Sparta 24.38 15 P P 23 10 44.7 +1.1
baz=198
U56A King 24.41 16 P P 23 10 45.1 +1.3
baz=200
U56A King 24.41 16 P P 23 10 45.4 +1.5
MSTX Muleshoe 24.50 331 P P 23 10 45.5 +0.7
baz=145,SNR=7.1
MSTX Muleshoe 24.50 331 P P 23 10 45.2 +0.4
T53A Wise 24.50 12 P P 23 10 45.4 +0.6
baz=194
V59A Middlesex 24.54 21 P P 23 10 45.9 +0.9
baz=205
S44A Carbondale 24.60 359 P P 23 10 46.2 +0.8
S44A IAmb IAmb 23 11 05.3
comp=Z,54nm,1.1s
AMTX Amarillo 24.77 334 P P 23 10 48.1 +0.8
baz=149
AMTX Amarillo 24.77 334 P P 23 10 48.1 +0.8
AMTX IAmb IAmb 23 10 51.3
comp=Z,32nm,0.7s
T54A Tazewell 24.79 14 P P 23 10 48.0 +0.7
baz=197
U57A Blanch 24.79 18 P P 23 10 48.4 +1.0
baz=202,SNR=8.2
T35A Sooner Cattle 24.83 345 P P 23 10 49.3 +1.6
T35A IAmb IAmb 23 11 20.3
comp=Z,50nm,1.4s
CROK Carrier 24.86 342 P P 23 10 48.6 +0.6
CROK IAmb IAmb 23 11 38.1
comp=Z,54nm,1.0s
S39A Bolivar 24.94 351 P P 23 10 49.1 +0.5
S51A Beattyville 24.95 10 P P 23 10 49.4 +0.6
S51A IAmb IAmb 23 11 09.2
comp=Z,38nm,1.1s
U58A Oxford 25.01 20 P P 23 10 49.9 +0.6
baz=204
T55A Pulaski 25.03 15 P P 23 10 50.5 +0.9
baz=198
CCM Cathedral Cave 25.06 355 P P 23 10 50.0 +0.3
baz=174
CCM Cathedral Cave 25.06 355 P P 23 10 49.8 +0.1

CCM IAmb IAmb 23 11 07.8
comp=Z,36nm,0.8s
KAN13 South Haven SW 25.18 343 P P 23 10 51.1 +0.2
BLA Blacksburg 25.21 16 P P 23 10 52.5 +1.3
baz=199
WCI Wyandotte Cave 25.21 4 P P 23 10 51.2 +0.1
baz=186
WCI Wyandotte Cave 25.21 4 P P 23 10 51.0 -0.2
WCI IAmb IAmb 23 10 51.8
comp=Z,22nm,0.7s
U59A Littleton 25.22 21 P P 23 10 52.1 +0.9
baz=206
KAN14 Manchester OK 25.27 342 P P 23 10 51.8 +0.1
T57A Hurt 25.34 18 P P 23 10 53.4 +1.1
baz=202
T57A Hurt 25.34 18 P P 23 10 53.6 +1.3
T57A IAmb IAmb 23 11 19.0
comp=Z,35nm,1.0s
R49A Shelbyville 25.38 6 P P 23 10 52.7 +0.1
R49A IAmb IAmb 23 11 24.4
comp=Z,90nm,1.9s
KAN05 Bluff City Nor 25.38 343 P P 23 10 53.1 +0.4
R40A Maddies Statio 25.39 353 P P 23 10 52.9 +0.1
R40A IAmb IAmb 23 11 45.8
comp=Z,24nm,0.9s
R50A Paris 25.47 8 P P 23 10 53.4 -0.1
T58A Grand View Acr 25.52 19 P P 23 10 54.6 +0.7
baz=203
KAN08 Anthony NE Sta 25.52 343 P P 23 10 54.3 +0.3
S54A Dingess, Beckl 25.55 14 P P 23 10 54.8 +0.6
baz=197
S54A Dingess, Beckl 25.55 14 P P 23 10 55.1 +0.8
S54A IAmb IAmb 23 11 16.2
comp=Z,86nm,1.8s
U60A Pendleton 25.56 22 P P 23 10 55.2 +1.0
baz=207
OLIL Olney 25.64 1 P P 23 10 55.7 +0.8
OLIL IAmb IAmb 23 11 35.7
comp=Z,55nm,1.4s
S55A Lewisburg 25.72 15 P P 23 10 56.6 +0.8
baz=199
RCRC Randolf Colleg 25.74 17 P P 23 10 57.0 +1.1
Q44A Meyer Farm, Va 25.80 359 P P 23 10 56.7 +0.3
Q44A IAmb IAmb 23 10 57.2
comp=Z,23nm,0.7s
T59A Double "B" Far 25.86 21 P P 23 10 58.0 +1.0
baz=205
T59A Double "B" Far 25.86 21 P P 23 10 58.2 +1.2
T59A IAmb IAmb 23 11 23.1
comp=Z,34nm,0.9s
S56A Natural Bridge 25.88 17 P P 23 10 58.4 +1.1
baz=201
CZSB Cruzeiro do Su 25.99 142 eP P 23 10 57.7 -0.7
CZSB epP pP 23 11 15.1 +0.5
R54A Victor 25.99 14 P P 23 10 58.4 +0.2
baz=197
121A Cookes Peak, D 26.16 321 P P 23 11 02.4 +2.4
baz=134,SNR=7.3
121A Cookes Peak, D 26.16 321 P P 23 11 01.0 +1.0
S58A Poland Farm, P 26.28 19 P P 23 11 01.6 +0.8
baz=204
R55A Marlinton 26.30 15 P P 23 11 01.9 +0.8
baz=199
R55A Marlinton 26.30 15 P P 23 11 02.4 +1.3
Q51A Peebles 26.35 9 P P 23 11 02.1 +0.7
Q51A IAmb IAmb 23 11 41.4
comp=Z,31nm,0.9s
JSRW J. Sargeant Re 26.41 19 P P 23 11 02.9 +0.9
Q52A Bidwell 26.47 11 P P 23 11 03.1 +0.6
baz=194
Q53A Leroy 26.52 13 P P 23 11 03.5 +0.5
baz=196
P40A Paris 26.59 354 P P 23 11 03.9 +0.3
P40A IAmb IAmb 23 11 21.3
comp=Z,35nm,0.8s
R56A Bull Pasture M 26.61 16 P P 23 11 05.2 +1.3
baz=200
BNM Barren Site 26.64 325 P P 23 11 06.1 +1.7
R58B Mineral 26.66 19 P P 23 11 04.6 +0.5
baz=204
S59A Mechanicsville 26.67 20 P P 23 11 05.6 +1.4
baz=205
Q54A Coxs Mills 26.79 14 P P 23 11 06.1 +0.7
baz=197,SNR=7.1
Q54A Coxs Mills 26.79 14 P P 23 11 06.0 +0.6
P51A Williamsport 26.84 10 P P 23 11 06.4 +0.6
P51A IAmb IAmb 23 11 45.7
comp=Z,31nm,1.1s
LENM Lemitar 26.85 325 P P 23 11 08.5 +2.4
R32A Long Quarter, 26.85 342 P P 23 11 05.8 -0.1
R32A IAmb IAmb 23 11 47.0
comp=Z,19nm,0.9s
P38A Dawn 26.87 352 P P 23 11 06.5 +0.4
P38A IAmb IAmb 23 11 28.4
comp=Z,28nm,0.8s
R58A Rapidan 26.92 19 P P 23 11 07.5 +1.0
baz=203
KSU1 Kansas State U 26.93 346 P P 23 11 07.1 +0.4
baz=163
KSU1 Kansas State U 26.93 346 P P 23 11 07.0 +0.4
KSU1 IAmb IAmb 23 11 49.8
comp=Z,20nm,0.7s
Q55A Buckhannon 26.99 15 P P 23 11 08.0 +0.8
baz=199
CBN Corbin Frederi 27.04 20 P P 23 11 09.1 +1.5
baz=205
CBN Corbin Frederi 27.04 20 P P 23 11 08.0 +0.4
CBN IAmb IAmb 23 11 23.0
comp=Z,40nm,0.9s
ANMO Albuquerque 27.14 327 P P 23 11 10.7 +1.9
comp=Z,2.8nm,0.5s,baz=114,slow=7.7,SNR=11
ANMO PcP PcP 23 14 28.8 +0.8
comp=Z,2.2nm,0.5s,baz=106,slow=5.1,SNR=4.8
ANMO Albuquerque 27.14 327 P P 23 11 11.2 +2.3
baz=140
ANMO Albuquerque 27.14 327 P P 23 11 11.2 +2.3
P52A Corning 27.15 11 P P 23 11 08.8 +0.2
baz=194
P52A Corning 27.15 11 P P 23 11 10.8 +2.2
P52A IAmb IAmb 23 11 11.9
comp=Z,42nm,1.4s
P53A Whipple 27.16 12 P P 23 11 09.4 +0.8
baz=196
P53A Whipple 27.16 12 P P 23 11 09.7 +1.0
P53A IAmb IAmb 23 11 28.2
comp=Z,39nm,1.1s
Q56A Snyder Ridge, 27.26 16 P P 23 11 10.8 +1.2
baz=200
Q56A Snyder Ridge, 27.26 16 P P 23 11 11.2 +1.6
Q56A IAmb IAmb 23 11 13.2
comp=Z,17nm,0.8s
P54A Burton 27.47 14 P P 23 11 12.1 +0.6
baz=198
Q57A Strasburg 27.48 17 P P 23 11 12.5 +1.0
baz=202
CBKS Cedar Bluff 27.52 341 P P 23 11 12.7 +0.7
baz=156,SNR=6.3
CBKS Cedar Bluff 27.52 341 P P 23 11 12.9 +0.9
CBKS IAmb IAmb 23 11 13.9
comp=Z,19nm,0.6s
P55A Reedsville 27.53 15 P P 23 11 12.9 +0.8
baz=199
O51A Pataskala 27.56 10 P P 23 11 12.6 +0.3
baz=193
ACSO Alum Creek Sta 27.58 9 P P 23 11 12.8 +0.4
baz=192
ACSO Alum Creek Sta 27.58 9 P P 23 11 12.9 +0.4
Q58A Fox Den Farm, 27.61 19 P P 23 11 13.3 +0.6
baz=204
MCWV Mont Chateau 27.67 15 P P 23 11 13.8 +0.6
baz=199
O52A Adamsville 27.67 11 P P 23 11 13.5 +0.3
baz=194
O52A Adamsville 27.67 11 P P 23 11 13.3 0.0
P56A Dayton Farm, R 27.79 16 P P 23 11 15.6 +1.3
baz=201
T25A Trinidad 27.86 332 P P 23 11 17.3 +2.1
baz=146,SNR=13
T25A Trinidad 27.86 332 P P 23 11 16.8 +1.5
T25A IAmb IAmb 23 11 18.0
comp=Z,16nm,0.7s
O53A New Philadelph 27.92 12 P P 23 11 15.8 +0.3
baz=196
O53A New Philadelph 27.92 12 P P 23 11 15.9 +0.3
O53A IAmb IAmb 23 11 51.9
comp=Z,62nm,1.6s

TUC Tucson 27.93 317 P P 23 11 18.1 +2.3
baz=129
TUC Tucson 27.93 317 P P 23 11 17.1 +1.3
N38A Joes South For 27.98 353 P P 23 11 16.4 +0.4
P57A Homestead Farm 28.01 18 P P 23 11 17.6 +1.3
baz=202
P57A Homestead Farm 28.01 18 P P 23 11 17.6 +1.3
O54A Avella 28.04 14 P P 23 11 17.0 +0.4
baz=197
P58A Pank, Wackersv 28.23 19 P P 23 11 19.3 +1.0
baz=204
SDMD Soldier's Deli 28.31 20 P P 23 11 19.5 +0.6
SDMD IAmb IAmb 23 11 27.1
comp=Z,68nm,2.0s
N51A Ashland 28.35 10 P P 23 11 19.2 -0.1
baz=193
N52A McGinn's Farm, 28.37 11 P P 23 11 19.7 +0.2
baz=194
N53A Lisbon 28.54 12 P P 23 11 21.1 +0.2
baz=196
N53A Lisbon 28.54 12 P P 23 11 21.6 +0.6
N53A IAmb IAmb 23 12 18.9
comp=Z,49nm,1.4s
N33A J Bar K, Exete 28.69 346 P P 23 11 22.8 +0.5
KSCO Kaye Shedlock' 28.71 337 P P 23 11 24.0 +1.3
baz=151
KSCO Kaye Shedlock' 28.71 337 P P 23 11 23.2 +0.6
M50A Fremont 28.72 9 P P 23 11 22.8 +0.3
M50A IAmb IAmb 23 11 23.1
comp=Z,29nm,0.7s
SDCO Great Sand Dun 28.86 332 P P 23 11 26.0 +1.7
baz=145,SNR=14
SDCO Great Sand Dun 28.86 332 P P 23 11 25.7 +1.4
N54A Moraine State 28.87 14 P P 23 11 24.2 +0.2
baz=198
N54A Moraine State 28.87 14 P P 23 11 24.6 +0.6
N54A IAmb IAmb 23 11 44.1
comp=Z,67nm,1.6s
L42A Oliver, Polo 28.91 358 P P 23 11 26.3 +2.0
O58A Lewisberry 28.93 19 P P 23 11 25.4 +1.0
baz=204
L40A Anamosa 29.04 356 P P 23 11 25.1 -0.3
L40A IAmb IAmb 23 11 29.5
comp=Z,16nm,0.8s
SCIA State Center 29.07 353 P P 23 11 26.1 +0.4
baz=171
SCIA State Center 29.07 353 P P 23 11 26.1 +0.4
SCIA IAmb IAmb 23 11 26.6
comp=Z,19nm,0.6s
214A Organ Pipe Nat 29.10 314 P P 23 11 27.5 +1.4
baz=125
214A Organ Pipe Nat 29.10 314 P P 23 11 27.2 +1.1
SSPA Standing Stone 29.11 17 P P 23 11 27.7 +1.6
baz=202
M53A WI Miller and 29.18 12 P P 23 11 26.8 +0.2
baz=196
N56A West Decatur 29.26 16 P P 23 11 28.0 +0.6
baz=201
O59A Robesonia 29.34 20 P P 23 11 29.3 +1.3
baz=205
M54A Oil Creek Stat 29.47 14 P P 23 11 29.5 +0.2
baz=198
S22A 4UR Ranch, Cre 29.49 330 P P 23 11 31.6 +1.8
baz=142,SNR=5.2
S22A 4UR Ranch, Cre 29.49 330 P P 23 11 30.8 +1.0
K38A Parkersburg 29.75 354 P P 23 11 31.9 +0.2
M56A Emporium 29.82 16 P P 23 11 32.7 +0.3
baz=201
JFWS Jewell Farm 29.84 358 P P 23 11 32.2 -0.2
baz=177
JFWS Jewell Farm 29.84 358 P P 23 11 32.3 -0.2
JFWS IAmb IAmb 23 12 28.1
comp=Z,22nm,1.1s
MVCO Mesa Verde 29.93 327 P P 23 11 35.4 +1.7
baz=139,SNR=6.1
MVCO Mesa Verde 29.93 327 P P 23 11 35.3 +1.7
ERPA Erie 29.98 13 P P 23 11 35.9 +2.2
M57A Sunshine Farm, 29.98 18 P P 23 11 34.0 +0.3
baz=203
N59A State Game Lan 30.02 20 P P 23 11 35.2 +1.1
baz=206
M58A Price's Panora 30.21 18 P P 23 11 36.6 +0.8
baz=204
WUAZ Wupatki 30.37 321 P P 23 11 39.3 +1.8
baz=132
WUAZ Wupatki 30.37 321 P P 23 11 38.4 +0.9
SPX San Pedro Mart 30.52 310 P P 23 11 40.1 +1.0
ISCO Idaho Springs 30.59 334 P P 23 11 40.9 +1.4
baz=146,SNR=12
ISCO Idaho Springs 30.59 334 P P 23 11 40.9 +1.4
PV01 Paradox Valley 30.67 328 P P 23 11 41.3 +1.2
M59A Waymart 30.69 20 P P 23 11 40.8 +0.7
baz=206
PV15 Paradox Valley 30.78 329 P P 23 11 42.3 +1.2
I42A Draeger Farm, 30.78 360 P P 23 11 40.5 -0.3
I42A IAmb IAmb 23 11 41.0
comp=Z,12nm,0.5s
PV02 Paradox Valley 30.81 328 P P 23 11 43.7 +2.3
PV13 Radium Mtn., P 30.81 328 P P 23 11 43.2 +1.8
PV13 IAmb IAmb 23 11 44.8
comp=Z,31nm,1.6s
PV05 Paradox Valley 30.90 328 P P 23 11 43.7 +1.5
PV03 Paradox Valley 30.90 328 P P 23 11 43.9 +1.8
PV12 Saucer Basin, 30.92 328 P P 23 11 44.4 +2.0
PV12 IAmb IAmb 23 11 46.5
comp=Z,18nm,0.7s
PV18 Skein Mesa, Pa 30.93 328 P P 23 11 44.2 +1.8
PV18 IAmb IAmb 23 11 45.8
comp=Z,17nm,0.5s
PV07 Paradox Valley 30.94 329 P P 23 11 44.5 +2.0
PV11 David Mesa, Pa 30.95 328 P P 23 11 44.4 +1.8
PV11 IAmb IAmb 23 11 45.3
comp=Z,18nm,0.5s
PV17 East Wray Mesa 30.98 328 P P 23 11 44.5 +1.7
PV17 IAmb IAmb 23 11 46.3
comp=Z,22nm,0.6s
PV17 PcP 23 14 39.1 +1.4
PV16 Nyswonger Mesa 30.98 328 P P 23 11 43.5 +0.6
PV16 IAmb IAmb 23 11 45.5
comp=Z,11nm,0.5s
PV19 Morning Glory 31.01 328 P P 23 11 44.8 +1.6
PV19 IAmb IAmb 23 11 47.1
comp=Z,13nm,0.5s
PV20 West Nyswonger 31.03 328 P P 23 11 44.8 +1.6
PV20 IAmb IAmb 23 11 46.6
comp=Z,12nm,0.6s
PV04 Paradox Valley 31.03 328 P P 23 11 45.2 +1.9
PV04 IAmb IAmb 23 11 46.9
comp=Z,16nm,0.6s
PV14 Lion Creek, Pa 31.08 328 P P 23 11 45.3 +1.5
PV22 Blue Mesa, Par 31.08 328 P P 23 11 45.5 +1.7
PV10 Paradox Valley 31.09 328 P P 23 11 45.2 +1.4
PV10 IAmb IAmb 23 11 46.6
comp=Z,12nm,0.7s
PV23 Carpenter Ridg 31.13 328 P P 23 11 45.9 +1.6
PV23 IAmb IAmb 23 11 49.2
comp=Z,12nm,0.6s
I37A Lemond, Waseca 31.17 353 P P 23 11 43.8 -0.4
K56A Middlesex 31.18 16 P P 23 11 44.6 +0.3
baz=202
ESJX Sierra Juarez 31.36 312 P P 23 11 49.0 +2.7
PDMCI Parker Dam,Lak 31.37 317 P P 23 11 48.0 +1.9
baz=127
ECSD EROS Data Cent 31.38 349 P P 23 11 45.5 -0.6
baz=165
ECSD EROS Data Cent 31.38 349 P P 23 11 45.8 -0.3
ECSD IAmb IAmb 23 12 45.1
comp=Z,40nm,1.9s
I51A Listowel 31.39 11 P P 23 11 45.6 -0.6
baz=194
L59A Walton 31.40 20 P P 23 11 46.9 +0.6
baz=206
K57A Scipio Center 31.44 17 P P 23 11 46.3 -0.3
baz=203
L60A Shokan 31.50 21 P P 23 11 48.1 +1.0
baz=208
N23A Red Feather La 31.64 335 P P 23 11 50.4 +1.7
baz=147,SNR=7.1
N23A Red Feather La 31.64 335 P P 23 11 50.3 +1.5
N23A IAmb IAmb 23 11 50.9
comp=Z,9.5nm,0.7s
K58A Earlville 31.73 18 P P 23 11 49.4 +0.3
baz=205
RMX La Rumorosa 31.77 312 P P 23 11 49.6 -0.2
PHWY Pilot Hill 31.79 336 P P 23 11 51.3 +1.2
PHWY IAmb IAmb 23 11 52.1
comp=Z,26nm,1.4s
ETMB Extrema 31.80 134 eP P 23 11 50.9 +0.8
ETMB epP pP 23 12 07.6 +1.2
IKP In-Ko-Pah, Jac 31.82 312 P P 23 11 52.5 +2.4
baz=122
J56A Wolcott 31.84 16 P P 23 11 49.7 -0.4
baz=202
BC3 Big Chuckawall 31.89 315 P P 23 11 52.8 +2.0
baz=124,SNR=5.8
IRM Iron Mountain 31.96 316 P P 23 11 53.0 +1.7
baz=125
G45A Suttons Bay 32.03 4 P P 23 11 51.0 -0.7
O20A White River Ci 32.05 331 P P 23 11 54.0 +1.8
baz=142,SNR=15
O20A White River Ci 32.05 331 P P 23 11 53.4 +1.1
O20A IAmb IAmb 23 11 56.2
comp=Z,17nm,0.7s
MACA Manacapuru-AM 32.09 118 eP P 23 11 52.2 -0.5
MONP2 Monument Peak 32.17 313 P P 23 11 56.3 +2.9
baz=122
G40A Rib Lake 32.19 358 P P 23 11 52.4 -0.8
PKCU Pink Cliffs 32.22 323 P P 23 11 56.6 +2.6
KNB Kanab 32.24 322 P P 23 11 55.5 +1.6
SPMN Marine on St. 32.31 355 P P 23 11 54.0 -0.2
baz=173,SNR=14
SPMN Marine on St. 32.31 355 P P 23 11 54.0 -0.2
SRU San Rafael Swe 32.41 327 P P 23 11 57.4 +1.9
LCMT Little Creek M 32.49 322 P P 23 11 58.5 +2.4
MTPU Mount Pierson 32.56 324 P P 23 11 58.9 +1.9
PFO Pinyon Flats O 32.57 314 LR LR 23 26 03.5
comp=Z,102nm,20.9s,baz=124,slow=38
H53A Bobcaygeon 32.63 13 P P 23 11 56.8 -0.2
baz=198
GMRC Granite Mounta 32.67 316 P P 23 11 59.5 +1.9
baz=125
SADO Sadowa 32.69 13 P P 23 11 57.3 -0.2
SADO IAmb IAmb 23 11 58.0
comp=Z,16nm,0.7s
P17A Butcher Ranch, 32.79 328 P P 23 12 00.3 +1.6
RWWY Rawlins 32.84 334 P P 23 12 01.1 +2.0
MSU Marysvale 32.88 325 P P 23 12 01.5 +1.9
COWI Conover 32.99 359 P P 23 11 59.1 -1.1
COWI IAmb IAmb 23 12 01.2
comp=Z,15nm,0.6s
F36A Milaca 33.01 354 P P 23 11 59.6 -0.7
F36A IAmb IAmb 23 12 03.9
comp=Z,11nm,0.6s
RDMU Red Mountain 33.03 330 P P 23 12 02.9 +2.1
E43A Lone Tree Farm 33.30 2 P P 23 12 02.1 -0.7
E43A IAmb IAmb 23 12 02.5
comp=Z,13nm,0.6s
K22A Casper 33.35 336 P P 23 12 05.0 +1.4
baz=147
K22A Casper 33.35 336 P P 23 12 04.4 +0.8
K22A IAmb IAmb 23 12 05.6
comp=Z,14nm,0.7s
F33A 5 Mile Ranch, 33.37 350 P P 23 12 03.0 -0.4
SAML Samuel 33.41 129 eP P 23 12 03.9 -0.2
SAML epP pP 23 12 20.4 -0.3
E38A The Farm, Brul 33.59 356 P P 23 12 05.0 -0.3
E38A IAmb IAmb 23 12 23.5
comp=Z,21nm,1.1s
MPU Maple Canyon 33.66 327 P P 23 12 07.9 +1.6
H58A Gabriels 33.68 19 P P 23 12 06.0 -0.2
baz=206
RSSD Black Hills 33.70 340 P P 23 12 08.1 +1.5
baz=152
RSSD Black Hills 33.70 340 P P 23 12 08.3 +1.7
RSSD IAmb IAmb 23 12 09.3
comp=Z,12nm,0.8s
PSUT Pine Spring 33.86 323 P P 23 12 10.2 +2.2
CTU Camp Tracy 34.21 328 P P 23 12 12.0 +1.0
TPNV Topopah Spring 34.32 319 P P 23 12 14.2 +2.1
baz=127
TPNV Topopah Spring 34.32 319 P P 23 12 14.4 +2.4
TCUT Toone Canyon 34.35 329 P P 23 12 14.4 +2.1
DUG Dugway, Tooele 34.41 326 P P 23 12 15.2 +2.4
baz=135
DUG Dugway, Tooele 34.41 326 P P 23 12 14.5 +1.8
MPMC Manual Prospec 34.62 317 P P 23 12 16.3 +1.6
baz=124
BW06 Boulder Array 34.73 333 P P 23 12 16.3 +0.7
baz=143,SNR=8.0
BW06 Boulder Array 34.73 333 P P 23 12 16.4 +0.7
BW06 IAmb IAmb 23 12 18.4
comp=Z,20nm,1.6s
PD31 Pinedale Array 34.73 333 P P 23 12 16.3 +0.7
PD31 IAmb IAmb 23 12 18.4
comp=Z,18nm,1.6s
PDAR Pinedale Array 34.73 333 P P 23 12 15.9 +0.3
comp=Z,3.4nm,0.5s,baz=127,slow=11,SNR=31
PDAR pP pP 23 12 33.0 +0.8
comp=Z,2.2nm,0.7s,baz=96,slow=16,SNR=5.4
PDAR PcP PcP 23 14 47.6 -0.5
comp=Z,1.3nm,0.6s,baz=145,slow=6.1,SNR=4.5
PDAR LR LR 23 28 24.2
comp=Z,52nm,18.1s,baz=137,slow=40
R11A Troy Canyon, C 34.77 321 P P 23 12 17.6 +1.7
baz=130
R11A Troy Canyon, C 34.77 321 P P 23 12 17.6 +1.7
HWUT Hardware Ranch 34.79 329 P P 23 12 17.2 +1.2
HWUT IAmb IAmb 23 12 18.1
comp=Z,9.1nm,0.6s
EYMN Ely 34.92 357 P P 23 12 15.7 -1.2
baz=175
EYMN Ely 34.92 357 P P 23 12 16.0 -0.8
EYMN IAmb IAmb 23 12 17.2
comp=Z,11nm,0.6s
E28A Huff 34.97 345 P P 23 12 17.6 +0.3
SPUT South Promonto 35.02 328 P P 23 12 19.6 +1.5
BGU Big Grassy Mou 35.05 327 P P 23 12 19.8 +1.5
E56A St. Veronique 35.36 16 P P 23 12 21.1 +0.4
baz=203
AHID Auburn Hatcher 35.45 331 P P 23 12 22.8 +1.1
LPAZ La Paz 35.48 145 P P 23 12 23.6 +0.9
comp=Z,2.7nm,0.6s,baz=334,slow=7.6,SNR=16
LPAZ pP pP 23 12 40.1 +0.9
comp=Z,2.2nm,0.7s,baz=293,slow=12,SNR=3.9
LPAZ LR LR 23 27 09.0
comp=Z,122nm,21.9s,baz=312,slow=37
LPAZ La Paz 35.48 145 P P 23 12 22.2 -0.5
LPAZ La Paz 35.48 145 eP pP 23 12 41.4 +2.2
B35A Bob, Littlefor 35.50 354 P P 23 12 21.1 -0.7
B35A IAmb IAmb 23 12 23.6
comp=Z,10nm,0.7s
TPH Tonopah 35.62 320 P P 23 12 25.5 +2.3
D55A Sainte-Anne-du 35.68 16 P P 23 12 22.5 -0.9
baz=202
AGMN Agassiz Nation 35.70 352 P P 23 12 23.1 -0.4
baz=168,SNR=6.8
AGMN Agassiz Nation 35.70 352 P P 23 12 23.1 -0.4
REDW Red Top Meadow 35.79 332 P P 23 12 25.9 +1.2
ECR Eagle Creek 35.79 331 P P 23 12 26.0 +1.3
SNOW Snow King Moun 35.82 332 P P 23 12 26.3 +1.3
LOHW Long Hollow 35.87 332 P P 23 12 26.4 +1.0
LOHW IAmb IAmb 23 12 27.5
comp=Z,12nm,0.8s
MDND Maddock 35.92 347 P P 23 12 26.2 +0.8
baz=162
MDND Maddock 35.92 347 P P 23 12 26.4 +0.9
TPAW Teton Pass 35.94 332 P P 23 12 27.3 +1.3
MOOW Moose Ponds 36.04 332 P P 23 12 28.0 +1.2
MOOW IAmb IAmb 23 12 29.3
comp=Z,11nm,0.8s
ELK Elko 36.13 325 P P 23 12 28.5 +0.9
IMW Indian Meadow 36.25 332 P P 23 12 29.8 +1.2
IMW IAmb IAmb 23 12 33.7
comp=Z,11nm,0.6s
FLWY Flagg Ranch 36.28 333 P P 23 12 30.0 +1.2
FLWY IAmb IAmb 23 12 31.4
comp=Z,12nm,0.6s
PAGB Antelope Grade 36.34 314 P P 23 12 30.7 +1.5
NV11 Mina Array Sit 36.42 319 P P 23 12 32.0 +2.0
H17A Grant Village 36.48 333 P P 23 12 32.0 +1.4
baz=143
H17A Grant Village 36.48 333 P P 23 12 32.3 +1.8
H17A IAmb IAmb 23 12 38.2
comp=Z,7.9nm,0.7s
YPP Pitchstone Pla 36.48 333 P P 23 12 31.7 +1.1
RLMT Red Lodge 36.51 335 P P 23 12 31.6 +0.9
baz=145,SNR=14
RLMT Red Lodge 36.51 335 P P 23 12 31.6 +0.9
NVAR Mina Array Bea 36.51 319 P P 23 12 32.9 +2.0
comp=Z,5.6nm,0.7s,baz=132,slow=7.3,SNR=55
NVAR PcP PcP 23 14 54.6 +1.2

comp=Z,6.4nm,0.6s,baz=135,slow=2.4,SNR=24
NVAR ScP **ScP** **23 18 35.6 +1.4**
comp=Z,0.2nm,0.5s,baz=131,slow=4.0,SNR=3.0
NVAR LR LR 23 29 53.1
comp=Z,170nm,18.2s,baz=109,slow=40
NVAR Mina Array Bea 36.51 319 P **P** **23 12 32.7 +1.8**
LHV Little Huntoon 36.54 319 P **P** **23 12 32.2 +1.4**
LHV IAmb IAmb 23 12 35.3
comp=Z,10nm,0.6s
YMP Mirror Lake Pl 36.57 334 P **P** **23 12 33.4 +2.0**
LAO LASA Array 36.69 340 P **P** **23 12 33.5 +1.3**
baz=151,SNR=6.1
LAO LASA Array 36.69 340 P **P** **23 12 33.7 +1.6**
LAO IAmb IAmb 23 12 33.9
comp=Z,25nm,1.1s
YNE Yellowstone No 36.72 334 P **P** **23 12 33.7 +1.1**
KVN Kaiserville 36.75 320 P **P** **23 12 34.6 +1.8**
RYN Ryan 36.77 319 P **P** **23 12 35.1 +2.1**
YNR Norris Junctio 36.77 333 P **P** **23 12 35.0 +1.9**
YMR Madison River 36.86 333 P **P** **23 12 35.9 +2.1**
YHH Holmes Hill 36.91 333 P **P** **23 12 36.0 +1.7**
YHB Horse Butte 37.03 333 P **P** **23 12 37.4 +2.1**
MNMC Minye Minye 37.05 149 P **P** **23 12 37.2 +1.5**
MNMC IAmb IAmb 23 13 07.7
comp=Z,16nm,0.9s
YHL Hebgen Lake 37.10 333 P **P** **23 12 38.0 +2.1**
QLMT Earthquake Lak 37.20 333 P **P** **23 12 38.9 +2.3**
GCMT Greyciff 37.22 336 P **P** **23 12 37.4 +0.7**
ULM Lac du Bonnet 37.61 352 P **P** **23 12 38.6 -1.1**
comp=Z,18nm,0.5s,baz=168,slow=9.3,SNR=36
ULM pP **pP** **23 12 55.1 -1.4**
comp=Z,14nm,0.8s,baz=166,slow=9.6,SNR=5.6
ULM LR LR 23 29 51.2
comp=Z,159nm,20.9s,baz=163,slow=39
ULM Lac du Bonnet 37.61 352 P **P** **23 12 38.7 -1.1**
DGMT Dagmar 37.64 343 P **P** **23 12 41.0 +0.9**
baz=155,SNR=21
DGMT Dagmar 37.64 343 P **P** **23 12 41.1 +0.9**
HLID Hailey 37.66 329 P **P** **23 12 41.2 +0.7**
baz=136,SNR=8.7
HLID Hailey 37.66 329 P **P** **23 12 41.2 +0.7**
GO01 Chusmiza 37.70 149 P **P** **23 12 41.3 -0.1**
GO01 IAmb IAmb 23 12 49.2
comp=Z,7.2nm,0.6s
BCYI Bear Canyon 37.71 331 P **P** **23 12 42.5 +1.5**
MATQ Matagami 37.76 12 P **P** **23 12 40.1 -0.9**
baz=198
MCMT McKenzie Canyo 37.84 332 P **P** **23 12 44.1 +2.0**
BOZ Bozeman (W) 37.88 334 P **P** **23 12 43.7 +1.3**
baz=142,SNR=21
BOZ Bozeman (W) 37.88 334 P **P** **23 12 43.6 +1.3**
BOZ IAmb IAmb 23 12 46.4
comp=Z,17nm,0.8s
DLMT Dillon 38.13 332 P **P** **23 12 46.2 +1.8**
DLMT IAmb IAmb 23 12 46.4
comp=Z,10nm,0.7s
VILB Vilhena 38.23 131 *e*P **P** **23 12 45.1 -0.3**
VILB *e*pP **pP** **23 13 02.6 +0.5**
MFID Camas Ranch 38.28 328 P **P** **23 12 46.7 +1.1**
LRM Limekiln Ridge 38.42 333 P **P** **23 12 48.1 +1.2**
NPGB Novo Progresso 38.62 119 *e*P **P** **23 12 48.3 -0.4**
NPGB *e*pP **pP** **23 13 07.5 +2.0**
BEKR Beckworth 38.65 320 P **P** **23 12 50.5 +1.7**
MCPB Macapa, AP 38.65 107 *e*P **P** **23 12 47.3 -1.7**
PB01 IPOC Station P 38.73 151 P **P** **23 12 50.6 +1.1**
HRY Holter Researc 38.85 334 P **P** **23 12 51.7 +1.4**
EGMT Eagleton 39.09 337 P **P** **23 12 53.7 +1.5**
baz=146,SNR=5.4
EGMT Eagleton 39.09 337 P **P** **23 12 53.8 +1.5**
PLID Pearl Lake 39.54 329 P **P** **23 12 56.7 +0.4**
J08A Circle Bar Ran 39.67 325 P **P** **23 12 58.2 +1.0**
MSO Missoula 39.85 333 P **P** **23 12 59.3 +0.6**
baz=140,SNR=5.8
MSO Missoula 39.85 333 P **P** **23 12 59.3 +0.6**
BMO Blue Mountains 40.04 328 P **P** **23 13 00.1 -0.2**
CLDB Colider 40.34 125 *e*P **P** **23 13 01.0 -2.0**
CLDB *e*pP **pP** **23 13 18.2 -1.7**
LVC Limon Verde 40.34 151 *e*P **P** **23 13 01.5 -1.8**
PTLB Pontes e Lacer 40.65 133 *e*P **P** **23 13 04.5 -1.0**
PTLB *e*pP **pP** **23 13 22.9 +0.5**
M04C Macdoel 40.66 321 P **P** **23 13 06.0 +0.4**
baz=125
I07A Izee 40.70 325 P **P** **23 13 06.9 +1.1**
YBH Yreka Blue Hor 41.17 320 LR LR 23 31 59.6
comp=Z,140nm,21.9s,baz=137,slow=38
PINE Pine Mountain 41.33 324 P **P** **23 13 11.8 +0.8**
WALA Waterton Lakes 41.56 335 P **P** **23 13 13.6 +0.9**
WALA IAmb IAmb 23 13 15.3
comp=Z,11nm,0.7s
I04A Tendick Farm, 42.18 323 P **P** **23 13 17.5 -0.3**
baz=126
NEW Newport 42.36 332 P **P** **23 13 19.1 -0.2**
baz=137
NEW Newport 42.36 332 P **P** **23 13 19.4 +0.1**
D08A Wollman Farm, 42.37 329 P **P** **23 13 19.8 +0.5**
G05D Wamic, OR 42.44 326 P **P** **23 13 21.3 +1.4**
baz=129
E07A Sunnyside 42.51 328 P **P** **23 13 21.4 +0.9**
FFC Flin Flon 42.92 349 P **P** **23 13 23.8 +0.2**
FFC IAmb IAmb 23 13 24.5
comp=Z,19nm,0.6s
PRPB Parauapebas 43.04 114 *e*P **P** **23 13 24.8 -0.4**
TMAB Tom-Au,PA,Br 43.06 108 *e*P **P** **23 13 24.9 -0.4**
SNDB Serra Nova Dou 44.61 122 *e*P **P** **23 13 37.1 -0.6**
SCHQ Schefferville 45.11 18 P **P** **23 13 39.7 -1.4**
comp=Z,11nm,0.7s,baz=206,slow=7.4,SNR=7.4
SCHQ LR LR 23 34 00.5
comp=Z,135nm,18.3s,baz=326,slow=38
SCHQ Schefferville 45.11 18 P **P** **23 13 40.2 -0.8**
SCHQ IAmb IAmb 23 13 40.8
comp=Z,15nm,0.8s
SMTB Santa Maria do 46.22 116 *e*P **P** **23 13 49.7 -0.8**
ARAG Araguaiana, MT 46.29 127 *e*P **P** **23 13 49.9 -1.0**
ARAG *e*pP **pP** **23 14 06.9 -1.2**
ROSB Rosrio 46.95 107 *e*pP pP 23 14 16.5 +3.1
H03N2 Juan Fernandez 47.10 169 T T 00 04 24.8
baz=347,slow=76,SNR=9.0
H03N1 Juan Fernandez 47.11 169 T T 00 04 25.9
baz=347,slow=76,SNR=9.0
H03N3 Juan Fernandez 47.12 169 T T 00 04 24.8
baz=347,slow=76,SNR=9.0
BDFB Brasilia 49.27 124 P **P** **23 14 13.2 -0.9**
comp=Z,6.6nm,0.6s,baz=276,slow=8.6,SNR=12
BDFB Brasilia 49.27 124 P **P** **23 14 13.5 -0.6**
BDFB IAmb IAmb 23 15 56.3
comp=Z,10nm,1.0s
CPUP Villa Florida 49.57 142 P **P** **23 14 15.6 -0.5**
comp=Z,2.8nm,0.6s,baz=334,slow=8.0,SNR=11
CPUP pP **pP** **23 14 33.3 -0.2**
comp=Z,3.1nm,0.7s,baz=340,slow=10,SNR=4.9
CPUP Villa Florida 49.57 142 P **P** **23 14 15.2 -0.9**
CPUP IAmb IAmb 23 14 35.0
comp=Z,19nm,1.5s
CPUP Villa Florida 49.57 142 *e*P **P** **23 14 15.8 -0.3**
CPUP *e*pP **pP** **23 14 35.2 +1.8**
ITRB Iturama 49.78 130 *e*P **P** **23 14 17.0 -0.9**
ITRB *e*pP **pP** **23 14 37.9 +2.6**
TRCB Terra Rica 50.11 135 *e*P **P** **23 14 19.4 -1.0**
SDBA SAO DESIDERIO 50.21 118 *e*P **P** **23 14 20.0 -1.3**
SDBA *e*pP **pP** **23 14 41.9 +3.2**
PCMB Pacaembu 50.31 133 *e*P **P** **23 14 21.3 -0.5**
IPMB Ipameri, GO 50.41 127 *e*P **P** **23 14 21.6 -1.1**
PTGB Pitanga 51.78 136 *e*P **P** **23 14 31.8 -1.1**
BB19B Bebedouro 51.97 130 *e*P **P** **23 14 33.5 -0.9**
FRTB Fartura 52.62 133 *e*P **P** **23 14 38.3 -0.7**
FRTB *e*pP **pP** **23 14 56.4 -0.2**
YKA Yellowknife Ar 52.78 345 P **P** **23 14 39.2 -0.4**
comp=Z,18nm,0.7s,baz=156,slow=7.1,SNR=41
YKA LR LR 23 39 09.9
comp=Z,134nm,21.0s,baz=0.0,slow=38
ITAB Concordia 53.45 139 *e*P **P** **23 14 44.4 -0.6**
ITAB *e*pP **pP** **23 15 03.7 +1.1**
TIJ01 Guaruva-PR 54.27 135 *e*P **P** **23 14 51.2 0.0**
VAO Valinhos 54.29 131 *e*P **P** **23 14 51.1 -0.3**
SPB Sao Paulo 54.30 132 *e*P **P** **23 14 50.6 -0.7**
BSCB Bom Sucesso 54.78 128 *e*P **P** **23 14 54.3 -0.7**
PET01 Itanhaem-SP 54.84 132 *e*P **P** **23 14 54.6 -0.6**
CPSB Cacapava Do Su 54.88 142 *e*P **P** **23 14 54.2 -1.2**
DLBC Dease Lake 54.91 335 P **P** **23 14 55.8 +0.5**
GDU01 Guandu, BA 55.41 117 *e*P **P** **23 14 58.9 -0.6**
PARB Paraibuna 55.48 130 *e*P **P** **23 15 00.1 +0.1**
TAOE Nuku Hiva Isla 55.55 250 *e*T T 00 14 20.2
comp=Z,30nm,0.2s
RCBR Riachuelo 55.65 106 *e*P **P** **23 14 59.8 -1.5**

PLTB Pedras Altas 55.77 144 *e*P **P** **23 15 00.9 -1.0**
PLCA Paso Flores 56.03 163 P **P** **23 15 04.2 +0.6**
comp=Z,4.2nm,1.0s,baz=330,slow=9.4,SNR=6.2
PLCA pP **pP** **23 15 22.0 +0.7**
comp=Z,4.0nm,1.0s,baz=11,slow=10,SNR=3.6
PLCA Paso Flores 56.03 163 P **P** **23 15 05.0 +1.3**
PLCA IAmb IAmb 23 15 05.1
comp=Z,9.3nm,1.1s
PLCA Paso Flores 56.03 163 *e*P **P** **23 15 03.4 -0.2**
ESAR Angra dos Reis 56.18 129 *e*pP pP 23 15 25.0 +2.4
SJMB Sao Joao De Ma 56.42 123 *e*P **P** **23 15 05.6 -1.1**
MAN01 Angra dos Reis 56.45 129 *e*P **P** **23 15 06.5 -0.4**
MAN01 *e*pP **pP** **23 15 27.4 +2.8**
TRQA Tornquist 56.62 155 *e*P **P** **23 15 07.2 -0.5**
BSFB Barra de Sao F 56.76 123 *e*P **P** **23 15 08.6 -0.5**
RIB01 Linhares ES 57.37 123 *e*P **P** **23 15 12.3 -1.1**
MESA MESA 61.00 333 IAmb IAmb 23 15 58.9
comp=Z,17nm,1.0s
MESA MESA 61.00 333 P pP 23 15 57.1 +1.0
CTGM Chitina Glacie 61.09 334 P **P** **23 15 39.4 +0.8**
CTGM IAmb IAmb 23 15 41.5
comp=Z,8.5nm,0.8s
BARN Barnard Glacie 61.27 334 P **P** **23 15 40.7 +0.8**
BARN IAmb IAmb 23 15 41.2
comp=Z,6.4nm,0.7s
BALM Baldy 61.56 334 P **P** **23 15 42.4 +0.7**
BALM IAmb IAmb 23 15 43.4
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 62.01 334 P **P** **23 15 45.9 +1.3**
MCARA IAmb IAmb 23 15 46.1
comp=Z,10nm,0.8s
VRDI Verde Repeater 62.12 333 P **P** **23 15 46.1 +0.4**
VRDI IAmb IAmb 23 15 49.3
comp=Z,8.9nm,1.0s
INK Inuvik 62.33 343 P **P** **23 15 46.3 -0.3**
GLB Gilahina Butte 62.37 334 P **P** **23 15 47.7 +0.6**
GLB IAmb IAmb 23 15 48.8
comp=Z,9.7nm,0.9s
N25K Chitina, Valde 62.79 334 P **P** **23 15 50.7 +0.7**
baz=115,SNR=5.1
K27K Chicken 62.84 337 P **P** **23 15 50.3 +0.1**
baz=118
EGAK Eagle 62.85 338 P **P** **23 15 50.0 -0.2**
EGAK IAmb IAmb 23 15 50.3
comp=Z,9.2nm,0.8s
L26K Log Cabin Wild 62.88 335 P **P** **23 15 50.3 -0.1**
baz=117
KLU Klutina 63.32 333 IAmb IAmb 23 15 54.3
comp=Z,14nm,0.9s
KLU Klutina 63.32 333 P **P** **23 15 53.8 +0.3**
DOT Dot Lake 63.45 336 P **P** **23 15 54.5 +0.3**
SCRK Sand Creek 63.56 336 P **P** **23 15 55.2 +0.1**
baz=117,SNR=5.7
M24K Tolsona, Glenn 63.67 334 IAmb IAmb 23 16 03.8
comp=Z,12nm,1.0s
M24K Tolsona, Glenn 63.67 334 P **P** **23 15 55.9 +0.1**
PAX Paxson 63.73 335 P **P** **23 15 55.9 -0.3**
PAX IAmb IAmb 23 15 56.4
comp=Z,6.4nm,0.7s
RIDG Independent Ri 63.80 336 P **P** **23 15 56.8 +0.2**
RIDG IAmb IAmb 23 15 57.8
comp=Z,13nm,0.8s
SCM Sheep Creek Mo 64.07 333 IAmb IAmb 23 15 58.7
comp=Z,10nm,0.7s
SCM Sheep Creek Mo 64.07 333 P **P** **23 15 57.7 -0.7**
DHY Denali Highway 64.57 334 P **P** **23 16 01.3 -0.4**
GHO Glory Hole 64.75 333 P **P** **23 16 02.7 -0.2**
RC01 Rabbit Creek A 64.88 332 P **P** **23 16 03.4 -0.2**
baz=110,SNR=5.3
PMOR Pomariorio Ree 64.89 246 *e*T T 00 25 59.3
comp=Z,6.2nm,0.2s
IL18 Eielson Array 64.99 336 P **P** **23 16 04.4 +0.1**
IL31 65.04 336 IAmb IAmb 23 16 05.5
comp=Z,9.4nm,0.8s
IL31 65.04 336 P **P** **23 16 04.0 -0.5**
ILAR Eielson Array 65.04 336 P **P** **23 16 03.9 -0.7**
comp=Z,8.1nm,0.8s,baz=169,slow=4.8,SNR=52
ILAR pP **pP** **23 16 22.1 -0.6**
comp=Z,2.9nm,0.9s,baz=134,slow=4.9,SNR=3.5
ILAR Eielson Array 65.04 336 P **P** **23 16 04.1 -0.5**
RND Reindeer 65.31 335 P **P** **23 16 06.6 +0.2**
CCB Clear Creek Bu 65.35 336 P **P** **23 16 05.7 -0.9**
CCB IAmb IAmb 23 16 06.8
comp=Z,7.4nm,0.6s
POKR Poker Plat Res 65.39 337 P **P** **23 16 06.4 -0.5**
baz=114,SNR=5.4
POKR Poker Plat Res 65.39 337 IAmb IAmb 23 16 07.2
comp=Z,12nm,0.6s
POKR Poker Plat Res 65.39 337 P **P** **23 16 05.6 -1.3**
WRH Wood River Hil 65.40 336 IAmb IAmb 23 16 06.5
comp=Z,8.4nm,0.7s
WRH Wood River Hil 65.40 336 P **P** **23 16 05.5 -1.3**
MCK McKinley 65.46 335 P **P** **23 16 06.8 -0.6**
baz=112,SNR=6.0
TCOL CIGO, UAF Yank 65.47 336 P **P** **23 16 06.5 -0.8**
baz=113
SUA Susitna One 65.47 332 P **P** **23 16 07.5 0.0**
NEA2 Nenana 65.84 336 P **P** **23 16 09.0 -0.7**
baz=112,SNR=10
BWN Browne 65.84 335 P **P** **23 16 09.4 -0.4**
SKT Skwentna 65.99 333 P **P** **23 16 10.4 -0.3**
SKT IAmb IAmb 23 16 11.0
comp=Z,11nm,0.6s
I23K Minto, Yukon-K 66.16 336 P **P** **23 16 11.4 -0.3**
baz=112,SNR=10
PPLA Purkeypile 66.56 333 P **P** **23 16 14.0 -0.6**
MLY Manley 66.66 336 P **P** **23 16 14.6 -0.5**
baz=110,SNR=21
EUNU Eureka 67.08 0 P **P** **23 16 17.1 -0.4**
COLD Coldfoot 67.25 338 P **P** **23 16 19.3 +0.6**
baz=112,SNR=7.8
COLD Coldfoot 67.25 338 P **P** **23 16 19.3 +0.6**
COLD IAmb IAmb 23 16 20.1
comp=Z,13nm,0.8s
PPT2 Papeete2 67.37 245 *e*LR LR 23 36 37.2
comp=Z,288nm,27.8s
TOLK Toolik Lake Re 67.57 340 P **P** **23 16 20.7 -0.1**
baz=113,SNR=6.5
TOLK Toolik Lake Re 67.57 340 P **P** **23 16 20.8 +0.1**
TBI Tubuai 69.57 239 *e*LR LR 23 37 40.7
comp=Z,158nm,26.2s
PCAS Casmilo, Conde 74.27 52 *e*P **P** **23 16 59.3 -2.6**
comp=Z,23nm,1.5s
MVO Moncorvo 75.31 51 *e*P P 23 17 06.7 -1.2
comp=Z,14nm,2.0s
PBRG Braganca 75.47 50 *e*P P 23 17 01.9 -6.9
comp=Z,16nm,1.8s
EKA Eskdalemuir Ar 76.88 36 P **P** **23 17 12.9 -3.5**
comp=Z,0.9nm,0.6s,baz=269,slow=6.4,SNR=4.4
EKA pP **pP** **23 17 33.4 -1.6**
comp=Z,2.3nm,0.8s,baz=251,slow=5.2,SNR=2.7
ESDC Sonseca Array 77.78 52 P **P** **23 17 19.2 -2.7**
comp=Z,1.1nm,0.9s,baz=285,slow=5.7,SNR=7.2
ESDC pP **pP** **23 17 38.4 -2.2**
comp=Z,1.8nm,0.8s,baz=285,slow=5.3,SNR=6.5
ESDC LR LR 23 46 17.2
comp=Z,61nm,20.9s,baz=240,slow=32
ESDC Sonseca Array 77.78 52 P **P** **23 17 19.3 -2.7**
ESDC **pP** **23 17 39.0 -1.5**
PMSA Palmer Station 79.76 170 *e*P **P** **23 17 31.7 -0.2**
NOA NORSAR Array B 83.46 29 LR LR 23 51 13.4
comp=Z,36nm,21.5s,baz=285,slow=33
ARCES ARCESS Array B 86.05 19 P **P** **23 18 02.7 -1.9**
comp=Z,3.9nm,0.9s,baz=264,slow=4.9,SNR=4.8
TORD Torodi Ar. Bea 87.45 77 P **P** **23 18 09.2 -3.3**
comp=Z,0.3nm,0.5s,baz=295,slow=6.2,SNR=5.7
FINES FINESS Array B 90.00 26 LR LR 23 58 20.4
comp=Z,32nm,19.8s,baz=114,slow=35
AKASG Malin Array Be 96.74 34 LR LR 23 59 41.5
comp=Z,49nm,21.3s,baz=300,slow=34
NRIK Noril'sk 97.83 1 LR LR 00 07 19.5
comp=Z,49nm,18.5s,baz=19,slow=38
BOSA Boshof 117.00 116 PKP **PKiKP** **23 24 09.8 +0.1**
comp=Z,5.0nm,0.7s,baz=267,slow=2.1,SNR=12
SONM Songino Array 117.97 349 IAmb IAmb 23 15 11.8
comp=Z,0.6nm,0.7s
KSRS Korea Array 119.17 327 PKP **PKPdf** **23 24 13.2 -0.2**
comp=Z,3.2nm,0.6s,baz=8.9,slow=2.1,SNR=11
KSRS pPKP **pPKPdf** **23 24 31.9 -1.2**
comp=Z,2.7nm,0.7s,baz=18,slow=2.6,SNR=4.2
MKAR Makanchi Array 119.93 7 PKP **PKPdf** **23 24 12.6 -2.1**
comp=Z,0.2nm,0.4s,baz=336,slow=3.0,SNR=7.2
MKAR Makanchi Array 119.93 7 pPKPdf pPKPdf 23 24 33.0 -1.3
MAW Mawson 122.33 168 PKP **PKiKP** **23 24 18.7 +0.1**
comp=Z,1.5nm,0.6s,baz=180,slow=2.9,SNR=6.9
MAW pPKP **pPKPdf** **23 24 36.9 -1.3**
comp=Z,2.6nm,0.7s,baz=192,slow=3.1,SNR=4.5
MAW Mawson 122.33 168 pPKPdf pPKPdf 23 24 37.1 -1.1
HHC Hu-ho-hao-te 123.24 342 *e*PKP **PKPdf** **23 24 17.8 -3.5**
HHC LR LR
comp=Z,220nm,12.5s
HHC LR LR
comp=Z,160nm,11.8s
HHC LR LR
comp=Z,120nm,19.2s
WMQ Urumqi 123.36 3 *e*PKP **PKiKP** **23 24 21.8 +0.2**
WMQ LR LR
comp=Z,120nm,17.9s
GTA Gaotai 127.27 352 PKP **PKiKP** **23 24 29.4 -0.2**
GTA LR LR
comp=Z,65nm,17.1s
GTA LR LR
comp=Z,65nm,16.7s
GTA LR LR
comp=Z,110nm,17.8s
LZH Lanzhou 129.77 347 *e*PKP **PKPdf** **23 24 33.6 -0.4**
LZH sPKP 23 25 01.3
LZH LR LR
comp=Z,100nm,18.0s
LZH LR LR
comp=Z,120nm,18.1s
LZH LR LR
comp=Z,170nm,20.0s
XAN Xi'an 130.32 341 PKP **PKiKP** **23 24 35.8 0.0**
XAN LR LR
comp=Z,210nm,22.8s
XAN LR LR
comp=Z,240nm,26.0s
XAN LR LR
comp=Z,270nm,21.7s
STKA Stephens Creek 130.36 239 PKP **PKiKP** **23 24 35.7 -0.1**
comp=Z,0.9nm,0.4s,baz=121,slow=5.9,SNR=3.9
STKA pPKP **pPKPdf** **23 24 53.8 -0.8**
comp=Z,2.7nm,0.9s,baz=168,slow=3.9,SNR=3.5
STKA Stephens Creek 130.36 239 pPKPdf pPKPdf 23 24 52.8 -1.8
GYA Guiyang 138.04 339 *e*PKP **PKPdf** **23 24 49.8 +0.1**
WRA Warramunga Arr 138.28 255 PKhKP PKPpre 23 24 41.8
comp=Z,0.5nm,0.6s,baz=95,slow=3.4,SNR=9.6
WRA PKP **PKPdf** **23 24 51.1 +1.0**
comp=Z,4.2nm,0.7s,baz=90,slow=2.3,SNR=30
WRA pPKP pPKPdf 23 25 09.2 -0.6
comp=Z,5.3nm,1.0s,baz=88,slow=1.4,SNR=6.8
WRA Warramunga Arr 138.28 255 **PKiKP** **23 24 51.3 -0.9**
WRA pPKPdf **pPKPdf** **23 25 08.0 -1.9**
ASAR Alice Springs 138.36 249 PKhKP PKPpre 23 24 41.2
comp=Z,0.6nm,0.6s,baz=107,slow=4.0,SNR=6.7
ASAR PKP **PKiKP** **23 24 51.4 -0.9**
comp=Z,1.8nm,0.7s,baz=93,slow=1.9,SNR=13
CMAR Chiang Mai Arr 147.85 346 PKPbc **PKPdf** **23 25 07.6 +0.6**
comp=Z,4.6nm,0.8s,baz=335,slow=3.0,SNR=23
CMAR pPKPbc **pPKPdf** **23 25 26.9 +0.2**
comp=Z,1.8nm,0.5s,baz=339,slow=3.7,SNR=2.7

RSNC 23 23:08:45.8±0.9, 0.77N×77.94W, h4km±6km, ML1.9,
Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBC	**Cumbal**	**0.20**	**33**	*e*P	Pg	23 08 49.8	-0.1
CMBC				*e*S	Sg	23 08 53.7	+1.1
CMBC				*i*		23 08 57.4	
comp=Z,130nm,0.1s							
OTAV	**Otavalo**	**0.74**	**224**	*e*P	Pg	23 08 59.1	-0.9
OTAV				*e*S	Sg	23 09 09.9	+0.3
OTAV				*i*		23 09 11.4	
comp=Z,19nm,0.5s							
PAC1	**Pacto, Paraso**	**0.99**	**240**	*e*P	Pg	23 09 03.5	-1.4
PAC1				*e*S	Sg	23 09 16.3	-1.4
PAC1				*i*		23 09 17.1	
comp=Z,99nm,0.2s							

*IDC **23** 23:17:52.2±1.6, 18.73S×175.85W, h0km, mb4.5/3, mb1 4.6/3, mb1mx3.8/43, mbtmp4.5/3, Error ellipse: s-maj=59.6km s-min=35.6km az=127.0*
*NEIC **23** 23:18:18.4±2.3, 19.4S±0.1×175.97W±0.08, h214km±9km, mb4.2/10, Error ellipse: s-maj=16.1km s-min=10.7km az=187.0*

ISC 23 23:18:17.4±0.7, 19.45S±0.09×175.98W±0.10, h200km, n21, σ1.968/20, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.73**	**87**	Pn	**Pn**	**23 19 42.7**	**+1.5**
MSVF	**Nonsavu**	**5.92**	**286**	Pn	**Pn**	**23 19 45.6**	**+1.9**
AFI	**Afiamalu**	**6.83**	**37**	Pn	**Pn**	**23 19 57.1**	**+1.5**
RAO	**Raoul Island**	**9.91**	**190**	Pn	**Pn**	**23 20 36.7**	**+1.1**
FUNA	**Funafuti**	**11.83**	**336**	Pn	**Pn**	**23 21 01.0**	**+0.7**
SANVU	**Saraoutou**	**16.53**	**281**		**P**	**23 21 56.1**	**-1.2**
SANVU				IAmb	IAmb	23 22 09.3	
comp=Z,18nm,0.9s							
OXZ	**Oxford**	**25.85**	**200**	P	**P**	**23 23 29.3**	**-1.2**
RPZ	**Rata Peaks**	**26.52**	**201**	P	**P**	**23 23 37.6**	**+1.1**
comp=Z,28nm,0.9s,baz=19,slow=9.9,SNR=3.8							
RPZ	**Rata Peaks**	**26.52**	**201**	IAmb	IAmb	23 23 39.4	
comp=Z,26nm,0.9s							
WHZ	**Wether Hill Ro**	**29.52**	**203**	P	**P**	**23 24 00.6**	**-2.4**
BBOO	**Buckleboo**	**44.71**	**243**	P	**P**	**23 26 13.7**	**+2.8**
BBOO				IAmb	IAmb	23 26 25.7	
comp=Z,3.6nm,1.1s							
WR0	**Warramunga Arr**	**46.45**	**261**	P	**P**	**23 26 23.2**	**-1.5**
WB0	**Warramunga Arr**	**46.61**	**261**	P	**P**	**23 26 24.1**	**-1.8**
AS31	**Alice Springs**	**46.61**	**255**	P	**P**	**23 26 25.8**	**-0.2**
AS31				IAmb	IAmb	23 26 26.4	
comp=Z,1.8nm,0.6s							
ASAR	**Alice Springs**	**46.61**	**255**	P	**P**	**23 26 25.6**	**-0.4**
comp=Z,6.1nm,0.6s,baz=88,slow=8.2,SNR=63							
ASAR	**Alice Springs**	**46.61**	**255**	P	**P**	**23 26 24.9**	**-1.1**
WRA	**Warramunga Arr**	**46.64**	**261**	P	**P**	**23 26 23.9**	**-2.2**
comp=Z,0.5nm,0.5s,baz=96,slow=6.8,SNR=5.5							
YAH	**Yahtse**	**84.23**	**16**	P	**P**	**23 30 23.8**	**-2.6**
YAH				IAmb	IAmb	23 30 25.0	
comp=Z,9.1nm,1.1s							
BRTR	**Keskin Array B**	**147.50**	**315**	PKPbc	**PKPdf**	**23 37 34.6**	**-0.8**
comp=Z,0.6nm,0.6s,baz=58,slow=3.6,SNR=4.4							
GERES	**GERESS Array B**	**149.66**	**347**	PKPbc	**PKPbc**	**23 37 42.2**	**-1.2**
comp=Z,0.6nm,0.4s,baz=40,slow=4.4,SNR=7.3							
DAVOX	**Davos/Dischmat**	**152.32**	**351**	PKPbc	**PKiKP**	**23 37 49.7**	**-0.4**
comp=Z,1.0nm,0.4s,baz=344,slow=7.4,SNR=2.1							

*IDC **23** 23:27:16.7±0.6, 64.63N×17.66W, h0km, mb4.0/18, mb1 4.1/22, mb1mx3.9/61, mbtmp4.0/22, ML2.7/3, MS3.1/4, Ms1 3.1/4, ms1mx2.7/52, Error ellipse: s-maj=17.6km s-min=9.2km az=11.0*
*REY **23** 23:27:16.3, 64.67N×17.46W, h8km*
*MOS **23** 23:27:17.1±0.9, 64.67N×17.50W, h10km, mb4.7/16, Error ellipse: s-maj=12.1km s-min=8.1km az=115.6*
*NEIC **23** 23:27:18.7±1.6, 64.68N±0.1×17.4W±0.2, h8km±4km, mb4.6/55, Error ellipse: s-maj=14.4km s-min=9.1km az=197.0*

ISC 23 23:27:18.4±0.7, 64.70N±0.02×17.47W±0.03, h9km±4km, n239, σ1.985/242, mb4.4/82, MS3.8/4, 7C-8D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.10**	**26**	P	**Pg**	**23 27 18.9**	**-2.1**
baz=19							
IDYN				S	**Sg**	**23 27 21.1**	**-1.9**
baz=19							
IVON	**Vonarskard**	**0.12**	**259**	P	**Pg**	**23 27 19.2**	**-2.1**
baz=270							
IURH	**Urdarhals**	**0.19**	**48**	P	**Pg**	**23 27 20.6**	**-1.7**
baz=42							
IURH				S	**Sg**	**23 27 24.5**	**-0.6**
baz=42							
IGRF	**Grimsfjall**	**0.30**	**163**	P	**Pg**	**23 27 21.9**	**-2.6**
baz=163							
IKVE	**Kverkfjoll**	**0.34**	**93**	P	**Pg**	**23 27 22.9**	**-2.3**
baz=89							
IHUS	**Husbondi**	**0.41**	**191**	P	**Pg**	**23 27 23.8**	**-2.7**
baz=193							
ISKR	**Skrokkalda**	**0.42**	**251**	P	**Pg**	**23 27 24.2**	**-2.3**
baz=254							
IASK	**Askja**	**0.50**	**44**	P	**Pg**	**23 27 25.7**	**-2.4**
baz=42							
IASK				S	**Sg**	**23 27 32.5**	**-2.2**
baz=42							
IIEY	**Innrieyrar**	**0.67**	**205**	P	**Pg**	**23 27 27.6**	**-3.6**

baz=207
IKSK Karasker 0.69 141 P **Pg** 23 27 27.5 -4.2
baz=140
IVSH V-Sauoahnukur 0.76 81 P **Pg** 23 27 29.6 -3.4
baz=79
IKAL Kalfafell 0.76 187 P **Pg** 23 27 29.3 -3.6
baz=188
IVAT Vatnsfell 0.81 231 P **Pg** 23 27 30.6 -3.3
baz=233
IADA Aoalbol 0.87 67 P **Pg** 23 27 31.5 -3.6
baz=66
IADA S **Sg** 23 27 43.4 -3.1
baz=66
IHVE Hveravellir 0.91 282 P **Pg** 23 27 31.9 -4.1
baz=283
IMEL Melhnausar 0.94 21 P **Pg** 23 27 33.1 -3.4
baz=20
IREN Reynihlio 0.98 14 P **Pg** 23 27 33.7 -3.6
baz=13
IKVO Krokottuvotn 1.05 13 P **Pg** 23 27 34.8 -3.7
baz=13
ISNB Snabyli 1.09 208 P **Pg** 23 27 34.9 -4.4
baz=209
IGRS Grimsstaoir 1.10 30 P **Pg** 23 27 35.8 -3.7
baz=30
ISLY Slysaalda 1.13 220 P **Pb** 23 27 36.2 -4.0
baz=221
ISKI Skildingahlsh 1.19 9 P **Pb** 23 27 37.4 -3.7
baz=8.4
IGHA Grjothals 1.20 16 P **Pb** 23 27 37.3 -4.0
baz=16
IGRA Granastaoir 1.23 358 P **Pn** 23 27 37.7 -4.0
baz=358
IMJO Mjoaskard 1.23 232 P **Pn** 23 27 38.0 -3.7
baz=233
IDIM Dimmadalss 1.29 10 P **Pn** 23 27 38.9 -3.7
baz=9.5
IHLA Hella 1.31 343 P **Pn** 23 27 39.1 -3.7
baz=343
IHED Heoinshofoi 1.39 3 P **Pn** 23 27 40.3 -3.6
baz=2.5
IBRE Brettingsstaoi 1.44 353 P **Pn** 23 27 41.3 -3.4
baz=353
IGIL Gilhagi 1.46 18 P **Pn** 23 27 41.3 -3.7
baz=18
ISIG Siglufjorour 1.56 338 P **Pn** 23 27 43.0 -3.3
baz=338
BORG Borgarnes 1.66 273 Pg **Pn** 23 27 44.3 -3.2
35nm,0.3s,baz=92,slow=7.1,SNR=39
BORG Lg Lg 23 28 07.8
36nm,0.3s,baz=204,slow=20,SNR=7.5
BORG Borgarnes 1.66 273 P **Pn** 23 27 44.5 -3.0
BORG Borgarnes 1.66 273 **Pn** 23 27 44.5 -3.0
ISOL Solvholt 1.70 245 P **Pn** 23 27 44.9 -3.2
baz=245
JMIC Jan Mayen 7.16 24 LR LR 23 31 05.9
comp=Z,64nm,19.0s,baz=260,slow=32
SUMG Summit 10.92 325 P **Pn** 23 29 56.7 +1.7
SUMG Summit 10.92 325 Pn **Pn** 23 29 56.6 +1.7
EKB10 Eskdalemuir Ar 11.74 136 Pn **Pn** 23 30 05.4 -0.5
EKB9 Eskdalemuir Ar 11.75 136 Pn **Pn** 23 30 04.7 -1.2
EKB8 Eskdalemuir Ar 11.75 136 Pn **Pn** 23 30 05.3 -0.7
EKB7 Eskdalemuir Ar 11.76 136 Pn **Pn** 23 30 05.4 -0.7
EKB Eskdalemuir 11.76 136 Pn **Pn** 23 30 05.8 -0.4
EKR1 Eskdalemuir Ar 11.76 136 Pn **Pn** 23 30 06.2 0.0
EKB6 Eskdalemuir Ar 11.76 136 Pn **Pn** 23 30 05.5 -0.7
EKB5 Eskdalemuir Ar 11.77 136 Pn **Pn** 23 30 05.0 -1.2
EKR2 Eskdalemuir Ar 11.77 136 Pn **Pn** 23 30 04.9 -1.4
EKA Eskdalemuir Ar 11.77 136 Pn **Pn** 23 30 05.1 -1.2
baz=323,slow=13,SNR=15
ESK Eskdalemuir 11.77 136 P **Pn** 23 30 05.8 -0.5
ESK Eskdalemuir 11.77 136 Pn **Pn** 23 30 05.8 -0.5
EKB4 Eskdalemuir Ar 11.77 136 Pn **Pn** 23 30 06.0 -0.2
EKB3 Eskdalemuir Ar 11.78 136 Pn **Pn** 23 30 06.5 +0.2
EKR3 Eskdalemuir Ar 11.78 136 Pn **Pn** 23 30 05.7 -0.7
EKB2 Eskdalemuir Ar 11.78 136 Pn **Pn** 23 30 06.6 +0.2
EKR4 Eskdalemuir Ar 11.78 136 Pn **Pn** 23 30 06.2 -0.2
EKB1 Eskdalemuir Ar 11.79 136 Pn **Pn** 23 30 04.8 -1.7
EKR5 Eskdalemuir Ar 11.79 136 Pn **Pn** 23 30 06.1 -0.4
EKR6 Eskdalemuir Ar 11.80 136 Pn **Pn** 23 30 06.2 -0.4
EKR7 Eskdalemuir Ar 11.80 136 Pn **Pn** 23 30 05.7 -1.0
EKR8 Eskdalemuir Ar 11.81 136 Pn **Pn** 23 30 06.7 -0.1
EKR9 Eskdalemuir Ar 11.81 136 Pn **Pn** 23 30 08.0 +1.2
EKR10 Eskdalemuir Ar 11.82 136 Pn **Pn** 23 30 08.3 +1.3
DSB Dublin 12.80 149 Pn **Pn** 23 30 20.5 +0.2
NC204 NORSAR Array S 13.22 92 Pn **Pn** 23 30 22.9 -3.1
NOA NORSAR Array B 13.52 92 Pn **Pn** 23 30 28.8 -1.4
0.0nm,0.3s,baz=289,slow=13,SNR=3.4
HFS Hagfors 15.04 93 Pn **Pn** 23 30 49.2 -1.6
0.2nm,0.3s,baz=346,slow=11,SNR=1.5
HFS LR LR 23 36 33.8
comp=Z,58nm,18.3s,baz=268,slow=37
ARCES ARCESS Array B 17.09 55 LR LR 23 36 04.2
comp=Z,88nm,18.4s,baz=255,slow=31
DOU Dourbes 18.69 131 pPn **Pn** 23 31 39.0 +2.0
MEM Membach 18.72 128 pPn **Pn** 23 31 39.1 +1.8
MEM pP **sP** 23 31 47.2 +6.0
BTNL Ternell 18.78 128 Pn **P** 23 31 37.7 0.0
FINES FINESS Array B 19.69 79 P **Pn** 23 31 48.3 -0.5
0.1nm,0.3s,baz=150,slow=23,SNR=1.9
FINES LR LR 23 39 08.4
comp=Z,61nm,18.6s,baz=286,slow=36
CLF Chambon-Foret 19.81 138 Pn **Pn** 23 31 50.8 +0.4
CLF lAmb lAmb 23 32 01.3
comp=Z,76nm,1.5s
ECH Echery 21.16 129 P **P** 23 32 04.2 +0.6
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH Echery 21.16 129 P **P** 23 32 04.2 +0.6
NKC Novy Kostel 21.35 118 *e*P **P** 23 32 08.0 +2.4
NKC Novy Kostel 21.35 118 *e*P **P** 23 32 08.0 +2.4
STU Stuttgart 21.38 125 P **P** 23 32 06.1 +0.2
STU pmax pmax
comp=Z,16nm,0.8s
STU Stuttgart 21.38 125 P **P** 23 32 06.1 +0.2
STU lAmb lAmb 23 32 07.9
comp=Z,16nm,0.8s
BRG Berggiesshubel 21.42 115 *e*P **P** 23 32 06.0 -0.3
comp=Z,21nm,1.1s
BRG Berggiesshubel 21.42 115 *e*P **P** 23 32 05.9 -0.3
BRG pmax pmax
comp=Z,21nm,1.2s
BFO Black Forest 21.46 127 P **P** 23 32 07.5 +0.8
BFO pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 21.46 127 P **P** 23 32 07.5 +0.8
VSU Vasula 21.55 86↓ *e*P **P** 23 32 09.3 +1.7
VSU pmax pmax
comp=Z,137nm,1.2s
PRU Pruhonice 22.35 116 *e*P **P** 23 32 16.9 +0.6
PRU Pruhonice 22.35 116 *e*P **P** 23 32 16.9 +0.6
CHVC Chvalec 22.47 113 *e*P **P** 23 32 19.2 +1.6
OSTC Ostas 22.56 113 *e*P **P** 23 32 19.5 +1.0
KHC Kasperske Hory 22.68 119 *e*P **P** 23 32 19.6 -0.2
KHC Kasperske Hory 22.68 119 *e*P **P** 23 32 19.6 -0.2
KHC Kasperske Hory 22.68 119 P **P** 23 32 20.3 +0.4
DPC Dobruska-Polom 22.76 113 *e*P **P** 23 32 21.2 +0.5
DPC Dobruska-Polom 22.76 113 *e*P **P** 23 32 21.2 +0.5
SUW Suwalki 22.88 98 P **P** 23 32 21.4 -0.4
SUW pmax pmax
comp=Z,25nm,1.0s
SUW Suwalki 22.88 98 P **P** 23 32 21.4 -0.4
SUW lAmb lAmb 23 32 22.7
comp=Z,25nm,1.0s
DAVA Damuels 22.89 126 *e*P **P** 23 32 23.0 +0.8
comp=Z,14nm,1.3s
GEC2 GERESS Array S 22.96 119 P **P** 23 32 23.2 +0.4
GEC2B GERESS ARRAY S 22.96 119 P **P** 23 32 22.6 -0.2
GERES GERESS Array B 22.96 119 P **P** 23 32 23.1 +0.4
comp=Z,2.2nm,1.0s,baz=334,slow=8.9,SNR=10
GERES GERESS Array B 22.96 119 P **P** 23 32 23.3 +0.4
GERES GERESS Array B 22.96 119 P **P** 23 32 23.3 +0.4
RETA Reutte 23.03 125 *e*P **P** 23 32 24.1 +0.6
comp=Z,8.4nm,1.2s
KRLC Kraliky 23.16 113 *e*P **P** 23 32 24.2 -0.6
KRLC Kraliky 23.16 113 *e*P **P** 23 32 24.2 -0.6
MOTA Moosalm 23.27 125 *e*P **P** 23 32 26.5 +0.5
comp=Z,11nm,1.1s
DAVOX Davos/Dischmat 23.33 127 P **P** 23 32 27.0 +0.3
comp=Z,2.9nm,0.8s,baz=315,slow=19,SNR=4.4
DAVOX Davos/Dischmat 23.33 127 P **P** 23 32 27.0 +0.3
SQTA Sankt Quirin 23.41 125 *e*P **P** 23 32 28.2 +0.7
comp=Z,7.8nm,1.2s
FETA Feichten 23.41 126 *e*P **P** 23 32 27.9 +0.4
comp=Z,4.1nm,1.2s

TUE Stuetta 23.41 128 P **P** 23 32 28.7 +1.1
TUE lAmb lAmb 23 32 46.5
comp=Z,13nm,1.0s
WATA Walderalm 23.44 124 *e*P **P** 23 32 28.7 +0.8
comp=Z,12nm,1.2s
VRAC Vranov 23.70 114 P **P** 23 32 31.0 +0.9
comp=Z,1.9nm,0.7s,baz=303,slow=8.0,SNR=4.7
MORC Moravsky Berou 23.70 112 P **P** 23 32 31.6 +1.4
MORC pmax pmax
comp=Z,15nm,1.4s
MORC Moravsky Berou 23.70 112 P **P** 23 32 31.6 +1.4
PBRG Braganca 23.75 160 *e*P **P** 23 32 36.2 +5.5
comp=Z,13nm,1.8s
PVRL Vila Real 24.13 162 *e*P **P** 23 32 34.8 +0.5
comp=Z,12nm,1.2s
OJC Ojcow 24.26 109 P **P** 23 32 36.0 +0.6
OJC pmax pmax
comp=Z,20nm,1.5s
OJC Ojcow 24.26 109 P **P** 23 32 36.0 +0.6
OJC lAmb lAmb 23 33 13.1
comp=Z,20nm,1.5s
MVO Moncorvo 24.33 161 *e*P **P** 23 32 36.0 -0.2
comp=Z,16nm,1.8s
CONA Conrad Observa 24.53 117 *e*P **P** 23 32 38.0 -0.1
comp=Z,5.8nm,1.0s
CTI Castel Tesino 24.57 125 P **P** 23 32 39.0 +0.5
CTI pmax pmax
comp=Z,9.0nm,1.1s
CTI Castel Tesino 24.57 125 P **P** 23 32 39.0 +0.5
CIMO Cimolais 24.63 124 P **P** 23 32 39.7 +0.9
PVIS Viseu 24.66 162 *e*P **P** 23 32 40.8 +1.7
comp=Z,15nm,1.4s
MODS Modra-Piesok 24.72 115 *e*P **P** 23 32 40.0 +0.4
MODS Modra-Piesok 24.72 115 *e*P **P** 23 32 40.0 +0.4
PRED Cave del Predi 24.92 122 P **P** 23 32 42.4 +0.9
PRED lAmb lAmb 23 32 47.4
comp=Z,27nm,1.7s
ARSA Arzberg 24.97 118 *e*P **P** 23 32 42.9 +1.0
comp=Z,5.2nm,1.0s
MTE Manteigas 25.01 162 *e*P **P** 23 32 35.9 -6.5
comp=Z,20nm,1.8s
MTE Manteigas 25.01 162 P **P** 23 32 43.2 +0.8
MTE lAmb lAmb 23 32 45.0
comp=Z,8.7nm,1.0s
TEOL Teolo 25.18 126 P **P** 23 32 44.3 +0.5
TEOL lAmb lAmb 23 32 50.2
comp=Z,12nm,1.0s
PCAS Casmilo, Conde 25.23 164 *e*P **P** 23 32 43.6 -0.7
comp=Z,27nm,1.8s
VYHS Vyhne 25.23 112 *e*P **P** 23 32 44.0 -0.3
VYHS pmax pmax
comp=Z,16nm,1.5s
VYHS Vyhne 25.23 112 *e*P **P** 23 32 44.0 -0.3
PCBR Castelo Branco 25.57 162 *e*P **P** 23 32 50.8 +3.5
comp=Z,12nm,1.7s
KWP Kalwaria Pacla 25.91 106 P **P** 23 32 51.1 +0.7
KWP pmax pmax
comp=Z,20nm,1.0s
KWP Kalwaria Pacla 25.91 106 P **P** 23 32 51.1 +0.7
KWP lAmb lAmb 23 32 53.7
comp=Z,20nm,1.0s
PMRV Marv?2o 25.99 162 *e*P **P** 23 32 55.4 +4.2
comp=Z,16nm,1.3s
PSZ Piszkesteto 26.12 112 P **P** 23 32 53.2 +0.8
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 26.12 112 P **P** 23 32 53.2 +0.8
PSZ lAmb lAmb 23 32 58.6
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 26.27 108 *e*P **P** 23 32 53.4 -0.3
KOLS Kolonicke sedl 26.27 108 *e*P **P** 23 32 53.4 -0.3
ESDC Sonseca Array 26.28 156 P **P** 23 32 53.9 0.0
comp=Z,2.0nm,0.8s,baz=345,slow=8.4,SNR=18
ESDC Sonseca Array 26.28 156 P **P** 23 32 54.1 +0.2
UZH Uzhgorod 26.52 108 *e*P **P** 23 32 56.8 +0.9
UZH *e* 23 33 01.0
UZH *e* 23 33 03.7
AKASG Malin Array Be 27.84 98 P **P** 23 33 06.9 -0.7
comp=Z,0.2nm,0.2s,baz=320,slow=9.8,SNR=1.9
OBN Obninsk 27.87 84 *e*P **P** 23 33 07.8 -0.1
OBN *e* 23 33 53.8
OBN *e* 23 36 23.6
OBN pmax pmax
comp=Z,20nm,1.7s
BURAR Bucovina Array 28.52 106 P **P** 23 33 12.8 -1.2
KIRV Kirov 30.96 69↑ *e*P **P** 23 33 35.2 0.0
CLTB Caltabellotta 32.65 131 P **P** 23 33 50.8 +0.3
ARU Arti 36.06 66*c iP* **P** 23 34 20.1 +0.4
ARU 23 35 38.8
ARU 23 36 45.3
ARU S **S** 23 39 59.0 +0.6
ARU SS **SnSn** 23 42 15.0 -7.6
ARU pmax pmax
comp=Z,5.0nm,1.1s
NRIK Noril'sk 36.43 35 P **P** 23 34 23.6 +1.0
comp=Z,1.0nm,0.3s,baz=300,slow=1.9,SNR=4.5
NRIK Noril'sk 36.43 35↑ *e*P **P** 23 34 23.7 +1.0
NRIK pmax pmax
comp=Z,9.0nm,1.3s
SOC Sochi 37.86 96 *e*P **P** 23 34 35.2 +0.1
SOC *e* 23 35 58.2
SOC *e*PPP PPP 23 36 20.9
SOC *e*S **S** 23 40 26.9 +0.8
SOC MLR MLR
comp=Z,54nm,14.0s
GOF Gofitskoye 38.10 91↑ *e*P **P** 23 34 38.4 +1.2
GOF pmax pmax
comp=Z,27nm,0.9s
BRTR Keskin Array B 38.48 105 P **P** 23 34 41.0 +0.5
comp=Z,2.8nm,1.0s,baz=319,slow=5.4,SNR=7.1
KIV Kislovodsk 38.83 92 *e*P **P** 23 34 46.4 +3.0
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,69nm,16.0s
KBZ Khabaz 39.10 93 P **P** 23 34 47.0 +1.5
comp=Z,4.2nm,0.8s,baz=314,slow=13,SNR=9.6
KBZ Khabaz 39.10 93↓ *e*P **P** 23 34 47.0 +1.5
KBZ pmax pmax
comp=Z,6.0nm,0.9s
AKTO Aktyubinsk 40.27 73 P **P** 23 34 55.0 -0.2
comp=Z,2.7nm,0.9s,baz=310,slow=8.8,SNR=5.4
AKTO Aktyubinsk 40.27 73 P **P** 23 34 55.0 -0.2
ABKAR Akbulak array 41.97 73 P **P** 23 35 10.0 +0.8
ABKAR Akbulak array 41.97 73 P **P** 23 35 08.9 -0.3
TIXI Tiksi 42.00 15↓ *iP* **P** 23 35 10.4 +1.3
TIXI pmax pmax
comp=Z,46nm,1.3s
BRVK Borovoye 43.11 62↓ *e*P **P** 23 35 18.5 +0.1
BRVK pmax pmax
comp=Z,5.0nm,1.7s
Q51A Peebles 45.33 269 P **P** 23 35 36.9 +0.6
ILAR Eielson Array 45.66 332 P **P** 23 35 39.3 +0.6
comp=Z,2.0nm,1.0s,baz=22,slow=6.2,SNR=12
ILAR Eielson Array 45.66 332 P **P** 23 35 40.1 +1.4
ILAR Eielson Array 45.66 332 P **P** 23 35 40.1 +1.4
COLA College 45.76 333↑ *e*P **P** 23 35 41.3 +1.9
COLA pmax pmax
comp=Z,9.0nm,1.1s
IMAR Indian Mountai 45.83 337 P **P** 23 35 40.9 +0.9
BCAR Beaver Creek A 46.09 329 P **P** 23 35 43.3 +1.2
BILL Bilibino 47.52 358 *e*P **P** 23 35 54.0 +0.8
BILL *e* 23 37 19.2
BILL *e* 23 37 44.5
BILL pmax pmax
comp=Z,6.0nm,1.0s
ZALV Zalesovo Beam 47.60 51 P **P** 23 35 54.1 +0.1
comp=Z,0.8nm,0.5s,baz=324,slow=7.3,SNR=5.3
ZALV Zalesovo Beam 47.60 51 P **P** 23 35 54.0 0.0
KURK Kurchatov 48.09 58*de*P **P** 23 35 57.4 -0.4
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURK Kurchatov 48.09 58 P **P** 23 35 58.1 +0.3
KURK Kurchatov 48.09 58 lAmb lAmb 23 35 58.6
comp=Z,5.5nm,0.9s
KURBB Kurchatov Arra 48.13 58 P **P** 23 35 58.1 0.0
comp=Z,4.2nm,0.9s,baz=323,slow=7.0,SNR=8.5
T47A Sharon Grove 48.65 270 P **P** 23 36 03.0 +0.7
GEYT Alibeck 50.41 84 P **P** 23 36 16.1 +0.4
comp=Z,1.3nm,0.7s,baz=303,slow=14,SNR=3.9
GEYT Alibeck 50.41 84 lAmb lAmb 23 36 17.4
comp=Z,1.5nm,1.0s
KK31 Karatay Array 51.26 70 P **P** 23 36 23.6 +1.6
KK31 pmax pmax
comp=Z,3.0nm,1.0s

KK31 Karatay Array 51.26 70 P **P** 23 36 23.6 +1.6
KKAR Karatay Array 51.26 70 P **P** 23 36 22.8 +0.7
KKAR Karatay Array 51.26 70 P **P** 23 36 22.8 +0.7
KKAR Karatay Array 51.26 70 lAmb lAmb 23 36 24.0
comp=Z,2.8nm,0.9s
DGZ Jazzator, Alta 52.05 53↑ *iP* **P** 23 36 29.4 +1.3
DGZ pmax pmax
comp=Z,1.0nm,0.6s
MAKZ Makanchi 52.57 59 P **P** 23 36 32.8 +1.0
MAKZ pmax pmax
comp=Z,14nm,1.8s
MAKZ Makanchi 52.57 59 P **P** 23 36 32.8 +1.0
MAKZ lAmb lAmb 23 36 35.5
comp=Z,14nm,1.8s
MK31 Makanchi Array 52.70 58↓ *e*P **P** 23 36 33.2 +0.4
MKAR Makanchi Array 52.70 58 P **P** 23 36 32.9 +0.2
comp=Z,1.9nm,0.9s,baz=319,slow=5.3,SNR=9.2
MKAR Makanchi Array 52.70 58 P **P** 23 36 32.7 -0.1
TORD Torodi Ar. Bea 53.16 156 P **P** 23 36 34.7 -1.7
comp=Z,77nm,0.7s,baz=339,slow=7.5,SNR=10
BW06 Boulder Array 53.17 293 lAmb lAmb 23 36 40.5
comp=Z,6.4nm,1.1s
PD31 Pinedale Array 53.17 293 P **P** 23 36 36.5 -0.1
PD31 lAmb lAmb 23 36 40.5
comp=Z,5.9nm,1.1s
PDAR Pinedale Array 53.17 293 P **P** 23 36 35.3 -1.3
comp=Z,2.6nm,0.8s,baz=53,slow=5.7,SNR=14
PDAR Pinedale Array 53.17 293 P **P** 23 36 34.8 -1.8
AAK Ala-Archa 53.24 67*de*P **P** 23 36 37.9 +0.9
AAK pmax pmax
comp=Z,32nm,2.5s
KAN14 Manchester OK 53.32 280 P **P** 23 36 38.3 +0.9
MOY Mondy 54.63 42 *e*P **P** 23 36 48.4 +1.5
MOY pmax pmax
comp=Z,17nm,1.4s
HWUT Hardware Ranch 54.95 294 P **P** 23 36 50.7 +1.2
HWUT lAmb lAmb 23 36 50.8
comp=Z,9.0nm,1.2s
HRA Herat 55.17 82 P **P** 23 36 51.5 +0.3
BGU Big Grassy Mou 56.10 295 P **P** 23 36 58.3 +0.5
PV22 Blue Mesa, Par 56.46 290 P **P** 23 37 01.5 +1.1
PV22 lAmb lAmb 23 37 05.1
comp=Z,4.5nm,1.0s
KSH Kashi 56.48 68 P **P** 23 37 02.0 +1.6
KSH S **S** 23 44 51.3 -0.1
KSH pmax pmax
comp=Z,16nm,1.5s
KSH LR LR
comp=N,99nm,5.0s
KSH LR LR
comp=E,94nm,5.9s
PV23 Carpenter Ridg 56.62 290 P **P** 23 37 00.8 -0.8
PV23 lAmb lAmb 23 37 02.3
comp=Z,6.4nm,0.9s
PV04 Paradox Valley 56.63 290 P **P** 23 37 02.3 +0.7
PV04 lAmb lAmb 23 38 47.7
comp=Z,14nm,1.6s
DUG Dugway, Tooele 56.65 294 P **P** 23 37 03.2 +1.6
DUG pmax pmax
comp=Z,6.0nm,1.4s
DUG Dugway, Tooele 56.65 294 P **P** 23 37 03.2 +1.6
DUG lAmb lAmb 23 37 20.5
comp=Z,5.7nm,1.4s
PV02 Paradox Valley 56.72 290 P **P** 23 37 03.2 +0.9
PV02 lAmb lAmb 23 37 04.2
comp=Z,6.2nm,1.0s
PV03 Paradox Valley 56.73 290 P **P** 23 37 03.4 +1.1
PV03 lAmb lAmb 23 37 06.7
comp=Z,8.3nm,1.2s
PV18 Skein Mesa, Pa 56.76 290 P **P** 23 37 02.5 0.0
PV18 lAmb lAmb 23 37 03.8
comp=Z,9.4nm,1.2s
WMQ Urumqi 57.20 56 *e*P **P** 23 37 08.8 +3.4
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,100nm,4.9s
MVU Marysvale 57.86 293 P **P** 23 37 11.8 +1.5
ANMO Albuquerque 58.59 286↓ *e*P **P** 23 37 16.2 +0.8
ANMO pmax pmax
comp=Z,27nm,5.1s
PKCU Pink Cliffs 58.81 292 P **P** 23 37 18.0 +0.8
R11A Troy Canyon, C 59.32 295 P **P** 23 37 21.8 +1.3
R11A lAmb lAmb 23 37 27.6
comp=Z,15nm,2.0s
BNM Barren Site 59.35 285 P **P** 23 37 21.7 +0.9
KNB Kanab 59.39 292 P **P** 23 37 20.4 -0.5
KNB pmax pmax
comp=Z,14nm,1.6s
KNB Kanab 59.39 292 P **P** 23 37 20.4 -0.5
LENM Lemitar 59.48 286 P **P** 23 37 23.3 +1.7
SONM Songino Array 59.61 40 P **P** 23 37 22.1 -0.1
comp=Z,0.3nm,0.4s,baz=332,slow=5.4,SNR=6.2
SONM Songino Array 59.61 40 lAmb lAmb 23 37 23.6
comp=Z,1.7nm,1.1s
ULN Ulaanbaatar 59.76 40↑ *e*P **P** 23 37 24.3 +1.0
ULN pmax pmax
comp=Z,4.0nm,1.7s
WUAZ Wupatki 60.11 290 P **P** 23 37 26.8 +0.9
PNTR Pine Nut 60.21 299 P **P** 23 37 28.2 +1.6
SHPR Sheep Range 60.76 294 P **P** 23 37 30.4 +0.1
121A Cookes Peak, D 61.23 285 P **P** 23 37 35.3 +1.7
TXAR Lajitas Array 62.29 280 P **P** 23 37 40.0 -0.7
comp=Z,1.0nm,1.0s,baz=34,slow=5.0,SNR=7.1
TXAR Lajitas Array 62.29 280 P **P** 23 37 40.8 +0.1
TXAR Lajitas Array 62.29 280 P **P** 23 37 40.8 +0.1
TUC Tucson 62.66 288 P **P** 23 37 44.4 +1.4
TUC pmax pmax
comp=Z,5.0nm,1.4s
TUC Tucson 62.66 288 P **P** 23 37 44.4 +1.4
TUC lAmb lAmb 23 37 45.0
comp=Z,5.1nm,1.4s
GTA Gaotai 65.27 49 *e*P **P** 23 38 00.4 +0.2
GTA pP sP 23 38 04.9 0.0
GTA sP pP 23 38 07.8 +4.2
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,38nm,7.3s
GTA LR LR
comp=N,67nm,17.1s
GTA LR LR
comp=E,81nm,17.1s
GTA LR LR
comp=Z,96nm,18.5s
HHC Hu-ho-hao-te 67.48 40 *e*P **P** 23 38 16.6 +2.3
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,57nm,7.2s
LZH Lanzhou 69.60 48 *e*P **P** 23 38 26.3 -1.4
LZH pP pP 23 38 29.0 -2.1
LZH sP sP 23 38 30.1 -2.3
LZH *e*PP **PP** 23 41 02.8 +1.9
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.9s
LZH LR LR
comp=N,150nm,16.2s
LZH LR LR
comp=E,160nm,16.0s
LZH LR LR
comp=Z,200nm,18.3s
CMAR Chiang Mai Arr 84.11 59 P **P** 23 39 49.6 +0.1
comp=Z,1.8nm,0.9s,baz=306,slow=5.6,SNR=4.3
PB08 IPOC Station P 93.37 228 P **P** 23 40 33.5 -0.4
ASAR Alice Springs 134.93 38 PKP **PKPdf** 23 46 37.2 -0.1
comp=Z,0.7nm,0.8s,baz=17,slow=1.0,SNR=5.2

DJA ***23*** *23:32:26.1±0.2,3°S±2°×12°3E±°, h54km±12km, M4.7/23, mB5.2/9, mb4.7/15, MLv4.8/23, Mw(mB)4.5/9*
NEIC ***23*** *23:32:27.4±1.8, 2°89S±0°05×122°68E±0°06, h42km±6km, mb4.6/45, Error ellipse: s-maj=9.3km s-min=7.9km az=93.0*
IDC ***23*** *23:32:28.6±1.6, 2°88S×122°61E, h46km±16km, mb4.1/21, mb1 4.3/26, mb1mx4.1/51, mbtmp4.4/26, ML4.5/5, MS3.7/8, Ms1 3.7/8, ms1mx3.3/35, Error ellipse: s-maj=13.9km s-min=10.5km az=84.0*
ISC 23 23:32:26.9±0.3, 2°90S±0°04×122°73E±0°04, h35km, n141, σ**1s05**/145, **mb4.6**/44, **MS3.9**/10, **1C, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.05**	**186**	P	**Pn**	**23 32 44.4**	**-0.8**
LUWI	**Luwuk**	**1.85**	**1**	P	**Pn**	**23 32 55.2**	**-1.0**
LUWI	**Luwuk**	**1.85**	**1**	Pn	**Pn**	**23 32 56.4**	**+0.3**
APSI	**Ampana**	**2.25**	**331**	P	**Pn**	**23 33 00.9**	**-0.9**
TTSI	**Tana Toraja**	**2.91**	**267**	P	**Pn**	**23 33 09.0**	**-1.8**
TTSI				S	**Sn**	**23 33 45.8**	**+1.2**
SPSI	**Sidrap Palu**	**3.14**	**250**	P	**Pn**	**23 33 13.5**	**-0.4**
SPSI				S	**Sn**	**23 33 50.5**	**+0.3**
SANI	**Sanana**	**3.36**	**75**	P	**Pn**	**23 33 15.6**	**-1.4**
SANI				S	**Sn**	**23 33 54.1**	**-1.6**
GTOI	**Gorontalo**	**3.53**	**5**	P	**Pn**	**23 33 20.5**	**+1.2**
BKSI	**Bulukumba**	**3.54**	**227**	P	**Pn**	**23 33 19.1**	**-0.4**
KAPI	**Kappang**	**3.64**	**235**	P	**Pn**	**23 33 20.5**	**-0.2**
	27nm,0.3s,baz=54,slow=16,SNR=44						
KAPI				S	**Sn**	**23 34 03.0**	**+0.5**
	45nm,0.3s,baz=210,slow=15,SNR=4.9						
KAPI	**Kappang**	**3.64**	**235**	Pn	**Pn**	**23 33 20.4**	**-0.4**
KMSI	**Cibinong**	**3.67**	**20**	P	**Pn**	**23 33 20.7**	**-0.6**
BSSI	**Bau Bau, Buton**	**3.92**	**215**	P	**Pn**	**23 33 25.1**	**+0.4**
MPSI	**Mapaga**	**4.29**	**319**	P	**Pn**	**23 33 27.7**	**-2.0**
LBMI	**Labuha**	**5.27**	**65**	P	**Pn**	**23 33 42.5**	**-0.8**
	0.7nm2μm149nm,0.6s						
MMRI	**Maumere**	**5.72**	**185**	P	**Pn**	**23 33 48.7**	**-0.7**
	0.8nm4μm220nm,0.9s						
MMRI	**Maumere**	**5.72**	**185**	Pn	**Pn**	**23 33 49.8**	**+0.4**
TNTI	**Ternate**	**5.90**	**52**	P	**Pn**	**23 33 50.5**	**-1.4**
	0.3nm83nm,0.8s						
TNTI	**Ternate**	**5.90**	**52**	Pn	**Pn**	**23 33 52.5**	**+0.6**
EDFI	**Ende, Flores**	**5.90**	**190**	P	**Pn**	**23 33 51.5**	**-0.5**
	0.2nm545nm57nm,0.7s						
BKB	**Balikpapan**	**6.05**	**286**	P	**Pn**	**23 33 53.8**	**-0.2**
	0.7nm131nm,0.6s						
BKB	**Balikpapan**	**6.05**	**286**	Pn	**Pn**	**23 33 52.6**	**-1.5**
KBKI	**Kotabaru**	**6.57**	**266**	P	**Pn**	**23 34 00.5**	**-0.6**
	0.2nm2μm72nm,0.8s						
SOEI	**Soe**	**6.98**	**167**	P	**Pn**	**23 34 06.0**	**-0.8**
	0.7nm2μm146nm,0.8s						
SOEI	**Soe**	**6.98**	**167**	Pn	**Pn**	**23 34 08.8**	**+2.0**
BATI	**Baumata**	**7.32**	**173**	P	**Pn**	**23 34 13.3**	**+1.9**
	11nm,0.3s,baz=315,slow=3.3,SNR=11						
BATI				LR	LR	23 37 38.1	
	comp=Z,706nm,19.8s,baz=3.0,slow=42						
BATI	**Baumata**	**7.32**	**173**	P	**Pn**	**23 34 10.2**	**-1.2**
	0.2nm57nm,0.7s						
BASI	**Baing, Sumba**	**7.58**	**196**	P	**Pn**	**23 34 14.2**	**-0.8**
	0.6nm2μm173nm,1.0s						
BBKI	**Banjar Baru**	**7.90**	**266**	P	**Pn**	**23 34 18.0**	**-1.4**
TWSI	**Taliwang, Sumb**	**8.21**	**225**	P	**Pn**	**23 34 23.4**	**-0.3**
	562nm22nm,1.0s						
SIJI	**Sorong**	**8.77**	**77**	P	**Pn**	**23 34 33.3**	**+2.0**
	6.6nm,0.3s,baz=237,slow=17,SNR=5.7						
MYLDM	**Lahad Datu**	**9.07**	**332**	Pn	**Pn**	**23 34 38.0**	**+2.5**
FAKI	**Fak Fak**	**9.51**	**90**	Pn	**Pn**	**23 34 41.3**	**-0.1**
KKM	**Kota Kinabalu**	**11.02**	**324**	Pn	**Pn**	**23 35 03.0**	**+0.8**
SBUM	**Sibu**	**11.78**	**297**	Pn	**Pn**	**23 35 13.6**	**+1.1**
MTN	**Manton Dam**	**12.91**	**140**	Pn	**Pn**	**23 35 29.2**	**+1.1**
KNRA	**Kununurra**	**14.02**	**155**		**Pn**	**23 35 44.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**15.37**	**170**	P	**P**	**23 36 04.8**	**-0.8**
	1.4nm,0.3s,baz=355,slow=15,SNR=46						
FITZ				LR	LR	23 42 19.7	
	comp=Z,159nm,19.2s,baz=356,slow=38						
FITZ	**Fitzroy Crossi**	**15.37**	**170**	Pn	**Pn**	**23 35 59.7**	**-1.6**
FITZ				IAmb	IAmb	23 36 10.3	
	comp=Z,24nm,0.8s						
LEM	**Lembang**	**15.55**	**255**	P	**Pn**	**23 36 04.3**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=86,slow=15,SNR=1.6						
LEM				LR	LR	23 42 40.4	
	comp=Z,226nm,20.1s,baz=16,slow=40						
PPBI	**Pangkal Pinang**	**16.59**	**272**	P	**Pn**	**23 36 15.4**	**-1.7**
TGY	**Tagaytay City**	**16.99**	**354**	P	**P**	**23 36 24.0**	**+0.4**
	comp=Z,107nm,0.3s,baz=158,slow=16,SNR=2.6						
WB0	**Warramunga Arr**	**20.27**	**147**	P	**P**	**23 37 00.1**	**+0.5**
WRAB	**Tennant Creek**	**20.38**	**147**	P	**P**	**23 37 01.7**	**+0.9**
WRA	**Warramunga Arr**	**20.38**	**147**	P	**P**	**23 37 00.9**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=325,slow=12,SNR=39						
WRA	**Warramunga Arr**	**20.38**	**147**	P	**P**	**23 37 01.5**	**+0.7**
WB2	**Warramunga Arr**	**20.39**	**147**	P	Pn	23 37 02.3	-0.8
DLV	**T Lat**	**20.45**	**316**	P	**P**	**23 37 00.6**	**-1.1**
DLV				IAmb	IAmb	23 37 03.7	
	comp=Z,18nm,1.1s						
WR0	**Warramunga Arr**	**20.50**	**147**	P	**P**	**23 37 02.4**	**+0.2**
IPM	**Ipoh**	**22.89**	**289**	P	**P**	**23 37 28.6**	**+0.7**
IPM				IAmb	IAmb	23 37 29.2	
	comp=Z,23nm,0.7s						
COEN	**Coen**	**22.98**	**120**	P	**P**	**23 37 28.2**	**-0.5**
COEN				IAmb	IAmb	23 37 36.0	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**23.30**	**153**	P	**P**	**23 37 32.8**	**+0.9**
ASAR	**Alice Springs**	**23.30**	**153**	P	**P**	**23 37 32.8**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=328,slow=7.3,SNR=66						
ASAR				PcP	**PcP**	**23 41 19.8**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=353,slow=2.1,SNR=4.7						
ASAR				LR	LR	23 47 29.3	
	comp=Z,312nm,19.8s,baz=322,slow=38						
KULM	**Kulim**	**23.51**	**290**	P	**P**	**23 37 34.0**	**0.0**
KULM				IAmb	IAmb	23 37 44.9	
	comp=Z,21nm,1.1s						
RPSI	**Rantau Prapat**	**24.44**	**283**	P	**P**	**23 37 41.5**	**-1.2**
RPSI				IAmb	IAmb	23 37 44.5	
	comp=Z,36nm,1.1s						
PSI	**Prapat**	**24.46**	**283**	LR	LR	23 48 23.6	
	comp=Z,204nm,18.9s,baz=226,slow=39						
QIZ	**Qiongzhong**	**25.21**	**330**	P	**P**	**23 37 50.8**	**+1.2**
QIZ				S	**S**	**23 42 14.6**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,29nm,1.5s						
QIZ				LR	LR		
	comp=N,540nm,16.2s						
QIZ				LR	LR		
	comp=E,290nm,14.7s						
QIZ				LR	LR		
	comp=Z,280nm,18.6s						
GSI	**Gunungsitoli**	**25.49**	**279**	P	**P**	**23 37 49.8**	**-2.4**
GSI				IAmb	IAmb	23 37 52.2	
	comp=Z,25nm,1.1s						
MORW	**Morawa**	**26.79**	**193**	P	**P**	**23 38 03.6**	**-0.2**
MORW				IAmb	IAmb	23 38 06.7	
	comp=Z,30nm,1.1s						
NWAO	**Narrogin (SRO)**	**30.31**	**189**	P	**P**	**23 38 35.2**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=24,slow=10.0,SNR=2.1						
CMAR	**Chiang Mai Arr**	**31.61**	**313**	P	**P**	**23 38 46.9**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=138,slow=7.0,SNR=20						
CMAR	**Chiang Mai Arr**	**31.61**	**313**	P	**P**	**23 38 46.8**	**0.0**
CHTO	**Chiang Mai**	**31.84**	**314**	P	**P**	**23 38 49.2**	**+0.5**
CHTO				IAmb	IAmb	23 38 50.3	
	comp=Z,9.0nm,1.1s						
BBOO	**Buckleboo**	**32.27**	**159**	P	**P**	**23 38 52.8**	**+0.4**
BBOO				IAmb	IAmb	23 39 05.3	
	comp=Z,8.4nm,0.8s						
STKA	**Stephens Creek**	**33.85**	**150**	P	**P**	**23 39 07.3**	**+1.1**
	comp=Z,12nm,0.9s,baz=326,slow=9.6,SNR=18						
STKA				LR	LR	23 54 09.2	
	comp=Z,220nm,18.6s,baz=351,slow=38						
STKA	**Stephens Creek**	**33.85**	**150**	P	**P**	**23 39 06.1**	**-0.1**
HNR	**Honiara**	**37.54**	**102**	LR	LR	23 55 08.8	
	comp=Z,57nm,21.8s,baz=316,slow=36						
CD2	**Chengdu**	**38.18**	**333**	*e*P	**P**	**23 39 43.0**	**-0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN	**Xi'an**	**38.98**	**342**	P	**P**	**23 39 49.8**	**-0.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
XAN				LR	LR		
	comp=N,280nm,12.8s						
XAN				LR	LR		
	comp=E,170nm,11.8s						
XAN				LR	LR		
	comp=Z,300nm,16.3s						
KSRS	**Korea Array**	**40.44**	**6**	P	**P**	**23 40 04.2**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=181,slow=9.8,SNR=5.0						
JGF	**Kuroka**	**40.68**	**18**	P	**P**	**23 40 03.4**	**-0.7**
JGF				IAmb	IAmb	23 40 14.3	
	comp=Z,6.6nm,1.0s						
SHL	**Shillong**	**41.16**	**315**	P	**P**	**23 40 07.2**	**-1.2**
SHL				IAmb	IAmb	23 40 08.7	
	comp=Z,10nm,0.9s						
MAJO	**Matsushiro**	**41.81**	**19**	P	**P**	**23 40 12.7**	**-0.7**
MAJO				IAmb	IAmb	23 40 14.3	
	comp=Z,18nm,1.1s						
MAT	**Matsushiro**	**41.81**	**19**	P	**P**	**23 40 13.5**	**+0.1**
MJAR	**Matsushiro Arr**	**41.81**	**19**	P	**P**	**23 40 13.8**	**+0.4**
	comp=Z,5.4nm,0.6s,baz=198,slow=9.4,SNR=13						
MJAR	**Matsushiro Arr**	**41.81**	**19**	P	**P**	**23 40 12.8**	**-0.6**
LZH	**Lanzhou**	**42.62**	**337**	*e*P	**P**	**23 40 20.0**	**-0.1**
LZH				pP	pwP	23 40 34.3	+0.4
LZH				sP	sP	23 40 40.8	+7.7
LZH				*e*PP	**PP**	**23 42 03.3**	**+3.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,73nm,5.4s						
LZH				LR	LR		
	comp=N,250nm,14.5s						
LZH				LR	LR		
	comp=E,260nm,14.0s						
LZH				LR	LR		
	comp=Z,380nm,16.8s						
PALK	**Pallekele**	**43.14**	**284**	LR	LR	23 58 57.8	
	comp=Z,74nm,18.9s,baz=216,slow=37						
JSD	**Sado**	**43.20**	**18**	P	**P**	**23 40 23.5**	**-1.1**
JSD				IAmb	IAmb	23 40 27.4	
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**44.32**	**319**	P	**P**	**23 40 34.3**	**0.0**
LSA				IAmb	IAmb	23 40 36.0	
	comp=Z,9.2nm,0.6s						
LHI	**Lord Howe Isla**	**44.50**	**134**	P	**P**	**23 40 34.5**	**-0.6**
HHC	**Hu-ho-hao-te**	**44.72**	**348**	*e*P	**P**	**23 40 36.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,6.2s						
HHC				LR	LR		
	comp=N,220nm,15.7s						
HHC				LR	LR		
	comp=E,170nm,11.2s						
HHC				LR	LR		
	comp=Z,130nm,15.2s						
TAPN	**Taplejung**	**45.21**	**314**	*e*P	**P**	**23 40 41.4**	**+0.1**
RAMN	**Ramite**	**45.78**	**313**	*e*P	**P**	**23 40 45.6**	**-0.2**
GUN	**Gumba**	**46.86**	**313**	*e*P	**P**	**23 40 53.8**	**-0.5**
	comp=Z,35nm,0.7s						
PKI	**Pulchoki**	**47.01**	**313**	*e*P	**P**	**23 40 54.7**	**-0.8**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**47.02**	**313**	*e*P	**P**	**23 40 54.6**	**-0.9**
	comp=Z,13nm,0.7s						
GTA	**Gaotai**	**47.09**	**336**	⇑P	**P**	**23 40 56.0**	**+0.3**
GTA				pP	sP	23 41 07.8	-0.9
GTA				sP	pwP	23 41 12.6	+3.0
GTA				PcP	**PcP**	**23 42 28.9**	**+1.6**
GTA	**Gaotai**	**47.09**	**336**	SS	SS	23 51 09.6	-3.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,60nm,6.4s						
GTA				LR	LR		
	comp=N,80nm,15.6s						
GTA				LR	LR		
	comp=E,110nm,16.7s						
GTA				LR	LR		
	comp=Z,96nm,15.6s						
KKN	**Kakani**	**47.23**	**313**	*e*P	**P**	**23 40 56.3**	**-0.7**
	comp=Z,22nm,0.9s						
DMN	**Daman**	**47.25**	**312**	*e*P	**P**	**23 40 56.9**	**-0.4**
	comp=Z,17nm,0.7s						
USA0B	**Ussuriysk Arra**	**47.62**	**9**	P	**P**	**23 41 00.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**47.62**	**9**	P	**P**	**23 41 00.7**	**+1.2**
	comp=Z,11nm,0.8s,baz=197,slow=7.5,SNR=20						
USRK	**Ussuriysk Ar.**	**47.62**	**9**	P	**P**	**23 40 59.9**	**+0.4**
MDJ	**Mudanjiang**	**47.70**	**7**	P	**P**	**23 40 59.2**	**-1.0**
MDJ				IAmb	IAmb	23 41 06.4	
	comp=Z,12nm,1.1s						
GKN	**Gorkha**	**47.82**	**313**	*e*P	**P**	**23 41 00.9**	**-0.6**
	comp=Z,20nm,0.6s						
KOLN	**Koldanda**	**48.46**	**312**	*e*P	**P**	**23 41 06.1**	**-0.5**
	comp=Z,52nm,0.8s						
DANN	**Dangsing**	**48.65**	**312**	*e*P	**P**	**23 41 07.6**	**-0.6**
	comp=Z,60nm,0.6s						
PYUN	**Piuthan**	**49.09**	**312**	*e*P	**P**	**23 41 11.1**	**-0.3**
	comp=Z,84nm,0.9s						
SONM	**Songino Array**	**52.52**	**346**	P	**P**	**23 41 36.1**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=167,slow=9.4,SNR=8.7						
SONM	**Songino Array**	**52.52**	**346**	P	**P**	**23 41 35.5**	**-1.3**
WMQ	**Urumqi**	**56.14**	**330**	*e*P	**P**	**23 42 04.0**	**+0.9**
KSH	**Kashi**	**60.17**	**319**	P	**P**	**23 42 30.6**	**-0.9**
KSH				S	**S**	**23 50 42.3**	**-0.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,100nm,5.0s						
KSH				LR	LR		
	comp=N,120nm,5.0s						
KSH				LR	LR		
	comp=E,110nm,4.8s						
KSH				LR	LR		
	comp=Z,190nm,5.1s						
MKAR	**Makanchi Array**	**60.94**	**329**	P	**P**	**23 42 35.9**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=126,slow=7.9,SNR=7.8						
MKAR				PcP	**PcP**	**23 43 20.1**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=127,slow=4.9,SNR=8.1						
MKAR	**Makanchi Array**	**60.94**	**329**	P	**P**	**23 42 35.6**	**-1.0**
KBL	**Kabul**	**62.62**	**311**	P	**P**	**23 42 47.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**63.05**	**23**	P	**P**	**23 42 51.4**	**+1.0**
PETK	**Petropavlovsk-**	**63.05**	**23**	P	**P**	**23 42 51.9**	**+1.4**
	comp=Z,3.5nm,0.6s,baz=195,slow=3.5,SNR=7.1						
GAR	**Garm**	**63.70**	**316**	P	**P**	**23 42 54.6**	**-0.6**
GAR				IAmb	IAmb	23 42 55.5	
	comp=Z,5.6nm,0.8s						
CHGR	**Chuyangaron**	**64.34**	**316**	P	**P**	**23 42 58.4**	**-1.0**
ZALV	**Zalesovo Beam**	**64.84**	**336**	P	**P**	**23 43 00.7**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=126,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**65.34**	**331**	P	**P**	**23 43 04.5**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=134,slow=5.9,SNR=7.6						
KURK	**Kurchatov**	**65.35**	**331**	P	**P**	**23 43 04.9**	**-0.7**
KURK				IAmb	IAmb	23 43 21.3	
	comp=Z,3.8nm,0.9s						
KK31	**Karatay Array**	**65.55**	**321**	P	**P**	**23 43 06.1**	**-1.1**
KKAR	**Karatay Array**	**65.55**	**321**	P	**P**	**23 43 05.9**	**-1.2**
KKAR	**Karatay Array**	**65.55**	**321**	P	**P**	**23 43 05.9**	**-1.2**
GEYT	**Alibeck**	**72.07**	**311**	P	**P**	**23 43 47.0**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=152,slow=4.4,SNR=5.5						
TIXI	**Tiksi**	**74.53**	**2**	P	**P**	**23 44 01.6**	**0.0**
ABKAR	**Akbulak array**	**74.86**	**323**	P	**P**	**23 44 02.9**	**-1.0**
ABKAR	**Akbulak array**	**74.86**	**323**	IAmb	IAmb	23 44 04.6	
	comp=Z,2.9nm,0.8s						
NRIK	**Noril'sk**	**75.95**	**348**	P	**P**	**23 44 10.4**	**+0.6**
	comp=Z,7.7nm,0.7s,baz=126,slow=5.7,SNR=18						
MAW	**Mawson**	**76.19**	**200**	P	**P**	**23 44 12.3**	**+1.0**
	comp=Z,2.2nm,0.4s,baz=45,slow=7.1,SNR=14						
MAW	**Mawson**	**76.19**	**200**	P	**P**	**23 44 12.3**	**+1.0**
MAW	**Mawson**	**76.19**	**200**	P	**P**	**23 44 11.4**	**+0.1**
VNDA	**Vanda**	**77.43**	**172**	P	**P**	**23 44 18.7**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=312,slow=7.5,SNR=5.1						
ARU	**Arti**	**78.47**	**329**	P	**P**	**23 44 23.4**	**-0.8**
ARU				IAmb	IAmb	23 44 28.3	
	comp=Z,7.0nm,1.1s						
XMAS	**Kiritimati**	**79.95**	**87**	P	**P**	**23 44 30.2**	**-3.0**
KBZ	**Khabaz**	**84.66**	**314**	P	**P**	**23 44 56.7**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=124,slow=4.0,SNR=8.9						
QSPA	**South Pole Qui**	**87.05**	**180**	P	**P**	**23 45 09.1**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=351,slow=2.9,SNR=6.8						
QSPA	**South Pole Qui**	**87.05**	**180**	P	**P**	**23 45 09.7**	**+0.9**
QSPA				IAmb	IAmb	23 45 15.0	
	comp=Z,4.5nm,1.1s						
GAZ	**Gaziantep**	**88.16**	**307**	P	**P**	**23 45 13.6**	**-1.1**
TOKA	**Tokat**	**89.00**	**310**	P	**P**	**23 45 17.4**	**-1.1**
IMAR	**Indian Mountai**	**89.99**	**24**	P	**P**	**23 45 23.2**	**+0.7**
BR131	**Keskin Array S**	**91.14**	**310**	P	**P**	**23 45 27.2**	**-1.4**
BR131				IAmb	IAmb	23 45 28.8	
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**91.14**	**310**	P	**P**	**23 45 27.7**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=123,slow=5.9,SNR=12						
BRTR	**Keskin Array B**	**91.14**	**310**	P	**P**	**23 45 27.4**	**-1.2**
BMAR	**Burnt Mountain**	**93.70**	**23**	P	**P**	**23 45 40.4**	**+0.6**
AKASG	**Malin Array Be**	**94.45**	**320**	P	**P**	**23 45 42.3**	**-1.2**
	comp=Z,0.2nm,0.2s,baz=75,slow=3.9,SNR=5.1						
K27K	**Chicken**	**94.87**	**26**	P	**P**	**23 45 46.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**120.86**	**284**	PKP	**PKiKP**	**23 51 16.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=108,slow=2.0,SNR=7.1						
CPUP	**Villa Florida**	**150.94**	**180**	PKPbc	**PKiKP**	**23 52 17.8**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=142,slow=2.8,SNR=3.8						

IDC ***23*** *23:33:23.7±1.3, 7°.43N×93°.88E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/52, mbtmp3.9/10, ML4.3/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/41, Error ellipse: s-maj=46.9km s-min=21.8km az=56.0*

NEIC ***23*** *23:33:28.3±2.6, 7°.49N±0°.09×94°.4E±0°.1, h42km±10km, mb4.3/11, Error ellipse: s-maj=16.7km s-min=10.5km az=51.0*

ISC 23 23:33:28.4±0.7, 7°.47N±0°.08×94°.34E±0°.09, h35km, n42, σ1§97/39, mb4.2/13, MS3.7/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.42**	**130**	Pn	**Pn**	**23 34 18.8**	**-0.4**
LHMI				Sn	**Sn**	**23 34 58.3**	**-0.2**
PBA	**Port Blair**	**4.45**	**339**	Pn	Pn	23 34 32.5	-0.9
SRIT	**Nakonsritamara**	**5.33**	**77**	Pn	**Pn**	**23 34 43.3**	**-2.2**
DGPR	**DIGLIPUR**	**5.84**	**346**	*i* x	**Pn**	**23 34 56.2**	**+3.6**
PSI	**Prapat**	**6.51**	**135**	LR	LR	23 37 54.2	
	comp=Z,685nm,18.8s,baz=282,slow=39						
RPSI	**Rantau Prapat**	**6.58**	**136**	Pn	**Pn**	**23 35 01.7**	**-1.0**
KULM	**Kulim**	**6.63**	**109**		**Pn**	**23 35 02.3**	**-1.2**
GSI	**Gunungsitoli**	**6.92**	**152**	Pn	**Pn**	**23 35 06.4**	**-1.0**
IPM	**Ipoh**	**7.28**	**114**		**Pn**	**23 35 10.6**	**-1.8**
CMAR	**Chiang Mai Arr**	**11.81**	**22**	Pn	**Pn**	**23 36 14.8**	**+0.4**
	0.5nm,0.3s,baz=209,slow=15,SNR=4.9						
CMAR				LR	LR	23 40 49.3	
	comp=Z,266nm,18.5s,baz=262,slow=37						
CMAR	**Chiang Mai Arr**	**11.81**	**22**		**Pn**	**23 36 12.5**	**-1.9**
CHTO	**Chiang Mai**	**12.14**	**21**	Pn	**Pn**	**23 36 19.1**	**+0.2**
DLV	**T Lat**	**14.64**	**71**		**Pn**	**23 36 53.7**	**+0.5**
CD2	**Chengdu**	**24.93**	**19**	P	**P**	**23 38 55.5**	**+7.0**
KAPI	**Kappang**	**28.23**	**115**	LR	LR	23 53 16.4	
	comp=Z,81nm,18.2s,baz=296,slow=42						
BATI	**Baumata**	**34.07**	**121**	LR	LR	23 54 29.3	
	comp=Z,258nm,19.9s,baz=297,slow=37						
GAR	**Garm**	**38.12**	**329**	P	**P**	**23 40 44.5**	**+0.1**
CHGR	**Chuyangaron**	**38.47**	**328**	P	**P**	**23 40 46.1**	**-1.1**
MK31	**Makanchi Array**	**40.53**	**347**	P	**P**	**23 41 04.2**	**0.0**
MKAR	**Makanchi Array**	**40.53**	**347**	P	**P**	**23 41 04.1**	**-0.1**
	2.5nm,0.8s,baz=163,slow=8.0,SNR=17						
MKAR	**Makanchi Array**	**40.53**	**347**	P	**P**	**23 41 03.8**	**-0.4**
MAKZ	**Makanchi**	**40.61**	**347**	P	**P**	**23 41 04.7**	**-0.1**
MAKZ				IAmb	IAmb	23 41 10.2	
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**41.21**	**333**	P	**P**	**23 41 10.2**	**+0.3**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**23 41 14.6**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=196,slow=8.4,SNR=5.4						
GEYT	**Alibeck**	**44.63**	**318**	P	**P**	**23 41 35.6**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=157,slow=8.0,SNR=3.6						
GEYT				LR	LR	00 01 45.4	
	comp=Z,72nm,20.8s,baz=140,slow=38						
KURBB	**Kurchatov Arra**	**44.99**	**346**	P	**P**	**23 41 40.2**	**0.0**
	comp=Z,4.7nm,0.8s,baz=166,slow=7.2,SNR=22						
KURK	**Kurchatov**	**45.05**	**346**		**P**	**23 41 41.2**	**+0.5**
KURK				IAmb	IAmb	23 41 46.9	
	comp=Z,11nm,1.4s						
ZAA0	**Zalesovo Array**	**46.98**	**352**	P	**P**	**23 41 55.4**	**-0.5**
ZAA0				IAmb	IAmb	23 42 01.7	
	comp=Z,4.5nm,0.9s						
ZALV	**Zalesovo Beam**	**46.98**	**352**	P	**P**	**23 41 56.2**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=166,slow=7.6,SNR=8.3						
WRA	**Warramunga Arr**	**47.87**	**125**	P	**P**	**23 42 05.7**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=308,slow=8.2,SNR=1.9						
WRA				LR	LR	00 03 59.0	
	comp=Z,84nm,18.4s,baz=70,slow=38						
MJAR	**Matsushiro Arr**	**49.29**	**47**	P	**P**	**23 42 09.7**	**-4.3**
ASAR	**Alice Springs**	**49.51**	**130**	P	**P**	**23 42 19.6**	**+3.7**
	comp=Z,0.6nm,0.7s,baz=306,slow=7.8,SNR=2.9						
AB31	**Akbulak array**	**50.68**	**331**	P	**P**	**23 42 25.5**	**+1.2**
ABKAR	**Akbulak array**	**50.68**	**331**	P	**P**	**23 42 24.7**	**+0.3**
ABKAR	**Akbulak array**	**50.68**	**331**	P	**P**	**23 42 23.1**	**-1.3**
ABKAR				IAmb	IAmb	23 42 30.2	
	comp=Z,3.0nm,1.1s						
AB02	**Akbulak array**	**50.68**	**331**	P	**P**	**23 42 23.4**	**-1.0**
AB04	**Akbulak array**	**50.69**	**331**	P	**P**	**23 42 23.9**	**-0.5**
AB05	**Akbulak array**	**50.69**	**331**	P	**P**	**23 42 22.9**	**-1.5**
AB09	**Akbulak array**	**50.70**	**331**	P	**P**	**23 42 23.7**	**-0.8**
BR131	**Keskin Array S**	**62.84**	**311**	P	**P**	**23 43 50.2**	**-0.9**
FINES	**FINESS Array B**	**73.16**	**332**	P	**P**	**23 44 53.3**	**-2.0**

PEL Peldehue 1.65 59 Pb 23 39 20.6 -1.0
PEL Peldehue 1.65 59 *e*P Pb 23 39 21.1 -0.6
PEL *e*S **Sg** 23 39 46.4 +1.7
LMEL Las Melosas 1.81 86 ⇓ *i*P **Pb** 23 39 23.1 -1.5
LMEL *i* S **Sb** 23 39 45.9 -1.2
LMEL IAML 23 39 52.6
comp=N,17µm,0.3s
VA03 San Esteban 1.96 52 ⇓ *i*P **Pb** 23 39 25.4 -1.7
VA03 *i* S **Sn** 23 39 49.7 +1.0
VA03 IAML 23 39 59.8
comp=N,54µm,0.4s
VA03 San Esteban 1.96 52 **Pn** 23 39 25.0 +0.7
LAMA Las Malvinas 2.78 111 *e*P **Pb** 23 39 38.8 -2.1
LAMA *e*S **Sb** 23 40 13.2 -1.5
BI02 San Fabin de 2.81 162 *e*P **Pn** 23 39 37.0 +0.9
BI02 IAML 23 40 23.0
comp=E,6µm,0.7s
BI02 San Fabin de 2.81 162 Pn **Pn** 23 39 36.5 +0.4
PUMA Malargue 2.84 123 *e*P **Pb** 23 39 40.0 -2.0
BI03 Tigo 2.89 190 *e*P **Pn** 23 39 37.2 +0.1
BI03 IAML 23 40 32.5
comp=N,10µm,0.5s
BI03 Tigo 2.89 190 Pn **Pn** 23 39 37.1 +0.1
CO02 Combarbal 3.02 23 ⇑ *i*P **Pn** 23 39 39.2 +0.3
CO02 IAML 23 40 37.2
comp=E,6µm,0.1s
CO02 Combarbal 3.02 23 Pn **Pn** 23 39 39.5 +0.6
EDS3 Malargue 3.02 127 *e*P **Pb** 23 39 42.8 -2.4
AUSP Uspallata 3.07 56 *e*P **Pb** 23 39 42.6 -3.4
AAGR Agrelo 3.10 74 *e*P **Pb** 23 39 43.4 -3.1
ARCO CERRO ARCO 3.10 69 *e*P **Pb** 23 39 43.8 -2.7
AVIZ Vizcacheras 3.26 82 *e*P **Pb** 23 39 47.1 -2.1
ASAL Salagasta 3.28 66 *e*P **Pb** 23 39 46.2 -3.3
ASAL *e*S **Sg** 23 40 40.9 +3.9
LAJA Laja 3.29 185 *e*P **Pn** 23 39 43.4 +0.8
LAJA IAML 23 40 38.8
comp=E,1µm,0.7s
RFA San Rafael 3.33 105 *e*P **Pn** 23 39 45.6 +2.5
RFA *e*P **Pb** 23 39 47.1 -3.2
RFA *e*S **Sg** 23 40 39.0 +0.6
RTLS Leoncito 3.39 51 *e*P **Pn** 23 39 47.0 +2.8
RTLS IAML 23 40 54.7
comp=Z,2µm,0.8s
CO03 El Pedregal 3.46 25 ⇑ *i*P **Pn** 23 39 45.5 +0.5
CO03 *i* S **Sn** 23 40 26.3 +0.7
CO03 IAML 23 40 46.2
comp=E,3µm,0.7s
CO03 El Pedregal 3.46 25 **Pn** 23 39 45.4 +0.5
RTCV Cerro Valdivia 3.86 58 *e*P **Pn** 23 39 53.2 +2.7
RTCV IAML 23 41 05.9
comp=Z,2µm,2.9s
ZON Zonda 3.96 53 P **Pn** 23 39 53.9 +2.1
ZON Zonda 3.96 53 **Pn** 23 39 53.9 +2.1
ZON Zonda 3.96 53 *e*P **Pn** 23 39 55.0 +3.2
ZON IAML 23 41 09.2
comp=Z,2µm,3.0s
GO04 Tololo Observa 4.04 20 ⇑ *i*P **Pn** 23 39 53.0 -0.1
GO04 Tololo Observa 4.04 20 **Pn** 23 39 52.9 -0.2
RTLL Cerro Villicun 4.23 52 *e*P **Pn** 23 39 58.4 +2.9
RTLL *e*S **Sg** 23 41 01.6 -5.8
RTLL IAML 23 41 08.2
comp=Z,2µm,0.7s
ACCO Cerro Coronel 4.40 40 *e*P **Pn** 23 40 00.9 +2.7
ACCO IAML 23 41 32.6
comp=Z,987nm,1.0s
CO01 Juntas del Tor 4.45 26 ⇑ *i*P **Pn** 23 40 00.2 +1.5
CO01 Juntas del Tor 4.45 26 **Pn** 23 39 59.8 +1.1
AROD Rodeo 4.54 34 *e*P **Pn** 23 40 02.4 +2.3
AROD *e*S **Sg** 23 41 15.6 -1.9
ACDV Cuesta del Vie 4.71 37 *e*P **Pn** 23 40 05.1 +2.8
LC01 Cunco 4.91 175 Pn **Pn** 23 40 05.1 +0.3
LCO Las Campanas 5.17 17 *e*P **Pn** 23 40 08.2 -0.5
LCO Las Campanas 5.17 17 Pn **Pn** 23 40 06.8 -1.9
LCO Las Campanas 5.17 17 Sn **Sn** 23 41 06.4 -1.7
VA04 Juan Fernndez 5.38 272 Pn **Pn** 23 40 11.1 -0.3
AC05 El Transito 5.45 20 Pn **Pn** 23 40 12.9 +0.6
H03N1 Juan Fernandez 5.47 274 T T 23 46 04.7
baz=97
H03N3 Juan Fernandez 5.48 274 T T 23 46 12.3
baz=97
H03N2 Juan Fernandez 5.49 274 T T 23 46 18.8
baz=97
AC04 Llanos de Chal 5.88 11 Pn **Pn** 23 40 17.4 -0.7
APLL PUNTA DE LOS L 6.12 56 *e*P **Pn** 23 40 22.4 +0.9
ACLC CERRO LA CRUZ 6.49 47 *e*P **Pn** 23 40 27.2 +0.5
GO03 Copiap 6.64 17 **Pn** 23 40 28.6 -0.1
PLCA Paso Flores 6.88 168 Pn **Pn** 23 40 32.9 +1.0
comp=Z,2.1nm,0.3s,baz=335,slow=11,SNR=40
PLCA Lg Lg 23 42 23.3
comp=Z,1.9nm,0.3s,baz=266,slow=16,SNR=1.7
PLCA LR LR 23 43 08.9
comp=Z,2µm,18.1s,baz=349,slow=37
PLCA Paso Flores 6.88 168 *e*P **Pn** 23 40 33.6 +1.6
PLCA Paso Flores 6.88 168 **Pn** 23 40 31.9 0.0
PLCA Paso Flores 6.88 168 *e*P **Pn** 23 40 33.5 +1.6
AC02 Maricunga 7.67 22 Pn **Pn** 23 40 43.0 -0.1
AC01 Pan de Azucar 7.97 12 Pn **Pn** 23 40 47.5 +0.6
LL01 San Ignacio de 8.37 180 **Pn** 23 40 52.4 +0.1
GO02 Mina Guanaco 9.13 16 Pn **Pn** 23 41 03.2 +0.1
PB14 IPOC Station P 9.49 11 Pn **Pn** 23 41 09.4 +1.3
PB15 IPOC Station P 11.04 14 Pn **Pn** 23 41 27.4 -1.9
PB06 IPOC Station P 11.51 13 Pn **Pn** 23 41 36.1 +0.4
LVC Limon Verde 11.74 16 Pn **Pn** 23 41 38.4 -0.5
comp=Z,1.0nm,0.3s,baz=185,slow=12,SNR=2.2
LVC Sn Sn 23 44 09.0 +19
comp=Z,1.1nm,0.3s,baz=193,slow=14,SNR=3.3
LVC LR LR 23 46 44.8
comp=Z,3µm,18.5s,baz=208,slow=40
LVC Limon Verde 11.74 16 P **Pn** 23 41 35.3 -3.7
LVC Limon Verde 11.74 16 Pn **Pn** 23 41 35.3 -3.7
PB04 IPOC Station P 11.78 10 Pn **Pn** 23 41 36.9 -2.4
LPA La Plata 11.96 98 *de*P **Pn** 23 41 38.1 -3.4
LPA PP **PgPg** 23 42 34.2 -6.5
LPA S **Sn** 23 43 58.8 +4.2
LPA SS **SgSg** 23 45 23.6 +7.9
LPA PCP **PcP** 23 47 31.9 +4.4
PB07 IPOC Station P 12.42 11 Pn **Pn** 23 41 47.2 -0.8
PB09 IPOC Station P 12.46 14 Pn **Pn** 23 41 48.0 -0.6
PB01 IPOC Station P 13.15 12 Pn **Pn** 23 41 55.9 -2.0
PATCX Punta Patache 13.27 9 Pn **Pn** 23 41 55.7 -3.9
TA01 Diego Aracena 13.52 9 Pn **Pn** 23 41 59.2 -3.6
PB08 IPOC Station P 14.09 13 **Pn** 23 42 11.1 0.0
PB11 IPOC Station P 14.38 10 **Pn** 23 42 15.5 +0.7
PSGCX Pisagua 14.48 9 **Pn** 23 42 17.3 +1.2
GO01 Chusmiza 14.55 12 **Pn** 23 42 19.9 +2.5
MNMC Minye Minye 15.01 10 **Pn** 23 42 25.1 +1.7
CPUP Villa Florida 15.08 64 Pn **Pn** 23 42 23.0 -1.0
comp=Z,0.3nm,0.3s,baz=231,slow=11,SNR=6.2
CPUP LR LR 23 48 36.0
comp=Z,5µm,20.2s,baz=242,slow=39
CPUP Villa Florida 15.08 64 P **Pn** 23 42 23.1 -1.0
CPUP pmax pmax
comp=Z,25nm,1.0s
CPUP Villa Florida 15.08 64 **Pn** 23 42 23.1 -1.0
PLTB Pedras Altas 15.93 87 *e*P **Pn** 23 42 33.7 -1.5
CPSB Cacapava Do Su 16.42 83 *e*P **Pn** 23 42 40.0 -1.5
GO09 Cerro Castillo 17.27 180 **Pn** 23 42 50.7 -1.3
LPAZ La Paz 18.04 13 P **P** 23 43 04.1 +1.3
comp=Z,1.0nm,0.3s,baz=186,slow=7.9,SNR=52
LPAZ La Paz 18.04 13 *e*P **Pn** 23 43 02.3 -0.1
LPAZ La Paz 18.04 13 **Pn** 23 43 00.6 -1.8
LPAZ La Paz 18.04 13 *e*P **P** 23 43 04.0 +1.1
ITAB Concordia 18.67 74 *e*P **P** 23 43 08.9 -0.1
CNLB Canela 18.90 82 *e*P **P** 23 43 10.6 -1.1
PTGB Pitanga 19.94 68 *e*P **P** 23 43 23.1 -0.1
EFI East Falkland 20.49 154 ⇓ *e*P **P** 23 43 28.8 +0.1
EFI East Falkland 20.49 154 P **P** 23 43 27.7 -1.0
EFI IAmb IAmb 23 43 48.8
comp=Z,170nm,1.4s
TRCB Terra Rica 20.60 62 *e*P **P** 23 43 30.0 -0.3
TRCB *e*S **S** 23 47 18.1 -2.2
SIV San Ignacio 20.62 32 P **P** 23 43 30.5 +0.1
comp=Z,24nm,0.7s,baz=224,slow=10,SNR=65
SIV LR LR 23 52 53.8
comp=Z,4µm,18.9s,baz=228,slow=41
MG01 Puerto William 21.20 172 P **P** 23 43 33.5 -2.8
MG01 IAmb IAmb 23 44 10.3
comp=Z,220nm,1.4s
PTLB Pontes e Lacer 22.00 36 *e*P **P** 23 43 45.3 +0.1
PTLB *e*S **S** 23 47 47.4 -0.1
TIJ01 Guaruva-PR 22.03 73 *e*P **P** 23 43 43.4 -2.3
NNA Nana 22.28 348 P **P** 23 43 51.1 +2.7
comp=Z,12nm,0.7s,baz=192,slow=8.0,SNR=5.1
NNA LR LR 23 49 09.1
comp=Z,278nm,20.9s,baz=179,slow=28
NNA Nana 22.28 348 ⇓ *e*P **P** 23 43 51.6 +3.2
NNA pmax pmax
comp=Z,31nm,0.9s
NNA Nana 22.28 348 P **P** 23 43 46.8 -1.6
PCMB Pacaembu 22.33 62 *e*P **P** 23 43 47.4 -1.5
FRTB Fartura 22.61 68 *e*P **P** 23 43 50.5 -1.3
VILB Vilhena 23.70 31 *e*P **P** 23 44 03.1 +0.2
PET01 Itanhaem-SP 23.91 73 *e*P **P** 23 44 04.4 -0.5
SPB Sao Paulo 24.14 71 P **P** 23 44 05.7 -1.3
SPB IAmb IAmb 23 44 08.8
comp=Z,56nm,0.7s
SPB Sao Paulo 24.14 71 *e*P **P** 23 44 07.1 +0.1
ITRB Iturama 24.19 60 *e*P **P** 23 44 06.6 -1.0
BB19B Bebedouro 24.69 65 *e*P **P** 23 44 10.8 -1.3
ETMB Extrema 24.72 15 *e*P **P** 23 44 14.0 +1.7
VAO Valinhos 24.81 70 *e*P **P** 23 44 13.1 -0.1
PARB Paraibuna 25.69 73 *e*P **P** 23 44 20.9 -0.3
ARAG Araguaiana, MT 25.98 51 *e*P **P** 23 44 23.6 -0.2
CZSB Cruzeiro do Su 26.14 359 *e*P **P** 23 44 27.9 +2.6
SAML Samuel 26.32 21 P **P** 23 44 26.2 -0.7
SAML pmax pmax
comp=Z,34nm,1.0s
SAML Samuel 26.32 21 P **P** 23 44 26.2 -0.7
IPMB Ipameri, GO 26.84 60 *e*P **P** 23 44 31.9 +0.2
CLDB Colider 27.57 37 *e*P **P** 23 44 36.9 -1.2
BSCB Bom Sucesso 27.60 69 *e*P **P** 23 44 38.5 0.0
BDFB Brasilia 28.56 56 P **P** 23 44 46.0 -1.0
comp=Z,14nm,0.7s,baz=229,slow=8.0,SNR=25
BDFB LR LR 23 57 31.5
comp=Z,4µm,18.5s,baz=217,slow=39
BDFB Brasilia 28.56 56 P **P** 23 44 46.1 -1.0
BDFB pmax pmax
comp=Z,27nm,1.0s
BDFB Brasilia 28.56 56 P **P** 23 44 46.1 -1.0
SNDB Serra Nova Dou 29.16 46 *e*P **P** 23 44 51.5 -0.8
NPGB Novo Progresso 31.09 34 *e*P **P** 23 45 08.5 -0.9
PMSA Palmer Station 31.23 173 P **P** 23 45 07.6 -2.5
PMSA IAmb IAmb 23 45 38.3
comp=Z,49nm,1.4s
JANB Januaria 31.57 60 *e*P **P** 23 45 12.7 -1.0
SJMB Sao Joao De Ma 31.67 69 *e*P **P** 23 45 14.3 -0.2
BSFB Barra de Sao F 31.86 70 *e*P **P** 23 45 15.6 -0.6
HOPE Hope Point 32.27 140 P **P** 23 45 16.4 -3.0
HOPE pmax pmax
comp=Z,246nm,1.9s
HOPE Hope Point 32.27 140 P **P** 23 45 16.4 -3.0
MACA Manacapuru-AM 32.56 22 *e*P **P** 23 45 23.1 +0.9
SDBA SAO DESIDERIO 32.97 56 *e*P **P** 23 45 25.2 -0.8
NAN01 Guarapari, ES 32.99 69 *e*P **P** 23 45 24.9 -1.1
ITTB Itaituba 33.30 31 *e*P **P** 23 45 28.8 +0.1
SMTB Santa Maria do 33.84 48 *e*P **P** 23 45 34.0 +0.5
OTAV Otavalo 34.53 349 *e*P **P** 23 45 42.0 +2.1
PRPB Parauapebas 34.68 42 *e*P **P** 23 45 40.2 -0.6
PTGA Pitinga 35.08 22 P **P** 23 45 42.9 -1.3
GDU01 Guandu, BA 35.92 64 *e*P **P** 23 45 50.6 -0.8
MALB Monte Alegre 36.18 32 *e*P **P** 23 45 53.7 +0.1
MCPB Macapa, AP 38.50 34 *e*P **P** 23 46 13.7 +0.3
ROSC El Rosal 38.67 357 LR LR 00 02 41.6
comp=Z,530nm,18.5s,baz=206,slow=37
SDV Santo Domingo 42.68 3 P **P** 23 46 48.7 +0.7
comp=Z,2.9nm,0.4s,baz=177,slow=5.3,SNR=3.5
SDV Santo Domingo 42.68 3 P **P** 23 46 48.5 +0.5
SDV Santo Domingo 42.68 3 *e*P **P** 23 46 49.9 +1.9
RCBR Riachuelo 43.88 59 P **P** 23 46 55.4 -2.3
RCBR pmax pmax
comp=Z,31nm,1.2s
RCBR Riachuelo 43.88 59 P **P** 23 46 55.4 -2.3
RCBR IAmb IAmb 23 47 04.1
comp=Z,31nm,1.1s
VNA3 Neumayer Olymp 49.47 158 P **P** 23 47 42.4 +1.6
VNA1 Neumayer--Stat 49.79 157 P **P** 23 47 44.7 +1.5
VNA2 Neumayer--Watz 50.13 157 P **P** 23 47 46.1 +0.3
baz=263,slow=7.0
SNAA Sanae 51.70 158 P **P** 23 47 58.9 +1.2
SNAA Sanae 51.70 158 P **P** 23 47 58.8 +1.2
comp=Z,7.2nm,0.9s,baz=274,slow=6.8,SNR=38
SNAA Sanae 51.70 158 *c i*P **P** 23 47 58.7 +1.1
SNAA pmax pmax
comp=Z,30nm,1.6s
SNAA Sanae 51.70 158 P **P** 23 47 57.1 -0.5
SNAA IAmb IAmb 23 48 10.3
comp=Z,38nm,1.2s
BANI BANI 52.13 2 P **P** 23 48 00.1 -1.3
SJG San Juan 52.15 8 P **P** 23 48 01.6 +0.1
SJG pmax pmax
comp=Z,26nm,1.0s
SJG San Juan 52.15 8 P **P** 23 48 01.6 +0.1
SJG IAmb IAmb 23 48 10.9
comp=Z,26nm,1.0s
SDD Santo Domingo 52.21 3 P **P** 23 48 03.1 +1.2
DR12 Loma Pena Alta 52.56 4 **P** 23 48 06.0 +1.4
SC01 Santiago de lo 53.15 2 P **P** 23 48 09.8 +1.0
GTBY Guantanamo Bay 53.68 357 P **P** 23 48 13.4 +0.6
GTBY IAmb IAmb 23 50 11.9
comp=Z,24nm,1.0s
TEIG Tepich 56.01 342 P **P** 23 48 30.6 +1.1
QSPA South Pole Qui 56.24 180 P **P** 23 48 32.9 +1.9
comp=Z,9.3nm,1.0s,baz=150,slow=1.7,SNR=19
QSPA South Pole Qui 56.24 180 P **P** 23 48 29.6 -1.4
QSPA IAmb IAmb 23 48 42.2
comp=Z,31nm,1.1s
061Z Ochoppi 60.08 351 P **P** 23 48 58.4 +0.4
VNDA Vanda 64.05 191 P **P** 23 49 26.2 +2.0
comp=Z,1.1nm,0.7s,baz=132,slow=5.7,SNR=3.9
VNDA LR LR 00 15 02.1
comp=Z,229nm,18.2s,baz=73,slow=34
SYO Syowa Base 65.97 159 ⇑ *e*P **P** 23 49 36.1 -0.6
SYO Syowa Base 65.97 159 ⇑ *ep*P pP 23 49 40.8 -0.5
SYO Syowa Base 65.97 159 ⇑ *i*PcP **PcP** 23 50 04.4 -2.9
TAOE Nuku Hiva Isla 66.69 275 *e*S **S** 23 58 28.0 -5.9
comp=Z,262nm,23.1s
TAOE Nuku Hiva Isla 66.69 275 *e*LR LR 00 09 44.4
comp=Z,506nm,21.8s
CSU Charleston Sou 67.02 353 P **P** 23 49 44.8 +1.1
TBI Tubuai 67.05 257 *e*S **S** 23 58 34.3 -3.5
comp=Z,733nm,27.5s
TBI Tubuai 67.05 257 *e*LR LR 00 09 55.5
comp=Z,1µm,27.2s,baz=120
833A Chaparral WMA, 67.06 334 P **P** 23 49 46.5 +2.4
833A IAmb IAmb 23 50 03.2
comp=Z,35nm,1.3s
HKT Hockley 67.35 338 ⇓ *e*P **P** 23 49 48.9 +3.0
HKT pmax pmax
comp=Z,2.0nm,1.1s
HKT Hockley 67.35 338 P **P** 23 49 48.0 +2.1
HKT IAmb IAmb 23 50 05.1
comp=Z,21nm,1.4s
Z56A Williston 67.50 352 P **P** 23 49 46.3 -0.5
342A Flagon Creek P 67.69 342 P **P** 23 49 47.9 -0.2
LPIG La Paz 68.11 323 LR LR 00 12 36.1
comp=Z,148nm,21.5s,baz=136,slow=30
Y52A Lilburn 68.39 350 P **P** 23 49 54.8 +2.3
Y52A IAmb IAmb 23 50 07.0
comp=Z,16nm,1.1s
JSC Jenkinsville 68.43 352 P **P** 23 49 53.1 +0.5
JSC pmax pmax
comp=Z,17nm,1.4s
JSC Jenkinsville 68.43 352 P **P** 23 49 53.1 +0.5
JSC IAmb IAmb 23 50 03.6
comp=Z,17nm,1.4s
Z47A Carrollton 68.45 346 P **P** 23 49 54.1 +1.4
HODGE Hodges 68.50 351 P **P** 23 49 54.4 +1.4
MEH Mehetia 68.57 262 *e*T T 01 04 25.7
comp=Z,24nm,0.2s
CNNC Cliffs of the 69.07 355 P **P** 23 49 58.8 +2.2
JCT Junction City 69.16 335 P **P** 23 49 59.1 +1.7
JCT pmax pmax
comp=Z,63nm,1.7s
JCT Junction City 69.16 335 P **P** 23 49 59.1 +1.7
X51A Calhoun 69.20 349 P **P** 23 49 59.4 +1.9
X51A IAmb IAmb 23 50 07.5
comp=Z,25nm,1.1s
KMSC Kings Mountain 69.29 352 P **P** 23 50 00.0 +2.1
KMSC IAmb IAmb 23 50 07.1
comp=Z,17nm,1.3s
X48A Hartselle 69.46 347 P **P** 23 50 00.7 +1.6
X48A IAmb IAmb 23 50 10.4
comp=Z,18nm,1.0s
TXAR Lajitas Array 69.59 331 P **P** 23 50 02.4 +2.2
comp=Z,0.8nm,0.5s,baz=158,slow=8.8,SNR=20
TXAR LR LR 00 16 14.9
comp=Z,453nm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 69.59 331 P **P** 23 49 59.0 -1.1
TXAR Lajitas Array 69.59 331 P **P** 23 49 59.0 -1.1
TX31 Lajitas Ar. Si 69.59 331 P **P** 23 49 59.1 -1.0
TX32 Lajitas Array 69.59 331 P **P** 23 49 59.9 -0.3
TX32 IAmb IAmb 23 50 18.0
comp=Z,22nm,1.8s
WHTX Lake Whitney, 69.76 337 P **P** 23 49 59.5 -1.4
WHTX IAmb IAmb 23 50 12.8
comp=Z,21nm,1.1s
TIAR Tiarei 69.78 262 *e*T T 01 05 56.6
comp=Z,3.0nm,0.2s
W50A Signal Mountai 69.89 349 P **P** 23 49 60.0 -1.8
W50A IAmb IAmb 23 50 13.0
comp=Z,22nm,0.9s
PPT2 Papeete2 69.96 262 *e*S **S** 23 59 08.9 -3.8
comp=Z,333nm,22.5s
PPT2 Papeete2 69.96 262 *e*LR LR 00 11 16.5
comp=Z,937nm,27.8s,baz=118
PPT Papeete 69.97 262 LR LR 00 13 04.9
comp=Z,282nm,18.6s,baz=120,slow=29
V53A Saluda 69.99 351 P **P** 23 50 03.6 +1.3
V53A IAmb IAmb 23 50 13.3
comp=Z,42nm,1.5s
OXF Oxford 70.00 345 P **P** 23 50 04.9 +2.6
OXF pmax pmax
comp=Z,28nm,1.0s
OXF Oxford 70.00 345 P **P** 23 50 04.9 +2.6
SWET Sewanee 70.01 348 P **P** 23 50 04.3 +1.8
SWET IAmb IAmb 23 50 13.6
comp=Z,30nm,1.2s
CPCT Cooper Cave 70.01 349 P **P** 23 50 03.8 +1.4
CPCT IAmb IAmb 23 50 13.5
comp=Z,19nm,1.2s
PLAL Pickwick Lake 70.18 346 P **P** 23 50 04.2 +0.8
PLAL IAmb IAmb 23 50 21.2
comp=Z,42nm,1.8s
V52A Sevierville 70.26 350 P **P** 23 50 05.9 +1.9
V52A IAmb IAmb 23 50 14.7
comp=Z,20nm,1.1s
W45A Hickory Valley 70.57 345 P **P** 23 50 07.7 +1.9
V48A Smith Brothers 70.68 348 P **P** 23 50 08.1 +1.6
CLTN Cedars of Leba 70.93 348 P **P** 23 50 09.4 +1.4
CLTN IAmb IAmb 23 50 19.2
comp=Z,23nm,1.2s
ABTX Abilene, Hawle 71.06 336 P **P** 23 50 11.4 +2.5
WVT Waverly 71.24 347 P **P** 23 50 10.6 +0.7
WVT pmax pmax
comp=Z,45nm,1.1s
WVT Waverly 71.24 347 P **P** 23 50 10.6 +0.7
W41B Gary Mavity, V 71.28 343 P **P** 23 50 10.2 +0.1
WHAR Wooly Hollow 71.40 343 P **P** 23 50 12.0 +1.1
W39A Magazine 71.69 342 P **P** 23 50 14.1 +1.4
W39A IAmb IAmb 23 50 24.6
comp=Z,20nm,1.1s
LCAR Lake Charles 71.88 344 P **P** 23 50 15.3 +1.6
LCAR IAmb IAmb 23 50 24.7
comp=Z,14nm,0.9s
FCAR Ozark Folk Cen 71.93 343 P **P** 23 50 12.1 -1.9
MNTX Cornudas Mount 72.37 331 P **P** 23 50 18.1 +1.3
U40A Yellville 72.55 343 P **P** 23 50 19.2 +1.4
WMOK Wichita Mounta 72.71 337 P **P** 23 50 20.2 +1.4
WMOK pmax pmax
comp=Z,14nm,1.4s
WMOK Wichita Mounta 72.71 337 P **P** 23 50 20.2 +1.4
HHAR Hobbs 72.76 342 P **P** 23 50 17.9 -1.1
R50A Paris 72.76 350 P **P** 23 50 20.8 +1.8
OK025 Westminster Rd 73.05 339 P **P** 23 50 18.3 -2.5
OK025 IAmb IAmb 23 50 39.9
comp=Z,18nm,0.9s
MGMO Mountain Grove 73.17 344 P **P** 23 50 20.8 -0.7
OK030 Cody Creek RV 73.21 339 P **P** 23 50 23.7 +2.0
OK030 IAmb IAmb 23 50 39.6
comp=Z,19nm,1.1s
MAW Mawson 73.26 164 P **P** 23 50 23.0 +1.3
comp=Z,5.9nm,0.7s,baz=207,slow=6.7,SNR=25
MAW LR LR 00 25 09.7
comp=Z,738nm,18.1s,baz=232,slow=38
MAW Mawson 73.26 164 P **P** 23 50 22.7 +1.0
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 73.26 164 P **P** 23 50 22.7 +1.0
QUOK Quay 73.41 340 P **P** 23 50 26.8 +3.9
QUOK IAmb IAmb 23 50 41.6
comp=Z,44nm,1.5s
FVM French Village 73.55 345 P **P** 23 50 21.3 -2.4
FVM pmax pmax
comp=Z,43nm,1.5s
FVM French Village 73.55 345 P **P** 23 50 21.3 -2.4
FVM IAmb IAmb 23 50 42.3
comp=Z,43nm,1.5s
CCM Cathedral Cave 73.80 345 P **P** 23 50 25.8 +0.7
CCM pmax pmax
comp=Z,24nm,1.1s
CCM Cathedral Cave 73.80 345 P **P** 23 50 25.8 +0.7
CCM IAmb IAmb 23 50 36.4
comp=Z,24nm,1.1s
OLIL Olney 73.82 347 P **P** 23 50 22.9 -2.3
S39A Bolivar 73.94 343 P **P** 23 50 24.6 -1.3
S39A IAmb IAmb 23 50 36.6
comp=Z,43nm,1.9s
P48A Milroy 74.08 350 P **P** 23 50 28.0 +1.3
P48A IAmb IAmb 23 50 37.0
comp=Z,36nm,1.3s
121A Cookes Peak, D 74.09 329 P **P** 23 50 29.2 +2.1
121A IAmb IAmb 23 50 46.1
comp=Z,28nm,1.7s
Q44A Meyer Farm, Va 74.16 347 P **P** 23 50 27.9 +0.8
Q44A IAmb IAmb 23 52 01.5
comp=Z,55nm,1.8s
R40A Maddies Statio 74.26 344 P **P** 23 50 25.8 -1.9
R40A IAmb IAmb 23 50 45.5
comp=Z,61nm,1.9s
ACSO Alum Creek Sta 74.51 352 P **P** 23 50 31.4 +2.2
ACSO IAmb IAmb 23 50 39.3
comp=Z,14nm,0.8s
KAN14 Manchester OK 74.51 339 P **P** 23 50 31.8 +2.5
LIC Lamto 75.04 72 *e*P **P** 23 50 33.1 +0.2
comp=Z,0.9nm,0.2s
TIC Toumodi 75.30 71 *e*P **P** 23 50 35.4 +1.0
KIC Kosan Boka 75.35 72 *e*P **P** 23 50 34.8 +0.1
comp=Z,13nm,0.7s
P40A Paris 75.39 344 P **P** 23 50 33.3 -1.0
P40A IAmb IAmb 23 50 45.6
comp=Z,36nm,1.2s
DBIC Dimbokro 75.44 71 P **P** 23 50 35.8 +0.5
comp=Z,6.4nm,0.7s,baz=210,slow=5.4,SNR=11
DBIC LR LR 00 22 24.2
comp=Z,454nm,18.9s,baz=214,slow=35
DBIC Dimbokro 75.44 71 P **P** 23 50 34.8 -0.4
DBIC pmax pmax
comp=Z,10.0nm,0.9s
DBIC Dimbokro 75.44 71 P **P** 23 50 34.8 -0.4
ANMO Albuquerque 75.64 332 ⇓ *e*P **P** 23 50 38.9 +2.7
ANMO pmax pmax
comp=Z,19nm,2.8s
L42A Oliver, Polo 77.28 347 P **P** 23 50 42.1 -2.8
L42A IAmb IAmb 23 50 55.7
comp=Z,18nm,1.1s
SDCO Great Sand Dun 77.74 334 P **P** 23 50 48.2 +0.1
WUAZ Wupatki 78.18 328 P **P** 23 50 50.7 +0.3
WUAZ IAmb IAmb 23 53 22.1
comp=Z,10nm,0.5s
PFO Pinyon Flats O 78.97 324 ⇓ *e*P **P** 23 50 58.4 +3.7
PFO pmax pmax
comp=Z,12nm,1.1s
TSUM Tsumeb 79.48 106 *i* P **P** 23 51 00.8 +2.8
TSUM Tsumeb 79.48 106 P **P** 23 50 58.6 +0.6
TSUM IAmb IAmb 23 51 09.0
comp=Z,32nm,1.8s
TSUM Tsumeb 79.48 106 *i* P **P** 23 51 00.8 +2.8
BOSA Boshof 80.32 118 P **P** 23 51 02.8 +0.3
comp=Z,4.0nm,0.6s,baz=247,slow=3.5,SNR=20
BOSA Boshof 80.32 118 P **P** 23 51 03.0 +0.6
BOSA pmax pmax
comp=Z,68nm,1.8s
BOSA Boshof 80.32 118 P **P** 23 51 03.0 +0.6
ECSD EROS Data Cent 80.46 342 P **P** 23 51 03.9 +1.5
KOWA Kowa 80.89 66 P **P** 23 51 05.8 +0.4
Q16A Castle Valley 80.97 330 P **P** 23 51 05.9 +0.3
SPMN Marine on St. 81.00 346 P **P** 23 51 06.2 +0.9
SPMN IAmb IAmb 23 52 07.0
comp=Z,58nm,1.9s
MSU Marysvale 81.05 329 P **P** 23 51 06.6 +0.6
MSU Marysvale 81.05 329 P **P** 23 51 06.5 +0.6

MVU	**Marysvale**	**81.05**	**329**		P		**P**	**23 51 06.5**	**+0.4**	
PRN	**Pahroc Range**	**81.39**	**327**		P		**P**	**23 51 07.7**	**-0.1**	
TPNV	**Topopah Spring**	**81.56**	**326**		P		**P**	**23 51 08.8**	**+0.1**	
TPNV					pmax		pmax			
	comp=Z,32nm,2.0s									
TPNV	**Topopah Spring**	**81.56**	**326**		P		**P**	**23 51 08.8**	**+0.1**	
TPNV					IAmb		IAmb	23 51 32.7		
	comp=Z,32nm,1.9s									
RDMU	**Red Mountain**	**81.74**	**332**		P		**P**	**23 51 10.0**	**+0.3**	
F36A	**Milaca**	**81.76**	**345**		P		**P**	**23 51 07.5**	**-1.7**	
PSUT	**Pine Spring**	**81.78**	**328**		P		**P**	**23 51 09.2**	**-0.7**	
RWWY	**Rawlins**	**81.84**	**334**		P		**P**	**23 51 09.7**	**-0.4**	
R11A	**Troy Canyon, C**	**82.40**	**327**		P		**P**	**23 51 10.5**	**-2.6**	
LBTB	**Lobatse**	**82.56**	**115**	*i*	P		**P**	**23 51 13.7**	**-0.6**	
LBTB	**Lobatse**	**82.56**	**115**		P		**P**	**23 51 15.0**	**+0.6**	
LBTB					pmax		pmax			
	comp=Z,45nm,1.7s									
LBTB	**Lobatse**	**82.56**	**115**		P		**P**	**23 51 15.0**	**+0.6**	
LBTB					IAmb		IAmb	23 51 26.5		
	comp=Z,45nm,1.6s									
LBTB	**Lobatse**	**82.56**	**115**	*i*	P		**P**	**23 51 13.7**	**-0.6**	
HWUT	**Hardware Ranch**	**83.41**	**332**		P		**P**	**23 51 20.3**	**+2.0**	
HWUT					IAmb		IAmb	23 51 37.7		
	comp=Z,17nm,1.6s									
PDAR	**Pinedale Array**	**83.63**	**333**		P		**P**	**23 51 21.8**	**+2.3**	
	comp=Z,0.6nm,0.8s,baz=152,slow=4.7,SNR=3.3									
PDAR	**Pinedale Array**	**83.63**	**333**		P		**P**	**23 51 17.4**	**-2.0**	
NVAR	**Mina Array Bea**	**83.72**	**325**		P		**P**	**23 51 22.9**	**+3.0**	
	comp=Z,0.7nm,0.7s,baz=157,slow=6.9,SNR=6.0									
NVAR					LR		LR	00 21 41.5		
	comp=Z,142nm,21.8s,baz=98,slow=31									
NVAR	**Mina Array Bea**	**83.72**	**325**		P		**P**	**23 51 18.2**	**-1.8**	
TOA0	**Torodi Ar. Sit**	**84.47**	**70**		P		**P**	**23 51 24.3**	**+0.2**	
TORD	**Torodi Ar. Bea**	**84.47**	**70**		P		**P**	**23 51 24.7**	**+0.7**	
	comp=Z,94nm,0.8s,baz=288,slow=6.7,SNR=81									
QRZ	**Quartz Range**	**84.55**	**224**		P		**P**	**23 51 25.4**	**+1.3**	
YHH	**Holmes Hill**	**85.85**	**334**		P		**P**	**23 51 27.9**	**-2.7**	
ORV	**Oroville**	**86.14**	**324**		P		**P**	**23 51 29.9**	**-1.9**	
ORV					pmax		pmax			
	comp=Z,22nm,1.6s									
ORV	**Oroville**	**86.14**	**324**		P		**P**	**23 51 29.9**	**-1.9**	
ORV					IAmb		IAmb	23 51 52.1		
	comp=Z,22nm,1.6s									
BOZ	**Bozeman (W)**	**86.82**	**334**		P		**P**	**23 51 32.0**	**-3.2**	
BOZ					pmax		pmax			
	comp=Z,8.0nm,0.8s									
BOZ	**Bozeman (W)**	**86.82**	**334**		P		**P**	**23 51 32.0**	**-3.2**	
BOZ					IAmb		IAmb	23 52 59.7		
	comp=Z,8.1nm,0.8s									
MATP	**Matopo**	**87.36**	**113**	*i*	P		**P**	**23 51 39.0**	**+0.4**	
MATP	**Matopo**	**87.36**	**113**	*i*	P		**P**	**23 51 39.0**	**+0.4**	
BLWY	**Bulawayo**	**87.61**	**113**	*i*	P		**P**	**23 51 40.0**	**+0.2**	
BLWY	**Bulawayo**	**87.61**	**113**	*i*	P		**P**	**23 51 40.0**	**+0.2**	
J08A	**Circle Bar Ran**	**87.74**	**328**		P		**P**	**23 51 37.3**	**-2.3**	
J08A					IAmb		IAmb	23 52 00.5		
	comp=Z,9.4nm,1.0s									
PLID	**Pearl Lake**	**88.10**	**331**		P		**P**	**23 51 37.0**	**-4.5**	
PLID					IAmb		IAmb	23 52 03.1		
	comp=Z,31nm,1.9s									
DZM	**Mont Dzumac**	**101.02**	**234**	*e*	SS		SS	00 11 16.7	-0.6	
	comp=Z,142nm,24.1s									
DZM	**Mont Dzumac**	**101.02**	**234**	*e*	LR		LR	00 25 44.0		
	comp=Z,494nm,29.1s									
ASAR	**Alice Springs**	**117.44**	**207**		PKP		**PKPdf**	**23 57 36.9**	**-0.3**	
	comp=Z,0.5nm,0.8s,baz=149,slow=2.7,SNR=3.0									
WRA	**Warramunga Arr**	**120.63**	**209**		PKP		**PKiKP**	**23 57 43.6**	**+0.1**	
	comp=Z,0.4nm,0.4s,baz=154,slow=1.6,SNR=13									
BRTR	**Keskin Array B**	**122.08**	**61**		PKP		**PKiKP**	**23 57 45.8**	**0.0**	
	comp=Z,0.8nm,0.7s,baz=217,slow=2.5,SNR=6.0									
AKASG	**Malin Array Be**	**122.39**	**48**		PKP		**PKPdf**	**23 57 45.0**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=253,slow=2.8,SNR=4.7									
FINES	**FINESS Array B**	**123.14**	**35**		PKP		**PKiKP**	**23 57 47.4**	**+0.4**	
	comp=Z,3.3nm,0.9s,baz=176,slow=3.8,SNR=4.3									
ARCES	**ARCESS Array B**	**124.13**	**25**		PKP		**PKiKP**	**23 57 49.3**	**+0.6**	
	comp=Z,2.5nm,0.8s,baz=270,slow=0.6,SNR=7.0									
H11S2	**WAKE ISLAND Hy**	**125.49**	**269**		T		T	02 16 33.6		
	baz=118,slow=74,SNR=7.0									
H11S1	**WAKE ISLAND Hy**	**125.50**	**269**		T		T	02 16 33.7		
	baz=118,slow=74,SNR=17									
H11S3	**WAKE ISLAND Hy**	**125.51**	**269**		T		T	02 16 33.2		
	baz=118,slow=74,SNR=9.3									
OBN	**Obninsk**	**127.62**	**43**	⇓ *i*	PKiKP		**PKiKP**	**23 57 59.1**	**+3.1**	
OBN				*e*				23 59 56.7		
OBN				*e*	PPP		PPP	00 02 40.4		
OBN					pmax		pmax			
	comp=Z,4.0nm,0.9s									
KIV	**Kislovodsk**	**129.73**	**58**	*i*	PKiKP		**PKiKP**	**23 58 02.3**	**+1.5**	
KIV				*e*				00 00 10.9		
KIV				*e*	PS		**PS**	**00 10 20.8**	**-1.1**	
KIV				*e*	SS		SS	00 17 33.6	-1.3	
KIV					pmax		pmax			
	comp=Z,14nm,1.1s									
KIV					MLR		MLR			
	comp=Z,404nm,23.0s									
KBZ	**Khabaz**	**129.83**	**59**	⇑ *e*	PKiKP		**PKiKP**	**23 58 03.8**	**+3.0**	
ARU	**Arti**	**139.92**	**41**		PKP		**PKiKP**	**23 58 20.2**	**-0.8**	
	comp=Z,0.7nm,0.5s,baz=314,slow=5.3,SNR=4.4									
ARU	**Arti**	**139.92**	**41**	*i*	PKiKP		**PKiKP**	**23 58 20.5**	**-0.4**	
ARU								00 01 13.2		
ARU					SS		SS	00 19 27.2	-9.1	
ARU					MLR		MLR			
	comp=Z,309nm,19.0s									
GEYT	**Alibeck**	**140.11**	**70**		PKP		**PKPdf**	**23 58 19.8**	**+0.3**	
	comp=Z,0.9nm,0.5s,baz=180,slow=5.8,SNR=2.4									
TIXI	**Tiksi**	**140.64**	**350**	*i*	PKiKP		**PKiKP**	**23 58 24.3**	**+2.4**	
ABKAR	**Akbulak array**	**141.90**	**52**		PKPdf		**PKPdf**	**23 58 18.0**	**-4.3**	
ABKAR	**Akbulak array**	**141.90**	**52**		PKPdf		**PKPdf**	**23 58 18.2**	**-4.1**	
BRVK	**Borovoye**	**147.40**	**43**		PKP2		**PKPbc**	**23 58 33.5**	**-0.7**	
BRVK	**Borovoye**	**147.40**	**43**				**PKPbc**	**23 58 33.5**	**-0.7**	
YAK	**Yakutsk**	**148.63**	**340**	⇓ *e*	PKP2		**PKPbc**	**23 58 37.2**	**+0.1**	
HYB	**Hyderabad**	**149.19**	**115**	*i*	PKP		**PKPbc**	**23 58 40.5**	**+0.5**	
GAR	**Garm**	**149.74**	**70**				**PKiKP**	**23 58 42.6**	**+0.7**	
KK31	**Karatay Array**	**149.79**	**61**		PKHKP		**PKPdf**	**23 58 37.7**	**+1.7**	
KK31	**Karatay Array**	**149.79**	**61**		PKPdf		**PKPdf**	**23 58 37.7**	**+1.7**	
KKAR	**Karatay Array**	**149.79**	**61**		PKHKP		**PKPdf**	**23 58 37.8**	**+1.9**	
KKAR	**Karatay Array**	**149.79**	**61**				**PKPdf**	**23 58 37.9**	**+1.9**	
KKAR	**Karatay Array**	**149.79**	**61**		PKPdf		**PKPdf**	**23 58 37.8**	**+1.9**	
KULM	**Kulim**	**150.71**	**166**		PKPab		**PKPab**	**23 58 52.1**	**+1.5**	
NIL	**Nilore**	**151.52**	**81**		PKiKP		**PKiKP**	**23 58 46.1**	**+0.5**	
NIL	**Nilore**	**151.52**	**81**				**PKiKP**	**23 58 46.1**	**+0.5**	
AAK	**Ala-Archa**	**152.75**	**62**	⇑ *e*	PKiKP		**PKiKP**	**23 58 48.9**	**+0.9**	
KURK	**Kurchatov**	**153.07**	**43**	*c i*	PKiKP		**PKiKP**	**23 58 48.8**	**+0.6**	
KURK	**Kurchatov**	**153.07**	**43**				**PKiKP**	**23 58 49.2**	**+1.0**	
KSH	**Kashi**	**154.13**	**68**		PKPbc		**PKPbc**	**23 58 47.1**	**-3.8**	
KSH					PP		**PP**	**00 02 44.4**	**+4.4**	
KSH					SKS		**SKSdf**	**00 05 47.5**	**-1.5**	
KSH					AMB		AMB			
	comp=Z,130nm,4.6s									
KSH					LR		LR			
	comp=Z,110nm,5.5s									
KSH					LR		LR			
	comp=Z,130nm,5.2s									
ZAA0	**Zalesovo Array**	**154.37**	**32**				**PKiKP**	**23 58 51.3**	**+0.6**	
ZALV	**Zalesovo Beam**	**154.37**	**32**		PKP		**PKPdf**	**23 58 42.5**	**+0.1**	
	comp=Z,1.1nm,0.8s,baz=277,slow=1.2,SNR=4.7									
ZALV					PKPbc		**PKiKP**	**23 58 51.9**	**+1.1**	
	comp=Z,6.7nm,0.5s,baz=315,slow=2.7,SNR=31									
ZALV	**Zalesovo Beam**	**154.37**	**32**		PKiKP		**PKPdf**	**23 58 42.7**	**+0.3**	
ZALV								23 58 51.0		
ZALV	**Zalesovo Beam**	**154.37**	**32**				**PKPdf**	**23 58 42.7**	**+0.3**	
ZALV							**PKiKP**	**23 58 51.0**	**+0.2**	
BOD	**Bodaibo**	**155.78**	**352**	*e*	PKP2		**PKPab**	**23 59 11.3**	**+0.5**	
BOD					pmax		pmax			
	comp=Z,15nm,1.8s									
MKAR	**Makanchi Array**	**156.97**	**49**		PKP		**PKPdf**	**23 58 46.3**	**+0.1**	
	comp=Z,0.4nm,0.7s,baz=349,slow=1.5,SNR=3.9									
MKAR					PKPab		**PKPab**	**23 59 17.1**	**+0.7**	
	comp=Z,2.8nm,0.5s,baz=295,slow=3.0,SNR=16									
WMQ	**Urumqi**	**161.69**	**52**	*e*	PKP		**PKPdf**	**23 58 52.1**	**+0.3**	
WMQ					LR		LR			
	comp=Z,140nm,20.5s									
WMQ					LR		LR			
	comp=Z,190nm,19.3s									
WMQ					LR		LR			
	comp=Z,110nm,25.9s									
SONM	**Songino Array**	**166.14**	**3**		PKPab		**PKPab**	**23 59 58.6**	**+2.1**	
	comp=Z,0.6nm,0.7s,baz=318,slow=3.0,SNR=3.6									
GTA	**Gaotai**	**171.72**	**47**		PKP		PKPdf	23 59 08.3	+8.6	
GTA					AMB		AMB			
	comp=Z,120nm,7.8s									
GTA					LR		LR			
	comp=N,140nm,18.9s									
GTA					LR		LR			
	comp=E,180nm,20.0s									
GTA					LR		LR			
	comp=Z,240nm,19.3s									
LZH	**Lanzhou**	**176.26**	**55**	*e*	PKP		**PKPdf**	**23 59 01.5**	**+0.1**	
LZH					pPKP		sPKPdf	23 59 06.4	-1.4	
LZH					sPKP			23 59 08.3		
LZH					LR		LR			
	comp=Z,200nm,18.1s									
LZH					LR		LR			
	comp=Z,220nm,18.3s									
LZH					LR		LR			
	comp=Z,300nm,20.0s									

IDC 23 23:50:20.3±8.6, 1°47S×133°95E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/38, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=123.4km s-min=86.3km az=162.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.36**	**179**	P	P	23 54 36.8	+0.1
	0.1nm,0.3s,baz=0.7,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**18.43**	**206**	P	Pn	23 54 35.4	-1.9
	0.1nm,0.3s,baz=39,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**22.06**	**180**	P	P	23 55 16.2	-0.7
	1.7nm,0.8s,baz=6.1,slow=11,SNR=13						
STKA	**Stephens Creek**	**31.09**	**167**	P	P	23 56 41.7	+1.3
	0.5nm,0.3s,baz=323,slow=10,SNR=1.4						

*DDA **24** 00:04:26.2, 35°.78N×31°.22E, h53km±6km, ML2.2*
*NIC **24** 00:04:26.8±0.0, 35°.72N×31°.16E, h17km±4km, MI2.8/2*
*ISK **24** 00:04:26.1, 35°.84N×31°.25E, h89km, ML2.7/16*
*GII **24** 00:04:30.8±0.0, 35°.51N×31°.43E, h30km*

ISC 24 00:04:25.0±1.3, 35°.82N±0°.04×31°.19E±0°.03, h102km±11km, n53, σ1°61/76, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.85**	**306**	*i* P	**Pn**	**00 04 44.2**	**+0.2**
AKUM				*i* S	**Sn**	**00 04 57.1**	**-1.2**
GAZI	**Gazipasa**	**1.00**	**65**	PG	**Pn**	**00 04 45.7**	**+0.1**
GAZI	**Gazipasa**	**1.00**	**65**	*i* P	**Pn**	**00 04 45.9**	**+0.3**
GAZI				IAML		00 05 01.0	
	comp=E,97nm,0.2s						
GAZI				IAML		00 05 01.0	
	comp=N,61nm,0.3s						
ALAN	**Alanya-ANTALYA**	**1.00**	**43**	PG	**Pn**	**00 04 46.2**	**+0.6**
ALAN				SG	**Sn**	**00 05 00.1**	**-1.0**
KEPZ	**Antalya-Kepez**	**1.13**	**17**	*i* P	**Pn**	**00 04 47.8**	**+0.7**
KEPZ				IAML		00 05 02.0	
	comp=N,62nm,1.0s						
AKMS	**Akamas**	**1.23**	**130**	P	**Pn**	**00 04 49.3**	**+1.1**
AKMS				S	**Sn**	**00 05 05.5**	**-0.2**
ALFC	**Alefka**	**1.33**	**120**	P	**Pn**	**00 04 49.8**	**+0.5**
ALFC				S	**Sn**	**00 05 06.8**	**-0.9**
ALFC				AML	AML	00 05 08.1	
	comp=N,0.3nm,0.2s						
ALFC				AML	AML	00 05 08.1	
	comp=N,0.3nm,0.2s						
KSL	**Kastellorizon**	**1.34**	**285**	P	**Pn**	**00 04 51.1**	**+1.6**
KSL				S	**Sn**	**00 05 08.0**	**0.0**
AKAS	**Kas**	**1.35**	**288**	PN	**Pn**	**00 04 51.6**	**+1.9**
KORT	**Korkueli**	**1.36**	**330**	PN	**Pn**	**00 04 51.3**	**+1.5**
KORT				SN	**Sn**	**00 05 09.5**	**+0.9**
KORT	**Korkueli**	**1.36**	**330**	*i* P	**Pn**	**00 04 51.5**	**+1.7**
KORT				*i* S	**Sn**	**00 05 03.5**	**-5.1**
ELL	**Elmali**	**1.39**	**312**	P	**Pn**	**00 04 51.9**	**+1.7**
ELL				S	**Sn**	**00 05 11.5**	**+2.3**
NATA	**Nata**	**1.53**	**132**	P	**Pn**	**00 04 53.2**	**+1.4**
NATA				AML	AML	00 05 15.9	
	comp=N,0.8nm,0.7s						
LEF	**Lefka**	**1.55**	**116**	PN	**Pn**	**00 04 52.4**	**+0.4**
LEF	**Lefka**	**1.55**	**116**	*i* P	**Pn**	**00 04 52.2**	**+0.2**
LEF				IAML		00 05 18.0	
	comp=N,34nm,1.1s						
TEKE	**Tekeli-Mersin**	**1.59**	**78**	PN	**Pn**	**00 04 53.6**	**+1.1**
TEKE				SN	**Sn**	**00 05 14.1**	**+0.7**
ERMK	**Ermenek**	**1.62**	**59**	*i* P	**Pn**	**00 04 54.1**	**+1.1**
ERMK				IAML		00 05 19.0	
	comp=N,43nm,0.3s						
ERMK				IAML		00 05 20.0	
	comp=E,34nm,1.1s						
BERE	**Bereket-Mersin**	**1.73**	**72**	PN	**Pn**	**00 04 55.1**	**+0.8**
BERE				SN	**Sn**	**00 05 16.2**	**-0.4**
SZAC	**Souni**	**1.74**	**127**	P	**Pn**	**00 04 55.8**	**+1.4**
FETY	**Fethiye**	**1.89**	**296**	*i* P	**Pn**	**00 04 56.0**	**-0.3**
FETY				*i* S	**Sn**	**00 05 16.8**	**-3.3**
FETY				IAML		00 05 21.0	
	comp=N,22nm,0.2s						
CAME	**Cameli-Denizli**	**1.89**	**307**	PN	**Pn**	**00 04 58.4**	**+2.0**
TEVE	**Tevekalti-Mers**	**1.92**	**71**	PN	**Pn**	**00 04 58.2**	**+1.5**
GOLH	**Golhisar**	**1.93**	**318**	*i* P	**Pn**	**00 04 58.8**	**+2.0**
GOLH				*i* S	**Sn**	**00 05 17.1**	**-4.1**
GOLH				IAML		00 05 34.0	
	comp=N,52nm,2.6s						
GULN	**MERSIN_Gulnar**	**1.94**	**79**	*i* P	**Pn**	**00 04 58.6**	**+1.8**
GULN				*i* S	**Sn**	**00 05 20.5**	**-0.8**
GULN				IAML		00 05 24.0	
	comp=N,18nm,0.5s						
GULN				IAML		00 05 25.0	
	comp=E,15nm,1.0s						
AKKU	**Akkuyu-Mersin**	**1.94**	**79**	PN	**Pn**	**00 04 58.1**	**+1.2**
AKKU				SN	**Sn**	**00 05 22.1**	**+0.8**
CSS	**Mathiatis**	**1.95**	**115**	PN	**Pn**	**00 04 58.4**	**+1.4**
CSS	**Mathiatis**	**1.95**	**115**	P	**Pn**	**00 04 57.9**	**+0.9**
ASGA	**Asgata**	**1.97**	**121**	P	**Pn**	**00 04 58.4**	**+1.1**
LFK	**Lefkose**	**1.98**	**105**	PN	**Pn**	**00 04 58.6**	**+1.1**
IKL	**Isikli**	**2.06**	**78**	PN	**Pn**	**00 04 59.6**	**+1.1**
IKL				SN	**Sn**	**00 05 24.3**	**+0.3**
BRDR	**BURDUR-Merkez**	**2.08**	**334**	*i* P	**Pn**	**00 05 00.9**	**+2.1**
KEBE	**Keben-Mersin**	**2.14**	**72**	PN	**Pn**	**00 05 01.2**	**+1.7**
KRMN	**Karaman**	**2.15**	**50**	PN	**Pn**	**00 05 00.8**	**+1.1**
MVOU	**Mavrovouni**	**2.15**	**111**	P	**Pn**	**00 04 59.9**	**+0.4**
KMER	**Konya-Meram**	**2.16**	**26**	*i* P	**Pn**	**00 05 01.4**	**+1.5**
KMER				IAML		00 05 31.0	
	comp=E,16nm,0.5s						
BAGO	**Egridir - ISPA**	**2.19**	**352**	*i* P	Pn	00 05 08.1	+7.9
BAGO				IAML		00 05 36.0	
	comp=E,11nm,1.5s						
DOGA	**KONYA_Doganhis**	**2.31**	**9**	*i* P	**Pn**	**00 05 02.1**	**+0.3**
DOGA				IAML		00 05 32.0	
	comp=N,14nm,0.7s						
DOGA				IAML		00 05 34.0	
	comp=E,15nm,0.4s						
OSC1	**CSNet OBS 1**	**2.31**	**178**	P	**Pn**	**00 05 02.8**	**+1.0**
OSC1				S	**Sn**	**00 05 29.6**	**-0.3**
EREN	**Erenkoy**	**2.44**	**96**	PN	**Pn**	**00 05 04.9**	**+1.5**
EREN	**Erenkoy**	**2.44**	**96**	*i* P	**Pn**	**00 05 04.9**	**+1.5**
EREN				*i* S	**Sn**	**00 05 30.4**	**-2.4**
EREN				IAML		00 05 35.0	
	comp=E,22nm,1.1s						
EREN				IAML		00 05 35.0	
	comp=N,23nm,1.0s						
TAVA	**DENIZLI_Tavas**	**2.46**	**313**	*i* P	**Pn**	**00 05 05.0**	**+1.2**
TAVA				IAML		00 05 32.0	
	comp=N,14nm,0.9s						
LADK	**Ladik-KONYA**	**2.56**	**21**	PN	**Pn**	**00 05 06.3**	**+1.3**
KZIL	**AFYON_Kizioren**	**2.58**	**341**	*i* P	**Pn**	**00 05 06.0**	**+0.7**
KZIL				IAML		00 05 37.0	
	comp=N,12nm,1.0s						
KZIL				IAML		00 05 39.0	
	comp=E,8.9nm,1.5s						
KERG	**Konya-Eregli**	**2.85**	**55**	*i* P	**Pn**	**00 05 10.3**	**+1.4**
KERG				*i* S	**Sn**	**00 05 40.6**	**-2.0**
KERG				IAML		00 05 44.0	
	comp=N,8.7nm,0.8s						
MERS	**Mersin**	**2.89**	**68**	PN	**Pn**	**00 05 10.8**	**+1.5**
GULE	**Gulek**	**3.24**	**62**	*i* P	**Pn**	**00 05 14.3**	**+0.2**
MMA0B	**Mount Meron ar**	**4.47**	**128**	Pn	**Pn**	**00 05 31.7**	**+1.1**
MMA0B				Sn	**Sn**	**00 06 19.3**	**-2.2**
GEM	**Giv'at Ha'Em**	**4.52**	**124**	Pn	**Pn**	**00 05 32.4**	**+1.2**
GEM				Sn	**Sn**	**00 06 20.6**	**-2.0**
NATI	**Neve Ativ**	**4.54**	**123**	Pn	**Pn**	**00 05 32.6**	**+1.2**
NATI				Sn	**Sn**	**00 06 21.7**	**-1.3**
MMLI	**Mount Malkishu**	**4.87**	**133**	Pn	**Pn**	**00 05 37.5**	**+1.5**
MMLI				Sn	**Sn**	**00 06 29.4**	**-1.8**
HMDT	**Nahal Hemdat**	**5.06**	**133**	Pn	**Pn**	**00 05 40.5**	**+2.0**
HMDT				Sn	**Sn**	**00 06 34.5**	**-1.3**
DSI	**Dead Sea**	**5.49**	**139**	Pn	**Pn**	**00 05 46.0**	**+1.6**
DSI				Sn	**Sn**	**00 06 43.9**	**-2.4**
YTIR	**Yattir**	**5.52**	**143**	Sn	**Sn**	**00 06 44.3**	**-2.8**

*BJI **24** 00:05:26.9±0.0, 24°.23N×94°.05E, h70km, mB4.7/33, mb4.5/40, Ms3.9/25, Ms7.3/18*
*NDI **24** 00:05:26.8±2.4, 24°.17N×93°.95E, h107km±11km, mb4.9, ML4.5, mb4.6(NEIC)*
*NEIC **24** 00:05:26.9±1.8, 23°.98N±0°.07×93°.96E±0°.08, h69km±7km, mb4.6/51, Error ellipse: s-maj=11.5km s-min=9.5km az=220.0*
*IDC **24** 00:05:27.0±0.6, 24°.01N×94°.16E, h72km±4km, mb4.0/17, mb1 4.1/18, mb1mx3.9/44, mbtmp4.3/18, MS3.6/4, Ms1 3.7/4, ms1mx3.1/44, Error ellipse: s-maj=18.0km s-min=11.0km az=63.0*

ISC 24 00:05:25.1±0.3, 24°.06N±0°.03×93°.85E±0°.03, h51km±2km, h51km: pP-P, n169, σ2s42/205, mb4.5/38, MS3.8/4, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.68**	**8**	*e* P	**Pn**	**00 05 54.1**	**+1.9**
KOHI				*e* S	**Sn**	**00 06 14.7**	**+2.1**
KOHI				IAML		00 06 16.8	
	comp=N,5μm,0.5s						
SAIH	**SAIHA**	**1.75**	**207**	*e* P	**Pn**	**00 05 57.0**	**+3.8**
SAIH				*e* S	**Sn**	**00 06 21.8**	**+7.4**
MOKO	**MOKOCHONG**	**2.34**	**15**	*e* P	**Pn**	**00 06 02.8**	**+1.5**
SHL	**Shillong**	**2.34**	**311**	*e* P	**Pn**	**00 06 03.7**	**+2.4**
SHL				*e* S	**Sn**	**00 06 31.0**	**+2.1**
SHL				IAML		00 06 32.3	
	comp=E,3μm,0.2s						
SHL	**Shillong**	**2.34**	**311**	Pn	**Pn**	**00 06 03.6**	**+2.4**
BELO	**BELONIA**	**2.34**	**250**	*i* Pg	**Pn**	**00 06 05.2**	**+4.1**
BELO				*i* Sg	**Sn**	**00 06 35.4**	**+6.6**
AGT	**Agartala**	**2.38**	**266**	*i* Pg	**Pn**	**00 06 06.2**	**+4.5**
AGT				*i* Sg	**Sn**	**00 06 36.5**	**+6.8**
JORH	**JORHAT**	**2.70**	**8**	*i* P	**Pn**	**00 06 07.4**	**+1.3**
JORH				*i* S	**Sn**	**00 06 38.0**	**+0.4**
TEZP	**TEZPUR**	**2.72**	**340**	*e* S	**Sn**	**00 06 37.5**	**-0.6**
TEZP				IAML		00 06 42.1	
	comp=N,4μm,0.1s						
GUWA	**GUWAHATI**	**2.89**	**318**	*i* Pg	**Pn**	**00 06 10.2**	**+1.5**
GUWA				*i* Sg	**Sn**	**00 06 42.5**	**+0.3**
GUWA				IAML		00 06 44.5	
	comp=N,2μm,0.0s						
ZIRO	**ZIRO**	**3.46**	**0**	*e* P	**Pn**	**00 06 17.3**	**+0.7**
ZIRO				*ex*	x	00 06 17.3	
ZIRO				*e* S	**Sn**	**00 06 54.5**	**-2.0**
ZIRO				IAML		00 06 56.9	
	comp=N,7μm,0.3s						
LKP	**Lekhapani**	**3.73**	**28**	*e* P	**Pn**	**00 06 20.8**	**+0.6**
GTK	**Tadong**	**5.74**	**306**	*e* P	**Pn**	**00 06 51.2**	**+3.3**
GTK				*e* SG	**Sn**	**00 07 51.9**	**-0.7**
LSA	**Lhasa**	**6.12**	**337**	P	**Pn**	**00 06 57.1**	**+3.7**
LSA				S	**Sn**	**00 08 01.4**	**-0.9**
LSA				smax	smax		
	comp=N,1μm,0.7s						
LSA				smax	smax		
	comp=N,2μm,0.6s						
LSA	**Lhasa**	**6.12**	**337**	Pn	**Pn**	**00 06 56.9**	**+3.5**
TAPN	**Taplejung**	**6.44**	**302**	*e* Pn	**Pn**	**00 07 00.8**	**+3.2**
TAPN				*e* Sn	**Sn**	**00 08 13.1**	**+3.2**
ODAN	**Odare**	**6.47**	**297**	*e* Pn	**Pn**	**00 07 00.9**	**+2.9**
CHTO	**Chiang Mai**	**7.05**	**137**		**Pn**	**00 07 05.6**	**-0.2**
CMMT	**Chiang Mai**	**7.05**	**137**	P	**Pn**	**00 07 05.8**	**-0.1**
CRAI	**Chiangrai**	**7.15**	**121**	P	**Pn**	**00 07 07.1**	**-0.1**
CM34	**Chiang Mai Arr**	**7.15**	**135**	P	**Pn**	**00 07 06.8**	**-0.4**
RAMN	**Ramite**	**7.16**	**295**	*e* Pn	**Pn**	**00 07 09.9**	**+2.5**
PAYA	**Payao**

comp=Z,137nm,0.5s
DDI ex x 00 11 41.9
ADKI Addanki 15.39 240 *eP* **Pn 00 09 00.2 +1.3**
CUPL Choutuppal 15.50 247 *eP* **P 00 09 03.9 -0.1**
NJS Nagarjunasagar 15.54 244 *eP* **P 00 09 05.0 +0.5**
SONA Sohna 15.62 289 *eP* **Pn 00 09 01.7 -0.3**
SONA ex x 00 11 46.2
QIZ Qiongzhong 15.70 106 P **Pn 00 09 01.8 -1.2**
QIZ S **Sn 00 11 56.3 +0.3**
QIZ LR LR
comp=Z,270nm,16.1s
QIZ LR LR
comp=Z,280nm,22.6s
QIZ LR LR
comp=Z,280nm,13.3s
HYB Hyderabad 15.75 248 *i* P **P 00 09 09.0 +2.1**
HYB *e*S **Sn 00 11 51.0 -6.4**
HYBB Hyderabad (bro 15.75 248 *eP* **P 00 09 07.7 +0.8**
KUDL Kundal 16.12 288 *eP* **Pn 00 09 07.6 -0.7**
KUDL *ex* x 00 11 54.7
SRLM Srisailam 16.12 243 *eP* **P 00 09 10.9 0.0**
GTA Gaotai 16.12 17 *eP* **Pn 00 09 06.6 -1.8**
GTA S **Sn 00 12 01.1 -5.2**
GTA sS S 00 12 19.1 +1.7
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,48nm,5.1s
GTA LR LR
comp=Z,98nm,13.8s
GTA LR LR
comp=Z,130nm,12.0s
XAN Xi'an 16.50 50 P **P 00 09 13.8 -1.2**
XAN pP pP 00 09 26.3 -0.5
XAN pmax pmax
comp=Z,19nm,1.2s
XAN LR LR
comp=Z,170nm,14.1s
XAN LR LR
comp=Z,130nm,16.3s
XAN LR LR
comp=Z,240nm,11.9s
XAN Xi'an 16.50 50 Pn **Pn 00 09 12.9 -0.2**
SKHT Srikalahasti 16.84 235 *eP* **P 00 09 19.2 +0.3**
BHK Bhakra 17.07 299 *ex* **P 00 09 21.2 -0.2**
KLRI Killari 17.16 253 *eP* **Pn 00 09 21.9 +0.4**
DHRM DHARAMSHALA 17.48 302 *eP* **Pn 00 09 24.4 -1.2**
DHRM IAmb IAmb 00 09 26.2
comp=Z,65nm,0.3s
DHRM *e*S **Sn 00 12 31.5 -7.9**
HKPS Hong Kong Po S 18.74 91 P **P 00 09 38.5 -1.3**
HKPS IAmb IAmb 00 09 51.3
comp=Z,58nm,1.1s
LHMI Lhok Sumawe 18.95 170 P **P 00 09 41.9 -0.3**
LHMI IAmb IAmb 00 09 48.5
comp=Z,43nm,0.7s
WHN Wuhan 19.32 66 P **Pn 00 09 53.8 +6.3**
POO Poona 19.42 257 *eP* **Pn 00 09 50.0 +1.1**
comp=Z,20nm,1.2s
POO *i* pP **sP 00 10 05.3 -0.6**
POO *i* x x 00 13 12.0
POO *i* x x 00 13 35.6
POO *i* x x 00 13 48.6
POO *i* x x 00 15 38.0
KULM Kulim 19.77 160 P **P 00 09 50.6 -0.5**
KULM Kulim 19.77 160 P **Pn 00 09 53.0 0.0**
MLSI Meulaboh, Aceh 19.83 172 P **Pn 00 09 55.3 +1.7**
comp=Z,97nm,0.8s
WMQ Urumqi 20.36 347 *eP* Pn 00 09 58.8 -1.0
WMQ pP sP 00 10 15.4 -0.6
WMQ PP **PnPn 00 10 23.5 +7.5**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,34nm,3.7s
WMQ LR LR
comp=Z,190nm,29.2s
WMQ LR LR
comp=Z,380nm,29.0s
NIL Nilore 20.39 303 P Pn 00 09 59.9 -0.3
IPM Ipoh 20.66 159 P **P 00 09 58.9 -1.9**
IPM IAmb IAmb 00 10 04.3
comp=Z,22nm,0.6s
IPM Ipoh 20.66 159 P **P 00 09 59.0 -1.7**
PALK Pallekele 20.91 219 P Pn 00 10 05.8 -0.8
comp=Z,16nm,0.7s,baz=128,slow=12,SNR=14
PALK S **S 00 13 47.7 -6.4**
comp=Z,3.7nm,0.4s,baz=30,slow=20,SNR=4.7
PALK Pallekele 20.91 219 P **P 00 10 04.7 +1.2**
PALK IAmb IAmb 00 10 07.3
comp=Z,20nm,0.8s
KSH Kashi 21.58 320 P **P 00 10 12.8 +2.1**
KSH pP sP 00 10 31.3 +1.9
KSH pmax pmax
comp=Z,20nm,0.8s
KSH pmax pmax
comp=Z,110nm,3.3s
KSH LR LR
comp=Z,120nm,5.8s
KSH LR LR
comp=Z,100nm,5.7s
RPSI Rantau Prapat 21.79 166 P **P 00 10 13.7 +0.7**
RPSI IAmb IAmb 00 10 16.6
comp=Z,21nm,0.9s
KNMB Chin-men Tao 22.37 84 P **P 00 10 19.0 -0.1**
HHC Hu-ho-hao-te 22.38 37 *eP* **P 00 10 20.6 +1.5**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,78nm,7.4s
GSI Gunungsitoli 22.90 170 P **P 00 10 24.5 -0.3**
GSI IAmb IAmb 00 10 28.8
comp=Z,26nm,0.8s
NJ2 Nanjing 23.42 65 *eP* **P 00 10 28.3 -1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KBL Kabul 23.97 302 P **P 00 10 37.6 +2.5**
TKM2 Tokmak 2 24.11 326 P **P 00 10 38.9 +2.6**
SNR=11
MYKOM Kota Tinggi 24.16 155 P **P 00 10 38.0 +1.4**
UCH Uchtor 24.20 323 P **P 00 10 40.4 +3.0**
SNR=8.0
KBK Karagaybulak 24.26 324 P **P 00 10 40.8 +3.2**
SNR=6.0
AAK Ala-Archa 24.49 324 P **P 00 10 42.9 +3.2**
SNR=7.1
MK31 Makanchi Array 24.51 341 P **P 00 10 41.5 +1.8**
MK31 IAmb IAmb 00 11 00.4
comp=Z,18nm,1.1s
MKAR Makanchi Array 24.51 341 P **P 00 10 41.5 +1.8**
comp=Z,6.0nm,0.5s,baz=154,slow=10,SNR=131
MKAR ScP **ScP 00 17 48.5 -3.0**
comp=Z,0.4nm,0.5s,baz=183,slow=2.3,SNR=6.1
MKAR Makanchi Array 24.51 341 P **P 00 10 41.0 +1.4**
AML Almayashu 24.60 322 P **P 00 10 44.7 +3.8**
SNR=8.8
MAKZ Makanchi 24.62 340 P **P 00 10 42.8 +2.1**
GAR Garm 24.89 312 P **P 00 10 45.5 +2.2**
EKS2 Erkin-Say 24.90 323 P **P 00 10 48.2 +4.8**
SNR=9.7
USP Ospenovka 24.92 325 P **P 00 10 47.0 +3.5**
SNR=5.5
TWG Pinlang 25.00 87 P **P 00 10 42.5 -1.7**
TWG IAmb IAmb 00 10 43.7
comp=Z,25nm,1.0s
NACB Ninganchiao 25.31 84 P **P 00 10 45.6 -1.5**
NACB IAmb IAmb 00 10 47.9
comp=Z,20nm,0.9s
CHGR Chuyangaron 25.52 311 IAmb IAmb 00 10 52.7
comp=Z,29nm,1.0s
SONM Songino Array 25.75 20 P **P 00 10 51.3 +0.3**
comp=Z,9.1nm,0.7s,baz=198,slow=10.0,SNR=31
SONM pP **pP 00 11 06.5 +2.3**
comp=Z,5.7nm,0.8s,baz=213,slow=10.0,SNR=6.1
SONM ScP **ScP 00 17 51.3 -3.8**
comp=Z,0.8nm,0.7s,baz=182,slow=5.3,SNR=5.4
SONM Songino Array 25.75 20 P **P 00 10 51.0 +0.1**
ULN Ulaanbaatar 25.98 21 P **P 00 10 53.3 +0.2**
ULN IAmb IAmb 00 10 55.5
comp=Z,11nm,0.8s
KKAR Karatay Array 27.03 320 P **P 00 11 04.2 +1.7**
KKAR Karatay Array 27.03 320 P **P 00 11 06.5 +4.0**
KKAR IAmb IAmb 00 11 25.4
comp=Z,5.4nm,1.1s
KSM Kuching 27.53 142 P **P 00 11 05.5 -1.7**
KSM IAmb IAmb 00 11 07.9
comp=Z,8.4nm,0.4s
KSM Kuching 27.53 142 P **P 00 11 04.0 -3.2**
SBUM Sibu 27.87 138 P **P 00 11 09.1 -1.1**
KKM Kota Kinabalu 27.97 126 P **P 00 11 09.3 -2.0**
KURBB Kurchatov Arra 29.06 340 P **P 00 11 21.6 +1.1**
comp=Z,1.2nm,0.4s,baz=157,slow=7.8,SNR=12
KURBB pP **sP 00 11 39.0 -1.2**
comp=Z,4.5nm,0.9s,baz=152,slow=6.5,SNR=10
KURK Kurchatov 29.12 340 P **P 00 11 22.7 +1.8**
HRA Herat 29.34 298 P **P 00 11 24.3 +1.0**
MYLDM Lahad Datu 30.25 124 P **P 00 11 29.6 -1.7**
MYLDM IAmb IAmb 00 11 32.6
comp=Z,17nm,1.1s
ZAA0 Zalesovo Array 30.61 350 IAmb IAmb 00 11 53.8
comp=Z,10.0nm,1.1s
ZALV Zalesovo Beam 30.61 350 P **P 00 11 35.1 +1.0**
comp=Z,4.5nm,0.7s,baz=166,slow=7.6,SNR=24
ZALV pP **sP 00 11 52.6 -1.1**
comp=Z,4.9nm,0.8s,baz=168,slow=7.6,SNR=6.0
ZALV ScP **ScP 00 18 06.6 -3.2**
comp=Z,1.5nm,0.8s,baz=294,slow=1.4,SNR=5.6
ZALV Zalesovo Beam 30.61 350 P **P 00 11 35.5 +1.3**
INCN Inchon 31.02 57 P **P 00 11 37.3 -0.6**
KSRS Korea Array 32.00 57 LR LR 00 25 42.9
comp=Z,31nm,21.3s,baz=120,slow=38
JSU Suzuyama 33.11 69 P **P 00 11 54.8 -1.6**
JSU IAmb IAmb 00 12 07.7
comp=Z,15nm,1.0s
GEYT Alibeck 33.39 303 P **P 00 12 01.8 +3.0**
comp=Z,1.9nm,0.7s,baz=122,slow=5.4,SNR=8.4
GEYT pP **sP 00 12 19.2 +0.8**
comp=Z,2.6nm,0.8s,baz=204,slow=3.3,SNR=2.6
GEYT Alibeck 33.39 303 P **P 00 12 00.7 +1.9**
GYA0B ALIBECK ARRAY 33.39 303 P **P 00 12 00.5 +1.7**
BRVK Borovoye 34.01 334 P **P 00 12 05.5 +1.6**
BRVK IAmb IAmb 00 12 25.2
comp=Z,4.1nm,0.7s
JMN Monobe 36.16 65 P **P 00 12 21.6 -1.2**
ABKAR Akbulak array 36.55 322 P **P 00 12 27.8 +2.0**
ABKAR Akbulak array 36.55 322 IAmb IAmb 00 12 46.6
comp=Z,7.5nm,0.8s
USRK Ussuriysk Ar. 36.99 48 P **P 00 12 29.3 -0.3**
ARU Arti 41.27 331 P **P 00 13 06.6 +1.5**
NRIK Noril'sk 45.46 357 P **P 00 13 38.9 +0.2**
comp=Z,1.3nm,0.4s,baz=210,slow=2.7,SNR=1.3
NRIK pP **sP 00 13 57.2 -1.6**
comp=Z,3.3nm,0.6s,baz=168,slow=9.7,SNR=3.3
GAZ Gaziantep 49.80 299 P **P 00 14 13.7 +0.7**
GAZ IAmb IAmb 00 14 31.7
comp=Z,3.3nm,0.6s
PSA00 Pilbara Seismi 51.93 149 P **P 00 14 26.8 -2.2**
BRTR Keskin Array B 52.53 303 P **P 00 14 35.0 +1.4**
comp=Z,0.4nm,0.6s,baz=104,slow=5.2,SNR=4.0
BRTR pP **sP 00 14 50.9 -2.9**
comp=Z,0.7nm,0.8s,baz=73,slow=9.2,SNR=3.5
MDUB Mudurnu 54.38 304 P **P 00 14 47.0 -0.1**
AKASG Malin Array Be 55.81 316 P **P 00 14 57.3 +0.3**
comp=Z,0.6nm,0.3s,baz=79,slow=6.2,SNR=4.9
AKASG pP **sP 00 15 15.1 -2.3**
comp=Z,2.1nm,0.5s,baz=78,slow=6.6,SNR=2.9
FINES FINESS Array B 58.56 329 P **P 00 15 16.8 +0.6**
comp=Z,2.7nm,0.9s,baz=98,slow=8.8,SNR=1.8
FINES pP **sP 00 15 35.8 -0.9**
comp=Z,2.8nm,0.8s,baz=107,slow=10,SNR=1.8
WB0 Warramunga Arr 58.80 134 P **P 00 15 16.6 -1.9**
WRA Warramunga Arr 58.89 134 P **P 00 15 17.1 -2.1**
comp=Z,4.6nm,0.4s,baz=318,slow=7.7,SNR=159
WRA ScP **ScP 00 19 57.6 -6.8**
comp=Z,0.5nm,0.7s,baz=311,slow=5.5,SNR=5.2
WRAB Tennant Creek 58.89 134 P **P 00 15 16.7 -2.5**
WB2 Warramunga Arr 58.90 134 P **P 00 15 17.5 -1.7**
WR0 Warramunga Arr 59.04 134 P **P 00 15 17.9 -2.2**
ARCES ARCESS Array B 60.13 339 P **P 00 15 27.8 +0.8**
comp=Z,4.2nm,0.9s,baz=63,slow=3.0,SNR=3.9
ARCES LR LR 00 46 25.7
comp=Z,231nm,21.3s,baz=265,slow=41
AS31 Alice Springs 61.33 138 P **P 00 15 34.3 -1.5**
AS31 IAmb IAmb 00 15 35.0
comp=Z,2.6nm,0.7s
ASAR Alice Springs 61.33 138 P **P 00 15 34.2 -1.5**
comp=Z,7.7nm,0.8s,baz=320,slow=7.1,SNR=66
ASAR Alice Springs 61.33 138 P **P 00 15 34.5 -1.3**
NOA NORSAR Array B 65.72 328 P **P 00 16 05.1 +0.8**
comp=Z,1.0nm,0.8s,baz=103,slow=5.8,SNR=1.9
NOA pP **sP 00 16 23.8 -1.1**
comp=Z,1.7nm,0.8s,baz=85,slow=6.5,SNR=3.2
NOA LR LR 00 45 09.9
comp=Z,69nm,18.2s,baz=240,slow=36
MBAR Mbarara 65.85 258 P **P 00 16 06.5 +0.5**
MBAR IAmb IAmb 00 16 08.9
comp=Z,4.7nm,0.7s
GERES GERESS Array B 65.94 315 P **P 00 16 07.1 +1.1**
comp=Z,0.6nm,0.6s,baz=90,slow=2.9,SNR=4.4
GERES pP **sP 00 16 25.4 -1.3**
comp=Z,1.6nm,0.6s,baz=73,slow=6.3,SNR=7.5
STKA Stephens Creek 71.94 139 P **P 00 16 41.2 -2.0**
comp=Z,4.1nm,0.6s,baz=339,slow=5.7,SNR=9.7
STKA Stephens Creek 71.94 139 P **P 00 16 41.5 -1.8**
KEST Kesra 72.13 302 P **P 00 16 45.1 +0.5**
KEST IAmb IAmb 00 16 55.9
comp=Z,6.7nm,0.9s
MDM Murphy Dome 79.36 22 P **P 00 17 25.2 -0.1**
MDM IAmb IAmb 00 17 44.1
comp=Z,4.7nm,0.8s
LBTB Lobatse 82.13 238 P **P 00 17 40.5 -0.3**
BOSA Boshof 84.25 235 P **P 00 17 52.5 +0.9**
comp=Z,6.4nm,0.8s,baz=82,slow=2.8,SNR=15
BOSA Boshof 84.25 235 IAmb IAmb 00 17 53.6
comp=Z,9.6nm,0.9s
TORD Torodi Ar. Bea 86.67 283 P **P 00 18 05.5 +1.5**
comp=Z,0.5nm,0.8s,baz=59,slow=4.8,SNR=5.0
TORD pP **sP 00 18 24.4 -0.5**
comp=Z,1.9nm,0.8s,baz=48,slow=4.9,SNR=9.0
TXAR Lajitas Array 124.31 19 PKP **PKPdf 00 24 18.8 -0.2**
comp=Z,0.6nm,0.7s,baz=145,slow=1.1,SNR=4.5
TXAR pPKP **sPKPdf 00 24 38.0 -2.5**
comp=Z,0.7nm,0.9s,baz=286,slow=2.3,SNR=3.3
SDV Santo Domingo 143.92 333 PKP PKPbc 00 24 54.5 +0.8
comp=Z,2.8nm,0.3s,baz=356,slow=5.2,SNR=4.2

*JMA **24** 00:07:59.0±0.4,43.92N×148.16E,h31km,M3.5*
*SKHL **24** 00:08:00.4±0.6,44.35N×148.12E,h38km±7km,mb4.5/3*
ISC 24 00:07:56.0±2.9,44.2N±0.1×148.0E±0.1,h0km±14km,n11,
σ1s22/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUR	**Kuril'sk**	**1.00**	**355**	*i* P		**Pb**	**00 08 15.9**	**-0.3**
KUR					AMB	AMB	00 08 16.0	
	190nm,0.2s							
KUR				*i* S		**Sg**	**00 08 27.0**	**-1.2**
KUR				A		A	00 08 28.0	
	314nm,0.2s							
KUR				A		A	00 08 28.0	
	483nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.55**	**263**	*eP*		**Pg**	**00 08 26.3**	**+0.7**
YUK					AMB	AMB	00 08 27.0	
	150nm,0.2s							
YUK				*e*S		**Sg**	**00 08 46.0**	**+0.4**
YUK				A		A	00 08 49.0	
	110nm,0.2s							
YUK				A		A	00 08 49.0	
	338nm,0.2s							
GRPR	**Tuman**	**1.62**	**262**	*eP*		**Pg**	**00 08 27.7**	**+0.8**
GRPR					AMB	AMB	00 08 30.0	
	94nm,0.3s							
GRPR				*e*S		**Sb**	**00 08 47.0**	**-0.5**
GRPR				A		A	00 08 53.0	
	205nm,0.3s							
GRPR				A		A	00 08 53.0	
	324nm,0.3s							
NEM2	**Nemuro 2**	**1.84**	**243**	P		**Pb**	**00 08 29.6**	**-0.9**
NEM2				*e*S		**Sn**	**00 08 52.5**	**-0.3**
GLVR	**Golovnino**	**1.85**	**255**	*eP*		**Pb**	**00 08 31.2**	**+0.6**
GLVR				*e*S		**Sg**	**00 08 55.0**	**-0.4**
GLVR				A		A	00 09 00.0	
	710nm,0.3s							
GLVR				A		A	00 09 00.0	
	458nm,0.3s							
NMR	**Nemuro--Hokkai**	**1.85**	**243**	*i* P		**Pb**	**00 08 29.9**	**-0.7**
NMR				*i* S		**Sn**	**00 08 52.0**	**-0.9**
JRA	**Rausu**	**2.09**	**263**	P		**Pb**	**00 08 34.8**	**+0.1**
JNSB	**Nemuroshibetsu**	**2.20**	**259**	P		**Pb**	**00 08 36.1**	**-0.5**
JNK	**Nakash**	**2.45**	**256**	P		**Pb**	**00 08 39.3**	**-1.6**
JNK				*e*S		**Sn**	**00 09 08.5**	**+0.7**
JAK	**Akkeshi**	**2.69**	**244**	P		**Pn**	**00 08 41.8**	**+1.4**
JAK				*e*S		**Sn**	**00 09 13.9**	**+0.2**
JAR	**Ashorobuto**	**3.20**	**254**	P		**Pb**	**00 08 50.2**	**-3.4**

*SJA **24** 00:16:01.5±0.6,33.97S×73.86W,h46km±10km,ML3.6,*
MW4.2
*IDC **24** 00:16:11.2±1.3,33.91S×72.22W,h0km,mb3.4/3,*
mb1 3.7/6,mb1mx3.6/34,mbtmp3.5/6,ML3.7/3,Error
ellipse: s-maj=47.2km s-min=24.2km az=89.0
*GUC **24** 00:16:13.8±0.7,34.01S×72.26W,h25km±7km,ML3.5*
ISC 24 00:16:12.7±2.1,34.01S±0.03×72.40W±0.06,h14km±13km,
n43,σ1s40/52,7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GO05	**Huala**	**1.07**	**159**	*i* P		**Pb**	**00 16 32.9**	**-0.1**
GO05				*i* S		**Sn**	**00 16 47.9**	**-0.2**
GO05				IAML			00 16 48.6	
	comp=E,4μm,0.3s							
GO05	**Huala**	**1.07**	**159**	*eP*		**Pb**	**00 16 33.1**	**0.0**
GO05				*e*S		**Sg**	**00 16 48.2**	**+0.9**
VA01	**Torpederas**	**1.17**	**33**	*eP*		**Pn**	**00 16 34.4**	**-0.2**
VA01				IAML			00 16 57.7	
	comp=E,560nm,0.6s							
MT02	**Curacav**	**1.29**	**55**	*i* P		**Pn**	**00 16 36.0**	**-0.4**
MT02				*i* S		**Sb**	**00 16 52.8**	**-0.5**
MT02				IAML			00 16 58.3	
	comp=E,640nm,0.5s							
MT05	**Renca**	**1.52**	**66**	*eP*		**Pn**	**00 16 40.0**	**+0.5**
MT05				*i* S		**Sg**	**00 17 00.5**	**-1.0**
MT05				IAML			00 17 05.1	
	comp=E,1μm,0.4s							
BO02	**Sierra Bellavi**	**1.55**	**121**	*i* P		**Pn**	**00 16 40.2**	**+0.3**
BO02				*i* S		**Sb**	**00 17 00.7**	**0.0**
ROCH	**El Roble**	**1.55**	**49**	*i* P		**Pn**	**00 16 40.4**	**+0.2**
ROCH				*i* S		**Sb**	**00 17 00.8**	**-0.2**
ROCH				IAML			00 17 11.6	
	comp=N,822nm,0.4s							
MT03	**Universidad Ad**	**1.66**	**72**	*i* P		**Pn**	**00 16 41.9**	**+0.4**
MT03				*i* S		**Sb**	**00 17 02.9**	**-0.9**
MT03				IAML			00 17 07.5	
	comp=E,872nm,0.3s							
PEL	**Peldehue**	**1.67**	**59**	*i* P		**Pn**	**00 16 42.4**	**+0.7**
PEL				*i* S		**Sb**	**00 17 03.8**	**-0.5**
PEL				IAML			00 17 13.1	
	comp=N,1μm,0.6s							
PEL	**Peldehue**	**1.67**	**59**	*eP*		**Pb**	**00 16 42.6**	**-0.7**
LMEL	**Las Melosas**	**1.83**	**85**	*i* P		**Pn**	**00 16 44.8**	**+0.8**
LMEL				*i* S		**Sb**	**00 17 08.4**	**-0.5**
LMEL				IAML			00 17 10.2	
	comp=N,1μm,0.3s							
VA03	**San Esteban**	**1.98**	**52**	*i* P		**Pn**	**00 16 46.9**	**+0.9**
VA03				*i* S		**Sb**	**00 17 13.1**	**-0.2**
VA03				IAML			00 17 22.6	
	comp=E,1μm,0.3s							
BI03	**Tigo**	**2.87**	**190**	*eP*		**Pn**	**00 16 58.0**	**-0.1**
EDS3	**Malargue**	**3.02**	**126**	*eP*		**Pb**	**00 17 05.6**	**-0.9**
EDS3				*e*S		Sg	00 18 00.1	+10
CO02	**Combarbal**	**3.04**	**23**	*i* P		**Pn**	**00 17 00.8**	**+0.3**
CO02				IAML			00 18 00.0	
	comp=E,351nm,0.5s							
AUSP	**Uspallata**	**3.09**	**56**	*eP*		**Pn**	**00 17 04.5**	**+3.1**
AUSP				*e*S		**Sg**	**00 17 53.1**	**+1.0**
AAGR	**Agrelo**	**3.12**	**74**	*eP*		**Pb**	**00 17 07.5**	**-0.6**
AAGR				IAML			00 18 20.4	
	comp=Z,50nm,1.4s							
ARCO	**CERRO ARCO**	**3.12**	**69**	*eP*		**Pb**	**00 17 07.5**	**-0.6**
ARCO				IAML			00 18 19.0	
	comp=Z,37nm,0.6s							
ASAL	**Salagasta**	**3.30**	**66**	*eP*		**Pn**	**00 17 03.5**	**-0.6**
ASAL				IAML			00 18 31.3	
	comp=Z,38nm,1.0s							
RFA	**San Rafael**	**3.34**	**104**	*eP*		**Pb**	**00 17 09.4**	**-2.4**
RFA				*e*S		**Sg**	**00 18 01.7**	**+1.7**
RFA				IAML			00 18 02.6	
	comp=Z,59nm,1.0s							
CO03	**El Pedregal**	**3.48**	**25**	*i* P		**Pn**	**00 17 07.1**	**+0.5**
GO04	**Tololo Observa**	**4.06**	**20**	*i* P		**Pn**	**00 17 14.6**	**-0.1**
GO04	**Tololo Observa**	**4.06**	**20**	*eP*		**Pn**	**00 17 15.0**	**+0.3**
RTLL	**Cerro Villicun**	**4.25**	**52**	*eP*		**Pn**	**00 17 20.2**	**+3.0**
RTLL				*e*S		**Sb**	**00 18 22.4**	**+3.8**
RTLL				IAML			00 18 25.7	
	comp=Z,79nm,0.7s							
ACCO	**Cerro Coronel**	**4.43**	**40**	*eP*		**Pn**	**00 17 23.5**	**+3.7**
CO01	**Juntas del Tor**	**4.47**	**27**	*eP*		**Pn**	**00 17 21.5**	**+1.1**
AROD	**Rodeo**	**4.57**	**34**	*eP*		**Pn**	**00 17 24.3**	**+2.6**
AROD				*e*S		**Sb**	**00 18 30.7**	**+2.8**
H03S1	**Juan Fernandez**	**5.41**	**270**	T		T	00 23 35.4	
	baz=88,slow=75							
H03S3	**Juan Fernandez**	**5.42**	**270**	T		T	00 23 36.6	
	baz=88,slow=75							
H03S2	**Juan Fernandez**	**5.43**	**270**	T		T	00 23 35.6	
	baz=88,slow=75							
H03N1	**Juan Fernandez**	**5.46**	**274**	T		T	00 23 48.3	
	baz=96							
H03N3	**Juan Fernandez**	**5.47**	**274**	T		T	00 23 55.6	
	baz=96							
H03N2	**Juan Fernandez**	**5.47**	**274**	T		T	00 23 49.3	
	baz=96							
ACLC	**CERRO LA CRUZ**	**6.51**	**47**	*eP*		**Pn**	**00 17 48.9**	**+0.6**
PLCA	**Paso Flores**	**6.87**	**168**	Pn		**Pn**	**00 17 54.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=331,slow=11,SNR=11							
PLCA				Lg		Lg	00 19 42.2	
	baz=195,slow=19,SNR=2.3							
CPUP	**Villa Florida**	**15.10**	**64**	Pn		**Pn**	**00 19 43.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=239,slow=5.9,SNR=1.5							
LPAZ	**La Paz**	**18.06**	**13**	P		**Pn**	**00 20 23.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=175,slow=9.4,SNR=5.8							
SIV	**San Ignacio**	**20.64**	**32**	P		**P**	**00 20 50.3**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=194,slow=11,SNR=5.0							
SNAA	**Sanae**	**51.69**	**158**	P		**P**	**00 25 19.8**	**+0.9**
	comp=Z,0.6nm,1.0s,baz=251,slow=8.5,SNR=3.7							
TXAR	**Lajitas Array**	**69.60**	**331**	P		**P**	**00 27 22.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=161,slow=8.6,SNR=2.1							
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P		**P**	**00 28 45.6**	**+0.1**
	comp=Z,124nm,0.9s,baz=288,slow=7.1,SNR=5.7							
ZALV	**Zalesovo Beam**	**154.39**	**32**	PKPbc		**PKiKP**	**00 36 12.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=320,slow=2.7,SNR=5.5							
ZALV				PKPab		**PKPab**	**00 36 25.5**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=316,slow=4.0,SNR=2.5							
MKAR	**Makanchi Array**	**157.00**	**49**	PKPab		**PKPab**	**00 36 37.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=316,slow=4.7,SNR=3.3							

*IDC **24** 00:24:08.9±1.8,29.83S×177.16W,h0km,mb4.4/4,*
mb1 4.5/5,mb1mx4.0/28,mbtmp4.3/5,ML3.4/1,MS3.7/4,
Ms1 3.8/4,ms1mx3.2/35,Error ellipse: s-maj=39.2km
s-min=26.4km az=57.0
*NEIC **24** 00:24:12.1±2.5,29.56S±0.10×177.0W±0.1,h35km±5km,*
mb4.3/17,Error ellipse: s-maj=15.8km s-min=11.7km
az=225.0
ISC 24 00:24:12.1±0.8,29.66S±0.07×177.06W±0.09,h31km,n47,
σ1s93/41,mb4.3/7,MS3.8/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**0.85**	**299**	LR		LR	00 24 27.4	
	comp=Z,216nm,18.7s,baz=18,slow=21							
RAO					Pn	**Pb**	**00 24 28.5**	**+0.1**
	2μm,0.3s,baz=96,slow=7.5,SNR=155							
RAO					Sn	**Sn**	**00 24 38.6**	**-0.8**
	4μm,0.3s,baz=90,slow=20,SNR=17							
RAO	**Raoul Island**	**0.85**	**299**			**Pb**	**00 24 28.6**	**+0.2**
RAO						**Sn**	**00 24 38.0**	**-1.4**
OUZ	**Omahuta**	**9.64**	**233**	Pn		**Pn**	**00 26 32.4**	**+3.7**
URZ	**Urewera**	**9.84**	**208**	Pn		**Pn**	**00 26 27.3**	**-4.1**
	0.3nm,0.3s,baz=0.0,slow=18,SNR=2.2							
URZ					Sn	**Sn**	**00 28 14.9**	**-5.9**
	1.8nm,0.3s,baz=188,slow=21,SNR=9.4							
URZ	**Urewera**	**9.84**	**208**	Pn		**Pn**	**00 26 33.7**	**+2.2**
BKZ	**Black Stump Fm**	**10.87**	**208**	Pn		**Pn**	**00 26 47.1**	**+1.5**
NIUE	**Niue**	**12.38**	**33**	Pn		**Pn**	**00 27 03.1**	**-3.1**
THZ	**Tophouse**	**14.55**	**211**	Pn		**Pn**	**00 27 36.2**	**+0.3**
KHZ	**Kahutara**	**14.81**	**208**	Pn		**Pn**	**00 27 40.2**	**+1.0**
LTZ	**Lake Taylor**	**15.65**	**210**	Pn		**Pn**	**00 27 50.5**	**+0.1**
LTZ				IAmb		IAmb	00 27 55.8	
	comp=Z,20nm,1.1s							
RPZ	**Rata Peaks**	**16.93**	**211**	Pn		**Pn**	**00 28 05.5**	**-1.1**
RPZ				IAmb		IAmb	00 28 06.5	
	comp=Z,17nm,1.0s							
FOZ	**Fox Glacier**	**17.36**	**214**	Pn		**P**	**00 28 12.3**	**-0.8**

FOZ					IAmb	IAmb	00 28 19.2	
	comp=Z,36nm,1.1s							
ODZ	**Otahua Downs**	**18.17**	**209**	P	**P**		**00 28 21.6**	**-0.3**
MLZ	**Mavora Lakes**	**19.54**	**213**	P	**Pn**		**00 28 38.6**	**0.0**
MLZ				IAmb	IAmb		00 28 40.6	
	comp=Z,22nm,1.1s							
EIDS	**Eidsvold**	**28.52**	**271**	P	**P**		**00 30 05.9**	**+0.8**
EIDS				IAmb	IAmb		00 30 07.8	
	comp=Z,5.9nm,1.1s							
CTA	**Charters Tower**	**34.50**	**278**	P	**P**		**00 30 59.2**	**+1.6**
	comp=Z,3.7nm,0.5s,baz=97,slow=11,SNR=8.3							
CTAO	**Charters Tower**	**34.50**	**278**	P	**P**		**00 30 59.1**	**+1.6**
CTAO				IAmb	IAmb		00 31 02.3	
	comp=Z,8.3nm,0.9s							
STKA	**Stephens Creek**	**35.44**	**256**	P	**P**		**00 31 07.4**	**+1.8**
	comp=Z,3.1nm,0.5s,baz=79,slow=9.6,SNR=8.1							
STKA				LR	LR		00 42 35.9	
	comp=Z,64nm,21.5s,baz=196,slow=31							
STKA	**Stephens Creek**	**35.44**	**256**	P	**P**		**00 31 06.4**	**+0.8**
COEN	**Coen**	**39.86**	**284**	P	**P**		**00 31 41.6**	**-1.6**
COEN				IAmb	IAmb		00 31 52.1	
	comp=Z,5.0nm,0.9s							
BBOO	**Buckleboo**	**39.96**	**253**	P	**P**		**00 31 44.0**	**+0.3**
AS31	**Alice Springs**	**43.97**	**266**	P	**P**		**00 32 17.7**	**+1.0**
ASAR	**Alice Springs**	**43.97**	**266**	P	**P**		**00 32 16.2**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=106,slow=7.6,SNR=12							
ASAR	**Alice Springs**	**43.97**	**266**	P	**P**		**00 32 17.2**	**+0.5**
WR0	**Warramunga Arr**	**44.71**	**271**	P	**P**		**00 32 22.9**	**+0.2**
WR0				IAmb	IAmb		00 32 41.5	
	comp=Z,5.3nm,1.1s							
WB2	**Warramunga Arr**	**44.88**	**271**	P	**P**		**00 32 24.5**	**+0.5**
WRA	**Warramunga Arr**	**44.89**	**271**	P	**P**		**00 32 23.8**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=109,slow=7.8,SNR=58							
WRA	**Warramunga Arr**	**44.89**	**271**	P	**P**		**00 32 23.9**	**-0.3**
WB0	**Warramunga Arr**	**44.91**	**271**	P	**P**		**00 32 24.2**	**0.0**
FORT	**Forrest**	**47.03**	**254**	P	**P**		**00 32 38.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**53.18**	**269**	P	**P**		**00 33 26.2**	**-1.3**
CASY	**Casey**	**56.17**	**208**	P	**P**		**00 33 49.8**	**+1.2**
PMSA	**Palmer Station**	**72.60**	**156**	LR	LR		01 00 08.8	
	comp=Z,79nm,19.5s,baz=200,slow=30							
VNA3	**Neumayer Olymp**	**78.98**	**176**	P	**P**		**00 36 15.3**	**+2.9**
VNA2	**Neumayer--Watz**	**79.43**	**177**	P	**P**		**00 36 17.8**	**+3.0**
	baz=191,slow=4.3							
VNA1	**Neumayer--Stat**	**79.65**	**176**	P	**P**		**00 36 18.4**	**+2.4**
H03S2	**Juan Fernandez**	**80.19**	**123**	T	T		02 05 43.7	
	baz=238,slow=74							
H03S1	**Juan Fernandez**	**80.20**	**123**	T	T		02 05 45.1	
	baz=238,slow=74							
H03S3	**Juan Fernandez**	**80.21**	**123**	T	T		02 05 43.8	
	baz=238,slow=74							
NNA	**Nana**	**92.84**	**105**	LR	LR		01 08 00.7	
	comp=Z,18nm,20.7s,baz=304,slow=28							
LPAZ	**La Paz**	**97.70**	**114**	LR	LR		01 12 34.7	
	comp=Z,116nm,19.8s,baz=91,slow=30							
H10N3	**ASCENSION HYDR**	**139.11**	**153**	T	T		03 20 18.5	
	baz=204,slow=75							
H10N1	**ASCENSION HYDR**	**139.12**	**153**	T	T		03 19 52.0	
	baz=204,slow=75							
H10N2	**ASCENSION HYDR**	**139.13**	**153**	T	T		03 19 47.8	
	baz=204,slow=75							
FINES	**FINESS Array B**	**144.72**	**341**	PKP		**PKPdf**	**00 43 46.4**	**+1.3**
	comp=Z,5.1nm,0.6s,baz=36,slow=3.1,SNR=24							
AKASG	**Malin Array Be**	**151.19**	**324**	PKPbc		**PKiKP**	**00 44 03.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=55,slow=1.9,SNR=4.2							
TORD	**Torodi Ar. Bea**	**163.53**	**176**	PKPab		**PKPab**	**00 45 05.3**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=168,slow=4.2,SNR=1.5							

*SJA **24** 00:25:15.4±0.3,34.05S×72.57W,h14km±7.7km,ML3.8, MW4.2*
*IDC **24** 00:25:16.7±1.2,34.05S×71.69W,h0km,mb3.4/2, mb1 3.8/5,mb1mx3.6/27,mbtmp3.5/5,ML3.6/3,MS3.4/1, Ms1 3.5/1,ms1mx2.8/21,Error ellipse: s-maj=32.7km s-min=26.4km az=140.0*
*GUC **24** 00:25:18.2±0.6,34.01S×72.28W,h32km±3km,ML3.9*
ISC 24 00:25:16.3±2.0,34°01'S±0'.03×72°31'W±0'.07,h12km±13km, n40,σ1°48/44,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.05**	**163**	*e*P	**Pb**	**00 25 36.3**	**-0.2**
GO05				*i* S	**Sn**	**00 25 50.8**	**-0.7**
GO05				IAML		00 25 52.3	
	comp=E,5μm,0.4s						
GO05	**Huala**	**1.05**	**163**	*e*P	**Pb**	00 25 36.2	-0.2
GO05				*e*S	**Sg**	00 25 50.4	+0.2
VA01	**Torpederas**	**1.12**	**29**	*e*P	**Pn**	00 25 38.0	+0.1
VA01				*i* S	**Sb**	00 25 52.6	+0.3
MT02	**Curacav**	**1.23**	**53↓**	*i*P	**Pn**	00 25 39.4	+0.1
MT02				*i* S	**Sb**	**00 25 55.2**	**0.0**
MT02				IAML		00 25 57.1	
	comp=N,3μm,0.2s						
MT05	**Renca**	**1.44**	**65**	*e*P	**Pn**	**00 25 42.9**	**+0.5**
MT05				*i* S	**Sn**	**00 26 01.3**	**+0.1**
MT05				IAML		00 26 07.0	
	comp=E,3μm,0.3s						
BO02	**Sierra Bellavi**	**1.48**	**122**	*e*P	**Pn**	00 25 43.5	+0.5
BO02				*e*S	**Sb**	00 26 03.5	+0.7
ROC1	**El Roble**	**1.49**	**47**	*i* P	**Pn**	00 25 43.9	+0.8
ROC1				*e*S	**Sg**	00 26 05.5	+1.2
ROCH	**El Roble**	**1.49**	**47↑**	*i*P	**Pn**	00 25 43.7	+0.5
ROCH				*i* S	**Sb**	00 26 03.4	+0.3
ROCH				IAML		00 26 13.6	
	comp=N,3μm,0.5s						
MT03	**Universidad Ad**	**1.58**	**72↓**	*i*P	**Pn**	00 25 45.0	+0.7
MT03				*e*S	**Sn**	**00 26 05.3**	**+0.5**
MT03				IAML		00 26 11.4	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**1.60**	**58↓**	*i*P	**Pb**	**00 25 45.8**	**-0.1**
PEL				*e*S	**Sb**	**00 26 06.3**	**+0.2**
PEL				IAML		00 26 15.3	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.60**	**58**	*i* P	**Pb**	00 25 45.9	0.0
PEL				*e*S	**Sb**	00 26 07.6	+1.5
LMEL	**Las Melosas**	**1.75**	**85↑**	*i*P	**Pb**	**00 25 48.2**	**-0.4**
LMEL				*i* S	**Sb**	**00 26 10.2**	**-0.5**
LMEL				IAML		00 26 13.2	
	comp=N,2μm,0.2s						
VA03	**San Esteban**	**1.92**	**50↑**	*i*P	**Pn**	00 25 50.2	+1.2
VA03				*i* S	**Sb**	**00 26 15.2**	**-0.1**
VA03				IAML		00 26 21.6	
	comp=E,3μm,0.5s						
LAMA	**Las Malvinas**	**2.72**	**111**	*i* P	**Pb**	**00 26 04.6**	**-0.3**
BI02	**San Fabin de**	**2.78**	**163**	*e*P	**Pn**	**00 26 02.0**	**+1.2**
BI02				IAML		00 26 49.0	
	comp=E,340nm,0.8s						
CO02	**Combarbal**	**3.00**	**22↑**	*i*P	**Pn**	**00 26 04.3**	**+0.5**
AAGR	**Agrelo**	**3.04**	**73**	*e*P	**Pb**	**00 26 09.3**	**-1.3**
AAGR				IAML		00 27 05.9	
	comp=Z,158nm,0.5s						
ASAL	**Salagasta**	**3.23**	**65**	*e*P	**Pb**	**00 26 11.8**	**-1.9**
ASAL				IAML		00 27 07.6	
	comp=Z,129nm,1.4s						
RFA	**San Rafael**	**3.27**	**105**	*e*P	**Pb**	**00 26 11.7**	**-2.5**
RFA				IAML		00 27 03.5	
	comp=Z,180nm,1.5s						
RTLS	**Leoncito**	**3.35**	**50**	*e*P	**Pn**	**00 26 12.1**	**+3.3**
RTLS				IAML		00 27 07.1	
	comp=Z,412nm,0.9s						
CO03	**El Pedregal**	**3.44**	**24↓**	*i*P	**Pn**	**00 26 10.7**	**+0.8**
ACCO	**Cerro Coronel**	**4.37**	**40**	*e*P	**Pn**	**00 26 26.1**	**+3.2**
ACCO				IAML		00 27 44.9	
	comp=Z,127nm,0.8s						
AROD	**Rodeo**	**4.52**	**33**	*e*P	**Pn**	**00 26 27.9**	**+3.0**
H03S1	**Juan Fernandez**	**5.49**	**270**	T	T	00 32 14.2	
	baz=89,slow=75						
H03S3	**Juan Fernandez**	**5.49**	**270**	T	T	00 32 13.0	
	baz=89,slow=75						
H03S2	**Juan Fernandez**	**5.51**	**270**	T	T	00 32 12.5	
	baz=89,slow=75						
H03N1	**Juan Fernandez**	**5.53**	**274**	T	T	00 32 51.3	
	baz=97,slow=74						
H03N3	**Juan Fernandez**	**5.54**	**274**	T	T	00 32 51.5	
	baz=97,slow=74						
H03N2	**Juan Fernandez**	**5.55**	**274**	T	T	00 32 57.5	
	baz=97,slow=74						
MRA	**San Martin**	**5.74**	**76**	*i* P	**Pn**	**00 26 45.1**	**+3.6**
MRA				IAML		00 28 22.0	
	comp=Z,35nm,0.2s						
APLL	**PUNTA DE LOS L**	**6.08**	**55**	*i* P	Pn	00 26 51.1	+5.1
PLCA	**Paso Flores**	**6.86**	**169**	Pn	**Pn**	**00 26 58.4**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=332,slow=12,SNR=7.1						
PLCA				Lg	Lg	00 28 37.3	
	baz=264,slow=17,SNR=1.6						

CPUP	**Villa Florida**	**15.03**	**63**	Pn	**Pn**		**00 28 44.4**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=2.2							
CPUP				Lg	Lg		00 32 46.6	
	comp=Z,0.2nm,0.3s,baz=303,slow=9.9,SNR=3.8							
CPUP				LR	LR		00 34 35.5	
	comp=Z,160nm,19.2s,baz=298,slow=38							
LPAZ	**La Paz**	**18.04**	**13**	P	**P**		**00 29 28.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=185,slow=8.5,SNR=6.4							
SIV	**San Ignacio**	**20.59**	**32**	P	**P**		**00 29 55.0**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=230,slow=17,SNR=5.7							
RPN	**Rapa Nui**	**32.48**	**272**	P	P		00 31 52.7	+5.9
	comp=Z,54nm,0.3s,baz=108,slow=2.6,SNR=7.1							
TXAR	**Lajitas Array**	**69.63**	**331**	P	P		00 36 31.4	+5.7
	comp=Z,0.3nm,0.7s,baz=154,slow=7.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**		**00 37 49.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=270,slow=5.8,SNR=5.4							
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc	**PKiKP**		**00 45 16.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=270,slow=1.4,SNR=2.1							
MKAR	**Makanchi Array**	**156.93**	**49**	PKPab	**PKPab**		**00 45 41.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=292,slow=2.8,SNR=2.7							

IDC 24 00:35:57.7±1.6,23°80S×70°47E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.5/47,mbtmp3.8/4,MS3.6/2,Ms1 3.5/2, ms1mx3.0/39,Error ellipse: s-maj=72.9km s-min=26.1km az=29.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.18**	**7**	T	T	00 58 02.1	
	baz=188,slow=76						
H08S2	**Diego Garcia H**	**16.18**	**7**	T	T	00 58 14.2	
	baz=188,slow=76						
H08S3	**Diego Garcia H**	**16.20**	**7**	T	T	00 58 08.3	
	baz=188,slow=76						
H01W2	**Cape Leeuwin H**	**39.36**	**117**	T	T	01 25 27.2	
	baz=271,slow=75						
H01W3	**Cape Leeuwin H**	**39.36**	**116**	T	T	01 25 16.4	
	baz=271,slow=75						
H01W1	**Cape Leeuwin H**	**39.38**	**117**	T	T	01 25 18.6	
	baz=271,slow=75						
BOSA	**Boshof**	**40.67**	**253**	LR	LR	00 55 51.7	
	comp=Z,97nm,19.8s,baz=2.5,slow=29						
ASAR	**Alice Springs**	**57.61**	**104**	P	P	00 45 49.6	-0.3
	1.2nm,0.7s,baz=249,slow=6.1,SNR=12						
WRA	**Warramunga Arr**	**58.97**	**100**	P	P	00 45 59.7	+0.3
	2.2nm,0.8s,baz=255,slow=7.0,SNR=8.9						
WRA				LR	LR	01 08 45.9	
	comp=Z,36nm,19.1s,baz=265,slow=33						
MKAR	**Makanchi Array**	**71.07**	**9**	P	P	00 47 16.9	-0.5
	0.4nm,0.6s,baz=185,slow=7.9,SNR=4.3						
BRTR	**Keskin Array B**	**71.94**	**331**	P	P	00 47 23.8	+0.7
	1.3nm,1.1s,baz=146,slow=8.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.56**	**291**	P	P	00 47 50.2	-0.2
	80nm,0.6s,baz=103,slow=4.6,SNR=3.4						

*MAN **24** 00:38:50.8,6.42N×123.80E,h1km,mb4.9,ML3.8,MS3.8*
*IDC **24** 00:38:51.0±1.0,6.20N×123.70E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.6/39,mbtmp3.7/7,ML4.4/1,MS3.1/2, Ms1 3.1/2,ms1mx2.7/38,Error ellipse: s-maj=27.6km s-min=19.1km az=76.0*
*NEIC **24** 00:38:55.8±2.4,6.19N±0.08×123.69E±0.06,h35km±2km, mb4.1/10,Error ellipse: s-maj=16.0km s-min=4.6km az=144.0*
ISC 24 00:38:52.0±0.7,6°36N±0'.05×123°79E±0'.05,h10km,n30, σ1°44/34,mb3.7/9,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.77**	**78**	*e*P	**Pg**	**00 39 05.1**	**-1.7**
SKMP				*e*S	**Sg**	**00 39 11.8**	**-5.0**
KCP	**Kidapawan**	**1.44**	**63↑**	*i*P	**Pn**	**00 39 18.6**	**+0.3**
PAGZ	**Pagadian**	**1.53**	**345**	*e*P	**Pn**	**00 39 18.1**	**-1.4**
PAGZ				*e*S	**Sn**	**00 39 38.7**	**-0.8**
DAV	**Davao City (W)**	**1.91**	**68**	Pn	**Pb**	**00 39 26.8**	**-0.2**
	132nm,0.3s,baz=308,slow=1.9,SNR=11						
DAV				Sn	**Sg**	**00 39 55.0**	**+1.5**
	58nm,0.3s,baz=270,slow=23,SNR=8.2						
DAV				LR	LR	00 40 20.0	
	comp=Z,590nm,19.2s,baz=202,slow=43						
DAV	**Davao City (W)**	**1.91**	**68**		**Pb**	**00 39 27.2**	**+0.2**
DDMP	**Don Marcelino,**	**1.93**	**97**	*e*P	**Pn**	**00 39 24.9**	**0.0**
DDMP				*e*S	**Sb**	**00 39 52.0**	**+0.7**
BUKP	**Musuan**	**1.97**	**40**	*e*P	**Pn**	**00 39 24.1**	**-1.5**
BUKP				*e*S	**Sb**	**00 39 54.4**	**+1.8**
CGP	**Cagayan de Oro**	**2.27**	**23↓**	*e*P	**Pb**	**00 39 32.6**	**-0.5**
CGP				*e*S	**Sb**	**00 40 02.6**	**+1.4**
MATI	**Mati**	**2.52**	**76**	*e*P	**Pn**	**00 39 33.9**	**+0.9**
MATI				*e*S	**Sn**	**00 40 04.9**	**+1.0**
MYLDM	**Lahad Datu**	**5.39**	**258**	Pn	**Pn**	**00 40 11.2**	**-1.4**
TNTI	**Ternate**	**6.60**	**147**	Pn	**Pn**	**00 40 28.1**	**-1.1**
MTN	**Manton Dam**	**20.43**	**159**	P	**P**	**00 43 29.9**	**+0.3**
MTN				IAmb	IAmb	00 43 36.9	
	comp=Z,9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.37**	**176**	P	**P**	**00 44 10.7**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=8.1,slow=14,SNR=2.5						
WB0	**Warramunga Arr**	**27.98**	**158**	P	**P**	**00 44 42.5**	**-0.7**
WB0				IAmb	IAmb	00 44 46.5	
	comp=Z,3.6nm,1.0s						
WRA	**Warramunga Arr**	**28.12**	**159**	P	**P**	**00 44 43.4**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=334,slow=10.0,SNR=8.1						
WRA	**Warramunga Arr**	**28.12**	**159**	IAmb	IAmb	00 44 48.8	
	comp=Z,0.2nm,1.1s						
WB2	**Warramunga Arr**	**28.13**	**159**	P	**P**	**00 44 43.6**	**-0.9**
WC3	**Warramunga Arr**	**28.15**	**159**	P	**P**	**00 44 43.9**	**-0.7**
KSRS	**Korea Array**	**31.18**	**6**	LR	LR	00 57 29.0	
	comp=Z,22nm,21.7s,baz=105,slow=36						
ASAR	**Alice Springs**	**31.43**	**162**	P	**P**	**00 45 12.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=334,slow=7.2,SNR=7.7						
ASAR	**Alice Springs**	**31.43**	**162**	P	**P**	**00 45 13.1**	**-0.7**
BBOO	**Buckleboo**	**40.66**	**164**	P	**P**	**00 46 31.3**	**-1.3**
BBOO				IAmb	IAmb	00 46 44.9	
	comp=Z,4.5nm,0.9s						
STKA	**Stephens Creek**	**41.64**	**157**	P	**P**	**00 46 40.8**	**+0.1**
SONM	**Songino Array**	**43.92**	**343**	P	**P**	**00 46 59.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=156,slow=11,SNR=2.4						
SONM	**Songino Array**	**43.92**	**343**	IAmb	IAmb	00 47 05.4	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**53.74**	**326**	P	**P**	**00 48 15.8**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=106,slow=9.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**56.94**	**334**	P	**P**	**00 48 39.6**	**+2.2**
	comp=Z,0.6nm,0.5s,baz=125,slow=7.6,SNR=3.8						
RDOG	**Red Dog Mine**	**77.92**	**22**	P	**P**	**00 50 49.9**	**0.0**
SKT	**Skwentna**	**81.92**	**28**	P	**P**	**00 51 14.3**	**+2.5**
SKT				IAmb	IAmb	00 51 32.3	
	comp=Z,1.6nm,0.7s						
CNPM	**China Poot**	**82.01**	**31**	P	**P**	**00 51 12.0**	**-0.2**

*IDC **24** 00:40:09.4±5.9,20.75S×177.78W,h490km±71km, mb3.3/11,mb1 3.6/12,mb1mx3.4/34,mbtmp4.2/12,Error ellipse: s-maj=41.4km s-min=20.3km az=172.0*
*NEIC **24** 00:40:10.8±1.8,20.6S±0.1×177.9W±0.1,h497km±9km, mb4.3/25,Error ellipse: s-maj=20.3km s-min=15.8km az=129.0*
ISC 24 00:40:10.9±0.5,20°58S±0'.09×177°86W±0'.10,h500km, n45,σ1°28/43,mb3.9/21,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**306**	P	**P**	**00 41 38.7**	**+2.5**
NIUE	**Niue**	**7.62**	**80**	P	**P**	**00 42 03.0**	**-0.4**
RAO	**Raoul Island**	**8.63**	**180**	P	**P**	**00 42 13.6**	**-0.2**
AFI	**Afiamalu**	**8.82**	**42**	P	**P**	**00 42 12.8**	**-3.2**
DZM	**Mont Dzumac**	**14.70**	**261**	P	**P**	**00 43 15.7**	**-2.4**
URZ	**Urewera**	**18.14**	**193**	P	**P**	**00 43 50.4**	**-2.0**
	2.3nm,0.3s,baz=260,slow=3.9,SNR=9.7						
URZ	**Urewera**	**18.14**	**193**	IAmb	IAmb	00 43 53.7	
	comp=Z,8.1nm,0.9s						
BKZ	**Black Stump Fm**	**19.15**	**193**	P	**P**	**00 44 01.1**	**-0.5**
BKZ				IAmb	IAmb	00 44 05.5	
	comp=Z,21nm,1.1s						
QRZ	**Quartz Range**	**21.77**	**200**	P	**P**	**00 44 25.4**	**0.0**
NNZ	**Nelson**	**21.88**	**198**	P	**P**	**00 44 26.5**	**+0.2**
THZ	**Tophouse**	**22.52**	**198**	P	**P**	**00 44 32.3**	**+0.2**
LTZ	**Lake Taylor**	**23.64**	**198**	P	**P**	**00 44 40.8**	**-1.4**
LTZ				IAmb	IAmb	00 44 48.2	
	comp=Z,24nm,1.1s						
MLZ	**Mavora Lakes**	**27.29**	**202**	P	**P**	**00 45 14.5**	**+0.1**
WHZ	**Wether Hill Ro**	**27.81**	**202**	P	**P**	**00 45 19.5**	**+0.6**
WHZ				IAmb	IAmb	00 45 32.0	
	comp=Z,28nm,1.2s						
STKA	**Stephens Creek**	**37.87**	**244**	P	**P**	**00 46 41.8**	**-2.8**

	comp=Z,3.6nm,0.8s,baz=122,slow=9.5,SNR=7.7							
BBOO	**Buckleboo**	**42.63**	**244**	P	**P**		**00 47 23.4**	**+0.7**
BBOO				IAmb	IAmb		00 47 27.0	
	comp=Z,4.1nm,1.1s							
WR0	**Warramunga Arr**	**44.53**	**262**	P	**P**		**00 47 39.0**	**+1.3**
WR0				IAmb	IAmb		00 47 55.9	
	comp=Z,3.7nm,1.1s							
AS31	**Alice Springs**	**44.62**	**257**	P	**P**		**00 47 39.8**	**+1.3**
ASAR	**Alice Springs**	**44.63**	**257**	P	**P**		**00 47 38.0**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=99,slow=7.7,SNR=11							
WB0	**Warramunga Arr**	**44.70**	**262**	P	**P**		**00 47 39.2**	**+0.1**
WB0				IAmb	IAmb		00 47 41.3	
	comp=Z,4.1nm,1.1s							
WB2	**Warramunga Arr**	**44.71**	**262**	P	**P**		**00 47 39.6**	**+0.5**
WRA	**Warramunga Arr**	**44.72**	**262**	P	**P**		**00 47 39.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.5,SNR=25							
FORT	**Forrest**	**49.38**	**247**	P	**P**		**00 48 14.6**	**+0.4**
FORT				IAmb	IAmb		00 48 22.7	
	comp=Z,8.1nm,1.1s							
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**		**00 48 41.9**	**+0.1**
	comp=Z,2.3nm,1.1s,baz=68,slow=5.4,SNR=2.4							
QSPA	**South Pole Qui**	**69.49**	**180**	P	**P**		**00 50 30.4**	**+2.0**
ADK	**Adak**	**72.16**	**1**	P	**P**		**00 50 43.2**	**-0.9**
PEA0B	**Petropavlovsk-**	**76.38**	**345**	P	**P**		**00 51 08.7**	**+0.7**
PEA0B				IAmb	IAmb		00 51 09.4	
	comp=Z,22nm,1.0s							
PETK	**Petropavlovsk-**	**76.38**	**345**	P	**P**		**00 51 07.4**	**-0.6**
	comp=Z,6.5nm,0.9s,baz=142,slow=7.3,SNR=5.3							
SDPT	**Sand Point**	**77.07**	**10**	P	**P**		**00 51 12.7**	**+1.1**
USRK	**Ussuriysk Ar.**	**79.11**	**326**	P	**P**		**00 51 24.3**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=155,slow=6.5,SNR=4.5							
OMMB	**Old Mammoth Mi**	**80.08**	**44**	P	**P**		**00 51 31.0**	**+2.3**
OMMB				IAmb	IAmb		00 51 36.6	
	comp=Z,13nm,0.5s							
YBH	**Yreka Blue Hor**	**80.27**	**39**	P	**P**		**00 51 30.4**	**+1.1**
NVAR	**Mina Array Bea**	**81.00**	**43**	P	**P**		**00 51 33.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=228,slow=9.4,SNR=7.3							
PAHR	**Pah Rah Range**	**81.05**	**42**	P	**P**		**00 51 33.9**	**+0.4**
K05A	**Summer Lake**	**81.95**	**39**	P	**P**		**00 51 39.3**	**+1.2**
K05A				IAmb	IAmb		00 51 39.3	
	comp=Z,8.2nm,1.1s							
PINE	**Pine Mountain**	**82.57**	**38**	P	**P**		**00 51 40.7**	**-0.5**
PINE				IAmb	IAmb		00 51 43.2	
	comp=Z,4.8nm,0.8s							
SUA	**Susitna One**	**84.61**	**13**	P	**P**		**00 51 50.7**	**-0.1**
TXAR	**Lajitas Array**	**86.99**	**57**	P	**P**		**00 52 03.9**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=213,slow=6.5,SNR=7.7							
TXAR	**Lajitas Array**	**86.99**	**57**	P	**P**		**00 52 02.7**	**-0.3**
ILAR	**Eielson Array**	**88.37**	**13**	P	**P**		**00 52 07.0**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=214,slow=5.9,SNR=6.1							
PDAR	**Pinedale Array**	**88.93**	**43**	P	**P**		**00 52 11.0**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=212,slow=2.7,SNR=5.3							
CMAR	**Chiang Mai Arr**	**90.27**	**290**	P	**P**		**00 52 20.0**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=108,slow=2.9,SNR=7.7							
AKASG	**Malin Array Be**	**143.15**	**331**	PKP	PKPab		00 58 44.5	-0.5
	comp=Z,1.7nm,0.4s,baz=44,slow=4.6,SNR=10							
BRTR	**Keskin Array B**	**146.99**	**312**	PKPbc	**PKPbc**		**00 58 56.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=133,slow=4.1,SNR=4.6							
GERES	**GERESS Array B**	**150.31**	**344**	PKPbc	**PKPbc**		**00 59 04.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=75,slow=5.2,SNR=3.2							

*TEH **24** 00:42:47.9,27.98N×53.47E,h5km,ML2.9*
*OMAN **24** 00:42:53.9±1.2,27.66N×53.28E,h34km,mb4.9/2,ml3.2/7, ms3.0/2,Error ellipse: s-maj=50.4km s-min=20.1km az=292.0*
ISC 24 00:42:48.6±0.9,27°88N±0'.05×53°50E±0'.06,h10km,n33, σ2°38/47,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.61**	**209**	*e*Sg	**Sn**	**00 43 13.2**	**0.0**
LMD1				*e*Pg	**Pb**	**00 43 02.0**	**+0.6**
L

baz=316,slow=21,SNR=4.5
STKA Stephens Creek 29.32 145 LR LR 01 12 13.7
comp=Z,58nm,19.6s,baz=205,slow=42
MKAR Makanchi Array 65.60 331 P **P** **01 02 05.1 -0.2**
0.2nm,0.4s,baz=144,slow=7.5,SNR=5.9
ZALV Zalesovo Beam 69.84 337 P **P** **01 02 30.8 -0.7**
0.6nm,0.4s,baz=146,slow=7.5,SNR=3.0

IDC ***24*** *00:58:46.7±0.6,33.96S×72.08W,h0km,mb4.3/12, mb1 4.4/15,mb1mx4.2/34,mbtmp4.2/15,ML4.1/3,MS3.7/4, Ms1 3.6/4,ms1mx3.3/20,Error ellipse: s-maj=25.4km s-min=14.5km az=93.0*
SJA ***24*** *00:58:47.0±0.5,33.99S×72.35W,h10km±5km,ML4.5, MW4.3*
NEIC ***24*** *00:58:47.7,34.02S×72.31W,h21km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr1.57; Mθθ-0.37; Mφφ-1.20; Mrθ0.22; Mrφ-0.23; Mθφ-3.43; Fault plane solution: M0 3.73000×10^15 NP1:φs177.86000°, δ79.10000°,λ85.79000°. NP2:φs19.12000°,δ11.68000°, λ110.85000°. Principal axes: T 3.9084, Plg56.0000°, Azm83.0000°; N -0.3956, Plg4.0000°, Azm179.0000°; P -3.5128, Plg34.0000°, Azm271.0000°;*
VAO ***24*** *00:58:48.7±0.4,33.98S×72.11W,h10km, mb4.7*
NEIC ***24*** *00:58:49.0±1.6,33.99S±0.04×72.34W±0.07,h18km±4km, mb4.6/19,Mwr4.3/37,ML4.1(GUC),Error ellipse: s-maj=8.9km s-min=5.1km az=93.0*
GUC ***24*** *00:58:49.3±0.6,34.01S×72.31W,h33km±3km,ML4.2*
ISC 24 00:58:46.7±1.5,33.98S±0.03×72.34W±0.05,h3km±9km, n150,σ1♀22/156,mb4.6/18,7C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.08**	**162**	⇓*i*P		**Pg**	**00 59 08.0**	**+0.6**
GO05				*i* S		**Sg**	**00 59 22.0**	**+0.5**
GO05				IAML			00 59 24.3	
	comp=E,19μm,0.4s							
GO05	**Huala**	**1.08**	**162**			**Pg**	**00 59 08.0**	**+0.6**
GO05	**Huala**	**1.08**	**162**	*e*P		**Pg**	**00 59 07.8**	**+0.4**
GO05				*e*S		**Sb**	**00 59 22.7**	**+0.1**
VA01	**Torpederas**	**1.11**	**31**	⇑*i*P		**Pn**	**00 59 09.4**	**+0.2**
VA01				*i* S		**Sb**	**00 59 24.4**	**+0.9**
VA01				IAML			00 59 32.6	
	comp=N,3μm,0.6s							
VA01	**Torpederas**	**1.11**	**31**			**Pb**	**00 59 09.2**	**+0.6**
MT02	**Curacav**	**1.23**	**55**	*e*P		**Pn**	**00 59 11.0**	**+0.1**
MT02				*i* S		**Sg**	**00 59 25.4**	**-0.8**
MT02				IAML			00 59 34.4	
	comp=E,5μm,0.3s							
MT02	**Curacav**	**1.23**	**55**			**Pn**	**00 59 11.0**	**+0.1**
MT05	**Renca**	**1.46**	**67**	⇓*i*P		**Pn**	**00 59 14.4**	**+0.5**
MT05				*i* S		**Sn**	**00 59 33.2**	**-0.4**
MT05				IAML			00 59 44.1	
	comp=E,6μm,0.5s							
MT05	**Renca**	**1.46**	**67**			**Pn**	**00 59 14.5**	**+0.5**
ROC1	**El Roble**	**1.49**	**48**			**Pn**	**00 59 15.3**	**+0.7**
ROC1	**El Roble**	**1.49**	**48**	*e*P		**Pb**	**00 59 15.5**	**+0.3**
ROCH	**El Roble**	**1.50**	**48**	⇑*i*P		**Pn**	**00 59 15.3**	**+0.6**
ROCH				*i* S		**Sb**	**00 59 35.6**	**+0.8**
ROCH				IAML			00 59 49.9	
	comp=N,11μm,0.5s							
BO02	**Sierra Bellavi**	**1.52**	**123**	⇑*i*P		**Pn**	**00 59 14.8**	**-0.1**
BO02				*i* S		**Sn**	**00 59 34.8**	**-0.5**
BO02	**Sierra Bellavi**	**1.52**	**123**			**Pn**	**00 59 14.4**	**-0.5**
MT03	**Universidad Ad**	**1.60**	**73**	⇓*i*P		**Pn**	**00 59 16.7**	**+0.7**
MT03				*i* S		**Sn**	**00 59 37.3**	**+0.1**
MT03				IAML			00 59 52.5	
	comp=E,5μm,0.3s							
PEL	**Peldehue**	**1.61**	**59**	*e*P		**Pn**	**00 59 16.8**	**+0.7**
PEL				*i* S		**Sn**	**00 59 37.7**	**+0.3**
PEL				IAML			00 59 49.4	
	comp=N,4μm,0.6s							
PEL	**Peldehue**	**1.61**	**59**			**Pb**	**00 59 17.2**	**+0.1**
PEL	**Peldehue**	**1.61**	**59**	*e*P		**Pb**	**00 59 17.5**	**+0.3**
LMEL	**Las Melosas**	**1.78**	**86**	⇓*i*P		**Pn**	**00 59 19.5**	**+1.0**
LMEL				IAML			00 59 46.9	
	comp=N,3μm,0.3s							
VA03	**San Esteban**	**1.92**	**51**	⇑*i*P		**Pn**	**00 59 21.6**	**+1.2**
VA03				*i* S		**Sb**	**00 59 46.9**	**-0.1**
VA03	**San Esteban**	**1.92**	**51**			**Pn**	**00 59 21.6**	**+1.2**
LAMA	**Las Malvinas**	**2.75**	**111**	*i* P		**Pb**	**00 59 35.6**	**-1.0**
BI02	**San Fabin de**	**2.81**	**162**	⇑*i*P		**Pn**	**00 59 33.5**	**+0.8**
BI02				IAML			01 00 24.3	
	comp=N,1μm,0.7s							
BI02	**San Fabin de**	**2.81**	**162**	Pn		**Pn**	**00 59 33.5**	**+0.8**
PUMA	**Malargue**	**2.82**	**123**	*i* P		**Pb**	**00 59 37.5**	**-0.2**
BI03	**Tigo**	**2.91**	**191**	*e*P		**Pn**	**00 59 33.4**	**-0.6**
BI03	**Tigo**	**2.91**	**191**			**Pn**	**00 59 33.0**	**+0.6**
CO02	**Combarbal**	**2.99**	**23**	⇑*i*P		**Pn**	**00 59 35.7**	**+0.6**
CO02	**Combarbal**	**2.99**	**23**	Pn		**Pn**	**00 59 35.8**	**+0.6**
EDS3	**Malargue**	**3.00**	**127**	*i* P		**Pb**	**00 59 40.1**	**-0.8**
AUSP	**Uspallata**	**3.03**	**56**	*e*P		**Pb**	**00 59 39.4**	**-2.2**
AAGR	**Agrelo**	**3.06**	**74**	*i* P		**Pb**	**00 59 41.5**	**-0.4**
ARCO	**CERRO ARCO**	**3.06**	**69**	*i* P		**Pb**	**00 59 42.1**	**+0.1**
ASAL	**Salagasta**	**3.24**	**66**	*e*P		**Pb**	**00 59 42.4**	**-2.6**
ASAL				IAML			01 00 40.1	
	comp=Z,760nm,1.2s							
RFA	**San Rafael**	**3.30**	**105**	*i* P		**Pb**	**00 59 43.2**	**-2.7**
RTLS	**Leoncito**	**3.36**	**50**	*e*P		**Pn**	**00 59 43.5**	**+3.1**
RTLS				IAML			01 00 38.8	
	comp=Z,1μm,0.9s							
CO03	**El Pedregal**	**3.43**	**24**	⇑*i*P		**Pn**	**00 59 42.0**	**+0.8**
CO03	**El Pedregal**	**3.43**	**24**	Pn		**Pn**	**00 59 41.9**	**+0.8**
RTCV	**Cerro Valdivia**	**3.83**	**58**	*e*P		**Pn**	**00 59 49.6**	**+2.9**
RTCV				IAML			01 00 46.4	
	comp=Z,331nm,1.6s							
ZON	**Zonda**	**3.92**	**53**			**Pn**	**00 59 49.6**	**+1.6**
ZON	**Zonda**	**3.92**	**53**	*i* P		**Pn**	**00 59 52.0**	**+4.0**
GO04	**Tololo Observa**	**4.01**	**19**			**Pn**	**00 59 49.9**	**+0.5**
GO04	**Tololo Observa**	**4.01**	**19**	*e*P		**Pn**	**00 59 49.8**	**+0.5**
RTLL	**Cerro Villicun**	**4.19**	**52**	*i* P		**Pn**	**00 59 54.4**	**+2.7**
RTLL				*e*P		**Pn**	**00 59 54.7**	**+3.0**
RTLL				IAML			01 01 04.3	
	comp=Z,669nm,0.7s							
ACCO	**Cerro Coronel**	**4.37**	**40**	*e*P		**Pn**	**00 59 57.4**	**+3.0**
ACCO				IAML			01 01 16.0	
	comp=Z,453nm,0.7s							
CO01	**Juntas del Tor**	**4.42**	**26**			**Pn**	**00 59 56.4**	**+1.4**
AROD	**Rodeo**	**4.51**	**33**	*e*P		**Pn**	**00 59 59.4**	**+3.1**
ACDV	**Cuesta del Vie**	**4.68**	**37**	*i* P		**Pn**	**01 00 01.5**	**+3.1**
LC01	**Cunco**	**4.92**	**176**	Pn		**Pn**	**01 00 02.0**	**+0.4**
LCO	**Las Campanas**	**5.15**	**16**	Pn		**Pn**	**01 00 05.0**	**0.0**
VA04	**Juan Fernndez**	**5.42**	**272**	Pn		**Pn**	**01 00 08.4**	**0.0**
AC05	**El Transito**	**5.42**	**20**	Pn		**Pn**	**01 00 09.3**	**+0.7**
H03S1	**Juan Fernandez** baz=89,slow=74	**5.46**	**270**	T		T	01 05 29.2	
H03S3	**Juan Fernandez** baz=89,slow=74	**5.47**	**270**	T		T	01 05 32.6	
H03S2	**Juan Fernandez** baz=89,slow=74	**5.48**	**270**	T		T	01 05 31.7	
H03N1	**Juan Fernandez** baz=89,slow=73	**5.51**	**274**	T		T	01 05 49.0	
H03N3	**Juan Fernandez** baz=89,slow=73	**5.52**	**274**	T		T	01 05 40.4	
H03N2	**Juan Fernandez** baz=89,slow=73	**5.53**	**274**	T		T	01 05 41.8	
MRA	**San Martin**	**5.76**	**76**	*i* P		**Pn**	**01 00 15.2**	**+2.0**
AC04	**Llanos de Chal**	**5.86**	**11**	Pn		**Pn**	**01 00 13.7**	**-0.8**
APLL	**PUNTA DE LOS L**	**6.08**	**56**	*i* P		**Pn**	**01 00 18.0**	**+0.4**
VCA	**Vinchina**	**6.31**	**35**	*i* P		**Pn**	**01 00 22.8**	**+1.9**
VCA				*e*P		**Pn**	**01 00 22.9**	**+2.1**
VCA				IAML			01 02 23.6	
	comp=Z,313nm,0.9s							
ACLC	**CERRO LA CRUZ**	**6.45**	**47**	*i* P		**Pn**	**01 00 23.3**	**+0.5**
PLCA	**Paso Flores**	**6.89**	**169**	Pn		**Pn**	**01 00 29.6**	**+0.9**
PLCA	comp=Z,1.1nm,0.3s,baz=330,slow=11,SNR=13			Lg		Lg	01 02 21.6	
PLCA	comp=Z,0.5nm,0.3s,baz=272,slow=18,SNR=2.6			LR		LR	01 02 49.8	
	comp=Z,148nm,19.9s,baz=347,slow=35							
PLCA	**Paso Flores**	**6.89**	**169**	Pn		**Pn**	**01 00 29.4**	**+0.6**
PLCA	**Paso Flores**	**6.89**	**169**	*e*P		**Pn**	**01 00 29.3**	**+0.6**
TCA	**Tanti**	**7.04**	**70**	*i* P		**Pn**	**01 00 30.7**	**-0.1**
AC01	**Pan de Azucar**	**7.95**	**11**	Pn		**Pn**	**01 00 44.0**	**+0.7**
LL01	**San Ignacio de**	**8.39**	**180**	Pn		**Pn**	**01 00 49.7**	**+0.5**
GO02	**Mina Guanaco**	**9.11**	**16**	Pn		**Pn**	**01 00 58.2**	**-1.1**
PB14	**IPOC Station P**	**9.47**	**11**	Pn		**Pn**	**01 01 04.6**	**+0.2**
PB15	**IPOC Station P**	**11.02**	**14**	Pn		**Pn**	**01 01 25.2**	**-0.3**
LVC	**Limon Verde**	**11.72**	**16**	Pn		**Pn**	**01 01 31.3**	**-3.9**
	comp=Z,1.0nm,0.3s,baz=210,slow=8.1,SNR=3.4							
LVC				LR		LR	01 06 30.1	
	comp=Z,270nm,18.6s,baz=206,slow=40							
CPUP	**Villa Florida**	**15.04**	**64**	Pn		**Pn**	**01 02 18.9**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=239,slow=12,SNR=2.0							
CPUP				LR		LR	01 08 56.9	
	comp=Z,374nm,18.1s,baz=244,slow=41							
CPUP	**Villa Florida**	**15.04**	**64**	Pn		**Pn**	**01 02 21.6**	**+1.3**
PLTB	**Pedras Altas**	**15.89**	**87**	*e*P		**Pn**	**01 02 30.1**	**-1.4**
LPAZ	**La Paz**	**18.02**	**13**	P		**P**	**01 03 00.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=188,slow=5.9,SNR=40							
LPAZ	**La Paz**	**18.02**	**13**			**P**	**01 02 59.8**	**+0.3**
LPAZ	**La Paz**	**18.02**	**13**	*e*P		**P**	**01 03 00.3**	**+0.7**
ITAB	**Concordia**	**18.63**	**74**	*e*P		**P**	**01 03 04.5**	**-1.0**
PTGB	**Pitanga**	**19.91**	**68**	*e*P		**P**	**01 03 19.7**	**+0.1**
EFI	**East Falkland**	**20.48**	**154**	P		**P**	**01 03 24.7**	**-0.9**
EFI				IAmb		IAmb	01 03 39.5	
	comp=Z,21nm,0.8s							
TRCB	**Terra Rica**	**20.57**	**62**	*e*P		**P**	**01 03 26.4**	**-0.3**
SIV	**San Ignacio**	**20.59**	**32**	P		**P**	**01 03 26.5**	**-0.5**
	comp=Z,11nm,0.7s,baz=222,slow=9.8,SNR=67							
PTLB	**Pontes e Lacer**	**21.96**	**36**	*e*P		**P**	**01 03 42.0**	**+0.2**
PCMB	**Pacaembu**	**22.30**	**62**	*e*P		**P**	**01 03 44.1**	**-1.2**
FRTB	**Fartura**	**22.57**	**68**	*e*P		**P**	**01 03 48.2**	**-0.1**
SPB	**Sao Paulo**	**24.10**	**71**	P		**P**	**01 04 02.8**	**-0.9**
SPB				IAmb		IAmb	01 04 04.5	
	comp=Z,24nm,0.9s							
SPB	**Sao Paulo**	**24.10**	**71**	*e*P		**P**	**01 04 02.8**	**-0.9**
ITRB	**Iturama**	**24.15**	**60**	*e*P		**P**	**01 04 03.3**	**-1.0**
BB19B	**Bebedouro**	**24.65**	**65**	*e*P		**P**	**01 04 07.6**	**-1.2**
ETMB	**Extrema**	**24.70**	**15**	*e*P		**P**	**01 04 10.2**	**+1.0**
ARAG	**Araguaiana, MT**	**25.95**	**51**	*e*P		**P**	**01 04 19.7**	**-0.8**
CZSB	**Cruzeiro do Su**	**26.12**	**359**	*e*P		**P**	**01 04 24.3**	**+2.2**
IPMB	**Ipameri, GO**	**26.81**	**60**	*e*P		**P**	**01 04 28.6**	**+0.2**
CLDB	**Colider**	**27.53**	**37**	*e*P		**P**	**01 04 33.7**	**-1.1**
BDFB	**Brasilia**	**28.53**	**56**	P		**P**	**01 04 41.0**	**-2.8**
	comp=Z,4.9nm,0.7s,baz=230,slow=8.1,SNR=9.6							
BDFB				LR		LR	01 17 09.7	
	comp=Z,375nm,20.4s,baz=257,slow=39							
BDFB	**Brasilia**	**28.53**	**56**	P		**P**	**01 04 41.5**	**-2.4**
BDFB				IAmb		IAmb	01 04 56.3	
	comp=Z,6.2nm,0.8s							
SNDB	**Serra Nova Dou**	**29.12**	**46**	*e*P		**P**	**01 04 48.7**	**-0.3**
NPGB	**Novo Progresso**	**31.06**	**34**	*e*P		**P**	**01 05 05.1**	**-1.0**
PMSA	**Palmer Station**	**31.24**	**173**	*e*P		**P**	**01 05 08.1**	**+0.9**
JANB	**Januaria**	**31.54**	**60**	*e*P		**P**	**01 05 08.6**	**-1.8**
BSFB	**Barra de Sao F**	**31.83**	**70**	*e*P		**P**	**01 05 11.8**	**-1.1**
RIB01	**Linhares ES**	**31.91**	**71**	*e*P		**P**	**01 05 13.3**	**-0.3**
MACA	**Manacapuru-AM**	**32.53**	**22**	*e*P		**P**	**01 05 17.4**	**-1.6**
SDBA	**SAO DESIDERIO**	**32.93**	**56**	*e*P		**P**	**01 05 21.5**	**-1.2**
NAN01	**Guarapari, ES**	**32.95**	**69**	*e*P		**P**	**01 05 21.5**	**-1.2**
ITTB	**Itaituba**	**33.27**	**31**	*e*P		**P**	**01 05 24.6**	**-1.0**
PRPB	**Parauapebas**	**34.65**	**42**	*e*P		**P**	**01 05 36.9**	**-0.7**
PTGA	**Pitinga**	**35.05**	**22**	P		**P**	**01 05 40.5**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=199,slow=10,SNR=11							
PTGA	**Pitinga**	**35.05**	**22**	P		**P**	**01 05 41.1**	**+0.1**
PTGA				IAmb		IAmb	01 05 41.7	
	comp=Z,4.9nm,0.8s							
GDU01	**Guandu, BA**	**35.88**	**64**	*e*P		**P**	**01 05 47.0**	**-1.2**
MALB	**Monte Alegre**	**36.15**	**32**	*e*P		**P**	**01 05 49.9**	**-0.6**
MDP	**Montagnes des**	**43.10**	**29**	P		**P**	**01 06 48.0**	**-0.4**
	comp=Z,9.6nm,0.7s,baz=197,slow=9.2,SNR=10							
RCBR	**Riachuelo**	**43.84**	**59**	P		**P**	**01 06 53.8**	**-0.7**
RCBR				IAmb		IAmb	01 06 56.0	
	comp=Z,16nm,1.0s							
VNA3	**Neumayer Olymp**	**49.47**	**158**	P		**P**	**01 07 38.6**	**+0.7**
VNA1	**Neumayer--Stat**	**49.79**	**157**	P		**P**	**01 07 41.6**	**+1.4**
VNA2	**Neumayer--Watz** baz=286,slow=6.5	**50.13**	**157**	P		**P**	**01 07 43.4**	**+0.5**
SNAA	**Sanae**	**51.70**	**158**	P		**P**	**01 07 55.1**	**+0.4**
SNAA	**Sanae**	**51.70**	**158**	P		**P**	**01 07 55.1**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=267,slow=6.8,SNR=28							
SNAA	**Sanae**	**51.70**	**158**	P		**P**	**01 07 55.0**	**+0.2**
SNAA				IAmb		IAmb	01 08 03.1	
	comp=Z,6.0nm,0.9s							
QSPA	**South Pole Qui**	**56.26**	**180**	P		**P**	**01 08 29.0**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=152,slow=3.2,SNR=5.9							
QSPA	**South Pole Qui**	**56.26**	**180**	P		**P**	**01 08 29.6**	**+1.4**
QSPA				IAmb		IAmb	01 08 39.6	
	comp=Z,5.0nm,0.9s							
TX31	**Lajitas Ar. Si**	**69.60**	**331**	P		**P**	**01 09 57.4**	**+0.1**
TX32	**Lajitas Array**	**69.60**	**331**	P		**P**	**01 09 58.0**	**+0.7**
TX32				IAmb		IAmb	01 10 12.0	
	comp=Z,3.5nm,1.1s							
TXAR	**Lajitas Array**	**69.60**	**331**	P		**P**	**01 09 58.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=155,slow=7.8,SNR=9.7							
TXAR	**Lajitas Array**	**69.60**	**331**	P		**P**	**01 09 57.9**	**+0.6**
WVT	**Waverly**	**71.23**	**347**	P		**P**	**01 10 07.0**	**0.0**
MNTX	**Cornudas Mount**	**72.37**	**331**	P		**P**	**01 10 14.4**	**+0.4**
MAW	**Mawson**	**73.27**	**164**	P		**P**	**01 10 19.3**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=201,slow=6.3,SNR=13							
MAW	**Mawson**	**73.27**	**164**	P		**P**	**01 10 18.9**	**0.0**
CCM	**Cathedral Cave**	**73.80**	**345**	P		**P**	**01 10 23.4**	**+1.1**
LIC	**Lamto**	**75.00**	**72**	*e*P		**P**	**01 10 29.4**	**-0.5**
	comp=Z,3.4nm,0.3s							
TIC	**Toumodi**	**75.26**	**71**	*e*P		**P**	**01 10 33.0**	**+1.6**
KIC	**Kosan Boka**	**75.31**	**72**	*e*P		**P**	**01 10 31.2**	**-0.5**
	comp=Z,11nm,0.7s							
DBIC	**Dimbokro**	**75.41**	**71**	P		**P**	**01 10 31.4**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=159,slow=9.0,SNR=4.7							
DBIC	**Dimbokro**	**75.41**	**71**	IAmb		IAmb	01 10 32.5	
	comp=Z,6.9nm,1.0s							
BOSA	**Boshof**	**80.30**	**118**	P		**P**	**01 10 59.4**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=272,slow=2.3,SNR=11							
BOSA	**Boshof**	**80.30**	**118**	IAmb		IAmb	01 11 07.5	
	comp=Z,9.8nm,1.1s							
KOWA	**Kowa**	**80.85**	**66**	P		**P**	**01 11 02.5**	**+0.1**
KOWA				IAmb		IAmb	01 11 02.9	
	comp=Z,6.3nm,0.6s							
PDAR	**Pinedale Array**	**83.63**	**333**	P		**P**	**01 11 18.6**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=146,slow=6.6,SNR=3.0							
NVAR	**Mina Array Bea**	**83.73**	**325**	P		**P**	**01 11 18.1**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=133,slow=6.3,SNR=3.8							
TOA0	**Torodi Ar. Sit**	**84.44**	**70**	P		**P**	**01 11 21.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P		**P**	**01 11 20.6**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=290,slow=6.7,SNR=34							
WRA	**Warramunga Arr**	**120.66**	**209**	PKP		**PKPdf**	**01 17 40.0**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=171,slow=1.6,SNR=9.1							
BRTR	**Keskin Array B**	**122.04**	**61**	PKP		**PKPdf**	**01 17 41.5**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=146,slow=0.5,SNR=4.3							
AKASG	**Malin Array Be**	**122.36**	**48**	PKP		**PKPdf**	**01 17 41.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=266,slow=2.8,SNR=5.4							
ZALV	**Zalesovo Beam**	**154.34**	**32**	PKPbc		**PKiKP**	**01 18 48.2**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=299,slow=2.8,SNR=26							
ZALV				PKPab		**PKPab**	**01 19 02.1**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=303,slow=5.4,SNR=5.9							
MKAR	**Makanchi Array**	**156.94**	**49**	PKP		**PKPdf**	**01 18 42.2**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=318,slow=1.6,SNR=4.5							
MKAR				PKPab		**PKPab**	**01 19 13.4**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=293,slow=4.0,SNR=12							
SONM	**Songino Array**	**166.12**	**4**	PKPab		**PKPab**	**01 19 53.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=1.9,slow=4.3,SNR=2.7							

VAO ***24*** *01:02:57.1±0.4,21.16S×68.57W,h143km±17km,mb4.2*
IDC ***24*** *01:02:57.4±0.8,21.21S×68.13W,h118km±16km,mb4.0/1, mb1 3.7/4,mb1mx3.3/38,mbtmp4.2/4,Error ellipse: s-maj=35.5km s-min=11.1km az=102.0*
GUC ***24*** *01:02:58.7±0.7,21.22S×68.45W,h128km±4km,ML3.5*
ISC 24 01:02:57.0±0.7,21.20S±0.04×68.49W±0.08,h140km±9km, n36,σ0♀96/54,11C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.91**	**230**	⇑*i*P		**Pn**	**01 03 21.0**	**+0.7**
PB09				*i* S		**Sn**	**01 03 38.0**	**0.0**
PB09				IAML			01 03 41.6	
	comp=E,561nm,0.3s							
PB01	**IPOC Station P**	**0.94**	**280**	⇑*i*P		**Pn**	**01 03 20.5**	**0.0**
PB01				*i* S		**Sn**	**01 03 37.4**	**-0.8**
PB01				IAML			01 03 39.7	
	comp=N,1μm,0.2s							
PB08	**IPOC Station P**	**1.22**	**330**	⇓*i*P		**Pn**	**01 03 24.4**	**+0.9**
PB08				*i* S		**Sn**	**01 03 43.8**	**+0.4**
PB08				IAML			01 03 46.7	
	comp=N,894nm,0.9s							
PB07	**IPOC Station P**	**1.40**	**248**	⇑*i*P		**Pn**	**01 03 25.4**	**+0.5**
PB07				*i* S		**Sn**	**01 03 46.2**	**-0.1**
PB07				IAML			01 03 47.6	
	comp=E,780nm,0.4s							
LVC	**Limon Verde**	**1.45**	**195**	P		**Pn**	**01 03 26.3**	**+0.6**
	comp=E,209nm,0.3s,baz=28,slow=10,SNR=750							
LVC				S		**Sn**	**01 03 47.5**	**-0.2**
	comp=E,36nm,0.3s,baz=164,slow=19,SNR=12							
LVC	**Limon Verde**	**1.45**	**195**	*e*P		**Pn**	**01 03 26.4**	**+0.6**
LVC				*i* S		**Sn**	**01 03 47.7**	**+0.1**
LVC	**Limon Verde**	**1.45**	**195**	*e*P		**Pn**	**01 03 26.5**	**+0.7**
LVC				*e*S		**Sn**	**01 03 48.0**	**+0.3**
PATCX	**Punta Patache**	**1.60**	**283**	*i* P		**Pn**	**01 03 27.8**	**+0.7**
PATCX				*i* S		**Sn**	**01 03 50.2**	**+0.3**
PATCX				IAML			01 03 51.3	
	comp=E,2μm,0.3s							
GO01	**Chusmiza**	**1.66**	**337**	*e*P		**Pn**	**01 03 29.1**	**+1.0**
GO01				*i* S		**Sn**	**01 03 52.2**	**+0.3**
GO01				IAML			01 03 56.9	
	comp=N,473nm,0.1s							
TA01	**Diego Aracena**	**1.70**	**292**	⇑*i*P		**Pn**	**01 03 28.5**	**+0.5**
TA01				*i* S		**Sn**	**01 03 51.6**	**-0.2**
TA01				IAML			01 03 52.4	
	comp=N,2μm,0.2s							
TA02	**Huaiquique**	**1.79**	**301**	⇑*i*P		**Pn**	**01 03 29.6**	**+0.4**
TA02				*i* S		**Sn**	**01 03 53.4**	**-0.3**
TA02				IAML			01 03 54.7	
	comp=N,1μm,0.2s							
PB06	**IPOC Station P**	**1.80**	**214**	⇑*i*P		**Pn**	**01 03 30.0**	**+0.6**
PB06				*i* S		**Sn**	**01 03 53.7**	**-0.5**
PB06				IAML			01 03 55.4	
	comp=E,475nm,0.1s							
PB11	**IPOC Station P**	**1.80**	**323**	⇑*i*P		**Pn**	**01 03 29.9**	**+0.4**
PB11				*i* S		**Sn**	**01 03 53.8**	**-0.4**
PB11				IAML			01 03 55.1	
	comp=N,451nm,0.2s							
PB04	**IPOC Station P**	**1.91**	**234**	⇑*i*P		**Pn**	**01 03 30.9**	**+0.2**
PB04				IAML			01 04 06.2	
	comp=N,400nm,0.3s							
PB15	**IPOC Station P**	**2.19**	**204**	⇑*i*P		**Pn**	**01 03 34.8**	**+0.7**
PB15				*i* S		**Sn**	**01 04 03.1**	**+0.5**
PSGC	**Pisagua**	**2.21**	**316**	⇑*i*P		**Pn**	**01 03 34.3**	**+0.1**
PSGC				*i* S		**Sn**	**01 04 01.5**	**-1.3**
PSGC				IAML			01 04 08.0	
	comp=E,171nm,0.4s							
MNMC	**Minye Minye**	**2.31**	**333**	⇓*i*P		**Pn**	**01 03 36.8**	**+1.2**
MNMC				*i* S		**Sn**	**01 04 06.2**	**+1.0**
MNMC				IAML			01 04 12.5	
PB10	**IPOC Station P**	**2.99**	**219**	⇑*i*P		**Pn**	**01 03 44.4**	**+0.5**
PB10				IAML			01 04 38.5	
	comp=E,61nm,0.2s							
PB16	**IPOC Station P**	**3.01**	**341**	*e*P		**Pn**	**01 03 46.4**	**+1.7**
PB16				*i* S		**Sn**	**01 04 23.6**	**+2.1**
PB16				IAML			01 04 29.4	
	comp=N,39nm,0.4s							
LPAZ	**La Paz**	**4.90**	**4**	P		**Pn**	**01 04 11.4**	**+1.8**
	comp=N,2.3nm,0.3s,baz=200,slow=3.9,SNR=24							
LPAZ				S		**Sn**	**01 05 05.7**	**-0.3**
	baz=219,slow=11,SNR=1.2							
SIV	**San Ignacio**	**8.74**	**55**	P		**Pn**	**01 04 56.9**	**-3.5**
	comp=N,5.3nm,0.3s,baz=258,slow=9.7,SNR=36							
TRCB	**Terra Rica**	**14.80**	**99**	*e*P		**P**	**01 06 21.

comp=Z,0.9nm,0.8s,baz=220,slow=6.4,SNR=13
IL31 **86.57 13** P **P** **01 28 29.8 -0.6**
ILAR Eielson Array **86.57 13** P **P** **01 28 29.4 -1.1**
comp=Z,1.0nm,0.9s,baz=226,slow=4.8,SNR=5.1
XAN Xi'an **87.20 307** P **P** **01 28 34.3 +0.1**
PD31 Pinedale Array **87.58 43** P **P** **01 28 35.5 -0.5**
PDAR Pinedale Array **87.58 43** P **P** **01 28 35.8 -0.2**
comp=Z,0.3nm,0.5s,baz=245,slow=1.5,SNR=2.8
SNAA Sanae **89.75 178** P **P** **01 28 45.0 -0.5**
SNAA Sanae **89.75 178** P **P** **01 28 44.6 -0.9**
comp=Z,0.6nm,0.5s,baz=214,slow=9.9,SNR=6.4
VNA3 Neumayer Olymp **89.88 176** P **P** **01 28 45.8 -0.2**
VNA2 Neumayer--Watz **90.32 177** P **P** **01 28 48.4 +0.3**
baz=177,slow=4.6
VNA1 Neumayer--Stat **90.55 177** P **P** **01 28 49.5 +0.4**
AC04 Llanos de Chal **95.22 122** P **P** **01 29 10.5 -0.9**
ARCES ARCESS Array B **127.23 350** PKP **PKPdf** **01 34 47.6 -0.2**
comp=Z,5.3nm,1.0s,baz=40,slow=1.5,SNR=4.5
FINES FINESS Array B **134.13 344** PKP **PKPdf** **01 35 01.4 +0.3**
comp=Z,5.5nm,1.0s,baz=252,slow=2.8,SNR=2.5
AKASG Malin Array Be **141.55 332** PKhKP PKPpre 01 35 09.7
comp=Z,1.7nm,0.5s,baz=41,slow=4.1,SNR=14
AKASG PKP **PKPdf** **01 35 16.2 +1.2**
comp=Z,0.5nm,0.5s,baz=137,slow=5.1,SNR=5.3
AKASG Malin Array Be **141.55 332** **PKPdf** **01 35 14.7 -0.3**
SORM Soroca **143.78 330** ⇑P PKPab 01 35 17.5 -0.4
GAZ Gaziantep **144.28 308** **PKPab** **01 35 20.5 +0.2**
MILM Milestii Mici **144.40 328** ⇓P PKPbc 01 35 19.7 -0.2
KWP Kalwaria Pacla **145.05 337** PKPdf **PKPab** **01 35 22.7 0.0**
VASR Vaslui **145.10 329** ⇓P **PKPbc** **01 35 22.6 +0.5**
BIR Birlad **145.45 328** ⇓P **PKPdf** **01 35 22.5 +0.5**
TLCR **145.57 326** ⇑P **PKPbc** **01 35 23.7 +0.2**
BUR08 Bucovina Ar. S **145.59 332** **PKPab** **01 35 24.6 -0.4**
BURAR Bucovina Array **145.60 332** ⇓P **PKPab** **01 35 25.1 +0.1**
BURAR Bucovina Array **145.60 332** PKPbc **PKPab** **01 35 25.0 0.0**
BIZ Bicaz **145.70 330** ⇑P **PKPab** **01 35 24.8 -0.5**
BR131 Keskin Array S **145.76 314** **PKPbc** **01 35 24.5 +0.1**
BRTR Keskin Array B **145.76 314** PKPbc **PKPbc** **01 35 24.5 +0.1**
comp=Z,2.8nm,0.6s,baz=130,slow=4.5,SNR=15
TPGR Topolog **146.00 326** ⇓P **PKPbc** **01 35 25.6 +0.9**
VRI Vrincioaia **146.17 329** ⇑P **PKPbc** **01 35 24.7 -0.5**
OSTC Ostas **146.34 344** *e*PKP **PKPdf** **01 35 21.9 -1.5**
HARR Harsova **146.37 326** ⇓P **PKPbc** **01 35 26.2 +0.5**
GRER **146.39 328** ⇑P **PKPbc** **01 35 27.0 +1.1**
TLBR Topalu **146.40 326** ⇓P **PKPbc** **01 35 26.1 +0.2**
DPC Dobruska-Polom **146.50 344** *e*PKP **PKPbc** **01 35 27.0 +1.0**
DPC *ex* x 01 35 29.9
KRLC Kraliky **146.62 343** *e*PKP **PKPdf** **01 35 25.2 +1.3**
KRLC *ex* x 01 35 27.1
MORC Moravsky Berou **146.67 342** ⇑P **PKPbc** **01 35 27.4 +0.9**
DOPR Dopca **146.75 330** ⇑P **PKiKP** **01 35 28.0 -0.9**
ICOR Ion Corvin **146.82 325** ⇓P **PKPdf** **01 35 20.2 -4.2**
SECR **147.09 328** ⇑P **PKPbc** **01 35 28.7 +0.9**
VRAC Vranov **147.37 342** ⇓P **PKPbc** **01 35 28.2 -0.2**
ARR Arges **147.55 330** ⇓P **PKiKP** **01 35 30.3 -0.3**
LOT Lotru **147.90 331** ⇓P **PKiKP** **01 35 32.4 +1.0**
HUMR Humele **147.99 328** ⇓P **PKPbc** **01 35 29.4 -0.7**
SIRR Siria **148.18 334** ⇓P **PKPbc** **01 35 31.0 +0.4**
LEF Lefka **148.29 307** ⇑P **PKPbc** **01 35 31.3 +0.2**
KHC Kasperske Hory **148.32 346** *e*PKP **PKPdf** **01 35 27.2 +0.5**
KHC *ex* x 01 35 31.6
GEC2 GERESS Array S **148.55 345** PKPbc **PKPbc** **01 35 32.0 +0.5**
GERES GERESS Array B **148.55 345** PKPbc **PKPbc** **01 35 31.7 +0.2**
comp=Z,2.2nm,0.9s,baz=56,slow=2.4,SNR=11
BZS Buzias **148.72 333** ⇑P **PKPbc** **01 35 32.1 +0.2**
CONA Conrad Observa **148.82 342** *e*P **PKiKP** **01 35 33.4 +0.1**
comp=Z,9.2nm,1.1s
HERR Herculane **148.95 332** ⇓P **PKPbc** **01 35 32.5 +0.1**
MDVR Moldovita **149.34 332** ⇑P **PKPbc** **01 35 33.4 -0.1**
WTTA Wattenberg **150.51 347** *e*P **PKPbc** **01 35 36.7 +0.4**
comp=Z,4.9nm,0.8s
SQTA Sankt Quirin **150.65 347** *e*P **PKiKP** **01 35 37.0 -0.1**
comp=Z,2.9nm,0.5s
ABTA Abfaltersbach **150.80 345** *e*P **PKPbc** **01 35 36.7 -0.2**
comp=Z,5.9nm,0.7s
FETA Feichten **150.93 348** *e*P **PKiKP** **01 35 37.7 0.0**
comp=Z,4.9nm,0.9s
FUORN Ofenpass-Fuorn **151.41 348** **PKiKP** **01 35 39.0 +0.2**

*IDC **24** 01:23:27.8±0.8, 15°.86S×67°.85E, h0km, mb3.9/10, mb1 4.1/11,mb1mx3.8/50,mbtmp3.9/11,ML3.7/1, MS4.1/24, Ms1 4.1/24,ms1mx4.0/36,Error ellipse: s-maj=26.2km s-min=19.3km az=4.0*
*NEIC **24** 01:23:30.1±2.6, 16°.0S±0°.1×67°.7E±0°.1, h10km±1km, mb4.6/19, Error ellipse: s-maj=21.3km s-min=16.1km az=136.0*
*GCMT **24** 01:23:32.1±0.1, 16°.06S±0°.01×67°.20E±0°.01, h19km, MW5.2/134, Moment Tensor Solution. s74,c100; s134,c223; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr-0.10±.02; Mθθ-0.63±.01; Mφφ0.72±.01; Mrθ-0.13±.03; Mrφ0.28±.01; Mθ-0.11±.03; Best double couple: M0 0.74800×10^17 NP1:φs146.00000°, δ77.00000°, λ-179.00000°. NP2:φs56.00000°, δ89.00000°, λ-13.00000°. Principal axes: T 0.7970, Plg9.0000°, Azm102.0000°; N -0.0980, Plg77.0000°, Azm232.0000°; P -0.7000, Plg10.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 01:23:30.1±0.6, 15°.9S×67°.7E±0°.1, h10km, n57, σ1§33/34, mb4.1/14, MS4.2/24, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.48**	**30**	T	T	01 35 46.4	
	baz=210,slow=75						
H08S2	**Diego Garcia H**	**9.49**	**30**	T	T	01 35 46.8	
	baz=210,slow=75						
H08S3	**Diego Garcia H**	**9.50**	**30**	T	T	01 35 47.9	
	baz=210,slow=75						
DGAR	**Diego Garcia**	**9.67**	**29**	Pn	**Pn**	**01 25 48.5**	**-0.9**
OPO	**Ambohidratompo**	**19.74**	**259**	P	**Pn**	**01 28 03.5**	**+1.6**
	0.2nm,0.3s,baz=110,slow=18,SNR=1.7						
PALK	**Pallekele**	**26.42**	**30**	LR	LR	01 37 50.1	
	comp=Z,402nm,18.8s,baz=314,slow=33						
PSI	**Prapat**	**36.07**	**62**	LR	LR	01 42 22.1	
	comp=Z,447nm,21.0s,baz=246,slow=32						
IPM	**Ipoh**	**38.73**	**61**	P	**P**	**01 30 56.5**	**+1.6**
IPM				IAmb	IAmb	01 31 02.9	
	comp=Z,12nm,1.0s						
LEM	**Lembang**	**40.12**	**82**	LR	LR	01 44 30.5	
	comp=Z,492nm,21.3s,baz=234,slow=32						
LBTB	**Lobatse**	**40.31**	**250**	P	**P**	**01 31 07.2**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=106,slow=9.2,SNR=4.2						
LBTB	**Lobatse**	**40.31**	**250**	IAmb	IAmb	01 31 17.6	
	comp=Z,14nm,1.3s						
BOSA	**Boshof**	**41.03**	**245**	LR	LR	01 44 20.2	
	comp=Z,168nm,19.6s,baz=86,slow=30						
H01W3	**Cape Leeuwin H**	**45.56**	**123**	T	T	02 20 39.1	
	baz=282,slow=75						
H01W2	**Cape Leeuwin H**	**45.57**	**123**	T	T	02 20 47.0	
	baz=282,slow=75						
H01W1	**Cape Leeuwin H**	**45.58**	**123**	T	T	02 20 51.2	
	baz=282,slow=75						
CMAR	**Chiang Mai Arr**	**45.99**	**43**	P	**P**	**01 31 52.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=229,slow=8.2,SNR=1.2						
CMAR				LR	LR	01 47 50.0	
	comp=Z,149nm,21.0s,baz=215,slow=32						
SHL	**Shillong**	**47.51**	**30**	P	**P**	**01 32 06.7**	**+0.8**
SBUM	**Sibu**	**47.66**	**71**	P	**P**	**01 32 08.1**	**+0.9**
MAW	**Mawson**	**51.74**	**182**	LR	LR	01 49 16.4	
	comp=Z,112nm,19.4s,baz=40,slow=30						
GEYT	**Alibeck**	**54.32**	**351**	LR	LR	01 53 43.8	
	comp=Z,187nm,21.3s,baz=195,slow=34						
SOEI	**Soe**	**55.39**	**91**	P	**P**	**01 33 05.3**	**+0.2**
KK31	**Karatay Array**	**58.80**	**2**	P	**P**	**01 33 30.0**	**+1.4**
ASAR	**Alice Springs**	**62.33**	**109**	P	**P**	**01 33 51.4**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=271,slow=5.9,SNR=18						
ASAR				LR	LR	01 57 23.8	
	comp=Z,822nm,20.4s,baz=272,slow=33						
AS31	**Alice Springs**	**62.33**	**109**	P	**P**	**01 33 52.2**	**-1.1**
WRA	**Warramunga Arr**	**63.19**	**105**	P	**P**	**01 33 57.3**	**-1.7**
	comp=Z,6.6nm,0.9s,baz=266,slow=6.2,SNR=20						
WRA				LR	LR	01 58 50.2	
	comp=Z,158nm,20.8s,baz=235,slow=34						
WB2	**Warramunga Arr**	**63.20**	**105**	P	**P**	**01 33 59.7**	**+0.6**
WRAB	**Tennant Creek**	**63.20**	**105**	P	**P**	**01 34 01.0**	**+1.9**
XAN	**Xi'an**	**63.34**	**38**	P	**P**	**01 34 01.0**	**+1.4**
WR0	**Warramunga Arr**	**63.38**	**105**	P	**P**	**01 34 01.1**	**+0.9**
KBZ	**Khabaz**	**63.55**	**340**	LR	LR	01 59 43.3	
	comp=Z,121nm,19.3s,baz=173,slow=34						
MK31	**Makanchi Array**	**63.80**	**11**	P	**P**	**01 34 02.6**	**+0.2**
MKAR	**Makanchi Array**	**63.80**	**11**	P	**P**	**01 34 00.3**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=187,slow=7.0,SNR=2.6						
MKAR				LR	LR	02 01 20.8	
	comp=Z,146nm,20.3s,baz=194,slow=36						
BRTR	**Keskin Array B**	**63.81**	**331**	P	**P**	**01 34 00.6**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=147,slow=14,SNR=2.0						
BRTR	**Keskin Array B**	**63.81**	**331**	P	**P**	**01 34 02.0**	**-0.7**
ABKAR	**Akbulak array**	**65.25**	**354**	P	**P**	**01 34 10.6**	**-1.1**
KURBB	**Kurchatov Arra**	**66.94**	**7**	P	**P**	**01 34 20.0**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=1.9,SNR=9.5						
KURK	**Kurchatov**	**67.05**	**8**	P	**P**	**01 34 23.1**	**-0.2**
KURK				IAmb	IAmb	01 34 47.6	
	comp=Z,4.0nm,1.0s						
STKA	**Stephens Creek**	**68.28**	**118**	LR	LR	02 00 07.5	
	comp=Z,360nm,21.6s,baz=236,slow=32						
SNAA	**Sanae**	**68.88**	**199**	LR	LR	01 57 06.5	
	comp=Z,92nm,21.3s,baz=102,slow=29						
ZAA0	**Zalesovo Array**	**71.13**	**11**	P	**P**	**01 34 48.8**	**+0.3**
ZAA0				IAmb	IAmb	01 34 57.4	
	comp=Z,7.4nm,1.4s						
ZALV	**Zalesovo Beam**	**71.13**	**11**	P	**P**	**01 34 48.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=228,slow=1.7,SNR=5.5						
ZALV				LR	LR	02 05 18.7	
	comp=Z,82nm,19.6s,baz=215,slow=35						
ZALV	**Zalesovo Beam**	**71.13**	**11**	P	**P**	**01 34 49.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**71.34**	**290**	P	**P**	**01 34 51.4**	**+0.7**
	comp=Z,1.6nm,1.3s,baz=141,slow=6.9,SNR=4.8						
TORD				LR	LR	02 04 39.5	
	comp=Z,158nm,18.5s,baz=105,slow=35						
SONM	**Songino Array**	**72.29**	**26**	P	**P**	**01 34 54.9**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=234,slow=4.6,SNR=6.9						
SONM				LR	LR	02 05 52.0	
	comp=Z,242nm,20.1s,baz=196,slow=35						
SONM	**Songino Array**	**72.29**	**26**	P	**P**	**01 34 57.6**	**+1.8**
ULN	**Ulaanbaatar**	**72.59**	**27**	P	**P**	**01 34 58.1**	**+0.4**
QSPA	**South Pole Qui**	**74.16**	**180**	P	**P**	**01 35 05.6**	**-1.1**
DBIC	**Dimbokro**	**75.20**	**281**	LR	LR	02 07 08.0	
	comp=Z,129nm,18.5s,baz=89,slow=35						
KEST	**Kesra**	**75.38**	**314**	LR	LR	02 08 57.2	
	comp=Z,181nm,18.8s,baz=96,slow=36						
VNDA	**Vanda**	**75.47**	**167**	LR	LR	02 04 00.8	
	comp=Z,143nm,20.0s,baz=266,slow=32						
KSAR	**Wonju Array Be**	**77.56**	**45**	P	**P**	**01 35 24.8**	**-1.7**
KSRS	**Korea Array**	**77.60**	**45**	LR	LR	02 08 22.6	
	comp=Z,69nm,19.8s,baz=240,slow=35						
FINES	**FINESS Array B**	**83.88**	**341**	LR	LR	02 13 41.5	
	comp=Z,111nm,20.6s,baz=68,slow=36						
NRIK	**Noril'sk**	**86.21**	**7**	LR	LR	02 13 49.5	
	comp=Z,106nm,19.3s,baz=200,slow=35						
ESDC	**Sonseca Array**	**86.53**	**313**	P	**P**	**01 36 14.8**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=104,slow=4.1,SNR=5.1						
ESDC				LR	LR	02 16 54.3	
	comp=Z,79nm,18.3s,baz=90,slow=37						
ARCES	**ARCESS Array B**	**90.26**	**346**	LR	LR	02 16 52.6	
	comp=Z,75nm,18.8s,baz=45,slow=36						
PDAR	**Pinedale Array**	**153.15**	**355**	PKPbc	**PKPbc**	**01 43 28.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=64,slow=2.1,SNR=3.7						

*IDC **24** 01:33:15.7±2.1, 6°.09S×130°.59E, h124km±20km, mb3.9/7, mb1 4.1/11,mb1mx3.8/28,mbtmp4.5/11,Error ellipse: s-maj=27.3km s-min=13.4km az=67.0*
*NEIC **24** 01:33:16.1±1.8, 6°.08S±0°.06×130°.40E±0°.09, h133km±6km, mb4.2/17, Error ellipse: s-maj=13.0km s-min=8.6km az=93.0*
*DJA **24** 01:33:28.8±0.5, 5°S±4°×13°1E±°, h110km±7km, M4.9/10, mB5.4/3,mb5.2/4,MLv4.8/10,Mw(mB)4.8/3*
ISC 24 01:33:12.5±0.5, 6°.13S±0°.04×130°.51E±0°.06, h100km, n74, σ2§01/74, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.71**	**339**	P	Pn	01 33 49.9	+8.5
BNDI				S	**Sn**	**01 34 05.6**	**+2.3**
SAUI	**Saumlaki**	**2.00**	**157**	P	**Sn**	**01 34 14.1**	**+4.2**
SAUI	**Saumlaki**	**2.00**	**157**		Pn	01 33 52.3	+7.2
MSAI	**Masohi**	**3.19**	**330**	P	Pn	01 34 07.1	+6.4
FAKI	**Fak Fak**	**3.63**	**29**	P	Pn	01 34 11.3	+4.6
FAKI				S	**Sn**	**01 34 44.9**	**-3.8**
FAKI	**Fak Fak**	**3.63**	**29**	Pn	Pn	01 34 11.2	+4.5
KMPI	**Kaimana, Papua**	**4.02**	**53**	P	Pn	01 34 19.6	+7.7
KMPI				S	**Sn**	**01 35 00.2**	**+2.2**
SIJI	**Sorong**	**5.28**	**8**	P	**Pn**	**01 34 32.7**	**+3.6**
	65nm,0.3s,baz=198,slow=21,SNR=110						
SIJI				S	**Sn**	**01 35 27.9**	**-0.8**
	64nm,0.3s,baz=186,slow=22,SNR=16						
RKPI	**Ransiki, Papua**	**5.87**	**39**	P	Pn	01 34 42.1	+5.0
	15µm396nm,0.6s						
LBMI	**Labuha**	**6.23**	**331**	P	Pn	01 34 47.3	+5.4
	0.5nm2µm73nm,0.6s						
MTN	**Manton Dam**	**6.70**	**175**	Pn	**Pn**	**01 34 52.8**	**+4.5**
SOEI	**Soe**	**7.16**	**239**	Pn	**Pn**	**01 34 57.8**	**+3.1**
BAKI	**Biak**	**7.43**	**49**	P	Pn	01 35 04.7	+6.4
BATI	**Baumata**	**7.89**	**239**	P	**Pn**	**01 35 09.2**	**+4.6**
	10nm,0.3s,baz=3.7,slow=0.7,SNR=7.4						
BATI				S	**Sn**	**01 36 34.2**	**+1.8**
	44nm,0.3s,baz=285,slow=23,SNR=13						
KNRA	**Kununurra**	**9.64**	**190**	Pn	**Pn**	**01 35 30.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**12.81**	**201**	P	**Pn**	**01 36 11.1**	**+0.2**
	5.2nm,0.3s,baz=15,slow=9.3,SNR=103						
FITZ				S	**Sn**	**01 38 26.0**	**-5.9**
	3.9nm,0.3s,baz=108,slow=18,SNR=8.8						
FITZ	**Fitzroy Crossi**	**12.81**	**201**	Pn	**Pn**	**01 36 11.3**	**+0.4**
WB0	**Warramunga Arr**	**14.07**	**165**		**Pn**	**01 36 27.4**	**0.0**
WRAB	**Tennant Creek**	**14.22**	**165**		**Pn**	**01 36 29.9**	**+0.6**
WRA	**Warramunga Arr**	**14.22**	**165**	P	**Pn**	**01 36 30.0**	**+0.6**
	1.0nm,0.3s,baz=339,slow=13,SNR=50						
WRA				S	**Sn**	**01 38 59.0**	**-7.2**
	5.0nm,0.3s,baz=341,slow=20,SNR=8.5						
WB2	**Warramunga Arr**	**14.23**	**165**	Pn	**Pn**	**01 36 30.5**	**+1.0**
WR0	**Warramunga Arr**	**14.29**	**164**		**Pn**	**01 36 29.9**	**-0.4**
COEN	**Coen**	**14.69**	**123**	Pn	**Pn**	**01 36 35.6**	**+0.3**
JAGI	**Jajag, Banyuwa**	**16.39**	**261**		**Pn**	**01 36 56.9**	**+0.1**
MYLDM	**Lahad Datu**	**16.43**	**313**		**Pn**	**01 36 57.5**	**+0.2**
MYLDM				IAmb	IAmb	01 37 40.1	
	comp=Z,10nm,1.0s						
AS31	**Alice Springs**	**17.74**	**170**	P	**Pn**	**01 37 15.4**	**+2.2**
AS31				IAmb	IAmb	01 37 21.6	
	comp=Z,7.2nm,0.4s						
ASAR	**Alice Springs**	**17.74**	**170**	P	**Pn**	**01 37 15.7**	**+2.5**
	comp=Z,2.0nm,0.3s,baz=341,slow=8.8,SNR=73						
ASAR				S	**Sn**	**01 40 25.7**	**-5.3**
	comp=Z,1.3nm,0.3s,baz=350,slow=25,SNR=6.5						
ASAR	**Alice Springs**	**17.74**	**170**		**Pn**	**01 37 15.1**	**+2.0**
KKM	**Kota Kinabalu**	**18.70**	**310**	P	P	**01 37 22.6**	**-0.7**
KKM				IAmb	IAmb	01 37 26.4	
	comp=Z,15nm,0.7s						
SBUM	**Sibu**	**20.16**	**294**	P	**P**	**01 37 38.0**	**-1.0**
SBUM				IAmb	IAmb	01 37 44.0	
	comp=Z,6.8nm,0.7s						
CTA	**Charters Tower**	**20.65**	**134**	P	**P**	**01 37 44.4**	**+0.1**
	comp=Z,26nm,0.4s,baz=314,slow=13,SNR=74						
STKA	**Stephens Creek**	**27.63**	**159**	P	**P**	**01 38 52.1**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=349,slow=3.3,SNR=3.5						
QIZ	**Qiongzhong**	**32.25**	**321**	P	**P**	**01 39 28.5**	**-3.2**
QIZ				S	**S**	**01 44 34.3**	**-3.6**
QIZ				LR	LR		
	comp=N,330nm,17.7s						
QIZ				LR	LR		
	comp=E,320nm,17.2s						
QIZ				LR	LR		
	comp=Z,290nm,17.7s						
RPSI	**Rantau Prapat**	**32.74**	**285**	P	**P**	**01 39 35.5**	**-0.6**
TOO	**Toolangi**	**34.14**	**159**	P	**P**	**01 39 46.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**39.58**	**309**	P	**P**	**01 40 35.1**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=140,slow=7.4,SNR=14						
CMAR	**Chiang Mai Arr**	**39.58**	**309**	P	**P**	**01 40 33.6**	**-0.7**
CHTO	**Chiang Mai**	**39.78**	**309**	P	**P**	**01 40 36.0**	**+0.1**
CHTO				IAmb	IAmb	01 40 38.2	
	comp=Z,4.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**49.89**	**341**	*e*P	**P**	**01 41 56.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,81nm,9.7s						
HHC				LR	LR		
	comp=N,180nm,17.0s						
HHC				LR	LR		
	comp=E,200nm,15.7s						
HHC				LR	LR		
	comp=Z,130nm,19.7s						
ODAN	**Odare**	**53.08**	**310**	*e*P	**P**	**01 42 20.9**	**+0.7**
	comp=Z,7.4nm,0.3s						
TAPN	**Taplejung**	**53.10**	**311**	*e*P	**P**	**01 42 20.5**	**+0.1**
	comp=Z,8.9nm,0.4s						
TAPN	**Taplejung**	**53.10**	**311**	*e*P	**P**	**01 42 20.5**	**+0.1**
	comp=Z,8.9nm,0.4s						
RAMN	**Ramite**	**53.73**	**310**	*e*P	**P**	**01 42 25.1**	**+0.2**
	comp=Z,23nm,0.6s						
RAMN	**Ramite**	**53.73**	**310**	*e*P	**P**	**01 42 25.4**	**+0.5**
	comp=Z,23nm,0.6s						
GUN	**Gumba**	**54.77**	**310**	*e*P	**P**	**01 42 32.4**	**-0.2**
	comp=Z,16nm,0.5s						
GUN	**Gumba**	**54.77**	**310**	*e*P	**P**	**01 42 32.7**	**+0.1**
PKI	**Pulchoki**	**54.96**	**310**	*e*P	**P**	**01 42 33.6**	**-0.3**
	comp=Z,3.0nm,0.4s						
PKI	**Pulchoki**	**54.96**	**310**	*e*P	**P**	**01 42 33.6**	**-0.3**
PKIN	**Phulchoki**	**54.97**	**310**	*e*P	**P**	**01 42 33.6**	**-0.3**
	comp=Z,1.2nm,0.2s						
PKIN	**Phulchoki**	**54.97**	**310**	*e*P	**P**	**01 42 33.7**	**-0.2**
	comp=Z,1.8nm,0.2s						
KKN	**Kakani**	**55.17**	**310**	*e*P	**P**	**01 42 35.3**	**0.0**
	comp=Z,4.0nm,0.4s						
GKN	**Gorkha**	**55.76**	**310**	*e*P	**P**	**01 42 39.3**	**-0.2**
	comp=Z,8.9nm,0.3s						
GKN	**Gorkha**	**55.76**	**310**	*e*P	**P**	**01 42 39.6**	**+0.1**
	comp=Z,8.7nm,0.3s						
KOLN	**Koldanda**	**56.45**	**309**	*e*P	**P**	**01 42 44.4**	**0.0**
	comp=Z,5.2nm,0.5s						
KOLN	**Koldanda**	**56.45**	**309**	*e*P	**P**	**01 42 44.6**	**+0.2**
	comp=Z,6.9nm,0.6s						
DANN	**Dangsing**	**56.61**	**310**	*e*P	**P**	**01 42 45.2**	**-0.5**
	comp=Z,8.1nm,0.6s						
DANN	**Dangsing**	**56.61**	**310**	*e*P	**P**	**01 42 45.7**	**0.0**
	comp=Z,5.1nm,0.4s						
PYUN	**Piuthan**	**57.08**	**309**	*e*P	**P**	**01 42 49.2**	**+0.3**
	comp=Z,4.7nm,0.3s						
SONM	**Songino Array**	**57.79**	**341**	P	**P**	**01 42 54.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=165,slow=6.1,SNR=4.0						
SONM	**Songino Array**	**57.79**	**341**	P	**P**	**01 42 53.3**	**-0.1**
WMQ	**Urumqi**	**62.95**	**326**	*e*P	**P**	**01 43 29.9**	**+1.3**
MK31	**Makanchi Array**	**67.78**	**326**	P	**P**	**01 43 59.6**	**0.0**
MKAR	**Makanchi Array**	**67.78**	**326**	P	**P**	**01 44 00.5**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=114,slow=7.8,SNR=104						
MKAR	**Makanchi Array**	**67.78**	**326**	P	**P**	**01 43 59.7**	**0.0**
MAKZ	**Makanchi**	**67.97**	**326**	P	**P**	**01 44 00.8**	**0.0**
ZAA0	**Zalesovo Array**	**71.04**	**333**	P	**P**	**01 44 18.8**	**-0.7**
ZAA0				IAmb	IAmb	01 44 19.9	
	comp=Z,5.6nm,1.4s						
ZALV	**Zalesovo Beam**	**71.04**	**333**	P	**P**	**01 44 19.3**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=123,slow=5.5,SNR=5.4						
GAR	**Garm**	**71.42**	**314**	P	**P**	**01 44 22.6**	**+0.3**
CHGR	**Chuyangaron**	**72.11**	**314**	P	**P**	**01 44 26.2**	**-0.2**
KK31	**Karatay Array**	**73.03**	**318**	P	**P**	**01 44 30.7**	**-1.0**
KKAR	**Karatay Array**	**73.03**	**318**	P	**P**	**01 44 30.6**	**-1.1**
MAW	**Mawson**	**75.94**	**201**	P	**P**	**01 44 49.0**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=83,slow=10,SNR=6.7						
TORD	**Torodi Ar. Bea**	**129.13**	**282**	PKP	**PKPdf**	**01 52 09.4**	**-0.6**
	comp=Z,139nm,0.9s,baz=30,slow=1.5,SNR=3.0						
LPAZ	**La Paz**	**151.08**	**141**	PKPbc	**PKiKP**	**01 52 56.5**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=72,slow=2.2,SNR=10.0						

IDC 24 01:46:41.5±3.6, 3°.20S×135°.30E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=161.5km s-min=32.4km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.67**	**183**	Pn	Pn	01 50 34.7	-1.9
	0.0nm,0.3s,baz=2.1,slow=13,SNR=1.9						
WRA				Sn	Sn	01 53 30.6	-12
	0.1nm,0.3s,baz=8.9,slow=24,SNR=3.6						
ASAR	**Alice Springs**	**20.39**	**184**	P	P	01 51 20.8	+0.7
	0.7nm,0.5s,baz=9.5,slow=11,SNR=14						
MKAR	**Makanchi Array**	**68.13**	**324**	P	P	01 57 43.4	0.0
	0.3nm,0.5s,baz=106,slow=9.2,SNR=2.8						

*IDC **24** 01:48:58.7±0.9, 33°.98S×72°.25W, h0km, mb3.9/5, mb1 4.0/8,mb1mx3.8/26,mbtmp3.8/8,ML3.7/3,MS3.2/3, Ms1 3.2/3,ms1mx2.9/18,Error ellipse: s-maj=37.6km s-min=19.6km az=91.0*
*NEIC **24** 01:48:58.2±1.6, 34°.00S±0°.04×72°.40W±0°.09, h1km±4km, Error ellipse: s-maj=12.6km s-min=3.1km az=117.0*
*GUC **24** 01:49:01.4±0.8, 34°.01S×72°.32W, h36km±4km, ML3.8*
**ISC 24 01:49:03.0±1.2, 34°.01S

	comp=E,0.4nm,0.3s,baz=338,slow=10,SNR=16						
PLCA				Lg	Lg	01 52 35.8	
	comp=E,0.2nm,0.3s,baz=48,slow=22,SNR=3.8						
PLCA				LR	LR	01 53 33.8	
	comp=E,204nm,21.1s,baz=319,slow=40						
PLCA	**Paso Flores**	**6.87**	**168**	Pn	**Pn**	**01 50 42.2**	**+0.5**
AC02	**Maricunga**	**7.68**	**22**	Pn	**Pn**	**01 50 51.1**	**-2.1**
CPUP	**Villa Florida**	**15.10**	**64**	Pn	**Pn**	**01 52 32.2**	**-1.8**
	comp=E,0.1nm,0.3s,baz=231,slow=14,SNR=1.2						
CPUP				LR	LR	01 58 41.7	
	comp=E,106nm,19.2s,baz=237,slow=39						
CPUP	**Villa Florida**	**15.10**	**64**	IAmb	IAmb	01 53 17.4	
	comp=Z,5.0nm,1.1s						
LPAZ	**La Paz**	**18.06**	**13**	P	**Pn**	**01 53 11.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=7.0,SNR=7.6						
LPAZ				Lg	Lg	01 58 34.2	
	comp=Z,0.2nm,0.3s,baz=236,slow=4.5,SNR=2.6						
SIV	**San Ignacio**	**20.64**	**32**	P	**P**	**01 53 39.0**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=230,slow=11,SNR=13						
SAML	**Samuel**	**26.34**	**21**	P	**P**	**01 54 37.9**	**+1.7**
SNAA	**Sanae**	**51.69**	**158**	P	**P**	**01 58 07.2**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=268,slow=8.5,SNR=8.9						
SNAA	**Sanae**	**51.69**	**158**	IAmb	IAmb	01 58 08.5	
	comp=Z,7.2nm,1.3s						
QSPA	**South Pole Qui**	**56.23**	**180**	P	**P**	**01 58 40.8**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=147,slow=5.0,SNR=2.2						
TXAR	**Lajitas Array**	**69.59**	**331**	P	**P**	**02 00 10.2**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=159,slow=8.4,SNR=6.7						
MAW	**Mawson**	**73.26**	**164**	LR	LR	02 31 20.8	
	comp=Z,14nm,19.4s,baz=241,slow=35						
PV17	**East Wray Mesa**	**79.53**	**332**	P	**P**	**02 01 08.3**	**+1.5**
BOSA	**Boshof**	**80.33**	**118**	P	**P**	**02 01 11.3**	**-0.1**
	comp=Z,4.0nm,1.1s,baz=171,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P	**P**	**02 01 32.8**	**-0.3**
	comp=Z,100nm,0.8s,baz=283,slow=7.0,SNR=9.0						
WRA	**Warramunga Arr**	**120.61**	**209**	PKP	**PKPdf**	**02 07 52.0**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=149,slow=1.8,SNR=1.3						
ZALV	**Zalesovo Beam**	**154.39**	**32**	PKPbc	**PKPbc**	**02 09 00.4**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=298,slow=2.6,SNR=8.2						
ZALV				PKPab	**sPKPbc**	**02 09 14.0**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=316,slow=4.0,SNR=3.8						
MKAR	**Makanchi Array**	**156.99**	**49**	PKPab	**PKPab**	**02 09 25.4**	**0.0**
	comp=Z,0.3nm,0.6s,baz=293,slow=5.5,SNR=2.9						

EAF ***24*** *02:06:28.7±1.5,26°.82S×27°.89E, h42km±999km, MD3.5*
PRE ***24*** *02:06:28.2±0.9,26°.41S×27°.65E, h2km, ML2.7*

ISC 24 02:06:27.9±0.9, 26°.39S±0°.03×27°.66E±0°.04, h7km±6km, n20,σ1°.63/38, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KLOF	**Kloof**	**0.06**	**316**	*eP*		**Pg**	**02 06 29.5**	**-0.4**
KLOF				*eS*		**Sg**	**02 06 30.2**	**-0.9**
KLOF				AML		AML	02 06 33.3	
	comp=E,21μm,0.5s							
WDLM	**Western Deep L**	**0.21**	**262**	*eP*		**Pg**	**02 06 32.7**	**+0.5**
WDLM				*eS*		**Sg**	**02 06 35.1**	**0.0**
WDLM				AML		AML	02 06 40.0	
	comp=Z,1μm,0.3s							
ERPM	**east rand prop**	**0.53**	**85**	*eP*		**Pb**	**02 06 39.3**	**-0.4**
ERPM				*eS*		**Sb**	**02 06 46.2**	**-1.3**
ERPM				AML		AML	02 06 47.9	
	comp=Z,371nm,0.1s							
PRYS	**Parys**	**0.59**	**206**	*eP*		**Pg**	**02 06 40.0**	**+0.5**
PRYS				*eS*		**Sg**	**02 06 47.2**	**0.0**
PRYS				AML		AML	02 06 51.6	
	comp=Z,392nm,0.4s							
KSR	**Koster**	**0.87**	**308**	*eP*		**Pb**	**02 06 45.5**	**0.0**
KSR				*eS*		**Sg**	**02 06 56.5**	**+0.5**
KSR				AML		AML	02 07 05.0	
	comp=Z,419nm,0.4s							
LBTB	**Lobatse**	**2.31**	**306**	*i* P		**Pb**	**02 07 09.9**	**-0.1**
LBTB	**Lobatse**	**2.31**	**306**	*eP*		**Pn**	**02 07 07.7**	**+1.2**
LBTB				*eS*		**Sn**	**02 07 37.0**	**+1.8**
LBTB				AML		AML	02 07 42.9	
	comp=Z,133nm,0.3s							
LBTB	**Lobatse**	**2.31**	**306**	*i* P		**Pb**	**02 07 09.9**	**-0.1**
BOSA	**Boshof**	**3.07**	**223**	*eP*		**Pn**	**02 07 18.1**	**+1.0**
BOSA				*eS*		**Sn**	**02 07 54.8**	**+0.6**
BOSA				AML		AML	02 08 06.3	
	comp=Z,32nm,0.6s							
POGA	**Pongola**	**3.74**	**106**	*eP*		**Pn**	**02 07 28.1**	**+1.9**
POGA				*eS*		**Sn**	**02 08 11.1**	**+0.6**
POGA				AML		AML	02 08 29.0	
	comp=Z,39nm,0.5s							
MOPA	**Mopani**	**4.44**	**51**	*eP*		**Pn**	**02 07 37.7**	**+1.9**
MOPA				*eS*		**Sn**	**02 08 27.7**	**-0.1**
MOPA				AML		AML	02 08 30.0	
	comp=Z,9.7nm,0.3s							
HVD	**Gariep Dam**	**4.61**	**204**	*eP*		**Pn**	**02 07 39.7**	**+1.5**
HVD				*eS*		**Sn**	**02 08 31.0**	**-1.0**
HVD				AML		AML	02 08 31.6	
	comp=Z,11nm,0.2s							
MATP	**Matopo**	**5.99**	**8**	*i* P		**Pn**	**02 08 00.6**	**+3.5**
MATP				*i* S		**Sn**	**02 09 06.0**	**-0.1**
MATP	**Matopo**	**5.99**	**8**	*i* P		**Pn**	**02 08 00.6**	**+3.5**
MATP				*i* S		**Sn**	**02 09 06.0**	**-0.1**
UPI	**Upington**	**6.02**	**250**	*eP*		**Pn**	**02 07 58.9**	**+1.4**
UPI				*eS*		**Sn**	**02 09 04.9**	**-1.9**
UPI				AML		AML	02 09 22.5	
	comp=Z,3.1nm,0.3s							
BLWY	**Bulawayo**	**6.29**	**8**	*i* P		**Pn**	**02 08 02.2**	**+0.9**
BLWY				*i* S		**Sn**	**02 09 12.1**	**-1.3**
BLWY	**Bulawayo**	**6.29**	**8**	*i* P		**Pn**	**02 08 02.2**	**+0.9**
BLWY				*i* S		**Sn**	**02 09 12.1**	**-1.3**
SOE	**Somerset East**	**6.56**	**196**	*eP*		**Pn**	**02 08 06.4**	**+1.5**
SOE				*eS*		**Sn**	**02 09 18.0**	**-2.0**
SOE				AML		AML	02 09 59.2	
	comp=Z,8.6nm,0.6s							
GRAN	**Grantham**	**7.59**	**218**	*eP*		**Pn**	**02 08 20.8**	**+1.7**
GRAN				*eS*		**Sn**	**02 09 42.4**	**-3.0**
GRAN				AML		AML	02 09 44.8	
	comp=Z,4.0nm,0.5s							
KOMG	**Komaggas**	**9.60**	**247**	*eP*		**Pn**	**02 08 47.6**	**+1.0**
KOMG				*eS*		**Sn**	**02 10 30.9**	**-3.9**
KOMG				AML		AML	02 10 32.9	
	comp=Z,5.5nm,0.7s							

IDC 24 02:12:13.5±6.0, 5°.24S×154°.28E, h207km±41km, mb3.4/3, mb1 3.7/5, mb1mx3.2/31, mbtmp4.1/5, Error ellipse: s-maj=108.1km s-min=57.4km az=33.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**2.43**	**292**	P		Pn	02 12 57.8	+0.7
	27nm,0.3s,baz=133,slow=2.1,SNR=13							
KRVT				S		S	02 13 31.2	+0.7
	32nm,0.3s,baz=313,slow=23,SNR=10							
CTA	**Charters Tower**	**16.70**	**207**	P		Pn	02 15 56.2	+0.3
	1.1nm,0.3s,baz=32,slow=14,SNR=12							
WRA	**Warramunga Arr**	**24.29**	**231**	P		P	02 17 13.0	+0.8
	2.7nm,0.4s,baz=56,slow=10,SNR=39							
ASAR	**Alice Springs**	**26.85**	**225**	P		P	02 17 35.1	-0.1
	0.4nm,0.3s,baz=51,slow=8.1,SNR=5.9							
STKA	**Stephens Creek**	**29.04**	**203**	P		P	02 17 52.7	-1.8
	0.9nm,0.5s,baz=33,slow=13,SNR=4.6							

MAN 24 02:23:18.1, 13°.68N×120°.33E, h39km, mb4.3, ML3.2, MS2.9, Mindoro

BJI ***24*** *02:23:43.8±0.0, 1°.14N×126°.50E, h56km, mB5.0/45, mb5.0/71, Ms4.4/45, Ms7 4.2/47*
MOS ***24*** *02:23:44.8±0.9, 1°.49N×126°.34E, h39km, mb5.4/55, MS4.2/4, Error ellipse: s-maj=8.4km s-min=4.5km az=114.9*
IDC ***24*** *02:23:45.8±3.0, 1°.40N×126°.35E, h32km±21km, mb4.9/36, mb1 4.9/39, mb1mx4.9/41, mbtmp5.1/39, ML4.7/3, MS3.8/20, Ms1 3.8/20, ms1mx3.7/35, Error ellipse: s-maj=12.8km s-min=7.2km az=73.0*
NEIC ***24*** *02:23:46.4±1.9, 1°.46N±0°.06×126°.45E±0°.05, h44km±4km, mb5.2/129, Error ellipse: s-maj=8.8km s-min=7.4km az=217.0*
KLM ***24*** *02:23:47.0, 1°.51N×126°.68E, h58km, mb5.2*
DJA ***24*** *02:23:48.5±0.2, 2°N±2°×12°6E±°, h48km±3km, M5.0/55, mB5.5/33, mb5.3/55, MLv5.3/21, Mw(mB)5.0/33, Mwp5.7/2*
GCMT ***24*** *02:23:49.4±0.2, 1°.61N±0°.01×126°.45E±0°.02, h36km, MW5.1/98, Moment Tensor Solution. s84,c113;*
s98,c147; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.23±.16; Mϑϑ-0.76±.10; Mϕϕ-4.47±.12; Mrϑ-0.53±.11; Mrϕ-2.02±.09; Mϑϕ-0.55±.13; Best double couple: M0 5.34900×10^16 NP1:ϕs21.00000°, δ41.00000°, λ86.00000°. NP2:ϕs207.00000°, δ49.00000°, λ94.00000°. Principal axes: T 5.2910, Pl@85.0000°, Azm151.0000°; N 0.1120, Plg3.0000°, Azm24.0000°; P -5.4060, Plg4.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 24 02:23:48.5±0.4, 1°.41N±0°.03×126°.42E±0°.04, h59km±3km, h59km:pP-P,n595,σ1°45/609, mb5.2/152, MS4.0/35, 37C-30D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.14**	**124**	P		**Pn**	**02 24 06.1**	**-2.2**
TNTI	**Ternate**	**1.14**	**124**			**Pn**	**02 24 06.6**	**-1.7**
LBMI	**Labuha**	**2.30**	**152**	P		**Pn**	**02 24 23.5**	**-0.6**
SGSI	**Sangihe**	**2.43**	**338**	P		**Pn**	**02 24 23.9**	**-2.0**
KMSI	**Cibinong**	**2.58**	**251**	P		**Pn**	**02 24 27.3**	**-0.6**
SANI	**Sanana**	**3.46**	**187**	P		**Pn**	**02 24 39.7**	**-0.3**
GTOI	**Gorontalo**	**3.50**	**257**	P		**Pn**	**02 24 40.7**	**+0.3**
LUWI	**Luwuk**	**4.39**	**236**	P		**Pn**	**02 24 53.9**	**+1.2**
LUWI	**Luwuk**	**4.39**	**236**	Pn		**Pn**	**02 24 53.1**	**+0.4**
NLAI	**Namlea**	**4.67**	**172**	P		**Pn**	**02 24 56.8**	**+0.3**
DDMP	**Don Marcelino,**	**4.72**	**351**	*eP*		**Pn**	**02 24 56.0**	**-1.2**
DDMP				*eS*		**Sn**	**02 25 47.7**	**-2.9**
APSI	**Ampana**	**5.30**	**244**	P		**Pn**	**02 25 06.5**	**+1.3**
	4.4nm13μm872nm,0.5s							
SIJI	**Sorong**	**5.34**	**115**	Pn		**Pn**	**02 25 05.5**	**-0.3**
	10nm,0.3s,baz=322,slow=9.5,SNR=12							
SIJI				LR		LR	02 27 36.2	
	comp=Z,3μm,19.1s,baz=264,slow=43							
MSAI	**Masohi**	**5.35**	**152**	P		**Pn**	**02 25 06.8**	**+1.0**
	0.4nm2μm91nm,0.7s							
AAI	**Ambon**	**5.36**	**161**	P		**Pn**	**02 25 08.9**	**+2.9**
	1.1nm243μm7μm381nm,0.8s							
SKMP	**Bagumbayan, Su**	**5.41**	**340**	*eP*		**Pn**	**02 25 04.2**	**-2.5**
SKMP				*eS*		**Sn**	**02 26 03.1**	**-4.5**
MATI	**Mati**	**5.50**	**358**	*eP*		**Pn**	**02 25 07.4**	**-0.6**
MATI				*eS*		**Sn**	**02 26 13.2**	**+3.3**
DAV	**Davao City (W)**	**5.69**	**352**	Pn		**Pn**	**02 25 10.2**	**-0.2**
	65nm,0.3s,baz=259,slow=15,SNR=1.7							
DAV				Sn		**Sn**	**02 26 19.5**	**+5.1**
	101nm,0.3s,baz=267,slow=22,SNR=4.3							
DAV				LR		LR	02 27 31.3	
	comp=Z,2μm,20.9s,baz=138,slow=40							
DAV	**Davao City (W)**	**5.69**	**352**	Pn		**Pn**	**02 25 08.4**	**-2.0**
DAV	**Davao City (W)**	**5.69**	**352**	⇑*eP*		Pn	02 25 23.3	+13
KCP	**Kidapawan**	**5.72**	**347**	⇑*iP*		**Pn**	**02 25 11.1**	**+0.2**
KDI	**Kendari**	**6.55**	**215**	P		**Pn**	**02 25 23.5**	**+1.2**
	0.9nm214nm,0.8s							
BUKP	**Musuan**	**6.57**	**348**	*eP*		**Pn**	**02 25 21.8**	**-0.8**
BUKP				*eS*		**Sn**	**02 26 34.5**	**-1.6**
MPSI	**Mapaga**	**6.61**	**261**	P		**Pn**	**02 25 24.3**	**+1.2**
	0.8nm2μm186nm,0.8s							
CGP	**Cagayan de Oro**	**7.21**	**346**	‖*eP*		Pn	02 25 36.3	+5.0
FAKI	**Fak Fak**	**7.24**	**126**	P		**Pn**	**02 25 31.9**	**+0.2**
	0.8nm204nm,0.8s							
FAKI	**Fak Fak**	**7.24**	**126**	Pn		**Pn**	**02 25 31.4**	**-0.4**
TTSI	**Tana Toraja**	**7.95**	**236**	P		**Pn**	**02 25 41.7**	**+0.3**
	2.1nm6μm545nm,0.6s							
SPSI	**Sidrap Palu**	**8.53**	**231**	P		**Pn**	**02 25 51.2**	**+1.8**
	1.5nm5μm349nm,0.5s							
MYLDM	**Lahad Datu**	**8.75**	**296**	Pn		**Pn**	**02 25 52.9**	**+0.4**
BKSI	**Bulukumba**	**9.18**	**223**	P		**Pn**	**02 25 59.7**	**+1.3**
	2μm142nm,0.5s							
KAPI	**Kappang**	**9.23**	**226**	Pn		**Pn**	**02 26 00.2**	**+1.3**
	23nm,0.3s,baz=24,slow=6.0,SNR=38							
KAPI				Sn		**Sn**	**02 27 41.5**	**+0.1**
	4.4nm,0.3s,baz=198,slow=19,SNR=1.9							
KAPI	**Kappang**	**9.23**	**226**	Pn		**Pn**	**02 25 60.0**	**+1.0**
BSSI	**Bau Bau, Buton**	**9.56**	**218**	P		**Pn**	**02 26 03.9**	**+0.4**
	2μm117nm,0.5s							
BKB	**Balikpapan**	**9.89**	**254**	Pn		**Pn**	**02 26 09.3**	**+1.3**
BAKI	**Biak**	**10.02**	**105**	P		**Pn**	**02 26 14.1**	**+4.3**
	4μm284nm,1.2s							
SPMM	**Sapulut**	**10.47**	**288**	P		**Pn**	**02 26 17.0**	**+1.0**
MMRI	**Maumere**	**10.82**	**203**	Pn		**Pn**	**02 26 20.5**	**-0.2**
EDFI	**Ende, Flores**	**11.14**	**205**	P		**Pn**	**02 26 26.5**	**+1.3**
	541nm35nm,0.9s							
KKM	**Kota Kinabalu**	**11.18**	**295**	Pn		**Pn**	**02 26 25.4**	**-0.3**
KBKI	**Kotabaru**	**11.27**	**245**	P		**Pn**	**02 26 24.2**	**-2.7**
	1μm52nm,1.2s							
BATP	**Bataraza**	**11.29**	**311**	*eP*		**Pn**	**02 26 25.7**	**-1.5**
SOEI	**Soe**	**11.30**	**191**	P		Pn	02 26 33.0	+5.6
	3μm263nm,0.9s							
SOEI	**Soe**	**11.30**	**191**			**Pn**	**02 26 29.8**	**+2.4**
OTRP	**Odiongan**	**11.72**	**338**	*eP*		Pn	02 26 43.5	+10
BATI	**Baumata**	**11.86**	**193**	Pn		Pn	02 26 40.7	+5.7
	8.7nm,0.3s,baz=296,slow=2.3,SNR=12							
BATI				LR		LR	02 31 57.4	
	comp=Z,319nm,21.0s,baz=0.5,slow=42							
BATI	**Baumata**	**11.86**	**193**	P		Pn	02 26 42.3	+7.3
	847nm92nm,1.0s							
BUSP	**Coron**	**12.20**	**330**	*eP*		**P**	**02 26 47.7**	**-2.5**
BBKI	**Banjar Baru**	**12.55**	**247**	P		**Pn**	**02 26 46.0**	**+1.6**
	47nm,0.5s							
PLAI	**Pampang**	**13.33**	**220**	P		**P**	**02 26 59.2**	**-3.6**
	4μm484nm,1.0s							
LQP	**Lukban**	**13.51**	**339**	‖*eP*		**Pn**	**02 27 00.2**	**+2.6**
LUBP	**Lubang**	**13.69**	**334**	*eP*		**Pn**	**02 27 01.1**	**+1.3**
TGY	**Tagaytay City**	**13.73**	**337**	LR		LR	02 32 20.9	
	comp=Z,636nm,20.3s,baz=179,slow=38							
TWSI	**Taliwang, Sumb**	**13.86**	**223**	P		**P**	**02 27 08.4**	**-0.2**
	3μm390nm,1.0s							
SBUM	**Sibu**	**14.23**	**274**	Pn		**Pn**	**02 27 07.8**	**+0.6**
SBUM	**Sibu**	**14.23**	**274**	P		**P**	**02 27 10.0**	**-2.8**
GENI	**Genyem**	**14.30**	**106**	P		**P**	**02 27 11.5**	**-2.1**
	172nm,1.2s							
SRBI	**Sinaraja**	**14.63**	**230**	P		**P**	**02 27 17.0**	**-0.2**
	105nm,0.8s							
MTN	**Manton Dam**	**14.91**	**162**	P		**Pn**	**02 27 16.9**	**+0.9**
	baz=15,SNR=4.7							
MTN	**Manton Dam**	**14.91**	**162**	Pn		Pn	02 27 14.4	-1.6
KMMI	**Kalianget**	**15.01**	**236**	P		**P**	**02 27 24.5**	**+3.1**
	168nm,0.7s							
KDU	**Kakadu**	**15.24**	**157**	P		**Pn**	**02 27 17.4**	**-2.8**
	baz=15,SNR=68							
JAGI	**Jajag, Banyuwa**	**15.68**	**231**	P		**P**	**02 27 32.0**	**+3.0**
	126nm,1.0s							
JAGI	**Jajag, Banyuwa**	**15.68**	**231**	Pn		**Pn**	**02 27 23.4**	**-2.6**
JAGI				IAmb		IAmb	02 27 33.1	
	comp=Z,137nm,1.1s							
BLJI	**Banyuglugur**	**15.70**	**234**	P		**P**	**02 27 31.3**	**+2.2**
	comp=Z,3μmcomp=Z,142nm,0.6s							
SMPP	**San Manuel, Pa**	**15.70**	**339**	*eP*		**Pn**	**02 27 27.4**	**+1.2**
BCP	**Baguio City**	**15.97**	**339**	‖*eP*		**P**	**02 27 31.2**	**-1.1**
CAUP	**Cauayan**	**16.09**	**344**	*eP*		**Pn**	**02 27 32.1**	**+1.1**
KSM	**Kuching**	**16.11**	**270**	Pn		**Pn**	**02 27 30.9**	**-0.5**
KSM	**Kuching**	**16.11**	**270**	P		**P**	**02 27 36.0**	**+2.3**
GMJI	**Gumukmas**	**16.12**	**233**	P		**P**	**02 27 37.5**	**+3.7**
	comp=Z,2μmcomp=Z,134nm,0.9s							
BOLP	**Bolinao**	**16.20**	**337**	*eP*		**P**	**02 27 36.5**	**+1.9**
ABRA	**Dolores**	**17.09**	**341**	*eP*		**Pn**	**02 27 42.6**	**-0.9**
APYP	**Conner**	**17.12**	**343**	*eP*		**Pn**	**02 27 43.2**	**-0.7**
KNRA	**Kununurra**	**17.13**	**172**	P		**Pn**	**02 27 43.9**	**-0.1**
	baz=17,SNR=40							
KNRA	**Kununurra**	**17.13**	**172**	Pn		**Pn**	**02 27 42.3**	**-1.8**
KNRA				IAmb		IAmb	02 27 45.3	
	comp=Z,173nm,0.8s							
PWJI	**Pagerwojo**	**17.33**	**237**	P		**P**	**02 27 49.2**	**+2.0**
	comp=Z,97nm,0.7s							
FITZ	**Fitzroy Crossi**	**19.40**	**182**	P		**P**	**02 28 09.1**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=13,slow=7.7,SNR=58							
FITZ				S		**S**	**02 31 44.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=218,slow=17,SNR=1.6							
FITZ	**Fitzroy Crossi**	**19.40**	**182**	P		**P**	**02 28 09.4**	**-0.5**
	baz=20,SNR=46							
FITZ	**Fitzroy Crossi**	**19.40**	**182**	P		**P**	**02 28 08.7**	**-1.2**
KPJI	**Karang Pucung**	**19.49**	**243**	P		**P**	**02 28 10.9**	**-0.1**
	comp=Z,127nm,0.8s							
LEM	**Lembang**	**20.48**	**246**	P		**P**	**02 28 21.4**	**-0.4**
	comp=Z,20nm,0.4s,baz=321,slow=22,SNR=2.4							
LEM				LR		LR	02 38 07.5	
	comp=Z,373nm,20.3s,baz=60,slow=42							
CISI	**Cisompet, Garu**	**20.59**	**244**	P		**P**	**02 28 21.9**	**-1.0**
CISI				IAmb		IAmb	02 28 39.8	
	comp=Z,51nm,0.6s							
PPBI	**Pangkal Pinang**	**20.59**	**260**	P		**P**	**02 28 22.7**	**-0.2**
	comp=Z,11μmcomp=Z,48nm,0.8s							
DLV	**T Lat**	**20.64**	**301**	P		**P**	**02 28 23.6**	**0.0**
DLV				IAmb		IAmb	02 28 31.4	
	comp=Z,88nm,1.0s							
GUMO	**Guam**	**21.90**	**56**	P		**P**	**02 28 36.4**	**-0.5**
	comp=Z,38nm,0.4s,baz=204,slow=20,SNR=2.5							
GUMO	**Guam**	**21.90**	**56**	P		**P**	**02 28 36.4**	**-0.5**
GUMO				pmax		pmax		
	comp=Z,93nm,1.0s							
GUMO	**Guam**	**21.90**	**56**	IAmb		IAmb	02 28 59.6	
	comp=Z,93nm,1.0s							
TWG	**Pinlang**	**21.91**	**347**	P		**P**	**02 28 34.2**	**-2.7**
TWG				IAmb		IAmb	02 28 39.2	
	comp=Z,67nm,0.6s							
DSRI	**Dabo**	**21.92**	**265**	P		**P**	**02 28 37.6**	**+0.4**
	comp=Z,2μmcomp=Z,30nm,1.2s							
CGJI	**Cibinong**	**22.17**	**249**	P		**P**	**02 28 43.2**	**+3.3**
	comp=Z,15μmcomp=Z,98nm,0.5s							
YULB	**Yu-li**	**22.41**	**348**	P		**P**	**02 28 38.8**	**-3.5**
KLSI		**22.50**	**254**	P		**P**	**02 28 46.0**	**+2.5**
	comp=Z,12nm,0.8s							
COEN	**Coen**	**22.55**	**133**	P		**P**	**02 28 42.8**	**-1.2**
	baz=23,SNR=25							
COEN	**Coen**	**22.55**	**133**	P		**P**	**02 28 42.4**	**-1.6**
MYKOM	**Kota Tinggi**	**22.57**	**271**	P		**P**	**02 28 43.7**	**-0.4**
MYKOM				IAmb		IAmb	02 28 45.8	
	comp=Z,68nm,1.1s							
MYKOM	**Kota Tinggi**	**22.57**	**271**	P		**P**	**02 28 45.0**	**+0.8**
WRAB	**Tennant Creek**	**22.59**	**160**	*c*	*i*P	**P**	**02 28 43.3**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,129nm,0.7s							
WRAB	**Tennant Creek**	**22.59**	**160**	P		**P**	**02 28 42.7**	**-1.6**
WRA	**Warramunga Arr**	**22.60**	**160**	P		**P**	**02 28 43.4**	**-1.0**
	comp=Z,130nm,0.7s,baz=339,slow=10,SNR=161							
WRA				S		**S**	**02 32 46.2**	**-1.8**
	comp=Z,16nm,1.1s,baz=336,slow=16,SNR=6.9							
WRA	**Warramunga Arr**	**22.60**	**160**	P		**P**	**02 28 42.2**	**-2.2**
WR0	**Warramunga Arr**	**22.68**	**160**	P		**P**	**02 28 44.3**	**-0.9**
WR0				IAmb		IAmb	02 28 47.8	
	comp=Z,101nm,0.9s							
SSLB	**Suanglung**	**22.87**	**347**	P		**P**	**02 28 44.7**	**-2.5**
SSLB				IAmb		IAmb	02 28 50.4	
	comp=Z,58nm,0.7s							
KASI	**Kota Agung**	**22.96**	**252**	P		**P**	**02 28 52.2**	**+4.0**
	comp=Z,95nm,0.6s							
MDSI	**Maura Dua**	**22.99**	**255**	P		**P**	**02 28 48.0**	**-0.5**
	comp=Z,956nmcomp=Z,33nm,0.7s							
LWLI	**Liwa**	**23.24**	**254**	P		**P**	**02 28 51.4**	**+0.3**
	comp=Z,212nm,0.8s							
PMG	**Port Moresby**	**23.28**	**118**	P		**P**	**02 28 51.4**	**0.0**
	comp=Z,46nm,0.9s,baz=306,slow=7.2,SNR=6.4							
PMG				LR		LR	02 40 27.3	
	comp=Z,614nm,18.5s,baz=308,slow=43							
PMG	**Port Moresby**	**23.28**	**118**	*ce*P		**P**	**02 28 51.8**	**+0.4**
PMG				pmax		pmax		
	comp=Z,29nm,0.7s							
PMG	**Port Moresby**	**23.28**	**118**	P		**P**	**02 28 47.8**	**-3.5**
YHNB	**Yeheng**	**23.63**	**348**	IAmb		IAmb	02 29 05.9	
	comp=Z,202nm,1.7s							
PSA00	**Pilbara Seismi**	**23.73**	**195**	P		**P**	**02 28 54.8**	**-0.6**
PSA00				IAmb		IAmb	02 28 57.3	
	comp=Z,51nm,0.7s							
XMIS	**Christmas Isla**	**23.81**	**240**	P		**P**	**02 28 56.0**	**-0.2**
QIZ	**Qiongzhong**	**23.89**	**318**	P		**P**	**02 28 56.0**	**-0.9**
QIZ				S		**S**	**02 33 10.3**	**+1.1**
QIZ				sS		**sS**	**02 33 34.0**	**+1.4**
QIZ				pmax		pmax		
	comp=Z,29nm,1.3s							
QIZ				LR		LR		
	comp=Z,320nm,22.6s							
QIZ				LR		LR		
	comp=Z,360nm,26.5s							
QIZ				LR		LR		
	comp=Z,560nm,23.0s							
QIZ	**Qiongzhong**	**23.89**	**318**	P		**P**	**02 28 56.5**	**-0.5**
SDSI	**Sungai Dareh**	**25.10**	**265**	P		**P**	**02 29 09.7**	**+1.7**
	comp=Z,17μmcomp=Z,109nm,0.7s							
QIS	**Mount Isa**	**25.36**

	comp=Z,88nm,4.4s										
KMI					LR	LR					
	comp=Z,220nm,24.4s										
KMI					LR	LR					
	comp=Z,270nm,21.8s										
KMI					LR	LR					
	comp=Z,540nm,23.1s										
KMBL	**Kambalda**	**32.88**	**187**		P	**P**		**02 30 17.6**	**+0.6**		
	baz=33,SNR=4.4										
ENH	**Enshi**	**32.90**	**332**		P	**P**		**02 30 15.6**	**-1.7**		
BLDU	**Ballidu**	**33.16**	**195**		P	**P**		**02 30 19.6**	**+0.1**		
	baz=33,SNR=20										
KLBR	**Kellerberrin**	**33.84**	**193**		P	**P**		**02 30 25.8**	**+0.4**		
	baz=34,SNR=32										
JHS	**Saijyo**	**33.99**	**10**		IAmb	IAmb		02 30 32.6			
	comp=Z,27nm,1.1s										
MUN	**Mundaring**	**34.59**	**195**		P	**P**		**02 30 32.3**	**+0.5**		
	baz=35,SNR=8.6										
JWT	**Wachi**	**34.72**	**13**		IAmb	IAmb		02 30 37.0			
	comp=Z,31nm,0.9s										
HNR	**Honiara**	**35.08**	**109**		LR	LR		02 44 36.2			
	comp=Z,188nm,21.8s,baz=290,slow=36										
INU	**Inuyama**	**35.18**	**15**		IAmb	IAmb		02 30 38.2			
	comp=Z,35nm,1.0s										
BBOO	**Buckleboo**	**35.23**	**166**		P	**P**		**02 30 37.4**	**0.0**		
	baz=35,SNR=82										
BBOO	**Buckleboo**	**35.23**	**166**		P	**P**		**02 30 37.4**	**0.0**		
NWAO	**Narrogin (SRO)**	**35.24**	**193**		P	**P**		**02 30 37.3**	**-0.1**		
NWAO					pmax	pmax					
	comp=Z,173nm,1.8s										
NWAO	**Narrogin (SRO)**	**35.24**	**193**		P	**P**		**02 30 37.3**	**-0.1**		
EIDS	**Eidsvold**	**35.76**	**140**		P	**P**		**02 30 41.9**	**-0.1**		
	baz=36,SNR=8.4										
EIDS	**Eidsvold**	**35.76**	**140**		P	**P**		**02 30 41.4**	**-0.6**		
EIDS					IAmb	IAmb		02 30 42.9			
	comp=Z,25nm,1.0s										
KSRS	**Korea Array**	**35.90**	**2**		P	**P**		**02 30 43.2**	**+0.3**		
	comp=Z,9.9nm,0.8s,baz=180,slow=9.6,SNR=18										
KSRS					PcP	**PcP**		**02 33 10.6**	**+1.4**		
	comp=Z,3.2nm,0.8s,baz=190,slow=2.5,SNR=5.7										
KS19	**Wonju Array Si**	**35.94**	**2**		P	**P**		**02 30 43.4**	**0.0**		
STKA	**Stephens Creek**	**36.10**	**158**		P	**P**		**02 30 45.0**	**+0.2**		
	comp=Z,45nm,0.7s,baz=331,slow=8.7,SNR=104										
STKA	**Stephens Creek**	**36.10**	**158**		P	**P**		**02 30 45.1**	**+0.2**		
	baz=36,SNR=89										
STKA	**Stephens Creek**	**36.10**	**158**		P	**P**		**02 30 45.0**	**+0.2**		
STKA					pmax	pmax					
	comp=Z,10.0nm,0.8s										
STKA	**Stephens Creek**	**36.10**	**158**		P	**P**		**02 30 45.0**	**+0.2**		
CD2	**Chengdu**	**36.35**	**326**		P	**P**		**02 30 47.1**	**0.0**		
CD2					S	**S**		**02 36 25.9**	**+1.6**		
CD2					pmax	pmax					
	comp=Z,50nm,1.3s										
CD2					pmax	pmax					
	comp=Z,130nm,8.7s										
CD2					LR	LR					
	comp=Z,240nm,15.3s										
CD2					LR	LR					
	comp=Z,290nm,20.5s										
CD2					LR	LR					
	comp=Z,330nm,14.1s										
XAN	**Xi'an**	**36.36**	**335**		P	**P**		**02 30 45.8**	**-1.3**		
XAN					S	**S**		**02 36 27.4**	**+3.2**		
XAN					SS	**SnSn**		**02 38 58.1**	**+1.3**		
XAN					pmax	pmax					
	comp=Z,66nm,0.9s										
XAN					LR	LR					
	comp=Z,180nm,20.6s										
XAN					LR	LR					
	comp=Z,220nm,18.4s										
XAN					LR	LR					
	comp=Z,350nm,22.8s										
XAN	**Xi'an**	**36.36**	**335**		P	**P**		**02 30 44.9**	**-2.2**		
XAN					pmax	pmax					
	comp=Z,43nm,0.8s										
XAN	**Xi'an**	**36.36**	**335**		P	**P**		**02 30 44.9**	**-2.2**		
HTT	**Hallett**	**36.60**	**162**		P	**P**		**02 30 50.0**	**+0.9**		
	baz=37,SNR=15										
MJAR	**Matsushiro Arr**	**36.62**	**16**		P	**P**		**02 30 48.2**	**-1.1**		
	comp=Z,14nm,0.8s,baz=188,slow=9.9,SNR=30										
MJAR					PcP	**PcP**		**02 33 12.6**	**+1.2**		
	comp=Z,4.4nm,0.8s,baz=168,slow=2.4,SNR=4.8										
MJAR					LR	LR		02 46 10.6			
	comp=Z,77nm,21.0s,baz=195,slow=37										
MJAR	**Matsushiro Arr**	**36.62**	**16**		P	**P**		**02 30 48.2**	**-1.1**		
MJAR								02 33 13.5			
MJAR					pmax	pmax					
	comp=Z,7.0nm,0.8s										
MJAR	**Matsushiro Arr**	**36.62**	**16**		P	**P**		**02 30 48.2**	**-1.1**		
MJAR						**PcP**		**02 33 13.4**	**+2.1**		
MAJO	**Matsushiro**	**36.62**	**16**	*c*	*i*P	**P**		**02 30 48.2**	**-1.1**		
MAJO					pmax	pmax					
	comp=Z,26nm,1.0s										
MAJO	**Matsushiro**	**36.62**	**16**		P	**P**		**02 30 47.7**	**-1.6**		
MAJO					IAmb	IAmb		02 30 50.8			
	comp=Z,22nm,0.9s										
MAT	**Matsushiro**	**36.62**	**16**		P	**P**		**02 30 48.0**	**-1.2**		
MAT				*e*	S	**S**		**02 36 25.4**	**-2.7**		
CMSA	**Cobar Meteorol**	**37.53**	**152**		P	**P**		**02 30 57.8**	**+0.8**		
	baz=38,SNR=16										
DL2	**Dalian**	**37.58**	**354**		P	**P**		**02 30 57.8**	**+0.5**		
DL2				*e*	S	**S**		**02 36 46.8**	**+4.3**		
DL2					sS	**sS**		**02 37 04.8**	**-1.8**		
DL2					pmax	pmax					
	comp=Z,70nm,0.6s										
DL2					LR	LR					
	comp=Z,260nm,15.2s										
DL2					LR	LR					
	comp=Z,310nm,15.2s										
DL2					LR	LR					
	comp=Z,300nm,15.1s										
H01W3	**Cape Leeuwin H**	**37.90**	**197**		P	**P**		**02 31 02.2**	**+2.4**		
	baz=20,slow=5.6,SNR=3.8										
H01W1	**Cape Leeuwin H**	**37.90**	**197**		P	**P**		**02 31 02.1**	**+2.3**		
	baz=20,slow=5.6,SNR=4.1										
H01W2	**Cape Leeuwin H**	**37.91**	**197**		P	**P**		**02 31 02.3**	**+2.5**		
	baz=20,slow=5.6,SNR=5.2										
JSD	**Sado**	**38.04**	**15**		P	**P**		**02 30 60.0**	**-1.2**		
JSD					IAmb	IAmb		02 31 01.6			
	comp=Z,28nm,0.8s										
TIY	**Taiyuan**	**38.35**	**342**	*e*	P	**P**		**02 31 05.6**	**+1.6**		
TIY					pmax	pmax					
	comp=Z,20nm,1.0s										
SAIH	**SAIHA**	**38.66**	**305**	*e*	P	**P**		**02 31 05.7**	**-1.1**		
SAIH					IAmb	IAmb		02 31 07.0			
	comp=Z,59nm,0.6s										
KOHI	**KOHIMA**	**39.41**	**311**	*e*	P	**P**		**02 31 11.5**	**-1.5**		
KOHI					IAmb	IAmb		02 31 12.6			
	comp=Z,28nm,0.6s										
BJT	**Baijiatuau**	**39.55**	**348**		P	**P**		**02 31 12.7**	**-1.1**		
BJT					pmax	pmax					
	comp=Z,21nm,1.0s										
BJT	**Baijiatuau**	**39.55**	**348**		P	**P**		**02 31 12.7**	**-1.1**		
BJI	**Beijing**	**39.56**	**348**		P	**P**		**02 31 13.8**	**-0.1**		
BJI					sP	**sP**		**02 31 35.4**	**+0.3**		
BJI					S	**S**		**02 37 15.9**	**+3.5**		
BJI					sS	**sS**		**02 37 40.1**	**+3.4**		
BJI					pmax	pmax					
	comp=Z,14nm,0.7s										
BJI					LR	LR					
	comp=Z,94nm,24.6s										
BJI					LR	LR					
	comp=Z,120nm,17.1s										
ARMA	**Armidale**	**39.73**	**145**		P	**P**		**02 31 17.1**	**+1.4**		
	baz=40,SNR=25										
ARMA	**Armidale**	**39.73**	**145**		P	**P**		**02 31 15.9**	**+0.2**		
ARMA					IAmb	IAmb		02 31 17.8			
	comp=Z,44nm,0.8s										
SNY	**Shenyang**	**40.32**	**357**	⇓	P	**P**		**02 31 20.8**	**+0.7**		
SNY					S	**S**		**02 37 24.3**	**+0.7**		
SNY					pmax	pmax					
	comp=Z,27nm,0.9s										
SNY					pmax	pmax					
	comp=Z,190nm,6.2s										
SNY					LR	LR					
	comp=Z,160nm,21.8s										
SNY					LR	LR					
	comp=Z,180nm,24.5s										
SNY					LR	LR					
	comp=Z,260nm,24.8s										
LZH	**Lanzhou**	**40.36**	**331**	*e*	P	**P**		**02 31 20.4**	**-0.4**		
LZH					sP	sP		02 31 41.8	-0.2		
LZH					PcP	**PcP**		**02 33 25.0**	**+1.7**		
LZH					SS	SS		02 40 23.8	-1.9		
LZH					pmax	pmax					
	comp=Z,48nm,1.0s										
LZH					pmax	pmax					
	comp=Z,180nm,4.3s										
LZH					LR	LR					
	comp=Z,210nm,13.3s										
LZH					LR	LR					
	comp=Z,250nm,13.3s										
LZH					LR	LR					
	comp=Z,290nm,14.1s										
ARPS	**Mount Arapiles**	**40.60**	**161**		P	**P**		**02 31 23.7**	**+1.1**		
	baz=41,SNR=40										
SHL	**Shillong**	**41.04**	**309**	*e*	P	**P**		**02 31 25.1**	**-1.5**		
SHL					IAmb	IAmb		02 31 26.7			
	comp=Z,31nm,0.5s										
SHL	**Shillong**	**41.04**	**309**		P	**P**		**02 31 25.5**	**-1.1**		
SHL					pmax	pmax					
	comp=Z,42nm,0.8s										
SHL	**Shillong**	**41.04**	**309**		P	**P**		**02 31 25.5**	**-1.1**		
SHL					IAmb	IAmb		02 31 28.4			
	comp=Z,42nm,0.8s										
YNG	**Young**	**41.08**	**152**		P	**P**		**02 31 28.0**	**+1.4**		
	baz=41,SNR=4.8										
HHC	**Hu-ho-hao-te**	**41.50**	**343**	*e*	P	**P**		**02 31 29.1**	**-1.0**		
HHC					pmax	pmax					
	comp=Z,27nm,0.5s										
HHC					pmax	pmax					
	comp=Z,110nm,4.4s										
HHC					LR	LR					
	comp=Z,210nm,16.2s										
HHC					LR	LR					
	comp=Z,130nm,19.6s										
MGCD	**Mangrove Creek**	**41.57**	**148**		P	**P**		**02 31 32.4**	**+1.8**		
	baz=42,SNR=6.0										
CAN	**Canberra**	**42.20**	**152**		P	**P**		**02 31 35.7**	**-0.1**		
CAN					pmax	pmax					
	comp=Z,31nm,0.7s										
CAN	**Canberra**	**42.20**	**152**		P	**P**		**02 31 35.7**	**-0.1**		
CAN					IAmb	IAmb		02 31 39.0			
	comp=Z,30nm,0.7s										
CN2	**Changchun**	**42.22**	**359**	*e*	P	**P**		**02 31 34.5**	**-1.2**		
CN2				*e*	S	**S**		**02 37 56.9**	**+5.1**		
CN2					pmax	pmax					
	comp=Z,10.0nm,0.9s										
CN2					pmax	pmax					
	comp=Z,100nm,5.4s										
CN2					LR	LR					
	comp=Z,200nm,12.0s										
CN2					LR	LR					
	comp=Z,200nm,12.0s										
CN2					LR	LR					
	comp=Z,200nm,12.2s										
CNB	**Canberra Magne**	**42.37**	**152**		P	**P**		**02 31 38.8**	**+1.7**		
	baz=42,SNR=12										
TOO	**Toolangi**	**42.62**	**157**		P	**P**		**02 31 40.8**	**+1.7**		
	baz=43,SNR=6.7										
TOO	**Toolangi**	**42.62**	**157**		P	**P**		**02 31 39.9**	**+0.8**		
TOO					pmax	pmax					
	comp=Z,90nm,2.0s										
TOO	**Toolangi**	**42.62**	**157**		P	**P**		**02 31 39.9**	**+0.8**		
TOO					IAmb	IAmb		02 31 42.2			
	comp=Z,90nm,2.0s										
USRK	**Ussuriysk Ar.**	**42.89**	**6**		P	**P**		**02 31 41.8**	**+0.6**		
	comp=Z,14nm,0.6s,baz=189,slow=6.2,SNR=39										
USRK					PcP	**PcP**		**02 33 31.4**	**+0.2**		
	comp=Z,3.5nm,0.8s,baz=178,slow=6.6,SNR=2.4										
USRK					LR	LR		02 47 27.3			
	comp=Z,77nm,21.8s,baz=184,slow=33										
MDJ	**Mudanjiang**	**43.12**	**3**		P	**P**		**02 31 43.8**	**+0.8**		
MDJ					pP	pP		02 31 57.8	+0.1		
MDJ					sP	sP		02 32 04.3	0.0		
MDJ					S	**S**		**02 38 07.8**	**+2.8**		
MDJ					sS	sS		02 38 31.3	+1.8		
MDJ					pmax	pmax					
	comp=Z,38nm,0.7s										
MDJ					pmax	pmax					
	comp=Z,100nm,3.6s										
MDJ					LR	LR					
	comp=Z,200nm,17.5s										
MDJ					LR	LR					
	comp=Z,310nm,27.1s										
MDJ	**Mudanjiang**	**43.12**	**3**		P	**P**		**02 31 42.0**	**-1.0**		
MDJ					IAmb	IAmb		02 31 45.3			
	comp=Z,27nm,0.8s										
SANVU	**Saraoutou**	**43.65**	**114**		P	**P**		**02 31 47.5**	**-0.3**		
SANVU					IAmb	IAmb		02 31 50.2			
	comp=Z,59nm,1.1s										
LSA	**Lhasa**	**43.77**	**313**		P	**P**		**02 31 49.3**	**+0.2**		
LSA	**Lhasa**	**43.77**	**313**		P	**P**		**02 31 47.7**	**-1.4**		
LSA	**Lhasa**	**43.77**	**313**		P	**P**		**02 31 47.9**	**-1.2**		
LSA					pmax	pmax					
	comp=Z,20nm,0.8s										
LSA	**Lhasa**	**43.77**	**313**		P	**P**		**02 31 47.9**	**-1.2**		
TEY	**Ternei**	**44.37**	**10**	⇑	*i*P	**P**		**02 31 53.6**	**+0.6**		
TEY					pmax	pmax					
	comp=Z,60nm,0.8s										
TEY					pmax	pmax					
	comp=E,10.0nm,1.3s										
TEY					pmax	pmax					
	comp=N,40nm,0.9s										
ASAJ	**Asahikawa**	**44.89**	**17**		P	**P**		**02 31 56.6**	**-0.6**		
ASAJ					pmax	pmax					
	comp=Z,40nm,0.9s										
JKA	**Kamikawa-asahi**	**44.89**	**17**		P	**P**		**02 31 56.5**	**-0.7**		
JKA					IAmb	IAmb		02 32 11.8			
	comp=Z,40nm,0.9s										
GTA	**Gaotai**	**44.94**	**331**	*e*	P	**P**		**02 31 57.0**	**-0.9**		
GTA					pP	pP		02 32 11.1	-1.5		
GTA					sP	sP		02 32 16.8	-2.4		
GTA					PcP	**PcP**		**02 33 40.3**	**+1.9**		
GTA					PP	**PP**		**02 33 42.8**	**-1.0**		
GTA					S	**S**		**02 38 29.9**	**-2.1**		
GTA					pmax	pmax					
	comp=Z,7.0nm,1.2s										
GTA					pmax	pmax					
	comp=Z,71nm,8.0s										
GTA					LR	LR					
	comp=Z,160nm,18.9s										
GTA					LR	LR					
	comp=Z,150nm,21.1s										
GTA					LR	LR					
	comp=Z,240nm,21.4s										
TAPN	**Taplejung**	**45.17**	**308**	*e*	P	**P**		**02 31 59.0**	**-1.1**		
	comp=Z,24nm,0.5s										
ODAN	**Odare**	**45.20**	**308**	*e*	P	**P**		**02 31 59.2**	**-1.0**		
	comp=Z,28nm,0.5s										
DZM	**Mont Dzumac**	**45.49**	**123**		P	**P**		**02 32 01.2**	**-1.2**		
DZM					IAmb	IAmb		02 32 04.4			
	comp=Z,26nm,0.9s										
RAMN	**Ramite**	**45.86**	**307**	*e*	P	**P**		**02 32 04.5**	**-1.0**		
	comp=Z,26nm,0.5s										
PALK	**Pallekele**	**45.94**	**279**		P	**P**		**02 32 05.7**	**-0.4**		
PALK					pmax	pmax					
	comp=Z,16nm,1.1s										
PALK	**Pallekele**	**45.94**	**279**		P	**P**		**02 32 05.7**	**-0.4**		
GUN	**Gumba**	**46.87**	**308**	*e*	P	**P**		**02 32 12.3**	**-1.2**		
	comp=Z,53nm,0.4s										
PKI	**Pulchoki**	**47.09**	**307**	*e*	P	**P**		**02 32 13.6**	**-1.6**		
	comp=Z,11nm,0.4s										
PKIN	**Phulchoki**	**47.10**	**307**	*e*	P	**P**		**02 32 13.6**	**-1.7**		
	comp=Z,13nm,0.4s										
KKN	**Kakani**	**47.29**	**308**	*e*	P	**P**		**02 32 15.1**	**-1.6**		
	comp=Z,24nm,0.5s										
DMN	**Daman**	**47.35**	**307**	*e*	P	**P**		**02 32 15.5**	**-1.7**		
	comp=Z,16nm,0.5s										
YSS	**Yuzh-Sakhalins**	**47.55**	**15**	⇓	*e*P	**P**		**02 32 18.8**	**+0.8**		
YSS					pmax	pmax					
	comp=Z,39nm,0.9s										
KLR	**Kul'dur**	**47.86**	**5**	*c*	*i*P	**P**		**02 32 20.3**	**-0.1**		
KLR					pmax	pmax					
	comp=Z,23nm,0.9s										
GKN	**Gorkha**	**47.89**	**307**	*e*	P	**P**		**02 32 20.0**	**-1.3**		
	comp=Z,20nm,0.5s										
HIA	**Hailar**	**48.02**	**354**		P	**P**		**02 32 21.5**	**-0.2**		
HIA					pmax	pmax					
	comp=Z,16nm,0.9s										
HIA	**Hailar**	**48.02**	**354**		P	**P**		**02 32 21.4**	**-0.2**		
HIA					IAmb	IAmb		02 32 24.2			
	comp=Z,16nm,0.9s										
KOLN	**Koldanda**	**48.62**	**307**	*e*	P	**P**		**02 32 25.9**	**-1.0**		
	comp=Z,94nm,0.5s										
DANN	**Dangsing**	**48.74**	**307**	*e*	P	**P**		**02 32 26.7**	**-1.3**		
	comp=Z,129nm,0.6s										
ULN	**Ulaanbaatar**	**49.22**	**343**	*c*	*e*P	**P**		**02 32 31.0**	**-0.1**		
ULN					pmax	pmax					
	comp=Z,13nm,1.0s										
ULN	**Ulaanbaatar**	**49.22**	**343**		P	**P**		**02 32 30.3**	**-0.8**		
PYUN	**Piuthan**	**49.25**	**307**	*e*	P	**P**		**02 32 30.8**	**-1.0**		
	comp=Z,165nm,0.5s										
SONM	**Songino Array**	**49.39**	**342**		P	**P**		**02 32 32.2**	**-0.2**		
	comp=Z,6.3nm,0.6s,baz=156,slow=8.3,SNR=30										
SONM					PcP	**PcP**		**02 33 54.9**	**+0.8**		
	comp=Z,4.2nm,0.9s,baz=145,slow=5.3,SNR=2.7										
SONM					LR	LR		02 54 15.5			
	comp=Z,148nm,21.8s,baz=166,slow=37										
SONM	**Songino Array**	**49.39**	**342**		P	**P**		**02 32 31.6**	**-0.8**		
HYB	**Hyderabad**	**49.65**	**292**	*i*	P	**P**		**02 32 32.5**	**-2.2**		
TYV	**Tymovskoe**	**51.16**	**13**	*e*	P	**P**		**02 32 45.6**	**+0.1**		
TYV					pmax	pmax					
	comp=Z,10.0nm,1.2s										
TYV					pmax	pmax					
	comp=Z,100nm,5.7s										
CIT	**Chita**	**51.58**	**350**	*e*	P	**P**		**02 32 49.4**	**+0.7**		
CIT				*e*				02 32 56.0			
CIT				*e*				02 33 10.2			
CIT					pmax	pmax					
	comp=Z,117nm,1.0s										
ZEA	**Zeya**	**52.16**	**1**	*e*	P	**P**		**02 32 53.0**	**+0.1**		
ZEA					pmax	pmax					
	comp=Z,20nm,0.5s										
ZEA					pmax	pmax					
	comp=Z,26nm,0.8s										
ZEA					MLR	MLR					
	comp=Z,100nm,14.0s										
BHPL	**Bhopal**	**52.20**	**299**	*e*	P	**P**		**02 32 52.3**	**-1.6**		
BHPL					IAmb	IAmb		02 32 53.0			
	comp=Z,24nm,0.4s										
ZAK	**Zakamensk**	**52.61**	**342**	*e*	P	**P**		**02 32 56.1**	**-0.4**		
ZAK					pmax	pmax					
	comp=Z,4.0nm,1.1s										
TLY	**Talaya**	**53.63**	**343**	*e*	P	**P**		**02 33 05.2**	**+1.3**		
TLY				*e*				02 40 46.9			
TLY					pmax	pmax					
	comp=Z,15nm,0.6s										
TLY					MLR	MLR					
	comp=Z,234nm,19.0s										
GOA	**Goa**	**53.71**	**288**	*e*	P	**P**		**02 33 06.2**	**+1.2**		
MSVF	**Nonsavu**	**54.26**	**113**		P	**P**		**02 33 06.5**	**-2.6**		
MSVF					pmax	pmax					
	comp=Z,31nm,0.9s										
MSVF	**Nonsavu**	**54.26**	**113**		P	**P**		**02 33 06.5**	**-2.6**		
MSVF					IAmb	IAmb		02 33 11.9			
	comp=Z,31nm,0.8s										
WMQ	**Urumqi**	**54.45**	**326**	*e*	P	**P**		**02 33 11.6**	**+1.5**		
WMQ					sP	pP		02 33 27.8	+2.6		
WMQ					pmax	pmax					
	comp=Z,23nm,1.3s										
WMQ					pmax	pmax					
	comp=Z,31nm,3.9s										
WMQ					LR	LR					
	comp=Z,200nm,29.0s										
WMQ					LR	LR					
	comp=Z,290nm,29.1s										
WMQ					LR	LR					
	comp=Z,83nm,29.5s										
KUDL	**Kundal**	**54.57**	**304**	*e*	P	**P**		**02 33 08.5**	**-2.6**		
DHRM	**DHARAMSHALA**	**56.22**	**309**	*e*	P	**P**		**02 33 22.1**	**-1.1**		
BOD	**Bodaibo**	**57.10**	**352**	*e*	P	**P**		**02 33 28.5**	**-0.2**		
BOD					pmax	pmax					
	comp=Z,37nm,0.9s										
PEA0B	**Petropavlovsk-**	**57.68**	**22**	⇓	*e*P	**P**		**02 33 33.3**	**+0.4**		
PETK	**Petropavlovsk-**	**57.68**	**22**		P	**P**		**02 33 34.0**	**+1.1**		
	comp=Z,16nm,0.8s,baz=178,slow=4.2,SNR=13										
PETK					LR	LR		03 03 48.0			
	comp=Z,16nm,18.0s,baz=212,slow=42										
PETK	**Petropavlovsk-**	**57.68**	**22**		P	**P**		**02 33 34.3**	**+1.4**		
PETK	**Petropavlovsk-**	**57.68**	**22**		P	**P**		**02 33 34.3**	**+1.4**		
PET	**Petropavlovsk**	**57.97**	**22**	⇓	*e*P	**P**		**02 33 36.1**	**+1.2**		
PET					pmax	pmax					
	comp=Z,285nm,1.9s										
ZSN	**Zaisan**	**58.29**	**328**	*e*	P	**P**		**02 33 36.2**	**-1.0**		
ZSN	**Zaisan**	**58.29**	**328**	*e*	P	**P**		**02 33 36.2**	**-1.0**		
DGZ	**Jazzator, Alta**	**58.46**	**331**	⇑	*e*P	**P**		**02 33 38.1**	**-0.5**		
DGZ					pmax	pmax					
	comp=Z,10.0nm,0.7s										
SHLS	**Shalkode**	**58.94**	**321**	*e*	P	**P**		**02 33 39.4**	**-2.7**		
	comp=Z,17nm,1.0s										
SHLS	**Shalkode**	**58.94**	**321**	*e*	P	**P**		**02 33 39.3**	**-2.7**		
SHLS					pmax	pmax					
	comp=Z,17nm,1.0s										
PDGK	**Podgornoye**	**59.01**	**322**		P	**P**		**02 33 41.6**	**-0.9**		
NIL	**Nilore**	**59.11**	**309**		P	**P**		**02 33 42.2**	**-1.1**		
NIL					pmax	pmax					
	comp=Z,18nm,0.7s										
NIL	**Nilore**	**59.11**	**309**		P	**P**		**02 33 42.2**	**-1.1**		
NIL					IAmb	IAmb		02 33 57.2			
	comp=Z,18nm,0.7s										
UZB	**Uzynbulak**	**59.21**	**321**	*e*	P	**P**		**02 33 43.1**	**-0.8**		
	comp=Z,10nm,0.9s										
UZB	**Uzynbulak**	**59.21**	**321**	*e*	P	**P**		**02 33 43.1**	**-0.8**		
UZB					pmax	pmax					
	comp=Z,10.0nm,0.9s										
MK31	**Makanchi Array**	**59.29**	**326**	*i*	P	**P**		**02 33 43.4**	**-0.8**		
MK31					pmax	pmax					
	comp=Z,9.0nm,0.5s										
MK31	**Makanchi Array**	**59.29**	**326**		P	**P**		**02 33 43.4**	**-0.8**		
MK31					IAmb	IAmb		02 33 52.2			
	comp=Z,13nm,0.8s										
MKAR	**Makanchi Array**	**59.29**	**326**		P	**P**		**02 33 43.6**	**-0.6**		
	comp=Z,13

MA2 pmax pmax
comp=Z,21nm,0.7s
MA2 Magadan 61.02 14 P **P** **02 33 54.2 -1.5**
KUU Kurty 61.27 321 *e*P **P** **02 33 57.0 -0.8**
comp=Z,32nm,0.5s
KUU Kurty 61.27 321 *e*P **P** **02 33 57.0 -0.8**
KUU pmax pmax
comp=Z,32nm,0.5s
TKM2 Tokmak 2 61.28 320 P **P** **02 33 58.1 0.0**
SNR=6.5
TKM2 Tokmak 2 61.28 320 *i* P **P** **02 33 57.7 -0.5**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
UCH Uchtor 61.68 318 P **P** **02 34 01.4 +0.3**
SNR=25
AAK Ala-Archa 61.88 319 P **P** **02 34 05.2 +3.1**
SNR=8.2
AAK Ala-Archa 61.88 319 *i* P **P** **02 34 02.2 +0.1**
SNR=8.7
AAK Ala-Archa 61.88 319⇓ *e*P **P** **02 34 01.9 -0.2**
AAK pmax pmax
comp=Z,37nm,1.0s
SGDS Sogindy 62.16 320 *e*P **P** **02 34 02.6 -1.2**
comp=Z,15nm,1.7s
SGDS Sogindy 62.16 320 *e*P **P** **02 34 02.6 -1.2**
SGDS pmax pmax
comp=Z,15nm,1.7s
USP Ospenovka 62.16 319 P **P** **02 34 03.3 -0.6**
SNR=14
AML Almayashu 62.18 318 P **P** **02 34 04.4 -0.1**
SNR=14
EKS2 Erkin-Say 62.36 319 P **P** **02 34 05.5 +0.2**
SNR=11
ZAA0 Zalesovo Array 62.51 334 P **P** **02 34 04.8 -1.1**
ZAA0 IAmb IAmb 02 34 08.6
comp=Z,9.9nm,0.8s
ZALV Zalesovo Beam 62.51 334 P **P** **02 34 04.6 -1.3**
comp=Z,8.0nm,0.6s,baz=137,slow=6.1,SNR=28
ZALV LR LR 03 02 43.4
comp=Z,57nm,20.4s,baz=106,slow=37
ZALV Zalesovo Beam 62.51 334 *i* P **P** **02 34 04.8 -1.1**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 62.70 309 P **P** **02 34 06.2 -1.6**
KBL pmax pmax
comp=Z,20nm,0.6s
KBL Kabul 62.70 309 P **P** **02 34 06.2 -1.6**
BTLS Baital 63.26 321 *e*P **P** **02 34 10.1 -1.0**
BTLS Baital 63.26 321 *e*P **P** **02 34 10.1 -1.0**
KURBB Kurchatov Arra 63.52 328 P **P** **02 34 12.1 -0.6**
KURK Kurchatov 63.53 328*c* *i*P **P** **02 34 12.1 -0.6**
KURK pmax pmax
comp=Z,67nm,0.7s
KURK Kurchatov 63.53 328 P **P** **02 34 11.5 -1.2**
DZA Taraz 64.09 318 *e*P **P** **02 34 15.2 -1.4**
IUG Iuzhnay 64.67 317 *e*P **P** **02 34 19.8 -0.8**
comp=Z,16nm,0.8s
IUG Iuzhnay 64.67 317 *e*P **P** **02 34 19.7 -0.8**
IUG pmax pmax
comp=Z,16nm,0.8s
KK31 Karatay Array 64.72 318 P **P** **02 34 20.5 -0.2**
KK31 pmax pmax
comp=Z,16nm,1.0s
KK31 Karatay Array 64.72 318 P **P** **02 34 20.5 -0.2**
KK31 IAmb IAmb 02 34 25.0
comp=Z,16nm,0.9s
KKAR Karatay Array 64.72 318 P **P** **02 34 19.4 -1.3**
KKAR Karatay Array 64.72 318 P **P** **02 34 19.4 -1.3**
BRZS Berezniki 66.40 325 *e*P **P** **02 34 30.6 -0.9**
comp=Z,6.3nm,0.5s
BRZS Berezniki 66.40 325 *e*P **P** **02 34 30.5 -0.9**
BRZS pmax pmax
comp=Z,6.0nm,0.5s
CASY Casey 68.49 187 P **P** **02 34 44.2 0.0**
CASY IAmb IAmb 02 34 46.9
comp=Z,15nm,0.8s
WSAR Wadi Sarin 69.08 294 P **P** **02 34 46.5 -2.3**
comp=Z,2.8nm,0.6s,baz=113,slow=9.9,SNR=4.3
WSAR PcP **PcP** **02 35 13.8 +1.3**
comp=Z,5.9nm,0.9s,baz=167,slow=6.1,SNR=4.2
BRVK Borovoye 69.17 328*c* *i*P **P** **02 34 48.3 -0.4**
BRVK pmax pmax
comp=Z,28nm,1.3s
BRVK Borovoye 69.17 328 P **P** **02 34 48.2 -0.5**
BRVK IAmb IAmb 02 35 00.2
comp=Z,15nm,0.7s
TIXI Tiksi 70.15 1*de*P **P** **02 34 54.6 +0.2**
TIXI pmax pmax
comp=Z,68nm,1.0s
TIXI Tiksi 70.15 1 P **P** **02 34 53.4 -1.1**
SOHO SOHO 71.10 295 P **P** **02 35 01.4 +0.2**
BANOM Banah 71.54 297 P **P** **02 35 04.0 +0.2**
ASHO Ashiyiah 71.59 295 P **P** **02 35 04.2 0.0**
SHME Shamm 71.69 297 P **P** **02 35 06.4 +1.6**
ALNE Al Ain 71.80 295 P **P** **02 35 04.1 -1.3**
GYB1 ALIBECK ARRAY 72.10 309 P **P** **02 35 06.2 -0.8**
GYA2 ALIBECK ARRAY 72.11 309 P **P** **02 35 05.8 -1.3**
GEYT Alibeck 72.11 309 P **P** **02 35 06.6 -0.4**
comp=Z,13nm,0.7s,baz=142,slow=5.1,SNR=25
GEYT Alibeck 72.11 309 P **P** **02 35 07.0 -0.1**
GYA0B ALIBECK ARRAY 72.11 309 IAmb IAmb 02 35 10.7
comp=Z,16nm,0.8s
NRIK Noril'sk 72.60 347 P **P** **02 35 09.6 +0.3**
comp=Z,41nm,0.8s,baz=134,slow=6.1,SNR=33
ABKAR Akbulak array 73.75 321 P **P** **02 35 16.0 -0.4**
ABKAR IAmb IAmb 02 35 17.3
comp=Z,13nm,0.6s
SVE Sverdlovsk 75.77 329 *e*P **P** **02 35 28.2 +0.3**
SVE pmax pmax
comp=Z,74nm,0.7s
ARU Arti 76.73 328 P **P** **02 35 32.7 -0.7**
comp=Z,15nm,0.6s,baz=112,slow=4.5
ARU Arti 76.73 328*c* *i*P **P** **02 35 32.8 -0.6**
ARU 02 35 44.5
ARU 02 38 21.4
ARU S **S** **02 45 16.1 +0.3**
ARU SS **SS** **02 50 07.7 -4.8**
ARU pmax pmax
comp=Z,47nm,0.7s
ARU Arti 76.73 328 P **P** **02 35 31.9 -1.5**
SDPT Sand Point 79.28 34 P **P** **02 35 46.5 -1.1**
ABPO Ambohimpanom 80.25 251 P **P** **02 35 56.3 +2.5**
ABPO pmax pmax
comp=Z,33nm,1.4s
ABPO Ambohimpanom 80.25 251 P **P** **02 35 56.3 +2.5**
ABPO IAmb IAmb 02 35 58.8
comp=Z,33nm,1.4s
OPO Ambohidratompo 80.25 251 P **P** **02 35 54.7 +0.9**
comp=Z,11nm,0.9s
VNDA Vanda 81.18 173 P **P** **02 35 58.2 +0.8**
comp=Z,12nm,0.8s,baz=310,slow=5.8,SNR=34
VNDA LR LR 03 11 53.3
comp=Z,37nm,21.6s,baz=1.5,slow=36
VNDA Vanda 81.18 173 P **P** **02 35 57.5 +0.2**
VNDA IAmb IAmb 02 36 00.5
comp=Z,14nm,0.8s
MAW Mawson 81.49 200 P **P** **02 36 00.2 +1.1**
comp=Z,6.1nm,0.8s,baz=76,slow=6.4,SNR=16
MAW LR LR 03 08 02.0
comp=Z,51nm,21.5s,baz=60,slow=33
MAW Mawson 81.49 200 P **P** **02 36 00.3 +1.1**
baz=82,SNR=14
MAW Mawson 81.49 200 P **P** **02 35 59.3 +0.2**
DAMY Dhamar 81.94 284 P **P** **02 36 02.3 -0.7**
DAMY IAmb IAmb 02 36 10.3
comp=Z,11nm,0.7s
KIRV Kirov 82.04 329*ce*P **P** **02 36 01.6 -0.6**
GROC Groznyy 82.20 313 *e*P **P** **02 36 01.2 -2.2**
GROC *e**PP **pP** **02 36 17.7 -1.8**
GROC *e*S **S** **02 46 09.9 -4.3**
GROC pmax pmax
comp=Z,31nm,1.0s
TTA Tatalina 83.09 27 IAmb IAmb 02 36 10.7
comp=Z,22nm,0.9s
ATD Arta Tunnel 83.43 281 P **P** **02 36 11.8 +1.3**
comp=Z,22nm,0.7s,baz=110,slow=2.0,SNR=14
ZEI Tsey 83.55 313 *e*P **P** **02 36 10.6 -0.1**
ZEI pmax pmax
comp=Z,83nm,1.4s
AKDM Akdamar-Van 83.98 308 *e*P **P** **02 36 13.9 +0.9**
KARS Kars 84.03 311 *e*P **P** **02 36 14.4 +1.3**
AGRB Hanur-Agry 84.04 309 *e*P **P** **02 36 14.6 +1.3**
GOF Gofitskoye 84.32 315 *e*P **P** **02 36 18.7 +4.4**
KBZ Khabaz 84.34 314 P **P** **02 36 14.7 +0.3**
comp=Z,12nm,0.6s,baz=120,slow=3.7,SNR=31

KBZ Khabaz 84.34 314*c* *i*P **P** **02 36 14.5 +0.1**
KBZ pmax pmax
comp=Z,12nm,0.7s
SIRT Sirnak 84.37 307 *e*P **P** **02 36 15.4 +0.5**
A21K Barrow 84.50 18 P **P** **02 36 13.5 -1.1**
baz=258
KVAR Kislovodsk Arr 84.50 314 P **P** **02 36 17.2 +1.8**
comp=Z,8.1nm,0.7s,baz=266,slow=19,SNR=5.2
KIV Kislovodsk 84.51 314 *i* P **P** **02 36 15.9 +0.5**
SNR=8.9
KIV Kislovodsk 84.51 314 *e*P **P** **02 36 15.5 +0.1**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV MLR MLR
comp=Z,134nm,20.0s
KIV Kislovodsk 84.51 314 P **P** **02 36 14.6 -0.8**
KIV IAmb IAmb 02 36 18.9
comp=Z,17nm,0.7s
IMAR Indian Mountai 84.57 24 P **P** **02 36 16.4 +1.3**
GURO Guroymak-BITLI 84.73 308 *e*P **P** **02 36 17.9 +1.1**
CAPN Captain Cook N 85.07 29 P **P** **02 36 19.7 +2.0**
baz=264
VRTB Varto-Mus 85.21 309 *e*P **P** **02 36 20.8 +1.7**
SUA Susitna One 85.33 29 IAmb IAmb 02 36 21.3
comp=Z,23nm,0.9s
SVAN Silvan-Diyarba 85.37 308 *e*P **P** **02 36 20.6 +0.8**
KARO Karliova-Bingo 85.53 309 *e*P **P** **02 36 22.2 +1.4**
VRH Novokhopyorsk 85.58 321 *e*P **P** **02 36 20.0 -0.5**
VRH pmax pmax
comp=Z,110nm,0.7s
MARD Mardin 85.68 307 P **P** **02 36 20.2 -1.3**
MLY Manley 85.70 25 P **P** **02 36 21.7 +0.8**
baz=264
RC01 Rabbit Creek A 85.79 29 P **P** **02 36 22.1 +0.8**
baz=265
YEDI Yedisu-Bingol 85.92 309 *e*P **P** **02 36 23.7 +1.0**
MAZI Mazidag 85.95 307 *e*P **P** **02 36 23.1 +0.3**
PMR Palmer 86.12 28 IAmb IAmb 02 36 25.8
comp=Z,28nm,1.2s
COLD Coldfoot 86.14 23 P **P** **02 36 24.1 +1.2**
baz=264
COLD Coldfoot 86.14 23 IAmb IAmb 02 36 25.5
comp=Z,12nm,0.9s
I23K Minto, Yukon-K 86.29 25 P **P** **02 36 25.0 +1.3**
baz=265
MCK McKinley 86.36 26 P **P** **02 36 24.4 +0.3**
baz=266
NEA2 Nenana 86.37 25 P **P** **02 36 24.1 -0.1**
baz=266
TOLK Toolik Lake Re 86.50 21 P **P** **02 36 25.8 +1.0**
baz=265
SOC Sochi 86.64 313 *e*P **P** **02 36 24.0 -1.9**
SOC *e* 02 39 48.0
SOC *e*PPP PPP 02 41 40.3
SOC *e*S **SKSac** **02 46 45.2 -2.6**
SOC *e*SSS SSS 02 56 08.6
SOC pmax pmax
comp=Z,42nm,0.7s
PTK Pertek 86.81 309 *e*P **P** **02 36 28.2 +1.1**
SVRC Sivrice-ELAZID 86.87 308 *e*P **P** **02 36 28.3 +0.9**
POKR Poker Plat Res 87.10 25 P **P** **02 36 28.6 +0.9**
baz=267
VSR Storozhevoye 87.19 321 *e*P **P** **02 36 28.1 -0.3**
VSR pmax pmax
comp=Z,40nm,0.8s
URFA Urfa 87.24 307 *e*P **P** **02 36 29.8 +0.7**
HDA Harding Lake 87.28 26 IAmb IAmb 02 36 29.2
comp=Z,9.4nm,1.0s
IL31 87.32 25 IAmb IAmb 02 36 29.8
comp=Z,14nm,1.4s
ILAR Eielson Array 87.32 25 P **P** **02 36 27.4 -1.3**
comp=Z,4.6nm,1.1s,baz=238,slow=4.7,SNR=14
LPSR Galich'ya Gora 87.36 322 *e*P **P** **02 36 29.5 +0.3**
LPSR pmax pmax
comp=Z,130nm,1.8s
M24K Tolsona, Glenn 87.54 28 P **P** **02 36 31.1 +1.1**
baz=268
FURI Furi 87.56 279 P **P** **02 36 30.8 -0.5**
MALT Malatya 87.56 308 *e*P **P** **02 36 31.4 +0.8**
PAX Paxson 87.89 27 IAmb IAmb 02 36 33.4
comp=Z,14nm,1.2s
MOS Moscow 88.17 326 *e*P **P** **02 36 31.5 -1.4**
MOS *e* 02 36 47.8
RIDG Independent Ri 88.18 26 IAmb IAmb 02 36 34.2
comp=Z,12nm,0.9s
N25K Chitina, Valde 88.28 29 P **P** **02 36 34.3 +0.8**
baz=270
ANN Anapa 88.30 315 *e*P **P** **02 36 33.8 0.0**
BMAR Burnt Mountain 88.32 23 P **P** **02 36 34.9 +1.4**
RSDY Resadiye-TOKAT 88.41 310 *e*P **P** **02 36 34.9 +0.4**
SCRK Sand Creek 88.56 26 P **P** **02 36 35.6 +0.8**
baz=270
GLB Gilahina Butte 88.66 29 IAmb IAmb 02 37 05.0
comp=Z,28nm,1.8s
SVSK Karacayir 88.66 310 *e*P **P** **02 36 36.6 +1.0**
OBN Obninsk 88.77 325*c* *i*P **P** **02 36 35.1 -0.7**
OBN *i* 02 40 05.0
OBN pmax pmax
comp=Z,43nm,1.3s
OBN MLR MLR
comp=Z,107nm,20.0s
OBN Obninsk 88.77 325 P **P** **02 36 34.8 -1.0**
ASF Jabal al Asfar 88.86 302 P **P** **02 36 37.9 +1.1**
comp=Z,26nm,0.8s,baz=55,slow=3.7,SNR=62
L26K Log Cabin Wild 88.86 27 P **P** **02 36 36.8 +0.7**
baz=271
TOKT Tokat 89.00 310 *e*P **P** **02 36 37.5 +0.1**
KVT Kavak 89.37 311 *e*P **P** **02 36 39.6 +0.6**
K27K Chicken 89.40 26 P **P** **02 36 40.3 +1.7**
baz=272
EGAK Eagle 89.77 25 IAmb IAmb 02 36 46.3
comp=Z,17nm,1.5s
CTGM Chitina Glacie 89.87 29 IAmb IAmb 02 36 43.5
comp=Z,11nm,1.0s
MMAI Mount Meron Ar 90.10 303 P **P** **02 36 43.8 +1.1**
comp=Z,9.6nm,0.7s,baz=78,slow=7.8,SNR=21
EIL Elat 90.59 300 P **P** **02 36 44.8 -0.1**
comp=Z,8.3nm,0.8s,baz=345,slow=1.6,SNR=9.8
BR131 Keskin Array S 91.25 310 P **P** **02 36 46.5 -1.5**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 91.25 310 P **P** **02 36 46.5 -1.5**
BRTR Keskin Array B 91.25 310 P **P** **02 36 46.5 -1.5**
comp=Z,5.4nm,0.8s,baz=128,slow=5.8,SNR=39
BRTR LR LR 03 23 38.5
comp=Z,12nm,20.8s,baz=103,slow=39
BRTR Keskin Array B 91.25 310*ce*P **P** **02 36 47.2 -0.8**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 91.25 310 P **P** **02 36 45.2 -2.7**
QSPA South Pole Qui 91.33 180 P **P** **02 36 48.5 +0.9**
comp=Z,5.4nm,0.8s,baz=318,slow=1.7,SNR=20
QSPA South Pole Qui 91.33 180 P **P** **02 36 47.7 0.0**
QSPA IAmb IAmb 02 36 50.5
comp=Z,10nm,0.9s
ARCES ARCESS Array B 92.50 340 P **P** **02 36 51.8 -1.2**
comp=Z,12nm,0.8s,baz=51,slow=9.6,SNR=8.8
AKASG Malin Array Be 93.49 321 P **P** **02 36 56.2 -1.6**
comp=Z,2.0nm,0.5s,baz=68,slow=4.7,SNR=7.3
AKASG LR LR 03 22 59.6
comp=Z,48nm,20.8s,baz=80,slow=38
AKASG Malin Array Be 93.49 321*ce*P **P** **02 37 00.0 +2.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 93.49 321 P **P** **02 36 56.9 -0.9**
FINES FINESS Array B 93.72 332 P **P** **02 36 57.8 -0.8**
comp=Z,2.8nm,0.6s,baz=56,slow=4.1,SNR=14
FINES LR LR 03 21 56.2
comp=Z,70nm,21.4s,baz=54,slow=37
FINES FINESS Array B 93.72 332 *i* P **P** **02 37 00.3 +1.7**
FINES pmax pmax
comp=Z,6.0nm,0.5s
MILM Milestii Mici 94.18 317 ⇑P **P** **02 37 00.7 -0.4**
SORM Soroca 94.35 318 ⇓P **P** **02 37 01.2 -0.7**
SORM Soroca 94.35 318 ⇓P **P** **02 37 01.2 -0.7**
TLCR 94.38 315 ⇓P **P** **02 37 01.5 -0.5**
TLCR 94.38 315 ⇓P **P** **02 37 01.5 -0.5**
TPGR Topolog 94.69 315 ⇑P **P** **02 37 04.9 +1.4**
CFR Carcaliu 94.86 315 ⇑P **P** **02 37 03.4 -0.8**
CFR Carcaliu 94.86 315 ⇑P **P** **02 37 03.4 -0.8**
PETR Petresti 95.42 316 ⇑P P 02 37 14.6 +7.8
GRER 95.64 316 ⇑P P 02 37 20.7 +13
VRI Vrincioaia 95.75 316 ⇓P **P** **02 37 08.8 +0.5**
VRI Vrincioaia 95.75 316 ⇓P **P** **02 37 08.8 +0.5**
BIZ Bicaz 96.02 317 ⇓P **P** **02 37 09.5 -0.1**

RAZG Razgrad 96.22 314 ⇑P **P** **02 37 11.9 +1.4**
MLR Muntele Rosu 96.34 316 ⇓P **P** **02 37 11.1 -0.1**
MLR Muntele Rosu 96.34 316 ⇓P **P** **02 37 11.1 -0.1**
MLR Muntele Rosu 96.34 316 IAmb IAmb 02 37 20.9
comp=Z,12nm,1.0s
BURAR Bucovina Array 96.52 318 ⇓P **P** **02 37 12.4 +0.5**
BURAR Bucovina Array 96.52 318 ⇓P **P** **02 37 12.4 +0.5**
BURAR Bucovina Array 96.52 318 P **P** **02 37 11.8 -0.1**
DOPR Dopca 96.66 316 ⇓P **P** **02 37 12.6 +0.1**
MTUR Matau 97.00 316 ⇑P Pdif 02 37 18.0 +3.8
MTUR Matau 97.00 316 ⇑P Pdif 02 37 18.0 +3.8
ARCR ARCALIA 97.18 318 ⇓P Pdif 02 37 14.9 0.0
ARR Arges 97.28 316 ⇑P **P** **02 37 14.7 +0.6**
APE Apeiranthos 97.84 308 ⇓P P 02 37 13.0 -5.0
APE Apeiranthos 97.84 308 ⇓P P 02 37 13.0 -5.1
LOT Lotru 97.86 316 ⇑P Pdif 02 37 18.1 0.0
SANT Santorini 97.99 307 P sP 02 37 40.3 -1.0
KOLS Kolonicke sedl 98.21 320 *e*P Pdif 02 37 19.5 +0.1
KOLS Kolonicke sedl 98.21 320 *e*PDIFF Pdif 02 37 19.5 +0.1
UZH Uzhgorod 98.26 319 *e*P **P** **02 37 19.2 -0.4**
UZH *e* 02 37 33.4
LSZ Lusaka 98.31 255 P **P** **02 37 20.3 -0.4**
comp=Z,2.9nm,0.8s,baz=179,slow=4.8,SNR=3.6
LSZ Lusaka 98.31 255 P Pdif 02 37 22.1 +1.4
LSZ pmax pmax
comp=Z,29nm,1.9s
LSZ Lusaka 98.31 255 P Pdif 02 37 22.1 +1.4
DEV Deva 98.38 317 ⇓P Pdif 02 37 20.8 +0.6
DEV Deva 98.38 317 ⇓P Pdif 02 37 20.8 +0.6
IDI Anoyia 98.60 306 ⇑P Pdif 02 37 23.8 +2.3
HERR Herculane 98.91 316 ⇑P **P** **02 37 22.1 -0.5**
SIRR Siria 99.16 317 ⇑P **Pdif** **02 37 23.6 -0.1**
BZS Buzias 99.32 317 ⇑P **Pdif** **02 37 24.4 0.0**
BZS Buzias 99.32 317 ⇑P **Pdif** **02 37 24.4 0.0**
NB2 NORSAR Subarra 100.71 333 P **Pdif** **02 37 29.0 -1.3**
comp=Z,2.5nm,0.8s,baz=69,slow=4.6
NOA NORSAR Array B 100.71 333 P **Pdif** **02 37 29.4 -1.0**
comp=Z,1.2nm,0.8s,baz=77,slow=4.2,SNR=2.3
MORC Moravsky Berou 101.02 321 ⇑P **Pdif** **02 37 35.6 +3.6**
MORC Moravsky Berou 101.02 321 ⇑P **Pdif** **02 37 35.6 +3.6**
DPC Dobruska-Polom 101.61 322 *e*PDIFF **Pdif** **02 37 39.2 +4.6**
DPC Dobruska-Polom 101.61 322 *e*P **Pdif** **02 37 39.2 +4.6**
BRG Berggiesshubel 102.90 323 *e* **Pdif** **02 37 45.1 +4.8**
comp=Z,6.4nm,1.0s
BRG Berggiesshubel 102.90 323 *e*P **Pdif** **02 37 40.7 +0.4**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 102.90 323 *e*PKP **Pdif** **02 37 40.6 +0.4**
comp=Z,4.6nm,1.2s
SNAA Sanae 102.91 195 Pdiff **Pdif** **02 37 41.8 +1.9**
comp=Z,0.8nm,0.8s,baz=170,slow=6.1,SNR=2.2
KHC Kasperske Hory 103.68 321 *e*PDIFF **Pdif** **02 37 44.7 +0.9**
KHC Kasperske Hory 103.68 321 *e*P **Pdif** **02 37 44.7 +0.9**
GERES GERESS Array B 103.69 321 Pdiff **Pdif** **02 37 45.9 +2.0**
comp=Z,0.7nm,0.8s,baz=51,slow=7.7,SNR=3.0
NVAR Mina Array Bea 108.67 49 Pdiff **Pdif** **02 38 06.5 +0.1**
comp=Z,0.3nm,0.2s,baz=275,slow=11,SNR=5.6
NVAR PKKPbc **PKKPab** **02 53 34.2 -0.1**
comp=Z,0.6nm,0.7s,baz=141,slow=5.2,SNR=5.6
EKA Eskdalemuir Ar 110.12 332 PKKPbc PKKPbc 02 53 17.0 -0.5
comp=Z,2.3nm,0.9s,baz=239,slow=2.6,SNR=4.4
PDAR Pinedale Array 113.29 42 PKiKP **PKiKP** **02 42 20.6 +0.3**
comp=Z,0.2nm,0.3s,baz=178,slow=2.6,SNR=2.8
PDAR PKKPab **PKKPab** **02 53 13.7 -0.2**
comp=Z,0.4nm,0.6s,baz=106,slow=5.3,SNR=4.1
RSSD Black Hills 116.19 38 PKiKP **PKPdf** **02 42 24.8 -1.0**
RSSD Black Hills 116.19 38 **PKPdf** **02 42 24.8 -1.0**
ULM Lac du Bonnet 117.13 29 PKP **PKPdf** **02 42 26.2 -0.9**
comp=Z,3.4nm,0.7s,baz=342,slow=1.5,SNR=5.0
ANMO Albuquerque 118.79 48 ⇑PKiKP **PKPdf** **02 42 30.9 -0.1**
ESDC Sonseca Array 118.97 318 PKP **PKiKP** **02 42 32.8 +1.7**
comp=Z,0.6nm,0.9s,baz=28,slow=2.2,SNR=3.3
ESDC PP **PP** **02 43 50.2 -0.2**
comp=Z,0.9nm,0.8s,baz=64,slow=4.9,SNR=3.9
ESDC PKKPbc **PKKPbc** **02 52 45.6 -1.1**
comp=Z,0.9nm,0.8s,baz=245,slow=3.7,SNR=6.2
ECSD EROS Data Cent 120.85 35 PKPdf **PKPdf** **02 42 34.1 -0.4**
F36A Milaca 121.20 32 **PKPdf** **02 42 34.8 -0.3**
SCHQ Schefferville 122.89 9 PKP **PKiKP** **02 42 38.6 +0.3**
comp=Z,5.7nm,0.7s,baz=266,slow=5.3,SNR=6.2
TXAR Lajitas Array 123.24 53 PKP **PKiKP** **02 42 40.7 +0.9**
comp=Z,1.5nm,0.7s,baz=206,slow=1.5,SNR=10
TXAR PKKPbc **PKKPbc** **02 52 30.6 +0.2**
comp=Z,0.5nm,0.9s,baz=90,slow=5.5,SNR=4.5
TXAR Lajitas Array 123.24 53 PKPdf **PKiKP** **02 42 40.0 +0.1**
TOA0 Torodi Ar. Sit 123.32 287 PKPdf **PKiKP** **02 42 40.5 +0.3**
TORD Torodi Ar. Bea 123.32 287 PKP **PKPdf** **02 42 40.0 +0.1**
comp=Z,63nm,0.7s,baz=40,slow=2.0,SNR=26
TORD PKKPab **PKKPab** **02 52 31.1 +1.2**
comp=Z,2.5nm,0.8s,baz=286,slow=4.2,SNR=15
JCT Junction City 125.78 50 PKiKP **PKiKP** **02 42 45.1 +0.3**
JCT Junction City 125.78 50 PKPdf **PKiKP** **02 42 45.1 +0.3**
U40A Yellville 127.61 40 PKPdf **PKPdf** **02 42 47.5 -0.1**
HKT Hockley 129.05 49 ⇓PKiKP **PKiKP** **02 42 52.2 +1.0**
EFI East Falkland 129.77 176*d* PKiKP **PKPdf** **02 42 50.9 -0.3**
EFI pmax pmax
comp=Z,143nm,2.5s
KIC Kosan Boka 130.64 280 *e*PKP1 **PKiKP** **02 42 55.7 +0.8**
comp=Z,19nm,1.2s
DBIC Dimbokro 130.72 280 PKP **PKiKP** **02 42 55.9 +0.8**
comp=Z,6.2nm,0.9s,baz=239,slow=2.7,SNR=4.3
TIC Toumodi 130.88 280 *e*PKP1 **PKiKP** **02 42 56.5 +1.1**
LIC Lamto 130.94 279 *e*PKP1 **PKiKP** **02 42 56.6 +1.1**
comp=Z,43nm,1.3s
PLCA Paso Flores 137.94 161 PKhKP **PKPdf** **02 43 03.2 -3.8**
comp=Z,2.8nm,0.8s,baz=71,slow=1.3,SNR=4.1
PLCA PKP **PKiKP** **02 43 08.3 -0.8**
comp=Z,8.3nm,1.1s,baz=192,slow=1.9,SNR=7.5
PLCA Paso Flores 137.94 161 PKiKP **PKiKP** **02 43 08.4 -0.7**
TRQA Tornquist 142.72 169 *e*P **PKPdf** **02 43 16.5 +0.8**
PEL Peldehue 144.58 155 PKiKP **PKPdf** **02 43 19.2 0.0**
PEL Peldehue 144.58 155 PKPdf **PKPdf** **02 43 19.2 0.0**
ROC1 El Roble 144.58 154 *i* P **PKPab** **02 43 17.2 -0.8**
MATN Matagalpa 144.88 65 PKPdf PKPbc **02 43 18.8 +0.4**
VA03 San Esteban 144.96 155 PKPdf **PKPdf** **02 43 20.4 +0.5**
AAGR Agrelo 145.39 157 *i* P **PKPab** **02 43 22.6 +1.9**
ARCO CERRO ARCO 145.56 157 *i* P **PKPab** **02 43 23.0 +1.5**
ASAL Salagasta 145.82 157 *i* P **PKPab** **02 43 23.4 +1.1**
AUSP Uspallata 145.92 156 *i* P **PKPab** **02 43 24.2 +1.3**
RTLS Leoncito 146.33 155 *i* P **PKPab** **02 43 24.5 0.0**
RTCV Cerro Valdivia 146.58 156 *i* P **PKPab** **02 43 24.9 -0.2**
ESPN Las Esperanzas 146.63 65 PKPbc **PKPab** **02 43 25.7 -0.1**
JTS Las Juntas de 146.68 69 PKPbc **PKPab** **02 43 25.5 -0.6**
baz=350,slow=3.1
ZON Zonda 146.80 156 *i* P **PKPab** **02 43 25.9 -0.2**
RTLL Cerro Villicun 147.07 156 *i* P **PKPab** **02 43 26.4 -0.7**
ACCO Cerro Coronel 147.47 155 *i* P **PKPbc** **02 43 27.4 +0.3**
AROD Rodeo 147.66 154 *i* P **PKPbc** **02 43 26.2 -1.4**
LCO Las Campanas 148.06 151 PKP2 **PKiKP** **02 43 30.1 -0.3**
LCO Las Campanas 148.06 151 PKPbc **PKiKP** **02 43 30.1 -0.3**
TCA Tanti 148.46 162 *i* P **PKPbc** **02 43 29.2 -0.2**
AC04 Llanos de Chal 148.54 149 **PKPab** **02 43 33.7 +0.7**
ACLC CERRO LA CRUZ 149.37 157 *i* P **PKPdf** **02 43 29.2 +1.8**
VCA Vinchina 149.45 154 *i* P **PKiKP** **02 43 33.4 +0.3**
GO03 Copiap 149.46 150 PKPbc **PKPbc** **02 43 32.3 +0.4**
CYA Choya 150.69 158 *i* P **PKPbc** **02 43 33.0 -1.9**
LVC Limon Verde 154.19 146 PKPbc **PKiKP** **02 43 44.5 +1.2**
comp=Z,6.9nm,0.9s,baz=326,slow=7.1,SNR=5.0
LVC PKPab **sPKPdf** **02 43 58.9 +0.8**
comp=Z,17nm,0.8s,baz=235,slow=6.2,SNR=10
LVC Limon Verde 154.19 146 PKP2 **PKPab** **02 44 00.3 +3.3**
LVC Limon Verde 154.19 146 **PKiKP** **02 43 45.8 +2.5**
LVC PKPab **PKPdf** **02 44 00.3 +3.3**
LVC Limon Verde 154.19 146 *e*P **PKPdf** **02 43 34.2 -0.9**
ATAH Atahualpa 154.62 104 PKPbc **PKiKP** **02 43 47.2 +2.7**
comp=Z,6.9nm,0.8s,baz=48,slow=5.9,SNR=4.0
CPUP Villa Florida 154.96 172 PKPbc **PKPbc** **02 43 45.6 +1.3**
comp=Z,6.3nm,1.1s,baz=210,slow=2.6,SNR=5.0
CPUP PKPab **pPKPbc** **02 44 01.1 0.0**
comp=Z,6.9nm,0.8s,baz=206,slow=4.7,SNR=8.8
CPUP Villa Florida 154.96 172 PKiKP **PKPbc** **02 43 44.4 +0.1**
CPUP Villa Florida 154.96 172 **PKPbc** **02 43 44.4 +0.1**
SJCC San Jacinto, C 155.74 62 *e*P **PKPdf** **02 43 38.8 +1.7**
POPC Popayan, Colom 156.57 80 *e*P **PKPdf** **02 43 39.0 +0.6**
YOYO Yotoco, Valle 156.62 77 *e*P **PKPdf** **02 43 38.6 +0.2**
GUY2C Guyana, Caldas 157.26 73 *e*P **PKPdf** **02 43 40.4 +0.8**
RREF El Recreo 157.37 74 *e*P **PKPdf** **02 43 37.2 -2.7**
TOLC Tolima 157.47 75 *e*P **PKPdf** **02 43 41.2 +1.6**
PTBC PUERTO BERRIO 157.71 69 *e*P **PKPdf** **02 43 39.7 +0.1**
PRAC Prado 158.10 77 *e*P PKPdf 02 43 50.7 +11
SPBC San Pablo de B 158.36 71 *e*P **PKPdf** **02 43 41.1 +0.7**

CHIC	**Chingaza**	**158.99**	**73**	*eP*	**PKPdf**	**02 43 42.2**	**+0.6**
RUSC	**La Rusia**	**159.22**	**69**	*eP*	**PKPdf**	**02 43 42.4**	**+0.5**
LPAZ	**La Paz**	**159.40**	**137**	PKP	**PKPdf**	**02 43 43.1**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=105,slow=0.8,SNR=9.1						
CZSB	**Cruzeiro do Su**	**159.93**	**109**	*eP*	**PKPdf**	**02 43 43.0**	**+0.8**
SDV	**Santo Domingo**	**160.16**	**59**	PKP	**PKPdf**	**02 43 43.1**	**+0.5**
	comp=Z,4.1nm,0.5s,baz=359,slow=4.4,SNR=6.9						
SDV				PKPab	**PKPab**	**02 44 23.6**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=290,slow=5.2,SNR=4.0						
SDV	**Santo Domingo**	**160.16**	**59**	PKPdf	**PKPdf**	**02 43 42.0**	**-0.6**
SDV				PKPab	**PKPab**	**02 44 22.9**	**0.0**
SDV	**Santo Domingo**	**160.16**	**59**	*eP*	**PKPdf**	**02 43 43.4**	**+0.8**
AQDB	**Aquidauana**	**160.94**	**174**	*eP*	**PKPdf**	**02 43 43.3**	**+0.2**
GDU01	**Guandu, BA**	**161.52**	**228**	*eP*	**PKPdf**	**02 43 43.6**	**-0.3**
RCBR	**Riachuelo**	**161.83**	**256**	*eP*	**PKPdf**	**02 43 46.1**	**+1.8**
SIV	**San Ignacio**	**163.74**	**153**	PKP	**PKPdf**	**02 43 44.8**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=307,slow=6.0,SNR=8.1						
SIV				PKPab	**PKPab**	**02 44 39.6**	**+1.6**
	comp=Z,12nm,1.0s,baz=210,slow=4.0,SNR=16						
BDFB	**Brasilia**	**164.83**	**201**	PKP	**PKPdf**	**02 43 46.3**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=106,slow=7.4,SNR=3.7						
ETMB	**Extrema**	**164.91**	**124**	*eP*	**PKPdf**	**02 43 48.2**	**+1.1**
PTLB	**Pontes e Lacer**	**165.01**	**159**	*eP*	**PKPdf**	**02 43 48.2**	**+1.1**
ARAG	**Araguaiana, MT**	**165.69**	**187**	*eP*	**PKPdf**	**02 43 49.4**	**+1.8**
SAML	**Samuel**	**167.85**	**128**	PKIKP	**PKPdf**	**02 43 50.7**	**+1.3**
SAML	**Samuel**	**167.85**	**128**		**PKPdf**	**02 43 50.7**	**+1.3**
SAML	**Samuel**	**167.85**	**128**	*eP*	**PKPdf**	**02 43 50.4**	**+1.0**
CLDB	**Colider**	**170.34**	**167**	*eP*	**PKPdf**	**02 43 50.9**	**0.0**
SMTB	**Santa Maria do**	**170.50**	**219**	*eP*	**PKPdf**	**02 43 51.6**	**+0.6**
MACA	**Manacapuru-AM**	**172.69**	**104**	*eP*	**PKPdf**	**02 43 53.0**	**+0.9**
TMAB	**Tom-Au,PA,Br**	**174.44**	**260**	*eP*	**PKPdf**	**02 43 53.1**	**+0.4**
ITTB	**Itaituba**	**176.36**	**144**	*eP*	**PKPdf**	**02 43 54.0**	**+0.8**

SJA ***24*** *02:30:15.5±1.1,34.05S×72.76W,h61km±23km,ML4.6, MW4.5*

IDC ***24*** *02:30:16.3±0.8,33.96S×72.16W,h0km,mb4.4/11, mb1 4.4/13,mb1mx4.2/32,mbtmp4.4/13,ML4.4/2,MS3.9/7, Ms1 3.8/7,ms1mx3.4/27,Error ellipse: s-maj=30.7km s-min=15.0km az=98.0*

VAO ***24*** *02:30:16.1±2.0,34.21S×72.23W,h10km,mb4.6*

NEIC ***24*** *02:30:17.9±1.2,34.00S±0.04×72.34W±0.08,h16km±3km, Error ellipse: s-maj=9.5km s-min=5.7km az=107.0*

GUC ***24*** *02:30:18.4±0.8,34.03S×72.23W,h25km±8km,ML4.4*

NEIC ***24*** *02:30:18.3,33.99S×72.39W,h21km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=2.60; Mθθ=0.24; Mφφ=-2.36; Mrθ=0.49; Mrφ=-0.51; Mθφ=-2.23; Fault plane solution: M0=3.42000×10¹⁵ NP1:φs=177.19000°, δ=66.14000°,λ=77.85000°. NP2:φs=25.22000°,δ=26.61000°, λ=115.45000°. Principal axes: T 3.5649, Plg67.0000°, Azm65.0000°; N -0.3197, Plg11.0000°, Azm182.0000°; P -3.2452, Plg20.0000°, Azm276.0000°:*

ISC 24 02:30:16.7±1.5,34.01S±0.03×72.26W±0.05,h7km±9km, n134,σ1s11/143,mb4.5/14,MS4.1/4,9C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.04**	**165**	⇓*iP*		**Pn**	**02 30 37.6**	**-0.1**
GO05				*i* S		**Sn**	**02 30 51.7**	**-0.9**
GO05				IAML			02 30 53.8	
	comp=E,28μm,0.3s							
GO05	**Huala**	**1.04**	**165**			**Pn**	**02 30 37.6**	**-0.1**
GO05	**Huala**	**1.04**	**165**	*eP*		**Pn**	**02 30 37.6**	**-0.1**
GO05				*eS*		**Sn**	**02 30 52.8**	**+0.2**
VA01	**Torpederas**	**1.10**	**28**	⇑*iP*		**Pg**	**02 30 38.9**	**+1.0**
VA01				*i* S		**Sn**	**02 30 54.3**	**+0.2**
VA01	**Torpederas**	**1.10**	**28**	Pn		**Pg**	**02 30 38.9**	**+1.0**
MT02	**Curacav**	**1.20**	**52**	⇓*iP*		**Pg**	**02 30 40.4**	**+0.8**
MT02				*i* S		**Sn**	**02 30 56.4**	**0.0**
MT02				IAML			02 31 06.9	
	comp=E,8μm,0.4s							
MT02	**Curacav**	**1.20**	**52**	Pn		**Pg**	**02 30 40.5**	**+0.8**
MT05	**Renca**	**1.41**	**65**	⇓*iP*		**Pg**	**02 30 44.0**	**+0.3**
MT05				*i* S		**Sg**	**02 31 03.7**	**+1.7**
MT05				IAML			02 31 13.4	
	comp=E,14μm,0.3s							
MT05	**Renca**	**1.41**	**65**			**Pg**	**02 30 44.0**	**+0.3**
BO02	**Sierra Bellavi**	**1.45**	**123**	⇓*iP*		**Pg**	**02 30 44.0**	**-0.6**
BO02				*i* S		**Sg**	**02 31 04.0**	**+0.6**
BO02	**Sierra Bellavi**	**1.45**	**123**			**Pg**	**02 30 44.4**	**-0.1**
ROC1	**El Roble**	**1.46**	**46**			**Pg**	**02 30 44.8**	**+0.1**
ROC1	**El Roble**	**1.46**	**46**	*i* P		**Pg**	**02 30 45.0**	**+0.2**
ROCH	**El Roble**	**1.47**	**46**	⇑*iP*		**Pg**	**02 30 44.8**	**-0.1**
ROCH				*i* S		**Sg**	**02 31 05.7**	**+1.8**
ROCH				IAML			02 31 19.3	
	comp=N,11μm,0.5s							
FSR	**Penalolen**	**1.54**	**70**	*eP*		**Pg**	**02 30 45.9**	**-0.3**
FSR				*i* S		**Sg**	**02 31 07.2**	**+1.1**
MT03	**Universidad Ad**	**1.54**	**71**	⇓*iP*		**Pg**	**02 30 46.1**	**-0.2**
MT03				*i* S		**Sg**	**02 31 06.9**	**+0.6**
MT03				IAML			02 31 17.9	
	comp=N,7μm,0.4s							
PEL	**Peldehue**	**1.57**	**57**	⇑*iP*		**Pg**	**02 30 46.6**	**-0.2**
PEL				*i* S		**Sg**	**02 31 07.8**	**+0.6**
PEL				IAML			02 31 16.4	
	comp=N,6μm,0.5s							
PEL	**Peldehue**	**1.57**	**57**			**Pg**	**02 30 46.5**	**-0.3**
PEL	**Peldehue**	**1.57**	**57**	*i* P		**Pg**	**02 30 46.8**	**0.0**
LMEL	**Las Melosas**	**1.72**	**85**	⇓*iP*		**Pg**	**02 30 49.0**	**-0.7**
LMEL				*i* S		**Sg**	**02 31 11.7**	**-0.2**
LMEL				IAML			02 31 18.0	
	comp=N,7μm,0.4s							
VA03	**San Esteban**	**1.89**	**50**	⇑*iP*		**Pb**	**02 30 51.2**	**-0.5**
VA03				*i* S		**Sg**	**02 31 17.4**	**0.0**
VA03				IAML			02 31 24.7	
	comp=E,12μm,0.6s							
VA03	**San Esteban**	**1.89**	**50**			**Pb**	**02 30 50.2**	**-1.4**
LAMA	**Las Malvinas**	**2.68**	**111**	*i* P		**Pb**	**02 31 05.1**	**0.0**
PUMA	**Malargue**	**2.75**	**124**	*i* P		**Pg**	**02 31 08.2**	**-1.2**
BI02	**San Fabin de**	**2.77**	**163**	⇑*iP*		**Pn**	**02 31 03.0**	**+1.4**
BI02				IAML			02 31 47.4	
	comp=N,3μm,0.8s							
BI02	**San Fabin de**	**2.77**	**163**			**Pn**	**02 31 02.1**	**+0.5**
BI03	**Tigo**	**2.90**	**192**	*eP*		**Pn**	**02 31 02.9**	**-0.4**
BI03	**Tigo**	**2.90**	**192**			**Pn**	**02 31 02.1**	**-1.2**
CO02	**Combarbal**	**2.99**	**21**	⇑*iP*		**Pn**	**02 31 05.3**	**+0.6**
CO02				IAML			02 31 58.5	
	comp=E,3μm,0.3s							
CO02	**Combarbal**	**2.99**	**21**	Pn		**Pn**	**02 31 05.2**	**+0.6**
AAGR	**Agrelo**	**3.01**	**73**	*i* P		**Pb**	**02 31 11.0**	**+0.3**
ARCO	**CERRO ARCO**	**3.02**	**68**	*eP*		**Pb**	**02 31 11.6**	**+0.8**
ARCO				IAML			02 32 00.9	
	comp=Z,767nm,1.1s							
ASAL	**Salagasta**	**3.20**	**65**	*i* P		**Pb**	**02 31 12.2**	**-1.7**
ASAL				IAML			02 32 08.8	
	comp=Z,728nm,1.3s							
RTLS	**Leoncito**	**3.32**	**49**	*i* P		**Pb**	**02 31 12.9**	**-3.3**
RTLS				IAML			02 32 08.2	
	comp=Z,1μm,0.9s							
CO03	**El Pedregal**	**3.42**	**23**	⇑*iP*		**Pn**	**02 31 11.5**	**+0.8**
CO03				IAML			02 32 14.2	
	comp=E,889nm,0.3s							
CO03	**El Pedregal**	**3.42**	**23**	Pn		**Pn**	**02 31 11.4**	**+0.8**
RTCV	**Cerro Valdivia**	**3.79**	**57**	*i* P		**Pn**	**02 31 18.9**	**+3.3**
ZON	**Zonda**	**3.89**	**52**			**Pn**	**02 31 17.1**	**+0.1**
GO04	**Tololo Observa**	**4.02**	**18**	⇑*iP*		**Pn**	**02 31 19.1**	**+0.3**
GO04	**Tololo Observa**	**4.02**	**18**			**Pn**	**02 31 19.2**	**+0.3**
GO04	**Tololo Observa**	**4.02**	**18**	*i* P		**Pn**	**02 31 19.2**	**+0.3**
RTLL	**Cerro Villicun**	**4.16**	**51**	*i* P		**Pn**	**02 31 23.8**	**+3.1**
RTLL				IAML			02 32 33.7	
	comp=Z,779nm,0.7s							
ACCO	**Cerro Coronel**	**4.35**	**39**	*i* P		**Pn**	**02 31 26.7**	**+3.1**
CO01	**Juntas del Tor**	**4.42**	**25**	⇑*iP*		**Pn**	**02 31 25.9**	**+1.5**
CO01	**Juntas del Tor**	**4.42**	**25**			**Pn**	**02 31 25.9**	**+1.5**
LC01	**Cunco**	**4.89**	**176**	Pn		**Pn**	**02 31 31.1**	**+0.4**
LCO	**Las Campanas**	**5.15**	**15**	Pn		**Pn**	**02 31 34.0**	**-0.5**
AC05	**El Transito**	**5.42**	**19**	Pn		**Pn**	**02 31 38.6**	**+0.5**
VA04	**Juan Fernndez**	**5.48**	**272**	*eP*		**Pn**	**02 31 38.4**	**-0.3**
VA04	**Juan Fernndez**	**5.48**	**272**	Pn		**Pn**	**02 31 37.6**	**-1.1**
H03S1	**Juan Fernandez**	**5.53**	**270**	Pn		**Pn**	**02 31 38.5**	**-0.7**
H03S1				T		T	02 37 42.9	
	baz=98,slow=75,SNR=2316							
H03S3	**Juan Fernandez**	**5.53**	**270**	Pn		**Pn**	**02 31 38.9**	**-0.3**
H03S3				T		T	02 37 51.5	
	baz=98,slow=75,SNR=2220							
H03S2	**Juan Fernandez**	**5.54**	**270**	Pn		**Pn**	**02 31 38.4**	**-1.0**
H03S2				T		T	02 37 45.9	
	baz=98,slow=75,SNR=2534							
H03N1	**Juan Fernandez**	**5.57**	**274**	Pn		**Pn**	**02 31 40.8**	**+1.1**
H03N1				T		T	02 37 51.8	
	baz=102,slow=80,SNR=29							
H03N3	**Juan Fernandez**	**5.58**	**274**	Pn		**Pn**	**02 31 40.4**	**+0.5**
H03N3				T		T	02 38 01.3	
	baz=102,slow=80,SNR=38							
H03N2	**Juan Fernandez**	**5.59**	**274**	Pn		**Pn**	**02 31 40.8**	**+0.8**
H03N2				T		T	02 37 58.1	
	baz=102,slow=80,SNR=48							
AC04	**Llanos de Chal**	**5.87**	**10**	Pn		**Pn**	**02 31 43.2**	**-1.0**
APLL	**PUNTA DE LOS L**	**6.05**	**55**	*eP*		**Pn**	**02 31 48.4**	**+1.8**
VCA	**Vinchina**	**6.29**	**35**	*i* P		**Pn**	**02 31 52.3**	**+2.2**
VCA				IAML			02 33 45.5	
	comp=Z,284nm,1.7s							
ACLC	**CERRO LA CRUZ**	**6.42**	**46**	*i* P		**Pn**	**02 31 52.5**	**+0.6**
GO03	**Copiap**	**6.62**	**16**			**Pn**	**02 31 53.9**	**-0.7**
PLCA	**Paso Flores**	**6.85**	**169**	Pn		**Pn**	**02 31 59.5**	**+1.8**
	comp=Z,1.5nm,0.3s,baz=336,slow=11,SNR=34							
PLCA				LR		LR	02 34 41.9	
	comp=Z,270nm,21.9s,baz=344,slow=39							
PLCA	**Paso Flores**	**6.85**	**169**	Pn		**Pn**	**02 31 58.5**	**+0.8**
AC02	**Maricunga**	**7.64**	**22**	Pn		**Pn**	**02 32 08.5**	**-0.4**
AC01	**Pan de Azucar**	**7.96**	**11**	Pn		**Pn**	**02 32 11.5**	**-1.4**
GO02	**Mina Guanaco**	**9.11**	**15**	Pn		**Pn**	**02 32 26.7**	**-2.2**
PB14	**IPOC Station P**	**9.48**	**10**	Pn		**Pn**	**02 32 34.1**	**+0.1**
LVC	**Limon Verde**	**11.73**	**15**	Pn		**Pn**	**02 33 00.8**	**-4.0**
	comp=Z,0.6nm,0.3s,baz=263,slow=8.1,SNR=2.7							
LVC				Sn		Sn	02 35 33.4	+17
	comp=Z,0.3nm,0.3s,baz=198,slow=16,SNR=2.3							
LVC				LR		LR	02 37 51.5	
	comp=Z,254nm,20.7s,baz=204,slow=39							
GO01	**Chusmiza**	**14.54**	**12**	Pn		**Pn**	**02 33 41.4**	**-2.0**
CPUP	**Villa Florida**	**15.00**	**63**	Pn		**P**	**02 33 53.2**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=233,slow=12,SNR=8.5							
CPUP				Sn		**Sn**	**02 36 32.6**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=274,slow=14,SNR=1.3							
CPUP				LR		LR	02 40 00.7	
	comp=Z,341nm,20.7s,baz=244,slow=39							
CPUP	**Villa Florida**	**15.00**	**63**	Pn		**Pn**	**02 33 47.9**	**-1.3**
MNMC	**Minye Minye**	**15.00**	**10**	Pn		**Pn**	**02 33 47.8**	**-1.8**
PLTB	**Pedras Altas**	**15.83**	**87**	*eP*		**Pn**	**02 33 59.4**	**-0.8**
LPAZ	**La Paz**	**18.03**	**13**	P		**P**	**02 34 29.9**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=188,slow=6.5,SNR=40							
LPAZ	**La Paz**	**18.03**	**13**			**Pn**	**02 34 27.2**	**-1.3**
LPAZ	**La Paz**	**18.03**	**13**	*eP*		**P**	**02 34 29.9**	**+0.9**
ITAB	**Concordia**	**18.58**	**74**	*eP*		**Pn**	**02 34 34.9**	**+0.4**
PTGB	**Pitanga**	**19.86**	**68**	*eP*		**Pn**	**02 34 49.2**	**-0.9**
TRCB	**Terra Rica**	**20.52**	**62**	*eP*		**P**	**02 34 56.0**	**+0.3**
SIV	**San Ignacio**	**20.57**	**32**	P		**P**	**02 34 56.3**	**0.0**
	comp=Z,9.9nm,0.7s,baz=225,slow=8.6,SNR=63							
SIV				LR		LR	02 44 18.1	
	comp=Z,321nm,19.2s,baz=286,slow=41							
USHA	**Ushuaia**	**21.00**	**174**	LR		LR	02 42 40.6	
	comp=Z,1μm,21.1s,baz=346,slow=35							
PTLB	**Pontes e Lacer**	**21.95**	**36**	*eP*		**P**	**02 35 11.5**	**+0.5**
PCMB	**Pacaembu**	**22.25**	**62**	*eP*		**P**	**02 35 13.6**	**-0.8**
FRTB	**Fartura**	**22.52**	**68**	*eP*		**P**	**02 35 16.3**	**-0.9**
VILB	**Vilhena**	**23.66**	**31**	*eP*		**P**	**02 35 28.9**	**+0.1**
SPB	**Sao Paulo**	**24.05**	**71**	P		**P**	**02 35 33.3**	**+0.8**
ITRB	**Iturama**	**24.11**	**59**	*eP*		**P**	**02 35 32.2**	**-1.0**
BB19B	**Bebedouro**	**24.61**	**65**	*eP*		**P**	**02 35 37.0**	**-0.8**
ETMB	**Extrema**	**24.71**	**14**	*eP*		**P**	**02 35 39.6**	**+1.0**
ARAG	**Araguaiana, MT**	**25.91**	**50**	*eP*		**P**	**02 35 49.1**	**-0.5**
CZSB	**Cruzeiro do Su**	**26.15**	**359**	*eP*		**P**	**02 35 53.4**	**+1.7**
SAML	**Samuel**	**26.30**	**21**	P		**P**	**02 35 53.3**	**+0.3**
SAML				IAmb		IAmb	02 35 57.1	
	comp=Z,7.8nm,0.8s							
IPMB	**Ipameri, GO**	**26.77**	**59**	*eP*		**P**	**02 35 56.9**	**-0.4**
CLDB	**Colider**	**27.52**	**37**	*eP*		**P**	**02 36 03.2**	**-0.9**
BDFB	**Brasilia**	**28.49**	**56**	P		**P**	**02 36 12.2**	**-0.7**
	comp=Z,6.7nm,0.8s,baz=220,slow=9.2,SNR=10							
BDFB				LR		LR	02 48 38.8	
	comp=Z,349nm,18.3s,baz=112,slow=39							
BDFB	**Brasilia**	**28.49**	**56**	P		**P**	**02 36 12.8**	**-0.1**
BDFB				IAmb		IAmb	02 36 13.0	
	comp=Z,7.0nm,0.8s							
NPGB	**Novo Progresso**	**31.05**	**34**	*eP*		**P**	**02 36 34.7**	**-0.7**
MACA	**Manacapuru-AM**	**32.53**	**22**	*eP*		**P**	**02 36 48.5**	**+0.1**
SDBA	**SAO DESIDERIO**	**32.90**	**56**	*eP*		**P**	**02 36 51.1**	**-0.7**
NAN01	**Guarapari, ES**	**32.90**	**69**	*eP*		**P**	**02 36 51.0**	**-0.7**
PTGA	**Pitinga**	**35.05**	**22**	P		**P**	**02 37 10.5**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=193,slow=14,SNR=12							
PTGA	**Pitinga**	**35.05**	**22**	P		**P**	**02 37 10.6**	**+0.2**
PTGA				IAmb		IAmb	02 37 11.2	
	comp=Z,7.0nm,0.9s							
GDU01	**Guandu, BA**	**35.84**	**64**	*eP*		**P**	**02 37 16.5**	**-0.7**
MALB	**Monte Alegre**	**36.14**	**32**	*eP*		**P**	**02 37 19.5**	**-0.3**
MDP	**Montagnes des**	**43.09**	**29**	P		**P**	**02 38 17.1**	**-0.5**
	comp=Z,7.9nm,0.7s,baz=211,slow=11							
RCBR	**Riachuelo**	**43.80**	**58**	P		**P**	**02 38 23.8**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=229,slow=11,SNR=1.3							
RCBR				LR		LR	02 57 58.0	
	comp=Z,226nm,18.1s,baz=216,slow=38							
VNA3	**Neumayer Olymp**	**49.42**	**158**	P		**P**	**02 39 07.8**	**+0.9**
VNA1	**Neumayer--Stat**	**49.74**	**157**	P		**P**	**02 39 10.4**	**+1.2**
VNA2	**Neumayer--Watz**	**50.08**	**157**	P		**P**	**02 39 12.9**	**+1.1**
	baz=286,slow=8.8							
SNAA	**Sanae**	**51.65**	**158**	P		**P**	**02 39 24.7**	**+1.0**
SNAA	**Sanae**	**51.65**	**158**	P		**P**	**02 39 24.9**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=272,slow=7.1,SNR=21							
SNAA	**Sanae**	**51.65**	**158**	P		**P**	**02 39 24.3**	**+0.6**
QSPA	**South Pole Qui**	**56.23**	**180**	P		**P**	**02 39 59.0**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=321,slow=1.4,SNR=3.7							
QSPA	**South Pole Qui**	**56.23**	**180**	IAmb		IAmb	02 40 07.0	
	comp=Z,6.3nm,0.9s							
TXAR	**Lajitas Array**	**69.65**	**331**	P		**P**	**02 41 28.2**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=155,slow=8.0,SNR=7.2							
MAW	**Mawson**	**73.23**	**164**	P		**P**	**02 41 49.0**	**+1.1**
	comp=Z,4.2nm,0.6s,baz=204,slow=6.9,SNR=17							
MAW	**Mawson**	**73.23**	**164**	P		**P**	**02 41 49.3**	**+1.3**
LIC	**Lamto**	**74.95**	**72**	*e*PKP1		**P**	**02 42 00.0**	**+1.1**
	comp=Z,11nm,0.7s							
TIC	**Toumodi**	**75.21**	**71**	*e*PKP1		**P**	**02 42 01.5**	**+1.1**
KIC	**Kosan Boka**	**75.26**	**72**	*e*PKP1		**P**	**02 42 00.6**	**-0.1**
	comp=Z,7.7nm,0.7s							
DBIC	**Dimbokro**	**75.36**	**71**	P		**P**	**02 42 01.4**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=24,slow=6.6,SNR=4.0							
DBIC	**Dimbokro**	**75.36**	**71**	IAmb		IAmb	02 42 24.7	
	comp=Z,18nm,1.4s							
BOSA	**Boshof**	**80.23**	**118**	P		**P**	**02 42 28.8**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=214,slow=4.1,SNR=9.2							
BOSA	**Boshof**	**80.23**	**118**	IAmb		IAmb	02 42 37.1	
	comp=Z,19nm,1.3s							
TORD	**Torodi Ar. Bea**	**84.39**	**70**	P		**P**	**02 42 50.1**	**0.0**
	comp=Z,122nm,1.0s,baz=265,slow=4.3,SNR=20							
WRA	**Warramunga Arr**	**120.67**	**209**	PKP		**PKiKP**	**02 49 09.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=164,slow=1.3,SNR=7.8							
BRTR	**Keskin Array B**	**122.00**	**61**	PKP		**PKiKP**	**02 49 11.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=196,slow=5.0,SNR=4.4							
AKASG	**Malin Array Be**	**122.33**	**48**	PKP		**PKPdf**	**02 49 11.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=260,slow=2.6,SNR=6.1							
KURBB	**Kurchatov Arra**	**153.00**	**43**	PKPbc		**PKiKP**	**02 50 15.3**	**+0.7**
	comp=Z,6nm,0.5s,baz=301,slow=3.0,SNR=16							
KURK	**Kurchatov**	**153.01**	**43**			**PKiKP**	**02 50 14.3**	**-0.3**
ZALV	**Zalesovo Beam**	**154.33**	**32**	PKPbc		**PKiKP**	**02 50 17.7**	**+0.5**
	comp=Z,5.1nm,0.5s,baz=299,slow=2.8,SNR=22							
ZALV	**Zalesovo Beam**	**154.33**	**32**			**PKiKP**	**02 50 16.8**	**-0.4**
MKAR	**Makanchi Array**	**156.91**	**49**	PKPab		**PKPab**	**02 50 43.3**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=295,slow=4.1,SNR=9.4							
MKAR	**Makanchi Array**	**156.91**	**49**			**PKPab**	**02 50 43.0**	**+0.3**

ATH 24 02:35:03.5,40.68N×23.46E,h13km±4km,ML1.5/6,Error ellipse: s-maj=4.5km s-min=0.9km az=276.0,ML Amplitudes are expressed in micrometers,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.16**	**329**	P		Pg	02 35 07.4	+0.1
SOH				S		Sg	02 35 09.9	-0.1
SOH				AML		AML	02 35 10.5	
	comp=E,945μm,0.1s							
SOH				AML		AML	02 35 10.6	
	comp=N,1167μm,0.1s							
HORT	**Hortiatis**	**0.29**	**253**	P		Pg	02 35 09.8	+0.3
HORT				S		Sg	02 35 14.2	+0.6
HORT				AML		AML	02 35 14.4	
	comp=N,251μm,0.1s							
HORT				AML		AML	02 35 14.5	
	comp=E,272μm,0.1s							
PLG	**Polygyros**	**0.31**	**182**	P		Pg	02 35 10.0	+0.2
PLG				S		Sg	02 35 13.8	-0.4
PLG				AML		AML	02 35 15.0	
	comp=E,189μm,0.1s							
PLG				AML		AML	02 35 15.5	
	comp=N,162μm,0.2s							
THE	**Thessaloniki**	**0.38**	**262**	P		Pg	02 35 11.2	+0.1
THE				S		Sg	02 35 16.2	-0.1
SRS	**Serrai**	**0.44**	**13**	P		Pg	02 35 11.9	-0.4
SRS				S		Sg	02 35 18.6	+0.3
SRS				AML		AML	02 35 22.5	
	comp=N,127μm,0.1s							
SRS				AML		AML	02 35 23.6	
	comp=E,116μm,0.1s							
OUR	**Ouranopolis**	**0.53**	**131**	P		Pg	02 35 14.2	+0.3
OUR				S		Sg	02 35 20.7	-0.2
OUR				AML		AML	02 35 22.9	
	comp=N,139μm,0.1s							
OUR				AML		AML	02 35 23.8	
	comp=E,160μm,0.2s							
KNT	**Kendrikon**	**0.64**	**318**	P		Pg	02 35 15.8	-0.2
KNT				S		Sg	02 35 24.2	-0.2
NVR	**Nevrokopi**	**0.73**	**24**	P		Pg	02 35 17.4	-0.2
NVR				S		Sg	02 35 27.0	-0.4
NVR				AML		AML	02 35 28.3	
	comp=E,97μm,0.2s							
NVR				AML		AML	02 35 28.4	
	comp=N,89μm,0.1s							
PAIG	**Paliouri**	**0.77**	**167**	P		Pg	02 35 17.8	-0.7

ROM 24 02:35:20.7±0.1,42.622N±0.004×13.462E±0.005, h18km,ML1.4/1,Error ellipse: s-maj=0.4km s-min=0.3km az=70.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.09**	**204**	P		Pg	02 35 24.5	+0.2
CAMP				S		Sg	02 35 27.0	+0.1
SMA1	**SAN MARTINO**	**0.09**	**276**	P		Pg	02 35 24.4	+0.1
SMA1				S		Sg	02 35 27.0	+0.2
TERO	**Teramo**	**0.10**	**89**	*i* P		Pg	02 35 24.4	0.0
TERO				S		Sg	02 35 27.1	+0.2
TERO				AML		AML		
	comp=N,117μm,0.1s							
TERO				AML		AML		
	comp=E,160μm,0.1s							
TERO				AML		AML		
	comp=N,117μm,0.1s							
TERO				AML		AML		
	comp=N,117μm,0.1s							
RM33	**Pellescritta (**	**0.21**	**238**	P		Pb	02 35 26.1	0.0
RM33				S		Sb	02 35 30.0	+0.3
AQU	**L'Aquila**	**0.27**	**189**	P		Pg	02 35 26.8	+0.1
AQU				S		Sb	02 35 31.6	+0.3
LNSS	**Leonessa**	**0.31**	**267**	P		Pg	02 35 27.5	+0.1
LNSS				S		Sb	02 35 32.9	+0.3
NRCA	**Norcia**	**0.33**	**310**	P		Pg	02 35 27.7	0.0
NRCA				S		Sb	02 35 33.1	-0.1
NRCA				AML		AML		
	comp=E,209μm,0.3s							
NRCA				AML		AML		
	comp=N,126μm,0.6s					

NNA	**Nana**	**12.73**	**175**	LR	LR	03 07 12.0		
	comp=Z,374nm,19.4s,baz=359,slow=39							
PTGA	**Pitinga**	**18.08**	**95**	LR	LR	03 10 12.8		
	comp=Z,228nm,18.9s,baz=266,slow=38							
LPAZ	**La Paz**	**19.55**	**151**	P	**Pn**	**03 03 24.2**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=320,slow=5.6,SNR=8.1							
LPAZ				LR	LR	03 12 36.7		
	comp=Z,120nm,21.7s,baz=296,slow=42							
SJG	**San Juan**	**20.79**	**33**	LR	LR	03 12 10.8		
	comp=Z,58nm,19.4s,baz=195,slow=38							
SIV	**San Ignacio**	**23.59**	**136**	P	**P**	**03 04 05.4**	**+0.2**	
	comp=Z,2.3nm,0.8s,baz=327,slow=12,SNR=13							
LVC	**Limon Verde**	**24.87**	**160**	LR	LR	03 15 28.6		
	comp=Z,168nm,19.8s,baz=318,slow=40							
MDP	**Montagnes des**	**25.67**	**80**	LR	LR	03 14 36.6		
	comp=Z,167nm,19.1s,baz=256,slow=37							
TXAR	**Lajitas Array**	**37.50**	**322**	P	**P**	**03 06 09.5**	**+1.2**	
	comp=Z,0.5nm,0.8s,baz=130,slow=8.4,SNR=5.6							
TXAR				PcP	**PcP**	**03 08 26.7**	**0.0**	
	comp=Z,0.4nm,0.8s,baz=136,slow=5.8,SNR=3.8							
NVAR	**Mina Array Bea**	**52.62**	**320**	P	**P**	**03 08 11.1**	**+2.5**	
	comp=Z,1.3nm,0.8s,baz=136,slow=7.1,SNR=9.7							

*IDC **24** 03:01:10.4±1.3,6°58S×129°69E,h0km,mb3.9/3, mb1 4.1/7,mb1mx3.8/27,mbtmp3.9/7,ML3.8/4,MS3.1/4, Ms1 3.1/4,ms1mx2.7/33,Error ellipse: s-maj=58.7km s-min=22.7km az=91.0*

ISC 24 03:01:11.8±0.8,6°64S±0°07×129°9E±0°2,h10km,n11, α257/11,mb3.9/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.89**	**13**	Pn	**Pn**	**03 02 37.8**	**-1.5**
	1.0nm,0.3s,baz=255,slow=20,SNR=3.5						
SIJI				Sn	Sn	03 03 35.7	-11
	4.1nm,0.3s,baz=1.5,slow=23,SNR=19						
KAPI	**Kappang**	**10.24**	**279**	LR	LR	03 06 55.2	
	comp=Z,97nm,21.9s,baz=76,slow=34						
FITZ	**Fitzroy Crossi**	**12.13**	**200**	Pn	**Pn**	**03 04 05.4**	**+0.6**
	0.5nm,0.3s,baz=26,slow=8.2,SNR=22						
FITZ				Sn	**Sn**	**03 06 18.5**	**-1.7**
	0.2nm,0.3s,baz=180,slow=20,SNR=3.5						
FITZ				LR	LR	03 09 29.4	
	comp=Z,74nm,18.5s,baz=23,slow=41						
WRA	**Warramunga Arr**	**13.90**	**162**	Pn	**Pn**	**03 04 29.4**	**+0.3**
	0.5nm,0.3s,baz=351,slow=13,SNR=22						
WRA				Sn	**Sn**	**03 06 59.7**	**-3.9**
	0.6nm,0.3s,baz=342,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**17.36**	**168**	P	**P**	**03 05 16.4**	**+0.6**
	0.4nm,0.3s,baz=348,slow=9.8,SNR=20						
ASAR				S	**Sn**	**03 08 26.4**	**-1.3**
	0.2nm,0.3s,baz=346,slow=24,SNR=5.5						
KRVT	**Keravat (AS076**	**22.13**	**85**	LR	LR	03 15 51.4	
	comp=Z,54nm,20.1s,baz=68,slow=39						
STKA	**Stephens Creek**	**27.37**	**158**	P	**P**	**03 07 02.5**	**+5.0**
	1.4nm,0.8s,baz=338,slow=11,SNR=3.2						
HNR	**Honiara**	**29.86**	**97**	LR	LR	03 20 58.0	
	comp=Z,29nm,18.7s,baz=348,slow=40						
MJAR	**Matsushiro Arr**	**43.65**	**10**	P	**P**	**03 09 18.2**	**+1.4**
	1.9nm,0.8s,baz=189,slow=9.9,SNR=5.7						
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**03 12 09.2**	**-1.4**
	0.7nm,0.7s,baz=125,slow=7.6,SNR=6.7						
ILAR	**Eielson Array**	**93.06**	**25**	P	**P**	**03 14 25.1**	**-0.5**
	0.3nm,0.7s,baz=253,slow=5.2,SNR=4.4						

*IDC **24** 03:16:55.2±0.6,36°36N×71°25E,h0km,mb4.2/22, mb1 4.4/27,mb1mx4.2/47,mbtmp4.3/27,ML4.4/5,MS3.3/14, Ms1 3.4/14,ms1mx3.1/45,Error ellipse: s-maj=15.2km s-min=11.7km az=15.0*

*MOS **24** 03:17:03.9±0.8,36°62N×71°25E,h80km,mb4.6/18,Error ellipse: s-maj=6.8km s-min=4.1km az=83.3*

*NEIC **24** 03:17:05.7±2.5,36°66N±0°05×71°15E±0°06,h79km±5km, mb4.5/28,Error ellipse: s-maj=8.1km s-min=6.0km az=126.0*

*BJI **24** 03:17:05.2±0.0,36°73N×71°37E,h73km,mB4.7/22, mb4.7/26,Ms4.0/11,Ms7 3.8/8*

*NNC **24** 03:17:06.0±2.4,36°77N×70°81E,h111km±30km,mb4.6, mpv5.6,Error ellipse: s-maj=21.7km s-min=12.4km az=163.0*

ISC 24 03:17:06.0±0.3,36°51N±0°04×71°36E±0°04,h100km,n303, α231/298,mb4.3/51,31C-22D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.62**	**342**	Pn	**Pn**	**03 17 43.8**	**-3.0**
CEP	**Cherat**	**2.72**	**170**	P	**Pn**	**03 17 50.5**	**+2.4**
CEP				S	**Sn**	**03 18 25.0**	**+4.5**
KBL	**Kabul**	**2.73**	**225**	Pn	**Pn**	**03 17 47.8**	**-0.5**
CHGR	**Chuyangaron**	**2.77**	**321**		**Pn**	**03 17 45.3**	**-3.4**
NIL	**Nilore**	**3.25**	**151**	P	**Pn**	**03 17 58.3**	**+3.2**
NIL	**Nilore**	**3.25**	**151**	Pn	**Pn**	**03 17 58.2**	**+3.2**
THW	**Thamme Wali**	**3.72**	**175**	P	**Pn**	**03 18 03.0**	**+1.5**
SARP	**Sargodha**	**4.71**	**166**	P	**Pn**	**03 18 15.4**	**+0.7**
KSH	**Kashi**	**4.72**	**49**	P	**Pn**	**03 18 10.8**	**-4.1**
KSH				sP		03 18 28.1	
KSH				S	Sn	03 18 56.4	-12
KSH				pmax	pmax		
	comp=Z,280nm,0.5s						
KSH				LR	LR		
	comp=Z,880nm,3.8s						
TAS	**Tashkent**	**5.07**	**342**	PN	**Pn**	**03 18 17.3**	**-2.3**
TAS	**Tashkent**	**5.07**	**342**	Pn	**Pn**	**03 18 17.3**	**-2.3**
IUG	**Iuzhnay**	**5.72**	**350**	*e*P	**Pn**	**03 18 26.9**	**-1.7**
IUG				*e*S	**Sn**	**03 19 26.9**	**-6.0**
IUG	**Iuzhnay**	**5.72**	**350**	*e*PN	**Pn**	**03 18 26.8**	**-1.7**
DHRM	**DHARAMSHALA**	**5.89**	**135**	*e*P	**Pn**	**03 18 31.9**	**+0.9**
DHRM				*e*S	**Sn**	**03 19 36.4**	**-0.9**
DHRM				IAML		03 20 19.1	
	comp=N,1μm,0.8s						
DHRM				IAML		03 20 20.3	
	comp=E,2μm,0.5s						
AML	**Almayashu**	**5.90**	**17**	P	**Pn**	**03 18 31.1**	**-0.1**
	SNR=627						
CHM	**Chimkent**	**5.96**	**347**	*e*S	**Sn**	**03 19 33.0**	**-5.5**
UCH	**Uchtor**	**6.21**	**22**	P	**Pn**	**03 18 35.9**	**+0.4**
	SNR=154						
DZA	**Taraz**	**6.37**	**360**	*e*P	**Pn**	**03 18 36.5**	**-0.8**
DZA				*e*S	**Sn**	**03 19 44.9**	**-3.7**
EKS2	**Erkin-Say**	**6.42**	**16**	P	**Pn**	**03 18 38.2**	**+0.2**
	SNR=243						
AAK	**Ala-Archa**	**6.58**	**21**	P	**Pn**	**03 18 40.6**	**+0.4**
	SNR=424						
AAK	**Ala-Archa**	**6.58**	**21**	*i* P	**Pn**	**03 18 40.9**	**+0.7**
	SNR=461						
AAK	**Ala-Archa**	**6.58**	**21**	⇑P	**Pn**	**03 18 40.6**	**+0.4**
	comp=E,327nm,0.6s						
AAK				⇓S	**Sn**	**03 19 52.1**	**-1.6**
	comp=E,217nm,0.7s						
AAK	**Ala-Archa**	**6.58**	**21**	P	**Pn**	**03 18 40.5**	**+0.4**
AAK				S	**Sn**	**03 19 50.6**	**-3.2**
AAK	**Ala-Archa**	**6.58**	**21**	PN	**Pn**	**03 18 40.6**	**+0.4**
KK31	**Karatay Array**	**6.62**	**355**	⇓P	**Pn**	**03 18 39.0**	**-1.6**
	comp=E,69nm,0.3s,baz=177,slow=12,SNR=2308						
KK31				⇓S	**Sn**	**03 19 48.3**	**-6.2**
	comp=E,116nm,0.5s,baz=186,slow=25,SNR=6.8						
KK31	**Karatay Array**	**6.62**	**355**	PN	**Pn**	**03 18 38.8**	**-1.8**
KK31	**Karatay Array**	**6.62**	**355**		**Pn**	**03 18 38.8**	**-1.8**
KKAR	**Karatay Array**	**6.62**	**355**	PN	**Pn**	**03 18 38.8**	**-1.8**
KKAR	**Karatay Array**	**6.62**	**355**		**Pn**	**03 18 38.8**	**-1.8**
KBK	**Karagaybulak**	**6.73**	**23**	P	**Pn**	**03 18 43.5**	**+1.1**
	SNR=98						
CHMS	**Chumysh**	**6.99**	**21**	P	**Pn**	**03 18 45.8**	**+0.2**
	SNR=363						
USP	**Ospenovka**	**7.17**	**19**	P	**Pn**	**03 18 47.6**	**-0.4**
	SNR=166						
TKM2	**Tokmak 2**	**7.18**	**26**	P	**Pn**	**03 18 49.0**	**+0.5**
	SNR=33						
TKM2	**Tokmak 2**	**7.18**	**26**	⇑P	**Pn**	**03 18 48.5**	**0.0**
	comp=E,451nm,1.0s						
TKM2				⇑S	**Sn**	**03 20 08.2**	**-0.5**
	comp=E,100nm,0.8s						
TKM2	**Tokmak 2**	**7.18**	**26**	*i* PN	**Pn**	**03 18 48.5**	**0.0**
TKM2				pmax	pmax		
	comp=Z,451nm,1.0s						
KDJ	**Kajisay**	**7.20**	**37**	PN	**Pn**	**03 18 50.1**	**+1.5**
KDJ	**Kajisay**	**7.20**	**37**		**Pn**	**03 18 50.1**	**+1.5**
SMLA	**Simla**	**7.22**	**136**	*e*P	**Pn**	**03 18 49.5**	**+0.7**
SMLA				IAML		03 20 16.4	
	comp=N,926nm,0.0s						
SMLA				IAML		03 20 17.7	
	comp=E,728nm,0.5s						

SGDS	**Sogindy**	**7.37**	**19**	⇑*i*P	**Pn**	**03 18 50.3**	**-0.7**	
SGDS				*e*S	**Sn**	**03 20 10.1**	**-2.8**	
SGDS	**Sogindy**	**7.37**	**19**	*c i*PN	**Pn**	**03 18 50.2**	**-0.7**	
MTBS	**Maitube**	**7.67**	**29**	*e*P	**Pn**	**03 18 55.4**	**+0.3**	
MTBS	**Maitube**	**7.67**	**29**	*e*PN	**Pn**	**03 18 55.3**	**+0.3**	
HRA	**Herat**	**7.74**	**257**	Pn	**Pn**	**03 18 54.4**	**-1.7**	
TNSS	**Tian-Shan**	**7.81**	**32**	*e*P	**Pn**	**03 18 56.9**	**-0.2**	
TNSS	**Tian-Shan**	**7.81**	**32**	*e*PN	**Pn**	**03 18 56.9**	**-0.2**	
MDOK	**Medeo**	**7.95**	**32**	*e*P	**Pn**	**03 18 59.5**	**+0.6**	
MDOK	**Medeo**	**7.95**	**32**	*e*PN	**Pn**	**03 18 59.4**	**+0.6**	
KNDC	**Almaty**	**7.96**	**31**	⇓P	**Pn**	**03 19 00.8**	**+1.8**	
	comp=E,657nm,1.2s							
KUU	**Kurty**	**8.30**	**26**	*e*P	**Pn**	**03 19 02.2**	**-1.2**	
KUU	**Kurty**	**8.30**	**26**	*e*PN	**Pn**	**03 19 02.2**	**-1.2**	
DDI	**Dehra Dun**	**8.33**	**136**	*e*P	**Pn**	**03 19 05.2**	**+1.2**	
DDI				*ex*	x	03 20 36.5		
SATY	**Saty**	**8.49**	**37**	*e*P	**Pn**	**03 19 06.5**	**+0.2**	
SATY	**Saty**	**8.49**	**37**	*e*PN	**Pn**	**03 19 06.4**	**+0.2**	
BTLS	**Baital**	**8.76**	**13**	*e*P	**Pn**	**03 19 08.3**	**-1.4**	
BTLS	**Baital**	**8.76**	**13**	*e*PN	**Pn**	**03 19 08.3**	**-1.4**	
UZB	**Uzynbulak**	**8.86**	**39**	*e*P	**Pn**	**03 19 10.5**	**-0.8**	
UZB	**Uzynbulak**	**8.86**	**39**	*e*PN	**Pn**	**03 19 10.5**	**-0.8**	
KPKS	**Kokpek**	**8.93**	**37**	*e*P	**Pn**	**03 19 11.3**	**-0.8**	
KPKS	**Kokpek**	**8.93**	**37**	*e*PN	**Pn**	**03 19 11.3**	**-0.8**	
SHLS	**Shalkode**	**9.10**	**41**	*e*P	**Pn**	**03 19 16.6**	**+2.2**	
SHLS	**Shalkode**	**9.10**	**41**	*e*P	**Pn**	**03 19 16.6**	**+2.2**	
PDGK	**Podgornoye**	**9.23**	**40**	⇓P	**Pn**	**03 19 14.6**	**-1.7**	
	comp=E,39nm,1.0s							
KUDL	**Kundal**	**9.40**	**151**	*e*P	**Pn**	**03 19 17.3**	**-1.2**	
KUDL				*e*S	**Sn**	**03 20 56.1**	**-6.3**	
KUDL				AMP		03 21 02.0		
	comp=N,743nm,0.3s							
SONA	**Sohna**	**9.55**	**148**	*e*P	**Pn**	**03 19 19.4**	**-1.1**	
SONA				*ex*	x	03 21 02.1		
TDK	**Taldyqorghan**	**10.02**	**30**	*e*P	**Pn**	**03 19 25.6**	**-1.3**	
TDK	**Taldyqorghan**	**10.02**	**30**	*e*P	**Pn**	**03 19 25.5**	**-1.3**	
ASHT	**Ashkhabad**	**10.45**	**282**	P	**Pn**	**03 19 30.2**	**-2.5**	
ASHT	**Ashkhabad**	**10.45**	**282**	Pn	**Pn**	**03 19 30.2**	**-2.5**	
GEYT	**Alibeck**	**10.66**	**282**	Pn	**Pn**	03 19 28.8	-6.9	
	comp=N,2.5nm,0.3s,baz=102,slow=11,SNR=14							
GEYT				Sn	Sn	03 21 19.0	-14	
	comp=N,9.3nm,0.3s,baz=352,slow=32,SNR=8.6							
GEYT				LR	LR	03 25 19.5		
	comp=N,232nm,18.4s,baz=20,slow=48							
GYA0B	**ALIBECK ARRAY**	**10.66**	**282**	⇑P	Pn	03 19 29.2	-6.4	
GYA0B				⇓S	Sn	03 21 19.0	-14	
GYA0B	**ALIBECK ARRAY**	**10.66**	**282**	Pn	Pn	03 19 29.9	-5.7	
PYUN	**Piuthan**	**12.92**	**127**	*e*P	**Pn**	**03 20 03.1**	**-2.9**	
	comp=N,376nm,0.4s							
PYUN	**Piuthan**	**12.92**	**127**	*e*P	**Pn**	**03 20 03.0**	**-2.9**	
	comp=N,376nm,0.4s							
PYUN	**Piuthan**	**12.92**	**127**	*e*P	**Pn**	**03 20 03.6**	**-2.4**	
	comp=N,376nm,0.4s							
MAKZ	**Makanchi**	**12.98**	**34**	⇑P	**Pn**	**03 20 04.6**	**-1.8**	
	comp=N,78nm,1.2s							
MAKZ	**Makanchi**	**12.98**	**34**	P	**Pn**	**03 20 03.6**	**-2.9**	
MAKZ	**Makanchi**	**12.98**	**34**	Pn	**Pn**	**03 20 03.5**	**-2.9**	
MK31	**Makanchi Array**	**13.11**	**35**	⇑P	**Pn**	**03 20 05.9**	**-2.3**	
	comp=N,18nm,0.6s,baz=219,slow=13,SNR=24							
MK31	**Makanchi Array**	**13.11**	**35**	*i* P	**Pn**	**03 20 07.0**	**-1.2**	
MK31				pmax	pmax			
	comp=Z,18nm,0.6s							
MK31	**Makanchi Array**	**13.11**	**35**	Pn	**Pn**	**03 20 06.6**	**-1.6**	
MKAR	**Makanchi Array**	**13.11**	**35**	Pn	**Pn**	**03 20 07.2**	**-1.1**	
	comp=Z,2.4nm,0.3s,baz=222,slow=13,SNR=131							
MKAR	**Makanchi Array**	**13.11**	**35**	Pn	**Pn**	**03 20 06.3**	**-1.9**	
DANN	**Dangsing**	**13.25**	**124**	*e*P	**Pn**	**03 20 07.5**	**-2.9**	
	comp=Z,131nm,0.3s							
DANN				*e*S	Sn	03 22 28.0	-8.4	
	comp=Z,220nm,0.5s							
DANN	**Dangsing**	**13.25**	**124**	*e*P	**Pn**	**03 20 08.1**	**-2.3**	
	comp=Z,131nm,0.3s							
DANN	**Dangsing**	**13.25**	**124**	*e*P	**Pn**	**03 20 08.1**	**-2.3**	
	comp=Z,131nm,0.3s							
BHUJ	**Bhuj**	**13.29**	**187**	*ex*	Pn	**03 20 08.0**	**-2.7**	
BHUJ				*e*S	Sn	03 22 26.0	-11	
BRZS	**Berezniki**	**13.50**	**4**	⇑*i*P	**Pn**	**03 20 10.1**	**-3.1**	
BRZS	**Berezniki**	**13.50**	**4**	*c i*P	**Pn**	**03 20 10.1**	**-3.1**	
KOLN	**Koldanda**	**13.53**	**127**	*e*P	**Pn**	**03 20 11.1**	**-3.0**	
	comp=Z,125nm,0.4s							
KOLN				*e*S	**Sn**	**03 22 36.8**	**-6.3**	
	comp=Z,236nm,0.8s							
KOLN	**Koldanda**	**13.53**	**127**	*e*P	**Pn**	**03 20 11.1**	**-3.0**	
	comp=Z,125nm,0.4s							
KOLN	**Koldanda**	**13.53**	**127**	*e*P	**Pn**	**03 20 11.9**	**-2.2**	
	comp=Z,125nm,0.4s							
GKN	**Gorkha**	**14.06**	**123**	*e*P	**Pn**	**03 20 17.7**	**-3.2**	
	comp=Z,226nm,0.4s							
GKN	**Gorkha**	**14.06**	**123**	*e*P	**Pn**	**03 20 18.8**	**-2.1**	
	comp=Z,226nm,0.4s							
GKN	**Gorkha**	**14.06**	**123**	*e*P	**Pn**	**03 20 18.3**	**-2.6**	
	comp=Z,226nm,0.4s							
BHPL	**Bhopal**	**14.23**	**157**	*e*P	**Pn**	**03 20 20.6**	**-2.2**	
BHPL				*ex*	x	03 22 51.5		
WMQ	**Urumqi**	**14.45**	**55**	*e*P	**Pn**	**03 20 26.1**	**+0.4**	
WMQ				pP	P	03 20 36.6	+7.0	
WMQ				sP		03 20 43.9		
WMQ				pmax	pmax			
	comp=Z,15nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,78nm,4.5s							
DMN	**Daman**	**14.63**	**123**	*e*P	**Pn**	**03 20 25.8**	**-2.5**	
	comp=Z,74nm,0.4s							
DMN				*e*S	**Sn**	**03 23 01.5**	**-8.3**	
	comp=Z,457nm,1.2s							
DMN	**Daman**	**14.63**	**123**	*e*P	**Pn**	**03 20 26.0**	**-2.3**	
	comp=Z,74nm,0.4s							
DMN	**Daman**	**14.63**	**123**	*e*P	**Pn**	**03 20 26.0**	**-2.3**	
	comp=Z,74nm,0.4s							
KKN	**Kakani**	**14.64**	**123**	*e*P	**Pn**	**03 20 25.1**	**-3.2**	
	comp=Z,135nm,0.6s							
KKN				*e*S	Sn	03 23 00.3	-9.5	
	comp=Z,128nm,0.5s							
KKN	**Kakani**	**14.64**	**123**	*e*P	**Pn**	**03 20 26.0**	**-2.3**	
	comp=Z,135nm,0.6s							
KKN	**Kakani**	**14.64**	**123**	*e*P	**Pn**	**03 20 26.3**	**-2.0**	
	comp=Z,135nm,0.6s							
ZSN	**Zaisan**	**14.82**	**38**	*e*P	**Pn**	**03 20 29.8**	**-0.5**	
ZSN	**Zaisan**	**14.82**	**38**	*e*P	**Pn**	**03 20 29.8**	**-0.5**	
PKIN	**Phulchoki**	**14.85**	**123**	*e*P	**Pn**	**03 20 28.3**	**-2.8**	
	comp=Z,116nm,0.4s							
PKIN	**Phulchoki**	**14.85**	**123**	*e*P	**Pn**	**03 20 28.3**	**-2.8**	
	comp=Z,116nm,0.4s							
PKIN	**Phulchoki**	**14.85**	**123**	*e*P	**Pn**	**03 20 28.4**	**-2.7**	
	comp=Z,116nm,0.4s							
PKI	**Pulchoki**	**14.86**	**123**	*e*P	**Pn**	**03 20 28.5**	**-2.8**	
	comp=Z,149nm,0.6s							
PKI				*e*S	**Sn**	**03 23 07.2**	**-8.2**	
	comp=Z,100nm,0.6s							
PKI	**Pulchoki**	**14.86**	**123**	*e*P	**Pn**	**03 20 28.5**	**-2.8**	
	comp=Z,149nm,0.6s							
PKI	**Pulchoki**	**14.86**	**123**	*e*P	**Pn**	**03 20 28.5**	**-2.8**	
	comp=Z,149nm,0.6s							
GUN	**Gumba**	**14.97**	**121**	*e*P	**Pn**	**03 20 29.3**	**-3.4**	
	comp=Z,89nm,0.4s							
GUN	**Gumba**	**14.97**	**121**	*e*P	**Pn**	**03 20 30.0**	**-2.7**	
	comp=Z,89nm,0.4s							
GUN	**Gumba**	**14.97**	**121**	*e*P	**Pn**	**03 20 30.0**	**-2.7**	
	comp=Z,89nm,0.4s							
KURBB	**Kurchatov Arra**	**15.02**	**18**	Pn	**Pn**	**03 20 29.4**	**-3.4**	
	comp=Z,0.5nm,0.3s,baz=210,slow=12,SNR=16							
KURBB				Lg	Lg	03 24 49.1		
	comp=Z,0.1nm,0.3s,baz=207,slow=26,SNR=1.8							
KURBB	**Kurchatov Arra**	**15.02**	**18**	⇑P	**Pn**	**03 20 28.6**	**-4.1**	
	comp=Z,36nm,0.7s							
KURBB	**Kurchatov Arra**	**15.02**	**18**	P	**Pn**	**03 20 28.6**	**-4.1**	
KURK	**Kurchatov**	**15.13**	**18**	⇑P	**Pn**	**03 20 30.8**	**-3.3**	
	comp=Z,42nm,1.0s							
KURK	**Kurchatov**	**15.13**	**18**	P	**Pn**	**03 20 30.5**	**-3.6**	
KURK	**Kurchatov**	**15.13**	**18**	*d i*P	**Pn**	**03 20 30.4**	**-3.7**	
KURK				pmax	pmax			
	comp=Z,13nm,1.0s							
KURK	**Kurchatov**	**15.13**	**18**	Pn	**Pn**	**03 20 30.5**	**-3.6**	
KURK				IAmb	IAmb	03 20 38.6		
	comp=Z,33nm,0.8s							
AB31	**Akbulak array**	**15.22**	**330**	⇓P	**Pn**	**03 20 29.9**	**-5.4**	
	comp=Z,9.5nm,0.5s,baz=142,slow=11,SNR=306							
AB31				⇓S	Sn	03 23 10.8	-12	
	comp=Z,19nm,0.7s,baz=152,slow=24,SNR=7.4							
AB31	**Akbulak array**	**15.22**	**330**	*e*P	**Pn**	**03 20 30.5**	**-4.7**	
ABKAR	**Akbulak array**	**15.22**	**330**	Pn	**Pn**	**03 20 30.0**	**-5.3**	
RAMN	**Ramite**	**16.07**	**122**	*e*P	**Pn**	**03 20 43.6**	**-2.8**	
	comp=Z,68nm,0.5s							
RAMN	**Ramite**	**16.07**	**122**	*e*P	**Pn**	**03 20 44.4**	**-2.0**	
	comp=Z,86nm,0.5s							

RAMN	**Ramite**	**16.07**	**122**	*e*P	**Pn**	**03 20 44.4**	**-2.0**	
	comp=Z,86nm,0.5s							
BVAR	**Borovoye Array**	**16.53**	**358**	Pn	**Pn**	**03 20 49.8**	**-1.8**	
	comp=Z,2.6nm,0.3s,baz=116,slow=15,SNR=26							
BRVK	**Borovoye**	**16.56**	**358**	⇑P	**Pn**	**03 20 49.6**	**-2.4**	
	comp=Z,20nm,0.7s							
BRVK	**Borovoye**	**16.56**	**358**	P	**Pn**	**03 20 50.6**	**-1.4**	
BRVK	**Borovoye**	**16.56**	**358**	*c*eP	**Pn**	**03 20 49.7**	**-2.3**	
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BRVK	**Borovoye**	**16.56**	**358**	Pn	**Pn**	**03 20 50.2**	**-1.8**	
BRVK				IAmb	IAmb	03 21 31.1		
	comp=Z,31nm,0.8s							
TAPN	**Taplejung**	**16.59**	**119**	*e*P	**Pn**	**03 20 50.7**	**-2.2**	
	comp=Z,98nm,0.3s							
TAPN	**Taplejung**	**16.59**	**119**	*e*P	**P**	**03 20 52.4**	**-1.3**	
	comp=Z,98nm,0.3s							
TAPN	**Taplejung**	**16.59**	**119**	*e*P	**Pn**	**03 20 50.1**	**-2.8**	
	comp=Z,105nm,0.4s							
BANOM	**Banah**	**16.63**	**235**	*i* P	**Pn**	**03 20 52.8**	**-0.4**	
	SNR=14							
BANOM	**Banah**	**16.63**	**235**	P	**Pn**	**03 20 53.7**	**+0.5**	
	SNR=7.4							
SHME	**Shamm**	**16.65**	**235**	*i* P	**Pn**	**03 20 53.8**	**+0.4**	
	SNR=6.9							
ODAN	**Odare**	**16.67**	**121**	*e*P	**Pn**	**03 20 51.6**	**-2.2**	
	comp=Z,169nm,0.8s							
ODAN	**Odare**	**16.67**	**121**	*e*P	**P**	**03 20 52.8**	**-1.7**	
ODAN	**Odare**	**16.67**	**121**	*e*P	**Pn**	**03 20 51.8**	**-2.0**	
NGP	**Nagpur**	**16.71**	**154**	*e*P	**Pn**	**03 20 52.7**	**-1.4**	
NGP				IAmb	IAmb	03 20 54.6		
	comp=Z,12nm,0.7s							
AKTO	**Aktyubinsk**	**16.92**	**330**	Pn	**Pn**	**03 20 53.0**	**-3.4**	
	comp=Z,2.2nm,0.3s,baz=134,slow=12,SNR=61							
AKTO	**Aktyubinsk**	**16.92**	**330**	⇑P	**Pn**	**03 20 52.8**	**-3.6**	
	comp=Z,72nm,0.8s							
AKTO				⇑S	Sn	03 23 52.6	-12	
	comp=Z,29nm,0.9s							
AKTO	**Aktyubinsk**	**16.92**	**330**	P	**Pn**	**03 20 53.0**	**-3.4**	
MDH	**Madha**	**17.07**	**233**	P	**Pn**	**03 20 56.9**	**-1.4**	
MDH	**Madha**	**17.07**	**233**	P	**Pn**	**03 20 57.8**	**-0.6**	
MSFE	**Esma-Masafi**	**17.11**	**234**	*i* P	**Pn**	**03 20 58.7**	**-0.3**	
	SNR=27							
WSAR	**Wadi Sarin**	**17.21**	**223**	P	**P**	**03 20 59.9**	**-0.3**	
	comp=Z,0.5nm,0.3s,baz=56,slow=12,SNR=13							
WSAR	**Wadi Sarin**	**17.21**	**223**	P	**Pn**	**03 21 02.0**	**+1.9**	
	SNR=5.7							
UOSS	**Minazif**	**17.37**	**233**	P	**P**	**03 21 00.0**	**-1.9**	
UOSS	**Minazif**	**17.37**	**233**	P	**P**	**03 21 01.4**	**-0.6**	
UOSS	**Minazif**	**17.37**	**233**	Pn	**P**	**03 21 00.4**	**-1.6**	
UOSS				IAmb	IAmb	03 21 04.4		
	comp=Z,66nm,1.6s							
HATD	**Hatta, Dubai**	**17.50**	**233**	P	**P**	**03 21 02.6**	**-0.8**	
HATD	**Hatta, Dubai**	**17.50**	**233**	P	**Pn**	**03 21 03.8**	**+0.1**	
WBK	**Wadi Bani Khal**	**17.53**	**221**	P	**Pn**	**03 21 06.8**	**+2.8**	
	SNR=8.5							
DGZ	**Jazzator, Alta**	**17.60**	**36**	*d i*P	**P**	**03 21 03.7**	**-0.7**	
DGZ				pmax	pmax			
	comp=Z,26nm,0.9s							
ASHO	**Ashiyiah**	**17.65**	**232**	*i* P	**Pn**	**03 21 06.6**	**+1.0**	
	SNR=16							
ASHO	**Ashiyiah**	**17.65**	**232**

comp=Z,6.8nm,0.7s,baz=138,slow=7.0,SNR=16
KBZ LR LR 03 33 18.5
comp=Z,76nm,18.2s,baz=113,slow=43
KBZ Khabaz 22.86 297⇓*eP* **P 03 21 59.3 -1.4**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KVAR Kislovodsk Arr 23.03 298 P **P 03 22 03.2 +0.6**
comp=Z,5.4nm,0.6s,baz=240,slow=20,SNR=2.2
KVAR LR LR 03 33 27.2
comp=Z,63nm,18.4s,baz=262,slow=43
KIV Kislovodsk 23.04 298 *eP* **P 03 22 03.4 +0.8**
KIV *eS* **S 03 26 06.4 +0.8**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,158nm,14.0s
KIV Kislovodsk 23.04 298 P **P 03 22 02.4 -0.3**
SAIH SAIHA 23.37 121 *eP* **P 03 22 09.5 +3.6**
SAIH IAmb IAmb 03 22 12.2
comp=Z,31nm,0.3s
DMTO DMTO 23.68 222 P **P 03 22 09.9 +1.4**
WHFO Wadi Hawf 24.17 225 P **P 03 22 13.5 +0.5**
SNR=5.2
RBK Rabkut 24.26 223 P **P 03 22 14.8 +0.9**
MARD Mardin 24.42 281 P **P 03 22 17.0 +1.7**
KOPT Kop Dagi 24.42 288 P **P 03 22 15.1 -0.4**
KOPT IAmb IAmb 03 23 09.6
comp=Z,13nm,1.0s
ABTO Aybut 24.89 225 P **P 03 22 20.1 +0.5**
SNR=8.5
VRH Novokhopyorsk 25.71 314 *eP* **P 03 22 26.8 +0.1**
VRH pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 25.89 45 *eP* **P 03 22 34.1 +5.6**
LZH Lanzhou 26.12 81 *eP* **P 03 22 36.5 +5.8**
LZH pP pP 03 22 52.0 -2.4
LZH sP sP 03 22 59.8 -7.0
LZH pmax pmax
comp=Z,20nm,1.1s
KIRV Kirov 26.36 334⇑*eP* **P 03 22 32.5 +0.1**
ZAK Zakamensk 26.76 49 *eP* **P 03 22 38.1 +1.8**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
VORD Divnogorie 27.05 312 *eP* **P 03 22 39.7 +1.0**
VORD pmax pmax
comp=Z,30nm,1.7s
VSR Storozhevoye 27.21 313 *eP* **P 03 22 40.7 +0.6**
VSR pmax pmax
comp=Z,20nm,1.7s
TLY Talaya 27.42 46 LR LR 03 35 38.1
comp=Z,44nm,20.2s,baz=220,slow=41
CD2 Chengdu 27.44 92 P P 03 22 48.6 +6.1
LPSR Galich'ya Gora 27.85 316 *eP* **P 03 22 50.9 +5.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 28.09 55 P **P 03 22 50.6 +2.4**
comp=Z,1.3nm,0.6s,baz=265,slow=6.9,SNR=11
SONM LR LR 03 35 30.1
comp=Z,87nm,18.4s,baz=255,slow=40
SONM Songino Array 28.09 55 P **P 03 22 49.5 +1.3**
ULN Ulaanbaatar 28.53 55⇑*eP* P 03 22 58.5 +6.3
ULN pmax pmax
comp=Z,9.0nm,2.9s
ULN Ulaanbaatar 28.53 55 P **P 03 22 54.2 +2.0**
BR131 Keskin Array S 29.71 288 P **P 03 23 03.3 +0.6**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 29.71 288 P **P 03 23 03.3 +0.6**
BRTR Keskin Array B 29.71 288 P **P 03 23 04.2 +1.5**
comp=Z,1.3nm,0.6s,baz=103,slow=9.1,SNR=9.8
BRTR LR LR 03 38 11.8
comp=Z,27nm,21.2s,baz=135,slow=43
MOS Moscow 29.84 321 *eP* **P 03 23 03.1 -0.3**
MOS *e* 03 23 24.4
MOS *e* 03 24 02.1
CHTO Chiang Mai 29.97 119 P P 03 23 08.9 +3.9
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 29.97 119 P P 03 23 08.9 +3.9
OBN Obninsk 30.12 319 *i* P **P 03 23 06.0 +0.1**
OBN *i* 03 23 37.1
OBN *i* 03 24 03.7
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 30.12 319 P **P 03 23 07.4 +1.6**
CMAR Chiang Mai Arr 30.20 119 P **P 03 23 08.8 +1.8**
comp=Z,1.3nm,0.4s,baz=307,slow=8.4,SNR=14
CMAR Chiang Mai Arr 30.20 119 P **P 03 23 10.3 +3.2**
CMAR Chiang Mai Arr 30.20 119 P **P 03 23 10.2 +3.2**
EIL Elat 31.12 268 P **P 03 23 16.6 +1.5**
comp=Z,5.9nm,1.0s,baz=3.0,slow=6.1,SNR=5.2
HHC Hu-ho-hao-te 31.49 70 *eP* P 03 23 22.3 +4.0
AKASG Malin Array Be 33.17 309 P **P 03 23 33.2 +0.5**
comp=Z,2.9nm,0.5s,baz=81,slow=6.9,SNR=18
AKBB Malin Array Si 33.17 309⇓⇓*eP* **P 03 23 32.9 +0.2**
SORM Soroca 33.44 304 ⇓⇓P **P 03 23 35.8 +0.7**
SORM Soroca 33.44 304 ⇓⇓P **P 03 23 35.8 +0.7**
NRIK Noril'sk 34.06 10 P **P 03 23 41.8 +1.5**
comp=Z,1.8nm,0.4s,baz=198,slow=8.7,SNR=2.9
NRIK LR LR 03 39 27.4
comp=Z,72nm,19.3s,baz=196,slow=40
ISR Istrita 34.62 299 ⇑⇑P P 03 24 01.2 +16
NEHR Nehoiu 34.78 299 ⇓⇓P P 03 23 52.9 +6.0
BIZ Bicaz 34.91 302 ⇓⇓P P 03 24 00.1 +12
MLR Muntele Rosu 35.03 299 P **P 03 23 52.0 +3.0**
comp=Z,7.8nm,1.0s,baz=101,slow=1.9,SNR=5.4
MLR Muntele Rosu 35.03 299 ⇑⇑P **P 03 23 52.2 +3.2**
MLR Muntele Rosu 35.03 299 ⇑⇑P **P 03 23 52.2 +3.2**
NACGM Naroch 35.41 316 *e* **P 03 23 51.0 -1.0**
BURAR Bucovina Array 35.52 303 P **P 03 23 53.3 0.0**
BUR08 Bucovina Ar. S 35.54 303 P **P 03 23 54.1 +0.8**
VOIR 35.66 299 ⇑⇑P **P 03 23 56.1 +1.7**
VOIR 35.66 299 ⇑⇑P **P 03 23 56.1 +1.7**
ARR Arges 35.96 299 ⇑⇑P **P 03 23 57.3 +0.4**
WHN Wuhan 36.10 87 P **P 03 23 54.3 -3.9**
ARCR ARCALIA 36.11 302 ⇓⇓P P 03 24 19.0 +21
LOT Lotru 36.56 299 ⇑⇑P **P 03 24 04.0 +1.9**
KOLS Kolonicke sedl 37.51 305 *eP* **P 03 24 10.7 +0.7**
KOLS Kolonicke sedl 37.51 305 *eP* **P 03 24 10.7 +0.7**
FINES FINESS Array B 37.64 326 P **P 03 24 11.8 +0.9**
comp=Z,4.5nm,0.4s,baz=123,slow=8.9,SNR=26
FINES FINESS Array B 37.64 326 *i* P **P 03 24 14.3 +3.5**
FINES pmax pmax
comp=Z,5.0nm,0.4s
BZS Buzias 38.06 300 ⇑⇑P **P 03 24 15.8 +1.2**
BZS Buzias 38.06 300 ⇑⇑P **P 03 24 15.8 +1.2**
MDVR Moldovita 38.06 298 ⇑⇑P **P 03 24 16.6 +1.9**
ARCES ARCESS Array B 41.25 337 P **P 03 24 42.1 +1.4**
comp=Z,1.7nm,0.5s,baz=108,slow=6.7,SNR=13
ARCES LR LR 03 42 41.6
comp=Z,158nm,18.6s,baz=345,slow=37
GERES GERESS Array B 43.16 305 P **P 03 24 56.9 +0.2**
comp=Z,0.3nm,0.5s,baz=82,slow=7.0,SNR=2.4
HFS Hagfors 43.24 322 P **P 03 24 58.0 +1.0**
comp=Z,9.7nm,0.6s,baz=96,slow=11,SNR=13
HFS Hagfors 43.24 322 P **P 03 24 58.0 +1.0**
YAK Yakutsk 43.79 35 LR LR 03 45 41.2
comp=Z,13nm,18.1s,baz=266,slow=39
YAK Yakutsk 43.79 35⇓*eP* **P 03 25 02.9 +1.6**
YAK pmax pmax
comp=Z,27nm,0.6s
NB2 NORSAR Subarra 44.55 323 P **P 03 25 07.5 0.0**
comp=Z,3.9nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.55 323 P **P 03 25 08.1 +0.6**
comp=Z,2.6nm,0.5s,baz=96,slow=7.8,SNR=13
NOA LR LR 03 43 35.0
comp=Z,30nm,18.6s,baz=55,slow=36
KSRS Korea Array 44.60 71 P **P 03 25 10.2 +2.0**
comp=Z,1.0nm,0.5s,baz=276,slow=8.5,SNR=5.0
MOTA Moosalm 45.08 304 *eP* **P 03 25 12.9 +0.8**
comp=Z,2.2nm,0.6s
TIXI Tiksi 45.65 22⇓*eP* **P 03 25 19.7 +3.7**
TIXI pmax pmax
comp=Z,11nm,0.6s
TIXI Tiksi 45.65 22 P **P 03 25 17.1 +1.1**
DAVA Damuels 45.91 304 *eP* **P 03 25 19.6 +1.0**
comp=Z,6.3nm,0.7s
DAVOX Davos/Dischmat 46.00 303 P **P 03 25 20.1 +0.8**
comp=Z,2.9nm,0.7s,baz=91,slow=11,SNR=7.2
BFO Black Forest 46.76 305 P **P 03 25 24.3 -0.8**
BFO pmax pmax
comp=Z,31nm,1.8s
BFO Black Forest 46.76 305 P **P 03 25 24.3 -0.8**

KEST Kesra 49.31 289 P **P 03 25 46.4 +1.5**
comp=Z,6.9nm,1.0s,baz=27,slow=4.5,SNR=2.5
MAT Matsushiro 52.68 69 P **P 03 26 10.2 +0.1**
MBAR Mbarara 52.75 235 P **P 03 26 12.6 +1.6**
MBAR pmax pmax
comp=Z,13nm,0.7s
MBAR Mbarara 52.75 235 P **P 03 26 12.6 +1.6**
ESDC Sonseca Array 57.71 298 P **P 03 26 47.6 +1.3**
comp=Z,1.0nm,0.6s,baz=52,slow=7.9,SNR=12
ESDC Sonseca Array 57.71 298 P **P 03 26 46.7 +0.4**
PETK Petropavlovsk- 59.76 44 LR LR 03 55 58.0
comp=Z,34nm,18.5s,baz=201,slow=39
SUMG Summit 61.15 341 *i* P **P 03 27 12.0 +2.2**
SUMG pmax pmax
comp=Z,4.0nm,0.4s
SUMG Summit 61.15 341 P **P 03 27 09.9 +0.1**
SUMG Summit 61.15 341 *i* P **P 03 27 12.0 +2.2**
comp=Z,4.2nm,0.4s
SUMG Summit 61.15 341 *i* P **P 03 27 12.0 +2.2**
SUMG IAmb IAmb 03 27 18.5
comp=Z,4.2nm,0.4s
TOA0 Torodi Ar. Sit 66.01 269 P **P 03 27 41.9 -0.2**
TOA0 IAmb IAmb 03 28 24.9
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 66.01 269 P **P 03 27 41.8 -0.3**
comp=Z,104nm,0.7s,baz=49,slow=6.1,SNR=33
TORD Torodi Ar. Bea 66.01 269 IAmb IAmb 03 27 50.9
comp=Z,181nm,0.7s
KOWA Kowa 69.86 273 P **P 03 28 07.4 +1.1**
COLA College 74.39 16⇓*eP* P 03 28 38.2 +5.8
COLA pmax pmax
comp=Z,14nm,1.7s
ILAR Eielson Array 74.69 16 P **P 03 28 34.7 +0.5**
ILAR Eielson Array 74.69 16 P **P 03 28 34.7 +0.5**
BOSA Boshof 77.94 220 P **P 03 28 55.1 +2.0**
comp=Z,6.7nm,0.8s,baz=23,slow=5.0,SNR=6.9
BOSA Boshof 77.94 220 P **P 03 28 55.2 +2.0**
BOSA pmax pmax
comp=Z,72nm,2.0s
YKA Yellowknife Ar 81.22 3 P **P 03 29 12.8 +2.4**
comp=Z,1.4nm,0.6s,baz=0.0,slow=5.3,SNR=7.2
YKA LR LR 04 07 09.2
comp=Z,19nm,21.7s,baz=0.0,slow=37
YKA Yellowknife Ar 81.22 3*ceP* P 03 29 16.0 +5.6
YKA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 81.75 122 P **P 03 29 15.3 +1.5**
comp=Z,0.4nm,0.4s,baz=324,slow=4.9,SNR=15
WRA Warramunga Arr 81.75 122*ceP* P 03 29 22.5 +8.7
WRA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 84.02 125 P **P 03 29 26.9 +1.4**
comp=Z,0.4nm,0.5s,baz=310,slow=4.9,SNR=9.0
PLCA Paso Flores 150.10 250 PKPbc **PKiKP 03 36 46.7 +1.0**
comp=Z,2.3nm,0.9s,baz=21,slow=6.0,SNR=3.0

KRSC 24 03:18:15.3±1.4, 48.88N×156.45E, h76km±29km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.82**	**353**	*eP*	Pn	03 18 45.7	+1.1
PAU	**Pauzhetka**	**2.60**	**5**	*eP*	Pn	03 18 57.3	+2.2
PAU				*eS*	Sn	03 19 27.9	+2.2
KDTR	**Khodutka, Kamc**	**3.11**	**19**	*eP*	Pn	03 19 05.7	+3.6
KDTR				*eS*	Sn	03 19 41.6	+3.5
RUS	**Russkaya**	**3.79**	**19**	*eP*	Pn	03 19 14.2	+2.9
RUS				*eS*	Sn	03 19 57.3	+2.6
GRL	**Gorelyy**	**3.82**	**15**	*eP*	Pn	03 19 14.5	+2.7
AVH	**Avacha**	**4.62**	**17**	*eP*	Pn	03 19 25.8	+3.1
KRX	**Arik**	**4.70**	**16**	*eP*	Pn	03 19 26.9	+3.2
SPN	**Mys Shipunski**	**4.79**	**27**	*eP*	Pn	03 19 29.0	+4.1
MKZ	**Mys Kozlova**	**6.56**	**28**	*eP*	Pn	03 19 51.4	+2.4
KZV	**Kizimen**	**6.68**	**19**	*eP*	Pn	03 19 54.5	+3.7

IDC 24 03:34:02.4±23.0, 42.27N×143.61E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/40, mbtmp3.8/5, Error ellipse: s-maj=520.3km s-min=83.7km az=158.0
NEIC 24 03:34:12.5±0.8, 42.31N±0.07×143.2E±0.1, h63km±6km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=9.4km az=102.0
JMA 24 03:34:13.3±0.1, 42.33N×143.06E, h51km±1km, M3.0
ISC 24 03:34:12.8±0.9, 42.32N±0.04×143.09E±0.04, h56km±6km, n32, σ0.88/35, mb3.8/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.16**	**100**	P	**Pn**	**03 34 21.6**	**+0.1**
JTHR				*eS*	**Sn**	**03 34 27.9**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.25**	**261**	P	**Pn**	**03 34 21.8**	**-0.3**
JNBK				*eS*	**Sn**	**03 34 28.7**	**-0.1**
JEM	**Erimo**	**0.31**	**170**	P	**Pn**	**03 34 22.8**	**+0.3**
JEM				*eS*	**Sn**	**03 34 30.5**	**+1.0**
ERM	**Erimo**	**0.31**	**170**	Pn	**Pn**	**03 34 22.8**	**+0.3**
ERM				Sn	**Sn**	**03 34 30.5**	**+1.0**
JCH	**Churui**	**0.36**	**34**	P	**Pn**	**03 34 23.0**	**0.0**
JCH				*eS*	**Sn**	**03 34 30.7**	**+0.4**
JSHD	**Hidakashinhida**	**0.47**	**281**	P	**Pn**	**03 34 24.2**	**+0.1**
JSHD				*eS*	**Sn**	**03 34 33.4**	**+1.2**
JBT2	**Biratori 2**	**0.70**	**311**	P	**Pn**	**03 34 27.0**	**+0.1**
JBT2				*eS*	**Sn**	**03 34 38.9**	**+1.8**
JOB	**Onbets**	**0.80**	**43**	P	**Pn**	**03 34 29.2**	**+1.1**
JOB				*eS*	**Sn**	**03 34 41.6**	**+2.3**
JFR	**Furan**	**0.92**	**337**	P	**Pn**	**03 34 29.2**	**-0.4**
JAR	**Ashorobuto**	**1.10**	**27**	P	**Pn**	**03 34 32.3**	**+0.3**
JAR				*eS*	**Sn**	**03 34 46.5**	**+0.3**
JEW	**Eniwo**	**1.32**	**294**	P	**Pn**	**03 34 35.6**	**+0.7**
JEW	**Eniwo**	**1.32**	**294**	Pn	**Pn**	**03 34 35.5**	**+0.7**
JAB	**Ashibetsu**	**1.34**	**332**	P	**Pn**	**03 34 36.5**	**+1.2**
JAK	**Akkeshi**	**1.37**	**60**	P	**Pn**	**03 34 35.9**	**+0.4**
JKA	**Kamikawa-asahi**	**1.83**	**349**		**Pn**	**03 34 42.8**	**+0.9**
JTM	**Tennabayashi**	**2.15**	**225**		**Pn**	**03 34 47.5**	**+1.2**
JMM	**Marumori**	**4.78**	**202**	Pn	**Pn**	**03 35 23.1**	**+0.8**
JSD	**Sado**	**5.65**	**222**	Pn	**Pn**	**03 35 34.8**	**+0.6**
SONM	**Songino Array**	**26.32**	**295**	P	**P**	**03 39 43.2**	**0.0**
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	04 11 46.0	
	baz=324,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	04 11 51.4	
	baz=324,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	04 11 45.5	
	baz=324,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**31.07**	**133**	T	T	04 12 56.5	
	baz=325,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**31.09**	**133**	T	T	04 12 52.6	
	baz=325,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**31.09**	**133**	T	T	04 12 56.0	
	baz=325,slow=76,SNR=19						
ZAA0	**Zalesovo Array**	**39.50**	**308**	P	**P**	**03 41 36.3**	**-1.3**
ZAA0				IAmb	IAmb	03 41 45.7	
	comp=Z,7.2nm,1.6s						
ZALV	**Zalesovo Beam**	**39.50**	**308**	P	**P**	**03 41 37.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=65,slow=8.3,SNR=1.8						
MK31	**Makanchi Array**	**42.61**	**298**	P	**P**	**03 42 02.7**	**-0.6**
MK31				IAmb	IAmb	03 43 05.0	
	comp=Z,4.3nm,1.6s						
MKAR	**Makanchi Array**	**42.61**	**298**	P	**P**	**03 42 03.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=85,slow=8.0,SNR=4.8						
KURK	**Kurchatov**	**43.86**	**304**	P	**P**	**03 42 13.2**	**-0.1**
KURBB	**Kurchatov Arra**	**43.94**	**304**	P	**P**	**03 42 13.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=76,slow=8.8,SNR=7.0						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**03 44 43.6**	**-1.3**
	comp=Z,7.3nm,1.1s,baz=55,slow=10.0,SNR=3.9						

IDC 24 03:47:11.4±4.8, 22.53S×178.41W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/28, mbtmp3.9/4, Error ellipse: s-maj=169.0km s-min=64.3km az=143.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.60**	**247**	P	P	03 54 18.4	-1.1
	1.3nm,0.5s,baz=105,slow=14,SNR=6.1						
ASAR	**Alice Springs**	**43.72**	**259**	P	P	03 55 18.4	-0.3
	0.4nm,0.3s,baz=94,slow=7.4,SNR=8.3						
WRA	**Warramunga Arr**	**43.98**	**264**	P	P	03 55 21.7	+0.8
	1.3nm,0.4s,baz=99,slow=8.4,SNR=28						
FITZ	**Fitzroy Crossi**	**52.41**	**264**	P	P	03 56 25.9	-0.1
	0.5nm,0.4s,baz=107,slow=10,SNR=6.9						
BRTR	**Keskin Array B**	**147.88**	**310**	PKPbc	PKPbc	04 06 58.2	-0.7
	0.4nm,0.6s,baz=66,slow=4.9,SNR=2.2						

DJA 24 03:57:09.6±0.3, 8°S±2°×11°2E±°, h10km, M3.3/10, MLv3.3/10
IDC 24 03:57:20.3±10.0, 8.01S×113.19E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/35, mbtmp3.6/3, Error ellipse: s-maj=177.4km s-min=136.1km az=169.0
ISC 24 03:57:09.4±0.8, 7.58S±0.04×111.75E±0.04, h10km, n13, σ0.65/16, mb3.7/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.44**	**173**	P	**Pg**	**03 57 17.8**	**-0.3**
PWJI				S	**Sg**	**03 57 24.3**	**+0.3**
TBJI	**Tambak Boyo**	**0.76**	**7**	P	**Pb**	**03 57 24.6**	**-0.1**
TBJI				S	**Sb**	**03 57 35.3**	**+0.1**
WOJI	**Wonogiri, Jawa**	**0.86**	**252**	P	**Pg**	**03 57 25.8**	**-0.2**
GRJI	**Gresik**	**0.98**	**48**	P	**Pg**	**03 57 28.0**	**-0.2**
GRJI				S	**Sn**	**03 57 42.6**	**-0.5**
UGM	**Wanagama**	**1.26**	**255**	P	**Pn**	**03 57 33.6**	**+0.5**
SMRI	**Semarang**	**1.40**	**292**	P	**Pn**	**03 57 35.0**	**0.0**
YOGI	**Yogyakarta**	**1.46**	**261**	P	**Pn**	**03 57 35.8**	**-0.1**
GMJI	**Gumukmas**	**1.81**	**112**	P	**Pb**	**03 57 41.7**	**-1.0**
BLJI	**Banyuglugur**	**1.84**	**95**	P	**Pn**	**03 57 41.5**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.54**	**111**	P	**Pn**	**03 57 51.4**	**+0.7**
WRA	**Warramunga Arr**	**25.11**	**122**	P	**P**	**04 02 33.9**	**-0.7**
	1.4nm,0.9s,baz=297,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**26.60**	**129**	P	**P**	**04 02 49.7**	**+1.5**
	0.4nm,0.6s,baz=307,slow=9.2,SNR=3.0						
STKA	**Stephens Creek**	**36.83**	**135**	P	**P**	**04 04 18.1**	**+0.2**
	2.5nm,1.1s,baz=311,slow=11,SNR=3.0						

UCR 24 04:35:47.6±1.4, 12.37N×88.26W, h23km±7km, ML3.5, MW3.7
INET 24 04:35:47.4, 12.29N×88.18W, h15km, ML3.6
SNET 24 04:35:48.1±0.8, 12.40N×88.29W, h22km±4km, ML3.5
ISC 24 04:35:47.8±1.5, 12.38N±0.06×88.25W±0.06, h21km±5km, n50, σ0.52/60, 6C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.97**	**24**	*eP*	**Pb**	**04 36 05.8**	**-0.2**
CNCH	**Conchagua**	**0.97**	**24**	*eP*	**Pb**	**04 36 05.8**	**-0.2**
LCND	**La Caada**	**0.98**	**21**	*eP*	**Pb**	**04 36 05.8**	**-0.4**
LCND				*eS*	**Sn**	**04 36 20.1**	**+0.4**
LCND	**La Caada**	**0.98**	**21**	*eP*	**Pb**	**04 36 05.8**	**-0.4**
LCND				*eS*	**Sn**	**04 36 20.1**	**+0.4**
ALJI	**Alcalda de J**	**0.99**	**341**⇓	*iP*	**Pb**	**04 36 06.1**	**-0.2**
ALJI				*eS*	**Sb**	**04 36 19.1**	**+0.3**
ALJI				IAML		04 36 20.7	
	comp=Z,2μm,0.2s						
ALJI	**Alcalda de J**	**0.99**	**341**⇓	*iP*	**Pb**	**04 36 06.1**	**-0.2**
ALJI				*eS*	**Sb**	**04 36 19.1**	**+0.3**
ALJI				IAML		04 36 20.7	
	comp=Z,2μm,0.2s						
LCY	**Lacayo**	**1.03**	**357**	*eP*	**Pn**	**04 36 06.9**	**-0.3**
LCY	**Lacayo**	**1.03**	**357**	*eP*	**Pn**	**04 36 06.9**	**-0.3**
BLLM	**Bellamira**	**1.05**	**0**	*eP*	**Pn**	**04 36 07.0**	**-0.4**
BLLM	**Bellamira**	**1.05**	**0**	*eP*	**Pn**	**04 36 07.0**	**-0.4**
TECA	**Tecapa**	**1.13**	**347**⇓	*iP*	**Pn**	**04 36 08.2**	**-0.4**
TECA				*eS*	**Sn**	**04 36 23.9**	**+0.2**
TECA	**Tecapa**	**1.13**	**347**⇓	*iP*	**Pn**	**04 36 08.2**	**-0.4**
TECA				*eS*	**Sn**	**04 36 23.9**	**+0.2**
COEB	**Comit de Eme**	**1.14**	**346**⇓	*iP*	**Pn**	**04 36 08.1**	**-0.6**
COEB				*eS*	**Sn**	**04 36 23.9**	**+0.1**
COEB				IAML		04 36 26.8	
	comp=Z,1μm,0.2s						
COEB	**Comit de Eme**	**1.14**	**346**⇓	*iP*	**Pn**	**04 36 08.1**	**-0.6**
COEB				*eS*	**Sn**	**04 36 23.9**	**+0.1**
COEB				IAML		04 36 26.8	
	comp=Z,1μm,0.2s						
FAGO	**Alcalda de S**	**1.31**	**6**⇑	*eP*	**Pn**	**04 36 10.9**	**0.0**
FAGO	**Alcalda de S**	**1.31**	**6**⇑	*eP*	**Pn**	**04 36 10.9**	**0.0**
COEG	**Centro de Oper**	**1.38**	**333**	*eP*	**Pn**	**04 36 11.2**	**-0.6**
COEG				IAML		04 36 32.7	
	comp=Z,614nm,0.3s						
COEG	**Centro de Oper**	**1.38**	**333**	*eP*	**Pn**	**04 36 11.2**	**-0.6**
COEG				IAML		04 36 32.7	
	comp=Z,614nm,0.3s						
LFRS	**El Faro**	**1.47**	**327**⇓	*iP*	**Pn**	**04 36 12.5**	**-0.7**
LFRS	**El Faro**	**1.47**	**327**⇓	*iP*	**Pn**	**04 36 12.5**	**-0.7**
PAVA	**Las Pavas**	**1.48**	**333**⇑	*eP*	**Pn**	**04 36 13.3**	**-0.1**
PAVA				*eS*	**Sb**	**04 36 33.1**	**-0.1**
PAVA	**Las Pavas**	**1.48**	**333**⇑	*eP*	**Pn**	**04 36 13.3**	**-0.1**
PAVA				*eS*	**Sb**	**04 36 33.1**	**-0.1**
LBRS	**Las Brisas**	**1.56**	**330**	*eP*	**Pn**	**04 36 14.3**	**-0.1**
LBRS	**Las Brisas**	**1.56**	**330**	*eP*	**Pn**	**04 36 14.3**	**-0.1**
LFU	**La Fuente**	**1.60**	**328**⇑	*iP*	**Pn**	**04 36 14.9**	**-0.1**
LFU	**La Fuente**	**1.60**	**328**⇑	*iP*	**Pn**	**04 36 14.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.61**	**324**	*eP*	**Pn**	**04 36 14.5**	**-0.7**
SNET				IAML		04 36 42.3	
	comp=Z,445nm,0.2s						
SNET	**Serv Nac Est T**	**1.61**	**324**	*eP*	**Pn**	**04 36 14.5**	**-0.7**
SNET				IAML		04 36 42.3	
	comp=Z,445nm,0.2s						
BOQS	**Boqueron**	**1.68**	**323**	*eP*	**Pn**	**04 36 16.2**	**0.0**
BOQS	**Boqueron**	**1.68**	**323**	*eP*	**Pn**	**04 36 16.2**	**0.0**
CEDA	**San Andres**	**1.80**	**322**	*eP*	**Pn**	**04 36 17.4**	**-0.3**
CEDA	**San Andres**	**1.80**	**322**	*eP*	**Pn**	**04 36 17.4**	**-0.3**
TACO	**Tacachico**	**1.91**	**326**	*eP*	**Pn**	**04 36 19.1**	**-0.1**
TACO	**Tacachico**	**1.91**	**326**	*eP*	**Pn**	**04 36 19.1**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.91**	**30**	*eP*	**Pn**	**04 36 19.2**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.91**	**30**	*eP*	**Pn**	**04 36 19.2**	**-0.1**
SBLS	**San Blas**	**1.97**	**317**	*eP*	**Pn**	**04 36 20.6**	**+0.3**
SBLS	**San Blas**	**1.97**	**317**	*eP*	**Pn**	**04 36 20.6**	**+0.3**
GB1A	**Borinquen Arri**	**3.19**	**119**	*iP*	**Pn**	**04 36 36.5**	**-0.4**
LIM1	**Limonal**	**3.38**	**119**	*iP*	**Pn**	**04 36 38.2**	**-1.2**
GUAI	**GUAI**	**3.41**	**128**	*iP*	**Pn**	**04 36 38.5**	**-1.3**
HORNC	**Hornillas**	**3.43**	**119**	*iP*	**Pn**	**04 36 39.0**	**-1.2**
CUI	**Cuipilapa**	**3.47**	**119**	*iP*	**Pn**	**04 36 40.2**	**-0.5**
ACAL	**Aguas Claras**	**3.59**	**119**	*iP*	**Pn**	**04 36 41.7**	**-0.7**
CASO	**Castillo**	**3.95**	**119**	*iP*	**Pn**	**04 36 46.5**	**-0.8**
LCR2	**La Lucha 2**	**4.92**	**122**	*eP*	**Pn**	**04 37 01.8**	**+1.0**
RIMA	**Rio Macho**	**5.03**	**121**	*eP*	**Pn**	**04 37 03.3**	**+1.1**
PEZE	**Perez Zeledon,**	**5.39**	**123**	*eP*	**Pn**	**04 37 07.6**	**+0.5**
DRK0	**Durika**	**5.81**	**122**	*eP*	**Pn**	**04 37 13.4**	**+0.4**
RIOS	**Rincon, Osa**	**5.92**	**128**	*eP*	**Pn**	**04 37 15.1**	**+0.8**

TEH 24 04:36:33.1, 40.12N×51.53E, h30km, ML3.4, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QALM	**Alamut, Qazvin**	**3.75**	**191**	*ePn*	Pn	04 37 30.5	+1.4
IHRS	**Heris**	**3.92**	**244**	*ePn*	Pn	04 37 32.8	+1.4
IHRS				*e*		04 38 28.6	
IPRN	**Peran**	**3.92**	**170**	*ePn*	Pn	04 37 32.7	+1.3
**IGL

VRAC	**Vranov**		**23.70**	**114**	LR	LR	05 01 56.1		
	comp=Z,26nm,18.2s,baz=118,slow=39								
ESDC	**Sonseca Array**		**26.18**	**156**	P	**P**	**04 52 10.1**	**+0.7**	
	0.5nm,1.0s,baz=337,slow=7.9,SNR=2.6								
ILAR	**Eielson Array**		**45.75**	**332**	P	**P**	**04 54 54.8**	**-1.0**	
	0.6nm,1.0s,baz=35,slow=3.3,SNR=2.6								
DLBC	**Dease Lake**		**47.12**	**318**	LR	LR	05 16 31.0		
	comp=Z,36nm,19.0s,baz=96,slow=38								
TORD	**Torodi Ar. Bea**		**53.07**	**156**	P	**P**	**04 55 51.7**	**-0.3**	
	91nm,0.8s,baz=343,slow=7.3,SNR=1.9								
PDAR	**Pinedale Array**		**53.16**	**293**	P	**P**	**04 55 54.5**	**+1.7**	
	1.1nm,0.7s,baz=49,slow=6.7,SNR=9.7								
TXAR	**Lajitas Array**		**62.24**	**280**	P	**P**	**04 56 57.9**	**+1.2**	
	0.7nm,1.0s,baz=69,slow=4.9,SNR=4.9								

IDC ***24*** *04:52:46.6±1.3, 15°14.5S×175°10.9W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.1/41, mbtmp4.1/10, MS4.0/19, Ms1 4.0/19, ms1mx3.8/27, Error ellipse: s-maj=100.6km s-min=18.6km az=149.0*

NEIC ***24*** *04:52:49.0±1.5, 15°8.5S±0.2×174°8.8W±0.1, h20km±4km, mb4.6/44, Error ellipse: s-maj=26.8km s-min=16.6km az=173.0*

GCMT ***24*** *04:52:50.0±0.3, 15°15.5S±0.02×174°56.6W±0.02, h12km, MW4.8/79, Moment Tension Solution. s10,c10; s79,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.08±.09; Mθθ-1.88±.08; Mφφ 1.79±.06; Mrθ-0.09±.24; Mrφ0.20±.07; Mθφ1.07±.20; Best double couple: Mo2.10600×10^16 NP1:φs316.00000°, δ76.00000°, λ158.00000°. NP2: φs51.00000°, δ69.00000°, λ15.00000°. Principal axes: T 2.3100, Plg26.0000°, Azm272.0000°; N -0.4150, Plg64.0000°, Azm105.0000°; P -1.9030, Plg5.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 04:52:47.2±0.7, 15.7S±0.2×174.8W±0.1, h10km, n69, σ0.98/42, mb4.5/20, MS4.1/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.40**	**59**		Pn	04 53 29.6	-11
NIUE	**Niue**	**5.73**	**127**	Pn	**Pn**	**04 54 12.1**	**-0.4**
KNTN	**Kanton**	**13.18**	**14**		Pn	04 55 41.3	-13
RAO	**Raoul Island**	**13.81**	**192**	LR	LR	05 00 58.2	
	comp=Z,1µm,18.3s,baz=74,slow=34						
DZM	**Mont Dzumac**	**18.86**	**247**	LR	LR	05 03 20.9	
	comp=Z,476nm,20.7s,baz=61,slow=34						
DZM	**Mont Dzumac**	**18.86**	**247**	*e*Pn	Pn	04 57 15.4	+7.1
	73nm,1.6s						
DZM				*e*LR	LR	05 01 43.5	
	comp=Z,807nm,24.1s						
URZ	**Urewera**	**23.60**	**196**	LR	LR	05 07 04.7	
	comp=Z,432nm,18.6s,baz=34,slow=36						
PPT	**Papeete**	**24.22**	**98**	LR	LR	05 05 26.4	
	comp=Z,182nm,19.0s,baz=281,slow=31						
PPT2	**Papeete2**	**24.22**	**98**	*e*LQ	LQ	05 02 57.4	
	278nm,25.0s						
PPT2				*e*LR	LR	05 03 51.6	
	comp=Z,908nm,26.5s						
TBI	**Tubuai**	**25.03**	**112**	*e*LQ	LQ	05 03 16.0	
	390nm,30.2s						
TBI				*e*LR	LR	05 04 23.1	
	comp=Z,1µm,29.2s						
HNR	**Honiara**	**25.42**	**281**	LR	LR	05 06 59.0	
	comp=Z,439nm,18.9s,baz=142,slow=34						
TAOE	**Nuku Hiva Isla**	**34.48**	**83**	*e*LR	LR	05 08 27.6	
	comp=Z,575nm,27.4s						
H11S2	**WAKE ISLAND Hy**	**38.54**	**331**	T	T	05 40 33.1	
	baz=150,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**38.55**	**331**	T	T	05 40 35.3	
	baz=150,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy**	**38.56**	**331**	T	T	05 40 34.6	
	baz=150,slow=76,SNR=72						
H11N3	**WAKE ISLAND Hy**	**39.52**	**332**	T	T	05 41 45.3	
	baz=151,slow=76,SNR=127						
H11N1	**WAKE ISLAND Hy**	**39.52**	**332**	T	T	05 41 45.6	
	baz=151,slow=76,SNR=191						
H11N2	**WAKE ISLAND Hy**	**39.53**	**332**	T	T	05 41 46.8	
	baz=151,slow=76,SNR=118						
STKA	**Stephens Creek**	**42.74**	**240**	P	**P**	**05 00 45.5**	**+0.6**
	2.7nm,0.9s,baz=91,slow=11,SNR=3.3						
STKA				LR	LR	05 18 00.9	
	comp=Z,142nm,18.4s,baz=51,slow=35						
WRA	**Warramunga Arr**	**48.48**	**257**	P	**P**	**05 01 29.3**	**-1.3**
	1.2nm,1.1s,baz=86,slow=7.1,SNR=4.1						
WRA				LR	LR	05 20 40.2	
	comp=Z,318nm,18.6s,baz=85,slow=35						
AS31	**Alice Springs**	**48.76**	**252**	P	**P**	**05 01 32.9**	**+0.2**
ASAR	**Alice Springs**	**48.76**	**252**	P	**P**	**05 01 32.8**	**+0.1**
	5.8nm,0.8s,baz=84,slow=8.2,SNR=21						
ASAR				LR	LR	05 20 21.9	
	comp=Z,354nm,20.7s,baz=97,slow=34						
ASAR	**Alice Springs**	**48.76**	**252**	P	**P**	**05 01 32.5**	**-0.2**
VNDA	**Vanda**	**62.96**	**186**	LR	LR	05 28 58.2	
	comp=Z,40nm,19.2s,baz=7.5,slow=34						
PETK	**Petropavlovsk-**	**72.50**	**343**	LR	LR	05 29 07.5	
	comp=Z,69nm,21.1s,baz=142,slow=30						
ISA	**Isabella, Lake**	**73.79**	**45**	P	**P**	**05 04 23.1**	**+1.0**
ISA				IAmb	IAmb	05 04 28.7	
	comp=Z,7.9nm,1.4s						
CMB	**Columbia Colle**	**73.86**	**42**	P	**P**	**05 04 23.6**	**+1.2**
MDPB	**Devils Postpil**	**74.48**	**43**	P	**P**	**05 04 27.2**	**+0.9**
YBH	**Yreka Blue Hor**	**74.63**	**38**	P	**P**	**05 04 27.2**	**+0.3**
	comp=Z,4.1nm,1.1s,baz=184,slow=8.5,SNR=3.9						
GSC	**Goldstone, Bar**	**74.74**	**46**	P	**P**	**05 04 29.6**	**+1.9**
GSC				IAmb	IAmb	05 04 31.6	
	comp=Z,6.7nm,1.3s						
PNTR	**Pine Nut**	**74.97**	**41**	P	**P**	**05 04 29.6**	**+0.5**
LHV	**Little Huntoon**	**75.20**	**43**	P	**P**	**05 04 30.7**	**+0.5**
RYN	**Ryan**	**75.40**	**42**	P	**P**	**05 04 33.2**	**+1.6**
RYN				IAmb	IAmb	05 04 35.0	
	comp=Z,9.0nm,1.5s						
NVAR	**Mina Array Bea**	**75.43**	**43**	P	**P**	**05 04 33.0**	**+1.2**
	comp=Z,3.9nm,1.1s,baz=229,slow=8.5,SNR=12						
NVAR				LR	LR	05 31 12.2	
	comp=Z,79nm,19.8s,baz=255,slow=31						
NVAR	**Mina Array Bea**	**75.43**	**43**	P	**P**	**05 04 31.6**	**-0.2**
PAHR	**Pah Rah Range**	**75.46**	**41**	P	**P**	**05 04 33.1**	**+1.2**
PAHR				IAmb	IAmb	05 04 40.3	
	comp=Z,7.4nm,1.3s						
NV11	**Mina Array Sit**	**75.53**	**43**	P	**P**	**05 04 32.6**	**+0.4**
NV11				IAmb	IAmb	05 04 36.5	
	comp=Z,8.3nm,1.2s						
KVN	**Kaiserville**	**75.91**	**42**	P	**P**	**05 04 34.9**	**+0.4**
TPH	**Tonopah**	**75.95**	**43**	P	**P**	**05 04 35.9**	**+1.1**
TPNV	**Topopah Spring**	**75.99**	**45**	P	**P**	**05 04 35.4**	**+0.4**
TPNV				IAmb	IAmb	05 04 38.0	
	comp=Z,10nm,1.5s						
SHPR	**Sheep Range**	**76.50**	**46**	P	**P**	**05 04 38.9**	**+1.0**
USRK	**Ussuriysk Ar.**	**76.81**	**324**	LR	LR	05 32 46.9	
	comp=Z,77nm,20.6s,baz=135,slow=32						
ELK	**Elko**	**78.68**	**42**	P	**P**	**05 04 48.9**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=342,slow=3.9,SNR=3.7						
ELK	**Elko**	**78.68**	**42**	P	**P**	**05 04 51.0**	**+1.0**
TX32	**Lajitas Array**	**81.88**	**57**	IAmb	IAmb	05 05 11.5	
	comp=Z,6.7nm,1.3s						
TXAR	**Lajitas Array**	**81.88**	**57**	P	**P**	**05 05 07.6**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=234,slow=4.3,SNR=8.3						
TXAR				LR	LR	05 33 41.5	
	comp=Z,23nm,21.5s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**81.88**	**57**		**P**	**05 05 07.4**	**0.0**
ANMO	**Albuquerque**	**82.00**	**50**	P	**P**	**05 05 09.1**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=220,slow=4.8,SNR=5.3						
ANMO	**Albuquerque**	**82.00**	**50**	P	**P**	**05 05 08.9**	**+0.9**
ANMO				IAmb	IAmb	05 05 12.9	
	comp=Z,7.3nm,1.4s						
HDA	**Harding Lake**	**82.65**	**12**	IAmb	IAmb	05 05 11.6	
	comp=Z,5.6nm,1.0s						
CCB	**Clear Creek Bu**	**82.69**	**11**	P	**P**	**05 05 10.0**	**-0.6**
CCB				IAmb	IAmb	05 05 10.3	
	comp=Z,5.1nm,1.0s						
IL31		**82.98**	**12**	P	**P**	**05 05 11.9**	**-0.3**
ILAR	**Eielson Array**	**82.98**	**12**	P	**P**	**05 05 09.0**	**-3.2**
	comp=Z,0.6nm,1.0s,baz=209,slow=9.0,SNR=3.4						
ILAR				LR	LR	05 34 01.5	
	comp=Z,83nm,20.6s,baz=216,slow=30						
ILAR	**Eielson Array**	**82.98**	**12**	P	**P**	**05 05 11.4**	**-0.8**
BW06	**Boulder Array**	**83.37**	**42**	IAmb	IAmb	05 05 17.3	
	comp=Z,5.2nm,1.1s						
PD31	**Pinedale Array**	**83.37**	**42**	P	**P**	**05 05 14.9**	**-0.1**
PD31				IAmb	IAmb	05 05 17.3	
	comp=Z,5.0nm,1.1s						
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**05 05 13.9**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=204,slow=3.3,SNR=10						
PDAR				LR	LR	05 37 09.9	
	comp=Z,58nm,20.4s,baz=296,slow=32						
YNE	**Yellowstone No**	**84.15**	**40**	P	**P**	**05 05 17.6**	**-1.4**
MAW	**Mawson**	**87.10**	**199**	LR	LR	05 43 14.2	
	comp=Z,126nm,18.6s,baz=62,slow=35						
PLCA	**Paso Flores**	**90.31**	**133**	LR	LR	05 37 05.9	
	comp=Z,76nm,19.7s,baz=264,slow=29						
YKA	**Yellowknife Ar**	**90.89**	**24**	LR	LR	05 43 19.4	
	comp=Z,76nm,18.2s,baz=0.0,slow=34						
ULM	**Lac du Bonnet**	**94.99**	**39**	LR	LR	05 42 49.3	
	comp=Z,102nm,18.9s,baz=268,slow=32						
BR131	**Keskin Array S**	**145.52**	**320**		**PKPdf**	**05 12 26.4**	**+0.1**
BRTR	**Keskin Array B**	**145.52**	**320**	PKP	**PKPbc**	**05 12 26.6**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=100,slow=2.9,SNR=8.0						
BRTR	**Keskin Array B**	**145.52**	**320**		**PKPdf**	**05 12 26.5**	**+0.3**
KHC	**Kasperske Hory**	**145.95**	**350**	*e*PKP	**PKPbc**	**05 12 27.7**	**+0.5**
KHC	**Kasperske Hory**	**145.95**	**350**	PKPbc	**PKPbc**	**05 12 27.5**	**+0.3**
GERES	**GERESS Array B**	**146.20**	**350**	PKPbc	**PKPbc**	**05 12 28.4**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=337,slow=3.0,SNR=7.4						
GERES	**GERESS Array B**	**146.20**	**350**	PKPbc	**PKPbc**	**05 12 28.6**	**+0.5**

SJA ***24*** *05:02:39.6±0.5, 34°06S×73°61W, h25km±21km, ML4.3, MW4.6*

IDC ***24*** *05:02:50.6±0.9, 33°96S×72°09W, h0km, mb4.0/6, mb1 4.2/9, mb1mx3.9/29, mbtmp4.0/9, ML4.0/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/21, Error ellipse: s-maj=36.9km s-min=19.0km az=93.0*

VAO ***24*** *05:02:52.7±0.6, 33°95S×72°12W, h10km, mb4.3*

GUC ***24*** *05:02:53.4±0.5, 34°02S×72°25W, h26km±9km, ML3.9*

ISC 24 05:02:51.4±2.0, 33°97S±0°03×72°27W±0°06, h8km±13km, n78, σ1°27/86, mb4.2/6, MS3.4/3, 5C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.08**	**29**	*e*P	**Pn**	**05 03 13.0**	**+0.3**
VA01				*i* S	**Sg**	**05 03 27.9**	**+1.9**
VA01				IAML		05 03 29.5	
	comp=E,1µm,0.4s						
GO05	**Huala**	**1.08**	**165**	⇓*i* P	**Pb**	**05 03 11.7**	**-0.6**
GO05				*i* S	**Sb**	**05 03 25.3**	**-1.3**
GO05				IAML		05 03 28.7	
	comp=E,6µm,0.6s						
GO05	**Huala**	**1.08**	**165**	*i* P	**Pb**	**05 03 12.1**	**-0.2**
MT02	**Curacav**	**1.18**	**53**	⇓*i* P	**Pb**	**05 03 14.3**	**+0.2**
MT02				*i* S	**Sg**	**05 03 29.7**	**+0.4**
MT02				IAML		05 03 38.3	
	comp=E,3µm,0.6s						
MT05	**Renca**	**1.40**	**66**	⇓*i* P	**Pb**	**05 03 17.7**	**-0.1**
MT05				*i* S	**Sg**	**05 03 36.4**	**0.0**
MT05				IAML		05 03 41.2	
	comp=N,4µm,0.3s						
ROC1	**El Roble**	**1.44**	**47**	*i* P	**Pb**	**05 03 18.8**	**+0.2**
ROCH	**El Roble**	**1.45**	**47**	⇑*i* P	**Pb**	**05 03 18.8**	**+0.1**
ROCH				*i* S	**Sg**	**05 03 39.6**	**+1.7**
ROCH				IAML		05 03 46.7	
	comp=E,4µm,0.5s						
BO02	**Sierra Bellavi**	**1.48**	**124**	*i* P	**Pb**	**05 03 18.5**	**-0.7**
BO02				*e*S	**Sg**	**05 03 39.6**	**+0.6**
MT03	**Universidad Ad**	**1.54**	**73**	⇓*i* P	**Pb**	**05 03 19.9**	**-0.4**
MT03				IAML		05 03 51.0	
	comp=N,3µm,0.4s						
PEL	**Peldehue**	**1.56**	**59**	⇓*i* P	**Pb**	**05 03 20.5**	**0.0**
PEL				*i* S	**Sg**	**05 03 41.2**	**-0.3**
PEL				IAML		05 03 50.6	
	comp=N,2µm,0.6s						
PEL	**Peldehue**	**1.56**	**59**	*i* P	**Pb**	**05 03 20.7**	**+0.2**
LMEL	**Las Melosas**	**1.72**	**87**	⇓*i* P	**Pb**	**05 03 22.9**	**-0.5**
LMEL				IAML		05 03 50.4	
	comp=E,2µm,0.5s						
VA03	**San Esteban**	**1.87**	**51**	⇑*i* P	**Pb**	**05 03 25.2**	**-0.7**
VA03				*i* S	**Sg**	**05 03 50.4**	**-1.2**
VA03				IAML		05 03 56.3	
	comp=N,3µm,0.5s						
LAMA	**Las Malvinas**	**2.70**	**112**	*e*P	**Pb**	**05 03 38.9**	**-1.2**
PUMA	**Malargue**	**2.78**	**124**	*i* P	**Pb**	**05 03 41.0**	**-0.3**
BI02	**San Fabin de**	**2.81**	**163**	*e*P	**Pn**	**05 03 37.9**	**+1.2**
BI02				IAML		05 04 28.7	
	comp=N,479nm,0.7s						
BI03	**Tigo**	**2.94**	**192**	*e*P	**Pn**	**05 03 37.3**	**-1.1**
CO02	**Combarbal**	**2.96**	**22**	⇑*i* P	**Pn**	**05 03 39.4**	**+0.6**
CO02				IAML		05 04 36.2	
	comp=E,1µm,0.7s						
EDS3	**Malargue**	**2.97**	**128**	*i* P	**Pb**	**05 03 44.7**	**+0.1**
AUSP	**Uspallata**	**2.98**	**55**	*e*P	**Pb**	**05 03 42.8**	**-2.1**
AAGR	**Agrelo**	**3.00**	**74**	*e*P	**Pb**	**05 03 44.5**	**-0.8**
AAGR				IAML		05 04 40.3	
	comp=Z,198nm,0.5s						
ARCO	**CERRO ARCO**	**3.01**	**69**	*i* P	**Pb**	**05 03 44.9**	**-0.4**
ASAL	**Salagasta**	**3.19**	**65**	*e*P	**Pb**	**05 03 47.5**	**-0.8**
ASAL				IAML		05 04 42.3	
	comp=Z,447nm,1.3s						
RFA	**San Rafael**	**3.25**	**105**	*i* P	**Pb**	**05 03 46.8**	**-2.5**
RFA				*e*P	Pn	05 03 47.1	+4.4
RFA				IAML		05 04 42.4	
	comp=Z,159nm,0.8s						
RTLS	**Leoncito**	**3.31**	**50**	*e*P	**Pb**	**05 03 47.4**	**-3.1**
RTLS				*e*S	**Sg**	**05 04 37.5**	**-0.1**
RTLS				IAML		05 04 41.8	
	comp=Z,395nm,0.9s						
CO03	**El Pedregal**	**3.39**	**24**	⇑*i* P	**Pn**	**05 03 45.6**	**+0.8**
CO03				IAML		05 04 49.4	
	comp=E,434nm,0.6s						
RTCV	**Cerro Valdivia**	**3.77**	**57**	*e*P	**Pn**	**05 03 52.9**	**+2.9**
RTCV				IAML		05 04 59.9	
	comp=Z,229nm,0.8s						
GO04	**Tololo Observa**	**3.98**	**19**	*e*P	**Pn**	**05 03 53.4**	**+0.4**
RTLL	**Cerro Villicun**	**4.14**	**52**	*e*P	**Pn**	**05 03 58.7**	**+3.7**
RTLL				*i* P	Pb	05 03 58.9	-5.7
RTLL				IAML		05 05 09.9	
	comp=Z,223nm,0.7s						
ACCO	**Cerro Coronel**	**4.33**	**40**	*e*P	**Pn**	**05 04 00.9**	**+3.1**
ACCO				*e*S	**Sb**	**05 04 59.4**	**-1.0**
ACCO				IAML		05 05 09.8	
	comp=Z,168nm,0.7s						
CO01	**Juntas del Tor**	**4.39**	**25**	⇑*i* P	**Pn**	**05 03 59.9**	**+1.4**
AROD	**Rodeo**	**4.47**	**33**	*e*P	**Pn**	**05 04 02.9**	**+3.1**
ACDV	**Cuesta del Vie**	**4.63**	**36**	*e*P	**Pn**	**05 04 04.8**	**+2.9**
ACDV				IAML		05 05 36.0	
	comp=Z,104nm,0.8s						
H03S1	**Juan Fernandez**	**5.52**	**269**	Pn	**Pn**	**05 04 13.3**	**-0.3**
H03S1				T	T	05 09 49.7	
	baz=92,slow=74,SNR=825						
H03S3	**Juan Fernandez**	**5.53**	**270**	Pn	**Pn**	**05 04 13.2**	**-0.5**
H03S3				T	T	05 09 52.9	
	baz=92,slow=74,SNR=752						
H03S2	**Juan Fernandez**	**5.54**	**269**	Pn	**Pn**	**05 04 12.9**	**-1.0**
H03S2				T	T	05 09 47.0	
	baz=92,slow=74,SNR=1067						
H03N1	**Juan Fernandez**	**5.56**	**274**	Pn	**Pn**	**05 04 15.6**	**+1.4**
H03N1				T	T	05 10 03.6	
	baz=98,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**5.57**	**273**	Pn	**Pn**	**05 04 15.6**	**+1.2**
H03N3				T	T	05 10 00.8	
	baz=98,slow=74,SNR=16						
H03N2	**Juan Fernandez**	**5.58**	**274**	Pn	**Pn**	**05 04 15.8**	**+1.4**
H03N2				T	T	05 10 05.0	
	baz=98,slow=74,SNR=21						
VCA	**Vinchina**	**6.27**	**35**	*i* P	**Pn**	**05 04 26.3**	**+2.0**
VCA				*e*P	Pb	05 04 26.4	-14
VCA				IAML		05 06 26.2	
	comp=Z,126nm,1.4s						
ACLC	**CERRO LA CRUZ**	**6.40**	**46**	*e*P	**Pn**	**05 04 26.7**	**+0.5**
ACLC				IAML		05 06 24.7	
	comp=Z,137nm,0.7s						
PLCA	**Paso Flores**	**6.89**	**169**	Pn	**Pn**	**05 04 34.1**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=336,slow=13,SNR=18						
PLCA	**Paso Flores**	**6.89**	**169**	*e*P	**Pn**	**05 04 33.8**	**+1.1**
TCA	**Tanti**	**6.98**	**70**	*i* P	**Pn**	**05 04 35.5**	**+1.4**
LVC	**Limon Verde**	**11.70**	**15**	Pn	**Pn**	**05 05 38.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=164,slow=7.4,SNR=1.9						
LVC				Sn	Sn	05 08 02.1	+12
	comp=Z,0.2nm,0.3s,baz=143,slow=15,SNR=2.0						
LVC				LR	LR	05 10 35.7	
	comp=Z,163nm,20.9s,baz=210,slow=40						
LVC	**Limon Verde**	**11.70**	**15**	*e*P	**Pn**	**05 05 38.4**	**-0.5**
CPUP	**Villa Florida**	**14.99**	**63**	Pn	**P**	**05 06 26.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=206,slow=18,SNR=6.4						
CPUP				LR	LR	05 13 01.3	
	comp=Z,104nm,21.8s,baz=234,slow=41						
CPUP	**Villa Florida**	**14.99**	**63**	*e*P	**Pn**	**05 06 23.5**	**-0.1**
PLTB	**Pedras Altas**	**15.84**	**87**	*e*P	**Pn**	**05 06 35.3**	**+0.5**
LPAZ	**La Paz**	**18.00**	**13**	P	**P**	**05 07 03.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=186,slow=6.4,SNR=27						
LPAZ	**La Paz**	**18.00**	**13**	*e*P	**P**	**05 07 03.4**	**+0.3**
ITAB	**Concordia**	**18.57**	**74**	*e*P	**Pn**	**05 07 08.6**	**-0.5**
CNLB	**Canela**	**18.81**	**82**	*e*P	**P**	**05 07 10.7**	**-0.7**
PTGB	**Pitanga**	**19.85**	**68**	*e*P	**P**	**05 07 22.0**	**-1.0**
AQDB	**Aquidauana**	**19.90**	**52**	*e*P	**Pn**	**05 07 24.0**	**-1.1**
TRCB	**Terra Rica**	**20.51**	**62**	*e*P	**P**	**05 07 30.1**	**-0.1**
SIV	**San Ignacio**	**20.55**	**32**	P	**P**	**05 07 30.0**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=225,slow=7.7,SNR=27						
SIV				LR	LR	05 16 52.7	
	comp=Z,177nm,19.0s,baz=244,slow=41						
PTLB	**Pontes e Lacer**	**21.92**	**36**	*e*P	**P**	**05 07 46.0**	**+0.7**
PCMB	**Pacaembu**	**22.24**	**62**	*e*P	**P**	**05 07 47.6**	**-1.1**
NNA	**Nana**	**22.27**	**348**	LR	LR	05 14 07.3	
	comp=Z,35nm,18.6s,baz=144,slow=30						
FRTB	**Fartura**	**22.51**	**68**	*e*P	**P**	**05 07 51.4**	**-0.3**
VILB	**Vilhena**	**23.63**	**31**	*e*P	**P**	**05 08 03.0**	**-0.1**
ITRB	**Iturama**	**24.10**	**59**	*e*P	**P**	**05 08 07.1**	**-0.5**
BB19B	**Bebedouro**	**24.60**	**65**	*e*P	**P**	**05 08 11.2**	**-1.0**
ETMB	**Extrema**	**24.67**	**14**	*e*P	**P**	**05 08 13.9**	**+1.1**
ARAG	**Araguaiana, MT**	**25.90**	**50**	*e*P	**P**	**05 08 23.0**	**-0.9**
SAML	**Samuel**	**26.27**	**21**	*e*P	**P**	**05 08 27.4**	**+0.1**
CLDB	**Colider**	**27.49**	**37**	*e*P	**P**	**05 08 39.2**	**+0.8**
BDFB	**Brasilia**	**28.47**	**56**	P	**P**	**05 08 46.0**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=201,slow=12,SNR=4.9						
NPGB	**Novo Progresso**	**31.02**	**34**	*e*P	**P**	**05 09 08.5**	**-1.2**
MALB	**Monte Alegre**	**36.11**	**32**	*e*P	**P**	**05 09 53.5**	**-0.5**
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**05 12 32.1**	**0.0**
	comp=Z,1.1nm,0.9s,baz=70,slow=2.9,SNR=2.1						
TXAR	**Lajitas Array**	**69.61**	**331**	P	**P**	**05 14 02.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=158,slow=8.7,SNR=7.7						
TKL	**Tuckaleechee C**	**70.10**	**350**	P	**P**	**05 14 04.8**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=153,slow=9.3,SNR=3.5						
MAW	**Mawson**	**73.27**	**164**	P	**P**	**05 14 23.3**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=228,slow=10,SNR=4.6						
DBIC	**Dimbokro**	**75.35**	**71**	LR	LR	05 45 15.1	
	comp=Z,20nm,19.7s,baz=146,slow=34						
TORD	**Torodi Ar. Bea**	**84.38**	**70**	P	**P**	**05 15 24.2**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=260,slow=4.1,SNR=10						
ZALV	**Zalesovo Beam**	**154.30**	**32**	PKPbc	**PKiKP**	**05 22 51.8**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=306,slow=2.6,SNR=12						

BJI ***24*** *05:11:55.2±0.0, 23°83N×94°63E, h93km, mB4.5/24, mb4.6/41*

IDC ***24*** *05:11:56.6±2.2, 23°70N×94°77E, h113km±20km, mb4.0/18, mb1 4.1/19, mb1mx3.9/35, mbtmp4.3/19, MS3.1/3, Ms1 3.1/3, ms1mx2.7/48, Error ellipse: s-maj=18.1km s-min=10.8km az=60.0*

NEIC ***24*** *05:11:56.1±1.8, 23°69N±0°07×94°69E±0°09, h109km±7km, mb4.6/34, Error ellipse: s-maj=15.1km s-min=3.9km az=45.0*

NDI ***24*** *05:11:57.5±3.3, 23°81N×94°56E, h105km±18km, mb4.3, ML4.3, mb4.6(NEIC)*

ISC 24 05:11:55.4±0.4, 23°72N±0°04×94°60E±0°04, h100km, n135, σ2°21/158, mb4.4/39, 2C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.93**	**231**	*i* P	**Pn**	**05 12 29.2**	**+2.0**
SAIH				*i* S	**Sn**	**05 12 54.3**	**+2.9**
SAIH				IAML		05 12 54.8	
	comp=N,3µm,0.3s						
SAIH				IAML		05 12 57.1	
	comp=E,6µm,0.1s						
SILR	**SILCHAR**	**1.95**	**303**	*e*P	Pn	05 12 17.6	-10
SILR				*e*S	**Sn**	**05 12 54.1**	**+2.5**
SILR				*i* S		05 12 54.4	
SILR				IAML		05 12 55.2	
	comp=N,7µm,0.4s						
SILR				IAML		05 12 55.5	
	comp=E,5µm,0.5s						
KOHI	**KOHIMA**	**2.04**	**347**	*i* P	**Pn**	**05 12 29.2**	**+0.5**
KOHI				*i* S	**Sn**	**05 12 53.2**	**-0.8**
KOHI				IAML		05 13 09.7	
	comp=E,2µm,1.0s						
MOKO	**MOKOCHONG**	**2.59**	**358**	*i* P	**Pn**	**05 12 37.1**	**+1.2**
MOKO				IAML		05 13 16.6	
	comp=E,1µm,0.5s						
BELO	**BELONIA**	**2.93**	**261**	*i* S	**Sn**	**05 13 17.9**	**+3.2**
JORH	**JORHAT**	**3.03**	**354**	*ex*	**Pn**	**05 12 46.0**	**+4.5**
JORH				*i* S	**Sn**	**05 13 15.2**	**-1.8**
JORH				IAML		05 13 42.8	
	comp=E,1µm,0.6s						
AGT	**Agartala**	**3.07**	**274**	*e*S	**Sn**	**05 13 18.9**	**+0.8**
AGT				*i* x	x	05 13 21.1	
SHL	**Shillong**	**3.08**	**307**	*i* P	**Pn**	**05 12 43.3**	**+0.9**

GKN					*e*Sn		**Sn**	05 16 00.1	-4.9
	comp=E,296nm,0.4s								
KOLN	**Koldanda**	**10.70**	**294**		*e*Pn		**Pn**	05 14 24.8	-1.1
KOLN					*e*Sn		**Sn**	05 16 17.8	-6.0
	comp=E,42nm,0.2s								
DANN	**Dangsing**	**10.78**	**298**		*e*Pn		**Pn**	05 14 26.4	-0.6
DANN					*e*Sn		**Sn**	05 16 19.7	-6.1
	comp=E,123nm,0.5s								
CD2	**Chengdu**	**10.84**	**47**		P		**Pn**	05 14 29.1	+1.5
CD2					pmax		pmax		
	comp=E,10.0nm,1.4s								
GYA	**Guiyang**	**11.27**	**74**	⇑	P		**Pn**	05 14 37.8	+4.3
GYA					pmax		pmax		
	comp=E,11nm,1.0s								
PYUN	**Piuthan**	**11.32**	**295**		*e*Pn		**Pn**	05 14 33.0	-1.2
PYUN					*e*Sn		**Sn**	05 16 32.7	-6.2
	comp=E,124nm,0.4s								
JBP	**Jabalpur**	**13.43**	**271**		*e*P		**Pn**	05 15 04.8	+2.8
JBP					*ex*		x	05 17 28.2	
NGP	**Nagpur**	**14.60**	**263**		*e*P		**Pn**	05 15 18.0	+0.8
NGP					*ex*		x	05 17 50.6	
LZH	**Lanzhou**	**14.69**	**31**		*e*P		**Pn**	05 15 17.4	-0.9
LZH					sP		P	05 15 44.9	+23
LZH					pmax		pmax		
	comp=E,14nm,1.0s								
ENH	**Enshi**	**14.78**	**61**		Pn		**Pn**	05 15 17.1	-2.3
BHPL	**Bhopal**	**15.77**	**272**		*ex*		**P**	05 15 35.6	+1.9
BHPL					*ex*		**Sn**	05 18 17.7	-8.7
XAN	**Xi'an**	**16.20**	**47**		P		**Pn**	05 15 37.0	-0.2
XAN					sP		sP	05 16 07.1	-2.8
XAN					pmax		pmax		
	comp=E,10.0nm,0.9s								
XAN	**Xi'an**	**16.20**	**47**		Pn		**Pn**	05 15 36.6	-0.6
GTA	**Gaotai**	**16.25**	**15**		*e*P		**P**	05 15 39.1	0.0
GTA					S		**Sn**	05 18 38.8	+0.7
GTA					pmax		pmax		
	comp=E,5.0nm,1.0s								
GTA					pmax		pmax		
	comp=E,74nm,7.3s								
GTA					LR		LR		
	comp=E,74nm,11.6s								
GTA					LR		LR		
	comp=E,90nm,12.0s								
GTA					LR		LR		
	comp=E,89nm,13.5s								
HYB	**Hyderabad**	**16.28**	**250**		*i* P		**P**	05 15 42.0	+2.6
KUDL	**Kundal**	**16.87**	**289**		*ex*		**P**	05 15 51.5	+5.6
KUDL					*ex*		Sn	05 18 40.3	-13
SMLA	**Simla**	**17.13**	**299**		*e*P		**P**	05 15 51.7	+3.0
SMLA					*i* pP		**pP**	05 16 09.5	+1.9
DHRM	**DHARAMSHALA**	**18.24**	**302**		*e*P		**Pn**	05 16 02.9	+0.7
DHRM					IAmb		IAmb	05 16 11.3	
	comp=Z,10nm,0.5s								
DHRM					*ex*		x	05 19 15.0	
DHRM					*ex*		x	05 19 19.0	
WHN	**Wuhan**	**18.83**	**65**		P		**Pn**	05 16 08.3	-0.8
IPM	**Ipoh**	**20.11**	**161**		P		**P**	05 16 20.7	-0.7
TIY	**Taiyuan**	**20.68**	**43**		*e*P		Pn	05 16 32.0	+1.4
TIY					pmax		pmax		
	comp=Z,26nm,0.5s								
WMQ	**Urumqi**	**20.84**	**346**		*e*P		Pn	05 16 34.1	+1.6
WMQ					pmax		pmax		
	comp=Z,18nm,0.9s								
WMQ					pmax		pmax		
	comp=Z,14nm,3.6s								
WMQ					LR		LR		
	comp=Z,170nm,29.0s								
WMQ					LR		LR		
	comp=Z,380nm,29.3s								
WMQ					LR		LR		
	comp=Z,48nm,28.8s								
PALK	**Pallekele**	**21.11**	**221**		P		**P**	05 16 32.8	+0.6
	comp=Z,9.7nm,0.9s,baz=140,slow=11,SNR=6.4								
PALK	**Pallekele**	**21.11**	**221**		P		**P**	05 16 33.6	+1.5
NIL	**Nilore**	**21.14**	**303**		P		**P**	05 16 34.1	+1.6
NIL					IAmb		IAmb	05 16 57.2	
	comp=Z,11nm,0.8s								
HHC	**Hu-ho-hao-te**	**22.23**	**36**		*e*P		**P**	05 16 43.8	-0.2
NJ2	**Nanjing**	**22.95**	**63**		*e*P		**P**	05 16 51.0	-0.3
NJ2					pmax		pmax		
	comp=Z,27nm,0.6s								
KBL	**Kabul**	**24.73**	**302**		P		**P**	05 17 09.7	+2.0
KBL					IAmb		IAmb	05 17 12.1	
	comp=Z,6.4nm,0.5s								
MK31	**Makanchi Array**	**25.06**	**340**		P		**P**	05 17 11.5	+1.1
MKAR	**Makanchi Array**	**25.06**	**340**		P		**P**	05 17 12.0	+1.7
	comp=Z,5.3nm,0.6s,baz=149,slow=11,SNR=46								
MKAR					PcP		**PcP**	05 20 42.6	+0.2
	comp=Z,0.4nm,0.5s,baz=131,slow=1.6,SNR=3.9								
MKAR					ScP		**ScP**	05 24 10.4	-2.1
	comp=Z,0.5nm,0.7s,baz=198,slow=7.3,SNR=4.6								
MKAR	**Makanchi Array**	**25.06**	**340**		P		**P**	05 17 11.7	+1.4
MAKZ	**Makanchi**	**25.17**	**339**		P		**P**	05 17 13.0	+1.6
GAR	**Garm**	**25.62**	**312**		P		**P**	05 17 17.4	+1.7
GAR					IAmb		IAmb	05 17 18.4	
	comp=Z,20nm,0.7s								
BTK	**Batken**	**25.82**	**315**		P		**P**	05 17 19.4	+2.0
BTK					IAmb		IAmb	05 17 41.7	
	comp=Z,6.8nm,0.7s								
SONM	**Songino Array**	**25.84**	**18**		P		**P**	05 17 17.8	+0.3
	comp=Z,0.4nm,0.4s,baz=205,slow=9.4,SNR=2.9								
SONM					LR		LR	05 29 21.1	
	comp=Z,68nm,21.0s,baz=94,slow=40								
SONM	**Songino Array**	**25.84**	**18**		P		**P**	05 17 19.2	+1.7
KKM	**Kota Kinabalu**	**27.22**	**127**		P		**P**	05 17 30.0	-0.3
KKM					IAmb		IAmb	05 17 52.0	
	comp=Z,10.0nm,1.1s								
KURBB	**Kurchatov Arra**	**29.62**	**339**		P		**P**	05 17 52.0	+0.9
	comp=Z,0.9nm,0.2s,baz=154,slow=8.1,SNR=6.1								
KURBB					PcP		**PcP**	05 20 52.7	-0.5
	comp=Z,1.9nm,0.9s,baz=156,slow=2.7,SNR=8.5								
ZALV	**Zalesovo Beam**	**31.07**	**349**		P		**P**	05 18 04.3	+0.5
	comp=Z,1.1nm,0.4s,baz=175,slow=9.1,SNR=5.5								
ZALV	**Zalesovo Beam**	**31.07**	**349**		P		**P**	05 18 04.8	+1.0
KSRS	**Korea Array**	**31.61**	**57**		LR		LR	05 31 05.7	
	comp=Z,36nm,19.2s,baz=127,slow=36								
ABKAR	**Akbulak array**	**37.24**	**322**		P		**P**	05 18 58.3	+1.2
KAPI	**Kappang**	**37.65**	**136**		P		**P**	05 19 00.2	-0.8
MJAR	**Matsushiro Arr**	**39.51**	**61**		P		**P**	05 19 14.5	-1.9
	comp=Z,1.5nm,0.4s,baz=268,slow=9.9,SNR=6.6								
NRIK	**Noril'sk**	**45.83**	**357**		P		**P**	05 20 07.0	0.0
	comp=Z,4.7nm,0.7s,baz=151,slow=6.1,SNR=8.3								
BRTR	**Keskin Array B**	**53.29**	**303**		P		**P**	05 21 05.5	+1.2
	comp=Z,1.2nm,0.6s,baz=130,slow=7.8,SNR=7.4								
BRTR	**Keskin Array B**	**53.29**	**303**		P		**P**	05 21 04.7	+0.4
ELL	**Elmali**	**56.43**	**299**		P		**P**	05 21 27.8	+0.9
AKASG	**Malin Array Be**	**56.52**	**316**		P		**P**	05 21 26.9	-0.3
	comp=Z,0.6nm,0.4s,baz=78,slow=7.1,SNR=5.4								
WRA	**Warramunga Arr**	**58.17**	**135**		P		**P**	05 21 38.2	-0.9
	comp=Z,8.7nm,0.7s,baz=322,slow=7.4,SNR=80								
WRA	**Warramunga Arr**	**58.17**	**135**		P		**P**	05 21 38.3	-0.9
WR0	**Warramunga Arr**	**58.31**	**135**		P		**P**	05 21 39.5	-0.7
MLR	**Muntele Rosu**	**58.73**	**310**		P		**P**	05 21 44.4	+1.4
MLR					IAmb		IAmb	05 21 45.9	
	comp=Z,12nm,1.1s								
KARP	**Karpathos**	**58.78**	**298**		P		**P**	05 21 44.1	+0.7
BURAR	**Bucovina Array**	**59.14**	**312**		P		**P**	05 21 46.1	+0.4
FIA1	**FINESS Array S**	**59.20**	**329**		P		**P**	05 21 46.0	+0.3
FINES	**FINESS Array B**	**59.20**	**329**		P		**P**	05 21 46.0	+0.3
	comp=Z,2.1nm,0.6s,baz=96,slow=6.1,SNR=12								
FINES	**FINESS Array B**	**59.20**	**329**		P		**P**	05 21 45.8	+0.1
AS31	**Alice Springs**	**60.62**	**138**		P		**P**	05 21 55.5	-0.5
AS31					IAmb		IAmb	05 21 56.1	
	comp=Z,2.8nm,0.7s								
ASAR	**Alice Springs**	**60.62**	**138**		P		**P**	05 21 55.4	-0.6
	comp=Z,8.4nm,0.7s,baz=320,slow=6.9,SNR=75								
ASAR	**Alice Springs**	**60.62**	**138**		P		**P**	05 21 54.9	-1.1
IDI	**Anoyia**	**60.66**	**298**		P		**P**	05 21 56.2	0.0
ARCES	**ARCESS Array B**	**60.69**	**338**		P		**P**	05 21 56.6	+0.8
	comp=Z,5.9nm,0.9s,baz=93,slow=7.9,SNR=7.7								
AGG	**Agios Georgios**	**62.08**	**303**		P		**P**	05 22 04.8	-0.9
NC405	**NORSAR Array S**	**66.12**	**328**		P		**P**	05 22 31.7	0.0
NB2	**NORSAR Subarra**	**66.37**	**328**		P		**P**	05 22 33.3	-0.1
	comp=Z,2.1nm,0.6s,baz=83,slow=6.5								
NOA	**NORSAR Array B**	**66.37**	**328**		P		**P**	05 22 33.2	-0.1
	comp=Z,3.0nm,0.6s,baz=85,slow=6.3,SNR=11								
GERES	**GERESS Array B**	**66.67**	**315**		P		**P**	05 22 36.1	+0.5
	comp=Z,1.4nm,0.4s,baz=74,slow=4.9,SNR=12								
GERES	**GERESS Array B**	**66.67**	**315**		P		**P**	05 22 35.7	+0.1
BBOO	**Buckleboo**	**68.73**	**143**		P		**P**	05 22 47.7	-0.9
BBOO					IAmb		IAmb	05 23 10.7	
	comp=Z,22nm,1.4s								
STKA	**Stephens Creek**	**71.24**	**139**		P		**P**	05 23 03.0	-0.9
	comp=Z,3.1nm,0.9s,baz=54,slow=4.9,SNR=4.9								
STKA	**Stephens Creek**	**71.24**	**139**		P		**P**	05 23 03.0	-0.9

BNI	**Bardonecchia**	**72.20**	**312**		P		**P**	05 23 09.8	+0.1
BNI					IAmb		IAmb	05 23 25.0	
	comp=Z,14nm,1.3s								
SUMG	**Summit**	**78.88**	**347**		P		**P**	05 23 47.0	-0.6
SUMG					IAmb		IAmb	05 23 47.9	
	comp=Z,8.0nm,0.8s								
GHO	**Glory Hole Cre**	**80.93**	**26**		P		**P**	05 23 59.2	+0.6
GHO					IAmb		IAmb	05 24 21.6	
	comp=Z,4.0nm,0.8s								
CNPM	**China Poot**	**81.20**	**28**		P		**P**	05 23 59.0	-1.0
CNPM					IAmb		IAmb	05 24 12.9	
	comp=Z,13nm,1.1s								
BRLK	**Bradley Lake**	**81.22**	**28**		P		**P**	05 24 01.0	+0.9
BRLK					IAmb		IAmb	05 24 15.9	
	comp=Z,29nm,1.4s								
ESDC	**Sonseca Array**	**81.43**	**309**		P		**P**	05 24 01.5	-0.1
	comp=Z,1.0nm,0.8s,baz=65,slow=4.9,SNR=5.1								
M24K	**Tolsona, Glenn**	**81.80**	**24**		P		**P**	05 24 01.0	-2.1
M24K					IAmb		IAmb	05 24 26.0	
	comp=Z,19nm,1.1s								
MVO	**Moncorvo**	**82.94**	**312**		*e*P		**P**	05 24 10.3	+0.8
	comp=Z,6.6nm,1.8s								
MTE	**Manteigas**	**83.63**	**311**		*e*P		**P**	05 24 12.6	-0.4
	comp=Z,8.6nm,1.5s								
PMRV	**Marv??o**	**83.94**	**310**		*e*P		**P**	05 24 15.5	+0.9
	comp=Z,12nm,1.9s								
BOSA	**Boshof**	**84.62**	**236**		P		**P**	05 24 18.9	+0.7
	comp=Z,4.2nm,0.6s,baz=63,slow=3.3,SNR=13								
BOSA	**Boshof**	**84.62**	**236**		P		**P**	05 24 16.8	-1.4
BOSA					IAmb		IAmb	05 24 27.2	
	comp=Z,7.8nm,1.2s								
PBEJ	**Beja**	**84.88**	**309**		*e*P		**P**	05 24 20.4	+1.0
	comp=Z,22nm,1.7s								
PVAQ	**Vaqueiros**	**85.05**	**309**		*e*P		**P**	05 24 20.9	+0.7
	comp=Z,25nm,1.7s								
PVAQ	**Vaqueiros**	**85.05**	**309**		P		**P**	05 24 19.9	-0.3
PVAQ					IAmb		IAmb	05 24 42.1	
	comp=Z,19nm,1.3s								
TORD	**Torodi Ar. Bea**	**87.41**	**283**		P		**P**	05 24 33.0	+0.8
	comp=Z,2.1nm,0.7s,baz=64,slow=4.1,SNR=13								
TXAR	**Lajitas Array**	**124.40**	**19**		PKP		**PKPdf**	05 30 42.1	-1.4
	comp=Z,0.2nm,0.6s,baz=45,slow=0.5,SNR=4.1								
BDFB	**Brasilia**	**143.98**	**276**		PKP		PKPbc	05 31 18.5	+0.3
	comp=Z,1.7nm,0.5s,baz=59,slow=9.3,SNR=4.9								
ROSC	**El Rosal**	**149.62**	**338**		PKPbc		**PKPbc**	05 31 35.0	+0.2
	comp=Z,19nm,0.6s,baz=143,slow=7.6,SNR=11								
CPUP	**Villa Florida**	**154.45**	**258**		PKPbc		**PKPbc**	05 31 43.5	-1.3
	comp=Z,2.0nm,0.7s,baz=76,slow=6.6,SNR=4.6								

MOS ***24*** *05:37:51.6±1.3,55.°99N×113.°71E,h7km,mb4.1/1,Error ellipse: s-maj=11.3km s-min=6.8km az=79.9*
IDC ***24*** *05:37:52.9±1.5,55.°99N×113.°67E,h0km,mb3.6/3, mb1 3.7/5,mb1mx3.4/61,mbtmp3.6/5,ML3.2/2,MS3.3/2, Ms1 3.3/2,ms1mx2.5/43,Error ellipse: s-maj=31.9km s-min=21.3km az=154.0*
BYKL ***24*** *05:37:54.1±0.2,56.°04N×113.°59E,h15km±2km,FELT I=III MSK at Severomuisk*
ISC 24 05:37:54.3±0.7,56.°04N±0.°02×113.°55E±0.°02,h15km±5km, n65,σ2s74/118,mb3.6/3,9C-3D,East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.08**	**4**	⇑	*i*Pg		**Pg**	**05 37 57.8**	**+0.3**
SVKR					*e*Sg		**Sg**	**05 38 00.8**	**+1.2**
SVKR	**Severomuysk**	**0.08**	**4**	⇑	*i*PG		**Pg**	**05 37 57.8**	**+0.3**
SVKR					*e*S		**Sg**	**05 38 00.6**	**+1.0**
UKT	**Uakit**	**0.55**	**175**	⇑	*i*Pg		**Pg**	**05 38 04.0**	**-1.2**
UKT					Pmax			05 38 05.7	
	657nm,0.3s								
UKT					*e*Sg		**Sg**	**05 38 11.5**	**-1.0**
UKT					Smax			05 38 11.8	
	4μm,0.5s								
UKT	**Uakit**	**0.55**	**175**	⇑	*i*PG		**Pg**	**05 38 04.0**	**-1.2**
UKT					*e*			05 38 11.7	
UKT					pmax		pmax		
	comp=Z,668nm,0.4s								
UKT					smax		smax		
	comp=E,5μm,0.4s								
YOA	**Uoyan**	**1.03**	**276**	⇑	*i*Pg		**Pb**	**05 38 11.6**	**-2.1**
YOA					Pmax			05 38 11.8	
	comp=E,2μm,0.4s								
YOA					*e*Sg		**Sb**	**05 38 26.1**	**-0.9**
YOA					Smax			05 38 33.8	
	comp=E,15μm,0.5s								
YOA	**Uoyan**	**1.03**	**276**	⇑	*i*PG		**Pb**	**05 38 11.6**	**-2.1**
YOA					*e*			05 38 27.4	
YOA					pmax		pmax		
	comp=Z,2μm,0.4s								
YOA					smax		smax		
	comp=N,15μm,0.3s								
NLYR	**Nelyaty**	**1.29**	**68**	⇑	*i*Pg		**Pn**	**05 38 17.0**	**-0.6**
NLYR					Pmax			05 38 22.2	
	comp=N,414nm,0.6s								
NLYR					*e*Sg		**Sn**	**05 38 34.0**	**-0.6**
NLYR					Smax			05 38 37.1	
	comp=N,4μm,1.0s								
NLYR	**Nelyaty**	**1.29**	**68**	⇑	*i*PG		**Pn**	**05 38 17.0**	**-0.6**
NLYR					*e*			05 38 34.5	
NLYR					pmax		pmax		
	comp=Z,499nm,0.5s								
NLYR					smax		smax		
	comp=E,4μm,0.9s								
KMO	**Kumora**	**1.33**	**265**	⇑	*i*Pg		**Pn**	**05 38 18.6**	**+0.3**
KMO					*e*Pb		**Pg**	**05 38 19.7**	**-0.1**
KMO					max			05 38 20.1	
	comp=E,1μm,0.4s								
KMO					*e*Sg		**Sb**	**05 38 36.3**	**+0.7**
KMO					*e*Sb		**Sg**	**05 38 39.3**	**+2.2**
KMO					max			05 38 40.3	
	comp=E,8μm,1.1s								
KMO	**Kumora**	**1.33**	**265**		*e*PG		**Pn**	**05 38 18.5**	**+0.3**
KMO					*e*			05 38 36.3	
KMO					pmax		pmax		
	comp=Z,1μm,0.4s								
KMO					smax		smax		
	comp=N,8μm,0.9s								
YLYR	**Ulyunkhan**	**1.79**	**230**	⇓	*i*Pn		**Pn**	**05 38 25.7**	**+1.2**
YLYR				⇓	*i*Pg		**Pb**	**05 38 26.5**	**-0.2**
YLYR					Pmax			05 38 26.9	
	comp=N,205nm,0.2s								
YLYR					*e*Sg		**Sb**	**05 38 50.7**	**+1.8**
YLYR					Smax			05 38 52.4	
	comp=N,2μm,0.2s								
YLYR	**Ulyunkhan**	**1.79**	**230**	⇓	*i*PN		**Pn**	**05 38 25.8**	**+1.2**
YLYR					*e*			05 38 26.7	
YLYR					eS		**Sb**	**05 38 50.0**	**+1.1**
YLYR					*e*			05 38 51.1	
YLYR					pmax		pmax		
	comp=Z,206nm,0.3s								
YLYR					smax		smax		
	comp=E,2μm,0.2s								
BOD	**Bodaibo**	**1.81**	**8**		*e*Pg		**Pb**	**05 38 26.0**	**-0.9**
BOD					Pmax			05 38 26.7	
	comp=E,144nm,0.2s								
BOD					*e*Sg		**Sb**	**05 38 49.8**	**+0.5**
BOD					Smax			05 38 50.8	
	comp=E,2μm,0.4s								
BOD	**Bodaibo**	**1.81**	**8**		*e*PN		**Pn**	**05 38 25.4**	**+0.7**
BOD					*e*			05 38 49.8	
BOD					pmax		pmax		
	comp=Z,173nm,0.4s								
BOD					smax		smax		
	comp=E,2μm,0.4s								
NIZ	**Nizh Angarsk**	**2.27**	**265**		*e*Pn		**Pn**	**05 38 32.9**	**+1.7**
NIZ					*e*Pg		**Pb**	**05 38 35.0**	**+0.1**
NIZ					Pmax			05 38 38.0	
	comp=E,136nm,0.7s								
NIZ					*e*Sn		**Sn**	**05 38 59.7**	**+0.8**
NIZ					*e*			05 39 02.6	
NIZ					*e*Sg		**Sg**	**05 39 06.6**	**-0.6**
NIZ					Smax			05 39 08.0	
	comp=E,690nm,0.3s								
NIZ	**Nizh Angarsk**	**2.27**	**265**		*e*PN		**Pn**	**05 38 32.9**	**+1.7**
NIZ					*e*			05 38 35.6	
NIZ					*e*S		**Sb**	**05 39 02.4**	**-0.4**
NIZ					*e*			05 39 06.7	
NIZ					pmax		pmax		
	comp=Z,156nm,0.7s								
NIZ					smax		smax		
	comp=N,858nm,1.0s								
CRS	**Chara**	**2.76**	**70**		*e*Pn		**Pn**	**05 38 38.0**	**+0.1**
CRS					*e*Pg		**Pb**	**05 38 43.9**	**+0.7**
CRS					*e*			05 38 48.3	
CRS					max			05 38 49.2	
	comp=N,608nm,1.0s								
CRS					*e*Sg		**Sg**	**05 39 19.0**	**-3.8**
CRS					Smax			05 39 24.8	
	comp=N,718nm,1.2s								
SYVR	**Suvo**	**3.15**	**222**		*e*Sg		**Sb**	**05 39 31.5**	**+3.6**
SYVR					Smax			05 39 49.2	
	comp=N,517nm,0.8s								
SYVR	**Suvo**	**3.15**	**222**		*e*PN		**Pn**	**05 38 43.8**	**+0.6**
SYVR					*e*			05 38 51.6	
SYVR					*e*			05 39 31.4	
SYVR					pmax		pmax		
	comp=Z,118nm,0.4s								
SYVR					smax		smax		
	comp=N,535nm,0.8s								
VTMR	**Vitim**	**3.46**	**352**		*e*Pn		**Pn**	**05 38 47.6**	**+0.2**
VTMR					*e*Pg		**Pb**	**05 38 56.1**	**+1.1**
VTMR					*e*			05 39 22.0	
VTMR					*e*Sn		**Sn**	**05 39 28.2**	**+0.2**
VTMR					*e*Sg		**Sb**	**05 39 40.7**	**+3.9**
MXMB	**Maximikha**	**3.94**	**227**		*e*Pn		**Pn**	**05 38 55.6**	**+1.5**
MXMB					*e*Pg		**Pb**	**05 39 05.8**	**+2.5**
MXMB					*e*Sn		**Sn**	**05 39 40.2**	**+0.3**
MXMB					*e*Sg		**Sb**	**05 39 58.1**	**-2.5**
TUP	**Tupik**	**4.01**	**111**		*e*Pn		**Pn**	**05 38 54.8**	**-0.2**
TUP					*e*			05 38 59.2	
TUP					*e*Pg		**Pb**	**05 39 04.9**	**+0.4**
TUP					Pmax			05 39 07.0	
	comp=N,104nm,1.0s								
TUP					*e*			05 39 10.8	
TUP					*e*Sn		**Sn**	**05 39 39.5**	**-2.2**
TUP					*e*Sg		**Sg**	**05 39 57.2**	**-5.6**
TUP					Smax			05 40 03.3	
	comp=N,766nm,1.0s								
TUP					*e*			05 40 04.5	
TUP	**Tupik**	**4.01**	**111**		*e*PN		**Pn**	**05 38 54.8**	**-0.2**
TUP					*e*			05 39 04.9	
TUP					*e*S		**Sn**	**05 39 41.1**	**-0.6**
TUP					*e*			05 39 57.1	
TUP					pmax		pmax		
	comp=Z,86nm,0.4s								
TUP					smax		smax		
	comp=N,740nm,1.0s								
CIT	**Chita**	**4.02**	**180**		*e*Pn		**Pn**	**05 38 55.7**	**+0.4**
CIT					*e*Pg		**Pb**	**05 39 06.1**	**+1.3**
CIT					Pmax			05 39 07.6	
	comp=N,67nm,0.1s								
CIT					*e*Sg		**Sb**	**05 39 58.1**	**+4.9**
CIT					Smax			05 40 02.9	
	comp=N,967nm,0.2s								
CIT	**Chita**	**4.02**	**180**		*e*PN		**Pn**	**05 38 54.5**	**-0.8**
CIT					*e*			05 39 04.8	
CIT					*e*S		**Sn**	**05 39 41.6**	**-0.5**
CIT					*e*			05 39 57.7	
CIT					pmax		pmax		
	comp=Z,117nm,0.3s								
CIT					smax		smax		
	comp=E,1μm,0.9s								
OGRR	**Ongureny**	**4.19**	**238**		*e*Pn		**Pn**	**05 38 59.5**	**+1.9**
OGRR					*e*			05 39 03.8	
OGRR					*e*Pg		**Pb**	**05 39 09.6**	**+1.9**
OGRR					Pmax			05 39 17.2	
	comp=E,62nm,0.8s								
OGRR					*e*			05 39 48.5	
OGRR					*e*Sg		**Sg**	**05 40 04.0**	**-4.8**
OGRR					Smax			05 40 12.2	
	comp=E,250nm,0.4s								
OGRR	**Ongureny**	**4.19**	**238**		*e*PN		**Pn**	**05 38 59.5**	**+1.9**
OGRR					*e*			05 39 10.3	
OGRR					*e*			05 40 04.2	
OGRR					pmax		pmax		
	comp=Z,64nm,1.1s								
OGRR					smax		smax		
	comp=E,304nm,1.8s								
YKLR	**Yuktali**	**4.55**	**80**		*e*Pn		**Pn**	**05 39 02.7**	**+0.3**
YKLR					*e*Pg		**Pb**	**05 39 15.0**	**+1.3**
YKLR					*e*Sn		**Sn**	**05 39 54.1**	**-0.8**
YKLR					*e*Sg		**Sb**	**05 40 13.3**	**+5.1**
KELR	**Kotokel**	**4.58**	**226**		*e*Pg		**Pb**	**05 39 17.0**	**+2.8**
KELR					*e*Sn		**Sn**	**05 39 54.7**	**-1.1**
KELR					*e*Sg		**Sg**	**05 40 16.4**	**-4.8**
TRG	**Tyrgan**	**5.33**	**235**		*e*Pn		**Pn**	**05 39 14.5**	**+1.2**
TRG					*e*Pg		**Pb**	**05 39 30.7**	**+3.6**
TRG					Pmax			05 39 33.4	
	comp=E,17nm,0.7s								
TRG					*e*Sn		**Sn**	**05 40 13.8**	**-0.6**
TRG					*e*			05 40 34.7	
TRG					*e*Sg		**Sg**	**05 40 39.1**	**-6.2**
TRG					Smax			05 40 52.4	
	comp=E,121nm,0.6s								
TRG	**Tyrgan**	**5.33**	**235**		*e*PN		**Pn**	**05 39 14.2**	**+0.9**
TRG					*e*			05 39 31.6	
TRG					*e*	

ZAK	**Zakamensk**	**8.37 232**	Pg	Pb	05 40 26.0	+7.3		
ZAK			Pmax		05 40 27.7			
	comp=E,7.0nm,0.1s							
ZAK			*e*Sg	Sb	05 42 14.6	+17		
ZAK			Smax		05 42 42.0			
	comp=E,66nm,1.4s							
ZAK	**Zakamensk**	**8.37 232**	*e*PN	Pn	05 40 02.4	+7.5		
ZAK			pmax	pmax				
	comp=Z,7.0nm,0.2s							
MOY	**Mondy**	**8.61 245**	*e*Pn	**Pn**	**05 39 59.7**	**+1.4**		
MOY			*e*		05 40 14.1			
MOY			*e*Pg		05 40 29.4			
MOY			Pmax		05 40 30.9			
	comp=Z,19nm,0.8s							
MOY			*e*Sn	**Sn**	**05 41 30.9**	**-4.2**		
MOY			*e*		05 41 42.3			
MOY			*e*Sg		05 42 21.1			
MOY			Smax		05 42 38.7			
	comp=Z,134nm,1.4s							
MOY	**Mondy**	**8.61 245**	*e*PN	Pn	05 40 04.2	+5.9		
MOY			*i*		05 40 30.9			
ORL	**Orlik**	**8.77 252**	*e*Pn	**Pn**	**05 40 01.6**	**+1.2**		
ORL			*e*		05 40 08.4			
ORL			max		05 40 18.9			
	comp=Z,12nm,0.6s							
ORL			*e*Sn	**Sn**	**05 41 36.0**	**-2.9**		
ORL			*e*		05 41 58.6			
ORL			*e*Sg		05 42 26.3			
ORL			Smax		05 42 34.3			
	comp=Z,93nm,1.4s							
ORL	**Orlik**	**8.77 252**	*e*PN	**Pn**	**05 40 02.6**	**+2.2**		
ORL			*e*		05 40 32.8			
ORL			*e*S	**Sn**	**05 41 36.6**	**-2.3**		
ORL			*e*		05 42 26.4			
ORL			pmax	pmax				
	comp=Z,23nm,1.5s							
ORL			smax	smax				
	comp=N,93nm,1.6s							
ULN	**Ulaanbaatar**	**9.11 209**	*i* P	**Pn**	**05 40 03.1**	**-2.0**		
ULN			pmax	pmax				
	comp=Z,1.0nm,0.2s							
SONM	**Songino Array**	**9.32 211**	Pn	**Pn**	**05 40 08.2**	**+0.2**		
	comp=Z,0.2nm,0.3s,baz=18,slow=14,SNR=2.0							
SONM			Lg	Lg	05 42 48.4			
	comp=Z,2.6nm,0.3s,baz=21,slow=28,SNR=13							
KNGR	**Kungurtug, Tuv**	**11.01 247**	*e*Pn	**Pn**	**05 40 32.0**	**+0.8**		
KNGR			*e*		05 43 09.8			
KNGR			*e*Sg		05 43 35.9			
ARDR	**Aradan**	**12.24 262**	*e*Pn	**Pn**	**05 40 51.0**	**+3.2**		
ARDR			*e*Pg	P	05 41 36.4	+36		
ARDR			*e*Sn	**Sn**	**05 43 01.1**	**-2.8**		
ARDR			*e*Sg		05 44 14.3			
KLR	**Kul'dur**	**12.96 114**	Pn	**Pn**	**05 40 58.5**	**+0.8**		
	comp=Z,0.2nm,0.3s,baz=287,slow=6.1,SNR=2.7							
KLR			Lg	Lg	05 44 39.6			
	comp=Z,0.4nm,0.3s,baz=234,slow=13,SNR=6.3							
ZALV	**Zalesovo Beam**	**16.57 275**	Pn	**P**	**05 41 52.0**	**+3.9**		
	comp=Z,0.1nm,0.3s,baz=81,slow=8.9,SNR=2.8							
ZALV			LR	LR	05 49 12.7			
	comp=Z,46nm,18.6s,baz=71,slow=41							
TIXI	**Tiksi**	**16.96 17**	*i* P	**Pn**	**05 41 50.0**	**-0.6**		
TIXI			pmax	pmax				
	comp=Z,8.0nm,0.8s							
NRIK	**Noril'sk**	**17.67 329**	*i* P	**Pn**	**05 41 59.4**	**0.0**		
NRIK			pmax	pmax				
	comp=Z,2.0nm,0.6s							
MA2	**Magadan**	**19.96 64**	*i* P	**P**	**05 42 23.5**	**-2.0**		
MA2			pmax	pmax				
	comp=Z,85nm,1.9s							
KURK	**Kurchatov**	**21.34 270**	P	**P**	**05 42 43.1**	**+2.6**		
MKAR	**Makanchi Array**	**21.41 258**	P	**P**	**05 42 43.0**	**+1.8**		
	comp=Z,0.8nm,0.7s,baz=60,slow=8.7,SNR=4.0							
MKAR	**Makanchi Array**	**21.41 258**	P	**P**	**05 42 43.0**	**+1.8**		
KURBB	**Kurchatov Arra**	**21.44 270**	P	**P**	**05 42 43.0**	**+1.6**		
	comp=Z,1.0nm,0.2s,baz=59,slow=11,SNR=2.8							
CMAR	**Chiang Mai Arr**	**39.11 202**	*i* P	**P**	**05 45 20.2**	**-0.6**		
ILAR	**Eielson Array**	**44.94 37**	P	**P**	**05 46 08.7**	**+0.8**		
	comp=Z,0.7nm,0.9s,baz=302,slow=10,SNR=6.4							
AKASG	**Malin Array Be**	**47.62 301**	LR	LR	06 09 06.0			
	comp=Z,60nm,20.6s,baz=280,slow=39							

IDC ***24*** *05:40:31.3±0.5,7°.17N×117°.30E, h0km, mb4.2/23, mb1 4.3/23,mb1mx4.2/46,mbtmp4.2/23,MS3.5/12, Ms1 3.6/12,ms1mx3.2/45,Error ellipse: s-maj=28.2km s-min=11.3km az=68.0*

NEIC ***24*** *05:40:34.0±1.3,7°.24N±0°.08×117°.26E±0°.07,h16km±4km, mb4.6/27,Error ellipse: s-maj=12.3km s-min=10.2km az=190.0*

DJA ***24*** *05:40:34.9±0.2,7°N±2°×11°7E±°,h10km,M4.7/41, mb4.7/41,mB5.3/9,MLv4.7/7,Mw(mB)4.7/9*

KLM ***24*** *05:40:35.0,7°.14N×117°.29E,h10km, mb4.2*

ISC 24 05:40:33.4±0.4,7°.24N±0°.05×117°.33E±0°.07,h10km,n108, σ1§19/104**,mb4.4/41,MS3.6/11,2C,Borneo**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**1.63**	**223**	Pn	**Pn**	**05 41 02.2**	**0.0**
MYLDM	**Lahad Datu**	**2.35**	**150**	Pn	**Pn**	**05 41 13.1**	**+1.0**
SPMM	**Sapulut**	**2.66**	**199**	P	**Pn**	**05 41 18.0**	**+1.7**
SBUM	**Sibu**	**6.97**	**227**	Pn	**Pn**	**05 42 13.5**	**-2.1**
SBUM	**Sibu**	**6.97**	**227**	P	**Pn**	**05 42 15.0**	**-0.6**
MPSI	**Mapaga**	**7.32**	**159**	P	**Pn**	**05 42 19.5**	**-0.9**
	0.2nm644nm42nm,0.9s						
SMKI	**Samarinda**	**7.64**	**181**	P	**Pn**	**05 42 25.7**	**+0.9**
	1.4nm7μm208nm,1.0s						
KCP	**Kidapawan**	**7.70**	**91**	*e*P	Pn	05 42 31.2	+5.5
GTOI	**Gorontalo**	**8.66**	**139**	P	**Pn**	**05 42 38.3**	**-0.6**
	502nm45nm,1.3s						
KSM	**Kuching**	**9.05**	**231**	P	**Pn**	**05 42 44.0**	**-0.1**
APSI	**Ampana**	**9.17**	**152**	P	**Pn**	**05 42 46.3**	**+0.5**
	38nm,0.8s						
TTSI	**Tana Toraja**	**10.51**	**166**	P	**Pn**	**05 43 06.3**	**+2.1**
	32nm,1.4s						
KAPI	**Kappang**	**12.41**	**169**	LR	LR	05 49 28.1	
	comp=Z,125nm,18.0s,baz=353,slow=44						
QIZ	**Qiongzhong**	**13.80**	**329**	P	**Pn**	**05 43 48.6**	**-0.6**
QIZ				S	**Sn**	**05 46 25.9**	**+3.3**
QIZ				LR	LR		
	comp=N,250nm,17.2s						
QIZ				LR	LR		
	comp=E,330nm,12.8s						
QIZ				LR	LR		
	comp=Z,320nm,19.1s						
MYKOM	**Kota Tinggi**	**14.49**	**249**	P	**Pn**	**05 44 00.0**	**+1.4**
TWSI	**Taliwang, Sumb**	**15.88**	**182**	P	**Pn**	**05 44 18.8**	**+1.7**
	comp=Z,21nm,1.2s						
PLAI	**Plampang**	**15.97**	**178**	P	**Pn**	**05 44 20.2**	**+1.9**
	comp=Z,27nm,1.5s						
IPM	**Ipoh**	**16.45**	**261**	P	**Pn**	**05 44 23.0**	**-1.5**
EDFI	**Ende, Flores**	**16.47**	**165**	P	**P**	**05 44 26.6**	**-0.9**
	comp=Z,2μmcomp=Z,9.0nm,0.9s						
KULM	**Kulim**	**16.70**	**264**	P	**Pn**	**05 44 28.1**	**+0.5**
KULM	**Kulim**	**16.70**	**264**	P	**P**	**05 44 29.0**	**-0.9**
LEM	**Lembang**	**17.00**	**215**	Pn	**P**	**05 44 35.3**	**+1.7**
	comp=Z,4.5nm,0.3s,baz=102,slow=9.7,SNR=4.7						
LEM				LR	LR	05 52 28.3	
	comp=Z,223nm,19.4s,baz=0.0,slow=42						
KLSI		**17.28**	**227**	P	**P**	**05 44 36.0**	**-0.4**
	comp=Z,5.1nm,0.9s						
CISI	**Cisompet, Garu**	**17.50**	**213**	P	**P**	**05 44 39.6**	**+0.7**
	comp=Z,97nm,1.4s						
CISI	**Cisompet, Garu**	**17.50**	**213**	P	**Pn**	**05 44 38.2**	**+0.5**
MDSI	**Maura Dua**	**17.55**	**229**	P	**P**	**05 44 40.6**	**+1.2**
	comp=Z,20nm,1.7s						
LHSI	**Lahat**	**17.63**	**232**	P	**P**	**05 44 41.2**	**+0.9**
BKNI	**Bangkinang**	**17.64**	**248**	P	**Pn**	**05 44 38.3**	**-1.1**
BKNI				IAmb	IAmb	05 44 44.5	
	comp=Z,42nm,0.9s						
CNJI	**Cibinong**	**17.68**	**215**	P	**P**	**05 44 43.2**	**+2.4**
	comp=Z,178nm,1.4s						
SOEI	**Soe**	**18.24**	**158**	P	**P**	**05 44 50.3**	**+3.1**
	comp=Z,26nm,1.2s						
BATI	**Baumata**	**18.44**	**160**	LR	LR	05 51 22.7	
	comp=Z,230nm,21.7s,baz=142,slow=35						
MNSI	**Mandailing Nat**	**18.82**	**251**	P	**Pn**	**05 44 54.1**	**+0.1**
	comp=Z,2μmcomp=Z,36nm,0.9s						
RPSI	**Rantau Prapat**	**18.88**	**257**		**P**	**05 44 53.1**	**-1.0**
RPSI				IAmb	IAmb	05 44 57.6	
	comp=Z,36nm,1.0s						
TSI	**Tuntungan**	**19.05**	**260**	P	**Pn**	**05 44 58.1**	**+1.4**
LHMI	**Lhok Sumawe**	**20.36**	**266**	P	Pn	05 45 12.3	-0.1
	comp=Z,152nm,1.0s						
LHMI	**Lhok Sumawe**	**20.36**	**266**	P	**P**	**05 45 08.7**	**-1.6**
TPTI		**20.45**	**260**	P	Pn	05 45 13.2	-0.2
SAUI	**Saumlaki**	**20.56**	**137**	P	**P**	**05 45 13.3**	**+0.9**
	comp=Z,20μmcomp=Z,488nm,0.9s						
GSI	**Gunungsitoli**	**20.56**	**254**	P	**P**	**05 45 12.1**	**-0.3**
	comp=Z,2μmcomp=Z,264nm,0.8s						
GSI	**Gunungsitoli**	**20.56**	**254**	P	**P**	**05 45 11.4**	**-1.0**
MLSI	**Meulaboh, Aceh**	**21.03**	**263**	P	**P**	**05 45 17.6**	**+0.1**
	comp=Z,56nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.09**	**304**	P	**P**	**05 45 18.9**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=124,slow=8.1,SNR=17						
CMAR				PcP	**PcP**	**05 49 24.9**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=191,slow=0.9,SNR=5.4						
CMAR				LR	LR	05 53 48.0	
	comp=Z,177nm,19.2s,baz=163,slow=38						
CMAR	**Chiang Mai Arr**	**21.09**	**304**	P	**P**	**05 45 18.2**	**+0.1**
CHTO	**Chiang Mai**	**21.26**	**305**	P	**P**	**05 45 20.5**	**+0.5**
CHTO				IAmb	IAmb	05 45 27.4	
	comp=Z,23nm,1.1s						
GYA	**Guiyang**	**21.64**	**333**	*e*P	P	05 45 31.9	+7.7
GYA				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI	**Kunming**	**22.60**	**324**	⇑P	**P**	**05 45 38.0**	**+3.4**
KMI				pmax	pmax		
	comp=Z,17nm,1.3s						
ENH	**Enshi**	**24.07**	**343**	P	**P**	**05 45 48.5**	**-0.5**
ENH				IAmb	IAmb	05 45 51.1	
	comp=Z,25nm,0.9s						
PBA	**Port Blair**	**24.64**	**282**	P	P	05 45 53.4	-1.0
NJ2	**Nanjing**	**24.73**	**3**	*e*P	**P**	**05 45 56.6**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
GENI	**Genyem**	**24.79**	**112**	P	**P**	**05 45 57.9**	**+2.1**
	comp=Z,57nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.48**	**162**	P	**P**	**05 46 10.6**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=16,slow=7.7,SNR=3.7						
FITZ				LR	LR	05 58 44.7	
	comp=Z,43nm,18.2s,baz=357,slow=41						
FITZ	**Fitzroy Crossi**	**26.48**	**162**	P	**P**	**05 46 10.8**	**-0.1**
XAN	**Xi'an**	**27.78**	**345**	P	**P**	**05 46 22.0**	**-0.6**
XAN				IAmb	IAmb	05 46 46.5	
	comp=Z,8.9nm,1.1s						
JNU	**Nakatsue**	**28.66**	**24**	LR	LR	05 58 06.6	
	comp=Z,93nm,18.9s,baz=256,slow=37						
LZH	**Lanzhou**	**31.25**	**339**	*e*P	**P**	**05 46 52.6**	**-1.0**
LZH				pP	sP	05 46 57.1	-0.8
LZH				sP	pP	05 46 59.6	+3.0
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=N,270nm,13.3s						
LZH				LR	LR		
	comp=E,180nm,14.6s						
LZH				LR	LR		
	comp=Z,270nm,17.9s						
KSRS	**Korea Array**	**31.58**	**16**	P	**P**	**05 46 57.5**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=194,slow=9.9,SNR=5.6						
WB0	**Warramunga Arr**	**31.66**	**148**	P	**P**	**05 46 58.0**	**+0.9**
WB0				IAmb	IAmb	05 47 03.4	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**31.78**	**149**	P	**P**	**05 46 55.9**	**-2.2**
	comp=Z,1.7nm,0.6s,baz=333,slow=9.6,SNR=13						
WRA				PcP	**PcP**	**05 49 47.5**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=327,slow=2.7,SNR=7.3						
WRA				LR	LR	06 02 28.7	
	comp=Z,39nm,19.7s,baz=265,slow=42						
WRA	**Warramunga Arr**	**31.78**	**149**	*i* P	**PcP**	**05 49 47.5**	**-2.1**
WRA	**Warramunga Arr**	**31.78**	**149**	pmax	pmax		
	comp=Z,1.0nm,0.5s						
WR0	**Warramunga Arr**	**31.90**	**148**	P	**P**	**05 47 00.2**	**+1.1**
WR0				IAmb	IAmb	05 47 14.3	
	comp=Z,7.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**33.86**	**352**	*e*P	**P**	**05 47 16.3**	**0.0**
ASAR	**Alice Springs**	**34.72**	**153**	P	**P**	**05 47 22.8**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=324,slow=6.5,SNR=15						
ASAR				PcP	**PcP**	**05 49 56.5**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=334,slow=2.2,SNR=10						
ASAR	**Alice Springs**	**34.72**	**153**	P	**P**	**05 47 23.6**	**-0.2**
GTA	**Gaotai**	**35.70**	**336**	P	**P**	**05 47 33.8**	**+1.6**
GTA				pP	sP	05 47 38.6	+2.1
GTA				sP	pP	05 47 41.1	+5.8
GTA				SS	SS	05 55 32.9	-12
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,62nm,8.0s						
GTA				LR	LR		
	comp=N,120nm,16.7s						
GTA				LR	LR		
	comp=E,250nm,16.0s						
GTA				LR	LR		
	comp=Z,200nm,16.7s						
USRK	**Ussuriysk Ar.**	**38.98**	**17**	P	**P**	**05 48 00.8**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=232,slow=7.1,SNR=3.0						
USRK	**Ussuriysk Ar.**	**38.98**	**17**	P	**P**	**05 47 59.0**	**-0.9**
FORT	**Forrest**	**39.17**	**165**	P	**P**	**05 48 01.4**	**-0.2**
FORT				IAmb	IAmb	05 48 06.7	
	comp=Z,44nm,1.5s						
ULN	**Ulaanbaatar**	**41.42**	**350**	P	**P**	**05 48 21.2**	**+1.0**
ULN				IAmb	IAmb	05 48 22.9	
	comp=Z,7.1nm,0.9s						
SONM	**Songino Array**	**41.51**	**349**	P	**P**	**05 48 20.8**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=171,slow=9.4,SNR=9.3						
SONM				LR	LR	06 06 25.8	
	comp=Z,70nm,18.1s,baz=150,slow=37						
SONM	**Songino Array**	**41.51**	**349**	P	**P**	**05 48 21.0**	**+0.1**
KLR	**Kul'dur**	**43.58**	**14**	P	**P**	**05 48 37.7**	**+0.2**
	comp=Z,6.8nm,1.0s,baz=227,slow=6.0,SNR=5.2						
WMQ	**Urumqi**	**44.72**	**329**	*e*P	**P**	**05 48 48.4**	**+1.5**
STKA	**Stephens Creek**	**45.27**	**151**	P	**P**	**05 48 51.7**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=321,slow=7.5,SNR=15						
STKA	**Stephens Creek**	**45.27**	**151**	P	**P**	**05 48 51.8**	**+0.5**
NIL	**Nilore**	**48.43**	**309**	P	**P**	**05 49 15.4**	**-0.7**
NIL				IAmb	IAmb	05 49 20.8	
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**49.53**	**329**	P	**P**	**05 49 23.7**	**-0.7**
MKAR	**Makanchi Array**	**49.53**	**329**	P	**P**	**05 49 24.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=126,slow=8.0,SNR=15						
MKAR				PcP	**PcP**	**05 50 45.1**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=125,slow=6.4,SNR=3.7						
MKAR				LR	LR	06 11 44.6	
	comp=Z,93nm,19.5s,baz=128,slow=38						
MKAR	**Makanchi Array**	**49.53**	**329**	P	**P**	**05 49 23.1**	**-1.3**
MAKZ	**Makanchi**	**49.70**	**329**	P	**P**	**05 49 25.3**	**-0.4**
ZALV	**Zalesovo Beam**	**53.45**	**337**	P	**P**	**05 49 53.1**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=131,slow=7.1,SNR=5.5						
ZALV				LR	LR	06 13 17.2	
	comp=Z,84nm,19.1s,baz=136,slow=37						
KURBB	**Kurchatov Arra**	**53.91**	**330**	P	**P**	**05 49 56.1**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=125,slow=8.7,SNR=3.7						
KURK	**Kurchatov**	**53.93**	**331**	P	**P**	**05 49 56.9**	**-0.2**
KURK				IAmb	IAmb	05 50 03.5	
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**54.38**	**319**	P	**P**	**05 50 00.1**	**-0.5**
BRVK	**Borovoye**	**59.48**	**329**	P	**P**	**05 50 36.3**	**-0.2**
BRVK				IAmb	IAmb	05 50 39.3	
	comp=Z,8.5nm,1.1s						
ABKAR	**Akbulak array**	**63.58**	**322**	P	**P**	**05 51 03.5**	**-0.8**
ABKAR				IAmb	IAmb	05 51 13.2	
	comp=Z,3.1nm,1.1s						
ABKAR	**Akbulak array**	**63.58**	**322**	P	**P**	**05 51 03.8**	**-0.6**
NRIK	**Noril'sk**	**65.00**	**349**	P	**P**	**05 51 12.1**	**-1.2**
	comp=Z,5.6nm,0.7s,baz=138,slow=6.3,SNR=7.4						
NRIK				LR	LR	06 19 18.5	
	comp=Z,23nm,21.3s,baz=201,slow=36						
AKTO	**Aktyubinsk**	**65.17**	**323**	P	**P**	**05 51 14.4**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=101,slow=4.8,SNR=12						
AKTO				LR	LR	06 20 37.6	
	comp=Z,71nm,19.9s,baz=81,slow=37						
ARU	**Arti**	**67.06**	**329**	P	**P**	**05 51 26.4**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=24,slow=1.8,SNR=7.4						
ARU	**Arti**	**67.06**	**329**	P	**P**	**05 51 26.1**	**-0.6**
KBZ	**Khabaz**	**73.79**	**313**	P	**P**	**05 52 08.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=0.0,slow=5.1,SNR=3.9						
BRTR	**Keskin Array B**	**80.58**	**309**	P	**P**	**05 52 46.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=134,slow=3.6,SNR=4.9						
BRTR	**Keskin Array B**	**80.58**	**309**	P	**P**	**05 52 45.4**	**-1.2**
IMAR	**Indian Mountai**	**83.00**	**24**	P	**P**	**05 52 57.0**	**-1.6**
AKASG	**Malin Array Be**	**83.26**	**320**	P	**P**	**05 52 59.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=81,slow=4.2,SNR=5.6						
AKASG	**Malin Array Be**	**83.26**	**320**	P	**P**	**05 52 58.7**	**-1.5**
ARCES	**ARCESS Array B**	**83.91**	**339**	P	**P**	**05 53 03.5**	**+0.3**
	comp=Z,4.6nm,0.9s,baz=75,slow=6.8,SNR=4.1						
MAW	**Mawson**	**83.95**	**198**	P	**P**	**05 53 03.3**	**0.0**
	comp=Z,3.0nm,0.9s,baz=47,slow=8.4,SNR=6.0						
MAW	**Mawson**	**83.95**	**198**	P	**P**	**05 53 03.1**	**-0.2**
FINES	**FINESS Array B**	**84.30**	**331**	P	**P**	**05 53 05.5**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=106,slow=6.2,SNR=5.0						
TOLK	**Toolik Lake Re**	**84.44**	**22**	P	**P**	**05 53 06.1**	**+0.1**
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**05 53 13.3**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=266,slow=3.7,SNR=6.5						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**05 53 11.9**	**-1.8**
BMAR	**Burnt Mountain**	**86.47**	**23**	P	**P**	**05 53 17.0**	**+0.9**
VNDA	**Vanda**	**88.18**	**171**	P	**P**	**05 53 22.8**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=333,slow=5.2,SNR=3.5						
BCAR	**Beaver Creek A**	**88.50**	**27**	P	**P**	**05 53 24.3**	**-1.7**
PLCA	**Paso Flores**	**145.91**	**169**	PKPbc	**PKPdf**	**06 00 13.2**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=230,slow=7.4,SNR=6.1						

IDC ***24*** *05:49:53.1±2.9,4°.63S×152°.96E,h35km±20km,mb4.1/9, mb1 4.2/10,mb1mx3.8/44,mbtmp4.3/10,ML1.9/1,MS3.2/4, Ms1 3.2/4,ms1mx2.7/31,Error ellipse: s-maj=25.9km s-min=15.5km az=91.0*

ISC 24 05:49:53.1±0.8,4°.58S±0°.09×153°.1E±0°.1,h35km,n16, σ1§77/17**,mb4.3/9,MS3.3/3,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.07**	**285**	Pg	**Pn**	**05 50 13.3**	**+1.6**
	147nm,0.3s,baz=125,slow=2.3,SNR=170						
KRVT				LR	LR	05 50 19.4	
	comp=Z,36nm,20.0s,baz=100,slow=27						
KRVT				Lg	Lg	05 50 26.0	
	769nm,0.3s,baz=342,slow=20,SNR=18						
PMG	**Port Moresby**	**7.57**	**230**	Pn	**Pn**	**05 51 41.8**	**+0.7**
	1.0nm,0.3s,baz=218,slow=19,SNR=2.0						
PMG				Sn	**Sn**	**05 53 05.0**	**-0.7**
	3.3nm,0.3s,baz=114,slow=18,SNR=4.8						
HNR	**Honiara**	**8.36**	**126**	LR	LR	05 55 45.1	
	comp=Z,55nm,18.4s,baz=12,slow=42						
DZM	**Mont Dzumac**	**21.69**	**144**	P	**P**	**05 54 43.3**	**+2.1**
	6.8nm,0.5s,baz=289,slow=6.5,SNR=12						
DZM				LR	LR	06 01 23.2	
	comp=Z,118nm,20.9s,baz=234,slow=32						
WRA	**Warramunga Arr**	**23.78**	**228**	P	**P**	**05 55 01.3**	**-1.5**
	9.2nm,0.7s,baz=51,slow=9.8,SNR=88						
WRA				PcP	**PcP**	**05 58 45.3**	**-0.7**
	0.8nm,0.8s,baz=35,slow=1.7,SNR=4.7						
ASAR	**Alice Springs**	**26.49**	**222**	P	**P**	**05 55 26.1**	**-1.3**
	1.6nm,0.4s,baz=54,slow=9.0,SNR=28						
ASAR				S	**S**	**06 00 04.0**	**+4.7**
	0.4nm,0.9s,baz=65,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**29.21**	**200**	P	**P**	**05 55 50.7**	**-0.8**
	2.7nm,0.6s,baz=24,slow=12,SNR=8.2						
STKA				LR	LR	06 08 13.7	
	comp=Z,45nm,18.6s,baz=24,slow=38						
FITZ	**Fitzroy Crossi**	**29.99**	**241**	P	**P**	**05 55 56.5**	**-2.1**
	2.7nm,0.5s,baz=64,slow=6.3,SNR=22						
JNU	**Nakatsue**	**42.99**	**332**	P	**P**	**05 57 49.8**	**+0.6**
	8.8nm,0.7s,baz=107,slow=4.5,SNR=4.5						
MJAR	**Matsushiro Arr**	**43.21**	**342**	LR	LR	06 12 36.5	
	comp=Z,42nm,21.8s,baz=235,slow=32						
KLR	**Kul'dur**	**56.71**	**343**	P	**P**	**05 59 32.6**	**-0.6**
	2.3nm,0.6s,baz=148,slow=2.6,SNR=7.5						
PETK	**Petropavlovsk-**	**57.61**	**3**	P	**P**	**05 59 39.8**	**+0.4**
	3.0nm,1.0s,baz=172,slow=6.4,SNR=4.8						
VNDA	**Vanda**	**73.04**	**178**	P	**P**	**06 01 19.1**	**+0.1**
	0.9nm,0.7s,baz=9.1,slow=4.4,SNR=3.3						
LPAZ	**La Paz**	**134.29**	**118**	PKP	**PKiKP**	**06 09 10.4**	**0.0**
	0.6nm,0.5s,baz=293,slow=2.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**150.49**	**289**	PKPbc	**PKPbc**	**06 09 40.5**	**-1.7**
	0.9nm,0.4s,baz=76,slow=2.2,SNR=19						
BDFB	**Brasilia**	**151.03**	**134**	PKPbc	**PKPbc**	**06 09 43.8**	**+0.2**
	4.1nm,0.7s,baz=341,slow=2.1,SNR=5.7						

ISN ***24*** *05:51:24.3±1.6,32°.82N×47°.52E,h22km±11km,ML2.6*

TEH ***24*** *05:51:25.5,32°.81N×47°.67E,h10km, ML2.8*

ISC 24 05:51:15.4±3.5,32°.2N±0°.2×47°.7E±0°.1,h10km,n12, σ0§93/15**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.29**	**4**	*e*Pg	**Pn**	**05 51 39.1**	**-0.3**
IKFM				*e*		05 51 57.7	
IKMR	**Kamar-syah**	**1.39**	**23**	*e*Pg	**Pg**	**05 51 43.4**	**+1.3**
IKMR				*e*		05 52 05.0	
IDOB	**Doab**	**1.59**	**13**	*e*Pg	**Pg**	**05 51

ZIRO	**ZIRO**	**1.69**	**101**	*i* Pg		**Pn**	**05 57 15.5**	**+0.2**
ZIRO				*e*S		**Sn**	**05 57 37.1**	**-0.2**
ZIRO				IAML			05 57 43.4	
	comp=N,7μm,0.5s							
ZIRO				IAML			05 57 44.2	
	comp=E,8μm,0.3s							
LSA	**Lhasa**	**1.96**	**338**	Pg		**Pb**	**05 57 21.0**	**-0.4**
LSA				Sg		**Sb**	**05 57 45.5**	**-0.8**
LSA				smax	smax			
	comp=E,1μm,0.9s							
LSA				smax	smax			
	comp=E,2μm,1.0s							
LSA	**Lhasa**	**1.96**	**338**			**Pn**	**05 57 20.2**	**+1.1**
LSA				Sn		**Sn**	**05 57 44.4**	**+0.1**
SHL	**Shillong**	**2.30**	**182**	*i* Pg		**Pb**	**05 57 26.4**	**-0.6**
SHL				*e*S		**Sn**	**05 57 50.0**	**-2.1**
SHL				IAML			05 57 58.1	
	comp=E,789nm,0.2s							
SHL				IAML			05 57 58.4	
	comp=N,726nm,0.3s							
SHL	**Shillong**	**2.30**	**182**	Pn		**Pn**	**05 57 24.6**	**+1.0**
JORH	**JORHAT**	**2.31**	**119**	*ex*		**Sn**	**05 57 55.0**	**+2.7**
JORH				IAML			05 57 59.1	
	comp=N,4μm,0.5s							
JORH				IAML			05 57 59.6	
	comp=E,5μm,0.3s							
MOKO	**MOKOCHONG**	**2.74**	**124**	*e*P		**Pn**	**05 57 29.0**	**-0.6**
MOKO				*i* Sg		**Sb**	**05 58 06.1**	**-2.3**
MOKO				IAML			05 58 12.8	
	comp=N,722nm,0.4s							
MOKO				IAML			05 58 13.3	
	comp=E,978nm,0.4s							
KOHI	**KOHIMA**	**2.87**	**138**	*i* P		**Pn**	**05 57 33.8**	**+2.4**
KOHI				*i* S		**Sn**	**05 58 07.4**	**+1.2**
KOHI				IAML			05 58 17.4	
	comp=E,431nm,0.7s							
KOHI				AMP			05 58 21.5	
	comp=N,11μm,0.5s							
GTK	**Tadong**	**3.05**	**260**	*e*P		**Pb**	**05 57 40.2**	**+0.5**
GTK				*e*S		**Sb**	**05 58 19.0**	**+1.8**
GTK				AMP			05 58 25.4	
	comp=N,14μm,0.7s							
GTK				IAML			05 58 26.4	
	comp=E,698nm,0.8s							
LKP	**Lekhapani**	**3.47**	**98**	*e*P		**Pn**	**05 57 40.5**	**+1.0**
LKP				*i* Sg		**Sn**	**05 58 21.6**	**+0.7**
LKP				IAML			05 58 24.7	
	comp=N,338nm,0.4s							
LKP				IAML			05 58 42.3	
	comp=E,910nm,1.1s							
SAIH	**SAIHA**	**5.44**	**170**	*e*P		**Pn**	**05 58 09.2**	**+2.5**
SAIH				*e*S		**Sn**	**05 59 09.2**	**-0.4**
SAIH				IAML			05 59 16.9	
	comp=N,53nm,0.4s							
BOK	**Bokaro**	**6.83**	**235**	*e*P		**Pn**	**05 58 29.2**	**+3.5**
BOK				*e*S		**Sn**	**05 59 45.6**	**+1.9**
KMI	**Kunming**	**10.02**	**103**	⇑P		Pn	05 59 15.8	+6.1
KMI				S		**Sn**	**06 01 06.3**	**+3.8**
KMI				pmax	pmax			
	comp=N,18nm,0.5s							
KMI				pmax	pmax			
	comp=N,44nm,4.4s							
KMI				LR	LR			
	comp=N,290nm,9.5s							
KMI				LR	LR			
	comp=N,310nm,9.2s							
KMI				LR	LR			
	comp=N,360nm,13.5s							
CM31	**Chiang Mai Arr**	**11.35**	**144**	Pn		**Pn**	**05 59 29.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**11.35**	**144**	Pn		**Pn**	**05 59 28.4**	**+0.6**
	comp=N,0.3nm,0.3s,baz=318,slow=12,SNR=2.5							
CMAR				LR	LR		06 03 31.2	
	comp=N,40nm,20.7s,baz=32,slow=36							
LZH	**Lanzhou**	**12.97**	**48**	*e*P		Pn	05 59 56.3	+6.3
LZH				pmax	pmax			
	comp=N,15nm,1.1s							
LZH				LR	LR			
	comp=N,370nm,10.8s							
LZH				LR	LR			
	comp=N,320nm,12.5s							
LZH				LR	LR			
	comp=N,440nm,13.8s							
GYA	**Guiyang**	**13.15**	**93**	*e*P		**P**	**06 00 02.9**	**+0.2**
GYA				pmax	pmax			
	comp=E,8.0nm,1.1s							
GTA	**Gaotai**	**13.22**	**28**	*e*P		**Pn**	**05 59 54.8**	**+1.4**
GTA				pP		P	05 59 59.3	-4.1
GTA				sP			06 00 02.0	
GTA				pmax	pmax			
	comp=E,5.0nm,0.9s							
NGP	**Nagpur**	**13.53**	**243**	*ex*		**Sn**	**06 02 30.7**	**+2.4**
XAN	**Xi'an**	**15.77**	**63**	P		**P**	**06 00 34.3**	**+2.6**
XAN				pP		sP	06 00 39.0	+2.4
XAN				S		**Sn**	**06 03 23.8**	**+0.9**
XAN				pmax	pmax			
	comp=E,8.0nm,1.3s							
XAN				LR	LR			
	comp=N,180nm,8.6s							
XAN				LR	LR			
	comp=E,400nm,8.4s							
XAN				LR	LR			
	comp=Z,380nm,9.8s							
XAN	**Xi'an**	**15.77**	**63**	Pn		**P**	**06 00 30.4**	**-1.3**
PBA	**Port Blair**	**16.15**	**177**	P		P	06 00 35.0	-1.0
WMQ	**Urumqi**	**16.29**	**349**	*e*P		**P**	**06 00 36.5**	**-0.9**
WMQ				pmax	pmax			
	comp=Z,15nm,0.6s							
WMQ				pmax	pmax			
	comp=Z,23nm,3.7s							
WMQ				LR	LR			
	comp=Z,100nm,29.0s							
WMQ				LR	LR			
	comp=Z,370nm,28.9s							
NIL	**Nilore**	**17.09**	**294**			**Pn**	**06 00 44.5**	**-0.1**
KSH	**Kashi**	**17.64**	**315**	P		**P**	**06 00 54.3**	**+1.8**
KSH				pmax	pmax			
	comp=Z,11nm,1.3s							
PRZ	**Przheval'sk**	**18.29**	**326**	P		**Pn**	**06 00 57.1**	**-2.3**
PRZ				IAmb	IAmb		06 01 00.4	
	comp=Z,46nm,1.5s							
WHN	**Wuhan**	**19.70**	**77**	P		**Pn**	**06 01 18.8**	**+2.3**
WHN				LR	LR			
	comp=Z,590nm,9.1s							
WHN				LR	LR			
	comp=Z,330nm,9.2s							
WHN				LR	LR			
	comp=Z,740nm,11.1s							
MK31	**Makanchi Array**	**20.37**	**341**			**P**	**06 01 21.8**	**-0.4**
MKAR	**Makanchi Array**	**20.37**	**341**	P		**P**	**06 01 21.8**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=148,slow=13,SNR=11							
MKAR	**Makanchi Array**	**20.37**	**341**	P		**P**	**06 01 22.3**	**+0.1**
MAKZ	**Makanchi**	**20.47**	**340**			**P**	**06 01 23.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**20.65**	**46**	*e*P		Pn	06 01 28.6	+0.9
KBL	**Kabul**	**20.69**	**294**	P		**P**	**06 01 25.4**	**-0.6**
KBL				IAmb	IAmb		06 01 27.1	
	comp=Z,24nm,1.4s							
GAR	**Garm**	**21.16**	**307**	P		**P**	**06 01 29.4**	**-1.6**
GAR				IAmb	IAmb		06 01 49.0	
	comp=Z,10.0nm,1.0s							
BTK	**Batken**	**21.29**	**310**	P		**P**	**06 01 32.7**	**+0.4**
BTK				IAmb	IAmb		06 01 37.2	
	comp=Z,16nm,0.7s							
CHGR	**Chuyangaron**	**21.85**	**305**			**P**	**06 01 38.6**	**+0.2**
CHGR				IAmb	IAmb		06 01 43.2	
	comp=Z,17nm,1.0s							
SONM	**Songino Array**	**22.88**	**26**	P		**P**	**06 01 50.7**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=211,slow=10,SNR=13							
SONM	**Songino Array**	**22.88**	**26**	P		**P**	**06 01 49.7**	**+0.4**
PALK	**Pallekele**	**23.11**	**210**	LR		LR	06 12 06.4	
	comp=Z,55nm,19.1s,baz=161,slow=40							
ULN	**Ulaanbaatar**	**23.16**	**26**	P		**P**	**06 01 53.5**	**+1.3**
ULN				IAmb	IAmb		06 01 56.0	
	comp=Z,8.2nm,1.2s							
KURBB	**Kurchatov Arra**	**24.91**	**339**	P		**P**	**06 02 07.4**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=163,slow=8.1,SNR=5.4							
KURK	**Kurchatov**	**24.97**	**340**	P		**P**	**06 02 09.1**	**0.0**
KURK				IAmb	IAmb		06 02 10.2	
	comp=Z,8.7nm,1.4s							
ZAA0	**Zalesovo Array**	**26.58**	**351**	P		**P**	**06 02 23.1**	**-0.5**
ZAA0				IAmb	IAmb		06 02 28.0	
	comp=Z,7.5nm,1.3s							
ZALV	**Zalesovo Beam**	**26.58**	**351**	P		**P**	**06 02 22.1**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=172,slow=11,SNR=5.2							
ZALV	**Zalesovo Beam**	**26.58**	**351**	P		**P**	**06 02 22.7**	**-1.0**
AB07	**Akbulak array**	**32.52**	**320**	P		**P**	**06 03 15.9**	**-0.5**
ABKAR	**Akbulak array**	**32.54**	**320**	P		**P**	**06 03 16.2**	**-0.3**
ABKAR	**Akbulak array**	**32.54**	**320**	P		**P**	**06 03 16.3**	**-0.3**
ABKAR				IAmb		IAmb	06 03 20.2	
	comp=Z,1.5nm,0.7s							
JTU	**Tsushima**	**32.55**	**69**	P		**P**	**06 03 18.0**	**+1.1**
JNU	**Nakatsue**	**33.79**	**71**	P		**P**	**06 03 28.5**	**+0.7**
AKTO	**Aktyubinsk**	**34.20**	**321**	P		**P**	**06 03 30.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=125,slow=5.9,SNR=4.3							
NRIK	**Noril'sk**	**41.58**	**358**	P		**P**	**06 04 36.4**	**+3.3**
	comp=Z,2.9nm,0.6s,baz=180,slow=7.1,SNR=4.2							
BRTR	**Keskin Array B**	**49.13**	**300**	P		**P**	**06 05 31.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=36,slow=11,SNR=1.7							
AKASG	**Malin Array Be**	**51.93**	**314**	P		**P**	**06 05 52.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=77,slow=6.5,SNR=2.8							
AKASG				LR		LR	06 32 16.9	
	comp=Z,45nm,19.4s,baz=70,slow=41							
FINES	**FINESS Array B**	**54.44**	**327**	P		**P**	**06 06 11.3**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=129,slow=5.2,SNR=5.7							
NOA	**NORSAR Array B**	**61.61**	**327**	P		**P**	**06 07 01.3**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=88,slow=5.5,SNR=3.0							
GEC2	**GERESS Array S**	**62.10**	**313**	P		**P**	**06 07 04.5**	**-2.1**
GERES	**GERESS Array B**	**62.10**	**313**	P		**P**	**06 07 05.7**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=72,slow=8.6,SNR=9.7							
GERES	**GERESS Array B**	**62.10**	**313**	P		**P**	**06 07 05.0**	**-1.6**
WB0	**Warramunga Arr**	**62.66**	**134**	P		**P**	**06 07 09.6**	**-1.1**
WB0				IAmb		IAmb	06 07 11.2	
	comp=Z,3.6nm,0.9s							
WRA	**Warramunga Arr**	**62.76**	**135**	P		**P**	**06 07 10.6**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=325,slow=7.0,SNR=9.4							
WB2	**Warramunga Arr**	**62.77**	**135**	P		**P**	**06 07 11.7**	**+0.3**
ASAR	**Alice Springs**	**65.27**	**138**	P		**P**	**06 07 27.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=323,slow=6.8,SNR=12							
ASAR	**Alice Springs**	**65.27**	**138**	P		**P**	**06 07 27.6**	**-0.2**
LSZ	**Lusaka**	**75.19**	**244**	P		**P**	**06 08 27.2**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=57,slow=7.6,SNR=5.0							
LSZ	**Lusaka**	**75.19**	**244**	P		**P**	**06 08 26.4**	**-2.5**
LSZ				IAmb		IAmb	06 08 46.8	
	comp=Z,6.6nm,1.4s							
ILAR	**Eielson Array**	**77.06**	**22**	P		**P**	**06 08 40.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=300,slow=4.9,SNR=10.0							
ILAR	**Eielson Array**	**77.06**	**22**	P		**P**	**06 08 38.4**	**-0.1**
MATP	**Matopo**	**77.91**	**239**	P		**P**	**06 08 43.3**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=76,slow=4.2,SNR=4.4							

*KRNET **24** 05:57:26.6±0.1,43.15°N×76.85°E,h20km,mb2.7*
*NNC **24** 05:57:26.6±0.4,43.18°N×76.83°E,h0km±4km,mb3.0,*
mpv3.0,Error ellipse: s-maj=5.8km s-min=2.6km az=172.0
*SOME **24** 05:57:26.8,43.17°N×76.83°E,h10km*

ISC 24 05:57:25.5±0.8,43.18°N±0.03×76.83°E±0.02,h15km±5km,
n45,σ0s90/84,35C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.16**	**96**	⇑*i*P			**Pg**	**05 57 30.3**	**+0.5**
	baz=86								
MDOK				⇑*e*S			**Sg**	**05 57 32.6**	**0.0**
	baz=86								
MDOK	**Medeo**	**0.16**	**96**	⇑*i*P			**Pg**	**05 57 30.3**	**+0.5**
	19nm,0.1s								
MDOK				*e*S			**Sg**	**05 57 32.6**	**0.0**
	229nm,0.1s								
MDOK	**Medeo**	**0.16**	**96**	Pg			**Pg**	**05 57 30.3**	**+0.5**
	19nm,0.1s								
MDOK				Lg			Lg	05 57 32.6	
	229nm,0.1s								
TNSS	**Tian-Shan**	**0.17**	**148**	⇑*i*P			**Pg**	**05 57 30.3**	**+0.3**
	baz=49								
TNSS				⇑*e*S			**Sg**	**05 57 32.7**	**-0.3**
	baz=49								
TNSS	**Tian-Shan**	**0.17**	**148**	⇑*i*P			**Pg**	**05 57 30.3**	**+0.3**
	156nm,0.2s								
TNSS				*e*S			**Sg**	**05 57 32.7**	**-0.3**
	380nm,0.2s								
TNSS	**Tian-Shan**	**0.17**	**148**	P			**Pg**	**05 57 30.3**	**+0.3**
	156nm,0.2s								
TNSS				S			**Sg**	**05 57 32.7**	**-0.3**
	380nm,0.2s								
ANVS	**Anan'yevo**	**0.73**	**122**	⇑*i*P			**Pb**	**05 57 39.7**	**-0.4**
	baz=21								
ANVS				⇑*i*S			**Sb**	**05 57 49.3**	**-0.8**
	baz=21								
DGS	**Degeres**	**0.77**	**275**	*e*P			**Pn**	**05 57 41.5**	**-0.6**
	baz=77								
DGS				*e*S			**Sb**	**05 57 51.9**	**+0.7**
	baz=77								
DGS	**Degeres**	**0.77**	**275**	*e*P			**Pn**	**05 57 41.5**	**-0.6**
	4.0nm,0.5s								
DGS				*e*S			**Sb**	**05 57 51.9**	**+0.7**
	37nm,0.5s								
DGS	**Degeres**	**0.77**	**275**	P			**Pn**	**05 57 41.5**	**-0.6**
	4.0nm,0.5s								
DGS				S			**Sb**	**05 57 51.9**	**+0.7**
	37nm,0.5s								
KUU	**Kurty**	**0.80**	**334**	*e*P			**Pn**	**05 57 42.5**	**+0.2**
	baz=33								
KUU				*e*S			**Sn**	**05 57 53.3**	**-0.7**
	baz=33								
KUU	**Kurty**	**0.80**	**334**	*e*P			**Pn**	**05 57 42.5**	**+0.2**
	1.9nm,0.2s								
KUU				*e*S			**Sn**	**05 57 53.3**	**-0.7**
	36nm,0.2s								
KUU	**Kurty**	**0.80**	**334**	P			**Pn**	**05 57 42.5**	**+0.2**
	1.9nm,0.2s								
KUU				S			**Sn**	**05 57 53.3**	**-0.7**
	36nm,0.2s								
TKM2	**Tokmak 2**	**0.94**	**254**	⇑*i*P			**Pn**	**05 57 44.7**	**+0.3**
	baz=56								
TKM2				⇑*i*S			**Sn**	**05 57 57.9**	**+0.2**
	baz=56								
TKM2	**Tokmak 2**	**0.94**	**254**	⇑P			**Pn**	**05 57 45.1**	**+0.7**
	2.1nm,0.6s								
TKM2				⇑S			**Sb**	**05 57 57.5**	**+1.5**
	3.4nm,0.2s								
BOOM	**Boomskoye usch**	**0.95**	**224**	⇑*i*P			**Pn**	**05 57 44.5**	**0.0**
	baz=26								
BOOM				⇑*i*S			**Sb**	**05 57 57.0**	**+0.7**
	baz=26								
KURS	**Kuram**	**1.03**	**72**	*e*P			**Pn**	**05 57 46.1**	**+0.6**
	baz=70								
KURS				*e*S			**Sn**	**05 57 59.4**	**-0.2**
	baz=70								
KURS	**Kuram**	**1.03**	**72**	*e*P			**Pn**	**05 57 46.1**	**+0.6**
	2.0nm,0.1s								
KURS				*e*S			**Sn**	**05 57 59.4**	**-0.2**
	4.2nm,0.2s								
KURS	**Kuram**	**1.03**	**72**	P			**Pn**	**05 57 46.2**	**+0.6**
	3.2nm,0.3s								
KURS				S			**Sn**	**05 57 59.5**	**-0.2**
	9.0nm,0.2s								
ULHL	**Ulahol**	**1.03**	**205**	⇑*i*P			**Pn**	**05 57 45.8**	**+0.1**
	baz=7.0								
ULHL				⇑*i*S			**Sb**	**05 57 59.5**	**+0.9**
	baz=7.0								
KDJ	**Kajisay**	**1.08**	**166**	⇑*i*P			**Pn**	**05 57 46.3**	**0.0**
	baz=66								
KDJ				⇑*i*S			**Sg**	**05 58 00.4**	**-0.2**
	baz=66								
SATY	**Saty**	**1.16**	**95**	*e*P			**Pn**	**05 57 48.1**	**+0.7**
	baz=94								
SATY				*e*S			**Sn**	**05 58 02.9**	**-0.2**
	baz=94								
SATY	**Saty**	**1.16**	**95**	*e*P			**Pn**	**05 57 48.1**	**+0.7**
	5.3nm,0.1s								
SATY				*e*S			**Sn**	**05 58 02.9**	**-0.2**
	42nm,0.1s								
SATY	**Saty**	**1.16**	**95**	P			**Pn**	**05 57 48.1**	**+0.7**
	5.3nm,0.1s								
SATY				S			**Sn**	**05 58 02.9**	**-0.2**
	42nm,0.1s								
ARXS	**Arharly**	**1.26**	**35**	*e*P			**Pg**	**05 57 50.5**	**+0.6**
	38nm,0.2s								
ARXS				*e*S			**Sn**	**05 58 07.0**	**+1.5**
	21nm,0.2s								
ARXS	**Arharly**	**1.26**	**35**	P			**Pg**	**05 57 50.5**	**+0.6**
	38nm,0.2s								
ARXS				S			**Sn**	**05 58 07.0**	**+1.5**
	21nm,0.2s								
KPKS	**Kokpek**	**1.39**	**77**	*e*P			**Pg**	**05 57 52.4**	**+0.2**
	baz=76								
KPKS				*e*S			**Sg**	**05 58 10.2**	**0.0**
	baz=76								
KPKS	**Kokpek**	**1.39**	**77**	*e*P			**Pg**	**05 57 52.4**	**+0.2**
	9.1nm,0.1s								
KPKS				*e*S			**Sg**	**05 58 10.3**	**0.0**
	56nm,0.2s								
KBK	**Karagaybulak**	**1.48**	**250**	⇑*i*P			**Pg**	**05 57 54.2**	**+0.2**
	baz=51								
KBK				⇑*i*S			**Sg**	**05 58 14.1**	**+0.9**
	baz=51								
CHMS	**Chumysh**	**1.53**	**264**	⇑*i*P			**Pg**	**05 57 55.0**	**0.0**
	baz=65								
CHMS				⇑*i*S			**Sg**	**05 58 15.7**	**+0.8**
	baz=65								
UZB	**Uzynbulak**	**1.61**	**90**	*e*P			**Pg**	**05 57 56.3**	**-0.1**
	baz=89								
UZB				*e*S			**Sg**	**05 58 17.0**	**-0.3**
	baz=89								
UZB	**Uzynbulak**	**1.61**	**90**	*e*P			**Pg**	**05 57 56.3**	**-0.1**
	3.4nm,0.2s								
UZB				*e*S			**Sg**	**05 58 17.0**	**-0.3**
	18nm,0.1s								
UZB	**Uzynbulak**	**1.61**	**90**	P			**Pg**	**05 57 56.3**	**-0.1**
	3.4nm,0.2s								
UZB				S			**Sg**	**05 58 17.0**	**-0.3**
	18nm,0.1s								
SGDS	**Sogindy**	**1.63**	**280**	P			**Pg**	**05 57 57.0**	**+0.2**
	1.6nm,0.1s								
SGDS				S			**Sg**	**05 58 18.6**	**+0.7**
	5.2nm,0.2s								
USP	**Ospenovka**	**1.70**	**274**	⇑*i*P			**Pg**	**05 57 57.9**	**-0.4**
	baz=75								
USP				⇑*i*S			**Sg**	**05 58 20.8**	**+0.4**
	baz=75								
AAK	**Ala-Archa**	**1.80**	**253**	⇑*i*P			**Pg**	**05 57 59.2**	**-0.9**
	baz=54								
AAK				⇑*i*S			**Sg**	**05 58 23.1**	**-0.4**
	baz=54								
AAK	**Ala-Archa**	**1.80**	**253**	⇑Pn			**Pg**	**05 58 03.0**	**+2.9**
	0.7nm,0.3s								
AAK				⇑Sn			**Sg**	**05 58 23.0**	**-0.4**
	2.6nm,0.4s								
SHLS	**Shalkode**	**1.93**	**90**	*e*P			Pg	05 58 07.8	+5.3
	2.1nm,0.1s								
SHLS				*e*S			Sg	05 58 36.8	+9.2
	18nm,0.4s								
SHLS	**Shalkode**	**1.93**	**90**	Pg			Pg	05 58 07.9	+5.3
	5.7nm,0.3s								
SHLS				Lg			Lg	05 58 36.8	
	20nm,0.4s								
UCH	**Uchtor**	**1.95**	**242**	⇓*i*P			**Pb**	**05 58 01.4**	**+0.3**
	baz=43								
UCH				⇓*i*S			**Sb**	**05 58 26.8**	**+1.4**
	baz=43								
ARLS	**Aral**	**2.27**	**235**	⇑*i*P			**Pb**	**05 58 05.4**	**-1.0**
	baz=36								
ARLS				⇑*i*S			**Sb**	**05 58 34.2**	**-0.2**
	baz=36								
EKS2	**Erkin-Say**	**2.30**	**258**	⇓*e*P			**Pb**	**05 58 06.4**	**-0.4**
	baz=59								
EKS2				⇓*i*S			**Sb**	**05 58 35.4**	**+0.3**
	baz=59								
AML	**Almayashu**	**2.54**	**247**	⇑*i*P			**Pb**	**05 58 09.4**	**-1.6**
	baz=47								
AML				⇑*i*S			**Sb**	**05 58 41.3**	**-0.9**
	baz=47								
MNAS	**Manas**	**3.25**	**259**	⇑*i*P			**Pb**	**05 58 19.6**	**-3.5**
	baz=60								
MNAS				⇑*i*S			**Sn**	**05 58 58.4**	**+3.6**
	baz=60								
KK31	**Karatay Array**	**4.62**	**271**	⇑Pg			**Pg**	**05 58 52.7**	**-1.3**
	0.7nm,0.5s,baz=334,slow=39,SNR=3.7								
KK31				⇓Lg			Lg	05 59 51.8	
	1.5nm,0.7s,baz=84,slow=29,SNR=4.9								

*ECX **24** 06:00:44.5±0.5,31.47°N×115.48°W,h5km±2km,MD2.5,*
ML2.7
*MEX **24** 06:00:46.1±0.8,31.42°N×115.51°W,h5km,MD3.7*

ISC 24 06:00:42.7±1.2,31.40N±0.03×115.50W±0.03,h15km±9km,
n22,σ0s99/34,9C-6D,Baja California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.24**	**269**	*e*P			**Pb**	**06 00 48.4**	**-0.4**
VTX				*e*S			**Sg**	**06 00 52.5**	**+0.8**
VTX				⇓*e*				06 00 53.1	
VTX				IAML				06 00 53.1	
	comp=N,788nm,0.2s								
VTX				IAML				06 00 54.3	
	comp=E,1μm,0.1s								
VTX				⇑*e*				06 00 54.3	
SPIG	**San Pedro Mart**	**0.35**	**175**	*e*P			**Pn**	**06 00 52.3**	**-1.3**
SPIG				*i* S			**Sb**	**06 00 58.8**	**+2.4**
SPIG	**San Pedro Mart**	**0.35**	**175**	⇓*e*P			**Pn**	**06 00 52.3**	**-1.3**
SPIG				*e*S			**Sb**	**06 00 58.4**	**+2.0**
SPX	**San Pedro Mart**	**0.36**	**175**	*e*P			**Pb**	**06 00 51.4**	**+0.3**
SPX				*e*S			**Sb**	**06 00 57.5**	**+0.9**
SPX				⇑*e*				06 00 58.2	
SPX				IAML				06 00 58.2	
	comp=E,655nm,0.3s								
SPX				⇑*e*				06 00 58.4	
SPX				IAML				06 00 58.4	
	comp=N,882nm,0.1s								
SJX	**San Joaquin**	**0.53**	**313**	⇓*e*P			**Pn**	**06 00 56.0**	**+0.2**
SJX				*e*S			**Sn**	**06 01 05.3**	**+0.8**
SJX				⇑*e*				06 01 06.6	
SJX				IAML				06 01 06.6	
	comp=E,328nm,0.0s								
SVX	**San Vicente**	**0.65**	**264**	⇑*i*P			**Pn**	**06 00 56.3**	**-1.0**
SVX				*e*S			**Sn**	**06 01 05.4**	**-1.9**
SFX	**San Felipe**	**0.66**	**123**	⇑*e*P			**Pn**	**06 00 57.0**	**-0.5**
SFX				*e*S			**Sn**	**06 01 06.6**	**-1.1**
SFX				⇓*e*				06 01 08.6	
SFX				IAML				06 01 08.6	
	comp=N,568nm,0.3s								
SFX				⇑*e*				06 01 09.7	
SFX				IAML				06 01 09.7	
	comp=E,389nm,0.2s								
SQX	**San Quintin**	**0.88**	**202**	*e*P			**Pn**	**06 01 00.3**	**-0.2**
SQX				*e*S			**Sn**	**06 01 13.3**	**+0.3**
GUVIX	**Guadalupe Vict**	**0.97**	**22**	*e*P			**Pb**	**06 01 01.8**	**+0.6**
CPBX	**Cerro Prieto**	**1.03**	**9**	*e*P			**Pg**	**06 01 01.8**	**-0.9**
MBIG	**Mexicali**	**1.04**	**14**	*i* P			**Pn**	**06 01 02.8**	**+0.

OTAV	**Otavalo**	**0.74**	**222**	⇑	*iP*	Pg	06 23 35.9	-1.4
OTAV					*eS*	Sg	06 23 46.6	-0.3
OTAV					*i*		06 23 48.5	
	comp=Z,558nm,0.5s							
CPAS1	**Pasto**	**0.74**	**58**		*eP*	Pg	06 23 37.0	-0.4
CPAS1	**Pasto**	**0.74**	**58**		*eS*	Sg	06 23 46.2	-0.8
CCUFI	**Cufio, Nario**	**0.74**	**54**		*eP*	Pg	06 23 36.8	-0.6
CCUFI					*eS*	Sg	06 23 46.8	-0.2
GCUF	**Volcan Galeras**	**0.74**	**54**	⇑	*iP*	Pg	06 23 36.5	-0.9
GCUF					*eS*	Sg	06 23 47.3	+0.2
GCUF					*i*		06 23 53.9	
	comp=Z,307nm,0.4s							
CPAS2	**Pasto**	**0.82**	**58**		*eP*	Pg	06 23 38.2	-0.6
CPAS2	**Pasto**	**0.82**	**58**		*eS*	Sg	06 23 49.8	+0.3
PAC1	**Pacto, Paraso**	**0.99**	**238**	⇑	*eP*	Pg	06 23 40.0	-1.9
PAC1					*eS*	Sg	06 23 53.1	-1.7
CRUC	**La Cruz**	**1.26**	**52**		*eP*	Pg	06 23 46.4	-0.9
CTUM2	**Tumaco**	**1.29**	**323**		*eP*	Pg	06 23 46.7	-1.0
TUMC	**Tumaco**	**1.29**	**323**		*eP*	Pg	06 23 46.5	-1.3
TUMC					*eS*	Sg	06 24 02.6	-1.9
TUMC					*i*		06 24 31.1	
	comp=Z,315nm,0.6s							
PUAC	**Puerto Asis, P**	**1.40**	**100**	⇓	*iP*	Pn	06 23 48.5	-0.8
PUAC					*i*		06 23 53.3	
	comp=Z,331nm,0.6s							
PUAC					*eS*	Sb	06 24 07.7	-0.3
BBAC	**Balboa, Cauca**	**1.41**	**30**	⇑	*eP*	Pn	06 23 47.9	-1.8
BBAC					*eS*	Sg	06 24 06.5	-2.0
BBAC					*i*		06 24 11.6	
	comp=Z,197nm,0.3s							
SOTA	**Rioblanco**	**1.90**	**45**		*eP*	Pn	06 23 57.4	+0.9
SOTA					*eS*	Sb	06 24 22.4	-0.3
POPC	**Popayan, Colom**	**2.16**	**36**		*eP*	Pn	06 24 00.7	+0.7
POPC					*i*		06 24 06.9	
	comp=Z,40nm,0.4s							
POPC					*eS*	Sn	06 24 26.1	-1.1
PCON	**Cinco Dias**	**2.18**	**45**		*eP*	Pb	06 24 02.3	-1.1
PCON					*i*		06 24 10.4	
	comp=Z,116nm,0.7s							
PCON					*eS*	Sn	06 24 27.5	-0.8
GR1C	**Gorgona, Isla**	**2.21**	**354**		*eP*	Pn	06 23 58.2	-2.3
FLOC	**Florencia**	**2.43**	**71**		*eP*	Pb	06 24 06.2	-1.1
FLOC					*eS*	Sn	06 24 33.0	-0.7
FLOC					*i*		06 24 43.5	
	comp=Z,56nm,0.6s							
GARC	**Garzon, Huila**	**2.82**	**60**		*eP*	Pb	06 24 13.2	-1.0
GARC					*eS*	Sb	06 24 47.0	-2.1
GARC					*i*		06 24 54.5	
	comp=Z,103nm,0.3s							
MARP	**Paez Belalcaza**	**2.85**	**44**		*eP*	Pb	06 24 14.5	-0.2
BETC	**Betania**	**3.13**	**53**	⇑	*eP*	Pg	06 24 21.6	-1.6
BETC					*eS*	Sn	06 24 52.7	+1.6
PTLC	**Puerto Leguiza**	**3.21**	**101**		*eP*	Pn	06 24 17.2	+2.9
PTLC					*eS*	Sn	06 24 54.9	+1.8
PTLC					*i*		06 25 12.6	
	comp=Z,50nm,0.4s							
MALC	**Bahia Malaga**	**3.26**	**11**		*eP*	Pn	06 24 16.6	+1.7
MALC					*i*		06 24 21.4	
	comp=Z,40nm,0.7s							
MALC					*eS*	Sn	06 24 55.4	+1.2
YOTC	**Yotoco, Valle**	**3.56**	**27**		*eP*	Pn	06 24 21.7	+2.6
YOTC					*i*		06 24 31.0	
	comp=Z,15nm,0.7s							
YOTC					*eS*	Sn	06 25 02.9	+1.3
ORTC	**Ortega, Tolima**	**4.11**	**41**	⇓	*iP*	Pn	06 24 30.4	+3.7
ORTC					*i*		06 24 54.2	
	comp=Z,22nm,0.6s							
ORTC					*eS*	Sn	06 25 19.3	+4.0
PRAC	**Prado**	**4.22**	**46**		*eP*	Pn	06 24 31.3	+3.1
PRAC					*i*		06 24 56.4	
	comp=Z,14nm,0.5s							
PRAC					*eS*	Sn	06 25 16.4	-1.5
MACC	**Macarena, Meta**	**4.32**	**72**		*eP*	Pn	06 24 33.1	+3.7
MACC					*i*		06 24 44.2	
	comp=Z,53nm,0.5s							
MACC					*eS*	Sn	06 25 18.0	-2.3
ANIL	**Santa Ana**	**4.47**	**35**		*eP*	Pn	06 24 36.5	+4.7
TOLC	**Tolima**	**4.60**	**35**		*eP*	Pn	06 24 37.4	+3.8
RREF	**El Recreo**	**4.84**	**32**		*eP*	Pn	06 24 39.0	+1.7
RREF					*eS*	Sn	06 25 29.4	-4.7
GUY2C	**Guyana, Caldas**	**5.11**	**30**		*eP*	Pn	06 24 45.5	+4.7
GUY2C					*i*		06 25 00.0	
	comp=Z,9.1nm,0.6s							
CBOC	**Ciudad Bolivar**	**5.40**	**21**		*eP*	Pn	06 24 45.7	+1.2
CBOC					*i*		06 24 53.6	
	comp=Z,11nm,0.8s							
CHIC	**Chingaza**	**5.68**	**48**		*eP*	Pn	06 24 55.0	+6.3
CHIC					*i*		06 25 01.9	
	comp=Z,17nm,0.5s							
HELC	**Santa Helena**	**5.88**	**24**		*eP*	Pn	06 24 55.6	+4.3

*GUC **24** 06:24:24.4±0.5,24°.21S×67°.23W,h212km±7km,ML4.0*
*IDC **24** 06:24:26.5±2.4,23°.85S×66°.92W,h189km±30km,*
mb1 3.0/4,mb1mx2.8/31,mbtmp3.4/4,Error ellipse:
s-maj=43.0km s-min=22.2km az=114.0

ISC 24 06:24:25.5±1.3,24°.09S±0°.05×67°.2W±0°.1,h203km±15km,
n25,σ1§54/45,6C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.13**	**313**	P		**Pn**	**06 25 06.4**	**+0.5**
	9.2nm,0.3s,baz=131,slow=6.2,SNR=136							
LVC				S		**Sn**	**06 25 38.3**	**+1.0**
	22nm,0.3s,baz=271,slow=23,SNR=40							
LVC	**Limon Verde**	**2.13**	**313**	*eP*		**Pn**	**06 25 06.4**	**+0.5**
LVC				*i*	S	**Sn**	**06 25 38.1**	**+0.8**
PB15	**IPOC Station P**	**2.23**	**293**	⇑	*iP*	**Pn**	**06 25 07.3**	**+0.5**
PB15				*i*	S	**Sn**	**06 25 39.4**	**+0.4**
GO02	**Mina Guanaco**	**2.39**	**243**	⇓	*iP*	**Pn**	**06 25 07.9**	**-0.8**
GO02				*i*	S	**Sn**	**06 25 41.4**	**-1.0**
GO02				IAML			06 25 42.8	
	comp=N,281nm,0.2s							
PB06	**IPOC Station P**	**2.55**	**302**	⇑	*iP*	**Pn**	**06 25 10.8**	**+0.5**
PB06				*i*	S	**Sn**	**06 25 45.3**	**+0.2**
PB06				IAML			06 25 47.8	
	comp=E,352nm,0.1s							
PB09	**IPOC Station P**	**2.94**	**321**	*i*	P	**Pn**	**06 25 15.8**	**+1.1**
PB09				*i*	S	**Sn**	**06 25 54.3**	**+1.1**
PB14	**IPOC Station P**	**2.94**	**259**	⇓	*iP*	**Pn**	**06 25 14.6**	**-0.3**
PB14				*i*	S	**Sn**	**06 25 51.8**	**-1.6**
PB05	**IPOC Station P**	**2.99**	**294**	⇑	*iP*	**Pn**	**06 25 15.6**	**+0.4**
PB05				*e*	S	**Sn**	**06 25 54.3**	**+0.2**
PB03	**IPOC Station P**	**3.08**	**311**	⇑	*iP*	**Pn**	**06 25 16.6**	**+0.2**
PB03				*e*	S	**Sn**	**06 25 55.6**	**-0.6**
PB10	**IPOC Station P**	**3.09**	**280**	⇑	*iP*	**Pn**	**06 25 16.6**	**+0.3**
PB10				*i*	S	**Sn**	**06 25 55.8**	**-0.3**
PB04	**IPOC Station P**	**3.20**	**303**	⇓	*iP*	**Pn**	**06 25 18.4**	**+0.6**
PB04				*i*	S	**Sn**	**06 25 59.1**	**+0.4**
AC02	**Maricunga**	**3.23**	**212**	⇓	*iP*	**Pn**	**06 25 16.7**	**-1.7**
PB07	**IPOC Station P**	**3.39**	**313**	*eP*		**Pn**	**06 25 20.4**	**+0.3**
PB07				*i*	S	**Sn**	**06 26 02.2**	**-0.7**
AC01	**Pan de Azucar**	**3.67**	**235**	*eP*		**Pn**	**06 25 21.2**	**-2.1**
AC01				*i*	S	**Sn**	**06 26 05.1**	**-3.7**
PB01	**IPOC Station P**	**3.67**	**325**	⇑	*iP*	**Pn**	**06 25 23.3**	**-0.2**
PB01				*i*	S	**Sn**	**06 26 08.3**	**-0.7**
PATCX	**Punta Patache**	**4.22**	**320**	*eP*		**Pn**	**06 25 30.3**	**0.0**
PATCX				*i*	S	**Sn**	**06 26 20.1**	**-1.1**
PB08	**IPOC Station P**	**4.31**	**335**	⇓	*iP*	**Pn**	**06 25 32.2**	**+0.5**
PB08				*i*	S	**Sn**	**06 26 23.7**	**+0.1**
TA01	**Diego Aracena**	**4.44**	**322**	*eP*		**Pn**	**06 25 32.8**	**-0.1**
TA01				*i*	S	**Sn**	**06 26 24.6**	**-1.3**
GO01	**Chusmiza**	**4.76**	**337**	*eP*		**Pn**	**06 25 37.1**	**-0.3**
GO01				*i*	S	**Sn**	**06 26 34.5**	**+0.5**
PB11	**IPOC Station P**	**4.86**	**332**	*eP*		**Pn**	**06 25 36.8**	**-1.6**
PB11				*i*	S	**Sn**	**06 26 33.4**	**-2.3**
PSGC	**Pisagua**	**5.21**	**328**	*eP*		**Pn**	**06 25 40.9**	**-1.9**
LPAZ	**La Paz**	**7.81**	**354**	P		**Pn**	**06 26 17.0**	**+0.1**
	comp=E,0.3nm,0.3s,baz=169,slow=11,SNR=21							
LPAZ				S		**Sn**	**06 27 41.1**	**-4.3**
	comp=E,0.0nm,0.3s,baz=54,slow=19,SNR=1.3							
SIV	**San Ignacio**	**9.92**	**37**	P		**Pn**	**06 26 40.0**	**-3.8**
	comp=E,0.2nm,0.3s,baz=234,slow=13,SNR=5.7							
PLCA	**Paso Flores**	**16.83**	**189**	P		**Pn**	**06 28 13.6**	**+4.1**
	comp=E,0.1nm,0.3s,baz=22,slow=16,SNR=2.9							
MKAR	**Makanchi Array**	**146.73**	**39**	PKPbc		**PKPbc**	**06 43 44.0**	**+0.6**
	comp=E,0.6nm,0.7s,baz=304,slow=2.2,SNR=4.2							

IDC 24 06:47:09.4±1.7,1°.30N×124°.30E,h0km,mb3.6/3,
mb1 3.8/4,mb1mx3.5/37,mbtmp3.6/4,ML3.7/1,Error
ellipse: s-maj=126.6km s-min=23.8km az=66.0,

Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.32**	**176**	P		P	06 51 36.1	-0.2
	0.2nm,0.3s,baz=353,slow=8.1,SNR=7.4							
WRA	**Warramunga Arr**	**23.30**	**156**	P		P	06 52 18.6	-0.5
	2.4nm,0.5s,baz=334,slow=11,SNR=38							
ASAR	**Alice Springs**	**26.52**	**160**	P		P	06 52 49.8	+0.9
	0.2nm,0.5s,baz=346,slow=13,SNR=2.3							
MKAR	**Makanchi Array**	**58.21**	**327**	P		P	06 57 05.4	-0.1
	0.2nm,0.4s,baz=126,slow=8.3,SNR=6.8							

*IDC **24** 06:53:03.1±4.9,6°.54N×71°.83W,h35km±42km,mb3.4/5,*
mb1 3.9/8,mb1mx3.6/29,mbtmp3.8/8,ML3.7/3,MS2.8/2,
Ms1 2.8/2,ms1mx2.5/23,Error ellipse: s-maj=35.3km
s-min=20.7km az=64.0
*RSNC **24** 06:53:05.4±1.6,6°.52N×71°.82W,h36km±7km,ML3.6*

ISC 24 06:53:03.2±0.8,6°.54N±0°.03×71°.75W±0°.04,h40km±8km,
n41,σ1§68/64,mb3.8/5,7C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.11**	**201**	⇑	*iP*	**Pn**	**06 53 10.5**	**+0.5**
TAMC					*eS*	**Sn**	**06 53 15.6**	**+0.8**
PAMC	**Pamplona, Colo**	**1.23**	**310**	⇑	*iP*	**Pn**	**06 53 25.6**	**+1.2**
PAMC					*eS*	**Sn**	**06 53 41.6**	**+1.5**
BARC	**Barichara**	**1.42**	**272**		*eP*	**Pn**	**06 53 28.1**	**+1.3**
RUSC	**La Rusia**	**1.47**	**244**	⇓	*iP*	**Pn**	**06 53 28.9**	**+1.2**
RUSC					*eS*	**Sn**	**06 53 46.0**	**0.0**
RUSC					*i*		06 53 50.4	
	comp=Z,320nm,0.7s							
BRRC	**Barranca, Sant**	**2.03**	**286**		*eP*	**Pn**	**06 53 36.7**	**+1.8**
BRRC					*i*		06 54 08.5	
	comp=Z,430nm,0.2s							
OCAC	**Ocana**	**2.29**	**317**	⇑	*iP*	**Pn**	**06 53 40.2**	**+1.5**
OCAC					*i*		06 54 17.3	
	comp=Z,1μm,0.5s							
PTGC	**Puerto Gaitan,**	**2.36**	**189**		*eP*	**Pn**	**06 53 40.0**	**+0.5**
PTGC					*eS*	**Sn**	**06 54 08.2**	**+1.0**
PTGC					*i*		06 54 23.6	
	comp=Z,1μm,0.2s							
SPBC	**San Pablo de B**	**2.47**	**249**		*eP*	**Pn**	**06 53 41.1**	**+0.1**
SPBC					*eS*	**Sn**	**06 54 10.2**	**+0.1**
SPBC					*i*		06 54 17.8	
	comp=Z,217nm,0.2s							
SDV	**Santo Domingo**	**2.58**	**25**	Pn		**Pn**	**06 53 44.0**	**+1.3**
	comp=Z,21nm,0.3s,baz=177,slow=6.9,SNR=38							
SDV					Pg		06 53 53.1	
	comp=Z,102nm,0.3s,baz=231,slow=2.3,SNR=32							
SDV					Sn	**Sn**	**06 54 15.1**	**+2.2**
	comp=Z,137nm,0.3s,baz=17,slow=18,SNR=8.5							
SDV					Lg	Lg	06 54 24.7	
	comp=Z,137nm,0.3s,baz=46,slow=8.8,SNR=7.2							
SDV	**Santo Domingo**	**2.58**	**25**		*eP*	**Pn**	**06 53 44.0**	**+1.3**
PTBC	**PUERTO BERRIO,**	**2.69**	**270**		*eP*	**Pn**	**06 53 43.9**	**-0.1**
PTBC					*i*		06 54 25.2	
	comp=Z,284nm,0.5s							
CHIC	**Chingaza**	**2.74**	**226**		*eP*	**Pn**	**06 53 45.9**	**+0.8**
CHIC					*i*		06 54 45.7	
	comp=Z,135nm,0.4s							
ROSC	**El Rosal**	**3.06**	**237**	Pn		**Pn**	**06 53 51.6**	**+2.1**
	comp=Z,9.0nm,0.3s,baz=286,slow=21,SNR=22							
ROSC					Sn	**Sn**	**06 54 28.9**	**+3.7**
	comp=Z,28nm,0.3s,baz=76,slow=23,SNR=8.4							
ROSC	**El Rosal**	**3.06**	**237**		*eP*	**Pn**	**06 53 51.1**	**+1.6**
ROSC					*eS*	**Sn**	**06 54 24.5**	**-0.7**
ROSC					*i*		06 54 34.7	
	comp=Z,70nm,0.3s							
VILC	**Villavicencio,**	**3.09**	**219**	⇑	*iP*	**Pn**	**06 53 50.7**	**+1.0**
VILC					*i*		06 54 46.8	
	comp=Z,468nm,0.4s							
SMLC	**San Martn de**	**3.21**	**314**	⇑	*eP*	**Pn**	**06 53 51.3**	**0.0**
SMLC					*eS*	**Sn**	**06 54 28.4**	**+0.1**
SMLC					*i*		06 54 45.1	
	comp=Z,176nm,0.3s							
HELC	**Santa Helena**	**3.77**	**265**		*eP*	**Pn**	**06 53 59.5**	**+0.3**
HELC					*eS*	**Sn**	**06 54 41.6**	**-1.0**
HELC					*i*		06 55 02.6	
	comp=Z,82nm,0.8s							
GUY2C	**Guyana, Caldas**	**3.83**	**250**	⇓	*eP*	**Pn**	**06 54 01.5**	**+1.4**
GUY2C					*eS*	**Sn**	**06 54 44.3**	**+0.2**
GUY2C					*i*		06 54 52.2	
	comp=Z,97nm,0.4s							
RREF	**El Recreo**	**3.93**	**246**		*eP*	**Pn**	**06 53 58.9**	**-2.7**
RREF					*eS*	**Sn**	**06 54 41.2**	**-5.7**
RREF					*i*		06 54 46.8	
	comp=Z,84nm,0.3s							
UREC	**San Jos de Ur**	**3.94**	**288**		*eP*	**Pn**	**06 54 02.7**	**+1.4**
UREC					*eS*	**Sn**	**06 54 46.5**	**+0.3**
UREC					*i*		06 55 06.5	
	comp=Z,48nm,0.2s							
TOLC	**Tolima**	**4.05**	**242**		*eP*	**Pn**	**06 54 03.8**	**+0.8**
TOLC					*eS*	**Sn**	**06 54 47.8**	**-1.6**
ARGC	**Ariguani, Magd**	**4.12**	**323**		*eP*	**Pn**	**06 54 05.0**	**+1.3**
ARGC					*i*		06 54 07.7	
	comp=Z,126nm,0.3s							
ARGC					*eS*	**Sn**	**06 54 51.5**	**+0.9**
ANIL	**Santa Ana**	**4.17**	**241**		*eP*	**Pn**	**06 54 05.6**	**+1.0**
ANIL					*eS*	**Sn**	**06 54 51.1**	**-1.2**
PRAC	**Prado**	**4.20**	**228**		*eP*	**Pn**	**06 54 05.8**	**+1.0**
PRAC					*eS*	**Sn**	**06 54 51.6**	**-1.1**
PRAC					*i*		06 54 56.4	
	comp=Z,77nm,0.3s							
CVALL	**Valledupar, Ce**	**4.21**	**339**		*eP*	**Pn**	**06 54 04.8**	**-0.3**
CVALL					*eS*	**Sn**	**06 54 49.5**	**-3.6**
CBOC	**Ciudad Bolivar**	**4.29**	**261**		*eP*	**Pn**	**06 54 08.8**	**+2.6**
CBOC					*eS*	**Sn**	**06 54 54.8**	**-0.3**
ORTC	**Ortega, Tolima**	**4.35**	**233**		*eP*	**Pn**	**06 54 07.4**	**+0.5**
ORTC					*eS*	**Sn**	**06 54 55.8**	**-0.7**
ORTC					*i*		06 55 04.0	
	comp=Z,42nm,0.5s							
DBBC	**Dabeiba**	**4.45**	**276**		*eP*	**Pn**	**06 54 11.0**	**+2.6**
MOTC	**Monteria, Cord**	**4.47**	**300**	⇑	*iP*	**Pn**	**06 54 09.6**	**+1.1**
MOTC					*eS*	**Sn**	**06 54 60.0**	**+0.6**
SJCC	**San Jacinto, C**	**4.76**	**315**	⇑	*eP*	**Pn**	**06 54 13.9**	**+1.4**
SJCC					*i*		06 54 14.7	
	comp=Z,37nm,0.2s							
SJCC					*eS*	**Sn**	**06 55 06.5**	**0.0**
SMRC	**Santa Marta, M**	**5.20**	**332**		*eP*	**Pn**	**06 54 17.0**	**-1.6**
SMRC					*i*		06 54 20.4	
	comp=Z,41nm,0.2s							
SMRC					*eS*	Sn	06 55 08.9	-8.5
PCRV	**Puerto La Cruz**	**7.91**	**62**	Pn		**Pn**	**06 54 56.0**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=228,slow=8.6,SNR=19							
PCRV					Sn	**Sn**	**06 56 21.2**	**-3.0**
	comp=Z,2.2nm,0.3s,baz=323,slow=20,SNR=2.5							
PTGA	**Pitinga**	**13.80**	**121**	Pn		**Pn**	**06 56 13.3**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=310,slow=20,SNR=1.7							
PTGA					Sn	**Sn**	**06 58 52.0**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=287,slow=19,SNR=2.5							
PTGA					Lg	Lg	07 00 16.0	
	comp=Z,1.3nm,0.3s,baz=212,slow=22,SNR=6.7							
PTGA					LR	LR	07 02 23.8	
	comp=Z,22nm,19.7s,baz=198,slow=40							
MDP	**Montagnes des**	**19.07**	**93**	P		**Pn**	**06 57 24.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=282,slow=14,SNR=6.5							
MDP					LR	LR	07 04 35.8	
	comp=Z,53nm,19.7s,baz=29,slow=36							
LPAZ	**La Paz**	**22.96**	**171**	P		**P**	**06 58 06.0**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=32,slow=2.2,SNR=2.5							
TXAR	**Lajitas Array**	**37.67**	**311**	P		**P**	**07 00 15.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=127,slow=8.8,SNR=12							
PLCA	**Paso Flores**	**47.05**	**179**	LR		LR	07 22 01.0	
	comp=Z,403nm,20.6s,baz=350,slow=37							
PDAR	**Pinedale Array**	**49.11**	**323**	P		**P**	**07 01 47.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=127,slow=9.0,SNR=6.4							
NVAR	**Mina Array Bea**	**52.65**	**314**	P		**P**	**07 02 13.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=118,slow=8.3,SNR=3.8							
YKA	**Yellowknife Ar**	**64.00**	**339**	P		**P**	**07 03 31.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=126,slow=7.2,SNR=2.2							
WRA	**Warramunga Arr**	**151.38**	**240**	PKPbc		**PKPbc**	**07 12 52.3**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=103,slow=3.8,SNR=2.1							

IDC 24 06:59:43.9±1.8,30°.61N×137°.67E,h492km±27km,mb2.6/3,
mb1 2.9/7,mb1mx2.7/36,mbtmp3.7/7,Error ellipse:
s-maj=46.8km s-min=18.9km az=78.0,Southeast of
Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.93**	**4**	P		P	07 01 18.3	-0.8
	0.2nm,0.3s,baz=179,slow=10,SNR=10							
MAT	**Matsushiro**	**5.93**	**4**	P		P	07 01 18.3	-0.8
JNU	**Nakatsue**	**6.29**	**295**	P		P	07 01 23.3	+0.5
	0.9nm,0.3s,baz=20,slow=2.8,SNR=4.6							
USRK	**Ussuriysk Ar.**	**14.29**	**343**	P		P	07 02 47.1	+0.6
	baz=155,slow=11,SNR=8.5							
KLR	**Kul'dur**	**19.13**	**348**	P		P	07 03 35.0	+0.3
	0.3nm,0.3s,baz=227,slow=14,SNR=3.7							
MKAR	**Makanchi Array**	**45.19**	**307**	P		P	07 07 15.7	-0.4
	0.2nm,0.4s,baz=93,slow=7.4,SNR=3.7							
WRA	**Warramunga AR**	**50.37**	**184**	P		P	07 07 55.0	-0.1
	0.7nm,0.4s,baz=0.8,slow=7.8,SNR=17							
ASAR	**Alice Springs**	**54.09**	**184**	P		P	07 08 21.9	0.0
	0.2nm,0.6s,baz=11,slow=13,SNR=5.6							

*SJA **24** 07:16:38.8±1.1,33°.89S×72°.43W,h4km±17km,ML5.0,*
MW4.7
*IDC **24** 07:16:39.5±0.6,33°.98S×72°.10W,h0km,mb4.3/17,*
mb1 4.4/20,mb1mx4.3/35,mbtmp4.3/20,ML4.3/3,MS4.2/16,
Ms1 4.2/16,ms1mx4.1/22,Error ellipse: s-maj=21.4km
s-min=13.0km az=87.0
*NEIC **24** 07:16:40.1,33°.99S×72°.47W,h20km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.99;
Mθθ-0.01; Mϕϕ-0.99; Mrθ 0.17; Mrϕ 0.27; Mθϕ-1.13; Fault
plane solution: M₀1.5400×10¹⁶ NP1:ϕs170.02000°,
δ69.11000°, λ93.37000°. NP2:ϕs340.65000°, δ21.14000°,
λ81.25000°. Principal axes: T 1.5066, Plg66.0000°,
Azm86.0000°; N 0.0578, Plg3.0000°, Azm349.0000°; P
-1.5645, Plg24.0000°, Azm257.0000°;
*VAO **24** 07:16:40.8±0.5,33°.99S×72°.15W,h10km,mb4.9*
*NEIC **24** 07:16:40.7±1.7,34°.00S±0°.03×72°.35W±0°.07,h23km±4km,*
Error ellipse: s-maj=8.1km s-min=4.2km az=102.0
*GUC **24** 07:16:41.9±0.7,33°.99S×72°.33W,h35km±2km,ML4.7*
*GCMT **24** 07:16:43.0±0.4,34°.14S±0°.03×72°.50W±0°.03,h23km±1km,*
MW4.9/77,Moment Tensor Solution. s23,c26; s77,c98;
Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.19±.16;
Mθθ-0.58±.09; Mϕϕ-1.61±.10; Mrθ 0.33±.11; Mrϕ-0.07±.05;
Mθϕ-2.15±.15; Best double couple: M₀2.88500×10¹⁶
NP1:ϕs6.00000°, δ21.00000°, λ100.00000°. NP2:
ϕs175.00000°, δ69.00000°, λ86.00000°. Principal axes: T
3.1880, Plg65.0000°, Azm78.0000°; N -0.6030,
Plg4.0000°, Azm176.0000°; P -2.5820, Plg24.0000°,
Azm268.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*NEIC **24** 07:16:44,34°.18S×72°.24W,h26km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.27;
Mθθ-0.10; Mϕϕ-1.18; Mrθ 0.82; Mrϕ 0.42; Mθϕ-2.13; Fault
plane solution: M₀2.63000×10¹⁶ NP1:ϕs343.00000°,
δ15.00000°, λ93.00000°. NP2:ϕs159.00000°, δ75.00000°,
λ89.00000°. Principal axes: T 2.6005, Plg60.0000°,
Azm68.0000°; N 0.0488, Plg1.0000°, Azm159.0000°; P
-2.6494, Plg30.0000°, Azm250.0000°;

ISC 24 07:16:41.2±0.4,33°.98S±0°.03×72°.32W±0°.05,h21km±3km,
n272,σ1§36/272,mb5.2/50,MS4.3/18,11C-2D,Off coast
of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.07**	**163**	⇓	*iP*	**Pb**	**07 17 00.6**	**-0.5**
GO05					*i* S	**Sn**	**07 17 15.6**	**+0.4**
GO05					IAML		07 17 16.8	
	comp=E,23μm,0.4s							
GO05	**Huala**	**1.07**	**163**			**Pb**	**07 17 00.8**	**-0.3**
GO05					Sn	**Sn**	**07 17 14.9**	**-0.3**
GO05	**Huala**	**1.07**	**163**		*eP*	**Pb**	**07 17 01.2**	**+0.1**
VA01	**Torpederas**	**1.11**	**30**	⇑	*iP*	**Pb**	**07 17 01.8**	**+0.2**
VA01					*i* S	**Sn**	**07 17 16.6**	**+0.5**
VA01					IAML		07 17 18.8	
	comp=E,19μm,0.7s							
VA01	**Torpederas**	**1.11**	**30**			**Pb**	**07 17 01.9**	**+0.2**
VA01					Sn	**Sn**	**07 17 16.7**	**+0.5**
MT02	**Curacav**	**1.22**	**54**	⇑	*iP*	**Pb**	**07 17 03.5**	**-0.1**
MT02					*i* S	**Sb**	**07 17 19.5**	**+0.6**
MT02					IAML	

ACCO	**Cerro Coronel**	**4.37**	**40**	*i* P		**Pn**	**07 17 49.7**	**+3.1**
ACCO				IAML			07 19 09.0	
	comp=Z,2μm,1.0s							
CO01	**Juntas del Tor**	**4.42**	**26**			**Pn**	**07 17 48.9**	**+1.6**
AROD	**Rodeo**	**4.51**	**33**	*e*P		**Pn**	**07 17 51.9**	**+3.4**
ACDV	**Cuesta del Vie**	**4.67**	**36**	*i* P		**Pn**	**07 17 53.9**	**+3.2**
ACDV				IAML			07 19 17.3	
	comp=Z,1μm,1.0s							
LC01	**Cunco**	**4.92**	**176**	Pn		**Pn**	**07 17 55.1**	**+1.3**
LCO	**Las Campanas**	**5.15**	**16**			**Pn**	**07 17 57.4**	**+0.1**
AC05	**El Transito**	**5.42**	**19**	Pn		**Pn**	**07 18 01.4**	**+0.5**
VA04	**Juan Ferndez**	**5.43**	**272**	*e*P		**Pn**	**07 18 00.9**	**0.0**
VA04	**Juan Ferndez**	**5.43**	**272**	Pn		**Pn**	**07 17 59.4**	**-1.5**
H03S1	**Juan Fernandez**	**5.48**	**270**	Pn		**Pn**	**07 18 00.9**	**-0.4**
H03S1				T		T	07 24 06.0	
	baz=98,slow=75,SNR=2198							
H03S3	**Juan Fernandez**	**5.48**	**270**	Pn		**Pn**	**07 18 01.2**	**-0.1**
H03S3				T		T	07 24 06.8	
	baz=98,slow=75,SNR=2943							
H03S2	**Juan Fernandez**	**5.50**	**270**	Pn		**Pn**	**07 18 01.0**	**-0.5**
H03S2				T		T	07 24 04.5	
	baz=98,slow=75,SNR=2568							
H03N1	**Juan Fernandez**	**5.52**	**274**	Pn		**Pn**	**07 18 02.9**	**+1.0**
	baz=128,slow=22,SNR=42							
H03N1				T		T	07 24 11.8	
	baz=93,slow=74,SNR=40							
H03N3	**Juan Fernandez**	**5.53**	**274**	Pn		**Pn**	**07 18 02.9**	**+0.8**
	baz=128,slow=22,SNR=38							
H03N3				T		T	07 24 16.9	
	baz=93							
H03N2	**Juan Fernandez**	**5.54**	**274**	Pn		**Pn**	**07 18 02.9**	**+0.8**
	baz=128,slow=22,SNR=26							
H03N2				T		T	07 24 15.2	
	baz=93,slow=74,SNR=73							
AC04	**Llanos de Chal**	**5.86**	**11**	Pn		**Pn**	**07 18 06.3**	**-0.5**
APLL	**PUNTA DE LOS L**	**6.07**	**55**	*i* P		**Pn**	**07 18 10.7**	**+0.9**
VCA	**Vinchina**	**6.30**	**35**	*i* P		**Pn**	**07 18 15.3**	**+2.2**
VCA				*i* P		Pb	07 18 15.3	-15
VCA				IAML			07 20 08.1	
	comp=Z,1μm,1.3s							
ACLC	**CERRO LA CRUZ**	**6.45**	**47**	*i* P		**Pn**	**07 18 15.8**	**+0.8**
ACLC				IAML			07 19 51.6	
	comp=Z,882nm,0.8s							
GO03	**Copiap**	**6.62**	**16**			**Pn**	**07 18 16.9**	**-0.4**
PLCA	**Paso Flores**	**6.88**	**169**	Pn		**Pn**	**07 18 22.5**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=338,slow=10,SNR=39							
PLCA	**Paso Flores**	**6.88**	**169**			**Pn**	**07 18 22.8**	**+1.9**
TCA	**Tanti**	**7.03**	**70**	*i* P		**Pn**	**07 18 23.7**	**+0.8**
TCA				IAML			07 19 56.4	
	comp=Z,735nm,1.0s							
AC02	**Maricunga**	**7.64**	**22**	Pn		**Pn**	**07 18 31.5**	**-0.2**
AC01	**Pan de Azucar**	**7.95**	**11**			**Pn**	**07 18 35.7**	**+0.1**
LL01	**San Ignacio de**	**8.38**	**180**	Pn		**Pn**	**07 18 40.5**	**-0.8**
GO02	**Mina Guanaco**	**9.11**	**16**			**Pn**	**07 18 50.2**	**-1.5**
PB14	**IPOC Station P**	**9.47**	**11**			**Pn**	**07 18 55.3**	**-1.4**
PB10	**IPOC Station P**	**10.55**	**9**	Pn		**Pn**	**07 19 09.2**	**-1.9**
PB15	**IPOC Station P**	**11.02**	**14**			**Pn**	**07 19 15.9**	**-1.9**
PB06	**IPOC Station P**	**11.49**	**13**	Pn		**Pn**	**07 19 23.3**	**-0.9**
LVC	**Limon Verde**	**11.72**	**16**	Pn		**Pn**	**07 19 24.0**	**-3.5**
	comp=Z,0.9nm,0.3s,baz=168,slow=8.4,SNR=10.0							
LVC				Sn		Sn	07 21 53.3	+15
	comp=Z,1.2nm,0.3s,baz=270,slow=4.0,SNR=2.2							
LVC				LR		LR	07 23 55.1	
	comp=Z,902nm,19.2s,baz=212,slow=37							
LVC	**Limon Verde**	**11.72**	**16**			**Pn**	**07 19 24.4**	**-3.1**
PB07	**IPOC Station P**	**12.40**	**11**	Pn		**Pn**	**07 19 36.7**	**0.0**
PB09	**IPOC Station P**	**12.44**	**13**			**Pn**	**07 19 35.1**	**-2.1**
PB01	**IPOC Station P**	**13.13**	**12**			**Pn**	**07 19 46.1**	**-0.5**
TA01	**Diego Aracena**	**13.50**	**9**	Pn		**Pn**	**07 19 50.3**	**-1.2**
PB08	**IPOC Station P**	**14.07**	**12**			**Pn**	**07 19 59.5**	**-0.2**
PB11	**IPOC Station P**	**14.36**	**10**			**Pn**	**07 20 02.7**	**-0.8**
PSGCX	**Pisagua**	**14.46**	**8**			**Pn**	**07 20 02.1**	**-2.7**
MNMC	**Minye Minye**	**14.99**	**10**	P		**P**	**07 20 15.9**	**-1.5**
CPUP	**Villa Florida**	**15.03**	**63**	Pn		**Pn**	**07 20 10.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=219,slow=15,SNR=3.1							
CPUP				Sn		**Sn**	**07 22 58.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=311,slow=9.3,SNR=2.1							
CPUP				LR		LR	07 26 24.9	
	comp=Z,2μm,19.8s,baz=246,slow=39							
CPUP	**Villa Florida**	**15.03**	**63**	*e*P		**Pn**	**07 20 12.7**	**+0.4**
PB16	**IPOC Station P**	**15.79**	**10**	P		**P**	**07 20 25.2**	**-1.4**
PLTB	**Pedras Altas**	**15.88**	**87**	*e*P		**Pn**	**07 20 22.5**	**-0.9**
LPAZ	**La Paz**	**18.02**	**13**	P		**P**	**07 20 53.1**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=190,slow=6.8,SNR=51							
ITAB	**Concordia**	**18.62**	**74**	*e*P		**Pn**	**07 20 58.0**	**+0.4**
CNLB	**Canela**	**18.85**	**82**	*e*P		**P**	**07 20 58.6**	**-1.3**
PTGB	**Pitanga**	**19.89**	**68**	*e*P		**Pn**	**07 21 12.1**	**-1.0**
EFI	**East Falkland**	**20.47**	**154**	P		**P**	**07 21 17.3**	**0.0**
TRCB	**Terra Rica**	**20.56**	**62**	*e*P		**P**	**07 21 18.9**	**+0.4**
SIV	**San Ignacio**	**20.58**	**32**	P		**P**	**07 21 19.3**	**+0.5**
	comp=Z,21nm,0.7s,baz=219,slow=10,SNR=33							
SIV				LR		LR	07 30 42.5	
	comp=Z,1μm,18.7s,baz=228,slow=41							
PTLB	**Pontes e Lacer**	**21.36**	**36**	*e*P		**P**	**07 21 33.6**	**+0.1**
TIJ01	**Guaruva-PR**	**21.98**	**73**	*e*P		**P**	**07 21 33.8**	**-0.2**
NNA	**Nana**	**22.28**	**348**	P		**P**	**07 21 39.9**	**+2.8**
	comp=Z,8.6nm,0.7s,baz=195,slow=9.7,SNR=4.4							
NNA				LR		LR	07 28 12.9	
	comp=Z,188nm,21.9s,baz=184,slow=31							
NNA	**Nana**	**22.28**	**348**	P		**P**	**07 21 35.8**	**-1.3**
PCMB	**Pacaembu**	**22.29**	**62**	*e*P		**P**	**07 21 36.8**	**-0.3**
FRTB	**Fartura**	**22.56**	**68**	*e*P		**P**	**07 21 40.0**	**-0.1**
VILB	**Vilhena**	**23.66**	**31**	*e*P		**P**	**07 21 51.8**	**+0.5**
PET01	**Itanhaem-SP**	**23.86**	**73**	*e*P		**P**	**07 21 53.3**	**+0.2**
SPB	**Sao Paulo**	**24.09**	**71**	P		**P**	**07 21 54.4**	**-0.9**
SPB				IAmb		IAmb	07 21 57.2	
	comp=Z,74nm,1.0s							
SPB	**Sao Paulo**	**24.09**	**71**	*e*P		**P**	**07 21 55.7**	**+0.5**
ITRB	**Iturama**	**24.14**	**59**	*e*P		**P**	**07 21 55.3**	**-0.5**
BB19B	**Bebedouro**	**24.64**	**65**	*e*P		**P**	**07 21 60.0**	**-0.4**
ETMB	**Extrema**	**24.70**	**15**	*e*P		**P**	**07 22 02.6**	**+1.7**
VAO	**Valinhos**	**24.76**	**70**	*e*P		**P**	**07 22 01.9**	**+0.4**
ARAG	**Araguaiana, MT**	**25.94**	**50**	*e*P		**P**	**07 22 12.3**	**+0.2**
CZSB	**Cruzeiro do Su**	**26.13**	**359**	*e*P		**P**	**07 22 16.2**	**+2.4**
SAML	**Samuel**	**26.30**	**21**	P		**P**	**07 22 14.2**	**-1.2**
SAML	**Samuel**	**26.30**	**21**	*e*P		**P**	**07 22 16.5**	**+1.1**
IPMB	**Ipameri, GO**	**26.80**	**60**	*e*P		**P**	**07 22 20.1**	**+0.2**
MAN01	**Ângra dos Reis**	**27.20**	**73**	*e*P		**P**	**07 22 23.8**	**+0.3**
ATAH	**Atahualpa**	**27.30**	**347**	LR		LR	07 32 07.7	
	comp=Z,300nm,18.9s,baz=173,slow=34							
CLDB	**Colider**	**27.53**	**37**	*e*P		**P**	**07 22 26.0**	**-0.5**
BSCB	**Bom Sucesso**	**27.55**	**69**	*e*P		**P**	**07 22 26.2**	**-0.5**
BDFB	**Brasilia**	**28.52**	**56**	P		**P**	**07 22 35.1**	**-0.3**
	comp=Z,9.9nm,0.7s,baz=230,slow=9.1,SNR=17							
BDFB				LR		LR	07 35 20.4	
	comp=Z,1μm,18.3s,baz=226,slow=40							
BDFB	**Brasilia**	**28.52**	**56**	P		**P**	**07 22 34.8**	**-0.6**
SNDB	**Serra Nova Dou**	**29.11**	**46**	*e*P		**P**	**07 22 40.7**	**+0.1**
NPGB	**Novo Progresso**	**31.06**	**34**	*e*P		**P**	**07 22 57.5**	**-0.3**
PMSA	**Palmer Station**	**31.23**	**173**	LR		LR	07 34 15.1	
	comp=Z,474nm,20.8s,baz=335,slow=34							
PMSA	**Palmer Station**	**31.23**	**173**	*e*P		**P**	**07 22 59.7**	**+0.9**
JANB	**Januaria**	**31.53**	**60**	*e*P		**P**	**07 23 01.7**	**-0.4**
SJMB	**Sao Joao De Ma**	**31.62**	**69**	*e*P		**P**	**07 23 03.2**	**+0.4**
BSFB	**Barra de Sao F**	**31.82**	**70**	*e*P		**P**	**07 23 04.3**	**-0.1**
MACA	**Manacapuru-AM**	**32.53**	**22**	*e*P		**P**	**07 23 11.4**	**+0.7**
SDBA	**SAO DESIDERIO**	**32.92**	**56**	*e*P		**P**	**07 23 14.2**	**-0.1**
NAN01	**Guarapari, ES**	**32.94**	**69**	*e*P		**P**	**07 23 14.1**	**-0.2**
ITTB	**Itaituba**	**33.26**	**31**	*e*P		**P**	**07 23 18.5**	**+1.4**
SMTB	**Santa Maria do**	**33.80**	**48**	*e*P		**P**	**07 23 22.4**	**+0.5**
PTLC	**Puerto Leguiza**	**34.05**	**356**	*e*P		P	07 23 31.1	+7.0
PUAC	**Puerto Asis, P**	**34.58**	**352**	*e*P		P	07 23 39.8	+11
PRPB	**Parauapebas**	**34.64**	**42**	*e*P		**P**	**07 23 29.1**	**-0.1**
PTGA	**Pitinga**	**35.05**	**22**	P		P	**07 23 32.9**	**+0.3**
	comp=Z,9.6nm,0.8s,baz=189,slow=10,SNR=12							
GDU01	**Guandu, BA**	**35.87**	**64**	*e*P		**P**	**07 23 39.5**	**-0.2**
MALB	**Monte Alegre**	**36.15**	**32**	*e*P		**P**	**07 23 42.3**	**+0.2**
PRAC	**Prado**	**37.57**	**356**	*e*P		**P**	**07 23 55.1**	**+0.9**
ORTC	**Ortega, Tolima**	**37.79**	**355**	*e*P		**P**	**07 23 59.6**	**+3.5**
CHIC	**Chingaza**	**38.43**	**358**	*e*P		**P**	07 24 10.8	+8.9
MCPB	**Macapa, AP**	**38.47**	**34**	*e*P		**P**	**07 24 02.0**	**+0.3**
TOLC	**Tolima**	**38.47**	**355**	*e*P		P	07 24 07.6	+5.5
ROSC	**El Rosal**	**38.66**	**357**	LR		LR	07 40 29.2	
	comp=Z,262nm,18.4s,baz=227,slow=37							
TMAB	**Tom-Au,PA,Br**	**38.74**	**41**	*e*P		**P**	**07 24 05.4**	**+1.4**
RREF	**El Recreo**	**38.78**	**355**	*e*P		P	07 24 15.8	+11
GUY2C	**Guyana, Caldas**	**39.10**	**355**	*e*P		**P**	**07 24 10.1**	**+2.5**
RUSC	**La Rusia**	**39.67**	**359**	*e*P		**P**	**07 24 14.6**	**+2.3**
CBOC	**Ciudad Bolivar**	**39.78**	**354**	*e*P		**P**	**07 24 15.3**	**+2.4**
HELC	**Santa Helena**	**40.07**	**355**	*e*P		**P**	**07 24 16.9**	**+1.3**
BARC	**Barichara**	**40.36**	**359**	*e*P		P	07 24 27.4	+10
SDV	**Santo Domingo**	**42.66**	**2**	P		**P**	**07 24 38.4**	**+1.8**
	comp=Z,2.8nm,0.4s,baz=184,slow=15,SNR=1.4							
SDV	**Santo Domingo**	**42.66**	**2**	P		**P**	**07 24 35.2**	**-1.4**
SJCC	**San Jacinto, C**	**43.72**	**356**	*e*P		**P**	**07 24 45.8**	**+0.8**
VNA3	**Neumayer Olymp**	**49.46**	**158**	P		**P**	**07 25 31.2**	**+1.8**
VNA1	**Neumayer--Stat**	**49.78**	**157**	P		**P**	**07 25 34.2**	**+2.5**
VNA2	**Neumayer--Stat**	**50.12**	**157**	P		**P**	**07 25 35.9**	**+1.5**
	baz=293,slow=8.3							
SNAA	**Sanae**	**51.69**	**158**	P		**P**	**07 25 47.6**	**+1.3**
SNAA	**Sanae**	**51.69**	**158**	P		**P**	**07 25 47.5**	**+1.3**
	comp=Z,4.7nm,0.8s,baz=266,slow=5.8,SNR=17							
SNAA	**Sanae**	**51.69**	**158**	P		**P**	**07 25 45.3**	**-0.9**
ICMP	**Isla Caja de M**	**51.88**	**7**	P		**P**	**07 25 47.8**	**-0.3**
SJG	**San Juan**	**52.14**	**7**	P		**P**	**07 25 50.1**	**+0.1**
SJG				IAmb		IAmb	07 25 59.4	
	comp=Z,38nm,1.1s							
DR12	**Loma Pena Alta**	**52.55**	**4**	P		**P**	**07 25 52.3**	**-0.9**
SDDR	**Presa de Saban**	**52.68**	**1**	P		**P**	**07 25 52.7**	**-1.4**
SC01	**Santiago de lo**	**53.13**	**2**	P		**P**	**07 25 57.0**	**-0.4**
TEIG	**Tepich**	**56.01**	**342**	P		**P**	**07 26 16.8**	**-1.4**
QSPA	**South Pole Qui**	**56.25**	**180**	P		**P**	**07 26 21.8**	**+2.1**
	comp=Z,2.4nm,0.9s,baz=92,slow=2.0,SNR=7.4							
QSPA	**South Pole Qui**	**56.25**	**180**	P		**P**	**07 26 18.7**	**-1.1**
QSPA				IAmb		IAmb	07 26 30.3	
	comp=Z,28nm,1.2s							
656A	**Willston**	**63.75**	**350**	P		**P**	**07 27 10.6**	**-0.7**
VNDA	**Vanda**	**64.07**	**191**	P		**P**	**07 27 16.1**	**+3.2**
	comp=Z,0.5nm,0.7s,baz=98,slow=2.1,SNR=1.4							
VNDA				LR		LR	07 51 19.3	
	comp=Z,83nm,20.1s,baz=146,slow=32							
352A	**Blakely**	**66.19**	**348**	P		**P**	**07 27 25.1**	**-2.0**
352A				IAmb		IAmb	07 27 37.2	
	comp=Z,48nm,1.2s							
TAOE	**Nuku Hiva Isla**	**66.74**	**275**	*e*S		**S**	**07 36 21.4**	**-1.1**
	comp=Z,61nm,22.7s							
TAOE	**Nuku Hiva Isla**	**66.74**	**275**	*e*LR		LR	07 47 36.2	
	comp=Z,176nm,21.7s							
735A	**Kenedy**	**67.00**	**336**	P		**P**	**07 27 31.4**	**-0.9**
346A	**Big Creek Wild**	**67.00**	**344**	P		**P**	**07 27 32.2**	**-0.1**
833A	**Chaparral WMA,**	**67.07**	**334**	P		**P**	**07 27 32.1**	**-0.8**
833A				IAmb		IAmb	07 27 48.3	
	comp=Z,30nm,1.1s							
TBI	**Tubuai**	**67.10**	**257**	*e*S		**S**	**07 36 25.7**	**-0.7**
	comp=Z,269nm,40.0s							
TBI	**Tubuai**	**67.10**	**257**	*e*LR		LR	07 47 46.4	
	comp=Z,424nm,27.0s							
342A	**Flagon Creek P**	**67.69**	**342**	P		**P**	**07 27 36.1**	**-0.6**
342A				IAmb		IAmb	07 27 48.7	
	comp=Z,36nm,1.1s							
146A	**Union**	**68.11**	**345**	P		**P**	**07 27 40.0**	**+0.6**
HPIG		**68.35**	**328**	P		**P**	**07 27 39.4**	**-1.8**
Y52A	**Lilburn**	**68.39**	**350**	P		**P**	**07 27 39.9**	**-1.1**
Y52A				IAmb		IAmb	07 27 51.8	
	comp=Z,30nm,1.1s							
Z47A	**Carrollton**	**68.45**	**346**	P		**P**	**07 27 41.2**	**-0.2**
Z47A				IAmb		IAmb	07 27 52.1	
	comp=Z,21nm,0.9s							
HODGE	**Hodges**	**68.50**	**351**	P		**P**	**07 27 41.3**	**-0.4**
HODGE				IAmb		IAmb	07 27 52.5	
	comp=Z,22nm,1.2s							
MEH	**Mehetia**	**68.62**	**262**	*e*T		T	08 42 17.5	
	comp=Z,16nm,0.2s							
CNNC	**Cliffs of the**	**69.06**	**355**	P		**P**	**07 27 44.0**	**-1.2**
237A	**Washetta, Mont**	**69.27**	**339**	P		**P**	**07 27 46.6**	**+0.1**
237A				IAmb		IAmb	07 28 01.4	
	comp=Z,32nm,0.9s							
BG3	**Lake Jocassee**	**69.33**	**351**	P		**P**	**07 27 46.9**	**0.0**
Y45A	**Yeager Farm, C**	**69.40**	**345**	P		**P**	**07 27 48.2**	**+0.9**
TX31	**Lajitas Ar. Si**	**69.61**	**331**	P		**P**	**07 27 49.5**	**+0.6**
TX31				IAmb		IAmb	07 27 58.5	
	comp=Z,15nm,1.0s							
TX32	**Lajitas Array**	**69.61**	**331**	P		**P**	**07 27 48.1**	**-0.8**
TXAR	**Lajitas Array**	**69.61**	**331**	P		**P**	**07 27 51.1**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=151,slow=8.3,SNR=16							
TXAR				LR		LR	07 54 11.2	
	comp=Z,164nm,18.1s,baz=0.0,slow=32							
TXAR	**Lajitas Array**	**69.61**	**331**	P		**P**	**07 27 48.6**	**-0.3**
WHTX	**Lake Whitney,**	**69.77**	**337**	P		**P**	**07 27 47.8**	**-1.8**
WHTX				IAmb		IAmb	07 28 01.4	
	comp=Z,51nm,1.5s							
TIAR	**Tiarei**	**69.83**	**262**	*e*T		T	08 43 48.3	
	comp=Z,2.0nm,0.2s							
W50A	**Signal Mountai**	**69.89**	**349**	P		**P**	**07 27 48.7**	**-1.7**
W50A				IAmb		IAmb	07 28 00.8	
	comp=Z,32nm,1.0s							
CCAR	**Cane Creek**	**69.97**	**343**	P		**P**	**07 27 49.6**	**-1.2**
CCAR				IAmb		IAmb	07 28 00.3	
	comp=Z,43nm,1.4s							
OXF	**Oxford**	**70.00**	**345**	P		**P**	**07 27 50.7**	**-0.3**
PPT2	**Papeete2**	**70.01**	**262**	*e*S		**S**	**07 37 00.2**	**-1.1**
	comp=Z,226nm,23.8s							
PPT2	**Papeete2**	**70.01**	**262**	*e*LR		LR	07 49 05.2	
	comp=Z,316nm,27.8s							
SWET	**Sewanee**	**70.01**	**348**	P		**P**	**07 27 50.1**	**-1.0**
SWET				IAmb		IAmb	07 28 01.5	
	comp=Z,31nm,1.1s							
PLAL	**Pickwick Lake**	**70.18**	**346**	P		**P**	**07 27 51.1**	**-1.0**
PLAL				IAmb		IAmb	07 28 02.2	
	comp=Z,16nm,0.9s							
V51A	**Loudon**	**70.33**	**350**	P		**P**	**07 27 53.0**	**0.0**
V51A				IAmb		IAmb	07 28 03.7	
	comp=Z,21nm,1.1s							
U56A	**King**	**70.37**	**353**	P		**P**	**07 27 53.3**	**0.0**
U56A				IAmb		IAmb	07 28 00.2	
	comp=Z,29nm,1.4s							
W45A	**Hickory Valley**	**70.57**	**345**	P		**P**	**07 27 55.2**	**+0.7**
V48A	**Smith Brothers**	**70.68**	**348**	P		**P**	**07 27 55.8**	**+0.6**
T59A	**Double "B" Far**	**70.76**	**356**	P		**P**	**07 27 54.6**	**-1.0**
CLTN	**Cedars of Leba**	**70.93**	**348**	P		**P**	**07 27 55.0**	**-1.6**
CLTN				IAmb		IAmb	07 28 07.1	
	comp=Z,24nm,1.1s							
Z35A	**Perchaven, San**	**70.94**	**338**	P		**P**	**07 27 56.0**	**-0.8**
TZTN	**Tazewell**	**70.94**	**350**	P		**P**	**07 27 56.3**	**-0.5**
TZTN				IAmb		IAmb	07 28 07.5	
	comp=Z,39nm,1.4s							
WVT	**Waverly**	**71.24**	**347**	P		**P**	**07 27 58.3**	**-0.3**
WHAR	**Wooly Hollow**	**71.41**	**343**	P		**P**	**07 27 57.6**	**-2.0**
WHAR				IAmb		IAmb	07 28 10.8	
	comp=Z,38nm,1.4s							
R58B	**Mineral**	**71.77**	**355**	P		**P**	**07 28 02.3**	**+0.6**
R58B				IAmb		IAmb	07 28 13.4	
	comp=Z,61nm,1.4s							
T47A	**Sharon Grove**	**71.94**	**348**	P		**P**	**07 28 01.6**	**-1.2**
T47A				IAmb		IAmb	07 28 12.8	
	comp=Z,22nm,0.9s							
MNTX	**Cornudas Mount**	**72.38**	**331**	P		**P**	**07 28 04.0**	**-1.5**
U40A	**Yellville**	**72.56**	**343**	P		**P**	**07 28 05.5**	**-1.0**
U40A				IAmb		IAmb	07 28 16.9	
	comp=Z,26nm,1.1s							
MAW	**Mawson**	**73.26**	**164**	P		**P**	**07 28 11.9**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=235,slow=6.2,SNR=13							
MAW				LR		LR	08 03 06.8	
	comp=Z,215nm,18.0s,baz=234,slow=38							
MAW	**Mawson**	**73.26**	**164**	P		**P**	**07 28 10.5**	**+0.2**
OK029	**Liberty Lake**	**73.29**	**339**	P		**P**	**07 28 10.9**	**+0.1**
OK029				IAmb		IAmb	07 28 21.3	
	comp=Z,51nm,1.5s							
MSTX	**Muleshoe**	**73.39**	**334**	P		**P**	**07 28 11.0**	**-0.6**
QUOK	**Quay**	**73.42**	**340**	P		**P**	**07 28 11.0**	**-0.6**
QUOK				IAmb		IAmb	07 28 23.5	
	comp=Z,21nm,1.0s							
CCM	**Cathedral Cave**	**73.80**	**345**	P		**P**	**07 28 12.6**	**-1.2**
CCM				IAmb		IAmb	07 28 24.3	
	comp=Z,30nm,1.1s							
AMTX	**Amarillo**	**73.82**	**335**	P		**P**	**07 28 13.5**	**-0.6**
AMTX				IAmb		IAmb	07 28 28.5	
	comp=Z,21nm,1.1s							
P48A	**Milroy**	**74.08**	**349**	P		**P**	**07 28 14.7**	**-0.6**
P48A				IAmb		IAmb	07 28 25.5	
	comp=Z,46nm,1.2s							
R40A	**Maddies Statio**	**74.26**	**344**	P		**P**	**07 28 16.2**	**-0.3**
R40A				IAmb		IAmb	07 28 27.4	
	comp=Z,41nm,1.4s							
SUR	**Sutherland**	**75.04**	**119**	P		**P**	**07 28 23.2**	**+1.5**
	comp=Z,6.8nm,1.0s,baz=90,slow=8.1,SNR=2.5							
DBIC	**Dimbokro**	**75.39**	**71**	P		**P**	**07 28 24.8**	**+1.2**
	comp=Z,5.2nm,0.6s,baz=206,slow=7.6,SNR=5.9							
DBIC				LR		LR	08 00 13.7	
	comp=Z,148nm,18.8s,baz=214,slow=35							
N47A	**Urbana**	**75.51**	**350**	P		**P**	**07 28 22.4**	**-1.2**
N47A				IAmb		IAmb	07 28 33.5	
	comp=Z,34nm,1.1s							
CASY	**Casey**	**80.03**	**181**	P		**P**	**07 28 46.3**	**-2.4**
BOSA	**Boshof**	**80.28**	**118**	P		**P**	**07 28 52.0**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=234,slow=2.9,SNR=8.2							
BOSA				LR		LR	08 01 25.7	
	comp=Z,69nm,18.0s,baz=222,slow=34							
BOSA	**Boshof**	**80.28**	**118**	P		**P**	**07 28 49.2**	**-1.7**
KOWA	**Kowa**	**80.84**	**66**	P		**P**	**07 28 50.0**	**-3.8**
KOWA				IAmb		IAmb	07 28 56.0	
	comp=Z,30nm,1.5s							
BFZ	**Birch Farm**	**82.51**	**226**	P		**P**	**07 29 02.0**	**-0.3**
LBTB	**Lobatse**	**82.52**	**115**	P		**P**	**07 29 03.8**	**+1.0**
	comp=Z,2.8nm,0.4s,baz=244,slow=6.5,SNR=13							
LBTB	**Lobatse**	**82.52**	**115**	P		**P**	**07 29 02.3**	**-0.5**
LBTB				IAmb		IAmb	07 29 12.9	
	comp=Z,18nm,1.1s							
MOZ	**McQueen's Vall**	**82.64**	**221**	P		**P**	**07 29 00.8**	**-2.1**
TUWZ	**Tuamarina**	**83.38**	**224**	P		**P**	**07 29 06.3**	**-0.5**
PDAR	**Pinedale Array**	**83.64**	**333**	P		**P**	**07 29 10.1**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=106,slow=8.6,SNR=2.7							
PDAR				LR		LR	08 02 32.4	
	comp=Z,106nm,18.2s,baz=140,slow=33							
NVAR	**Mina Array Bea**	**83.74**	**325**	P		**P**	**07 29 11.2**	**+2.5**
	comp=Z,1.2nm,0.9s,baz=152,slow=6.5,SNR=6.2							
NVAR	**Mina Array Bea**	**83.74**	**325**	P		**P**	**07 29 07.0**	**-1.6**
TOA0	**Torodi Ar. Sit**	**84.42**	**70**	P		**P**	**07 29 11.5**	**-1.0**
TOA0				IAmb		IAmb	07 29 14.5	
	comp=Z,13nm,0.9s							
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P		**P**	**07 29 13.4**	**+1.0**
	comp=Z,8.3nm,0.8s,baz=260,slow=4.0,SNR=47							
TORD				LR		LR	08 06 15.6	
	comp=Z,173nm,18.2s,baz=250,slow=35							
ULM	**Lac du Bonnet**	**86.42**	**345**	P		P	07 29 28.4	+6.9
	comp=Z,8.0nm,1.1s,baz=136,slow=3.8,SNR=4.5							
MATP	**Matopo**	**87.32**	**113**	P		**P**	**07 29 26.5**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=225,slow=12,SNR=3.8							
ESDC	**Sonseca Array**	**96.73**	**46**	LR		LR	08 13 09.4	
	comp=Z,142nm,19.2s,baz=235,slow=35							
DZM	**Mont Dzumac**	**101.06**	**234**	*e*LR		LR	08 03 29.3	
	comp=Z,174nm,28.6s							
ASAR	**Alice Springs**	**117.48**	**207**	PKP		**PKiKP**	**07 35 26.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=137,slow=1.9,SNR=2.7							
WRA	**Warramunga Arr**	**120.66**	**209**	PKP		**PKiK

GRPR					A	A	07 33 16.0		
	comp=E,249nm,0.4s								
GRPR					A	A	07 33 16.0		
	comp=E,611nm,0.4s								
GRPR	**Tuman**		**2.82**	**242**	*i*PN	**Pn**	**07 32 37.1**	**+1.7**	
GRPR					*i*S	**Sn**	**07 33 10.2**	**+0.2**	
GRPR					pmax	pmax			
	comp=Z,158nm,0.4s								
GRPR					pmax	pmax			
	comp=E,68nm,0.2s								
GRPR					pmax	pmax			
	comp=N,88nm,0.1s								
GRPR					smax	smax			
	comp=E,611nm,0.4s								
GRPR					smax	smax			
	comp=N,249nm,0.2s								
GLVR	**Golovnino**		**3.11**	**240**	*e*P	**Pn**	**07 32 40.0**	**+1.1**	
GLVR					*e*S	**Sn**	**07 33 17.0**	**+0.5**	
GLVR					A	A	07 33 24.0		
	comp=N,386nm,0.4s								
GLVR					A	A	07 33 24.0		
	comp=N,759nm,0.4s								
GLVR	**Golovnino**		**3.11**	**240**	PN	**Pn**	**07 32 40.1**	**+1.1**	
GLVR					*e*S	**Sn**	**07 33 17.2**	**+0.7**	
GLVR					smax	smax			
	comp=E,759nm,0.3s								
GLVR					smax	smax			
	comp=N,386nm,0.4s								
NEM2	**Nemuro 2**		**3.20**	**232**	P	**Pn**	**07 32 40.0**	**-0.1**	
NEM2					*e*S	**Sn**	**07 33 16.6**	**-2.1**	
NMR	**Nemuro--Hokkai**		**3.21**	**233**	*e*P	**Pn**	**07 32 40.0**	**-0.2**	
NMR					*e*S	**Sn**	**07 33 16.0**	**-2.8**	
NMR	**Nemuro--Hokkai**		**3.21**	**233**	*e*PN	**Pn**	**07 32 40.0**	**-0.2**	
NMR					*e*S	**Sn**	**07 33 16.4**	**-2.4**	
JRA	**Rausu**		**3.26**	**245**	P	**Pn**	**07 32 42.3**	**+1.5**	
JAK	**Akkeshi**		**4.03**	**235**	P	**Pn**	**07 32 50.8**	**-0.1**	
JAK					*e*S	**Sn**	**07 33 35.6**	**-2.3**	
JTKR	**Abashiri--Toko**		**4.04**	**252**	P	**Pn**	**07 32 52.6**	**+1.6**	
JAR	**Ashorobuto**		**4.43**	**244**	P	**Pn**	**07 32 57.7**	**+1.6**	
JOB	**Onbets**		**4.59**	**239**	P	**Pn**	**07 32 59.2**	**+0.9**	
JOB					*e*S	**Sn**	**07 33 50.3**	**-0.9**	
YSS	**Yuzh-Sakhalins**		**4.76**	**292**	*e*P	**Pn**	**07 33 01.3**	**+0.8**	
YSS	**Yuzh-Sakhalins**		**4.76**	**292**	*e*PN	**Pn**	**07 33 01.3**	**+0.8**	
YSS	**Yuzh-Sakhalins**		**4.76**	**292**	Pn	**Pn**	**07 33 03.7**	**+3.3**	
YSS					Sn	**Sn**	**07 33 59.3**	**+4.2**	
JKK2	**Kamakawa 2**		**4.86**	**254**	P	**Pn**	**07 33 03.8**	**+2.0**	
JKA	**Kamikawa-asahi**		**4.88**	**257**	*e*P	**Pn**	**07 33 05.2**	**+3.1**	
JKA	**Kamikawa-asahi**		**4.88**	**257**	Pn	**Pn**	**07 33 05.2**	**+3.1**	
JKA					Sn	**Sn**	**07 34 02.2**	**+4.2**	
ASAJ	**Asahikawa**		**4.88**	**257**	P	**Pn**	**07 33 04.5**	**+2.4**	
	comp=N,1.0nm,0.3s,baz=89,slow=22,SNR=6.4								
ASAJ	**Asahikawa**		**4.88**	**257**	PN	**Pn**	**07 33 05.2**	**+3.1**	
ASAJ							07 34 02.2		
JCH	**Churui**		**5.05**	**239**	P	**Pn**	**07 33 04.5**	**+0.2**	
JCH					*e*S	**Sn**	**07 34 00.2**	**-1.7**	
JEM	**Erimo**		**5.53**	**235**	Pn	Pn	07 33 06.2	-4.5	
ERM	**Erimo**		**5.53**	**235**	PN	**Pn**	**07 33 13.4**	**+2.7**	
ERM	**Erimo**		**5.53**	**235**	Pn	**Pn**	**07 33 13.4**	**+2.7**	
JBT2	**Biratori 2**		**5.58**	**245**	P	**Pn**	**07 33 11.6**	**+0.2**	
JNBK	**Urakawa-nobuka**		**5.61**	**239**	P	**Pn**	**07 33 11.0**	**-0.7**	
JEW	**Eniwo**		**6.14**	**248**	Pn	**Pn**	**07 33 22.0**	**+3.2**	
JNB	**Noboribetsu**		**6.58**	**247**	P	**Pn**	**07 33 25.8**	**+1.1**	
JNB					*e*S	**Sn**	**07 34 37.2**	**-1.4**	
JKB	**Kayabe**		**6.89**	**242**	P	**Pn**	**07 33 28.4**	**-0.4**	
JKB					*e*S	**Sn**	**07 34 42.1**	**-3.8**	
TYV	**Tymovskoe**		**7.03**	**324**	*e*P	**Pn**	**07 33 33.2**	**+2.6**	
TYV					AMB	AMB	07 33 34.5		
	comp=N,110nm,0.5s								
SKR	**Severo-Kuril's**		**7.04**	**39**	*e*P	**Pn**	**07 33 30.7**	**-0.1**	
SKR					AMB	AMB	07 33 31.0		
	comp=N,150nm,0.9s								
SKR					*e*S	**Sn**	**07 34 47.7**	**-1.8**	
SKR					A	A	07 34 49.6		
	comp=N,40nm,0.9s								
SKR					A	A	07 34 49.6		
	comp=N,20nm,0.9s								
SKR	**Severo-Kuril's**		**7.04**	**39**	*e*PN	**Pn**	**07 33 29.5**	**-1.3**	
SKR					*e*S	**Sn**	**07 34 44.1**	**-5.4**	
SKR					pmax	pmax			
	comp=Z,150nm,1.0s								
SKR					smax	smax			
	comp=N,96nm,0.8s								
SKR					smax	smax			
	comp=E,177nm,0.9s								
JYM2	**Yakumo 2**		**7.19**	**246**	P	**Pn**	**07 33 33.5**	**+0.7**	
JTM	**Tenmabayashi**		**7.52**	**235**	*e*S	**Sn**	**07 34 55.7**	**-5.6**	
JANG	**Nango**		**7.55**	**231**	P	**Pn**	**07 33 35.9**	**-1.8**	
JANG					*e*S	**Sn**	**07 34 54.6**	**-7.3**	
JRG	**Rokugo**		**8.72**	**230**	P	**Pn**	**07 33 52.0**	**-1.3**	
JIO	**Ouri**		**9.06**	**223**	*e*S	**Sn**	**07 35 31.4**	**-7.0**	
PEA0B	**Petropavlovsk-**		**9.52**	**33**	PN	**Pn**	**07 34 03.6**	**-0.2**	
PEA0B	**Petropavlovsk-**		**9.52**	**33**	Pn	**Pn**	**07 34 03.6**	**-0.2**	
PETK	**Petropavlovsk-**		**9.52**	**33**	P	**Pn**	**07 34 02.1**	**-1.7**	
	comp=E,0.8nm,0.3s,baz=202,slow=11,SNR=22								
PETK	**Petropavlovsk-**		**9.52**	**33**	PN	**Pn**	**07 34 02.2**	**-1.6**	
PETK	**Petropavlovsk-**		**9.52**	**33**	Pn	**Pn**	**07 34 02.2**	**-1.6**	
MJAR	**Matsushiro Arr**		**12.12**	**227**	P	**P**	**07 34 45.9**	**+1.3**	
	comp=E,0.1nm,0.3s,baz=52,slow=10,SNR=13								
USRK	**Ussuriysk Ar.**		**12.30**	**271**	P	**Pn**	**07 34 41.0**	**+0.5**	
	baz=83,slow=12,SNR=3.1								
USRK	**Ussuriysk Ar.**		**12.30**	**271**	PN	**Pn**	**07 34 41.0**	**+0.5**	
KLR	**Kul'dur**		**12.47**	**294**	P	**Pn**	**07 34 43.0**	**+0.5**	
	comp=E,0.1nm,0.3s,baz=96,slow=14,SNR=4.4								
EKMR	**Ekimchan**		**13.11**	**312**	*e*P	**Pn**	**07 34 51.0**	**+0.2**	
EKMR					AMB	AMB	07 34 56.0		
	comp=E,7.0nm,0.8s								
JGF	**Kuroka**		**13.28**	**227**	Pn	**P**	**07 34 57.9**	**+0.4**	
JWT	**Wachi**		**14.56**	**231**	Pn	**P**	**07 35 11.8**	**+0.1**	
BMKR	**Bomnak**		**16.03**	**313**	*e*P	**Pn**	**07 35 26.0**	**-1.3**	
BMKR					AMB	AMB	07 35 28.0		
	comp=E,3.0nm,0.7s								
ZEA	**Zeya**		**16.48**	**308**	*e*P	**Pn**	**07 35 31.5**	**-1.2**	
ZEA					AMB	AMB	07 35 32.4		
	comp=E,13nm,0.8s								
ZEA	**Zeya**		**16.48**	**308**	*e*P	**Pn**	**07 35 31.5**	**-1.2**	
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.7s								
ZEA					pmax	pmax			
	comp=Z,13nm,0.8s								
KROS	**Kirovskiy**		**16.90**	**310**	*e*P	**P**	**07 35 37.0**	**-0.4**	
KROS					AMB	AMB	07 35 38.3		
	comp=Z,4.0nm,0.5s								
CN2	**Changchun**		**17.00**	**273**	*e*P	**P**	**07 35 38.8**	**+0.3**	
CN2					*e*S	S	07 38 37.0	-11	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CN2					pmax	pmax			
	comp=Z,100nm,3.0s								
CN2					LR	LR			
	comp=Z,100nm,10.0s								
CN2					LR	LR			
	comp=Z,100nm,10.0s								
CN2					LR	LR			
	comp=Z,200nm,10.0s								
KSRS	**Korea Array**		**17.79**	**251**	P	**Pn**	**07 35 49.8**	**+1.1**	
	comp=Z,0.1nm,0.3s,baz=53,slow=12,SNR=4.4								
INCN	**Inchon**		**18.64**	**253**	*e*P	**Pn**	**07 35 58.5**	**-0.2**	
INCN	**Inchon**		**18.64**	**253**	P	**Pn**	**07 35 58.5**	**-0.2**	
INCN					pmax	pmax			
	comp=Z,25nm,0.4s								
INCN	**Inchon**		**18.64**	**253**	P	**Pn**	**07 35 58.5**	**-0.2**	
YAK	**Yakutsk**		**20.16**	**333**	P	**P**	**07 36 10.7**	**-2.1**	
	comp=Z,0.4nm,0.3s,baz=137,slow=2.2,SNR=4.8								
YAK	**Yakutsk**		**20.16**	**333**	*e*P	**P**	**07 36 10.1**	**-2.6**	
YAK					*e*S	**S**	**07 39 43.7**	**-7.0**	
YAK					pmax	pmax			
	comp=Z,26nm,1.1s								
YAK					pmax	pmax			
	comp=N,9.0nm,1.5s								
YAK					pmax	pmax			
	comp=E,12nm,1.3s								
YAK					smax	smax			
	comp=N,116nm,3.7s								
YAK					smax	smax			
	comp=E,104nm,4.2s								
HIA	**Hailar**		**20.30**	**292**	*i*P	**P**	**07 36 11.9**	**-2.5**	
HIA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BILL	**Bilibino**		**24.39**	**15**	*e*P	**P**	**07 36 56.6**	**+2.1**	
BILL	**Bilibino**		**24.39**	**15**	*i*P	**P**	**07 36 56.6**	**+2.1**	
BILL					pmax	pmax			
	comp=Z,39nm,1.7s								
ULN	**Ulaanbaatar**		**28.81**	**290**	*e*P	**P**	**07 37 34.1**	**-0.3**	
ULN	**Ulaanbaatar**		**28.81**	**290**	*ce*P	**P**	**07 37 34.1**	**-0.3**	
ULN					pmax	pmax			
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**		**29.25**	**290**	P	**P**	**07 37 37.5**	**-0.8**	
	comp=Z,0.7nm,0.3s,baz=89,slow=9.1,SNR=5.4								
H11N2	**WAKE ISLAND Hy**		**29.46**	**144**	T	T	08 08 59.2		
	baz=334,slow=76,SNR=196								
H11N1	**WAKE ISLAND Hy**		**29.47**	**144**	T	T	08 09 00.2		
	baz=334,slow=76,SNR=159								
H11N3	**WAKE ISLAND Hy**		**29.48**	**144**	T	T	08 08 59.1		
	baz=334,slow=76,SNR=139								
TLY	**Talaya**		**30.43**	**299**	*e*P	**P**	**07 37 49.5**	**+1.0**	
TLY	**Talaya**		**30.43**	**299**	*i*P	**P**	**07 37 49.5**	**+1.0**	
TLY					pmax	pmax			
	comp=Z,13nm,1.1s								
H11S1	**WAKE ISLAND Hy**		**30.48**	**146**	T	T	08 10 14.0		
	baz=335,slow=76,SNR=281								
H11S3	**WAKE ISLAND Hy**		**30.49**	**146**	T	T	08 10 11.9		
	baz=335,slow=76,SNR=182								
H11S2	**WAKE ISLAND Hy**		**30.50**	**146**	T	T	08 10 15.4		
	baz=335,slow=76,SNR=168								
XAN	**Xi'an**		**32.69**	**264**	P	**P**	**07 38 08.3**	**-0.2**	
XAN					pmax	pmax			
	comp=Z,6.0nm,1.0s								
IMAR	**Indian Mountai**		**36.47**	**35**	P	**P**	**07 38 40.1**	**-0.5**	
GTA	**Gaotai**		**36.50**	**279**	P	**P**	**07 38 42.6**	**+1.3**	
GTA					pmax	pmax			
	comp=Z,19nm,1.0s								
PPLA	**Purkeypile**		**36.98**	**41**	P	**P**	**07 38 45.3**	**+0.2**	
BPAW	**Bear Paw Mtn.**		**37.53**	**39**	P	**P**	**07 38 49.7**	**+0.1**	
BPAW					IAmb	IAmb	07 38 53.1		
	comp=Z,5.3nm,1.2s								
KTH	**Kantishna Hill**		**37.56**	**39**	P	**P**	**07 38 50.6**	**+0.7**	
KTH					IAmb	IAmb	07 38 54.2		
	comp=Z,3.4nm,0.8s								
CNPM	**China Poot**		**37.59**	**46**	P	**P**	**07 38 50.6**	**+0.5**	
SUA	**Susitna One**		**37.70**	**43**	P	**P**	**07 38 51.4**	**+0.3**	
COLD	**Coldfoot**		**37.98**	**33**	P	**P**	**07 38 53.7**	**+0.4**	
COLD					IAmb	IAmb	07 38 55.4		
	comp=Z,4.6nm,1.0s								
TOLK	**Toolik Lake Re**		**38.34**	**31**	P	**P**	**07 38 56.3**	**0.0**	
TOLK					IAmb	IAmb	07 39 09.3		
	comp=Z,12nm,1.2s								
NRIK	**Noril'sk**		**38.57**	**330**	*i*P	**P**	**07 38 55.5**	**-2.6**	
NRIK					pmax	pmax			
	comp=Z,6.0nm,1.4s								
MDM	**Murphy Dome**		**38.72**	**37**	P	**P**	**07 39 00.6**	**+1.1**	
WRH	**Wood River Hil**		**38.79**	**38**	P	**P**	**07 39 00.8**	**+0.7**	
WRH					IAmb	IAmb	07 39 02.3		
	comp=Z,5.9nm,1.2s								
KNK	**Knik Glacier**		**38.80**	**43**	P	**P**	**07 39 01.8**	**+1.6**	
CCB	**Clear Creek Bu**		**38.91**	**38**	P	**P**	**07 39 01.7**	**+0.6**	
DHY	**Denali Highway**		**39.17**	**40**	P	**P**	**07 39 03.4**	**-0.1**	
DHY					IAmb	IAmb	07 39 12.1		
	comp=Z,5.7nm,1.2s								
HDA	**Harding Lake**		**39.29**	**38**	P	**P**	**07 39 03.8**	**-0.4**	
IL31			**39.30**	**37**	P	**P**	**07 39 03.9**	**-0.3**	
ILAR	**Eielson Array**		**39.30**	**37**	P	**P**	**07 39 04.5**	**+0.2**	
	comp=Z,0.6nm,0.6s,baz=268,slow=4.7,SNR=12								
ILAR	**Eielson Array**		**39.30**	**37**	P	**P**	**07 39 05.2**	**+0.9**	
ILAR	**Eielson Array**		**39.30**	**37**	P	**P**	**07 39 05.2**	**+0.9**	
KLU	**Klutina**		**40.00**	**43**	P	**P**	**07 39 11.0**	**+0.7**	
KLU					IAmb	IAmb	07 39 22.9		
	comp=Z,14nm,1.3s								
BMAR	**Burnt Mountain**		**40.17**	**33**	P	**P**	**07 39 11.8**	**+0.3**	
DOT	**Dot Lake**		**40.61**	**39**	P	**P**	**07 39 15.2**	**0.0**	
VRDI	**Verde Repeater**		**41.22**	**43**	P	**P**	**07 39 21.1**	**+0.7**	
VRDI					IAmb	IAmb	07 39 31.1		
	comp=Z,8.4nm,1.3s								
ZALV	**Zalesovo Beam**		**41.22**	**306**	P	**P**	**07 39 18.5**	**-1.7**	
	comp=Z,1.1nm,0.3s,baz=80,slow=7.7,SNR=4.9								
ZALV	**Zalesovo Beam**		**41.22**	**306**	*i*P	**P**	**07 39 21.7**	**+1.5**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
CRQM	**Cirque**		**41.45**	**43**	P	**P**	**07 39 23.8**	**+1.6**	
CRQM					IAmb	IAmb	07 39 33.5		
	comp=Z,7.1nm,1.1s								
BCAR	**Beaver Creek A**		**41.70**	**40**	P	**P**	**07 39 25.2**	**+1.1**	
EGAK	**Eagle**		**41.75**	**37**	P	**P**	**07 39 24.8**	**+0.4**	
EGAK					IAmb	IAmb	07 39 30.8		
	comp=Z,4.8nm,0.8s								
BALM	**Baldy**		**41.78**	**43**	P	**P**	**07 39 25.9**	**+1.1**	
BALM					IAmb	IAmb	07 39 35.6		
	comp=Z,4.4nm,0.8s								
INK	**Inuvik**		**44.25**	**31**	P	**P**	**07 39 45.0**	**+0.6**	
	comp=Z,2.0nm,0.3s,baz=292,slow=7.9,SNR=49								
INK	**Inuvik**		**44.25**	**31**	P	**P**	**07 39 44.5**	**+0.1**	
INK					IAmb	IAmb	07 39 50.1		
	comp=Z,10nm,1.1s								
MK31	**Makanchi Array**		**45.16**	**297**	P	**P**	**07 39 52.3**	**+0.3**	
MK31					pmax	pmax			
	comp=Z,3.0nm,0.7s								
MK31	**Makanchi Array**		**45.16**	**297**	P	**P**	**07 39 52.2**	**+0.3**	
MKAR	**Makanchi Array**		**45.16**	**297**	P	**P**	**07 39 52.4**	**+0.5**	
	comp=Z,2.0nm,0.5s,baz=68,slow=5.1,SNR=17								
MAKZ	**Makanchi**		**45.35**	**297**	P	**P**	**07 39 53.9**	**+0.5**	
MAKZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MAKZ	**Makanchi**		**45.35**	**297**	P	**P**	**07 39 53.9**	**+0.5**	
KURK	**Kurchatov**		**45.86**	**303**	*e*P	**P**	**07 39 56.7**	**-0.7**	
KURK	**Kurchatov**		**45.86**	**303**	*ce*P	**P**	**07 39 56.7**	**-0.7**	
KURK					pmax	pmax			
	comp=Z,11nm,1.7s								
KURK	**Kurchatov**		**45.86**	**303**	P	**P**	**07 39 56.6**	**-0.8**	
KURK					IAmb	IAmb	07 39 58.4		
	comp=Z,5.3nm,0.4s								
C36M	**Paulatuk**		**47.35**	**29**	P	**P**	**07 40 09.2**	**+0.5**	
KKM	**Kota Kinabalu**		**48.54**	**226**	P	**P**	**07 40 20.4**	**+1.8**	
KKM					IAmb	IAmb	07 40 48.5		
	comp=Z,11nm,0.9s								
BRVK	**Borovoye**		**49.67**	**309**	*e*P	**P**	**07 40 26.1**	**-0.6**	
BRVK	**Borovoye**		**49.67**	**309**	*ce*P	**P**	**07 40 26.1**	**-0.6**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KDJ	**Kajisay**		**50.52**	**294**	P	**P**	**07 40 33.1**	**-0.4**	
KDJ					pmax	pmax			
	comp=Z,14nm,1.1s								
KDJ	**Kajisay**		**50.52**	**294**	P	**P**	**07 40 33.1**	**-0.4**	
KDJ					IAmb	IAmb	07 40 35.1		
	comp=Z,14nm,1.1s								
BOOM	**Boomskoye usch**		**51.14**	**295**	P	**P**	**07 40 39.1**	**+1.0**	
BOOM					pmax	pmax			
	comp=Z,55nm,1.5s								
BOOM	**Boomskoye usch**		**51.14**	**295**	P	**P**	**07 40 39.1**	**+1.0**	
AAK	**Ala-Archa**		**51.99**	**295**	*e*P	**P**	**07 40 44.6**	**+0.2**	
AAK	**Ala-Archa**		**51.99**	**295**	*i*P	**P**	**07 40 44.6**	**+0.2**	
AAK					pmax	pmax			
	comp=Z,7.0nm,0.9s								
RES	**Resolute Bay**		**52.98**	**17**	P	**P**	**07 40 50.6**	**-0.3**	
RES					pmax	pmax			
	comp=Z,10.0nm,0.9s								
RES	**Resolute Bay**		**52.98**	**17**	P	**P**	**07 40 50.6**	**-0.3**	
RES					IAmb	IAmb	07 40 51.1		
	comp=Z,10nm,0.8s								
YKA	**Yellowknife Ar**		**53.63**	**35**	*ce*P	P	07 41 00.9	+5.1	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ARU	**Arti**		**54.18**	**317**	*e*P	**P**	**07 40 58.6**	**-1.4**	
ARU	**Arti**		**54.18**	**317**	*c i*P	**P**	**07 40 58.5**	**-1.4**	
ARU							07 42 58.9		
ARU					S	**S**	**07 48 22.0**	**-3.0**	
ARU					pmax	pmax			
	comp=Z,13nm,0.7s								
KK05	**Karatay Array**		**54.25**	**298**	P	**P**	**07 41 01.1**	**+0.4**	
KK06	**Karatay Array**		**54.26**	**298**	P	**P**	**07 41 00.8**	**0.0**	
KK31	**Karatay Array**		**54.26**	**298**	P	**P**	**07 41 00.2**	**-0.6**	
KK31					pmax	pmax			
	comp=Z,3.0nm,0.6s								
KK31	**Karatay Array**		**54.26**	**298**	P	**P**	**07 41 00.2**	**-0.6**	
KK31					IAmb	IAmb	07 41 02.1		
	comp=Z,2.6nm,0.6s								
KKAR	**Karatay Array**		**54.26**	**298**	P	**P**	**07 41 00.8**	**0.0**	
KKAR	**Karatay Array**		**54.26**	**298**	P	**P**	**07 41 00.8**	**0.0**	
GAR	**Garm**		**56.61**	**294**	P	**P**	**07 41 18.3**	**+0.5**	
AB06	**Akbulak array**		**57.18**	**309**	P	**P**	**07 41 20.7**	**-0.7**	
AB05	**Akbulak array**		**57.19**	**309**	P	**P**	**07 41 20.9**	**-0.6**	
KIRV	**Kirov**		**57.22**	**322**	*ce*P	**P**	**07 41 20.4**	**-1.1**	
ARCES	**ARCESS Array B**		**58.24**	**340**	P	**P**	**07 41 26.8**	**-1.8**	
	comp=Z,1.8nm,0.6s,baz=37,slow=8.3,SNR=4.6								
COEN	**Coen**		**59.30**	**187**	P	**P**	**07 41 39.2**	**+2.7**	
MTN	**Manton Dam**		**60.21**	**200**	P	**P**	**07 41 43.0**	**+0.3**	
PINE	**Pine Mountain**		**60.62**	**56**	P	**P**	**07 41 46.6**	**+1.0**	
PINE					IAmb	IAmb	07 41 55.7		
	comp=Z,5.2nm,1.1s								
SUMG	**Summit**		**62.23**	**3**	P	**P**	**07 41 55.6**	**-0.5**	
SUMG					pmax	pmax			
	comp=Z,15nm,1.5s								
SUMG	**Summit**		**62.23**	**3**	P	**P**	**07 41 55.6**	**-0.5**	
HRY	**Holter Researc**		**63.94**	**49**	P	**P**	**07 42 08.3**	**+0.8**	
FINES	**FINESS Array B**		**64.09**	**333**	P	**P**	**07 42 06.5**	**-1.5**	
	comp=Z,5.3nm,0.5s,baz=28,slow=8.0,SNR=42								
FINES	**FINESS Array B**		**64.09**	**333**	*ce*P	**P**	**07 42 06.1**	**-1.9**	
FINES					pmax	pmax			
	comp=Z,5.0nm,0.5s								
BOZ	**Bozeman (W)**		**64.76**	**50**	P	**P**	**07 42 13.1**	**+0.2**	
BOZ					pmax	pmax			
	comp=Z,4.0nm,1.4s								
BOZ	**Bozeman (W)**		**64.76**	**50**	P	**P**	**07 42 13.1**	**+0.2**	
BOZ					IAmb	IAmb	07 42 33.5		
	comp=Z,4.0nm,1.4s								
OBN	**Obninsk**		**64.87**	**324**	*e*P	**P**	**07 42 10.8**	**-2.4**	
OBN	**Obninsk**		**64.87**	**324**	*i*P	**P**	**07 42 10.8**	**-2.4**	
OBN					pmax	pmax			
	comp=Z,6.0nm,0.7s								
GEYT	**Alibeck**		**64.95**	**299**	P	**P**	**07 42 13.8**	**-0.2**	
	comp=Z,6.6nm,0.6s,baz=58,slow=5.6,SNR=8.1								
GEYT	**Alibeck**		**64.95**	**299**	P	**P**	**07 42 14.1**	**+0.1**	
GYB1	**ALIBECK ARRAY**		**64.95**	**299**	P	**P**	**07 42 14.8**	**+0.8**	
NVAR	**Mina Array Bea**		**65.47**	**60**	P	**P**	**07 42 19.2**	**+1.6**	
	comp=Z,1.0nm,0.6s,baz=296,slow=6.9,SNR=11								
NVAR	**Mina Array Bea**		**65.47**	**60**	P	**P**	**07 42 18.2**	**+0.6**	
WB0	**Warramunga Arr**		**66.22**	**195**	P	**P**	**07 42 23.8**	**+1.6**	
WB0					IAmb	IAmb	07 42 24.4		
	comp=Z,4.5nm,0.9s								
WR0	**Warramunga Arr**		**66.38**	**195**	P	**P**	**07 42 24.6**	**+1.4**	
WR0					IAmb	IAmb	07 42 52.3		
	comp=Z,10nm,1.4s								
WRA	**Warramunga Arr**		**66.40**	**195**	P	**P**	**07 42 24.9**	**+1.5**	
	comp=Z,2.4nm,0.6s,baz=12,slow=6.9,SNR=30								
WRA	**Warramunga Arr**		**66.40**	**195**	*i*P	P	07 42 31.5	+8.2	
WRA	**Warramunga Arr**		**66.40**	**195**	P	**P**	**07 42 24.8**	**+1.5**	
FITZ	**Fitzroy Crossi**		**66.71**	**204**	P	**P**	**07 42 27.0**	**+1.7**	
PDAR	**Pinedale Array**		**67.73**	**51**	P	**P**	**07 42 33.0**	**+1.0**	
	comp=Z,0.9nm,0.6s,baz=316,slow=1.5,SNR=8.1								
NC405	**NORSAR Array S**		**68.42**	**339**	P	**P**	**07 42 34.5**	**-1.1**	
NB2	**NORSAR Subarra**		**68.61**	**340**	P	**P**	**07 42 35.3**	**-1.5**	
	comp=Z,4.5nm,0.5s,baz=30,slow=6.5								
NOA	**NORSAR Array B**		**68.61**	**340**	P	**P**	**07 42 35.5**	**-1.3**	
	comp=Z,2.6nm,0.5s,baz=29,slow=6.7,SNR=17								
MSU	**Marysvale**		**69.07**	**56**	P	**P**	**07 42 40.2**	**-0.1**	
MSU	**Marysvale**		**69.07**	**56**	P	**P**	**07 42 40.2**	**-0.1**	
KIV	**Kislovodsk**		**69.77**	**312**	*e*P	**P**	**07 42 45.6**	**+1.3**	
KIV	**Kislovodsk**		**69.77**	**312**	*e*P	**P**	**07 42 45.6**	**+1.3**	
KIV					pmax	pmax			
	comp=Z,46nm,1.1s								
KBZ	**Khabaz**		**69.82**	**312**	P	**P**	**07 42 44.4**	**-0.1**	
	comp=Z,7.2nm,0.9s,baz=45,slow=3.6,SNR=9.6								
KBZ	**Khabaz**		**69.82**	**312**	*e*P	**P**	**07 42 45.2**	**+0.7**	
KBZ	**Khabaz**		**69.82**	**312**	*ce*P	**P**	**07 42 45.2**	**+0.7**	
KBZ					pmax	pmax			
	comp=Z,8.0nm,0.9s								
AS31	**Alice Springs**		**70.11**	**195**	P	**P**	**07 42 47.9**	**+1.5**	
ASAR	**Alice Springs**		**70.11**	**195**	P	**P**	**07 42 49.0**	**+2.6**	
	comp=Z,2.7nm,0.7s,baz=7.9,slow=5.3,SNR=37								
ASAR	**Alice Springs**		**70.11**	**195**	P	**P**	**07 42 48.9**	**+2.5**	
AKASG	**Malin Array Be**		**71.13**	**324**	P	**P**	**07 42 51.5**	**-0.8**	
	comp=Z,5.8nm,0.5s,baz=38,slow=6.3,SNR=9.5								
AKASG	**Malin Array Be**		**71.13**	**324**	P	**P**	**07 42 51.7**	**-0.6**	

XAN				Sn	Sn	07 49 18.8	-1.6	
XAN				Sg	Sg	07 49 56.0	-0.1	
XAN				smax	smax			
	comp=Z,84nm,1.0s							
XAN				smax	smax			
	comp=Z,130nm,1.0s							
WMQ	**Urumqi**	**18.02 322**	*eP*	**P**		07 50 52.3	+1.0	
KSRS	**Korea Array**	**21.73 65**	P	**P**		07 51 33.8	+2.1	
	comp=Z,1.1nm,0.6s,baz=242,slow=9.8,SNR=5.4							
MKAR	**Makanchi Array**	**22.85 321**	P	**P**		07 51 44.0	+0.4	
	comp=Z,0.4nm,0.4s,baz=124,slow=11,SNR=6.4							
ZALV	**Zalesovo Beam**	**26.87 336**	P	**P**		07 52 19.8	-1.3	
	comp=Z,0.4nm,0.3s,baz=143,slow=9.9,SNR=3.5							
KURBB	**Kurchatov Arra**	**27.18 325**	P	**P**		07 52 24.2	+0.4	
	comp=Z,0.2nm,0.3s,baz=127,slow=11,SNR=2.8							
ARCES	**ARCESS Array B**	**57.42 336**	LR	LR		08 25 37.6		
	comp=Z,97nm,18.5s,baz=290,slow=40							
WRA	**Warramunga Arr**	**58.50 145**	P	**P**		07 56 33.8	-3.1	
	comp=Z,0.5nm,0.7s,baz=336,slow=7.4,SNR=7.8							
ASAR	**Alice Springs**	**61.47 148**	P	P		07 56 52.0	-5.3	
	comp=Z,0.3nm,0.7s,baz=326,slow=6.6,SNR=4.1							

*JMA **24** 08:57:25.0±0.2,24.7°97N×122.7°84E,h20km±3km,M3.0*
*IDC **24** 08:57:27.7±1.4,24.3°37N×122.7°45E,h0km,mb3.5/4,*
mb1 3.6/5,mb1mx3.4/59,mbtmp3.5/5,ML2.9/1,MS3.1/5,
Ms1 3.1/5,ms1mx2.8/39,Error ellipse: s-maj=69.6km
s-min=22.7km az=66.0

ISC 24 08:57:27.6±0.9,24°81N±0°06×123°05E±0°06,h10km,n18,
σ0s94/18,mb3.4/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.35**	**186**	P	**Pb**	**08 57 35.3**	**-0.6**
YOJ				*eS*	**Sb**	**08 57 42.8**	**+1.3**
JYNG	**Yonagunijimaku**	**0.37**	**196**	P	**Pb**	**08 57 35.2**	**-1.1**
JYNG				S	**Sb**	**08 57 42.3**	**+0.2**
IRIF	**Iriomote-Funau**	**0.78**	**127**	P	**Pn**	**08 57 43.9**	**-0.7**
HATJ	**Hateruma jima**	**1.01**	**137**	P	**Pn**	**08 57 47.6**	**-0.3**
JKRS	**Kuro-shima**	**1.04**	**123**	P	**Pn**	**08 57 48.0**	**-0.3**
JKRS				S	**Sn**	**08 58 04.2**	**+1.4**
JIJ	**Ishigaki jima**	**1.09**	**114**	P	**Pn**	**08 57 48.3**	**-0.6**
JISG	**Ishigakijimahi**	**1.16**	**101**	P	**Pb**	**08 57 49.0**	**-0.9**
JISG				*eS*	**Sn**	**08 58 07.1**	**+1.2**
JTJ	**Tarama**	**1.51**	**96**	P	**Pb**	**08 57 55.1**	**-0.6**
JIRB	**Irabujima**	**1.93**	**89**	P	**Pn**	**08 58 00.1**	**-0.4**
JNU	**Nakatsue**	**10.75**	**38**	LR	LR	09 05 50.6	
	comp=Z,55nm,19.2s,baz=280,slow=44						
KSRS	**Korea Array**	**13.28**	**17**	Pn	**P**	**09 00 45.6**	**-0.4**
	0.1nm,0.3s,baz=197,slow=12,SNR=6.6						
KSRS				LR	LR	09 06 37.7	
	comp=Z,105nm,18.6s,baz=196,slow=40						
DAV	**Davao City (W)**	**17.80**	**172**	LR	LR	09 08 07.8	
	comp=Z,59nm,21.3s,baz=348,slow=37						
CMAR	**Chiang Mai Arr**	**23.27**	**259**	LR	LR	09 12 19.3	
	comp=Z,29nm,19.6s,baz=295,slow=39						
KLR	**Kul'dur**	**25.31**	**13**	LR	LR	09 14 37.6	
	comp=Z,61nm,19.6s,baz=237,slow=40						
MKAR	**Makanchi Array**	**39.09**	**315**	P	**P**	**09 04 55.4**	**+0.3**
	0.5nm,0.7s,baz=111,slow=8.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**42.74**	**319**	P	**P**	**09 05 26.6**	**+1.6**
	0.2nm,0.4s,baz=115,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**45.82**	**165**	P	**P**	**09 05 48.7**	**-1.2**
	0.8nm,0.7s,baz=348,slow=8.8,SNR=8.8						
ASAR	**Alice Springs**	**49.32**	**167**	P	**P**	**09 06 17.3**	**+0.2**
	0.3nm,0.6s,baz=349,slow=7.9,SNR=2.1						

*TAP **24** 09:04:39.6,24.9°89N×122.3°19E,h7km,ML3.2,C*
*JMA **24** 09:04:40.1±0.1,24.8°84N×122.7°24E,h25km,M2.5*
ISC 24 09:04:39.4±0.9,24°87N±0°02×122°24E±0°02,h15km±7km,
n64,σ0s75/113,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.27**	**301**	⇑*iP*	**Pg**	**09 04 44.6**	**-0.5**
	baz=304						
TWB1				S	**Sg**	**09 04 48.0**	**-1.0**
	baz=304						
EGS		**0.28**	**265**	*eP*	**Pg**	**09 04 45.3**	**0.0**
	baz=258						
EGS				S	**Sb**	**09 04 50.4**	**-0.2**
	baz=258						
NTC	**Toucheng**	**0.37**	**268**	*eP*	**Pg**	**09 04 47.3**	**+0.4**
	baz=263						
NTC				S	**Sb**	**09 04 52.5**	**-0.8**
	baz=263						
TIPB	**Shuangxi**	**0.39**	**285**	*eP*	**Pg**	**09 04 47.2**	**-0.1**
	baz=284						
TIPB				S	**Sb**	**09 04 53.2**	**-0.6**
	baz=284						
TWC	**Suao**	**0.44**	**234**	*eP*	**Pg**	**09 04 48.0**	**-0.1**
	baz=226						
TWC				*eS*	**Sg**	**09 04 53.4**	**-0.7**
	baz=226						
NWF	**Wu-fen Shan**	**0.46**	**296**	P	**Pg**	**09 04 48.7**	**+0.1**
	baz=296						
NWF				S	**Sg**	**09 04 54.5**	**-0.3**
	baz=296						
WFSB	**Wu-fen Shan**	**0.46**	**296**	P	**Pg**	**09 04 48.7**	**+0.1**
	baz=296						
WFSB				S	**Sg**	**09 04 54.5**	**-0.2**
	baz=296						
TWE	**Neicheng**	**0.54**	**254**	*eP*	**Pg**	**09 04 50.3**	**+0.2**
	baz=249						
TWE				*eS*	**Sb**	**09 04 57.5**	**-0.6**
	baz=249						
ENAH	**Nanao**	**0.57**	**223**	*eP*	**Pg**	**09 04 50.9**	**+0.2**
	baz=217						
ENAH				*eS*	**Sg**	**09 04 58.3**	**+0.1**
	baz=217						
TWA	**Mucha**	**0.60**	**281**	P	**Pb**	**09 04 52.1**	**+0.4**
	baz=279						
TWA				S	**Sb**	**09 05 00.1**	**+0.1**
	baz=279						
NWRT	**Kuosheng**	**0.62**	**302**	*eP*	**Pg**	**09 04 51.8**	**+0.3**
	baz=303						
ENTT	**Nioudou**	**0.65**	**250**	*eP*	**Pb**	**09 04 52.5**	**0.0**
	baz=245						
YM01	**YM01**	**0.67**	**295**	⇑P	**Pb**	**09 04 52.8**	**0.0**
	baz=294						
YM01				S	**Sb**	**09 05 01.4**	**-0.4**
	baz=294						
YM08	**YM08**	**0.67**	**298**	P	**Pg**	**09 04 52.5**	**0.0**
	baz=298						
YM08				*eS*	**Sg**	**09 05 01.1**	**-0.2**
	baz=298						
YM11	**YM11**	**0.67**	**296**	P	**Pb**	**09 04 53.2**	**+0.3**
	baz=296						
YM11				S	**Sb**	**09 05 02.7**	**+0.7**
	baz=296						
NWLT	**Wulai**	**0.68**	**262**	*eP*	**Pb**	**09 04 53.3**	**+0.5**
	baz=259						
NWLT				*eS*	**Sb**	**09 05 02.2**	**+0.1**
	baz=259						
YM05	**YM05**	**0.68**	**296**	P	**Pg**	**09 04 52.9**	**+0.2**
	baz=295						
YM05				S	**Sb**	**09 05 02.6**	**+0.4**
	baz=295						
YM10	**YM10**	**0.68**	**295**	P	**Pg**	**09 04 52.8**	**+0.2**
	baz=295						
YM10				S	**Sb**	**09 05 02.8**	**+0.6**
	baz=295						
TATO	**Taipei**	**0.69**	**279**	P	**Pb**	**09 04 53.6**	**+0.5**
	baz=277						
TATO				*eS*	**Sb**	**09 05 02.1**	**-0.4**
	baz=277						
YM04	**YM04**	**0.70**	**294**	P	**Pg**	**09 04 53.2**	**+0.3**
	baz=294						
YM04				*eS*	**Sb**	**09 05 02.9**	**+0.2**
	baz=294						
YM03	**YM03**	**0.70**	**296**	*eP*	**Pg**	**09 04 52.6**	**-0.6**
	baz=296						
TWY	**Chenhua**	**0.71**	**305**	⇑*iP*	**Pb**	**09 04 53.5**	**+0.1**
	baz=306						
TWY				*eS*	**Sb**	**09 05 03.9**	**+1.0**
	baz=306						
NDT	**Datong Townshi**	**0.71**	**248**	*eP*	**Pb**	**09 04 53.5**	**+0.1**
	baz=244						
NDT				*eS*	**Sb**	**09 05 03.5**	**+0.4**
	baz=244						
NSM	**Shimen**	**0.72**	**305**	*eS*	**Sb**	**09 05 03.8**	**+0.4**
	baz=306						
ANP	**Anpu**	**0.72**	**296**	*eP*	**Pg**	**09 04 53.2**	**-0.3**
	baz=296						
ANP				*eS*	**Sb**	**09 05 03.5**	**0.0**
	baz=296						

JYNG	**Yonagunijimaku**	**0.77**	**123**	P	**Pb**	**09 04 54.2**	**-0.2**	
JYNG				S	**Sb**	**09 05 03.9**	**-0.8**	
PCYT	**Pengchaiyu**	**0.77**	**349**	*eP*	**Pb**	**09 04 54.2**	**-0.3**	
	baz=352							
PCYT				*eS*	**Sb**	**09 05 05.3**	**+0.5**	
	baz=352							
NTST	**Danshui**	**0.77**	**292**	*eP*	**Pb**	**09 04 54.7**	**+0.1**	
	baz=292							
TWS1	**Kuangyinshan**	**0.78**	**287**	*eP*	**Pn**	**09 04 56.0**	**+0.1**	
	baz=286							
YHNB	**Yeheng**	**0.81**	**256**	*eP*	**Pg**	**09 04 55.3**	**+0.2**	
	baz=253							
YOJ	**Yonaguni jima**	**0.81**	**120**	*eP*	**Pb**	**09 04 54.9**	**-0.3**	
	baz=119							
YOJ	**Yonaguni jima**	**0.81**	**120**	P	**Pb**	**09 04 54.9**	**-0.3**	
YOJ				S	**Sb**	**09 05 06.3**	**+0.3**	
NSK	**Sanguang**	**0.82**	**257**	*eP*	**Pb**	**09 04 55.4**	**0.0**	
	baz=253							
NSK				*eS*	**Sn**	**09 05 07.8**	**-0.7**	
	baz=253							
NNSB	**Datong**	**0.89**	**241**	*eP*	**Pg**	**09 04 57.0**	**+0.3**	
	baz=237							
NNSB				*eS*	**Sn**	**09 05 09.6**	**-0.7**	
	baz=237							
NNSH	**Datong**	**0.89**	**241**	*eS*	**Sn**	**09 05 09.1**	**-1.2**	
	baz=237							
NNS	**Nan Shan**	**0.90**	**242**	P	**Pn**	**09 04 57.3**	**-0.3**	
	baz=238							
NNS				*eS*	**Sn**	**09 05 09.8**	**-0.6**	
	baz=238							
NACB	**Ninganchiao**	**0.91**	**220**	*eP*	**Pb**	**09 04 56.5**	**-0.3**	
	baz=217							
NACB				*eS*	**Sb**	**09 05 08.1**	**-0.7**	
	baz=217							
ETLH	**Xiulin Townshi**	**0.95**	**226**	*eP*	**Pb**	**09 04 57.4**	**-0.3**	
	baz=223							
ETLH				*eS*	**Sg**	**09 05 10.3**	**-0.1**	
	baz=223							
TWD	**Chiawan**	**0.98**	**217**	*eP*	**Pb**	**09 04 57.5**	**-0.5**	
	baz=213							
TWD				*eS*	**Sg**	**09 05 11.4**	**+0.3**	
	baz=213							
FUSS	**Fushou**	**1.10**	**236**	*eP*	**Pg**	**09 05 00.7**	**+0.1**	
	baz=233							
FUSS				*eS*	**Sn**	**09 05 15.1**	**-0.4**	
	baz=233							
LIOB	**Emei**	**1.13**	**259**	*eP*	**Pn**	**09 05 00.8**	**0.0**	
	baz=257							
LIOB				*eS*	**Sg**	**09 05 19.4**	**+3.3**	
	baz=257							
WHF	**Hehuan Shan**	**1.14**	**231**	*eP*	**Pn**	**09 05 01.2**	**0.0**	
	baz=228							
WHF				*eS*	**Sn**	**09 05 16.9**	**+0.1**	
	baz=228							
TWT	**Tachien**	**1.15**	**238**	*eP*	**Pg**	**09 05 01.8**	**+0.2**	
	baz=235							
TWT				*eS*	**Sg**	**09 05 18.2**	**+1.8**	
	baz=235							
NSTT	**Nanjuang**	**1.15**	**258**	*eP*	**Pb**	**09 05 00.4**	**-0.6**	
	baz=256							
NSTT				*eS*	**Sg**	**09 05 18.2**	**+1.6**	
	baz=256							
TDCB	**Techi**	**1.16**	**238**	*eP*	**Pg**	**09 05 01.6**	**-0.1**	
	baz=235							
TDCB				*eS*	**Sg**	**09 05 18.0**	**+1.1**	
	baz=235							
CHGB	**Renai**	**1.26**	**230**	*eP*	**Pb**	**09 05 03.3**	**+0.3**	
	baz=228							
CHGB				*eS*	**Sg**	**09 05 22.1**	**+2.0**	
	baz=228							
WHP	**Taichung City**	**1.32**	**244**	*eP*	**Pg**	**09 05 04.6**	**-0.2**	
	baz=241							
WHP				*eS*	**Sg**	**09 05 22.7**	**+0.8**	
	baz=241							
OWD	**Renai**	**1.33**	**227**	*eP*	**Pg**	**09 05 04.8**	**-0.2**	
	baz=224							
OWD				*eS*	**Sg**	**09 05 23.1**	**+0.7**	
	baz=224							
IRIF	**Iriomote-Funau**	**1.46**	**111**	P	**Pb**	**09 05 07.3**	**+1.1**	
IRIF				S	**Sb**	**09 05 25.9**	**+1.3**	
VWDT	**VWDT**	**1.50**	**222**	*eP*	**Pb**	**09 05 07.0**	**+0.1**	
	baz=220							
VWDT				*eS*	**Sg**	**09 05 27.9**	**+0.3**	
	baz=220							
HGSD	**Ruisui**	**1.56**	**209**	*eP*	**Pg**	**09 05 09.4**	**0.0**	
	baz=206							
SMLT	**Sun Moon Lake**	**1.57**	**231**	*eP*	**Pg**	**09 05 09.8**	**+0.3**	
	baz=229							
TYC	**Yuchr**	**1.58**	**233**	*eP*	**Pg**	**09 05 10.1**	**+0.3**	
	baz=230							
TYC				*eS*	**Sg**	**09 05 31.9**	**+1.5**	
	baz=230							
SSLB	**Suanglung**	**1.59**	**228**	*eP*	**Pg**	**09 05 09.7**	**-0.3**	
	baz=225							
SSLB				*eS*	**Sg**	**09 05 33.5**	**+2.8**	
	baz=225							
EHY	**Hungye**	**1.59**	**212**	*eS*	**Sb**	**09 05 28.9**	**+0.3**	
	baz=209							
HATJ	**Hateruma jima**	**1.64**	**119**	P	**Pn**	**09 05 08.2**	**+0.5**	
YULB	**Yu-li**	**1.70**	**210**	*eP*	**Pn**	**09 05 07.5**	**-1.1**	
	baz=208							
YULB				*eS*	**Sb**	**09 05 32.8**	**+1.1**	
	baz=208							
JKRS	**Kuro-shima**	**1.73**	**111**	P	**Pn**	**09 05 08.8**	**-0.1**	
JKRS				*eS*	**Sn**	**09 05 29.8**	**-1.0**	
JIJ	**Ishigaki jima**	**1.81**	**106**	P	**Pn**	**09 05 09.8**	**-0.2**	
ALS	**Alishan**	**1.88**	**224**	*eP*	**Pb**	**09 05 14.3**	**+0.7**	
	baz=222							
ALS				*eS*	**Sg**	**09 05 40.0**	**-0.1**	
	baz=222							
CHN5	**Tsauling**	**1.91**	**229**	*eP*	**Pb**	**09 05 14.3**	**+0.4**	
	baz=226							
CHN5				*eS*	**Sg**	**09 05 41.4**	**+0.6**	
	baz=226							
WTP	**Ta-pu**	**2.19**	**223**	*eS*	**Sg**	**09 05 48.9**	**-1.1**	
	baz=221							
TWK	**Hsinying**	**2.26**	**225**	*eP*	**Pb**	**09 05 19.4**	**-0.6**	
	baz=223							
TWK				*eS*	**Sg**	**09 05 50.3**	**-1.7**	
	baz=223							
SLGT	**Liugui**	**2.37**	**218**	*eP*	**Pb**	**09 05 20.8**	**-1.0**	
	baz=216							
SLGT				*eS*	**Sb**	**09 05 51.8**	**+0.9**	
	baz=216							

*IDC **24** 09:18:44.7±0.6,2.27S×139.14E,h0km,mb4.3/17,*
mb1 4.4/18,mb1mx4.3/29,mbtmp4.3/18,ML4.3/1,MS3.5/19,
Ms1 3.6/19,ms1mx3.5/33,Error ellipse: s-maj=25.5km
s-min=13.2km az=82.0
*BJI **24** 09:18:48.6±0.0,2.41S×139.27E,h41km,mB5.0/19,*
mb4.7/26,Ms4.7/6,Ms7 4.4/1
*DJA **24** 09:18:48.1±0.5,2°S±4°×13°9E±°,h12km±4km,M4.8/25,*
mb4.8/25,mB5.4/7,MLv4.8/7,Mw(mB)4.8/7
*NEIC **24** 09:18:50.4±1.9,2.32S±0.06×138.84E±0.07,h37km±6km,*
mb4.9/62,Error ellipse: s-maj=11.3km s-min=6.8km
az=46.0
ISC 24 09:18:46.8±0.3,2°24S±0°05×139°01E±0°04,h10km,n135,
σ1s43/127,mb4.8/49,MS3.5/16,Near north coast of Irian
Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.39**	**309**	P	**Pb**	**09 18 56.1**	**+0.3**
GENI	**Genyem**	**1.21**	**107**	P	**Pg**	**09 19 09.8**	**-0.2**
GENI				S	**Sn**	**09 19 28.6**	**+2.4**
WAMI	**Wamena**	**1.67**	**190**	P	**Pg**	**09 19 20.8**	**+2.0**
WAMI				S	Sg	09 19 47.4	+7.0
SRPI	**Serui, Papua**	**2.79**	**277**	P	**Pn**	**09 19 31.6**	**0.0**
SRPI				S	**Sn**	**09 20 06.1**	**+0.6**
BAKI	**Biak**	**3.08**	**290**	P	**Pn**	**09 19 35.4**	**-0.2**
FAKI	**Fak Fak**	**6.79**	**264**	P	**Pn**	**09 20 27.5**	**+0.9**
	0.4nm51nm,1.0s						
FAKI	**Fak Fak**	**6.79**	**264**	Pn	**Pn**	**09 20 25.3**	**-1.3**
SIJI	**Sorong**	**7.86**	**280**	LR	LR	09 24 20.5	
	comp=Z,594nm,19.4s,baz=104,slow=42						
MANU	**Manus Island**	**8.35**	**89**	Pn	**Pn**	**09 20 51.2**	**+3.1**
SAUI	**Saumlaki**	**9.57**	**233**	Pn	**Pn**	**09 21 01.8**	**-2.9**
PMG	**Port Moresby**	**10.79**	**132**	Pn	**Pn**	**09 21 22.8**	**+1.3**
	1.2nm,0.3s,baz=306,slow=18,SNR=1.9						
PMG				LR	LR	09 26 04.3	
	comp=Z,265nm,21.4s,baz=56,slow=41						
PMG	**Port Moresby**	**10.79**	**132**		**Pn**	**09 21 24.6**	**+3.2**
COEN	**Coen**	**12.35**	**161**	Pn	**Pn**	**09 21 42.8**	**0.0**
MTN	**Manton Dam**	**13.11**	**216**	Pn	**Pn**	**09 21 51.0**	**-2.3**

KRVT	**Keravat (AS076**	**13.15**	**99**	LR	LR	09 26 19.0		
	comp=Z,234nm,21.8s,baz=275,slow=35							
DAV	**Davao City (W)**	**16.29**	**305**	LR	LR	09 29 28.7		
	comp=Z,116nm,19.1s,baz=134,slow=39							
SOEI	**Soe**	**16.45**	**242**	P	**P**	**09 22 39.0**	**-1.8**	
	1μm121nm,1.0s							
KNRA	**Kununurra**	**16.75**	**217**	Pn	**Pn**	**09 22 40.8**	**-0.9**	
KNRA				IAmb	IAmb	09 22 53.1		
	comp=Z,53nm,0.8s							
GUMO	**Guam**	**16.76**	**20**	LR	LR	09 28 41.0		
	comp=Z,162nm,18.9s,baz=198,slow=36							
BATI	**Baumata**	**17.18**	**242**	P	**P**	**09 22 52.6**	**+3.8**	
	comp=Z,8.3nm,0.3s,baz=108,slow=5.2,SNR=4.6							
WB0	**Warramunga Arr**	**18.00**	**194**		**Pn**	**09 22 55.3**	**-2.0**	
WR0	**Warramunga Arr**	**18.15**	**194**		**Pn**	**09 22 56.8**	**-2.3**	
WRAB	**Tennant Creek**	**18.17**	**194**		**Pn**	**09 22 57.9**	**-1.5**	
WB2	**Warramunga Arr**	**18.18**	**194**		**Pn**	**09 22 58.2**	**-1.3**	
WRA	**Warramunga Arr**	**18.18**	**194**	P	**Pn**	**09 22 57.7**	**-1.9**	
	comp=Z,0.9nm,0.3s,baz=14,slow=12,SNR=41							
WRA				S	Sn	09 26 09.9	-13	
	comp=Z,0.2nm,0.3s,baz=9.9,slow=25,SNR=3.5							
WRA	**Warramunga Arr**	**18.18**	**194**		**Pn**	**09 22 57.5**	**-2.0**	
WC3	**Warramunga Arr**	**18.19**	**194**		**Pn**	**09 22 58.1**	**-1.5**	
BKSI	**Bulukumba**	**19.09**	**260**	P	Pn	09 23 28.2	+17	
CTA	**Charters Tower**	**19.10**	**159**	P	**Pn**	**09 23 11.3**	**+0.6**	
	comp=Z,0.8nm,0.3s,baz=340,slow=10,SNR=5.7							
CTAO	**Charters Tower**	**19.10**	**159**		**Pn**	**09 23 11.6**	**+0.8**	
TTSI	**Tana Toraja**	**19.19**	**267**	P	**Pn**	**09 23 17.5**	**+5.6**	
MPSI	**Mapaga**	**19.28**	**277**	P	Pn	09 23 20.6	+7.6	
FITZ	**Fitzroy Crossi**	**20.51**	**219**	P	**P**	**09 23 24.4**	**-0.9**	
	comp=Z,4.8nm,0.7s,baz=41,slow=15,SNR=9.2							
FITZ				LR	LR	09 31 38.6		
	comp=Z,149nm,21.2s,baz=40,slow=38							
FITZ	**Fitzroy Crossi**	**20.51**	**219**	P	**P**	**09 23 23.8**	**-1.5**	
MYLDM	**Lahad Datu**	**21.78**	**290**	P	**P**	**09 23 37.4**	**-1.6**	
MYLDM				IAmb	IAmb	09 24 25.0		
	comp=Z,40nm,1.1s							
AS31	**Alice Springs**	**21.87**	**193**	P	**P**	**09 23 38.0**	**-2.0**	
ASAR	**Alice Springs**	**21.87**	**193**	P	**P**	**09 23 38.5**	**-1.5**	
	comp=Z,5.2nm,0.8s,baz=20,slow=9.7,SNR=30							
ASAR				LR	LR	09 32 16.8		
	comp=Z,92nm,21.4s,baz=14,slow=37							
ASAR	**Alice Springs**	**21.87**	**193**	P	**P**	**09 23 37.9**	**-2.1**	
HNR	**Honiara**	**22.00**	**110**	P	**P**	**09 23 39.0**	**-2.5**	
	comp=Z,27nm,0.5s,baz=211,slow=18,SNR=1.5							
BBKI	**Banjar Baru**	**24.17**	**267**	P	**P**	**09 24 07.4**	**+3.8**	
EIDS	**Eidsvold**	**25.77**	**154**	P	**P**	**09 24 19.1**	**+1.1**	
EIDS				IAmb	IAmb	09 24 23.9		
	comp=Z,22nm,0.8s							
PSAD1	**Pilbara Seismi**	**26.72**	**223**	P	**P**	**09 24 26.0**	**-0.6**	
PSAA2	**Pilbara Seismi**	**26.78**	**223**	P	**P**	**09 24 25.6**	**-1.6**	
PSA00	**Pilbara Seismi**	**26.79**	**223**	P	**P**	**09 24 26.3**	**-0.9**	
PSA00				IAmb	IAmb	09 24 32.5		
	comp=Z,18nm,0.8s							
PSAA1	**Pilbara Seismi**	**26.79**	**223**	P	**P**	**09 24 26.4**	**-0.9**	
STKA	**Stephens Creek**	**29.58**	**176**	P	**P**	**09 24 51.9**	**-0.2**	
	comp=Z,4.2nm,0.7s,baz=335,slow=7.4,SNR=11							
STKA				LR	LR	09 38 06.1		
	comp=Z,512nm,18.7s,baz=352,slow=39							
STKA	**Stephens Creek**	**29.58**	**176**	P	**P**	**09 24 51.8**	**-0.2**	
FORT	**Forrest**	**30.22**	**199**	P	**P**	**09 24 58.6**	**+0.8**	
FORT				IAmb	IAmb	09 25 49.9		
	comp=Z,26nm,0.8s							
BBOO	**Buckleboo**	**30.54**	**185**	P	**P**	**09 24 59.6**	**-1.0**	
BBOO				IAmb	IAmb	09 25 11.5		
	comp=Z,60nm,1.9s							
JWT	**Wachi**	**37.48**	**355**	P	**P**	**09 26 01.4**	**+0.7**	
JWT				IAmb	IAmb	09 26 01.7		
	comp=Z,11nm,0.7s							
SDSI	**Sungai Dareh**	**37.59**	**271**	P	**P**	**09 26 02.7**	**+0.7**	
MJAR	**Matsushiro Arr**	**38.59**	**359**	P	**P**	**09 26 09.3**	**-0.7**	
	comp=Z,2.3nm,0.6s,baz=177,slow=9.0,SNR=9.0							
MJAR				LR	LR	09 39 42.9		
	comp=Z,56nm,20.0s,baz=230,slow=33							
MJAR	**Matsushiro Arr**	**38.59**	**359**	P	**P**	**09 26 10.1**	**0.0**	
MAT	**Matsushiro**	**38.59**	**359**	P	**P**	**09 26 09.2**	**-0.9**	
NJ2	**Nanjing**	**39.10**	**332**	*eP*	**P**	**09 26 15.3**	**+0.9**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
JSD	**Sado**	**40.08**	**359**	P	**P**	**09 26 22.4**	**-0.1**	
JSD				IAmb	IAmb	09 26 23.1		
	comp=Z,26nm,1.2s							
WHN	**Wuhan**	**40.20**	**326**	P	P	09 26 35.0	+11	
RPSI	**Rantau Prapat**	**40.38**	**277**	P	**P**	**09 26 24.4**	**-1.0**	
RPSI				IAmb	IAmb	09 26 38.0		
	comp=Z,15nm,0.8s							
KSRS	**Korea Array**	**40.81**	**346**	LR	LR	09 40 08.0		
	comp=Z,40nm,20.8s,baz=166,slow=31							
CMAR	**Chiang Mai Arr**	**44.47**	**299**	P	**P**	**09 26 59.7**	**+1.1**	
	comp=Z,2.9nm,0.9s,baz=121,slow=6.4,SNR=14							
CMAR				LR	LR	09 44 39.2		
	comp=Z,22nm,21.5s,baz=167,slow=35							
CMAR	**Chiang Mai Arr**	**44.47**	**299**	P	**P**	**09 26 59.1**	**+0.5**	
XAN	**Xi'an**	**45.87**	**325**	P	**P**	**09 27 11.8**	**+2.2**	
XAN				pP	sP	09 27 22.1	+8.1	
XAN				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BJI	**Beijing**	**46.99**	**336**	P	**P**	**09 27 17.8**	**-0.4**	
BJI				pmax	pmax			
	comp=Z,7.0nm,2.4s							
CD2	**Chengdu**	**47.04**	**317**	*eP*	**P**	**09 27 20.6**	**+1.8**	
HHC	**Hu-ho-hao-te**	**49.65**	**333**	*eP*	**P**	**09 27 39.0**	**+0.1**	
KLR	**Kul'dur**	**51.65**	**354**	P	**P**	**09 27 53.5**	**-0.1**	
	comp=Z,2.6nm,0.6s,baz=185,slow=5.4,SNR=12							
GTA	**Gaotai**	**54

CHGR					IAmb	IAmb	09 30 36.2		
	comp=Z,18nm,0.9s								
KK31	**Karatay Array**	**76.01**	**315**	P		**P**	**09 30 33.2**	**-1.2**	
KK31					IAmb	IAmb	09 30 43.1		
	comp=Z,18nm,1.9s								
KKAR	**Karatay Array**	**76.01**	**315**	P		**P**	**09 30 33.1**	**-1.3**	
KKAR					IAmb	IAmb	09 30 43.1		
	comp=Z,18nm,1.9s								
VNDA	**Vanda**	**76.22**	**175**	P		**P**	**09 30 34.8**	**-0.3**	
	comp=Z,2.0nm,0.6s,baz=323,slow=6.7,SNR=11								
VNDA					LR	LR	10 03 49.2		
	comp=Z,138nm,18.5s,baz=328,slow=36								
VNDA	**Vanda**	**76.22**	**175**			**P**	**09 30 34.7**	**-0.3**	
VNDA					IAmb	IAmb	09 30 40.6		
	comp=Z,5.1nm,0.7s								
BRVK	**Borovoye**	**79.17**	**325**	P		**P**	**09 30 50.9**	**-1.0**	
BRVK					IAmb	IAmb	09 31 00.7		
	comp=Z,8.4nm,0.8s								
NRIK	**Noril'sk**	**79.36**	**344**	P		**P**	**09 30 52.5**	**0.0**	
	comp=Z,2.8nm,0.6s,baz=86,slow=4.1,SNR=5.1								
NRIK					LR	LR	10 06 10.3		
	comp=Z,33nm,20.9s,baz=198,slow=36								
SVW2	**Sparrevohn**	**80.32**	**27**	P		**P**	**09 30 59.6**	**+1.7**	
KDAK	**Kodiak Island**	**80.54**	**30**	P		**P**	**09 31 00.7**	**+1.5**	
PPLA	**Purkeypile**	**82.47**	**26**	P		**P**	**09 31 09.7**	**+0.2**	
PPLA					IAmb	IAmb	09 33 22.4		
	comp=Z,38nm,1.6s								
MAW	**Mawson**	**82.67**	**202**	P		**P**	**09 31 09.3**	**-1.0**	
	comp=Z,4.6nm,1.0s,baz=21,slow=3.2,SNR=4.9								
MAW	**Mawson**	**82.67**	**202**	P		**P**	**09 31 08.3**	**-2.0**	
PMR	**Palmer**	**83.41**	**27**	IAmb		IAmb	09 31 21.2		
	comp=Z,13nm,1.0s								
GHO	**Glory Hole Cre**	**83.56**	**27**	P		**P**	**09 31 13.9**	**-1.2**	
KNK	**Knik Glacier**	**83.67**	**27**	P		**P**	**09 31 15.2**	**-0.4**	
SML	**Sawmill**	**83.84**	**27**	P		**P**	**09 31 16.8**	**+0.3**	
GEYT	**Alibeck**	**84.19**	**308**	P		**P**	**09 31 18.9**	**+0.1**	
	comp=Z,1.6nm,0.3s,baz=222,slow=5.8,SNR=2.2								
AB01	**Akbulak array**	**84.56**	**320**	P		**P**	**09 31 19.4**	**-0.9**	
ABKAR	**Akbulak array**	**84.56**	**320**	P		**P**	**09 31 20.2**	**-0.2**	
ABKAR					IAmb	IAmb	09 31 26.3		
	comp=Z,6.4nm,1.2s								
ABKAR	**Akbulak array**	**84.56**	**320**	P		**P**	**09 31 19.4**	**-0.9**	
AB04	**Akbulak array**	**84.56**	**320**	P		**P**	**09 31 20.2**	**-0.1**	
AB08	**Akbulak array**	**84.56**	**320**	P		**P**	**09 31 19.7**	**-0.7**	
DHY	**Denali Highway**	**84.62**	**26**	P		**P**	**09 31 20.0**	**-0.5**	
KLU	**Klutina**	**84.86**	**28**	IAmb		IAmb	09 31 29.6		
	comp=Z,18nm,1.0s								
CCB	**Clear Creek Bu**	**84.87**	**24**	P		**P**	**09 31 20.6**	**-0.9**	
HDA	**Harding Lake**	**85.16**	**25**	P		**P**	**09 31 22.3**	**-0.7**	
HDA					IAmb	IAmb	09 31 30.3		
	comp=Z,12nm,0.9s								
IL31		**85.28**	**24**	P		**P**	**09 31 22.0**	**-1.6**	
IL31					IAmb	IAmb	09 31 29.7		
	comp=Z,11nm,0.8s								
ILAR	**Eielson Array**	**85.28**	**24**	P		**P**	**09 31 22.5**	**-1.2**	
	comp=Z,5.6nm,0.9s,baz=258,slow=5.1,SNR=19								
ILAR					LR	LR	10 13 38.0		
	comp=Z,14nm,18.1s,baz=247,slow=39								
ILAR	**Eielson Array**	**85.28**	**24**	P		**P**	**09 31 22.0**	**-1.6**	
PAX	**Paxson**	**85.43**	**26**	P		**P**	**09 31 23.8**	**-0.7**	
PAX					IAmb	IAmb	09 31 31.5		
	comp=Z,12nm,1.2s								
GLB	**Gilahina Butte**	**85.84**	**28**	P		**P**	**09 31 27.0**	**+0.5**	
RIDG	**Independent Ri**	**85.89**	**26**	P		**P**	**09 31 26.8**	**+0.1**	
AKTO	**Aktyubinsk**	**85.97**	**321**	P		**P**	**09 31 27.0**	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=90,slow=6.1,SNR=4.4								
CRQM	**Cirque**	**86.01**	**29**	P		**P**	**09 31 28.5**	**+0.9**	
DOT	**Dot Lake**	**86.20**	**26**	P		**P**	**09 31 28.1**	**-0.2**	
DOT					IAmb	IAmb	09 31 35.8		
	comp=Z,9.2nm,0.9s								
ISLE	**Juniper Island**	**86.37**	**29**	P		**P**	**09 31 30.1**	**+0.8**	
ISLE					IAmb	IAmb	09 31 30.2		
	comp=Z,18nm,1.2s								
BALM	**Baldy**	**86.45**	**29**	P		**P**	**09 31 29.8**	**+0.1**	
ARU	**Arti**	**86.57**	**327**	P		**P**	**09 31 28.7**	**-1.5**	
	comp=Z,0.9nm,0.3s,baz=54,slow=3.2,SNR=4.8								
ARU	**Arti**	**86.57**	**327**	P		**P**	**09 31 28.5**	**-1.7**	
ARU					IAmb	IAmb	09 31 34.5		
	comp=Z,12nm,1.2s								
BARN	**Barnard Glacie**	**86.78**	**29**	P		**P**	**09 31 32.0**	**+0.6**	
BARN					IAmb	IAmb	09 31 39.2		
	comp=Z,10nm,0.8s								
BCAR	**Beaver Creek A**	**87.09**	**27**	P		**P**	**09 31 32.7**	**0.0**	
QSPA	**South Pole Qui**	**87.71**	**180**	P		**P**	**09 31 35.0**	**-0.7**	
QSPA					IAmb	IAmb	09 31 40.4		
	comp=Z,15nm,1.3s								
SKAG	**Skagway**	**89.70**	**31**	P		**P**	**09 31 46.0**	**+0.9**	
SKAG					IAmb	IAmb	09 31 53.3		
	comp=Z,11nm,1.0s								
WHY	**Whitehorse**	**90.02**	**29**	P		**P**	**09 31 46.2**	**-0.5**	
WHY					IAmb	IAmb	09 31 54.6		
	comp=Z,11nm,0.9s								
S39A	**Bolivar**	**120.53**	**47**			**PKPdf**	**09 37 38.3**	**-1.0**	
TORD	**Torodi Ar. Bea**	**136.41**	**287**	PKP		**PKiKP**	**09 38 10.8**	**-1.0**	
	comp=Z,90nm,0.7s,baz=46,slow=4.2,SNR=3.4								
DBIC	**Dimbokro**	**143.72**	**278**	PKP		**PKPdf**	**09 38 24.2**	**+0.8**	
	comp=Z,3.3nm,0.7s,baz=168,slow=4.7,SNR=3.8								
LPAZ	**La Paz**	**147.47**	**125**	PKPbc		**PKPdf**	**09 38 31.4**	**+0.9**	
	comp=Z,2.4nm,0.8s,baz=166,slow=2.6,SNR=9.4								
LPAZ	**La Paz**	**147.47**	**125**			**PKPdf**	**09 38 31.2**	**+0.8**	
CPUP	**Villa Florida**	**147.50**	**152**	PKPbc		**PKPbc**	**09 38 31.9**	**-0.1**	
	comp=Z,2.3nm,0.8s,baz=191,slow=2.8,SNR=3.8								

*IDC **24** 09:18:52.1±31.0, 16°.37S×174°.79W, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.0/32, mbtmp4.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/23, Error ellipse: s-maj=619.2km s-min=157.4km az=84.0*

*NEIC **24** 09:20:13.1±1.5, 17°.7S±0°.1×178°.3W±0°.1, h593km±21km, mb4.4/10, Error ellipse: s-maj=26.0km s-min=6.7km az=51.0*

ISC 24 09:20:12.8±0.8, 17°.6S±0°.1×178°.3W±0°.1, h600km, n25, σ0s83/24, mb4.3/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.49**	**268**	P	**P**	**09 21 34.6**	**-0.4**
AFI	**Afiamalu**	**7.27**	**60**	P	**P**	**09 22 05.5**	**0.0**
NIUE	**Niue**	**8.07**	**102**	P	**P**	**09 22 13.7**	**+0.9**
FUNA	**Funafuti**	**9.37**	**345**	P	**P**	**09 22 25.0**	**-0.4**
RAO	**Raoul Island**	**11.58**	**178**	P	**P**	**09 22 46.4**	**-0.8**
SANVU	**Saraoutou**	**14.08**	**277**	P	**P**	**09 23 11.8**	**-0.7**
DZM	**Mont Dzumac**	**15.03**	**250**	P	**P**	**09 23 21.4**	**0.0**
BKZ	**Black Stump Fm**	**21.95**	**191**	P	**P**	**09 24 21.9**	**-1.9**
HNR	**Honiara**	**22.65**	**288**	LR	LR	09 33 21.0	
	comp=Z,169nm,19.5s,baz=280,slow=34						
QRZ	**Quartz Range**	**24.44**	**197**	P	**P**	**09 24 46.0**	**+0.1**
LHI	**Lord Howe Isla**	**24.75**	**232**	P	**P**	**09 24 47.8**	**-0.9**
LHI					IAmb	IAmb	09 25 05.7	
	comp=Z,18nm,0.9s						
TOO	**Toolangi**	**37.44**	**231**	P	**P**	**09 26 37.5**	**+0.9**
TOO					IAmb	IAmb	09 26 40.2	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**38.87**	**241**	P	**P**	**09 26 49.3**	**+1.1**
	comp=Z,3.0nm,0.4s,baz=104,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**38.87**	**241**	P	**P**	**09 26 49.3**	**+1.1**
BBOO	**Buckleboo**	**43.65**	**241**	P	**P**	**09 27 26.1**	**+0.2**
BBOO					IAmb	IAmb	09 27 32.2	
	comp=Z,20nm,1.3s						
WRA	**Warramunga Arr**	**44.80**	**259**	P	**P**	**09 27 35.2**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=96,slow=8.3,SNR=7.1						
AS31	**Alice Springs**	**44.98**	**254**	P	**P**	**09 27 37.1**	**+0.8**
AS31					IAmb	IAmb	09 27 37.8	
	comp=Z,3.7nm,0.8s						
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**09 27 37.2**	**+0.9**
	comp=Z,15nm,0.6s,baz=88,slow=8.1,SNR=48						
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**09 27 36.8**	**+0.5**
FORT	**Forrest**	**50.23**	**244**	P	**P**	**09 28 15.8**	**+0.5**
FORT					IAmb	IAmb	09 28 27.4	
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.19**	**260**	P	**P**	**09 28 38.0**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=142,slow=12,SNR=0.9						
PSAB2	**Pilbara Seismi**	**58.08**	**255**	P	**P**	**09 29 11.0**	**+0.6**
PSA00	**Pilbara Seismi**	**58.09**	**255**	P	**P**	**09 29 10.4**	**0.0**
PSA00					IAmb	IAmb	09 29 12.7	
	comp=Z,22nm,1.4s						
PSAD1	**Pilbara Seismi**	**58.12**	**255**	P	**P**	**09 29 10.6**	**-0.1**
VNDA	**Vanda**	**60.74**	**185**	P	**P**	**09 29 27.0**	**0.0**

*IDC **24** 09:40:12.8±4.2, 24°.00S×67°.22W, h178km±57km, mb1 3.4/3, mb1mx3.1/27, mbtmp4.0/3, Error ellipse: s-maj=59.4km s-min=31.5km az=106.0*

*GUC **24** 09:40:12.5±0.5, 23°.98S×67°.65W, h211km±5km, ML3.9*

ISC 24 09:40:11.9±1.1, 24°.09S±0°.05×67°.6W±0°.1, h192km±16km, n21, σ1s03/38, 9C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.91**	**320**	*eP*	**Pn**	**09 40 49.5**	**+0.1**
LVC				*eS*	**Sn**	**09 41 18.2**	**-0.1**
PB15	**IPOC Station P**	**1.94**	**296**	⇑*iP*	**Pn**	**09 40 50.2**	**+0.7**
PB15				*i* S	**Sn**	**09 41 19.3**	**+0.7**
GO02	**Mina Guanaco**	**2.12**	**239**	⇑*iP*	**Pn**	**09 40 51.7**	**+0.3**
GO02				*i* S	**Sn**	**09 41 22.4**	**+0.2**
GO02				IAML		09 41 24.0	
	comp=N,778nm,0.1s						
PB06	**IPOC Station P**	**2.29**	**307**	⇑*iP*	**Pn**	**09 40 53.8**	**+0.7**
PB06				*i* S	**Sn**	**09 41 25.2**	**+0.1**
PB06				IAML		09 41 27.4	
	comp=N,366nm,0.1s						
PB14	**IPOC Station P**	**2.63**	**258**	⇑*iP*	**Pn**	**09 40 57.6**	**+0.5**
PB14				*i* S	**Sn**	**09 41 31.7**	**-0.6**
PB14				IAML		09 41 33.3	
	comp=E,99nm,0.4s						
PB05	**IPOC Station P**	**2.70**	**297**	⇑*iP*	**Pn**	**09 40 58.3**	**+0.6**
PB05				*i* S	**Sn**	**09 41 33.0**	**-0.4**
PB09	**IPOC Station P**	**2.74**	**326**	*eP*	**Pn**	**09 40 59.2**	**+0.9**
PB09				*i* S	**Sn**	**09 41 35.0**	**+0.4**
PB09				IAML		09 41 38.6	
	comp=N,139nm,0.2s						
PB10	**IPOC Station P**	**2.78**	**281**	⇑*iP*	**Pn**	**09 40 59.5**	**+0.9**
PB10				*i* S	**Sn**	**09 41 34.8**	**-0.1**
PB03	**IPOC Station P**	**2.85**	**315**	⇑*iP*	**Pn**	**09 40 60.0**	**+0.4**
PB03				*i* S	**Sn**	**09 41 36.0**	**-0.7**
PB03				IAML		09 41 36.9	
	comp=E,252nm,0.1s						
PB04	**IPOC Station P**	**2.93**	**306**	⇑*iP*	**Pn**	**09 41 01.1**	**+0.5**
PB04				*i* S	**Sn**	**09 41 37.4**	**-1.1**
PB04				IAML		09 41 39.9	
	comp=N,254nm,0.3s						
AC02	**Maricunga**	**3.07**	**207**	*eP*	**Pn**	**09 41 02.3**	**-0.2**
PB07	**IPOC Station P**	**3.17**	**317**	⇑*iP*	**Pn**	**09 41 03.8**	**+0.4**
PB07				*i* S	**Sn**	**09 41 42.4**	**-1.2**
PB07				IAML		09 41 44.3	
	comp=N,276nm,0.3s						
AC01	**Pan de Azucar**	**3.42**	**232**	*eP*	**Pn**	**09 41 05.7**	**-0.5**
AC01				*i* S	**Sn**	**09 41 46.8**	**-2.0**
PB01	**IPOC Station P**	**3.50**	**329**	⇓*iP*	**Pn**	**09 41 07.2**	**-0.2**
PB01				*i* S	**Sn**	**09 41 49.4**	**-1.4**
PATCX	**Punta Patache**	**4.03**	**323**	*eP*	**Pn**	**09 41 14.0**	**+0.1**
PATCX				*i* S	**Sn**	**09 42 00.6**	**-1.9**
PB08	**IPOC Station P**	**4.19**	**339**	*eP*	**Pn**	**09 41 16.7**	**+0.5**
PB08				*i* S	**Sn**	**09 42 05.5**	**-1.1**
GO03	**Copiap**	**4.23**	**214**	*eP*	**Pn**	**09 41 14.8**	**-1.5**
GO03				*i* S	**Sn**	**09 42 04.7**	**-2.4**
LPAZ	**La Paz**	**7.78**	**356**	P	**Pn**	**09 42 03.5**	**+0.6**
	comp=N,1.5nm,0.3s,baz=164,slow=8.0,SNR=25						
LPAZ				S	**Sn**	**09 43 30.1**	**-0.9**
	comp=N,0.0nm,0.3s,baz=0.0,slow=20,SNR=1.4						
PLCA	**Paso Flores**	**16.79**	**188**	P	**Pn**	**09 43 58.0**	**+2.0**
	comp=N,0.1nm,0.3s,baz=18,slow=13,SNR=2.3						
BDFB	**Brasilia**	**20.22**	**69**	P	**P**	**09 44 30.6**	**-1.8**
	comp=N,0.4nm,0.3s,baz=243,slow=9.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.10**	**69**	P	**P**	**09 51 45.1**	**+0.6**
	baz=259,slow=4.8,SNR=2.5						

*IDC **24** 09:40:27.1±3.9, 53°.77N×88°.41E, h0km, mb1 3.5/3, mb1mx3.2/49, mbtmp3.5/3, ML3.0/3, Error ellipse: s-maj=42.8km s-min=19.4km az=83.0*

NNC 24 09:40:26.7±2.8, 53°.65N×88°.40E, h1km±18km, mb3.6, mpv3.3, 5C-7D, Error ellipse: s-maj=23.9km s-min=10.8km az=65.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.14**	**280**	*i*		09 54 00.0	
	baz=90,slow=331,SNR=3.9						
ZAA0	**Zalesovo Array**	**2.14**	**280**	⇑Pn	Pn	09 41 03.3	-0.3
	3.6nm,0.7s						
ZAA0				⇓Sn	Sn	09 41 31.8	+1.0
	8.5nm,0.8s						
ZALV	**Zalesovo Beam**	**2.14**	**280**	Pn	Pn	09 41 03.5	-0.1
	7.7nm,0.3s,baz=90,slow=12,SNR=93						
ZALV				Sn	Sn	09 41 30.9	+0.1
	10nm,0.3s,baz=97,slow=25,SNR=23						
KURK	**Kurchatov**	**6.69**	**248**	⇓Pn	Pn	09 42 06.4	+0.4
	2.7nm,1.2s						
KURK				⇑Lg	Lg	09 44 01.6	
	5.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.79**	**247**	Pn	Pn	09 42 09.1	+1.7
	0.6nm,0.3s,baz=62,slow=14,SNR=26						
KURBB	**Kurchatov Arra**	**6.79**	**247**	⇓Pn	Pn	09 42 08.3	+0.9
	4.6nm,0.3s						
KURBB				⇑Lg	Lg	09 44 01.3	
	9.1nm,0.5s						
MK31	**Makanchi Array**	**7.90**	**212**	⇓Pn	Pn	09 42 24.7	+2.1
	0.5nm,0.5s,baz=30,slow=13,SNR=6.4						
MK31				⇓Sn	Sn	09 43 55.3	+2.7
	1.4nm,0.8s,baz=32,slow=27,SNR=5.2						
MK31				⇓Lg	Lg	09 44 36.0	
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**7.90**	**212**	Pn	Pn	09 42 25.7	+3.1
	0.3nm,0.3s,baz=31,slow=14,SNR=8.8						
MKAR				Sn	Sn	09 43 55.5	+2.9
	0.3nm,0.3s,baz=30,slow=21,SNR=7.4						
MKAR				Lg	Lg	09 44 39.0	
	0.2nm,0.3s,baz=31,slow=32,SNR=4.3						
MAKZ	**Makanchi**	**7.99**	**214**	⇓Pn	Pn	09 42 21.8	-2.1
	2.0nm,1.1s						
MAKZ				⇑Sn	Sn	09 43 54.3	-0.5
	1.2nm,0.9s						
MAKZ				⇑Lg	Lg	09 44 38.8	
	3.6nm,1.2s						

IDC 24 09:48:46.0±2.3, 6°.63S×129°.40E, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=144.8km s-min=32.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.07**	**161**	Pn	Pn	09 52 06.0	-0.8
	0.3nm,0.3s,baz=343,slow=13,SNR=20						
WRA				Sn	Sn	09 54 31.1	-13
	1.0nm,0.3s,baz=337,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.48**	**166**	P	Pn	09 52 51.9	+0.5
	0.4nm,0.3s,baz=346,slow=11,SNR=49						
ASAR				S	Sn	09 55 54.9	-12
	0.3nm,0.3s,baz=323,slow=14,SNR=7.2						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	09 59 44.6	0.0
	0.5nm,0.5s,baz=123,slow=7.8,SNR=4.5						

*IDC **24** 09:52:36.5±0.7, 36°.21N×71°.28E, h0km, mb4.1/15, mb1 4.3/18, mb1mx4.0/48, mbtmp4.2/18, ML4.1/3, MS3.0/2, Ms1 3.1/2, ms1mx2.5/40, Error ellipse: s-maj=19.8km s-min=13.8km az=29.0*

*NEIC **24** 09:52:48.7±3.0, 36°.57N±0°.06×71°.17E±0°.08, h95km±6km, mb4.5/25, Error ellipse: s-maj=11.1km s-min=5.7km az=49.0*

*MOS **24** 09:52:48.1±1.1, 36°.57N×71°.34E, h99km, mb4.4/11, Error ellipse: s-maj=9.7km s-min=5.4km az=86.1*

*BJI **24** 09:52:48.1±0.0, 36°.78N×71°.16E, h99km, mB4.4/7, mb4.5/12*

*NNC **24** 09:52:50.1±3.4, 36°.76N×70°.76E, h86km±90km, mb4.2, mpv4.5, Error ellipse: s-maj=32.9km s-min=17.0km az=148.0*

ISC 24 09:52:48.5±0.4, 36°.47N±0°.04×71°.34E±0°.05, h100km, n141, σ1s97/148, mb4.3/33, 8C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.65**	**343**		**Pn**	**09 53 28.9**	**-0.9**
CEP	**Cherat**	**2.68**	**170**	P	**Pn**	**09 53 31.9**	**+1.7**
CEP				S	**Sn**	**09 54 05.0**	**+2.8**
KBL	**Kabul**	**2.68**	**225**	PN	**Pn**	**09 53 31.3**	**+1.0**
KBL	**Kabul**	**2.68**	**225**	Pn	**Pn**	**09 53 31.3**	**+1.0**
CHGR	**Chuyangaron**	**2.79**	**322**	Pn	**Pn**	**09 53 29.6**	**-1.9**
CHGR				Sn	**Sn**	**09 54 01.1**	**-3.6**
NIL	**Nilore**	**3.22**	**150**	PN	**Pn**	**09 53 39.8**	**+2.5**
NIL	**Nilore**	**3.22**	**150**	Pn	**Pn**	**09 53 39.8**	**+2.5**
SARP	**Sargodha**	**4.67**	**166**	P	**Pn**	**09 53 56.5**	**-0.3**
KSH	**Kashi**	**4.76**	**49**	P	**Pn**	**09 53 54.8**	**-3.3**
KSH				S	Sn	09 54 41.9	-10
KSH				smax	smax		
	comp=N,250nm,0.4s						
KSH				smax	smax		
	comp=E,240nm,0.4s						
DHRM	**DHARAMSHALA**	**5.88**	**134**	*eP*	**Pn**	**09 54 11.8**	**-1.5**
DHRM				*eS*	**Sn**	**09 55 16.7**	**-2.8**
DHRM				IAML		09 55 21.3	
	comp=E,1μm,0.6s						
DHRM				IAML		09 55 21.4	
	comp=N,797nm,0.2s						
AML	**Almayashu**	**5.94**	**17**	P	**Pn**	**09 54 14.3**	**-0.1**
	SNR=84						
UCH	**Uchtor**	**6.25**	**22**	P	**Pn**	**09 54 18.9**	**+0.2**
	SNR=24						
EKS2	**Erkin-Say**	**6.47**	**16**	P	**Pn**	**09 54 21.8**	**+0.5**
	SNR=26						
AAK	**Ala-Archa**	**6.63**	**21**	P	**Pn**	**09 54 23.9**	**+0.4**
	SNR=50						
AAK	**Ala-Archa**	**6.63**	**21**	⇑P	**Pn**	**09 54 23.8**	**+0.4**
	comp=N,25nm,0.5s						
AAK				⇓S	**Sn**	**09 55 35.8**	**-1.8**
	comp=N,23nm,0.6s						
AAK	**Ala-Archa**	**6.63**	**21**	PN	**Pn**	**09 54 23.7**	**+0.3**
KK31	**Karatay Array**	**6.66**	**355**	⇑P	**Pn**	**09 54 22.1**	**-1.6**
	comp=N,18nm,0.6s,baz=182,slow=14,SNR=145						
KK31				⇓S	**Sn**	**09 55 32.7**	**-5.4**
	comp=N,7.2nm,0.3s,baz=173,slow=19,SNR=4.3						
KK31	**Karatay Array**	**6.66**	**355**	*e*PN	**Pn**	**09 54 22.4**	**-1.3**
KK31	**Karatay Array**	**6.66**	**355**	Pn	**Pn**	**09 54 22.4**	**-1.3**
KKAR	**Karatay Array**	**6.66**	**355**	PN	**Pn**	**09 54 22.4**	**-1.3**
KKAR	**Karatay Array**	**6.66**	**355**		**Pn**	**09 54 22.4**	**-1.3**
FRU1	**Bishkek**	**6.82**	**21**	PN	**Pn**	**09 54 25.9**	**-0.1**
FRU1	**Bishkek**	**6.82**	**21**	Pn	**Pn**	**09 54 25.9**	**-0.1**
BOOM	**Boomskoye usch**	**6.99**	**29**	PN	**Pn**	**09 54 28.2**	**-0.2**
BOOM	**Boomskoye usch**	**6.99**	**29**		**Pn**	**09 54 28.2**	**-0.2**
CHMS	**Chumysh**	**7.03**	**21**	P	**Pn**	**09 54 29.6**	**+0.8**
	SNR=5.4						
SMLA	**Simla**	**7.20**	**136**	*eP*	**Pn**	**09 54 30.4**	**-0.7**
SMLA				*eS*	**Sn**	**09 55 47.7**	**-3.7**
SMLA				IAML		09 55 52.2	
	comp=N,190nm,0.1s						
SMLA				IAML		09 55 53.1	
	comp=E,221nm,0.6s						
USP	**Ospenovka**	**7.21**	**19**	P	**Pn**	**09 54 31.9**	**+0.6**
	SNR=16						
TKM2	**Tokmak 2**	**7.23**	**26**	P	**Pn**	**09 54 32.1**	**+0.4**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.23**	**26**	⇓P	**Pn**	**09 54 31.0**	**-0.7**
	comp=E,13nm,0.6s						
TKM2				⇓S	**Sn**	**09 55 55.2**	**+2.8**
	comp=E,9.8nm,0.8s						
HRA	**Herat**	**7.71**	**257**	Pn	**Pn**	**09 54 35.3**	**-3.0**
DDI	**Dehra Dun**	**8.31**	**136**	*eP*	Pn	09 54 40.2	-6.1
DDI				*eS*	**Sn**	**09 56 13.2**	**-5.3**
KUDL	**Kundal**	**9.37**	**151**	*eP*	**Pn**	**09 54 58.3**	**-2.4**
KUDL				*eS*	**Sn**	**09 56 37.0**	**-7.3**
KUDL				AMP		09 56 41.0	
	comp=N,121nm,0.1s						
GEYT	**Alibeck**	**10.65**	**282**	Pn	Pn	09 55 12.2	-5.8
	comp=N,4.0nm,0.3s,baz=109,slow=13,SNR=15						
GEYT				Sn	Sn	09 57 06.4	-8.8
	comp=N,7.1nm,0.3s,baz=328,slow=33,SNR=15						
GEYT				LR	LR	10 00 52.9	
	comp=N,55nm,19.2s,baz=70,slow=47						
GEYT	**Alibeck**	**10.65**	**282**	Pn	Pn	09 55 13.8	-4.2
GYA0B	**ALIBECK ARRAY**	**10.65**	**282**	⇑P	Pn	09 55 13.2	-4.8
GYA0B				⇓S	Sn	09 57 03.4	-12
GYA0B	**ALIBECK ARRAY**	**10.65**	**282**		**Pn**	**09 55 15.0**	**-3.0**
PYUN	**Piuthan**	**12.91**	**127**	*eP*	**Pn**	**09 55 45.4**	**-3.0**
	comp=N,57nm,0.6s						
MAKZ	**Makanchi**	**13.03**	**34**	P	**Pn**	**09 55 48.4**	**-1.3**
MAKZ	**Makanchi**	**13.03**	**34**		**Pn**	**09 55 48.4**	**-1.3**
MK31	**Makanchi Array**	**13.16**	**35**	P	**Pn**	**09 55 51.3**	**-0.1**
MK31	**Makanchi Array**	**13.16**	**35**		**Pn**	**09 55 51.3**	**-0.1**
MKAR	**Makanchi Array**	**13.16**	**35**	Pn	**Pn**	**09 55 50.3**	**-1.1**
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=8.7						
MKAR	**Makanchi Array**	**13.16**	**35**	P	**Pn**	**09 55 51.2**	**-0.2**
MKAR	**Makanchi Array**	**13.16**	**35**	Pn	**Pn**	**09 55 51.2**	**-0.2**
DANN	**Dangsing**	**13.24**	**124**	*eP*	**Pn**	**09 55 49.6**	**-3.3**
	comp=N,28nm,0.6s						
**KOL

comp=Z,4.8nm,0.9s,baz=144,slow=8.1,SNR=6.5
KBZ Khabaz 22.86 297 *e*P **P 09 57 44.1 +0.8**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
SHA1 Shidzhatmaz 23.03 297 *i* P **P 09 57 45.1 -0.2**
KIV Kislovodsk 23.04 298 *e*P **P 09 57 45.3 +0.1**
KIV *e*S **S 10 01 51.7 +3.5**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,62nm,14.0s
TLY Talaya 27.47 46 *i* P **P 09 58 25.7 +0.6**
TLY pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 28.13 55 P **P 09 58 31.7 +0.6**
comp=Z,0.4nm,0.4s,baz=262,slow=10.0,SNR=3.5
BRTR Keskin Array B 29.70 288 P **P 09 58 47.1 +1.9**
comp=Z,0.7nm,0.5s,baz=97,slow=9.0,SNR=4.3
BRTR Keskin Array B 29.70 288 P **P 09 58 43.2 -2.0**
OBN Obninsk 30.14 319 *i* P **P 09 58 50.4 +1.8**
OBN *i* 09 59 52.0
OBN *i* 10 01 47.3
OBN pmax pmax
comp=Z,6.0nm,1.2s
CMAR Chiang Mai Arr 30.20 119 P **P 09 58 49.4 -0.2**
comp=Z,0.6nm,0.3s,baz=305,slow=9.5,SNR=7.3
CMAR LR LR 10 11 47.0
comp=Z,38nm,18.8s,baz=206,slow=38
CMAR Chiang Mai Arr 30.20 119*ce*P **P 09 58 51.7 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 30.20 119 P **P 09 58 51.2 +1.6**
AKASG Malin Array Be 33.18 309 P **P 09 59 15.5 +0.2**
comp=Z,4.0nm,0.6s,baz=80,slow=6.9,SNR=6.8
NRIK Noril'sk 34.11 10 *i* P **P 09 59 24.4 +1.2**
NRIK pmax pmax
comp=Z,6.0nm,1.6s
FIA1 FINESS Array S 37.66 326 P **P 09 59 54.8 +1.2**
FINES FINESS Array B 37.66 326 P **P 09 59 54.8 +1.2**
comp=Z,3.5nm,0.4s,baz=121,slow=8.3,SNR=18
FINES FINESS Array B 37.66 326 P **P 09 59 54.5 +1.0**
ARD3 ARCESS Array S 41.27 338 P **P 10 00 24.0 +0.6**
ARD3 IAmb IAmb 10 00 27.1
comp=Z,4.7nm,0.7s
ARC3 ARCESS Array S 41.27 338 P **P 10 00 21.3 -2.2**
ARC3 IAmb IAmb 10 00 28.5
comp=Z,12nm,1.0s
ARC4 ARCESS Array S 41.27 338 P **P 10 00 24.9 +1.4**
ARC4 IAmb IAmb 10 00 28.5
comp=Z,13nm,1.0s
ARD2 ARCESS Array S 41.27 338 P **P 10 00 24.9 +1.4**
ARD2 IAmb IAmb 10 00 27.8
comp=Z,14nm,1.1s
ARA2 ARCESS Array S 41.28 338 P **P 10 00 23.4 -0.1**
ARA2 IAmb IAmb 10 00 28.5
comp=Z,11nm,1.1s
ARB1 ARCESS Array S 41.28 338 P **P 10 00 25.0 +1.4**
ARB4 ARCESS Array S 41.28 338 P **P 10 00 24.0 +0.4**
ARB4 IAmb IAmb 10 00 28.6
comp=Z,10nm,1.1s
ARCES ARCESS Array B 41.28 338 P **P 10 00 25.0 +1.4**
comp=Z,5.8nm,0.7s,baz=114,slow=8.0,SNR=17
ARC1 ARCESS Array S 41.28 338 P **P 10 00 24.2 +0.7**
ARC6 ARCESS Array S 41.28 338 P **P 10 00 23.5 -0.1**
ARC6 IAmb IAmb 10 00 28.8
comp=Z,9.7nm,0.9s
ARD8 ARCESS Array S 41.29 338 P **P 10 00 24.4 +0.8**
ARD8 IAmb IAmb 10 00 40.9
comp=Z,7.5nm,0.9s
ZEA Zeya 41.89 47 *e*P P 10 00 39.5 +11
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.5s
BSD Bornholm Skovb 42.23 315 *i* P **P 10 00 30.0 -1.4**
BSD Bornholm Skovb 42.23 315 IAML 10 00 47.0
comp=Z,2.7nm,0.4s
BSD Bornholm Skovb 42.23 315 *e* **P 10 00 28.6 -2.8**
baz=287,slow=14
BSD Bornholm Skovb 42.23 315 *i* P **P 10 00 30.1 -1.4**
BSD Bornholm Skovb 42.23 315 *i* P **P 10 00 30.0 -1.4**
GEC2 GERESS Array S 43.17 305 P **P 10 00 36.3 -3.0**
GERES GERESS Array B 43.17 305 P **P 10 00 41.1 +1.8**
comp=Z,0.3nm,0.5s,baz=111,slow=5.6,SNR=2.2
GERES GERESS Array B 43.17 305 P **P 10 00 36.1 -3.2**
CLL Collm 43.42 309 *e*(P) **P 10 00 43.0 +1.8**
NC602 NORSAR Array S 44.38 323 P **P 10 00 47.4 -1.3**
NC602 IAmb IAmb 10 00 48.5
comp=Z,13nm,1.1s
NC303 NORSAR Array S 44.51 323 P **P 10 00 50.9 +1.1**
NB2 NORSAR Subarra 44.57 323 P **P 10 00 50.7 +0.5**
comp=Z,2.5nm,0.5s,baz=94,slow=7.9
NOA NORSAR Array B 44.57 323 P **P 10 00 51.0 +0.7**
comp=Z,4.8nm,0.7s,baz=96,slow=7.8,SNR=14
NOA NORSAR Array B 44.57 323 P **P 10 00 51.0 +0.7**
KSRS Korea Array 44.63 71 P **P 10 00 51.5 +0.6**
comp=Z,1.3nm,0.6s,baz=278,slow=7.5,SNR=4.9
KSRS Korea Array 44.63 71 *e*P **P 10 00 52.6 +1.6**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
NBO00 NORSAR Array S 44.78 323 P **P 10 00 52.7 +0.8**
NC204 NORSAR Array S 44.81 323 P **P 10 00 53.2 +1.0**
TIXI Tiksi 45.70 22*ce*P **P 10 01 00.3 +1.3**
TIXI pmax pmax
comp=Z,20nm,1.7s
TOA0 Torodi Ar. Sit 65.99 269 P **P 10 03 24.1 -0.5**
TORD Torodi Ar. Bea 65.99 269 P **P 10 03 23.5 -1.1**
comp=Z,104nm,0.7s,baz=49,slow=6.2,SNR=9.7
TOLK Toolik Lake Re 70.88 15 P **P 10 03 56.0 +1.7**
TOLK IAmb IAmb 10 04 03.3
comp=Z,2.3nm,0.7s
IMAR Indian Mountai 72.12 18 P **P 10 04 02.8 +1.1**
C36M Paulatuk 73.88 6 P **P 10 04 13.2 +1.3**
BOSA Boshof 77.90 220 P **P 10 04 36.0 +0.5**
comp=Z,1.2nm,0.5s,baz=6.2,slow=8.6,SNR=3.0
BOSA Boshof 77.90 220 P **P 10 04 36.6 +1.1**
BOSA pmax pmax
comp=Z,5.0nm,1.1s
BOSA Boshof 77.90 220 P **P 10 04 36.6 +1.1**
BOSA IAmb IAmb 10 04 37.5
comp=Z,5.1nm,1.1s
YKA Yellowknife Ar 81.26 3 P **P 10 04 54.5 +1.3**
comp=Z,1.3nm,0.8s,baz=340,slow=5.6,SNR=2.3
WRA Warramunga Arr 81.74 122 P **P 10 04 56.0 -0.3**
comp=Z,0.4nm,0.4s,baz=324,slow=4.8,SNR=21
WRA Warramunga Arr 81.74 122 P **P 10 04 56.3 0.0**
WRA Warramunga Arr 81.74 122 P **P 10 04 56.2 0.0**
ASAR Alice Springs 84.01 125 P **P 10 05 08.1 0.0**
comp=Z,0.4nm,0.6s,baz=310,slow=5.2,SNR=11
ASAR Alice Springs 84.01 125 P **P 10 05 08.2 +0.2**
ASAR Alice Springs 84.01 125 P **P 10 05 08.2 +0.2**

IDC 24 10:02:51.3±3.2,5.63S×147.00E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/25,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=71.9km s-min=41.3km az=94.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**178**	Pn		Pn	10 03 51.7	+1.1
	1.9nm,0.3s,baz=236,slow=23,SNR=2.0							
PMG				Sn		Sn	10 04 28.6	-6.9
	2.7nm,0.3s,baz=37,slow=20,SNR=2.0							
WRA	**Warramunga Arr**	**18.82**	**220**	P		P	10 07 12.1	-0.6
	0.1nm,0.3s,baz=41,slow=12,SNR=8.9							
ASAR	**Alice Springs**	**21.92**	**214**	P		P	10 07 45.7	-0.8
	0.3nm,0.3s,baz=49,slow=9.1,SNR=10							
FITZ	**Fitzroy Crossi**	**24.26**	**237**	P		P	10 08 11.1	+0.7
	3.0nm,0.7s,baz=52,slow=8.0,SNR=12							
TORD	**Torodi Ar. Bea**	**145.00**	**285**	PKPbc		PKPbc	10 22 30.0	-1.0
	0.2nm,0.4s,baz=68,slow=3.5,SNR=2.4							

IDC 24 10:19:38.1±5.1,20.60S×178.67W,h591km±40km, mb3.1/6,mb1 3.2/6,mb1mx2.9/34,mbtmp4.1/6,Error ellipse: s-maj=65.2km s-min=34.3km az=38.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.86**	**265**	P		P	10 25 25.4	+0.5
	3.1nm,0.4s,baz=87,slow=10,SNR=12							
STKA	**Stephens Creek**	**37.18**	**244**	P		P	10 26 00.6	+0.1
	0.6nm,0.4s,baz=100,slow=7.5,SNR=3.3							
ASAR	**Alice Springs**	**43.89**	**257**	P		P	10 26 53.5	-0.4
	2.7nm,0.4s,baz=95,slow=7.7,SNR=55							
ASAR				ScP		ScP	10 31 22.3	-0.5
	0.2nm,0.9s,baz=116,slow=4.8,SNR=4.1							
WRA	**Warramunga Arr**	**43.97**	**262**	P		P	10 26 53.8	-0.7
	1.3nm,0.3s,baz=97,slow=7.5,SNR=59							
FITZ	**Fitzroy Crossi**	**52.40**	**263**	P		P	10 27 57.1	+0.1
	1.3nm,0.5s,baz=91,slow=5.3,SNR=11							
VNDA	**Vanda**	**57.76**	**185**	P		P	10 28 33.1	-0.1
	0.3nm,0.6s,baz=19,slow=6.4,SNR=1.7							
AKASG	**Malin Array Be**	**142.80**	**331**	PKP		PKPdf	10 38 04.4	-0.5
	1.0nm,0.4s,baz=39,slow=4.4,SNR=5.4							

*IDC **24** 10:20:41.9±0.5,64.61N×17.67W,h0km,mb4.0/19, mb1 4.3/21,mb1mx4.1/41,mbtmp4.1/21,ML3.4/2,Error ellipse: s-maj=16.8km s-min=10.7km az=17.0*
*MOS **24** 10:20:41.7±1.0,64.63N×17.58W,h10km,mb4.6/31,Error ellipse: s-maj=13.3km s-min=8.1km az=110.5*
*REY **24** 10:20:41.3,64.68N×17.48W,h9km*
*NEIC **24** 10:20:42.7±1.8,64.60N±0.10×17.5W±0.1,h7km±4km, mb4.6/59,Error ellipse: s-maj=14.3km s-min=8.5km az=195.0*
*BGR **24** 10:20:46.5±0.0,64.17N×17.81W,h10km,mb4.4*
ISC 24 10:20:42.8±0.3,64.67N±0.02×17.51W±0.02,h10km,n232, σ1.1973/243,mb4.4/74,9C-1D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**274**	P		**Pg**	**10 20 43.9**	**-1.7**
	baz=269							
IVON				S		**Sg**	**10 20 46.7**	**-0.9**
	baz=269							
IDYN	**Dyngjuhals**	**0.14**	**26**	P		**Pg**	**10 20 44.4**	**-1.7**
	baz=23							
IDYN				S		**Sg**	**10 20 46.8**	**-1.6**
	baz=23							
IDJK	**Dyngjujokull**	**0.20**	**144**	P		**Pg**	**10 20 45.5**	**-1.6**
	baz=149							
IURH	**Urdarhals**	**0.22**	**45**	P		**Pg**	**10 20 45.5**	**-1.9**
	baz=44							
IURH				S		**Sg**	**10 20 49.2**	**-1.4**
	baz=44							
IGRF	**Grimsfjall**	**0.28**	**158**	P		**Pg**	**10 20 47.0**	**-1.6**
	baz=161							
IKVE	**Kverkfjoll**	**0.36**	**88**	P		**Pg**	**10 20 48.0**	**-2.0**
	baz=89							
IKVE				S		**Sg**	**10 20 52.7**	**-2.1**
	baz=89							
IHUS	**Husbondi**	**0.38**	**190**	P		**Pg**	**10 20 48.9**	**-1.5**
	baz=192							
IHUS				S		**Sb**	**10 20 54.4**	**-3.2**
	baz=192							
ISKR	**Skrokkalda**	**0.39**	**255**	P		**Pg**	**10 20 49.0**	**-1.6**
	baz=254							
IVOT	**Vottur**	**0.42**	**160**	P		**Pg**	**10 20 49.2**	**-1.9**
	baz=162							
IVOT				S		**Sg**	**10 20 55.2**	**-1.5**
	baz=162							
IJOK	**Jokulheimar**	**0.47**	**222**	P		**Pg**	**10 20 50.1**	**-1.9**
	baz=222							
IJOK				S		**Sb**	**10 20 57.2**	**-3.0**
	baz=222							
IASK	**Askja**	**0.53**	**43**	P		**Pg**	**10 20 50.7**	**-2.5**
	baz=43							
IASK				S		**Sg**	**10 20 57.8**	**-2.5**
	baz=43							
IMKO	**Mokollar**	**0.59**	**57**	P		**Pg**	**10 20 51.7**	**-2.6**
	baz=58							
IMKO				S		**Sg**	**10 21 00.1**	**-1.9**
	baz=58							
IIEY	**Innrieyrar**	**0.63**	**205**	P		**Pg**	**10 20 53.0**	**-2.1**
	baz=206							
IKSK	**Karasker**	**0.68**	**138**	P		**Pg**	**10 20 52.8**	**-3.2**
	baz=139							
IKSK				S		**Sg**	**10 21 01.8**	**-3.0**
	baz=139							
ISVA	**Svartarkot**	**0.68**	**9**	P		**Pg**	**10 20 53.3**	**-2.7**
	baz=8.1							
IKAL	**Kalfafell**	**0.73**	**186**	P		**Pg**	**10 20 54.5**	**-2.3**
	baz=187							
IKAL				S		**Sb**	**10 21 04.7**	**-2.8**
	baz=187							
IVSH	**V-Sauoahnukur**	**0.78**	**79**	P		Pg	10 20 54.5	-3.3
	baz=79							
IVSH				S		**Sg**	**10 21 05.0**	**-3.0**
	baz=79							
IVAT	**Vatnsfell**	**0.78**	**232**	P		**Pg**	**10 20 55.5**	**-2.3**
	baz=232							
IADA	**Aoalbol**	**0.90**	**66**	P		Pg	10 20 56.5	-3.6
	baz=66							
IADA				S		**Sg**	**10 21 08.5**	**-3.3**
	baz=66							
IHVE	**Hvervellir**	**0.91**	**284**	P		**Pg**	**10 20 57.2**	**-3.0**
	baz=283							
IREN	**Reynihlio**	**1.02**	**14**	P		Pb	10 20 58.9	-3.6
	baz=14							
ISNB	**Snabyli**	**1.05**	**208**	P		**Pg**	**10 20 60.0**	**-3.1**
	baz=209							
IKVO	**Krokottuvotn**	**1.08**	**14**	P		Pb	10 20 60.0	-3.7
	baz=13							
ISLY	**Slysaalda**	**1.10**	**220**	P		**Pg**	**10 21 00.9**	**-3.0**
	baz=221							
IGRS	**Grimsstaoir**	**1.14**	**30**	P		Pn	10 21 00.9	-3.9
	baz=30							
IGRS				S		**Sb**	**10 21 17.0**	**-2.4**
	baz=30							
IFED	**Fedgar**	**1.15**	**237**	P		**Pg**	**10 21 01.9**	**-2.9**
	baz=237							
IRJU	**Rjupnafell**	**1.17**	**206**	P		**Pg**	**10 21 02.2**	**-3.1**
	baz=207							
IMJO	**Mjoaskard**	**1.20**	**233**	P		**Pg**	**10 21 03.0**	**-2.7**
	baz=233							
ISKI	**Skildingahlsh**	**1.23**	**9**	P		Pn	10 21 02.4	-3.6
	baz=8.8							
ISKI				S		**Sb**	**10 21 19.4**	**-2.5**
	baz=8.8							
IGHA	**Grjothals**	**1.23**	**16**	P		Pn	10 21 02.3	-3.8
	baz=16							
IGRA	**Granastaoir**	**1.26**	**359**	P		Pn	10 21 02.8	-3.6
	baz=358							
IHAU	**Haukadalur**	**1.28**	**238**	P		**Pb**	**10 21 03.7**	**-3.2**
	baz=238							
IHVO	**Lagu-Hvolar**	**1.29**	**208**	P		**Pb**	**10 21 04.1**	**-2.9**
	baz=208							
IDIM	**Dimmadalss**	**1.32**	**10**	P		**Pn**	**10 21 03.9**	**-3.5**
	baz=9.8							
IHLA	**Hella**	**1.33**	**344**	P		**Pn**	**10 21 04.3**	**-3.1**
	baz=344							
IHLA				S		**Sn**	**10 21 22.6**	**-2.6**
	baz=344							
IALF	**Alftagrof**	**1.39**	**213**	P		**Pn**	**10 21 06.0**	**-2.2**
	baz=213							
IHED	**Heoinshofoi**	**1.42**	**3**	P		**Pn**	**10 21 05.4**	**-3.3**
	baz=2.8							
IHED				S		**Sn**	**10 21 24.7**	**-2.7**
	baz=2.8							
IESK	**Eystri-Skogar**	**1.43**	**218**	P		**Pn**	**10 21 06.6**	**-2.2**
	baz=218							
ISAU	**Saurbar**	**1.44**	**243**	P		**Pn**	**10 21 05.9**	**-2.9**
	baz=243							
IMID	**Miomork**	**1.45**	**227**	P		**Pn**	**10 21 07.0**	**-2.1**
	baz=227							
IBRE	**Brettingsstaoi**	**1.47**	**354**	P		**Pn**	**10 21 06.3**	**-3.1**
	baz=353							
IGIL	**Gilhagi**	**1.50**	**18**	P		Pn	10 21 06.2	-3.5
	baz=18							
ISIG	**Siglufjorour**	**1.58**	**339**	P		**Pn**	**10 21 08.2**	**-2.7**
	baz=338							
IASM	**Asmuli**	**1.59**	**240**	P		**Pn**	**10 21 08.9**	**-2.1**
	baz=240							
BORG	**Borgarnes**	**1.64**	**275**	Pn		**Pn**	**10 21 09.2**	**-2.5**
	13nm,0.3s,baz=100,slow=11,SNR=68							
BORG				Sn		**Sb**	**10 21 33.0**	**-0.8**
	16nm,0.3s,baz=340,slow=16,SNR=9.4							
BORG	**Borgarnes**	**1.64**	**275**	P		**Pn**	**10 21 09.7**	**-2.0**
BORG							10 21 34.2	
BORG	**Borgarnes**	**1.64**	**275**	Pn		**Pn**	**10 21 09.7**	**-2.0**
BORG				Sn		**Sg**	**10 21 34.2**	**-1.4**
IKRO	**Krokur**	**1.67**	**252**	P		**Pn**	**10 21 09.7**	**-2.3**
	baz=252							
ISOL	**Solvholt**	**1.67**	**245**	P		**Pn**	**10 21 09.9**	**-2.2**
	baz=245							
IHEI	**Heioarbar**	**1.68**	**256**	P		**Pn**	**10 21 10.0**	**-2.3**
	baz=255							
IHRN	**Hraun**	**1.82**	**324**	P		**Pn**	**10 21 11.6**	**-2.5**
	baz=324							
IKAS	**Kald??rsel**	**2.00**	**253**	P		**Pn**	**10 21 15.2**	**-1.4**
	baz=253							
SUMG	**Summit**	**10.94**	**325**	P		**Pn**	**10 23 18.9**	**-0.6**
SUMG	**Summit**	**10.94**	**325**	Pn		**Pn**	**10 23 18.9**	**-0.6**
EKB9	**Eskdalemuir Ar**	**11.74**	**136**	Pn		**Pn**	**10 23 30.3**	**+0.2**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**	**10 23 30.0**	**-0.4**
	baz=323,slow=13,SNR=8.8							
ESK	**Eskdalemuir**	**11.76**	**136**	P		**Pn**	**10 23 30.8**	**+0.4**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn		**Pn**	**10 23 30.8**	**+0.4**
HFS	**Hagfors**	**15.05**	**93**	Pn		**P**	**10 24 20.6**	**0.0**
	0.1nm,0.3s,baz=303,slow=3.0,SNR=7.8							
BGES	**Gesves**	**18.60**	**130**	Pn		**P**	**10 24 59.7**	**-0.2**
BGES	**Gesves**	**18.60**	**130**	P		Pn	10 25 09.1	+9.0
BGES				PnPn		**PnPn**	**10 25 13.3**	**+1.7**
DOU	**Dourbes**	**18.68**	**131**	P		Pn	10 25 09.1	+7.9
MEM	**Membach**	**18.72**	**128**	pPn		**Pn**	**10 25 03.4**	**+1.8**
MEM	**Membach**	**18.72**	**128**	P		Pn	10 25 08.9	+7.4
FINES	**FINESS Array B**	**19.71**	**79**	P		**Pn**	**10 25 14.2**	**+0.9**
	0.1nm,0.3s,baz=264,slow=4.2,SNR=2.8							
FINES	**FINESS Array B**	**19.71**	**79**	P		**P**	**10 25 13.1**	**+1.2**
MOX	**Moxa**	**20.71**	**119**	*e*P		**P**	**10 25 24.1**	**+1.2**
	23nm,1.3s,baz=319,slow=11							
CLL	**Collm**	**20.71**	**116**	*e*P		**P**	**10 25 23.0**	**+0.1**
	comp=Z,20nm,1.3s							
CLL				*e*PP		**PnPn**	**10 25 41.0**	**+0.4**
CLL	**Collm**	**20.71**	**116**	P		**Pn**	**10 25 24.1**	**+1.2**
CLL				pmax	pmax			
	comp=Z,17nm,1.2s							
CLL	**Collm**	**20.71**	**116**	P		**P**	**10 25 24.1**	**+1.2**
ECH	**Echery**	**21.16**	**129**	P		**P**	**10 25 29.2**	**+1.4**
ECH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ECH	**Echery**	**21.16**	**129**	P		**P**	**10 25 29.2**	**+1.4**
TANN	**Tannenbergstha**	**21.21**	**118**	*e*P		**P**	**10 25 29.5**	**+1.1**
	comp=Z,49nm,1.4s,baz=319,slow=11							
GRA1	**Grafenberg Arr**	**21.34**	**121**	P		**P**	**10 25 26.6**	**-3.1**
GRA1				IAmb		IAmb	10 25 47.9	
	comp=Z,35nm,1.4s							
GRF	**Grafenberg Arr**	**21.34**	**121**	P		**P**	**10 25 26.6**	**-3.1**
GRF				pmax	pmax			
	comp=Z,35nm,1.4s							
GRF	**Grafenberg Arr**	**21.34**	**121**	*e*P		**P**	**10 25 31.6**	**+1.9**
	comp=Z,40nm,1.6s,baz=319,slow=11							
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**	**10 25 32.8**	**+2.9**
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**	**10 25 32.8**	**+2.9**
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P		**P**	**10 25 30.0**	**-0.5**
	comp=Z,26nm,1.3s							
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P		**P**	**10 25 30.0**	**-0.5**
BRG				pmax	pmax			
	comp=Z,26nm,1.3s							
BFO	**Black Forest**	**21.45**	**127**	P		**P**	**10 25 31.3**	**+0.3**
BFO				pmax	pmax			
	comp=Z,15nm,1.1s							
BFO	**Black Forest**	**21.45**	**127**	*e*P		**P**	**10 25 32.7**	**+1.7**
	comp=Z,17nm,1.1s,baz=319,slow=11							
BFO	**Black Forest**	**21.45**	**127**	P		**P**	**10 25 31.3**	**+0.3**
OSTC	**Ostas**	**22.56**	**113**	*e*P		**P**	**10 25 43.2**	**+0.4**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P		**P**	**10 25 44.1**	**0.0**
KHC	**Kasperske Hory**	**22.68**	**118**	*ce*P		**P**	**10 25 44.8**	**+0.7**
KHC				pmax	pmax			
	comp=Z,22nm,1.3s							
KHC	**Kasperske Hory**	**22.68**	**118**	P		**P**	**10 25 44.2**	**+0.1**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**	**10 25 45.8**	**+0.8**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**	**10 25 45.8**	**+0.8**
DAVA	**Damuels**	**22.89**	**126**	*e*P		**P**	**10 25 49.4**	**+3.0**
	comp=Z,7.8nm,0.9s							
GEC2	**GERESS Array S**	**22.96**	**119**	P		**P**	**10 25 47.7**	**+0.6**
GEC2				IAmb		IAmb	10 25 57.9	
	comp=Z,18nm,1.4s							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**10 25 47.8**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=339,slow=7.1,SNR=9.9							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**10 25 46.6**	**-0.5**
RETA	**Reutte**	**23.02**	**125**	*e*P		**P**	**10 25 52.8**	**+5.0**
	comp=Z,11nm,1.6s							
MOTA	**Moosalm**	**23.26**	**124**	*e*P		**P**	**10 25 53.6**	**+3.3**
	comp=Z,8.5nm,1.3s							
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P		**P**	**10 25 52.4**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=356,slow=11,SNR=3.9							
SQTA	**Sankt Quirin**	**23.41**	**124**	*e*P		**P**	**10 25 53.1**	**+1.4**
	comp=Z,3.5nm,0.7s							
TUE	**Stuetta**	**23.41**	**128**	P		**P**	**10 25 51.8**	**-0.1**
FETA	**Feichten**	**23.41**	**125**	*e*P		**P**	**10 25 54.6**	**+2.8**
	comp=Z,6.4nm,1.3s							
WATA	**Walderalm**	**23.44**	**124**	*e*P		**P**	**10 25 54.1**	**+2.1**
	comp=Z,3.7nm,0.6s							
WTTA	**Wattenberg**	**23.52**	**124**	*e*P		**P**	**10 25 54.8**	**+1.9**
	comp=Z,5.8nm,0.9s							
VRAC	**Vranov**	**23.70**	**114**	P		**P**	**10 25 56.6**	**+2.1**
	comp=Z,1.7nm,0.4s,baz=318,slow=7.8,SNR=3.8							
CONA	**Conrad Observa**	**24.54**	**117**	*e*P		**P**	**10 26 03.7**	**+1.4**
	comp=Z,3.9nm,0.8s							
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**10 26 02.1**	**-0.6**
CTI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**	**10 26 02.1**	**-0.6**
MODS	**Modra-Piesok**	**24.72**	**115**	*e*P		**P**	**10 26 05.1**	**+1.1**
MODS	**Modra-Piesok**	**24.72**	**115**	*e*P		**P**	**10 26 05.0**	**+1.1**
MYKA	**Terra Mystica**	**24.79**	**122**	*e*P		**P**	**10 26 10.5**	**+5.9**
	comp=Z,7.4nm,1.2s							
MTE	**Manteigas**	**24.99**	**162**	P		**P**	**10 26 06.4**	**-0.1**
VYHS	**Vyhne**	**25.24**	**112**	*e*P		**P**	**10 26 09.6**	**+1.0**
VYHS	**Vyhne**	**25.24**	**112**	*e*P		**P**	**10 26 09.6**	**+1.0**
SCHQ	**Schefferville**	**26.04**	**271**	P		**P**	**10 26 15.5**	**-0.3**
	comp=Z,12nm,1.1s,baz=54,slow=18,SNR=3.0							
SCHQ	**Schefferville**	**26.04**	**271**	P		**P**	**10 26 16.1**	**+0.3**
SCHQ				IAmb		IAmb	10 26 17.7	
	comp=Z,29nm,1.5s							
PSZ	**Piszkesteto**	**26.12**	**112**	P		**P**	**10 26 16.3**	**-0.4**
PSZ	**Piszkesteto**	**26.12**	**112**	P		**P**	**10 26 16.3**	**-0.4**
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**	**10 26 18.8**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=348,slow=9.1,SNR=12							
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**	**10 26 17.2**	**-0.7**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P		**P**	**10 26 20.0**	**+2.0**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P		**P**	**10 26 20.0**	**+2.0**
UZH	**Uzhgorod**	**26.52**	**108**	*e*P		**P**	**10 26 21.2**	**+1.0**
UZH				*e*			10 26 23.6	
UZH				*e*			10 26 30.0	
AKASG	**Malin Array Be**	**27.85**	**98**	P		**P**	**10 26 32.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=325,slow=9.0,SNR=2.3							
AKASG	**Malin Array Be**	**27.85**	**98**	P		**P**	**10 26 31.0**	**-1.1**
OBN	**Obninsk**	**27.89**	**84**	*i* P		**P**	**10 26 31.8**	**-0.5**
OBN				pmax	pmax			
	comp=Z,14nm,1.0s							
ARU	**Arti**	**36.09**	**66**	*d i* P		**P**	**10 27 44.9**	**+0.7**
ARU							10 29 02.3	
ARU				S		**S**	**10 33 24.6**	**+1.6**
ARU				SS		**SnSn**	**10 35 46.3**	**-1.2**
ARU

IL31			**45.68**	**332**	P	**P**	**10 29 01.4**	**-1.6**
IL31					IAmb	IAmb	10 29 06.8	
	comp=Z,9.8nm,1.4s							
ILAR	**Eielson Array**		**45.68**	**332**	P	**P**	**10 29 05.0**	**+1.8**
	comp=Z,3.0nm,1.1s,baz=26,slow=6.0,SNR=16							
ILAR					PcP	**PcP**	**10 30 41.2**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=291,slow=0.8,SNR=6.1							
ILAR	**Eielson Array**		**45.68**	**332**	P	**P**	**10 29 03.8**	**+0.7**
ILAR						**PcP**	**10 30 41.5**	**+0.7**
MDM	**Murphy Dome**		**45.78**	**333**	P	**P**	**10 29 05.8**	**+1.8**
MDM					IAmb	IAmb	10 29 08.9	
	comp=Z,9.6nm,1.3s							
COLA	**College**		**45.78**	**333**	P	**P**	**10 29 05.7**	**+1.8**
COLA					pmax	pmax		
	comp=Z,12nm,1.1s							
COLA	**College**		**45.78**	**333**	P	**P**	**10 29 05.7**	**+1.8**
TCOL	**CIGO, UAF Yank**		**45.78**	**333**	P	**P**	**10 29 06.1**	**+2.2**
SFIN	**Lafayette**		**45.80**	**273**	P	**P**	**10 29 05.5**	**+1.2**
IMAR	**Indian Mountai**		**45.86**	**337**	P	**P**	**10 29 05.2**	**+0.7**
BCAR	**Beaver Creek A**		**46.10**	**329**	P	**P**	**10 29 08.7**	**+2.2**
BILL	**Bilibino**		**47.55**	**358**	*i* P	**P**	**10 29 18.7**	**+1.0**
BILL					*i*		10 30 47.2	
BILL					pmax	pmax		
	comp=Z,15nm,1.3s							
ZAA0	**Zalesovo Array**		**47.64**	**51**	P	**P**	**10 29 18.0**	**-0.5**
ZAA0					IAmb	IAmb	10 29 21.0	
	comp=Z,4.8nm,1.3s							
ZALV	**Zalesovo Beam**		**47.64**	**51**	P	**P**	**10 29 18.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=327,slow=7.1,SNR=6.5							
ZALV	**Zalesovo Beam**		**47.64**	**51**	*i* P	**P**	**10 29 19.1**	**+0.6**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**		**47.64**	**51**	P	**P**	**10 29 17.9**	**-0.6**
KURK	**Kurchatov**		**48.12**	**58**	P	**P**	**10 29 23.3**	**+1.0**
KURK	**Kurchatov**		**48.12**	**58**	P	**P**	**10 29 22.8**	**+0.6**
KURK					IAmb	IAmb	10 29 23.7	
	comp=Z,7.5nm,1.0s							
KURBB	**Kurchatov Arra**		**48.16**	**58**	P	**P**	**10 29 23.2**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=324,slow=7.3,SNR=23							
TKL	**Tuckaleechee C**		**48.32**	**266**	P	**P**	**10 29 25.4**	**+1.3**
TKL					pmax	pmax		
	comp=Z,9.0nm,1.2s							
TKL	**Tuckaleechee C**		**48.32**	**266**	P	**P**	**10 29 25.4**	**+1.3**
TKL					IAmb	IAmb	10 29 27.6	
	comp=Z,8.9nm,1.1s							
T47A	**Sharon Grove**		**48.63**	**270**	P	**P**	**10 29 27.9**	**+1.5**
EGMT	**Eagleton**		**48.87**	**297**	P	**P**	**10 29 28.5**	**+0.3**
KK31	**Karatay Array**		**51.28**	**70**	P	**P**	**10 29 46.3**	**-0.2**
KK31					pmax	pmax		
	comp=Z,6.0nm,1.2s							
KK31	**Karatay Array**		**51.28**	**70**	P	**P**	**10 29 46.3**	**-0.2**
KK31					IAmb	IAmb	10 29 51.5	
	comp=Z,6.0nm,1.2s							
KKAR	**Karatay Array**		**51.28**	**70**	P	**P**	**10 29 46.9**	**+0.4**
KKAR					pmax	pmax		
	comp=Z,6.0nm,1.2s							
KKAR	**Karatay Array**		**51.28**	**70**	P	**P**	**10 29 46.9**	**+0.4**
KKAR					IAmb	IAmb	10 29 51.5	
	comp=Z,6.0nm,1.2s							
BOZ	**Bozeman (W)**		**51.60**	**297**	P	**P**	**10 29 49.7**	**+0.7**
BOZ					pmax	pmax		
	comp=Z,8.0nm,1.2s							
BOZ	**Bozeman (W)**		**51.60**	**297**	P	**P**	**10 29 49.7**	**+0.7**
BOZ					IAmb	IAmb	10 29 52.0	
	comp=Z,7.6nm,1.2s							
DGZ	**Jazzator, Alta**		**52.08**	**53**	*i* P	**P**	**10 29 54.4**	**+1.8**
DGZ					pmax	pmax		
	comp=Z,5.0nm,1.0s							
MAKZ	**Makanchi**		**52.60**	**59**	P	**P**	**10 29 56.5**	**+0.2**
MAKZ					pmax	pmax		
	comp=Z,4.0nm,1.1s							
MAKZ	**Makanchi**		**52.60**	**59**	P	**P**	**10 29 56.5**	**+0.2**
MK31	**Makanchi Array**		**52.73**	**58**	*ce*P	**P**	**10 29 58.8**	**+1.5**
MK31	**Makanchi Array**		**52.73**	**58**	P	**P**	**10 29 57.3**	**+0.1**
MKAR	**Makanchi Array**		**52.73**	**58**	P	**P**	**10 29 58.0**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=316,slow=6.8,SNR=12							
MKAR	**Makanchi Array**		**52.73**	**58**	P	**P**	**10 29 57.9**	**+0.6**
TOA0	**Torodi Ar. Sit**		**53.14**	**156**	P	**P**	**10 30 00.8**	**+0.2**
TOA0					IAmb	IAmb	10 30 03.3	
	comp=Z,8.7nm,1.4s							
TORD	**Torodi Ar. Bea**		**53.14**	**156**	P	**P**	**10 30 00.3**	**-0.2**
	comp=Z,127nm,0.8s,baz=335,slow=6.0,SNR=9.5							
PD31	**Pinedale Array**		**53.17**	**293**	P	**P**	**10 30 01.4**	**+0.6**
PD31					IAmb	IAmb	10 30 02.4	
	comp=Z,8.2nm,1.2s							
PDAR	**Pinedale Array**		**53.17**	**293**	P	**P**	**10 30 01.4**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=47,slow=6.5,SNR=16							
PDAR	**Pinedale Array**		**53.17**	**293**	P	**P**	**10 30 01.0**	**+0.2**
BW06	**Boulder Array**		**53.17**	**293**	P	**P**	**10 30 00.7**	**-0.1**
BW06					IAmb	IAmb	10 30 02.4	
	comp=Z,8.2nm,1.2s							
REDW	**Red Top Meadow**		**53.18**	**295**	P	**P**	**10 29 59.7**	**-1.2**
REDW					IAmb	IAmb	10 30 08.6	
	comp=Z,7.5nm,1.4s							
AAK	**Ala-Archa**		**53.26**	**67**	*ce*P	**P**	**10 30 02.1**	**+0.7**
AAK					pmax	pmax		
	comp=Z,18nm,1.3s							
BTK	**Batken**		**53.96**	**72**	P	**P**	**10 30 07.2**	**+0.7**
BTK					pmax	pmax		
	comp=Z,17nm,1.2s							
BTK	**Batken**		**53.96**	**72**	P	**P**	**10 30 07.2**	**+0.7**
CHGR	**Chuyangaron**		**54.47**	**74**	P	**P**	**10 30 11.7**	**+1.5**
GAR	**Garm**		**54.65**	**73**	P	**P**	**10 30 13.5**	**+1.9**
HWUT	**Hardware Ranch**		**54.95**	**294**	P	**P**	**10 30 14.0**	**+0.2**
HWUT					IAmb	IAmb	10 30 16.6	
	comp=Z,6.6nm,1.1s							
TCUT	**Toone Canyon**		**55.30**	**294**	P	**P**	**10 30 17.6**	**+1.2**
KSH	**Kashi**		**56.50**	**68**	P	**P**	**10 30 27.5**	**+2.6**
KSH					pmax	pmax		
	comp=Z,12nm,0.9s							
DUG	**Dugway, Tooele**		**56.64**	**294**	P	**P**	**10 30 27.2**	**+1.3**
DUG					pmax	pmax		
	comp=Z,5.0nm,1.3s							
DUG	**Dugway, Tooele**		**56.64**	**294**	P	**P**	**10 30 27.2**	**+1.3**
DUG					IAmb	IAmb	10 30 28.8	
	comp=Z,5.4nm,1.3s							
PV16	**Nyswonger Mesa**		**56.70**	**290**	P	**P**	**10 30 26.7**	**+0.3**
PV16					IAmb	IAmb	10 30 28.6	
	comp=Z,8.0nm,1.3s							
PV01	**Paradox Valley**		**56.71**	**289**	P	**P**	**10 30 28.2**	**+1.7**
PV01					IAmb	IAmb	10 30 28.8	
	comp=Z,6.4nm,1.1s							
PV13	**Radium Mtn., P**		**56.79**	**290**	P	**P**	**10 30 28.7**	**+1.6**
PV13					IAmb	IAmb	10 30 29.8	
	comp=Z,10nm,1.1s							
WMQ	**Urumqi**		**57.24**	**56**	*e*P	**P**	**10 30 33.8**	**+3.9**
MSU	**Marysvale**		**57.84**	**293**	P	**P**	**10 30 35.3**	**+0.8**
MSU	**Marysvale**		**57.84**	**293**	P	**P**	**10 30 35.3**	**+0.8**
MVU	**Marysvale**		**57.86**	**293**	P	**P**	**10 30 36.4**	**+1.8**
ANMO	**Albuquerque**		**58.59**	**286**	*ce*P	**P**	**10 30 42.2**	**+2.5**
ANMO					pmax	pmax		
	comp=Z,11nm,2.5s							
DBIC	**Dimbokro**		**58.59**	**165**	P	**P**	**10 30 39.5**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=342,slow=7.3,SNR=3.6							
DBIC	**Dimbokro**		**58.59**	**165**	P	**P**	**10 30 39.5**	**-0.1**
DBIC					pmax	pmax		
	comp=Z,16nm,1.4s							
DBIC	**Dimbokro**		**58.59**	**165**	IAmb	IAmb	10 30 46.5	
	comp=Z,16nm,1.4s							
CCUT	**Cedar City**		**59.14**	**293**	P	**P**	**10 30 43.1**	**-0.4**
R11A	**Troy Canyon, C**		**59.32**	**295**	P	**P**	**10 30 46.4**	**+1.7**
R11A					IAmb	IAmb	10 30 47.5	
	comp=Z,4.1nm,1.3s							
BNM	**Barren Site**		**59.34**	**285**	P	**P**	**10 30 45.8**	**+0.8**
LCMT	**Little Creek M**		**59.56**	**293**	P	**P**	**10 30 47.7**	**+1.4**
JCT	**Junction City**		**59.64**	**278**	P	**P**	**10 30 47.7**	**+0.9**
JCT					pmax	pmax		
	comp=Z,7.0nm,1.1s							
JCT	**Junction City**		**59.64**	**278**	P	**P**	**10 30 47.7**	**+0.9**
JCT					IAmb	IAmb	10 30 49.5	
	comp=Z,7.1nm,1.1s							
SONM	**Songino Array**		**59.64**	**40**	P	**P**	**10 30 47.9**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=332,slow=5.9,SNR=6.6							
SONM	**Songino Array**		**59.64**	**40**	P	**P**	**10 30 47.2**	**+0.4**
KVN	**Kaiserville**		**59.68**	**298**	P	**P**	**10 30 47.8**	**+0.6**
KVN					pmax	pmax		
	comp=Z,3.0nm,1.1s							
KVN	**Kaiserville**		**59.68**	**298**	P	**P**	**10 30 47.8**	**+0.6**
ULN	**Ulaanbaatar**		**59.80**	**40**	*ce*P	**P**	**10 30 48.3**	**+0.5**
ULN					pmax	pmax		
	comp=Z,5.0nm,1.7s							
WUAZ	**Wupatki**		**60.10**	**290**	P	**P**	**10 30 51.3**	**+1.2**
WUAZ					IAmb	IAmb	10 30 52.6	
	comp=Z,7.9nm,1.2s							
NVAR	**Mina Array Bea**		**60.30**	**297**	P	**P**	**10 30 52.5**	**+1.0**
	comp=Z,0.8nm,1.0s,baz=54,slow=6.0,SNR=3.8							
NIL	**Nilore**		**60.45**	**73**	P	**P**	**10 30 52.9**	**+0.5**
NIL					pmax	pmax		
	comp=Z,8.0nm,0.8s							
NIL	**Nilore**		**60.45**	**73**	P	**P**	**10 30 52.9**	**+0.5**
MNTX	**Cornudas Mount**		**60.95**	**283**	P	**P**	**10 30 56.2**	**+0.5**
MNTX					IAmb	IAmb	10 30 57.5	
	comp=Z,4.6nm,1.4s							
TXAR	**Lajitas Array**		**62.28**	**280**	P	**P**	**10 31 05.8**	**+0.9**
	comp=Z,1.2nm,1.0s,baz=46,slow=3.6,SNR=8.8							
TXAR	**Lajitas Array**		**62.28**	**280**	P	**P**	**10 31 06.0**	**+1.1**
TXAR	**Lajitas Array**		**62.28**	**280**	P	**P**	**10 31 06.0**	**+1.1**
TUC	**Tucson**		**62.65**	**288**	P	**P**	**10 31 07.3**	**0.0**
TUC					pmax	pmax		
	comp=Z,6.0nm,1.5s							
TUC	**Tucson**		**62.65**	**288**	P	**P**	**10 31 07.3**	**0.0**
TUC					IAmb	IAmb	10 31 10.3	
	comp=Z,6.2nm,1.4s							
GTA	**Gaotai**		**65.30**	**49**	*e*P	**P**	**10 31 23.8**	**-0.9**
GTA					pP	pP	10 31 28.6	+0.2
GTA					sP	sP	10 31 31.5	+1.8
GTA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
HHC	**Hu-ho-hao-te**		**67.52**	**40**	*e*P	**P**	**10 31 39.8**	**+1.0**
LZH	**Lanzhou**		**69.63**	**48**	*e*P	**P**	**10 31 50.4**	**-1.8**
LZH					pP	pP	10 31 55.5	-0.4
LZH					sP	sP	10 31 57.9	+0.7
LZH					pmax	pmax		
	comp=Z,20nm,1.3s							
NJ2	**Nanjing**		**77.74**	**37**	*e*P	**P**	**10 32 39.0**	**-0.6**
NJ2					pmax	pmax		
	comp=Z,9.0nm,0.5s							
CMAR	**Chiang Mai Arr**		**84.14**	**59**	P	**P**	**10 33 14.7**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=319,slow=6.0,SNR=8.1							
CMAR	**Chiang Mai Arr**		**84.14**	**59**	P	**P**	**10 33 13.7**	**-0.3**
WRA	**Warramunga Arr**		**131.53**	**36**	PKP	**PKPdf**	**10 39 55.2**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=356,slow=1.7,SNR=3.1							
ASAR	**Alice Springs**		**134.97**	**38**	PKP	**PKPdf**	**10 40 01.9**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=350,slow=2.2,SNR=5.1							
STKA	**Stephens Creek**		**144.72**	**32**	PKP	**PKPab**	**10 40 17.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=11,slow=13,SNR=3.6							

BJI ***24*** *10:23:58.0±0.0, 64.70N×17.30W, h5km, mB5.4/25, mb4.9/31, Ms4.7/13, Ms7 4.6/14*
REY ***24*** *10:23:59.1, 64.66N×17.38W, h3km*
IDC ***24*** *10:24:00.2±0.5, 64.65N×17.49W, h0km, mb4.3/24, mb1 4.4/28, mb1mx4.3/46, mbtmp4.3/28, ML2.9/3, MS4.1/36, Ms1 4.1/36, ms1mx4.0/47, Error ellipse: s-maj=15.1km s-min=9.4km az=16.0*
MOS ***24*** *10:24:00.9±1.0, 64.67N×17.27W, h9km, mb4.9/51, MS4.2/12, Error ellipse: s-maj=10.4km s-min=6.3km az=106.1*
NEIC ***24*** *10:24:02.4±2.1, 64.66N±0.09×17.3W±0.1, h9km±3km, mb4.8/161, Error ellipse: s-maj=12.4km s-min=8.1km az=189.0*
GCMT ***24*** *10:24:03.4±0.2, 64.69N±0.02×17.15W±0.04, h12km, MW4.8/123, Moment Tensor Solution. s40,c42; s123,c158; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.45±.05; Mθθ 1.29±.06; Mφφ 1.16±.05; Mrθ 0.50±.24; Mθφ-0.38±.05; Mrφ-0.44±.25; Best double couple: M○2.13400×10^16 NP1:φs130.00000°, δ36.00000°, λ-90.00000°. NP2:φs310.00000°, δ54.00000°, λ-90.00000°. Principal axes: T 1.7130, Plg9.0000°, Azm40.0000°; N 0.8420, Plg0.0000°, Azm130.0000°; P -2.5560, Plg81.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***24*** *10:24:04.4±0.0, 64.47N×18.01W, h10km, mb5.5, Ms4.1*
ISC 24 10:24:02.3±0.3, 64.71N±0.02×17.38W±0.03, h10km, n457, σ1ş83/429, mb4.8/159, MS4.2/47, 12C-6D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.08**	**4**	P	**Pg**	**10 24 02.0**	**-2.8**
	baz=2.4						
IDYN				S	**Sg**	**10 24 04.7**	**-1.9**
	baz=2.4						
IURH	**Urdarhals**	**0.15**	**41**	P	**Pg**	**10 24 03.4**	**-2.3**
	baz=31						
IURH				S	**Sg**	**10 24 06.8**	**-1.3**
	baz=31						
IVON	**Vonarskard**	**0.17**	**258**	P	Pg	10 24 02.4	-3.6
	baz=276						
IDJK	**Dyngjujokull**	**0.21**	**163**	P	Pg	10 24 02.3	-4.5
	baz=158						
IKVE	**Kverkfjoll**	**0.30**	**95**	P	**Pg**	**10 24 05.4**	**-3.1**
	baz=86						
IGRF	**Grimsfjall**	**0.31**	**171**	S	**Sg**	**10 24 09.0**	**-3.6**
	baz=169						
IGRF				P	**Pg**	**10 24 04.3**	**-4.2**
	baz=169						
IKRE	**Kreppuhraun**	**0.43**	**79**	P	**Pg**	**10 24 07.2**	**-3.6**
	baz=73						
IKRE				S	**Sg**	**10 24 14.6**	**-2.0**
	baz=73						
IVOT	**Vottur**	**0.45**	**169**	P	**Pg**	**10 24 06.7**	**-4.3**
	baz=168						
ISKR	**Skrokkalda**	**0.46**	**252**	P	Pg	10 24 07.5	-3.8
	baz=258						
IASK	**Askja**	**0.47**	**42**	P	**Pg**	**10 24 08.4**	**-3.0**
	baz=38						
IASK				S	**Sg**	**10 24 15.6**	**-2.0**
	baz=38						
IMKO	**Mokollar**	**0.52**	**58**	P	**Pg**	**10 24 09.3**	**-3.1**
	baz=54						
IMKO				S	**Sg**	**10 24 17.7**	**-1.6**
	baz=54						
IJOK	**Jokulheimar**	**0.54**	**223**	P	Pg	10 24 09.0	-3.8
	baz=227						
ISVA	**Svartarkot**	**0.63**	**5**	P	**Pg**	**10 24 11.3**	**-3.3**
	baz=4.4						
ISVA				S	**Sg**	**10 24 21.2**	**-1.7**
	baz=4.4						
IKSK	**Karasker**	**0.68**	**144**	P	Pg	10 24 10.2	-5.1
	baz=141						
IIEY	**Innrieyrar**	**0.69**	**208**	P	Pg	10 24 10.9	-4.8
	baz=210						
IVSH	**V-Sauoahnukur**	**0.71**	**81**	P	**Pg**	**10 24 11.9**	**-4.2**
	baz=77						
IVSH				S	**Sg**	**10 24 22.0**	**-3.5**
	baz=77						
IKAL	**Kalfafell**	**0.78**	**190**	P	Pg	10 24 12.2	-5.0
	baz=191						
IADA	**Aoalbol**	**0.83**	**67**	P	**Pg**	**10 24 14.2**	**-4.1**
	baz=64						
IVAT	**Vatnsfell**	**0.85**	**233**	P	Pg	10 24 13.9	-4.7
	baz=236						
IHVE	**Hveravellir**	**0.95**	**281**	P	Pg	10 24 15.7	-4.9
	baz=284						
IREN	**Reynihlio**	**0.96**	**12**	P	**Pg**	**10 24 16.7**	**-4.1**
	baz=11						
IKVO	**Krokottuvotn**	**1.03**	**12**	P	**Pg**	**10 24 17.8**	**-4.3**
	baz=11						
IGRS	**Grimsstaoir**	**1.07**	**29**	P	**Pg**	**10 24 18.7**	**-4.2**
	baz=28						
ISNB	**Snabyli**	**1.12**	**210**	P	Pb	10 24 18.2	-5.5
	baz=211						
ISLY	**Slysaalda**	**1.17**	**221**	P	Pb	10 24 19.2	-5.3
	baz=223						
ISKI	**Skildingahlsh**	**1.18**	**7**	P	Pb	10 24 20.0	-4.7
	baz=6.8						
IGHA	**Grjothals**	**1.18**	**14**	P	**Pb**	**10 24 20.3**	**-4.4**
	baz=14						
IFED	**Fedgar**	**1.22**	**237**	P	Pn	10 24 20.3	-5.1
	baz=239						
IGRA	**Granastaoir**	**1.22**	**356**	P	**Pn**	**10 24 21.2**	**-4.2**
	baz=356						
IRJU	**Rjupnafell**	**1.23**	**208**	P	Pn	10 24 20.4	-5.1
	baz=209						
IMJO	**Mjoaskard**	**1.27**	**233**	P	Pn	10 24 20.7	-5.3
	baz=235						
IDIM	**Dimmadalss**	**1.27**	**8**	P	**Pn**	**10 24 21.7**	**-4.4**
	baz=8.0						
IHLA	**Hella**	**1.31**	**342**	P	**Pn**	**10 24 22.6**	**-4.0**
	baz=342						
IHAU	**Haukadalur**	**1.35**	**238**	P	Pn	10 24 22.6	-4.6
	baz=240						
IHED	**Heoinshofoi**	**1.38**	**1**	P	**Pn**	**10 24 23.4**	**-4.2**
	baz=1.1						
IGIL	**Gilhagi**	**1.44**	**17**	P	**Pn**	**10 24 24.3**	**-4.1**
	baz=16						
ISAU	**Saurbar**	**1.50**	**243**	P	Pn	10 24 24.4	-4.8
	baz=244						
BORG	**Borgarnes**	**1.69**	**273**	Pn	**Pn**	**10 24 28.5**	**-3.4**
	43nm,0.3s,baz=88,slow=7.8,SNR=24						
BORG				Sn	**Sn**	**10 24 51.8**	**-1.8**
	32nm,0.3s,baz=265,slow=23,SNR=7.0						
BORG	**Borgarnes**	**1.69**	**273**	Pn	**Pn**	**10 24 28.6**	**-3.3**
BORG				Sn	**Sn**	**10 24 50.8**	**-2.8**
ISOL	**Solvholt**	**1.74**	**245**	P	Pn	10 24 28.0	-4.5
	baz=246						
JMIC	**Jan Mayen**	**7.13**	**24**	LR	LR	10 27 41.3	
	comp=Z,520nm,21.4s,baz=262,slow=31						
SUMG	**Summit**	**10.94**	**325**	P	**Pn**	**10 26 38.4**	**-0.6**
SUMG	**Summit**	**10.94**	**325**	Pn	**Pn**	**10 26 38.4**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**10 26 47.2**	**-2.6**
	baz=323,slow=14,SNR=16						
ESK	**Eskdalemuir**	**11.75**	**137**	P	**Pn**	**10 26 48.9**	**-0.9**
ESK	**Eskdalemuir**	**11.75**	**137**	Pn	**Pn**	**10 26 48.9**	**-0.9**
NC204	**NORSAR Array S**	**13.18**	**92**	Pn	**Pn**	**10 27 07.2**	**-2.2**
NBO00	**NORSAR Array S**	**13.30**	**93**	Pn	**Pn**	**10 27 08.5**	**-2.4**
NOA	**NORSAR Array B**	**13.48**	**93**	Pn	**Pn**	**10 27 09.9**	**-3.5**
	0.0nm,0.3s,baz=298,slow=13,SNR=5.2						
NOA				LR	LR	10 32 22.7	
	comp=Z,745nm,20.1s,baz=295,slow=37						
HFS	**Hagfors**	**15.00**	**93**	Pn	**P**	**10 27 39.7**	**+0.2**
	0.2nm,0.3s,baz=335,slow=6.6,SNR=11						
HFS				LR	LR	10 33 09.0	
	comp=Z,1μm,21.0s,baz=296,slow=36						
SPITS	**Spitsbergen Ar**	**16.81**	**23**	LR	LR	10 32 41.9	
	comp=Z,745nm,21.6s,baz=215,slow=31						
NOR	**Nord**	**16.99**	**0**	*i* P	**Pn**	**10 28 00.8**	**+1.3**
NOR				pmax	pmax		
	comp=Z,240nm,1.9s						
NOR	**Nord**	**16.99**	**0**	*i* P	**Pn**	**10 28 00.8**	**+1.3**
	comp=Z,239nm,1.9s						
NOR	**Nord**	**16.99**	**0**	*i* P	**Pn**	**10 28 00.8**	**+1.3**
NOR				IAmb	IAmb	10 28 05.9	
	comp=Z,240nm,1.9s						
ARC6	**ARCESS Array S**	**17.05**	**55**	Pn	**Pn**	**10 27 59.1**	**-1.3**
ARB5	**ARCESS Array S**	**17.05**	**55**	Pn	**Pn**	**10 28 00.1**	**-0.4**
ARCES	**ARCESS Array B**	**17.05**	**55**	P	**P**	**10 28 01.4**	**-0.8**
	baz=272,slow=10,SNR=4.9						
ARCES				LR	LR	10 33 22.1	
	comp=Z,1μm,20.9s,baz=280,slow=33						
BSEG	**Bad Segeberg**	**17.61**	**115**	*e*L	L	10 35 31.4	
	comp=Z,1μm,18.7s						
BUG	**Bochum--Univer**	**18.44**	**124**	*e*P	**Pn**	**10 28 17.0**	**-0.6**
	comp=Z,802nm,3.0s,baz=323,slow=11						
BMRD	**Maredsous**	**18.55**	**131**	pPn	**P**	**10 28 18.0**	**-0.8**
BSTI	**Sart Tilman**	**18.57**	**129**	pPn	**Pn**	**10 28 20.1**	**+0.8**
BSTI	**Sart Tilman**	**18.57**	**129**	P	**Pn**	**10 28 25.4**	**+6.1**
BGES	**Gesves**	**18.58**	**130**	pPn	**P**	**10 28 18.3**	**-0.9**
BCLA	**Clavier**	**18.62**	**129**	pPn	**Pn**	**10 28 19.9**	**0.0**
NRDL	**Niedersach Rie**	**18.63**	**118**	*e*P	**P**	**10 28 18.2**	**-1.5**
	comp=Z,250nm,1.9s,baz=323,slow=11						
DOU	**Dourbes**	**18.67**	**131**	pPn	**Pn**	**10 28 20.5**	**+0.1**
MEM	**Membach**	**18.70**	**128**	pPn	**Pn**	**10 28 21.3**	**+0.5**
BTNL	**Ternell**	**18.76**	**128**	pPn	**Pn**	**10 28 22.4**	**+0.8**
BHOU	**Houvegnez**	**18.91**	**128**	pPn	**Pn**	**10 28 23.2**	**-0.2**
AHRW	**Bad Neuenahr-A**	**19.12**	**126**	*e*P	**Pn**	**10 28 26.2**	**+0.2**
	comp=Z,832nm,3.1s,baz=323,slow=11						
CLZ	**Clausthal**	**19.25**	**119**	*e*P	**P**	**10 28 26.8**	**+0.3**
	comp=Z,1μm,3.6s,baz=323,slow=11						
GTTG	**Gottingen**	**19.34**	**120**	*e*P	**Pn**	**10 28 28.0**	**-0.5**
	comp=Z,1μm,3.5s,baz=323,slow=11						
FINES	**FINESS Array B**	**19.65**	**79**	P	**P**	**10 28 30.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=6.3						
FINES				LR	LR	10 36 24.6	
	comp=Z,194nm,20.6s,baz=275,slow=38						
FINES	**FINESS Array B**	**19.65**	**79**	P	**P**	**10 28 30.0**	**-0.8**
TNS	**Taunus Mts**	**19.87**	**125**	*e*P	**P**	**10 28 33.6**	**+0.3**
	comp=Z,231nm,2.3s,baz=323,slow=11						
TNS				*e*L	L	10 37 02.3	
	comp=Z,400nm,18.7s						
APA	**Apatity**	**20.26**	**59**	*i* P	**P**	**10 28 37.2**	**-0.2**
APA				pmax	pmax		
	comp=Z,16nm,0.9s						
APA				MLR	MLR		
	comp=Z,2μm,21.0s						
NEUB	**Neuenburg**	**20.29**	**118**	*e*P	**P**	**10 28 37.9**	**+0.2**
	comp=Z,195nm,1.7s,baz=323,slow=11						
LVZ	**Lovozero**	**20.63**	**58**	P	**P**	**10 28 42.1**	**+0.6**
LVZ				pmax	pmax		
	comp=Z,109nm,1.4s						
LVZ	**Lovozero**	**20.63**	**58**	P	**P**	**10 28 42.1**	**+0.6**
CLL	**Collm**	**20.68**	**116**	*i* P	**P**	**10 28 40.6**	**-1.4**
	comp=Z,155nm,1.9s						
CLL				*i*		10 28 51.3	
CLL				*i* (PP)		10 29 03.7	
CLL				*e*S	Sn	10 32 35.0	-2.3
CLL	**Collm**	**20.68**	**116**	*i* P	**P**	**10 28 40.6**	**-1.4**
CLL				*e*S	Sn	10 32 35.0	-2.3
CLL				pmax	pmax		
	comp=Z,155nm,1.9s						
CLL	**Collm**	**20.68**	**116**	*e*P	**P**	**10 28 42.0**	**0.0

BFO Black Forest 21.43 128 P **P** **10 28 49.5 -0.7**
BFO IAmb IAmb 10 29 05.8
comp=Z,58nm,1.5s

VSU Vasula 21.51 86 *e*P **P** **10 28 50.9 -0.1**
FRB Frobisher Bay 21.78 291 LR LR 10 37 00.3
comp=Z,914nm,19.4s,baz=56,slow=36

PABE Paberze 22.16 95 *e*P **P** **10 28 58.7 +0.7**
PRA Prague 22.21 116 *e*S Sn 10 33 08.4 -5.8
PRA AMS AMS 10 38 20.0
comp=Z,500nm,19.1s

PRU Pruhonice 22.32 116 *e*P **P** **10 29 02.1 +2.4**
PRU *e*S **S** **10 33 07.1 +2.2**
PRU AMS AMS 10 38 30.0
comp=Z,900nm,18.0s

PRU Pruhonice 22.32 116 *e*P **P** **10 29 02.1 +2.4**
PRU *e*S **S** **10 33 07.1 +2.2**
PRU MLR MLR
comp=Z,900nm,18.0s

KSP Ksiaz 22.33 112 *e*P **P** **10 29 00.3 +0.5**
WET Wettzell 22.38 120 *e*L L 10 37 45.6
comp=Z,927nm,20.9s

CHVC Chvalec 22.44 113 AMS AMS 10 37 20.0
comp=Z,800nm,18.5s

UPC Upice 22.48 113 *e*P **P** **10 29 00.9 -0.6**
UPC *e*S **S** **10 33 13.6 +5.7**
UPC AMS AMS 10 38 50.0
comp=Z,800nm,12.7s

UPC Upice 22.48 113 *e*P **P** **10 29 00.9 -0.6**
UPC MLR MLR
comp=Z,800nm,12.7s

OSTC Ostas 22.52 113 *e*P **P** **10 29 04.2 +2.3**
OSTC *e*S **S** **10 33 12.4 +3.7**
OSTC AMS AMS 10 37 30.0
comp=Z,700nm,18.2s

FUR Furstenfeldbru 22.61 123 *e*L L 10 39 11.4
comp=Z,653nm,18.8s

UBR Ueberruh 22.61 126 *e*P **P** **10 29 03.4 +0.6**
comp=Z,3µm,4.3s,baz=323,slow=11

KHC Kasperske Hory 22.65 119 *e*P **P** **10 29 02.8 -0.5**
KHC *epP* **pP** **10 29 05.0 -1.5**
KHC *e*S **S** **10 33 15.2 +4.2**
KHC AMS AMS 10 37 20.0
comp=Z,900nm,18.8s

KHC Kasperske Hory 22.65 119 *e*P **P** **10 29 02.8 -0.5**
KHC *e* 10 29 05.0
KHC MLR MLR
comp=Z,900nm,18.8s

KHC Kasperske Hory 22.65 119 P **P** **10 29 02.5 -0.8**
DPC Dobruska-Polom 22.73 113 *e*P **P** **10 29 04.4 +0.3**
DPC *e*S **S** **10 33 17.7 +5.2**
DPC AMS AMS 10 38 20.0
comp=Z,700nm,16.7s

DPC Dobruska-Polom 22.73 113 *e*P **P** **10 29 04.4 +0.3**
DPC MLR MLR
comp=Z,700nm,16.7s

SENIN Lac Senin/Sane 22.81 132 **P** **10 29 05.0 -0.3**
SENIN IAmb IAmb 10 29 16.0
comp=Z,37nm,1.5s

SUW Suwalki 22.84 99 *e*P **P** **10 29 04.8 -0.3**
DAVA Damuels 22.86 127 *e*P **P** **10 29 07.1 +1.4**
comp=Z,23nm,1.4s

GEC2 GERESS Array S 22.93 119 *e*P **P** **10 29 06.4 +0.1**
comp=Z,232nm,2.1s,baz=323,slow=11
GEC2 *e*L L 10 38 12.1
comp=Z,913nm,21.7s

GEC2 GERESS Array S 22.93 119 P **P** **10 29 05.3 -1.0**
GEC2 IAmb IAmb 10 29 21.9
comp=Z,37nm,1.4s

GERES GERESS Array B 22.93 119 P **P** **10 29 06.8 +0.5**
comp=Z,4.5nm,1.0s,baz=334,slow=8.9,SNR=15

GERES GERESS Array B 22.93 119 P **P** **10 29 05.0 -1.3**
SSB Saint Sauveur 22.95 137 P **P** **10 29 04.9 -1.5**
SSB pmax pmax
comp=Z,20nm,1.1s

SSB Saint Sauveur 22.95 137 P **P** **10 29 04.9 -1.5**
RETA Reutte 23.00 125 *i* P **P** **10 29 07.6 +0.6**
comp=Z,25nm,2.0s,SNR=6.4

ISAL Salakas 23.04 93 *e*P **P** **10 29 08.1 +0.8**
KRLC Kraliky 23.13 113 *e*P **P** **10 29 08.0 -0.3**
KRLC *e*S **S** **10 33 23.8 +4.4**
KRLC AMS AMS 10 38 40.0
comp=Z,800nm,18.0s

KRLC Kraliky 23.13 113 *e*P **P** **10 29 08.0 -0.3**
KRLC MLR MLR
comp=Z,800nm,18.0s

IIGN Ignalina 23.23 93 *e*P **P** **10 29 10.0 +0.8**
MOTA Moosalm 23.24 125 *e*P **P** **10 29 09.3 -0.3**
comp=Z,23nm,1.5s

TREC Trest 23.25 116 *e*P **P** **10 29 07.4 -2.0**
TREC Trest 23.25 116 *e*P **P** **10 29 07.4 -2.0**
DAVOX Davos/Dischmat 23.30 127 P **P** **10 29 10.6 +0.4**
comp=Z,5.6nm,0.9s,baz=331,slow=12,SNR=6.7
DAVOX LR LR 10 39 10.3
comp=Z,682nm,18.2s,baz=330,slow=39

PGAV Gavieira, Arco 23.38 163 *e*P **P** **10 29 15.3 +4.4**
comp=Z,62nm,1.9s
PGAV *i* LQ LQ 10 33 29.0
PGAV *e*LR LR 10 35 20.6
comp=Z,322nm,16.0s

SQTA Sankt Quirin 23.39 125 *e*P **P** **10 29 11.6 +0.6**
comp=Z,38nm,1.7s

FETA Feichten 23.39 126 *e*P **P** **10 29 14.1 +3.1**
comp=Z,20nm,1.3s

TUE Stuetta 23.39 128 P **P** **10 29 09.2 -1.9**
TUE IAmb IAmb 10 29 12.9
comp=Z,30nm,1.3s

WATA Walderalm 23.42 124 *i* P **P** **10 29 12.8 +1.5**
comp=Z,23nm,1.5s,SNR=5.1

IDID Didziasalis 23.48 93 *e*P **P** **10 29 12.6 +1.0**
WTTA Wattenberg 23.50 124 *i* P **P** **10 29 13.0 +0.8**
comp=Z,34nm,1.7s,SNR=11

FUORN Ofenpass-Fuorn 23.57 127 P **P** **10 29 11.4 -1.6**
FUORN IAmb IAmb 10 29 14.7
comp=Z,28nm,1.4s

EUNU Eureka 23.65 336 P **P** **10 29 14.4 +1.1**
VRAC Vranov 23.66 114 P **P** **10 29 14.1 +0.6**
comp=Z,3.5nm,0.6s,baz=326,slow=10,SNR=16
VRAC LR LR 10 39 45.9
comp=Z,833nm,18.3s,baz=332,slow=40

VRAC Vranov 23.66 114 *e*P **P** **10 29 12.9 -0.7**
MORC Moravsky Berou 23.67 112 *e*P **P** **10 29 12.7 -0.9**
MORC Moravsky Berou 23.67 112 P **P** **10 29 12.3 -1.4**
MORC pmax pmax
comp=Z,14nm,1.3s

MORC Moravsky Berou 23.67 112 P **P** **10 29 12.3 -1.4**
PBRG Braganca 23.74 160 *e*P **P** **10 29 15.0 +0.6**
comp=Z,41nm,1.8s

NACGM Naroch 23.77 93 *e*P **P** **10 29 14.0 -0.5**
NACGM *e*S **S** **10 33 27.0 -2.6**
NACGM *e*LR LR 10 36 24.0
KRUC Moravsky 23.79 115 *e*P **P** **10 29 13.6 -1.1**
BNI Bardonecchia 23.79 134 P **P** **10 29 15.0 0.0**
BNI pmax pmax
comp=Z,33nm,1.5s

BNI Bardonecchia 23.79 134 P **P** **10 29 15.0 0.0**
BNI IAmb IAmb 10 29 24.8
comp=Z,32nm,1.5s

POLO Lamas de Olo 24.02 162 *e*P **P** **10 29 17.5 +0.4**
comp=Z,23nm,1.7s

OJC Ojcow 24.23 109 *e*P **P** **10 29 18.5 -0.4**
ABTA Abfaltersbach 24.25 123 P **P** **10 29 22.4 +3.2**
comp=Z,20nm,1.4s

KBA Koelnbreinsper 24.27 122 *e*P **P** **10 29 20.1 +0.5**
comp=Z,28nm,1.5s

MVO Moncorvo 24.33 161 *e*P **P** **10 29 20.6 +0.6**
comp=Z,67nm,1.9s
MVO *i* LQ LQ 10 33 49.5
MVO *e*LR LR 10 36 16.4
comp=Z,198nm,18.0s

JAVC Velka Javorina 24.45 114 *e*P **P** **10 29 19.5 -1.5**
CONA Conrad Observa 24.50 117 *e*P **P** **10 29 21.6 0.0**
comp=Z,12nm,1.1s

MICGM Minsk 24.51 93‖ *e*P **P** **10 29 21.0 -0.4**
MICGM PM 10 29 24.0
comp=Z,0.2nm,2.0s

MNK Minsk 24.51 93‖ *e*P **P** **10 29 21.0 -0.4**
MNK pmax pmax
comp=Z,180nm,2.0s

CTI Castel Tesino 24.55 126 P **P** **10 29 22.0 0.0**
CTI pmax pmax
comp=Z,18nm,1.0s

CTI Castel Tesino 24.55 126 P **P** **10 29 22.0 0.0**
CTI IAmb IAmb 10 29 34.4
comp=Z,18nm,1.0s

ZOU Zoufplan 24.58 123 P **P** **10 29 22.6 +0.3**

CIMO Cimolais 24.60 124 P **P** **10 29 22.2 -0.2**
SMOL Smolenice 24.63 114 *e*P **P** **10 29 23.1 +0.5**
SMOL Smolenice 24.63 114 *e*P **P** **10 29 23.1 +0.5**
PVIS Viseu 24.65 163 *e*P **P** **10 29 24.3 +1.4**
comp=Z,53nm,1.7s

MODS Modra-Piesok 24.69 115 *e*P **P** **10 29 22.5 -0.6**
MODS pmax pmax
comp=Z,220nm,2.2s

MODS Modra-Piesok 24.69 115 *e*P **P** **10 29 22.5 -0.6**
STAL STALIGIAL 24.74 124 P **P** **10 29 22.0 -1.6**
STAL IAmb IAmb 10 29 25.4
comp=Z,36nm,1.4s

MYKA Terra Mystica 24.76 122 *e*P **P** **10 29 26.4 +2.5**
comp=Z,20nm,1.7s

PRED Cave del Predi 24.89 122 P **P** **10 29 26.1 +1.1**
PRED IAmb IAmb 10 29 33.8
comp=Z,29nm,1.3s

LANS Liptovska Anna 24.93 111 *e*P **P** **10 29 26.3 +1.0**
LANS pmax pmax
comp=Z,11nm,1.0s

LANS Liptovska Anna 24.93 111 *e*P **P** **10 29 26.3 +1.0**
ARSA Arzberg 24.94 119 *e*P **P** **10 29 25.8 +0.4**
comp=Z,9.8nm,1.0s

MTE Manteigas 25.01 162 *e*P **P** **10 29 28.2 +2.1**
comp=Z,65nm,1.8s
MTE *i* LQ LQ 10 34 01.2
MTE *e*LR LR 10 36 14.3
comp=Z,311nm,18.0s

MTE Manteigas 25.01 162 P **P** **10 29 26.6 +0.5**
NIE Niedzica 25.05 110 *e*P **P** **10 29 26.9 +0.5**
COI Coimbra 25.09 164 P **P** **10 29 28.4 +1.7**
COI pmax pmax
comp=Z,45nm,1.4s

COI Coimbra 25.09 164 P **P** **10 29 28.4 +1.7**
CADS Cadrg 25.14 122 *e*P **P** **10 29 28.2 +1.0**
TEOL Teolo 25.15 126 P **P** **10 29 26.6 -0.7**
TEOL IAmb IAmb 10 29 29.5
comp=Z,20nm,0.9s

GORS Gorjuse 25.16 122 *e*P **P** **10 29 28.2 +0.8**
OBKA Obir 25.20 121 *e*P **P** **10 29 30.1 +2.3**
comp=Z,31nm,1.8s

VYHS Vyhne 25.20 113 *e*P **P** **10 29 27.8 +0.1**
VYHS Vyhne 25.20 113 *e*P **P** **10 29 27.8 +0.1**
PCAS Casmilo, Conde 25.23 164 *e*P **P** **10 29 30.1 +2.0**
comp=Z,71nm,1.8s

SRO Srobarova 25.55 114 *e*P **P** **10 29 32.2 +1.4**
SRO Srobarova 25.55 114 *e*P **P** **10 29 32.2 +1.4**
PCBR Castelo Branco 25.57 162 *e*P **P** **10 29 33.8 +2.7**
comp=Z,51nm,1.8s

LJU Ljubljana 25.58 122 *i* P **P** **10 29 32.0 +0.8**
ZCCA Zocca 25.80 128 P **P** **10 29 34.2 +1.0**
ZCCA IAmb IAmb 10 29 38.0
comp=Z,24nm,1.1s

KWP Kalwaria Pacla 25.87 106 *e*P **P** **10 29 34.4 +0.5**
PMRV Marv??o 25.99 162 *e*P **P** **10 29 37.4 +2.5**
comp=Z,61nm,1.8s
PMRV *i* LQ LQ 10 34 10.7
PMRV *e*LR LR 10 36 41.3
comp=Z,368nm,18.0s

PSZ Piszkesteto 26.09 112 P **P** **10 29 36.5 +0.6**
PSZ pmax pmax
comp=Z,50nm,1.4s

PSZ Piszkesteto 26.09 112 P **P** **10 29 36.5 +0.6**
SCHQ Schefferville 26.09 271 P **P** **10 29 35.5 -0.2**
comp=Z,9.2nm,0.9s,baz=40,slow=6.4,SNR=3.9

SCHQ Schefferville 26.09 271 IAmb IAmb 10 29 38.2
comp=Z,22nm,1.3s

PMAFR Mafra 26.23 166 *e*P **P** **10 29 40.5 +3.4**
comp=Z,75nm,2.3s

KOLS Kolonicke sedl 26.24 108 *e*P **P** **10 29 37.1 0.0**
KOLS Kolonicke sedl 26.24 108 *e*P **P** **10 29 37.1 0.0**
ESBB Sonseca Array 26.27 156 P **P** **10 29 38.0 +0.5**
ESDC Sonseca Array 26.27 156 P **P** **10 29 37.0 -0.5**
comp=Z,3.8nm,0.9s,baz=349,slow=9.5,SNR=16
ESDC LR LR 10 39 46.2
comp=Z,251nm,18.5s,baz=340,slow=36

ESDC Sonseca Array 26.27 156 P **P** **10 29 37.1 -0.5**
LVV L'vov 26.27 105 *e*P **P** **10 29 38.9 +1.5**
LVV *e* 10 30 19.8
LVV *e*S **S** **10 34 10.9 +1.3**
LVV MLR MLR
comp=Z,300nm,15.0s

PAB San Pablo 26.33 157 P **P** **10 29 36.1 -2.0**
PAB pmax pmax
comp=Z,13nm,1.5s

PAB San Pablo 26.33 157 P **P** **10 29 36.1 -2.0**
RES Resolute Bay 26.46 324 LR LR 10 39 59.4
comp=Z,397nm,19.1s,baz=43,slow=36

UZH Uzhgorod 26.48 108 *e*P **P** **10 29 40.4 +1.1**
UZH *e* 10 30 20.0
UZH *e*S **S** **10 34 12.4 -0.5**
UZH *i* SS **SnSn** **10 35 24.4 +11**
UZH MLR MLR
comp=N,200nm,14.0s
UZH MLR MLR
comp=E,80nm,14.0s
UZH MLR MLR
comp=Z,50nm,14.0s

OSSC Osservatorio P 26.62 129 P **P** **10 29 39.5 -1.2**
OSSC IAmb IAmb 10 29 52.7
comp=Z,37nm,1.2s

AKASG Malin Array Be 27.80 98 P **P** **10 29 50.0 -1.0**
comp=Z,3.2nm,0.8s,baz=322,slow=9.4,SNR=8.9
AKASG LR LR 10 40 57.0
comp=Z,360nm,20.8s,baz=325,slow=36

AKBB Malin Array Si 27.80 98 *i* P **P** **10 29 51.4 +0.3**
AKBB pmax pmax
comp=Z,5.0nm,1.1s

OBN Obninsk 27.83 84 LR LR 10 41 21.3
comp=Z,100nm,19.3s,baz=326,slow=37

OBN Obninsk 27.83 84 *i* P **P** **10 29 51.1 -0.2**
OBN *i* S **S** **10 34 30.6 -3.3**
OBN *i* SS **SnSn** **10 36 00.1 +14**
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,400nm,16.0s

MOS Moscow 27.86 82 *e*P **P** **10 29 50.5 -1.1**
PVAQ Vaqueiros 27.94 163 *e*LR LR 10 37 29.2
comp=Z,251nm,18.0s

BURAR Bucovina Array 28.49 106 P **P** **10 29 57.2 -0.2**
KIRV Kirov 30.92 70 LR LR 10 42 13.5
comp=Z,1µm,21.1s,baz=313,slow=35

KIRV Kirov 30.92 70*c* *e*P **P** **10 30 17.8 -0.8**
VTS Vitosha 31.80 114 *e*P **P** **10 30 26.2 -0.6**
PGB Panagyurishte 32.22 113 *e*P **P** **10 30 30.6 +0.2**
KEST Kesra 33.15 138 LR LR 10 42 58.2
comp=Z,290nm,21.6s,baz=342,slow=34

AGG Agios Georgios 34.54 119 P **P** **10 30 49.9 -0.7**
AGG Agios Georgios 34.54 119 P **P** **10 30 49.9 -0.7**
ANN Anapa 35.87 97 *e*P **P** **10 31 01.2 -0.7**
ANN pmax pmax
comp=Z,105nm,1.1s

ARU Arti 36.02 66 LR LR 10 45 12.4
comp=Z,991nm,20.7s,baz=310,slow=35

ARU Arti 36.02 66*d* *i*P **P** **10 31 03.5 +0.4**
ARU 10 32 23.4
ARU S **S** **10 36 44.3 +2.8**
ARU SS **SnSn** **10 39 08.6 +3.3**
ARU pmax pmax
comp=Z,55nm,2.6s

NRIK Noril'sk 36.40 35 P **P** **10 31 05.7 -0.5**
comp=Z,5.2nm,0.9s,baz=318,slow=8.2,SNR=9.1
NRIK LR LR 10 47 59.9
comp=Z,164nm,18.3s,baz=10.0,slow=40

NRIK Noril'sk 36.40 35*de* P **P** **10 31 06.2 0.0**
NRIK pmax pmax
comp=Z,19nm,1.5s

SOC Sochi 37.82 96*d* *i*P **P** **10 31 17.6 -0.9**
SOC *e* 10 32 46.4
SOC *e*PPP PPP 10 33 04.8
SOC *e*S **S** **10 37 09.7 +0.6**
SOC *e*SS **SnSn** **10 39 49.5 +0.3**
SOC pmax pmax
comp=Z,10.0nm,0.5s
SOC MLR MLR
comp=Z,553nm,20.0s

BR131 Keskin Array S 38.44 105 P **P** **10 31 23.9 -0.1**
BR131 pmax pmax
comp=Z,9.0nm,1.3s

BR131 Keskin Array S 38.44 105 P **P** **10 31 23.9 -0.1**
BRTR Keskin Array B 38.44 105 P **P** **10 31 24.2 +0.2**
comp=Z,3.6nm,0.9s,baz=332,slow=5.1,SNR=12
BRTR LR LR 10 49 47.2
comp=Z,66nm,19.1s,baz=306,slow=40

BRTR Keskin Array B 38.44 105 P **P** **10 31 22.5 -1.5**
KIV Kislovodsk 38.79 93 *e*P **P** **10 31 27.0 +0.2**
KIV pmax pmax
comp=Z,30nm,1.0s

SHA1 Shidzhatmaz 38.95 93 *i* P **P** **10 31 28.4 0.0**
KBZ Khabaz 39.07 93 P **P** **10 31 30.6 +1.6**
comp=Z,8.6nm,0.9s,baz=321,slow=9.0,SNR=10
KBZ LR LR 10 47 57.4
comp=Z,418nm,21.4s,baz=324,slow=37

YKA Yellowknife Ar 39.22 313 P **P** **10 31 29.6 -0.5**
comp=Z,2.2nm,0.9s,baz=43,slow=9.2,SNR=3.8
YKA LR LR 10 47 28.0
comp=Z,390nm,19.6s,baz=0.0,slow=36

YKA Yellowknife Ar 39.22 313*ce* P **P** **10 31 32.2 +2.1**
YKA pmax pmax
comp=Z,2.0nm,0.9s

INK Inuvik 39.83 329 P **P** **10 31 36.0 +0.9**
comp=Z,6.5nm,1.0s,baz=21,slow=10,SNR=3.4

INK Inuvik 39.83 329 P **P** **10 31 36.0 +0.9**
INK pmax pmax
comp=Z,12nm,1.1s

INK Inuvik 39.83 329 IAmb IAmb 10 31 37.9
comp=Z,12nm,1.1s

AKTO Aktyubinsk 40.23 73 P **P** **10 31 38.2 -0.4**
comp=Z,3.6nm,0.9s,baz=336,slow=8.7,SNR=9.6

MAK Makhachkala 41.66 89 *e*P **P** **10 31 48.6 -1.9**
MAK *e* 10 33 23.9
MAK *e*S **S** **10 38 05.6 -1.1**
MAK *e*SS **SS** **10 41 08.0 -3.6**
MAK pmax pmax
comp=Z,501nm,1.6s
MAK MLR MLR
comp=Z,547nm,17.0s

ABKAR Akbulak array 41.93 73 P **P** **10 31 52.3 -0.3**
ABKAR Akbulak array 41.93 73 P **P** **10 31 52.3 -0.3**
TIXI Tiksi 41.98 15*ce* P **P** **10 31 53.9 +1.2**
TIXI pmax pmax
comp=Z,190nm,2.5s

TIXI Tiksi 41.98 15 P **P** **10 31 53.6 +0.9**
TIXI IAmb IAmb 10 31 57.2
comp=Z,36nm,1.4s

TOLK Toolik Lake Re 42.73 336 P **P** **10 32 01.4 +2.4**
TOLK IAmb IAmb 10 32 05.4
comp=Z,35nm,1.4s

BMAR Burnt Mountain 42.88 333 P **P** **10 32 00.9 +0.7**
BRVK Borovoye 43.07 62*ce* P **P** **10 32 02.6 +0.8**
BRVK pmax pmax
comp=Z,40nm,2.5s

BRVK Borovoye 43.07 62 P **P** **10 32 01.9 0.0**
BVAR Borovoye Array 43.13 62 P **P** **10 32 02.7 +0.3**
comp=Z,2.8nm,1.1s,baz=183,slow=26,SNR=13

G40A Rib Lake 43.20 280 P **P** **10 32 04.4 +1.4**
MARD Mardin 43.47 100 P **P** **10 32 07.0 +1.6**
FYU Fort Yukon 43.76 333 IAmb IAmb 10 32 11.2
comp=Z,17nm,1.1s

N49A Columbus Grove 44.16 271 P **P** **10 32 12.2 +1.5**
L46A Eue Claire 44.17 274 P **P** **10 32 13.2 +2.4**
P52A Corning 44.34 268 P **P** **10 32 13.9 +1.7**
EGAK Eagle 44.47 329 P **P** **10 32 14.8 +1.9**
EGAK IAmb IAmb 10 32 16.0
comp=Z,18nm,1.3s

K43A Burlington 44.47 276 P **P** **10 32 15.1 +1.8**
K43A IAmb IAmb 10 32 20.0
comp=Z,18nm,1.0s

O49A Covington 44.83 270 P **P** **10 32 17.6 +1.6**
O49A IAmb IAmb 10 32 18.9
comp=Z,14nm,0.8s

IL31 45.67 332 P **P** **10 32 24.7 +2.3**
IL31 IAmb IAmb 10 32 26.6
comp=Z,19nm,1.4s

ILAR Eielson Array 45.67 332 P **P** **10 32 21.6 -1.0**
comp=Z,4.0nm,1.0s,baz=24,slow=6.7,SNR=18
ILAR PcP **PcP** **10 34 00.1 -0.1**
comp=Z,2.7nm,0.9s,baz=351,slow=2.6,SNR=13
ILAR LR LR 10 53 39.1
comp=Z,176nm,18.7s,baz=38,slow=39

ILAR Eielson Array 45.67 332 P **P** **10 32 23.5 +0.9**
ILAR **PcP** **10 34 00.5 +0.2**
MDM Murphy Dome 45.77 333 P **P** **10 32 23.4 +0.1**
COLA College 45.77 333 P **P** **10 32 24.6 +1.3**
COLA pmax pmax
comp=Z,15nm,1.1s

COLA College 45.77 333 P **P** **10 32 24.6 +1.3**
COLA IAmb IAmb 10 32 27.4
comp=Z,15nm,1.1s

TCOL CIGO, UAF Yank 45.77 333 P **P** **10 32 23.6 +0.3**
TCOL IAmb IAmb 10 32 27.4
comp=Z,15nm,1.1s

IMAR Indian Mountai 45.84 337 P **P** **10 32 25.8 +2.0**
CCB Clear Creek Bu 45.96 333 P **P** **10 32 24.0 -0.8**
CCB IAmb IAmb 10 32 28.7
comp=Z,9.7nm,1.3s

HDA Harding Lake 46.01 332 P **P** **10 32 26.4 +1.3**
HDA IAmb IAmb 10 32 28.4
comp=Z,9.1nm,1.3s

BCAR Beaver Creek A 46.10 329 P **P** **10 32 26.5 +0.5**
S51A Beattyville 46.63 268 P **P** **10 32 31.9 +1.5**
BPAW Bear Paw Mtn. 47.07 334 P **P** **10 32 35.4 +1.9**
BPAW IAmb IAmb 10 32 37.3
comp=Z,16nm,1.4s

WCI Wyandotte Cave 47.30 271 P **P** **10 32 36.0 +0.4**
WCI pmax pmax
comp=Z,9.0nm,0.9s

WCI Wyandotte Cave 47.30 271 P **P** **10 32 36.0 +0.4**
WCI IAmb IAmb 10 32 38.3
comp=Z,8.7nm,0.8s

P43A Skaggs, Pawnee 47.50 275 P **P** **10 32 37.6 +0.5**
BILL Bilibino 47.51 358 *i* P **P** **10 32 39.6 +2.7**
BILL *i* 10 34 01.8
BILL *i* 10 34 30.9
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,109nm,16.0s

ZAA0 Zalesovo Array 47.57 52 P **P** **10 32 38.7 +1.2**
ZALV Zalesovo Beam 47.57 52 P **P** **10 32 37.5 +0.1**
comp=Z,1.0nm,0.4s,baz=350,slow=7.5,SNR=5.3
ZALV LR LR 10 55 27.5
comp=Z,145nm,18.1s,baz=316,slow=40

ZALV Zalesovo Beam 47.57 52 *i* P **P** **10 32 38.7 +1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s

ZALV Zalesovo Beam 47.57 52 P **P** **10 32 36.6 -0.9**
KURK Kurchatov 48.05 58*ce* P **P** **10 32 41.2 0.0**
KURK pmax pmax
comp=Z,13nm,0.8s

KURK Kurchatov 48.05 58 P **P** **10 32 40.4 -0.8**
KURBB Kurchatov Arra 48.09 58 P **P** **10 32 40.8 -0.7**
comp=Z,8.5nm,0.9s,baz=324,slow=7.4,SNR=27

SCM Sheep Creek Mo 48.39 331 P **P** **10 32 46.2 +2.3**
SCM pmax pmax
comp=Z,36nm,1.3s

SCM Sheep Creek Mo 48.39 331 P **P** **10 32 46.1 +2.3**
LAO LASA Array 48.63 293 P **P** **10 32 48.6 +2.7**
T47A Sharon Grove 48.69 271 P **P** **10 32 46.8 +0.5**
EGMT Eagleton 48.90 297 P **P** **10 32 50.2 +2.3**
W50A Signal Mountai 49.43 268 P **P** **10 32 52.7 +0.6**
W50A IAmb IAmb 10 33 00.6
comp=Z,14nm,1.1s

T42A Van Buren 50.36 274 IAmb IAmb 10 33 04.4
comp=Z,11nm,1.4s

GEYT Alibeck 50.37 84 P **P** **10 33 00.1 +0.9**
comp=Z,4.6nm,0.9s,baz=266,slow=11,SNR=4.9
GEYT LR LR 10 56 41.9
comp=Z,345nm,19.1s,baz=10.0,slow=39

GEYT Alibeck 50.37 84 IAmb IAmb 10 33 01.9
comp=Z,3.1nm,0.9s

HRY Holter Researc 50.78 298 P **P** **10 33 03.8 +1.5**
X48A Hartselle 50.81 269 IAmb IAmb 10 33 04.2
comp=Z,14nm,1.2s

KOWA Kowa 50.99 163 P **P** **10 33 04.2 +0.1**
RLMT Red Lodge 51.12 295 P **P** **10 33 07.3 +2.4**
RLMT IAmb IAmb 10 33 14.1
comp=Z,27nm,1.5s

KK31 Karatay Array 51.21 70 P **P** **10 33 06.1 +0.6**
KK31 pmax pmax
comp=Z,10.0nm,1.4s

KK31 Karatay Array 51.21 70 P **P** **10 33 06.1 +0.6**
KKAR Karatay Array 51.21 70 P **P** **10 33 05.3 -0.2**
KKAR Karatay Array 51.21 70 P **P** **10 33 05.3 -0.2**
YAK Yakutsk 51.22 19 *i* P **P** **10 33 05.6 +0.4**
YAK pmax pmax
comp=Z,6.0nm,0.7s

BOZ Bozeman (W) 51.63 297 P **P** **10 33 10.8 +2.0**
BOZ pmax pmax

	comp=Z,13nm,1.2s						
BOZ	**Bozeman (W)**	**51.63**	**297**	P	**P**	**10 33 10.8**	**+2.0**
BOZ				IAmb	IAmb	10 33 15.9	
	comp=Z,13nm,1.1s						
U40A	**Yellville**	**51.69**	**275**	P	**P**	**10 33 09.7**	**+0.6**
LRM	**Limekiln Ridge**	**51.76**	**298**	P	**P**	**10 33 11.3**	**+1.5**
YMP	**Mirror Lake Pl**	**51.78**	**295**	P	**P**	**10 33 12.2**	**+2.1**
DGZ	**Jazzator, Alta**	**52.01**	**53**	*i* P	**P**	**10 33 12.4**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,45nm,2.4s						
K22A	**Casper**	**52.10**	**291**	IAmb	IAmb	10 33 17.8	
	comp=Z,15nm,1.2s						
MK31	**Makanchi Array**	**52.66**	**58**	*ce* P	**P**	**10 33 17.4**	**+1.2**
MKAR	**Makanchi Array**	**52.66**	**58**	P	**P**	**10 33 16.0**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=357,slow=5.8,SNR=4.1						
MKAR				LR	LR	10 55 55.8	
	comp=Z,150nm,21.4s,baz=318,slow=36						
MKAR	**Makanchi Array**	**52.66**	**58**	P	**P**	**10 33 15.3**	**-0.9**
MCMT	**McKenzie Canyo**	**52.75**	**297**	P	**P**	**10 33 18.3**	**+1.1**
T35A	**Sooner Cattle**	**52.77**	**279**	P	**P**	**10 33 16.1**	**-1.1**
T35A				IAmb	IAmb	10 33 18.6	
	comp=Z,11nm,1.1s						
SNOW	**Snow King Moun**	**53.09**	**295**	IAmb	IAmb	10 33 23.2	
	comp=Z,16nm,1.4s						
TPAW	**Teton Pass**	**53.14**	**295**	IAmb	IAmb	10 33 26.4	
	comp=Z,11nm,1.2s						
TOA0	**Torodi Ar. Sit**	**53.16**	**157**	P	**P**	**10 33 19.1**	**-1.0**
TOA0				IAmb	IAmb	10 33 21.3	
	comp=Z,12nm,1.4s						
TORD	**Torodi Ar. Bea**	**53.16**	**157**	P	**P**	**10 33 18.8**	**-1.4**
	comp=Z,4.1nm,1.0s,baz=345,slow=7.2,SNR=14						
TORD				LR	LR	10 57 49.4	
	comp=Z,70nm,18.3s,baz=0.0,slow=38						
TORD	**Torodi Ar. Bea**	**53.16**	**157**	IAmb	IAmb	10 33 25.6	
	comp=Z,120nm,0.8s						
AAK	**Ala-Archa**	**53.20**	**67**	*ce* P	**P**	**10 33 20.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,95nm,2.5s						
BW06	**Boulder Array**	**53.21**	**293**	P	**P**	**10 33 19.4**	**-1.2**
BW06				IAmb	IAmb	10 33 26.1	
	comp=Z,15nm,1.2s						
PD31	**Pinedale Array**	**53.21**	**293**	IAmb	IAmb	10 33 26.1	
	comp=Z,14nm,1.2s						
PDAR	**Pinedale Array**	**53.21**	**293**	P	**P**	**10 33 20.1**	**-0.5**
	comp=Z,6.8nm,1.0s,baz=55,slow=5.5,SNR=25						
PDAR				LR	LR	10 55 27.4	
	comp=Z,413nm,21.4s,baz=30,slow=36						
PDAR	**Pinedale Array**	**53.21**	**293**	P	**P**	**10 33 19.5**	**-1.1**
REDW	**Red Top Meadow**	**53.21**	**295**	IAmb	IAmb	10 33 23.9	
	comp=Z,13nm,1.3s						
CHGR	**Chuyangaron**	**54.40**	**74**	P	**P**	**10 33 29.4**	**+0.2**
BMO	**Blue Mountains**	**54.40**	**300**	P	**P**	**10 33 29.1**	**0.0**
BMO				pmax	pmax		
	comp=Z,14nm,1.5s						
BMO	**Blue Mountains**	**54.40**	**300**	P	**P**	**10 33 29.1**	**0.0**
BMO				IAmb	IAmb	10 33 31.1	
	comp=Z,14nm,1.4s						
GAR	**Garm**	**54.59**	**73**	P	**P**	**10 33 30.6**	**0.0**
MOY	**Mondy**	**54.59**	**42**	*eP*	**P**	**10 33 31.6**	**+1.2**
MOY				pmax	pmax		
	comp=Z,87nm,2.5s						
O20A	**White River Ci**	**54.91**	**290**	P	**P**	**10 33 32.4**	**-0.6**
HWUT	**Hardware Ranch**	**54.98**	**294**	P	**P**	**10 33 32.8**	**-0.7**
HWUT				IAmb	IAmb	10 33 36.4	
	comp=Z,12nm,1.1s						
RDMU	**Red Mountain**	**55.07**	**292**	P	**P**	**10 33 33.7**	**-0.5**
TLY	**Talaya**	**55.33**	**40**	LR	LR	10 58 35.3	
	comp=Z,225nm,21.3s,baz=323,slow=37						
TLY	**Talaya**	**55.33**	**40**	*i* P	**P**	**10 33 36.6**	**+0.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMOK	**Wichita Mounta**	**55.59**	**279**	IAmb	IAmb	10 33 41.1	
	comp=Z,11nm,1.2s						
ZAK	**Zakamensk**	**56.40**	**41**	*eP*	**P**	**10 33 43.7**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s						
KSH	**Kashi**	**56.44**	**68**	P	**P**	**10 33 45.0**	**+1.1**
KSH				sP	sP	10 33 51.5	+2.6
KSH				S	**S**	**10 41 33.8**	**-0.7**
KSH				pmax	pmax		
	comp=Z,25nm,1.1s						
KSH				pmax	pmax		
	comp=Z,290nm,5.5s						
KSH				LR	LR		
	comp=Z,130nm,8.7s						
KSH				LR	LR		
	comp=Z,100nm,6.5s						
KSH				LR	LR		
	comp=Z,510nm,7.3s						
PV23	**Carpenter Ridg**	**56.66**	**290**	IAmb	IAmb	10 33 48.1	
	comp=Z,10nm,0.9s						
PV04	**Paradox Valley**	**56.66**	**290**	P	**P**	**10 33 45.5**	**-0.1**
PV04				IAmb	IAmb	10 33 55.5	
	comp=Z,11nm,1.3s						
DUG	**Dugway, Tooele**	**56.68**	**294**	P	**P**	**10 33 47.8**	**+2.2**
DUG				pmax	pmax		
	comp=Z,13nm,1.5s						
DUG	**Dugway, Tooele**	**56.68**	**294**	P	**P**	**10 33 47.8**	**+2.2**
DUG				IAmb	IAmb	10 33 49.2	
	comp=Z,13nm,1.5s						
PV12	**Saucer Basin,**	**56.69**	**290**	IAmb	IAmb	10 33 56.0	
	comp=Z,13nm,1.4s						
PV14	**Lion Creek, Pa**	**56.73**	**290**	IAmb	IAmb	10 33 48.6	
	comp=Z,11nm,1.0s						
PV11	**David Mesa, Pa**	**56.73**	**290**	IAmb	IAmb	10 33 52.3	
	comp=Z,9.5nm,1.0s						
PV20	**West Nyswonger**	**56.73**	**290**	IAmb	IAmb	10 33 48.6	
	comp=Z,9.6nm,1.1s						
PV16	**Nyswonger Mesa**	**56.74**	**290**	P	**P**	**10 33 46.3**	**+0.2**
PV16				IAmb	IAmb	10 33 49.8	
	comp=Z,17nm,1.4s						
PV01	**Paradox Valley**	**56.75**	**289**	IAmb	IAmb	10 33 49.8	
	comp=Z,19nm,1.3s						
PV02	**Paradox Valley**	**56.76**	**290**	IAmb	IAmb	10 33 49.1	
	comp=Z,13nm,1.0s						
PV17	**East Wray Mesa**	**56.78**	**290**	IAmb	IAmb	10 33 49.1	
	comp=Z,12nm,1.1s						
PV18	**Skein Mesa, Pa**	**56.79**	**290**	IAmb	IAmb	10 33 49.2	
	comp=Z,10nm,1.0s						
TMUT	**Trail Mountain**	**56.81**	**292**	P	**P**	**10 33 47.3**	**+0.5**
PV13	**Radium Mtn., P**	**56.83**	**290**	P	**P**	**10 33 46.9**	**+0.1**
WMQ	**Urumqi**	**57.17**	**56**	*eP*	**P**	**10 33 52.0**	**+3.1**
MVCO	**Mesa Verde**	**57.52**	**289**	P	**P**	**10 33 54.2**	**+2.5**
KBL	**Kabul**	**57.87**	**77**	P	**P**	**10 33 54.8**	**+0.6**
KBL				pmax	pmax		
	comp=Z,11nm,1.4s						
KBL	**Kabul**	**57.87**	**77**	P	**P**	**10 33 54.8**	**+0.6**
KBL				IAmb	IAmb	10 33 57.3	
	comp=Z,11nm,1.4s						
MSU	**Marysvale**	**57.87**	**293**	P	**P**	**10 33 55.0**	**+0.8**
MSU	**Marysvale**	**57.87**	**293**	P	**P**	**10 33 55.0**	**+0.8**
MVU	**Marysvale**	**57.89**	**293**	P	**P**	**10 33 54.5**	**+0.1**
MSTX	**Muleshoe**	**57.93**	**282**	P	**P**	**10 33 54.9**	**+0.4**
SPR3	**Spring Creek 3**	**58.30**	**295**	P	**P**	**10 33 58.1**	**+0.9**
SPR3				IAmb	IAmb	10 34 08.5	
	comp=Z,11nm,1.3s						
PSUT	**Pine Spring**	**58.52**	**294**	P	**P**	**10 33 58.4**	**-0.2**
DBIC	**Dimbokro**	**58.62**	**165**	P	**P**	**10 33 56.6**	**-2.7**
	comp=Z,7.8nm,1.0s,baz=324,slow=13,SNR=5.6						
DBIC				LR	LR	10 59 44.1	
	comp=Z,106nm,18.7s,baz=346,slow=37						
DBIC	**Dimbokro**	**58.62**	**165**	P	**P**	**10 33 56.8**	**-2.4**
DBIC				pmax	pmax		
	comp=Z,14nm,1.1s						
DBIC	**Dimbokro**	**58.62**	**165**	P	**P**	**10 33 56.8**	**-2.4**
DBIC				IAmb	IAmb	10 34 01.9	
	comp=Z,14nm,1.1s						
TIC	**Toumodi**	**58.62**	**166**	*eP*	**P**	**10 33 58.1**	**-1.2**
ANMO	**Albuquerque**	**58.63**	**286**	P	**P**	**10 34 00.6**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ANMO	**Albuquerque**	**58.63**	**286**	P	**P**	**10 34 00.6**	**+1.1**
PKCU	**Pink Cliffs**	**58.85**	**292**	P	**P**	**10 34 02.2**	**+1.1**
KIC	**Kosan Boka**	**58.94**	**165**	*eP*	**P**	**10 34 00.5**	**-1.0**
	comp=Z,42nm,1.3s						
SZCU	**Shurtz Canyon**	**59.02**	**293**	P	**P**	**10 34 03.0**	**+0.8**
LIC	**Lamto**	**59.04**	**166**	*eP*	**P**	**10 34 01.1**	**-1.1**
	comp=Z,38nm,1.1s						
CCUT	**Cedar City**	**59.17**	**293**	P	**P**	**10 34 03.9**	**+0.7**
R11A	**Troy Canyon, C**	**59.35**	**295**	P	**P**	**10 34 04.9**	**+0.5**
R11A				IAmb	IAmb	10 34 07.7	
	comp=Z,8.5nm,1.3s						
BNM	**Barren Site**	**59.38**	**286**	P	**P**	**10 34 05.1**	**+0.4**
KNB	**Kanab**	**59.42**	**292**	P	**P**	**10 34 05.8**	**+0.9**
KNB				pmax	pmax		
	comp=Z,14nm,1.4s						
KNB	**Kanab**	**59.42**	**292**	P	**P**	**10 34 05.8**	**+0.9**
SONM	**Songino Array**	**59.58**	**41**	P	**P**	**10 34 05.2**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=336,slow=7.1,SNR=7.9						
SONM				LR	LR	11 02 31.8	
	comp=Z,247nm,18.8s,baz=330,slow=39						
SONM	**Songino Array**	**59.58**	**41**	P	**P**	**10 34 05.7**	**-0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**59.58**	**41**	P	**P**	**10 34 05.7**	**-0.1**
LCMT	**Little Creek M**	**59.59**	**293**	P	**P**	**10 34 06.5**	**+0.4**
PAHR	**Pah Rah Range**	**59.62**	**299**	P	**P**	**10 34 06.7**	**+0.5**
PAHR				IAmb	IAmb	10 34 09.6	
	comp=Z,12nm,1.4s						
JCT	**Junction City**	**59.69**	**278**	P	**P**	**10 34 07.3**	**+0.6**
JCT				pmax	pmax		
	comp=Z,16nm,1.1s						
JCT	**Junction City**	**59.69**	**278**	P	**P**	**10 34 07.3**	**+0.6**
KVN	**Kaiserville**	**59.71**	**298**	IAmb	IAmb	10 34 09.8	
	comp=Z,8.5nm,1.2s						
ULN	**Ulaanbaatar**	**59.73**	**40**	*ce* P	**P**	**10 34 07.6**	**+0.7**
ULN				pmax	pmax		
	comp=Z,28nm,2.5s						
ULN	**Ulaanbaatar**	**59.73**	**40**	P	**P**	**10 34 05.5**	**-1.4**
PRN	**Pahroc Range**	**59.96**	**294**	IAmb	IAmb	10 34 18.3	
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**60.33**	**297**	P	**P**	**10 34 11.2**	**0.0**
	comp=Z,1.2nm,1.0s,baz=57,slow=4.7,SNR=6.6						
NVAR				LR	LR	10 59 59.7	
	comp=Z,568nm,20.9s,baz=27,slow=36						
NVAR	**Mina Array Bea**	**60.33**	**297**	P	**P**	**10 34 11.1**	**-0.1**
NIL	**Nilore**	**60.39**	**74**	P	**P**	**10 34 11.4**	**0.0**
NIL				pmax	pmax		
	comp=Z,27nm,1.2s						
NIL	**Nilore**	**60.39**	**74**	P	**P**	**10 34 11.3**	**0.0**
WAKR	**Walker**	**60.69**	**298**	P	**P**	**10 34 14.5**	**+0.9**
WAKR				IAmb	IAmb	10 34 16.9	
	comp=Z,7.2nm,1.3s						
SHPR	**Sheep Range**	**60.79**	**294**	P	**P**	**10 34 15.3**	**+1.0**
SHPR				IAmb	IAmb	10 34 21.4	
	comp=Z,8.2nm,1.3s						
TPNV	**Topopah Spring**	**60.83**	**295**	P	**P**	**10 34 15.7**	**+1.2**
TPNV	**Topopah Spring**	**60.83**	**295**	P	**P**	**10 34 15.7**	**+1.2**
TPNV				IAmb	IAmb	10 34 22.6	
	comp=Z,12nm,1.4s						
MNTX	**Cornudas Mount**	**60.99**	**283**	P	**P**	**10 34 16.8**	**+1.3**
121A	**Cookes Peak, D**	**61.27**	**286**	P	**P**	**10 34 19.0**	**+1.4**
121A				IAmb	IAmb	10 34 20.9	
	comp=Z,7.2nm,0.9s						
HIA	**Hailar**	**61.57**	**30**	*i* P	**P**	**10 34 19.1**	**-0.1**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**62.33**	**280**	P	**P**	**10 34 25.3**	**+0.6**
TX32	**Lajitas Array**	**62.33**	**280**	P	**P**	**10 34 25.2**	**+0.5**
TXAR	**Lajitas Array**	**62.33**	**280**	P	**P**	**10 34 25.0**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=49,slow=3.8,SNR=19						
TXAR				LR	LR	11 01 03.8	
	comp=Z,378nm,18.4s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**62.33**	**280**	P	**P**	**10 34 25.3**	**+0.7**
TXAR	**Lajitas Array**	**62.33**	**280**	P	**P**	**10 34 25.3**	**+0.7**
TUC	**Tucson**	**62.69**	**288**	P	**P**	**10 34 28.8**	**+1.7**
TUC				pmax	pmax		
	comp=Z,12nm,1.4s						
TUC	**Tucson**	**62.69**	**288**	P	**P**	**10 34 28.8**	**+1.7**
TUC				IAmb	IAmb	10 34 30.6	
	comp=Z,12nm,1.4s						
DHRM	**DHARAMSHALA**	**62.86**	**72**	*ex*	x	10 34 27.9	
319A	**Douglas**	**62.89**	**286**	P	**P**	**10 34 28.9**	**+0.5**
SMLA	**Simla**	**64.19**	**72**	*ex*	x	10 34 35.5	
PIX	**Pinacate**	**64.44**	**290**	P	**P**	**10 34 39.8**	**+1.4**
GTA	**Gaotai**	**65.23**	**49**	⇑P	**P**	**10 34 44.5**	**+0.8**
GTA				pP	sP	10 34 48.8	0.0
GTA				sP	pP	10 34 51.5	+4.1
GTA				S	**S**	**10 43 30.6**	**+3.8**
GTA				sS	sS	10 43 40.6	+7.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,280nm,8.0s						
GTA				LR	LR		
	comp=Z,160nm,18.5s						
GTA				LR	LR		
	comp=Z,170nm,20.4s						
GTA				LR	LR		
	comp=Z,260nm,16.7s						
DDI	**Dehra Dun**	**65.26**	**71**	*ex*	**P**	**10 34 45.9**	**+2.0**
HHC	**Hu-ho-hao-te**	**67.45**	**40**	*eP*	**P**	**10 34 58.4**	**+0.6**
LZH	**Lanzhou**	**69.56**	**48**	*eP*	**P**	**10 35 13.0**	**+1.8**
LZH				pP	sP	10 35 18.1	+1.8
LZH				sP	pP	10 35 21.1	+6.2
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
BHPL	**Bhopal**	**71.26**	**75**	*ex*	**P**	**10 35 21.0**	**-0.6**
ROSC	**El Rosal**	**71.99**	**241**	LR	LR	11 03 26.9	
	comp=Z,106nm,21.9s,baz=343,slow=33						
GTK	**Tadong**	**72.12**	**64**	*ex*	**P**	**10 35 28.9**	**+2.1**
PTGA	**Pitinga**	**72.25**	**225**	P	**P**	**10 35 27.6**	**+0.1**
PTGA				IAmb	IAmb	10 35 30.3	
	comp=Z,13nm,1.4s						
XAN	**Xi'an**	**73.02**	**44**	P	**P**	**10 35 30.8**	**-1.2**
XAN				pP	sP	10 35 37.8	+0.6
XAN				pmax	pmax		
	comp=Z,280nm,5.3s						
XAN				LR	LR		
	comp=Z,330nm,23.9s						
XAN				LR	LR		
	comp=Z,200nm,18.4s						
XAN				LR	LR		
	comp=Z,540nm,24.9s						
ZIRO	**ZIRO**	**73.92**	**59**	*ex*	**P**	**10 35 38.6**	**+1.0**
CD2	**Chengdu**	**74.30**	**50**	*eP*	**P**	**10 35 40.5**	**+1.0**
GUWA	**GUWAHATI**	**74.32**	**62**	*ex*	**P**	**10 35 41.5**	**+1.9**
TEZP	**TEZPUR**	**74.35**	**61**	*ex*	**P**	**10 35 39.4**	**-0.4**
KSRS	**Korea Array**	**74.59**	**28**	LR	LR	11 14 06.1	
	comp=Z,67nm,18.0s,baz=2.0,slow=40						
SHL	**Shillong**	**74.95**	**62**	*ex*	**P**	**10 35 42.3**	**-1.3**
MOKO	**MOKOCHONG**	**75.26**	**59**	*ex*	**P**	**10 35 45.7**	**+0.4**
NJ2	**Nanjing**	**77.67**	**37**	*eP*	**P**	**10 35 57.8**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI	**Kunming**	**79.29**	**53**	⇑P	**P**	**10 36 07.5**	**-0.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.8s						
GYA	**Guiyang**	**79.36**	**49**	⇑P	**P**	**10 36 08.3**	**0.0**
GYA				pmax	pmax		
	comp=Z,12nm,2.1s						
GYA				pmax	pmax		
	comp=Z,200nm,4.5s						
JNU	**Nakatsue**	**79.37**	**27**	LR	LR	11 15 08.7	
	comp=Z,63nm,18.3s,baz=12,slow=39						
SAML	**Samuel**	**81.01**	**226**	P	**P**	**10 36 15.5**	**-1.5**
SAML				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SAML	**Samuel**	**81.01**	**226**	P	**P**	**10 36 15.4**	**-1.5**
CHTO	**Chiang Mai**	**83.74**	**59**	P	**P**	**10 36 30.5**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**83.74**	**59**	P	**P**	**10 36 30.5**	**-0.9**
CHTO				IAmb	IAmb	10 36 35.0	
	comp=Z,6.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**84.07**	**59**	P	**P**	**10 36 31.1**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=319,slow=6.8,SNR=12						
CMAR				LR	LR	11 16 43.7	
	comp=Z,89nm,20.0s,baz=310,slow=38						
CMAR	**Chiang Mai Arr**	**84.07**	**59**	*ce* P	**P**	**10 36 33.7**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.07**	**59**	P	**P**	**10 36 31.7**	**-1.3**
LPAZ	**La Paz**	**89.47**	**228**	P	**P**	**10 37 02.5**	**+2.6**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**89.47**	**228**	P	**P**	**10 37 02.5**	**+2.6**
BOSA	**Boshof**	**98.76**	**143**	LR	LR	11 26 38.2	
	comp=Z,42nm,18.8s,baz=348,slow=38						
STKA	**Stephens Creek**	**144.66**	**32**	PKP	**PKPab**	**10 43 37.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=334,slow=5.6,SNR=5.2						

*IDC **24** 10:31:16.3±1.2, 43.30N×87.93E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/47, mbtmp3.7/4, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/51, Error ellipse: s-maj=175.0km s-min=20.3km az=48.0*
*NNC **24** 10:31:19.6±2.1, 43.11N×87.26E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=22.7km s-min=14.7km az=67.0*

ISC 24 10:31:17.8±1.4, 43.1N±0.1×87.6E±0.2, h10km, n10, σ1.8 18/10, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.29**	**316**	⇑Pn	**Pn**	**10 32 37.2**	**+0.3**
	0.8nm,0.3s,baz=137,slow=14,SNR=60						
MK31				⇓Lg	Lg	10 34 00.3	
	8.4nm,0.7s,baz=128,slow=29,SNR=4.5						
MKAR	**Makanchi Array**	**5.29**	**316**	Pn	**Pn**	**10 32 37.6**	**+0.8**
	1.8nm,0.3s,baz=130,slow=14,SNR=62						
MKAR				Lg	Lg	10 33 58.9	
	1.8nm,0.3s,baz=132,slow=26,SNR=5.5						
MAKZ	**Makanchi**	**5.46**	**315**	⇑Pn	**Pn**	**10 32 39.2**	**0.0**
	1.8nm,0.3s						
MAKZ				⇓Sn	**Sn**	**10 33 42.6**	**+0.7**
	4.5nm,0.8s						
MAKZ				⇓Lg	Lg	10 34 05.7	
	8.7nm,0.8s						
PDGK	**Podgornoye**	**5.96**	**275**	⇑Pn	**Pn**	**10 32 45.7**	**-0.5**
	6.3nm,1.1s						
PDGK				⇑Lg	Lg	10 34 19.1	
	12nm,0.5s						
KURBB	**Kurchatov Arra**	**9.76**	**324**	Pn	**Pn**	**10 33 36.4**	**-1.7**
	0.2nm,0.3s,baz=133,slow=13,SNR=6.1						
PETK	**Petropavlovsk-**	**46.06**	**52**	LR	LR	11 00 42.3	
	comp=Z,50nm,18.6s,baz=356,slow=39						
WRA	**Warramunga Arr**	**76.02**	**135**	P	**P**	**10 43 06.6**	**+1.3**
	0.5nm,0.6s,baz=334,slow=5.2,SNR=8.7						
WRA	**Warramunga Arr**	**76.02**	**135**	PKIKP	**P**	**10 43 06.6**	**+1.3**
ASAR	**Alice Springs**	**78.91**	**138**	P	**P**	**10 43 20.4**	**-1.0**
	0.8nm,0.8s,baz=327,slow=5.2,SNR=8.8						
ASAR	**Alice Springs**	**78.91**	**138**	PKIKP	**P**	**10 43 20.4**	**-1.0**

*JMA **24** 10:41:28.0±0.1, 24.41N×122.48E, h69km±2km, M1.7*
*TAP **24** 10:41:28.7, 24.52N×122.47E, h65km, ML2.5, C*
ISC 24 10:41:29.0±1.3, 24.50N±0.05×122.49E±0.02, h57km±11km, n48, σ0.970/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.42**	**96**	P	**Pn**	**10 41 40.0**	**+0.1**
JYNG				*e*S	**Sn**	**10 41 48.8**	**+1.1**
YOJ	**Yonaguni jima**	**0.48**	**94**	P	**Pn**	**10 41 40.6**	**+0.1**
YOJ				S	**Sn**	**10 41 49.5**	**+0.7**
TWC	**Suao**	**0.59**	**281**	P	**Pn**	**10 41 41.5**	**-0.3**
	baz=284						
TWC				S	**Sn**	**10 41 51.0**	**-0.2**
	baz=284						
ENAH	**Nanao**	**0.62**	**266**	*e*S	**Sn**	**10 41 52.6**	**+1.0**
	baz=266						
NTC	**Toucheng**	**0.70**	**301**	*e*P	**Pn**	**10 41 42.5**	**-0.6**
	baz=299						
NTC				*e*S	**Sn**	**10 41 52.8**	**-0.6**
	baz=299						
TIPB	**Shuangxi**	**0.77**	**308**	*e*P	**Pn**	**10 41 42.8**	**-1.2**
	baz=313						
TIPB				*e*S	**Sn**	**10 41 53.8**	**-1.1**
	baz=313						
TWE	**Neicheng**	**0.78**	**287**	P	**Pn**	**10 41 44.2**	**+0.1**
	baz=291						
TWE				*e*S	**Sn**	**10 41 55.4**	**+0.2**
	baz=291						
ENTT	**Nioudou**	**0.85**	**280**	P	**Pn**	**10 41 46.0**	**+0.9**
	baz=283						
ENTT				*e*S	**Sn**	**10 41 57.2**	**+0.3**
	baz=283						
NACB	**Ninganchiao**	**0.88**	**249**	*e*P	**Pn**	**10 41 44.8**	**-0.6**
	baz=238						
NACB				S	**Sn**	**10 41 57.6**	**+0.2**
	baz=238						
NDT	**Datong Townshi**	**0.90**	**277**	*e*P	**Pn**	**10 41 46.2**	**+0.6**
	baz=279						
NDT				*e*S	**Sn**	**10 41 58.2**	**+0.4**
	baz=279						
TWD	**Chiawan**	**0.91**	**243**	*e*S	**Sn**	**10 41 57.5**	**-0.7**
	baz=231						
NWLT	**Wulai**	**0.94**	**288**	*e*P	**Pn**	**10 41 46.4**	**+0.2**
	baz=292						
NWLT				*e*S	**Sn**	**10 41 59.5**	**+0.6**
	baz=292						
ETLH	**Xiulin Townshi**	**0.96**	**253**	*e*P	**Pn**	**10 41 45.9**	**-0.6**
	baz=244						
ETLH				*e*S	**Sn**	**10 41 59.1**	**-0.4**
	baz=244						
NNSB	**Datong**	**1.01**	**266**	P	**Pn**	**10 41 47.2**	**0.0**
	baz=256						
NNSB				S	**Sn**	**10 42 00.4**	**-0.3**
	baz=256						
YHNB	**Yeheng**	**1.03**	**280**	P	**Pn**	**10 41 47.8**	**+0.4**
	baz=278						
YHNB				*e*S	**Sn**	**10 42 01.4**	**+0.4**
	baz=278						
NSK	**Sanguang**	**1.05**	**280**	*e*P	**Pn**	**10 41 48.0**	**+0.4**
	baz=278						
NSK				*e*S	**Sn**	**10 42 01.7**	**+0.3**
	baz=278						
YM10	**YM10**	**1.07**	**308**	*e*P	**Pn**	**10 41 47.2**	**-0.7**
	baz=298						
YM04	**YM04**	**1.09**	**307**	*e*P	**Pn**	**10 41 47.7**	**-0.5**
	baz=296						
IRIF	**Iriomote-Funau**	**1.14**	**98**	P	**Pn**	**10 41 48.4**	**-0.4**
IRIF				S	**Sn**	**10 42 03.7**	**+0.1**
FUSS	**Fushou**	**1.16**	**258**	*e*P	**Pn**	**10 41 48.9**	**-0.4**
	baz=256						
FUSS				*e*S	**Sn**	**10 42 04.0**	**-0.4**
	baz=256						
WHF	**Hehuan Shan**	**1.17**	**253**	*e*P	**Pn**	**10 41 49.3**	**-0.3**
	baz=251						
WHF				*e*S	**Sn**	**10 42 04.2**	**-0.6**
	baz=251						
ESL	**Shilin**	**1.18**	**235**	*e*S	**Sn**	**10 42 03.6**	**-0.9**
	baz=233						
TDCB	**Techi**	**1.24**	**259**

baz=238
ALS Alishan 1.83 238 *e*P **Pn 10 41 58.3 0.0**
baz=229
ALS *e*S **Sn 10 42 20.0 -0.6**
baz=229
CHN5 Tsauling 1.88 242 *e*S **Sn 10 42 22.7 +1.1**
baz=232
JTJ Tarama 2.02 85 P **Pn 10 42 00.9 +0.2**
JTJ S **Sn 10 42 25.7 +0.9**
CHN4 Tsaushan 2.08 237 *e*S **Sn 10 42 28.5 +2.3**
baz=236
TPUB Ta-pu 2.08 235 *e*S **Sn 10 42 26.7 +0.4**
baz=228
SLGT Liugui 2.26 229 *e*P **Pn 10 42 04.8 +0.8**
baz=228
SLGT *e*S **Sn 10 42 31.9 +1.2**
baz=228

*MOS **24** 10:43:44.2±1.0,53˚08N×108˚64E,h7km,mb3.8/1,Error ellipse: s-maj=11.0km s-min=6.6km az=59.0*
*IDC **24** 10:43:45.1±1.0,52˚97N×108˚77E,h0km,mb3.8/4, mb1 3.7/9,mb1mx3.5/50,mbtmp3.6/9,ML2.8/4,MS2.6/1, Ms1 2.6/1,ms1mx2.4/41,Error ellipse: s-maj=20.2km s-min=13.1km az=152.0*
*BYKL **24** 10:43:45.1±0.1,53˚10N×108˚66E,h10km±3km*
ISC 24 10:43:45.9±0.5,53˚06N±0˚02×108˚71E±0˚02,h10km,n68, σ2§21/143,mb3.7/4,5C-7D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.20**	**6**	⇓*i*Pg		**Pg**	**10 43 48.6**	**-1.6**
MXMB					*e*Sg	**Sg**	**10 43 51.4**	**-1.7**
KELR	**Kotokel**	**0.49**	**232**	⇓*i*Pg		**Pg**	**10 43 54.1**	**-1.2**
KELR					*e*		10 43 54.6	
KELR					*e*Sg	**Sg**	**10 44 01.4**	**-0.4**
OGRR	**Ongureny**	**0.89**	**312**	⇑*i*Pg		**Pg**	**10 44 01.2**	**-1.8**
OGRR					Pmax		10 44 01.3	
	567nm,0.2s							
OGRR					*e*Sg	**Sg**	**10 44 12.2**	**-2.3**
OGRR					*e*Sb	**Sn**	**10 44 16.2**	**-1.2**
OGRR					max		10 44 17.8	
	1μm,0.2s							
OGRR	**Ongureny**	**0.89**	**312**	⇑*i*PG		**Pg**	**10 44 01.2**	**-1.8**
OGRR					*e*		10 44 12.2	
OGRR					pmax	pmax		
	comp=Z,563nm,0.3s							
OGRR					smax	smax		
	comp=E,1μm,0.2s							
SYVR	**Suvo**	**0.98**	**52**	*e*Pg		**Pg**	**10 44 02.8**	**-1.9**
SYVR					Pmax		10 44 03.4	
	comp=E,221nm,0.5s							
SYVR					*e*Sg	**Sg**	**10 44 16.1**	**-1.3**
SYVR					Smax		10 44 18.4	
	comp=E,1μm,0.3s							
SYVR					*e*		10 44 21.6	
SYVR	**Suvo**	**0.98**	**52**	*e*PG		**Pg**	**10 44 02.8**	**-1.9**
SYVR					*e*		10 44 16.5	
SYVR					pmax	pmax		
	comp=Z,268nm,0.2s							
SYVR					smax	smax		
	comp=E,1μm,0.3s							
UUDB	**Ulan-Yde**	**1.36**	**209**	⇑*i*Pg		**Pn**	**10 44 10.3**	**-0.6**
	comp=E,748nm,0.5s							
UUDB				⇑*i*Pg		**Pn**	**10 44 10.3**	**-0.6**
	comp=E,350nm,0.5s							
UUDB				⇓*i*Pg		**Pn**	**10 44 10.3**	**-0.6**
	comp=E,1μm,0.5s							
UUDB				Pmax			10 44 10.6	
	comp=E,1μm,0.4s							
UUDB				*e*Sg		**Sg**	**10 44 28.8**	**-0.7**
UUDB				Smax			10 44 29.5	
	comp=E,2μm,0.4s							
TRG	**Tyrgan**	**1.46**	**259**	Pmax			10 44 11.5	
	comp=E,206nm,0.2s							
TRG				*e*Sg		**Sn**	**10 44 29.9**	**-1.7**
TRG				Smax			10 44 32.9	
	comp=E,4μm,0.3s							
TRG	**Tyrgan**	**1.46**	**259**	*e*PG		**Pn**	**10 44 10.8**	**-1.6**
TRG				*e*			10 44 30.5	
TRG				pmax	pmax			
	comp=Z,207nm,0.2s							
TRG				smax	smax			
	comp=E,4μm,0.3s							
FFNB	**Fofonovo**	**1.56**	**230**	⇑*i*Pg		**Pn**	**10 44 13.0**	**-0.7**
FFNB					*e*Sg	**Sb**	**10 44 34.3**	**-0.4**
KAB	**Kabansk**	**1.61**	**232**	*e*Pg		**Pn**	**10 44 14.2**	**-0.2**
KAB				*e*Pb		**Pb**	**10 44 15.0**	**-0.7**
KAB				max			10 44 15.4	
	comp=E,1μm,0.5s							
KAB				*e*Sg		**Sg**	**10 44 36.1**	**-1.6**
KAB				Smax			10 44 55.6	
	comp=E,6μm,0.7s							
KAB	**Kabansk**	**1.61**	**232**	*e*PG		**Pn**	**10 44 14.2**	**-0.2**
KAB				*e*			10 44 36.4	
KAB				pmax	pmax			
	comp=Z,1μm,0.5s							
KAB				smax	smax			
	comp=N,6μm,1.3s							
STDB	**Stepnoy Dvoret**	**1.69**	**239**	*e*Pg		**Pb**	**10 44 15.9**	**-1.1**
STDB				*e*Sg		**Sg**	**10 44 38.8**	**-1.2**
HRMR	**Khuramsha**	**1.79**	**218**	⇓*i*Pn		**Pn**	**10 44 17.1**	**+0.2**
HRMR				⇓*i*Pg		**Pb**	**10 44 17.7**	**-1.1**
HRMR				Pmax			10 44 18.4	
	comp=N,3μm,0.5s							
HRMR				*e*Sg		**Sg**	**10 44 41.8**	**-1.7**
HRMR				Smax			10 44 44.1	
	comp=N,6μm,0.5s							
BGT	**Bolshoye Golou**	**2.26**	**245**	*e*Pn		**Pn**	**10 44 22.0**	**-1.3**
BGT				*e*Pg		**Pb**	**10 44 25.1**	**-1.6**
BGT				Pmax			10 44 26.5	
	comp=N,118nm,0.3s							
BGT				Pmax			10 44 29.0	
BGT				*e*Sn		**Sn**	**10 44 49.3**	**-1.9**
BGT				*e*Sg		**Sb**	**10 44 55.0**	**+0.3**
BGT				Smax			10 44 57.0	
	comp=N,705nm,0.6s							
BGT				*e*			10 44 57.9	
BGT	**Bolshoye Golou**	**2.26**	**245**	*e*PN		**Pn**	**10 44 22.2**	**-1.1**
BGT				*e*			10 44 25.2	
BGT				*e*			10 44 54.8	
BGT				pmax	pmax			
	comp=Z,116nm,0.3s							
BGT				smax	smax			
	comp=E,703nm,0.7s							
YLYR	**Ulyunkhan**	**2.33**	**38**	⇓*i*Pn		**Pn**	**10 44 23.7**	**-0.5**
YLYR				*e*Pg		**Pb**	**10 44 25.8**	**-2.1**
YLYR				*e*			10 44 27.4	
YLYR				max			10 44 27.9	
	comp=E,380nm,0.4s							
YLYR				*e*Sn		**Sn**	**10 44 50.7**	**-2.1**
YLYR				*e*Sg		**Sb**	**10 44 56.9**	**+0.3**
YLYR				Smax			10 45 00.0	
	comp=E,716nm,0.3s							
YLYR	**Ulyunkhan**	**2.33**	**38**	*e*PN		**Pn**	**10 44 24.1**	**-0.1**
YLYR				*e*			10 44 27.0	
YLYR				*e*S		**Sn**	**10 44 53.2**	**+0.4**
YLYR				*e*			10 44 56.9	
YLYR				pmax	pmax			
	comp=Z,383nm,0.5s							
YLYR				smax	smax			
	comp=N,1μm,0.6s							
LSTR	**Listvyanka**	**2.66**	**245**	⇓*i*Pn		**Pn**	**10 44 27.7**	**-1.0**
LSTR				*e*Pg		**Pb**	**10 44 32.2**	**-1.3**
LSTR				Pmax			10 44 32.9	
	comp=N,54nm,0.4s							
LSTR				*e*Sn		**Sn**	**10 44 59.9**	**-1.0**
LSTR				*e*Sg		**Sb**	**10 45 06.0**	**-0.1**
LSTR				Smax			10 45 11.5	
	comp=N,531nm,0.7s							
LSTR	**Listvyanka**	**2.66**	**245**	*e*PN		**Pn**	**10 44 27.7**	**-1.0**
LSTR				*e*			10 44 31.9	
LSTR				*e*S		**Sn**	**10 45 00.0**	**-1.0**
LSTR				*e*			10 45 06.1	
LSTR				pmax	pmax			
	comp=Z,54nm,0.5s							
LSTR				smax	smax			
	comp=N,532nm,0.9s							
NIZ	**Nizh Angarsk**	**2.76**	**10**	*e*Pn		**Pn**	**10 44 29.6**	**-0.6**
NIZ				*e*Pg		**Pb**	**10 44 33.7**	**-1.6**
NIZ				Pmax			10 44 36.5	
	comp=N,138nm,0.4s							
NIZ				*e*PgPg		**Pg**	**10 44 39.8**	**+1.0**
NIZ				*e*Sg		**Sb**	**10 45 08.1**	**-1.1**
NIZ				Smax			10 45 10.0	
	comp=N,745nm,0.6s							
NIZ	**Nizh Angarsk**	**2.76**	**10**	*e*PN		**Pn**	**10 44 29.8**	**-0.4**
NIZ				*e*			10 44 34.5	
NIZ				*e*			10 45 08.8	
NIZ				pmax	pmax			
	comp=Z,130nm,0.5s							
NIZ				smax	smax			
	comp=N,743nm,0.6s							
IRK	**Irkutsk**	**2.83**	**255**	Pg		**Pb**	**10 44 34.0**	**-2.4**
IRK				Pmax			10 44 44.6	
	comp=N,527nm,0.1s							
IRK				*e*			10 44 58.3	
IRK				*e*Sn		**Sn**	**10 45 02.6**	**-2.5**
IRK				*e*Sg		**Sb**	**10 45 10.8**	**-0.2**
IRK				Smax			10 45 13.9	
	comp=N,2μm,1.0s							
IVK	**Ivanovka**	**2.92**	**246**	*e*Pn		**Pn**	**10 44 31.5**	**-0.8**
IVK				*e*			10 44 35.4	
IVK				*e*Pg		**Pb**	**10 44 36.5**	**-1.4**
IVK				Pmax			10 44 37.9	
	comp=N,115nm,0.3s							
IVK				*e*Sn		**Sn**	**10 45 04.9**	**-2.5**
IVK				*e*Sg		**Sb**	**10 45 13.9**	**+0.3**
IVK				Smax			10 45 16.9	
	comp=N,833nm,0.7s							
IVK	**Ivanovka**	**2.92**	**246**	*e*PN		**Pn**	**10 44 31.5**	**-0.8**
IVK				*e*			10 44 37.2	
IVK				*e*			10 45 13.5	
IVK				pmax	pmax			
	comp=Z,115nm,0.5s							
IVK				smax	smax			
	comp=E,836nm,0.6s							
CIT	**Chita**	**3.13**	**107**	*e*Pn		**Pn**	**10 44 34.3**	**-1.0**
CIT				*e*Pg		**Pb**	**10 44 41.3**	**-0.4**
CIT				Pmax			10 44 45.6	
	comp=E,234nm,0.2s							
CIT				*e*Sg		**Sg**	**10 45 23.7**	**-2.8**
CIT				Smax			10 45 27.1	
	comp=E,1μm,0.2s							
CIT	**Chita**	**3.13**	**107**	*e*PN		**Pb**	**10 44 39.0**	**-2.7**
CIT				*e*S		**Sn**	**10 45 12.3**	**-0.5**
CIT				*e*			10 45 23.1	
CIT				pmax	pmax			
	comp=Z,258nm,0.3s							
CIT				smax	smax			
	comp=E,1μm,0.2s							
KMO	**Kumora**	**3.18**	**26**	*e*Pn		**Pn**	**10 44 35.5**	**-0.5**
KMO				*e*			10 44 37.9	
KMO				*e*Pg		**Pb**	**10 44 42.4**	**-0.1**
KMO				Pmax			10 44 45.0	
	comp=E,165nm,0.4s							
KMO				*e*Sg		**Sb**	**10 45 23.0**	**+1.7**
KMO				Smax			10 45 28.8	
	comp=E,1μm,1.0s							
KMO	**Kumora**	**3.18**	**26**	*e*PN		**Pn**	**10 44 34.5**	**-1.5**
KMO				*e*			10 44 41.0	
KMO				*e*S		**Sn**	**10 45 11.9**	**-2.1**
KMO				*e*			10 45 21.4	
KMO				pmax	pmax			
	comp=Z,98nm,0.5s							
KMO				smax	smax			
	comp=N,1μm,1.0s							
TLY	**Talaya**	**3.40**	**248**	Pn		**Pn**	**10 44 37.8**	**-1.2**
	comp=N,0.0nm,0.3s,baz=42,slow=16,SNR=2.9							
TLY				Pg		**Pb**	**10 44 45.5**	**-0.6**
	comp=N,0.2nm,0.3s,baz=61,slow=12,SNR=40							
TLY				Lg		Lg	10 45 28.6	
	comp=N,0.4nm,0.3s,baz=133,slow=22,SNR=16							
TLY				LR		LR	10 46 14.9	
	comp=N,82nm,19.8s,baz=114,slow=44							
TLY	**Talaya**	**3.40**	**248**	*e*Pn		**Pn**	**10 44 37.9**	**-1.1**
TLY				*e*Pg		**Pb**	**10 44 44.7**	**-1.5**
TLY				*e*			10 44 48.9	
TLY				max			10 44 51.4	
	comp=N,70nm,0.5s							
TLY				*e*Sn		**Sn**	**10 45 16.3**	**-3.0**
TLY				*e*Sg		**Sb**	**10 45 28.9**	**+1.4**
TLY				Smax			10 45 33.1	
	comp=N,318nm,0.3s							
TLY	**Talaya**	**3.40**	**248**	*e*PN		**Pn**	**10 44 37.8**	**-1.2**
TLY				*e*			10 44 45.1	
TLY				*e*			10 45 29.2	
TLY				pmax	pmax			
	comp=Z,71nm,0.6s							
TLY				smax	smax			
	comp=E,269nm,0.5s							
YOA	**Uoyan**	**3.54**	**28**	*e*Pn		**Pn**	**10 44 40.4**	**-0.5**
YOA				*e*Pg		**Pb**	**10 44 48.3**	**-0.3**
YOA				Pmax			10 44 52.0	
	comp=E,500nm,0.6s							
YOA				*e*Sg		**Sb**	**10 45 33.5**	**+1.9**
YOA				*e*SgSg		**Sg**	**10 45 37.9**	**-1.6**
YOA				max			10 45 52.8	
	comp=E,3μm,1.6s							
UKT	**Uakit**	**3.77**	**48**	*e*Pn		**Pn**	**10 44 44.3**	**+0.2**
UKT				*e*			10 44 46.2	
UKT				*e*Pg		**Pb**	**10 44 53.0**	**+0.5**
UKT				Pmax			10 44 59.3	
	comp=E,78nm,0.9s							
UKT				*e*Sn		**Sn**	**10 45 27.0**	**-1.6**
UKT				*e*Sg		**Sb**	**10 45 41.4**	**+3.1**
UKT				Smax			10 45 47.7	
	comp=E,283nm,0.8s							
UKT	**Uakit**	**3.77**	**48**	*e*PN		**Pn**	**10 44 45.8**	**+1.7**
UKT				*e*			10 44 52.4	
UKT				*e*			10 45 41.1	
UKT				pmax	pmax			
	comp=Z,7.0nm,0.4s							
UKT				smax	smax			
	comp=N,77nm,0.8s							
ARS	**Arshan**	**4.01**	**256**	*e*Pn		**Pn**	**10 44 46.9**	**-0.5**
ARS				*e*Pg		**Pb**	**10 44 56.4**	**-0.2**
ARS				Pmax			10 45 02.0	
	comp=N,208nm,0.6s							
ARS				*e*			10 45 45.9	
ARS				*e*Sg		**Sb**	**10 45 47.3**	**+2.2**
ARS				Smax			10 45 51.4	
	comp=N,3μm,0.8s							
KPC	**Khapcheranga**	**4.07**	**144**	*e*Pn		**Pn**	**10 44 48.4**	**+0.2**
KPC				*e*Pg		**Pb**	**10 44 59.4**	**+1.7**
KPC				Pmax			10 45 03.8	
	comp=N,98nm,0.5s							
KPC				*e*			10 45 30.2	
KPC				*e*Sn		**Sn**	**10 45 35.2**	**-0.8**
KPC				*e*Sg		**Sg**	**10 45 52.2**	**-4.3**
KPC				Smax			10 45 57.7	
	comp=N,583nm,1.0s							
KPC				*e*			10 46 00.5	
KPC	**Khapcheranga**	**4.07**	**144**	*e*PN		**Pn**	**10 44 47.8**	**-0.4**
KPC				*e*			10 44 58.8	
KPC				*e*S		**Sn**	**10 45 35.7**	**-0.3**
KPC				*e*			10 45 52.2	
KPC				pmax	pmax			
	comp=Z,98nm,0.5s							
KPC				smax	smax			
	comp=E,598nm,1.5s							
SVKR	**Severomuysk**	**4.16**	**41**	*e*Pg		**Pb**	**10 45 00.2**	**+1.0**
SVKR				Pmax			10 45 04.0	
	comp=E,132nm,0.4s							
SVKR				*e*			10 45 06.3	
SVKR				*e*Sg		**Sg**	**10 45 54.9**	**-4.5**
SVKR				Smax			10 46 04.0	
	comp=E,1μm,0.7s							
ZAK	**Zakamensk**	**4.31**	**234**	*e*Pn		**Pn**	**10 44 49.5**	**-2.1**
ZAK				*e*Pg		**Pb**	**10 45 01.4**	**-0.4**
ZAK				Pmax			10 45 04.8	
	comp=E,51nm,0.4s							
ZAK				*e*Sn		**Sn**	**10 45 39.3**	**-2.6**
ZAK				*e*Sg		**Sb**	**10 45 57.8**	**+3.9**
ZAK				Smax			10 46 05.1	
	comp=E,278nm,0.5s							
ZAK	**Zakamensk**	**4.31**	**234**	*e*PN		**Pn**	**10 44 51.6**	**0.0**
ZAK				*e*			10 45 00.6	
ZAK				*e*			10 45 58.6	
ZAK				pmax	pmax			
	comp=Z,51nm,0.3s							
ZAK				smax	smax			
	comp=N,278nm,0.5s							
MOY	**Mondy**	**4.93**	**257**	*e*Pn		**Pn**	**10 45 00.7**	**+0.6**
MOY				*e*			10 45 11.6	
MOY				*e*			10 45 22.0	
MOY				max			10 45 22.8	
	comp=N,61nm,0.7s							
MOY				*e*Sg		**Sb**	**10 46 15.2**	**+3.5**
MOY				Smax			10 46 20.7	
	comp=N,577nm,1.2s							
MOY	**Mondy**	**4.93**	**257**	*e*PN		**Pn**	**10 45 01.5**	**+1.4**
MOY				*e*			10 45 12.5	
MOY				*e*S		**Sn**	**10 45 59.6**	**+2.4**
MOY				*e*			10 46 15.6	
NLYR	**Nelyaty**	**5.31**	**47**	*e*Pn		**Pn**	**10 45 06.4**	**+1.2**
NLYR				*e*Pg		**Pb**	**10 45 19.9**	**+1.2**
NLYR				Pmax			10 45 27.6	
	comp=N,42nm,0.7s							
NLYR				*e*Sg		**Sb**	**10 46 29.4**	**+7.0**
NLYR				Smax			10 46 36.8	
	comp=N,602nm,1.5s							
NLYR	**Nelyaty**	**5.31**	**47**	*e*PN		**Pn**	**10 45 06.2**	**+1.0**
NLYR				*e*			10 45 20.7	
NLYR				*e*			10 46 31.0	
NLYR				pmax	pmax			
	comp=Z,42nm,1.0s							
NLYR				smax	smax			
	comp=E,599nm,1.2s							
ULN	**Ulaanbaatar**	**5.31**	**192**	*e*Pn		**Pn**	**10 45 06.0**	**+0.7**
ULN				*e*Pg		**Pb**	**10 45 21.4**	**+2.6**
ULN				*e*Sg		**Sg**	**10 46 31.2**	**-5.0**
ORL	**Orlik**	**5.43**	**268**	*e*PN		**Pn**	**10 45 07.1**	**+0.2**
ORL				*e*			10 45 22.2	
ORL				*e*S		**Sn**	**10 46 07.3**	**-2.1**
ORL				*e*			10 46 29.1	
ORL				pmax	pmax			
	comp=Z,34nm,0.6s							
ORL				smax	smax			
	comp=N,251nm,1.4s							
SONM	**Songino Array**	**5.44**	**197**	Pn		**Pn**	**10 45 07.9**	**+0.9**
	comp=N,6.1nm,0.3s,baz=5.8,slow=14,SNR=76							
SONM				Pg		**Pb**	**10 45 23.1**	**+2.2**
	comp=N,11nm,0.3s,baz=358,slow=17,SNR=26							
SONM				Sn		**Sn**	**10 46 10.3**	**+0.6**
	comp=N,8.8nm,0.3s,baz=20,slow=18,SNR=4.5							
SONM				Lg		Lg	10 46 37.4	
	comp=N,33nm,0.3s,baz=17,slow=30,SNR=21							
BOD	**Bodaibo**	**5.64**	**30**	*e*Pn		**Pn**	**10 45 10.9**	**+1.2**
BOD				*e*Pg		**Pb**	**10 45 25.4**	**+1.1**
BOD				Pmax			10 45 30.7	
	comp=N,12nm,0.4s							
BOD				*e*			10 46 19.4	
BOD				*e*Sg		**Sb**	**10 46 38.1**	**+6.2**
BOD				Smax			10 46 48.1	
	comp=N,251nm,1.1s							
BOD	**Bodaibo**	**5.64**	**30**	*e*PN		**Pn**	**10 45 09.9**	**+0.2**
BOD				*e*			10 45 25.9	
BOD				*e*			10 46 35.7	
BOD				pmax	pmax			
	comp=Z,14nm,0.5s							
BOD				smax	smax			
	comp=E,252nm,1.4s							
CRS	**Chara**	**6.71**	**51**	*e*Pn		**Pn**	**10 45 25.3**	**+0.9**
CRS				*e*Pg		**Pb**	**10 45 46.4**	**+3.9**
CRS				Pmax			10 45 49.8	
	comp=E,33nm,1.4s							
CRS				*e*			10 46 02.0	
CRS				*e*			10 46 46.2	
CRS				*e*Sg		**Sg**	**10 47 13.4**	**-7.7**
CRS				Smax			10 47 35.2	
	comp=E,230nm,1.2s							
CRS	**Chara**	**6.71**	**51**	*e*PG		Pb	10 45 48.1	+5.5
CRS				*e*			10 47 13.3	
CRS				pmax	pmax			
	comp=Z,31nm,1.1s							
CRS				smax	smax			
	comp=E,229nm,1.2s							
VTMR	**Vitim**	**6.74**	**17**	*e*Pn		**Pn**	**10 45 25.2**	**+0.4**
VTMR				*e*Pg		**Pb**	**10 45 47.2**	**+4.2**
VTMR				*e*Sn		**Sn**	**10 46 39.5**	**-2.0**
VTMR				*e*Sg		**Sg**	**10 47 14.3**	**-7.8**
TUP	**Tupik**	**6.81**	**74**	*e*Pn		**Pn**	**10 45 25.8**	**0.0**
TUP				*e*			10 45 27.2	
TUP				*e*Pg		**Pb**	**10 45 47.0**	**+2.8**
TUP				Pmax			10 45 52.6	
	comp=E,20nm,0.7s							
TUP				*e*Sn		**Sn**	**10 46 38.7**	**-4.6**
TUP				*e*Sg		Sb	10 47 15.3	+10
TUP				Smax			10 47 24.7	
	comp=E,511nm,1.6s							
TUP	**Tupik**	**6.81**	**74**	*e*PN		**Pn**	**10 45 28.0**	**+2.2**
TUP				*e*			10 45 50.8	
TUP				*e*S		**Sn**	**10 46 43.1**	**-0.2**
TUP				*e*			10 47 14.9	
TUP				pmax	pmax			
	comp=Z,20nm,0.7s							
TUP				smax	smax			
	comp=N,487nm,1.6s							
KNGR	**Kungurtug, Tuv**	**7.36**	**255**	*e*		**Pb**	**10 45 57.3**	**+3.6**
KNGR				*e*Sg		Sg	10 47 31.6	-10
HIA	**Hailar**	**7.91**	**114**	*e*Sg		**Sg**	**10 47 51.4**	**-8.0**
YKLR	**Yuktali**	**8.27**	**60**	*e*Pn		**Pn**	**10 45 47.7**	**+2.0**
YKLR				*e*			10 46 04.6	
YKLR				*e*Sg		Sg	10 48 00.0	-11
ARDR	**Aradan**	**9.27**	**273**	*e*			10 48 17.7	
ARDR				*e*Sg		Sn	10 48 30.4	+47
CLNS	**Chul'man**	**10.04**	**61**	*e*Sg		Sn	10 48 56.4	+54
ZALV	**Zalesovo Beam**	**14.23**	**283**	Pn		**Pn**	**10 47 09.1**	**+1.9**
	comp=N,0.3nm,0.3s,baz=77,slow=5.2,SNR=2.1							
ZALV				Lg		Lg	10 51 05.6	
	comp=N,0.2nm,0.3s,baz=93,slow=26,SNR=8.1							
MKAR	**Makanchi Array**	**18.07**	**260**	P		**P**	**10 47 58.2**	**+1.0**
	comp=N,0.1nm,0.3s,baz=60,slow=8.5,SNR=2.8							
KURK	**Kurchatov**	**18.66**	**275**	P		**Pn**	**10 48 04.8**	**+0.9**
KURBB	**Kurchatov Arra**	**18.74**	**275**	P		**Pn**	**10 48 04.8**	**-0.2**
	comp=N,0.1nm,0.3s,baz=72,slow=13,SNR=2.1							
ILAR	**Eielson Array**	**49.00**	**33**	P		**P**	**10 52 35.1**	**+3.0**
	comp=N,0.4nm,0.6s,baz=302,slow=6.9,SNR=5.0							
ULM	**Lac du Bonnet**	**74.99**	**16**	P		**P**	**10 55 27.6**	**+0.7**
	comp=N,1.7nm,0.8s,baz=320,slow=7.9,SNR=1.5							
WRA	**Warramunga Arr**	**76.02**	**155**	P		**P**	**10 55 32.6**	**-0.5**
	comp=N,0.6nm,0.8s,baz=346,slow=6.6,SNR=6.7							
ASAR	**Alice Springs**	**79.49**	**157**	P		**P**	**10 55 52.5**	**+0.1**
	comp=N,0.6nm,0.8s,baz=353,slow=5.3,SNR=7.4							

*IDC **24** 10:56:11.6±0.7,35˚37N×141˚49E,h0km,mb3.9/13, mb1 4.0/17,mb1mx3.9/50,mbtmp3.8/17,ML2.9/4,MS3.3/3, Ms1 3.3/3,ms1mx2.6/39,Error ellipse: s-maj=19.4km s-min=15.5km az=87.0*
*JMA **24** 10:56:12.5±0.2,35˚51N×141˚50E,h12km±2km,M3.9 JMA Felt I J1.*
*NEIC **24** 10:56:13.5±2.2,35˚45N±0˚04×141˚52E±0˚09,h18km±5km, mb4.5/14,Error ellipse: s-maj=10.6km s-min=6.5km az=82.0*
*MOS **24** 10:56:14.3±1.6,35˚48N×141˚53E,h34km,mb4.4/3,Error ellipse: s-maj=18.4km s-min=10.6km az=127.0*
ISC 24 10:56:12.1±1.9,35˚47N±0˚04×141˚51E±0˚06,h4km±11km, n71,σ1§25/71,mb4.2/19,2C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.58**	**294**	⇑P		**Pg**	**10 56 23.3**	**+0.1**
CHOJ					*e*S	**Sg**	**10 56 31.3**	**+0.6**
JSMT	**Sammumatsuo**	**0.88**	**282**	⇑P		**Pb**	**10 56 29.3**	**-0.7**
BSO1	**Boso 1**	**0.92**	**208**	P		**Pb**	**10 56 30.7**	**+0.4**
JIHU	**Itakohorinouch**	**0.94**	**302**	P		**Pb**	**10 56 30.6**	**-0.4**
JIHU					*e*S	**Sb**	**10 56 43.0**	**-0.8**
KTR	**Katsuura**	**1.03**	**252**	P		**Pb**	**10 56 32.1**	**-0.3**
BSO3	**Boso 3**	**1.05**	**231**	P		**Pb**	**10 56 32.3**	**-0.5**
BSO4	**Boso 4**	**1.07**	**244**	P		**Pb**	**10 56 32.6**	**-0.5**
JYT	**Yasato**	**1.31**	**306**	P		**Pn**	**10 56 36.1**	**-1.1**
JYT	**Yasato**	**1.31**	**306**			**Pn**	**10 56 36.0**	**-1.1**
JYT					Sn	**Sn**	**10 56 54.1**	**-1.0**
JHO	**Hitachi**	**1.37**	**327**	P		**Pn**	**10 56 37.0**	**-1.0**
JIM2	**Oshima 3**	**1.86**	**247**	P		**Pn**	**10 56 43.3**	**-1.5**
JAG	**Ashikaga**	**1.92**

MJAR	**Matsushiro Arr**	**2.88**	**293**		**Pn**	**10 56 58.4**	**-0.5**
MAJO	**Matsushiro**	**2.88**	**293**	P	**Pn**	**10 56 59.6**	**+0.8**
MAJO	**Matsushiro**	**2.88**	**293**		**Pn**	**10 56 59.6**	**+0.8**
MAT	**Matsushiro**	**2.88**	**293**	P	**Pn**	**10 56 59.3**	**+0.5**
MAT				*eS*	**Sn**	**10 57 36.9**	**+2.9**
JGF	**Kuroka**	**3.39**	**273**		**Pn**	**10 57 06.9**	**+1.1**
JSD	**Sado**	**3.66**	**315**		**Pn**	**10 57 09.9**	**+0.5**
INU	**Inuyama**	**3.67**	**269**		**Pn**	**10 57 06.6**	**-3.1**
JWT	**Wachi**	**4.99**	**270**		**Pn**	**10 57 29.7**	**+1.9**
JHS	**Saijyo**	**6.88**	**269**		**Pn**	**10 57 54.2**	**+0.3**
ASAJ	**Asahikawa**	**8.68**	**5**	Pn	**Pn**	**10 58 15.9**	**-2.4**
	0.6nm,0.3s,baz=190,slow=17,SNR=9.5						
ASAJ	**Asahikawa**	**8.68**	**5**	P	**Pn**	**10 58 17.2**	**-1.2**
JKA	**Kamikawa-asahi**	**8.68**	**5**		**Pn**	**10 58 17.2**	**-1.2**
KSRS	**Korea Array**	**11.12**	**284**	Pn	**Pn**	**10 58 54.5**	**+2.7**
	0.1nm,0.3s,baz=98,slow=13,SNR=3.7						
KSRS				LR	LR	11 03 21.8	
	comp=Z,140nm,19.2s,baz=350,slow=38						
USRK	**Ussuriysk Ar.**	**11.38**	**323**	Pn	**Pn**	**10 58 56.6**	**+1.3**
	baz=135,slow=14,SNR=2.3						
USRK				LR	LR	11 03 11.5	
	comp=Z,225nm,19.3s,baz=323,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.31**	**118**	T	T	11 30 40.7	
	baz=311,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy**	**27.32**	**118**	T	T	11 30 41.2	
	baz=311,SNR=39						
H11N3	**WAKE ISLAND Hy**	**27.33**	**118**	T	T	11 30 39.5	
	baz=311,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**27.97**	**121**	T	T	11 31 32.0	
	baz=312,slow=76,SNR=182						
H11S3	**WAKE ISLAND Hy**	**27.97**	**121**	T	T	11 31 33.7	
	baz=312,slow=76,SNR=163						
H11S2	**WAKE ISLAND Hy**	**27.99**	**121**	T	T	11 31 29.6	
	baz=312,slow=76,SNR=138						
SONM	**Songino Array**	**28.75**	**306**	P	**P**	**11 02 10.5**	**-0.2**
	0.8nm,0.5s,baz=96,slow=8.9,SNR=3.7						
SONM	**Songino Array**	**28.75**	**306**	P	**P**	**11 02 09.5**	**-1.2**
ZAA0	**Zalesovo Array**	**43.03**	**314**	P	**P**	**11 04 11.8**	**-0.8**
ZALV	**Zalesovo Beam**	**43.03**	**314**	P	**P**	**11 04 11.8**	**-0.9**
	1.3nm,0.5s,baz=98,slow=5.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**43.03**	**314**	P	**P**	**11 04 10.1**	**-2.5**
MK31	**Makanchi Array**	**45.03**	**303**	P	**P**	**11 04 27.8**	**-1.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**45.03**	**303**	P	**P**	**11 04 27.8**	**-1.0**
MK31				IAmb	IAmb	11 04 35.1	
	comp=Z,2.2nm,1.0s						
MKAR	**Makanchi Array**	**45.03**	**303**	P	**P**	**11 04 28.1**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=89,slow=9.8,SNR=8.4						
MKAR	**Makanchi Array**	**45.03**	**303**	P	**P**	**11 04 27.5**	**-1.3**
KURK	**Kurchatov**	**46.97**	**309**	P	**P**	**11 04 45.2**	**+1.2**
KURK	**Kurchatov**	**46.97**	**309**	P	**P**	**11 04 42.6**	**-1.4**
KURK				IAmb	IAmb	11 04 49.9	
	comp=Z,4.5nm,0.8s						
KURBB	**Kurchatov Arra**	**47.03**	**309**	P	**P**	**11 04 45.2**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=84,slow=8.3,SNR=2.5						
ILAR	**Eielson Array**	**50.78**	**32**	P	**P**	**11 05 12.8**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=267,slow=5.7,SNR=5.1						
ILAR	**Eielson Array**	**50.78**	**32**	P	**P**	**11 05 13.3**	**+0.2**
ILAR	**Eielson Array**	**50.78**	**32**	P	**P**	**11 05 13.2**	**+0.2**
KNRA	**Kununurra**	**52.28**	**196**	P	**P**	**11 05 25.1**	**+0.4**
WB0	**Warramunga Arr**	**55.34**	**188**	P	**P**	**11 05 46.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**55.36**	**198**	P	**P**	**11 05 46.2**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=357,slow=7.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	**55.36**	**198**	P	**P**	**11 05 47.2**	**-0.1**
FITZ				IAmb	IAmb	11 05 59.3	
	comp=Z,10.0nm,1.4s						
WRAB	**Tennant Creek**	**55.52**	**188**	P	**P**	**11 05 47.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRAB	**Tennant Creek**	**55.52**	**188**	P	**P**	**11 05 47.7**	**-0.7**
WRAB				IAmb	IAmb	11 05 49.0	
	comp=Z,6.7nm,1.1s						
WR0	**Warramunga Arr**	**55.52**	**188**	P	**P**	**11 05 47.8**	**-0.6**
WR0				IAmb	IAmb	11 05 59.7	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**55.52**	**188**	P	**P**	**11 05 47.9**	**-0.6**
WB2				IAmb	IAmb	11 05 55.9	
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Arr**	**55.52**	**188**	P	**P**	**11 05 47.6**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=0.8,slow=7.7,SNR=39						
WRA	**Warramunga Arr**	**55.52**	**188**	P	**P**	**11 05 47.3**	**-1.2**
ABKAR	**Akbulak array**	**59.01**	**311**	P	**P**	**11 06 12.3**	**-0.6**
ABKAR				IAmb	IAmb	11 06 30.2	
	comp=Z,2.0nm,1.1s						
AS31	**Alice Springs**	**59.25**	**188**	P	**P**	**11 06 13.6**	**-1.1**
ASAR	**Alice Springs**	**59.25**	**188**	P	**P**	**11 06 14.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=12,slow=8.2,SNR=7.9						
ASAR	**Alice Springs**	**59.25**	**188**	P	**P**	**11 06 11.4**	**-3.3**
AKASG	**Malin Array Be**	**75.58**	**323**	P	**P**	**11 08 00.2**	**+2.4**
	comp=Z,1.1nm,0.5s,baz=46,slow=6.5,SNR=1.8						
NOA	**NORSAR Array B**	**75.66**	**337**	P	**P**	**11 08 00.0**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=40,slow=5.8,SNR=3.3						
NVAR	**Mina Array Bea**	**75.87**	**53**	P	**P**	**11 08 00.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=306,slow=6.4,SNR=2.9						
PDAR	**Pinedale Array**	**78.71**	**45**	P	**P**	**11 08 15.9**	**0.0**
	comp=Z,0.1nm,0.5s,baz=340,slow=2.4,SNR=1.7						
TXAR	**Lajitas Array**	**91.01**	**52**	P	**P**	**11 09 18.6**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=320,slow=2.4,SNR=2.8						
LPAZ	**La Paz**	**147.39**	**62**	PKPbc	**PKPab**	**11 15 59.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=0.6,slow=8.6,SNR=4.9						

IDC 24 10:56:29.0±1.8, 12°35N×143°54E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/43, mbtmp3.6/4, Error ellipse: s-maj=113.1km s-min=20.7km az=119.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.78**	**46**	Pn	Pn	10 57 00.5	-0.6
	30nm,0.3s,baz=325,slow=7.7,SNR=41						
GUMO				LR	LR	10 57 12.8	
	comp=Z,46nm,20.3s,baz=206,slow=25						
GUMO				Sn	Sn	10 57 21.0	-3.5
	90nm,0.3s,baz=18,slow=23,SNR=29						
H11S3	**WAKE ISLAND Hy**	**23.12**	**72**	T	T	11 25 13.8	
	baz=253,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**23.13**	**72**	T	T	11 25 13.6	
	baz=253,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**23.14**	**72**	T	T	11 25 13.9	
	baz=253,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**23.59**	**69**	T	T	11 25 53.6	
	baz=254,slow=74,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**23.59**	**69**	T	T	11 25 54.4	
	baz=254,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**23.60**	**69**	T	T	11 25 55.0	
	baz=254						
WRA	**Warramunga Arr**	**33.35**	**196**	P	P	11 03 09.4	+0.4
	0.7nm,0.7s,baz=18,slow=9.3,SNR=8.0						
ASAR	**Alice Springs**	**37.02**	**195**	P	P	11 03 39.9	-0.8
	0.5nm,0.7s,baz=19,slow=9.0,SNR=7.4						
ILAR	**Eielson Array**	**70.23**	**25**	P	P	11 07 43.1	-0.6
	0.2nm,0.7s,baz=246,slow=6.0,SNR=2.0						
NVAR	**Mina Array Bea**	**88.70**	**51**	P	P	11 09 26.5	+1.5
	0.4nm,0.6s,baz=269,slow=5.0,SNR=2.7						

IDC 24 11:08:19.5±2.7, 6°01S×129°51E, h170km, 38km, mb3.0/1, mb1 3.3/5, mb1mx3.1/30, mbtmp3.8/5, Error ellipse: s-maj=63.2km s-min=19.6km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.40**	**19**	P	Pn	11 09 38.4	-0.2
	7.5nm,0.3s,baz=253,slow=23,SNR=30						
SIJI				S	Sn	11 10 35.8	-4.9
	3.9nm,0.3s,baz=253,slow=19,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.59**	**197**	P	Pn	11 11 14.0	+1.1
	0.5nm,0.3s,baz=32,slow=10,SNR=33						
FITZ				S	Sn	11 13 28.3	-4.3
	0.1nm,0.3s,baz=80,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**14.62**	**162**	P	Pn	11 11 37.7	-0.8
	0.3nm,0.3s,baz=338,slow=13,SNR=20						
WRA				S	Sn	11 14 10.6	-11
	0.4nm,0.3s,baz=335,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**18.05**	**167**	P	P	11 12 17.8	-0.3
	0.2nm,0.3s,baz=354,slow=12,SNR=20						
ASAR				S	S	11 15 29.8	-6.5
	0.1nm,0.3s,baz=349,slow=19,SNR=11						
MKAR	**Makanchi Array**	**67.14**	**327**	P	P	11 18 55.0	0.0
	0.3nm,0.5s,baz=108,slow=7.9,SNR=3.7						

*TEH **24** 11:10:57.4, 32°75N×47°46E, h8km, ML3.4*
*ISN **24** 11:10:57.6±1.6, 32°78N×47°38E, h0km±8km, ML3.3*

*THR **24** 11:10:58.9±0.3, 32°78N×47°51E, h18km±2km, ML3.4*
ISC 24 11:10:57.5±1.2, 32°77N±0°03×47°47E±0°03, h7km±12km, n39, σ1°45/45, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.82**	**22**	*e*Pg	**Pg**	**11 11 13.6**	**+0.3**
IKFM				*e*		11 11 27.1	
IKMR	**Kamar-syah**	**1.07**	**45**	*e*Pg	**Pb**	**11 11 18.4**	**+0.1**
IKMR				*e*		11 11 37.1	
IDOB	**Doab**	**1.18**	**30**	*e*Pg	**Pn**	**11 11 20.8**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.30**	**120**	*e*Pg	**Pg**	**11 11 22.5**	**0.0**
SHGR				IAML		11 11 45.5	
	comp=E,621nm,0.5s						
SHGR				IAML		11 11 50.0	
	comp=N,586nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.30**	**120**	*e*Pn	**Pg**	**11 11 22.5**	**0.0**
IBDR	**Badra**	**1.34**	**285**	*e*Pg	**Pg**	**11 11 23.0**	**-0.3**
	baz=105						
IBDR				*e*Sg	**Sg**	**11 11 42.0**	**+1.3**
IBDR				AML	AML	11 11 46.3	
	comp=N,427nm,0.5s						
IBDR				AML	AML	11 11 49.5	
	comp=E,364nm,0.5s						
IKOM	**Komasi**	**1.41**	**1**	*e*Pg	**Pg**	**11 11 25.1**	**+0.6**
IKOM				*e*		11 11 29.3	
KCHF	**Cheshme Sefid,**	**1.55**	**347**	*e*Pg	**Pg**	**11 11 27.8**	**+0.5**
KCHF				*e*		11 11 55.3	
KER	**Kermanshah**	**1.64**	**350**	*e*Pg	**Pg**	**11 11 29.2**	**+0.2**
HSAM	**Samen**	**1.72**	**33**	*e*Pg	**Pg**	**11 11 30.6**	**0.0**
HSAM				*e*		11 11 59.9	
IBZA	**Bozab**	**1.73**	**11**	*e*Pg	**Pg**	**11 11 30.7**	**0.0**
IBZA				*e*		11 12 01.2	
IGHG	**Ghaleghazi**	**1.73**	**334**	*e*Pg	**Pg**	**11 11 30.6**	**-0.2**
IGHG				*e*		11 12 09.5	
AHWZ	**Ahwaz**	**1.74**	**145**	*e*Pg	**Pg**	**11 11 31.2**	**+0.3**
AHWZ				*e*Sg	**Sg**	**11 11 54.8**	**+1.3**
IVIS	**Veis**	**1.83**	**344**	*e*Pn	**Pb**	**11 11 31.5**	**+0.1**
IVIS				*e*		11 12 05.9	
IDHR	**Dehrash**	**2.13**	**335**	*e*Pn	**Pb**	**11 11 36.9**	**+0.3**
IDHR				*e*		11 12 13.1	
IALM	**Almabolaq**	**2.17**	**15**	*e*Pn	**Pb**	**11 11 36.7**	**-0.6**
KHMZ	**Khomeyn**	**2.30**	**64**	*e*Pn	**Pb**	**11 11 37.9**	**-1.6**
KHMZ				*e*Sg	**Sg**	**11 12 10.4**	**-1.0**
KHMZ	**Khomeyn**	**2.30**	**64**	*e*Pn	**Pb**	**11 11 37.9**	**-1.6**
HAGD	**Aghdareh**	**2.48**	**34**	*e*Pn	**Pb**	**11 11 40.7**	**-1.8**
HAGD				*e*		11 12 26.6	
HSRG	**Sareghieh**	**2.56**	**15**	*e*Pn	**Pn**	**11 11 41.7**	**+2.0**
HSRG				*e*		11 12 26.8	
BHD	**Baghdad**	**2.65**	**282**	*e*Pn	**Pb**	**11 11 43.0**	**-2.2**
BHD				*e*Sn	**Sb**	**11 12 16.0**	**-1.9**
BHD				AML	AML	11 12 30.5	
	comp=E,417nm,0.5s						
ASAO	**Ashtian**	**2.77**	**49**	*e*Pn	**Pn**	**11 11 44.4**	**+1.8**
ASAO				*e*Sg	**Sg**	**11 12 24.9**	**-1.8**
ASAO	**Ashtian**	**2.77**	**49**	*e*Pn	**Pn**	**11 11 44.4**	**+1.8**
IPIR	**Pirpir**	**2.88**	**91**	*e*Pn	**Pn**	**11 11 46.0**	**+1.9**
IPIR				*e*		11 11 58.0	
QABG	**Abgarm-Qazvin**	**3.42**	**30**	*e*Pn	**Pn**	**11 11 52.6**	**+1.2**
QAM	**Ghamsar**	**3.47**	**72**	*e*Pn	**Pn**	**11 11 54.8**	**+2.7**
IKLH	**Kolahrood**	**3.49**	**80**	*e*Pn	**Pn**	**11 11 54.8**	**+2.3**
IKLH				*e*		11 11 56.8	
GHVR	**GHOM**	**3.62**	**61**	*e*Pn	**Pn**	**11 11 55.3**	**+1.2**
GHVR				*e*S	**Sn**	**11 12 36.3**	**-0.7**
GHVR	**GHOM**	**3.62**	**61**	*e*Pn	**Pn**	**11 11 55.3**	**+1.2**
IQOM	**Qom**	**3.64**	**54**	*e*Pn	**Pn**	**11 11 55.4**	**+0.9**
IGAR	**Gharneh**	**3.87**	**94**	*e*Pn	**Pn**	**11 11 58.7**	**+1.0**
IGAR				*e*		11 12 07.8	
QSDN	**Sirdan**	**3.98**	**20**	*e*Pn	**Pn**	**11 12 01.8**	**+2.6**
KRSH	**Karshahi**	**4.08**	**72**	*e*Pn	**Pn**	**11 12 02.4**	**+1.9**
IZEF	**Zefreh**	**4.09**	**87**	*e*Pn	**Pn**	**11 12 02.3**	**+1.6**
IVRN	**Varamin**	**4.18**	**57**	*e*Pn	**Pn**	**11 12 03.9**	**+2.1**
IDMV	**Damavand**	**4.71**	**52**	*e*Pn	**Pn**	**11 12 11.0**	**+1.8**
ANAR	**Anarak**	**5.27**	**84**	*e*Pn	**Pn**	**11 12 17.5**	**+0.6**
ISHM	**Shahmirzad**	**5.69**	**56**	*e*Pn	**Pn**	**11 12 24.8**	**+2.1**
IANJ	**Anjilo**	**5.98**	**61**	*e*Pn	**Pn**	**11 12 28.4**	**+1.7**

*IDC **24** 11:19:22.1±1.4, 44°49S×81°10W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/24, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=45.1km s-min=23.3km az=103.0*
*NEIC **24** 11:19:22.7±2.3, 44°5S±0°1×81°4W±0°2, h10km±2km, mb4.4/13, Error ellipse: s-maj=28.2km s-min=19.1km az=306.0*
*SJA **24** 11:20:24.3±0.6, 44°42S×82°20W, h10km±999km, MW5.1(GFZ)*
ISC 24 11:19:22.3±0.8, 44°5S±0°1×81°7W±0°1, h10km, n53, σ2°09/38, mb4.1/8, MS4.3/4, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LL01	**San Ignacio de**	**7.08**	**76**	Pn	**Pn**	**11 21 01.8**	**-4.0**
PLCA	**Paso Flores**	**9.03**	**70**	Pn	**Pn**	**11 21 30.2**	**-2.5**
	0.1nm,0.3s,baz=249,slow=14,SNR=3.8						
PLCA	**Paso Flores**	**9.03**	**70**		**Pn**	**11 21 31.9**	**-0.8**
H03S1	**Juan Fernandez**	**10.82**	**13**	T	T	11 33 04.4	
	baz=191,slow=73,SNR=172						
H03S2	**Juan Fernandez**	**10.82**	**12**	T	T	11 33 03.6	
	baz=191,slow=73,SNR=194						
H03S3	**Juan Fernandez**	**10.84**	**12**	T	T	11 33 04.6	
	baz=191,slow=73,SNR=196						
BI02	**San Fabin de**	**11.11**	**49**	Pn	**Pn**	**11 22 01.5**	**+0.3**
H03N3	**Juan Fernandez**	**11.20**	**12**	T	T	11 33 29.1	
	baz=169						
H03N2	**Juan Fernandez**	**11.21**	**12**	T	T	11 33 29.4	
	baz=169						
H03N1	**Juan Fernandez**	**11.21**	**12**	T	T	11 33 28.5	
	baz=169						
MT02	**Curacav**	**13.87**	**40**	Pn	**Pn**	**11 22 36.5**	**-2.4**
MT05	**Renca**	**13.95**	**41**	Pn	**Pn**	**11 22 38.2**	**-1.8**
VA03	**San Esteban**	**14.56**	**40**		**Pn**	**11 22 48.4**	**0.0**
AAGR	**Agrelo**	**15.14**	**46**	*e*P	**P**	**11 23 03.9**	**+2.4**
ASAL	**Salagasta**	**15.53**	**45**	*e*P	**P**	**11 23 08.3**	**+2.5**
AUSP	**Uspallata**	**15.55**	**42**	*e*P	**P**	**11 23 09.8**	**+3.6**
RTLS	**Leoncito**	**15.95**	**42**	*e*P	**P**	**11 23 11.4**	**+0.8**
CO03	**El Pedregal**	**16.13**	**36**		**Pn**	**11 23 08.5**	**-0.7**
CO03				IAmb	IAmb	11 23 16.4	
	comp=Z,48nm,1.4s						
ZON	**Zonda**	**16.45**	**43**	Pn	**Pn**	**11 23 12.8**	**-0.5**
GO04	**Tololo Observa**	**16.67**	**35**	Pn	**Pn**	**11 23 13.6**	**-2.6**
ACCO	**Cerro Coronel**	**17.07**	**40**	*e*P	**P**	**11 23 25.9**	**+2.8**
CO01	**Juntas del Tor**	**17.13**	**36**	Pn	**Pn**	**11 23 19.6**	**-2.5**
CO01				IAmb	IAmb	11 23 28.3	
	comp=Z,34nm,1.4s						
AROD	**Rodeo**	**17.24**	**38**	*e*P	**P**	**11 23 27.7**	**+2.8**
ACDV	**Cuesta del Vie**	**17.39**	**39**	*e*P	**P**	**11 23 29.9**	**+3.4**
AC05	**El Transito**	**18.06**	**34**	P	**Pn**	**11 23 33.2**	**-0.2**
VCA	**Vinchina**	**19.03**	**39**	*e*P	**Pn**	**11 23 46.6**	**+1.3**
ACLC	**CERRO LA CRUZ**	**19.04**	**43**	*e*P	**Pn**	**11 23 46.6**	**+1.2**
AC02	**Maricunga**	**20.30**	**34**	P	**P**	**11 23 57.6**	**-1.1**
CYA	**Choya**	**20.41**	**44**	*e*P	Pn	11 24 02.3	+0.7
GO02	**Mina Guanaco**	**21.62**	**31**	P	**P**	**11 24 11.5**	**-1.3**
GO02				IAmb	IAmb	11 24 16.6	
	comp=Z,25nm,1.1s						
LVC	**Limon Verde**	**24.20**	**30**	P	**P**	**11 24 37.0**	**-2.4**
	comp=Z,3.1nm,0.7s,baz=161,slow=6.6,SNR=2.7						
LVC	**Limon Verde**	**24.20**	**30**	P	**P**	**11 24 37.2**	**-2.2**
LVC				IAmb	IAmb	11 24 43.4	
	comp=Z,10nm,1.1s						
CPUP	**Villa Florida**	**26.71**	**55**	P	**P**	**11 24 59.1**	**-2.6**
	comp=Z,3.2nm,1.1s,baz=207,slow=2.3,SNR=2.7						
CPUP	**Villa Florida**	**26.71**	**55**	P	**P**	**11 24 59.9**	**-1.8**
CPUP				IAmb	IAmb	11 25 05.0	
	comp=Z,14nm,1.2s						
LPAZ	**La Paz**	**30.34**	**27**	P	**P**	**11 25 35.8**	**+1.0**
	comp=Z,2.3nm,1.0s,baz=166,slow=15,SNR=4.4						
LPAZ	**La Paz**	**30.34**	**27**	P	**P**	**11 25 34.5**	**-0.3**
BDFB	**Brasilia**	**40.44**	**55**	P	**P**	**11 27 02.0**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=198,slow=12,SNR=3.6						
BDFB	**Brasilia**	**40.44**	**55**	P	**P**	**11 27 00.2**	**-0.8**
BDFB				IAmb	IAmb	11 27 03.7	
	comp=Z,15nm,1.4s						
SNAA	**Sanae**	**45.10**	**154**	P	**P**	**11 27 38.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=299,slow=9.9,SNR=4.8						
SNAA	**Sanae**	**45.10**	**154**	P	**P**	**11 27 38.9**	**+0.7**
SNAA				IAmb	IAmb	11 27 55.1	
	comp=Z,4.9nm,1.2s						
QSPA	**South Pole Qui**	**45.78**	**180**	P	**P**	**11 27 43.9**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=202,slow=3.3,SNR=2.4						
QSPA	**South Pole Qui**	**45.78**	**180**	P	**P**	**11 27 43.9**	**+0.1**
TBI	**Tubuai**	**58.38**	**267**	*e*S	**S**	**11 37 17.9**	**-2.8**
	comp=Z,105nm,28.2s						
TBI				*e*LR	LR	11 46 13.4	
	comp=Z,345nm,27.8s						
TAOE	**Nuku Hiva Isla**	**61.50**	**287**	*e*LR	LR	11 47 49.5	
	comp=Z,250nm,27.2s						
PPT2	**Papeete2**	**62.16**	**272**	*e*S	**S**	**11 38 07.3**	**-2.2**
	comp=Z,121nm,28.5s						
PPT2				*e*LR	LR	11 48 01.6	
	comp=Z,247nm,24.5s,baz=140						
NVAR	**Mina Array Bea**	**88.88**	**332**	P	**P**	**11 32 19.9**	**+3.3**
	comp=Z,0.3nm,0.6s,baz=159,slow=7.7,SNR=3.6						
DZM	**Mont Dzumac**	**89.22**	**239**	*e*LR	LR	12 00 27.9	
	comp=Z,384nm,24.9s						
H11S2	**WAKE ISLAND Hy**	**18.04**	**269**	T	T	13 46 39.7	
	baz=131						
H11S1	**WAKE ISLAND Hy**	**18.05**	**269**	T	T	13 46 36.6	
	baz=131,slow=74,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**18.06**	**269**	T	T	13 46 36.0	
	baz=131,slow=74,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**18.69**	**270**	T	T	13 47 31.2	
	baz=131,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**18.70**	**270**	T	T	13 47 20.4	
	baz=131,slow=76,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**18.71**	**270**	T	T	13 47 26.5	
	baz=131,slow=76,SNR=5.8						

*IDC **24** 11:21:19.8±0.6, 44°31S×82°18W, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.5/25, mbtmp4.5/13, ML3.6/1, MS4.6/10, Ms1 4.5/10, ms1mx4.4/14, Error ellipse: s-maj=22.4km s-min=16.9km az=104.0*
*MOS **24** 11:21:20.5±1.0, 44°27S×82°12W, h9km, mb5.3/31, Error ellipse: s-maj=19.6km s-min=8.7km az=82.9*
*BJI **24** 11:21:21.0±0.0, 44°40S×82°40W, h3km, mb5.1/9, Ms5.5/9, Ms7 5.2/9*
*GCMT **24** 11:21:21.4±0.2, 44°34S±0°02×82°28W±0°01, h12km, MW5.1/122, Moment Tensor Solution. s72, c94; s122, c196; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-4.85±.09; Mθθ-0.10±.08; Mϕϕ4.95±.08; Mrθ1.25±.29; Mθϕ-0.61±.08; Mϕr-1.33±.25; Best double couple: M0 5.26500×10^16^ NP1:ϕs185.00000°, δ38.00000°, λ-71.00000°. NP2:ϕs341.00000°, δ54.00000°, λ-104.00000°. Principal axes: T 5.2420, Plg8.0000°, Azm81.0000°; N 0.0500, Plg11.0000°, Azm350.0000°; P -5.2880, Plg76.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 11:21:21.4±2.0, 44°32S±0°08×82°1W±0°1, h10km±1km, mb5.2/135 Error ellipse: s-maj=16.6km s-min=13.2km az=277.0*
ISC 24 11:21:21.5±0.3, 44°30S±0°06×82°20W±0°07, h10km, n326, σ1°34/319, mb5.2/80, MS4.7/12, 3C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LL01	**San Ignacio de**	**7.39**	**78**		**Pn**	**11 23 05.9**	**-3.5**
PLCA	**Paso Flores**	**9.31**	**71**	Pn	**Pn**	**11 23 33.1**	**-2.7**
	0.2nm,0.3s,baz=248,slow=12,SNR=12						
PLCA				LR	LR	11 26 40.5	
	comp=Z,6μm,19.3s,baz=249,slow=34						
PLCA	**Paso Flores**	**9.31**	**71**	Pn	**Pn**	**11 23 33.0**	**-2.8**
PLCA	**Paso Flores**	**9.31**	**71**	*e*P	**Pn**	**11 23 33.1**	**-2.7**
GO09	**Cerro Castillo**	**9.62**	**140**	Pn	**Pn**	**11 23 40.7**	**+0.8**
H03S1	**Juan Fernandez**	**10.75**	**15**	T	T	11 35 04.5	
	baz=191,slow=73,SNR=436						
H03S2	**Juan Fernandez**	**10.75**	**15**	T	T	11 35 01.8	
	baz=191,slow=73,SNR=520						
H03S3	**Juan Fernandez**	**10.77**	**15**	T	T	11 35 03.1	
	baz=191,slow=73,SNR=527						
H03N3	**Juan Fernandez**	**11.12**	**14**	T	T	11 35 56.3	
	baz=269,slow=73,SNR=21						
H03N2	**Juan Fernandez**	**11.14**	**14**	T	T	11 35 56.8	
	baz=269,slow=73,SNR=27						
H03N1	**Juan Fernandez**

comp=Z,55nm,1.4s
CPUP Villa Florida 26.91 56 *e*P **P 11 27 03.4 +0.6**
MNMC Minye Minye 27.22 27 P **P 11 27 07.0 +1.1**
RPN Rapa Nui 27.73 299 LR LR 11 35 11.5
comp=Z,2µm,21.0s,baz=132,slow=30
PB16 IPOC Station P 28.00 26 P **P 11 27 14.9 +1.8**
PB16 IAmb IAmb 11 27 17.5
comp=Z,59nm,1.8s
CNLB Canela 29.00 70 *e*P **P 11 27 23.1 +1.5**
ITAB Concordia 29.53 65 *e*P **P 11 27 27.3 +1.2**
LPAZ La Paz 30.36 28 P **P 11 27 34.4 +0.2**
comp=Z,11nm,1.1s,baz=193,slow=9.2,SNR=15
LPAZ La Paz 30.36 28 P **P 11 27 35.1 +0.9**
LPAZ pmax pmax
comp=Z,55nm,1.7s
LPAZ La Paz 30.36 28 P **P 11 27 35.1 +0.9**
LPAZ IAmb IAmb 11 27 42.5
comp=Z,56nm,1.7s
LPAZ La Paz 30.36 28 *e*P **P 11 27 35.6 +1.4**
PTGB Pitanga 31.33 61 *e*P **P 11 27 43.6 +1.4**
TRCB Terra Rica 32.38 58 *e*P **P 11 27 52.3 +0.9**
NNA Nana 32.53 10 *i* P **P 11 27 53.4 +0.7**
NNA pmax pmax
comp=Z,19nm,1.1s
PCMB Pacaembu 34.11 59 *e*P **P 11 28 07.3 +0.9**
PTLB Pontes e Lacer 34.78 41 *e*P **P 11 28 12.2 -0.1**
VAO Valinhos 35.82 65 *e*P **P 11 28 22.6 +1.4**
ITRB Iturama 36.10 58 *e*P **P 11 28 24.6 +1.0**
BB19B Bebedouro 36.21 61 *e*P **P 11 28 26.1 +1.5**
VILB Vilhena 36.48 38 *e*P **P 11 28 27.7 +0.8**
ETMB Extrema 37.04 27 *e*P **P 11 28 31.9 +0.2**
ESAR Angra dos Reis 37.47 68 *e*P **P 11 28 36.4 +1.2**
MAN01 Angra dos Reis 37.90 68 *e*P **P 11 28 38.5 -0.4**
ARAG Araguaiana, MT 38.39 52 *e*P **P 11 28 44.0 +1.0**
IPMB Ipameri, GO 38.72 58 *e*P **P 11 28 46.7 +0.8**
SAML Samuel 38.90 31 P **P 11 28 47.1 -0.2**
SAML pmax pmax
comp=Z,31nm,1.6s
SAML Samuel 38.90 31 P **P 11 28 47.1 -0.2**
SAML Samuel 38.90 31 *e*P **P 11 28 47.5 +0.2**
CLDB Colider 40.34 42 *e*P **P 11 28 59.5 +0.1**
BDFB Brasilia 40.65 56 P **P 11 29 01.8 -0.2**
comp=Z,21nm,1.0s,baz=194,slow=2.0,SNR=16
BDFB LR LR 11 46 15.2
comp=Z,2µm,18.5s,baz=206,slow=37
BDFB Brasilia 40.65 56 P **P 11 29 01.9 -0.1**
BDFB pmax pmax
comp=Z,27nm,1.0s
BDFB Brasilia 40.65 56 P **P 11 29 01.9 -0.1**
SNDB Serra Nova Dou 41.73 49 *e*P **P 11 29 11.6 +0.8**
SJMB Sao Joao De Ma 42.66 67 *e*P **P 11 29 19.3 +1.0**
RIB01 Linhares ES 42.75 68 *e*P **P 11 29 19.9 +0.8**
VNA3 Neumayer Olymp 43.25 153 P **P 11 29 24.3 +1.7**
JANB Januaria 43.35 60 *e*P **P 11 29 25.7 +1.6**
VNA1 Neumayer--Stat 43.74 152 P **P 11 29 26.5 +0.1**
NPGB Novo Progresso 43.89 40 *e*P **P 11 29 29.2 +0.9**
VNA2 Neumayer--Watz 44.01 153 P **P 11 29 29.1 +0.4**
baz=275,slow=6.7
SDBA SAO DESIDERIO 45.04 57 *e*P **P 11 29 39.2 +1.7**
SNAA Sanae 45.39 154 P **P 11 29 39.2 -0.5**
SNAA Sanae 45.39 154 P **P 11 29 39.0 -0.8**
comp=Z,3.8nm,0.9s,baz=249,slow=6.6,SNR=10.0
SNAA Sanae 45.39 154 *i* P **P 11 29 39.5 -0.3**
SNAA pmax pmax
comp=Z,31nm,1.3s
SNAA Sanae 45.39 154 P **P 11 29 38.7 -1.1**
SNAA IAmb IAmb 11 29 46.8
comp=Z,34nm,1.3s
QSPA South Pole Qui 45.94 180 P **P 11 29 44.8 +0.6**
comp=Z,1.6nm,0.9s,baz=167,slow=2.5,SNR=5.8
QSPA South Pole Qui 45.94 180 P **P 11 29 45.2 +1.0**
QSPA IAmb IAmb 11 29 52.2
comp=Z,54nm,1.8s
ITTB Itaituba 46.09 38 *e*P **P 11 29 46.4 +0.6**
SMTB Santa Maria do 46.33 51 *e*P **P 11 29 49.5 +1.8**
PRPB Parauapebas 47.37 46 *e*P **P 11 29 57.8 +2.0**
PTGA Pitinga 47.67 31 P **P 11 29 57.8 -0.4**
PTGA IAmb IAmb 11 29 59.6
comp=Z,30nm,1.4s
MALB Monte Alegre 48.98 38 *e*P **P 11 30 09.2 +0.9**
ROSC El Rosal 49.43 10 LR LR 11 48 39.3
comp=Z,713nm,20.0s,baz=215,slow=33
MCPB Macapa, AP 51.30 40 *e*P **P 11 30 27.1 +1.2**
TMAB Tom-Àu,PA,Br 51.49 46 *e*P **P 11 30 29.7 +2.4**
VNDA Vanda 52.34 194 P **P 11 30 35.8 +2.9**
comp=Z,2.3nm,1.0s,baz=126,slow=6.5,SNR=7.9
VNDA Vanda 52.34 194 P **P 11 30 34.3 +1.4**
VNDA pmax pmax
comp=Z,9.0nm,1.2s
VNDA Vanda 52.34 194 P **P 11 30 34.3 +1.4**
ROSB Rosrio 53.17 50 *e*P **P 11 30 42.0 +2.3**
SDV Santo Domingo 53.96 14 P **P 11 30 45.0 -0.7**
JTS Las Juntas de 54.39 357 P **P 11 30 50.3 +1.6**
JTS pmax pmax
comp=Z,58nm,1.6s
JTS Las Juntas de 54.39 357 P **P 11 30 50.3 +1.6**
JTS IAmb IAmb 11 30 57.2
comp=Z,58nm,1.6s
TBI Tubuai 58.04 268 *e*S **S 11 39 16.6 +1.1**
comp=Z,408nm,27.5s
TBI eLR LR 11 48 12.3
comp=Z,897nm,27.5s,baz=130
MTO3 Montecristo 58.78 352 P **P 11 31 20.8 +0.7**
MTO3 IAmb IAmb 11 31 27.9
comp=Z,46nm,1.6s
SYO Syowa Base 59.14 159⇑ *e*pP **P 11 31 22.7 +1.0**
TAOE Nuku Hiva Isla 61.12 287 *e*S **S 11 39 56.0 +0.4**
comp=Z,137nm,26.7s
TAOE *e*LQ LQ 11 47 06.4
comp=Z,589nm,28.6s
TAOE *e*LR LR 11 49 46.1
comp=Z,667nm,27.0s,baz=141
PPT2 Papeete2 61.81 273 *e*S **S 11 40 04.6 +0.4**
comp=Z,301nm,27.0s
PPT2 *e*LR LR 11 49 51.5
comp=Z,769nm,25.2s,baz=129
MAW Mawson 65.33 166 P **P 11 32 04.6 +1.3**
comp=Z,6.1nm,1.1s,baz=194,slow=4.2,SNR=2.8
MAW LR LR 12 00 22.2
comp=Z,232nm,18.8s,baz=236,slow=36
833A Chaparral WMA, 73.97 344 P **P 11 32 57.7 +0.8**
833A IAmb IAmb 11 33 00.3
comp=Z,56nm,1.9s
HKT Hockley 74.94 348 *i* P **P 11 33 04.2 +1.8**
HKT pmax pmax
comp=Z,4.0nm,1.6s
TX31 Lajitas Ar. Si 75.87 341 P **P 11 33 07.1 -0.9**
TX32 Lajitas Array 75.87 341 P **P 11 33 07.0 -0.9**
TXAR Lajitas Array 75.87 341 P **P 11 33 08.7 +0.7**
comp=Z,1.2nm,0.9s,baz=156,slow=7.7,SNR=9.9
TXAR Lajitas Array 75.87 341 P **P 11 33 07.3 -0.6**
TXAR Lajitas Array 75.87 341 P **P 11 33 07.3 -0.6**
342A Flagon Creek P 75.88 351 P **P 11 33 09.3 +1.5**
JCT Junction City 76.14 344 P **P 11 33 09.0 -0.4**
JCT pmax pmax
comp=Z,39nm,1.7s
JCT Junction City 76.14 344 P **P 11 33 09.0 -0.4**
JCT IAmb IAmb 11 33 18.6
comp=Z,39nm,1.7s
152A Waverly Hall 76.64 358 P **P 11 33 12.6 +0.5**
152A IAmb IAmb 11 33 19.5
comp=Z,35nm,1.4s
143A Socs Landing, 77.10 352 P **P 11 33 14.0 -0.7**
WHTX Lake Whitney, 77.20 347 P **P 11 33 15.8 +0.5**
WHTX IAmb IAmb 11 33 17.8
comp=Z,64nm,1.9s
GOGA Godfrey 77.35 359 P **P 11 33 15.8 -0.3**
GOGA pmax pmax
comp=Z,40nm,1.5s
GOGA Godfrey 77.35 359 P **P 11 33 15.8 -0.3**
GOGA IAmb IAmb 11 33 23.5
comp=Z,40nm,1.5s
Z41A Richland Creek 77.79 351 P **P 11 33 18.9 +0.3**
Z41A IAmb IAmb 11 33 26.5
comp=Z,51nm,1.5s
Y52A Lilburn 77.81 358 P **P 11 33 18.0 -0.8**
Y52A IAmb IAmb 11 33 26.2
comp=Z,52nm,1.6s
Y45A Yeager Farm, C 78.08 354 P **P 11 33 18.9 -1.2**
SWET Sewanee 79.22 357 P **P 11 33 24.8 -1.7**
319A Douglas 79.27 337 P **P 11 33 26.5 -0.5**
W39A Magazine 79.82 350 P **P 11 33 29.7 0.0**
W39A IAmb IAmb 11 33 37.6
comp=Z,43nm,1.7s

WMOK Wichita Mounta 80.10 346 P **P 11 33 29.9 -1.4**
WMOK pmax pmax
comp=Z,36nm,1.6s
WMOK Wichita Mounta 80.10 346 P **P 11 33 29.9 -1.4**
WMOK IAmb IAmb 11 33 38.8
comp=Z,36nm,1.6s
MSTX Muleshoe 80.12 343 P **P 11 33 31.6 +0.1**
WVT Waverly 80.22 355 P **P 11 33 31.2 -0.6**
WVT pmax pmax
comp=Z,37nm,1.7s
WVT Waverly 80.22 355 P **P 11 33 31.2 -0.6**
WVT IAmb IAmb 11 33 38.7
comp=Z,37nm,1.7s
FCAR Ozark Folk Cen 80.33 352 P **P 11 33 33.2 +0.8**
TUC Tucson 80.58 336 P **P 11 33 35.4 +1.4**
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC Tucson 80.58 336 P **P 11 33 35.4 +1.4**
PIX Pinacate 80.71 333 P **P 11 33 33.7 -0.8**
TUL1 Leonard 80.79 349 P **P 11 33 34.4 -0.5**
TUL1 IAmb IAmb 11 33 42.2
comp=Z,36nm,1.4s
U40A Yellville 80.86 351 P **P 11 33 35.6 +0.3**
U40A IAmb IAmb 11 33 42.4
comp=Z,49nm,1.6s
214A Organ Pipe Nat 80.87 334 P **P 11 33 35.8 +0.3**
MGMO Mountain Grove 81.59 352 P **P 11 33 38.8 -0.4**
MGMO IAmb IAmb 11 33 47.0
comp=Z,37nm,1.4s
BOSA Boshof 81.82 122 P **P 11 33 41.9 +0.8**
comp=Z,5.2nm,1.0s,baz=216,slow=8.7,SNR=3.4
BOSA Boshof 81.82 122 P **P 11 33 40.9 -0.2**
BOSA pmax pmax
comp=Z,26nm,1.3s
BOSA Boshof 81.82 122 P **P 11 33 40.9 -0.2**
BOSA IAmb IAmb 11 33 48.0
comp=Z,26nm,1.3s
T35A Sooner Cattle 81.88 348 P **P 11 33 39.9 -0.8**
T35A IAmb IAmb 11 33 48.5
comp=Z,36nm,1.4s
ANMO Albuquerque 81.90 340 *i* P **P 11 33 42.5 +1.4**
ANMO pmax pmax
comp=Z,17nm,1.4s
ANMO Albuquerque 81.90 340 P **P 11 33 40.3 -0.8**
S39A Bolivar 82.23 351 P **P 11 33 40.4 -2.1**
KAN10 Anthony SW Sta 82.32 347 P **P 11 33 44.3 +1.3**
CCM Cathedral Cave 82.39 353 P **P 11 33 43.9 +0.6**
CCM pmax pmax
comp=Z,32nm,1.3s
CCM Cathedral Cave 82.39 353 P **P 11 33 43.9 +0.6**
CCM IAmb IAmb 11 33 50.5
comp=Z,32nm,1.3s
P53A Whipple 83.41 1 P **P 11 33 47.5 -1.0**
P49A Miami Univ. Ec 83.49 358 P **P 11 33 48.5 -0.5**
T25A Trinidad 83.53 342 P **P 11 33 49.4 -0.1**
T25A IAmb IAmb 11 33 58.4
comp=Z,32nm,1.6s
TSUM Tsumeb 83.55 110 P **P 11 33 48.9 -1.3**
TSUM IAmb IAmb 11 33 51.7
comp=Z,29nm,1.6s
P52A Corning 83.55 0 P **P 11 33 48.7 -0.6**
PFO Pinyon Flats O 83.59 332 *i* P **P 11 33 51.8 +2.0**
PFO pmax pmax
comp=Z,4.0nm,1.0s
PFO Pinyon Flats O 83.59 332 P **P 11 33 50.2 +0.4**
PFO IAmb IAmb 11 33 59.2
comp=Z,15nm,1.3s
WUAZ Wupatki 83.75 336 P **P 11 33 51.7 +1.0**
P40A Paris 83.92 352 P **P 11 33 51.8 +0.6**
P38A Dawn 84.17 351 P **P 11 33 51.2 -1.3**
MSVF Nonsavu 84.56 251 *i* P **P 11 33 56.9 +1.6**
MSVF pmax pmax
comp=Z,15nm,1.1s
MVCO Mesa Verde 84.56 339 P **P 11 33 56.0 +1.1**
MVCO IAmb IAmb 11 34 03.8
comp=Z,36nm,1.8s
LBTB Lobatse 84.63 120 P **P 11 33 54.6 -1.0**
LBTB pmax pmax
comp=Z,77nm,1.6s
LBTB Lobatse 84.63 120 P **P 11 33 54.5 -1.0**
S22A 4UR Ranch, Cre 84.66 341 P **P 11 33 56.0 +0.6**
S22A IAmb IAmb 11 34 04.4
comp=Z,18nm,1.6s
LIC Lamto 85.21 77 *e*PKIKP **P 11 33 59.9 +1.5**
comp=Z,199nm,2.1s
GSC Goldstone, Bar 85.24 332 P **P 11 33 58.6 +0.5**
GSC pmax pmax
comp=Z,9.0nm,1.2s
GSC Goldstone, Bar 85.24 332 P **P 11 33 58.6 +0.5**
PV01 Paradox Valley 85.45 339 P **P 11 33 59.9 +0.6**
KIC Kosan Boka 85.50 77 *e*PKIKP **P 11 33 59.9 0.0**
comp=Z,40nm,1.4s
TIC Toumodi 85.51 76 *e*PKIKP **P 11 33 59.6 -0.3**
PV13 Radium Mtn., P 85.54 339 P **P 11 34 00.6 +0.9**
PV13 IAmb IAmb 11 34 08.3
comp=Z,22nm,1.5s
KNB Kanab 85.57 336 P **P 11 34 00.5 +0.7**
KNB pmax pmax
comp=Z,29nm,1.6s
KNB Kanab 85.57 336 P **P 11 34 00.5 +0.7**
PV03 Paradox Valley 85.64 339 P **P 11 34 01.1 +0.9**
DBIC Dimbokro 85.64 76 P **P 11 34 00.1 -0.5**
comp=Z,7.2nm,1.1s,baz=218,slow=2.4,SNR=6.5
DBIC Dimbokro 85.64 76 P **P 11 34 00.6 +0.1**
DBIC pmax pmax
comp=Z,52nm,1.5s
DBIC Dimbokro 85.64 76 P **P 11 34 00.6 +0.1**
PV12 Saucer Basin, 85.69 339 P **P 11 34 01.2 +0.7**
LCMT Little Creek M 85.69 336 P **P 11 33 60.0 -0.4**
PV16 Nyswonger Mesa 85.71 339 P **P 11 34 01.0 +0.5**
PV16 IAmb IAmb 11 34 09.1
comp=Z,45nm,2.0s
SHPR Sheep Range 85.81 334 P **P 11 34 00.8 -0.2**
SHPR IAmb IAmb 11 34 10.4
comp=Z,26nm,1.4s
SZCU Shurtz Canyon 86.18 336 P **P 11 34 03.9 +1.0**
CCUT Cedar City 86.22 336 P **P 11 34 04.5 +1.4**
ISCO Idaho Springs 86.34 342 P **P 11 34 05.0 +1.3**
ISCO pmax pmax
comp=Z,17nm,1.5s
ISCO Idaho Springs 86.34 342 P **P 11 34 05.0 +1.3**
ISCO IAmb IAmb 11 34 17.2
comp=Z,18nm,1.5s
TPNV Topopah Spring 86.56 333 P **P 11 34 05.4 +0.7**
TPNV pmax pmax
comp=Z,32nm,1.6s
TPNV Topopah Spring 86.56 333 P **P 11 34 05.4 +0.7**
TPNV IAmb IAmb 11 34 14.1
comp=Z,32nm,1.6s
PRN Pahroc Range 86.60 334 P **P 11 34 05.0 +0.2**
MVU Marysvale 86.78 337 P **P 11 34 06.0 +0.2**
Q16A Castle Valley 86.87 338 P **P 11 34 06.8 +0.5**
SRU San Rafael Swe 86.88 338 P **P 11 34 06.9 +0.7**
SRU pmax pmax
comp=Z,10.0nm,1.6s
SRU San Rafael Swe 86.88 338 P **P 11 34 06.9 +0.7**
JFWS Jewell Farm 87.13 354 P **P 11 34 07.3 +0.2**
JFWS pmax pmax
comp=Z,97nm,1.6s
JFWS Jewell Farm 87.13 354 P **P 11 34 07.3 +0.2**
TMUT Trail Mountain 87.24 338 P **P 11 34 08.4 +0.3**
PSUT Pine Spring 87.28 336 P **P 11 34 08.4 +0.2**
N23A Red Feather La 87.46 342 P **P 11 34 10.3 +1.1**
R11A Troy Canyon, C 87.63 334 P **P 11 34 10.0 +0.1**
R11A IAmb IAmb 11 34 19.1
comp=Z,16nm,1.4s
TPH Tonopah 87.90 333 P **P 11 34 11.2 0.0**
TPH pmax pmax
comp=Z,73nm,1.2s
TPH Tonopah 87.90 333 P **P 11 34 11.2 0.0**
RDMU Red Mountain 88.01 339 P **P 11 34 11.0 -0.7**
LHV Little Huntoon 88.49 332 P **P 11 34 12.7 -1.0**
LHV IAmb IAmb 11 34 23.2
comp=Z,18nm,1.3s
DUG Dugway, Tooele 88.52 337 P **P 11 34 14.6 +0.6**
DUG pmax pmax
comp=Z,32nm,1.4s
DUG Dugway, Tooele 88.52 337 P **P 11 34 14.6 +0.6**
NVAR Mina Array Bea 88.58 332 P **P 11 34 15.1 +0.7**
comp=Z,1.6nm,0.8s,baz=162,slow=6.6,SNR=13
NVAR Mina Array Bea 88.58 332 P **P 11 34 14.7 +0.2**
ECSD EROS Data Cent 88.59 350 P **P 11 34 14.5 +0.4**
ECSD IAmb IAmb 11 34 20.8
comp=Z,17nm,1.3s

RYN Ryan 88.83 332 P **P 11 34 16.4 +0.8**
TCUT Toone Canyon 89.00 338 P **P 11 34 17.5 +1.1**
DZM Mont Dzumac 89.00 240 *e*LR LR 12 02 32.2
comp=Z,795nm,22.9s
WAKR Walker 89.03 332 P **P 11 34 18.4 +1.9**
KVN Kaiserville 89.08 333 P **P 11 34 16.7 0.0**
KVN pmax pmax
comp=Z,9.0nm,1.4s
KVN Kaiserville 89.08 333 P **P 11 34 16.7 0.0**
K22A Casper 89.27 342 P **P 11 34 17.3 -0.2**
YERR Yerington 89.40 332 P **P 11 34 18.4 +0.1**
G40A Rib Lake 89.47 354 P **P 11 34 18.1 -0.1**
HWUT Hardware Ranch 89.50 338 P **P 11 34 18.5 -0.1**
HWUT IAmb IAmb 11 34 26.9
comp=Z,24nm,1.3s
PNTR Pine Nut 89.61 332 P **P 11 34 18.8 -0.5**
AFDM Forest Hills D 89.96 331 P **P 11 34 21.4 +0.7**
AFDM IAmb IAmb 11 34 29.2
comp=Z,18nm,1.4s
BW06 Boulder Array 90.08 340 P **P 11 34 21.8 +0.4**
BW06 IAmb IAmb 11 34 29.2
comp=Z,16nm,1.4s
PD31 Pinedale Array 90.08 340 P **P 11 34 21.2 -0.1**
PD31 IAmb IAmb 11 34 29.2
comp=Z,16nm,1.4s
PDAR Pinedale Array 90.08 340 P **P 11 34 21.7 +0.3**
comp=Z,0.6nm,0.6s,baz=160,slow=4.7,SNR=6.6
PDAR Pinedale Array 90.08 340 P **P 11 34 21.1 -0.2**
AHID Auburn Hatcher 90.46 339 P **P 11 34 23.7 +0.6**
AHID IAmb IAmb 11 34 31.3
comp=Z,20nm,1.4s
BEKR Beckworth 90.57 332 P **P 11 34 23.4 -0.3**
BEKR IAmb IAmb 11 34 32.6
comp=Z,16nm,1.3s
ORV Oroville 90.68 331 P **P 11 34 24.4 +0.4**
ORV pmax pmax
comp=Z,31nm,1.5s
ORV Oroville 90.68 331 P **P 11 34 24.4 +0.4**
REDW Red Top Meadow 90.96 340 P **P 11 34 25.9 +0.4**
REDW IAmb IAmb 11 34 34.2
comp=Z,25nm,1.6s
TPAW Teton Pass 91.10 340 P **P 11 34 26.8 +0.6**
TPAW IAmb IAmb 11 34 35.1
comp=Z,12nm,1.2s
LOHW Long Hollow 91.13 340 IAmb IAmb 11 34 34.4
comp=Z,18nm,1.6s
IMW Indian Meadow 91.48 340 IAmb IAmb 11 34 36.9
comp=Z,13nm,1.4s
KOWA Kowa 91.76 72 P **P 11 34 29.8 +0.3**
KOWA IAmb IAmb 11 34 36.3
comp=Z,24nm,1.6s
WDC Whiskeytown Da 91.96 330 P **P 11 34 29.4 -0.5**
WDC pmax pmax
comp=Z,23nm,1.3s
WDC Whiskeytown Da 91.96 330 P **P 11 34 29.4 -0.5**
WDC IAmb IAmb 11 34 38.6
comp=Z,23nm,1.2s
YHH Holmes Hill 92.29 340 P **P 11 34 32.6 +0.9**
SANVU Saraoutou 93.41 245 P **P 11 34 36.5 -0.8**
ULM Lac du Bonnet 94.92 351 LR LR 12 14 48.9
comp=Z,89nm,19.9s,baz=126,slow=34
H11S2 WAKE ISLAND Hy 117.69 269 T T 13 48 37.0
baz=132,slow=76,SNR=5.3
H11S1 WAKE ISLAND Hy 117.71 269 T T 13 48 36.4
baz=132,slow=76,SNR=5.2
H11S3 WAKE ISLAND Hy 117.71 269 T T 13 48 38.4
baz=132,slow=76,SNR=5.6
H11N3 WAKE ISLAND Hy 118.34 270 T T 13 49 27.2
baz=131,slow=76,SNR=5.2
H11N1 WAKE ISLAND Hy 118.35 270 T T 13 49 26.9
baz=131,slow=76,SNR=9.2
H11N2 WAKE ISLAND Hy 118.36 270 T T 13 49 27.7
baz=131,slow=76,SNR=7.1
ILAR Eielson Array 119.82 333 PKP **PKPdf 11 40 09.8 -0.9**
comp=Z,0.5nm,0.9s,baz=146,slow=2.3,SNR=4.2
ILAR Eielson Array 119.82 333 PKIKP **PKPdf 11 40 09.6 -1.2**
ILAR Eielson Array 119.82 333 **PKPdf 11 40 09.6 -1.2**
GERES GERESS Array B 124.84 53 PKP **PKPdf 11 40 18.6 -2.4**
comp=Z,0.2nm,0.3s,baz=232,slow=1.5,SNR=3.5
GERES GERESS Array B 124.84 53 PKIKP **PKPdf 11 40 20.0 -1.0**
GERES GERESS Array B 124.84 53 **PKPdf 11 40 20.0 -1.0**
VYHS Vyhne 127.67 56 *e*PKIKP **PKiKP 11 40 32.1 +5.2**
VYHS Vyhne 127.67 56 *e*PKP **PKiKP 11 40 32.1 +5.2**
BRTR Keskin Array B 133.19 72 PKP **PKPdf 11 40 36.8 -0.5**
comp=Z,0.7nm,0.7s,baz=173,slow=1.1,SNR=2.4
BRTR Keskin Array B 133.19 72 PKIKP **PKPdf 11 40 36.4 -0.9**
BRTR Keskin Array B 133.19 72 **PKPdf 11 40 36.4 -0.9**
AKASG Malin Array Be 134.74 56 *i* PKIKP **PKiKP 11 40 44.0 +3.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BILL Bilibino 138.08 328 *i* PKIKP **PKiKP 11 40 46.6 -0.7**
BILL pmax pmax
comp=Z,9.0nm,1.1s
OBN Obninsk 140.19 52 *i* PKIKP **PKPdf 11 40 49.2 -0.3**
OBN pmax pmax
comp=Z,8.0nm,1.1s
PETK Petropavlovsk- 140.57 305 PKP **PKPdf 11 40 50.3 0.0**
comp=Z,6.2nm,1.0s,baz=142,slow=4.9,SNR=3.0
PETK Petropavlovsk- 140.57 305 PKIKP **PKPdf 11 40 50.1 -0.2**
PETK Petropavlovsk- 140.57 305 **PKPdf 11 40 50.1 -0.2**
KIV Kislovodsk 141.08 71 *i* PKIKP **PKiKP 11 40 53.1 -1.2**
KIV pmax pmax
comp=Z,29nm,1.0s
KBZ Khabaz 141.14 71 *i* PKIKP **PKPdf 11 40 52.5 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,1.3s
POO Poona 147.40 134 *e*P **PKPdf 11 41 02.0 -1.3**
MJAR Matsushiro Arr 148.53 270 PKPbc **PKPbc 11 41 07.4 -0.9**
comp=Z,4.3nm,0.9s,baz=173,slow=3.2,SNR=10
MJAR Matsushiro Arr 148.53 270 PKIKP **PKPdf 11 41 05.2 +0.5**
MJAR Matsushiro Arr 148.53 270 PKPdf **PKPdf 11 41 05.2 +0.5**
MAJO Matsushiro 148.53 270 PKIKP **PKPbc 11 41 06.4 -1.9**
MAJO Matsushiro 148.53 270 PKPdf **PKPbc 11 41 06.4 -1.9**
MAT Matsushiro 148.53 270 PKP **PKPbc 11 41 07.0 -1.3**
HYB Hyderabad 148.68 143 *i* PKP **PKPdf 11 41 07.0 +1.6**
JGF Kuroka 148.71 268 **PKPbc 11 41 07.9 -0.9**
TIXI Tiksi 148.76 342 *i* PKP2 **PKPbc 11 41 06.6 -1.1**
TIXI pmax pmax
comp=Z,50nm,1.1s
TIXI Tiksi 148.76 342 PKPdf **PKPdf 11 41 05.3 +1.4**
INU Inuyama 148.83 267 PKPbc **PKiKP 11 41 09.9 -0.5**
JSD Sado 149.15 273 **PKPbc 11 41 09.2 -0.6**
GEYT Alibeck 149.65 88 PKPbc **PKPbc 11 41 09.6 -1.5**
comp=Z,1.2nm,0.4s,baz=212,slow=5.1,SNR=3.9
GEYT Alibeck 149.65 88 **PKPbc 11 41 09.9 -1.2**
GEYT PKPab **PKPab 11 41 15.9 -0.4**
GYA0B ALIBECK ARRAY 149.65 88 PKPbc **PKPbc 11 41 10.1 -0.9**
GYA0B **PKPab 11 41 16.8 +0.4**
JWT Wachi 149.96 266 **PKPbc 11 41 10.5 -1.4**
JWT PKPab **PKPab 11 41 16.7 -0.8**
HRA Herat 150.97 98 **PKPbc 11 41 13.0 -1.6**
ARU Arti 152.58 50 *i* PKIKP **PKPbc 11 41 16.1 -1.1**
ABKAR Akbulak array 153.80 66 **PKPbc 11 41 18.1 -2.1**
ABKAR PKPab **PKPab 11 41 30.4 -2.9**
ABKAR Akbulak array 153.80 66 PKPdf **PKPdf 11 41 11.5 -0.7**
CMAR Chiang Mai Arr 154.22 182 PKP **PKPdf 11 41 15.4 +1.6**
comp=Z,0.7nm,0.3s,baz=250,slow=2.0,SNR=4.6
CMAR PKPbc **PKPbc 11 41 20.6 -1.3**
comp=Z,0.5nm,0.3s,baz=244,slow=2.0,SNR=2.0
CMAR Chiang Mai Arr 154.22 182 PKIKP **PKPbc 11 41 19.1 -2.9**
CMAR Chiang Mai Arr 154.22 182 PKPdf **PKPdf 11 41 12.7 -1.2**
CMAR **PKPbc 11 41 19.1 -2.9**
NJ2 Nanjing 159.49 241 *e*PKP **PKPdf 11 41 19.8 -0.3**
KMI Kunming 160.45 193⇑ PKP **PKPdf 11 41 21.6 -0.2**
KURK Kurchatov 165.56 57 PKP2 **PKPab 11 42 28.6 +4.3**
KURK 12 41 25.1
KURK Kurchatov 165.56 57 **PKPdf 11 41 25.1 -0.4**
KURK PKPab **PKPab 11 42 28.6 +4.3**
ZAA0 Zalesovo Array 167.16 37 **PKPdf 11 41 24.4 -2.3**
ZAA0 PKPab **PKPab 11 42 31.2 0.0**
ZALV Zalesovo Beam 167.16 37 PKP **PKPdf 11 41 24.0 -2.7**
comp=Z,0.4nm,0.4s,baz=321,slow=1.9,SNR=3.9
ZALV PKPab **PKPab 11 42 30.6 -0.6**
comp=Z,0.3nm,0.3s,baz=339,slow=3.6,SNR=2.0
ZALV Zalesovo Beam 167.16 37 PKIKP **PKPdf 11 41 24.2 -2.5**
ZALV 11 42 30.4
ZALV Zalesovo Beam 167.16 37 **PKPdf 11 41 24.2 -2.5**
ZALV **PKPab 11 42 30.4 -0.8**
MKAR Makanchi Array 168.84 72 PKP **PKPdf 11 41 25.4 -2.8**
comp=Z,0.4nm,0.8s,baz=343,slow=1.5,SNR=1.9
MKAR Makanchi Array 168.84 72 PKP2 **PKPab 11 42 37.4 -1.6**
MKAR 12 41 25.4
MKAR Makanchi Array 168.84 72 **PKPdf 11 41 25.4 -2.8**
MKAR **PKPab 11 42 37.4 -1.6**

HHC	**Hu-ho-hao-te**	**169.28**	**256**	*e*PKP	**PKPdf**	**11**	**41**	**27.8 -0.9**
LZH	**Lanzhou**	**170.59**	**211**	*e*PKP	**PKPdf**	**11**	**41**	**25.9 -3.8**
LZH				pPKP	sPKPdf	11	41	36.3 +3.4
WMQ	**Urumqi**	**172.70**	**90**	*e*PKP	**PKPdf**	**11**	**41**	**31.1 +0.8**
WMQ				LR	LR			
	comp=Z,230nm,29.1s							
WMQ				LR	LR			
	comp=Z,290nm,29.1s							
WMQ				LR	LR			
	comp=Z,97nm,28.5s							
SONM	**Songino Array**	**173.06**	**304**	PKP	**PKPdf**	**11**	**41**	**29.0 -1.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=1.4,SNR=2.5							
SONM				PKPab	**PKPab**	**11**	**42**	**56.5 -1.3**
	comp=Z,0.1nm,0.3s,baz=90,slow=2.9,SNR=4.0							
SONM	**Songino Array**	**173.06**	**304**	PKIKP	**PKPdf**	**11**	**41**	**28.1 -2.3**
SONM						11	42	56.2
SONM	**Songino Array**	**173.06**	**304**		**PKPdf**	**11**	**41**	**28.1 -2.3**
SONM				PKPab	**PKPab**	**11**	**42**	**56.2 -1.6**
GTA	**Gaotai**	**174.89**	**198**	⇑PKP	**PKPdf**	**11**	**41**	**30.8 -0.6**
GTA				PP	PP	11	47	02.6 +4.7
GTA				SS	SS	12	08	21.4 +1.1
GTA				AMB	AMB			
	comp=Z,80nm,7.5s							
GTA				LR	LR			
	comp=Z,79nm,21.4s							
GTA				LR	LR			
	comp=Z,140nm,20.7s							
GTA				LR	LR			
	comp=Z,240nm,20.7s							

*NEIC **24** 11:34:11.3±1.9, 5.°00S±0.°08×152.°4E±0.°1, h60km±8km, mb4.5/12, Error ellipse: s-maj=16.6km s-min=11.2km az=108.0*
*IDC **24** 11:34:11.2±1.8, 5.°10S×152.°50E, h62km±13km, mb3.8/9, mb1 4.0/9, mb1mx3.7/28, mbtmp4.1/9, Error ellipse: s-maj=26.2km s-min=16.2km az=103.0*
ISC 24 11:34:10.9±0.6, 5.°09S±0.°07×152.°42E±0.°09, h55km, n34, σ1§01/35, mb4.3/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.87**	**333**	P	**Pn**	**11 34 27.4**	**+0.2**
	1µm,0.3s,baz=186,slow=1.1,SNR=1479						
KRVT				S	**Sn**	**11 34 41.9**	**+2.8**
	947nm,0.3s,baz=18,slow=20,SNR=7.6						
RABL	**Rabaul**	**0.93**	**344**		**Pn**	**11 34 27.9**	**-0.1**
MANU	**Manus Island**	**5.88**	**301**	Pn	**Pn**	**11 35 35.7**	**+0.1**
PMG	**Port Moresby**	**6.76**	**230**	Pn	**Pn**	**11 35 48.3**	**+0.7**
SANVU	**Saraoutou**	**17.80**	**126**	P	**P**	**11 38 16.4**	**+1.3**
SANVU				IAmb	IAmb	11 38 35.5	
	comp=Z,38nm,1.0s						
DZM	**Mont Dzumac**	**21.66**	**142**	P	**P**	**11 38 58.2**	**+1.0**
	comp=Z,9.9nm,1.0s,baz=317,slow=18,SNR=2.5						
DZM	**Mont Dzumac**	**21.66**	**142**	P	**P**	**11 38 58.1**	**+1.0**
DZM				IAmb	IAmb	11 39 01.0	
	comp=Z,22nm,1.3s						
WR0	**Warramunga Arr**	**22.83**	**228**	P	**P**	**11 39 10.2**	**+0.6**
WB2	**Warramunga Arr**	**22.96**	**228**	P	**P**	**11 39 10.5**	**-0.4**
WB2				IAmb	IAmb	11 39 20.2	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**22.97**	**228**	P	**P**	**11 39 10.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=50,slow=9.1,SNR=18						
KNRA	**Kununurra**	**25.51**	**244**	P	**P**	**11 39 34.1**	**-0.3**
KNRA				IAmb	IAmb	11 39 42.4	
	comp=Z,15nm,1.1s						
ASAR	**Alice Springs**	**25.68**	**222**	P	**P**	**11 39 36.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=55,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**25.68**	**222**	P	**P**	**11 39 34.7**	**-1.3**
TNTI	**Ternate**	**25.70**	**282**	P	**P**	**11 39 34.2**	**-2.0**
MSVF	**Nonsavu**	**28.04**	**119**	P	**P**	**11 39 57.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**29.19**	**241**	P	**P**	**11 40 06.4**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=56,slow=7.1,SNR=11						
FITZ	**Fitzroy Crossi**	**29.19**	**241**	P	**P**	**11 40 07.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**57.66**	**295**	P	**P**	**11 43 57.7**	**+1.5**
	comp=Z,2.5nm,0.3s,baz=106,slow=6.7,SNR=7.4						
PETK	**Petropavlovsk-**	**58.15**	**4**	P	**P**	**11 43 58.6**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=149,slow=6.3,SNR=6.5						
PETK	**Petropavlovsk-**	**58.15**	**4**	P	**P**	**11 43 58.0**	**-0.9**
AMKA	**Amchitka**	**60.78**	**19**	P	**P**	**11 44 17.1**	**+0.1**
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**11 46 15.4**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=112,slow=5.2,SNR=2.4						
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**11 46 16.6**	**+0.5**
IMAR	**Indian Mountai**	**80.78**	**20**	P	**P**	**11 46 18.5**	**+0.2**
RND	**Reindeer**	**81.14**	**23**	P	**P**	**11 46 19.1**	**-1.3**
ZAA0	**Zalesovo Array**	**81.18**	**326**	P	**P**	**11 46 20.7**	**0.0**
ZALV	**Zalesovo Beam**	**81.18**	**326**	P	**P**	**11 46 19.7**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=107,slow=5.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**81.18**	**326**	P	**P**	**11 46 20.6**	**-0.1**
IL31		**82.57**	**22**	P	**P**	**11 46 26.6**	**-1.1**
IL31				IAmb	IAmb	11 46 27.0	
	comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**11 46 26.2**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=242,slow=5.7,SNR=37						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**11 46 26.4**	**-1.3**
DOT	**Dot Lake**	**83.14**	**24**	P	**P**	**11 46 30.5**	**-0.3**
DOT				IAmb	IAmb	11 46 31.6	
	comp=Z,5.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.04**	**288**	PKPbc	**PKPbc**	**11 53 56.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=59,slow=2.9,SNR=8.8						
DBIC	**Dimbokro**	**157.34**	**275**	PKPab	**PKPab**	**11 54 33.5**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=90,slow=4.0,SNR=3.8						

WEL 24 11:48:18.0±1.1, 34.°S±13.°×17.°9E±1.°4, h226km±25km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.21**	**186**	P	Pn	11 49 11.7	+0.4
MXZ				S	S	11 49 53.1	-0.2
WMGZ	**Waiomatatini S**	**3.46**	**184**	P	Pn	11 49 14.9	+0.7
WMGZ				S	S	11 49 59.3	+0.9
HAZ	**Te Kaha**	**3.46**	**192**	P	Pn	11 49 15.1	+0.8
HAZ				S	S	11 49 59.3	+0.7
RUGZ	**Raukumara Rang**	**3.69**	**193**	P	Pn	11 49 17.3	+0.3
PUZ	**Puketiti**	**3.72**	**185**	P	Pn	11 49 17.5	+0.2
PUZ				S	S	11 50 02.4	-1.7
WIAZ	**Waiheke Island**	**3.78**	**229**	P	Pn	11 49 15.8	-2.2
TWGZ	**Tauwhareparae**	**3.85**	**188**	P	Pn	11 49 19.4	+0.5
TWGZ				S	S	11 50 07.8	+0.9
MWZ	**Matawai**	**4.07**	**193**	P	Pn	11 49 21.3	-0.3
MWZ				S	S	11 50 12.9	+1.1
EPAZ	**Eden Park BICE**	**4.08**	**231**	P	Pn	11 49 22.5	+0.9
URZ	**Urewera**	**4.09**	**198**	P	Pn	11 49 21.7	-0.1
URZ				S	S	11 50 13.8	+1.6
TKGZ	**Te Karaka**	**4.12**	**189**	P	Pn	11 49 22.0	-0.2
TKGZ				S	S	11 50 13.4	+0.5
CNGZ	**Carnagh Statio**	**4.13**	**185**	P	Pn	11 49 22.8	+0.5
MUGZ	**Murupara**	**4.39**	**200**	P	Pn	11 49 26.2	+0.8
MUGZ				S	S	11 50 20.5	+1.8
RIGZ	**Rimuhau**	**4.40**	**190**	P	Pn	11 49 25.6	+0.1
RIGZ				S	S	11 50 18.2	-0.8
SNGZ	**Shannon Statio**	**4.54**	**193**	P	Pn	11 49 27.3	0.0
SNGZ				S	S	11 50 22.7	+0.6
BKZ	**Black Stump Fm**	**5.11**	**200**	P	Pn	11 49 34.7	+0.4
BKZ				S	S	11 50 35.5	+0.6
TSZ	**Takapari Road**	**6.09**	**200**	P	Pn	11 49 44.5	-2.2

*NEIC **24** 11:49:33.4±0.8, 5.°92S±0.°09×148.°67E±0.°07, h75km±10km, mb4.4/8, Error ellipse: s-maj=13.5km s-min=9.8km az=150.0*
*IDC **24** 11:49:35.7±2.3, 6.°26S×148.°89E, h93km±29km, mb3.5/4, mb1 3.7/7, mb1mx3.3/35, mbtmp3.9/7, Error ellipse: s-maj=64.5km s-min=14.0km az=130.0*
ISC 24 11:49:35.7±0.7, 6.°09S±0.°10×148.°7E±0.°1, h100km, n23, σ1§43/25, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.62**	**205**	P	**Pn**	**11 50 28.9**	**-1.0**
	14nm,0.3s,baz=56,slow=6.7,SNR=28						
PMG				S	**Sn**	**11 51 10.5**	**-1.2**
	12nm,0.3s,baz=21,slow=20,SNR=11						
PMG	**Port Moresby**	**3.62**	**205**		**Pn**	**11 50 29.3**	**-0.6**
PMG					**Sn**	**11 51 11.9**	**+0.2**
KRVT	**Keravat (AS076**	**3.77**	**62**	P	**Pn**	**11 50 31.3**	**-0.4**
	14nm,0.3s,baz=258,slow=3.3,SNR=6.2						
RABL	**Rabaul**	**3.94**	**62**	Pn	**Pn**	**11 50 30.5**	**-3.6**
COEN	**Coen**	**9.52**	**214**	Pn	**Pn**	**11 51 46.9**	**-3.0**
CTAO	**Charters Tower**	**14.11**	**189**	Pn	**Pn**	**11 52 52.2**	**+1.0**
WR0	**Warramunga Arr**	**19.47**	**224**	P	**P**	**11 53 55.9**	**+1.1**
WB2	**Warramunga Arr**	**19.59**	**224**	P	**P**	**11 53 56.7**	**+0.7**
WB2				IAmb	IAmb	11 54 27.7	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**19.60**	**224**	P	**P**	**11 53 57.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=51,slow=11,SNR=25						
KNRA	**Kununurra**	**21.74**	**242**	P	**P**	**11 54 19.3**	**+0.2**
KNRA				IAmb	IAmb	11 55 11.4	
	comp=Z,25nm,1.4s						
ASAR	**Alice Springs**	**22.53**	**218**	P	**P**	**11 54 28.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=56,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**22.53**	**218**	P	**P**	**11 54 28.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.46**	**240**	P	**P**	**11 54 56.2**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=55,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**25.46**	**240**	P	**P**	**11 54 56.2**	**+1.7**
ENH	**Enshi**	**52.14**	**316**	P	**P**	**11 58 34.5**	**-1.6**
PETK	**Petropavlovsk-**	**59.47**	**6**	P	**P**	**11 59 29.3**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=132,slow=6.9,SNR=5.3						
PETK	**Petropavlovsk-**	**59.47**	**6**	P	**P**	**11 59 27.4**	**-0.6**
MK31	**Makanchi Array**	**78.64**	**320**	P	**P**	**12 01 26.8**	**+0.1**
MK31				IAmb	IAmb	12 02 18.4	
	comp=Z,4.4nm,1.8s						
RSO	**Redoubt South**	**80.48**	**25**	P	**P**	**12 01 36.0**	**-0.6**
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**12 01 55.8**	**+1.6**
QSPA				IAmb	IAmb	12 03 02.0	
	comp=Z,24nm,1.9s						
N25K	**Chitina, Valde**	**84.53**	**26**	P	**P**	**12 01 57.7**	**+0.3**
ILAR	**Eielson Array**	**84.91**	**23**	P	**P**	**12 02 00.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=245,slow=4.6,SNR=6.6						
TORD	**Torodi Ar. Bea**	**146.74**	**285**	PKPbc	**PKPab**	**12 09 08.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=84,slow=2.9,SNR=2.0						

*IDC **24** 11:57:22.3±1.4, 2.°69N×89.°64E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/42, mbtmp3.7/8, ML4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/38, Error ellipse: s-maj=48.5km s-min=20.1km az=57.0*
*NEIC **24** 11:57:22.9±1.4, 2.°6N±0.°1×89.°66E±0.°05, h10km±1km, mb4.5/8, Error ellipse: s-maj=23.2km s-min=6.9km az=191.0*
ISC 24 11:57:22.6±0.8, 2.°6N±0.°1×89.°66E±0.°08, h10km, n32, σ1§16/29, mb4.0/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**7.74**	**70**	Pn	**Pn**	**11 59 16.5**	**+1.1**
GSI	**Gunungsitoli**	**8.02**	**99**		**Pn**	**11 59 19.5**	**+0.2**
GSI				Sn	**Sn**	**12 00 50.3**	**+0.2**
RPSI	**Rantau Prapat**	**9.26**	**89**	Pn	**Pn**	**11 59 37.0**	**+0.6**
RPSI				Sn	**Sn**	**12 01 19.4**	**-1.3**
PALK	**Pallekele**	**10.06**	**298**	Pn	**Pn**	**11 59 47.9**	**+0.5**
	0.8nm,0.3s,baz=204,slow=12,SNR=4.4						
PALK				Sn	Sn	12 01 26.7	-14
	8.6nm,0.3s,baz=107,slow=12,SNR=21						
PALK				LR	LR	12 03 25.5	
	comp=Z,98nm,18.4s,baz=220,slow=36						
PALK	**Pallekele**	**10.06**	**298**		**Pn**	**11 59 47.8**	**+0.4**
KULM	**Kulim**	**11.29**	**76**		**Pn**	**12 00 03.1**	**-1.2**
IPM	**Ipoh**	**11.51**	**80**	Pn	**Pn**	**12 00 08.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**18.22**	**29**	P	**Pn**	**12 01 35.2**	**-0.6**
	0.4nm,0.3s,baz=225,slow=12,SNR=7.2						
CHTO	**Chiang Mai**	**18.52**	**29**	P	**P**	**12 01 37.3**	**-2.0**
H08S2	**Diego Garcia H**	**19.91**	**239**	T	T	12 22 43.8	
	baz=58,slow=74,SNR=18						
H08S3	**Diego Garcia H**	**19.91**	**239**	T	T	12 22 34.7	
	baz=58,slow=74,SNR=83						
H08S1	**Diego Carcia H**	**19.92**	**239**	T	T	12 22 40.7	
	baz=58,slow=74,SNR=10						
KAPI	**Kappang**	**31.00**	**104**	P	**P**	**12 03 40.3**	**-0.4**
H01W3	**Cape Leeuwin H**	**43.78**	**151**	T	T	12 52 18.9	
	baz=325,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**43.79**	**151**	T	T	12 52 17.8	
	baz=325,slow=75,SNR=44						
H01W1	**Cape Leeuwin H**	**43.80**	**150**	T	T	12 52 22.9	
	baz=325,slow=75,SNR=36						
MKAR	**Makanchi Array**	**44.50**	**353**	P	**P**	**12 05 34.7**	**+0.4**
	0.6nm,0.8s,baz=169,slow=7.0,SNR=5.6						
SONM	**Songino Array**	**47.34**	**15**	P	**P**	**12 05 57.9**	**+1.1**
	0.7nm,0.5s,baz=190,slow=9.8,SNR=4.0						
SONM	**Songino Array**	**47.34**	**15**	P	**P**	**12 05 57.2**	**+0.3**
KURBB	**Kurchatov Arra**	**48.79**	**351**	P	**P**	**12 06 08.0**	**+0.2**
	0.3nm,0.5s,baz=181,slow=6.8,SNR=5.5						
WRA	**Warramunga Arr**	**49.23**	**119**	P	**P**	**12 06 13.6**	**+1.8**
	0.8nm,0.5s,baz=297,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**49.23**	**119**	P	**P**	**12 06 13.4**	**+1.7**
WRAB				IAmb	IAmb	12 06 13.8	
	comp=Z,2.3nm,0.6s						
WB2	**Warramunga Arr**	**49.24**	**119**	P	**P**	**12 06 13.0**	**+1.2**
WB2				IAmb	IAmb	12 06 37.6	
	comp=Z,9.4nm,1.5s						
KSAR	**Wonju Array Be**	**49.33**	**40**	P	**P**	**12 06 12.3**	**+0.1**
ASAR	**Alice Springs**	**50.34**	**124**	P	**P**	**12 06 21.9**	**+1.8**
	comp=Z,1.0nm,1.1s,baz=299,slow=7.7,SNR=6.6						
ASAR				PcP	**PcP**	**12 07 39.8**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=309,slow=3.4,SNR=5.5						
ZAA0	**Zalesovo Array**	**51.36**	**356**	P	**P**	**12 06 27.2**	**0.0**
ZAA0				IAmb	IAmb	12 06 27.6	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**51.36**	**356**	P	**P**	**12 06 26.8**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=172,slow=7.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**51.36**	**356**	P	**P**	**12 06 27.1**	**-0.2**
ABKAR	**Akbulak array**	**52.97**	**336**	P	**P**	**12 06 40.0**	**+0.7**
ARU	**Arti**	**59.17**	**340**	P	**P**	**12 07 23.5**	**-0.1**
ARU				IAmb	IAmb	12 07 50.2	
	comp=Z,6.3nm,1.3s						
SNAA	**Sanae**	**93.22**	**198**	P	**P**	**12 10 33.9**	**-3.2**
SNAA				IAmb	IAmb	12 10 49.6	
	comp=Z,3.1nm,1.4s						
TXAR	**Lajitas Array**	**145.80**	**21**	PKPbc	**PKPdf**	**12 17 02.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=308,slow=0.7,SNR=13						

*KRSC **24** 12:04:22.8±0.6, 54.°61N×161.°35E, h68km±7km, ML3.6*
*IDC **24** 12:04:23.0±6.8, 53.°78N×162.°13E, h41km±71km, mb3.1/2, mb1 3.5/3, mb1mx3.0/36, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=93.1km s-min=33.9km az=148.0*
ISC 24 12:04:24.5±1.0, 54.°61N±0.°03×161.°35E±0.°04, h64km±8km, n41, σ0§87/62, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.23**	**103**	*e*P	**Pn**	**12 04 34.4**	**-0.1**
MKZ				*e*S	**Sn**	**12 04 42.3**	**+0.6**
KZV	**Kizimen**	**0.79**	**310**	*e*P	**Pn**	**12 04 39.6**	**-0.6**
KZV				*e*S	**Sn**	**12 04 51.7**	**-0.1**
TUMD	**Tumrok D**	**0.81**	**318**	*e*P	**Pn**	**12 04 39.5**	**-0.8**
TUMD				*e*S	**Sn**	**12 04 51.2**	**-0.8**
TUMR	**Tumrok**	**0.97**	**315**	*e*P	**Pn**	**12 04 42.0**	**-0.4**
TUMR				*e*S	**Sn**	**12 04 56.0**	**+0.3**
KII	**Karymskiy**	**1.25**	**244**	*e*P	**Pn**	**12 04 46.1**	**0.0**
KII				*e*S	**Sn**	**12 05 02.8**	**+0.6**
KMNR	**Kamenistaya**	**1.32**	**331**	*e*P	**Pn**	**12 04 47.7**	**+0.8**
KMNR				*e*S	**Sn**	**12 05 05.6**	**+1.9**
BZMR	**Bezymyannaya**	**1.42**	**340**	*e*P	**Pn**	**12 04 48.7**	**+0.4**
BZMR				*e*S	**Sn**	**12 05 07.8**	**+1.7**
BZWR	**Bezymyannyi-We**	**1.44**	**341**	*e*P	**Pn**	**12 04 48.9**	**+0.2**
BZWR				*e*S	**Sn**	**12 05 08.5**	**+1.7**
ZLN	**Zelenaya**	**1.45**	**348**	*e*P	**Pn**	**12 04 48.9**	**+0.3**
ZLN				*e*S	**Sn**	**12 05 07.2**	**+0.5**
KIRR	**Kirishev**	**1.47**	**337**	*e*P	**Pn**	**12 04 49.4**	**+0.5**
KIRR				*e*S	**Sn**	**12 05 08.6**	**+1.3**
LGNR	**Loginova**	**1.52**	**346**	*e*P	**Pn**	**12 04 50.3**	**+0.5**
LGNR				*e*S	**Sn**	**12 05 10.5**	**+1.6**
CIRR	**Tsirk**	**1.55**	**347**	*e*P	**Pn**	**12 04 50.0**	**0.0**
CIRR				*e*S	**Sn**	**12 05 10.2**	**+0.9**
KRSR	**Krestovskiy**	**1.67**	**345**	*e*P	**Pn**	**12 04 51.5**	**-0.2**
KRSR				*e*S	**Sn**	**12 05 12.0**	**-0.2**
KOZ	**Kozyrevsk**	**1.68**	**330**	*e*P	**Pn**	**12 04 51.8**	**+0.1**
KOZ				*e*S	**Sn**	**12 05 13.3**	**+1.1**
SPN	**Mys Shipunski**	**1.71**	**208**	*e*P	**Pn**	**12 04 51.5**	**-0.5**
SPN				*e*S	**Sn**	**12 05 11.6**	**-1.2**
KLY	**Klyuchi**	**1.75**	**347**	*e*P	**Pn**	**12 04 52.0**	**-0.6**
KLY				*e*S	**Sn**	**12 05 13.3**	**-0.7**
KBTR	**Krutoberegovo**	**1.81**	**27**	*e*P	**Pn**	**12 04 53.5**	**+0.1**
KBG	**Krutoberegovo**	**1.82**	**24**	*e*S	**Sn**	**12 05 17.8**	**+2.2**
NLC	**Nalytchevo**	**1.87**	**220**	*e*P	**Pn**	**12 04 54.4**	**+0.2**
NLC				*e*S	**Sn**	**12 05 17.0**	**+0.3**
SRDR	**Sredinnyy**	**1.95**	**332**	*e*P	**Pn**	**12 04 54.9**	**-0.4**
SRDR				*e*S	**Sn**	**12 05 18.1**	**-0.7**
SDLR	**Sedlovina**	**1.98**	**229**	*e*P	**Pn**	**12 04 56.4**	**+0.6**
SDLR				*e*S	**Sn**	**12 05 20.9**	**+1.3**
ESO	**Esso**	**2.01**	**312**	*e*P	**Pn**	**12 04 55.8**	**-0.3**
ESO				*e*S	**Sn**	**12 05 20.0**	**-0.2**
KRER	**Koryakskii**	**2.02**	**231**	*e*P	**Pn**	**12 04 57.4**	**+1.0**
SMAR	**Somma**	**2.02**	**229**	*e*P	**Pn**	**12 04 57.0**	**+0.5**
SMAR				*e*S	**Sn**	**12 05 21.8**	**+1.0**
KRX	**Arik**	**2.03**	**233**	*e*P	**Pn**	**12 04 57.1**	**+0.6**
AVH	**Avacha**	**2.05**	**230**	*e*P	**Pn**	**12 04 57.6**	**+0.9**
SRKR	**Sorokina**	**2.05**	**357**	*e*P	**Pn**	**12 04 57.0**	**+0.2**
KOK	**Koryaka**	**2.08**	**232**	*e*P	**Pn**	**12 04 57.8**	**+0.7**
GNL	**Ganaly**	**2.21**	**247**	*e*P	**Pn**	**12 04 59.5**	**+0.6**
DALK	**Dalny**	**2.21**	**225**	*e*P	**Pn**	**12 04 59.1**	**+0.3**
DALK				*e*S	**Sn**	**12 05 25.5**	**+0.6**
PET	**Petropavlovsk**	**2.25**	**226**	*e*P	**Pn**	**12 05 00.1**	**+0.7**
PET				*e*S	**Sn**	**12 05 26.6**	**+0.5**
KRMR	**Karymshinskiy**	**2.62**	**228**	*e*P	**Pn**	**12 05 05.7**	**+1.4**
PETK	**Petropavlovsk-**	**2.63**	**237**	P	**Pn**	**12 05 05.2**	**+0.6**
	1.7nm,0.3s,baz=73,slow=18,SNR=43						
PETK				S	**Sn**	**12 05 36.3**	**+0.9**
	0.8nm,0.3s,baz=94,slow=14,SNR=2.0						
BKI	**Bering**	**2.73**	**76**	*e*S	**Sn**	**12 05 37.9**	**+0.2**
RUS	**Russkaya**	**2.76**	**219**	*e*P	**Pn**	**12 05 06.0**	**-0.3**
GRL	**Gorelyy**	**2.84**	**225**	*e*P	**Pn**	**12 05 09.0**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**35.07**	**171**	T	T	12 48 21.7	
	baz=355,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**35.09**	**171**	T	T	12 48 27.7	
	baz=355,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**35.09**	**171**	T	T	12 48 23.4	
	baz=355,slow=76,SNR=23						
TXAR	**Lajitas Array**	**69.37**	**68**	P	**P**	**12 15 25.4**	**0.0**
	0.2nm,0.5s,baz=297,slow=5.9,SNR=5.5						
ASAR	**Alice Springs**	**81.45**	**205**	P	**P**	**12 16 33.0**	**-1.4**
	0.2nm,0.5s,baz=11,slow=6.6,SNR=2.1						

WEL 24 12:20:16.5, 38.°S±3.°×17.°6E±.°, h206km±6km, M2.8/46, MLv2.8/46, Error ellipse: s-maj=0.0km s-min=0.0km az=101.9, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUTZ	**Kaahu Road**	**0.14**	**190**	P	Pn	12 20 43.2	-0.2
TLZ	**Tolley Road**	**0.25**	**276**	P	Pn	12 20 43.7	+0.1
WPRZ	**Whakapapatarin**	**0.29**	**124**	P	Pn	12 20 43.2	-0.5
WATZ	**Wairara**	**0.36**	**195**	P	Pn	12 20 43.5	-0.3
ALRZ	**Allen Road**	**0.44**	**118**	P	Pn	12 20 43.5	-0.5
HATZ	**Hinemaiaia**	**0.57**	**161**	P	Pn	12 20 43.9	-0.6
MRHZ	**Matea Rd**	**0.65**	**137**	P	Pn	12 20 44.2	-0.7
TOZ	**Tahuroa Road**	**0.68**	**336**	P	Pn	12 20 45.6	+0.6
MUGZ	**Murupara**	**0.73**	**100**	P	Pn	12 20 44.6	-0.7
OPRZ	**Ohinepanea**	**0.75**	**48**	P	Pn	12 20 45.1	-0.3
TWVZ	**Taurewa**	**0.78**	**204**	P	Pn	12 20 45.9	+0.2
HIZ	**Hauiti**	**0.80**	**258**	P	Pn	12 20 46.4	+0.8
OTVZ	**Oturere**	**0.82**	**190**	P	Pn	12 20 46.3	+0.4
MTHZ	**Maungataniwha**	**0.92**	**123**	P	Pn	12 20 46.2	-0.2
RTZ	**Ruatahuna**	**0.92**	**107**	P	Pn	12 20 46.1	-0.3
BKZ	**Black Stump Fm**	**0.95**	**148**	P	Pn	12 20 46.3	-0.3
WNVZ	**Wahianoa**	**0.99**	**192**	P	Pn	12 20 47.2	+0.2
URZ	**Urewera**	**0.99**	**85**	P	Pn	12 20 46.1	-0.7
PKVZ	**Pokaka**	**1.01**	**203**	P	Pn	12 20 47.4	+0.4
NMHZ	**Naumai**	**1.05**	**135**	P	Pn	12 20 47.8	+0.6
MOVZ	**Moawhango**	**1.05**	**184**	P	Pn	12 20 47.1	-0.1
RAHZ	**Arahi**	**1.12**	**120**	P	Pn	12 20 48.2	+0.6
BHHZ	**Black Hill Sta**	**1.14**	**172**	P	Pn	12 20 47.7	-0.2
VRZ	**Vera Road**

RND	**Reindeer**	**18.25**	**36**		**Pn**	**12 27 13.2**	**0.0**	
RND				IAmb	IAmb	12 27 14.6		
	comp=Z,8.3nm,1.4s							
KLU	**Klutina**	**18.55**	**44**	P	**P**	**12 27 14.9**	**-1.7**	
KLU				IAmb	IAmb	12 27 29.5		
	comp=Z,9.8nm,1.4s							
DHY	**Denali Highway**	**18.65**	**38**	P	**Pn**	**12 27 17.0**	**-1.2**	
M24K	**Tolsona, Glenn**	**18.70**	**42**	P	**Pn**	**12 27 17.3**	**-1.4**	
I23K	**Minto, Yukon-K**	**19.08**	**32**	P	**Pn**	**12 27 23.5**	**+0.3**	
I23K				IAmb	IAmb	12 27 29.5		
	comp=Z,7.2nm,1.5s							
N25K	**Chitina, Valde**	**19.18**	**44**	P	**Pn**	**12 27 22.8**	**-1.8**	
CCB	**Clear Creek Bu**	**19.32**	**34**	P	**Pn**	**12 27 24.3**	**-1.8**	
MDM	**Murphy Dome**	**19.36**	**33**	P	**Pn**	**12 27 24.8**	**-1.7**	
MDM				IAmb	IAmb	12 27 33.9		
	comp=Z,4.0nm,1.2s							
GLB	**Gilahina Butte**	**19.48**	**45**	P	**Pn**	**12 27 26.3**	**-1.7**	
GLB				IAmb	IAmb	12 27 32.9		
	comp=Z,3.0nm,0.9s							
HDA	**Harding Lake**	**19.50**	**35**	P	**Pn**	**12 27 26.2**	**-2.1**	
VRDI	**Verde Repeater**	**19.57**	**46**	P	**Pn**	**12 27 27.7**	**-1.5**	
VRDI				IAmb	IAmb	12 27 41.7		
	comp=Z,8.5nm,1.4s							
IL31		**19.72**	**34**	P	**Pn**	**12 27 29.0**	**-1.8**	
ILAR	**Eielson Array**	**19.72**	**34**	P	**Pn**	**12 27 29.8**	**-1.1**	
	comp=Z,0.2nm,0.3s,baz=230,slow=10,SNR=10							
ILAR	**Eielson Array**	**19.72**	**34**	P	**P**	**12 27 27.9**	**-1.3**	
POKR	**Poker Plat Res**	**19.72**	**33**	P	**P**	**12 27 27.8**	**-1.4**	
POKR				IAmb	IAmb	12 27 31.0		
	comp=Z,3.7nm,0.8s							
RIDG	**Independent Ri**	**19.97**	**38**	P	**Pn**	**12 27 32.4**	**-1.4**	
RIDG				IAmb	IAmb	12 27 34.0		
	comp=Z,9.2nm,1.5s							
BALM	**Baldy**	**20.02**	**47**	P	**P**	**12 27 31.8**	**-0.8**	
BALM				IAmb	IAmb	12 27 47.2		
	comp=Z,6.9nm,1.1s							
DOT	**Dot Lake**	**20.24**	**39**	P	Pn	12 27 35.2	-1.8	
INK	**Inuvik**	**26.09**	**33**	P	**P**	**12 28 34.0**	**+1.1**	
PDAR	**Pinedale Array**	**43.17**	**75**	P	**P**	**12 31 01.9**	**+1.4**	
	comp=Z,0.4nm,0.7s,baz=292,slow=8.6,SNR=4.0							
PDAR	**Pinedale Array**	**43.17**	**75**	P	**P**	**12 31 01.0**	**+0.6**	
TXAR	**Lajitas Array**	**55.29**	**85**	P	**P**	**12 32 34.4**	**+1.4**	
	comp=Z,0.2nm,0.6s,baz=282,slow=4.5,SNR=4.2							
TXAR	**Lajitas Array**	**55.29**	**85**	P	**P**	**12 32 33.5**	**+0.5**	
MKAR	**Makanchi Array**	**63.13**	**312**	P	**P**	**12 33 27.8**	**+0.9**	
	comp=Z,0.2nm,0.5s,baz=46,slow=4.9,SNR=2.4							

BGR ***24*** *12:38:51.5±0.0,27.06N×57.21E,h10km,mb4.8,Ms3.8*
BJI ***24*** *12:38:53.4±0.0,27.93N×56.86E,h34km,mB5.1/48, mb5.1/63,Ms4.7/56,Ms7 4.5/52*
MOS ***24*** *12:38:53.5±0.9,27.82N×57.28E,h13km,mb5.3/73, MS4.5/10,Error ellipse: s-maj=4.7km s-min=3.5km az=91.5*
NEIC ***24*** *12:38:54.5±2.2,27.80N±0.03×57.39E±0.05,h10km±1km, Error ellipse: s-maj=7.9km s-min=4.7km az=100.0*
DSN ***24*** *12:38:55.4±0.7,27.87N×57.39E,h10km,mb5.6/2, ML5.6/14, Error ellipse: s-maj=15.0km s-min=6.4km az=117.0*
THR ***24*** *12:38:56.9±0.3,27.77N×57.40E,h18km±3km,ML5.3*
TEH ***24*** *12:38:56.3,27.77N×57.40E,h24km,ML5.2*
GCMT ***24*** *12:38:57.3±0.3,27.70N±0.02×57.21E±0.02,h30km, MW4.9/88,Moment Tensor Solution. s41,c48; s88,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.52±.16; Mθθ-0.01±.10; Mϕϕ-2.51±.10; Mrθ1.41±.15; Mϕθ1.39±.08; Mϕr-0.69±.13; Best double couple: M☉3.26800×10^16 NP1:ϕ=357.00000°,δ37.00000°,λ125.00000°. NP2: ϕ=136.00000°,δ60.00000°,λ66.00000°. Principal axes: T 3.1500, Plg66.0000°, Azm2.0000°; N 0.2370, Plg20.0000°, Azm148.0000°; P -3.3850, Plg12.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***24*** *12:38:58.1±0.5,27.79N×57.34E,h33km±3km,mb4.7/41, mb1 4.7/47,mb1mx4.7/58,mbtmp4.9/47,ML4.6/5,MS4.2/30, Ms1 4.2/30,ms1mx4.0/47 Error ellipse: s-maj=9.3km s-min=8.5km az=154.0*
OMAN ***24*** *12:38:59.9±1.9,27.69N×57.39E,h49km±8km,mb6.1/17, ml5.2/22,ms4.0/10,Mwp5.0/13,Error ellipse: s-maj=21.5km s-min=6.1km az=283.0*

ISC 24 12:38:56.4±0.3,27.76N±0.02×57.38E±0.03,h23km±2km, h23km:pP-P,n793,σ1$56/872,mb5.1/206,MS4.3/51, 52C-26D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.34**	**57**	*e*Pg		**Pb**		**12 39 03.4**	**-0.6**
GENO	**Geno**	**1.13**	**252**	*e*Pg		**Pb**		**12 39 18.1**	**+0.8**
GENO				*e*				12 39 19.4	
GENO				*e*Sg		**Sn**		**12 39 34.6**	**+2.8**
GENO	**Geno**	**1.13**	**252**			**Sn**		**12 39 34.6**	**+2.8**
BNDS	**Bandar-Abbas**	**1.13**	**252**	*e*Pg		**Pb**		**12 39 18.4**	**+1.1**
BNDS				IAML				12 39 38.5	
	comp=N,59μm,0.4s								
BNDS	**Bandar-Abbas**	**1.13**	**252**	*e*Pg		**Pb**		**12 39 18.4**	**+1.1**
BNDS	**Bandar-Abbas**	**1.13**	**252**			**Pb**		**12 39 18.4**	**+1.1**
KBAM	**BAM**	**1.67**	**34**	*e*Pn		**Pb**		**12 39 25.3**	**-1.1**
NGRK	**Negar Kerman**	**1.96**	**343**	*e*Pn		**Pn**		**12 39 29.9**	**+1.3**
NGRK				*e*				12 39 58.3	
NGRK	**Negar Kerman**	**1.96**	**343**	Pn		**Pn**		**12 39 29.9**	**+1.3**
SHME	**Shamm**	**2.03**	**213**	*e*P		**Pn**		**12 39 30.9**	**+1.7**
	SNR=2783								
SHME				S		**Sb**		**12 40 00.1**	**+2.6**
SHME	**Shamm**	**2.03**	**213**	*e*Pn		**Pn**		**12 39 30.9**	**+1.7**
BANOM	**Banah**	**2.07**	**208**	*e*P		**Pn**		**12 39 31.4**	**+1.7**
	SNR=1514								
BANOM				S		**Sb**		**12 40 01.0**	**+2.4**
BANOM	**Banah**	**2.07**	**208**	P		**Pb**		**12 39 31.9**	**-1.4**
	SNR=1509								
BANOM				P		**Pb**		**12 39 31.9**	**-1.4**
	SNR=1509								
BANOM				S		**Sb**		**12 40 01.7**	**+3.2**
BANOM				S		**Sb**		**12 40 01.7**	**+3.2**
BANOM	**Banah**	**2.07**	**208**	*e*Pn		**Pn**		**12 39 31.3**	**+1.6**
CHMN	**Cheshme madani**	**2.10**	**4**	*e*Pn		**Pb**		**12 39 32.4**	**-1.6**
CHMN				*e*				12 39 36.6	
JSK1	**Jask**	**2.14**	**170**	*e*Pn		**Pb**		**12 39 33.4**	**-1.1**
JSK1	**Jask**	**2.14**	**170**	Pn		**Pb**		**12 39 33.3**	**-1.2**
KRBR	**Kerman**	**2.28**	**346**	*e*Pn		**Pb**		**12 39 35.8**	**-1.3**
KRBR				IAML				12 40 11.1	
	comp=N,16μm,0.4s								
KRBR	**Kerman**	**2.28**	**346**	*e*Pn		**Pb**		**12 39 35.8**	**-1.3**
KRBR	**Kerman**	**2.28**	**346**	Pn		**Pb**		**12 39 35.0**	**-2.0**
TVBK	**TV Kerman**	**2.28**	**346**	*e*Pn		**Pb**		**12 39 35.1**	**-2.0**
TVBK				*e*				12 40 15.7	
MSFE	**Esma-Masafi**	**2.63**	**205**	*e*P		**Pn**		**12 39 38.4**	**+1.0**
	SNR=582								
MSFE	**Esma-Masafi**	**2.63**	**205**	*e*Pn		**Pn**		**12 39 39.1**	**+1.7**
MDH	**Madha**	**2.64**	**202**	*e*P		**Pn**		**12 39 38.0**	**+0.5**
	SNR=71								
MDH	**Madha**	**2.64**	**202**	P		**Pn**		**12 39 38.4**	**+0.9**
	SNR=70								
MDH				P		**Pn**		**12 39 38.4**	**+0.9**
	SNR=70								
MDH				S		**Sn**		**12 40 10.5**	**+1.8**
	SNR=143								
MDH				S		**Sn**		**12 40 10.5**	**+1.8**
	SNR=143								
MDH	**Madha**	**2.64**	**202**	*e*Pn		**Pn**		**12 39 37.8**	**+0.3**
UMQ	**Umm Al-Quwin**	**2.70**	**215**	*e*P		**Pb**		**12 39 41.7**	**-2.4**
	SNR=26								
UMQ	**Umm Al-Quwin**	**2.70**	**215**	P		**Pb**		**12 39 42.0**	**-2.0**
	SNR=6.9								
UMQ				P		**Pb**		**12 39 42.0**	**-2.0**
	SNR=6.9								
UMQ	**Umm Al-Quwin**	**2.70**	**215**	*e*Pn		**Pn**		**12 39 40.2**	**+1.8**
KHGB	**Koh Gabri**	**2.72**	**343**	*e*Pn		**Pb**		**12 39 42.6**	**-1.9**
KHGB				*e*				12 40 22.5	
UOSS	**Minazif**	**3.00**	**201**	*i* P		**Pn**		**12 39 42.7**	**+0.3**
	SNR=197								
UOSS	**Minazif**	**3.00**	**201**	P		**Pn**		**12 39 43.6**	**+1.1**
UOSS				S		**Sb**		**12 40 25.4**	**+0.2**
UOSS	**Minazif**	**3.00**	**201**	*e*Pn		**Pn**		**12 39 42.7**	**+0.3**
UOSS	**Minazif**	**3.00**	**201**	Pn		**Pn**		**12 39 42.8**	**+0.3**
UOSS				Sn		**Sn**		**12 40 15.8**	**-1.8**
HATD	**Hatta, Dubai**	**3.13**	**201**	*i* P		**Pn**		**12 39 44.7**	**+0.4**
	SNR=105								
HATD	**Hatta, Dubai**	**3.13**	**201**	P		**Pn**		**12 39 45.6**	**+1.3**
	SNR=104								
HATD				P		**Pn**		**12 39 45.6**	**+1.3**
	SNR=104								
HATD				S		**Sb**		**12 40 26.0**	**-3.1**
	SNR=127								
HATD				S		**Sb**		**12 40 26.0**	**-3.1**
	SNR=127								
HATD	**Hatta, Dubai**	**3.13**	**201**	*e*Pn		**Pn**		**12 39 45.1**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.16**	**210**	*i* P		**Pn**		**12 39 47.0**	**+2.2**
	SNR=106								
NAZ	**Nazwa, Dubai**	**3.16**	**210**	P		**Pn**		**12 39 47.3**	**+2.5**
	SNR=106								
NAZ				S		**Sb**		**12 40 28.2**	**-1.8**
NAZ	**Nazwa, Dubai**	**3.16**	**210**	*e*Pn		**Pn**		**12 39 47.2**	**+2.5**
ASHO	**Ashiyiah**	**3.29**	**201**	*i* P		**Pn**		**12 39 48.5**	**+2.0**
	SNR=436								
ASHO	**Ashiyiah**	**3.29**	**201**	P		**Pn**		**12 39 49.2**	**+2.8**
	SNR=370								
ASHO				P		**Pn**		**12 39 49.2**	**+2.8**
	SNR=370								
ASHO				S		**Sb**		**12 40 31.1**	**-2.5**
ASHO				S		**Sb**		**12 40 31.1**	**-2.5**
ASHO	**Ashiyiah**	**3.29**	**201**	*e*Pn		**Pn**		**12 39 48.3**	**+1.8**
FAQ	**Al Faqa, Dubai**	**3.40**	**208**	*i* P		**Pn**		**12 39 50.1**	**+2.1**
	SNR=92								
FAQ	**Al Faqa, Dubai**	**3.40**	**208**	P		**Pn**		**12 39 50.4**	**+2.4**
	SNR=88								
FAQ				P		**Pn**		**12 39 50.4**	**+2.4**
	SNR=88								
FAQ				S		**Sb**		**12 40 32.9**	**-4.1**
FAQ				S		**Sb**		**12 40 32.9**	**-4.1**
FAQ	**Al Faqa, Dubai**	**3.40**	**208**	*e*Pn		**Pn**		**12 39 50.2**	**+2.1**
JHRM	**Jahrom**	**3.44**	**283**	*e*Pn		**Pn**		**12 39 49.6**	**+1.0**
JHRM				*e*				12 41 07.6	
SZD1	**Zahaedan-tmp**	**3.52**	**60**	*e*Pn		**Pn**		**12 39 53.1**	**+3.4**
ASUD	**Al Ashush, Dub**	**3.62**	**211**	*i* P		**Pn**		**12 39 53.7**	**+2.6**
	SNR=67								
ASUD	**Al Ashush, Dub**	**3.62**	**211**	P		**Pn**		**12 39 54.1**	**+3.0**
	SNR=67								
ASUD				S		**Sn**		**12 40 37.2**	**+4.0**
ASUD	**Al Ashush, Dub**	**3.62**	**211**	*e*Pn		**Pn**		**12 39 54.0**	**+3.0**
SOHO	**SOHO**	**3.69**	**192**	*i* P		**Pn**		**12 39 52.1**	**0.0**
	SNR=133								
SOHO	**SOHO**	**3.69**	**192**	P		**Pn**		**12 39 52.2**	**+0.2**
SOHO				S		**Sn**		**12 40 39.7**	**+4.9**
SOHO	**SOHO**	**3.69**	**192**	*e*Pn		**Pn**		**12 39 52.0**	**0.0**
LMD1	**Lamerd**	**3.76**	**265**	*e*Pn		**Pn**		**12 39 54.5**	**+1.5**
LMD1				*e*				12 41 36.3	
AJN	**Ajban**	**3.84**	**215**	*i* P		**Pn**		**12 39 56.4**	**+2.3**
	SNR=43								
AJN	**Ajban**	**3.84**	**215**	P		**Pn**		**12 39 56.4**	**+2.3**
	SNR=43								
AJN				S		**Sn**		**12 40 42.8**	**+4.3**
	SNR=12								
AJN	**Ajban**	**3.84**	**215**	*e*Pn		**Pn**		**12 39 56.4**	**+2.3**
ALNE	**Al Ain**	**3.97**	**202**	*i* P		**Pn**		**12 39 57.9**	**+2.0**
	SNR=76								
ALNE	**Al Ain**	**3.97**	**202**	*e*Pn		**Pn**		**12 39 57.8**	**+2.0**
IBAF	**Bafgh**	**4.13**	**338**	*e*Pn		**Pn**		**12 40 00.3**	**+2.1**
IBAF				*e*				12 41 10.8	
HOQ	**Hoqain**	**4.16**	**181**	P		**Pn**		**12 39 59.2**	**+0.7**
	SNR=57								
HOQ				S		**Sn**		**12 40 47.0**	**+0.5**
BIDO	**Bidbid**	**4.28**	**171**	P		**Pn**		**12 40 00.8**	**+0.8**
	SNR=105								
BIDO				S		**Sn**		**12 40 49.3**	**+0.1**
BIDO	**Bidbid**	**4.28**	**171**	*e*Pn		**Pn**		**12 40 00.6**	**+0.5**
BIDO	**Bidbid**	**4.28**	**171**	Pn		**Pn**		**12 40 00.6**	**+0.5**
NHDN	**Nehbandan**	**4.30**	**32**	*e*Pn		**Pn**		**12 40 03.7**	**+3.1**
NHDN				*e*				12 41 22.3	
IMEH	**Mehriz**	**4.34**	**327**	*e*Pn		**Pn**		**12 40 02.8**	**+1.6**
IMEH				*e*				12 41 35.1	
BSRN	**Basiran**	**4.46**	**19**	*e*Pn		**Pn**		**12 40 05.7**	**+3.0**
BSRN				*e*Sg		**Sb**		**12 41 14.6**	**+7.2**
BSRN	**Basiran**	**4.46**	**19**	*e*Pn		**Pn**		**12 40 05.7**	**+3.0**
BSRN	**Basiran**	**4.46**	**19**	Pn		**Pn**		**12 40 05.0**	**+2.3**
ARQ	**Araqi**	**4.47**	**190**	P		**Pn**		**12 40 06.2**	**+3.4**
	SNR=584								
ARQ				S		**Sn**		**12 40 58.7**	**+4.5**
WSAR	**Wadi Sarin**	**4.64**	**166**	Pn		**Pn**		**12 40 06.5**	**+1.3**
	baz=12,slow=12								
WSAR				Sn		**Sn**		**12 40 57.2**	**-1.2**
	comp=N,123nm,0.3s,baz=19,slow=4.7,SNR=12								
WSAR	**Wadi Sarin**	**4.64**	**166**	P		**Pn**		**12 40 06.8**	**+1.7**
	SNR=512								
WSAR				S		**Sn**		**12 40 57.3**	**-1.0**
SHI	**Shiraz**	**4.67**	**295**	*e*Pn		**Pn**		**12 40 05.9**	**+0.3**
SHI				*e*				12 42 00.3	
SMDO	**Samad**	**4.72**	**172**	P		**Pn**		**12 40 07.8**	**+1.5**
	SNR=119								
SMDO				P		**Pn**		**12 40 07.8**	**+1.5**
	SNR=119								
SMDO				S		**Sn**		**12 41 01.9**	**+1.5**
SMDO				S		**Sn**		**12 41 01.9**	**+1.5**
IKOO	**Kooshah**	**4.86**	**16**	*e*Pn		**Pn**		**12 40 11.1**	**+2.8**
IKOO				*e*				12 41 40.1	
BSY	**Bisya**	**5.00**	**182**	P		**Pn**		**12 40 13.2**	**+3.1**
	SNR=41								
BSY				P		**Pn**		**12 40 13.2**	**+3.1**
	SNR=41								
BSY				S		**Sn**		**12 41 09.9**	**+2.8**
BSY				S		**Sn**		**12 41 09.9**	**+2.8**
ICHK	**Chekchek**	**5.16**	**331**	*e*Pn		**Pn**		**12 40 14.3**	**+1.9**
ICHK				*e*				12 41 57.8	
ISAD	**Sadrabad**	**5.24**	**323**	*e*Pn		**Pn**		**12 40 15.2**	**+1.7**
ISAD				*e*				12 41 48.1	
ITEG	**Tejag**	**5.25**	**13**	*e*Pn		**Pn**		**12 40 16.6**	**+2.9**
ITEG				*e*				12 40 35.8	
TPRV	**Parvadeh(Tabas**	**5.28**	**354**	*e*Pn		**Pn**		**12 40 17.2**	**+3.2**
WBK	**Wadi Bani Khal**	**5.33**	**164**	P		**Pn**		**12 40 15.8**	**+1.2**
	SNR=20								
WBK				S		**Sn**		**12 41 16.4**	**+1.1**
JMDO	**Jabal Madar**	**5.41**	**173**	P		**Pn**		**12 40 17.9**	**+2.2**
	SNR=76								
JMDO				S		**Sn**		**12 41 20.1**	**+2.9**
IDAH	**Dahanechah**	**5.41**	**23**	*e*Pn		**Pn**		**12 40 19.3**	**+3.4**
IDAH				*e*				12 40 41.0	
IMON	**Monand**	**5.76**	**19**	*e*Pn		**Pn**		**12 40 25.2**	**+4.5**
IMON				*e*				12 40 42.0	
TKDS	**Koohdasht(Taba**	**5.84**	**358**	*e*Pn		**Pn**		**12 40 24.9**	**+3.3**
TABS	**Tabas**	**5.87**	**358**	*e*Pn		**Pn**		**12 40 25.4**	**+3.3**
TABS				*e*Sg		Sb		12 41 58.0	+10
TABS	**Tabas**	**5.87**	**358**	*e*Pn		**Pn**		**12 40 25.4**	**+3.3**
JLN	**Jalan Bani Buh**	**5.88**	**161**	P		**Pn**		**12 40 23.8**	**+1.6**
	SNR=56								
JLN				S		**Sn**		**12 41 28.8**	**-0.1**
IRAM	**Ramesheh**	**5.93**	**314**	*e*Pn		**Pn**		**12 40 23.7**	**+0.7**
KLNJ	**Kolanjah**	**6.00**	**304**	*e*Pn		**Pn**		**12 40 24.8**	**+0.8**
TNSJ	**Nastanj**	**6.22**	**354**	*e*Pn		**Pn**		**12 40 29.7**	**+2.8**
ANAR	**Anarak**	**6.26**	**331**	*e*Pn		**Pn**		**12 40 29.2**	**+1.7**
IGAR	**Gharneh**	**6.54**	**316**	*e*Pn		**Pn**		**12 40 32.5**	**+1.1**
IZEF	**Zefreh**	**6.72**	**321**	*e*Pn		**Pn**		**12 40 35.1**	**+1.1**
IBRJ	**Brojen**	**6.73**	**309**	*e*Pn		**Pn**		**12 40 35.6**	**+1.5**
MHTO	**MHTO**	**6.76**	**175**	P		**Pn**		**12 40 36.4**	**+2.1**
	SNR=149								
MHTO				S		**Sn**		**12 41 51.4**	**+0.7**
	SNR=6.7								
ROKH	**ROKH**	**7.15**	**311**	*e*Pn		**Pn**		**12 40 40.5**	**+0.8**
IPIR	**Pirpir**	**7.45**	**313**	*e*Pn		**Pn**		**12 40 44.0**	**0.0**
IKLH	**Kolahrood**	**7.46**	**319**	*e*Pn		**Pn**		**12 40 45.5**	**+1.4**
KRSH	**Karshahi**	**7.65**	**325**	*e*Pn		**Pn**		**12 40 48.6**	**+2.0**
DQM	**DQM**	**7.80**	**179**	P		**Pn**		**12 40 49.2**	**+0.7**
	SNR=12								
DQM				P		**Pn**		**12 40 49.2**	**+0.7**
	SNR=12								
DQM				P		**Pn**		**12 40 49.2**	**+0.7**
	SNR=12								
DQM				S		**Sn**		**12 42 11.5**	**-4.6**
DQM				S		**Sn**		**12 42 11.5**	**-4.6**
DQM				S		**Sn**		**12 42 11.5**	**-4.6**
HRA	**Herat**	**7.81**	**31**	Pn		**Pn**		**12 40 51.9**	**+3.1**
HRA				Sn		**Sn**		**12 42 09.7**	**-6.9**
QAM	**Ghamsar**	**7.86**	**321**	*e*Pn		**Pn**		**12 40 51.0**	**+1.5**
IANJ	**Anjilo**	**8.23**	**340**	*e*Pn		**Pn**		**12 40 56.5**	**+1.9**
ILAS	**Lasjerd**	**8.48**	**335**	*e*Pn		**Pn**		**12 41 00.4**	**+2.4**
SBZV	**Sabzevar**	**8.61**	**1**	*e*Pn		**Pn**		**12 41 03.5**	**+3.8**
IVRN	**Varamin**	**8.68**	**328**	*e*Pn		**Pn**		**12 41 02.5**	**+1.9**
ISHM	**Shahmirzad**	**8.74**	**338**	*e*Pn		**Pn**		**12 41 03.4**	**+1.8**
IMYA	**Miami**	**8.86**	**14**	*e*Pn		**Pn**		**12 41 07.8**	**+4.6**
IQOM	**Qom**	**8.88**	**324**	*e*Pn		**Pn**		**12 41 05.1**	**+1.5**
IAKL	**Akhelmad**	**8.89**	**7**	*e*Pn		**Pn**		**12 41 08.1**	**+4.4**
IKIA	**Kiasar**	**8.98**	**341**	*e*Pn		**Pn**		**12 41 07.5**	**+2.6**
IDMV	**Damavand**	**9.02**	**331**	*e*Pn		**Pn**		**12 41 07.9**	**+2.4**
IKRD	**Kardeh**	**9.04**	**6**	*e*Pn		Pn		12 41 12.1	+6.4
IALA	**Alasht**	**9.16**	**336**	*e*Pn		**Pn**		**12 41 11.2**	**+3.8**
IGLO	**Ghaloghah**	**9.22**	**342**	*e*Pn		**Pn**		**12 41 10.9**	**+2.8**
IHSB	**Hasanabad**	**9.25**	**327**	*e*Pn		**Pn**		**12 41 10.5**	**+2.0**
ISFR	**Sfrayin**	**9.28**	**3**	*e*Pn		**Pn**		**12 41 12.7**	**+3.7**
IPRN	**Peran**	**9.47**	**334**	*e*Pn		**Pn**		**12 41 13.2**	**+1.6**
IMND	**Minoodasht**	**9.62**	**351**	*e*Pn		**Pn**		**12 41 16.2**	**+2.9**
IEMG	**Emamgholi**	**9.69**	**6**	*e*Pn		**Pn**		**12 41 18.8**	**+4.2**
SHAO	**Shalim**	**9.83**	**190**	P		**Pn**		**12 41 16.6**	**+0.3**
	SNR=73								
SHAO				S		**Sn**		**12 43 03.9**	**-2.1**
HSAM	**Samen**	**9.90**	**313**	*e*Pn		**Pn**		**12 41 16.9**	**-0.6**
IDOB	**Doab**	**9.93**	**309**	*e*Pn		**Pn**		**12 41 16.9**	**-1.0**
HAGD	**Aghdareh**	**9.96**	**317**	*e*Pn		**Pn**		**12 41 19.5**	**+1.2**
GEYT	**Alibeck**	**10.16**	**3**	Pn		**Pn**		**12 41 25.0**	**+4.2**
	comp=N,2.1nm,0.3s,baz=182,slow=13,SNR=52								
GEYT				Lg		Lg		12 44 11.0	
	baz=225,slow=16,SNR=1.4								
GEYT				LR		LR		12 45 52.1	
	comp=N,2μm,19.2s,baz=185,slow=41								
GEYT	**Alibeck**	**10.16**	**3**	Pn		**Pn**		**12 41 24.6**	**+3.8**
GYA0B	**ALIBECK ARRAY**	**10.16**	**3**	Pn		**Pn**		**12 41 24.8**	**+3.9**
DMTO	**DMTO**	**10.24**	**193**	P		**Pn**		**12 41 21.4**	**-0.7**
	SNR=14								
DMTO				P		**Pn**		**12 41 21.4**	**-0.7**
	SNR=14								
DMTO				P		**Pn**		**12 41 21.4**	**-0.7**
	SNR=14								
DMTO				S		**Sn**		**12 43 14.2**	**-2.1**
DMTO				S		**Sn**		**12 43 14.2**	**-2.1**
DMTO				S		**Sn**		**12 43 14.2**	**-2.1**
QABG	**Abgarm-Qazvin**	**10.33**	**322**	*e*Pn		**Pn**		**12 41 25.4**	**+2.0**
WHFO	**Wadi Hawf**	**10.34**	**199**	P		**Pn**		**12 41 23.4**	**0.0**
	SNR=91								
WHFO				P		**Pn**		**12 41 23.4**	**0.0**
	SNR=91								
QALM	**Alamut, Qazvin**	**10.36**	**328**	*e*Pn		**Pn**		**12 41 26.3**	**+2.6**
IBZA	**Bozab**	**10.54**	**312**	*e*Pn		**Pn**		**12 41 26.0**	**-0.3**
IALM	**Almabolaq**	**10.58**	**314**	*e*Pn		**Pn**		**12 41 25.6**	**-1.3**
IKOM	**Komasi**	**10.61**	**309**	*e*Pn		**Pn**		**12 41 27.3**	**+0.2**
RBK	**Rabkut**	**10.62**	**197**	P		**Pn**		**12 41 27.5**	**+0.3**
	SNR=34								
RBK				P		**Pn**		**12 41 27.5**	**+0.3**
	SNR=34								
RBK				S		**Sn**		**12 43 24.1**	**-1.4**
	SNR=5.8								
RBK				S		**Sn**		**12 43 24.1**	**-1.4**
	SNR=5.8								
HSRG	**Sareghieh**	**10.76**	**316**	*e*Pn		**Pn**		**12 41 29.2**	**-0.1**
ABTO	**Aybut**	**11.02**	**201**	P		**Pn**		**12 41 32.1**	**-0.7**
	SNR=19								
ABTO				P		**Pn**		**12 41 32.1**	**-0.7**
	SNR=19								
QSDN	**Sirdan**	**11.14**	**324**	*e*Pn		**Pn**		**12 41 37.8**	**+3.3**
IGHG	**Ghaleghazi**	**11.34**	**308**	*e*Pn		**Pn**		**12 41 36.4**	**-0.9**
IDHR	**Dehrash**	**11.67**	**309**	*e*Pn		**Pn**		**12 41 39.9**	**-1.8**
KBL	**Kabul**	**12.06**	**53**	P		**Pn**		**12 41 50.9**	**+3.9**
KBL	**Kabul**	**12.06**	**53**	Pn		**Pn**		**12 41 50.9**	**+3.9**
THW	**Thamme Wali**	**13.39**	**65**	P		**Pn**		**12 42 06.8**	**+1.8**
CEP	**Cherat**	**13.87**	**61**	P		**Pn**		**12 42 14.7**	**+3.0**
SARP	**Sargodha**	**13.91**	**69**	P		**Pn**		**12 42 12.7**	**+0.6**
IMRD	**Marand**	**14.64**	**321**	*e*Pn		**Pn**

KSH LR LR
comp=Z,2µm,12.0s
KSH LR LR
comp=Z,2µm,12.5s
KSH LR LR
comp=Z,2µm,11.8s
RCY Rachaya 19.39 292 *e*P **Pn 12 43 21.6 -0.5**
GAZ Gaziantep 19.40 304 *e*P **Pn 12 43 22.4 +0.3**
GAZ Gaziantep 19.40 304 P **P 12 43 21.2 +0.3**
ARPR Arapgir-MALATY 19.46 310 *e*P **Pn 12 43 23.9 +1.0**
HWQ Hawqa 19.47 295 *e*P **Pn 12 43 23.0 +0.1**
AML Almayashu 19.56 39 P **Pn 12 43 24.7 +0.4**
SNR=9.3
KTUT Trabzon 19.58 317 *e*P **Pn 12 43 24.1 -0.1**
BHL Bhannes 19.62 294 *e*P **P 12 43 22.7 -0.7**
DQRL Deir Qamar 19.64 293 *e*P **Pn 12 43 25.1 0.0**
MMAI Mount Meron Ar 19.66 291 P **P 12 43 24.4 +0.7**
comp=Z,5.5nm,0.3s,baz=100,slow=14,SNR=49
MMAI S S 12 46 52.6 -12
comp=Z,2.1nm,0.3s,baz=117,slow=8.7,SNR=2.6
MMAI LR LR 12 52 37.5
comp=Z,380nm,20.7s,baz=95,slow=42
KBZ Khabaz 19.75 328 P **Pn 12 43 26.1 -0.1**
comp=Z,0.6nm,0.3s,baz=151,slow=13,SNR=12
EIL Elat 19.76 281 P **P 12 43 25.3 +0.5**
comp=Z,1.6nm,0.3s,baz=88,slow=5.8,SNR=15
DARE Darende-Malaty 19.80 308 *e*P **Pn 12 43 26.9 0.0**
SHA1 Shidzhatmaz 19.87 327 *i*P **P 12 43 25.2 -1.0**
TAHT Tahtakopru-Hat 19.88 301 *e*P **Pn 12 43 27.2 -0.5**
EKS2 Erkin-Say 19.96 38 P **Pn 12 43 28.6 -0.2**
SNR=98
KVAR Kislovodsk Arr 20.02 328 P **P 12 43 28.5 +0.9**
baz=90,slow=20,SNR=3.2
KIV Kislovodsk 20.02 328 *i*P **P 12 43 28.2 +0.6**
SNR=7.0
KIV Kislovodsk 20.02 328 P Pn 12 43 29.4 -0.1
KIV S Sn 12 47 13.0 -1.0
KIV Kislovodsk 20.02 328 *e*P Pn 12 43 28.9 -0.6
KIV *e*S **S 12 47 10.1 -1.6**
KIV pmax pmax
comp=Z,210nm,1.1s
KIV Kislovodsk 20.02 328 P **P 12 43 27.7 +0.1**
UCH Uchtor 20.08 40 P Pn 12 43 29.6 -0.9
SNR=36
AAK Ala-Arcka 20.34 39 P Pn 12 43 32.9 -0.4
SNR=46
AAK Ala-Arcka 20.34 39 *i*P Pn 12 43 32.3 -1.0
SNR=61
AAK Ala-Arcka 20.34 39 P Pn 12 43 33.0 -0.2
AAK Ala-Arcka 20.34 39*ce*P Pn 12 43 32.7 -0.6
AAK pmax pmax
comp=Z,168nm,0.8s
CEYT Ceyhan 20.43 302 *e*P Pn 12 43 35.1 +1.0
YURE YUREGIR 20.45 302 *e*P **P 12 43 33.2 +0.9**
SARI SarD1z-Kayseri 20.48 307 *e*P Pn 12 43 34.5 -0.4
KOZT Kozan 20.54 304 *e*P **P 12 43 33.9 +0.7**
KBK Karagaybulak 20.60 39 P Pn 12 43 35.9 -0.5
SNR=21
GOF Gofitskoye 20.71 330⇑*e*P **P 12 43 34.9 -0.1**
GOF pmax pmax
comp=Z,123nm,1.3s
CHMS Chumysh 20.72 38 P Pn 12 43 36.4 -1.2
SNR=17
USP Ospenovka 20.76 37 P **P 12 43 35.9 +0.2**
SNR=30
SVSK Karacayir 20.77 311 *e*P Pn 12 43 37.3 -0.8
RSDY Resadiye-TOKAT 20.79 312 *e*P Pn 12 43 37.3 -1.1
JBP Jabalpur 20.91 98⇑*e*P Pn 12 43 42.4 +2.5
JBP IAmb IAmb 12 43 49.8
comp=Z,164nm,1.3s
JBP *e*S Sn 12 47 38.7 +3.2
SGDS Sogindy 20.96 37 *e*P **P 12 43 38.4 +0.6**
SGDS Sogindy 20.96 37 *e*P **P 12 43 38.3 +0.6**
KARA Karaisali 21.03 302 *e*P **P 12 43 40.2 +1.6**
BOOM Boomskoye usch 21.06 41 P **P 12 43 40.6 +1.6**
BOOM pmax pmax
comp=Z,186nm,1.0s
BOOM Boomskoye usch 21.06 41 P **P 12 43 40.6 +1.6**
BOOM IAmb IAmb 12 43 51.0
comp=Z,186nm,1.0s
BNN Bunyan 21.07 307 *e*P **P 12 43 40.6 +1.5**
ULHL Ulahol 21.09 42 P **P 12 43 41.1 +1.7**
SNR=36
ATD Arta Tunnel 21.13 223 P **P 12 43 41.1 +1.4**
comp=Z,127nm,1.0s,baz=333,slow=8.3,SNR=32
ATD LR LR 12 53 22.8
comp=Z,1µm,19.9s,baz=50,slow=41
ATD Arta Tunnel 21.13 223 P **P 12 43 41.9 +2.1**
SNR=16
TKM2 Tokmak 2 21.14 40 P **P 12 43 40.8 +1.0**
SNR=79
CMRD Camardi-Nigde 21.22 303 *e*P **P 12 43 43.7 +3.0**
SOC Sochi 21.26 323 *e*P **P 12 43 39.1 -1.9**
SOC *e* 12 43 59.5
SOC *e*S **S 12 47 31.4 -4.7**
SOC *e*SS **SnSn 12 47 57.7 -1.2**
SOC pmax pmax
comp=Z,16nm,0.4s
SOC MLR MLR
comp=Z,327nm,14.0s
TOKT Tokat 21.27 311 *e*P **P 12 43 42.1 +1.0**
MERS Mersin 21.30 301 *e*P **P 12 43 42.3 +0.8**
TOKA Tokat 21.31 311 P **P 12 43 43.2 +1.6**
TOKA IAmb IAmb 12 43 46.8
comp=Z,153nm,1.6s
AB31 Akbulak array 21.55 5 *i*P **P 12 43 44.6 +0.6**
ABKAR Akbulak array 21.55 5 P **P 12 43 44.8 +0.8**
ABKAR IAmb IAmb 12 43 45.9
comp=Z,190nm,1.1s
ABKAR Akbulak array 21.55 5 P **P 12 43 44.6 +0.6**
KDJ Kajisay 21.58 43 P **P 12 43 45.8 +1.2**
KDJ pmax pmax
comp=Z,259nm,1.0s
KDJ Kajisay 21.58 43 P **P 12 43 45.8 +1.2**
CSS Mathiatis 21.72 295 P **P 12 43 45.8 -0.2**
CSS IAmb IAmb 12 43 58.0
comp=Z,88nm,0.8s
MTBS Maitube 21.74 40 *e*P **P 12 43 47.0 +0.7**
MTBS Maitube 21.74 40 *e*P **P 12 43 46.9 +0.7**
BTLS Baital 21.78 33⇑*e*P **P 12 43 46.9 +0.4**
comp=Z,33nm,0.8s
BTLS *e*S Sn 12 47 55.6 -0.4
BTLS eLR LR 12 53 20.8
BTLS Baital 21.78 33*ce*P **P 12 43 46.9 +0.4**
BTLS pmax pmax
comp=Z,33nm,0.8s
KVT Kavak 21.98 313 *e*P **P 12 43 50.9 +2.2**
TNSS Tian-Shan 21.98 41⇑*i*P **P 12 43 50.2 +1.1**
TNSS Tian-Shan 21.98 41⇑*i*P **P 12 43 50.2 +1.1**
HYB Hyderabad 22.06 113 *i*P **P 12 43 51.0 +1.2**
HYB *e* 12 43 57.5
MDOK Medeo 22.12 41 *i*P **P 12 43 51.5 +1.2**
MDOK *e*S Sn 12 47 59.7 -4.9
MDOK eLR LR 12 52 49.4
comp=Z,979nm,13.1s
MDOK Medeo 22.12 41 *i*P **P 12 43 51.5 +1.2**
MDOK MLR MLR
comp=Z,979nm,13.0s
KUU Kurty 22.18 38⇑*e*P **P 12 43 51.2 +0.4**
comp=Z,56nm,0.8s
KUU *e*S **S 12 47 57.2 +3.3**
KUU eLR LR 12 53 07.3
KUU Kurty 22.18 38*ce*P **P 12 43 51.1 +0.3**
KUU *e*S **S 12 47 57.2 +3.3**
KUU pmax pmax
comp=Z,56nm,0.8s
CORM Corum 22.50 309 *e*P **P 12 43 54.4 0.0**
PRZ Przheval'sk 22.53 44 P **P 12 43 54.9 +0.1**
PRZ pmax pmax
comp=Z,230nm,1.5s
PRZ Przheval'sk 22.53 44 P **P 12 43 54.9 +0.1**
PRZ IAmb IAmb 12 44 07.7
comp=Z,230nm,1.4s
PYUN Piuthan 22.62 83 *e*P **P 12 43 57.8 +1.9**
comp=Z,343nm,1.1s
AKTO Aktyubinsk 22.65 1 P **P 12 43 55.9 +0.2**
comp=Z,82nm,0.8s,baz=190,slow=10,SNR=151
AKTO LR LR 12 54 21.9
comp=Z,1µm,18.8s,baz=174,slow=41
SATY Saty 22.86 43⇑*e*P **P 12 43 58.2 -0.1**
comp=Z,29nm,1.0s
SATY *e*S S 12 47 55.1 -11
SATY eLR LR 12 53 11.5
SATY Saty 22.86 43*ce*P **P 12 43 58.1 -0.1**
SATY *e*S S 12 47 55.1 -11
SATY pmax pmax
comp=Z,29nm,1.0s
BR131 Keskin Array S 22.99 307 P **P 12 44 00.6 +1.0**
SNR=46
BR131 S **S 12 48 08.6 -0.3**
BR131 Keskin Array S 22.99 307 P **P 12 43 59.5 -0.2**
BR131 pmax pmax
comp=Z,33nm,0.9s
BR131 Keskin Array S 22.99 307 P **P 12 43 59.5 -0.1**
BRTR Keskin Array B 22.99 307 P **P 12 43 59.4 -0.2**
comp=Z,54nm,0.9s,baz=114,slow=11,SNR=119
BRTR PcP **PcP 12 47 49.3 +0.3**
comp=Z,1.9nm,0.6s,baz=148,slow=4.9,SNR=3.1
BRTR ScP **ScP 12 51 24.8 -0.7**
comp=Z,2.8nm,1.0s,baz=141,slow=4.7,SNR=6.5
BRTR LR LR 12 55 01.7
comp=Z,386nm,18.8s,baz=117,slow=42
BRTR Keskin Array B 22.99 307*ce*P **P 12 43 59.7 +0.1**
BRTR pmax pmax
comp=Z,54nm,0.9s
KOLN Koldanda 23.19 84 *e*P **P 12 44 03.5 +1.7**
comp=Z,245nm,1.2s
KPKS Kokpek 23.26 42⇑*e*P **P 12 44 02.3 +0.1**
comp=Z,50nm,0.8s
KPKS *e*S **S 12 48 09.7 -3.5**
KPKS Kokpek 23.26 42*ce*P **P 12 44 02.3 +0.1**
KPKS *e*S **S 12 48 09.7 -3.5**
KPKS pmax pmax
comp=Z,50nm,0.8s
DANN Dangsing 23.28 82 *e*P **P 12 44 04.8 +2.0**
comp=Z,539nm,1.0s
UZB Uzynbulak 23.28 43⇑*i*P **P 12 44 02.6 +0.1**
comp=Z,48nm,0.4s
UZB *e*S **S 12 48 15.2 +1.5**
UZB eLR LR 12 53 35.3
UZB Uzynbulak 23.28 43*c i*P **P 12 44 02.6 +0.1**
UZB *e*S **S 12 48 15.1 +1.5**
UZB pmax pmax
comp=Z,48nm,0.4s
ILGA Ilgaz 23.51 310 P **P 12 44 03.8 -1.1**
ILGA IAmb IAmb 12 44 07.0
comp=Z,89nm,1.4s
SHLS Shalkode 23.55 44⇑*i*P **P 12 44 08.1 +2.9**
comp=Z,62nm,0.8s
SHLS *e*LR LR 12 53 57.3
SHLS Shalkode 23.55 44*c i*P **P 12 44 08.0 +2.9**
SHLS pmax pmax
comp=Z,62nm,0.8s
TDK Taldyqorghan 24.02 39 *e*P **P 12 44 10.0 +0.5**
comp=Z,88nm,0.5s
TDK *e*LR LR 12 54 12.6
comp=Z,828nm,14.5s
TDK Taldyqorghan 24.02 39 *e*P **P 12 44 10.0 +0.5**
TDK pmax pmax
comp=Z,88nm,0.5s
TDK MLR MLR
comp=Z,828nm,15.0s
GKN Gorkha 24.08 83 *e*P **P 12 44 11.7 +1.3**
comp=Z,41nm,0.6s
DMN Daman 24.54 84 *e*P **P 12 44 16.3 +1.6**
comp=Z,57nm,0.8s
KKN Kakani 24.67 83 *e*P **P 12 44 17.5 +1.7**
comp=Z,75nm,0.6s
PKIN Phulchoki 24.80 84 *e*P **P 12 44 18.6 +1.6**
comp=Z,80nm,0.5s
PKI Pulchoki 24.81 84 *e*P **P 12 44 18.8 +1.6**
comp=Z,166nm,0.8s
ELL Elmali 24.83 298 P **P 12 44 17.9 +0.8**
ELL pmax pmax
comp=Z,155nm,0.8s
ELL Elmali 24.83 298 P **P 12 44 17.9 +0.8**
MDUB Mudurnu 25.01 307 P **P 12 44 18.2 -0.5**
BRZS Berezniki 25.09 24⇑*i*P **P 12 44 20.1 +1.0**
comp=Z,37nm,0.9s
BRZS eLR LR 12 55 16.2
comp=Z,504nm,12.3s
BRZS Berezniki 25.09 24*c i*P **P 12 44 20.1 +1.0**
BRZS pmax pmax
comp=Z,37nm,0.9s
BRZS MLR MLR
comp=Z,504nm,12.0s
GUN Gumba 25.18 83 *e*P **P 12 44 22.2 +1.6**
comp=Z,175nm,0.9s
RAMN Ramite 25.94 85 *e*P **P 12 44 28.5 +1.1**
comp=Z,99nm,1.0s
BOK Bokaro 25.95 92 *e*P **P 12 44 29.4 +2.2**
BOK *i* x x 12 44 37.7
VRH Novokhopyorsk 26.23 337 *e*P **P 12 44 29.0 -0.5**
VRH pmax pmax
comp=Z,60nm,0.8s
ODAN Odare 26.65 85 *e*P **P 12 44 35.0 +1.2**
comp=Z,83nm,1.0s
KARP Karpathos 26.79 294 P **P 12 44 35.4 +0.6**
TAPN Taplejung 26.86 84 *e*P **P 12 44 37.4 +1.6**
VORD Divnogorie 26.92 334 *e*P **P 12 44 35.3 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 27.02 17 P **P 12 44 37.1 +0.4**
comp=Z,106nm,0.8s,baz=203,slow=29,SNR=248
BRVK Borovoye 27.03 17 P **P 12 44 37.6 +0.9**
BRVK P **P 12 44 37.6 +0.9**
BRVK Borovoye 27.03 17*ce*P **P 12 44 37.3 +0.7**
BRVK pmax pmax
comp=Z,111nm,0.8s
BRVK Borovoye 27.03 17 P **P 12 44 37.1 +0.5**
BRVK IAmb IAmb 12 44 38.4
comp=Z,103nm,0.8s
MAKZ Makanchi 27.10 39 P **P 12 44 38.1 +0.7**
MAKZ pmax pmax
comp=Z,134nm,1.4s
MAKZ Makanchi 27.10 39 P **P 12 44 38.0 +0.7**
MAKZ IAmb IAmb 12 44 39.1
comp=Z,134nm,1.4s
VSR Storozhevoye 27.17 335 *e*P **P 12 44 36.6 -1.3**
VSR pmax pmax
comp=Z,20nm,0.6s
MK31 Makanchi Array 27.27 39 P **P 12 44 39.5 +0.6**
MK31 pmax pmax
comp=Z,42nm,0.7s
MK31 Makanchi Array 27.27 39 P **P 12 44 39.5 +0.6**
MK31 IAmb IAmb 12 44 40.4
comp=Z,42nm,0.7s
MKAR Makanchi Array 27.27 39 P **P 12 44 39.4 +0.5**
comp=Z,50nm,0.7s,baz=224,slow=8.2,SNR=435
MKAR PcP **PcP 12 47 58.3 0.0**
comp=Z,6.5nm,0.7s,baz=242,slow=2.8,SNR=6.3
MKAR LR LR 12 56 45.5
comp=Z,888nm,18.1s,baz=225,slow=39
KURBB Kurchatov Arra 27.92 29 P **P 12 44 45.6 +1.0**
comp=Z,44nm,0.8s,baz=228,slow=8.6,SNR=420
KURBB ScP **ScP 12 51 39.9 +0.7**
comp=Z,0.7nm,0.7s,baz=232,slow=4.6,SNR=2.5
KURBB Kurchatov Arra 27.92 29 P **P 12 44 45.3 +0.7**
KURK Kurchatov 28.02 29 P **P 12 44 46.8 +1.2**
KURK P **P 12 44 46.8 +1.2**
KURK Kurchatov 28.02 29 P **P 12 44 45.6 0.0**
KURK Kurchatov 28.02 29 P **P 12 44 45.9 +0.3**
KURK IAmb IAmb 12 44 47.5
comp=Z,50nm,0.9s
LPSR Galich'ya Gora 28.37 336 *e*P **P 12 44 48.8 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
IDI Anoyia 28.60 293 P **P 12 44 51.4 +0.4**
comp=Z,22nm,0.4s,baz=88,slow=9.2,SNR=31
IDI Anoyia 28.60 293 P **P 12 44 52.1 +1.1**
IDI IAmb IAmb 12 44 59.9
comp=Z,39nm,0.8s
ARU Arti 28.66 1 P **P 12 44 52.3 +1.1**
comp=Z,2.1nm,0.5s,baz=182,slow=7.4,SNR=8.1
ARU LR LR 12 57 40.3
comp=Z,437nm,21.3s,baz=162,slow=39
ARU Arti 28.66 1*d i*P **P 12 44 52.8 +1.6**
ARU 12 45 42.6
ARU S **S 12 49 40.4 +1.9**
ARU SS **SnSn 12 51 05.0 +5.5**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 28.66 1 P **P 12 44 51.9 +0.7**
TPGR Topolog 28.70 314⇓P **P 12 44 51.4 -0.3**
CFR Carcaliu 29.02 315⇓P **P 12 44 54.1 -0.4**
CFR Carcaliu 29.02 315⇓P **P 12 44 54.1 -0.4**
ZSN Zaisan 29.09 40⇑*i*P **P 12 44 55.1 -0.1**
ZSN Zaisan 29.09 40*c i*P **P 12 44 55.0 -0.1**
SVE Sverdlovsk 29.14 4 *e*P **P 12 44 55.8 +0.4**
SVE pmax pmax
comp=Z,31nm,1.3s
SVE MLR MLR
comp=Z,554nm,16.0s
WMQ Urumqi 29.14 49 *e*P **P 12 44 57.0 +1.3**
WMQ pP pP 12 45 02.4 -0.5
WMQ sP sP 12 45 08.8 +3.0
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,51nm,3.9s
WMQ LR LR
comp=Z,420nm,19.5s
WMQ LR LR
comp=Z,710nm,17.9s
WMQ LR LR
comp=Z,750nm,29.3s
WMQ Urumqi 29.14 49 P **P 12 44 56.1 +0.4**
WMQ pmax pmax
comp=Z,44nm,0.7s
WMQ Urumqi 29.14 49 P **P 12 44 56.1 +0.4**
WMQ IAmb IAmb 12 45 06.5
comp=Z,44nm,0.7s
MILM Milestii Mici 29.44 318⇓P **P 12 44 57.4 -0.8**
LSA Lhasa 29.62 78 P **P 12 45 02.8 +2.2**
LSA pmax pmax
comp=Z,23nm,1.1s
LSA Lhasa 29.62 78 P **P 12 45 02.8 +2.2**
PALK Pallekele 30.05 128 P **P 12 45 06.3 +2.3**
comp=Z,3.8nm,0.8s,baz=67,slow=10.0,SNR=4.2
PALK Pallekele 30.05 128 P **P 12 45 05.6 +1.6**
VRI Vrincioaia 30.21 315⇓P **P 12 45 05.2 +0.1**
VRI Vrincioaia 30.21 315⇓P **P 12 45 05.2 +0.1**
PLOR Plostina 30.25 315⇓P **P 12 45 05.7 +0.2**
PLOR Plostina 30.25 315⇓P **P 12 45 05.7 +0.2**
NEHR Nehoiu 30.30 314⇑P **P 12 45 06.3 +0.4**
SORM Soroca 30.34 320⇑P **P 12 44 04.5 -1.6**
SORM Soroca 30.34 320⇑P **P 12 45 04.5 -1.6**
COPA Copaceanca 30.49 311⇑P **P 12 45 08.3 +0.7**
MLR Muntele Rosu 30.55 314⇑P **P 12 45 07.5 -0.7**
MLR Muntele Rosu 30.55 314⇑P **P 12 45 07.5 -0.7**
MLR Muntele Rosu 30.55 314 P **P 12 45 09.9 +1.7**
MLR IAmb IAmb 12 45 24.6
comp=Z,30nm,1.3s
SHL Shillong 30.86 86 P **P 12 45 11.4 +0.2**
SHL pmax pmax
comp=Z,40nm,1.0s
SHL Shillong 30.86 86 P **P 12 45 11.4 +0.2**
SHL IAmb IAmb 12 45 20.4
comp=Z,40nm,1.0s
MTUR Matau 31.01 313⇑P **P 12 45 12.0 -0.2**
MTUR Matau 31.01 313⇑P **P 12 45 12.0 -0.2**
BIZ Bicaz 31.08 316⇓P **P 12 45 11.0 -1.7**
DOPR Dopca 31.10 314⇑P **P 12 45 12.8 -0.2**
VOIR 31.10 313⇑P **P 12 45 13.0 0.0**
VOIR 31.10 313⇑P **P 12 45 13.0 0.0**
PRAR RASCA 31.20 317⇑P **P 12 45 12.7 -1.1**
OBN Obninsk 31.22 337 *i*P **P 12 45 13.5 -0.3**
OBN *i* 12 45 20.7
OBN *i* 12 46 16.4
OBN pmax pmax
comp=Z,15nm,0.4s
OBN MLR MLR
comp=Z,154nm,16.0s
AKASG Malin Array Be 31.30 325 P **P 12 45 15.1 +0.5**
comp=Z,7.3nm,0.5s,baz=130,slow=8.6,SNR=20
AKASG ScP **ScP 12 51 48.9 -1.2**
comp=Z,0.5nm,0.4s,baz=95,slow=2.0,SNR=4.2
AKASG Malin Array Be 31.30 325 P **P 12 45 14.0 -0.6**
AKBB Malin Array Si 31.30 325*ce*P **P 12 45 14.3 -0.3**
AKBB Malin Array Si 31.30 325 P **P 12 45 13.3 -1.3**
KIRV Kirov 31.31 352*ce*P **P 12 45 14.8 +0.3**
ARR Arges 31.34 313⇓P **P 12 45 15.2 0.0**
MOS Moscow 31.37 338 *e*P **P 12 45 17.5 +2.4**
MOS *e* 12 46 22.4
DGZ Jazzator, Alta 31.74 38*c i*P **P 12 45 19.6 +0.9**
DGZ pmax pmax
comp=Z,61nm,0.6s
BURAR Bucovina Array 31.92 317⇓P **P 12 45 19.2 -1.0**
BURAR Bucovina Array 31.92 317⇓P **P 12 45 19.2 -1.0**
BURAR Bucovina Array 31.92 317 P **P 12 45 19.8 -0.4**
BUR08 Bucovina Ar. S 31.95 317 P **P 12 45 20.3 -0.2**
LODK Lodwar 32.05 225 P **P 12 45 24.8 +3.2**
SNR=9.4
GZR Gura Zlata 32.57 312⇓P **P 12 45 26.1 +0.2**
HERR Herculane 32.63 311⇓P **P 12 45 26.9 +0.6**
ZAA0 Zalesovo Array 33.01 30 P **P 12 45 29.8 +0.2**
ZALV Zalesovo Beam 33.01 30 P **P 12 45 29.7 +0.1**
comp=Z,82nm,0.6s,baz=248,slow=9.6,SNR=454
ZALV pP **sP 12 45 39.0 -0.7**
comp=Z,35nm,0.3s,baz=226,slow=8.9,SNR=12
ZALV PcP **PcP 12 48 12.4 -0.6**
comp=Z,14nm,0.6s,baz=227,slow=3.5,SNR=8.4
ZALV LR LR 13 00 00.3
comp=Z,249nm,20.7s,baz=242,slow=38
ZALV P3KPbc 13 16 49.2
comp=Z,1.3nm,0.9s,baz=57,slow=5.5,SNR=5.5
ZALV Zalesovo Beam 33.01 30 P **P 12 45 29.6 0.0**
MDVR Moldovita 33.07 310⇓P **P 12 45 30.9 +0.6**
BZS Buzias 33.41 312⇓P **P 12 45 33.3 +0.1**
BZS Buzias 33.41 312⇓P **P 12 45 33.3 +0.1**
SIRR Siria 33.61 313⇑P **P 12 45 34.5 -0.4**
LVV L'vov 33.64 320 *e*P **P 12 45 34.7 -0.5**
DIVS Divibare 34.04 309 P **P 12 45 38.0 -0.8**
UZH Uzhgorod 34.13 317 *e*P **P 12 45 38.0 -1.4**
UZH *e* 12 45 45.0
KOLS Kolonicke sedl 34.27 318 *e*P **P 12 45 40.4 -0.2**
KOLS *e* 12 45 49.2
KOLS pmax pmax
comp=Z,63nm,0.9s
KOLS Kolonicke sedl 34.27 318 *e*P **P 12 45 40.4 -0.2**
KOLS *e* 12 45 49.2
KWP Kalwaria Pacla 34.32 319 *e*P **P 12 45 41.0 0.0**
CRVS Cervenica-Dubn 34.74 317 *e*P **P 12 45 44.7 0.0**
CRVS pmax pmax
comp=Z,35nm,1.1s
CRVS Cervenica-Dubn 34.74 317 *e*P **P 12 45 44.7 0.0**
KECS Kecovo 35.17 316 *e*P **P 12 45 48.7 +0.3**
KECS pmax pmax
comp=Z,13nm,1.4s
KECS Kecovo 35.17 316 *e*P **P 12 45 48.7 +0.3**
PSZ Piszkesteto 35.33 315⇓P **P 12 45 48.8 -1.1**
PSZ Piszkesteto 35.33 315 P **P 12 45 49.5 -0.4**
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 35.33 315 P **P 12 45 49.5 -0.4**
TIP Timpagrande 35.48 299⇑P **P 12 45 52.7 +1.5**
TIP Timpagrande 35.48 299 P **P 12 45 51.8 +0.5**
TIP IAmb IAmb 12 46 04.2
comp=Z,83nm,1.5s
NIE Niedzica 35.65 318 *e*P **P 12 45 52.5 0.0**
LANS Liptovska Anna 36.05 317 *e*P **P 12 45 56.2 +0.2**
LANS *e* 12 46 05.8
LANS pmax pmax
comp=Z,10.0nm,0.7s
LANS Liptovska Anna 36.05 317 *e*P **P 12 45 56.2 +0.2**
LANS *e* 12 46 05.8
VYHS Vyhne 36.19 315 *e*P **P 12 45 56.5 -0.7**
VYHS pmax pmax
comp=Z,15nm,0.6s
VYHS Vyhne 36.19 315 *e*P **P 12 45 56.5 -0.7**
OJC Ojcow 36.27 319 *e*P **P 12 45 57.8 0.0**
SRO Srobarova 36.29 314 *e*P **P 12 45 57.9 -0.1**
SRO pmax pmax
comp=Z,27nm,1.1s
SRO Srobarova 36.29 314 *e*P **P 12 45 57.9 -0.1**
GTA Gaotai 36.90 61⇑P **P 12 46 04.6 +1.1**
GTA pP sP 12 46 13.0 -0.7
GTA sP pP 12 46 16.8 +6.1
GTA PP **PnPn 12 47 30.6 +2.8**
GTA PcP **PcP 12 48 25.9 +1.1**
GTA pmax pmax
comp=Z,27nm,0.8s
GTA pmax pmax
comp=Z,130nm,7.6s
GTA LR LR
comp=Z,450nm,15.6s
GTA LR LR
comp=Z,470nm,14.9s
GTA LR LR
comp=Z,470nm,14.9s
JAVC Velka Javorina 37.05 316 *e*P **P 12 46 04.9 +0.4**
MODS Modra-Piesok 37.13 315 *e*P **P 12 46 03.7 -1.5**

MODS pmax pmax
comp=Z,27nm,1.3s
MODS Modra-Piesok 37.13 315 *e*P **P** **12 46 03.7 -1.5**
KOGS Kog 37.22 311 *e*P **P** **12 46 05.8 -0.2**
MORC Moravsky Berou 37.45 317 ⇓P **P** **12 46 05.8 -2.1**
MORC Moravsky Berou 37.45 317 *e*P **P** **12 46 06.9 -1.0**
MORC Moravsky Berou 37.45 317 ⇓P **P** **12 46 05.8 -2.1**
MORC Moravsky Berou 37.45 317 P **P** **12 46 06.4 -1.4**
GCIS Gornji Cirnik 37.49 310 *e*P **P** **12 46 08.3 0.0**
VRAC Vranov 37.86 316 ⇓P **P** **12 46 09.6 -1.8**
VRAC Vranov 37.86 316 *e*P **P** **12 46 11.0 -0.4**
VRAC Vranov 37.86 316 ⇓P **P** **12 46 09.6 -1.8**
CONA Conrad Observa 37.89 313 *e*P **P** **12 46 11.1 -0.6**
comp=Z,16nm,1.0s,SNR=7.6
KRUC Moravsky 37.91 315 *e*P **P** **12 46 11.2 -0.5**
ARSA Arzberg 37.92 312 *e*P **P** **12 46 11.8 -0.1**
comp=Z,23nm,1.2s,SNR=5.9
INTR Introdacqua 37.98 304 P **P** **12 46 13.9 +1.3**
INTR IAmb IAmb 12 46 19.9
comp=Z,28nm,0.8s
KRLC Kraliky 38.01 317 *e*P **P** **12 46 11.8 -0.9**
KRLC *e*pP **pP** **12 46 17.6 -2.3**
KRLC Kraliky 38.01 317 *e*P **P** **12 46 11.8 -0.9**
KRLC *e* 12 46 17.6
MBAR Mbarara 38.07 227 *i*P **P** **12 46 15.1 +1.4**
MBAR pmax pmax
comp=Z,6.0nm,0.9s
MBAR Mbarara 38.07 227 P **P** **12 46 14.9 +1.3**
DPC Dobruska-Polom 38.38 317 *e*P **P** **12 46 15.6 -0.2**
DPC Dobruska-Polom 38.38 317 *e*P **P** **12 46 15.6 -0.2**
OSTC Ostas 38.52 318 *e*P P 12 46 09.7 -7.6
CHVC Chvalec 38.63 318 *e*P P 12 46 23.0 +5.2
NRCA Norcia 38.67 305 P **P** **12 46 19.4 +1.0**
NRCA IAmb IAmb 12 46 42.6
comp=Z,25nm,0.8s
MOA Molln 38.90 313 *e*P **P** **12 46 19.8 -0.4**
comp=Z,30nm,1.3s,SNR=5.6
MYKA Terra Mystica 39.01 311 *e*P **P** **12 46 20.7 -0.4**
comp=Z,9.6nm,0.6s
PRED Cave del Predi 39.02 311 P **P** **12 46 20.4 -0.9**
CHTO Chiang Mai 39.05 94 P **P** **12 46 21.0 -0.7**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 39.05 94 P **P** **12 46 20.9 -0.7**
MURB Monte Urbino 39.16 305 P **P** **12 46 23.8 +1.4**
MURB IAmb IAmb 12 46 35.3
comp=Z,42nm,0.9s
CMAR Chiang Mai Arr 39.18 95 P **P** **12 46 23.6 +0.8**
comp=Z,0.3nm,0.3s,baz=287,slow=9.3,SNR=4.5
CMAR PcP **PcP** **12 48 33.9 +1.9**
comp=Z,12nm,0.9s,baz=288,slow=5.1,SNR=24
CMAR LR LR 13 05 21.3
comp=Z,226nm,21.1s,baz=321,slow=40
CMAR Chiang Mai Arr 39.18 95 P **P** **12 46 23.0 +0.2**
CMAR **PcP** **12 48 33.4 +1.4**
KBA Koelnbreinsper 39.32 311 *e*P **P** **12 46 24.1 +0.3**
comp=Z,24nm,0.8s
PRU Pruhonice 39.34 316 *e*pP pP 12 46 29.9 -1.1
PRU Pruhonice 39.34 316 *e*P P 12 46 29.9 +6.1
GEC2 GERESS Array S 39.53 314 *e*P **P** **12 46 24.7 -0.8**
comp=Z,54nm,1.8s,baz=111,slow=9.0
GEC2 GERESS Array S 39.53 314 P **P** **12 46 24.4 -1.1**
GERES GERESS Array B 39.53 314 P **P** **12 46 24.4 -1.1**
comp=Z,3.3nm,0.6s,baz=120,slow=7.9,SNR=26
GERES PcP **PcP** **12 48 33.2 +0.5**
comp=Z,2.2nm,0.8s,baz=111,slow=2.4,SNR=2.6
GERES ScP **ScP** **12 52 19.4 -0.6**
comp=Z,0.7nm,0.5s,baz=134,slow=5.8,SNR=5.1
GERES GERESS Array B 39.53 314 P **P** **12 46 23.7 -1.8**
FIA1 FINESS Array S 39.63 337 P **P** **12 46 25.9 -0.1**
FIA1 IAmb IAmb 12 46 28.6
comp=Z,89nm,1.6s
FINES FINESS Array B 39.63 337 P **P** **12 46 25.5 -0.4**
comp=Z,10nm,0.5s,baz=135,slow=9.7,SNR=49
FINES LR LR 13 04 58.8
comp=Z,155nm,20.4s,baz=88,slow=39
FINES FINESS Array B 39.63 337 P **P** **12 46 25.2 -0.7**
KHC Kasperske Hory 39.69 315 *e*P **P** **12 46 25.9 -0.8**
KHC *e*pP **pP** **12 46 32.0 -2.0**
KHC Kasperske Hory 39.69 315 *e*P **P** **12 46 25.9 -0.8**
KHC *e* 12 46 32.0
CIMO Cimolais 39.76 310 P **P** **12 46 26.6 -0.7**
ABTA Abfaltersbach 39.80 311 P **P** **12 46 27.2 -0.5**
comp=Z,25nm,1.2s,SNR=6.1
RJOB Jochberg 39.83 312 *e*P **P** **12 46 26.7 -1.3**
comp=Z,27nm,1.2s,baz=111,slow=9.0
BRG Berggiesshubel 39.99 317 *e*P **P** **12 46 28.6 -0.6**
comp=Z,17nm,1.5s
BRG Berggiesshubel 39.99 317 *e*P **P** **12 46 28.5 -0.6**
BRG pmax pmax
comp=Z,17nm,1.5s
LZH Lanzhou 39.99 66 *e*P **P** **12 46 30.5 +0.9**
LZH pP sP 12 46 39.8 0.0
LZH sP pP 12 46 45.5 +8.7
LZH pmax pmax
comp=Z,34nm,1.1s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,800nm,16.0s
LZH LR LR
comp=Z,880nm,16.8s
TEOL Teolo 40.10 308 P **P** **12 46 28.5 -1.7**
TEOL IAmb IAmb 12 46 36.4
comp=Z,45nm,0.7s
OSSC Osservatorio P 40.12 306 P **P** **12 46 27.8 -2.6**
WET Wettzell 40.14 314 *e*P **P** **12 46 29.8 -0.6**
comp=Z,36nm,1.7s,baz=111,slow=9.0
WET *e*L L 13 05 25.9
comp=Z,100nm,21.7s
CTI Castel Tesino 40.24 309 P **P** **12 46 29.2 -2.3**
CTI pmax pmax
comp=Z,18nm,0.8s
CTI Castel Tesino 40.24 309 P **P** **12 46 29.1 -2.3**
CD2 Chengdu 40.33 74 P **P** **12 46 33.6 +1.3**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,130nm,7.7s
CD2 LR LR
comp=Z,490nm,13.1s
CD2 LR LR
comp=Z,370nm,19.4s
CD2 LR LR
comp=Z,570nm,14.9s
MOY Mondy 40.35 42 *e*P **P** **12 46 33.7 +1.4**
MOY pmax pmax
comp=Z,70nm,1.5s
ZCCA Zocca 40.43 307 P **P** **12 46 32.2 -0.7**
ZCCA IAmb IAmb 12 46 50.0
comp=Z,45nm,0.8s
WTTA Wattenberg 40.49 311 *e*P **P** **12 46 32.6 -0.9**
comp=Z,16nm,0.5s,SNR=9.8
KMI Kunming 40.53 83 ⇑P **P** **12 46 36.3 +2.1**
KMI pP sP 12 46 44.8 +0.4
KMI sP pP 12 46 48.8 +7.3
KMI pmax pmax
comp=Z,36nm,1.0s
KMI pmax pmax
comp=Z,270nm,4.5s
KMI LR LR
comp=Z,110nm,11.3s
KMI LR LR
comp=Z,240nm,18.1s
KMI LR LR
comp=Z,280nm,22.3s
WATA Walderalm 40.55 311 *e*P **P** **12 46 33.6 -0.4**
comp=Z,36nm,1.2s,SNR=7.0
CLL Collm 40.69 318 Lm MLR 13 06 00.0
comp=Z,200nm,20.2s
CLL Collm 40.69 318 *i*P **P** **12 46 34.8 -0.1**
CLL *e* 12 46 40.0
CLL pmax pmax
comp=Z,23nm,1.2s
CLL Collm 40.69 318 *e*P **P** **12 46 34.8 -0.1**
comp=Z,23nm,1.2s,baz=111,slow=9.0
CLL *e*L L 13 06 39.6
comp=Z,213nm,20.2s
CLL Collm 40.69 318 P **P** **12 46 34.1 -0.8**
CLL Collm 40.69 318 *i*P **P** **12 46 34.8 -0.1**
comp=Z,23nm,1.2s
CLL Collm 40.69 318 *e*pP pP 12 46 40.0 -2.1
CLL Collm 40.69 318 *e*(sP) sP 12 46 46.0 +1.0
CLL Collm 40.69 318 *e* P 12 46 53.0 +18
CLL Collm 40.69 318 *e*pPP 12 48 15.0
CLL Collm 40.69 318 *e* 12 48 24.0
CLL Collm 40.69 318 *e*SSS SSS 12 56 00.0
ROTZ Rotzenmuhle 40.73 315 *e*P **P** **12 46 34.6 -0.7**
comp=Z,14nm,1.2s,baz=111,slow=9.0
SQTA Sankt Quirin 40.77 311 *e*P **P** **12 46 34.6 -1.2**
comp=Z,21nm,0.5s,SNR=8.8
VLC Villacollemand 40.82 306 P **P** **12 46 33.1 -3.1**
MOTA Moosalm 40.87 311 *e*P **P** **12 46 35.0 -1.6**
comp=Z,16nm,0.6s,SNR=7.8
FUR Furstenfeldbru 40.93 313 *e*L L 13 06 31.7
comp=Z,150nm,21.7s
BSD Bornholm Skovb 40.99 324 *i*P **P** **12 46 35.5 -1.8**
BSD pmax pmax
comp=Z,12nm,0.4s
BSD Bornholm Skovb 40.99 324 *i*P **P** **12 46 35.5 -1.8**
comp=Z,12nm,0.4s
BSD Bornholm Skovb 40.99 324 *i*P **P** **12 46 35.6 -1.8**
BSD IAmb IAmb 12 46 36.8
comp=Z,12nm,0.4s
FETA Feichten 41.05 311 *e*P **P** **12 46 37.1 -1.0**
comp=Z,15nm,0.7s,SNR=11
KEST Kesra 41.28 294 P **P** **12 46 40.3 +0.2**
comp=Z,6.2nm,0.8s,baz=209,slow=10,SNR=3.2
KEST LR LR 13 07 57.7
comp=Z,143nm,19.2s,baz=317,slow=42
KEST Kesra 41.28 294 P **P** **12 46 39.3 -0.8**
FUORN Ofenpass-Fuorn 41.29 310 P **P** **12 46 39.1 -1.2**
GRA1 Grafenberg Arr 41.32 315 P **P** **12 46 39.2 -1.0**
GRA1 IAmb IAmb 12 47 25.4
comp=Z,33nm,1.1s
GRF Grafenberg Arr 41.32 315 P **P** **12 46 39.2 -1.0**
GRF pmax pmax
comp=Z,33nm,1.1s
GRF Grafenberg Arr 41.32 315 *e*P **P** **12 46 40.1 -0.1**
comp=Z,30nm,1.4s,baz=111,slow=9.0
GRF *e*L L 13 07 48.0
comp=Z,143nm,19.9s
MOX Moxa 41.33 316 *e*L L 13 05 54.8
comp=Z,135nm,21.1s
ZAK Zakamensk 41.35 44 *e*P **P** **12 46 40.5 0.0**
ZAK *e* 12 48 32.3
ZAK pmax pmax
comp=Z,16nm,1.1s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
MSSA Maissana 41.46 306 P **P** **12 46 41.3 -0.2**
DAVOX Davos/Dischmat 41.58 310 P **P** **12 46 41.9 -0.7**
comp=Z,15nm,0.6s,baz=130,slow=6.1,SNR=21
UBR Ueberruh 41.59 312 *e*P **P** **12 46 41.7 -0.8**
comp=Z,29nm,1.0s,baz=111,slow=9.0
DAVA Damuels 41.67 311 *e*P **P** **12 46 42.0 -1.3**
comp=Z,33nm,0.5s,SNR=7.9
TUE Stuetta 41.89 310 P **P** **12 46 43.9 -1.3**
TUE IAmb IAmb 12 46 55.5
comp=Z,26nm,0.7s
TLY Talaya 41.93 42 P **P** **12 46 45.7 +0.6**
comp=Z,9.6nm,0.9s,baz=203,slow=6.2,SNR=2.3
TLY LR LR 13 06 02.0
comp=Z,507nm,19.0s,baz=258,slow=39
TLY Talaya 41.93 42 *i*P **P** **12 46 45.2 +0.1**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 41.93 42 P **P** **12 46 45.2 +0.1**
TLY IAmb IAmb 12 46 47.9
comp=Z,71nm,1.9s
APA Apatity 42.39 347 ⇓*i*P P 12 46 57.3 +8.7
APA *i* 12 48 37.0
APA pmax pmax
comp=Z,38nm,0.8s
APA MLR MLR
comp=Z,600nm,20.0s
IRK Irkutsk 42.46 42 *e*P **P** **12 46 50.0 +0.6**
IRK pmax pmax
comp=Z,82nm,1.6s
SLVN Son La 42.61 88 P **P** **12 46 51.1 +0.1**
SONM Songino Array 42.78 48 P **P** **12 46 53.1 +0.8**
comp=Z,10nm,0.7s,baz=256,slow=8.6,SNR=64
SONM LR LR 13 06 44.9
comp=Z,2μm,20.3s,baz=264,slow=39
SONM Songino Array 42.78 48 P **P** **12 46 51.8 -0.4**
BFO Black Forest 42.89 312 *e*L L 13 07 08.6
comp=Z,137nm,21.4s
BSEG Bad Segeberg 43.06 321 *e*L L 13 08 33.3
comp=Z,211nm,19.3s
TNS Taunus Mts 43.19 315 *e*L L 13 06 47.1
comp=Z,121nm,19.9s
ULN Ulaanbaatar 43.22 49 P **P** **12 46 56.7 +0.9**
ULN P **P** **12 46 56.7 +0.9**
ULN P **P** **12 46 56.7 +0.9**
ULN Ulaanbaatar 43.22 49*ce*P **P** **12 46 56.4 +0.5**
ULN pmax pmax
comp=Z,42nm,1.7s
ULN Ulaanbaatar 43.22 49 P **P** **12 46 56.3 +0.5**
ULN IAmb IAmb 12 46 57.5
comp=Z,32nm,1.1s
SENIN Lac Senin/Sane 43.27 309 P **P** **12 46 55.4 -1.0**
BNI Bardonecchia 43.56 307 P **P** **12 46 57.3 -1.3**
BNI pmax pmax
comp=Z,25nm,0.8s
BNI Bardonecchia 43.56 307 P **P** **12 46 57.3 -1.3**
BNI IAmb IAmb 12 47 11.6
comp=Z,25nm,0.8s
ECH Echery 43.64 312 P **P** **12 46 57.8 -1.3**
ECH pmax pmax
comp=Z,11nm,0.9s
ECH Echery 43.64 312 P **P** **12 46 57.8 -1.3**
GYA Guiyang 43.66 80 ⇑P **P** **12 47 00.3 +0.7**
GYA pP sP 12 47 08.9 -0.9
GYA PP **PP** **12 48 42.6 +1.3**
GYA S **S** **12 53 27.8 -0.5**
GYA SS **SS** **12 56 39.6 -4.2**
GYA pmax pmax
comp=Z,19nm,0.7s
GYA pmax pmax
comp=Z,100nm,4.2s
GYA LR LR
comp=Z,120nm,12.5s
GYA LR LR
comp=Z,170nm,13.6s
GYA LR LR
comp=Z,260nm,15.2s
XAN Xi'an 44.29 69 P **P** **12 47 04.6 +0.1**
XAN pP sP 12 47 19.1 +4.3
XAN S **S** **12 53 39.0 +1.7**
XAN SS **SS** **12 56 47.6 -8.3**
XAN pmax pmax
comp=Z,19nm,0.8s
XAN pmax pmax
comp=Z,110nm,3.0s
XAN LR LR
comp=Z,310nm,16.3s
XAN LR LR
comp=Z,530nm,21.7s
XAN LR LR
comp=Z,700nm,23.9s
XAN Xi'an 44.29 69 P **P** **12 47 04.4 -0.1**
XAN pmax pmax
comp=Z,13nm,0.8s
XAN Xi'an 44.29 69 P **P** **12 47 04.4 -0.1**
BTO Baotou 44.78 59 *e*P **P** **12 47 07.5 -0.9**
MEM Membach 44.80 315 sP sP 12 47 24.6 +6.2
MEM Membach 44.80 315 pP pP 12 47 19.2 +3.7
NC602 NORSAR Array S 45.02 330 P **P** **12 47 10.2 +0.4**
SSB Saint Sauveur 45.08 307 P **P** **12 47 08.8 -1.9**
SSB pmax pmax
comp=Z,24nm,0.8s
SSB Saint Sauveur 45.08 307 P **P** **12 47 08.8 -1.9**
SSB IAmb IAmb 12 47 17.2
comp=Z,24nm,0.8s
NC405 NORSAR Array S 45.11 331 P **P** **12 47 09.0 -1.6**
NRIK Noril'sk 45.17 15 P **P** **12 47 11.8 +0.9**
comp=Z,70nm,0.8s,baz=216,slow=5.6,SNR=109
NRIK LR LR 13 09 34.6
comp=Z,1μm,18.2s,baz=203,slow=41
NRIK Noril'sk 45.17 15*ce*P **P** **12 47 11.6 +0.7**
NRIK pmax pmax
comp=Z,112nm,1.0s
BCLA Clavier 45.21 315 pP pP 12 47 22.4 +3.6
NB2 NORSAR Subarra 45.29 330 P **P** **12 47 10.4 -1.7**
comp=Z,6.4nm,0.7s,baz=113,slow=7.9
NOA NORSAR Array B 45.29 330 P **P** **12 47 11.0 -1.1**
comp=Z,1.8nm,0.5s,baz=115,slow=7.9,SNR=7.5
NOA LR LR 13 09 06.7
comp=Z,218nm,19.4s,baz=105,slow=40
NOA NORSAR Array B 45.29 330 P **P** **12 47 11.0 -1.1**
ENH Enshi 45.31 74 P **P** **12 47 11.9 -0.8**
ENH IAmb IAmb 12 47 28.1
comp=Z,26nm,1.0s
BMRD Maredsous 45.52 314 pP pP 12 47 23.6 +2.3
KEV Kevo 45.53 346 P **P** **12 47 13.1 -0.7**
KEV pmax pmax
comp=Z,60nm,1.1s
KEV Kevo 45.53 346 P **P** **12 47 13.1 -0.7**
KEV IAmb IAmb 12 47 26.4
comp=Z,60nm,1.1s
DOU Dourbes 45.60 314 P **P** **12 47 13.1 -1.6**
DOU pP **sP** **12 47 24.8 0.0**
DOU sP pP 12 47 30.8 +8.8
ARB4 ARCESS Array S 45.70 345 P **P** **12 47 14.6 -0.6**
ARB4 IAmb IAmb 12 48 49.6
comp=Z,55nm,1.4s
ARCES ARCESS Array B 45.70 345 P **P** **12 47 14.8 -0.3**
comp=Z,10nm,0.8s,baz=136,slow=8.4,SNR=11
ARCES pP **sP** **12 47 24.4 -1.0**
comp=Z,9.1nm,0.7s,baz=133,slow=8.1,SNR=5.3
ARCES PcP **PcP** **12 48 53.0 +0.2**
comp=Z,1.3nm,0.5s,baz=139,slow=5.6,SNR=1.3
ARCES LR LR 13 09 25.6
comp=Z,282nm,19.2s,baz=130,slow=40
ARD8 ARCESS Array S 45.71 345 P **P** **12 47 14.8 -0.4**
HHC Hu-ho-hao-te 45.95 59 *e*P **P** **12 47 18.9 +1.2**
HHC LR LR
comp=Z,320nm,18.7s
HHC LR LR
comp=Z,370nm,15.3s
UBPT Khong Chiam 46.16 95 P **P** **12 47 17.8 -1.7**
UBPT IAmb IAmb 12 47 30.4
comp=Z,21nm,1.0s
PSI Prapat 46.77 115 LR LR 13 07 58.5
comp=Z,150nm,19.4s,baz=318,slow=37
PSI Prapat 46.77 115 P **P** **12 47 24.4 0.0**
PSI pmax pmax
comp=Z,16nm,1.2s
RPSI Rantau Prapat 46.83 115 P **P** **12 47 24.4 -0.3**
OPO Ambohidratompo 47.10 193 P **P** **12 47 28.3 +1.4**
comp=Z,12nm,0.9s,baz=17,slow=7.1,SNR=6.9
IPM Ipoh 47.53 111 P **P** **12 47 29.7 -0.5**
IPM IAmb IAmb 12 47 31.2
comp=Z,11nm,0.7s
MNSI Mandailing Nat 48.49 116 P **P** **12 47 39.2 +1.6**
QIZ Qiongzhong 48.63 88 P **P** **12 47 38.9 +0.2**
QIZ S **S** **12 54 37.3 -2.4**
QIZ pmax pmax
comp=Z,29nm,2.1s
QIZ LR LR
comp=Z,230nm,38.2s
QIZ LR LR
comp=Z,250nm,18.6s
QIZ LR LR
comp=Z,240nm,20.6s
BOD Bodaibo 49.29 36 *e*P **P** **12 47 42.5 -0.7**
BOD pmax pmax
comp=Z,107nm,0.9s
WHN Wuhan 49.38 72 P **P** **12 47 51.9 +7.6**
BJT Baijiatuau 49.50 60 P **P** **12 47 45.5 +0.4**
BJT pmax pmax
comp=Z,14nm,1.0s
BJT Baijiatuau 49.50 60 P **P** **12 47 45.5 +0.4**
BJI Beijing 49.51 60 P **P** **12 47 45.5 +0.4**
BJI PcP **PcP** **12 49 08.3 +1.4**
BJI pmax pmax
comp=Z,9.0nm,0.5s
BJI LR LR
comp=Z,270nm,20.3s
BJI LR LR
comp=Z,410nm,14.6s
BJI LR LR
comp=Z,460nm,18.9s
BKNI Bangkinang 49.93 116 P **P** **12 47 48.7 0.0**
TIA Tai'an 50.68 65 P **P** **12 47 54.6 +0.4**
TIA pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 51.29 217 P **P** **12 48 00.1 +1.2**
comp=Z,3.0nm,0.5s,baz=37,slow=8.9,SNR=6.2
LSZ Lusaka 51.29 217 P **P** **12 47 60.0 +1.0**
MYKOM Kota Tinggi 51.36 112 P **P** **12 47 60.0 +0.5**
ESBB Sonseca Array 51.49 300 P **P** **12 48 00.2 -0.1**
ESDC Sonseca Array 51.49 300 P **P** **12 48 00.3 +0.1**
comp=Z,2.4nm,0.5s,baz=67,slow=7.5,SNR=25
ESDC LR LR 13 13 50.3
comp=Z,102nm,18.2s,baz=110,slow=41
ESDC Sonseca Array 51.49 300 P **P** **12 47 59.2 -1.0**
HIA Hailar 51.73 48 P **P** **12 47 59.6 -2.3**
HIA pmax pmax
comp=Z,106nm,1.8s
HIA Hailar 51.73 48 P **P** **12 47 59.6 -2.3**
HIA IAmb IAmb 12 48 03.4
comp=Z,106nm,1.8s
PAB San Pablo 51.80 300 P **P** **12 48 02.1 -0.5**
PAB pmax pmax
comp=Z,9.0nm,1.0s
PAB San Pablo 51.80 300 P **P** **12 48 02.1 -0.5**
NJ2 Nanjing 52.84 69 *e*P **P** **12 48 10.0 -0.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
PBRG Braganca 53.35 303 *e*P **P** **12 48 14.7 +0.7**
comp=Z,17nm,1.4s
MVO Moncorvo 53.64 302 *e*P **P** **12 48 16.9 +0.7**
comp=Z,22nm,1.2s
TOA0 Torodi Ar. Sit 53.74 266 P **P** **12 48 16.6 -0.5**
SNR=50
TOA0 P **P** **12 48 16.6 -0.5**
SNR=50
TOA0 Torodi Ar. Sit 53.74 266 P **P** **12 48 16.2 -0.9**
TOA0 IAmb IAmb 12 48 17.3
comp=Z,42nm,0.9s
TORD Torodi Ar. Bea 53.74 266 P **P** **12 48 16.4 -0.7**
comp=Z,27nm,0.5s,baz=63,slow=7.3,SNR=322
TORD LR LR 13 14 13.6
comp=Z,777nm,18.3s,baz=60,slow=39
TORD Torodi Ar. Bea 53.74 266 P **P** **12 48 16.0 -1.2**
MTE Manteigas 54.13 301 *e*P **P** **12 48 21.1 +1.4**
comp=Z,26nm,1.6s
MTE Manteigas 54.13 301 P **P** **12 48 20.6 +0.9**
MTE IAmb IAmb 12 48 40.2
comp=Z,36nm,1.5s
PVRL Vila Real 54.14 302 *e*P **P** **12 48 20.6 +0.8**
comp=Z,22nm,1.5s
PMRV Marv??o 54.15 300 *e*P **P** **12 48 20.6 +0.8**
comp=Z,19nm,1.9s
PCBR Castelo Branco 54.16 301 *e*P **P** **12 48 21.1 +1.3**
comp=Z,29nm,1.6s
POLO Lamas de Olo 54.19 303 *e*P **P** **12 48 21.1 +0.9**
comp=Z,7.3nm,1.1s
PCAB Cabril 54.32 303 *e*P **P** **12 48 22.3 +1.3**
comp=Z,20nm,1.4s
PVIS Viseu 54.35 302 *e*P **P** **12 48 22.8 +1.5**
comp=Z,24nm,1.2s
PGAV Gavieira, Arco 54.47 303 *e*P **P** **12 48 23.4 +1.2**
comp=Z,28nm,1.1s
PBEJ Beja 54.74 299 *e*P **P** **12 48 25.1 +1.0**
comp=Z,18nm,1.7s
EVO Evora 54.77 299 *e*P **P** **12 48 25.3 +1.0**
comp=Z,21nm,1.7s
COI Coimbra 54.81 301 P **P** **12 48 25.1 +0.5**
COI pmax pmax
comp=Z,29nm,0.7s
COI Coimbra 54.81 301 P **P** **12 48 25.1 +0.5**
COI IAmb IAmb 12 48 32.6
comp=Z,29nm,0.7s
PCAS Casmilo, Conde 54.90 301 *e*P **P** **12 48 26.5 +1.2**
comp=Z,17nm,1.1s
PCVE Castro Verde 54.94 298 *e*P **P** **12 48 25.1 -0.5**
comp=Z,26nm,1.3s
BLWY Bulawayo 55.16 213 *i*P **P** **12 48 29.2 +1.8**
BLWY Bulawayo 55.16 213 *i*P **P** **12 48 29.2 +1.8**
PSBE So Bento 55.21 300 *e*P **P** **12 48 29.1 +1.6**
comp=Z,33nm,2.3s
PNCL Nicolau / Gran 55.24 299 *e*P **P** **12 48 29.2 +1.5**
comp=Z,19nm,1.9s
MDSI Maura Dua 55.33 118 P **P** **12 48 29.0 +0.4**
comp=Z,14nm,0.7s
MATP Matopo 55.46 213 P **P** **12 48 30.0 +0.5**
comp=Z,20nm,0.8s,baz=26,slow=8.1,SNR=52
MATP Matopo 55.46 213 *i*P **P** **12 48 29.2 -0.4**
MATP Matopo 55.46 213 *i*P **P** **12 48 29.2 -0.4**
CN2 Changchun 56.00 54 *e*P **P** **12 48 32.9 -0.2**
CN2 *e*S **S** **12 56 17.5 -2.5**
CN2 pmax pmax
comp=Z,30nm,0.9s

CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,19.0s
ZEA Zeya 56.37 42 *e*P **P 12 48 36.3 +0.8**
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
KSM Kuching 56.92 108 P **P 12 48 40.4 +0.4**
KSM IAmb IAmb 12 48 41.7
comp=Z,13nm,0.8s
YAK Yakutsk 57.62 32 P **P 12 48 42.9 -1.3**
comp=Z,4.6nm,0.5s,baz=153,slow=1.5,SNR=2.3
YAK PcP **PcP 12 49 36.7 -0.6**
comp=Z,15nm,0.7s,baz=295,slow=1.3,SNR=3.9
YAK Yakutsk 57.62 32 *e*P **P 12 48 42.3 -1.9**
YAK *e**PP **pP 12 48 51.7 -0.1**
YAK *e* 12 49 35.7
YAK *e* 12 50 51.7
YAK *e*S **S 12 56 38.4 -2.4**
YAK *e**SS sS 12 57 01.3 +8.2
YAK *e* 12 58 28.4
YAK *e*SS **SS 13 00 29.2 -1.4**
YAK *e*SSS SSS 13 02 44.3
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=Z,82nm,3.5s
YAK pmax pmax
comp=N,108nm,3.8s
YAK pmax pmax
comp=E,130nm,3.8s
YAK smax smax
comp=N,73nm,3.7s
YAK smax smax
comp=E,68nm,3.7s
YAK MLR MLR
comp=Z,508nm,21.0s
YAK MLR MLR
comp=N,170nm,19.0s
YAK MLR MLR
comp=E,278nm,19.0s
YAK Yakutsk 57.62 32 P **P 12 48 43.0 -1.2**
YAK **PcP 12 49 36.4 -0.8**
YAK IAmb IAmb 12 49 37.6
comp=Z,31nm,0.7s
SBUM Sibu 58.03 106 P **P 12 48 48.8 +1.0**
TIXI Tiksi 58.09 21 *ce*P **P 12 48 47.0 -0.4**
TIXI pmax pmax
comp=Z,93nm,0.7s
TIXI Tiksi 58.09 21 P **P 12 48 47.2 -0.2**
KOWA Kowa 58.25 270 P **P 12 48 49.0 -0.4**
KOWA IAmb IAmb 12 48 51.2
comp=Z,31nm,0.7s
KS19 Wonju Array Si 58.92 61 P **P 12 48 53.4 -0.4**
KS19 IAmb IAmb 12 48 54.5
comp=Z,21nm,0.9s
KSAR Wonju Array Be 58.95 61 P **P 12 48 51.8 -2.1**
KSAR Wonju Array Be 58.95 61 P **P 12 48 51.8 -2.1**
KSRS Korea Array 58.97 61 P **P 12 48 53.6 -0.5**
comp=Z,15nm,0.9s,baz=276,slow=7.0,SNR=22
KSRS LR LR 13 18 17.4
comp=Z,260nm,18.2s,baz=292,slow=40
DBG Daneborg 60.16 342 *i*P **P 12 49 01.8 +0.1**
NOR Nord 60.39 351 *i*P **P 12 49 02.7 -0.5**
NOR Nord 60.39 351 *i*P **P 12 49 02.7 -0.5**
NOR Nord 60.39 351 *i*P **P 12 49 02.7 -0.5**
TSUM Tsumeb 60.53 224 P **P 12 49 05.8 +0.7**
TSUM IAmb IAmb 12 49 13.4
comp=Z,28nm,1.3s
USA0B Ussuriysk Arra 60.59 53 P **P 12 49 04.4 -0.8**
USA0B pmax pmax
comp=Z,9.0nm,0.7s
USA0B Ussuriysk Arra 60.59 53 P **P 12 49 04.4 -0.8**
USA0B IAmb IAmb 12 49 05.2
comp=Z,9.0nm,0.7s
USRK Ussuriysk Ar. 60.59 53 P **P 12 49 04.3 -0.9**
comp=Z,9.2nm,0.7s,baz=275,slow=6.4,SNR=37
USRK pP **sP 12 49 14.7 -1.0**
comp=Z,7.9nm,0.6s,baz=304,slow=6.6,SNR=11
USRK LR LR 13 18 20.7
comp=Z,657nm,19.8s,baz=287,slow=39
LBTB Lobatse 60.75 213 *i*P **P 12 49 05.7 -0.8**
LBTB Lobatse 60.75 213 P **P 12 49 07.6 +1.1**
LBTB pmax pmax
comp=Z,23nm,0.8s
LBTB Lobatse 60.75 213 P **P 12 49 07.6 +1.1**
LBTB IAmb IAmb 12 49 14.5
comp=Z,23nm,0.8s
LBTB Lobatse 60.75 213 *i*P **P 12 49 05.7 -0.8**
MYLDM Lahad Datu 62.11 99 P **P 12 49 17.8 +1.9**
MYLDM IAmb IAmb 12 49 38.6
comp=Z,13nm,0.8s
GRNR Gornyy 62.30 45ĥ *i*P **P 12 49 16.6 0.0**
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=N,3.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,270nm,17.0s
GRNR MLR MLR
comp=N,190nm,14.0s
GRNR MLR MLR
comp=Z,320nm,15.0s
DBIC Dimbokro 62.38 263 P **P 12 49 17.3 -0.4**
comp=Z,9.2nm,0.8s,baz=44,slow=6.8,SNR=10
DBIC LR LR 13 17 27.5
comp=Z,222nm,19.0s,baz=38,slow=37
DBIC Dimbokro 62.38 263 P **P 12 49 17.5 -0.2**
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC Dimbokro 62.38 263 P **P 12 49 17.4 -0.2**
DBIC IAmb IAmb 12 49 18.2
comp=Z,13nm,0.8s
JNU Nakatsue 62.41 65 P **P 12 49 19.3 +1.6**
comp=Z,9.5nm,0.8s,baz=225,slow=4.3,SNR=1.1
JNU Nakatsue 62.41 65 P **P 12 49 19.0 +1.3**
KIC Kosan Boka 62.43 262 *e*P **P 12 49 17.8 -0.2**
comp=Z,33nm,1.0s
TIC Toumodi 62.54 263 *e*P **P 12 49 18.5 -0.3**
LIC Lamto 62.74 262 *e*P **P 12 49 19.8 -0.3**
comp=Z,40nm,0.9s
BOSA Boshof 63.95 211 P **P 12 49 28.4 +0.4**
comp=Z,18nm,0.7s,baz=29,slow=7.2,SNR=22
BOSA LR LR 13 19 13.7
comp=Z,140nm,18.4s,baz=23,slow=38
BOSA Boshof 63.95 211 P **P 12 49 28.3 +0.4**
BOSA IAmb IAmb 12 49 35.4
comp=Z,24nm,0.8s
SUMG Summit 65.50 341 *i*P **P 12 49 38.0 +0.2**
SUMG pmax pmax
comp=Z,61nm,1.0s
SUMG Summit 65.50 341 P **P 12 49 37.8 0.0**
SUMG Summit 65.50 341 *i*P **P 12 49 38.0 +0.2**
comp=Z,60nm,1.0s
SUMG Summit 65.50 341 *i*P **P 12 49 38.1 +0.2**
SUMG IAmb IAmb 12 49 40.2
comp=Z,60nm,1.0s
MPSI Mapaga 65.69 103 P **P 12 49 40.8 +1.3**
comp=Z,36nm,1.2s
TYV Tymovskoe 66.13 44 *e*P **P 12 49 41.3 -0.4**
TYV *e*S **S 12 58 26.1 -2.7**
TYV pmax pmax
comp=Z,48nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.7s
TYV smax smax
comp=N,400nm,8.7s
JSD Sado 66.72 58 P **P 12 49 44.8 -0.9**
JSD IAmb IAmb 12 49 45.7
comp=Z,12nm,1.0s
MAJO Matsushiro 67.14 60 P **P 12 49 47.8 -0.7**
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 67.14 60 P **P 12 49 47.8 -0.7**
MAJO IAmb IAmb 12 51 17.3
comp=Z,11nm,0.8s
MJAR Matsushiro Arr 67.15 60 P **P 12 49 48.6 +0.1**
comp=E,1.3nm,0.3s,baz=298,slow=5.4,SNR=5.3
MJAR LR LR 13 21 44.4
comp=Z,92nm,18.7s,baz=80,slow=38
MJAR Matsushiro Arr 67.15 60 P **P 12 49 47.8 -0.7**
YSS Yuzh-Sakhalins 67.27 48ĥ *e*P **P 12 49 48.7 -0.3**
YSS *e* 12 50 21.0
YSS pmax pmax
comp=Z,130nm,0.7s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS MLR MLR
comp=E,300nm,20.0s
YSS Yuzh-Sakhalins 67.27 48 P **P 12 49 48.7 -0.3**
JTM Tenmabayashi 67.95 55 P **P 12 49 53.1 -0.4**
ASAJ Asahikawa 68.00 51 P **P 12 49 52.9 -0.9**
comp=E,5.8nm,0.7s,baz=305,slow=4.3,SNR=11
JKA Kamikawa-asahi 68.00 51 P **P 12 49 52.5 -1.2**
JMM Marumori 68.68 58 P **P 12 49 56.8 -1.3**
JMM IAmb IAmb 12 49 58.0
comp=Z,37nm,1.1s
EUNU Eureka 70.61 354 P **P 12 50 12.1 +2.7**
EUNU IAmb IAmb 12 50 22.2
comp=Z,17nm,0.8s
BILL Bilibino 71.25 22ĵ *i*P **P 12 50 14.0 +0.6**
BILL *i* 12 50 22.4
BILL pmax pmax
comp=Z,30nm,1.0s
BILL MLR MLR
comp=Z,527nm,16.0s
BILL Bilibino 71.25 22 P **P 12 50 14.2 +0.8**
BILL IAmb IAmb 12 50 23.7
comp=Z,34nm,0.9s
PETK Petropavlovsk- 74.10 38 P **P 12 50 29.6 -1.0**
comp=E,12nm,0.8s,baz=220,slow=3.3,SNR=9.7
PETK LR LR 13 26 03.6
comp=Z,280nm,18.6s,baz=297,slow=38
PETK Petropavlovsk- 74.10 38 P **P 12 50 28.8 -1.8**
SOEI Soe 74.64 110 P P 12 50 45.7 +11
FITZ Fitzroy Crossi 80.26 116 P **P 12 51 06.8 +1.2**
FITZ IAmb IAmb 12 51 12.7
comp=Z,18nm,1.1s
KNRA Kununurra 81.48 113 P **P 12 51 13.4 +1.3**
KNRA IAmb IAmb 12 51 24.5
comp=Z,32nm,1.1s
TOLK Toolik Lake Re 81.85 10 P **P 12 51 14.0 +0.6**
baz=336,SNR=15
TOLK Toolik Lake Re 81.85 10 P **P 12 51 13.4 0.0**
COLD Coldfoot 83.05 10 P **P 12 51 20.0 +0.5**
baz=336,SNR=14
COLD Coldfoot 83.05 10 P **P 12 51 20.1 +0.5**
COLD IAmb IAmb 12 51 30.2
comp=Z,33nm,0.8s
IMAR Indian Mountai 83.55 12 P **P 12 51 21.8 -0.5**
BMAR Burnt Mountain 83.68 8 P **P 12 51 23.2 +0.3**
INK Inuvik 83.88 4 P **P 12 51 23.9 +0.1**
INK pmax pmax
comp=Z,24nm,1.2s
INK Inuvik 83.88 4 P **P 12 51 23.9 +0.1**
INK IAmb IAmb 12 51 34.0
comp=Z,24nm,1.2s
FYU Fort Yukon 84.41 9 P **P 12 51 27.6 +1.1**
GENI Genyem 84.82 96 P **P 12 51 32.0 +2.4**
comp=Z,105nm,1.0s
SCHQ Schefferville 84.86 331 P **P 12 51 28.8 -0.3**
comp=Z,18nm,1.1s,baz=51,slow=6.3,SNR=3.6
SCHQ Schefferville 84.86 331 P **P 12 51 28.9 -0.2**
MLY Manley 84.97 12 P **P 12 51 29.7 +0.2**
baz=335,SNR=12
I23K Minto, Yukon-K 85.10 11 P **P 12 51 30.5 +0.5**
baz=336,SNR=16
POKR Poker Plat Res 85.44 10 P **P 12 51 32.2 +0.4**
baz=338,SNR=7.0
MDM Murphy Dome 85.46 11 P **P 12 51 32.0 +0.1**
EPYK Eagle Plains 85.55 6 P **P 12 51 32.9 +0.5**
EPYK IAmb IAmb 12 51 42.2
comp=Z,21nm,0.9s
TCOL CIGO, UAF Yank 85.60 11 P **P 12 51 32.8 +0.3**
baz=338,SNR=5.9
COLA College 85.60 11 P **P 12 51 32.8 +0.3**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 85.60 11 P **P 12 51 32.8 +0.3**
COLA IAmb IAmb 12 51 42.5
comp=Z,19nm,0.9s
NEA2 Nenana 85.66 11 P **P 12 51 32.8 -0.1**
baz=337,SNR=14
BPAW Bear Paw Mtn. 85.77 12 P **P 12 51 33.5 0.0**
TTA Tatalina 85.79 15 P **P 12 51 33.7 0.0**
TTA pmax pmax
comp=Z,20nm,0.8s
TTA Tatalina 85.79 15 P **P 12 51 33.7 0.0**
TTA IAmb IAmb 12 51 44.0
comp=Z,20nm,0.8s
CCB Clear Creek Bu 85.82 11 P **P 12 51 32.8 -0.9**
IL31 85.85 10 P **P 12 51 32.4 -1.4**
IL31 IAmb IAmb 12 51 43.1
comp=Z,14nm,0.8s
ILAR Eielson Array 85.85 10 P **P 12 51 32.9 -1.0**
comp=Z,8.2nm,1.0s,baz=328,slow=3.6,SNR=43
ILAR pP **pP 12 51 42.9 +1.3**
comp=Z,9.6nm,0.7s,baz=321,slow=4.7,SNR=21
ILAR PP **PP 12 54 46.5 -6.2**
comp=Z,0.8nm,0.9s,baz=322,slow=5.7,SNR=3.6
ILAR PKKPbc **PKKPbc 13 09 35.1 -0.7**
comp=Z,0.7nm,0.7s,baz=184,slow=1.6,SNR=6.6
ILAR LR LR 13 35 55.3
comp=Z,140nm,18.4s,baz=326,slow=40
ILAR Eielson Array 85.85 10 P **P 12 51 32.2 -1.6**
WRH Wood River Hil 85.94 11 P **P 12 51 33.5 -0.8**
WRH IAmb IAmb 12 51 44.7
comp=Z,10.0nm,0.8s
BWN Browne 85.98 11 P **P 12 51 33.8 -0.6**
BWN IAmb IAmb 12 51 45.4
comp=Z,26nm,0.8s
AMKA Amchitka 86.14 32 P **P 12 51 33.9 -1.6**
HDA Harding Lake 86.18 10 P **P 12 51 35.0 -0.5**
HDA IAmb IAmb 12 51 44.8
comp=Z,18nm,0.8s
KTH Kantishna Hill 86.28 12 P **P 12 51 35.2 -0.9**
MCK McKinley 86.48 11 P **P 12 51 36.6 -0.4**
baz=337,SNR=22
TRF Thorofare Moun 86.49 12 P **P 12 51 37.0 -0.2**
PPLA Purkeypile 86.63 13 P **P 12 51 37.0 -0.9**
EGAK Eagle 86.64 8 P **P 12 51 37.2 -0.5**
RND Reindeer 86.79 11 P **P 12 51 37.0 -1.6**
RND pmax pmax
comp=Z,24nm,0.9s
RND Reindeer 86.79 11 P **P 12 51 37.0 -1.6**
RND IAmb IAmb 12 51 47.8
comp=Z,24nm,0.9s
SCRK Sand Creek 87.03 9 P **P 12 51 40.3 +0.5**
baz=341
RIDG Independent Ri 87.13 10 P **P 12 51 39.2 -1.0**
RIDG IAmb IAmb 12 51 49.9
comp=Z,21nm,1.0s
K27K Chicken 87.24 8 P **P 12 51 41.3 +0.6**
baz=343
DOT Dot Lake 87.33 9 P **P 12 51 40.6 -0.6**
DHY Denali Highway 87.35 11 P **P 12 51 40.0 -1.4**
DHY IAmb IAmb 12 52 04.7
comp=Z,15nm,1.0s
CUT Chulitna 87.45 12 P **P 12 51 40.9 -0.8**
baz=336,SNR=7.0
SVW2 Sparrevohn 87.49 15 P **P 12 51 42.5 +0.6**
SVW2 IAmb IAmb 12 51 52.6
comp=Z,16nm,0.8s
SKT Skwentna 87.59 13 P **P 12 51 41.6 -0.8**
PAX Paxson 87.76 10 P **P 12 51 43.0 -0.4**
PAX pmax pmax
comp=Z,15nm,0.9s
PAX Paxson 87.76 10 P **P 12 51 43.0 -0.4**
PAX IAmb IAmb 12 51 53.7
comp=Z,15nm,0.9s
MENT Mentasta 88.06 9 P **P 12 51 44.4 -0.3**
WB0 Warramunga Arr 88.18 113 P **P 12 51 45.5 -0.4**
WB0 IAmb IAmb 12 51 50.1
comp=Z,16nm,1.1s
BCAR Beaver Creek A 88.21 9 P **P 12 51 45.3 -0.1**
SUA Susitna One 88.22 13 P **P 12 51 45.0 -0.6**
WRA Warramunga Arr 88.22 114 P **P 12 51 47.3 +1.2**
comp=Z,12nm,0.9s,baz=316,slow=4.1,SNR=113
WRA pP **sP 12 51 56.6 -0.1**
comp=Z,7.4nm,0.7s,baz=318,slow=4.1,SNR=9.1
WRA PKKPbc **PKKPbc 13 09 27.8 -1.9**
comp=Z,0.4nm,0.5s,baz=113,slow=2.9,SNR=6.0
WRA Warramunga Arr 88.22 114 P **P 12 51 45.7 -0.4**
WRAB Tennant Creek 88.23 114 *ce*P **P 12 51 47.7 +1.6**
WRAB pmax pmax
comp=Z,19nm,1.0s
WRAB Tennant Creek 88.23 114 P **P 12 51 46.6 +0.5**
WRAB IAmb IAmb 12 51 50.5
comp=Z,21nm,1.1s
WB2 Warramunga Arr 88.23 114 P **P 12 51 46.8 +0.6**
WB2 IAmb IAmb 12 51 50.5
comp=Z,22nm,1.1s
GHO Glory Hole Cre 88.29 12 P **P 12 51 45.8 0.0**
SML Sawmill 88.36 12 P **P 12 51 46.1 -0.1**
WR0 Warramunga Arr 88.40 113 P **P 12 51 47.8 +0.9**
WR0 IAmb IAmb 12 51 51.1
comp=Z,13nm,1.1s
PMR Palmer 88.41 12 P **P 12 51 46.0 -0.3**
PMR pmax pmax
comp=Z,35nm,0.8s
PMR Palmer 88.41 12 P **P 12 51 46.0 -0.3**
M24K Tolsona, Glenn 88.46 11 P **P 12 51 47.6 +1.0**
baz=339,SNR=10.0
M24K Tolsona, Glenn 88.46 11 P **P 12 51 47.0 +0.4**
SCM Sheep Creek Mo 88.52 11 P **P 12 51 47.2 +0.3**
SCM pmax pmax
comp=Z,30nm,1.2s
SCM Sheep Creek Mo 88.52 11 P **P 12 51 47.2 +0.3**
SCM IAmb IAmb 12 51 59.7
comp=Z,30nm,1.2s
RSO Redoubt South 88.70 14 P **P 12 51 47.8 -0.1**
KNK Knik Glacier 88.70 12 P **P 12 51 46.9 -0.9**
KNK IAmb IAmb 12 51 58.1
comp=Z,21nm,0.8s
RC01 Rabbit Creek A 88.76 13 P **P 12 51 48.0 0.0**
baz=336,SNR=8.3
FORT Forrest 89.06 126 P **P 12 51 51.2 +1.4**
KLU Klutina 89.08 11 P **P 12 51 49.3 -0.3**
O22K Cooper Landing 89.32 13 P **P 12 51 50.7 +0.1**
baz=336,SNR=6.7
SEW Seward 89.72 13 P **P 12 51 51.7 -0.7**
BRLK Bradley Lake 89.74 14 P **P 12 51 52.5 0.0**
ASAR Alice Springs 89.75 117 P **P 12 51 54.1 +0.9**
comp=Z,4.0nm,0.8s,baz=305,slow=4.5,SNR=28
ASAR Alice Springs 89.75 117 P **P 12 51 53.5 +0.2**
AS31 Alice Springs 89.75 117 P **P 12 51 54.2 +1.0**
YKA Yellowknife Ar 89.83 356 P **P 12 51 53.0 +0.1**
comp=Z,4.6nm,0.9s,baz=355,slow=5.3,SNR=6.1
YKA pP **sP 12 52 03.0 -0.5**
comp=Z,9.3nm,0.7s,baz=4.0,slow=5.5,SNR=12
YKA LR LR 13 38 39.0
comp=Z,79nm,18.1s,baz=0.0,slow=40
YKA Yellowknife Ar 89.83 356 *ce*P **P 12 51 53.2 +0.3**
YKA pmax pmax
comp=Z,7.0nm,1.0s
HYT Haines Junctio 90.90 7 P **P 12 51 58.6 +0.5**
KDAK Kodiak Island 91.15 16 P **P 12 51 58.8 -0.3**
KDAK pmax pmax
comp=Z,46nm,0.8s
KDAK Kodiak Island 91.15 16 P **P 12 51 58.8 -0.3**
DLBC Dease Lake 93.91 4 P **P 12 52 12.3 +0.3**
comp=Z,3.3nm,1.1s,baz=338,slow=7.5,SNR=2.9
DLBC pP **sP 12 52 22.5 -0.1**
comp=Z,6.1nm,0.8s,baz=304,slow=4.5,SNR=7.6
DLBC Dease Lake 93.91 4 P **P 12 52 12.7 +0.7**
DLBC IAmb IAmb 12 52 23.5
comp=Z,9.9nm,0.9s
E57A Chemin Saint G 94.13 329 P **P 12 52 13.3 +0.1**
baz=42
MAW Mawson 95.16 178 P **P 12 52 18.2 +1.2**
comp=Z,1.2nm,0.6s,baz=287,slow=9.3,SNR=4.8
MAW LR LR 13 29 31.9
comp=Z,69nm,19.5s,baz=42,slow=32
H59A Cadyville 95.23 327 P **P 12 52 18.2 -0.1**
baz=42
RCBR Riachuelo 95.58 266 *e*P **P 12 52 20.9 +0.5**
H58A Gabriels 95.63 327 P **P 12 52 19.8 -0.4**
baz=42
LONY Lake Ozonia 95.67 328 P **P 12 52 20.0 -0.3**
baz=41
I59A Olmsteadville 95.95 327 P **P 12 52 22.0 +0.4**
baz=42
J59A Piesco 96.50 327 P **P 12 52 24.2 +0.1**
baz=42
SYO Syowa Base 97.36 186ĵ *e*P Pdif 12 52 28.2 +1.1
SYO Syowa Base 97.36 186ĥ *e*pP pP 12 52 35.4 +0.5
STKA Stephens Creek 99.64 121 LR LR 13 36 23.6
comp=Z,67nm,21.4s,baz=232,slow=35
NEW Newport 104.16 356 PKiKP **PKiKP 12 57 14.3 -0.7**
comp=Z,0.8nm,0.2s,baz=56,slow=3.6,SNR=2.6
PDAR Pinedale Array 108.80 350 PKiKP **PKiKP 12 57 24.1 0.0**
comp=Z,0.6nm,0.6s,baz=133,slow=2.2,SNR=4.0
PDAR PKKPbc **PKKPdf 13 08 44.9 -1.6**
comp=Z,0.2nm,0.5s,baz=175,slow=4.2,SNR=3.4
NVAR Mina Array Bea 114.03 356 PKP PKPdf 12 57 35.5 +1.4
comp=Z,1.2nm,0.7s,baz=333,slow=0.5,SNR=12
QSPA South Pole Qui 117.60 180 **PKiKP 12 57 39.9 +0.2**
MNTX Cornudas Mount 118.63 343 PKPdf **PKiKP 12 57 43.0 +0.1**
TUC Tucson 119.21 349 PKiKP **PKiKP 12 57 44.2 +0.1**
TUC Tucson 119.21 349 PKPdf **PKiKP 12 57 44.2 +0.1**
VILB Vilhena 120.21 271 *e*P **PKiKP 12 57 47.3 +1.0**
PTLB Pontes e Lacer 120.28 268 *e*P **PKiKP 12 57 47.6 +1.2**
TXAR Lajitas Array 120.40 341 PKP **PKPdf 12 57 46.4 0.0**
comp=Z,1.0nm,0.6s,baz=195,slow=2.4,SNR=5.6
TXAR Lajitas Array 120.40 341 **PKPdf 12 57 46.0 -0.4**
SIV San Ignacio 122.20 268 PKP **PKiKP 12 57 50.3 +0.1**
comp=Z,0.9nm,0.4s,baz=194,slow=4.2
SIV PKKPbc **PKKPab 13 07 47.2 +1.0**
comp=Z,1.2nm,0.6s,baz=240,slow=3.2,SNR=6.1
CPUP Villa Florida 122.47 255 PKP **PKiKP 12 57 50.5 +0.1**
comp=Z,2.2nm,0.6s,baz=146,slow=3.6,SNR=5.1
CPUP Villa Florida 122.47 255 *e*P **PKiKP 12 57 50.5 +0.1**
ETMB Extrema 124.17 277 *e*P **PKiKP 12 57 54.5 +0.4**
CMIG Matias Romero 127.94 326 PKP **PKPdf 12 58 00.6 -0.5**
comp=Z,2.3nm,0.7s,baz=346,slow=8.3,SNR=2.3
LPAZ La Paz 128.57 271 PKP **PKiKP 12 58 03.8 +0.2**
comp=Z,1.2nm,0.8s,baz=165,slow=3.2,SNR=4.1
LPAZ La Paz 128.57 271 *e*P **PKiKP 12 58 03.6 0.0**
URZ Urewera 129.18 118 PKP **PKPdf 12 58 02.8 +0.1**
baz=18,slow=6.4
URZ Urewera 129.18 118 **PKPdf 12 58 02.6 -0.1**
OTAV Otavalo 129.32 296 *e*P **PKiKP 12 58 05.2 +0.2**
PB11 IPOC Station P 131.18 267 PKPdf **PKPdf 12 58 05.9 -1.3**
LVC Limon Verde 131.43 263 *e*P **PKiKP 12 58 10.2 +1.3**
NNA Nana 134.46 281 *c i*PKIKP **PKPdf 12 58 13.2 -0.2**
NNA pmax pmax
comp=Z,44nm,1.7s
PLCA Paso Flores 135.65 239 PKP **PKiKP 12 58 16.1 -0.5**
comp=Z,3.9nm,1.0s,baz=167,slow=4.9,SNR=6.4
PLCA Paso Flores 135.65 239 *e*P **PKiKP 12 58 16.3 -0.2**
RAR Rarotonga 145.66 87 PKPbc **PKPab 12 58 35.1 +1.0**
comp=Z,12nm,0.6s,baz=196,slow=9.9,SNR=4.1

LJU 24 12:45:21.3, 46.31N×13.63E, h9km, ML0.2, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.11**	**230**	*i* Pg	Pg	12 45 24.0	+0.2
ROBS				*i* Sg	Sg	12 45 25.9	+0.2
	comp=Z,2.0nm,0.1s						
CADS	**Cadrg**	**0.11**	**139**	*i* Pg	Pg	12 45 24.1	+0.1
CADS				*i* Sg	Sg	12 45 26.1	+0.3
	comp=Z,6.0nm,0.1s						

*IDC **24** 12:46:08.4±5.2, 32.48N×132.04E, h26km±46km, mb3.6/3, mb1 3.7/5, mb1mx3.3/53, mbtmp3.6/5, ML2.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/41, Error ellipse: s-maj=43.0km s-min=33.7km az=134.0*
*JMA **24** 12:46:09.8, 32.71N×132.16E, h38km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs223.00000°, δ20.00000°, λ-16.00000°. NP2: ϕs328.00000°, δ85.00000°, λ-109.00000°. Principal axes: T Plg37.0000°, Azm75.0000°; N Plg19.0000°, Azm330.0000°; P Plg47.0000°, Azm218.0000°;*
JMA Felt II J1.

NIED ***24*** *12:46:09.8, 32°.71N × 132°.16E, h38km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=8.43; Mθθ 1.55; Mφφ 6.88; Mrθ -1.39; Mθφ 3.37; Mφr 0.86; Fault plane solution: M0 8.63000×10^14 NP1: φs 195.00000°, δ 47.00000°, λ -105.00000°. NP2: φs 36.00000°, δ 45.00000°, λ -75.00000°.*

ISC 24 12:46:09.1±0.9, 32°.68N±0°.05 × 132°.20E±0°.04, h35km, n18, σ1 21/28, mb3.8/3, 6C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.28**	**296**	⇓P		**Pn**	**12 46 16.9**	**+0.1**
JSKE				eS		**Sn**	**12 46 22.2**	**+0.1**
JHHC	**Hyugahichiya**	**0.53**	**244**	⇑P		**Pn**	**12 46 20.5**	**+0.3**
JHHC				eS		**Sn**	**12 46 28.4**	**+0.5**
JTO	**Tosashimizu**	**0.54**	**70**	⇑P		**Pn**	**12 46 21.1**	**+0.7**
JTO				eS		**Sn**	**12 46 29.3**	**+1.1**
JUS	**Usuki**	**0.54**	**316**	⇑P		**Pn**	**12 46 20.2**	**-0.2**
JUS				S		**Sn**	**12 46 27.7**	**-0.6**
JKIT	**Kitakata**	**0.63**	**266**	⇑P		**Pn**	**12 46 21.8**	**+0.2**
JKIT				S		**Sn**	**12 46 30.5**	**0.0**
UWA2	**Uwa jima 2**	**0.64**	**34**	⇓P		**Pn**	**12 46 22.1**	**+0.2**
UWA2				S		**Sn**	**12 46 31.1**	**+0.2**
JTSN	**Tsuno**	**0.73**	**234**	P		**Pn**	**12 46 23.4**	**+0.5**
JTSN				eS		**Sn**	**12 46 34.2**	**+1.4**
JNA	**Nagahama**	**0.91**	**15**	⇓P		**Pn**	**12 46 25.7**	**+0.2**
JNA				S		**Sn**	**12 46 37.1**	**-0.3**
JKU	**Kubokawa**	**0.96**	**49**	⇑P		**Pn**	**12 46 26.7**	**+0.5**
JKU				S		**Sn**	**12 46 39.0**	**+0.3**
JIU3	**Izumi3**	**1.18**	**264**	⇑P		**Pn**	**12 46 30.4**	**+1.3**
JIU3				S		**Sn**	**12 46 46.1**	**+2.2**
JNU	**Nakatsue**	**1.20**	**292**	Pg		**Pn**	**12 46 30.6**	**+1.2**
	252nm,0.3s,baz=127,slow=6.9,SNR=705							
JNU				Lg		Lg	12 46 45.8	
	96nm,0.3s,baz=180,slow=3.7,SNR=9.5							
JTZ	**Takazaki**	**1.22**	**231**	⇓P		**Pn**	**12 46 30.9**	**+1.2**
JET	**Tanbara**	**1.31**	**33**	P		**Pn**	**12 46 32.0**	**+1.0**
KSRS	**Korea Array**	**5.92**	**325**	Pn		**Pn**	**12 47 36.8**	**+2.5**
	0.3nm,0.3s,baz=146,slow=14,SNR=4.4							
KSRS				LR		LR	12 50 06.0	
	comp=Z,117nm,19.1s,baz=133,slow=40							
MJAR	**Matsushiro Arr**	**6.28**	**50**	Pn		**Pn**	**12 47 41.8**	**+2.5**
	0.2nm,0.3s,baz=238,slow=13,SNR=14							
MJAR				LR		LR	12 50 32.8	
	comp=Z,95nm,18.3s,baz=90,slow=40							
WRA	**Warramunga Arr**	**52.36**	**177**	P		**P**	**12 55 16.6**	**-1.2**
	0.8nm,0.8s,baz=347,slow=8.6,SNR=4.0							
ASAR	**Alice Springs**	**56.05**	**178**	P		**P**	**12 55 45.3**	**+0.7**
	0.6nm,0.8s,baz=12,slow=4.8,SNR=4.3							
STKA	**Stephens Creek**	**64.82**	**171**	P		**P**	**12 56 41.7**	**-2.6**
	0.7nm,0.4s,baz=0.8,slow=12,SNR=3.1							

ISK ***24*** *12:47:45.6, 35°.50N × 27°.83E, h6km, ML2.8/10*
ATH ***24*** *12:47:47.2, 35°.62N × 27°.75E, h23km±2km, ML2.4/3, Error ellipse: s-maj=5.9km s-min=1.4km az=320.0, ML Amplitudes are expressed in micrometers*
THE ***24*** *12:47:48.4, 35°.75N × 27°.63E, h0km±1km, ML2.3/3, Error ellipse: s-maj=5.0km s-min=0.7km az=140.0*

DDA 24 12:47:44.0, 35°.45N × 27°.69E, h8km±2km, ML2.4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**283**	P		Pn	12 47 56.9	+0.2
KARP				S		Sb	12 48 04.7	+3.8
	505nm,0.2s							
KARP	**Karpathos**	**0.44**	**283**	PG		Pn	12 47 56.8	+0.1
KARP	**Karpathos**	**0.44**	**283**	P		Pn	12 47 56.7	-0.1
KARP				S		Sb	12 48 04.9	+4.0
KARP				AML		AML	12 48 07.6	
	comp=N,1128μm,0.2s							
KARP				AML		AML	12 48 07.7	
	comp=E,899μm,0.1s							
KARP	**Karpathos**	**0.44**	**283**			Pn	12 47 56.5	-0.3
ARG	**Arkhangelos**	**0.84**	**25**	P		Pb	12 48 00.6	-0.3
ARG				S		Sg	12 48 10.7	-0.5
	comp=E,402nm,0.5s							
ARG	**Arkhangelos**	**0.84**	**25**	PG		Pb	12 48 00.7	-0.2
ARG	**Arkhangelos**	**0.84**	**25**	P		Pg	12 48 00.3	0.0
ARG				S		Sg	12 48 09.9	-1.3
ARG				AML		AML	12 48 16.4	
	comp=E,950μm,0.6s							
ARG				AML		AML	12 48 17.9	
	comp=N,593μm,0.3s							
NIS1	**Nisyros Isl.**	**1.22**	**340**	PN		Pg	12 48 09.1	+1.6
NIS1				SN		Sn	12 48 26.2	+2.0
NIS1	**Nisyros Isl.**	**1.22**	**340**	P		Pg	12 48 08.0	+0.5
ZKR	**Zakros**	**1.25**	**255**	P		Pg	12 48 13.0	+5.0
ZKR				S		Sn	12 48 31.5	+6.6
	comp=N,258nm,0.9s							
ZKR	**Zakros**	**1.25**	**255**	P		Pg	12 48 12.5	+4.5
ZKR				AML		AML	12 48 40.9	
	comp=N,260μm,0.9s							
ZKR				AML		AML	12 48 41.6	
	comp=E,776μm,0.9s							
DAT	**Datca**	**1.28**	**356**	P		Pn	12 48 07.8	-0.6
DAT	**Datca**	**1.28**	**356**	PN		Pg	12 48 09.9	+1.3
DAT				SN		Sn	12 48 27.6	+1.8
DAT	**Datca**	**1.28**	**356**	*i* P		Pg	12 48 09.1	+0.5
DAT				*i* S		Sn	12 48 25.6	-0.2
DAT				IAML			12 48 32.0	
	comp=N,50nm,0.8s							
DALY	**Dalyan (Mula)**	**1.57**	**29**	PN		Pb	12 48 13.4	+0.1
DALY	**Dalyan (Mula)**	**1.57**	**29**	*i* P		Pb	12 48 13.5	+0.1
DALY				*i* S		Sg	12 48 37.1	+2.5
DALY				IAML			12 48 39.0	
	comp=E,46nm,0.6s							
DALY				IAML			12 48 46.0	
	comp=N,84nm,0.8s							
FETY	**Fethiye**	**1.64**	**43**	P		Pg	12 48 15.3	-0.1
FETY	**Fethiye**	**1.64**	**43**	PN		Pb	12 48 13.9	-0.6
FETY	**Fethiye**	**1.64**	**43**	*i* P		Pb	12 48 14.8	+0.3
FETY				*i* S		Sg	12 48 38.4	+1.7
BODT	**Bodrum**	**1.64**	**349**	PN		Pb	12 48 14.9	+0.4
NPS	**Neapolis**	**1.71**	**264**	P		Pg	12 48 18.7	+2.0
AKAS	**Kas**	**1.74**	**63**	PN		Pn	12 48 14.8	+0.1
AKAS	**Kas**	**1.74**	**63**	*i* P		Pb	12 48 16.3	0.0
AKAS				*i* S		Sg	12 48 40.6	+0.6
AKAS				IAML			12 48 48.0	
	comp=E,29nm,1.3s							
YER	**Yerkesik**	**1.75**	**16**	PN		Pb	12 48 16.3	-0.1
YER				SN		Sb	12 48 38.7	+0.1
LAST	**Lasithi**	**1.83**	**262**	P		Pg	12 48 21.4	+2.3
MLSB	**Milas**	**1.84**	**2**	PN		Pb	12 48 17.8	-0.2
CAME	**Cameli-Denizli**	**1.98**	**41**	PN		Pn	12 48 19.1	+1.1
AMGA	**Amorgos Island**	**2.00**	**314**	P		Pb	12 48 21.0	+0.3
SANT	**Santorini**	**2.03**	**298**	P		Pb	12 48 21.3	+0.1
AYDN	**Tasoluk**	**2.21**	**4**	*i* P		Pb	12 48 23.2	-1.2
AYDN				*i* S		Sb	12 48 53.2	+1.3
AYDN				IAML			12 48 56.0	
	comp=N,40nm,0.5s							
AYDN				IAML			12 49 04.0	
	comp=E,31nm,0.6s							
TAVA	**DENIZLI_Tavas**	**2.24**	**26**	*i* P		Pb	12 48 24.1	-0.7
TAVA				*i* S		Sg	12 48 54.9	-1.1
TAVA				IAML			12 48 59.0	
	comp=E,27nm,1.1s							
TAVA				IAML			12 48 59.0	
	comp=N,33nm,0.6s							
GOLH	**Golhisar**	**2.34**	**40**	*i* P		Pb	12 48 25.8	-0.7
GOLH				*i* S		Sn	12 48 52.3	+0.4
GOLH				IAML			12 49 13.0	
	comp=N,26nm,1.1s							
APE	**Apeiranthos**	**2.38**	**313**	P		Pb	12 48 25.6	-1.5
AYDB	**Zeytinkoy-Aydi**	**2.50**	**4**	PN		Pn	12 48 27.1	+2.0

IDC ***24*** *12:50:45.8±1.7, 37°.00N × 105°.11W, h0km, mb1 2.9/3, mb1mx2.9/51, mbtmp2.5/3, ML3.1/3, Error ellipse: s-maj=30.1km s-min=11.3km az=78.0*
ANF ***24*** *12:50:46.3±0.3, 37°.04N × 104°.95W, h1km, ML3.5/17, Error ellipse: s-maj=3.5km s-min=3.0km az=27.0*
NEIC ***24*** *12:50:47.8±2.5, 37°.00N±0°.02 × 104°.92W±0°.05, h5km±1km, mb_Lg3.1/89, ML3.3/71, Error ellipse: s-maj=7.2km s-min=4.0km az=70.0*

ISC 24 12:50:47.9±0.7, 37°.01N±0°.03 × 104°.96W±0°.02, h10km, n85, σ1 °73/92, Colorado

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.46**	**74**	P		**Pg**	**12 50 54.9**	**-2.1**
	baz=258							
T25A				S		**Sg**	**12 51 01.3**	**-1.8**
	baz=258							
T25A	**Trinidad**	**0.46**	**74**	Pg		**Pg**	**12 50 54.9**	**-2.1**
T25A				Sg		**Sg**	**12 51 01.2**	**-1.9**
SDCO	**Great Sand Dun**	**0.85**	**330**	P		**Pg**	**12 51 01.9**	**-2.5**
SDCO	baz=148			S		**Sg**	**12 51 13.6**	**-1.9**
	baz=148							
SDCO	**Great Sand Dun**	**0.85**	**330**	Pg		**Pg**	**12 51 02.0**	**-2.4**
SDCO				Sg		**Sg**	**12 51 13.6**	**-1.9**
SDCO				IAmb_Lg			12 51 15.8	
	comp=Z,160nm,1.1s							
S22A	**4UR Ranch, Cre**	**1.66**	**297**	P		**Pn**	**12 51 16.8**	**-0.6**
	baz=115							
S22A				S		**Sn**	**12 51 38.7**	**-0.1**
	baz=115							
S22A	**4UR Ranch, Cre**	**1.66**	**297**	Pn		**Pn**	**12 51 16.8**	**-0.6**
S22A				Sn		**Sn**	**12 51 38.9**	**0.0**
S22A				IAML			12 51 41.8	
	comp=N,240nm,0.1s							
Q24A	**Divide**	**1.96**	**356**	Pb		**Pn**	**12 51 22.2**	**+0.7**
	baz=175,SNR=19							
Q24A				Sb		**Sn**	**12 51 47.9**	**+1.7**
	baz=175							
Q24A	**Divide**	**1.96**	**356**	Pn		**Pn**	**12 51 22.2**	**+0.7**
Q24A				Sn		**Sn**	**12 51 48.0**	**+1.7**
Q24A				IAML			12 51 49.4	
	comp=E,164nm,0.3s							
ANMO	**Albuquerque**	**2.39**	**211**	Pn		**Pn**	**12 51 27.1**	**-0.2**
	comp=E,0.9nm,0.3s,baz=32,slow=18,SNR=28							
ANMO				Lg		Lg	12 51 58.4	
	comp=E,17nm,0.3s,baz=258,slow=18,SNR=28							
ANMO	**Albuquerque**	**2.39**	**211**	P		**Pn**	**12 51 26.8**	**-0.5**
	baz=30							
ANMO				S		**Sb**	**12 51 58.7**	**-2.1**
	baz=30							
ANMO	**Albuquerque**	**2.39**	**211**			**Pn**	**12 51 26.6**	**-0.7**
ANMO				Sn		**Sn**	**12 51 58.0**	**+1.2**
KSCO	**Kaye Shedlock'**	**2.72**	**42**	P		**Pn**	**12 51 33.3**	**+1.5**
	baz=224							
KSCO				Sb		**Sb**	**12 52 10.2**	**0.0**
	baz=224							
KSCO	**Kaye Shedlock'**	**2.72**	**42**	Pn		**Pn**	**12 51 32.3**	**+0.5**
KSCO				IAmb_Lg			12 52 15.5	
	comp=Z,83nm,0.9s							
ISCO	**Idaho Springs**	**2.83**	**350**	Pb		**Pn**	**12 51 35.6**	**+2.1**
	baz=169							
ISCO				Sb		**Sb**	**12 52 14.0**	**+0.4**
	baz=169							
ISCO	**Idaho Springs**	**2.83**	**350**	Pn		**Pn**	**12 51 34.4**	**+0.9**
MVCO	**Mesa Verde**	**2.83**	**275**	Pn		**Pn**	**12 51 34.6**	**+1.1**
	baz=92,SNR=118							
MVCO				Pb		**Pb**	**12 51 38.1**	**-0.6**
	baz=92							
MVCO				Sb		**Sb**	**12 52 14.6**	**+1.1**
	baz=92							
MVCO	**Mesa Verde**	**2.83**	**275**	Pn		**Pn**	**12 51 34.7**	**+1.2**
MVCO				IAML			12 52 19.6	
	comp=Z,145nm,0.7s							
MVCO				IAML			12 52 21.2	
	comp=Z,126nm,0.7s							
MVCO				IAmb_Lg			12 52 21.6	
	comp=Z,65nm,0.9s							
PV01	**Paradox Valley**	**3.08**	**292**	Pn		**Pn**	**12 51 37.7**	**+0.9**
PV01				IAML			12 52 29.0	
	comp=E,106nm,0.8s							
PV01				IAML			12 52 31.1	
	comp=N,65nm,0.9s							
PV15	**Paradox Valley**	**3.09**	**297**	Pn		**Pn**	**12 51 37.0**	**0.0**
PV15				IAmb_Lg			12 52 30.3	
	comp=Z,76nm,0.8s							
PV15				IAML			12 52 32.1	
	comp=N,102nm,1.0s							
PV15				IAML			12 52 41.7	
	comp=E,80nm,1.0s							
BNM	**Barren Site**	**3.16**	**206**			**Pn**	**12 51 37.1**	**-0.9**
PV02	**Paradox Valley**	**3.23**	**293**	Pn		**Pn**	**12 51 40.5**	**+1.7**
PV02				IAML			12 52 35.5	
	comp=N,119nm,1.3s							
PV02				IAmb_Lg			12 52 36.2	
	comp=Z,45nm,0.8s							
PV02				IAML			12 52 36.4	
	comp=E,65nm,0.7s							
PV07	**Paradox Valley**	**3.25**	**297**	Pn		**Pn**	**12 51 39.2**	**0.0**
PV07				IAmb_Lg			12 52 38.9	
	comp=Z,37nm,1.0s							
PV13	**Radium Mtn., P**	**3.27**	**292**	Pn		**Pn**	**12 51 40.8**	**+1.3**
PV13				IAmb_Lg			12 52 39.6	
	comp=Z,73nm,1.0s							
PV13				IAML			12 52 47.0	
	comp=N,84nm,1.2s							
PV13				IAML			12 52 49.3	
	comp=E,65nm,1.5s							
LENM	**Lemitar**	**3.28**	**211**	Pn		**Pn**	**12 51 38.9**	**-0.6**
PV12	**Saucer Basin,**	**3.31**	**294**	Pn		**Pn**	**12 51 40.3**	**+0.3**
PV12				IAmb_Lg			12 52 41.4	
	comp=Z,88nm,0.9s							
PV03	**Paradox Valley**	**3.32**	**293**	Pn		**Pn**	**12 51 40.2**	**0.0**
PV03				IAML			12 52 43.1	
	comp=E,71nm,1.1s							
PV03				IAmb_Lg			12 52 43.4	
	comp=Z,65nm,1.0s							
PV03				IAML			12 52 46.3	
	comp=N,59nm,1.2s							
Y22D	**IRIS PASSCAL I**	**3.34**	**209**	P		**Pn**	**12 51 41.1**	**+0.8**
	baz=28							
Y22D				Sb		**Sb**	**12 52 29.7**	**+1.7**
	baz=28							
Y22D	**IRIS PASSCAL I**	**3.34**	**209**	Pn		**Pn**	**12 51 39.7**	**-0.6**
Y22D				IAmb_Lg			12 52 37.3	
	comp=Z,51nm,0.8s							
Y22D				IAML			12 52 38.0	
	comp=N,120nm,0.6s							
PV11	**David Mesa, Pa**	**3.36**	**294**	Pn		**Pn**	**12 51 42.2**	**+1.5**
PV18	**Skein Mesa, Pa**	**3.37**	**293**			**Pn**	**12 51 41.5**	**+0.8**
PV18				IAML			12 52 44.0	
	comp=N,66nm,1.1s							
PV18				IAmb_Lg			12 52 45.3	
	comp=Z,62nm,1.2s							
PV22	**Blue Mesa, Par**	**3.39**	**298**	Pn		**Pn**	**12 51 42.8**	**+1.7**
PV22				IAmb_Lg			12 52 37.9	
	comp=Z,37nm,0.8s							
PV22				IAML			12 52 38.4	
	comp=N,66nm,1.0s							
PV22				IAML			12 52 40.3	
	comp=E,39nm,1.1s							
PV16	**Nyswonger Mesa**	**3.39**	**294**	Pn		**Pn**	**12 51 42.3**	**+1.1**
PV16				IAmb_Lg			12 52 44.1	
	comp=Z,62nm,1.0s							
PV16				IAML			12 52 44.2	
	comp=E,76nm,1.2s							
PV16				IAML			12 53 02.4	
	comp=N,95nm,1.1s							
AMTX	**Amarillo**	**3.41**	**128**	Pn		**Pn**	**12 51 40.9**	**-0.3**
	baz=310							
AMTX				Pb		**Pb**	**12 51 48.5**	**+0.1**
	baz=310							
AMTX				Sb		**Sb**	**12 52 30.6**	**+0.7**
	baz=310							
AMTX	**Amarillo**	**3.41**	**128**	Pn		**Pn**	**12 51 40.5**	**-0.7**
AMTX				IAmb_Lg			12 52 39.0	
	comp=Z,61nm,0.9s							
PV17	**East Wray Mesa**	**3.42**	**293**	Pn		**Pn**	**12 51 42.9**	**+1.5**
PV17				IAmb_Lg			12 52 43.9	
	comp=Z,37nm,0.8s							
PV17				IAML			12 52 48.9	
	comp=N,51nm,1.2s							
PV17				IAML			12 52 51.0	
	comp=E,44nm,1.1s							
PV19	**Morning Glory**	**3.44**	**293**			**Pn**	**12 51 43.1**	**+1.2**
PV19				IAML			12 52 49.5	
	comp=N,43nm,1.3s							
PV05	**Paradox Valley**	**3.46**	**289**	Pn		**Pn**	**12 51 42.9**	**+0.9**
PV14	**Lion Creek, Pa**	**3.50**	**294**	Pn		**Pn**	**12 51 43.5**	**+0.9**
PV14				IAmb_Lg			12 52 46.0	
	comp=Z,81nm,1.2s							
PV10	**Paradox Valley**	**3.51**	**294**			**Pn**	**12 51 44.8**	**+2.0**
PV10				IAmb_Lg			12 52 43.6	
	comp=Z,39nm,1.0s							
PV10				IAML			12 52 47.8	
	comp=E,42nm,0.9s							
PV10				IAML			12 52 53.2	
	comp=N,56nm,1.1s							
MSTX	**Muleshoe**	**3.52**	**149**	Pb		**Pb**	**12 51 50.4**	**0.0**
	baz=331,SNR=7.3							
MSTX				Sb		**Sb**	**12 52 33.8**	**+0.5**
	baz=331							
MSTX	**Muleshoe**	**3.52**	**149**	IAmb_Lg			12 52 42.2	
	comp=Z,47nm,0.9s							
O20A	**White River Ci**	**4.04**	**322**	P		**Pn**	**12 51 52.1**	**+2.0**
	baz=139							
O20A				S		**Sn**	**12 52 41.8**	**+4.2**
	baz=139							
O20A	**White River Ci**	**4.04**	**322**	Pn		**Pn**	**12 51 51.8**	**+1.7**
O20A				IAML			12 53 06.5	
	comp=N,33nm,3.1s							
O20A				IAML			12 53 11.1	
	comp=E,36nm,2.2s							
W18A	**Petrified Fore**	**4.30**	**245**	Pb		**Pb**	**12 52 04.2**	**+0.4**
	baz=62,SNR=8.2							
W18A	**Petrified Fore**	**4.30**	**245**			**Pn**	**12 51 53.7**	**+0.1**
W18A				IAML			12 53 08.7	
	comp=N,32nm,1.3s							
W18A				IAML			12 53 17.1	
	comp=E,28nm,1.2s							
PHWY	**Pilot Hill**	**4.30**	**355**	Pn		**Pn**	**12 51 56.7**	**+3.0**
CBKS	**Cedar Bluff**	**4.51**	**65**	P		**Pn**	**12 51 56.2**	**-0.1**
	baz=248							
CBKS				Sb		**Sb**	**12 53 03.8**	**+2.2**
	baz=248							
CBKS	**Cedar Bluff**	**4.51**	**65**			**Pb**	**12 52 08.2**	**+1.0**
CBKS				IAmb_Lg			12 53 16.0	
	comp=Z,30nm,0.8s							
U32A	**Winter Ranch,**	**4.83**	**96**			**Pn**	**12 52 01.5**	**+0.8**
U32A				IAmb_Lg			12 53 26.6	
	comp=Z,46nm,0.8s							
SRU	**San Rafael Swe**	**4.86**	**297**	Pn		**Pn**	**12 52 02.0**	**+0.7**
RWWY	**Rawlins**	**4.99**	**340**	IAmb_Lg			12 53 32.1	
	comp=Z,24nm,1.3s							
121A	**Cookes Peak, D**	**5.03**	**208**	P		**Pn**	**12 52 03.6**	**-0.1**
	baz=26							
121A				Sb		**Sb**	**12 53 21.7**	**+4.8**
	baz=26							
121A	**Cookes Peak, D**	**5.03**	**208**			**Pn**	**12 52 03.4**	**-0.2**
121A				IAML			12 53 35.1	
	comp=E,14nm,0.8s							
121A				IAML			12 53 39.1	
	comp=N,16nm,0.8s							
RDMU	**Red Mountain**	**5.06**	**316**	Pn		**Pn**	**12 52 04.4**	**+0.3**
R32A	**Long Quarter,**	**5.15**	**72**	IAmb_Lg			12 53 34.0	
	comp=Z,31nm,0.8s							
P17A	**Butcher Ranch,**	**5.17**	**300**	Pn		**Pn**	**12 52 08.0**	**+2.5**
Q16A	**Castle Valley**	**5.26**	**293**	Pn		**Pn**	**12 52 07.6**	**+0.8**
MNTX	**Cornudas Mount**	**5.31**	**184**	Pb		**Pb**	**12 52 20.6**	**-0.2**
	baz=3.7,SNR=15							
MNTX				Sb		**Sb**	**12 53 29.3**	**+4.6**
	baz=3.7							
MNTX	**Cornudas Mount**	**5.31**	**184**			**Pn**	**12 52 04.8**	**-2.5**
MNTX				IAML			12 53 39.7	
	comp=Z,13nm,1.1s							
MNTX				IAML			12 53 51.1	
	comp=Z,13nm,1.2s							
WUAZ	**Wupatki**	**5.39**	**256**	P		**Pn**	**12 52 09.3**	**+0.8**
	baz=72							
WUAZ	**Wupatki**	**5.39**	**256**			**Pn**	**12 52 09.5**	**+1.0**
TMUT	**Trail Mountain**	**5.42**	**297**	Pn		**Pn**	**12 52 10.3**	**+1.1**
WMOK	**Wichita Mounta**	**5.51**	**112**	Sb		**Sb**	**12 53 34.8**	**+4.4**
	baz=297							
WMOK	**Wichita Mounta**	**5.51**	**112**	IAmb_Lg			12 53 52.0	
	comp=Z,33nm,1.0s							
CROK	**Carrier**	**5.63**	**93**	Pn		**Pn**	**12 52 09.1**	**-2.6**
CROK				IAmb_Lg			12 53 55.5	
	comp=Z,45nm,0.8s							
MSU	**Marysvale**	**5.91**	**287**	Pn		**Pn**	**12 52 19.4**	**+3.7**
MVU	**Marysvale**	**5.93**	**287**	Pn		**Pn**	**12 52 19.5**	**+3.4**
TCRU	**Three Creeks R**	**6.14**	**287**	Pn		**Pn**	**12 52 20.8**	**+1.9**
OK029	**Liberty Lake**	**6.18**	**99**	IAmb_Lg			12 54 15.1	
	comp=Z,24nm,0.8s							
X34A	**Smith Ranch, M**	**6.27**	**110**	IAmb_Lg			12 54 16.3	
	comp=Z,35nm,1.2s							
PDAR	**Pinedale Array**	**6.75**	**330**	Pn		**Pn**	**12 52 28.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=137,slow=14,SNR=2.3							
PDAR				Lg		Lg	12 54 15.3	
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=2.2							
T35A	**Sooner Cattle**	**6.77**	**88**	IAmb_Lg			12 54 30.9	
	comp=Z,35nm,1.1s							
KSU1	**Kansas State U**	**6.91**	**70**	IAmb_Lg			12 54 35.5	
	comp=Z,29nm,1.0s							
N33A	**J Bar K, Exete**	**6.94**	**55**	IAmb_Lg			12 54 38.5	
	comp=Z,34nm,1.1s							
RSSD	**Black Hills**	**7.14**	**5**	IAmb_Lg			12 54 52.7	
	comp=Z,12nm,1.1s							
Z35A	**Perchaven, San**	**7.30**	**118**	IAmb_Lg			12 54 43.3	
	comp=Z,35nm,1.1s							
TX31	**Lajitas Ar. Si**	**7.73**	**172**	Pn		**Pn**	**12 52 38.0**	**-2.7**
TX32	**Lajitas Array**	**7.73**	**172**	Pn		**Pn**	**12 52 38.1**	**-2.6**
TXAR	**Lajitas Array**	**7.73**	**172**	Pn		**Pn**	**12 52 40.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=0.7,slow=11,SNR=6.4							
TXAR				Pg		**Pb**	**12 53 00.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=352,slow=12,SNR=5.8							
TXAR				Lg		Lg	12 54 45.2	
	comp=Z,0.4nm,0.3s,baz=359,slow=23,SNR=3.8							
TXAR	**Lajitas Array**	**7.73**	**172**	Pn		**Pn**	**12 52 39.2**	**-1.5**
U38A	**Gravette**	**8.51**	**91**	IAmb_Lg			12 55 17.7	
	comp=Z,22nm,1.0s							
SUSD	**Miller**	**8.71**	**30**	IAmb_Lg			12 55 45.6	
	comp=Z,23nm,0.7s							
MIAR	**Mount Ida**	**9.57**	**102**	IAmb_Lg			12 55 55.5	
	comp=Z,14nm,0.8s							
U40A	**Yellville**	**9.75**	**90**	IAmb_Lg			12 55 57.0	
	comp=Z,23nm,1.0s							
NVAR	**Mina Array Bea**	**10.66**	**282**	Pg		Pn	12 54 07.3	+46
	comp=Z,0.1nm,0.3s,baz=119,slow=16,SNR=2.2							

IDC ***24*** *12:55:51.2±1.0, 1°.09S × 24°.40W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/33, mbtmp3.9/8, ML4.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/30, Error ellipse: s-maj=34.9km s-min=23.8km az=151.0*
NEIC ***24*** *12:55:51.8±2.0,

	comp=Z,6.7nm,1.0s					
LPAZ	**La Paz**	**45.59 248**	LR	LR	13 22 45.4	
	comp=Z,29nm,21.0s,baz=101,slow=35					
AC05	**El Transito**	**51.64 233**	P	**P**	**13 04 59.4**	**+0.1**
CO01	**Juntas del Tor**	**51.96 232**	P	**P**	**13 05 00.9**	**-0.9**
CO01			IAmb	IAmb	13 05 23.9	
	comp=Z,5.6nm,1.4s					
LBTB	**Lobatse**	**53.80 120**	P	**P**	**13 05 15.4**	**+0.2**
BOSA	**Boshof**	**54.71 125**	P	**P**	**13 05 21.6**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=294,slow=8.3,SNR=3.2					
BOSA	**Boshof**	**54.71 125**	P	**P**	**13 05 21.4**	**-0.5**
BRTR	**Keskin Array B**	**66.72 45**	P	**P**	**13 06 44.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=248,slow=8.1,SNR=3.7					
TX31	**Lajitas Ar. Si**	**81.14 300**	P	**P**	**13 08 07.4**	**-0.9**
TX32	**Lajitas Array**	**81.14 300**	P	**P**	**13 08 07.2**	**-1.1**
TXAR	**Lajitas Array**	**81.14 300**	P	**P**	**13 08 10.3**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=93,slow=13,SNR=5.2					
TXAR	**Lajitas Array**	**81.14 300**	P	**P**	**13 08 07.2**	**-1.0**
STKA	**Stephens Creek**	**144.62 159**	PKP	**PKPdf**	**13 15 29.8**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=227,slow=2.4,SNR=11					
ASAR	**Alice Springs**	**147.60 141**	PKPbc	**PKPbc**	**13 15 38.2**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=212,slow=2.4,SNR=17					
WRA	**Warramunga Arr**	**150.50 136**	PKPbc	**PKiKP**	**13 15 45.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=241,slow=1.9,SNR=6.8					

*JMA **24** 12:59:22.1±0.2,25°.00N×122°.89E, h19km±3km, M2.6*
*IDC **24** 12:59:23.5±1.3,24°.49N×121°.91E, h0km, mb3.7/4,*
mb1 3.8/5, mb1mx3.5/45, mbtmp3.7/5, ML2.8/1, Error
ellipse: s-maj=69.5km s-min=21.6km az=67.0
*NEIC **24** 12:59:23.8±1.0, 24°.91N±0°.06×122°.84E±0°.06, h24km±4km,*
mb4.2/4, Error ellipse: s-maj=8.8km s-min=7.8km
az=179.0

ISC 24 12:59:23.6±1.5,**24°.88N**±0°.06×**122°.87E**±0°.03,**h17**km±10km,
n30,σ0°**.96**/39,**mb4.0**/7,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**171**	P	**Pg**	**12 59 32.7**	**+0.3**
JYNG				*e*S	**Sb**	**12 59 40.4**	**+1.4**
YOJ	**Yonaguni jima**	**0.44**	**163**	P	**Pg**	**12 59 32.8**	**+0.3**
YOJ				*e*S	**Sb**	**12 59 40.3**	**+1.2**
YOJ	**Yonaguni jima**	**0.44**	**163**		**Pg**	**12 59 32.8**	**+0.3**
YOJ				Sg	**Sb**	**12 59 40.1**	**+1.1**
IRIF	**Iriomote-Funau**	**0.95**	**125**	P	**Pb**	**12 59 40.7**	**-0.9**
IRIF				S	**Sb**	**12 59 54.0**	**+0.1**
HATJ	**Hateruma jima**	**1.18**	**134**	P	**Pn**	**12 59 45.2**	**-0.1**
JKRS	**Kuro-shima**	**1.22**	**122**	P	**Pn**	**12 59 44.8**	**-1.0**
JKRS				*e*S	**Sb**	**13 00 01.3**	**-0.3**
JIJ	**Ishigaki jima**	**1.27**	**114**	P	**Pn**	**12 59 45.3**	**-1.2**
JISG	**Ishigakijimahi**	**1.34**	**102**	P	**Pn**	**12 59 46.3**	**-1.2**
JISG				S	**Sn**	**13 00 04.3**	**-0.6**
NACB	**Ninganchiao**	**1.36**	**239**		**Pn**	**12 59 46.9**	**-0.8**
NACB				Sn	**Sb**	**13 00 05.3**	**-0.3**
YHNB	**Yeheng**	**1.38**	**261**		**Pn**	**12 59 47.4**	**-0.7**
YHNB				Sn	**Sn**	**13 00 04.9**	**-0.9**
SSLB	**Suanglung**	**2.06**	**238**		**Pn**	**12 59 57.0**	**-0.5**
YULB	**Yu-li**	**2.06**	**224**		**Pn**	**12 59 56.4**	**-1.1**
YULB				Sn	**Sn**	**13 00 21.8**	**-1.0**
TPUB	**Ta-pu**	**2.58**	**233**		**Pn**	**13 00 03.5**	**-1.1**
TWG	**Pinlang**	**2.63**	**219**		**Pn**	**13 00 04.9**	**-0.3**
KNMB	**Chin-men Tao**	**4.10**	**265**	Pn	**Pn**	**13 00 25.5**	**+0.1**
JMZ	**Minamidaito 2**	**7.61**	**81**	Pn	**Pn**	**13 01 13.6**	**-0.1**
JSU	**Suzuyama**	**9.39**	**44**	Pn	**Pn**	**13 01 38.0**	**-0.2**
JNU	**Nakatsue**	**10.79**	**39**	Pn	**Pn**	**13 01 56.8**	**-0.6**
JTU	**Tsushima**	**11.15**	**29**	Pn	**Pn**	**13 02 01.5**	**-0.7**
JMN	**Monobe**	**13.03**	**45**	Pn	**Pn**	**13 02 27.3**	**-0.6**
KSRS	**Korea Array**	**13.25**	**18**	Pn	**P**	**13 02 42.5**	**+1.8**
	0.1nm,0.3s,baz=183,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**38.92 315**		P	**P**	**13 06 49.0**	**+0.6**
	1.0nm,0.8s,baz=112,slow=9.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**40.51 326**		P	**P**	**13 07 01.3**	**-0.2**
	0.3nm,0.3s,baz=116,slow=10,SNR=3.5						
WRAB	**Tennant Creek**	**45.92 165**		P	**P**	**13 07 43.7**	**-1.9**
WRAB				IAmb	IAmb	13 07 51.8	
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Arr**	**45.93 165**		P	**P**	**13 07 46.2**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=346,slow=8.6,SNR=7.5						
WRA	**Warramunga Arr**	**45.93 165**		P	**P**	**13 07 45.9**	**+0.3**
WB2	**Warramunga Arr**	**45.94 165**		P	**P**	**13 07 44.4**	**-1.2**
WB2				IAmb	IAmb	13 07 47.0	
	comp=Z,3.2nm,0.9s						
WR0	**Warramunga Arr**	**46.00 165**		P	**P**	**13 07 46.3**	**+0.2**
WR0				IAmb	IAmb	13 07 47.9	
	comp=Z,2.5nm,0.9s						
ASAR	**Alice Springs**	**49.43 167**		P	**P**	**13 08 14.8**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=354,slow=6.8,SNR=3.4						
ASAR	**Alice Springs**	**49.43 167**		P	**P**	**13 08 13.9**	**+1.1**

*ATH **24** 13:20:53.5, 36°.42N×28°.95E, h41km±2km, ML3.4/4, Error*
ellipse: s-maj=4.1km s-min=1.2km az=179.0, ML
Amplitudes are expressed in micrometers
*ISK **24** 13:20:53.5, 36°.46N×28°.94E, h22km, ML3.5/23*
*DDA **24** 13:20:53.7, 36°.46N×28°.92E, h26km, MW3.6*
*NIC **24** 13:20:53.6±0.0, 36°.31N×28°.94E, h60km±3km, Ml3.5/2*
*THE **24** 13:20:54.7, 36°.41N×28°.93E, h10km±1km, ML3.2/3, Error*
ellipse: s-maj=1.8km s-min=0.6km az=91.0
*GII **24** 13:20:56.9±0.0, 35°.97N×29°.43E, h1km*

ISC 24 13:20:53.0±0.9,**36°.36N**±0°.03×**28°.97E**±0°.02,**h26**km±8km,
n107,σ1°**52**/144,**3C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**18**	P	**Pb**	**13 21 00.0**	**+0.1**
FETY				S	**Sb**	**13 21 04.7**	**+0.1**
FETY	**Fethiye**	**0.29**	**18**	PG	**Pb**	**13 20 59.4**	**-0.5**
FETY	**Fethiye**	**0.29**	**18**	*i* P	**Pb**	**13 20 59.9**	**+0.1**
FETY				*i* S	**Sb**	**13 21 04.7**	**+0.1**
FETY				IAML		13 21 05.0	
	comp=E,5μm,0.5s						
FETY				IAML		13 21 05.0	
	comp=N,6μm,0.4s						
DALY	**Dalyan (Mula)**	**0.52**	**330**	PG	**Pb**	**13 21 03.0**	**-0.6**
DALY				SG	**Sb**	**13 21 09.7**	**-1.1**
DALY	**Dalyan (Mula)**	**0.52**	**330**	*i* P	**Pb**	**13 21 03.0**	**-0.6**
DALY				*i* S	**Sb**	**13 21 09.1**	**-1.7**
DALY				IAML		13 21 12.0	
	comp=E,2μm,0.8s						
DALY				IAML		13 21 12.0	
	comp=N,2μm,0.8s						
AKAS	**Kas**	**0.53**	**104**	PG	**Pn**	**13 21 05.8**	**+0.8**
AKAS	**Kas**	**0.53**	**104**	*i* P	**Pn**	**13 21 05.8**	**+0.8**
AKAS				*i* S	**Sn**	**13 21 15.1**	**+2.0**
AKAS				IAML		13 21 18.0	
	comp=E,2μm,0.4s						
KSL	**Kastellorizon**	**0.54**	**113**	P	**Pn**	**13 21 06.0**	**+1.0**
KSL				S	**Sn**	**13 21 15.5**	**+2.3**
	comp=E,3μm,0.5s						
KSL	**Kastellorizon**	**0.54**	**113**	⇓P	**Pn**	**13 21 05.9**	**+1.0**
KSL				S	**Sn**	**13 21 15.2**	**+2.1**
KSL				AML	AML	13 21 17.5	
	comp=E,4.5nm,0.6s						
KSL				AML	AML	13 21 17.5	
	comp=E,4.5nm,0.6s						
KSL				AML	AML	13 21 20.1	
	comp=E,7.6nm,0.6s						
KSL				AML	AML	13 21 20.1	
	comp=E,7.6nm,0.6s						
KSL	**Kastellorizon**	**0.54**	**113**	P	**Pn**	**13 21 06.0**	**+1.0**
KSL				S	**Sn**	**13 21 15.2**	**+2.1**
KSL				AML	AML	13 21 17.2	
	comp=N,4533μm,0.6s						
KSL				AML	AML	13 21 20.4	
	comp=E,7513μm,0.6s						
CAME	**Cameli-Denizli**	**0.64**	**24**	PG	**Pb**	**13 21 05.3**	**-0.3**
CAME				SG	**Sb**	**13 21 14.1**	**-0.1**
ARG	**Arkhangelos**	**0.70**	**258**	P	**Pn**	**13 21 07.6**	**+0.3**
ARG				S	**Sn**	**13 21 18.5**	**+1.3**
	comp=E,1μm,0.3s						
ARG	**Arkhangelos**	**0.70**	**258**	PG	**Pn**	**13 21 07.4**	**+0.2**
ARG				SG	**Sn**	**13 21 18.3**	**+1.1**
ARG	**Arkhangelos**	**0.70**	**258**	P	**Pb**	**13 21 07.3**	**+0.7**
ARG				S	**Sn**	**13 21 18.6**	**+1.3**
ARG	**Arkhangelos**	**0.70**	**258**	P	**Pn**	**13 21 07.6**	**+0.3**
ARG				S	**Sn**	**13 21 18.5**	**+1.3**
ARG				AML	AML	13 21 21.5	
	comp=E,3012μm,0.3s						
ARG				AML	AML	13 21 22.3	
	comp=N,1914μm,0.2s						
TURN	**Turunc**	**0.72**	**305**	PG	**Pb**	**13 21 06.7**	**-0.1**
TURN	**Turunc**	**0.72**	**305**	*i* P	**Pb**	**13 21 06.7**	**-0.1**
TURN				*i* S	**Sb**	**13 21 16.1**	**-0.2**
TURN				IAML		13 21 17.0	
	comp=N,1μm,0.7s						
TURN				IAML		13 21 21.0	
	comp=E,574nm,0.3s						
DEMR	**Demre-Antalya**	**0.76**	**99**	PG	**Pn**	**13 21 09.5**	**+1.4**
ELL	**Elmali**	**0.84**	**63**	PG	**Pn**	**13 21 09.9**	**+0.5**
ELL	**Elmali**	**0.84**	**63**	P	**Pn**	**13 21 09.9**	**+0.5**
ELL				S	**Sn**	**13 21 23.9**	**+2.8**
YER	**Yerkesik**	**0.95**	**324**	P	**Pb**	**13 21 10.7**	**-0.1**
YER				S	**Sn**	**13 21 24.5**	**+1.0**
YER	**Yerkesik**	**0.95**	**324**	PG	**Pb**	**13 21 10.5**	**-0.3**
GOLH	**Golhisar**	**0.99**	**28**	*i* P	**Pb**	**13 21 11.5**	**-0.1**
GOLH				*i* S	**Sn**	**13 21 25.1**	**+0.4**
GOLH				IAML		13 21 29.0	
	comp=N,2μm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.10**	**357**	*i* P	**Pn**	**13 21 13.0**	**+0.1**
TAVA				*i* S	**Sb**	**13 21 25.8**	**-1.7**
TAVA				IAML		13 21 29.0	
	comp=E,1μm,0.3s						
TAVA				IAML		13 21 29.0	
	comp=N,1μm,0.6s						
AKUM	**Antalya-Kumluc**	**1.11**	**92**	*i* P	**Pb**	**13 21 14.9**	**+1.5**
AKUM				*i* S	**Sn**	**13 21 31.4**	**+4.1**
AKUM				IAML		13 21 33.0	
	comp=E,708nm,0.4s						
AKUM				IAML		13 21 34.0	
	comp=N,1μm,0.5s						
DAT	**Datca**	**1.18**	**288**	P	**Pb**	**13 21 15.7**	**+0.9**
DAT				S	**Sn**	**13 21 30.8**	**+1.5**
DAT	**Datca**	**1.18**	**288**	PN	**Pb**	**13 21 14.6**	**-0.2**
DAT	**Datca**	**1.18**	**288**	*i* P	**Pb**	**13 21 15.2**	**+0.4**
DAT				*i* S	**Sn**	**13 21 30.1**	**+0.8**
DAT				IAML		13 21 33.0	
	comp=E,343nm,0.2s						
DAT				IAML		13 21 33.0	
	comp=N,442nm,0.2s						
KORT	**Korkueli**	**1.28**	**60**	PN	**Pb**	**13 21 16.9**	**+0.5**
KORT	**Korkueli**	**1.28**	**60**	*i* P	**Pb**	**13 21 17.4**	**+1.0**
KORT				*i* S	**Sb**	**13 21 35.5**	**+3.1**
KORT				IAML		13 21 39.0	
	comp=E,889nm,0.6s						
KORT				IAML		13 21 39.0	
	comp=N,540nm,1.1s						
KEMT	**Kemer-ANTALYA**	**1.30**	**79**	PN	**Pb**	**13 21 17.0**	**+0.3**
MLSB	**Milas**	**1.34**	**314**	PN	**Pn**	**13 21 16.7**	**+0.6**
BDRM	**Kayabasi**	**1.42**	**300**	*i* P	**Pb**	**13 21 18.3**	**-0.4**
BDRM				*i* S	**Sb**	**13 21 37.2**	**+0.9**
BDRM				IAML		13 21 40.0	
	comp=E,643nm,0.6s						
NIS1	**Nisyros Isl.**	**1.47**	**280**	PN	**Pn**	**13 21 18.4**	**+0.6**
NIS1	**Nisyros Isl.**	**1.47**	**280**	P	**Pb**	**13 21 19.3**	**-0.3**
NIS1				AML	AML	13 21 42.3	
	comp=N,3068μm,0.6s						
NIS1				AML	AML	13 21 43.0	
	comp=E,4130μm,0.7s						
BODT	**Bodrum**	**1.51**	**298**	P	**Pn**	**13 21 19.3**	**+0.9**
BODT				S	**Sb**	**13 21 38.2**	**-0.8**
BODT	**Bodrum**	**1.51**	**298**	PN	**Pn**	**13 21 19.4**	**+1.0**
NISR	**Nisiros**	**1.51**	**280**	P	**Pn**	**13 21 19.3**	**+1.0**
AYDN	**Tasoluk**	**1.56**	**326**	*i* P	**Pb**	**13 21 20.3**	**-0.9**
AYDN				*i* S	**Sn**	**13 21 37.4**	**-1.3**
AYDN				IAML		13 21 42.0	
	comp=N,231nm,0.2s						
BRDR	**BURDUR-Merkez**	**1.59**	**33**	*i* P	**Pb**	**13 21 21.1**	**-0.7**
BRDR				*i* S	**Sb**	**13 21 41.0**	**-0.4**
BRDR				IAML		13 21 44.0	
	comp=E,229nm,0.9s						
BRDR				IAML		13 21 45.0	
	comp=N,277nm,0.9s						
KARP	**Karpathos**	**1.68**	**242**	P	**Pb**	**13 21 22.7**	**-0.6**
KARP	**Karpathos**	**1.68**	**242**	PN	**Pb**	**13 21 22.9**	**-0.4**
KARP	**Karpathos**	**1.68**	**242**	P	**Pn**	**13 21 22.5**	**+1.7**
BCK	**Bucak**	**1.70**	**49**	PN	**Pn**	**13 21 22.3**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.80**	**332**	PN	**Pn**	**13 21 22.5**	**0.0**
KZIL	**AFYON_Kizioren**	**2.11**	**26**	*i* P	**Pn**	**13 21 27.3**	**+0.6**
MANT	**Manisa**	**2.15**	**351**	*i* P	**Pn**	**13 21 26.9**	**-0.5**
MANT				*i* S	**Sn**	**13 21 48.4**	**-4.9**
KULA	**Kula-Manisa**	**2.16**	**353**	PN	**Pn**	**13 21 27.3**	**-0.1**
SMG	**Samos**	**2.17**	**309**	P	**Pn**	**13 21 28.5**	**+1.0**
SMG				S	**Sn**	**13 21 54.1**	**+0.4**
	comp=N,652nm,0.3s						
SMG	**Samos**	**2.17**	**309**	P	**Pn**	**13 21 28.2**	**+0.7**
SMG				AML	AML	13 21 56.5	
	comp=N,1345μm,0.3s						
SMG				AML	AML	13 21 57.4	
	comp=E,1263μm,0.3s						
BAGO	**Egridir - ISPA**	**2.18**	**41**	*i* P	**Pn**	**13 21 27.8**	**+0.1**
USAK	**Uak-Merkez**	**2.35**	**1**	*i* P	**Pn**	**13 21 30.1**	**+0.1**
USAK				IAML		13 21 50.0	
	comp=E,158nm,1.2s						
USAK				IAML		13 21 52.0	
	comp=N,69nm,1.0s						
DGB	**zmir**	**2.37**	**316**	*i* P	**Pn**	**13 21 30.9**	**+0.7**
DGB				*i* S	**Sn**	**13 21 58.1**	**-0.4**
DGB				IAML		13 22 01.0	
	comp=E,114nm,0.2s						
DGB				IAML		13 22 12.0	
	comp=N,80nm,0.7s						
SEYD	**Seydisehir-KON**	**2.52**	**65**	PN	**Pn**	**13 21 34.6**	**+2.2**
SHUT	**Suhut-Afyon**	**2.52**	**29**	PN	**Pn**	**13 21 33.2**	**+0.8**
AMGA	**Amorgos Island**	**2.52**	**282**	P	**Pn**	**13 21 33.7**	**+1.3**
BLCB	**Balcova**	**2.54**	**323**	P	**Pn**	**13 21 33.7**	**+1.2**
BLCB	**Balcova**	**2.54**	**323**	PN	**Pn**	**13 21 33.0**	**+0.5**
ZKR	**Zakros**	**2.56**	**242**	P	**Pn**	**13 21 34.7**	**+1.8**
ZKR	**Zakros**	**2.56**	**242**	P	**Pn**	**13 21 35.0**	**+2.1**
ANAF	**Anafi Island**	**2.58**	**271**	P	**Pn**	**13 21 33.9**	**+0.8**
GAZI	**Gazipasa**	**2.70**	**92**	PN	**Pn**	**13 21 35.9**	**+1.1**
GAZI	**Gazipasa**	**2.70**	**92**	*i* P	**Pn**	**13 21 35.2**	**+0.4**
URLA	**Izmir**	**2.75**	**317**	PN	**Pn**	**13 21 35.8**	**+0.3**
URLA	**Izmir**	**2.75**	**317**	*i* P	**Pn**	**13 21 37.2**	**+1.7**
GDZ	**Gediz**	**2.75**	**8**	*i* P	**Pn**	**13 21 35.5**	**-0.1**
DOGA	**KONYA_Doganhis**	**2.77**	**50**	*i* P	**Pn**	**13 21 37.9**	**+2.1**
SANT	**Santorini**	**2.84**	**271**	P	**Pn**	**13 21 37.4**	**+0.7**
APE	**Apeiranthos**	**2.85**	**285**	P	**Pn**	**13 21 38.0**	**+1.1**
NPS	**Neapolis**	**2.94**	**249**	P	**Pn**	**13 21 39.4**	**+1.2**
ZEDA	**zmir-Bergama**	**3.00**	**330**	*i* P	**Pn**	**13 21 40.0**	**+1.1**
AKMS	**Akamas**	**3.05**	**115**	⇑P	**Pn**	**13 21 40.0**	**+0.4**
KMER	**Konya-Meram**	**3.06**	**62**	*i* P	**Pn**	**13 21 42.7**	**+3.0**
CHOS	**Chios island**	**3.08**	**312**	P	**Pn**	**13 21 41.0**	**+0.9**
LAST	**Lasithi**	**3.08**	**248**	P	**Pn**	**13 21 41.7**	**+1.5**
TVSB	**Tavsanli**	**3.11**	**7**	PN	**Pn**	**13 21 41.2**	**+0.8**
ALFC	**Alefka**	**3.19**	**111**	P	**Pn**	**13 21 41.7**	**+0.3**
ALFC				AML	AML	13 21 45.9	
	comp=N,0.5nm,0.2s						
ALFC				AML	AML	13 21 47.1	
	comp=N,0.4nm,0.1s						
DURS	**Dursunbey**	**3.26**	**353**	*i* P	**Pn**	**13 21 42.0**	**-0.5**
DURS				IAML		13 22 40.0	
	comp=N,38nm,1.6s						
NATA	**Nata**	**3.33**	**117**	⇓P	**Pn**	**13 21 44.1**	**+0.7**
OSC1	**CSNet OBS 1**	**3.43**	**146**	P	**Pn**	**13 21 45.0**	**+0.2**
OSC1				S	**Sn**	**13 22 24.6**	**+0.1**
IDI	**Anoyia**	**3.49**	**253**	P	**Pn**	**13 21 46.7**	**+1.0**
SZAC	**Souni**	**3.57**	**116**	⇑P	**Pn**	**13 21 47.2**	**+0.5**
GULN	**MERSIN_Gulnar**	**3.70**	**91**	*i* P	**Pn**	**13 21 50.1**	**+1.7**
GULN				IAML		13 22 55.0	
	comp=E,26nm,0.9s						
GULN				IAML		13 22 57.0	
	comp=N,28nm,0.5s						
CSS	**Mathiatis**	**3.81**	**110**	Pn	**Pn**	**13 21 50.5**	**+0.4**
CSS	**Mathiatis**	**3.81**	**110**	P	**Pn**	**13 21 50.9**	**+0.8**
ASGA	**Asgata**	**3.82**	**113**	⇑P	**Pn**	**13 21 50.7**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**3.88**	**331**	*i* P	**Pn**	**13 21 51.4**	**+0.4**
BAYC				IAML		13 23 04.0	
	comp=N,18nm,1.0s						
BAYC				IAML		13 23 04.0	
	comp=E,16nm,0.9s						
VAM	**Vamos**	**3.99**	**258**	P	**Pn**	**13 21 54.2**	**+1.7**
IMMV	**Iera Moni Meta**	**4.15**	**259**	P	**Pn**	**13 21 57.5**	**+2.8**
OSC2	**CSNet OBS 4**	**4.26**	**139**	P	**Pn**	**13 21 56.9**	**+0.8**
KERG	**Konya-Eregli**	**4.26**	**74**	*i* P	**Pn**	**13 21 58.8**	**+2.5**
GULE	**Gulek**	**4.75**	**77**	*i* P	**Pn**	**13 22 08.1**	**+5.1**
GULE				IAML		13 23 21.0	
	comp=N,30nm,0.8s						
GULE				IAML		13 23 24.0	
	comp=E,34nm,0.8s						
DELI	**KIRIKKALE**	**5.32**	**46**	*i* P	**Pn**	**13 22 12.0**	**+1.1**
OFRI	**`Ofer**	**6.21**	**125**	Sn	**Sn**	**13 23 29.6**	**-3.6**
MMA0B	**Mount Meron ar**	**6.26**	**120**	Pn	**Pn**	**13 22 23.7**	**-0.1**
MMA0B				Sn	**Sn**	**13 23 31.3**	**-3.2**
GEM	**Giv'at Ha'Em**	**6.34**	**118**	Pn	**Pn**	**13 22 24.8**	**0.0**
GEM				Sn	**Sn**	**13 23 32.6**	**-3.7**
NATI	**Neve Ativ**	**6.36**	**117**	Pn	**Pn**	**13 22 25.2**	**+0.1**
NATI				Sn	**Sn**	**13 23 34.1**	**-2.8**
MMLI	**Mount Malkishu**	**6.61**	**124**	Pn	**Pn**	**13 22 28.4**	**-0.2**
MMLI				Sn	**Sn**	**13 23 38.7**	**-4.4**
HMDT	**Nahal Hemdat**	**6.80**	**125**	Pn	**Pn**	**13 22 31.3**	**+0.3**
KZIT	**Kziot**	**7.08**	**139**	Pn	**Pn**	**13 22 34.9**	**0.0**
KZIT				Sn	**Sn**	**13 23 50.4**	**-4.1**
YTIR	**Yattir**	**7.14**	**133**	Pn	**Pn**	**13 22 35.7**	**-0.1**
DSI	**Dead Sea**	**7.15**	**130**	Pn	**Pn**	**13 22 35.6**	**-0.3**
PRNI	**Paran**	**7.83**	**138**	Pn	**Pn**	**13 22 45.1**	**-0.2**
PRNI				Sn	**Sn**	**13 24 09.1**	**-4.1**
KRMI	**Paran Flat**	**7.87**	**141**	Pn	**Pn**	**13 22 45.2**	**-0.7**
KRMI				Sn	**Sn**	**13 24 10.1**	**-4.1**
HRFI	**Mount Harif**	**8.10**	**139**	Pn	**Pn**	**13 22 48.8**	**-0.2**
HRFI				Sn	**Sn**	**13 24 15.5**	**-4.2**
MBRI	**Mt Berech**	**8.23**	**141**	Pn	**Pn**	**13 22 50.8**	**0.0**
EIL	**Elat**	**8.35**	**141**	Pn	**Pn**	**13 22 52.5**	**+0.1**

*JMA **24** 13:30:53.7±0.1, 35°.23N×137°.37E, h279km±1km, M3.8*
*NIED **24** 13:30:53.7, 35°.23N×137°.37E, h279km, MW4.0, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^15Nm;
Mrr-0.39; Mθθ0.40; Mφφ-0.01; Mrθ-0.96; Mθφ0.10; Mφr-0.03;
Fault plane solution: M0 1.05000×10^15 NP1:φ=87.00000°,
δ79.00000°, λ-85.00000°. NP2:φ=244.00000°, δ12.00000°,
λ-113.00000°.
*IDC **24** 13:30:54.0±0.5, 35°.19N×137°.32E, h274km±4km, mb3.4/15,*
mb1 3.6/20, mb1mx3.4/51, mbtmp4.0/20 Error ellipse:
s-maj=12.6km s-min=8.0km az=79.0

ISC 24 13:30:54.3±0.6,**35°.23N**±0°.06×**137°.38E**±0°.04,**h274**km±5km,
n48,σ0°**99**/70,**mb3.7**/16,**5C-11D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.11**	**290**	⇓P	**Pn**	**13 31 29.5**	**+0.2**
JAO				S	**S**	**13 31 57.3**	**+0.3**
JNY	**Yasuok**	**0.41**	**72**	⇓P	**Pn**	**13 31 29.8**	**0.0**
JNY				S	**S**	**13 31 57.8**	**0.0**
HMMJ	**Hamamatsu 2**	**0.46**	**143**	⇓P	**Pn**	**13 31 29.9**	**0.0**
HMMJ				S	**S**	**13 31 57.9**	**-0.1**
JYTA	**Yamagatataniai**	**0.64**	**305**	⇑P	**Pn**	**13 31 30.4**	**+0.1**
JYTA				S	**S**	**13 31 58.4**	**-0.4**
JEG	**Eigenji**	**0.82**	**264**	⇓P	**Pn**	**13 31 31.3**	**+0.2**
JEG				S	**S**	**13 32 00.1**	**0.0**
JYN	**Shimob**	**0.98**	**74**	⇓P	**Pn**	**13 31 31.9**	**+0.1**
JYN				*e*S	**S**	**13 32 02.5**	**+0.9**
JIE	**Ise**	**1.00**	**214**	⇓P	**Pn**	**13 31 32.0**	**+0.1**
JIE				S	**S**	**13 32 01.3**	**-0.4**
TK02	**Tokai 2**	**1.31**	**166**	⇓P	**Pn**	**13 31 34.1**	**+0.6**
JKN2	**Miekihoku**	**1.35**	**223**	⇓P	**Pn**	**13 31 33.9**	**0.0**
JKN2				S	**S**	**13 32 04.4**	**-0.8**
JKG	**Kaga**	**1.35**	**321**	⇑P	**Pn**	**13 31 33.9**	**+0.1**
JKG				S	**S**	**13 32 05.0**	**-0.1**
JOD2	**Odawara 2**	**1.40**	**88**	P	**Pn**	**13 31 34.5**	**+0.3**
JRY	**Ryogami san**	**1.47**	**57**	P	**Pn**	**13 31 35.2**	**+0.6**
JRY				*e*S	**S**	**13 32 07.1**	**+0.5**
MJAR	**Matsushiro Arr**	**1.47**	**27**	P	**Pn**	**13 31 34.8**	**+0.1**
	3.1nm,0.3s,baz=209,slow=7.9,SNR=190						
MJAR				S	**S**	**13 32 06.6**	**-0.1**
	0.3nm,0.3s,baz=43,slow=15,SNR=10						
MAT	**Matsushiro**	**1.47**	**27**	P	**Pn**	**13 31 34.7**	**0.0**
MAT				S	**S**	**13 32 06.2**	**-0.4**
MAT	**Matsushiro**	**1.47**	**27**	P	**Pn**	**13 31 34.7**	**0.0**
MAT				S	**S**	**13 32 06.3**	**-0.4**
JWT	**Wachi**	**1.62**	**272**	⇑P	**Pn**	**13 31 35.9**	**+0.1**
JWT				S	**S**	**13 32 07.8**	**-0.8**
JHU	**Hanno**	**1.67**	**68**	P	**Pn**	**13 31 36.1**	**0.0**
JWY	**Kouya**	**1.79**	**236**	⇓P	**Pn**	**13 31 37.1**	**-0.1**
JWY				S	**S**	**13 32 10.1**	**-1.0**
JTNC	**Tanabenakahech**	**2.03**	**227**	⇓P	**Pn**	**13 31 39.0**	**-0.1**
JTNC				*e*S	**S**	**13 32 14.4**	**-0.2**
JAG	**

KRBR				IAML		13 40 49.4	
	comp=N,212nm,0.2s						
KRBR	**Kerman**	**2.21**	**348**	*e*Pn	**Pb**	**13 40 15.1**	**-0.8**
TVBK	**TV Kerman**	**2.21**	**348**	*e*Pn	**Pb**	**13 40 15.6**	**-0.4**
TVBK				*e*		13 40 50.7	
KHGB	**Koh Gabri**	**2.65**	**345**	*e*	Pg	13 41 00.9	+34
MDH	**Madha**	**2.66**	**200**	P	**Pn**	**13 40 19.8**	**+1.2**
MDH	**Madha**	**2.66**	**200**	*e*Pn	**Pn**	**13 40 18.0**	**-0.6**
UOSS	**Minazif**	**3.02**	**199**	P	**Pn**	**13 40 25.3**	**+1.8**
UOSS				S	**Sn**	**13 41 01.8**	**+2.1**
UOSS	**Minazif**	**3.02**	**199**	*e*Pn	**Pn**	**13 40 25.0**	**+1.5**
HATD	**Hatta, Dubai**	**3.15**	**199**	*e*Pn	**Pn**	**13 40 27.1**	**+1.7**
ASHO	**Ashiyiah** SNR=7.6	**3.31**	**200**	P	**Pn**	**13 40 29.2**	**+1.7**
ASHO	**Ashiyiah**	**3.31**	**200**	*e*Pn	**Pn**	**13 40 29.5**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.41**	**207**	*e*Pn	**Pn**	**13 40 30.1**	**+1.1**
ZHSF	**Zahedan**	**3.55**	**59**	*e*Pn	**Pn**	**13 40 33.5**	**+2.5**
ZHSF	**Zahedan**	**3.55**	**59**	*e*Pn	**Pn**	**13 40 33.5**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.63**	**209**	*e*Pn	**Pn**	**13 40 33.7**	**+1.8**
HOQ	**Hoqain**	**4.21**	**180**	P	**Pn**	**13 40 38.4**	**-1.6**
NHDN	**Nehbandan**	**4.30**	**33**	*e*Pn	**Pn**	**13 40 42.9**	**+1.6**
ARQ	**Araqi** SNR=9.7	**4.51**	**189**	P	**Pn**	**13 40 45.2**	**+1.1**
WSAR	**Wadi Sarin** SNR=37	**4.71**	**165**	P	**Pn**	**13 40 45.7**	**-1.2**
SMDO	**Samad**	**4.79**	**172**	P	**Pn**	**13 40 47.3**	**-0.6**
IKOO	**Kooshah**	**4.83**	**18**	*e*Pn	**Pn**	**13 40 49.4**	**+0.7**
BSY	**Bisya**	**5.05**	**181**	P	**Pn**	**13 40 53.0**	**+1.5**

*IDC **24** 13:49:33.6±1.6, 7°.51S×128°.32E, h158km±19km, mb3.3/2, mb1 3.6/7, mb1mx3.3/32, mbtmp4.0/7, Error ellipse: s-maj=24.7km s-min=13.9km az=120.0*

ISC 24 13:49:32.3±0.8, 7°.75S±0°.06×128°.57E±0°.09, h150km, n7, σ3.924/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.43**	**243**	P	**Pn**	**13 50 53.2**	**+1.8**
	12nm,0.3s,baz=276,slow=2.3,SNR=31						
BATI				S	**Sn**	**13 51 51.2**	**-2.0**
	11nm,0.3s,baz=45,slow=11,SNR=3.4						
SIJI	**Sorong**	**7.34**	**22**	P	**Pn**	**13 51 18.7**	**+1.7**
	1.7nm,0.3s,baz=139,slow=9.2,SNR=16						
SIJI				S	**Sn**	**13 52 36.6**	**-2.6**
	1.0nm,0.3s,baz=233,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**10.68**	**195**	P	**Pn**	**13 52 03.0**	**+1.7**
	1.2nm,0.3s,baz=11,slow=10,SNR=34						
FITZ				S	**Sn**	**13 53 55.9**	**-3.6**
	2.1nm,0.3s,baz=116,slow=23,SNR=9.2						
WRA	**Warramunga Arr**	**13.35**	**156**	P	**P**	**13 52 40.7**	**+0.3**
	0.4nm,0.3s,baz=338,slow=13,SNR=23						
WRA				S	**Sn**	**13 54 59.5**	**-4.4**
	1.8nm,0.3s,baz=334,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.64**	**163**	P	**Pn**	**13 53 22.6**	**+5.7**
	0.7nm,0.3s,baz=340,slow=11,SNR=87						
ASAR				S	**S**	**13 56 20.7**	**-1.3**
	0.5nm,0.3s,baz=326,slow=23,SNR=7.1						
MKAR	**Makanchi Array**	**68.08**	**328**	P	**P**	**14 00 14.9**	**-1.0**
	0.2nm,0.4s,baz=117,slow=8.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**71.63**	**334**	P	**P**	**14 00 34.7**	**-2.6**
	0.7nm,0.4s,baz=126,slow=4.4,SNR=3.1						

*REY **24** 13:58:05.9, 64°.67N×17°.45W, h5km*
*IDC **24** 13:58:06.7±0.6, 64°.61N×17°.64W, h0km, mb3.9/16, mb1 4.2/18, mb1mx4.0/42, mbtmp4.0/18, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/32, Error ellipse: s-maj=18.4km s-min=11.8km az=18.0*
*MOS **24** 13:58:06.4±1.0, 64°.60N×17°.58W, h10km, mb4.5/23, Error ellipse: s-maj=14.1km s-min=9.4km az=103.1*
*NEIC **24** 13:58:06.8±2.9, 64°.5N±0°.1×17°.8W±0°.2, h8km±5km, mb4.2/11, Error ellipse: s-maj=20.8km s-min=13.5km az=199.0*
*BGR **24** 13:58:11.3±0.0, 64°.37N×17°.58W, h10km, mb4.2, Ms2.8*

ISC 24 13:58:07.4±0.4, 64°.65N±0°.02×17°.53W±0°.02, h10km, n129, σ1.979/133, mb4.2/41, 10C, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.16**	**26**	P	**Pg**	**13 58 08.8**	**-2.2**
	baz=16						
IDYN				S	**Sg**	**13 58 11.3**	**-2.2**
	baz=16						
IDJK	**Dyngjujokull**	**0.19**	**139**	P	**Pg**	**13 58 09.8**	**-1.8**
	baz=151						
IURH	**Urdarhals**	**0.24**	**44**	P	**Pg**	**13 58 10.1**	**-2.3**
	baz=40						
IURH				S	**Sg**	**13 58 14.0**	**-1.7**
	baz=40						
IGRF	**Grimsfjall**	**0.27**	**155**	P	**Pg**	**13 58 11.2**	**-1.7**
	baz=163						
IHUS	**Husbondi**	**0.36**	**189**	P	**Pg**	**13 58 13.4**	**-1.2**
	baz=194						
IHUS				S	**Sb**	**13 58 19.4**	**-2.3**
	baz=194						
IKVE	**Kverkfjoll**	**0.37**	**85**	P	**Pg**	**13 58 12.5**	**-2.3**
	baz=88						
ISKR	**Skrokkalda**	**0.38**	**257**	P	**Pg**	**13 58 13.5**	**-1.4**
	baz=256						
IVOT	**Vottur**	**0.41**	**158**	P	**Pg**	**13 58 13.8**	**-1.7**
	baz=164						
IJOK	**Jokulheimar**	**0.45**	**222**	P	**Pg**	**13 58 14.7**	**-1.6**
	baz=224						
IJOK				S	**Sb**	**13 58 22.1**	**-2.2**
	baz=224						
IKRE	**Kreppuhraun**	**0.51**	**74**	P	Pg	13 58 14.4	-2.9
	baz=75						
IKRE				S	**Sg**	**13 58 21.4**	**-2.6**
	baz=75						
IASK	**Askja**	**0.55**	**43**	P	Pg	13 58 15.2	-3.0
	baz=41						
IASK				S	**Sg**	**13 58 22.4**	**-3.0**
	baz=41						
IMKO	**Mokollar**	**0.61**	**57**	P	Pg	13 58 16.2	-3.0
	baz=56						
IMKO				S	**Sg**	**13 58 24.7**	**-2.4**
	baz=56						
IIEY	**Innrieyrar**	**0.61**	**205**	P	**Pg**	**13 58 17.3**	**-2.0**
	baz=207						
IIEY				S	**Sb**	**13 58 26.8**	**-2.2**
	baz=207						
IKSK	**Karasker**	**0.67**	**136**	P	**Pg**	**13 58 17.3**	**-3.1**
	baz=140						
IKSK				S	**Sg**	**13 58 26.8**	**-2.4**
	baz=140						
ISVA	**Svartarkot**	**0.70**	**9**	P	Pg	13 58 17.9	-3.0
	baz=6.9						
ISVA				S	**Sg**	**13 58 27.6**	**-2.5**
	baz=6.9						
IKAL	**Kalfafell**	**0.71**	**186**	P	**Pg**	**13 58 19.0**	**-2.1**
	baz=188						
IKAL				S	**Sb**	**13 58 29.7**	**-1.9**
	baz=188						
IVAT	**Vatnsfell**	**0.76**	**233**	P	**Pg**	**13 58 20.5**	**-1.6**
	baz=234						
IVSH	**V-Sauoahnukur**	**0.79**	**78**	P	Pg	13 58 19.1	-3.5
	baz=78						
IVSH				S	**Sg**	**13 58 29.6**	**-3.3**
	baz=78						
IHVE	**Hveravellir**	**0.90**	**285**	P	**Pg**	**13 58 21.7**	**-3.0**
	baz=284						
IHVE				S	**Sg**	**13 58 34.7**	**-1.8**
	baz=284						
IADA	**Aoalbol**	**0.91**	**65**	P	Pg	13 58 21.1	-3.9
	baz=65						
IMEL	**Melhnausar**	**0.99**	**21**	P	Pb	13 58 22.7	-4.0
	baz=20						
IREN	**Reynihlio**	**1.03**	**14**	P	Pb	13 58 23.4	-4.0
	baz=13						
ISNB	**Snabyli**	**1.04**	**208**	P	**Pg**	**13 58 24.6**	**-2.7**
	baz=210						
ISLY	**Slysaalda**	**1.08**	**221**	P	**Pg**	**13 58 25.6**	**-2.6**
	baz=222						
IKVO	**Krokottuvotn**	**1.10**	**14**	P	Pb	13 58 24.5	-4.1
	baz=13						
IFED	**Fedgar**	**1.13**	**237**	P	**Pg**	**13 58 26.6**	**-2.6**
	baz=238						
IRJU	**Rjupnafell**	**1.15**	**206**	P	**Pg**	**13 58 26.6**	**-2.9**
	baz=208						
IGRS	**Grimsstaoir**	**1.16**	**30**	P	Pn	13 58 25.4	-4.2
	baz=29						
IMJO	**Mjoaskard**	**1.18**	**233**	P	**Pg**	**13 58 26.9**	**-3.2**
	baz=234						
ISKI	**Skildingahlsh**	**1.24**	**10**	P	Pn	13 58 26.9	-4.0
	baz=8.2						
ISKI				S	**Sb**	**13 58 43.5**	**-3.5**
	baz=8.2						
IGHA	**Grjothals**	**1.25**	**17**	P	Pn	13 58 26.8	-4.2
	baz=15						
IHVO	**Lagu-Hvolar**	**1.27**	**208**	P	**Pb**	**13 58 28.6**	**-2.8**
	baz=209						
IGRA	**Granastaoir**	**1.27**	**359**	P	Pn	13 58 27.2	-4.0
	baz=358						
IGRA				S	**Sb**	**13 58 44.5**	**-3.3**
	baz=358						
IDIM	**Dimmadalss**	**1.34**	**11**	P	Pn	13 58 28.4	-3.8
	baz=9.2						
IHLA	**Hella**	**1.35**	**345**	P	**Pn**	**13 58 28.9**	**-3.4**
	baz=343						
IALF	**Alftagrof**	**1.37**	**213**	P	**Pn**	**13 58 30.2**	**-2.4**
	baz=214						
IBRE	**Brettingsstaoi**	**1.49**	**354**	P	**Pn**	**13 58 30.7**	**-3.4**
	baz=353						
ISIG	**Siglufjorour**	**1.60**	**339**	P	**Pn**	**13 58 32.7**	**-3.0**
	baz=338						
BORG	**Borgarnes**	**1.63**	**275**	Pn	**Pn**	**13 58 34.1**	**-2.1**
	34nm,0.3s,baz=96,slow=9.2,SNR=61						
BORG				LR	LR	13 58 40.2	
	comp=Z,92nm,19.2s,baz=111,slow=21						
BORG				Sn	**Sg**	**13 58 57.8**	**-2.1**
	16nm,0.3s,baz=210,slow=23,SNR=8.9						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**14 00 54.1**	**-0.8**
	baz=324,slow=13,SNR=6.6						
HFS	**Hagfors**	**15.06**	**93**	Pn	**P**	**14 01 46.6**	**+1.3**
	0.1nm,0.3s,baz=309,slow=16,SNR=5.2						
ARCES	**ARCESS Array B**	**17.14**	**55**	LR	LR	14 08 21.2	
	comp=Z,49nm,19.1s,baz=105,slow=36						
FINES	**FINESS Array B**	**19.72**	**79**	P	**Pn**	**14 02 39.5**	**+1.4**
	0.1nm,0.3s,baz=283,slow=8.3,SNR=3.5						
MOX	**Moxa**		**20.71 119**	*e*P	**P**	**14 02 48.4**	**+0.9**
	17nm,1.4s,baz=322,slow=11						
MOX				*e*L	L	14 14 22.7	
	38nm,19.5s						
CLL	**Collm**		**20.71 116**	P	**P**	**14 02 46.7**	**-0.8**
CLL				pmax	pmax		
	comp=Z,15nm,1.3s						
CLL	**Collm**		**20.71 116**	P	**P**	**14 02 46.7**	**-0.8**
CLL				IAmb	IAmb	14 02 51.5	
	comp=Z,15nm,1.3s						
PLN	**Plauen**		**21.04 118**	*e*P	**P**	**14 02 52.1**	**+1.0**
	comp=Z,15nm,1.2s,baz=322,slow=11						
WERD	**Werda**		**21.13 118**	*e*P	**P**	**14 02 53.6**	**+1.6**
	comp=Z,14nm,1.2s,baz=322,slow=11						
FBE	**Freiberg**		**21.15 116**	*e*P	**P**	**14 02 53.3**	**+1.0**
	comp=Z,9.3nm,1.0s,baz=322,slow=11						
ECH	**Echery**		**21.15 129**	P	**P**	**14 02 53.3**	**+0.9**
ECH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ECH	**Echery**		**21.15 129**	P	**P**	**14 02 53.3**	**+0.9**
GRA1	**Grafenberg Arr**		**21.34 121**	P	**P**	**14 02 55.2**	**+0.9**
GRF	**Grafenberg Arr**		**21.34 121**	P	**P**	**14 02 55.2**	**+0.9**
GRF				pmax	pmax		
	comp=Z,25nm,1.2s						
GRF	**Grafenberg Arr**		**21.34 121**	*e*P	**P**	**14 02 56.6**	**+2.3**
	comp=Z,26nm,1.4s,baz=322,slow=11						
GRF				*e*L	L	14 15 43.9	
	comp=Z,41nm,18.5s						
BRG	**Berggiesshubel**		**21.42 115**	*e*P	**P**	**14 02 55.8**	**+0.6**
	comp=Z,22nm,1.2s						
BRG	**Berggiesshubel**		**21.42 115**	*e*P	**P**	**14 02 55.8**	**+0.6**
BRG				pmax	pmax		
	comp=Z,22nm,1.2s						
BRG	**Berggiesshubel**		**21.42 115**	*e*P	**P**	**14 02 56.2**	**+1.1**
	comp=Z,22nm,1.2s,baz=322,slow=11						
BFO	**Black Forest**		**21.45 127**	P	**P**	**14 02 56.8**	**+1.2**
BFO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BFO	**Black Forest**		**21.45 127**	*e*P	**P**	**14 02 57.3**	**+1.7**
	comp=Z,8.0nm,1.0s,baz=322,slow=11						
BFO	**Black Forest**		**21.45 127**	P	**P**	**14 02 56.8**	**+1.2**
BFO				IAmb	IAmb	14 02 58.3	
	comp=Z,7.4nm,1.0s						
PRU	**Pruhonice**		**22.35 116**	*e*P	**P**	**14 03 07.6**	**+2.4**
PRU	**Pruhonice**		**22.35 116**	*e*P	**P**	**14 03 07.6**	**+2.4**
OSTC	**Ostas**		**22.56 113**	*e*P	**P**	**14 03 10.0**	**+2.6**
KHC	**Kasperske Hory**		**22.68 118**	*e*P	**P**	**14 03 09.7**	**+1.0**
KHC	**Kasperske Hory**		**22.68 118**	*e*P	**P**	**14 03 09.7**	**+1.0**
DPC	**Dobruska-Polom**		**22.77 113**	*e*P	**P**	**14 03 11.4**	**+1.8**
DPC	**Dobruska-Polom**		**22.77 113**	*e*P	**P**	**14 03 11.4**	**+1.8**
GERES	**GERESS Array B**		**22.96 119**	P	**P**	**14 03 13.0**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=310,slow=10,SNR=9.2						
GERES	**GERESS Array B**		**22.96 119**	P	**P**	**14 03 10.7**	**-1.0**
KRLC	**Kraliky**		**23.16 113**	*e*P	**P**	**14 03 14.8**	**+1.0**
KRLC	**Kraliky**		**23.16 113**	*e*P	**P**	**14 03 14.8**	**+1.0**
TUE	**Stuetta**		**23.41 128**	P	**P**	**14 03 17.6**	**+1.2**
VRAC	**Vranov**		**23.70 114**	P	**P**	**14 03 20.6**	**+1.5**
	comp=Z,1.7nm,0.4s,baz=327,slow=13,SNR=3.1						
SMOL	**Smolenice**		**24.67 114**	*e*P	**P**	**14 03 29.6**	**+1.6**
SMOL	**Smolenice**		**24.67 114**	*e*P	**P**	**14 03 29.6**	**+1.6**
VYHS	**Vyhne**		**25.24 112**	*e*P	**P**	**14 03 33.1**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,24nm,1.8s						
VYHS	**Vyhne**		**25.24 112**	*e*P	**P**	**14 03 33.1**	**-0.1**
ESBB	**Sonseca Array**		**26.24 156**	P	**P**	**14 03 41.2**	**-1.2**
ESBB				IAmb	IAmb	14 03 47.7	
	comp=Z,14nm,1.7s						
ESDC	**Sonseca Array**		**26.24 156**	P	**P**	**14 03 44.1**	**+1.7**
	comp=Z,1.9nm,0.9s,baz=351,slow=9.5,SNR=12						
ESDC	**Sonseca Array**		**26.24 156**	P	**P**	**14 03 39.5**	**-3.0**
KOLS	**Kolonicke sedl**		**26.28 108**	*e*P	**P**	**14 03 43.1**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,14nm,1.4s						
KOLS	**Kolonicke sedl**		**26.28 108**	*e*P	**P**	**14 03 43.1**	**+0.5**
OBN	**Obninsk**		**27.90 84**	*i* P	**P**	**14 03 57.2**	**+0.2**
OBN				*i*		14 04 44.3	
OBN				pmax	pmax		
	comp=Z,13nm,1.1s						
KIRV	**Kirov**		**31.00 69**	*ce*P	**P**	**14 04 25.6**	**+1.1**
ARU	**Arti**		**36.10 66**	*i* P	**P**	**14 05 09.7**	**+0.8**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NRIK	**Noril'sk**		**36.48 35**	P	**P**	**14 05 13.6**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=241,slow=5.0,SNR=4.0						
NRIK	**Noril'sk**		**36.48 35**	*ce*P	**P**	**14 05 12.9**	**+0.9**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SOC	**Sochi**		**37.88 96**	*e*P	**P**	**14 05 21.6**	**-2.5**
SOC				*e*		14 06 51.3	
SOC				*e*S	**S**	**14 11 11.8**	**-3.3**
SOC				*e*SS	**SnSn**	**14 13 54.5**	**-1.2**
SOC				*e*SSS	SSS	14 14 18.8	
SOC				MLR	MLR		
	comp=Z,74nm,12.0s						
BRTR	**Keskin Array B**		**38.49 105**	P	**P**	**14 05 31.4**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=329,slow=6.5,SNR=6.0						
KIV	**Kislovodsk**		**38.85 92**	*e*P	**P**	**14 05 33.0**	**+0.5**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
SHA1	**Shidzhatmaz**		**39.02 93**	*i* P	**P**	**14 05 34.7**	**+0.7**
KBZ	**Khabaz**		**39.13 92**	P	**P**	**14 05 35.2**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=307,slow=14,SNR=4.7						
KBZ	**Khabaz**		**39.13 92**	*ce*P	**P**	**14 05 34.7**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**		**42.05 15**	*ce*P	**P**	**14 05 59.2**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,44nm,1.3s						
BRVK	**Borovoye**		**43.15 62**	*ce*P	**P**	**14 06 07.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ILAR	**Eielson Array**		**45.69 332**	P	**P**	**14 06 29.8**	**+1.9**
	comp=Z,1.9nm,1.0s,baz=22,slow=5.9,SNR=13						
ILAR	**Eielson Array**		**45.69 332**	P	**P**	**14 06 29.0**	**+1.2**
COLA	**College**		**45.79 333**	*i* P	**P**	**14 06 30.8**	**+2.3**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BCAR	**Beaver Creek A**		**46.11 329**	P	**P**	**14 06 33.1**	**+1.9**
BILL	**Bilibino**		**47.57 358**	*i* P	**P**	**14 06 45.2**	**+2.8**
BILL				pmax	pmax		
	comp=Z,11nm,1.3s						
ZALV	**Zalesovo Beam**		**47.65 51**	P	**P**	**14 06 44.1**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=334,slow=9.9,SNR=5.6						
KURK	**Kurchatov**		**48.13 58**	*ce*P	**P**	**14 06 48.0**	**+1.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**		**51.29 70**	P	**P**	**14 07 12.4**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KKAR	**Karatay Array**		**51.29 70**	P	**P**	**14 07 12.4**	**+1.2**
KKAR	**Karatay Array**		**51.29 70**	P	**P**	**14 07 12.4**	**+1.2**
KKAR				IAmb	IAmb	14 07 13.7	
	comp=Z,4.8nm,1.2s						
DGZ	**Jazzator, Alta**	**52.10**	**53**	*i* P	**P**	**14 07 18.2**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MAKZ	**Makanchi**	**52.62**	**58**	P	**P**	**14 07 21.1**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
MAKZ	**Makanchi**	**52.62**	**58**	P	**P**	**14 07 21.1**	**+0.1**
MK31	**Makanchi Array**	**52.74**	**58**	*ce*P	**P**	**14 07 23.0**	**+1.0**
MK31	**Makanchi Array**	**52.74**	**58**	P	**P**	**14 07 21.7**	**-0.3**
MKAR	**Makanchi Array**	**52.74**	**58**	P	**P**	**14 07 22.0**	**0.0**
	comp=Z,1.8nm,0.9s,baz=324,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**52.74**	**58**	*ce*P	**P**	**14 07 22.6**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**52.74**	**58**	P	**P**	**14 07 21.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P	**P**	**14 07 24.3**	**-0.8**
	comp=Z,3.0nm,1.2s,baz=339,slow=7.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P	**P**	**14 07 23.5**	**-1.6**
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**14 07 26.2**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=46,slow=6.4,SNR=9.2						
AAK	**Ala-Archa**	**53.28**	**67**	*ce*P	**P**	**14 07 27.9**	**+1.8**
AAK				pmax	pmax		
	comp=Z,34nm,2.5s						
TLY	**Talaya**	**55.42**	**40**	*i* P	**P**	**14 07 43.1**	**+1.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	**58.58**	**165**	P	**P**	**14 08 04.8**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=2.2,slow=10,SNR=3.0						
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**14 08 12.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=328,slow=5.2,SNR=4.0						
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**14 08 12.0**	**+0.6**
ULN	**Ulaanbaatar**	**59.82**	**40**	*ce*P	**P**	**14 08 12.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**14 08 17.7**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=64,slow=6.1,SNR=2.5						
HIA	**Hailar**	**61.65**	**30**	*i* P	**P**	**14 08 26.4**	**+1.5**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**14 08 30.7**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=33,slow=3.0,SNR=7.7						
TXAR				PcP	**PcP**	**14 09 09.5**	**+0.3**
	comp=Z,1.2nm,1.1s,baz=61,slow=5.9,SNR=4.8						
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**14 08 30.4**	**+1.0**
GTA	**Gaotai**	**65.32**	**49**	*e*P	**P**	**14 08 51.0**	**+1.6**
GTA				pP	sP	14 08 58.4	+4.0
GTA				sP	pP	14 09 02.1	+9.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.15**	**59**	P	**P**	**14 10 39.1**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=323,slow=6.4,SNR=9.5						
ASAR	**Alice Springs**	**134.99**	**38**	PKP	**PKPdf**	**14 17 25.5**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=356,slow=2.8,SNR=3.4						

*IDC **24** 14:10:02.2±1.4, 26°.49N×142°.51E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/30, mbtmp3.9/11, ML2.7/1, MS3.1/7, Ms1 3.1/7, ms1mx2.8/35, Error ellipse: s-maj=54.3km s-min=17.3km az=78.0*
*NEIC **24** 14:10:06.8±1.0, 26°.47N±0°.08×142°.1E±0°.2, h23km±7km, mb4.4/6, Error ellipse: s-maj=23.0km s-min=8.4km az=114.0*

ISC 24 14:10:08.1±1.0, 26°.51N±0°.09×142°.3E±0°.2, h35km, n26, σ0.996/23, mb4.0/12, MS3.1/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.59**	**351**	Pn	**Pn**	**14 10 19.5**	**-0.5**
JHJ	**Hachijo jima 2**	**6.94**	**342**	LR	LR	14 14 18.6	
	comp=Z,82nm,19.8s,baz=51,slow=37						
JYT	**Yasato**	**9.85**	**350**	Pn	**Pn**	**14 12 27.4**	**+0.2**
MJAR	**Matsushiro Arr**	**10.59**	**342**	Pn	**Pn**	**14 12 37.2**	**-0.2**
	0.1nm,0.3s,baz=165,slow=10,SNR=2.6						
MJAR				LR	LR	14 16 50.4	
	comp=Z,38nm,21.0s,baz=135,slow=38						
JMM	**Marumori**	**11.39**	**354**	Pn	**Pn**	**14 12 47.5**	**-0.8**
JHS	**Saijyo**	**11.56**	**319**	Pn	**Pn**	**14 12 49.1**	**-1.6**
JNU	**Nakatsue**	**11.89**	**306**	LR	LR	14 17 18.5	
	comp=Z,139nm,19.3s,baz=88,slow=36						
KSRS	**Korea Array**	**16.34**	**315**	LR	LR	14 20 07.2	
	comp=Z,103nm,18.4s,baz=121,slow=37						
SONM	**Songino Array**	**35.20**	**317**	P	**P**	**14 17 00.0**	**+1.0**
	0.2nm,0.3s,baz=129,slow=52,SNR=1.6						
SONM				LR	LR	14 30 29.6	
	comp=Z,38nm,20.0s,baz=54,slow=35						
CMAR	**Chiang Mai Arr**	**40.69**	**268**	P	**P**	**14 17 46.8**	**+1.3**
	0.9nm,0.7s,baz=63,slow=8.0,SNR=7.8						
CMAR				LR	LR	14 34 33.1	
	comp=Z,18nm,18.6s,baz=85,slow=36						
WR0	**Warramunga Arr**	**46.80**	**190**	P	**P**	**14 18 33.9**	**-0.6**
WR0				IAmb	IAmb	14 18 43.8	
	comp=Z,5.8nm,1.1s						
WRAB	**Tennant Creek**	**46.81**	**190**	P	**P**	**14 18 34.6**	**+0.1**
WRAB				IAmb	IAmb	14 18 43.5	
	comp=Z,6.0nm,0.7s						
WB2	**Warramunga Arr**	**46.82**	**190**	P	**P**	**14 18 34.3**	**-0.3**
WRA	**Warramunga Arr**	**46.82**	**190**	P	**P**	**14 18 34.3**	**-0.3**

GCUF	**Volcan Galeras**	**0.78**	**59**	*eP*	Pg	14 57 23.9	-0.4
GCUF				*eS*	Sb	14 57 36.0	-1.4
GCUF				*i*		14 57 41.2	
	comp=Z,90nm,0.4s						
CPAS1	**Pasto**	**0.78**	**62**	*eP*	Pg	14 57 24.5	+0.2
CPAS1	**Pasto**	**0.78**	**62**	*eS*	Sg	14 57 35.1	+0.7
CPAS2	**Pasto**	**0.85**	**63**	*eP*	Pg	14 57 25.3	-0.5
CPAS2	**Pasto**	**0.85**	**63**	*eS*	Sg	14 57 37.1	+0.2
PAC1	**Pacto, Paraso**	**0.96**	**235**	*eP*	Pg	14 57 27.2	-0.6
PAC1				*eS*	Sg	14 57 40.3	+0.1
BBAC	**Balboa, Cauca**	**1.41**	**33**	*eP*	Pg	14 57 35.0	-1.5
BBAC				*eS*	Sg	14 57 53.7	-1.1
BBAC				*i*		14 58 02.3	
	comp=Z,73nm,0.5s						
PUAC	**Puerto Asis, P**	**1.47**	**101**	*eP*	Pn	14 57 36.0	-1.1
PUAC				*eS*	Sg	14 57 56.3	-0.2
PUAC				*i*		14 57 59.2	
	comp=Z,33nm,0.3s						
SOTA	**Rioblanco**	**1.91**	**47**	*eP*	Pg	14 57 46.5	+0.4
SOTA				*eS*	Sg	14 58 15.4	+4.5
POPC	**Popayan, Colom**	**2.16**	**38**	*eP*	Pn	14 57 45.9	-1.0
POPC				*eS*	Sn	14 58 14.6	0.0
POPC				*i*		14 58 32.2	
	comp=Z,13nm,0.6s						
GR1C	**Gorgona, Isla**	**2.17**	**356**	*eP*	Pn	14 57 46.0	-0.7
GR1C				*eS*	Sn	14 58 14.2	-0.2
PCON	**Cinco Dias**	**2.20**	**47**	*eP*	Pg	14 57 53.0	+1.4
PCON				*eS*	Sg	14 58 21.9	+1.8
PCON				*i*		14 58 37.6	
	comp=Z,18nm,0.6s						
FLOC	**Florencia**	**2.47**	**72**	*eP*	Pb	14 57 54.3	-0.5
FLOC				*eS*	Sb	14 58 26.1	+0.2
FLOC				*i*		14 58 36.0	
	comp=Z,19nm,0.6s						
GARC	**Garzon, Huila**	**2.86**	**62**	*eP*	Pb	14 58 01.3	-0.2
GARC				*eS*	Sb	14 58 38.3	+1.2
GARC				*i*		14 58 43.6	
	comp=Z,26nm,0.3s						
YOTC	**Yotoco, Valle**	**3.55**	**28**	*eP*	Pn	14 58 09.3	+3.4
YOTC				*eS*	Sn	14 58 47.7	-1.0
YOTC				*i*		14 59 00.7	
	comp=Z,4.6nm,0.6s						
ORTC	**Ortega, Tolima**	**4.12**	**42**	*eP*	Pb	14 58 19.3	-3.7
ORTC				*eS*	Sb	14 59 09.5	-3.9
PRAC	**Prado**	**4.24**	**47**	*eP*	Pb	14 58 22.9	-2.0
GUY2C	**Guyana, Caldas**	**5.11**	**31**	*eP*	Pn	14 58 33.4	+5.8
GUY2C				*eS*	Sn	14 59 30.8	+3.2
GUY2C				*i*		14 59 51.2	
	comp=Z,2.9nm,0.7s						

*NEIC **24** 15:08:22.9±1.4,5°.1S±0°.2×151°.4E±0°.2, h164km±6km, mb4.1/15, Error ellipse: s-maj=36.1km s-min=10.7km az=125.0*

*IDC **24** 15:08:23.2±0.7,5°.12S×151°.40E, h157km±5km, mb3.5/10, mb1 3.7/11, mb1mx3.5/30, mbtmp4.0/11, Error ellipse: s-maj=32.7km s-min=10.4km az=127.0*

ISC 24 15:08:22.4±0.7,5°.2S±0°.1×151°.4E±0°.1, h150km, n36, σ1§26/42, mb4.0/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.04**	**36**	P	**Pn**	**15 08 49.5**	**+1.9**
	116nm,0.3s,baz=219,slow=0.9,SNR=150						
KRVT				S	**Sn**	**15 09 08.8**	**+2.0**
	58nm,0.3s,baz=250,slow=14,SNR=12						
RABL	**Rabaul**	**1.22**	**38**	Pn	**Pn**	**15 08 50.9**	**+1.7**
RABL				Sn	**Sn**	**15 09 11.6**	**+1.9**
PMG	**Port Moresby**	**5.97**	**225**	P	**Pn**	**15 09 51.2**	**+2.5**
	1.8nm,0.3s,baz=350,slow=1.1,SNR=6.0						
PMG				S	**Sn**	**15 10 57.0**	**+0.8**
	2.2nm,0.3s,baz=158,slow=19,SNR=4.1						
PMG	**Port Moresby**	**5.97**	**225**		**Pn**	**15 09 51.5**	**+2.8**
WB0	**Warramunga Arr**	**22.03**	**227**	P	**P**	**15 13 04.9**	**-0.2**
WB0				IAmb	IAmb	15 13 06.8	
	comp=Z,9.2nm,1.0s						
WR0	**Warramunga Arr**	**22.05**	**227**	P	**P**	**15 13 05.1**	**-0.1**
WR0				IAmb	IAmb	15 13 06.5	
	comp=Z,5.5nm,0.9s						
WRAB	**Tennant Creek**	**22.17**	**227**	P	**P**	**15 13 06.5**	**0.0**
WRAB				IAmb	IAmb	15 13 08.1	
	comp=Z,6.8nm,0.6s						
WB2	**Warramunga Arr**	**22.17**	**227**	P	**P**	**15 13 06.1**	**-0.4**
WB2				IAmb	IAmb	15 13 08.2	
	comp=Z,6.8nm,0.6s						
WRA	**Warramunga Arr**	**22.18**	**227**	P	**P**	**15 13 06.4**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=51,slow=10,SNR=72						
WRA				PcP	**PcP**	**15 16 58.4**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=37,slow=2.0,SNR=5.6						
WRA				ScP	**ScP**	**15 20 20.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=50,slow=2.6,SNR=5.1						
WRA	**Warramunga Arr**	**22.18**	**227**	P	**P**	**15 13 05.5**	**-1.0**
KNRA	**Kununurra**	**24.57**	**243**	P	**P**	**15 13 29.3**	**+0.6**
AS31	**Alice Springs**	**24.96**	**221**	P	**P**	**15 13 33.0**	**+0.8**
ASAR	**Alice Springs**	**24.96**	**221**	P	**P**	**15 13 32.8**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=54,slow=9.0,SNR=113						
ASAR				ScP	**ScP**	**15 20 28.1**	**-0.8**
	comp=Z,0.4nm,1.0s,baz=36,slow=3.2,SNR=4.2						
ASAR	**Alice Springs**	**24.96**	**221**	P	**P**	**15 13 33.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**28.27**	**241**	P	**P**	**15 14 01.6**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=49,slow=6.8,SNR=15						
FITZ	**Fitzroy Crossi**	**28.27**	**241**	P	**P**	**15 14 01.4**	**-0.4**
BBOO	**Buckleboo**	**31.02**	**206**	P	**P**	**15 14 25.6**	**-0.4**
BBOO				IAmb	IAmb	15 14 27.3	
	comp=Z,3.3nm,0.8s						
MORW	**Morawa**	**41.05**	**230**	P	**P**	**15 15 49.3**	**-2.0**
MORW				IAmb	IAmb	15 15 51.2	
	comp=Z,3.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**56.77**	**296**	P	**P**	**15 17 52.5**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=107,slow=5.8,SNR=6.0						
PETK	**Petropavlovsk-**	**58.29**	**4**	P	**P**	**15 18 01.4**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=187,slow=7.3,SNR=1.3						
PETK	**Petropavlovsk-**	**58.29**	**4**	P	**P**	**15 18 01.3**	**+0.1**
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**15 18 52.7**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=142,slow=3.6,SNR=4.4						
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**15 18 51.5**	**-0.7**
CNPM	**China Poot**	**78.64**	**26**	P	**P**	**15 20 07.3**	**-0.1**
BRLK	**Bradley Lake**	**78.91**	**26**	P	**P**	**15 20 06.9**	**-2.1**
MKAR	**Makanchi Array**	**79.68**	**319**	P	**P**	**15 20 12.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=101,slow=6.9,SNR=5.4						
MKAR	**Makanchi Array**	**79.68**	**319**	P	**P**	**15 20 11.7**	**-1.7**
ZALV	**Zalesovo Beam**	**80.68**	**327**	P	**P**	**15 20 16.8**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=100,slow=6.2,SNR=4.1						
IMAR	**Indian Mountai**	**81.18**	**20**	P	**P**	**15 20 20.6**	**-0.4**
RND	**Reindeer**	**81.59**	**23**	P	**P**	**15 20 21.9**	**-1.4**
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**15 20 29.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=249,slow=5.1,SNR=14						
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**15 20 28.9**	**-1.7**
QSPA	**South Pole Qui**	**84.81**	**180**	P	**P**	**15 20 38.8**	**-1.0**
QSPA				IAmb	IAmb	15 20 52.6	
	comp=Z,2.5nm,1.1s						
NVAR	**Mina Array Bea**	**93.39**	**52**	P	**P**	**15 21 22.3**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=251,slow=5.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.09**	**287**	PKPbc	**PKPbc**	**15 27 53.4**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=61,slow=3.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.09**	**287**		**PKPbc**	**15 27 52.9**	**-1.1**

*IDC **24** 15:25:09.2±3.5,4°.98N×95°.08E, h60km±32km, mb3.9/14, mb1 4.0/15, mb1mx3.8/37, mbtmp4.2/15, ML3.9/1, Error ellipse: s-maj=35.1km s-min=14.7km az=51.0*

*NEIC **24** 15:25:12.0±1.4,5°.1N±0°.1×95°.2E±0°.1, h87km±8km, mb4.5/19, Error ellipse: s-maj=19.5km s-min=15.3km az=221.0*

*DJA **24** 15:25:19.3±1.4,5°.N±4°.×9°.6E±°, h23km±6km, M4.0/7, mB4.8/2, mb4.6/1, MLv3.8/7, Mw(mB)4.1/2*

ISC 24 15:25:13.6±0.6,5°.11N±0°.07×95°.37E±0°.07, h100km, n77, σ1§25/78, mb4.4/27, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**1.32**	**129**	P	Pn	15 25 32.9	-4.8
MLSI				S	Sn	15 25 42.6	-13
LHMI	**Lhok Sumawe**	**1.57**	**85**	P	**Pn**	**15 25 40.7**	**-0.1**
LHMI				S	**Sn**	**15 25 56.9**	**-4.5**
LHMI	**Lhok Sumawe**	**1.57**	**85**	Pn	**Pn**	**15 25 40.9**	**+0.1**
TPTI		**2.57**	**135**	P	Pn	15 25 49.0	-4.7
TPTI				S	Sn	15 26 14.2	-10
PSI	**Prapat**	**4.22**	**123**	P	**Pn**	**15 26 15.8**	**-0.1**
	6.1nm,0.3s,baz=353,slow=7.3,SNR=8.4						
PSI				S	**Sn**	**15 27 05.2**	**+1.0**
	3.6nm,0.3s,baz=197,slow=11,SNR=2.2						
RPSI	**Rantau Prapat**	**4.28**	**124**	Pn	**Pn**	**15 26 15.9**	**-0.6**
KULM	**Kulim**	**5.26**	**88**	Pn	**Pn**	**15 26 30.3**	**+0.4**
IPM	**Ipoh**	**5.67**	**96**	Pn	**Pn**	**15 26 34.9**	**-0.5**
MNSI	**Mandailing Nat**	**6.00**	**135**	P	**Pn**	**15 26 37.4**	**-2.5**
CMAR	**Chiang Mai Arr**	**13.72**	**14**	P	**P**	**15 28 28.2**	**-1.0**
	0.9nm,0.3s,baz=210,slow=11,SNR=46						
CMAR	**Chiang Mai Arr**	**13.72**	**14**	P	**P**	**15 28 27.4**	**-1.8**
CHTO	**Chiang Mai**	**14.06**	**14**		**P**	**15 28 33.1**	**0.0**
QIZ	**Qiongzhong**	**19.77**	**44**	P	**Pn**	**15 29 37.3**	**-1.0**
QIZ				S	**Sn**	**15 33 19.3**	**-1.5**
QIZ				LR	LR		
	comp=N,900nm,13.1s						
QIZ				LR	LR		
	comp=E,360nm,14.3s						
QIZ				LR	LR		
	comp=Z,220nm,16.7s						
TAPN	**Taplejung**	**23.30**	**343**	*eP*	**P**	**15 30 12.7**	**-0.4**
	comp=Z,6.1nm,0.4s						
PKI	**Pulchoki**	**24.27**	**338**	*eP*	**P**	**15 30 21.9**	**-0.1**
	comp=Z,2.0nm,0.3s						
PKIN	**Phulchoki**	**24.28**	**338**	*eP*	**P**	**15 30 21.4**	**-0.6**
	comp=Z,1.9nm,0.2s						
GUN	**Gumba**	**24.41**	**339**	*eP*	**P**	**15 30 22.1**	**-1.1**
	comp=Z,9.8nm,0.5s						
KKN	**Kakani**	**24.52**	**338**	*eP*	**P**	**15 30 23.3**	**-0.8**
	comp=Z,2.9nm,0.3s						
GKN	**Gorkha**	**24.95**	**337**	*eP*	**P**	**15 30 27.5**	**-0.5**
	comp=Z,8.0nm,0.3s						
KOLN	**Koldanda**	**25.17**	**335**	*eP*	**P**	**15 30 29.4**	**-0.6**
	comp=Z,18nm,0.7s						
DANN	**Dangsing**	**25.61**	**336**	*eP*	**P**	**15 30 33.3**	**-0.8**
	comp=Z,12nm,0.4s						
H08S2	**Diego Garcia H**	**26.11**	**241**	T	T	15 57 31.4	
	baz=61,slow=75,SNR=50						
H08S3	**Diego Garcia H**	**26.11**	**241**	T	T	15 57 37.5	
	baz=61,slow=75,SNR=543						
H08S1	**Diego Carcia H**	**26.12**	**241**	T	T	15 57 35.4	
	baz=61,slow=75,SNR=4.7						
CD2	**Chengdu**	**26.85**	**16**	P	**P**	**15 30 46.4**	**+1.4**
XAN	**Xi'an**	**31.42**	**22**	P	**P**	**15 31 26.6**	**+1.2**
XAN				pP	PnPn	15 32 19.8	-13
XAN				S	**S**	**15 36 25.8**	**-0.1**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				LR	LR		
	comp=N,370nm,14.5s						
XAN				LR	LR		
	comp=E,370nm,14.3s						
XAN				LR	LR		
	comp=Z,360nm,15.2s						
LZH	**Lanzhou**	**31.80**	**13**	*eP*	**P**	**15 31 26.3**	**-2.6**
LZH				pP	pP	15 31 48.0	-3.1
LZH				sP	sP	15 32 00.8	-1.7
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				LR	LR		
	comp=N,170nm,13.0s						
LZH				LR	LR		
	comp=E,290nm,13.0s						
LZH				LR	LR		
	comp=Z,190nm,14.9s						
GTA	**Gaotai**	**34.39**	**6**	P	**P**	**15 31 51.8**	**+0.5**
GTA				pP	pP	15 32 07.3	-6.4
GTA				sP	sP	15 32 18.1	-7.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,43nm,5.6s						
GTA				LR	LR		
	comp=N,110nm,16.4s						
GTA				LR	LR		
	comp=E,120nm,12.0s						
GTA				LR	LR		
	comp=Z,110nm,15.3s						
NJ2	**Nanjing**	**34.67**	**37**	*eP*	**P**	**15 31 55.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2				LR	LR		
	comp=N,290nm,12.2s						
NJ2				LR	LR		
	comp=E,230nm,13.7s						
NJ2				LR	LR		
	comp=Z,200nm,10.0s						
HHC	**Hu-ho-hao-te**	**38.44**	**20**	*eP*	**P**	**15 32 24.0**	**-1.7**
WMQ	**Urumqi**	**39.15**	**351**	*eP*	**P**	**15 32 34.1**	**+2.5**
WMQ				LR	LR		
	comp=N,200nm,29.2s						
WMQ				LR	LR		
	comp=E,490nm,29.0s						
WMQ				LR	LR		
	comp=Z,65nm,29.3s						
BJI	**Beijing**	**39.51**	**25**	P	**P**	**15 32 37.9**	**+3.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=N,80nm,11.4s						
BJI				LR	LR		
	comp=E,140nm,15.2s						
KDJ	**Kajisay**	**40.27**	**339**	P	**P**	**15 32 38.0**	**-3.1**
KDJ				IAmb	IAmb	15 32 42.8	
	comp=Z,9.7nm,0.7s						
GAR	**Garm**	**40.67**	**330**	P	**P**	**15 32 43.3**	**-1.0**
UCH	**Uchtor**	**41.36**	**336**	P	**P**	**15 32 51.1**	**+0.7**
SNR=7.1							
TKM2	**Tokmak 2**	**41.54**	**338**	P	**P**	**15 32 52.0**	**+0.5**
SNR=5.9							
KBK	**Karagaybulak**	**41.56**	**337**	P	**P**	**15 32 53.0**	**+1.4**
SNR=7.7							
AML	**Almayashu**	**41.62**	**336**	P	**P**	**15 32 53.1**	**+0.8**
SNR=10							
USP	**Ospenovka**	**42.25**	**337**	P	**P**	**15 32 57.7**	**+0.7**
SNR=9.8							
MK31	**Makanchi Array**	**43.04**	**347**	P	**P**	**15 33 03.5**	**+0.1**
MK31				IAmb	IAmb	15 33 04.2	
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**43.04**	**347**	P	**P**	**15 33 03.5**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=156,slow=7.6,SNR=60						
MKAR				PcP	**PcP**	**15 34 52.7**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=197,slow=3.4,SNR=1.5						
MKAR	**Makanchi Array**	**43.04**	**347**	P	**P**	**15 33 03.3**	**-0.1**
MKAR					**PcP**	**15 34 52.9**	**+1.1**
MAKZ	**Makanchi**	**43.13**	**347**	P	**P**	**15 33 03.8**	**-0.3**
MAKZ				IAmb	IAmb	15 33 05.1	
	comp=Z,5.3nm,0.6s						
SONM	**Songino Array**	**43.61**	**11**	P	**P**	**15 33 08.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=174,slow=8.0,SNR=6.9						
SONM				PcP	**PcP**	**15 34 55.3**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=206,slow=3.6,SNR=2.2						
SONM	**Songino Array**	**43.61**	**11**	IAmb	IAmb	15 33 09.5	
	comp=Z,0.9nm,0.8s						
KK31	**Karatay Array**	**43.77**	**334**	P	**P**	**15 33 09.9**	**+0.6**
KKAR	**Karatay Array**	**43.77**	**334**	P	**P**	**15 33 09.8**	**+0.5**
KKAR	**Karatay Array**	**43.77**	**334**	P	**P**	**15 33 09.3**	**+0.1**
WRA	**Warramunga Arr**	**45.68**	**124**	P	**P**	**15 33 25.7**	**+0.8**
	comp=Z,4.8nm,0.6s,baz=302,slow=9.6,SNR=56						
WRA	**Warramunga Arr**	**45.68**	**124**	P	**P**	**15 33 25.6**	**+0.8**
WRAB	**Tennant Creek**	**45.69**	**124**	P	**P**	**15 33 24.8**	**0.0**
WRAB				IAmb	IAmb	15 33 26.6	
	comp=Z,5.5nm,0.7s						
WB2	**Warramunga Arr**	**45.69**	**124**	P	**P**	**15 33 25.7**	**+0.8**
WB2				IAmb	IAmb	15 33 26.6	
	comp=Z,6.4nm,0.8s						
WR0	**Warramunga Arr**	**45.86**	**124**	P	**P**	**15 33 27.2**	**+1.1**
WR0				IAmb	IAmb	15 33 28.6	
	comp=Z,17nm,1.4s						
GEYT	**Alibeck**	**47.07**	**319**	P	**P**	**15 33 35.3**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=146,slow=11,SNR=4.9						
GEYT	**Alibeck**	**47.07**	**319**	P	**P**	**15 33 34.8**	**-0.7**
AS31	**Alice Springs**	**47.22**	**129**	P	**P**	**15 33 37.1**	**+0.3**
ASAR	**Alice Springs**	**47.22**	**129**	P	**P**	**15 33 37.1**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=300,slow=7.6,SNR=40						
ASAR	**Alice Springs**	**47.22**	**129**	P	**P**	**15 33 38.0**	**+1.2**
KURBB	**Kurchatov Arra**	**47.51**	**346**	P	**P**	**15 33 39.2**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=170,slow=6.8,SNR=34						
KURK	**Kurchatov**	**47.58**	**346**	P	**P**	**15 33 37.8**	**-1.3**
ZAA0	**Zalesovo Array**	**49.45**	**352**	P	**P**	**15 33 51.4**	**-2.0**
ZAA0				IAmb	IAmb	15 33 54.3	
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**49.45**	**352**	P	**P**	**15 33 53.6**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=181,slow=6.9,SNR=18						
USRK	**Ussuriysk Ar.**	**50.47**	**34**	P	**P**	**15 34 03.3**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=240,slow=7.2,SNR=3.4						
BRVK	**Borovoye**	**52.05**	**341**	P	**P**	**15 34 12.9**	**0.0**
ABKAR	**Akbulak array**	**53.23**	**332**	P	**P**	**15 34 21.9**	**+0.2**
ABKAR				IAmb	IAmb	15 34 22.6	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**53.23**	**332**	P	**P**	**15 34 21.6**	**-0.1**
NRIK	**Noril'sk**	**64.35**	**357**	P	**P**	**15 35 38.2**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=106,slow=7.4,SNR=4.0						
BRTR	**Keskin Array B**	**65.16**	**312**	P	**P**	**15 35 43.2**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=136,slow=7.6,SNR=5.9						
BRTR	**Keskin Array B**	**65.16**	**312**	P	**P**	**15 35 42.9**	**-1.5**
TIXI	**Tiksi**	**69.70**	**11**	P	**P**	**15 36 11.7**	**-0.4**
AKASG	**Malin Array Be**	**71.07**	**322**	P	**P**	**15 36 19.4**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=93,slow=4.8,SNR=3.7						
FINES	**FINESS Array B**	**75.72**	**332**	P	**P**	**15 36 47.8**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=104,slow=5.6,SNR=17						
ARCES	**ARCESS Array B**	**78.27**	**340**	P	**P**	**15 37 02.5**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=91,slow=5.5,SNR=20						
GERES	**GERESS Array B**	**80.69**	**319**	P	**P**	**15 37 15.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=100,slow=5.3,SNR=5.9						
GERES	**GERESS Array B**	**80.69**	**319**	P	**P**	**15 37 15.7**	**-0.2**
NVAR	**Mina Array Bea**	**126.61**	**33**	PKP	**PKiKP**	**15 44 07.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=318,slow=2.4,SNR=3.1						
TXAR	**Lajitas Array**	**141.18**	**27**	PKP	**PKPdf**	**15 44 34.8**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=101,slow=0.4,SNR=4.8						

*IDC **24** 15:26:38.0±1.4,7°.47N×94°.03E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.7/37, mbtmp3.9/8, MS3.5/7, Ms1 3.5/7, ms1mx3.2/24, Error ellipse: s-maj=55.3km s-min=20.3km az=60.0*

*NEIC **24** 15:26:44.0±1.9,7°.6N±0°.1×94°.2E±0°.1, h45km±10km, mb4.5/12, Error ellipse: s-maj=25.5km s-min=12.9km az=225.0*

ISC 24 15:26:43.0±0.8,7°.6N±0°.1×94°.2E±0°.1, h35km, n36, σ1§23/28, mb4.4/13, MS3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.61**	**130**	Pn	**Pn**	**15 27 36.1**	**-0.4**
RPSI	**Rantau Prapat**	**6.78**	**136**	Pn	**Pn**	**15 28 20.7**	**+0.7**
KULM	**Kulim**	**6.82**	**109**	Pn	**Pn**	**15 28 21.1**	**+0.4**
IPM	**Ipoh**	**7.47**	**114**	Pn	**Pn**	**15 28 30.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**11.76**	**23**	Pn	**Pn**	**15 29 29.1**	**+0.7**
	baz=210,slow=10,SNR=1.5						
LEM	**Lembang**	**19.61**	**137**	LR	LR	15 39 22.9	
	comp=Z,223nm,18.2s,baz=289,slow=39						
MYLDM	**Lahad Datu**	**24.29**	**94**	P	**P**	**15 31 57.9**	**+0.6**
MYLDM				IAmb	IAmb	15 31 59.5	
	comp=Z,19nm,1.2s						
H08S3	**Diego Garcia H**	**26.39**	**236**	T	T	15 59 03.0	
	baz=55,slow=74,SNR=7.6						
H08S2	**Diego Garcia H**	**26.39**	**235**	T	T	15 59 04.4	
	baz=55,slow=74,SNR=4.1						
H08S1	**Diego Carcia H**	**26.40**	**236**	T	T	15 59 04.9	
	baz=55						
KAPI	**Kappang**	**28.42**	**115**	LR	LR	15 45 54.0	
	comp=Z,64nm,19.0s,baz=280,slow=41						
TPUB	**Ta-pu**	**29.82**	**55**	P	**P**	**15 32 44.1**	**-2.9**
NIL	**Nilore**	**32.36**	**326**	P	**P**	**15 33 07.1**	**-2.2**
NIL				IAmb	IAmb	15 33 10.8	
	comp=Z,7.0nm,0.8s						
GIRL	**Giralia**	**35.89**	**147**	P	**P**	**15 33 39.6**	**-0.3**
CHGR	**Chuyangaron**	**38.29**	**328**	P	**P**	**15 33 59.7**	**-0.6**
CHGR				IAmb	IAmb	15 34 01.2	
	comp=Z,14nm,1.0s						
BOOM	**Boomskoye usch**	**38.31**	**338**	P	**P**	**15 33 58.6**	**-1.9**
MK31	**Makanchi Array**	**40.38**	**347**	P	**P**	**15 34 17.3**	**-0.2**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**15 34 18.4**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=167,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**15 34 17.8**	**+0.3**
MAKZ	**Makanchi**	**40.46**	**347**	P	**P**	**15 34 18.8**	**+0.6**
MAKZ				IAmb	IAmb	15 34 19.3	
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**41.44**	**12**	P	**P**	**15 34 27.0**	**+0.7**
	comp=Z,1.5nm,1.1s,baz=202,slow=7.3,SNR=4.0						
GEYT	**Alibeck**	**44.44**	**318**	P	**P**	**15 34 50.5**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=170,slow=9.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**44.84**	**346**	P	**P**	**15 34 54.8**	**+1.2**
	comp=Z,5.3nm,0.7s,baz=165,slow=7.1,SNR=18						
ZALV	**Zalesovo Beam**	**46.85**	**352**	P	**P**	**15 35 10.4**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=182,slow=7.9,SNR=8.9						
WRA	**Warramunga Arr**	**48.06**	**125**	P	**P**	**15 35 21.9**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=306,slow=8.4,SNR=2.0						
WRAB	**Tennant Creek**	**48.07**	**125**	P	**P**	**15 35 17.6**	**-1.9**
WRAB				IAmb	IAmb	15 35 25.2	
	comp=Z,5.0nm,1.2s						
WB2	**Warramunga Arr**	**48.07**	**125**	P	**P**	**15 35 19.6**	**+0.1**
WB2				IAmb	IAmb	15 35 26.2	
	comp=Z,8.9nm,1.4s						
AS31	**Alice Springs**	**49.70**	**130**	P	**P**	**15 35 32.4**	**+0.4**
ASAR	**Alice Springs**	**49.70**	**130**	P	**P**	**15 35 30.9**	**-1.1**

TRLG	**Trialeti**	**1.05**	**159**	P	**Pn**	**15 58 18.7**	**+0.2**
TRLG				S	**Sn**	**15 58 32.5**	**-0.4**
CHVG	**Ch'k'valeri**	**1.14**	**281**	P	**Pb**	**15 58 18.5**	**-0.9**
CHVG				S	**Sb**	**15 58 33.7**	**-0.4**
EPOS	**Posof**	**1.20**	**213**	*i* P	**Pg**	**15 58 20.9**	**-0.2**
EPOS				*i* S	**Sn**	**15 58 36.8**	**0.0**
EPOS				IAML		15 58 40.0	
	comp=N,27nm,0.4s						
BGD	**Bogdanovka**	**1.25**	**180**	P	**Pg**	**15 58 21.9**	**-0.1**
BGD				S	**Sn**	**15 58 39.2**	**+1.1**
KBZ	**Khabaz**	**1.31**	**337**	*e*Pg	**Pn**	**15 58 22.2**	**+0.2**
KBZ				*e*Sg	**Sb**	**15 58 39.4**	**+0.2**
SHA1	**Shidzhatmaz**	**1.40**	**331**	*e*Pg	**Pb**	**15 58 24.3**	**+0.2**
SHA1				*e*Sg	**Sn**	**15 58 42.2**	**+0.3**
KIV0	**Kislovodsk Arr**	**1.58**	**336**	*e*Pg	**Pb**	**15 58 27.2**	**+0.1**
KIV0				*e*Sg	**Sb**	**15 58 47.4**	**+0.4**
KIV	**Kislovodsk**	**1.58**	**335**	*e*Pg	**Pb**	**15 58 26.8**	**-0.4**
KIV				*e*Sg	**Sb**	**15 58 47.6**	**+0.5**
DAGI	**Agillar**	**1.91**	**222**	*i* P	**Pb**	**15 58 32.3**	**-0.4**
DAGI				*i* S	**Sb**	**15 58 57.3**	**+0.8**
DAGI				IAML		15 59 00.0	
	comp=E,12nm,0.4s						
DAGI				IAML		15 59 00.0	
	comp=N,9.9nm,0.5s						
DBAD	**Bademkaya**	**2.07**	**224**	*i* P	**Pb**	**15 58 34.4**	**-0.9**
DBAD				*i* S	**Sb**	**15 59 01.3**	**+0.4**

IDC 24 16:40:45.3±30.0**, 21°.40S**×**178°.96W, h0km, mb4.2**/4**, mb1 4.3**/4**, mb1mx3.8**/38**, mbtmp4.2**/4**, Error ellipse: s-maj=569.0km s-min=143.4km az=90.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.60**	**245**	P	P	16 47 52.0	-1.3
	0.8nm,0.4s,baz=97,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**43.45**	**258**	P	P	16 48 50.4	-0.1
	1.5nm,0.4s,baz=94,slow=7.4,SNR=90						
WRA	**Warramunga Arr**	**43.60**	**263**	P	P	16 48 52.4	+0.8
	3.0nm,0.5s,baz=94,slow=8.5,SNR=167						
FITZ	**Fitzroy Crossi**	**52.03**	**263**	P	P	16 49 56.9	-0.2
	1.2nm,0.5s,baz=111,slow=2.1,SNR=14						

*GUC **24** 16:51:24.4±0.6, 20°.85S×67°.67W, h202km±6km, ML3.6*
*SCB **24** 16:51:25.6±1.8, 20°.86S×67°.51W, h179km±12km, ML3.4/3, Error ellipse: s-maj=5.7km s-min=3.6km az=0.0*

ISC 24 16:51:22.1±1.9**, 20°.88S**±0°.05×**67°.54W**±0°.04**, h197**km±17km**, n29**, σ1s31/50, 3C-4D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.68**	**296**	⇑*i* P	**Pn**	**16 51 58.5**	**+0.9**
PB08				*i* S	**Sn**	**16 52 25.4**	**+0.2**
PB08	**IPOC Station P**	**1.68**	**296**	P	**Pn**	**16 51 58.7**	**+1.1**
PB08				S	**Sn**	**16 52 25.2**	**+0.1**
MOCB	**Mochara**	**1.81**	**102**	Pg	**Pn**	**16 51 59.8**	**+0.8**
MOCB				Sg	**Sn**	**16 52 26.2**	**-1.4**
PB01	**IPOC Station P**	**1.83**	**264**	⇓*i* P	**Pn**	**16 51 59.1**	**+0.4**
PB01				*i* S	**Sn**	**16 52 26.5**	**-0.6**
PB01				IAML		16 52 29.8	
	comp=E,126nm,0.3s						
PB01	**IPOC Station P**	**1.83**	**264**	P	**Pn**	**16 51 59.6**	**+0.9**
PB01				S	**Sn**	**16 52 26.1**	**-1.0**
PB01				IAML		16 52 29.8	
	comp=E,91nm,0.4s						
PB09	**IPOC Station P**	**1.83**	**240**	*e*P	**Pn**	**16 52 00.6**	**+1.7**
PB09				*i* S	**Sn**	**16 52 28.0**	**+0.6**
PB09	**IPOC Station P**	**1.83**	**240**	Pg	**Pn**	**16 52 00.3**	**+1.5**
PB02	**IPOC Station P**	**2.24**	**258**	*e*P	**Pn**	**16 52 03.7**	**+0.7**
PB02				*i* S	**Sn**	**16 52 33.9**	**-1.0**
PB02				IAML		16 52 34.3	
	comp=N,373nm,0.3s						
PB02	**IPOC Station P**	**2.24**	**258**	P	**Pn**	**16 52 03.8**	**+0.7**
PB02				S	**Sn**	**16 52 34.2**	**-0.7**
PB02				IAML		16 52 37.6	
	comp=N,247nm,0.2s						
PB11	**IPOC Station P**	**2.27**	**299**	⇑*i* P	**Pn**	**16 52 03.8**	**+0.3**
PB11				*i* S	**Sn**	**16 52 34.4**	**-1.2**
PB11				IAML		16 52 37.5	
	comp=N,168nm,0.1s						
PB11	**IPOC Station P**	**2.27**	**299**	P	**Pn**	**16 52 04.3**	**+0.8**
YJA	**Yavi**	**2.29**	**125**	P	**Pn**	**16 52 04.7**	**+0.8**
YJA				S	**Sn**	**16 52 34.5**	**-1.9**
PB07	**IPOC Station P**	**2.34**	**248**	*e*P	**Pn**	**16 52 05.5**	**+1.2**
PB07				*i* S	**Sn**	**16 52 36.0**	**-1.1**
PB07				IAML		16 52 36.3	
	comp=N,416nm,0.3s						
PB03	**IPOC Station P**	**2.37**	**240**	⇓*i* P	**Pn**	**16 52 05.4**	**+1.0**
PB03				*i* S	**Sn**	**16 52 36.6**	**-1.0**
PB03				IAML		16 52 37.2	
	comp=E,187nm,0.2s						
PATCX	**Punta Patache**	**2.44**	**271**	*e*P	**Pn**	**16 52 05.7**	**+0.5**
PATCX				*i* S	**Sn**	**16 52 37.4**	**-1.4**
PATCX				IAML		16 52 39.5	
	comp=N,163nm,0.2s						
TA01	**Diego Aracena**	**2.49**	**277**	*i* P	**Pn**	**16 52 05.9**	**+0.3**
TA01				*i* S	**Sn**	**16 52 37.4**	**-2.2**
TA01				IAML		16 52 38.1	
	comp=E,184nm,0.3s						
MNMC	**Minye Minye**	**2.60**	**312**	⇑*i* P	**Pn**	**16 52 08.2**	**+1.0**
MNMC				*i* S	**Sn**	**16 52 42.0**	**-0.4**
MNMC				IAML		16 52 45.5	
	comp=E,168nm,0.2s						
MNMC	**Minye Minye**	**2.60**	**312**	P	**Pn**	**16 52 08.6**	**+1.4**
MNMC				S	**Sn**	**16 52 42.2**	**-0.2**
MNMC				IAML		16 52 43.7	
	comp=E,142nm,0.2s						
PB06	**IPOC Station P**	**2.62**	**226**	⇓*i* P	**Pn**	**16 52 08.9**	**+1.6**
PB06				*i* S	**Sn**	**16 52 42.5**	**-0.2**
PB06				IAML		16 52 43.7	
	comp=E,81nm,0.3s						
PB06	**IPOC Station P**	**2.62**	**226**	P	**Pn**	**16 52 08.9**	**+1.6**
PSGC	**Pisagua**	**2.74**	**297**	*e*P	**Pn**	**16 52 08.4**	**-0.2**
PSGC				*i* S	**Sn**	**16 52 42.7**	**-2.2**
PSGC				IAML		16 52 44.3	
	comp=N,61nm,0.3s						
PSGC	**Pisagua**	**2.74**	**297**	P	**Pn**	**16 52 09.1**	**+0.5**
PB04	**IPOC Station P**	**2.83**	**239**	*e*P	**Pn**	**16 52 10.8**	**+1.1**
PB04				*i* S	**Sn**	**16 52 45.1**	**-1.9**
PB04				IAML		16 52 46.8	
	comp=N,112nm,0.1s						
PB05	**IPOC Station P**	**3.16**	**231**	⇓*i* P	**Pn**	**16 52 14.3**	**+0.7**
PB05				*i* S	**Sn**	**16 52 52.0**	**-1.8**
BBOJ	**La Paz, Jacaqu**	**3.93**	**351**	P	**Pn**	**16 52 25.4**	**+1.9**
BBOE	**La Paz, Chanca**	**4.06**	**354**	P	**Pn**	**16 52 27.1**	**+1.9**
BBOD	**La Paz, Gloria**	**4.33**	**346**	P	**Pn**	**16 52 30.5**	**+2.0**
LPAZ	**La Paz**	**4.60**	**353**	P	**Pn**	**16 52 33.5**	**+1.5**
LPAZ				S	**Sn**	**16 53 23.7**	**-3.1**
BBOB	**La Paz, Bander**	**4.74**	**353**	P	**Pn**	**16 52 34.3**	**+0.6**

*IDC **24** 17:12:02.0±8.1, 16°.04S×176°.03W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.6/34, mbtmp4.1/2, Error ellipse: s-maj=340.0km s-min=62.4km az=140.0*
*NEIC **24** 17:12:57.8±1.5, 16°.1S±0°.1×177°.6W±0°.2, h453km±7km, mb4.0/10, Error ellipse: s-maj=22.3km s-min=19.7km az=106.0*

ISC 24 17:12:56.9±1.1**, 15°.8S**±0°.2×**177°.6W**±0°.1**, h450**km**, n18, σ1s10/17, mb4.0/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.58**	**244**		**P**	**17 14 17.6**	**+0.2**
AFI	**Afiamalu**	**5.95**	**73**	P	**P**	**17 14 30.3**	**-0.5**
FUNA	**Funafuti**	**7.84**	**336**	P	P	17 14 58.6	+7.9
NIUE	**Niue**	**8.05**	**115**	P	**P**	**17 14 52.5**	**-0.3**
URZ	**Urewera**	**22.88**	**191**	P	**P**	**17 17 21.6**	**-2.6**
WR0	**Warramunga Arr**	**45.60**	**257**	P	**P**	**17 20 35.0**	**-0.7**
WR0				IAmb	IAmb	17 20 45.9	
	comp=Z,6.4nm,1.2s						
WB0	**Warramunga Arr**	**45.75**	**258**	P	**P**	**17 20 36.2**	**-0.6**
WB0				IAmb	IAmb	17 20 50.4	
	comp=Z,11nm,1.6s						
WB2	**Warramunga Arr**	**45.78**	**257**	P	**P**	**17 20 37.2**	**+0.2**
WB2				IAmb	IAmb	17 20 49.5	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**45.78**	**257**	P	**P**	**17 20 36.7**	**-0.4**
WRA	**Warramunga Arr**	**45.80**	**257**	P	**P**	**17 20 36.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=92,slow=6.6,SNR=13						
WRA	**Warramunga Arr**	**45.80**	**257**	P	**P**	**17 20 36.2**	**-0.9**

AS31	**Alice Springs**	**46.12**	**252**	P	**P**	**17 20 39.7**	**0.0**
ASAR	**Alice Springs**	**46.12**	**252**	P	**P**	**17 20 39.8**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=86,slow=8.6,SNR=153						
ASAR	**Alice Springs**	**46.12**	**252**	P	**P**	**17 20 38.9**	**-0.8**
MTN	**Manton Dam**	**49.65**	**266**	P	**P**	**17 21 06.2**	**-0.1**
FORT	**Forrest**	**51.62**	**243**	P	**P**	**17 21 20.4**	**-0.1**
FORT				IAmb	IAmb	17 21 46.0	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**74.27**	**180**	P	**P**	**17 23 49.4**	**+2.6**
QSPA				IAmb	IAmb	17 24 06.6	
	comp=Z,4.7nm,1.4s						
BRTR	**Keskin Array B**	**143.77**	**317**	PKPbc	**PKPdf**	**17 31 40.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=85,slow=3.3,SNR=5.7						

*IDC **24** 17:22:59.0±1.2, 63°.44S×169°.60E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/25, mbtmp3.9/6, ML3.6/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/22, Error ellipse: s-maj=53.9km s-min=22.7km az=77.0*

ISC 24 17:23:00.3±1.0**, 63°.4S**±0°.1×**169°.6E**±0°.3**, h10**km**, n23, σ0s42/7, mb3.9**/4**, MS3.7**/9**, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.39**	**187**	Pn	**Pn**	**17 26 23.8**	**+0.1**
	0.2nm,0.3s,baz=22,slow=15,SNR=16						
RPZ	**Rata Peaks**	**19.75**	**3**	P	**Pn**	**17 27 31.8**	**+0.2**
	0.4nm,0.3s,baz=162,slow=3.2,SNR=1.9						
RPZ				LR	LR	17 33 34.9	
	comp=Z,361nm,21.4s,baz=174,slow=32						
URZ	**Urewera**	**25.59**	**14**	LR	LR	17 36 43.3	
	comp=Z,251nm,21.0s,baz=210,slow=32						
QSPA	**South Pole Qui**	**26.68**	**180**	P	**P**	**17 28 39.7**	**+0.6**
	2.9nm,1.2s,baz=295,slow=1.4,SNR=7.4						
QSPA				LR	LR	17 37 49.3	
	comp=Z,141nm,18.6s,baz=34,slow=33						
MAW	**Mawson**	**39.18**	**216**	LR	LR	17 46 45.1	
	comp=Z,280nm,19.1s,baz=85,slow=36						
DZM	**Mont Dzumac**	**41.37**	**356**	*e*LR	LR	17 41 34.3	
	comp=Z,120nm,22.8s						
H01W1	**Cape Leeuwin H**	**44.09**	**283**	T	T	18 19 04.6	
	baz=147,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	**44.09**	**283**	T	T	18 19 01.3	
	baz=147,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**44.11**	**283**	T	T	18 19 03.0	
	baz=147,slow=76,SNR=21						
SNAA	**Sanae**	**45.09**	**183**	P	**P**	**17 31 15.7**	**-0.2**
	1.2nm,0.8s,baz=239,slow=15,SNR=6.1						
ASAR	**Alice Springs**	**46.25**	**312**	P	**P**	**17 31 25.6**	**0.0**
	0.6nm,0.9s,baz=152,slow=7.4,SNR=5.1						
TBI	**Tubuai**	**48.36**	**54**	*e*T	T	18 22 25.9	
	8.4nm,0.4s						
PAE	**Paea**	**53.55**	**51**	*e*T	T	18 28 54.3	
	2.9nm,0.2s						
PPT2	**Papeete2**	**53.62**	**51**	*e*LR	LR	17 47 17.2	
	comp=Z,149nm,28.2s						
PPT2	**Papeete2**	**53.62**	**51**	*e*T	T	18 29 00.2	
	6.9nm,0.3s						
PPT	**Papeete**	**53.64**	**51**	LR	LR	17 48 57.1	
	comp=Z,43nm,19.4s,baz=190,slow=29						
MEH	**Mehetia**	**53.89**	**53**	*e*T	T	18 29 20.6	
	18nm,0.3s						
VAH	**Vaihoa**	**56.48**	**52**	*e*T	T	18 32 33.7	
	69nm,0.3s						
TAOE	**Nuku Hiva Isla**	**65.10**	**57**	*e*LR	LR	17 52 36.6	
	comp=Z,177nm,26.7s						
PLCA	**Paso Flores**	**65.77**	**134**	P	**P**	**17 33 45.0**	**-0.2**
	0.9nm,0.8s,baz=180,slow=8.1,SNR=1.9						
BOSA	**Boshof**	**84.04**	**211**	LR	LR	18 11 47.0	
	comp=Z,32nm,18.2s,baz=132,slow=35						
CMAR	**Chiang Mai Arr**	**98.03**	**295**	LR	LR	18 16 34.6	
	comp=Z,19nm,21.9s,baz=145,slow=33						
BRTR	**Keskin Array B**	**144.89**	**249**	PKP	**PKPab**	**17 42 35.4**	**-0.5**
	0.8nm,0.8s,baz=175,slow=5.4,SNR=4.7						

*NEIC **24** 17:23:49.9±1.6, 7°.41N±0°.08×94°.2E±0°.1, h11km±4km, mb4.7/45, Error ellipse: s-maj=16.5km s-min=8.7km az=56.0*
*NDI **24** 17:23:55.8±3.1, 7°.48N×94°.66E, h70km±40km, mb4.4, mb4.5(NEIC)*
*DJA **24** 17:23:55.4±1.0, 8°.N±5°.×9°.4E±°, h33km±9km, M4.4/10, mb4.6/10, mB4.8/5, MLv4.5/5, Mw(mB)4.1/5*
*IDC **24** 17:24:00.4±4.0, 7°.67N×94°.70E, h85km±36km, mb3.8/9, mb1 3.8/11, mb1mx3.6/40, mbtmp4.0/11, MS3.6/20, Ms1 3.6/20, ms1mx3.6/31, Error ellipse: s-maj=29.1km s-min=15.8km az=52.0*

ISC 24 17:23:49.4±0.4**, 7°.29N**±0°.05×**94°.15E**±0°.06**, h10**km**, n137, σ2s11/127, mb4.6**/38**, MS3.7**/23**, 2C-1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.45**	**126**	Pn	**Pn**	**17 24 43.9**	**+0.7**
MLSI	**Meulaboh, Aceh**	**3.74**	**143**	P	**Pb**	**17 24 53.8**	**-1.8**
PBA	**Port Blair**	**4.56**	**342**	*e*P	Pn	17 25 02.4	+3.9
PBA				*e*S	Sn	17 25 55.2	+3.6
PBA	**Port Blair**	**4.56**	**342**	Pn	Pn	17 24 58.8	+0.4
TPTI		**5.01**	**143**	P	**Pn**	**17 25 09.0**	**+4.3**
	0.3nm586nm53nm,1.4s						
DGPR	**DIGLIPUR**	**5.98**	**349**	*e*P	**Pn**	**17 25 20.6**	**+2.7**
DGPR				*e*S	**Sn**	**17 26 28.3**	**+1.7**
PSI	**Prapat**	**6.51**	**133**	LR	LR	17 28 12.8	
	comp=Z,618nm,19.7s,baz=278,slow=39						
RPSI	**Rantau Prapat**	**6.59**	**134**	Pn	**Pn**	**17 25 27.9**	**+1.5**
KULM	**Kulim**	**6.76**	**107**	Pn	**Pn**	**17 25 28.4**	**-0.3**
GSI	**Gunungsitoli**	**6.85**	**150**	Pn	**Pn**	**17 25 30.2**	**+0.1**
IPM	**Ipoh**	**7.38**	**112**	Pn	**Pn**	**17 25 36.4**	**-1.0**
BKNI	**Bangkinang**	**9.74**	**135**	Pn	**Pn**	**17 26 11.7**	**+2.0**
MYKOM	**Kota Tinggi**	**11.10**	**119**	Pn	**Pn**	**17 26 28.8**	**+0.4**
CM31	**Chiang Mai Arr**	**12.04**	**22**		**Pn**	**17 26 41.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**12.04**	**22**	P	**Pn**	**17 26 42.3**	**+1.0**
	0.5nm,0.3s,baz=212,slow=13,SNR=13						
CMAR				LR	LR	17 31 14.2	
	comp=Z,498nm,18.4s,baz=250,slow=38						
CMAR	**Chiang Mai Arr**	**12.04**	**22**	Pn	**Pn**	**17 26 40.1**	**-1.1**
CHTO	**Chiang Mai**	**12.37**	**22**	Pn	**Pn**	**17 26 45.8**	**+0.1**
PALK	**Pallekele**	**13.34**	**271**	P	P	17 27 15.6	+6.8
	0.3nm,0.3s,baz=194,slow=14,SNR=3.5						
PALK				LR	LR	17 32 01.1	
	comp=Z,542nm,20.5s,baz=188,slow=35						
PALK	**Pallekele**	**13.34**	**271**	Pn	**P**	**17 27 06.2**	**-2.5**
SAIH	**SAIHA**	**15.16**	**356**	*e*P	**Pn**	**17 27 24.9**	**+1.1**
SLVN	**Son La**	**16.85**	**33**	P	**P**	**17 27 47.5**	**-0.2**
KSM	**Kuching**	**17.11**	**109**	P	**P**	**17 27 51.4**	**+0.8**
BOK	**Bokaro**	**18.23**	**335**	*e*P	**P**	**17 28 02.8**	**-0.1**
BOK				IAmb	IAmb	17 28 11.3	
	comp=Z,26nm,0.9s						
HYB	**Hyderabad**	**18.25**	**305**	*i* P	P	17 28 11.0	+7.8
SHL	**Shillong**	**18.31**	**353**	*ex*	x	17 28 00.5	
SHL	**Shillong**	**18.31**	**353**	P	**Pn**	**17 27 59.5**	**-4.3**
KOHI	**KOHIMA**	**18.33**	**360**	*e*P	**Pn**	**17 28 01.6**	**-2.5**
KOHI				IAmb	IAmb	17 28 06.6	
	comp=Z,12nm,0.6s						
SBUM	**Sibu**	**18.63**	**104**	P	**P**	**17 28 05.7**	**-1.7**
MOKO	**MOKOCHONG**	**18.93**	**1**	*e*P	**P**	**17 28 10.4**	**-0.4**
MOKO				IAmb	IAmb	17 28 15.5	
	comp=Z,8.7nm,0.7s						
QIZ	**Qiongzhong**	**19.21**	**51**	P	**P**	**17 28 12.1**	**-1.6**
QIZ				S	**Sn**	**17 31 48.6**	**-1.4**
QIZ				LR	LR		
	comp=N,1μm,12.7s						
QIZ				LR	LR		
	comp=E,530nm,13.5s						
QIZ				LR	LR		
	comp=Z,300nm,11.3s						
KMI	**Kunming**	**19.55**	**24**	⇓P	**Pn**	**17 28 21.6**	**+2.8**
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
NGP	**Nagpur**	**20.08**	**315**	*e*P	Pn	17 28 26.7	+1.7
ZIRO	**ZIRO**	**20.13**	**359**	*e*P	**P**	**17 28 23.4**	**-0.5**
ODAN	**Odare**	**20.50**	**343**	*e*P	Pn	17 28 29.4	-0.7
GTK	**Tadong**	**20.61**	**346**	*e*P	**P**	**17 28 28.0**	**-1.1**
GTK				IAmb	IAmb	17 28 33.5	
	comp=Z,103nm,1.8s						
RAMN	**Ramite**	**20.83**	**341**	*e*P	**P**	**17 28 32.4**	**+0.8**
	comp=Z,51nm,0.8s						
TAPN	**Taplejung**	**20.87**	**344**	*e*P	**P**	**17 28 32.7**	**+0.6**
	comp=Z,61nm,0.9s						
XMIS	**Christmas Isla**	**21.04**	**147**	P	**P**	**17 28 33.9**	**+0.3**
PKI	**Pulchoki**	**21.81**	**339**	*e*P	**P**	**17 28 42.0**	**-0.2**
	comp=Z,34nm,0.9s						
PKIN	**Phulchoki**	**21.82**	**339**	*e*P	**P**	**17 28 43.4**	**+1.1**
	comp=Z,22nm,0.8s						

KKM	**Kota Kinabalu**	**21.95**	**92**	P	**P**	**17 28 42.8**	**-0.8**
KKM				IAmb	IAmb	17 28 55.9	
	comp=Z,25nm,1.2s						
DMN	**Daman**	**21.96**	**338**	*e*P	**P**	**17 28 43.5**	**-0.2**
	comp=Z,47nm,1.0s						
GUN	**Gumba**	**21.96**	**340**	*e*P	**P**	**17 28 44.5**	**+0.7**
	comp=Z,93nm,1.1s						
KKN	**Kakani**	**22.06**	**339**	*e*P	**P**	**17 28 44.2**	**-0.6**
	comp=Z,31nm,1.0s						
UGM	**Wanagama**	**22.23**	**132**	P	**P**	**17 28 48.1**	**+1.6**
LSA	**Lhasa**	**22.48**	**353**	P	**P**	**17 28 48.8**	**-0.7**
LSA				pmax	pmax		
	comp=Z,62nm,1.0s						
LSA	**Lhasa**	**22.48**	**353**	P	**P**	**17 28 48.3**	**-1.1**
LSA				IAmb	IAmb	17 28 54.4	
	comp=Z,22nm,1.1s						
GYA	**Guiyang**	**22.48**	**31**	⇑P	**P**	**17 28 51.3**	**+2.1**
GYA				pP	sP	17 28 56.6	+4.1
GYA				PcP	**PcP**	**17 32 47.3**	**+3.8**
GYA				S	**S**	**17 32 54.8**	**-1.3**
GYA				SS	**SnSn**	**17 33 37.0**	**+12**
GYA				ScP	**ScP**	**17 36 25.3**	**+3.9**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GYA				pmax	pmax		
	comp=Z,99nm,3.5s						
GYA				LR	LR		
	comp=N,380nm,13.8s						
GYA				LR	LR		
	comp=E,580nm,12.9s						
GYA				LR	LR		
	comp=Z,460nm,14.5s						
GKN	**Gorkha**	**22.49**	**338**	*e*P	**P**	**17 28 49.0**	**-0.3**
	comp=Z,64nm,1.1s						
BHPL	**Bhopal**	**22.59**	**316**	*e*P	**P**	**17 28 52.5**	**+2.3**
BHPL				IAmb	IAmb	17 28 58.3	
	comp=Z,17nm,1.2s						
KOLN	**Koldanda**	**22.70**	**335**	*e*P	**P**	**17 28 51.9**	**+0.3**
	comp=Z,39nm,1.2s						
DANN	**Dangsing**	**23.14**	**336**	*e*P	**P**	**17 28 55.8**	**-0.5**
	comp=Z,42nm,0.9s						
PYUN	**Piuthan**	**23.24**	**334**	*e*P	**P**	**17 28 57.7**	**+0.5**
	comp=Z,97nm,1.1s						
MYLDM	**Lahad Datu**	**24.29**	**94**	P	**P**	**17 29 09.2**	**+1.9**
CD2	**Chengdu**	**25.17**	**20**	*e*P	**P**	**17 29 17.0**	**+1.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
H08S3	**Diego Garcia H**	**26.20**	**236**	T	T	17 56 12.7	
	baz=54,slow=74,SNR=117						
H08S2	**Diego Garcia H**	**26.20**	**236**	T	T	17 56 13.0	
	baz=54,slow=74,SNR=12						
H08S1	**Diego Garcia H**	**26.21**	**236**	T	T	17 56 14.8	
	baz=54						
MPSI	**Mapaga**	**26.59**	**104**	P	**P**	**17 29 30.4**	**+2.3**
	comp=Z,316nmcomp=Z,25nm,1.2s						
ENH	**Enshi**	**27.02**	**30**	P	**P**	**17 29 31.2**	**-0.6**
ENH				IAmb	IAmb	17 29 49.2	
	comp=Z,7.6nm,0.8s						
XAN	**Xi'an**	**29.92**	**25**	P	**P**	**17 29 57.3**	**-0.4**
XAN				S	**S**	**17 34 47.6**	**-7.6**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,140nm,7.9s						
XAN				LR	LR		
	comp=N,640nm,15.7s						
XAN				LR	LR		
	comp=E,580nm,15.3s						
XAN				LR	LR		
	comp=Z,750nm,17.2s						
XAN	**Xi'an**	**29.92**	**25**	P	**P**	**17 29 57.1**	**-0.6**
XAN				IAmb	IAmb	17 29 58.1	
	comp=Z,4.7nm,0.6s						
LZH	**Lanzhou**	**30.01**	**16**	*e*P	**P**	**17 30 00.4**	**+1.8**
LZH				pP	sP	17 30 09.8	+7.4
LZH				sP	pP	17 30 14.3	+13
LZH				sS	sS	17 35 06.0	+5.3
LZH				SS	**ScP**	**17 36 36.8**	**-6.5**
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
LZH				pmax	pmax		
	comp=Z,150nm,4.1s						
LZH				LR	LR		
	comp=N,140nm,13.6s						
LZH				LR	LR		
	comp=E,390nm,13.0s						
LZH				LR	LR		
	comp=Z,340nm,13.8s						
GTA	**Gaotai**	**32.39**	**8**	⇑P	**P**	**17 30 19.8**	**+0.3**
GTA				pP	sP	17 30 26.4	+3.1
GTA				sP	pP	17 30 29.3	+7.1
GTA				S	**S**	**17 35 34.9**	**+1.0**
GTA				sS	sS	17 35 47.1	+9.4
GTA				SS	**SnSn**	**17 37 34.3**	**+7.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,58nm,6.0s						
GTA				LR	LR		
	comp=N,160nm,16.4s						
GTA				LR	LR		
	comp=E,170nm,16.0s						
GTA				LR	LR		
	comp=Z,170nm,17.1s						
NIL	**Nilore**	**32.59**	**326**	P	**P**	**17 30 21.4**	**+0.1**
NIL				IAmb	IAmb	17 30 27.6	
	comp=Z,14nm,0.9s						
SSE	**Sheshan**	**34.64**	**43**	P	**P**	**17 30 38.5**	**-0.5**
SSE				S	**S**	**17 36 07.0**	**-1.7**
SSE				pmax	pmax		
	comp=Z,11nm,0.5s						
SSE				pmax	pmax		
	comp=Z

comp=Z,103nm,19.1s,baz=230,slow=39
GYA1 ALIBECK ARRAY 44.64 319 P P 17 32 03.1 +0.7
GEYT Alibeck 44.65 319 P P 17 32 04.2 +1.8
comp=Z,1.9nm,0.6s,baz=133,slow=8.3,SNR=4.6
GEYT LR LR 17 53 38.2
comp=Z,91nm,18.4s,baz=325,slow=40
GEYT Alibeck 44.65 319 P P 17 32 02.4 0.0
GYA0B ALIBECK ARRAY 44.65 319 P P 17 32 04.0 +1.6
GYA0B IAmb IAmb 17 32 15.2
comp=Z,4.7nm,0.6s
KURK Kurchatov 45.18 346 P P 17 32 06.2 -0.2
KURK IAmb IAmb 17 32 12.7
comp=Z,25nm,1.2s
JWT Wachi 46.95 48 P P 17 32 20.9 +0.4
JWT IAmb IAmb 17 32 26.0
comp=Z,15nm,1.4s
ZAA0 Zalesovo Array 47.14 352 P P 17 32 21.1 -0.6
ZAA0 IAmb IAmb 17 32 28.8
comp=Z,7.7nm,0.9s
ZALV Zalesovo Beam 47.14 352 P P 17 32 21.9 +0.2
comp=Z,6.4nm,0.9s,baz=168,slow=7.6,SNR=20
ZALV LR LR 17 56 37.0
comp=Z,78nm,19.6s,baz=228,slow=42
ZALV Zalesovo Beam 47.14 352 P P 17 32 21.3 -0.5
WRA Warramunga Arr 47.91 125 P P 17 32 29.1 +0.7
comp=Z,1.9nm,1.0s,baz=297,slow=7.8,SNR=4.2
WRA Warramunga Arr 47.91 125 P P 17 32 27.4 -0.9
WB2 Warramunga Arr 47.92 125 P P 17 32 29.1 +0.7
WB2 IAmb IAmb 17 32 52.1
comp=Z,26nm,1.8s
USRK Ussuriysk Ar. 49.38 36 LR LR 17 55 49.6
comp=Z,51nm,19.3s,baz=187,slow=39
AS31 Alice Springs 49.53 130 P P 17 32 42.5 +1.8
ASAR Alice Springs 49.53 130 P P 17 32 39.8 -1.0
comp=Z,1.0nm,0.9s,baz=312,slow=7.5,SNR=4.6
ASAR PcP **PcP 17 34 04.8 +2.2**
comp=Z,1.0nm,0.8s,baz=308,slow=4.1,SNR=5.9
ASAR LR LR 17 55 34.8
comp=Z,69nm,20.1s,baz=306,slow=38
ASAR Alice Springs 49.53 130 P P 17 32 43.1 +2.4
MJAR Matsushiro Arr 49.55 47 LR LR 17 55 38.9
comp=Z,74nm,18.6s,baz=230,slow=39
BRVK Borovoye 49.61 341 P P 17 32 39.7 -1.1
BRVK IAmb IAmb 17 32 46.5
comp=Z,22nm,1.8s
FORT Forrest 49.88 141 P P 17 32 43.8 +0.6
JSD Sado 50.23 46 P P 17 32 44.7 -1.1
JSD IAmb IAmb 17 32 51.9
comp=Z,5.6nm,0.9s
AB07 Akbulak array 50.73 332 P P 17 32 49.7 +0.3
ABKAR Akbulak array 50.75 332 P P 17 32 50.0 +0.4
ABKAR Akbulak array 50.75 332 P P 17 32 49.3 -0.2
ABKAR IAmb IAmb 17 32 56.5
comp=Z,9.9nm,1.1s
PMG Port Moresby 55.35 107 P P 17 33 24.1 0.0
GEVA Gevas 55.40 312 P P 17 33 22.4 -1.9
GEVA IAmb IAmb 17 33 25.8
comp=Z,2.6nm,0.7s
ARU Arti 56.43 337 P P 17 33 30.4 -0.7
ARU IAmb IAmb 17 33 36.9
comp=Z,18nm,1.2s
KBZ Khabaz 57.53 318 LR LR 18 00 28.7
comp=Z,23nm,19.4s,baz=148,slow=38
CTAO Charters Tower 58.01 119 P P 17 33 42.1 -0.8
CTAO IAmb IAmb 17 34 05.7
comp=Z,21nm,1.4s
STKA Stephens Creek 59.70 133 LR LR 18 04 14.8
comp=Z,87nm,18.0s,baz=323,slow=40
YAK Yakutsk 60.55 18 P P 17 33 58.7 -1.0
NRIK Noril'sk 62.13 357 LR LR 18 05 58.6
comp=Z,80nm,18.6s,baz=197,slow=41
BR131 Keskin Array S 62.82 311 P P 17 34 15.6 -0.1
BR131 IAmb IAmb 17 34 59.3
comp=Z,8.8nm,1.8s
BRTR Keskin Array B 62.82 311 P P 17 34 19.5 +3.8
comp=Z,0.6nm,0.6s,baz=137,slow=5.1,SNR=3.4
BRTR LR LR 18 03 56.1
comp=Z,21nm,20.6s,baz=118,slow=38
BRTR Keskin Array B 62.82 311 P P 17 34 15.7 0.0
ANTO Ankara 63.49 311 P P 17 34 17.8 -2.2
OBN Obninsk 65.88 328 P P 17 34 36.1 +0.9
TIXI Tiksi 67.80 11 P P 17 34 46.5 -0.7
AKASG Malin Array Be 68.62 322 LR LR 18 09 27.5
comp=Z,34nm,20.0s,baz=310,slow=40
ALN Alexandrouopoli 68.74 311 P P 17 34 52.8 -0.8
PET Petropavlovsk 69.00 36 P P 17 34 54.2 -0.8
FINES FINESS Array B 73.23 332 P P 17 35 20.3 -0.2
comp=Z,2.7nm,0.8s,baz=103,slow=8.2,SNR=4.6
VYHS Vyhne 74.85 318 eP P 17 35 30.7 +0.4
ARCES ARCESS Array B 75.82 340 LR LR 18 11 21.0
comp=Z,57nm,21.2s,baz=120,slow=38
MAW Mawson 77.96 192 LR LR 18 06 00.4
comp=Z,45nm,18.1s,baz=44,slow=32
GERES GERESS Array B 78.27 318 P P 17 35 51.0 +1.3
comp=Z,1.1nm,0.8s,baz=77,slow=5.8,SNR=6.8
NOA NORSAR Array B 80.25 331 LR LR 18 13 41.3
comp=Z,23nm,20.6s,baz=5.0,slow=37
KEST Kesra 81.59 305 LR LR 18 18 39.1
comp=Z,17nm,18.0s,baz=272,slow=40
IMAR Indian Mountai 92.17 22 P P 17 36 59.7 +0.7
PLCA Paso Flores 144.00 200 PKP PKiKP 17 43 28.1 -1.1
comp=Z,2.7nm,1.0s,baz=190,slow=4.2,SNR=5.1
CPUP Villa Florida 146.91 232 PKPbc PKiKP 17 43 35.8 +0.3
comp=Z,0.5nm,0.3s,baz=76,slow=4.2,SNR=3.2

IDC 24 18:05:55.7±5.7, 26.58S×71.42E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/52, mbtmp3.6/4, Error ellipse: s-maj=151.3km s-min=38.9km az=56.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.86**	**3**	T	T	18 29 26.6	
	baz=181						
H08S2	**Diego Garcia H**	**18.86**	**3**	T	T	18 29 25.3	
	baz=181,slow=74,SNR=8.7						
H08S3	**Diego Garcia H**	**18.88**	**3**	T	T	18 29 22.7	
	baz=181,slow=74,SNR=32						
H01W2	**Cape Leeuwin H**	**37.41**	**113**	T	T	18 52 23.2	
	baz=271,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**37.42**	**113**	T	T	18 52 23.6	
	baz=271,slow=75,SNR=9.0						
H01W1	**Cape Leeuwin H**	**37.43**	**113**	T	T	18 52 24.6	
	baz=271,slow=75,SNR=8.9						
CMAR	**Chiang Mai Arr**	**52.14**	**34**	P	P	18 15 08.0	-0.1
	0.8nm,0.8s,baz=217,slow=7.6,SNR=9.0						
ASAR	**Alice Springs**	**56.16**	**102**	P	P	18 15 37.6	+0.1
	1.1nm,0.8s,baz=254,slow=6.4,SNR=5.2						
WRA	**Warramunga Arr**	**57.70**	**98**	P	P	18 15 48.4	-0.2
	1.0nm,1.0s,baz=252,slow=7.1,SNR=5.8						
MKAR	**Makanchi Array**	**73.69**	**8**	P	P	18 17 31.1	0.0
	0.5nm,0.9s,baz=193,slow=5.0,SNR=4.3						

TAP 24 18:10:42.3, 24.55N×121.59E, h5km, ML0.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.08**	**307**	*i* P	Pg	18 10 44.5	+0.4
	baz=307						
NDT				S	Sg	18 10 46.0	+0.7
	baz=307						
ENTT	**Nioudou**	**0.09**	**348**	*i* P	Pg	18 10 44.6	+0.4
	baz=351						
ENTT				*i* S	Sg	18 10 46.4	+0.8
	baz=351						
NNS	**Nan Shan**	**0.23**	**240**	*e*P	Pg	18 10 46.7	0.0
	baz=248						
YHNB	**Yeheng**	**0.23**	**301**	P	Pg	18 10 47.1	+0.4
	baz=307						
YHNB				*e*S	Sg	18 10 50.4	+0.7
	baz=307						
NSK	**Sanguang**	**0.24**	**301**	*e*P	Pg	18 10 47.3	+0.3
	baz=307						
NSK				*e*S	Sg	18 10 50.9	+0.7
	baz=307						

*IDC **24** 18:13:05.2±25.0, 22.88N×124.84E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/46, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/30, Error ellipse: s-maj=486.9km s-min=48.1km az=119.0*
*BJI **24** 18:13:29.9±0.0, 24.19N×121.88E, h6km, ML3.5/4*
*JMA **24** 18:13:30.5±0.1, 24.12N×121.92E, h25km±3km, M3.0*

*TAP **24** 18:13:31.1, 24.19N×121.91E, h27km, ML4.1, C*
ISC 24 18:13:30.8±0.9, 24.14N±0.02×121.97E±0.02, h24km±7km, n135, ⌀095/244, mb3.4/4, 10C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.34**	**335**	⇓*i*P	Pb	18 13 38.3	-0.1
	baz=340						
ENAH				S	Sb	18 13 44.3	+0.8
	baz=340						
NACB	**Ninganchiao**	**0.34**	**276**	⇓*i*P	Pb	18 13 38.0	-0.4
	baz=259						
NACB				*i* S	Sb	18 13 43.4	-0.1
	baz=259						
TWD	**Chiawan**	**0.34**	**260**	⇓*i*P	Pb	18 13 38.3	-0.1
	baz=249						
TWD				*e*S	Sb	18 13 44.0	+0.4
	baz=249						
HWA	**Hwalien**	**0.37**	**244**	*e*P	Pb	18 13 39.7	+0.9
	baz=231						
HWA				*e*S	Sn	18 13 46.6	-0.6
	baz=231						
ETLH	**Xiulin Townshi**	**0.45**	**279**	⇓*i*P	Pb	18 13 39.8	-0.5
	baz=272						
ETLH				S	Sb	18 13 46.1	-0.5
	baz=272						
TWC	**Suao**	**0.48**	**347**	*i* P	Pb	18 13 40.6	-0.1
	baz=354						
TWC				*e*S	Sb	18 13 47.2	-0.1
	baz=354						
ESL	**Shilin**	**0.59**	**237**	P	Pb	18 13 42.4	-0.1
	baz=228						
ESL				*e*S	Sn	18 13 51.5	-1.1
	baz=228						
NNSB	**Datong**	**0.60**	**298**	⇓*i*P	Pb	18 13 42.3	-0.6
	baz=289						
NNSB				*i* S	Sb	18 13 50.5	-0.6
	baz=289						
NNSH	**Datong**	**0.60**	**298**	⇓*i*P	Pb	18 13 42.5	-0.4
	baz=289						
NNSH				S	Sb	18 13 50.4	-0.7
	baz=289						
ENTT	**Nioudou**	**0.62**	**324**	⇓*i*P	Pb	18 13 42.7	-0.3
	baz=316						
ENTT				S	Sb	18 13 51.3	0.0
	baz=316						
NDT	**Datong Townshi**	**0.62**	**318**	*i* P	Pb	18 13 42.7	-0.4
	baz=313						
NDT				S	Sb	18 13 50.7	-0.7
	baz=313						
NNS	**Nan Shan**	**0.62**	**299**	⇓*i*P	Pb	18 13 42.5	-0.6
	baz=290						
NNS				*i* S	Sb	18 13 50.9	-0.6
	baz=290						
TWE	**Neicheng**	**0.64**	**335**	⇑*i*P	Pb	18 13 43.1	-0.3
	baz=339						
TWE				*e*S	Sb	18 13 51.3	-0.7
	baz=339						
WHF	**Hehuan Shan**	**0.64**	**271**	⇓*i*P	Pb	18 13 43.3	-0.4
	baz=265						
WHF				S	Sb	18 13 52.1	-0.3
	baz=265						
ILA	**Ilan**	**0.65**	**342**	P	Pb	18 13 43.9	+0.2
	baz=339						
ILA				*e*S	Sn	18 13 53.5	-0.7
	baz=339						
FUSS	**Fushou**	**0.67**	**279**	⇓*i*P	Pb	18 13 43.8	-0.2
	baz=275						
FUSS				S	Sb	18 13 52.6	-0.4
	baz=275						
EGFH	**Guangfu**	**0.68**	**227**	*e*P	Pb	18 13 44.5	+0.4
	baz=230						
EGFH				*e*S	Sn	18 13 54.5	-0.4
	baz=230						
EGS		**0.70**	**357**	*e*P	Pb	18 13 44.6	+0.1
EGS				*e*S	Sn	18 13 55.5	0.0
NTC	**Toucheng**	**0.72**	**350**	⇑*i*P	Pb	18 13 45.0	+0.2
	baz=354						
NTC				S	Sn	18 13 55.1	-0.8
	baz=354						
CHGB	**Renai**	**0.73**	**264**	⇑*i*P	Pb	18 13 44.8	-0.3
	baz=247						
CHGB				S	Sb	18 13 54.6	-0.1
	baz=247						
TWT	**Tachien**	**0.73**	**279**	P	Pb	18 13 45.2	+0.1
	baz=275						
TWT				S	Sb	18 13 54.7	0.0
	baz=275						
OWD	**Renai**	**0.75**	**256**	*i* P	Pb	18 13 44.9	-0.4
	baz=250						
OWD				*i* S	Sb	18 13 54.6	-0.5
	baz=250						
TDCB	**Techi**	**0.75**	**279**	P	Pb	18 13 45.2	-0.1
	baz=275						
TDCB				S	Sb	18 13 54.7	-0.5
	baz=275						
YHNB	**Yeheng**	**0.75**	**315**	⇑*i*P	Pb	18 13 44.8	-0.6
	baz=306						
YHNB				S	Sb	18 13 54.4	-0.9
	baz=306						
NWLT	**Wulai**	**0.76**	**326**	P	Pb	18 13 45.2	-0.3
	baz=319						
NWLT				S	Sb	18 13 54.7	-0.8
	baz=319						
NSK	**Sanguang**	**0.77**	**314**	⇑*i*P	Pb	18 13 45.0	-0.7
	baz=306						
NSK				*i* S	Sb	18 13 54.9	-0.9
	baz=306						
HGSD	**Ruisui**	**0.81**	**218**	*e*P	Pb	18 13 46.4	+0.1
	baz=200						
HGSD				*e*S	Sn	18 13 58.2	+0.1
	baz=200						
TIPB	**Shuangxi**	**0.84**	**351**	⇑*i*P	Pb	18 13 46.9	+0.1
	baz=2.0						
TIPB				*i* S	Sn	18 13 58.2	-0.7
	baz=2.0						
VWDT	**VWDT**	**0.85**	**243**	*i* P	Pb	18 13 46.9	0.0
	baz=230						
VWDT				*e*S	Sb	18 13 57.1	-0.7
	baz=230						
EHY	**Hungye**	**0.86**	**223**	*e*P	Pb	18 13 46.8	-0.4
	baz=229						
EHY				*e*S	Sb	18 13 58.8	+0.5
	baz=229						
TWB1	**Santiao Chiao**	**0.86**	**1**	P	Pn	18 13 47.6	+0.1
	baz=5.0						
TWB1				*e*S	Sn	18 13 59.2	-0.2
	baz=5.0						
TATO	**Taipei**	**0.94**	**332**	*e*P	Pb	18 13 48.4	-0.1
	baz=321						
TATO				*e*S	Sb	18 14 00.5	0.0
	baz=321						
NWF	**Wu-fen Shan**	**0.94**	**350**	P	Pn	18 13 49.0	+0.3
	baz=344						
NWF				*e*S	Sn	18 14 02.6	+1.1
	baz=344						
WFSB	**Wu-fen Shan**	**0.94**	**350**	⇑*i*P	Pn	18 13 49.0	+0.4
	baz=352						
WFSB				*e*S	Sn	18 14 01.3	0.0
	baz=352						
WHP	**Taichung City**	**0.94**	**279**	P	Pn	18 13 48.6	-0.1
	baz=275						
WHP				*e*S	Sn	18 14 01.0	-0.5
	baz=275						
JYNG	**Yonagunijimaku**	**0.94**	**71**	P	Pb	18 13 49.1	+0.5
JYNG				S	Sn	18 14 02.6	+1.2
DPDB	**Guoxing**	**0.96**	**264**	P	Pb	18 13 48.4	-0.4
	baz=251						
DPDB				*e*S	Sn	18 14 01.9	+0.1
	baz=251						
YULB	**Yu-li**	**0.96**	**220**	P	Pb	18 13 47.9	-1.0
	baz=226						
EYUL	**Yuli**	**0.99**	**217**	*e*P	Pn	18 13 49.1	-0.1
	baz=226						
EYUL				*e*S	Sn	18 14 04.3	+1.8
	baz=226						
TAP	**Taipei**	**0.99**	**335**	*e*P	Pn	18 13 50.0	+0.7
	baz=323						
TAP				*e*S	Sn	18 14 02.9	+0.4
	baz=323						
SSLB	**Suanglung**	**0.99**	**249**	⇑*i*P	Pb	18 13 48.8	-0.6
	baz=244						
SSLB				*e*S	Sb	18 14 01.2	-0.8
	baz=244						
LIOB	**Emei**	**1.00**	**300**	P	Pn	18 13 49.5	0.0
	baz=291						
LIOB				*e*S	Sn	18 14 02.7	-0.2
	baz=291						
YOJ	**Yonaguni jima**	**1.00**	**71**	*e*P	Pn	18 13 49.7	+0.3
	baz=75						
YOJ	**Yonaguni jima**	**1.00**	**71**	P	Pn	18 13 49.9	+0.4
NSTT	**Nanjuang**	**1.01**	**299**	⇑*i*P	Pn	18 13 49.4	-0.2
	baz=290						
NSTT				*e*S	Sb	18 14 02.0	-0.5
	baz=290						
SMLT	**Sun Moon Lake**	**1.01**	**256**	P	Pn	18 13 49.5	-0.2
	baz=243						
SMLT				*e*S	Sn	18 14 02.9	-0.3
	baz=243						
YM01	**YM01**	**1.06**	**340**	*e*P	Pn	18 13 50.2	-0.1
	baz=329						
YM01				*e*S	Sn	18 14 04.5	0.0
	baz=329						
YM10	**YM10**	**1.08**	**340**	P	Pn	18 13 50.4	-0.2
	baz=329						
YM10				*e*S	Sn	18 14 06.2	+1.4
	baz=329						
YM11	**YM11**	**1.08**	**341**	*e*P	Pn	18 13 50.6	0.0
	baz=329						
YM11				*e*S	Sn	18 14 05.2	+0.3
	baz=329						
YM04	**YM04**	**1.08**	**339**	*e*P	Pn	18 13 50.4	-0.2
	baz=327						
YM04				*e*S	Sn	18 14 04.7	-0.2
	baz=327						
YM05	**YM05**	**1.08**	**340**	*e*P	Pn	18 13 50.3	-0.3
	baz=329						
YM05				*e*S	Sn	18 14 06.3	+1.3
	baz=329						
NCUH	**Zhongli**	**1.09**	**319**	*e*P	Pb	18 13 50.9	-0.1
	baz=319						
NCUH				*e*S	Sn	18 14 06.6	+1.6
	baz=319						
NCU	**National Centr**	**1.09**	**319**	*e*P	Pb	18 13 50.9	-0.1
	baz=319						
NCU				*e*S	Sn	18 14 06.5	+1.5
	baz=319						
NWRT	**Kuosheng**	**1.09**	**345**	*e*P	Pb	18 13 51.4	+0.3
	baz=347						
YM08	**YM08**	**1.10**	**342**	*e*P	Pn	18 13 50.3	-0.5
	baz=329						
SBCB	**Hsinchu**	**1.10**	**306**	P	Pb	18 13 51.4	+0.1
	baz=305						
SBCB				*e*S	Sn	18 14 07.8	+2.5
	baz=305						
YM03	**YM03**	**1.10**	**340**	*e*P	Pn	18 13 50.5	-0.4
	baz=328						
YM03				*e*S	Sn	18 14 06.3	+0.8
	baz=328						
TWQ1	**Liyutan**	**1.11**	**281**	P	Pb	18 13 51.7	+0.3
	baz=278						
TWQ1				*e*S	Sn	18 14 06.9	+1.4
	baz=278						
WHYT	**Xinyi Township**	**1.11**	**247**	*e*P	Pb	18 13 51.6	+0.2
	baz=242						
WHYT				*e*S	Sn	18 14 06.8	+1.2
	baz=242						
ANP	**Anpu**	**1.12**	**339**	*e*P	Pn	18 13 51.0	-0.1
	baz=328						
ANP				*e*S	Sn	18 14 06.2	+0.4
	baz=328						
FULB	**Fuli**	**1.12**	**214**	*e*P	Pb	18 13 52.3	+0.7
	baz=195						
FULB				*e*S	Sn	18 14 08.6	+2.8
	baz=195						
NTST	**Danshui**	**1.12**	**335**	*e*P	Pn	18 13 50.9	-0.2
	baz=336						
NTST				*e*S	Sn	18 14 08.2	+2.4
	baz=336						
NSY	**Sanyi**	**1.13**	**284**	*e*P	Pb	18 13 52.1	+0.3
	baz=281						
NSY				*e*S	Sn	18 14 07.8	+1.6
	baz=281						
NMLH	**Miaoli**	**1.14**	**290**	*e*P	Pb	18 13 53.0	+1.0
	baz=288						
NMLH				*e*S	Sn	18 14 08.6	+2.2
	baz=288						
CHKT	**Chengkung**	**1.17**	**208**	*e*P	Pn	18 13 50.8	-1.0
	baz=193						
CHKT				*e*S	Sn	18 14 05.4	-1.6
	baz=193						
WJS	**Zhushan**	**1.18**	**255**	P	Pb	18 13 53.2	+0.7
	baz=247						
WJS				*e*S	Sb	18 14 09.0	+1.7
	baz=247						
TCU	**Taichung**	**1.18**	**271**	P	Pb	18 13 53.1	+0.6
	baz=267						
TCU				*e*S	Sb	18 14 09.6	+2.2
	baz=267						
TWY	**Chenhua**	**1.18**	**344**	*e*P	Pb	18 13 52.5	-0.1
	baz=345						
TWY				*e*S	Sb	18 14 07.9	+0.5
	baz=345						
WNT	**Mingjian**	**1.20**	**258**	P	Pb	18 13 53.2	+0.3
	baz=240						
WNT				*e*S	Sb	18 14 09.7	+1.6
	baz=240						
WDJ	**Dajia District**	**1.23**	**280**	P	Pb	18 13 53.5	+0.1
	baz=277						
WDJ				*e*S	Sb	18 14 11.1	+2.2
	baz=277						
ALS	**Alishan**	**1.23**	**240**	P	Pb	18 13 53.6	-0.1
	baz=223						
ALS				*e*S	Sb	18 14 10.0	+0.7
	baz=223						
ELDTW	**Lidau**	**1.29**	**223**	*e*P	Pn	18 13 53.0	-0.5
	baz=208						
WCHH	**Zhanghua**	**1.29**	**268**	P	Pb	18 13 54.3	-0.1
	baz=264						
WCHH				*e*S	Sb	18 14 12.6	+2.1
	baz=264						
CHN5	**Tsauling**	**1.30**	**246**	P	Pb	18 13 54.9	+0.3
	baz=241						
CHN5				*e*S	Sb	18 14 11.7	+0.8
	baz=241						
EDH	**Donghe**	**1.31**	**208**	*e*P	Pn	18 13 54.0	+0.3
	baz=194						
EDH				*e*S	Sn	18 14 08.7	-1.8
	baz=194						
WGK	**Gukeng**	**1.36**	**251**	*e*P	Pb	18 13 56.1	+0.4
	baz=247						
WGK				*e*S	Sb	18 14 14.1	+1.4
	baz=247						
WDLH	**Douliu**	**1.38**	**251**	*e*P	Pb	18 13 56.3	+0.3
	baz=247						
WDLH				*e*S	Sb	18 14 15.4	+2.1
	baz=247						
LONT	**Longtian**	**1.45**	**212**	*e*P	Pn	18 13 55.0	-0.6
	baz=208						
LONT				*e*S	Sn	18 14 14.6	+0.7
	baz=208						
STYT	**Tauyuan**	**1.48**	**229**	*e*P	Pn	18 13 56.9	+0.9
	baz=224						
STYT				*e*S	Sb	18 14 16.8	+0.9
	baz=224						
TPUB	**Ta-pu**	**1.48**	**236**	P	Pb	18 13 57.8	+0.1
	baz=221						
TPUB				*e*S	Sb	18 14 17.3	+1.1
	baz=221						
PCYT	**Pengchaiyu**	**1.49**	**4**	*e*P	Pn	18 13 56.7	+0.6
	baz=6.0						
RLNB	**Erlin**	**1.49**	**261**	*e*P	Pb	18 13 57.2	-0.6
	baz=258						
RLNB				*e*S	Sb	18 14 17.9	+1.5
	baz=258						
WTK	**Tuku**	**1.51**	**253**	P	Pb	18 13 57.8	-0.5
	baz=249						
WTK				*e*S	Sb	18 14 17.9	+0.9
	baz=249						
WTP	**Ta-pu**	**1.53**	**235**	P	Pb	18 13 58.4	-0.1
	baz=230						
WTP				*e*S	Sb	18 14 19.1	+1.7
	baz=230						
LDUT	**Ludao**	**1.53**	**197**	*e*P	Pn	18 13 55.3	-1.4
	baz=187						
LDUT				*e*S	Sn	18 14 13.0	-2.9
	baz=187						
TWGBT	**Beinan**	**1.55**	**212**	*e*P	Pn	18 13 55.9	-1.1
	baz=208						
TWGBT				*e*S	Sn	18 14 15.6	-0.7
	baz=208						
TWG	**Pinlang**	**1.55**	**212**	*e*P	Pn	18 13 56.6	-0.4
	baz=208						
TWG				*e*S	Sn	18 14 15.7	-0.7
	baz=208						
CHY	**Chiayi**	**1.55**	**246**	*e*P	Pb	18 13 58.4	-0.5
	baz=242						

CHY					*e*S		**Sb**	**18 14 19.8 +1.7**											
	baz=242																		
WTCT	**Ta-ch'eng**	**1.57 260**		*e*P		**Pb**	**18 13 58.3 -0.9**												
	baz=257																		
WTCT					*e*S		**Sb**	**18 14 19.2 +0.7**											
	baz=257																		
TWK	**Hsinying**	**1.61 238**		P		**Pb**	**18 13 59.4 -0.5**												
	baz=233																		
TWK					*e*S		**Sb**	**18 14 19.8 0.0**											
	baz=233																		
IRIF	**Iriomote-Funau**	**1.62 83**		P		**Pn**	**18 13 58.5 +0.6**												
CHN1	**Nanshi**	**1.63 235**		P		**Pb**	**18 14 00.0 -0.1**												
	baz=230																		
CHN1					*e*S		**Sb**	**18 14 21.0 +0.7**											
	baz=230																		
SNST	**Tainan City**	**1.63 236**		*e*P		**Pb**	**18 13 59.7 -0.6**												
	baz=232																		
SNST					*e*S		**Sb**	**18 14 20.9 +0.5**											
	baz=232																		
SGST	**Jiashian**	**1.65 231**		P		**Pn**	**18 13 59.4 +1.1**												
	baz=226																		
SGST					*e*S		**Sb**	**18 14 21.9 +0.9**											
	baz=226																		
WLGB	**Puzi**	**1.66 247**		P		**Pn**	**18 13 59.5 +0.9**												
	baz=243																		
WLGB					*e*S		**Sb**	**18 14 22.0 +0.7**											
	baz=243																		
SLGT	**Liugui**	**1.67 227**		P		**Pb**	**18 14 00.3 -0.5**												
	baz=223																		
SLGT					*e*S		**Sb**	**18 14 22.7 +1.3**											
	baz=223																		
WSF	**Szhu**	**1.67 253**		*e*P		**Pb**	**18 14 00.4 -0.6**												
	baz=249																		
WSF					*e*S		**Sb**	**18 14 23.4 +1.8**											
	baz=249																		
HATJ	**Hateruma jima**	**1.68 92**		P		**Pn**	**18 13 59.8 +1.0**												
HATJ				S		**Sb**	**18 14 21.7 -0.2**												
ICHU	**Yijhu**	**1.73 244**		P		**Pb**	**18 14 01.4 -0.5**												
	baz=240																		
ICHU					*e*S		**Sb**	**18 14 24.9 +1.6**											
	baz=240																		
CHN8	**Yiju**	**1.79 244**		P		**Pb**	**18 14 01.6 -1.4**												
	baz=241																		
CHN8					*e*S		**Sb**	**18 14 26.0 +0.9**											
	baz=241																		
ECL	**Taimali**	**1.80 211**		*e*P		**Pn**	**18 14 00.7 +0.4**												
	baz=207																		
ECL					*e*S		**Sn**	**18 14 20.8 -1.6**											
	baz=207																		
CHN3	**Shinhua**	**1.81 235**		*e*P		**Pn**	**18 14 01.5 +0.9**												
	baz=230																		
SCST	**Cishan**	**1.84 228**		*e*P		**Pb**	**18 14 04.2 +0.3**												
	baz=223																		
SCST					*e*S		**Sb**	**18 14 28.0 +1.6**											
	baz=223																		
SSD	**Sandimen**	**1.85 222**		P		**Pn**	**18 14 02.3 +1.2**												
	baz=201																		
SSD					*e*S		**Sb**	**18 14 26.5 -0.3**											
	baz=201																		
JKRS	**Kuro-shima**	**1.87 87**		P		**Pn**	**18 14 02.4 +1.1**												
TSMG	**Majia**	**1.87 221**		P		**Pb**	**18 14 03.4 -1.0**												
	baz=201																		
TSMG					*e*S		**Sb**	**18 14 27.6 +0.2**											
	baz=201																		
SCLT	**Jiali**	**1.89 240**		*e*S		**Sb**	**18 14 27.8 0.0**												
	baz=236																		
TWM1	**Shoushan**	**1.93 228**		*e*P		**Pb**	**18 14 05.9 +0.5**												
	baz=223																		
TWM1					*e*S		**Sb**	**18 14 30.2 +1.2**											
	baz=223																		
MASBT	**Mashibuluo**	**1.95 219**		*e*P		**Pn**	**18 14 03.4 +0.8**												
	baz=201																		
MASBT					*e*S		**Sb**	**18 14 29.2 -0.5**											
	baz=201																		
SGLT	**Jiouru**	**1.96 224**		*e*P		**Pb**	**18 14 06.3 +0.6**												
	baz=204																		
SGLT					*e*S		**Sb**	**18 14 32.4 +2.7**											
	baz=204																		
JIJ	**Ishigaki jima**	**2.00 83**		P		**Pn**	**18 14 03.7 +0.6**												
EAST	**Anshuo**	**2.03 211**		*e*P		**Pn**	**18 14 03.9 +0.2**												
	baz=197																		
SSPT	**Xinbi**	**2.09 218**		*e*P		**Pb**	**18 14 07.4 -0.7**												
	baz=201																		
SSPT					*e*S		**Sb**	**18 14 32.4 -1.2**											
	baz=201																		
LAY	**Lan-yu**	**2.13 190**		*e*P		**Pn**	**18 14 03.4 -1.5**												
	baz=187																		
SCZT	**Fangliau**	**2.15 215**		*e*P		**Pb**	**18 14 07.5 -1.7**												
	baz=200																		
SCZT					*e*S		**Sn**	**18 14 33.3 +2.1**											
	baz=200																		
JISG	**Ishigakijimahi**	**2.18 78**		P		**Pn**	**18 14 05.9 +0.2**												
JISG				S		**Sn**	**18 14 32.1 +0.1**												
SLIU	**Shizi**	**2.20 210**		*e*P		**Pn**	**18 14 07.2 +1.4**												
	baz=196																		
PHUB	**P'eng-hu**	**2.28 255**		*e*P		**Pn**	**18 14 07.1 +0.1**												
	baz=252																		
PHUB					*e*S		**Sn**	**18 14 35.5 +1.1**											
	baz=252																		
PNG	**Penghu**	**2.28 256**		*e*P		**Pn**	**18 14 07.1 +0.1**												
	baz=253																		
PNG					*e*S		**Sn**	**18 14 35.3 +1.0**											
	baz=253																		
WDGT	**Dungji**	**2.29 248**		*e*P		**Pn**	**18 14 08.2 +1.1**												
	baz=245																		
WDGT					*e*S		**Sn**	**18 14 35.5 +0.9**											
	baz=245																		
HEN	**Hengchun**	**2.41 208**		*e*P		**Pb**	**18 14 11.6 -1.9**												
	baz=191																		
HEN					*e*S		**Sn**	**18 14 37.9 +0.4**											
	baz=191																		
PTTC	**Pingtan**	**2.41 305**		*e*P		**Pn**	**18 14 07.5 -1.3**												
	baz=302																		
TWK1	**Hengchun**	**2.43 206**		*e*P		**Pn**	**18 14 09.2 0.0**												
	baz=190																		
TWK1					*e*S		**Sn**	**18 14 37.3 -0.9**											
	baz=190																		
TWKBT	**Hengchun**	**2.43 206**		*e*P		**Pn**	**18 14 09.6 +0.4**												
	baz=194																		
VWUC	**VWUC**	**2.44 291**		*i* P		**Pn**	**18 14 08.5 -0.7**												
	baz=288																		
VCHM	**Qimei**	**2.50 249**		*e*P		**Pn**	**18 14 10.7 +0.6**												
	baz=233																		
VCHM					*e*S		**Sn**	**18 14 40.9 +1.0**											
	baz=233																		
LYJJ	**Jianjiangzhen**	**3.12 321**		*e*P		**Pn**	**18 14 17.4 -1.2**												
	baz=318																		
QZH	**Quanzhou**	**3.18 285**	⇑	*i* Pn		**Pn**	**18 14 18.6 -0.7**												
QZH				Sn		**Sn**	**18 14 54.3 -2.2**												
QZH				smax		smax													
	comp=N,89nm,0.3s																		
QZH				smax		smax													
	comp=E,86nm,0.3s																		
XPSS	**Dashiqiu**	**3.21 330**		*e*P		**Pn**	**18 14 19.1 -0.7**												
	baz=328																		
KNMB	**Chin-men Tao**	**3.28 276**		*e*P		**Pn**	**18 14 20.0 -0.7**												
	baz=272																		
ZPLA	**Ao Xicun**	**3.86 268**		*e*P		**Pn**	**18 14 28.3 -0.4**												
	baz=263																		
CMAR	**Chiang Mai Arr**	**22.17 260**		P		**P**	**18 18 27.6 +2.2**												
	0.6nm,0.8s,baz=59,slow=6.8,SNR=7.2																		
SONM	**Songino Array**	**26.69 336**		P		**P**	**18 19 07.6 -0.7**												
	0.6nm,0.7s,baz=145,slow=10,SNR=3.9																		
SONM					LR		LR	18 30 54.3											
	comp=Z,47nm,20.1s,baz=131,slow=37																		
MKAR	**Makanchi Array**	**38.87 316**		P		**P**	**18 20 54.5 +0.2**												
	0.8nm,0.5s,baz=102,slow=10,SNR=15																		
ZALV	**Zalesovo Beam**	**40.67 327**		P		**P**	**18 21 06.5 -2.7**												
	0.3nm,0.3s,baz=122,slow=10,SNR=2.6																		

IDC ***24*** *18:15:00.9±0.6,7˚.15S×146˚.11E,h171km±6km,mb4.1/22, mb1 4.2/27,mb1mx4.1/42,mbtmp4.6/27,MS3.1/5, Ms1 3.1/5,ms1mx2.7/29,Error ellipse: s-maj=11.8km s-min=7.0km az=88.0*

BJI ***24*** *18:15:00.0±0.0,6˚.96S×146˚.35E,h180km,mB4.8/30, mb4.7/50*

DJA ***24*** *18:15:01.0±0.6,7˚.S±4˚×14˚.6E±˚,h160km±7km,M4.8/18, mb4.7/18,mB5.3/5,MLv4.9/2,Mw(mB)4.7/5*

NEIC ***24*** *18:15:01.4±1.7,7˚.16S±0˚.07×146˚.10E±0˚.09,h180km±5km, mb4.7/112, Error ellipse: s-maj=12.4km s-min=10.4km az=85.0*

ISC 24 18:15:01.0±0.4,7˚.14S±0˚.04×146˚.11E±0˚.05,h175km±4km, h176km:pP-P,n205,σ0.97/228,mb4.7/78,5C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**2.48**	**155**	P		**Pn**	**18 15 43.7**	**+0.4**
	64nm,0.3s,baz=15,slow=5.7,SNR=188							
PMG				S		**Sn**	**18 16 15.3**	**-0.8**
	58nm,0.3s,baz=249,slow=20,SNR=14							
PMG				LR	LR		18 16 44.1	
	comp=Z,442nm,21.9s,baz=54,slow=42							
KRVT	**Keravat (AS076**	**6.52**	**65**	P		**Pn**	**18 16 35.2**	**+0.3**
	38nm,0.3s,baz=162,slow=0.4,SNR=57							
KRVT				LR	LR		18 19 12.8	
	comp=Z,176nm,19.7s,baz=301,slow=39							
RABL	**Rabaul**	**6.70**	**64**	Pn		**Pn**	**18 16 37.5**	**+0.3**
COEN	**Coen**	**7.37**	**203**	Pn		**Pn**	**18 16 44.4**	**-1.6**
CTA	**Charters Tower**	**12.87**	**179**	P		**P**	**18 17 60.0**	**-2.0**
	0.0nm,0.3s,baz=346,slow=14,SNR=3.1							
CTAO	**Charters Tower**	**12.87**	**179**			**P**	**18 18 02.2**	**+0.2**
HNR	**Honiara**	**13.88**	**100**	P		**P**	**18 18 12.4**	**-0.8**
	8.6nm,0.3s,baz=353,slow=1.3,SNR=18							
HNR	**Honiara**	**13.88**	**100**			**P**	**18 18 12.8**	**-0.4**
FAKI	**Fak Fak**	**14.43**	**286**			**P**	**18 18 19.2**	**-0.1**
MTN	**Manton Dam**	**15.80**	**248**			**Pn**	**18 18 32.9**	**-1.3**
MTN				IAmb		IAmb	18 19 08.9	
	comp=Z,42nm,1.2s							
SIJI	**Sorong**	**16.06**	**292**	P		**P**	**18 18 36.3**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=130,slow=11,SNR=6.3							
WB0	**Warramunga Arr**	**16.94**	**221**	P		**P**	**18 18 46.9**	**-0.2**
WR0	**Warramunga Arr**	**16.98**	**220**	P		**P**	**18 18 47.2**	**-0.4**
WRAB	**Tennant Creek**	**17.09**	**221**	P		**P**	**18 18 48.6**	**0.0**
WB2	**Warramunga Arr**	**17.09**	**221**			**P**	**18 18 46.8**	**-1.9**
WRA	**Warramunga Arr**	**17.10**	**221**	P		**P**	**18 18 49.0**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=39,slow=12,SNR=70							
WRA				S		**Sn**	**18 22 06.2**	**+4.3**
	comp=Z,0.4nm,0.3s,baz=40,slow=17,SNR=4.7							
WRA				PcP		**PcP**	**18 23 24.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=7.4,slow=1.0,SNR=5.3							
WRA				LR	LR		18 25 32.9	
	comp=Z,46nm,20.0s,baz=25,slow=37							
WRA	**Warramunga Arr**	**17.10**	**221**	P		**P**	**18 18 47.6**	**-1.2**
PATS	**Pohnpei**	**18.46**	**42**	P		**P**	**18 19 04.7**	**+1.0**
EIDS	**Eidsvold**	**18.74**	**166**			**Pn**	**18 19 08.9**	**-0.2**
KNRA	**Kununurra**	**18.99**	**242**	P		**P**	**18 19 08.5**	**-1.0**
KNRA				IAmb		IAmb	18 19 47.4	
	comp=Z,63nm,1.7s							
AS31	**Alice Springs**	**20.18**	**214**	P		**P**	**18 19 22.5**	**+0.2**
ASAR	**Alice Springs**	**20.19**	**214**	P		**P**	**18 19 22.2**	**0.0**
	comp=Z,3.7nm,0.7s,baz=49,slow=8.9,SNR=74							
ASAR				pP		**pP**	**18 19 49.4**	**-2.9**
	comp=Z,8.6nm,0.9s,baz=43,slow=11,SNR=7.3							
ASAR				S		**S**	**18 23 00.7**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=32,slow=27,SNR=5.0							
ASAR	**Alice Springs**	**20.19**	**214**	P		**P**	**18 19 22.1**	**-0.2**
TNTI	**Ternate**	**20.28**	**292**	P		**P**	**18 19 24.0**	**+0.6**
TNTI				IAmb		IAmb	18 19 28.2	
	comp=Z,48nm,1.8s							
SOEI	**Soe**	**21.76**	**262**	P		**P**	**18 19 41.0**	**+1.8**
SOEI				IAmb		IAmb	18 20 14.2	
	comp=Z,31nm,1.1s							
SANVU	**Saraoutou**	**22.25**	**114**	P		**P**	**18 19 44.1**	**+0.2**
BATI	**Baumata**	**22.40**	**261**	P		**P**	**18 19 45.8**	**+0.6**
	comp=Z,17nm,0.5s,baz=78,slow=4.7,SNR=7.3							
FITZ	**Fitzroy Crossi**	**22.72**	**239**	P		**P**	**18 19 46.5**	**-1.7**
	comp=Z,8.5nm,0.6s,baz=55,slow=13,SNR=24							
FITZ				LR	LR		18 30 25.2	
	comp=Z,46nm,20.4s,baz=70,slow=41							
FITZ	**Fitzroy Crossi**	**22.72**	**239**	P		**P**	**18 19 46.4**	**-1.8**
MMRI	**Maumere**	**23.69**	**265**	P		**P**	**18 19 56.7**	**-0.4**
ARMA	**Armidale**	**23.73**	**168**	P		**P**	**18 19 58.1**	**+0.7**
ARMA				IAmb		IAmb	18 20 01.7	
	comp=Z,22nm,1.4s							
DZM	**Mont Dzumac**	**24.60**	**129**	P		**P**	**18 20 05.4**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=255,slow=13,SNR=5.6							
DZM	**Mont Dzumac**	**24.60**	**129**	IAmb		IAmb	18 20 16.1	
	comp=Z,18nm,1.1s							
STKA	**Stephens Creek**	**24.97**	**189**	P		**P**	**18 20 08.9**	**+0.5**
	comp=Z,7.0nm,0.5s,baz=359,slow=8.6,SNR=35							
STKA				LR	LR		18 32 00.4	
	comp=Z,42nm,18.6s,baz=11,slow=41							
STKA	**Stephens Creek**	**24.97**	**189**	P		**P**	**18 20 08.3**	**-0.2**
BBOO	**Buckleboo**	**27.20**	**199**	P		**P**	**18 20 28.6**	**+0.1**
CAN	**Canberra**	**28.17**	**175**	P		**P**	**18 20 36.7**	**-0.4**
FORT	**Forrest**	**28.97**	**213**	P		**P**	**18 20 42.9**	**-1.3**
FORT				IAmb		IAmb	18 20 49.4	
	comp=Z,15nm,1.1s							
PSAC2	**Pilbara Seismi**	**29.09**	**238**	P		**P**	**18 20 46.1**	**+0.7**
MYLDM	**Lahad Datu**	**30.15**	**293**	P		**P**	**18 20 54.9**	**+0.1**
MYLDM				IAmb		IAmb	18 20 57.6	
	comp=Z,16nm,1.1s							
TOO	**Toolangi**	**30.30**	**181**	P		**P**	**18 20 55.9**	**0.0**
TOO				IAmb		IAmb	18 20 59.5	
	comp=Z,31nm,1.6s							
JAGI	**Jajag, Banyuwa**	**31.68**	**265**	P		**P**	**18 21 05.8**	**-2.6**
KKM	**Kota Kinabalu**	**32.58**	**293**	P		**P**	**18 21 15.1**	**-1.1**
KKM				IAmb		IAmb	18 21 16.0	
	comp=Z,12nm,0.9s							
WAKE	**Wake Island**	**33.15**	**37**	P		**P**	**18 21 18.9**	**-2.1**
JCJ	**Chichijima**	**34.24**	**354**	P		**P**	**18 21 29.3**	**-1.0**
GIRL	**Giralia**	**34.33**	**240**	P		**P**	**18 21 32.4**	**+1.1**
SBUM	**Sibu**	**35.14**	**285**	P		**P**	**18 21 38.2**	**0.0**
UGM	**Wanagama**	**35.28**	**266**	P		**P**	**18 21 38.2**	**-1.3**
TAU	**Tasmania Unive**	**35.64**	**178**	P		**P**	**18 21 43.8**	**+1.7**
MORW	**Morawa**	**35.76**	**229**	P		**P**	**18 21 43.1**	**-0.3**
MORW				IAmb		IAmb	18 21 44.4	
	comp=Z,19nm,1.4s							
NWAO	**Narrogin (SRO)**	**37.10**	**222**	P		**P**	**18 21 54.5**	**-0.2**
NWAO				IAmb		IAmb	18 22 16.9	
	comp=Z,41nm,1.4s							
NWAO	**Narrogin (SRO)**	**37.10**	**222**	P		**P**	**18 21 54.5**	**-0.2**
NWAO				IAmb		IAmb	18 22 16.9	
	comp=Z,34nm,1.4s							
CISI	**Cisompet, Garu**	**37.98**	**267**	P		**P**	**18 22 01.2**	**-1.1**
TWG	**Pinlang**	**38.56**	**321**	P		**P**	**18 22 06.5**	**-0.5**
TWG				IAmb		IAmb	18 22 43.5	
	comp=Z,54nm,1.6s							
YOJ	**Yonaguni jima**	**38.65**	**325**	P		**P**	**18 22 08.8**	**+1.1**
YULB	**Yu-li**	**38.84**	**322**	P		**P**	**18 22 09.3**	**-0.1**
YULB				IAmb		IAmb	18 22 36.1	
	comp=Z,48nm,1.5s							
TPUB	**Ta-pu**	**39.19**	**321**	P		**P**	**18 22 11.9**	**-0.3**
NACB	**Ninganchiao**	**39.25**	**323**	P		**P**	**18 22 13.6**	**+0.9**
NACB				IAmb		IAmb	18 22 15.1	
	comp=Z,22nm,0.9s							
SSLB	**Suanglung**	**39.35**	**322**	P		**P**	**18 22 13.5**	**0.0**
SSLB				IAmb		IAmb	18 22 21.4	
	comp=Z,14nm,0.9s							
YHNB	**Yeheng**	**39.76**	**323**	P		**P**	**18 22 17.8**	**+0.8**
TATO	**Taipei**	**39.92**	**324**	P		**P**	**18 22 19.6**	**+1.4**
HIZ	**Hauiti**	**40.61**	**145**	P		**P**	**18 22 24.5**	**+0.7**
NNZ	**Nelson**	**41.72**	**149**	P		**P**	**18 22 34.8**	**+2.1**
URZ	**Urewera**	**41.78**	**143**	P		**P**	**18 22 35.1**	**+1.9**
URZ				IAmb		IAmb	18 23 01.6	
	comp=Z,82nm,1.8s							
BKZ	**Black Stump Fm**	**42.00**	**144**	P		**P**	**18 22 36.2**	**+1.1**
BKZ				IAmb		IAmb	18 22 45.4	
	comp=Z,70nm,1.7s							
TUWZ	**Tuamarina**	**42.16**	**148**	P		**P**	**18 22 38.2**	**+1.9**
JMN	**Monobe**	**42.27**	**345**	P		**P**	**18 22 35.1**	**-2.2**
JMN				IAmb		IAmb	18 22 39.3	
	comp=Z,70nm,1.7s							
DCZ	**Deep Cove**	**42.31**	**158**	P		**P**	**18 22 38.4**	**+0.9**
DCZ				IAmb		IAmb	18 22 40.1	
	comp=Z,36nm,1.2s							
LTZ	**Lake Taylor**	**42.33**	**151**	P		**P**	**18 22 37.0**	**-0.7**
LTZ				IAmb		IAmb	18 22 51.0	
	comp=Z,38nm,1.3s							
BSWZ	**Blackbirch Sta**	**42.33**	**149**	P		**P**	**18 22 40.0**	**+2.3**
RPZ	**Rata Peaks**	**42.48**	**153**	P		**P**	**18 22 40.0**	**+1.1**
JNU	**Nakatsue**	**42.58**	**341**	P		**P**	**18 22 39.6**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=202,slow=11,SNR=3.6							
JNU	**Nakatsue**	**42.58**	**341**	P		**P**	**18 22 40.1**	**+0.3**
MLZ	**Mavora Lakes**	**42.60**	**157**	P		**P**	**18 22 40.9**	**+1.1**
MLZ				IAmb		IAmb	18 23 09.8	
	comp=Z,35nm,1.3s							
LBZ	**Lake Benmore**	**42.64**	**154**	P		**P**	**18 22 41.2**	**+1.0**
KHZ	**Kahutara**	**42.67**	**150**	P		**P**	**18 22 41.5**	**+1.1**
KHZ				IAmb		IAmb	18 23 06.7	
	comp=Z,46nm,1.4s							
BFZ	**Birch Farm**	**42.88**	**146**	P		**P**	**18 22 43.5**	**+1.4**
WHZ	**Wether Hill Ro**	**42.97**	**158**	P		**P**	**18 22 43.1**	**+0.4**
JGF	**Kuroka**	**43.30**	**350**	P		**P**	**18 22 45.0**	**-0.6**
ODZ	**Otahua Downs**	**43.36**	**155**	P		**P**	**18 22 46.5**	**+0.6**
ODZ				IAmb		IAmb	18 22 51.5	
	comp=Z,36nm,1.3s							
JWT	**Wachi**	**43.38**	**347**	P		**P**	**18 22 46.5**	**+0.3**

JHS	**Saijyo**	**43.67**	**344**	P		**P**	**18 22 48.2**	**-0.3**											
JHS				IAmb		IAmb	18 23 14.5												
	comp=Z,39nm,1.7s																		
MJAR	**Matsushiro Arr**	**44.08**	**351**	P		**P**	**18 22 50.8**	**-1.0**											
	comp=Z,4.3nm,0.8s,baz=181,slow=9.6,SNR=12																		
MJAR				PcP		**PcP**	**18 24 34.0**	**+0.1**											
	comp=Z,1.8nm,0.9s,baz=172,slow=3.7,SNR=5.7																		
MJAR	**Matsushiro Arr**	**44.08**	**351**			**PcP**	**18 24 34.8**	**+0.9**											
MAJO	**Matsushiro**	**44.08**	**351**	P		**P**	**18 22 50.5**	**-1.2**											
MAT	**Matsushiro**	**44.08**	**351**	P		**P**	**18 22 50.8**	**-0.9**											
JMM	**Marumori**	**45.05**	**354**	P		**P**	**18 22 59.6**	**+0.3**											
JMM				IAmb		IAmb	18 23 13.8												
	comp=Z,86nm,1.8s																		
JSD	**Sado**	**45.53**	**351**	P		**P**	**18 23 03.3**	**+0.2**											
JSD				PcP		**PcP**	**18 24 39.5**	**+0.7**											
IPM	**Ipoh**	**46.45**	**283**	P		**P**	**18 23 10.7**	**-0.1**											
IPM				IAmb		IAmb	18 23 11.4												
	comp=Z,18nm,0.7s																		
KULM	**Kulim**	**47.02**	**284**	P		**P**	**18 23 14.7**	**-0.5**											
KULM				IAmb		IAmb	18 23 15.6												
	comp=Z,12nm,0.7s																		
KSRS	**Korea Array**	**47.51**	**340**	P		**P**	**18 23 18.8**	**+0.2**											
	comp=Z,9.6nm,0.8s,baz=160,slow=8.7,SNR=29																		
KSRS				PcP		**PcP**	**18 24 47.5**	**+1.7**											
	comp=Z,2.2nm,0.9s,baz=159,slow=3.8,SNR=6.1																		
KSAR	**Wonju Array Be**	**47.51**	**340**	P		**P**	**18 23 19.4**	**+0.9**											
KSAR				PcP		**PcP**	**18 24 47.3**	**+1.4**											
KS19	**Wonju Array Si**	**47.57**	**340**	P		**P**	**18 23 19.1**	**+0.1**											
KS19				IAmb		IAmb	18 23 20.2												
	comp=Z,22nm,1.0s																		
GSI	**Gunungsitoli**	**49.15**	**278**	P		**P**	**18 23 30.2**	**-1.3**											
GSI				IAmb		IAmb	18 23 30.4												
	comp=Z,16nm,0.9s																		
GYA	**Guiyang**	**50.78**	**313**	⇑P		**P**	**18 23 45.1**	**+1.3**											
GYA				pP		pP	18 24 21.4	-2.5											
GYA				pmax		pmax													
	comp=Z,15nm,0.9s																		
JKA	**Kamik

VNDA	**Vanda**	**70.84**	**176**	P	**P**	**18 25 58.8**	**+0.6**
VNDA				pP	**pP**	**18 26 41.1**	**+0.9**
WMQ	**Urumqi**	**73.08**	**320**	*e*P	**P**	**18 26 13.4**	**+1.2**
AKUT	**Akutan**	**73.14**	**27**	P	**P**	**18 26 12.7**	**+0.5**
MK31	**Makanchi Array**	**77.81**	**321**	P	**P**	**18 26 39.6**	**+0.6**
MK31				pP	**pP**	**18 27 23.8**	**+1.6**
MKAR	**Makanchi Array**	**77.81**	**321**	P	**P**	**18 26 39.8**	**+0.7**
	comp=Z,6.0nm,0.6s,baz=101,slow=6.9,SNR=80						
MKAR				pP	**pP**	**18 27 22.5**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=114,slow=8.1,SNR=2.2						
MKAR	**Makanchi Array**	**77.81**	**321**	P	**P**	**18 26 39.5**	**+0.4**
MKAR					**pP**	**18 27 22.6**	**+0.4**
MAKZ	**Makanchi**	**78.01**	**321**	P	**P**	**18 26 40.1**	**-0.1**
MAKZ				IAmb	IAmb	18 26 41.2	
	comp=Z,9.3nm,0.6s						
MAKZ					**pP**	**18 27 24.3**	**+0.9**
PRZ	**Przheval'sk**	**78.73**	**316**	P	**P**	**18 26 44.9**	**+0.5**
TIXI	**Tiksi**	**79.45**	**355**	P	**P**	**18 26 46.8**	**-0.6**
TIXI				IAmb	IAmb	18 26 48.7	
	comp=Z,9.0nm,0.8s						
KSH	**Kashi**	**79.48**	**312**	P	**P**	**18 26 49.8**	**+1.4**
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
ZAA0	**Zalesovo Array**	**79.50**	**328**	P	**P**	**18 26 47.1**	**-0.9**
ZAA0				IAmb	IAmb	18 26 48.6	
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	**79.50**	**328**	P	**P**	**18 26 47.7**	**-0.3**
	comp=Z,15nm,0.9s,baz=107,slow=5.1,SNR=38						
ZALV	**Zalesovo Beam**	**79.50**	**328**	P	**P**	**18 26 47.1**	**-0.9**
NIL	**Nilore**	**79.87**	**306**	P	**P**	**18 26 50.6**	**+0.1**
NIL				pP	**pP**	**18 27 34.7**	**+0.7**
BOOM	**Boomskoye usch**	**80.45**	**315**	P	**P**	**18 26 54.5**	**+0.8**
BOOM				IAmb	IAmb	18 26 55.5	
	comp=Z,16nm,0.7s						
BOOM				pP	**pP**	**18 27 38.1**	**+1.1**
TKM2	**Tokmak 2**	**80.83**	**315**	P	**P**	**18 26 56.5**	**+0.8**
	SNR=6.4						
MAW	**Mawson**	**80.86**	**203**	P	**P**	**18 26 54.9**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=108,slow=6.5,SNR=15						
MAW	**Mawson**	**80.86**	**203**	P	**P**	**18 26 54.9**	**-0.2**
KBK	**Karagaybulak**	**81.20**	**315**	P	**P**	**18 26 58.2**	**+0.6**
	SNR=5.2						
UCH	**Uchtor**	**81.37**	**315**	P	**P**	**18 27 00.1**	**+1.3**
	SNR=21						
CHMS	**Chumysh**	**81.44**	**315**	P	**P**	**18 26 59.2**	**+0.5**
	SNR=7.5						
FRU1	**Bishkek**	**81.47**	**315**	P	**P**	**18 26 58.7**	**-0.2**
FRU1				IAmb	IAmb	18 27 00.6	
	comp=Z,12nm,1.1s						
AAK	**Ala-Archa**	**81.51**	**315**	P	**P**	**18 27 00.2**	**+0.9**
	SNR=10						
KURK	**Kurchatov**	**81.59**	**324**	P	**P**	**18 26 59.0**	**-0.2**
SVW2	**Sparrevohn**	**81.64**	**25**	P	**P**	**18 27 00.3**	**+1.0**
AML	**Almayashu**	**81.92**	**314**	P	**P**	**18 27 02.8**	**+1.1**
	SNR=21						
EKS2	**Erkin-Say**	**82.02**	**315**	P	**P**	**18 27 02.9**	**+1.1**
	SNR=15						
QSPA	**South Pole Qui**	**82.84**	**180**	P	**P**	**18 27 05.2**	**-0.4**
QSPA				IAmb	IAmb	18 27 06.4	
	comp=Z,16nm,0.7s						
QSPA					**pP**	**18 27 49.7**	**+0.8**
BTK	**Batken**	**83.44**	**312**	P	**P**	**18 27 09.2**	**+0.1**
GAR	**Garm**	**83.55**	**311**	P	**P**	**18 27 09.5**	**-0.3**
GAR				IAmb	IAmb	18 27 15.2	
	comp=Z,14nm,1.1s						
CHGR	**Chuyangaron**	**84.34**	**310**	P	**P**	**18 27 13.1**	**-0.7**
CHGR				IAmb	IAmb	18 27 14.3	
	comp=Z,17nm,0.6s						
KK06	**Karatay Array**	**84.44**	**315**	P	**P**	**18 27 14.0**	**-0.1**
KK05	**Karatay Array**	**84.44**	**315**	P	**P**	**18 27 14.0**	**-0.1**
KK31	**Karatay Array**	**84.45**	**315**	P	**P**	**18 27 13.9**	**-0.2**
KKAR	**Karatay Array**	**84.45**	**315**	P	**P**	**18 27 13.9**	**-0.2**
KKAR	**Karatay Array**	**84.45**	**315**	P	**P**	**18 27 13.9**	**-0.2**
KKAR				pP	**pP**	**18 27 57.6**	**-0.3**
PMR	**Palmer**	**84.61**	**26**	P	**P**	**18 27 14.2**	**-0.3**
PMR				IAmb	IAmb	18 27 15.2	
	comp=Z,9.3nm,0.8s						
NRIK	**Noril'sk**	**86.08**	**342**	P	**P**	**18 27 21.7**	**+0.1**
	comp=Z,5.8nm,0.6s,baz=142,slow=4.5,SNR=7.6						
IL31		**86.87**	**23**	P	**P**	**18 27 24.6**	**-0.9**
IL31				IAmb	IAmb	18 27 25.4	
	comp=Z,9.8nm,0.9s						
ILAR	**Eielson Array**	**86.87**	**23**	P	**P**	**18 27 24.5**	**-1.1**
	comp=Z,6.2nm,0.8s,baz=255,slow=4.9,SNR=53						
ILAR				pP	**pP**	**18 28 06.9**	**-2.3**
	comp=Z,0.9nm,0.7s,baz=251,slow=5.1,SNR=2.0						
ILAR	**Eielson Array**	**86.87**	**23**	P	**P**	**18 27 24.2**	**-1.4**
MENT	**Mentasta**	**87.47**	**26**	P	**P**	**18 27 28.8**	**+0.3**
HRA	**Herat**	**88.95**	**305**	P	**P**	**18 27 35.9**	**-0.5**
EGAK	**Eagle**	**89.16**	**24**	P	**P**	**18 27 36.5**	**+0.1**
EGAK				IAmb	IAmb	18 27 37.9	
	comp=Z,5.2nm,0.8s						
SYO	**Syowa Base**	**89.23**	**200**⇑	*e*P	**P**	**18 27 35.4**	**-1.3**
SYO	**Syowa Base**	**89.23**	**200**⇑	*e*PcP	**PcP**	**18 27 39.7**	**+1.7**
ABKAR	**Akbulak array**	**92.85**	**319**	P	**P**	**18 27 52.5**	**-1.4**
ABKAR				IAmb	IAmb	18 27 53.6	
	comp=Z,4.2nm,0.9s						
ABKAR				pP	**pP**	**18 28 37.1**	**-1.1**
ABKAR	**Akbulak array**	**92.85**	**319**	P	**P**	**18 27 52.2**	**-1.7**
ABKAR				pP	**pP**	**18 28 37.1**	**-1.1**
SNAA	**Sanae**	**98.73**	**190**	P	**P**	**18 28 19.5**	**-0.8**
TXAR	**Lajitas Array**	**111.08**	**61**	PKKPab	PKKPab	18 44 22.5	+0.7
	comp=Z,0.7nm,0.8s,baz=113,slow=6.0,SNR=6.5						
PLCA	**Paso Flores**	**121.65**	**148**	PKP	**PKiKP**	**18 33 35.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=315,slow=1.4,SNR=3.8						
GERES	**GERESS Array B**	**122.33**	**325**	PKP	**PKPdf**	**18 33 34.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=95,slow=1.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**144.49**	**283**	PKP	PKPbc	18 34 16.8	+0.2
	comp=Z,21nm,0.7s,baz=64,slow=3.2,SNR=119						
SAML	**Samuel**	**146.72**	**118**		**PKPbc**	**18 34 23.0**	**-0.4**
KOWA	**Kowa**	**149.79**	**287**		**PKPbc**	**18 34 31.2**	**-0.1**
KIC	**Kosan Boka**	**151.04**	**270**	*e*PKP1	**PKiKP**	**18 34 34.7**	**-0.2**
	comp=Z,56nm,0.9s						
DBIC	**Dimbokro**	**151.18**	**271**	PKPbc	**PKiKP**	**18 34 35.1**	**0.0**
	comp=Z,24nm,0.6s,baz=79,slow=2.0,SNR=48						
DBIC	**Dimbokro**	**151.18**	**271**		**PKPbc**	**18 34 34.4**	**-0.2**
LIC	**Lamto**	**151.32**	**270**	*e*PKP1	**PKiKP**	**18 34 35.3**	**-0.1**
	comp=Z,116nm,0.7s						
TIC	**Toumodi**	**151.34**	**271**	*e*PKP1	**PKiKP**	**18 34 35.4**	**-0.1**
BDFB	**Brasilia**	**153.39**	**148**	PKPbc	**PKiKP**	**18 34 39.8**	**0.0**
	comp=Z,4.9nm,0.8s,baz=155,slow=7.2,SNR=4.4						

*MAN **24** 18:15:51.2, 16.79N×119.08E, h60km, mb4.9, ML3.9, MS3.9*
*IDC **24** 18:15:59.4±1.9, 17.92N×119.04E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.1/45, mbtmp3.3/3, ML3.8/2, Error ellipse: s-maj=40.9km s-min=32.9km az=66.0*
ISC 24 18:15:59.0±1.2, 17.3N±0.1×119.37E±0.09, h35km, n8, σ2s60/10, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.33**	**74**	*e*P	**Pn**	**18 16 19.8**	**-1.3**
ABRA				*e*S	**Sn**	**18 16 35.3**	**-2.3**
APYP	**Conner**	**1.87**	**72**	*e*P	**Pn**	**18 16 28.1**	**-0.5**
APYP				*e*S	**Sn**	**18 16 55.9**	**+4.9**
CAUP	**Cauayan**	**2.37**	**98**	*e*P	**Pn**	**18 16 31.9**	**-3.5**
SGCP	**Mt. Cagua**	**2.72**	**69**	*e*P	**Pn**	**18 16 41.7**	**+1.6**
LQP	**Lukban**	**3.79**	**146**⇑	*e*P	**Pn**	**18 16 56.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**19.48**	**277**	P	**Pn**	**18 20 24.4**	**0.0**
	0.0nm,0.3s,baz=85,slow=7.6,SNR=5.3						
KSRS	**Korea Array**	**21.45**	**19**	P	**P**	**18 20 44.6**	**+0.4**
	1.3nm,0.8s,baz=197,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**42.41**	**322**	P	**P**	**18 23 49.4**	**-0.8**
	0.6nm,0.8s,baz=132,slow=9.0,SNR=5.1						

NNC 24 18:31:12.6±3.3, 37.63N×70.98E, h384km±217km, mb2.1, mpv3.6, 2C-4D, Error ellipse: s-maj=141.7km s-min=24.3km az=177.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.95**	**24**	P	Pn	18 32 32.4	-1.2
	SNR=81						
UCH	**Uchtor**	**5.33**	**29**	P	Pn	18 32 36.9	-0.8
	SNR=13						
EKS2	**Erkin-Say**	**5.46**	**22**	P	Pn	18 32 38.9	+0.2
	SNR=8.5						
KK31	**Karatay Array**	**5.48**	**356**	⇑P	Pn	18 32 39.4	+0.7
	2.2nm,0.3s,baz=179,slow=12,SNR=103						
KK31				⇓S	S	18 33 49.1	+0.2
	1.1nm,0.3s,baz=188,slow=25,SNR=5.4						
AAK	**Ala-Archa**	**5.68**	**27**	P	Pn	18 32 41.4	+0.3
	SNR=6.0						
AAK	**Ala-Archa**	**5.68**	**27**	⇓P	Pn	18 32 40.9	-0.2
	2.6nm,0.7s						
AAK				⇓S	S	18 33 53.5	+0.4
	3.8nm,0.6s						
TKM2	**Tokmak 2**	**6.35**	**32**	P	Pn	18 32 49.5	+0.9
	SNR=11						
TKM2	**Tokmak 2**	**6.35**	**32**	⇓P	Pn	18 32 48.0	-0.5
	7.3nm,0.7s						
TKM2				⇑S	S	18 34 07.4	+0.6
	1.8nm,0.8s						

*TEH **24** 18:38:28.5, 33.05N×46.62E, h12km, ML3.3*
*ISN **24** 18:38:31.3±1.4, 33.06N×46.62E, h40km±374km, ML3.1*
ISC 24 18:38:29.0±1.1, 33.08N±0.06×46.60E±0.04, h13km, n23, σ1s02/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.56**	**273**	*e*Pg	**Pn**	**18 38 43.0**	**+0.4**
	baz=95						
IBDR				*e*Sg	**Sn**	**18 38 52.0**	**+0.2**
IBDR				AML	AML	18 39 08.0	
	comp=E,647nm,0.6s						
IBDR				AML	AML	18 39 13.2	
	comp=N,564nm,0.4s						
IKFM	**Kafar-mosalman**	**1.14**	**67**	*e*Pg	**Pb**	**18 38 49.9**	**-0.6**
IKFM				*e*		18 39 07.3	
IGHG	**Ghaleghazi**	**1.25**	**359**	*e*Pg	**Pn**	**18 38 52.4**	**+0.1**
IGHG				*e*		18 39 14.9	
KCHF	**Cheshme Sefid,**	**1.25**	**17**	*e*Pg	**Pb**	**18 38 52.3**	**-0.2**
KCHF				*e*		18 39 11.4	
IKOM	**Komasi**	**1.33**	**35**	*e*Pg	**Pn**	**18 38 53.4**	**0.0**
IKOM				*e*		18 39 14.2	
KER	**Kermanshah**	**1.38**	**19**	*e*Pg	**Pb**	**18 38 54.3**	**-0.4**
IVIS	**Veis**	**1.46**	**8**	*e*Pg	**Pb**	**18 38 56.4**	**+0.4**
IVIS				*e*		18 39 19.7	
IDOB	**Doab**	**1.50**	**61**	*e*Pg	**Pb**	**18 38 56.7**	**-0.1**
IKMR	**Kamar-syah**	**1.56**	**73**	*e*Pg	**Pg**	**18 38 57.9**	**-1.0**
IKMR				*e*		18 39 20.2	
IDHR	**Dehrash**	**1.62**	**354**	*e*Pg	**Pg**	**18 39 00.2**	**0.0**
IDHR				*e*		18 39 24.7	
ILIN	**Lien**	**1.86**	**9**	*e*Pg	**Pb**	**18 39 03.5**	**+0.5**
ILIN				*e*		18 39 35.1	
BHD	**Baghdad**	**1.87**	**276**	*e*Pg	**Pn**	**18 39 01.0**	**+0.4**
BHD				*e*Sg	**Sn**	**18 39 24.0**	**-0.1**
BHD				AML	AML	18 39 50.9	
	comp=E,364nm,0.4s						
HSAM	**Samen**	**2.02**	**55**	*e*		18 39 35.7	
HSAM				*e*Pn	**Pb**	**18 39 04.4**	**-1.3**
IALM	**Almabolaq**	**2.20**	**36**	*e*Pn	**Pn**	**18 39 06.4**	**+0.9**
HSRG	**Sareghieh**	**2.57**	**32**	*e*Pn	**Pb**	**18 39 12.9**	**-2.2**
HSRG				*e*		18 39 17.3	
HAGD	**Aghdareh**	**2.74**	**50**	*e*Pn	**Pn**	**18 39 14.7**	**+1.9**
HAGD				*e*		18 39 59.3	
QABG	**Abgarm-Qazvin**	**3.60**	**42**	*e*Pn	**Pn**	**18 39 25.7**	**+1.0**
IPIR	**Pirpir**	**3.63**	**95**	*e*Pn	**Pn**	**18 39 27.0**	**+1.8**
IPIR				*e*		18 40 20.0	
IKLH	**Kolahrood**	**4.18**	**85**	*e*Pn	**Pn**	**18 39 34.6**	**+1.9**
KRSH	**Karshahi**	**4.71**	**78**	*e*Pn	**Pn**	**18 39 41.2**	**+1.3**
KRSH				*e*		18 40 37.0	
KLNJ	**Kolanjah**	**4.72**	**115**	*e*Pn	**Pn**	**18 39 40.8**	**+0.6**
KLNJ				*e*		18 40 46.5	
IZEF	**Zefreh**	**4.82**	**91**	*e*Pn	**Pn**	**18 39 41.9**	**+0.4**
IRAM	**Ramesheh**	**5.05**	**103**	*e*Pn	**Pn**	**18 39 45.4**	**+0.7**

*IDC **24** 18:54:44.7±1.7, 47.27S×100.67E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.7/5, MS3.5/7, Ms1 3.5/7, ms1mx3.3/20, Error ellipse: s-maj=44.0km s-min=29.1km az=96.0*
*NEIC **24** 18:54:46.2±0.9, 47.34S±0.09×100.5E±0.3, h16km±4km, mb4.3/8, Error ellipse: s-maj=31.1km s-min=9.5km az=107.0*
ISC 24 18:54:45.2±0.9, 47.3S±0.1×100.5E±0.2, h10km, n21, σ0s58/15, mb4.0/9, MS3.6/7, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.10**	**44**	T	T	19 14 58.1	
	baz=215,slow=74,SNR=197						
H01W3	**Cape Leeuwin H**	**16.11**	**44**	T	T	19 14 58.7	
	baz=215,slow=74,SNR=202						
H01W1	**Cape Leeuwin H**	**16.11**	**45**	T	T	19 14 58.8	
	baz=215,slow=74,SNR=237						
MAW	**Mawson**	**27.93**	**210**	LR	LR	19 08 44.6	
	comp=Z,40nm,19.9s,baz=76,slow=30						
BBOO	**Buckleboo**	**30.56**	**75**	P	**P**	**19 00 58.6**	**-0.3**
BBOO				IAmb	IAmb	19 01 31.8	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**34.81**	**79**	P	**P**	**19 01 36.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=233,slow=5.1,SNR=5.0						
STKA				LR	LR	19 13 25.2	
	comp=Z,101nm,18.0s,baz=205,slow=32						
STKA	**Stephens Creek**	**34.81**	**79**	P	**P**	**19 01 36.0**	**0.0**
ASAR	**Alice Springs**	**35.61**	**60**	P	**P**	**19 01 42.8**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=220,slow=8.5,SNR=4.0						
ASAR				LR	LR	19 14 22.8	
	comp=Z,65nm,18.1s,baz=210,slow=33						
FITZ	**Fitzroy Crossi**	**35.72**	**44**	P	**P**	**19 01 44.2**	**+0.3**
FITZ				IAmb	IAmb	19 02 08.4	
	comp=Z,11nm,1.4s						
XMIS	**Christmas Isla**	**36.98**	**9**	P	**P**	**19 01 54.2**	**-0.5**
VNDA	**Vanda**	**38.17**	**162**	P	**P**	**19 02 04.8**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=291,slow=9.1,SNR=6.7						
VNDA				LR	LR	19 16 18.5	
	comp=Z,130nm,19.3s,baz=296,slow=34						
VNDA	**Vanda**	**38.17**	**162**	P	**P**	**19 02 04.8**	**+0.6**
VNDA				IAmb	IAmb	19 02 34.5	
	comp=Z,2.7nm,1.2s						
WRA	**Warramunga Arr**	**38.75**	**57**	P	**P**	**19 02 08.7**	**-1.1**
	comp=Z,1.0nm,1.1s,baz=223,slow=8.5,SNR=6.2						
WRA				LR	LR	19 16 26.2	
	comp=Z,82nm,19.0s,baz=235,slow=34						
WRA	**Warramunga Arr**	**38.75**	**57**	IAmb	IAmb	19 02 16.4	
	comp=Z,0.5nm,1.8s						
WB2	**Warramunga Arr**	**38.76**	**57**	P	**P**	**19 02 09.8**	**0.0**
WB2				IAmb	IAmb	19 02 35.7	
	comp=Z,9.0nm,1.4s						
QSPA	**South Pole Qui**	**42.82**	**180**	P	**P**	**19 02 42.7**	**-0.3**
QSPA				IAmb	IAmb	19 02 48.7	
	comp=Z,3.2nm,0.8s						
SNAA	**Sanae**	**49.78**	**204**	P	**P**	**19 03 36.8**	**-0.7**
HNR	**Honiara**	**62.60**	**73**	LR	LR	19 29 52.4	
	comp=Z,54nm,19.5s,baz=194,slow=34						
CMAR	**Chiang Mai Arr**	**65.48**	**358**	P	**P**	**19 05 29.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=192,slow=5.8,SNR=6.1						
CMAR				LR	LR	19 30 12.9	
	comp=Z,29nm,20.3s,baz=188,slow=32						
NVAR	**Mina Array Bea**	**150.50**	**93**	PKPbc	**PKiKP**	**19 14 38.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=226,slow=4.9,SNR=1.5						
NVAR	**Mina Array Bea**	**150.50**	**93**		**PKPbc**	**19 14 37.1**	**+0.2**

*IDC **24** 19:03:47.1±6.4, 11.23N×85.05W, h31km±54km, mb3.6/4, mb1 4.0/6, mb1mx3.7/32, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=112.4km s-min=31.5km az=54.0*
*UCR **24** 19:03:49.4±1.3, 10.67N×85.80W, h39km±5km, MW4.4, mb4.1(NEIC), Fault plane solution: NP1:ϕ=296.1300°, δ=56.1700°, λ=-22.7600°.*
*NEIC **24** 19:03:50.9±1.8, 10.71N±0.05×85.63W±0.07, h67km±9km, mb4.1/12, Error ellipse: s-maj=10.8km s-min=3.7km az=55.0*
*UPA **24** 19:03:50.7±1.9, 10.72N×85.74W, h35km±18km, MW4.6*
*INET **24** 19:03:52.9, 10.92N×85.81W, h15km, ML4.1*
ISC 24 19:03:49.2±0.8, 10.67N±0.03×85.78W±0.05, h45km±6km, n76, σ1s12/95, mb4.1/10, 5C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**0.19**	**76**⇓	*e*P	**Pn**	**19 03 57.4**	**+0.4**
HZTE				*e*S	**Sn**	**19 04 02.6**	**+0.2**
GBS3	**Finca Las Img**	**0.34**	**71**	*i* P	**Pn**	**19 03 58.2**	**-0.1**
LAPC	**Finca la Perla**	**0.36**	**74**	*i* P	**Pn**	**19 03 58.2**	**-0.3**
BUEV	**Buena Vista**	**0.39**	**71**⇓	*i* P	**Pn**	**19 03 58.8**	**-0.1**
BUEV				*e*S	**Sn**	**19 04 06.2**	**+0.4**
GB1A	**Borinquen Arri**	**0.40**	**68**	*i* P	**Pn**	**19 03 58.9**	**-0.2**
GB1A				*i* S	**Sn**	**19 04 06.9**	**+0.7**
GPS3	**Bodega del ICE**	**0.42**	**78**	*i* P	**Pn**	**19 03 59.0**	**-0.2**
GPS3				*i* S	**Sn**	**19 04 07.3**	**+1.0**
GPS2	**Hotel Rincn d**	**0.43**	**79**⇓	*e*P	**Pn**	**19 03 59.3**	**0.0**
GPS2				*e*S	**Sn**	**19 04 06.5**	**-0.1**
GPS1	**Guardaparques**	**0.44**	**76**	*i* P	**Pn**	**19 03 59.5**	**0.0**
ORTG	**Ortega, Santa**	**0.44**	**134**⇓	*e*P	**Pn**	**19 03 59.4**	**-0.1**
GUAI	**GUAI**	**0.48**	**146**⇑	*i* P	**Pn**	**19 03 59.8**	**0.0**
GUAI				*i* S	**Sn**	**19 04 08.1**	**+0.7**
BUAI	**Buenos Aires**	**0.49**	**65**	*i* P	**Pn**	**19 04 00.5**	**+0.4**
LIM1	**Limonal**	**0.52**	**87**	*i* P	**Pn**	**19 04 00.3**	**-0.2**
GUAB	**Guayabo de Bag**	**0.54**	**86**	*i* P	**Pn**	**19 04 00.4**	**-0.4**
HORNC	**Hornillas**	**0.59**	**86**	*i* P	**Pn**	**19 04 01.3**	**-0.2**
HORNC				*i* S	**Sn**	**19 04 10.7**	**+0.5**
CUI	**Cuipilapa**	**0.61**	**91**	*i* P	**Pn**	**19 04 01.6**	**0.0**
CUI				*i* S	**Sn**	**19 04 11.1**	**+0.6**
DUNO	**Dulce Nombre,**	**0.65**	**154**⇑	*i* P	**Pn**	**19 04 02.0**	**-0.1**
DUNO				*e*S	**Sn**	**19 04 11.6**	**+0.2**
ACAL	**Aguas Claras**	**0.73**	**93**	*i* P	**Pn**	**19 04 03.6**	**+0.3**
GRZA	**Playa Garza**	**0.76**	**169**⇑	*e*P	**Pn**	**19 04 03.0**	**-0.6**
JTS	**Las Juntas de**	**0.90**	**115**	Pg	**Pn**	**19 04 05.3**	**-0.1**
	1µm,0.3s,baz=3.4,slow=6.9,SNR=953						
JTS				Lg	Lg	19 04 17.9	
	834nm,0.3s,baz=270,slow=20,SNR=32						
JTS				LR	LR	19 04 28.8	
	comp=Z,96nm,18.2s,baz=110,slow=44						
JTS	**Las Juntas de**	**0.90**	**115**	*e*P	**Pn**	**19 04 05.3**	**-0.1**
JTS				*e*S	**Sn**	**19 04 18.9**	**+1.6**
JTS	**Las Juntas de**	**0.90**	**115**⇓	*e*P	**Pn**	**19 04 05.3**	**-0.1**
JTS	**Las Juntas de**	**0.90**	**115**		**Pn**	**19 04 05.3**	**-0.1**
JTS				Sn	**Sn**	**19 04 18.9**	**+1.6**
CASO	**Castillo**	**1.05**	**103**	*i* P	**Pn**	**19 04 07.9**	**+0.3**
ARE1	**Arenal 1**	**1.06**	**101**⇓	*i* P	**Pn**	**19 04 08.4**	**+0.7**
ARE1				*e*S	**Sn**	**19 04 23.1**	**+1.7**
CEDE	**Laguna Cedeo**	**1.07**	**100**	*i* P	**Pn**	**19 04 08.4**	**+0.5**
CEDE				*e*S	**Sn**	**19 04 23.2**	**+1.5**
FORC	**Fortuna**	**1.11**	**100**	*i* P	**Pn**	**19 04 08.7**	**+0.3**
LAFE	**Finca La Fe, P**	**1.21**	**135**	*e*P	**Pn**	**19 04 09.2**	**-0.5**
COVE	**Coope Vega, Sa**	**1.36**	**88**⇓	*i* P	**Pn**	**19 04 11.5**	**-0.2**
SRA1	**San Ramn**	**1.41**	**114**	*e*P	**Pn**	**19 04 13.1**	**+0.6**
ACON	**Acoyapa**	**1.42**	**25**		**Pn**	**19 04 12.8**	**+0.2**
ACON				Sn	**Sn**	**19 04 30.6**	**+0.5**
JACO	**JACO, Garabito**	**1.49**	**132**⇑	*e*P	**Pn**	**19 04 13.8**	**+0.3**
HDC	**Heredia**	**1.77**	**112**	*e*P	**Pn**	**19 04 19.9**	**+2.4**
HDC				*e*S	**Sn**	**19 04 40.6**	**+1.8**
HDC	**Heredia**	**1.77**	**112**⇓	*e*P	**Pn**	**19 04 18.1**	**+0.6**
HDC	**Heredia**	**1.77**	**112**		**Pn**	**19 04 18.3**	**+0.9**
LCR2	**La Lucha 2**	**1.98**	**118**⇓	*e*P	**Pn**	**19 04 20.8**	**+0.4**
RIMA	**Rio Macho**	**2.09**	**115**⇓	*i* P	**Pn**	**19 04 22.6**	**+0.7**
CVTR	**Volcan Turrial**	**2.09**	**108**⇓	*e*P	**Pn**	**19 04 22.6**	**+0.5**
ESPN	**Las Esperanzas**	**2.10**	**44**		**Pn**	**19 04 22.1**	**+0.2**
ESPN				Sn	**Sn**	**19 04 47.2**	**+0.4**
MATN	**Matagalpa**	**2.25**	**356**		**Pn**	**19 04 24.9**	**+0.8**
MATN				Sn	**Sn**	**19 04 52.2**	**+1.5**
CDM	**Cerro de Muert**	**2.27**	**119**⇑	*e*P	**Pn**	**19 04 25.8**	**+1.1**
CRIN	**San Cristobal**	**2.37**	**328**		**Pn**	**19 04 27.1**	**+1.4**
BATAN	**Batan**	**2.43**	**103**	*e*P	**Pn**	**19 04 28.0**	**+1.5**
DRK0	**Durika**	**2.86**	**119**	*e*P	**Pn**	**19 04 34.5**	**+1.9**
DRK0				*e*S	**Sn**	**19 05 07.4**	**+1.6**
DRK0	**Durika**	**2.86**	**119**	*e*P	**Pn**	**19 04 33.2**	**+0.7**
CSGN	**Cosiguina Volc**	**2.88**	**323**		**Pn**	**19 04 36.1**	**+3.5**
RIOS	**Rincon, Osa**	**2.97**	**131**	*e*P	**Pn**	**19 04 37.0**	**+3.2**
RIOS	**Rincon, Osa**	**2.97**	**131**	*e*P	**Pn**	**19 04 35.2**	**+1.4**
BRU2	**Volcan**	**3.57**	**121**	*e*P	**Pn**	**19 04 42.9**	**+0.7**
BRU2				*e*S	**Sn**	**19 05 24.0**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.67**	**337**	Pn	**Pn**	**19 04 44.6**	**+1.0**
BCO2	**Palmira**	**3.75**	**121**	*e*P	**Pn**	**19 04 46.0**	**+1.3**
BCO2				*e*S	**Sn**	**19 05 29.2**	**+1.5**
CHGR2	**Aguacate**	**3.98**	**115**	*e*P	**Pn**	**19 04 49.7**	**+2.0**
LOCO3

PB01	**IPOC Station P**	**3.85**	**10**	*eP*	Pn	19 20 26.8	-0.6
PATCX	**Punta Patache**	**4.01**	**1**	IAML		19 21 49.6	
PB08	**IPOC Station P**	**4.79**	**12**	*eP*	Pn	19 20 40.2	-0.4
PB11	**IPOC Station P**	**5.09**	**6**	*eP*	Pn	19 20 42.5	-2.0

*GCMT **24** 19:19:36.5±0.2, 41.25S±0.01×91.01W±0.01, h18km±1km, MW5.1/123, Moment Tensor Solution. s64,c83; s123,c183; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.68±.15; Mθθ 0.47±.15; Mϕϕ 0.20±.13; Mrθ-0.24±.29; Mθϕ-5.34±.12; Mrϕ-0.04±.28; Best double couple: M0 5.34800×10^16 NP1:φ=359.00000°, δ87.00000°, λ-1.00000°. NP2:φ=89.00000°, δ89.00000°, λ-177.00000°. Principal axes: T 5.6830, Plg1.0000°, Azm224.0000°; N -0.6700, Plg87.0000°, Azm109.0000°; P -5.0130, Plg3.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **24** 19:19:37.1±2.3, 41.18S×90.22W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/29, mbtmp3.8/6, ML3.4/1, MS4.1/18, Ms1 4.0/18, ms1mx4.0/22 Error ellipse: s-maj=70.8km s-min=31.8km az=173.0*

*NEIC **24** 19:19:38.5±1.8, 41.1S±0.1×90.2W±0.2, h10km±1km, mb4.5/5, Error ellipse: s-maj=27.2km s-min=21.1km az=108.0*

ISC 24 19:19:37.0±0.7, **41.2S**±0.1×**90.5W**±0.1, **h10**km, **n44, s44/20, mb3.8/6, MS4.2/21, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**11.73**	**55**	T	T	19 34 59.5	
	baz=228						
H03S1	**Juan Fernandez**	**11.74**	**55**	T	T	19 35 02.3	
	baz=228						
H03S3	**Juan Fernandez**	**11.75**	**55**	T	T	19 35 03.4	
	baz=228						
H03N3	**Juan Fernandez**	**11.99**	**54**	T	T	19 35 15.5	
	baz=229,slow=71,SNR=60						
H03N2	**Juan Fernandez**	**12.00**	**53**	T	T	19 35 08.7	
	baz=229,slow=71,SNR=301						
H03N1	**Juan Fernandez**	**12.01**	**54**	T	T	19 35 16.6	
	baz=229,slow=71,SNR=250						
PLCA	**Paso Flores**	**15.05**	**95**	Pn	**Pn**	**19 23 08.6**	**-1.1**
	0.0nm,0.3s,baz=217,slow=15,SNR=2.8						
PLCA				LR	LR	19 26 41.2	
	comp=Z,332nm,21.5s,baz=262,slow=28						
MT02	**Curacav**	**17.29**	**69**	Pn	**Pn**	**19 23 35.9**	**-2.5**
MT02				IAmb	IAmb	19 23 47.5	
	comp=Z,54nm,1.5s						
RPN	**Rapa Nui**	**20.94**	**306**	LR	LR	19 29 49.2	
	comp=Z,996nm,21.4s,baz=126,slow=29						
LVC	**Limon Verde**	**25.92**	**51**	LR	LR	19 32 58.3	
	comp=Z,639nm,20.1s,baz=222,slow=31						
CPUP	**Villa Florida**	**31.06**	**72**	LR	LR	19 37 11.8	
	comp=Z,484nm,19.9s,baz=244,slow=34						
LPAZ	**La Paz**	**31.43**	**44**	P	**P**	**19 26 00.3**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=211,slow=7.9,SNR=9.1						
LPAZ				LR	LR	19 36 02.3	
	comp=Z,533nm,18.5s,baz=229,slow=32						
LPAZ	**La Paz**	**31.43**	**44**	P	**P**	**19 25 59.5**	**+0.3**
LPAZ				IAmb	IAmb	19 26 25.8	
	comp=Z,8.2nm,1.2s						
NNA	**Nana**	**31.46**	**26**	LR	LR	19 35 16.7	
	comp=Z,504nm,20.4s,baz=196,slow=30						
SIV	**San Ignacio**	**35.71**	**54**	P	**P**	**19 26 35.5**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=231,slow=12,SNR=3.8						
OTAV	**Otavalo**	**42.66**	**18**	P	**P**	**19 27 33.5**	**-0.9**
BDFB	**Brasilia**	**44.58**	**68**	LR	LR	19 45 36.8	
	comp=Z,558nm,19.9s,baz=235,slow=35						
ROSC	**El Rosal**	**48.14**	**22**	LR	LR	19 46 26.7	
	comp=Z,268nm,21.5s,baz=181,slow=34						
VNA3	**Neumayer Olymp**	**48.70**	**155**	P	**P**	**19 28 19.2**	**-1.8**
VNA1	**Neumayer--Stat**	**49.24**	**154**	P	**P**	**19 28 22.9**	**-2.1**
VNA2	**Neumayer--Watz**	**49.48**	**155**	P	**P**	**19 28 24.8**	**-2.1**
	baz=286,slow=7.3						
SNAA	**Sanae**	**50.77**	**156**	P	**P**	**19 28 35.3**	**-1.5**
SNAA	**Sanae**	**50.77**	**156**	P	**P**	**19 28 35.9**	**-1.0**
TBI	**Tubuai**	**51.99**	**271**	eLR	LR	19 43 26.9	
	comp=Z,535nm,25.8s						
VNDA	**Vanda**	**53.80**	**195**	P	**P**	**19 29 03.4**	**+4.3**
VNDA				IAmb	IAmb	19 29 33.5	
	comp=Z,8.3nm,1.8s						
TAOE	**Nuku Hiva Isla**	**54.36**	**292**	*e*LR	LR	19 44 28.3	
	comp=Z,282nm,25.2s						
PPT2	**Papeete2**	**55.49**	**277**	*e*S	**S**	**19 36 51.9**	**-5.8**
	comp=Z,74nm,25.5s						
PPT2				eLR	LR	19 45 12.4	
	comp=Z,217nm,27.2s						
PPT	**Papeete**	**55.51**	**277**	LR	LR	19 46 42.0	
	comp=Z,68nm,21.9s,baz=206,slow=29						
MAW	**Mawson**	**69.65**	**169**	LR	LR	20 00 47.6	
	comp=Z,113nm,18.5s,baz=226,slow=36						
TXAR	**Lajitas Array**	**71.24**	**348**	P	**P**	**19 30 57.6**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=188,slow=7.6,SNR=5.0						
TXAR				LR	LR	19 55 54.0	
	comp=Z,89nm,21.5s,baz=0.0,slow=31						
NVAR	**Mina Array Bea**	**83.24**	**338**	P	**P**	**19 32 06.3**	**+2.7**
	comp=Z,0.2nm,0.4s,baz=126,slow=22,SNR=2.4						
NVAR				LR	LR	20 00 57.9	
	comp=Z,47nm,20.6s,baz=96,slow=30						
DZM	**Mont Dzumac**	**85.04**	**245**	*e*S	**S**	**19 42 40.2**	**-2.5**
	comp=Z,58nm,24.1s						
DZM	**Mont Dzumac**	**85.04**	**245**	*e*LR	LR	19 59 02.2	
	comp=Z,482nm,26.6s						
BEKR	**Beckworth**	**85.16**	**337**	P	**P**	**19 32 13.5**	**+0.2**
PDAR	**Pinedale Array**	**85.35**	**346**	P	**P**	**19 32 15.8**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=163,slow=5.6,SNR=4.0						
BOSA	**Boshof**	**88.58**	**128**	LR	LR	20 06 44.3	
	comp=Z,86nm,18.0s,baz=219,slow=32						
DBIC	**Dimbokro**	**91.04**	**82**	LR	LR	20 12 50.1	
	comp=Z,49nm,18.4s,baz=213,slow=35						
ULM	**Lac du Bonnet**	**91.20**	**357**	LR	LR	20 08 58.6	
	comp=Z,63nm,19.3s,baz=96,slow=32						
STKA	**Stephens Creek**	**92.86**	**222**	LR	LR	20 08 24.4	
	comp=Z,94nm,18.4s,baz=197,slow=32						
SCHQ	**Schefferville**	**97.78**	**14**	LR	LR	20 15 56.5	
	comp=Z,65nm,19.4s,baz=288,slow=35						
TORD	**Torodi Ar. Bea**	**100.13**	**81**	LR	LR	20 15 11.3	
	comp=Z,52nm,21.1s,baz=195,slow=33						
KSRS	**Korea Array**	**150.24**	**275**	PKPab	**PKPab**	**19 39 36.7**	**+2.5**
	comp=Z,1.6nm,1.1s,baz=112,slow=1.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**155.94**	**202**	PKPbc	PKPbc	19 39 47.3	
	comp=Z,0.2nm,0.3s,baz=184,slow=2.7,SNR=4.1						
MKAR	**Makanchi Array**	**172.35**	**41**	PKPab	**PKPab**	**19 41 10.1**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=328,slow=4.3,SNR=4.0						

*IDC **24** 19:22:59.7±1.3, 29.61S×178.25W, h60km±20km, mb3.8/4, mb1 4.0/4, mb1mx3.5/23, mbtmp4.1/4, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=39.2km s-min=30.4km az=19.0*

ISC 24 19:23:00.4±1.1, **29.2S**±0.3×**178.0W**±0.3, **h82**km±10km, **n9, s17/8, mb4.2/4, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.10**	**94**	P	**Pn**	**19 23 10.9**	**-1.2**
	231nm,0.3s,baz=11,slow=21,SNR=27						
RAO				S	**Sn**	**19 23 22.5**	**+1.6**
	2μm,0.3s,baz=61,slow=19,SNR=32						
DZM	**Mont Dzumac**	**15.71**	**293**	LR	LR	19 31 12.7	
	comp=Z,63nm,18.6s,baz=208,slow=31						
STKA	**Stephens Creek**	**34.73**	**255**	P	**P**	**19 29 42.5**	**-0.1**
	3.6nm,0.9s,baz=117,slow=8.6,SNR=7.6						
ASAR	**Alice Springs**	**43.15**	**266**	P	**P**	**19 30 52.5**	**-0.5**
	0.6nm,0.6s,baz=101,slow=2.3,SNR=8.3						
WRA	**Warramunga Arr**	**44.04**	**271**	P	**P**	**19 31 01.0**	**+0.8**
	1.1nm,0.3s,baz=110,slow=8.1,SNR=95						
QSPA	**South Pole Qui**	**60.86**	**180**	P	**P**	**19 33 04.2**	**+0.2**
	2.5nm,0.7s,baz=39,slow=3.1,SNR=8.7						
KLR	**Kul'dur**	**90.03**	**330**	LR	LR	20 08 44.9	
	comp=Z,19nm,21.4s,baz=154,slow=30						
FINES	**FINESS Array B**	**144.05**	**340**	PKP	**PKPdf**	**19 42 25.3**	**-0.3**
	2.7nm,0.6s,baz=90,slow=3.8,SNR=9.4						
AKASG	**Malin Array Be**	**150.36**	**324**	PKPbc	**PKiKP**	**19 42 43.0**	**+0.5**
	0.2nm,0.3s,baz=43,slow=3.1,SNR=4.6						

*GII **24** 19:42:08.2±0.0, 33.79N×25.20E, h1km*

*IDC **24** 19:42:14.6±1.3, 33.99N×25.23E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.4/41, mbtmp3.6/7, ML3.7/4, MS3.5/2, Ms1 3.5/2, ms1mx2.4/47, Error ellipse: s-maj=23.6km s-min=20.1km az=62.0*

*THE **24** 19:42:18.1, 34.07N×25.18E, h0km±4km, ML2.8/4, Error ellipse: s-maj=8.1km s-min=1.4km az=167.0*

*HLW **24** 19:42:19.4, 33.87N×25.45E, h8km±12km, Md3.0, Ml3.0*

*ATH **24** 19:42:20.9, 34.25N×25.09E, h38km±3km, ML2.8/3, Error ellipse: s-maj=5.4km s-min=2.5km az=356.0, ML Amplitudes are expressed in micrometers*

ISC 24 19:42:13.0±1.2, **33.80N**±0.03×**25.25E**±0.05, **h14**km±9km, **n44, s19/53, mb3.7/3, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.27**	**344**	P	**Pn**	**19 42 36.5**	**+0.2**
SIVA				S	**Sb**	**19 42 52.0**	**-0.9**
	2μm,0.7s						
SIVA	**Sivas**	**1.27**	**344**	P	**Pn**	**19 42 36.6**	**+0.2**
SIVA				S	**Sb**	**19 42 48.2**	**-4.7**
SIVA				AML	AML	19 43 01.4	
	comp=E,3777μm,0.6s						
SIVA				AML	AML	19 43 04.2	
	comp=N,3199μm,0.7s						
TMBK	**Timbaki Herakl**	**1.33**	**343**	P	**Pb**	**19 42 38.0**	**+0.2**
TMBK				S	**Sn**	**19 42 53.7**	**-1.0**
	comp=N,392nm,1.0s						
LAST	**Lasithi**	**1.37**	**8**	P	**Pg**	**19 42 39.7**	**+0.2**
LAST	**Lasithi**	**1.37**	**8**	P	**Pb**	**19 42 39.4**	**+0.8**
GVD	**Gavdhos**	**1.41**	**318**	P	**Pg**	**19 42 40.9**	**+0.7**
GVD				S	**Sg**	**19 42 58.1**	**-0.5**
	comp=N,485nm,0.5s						
GVD	**Gavdhos**	**1.41**	**318**	P	**Pg**	**19 42 40.6**	**+0.4**
GVD				AML	AML	19 43 10.6	
	comp=N,788μm,0.6s						
GVD				AML	AML	19 43 15.8	
	comp=E,675μm,0.5s						
NPS	**Neapolis**	**1.49**	**12**	P	**Pg**	**19 42 42.0**	**+0.3**
NPS				S	**Sn**	**19 42 58.6**	**-0.1**
NPS	**Neapolis**	**1.49**	**12**	P	**Pb**	**19 42 41.6**	**+1.0**
IDI	**Anoyia**	**1.51**	**349**	Pn	**Pb**	**19 42 40.7**	**-0.3**
	comp=E,12nm,0.3s,baz=174,slow=19,SNR=51						
IDI				Sn	**Sn**	**19 42 59.8**	**+0.4**
	comp=E,18nm,0.3s,baz=102,slow=17,SNR=6.8						
IDI	**Anoyia**	**1.51**	**349**	P	**Pb**	**19 42 40.6**	**-0.3**
IDI				S	**Sn**	**19 42 59.4**	**+0.1**
	comp=E,192nm,0.6s						
IDI	**Anoyia**	**1.51**	**349**	P	**Pn**	**19 42 40.5**	**+0.7**
IDI				S	**Sn**	**19 42 55.3**	**-4.0**
IDI				AML	AML	19 43 09.4	
	comp=E,442μm,0.6s						
IDI				AML	AML	19 43 10.4	
	comp=N,314μm,0.5s						
ZKR	**Zakros**	**1.54**	**31**	P	**Pg**	**19 42 42.9**	**+0.3**
ZKR	**Zakros**	**1.54**	**31**	P	**Pg**	**19 42 43.5**	**+0.9**
VAM	**Vamos**	**1.82**	**332**	P	**Pb**	**19 42 45.1**	**-1.0**
VAM	**Vamos**	**1.82**	**332**	P	**Pn**	**19 42 45.0**	**+1.0**
IMMV	**Iera Moni Meta**	**1.96**	**328**	P	**Pn**	**19 42 46.8**	**+1.0**
IMMV	**Iera Moni Meta**	**1.96**	**328**	P	**Pn**	**19 42 46.9**	**+1.0**
SLUM	**Salum**	**2.30**	**181**	P	**Pg**	**19 42 58.2**	**+1.0**
	baz=185						
SLUM				AMP		19 43 00.0	
	baz=185						
SLUM				S	**Sg**	**19 43 27.4**	**+0.3**
	baz=185						
SWA2		**4.55**	**178**	P	**Pb**	**19 43 28.9**	**-3.7**
	baz=179						
SWA2				S	**Sn**	**19 44 18.6**	**+4.5**
	baz=179						
RYAN	**Fayoum**	**6.37**	**136**	P	Pn	19 43 53.5	+7.0
	baz=137						
RYAN				S	**Sn**	**19 45 01.4**	**+2.3**
	baz=137						
SUZ	**Suez**	**7.57**	**119**	P	Pn	19 44 08.8	+5.9
	baz=120						
SLTI	**Sal'it**	**8.37**	**98**	Sn	**Sn**	**19 45 47.4**	**-0.9**
MMA0B	**Mount Meron ar**	**8.53**	**92**	Pn	**Pn**	**19 44 13.6**	**-2.6**
MMA0B				Sn	**Sn**	**19 45 52.3**	**0.0**
MMAI	**Mount Meron Ar**	**8.53**	**92**	Pn	**Pn**	**19 44 19.6**	**+3.4**
	comp=N,0.6nm,0.3s,baz=280,slow=10,SNR=6.6						
MMAI				Sn	**Sn**	**19 45 50.0**	**-2.3**
	comp=N,1.1nm,0.3s,baz=268,slow=24,SNR=6.2						
MMLI	**Mount Malkishu**	**8.64**	**96**	Pn	**Pn**	**19 44 15.8**	**-1.9**
MMLI				Sn	**Sn**	**19 45 53.6**	**-1.4**
YTIR	**Yattir**	**8.68**	**104**	Sn	**Sn**	**19 45 55.3**	**-0.6**
GEM	**Giv'at Ha'Em**	**8.72**	**91**	Sn	**Sn**	**19 45 56.9**	**0.0**
HMDT	**Nahal Hemdat**	**8.77**	**97**	Sn	**Sn**	**19 45 58.0**	**-0.1**
NATI	**Neve Ativ**	**8.78**	**91**	Pn	**Pn**	**19 44 17.3**	**-2.2**
NATI				Sn	**Sn**	**19 45 58.3**	**+0.1**
KRMI	**Paran Flat**	**8.85**	**112**	Sn	**Sn**	**19 45 59.9**	**-0.2**
PRNI	**Paran**	**8.96**	**110**	Pn	**Pn**	**19 44 19.7**	**-2.4**
ZFRI	**Zfri**	**9.02**	**108**	Sn	**Sn**	**19 46 02.6**	**-1.6**
MBRI	**Mt Berech**	**9.14**	**113**	Sn	**Sn**	**19 46 07.1**	**-0.3**
EIL	**Elat**	**9.23**	**114**	Pn	Pn	19 44 31.1	+5.4
	comp=N,0.4nm,0.3s,baz=322,slow=2.6,SNR=9.9						
EIL	**Elat**	**9.23**	**114**	Sn	**Sn**	**19 46 09.5**	**0.0**
AKASG	**Malin Array Be**	**17.14**	**9**	Pn	**Pn**	**19 46 13.0**	**+1.0**
	comp=N,0.8nm,0.3s,baz=204,slow=10,SNR=2.8						
GERES	**GERESS Array B**	**17.32**	**334**	P	**P**	**19 46 16.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=148,slow=11,SNR=7.2						
DAVOX	**Davos/Dischmat**	**17.44**	**323**	LR	LR	19 55 13.4	
	comp=N,54nm,18.4s,baz=286,slow=45						
TORD	**Torodi Ar. Bea**	**29.69**	**232**	P	P	19 48 23.3	+4.7
	comp=N,62nm,0.9s,baz=34,slow=8.7,SNR=5.7						
KURBB	**Kurchatov Arra**	**41.93**	**50**	P	**P**	**19 50 06.1**	**+3.0**
	comp=N,0.4nm,0.4s,baz=273,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**44.48**	**55**	P	**P**	**19 50 26.6**	**+2.9**
	comp=N,0.6nm,0.5s,baz=279,slow=7.3,SNR=9.7						
ZALV	**Zalesovo Beam**	**45.90**	**45**	P	**P**	**19 50 36.8**	**+1.8**
	comp=N,1.0nm,0.3s,baz=261,slow=8.6,SNR=4.6						
FRB	**Frobisher Bay**	**61.87**	**330**	LR	LR	20 20 25.2	
	comp=N,119nm,19.4s,baz=182,slow=37						

*GII **24** 21:33:06.5±0.0, 34.50N×25.02E, h20km*

*ATH **24** 21:33:21.0, 34.07N×25.05E, h27km±4km, ML2.9/1, Error ellipse: s-maj=9.3km s-min=2.8km az=356.0, ML Amplitudes are expressed in micrometers*

*THE **24** 21:33:22.0, 34.11N×25.02E, h0km±5km, ML2.9/1, Error ellipse: s-maj=9.4km s-min=1.1km az=183.0*

ISC 24 21:33:11.0±1.6, **33.63N**±0.09×**25.05E**±0.08, **h10**km, **n22, s0/32, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.40**	**352**	P	**Pg**	**21 33 39.7**	**+1.8**
SIVA				S	**Sn**	**21 33 54.2**	**-0.9**
	682nm,0.7s						
SIVA	**Sivas**	**1.40**	**352**	P	**Pg**	**21 33 39.7**	**+1.8**
SIVA				S	**Sn**	**21 33 53.4**	**-1.7**
SIVA				AML	AML	21 34 06.1	
	comp=E,1424μm,0.7s						
SIVA				AML	AML	21 34 07.4	
	comp=N,1221μm,0.7s						
TMBK	**Timbaki Herakl**	**1.46**	**351**	P	**Pg**	**21 33 41.5**	**+2.5**
TMBK				S	**Sn**	**21 33 55.5**	**-1.1**
LAST	**Lasithi**	**1.57**	**13**	P	**Pg**	**21 33 43.0**	**+1.9**
LAST	**Lasithi**	**1.57**	**13**	P	**Pg**	**21 33 43.1**	**+1.9**
IDI	**Anoyia**	**1.66**	**355**	P	**Pg**	**21 33 44.0**	**+1.1**
IDI	**Anoyia**	**1.66**	**355**	P	**Pg**	**21 33 44.0**	**+1.1**
NPS	**Neapolis**	**1.69**	**16**	P	**Pg**	**21 33 45.1**	**+1.5**
NPS				S	**Sn**	**21 34 03.7**	**+1.3**
NPS	**Neapolis**	**1.69**	**16**	P	**Pg**	**21 33 45.0**	**+1.5**
ZKR	**Zakros**	**1.77**	**33**	P	**Pg**	**21 33 46.9**	**+2.0**
VAM	**Vamos**	**1.91**	**339**	P	**Pg**	**21 33 48.6**	**+1.0**
VAM	**Vamos**	**1.91**	**339**	P	**Pg**	**21 33 48.3**	**+0.7**
IMMV	**Iera Moni Meta**	**2.03**	**334**	P	**Pg**	**21 33 50.3**	**+0.4**
SLTI	**Sal'it**	**8.51**	**97**	Pn	**Pn**	**21 35 11.5**	**-2.9**
SLTI				Sn	**Sn**	**21 36 49.1**	**-1.4**
MMA0B	**Mount Meron ar**	**8.69**	**91**	Pn	**Pn**	**21 35 12.9**	**-3.9**
MMLI	**Mount Malkishu**	**8.79**	**95**	Sn	**Sn**	**21 36 54.9**	**-2.4**
YTIR	**Yattir**	**8.80**	**102**	Pn	**Pn**	**21 35 17.3**	**-1.1**
YTIR				Sn	**Sn**	**21 36 58.0**	**+0.4**
HMDT	**Nahal Hemdat**	**8.91**	**96**	Pn	**Pn**	**21 35 16.3**	**-3.5**
HMDT				Sn	**Sn**	**21 36 58.5**	**-1.8**
DSI	**Dead Sea**	**8.95**	**100**	Pn	**Pn**	**21 35 18.7**	**-1.7**
DSI				Sn	**Sn**	**21 37 01.0**	**-0.3**
PRNI	**Paran**	**9.06**	**108**	Pn	**Pn**	**21 35 21.2**	**-0.8**
PRNI				Sn	**Sn**	**21 37 05.8**	**+1.7**
MBRI	**Mt Berech**	**9.23**	**112**	Sn	**Sn**	**21 37 11.5**	**+3.2**
EIL	**Elat**	**9.31**	**112**	Pn	**Pn**	**21 35 25.8**	**+0.4**
EIL				Sn	**Sn**	**21 37 13.6**	**+3.4**

*IDC **24** 21:45:14.1±1.5, 8.71S×128.22E, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.3/38, mbtmp3.3/6, ML3.3/4, Error ellipse: s-maj=44.6km s-min=20.9km az=80.0*

ISC 24 21:45:19.0±1.0, **8.66S**±0.07×**128.3E**±0.1, **h35**km, **n6, s67/8, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**8.27**	**21**	Pn	**Pn**	**21 47 17.4**	**+0.8**
	1.2nm,0.3s,baz=198,slow=20,SNR=20						
FITZ	**Fitzroy Crossi**	**9.74**	**195**	Pn	**Pn**	**21 47 35.5**	**-1.2**
	0.2nm,0.3s,baz=20,slow=9.1,SNR=11						
FITZ				Sn	**Sn**	**21 49 27.0**	**+2.2**
	0.2nm,0.3s,baz=111,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**12.62**	**153**	Pn	**Pn**	**21 48 14.6**	**-1.6**
	0.1nm,0.3s,baz=323,slow=14,SNR=6.3						
WRA				Sn	**Sn**	**21 50 37.4**	**+1.7**
	0.2nm,0.3s,baz=331,slow=24,SNR=2.5						
ASAR	**Alice Springs**	**15.84**	**161**	Pn	**Pn**	**21 48 58.2**	**-1.3**
	0.1nm,0.3s,baz=342,slow=12,SNR=4.5						
CMAR	**Chiang Mai Arr**	**39.60**	**313**	P	**P**	**21 52 47.2**	**-0.1**
	0.3nm,0.5s,baz=134,slow=7.7,SNR=1.6						
MKAR	**Makanchi Array**	**68.73**	**328**	P	**P**	**21 56 19.2**	**0.0**
	0.2nm,0.5s,baz=126,slow=7.5,SNR=4.0						

*IDC **24** 21:56:03.4±1.7, 6.59N×93.08E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/47, mbtmp3.6/7, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=59.1km s-min=22.0km az=59.0*

ISC 24 21:56:05.3±1.4, **6.6N**±0.2×**93.2E**±0.2, **h10**km, **n16, s1§20/14, mb3.6/6, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.08**	**25**	Pn	**Pn**	**21 59 11.2**	**-0.1**
	0.1nm,0.3s,baz=222,slow=14,SNR=7.1						
LEM	**Lembang**	**19.62**	**132**	LR	LR	22 08 48.4	
	comp=Z,79nm,19.3s,baz=194,slow=39						
PKI	**Pulchoki**	**22.15**	**341**	*e*P	**P**	**22 01 03.0**	**+1.3**
	6.2nm,0.7s						
PKIN	**Phulchoki**	**22.16**	**341**	*e*P	**P**	**22 01 03.0**	**+1.3**
	5.1nm,0.6s						
DMN	**Daman**	**22.28**	**341**	*e*P	**P**	**22 01 05.1**	**+2.0**
GUN	**Gumba**	**22.32**	**343**	*e*P	**P**	**22 01 03.6**	**0.0**
	7.8nm,0.7s						
GKN	**Gorkha**	**22.80**	**340**	*e*P	**P**	**22 01 08.5**	**0.0**
	12nm,0.9s						
KOLN	**Koldanda**	**22.95**	**338**	*e*P	**P**	**22 01 12.1**	**+1.9**
	15nm,1.0s						
DANN	**Dangsing**	**23.42**	**339**	*e*P	**P**	**22 01 15.9**	**+0.9**
	11nm,0.7s						
MKAR	**Makanchi Array**	**41.15**	**349**	P	**P**	**22 03 48.5**	**-1.3**
	1.0nm,0.6s,baz=166,slow=7.8,SNR=12						
SONM	**Songino Array**	**42.63**	**13**	P	**P**	**22 04 02.4**	**+0.4**
	0.6nm,0.8s,baz=191,slow=7.0,SNR=4.5						
SONM				LR	LR	22 21 44.5	
	comp=Z,37nm,19.1s,baz=142,slow=36						
GEYT	**Alibeck**	**44.54**	**320**	P	**P**	**22 04 17.1**	**-0.3**
	0.5nm,0.4s,baz=89,slow=13,SNR=1.3						
TLY	**Talaya**	**45.79**	**9**	LR	LR	22 24 57.7	
	comp=Z,22nm,19.7s,baz=266,slow=38						
ZALV	**Zalesovo Beam**	**47.72**	**353**	P	**P**	**22 04 40.8**	**-1.3**
	0.6nm,0.4s,baz=167,slow=7.2,SNR=5.4						
WRA	**Warramunga Arr**	**48.31**	**124**	P	**P**	**22 04 47.3**	**0.0**
	0.2nm,0.4s,baz=306,slow=8.5,SNR=6.6						
ASAR	**Alice Springs**	**49.84**	**128**	P	**P**	**22 04 59.4**	**+0.4**
	0.4nm,0.8s,baz=302,slow=7.7,SNR=2.9						

NNC 24 23:23:31.8±13.0, **37.04N×70.50E, h0km, mb3.5, mpv3.1, 3C-1D, Error ellipse: s-maj=104.9km s-min=88.3km az=169.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.06**	**0**	⇑P	Pn	23 25 05.8	+3.2
	0.5nm,0.3s,baz=183,slow=13,SNR=16						
KK31				⇑S	Sn	23 26 15.2	+2.6
	2.4nm,0.4s,baz=188,slow=24,SNR=14						
AAK	**Ala-Archa**	**6.38**	**28**	P	Pn	23 25 06.5	-0.7
	0.6nm,0.5s						
AAK				S	Sn	23 26 21.6	+0.8
	4.2nm,0.9s						
TKM2	**Tokmak 2**	**7.06**	**32**	⇑P	Pn	23 25 15.1	-1.5
	1.7nm,0.6s						
TKM2				⇓S	Sn	23 26 36.0	-1.6
	1.5nm,0.9s						

*HLW **24** 23:43:06.4, 39.25N×21.41E, h5km±29km, Md5.3, Ml5.7*

*BJI **24** 23:43:06.7±0.0, 38.61N×20.49E, h5km, mB5.1/61, mb5.4/79, Ms5.1/68, Ms7 4.8/62*

*GII **24** 23:43:10.7±0.0, 38.92N×21.13E, h1km*

*MOS **24** 23:43:14.0±1.3, 38.98N×21.12E, h11km, mb5.5/34, MS4.9/30, Error ellipse: s-maj=4.0km s-min=2.7km az=88.9*

*THE **24** 23:43:15.5, 38.92N×21.13E, h0km±1km, ML5.2/24, Error ellipse: s-maj=1.4km s-min=0.4km az=234

MGNA	Meganis	0.37	230	P		Pg	23 43 22.9	+0.2	KZN				AML	AML	23 44 04.7		CEL	Celeste	4.17	263		Pn	23 44 18.4	-0.1
MGNA				S		Sb	23 43 28.8	-0.5	KZN				AML	AML	23 44 10.2		THT2	Imerovigli	4.18	125	eP	Pn	23 44 22.2	+3.5
TSLK	Tsoukalades, L	0.40	260	P		Pg	23 43 23.4	+0.3	comp=N,72943µm,0.5s								PLD	Plovdiv	4.19	39	eP	Pn	23 44 21.5	+2.7
TSLK	Tsoukalades, L	0.40	260	P		Pg	23 43 23.2	+0.1	NEST	Nestorio	1.52	357	P		Pg	23 43 43.8	-0.5	NKME	Niksic	4.21	337	⇓i	Pn	23 44 19.9	+0.8
NYDR	Nydri-Lefkada	0.40	243	P		Pg	23 43 23.3	+0.1	NEST				S		Sg	23 44 03.5	-0.5	NKME				i	Sn	23 45 06.3	-1.9
NYDR				S		Sb	23 43 29.4	-0.8	comp=N,47µm,1.9s									NKY	Niksic	4.24	338	⇓i	Pn	23 44 20.3	+0.7
	220µm,0.9s								NEST	Nestorio	1.52	357	P		Pb	23 43 43.1	-0.1	NKY				i	Sn	23 45 07.0	-2.0
LKD2	Lefkada island	0.40	254	P		Pg	23 43 21.6	-1.6	LIT	Litokhoron	1.58	40	P		Pb	23 43 44.1	-0.3	SANT	Santorini	4.25	125	eP	Pn	23 44 23.1	+3.5
LKD2				S		Sg	23 43 28.5	-0.1	LIT				S		Sg	23 44 06.7	+0.5	SANT	Santorini	4.25	125	Pn	Pn	23 44 22.7	+3.1
	299µm,0.7s								comp=N,161µm,0.7s								VAM	Vamos	4.25	144	P	Pn	23 44 21.5	+1.8
EVGI	Lefkada island	0.48	235	P		Pg	23 43 24.7	+0.1	LIT	Litokhoron	1.58	40	P		Pb	23 43 43.9	-0.4	ALN	Alexandroupoli	4.26	61	eP	Pn	23 44 21.2	+1.4
EVGI				S		Sb	23 43 32.2	-0.2	LIT	Litokhoron	1.58	40	Pn		Pb	23 43 43.9	-0.4	ALN	Alexandroupoli	4.26	61	P	Pn	23 44 21.1	+1.4
	193µm,1.6s								TRIP	Tripoli	1.63	147	P		Pb	23 43 45.6	+0.5	ALN	Alexandroupoli	4.26	61	Pn	Pn	23 44 21.1	+1.4
EVR	Evrytania	0.51	88	P		Pb	23 43 25.7	-0.4	TRIP	Tripoli	1.63	147	P		Pb	23 43 45.2	+0.1	KDZ	Kurdzhali	4.26	49	eP	Pn	23 44 20.5	+0.7
EVR				S		Sb	23 43 34.0	+0.5	XOR	Xorichti	1.65	73	P		Pb	23 43 45.4	-0.1	ENEZ	Enez	4.26	63	eP	Pn	23 44 21.4	+1.6
	474µm,0.5s								XOR				S		Sg	23 44 08.5	+0.1	URLA	Izmir	4.29	95	eP	Pn	23 44 22.8	+2.5
EVR	Evrytania	0.51	88	P		Pb	23 43 26.0	-0.1	comp=N,105µm,0.8s								SELS	Selova	4.32	360	ePn	Pn	23 44 22.4	+1.8
EVR				S		Sg	23 43 32.4	+0.3	XOR	Xorichti	1.65	73	P		Pb	23 43 45.3	-0.1	TREB	Trebinje	4.37	332	ePn	Pn	23 44 21.0	-0.2
EVR				AML	AML		23 43 35.8		XOR				AML	AML		23 44 11.3		TREB				eSn	Sn	23 45 10.5	-1.5
EVR				AML	AML		23 43 36.2		XOR				AML	AML		23 44 13.0		TREB	Trebinje	4.37	332	⇓i	Pn	23 44 21.0	-0.2
FSK	Fiskardo	0.64	227	P		Pg	23 43 27.2	-0.4	NEO	Neokhori	1.66	75	P		Pb	23 43 46.3	+0.6	SJES	Sjenica	4.45	349	ePn	Pn	23 44 24.5	+2.0
FSK				S		Sb	23 43 37.0	0.0	NEO				S		Sg	23 44 09.3	+0.7	SJES	Sjenica	4.45	349	⇓i	Pn	23 44 24.3	+1.8
	168µm,1.2s								NEO				AML	AML		23 44 12.0		BRY	Bratogost	4.46	334	⇓i	Pn	23 44 23.2	+0.5
FSK	Fiskardo	0.64	227	P		Pg	23 43 27.4	-0.2	NEO				AML	AML		23 44 13.1		BRY				i	Sn	23 45 12.3	-2.3
FSK				S		Sb	23 43 37.5	+0.6	LTK	Loutraki	1.67	121	P		Pg	23 43 46.7	-0.5	BRY	Bratogost	4.46	334	⇓i	Pn	23 44 22.6	-0.1
FSK				AML	AML		23 43 39.5		LTK	Loutraki	1.67	121	P		Pb	23 43 46.5	+0.7	DKL	Dikili	4.49	86	eP	Pn	23 44 25.7	+2.9
FSK				AML	AML		23 43 42.8		LTK				AML	AML		23 44 15.1		ERIK	Erikli-Kesan	4.49	65	eP	Pn	23 44 24.1	+1.2
ANX	Ano Chora	0.67	117	P		Pb	23 43 28.6	-0.3	LTK				AML	AML		23 44 17.4		ZAPS	Zavoj	4.51	14	ePn	Pn	23 44 26.8	+3.5
ANX				S		Sb	23 43 38.9	+0.8	LOUT	Loutraki	1.69	122	P		Pb	23 43 46.9	+0.7	LPK	Lapseki	4.57	69	eP	Pn	23 44 24.8	+0.8
	383µm,1.1s								LOUT	Loutraki	1.69	122	P		Pg	23 43 47.0	-0.7	PLE	Pljevlja	4.62	344	⇑i	Pn	23 44 25.7	+0.8
ANX	Ano Chora	0.67	117	P		Pb	23 43 28.6	-0.3	LOUT				AML	AML		23 44 23.5		PLE				i	Sn	23 45 16.3	-2.2
ANX				S		Sb	23 43 37.9	-0.2	comp=N,18186µm,0.7s									UPM	Unac-Piva	4.62	339	⇓i	Pn	23 44 25.7	+0.8
ANX				AML	AML		23 43 43.5		LOUT				AML	AML		23 44 23.7		UPM				i	Sn	23 45 16.3	-2.3
ANX				AML	AML		23 43 44.2		comp=E,17060µm,1.0s									BLCB	Balcova	4.64	94	eP	Pn	23 44 28.1	+3.2
AXS	Araxos	0.72	166	P		Pb	23 43 29.9	+0.3	VIL2	Platees	1.79	112	P		Pg	23 43 49.4	-0.2	IDI	Anoyia	4.68	139	Pn	Pn	23 44 27.1	+1.5
AXS	Araxos	0.72	166	P		Pb	23 43 29.8	+0.3	VLX	Vlachokerasia	1.81	147	P		Pb	23 43 48.1	-0.1		comp=E,34nm,0.3s,baz=309,slow=9.8,SNR=12							
AXS				AML	AML		23 43 43.8		VLX	Vlachokerasia	1.81	147	P		Pb	23 43 48.4	+0.2	IDI				Sn	Sn	23 45 22.0	+2.2
AXS				AML	AML		23 43 46.0		VLX				S		Sg	23 44 13.1	-0.1		comp=E,46nm,0.3s,baz=306,slow=19,SNR=4.2							
EFP	Efpalio	0.75	128	P		Pb	23 43 30.0	-0.1	VILL	Villia	1.84	113	P		Pb	23 43 48.9	+0.1	IDI				LR	LR	23 46 47.5	
EFP	Efpalio	0.75	128	P		Pg	23 43 29.8	0.0	EPID	Epidavros	2.01	129	P		Pb	23 43 51.5	-0.1		comp=E,8µm,19.9s,baz=324,slow=44							
EFP				S		Sb	23 43 41.2	+0.9	EPID	Epidavros	2.01	129	P		Pb	23 43 51.8	+0.2	IDI	Anoyia	4.68	139	⇑P	Pn	23 44 27.1	+1.5
EFP				AML	AML		23 43 46.0		VLO	Vlora	2.02	321	P		Pb	23 43 50.6	-1.2	IDI	Anoyia	4.68	139	⇓S	Sn	23 45 25.3	+5.4
EFP				AML	AML		23 43 50.3		PYL	PYLOS	2.05	167	P		Pb	23 43 52.0	-0.3	IDI	Anoyia	4.68	139	eP	Pn	23 44 26.8	+1.2
MAKR	Makrakomi, Fth	0.77	81	P		Pb	23 43 30.8	+0.3	PYL	PYLOS	2.05	167	P		Pb	23 43 51.9	-0.3	IDI	Anoyia	4.68	139	Pn	Pn	23 44 26.8	+1.2
MAKR				S		Sn	23 43 42.4	-0.9	PYL				AML	AML		23 44 34.9		IDI	Anoyia	4.68	139	P	Pn	23 44 26.9	+1.4
	578µm,0.9s								comp=E,83582µm,1.0s									GVD	Gavdhos	4.68	149	eP	Pn	23 44 27.5	+1.9
MAKR	Makrakomi, Fth	0.77	81	P		Pb	23 43 30.5	0.0	PYL				AML	AML		23 44 37.1		GVD	Gavdhos	4.68	149	P	Pn	23 44 27.6	+2.1
JAN	Janina	0.79	343	P		Pg	23 43 29.9	-0.7	comp=N,68801µm,1.0s									BOVS	Bovan	4.75	5	ePn	Pn	23 44 27.7	+1.2
JAN				S		Sb	23 43 42.0	+0.4	AOS	Alonnisos	2.14	82	eP		Pn	23 43 52.1	+1.5	UKOP	Uzunkopru-Edir	4.76	60	eP	Pn	23 44 28.6	+2.0
	101µm,1.5s								PAIG	Paliouri	2.21	61	P		Pn	23 43 52.4	+0.8	HRKL	Herakleio	4.77	137	eP	Pn	23 44 28.5	+1.7
JAN	Janina	0.79	343	P		Pg	23 43 30.1	-0.4	ATH	Athens Observa	2.21	114	P		Pb	23 43 54.7	-0.4	BLKB	Belogradchik	4.86	13	⇑S	Sn	23 45 27.9	+3.7
JAN				S		Sb	23 43 41.5	0.0	ATH				AML	AML		23 44 34.8		RUDO	Rudo	4.90	345	ePn	Pn	23 44 29.0	+0.4
JAN				AML	AML		23 43 45.9		ATH				AML	AML		23 44 35.2		RKY	Sarkoy-Tekirda	4.97	67	eP	Pn	23 44 31.7	+2.1
JAN				AML	AML		23 43 48.9		THE	Thessaloniki	2.22	38	P		Pn	23 43 52.9	+1.2	ZAGS	Zajecar	4.98	9	ePn	Pn	23 44 31.4	+1.8
KEF5	Kardakata, Kep	0.82	221	P		Pg	23 43 30.5	-0.6	OHR	Ohrid	2.23	353	i	Pn	Pb	23 43 55.0	-0.4	ZAGS				eSn	Sn	23 45 30.6	+3.6
VLS	Valsamata	0.84	212	P		Pg	23 43 31.0	-0.5	OHR				i	Sn	Sg	23 44 28.5	+1.7	GRUS	Gruza	5.00	356	ePn	Pn	23 44 31.2	+1.3
VLS				S		Sn	23 43 44.9	-0.2	OHR				eLg	Lg		23 44 32.6		SGRT	San Giovanni R	5.02	306	Pn	Pn	23 44 30.3	0.0
	144µm,0.6s								comp=E,29µm,1.1s									MAR6	Marsite Statio	5.04	67	eP	Pn	23 44 32.7	+2.2
VLS	Valsamata	0.84	212	P		Pg	23 43 30.9	-0.5	OHR				eSg	Sb		23 44 33.6	+11	MAR3	Marsite Statio	5.07	67	eP	Pn	23 44 31.9	+1.0
VLS				S		Sb	23 43 43.7	+0.7	OHR				eLg	Lg		23 44 36.0		MAR2	Marsite Statio	5.08	67	eP	Pn	23 44 31.7	+0.7
VLS				AML	AML		23 43 50.1		comp=N,41µm,1.2s									KOSK	Kos Island	5.08	113	eP	Pn	23 44 35.7	+4.6
VLS				AML	AML		23 43 51.9		ATHU	Athens Univers	2.27	113	P		Pb	23 43 55.0	-0.9	MAR4	Marsite Statio	5.09	66	eP	Pn	23 44 32.9	+1.6
RLS	Riolos of Patr	0.87	164	P		Pb	23 43 32.4	+0.2	HORT	Hortiatis	2.27	41	eP		Pn	23 43 54.0	+1.6	GZKV	Gazikoy-Tekird	5.10	67	eP	Pn	23 44 33.1	+1.8
RLS				S		Sn	23 43 45.4	-0.4	PTL	Penteli	2.29	111	P		Pb	23 43 55.0	-1.4	BBLS	Lazići	5.13	346	ePn	Pn	23 44 32.8	+1.0
	115µm,1.3s								PTL				S		Sb	23 44 24.5	-0.1	BBLS	Lazići	5.13	346	⇓i	Pn	23 44 32.5	+0.7
RLS	Riolos of Patr	0.87	164	P		Pb	23 43 32.2	0.0	PTL				AML	AML		23 44 40.4		EDRB	Edirne	5.19	54	eP	Pn	23 44 33.9	+1.4
RLS				AML	AML		23 43 51.9		comp=N,83306µm,1.0s									BODT	Bodrum	5.20	109	eP	Pn	23 44 36.5	+3.8
RLS				AML	AML		23 43 57.1		PTL				AML	AML		23 44 42.5		MRMT	Marmara Adasi	5.25	69	eP	Pn	23 44 35.3	+1.9
ARG2	Argostoli	0.89	216	P		Pg	23 43 31.9	-0.4	comp=E,62719µm,1.4s									DIVS	Divibare	5.27	351	ePn	Pn	23 44 34.5	+0.8
ARG2				S		Sn	23 43 46.1	0.0	PLG	Polygyros	2.30	49	P		Pn	23 43 53.7	+0.9	DIVS				eSn	Sn	23 45 33.6	-0.7
	330µm,0.8s								comp=E,93018µm,1.1s									DIVS	Divibare	5.27	351	⇓i	Pn	23 44 34.5	+0.8
TRIZ	Trizonia	0.90	126	P		Pg	23 43 32.1	-0.4	PLG				AML	AML		23 44 35.0		DIVS	Divibare	5.27	351	Pn	Pn	23 44 34.0	+0.4
TRIZ				S		Sn	23 43 46.0	-0.3	comp=N,75072µm,0.7s									BALB	Balikesir	5.27	80	eP	Pn	23 44 36.5	+2.9
	270µm,0.7s								KYMI	Kymi, Euboea I	2.32	96	P		Pb	23 43 55.8	-1.1	NIS1	Nisyros Isl.	5.29	114	eP	Pn	23 44 38.9	+4.9
TRIZ	Trizonia	0.90	126	P		Pb	23 43 32.6	0.0	VLY	Voula,Athens	2.32	116	P		Pb	23 43 56.0	-0.9	MAR9	Marsite Statio	5.33	69	eP	Pn	23 44 37.4	+3.0
TRIZ				S		Sb	23 43 45.1	+0.7	VLY				AML	AML		23 44 35.2		TRUS	Trudelj	5.35	354	ePn	Pn	23 44 35.7	+1.0
DMLN	Damoulianata-K	0.90	223	P		Pg	23 43 31.8	-0.7	VLY				AML	AML		23 44 44.0		SVIS	Svilajnac	5.36	0	ePn	Pn	23 44 38.5	+3.6
DMLN				S		Sn	23 43 45.8	-0.6	comp=E,74483µm,0.7s									AYDB	Zeytinkoy-Aydi	5.38	98	eP	Pn	23 44 39.9	+4.7
	306µm,0.8s								DION	Dionisos Attik	2.33	110	P		Pb	23 43 55.3	-1.7	BAIL	Bailesti	5.38	17	⇓P	Pn	23 44 38.2	+3.2
IGT	Igoumenitsa	0.90	315	P		Pg	23 43 32.1	-0.5	DION				S		Sb	23 44 25.5	-0.3	EDC	Klincik	5.38	72	eP	Pn	23 44 37.2	+2.1
IGT	Igoumenitsa	0.90	315	P		Pg	23 43 32.1	-0.5	SCTE	Santa Cesarea	2.39	300	Pn		Pn	23 43 54.3	+0.3	HAPS	Han Pijesak,BI	5.44	343	ePn	Pn	23 44 35.7	-0.4
IGT				AML	AML		23 43 53.8		YDRA	Hydra	2.39	130	P		Pb	23 43 57.5	-0.5	HAPS				eSn	Sn	23 45 36.8	-1.8
IGT				AML	AML		23 43 54.6		VLI	Veliai	2.59	146	P		Pb	23 43 59.6	-1.9	HAPS	Han Pijesak,BI	5.44	343	eP	Pn	23 44 35.4	-0.7
	comp=N,76634µm,0.7s								OUR	Ouranopolis	2.61	56	eP		Pn	23 43 58.8	+1.7	MLSB	Milas	5.46	105	eP	Pn	23 44 41.4	+5.1
KALE	Kalithea	0.92	123	P		Pg	23 43 32.8	-0.2	KNT	Kendrikon	2.63	30	eP		Pn	23 43 58.9	+1.6	PAOL	Paolisi	5.49	295		Pn	23 44 37.9	+1.2
KALE	Kalithea	0.92	123	P		Pg	23 43 32.7	-0.2	TIR	Tirane	2.64	338	P		Pn	23 43 59.4	+1.9	VAE	Valguarnera	5.50	257	Pn	Pn	23 44 37.9	+1.0
KALE				S		Sg	23 43 44.8	-0.3	TIR	Tirane	2.64	338	ePn		Pn	23 43 59.7	+2.2		comp=E,5.2nm,0.3s,baz=42,slow=2.8,SNR=31							
KALE				AML	AML		23 43 50.4		TIR	Tirane	2.64	338	⇓P		Pn	23 43 59.7	+2.2	VAE				Sn	Sn	23 45 44.8	+4.9
KALE				AML	AML		23 43 58.0		TIR	Tirane	2.64	338	P		Pn	23 43 57.9	+0.4		comp=E,17nm,0.3s,baz=74,slow=7.4,SNR=2.2							
AGG	Agios Georgios	0.93	82	P		Pb	23 43 33.4	+0.3	TIR	Tirane	2.64	338			Pn	23 43 57.9	+0.4	CRLT	Corlu	5.52	64	eP	Pn	23 44 39.1	+2.0
AGG				S		Sn	23 43 47.5	+0.4	SKY	Skiros Island	2.65	89	P		Pb	23 44 00.6	-1.9	ZKR	Zakros	5.54	131	eP	Pn	23 44 39.9	+2.6
	comp=N,286µm,0.5s								MNVA	Monemvasia	2.66	145	P		Pb	23 44 01.4	-1.4	PHSR	Pinarhisar	5.58	59	eP	Pn	23 44 39.3	+1.4
AGG	Agios Georgios	0.93	82	eP		Pb	23 43 33.5	+0.3	KARY	Karystos	2.72	108	P		Pn	23 44 00.9	+2.4	RAFF	Raffo Rosso	5.61	255		Pn	23 44 40.1	-1.0
AGG	Agios Georgios	0.93	82	P		Pn	23 43 33.7	-0.3	STIP	Stip	2.90	15	i	Pn	Pb	23 44 05.0	-1.8	ZIMR		5.71	32	⇓P	Pn	23 44 43.5	+3.8
AGG	Agios Georgios	0.93	82	P		Pb	23 43 33.3	+0.1	STIP				i	Sn	Sb	23 44 41.9	-0.3	TEKS	Tekeris	5.78	348	ePn	Pn	23 44 41.2	+0.6
AGG				AML	AML		23 43 49.3		KTHR	Kythira	3.02	150	P		Pb	23 44 06.6	-2.1	TEKS				eSn	Sn	23 45 45.0	-1.7
AGG				AML	AML		23 43 49.3		KTHA	Kythira Island	3.04	150	eP		Pb	23 44 06.8	-2.4	TEKS	Tekeris	5.78	348	⇓i	Pn	23 44 41.1	+0.5
THL	Klokotos Trika	0.94	45	P		Pg	23 43 33.2	-0.2	KTHA	Kythira Island	3.04	150	P		Pb	23 44 07.3	-1.9	MANT	Manisa	5.81	92	Pn	Pn	23 44 45.5	+4.2
THL				S		Sn	23 43 47.5	0.0	EFSA	Agios Efstrati	3.05	77	P		Pn	23 44 05.3	+2.3	KARP	Karpathos	5.84	123	eP	Pn	23 44 44.3	+2.7
	comp=N,193µm,0.8s								SKO	Skopje	3.08	4	eP	Pn	Pn	23 44 06.4	+2.8	KARP	Karpathos	5.84	123	Pn	Pn	23 44 44.0	+2.4
THL	Klokotos Trika	0.94	45	P		Pg	23 43 33.2	-0.2	SKO				eSn	Sn	Sb	23 44 45.2	-2.1	DJES	Djerdap	5.85	10	ePn	Pn	23 44 44.4	+2.8
THL				S		Sb	23 43 46.6	+0.8	SKO	Skopje	3.08	4	i	Pn	Pn	23 44 06.3	+2.8	KULA	Kula-Manisa	5.88	91	eP	Pn	23 44 45.9	+3.7
THL				AML	AML		23 43 51.3		SKO				i	Sn	Sb	23 44 44.0	-3.3	SLVT	Silivri	5.89	64	eP	Pn	23 44 43.3	+2.1
THL				AML	AML		23 43 52.4		SERI	Serifos	3.15	122	P		Pn	23 44 07.5	+3.0	MDVR	Moldovita	5.89	4	⇑P	Pn	23 44 44.1	+1.9
ALIK	Aliki, Aigiali	0.98	130	P		Pn	23 43 35.0	+0.3	SERI	Serifos	3.15	122	P		Pn	23 44 07.3	+2.7	YER	Yerkesik	5.90	105	eP	Pn	23 44 46.7	+4.4
DRO	Drossia	1.04	155	P		Pb	23 43 34.9	-0.2	NVR	Nevrokopi	3.21	39	P		Pn	23 44 07.1	+1.7	SRE	Strehaia	5.96	14	⇑P	Pn	23 44 46.8	+3.7
DRO				S		Sn	23 43 51.3	+1.4	KVLA	Kavala	3.21	50	P		Pn	23 44 06.8	+1.5	TURN	Turunc	6.00	108	eP	Pn	23 44 47.9	+4.3
	comp=N,262µm,0.8s								LIA	Limnos Island	3.28	71	P		Pn	23 44 07.9	+1.7	CTYL	Yalikoy Yolu	6.04	63	eP	Pn	23 44 44.9	+0.7
DRO	Drossia	1.04	155	P		Pb	23 43 34.9	-0.2	CGL1	Ceglie Messapi	3.33	303	ePn		Pb	23 44 08.2	+1.2	HERR	Herculane	6.05	9	⇑P	Pn	23 44 46.4	+2.0
DRO				AML	AML		23 43 55.4		MHLO	Agia Marina, M	3.39	130	P		Pb	23 44 11.7	-3.4	COPA	Copaceanca	6.05	29	⇑P	Pn	23 44 48.9	+4.5
DRO				AML	AML		23 43 55.9		ULC	Ulcinj	3.39	335	⇓i	Pn	Pn	23 44 08.7	+0.9	SIMA	Simav-Kutahya	6.10	86	eP	Pn	23 44 48.9	+3.8
VLMS	Volimes, Zakyn	1.09	201	P		Pb	23 43 35.4	-0.5	ULC				i	Sn	Sn	23 44 47.0	-1.0	CTKS	Kestanelik-??a	6.10	65	eP	Pn	23 44 46.8	+1.7
VLMS				S		Sn	23 43 51.6	+0.4	TAR1	Taranto	3.40	300	⇓i	Pn	Pn	23 44 07.8	-0.1	MDNY	Mudanya-Bursa	6.14	74	eP	Pn	23 44 47.5	+1.9
VLMS				AML	AML		23 43 56.7		TIP	Timpagrande	3.43	276	⇓P		Pn	23 44 08.4	-0.1	ARG	Arkhangelos	6.15	114	eP	Pn	23 44 50.4	+4.7
VLMS				AML	AML		23 44 00.7		TIP	Timpagrande	3.43	276			Pn	23 44 09.1	+0.6	ARMT	Armutlu	6.17	72	eP	Pn	23 44 49.4	+3.4
ZAK2	Zakynthos	1.13	190	P		Pb	23 43 36.2	-0.3	TNSA	Tinos	3.44	112	P		Pn	23 44 11.4	+3.0	CORL	Corleone	6.25	263	Pn	Pn	23 44 47.9	+0.8
ZAK2				S		Sn	23 43 54.8	+2.8	ANKY	Antikythira Is	3.48	150	P		Pn	23 44 12.4	+3.4	BGKT	Bogazkoy	6.28	66	eP	Pn	23 44 49.9	+2.5
DLFA	Delphi	1.13	111	P		Pb	23 43 36.3	-0.4	ANKY	Antikythira Is	3.48	150	P		Pb	23 44 13.2	-3.3	DALY	Dalyan (Mula)	6.29	107	eP	Pn	23 44 52.9	+5.3
DLFA				AML	AML		23 43 58.1		DRME	Dracevica, Mon	3.61	336	⇑i	Pn	Pn	23 44 11.8	+1.0	HUMR	Humele	6.31	26	⇓P	Pn	23 44 50.6	+2.7
DLFA				AML	AML		23 43 58.1		DRME				i	Sn	Sn	23 44 52.2	-1.2	FRGS	Fruska Gora	6.33	351	ePn	Pn	23 44 48.5	+0.2
KLV	Kalavryta, Ach	1.16	137	P		Pb	23 43 37.1	0.0	DRME	Dracevica, Mon	3.61	336	⇓i	Pn	Pn	23 44 11.9	+1.1	FRGS	Fruska Gora	6.33	351	⇓i	Pn	23 44 48.4	+0.2
KLV	Kalavryta, Ach	1.16	137	P		Pb	23 43 37.0	-0.1	SIGR	SIGRI	3.67	84	eP		Pn	23 44 14.8	+3.1	INTR	Introdacqua	6.34	302	Pn	Pn	23 44 49.4	+0.9
KLV				S		Sn	23 43 53.4	+0.6	BOSS	Bosilegrad	3.73	15	ePn		Pn	23 44 15.4	+2.9	CLTB	Caltabellotta	6.39	261		Pn	23 44 49.9	+0.8
KLV				AML	AML		23 44 02.1		PVY	Plav	3.80	347	ePn		Pn	23 44 14.7	+1.1	GEMT	Gemlik	6.39	74	eP	Pn	23 44 51.4	+2.4
KLV				AML	AML		23 44 03.7		PVY				i	Sn	Sn	23 44 57.0	-1.3	TRML	Termal-Yalova	6.41	72	eP	Pn	23 44 49.7	+0.4
AXAR	Agios Charalam	1.18	96	P		Pn	23 43 37.4	0.0	BUM	Brajici-Budva	3.81	334	⇓i	Pn	Pn	23 44 14.3	+0.7	SGRR	Singureni	6.43	33	⇓P	Pn	23 44 52.9	+3.4
LRSO	Larissa Observ	1.23	51	P		Pn	23 43 38.1	0.0	BUM				i	Sn	Sn	23 44 56.9	-1.4	GEDZ	Gediz	6.43	86	eP	Pn	23 44 54.4	+4.7
LRSO	Larissa Observ	1.23	51	P		Pb	23 43 38.4	0.0	PDG	Podgorica	3.81	338	ePn		Pn	23 44 14.5	+1.0	ISK	Istanbul-Kandi	6.45	68	eP	Pn	23 44 49.2	+0.1
KRI1	kERI	1.26	192	P		Pn	23 43 38.3	-0.2	PDG	Podgorica	3.81	338	⇓P		Pn	23 44 14.5	+1.0	KAVV	Kandilli-Istan	6.45	68	eP	Pn	23 44 50.9	+1.1
KRI1				S		Sg	23 43 58.1	+2.2	PDG	Podgorica	3.81	338	⇑i	Pn	Pn	23 44 14.5	+1.0	TVSB	Tavsanli	6.48	83	eP	Pn	23 44 53.7	+3.4
	comp=N,222µm,0.6s								PDG	Podgorica	3.81	338	Pn		Pn	23 44 14.1	+0.5	BANR	Banloc	6.48	360	⇑P	Pn	23 44 51.5	+1.3
KASA	Kassiopi	1.27	312	P		Pb	23 43 39.1	+0.2	TTG	Podgorica	3.81	338	⇓i	Pn	Pn	23 44 14.6	+1.0	BLY	Banja Luka	6.55	334	ePn	Pn	23 44 50.8	-0.5
PENT	Pentalofos	1.30	359	P		Pn	23 43 38.9	-0.2	TTG				i	Sn	Sn	23 44 57.0	-1.3	BLY				eSn	Sn	23 46 03.5	-2.3
PENT	Pentalofos	1.30	359	P		Pb	23 43 39.6	+0.1	MATE	Matera	3.85	298	⇑P		Pn	23 44 14.1	0.0	BLY	Banja Luka	6.55	334	⇓i	Pn	23 44 51.2	-0.1
PENT				S		Sg	23 43 56.8	-0.2	GADA	Gvkgeada	3.89	69	P		Pn	23 44 16.5	+1.9	BUC1	Bucharest	6.55	32	⇑P	Pn	23 44 54.6	+3.3
PENT				AML	AML		23 44 03.5		APE	Apeiranthos	3.91	116	⇑P		Pn	23 44 18.3	+3.3	GZR	Gura Zlata	6.60	10	⇓P	Pn	23 44

AKAS	**Kas**	**7.22**	**109**		Pn		Pn	23 45 06.0	+5.5
NRCA	**Norcia**	**7.25**	**305**				**Pn**	**23 45 01.4**	**+0.5**
ELL	**Elmali**	**7.25**	**104**	*eP*			Pn	23 45 07.9	+6.9
ELL	**Elmali**	**7.25**	**104**	P			**Pn**	**23 45 05.3**	**+4.3**
ELL	**Elmali**	**7.25**	**104**	Pn			**Pn**	**23 45 05.3**	**+4.3**
SPNC	**Sapanca-Adapaz**	**7.27**	**73**	*eP*			**Pn**	**23 45 03.8**	**+2.7**
SAUV	**Serdivan-Sakar**	**7.30**	**73**	*eP*			**Pn**	**23 45 05.1**	**+3.7**
AMRR	**Amara**	**7.34**	**37**	⇑P			**Pn**	**23 45 06.7**	**+4.6**
SHUT	**Suhut-Afyon**	**7.36**	**90**	*eP*			**Pn**	**23 45 06.8**	**+4.4**
GULT	**Gulveren**	**7.38**	**75**	*eP*			**Pn**	**23 45 05.4**	**+2.7**
ISR	**Istrita**	**7.40**	**31**	⇓P			**Pn**	**23 45 07.0**	**+4.1**
SRCK	**Saricakaya, Es**	**7.42**	**78**	*eP*			**Pn**	**23 45 04.1**	**+1.0**
ISP	**Isparta**	**7.44**	**95**	*eP*			Pn	23 45 08.4	+4.9
ISP	**Isparta**	**7.44**	**95**	P			**Pn**	**23 45 08.0**	**+4.5**
ISP	**Isparta**	**7.44**	**95**	Pn			**Pn**	**23 45 08.0**	**+4.5**
MLR	**Muntele Rosu**	**7.49**	**27**	Pn			**Pn**	**23 45 07.4**	**+3.3**
	comp=E,32nm,0.3s,baz=236,slow=4.8,SNR=78								
MLR				Sn			**Sn**	**23 46 28.1**	**-0.9**
	baz=266,slow=15,SNR=1.2								
MLR				Lg			Lg	23 47 09.0	
	baz=120,slow=20,SNR=1.3								
MLR				LR			LR	23 48 19.1	
	comp=E,4µm,18.5s,baz=230,slow=41								
MLR	**Muntele Rosu**	**7.49**	**27**	⇑P			**Pn**	**23 45 08.6**	**+4.4**
MLR	**Muntele Rosu**	**7.49**	**27**	P			**Pn**	**23 45 07.2**	**+3.1**
MLR	**Muntele Rosu**	**7.49**	**27**	Pn			**Pn**	**23 45 07.2**	**+3.1**
CVDA	**Cernavoda**	**7.49**	**41**	⇑P			**Pn**	**23 45 07.6**	**+3.6**
KORT	**Korkueli**	**7.51**	**102**	*eP*			Pn	23 45 11.5	+7.0
NEHR	**Nehoiu**	**7.56**	**29**	⇓P			**Pn**	**23 45 09.4**	**+4.3**
BCK	**Bucak**	**7.57**	**98**	*eP*			Pn	23 45 10.7	+5.4
MDB	**Medias**	**7.62**	**17**	⇑P			**Pn**	**23 45 08.6**	**+2.7**
TLBR	**Topalu**	**7.64**	**40**	⇑P			**Pn**	**23 45 10.7**	**+4.6**
CIFT	**Cifteler, Eski**	**7.72**	**83**	*eP*			**Pn**	**23 45 11.1**	**+3.8**
DOPR	**Dopca**	**7.73**	**23**	⇑P			**Pn**	**23 45 10.1**	**+2.8**
TIRR	**Tirgusor**	**7.77**	**42**	⇑P			**Pn**	**23 45 11.6**	**+3.7**
TIRR	**Tirgusor**	**7.77**	**42**	P			**Pn**	**23 45 10.5**	**+2.6**
TIRR	**Tirgusor**	**7.77**	**42**	Pn			**Pn**	**23 45 10.5**	**+2.6**
BISRR	**Bisoca**	**7.82**	**30**	⇑P			**Pn**	**23 45 12.1**	**+3.5**
MURB	**Monte Urbino**	**7.84**	**307**				**Pn**	**23 45 10.0**	**+1.1**
MDUB	**Mudurnu**	**7.90**	**75**	*eP*			**Pn**	**23 45 12.7**	**+2.8**
MDUB	**Mudurnu**	**7.90**	**75**	Pn			**Pn**	**23 45 13.7**	**+3.8**
ZAG	**Zagreb**	**7.91**	**333**	*e*Pn			**Pn**	**23 45 09.0**	**-0.8**
BOJS	**Bojanci**	**7.92**	**328**	*i* Pn			**Pn**	**23 45 09.7**	**-0.3**
BOJS				*e*Sn			**Sn**	**23 46 32.8**	**-6.6**
OZUR		**7.96**	**24**	⇑P			**Pn**	**23 45 13.7**	**+3.0**
LATE	**Laterza**	**8.01**	**301**	Pn			**Pn**	**23 45 13.8**	**+2.6**
CJR	**Cluj-Napoca**	**8.01**	**12**	⇑P			**Pn**	**23 45 14.9**	**+3.6**
PLOR	**Plostina**	**8.05**	**29**	⇑P			**Pn**	**23 45 15.7**	**+3.9**
TPGR	**Topolog**	**8.05**	**40**	⇑P			**Pn**	**23 45 15.3**	**+3.6**
SVRH	**Sivrihisar-ESK**	**8.07**	**83**	*eP*			**Pn**	**23 45 15.9**	**+3.7**
VRI	**Vrincioaia**	**8.09**	**29**	⇑P			**Pn**	**23 45 16.2**	**+3.8**
VRI	**Vrincioaia**	**8.09**	**29**	*eP*			**Pn**	**23 45 15.0**	**+2.6**
SLUM	**Salum**	**8.10**	**155**	S			**Sn**	**23 46 38.9**	**-5.1**
	baz=157								
SLUM				AMP				23 46 00.0	
	baz=157								
RIY	**Rijeka**	**8.11**	**324**	*e*Pn			**Pn**	**23 45 12.0**	**-0.6**
CFR	**Carcaliu**	**8.14**	**37**	⇑P			**Pn**	**23 45 16.4**	**+3.4**
BEHE	**Becsehely**	**8.22**	**338**	⇓*i* Pn			**Pn**	**23 45 16.9**	**+2.7**
YUVA	**Yuva-Kibriscik**	**8.26**	**76**	*eP*			**Pn**	**23 45 18.6**	**+3.8**
KIZT	**Kizilcal**	**8.37**	**87**	*eP*			Pn	23 45 21.3	+5.0
JOSR	**Joseni**	**8.43**	**21**	⇑P			**Pn**	**23 45 21.1**	**+4.0**
CEY	**Cerknica**	**8.46**	**326**	⇓*i* Pn			**Pn**	**23 45 16.6**	**-0.8**
PDKS	**Podkum**	**8.48**	**330**	*i* Pn			**Pn**	**23 45 17.0**	**-0.7**
	comp=Z,19µm,8.1s								
TLCR		**8.48**	**40**	⇑P			**Pn**	**23 45 21.2**	**+3.5**
ARCR	**ARCALIA**	**8.51**	**15**	⇑P			**Pn**	**23 45 21.8**	**+3.7**
SEYD	**Seydisehir-KON**	**8.55**	**97**	*eP*			Pn	23 45 24.3	+5.5
VARL	**Varlezi**	**8.57**	**33**	⇑P			**Pn**	**23 45 23.3**	**+4.5**
LJU	**Ljubljana**	**8.65**	**328**	*i* Pn			**Pn**	**23 45 19.3**	**-0.8**
LJU	**Ljubljana**	**8.65**	**328**	⇓*i* Pn			**Pn**	**23 45 19.1**	**-1.0**
CASP	**Castiglione de**	**8.71**	**300**	Pn			**Pn**	**23 45 21.6**	**+0.7**
BIR	**Birlad**	**8.77**	**31**	⇑P			**Pn**	**23 45 25.3**	**+3.6**
OSSC	**Osservatorio P**	**8.78**	**305**				**Pn**	**23 45 22.2**	**+0.4**
BIZ	**Bicaz**	**8.82**	**23**	⇓P			**Pn**	**23 45 26.0**	**+3.7**
PERS	**Pernice**	**8.91**	**332**	*e*Pn			**Pn**	**23 45 22.5**	**-1.2**
PERS				*e*Sn			**Sn**	**23 46 56.9**	**-7.0**
	comp=Z,11µm,9.3s								
GIRR	**Girov**	**8.95**	**24**	⇓P			**Pn**	**23 45 27.7**	**+3.5**
OBKA	**Obir**	**9.02**	**330**	Pn			**Pn**	**23 45 24.3**	**-0.9**
	comp=Z,87nm,0.5s,SNR=41								
OBKA				*e*Sn			**Sn**	**23 47 02.9**	**-3.8**
	comp=Z,174nm,0.7s								
MATC	**Matruh**	**9.03**	**145**	P			**Pn**	**23 45 24.5**	**-0.7**
	baz=147								
MATC				S			**Sn**	**23 47 02.4**	**-4.3**
	baz=147								
LOD	**Lodumlu**	**9.04**	**80**	*eP*			**Pn**	**23 45 28.9**	**+3.4**
BR231	**Keskin MP Arra**	**9.05**	**80**				**Pn**	**23 45 28.9**	**+3.2**
PSZ	**Piszkesteto**	**9.06**	**355**	⇑P			**Pn**	**23 45 27.1**	**+1.3**
PSZ	**Piszkesteto**	**9.06**	**355**	P			**Pn**	**23 45 25.1**	**-0.6**
PSZ	**Piszkesteto**	**9.06**	**355**	Pn			**Pn**	**23 45 25.1**	**-0.6**
CADS	**Cadrg**	**9.14**	**326**	*i* Pn			**Pn**	**23 45 25.5**	**-1.3**
CADS				*e*Sn			**Sn**	**23 47 05.2**	**-4.3**
VASR	**Vaslui**	**9.14**	**30**	⇑P			**Pn**	**23 45 30.5**	**+3.7**
SRO	**Srobarova**	**9.15**	**348**	*eP*			**Pn**	**23 45 27.9**	**+1.1**
SRO				*e*				23 47 08.4	
SRO	**Srobarova**	**9.15**	**348**	*e*PN			**Pn**	**23 45 27.9**	**+1.1**
SRO				*e*SN			**Sn**	**23 47 08.4**	**-1.2**
VSL	**Villasalto**	**9.16**	**277**	Pn			**Pn**	**23 45 27.2**	**+0.1**
BURAR	**Bucovina Array**	**9.20**	**17**	⇑P			**Pn**	**23 45 31.8**	**+4.1**
BURAR	**Bucovina Array**	**9.20**	**17**	Pn			**Pn**	**23 45 30.9**	**+3.3**
BUR08	**Bucovina Ar. S**	**9.22**	**17**	Pn			**Pn**	**23 45 30.5**	**+2.5**
KULU	**Kulu**	**9.23**	**85**	*eP*			Pn	23 45 34.1	+6.0
PRAR	**RASCA**	**9.23**	**22**	⇑P			**Pn**	**23 45 31.9**	**+3.9**
GAZI	**Gazipasa**	**9.25**	**103**	*eP*			Pn	23 45 33.8	+5.5
AFSR	**Afar-Bala (An**	**9.27**	**83**	*eP*			Pn	23 45 33.9	+5.2
ARSA	**Arzberg**	**9.31**	**336**	*e*Pn			**Pn**	**23 45 27.9**	**-1.1**
	comp=Z,82nm,0.8s,SNR=30								
KURC	**Kurucasile-Bar**	**9.32**	**68**	*eP*			**Pn**	**23 45 32.5**	**+3.3**
ZCCA	**Zocca**	**9.36**	**309**				**Pn**	**23 45 30.9**	**+1.0**
PRED	**Cave del Predi**	**9.38**	**326**	Pn			**Pn**	**23 45 29.3**	**-0.8**
MYKA	**Terra Mystica**	**9.49**	**327**	*e*Pn			**Pn**	**23 45 30.6**	**-1.1**
	comp=Z,42nm,0.6s,SNR=20								
MYKA				*e*Sn			**Sn**	**23 47 13.9**	**-4.4**
	comp=Z,92nm,0.7s								
IAS	**Iasi**	**9.52**	**27**	⇑P			**Pn**	**23 45 35.2**	**+3.3**
TEOL	**Teolo**	**9.55**	**316**	Pn			**Pn**	**23 45 30.7**	**-1.6**
KECS	**Kecovo**	**9.59**	**357**	*eP*			**Pn**	**23 45 34.2**	**+1.3**
KECS	**Kecovo**	**9.59**	**357**	*e*PN			**Pn**	**23 45 34.2**	**+1.3**
VLC	**Villacollemand**	**9.63**	**307**				**Pn**	**23 45 34.3**	**+0.8**
STAL	**STALIGIAL**	**9.63**	**322**	Pn			Pn	23 45 39.9	+6.4
SERE	**Sereflikochisa**	**9.67**	**86**	*eP*			Pn	23 45 40.3	+6.1
KRMN	**Karaman**	**9.71**	**96**	*eP*			Pn	23 45 40.3	+5.7
SULT	**Sultanhani-AKS**	**9.71**	**90**	*eP*			Pn	23 45 41.6	+6.9
BR131	**Keskin Array S**	**9.71**	**81**	*c i*P			**Pn**	**23 45 38.8**	**+4.1**
BR131	**Keskin Array S**	**9.71**	**81**	Pn			**Pn**	**23 45 38.9**	**+4.1**
BRTR	**Keskin Array B**	**9.71**	**81**	Pn			**Pn**	**23 45 39.0**	**+4.3**
	comp=Z,15nm,0.3s,baz=263,slow=11,SNR=219								
BRTR				Sn			**Sn**	**23 47 24.1**	**+0.3**
	comp=Z,4.3nm,0.3s,baz=269,slow=23,SNR=6.8								
BRTR				LR			LR	23 50 08.2	
	comp=Z,1µm,18.8s,baz=262,slow=42								
BRTR				ScP			**ScP**	**23 55 20.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=338,slow=3.1,SNR=3.7								
BRTR	**Keskin Array B**	**9.71**	**81**	*eP*			**Pn**	**23 45 39.1**	**+4.3**
BRTR	**Keskin Array B**	**9.71**	**81**	*ceP*			**Pn**	**23 45 39.0**	**+4.3**
BRTR				pmax			pmax		
	comp=Z,67nm,0.5s								
BRTR	**Keskin Array B**	**9.71**	**81**	Pn			**Pn**	**23 45 38.6**	**+3.9**
ZOU	**Zoufplan**	**9.73**	**324**				**Pn**	**23 45 33.9**	**-1.1**
VYHS	**Vyhne**	**9.74**	**351**	*eP*			**Pn**	**23 45 34.6**	**-0.3**
VYHS				MLR			MLR		
	comp=Z,13µm,15.4s								
VYHS	**Vyhne**	**9.74**	**351**	*e*PN			**Pn**	**23 45 34.6**	**-0.3**
VYHS				*e*L			L	23 49 47.7	
CANT	**Cankiri**	**9.75**	**76**	*eP*			**Pn**	**23 45 38.9**	**+3.7**
UZH	**Uzhgorod**	**9.77**	**4**	*eP*			**Pn**	**23 45 38.3**	**+3.1**
UZH				*e*S			**Sn**	**23 47 29.0**	**+4.3**
UZH				MLR			MLR		
	comp=N,2µm,11.0s								
UZH				MLR			MLR		
	comp=E,2µm,11.0s								
UZH				MLR			MLR		
	comp=Z,1µm,11.0s								
MILM	**Milestii Mici**	**9.78**	**33**	⇑P			**Pn**	**23 45 38.7**	**+3.2**
CIMO	**Cimolais**	**9.80**	**322**	Pn			**Pn**	**23 45 34.2**	**-1.6**
CONA	**Conrad Observa**	**9.81**	**339**	Pn			**Pn**	**23 45 35.2**	**-0.7**
	comp=Z,56nm,1.1s,SNR=14								
KIS	**Kishinev**	**9.85**	**32**	⇑*i* P			**Pn**	**23 45 40.0**	**+3.6**
KIS	**Kishinev**	**9.85**	**32**	*e*PP			Pn	23 45 50.0	+14
KIS				*e*S			**Sn**	**23 47 33.0**	**+6.2**
KIS				*e*Lq			LQ	23 48 22.0	
	comp=Z,6µm,18.0s								
KIS				LRM			MLR	23 49 48.0	
	comp=Z,2µm,12.0s								
KIS	**Kishinev**	**9.85**	**32**	⇓P			**Pn**	**23 45 40.4**	**+4.0**
KIS	**Kishinev**	**9.85**	**32**	*c i*P			**Pn**	**23 45 40.0**	**+3.6**
KIS				*e*S			**Sn**	**23 47 33.0**	**+6.2**
KIS				pmax			pmax		
	comp=E,6µm,18.0s								
KIS				MLR			MLR		
	comp=Z,2µm,12.0s								
YAYX	**Yaylak**	**9.87**	**86**	*eP*			Pn	23 45 42.4	+5.6
MODS	**Modra-Piesok**	**9.88**	**345**	*eP*			**Pn**	**23 45 36.2**	**-0.7**
MODS				MLR			MLR		
	comp=Z,28µm,15.2s								
MODS	**Modra-Piesok**	**9.88**	**345**	*e*PN			**Pn**	**23 45 36.2**	**-0.7**
MODS				*e*L			L	23 50 04.9	
ILGA	**Ilgaz**	**9.88**	**73**	Pn			**Pn**	**23 45 41.9**	**+4.8**
TEKE	**Tekeli-Mersin**	**9.89**	**102**	*eP*			**Pn**	**23 45 40.7**	**+3.7**
BERE	**Bereket-Mersin**	**9.91**	**101**	*eP*			Pn	23 45 42.4	+5.0
KEST	**Kesra**	**9.92**	**255**	Pn			**Pn**	**23 45 38.3**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=21,slow=5.5,SNR=55								
KEST				Sn			**Sn**	**23 47 27.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=230,slow=17,SNR=1.1								
KEST				LR			LR	23 51 10.8	
	comp=Z,2µm,18.5s,baz=15,slow=48								
KEST	**Kesra**	**9.92**	**255**	Pn			**Pn**	**23 45 38.0**	**+0.4**
YESY	**Yesilyurt**	**9.95**	**92**	*eP*			Pn	23 45 45.0	+7.0
KBA	**Koelnbreinsper**	**9.97**	**328**	*e*Pn			**Pn**	**23 45 37.4**	**-0.9**
	comp=Z,49nm,0.7s,SNR=34								
KBA				*e*Sn			**Sn**	**23 47 25.7**	**-4.4**
	comp=Z,149nm,1.0s								
SMOL	**Smolenice**	**9.98**	**346**	*eP*			**Pn**	**23 45 38.8**	**+0.5**
SMOL	**Smolenice**	**9.98**	**346**	*e*PN			**Pn**	**23 45 38.8**	**+0.5**
PRMA	**PARMA**	**9.99**	**309**				**Pn**	**23 45 38.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**10.00**	**1**	*eP*			**Pn**	**23 45 40.3**	**+1.7**
CRVS				MLR			MLR		
	comp=Z,7µm,16.5s								
CRVS	**Cervenica-Dubn**	**10.00**	**1**	*e*PN			**Pn**	**23 45 40.3**	**+1.7**
CRVS				*e*L			L	23 49 53.0	
CTI	**Castel Tesino**	**10.01**	**319**	P			**Pn**	**23 45 37.1**	**-1.7**
CTI	**Castel Tesino**	**10.01**	**319**	Pn			**Pn**	**23 45 37.1**	**-1.7**
TEVE	**Tevekalti-Mers**	**10.05**	**100**	*eP*			Pn	23 45 44.1	+4.8
KOLS	**Kolonicke sedl**	**10.06**	**4**	*eP*			**Pn**	**23 45 40.6**	**+1.2**
KOLS				MLR			MLR		
	comp=Z,8µm,13.5s								
KOLS	**Kolonicke sedl**	**10.06**	**4**	*e*PN			**Pn**	**23 45 40.6**	**+1.2**
KOLS				*e*L			L	23 49 55.1	
ABTA	**Abfaltersbach**	**10.09**	**324**	*e*Pn			**Pn**	**23 45 38.7**	**-1.1**
	comp=Z,59nm,0.6s,SNR=27								
ABTA				*e*Sn			**Sn**	**23 47 27.5**	**-5.3**
	comp=Z,335nm,1.0s								
LEF	**Lefka**	**10.11**	**108**	*eP*			**Pn**	**23 45 39.7**	**-0.4**
AKKU	**Akkuyu-Mersin**	**10.22**	**102**	*eP*			**Pn**	**23 45 45.9**	**+4.4**
MOA	**Molln**	**10.25**	**333**	*e*Pn			**Pn**	**23 45 41.7**	**-0.3**
	comp=Z,56nm,0.6s,SNR=87								
MOA				*e*Sn			**Sn**	**23 47 35.3**	**-1.4**
	comp=Z,54nm,0.5s								
KEBE	**Keben-Mersin**	**10.25**	**100**	*eP*			Pn	23 45 47.5	+5.4
MSSA	**Maissana**	**10.26**	**306**				**Pn**	**23 45 43.9**	**+1.9**
SWA2		**10.27**	**158**	P			**Pn**	**23 45 39.6**	**-2.6**
	baz=160								
SWA2				S			Sn	23 47 28.2	-9.0
	baz=160								
JAVC	**Velka Javorina**	**10.27**	**347**	*e*PN			**Pn**	**23 45 42.7**	**+0.5**
IKL	**Isikli**	**10.30**	**101**	*eP*			**Pn**	**23 45 46.8**	**+4.2**
LANS	**Liptovska Anna**	**10.32**	**354**	*eP*			**Pn**	**23 45 44.7**	**+1.8**
LANS	**Liptovska Anna**	**10.32**	**354**	*e*PN			**Pn**	**23 45 44.7**	**+1.8**
SILI	**Silifke-Mersin**	**10.44**	**100**	*eP*			Pn	23 45 49.5	+5.0
CORM	**Corum**	**10.49**	**79**	*eP*			**Pn**	**23 45 49.6**	**+4.3**
NIE	**Niedzica**	**10.54**	**357**	*eP*			**Pn**	**23 45 48.4**	**+2.5**
SORM	**Soroca**	**10.60**	**27**	⇓P			**Pn**	**23 45 50.1**	**+3.4**
KRUC	**Moravsky**	**10.72**	**343**	*e*PN			**Pn**	**23 45 47.5**	**-0.9**
RJOB	**Jochberg**	**10.72**	**328**	*eP*			**Pn**	**23 45 47.8**	**-0.6**
	comp=Z,231nm,1.2s,baz=141,slow=13								
MERS	**Mersin**	**10.76**	**97**	*eP*			**Pn**	**23 45 53.1**	**+4.1**
KWP	**Kalwaria Pacla**	**10.79**	**5**	*eP*			Pn	23 45 56.2	+6.9
WTTA	**Wattenberg**	**10.87**	**323**	*e*Pn			**Pn**	**23 45 50.1**	**-0.5**
	comp=Z,146nm,0.9s,SNR=78								
WTTA				Sn			**Sn**	**23 47 46.5**	**-5.7**
	comp=Z,337nm,0.8s								
VRAC	**Vranov**	**10.91**	**344**	Pn			**Pn**	**23 45 51.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=173,slow=14,SNR=15								
VRAC				Sn			**Sn**	**23 47 48.6**	**-4.2**
	comp=Z,0.9nm,0.3s,baz=113,slow=16,SNR=1.8								
VRAC				LR			LR	23 50 36.9	
	comp=Z,5µm,21.6s,baz=183,slow=41								
VRAC	**Vranov**	**10.91**	**344**	⇑P			**Pn**	**23 45 52.6**	**+1.6**
VRAC	**Vranov**	**10.91**	**344**	*e*PN			**Pn**	**23 45 50.3**	**-0.6**
EREN	**Erenkoy**	**10.91**	**104**	*eP*			**Pn**	**23 45 52.7**	**+1.7**
CMRD	**Camardi-Nigde**	**10.95**	**92**	*eP*			Pn	23 45 57.7	+6.1
WATA	**Walderalm**	**10.95**	**323**	*e*Pn			**Pn**	**23 45 51.6**	**-0.1**
	comp=Z,108nm,0.6s,SNR=127								
WATA				*e*Sn			**Sn**	**23 47 48.7**	**-5.4**
	comp=Z,529nm,1.2s								
SQTA	**Sankt Quirin**	**11.04**	**322**	*e*Pn			**Pn**	**23 45 52.8**	**0.0**
	comp=Z,158nm,0.9s,SNR=84								
SQTA				*e*Sn			**Sn**	**23 47 52.6**	**-3.7**
	comp=Z,145nm,0.7s								
KARA	**Karaisali**	**11.08**	**94**	*eP*			Pn	23 46 00.1	+6.8
LVV	**L'vov**	**11.11**	**10**	*eP*			**Pn**	**23 45 57.5**	**+3.8**
LVV				*e*S			**Sn**	**23 48 02.0**	**+4.3**
LVV				MLR			MLR		
	comp=Z,5µm,9.2s								
FUORN	**Ofenpass-Fuorn**	**11.11**	**317**	Pn			**Pn**	**23 45 53.2**	**-0.8**
DIKM	**Dikmen**	**11.12**	**71**	⇓P			**Pn**	**23 45 57.7**	**+3.8**
FETA	**Feichten**	**11.14**	**320**	*e*Pn			**Pn**	**23 45 53.6**	**-0.7**
	comp=Z,39nm,0.6s,SNR=36								
FETA				Sn			**Sn**	**23 47 53.1**	**-5.6**
	comp=Z,122nm,1.4s								
TREC	**Trest**	**11.16**	**340**	*eP*			**Pn**	**23 45 54.0**	**-0.4**
TREC				AMS			AMS	23 50 30.0	
	comp=Z,25µm,11.8s								
TREC	**Trest**	**11.16**	**340**	*eP*			**Pn**	**23 45 54.0**	**-0.4**
TREC				MLR			MLR		
	comp=Z,25µm,11.8s								
MORC	**Moravsky Berou**	**11.18**	**348**	⇑P			**Pn**	**23 45 56.6**	**+1.9**
MORC	**Moravsky Berou**	**11.18**	**348**	*e*PN			**Pn**	**23 45 54.5**	**-0.1**
MORC	**Moravsky Berou**	**11.18**	**348**	P			**Pn**	**23 45 54.6**	**-0.1**
MORC	**Moravsky Berou**	**11.18**	**348**	Pn			**Pn**	**23 45 54.6**	**-0.1**
MOTA	**Moosalm**	**11.18**	**322**	*e*Pn			**Pn**	**23 45 54.2**	**-0.6**
	comp=Z,112nm,0.7s,SNR=105								
MOTA				*e*Sn			**Sn**	**23 47 55.6**	**-4.1**
	comp=Z,248nm,1.0s								
GEC2	**GERESS Array S**	**11.30**	**334**	*eP*			**Pn**	**23 45 55.7**	**-0.7**
	comp=Z,47nm,1.1s,baz=141,slow=13								
GEC2				*e*L			L	23 50 54.4	
	comp=Z,10µm,19.5s								
GEC2	**GERESS Array S**	**11.30**	**334**				**Pn**	**23 45 55.4**	**-1.0**
GEC2B	**GERESS ARRAY S**	**11.30**	**334**	Pn			**Pn**	**23 45 56.5**	**+0.2**
GERES	**GERESS Array B**	**11.30**	**334**	Pn			**Pn**	**23 45 55.4**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=150,slow=11,SNR=81								
GERES				Sn			**Sn**	**23 47 57.7**	**-4.8**
	comp=Z,4.0nm,0.3s,baz=152,slow=23,SNR=5.8								
GERES				Lg			Lg	23 49 11.5	
	baz=167,slow=34,SNR=1.5								
GERES				LR			LR	23 51 05.2	
	comp=Z,9µm,19.2s,baz=152,slow=42								
GERES				ScP			**ScP**	**23 55 22.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=132,slow=2.0,SNR=14								
GERES	**GERESS Array B**	**11.30**	**334**				**Pn**	**23 45 54.5**	**-1.9**
OJC	**Ojcow**	**11.36**	**356**	*eP*			**Pn**	**23 46 00.9**	**+3.8**
SIM	**Simferopol'**	**11.39**	**54**	*i* P			**Pn**	**23 45 57.5**	**0.0**
SIM				*i* S			**Sn**	**23 48 03.7**	**-0.8**
SIM				pmax			pmax		
	comp=Z,168nm,0.5s								
DAVOX	**Davos/Dischmat**	**11.42**	**317**	Pn			**Pn**	**23 45 57.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=126,slow=11,SNR=31								
DAVOX				Sn			**Sn**	**23 48 05.4**	**-0.1**
	comp=Z,4.0nm,0.3s,baz=350,slow=19,SNR=4.6								
DAVOX				Lg			Lg	23 49 21.0	
	baz=131,slow=20,SNR=1.2								
DAVOX				LR			LR	23 51 02.7	
	comp=Z,6µm,20.9s,baz=127,slow=41								
DAVOX				ScP			**ScP**	**23 55 22.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=138,slow=1.5,SNR=5.3								
RETA	**Reutte**	**11.45**	**322**	*e*Pn			**Pn**	**23 45 57.9**	**-0.5**
	comp=Z,19nm,0.5s,SNR=22								
RETA				*e*Sn			**Sn**	**23 48 00.7**	**-5.4**
	comp=Z,171nm,0.9s								
BNN	**Bunyan**	**11.46**	**86**	*eP*			Pn	23 46 05.1	+6.5
TUE	**Stuetta**	**11.51**	**315**	Pn			**Pn**	**23 45 58.1**	**-1.3**
KHC	**Kasperske Hory**	**11.59**	**334**	*eP*			**Pn**	**23 45 58.9**	**-1.3**
KHC				AMS			AMS	23 51 00.0	
	comp=Z,19µm,11.6s								
KHC				*e*SCP			**ScP**	**23 55 22.2**	**-1.0**
KHC	**Kasperske Hory**	**11.59**	**334**	*eP*			**Pn**	**23 45 58.9**	**-1.3**
KHC				MLR			MLR		
	comp=Z,19µm,11.6s								
KRLC	**Kraliky**	**11.60**	**346**	*eP*			**Pn**	**23 46 01.1**	**+0.7**
KRLC				AMS			AMS	23 51 20.0	
	comp=Z,13µm,12.1s								
KRLC	**Kraliky**	**11.60**	**346**	*eP*			**Pn**	**23 46 01.1**	**+0.7**
KRLC				MLR			MLR		
	comp=Z,13µm,12.1s								
KVT	**Kavak**	**11.63**	**74**	*eP*			Pn	23 46 07.1	+6.2
YURE	**YUREGIR**	**11.63**	**96**	*eP*			Pn	23 46 06.2	+5.3
KOZT	**Kozan**	**11.63**	**92**	*eP*			Pn	23 46 06.5	+5.6
CEYT	**Ceyhan**	**11.68**	**95**	*eP*			**Pn**	**23 46 05.2**	**+3.7**
FUR	**Furstenfeldbru**	**11.70**	**326**	*eP*			**Pn**	**23 46 01.1**	**-0.8**
	comp=Z,205nm,1.5s,baz=141,slow=13								
FUR				*e*L			L	23 51 25.8	
	comp=Z,7µm,19.7s								
DAVA

AKASG PcP **PcP** **23 51 51.5 -1.0**
comp=Z,1.2nm,0.3s,baz=238,slow=1.4,SNR=5.5
AKASG ScP **ScP** **23 55 24.6 -0.8**
comp=Z,0.7nm,0.3s,baz=250,slow=1.5,SNR=9.0
AKASG Malin Array Be 13.11 23 Pn **Pn** **23 46 23.6 +2.6**
AKBB Malin Array Si 13.11 23 P **Pn** **23 46 22.4 +1.4**
AKBB Malin Array Si 13.11 23 Pn **Pn** **23 46 22.4 +1.4**
HFRF Wahat Farafira 13.16 151 P **Pn** **23 46 18.9 -2.9**
baz=152
SUZ Suez 13.21 130 P **Pn** **23 46 20.0 -2.4**
baz=131
BFO Black Forest 13.22 320 P **Pn** **23 46 20.5 -2.1**
BFO Black Forest 13.22 320 *e*P **Pn** **23 46 20.7 -1.8**
comp=Z,153nm,1.2s,baz=141,slow=13
BFO *e*L L 23 51 25.5
comp=Z,2µm,21.2s
BFO Black Forest 13.22 320 Pn **Pn** **23 46 20.5 -2.1**
MMLI Mount Malkishu 13.26 115 *e*P **Pn** **23 46 21.4 -1.8**
MMLI Mount Malkishu 13.26 115 Pn **Pn** **23 46 21.1 -2.1**
NBNS Bani Suef 13.26 138 P **Pn** **23 46 19.8 -3.4**
baz=139
ARPR Arapgir-MALATY 13.37 84 *e*P Pn 23 46 29.6 +4.8
HMDT Nahal Hemdat 13.44 115 Pn **Pn** **23 46 23.2 -2.4**
ZAF Zafarana 13.45 132 P **Pn** **23 46 22.6 -3.1**
baz=134
ANN Anapa 13.48 59 *e*P **Pn** **23 46 22.9 -3.2**
ANN *e*S **Sn** **23 48 52.1 -3.7**
ANN pmax pmax
comp=Z,105nm,0.9s
ILIC ilic-Erzincan 13.53 82 *e*P **Pn** **23 46 30.9 +4.0**
MALT Malatya 13.53 87 *e*P **Pn** **23 46 30.9 +4.1**
MOX Moxa 13.54 333 *e*P **Pn** **23 46 26.3 -0.6**
comp=Z,62nm,0.9s,baz=141,slow=13
MOX *e*L L 23 52 41.9
comp=Z,5µm,21.7s
ESPY Espiye-Giresun 13.64 76 *e*P **Pn** **23 46 31.1 +2.8**
CLL Collm 13.67 338 *e*P **Pn** **23 46 30.0 +1.4**
CLL *i* 23 46 32.9
comp=Z,30nm,1.1s
CLL *i* PP **P** **23 46 38.4 +1.0**
CLL *i* (PPP) 23 46 41.1
comp=Z,162nm,1.4s
CLL *e* 23 46 52.0
CLL *e*S **Sn** **23 49 06.0 +5.8**
CLL *e* 23 49 26.0
CLL Lmax 23 52 00.0
CLL Collm 13.67 338 *e*P **Pn** **23 46 30.0 +1.4**
CLL Collm 13.67 338 *e*L L 23 53 12.4
comp=Z,3µm,20.0s
CLL Collm 13.67 338 **Pn** **23 46 28.4 -0.1**
YTIR Yattir 13.67 119 Pn **Pn** **23 46 26.1 -2.7**
DSI Dead Sea 13.72 118 Pn **Pn** **23 46 27.2 -2.3**
ECH Echery 13.76 317 P **Pn** **23 46 29.1 -0.7**
ECH Echery 13.76 317 Pn **Pn** **23 46 29.1 -0.7**
TAMRE El Minia 13.84 141 P **Pn** **23 46 27.6 -3.4**
baz=142
SSB Saint Sauveur 13.88 303 P **Pn** **23 46 31.3 -0.2**
SSB Saint Sauveur 13.88 303 Pn **Pn** **23 46 31.3 -0.2**
URFA Urfa 13.98 90 *e*P **Pn** **23 46 37.0 +4.0**
KARJ KARJ 14.18 119 Pn Pn 23 46 25.7 -10
KRMI Paran Flat 14.20 124 Pn **Pn** **23 46 33.1 -2.9**
SVRC Sivrice-ELAZID 14.20 86 *e*P **P** **23 46 40.1 -3.5**
PTK Pertek 14.21 84 *e*P **Pn** **23 46 39.2 +2.9**
ZFRI Zfri 14.21 122 Pn **Pn** **23 46 33.1 -3.0**
PRNI Paran 14.22 123 Pn **Pn** **23 46 33.0 -3.4**
HRDS Abu Rudays 14.31 132 P **Pn** **23 46 34.0 -3.4**
baz=133
GRB Gharib 14.35 134 P **Pn** **23 46 34.1 -4.0**
baz=136
KTUT Trabzon 14.43 76 *e*P **Pn** **23 46 40.8 +1.7**
ASF Jabal al Asfar 14.46 113 Pn **Pn** **23 46 39.5 -0.2**
comp=Z,2.8nm,0.3s,baz=240,slow=4.4,SNR=79
ASF ScP **ScP** **23 55 27.7 -0.4**
comp=Z,0.1nm,0.3s,baz=272,slow=8.8,SNR=4.0
TNS Taunus Mts 14.47 326 *e*L L 23 52 36.8
comp=Z,3µm,18.9s
RUE Ruedersdorf 14.52 342 *e*P **P** **23 46 47.6 +0.8**
MBRI Mt Berech 14.53 125 Pn **Pn** **23 46 37.5 -3.2**
GKP Gorka Klasztor 14.62 351 *e*P **P** **23 46 47.5 -0.6**
EIL Elat 14.64 125 Pn **Pn** **23 46 39.0 -3.1**
comp=Z,17nm,0.3s,baz=330,slow=9.7,SNR=218
EIL Sn Sn 23 49 14.9 -9.3
comp=Z,5.7nm,0.3s,baz=278,slow=22,SNR=4.5
EIL Elat 14.64 125 Pn **Pn** **23 46 38.6 -3.5**
AQBJ Aqaba 14.67 124 Pn **Pn** **23 46 39.7 -2.7**
BAYT Aydıntepe-Bayb 14.71 78 *e*P **P** **23 46 47.1 -2.1**
SOC Sochi 14.72 66 *e*P **P** **23 46 47.0 -2.2**
SOC *e* 23 49 35.4
SOC pmax pmax
comp=Z,76nm,0.9s
SOC MLR MLR
comp=Z,810nm,19.0s
HBST Basata 14.81 127 P **Pn** **23 46 41.5 -2.9**
baz=128
KOPT Kop Dagi 14.99 80 Pn **P** **23 46 50.3 -2.2**
KOPT lAmb lAmb 23 47 01.1
comp=Z,192nm,1.1s
YEDI Yedisu-Bingol 15.05 82 *e*P **P** **23 46 51.1 -2.0**
WLF Walferdange 15.18 320 Pn **Pn** **23 46 48.4 -0.7**
WLF Walferdange 15.18 320 P **Pn** **23 46 48.8 -0.3**
WLF pmax pmax
comp=Z,136nm,1.1s
WLF Walferdange 15.18 320 Pn **Pn** **23 46 48.8 -0.3**
WLF lAmb lAmb 23 47 03.6
comp=Z,136nm,1.1s
SUW Suwalki 15.18 5 *e*P **Pn** **23 46 50.3 +1.2**
CHOM Cayeli-Rize 15.19 75 *e*P **P** **23 46 52.9 -1.5**
BNGB Bingl 15.20 84 *e*P **P** **23 46 52.9 -1.7**
MAZI Mazidag 15.24 89 *e*P **P** **23 46 53.6 -1.5**
KARO Karliova-Bingo 15.45 82 *e*P **P** **23 46 56.5 -1.1**
MARD Mardin 15.53 90 Pn **P** **23 46 56.8 -1.6**
BHOU Houvegnez 15.70 322 Pn **Pn** **23 46 55.0 -0.9**
BHOU pP **P** **23 47 00.6 +0.6**
BHOU PnPn **sP** **23 47 04.8 -0.4**
SVAN Silvan-Diyarba 15.71 86 *e*P **P** **23 46 59.6 -0.6**
EBNR Beni Rached 15.77 267 P **Pn** **23 46 57.0 0.0**
VRTB Varto-Mus 15.78 83 *e*P **P** **23 47 01.3 +0.2**
BTNL Ternell 15.79 323 Pn **Pn** **23 46 57.3 +0.1**
BTNL pP **pP** **23 47 02.8 -1.9**
BTNL PnPn **sP** **23 47 06.8 +0.4**
ARXR Arkhyz 15.83 66 *i*P **P** **23 47 00.7 -0.9**
BCA Borcka 15.85 74 *e*P **P** **23 47 00.4 -1.3**
MEM Membach 15.86 322 Pn **Pn** **23 46 57.6 -0.5**
MEM pP **pP** **23 47 03.8 -1.6**
ECHA Ech Chlef 15.94 266 P **P** **23 47 01.0 -1.7**
RCHB Rochefort 15.95 320 Pn **Pn** **23 46 58.5 -0.7**
RCHB pP **P** **23 47 04.2 +1.5**
RCHB PbPb **PbPb** **23 47 51.8 -0.4**
KOPR Koprukoy-ERZUR 16.03 80 *e*P **P** **23 47 04.1 +0.2**
BSTI Sart Tilman 16.06 322 Pn **Pn** **23 46 59.0 -1.5**
BSTI pP **pP** **23 47 05.7 -1.9**
BSTI sP **sP** **23 47 08.4 -0.9**
BSTI PnPn **PnPn** **23 47 10.4 +1.2**
BCLA Clavier 16.08 321 PnPn **P** **23 47 08.9 +4.7**
BEBN Eben Emael 16.14 322 Pn **Pn** **23 47 02.7 +1.1**
BEBN PnPn **PnPn** **23 47 10.5 +0.1**
BGES Gesves 16.16 320 Pn **Pn** **23 47 02.0 +0.1**
BGES PnPn **PnPn** **23 47 10.9 +0.2**
EANR 'Ain N'Sour 16.20 266 P **Pn** **23 47 02.0 -0.6**
ETRT Tiaret 16.21 264 P **P** **23 47 05.0 -0.9**
DOU Dourbes 16.23 319 Pn **Pn** **23 47 04.3 +1.5**
DOU pP **pP** **23 47 09.1 -0.4**
DOU PnPn **PnPn** **23 47 11.8 +0.1**
MICGM Minsk 16.26 14|| *e*P **Pn** **23 47 03.0 -0.2**
MICGM PM 23 47 04.0
comp=N,0.4nm,1.0s
MICGM PM 23 47 05.0
comp=Z,0.3nm,1.0s
MICGM PM 23 47 06.0
comp=E,0.2nm,1.5s
MICGM *e*PP **pP** **23 47 09.0 -0.9**
MICGM *e*S **Sn** **23 50 04.0 +0.7**
MICGM *e*SS **SnSn** **23 50 18.0 +1.6**
MICGM *e*LQ LQ 23 50 56.0
MICGM LQM 23 51 26.0
MICGM *e*LR LR 23 52 20.0
MICGM LRM MLR 23 53 02.0
comp=Z,7.2nm,12.0s
MICGM LRM MLR 23 54 04.0
comp=N,3.6nm,12.0s
MICGM LRM MLR 23 54 06.0
comp=Z,8.5nm,12.0s
MICGM LRM MLR 23 54 24.0
comp=E,3.1nm,12.0s
MNK Minsk 16.26 14|| *e*P **Pn** **23 47 03.0 -0.2**
MNK *e*S **Sn** **23 50 04.0 +0.7**
MNK pmax pmax
comp=N,350nm,1.0s
MNK pmax pmax
comp=Z,300nm,1.0s
MNK pmax pmax
comp=Z,180nm,1.5s
MNK MLR MLR
comp=Z,7µm,12.0s
MNK MLR MLR
comp=N,4µm,12.0s
MNK MLR MLR
comp=E,3µm,12.0s
MNK MLR MLR
comp=Z,8µm,12.0s
BMRD Maredsous 16.27 320 Pn **Pn** **23 47 03.4 +0.1**
BMRD PnPn **PnPn** **23 47 14.8 +2.6**
BMRD PbPb PbPb 23 47 59.0 +1.4
BMRD PgPg **PgPg** **23 48 27.3 +0.7**
GURO Guroymak-BITLI 16.30 85 *e*P **P** **23 47 07.2 +0.3**
SENK Senkaya-Erzuru 16.39 77 *e*P **P** **23 47 08.4 +0.5**
CLF Chambon-Foret 16.44 310 P **P** **23 47 09.3 +1.1**
CLF lAmb lAmb 23 47 11.5
comp=Z,295nm,1.1s
NACGM Naroch 16.46 12 *e*P **Pn** **23 47 06.0 +0.4**
NACGM PM 23 47 18.0
comp=Z,0.5nm,1.0s
NACGM *e*PPP PPP 23 47 34.0
NACGM *e*S **Sn** **23 50 12.0 +4.0**
NACGM *e*SS **SnSn** **23 50 30.0 +8.9**
NACGM *e*LQ LQ 23 52 24.0
NACGM *e*LR LR 23 53 18.0
NACGM LRM MLR 23 53 40.0
comp=Z,12nm,12.0s
MLAZ Malazgirt-MUS 16.63 82 *e*P **P** **23 47 11.5 +0.9**
SNF Seneffe 16.64 320 Pn **Pn** **23 47 08.5 +0.5**
SNF PnPn **sP** **23 47 15.8 +0.1**
PABE Paberze 16.72 6 *e*P **Pn** **23 47 08.8 -0.2**
PABE lAmb lAmb 23 47 14.5
comp=Z,1µm,1.5s
BSD Bornholm Skovb 16.76 347 *i*P **Pn** **23 47 10.4 +1.0**
BSD pmax pmax
comp=Z,100nm,1.0s
BSD Bornholm Skovb 16.76 347 *i*P **Pn** **23 47 10.4 +1.0**
comp=Z,100nm,1.0s
BSD Bornholm Skovb 16.76 347 *i*P **Pn** **23 47 10.5 +1.0**
BSD lAmb lAmb 23 47 14.3
comp=Z,100nm,1.0s
BSEG Bad Segeberg 16.76 337 *e*L L 23 54 31.4
comp=Z,7µm,18.2s
UCC Uccle 16.79 321 Pn **Pn** **23 47 10.8 +1.0**
UCC PnPn **PnPn** **23 47 19.2 0.0**
UCC Uccle 16.79 321 P **P** **23 47 13.3 +1.3**
UCC pmax pmax
comp=Z,182nm,1.4s
UCC Uccle 16.79 321 P **P** **23 47 13.3 +1.3**
SIRT Sirnak 16.79 88 *e*P **P** **23 47 13.5 +1.2**
IIGN Ignalina 16.81 10 *e*P **Pn** **23 47 11.0 +0.9**
IIGN lAmb lAmb 23 47 18.3
comp=Z,45nm,0.9s
IDID Didziasalis 16.85 11 *e*P **P** **23 47 12.9 +0.3**
IDID lAmb lAmb 23 47 24.4
comp=Z,47nm,0.7s
SHA1 Shidzhatmaz 16.85 66 *d i*P **P** **23 47 13.1 +0.1**
KIV Kislovodsk 16.91 66 *i*P **P** **23 47 14.5 +1.0**
SNR=32
KIV Kislovodsk 16.91 66 *e*P **P** **23 47 13.9 +0.4**
KIV Kislovodsk 16.91 66 *e*P **P** **23 47 14.3 +0.7**
KIV *e*S **Sn** **23 50 23.9 +4.7**
KIV pmax pmax
comp=Z,523nm,1.0s
KIV MLR MLR
comp=Z,2µm,13.0s
KIV Kislovodsk 16.91 66 **P** **23 47 14.2 +0.7**
KVAR Kislovodsk Arr 16.91 66 Pn **P** **23 47 16.2 +2.6**
baz=270,slow=20,SNR=6.3
AGRB Hanur-Agry 16.93 81 *e*P **P** **23 47 13.7 -0.2**
KARS Kars 16.94 77 *e*P **P** **23 47 15.4 +1.4**
ISAL Salakas 17.01 10 *e*P **Pn** **23 47 10.4 -2.2**
KBZ Khabaz 17.02 67 Pn **P** **23 47 16.2 +1.6**
comp=Z,1.6nm,0.3s,baz=278,slow=10,SNR=78
KBZ ScP **ScP** **23 55 32.4 -0.2**
comp=Z,0.1nm,0.3s,baz=299,slow=1.4,SNR=4.4
AKDM Akdamar-Van 17.07 85 *e*P **P** **23 47 17.3 +1.9**
GEVA Gevas 17.13 85 P **P** **23 47 18.5 +2.3**
GEVA lAmb lAmb 23 47 28.1
comp=Z,222nm,1.1s
PBUR Paburge 17.14 1 *e*P **P** **23 47 16.2 +0.3**
PBUR lAmb lAmb 23 47 24.7
comp=Z,166nm,0.9s
IZAR Zarasai 17.20 10 *e*P **P** **23 47 17.1 +0.5**
IZAR lAmb lAmb 23 47 24.5
comp=Z,43nm,0.9s
VANB Van 17.35 84 *e*P **P** **23 47 23.1 +4.6**
GOF Gofitskoye 17.38 62|| *i*P **P** **23 47 19.4 +0.8**
GOF *e*S **Sn** **23 50 34.1 +3.6**
GOF pmax pmax
comp=Z,84nm,0.6s
GOF smax smax
comp=E,132nm,1.5s
VORD Divnogorie 17.56 41 *e*P **P** **23 47 21.7 +1.1**
VORD *e*S **Sn** **23 50 37.4 +2.5**
VORD pmax pmax
comp=Z,80nm,1.6s
VORD smax smax
comp=N,170nm,4.4s
VORD MLR MLR
comp=Z,3µm,11.0s
ZEI Tsey 17.63 70 *e*P **P** **23 47 23.3 +1.6**
ZEI pmax pmax
comp=Z,113nm,1.0s
VSR Storozhevoye 17.65 40 *e*P **P** **23 47 22.2 +0.6**
VSR *e*S **Sn** **23 50 38.4 +1.4**
VSR pmax pmax
comp=Z,50nm,0.6s
VSR smax smax
comp=N,860nm,3.8s
VSR MLR MLR
comp=Z,2µm,11.0s
CLDR Caldiran 17.69 82 *e*P **P** **23 47 23.9 +1.6**
LPSR Galich'ya Gora 18.41 36 *e*P **Pn** **23 47 32.1 +2.1**
LPSR *e*S **S** **23 51 00.3 +0.4**
LPSR pmax pmax
comp=Z,150nm,1.2s
LPSR smax smax
comp=N,2µm,5.0s
LPSR MLR MLR
comp=Z,3µm,12.0s
UCM Universidad Co 18.84 282 *e*P **Pn** **23 47 39.4 +4.0**
UCM *e*S **Sn** **23 51 05.9 -0.2**
VRH Novokhopyorsk 18.96 43 *e*P **Pn** **23 47 36.8 +0.1**
VRH *e*S **S** **23 51 13.6 +2.6**
VRH pmax pmax
comp=Z,70nm,1.0s
VRH smax smax
comp=N,1µm,3.8s
VRH MLR MLR
comp=Z,3µm,12.0s
GROC Groznyy 19.05 69 *e*P **Pn** **23 47 37.7 -0.1**
GROC *e*S **S** **23 51 14.7 +1.7**
GROC pmax pmax
comp=Z,306nm,1.3s
OBN Obninsk 19.26 28 P **P** **23 47 39.2 0.0**
comp=Z,2.8nm,0.3s,baz=206,slow=18,SNR=5.0
OBN LR LR 23 56 16.4
comp=Z,506nm,19.2s,baz=214,slow=41
OBN Obninsk 19.26 28 *d i*P **P** **23 47 39.3 +0.2**
OBN *i*S Sn 23 51 04.1 -12
OBN pmax pmax
comp=Z,89nm,1.1s
OBN MLR MLR
comp=Z,3µm,15.0s
OBN Obninsk 19.26 28 lAmb lAmb 23 47 53.1
comp=Z,259nm,1.4s
MUD Monsted U'grnd 19.28 340 *i*P **Pn** **23 47 41.2 +0.8**
MUD pmax pmax
comp=Z,1µm,2.8s
MUD Monsted U'grnd 19.28 340 *i*P **Pn** **23 47 41.2 +0.8**
comp=Z,1µm,2.8s
MUD Monsted U'grnd 19.28 340 *i*P **Pn** **23 47 41.2 +0.8**
MUD lAmb lAmb 23 47 46.7
comp=Z,1µm,2.8s
MELI Melilla 19.54 267 *e*P **Pn** **23 47 48.2 +4.6**
MELI *e*S **Sn** **23 51 19.7 -3.1**
JSA Saint Aubin 19.59 309 *e*P **P** **23 47 42.1 -0.8**
JSA lAmb lAmb 23 47 52.3
comp=Z,80nm,0.9s
JSA lAMs_20 lAMs_20 23 56 58.8
comp=Z,5µm,11.4s
PAB San Pablo 19.75 280 P **P** **23 47 44.8 -0.1**
PAB pmax pmax
comp=Z,96nm,1.1s
PAB San Pablo 19.75 280 P **P** **23 47 44.8 -0.1**
VSU Vasula 19.91 9 *e*P **Pn** **23 47 47.6 -0.4**
VSU lAmb lAmb 23 47 56.5
comp=Z,470nm,0.7s
VSU Vasula 19.91 9 *i*P **P** **23 47 46.4 +0.1**
VSU pmax pmax
comp=Z,504nm,1.5s
VSU MLR MLR
comp=Z,6µm,15.0s
MOS Moscow 20.12 28 *e*P Pn 23 47 50.3 -0.2
MOS *e* 23 48 07.9
MOS *e*S Sn 23 51 36.8 +0.2
MOS *e*SS **SnSn** **23 52 04.5 +14**
MOS pmax pmax
comp=Z,387nm,1.2s
MOS MLR MLR
comp=Z,3µm,14.0s
MAK Makhachkala 20.29 70 *d i*P **P** **23 47 47.4 -3.1**
MAK *e*S **S** **23 51 34.9 -2.7**
MAK pmax pmax
comp=Z,2µm,1.5s
EMAL Malaga-Limoner 20.30 272 *e*P **P** **23 47 49.8 -1.0**
EMAL *e*S Sn 23 51 45.9 +4.6
SWN1 Swindon 20.41 316 *e*P **P** **23 47 51.8 0.0**
SWN1 lAmb lAmb 23 48 01.3
comp=Z,151nm,0.8s
SWN1 lAMs_20 lAMs_20 23 57 13.0
comp=Z,7µm,9.8s
PVLZ Peæn de 20.64 268 *e*P **P** **23 47 51.0 -3.4**
PVLZ *e*S **S** **23 51 42.7 -2.0**
STRD Stroud 20.73 316 *e*P **P** **23 47 55.0 -0.3**
STRD lAmb lAmb 23 48 01.8
comp=Z,264nm,1.1s
STRD lAMs_20 lAMs_20 23 57 25.6
comp=Z,5µm,9.1s
CWF Charnwood Fore 20.78 319 *e*P **P** **23 47 55.8 0.0**
CWF lAmb lAmb 23 48 01.9
comp=Z,63nm,0.8s
CWF lAMs_20 lAMs_20 23 58 26.4
comp=Z,4µm,17.1s
OLDB Oldbury-Upon-S 20.89 315 *e*P **P** **23 47 56.1 -0.9**
OLDB lAMs_20 lAMs_20 23 57 35.7
comp=Z,6µm,10.8s
MONM Monmouth 21.11 316 *e*P **P** **23 47 59.4 0.0**
MONM lAmb lAmb 23 48 06.5
comp=Z,556nm,1.6s
MONM lAMs_20 lAMs_20 23 57 43.2
comp=Z,7µm,9.0s
CEU Ceuta 21.26 270 *e*P **P** **23 47 57.7 -3.4**
CEU *e*S Sn 23 52 01.1 -3.2
MCH1 Michaelchurch 21.29 316 *e*P **P** **23 48 00.4 -0.9**
MCH1 lAmb lAmb 23 48 08.3
comp=Z,546nm,1.5s
MCH1 lAMs_20 lAMs_20 23 58 09.0
comp=Z,4µm,13.2s
PBRG Praganca 21.42 287 *e*P **P** **23 48 02.5 -0.4**
comp=Z,121nm,1.6s
STNC Stoke 21.43 319 *e*P **P** **23 48 03.1 +0.3**
SNART Snartemo 21.45 340 *e*P **P** **23 48 06.2 +3.3**
SNART Snartemo 21.45 340 *i*P **P** **23 48 06.1 +3.2**
HLM1 Long Mynd 21.48 317 *e*P **P** **23 48 03.3 -0.1**
HLM1 lAmb lAmb 23 48 09.3
comp=Z,245nm,1.3s
HLM1 lAMs_20 lAMs_20 23 57 21.4
comp=Z,4µm,25.0s
MVO Moncorvo 21.66 285 *e*P **P** **23 48 05.3 -0.2**
comp=Z,125nm,0.9s
MVO *e*LR LR 23 52 08.2
comp=Z,2µm,18.0s
HTL Hartland 21.68 312 *e*P **P** **23 48 04.4 -1.1**
HTL lAmb lAmb 23 48 09.2
comp=Z,115nm,0.9s
HTL lAMs_20 lAMs_20 23 58 55.5
comp=Z,4µm,9.9s
PUL Pulkovo 21.69 13 *ce*P **P** **23 48 05.4 -0.1**
PUL pmax pmax
comp=Z,527nm,1.7s
MDT Midelt 21.71 262 P **P** **23 48 06.1 +0.1**
comp=Z,14nm,0.7s,baz=89,slow=15,SNR=28
SFS San Fernando 21.76 272 P **P** **23 48 06.7 +0.2**
SFS pmax pmax
comp=Z,53nm,0.9s
SFS San Fernando 21.76 272 *e*P **P** **23 48 10.3 +3.9**
SFS *e*S **S** **23 52 00.4 -6.5**
SFS San Fernando 21.76 272 P **P** **23 48 06.7 +0.2**
HFS Hagfors 21.77 350 P **P** **23 48 05.6 -0.8**
comp=Z,108nm,0.9s,baz=148,slow=12,SNR=43
HFS S **S** **23 52 01.6 -5.2**
comp=Z,27nm,1.0s,baz=106,slow=16,SNR=4.1
HFS LR LR 23 57 38.7
comp=Z,3µm,19.0s,baz=174,slow=40
FOEL Foel Wylfa 21.84 318 *e*P **P** **23 48 07.3 +0.1**
FOEL lAmb lAmb 23 48 14.5
comp=Z,135nm,0.8s
IFR Ifrane 21.84 264 *e*P **P** **23 48 12.9 +5.3**
IFR *e*S Sn 23 52 14.6 -4.0
KONO Kongsberg 22.03 344 *ce*P **P** **23 48 09.5 +0.3**
KONO pmax pmax
comp=Z,124nm,1.3s
KONO Kongsberg 22.03 344 P **P** **23 48 09.7 +0.5**
KONO Kongsberg 22.03 344 *e*P **P** **23 48 10.5 +1.3**
OSL Oslo 22.07 346 *e*P **P** **23 48 08.2 -1.4**
PMRV Marv??o 22.11 280 *e*P **P** **23 48 09.3 -0.9**
comp=Z,158nm,1.6s
PMRV *e*LR LR 23 52 15.5
comp=Z,2µm,18.0s
MTE Manteigas 22.11 283 *e*P **P** **23 48 09.3 -1.0**
comp=Z,166nm,1.4s
MTE *e*LR LR 23 52 16.3
comp=Z,2µm,18.0s
MTE Manteigas 22.11 283 P **P** **23 48 09.6 -0.7**
PCBR Castelo Branco 22.12 282 *e*P **P** **23 48 09.4 -0.9**
comp=Z,144nm,1.6s
PVRL Vila Real 22.17 285 *e*P **P** **23 48 12.2 +1.2**
comp=Z,78nm,1.5s
POLO Lamas de Olo 22.23 286 *e*P **P** **23 48 11.9 +0.3**
comp=Z,38nm,1.3s
EDMD Edmundbyers 22.29 323 *e*P **P** **23 48 10.8 -1.2**
EDMD lAmb lAmb 23 48 17.6
comp=Z,72nm,0.9s
EDMD lAMs_20 lAMs_20 23 59 33.7
comp=Z,5µm,11.9s
PVIS Viseu 22.35 284 *e*P **P** **23 48 12.7 -0.2**
comp=Z,171nm,1.5s
PCAB Cabril 22.39 287 *e*P **P** **23 48 13.0 -0.2**
comp=Z,152nm,1.5s
YLL Llanberis 22.47 318 *e*P **P** **23 48 13.4 -0.5**
PGAV Gavieira, Arco 22.56 287 *e*P **P** **23 48 15.2 +0.1**
comp=Z,206nm,1.5s
PGAV *e*LR LR 23 52 25.4
comp=Z,2µm,18.0s
BLS5 Blasjo 22.58 340 *e*P **P** **23 48 15.5 +0.4**
WLF1 Llynfaes 22.66 318 *e*P **P** **23 48 15.2 -0.8**
NC602 NORSAR Array S 22.68 348 P **P** **23 48 15.9 -0.2**
KESW Keswick, Cumbr 22.69 322 *e*P **P** **23 48 15.2 -1.0**
KESW lAmb lAmb 23 48 16.5
comp=Z,117nm,0.9s
PBEJ Beja 22.70 277 *e*P **P** **23 48 14.9 -1.7**
comp=Z,115nm,1.7s
PVAQ Vaqueiros 22.72 275 *e*P **P** **23 48 15.7 -1.0**
comp=Z,131nm,1.2s
PVAQ *e*LR LR 23 52 25.6
comp=Z,764nm,18.0s
PVAQ Vaqueiros 22.72 275 P **P** **23 48 15.7 -1.0**
EVO Evora 22.72 278 *e*P **P** **23 48 19.1 +2.3**
EVO *e*S **S** **23 52 22.0 -3.0**
EVO Evora 22.72 278 *e*P **P** **23 48 15.3 -1.5**
comp=Z,99nm,1.7s
NC605 NORSAR Array S 22.74 348 P **P** **23 48 15.7 -1.0**
NC605 lAmb lAmb 23 48 20.5
comp=Z,225nm,1.0s
YRC Rhoscolyn 22.74 318 *e*P **P** **23 48 15.5 -1.2**
FINES FINESS Array B 22.78 6 P **P** **23 48 15.6 -1.5**
comp=Z,28nm,0.6s,baz=167,slow=12,SNR=40
FINES PcP **PcP** **23 52 08.1 -0.1**
comp=Z,6.6nm,0.6s,baz=169,slow=2.3,SNR=12

FINES S **S** **23 52 21.5 -4.0**
comp=Z,4.2nm,0.7s,baz=215,slow=14,SNR=1.5
FINES ScP **ScP** **23 55 44.9 -0.7**
comp=Z,6.3nm,0.8s,baz=136,slow=3.9,SNR=7.3
FINES LR LR 23 58 21.0
comp=Z,2µm,18.3s,baz=194,slow=40
FINES FINESS Array B 22.78 6 P **P** **23 48 17.3 +0.2**
FIA1 FINESS Array S 22.78 6 P **P** **23 48 16.9 -0.2**
FIA1 IAmb IAmb 23 48 29.1
comp=Z,127nm,0.9s
COI Coimbra 22.79 283 P **P** **23 48 17.7 +0.2**
COI pmax pmax
comp=Z,93nm,1.0s
COI Coimbra 22.79 283 *e*P **P** **23 48 17.6 +0.2**
comp=Z,164nm,1.3s
COI Coimbra 22.79 283 P **P** **23 48 17.7 +0.2**
COI IAmb IAmb 23 48 31.7
comp=Z,93nm,0.9s
PCAS Casmilo, Conde 22.87 282 *e*P **P** **23 48 17.2 -1.2**
comp=Z,136nm,1.5s
NAO01 NORSAR Array S 22.89 347 P **P** **23 48 17.8 -0.5**
NAO01 NORSAR Array S 22.89 347 *e*P **P** **23 48 17.5 -0.8**
PCVE Castro Verde 22.92 276 *e*P **P** **23 48 18.0 -0.8**
comp=Z,87nm,1.6s
PBDV Barranco-do-Ve 22.92 275 *e*P **P** **23 48 18.0 -0.9**
comp=Z,146nm,1.1s
NC405 NORSAR Array S 23.00 348 P **P** **23 48 18.5 -1.1**
NB201 NORSAR Array S 23.01 348 P **P** **23 48 19.6 0.0**
NB2 NORSAR Subarra 23.02 348 P **P** **23 48 18.3 -1.4**
comp=Z,195nm,1.2s,baz=158,slow=11
NB2 NORSAR Subarra 23.02 348 P **P** **23 48 18.3 -1.4**
baz=158,slow=11
NOA NORSAR Array B 23.02 348 P **P** **23 48 18.6 -1.1**
comp=Z,122nm,1.0s,baz=157,slow=9.5,SNR=40
NOA S **S** **23 52 26.7 -3.1**
comp=Z,14nm,1.2s,baz=154,slow=20,SNR=4.2
NOA LR LR 23 58 23.0
comp=Z,2µm,20.0s,baz=165,slow=40
EKR10 Eskdalemuir Ar 23.08 323 P **P** **23 48 20.2 -0.1**
EKR10 IAmb IAmb 23 48 26.1
comp=Z,226nm,1.1s
NBO00 NORSAR Array S 23.08 347 P **P** **23 48 20.4 +0.1**
EKR9 Eskdalemuir Ar 23.09 323 P **P** **23 48 20.3 -0.1**
EKR8 Eskdalemuir Ar 23.09 323 P **P** **23 48 20.5 0.0**
EKR7 Eskdalemuir Ar 23.10 323 P **P** **23 48 20.3 -0.3**
EKR6 Eskdalemuir Ar 23.11 323 P **P** **23 48 19.9 -0.7**
EKR5 Eskdalemuir Ar 23.12 323 P **P** **23 48 20.4 -0.3**
EKR4 Eskdalemuir Ar 23.13 323 P **P** **23 48 20.7 -0.1**
EKB1 Eskdalemuir Ar 23.13 323 **P** **23 48 19.6 -1.3**
EKB1 IAmb IAmb 23 48 26.6
comp=Z,191nm,1.0s
EKR3 Eskdalemuir Ar 23.13 323 P **P** **23 48 20.2 -0.7**
EKB2 Eskdalemuir Ar 23.14 323 P **P** **23 48 20.5 -0.4**
EKB2 IAmb IAmb 23 48 26.6
comp=Z,176nm,0.9s
EKA Eskdalemuir Ar 23.14 323 P **P** **23 48 20.1 -0.8**
comp=Z,95nm,0.9s,baz=122,slow=10,SNR=62
EKA PcP **PcP** **23 52 09.2 +0.1**
comp=Z,4.7nm,0.7s,baz=91,slow=2.7,SNR=5.3
EKA ScP **ScP** **23 55 46.5 -0.2**
comp=Z,6.9nm,1.0s,baz=125,slow=5.2,SNR=4.9
EKB3 Eskdalemuir Ar 23.14 323 P **P** **23 48 20.5 -0.4**
EKB3 IAmb IAmb 23 48 26.7
comp=Z,182nm,1.0s
EKB4 Eskdalemuir Ar 23.14 323 P **P** **23 48 20.5 -0.4**
EKB4 IAmb IAmb 23 48 26.7
comp=Z,209nm,1.1s
EKB5 Eskdalemuir Ar 23.14 323 P **P** **23 48 21.0 0.0**
EKB5 IAmb IAmb 23 48 26.7
comp=Z,198nm,1.1s
EKB6 Eskdalemuir Ar 23.14 323 P **P** **23 48 20.6 -0.4**
EKR2 Eskdalemuir Ar 23.14 323 P **P** **23 48 20.3 -0.7**
EKB7 Eskdalemuir Ar 23.14 323 P **P** **23 48 20.3 -0.7**
EKB8 Eskdalemuir Ar 23.15 323 P **P** **23 48 20.2 -0.9**
EKB10 Eskdalemuir Ar 23.15 323 P **P** **23 48 20.6 -0.4**
EKB10 IAmb IAmb 23 48 26.8
comp=Z,165nm,1.0s
ESK Eskdalemuir 23.15 323 *e*P **P** **23 48 19.4 -1.6**
ESK IAmb IAmb 23 48 26.5
comp=Z,186nm,1.0s
ESK Eskdalemuir 23.15 323 P **P** **23 48 20.6 -0.4**
ESK pmax pmax
comp=Z,254nm,1.2s
ESK Eskdalemuir 23.15 323 P **P** **23 48 20.6 -0.4**
EKB Eskdalemuir 23.15 323 P **P** **23 48 20.7 -0.4**
NC303 NORSAR Array S 23.17 348 P **P** **23 48 20.4 -0.8**
PSBE So Bento 23.17 281 *e*P **P** **23 48 21.4 -0.1**
comp=Z,141nm,1.5s
PNCL Nicolau / Gran 23.20 277 *e*P **P** **23 48 20.7 -1.0**
comp=Z,206nm,1.7s
WIM Isle of Man 23.23 319 *e*P **P** **23 48 20.3 -1.6**
IOMK Kirk Michael 23.24 320 *e*P **P** **23 48 20.0 -1.9**
IOMK IAmb IAmb 23 48 26.0
comp=Z,258nm,1.0s
SKAR Skarslia 23.25 344 *e*P **P** **23 48 22.9 +0.9**
NC204 NORSAR Array S 23.32 347 P **P** **23 48 22.1 -0.6**
MORF Marmelete 23.46 276 *e*P **P** **23 48 25.5 +1.0**
MORF AMb AMB 23 48 32.8
comp=Z,75nm,1.4s
MORF eS **S** **23 52 40.5 +2.8**
MORF Marmelete 23.46 276 *e*P **P** **23 48 25.4 +1.0**
MORF eS **S** **23 52 40.4 +2.8**
MORF Marmelete 23.46 276 *e*P **P** **23 48 24.6 +0.2**
comp=Z,91nm,1.7s
PTEO Sao Teotonio 23.47 276 *e*P **P** **23 48 23.4 -1.0**
comp=Z,137nm,1.1s
EDI Edinburgh 23.50 324 *e*P **P** **23 48 23.5 -1.0**
NEWG New Galloway 23.52 322 *e*P **P** **23 48 23.3 -1.5**
LIS Lisbon 23.57 279 *e*P **P** **23 48 26.5 +1.1**
LIS AMb AMB 23 48 34.9
comp=Z,163nm,0.9s
LIS eS **S** **23 52 42.4 +3.1**
LIS Lisbon 23.57 279 *e*P **P** **23 48 26.4 +1.1**
LIS eS **S** **23 52 42.3 +3.1**
LIS Lisbon 23.57 279 *e*P **P** **23 48 25.4 0.0**
comp=Z,168nm,1.5s
PMAFR Mafra 23.63 280 *e*P **P** **23 48 24.6 -1.4**
comp=Z,129nm,1.5s
PFVI Vila Bisbo 23.64 275 *e*P **P** **23 48 25.7 -0.4**
comp=Z,125nm,1.5s
PFVI Vila Bisbo 23.64 275 P **P** **23 48 25.6 -0.4**
DSB Dublin 23.70 316 P **P** **23 48 27.2 +0.7**
AVE Averroes 23.70 265 *e*P **P** **23 48 27.2 +0.5**
AVE eS **S** **23 52 43.3 +1.9**
BER Bergen 23.70 340 *e*P **P** **23 48 24.7 -1.7**
HYA Hoyanger 24.16 342 *e*P **P** **23 48 31.1 +0.4**
EAB Aberfoyle 24.18 324 *e*P **P** **23 48 29.4 -1.6**
INVG Invergeldie, C 24.18 325 *e*P **P** **23 48 30.2 -0.9**
INVG IAmb IAmb 23 48 36.8
comp=Z,282nm,1.5s
DOMB Dombas 24.33 346 *e*P **P** **23 48 33.0 +0.6**
MCD Coleburn Disti 24.54 328 *e*P **P** **23 48 32.9 -1.4**
AKN Aaknes 24.87 344 *e*P **P** **23 48 37.9 +0.7**
MOL Molde 25.11 345 *e*P **P** **23 48 40.3 +1.0**
TBLU Trondheim 25.25 348 *e*P **P** **23 48 43.1 +2.4**
KAC Achnashellach 25.37 326 *e*P **P** **23 48 40.6 -1.2**
KPL Plockton 25.43 325 *e*P **P** **23 48 41.8 -0.5**
LRW Lerwick 25.49 334 *e*P **P** **23 48 42.6 -0.2**
LRW IAmb IAmb 23 48 47.7
comp=Z,196nm,1.2s
NSS Namsos 26.24 351 *e*P **P** **23 48 49.0 -0.6**
KIRV Kirov 26.78 33 P **P** **23 48 53.7 -0.8**
comp=Z,34nm,0.5s,baz=248,slow=5.0,SNR=13
KIRV S **S** **23 53 30.0 0.0**
comp=Z,7.0nm,0.7s,baz=270,slow=20,SNR=1.6
KIRV LR LR 23 59 45.3
comp=Z,2µm,18.2s,baz=234,slow=37
KIRV Kirov 26.78 33 *c e*P **P** **23 48 53.4 -1.1**
TMCR Tamitsa 27.21 16 *e*P **P** **23 48 55.3 -3.0**
TMCR pmax pmax
comp=Z,45nm,0.7s
MOR8 Moi Rana 27.59 354 *e*P **P** **23 49 03.9 +2.1**
NBB17 Glomfjord BÝr 28.26 354 *e*P **P** **23 49 09.5 +1.7**
AKTO Aktyubinsk 28.35 54 P **P** **23 49 08.4 -0.4**
comp=Z,9.9nm,0.5s,baz=257,slow=6.2,SNR=38
AKTO PcP **PcP** **23 52 20.9 -0.2**
comp=Z,11nm,0.8s,baz=247,slow=4.0,SNR=3.4
AKTO S **S** **23 53 55.0 0.0**
comp=Z,12nm,1.1s,baz=331,slow=19,SNR=2.9
AKTO LR LR 00 01 30.8
comp=Z,1µm,21.2s,baz=288,slow=39
NBB28 Valnes 28.59 355 *e*P **P** **23 49 12.9 +2.3**
FAUS Fauske 28.72 355 *e*P **P** **23 49 11.6 -0.3**
GEYT Alibeck 28.86 80 P **P** **23 49 13.9 +0.5**
comp=Z,47nm,0.5s,baz=276,slow=9.0,SNR=146
GEYT PcP **PcP** **23 52 23.2 +0.5**
comp=Z,5.3nm,0.8s,baz=208,slow=2.8,SNR=2.5
GEYT S **S** **23 54 05.6 +2.4**
comp=Z,3.0nm,0.9s,baz=249,slow=15,SNR=2.4
GEYT LR LR 00 04 29.9
comp=Z,914nm,19.1s,baz=345,slow=44
GEYT Alibeck 28.86 80 P **P** **23 49 13.5 +0.1**
GYA0B ALIBECK ARRAY 28.86 80 P **P** **23 49 13.9 +0.5**
GYA1 ALIBECK ARRAY 28.86 80 P **P** **23 49 14.3 +0.8**
GYA1 IAmb IAmb 23 49 22.4
comp=Z,70nm,0.9s
GYA2 ALIBECK ARRAY 28.86 80 P **P** **23 49 14.4 +1.0**
GYA2 IAmb IAmb 23 49 28.9
comp=Z,101nm,1.1s
GYB1 ALIBECK ARRAY 28.86 80 P **P** **23 49 13.9 +0.4**
GYB1 IAmb IAmb 23 49 22.5
comp=Z,70nm,0.8s
N2IH Innhavet 29.27 356 *e*P **P** **23 49 18.7 +2.0**
STEI Steigen 29.27 355 *e*P **P** **23 49 16.2 -0.5**
ABKAR Akbulak array 29.43 57 P **P** **23 49 17.9 -0.5**
ABKAR Akbulak array 29.43 57 P **P** **23 49 17.8 -0.5**
LVZ Lovozero 30.00 10 P **P** **23 49 24.3 +1.0**
LVZ pmax pmax
comp=Z,35nm,1.0s
LVZ Lovozero 30.00 10 P **P** **23 49 24.3 +1.0**
ARU Arti 30.19 42 P **P** **23 49 24.5 -0.5**
comp=Z,4.8nm,0.5s,baz=246,slow=8.0,SNR=31
ARU PcP **PcP** **23 52 25.7 0.0**
comp=Z,5.8nm,0.6s,baz=263,slow=6.9,SNR=4.1
ARU S **S** **23 54 23.5 -0.3**
comp=Z,2.1nm,0.7s,baz=162,slow=20,SNR=1.2
ARU ScP **ScP** **23 56 06.7 -0.9**
comp=Z,4.3nm,0.8s,baz=104,slow=4.2,SNR=4.1
ARU Arti 30.19 42 *c i*P **P** **23 49 24.2 -0.8**
ARU 23 50 19.0
ARU 23 52 24.7
ARU S **S** **23 54 24.8 +1.1**
ARU SS **SnSn** **23 56 00.9 +3.9**
ARU SSS SSS 23 56 22.1
ARU pmax pmax
comp=Z,49nm,1.9s
ARU MLR MLR
comp=Z,1µm,12.0s
ARU Arti 30.19 42 P **P** **23 49 24.1 -0.8**
ARU IAmb IAmb 23 49 43.3
comp=Z,83nm,1.4s
KTK1 Kautokeino 30.19 1 *e*P **P** **23 49 24.9 0.0**
ARD5 ARCESS Array S 30.77 3 P **P** **23 49 29.2 -0.7**
ARD5 IAmb IAmb 23 49 32.9
comp=Z,110nm,1.2s
ARD6 ARCESS Array S 30.77 3 P **P** **23 49 28.4 -1.6**
ARD6 IAmb IAmb 23 49 32.9
comp=Z,119nm,1.4s
ARD7 ARCESS Array S 30.78 3 P **P** **23 49 28.9 -1.2**
ARD7 IAmb IAmb 23 49 40.4
comp=Z,53nm,0.9s
ARD4 ARCESS Array S 30.78 3 P **P** **23 49 29.0 -1.0**
ARC4 ARCESS Array S 30.78 3 P **P** **23 49 29.1 -1.0**
ARC5 ARCESS Array S 30.78 3 P **P** **23 49 29.1 -1.0**
ARC5 IAmb IAmb 23 49 33.0
comp=Z,112nm,1.3s
ARB3 ARCESS Array S 30.79 3 P **P** **23 49 29.4 -0.7**
ARB4 ARCESS Array S 30.79 3 P **P** **23 49 29.1 -1.0**
ARB4 IAmb IAmb 23 49 32.9
comp=Z,120nm,1.4s
ARA2 ARCESS Array S 30.79 3 P **P** **23 49 29.2 -0.9**
ARC3 ARCESS Array S 30.79 3 P **P** **23 49 29.2 -0.9**
ARC6 ARCESS Array S 30.79 3 P **P** **23 49 29.1 -1.0**
ARC6 IAmb IAmb 23 49 33.0
comp=Z,108nm,1.3s
ARA0 ARCESS Array S 30.79 3 P **P** **23 49 29.4 -0.7**
ARA3 ARCESS Array S 30.79 3 P **P** **23 49 29.0 -1.2**
ARCES ARCESS Array B 30.79 3 P **P** **23 49 29.4 -0.7**
comp=Z,18nm,0.6s,baz=191,slow=11,SNR=119
ARCES PcP **PcP** **23 52 26.5 -0.5**
comp=Z,5.9nm,0.8s,baz=196,slow=2.9,SNR=6.9
ARCES ScP **ScP** **23 56 08.8 -0.6**
comp=Z,5.6nm,0.9s,baz=158,slow=2.6,SNR=2.5
ARCES LR LR 00 01 40.3
comp=Z,802nm,20.8s,baz=185,slow=36
ARB2 ARCESS Array S 30.79 3 P **P** **23 49 29.1 -1.0**
ARB5 ARCESS Array S 30.79 3 P **P** **23 49 29.5 -0.6**
ARA1 ARCESS Array S 30.79 3 P **P** **23 49 28.6 -1.6**
ARA1 IAmb IAmb 23 49 33.0
comp=Z,118nm,1.4s
ARD8 ARCESS Array S 30.79 3 P **P** **23 49 29.0 -1.2**
ARD8 IAmb IAmb 23 49 40.5
comp=Z,53nm,0.9s
ARB1 ARCESS Array S 30.79 3 P **P** **23 49 29.0 -1.2**
ARB1 IAmb IAmb 23 49 32.9
comp=Z,119nm,1.4s
ARD3 ARCESS Array S 30.79 3 P **P** **23 49 29.4 -0.7**
ARD3 IAmb IAmb 23 49 40.5
comp=Z,50nm,0.9s
ARC2 ARCESS Array S 30.79 3 P **P** **23 49 29.3 -0.9**
ARC2 IAmb IAmb 23 49 32.9
comp=Z,95nm,1.2s
ARC7 ARCESS Array S 30.79 3 P **P** **23 49 29.7 -0.4**
ARC7 IAmb IAmb 23 49 33.0
comp=Z,107nm,1.3s
ARC1 ARCESS Array S 30.79 3 P **P** **23 49 29.4 -0.7**
ARC1 IAmb IAmb 23 49 33.0
comp=Z,94nm,1.2s
ARD9 ARCESS Array S 30.80 3 P **P** **23 49 29.2 -1.0**
ARD9 IAmb IAmb 23 49 33.0
comp=Z,111nm,1.3s
ARD2 ARCESS Array S 30.80 3 P **P** **23 49 29.5 -0.7**
ARD2 IAmb IAmb 23 49 47.3
comp=Z,44nm,0.8s
ARD1 ARCESS Array S 30.80 3 P **P** **23 49 28.9 -1.3**
ARD1 IAmb IAmb 23 49 33.0
comp=Z,78nm,1.2s
TRO Tromso 30.82 358 *e*P **P** **23 49 30.5 +0.1**
TOA0 Torodi Ar. Sit 30.90 219 P **P** **23 49 32.0 +0.4**
SNR=22
TOA0 P **P** **23 49 32.0 +0.4**
SNR=22
TOA0 Torodi Ar. Sit 30.90 219 P **P** **23 49 31.9 +0.4**
TORD Torodi Ar. Bea 30.90 219 P **P** **23 49 32.2 +0.6**
comp=Z,70nm,0.6s,baz=32,slow=9.3,SNR=408
TORD PcP **PcP** **23 52 28.4 +0.2**
comp=Z,4.6nm,0.7s,baz=7.2,slow=2.1,SNR=3.9
TORD S **S** **23 54 36.9 +1.4**
comp=Z,1.1nm,0.9s,baz=23,slow=19,SNR=1.6
TORD ScP **ScP** **23 56 10.8 +0.2**
comp=Z,4.5nm,0.9s,baz=22,slow=2.5,SNR=7.8
TORD PKiKP **PKiKP** **23 59 57.9 -0.9**
comp=Z,0.2nm,0.3s,baz=6.1,slow=2.0,SNR=5.9
TORD Torodi Ar. Bea 30.90 219 P **P** **23 49 31.4 -0.2**
KEV Kevo 31.08 4 P **P** **23 49 32.3 -0.3**
KEV pmax pmax
comp=Z,149nm,1.5s
KEV Kevo 31.08 4 P **P** **23 49 32.3 -0.3**
PMAR Madeira 31.32 271 *e*P **P** **23 49 37.6 +2.2**
comp=Z,84nm,1.1s
SVE Sverdlovsk 31.41 42 *de*P **P** **23 49 35.6 -0.1**
SVE eS **S** **23 54 36.9 -5.8**
SVE pmax pmax
comp=Z,124nm,1.4s
SVE MLR MLR
comp=Z,2µm,11.0s
PMOZ Porto Moniz, M 31.50 271 P **P** **23 49 37.1 +0.2**
DAMY Dhamar 31.72 133 P **P** **23 49 40.8 +1.6**
UMQ Umm Al-Quwin 31.90 104 *i* P **P** **23 49 41.0 +0.7**
SNR=38
UMQ Umm Al-Quwin 31.90 104 P **P** **23 49 41.0 +0.7**
SNR=18
AJN Ajban 31.93 107 *i* P **P** **23 49 40.5 -0.1**
SNR=8.2
AJN Ajban 31.93 107 P **P** **23 49 40.5 -0.1**
SNR=12
SHME Shamm 31.98 103 *i* P **P** **23 49 40.1 -1.0**
SNR=63
ASUD Al Ashush, Dub 32.15 106 *i* P **P** **23 49 42.6 +0.1**
SNR=41
ASUD Al Ashush, Dub 32.15 106 P **P** **23 49 42.6 +0.1**
SNR=17
BANOM Banah 32.17 103 *i* P **P** **23 49 42.0 -0.7**
SNR=105
BANOM Banah 32.17 103 P **P** **23 49 42.1 -0.7**
SNR=36
NAZ Nazwa, Dubai 32.19 105 *i* P **P** **23 49 42.7 -0.3**
SNR=20
NAZ Nazwa, Dubai 32.19 105 P **P** **23 49 42.7 -0.3**
SNR=43
TEND Ethiopian Broa 32.26 141 *i* P **P** **23 49 45.9 +2.3**
FAQ Al Faqa, Dubai 32.28 106 *i* P **P** **23 49 43.3 -0.4**
SNR=133
FAQ Al Faqa, Dubai 32.28 106 P **P** **23 49 43.3 -0.4**
SNR=20
MSFE Esma-Masafi 32.37 104 *i* P **P** **23 49 43.9 -0.6**
SNR=93
MDH Madha 32.50 104 *i* P **P** **23 49 44.8 -0.9**
SNR=52
MDH Madha 32.50 104 P **P** **23 49 44.8 -0.9**
SNR=37
MDH P **P** **23 49 44.8 -0.9**
SNR=37
UOSS Minazif 32.63 105 *i* P **P** **23 49 45.8 -1.0**
SNR=16
UOSS Minazif 32.63 105 P **P** **23 49 45.7 -1.0**
UOSS P **P** **23 49 45.7 -1.0**
UOSS Minazif 32.63 105 P **P** **23 49 45.6 -1.2**
HATD Hatta, Dubai 32.64 105 *i* P **P** **23 49 46.3 -0.6**
SNR=199
HATD Hatta, Dubai 32.64 105 P **P** **23 49 46.3 -0.6**
SNR=68
ALNE Al Ain 32.79 107 *i* P **P** **23 49 48.0 -0.2**
SNR=74
KOWA Kowa 32.90 229 P **P** **23 49 49.9 +0.7**
MACI Morro de la Ar 32.92 263 P **P** **23 49 50.3 +0.7**
MACI IAmb IAmb 23 49 56.5
comp=Z,46nm,0.8s
HRA Herat 33.08 85 P **P** **23 49 51.0 +0.1**
HRA S **pP** **23 49 51.1 -3.7**
HRA IAmb IAmb 23 49 52.9
comp=Z,61nm,0.8s
SOHO SOHO 33.33 106 *i* P **P** **23 49 52.3 -0.6**
SNR=703
SOHO SOHO 33.33 106 P **P** **23 49 52.2 -0.6**
ATD Arta Tunnel 33.40 139 S **S** **23 55 19.4 +4.8**
comp=Z,1.1nm,0.6s,baz=261,slow=19,SNR=1.3
ATD LR LR 00 04 12.9
comp=Z,235nm,18.2s,baz=302,slow=38
ANKE Ethiopia-Afar 33.59 145 *i* P **P** **23 49 58.0 +2.3**
FURI Furi 33.76 148 P **P** **23 49 58.8 +1.8**
ARQ Araqi 33.78 107 P **P** **23 49 56.5 -0.3**
SNR=68
HOQ Hoqain 34.23 106 P **P** **23 49 59.4 -1.3**
SNR=36
HOQ P **P** **23 49 59.4 -1.3**
SNR=36
BSY Bisya 34.63 107 P **P** **23 50 03.4 -0.8**
SNR=21
BIDO Bidbid 34.88 105 P **P** **23 50 05.1 -1.2**
SNR=26
BIDO P **P** **23 50 05.1 -1.2**
SNR=26
SMDO Samad 35.08 106 P **P** **23 50 07.3 -0.9**
SNR=50
WHFO Wadi Hawf 35.21 117 P **P** **23 50 08.9 -0.4**
SNR=10
ABTO Aybut 35.27 118 P **P** **23 50 10.0 +0.1**
SNR=15
WSAR Wadi Sarin 35.42 105 PcP **PcP** **23 52 41.2 +0.5**
comp=Z,30nm,0.8s,baz=343,slow=3.3,SNR=4.9
WSAR S **S** **23 55 41.1 -4.4**
comp=Z,4.7nm,0.9s,baz=258,slow=20,SNR=1.8
WSAR ScP **ScP** **23 56 25.7 -0.6**
comp=Z,6.9nm,0.7s,baz=100,slow=1.2,SNR=6.6
WSAR LR LR 00 06 32.2
comp=Z,266nm,18.9s,baz=254,slow=39
WSAR Wadi Sarin 35.42 105 P **P** **23 50 10.0 -1.0**
SNR=10
JMDO Jabal Madar 35.52 107 P **P** **23 50 11.2 -0.7**
SNR=41
JMDO P **P** **23 50 11.2 -0.7**
SNR=41
WBK Wadi Bani Khal 36.03 106 P **P** **23 50 16.2 -0.1**
SNR=32
DMTO DMTO 36.17 116 P **P** **23 50 17.0 -0.5**
SNR=6.7
DMTO P **P** **23 50 17.0 -0.5**
SNR=6.7
BRVK Borovoye 36.21 51 *ce*P **P** **23 50 17.7 +0.2**
BRVK pmax pmax
comp=Z,113nm,0.8s
BRVK Borovoye 36.21 51 P **P** **23 50 17.4 -0.1**
MHTO MHTO 36.25 109 P **P** **23 50 17.9 -0.3**
SNR=46
CMLA Cha da Macela 36.32 283 P **P** **23 50 19.6 +0.9**
CMLA pmax pmax
comp=Z,133nm,1.1s
CMLA Cha da Macela 36.32 283 P **P** **23 50 19.6 +0.9**
SHAO Shalim 36.44 115 P **P** **23 50 19.7 -0.1**
SNR=7.3
SHAO P **P** **23 50 19.7 -0.1**
SNR=7.3
DQM DQM 36.59 111 P **P** **23 50 20.6 -0.4**
SNR=16
JLN Jalan Bani Buh 36.63 106 P **P** **23 50 20.9 -0.5**
SNR=22
IUG Iuzhnay 36.89 69⇑ *i*P **P** **23 50 23.4 -0.2**
comp=Z,51nm,0.5s
IUG *e*S **S** **23 56 05.8 -2.3**
IUG Iuzhnay 36.89 69 *c i*P **P** **23 50 23.4 -0.2**
IUG *e*S **S** **23 56 05.8 -2.3**
IUG pmax pmax
comp=Z,51nm,0.5s
KK08 Karatay Array 37.04 67 P **P** **23 50 24.9 +0.2**
KK09 Karatay Array 37.04 67 P **P** **23 50 25.4 +0.6**
KK03 Karatay Array 37.05 67 P **P** **23 50 25.3 +0.5**
KK04 Karatay Array 37.05 67 P **P** **23 50 24.7 -0.1**
KK07 Karatay Array 37.05 67 P **P** **23 50 25.4 +0.6**
KK01 Karatay Array 37.05 67 P **P** **23 50 25.3 +0.5**
KK02 Karatay Array 37.06 67 P **P** **23 50 25.2 +0.3**
KK31 Karatay Array 37.06 67 P **P** **23 50 25.4 +0.5**
KK31 pmax pmax
comp=Z,160nm,0.7s
KK31 Karatay Array 37.06 67 P **P** **23 50 25.4 +0.5**
KKAR Karatay Array 37.06 67 P **P** **23 50 25.3 +0.5**
KKAR pmax pmax
comp=Z,160nm,0.7s
KKAR Karatay Array 37.06 67 P **P** **23 50 25.0 +0.1**
KKAR Karatay Array 37.06 67 P **P** **23 50 25.3 +0.5**
KKAR IAmb IAmb 23 50 26.9
comp=Z,160nm,0.7s
KK05 Karatay Array 37.06 67 P **P** **23 50 25.4 +0.5**
KK06 Karatay Array 37.07 67 P **P** **23 50 25.0 0.0**
CHGR Chuyangaron 37.08 75 P **P** **23 50 25.1 0.0**
DZA Taraz 37.69 67 *e*P **P** **23 50 29.9 -0.3**
BRZS Berezniki 37.72 56⇑ *i*P **P** **23 50 29.9 -0.4**
comp=Z,19nm,0.9s
GAR Garm 37.85 74 P **P** **23 50 32.8 +1.0**
ROSA Rosais 38.11 286 P **P** **23 50 35.3 +1.5**
ROSA IAmb IAmb 23 50 39.8
comp=Z,133nm,1.2s
KBL Kabul 38.29 81 P **P** **23 50 35.9 +0.3**
KBL pmax pmax
comp=Z,101nm,0.7s
KBL Kabul 38.29 81 P **P** **23 50 35.9 +0.3**
BTLS Baital 39.21 63⇑ *i*P **P** **23 50 42.9 -0.1**
comp=Z,11nm,0.6s
BTLS *e*S **S** **23 56 38.8 -4.2**
BTLS Baital 39.21 63 *c i*P **P** **23 50 42.9 -0.1**
BTLS *e*S **S** **23 56 38.7 -4.2**
BTLS pmax pmax
comp=Z,11nm,0.6s
SPB2 Spitsbergen Ar 39.44 358 P **P** **23 50 45.8 +1.4**
SPB3 Spitsbergen Ar 39.44 358 P **P** **23 50 46.0 +1.5**
SPB3 IAmb IAmb 23 50 55.0
comp=Z,74nm,1.1s
SPA0 Spitsbergen Ar 39.44 358 P **P** **23 50 45.0 +0.5**
SPA0 IAmb IAmb 23 50 55.1
comp=Z,73nm,1.0s
SPA3 Spitsbergen Ar 39.44 358 P **P** **23 50 45.7 +1.2**
SPA3 IAmb IAmb 23 50 55.1
comp=Z,106nm,1.1s
SPITS Spitsbergen Ar 39.44 358 P **P** **23 50 44.5 0.0**
comp=Z,6.9nm,0.5s,baz=156,slow=11,SNR=12
SPB1 Spitsbergen Ar 39.44 358 P **P** **23 50 45.8 +1.2**
SPB4 Spitsbergen Ar 39.44 358 P **P** **23 50 44.6 +0.1**
SPB4 IAmb IAmb 23 50 55.1
comp=Z,124nm,1.2s
SPA1 Spitsbergen Ar 39.44 358 P **P** **23 50 45.6 +1.1**
SPA1 IAmb IAmb 23 50 55.1
comp=Z,67nm,1.0s
SPB5 Spitsbergen Ar 39.45 358 P **P** **23 50 44.6 +0.1**
SPB5 IAmb IAmb 23 50 55.1
comp=Z,81nm,1.0s

EKS2	**Erkin-Say**	39.50	67	P		P		23 50 46.3	+0.8	
	SNR=334									
AML	**Almayashu**	39.56	68	P		P		23 50 47.2	+0.9	
	SNR=19									
DBIC	**Dimbokro**	39.76	223	P		P		23 50 48.1	+0.4	
	comp=Z,18nm,0.4s,baz=357,slow=8.5,SNR=35									
DBIC				LR		LR		00 08 54.4		
	comp=Z,670nm,19.9s,baz=14,slow=39									
DBIC	**Dimbokro**	39.76	223	P		P		23 50 47.9	+0.1	
TIC	**Toumodi**	39.87	223	*e*P		P		23 50 48.7	0.0	
USP	**Ospenovka**	39.88	66	P		P		23 50 49.1	+0.5	
	SNR=11									
SGDS	**Sogindy**	39.93	66⇑	*i*P		P		23 50 48.5	-0.6	
	comp=Z,18nm,0.7s									
SGDS	**Sogindy**	39.93	66	*c i*P		P		23 50 48.5	-0.6	
SGDS				pmax		pmax				
	comp=Z,18nm,0.7s									
KIC	**Kosan Boka**	39.96	223	*e*P		P		23 50 49.4	0.0	
	comp=Z,185nm,1.2s									
AAK	**Ala-Archa**	40.02	67	P		P		23 50 50.7	+0.8	
	SNR=99									
AAK	**Ala-Archa**	40.02	67	*i* P		P		23 50 50.7	+0.8	
	SNR=148									
AAK	**Ala-Archa**	40.02	67	P		P		23 50 50.8	+0.8	
AAK	**Ala-Archa**	40.02	67	*ce*P		P		23 50 50.4	+0.5	
AAK				pmax		pmax				
	comp=Z,148nm,0.6s									
FRU1	**Bishkek**	40.08	67	P		P		23 50 51.3	+1.0	
FRU1				pmax		pmax				
	comp=Z,238nm,0.8s									
FRU1	**Bishkek**	40.08	67	P		P		23 50 51.2	+1.0	
CHMS	**Chumysh**	40.12	66	P		P		23 50 51.2	+0.6	
	SNR=11									
UCH	**Uchtor**	40.13	68	P		P		23 50 51.8	+0.6	
	SNR=140									
LIC	**Lamto**	40.22	223	*e*P		P		23 50 51.7	+0.1	
	comp=Z,358nm,1.3s									
MBAR	**Mbarara**	40.28	165	P		P		23 50 53.3	+1.0	
MBAR				P		P		23 50 53.3	+1.0	
MBAR	**Mbarara**	40.28	165	*c i*P		P		23 50 53.2	+1.0	
MBAR				pmax		pmax				
	comp=Z,34nm,1.4s									
MBAR	**Mbarara**	40.28	165	P		P		23 50 53.5	+1.2	
KBS	**Kingsbay**	40.31	357	P		P		23 50 52.9	+1.2	
KBS				pmax		pmax				
	comp=Z,89nm,1.3s									
KBS	**Kingsbay**	40.31	357	P		P		23 50 52.9	+1.2	
KBS				IAmb		IAmb		23 50 58.8		
	comp=Z,89nm,1.2s									
KBS	**Kingsbay**	40.31	357	*i* P		P		23 50 54.6	+2.9	
KBS				IAmb		IAmb		23 50 57.7		
	comp=Z,270nm,1.4s									
KBK	**Karagaybulak**	40.34	67	P		P		23 50 53.4	+0.8	
	SNR=54									
TKM2	**Tokmak 2**	40.74	66	P		P		23 50 56.0	0.0	
	SNR=63									
KUU	**Kurty**	41.05	65⇑	*i*P		P		23 50 58.6	+0.3	
	comp=Z,95nm,1.0s									
KUU				*e*S		S		23 57 08.2	-2.2	
KUU	**Kurty**	41.05	65	*c i*P		P		23 50 58.5	+0.3	
KUU				*e*S		S		23 57 08.2	-2.2	
KUU				pmax		pmax				
	comp=Z,95nm,1.0s									
BOOM	**Boomskoye usch**	41.09	67	P		P		23 50 59.1	+0.3	
BOOM				pmax		pmax				
	comp=Z,152nm,0.6s									
BOOM	**Boomskoye usch**	41.09	67	P		P		23 50 59.1	+0.3	
MTBS	**Maitube**	41.29	66⇑	*e*P		P		23 51 00.3	-0.1	
MTBS	**Maitube**	41.29	66⇑	*e*P		P		23 51 00.2	-0.1	
ULHL	**Ulahol**	41.37	67	P		P		23 51 01.8	+0.7	
	SNR=52									
KURBB	**Kurchatov Arra**	41.40	54	ScP		ScP		23 56 48.0	-0.6	
	comp=Z,11nm,1.1s,baz=291,slow=5.1,SNR=8.4									
KURBB				S		S		23 57 12.5	-3.0	
	comp=Z,4.9nm,1.0s,baz=290,slow=17,SNR=6.7									
KURK	**Kurchatov**	41.45	54	P		P		23 51 01.2	-0.3	
KURK	**Kurchatov**	41.45	54	P		P		23 51 01.0	-0.4	
KURK				pmax		pmax				
	comp=Z,116nm,1.1s									
KURK	**Kurchatov**	41.45	54	P		P		23 51 01.0	-0.4	
KURK				IAmb		IAmb		23 51 02.1		
	comp=Z,116nm,1.1s									
TNSS	**Tian-Shan**	41.68	66⇑	*i*P		P		23 51 04.2	+0.3	
TNSS	**Tian-Shan**	41.68	66⇑	*i*P		P		23 51 04.2	+0.3	
DAG	**Danmarks Havn**	41.70	347	*i* P		P		23 51 05.3	+2.2	
DAG				pmax		pmax				
	comp=Z,20nm,1.0s									
DAG	**Danmarks Havn**	41.70	347	*i* P		P		23 51 05.3	+2.2	
	comp=Z,20nm,1.0s									
DAG	**Danmarks Havn**	41.70	347	*i* P		P		23 51 05.3	+2.2	
DAG				IAmb		IAmb		23 51 08.0		
	comp=Z,20nm,1.0s									
MDOK	**Medeo**	41.72	66	*i* P		P		23 51 03.9	0.0	
MDOK				*e*S		S		23 57 19.1	-1.6	
MDOK	**Medeo**	41.72	66	*i* P		P		23 51 03.9	0.0	
MDOK				*e*S		S		23 57 19.1	-1.6	
NIL	**Nilore**	41.86	81	P		P		23 51 05.7	+0.7	
NIL				P		P		23 51 05.7	+0.7	
NIL	**Nilore**	41.86	81	P		P		23 51 05.5	+0.5	
NIL				pmax		pmax				
	comp=Z,266nm,0.8s									
NIL	**Nilore**	41.86	81	P		P		23 51 05.5	+0.5	
KSH	**Kashi**	41.92	71	P		P		23 51 04.3	-1.3	
KSH				sP		sP		23 51 11.3	0.0	
KSH				S		S		23 57 17.4	-6.2	
KSH				pmax		pmax				
	comp=Z,140nm,1.4s									
KSH				pmax		pmax				
	comp=Z,210nm,3.9s									
KSH				LR		LR				
	comp=Z,890nm,15.2s									
KSH				LR		LR				
	comp=Z,840nm,19.4s									
KSH				LR		LR				
	comp=Z,510nm,17.0s									
KDJ	**Kajisay**	42.07	67	P		P		23 51 07.1	+0.2	
KDJ	**Kajisay**	42.07	67	P		P		23 51 07.1	+0.2	
SATY	**Saty**	42.71	65⇑	*i*P		P		23 51 12.4	+0.4	
	comp=Z,36nm,0.7s									
SATY				*e*S		S		23 57 34.0	-1.2	
SATY	**Saty**	42.71	65	*c i*P		P		23 51 12.3	+0.4	
SATY				*e*S		S		23 57 34.0	-1.2	
SATY				pmax		pmax				
	comp=Z,36nm,0.7s									
KPKS	**Kokpek**	42.80	65⇑	*i*P		P		23 51 12.4	-0.4	
	comp=Z,20nm,0.5s									
KPKS				*e*S		S		23 57 34.8	-1.7	
KPKS	**Kokpek**	42.80	65	*c i*P		P		23 51 12.3	-0.4	
KPKS				*e*S		S		23 57 34.8	-1.7	
KPKS				pmax		pmax				
	comp=Z,20nm,0.5s									
PRZ	**Przheval'sk**	42.85	66	P		P		23 51 14.5	+1.3	
PRZ	**Przheval'sk**	42.85	66	P		P		23 51 14.4	+1.3	
PRZ				IAmb		IAmb		23 51 16.1		
	comp=Z,66nm,0.8s									
UZB	**Uzynbulak**	43.12	65⇑	*i*P		P		23 51 14.9	-0.4	
	comp=Z,12nm,0.5s									
UZB				*e*S		S		23 57 37.3	-4.0	
UZB	**Uzynbulak**	43.12	65	*c i*P		P		23 51 14.9	-0.4	
UZB				*e*S		S		23 57 37.3	-4.0	
UZB				pmax		pmax				
	comp=Z,12nm,0.5s									
SHLS	**Shalkode**	43.43	65⇑	*i*P		P		23 51 20.2	+2.4	
	comp=Z,45nm,0.6s									
SHLS				*e*S		S		23 57 47.9	+2.1	
SHLS	**Shalkode**	43.43	65	*c i*P		P		23 51 20.2	+2.4	
SHLS				*e*S		S		23 57 47.9	+2.1	
SHLS				pmax		pmax				
	comp=Z,45nm,0.6s									
ICESG	**Greenland Ices**	43.92	333	*i* P		P		23 51 22.6	+1.0	
THN	**Thein Dam**	44.24	81	*e*P		P		23 51 25.0	+0.7	
MAKZ	**Makanchi**	44.29	59	P		P		23 51 24.3	-0.3	
MAKZ				pmax		pmax				
	comp=Z,42nm,0.9s									
MAKZ	**Makanchi**	44.29	59	P		P		23 51 24.3	-0.3	
MAKZ				IAmb		IAmb		23 51 34.5		
	comp=Z,42nm,0.9s									
SUMG	**Summit**	44.34	338	*i* P		P		23 51 25.9	+0.9	
SUMG	**Summit**	44.34	338	P		P		23 51 25.7	+0.7	
SUMG	**Summit**	44.34	338	*i* P		P		23 51 25.9	+0.9	
SUMG	**Summit**	44.34	338	*i* P		P		23 51 25.9	+0.9	
MK31	**Makanchi Array**	44.50	59	*ce*P		P		23 51 25.7	-0.6	
MK31	**Makanchi Array**	44.50	59	P		P		23 51 26.0	-0.3	
MK31				IAmb		IAmb		23 51 26.8		
	comp=Z,51nm,0.8s									
MKAR	**Makanchi Array**	44.50	59	P		P		23 51 26.0	-0.3	
	comp=Z,73nm,0.6s,baz=279,slow=7.4,SNR=859									
MKAR				PcP		PcP		23 53 09.3	-0.2	
	comp=Z,20nm,0.8s,baz=284,slow=4.4,SNR=3.6									
MKAR				ScP		ScP		23 57 00.6	-0.7	
	comp=Z,12nm,0.8s,baz=289,slow=3.7,SNR=12									
MKAR				S		S		23 58 00.2	-1.0	
	comp=Z,1.8nm,0.8s,baz=271,slow=13,SNR=1.7									
MKAR				LR		LR		00 12 59.9		
	comp=Z,584nm,20.4s,baz=286,slow=40									
MKAR	**Makanchi Array**	44.50	59	P		P		23 51 25.0	-1.2	
NOR	**Nord**	44.83	353	*i* P		P		23 51 27.8	-0.6	
NOR	**Nord**	44.83	353	*i* P		P		23 51 27.8	-0.6	
NOR	**Nord**	44.83	353	*i* P		P		23 51 27.9	-0.6	
ZAA0	**Zalesovo Array**	44.84	49	P		P		23 51 28.6	-0.2	
ZALV	**Zalesovo Beam**	44.84	49	P		P		23 51 28.8	0.0	
	comp=Z,575nm,0.5s,baz=275,slow=8.5,SNR=2540									
ZALV				S		S		23 58 02.9	-2.9	
	comp=Z,4.8nm,0.9s,baz=296,slow=27,SNR=3.3									
ZALV				LR		LR		00 10 54.7		
	comp=Z,807nm,18.3s,baz=276,slow=37									
ZALV	**Zalesovo Beam**	44.84	49	P		P		23 51 27.6	-1.2	
BHK	**Bhakra**	45.21	82	*ex*		x		23 51 30.6		
SACV	**Santiago Islan**	45.89	251	P		P		23 51 38.4	+0.8	
SACV				IAmb		IAmb		23 51 45.7		
	comp=Z,36nm,1.1s									
NRIK	**Noril'sk**	45.93	27	P		P		23 51 38.1	+0.9	
	comp=Z,34nm,0.9s,baz=244,slow=4.2,SNR=72									
NRIK				LR		LR		00 12 29.1		
	comp=Z,1μm,19.5s,baz=258,slow=38									
NRIK	**Noril'sk**	45.93	27	*ce*P		P		23 51 37.9	+0.7	
NRIK				pmax		pmax				
	comp=Z,38nm,0.9s									
ZSN	**Zaisan**	46.06	58⇑	*i*P		P		23 51 38.5	-0.2	
	comp=Z,31nm,1.1s									
ZSN	**Zaisan**	46.06	58	*c i*P		P		23 51 38.4	-0.2	
ZSN				pmax		pmax				
	comp=Z,31nm,1.1s									
NDI	**New Delhi**	47.05	85	*e*P		P		23 51 45.0	-1.6	
NDI				*e*S		S		23 58 33.0	-5.2	
DGZ	**Jazzator, Alta**	47.20	54	*c i*P		P		23 51 47.5	-0.2	
DGZ				pmax		pmax				
	comp=Z,66nm,0.9s									
SFJD	**Kangerlussuaq**	47.86	330	P		P		23 51 54.3	+2.0	
	comp=Z,11nm,0.7s,baz=145,slow=8.7,SNR=4.3									
SFJD	**Kangerlussuaq**	47.86	330	P		P		23 51 54.3	+2.0	
SFJD				pmax		pmax				
	comp=Z,67nm,1.5s									
SFJD	**Kangerlussuaq**	47.86	330	IAmb		IAmb		23 51 57.6		
	comp=Z,67nm,1.5s									
WMQ	**Urumqi**	48.98	62	*e*P		P		23 52 01.4	0.0	
WMQ				pP		sP		23 52 08.1	+0.9	
WMQ				sP		pP		23 52 11.1	+5.6	
WMQ				PcP		PcP		23 53 23.4	-1.9	
WMQ				PP		PP		23 54 00.0	+5.4	
WMQ				S		S		23 59 08.5	+3.2	
WMQ				pmax		pmax				
	comp=Z,33nm,0.7s									
WMQ				pmax		pmax				
	comp=Z,32nm,3.6s									
WMQ				LR		LR				
	comp=Z,210nm,15.7s									
WMQ				LR		LR				
	comp=Z,170nm,23.5s									
WMQ	**Urumqi**	48.98	62	P		P		23 52 01.9	+0.5	
WMQ				pmax		pmax				
	comp=Z,65nm,1.1s									
WMQ	**Urumqi**	48.98	62	P		P		23 52 01.9	+0.5	
WMQ				IAmb		IAmb		23 52 11.9		
	comp=Z,65nm,1.1s									
POO	**Poona**	49.74	99	*e*P		P		23 52 05.0	-2.5	
PYUN	**Piuthan**	51.80	82	*e*P		P		23 52 22.3	-0.8	
	comp=Z,341nm,0.6s									
DANN	**Dangsing**	52.27	82	*e*P		P		23 52 26.0	-0.8	
	comp=Z,247nm,0.5s									
KOLN	**Koldanda**	52.43	82	*e*P		P		23 52 26.6	-1.2	
	comp=Z,134nm,0.7s									
TULEG	**Thule**	52.55	343	P		P		23 52 29.0	+1.2	
GKN	**Gorkha**	53.12	82	*e*P		P		23 52 31.4	-1.4	
	comp=Z,211nm,0.8s									
DMN	**Daman**	53.67	82	*e*P		P		23 52 36.0	-1.0	
	comp=Z,125nm,0.5s									
KKN	**Kakani**	53.72	81	*e*P		P		23 52 35.8	-1.5	
	comp=Z,74nm,0.6s									
MSEY	**Mahe Island**	53.72	136	P		P		23 52 37.6	+0.4	
MSEY				pmax		pmax				
	comp=Z,177nm,1.3s									
MSEY	**Mahe Island**	53.72	136	P		P		23 52 37.6	+0.4	
PKIN	**Phulchoki**	53.91	82	*e*P		P		23 52 37.2	-1.6	
	comp=Z,76nm,0.6s									
PKI	**Pulchoki**	53.93	82	*e*P		P		23 52 37.4	-1.6	
	comp=Z,70nm,0.6s									
HYB	**Hyderabad**	54.02	96	*i* P		P		23 52 37.5	-1.9	
HYB				*e*PcP		PcP		23 53 44.5	0.0	
GUN	**Gumba**	54.12	81	*e*P		P		23 52 39.1	-1.3	
	comp=Z,316nm,1.0s									
LSZ	**Lusaka**	54.29	172	*i* P		P		23 52 42.8	+1.5	
LSZ	**Lusaka**	54.29	172	P		P		23 52 42.2	+0.9	
LSZ				pmax		pmax				
	comp=Z,74nm,0.8s									
LSZ	**Lusaka**	54.29	172	P		P		23 52 42.2	+0.9	
LSZ	**Lusaka**	54.29	172	*i* P		P		23 52 42.8	+1.5	
MOY	**Mondy**	54.90	49	*e*P		P		23 52 45.9	+0.4	
MOY				pmax		pmax				
	comp=Z,70nm,1.7s									
EUNU	**Eureka**	54.91	348	P		P		23 52 45.7	+0.7	
EUNU				IAmb		IAmb		23 53 01.2		
	comp=Z,26nm,0.9s									
DRLN	**Deer Lake**	55.04	308	P		P		23 52 47.1	+0.7	
RAMN	**Ramite**	55.15	82	*e*P		P		23 52 46.3	-1.5	
	comp=Z,116nm,0.7s									
ODAN	**Odare**	55.81	81	*e*P		P		23 52 51.6	-0.9	
	comp=Z,36nm,0.5s									
TAPN	**Taplejung**	55.81	81	*e*P		P		23 52 51.5	-1.1	
	comp=Z,88nm,0.6s									
TLY	**Talaya**	56.44	48	*e*P		P		23 52 57.0	+0.6	
TLY				*e*				23 53 56.0		
TLY				*e*				23 54 59.5		
TLY				*e*S		S		00 00 47.2	+0.4	
TLY				pmax		pmax				
	comp=Z,105nm,0.8s									
TLY				MLR		MLR				
	comp=Z,2μm,10.0s									
TLY	**Talaya**	56.44	48	P		P		23 52 56.9	+0.5	
IRK	**Irkutsk**	56.59	47	*e*P		P		23 52 56.2	-1.2	
IRK				pmax		pmax				
	comp=Z,114nm,1.9s									
ZAK	**Zakamensk**	56.71	49	*e*P		P		23 52 58.4	-0.1	
ZAK				pmax		pmax				
	comp=Z,36nm,1.0s									
LSA	**Lhasa**	57.28	76	P		P		23 53 02.5	-0.7	
LSA				pmax		pmax				
	comp=Z,130nm,0.6s									
LSA	**Lhasa**	57.28	76	*i* P		P		23 53 02.6	-0.7	
	SNR=16									
LSA	**Lhasa**	57.28	76	P		P		23 53 02.5	-0.7	
LSA				pmax		pmax				
	comp=Z,57nm,0.8s									
LSA	**Lhasa**	57.28	76	P		P		23 53 02.5	-0.7	
TSUM	**Tsumeb**	57.89	184	*i* P		P		23 53 07.1	+0.1	
TSUM	**Tsumeb**	57.89	184	P		P		23 53 07.1	+0.1	
TSUM				IAmb		IAmb		23 53 08.2		
	comp=Z,26nm,1.0s									
TSUM	**Tsumeb**	57.89	184	*i* P		P		23 53 07.1	+0.1	
SCHQ	**Schefferville**	58.27	317	P		P		23 53 09.4	+0.2	
	comp=Z,17nm,0.6s,baz=66,slow=6.8,SNR=11									
SCHQ				LR		LR		00 17 57.2		
	comp=Z,523nm,19.7s,baz=100,slow=36									
SCHQ	**Schefferville**	58.27	317	P		P		23 53 09.4	+0.2	
SCHQ				IAmb		IAmb		23 53 19.1		
	comp=Z,21nm,0.8s									
TIXI	**Tiksi**	58.80	21	*ce*P		P		23 53 12.8	+0.1	
TIXI				pmax		pmax				
	comp=Z,162nm,1.7s									
TIXI	**Tiksi**	58.80	21	P		P		23 53 12.7	+0.1	
GTA	**Gaotai**	59.05	62	⇑P		P		23 53 14.4	-0.7	
GTA				pP		pP		23 53 19.8	+0.5	
GTA				sP		sP		23 53 22.8	+1.9	
GTA				ScP		ScP		23 58 03.9	-0.3	
GTA				pmax		pmax				
	comp=Z,32nm,0.7s									
GTA				pmax		pmax				
	comp=Z,160nm,7.8s									
GTA				LR		LR				
	comp=Z,490nm,19.6s									
GTA				LR		LR				
	comp=Z,480nm,18.2s									
GTA				LR		LR				
	comp=Z,530nm,21.8s									
GBN	**Guysborough**	59.07	305	P		P		23 53 15.0	+0.1	
BLWY	**Bulawayo**	59.14	172	*i* P		P		23 53 17.8	+2.1	
BLWY	**Bulawayo**	59.14	172	*i* P		P		23 53 17.8	+2.1	
RES	**Resolute Bay**	59.22	344	P		P		23 53 15.3	-0.2	
RES				pmax		pmax				
	comp=Z,15nm,1.0s									
RES	**Resolute Bay**	59.22	344	P		P		23 53 15.3	-0.2	
MATP	**Matopo**	59.41	172	*i* P		P		23 53 19.0	+1.4	
MATP	**Matopo**	59.41	172	*i* P		P		23 53 19.0	+1.4	
BOD	**Bodaibo**	59.50	38	*e*P		P		23 53 15.6	-2.1	
BOD				pmax		pmax				
	comp=Z,34nm,1.1s									
SONM	**Songino Array**	59.62	51	P		P		23 53 18.6	-0.3	
	comp=Z,32nm,1.0s,baz=283,slow=9.1,SNR=118									
SONM				PcP		PcP		23 54 05.9	-0.1	
	comp=Z,14nm,0.8s,baz=276,slow=5.4,SNR=3.7									
SONM				ScP		ScP		23 58 06.0	-0.6	
	comp=Z,4.2nm,0.9s,baz=282,slow=4.8,SNR=5.2									
SONM				LR		LR		00 20 10.1		
	comp=Z,646nm,21.5s,baz=304,slow=37									
SONM	**Songino Array**	59.62	51	P		P		23 53 17.9	-1.0	
SHL	**Shillong**	59.93	80	P		P		23 53 19.3	-2.1	
SHL				pmax		pmax				
	comp=Z,62nm,0.9s									
SHL	**Shillong**	59.93	80	P		P		23 53 19.3	-2.1	
ULN	**Ulaanbaatar**	60.00	51	*ce*P		P		23 53 21.1	-0.5	
ULN				pmax		pmax				
	comp=Z,37nm,0.8s									
ULN	**Ulaanbaatar**	60.00	51	P		P		23 53 21.3	-0.3	
ULN				IAmb		IAmb		23 53 27.4		
	comp=Z,38nm,0.9s									
SHEL	**Horse Pasture**	60.10	210	P		P		23 53 21.9	-0.4	
SHEL				pmax		pmax				
	comp=Z,136nm,1.3s									
SHEL	**Horse Pasture**	60.10	210	P		P		23 53 21.9	-0.4	
LMN	**Caledonia Moun**	60.94	307	P		P		23 53 27.9	+0.1	
LMN				IAmb		IAmb		23 53 32.4		
	comp=Z,28nm,0.8s									
BATG	**Bathurst New B**	61.06	309	P		P		23 53 29.0	+0.4	
PALK	**Pallekele**	61.90	104	P		P		23 53 34.4	-0.3	
	comp=Z,138nm,0.9s,baz=57,slow=7.5,SNR=97									
PALK	**Pallekele**	61.90	104	P		P		23 53 34.3	-0.5	
D63A	**Stockholm**	62.41	309	P		P		23 53 37.6	0.0	
	baz=62									
PQI	**Presque Isle**	62.53	309	P		P		23 53 39.5	+1.0	
E64A	**Bridgewater**	62.54	309	P		P		23 53 38.4	-0.1	
	baz=62									
ABPO	**Ambohimpanom**	62.58	152	P		P		23 53 39.9	+0.7	
ABPO				pmax		pmax				
	comp=Z,36nm,1.0s									
ABPO	**Ambohimpanom**	62.58	152	P		P		23 53 39.9	+0.7	
ABPO				IAmb		IAmb		23 53 41.7		
	comp=Z,36nm,1.0s									
E63A	**Oxbow**	62.90	309	P		P		23 53 41.4	+0.4	
	baz=61									
E63A	**Oxbow**	62.90	309	P		P		23 53 43.0	+2.1	
E63A				IAmb		IAmb		23 53 46.2		
	comp=Z,36nm,1.1s									
D62A	**Allapoint, All**	62.96	310	P		P		23 53 41.4	+0.1	
	baz=61									
D62A	**Allapoint, All**	62.96	310	P		P		23 53 42.3	+1.0	
G65A	**Princeton**	62.96	307	P		P		23 53 41.7	+0.4	
	baz=61									
H66A	**Whiting**	63.00	307	P		P		23 53 43.2	+1.6	
	baz=61									
F64A	**Sherman**	63.12	308	P		P		23 53 43.0	+0.6	
	baz=61									
F64A	**Sherman**	63.12	308	P		P		23 53 43.7	+1.2	
LZH	**Lanzhou**	63.44	64	*e*P		P		23 53 44.5	-0.4	
LZH				pP		pP		23 53 49.5	+0.3	
LZH				pmax		pmax				
	comp=Z,76nm,1.1s									
LZH				pmax		pmax				
	comp=Z,150nm,4.6s									
LZH				LR		LR				
	comp=Z,740nm,16.0s									
LZH				LR		LR				
	comp=Z,410nm,16.5s									
LZH				LR		LR				
	comp=Z,790nm,19.0s									
E62A	**Clayton Lake**	63.47	310	P		P		23 53 44.8	+0.1	
	baz=61									
E62A	**Clayton Lake**	63.47	310	P		P		23 53 45.6	+0.9	
E62A				IAmb		IAmb		23 53 50.1		
	comp=Z,38nm,1.0s									
D61A	**St Aubert, Com**	63.58	310	P		P		23 53 44.6	-0.8	
	baz=60									
H65A	**Eastbrook**	63.63	307	P		P		23 53 44.4	-1.4	
	baz=60									
F63A	**Nahmakanta, Br**	63.66	309	P		P		23 53 47.0	+1.0	
	baz=60									
G64A	**Maxfield**	63.67	308	P		P		23 53 47.5	+1.5	
	baz=60									
LBTB	**Lobatse**	63.71	176	*i* P		P		23 53 48.1	+1.6	
LBTB	**Lobatse**	63.71	176	P		P		23 53 47.8	+1.2	
LBTB				pmax		pmax				
	comp=Z,30nm,0.9s			

comp=Z,264nm,1.3s
DGAR Diego Garcia 66.19 122 P **P** **23 54 03.5 +0.7**
HHC Hu-ho-hao-te 66.22 56 *eP* **P** **23 54 01.3 -1.6**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,130nm,3.6s
HHC LR LR
comp=Z,650nm,16.2s
E57A Chemin Saint G 66.32 311 P **P** **23 54 04.1 +0.7**
baz=58
D56A ZEC Mazanza, M 66.34 312 P **P** **23 54 04.1 +0.7**
baz=58
MATQ Matagami 66.50 316 P **P** **23 54 05.0 +0.6**
baz=57
LSQQ Lebel-sur-Quev 66.52 315 P **P** **23 54 05.4 +0.9**
baz=57
HIA Hailar 66.66 45 P **P** **23 54 05.8 +0.3**
HIA pmax pmax
comp=Z,50nm,0.9s
HIA Hailar 66.66 45 P **P** **23 54 05.8 +0.3**
D55A Sainte-Anne-du 66.77 312 P **P** **23 54 07.0 +0.8**
baz=57
E56A St. Veronique 66.77 312 P **P** **23 54 07.0 +0.8**
baz=58
H59A Cadyville 66.99 309 P **P** **23 54 08.5 +0.9**
baz=58
BOSA Boshof 67.27 176 P **P** **23 54 10.3 +0.9**
comp=Z,26nm,0.8s,baz=358,slow=7.0,SNR=48
BOSA LR LR 00 25 52.9
comp=Z,1µm,18.7s,baz=0.0,slow=38
BOSA Boshof 67.27 176 P **P** **23 54 10.4 +0.9**
BOSA IAmb IAmb 23 54 11.3
comp=Z,26nm,0.8s
VLDQ Val d'Or 67.30 314 P **P** **23 54 11.3 +1.8**
VLDQ IAmb IAmb 23 54 28.5
comp=Z,28nm,1.4s
H58A Gabriels 67.41 309 P **P** **23 54 12.3 +2.0**
baz=57
E55A Montcerf-Lytto 67.41 312 P **P** **23 54 11.3 +1.1**
baz=57
G57A Newington 67.52 310 P **P** **23 54 12.2 +1.2**
baz=57
LONY Lake Ozonia 67.54 310 P **P** **23 54 12.1 +1.0**
baz=57
LONY Lake Ozonia 67.54 310 P **P** **23 54 12.0 +1.0**
LONY IAmb IAmb 23 54 17.0
comp=Z,31nm,1.3s
I59A Olmsteadville 67.56 309 P **P** **23 54 12.9 +1.6**
baz=57
ACCN Adirondack Com 67.65 308 P **P** **23 54 12.6 +0.7**
K61A Williamstown 67.79 307 P **P** **23 54 14.6 +1.9**
baz=57
RER Riviere de l'E 67.97 145 P **P** **23 54 14.8 +0.8**
FOMA Nahampoana Res 67.98 155 P **P** **23 54 13.6 -0.3**
ZEA Zeya 68.00 38 *eP* **P** **23 54 13.3 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=Z,500nm,18.0s
XAN Xi'an 68.06 63 P **P** **23 54 13.6 -0.9**
XAN pmax pmax
comp=Z,53nm,1.2s
XAN pmax pmax
comp=Z,160nm,3.9s
XAN LR LR
comp=Z,440nm,21.8s
XAN LR LR
comp=Z,530nm,16.1s
XAN LR LR
comp=Z,530nm,15.2s
XAN Xi'an 68.06 63 P **P** **23 54 13.7 -0.9**
XAN Xi'an 68.06 63 P **P** **23 54 13.7 -0.9**
J59A Piesco 68.12 309 P **P** **23 54 16.7 +1.9**
baz=57
L61A Hillsdale 1, H 68.23 307 P **P** **23 54 16.0 +0.5**
baz=57
KMI Kunming 68.44 75 P **P** **23 54 15.6 -1.7**
KMI pP sP 23 54 22.3 -0.9
KMI sP pP 23 54 24.6 +3.0
KMI PcP **PcP** **23 54 42.1 -0.6**
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,94nm,5.0s
KMI LR LR
comp=Z,290nm,20.9s
KMI LR LR
comp=Z,300nm,27.9s
KMI LR LR
comp=Z,350nm,26.2s
TIY Taiyuan 68.46 58 *eP* **P** **23 54 13.5 -3.6**
TIY PP **PP** **23 56 51.3 +3.4**
TIY pmax pmax
comp=Z,83nm,0.5s
TIY pmax pmax
comp=Z,110nm,5.4s
TIY LR LR
comp=Z,250nm,11.6s
TIY LR LR
comp=Z,410nm,18.3s
PBA Port Blair 68.47 92 P P 23 54 16.5 -0.8
I57A Carthage 68.56 310 P **P** **23 54 17.7 +0.2**
baz=56
J58A Remsen 68.65 309 P **P** **23 54 19.7 +1.5**
baz=56
J58A Remsen 68.65 309 P **P** **23 54 19.0 +0.9**
J58A IAmb IAmb 23 54 23.8
comp=Z,17nm,0.9s
PLVO Plevna 68.79 311 P **P** **23 54 21.0 +2.1**
PLVO IAmb IAmb 23 54 31.4
comp=Z,26nm,0.8s
ALGO Algonquin Park 68.84 312 P **P** **23 54 20.1 +0.9**
baz=56
RCBR Riachuelo 68.95 243 LR LR 00 24 46.7
comp=Z,296nm,19.3s,baz=357,slow=36
RCBR Riachuelo 68.95 243 *eP* **P** **23 54 22.2 +1.8**
RCBR *epP* **pP** **23 54 24.9 +0.3**
CHTO Chiang Mai 69.10 82 P **P** **23 54 19.6 -1.6**
CHTO pmax pmax
comp=Z,32nm,1.0s
CHTO Chiang Mai 69.10 82 P **P** **23 54 19.6 -1.6**
CHTO IAmb IAmb 23 54 27.4
comp=Z,32nm,0.9s
PAL Palisades 69.11 306 P **P** **23 54 21.8 +0.9**
PAL pmax pmax
comp=Z,61nm,1.5s
PAL Palisades 69.11 306 P **P** **23 54 21.8 +0.9**
PAL IAmb IAmb 23 54 29.8
comp=Z,61nm,1.4s
L59A Walton 69.15 308 P **P** **23 54 22.4 +1.1**
baz=56
G54A Lake Saint Pet 69.18 312 P **P** **23 54 22.5 +1.1**
baz=55
K58A Earlville 69.20 309 P **P** **23 54 22.8 +1.3**
baz=56
K58A Earlville 69.20 309 P **P** **23 54 23.6 +2.0**
K58A IAmb IAmb 23 54 27.6
comp=Z,52nm,1.4s
CMAR Chiang Mai Arr 69.30 83 P **P** **23 54 21.2 -1.2**
comp=Z,10nm,0.7s,baz=305,slow=7.7,SNR=63
CMAR Chiang Mai Arr 69.30 83 P **P** **23 54 20.7 -1.8**
DELO Deloro Mine 69.40 311 P **P** **23 54 23.8 +1.1**
BJI Beijing 69.62 55 P **P** **23 54 23.4 -0.7**
BJI pmax pmax
comp=Z,21nm,1.1s
BJI LR LR
comp=Z,560nm,17.7s
BJI LR LR
comp=Z,330nm,22.7s
BJT Baijiatuau 69.62 55 P **P** **23 54 23.7 -0.5**
BJT pmax pmax
comp=Z,20nm,1.0s
BJT Baijiatuau 69.62 55 P **P** **23 54 23.6 -0.5**
BJT IAmb IAmb 23 54 29.1
comp=Z,20nm,1.0s
J56A Wolcott 69.65 310 P **P** **23 54 24.6 +0.3**
J56A IAmb IAmb 23 54 42.1
comp=Z,33nm,1.1s
BINY Binghamton 69.73 308 P **P** **23 54 26.4 +1.5**
baz=56
L58A Harry Jones Me 69.73 308 P **P** **23 54 26.3 +1.4**
baz=56
M59A Waymart 69.76 307 P **P** **23 54 28.4 +3.4**
baz=56
N60A Cedar Hill Far 69.93 307 P **P** **23 54 29.6 +3.5**
baz=56
H53A Bobcaygeon 69.94 311 P **P** **23 54 29.6 +3.6**
baz=55
KSPA Keystone Colle 69.96 308 P **P** **23 54 28.0 +1.8**
KSPA IAmb IAmb 23 54 31.8
comp=Z,20nm,1.0s
SADO Sadowa 70.15 312 P **P** **23 54 28.6 +1.3**
SADO IAmb IAmb 23 54 31.2
comp=Z,24nm,1.1s
BILL Bilibino 70.20 13 *i* P **P** **23 54 27.3 0.0**
BILL *i* 23 54 52.0
BILL pmax pmax
comp=Z,48nm,1.3s
BILL MLR MLR
comp=Z,692nm,20.0s
BILL Bilibino 70.20 13 P **P** **23 54 27.8 +0.5**
BILL IAmb IAmb 23 54 44.7
comp=Z,50nm,1.3s
J55A Hilton 70.23 310 P **P** **23 54 30.5 +2.7**
J55A IAmb IAmb 23 54 33.5
comp=Z,44nm,1.1s
K56A Middlesex 70.26 309 P **P** **23 54 29.8 +1.7**
baz=55
N59A State Game Lan 70.32 307 P **P** **23 54 30.4 +1.9**
baz=55
N59A State Game Lan 70.32 307 P **P** **23 54 29.4 +1.0**
N59A IAmb IAmb 23 54 34.3
comp=Z,19nm,0.9s
P61A Hammonton 70.41 305 P **P** **23 54 30.3 +1.3**
O60A Telford 70.43 306 P **P** **23 54 30.3 +1.2**
baz=55
M58A Price's Panora 70.49 308 P **P** **23 54 29.6 +0.1**
baz=55
ENH Enshi 70.53 67 P **P** **23 54 29.0 -1.0**
GYA Guiyang 70.62 71 ⇑P **P** **23 54 29.1 -1.5**
GYA sP sP 23 54 37.9 +1.4
GYA pmax pmax
comp=Z,22nm,1.4s
GYA pmax pmax
comp=Z,170nm,4.8s
GYA LR LR
comp=Z,210nm,18.1s
GYA LR LR
comp=Z,300nm,20.0s
GYA LR LR
comp=Z,300nm,20.5s
MEDO Medina 70.67 310 P **P** **23 54 31.4 +0.9**
MEDO IAmb IAmb 23 54 36.5
comp=Z,55nm,1.4s
J54A Appleton 70.72 310 P **P** **23 54 32.5 +1.7**
J54A IAmb IAmb 23 54 47.0
comp=Z,23nm,0.9s
L56A Greenwood 70.73 309 P **P** **23 54 32.6 +1.6**
baz=55
P60A Greenville 70.87 306 P **P** **23 54 34.8 +3.0**
baz=55
P60A Greenville 70.87 306 P **P** **23 54 32.6 +0.9**
M57A Sunshine Farm, 70.92 308 P **P** **23 54 33.2 +1.1**
baz=55
M57A Sunshine Farm, 70.92 308 P **P** **23 54 33.8 +1.7**
M57A IAmb IAmb 23 54 38.4
comp=Z,49nm,1.2s
N58A Sunbury 70.95 307 P **P** **23 54 33.5 +1.2**
baz=55
N58A Sunbury 70.95 307 P **P** **23 54 32.9 +0.6**
N58A IAmb IAmb 23 54 52.4
comp=Z,24nm,1.1s
WVNY West Valley, N 71.20 310 P **P** **23 54 35.4 +1.5**
WVNY IAmb IAmb 23 54 39.9
comp=Z,62nm,1.4s
INK Inuvik 71.44 350 P **P** **23 54 34.6 -0.1**
comp=Z,4.5nm,0.6s,baz=356,slow=8.1,SNR=8.2
INK Inuvik 71.44 350 P **P** **23 54 34.8 0.0**
INK pmax pmax
comp=Z,27nm,1.3s
INK Inuvik 71.44 350 P **P** **23 54 34.8 0.0**
INK IAmb IAmb 23 54 44.5
comp=Z,26nm,1.2s
SLVN Son La 71.46 77 P **P** **23 54 33.9 -1.9**
M56A Emporium 71.48 309 P **P** **23 54 37.0 +1.5**
baz=54
M56A Emporium 71.48 309 P **P** **23 54 36.5 +1.0**
M56A IAmb IAmb 23 54 41.8
comp=Z,34nm,1.1s
N57A Milroy 71.52 308 P **P** **23 54 36.8 +1.0**
baz=54
SSPA Standing Stone 71.80 308 P **P** **23 54 39.0 +1.6**
baz=54
SSPA Standing Stone 71.80 308 P **P** **23 54 39.2 +1.8**
SSPA IAmb IAmb 23 54 57.7
comp=Z,27nm,1.0s
I51A Listowel 71.81 312 P P 23 54 42.6 +5.2
baz=53,SNR=5.8
M55A Ridgway 71.85 309 P **P** **23 54 38.7 +1.0**
M55A IAmb IAmb 23 54 43.8
comp=Z,54nm,1.4s
SDMD Soldier's Deli 71.86 306 P **P** **23 54 39.9 +2.1**
N56A West Decatur 71.88 308 P **P** **23 54 39.4 +1.5**
baz=54
O57A Amberson 71.89 307 P P 23 54 43.1 +5.2
baz=54
P58A Pank, Wackersv 72.10 306 P **P** **23 54 39.9 +0.7**
baz=54
E46A Sault Ste Mari 72.11 315 P **P** **23 54 40.9 +1.6**
E46A IAmb IAmb 23 54 50.1
comp=Z,26nm,1.2s
ERPA Erie 72.20 310 P **P** **23 54 40.6 +0.8**
baz=53
ERPA Erie 72.20 310 P **P** **23 54 41.5 +1.7**
M54A Oil Creek Stat 72.37 309 P **P** **23 54 42.0 +1.2**
baz=53
M54A Oil Creek Stat 72.37 309 P **P** **23 54 42.1 +1.2**
M54A IAmb IAmb 23 54 46.5
comp=Z,46nm,1.3s
N55A Marion Center 72.39 308 P **P** **23 54 42.0 +1.0**
baz=54
TIA Tai'an 72.41 58 P **P** **23 54 40.0 -1.2**
TIA pmax pmax
comp=Z,27nm,0.9s
O56A Blue Knob Stat 72.43 308 P **P** **23 54 42.4 +1.1**
baz=54
O56A Blue Knob Stat 72.43 308 P **P** **23 54 42.8 +1.5**
O56A IAmb IAmb 23 54 46.8
comp=Z,17nm,0.8s
P57A Homestead Farm 72.55 307 P **P** **23 54 43.1 +1.1**
baz=54
P57A Homestead Farm 72.55 307 P **P** **23 54 43.8 +1.8**
TOLK Toolik Lake Re 72.56 356 P **P** **23 54 42.8 +1.3**
baz=7.6
TOLK Toolik Lake Re 72.56 356 P **P** **23 54 42.9 +1.3**
TOLK IAmb IAmb 23 55 01.7
comp=Z,21nm,0.8s
TOLK Toolik Lake Re 72.56 356 **P** **23 54 44.1 +2.5**
Q58A Fox Den Farm, 72.66 306 P **P** **23 54 43.7 +1.1**
baz=54
I49A Point Hope 72.77 313 P **P** **23 54 43.9 +0.8**
I49A IAmb IAmb 23 54 48.4
comp=Z,47nm,1.2s
ROSB Rosrio 72.87 252 *eP* **P** **23 54 46.5 +2.3**
ROSB *epP* **pP** **23 54 48.9 +0.5**
YKA Yellowknife Ar 72.88 340 P **P** **23 54 43.4 -0.1**
comp=Z,2.1nm,0.7s,baz=45,slow=6.0,SNR=7.3
YKA LR LR 00 28 33.4
comp=Z,1µm,19.1s,baz=0.0,slow=37
YKA Yellowknife Ar 72.88 340 *i* P **P** **23 54 45.5 +2.0**
YKA pmax pmax
comp=Z,5.0nm,0.9s
N54A Moraine State 72.89 309 P **P** **23 54 45.3 +1.4**
baz=53
N54A Moraine State 72.89 309 P **P** **23 54 45.8 +1.8**
N54A IAmb IAmb 23 54 53.7
comp=Z,40nm,1.2s
O55A Ligonier 72.92 308 P **P** **23 54 45.4 +1.3**
baz=53
KLR Kul'dur 73.00 40 P **P** **23 54 44.2 -0.3**
comp=Z,14nm,0.8s,baz=309,slow=6.8,SNR=44
KLR Kul'dur 73.00 40 *ceP* **P** **23 54 44.0 -0.5**
KLR pmax pmax
comp=Z,21nm,0.9s
KLR MLR MLR
comp=Z,551nm,19.0s
M53A WI Miller and 73.02 310 P **P** **23 54 46.8 +2.1**
baz=53
M53A WI Miller and 73.02 310 P **P** **23 54 46.4 +1.7**
M53A IAmb IAmb 23 54 50.5
comp=Z,61nm,1.4s
CN2 Changchun 73.03 47 *eP* **P** **23 54 44.0 -0.7**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,600nm,18.5s
CN2 LR LR
comp=Z,500nm,18.5s
CN2 LR LR
comp=Z,200nm,19.0s
P56A Dayton Farm, R 73.05 307 P **P** **23 54 45.7 +0.8**
baz=53
Q57A Strasburg 73.06 307 P **P** **23 54 46.8 +1.8**
baz=53
S59A Mechanicsville 73.11 305 P **P** **23 54 46.6 +1.4**
baz=54
SNY Shenyang 73.14 50 ⇑P **P** **23 54 44.0 -1.4**
SNY pmax pmax
comp=Z,26nm,0.7s
SNY pmax pmax
comp=Z,140nm,3.5s
SNY LR LR
comp=Z,950nm,18.4s
SNY LR LR
comp=Z,840nm,15.3s
R58B Mineral 73.36 305 P **P** **23 54 47.9 +1.1**
baz=53
R58B Mineral 73.36 305 P **P** **23 54 47.9 +1.1**
M52A Chesterland 73.37 310 P **P** **23 54 47.5 +0.7**
baz=52
M52A Chesterland 73.37 310 P **P** **23 54 49.2 +2.4**
M52A IAmb IAmb 23 55 05.5
comp=Z,31nm,0.8s
MA2 Magadan 73.43 24 *ce*P **P** **23 54 47.2 +0.4**
MA2 pmax pmax
comp=Z,96nm,1.7s
MA2 Magadan 73.43 24 P **P** **23 54 47.6 +0.7**
BMAR Burnt Mountain 73.44 354 P **P** **23 54 47.9 +1.1**
JSRW J. Sargeant Re 73.53 305 P **P** **23 54 51.1 +3.4**
Q56A Snyder Ridge, 73.55 307 P **P** **23 54 49.0 +1.1**
baz=53
Q56A Snyder Ridge, 73.55 307 P **P** **23 54 49.8 +1.9**
Q56A IAmb IAmb 23 54 53.3
comp=Z,87nm,1.5s
E43A Lone Tree Farm 73.56 317 P **P** **23 54 49.0 +1.2**
R57A Stanardsville 73.58 306 P **P** **23 54 48.7 +0.6**
baz=53
MCWV Mont Chateau 73.58 308 P **P** **23 54 48.7 +0.6**
baz=53
MCWV Mont Chateau 73.58 308 P **P** **23 54 49.2 +1.1**
O54A Avella 73.60 309 P **P** **23 54 49.3 +1.2**
baz=53
O54A Avella 73.60 309 P **P** **23 54 49.4 +1.2**
P55A Reedsville 73.66 308 P **P** **23 54 49.8 +1.3**
baz=53
G45A Suttons Bay 73.68 315 P **P** **23 54 49.4 +0.9**
G45A IAmb IAmb 23 54 56.1
comp=Z,35nm,1.0s
S58A Poland Farm, P 73.68 305 P **P** **23 54 50.0 +1.3**
baz=53
S58A Poland Farm, P 73.68 305 P **P** **23 54 50.9 +2.3**
S58A IAmb IAmb 23 54 57.5
comp=Z,29nm,1.1s
ANWB Willy Bob 73.73 280 P **P** **23 54 48.1 -1.1**
ANWB IAmb IAmb 23 54 53.8
comp=Z,48nm,0.8s
WHN Wuhan 73.82 64 P **P** **23 54 48.3 -1.2**
WHN pmax pmax
comp=Z,52nm,1.0s
WHN LR LR
comp=Z,470nm,11.7s
WHN LR LR
comp=Z,810nm,18.2s
D41A Chassel 73.95 318 P **P** **23 54 52.0 +2.0**
D41A IAmb IAmb 23 54 57.6
comp=Z,36nm,1.1s
COLD Coldfoot 74.00 357 P **P** **23 54 50.3 +0.3**
baz=7.0,SNR=13
COLD Coldfoot 74.00 357 P **P** **23 54 51.1 +1.1**
P54A Burton 74.01 308 P **P** **23 54 50.6 0.0**
baz=52
R56A Bull Pasture M 74.06 307 P **P** **23 54 53.5 +2.5**
baz=53
O53A New Philadelph 74.06 309 P **P** **23 54 52.6 +1.7**
baz=52
O53A New Philadelph 74.06 309 P **P** **23 54 52.4 +1.5**
O53A IAmb IAmb 23 54 58.8
comp=Z,25nm,1.0s
Q55A Buckhannon 74.13 307 P **P** **23 54 50.9 -0.4**
baz=53
S57A Dark Hollow, R 74.17 306 P **P** **23 54 55.1 +3.6**
baz=53
MDP Montagnes des 74.21 264 LR LR 00 25 47.3
comp=Z,243nm,20.7s,baz=68,slow=34
U59A Littleton 74.27 304 P **P** **23 54 53.5 +1.4**
baz=53
J47A Sunmer 74.34 313 P **P** **23 54 53.9 +1.5**
J47A IAmb IAmb 23 55 03.3
comp=Z,28nm,0.8s
FYU Fort Yukon 74.34 354 P **P** **23 54 54.0 +2.1**
FYU IAmb IAmb 23 54 58.6
comp=Z,65nm,1.2s
N51A Ashland 74.35 310 P **P** **23 54 56.2 +3.7**
baz=52
N51A Ashland 74.35 310 P **P** **23 54 55.0 +2.4**
N51A IAmb IAmb 23 54 58.1
comp=Z,24nm,0.9s
T58A Grand View Acr 74.39 305 P **P** **23 54 53.8 +1.0**
baz=53
O52A Adamsville 74.52 309 P **P** **23 54 54.1 +0.6**
baz=52
O52A Adamsville 74.52 309 P **P** **23 54 54.9 +1.4**
O52A IAmb IAmb 23 55 11.7
comp=Z,26nm,0.8s
RCRC Randolf Colleg 74.57 306 P **P** **23 54 55.4 +1.6**
R55A Marlinton 74.59 307 P **P** **23 54 54.8 +0.8**
baz=52
R55A Marlinton 74.59 307 P **P** **23 54 55.3 +1.2**
R55A IAmb IAmb 23 55 11.7
comp=Z,56nm,1.4s
Q54A Coxs Mills 74.60 308 P **P** **23 54 54.9 +0.9**
baz=52,SNR=5.4
Q54A Coxs Mills 74.60 308 P **P** **23 54 55.1 +1.0**
P53A Whipple 74.64 308 P **P** **23 54 55.0 +0.8**
baz=52,SNR=5.3
P53A Whipple 74.64 308 P **P** **23 54 55.5 +1.3**
P53A IAmb IAmb 23 55 00.4
comp=Z,31nm,1.1s
U58A Oxford 74.73 304 P **P** **23 54 55.7 +0.9**
baz=53
FFC Flin Flon 74.81 330 P **P** **23 54 56.7 +1.8**
FFC pmax pmax
comp=Z,35nm,1.5s
FFC Flin Flon 74.81 330 P **P** **23 54 56.7 +1.8**
T57A Hurt 74.82 305 P **P** **23 54 58.7 +3.4**
baz=52
MDJ Mudanjiang 74.84 45 P **P** **23 54 54.6 -0.7**
MDJ pmax pmax
comp=Z,22nm,0.8s
MDJ pmax pmax
comp=Z,110nm,3.9s
EYMN Ely 74.88 320 P **P** **23 54 56.2 +0.7**
baz=48
EYMN Ely 74.88 320 P **P** **23 54 56.6 +1.2**
EYMN IAmb IAmb 23 55 00.3
comp=Z,38nm,1.5s
COWI Conover 74.88 317 P **P** **23 54 57.8 +2.3**
V59A Middlesex 74.91 304 P **P** **23 54 56.8 +1.0**
baz=53
L48A N Adams 74.93 312 P **P** **23 54 58.2 +2.4**
L48A IAmb IAmb 23 55 02.5
comp=Z,50nm,1.4s
O51A Pataskala 74.97 310 P **P** **23 54 56.8 +0.6**
baz=52
P52A Corning 75.00 309 P **P** **23 54 56.5 +0.2**
baz=52
P52A Corning 75.00 309 P **P** **23 54 57.5 +1.2**
Q53A Leroy 75.11 308 P **P** **23 55 00.7 +3.7**
baz=52
S55A Lewisburg 75.14 307 P **P** **23 55 00.5 +3.3**
baz=52
ACSO Alum Creek Sta 75.14 310 P **P** **23 54 58.1 +0.9**
baz=51
ACSO Alum Creek Sta 75.14 310 P **P** **23 54 59.0 +1.9**
ACSO IAmb IAmb 23 55 04.4

comp=Z,27nm,0.9s
R54A Victor 75.19 307 P **P** 23 54 58.1 +0.6
baz=52
H43A Windswept, Lux 75.20 316 P **P** 23 54 59.2 +1.9
U57A Blanch 75.22 305 P **P** 23 54 58.4 +0.8
baz=52
T56A Rocky Mt 75.29 306 P **P** 23 54 58.6 +0.5
baz=52
IMAR Indian Mountai 75.38 358 P **P** 23 54 59.1 +1.1
ULM Lac du Bonnet 75.41 324 P **P** 23 54 58.8 +0.3
comp=Z,23nm,0.9s,baz=67,slow=5.9,SNR=9.8
ULM LR LR 00 28 01.2
comp=Z,456nm,20.0s,baz=46,slow=36
ULM Lac du Bonnet 75.41 324 P **P** 23 54 59.2 +0.7
ULM pmax pmax
comp=Z,37nm,1.0s
ULM Lac du Bonnet 75.41 324 P **P** 23 54 59.2 +0.7
ULM IAmb IAmb 23 55 17.3
comp=Z,37nm,1.0s
N49A Columbus Grove 75.42 311 P **P** 23 55 00.7 +1.9
BLA Blacksburg 75.43 306 P **P** 23 55 00.0 +1.1
BLA pmax pmax
comp=Z,11nm,1.0s
BLA Blacksburg 75.43 306 P **P** 23 54 60.0 +1.1
V58A Windy Hill, Pi 75.46 304 P **P** 23 55 01.6 +2.6
baz=52
TMAB Tom-Au,PA,Br 75.49 255 *e*P **P** 23 55 01.6 +2.2
TMAB *e*pP **pP** 23 55 04.2 +0.5
Q52A Bidwell 75.50 308 P **P** 23 55 00.2 +1.1
baz=52
S54A Dingess, Beckl 75.62 307 P **P** 23 55 00.0 0.0
baz=52
S54A Dingess, Beckl 75.62 307 P **P** 23 55 01.5 +1.5
R53A Hurricane 75.69 308 P **P** 23 55 00.9 +0.6
baz=52
R53A Hurricane 75.69 308 P **P** 23 55 01.6 +1.3
R53A IAmb IAmb 23 55 06.2
comp=Z,61nm,1.3s
B35A Bob, Littlefor 75.70 321 P **P** 23 55 01.5 +1.3
T55A Pulaski 75.72 306 P **P** 23 55 00.2 -0.3
baz=52
EGAK Eagle 75.73 352 P **P** 23 55 00.7 +0.6
V57A Coltrane Farms 75.83 305 P **P** 23 55 02.3 +1.1
baz=52
MLSI Meulaboh, Aceh 75.86 96 P **P** 23 54 59.8 -1.8
comp=Z,155nm,1.0s
POKR Poker Plat Res 75.94 355 P **P** 23 55 02.3 +1.0
baz=9.2,SNR=15
POKR Poker Plat Res 75.94 355 P **P** 23 55 02.4 +1.2
POKR IAmb IAmb 23 55 12.6
comp=Z,37nm,1.1s
O49A Covington 75.98 310 P **P** 23 55 03.5 +1.6
O49A IAmb IAmb 23 55 07.1
comp=Z,38nm,1.2s
I23K Minto, Yukon-K 76.02 356 P **P** 23 55 02.6 +0.9
baz=7.6,SNR=12
Q51A Peebles 76.11 309 P **P** 23 55 04.5 +1.8
Q51A IAmb IAmb 23 55 10.0
comp=Z,39nm,1.2s
MDM Murphy Dome 76.14 355 P **P** 23 55 03.6 +1.2
MDM IAmb IAmb 23 55 08.0
comp=Z,32nm,1.1s
I42A Draeger Farm, 76.20 316 P **P** 23 55 04.3 +1.2
COLA College 76.20 355 *i* P **P** 23 55 03.3 +0.6
COLA pmax pmax
comp=Z,12nm,1.2s
MLY Manley 76.21 356 P **P** 23 55 03.8 +0.9
baz=6.5,SNR=30
IL31 76.24 355 P **P** 23 55 03.8 +0.9
ILAR Eielson Array 76.24 355 P **P** 23 55 03.8 +0.8
comp=Z,5.6nm,0.8s,baz=1.1,slow=4.4,SNR=41
ILAR PKKPbc **PKKPbc** 00 14 15.7 -0.8
comp=Z,0.3nm,0.6s,baz=204,slow=3.4,SNR=4.4
ILAR PKPPKP P'P'df 00 22 18.1 -8.2
comp=Z,0.9nm,0.8s,baz=251,slow=2.9,SNR=6.7
ILAR LR LR 00 33 00.4
comp=Z,147nm,18.5s,baz=345,slow=39
ILAR Eielson Array 76.24 355 P **P** 23 55 03.5 +0.5
IL18 Eielson Array 76.25 355 P **P** 23 55 04.2 +1.2
T54A Tazewell 76.25 307 P **P** 23 55 05.6 +2.0
baz=52
U55A TA2, Sparta 76.26 306 P **P** 23 55 04.7 +1.0
baz=52,SNR=7.2
N47A Urbana 76.34 312 P **P** 23 55 05.2 +1.3
N47A IAmb IAmb 23 55 19.7
comp=Z,27nm,1.1s
V56A Mocksville 76.34 305 P **P** 23 55 06.4 +2.3
baz=52
USA0B Ussuriysk Arra 76.42 44 P **P** 23 55 03.4 -0.9
USA0B pmax pmax
comp=Z,35nm,1.0s
USA0B Ussuriysk Arra 76.42 44 P **P** 23 55 03.4 -0.9
USA0B IAmb IAmb 23 55 04.4
comp=Z,35nm,0.9s
USRK Ussuriysk Ar. 76.42 44 P **P** 23 55 03.5 -0.9
comp=Z,24nm,0.8s,baz=287,slow=5.0,SNR=50
USRK LR LR 00 32 06.2
comp=Z,804nm,18.8s,baz=318,slow=38
USRK Ussuriysk Ar. 76.42 44 P **P** 23 55 03.2 -1.1
W57A Gilead 76.42 304 P **P** 23 55 07.1 +2.7
baz=52
W57A Gilead 76.42 304 P **P** 23 55 06.0 +1.5
CCB Clear Creek Bu 76.43 355 P **P** 23 55 04.2 +0.3
K27K Chicken 76.55 352 P **P** 23 55 06.2 +1.5
baz=13
K27K Chicken 76.55 352 P **P** 23 55 06.2 +1.5
K27K IAmb IAmb 23 55 16.5
comp=Z,47nm,1.0s
NEA2 Nenana 76.56 356 P **P** 23 55 05.3 +0.5
baz=7.8
HDA Harding Lake 76.60 355 P **P** 23 55 04.8 -0.2
HDA IAmb IAmb 23 55 15.6
comp=Z,46nm,1.1s
P49A Miami Univ. Ec 76.62 310 P **P** 23 55 05.9 +0.4
baz=50
P49A Miami Univ. Ec 76.62 310 P **P** 23 55 07.4 +1.8
WRH Wood River Hil 76.62 355 P **P** 23 55 05.3 +0.2
WRH IAmb IAmb 23 55 10.2
comp=Z,26nm,0.9s
U54A Nelsons Funny 76.74 306 P **P** 23 55 07.1 +0.7
baz=51
U54A Nelsons Funny 76.74 306 P **P** 23 55 07.9 +1.5
U54A IAmb IAmb 23 55 21.4
comp=Z,26nm,0.9s
V55A Taylorsville 76.77 305 P **P** 23 55 09.4 +2.9
baz=51,SNR=8.2
V55A Taylorsville 76.77 305 P **P** 23 55 09.2 +2.8
V55A IAmb IAmb 23 55 11.9
comp=Z,45nm,1.4s
PDPR Patillas Dam, 76.77 282 P **P** 23 55 08.5 +1.8
SCRK Sand Creek 76.79 353 P **P** 23 55 06.8 +0.6
baz=12,SNR=18
W56A Indian Trail 76.81 304 P **P** 23 55 08.0 +1.3
baz=52
TYV Tymovskoe 76.97 34 *e*P **P** 23 55 07.1 -0.2
TYV pmax pmax
comp=Z,15nm,2.0s
TYV pmax pmax
comp=Z,300nm,5.7s
BIRD Birdtown, Kers 77.03 304 P **P** 23 55 10.6 +2.6
BIRD IAmb IAmb 23 55 14.0
comp=Z,38nm,1.4s
P48A Milroy 77.09 310 P **P** 23 55 09.6 +1.4
TPTI 77.09 96 P **P** 23 55 08.6 +0.1
comp=Z,33nm,0.7s
GDU01 Guandu, BA 77.09 240 *e*P **P** 23 55 09.7 +1.2
RIDG Independent Ri 77.10 354 P **P** 23 55 09.1 +1.2
RIDG IAmb IAmb 23 55 19.4
comp=Z,73nm,1.4s
DOT Dot Lake 77.12 353 P **P** 23 55 09.3 +1.3
DOT IAmb IAmb 23 55 19.5
comp=Z,49nm,1.3s
BPAW Bear Paw Mtn. 77.15 356 P **P** 23 55 08.2 0.0
R50A Paris 77.18 309 P **P** 23 55 10.3 +1.5
MCPB Macapa, AP 77.20 259 *e*P **P** 23 55 10.8 +1.6
MCPB *e*pP **pP** 23 55 13.9 +0.4
V54A Nebo 77.28 306 P **P** 23 55 10.5 +1.1
baz=51,SNR=7.2
KMSC Kings Mountain 77.29 305 P **P** 23 55 10.3 +0.9
baz=51
F36A Milaca 77.31 319 P **P** 23 55 09.8 +0.4
QIZ Qiongzhong 77.32 76 P **P** 23 55 09.0 -0.8
QIZ pmax pmax
comp=Z,31nm,0.8s
QIZ LR LR
comp=Z,320nm,18.6s
QIZ LR LR
comp=Z,410nm,14.7s
QIZ LR LR
comp=Z,210nm,22.6s
M44A Midewin, Midew 77.36 313 P **P** 23 55 12.3 +2.6
SPMN Marine on St. 77.38 319 P **P** 23 55 10.5 +0.7
baz=47
SPMN Marine on St. 77.38 319 P **P** 23 55 10.9 +1.2
SPMN IAmb IAmb 23 55 13.6
comp=Z,35nm,1.4s
Y57A Sumter 77.38 303 P **P** 23 55 11.9 +2.0
Y57A IAmb IAmb 23 55 15.8
comp=Z,26nm,0.8s
MCK McKinley 77.41 355 P **P** 23 55 09.8 +0.3
baz=7.9,SNR=17
Z58A St. Stephen 77.42 303 P **P** 23 55 12.5 +2.3
baz=52
BCAR Beaver Creek A 77.46 352 P **P** 23 55 11.2 +1.3
SFIN Lafayette 77.47 312 P **P** 23 55 10.5 +0.2
baz=49
SFIN Lafayette 77.47 312 P **P** 23 55 11.8 +1.4
SFIN IAmb IAmb 23 55 15.5
comp=Z,32nm,1.2s
X56A White Oak 77.50 304 P **P** 23 55 12.9 +2.3
baz=51,SNR=5.3
JFWS Jewell Farm 77.58 316 P **P** 23 55 12.7 +1.8
baz=48
JFWS Jewell Farm 77.58 316 P **P** 23 55 12.5 +1.6
JFWS pmax pmax
comp=Z,36nm,1.3s
JFWS Jewell Farm 77.58 316 P **P** 23 55 12.5 +1.6
JFWS IAmb IAmb 23 55 17.7
comp=Z,36nm,1.2s
CRPR Cabo Rojo, PR 77.61 283 P **P** 23 55 13.6 +2.2
R49A Shelbyville 77.68 309 P **P** 23 55 13.5 +1.9
R49A IAmb IAmb 23 55 18.8
comp=Z,34nm,1.3s
INCN Inchon 77.69 52 P **P** 23 55 11.5 -0.1
INCN pmax pmax
comp=Z,35nm,0.8s
INCN Inchon 77.69 52 P **P** 23 55 11.5 -0.1
INCN IAmb IAmb 23 55 11.8
comp=Z,34nm,0.8s
KTH Kantishna Hill 77.69 356 P **P** 23 55 12.4 +1.2
KTH IAmb IAmb 23 55 22.2
comp=Z,30nm,1.1s
RND Reindeer 77.73 355 P **P** 23 55 10.5 -1.0
RND pmax pmax
comp=Z,12nm,0.8s
RND Reindeer 77.73 355 P **P** 23 55 10.5 -1.0
TRF Thorofare Moun 77.77 356 P **P** 23 55 12.1 +0.3
TRF IAmb IAmb 23 55 16.7
comp=Z,38nm,1.2s
JSC Jenkinsville 77.78 304 P **P** 23 55 13.8 +1.6
JSC pmax pmax
comp=Z,6.0nm,1.0s
JSC Jenkinsville 77.78 304 P **P** 23 55 13.8 +1.6
MENT Mentasta 77.78 353 P **P** 23 55 13.5 +1.8
PAULI Pauline 77.80 305 P **P** 23 55 14.1 +1.9
NHSC New Hope 77.80 303 P **P** 23 55 15.2 +2.9
baz=51
NHSC New Hope 77.80 303 P **P** 23 55 13.5 +1.2
TZTN Tazewell 77.80 307 P **P** 23 55 13.3 +1.1
baz=50
TZTN Tazewell 77.80 307 P **P** 23 55 13.6 +1.3
TZTN IAmb IAmb 23 55 18.2
comp=Z,27nm,1.3s
CSU Charleston Sou 77.81 302 P **P** 23 55 13.4 +1.1
L42A Oliver, Polo 77.86 315 P **P** 23 55 13.7 +1.2
L42A IAmb IAmb 23 55 17.8
comp=Z,26nm,1.2s
W54A Cherokee Point 77.87 305 P **P** 23 55 15.5 +2.8
baz=51
V53A Saluda 77.89 306 P **P** 23 55 14.3 +1.4
X55A Gracelyn & Ava 77.90 305 P **P** 23 55 13.8 +1.0
baz=51
PAX Paxson 77.91 354 P **P** 23 55 13.6 +1.1
PAX pmax pmax
comp=Z,14nm,1.1s
PAX Paxson 77.91 354 P **P** 23 55 13.6 +1.1
BLO Bloomington 77.92 311 P **P** 23 55 13.7 +0.8
BLO pmax pmax
comp=Z,27nm,1.0s
BLO Bloomington 77.92 311 P **P** 23 55 13.7 +0.8
BLO IAmb IAmb 23 55 18.2
comp=Z,27nm,0.9s
DHY Denali Highway 77.95 355 P **P** 23 55 14.0 +1.2
DHY IAmb IAmb 23 55 20.0
comp=Z,34nm,0.8s
Z57A Bowman 78.03 303 P **P** 23 55 13.6 0.0
baz=51
P46A Rosedale 78.03 311 P **P** 23 55 14.8 +1.3
TEY Ternei 78.27 41 *e*P **P** 23 55 11.3 -3.4
V52A Sevierville 78.28 307 P **P** 23 55 16.4 +1.5
T50A Nancy 78.30 308 P **P** 23 55 16.9 +1.9
X54A Belton 78.33 305 P **P** 23 55 15.7 +0.5
baz=51
BG3 Lake Jocassee 78.40 306 P **P** 23 55 17.8 +2.1
WCI Wyandotte Cave 78.40 310 P **P** 23 55 16.2 +0.7
baz=49
WCI Wyandotte Cave 78.40 310 P **P** 23 55 16.7 +1.2
WCI pmax pmax
comp=Z,28nm,1.1s
WCI Wyandotte Cave 78.40 310 P **P** 23 55 16.7 +1.2
WCI IAmb IAmb 23 55 21.1
comp=Z,28nm,1.1s
PPLA Purkeypile 78.41 357 P **P** 23 55 17.2 +1.9
PPLA IAmb IAmb 23 55 22.5
comp=Z,28nm,1.0s
KS19 Wonju Array Si 78.42 51 P **P** 23 55 15.5 -0.2
KS19 IAmb IAmb 23 55 16.4
comp=Z,33nm,0.8s
KSAR Wonju Array Be 78.47 51 P **P** 23 55 15.2 -0.7
KSAR Wonju Array Be 78.47 51 P **P** 23 55 15.2 -0.7
KSRS Korea Array 78.49 51 P **P** 23 55 15.5 -0.5
comp=Z,23nm,0.8s,baz=313,slow=4.8,SNR=73
KSRS LR LR 00 35 01.0
comp=Z,344nm,18.4s,baz=318,slow=40
TTA Tatalina 78.49 359 P **P** 23 55 17.1 +1.4
TTA pmax pmax
comp=Z,48nm,1.4s
TTA Tatalina 78.49 359 P **P** 23 55 17.1 +1.4
TTA IAmb IAmb 23 55 21.0
comp=Z,48nm,1.4s
TKL Tuckaleechee C 78.51 307 P **P** 23 55 18.8 +2.6
TKL pmax pmax
comp=Z,17nm,1.1s
TKL Tuckaleechee C 78.51 307 P **P** 23 55 18.8 +2.6
I37A Lemond, Waseca 78.52 318 P **P** 23 55 17.7 +1.6
I37A IAmb IAmb 23 55 25.9
comp=Z,46nm,1.1s
KULM Kulim 78.53 92 P **P** 23 55 15.3 -1.3
KULM IAmb IAmb 23 55 17.4
comp=Z,37nm,0.8s
157A Early Branch 78.61 303 P **P** 23 55 17.9 +1.1
baz=51
GSI Gunungsitoli 78.62 98 P **P** 23 55 17.5 +0.4
comp=Z,137nm,0.8s
GSI Gunungsitoli 78.62 98 P **P** 23 55 16.9 -0.2
L40A Anamosa 78.68 315 P **P** 23 55 18.7 +1.6
L40A IAmb IAmb 23 55 23.3
comp=Z,74nm,1.4s
PSI Prapat 78.73 96 P **P** 23 55 18.0 +0.2
comp=Z,30nm,0.6s,baz=292,slow=2.4,SNR=9.9
V51A Loudon 78.78 307 P **P** 23 55 19.9 +2.2
V51A IAmb IAmb 23 55 23.1
comp=Z,49nm,1.4s
RPSI Rantau Prapat 78.79 96 P **P** 23 55 17.2 -0.8
RPSI Rantau Prapat 78.79 96 P **P** 23 55 18.0 0.0
M24K Tolsona, Glenn 78.82 354 P **P** 23 55 18.0 +0.5
baz=10.0
TJN Taejon 78.84 52 *ce*P **P** 23 55 15.9 -2.1
WHY Whitehorse 78.87 348 P **P** 23 55 18.4 +0.6
HYT Haines Junctio 79.10 350 P **P** 23 55 20.5 +1.3
HYT IAmb IAmb 23 55 33.8
comp=Z,23nm,0.9s
CPCT Cooper Cave 79.11 307 P **P** 23 55 21.5 +2.0
CPCT IAmb IAmb 23 55 25.5
comp=Z,50nm,1.5s
K38A Parkersburg 79.12 317 P **P** 23 55 20.6 +1.2
OLIL Olney 79.14 311 P **P** 23 55 20.8 +1.3
N25K Chitina, Valde 79.18 353 P **P** 23 55 20.2 +0.7
baz=11
N25K Chitina, Valde 79.18 353 P **P** 23 55 20.2 +0.7
SCM Sheep Creek Mo 79.18 354 P **P** 23 55 21.4 +1.9
SCM pmax pmax
comp=Z,83nm,1.4s
SCM Sheep Creek Mo 79.18 354 P **P** 23 55 21.4 +1.9
SCM IAmb IAmb 23 55 25.2
comp=Z,82nm,1.4s
U49A Red Boiling Sp 79.20 308 P **P** 23 55 21.8 +1.8
U49A IAmb IAmb 23 55 27.5
comp=Z,32nm,1.1s
MCARA McCarthy VSAT 79.24 352 P **P** 23 55 20.5 +0.8
MCARA IAmb IAmb 23 55 31.9
comp=Z,34nm,1.2s
GLB Gilahina Butte 79.26 353 P **P** 23 55 19.5 -0.4
PRPB Parauapebas 79.27 253 *e*P **P** 23 55 22.0 +1.4
SML Sawmill 79.28 355 P **P** 23 55 21.0 +1.0
SML IAmb IAmb 23 55 33.9
comp=Z,31nm,0.9s
SKT Skwentna 79.30 356 P **P** 23 55 19.8 -0.2
IPM Ipoh 79.32 93 P **P** 23 55 19.8 -1.2
IPM IAmb IAmb 23 55 25.9
comp=Z,33nm,1.1s
GHO Glory Hole Cre 79.36 355 P **P** 23 55 20.9 +0.4
GHO IAmb IAmb 23 55 23.5
comp=Z,32nm,0.8s
SMTB Santa Maria do 79.41 250 *e*P **P** 23 55 22.9 +1.6
SMTB *e*pP **sP** 23 55 26.3 -0.9
KLU Klutina 79.41 354 P **P** 23 55 22.3 +1.5
VRDI Verde Repeater 79.44 352 P **P** 23 55 23.5 +2.5
CTGM Chitina Glacie 79.46 351 P **P** 23 55 22.6 +1.5
BALM Baldy 79.51 352 P **P** 23 55 22.1 +0.8
BALM IAmb IAmb 23 55 32.7
comp=Z,40nm,1.1s
PMR Palmer 79.55 355 P **P** 23 55 23.8 +2.4
PMR pmax pmax
comp=Z,25nm,0.8s
PMR Palmer 79.55 355 P **P** 23 55 23.8 +2.4
PMR IAmb IAmb 23 55 32.1
comp=Z,25nm,0.8s
Q44A Meyer Farm, Va 79.56 312 P **P** 23 55 23.7 +1.8
Q44A IAmb IAmb 23 55 27.3
comp=Z,42nm,1.3s
KNK Knik Glacier 79.68 355 P **P** 23 55 23.1 +0.9
KNK IAmb IAmb 23 55 27.6
comp=Z,64nm,1.4s
T47A Sharon Grove 79.69 309 P **P** 23 55 24.2 +1.6
T47A IAmb IAmb 23 55 28.1
comp=Z,79nm,1.4s
GOGA Godfrey 79.75 305 P **P** 23 55 25.4 +2.4
baz=50,SNR=9.0
GOGA Godfrey 79.75 305 P **P** 23 55 24.7 +1.7
GOGA pmax pmax
comp=Z,37nm,1.4s
GOGA Godfrey 79.75 305 P **P** 23 55 24.7 +1.7
W50A Signal Mountai 79.76 307 P **P** 23 55 25.3 +2.2
W50A IAmb IAmb 23 55 38.3
comp=Z,29nm,0.8s
SUA Susitna One 79.77 356 P **P** 23 55 23.8 +1.1
SUA IAmb IAmb 23 55 28.2
comp=Z,34nm,0.8s
CLTN Cedars of Leba 79.81 308 P **P** 23 55 26.1 +2.8
TGL Tana Glacier 79.83 352 P **P** 23 55 24.0 +0.9
Y52A Lilburn 79.84 305 P **P** 23 55 25.4 +1.9
Y52A IAmb IAmb 23 55 29.4
comp=Z,35nm,1.1s
MALB Monte Alegre 79.85 259 *e*P **P** 23 55 25.0 +1.3
CRQM Cirque 79.87 352 P **P** 23 55 24.6 +1.2
CRQM IAmb IAmb 23 55 28.7
comp=Z,63nm,1.2s
SDBA SAO DESIDERIO 79.87 245 *e*P **P** 23 55 25.2 +1.4
X51A Calhoun 79.89 306 P **P** 23 55 25.5 +1.7
YSS Yuzh-Sakhalins 79.89 36 *e*P **P** 23 55 23.7 +0.2
YSS *e* 23 55 30.7
YSS *e* 00 14 02.0
YSS pmax pmax
comp=Z,80nm,0.9s
YSS MLR MLR
comp=Z,800nm,19.0s
YSS Yuzh-Sakhalins 79.89 36 P **P** 23 55 23.9 +0.4
ISLE Juniper Island 79.93 352 P **P** 23 55 24.0 +0.3
ISLE IAmb IAmb 23 55 38.2
comp=Z,32nm,1.0s
TABL Table Mountain 79.95 351 P **P** 23 55 24.8 +0.9
SKAG Skagway 80.08 348 P **P** 23 55 25.8 +1.5
DLBC Dease Lake 80.08 345 P **P** 23 55 24.1 -0.3
RC01 Rabbit Creek A 80.09 356 P **P** 23 55 24.9 +0.6
baz=7.2,SNR=9.0
GLI Glacier Island 80.11 354 P **P** 23 55 24.7 +0.2
GLI IAmb IAmb 23 55 28.1
comp=Z,52nm,1.3s
SWET Sewanee 80.14 307 P **P** 23 55 26.7 +1.6
PCA Pinnacle 80.18 351 P **P** 23 55 26.8 +1.8
PCA IAmb IAmb 23 55 31.3
comp=Z,55nm,0.9s
FID Port Fidalgo 80.19 354 P **P** 23 55 27.1 +2.2
FID IAmb IAmb 23 55 39.3
comp=Z,45nm,1.1s
BCPM Bancas Point 80.23 350 P **P** 23 55 27.3 +2.2
BCPM IAmb IAmb 23 55 38.3
comp=Z,31nm,0.5s
E28A Huff 80.29 324 P **P** 23 55 27.2 +1.4
E28A IAmb IAmb 23 55 33.1
comp=Z,89nm,1.1s
SVW2 Sparrevohn 80.32 358 P **P** 23 55 27.1 +1.5
V48A Smith Brothers 80.34 308 P **P** 23 55 27.7 +1.5
ECSD EROS Data Cent 80.37 319 P **P** 23 55 27.0 +0.7
baz=44
ECSD EROS Data Cent 80.37 319 P **P** 23 55 28.0 +1.8
FPAL Fort Paine 80.38 307 P **P** 23 55 27.9 +1.4
FPAL IAmb IAmb 23 55 32.2
comp=Z,48nm,1.4s
NAN01 Guarapari, ES 80.41 238 *e*P **P** 23 55 27.2 +0.6
MNSI Mandailing Nat 80.49 97 P **P** 23 55 26.3 -1.0
comp=Z,851nmcomp=Z,40nm,0.9s
S44A Carbondale 80.51 311 P **P** 23 55 28.6 +1.6
DLV T Lat 80.55 82 P **P** 23 55 27.6 -0.2
DLV IAmb IAmb 23 55 28.5
comp=Z,22nm,0.8s
N38A Joes South For 80.66 316 P **P** 23 55 29.9 +2.1
N38A IAmb IAmb 23 55 33.0
comp=Z,29nm,1.1s
O22K Cooper Landing 80.69 355 P **P** 23 55 30.4 +2.9
baz=7.2
O22K Cooper Landing 80.69 355 P **P** 23 55 30.0 +2.4
O22K IAmb IAmb 23 55 33.3
comp=Z,54nm,0.9s
WVT Waverly 80.70 309 P **P** 23 55 28.2 +0.1
baz=48
WVT Waverly 80.70 309 P **P** 23 55 29.4 +1.3
WVT pmax pmax
comp=Z,17nm,1.1s
WVT Waverly 80.70 309 P **P** 23 55 29.4 +1.3
BESE Bessie Mountai 80.84 348 P **P** 23 55 30.4 +1.9
BESE IAmb IAmb 23 55 35.1
comp=Z,28nm,1.0s
RSO Redoubt South 80.87 357 P **P** 23 55 29.7 +0.9
P40A Paris 80.87 314 P **P** 23 55 31.0 +2.0
PETK Petropavlovsk- 80.94 25 P **P** 23 55 28.2 -0.9
comp=Z,7.8nm,0.9s,baz=6.8,slow=3.7,SNR=5.8
PETK LR LR 00 36 12.9
comp=Z,619nm,18.5s,baz=317,slow=39
FVM French Village 81.00 312 P **P** 23 55 31.7 +2.0
FVM pmax pmax
comp=Z,20nm,1.0s
FVM French Village 81.00 312 P **P** 23 55 31.7 +2.0
JIS Juneau Island 81.05 347 P **P** 23 55 31.2 +1.8
SEW Seward 81.05 355 P **P** 23 55 30.8 +1.3
SEW IAmb IAmb 23 55 34.5
comp=Z,36nm,1.2s
JANB Januaria 81.28 243 *e*P **P** 23 55 32.3 +0.9
PET Petropavlovsk 81.32 24 *e*P **P** 23 55 28.8 -2.3
PET *e*S **S** 00 05 32.7 -8.6
PET MLR MLR
comp=Z,900nm,19.0s
Y49A Blount Mountai 81.33 307 P **P** 23 55 33.2 +1.7
X48A Hartselle 81.33 307 P **P** 23 55 32.2 +0.8
X48A IAmb IAmb 23 55 37.0
comp=Z,46nm,1.1s
CCM Cathedral Cave 81.42 312 P **P** 23 55 32.5 +0.6
baz=47
CCM Cathedral Cave 81.42 312 P **P** 23 55 32.6 +0.7
CCM pmax pmax
comp=Z,19nm,0.7s
CCM Cathedral Cave 81.42 312 P **P** 23 55 32.6 +0.7
CCM IAmb IAmb 23 55 36.6
comp=Z,19nm,0.7s

SISI Saibi 81.45 99 P **P** **23 55 33.5 +1.1**
comp=Z,61nm,1.1s

BRLK Bradley Lake 81.47 356 P **P** **23 55 32.6 +0.8**
BRLK IAmb IAmb 23 55 42.1
comp=Z,54nm,1.2s

L34A Svendsen Farm, 81.51 318 P **P** **23 55 34.6 +2.2**
L34A IAmb IAmb 23 55 37.7
comp=Z,39nm,0.7s

BSFB Barra de Sao F 81.59 238 *e*P **P** **23 55 34.8 +1.9**
BSFB *e*pP **sP** **23 55 37.7 -1.0**

PLAL Pickwick Lake 81.61 308 P **P** **23 55 34.7 +1.7**
PLAL IAmb IAmb 23 55 38.0
comp=Z,52nm,1.4s

P38A Dawn 81.63 315 P **P** **23 55 34.9 +1.9**
P38A IAmb IAmb 23 55 38.6
comp=Z,79nm,1.4s

RIB01 Linhares ES 81.64 237 *e*P **P** **23 55 34.6 +1.5**
SJMB Sao Joao De Ma 81.72 238 *e*P **P** **23 55 35.2 +1.7**
SJMB *e*pP **pP** **23 55 38.1 +0.2**

CNPM China Poot 81.73 356 P **P** **23 55 33.9 +0.7**
CNPM IAmb IAmb 23 55 36.8
comp=Z,55nm,1.4s

R40A Maddies Statio 81.85 313 P **P** **23 55 35.1 +1.0**
R40A IAmb IAmb 23 55 39.9
comp=Z,28nm,0.9s

ASAJ Asahikawa 81.92 38 P **P** **23 55 34.0 -0.3**
comp=Z,9.6nm,0.4s,baz=294,slow=15,SNR=5.6

JKA Kamikawa-asahi 81.92 38 P **P** **23 55 34.0 -0.4**
JKA Kamikawa-asahi 81.92 38 IAmb IAmb 23 55 35.0
comp=Z,54nm,1.2s

T42A Van Buren 82.03 312 P **P** **23 55 36.9 +1.8**
T42A IAmb IAmb 23 55 40.8
comp=Z,43nm,1.2s

PEXB Peixe 82.09 248 *e*P **P** **23 55 37.4 +1.7**
PEXB *e*pP **pP** **23 55 40.1 +0.1**

LRAL Lakeview Retre 82.23 306 P **P** **23 55 37.3 +1.0**
baz=48

LRAL Lakeview Retre 82.23 306 P **P** **23 55 37.3 +1.0**
LRAL IAmb IAmb 23 55 42.0
comp=Z,48nm,1.2s

YHNB Yeheng 82.32 65 P **P** **23 55 36.3 -0.7**
250A Grady 82.47 305 P **P** **23 55 38.6 +1.1**
250A IAmb IAmb 23 55 42.6
comp=Z,26nm,0.9s

ITTB Itaituba 82.58 258 *e*P **P** **23 55 39.3 +1.0**
ITTB *e*pP **PcP** **23 55 43.1 -0.2**

MGMO Mountain Grove 82.63 312 P **P** **23 55 40.0 +1.7**
MGMO IAmb IAmb 23 55 44.5
comp=Z,54nm,1.2s

LAO LASA Array 82.67 327 P **P** **23 55 39.5 +1.0**
baz=39

LAO LASA Array 82.67 327 P **P** **23 55 40.1 +1.6**
LCAR Lake Charles 82.73 311 P **P** **23 55 41.1 +2.3**
LCAR IAmb IAmb 23 55 46.4
comp=Z,35nm,1.3s

OXF Oxford 82.74 309 P **P** **23 55 41.6 +2.8**
baz=47,SNR=5.7

OXF Oxford 82.74 309 P **P** **23 55 41.7 +2.8**
OXF pmax pmax
comp=Z,57nm,1.2s

OXF Oxford 82.74 309 P **P** **23 55 41.6 +2.8**
BGNE Belgrade 82.83 319 P **P** **23 55 41.5 +2.2**
S39A Bolivar 82.86 313 P **P** **23 55 40.5 +1.0**
S39A IAmb IAmb 23 55 47.0
comp=Z,18nm,0.8s

SDSI Sungai Dareh 83.01 97 P **P** **23 55 39.3 -1.2**
comp=Z,144nm,0.6s

YULB Yu-li 83.07 66 P **P** **23 55 40.4 -0.4**
YULB IAmb IAmb 23 55 49.8
comp=Z,57nm,1.5s

EGMT Eagleton 83.08 329 P **P** **23 55 40.8 +0.2**
baz=36

EGMT Eagleton 83.08 329 P **P** **23 55 41.8 +1.3**
JNU Nakatsue 83.16 53 P **P** **23 55 40.7 -0.4**
comp=Z,20nm,0.9s,baz=47,slow=3.7,SNR=4.4

JNU Nakatsue 83.16 53 IAmb IAmb 23 55 47.2
comp=Z,68nm,1.3s

MYKOM Kota Tinggi 83.19 93 P **P** **23 55 40.9 -0.5**
MYKOM IAmb IAmb 23 55 48.1
comp=Z,42nm,1.1s

MYKOM Kota Tinggi 83.19 93 P **P** **23 55 41.0 -0.5**
JHS Saijyo 83.25 50 P **P** **23 55 42.1 +0.5**
JHS IAmb IAmb 23 55 44.6
comp=Z,19nm,1.2s

Y45A Yeager Farm, C 83.26 308 P **P** **23 55 42.2 +0.6**
FCAR Ozark Folk Cen 83.42 311 P **P** **23 55 44.4 +2.0**
FCAR IAmb IAmb 23 55 47.5
comp=Z,24nm,1.1s

U40A Yellville 83.52 312 P **P** **23 55 43.5 +0.6**
baz=46,SNR=9.4

U40A Yellville 83.52 312 P **P** **23 55 43.8 +0.9**
U40A IAmb IAmb 23 55 48.5
comp=Z,19nm,1.1s

KDAK Kodiak Island 83.54 357 P **P** **23 55 43.8 +1.2**
KDAK pmax pmax
comp=Z,53nm,1.1s

KDAK Kodiak Island 83.54 357 P **P** **23 55 43.8 +1.2**
JTM Tenmabayashi 83.60 41 P **P** **23 55 42.7 -0.5**
KSU1 Kansas State U 83.69 316 P **P** **23 55 44.7 +1.0**
baz=44

KSU1 Kansas State U 83.69 316 P **P** **23 55 44.9 +1.2**
KSU1 IAmb IAmb 23 55 49.9
comp=Z,46nm,1.1s

ERM Erimo 83.75 39*ce*P **P** **23 55 45.0 +1.1**
ERM pmax pmax
comp=Z,82nm,1.7s

ERM Erimo 83.75 39 P **P** **23 55 43.8 -0.1**
KRJI Kerinci 83.76 98 P **P** **23 55 44.6 0.0**
comp=Z,8µmcomp=Z,707nm,0.7s

WALA Waterton Lakes 83.82 332 P **P** **23 55 45.9 +1.5**
WHAR Wooly Hollow 83.93 311 P **P** **23 55 46.5 +1.5**
W41B Gary Mavity, V 83.99 311 P **P** **23 55 46.3 +1.0**
baz=46,SNR=7.7

W41B Gary Mavity, V 83.99 311 P **P** **23 55 46.8 +1.5**
W41B IAmb IAmb 23 55 51.2
comp=Z,49nm,1.2s

NPGB Novo Progresso 84.00 256 *e*P **P** **23 55 46.8 +1.1**
NPGB *e*pP **pP** **23 55 50.4 +0.4**
OHAK Old Harbor 84.13 357 P **P** **23 55 46.8 +1.2**
SNDB Serra Nova Dou 84.18 250 *e*P **P** **23 55 48.2 +1.8**
SNDB *e*pP **pP** **23 55 51.2 +0.4**

HHAR Hobbs 84.20 313 P **P** **23 55 47.9 +1.5**
HHAR IAmb IAmb 23 55 51.2
comp=Z,32nm,1.2s

BDFB Brasilia 84.27 245 P **P** **23 55 48.6 +1.6**
comp=Z,16nm,0.9s,baz=40,slow=6.6,SNR=24

BDFB LR LR 00 35 41.3
comp=Z,430nm,18.3s,baz=80,slow=37

BDFB Brasilia 84.27 245 P **P** **23 55 49.1 +2.1**
BDFB pmax pmax
comp=Z,18nm,0.9s

BDFB Brasilia 84.27 245 P **P** **23 55 49.1 +2.1**
BDFB IAmb IAmb 23 55 49.8
comp=Z,18nm,0.9s

UALR University of 84.32 311 P **P** **23 55 48.8 +1.8**
UALR IAmb IAmb 23 55 52.0
comp=Z,20nm,1.0s

U38A Gravette 84.34 313 P **P** **23 55 48.6 +1.5**
U38A IAmb IAmb 23 55 52.8
comp=Z,52nm,1.2s

JWT Wachi 84.41 49 P **P** **23 55 47.6 +0.1**
JWT IAmb IAmb 23 55 48.5
comp=Z,61nm,1.5s

JMN Monobe 84.58 51 P **P** **23 55 49.6 +1.2**
JMN IAmb IAmb 23 55 54.4
comp=Z,33nm,1.0s

X40A Basin Creek Fa 84.81 311 P **P** **23 55 51.7 +2.2**
baz=46,SNR=8.8

X40A Basin Creek Fa 84.81 311 P **P** **23 55 51.2 +1.8**
X40A IAmb IAmb 23 55 55.2
comp=Z,49nm,1.5s

GCMT Greycliff 84.84 328 P **P** **23 55 51.3 +1.7**
W39A Magazine 84.87 312 P **P** **23 55 53.1 +3.3**
baz=45,SNR=9.8

W39A Magazine 84.87 312 P **P** **23 55 53.3 +3.5**
W39A IAmb IAmb 23 55 55.0
comp=Z,32nm,1.3s

346A Big Creek Wild 84.89 307 P **P** **23 55 53.0 +3.0**
HRY Holter Researc 84.97 330 P **P** **23 55 51.5 +1.3**
MASI Maura Aman, Be 85.03 98 P **P** **23 55 49.8 -1.1**
comp=Z,314nm,1.2s

JTMT Jette 85.05 332 P **P** **23 55 51.7 +1.1**
JTMT IAmb IAmb 23 55 56.4
comp=Z,39nm,1.2s

MAJO Matsushiro 85.13 46 P **P** **23 55 50.7 -0.4**
MAJO pmax pmax
comp=Z,28nm,1.0s

MAJO Matsushiro 85.13 46 P **P** **23 55 50.7 -0.4**
MAJO IAmb IAmb 23 55 51.9
comp=Z,28nm,1.0s

MAT Matsushiro 85.13 46 P **P** **23 55 50.4 -0.7**
MAT *e*S **S** **00 06 17.8 -2.8**

MJAR Matsushiro Arr 85.13 46 P **P** **23 55 50.9 -0.2**
comp=Z,25nm,0.9s,baz=313,slow=5.1,SNR=50

MJAR LR LR 00 37 26.4
comp=Z,350nm,18.2s,baz=345,slow=38

MJAR Matsushiro Arr 85.13 46 P **P** **23 55 50.2 -0.9**
DSRI Dabo 85.17 94 P **P** **23 55 51.2 -0.4**
comp=Z,1µmcomp=Z,14nm,0.7s

143A Socs Landing, 85.19 309 P **P** **23 55 54.0 +2.6**
T35A Sooner Cattle 85.20 315 P **P** **23 55 52.9 +1.4**
MIAR Mount Ida 85.21 311 P **P** **23 55 52.5 +1.0**
baz=45,SNR=16

MIAR Mount Ida 85.21 311 P **P** **23 55 53.1 +1.6**
MIAR pmax pmax
comp=Z,60nm,1.3s

MIAR Mount Ida 85.21 311 P **P** **23 55 53.1 +1.6**
RLMT Red Lodge 85.21 327 P **P** **23 55 52.6 +1.0**
baz=36

RLMT Red Lodge 85.21 327 P **P** **23 55 53.0 +1.4**
RLMT IAmb IAmb 23 55 57.8
comp=Z,42nm,1.4s

INU Inuyama 85.30 48 P **P** **23 55 52.2 +0.3**
R32A Long Quarter, 85.31 317 P **P** **23 55 53.0 +1.0**
JGF Kuroka 85.32 47 P **P** **23 55 51.8 -0.3**
JGF IAmb IAmb 23 55 57.8
comp=Z,25nm,1.0s

BBB Bella Bella 85.42 342 LR LR 00 36 04.7
comp=Z,316nm,18.5s,baz=44,slow=37

TUL1 Leonard 85.52 313 P **P** **23 55 54.0 +1.0**
baz=44,SNR=11

TUL1 Leonard 85.52 313 P **P** **23 55 55.5 +2.5**
WLAR White Oak Lake 85.53 310 P **P** **23 55 57.2 +4.1**
CBKS Cedar Bluff 85.56 318 P **P** **23 55 53.6 +0.3**
baz=42

CBKS Cedar Bluff 85.56 318 P **P** **23 55 55.0 +1.7**
CBKS pmax pmax
comp=Z,130nm,1.5s

CBKS Cedar Bluff 85.56 318 P **P** **23 55 55.0 +1.7**
YNE Yellowstone No 85.62 328 P **P** **23 55 55.5 +1.9**
KSI Kapahiang 85.62 98 P **P** **23 55 53.6 -0.3**
comp=Z,7µmcomp=Z,270nm,0.7s

MACA Manacapuru-AM 85.62 262 *e*P **P** **23 55 55.5 +1.7**
344A Westbrook Farm 85.63 307 P **P** **23 55 55.8 +2.1**
344A IAmb IAmb 23 55 60.0
comp=Z,44nm,1.1s

NEW Newport 85.63 334 P **P** **23 55 53.9 +0.5**
baz=31

NEW Newport 85.63 334 P **P** **23 55 54.4 +1.0**
NEW pmax pmax
comp=Z,14nm,1.0s

NEW Newport 85.63 334 P **P** **23 55 54.4 +1.0**
MSO Missoula 85.69 331 P **P** **23 55 54.0 +0.1**
baz=33

MSO Missoula 85.69 331 P **P** **23 55 54.6 +0.8**
BSCB Bom Sucesso 85.72 239 *e*P **P** **23 55 55.3 +1.1**
VAS01 Vassouras-RJ 85.74 237 *e*P **P** **23 55 55.1 +0.9**
VAS01 *e*pP **sP** **23 55 59.1 -0.9**

KAN08 Anthony NE Sta 85.78 316 P **P** **23 55 56.7 +2.4**
BOZ Bozeman (W) 85.80 329 P **P** **23 55 55.2 +0.7**
baz=35

BOZ Bozeman (W) 85.80 329 P **P** **23 55 56.2 +1.7**
BOZ pmax pmax
comp=Z,16nm,1.1s

BOZ Bozeman (W) 85.80 329 P **P** **23 55 56.2 +1.7**
KAN05 Bluff City Nor 85.81 316 P **P** **23 55 57.4 +2.9**
QUOK Quay 85.85 314 P **P** **23 55 56.4 +1.7**
SDV Santo Domingo 85.88 278 *e*P **P** **23 55 56.1 +0.8**
SDV Santo Domingo 85.88 278 P **P** **23 55 56.6 +1.2**
SDV IAmb IAmb 23 56 00.5
comp=Z,32nm,0.8s

SDV Santo Domingo 85.88 278 *e*P **P** **23 55 57.2 +1.8**
SDV *e*pP **sP** **23 56 00.4 -0.8**

KAN10 Anthony SW Sta 85.92 316 P **P** **23 55 57.1 +2.0**
LRM Limekiln Ridge 85.95 329 P **P** **23 55 56.6 +1.3**
KAN14 Manchester OK 85.97 315 P **P** **23 55 57.2 +1.9**
IPMB Ipameri, GO 86.00 243 *e*P **P** **23 55 56.1 +0.6**
OK030 Cody Creek RV 86.07 314 P **P** **23 55 57.5 +1.8**
OK031 S. Brethren Rd 86.08 314 P **P** **23 55 58.0 +2.2**
SDPT Sand Point 86.11 1 P **P** **23 55 55.8 +0.3**
YHH Holmes Hill 86.14 328 P **P** **23 55 58.4 +2.0**
X37A Clayton 86.22 312 P **P** **23 55 58.3 +1.7**
YHL Hebgen Lake 86.23 328 P **P** **23 55 58.2 +1.4**
B08A Colville Reser 86.30 335 P **P** **23 55 58.7 +1.9**
YHB Horse Butte 86.32 328 P **P** **23 55 59.6 +2.5**
QLMT Earthquake Lak 86.35 328 P **P** **23 55 59.5 +2.3**
H17A Grant Village 86.35 328 P **P** **23 56 00.3 +3.0**
H17A IAmb IAmb 23 56 06.7
comp=Z,39nm,1.4s

DLMT Dillon 86.38 329 P **P** **23 55 59.0 +1.7**
DLMT IAmb IAmb 23 56 03.1
comp=Z,26nm,1.3s

C09A Chrisman Ranch 86.43 334 P **P** **23 55 58.2 +0.9**
C09A IAmb IAmb 23 56 03.5
comp=Z,32nm,0.9s

LHSI Lahat 86.45 98 P **P** **23 55 57.0 -0.9**
comp=Z,201nm,0.8s

MAN01 Angra dos Reis 86.49 237 *e*P **P** **23 55 58.9 +1.0**
PHWY Pilot Hill 86.53 323 P **P** **23 55 59.8 +1.5**
PHWY IAmb IAmb 23 56 04.0
comp=Z,34nm,1.4s

OK029 Liberty Lake 86.54 314 P **P** **23 56 00.5 +2.5**
OK025 Westminster Rd 86.63 314 P **P** **23 56 01.5 +2.9**
CNBA Chernabura Isl 86.65 0 P **P** **23 55 58.1 -0.1**
CNBA IAmb IAmb 23 56 00.5
comp=Z,58nm,1.3s

342A Flagon Creek P 86.67 308 P **P** **23 56 01.4 +2.6**
W35A Tecumseh 86.68 314 P **P** **23 56 01.0 +2.2**
COCO West Island 86.70 108 P **P** **23 55 59.4 +0.4**
COCO pmax pmax
comp=Z,112nm,1.0s

COCO West Island 86.70 108 P **P** **23 55 59.4 +0.4**
BCOK Bluff Creek, N 86.72 314 P **P** **23 56 00.6 +1.6**
CLDB Colider 86.80 253 *e*P **P** **23 55 59.8 +0.2**
OKCFA Oklahoma City 86.81 314 P **P** **23 56 01.4 +1.9**
FNO Franklin 86.90 314 P **P** **23 56 02.3 +2.5**
KSCO Kaye Shedlock' 86.90 320 P **P** **23 56 00.9 +1.0**
KSCO IAmb IAmb 23 56 04.1
comp=Z,18nm,0.8s

IMW Indian Meadow 86.91 328 P **P** **23 56 01.7 +1.6**
ESAR Angra dos Reis 86.91 237 *e*P **P** **23 56 01.2 +1.4**
ESAR *e*pP **pP** **23 56 04.2 +0.1**

Z38A Mt. Pleasant 86.94 311 P **P** **23 56 02.4 +2.3**
MOOW Moose Ponds 86.95 327 P **P** **23 56 01.0 +0.8**
U32A Winter Ranch, 86.96 316 P **P** **23 56 01.7 +1.5**
LOHW Long Hollow 87.00 327 P **P** **23 56 01.5 +1.1**
ARAG Araguaiana, MT 87.02 247 *e*P **P** **23 56 01.9 +1.3**
ARAG *e*pP **pP** **23 56 05.2 +0.3**

N23A Red Feather La 87.08 323 P P **23 55 54.9 -6.1**
N23A IAmb IAmb 23 56 05.9
comp=Z,17nm,0.8s

PD31 Pinedale Array 87.23 326 P **P** **23 56 02.6 +0.9**
PDAR Pinedale Array 87.23 326 P **P** **23 56 01.6 -0.1**
comp=Z,5.3nm,0.9s,baz=73,slow=5.1,SNR=13

PDAR PKKPbc **PKKPbc** **00 13 51.4 -0.2**
comp=Z,0.3nm,0.5s,baz=222,slow=1.2,SNR=2.4

PDAR LR LR 00 35 34.5
comp=Z,770nm,20.0s,baz=34,slow=36

PDAR Pinedale Array 87.23 326 P **P** **23 56 01.0 -0.7**
BW06 Boulder Array 87.23 326 P **P** **23 56 02.6 +1.0**
TPAW Teton Pass 87.24 327 P **P** **23 56 03.0 +1.2**
D08A Wollman Farm, 87.29 334 P **P** **23 56 02.9 +1.4**
REDW Red Top Meadow 87.31 327 P **P** **23 56 03.4 +1.4**
MDSI Maura Dua 87.37 98 P **P** **23 56 00.6 -1.8**
comp=Z,1µmcomp=Z,93nm,0.8s

PPBI Pangkal Pinang 87.43 95 P **P** **23 56 02.7 0.0**
E09A Wood Farm, Sta 87.49 333 P **P** **23 56 04.2 +1.7**
E09A IAmb IAmb 23 56 07.7
comp=Z,28nm,1.2s

BCYI Bear Canyon 87.58 329 P **P** **23 56 04.8 +1.6**
LWLI Liwa 87.61 98 P **P** **23 56 03.3 -0.4**
comp=Z,5µmcomp=Z,183nm,0.7s

X34A Smith Ranch, M 87.62 314 P **P** **23 56 05.9 +2.6**
F10A Beach Ranch, E 87.63 332 P **P** **23 56 04.2 +0.9**
F10A IAmb IAmb 23 56 09.8
comp=Z,17nm,1.1s

ISCO Idaho Springs 87.77 322 P **P** **23 56 04.8 +0.4**
baz=39

ISCO Idaho Springs 87.77 322 P **P** **23 56 04.9 +0.5**
ISCO pmax pmax
comp=Z,4.0nm,0.8s

ISCO Idaho Springs 87.77 322 P **P** **23 56 04.9 +0.5**
NATX Nacogdoches 87.81 310 P **P** **23 56 06.8 +2.5**
E08A Dider Farm, El 87.83 334 P **P** **23 56 05.9 +1.8**
PARB Paraibuna 87.91 238 *e*P **P** **23 56 06.6 +1.8**
PARB *e*pP **pP** **23 56 09.2 +0.1**

KLSI 87.92 98 P **P** **23 56 03.8 -1.2**
comp=Z,17nm,0.9s

E07A Sunnyside 88.05 334 P **P** **23 56 06.3 +1.1**
WMOK Wichita Mounta 88.05 314 P **P** **23 56 06.7 +1.2**
baz=42,SNR=22

WMOK Wichita Mounta 88.05 314 P **P** **23 56 06.9 +1.5**
WMOK pmax pmax
comp=Z,31nm,1.1s

WMOK Wichita Mounta 88.05 314 P **P** **23 56 06.9 +1.5**
WMOK IAmb IAmb 23 56 11.5
comp=Z,31nm,1.1s

HAWA Hanford 88.08 334 P **P** **23 56 06.0 +0.6**
HAWA IAmb IAmb 23 56 20.2
comp=Z,17nm,0.8s

NIKH Nikolski High 88.09 6 P **P** **23 56 05.3 +0.1**
D05A Enumclaw 88.19 336 P **P** **23 56 08.7 +2.9**
D05A IAmb IAmb 23 56 12.6
comp=Z,28nm,1.2s

Q24A Divide 88.19 321 P **P** **23 56 08.0 +1.6**
Z35A Perchaven, San 88.21 313 P **P** **23 56 08.0 +1.8**
KASI Kata Agung 88.27 98 P **P** **23 56 06.8 +0.2**
comp=Z,1µmcomp=Z,125nm,1.1s

BB19B Bebedouro 88.30 241 *e*P **P** **23 56 07.9 +1.2**
237A Washetta, Mont 88.33 311 P **P** **23 56 09.7 +3.0**
OCAC Ocana 88.35 279 *e*P P **23 55 58.8 -8.5**
KSM Kuching 88.42 89 P **P** **23 56 08.0 +0.6**
KSM Kuching 88.42 89 P **P** **23 56 09.0 +1.6**
VAO Valinhos 88.57 239 *e*P **P** **23 56 09.1 +1.2**
SMLC San Martn de 88.58 280 *e*P **P** **23 56 07.8 -0.4**
HLID Hailey 88.60 329 P **P** **23 56 09.7 +1.6**
BMO Blue Mountains 88.62 332 P **P** **23 56 08.9 +0.9**
BMO pmax pmax
comp=Z,14nm,1.3s

BMO Blue Mountains 88.62 332 P **P** **23 56 08.9 +0.9**
F07A Phinny Hill Vi 88.65 334 P **P** **23 56 09.0 +1.0**
ITRB Iturama 88.65 243 *e*P **P** **23 56 10.0 +1.7**
ITRB *e*pP **pP** **23 56 12.7 0.0**

SJCC San Jacinto, C 88.74 282 *e*P **P** **23 56 11.2 +2.2**
BLSI Bandar Lampung 88.75 98 P **P** **23 56 08.2 -0.7**
comp=Z,5µmcomp=Z,192nm,0.7s

O20A White River Ci 88.75 324 P **P** **23 56 08.6 -0.2**
baz=37

O20A White River Ci 88.75 324 P **P** **23 56 09.2 +0.4**
O20A IAmb IAmb 23 56 13.8
comp=Z,27nm,1.1s

G08A Pilot Rock 88.84 333 P **P** **23 56 10.0 +0.9**
TPI Tanjungpandan 88.98 94 P **P** **23 56 10.3 +0.2**
comp=Z,865nmcomp=Z,113nm,0.8s

RDMU Red Mountain 89.00 325 P **P** **23 56 10.4 +0.3**
HWUT Hardware Ranch 89.04 327 P **P** **23 56 11.1 +0.9**
HWUT IAmb IAmb 23 56 15.2
comp=Z,44nm,1.3s

T25A Trinidad 89.24 319 P **P** **23 56 13.1 +1.8**
MFID Camas Ranch 89.28 330 P **P** **23 56 12.0 +0.8**
SPB Sao Paulo 89.28 239 *e*P **P** **23 56 12.6 +1.4**
SPB *e*pP **pP** **23 56 15.8 +0.3**

CRZF Crozet Islands 89.29 159 P **P** **23 56 11.7 +1.1**
WHTX Lake Whitney, 89.30 312 P **P** **23 56 12.8 +1.4**
baz=43

WHTX Lake Whitney, 89.30 312 P **P** **23 56 13.1 +1.7**
WHTX IAmb IAmb 23 56 17.4
comp=Z,25nm,1.0s

SBUM Sibu 89.31 87 P **P** **23 56 12.4 +0.8**
SBUM IAmb IAmb 23 56 13.5
comp=Z,39nm,1.0s

SBUM Sibu 89.31 87 P **P** **23 56 12.0 +0.4**
SDCO Great Sand Dun 89.32 321 P **P** **23 56 11.8 +0.1**
baz=39,SNR=6.6

SDCO Great Sand Dun 89.32 321 P **P** **23 56 12.0 +0.3**
TCUT Toone Canyon 89.38 326 P **P** **23 56 13.6 +1.7**
HVU Hansel Valley 89.42 327 P **P** **23 56 12.9 +1.0**
HVU pmax pmax
comp=Z,15nm,1.2s

HVU Hansel Valley 89.42 327 P **P** **23 56 12.9 +1.0**
RUSC La Rusia 89.63 277 *e*P **P** **23 56 13.7 0.0**
PET01 Itanhaem-SP 89.66 238 *e*P **P** **23 56 14.3 +1.4**
SPUT South Promonto 89.67 327 P **P** **23 56 15.0 +1.9**
HKT Hockley 89.81 309 P **P** **23 56 16.3 +2.7**
HKT pmax pmax
comp=Z,24nm,1.2s

HKT Hockley 89.81 309 P **P** **23 56 16.3 +2.7**
HKT IAmb IAmb 23 56 20.4
comp=Z,24nm,1.1s

MOTC Monteria, Cord 89.81 281 *e*P **P** **23 56 13.3 -0.7**
JLU Jordanelle 89.81 326 P **P** **23 56 14.6 +0.7**
CGJI Cibinong 89.87 99 P **P** **23 56 13.4 -0.8**
comp=Z,4µmcomp=Z,407nm,0.8s

CTU Camp Tracy 89.87 326 P **P** **23 56 14.7 +0.6**
S22A 4UR Ranch, Cre 89.97 321 P **P** **23 56 15.2 +0.4**
baz=38,SNR=13

S22A 4UR Ranch, Cre 89.97 321 P **P** **23 56 15.5 +0.8**
I07A Izee 90.08 333 P **P** **23 56 16.6 +1.7**
ABTX Abilene, Hawle 90.09 314 P **P** **23 56 16.5 +1.4**
baz=42

ABTX Abilene, Hawle 90.09 314 P **P** **23 56 16.8 +1.7**
KKM Kota Kinabalu 90.17 82 P **P** **23 56 14.3 -1.5**
KKM IAmb IAmb 23 56 15.9
comp=Z,16nm,0.9s

BGU Big Grassy Mou 90.23 327 P **P** **23 56 16.2 +0.4**
435B Jarrell 90.25 311 P **P** **23 56 17.6 +1.7**
435B IAmb IAmb 23 56 20.5
comp=Z,22nm,0.9s

PV22 Blue Mesa, Par 90.28 323 P **P** **23 56 17.0 +0.9**
PV22 IAmb IAmb 23 56 21.2
comp=Z,26nm,1.0s

PV15 Paradox Valley 90.29 323 P **P** **23 56 17.3 +1.1**
PV15 IAmb IAmb 23 56 21.2
comp=Z,25nm,1.1s

PV07 Paradox Valley 90.29 323 P **P** **23 56 16.6 +0.4**
PV07 IAmb IAmb 23 56 19.6
comp=Z,17nm,0.8s

J08A Circle Bar Ran 90.33 332 P **P** **23 56 18.1 +2.0**
PV21 Cone Mtn., Par 90.35 323 P **P** **23 56 17.0 +0.6**
PV21 IAmb IAmb 23 56 21.6
comp=Z,38nm,1.1s

PV04 Paradox Valley 90.45 323 P **P** **23 56 17.9 +1.1**
PV23 Carpenter Ridg 90.45 323 P **P** **23 56 17.5 +0.5**
PV23 IAmb IAmb 23 56 20.5
comp=Z,26nm,0.8s

PV12 Saucer Basin, 90.46 323 P **P** **23 56 17.7 +0.7**
H04A Detroit Lake 90.47 335 P **P** **23 56 18.8 +2.1**
PV01 Paradox Valley 90.50 323 P **P** **23 56 17.6 +0.4**
PV01 IAmb IAmb 23 56 22.9
comp=Z,20nm,1.1s

PV11 David Mesa, Pa 90.51 323 P **P** **23 56 17.9 +0.8**
PV02 Paradox Valley 90.52 323 P **P** **23 56 18.3 +1.0**
PV02 IAmb IAmb 23 56 22.4
comp=Z,20nm,1.2s

PV16 Nyswonger Mesa 90.52 323 P **P** **23 56 18.1 +0.9**
PV20 West Nyswonger 90.52 323 P **P** **23 56 17.9 +0.8**
PV20 IAmb IAmb 23 56 22.3
comp=Z,42nm,1.3s

PV14 Lion Creek, Pa 90.52 323 P **P** **23 56 17.7 +0.4**
PV14 IAmb IAmb 23 56 23.1
comp=Z,30nm,1.0s

PV10 Paradox Valley 90.53 323 P **P** **23 56 18.4 +1.2**
PV10 IAmb IAmb 23 56 23.5
comp=Z,30nm,0.9s

PV03 Paradox Valley 90.53 323 P **P** **23 56 17.9 +0.6**
PV03 IAmb IAmb 23 56 24.3
comp=Z,37nm,1.3s

FRTB Fartura 90.55 240 *e*P **P** **23 56 17.9 +0.7**
PCMB Pacaembu 90.55 243 *e*P **P** **23 56 19.4 +2.2**
PV19 Morning Glory 90.55 323 P **P** **23 56 18.0 +0.6**
PV19 IAmb IAmb 23 56 22.6
comp=Z,40nm,1.3s

PV17 East Wray Mesa 90.56 323 P **P** **23 56 17.9 +0.5**
PV17 IAmb IAmb 23 56 22.6
comp=Z,41nm,1.1s

PV18 Skein Mesa, Pa 90.57 323 P **P** **23 56 18.2 +0.7**
PV18 IAmb IAmb 23 56 22.6
comp=Z,37nm,1.3s

PV13 Radium Mtn., P 90.60 323 P **P** **23 56 17.7 +0.1**
PV13 IAmb IAmb 23 56 22.8
comp=Z,27nm,1.3s

SRU San Rafael Swe 90.62 324 P **P** **23 56 17.6 0.0**

SRU pmax pmax
comp=Z,25nm,1.1s
SRU San Rafael Swe 90.62 324 P **P** **23 56 17.6 0.0**
DBJI Dramaga 90.65 98 P **P** **23 56 17.4 -0.5**
DUG Dugway, Tooele 90.74 327 P **P** **23 56 18.3 +0.2**
baz=34,SNR=18
DUG Dugway, Tooele 90.74 327 P **P** **23 56 18.8 +0.7**
DUG pmax pmax
comp=Z,14nm,1.0s
DUG Dugway, Tooele 90.74 327 P **P** **23 56 18.8 +0.7**
DUG IAmb IAmb 23 56 23.9
comp=Z,14nm,1.0s
TMUT Trail Mountain 90.77 325 P **P** **23 56 19.1 +0.6**
SKJI Sukabumi 90.78 98 P **P** **23 56 18.3 -0.1**
comp=Z,318nm,0.8s
MSTX Muleshoe 90.81 316 P **P** **23 56 19.0 +0.5**
MSTX IAmb IAmb 23 56 25.4
comp=Z,20nm,1.2s
PINE Pine Mountain 90.84 334 P **P** **23 56 19.4 +0.9**
PINE IAmb IAmb 23 56 24.3
comp=Z,28nm,1.4s
Q16A Castle Valley 91.07 325 P **P** **23 56 20.8 +1.0**
SAML Samuel 91.18 260 P **P** **23 56 20.6 +0.3**
SAML pmax pmax
comp=Z,9.0nm,1.2s
SAML Samuel 91.18 260 P **P** **23 56 20.6 +0.3**
SAML Samuel 91.18 260 *eP* **P** **23 56 21.3 +1.0**
MVCO Mesa Verde 91.20 322 P **P** **23 56 21.2 +0.8**
baz=37
MVCO Mesa Verde 91.20 322 P **P** **23 56 21.6 +1.2**
MVCO IAmb IAmb 23 56 27.5
comp=Z,19nm,1.2s
ROSC El Rosal 91.25 277 P **P** **23 56 21.8 +0.7**
comp=Z,5.2nm,0.4s,baz=130,slow=10,SNR=6.1
ROSC LR LR 00 33 39.6
comp=Z,308nm,19.4s,baz=32,slow=33
ROSC El Rosal 91.25 277 IAmb IAmb 23 56 26.2
comp=Z,25nm,1.2s
ELK Elko 91.30 328 LR LR 00 38 15.4
comp=Z,974nm,19.6s,baz=42,slow=36
ELK Elko 91.30 328 P **P** **23 56 22.0 +1.2**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 91.30 328 P **P** **23 56 22.0 +1.2**
I04A Tendick Farm, 91.34 335 P **P** **23 56 21.0 +0.3**
baz=28
DBBC Dabeiba 91.34 280 *eP* **P** **23 56 21.5 +0.3**
GUVC San Jose del G 91.36 274 *eP* **P** **23 56 22.5 +1.3**
J05D Fort Rock, OR 91.38 334 P **P** **23 56 21.4 +0.4**
baz=28
VILB Vilhena 91.43 255 *eP* **P** **23 56 23.0 +1.6**
LEM Lembang 91.49 97 P P 23 56 29.7 +7.8
K05A Summer Lake 91.75 333 P **P** **23 56 23.7 +0.9**
K05A IAmb IAmb 23 56 37.6
comp=Z,21nm,1.2s
JCT Junction City 91.77 312 P **P** **23 56 23.9 +1.0**
baz=42
JCT Junction City 91.77 312 P **P** **23 56 24.8 +1.9**
JCT pmax pmax
comp=Z,17nm,0.9s
JCT Junction City 91.77 312 P **P** **23 56 24.8 +1.9**
JCT IAmb IAmb 23 56 28.3
comp=Z,17nm,0.8s
GUY2C Guyana, Caldas 91.81 278 *eP* **P** **23 56 28.4 +4.5**
MSU Marysvale 91.85 325 P **P** **23 56 24.5 +1.1**
MSU Marysvale 91.85 325 P **P** **23 56 24.5 +1.1**
MVU Marysvale 91.87 325 P **P** **23 56 24.7 +1.2**
TCRU Three Creeks R 91.89 325 P **P** **23 56 25.7 +2.1**
CBOC Ciudad Bolivar 91.91 279 *eP* **P** **23 56 25.6 +1.6**
ANMO Albuquerque 91.98 319 P **P** **23 56 24.8 +0.8**
baz=38
ANMO Albuquerque 91.98 319 *ceP* **P** **23 56 22.7 -1.3**
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO Albuquerque 91.98 319 P **P** **23 56 25.4 +1.4**
RREF El Recreo 92.00 278 *eP* **P** **23 56 23.4 -1.6**
CISI Cisompet, Garu 92.10 98 P **P** **23 56 24.3 -0.3**
comp=Z,2µmcomp=Z,174nm,0.9s
CISI Cisompet, Garu 92.10 98 P **P** **23 56 23.8 -0.9**
TOLC Tolima 92.18 278 *eP* **P** **23 56 25.9 +0.5**
PTLB Pontes e Lacer 92.22 252 *eP* **P** **23 56 26.4 +1.4**
MTPU Mount Pierson 92.24 325 P **P** **23 56 26.7 +1.4**
XMIS Christmas Isla 92.26 102 P **P** **23 56 25.0 -0.2**
MOD Modoc Plateau 92.26 332 P **P** **23 56 26.9 +1.7**
TRCB Terra Rica 92.28 242 *eP* **P** **23 56 25.9 +0.7**
ANIL Santa Ana 92.30 278 *eP* **P** **23 56 29.3 +3.4**
SPR3 Spring Creek 3 92.39 327 P **P** **23 56 27.8 +1.8**
SPR3 IAmb IAmb 23 56 32.4
comp=Z,16nm,1.2s
MYLDM Lahad Datu 92.48 81 P **P** **23 56 26.9 +0.5**
MYLDM IAmb IAmb 23 56 40.3
comp=Z,26nm,1.0s
PSUT Pine Spring 92.57 326 P **P** **23 56 28.3 +1.6**
BNM Barren Site 92.69 319 P **P** **23 56 28.5 +1.1**
CLNB Carlsbad 92.71 316 P **P** **23 56 28.9 +1.6**
PKCU Pink Cliffs 92.79 325 P **P** **23 56 28.1 +0.3**
KPJI Karang Pucung 92.82 97 P **P** **23 56 27.6 -0.3**
comp=Z,44nm,1.0s
LENM Lemitar 92.86 319 P **P** **23 56 29.6 +1.6**
SZCU Shurtz Canyon 93.01 325 P **P** **23 56 30.2 +1.4**
GDL2 Guadalupe Moun 93.02 316 P **P** **23 56 29.5 +0.8**
PTGB Pitanga 93.16 241 *eP* **P** **23 56 30.4 +1.1**
CCUT Cedar City 93.17 325 P **P** **23 56 31.1 +1.6**
YOTC Yotoco, Valle 93.35 278 *eP* **P** **23 56 29.6 -0.9**
KNB Kanab 93.37 325 P **P** **23 56 31.8 +1.4**
KNB pmax pmax
comp=Z,9.0nm,1.4s
KNB Kanab 93.37 325 P **P** **23 56 31.8 +1.4**
R11A Troy Canyon, C 93.46 327 P **P** **23 56 31.5 +0.7**
baz=32,SNR=7.6
R11A Troy Canyon, C 93.46 327 P **P** **23 56 32.9 +2.2**
MTKI Muara Teweh, K 93.50 88 P **P** **23 56 32.3 +1.2**
LCMT Little Creek M 93.56 325 P **P** **23 56 32.8 +1.5**
PAHR Pah Rah Range 93.83 331 P **P** **23 56 33.6 +1.2**
KVN Kaiserville 93.89 329 P **P** **23 56 33.2 +0.4**
KVN pmax pmax
comp=Z,6.0nm,1.2s
KVN Kaiserville 93.89 329 P **P** **23 56 33.2 +0.4**
WUAZ Wupatki 93.93 323 P **P** **23 56 34.3 +1.3**
baz=35
WUAZ Wupatki 93.93 323 P **P** **23 56 34.7 +1.8**
WUAZ IAmb IAmb 23 56 38.7
comp=Z,23nm,1.3s
MNTX Cornudas Mount 93.95 317 P **P** **23 56 33.2 +0.3**
baz=39
MNTX Cornudas Mount 93.95 317 P **P** **23 56 33.8 +0.9**
MNTX IAmb IAmb 23 56 38.1
comp=Z,29nm,1.4s
SIV San Ignacio 94.00 253 PKKPbc PKKPbc 00 13 34.3 -0.3
comp=Z,0.6nm,0.6s,baz=246,slow=7.5,SNR=2.1
PRN Pahroc Range 94.03 326 P **P** **23 56 34.7 +1.3**
ETMB Extrema 94.05 261 *eP* **P** **23 56 34.7 +1.2**
TPH Tonopah 94.38 328 P **P** **23 56 36.6 +1.6**
TPH pmax pmax
comp=Z,8.0nm,0.9s
TPH Tonopah 94.38 328 P **P** **23 56 36.6 +1.6**
NV11 Mina Array Sit 94.45 329 P **P** **23 56 35.8 +0.5**
NVAR Mina Array Bea 94.51 329 P **P** **23 56 36.3 +0.6**
comp=Z,1.6nm,0.8s,baz=39,slow=4.3,SNR=6.7
NVAR PKKPbc **PKKPbc** **00 13 32.8 -0.6**
comp=Z,2.5nm,0.6s,baz=201,slow=4.5,SNR=16
NVAR LR LR 00 40 27.7
comp=Z,1µm,19.2s,baz=32,slow=36
NVAR Mina Array Bea 94.51 329 P **P** **23 56 36.2 +0.5**
NVAR **PKKPbc** **00 13 34.2 +0.8**
121A Cookes Peak, D 94.56 319 P **P** **23 56 36.9 +1.0**
LHV Little Huntoon 94.74 329 P **P** **23 56 38.7 +2.3**
LHV IAmb IAmb 23 56 44.5
comp=Z,18nm,1.2s
ORV Oroville 94.76 332 P **P** **23 56 36.5 +0.1**
ORV pmax pmax
comp=Z,6.0nm,1.3s
ORV Oroville 94.76 332 P **P** **23 56 36.5 +0.1**
SHPR Sheep Range 94.83 326 P **P** **23 56 39.4 +2.3**
TX31 Lajitas Ar. Si 94.83 314 P **P** **23 56 37.7 +0.5**
TXAR Lajitas Array 94.83 314 P **P** **23 56 37.8 +0.7**
comp=Z,6.4nm,0.8s,baz=70,slow=4.1,SNR=38
TXAR PP **PP** **00 00 20.1 -5.0**
comp=Z,0.7nm,1.0s,baz=52,slow=5.8,SNR=2.3
TXAR PKKPbc **PKKPdf** **00 13 30.0 -0.7**
comp=Z,0.7nm,0.7s,baz=193,slow=5.7,SNR=6.8
TXAR LR LR 00 40 37.5
comp=Z,345nm,19.7s,baz=0.0,slow=36
TX32 Lajitas Array 94.83 314 P **P** **23 56 37.5 +0.4**
TX32 IAmb IAmb 23 56 43.1
comp=Z,23nm,1.3s
WAKR Walker 94.89 330 P **P** **23 56 38.8 +1.4**
ACON Acoyapa 94.92 290 P **P** **23 56 38.1 +0.5**
ACON IAmb IAmb 23 56 50.9
comp=Z,21nm,1.5s
PWJI Pagerwojo 95.48 96 P **P** **23 56 38.4 -1.7**
MPMC Manual Prospec 96.21 327 P **P** **23 56 43.5 +0.1**
baz=31
TUC Tucson 96.25 321 P **P** **23 56 44.3 +0.7**
baz=36
GMRC Granite Mounta 96.50 325 P **P** **23 56 45.5 +0.9**
baz=32
GSC Goldstone, Bar 96.56 327 P **P** **23 56 45.9 +1.0**
baz=32
IRM Iron Mountain 96.79 325 P **P** **23 56 47.3 +1.4**
baz=33
ISA Isabella, Lake 96.96 328 P **P** **23 56 47.7 +1.1**
baz=30
ISA Isabella, Lake 96.96 328 P **P** **23 56 48.1 +1.4**
ISA pmax pmax
comp=Z,7.0nm,1.0s
ISA Isabella, Lake 96.96 328 P **P** **23 56 48.1 +1.4**
ISA IAmb IAmb 23 56 53.3
comp=Z,7.3nm,1.0s
BELC Belle Mtn. Jos 97.31 325 P Pdif 23 56 49.1 +0.7
baz=32
OTAV Otavalo 97.33 276 *eP* Pdif 23 56 51.4 +2.2
EDW2 Edwards Air Fo 97.42 327 P Pdif 23 56 49.6 +0.7
baz=31
CZSB Cruzeiro do Su 97.79 266 *eP* **P** **23 56 50.3 -0.3**
CPUP Villa Florida 97.82 243 P Pdif 23 56 51.5 +1.0
comp=Z,0.7nm,0.5s,baz=46,slow=5.1,SNR=2.3
CPUP LR LR 00 41 48.1
comp=Z,378nm,20.1s,baz=54,slow=36
CPUP Villa Florida 97.82 243 IAmb IAmb 23 57 00.8
comp=Z,4.1nm,1.1s
CPUP Villa Florida 97.82 243 *eP* Pdif 23 56 51.7 +1.3
PFO Pinyon Flats O 97.84 325 P Pdif 23 56 51.4 +0.6
comp=Z,3.6nm,0.8s,baz=344,slow=5.5,SNR=5.0
PFO Pinyon Flats O 97.84 325 P **P** **23 56 50.5 -0.3**
baz=32
PFO Pinyon Flats O 97.84 325 P Pdif 23 56 51.9 +1.1
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 97.84 325 P Pdif 23 56 51.9 +1.2
PFO IAmb IAmb 23 56 57.1
comp=Z,7.1nm,1.1s
TPFO Pinon Flats 97.84 325 P Pdif 23 56 51.5 +0.7
baz=32
MONP2 Monument Peak 98.43 325 P Pdif 23 56 54.3 +0.8
baz=32
PLTB Pedras Altas 98.79 236 *eP* Pdif 23 56 55.5 +0.9
LPAZ La Paz 99.50 257 LR LR 00 43 52.3
comp=Z,195nm,19.9s,baz=50,slow=36
LPAZ La Paz 99.50 257 *eP* **Pdif** **23 56 59.8 +0.9**
LVC Limon Verde 103.88 252 *eP* **Pdif** **23 57 18.9 +0.9**
MAW Mawson 110.76 164 PKiKP **PKiKP** **00 01 47.3 +0.7**
comp=Z,1.0nm,0.5s,baz=153,slow=2.3,SNR=2.2
SNAA Sanae 111.57 188 PKiKP **PKiKP** **00 01 48.4 +0.2**
comp=Z,1.1nm,1.1s,baz=170,slow=2.3,SNR=5.2
SNAA PP **PP** **00 02 28.7 -1.8**
comp=Z,2.5nm,1.0s,baz=150,slow=2.7,SNR=4.5
PLCA Paso Flores 115.10 237 PKP **PKiKP** **00 01 56.8 +0.9**
comp=Z,1.0nm,0.7s,baz=130,slow=2.4,SNR=2.8
WB0 Warramunga Arr 120.01 92 PKPdf **PKPdf** **00 02 05.3 -0.6**
WRA Warramunga Arr 120.07 92 PKP **PKPdf** **00 02 05.2 -0.8**
comp=Z,6.5nm,0.8s,baz=321,slow=2.0,SNR=43
WRA PP **PP** **00 03 28.7 -2.4**
comp=Z,2.9nm,1.0s,baz=314,slow=7.1,SNR=3.7
WRA PKKPbc **PKKPab** **00 12 14.2 -1.1**
comp=Z,0.8nm,0.7s,baz=131,slow=4.6,SNR=7.0
WB2 Warramunga Arr 120.08 92 PKPdf **PKPdf** **00 02 05.2 -0.9**
WR0 Warramunga Arr 120.24 92 PKPdf **PKPdf** **00 02 05.8 -0.5**
ASAR Alice Springs 121.76 96 PKP **PKPdf** **00 02 08.8 -0.3**
comp=Z,12nm,0.8s,baz=323,slow=1.7,SNR=73
ASAR PP **PP** **00 03 42.9 +0.3**
comp=Z,5.5nm,1.2s,baz=308,slow=4.6,SNR=2.1
ASAR PKKPab **PKKPbc** **00 12 07.0 +0.3**
comp=Z,0.5nm,0.6s,baz=121,slow=4.1,SNR=6.5
ASAR Alice Springs 121.76 96 PKIKP **PKPdf** **00 02 08.7 -0.5**
ASAR Alice Springs 121.76 96 PKPdf **PKPdf** **00 02 08.7 -0.5**
QSPA South Pole Qui 128.75 180 PKP **PKPdf** **00 02 21.0 -0.2**
comp=Z,10nm,0.7s,baz=267,slow=1.4,SNR=56
QSPA South Pole Qui 128.75 180 **PKPdf** **00 02 20.7 -0.5**
STKA Stephens Creek 131.68 101 PKhKP PKPpre 00 02 12.1
comp=Z,1.7nm,0.4s,baz=326,slow=4.2,SNR=6.1
STKA PKP **PKPdf** **00 02 27.9 0.0**
comp=Z,6.1nm,0.8s,baz=349,slow=2.1,SNR=6.4
STKA PP **PP** **00 04 47.8 -0.5**
comp=Z,7.2nm,1.1s,baz=335,slow=6.6,SNR=4.8
STKA SKPbc **SKPbc** **00 05 51.8 -1.3**
comp=Z,9.1nm,0.8s,baz=264,slow=2.5,SNR=11
VNDA Vanda 137.88 168 PKP **PKPdf** **00 02 36.8 -1.3**
comp=Z,1.8nm,0.7s,baz=279,slow=3.5,SNR=5.2
LHI Lord Howe Isla 145.07 91 **PKPdf** **00 02 52.8 +0.5**
TAOE Nuku Hiva Isla 145.70 326 *e*LR LR 00 50 50.2
comp=Z,222nm,32.0s
DZM Mont Dzumac 145.96 71 *e*LR LR 00 50 54.4
comp=Z,1µm,29.4s
DZM Mont Dzumac 145.96 71 PKPdf **PKPab** **00 02 55.6 +0.2**
MSVF Nonsavu 150.85 50 PKiKP **PKiKP** **00 03 09.1 +0.5**
MSVF Nonsavu 150.85 50 **PKiKP** **00 03 09.1 +0.5**
RPZ Rata Peaks 156.95 112 PKPab **PKPab** **00 03 41.1 +0.8**
PPT2 Papeete2 157.28 337 *e*LR LR 00 56 10.8
comp=Z,502nm,25.2s
LTZ Lake Taylor 157.86 109 PKPab **PKPab** **00 03 44.7 +0.4**
THZ Tophouse 158.31 107 PKPab **PKPab** **00 03 46.0 -0.3**
BKZ Black Stump Fm 160.85 99 PKPab **PKPab** **00 03 57.0 -0.4**
URZ Urewera 161.20 96 PKPab **PKPab** **00 03 57.9 -1.0**
TBI Tubuai 162.56 330 *e*LR LR 00 58 37.0
comp=Z,311nm,22.0s

*SOME **24** 23:50:46.4,41˚.38N×72˚.28E,h5km*
*KRNET **24** 23:50:46.5±0.1,41˚.37N×72˚.24E,h15km,mb3.7*
*NNC **24** 23:50:49.5±1.7,41˚.50N×72˚.24E,h0km,mb4.1,mpv3.9,*
Error ellipse: s-maj=18.4km s-min=4.9km az=178.0
ISC 24 23:50:46.0±1.1,41˚.33N±0˚.03×72˚.26E±0˚.02,h15km±11km,
n31,σ1°41/58,27C-15D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.90**	**154**	⇑*i*P	**Pb**	**23 51 04.5**	**+1.2**
OHH	baz=54			⇑*i*S	**Sg**	**23 51 17.6**	**+2.3**
MNAS	**Manas**	**1.17**	**9**	⇑*i*P	**Pn**	**23 51 08.1**	**+0.2**
MNAS	baz=10.0			⇑*i*S	**Sn**	**23 51 23.8**	**+0.2**
AML	**Almayashu**	**1.34**	**53**	⇓*i*P	**Pg**	**23 51 11.8**	**0.0**
AML	baz=55			⇓*i*S	**Sg**	**23 51 30.2**	**+0.9**
ARLS	**Aral**	**1.64**	**70**	⇑*i*P	**Pg**	**23 51 17.4**	**0.0**
ARLS	baz=72			⇑*i*S	**Sg**	**23 51 39.4**	**+0.7**
BTK	**Batken**	**1.68**	**221**	⇓*i*P	**Pb**	**23 51 18.2**	**+1.6**
BTK	baz=20			⇓*i*S	**Sg**	**23 51 41.2**	**+1.1**
DZA	**Taraz**	**1.70**	**336**	*eP*	**Pg**	**23 51 18.2**	**-0.6**
DZA	128nm,0.2s			*e*S	**Sg**	**23 51 41.0**	**+0.1**
DZA	**Taraz**	**1.70**	**336**	P	**Pg**	**23 51 18.4**	**-0.4**
DZA	128nm,0.2s			S	**Sg**	**23 51 40.2**	**-0.6**
EKS2	**Erkin-Say**	**1.74**	**40**	⇑*i*P	**Pb**	**23 51 18.6**	**+0.8**
EKS2	baz=41			⇑*i*S	**Sg**	**23 51 42.1**	**-0.1**
IUG	**Iuzhnay**	**1.86**	**297**	*eP*	**Pg**	**23 51 21.0**	**-0.6**
IUG	192nm,0.2s			*e*S	**Sg**	**23 51 45.7**	**0.0**
IUG	**Iuzhnay**	**1.86**	**297**	P	**Pg**	**23 51 21.1**	**-0.6**
IUG	192nm,0.2s			S	**Sg**	**23 51 45.1**	**-0.6**
UCH	**Uchtor**	**1.91**	**61**	⇑*i*P	**Pb**	**23 51 22.0**	**+1.3**
UCH	baz=63			⇑*i*S	**Sg**	**23 51 48.0**	**+0.5**
AAK	**Ala-Archa**	**2.12**	**51**	⇑*i*P	**Pb**	**23 51 25.0**	**+0.9**
AAK	baz=52			⇑*i*S	**Sg**	**23 51 53.0**	**-1.0**
AAK	**Ala-Archa**	**2.12**	**51**	⇓Pn	**Pg**	**23 51 25.7**	**-0.9**
AAK	14nm,0.3s			⇓Sn	**Sg**	**23 51 54.0**	**0.0**
KK31	**Karatay Array**	**2.19**	**324**	⇓Pn	**Pb**	**23 51 25.6**	**+0.2**
KK31	32nm,0.4s,baz=130,slow=12,SNR=323			⇑Sn	**Sg**	**23 51 54.3**	**-2.3**
CHM	**Chimkent**	**2.22**	**297**	*eP*	**Pg**	**23 51 28.4**	**-0.1**
CHM	44nm,0.3s,baz=139,slow=27,SNR=11 7.4nm,0.7s			*e*S	**Sg**	**23 51 58.0**	**+0.8**
TAS	**Tashkent**	**2.23**	**271**	⇓*i*P	**Pb**	**23 51 26.6**	**+0.6**
TAS	556nm,0.3s baz=70			⇓*i*S	**Sb**	**23 51 55.7**	**+2.3**
FRU1	**Bishkek**	**2.30**	**49**	⇑*e*P	**Pb**	**23 51 27.5**	**+0.3**
FRU1	baz=50			⇑*i*S	**Sb**	**23 51 57.3**	**+1.8**
KBK	**Karagaybulak**	**2.40**	**56**	⇑*i*P	**Pb**	**23 51 29.0**	**0.0**
KBK	baz=57			⇑*i*S	**Sb**	**23 51 59.8**	**+1.4**
BRLS	**Borolday**	**2.47**	**314**	*eP*	**Pb**	**23 51 30.6**	**+0.5**
BRLS	83nm,0.3s 116nm,0.2s			*e*S	**Sb**	**23 52 01.9**	**+1.5**
BRLS	**Borolday**	**2.47**	**314**	Pg	**Pb**	**23 51 30.6**	**+0.5**
BRLS	83nm,0.3s 116nm,0.2s			Lg	Lg	23 52 01.6	
CHMS	**Chumysh**	**2.49**	**47**	⇑*i*P	**Pb**	**23 51 29.9**	**-0.5**
CHMS	baz=48			⇑*i*S	**Sb**	**23 52 01.8**	**+0.9**
USP	**Ospenovka**	**2.55**	**40**	⇓*i*P	**Pb**	**23 51 30.8**	**-0.6**
USP	baz=41			⇓*i*S	**Sb**	**23 52 03.1**	**+0.5**
SGDS	**Sogindy**	**2.75**	**39**	Pg	**Pb**	**23 51 36.3**	**+1.4**
SGDS	15nm,0.4s 57nm,0.5s			Lg	Lg	23 52 10.9	
GAR	**Garm**	**2.77**	**213**	⇑*i*P	**Pb**	**23 51 34.6**	**-0.5**
GAR	baz=12			⇑*i*S	**Sb**	**23 52 09.8**	**+0.9**
TKM2	**Tokmak 2**	**2.95**	**56**	⇑*i*P	**Pb**	**23 51 36.7**	**-1.6**
TKM2	baz=57			⇑*i*S	**Sb**	**23 52 13.0**	**-1.2**
TKM2	**Tokmak 2**	**2.95**	**56**	⇑Pg	**Pb**	**23 51 40.3**	**+2.0**
TKM2	12nm,0.4s 22nm,0.5s			⇑Lg	Lg	23 52 20.0	
BOOM	**Boomskoye usch**	**2.98**	**66**	⇑*i*P	**Pb**	**23 51 37.1**	**-1.7**
BOOM	baz=67			⇑*i*S	**Sb**	**23 52 14.2**	**-0.9**
ULHL	**Ulahol**	**3.11**	**72**	⇓*e*P	**Pb**	**23 51 38.9**	**-2.3**
ULHL	baz=72			⇓*i*S	**Sb**	**23 52 17.4**	**-1.6**
CHGR	**Chuyangaron**	**3.58**	**223**	⇓*i*P	**Pb**	**23 51 46.0**	**-3.0**
CHGR	baz=22			⇓*i*S	**Sb**	**23 52 29.2**	**-3.1**
BTLS	**Baital**	**3.93**	**19**	*eP*	**Pb**	**23 51 57.4**	**+2.5**
BTLS	6.1nm,0.6s 29nm,0.5s			*e*S	**Sg**	**23 52 48.4**	**-3.7**
BTLS	**Baital**	**3.93**	**19**	Pg	**Pb**	**23 51 57.4**	**+2.5**
BTLS	6.1nm,0.6s 29nm,0.5s			Lg	Lg	23 52 47.9	

*IDC **24** 23:51:01.4±1.8,39˚.01N×21˚.05E,h0km,mb3.8/3,*
mb1 3.8/4,mb1mx3.4/62,mbtmp3.8/4,ML3.0/1,Error
ellipse: s-maj=40.7km s-min=28.6km az=119.0
*ATH **24** 23:51:03.9,38˚.88N×21˚.16E,h10km±2km,ML3.2/15,Error*
ellipse: s-maj=2.8km s-min=0.7km az=291.0,ML
Amplitudes are expressed in micrometers
*THE **24** 23:51:04.3,38˚.89N×21˚.16E,h5km±1km,ML3.2/12,Error*
ellipse: s-maj=1.2km s-min=0.4km az=194.0
ISC 24 23:51:04.2±0.9,38˚.89N±0˚.02×21˚.15E±0˚.02,h12km±8km,
n71,σ0°72/94,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGNA	**Meganis**	**0.36**	**231**	P	**Pg**	**23 51 11.3**	**-0.2**
MGNA				S	**Sg**	**23 51 17.3**	**+0.9**
MGNA	comp=N,8424µm,0.2s			AML	AML	23 51 18.0	
MGNA	comp=E,7311µm,0.2s			AML	AML	23 51 18.3	
TSLK	**Tsoukalades, L**	**0.39**	**261**	P	**Pg**	**23 51 12.0**	**-0.1**
TSLK	**Tsoukalades, L**	**0.39**	**261**	P	**Pg**	**23 51 12.0**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.40**	**244**	P	**Pg**	**23 51 11.8**	**-0.3**
EVGI	**Lefkada island**	**0.47**	**236**	P	**Pg**	**23 51 13.3**	**-0.1**
EVGI				S	**Sg**	**23 51 20.5**	**+0.8**
EVGI	**Lefkada island**	**0.47**	**236**	P	**Pg**	**23 51 13.4**	**-0.1**
EVGI				S	**Sb**	**23 51 20.7**	**-0.6**
EVR	**Evrytania**	**0.51**	**86**	P	**Pg**	**23 51 13.7**	**-0.6**
EVR	comp=E,2µm,0.3s			S	**Sg**	**23 51 21.6**	**+0.5**
EVR	**Evrytania**	**0.51**	**86**	P	**Pg**	**23 51 14.2**	**-0.1**
EVR				S	**Sg**	**23 51 21.8**	**+0.8**
EVR	comp=E,3860µm,0.3s			AML	AML	23 51 24.1	
EVR	comp=N,3553µm,0.7s			AML	AML	23 51 25.2	
FSK	**Fiskardo**	**0.63**	**228**	P	**Pg**	**23 51 15.6**	**-0.8**
FSK				S	**Sb**	**23 51 25.6**	**-0.2**
FSK	**Fiskardo**	**0.63**	**228**	P	**Pg**	**23 51 15.6**	**-0.8**
FSK	comp=N,3µm,0.4s			S	**Sb**	**23 51 25.6**	**-0.2**
FSK	comp=N,4126µm,0.5s			AML	AML	23 51 29.3	
FSK	comp=E,7638µm,0.4s			AML	AML	23 51 31.9	
ANX	**Ano Chora**	**0.67**	**116**	P	**Pg**	**23 51 16.5**	**-0.7**
ANX				S	**Sg**	**23 51 26.4**	**+0.4**
ANX	**Ano Chora**	**0.67**	**116**	P	**Pg**	**23 51 16.5**	**-0.7**
ANX	comp=E,4µm,0.5s			S	**Sg**	**23 51 26.2**	**+0.2**
ANX	comp=N,5240µm,0.4s			AML	AML	23 51 29.7	
ANX	comp=E,9274µm,0.4s			AML	AML	23 51 31.9	
AXS	**Araxos**	**0.71**	**166**	P	**Pg**	**23 51 17.8**	**-0.2**
AXS	comp=E,2µm,0.3s			S	**Sb**	**23 51 28.6**	**+0.4**
AXS	**Araxos**	**0.71**	**166**	P	**Pg**	**23 51 17.7**	**-0.2**
AXS	comp=E,4144µm,0.3s			AML	AML	23 51 30.8	
AXS	comp=N,4755µm,0.4s			AML	AML	23 51 32.7	
EFP	**Efpalio**	**0.75**	**128**	P	**Pg**	**23 51 17.9**	**-0.8**
EFP	**Efpalio**	**0.75**	**128**	P	**Pg**	**23 51 17.8**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.77**	**80**	P	**Pg**	**23 51 19.0**	**-0.2**
MAKR				S	**Sb**	**23 51 29.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.77**	**80**	P	**Pg**	**23 51 19.1**	**-0.1**
MAKR				S	**Sg**	**23 51 29.4**	**+0.1**
JAN	**Janina**	**0.81**	**343**	P	**Pg**	**23 51 19.2**	**-0.6**
JAN	comp=N,2µm,0.5s			S	**Sb**	**23 51 31.1**	**+0.1**
JAN	**Janina**	**0.81**	**343**	P	**Pg**	**23 51 19.4**	**-0.4**
JAN				S	**Sb**	**23 51 31.4**	**+0.4**
JAN	comp=N,2370µm,0.6s			AML	AML	23 51 33.2	
JAN	comp=E,4086µm,0.4s			AML	AML	23 51 34.4	
KEF5	**Kardakata, Kep**	**0.81**	**222**	P	**Pg**	**23 51 18.8**	**-1.1**
VLS	**Valsamata**	**0.83**	**212**	P	**Pg**	**23 51 19.2**	**-1.1**
VLS	comp=E,2µm,0.3s			S	**Sb**	**23 51 32.1**	**+0.3**
VLS	**Valsamata**	**0.83**	**212**	P	**Pg**	**23 51 19.1**	**-1.3**
VLS				S	**Sb**	**23 51 32.1**	**+0.3**

VLS				AML	AML	23 51 37.8		
	comp=E,3748μm,0.3s							
VLS				AML	AML	23 51 38.6		
	comp=N,5141μm,0.3s							
RLS	**Riolos of Patr**	**0.86**	**163**	P	**Pg**	**23 51 20.4**	**-0.5**	
RLS	**Riolos of Patr**	**0.86**	**163**	P	**Pg**	**23 51 20.4**	**-0.5**	
TRIZ	**Trizonia**	**0.89**	**126**	P	**Pb**	**23 51 21.6**	**+0.1**	
TRIZ	**Trizonia**	**0.89**	**126**	P	**Pg**	**23 51 21.1**	**-0.3**	
IGT	**Igoumenitsa**	**0.91**	**316**	P	**Pg**	**23 51 21.3**	**-0.4**	
IGT				S	**Sb**	**23 51 34.9**	**+1.0**	
	comp=N,662nm,0.5s							
IGT	**Igoumenitsa**	**0.91**	**316**	P	**Pg**	**23 51 21.1**	**-0.7**	
IGT				AML	AML	23 51 39.3		
	comp=N,1043μm,0.6s							
IGT				AML	AML	23 51 41.6		
	comp=E,1160μm,0.4s							
KALE	**Kalithea**	**0.92**	**122**	P	**Pg**	**23 51 21.1**	**-0.8**	
KALE	**Kalithea**	**0.92**	**122**	P	**Pg**	**23 51 20.8**	**-1.1**	
KALE				AML	AML	23 51 40.1		
	comp=E,1612μm,0.3s							
KALE				AML	AML	23 51 41.7		
	comp=N,1870μm,0.3s							
AGG	**Agios Georgios**	**0.93**	**81**	P	**Pg**	**23 51 21.8**	**-0.3**	
AGG				S	**Sb**	**23 51 35.4**	**+0.9**	
	comp=N,2μm,0.5s							
AGG	**Agios Georgios**	**0.93**	**81**	P	**Pg**	**23 51 21.8**	**-0.3**	
AGG				S	**Sb**	**23 51 34.9**	**+0.4**	
AGG				AML	AML	23 51 36.9		
	comp=N,4673μm,0.5s							
AGG				AML	AML	23 51 37.7		
	comp=E,3562μm,0.6s							
THL	**Klokotos Trika**	**0.95**	**44**	P	**Pg**	**23 51 21.7**	**-0.9**	
THL				S	**Sb**	**23 51 35.6**	**+0.4**	
	comp=E,505nm,0.4s							
THL	**Klokotos Trika**	**0.95**	**44**	P	**Pg**	**23 51 21.6**	**-1.0**	
THL				S	**Sb**	**23 51 35.5**	**+0.3**	
THL				AML	AML	23 51 39.0		
	comp=N,924μm,0.5s							
THL				AML	AML	23 51 39.3		
	comp=E,1018μm,0.4s							
ALIK	**Aliki, Aigiali**	**0.98**	**129**	P	**Pg**	**23 51 23.0**	**0.0**	
DRO	**Drossia**	**1.03**	**155**	P	**Pg**	**23 51 23.3**	**-0.7**	
DRO				S	**Sb**	**23 51 38.0**	**+0.6**	
	comp=E,2μm,0.5s							
DRO	**Drossia**	**1.03**	**155**	P	**Pg**	**23 51 22.9**	**-1.1**	
DRO				AML	AML	23 51 43.9		
	comp=E,2996μm,0.3s							
DRO				AML	AML	23 51 43.9		
	comp=N,3424μm,0.4s							
KLV	**Kalavryta, Ach**	**1.15**	**137**	P	**Pb**	**23 51 25.8**	**-0.2**	
KLV	**Kalavryta, Ach**	**1.15**	**137**	P	**Pb**	**23 51 25.5**	**-0.5**	
AXAR	**Agios Charalam**	**1.18**	**95**	P	**Pb**	**23 51 26.4**	**-0.2**	
AXAR				S	**Sn**	**23 51 42.7**	**+0.1**	
	comp=N,2μm,0.5s							
AXAR	**Agios Charalam**	**1.18**	**95**	P	**Pg**	**23 51 26.9**	**0.0**	
AXAR				AML	AML	23 51 49.4		
	comp=E,4971μm,0.4s							
AXAR				AML	AML	23 51 51.7		
	comp=N,4568μm,0.5s							
LRSO	**Larissa Observ**	**1.24**	**50**	P	**Pn**	**23 51 27.0**	**-0.3**	
LRSO				S	**Sg**	**23 51 44.2**	**0.0**	
	comp=N,2μm,0.7s							
LRSO	**Larissa Observ**	**1.24**	**50**	P	**Pn**	**23 51 27.0**	**-0.3**	
LRSO				AML	AML	23 51 48.0		
	comp=E,3020μm,0.7s							
LRSO				AML	AML	23 51 50.7		
	comp=N,2788μm,0.5s							
KASA	**Kassiopi**	**1.28**	**313**	P	**Pg**	**23 51 28.8**	**+0.1**	
PENT	**Pentalofos**	**1.31**	**359**	P	**Pb**	**23 51 29.0**	**+0.3**	
GUR	**Goura**	**1.33**	**135**	P	**Pn**	**23 51 28.6**	**-0.1**	
GUR	**Goura**	**1.33**	**135**	P	**Pn**	**23 51 28.6**	**-0.1**	
GUR				AML	AML	23 51 53.0		
	comp=N,2062μm,0.3s							
GUR				AML	AML	23 51 55.4		
	comp=E,1703μm,0.4s							
KEK	**Kerkira**	**1.34**	**309**	P	**Pb**	**23 51 29.1**	**-0.1**	
KEK	**Kerkira**	**1.34**	**309**	P	**Pn**	**23 51 28.7**	**+0.1**	
LKR	**Lokris**	**1.46**	**99**	P	**Pn**	**23 51 30.4**	**0.0**	
LKR	**Lokris**	**1.46**	**99**	P	**Pb**	**23 51 31.3**	**0.0**	
ATAL	**Atalanti**	**1.47**	**97**	P	**Pn**	**23 51 31.1**	**+0.6**	
ATAL	**Atalanti**	**1.47**	**97**	P	**Pb**	**23 51 31.6**	**+0.1**	
KZN	**Kozani**	**1.50**	**18**	P	**Pn**	**23 51 31.4**	**+0.4**	
KZN	**Kozani**	**1.50**	**18**	P	**Pb**	**23 51 31.8**	**-0.2**	
LIT	**Litokhoron**	**1.59**	**40**	P	**Pn**	**23 51 32.7**	**+0.5**	
XOR	**Xorichti**	**1.66**	**73**	P	**Pn**	**23 51 33.3**	**+0.2**	
XOR	**Xorichti**	**1.66**	**73**	P	**Pb**	**23 51 34.4**	**-0.3**	
LTK	**Loutraki**	**1.66**	**121**	P	**Pb**	**23 51 35.5**	**+0.7**	
NEO	**Neokhori**	**1.67**	**75**	P	**Pn**	**23 51 33.9**	**+0.7**	
LOUT	**Loutraki**	**1.69**	**122**	P	**Pb**	**23 51 35.8**	**+0.6**	
VIL2	**Platees**	**1.79**	**111**	P	**Pg**	**23 51 37.9**	**-0.7**	
EPID	**Epidavros**	**2.00**	**129**	P	**Pb**	**23 51 40.2**	**-0.3**	
DION	**Dionisos Attik**	**2.33**	**109**	P	**Pb**	**23 51 44.4**	**-1.6**	
IDI	**Anoyia**	**4.67**	**139**	Pn	**Pn**	**23 52 15.4**	**+0.8**	
	comp=E,0.7nm,0.3s,baz=315,slow=6.1,SNR=8.3							
IDI				Sn	**Sn**	**23 53 12.8**	**+4.0**	
	comp=E,0.8nm,0.3s,baz=302,slow=19,SNR=1.5							
BSD	**Bornholm Skovb**	**16.77**	**348**	IAMs_20	IAMs_20	23 54 56.2		
	comp=Z,5μm,14.2s							
COP	**Copenhagen**	**17.79**	**344**	IAMs_20	IAMs_20	23 55 24.4		
	comp=Z,7μm,12.5s							
TORD	**Torodi Ar. Bea**	**30.89**	**219**	P	**P**	**23 57 20.1**	**-0.5**	
	comp=Z,0.3nm,0.5s,baz=34,slow=8.8,SNR=1.2							
MKAR	**Makanchi Array**	**44.51**	**59**	P	**P**	**23 59 14.2**	**-1.2**	
	comp=Z,0.2nm,0.4s,baz=278,slow=8.3,SNR=0.8							
ZALV	**Zalesovo Beam**	**44.85**	**49**	P	**P**	**23 59 17.0**	**-1.0**	
	comp=Z,2.5nm,0.4s,baz=278,slow=8.3,SNR=6.2							

*JMA **24** 23:54:58.4±0.3,34°.28N×141°.17E,h57$^{km}_{\pm 3km}$,M3.3*
*IDC **24** 23:55:03.0±1.2,33°.04N×138°.45E,h0^{km},mb3.7/4,*
mb1 3.8/4,mb1mx3.4/56,mbtmp3.7/4,MS2.9/1,Ms1 2.9/1,
ms1mx2.3/40,Error ellipse: s-maj=31.0km s-min=19.0km az=3.0
ISC 24 23:54:59.3±1.4,34°25N±0°.05×141°.1E±0°.1,h35^{km},n24,
σ1^{s}10/22,mb3.7/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.42**	**342**	P	**Pn**	**23 55 09.1**	**+0.7**
BSO1				X		23 55 17.5	
BSO3	**Boso 3**	**0.76**	**317**	P	**Pn**	**23 55 13.8**	**+0.6**
BSO3				*eX*		23 55 26.0	
BSO4	**Boso 4**	**0.99**	**319**	P	**Pn**	**23 55 17.2**	**+0.6**
JKUC	**kamogawauchiur**	**1.19**	**320**	P	**Pn**	**23 55 19.3**	**-0.2**
JKUC				S	**Sn**	**23 55 34.4**	**-0.1**
TATJ	**Tateyama 2**	**1.29**	**308**	S	**Sn**	**23 55 38.6**	**+1.7**
JMKN	**Mikurajimanish**	**1.33**	**255**	P	**Pn**	**23 55 22.0**	**+0.6**
JIM2	**Oshima 3**	**1.48**	**289**	P	**Pn**	**23 55 23.2**	**-0.3**
JHJ2	**Mitsune**	**1.58**	**225**	P	**Pn**	**23 55 26.0**	**+1.2**
JHJ	**Hachijo jima 2**	**1.59**	**225**	Pn	**Pn**	**23 55 26.1**	**+1.1**
	113nm,0.3s,baz=253,slow=19,SNR=58						
JHJ				Sn	**Sn**	**23 55 44.4**	**+0.1**
	170nm,0.3s,baz=73,slow=19,SNR=8.4						
JKO	**Kozu shima**	**1.66**	**268**	P	**Pn**	**23 55 26.2**	**+0.3**
JKO				*eS*	**Sn**	**23 55 46.6**	**+0.7**
KTJ3	**Kamata3**	**1.83**	**292**	P	**Pn**	**23 55 27.6**	**-0.7**
KTJ3				S	**Sn**	**23 55 48.2**	**-2.1**
JOD2	**Odawara 2**	**1.97**	**302**	P	**Pn**	**23 55 29.8**	**-0.4**
MAT	**Matsushiro**	**3.31**	**315**	P	**Pn**	**23 55 49.2**	**+0.6**
MAT				S	**Sn**	**23 56 28.6**	**+1.8**
ASAJ	**Asahikawa**	**9.92**	**6**	LR	LR	00 02 16.3	
	comp=Z,58nm,18.4s,baz=194,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.03**	**116**	T	T	00 29 39.0	
	baz=306,slow=75,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**27.04**	**116**	T	T	00 29 41.4	
	baz=306,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**27.05**	**116**	T	T	00 29 39.0	
	baz=306,slow=75,SNR=3.6						
H11S3	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	00 30 58.4	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	00 30 57.6	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.66**	**118**	T	T	00 30 52.7	
	baz=312						
MKAR	**Makanchi Array**	**45.45**	**304**	P	**P**	**00 03 14.7**	**-0.1**
	0.2nm,0.6s,baz=78,slow=9.0,SNR=1.4						
KURBB	**Kurchatov Arra**	**47.58**	**310**	P	**P**	**00 03 32.7**	**+1.3**
	0.5nm,0.3s,baz=88,slow=9.4,SNR=1.4						
WRA	**Warramunga Arr**	**54.27**	**188**	P	**P**	**00 04 20.4**	**-1.6**
	1.0nm,0.8s,baz=3.9,slow=7.6,SNR=5.2						
ASAR	**Alice Springs**	**58.00**	**188**	P	**P**	**00 04 47.2**	**-1.3**
	0.2nm,0.3s,baz=4.4,slow=6.0,SNR=0.8						

*IDC **24** 23:57:20.4±1.6,39°.04N×21°.04E,h0^{km},mb3.9/3,*
mb1 3.7/5,mb1mx3.4/60,mbtmp3.7/5,ML2.9/2,Error
ellipse: s-maj=37.4km s-min=24.8km az=132.0
*ATH **24** 23:57:22.8,38°.90N×21°.16E,h10$^{km}_{\pm 1km}$,ML3.1/24,Error*
ellipse: s-maj=1.7km s-min=0.7km az=302.0,ML
Amplitudes are expressed in micrometers
*THE **24** 23:57:22.9,38°.90N×21°.16E,h0$^{km}_{\pm 1km}$,ML3.1/13,Error*
ellipse: s-maj=1.8km s-min=0.5km az=328.0
ISC 24 23:57:23.1±0.9,38°.90N±0°.02×21°.15E±0°.02,h13$^{km}_{\pm 8km}$,
n73,σ0^{s}91/95,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGNA	**Meganis**	**0.37**	**229**	P	**Pg**	**23 57 30.4**	**-0.2**
MGNA				S	**Sg**	**23 57 36.5**	**+0.9**
MGNA				AML	AML	23 57 37.5	
	comp=N,12292μm,0.1s						
MGNA				AML	AML	23 57 37.6	
	comp=E,7466μm,0.2s						
TSLK	**Tsoukalades, L**	**0.40**	**259**	P	**Pg**	**23 57 30.9**	**-0.1**
TSLK				S	**Sg**	**23 57 37.2**	**+0.9**
	comp=E,4μm,0.7s						
TSLK	**Tsoukalades, L**	**0.40**	**259**	P	**Pg**	**23 57 31.1**	**+0.1**
TSLK				AML	AML	23 57 41.7	
	comp=N,7769μm,0.4s						
TSLK				AML	AML	23 57 42.5	
	comp=E,7194μm,0.4s						
NYDR	**Nydri-Lefkada**	**0.40**	**242**	P	**Pg**	**23 57 30.9**	**-0.2**
EVGl	**Lefkada island**	**0.48**	**234**	P	**Pg**	**23 57 31.8**	**-0.7**
EVGl	**Lefkada island**	**0.48**	**234**	P	**Pg**	**23 57 32.3**	**-0.3**
EVR	**Evrytania**	**0.51**	**88**	P	**Pg**	**23 57 32.8**	**-0.4**
EVR				S	**Sg**	**23 57 40.5**	**+0.4**
	comp=E,2μm,0.6s						
EVR	**Evrytania**	**0.51**	**88**	P	**Pg**	**23 57 33.0**	**-0.3**
EVR				S	**Sg**	**23 57 40.4**	**+0.3**
EVR				AML	AML	23 57 43.5	
	comp=N,4502μm,0.6s						
EVR				AML	AML	23 57 44.2	
	comp=E,3686μm,0.3s						
FSK	**Fiskardo**	**0.64**	**226**	P	**Pg**	**23 57 34.9**	**-0.7**
FSK				S	**Sb**	**23 57 44.9**	**-0.1**
	comp=E,3μm,0.3s						
FSK	**Fiskardo**	**0.64**	**226**	P	**Pg**	**23 57 34.9**	**-0.7**
FSK				S	**Sg**	**23 57 44.2**	**+0.3**
FSK				AML	AML	23 57 47.9	
	comp=N,4106μm,0.3s						
FSK				AML	AML	23 57 48.1	
	comp=E,6172μm,0.3s						
ANX	**Ano Chora**	**0.68**	**117**	P	**Pg**	**23 57 35.6**	**-0.7**
ANX				S	**Sb**	**23 57 45.8**	**-0.4**
	comp=E,4μm,0.4s						
ANX	**Ano Chora**	**0.68**	**117**	P	**Pg**	**23 57 35.7**	**-0.7**
ANX				S	**Sg**	**23 57 45.3**	**+0.1**
ANX				AML	AML	23 57 49.4	
	comp=N,9974μm,0.4s						
ANX				AML	AML	23 57 50.8	
	comp=E,7264μm,0.4s						
AXS	**Araxos**	**0.72**	**166**	P	**Pg**	**23 57 36.8**	**-0.4**
AXS				S	**Sb**	**23 57 47.7**	**+0.2**
	comp=E,3μm,0.3s						
AXS	**Araxos**	**0.72**	**166**	P	**Pg**	**23 57 36.9**	**-0.4**
AXS				AML	AML	23 57 50.4	
	comp=E,4723μm,0.3s						
AXS				AML	AML	23 57 50.5	
	comp=N,5836μm,0.3s						
EFP	**Efpalio**	**0.76**	**128**	P	**Pg**	**23 57 36.9**	**-0.9**
EFP				S	**Sb**	**23 57 48.6**	**+0.2**
	comp=N,3μm,0.4s						
EFP	**Efpalio**	**0.76**	**128**	P	**Pg**	**23 57 37.1**	**-0.7**
EFP				AML	AML	23 57 52.5	
	comp=N,4982μm,0.3s						
EFP				AML	AML	23 57 53.1	
	comp=E,5805μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.77**	**81**	P	**Pg**	**23 57 37.8**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.77**	**81**	P	**Pg**	**23 57 37.9**	**-0.2**
JAN	**Janina**	**0.79**	**343**	P	**Pg**	**23 57 38.1**	**-0.4**
JAN				S	**Sb**	**23 57 49.7**	**+0.3**
	comp=E,1μm,0.8s						
JAN	**Janina**	**0.79**	**343**	P	**Pg**	**23 57 38.0**	**-0.4**
JAN				AML	AML	23 57 54.1	
	comp=N,2120μm,0.6s						
JAN				AML	AML	23 57 54.4	
	comp=E,2112μm,0.5s						
VLS	**Valsamata**	**0.85**	**212**	P	**Pg**	**23 57 38.4**	**-1.1**
VLS				S	**Sb**	**23 57 51.1**	**+0.1**
	comp=E,2μm,0.5s						
VLS	**Valsamata**	**0.85**	**212**	P	**Pg**	**23 57 38.3**	**-1.1**
VLS				S	**Sg**	**23 57 51.0**	**+0.4**
VLS				AML	AML	23 57 52.1	
	comp=E,3312μm,0.5s						
VLS				AML	AML	23 57 56.4	
	comp=N,3544μm,0.3s						
KEF4	**Livadi, Kephal**	**0.86**	**222**	P	**Pg**	**23 57 38.5**	**-1.2**
RLS	**Riolos of Patr**	**0.88**	**164**	P	**Pg**	**23 57 39.5**	**-0.6**
RLS				S	**Sb**	**23 57 52.0**	**+0.2**
	comp=N,1μm,0.3s						
RLS	**Riolos of Patr**	**0.88**	**164**	P	**Pg**	**23 57 39.4**	**-0.7**
RLS				S	**Sg**	**23 57 51.2**	**-0.3**
RLS				AML	AML	23 57 55.8	
	comp=E,2283μm,0.4s						
RLS				AML	AML	23 57 59.0	
	comp=N,1869μm,0.3s						
IGT	**Igoumenitsa**	**0.90**	**315**	P	**Pg**	**23 57 40.1**	**-0.4**
IGT				S	**Sg**	**23 57 52.3**	**+0.1**
	comp=N,548nm,0.7s						
IGT	**Igoumenitsa**	**0.90**	**315**	P	**Pg**	**23 57 39.9**	**-0.6**
IGT				AML	AML	23 57 56.0	
	comp=E,1228μm,0.5s						
IGT				AML	AML	23 57 56.2	
	comp=N,782μm,0.6s						
TRIZ	**Trizonia**	**0.90**	**126**	P	**Pg**	**23 57 39.8**	**-0.7**
TRIZ	**Trizonia**	**0.90**	**126**	P	**Pg**	**23 57 39.2**	**-1.3**
KALE	**Kalithea**	**0.93**	**123**	P	**Pg**	**23 57 40.0**	**-1.0**
KALE				S	**Sb**	**23 57 54.2**	**+0.9**
	comp=N,1μm,0.5s						
KALE	**Kalithea**	**0.93**	**123**	P	**Pg**	**23 57 39.8**	**-1.2**
KALE				AML	AML	23 57 57.7	
	comp=N,3066μm,0.6s						
KALE				AML	AML	23 57 59.5	
	comp=E,1765μm,0.4s						
AGG	**Agios Georgios**	**0.93**	**82**	P	**Pg**	**23 57 40.7**	**-0.4**
AGG				S	**Sn**	**23 57 54.4**	**-0.7**
	comp=E,2μm,0.4s						
AGG	**Agios Georgios**	**0.93**	**82**	P	**Pg**	**23 57 40.6**	**-0.4**
AGG				S	**Sb**	**23 57 54.0**	**+0.7**
AGG				AML	AML	23 57 55.7	
	comp=N,3117μm,0.4s						
AGG				AML	AML	23 57 55.7	
	comp=E,4147μm,1.0s						
THL	**Klokotos Trika**	**0.94**	**45**	P	**Pg**	**23 57 40.3**	**-1.0**
THL				S	**Sb**	**23 57 54.1**	**+0.3**
	comp=E,602nm,0.8s						
THL	**Klokotos Trika**	**0.94**	**45**	P	**Pg**	**23 57 40.4**	**-0.9**
THL				AML	AML	23 57 56.5	
	comp=E,1122μm,0.5s						
THL				AML	AML	23 57 57.6	
	comp=N,801μm,1.1s						
DRO	**Drossia**	**1.04**	**155**	P	**Pb**	**23 57 42.2**	**-0.9**
DRO				S	**Sb**	**23 57 57.1**	**+0.4**
DRO	**Drossia**	**1.04**	**155**	P	**Pb**	**23 57 42.0**	**-1.1**
DRO				AML	AML	23 58 01.7	
	comp=E,3148μm,0.3s						
DRO				AML	AML	23 58 05.5	
	comp=N,4469μm,0.6s						
KLV	**Kalavryta, Ach**	**1.16**	**137**	P	**Pb**	**23 57 44.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.16**	**137**	P	**Pb**	**23 57 44.1**	**-1.0**
KLV				AML	AML	23 58 04.5	
	comp=E,729μm,0.6s						
KLV				AML	AML	23 58 07.7	
	comp=N,614μm,0.5s						
AXAR	**Agios Charalam**	**1.19**	**96**	P	**Pb**	**23 57 45.4**	**-0.1**
AXAR				AML	AML	23 58 04.8	
	comp=E,3806μm,0.3s						
AXAR				AML	AML	23 58 05.1	
	comp=N,3478μm,0.5s						
LRSO	**Larissa Observ**	**1.23**	**51**	P	**Pn**	**23 57 45.4**	**-0.7**
LRSO	**Larissa Observ**	**1.23**	**51**	P	**Pn**	**23 57 45.5**	**-0.6**
LRSO				AML	AML	23 58 06.6	
	comp=N,2284μm,0.6s						
LRSO				AML	AML	23 58 07.3	
	comp=E,2386μm,0.5s						
KEK	**Kerkira**	**1.33**	**308**	P	**Pn**	**23 57 47.4**	**0.0**
GUR	**Goura**	**1.34**	**135**	P	**Pn**	**23 57 47.4**	**-0.3**
GUR	**Goura**	**1.34**	**135**	P	**Pn**	**23 57 47.6**	**0.0**
GUR				AML	AML	23 58 10.4	
	comp=N,1840μm,0.6s						
GUR				AML	AML	23 58 15.6	
	comp=E,1946μm,0.7s						
LKR	**Lokris**	**1.47**	**99**	P	**Pb**	**23 57 50.0**	**-0.2**
LKR	**Lokris**	**1.47**	**99**	P	**Pb**	**23 57 50.1**	**-0.2**
LKR				AML	AML	23 58 15.1	
	comp=N,491μm,0.5s						
LKR				AML	AML	23 58 16.9	
	comp=E,808μm,0.3s						
ATAL	**Atalanti**	**1.48**	**98**	P	**Pb**	**23 57 50.3**	**-0.1**
KZN	**Kozani**	**1.48**	**19**	P	**Pb**	**23 57 50.6**	**0.0**
KZN				AML	AML	23 58 13.2	
	comp=E,454μm,0.5s						
KZN				AML	AML	23 58 15.6	
	comp=N,441μm,0.5s						
LIT	**Litokhoron**	**1.58**	**40**	P	**Pg**	**23 57 53.1**	**-0.5**
TRIP	**Tripoli**	**1.63**	**147**	P	**Pb**	**23 57 53.6**	**+0.5**
TRIP	**Tripoli**	**1.63**	**147**	P	**Pb**	**23 57 53.7**	**+0.5**
XOR	**Xorichti**	**1.65**	**73**	P	**Pb**	**23 57 53.3**	**-0.2**
XOR				AML	AML	23 58 17.8	
	comp=N,782μm,0.5s						
XOR				AML	AML	23 58 20.9	
	comp=E,551μm,1.0s						
NEO	**Neokhori**	**1.66**	**75**	P	**Pb**	**23 57 53.6**	**0.0**
LTK	**Loutraki**	**1.67**	**121**	P	**Pb**	**23 57 54.4**	**+0.6**
LTK				AML	AML	23 58 22.9	
	comp=E,494μm,0.5s						
LTK				AML	AML	23 58 25.9	
	comp=N,529μm,0.4s						
LOUT	**Loutraki**	**1.70**	**122**	P	**Pb**	**23 57 54.7**	**+0.5**
VIL2	**Platees**	**1.80**	**112**	P	**Pb**	**23 57 56.6**	**+0.7**
VIL2				AML	AML	23 58 25.0	
	comp=E,602μm,0.7s						
VIL2				AML	AML	23 58 28.5	
	comp=N,527μm,0.6s						
VLX	**Vlachokerasia**	**1.81**	**147**	P	**Pb**	**23 57 56.4**	**+0.2**
EPID	**Epidavros**	**2.01**	**129**	P	**Pb**	**23 57 59.2**	**-0.3**
KRND	**KRANIDI**	**2.19**	**133**	P	**Pb**	**23 58 01.9**	**-0.6**
ATHU	**Athens Univers**	**2.27**	**113**	P	**Pb**	**23 58 02.4**	**-1.6**
PTL	**Penteli**	**2.29**	**111**	P	**Pb**	**23 58 03.1**	**-1.3**
PLG	**Polygyros**	**2.30**	**50**	P	**Pn**	**23 58 01.3**	**+0.5**
KYMI	**Kymi, Euboea I**	**2.32**	**96**	P	**Pn**	**23 58 02.9**	**+1.9**
VLY	**Voula,Athens**	**2.33**	**116**	P	**Pb**	**23 58 03.2**	**-1.7**
DION	**Dionisos Attik**	**2.33**	**110**	P	**Pn**	**23 58 03.1**	**+1.9**
VLI	**Veliai**	**2.60**	**146**	P	**Pb**	**23 58 07.4**	**-2.1**
KARY	**Karystos**	**2.72**	**108**	P	**Pn**	**23 58 08.2**	**+1.7**
IDI	**Anoyia**	**4.68**	**139**	Pn	**Pn**	**23 58 35.6**	**+2.0**
	comp=N,0.6nm,0.3s,baz=323,slow=16,SNR=1.8						
IDI				Sn	**Sn**	**23 59 30.6**	**+2.8**
	comp=N,0.9nm,0.3s,baz=297,slow=16,SNR=1.3						
BRTR	**Keskin Array B**	**9.71**	**81**	Pn	**Pn**	**23 59 46.0**	**+3.2**
	comp=N,0.1nm,0.3s,baz=263,slow=11,SNR=5.2						
TORD	**Torodi Ar. Bea**	**30.90**	**219**	P	**P**	**00 03 39.2**	**-0.4**
	comp=N,0.5nm,0.6s,baz=31,slow=9.7,SNR=5.5						
MKAR	**Makanchi Array**	**44.50**	**59**	P	**P**	**00 05 33.1**	**-1.1**
	comp=N,0.3nm,0.4s,baz=278,slow=7.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**44.84**	**49**	P	**P**	**00 05 35.8**	**-1.0**
	comp=N,3.3nm,0.4s,baz=277,slow=8.5,SNR=15						

*IDC **25** 00:36:24.2±1.1,20°.81S×70°.78W,h0^{km},mb3.6/4,*
mb1 4.0/8,mb1mx3.8/32,mbtmp3.8/8,ML3.9/4,Error
ellipse: s-maj=32.3km s-min=20.5km az=46.0
*NEIC **25** 00:36:26.7±1.9,20°.89S±0°.03×70°.77W±0°.05,h19$^{km}_{\pm 5km}$,*
mb4.1/10,Mwr4.2/48,ML4.2(GUC),Error ellipse:
s-maj=7.0km s-min=4.7km az=90.0
*GUC **25** 00:36:27.6±0.7,20°.84S×70°.79W,h11$^{km}_{\pm 8km}$,ML4.0*
*NEIC **25** 00:36:27,20°.85S×70°.80W,h20^{km},Moment Tensor*
Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.76;
$M_{\theta\theta}$-0.76; $M_{\phi\phi}$-1.00; $M_{r\theta}$0.14; $M_{r\phi}$1.48; $M_{\theta\phi}$-1.92; Fault
plane solution: M_o2.87000×10^{15} NP1:φ$_s$162.98000°,
δ68.27000°,λ115.46000°. NP2:φ$_s$290.85000°,δ33.00000°,
λ42.83000°. Principal axes: T 2.8370, Plg59.0000°,
Azm109.0000°; N 0.0605, Plg24.0000°, Azm333.0000°; P
-2.8974, Plg19.0000°, Azm234.0000°;
*VAO **25** 00:36:29.5±0.7,21°.05S×70°.50W,h10^{km},mb4.2*
ISC 25 00:36:24.9±1.8,20°.84S±0°.02×70°.85W±0°.05,h9$^{km}_{\pm 12km}$,
n95,σ1^{s}01/104,mb4.0/6,8C-5D,Near coast of northern
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.65**	**89**	⇓*iP*	**Pb**	**00 36 38.2**	**-0.3**
PATCX				*eS*	**Sb**	**00 36 46.6**	**-1.2**
PATCX				IAML		00 36 47.3	
	comp=N,9μm,0.5s						
PATCX	**Punta Patache**	**0.65**	**89**		**Pb**	**00 36 38.2**	**-0.3**
PATCX				Sg	**Sb**	**00 36 46.7**	**-1.2**
TA01	**Diego Aracena**	**0.68**	**67**	⇓*iP*	**Pb**	**00 36 38.5**	**-0.5**
TA01				*eS*	**Sb**	**00 36 47.1**	**-1.4**
TA01	**Diego Aracena**	**0.68**	**67**	Pg	**Pb**	**00 36 38.6**	**-0.5**
TA01				Sg	**Sb**	**00 36 47.6**	**-0.9**
TA02	**Huaiquique**	**0.88**	**50**	*eP*	**Pb**	**00 36 42.1**	**-0.2**
TA02				*eS*	**Sb**	**00 36 53.6**	**-0.6**
PB02	**IPOC Station P**	**1.01**	**119**	⇑*iP*

PB15 IPOC Station P 2.68 152 Pn Pn 00 37 08.7 +0.1
PB14 IPOC Station P 3.79 174 Pn Pn 00 37 22.4 -1.5
GO02 Mina Guanaco 4.46 165 Pn Pn 00 37 33.6 +0.6
LPAZ La Paz 5.21 30 Pn Pn 00 37 48.9 +5.3
comp=E,0.5nm,0.3s,baz=294,slow=4.3,SNR=19
LPAZ Lg Lg 00 39 00.8
baz=64,slow=18,SNR=1.3
LPAZ La Paz 5.21 30 *eP* Pn 00 37 48.6 +5.0
LPAZ La Paz 5.21 30 *eP* Pn 00 37 48.5 +4.8
AC01 Pan de Azucar 5.29 178 Pn Pn **00 37 44.3 +0.1**
AC02 Maricunga 6.18 166 Pn Pn **00 37 56.5 -0.3**
GO03 Copiap 6.75 175 Pn Pn 00 38 03.9 -0.5
AC04 Llanos de Chal 7.34 182 Pn Pn **00 38 11.7 -0.7**
AC05 El Transito 7.98 176 Pn Pn **00 38 21.4 +0.1**
LCO Las Campanas 8.14 179 Pn Pn **00 38 23.1 -0.5**
CO01 Juntas del Tor 9.13 176 Pn Pn **00 38 38.1 +1.0**
GO04 Tololo Observa 9.30 180 Pn Pn **00 38 40.1 +0.7**
CO03 El Pedregal 9.96 179 Pn Pn **00 38 50.1 +1.7**
CO02 Combarbal 10.32 181 Pn Pn **00 38 52.8 -0.6**
SIV San Ignacio 10.46 64 Pn Pn **00 38 56.3 +1.1**
comp=E,2.5nm,0.3s,baz=259,slow=11,SNR=76
ZON Zonda 10.84 170 Pn Pn **00 39 00.9 +0.5**
ETMB Extrema 11.83 23 *eP* Pn 00 39 19.6 +5.6
VA03 San Esteban 11.88 179 Pn Pn **00 39 15.3 +0.6**
ROC1 El Roble 12.09 181 Pn Pn **00 39 19.8 +2.1**
PTLB Pontes e Lacer 12.35 66 *eP* Pn **00 39 23.8 +2.7**
VILB Vilhena 12.85 54 *eP* Pn **00 39 29.3 +1.3**
VILB *eS* Sn **00 41 52.8 +1.5**
CPUP Villa Florida 13.54 116 Pn Pn **00 39 38.0 +0.7**
comp=E,0.2nm,0.3s,baz=294,slow=10,SNR=2.1
CPUP Villa Florida 13.54 116 Pn Pn **00 39 37.8 +0.5**
SAML Samuel 13.94 33 Pn Pn **00 39 44.0 +1.1**
H03N1 Juan Fernandez 14.45 208 T T 00 54 49.4
baz=34,slow=72,SNR=139
H03N2 Juan Fernandez 14.46 208 T T 00 55 00.8
baz=34,slow=72,SNR=112
H03N3 Juan Fernandez 14.47 208 T T 00 54 48.2
baz=34,slow=72,SNR=152
VA04 Juan Fernndez 14.59 207 Pn Pn **00 39 51.6 -0.1**
BI02 San Fabin de 15.77 181 Pn Pn **00 40 06.7 -0.8**
TRCB Terra Rica 17.03 100 *eP* P **00 40 24.4 -1.0**
CLDB Colider 17.53 58 *eP* P **00 40 31.4 +0.5**
LC01 Cunco 18.02 183 Pn Pn **00 40 34.9 -0.8**
LC01 IAmb IAmb 00 40 45.8
comp=Z,9.9nm,1.1s
PCMB Pacaembu 18.28 96 *eP* P **00 40 39.0 -0.2**
TRQA Tornquist 18.80 158 P P **00 40 42.9 -1.9**
PLCA Paso Flores 19.84 179 P P **00 40 56.1 0.0**
comp=Z,0.1nm,0.3s,baz=8.6,slow=11,SNR=6.4
PLCA Paso Flores 19.84 179 P Pn **00 40 58.0 +0.3**
PLCA IAmb IAmb 00 41 04.9
comp=Z,6.0nm,0.9s
PLCA Paso Flores 19.84 179 *eP* Pn **00 40 57.5 -0.2**
TIJ01 Guaruva-PR 20.58 107 *eP* P **00 41 03.8 -0.7**
BB19B Bebedouro 20.85 95 *eP* Pn 00 41 09.2 -0.6
LL01 San Ignacio de 21.52 183 P P **00 41 13.4 -0.8**
LL01 IAmb IAmb 00 41 20.3
comp=Z,14nm,1.1s
IPMB Ipameri, GO 21.54 86 *eP* P **00 41 15.0 +0.3**
BDFB Brasilia 22.29 80 P P **00 41 22.7 -0.2**
comp=Z,2.3nm,0.9s,baz=165,slow=7.2,SNR=1.9
BDFB Brasilia 22.29 80 P P **00 41 22.2 -0.7**
BDFB IAmb IAmb 00 41 39.3
comp=Z,5.9nm,1.1s
SMTB Santa Maria do 25.40 65 *eP* P **00 41 56.1 +3.1**
MTDJ Mount Denham 39.37 350 P P **00 43 55.0 -0.1**
CBCY The Bluff, Cay 41.26 347 P P **00 44 07.8 -2.8**
LCCY Blossom Villag 41.26 347 P P **00 44 08.2 -2.5**
GOGA Godfrey 55.27 347 P P **00 45 58.8 +0.1**
GOGA IAmb IAmb 00 46 02.3
comp=Z,8.2nm,1.5s
TXAR Lajitas Array 59.07 327 P P **00 46 26.5 +0.7**
comp=Z,0.1nm,0.7s,baz=134,slow=6.4,SNR=2.1
NVAR Mina Array Bea 73.87 323 P P **00 48 02.3 +1.8**
comp=Z,0.4nm,0.7s,baz=173,slow=8.1,SNR=2.6
PMOZ Porto Moniz, M 73.98 45 P P **00 48 00.8 -0.3**
TORD Torodi Ar. Bea 78.85 71 P P **00 48 27.9 -1.1**
comp=Z,1.7nm,0.7s,baz=251,slow=4.7,SNR=13
TORD Torodi Ar. Bea 78.85 71 P P **00 48 28.4 -0.7**
H11S2 WAKE ISLAND Hyt 26.00 278 T T 03 14 54.0
baz=103,slow=75,SNR=92
H11S1 WAKE ISLAND Hyt 26.00 278 T T 03 14 31.7
baz=103,slow=75,SNR=63
H11S3 WAKE ISLAND Hyt 26.01 278 T T 03 14 42.6
baz=103,slow=75,SNR=49
H11N3 WAKE ISLAND Hyt 26.07 280 T T 03 14 56.9
baz=102,slow=75,SNR=30
H11N2 WAKE ISLAND Hyt 26.08 280 T T 03 14 50.8
baz=102,slow=75,SNR=33
H11N1 WAKE ISLAND Hyt 26.08 280 T T 03 14 59.0
baz=102,slow=75,SNR=23
ZALV Zalesovo Beam 142.09 23 PKP **PKPdf 00 55 58.1 +0.7**
comp=Z,0.3nm,0.4s,baz=270,slow=2.9,SNR=1.9
MKAR Makanchi Array 146.13 34 PKPbc **PKPab 00 56 05.9 -0.4**
comp=Z,1.4nm,0.7s,baz=334,slow=2.7,SNR=13

*NERS **25** 00:36:25.9±0.0, 68.90N×143.12E, h33km*
*YARS **25** 00:37:03.7±0.0, 67.59N×142.93E, h10km, ML3.0/6*
*IDC **25** 00:37:04.0±0.9, 67.69N×142.93E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/43, mbtmp3.7/13, ML3.7/2, Error ellipse: s-maj=26.7km s-min=17.0km az=163.0*
*NEIC **25** 00:37:05.6±1.4, 67.7N±0.1×142.9E±0.3, h10km±2km, mb4.2/10, Error ellipse: s-maj=23.5km s-min=17.1km az=200.0*

ISC 25 00:37:04.9±0.5, 67.54N±0.03×142.78E±0.04, h10km, n37, σ1§96/53, mb3.8/15, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.09**	**171**	*i* Pg	**Pb**	**00 37 24.5**	**-1.2**
	359nm,0.8s						
MOMR				*e*Sg	**Sb**	**00 37 39.9**	**-0.1**
	859nm,0.5s						
YBGR	**Belaya Gora**	**1.63**	**50**	*i* Pg	**Pn**	**00 37 31.9**	**-1.7**
	410nm,0.2s						
YBGR				*e*Sg	**Sn**	**00 37 51.9**	**-2.6**
	4.2nm,0.8s						
DEPR	**Deputatskiy**	**2.15**	**332**	*e*Pg	**Pn**	**00 37 41.4**	**+0.7**
	26nm,0.2s						
DEPR				*e*Sg	**Sb**	**00 38 11.0**	**+0.5**
	1µm,0.6s						
UNR	**Ust'-Nera**	**2.98**	**176**	*e*Pn	**Pn**	**00 37 52.8**	**+0.5**
UNR				*e*Pg	**Pb**	**00 37 57.7**	**-0.4**
	11nm,0.5s						
UNR				*e*Sn	**Sn**	**00 38 28.3**	**+0.3**
UNR				*e*Sg	**Sg**	**00 38 38.9**	**-1.8**
	70nm,0.6s						
BTGS	**Batagay**	**3.12**	**276**	*e*Pn	**Pn**	**00 37 55.3**	**+1.2**
BTGS				*e*Pg	**Pb**	**00 38 01.3**	**+0.9**
	22nm,0.2s						
BTGS				*e*Sn	**Sn**	**00 38 32.2**	**+0.9**
BTGS				*e*Sg	**Sg**	**00 38 43.2**	**-1.8**
	576nm,1.1s						
SUUS	**Susuman**	**5.29**	**152**	*e*Pg	**Pn**	**00 38 23.9**	**0.0**
SUUS				Pgmax		00 38 44.9	
	10.0nm,0.4s						
SUUS				*e*Sg	**Sg**	**00 39 50.9**	**-3.5**
SUUS				Sgmax		00 39 57.4	
	130nm,0.9s						
SEY	**Seymchan**	**6.13**	**134**	*e*Pg	**Pn**	**00 38 35.4**	**0.0**
SEY				*e*Sg	**Sb**	**00 40 08.9**	**+4.0**
SEY				Sgmax		00 40 22.2	
	20nm,0.6s						
TIXI	**Tiksi**	**6.37**	**317**	*e*Pn	**Pn**	**00 38 39.5**	**+0.9**
TIXI				*e*Pg	**Pb**	**00 38 58.6**	**+2.9**
	19nm,0.2s						
TIXI				*e*Sn	**Sn**	**00 39 49.8**	**-1.5**
TIXI				*e*Sg	**Sg**	**00 40 22.9**	**-6.2**
	186nm,0.5s						
TIXI	**Tiksi**	**6.37**	**317**		**Pn**	**00 38 39.1**	**+0.5**
TIXI				Sn	**Sn**	**00 39 48.6**	**-2.7**
TLAR	**Talaya**	**7.66**	**143**	*e*Sg	Sg	00 41 00.8	-10
TLAR				Sgmax		00 41 17.9	
	30nm,0.8s						
YAK	**Yakutsk**	**7.85**	**232**	*e*Sn	**Sn**	**00 40 28.6**	**+0.9**
YAK				*e*Sg	**Sg**	**00 41 11.1**	**-5.3**
	48nm,1.2s						
TBGR	**Tabaga**	**8.03**	**231**	*e*Pn	**Pn**	**00 39 01.8**	**+0.4**
TBGR				*e*Sn	**Sn**	**00 40 32.9**	**+0.9**
TBGR				*e*Sg	**Sg**	**00 41 16.8**	**-5.3**
	279nm,0.9s						
KLR	**Kul'dur**	**19.19**	**202**	P	**Pn**	**00 41 30.8**	**+1.5**
	0.2nm,0.3s,baz=7.6,slow=11,SNR=4.4						

NRIK Noril'sk 19.80 301 P **Pn** **00 41 36.1 -0.4**
0.2nm,0.3s,baz=150,slow=8.1,SNR=2.3
IMAR Indian Mountai 24.13 64 P **P** **00 42 19.8 -0.7**
COLD Coldfoot 24.66 59 P **P** **00 42 25.0 -0.3**
COLD IAmb IAmb 00 42 27.2
comp=Z,12nm,1.2s
TTA Tatalina 25.09 71 P **P** **00 42 29.2 -0.1**
BMAR Burnt Mountain 26.37 56 P **P** **00 42 41.1 +0.3**
MDM Murphy Dome 26.61 62 P **P** **00 42 42.8 -0.2**
FYU Fort Yukon 26.66 58 P **P** **00 42 44.0 +0.7**
FYU IAmb IAmb 00 42 59.8
comp=Z,1.6nm,0.6s
SONM Songino Array 27.05 242 P **P** **00 42 50.1 +3.0**
comp=Z,0.9nm,0.9s,baz=34,slow=10,SNR=3.6
SONM Songino Array 27.05 242 P **P** **00 42 48.5 +1.4**
IL31 27.18 62 P **P** **00 42 47.8 -0.2**
IL31 IAmb IAmb 00 43 06.2
comp=Z,3.8nm,1.0s
ILAR Eielson Array 27.18 62 P **P** **00 42 47.6 -0.4**
comp=Z,1.8nm,0.8s,baz=297,slow=7.8,SNR=19
DHY Denali Highway 28.08 65 P **P** **00 42 57.5 +1.3**
DHY IAmb IAmb 00 43 09.9
comp=Z,6.3nm,0.8s
PAX Paxson 28.81 64 P **P** **00 43 02.0 -0.7**
ZALV Zalesovo Beam 30.10 272 P **P** **00 43 15.8 +1.7**
comp=Z,0.6nm,0.4s,baz=31,slow=5.9,SNR=2.1
MKAR Makanchi Array 36.79 267 P **P** **00 44 13.6 +1.2**
comp=Z,0.7nm,0.6s,baz=46,slow=7.6,SNR=9.2
FINES FINESS Array B 43.39 321 P **P** **00 45 06.8 -0.1**
comp=Z,8.5nm,1.2s,baz=36,slow=12,SNR=2.2
NOA NORSAR Array B 46.97 330 P **P** **00 45 35.0 -0.4**
comp=Z,0.8nm,0.8s,baz=52,slow=7.9,SNR=1.4
CHGR Chuyangaron 48.77 273 P **P** **00 45 51.2 +1.6**
GEYT Alibeck 53.60 282 P **P** **00 46 25.4 -0.5**
comp=Z,1.3nm,0.8s,baz=28,slow=6.5,SNR=2.3
GEYT Alibeck 53.60 282 IAmb IAmb 00 46 29.6
comp=Z,1.1nm,0.7s
PDAR Pinedale Array 57.40 56 P **P** **00 46 52.8 -0.5**
comp=Z,0.4nm,0.6s,baz=358,slow=3.0,SNR=5.6
GERES GERESS Array B 57.79 323 P **P** **00 46 55.3 -0.5**
comp=Z,0.2nm,0.5s,baz=328,slow=9.2,SNR=2.0
NVAR Mina Array Bea 58.35 66 P **P** **00 47 01.1 +1.0**
comp=Z,0.2nm,0.5s,baz=331,slow=4.8,SNR=2.2
WRA Warramunga Arr 87.44 188 P **P** **00 49 52.3 +0.3**
comp=Z,0.2nm,0.8s,baz=1.5,slow=5.6,SNR=2.4

*IDC **25** 00:53:02.3±1.1, 52.46S×15.28E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/30, mbtmp3.9/6, MS3.3/2, Ms1 3.3/2, ms1mx2.9/19, Error ellipse: s-maj=39.7km s-min=23.7km az=93.0*
*NEIC **25** 00:53:03.3±2.5, 52.35S±0.07×15.1E±0.3, h10km±1km, mb4.7/16, Error ellipse: s-maj=31.6km s-min=9.8km az=281.0*

ISC 25 00:53:03.4±0.6, 52.4S±0.1×15.4E±0.2, h10km, n31, σ1§14/27, mb4.3/12, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.34**	**13**	P	Pn	00 57 42.8	+0.9
	9.8nm,0.9s,baz=199,slow=13,SNR=6.9						
SUR				LR	LR	01 04 14.3	
	comp=Z,92nm,19.8s,baz=170,slow=33						
SUR	**Sutherland**	**20.34**	**13**	P	Pn	00 57 43.1	+1.2
SUR				IAmb	IAmb	00 57 46.0	
	comp=Z,10.0nm,0.8s						
SNAA	**Sanae**	**21.02**	**196**	P	**P**	**00 57 47.5**	**+0.7**
SNAA	**Sanae**	**21.02**	**196**	P	**P**	**00 57 47.2**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=17,slow=11,SNR=12						
SNAA	**Sanae**	**21.02**	**196**	P	**P**	**00 57 47.4**	**+0.7**
VNA1	**Neumayer--Stat**	**21.28**	**202**	P	**P**	**00 57 51.0**	**+1.4**
VNA2	**Neumayer--Watz**	**21.29**	**201**	P	**P**	**00 57 51.6**	**+1.9**
	baz=38,slow=11						
VNA3	**Neumayer Olymp**	**22.03**	**201**	P	**P**	**00 57 57.8**	**+0.2**
BOSA	**Boshof**	**24.82**	**21**	LR	LR	01 07 30.9	
	comp=Z,65nm,18.2s,baz=208,slow=35						
TSUM	**Tsumeb**	**33.12**	**4**	P	**P**	**00 59 38.7**	**-1.0**
TSUM				IAmb	IAmb	00 59 49.2	
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**37.89**	**180**	P	**P**	**01 00 21.2**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=252,slow=8.3,SNR=2.7						
CPUP	**Villa Florida**	**59.22**	**266**	P	**P**	**01 03 03.1**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=118,slow=9.4,SNR=4.8						
CPUP	**Villa Florida**	**59.22**	**266**	IAmb	IAmb	01 03 13.4	
	comp=Z,2.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.29**	**345**	P	**P**	**01 03 53.8**	**+2.0**
	comp=Z,0.3nm,0.9s,baz=168,slow=7.4,SNR=2.0						
PSA00	**Pilbara Seismi**	**81.59**	**114**	P	**P**	**01 05 20.4**	**-1.1**
PSA00				IAmb	IAmb	01 05 33.9	
	comp=Z,15nm,1.1s						
PSAA2	**Pilbara Seismi**	**81.59**	**114**	P	**P**	**01 05 20.3**	**-1.2**
ASAR	**Alice Springs**	**87.31**	**126**	P	**P**	**01 05 49.2**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=204,slow=4.8,SNR=7.4						
ASAR	**Alice Springs**	**87.31**	**126**	P	**P**	**01 05 50.2**	**-0.3**
AS31	**Alice Springs**	**87.31**	**126**	P	**P**	**01 05 50.2**	**-0.4**
SMRI	**Semarang**	**87.54**	**98**	P	**P**	**01 05 51.7**	**+0.1**
KEST	**Kesra**	**87.87**	**355**	P	**P**	**01 05 53.2**	**+0.6**
KEST				IAmb	IAmb	01 06 10.1	
	comp=Z,5.9nm,1.1s						
AKAS	**Kas**	**89.08**	**11**	P	**P**	**01 05 58.6**	**+0.2**
AKAS				IAmb	IAmb	01 05 58.8	
	comp=Z,19nm,1.1s						
PMOZ	**Porto Moniz, M**	**89.48**	**333**	P	**P**	**01 05 59.9**	**-0.5**
WRA	**Warramunga Arr**	**90.65**	**125**	P	**P**	**01 06 07.4**	**+1.1**
WB2	**Warramunga Arr**	**90.66**	**125**	P	**P**	**01 06 06.8**	**+0.5**
WB2				IAmb	IAmb	01 06 07.0	
	comp=Z,2.8nm,1.1s						
WRAB	**Tennant Creek**	**90.67**	**125**	P	**P**	**01 06 07.4**	**+1.1**
WRAB				IAmb	IAmb	01 06 13.6	
	comp=Z,12nm,0.8s						
CART	**Cartagena**	**90.70**	**347**	P	**P**	**01 06 05.1**	**-0.6**
OUZ	**Omahuta**	**90.74**	**162**	P	**P**	**01 06 04.9**	**-1.5**
ISP	**Isparta**	**90.76**	**12**	P	**P**	**01 06 07.0**	**+0.8**
KOPT	**Kop Dagi**	**94.54**	**19**	P	**P**	**01 06 26.0**	**+2.2**
KOPT				IAmb	IAmb	01 06 29.5	
	comp=Z,7.0nm,1.0s						
NVAR	**Mina Array Bea**	**145.26**	**265**	PKPbc	**PKPbc**	**01 12 40.1**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=145,slow=4.4,SNR=15						

IDC 25 01:00:28.4±52.0, 24.16S×177.50W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/32, mbtmp3.6/3, Error ellipse: s-maj=961.3km s-min=168.9km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.75**	**249**	P	P	01 07 36.5	-1.2
	0.7nm,0.5s,baz=46,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**44.24**	**260**	P	P	01 08 39.8	-0.1
	0.4nm,0.4s,baz=97,slow=8.4,SNR=8.6						
WRA	**Warramunga Arr**	**44.67**	**266**	P	P	01 08 44.0	+0.7
	0.3nm,0.4s,baz=101,slow=8.2,SNR=7.7						

*NIED **25** 01:02:19.8, 29.22N×130.06E, h51km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.44; Mθθ-2.85; Mφφ1.41; Mrθ3.44; Mθφ-1.15; Mφr5.56; Fault plane solution: M0 7.08000×10^15 NP1:φs 36.00000°, δ 84.00000°, λ 70.00000°. NP2:φs 290.00000°, δ 21.00000°, λ 164.00000°.*
*JMA **25** 01:02:19.8±0.1, 29.22N×130.06E, h51km±3km, M4.1*
JMA Felt I J1.
*NEIC **25** 01:02:20.5±1.6, 29.10N±0.06×130.2E±0.1, h53km±7km, mb4.1/18, Error ellipse: s-maj=13.5km s-min=8.8km az=92.0*
*IDC **25** 01:02:21.6±2.7, 29.20N×129.98E, h58km±23km, mb3.7/18, mb1 3.9/22, mb1mx3.8/43, mbtmp4.0/22, ML3.7/4, MS3.5/18, Ms1 3.5/18, ms1mx3.3/46, Error ellipse: s-maj=21.8km s-min=14.8km az=73.0*

ISC 25 01:02:20.2±0.9, 29.15N±0.03×130.15E±0.05, h48km±9km, n97, σ1§10/97, mb3.9/21, MS3.5/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.73**	**341**	P	**Pn**	**01 02 32.8**	**-1.5**
JNN				*e*S	**Sn**	**01 02 42.1**	**-2.5**
JTAJ	**Takarajima**	**0.83**	**271**	P	**Pn**	**01 02 34.5**	**-1.1**
JZK	**Kikaishima**	**0.84**	**191**	P	**Pn**	**01 02 36.7**	**+0.9**
JZK				*e*S	**Sn**	**01 02 51.7**	**+4.5**
JAM	**Amami Oshima**	**0.88**	**213**	P	**Pn**	**01 02 35.9**	**-0.3**
JAM				*e*S	**Sn**	**01 02 47.5**	**-0.4**

JYAK Yakushimahirau 1.13 16 P **Pn** **01 02 38.9 -0.8**
JYAK *e*S **Sn** **01 02 52.7 -1.4**
JAMN Amaminishikomi 1.24 224 P **Pn** **01 02 40.7 -0.5**
JKC Kuchinoerabu 1.31 2 P **Pn** **01 02 41.5 -0.6**
JKC *e*S **Sn** **01 02 58.0 -0.4**
JMTN Minamitane 1.41 27 P **Pn** **01 02 43.6 +0.2**
JMTN *e*S **Sn** **01 03 00.3 -0.5**
JTN Tanegashima 3 1.67 25 P **Pn** **01 02 47.2 +0.2**
JTK Tokunoshima 1.72 218 P **Pn** **01 02 48.0 +0.3**
JTK S **Sn** **01 03 09.4 +0.9**
JOKE Okinoerabujima 2.26 218 P **Pn** **01 02 55.7 +0.6**
JSU Suzuyama 2.36 6 Pn **Pn** **01 02 56.5 0.0**
JYRO Yoronjima 2.59 216 P **Pn** **01 02 59.8 +0.1**
JYRO *e*S **Sn** **01 03 30.0 0.0**
JOW Kunigami 2.84 216 P **Pn** **01 03 03.2 +0.1**
JIH Iheya 2.85 223 P **Pn** **01 03 03.6 +0.3**
JIH *e*S **Sn** **01 03 36.7 +0.3**
JNTH Nagotoyohara 3.23 216 P **Pn** **01 03 08.6 +0.2**
JNTH *e*S **Sn** **01 03 43.8 -1.8**
JKDJ Kitadaitoujima 3.34 162 S **Sn** **01 03 45.4 -3.1**
JMZ Minamidaito 2 3.45 164 S **Sn** **01 03 48.5 -2.6**
JMZ Minamidaito 2 3.45 164 Pn **Pn** **01 03 10.2 -1.2**
JAGN Aguni-jima 3.62 226 P **Pn** **01 03 14.3 +0.5**
JNU Nakatsue 4.01 9 P **Pn** **01 03 20.8 +1.6**
14nm,0.3s,baz=193,slow=12,SNR=48
JNU S **Sn** **01 04 07.2 +2.3**
1.4nm,0.3s,baz=197,slow=8.1,SNR=1.1
JNU LR LR 01 05 15.6
comp=Z,494nm,18.4s,baz=176,slow=44
JNU Nakatsue 4.01 9 Pn **Pn** **01 03 20.9 +1.7**
JKE Kume jima 2 4.10 227 P **Pn** **01 03 20.5 +0.2**
JMN Monobe 5.57 34 Pn **Pn** **01 03 40.6 +0.1**
JHS Saijyo 6.35 23 Pn **Pn** **01 03 50.6 -0.7**
JWT Wachi 7.56 35 Pn **Pn** **01 04 07.9 +0.1**
INU Inuyama 8.48 41 Pn **Pn** **01 04 22.2 +1.7**
KSAR Wonju Array Be 8.49 348 Pn Pn 01 04 25.5 +5.0
KSRS Korea Array 8.49 348 P **Pn** **01 04 20.5 0.0**
0.2nm,0.3s,baz=245,slow=22,SNR=1.2
KSRS LR LR 01 07 51.4
comp=Z,331nm,19.8s,baz=153,slow=39
KS19 Wonju Array Si 8.55 348 Pn **Pn** **01 04 24.9 +3.6**
JGF Kuroka 8.86 42 Pn **Pn** **01 04 26.9 +1.2**
MJAR Matsushiro Arr 10.01 41 P **Pn** **01 04 42.8 +1.4**
0.1nm,0.3s,baz=272,slow=16,SNR=2.8
MJAR Matsushiro Arr 10.01 41 **Pn** **01 04 41.4 0.0**
TWG Pinlang 10.31 234 Pn **Pn** **01 04 44.6 -0.9**
USRK Ussuriysk Ar. 15.09 5 LR LR 01 11 36.7
comp=Z,82nm,19.1s,baz=190,slow=37
BJT Baijiatuau 15.80 317 Pn **Pn** **01 05 59.2 -0.1**
ASAJ Asahikawa 17.94 30 P **P** **01 06 26.1 0.0**
1.0nm,0.3s,baz=218,slow=19,SNR=1.7
ASAJ LR LR 01 13 18.3
comp=Z,181nm,22.0s,baz=292,slow=36
JKA Kamikawa-asahi 17.94 30 P **P** **01 06 26.1 -0.1**
ENH Enshi 17.99 279 P **P** **01 06 28.4 +1.6**
XAN Xi'an 18.72 290 P **Pn** **01 06 35.3 -0.4**
KLR Kul'dur 20.09 3 P **P** **01 06 48.4 -1.2**
1.9nm,0.7s,baz=177,slow=6.3,SNR=6.0
KLR LR LR 01 13 54.7
comp=Z,83nm,19.1s,baz=182,slow=35
GUMO Guam 20.64 136 LR LR 01 13 23.3
comp=Z,94nm,21.6s,baz=345,slow=32
DAV Davao City (W) 22.39 192 LR LR 01 16 24.0
comp=Z,66nm,19.0s,baz=337,slow=38
ULN Ulaanbaatar 25.84 323 P **P** **01 07 48.0 +0.9**
ULN IAmb IAmb 01 07 50.0
comp=Z,5.9nm,0.9s
SONM Songino Array 26.17 322 P **P** **01 07 48.2 -1.9**
comp=Z,4.4nm,0.8s,baz=137,slow=8.4,SNR=12
SONM LR LR 01 19 14.1
comp=Z,212nm,20.2s,baz=72,slow=39
SONM Songino Array 26.17 322 P **P** **01 07 50.9 +0.7**
TLY Talaya 29.94 326 LR LR 01 21 43.5
comp=Z,152nm,19.6s,baz=126,slow=39
CMAR Chiang Mai Arr 30.39 256 LR LR 01 22 35.4
comp=Z,97nm,18.1s,baz=119,slow=40
PETK Petropavlovsk- 31.33 32 LR LR 01 21 05.3
comp=Z,59nm,22.0s,baz=230,slow=36
H11N2 WAKE ISLAND Hy 34.62 97 T T 01 45 56.5
baz=297,slow=74,SNR=13
H11N1 WAKE ISLAND Hy 34.62 97 T T 01 45 52.0
baz=297,slow=74,SNR=7.1
H11N3 WAKE ISLAND Hy 34.64 97 T T 01 45 50.4
baz=297,slow=74,SNR=12
GUN Gumba 38.74 279 *e*P **P** **01 09 41.1 +0.7**
PKI Pulchoki 39.23 279 *e*P **P** **01 09 44.3 -0.1**
comp=Z,11nm,0.8s
PKIN Phulchoki 39.23 279 *e*P **P** **01 09 44.2 -0.2**
comp=Z,12nm,0.7s
KKN Kakani 39.29 279 *e*P **P** **01 09 44.9 +0.1**
comp=Z,16nm,0.8s
DMN Daman 39.48 279 *e*P **P** **01 09 46.2 -0.2**
GKN Gorkha 39.80 280 *e*P **P** **01 09 48.7 -0.2**
DANN Dangsing 40.47 281 *e*P **P** **01 09 55.0 +0.3**
KOLN Koldanda 40.74 280 *e*P **P** **01 09 56.7 -0.1**
MK31 Makanchi Array 40.95 309 P **P** **01 09 57.8 -0.3**
MK31 IAmb IAmb 01 11 15.5
comp=Z,3.8nm,1.4s
MKAR Makanchi Array 40.95 309 P **P** **01 09 56.9 -1.1**
comp=Z,0.5nm,0.6s,baz=96,slow=8.4,SNR=5.5
MKAR PcP **PcP** **01 11 57.6 0.0**
comp=Z,1.4nm,0.7s,baz=70,slow=4.0,SNR=8.8
MKAR LR LR 01 29 26.5
comp=Z,30nm,19.9s,baz=90,slow=40
ZAA0 Zalesovo Array 41.03 320 P **P** **01 09 59.4 +0.9**
ZAA0 IAmb IAmb 01 10 07.8
comp=Z,7.9nm,1.6s
ZALV Zalesovo Beam 41.03 320 P **P** **01 09 58.1 -0.5**
comp=Z,0.5nm,0.3s,baz=111,slow=8.3,SNR=6.1
ZALV PcP **PcP** **01 11 57.3 -0.4**
comp=Z,1.8nm,0.8s,baz=101,slow=3.0,SNR=6.1
ZALV LR LR 01 28 05.2
comp=Z,127nm,19.1s,baz=79,slow=38
ZALV Zalesovo Beam 41.03 320 P **P** **01 09 59.1 +0.5**
ZALV **PcP** **01 11 57.1 -0.5**
PYUN Piuthan 41.19 280 *e*P **P** **01 10 00.8 +0.3**
KURK Kurchatov 43.95 314 P **P** **01 10 22.0 -0.3**
KURK Kurchatov 43.95 314 IAmb IAmb 01 10 23.5
comp=Z,4.9nm,1.1s
KURBB Kurchatov Arra 43.99 314 P **P** **01 10 22.0 -0.6**
comp=Z,1.3nm,0.5s,baz=99,slow=8.5,SNR=7.6
KURBB PP **PcP** **01 12 07.4 -0.2**
comp=Z,0.4nm,0.2s,baz=102,slow=9.0,SNR=5.7
NRIK Noril'sk 47.03 341 PcP **PcP** **01 12 18.0 +0.2**
comp=Z,1.2nm,0.5s,baz=96,slow=2.9,SNR=5.7
NRIK LR LR 01 30 33.5
comp=Z,68nm,19.1s,baz=14,slow=36
NIL Nilore 48.26 291 P **P** **01 10 56.6 0.0**
WB0 Warramunga Arr 48.80 175 P **P** **01 10 59.3 -1.4**
WRAB Tennant Creek 48.96 175 P **P** **01 11 01.6 -0.3**
WRA Warramunga Arr 48.97 175 P **P** **01 11 02.4 +0.4**
comp=Z,1.6nm,0.6s,baz=354,slow=8.3,SNR=20
WRA LR LR 01 30 15.3
comp=Z,25nm,21.0s,baz=35,slow=34
WB2 Warramunga Arr 48.97 175 P **P** **01 11 01.3 -0.6**
KKAR Karatay Array 49.17 303 P **P** **01 11 03.6 +0.2**
BRVK Borovoye 49.35 317 P **P** **01 11 04.5 0.0**
AS31 Alice Springs 52.63 176 P **P** **01 11 29.4 -0.1**
ASAR Alice Springs 52.63 176 P **P** **01 11 30.6 +1.1**
comp=Z,0.9nm,0.8s,baz=6.8,slow=14,SNR=19
ASAR Alice Springs 52.63 176 P **P** **01 11 28.8 -0.7**
ABKAR Akbulak array 55.93 312 P **P** **01 11 53.3 +0.1**
GEYT Alibeck 59.34 299 LR LR 01 40 21.2
comp=Z,34nm,19.7s,baz=15,slow=38
ILAR Eielson Array 61.07 29 P **P** **01 12 29.0 +0.2**
comp=Z,0.3nm,0.6s,baz=283,slow=8.2,SNR=5.4
STKA Stephens Creek 61.66 169 LR LR 01 39 39.1
comp=Z,

GERES	**GERESS Array B**	**83.89**	**323**	P		**P**	**01 14 44.5**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=40,slow=7.7,SNR=4.6								
NVAR	**Mina Array Bea**	**87.27**	**47**	P		**P**	**01 15 03.6**	**+1.5**	
	comp=Z,0.2nm,0.3s,baz=317,slow=3.8,SNR=2.6								
PDAR	**Pinedale Array**	**89.83**	**39**	P		**P**	**01 15 14.1**	**-0.1**	
	comp=Z,0.4nm,0.6s,baz=307,slow=3.0,SNR=4.9								
TORD	**Torodi Ar. Bea**	**114.86**	**303**	PKP	PKPdf		01 20 56.2	-0.1	
	comp=Z,0.6nm,0.9s,baz=23,slow=3.4,SNR=3.6								

IDC 25 01:11:34.5±2.3, 3.75S×128.90E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/30, mbtmp3.1/3, ML2.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/13, Error ellipse: s-maj=132.8km s-min=32.0km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**16.95**	**162**	Pn		P	01 15 34.4	-1.0
	0.0nm,0.3s,baz=342,slow=11,SNR=1.9							
PMG	**Port Moresby**	**18.98**	**108**	LR		LR	01 25 05.5	
	comp=Z,132nm,18.2s,baz=308,slow=43							
ASAR	**Alice Springs**	**20.39**	**167**	P		P	01 16 12.6	-0.6
	0.3nm,0.6s,baz=347,slow=11,SNR=3.0							
MKAR	**Makanchi Array**	**64.92**	**327**	P		P	01 22 16.0	0.0
	0.1nm,0.4s,baz=145,slow=5.3,SNR=2.0							

*JMA **25** 01:18:27.5±0.5, 33.49N×138.40E, h312km±5km, M4.2*
*NIED **25** 01:18:27.6, 33.49N×138.40E, h312km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.13; Mθθ-0.98; Mφφ-0.15; Mrθ-1.07; Mθφ-0.64; Mφr~0.60; Fault plane solution: M0 1.74000×10^15 NP1: φs241.00000°, δ67.00000°, λ89.00000°. NP2:φs62.00000°, δ23.00000°, λ91.00000°.*
*IDC **25** 01:18:29.6±0.5, 33.45N×138.24E, h288km±5km, mb3.5/16, mb1 3.7/21, mb1mx3.5/40, mbtmp4.1/21 Error ellipse: s-maj=15.1km s-min=8.0km az=68.0*
*NEIC **25** 01:18:29.5±1.1, 33.51N±0.08×138.36E±0.09, h292km±6km, mb4.1/14, Error ellipse: s-maj=11.5km s-min=10.9km az=220.0*

ISC 25 01:18:29.9±0.6, 33.52N±0.05×138.32E±0.05, h293km±5km, n81, σ0.79/96, mb3.9/22, 18C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TK02	**Tokai 2**	**0.63**	**313**	⇑P		**Pn**	**01 19 08.3**	**+0.6**
TK01	**Tokai 1**	**0.65**	**292**	P		**Pn**	**01 19 07.9**	**+0.2**
TK03	**Tokai 3**	**0.71**	**336**	⇑P		**Pn**	**01 19 09.0**	**+0.9**
TTO3	**TONANKAI O.B.S**	**0.84**	**294**	⇑P		**Pn**	**01 19 09.1**	**+0.5**
TTO5	**TONANKAI O.B.S**	**0.89**	**326**	⇑P		**Pn**	**01 19 09.3**	**+0.6**
JKO	**Kozu shima**	**0.95**	**45**	P		**Pn**	**01 19 09.4**	**+0.2**
JMKN	**Mikurajimanish**	**1.12**	**70**	⇑P		**Pn**	**01 19 09.7**	**-0.4**
JMKN				S		**S**	**01 19 42.5**	**+0.5**
JSG	**Sagara**	**1.16**	**355**	Pn		**Pn**	**01 19 10.2**	**0.0**
TTO1	**TONANKAI O.B.S**	**1.28**	**275**	⇑P		**Pn**	**01 19 10.9**	**+0.3**
JHJ	**Hachijo jima 2**	**1.29**	**108**	P		**Pn**	**01 19 10.6**	**-0.4**
	35nm,0.3s,baz=299,slow=19,SNR=13							
JHJ				S		**S**	**01 19 43.6**	**-0.1**
	64nm,0.3s,baz=56,slow=23,SNR=9.5							
JHJ2	**Mitsune**	**1.32**	**108**	P		**Pn**	**01 19 11.0**	**-0.2**
JHJ2	**Mitsune**	**1.32**	**108**	Pn		**Pn**	**01 19 10.2**	**-1.0**
JIE	**Ise**	**1.60**	**303**	⇑P		**Pn**	**01 19 13.0**	**+0.1**
JFNN	**Fujinakano**	**1.70**	**10**	P		**Pn**	**01 19 13.9**	**+0.3**
JOD2	**Odawara 2**	**1.85**	**20**	⇑P		**Pn**	**01 19 14.8**	**0.0**
JOD2				S		**S**	**01 19 51.0**	**+0.4**
JYN	**Shimob**	**1.98**	**5**	⇑P		**Pn**	**01 19 16.2**	**+0.3**
INU	**Inuyama**	**2.12**	**330**			**Pn**	**01 19 16.6**	**-0.3**
JGF	**Kuroka**	**2.22**	**339**	Pn		**Pn**	**01 19 17.5**	**-0.4**
JTNC	**Tanabenakahech**	**2.28**	**278**	⇑P		**Pn**	**01 19 17.9**	**-0.4**
JWY	**Kouya**	**2.37**	**288**	⇑P		**Pn**	**01 19 19.4**	**+0.2**
JWY				S		**S**	**01 19 57.7**	**-0.8**
JYTA	**Yamagatataniai**	**2.45**	**328**	⇑P		**Pn**	**01 19 20.1**	**+0.3**
JYTA				S		**S**	**01 19 59.8**	**+0.3**
BSO1	**Boso 1**	**2.48**	**62**	⇑P		**Pn**	**01 19 18.0**	**-1.5**
BSO1				S		**S**	**01 19 56.6**	**-2.5**
JRY	**Ryogami san**	**2.54**	**11**	⇑P		**Pn**	**01 19 21.1**	**+0.5**
JRY				S		**S**	**01 20 01.0**	**-0.1**
JWT	**Wachi**	**2.98**	**307**	⇑P		**Pn**	**01 19 25.0**	**0.0**
JWT				S		**S**	**01 20 08.2**	**-0.6**
JWT	**Wachi**	**2.98**	**307**			**Pn**	**01 19 24.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.02**	**358**	P		**Pn**	**01 19 24.7**	**-0.6**
	1.7nm,0.3s,baz=174,slow=11,SNR=146							
MJAR				S		**S**	**01 20 09.5**	**+0.1**
	0.7nm,0.3s,baz=171,slow=18,SNR=5.8							
MAJO	**Matsushiro**	**3.02**	**358**	Pn		**Pn**	**01 19 25.3**	**+0.1**
MAT	**Matsushiro**	**3.02**	**358**	P		**Pn**	**01 19 24.9**	**-0.4**
MAT				S		**S**	**01 20 08.5**	**-0.9**
MAT	**Matsushiro**	**3.02**	**358**	P		**Pn**	**01 19 25.4**	**+0.1**
MAT				S		**S**	**01 20 08.7**	**-0.8**
MJB9	**Matsu-Tunnel**	**3.02**	**358**	Pn		**Pn**	**01 19 25.1**	**-0.1**
JAG	**Ashikaga**	**3.04**	**18**	⇑P		**Pn**	**01 19 24.4**	**-1.1**
JYT	**Yasato**	**3.11**	**29**			**Pn**	**01 19 24.6**	**-1.5**
JKG	**Kaga**	**3.20**	**330**	⇑P		**Pn**	**01 19 27.4**	**+0.4**
JKG				S		**S**	**01 20 12.3**	**-0.4**
JAI	**Aioi**	**3.24**	**276**	⇑P		**Pn**	**01 19 27.0**	**-0.5**
JMN	**Monobe**	**3.71**	**274**	Pn		**Pn**	**01 19 32.1**	**-0.5**
JSD	**Sado**	**4.51**	**359**	Pn		**Pn**	**01 19 40.9**	**-0.5**
JHS	**Saijyo**	**4.55**	**290**	Pn		**Pn**	**01 19 42.0**	**0.0**
JMM	**Marumori**	**4.78**	**24**			**Pn**	**01 19 43.1**	**-1.4**
JNU	**Nakatsue**	**6.24**	**268**	P		**Pn**	**01 20 01.7**	**-0.3**
	0.4nm,0.3s,baz=53,slow=17,SNR=2.2							
KSRS	**Korea Array**	**9.34**	**298**	P		**Pn**	**01 20 40.8**	**+0.9**
	0.4nm,0.3s,baz=112,slow=13,SNR=25							
KSAR	**Wonju Array Be**	**9.36**	**298**	Pn		**Pn**	**01 20 39.8**	**-0.3**
KS19	**Wonju Array Si**	**9.40**	**298**			**Pn**	**01 20 40.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.74**	**337**	P		**Pn**	**01 21 08.9**	**-0.3**
	baz=143,slow=9.5,SNR=15							
USRK	**Ussuriysk Ar.**	**11.74**	**337**	P		**Pn**	**01 21 08.7**	**-0.6**
MDJ	**Mudanjiang**	**12.98**	**331**			**Pn**	**01 21 24.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**13.84**	**13**	P		**P**	**01 21 33.6**	**-0.7**
KLR	**Kul'dur**	**16.44**	**345**	P		**P**	**01 22 02.9**	**0.0**
	1.8nm,0.3s,baz=172,slow=9.1,SNR=44							
HIA	**Hailar**	**20.93**	**324**	P		**P**	**01 22 48.8**	**-1.6**
PETK	**Petropavlovsk-**	**23.99**	**29**	P		**P**	**01 23 19.8**	**+1.5**
	4.3nm,1.1s,baz=162,slow=4.9,SNR=1.9							
PETK	**Petropavlovsk-**	**23.99**	**29**	P		**P**	**01 23 18.1**	**-0.2**
XAN	**Xi'an**	**24.41**	**279**	P		**P**	**01 23 21.6**	**-0.8**
XAN				IAmb		IAmb	01 23 28.3	
	comp=Z,4.1nm,0.7s							
ENH	**Enshi**	**24.66**	**270**	P		**P**	**01 23 23.0**	**-1.6**
ULN	**Ulaanbaatar**	**27.48**	**311**	P		**P**	**01 23 51.0**	**+1.2**
ULN				IAmb		IAmb	01 23 52.8	
	comp=Z,5.8nm,0.6s							
SONM	**Songino Array**	**27.88**	**310**	P		**P**	**01 23 54.4**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=114,slow=9.2,SNR=14							
SONM	**Songino Array**	**27.88**	**310**	P		**P**	**01 23 54.5**	**+1.1**
TIXI	**Tiksi**	**38.52**	**355**	P		**P**	**01 25 24.7**	**+0.6**
TIXI				IAmb		IAmb	01 25 25.2	
	comp=Z,4.8nm,1.1s							
ZALV	**Zalesovo Beam**	**42.52**	**315**	P		**P**	**01 25 56.0**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=106,slow=7.9,SNR=4.3							
ZALV				ScP		**ScP**	**01 31 05.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=133,slow=6.3,SNR=2.2							
MKAR	**Makanchi Array**	**43.94**	**305**	P		**P**	**01 26 08.5**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=90,slow=9.9,SNR=34							
MKAR				ScP		**ScP**	**01 31 11.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=84,slow=5.8,SNR=5.2							
MKAR	**Makanchi Array**	**43.94**	**305**	P		**P**	**01 26 08.3**	**-0.1**
NRIK	**Noril'sk**	**45.46**	**337**	P		**P**	**01 26 20.5**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=109,slow=9.6,SNR=5.7							
KURK	**Kurchatov**	**46.19**	**310**	P		**P**	**01 26 25.6**	**-0.2**
KURK				IAmb		IAmb	01 26 26.3	
	comp=Z,6.1nm,0.7s							
KKAR	**Karatay Array**	**52.74**	**302**	P		**P**	**01 27 14.9**	**-0.3**
WB2	**Warramunga Arr**	**53.30**	**185**	IAmb		IAmb	01 27 18.9	
	comp=Z,9.5nm,0.7s							
WRA	**Warramunga Arr**	**53.30**	**185**	P		**P**	**01 27 18.2**	**-1.2**
	comp=Z,11nm,0.3s,baz=0.2,slow=7.7,SNR=268							
WRA				PcP		**PcP**	**01 28 23.4**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=359,slow=3.3,SNR=5.3							
WRA	**Warramunga Arr**	**53.30**	**185**	P		**P**	**01 27 17.2**	**-2.1**
WR0	**Warramunga Arr**	**53.30**	**184**	P		**P**	**01 27 18.4**	**-1.0**
ILAR	**Eielson Array**	**53.81**	**31**	P		**P**	**01 27 22.3**	**-0.2**
	comp=Z,0.7nm,1.1s,baz=256,slow=5.5,SNR=2.9							
ASAR	**Alice Springs**	**57.02**	**185**	P		**P**	**01 27 44.9**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=1.7,slow=3.7,SNR=53							
ASAR				PcP		**PcP**	**01 28 38.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=11,slow=3.1,SNR=1.6							
ASAR	**Alice Springs**	**57.02**	**185**	P		**P**	**01 27 44.6**	**-1.2**
STKA	**Stephens Creek**	**65.12**	**177**	P		**P**	**01 28 39.5**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=336,slow=9.7,SNR=5.4							
ARCES	**ARCESS Array B**	**66.38**	**339**	P		**P**	**01 28 48.0**	**+0.6**
	comp=Z,5.8nm,1.1s,baz=57,slow=7.4,SNR=5.4							
FINES	**FINESS Array B**	**70.72**	**332**	P		**P**	**01 29 14.2**	**+0.1**
	comp=Z,2.9nm,0.4s,baz=56,slow=5.9,SNR=52							
KBZ	**Khabaz**	**71.25**	**310**	P		**P**	**01 29 18.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=223,slow=3.5,SNR=3.9							
AKASG	**Malin Array Be**	**75.50**	**322**	P		**P**	**01 29 42.1**	**0.0**
	comp=Z,1.4nm,0.5s,baz=49,slow=6.1,SNR=8.3							
NB2	**NORSAR Subarra**	**76.42**	**336**	P		**P**	**01 29 47.1**	**0.0**
	comp=Z,2.1nm,0.7s,baz=44,slow=5.9							
NOA	**NORSAR Array B**	**76.42**	**336**	P		**P**	**01 29 46.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=42,slow=5.8,SNR=5.5							
NVAR	**Mina Array Bea**	**79.14**	**51**	P		**P**	**01 30 04.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=303,slow=4.2,SNR=2.6							
GERES	**GERESS Array B**	**84.31**	**327**	P		**P**	**01 30 29.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=5.1,SNR=2.6							
TXAR	**Lajitas Array**	**94.29**	**51**	P		**P**	**01 31 18.4**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=267,slow=3.3,SNR=7.4							
TORD	**Torodi Ar. Bea**	**117.86**	**311**	PKP		**PKPdf**	**01 36 41.4**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=29,slow=1.2,SNR=5.6							
LPAZ	**La Paz**	**150.64**	**61**	PKPbc		**PKiKP**	**01 37 49.5**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=328,slow=3.8,SNR=5.8							

*IDC **25** 01:48:36.5±0.4, 64.63N×17.50W, h0km, mb4.3/32, mb1 4.3/37, mb1mx4.2/57, mbtmp4.2/37, ML2.9/3, MS4.2/34, Ms1 4.2/34, ms1mx4.1/49, Error ellipse: s-maj=13.7km s-min=7.3km az=14.0*
*REY **25** 01:48:36.4, 64.67N×17.45W, h4km*
*MOS **25** 01:48:37.3±1.2, 64.51N×17.58W, h10km, mb5.1/50, MS4.5/19, Error ellipse: s-maj=8.7km s-min=6.0km az=94.4*
*NEIC **25** 01:48:38.1±1.9, 64.45N±0.08×17.6W±0.1, h7km±3km, mb5.0/248, Error ellipse: s-maj=12.4km s-min=7.6km az=192.0*
*BJI **25** 01:48:38.0±0.0, 64.70N×17.50W, h10km, mB5.4/37, mb4.8/41, Ms5.0/19, MS7.4 7/18*
*GCMT **25** 01:48:43.1±0.2, 64.68N±0.02×17.42W±0.02, h12km, MW5.0/108, Moment Tensor Solution. s54,c74; s108,c166; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.04±.08; Mθθ-0.41±.08; Mφφ2.45±.05; Mrθ-2.49±.26; Mθφ-1.41±.06; Mφr-0.47±.18; Best double couple: Mo3.58600×10^16 NP1:φs8.00000°, δ50.00000°, λ-36.00000°. NP2:φs123.00000°, δ63.00000°, λ-133.00000°. Principal axes: T 3.1010, Plg8.0000°, Azm243.0000°; N 0.9740, Plg38.0000°, Azm147.0000°; P -4.0720, Plg51.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **25** 01:48:44.9±0.0, 64.27N×17.36W, h10km, mb5.5, mB_BB5.7, Ms4.0*

ISC 25 01:48:39.9±0.2, 64.67N±0.02×17.42W±0.02, h10km, n750, σ2.09/703, mb5.0/231, MS4.4/55, 37C-11D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IDYN	**Dyngjuhals**	**0.12**	**11**	P		**Pg**	**01 48 39.4**	**-3.5**
	baz=16							
IDYN				S		**Sg**	**01 48 41.1**	**-3.9**
	baz=16							
IVON	**Vonarskard**	**0.14**	**271**	P		**Pg**	**01 48 39.2**	**-4.0**
	baz=273							
IDJK	**Dyngjujokull**	**0.19**	**155**	P		**Pg**	**01 48 40.3**	**-3.6**
	baz=151							
IURH	**Urdarhals**	**0.19**	**38**	P		**Pg**	**01 48 40.5**	**-3.4**
	baz=40							
IGRF	**Grimsfjall**	**0.27**	**166**	P		**Pg**	**01 48 41.9**	**-3.6**
	baz=163							
IKVE	**Kverkfjoll**	**0.32**	**89**	P		**Pg**	**01 48 42.9**	**-3.4**
	baz=88							
THOR	**Thorvaldshraun**	**0.41**	**50**	P		**Pg**	**01 48 44.4**	**-3.6**
	baz=51							
THOR				S		**Sg**	**01 48 50.5**	**-2.9**
	baz=51							
IVOT	**Vottur**	**0.42**	**166**	P		**Pg**	**01 48 44.2**	**-3.8**
	baz=164							
ISKR	**Skrokkalda**	**0.43**	**255**	P		**Pg**	**01 48 44.2**	**-4.1**
	baz=256							
IKRE	**Kreppuhraun**	**0.46**	**75**	P		**Pg**	**01 48 45.0**	**-3.8**
	baz=75							
IJOK	**Jokulheimar**	**0.50**	**225**	P		Pg	01 48 45.4	-4.2
	baz=224							
IASK	**Askja**	**0.50**	**40**	P		**Pg**	**01 48 45.7**	**-4.0**
	baz=41							
IASK				S		**Sg**	**01 48 51.8**	**-4.6**
	baz=41							
IMKO	**Mokollar**	**0.56**	**56**	P		**Pg**	**01 48 46.8**	**-3.8**
	baz=56							
IMKO				S		**Sg**	**01 48 55.2**	**-2.8**
	baz=56							
IKSK	**Karasker**	**0.66**	**141**	P		Pg	01 48 47.8	-4.7
	baz=140							
ISVA	**Svartarkot**	**0.67**	**6**	P		**Pg**	**01 48 48.5**	**-4.3**
	baz=6.9							
IKAL	**Kalfafell**	**0.74**	**189**	P		Pg	01 48 49.6	-4.4
	baz=188							
IVSH	**V-Sauoahnukur**	**0.74**	**79**	P		**Pg**	**01 48 49.6**	**-4.4**
	baz=78							
IVSH				S		**Sg**	**01 48 59.9**	**-3.8**
	baz=78							
IVAT	**Vatnsfell**	**0.81**	**234**	P		Pg	01 48 50.9	-4.6
	baz=234							
IADA	**Aoalbol**	**0.86**	**65**	P		Pg	01 48 51.6	-4.8
	baz=65							
IADA				S		**Sg**	**01 49 03.2**	**-4.4**
	baz=65							
IHVE	**Hveravellir**	**0.94**	**283**	P		Pg	01 48 52.5	-5.5
	baz=284							
IMEL	**Melhnausar**	**0.96**	**19**	P		Pg	01 48 53.2	-5.0
	baz=20							
IREN	**Reynihlio**	**1.00**	**12**	P		Pg	01 48 54.0	-5.1
	baz=13							
IKVO	**Krokottuvotn**	**1.07**	**12**	P		Pg	01 48 55.1	-5.3
	baz=13							
ISNB	**Snabyli**	**1.08**	**210**	P		Pb	01 48 55.3	-5.3
	baz=210							
ISNB				S		**Sg**	**01 49 10.2**	**-4.3**
	baz=210							
IGRS	**Grimsstaoir**	**1.11**	**29**	P		Pg	01 48 56.0	-5.3
	baz=29							
ISLY	**Slysaalda**	**1.13**	**222**	P		Pb	01 48 56.2	-5.2
	baz=222							
IFED	**Fedgar**	**1.18**	**238**	P		Pn	01 48 57.3	-5.2
	baz=238							
ISKI	**Skildingahlsh**	**1.21**	**8**	P		Pb	01 48 57.5	-5.4
	baz=8.2							
IGHA	**Grjothals**	**1.22**	**15**	P		Pb	01 48 57.3	-5.6
	baz=15							
IGRA	**Granastaoir**	**1.25**	**357**	P		Pn	01 48 58.0	-5.4
	baz=358							
IDIM	**Dimmadalss**	**1.31**	**9**	P		Pn	01 48 59.0	-5.2
	baz=9.2							
IHLA	**Hella**	**1.34**	**343**	P		Pn	01 48 59.5	-5.1
	baz=343							
IBRE	**Brettingsstaoi**	**1.47**	**352**	P		Pn	01 49 01.4	-5.0
	baz=353							
ISIG	**Siglufjorour**	**1.59**	**338**	P		**Pn**	**01 49 03.3**	**-4.7**
	baz=338							
BORG	**Borgarnes**	**1.68**	**274**	Pg		Pn	01 49 04.6	-4.7
	57nm,0.3s,baz=104,slow=7.3,SNR=147							
BORG				Lg		Lg	01 49 28.3	
	55nm,0.3s,baz=51,slow=20,SNR=3.5							
BORG	**Borgarnes**	**1.68**	**274**	P		**Pn**	**01 49 06.1**	**-3.1**
BORG							01 49 28.8	
BORG	**Borgarnes**	**1.68**	**274**	Pn		**Pn**	**01 49 06.1**	**-3.1**
BORG				Sn		**Sn**	**01 49 28.8**	**-2.0**
JMIC	**Jan Mayen**	**7.17**	**24**	LR		LR	01 52 43.5	
	comp=Z,2μm,18.3s,baz=222,slow=34							
ICESG	**Greenland Ices**		**9.76**	**307**	*eP*	**Pn**	**01 51 02.5**	**+2.1**
SUMG	**Summit**		**10.96**	**325**	*i P*	**Pn**	**01 51 19.2**	**+2.5**
SUMG	**Summit**		**10.96**	**325**	Pn	**Pn**	**01 51 17.1**	**+0.3**
SUMG	**Summit**		**10.96**	**325**	*i P*	**Pn**	**01 51 19.2**	**+2.5**
SUMG	**Summit**		**10.96**	**325**	*i P*	**Pn**	**01 51 19.2**	**+2.5**
EKA	**Eskdalemuir Ar**		**11.74**	**136**	Pn	**Pn**	**01 51 23.5**	**-3.6**
	baz=323,slow=12,SNR=12							
ESK	**Eskdalemuir**		**11.74**	**136**	P	**Pn**	**01 51 25.0**	**-2.2**
ESK	**Eskdalemuir**		**11.74**	**136**	Pn	**Pn**	**01 51 25.0**	**-2.2**
DAG	**Danmarks Havn**		**12.17**	**359**	*i P*	**Pn**	**01 51 34.5**	**+1.6**
DAG	**Danmarks Havn**		**12.17**	**359**	*i P*	**Pn**	**01 51 34.5**	**+1.6**
DAG	**Danmarks Havn**		**12.17**	**359**	*i P*	**Pn**	**01 51 34.5**	**+1.6**
NOA	**NORSAR Array B**		**13.50**	**92**	Pn	**Pn**	**01 51 47.4**	**-3.8**
	0.0nm,0.3s,baz=139,slow=17,SNR=2.0							
NOA				LR		LR	01 56 56.8	
	comp=Z,864nm,20.6s,baz=300,slow=37							
NC405	**NORSAR Array S**		**13.68**	**92**	Pn	**Pn**	**01 51 52.2**	**-1.5**
SFJD	**Kangerlussuaq**		**13.70**	**295**	LR	LR	01 56 28.7	
	comp=Z,2μm,21.8s,baz=86,slow=34							
HFS	**Hagfors**		**15.01**	**93**	Pn	Pn	01 52 05.9	-5.9
	baz=316,slow=8.1,SNR=1.9							
HFS				LR		LR	01 58 03.4	
	comp=Z,818nm,19.4s,baz=292,slow=38							
KBS	**Kingsbay**		**16.62**	**19**	*i P*	**P**	**01 52 36.2**	**+1.3**
SPITS	**Spitsbergen Ar**		**16.85**	**23**	LR	LR	01 57 30.6	
	comp=Z,794nm,20.8s,baz=260,slow=32							
NOR	**Nord**		**17.02**	**0**	*i P*	**P**	**01 52 38.8**	**-0.5**
NOR	**Nord**		**17.02**	**0**	*i P*	**P**	**01 52 38.8**	**-0.5**
NOR	**Nord**		**17.02**	**0**	*i P*	**P**	**01 52 38.8**	**-0.5**
ARCES	**ARCESS Array B**		**17.09**	**55**	P	**Pn**	**01 52 36.1**	**-2.3**
	baz=35,slow=4.4,SNR=2.5							
ARCES				LR		LR	01 58 03.7	
	comp=Z,944nm,18.8s,baz=300,slow=33							
BSEG	**Bad Segeberg**		**17.61**	**115**	*eP*	**Pn**	**01 52 45.2**	**+0.2**
	67μm,13.5s,baz=324,slow=11							
BSEG				*eL*		L	02 00 22.9	
	933nm,18.2s							
IBBN	**Ibbenburen**		**17.90**	**122**	*eP*	**P**	**01 52 49.1**	**-0.1**
	652nm,2.4s,baz=324,slow=11							
UCC	**Uccle**		**17.98**	**130**	Pn	**Pn**	**01 52 48.5**	**-1.0**
UCC	**Uccle**		**17.98**	**130**	PnPn	P	01 52 59.9	+10
UCC	**Uccle**		**17.98**	**130**	P	**Pn**	**01 52 47.0**	**-2.6**
UCC				pmax	pmax			
	comp=Z,120nm,1.8s							
UCC	**Uccle**		**17.98**	**130**		**Pn**	**01 52 47.0**	**-2.6**
BEBN	**Eben Emael**		**18.42**	**128**	Pn	**Pn**	**01 52 54.8**	**-0.2**
BMRD	**Maredsous**		**18.54**	**130**	Pn	**P**	**01 52 55.5**	**-0.7**
BMRD	**Maredsous**		**18.54**	**130**	P	Pn	01 53 04.5	+8.1
BSTI	**Sart Tilman**		**18.56**	**129**	Pn	**Pn**	**01 52 57.4**	**+0.6**
BGES	**Gesves**		**18.57**	**130**	Pn	**Pn**	**01 52 56.9**	**+0.1**
BGES					sPn	**pP**	**01 53 00.1**	**+0.2**
BCLA	**Clavier**		**18.61**	**129**	Pn	**P**	**01 52 54.9**	**-2.2**
NRDL	**Niedersach Rie**		**18.63**	**118**	*eP*	**Pn**	**01 52 57.7**	**+0.3**
	comp=Z,2μm,3.4s,baz=324,slow=11							
DOU	**Dourbes**		**18.66**	**131**	pPn	**Pn**	**01 52 59.6**	**+1.7**
MEM	**Membach**		**18.69**	**128**	Pn	**P**	**01 52 57.4**	**-0.5**
MEM					sPn	**sP**	**01 53 02.1**	**-0.6**
MEM					PnPn	**PnPn**	**01 53 10.5**	**+0.5**
BTNL	**Ternell**		**18.75**	**128**	Pn	**Pn**	**01 52 59.7**	**+0.7**
BTNL					sPn	**sP**	**01 53 03.2**	**-0.2**
BTNL					PnPn	**PnPn**	**01 53 11.7**	**+0.8**
RCHB	**Rochefort**		**18.82**	**130**	Pn	**P**	**01 52 59.1**	**-0.1**
RCHB					pPn	**Pn**	**01 53 01.3**	**+1.6**
BHOU	**Houvegnez**		**18.91**	**128**	pPn	**Pn**	**01 53 03.2**	**+2.3**
ASSE	**Asse, Remlinge**		**19.13**	**118**	*eP*	**P**	**01 53 03.1**	**+0.4**
	comp=Z,876nm,2.9s,baz=324,slow=11							
CLZ	**Clausthal**		**19.25**	**119**	*eP*	**Pn**	**01 53 05.6**	**+0.6**
	comp=Z,189nm,1.5s,baz=324,slow=11							
GTTG	**Gottingen**		**19.33**	**120**	*eP*	**Pn**	**01 53 06.8**	**+0.8**
	comp=Z,238nm,1.6s,baz=324,slow=11							
WLF	**Walferdange**		**19.54**	**129**	Pn	**P**	**01 53 08.0**	**+0.7**
WLF					PnPn	**PnPn**	**01 53 21.5**	**-0.2**
FINES	**FINESS Array B**		**19.67**	**79**	P	**P**	**01 53 06.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=302,slow=11,SNR=8.9							
FINES				LR		LR	02 00 14.0	
	comp=Z,525nm,20.5s,baz=314,slow=35							
FINES	**FINESS Array B**		**19.67**	**79**	P	**Pn**	**01 53 09.9**	**-0.1**
FINES	**FINESS Array B**		**19.67**	**79**		**P**	**01 53 08.8**	**+0.3**
FINES					Pn	**Pn**	**01 53 09.9**	**-0.1**
FIA1	**FINESS Array S**		**19.67**	**79**	P	**Pn**	**01 53 09.8**	**-0.1**
CLF	**Chambon-Foret**		**19.78**	**138**	P	**P**	**01 53 05.7**	**-4.2**
TNS	**Taunus Mts**		**19.86**	**124**	*eP*	**Pn**	**01 53 12.9**	**+0.4**
	comp=Z,1μm,3.4s,baz=324,slow=11							
TNS				*eL*		L	02 00 21.4	
	comp=Z,385nm,21.6s							
TULEG	**Thule**		**19.86**	**327**	*i P*	**P**	**01 53 09.

PVCC MLR MLR
comp=Z,1μm,10.9s
PABE Paberze 22.18 95 *eP* **P 01 53 37.2 +1.6**
PRA Prague 22.21 116 *eP* **P 01 53 39.3 +3.2**
PRA *eS* Sn 01 57 47.3 -4.4
PRA AMS AMS 02 06 10.0
comp=Z,900nm,11.1s
PRA Prague 22.21 116 *eP* **P 01 53 39.3 +3.2**
PRA MLR MLR
comp=Z,900nm,11.1s
PRU Pruhonice 22.32 116 *eP* **P 01 53 39.5 +2.2**
PRU *eS* **S 01 57 45.1 +2.7**
PRU AMS AMS 02 06 50.0
comp=Z,2μm,11.0s
PRU Pruhonice 22.32 116 *eP* **P 01 53 39.5 +2.2**
PRU *eS* **S 01 57 45.1 +2.7**
PRU MLR MLR
comp=Z,2μm,11.0s
KSP Ksiaz 22.33 112 *eP* **P 01 53 41.6 +4.2**
WET Wettzell 22.37 120 *eL* L 02 02 29.8
comp=Z,562nm,20.5s
CHVC Chvalec 22.44 113 *eP* **P 01 53 39.0 +0.4**
CHVC *ex* x 01 53 41.8
CHVC AMS AMS 02 07 10.0
comp=Z,1μm,11.8s
UPC Upice 22.48 113 *eS* Sn 01 57 52.0 -6.3
UPC AMS AMS 02 07 10.0
comp=Z,2μm,10.9s
OSTC Ostas 22.53 113 *eP* **P 01 53 40.1 +0.6**
OSTC *eS* **S 01 57 51.6 +5.3**
OSTC AMS AMS 02 06 20.0
comp=Z,1μm,11.3s
KHC Kasperske Hory 22.65 119 *eP* **P 01 53 40.3 -0.5**
KHC *epP* **pP 01 53 44.3 +0.2**
KHC *eS* Sn 01 57 56.3 -5.9
KHC AMS AMS 02 04 20.0
comp=Z,2μm,12.1s
KHC Kasperske Hory 22.65 119 *eP* **P 01 53 40.3 -0.5**
KHC *e* 01 53 44.3
KHC MLR MLR
comp=Z,2μm,12.1s
DPC Dobruska-Polom 22.73 113 *eP* **P 01 53 41.7 0.0**
DPC *eS* **S 01 57 56.7 +6.7**
DPC AMS AMS 02 07 20.0
comp=Z,1μm,11.0s
DPC Dobruska-Polom 22.73 113 *eP* **P 01 53 41.7 0.0**
DPC *e* 01 53 41.9
DPC MLR MLR
comp=Z,1μm,11.0s
SENIN Lac Senin/Sane 22.80 132 IAmb IAmb 01 54 01.2
comp=Z,116nm,1.6s
SUW Suwalki 22.85 98 *eP* **P 01 53 45.3 +2.4**
DAVA Damuels 22.86 127 *eP* **P 01 53 44.1 +0.9**
comp=Z,47nm,1.5s,SNR=10
GEC2 GERESS Array S 22.93 119 *eL* L 02 02 56.5
comp=Z,650nm,19.3s
GEC2 GERESS Array S 22.93 119 P **P 01 53 42.2 -1.6**
GERES GERESS Array B 22.93 119 P **P 01 53 42.5 -1.4**
comp=Z,5.1nm,0.9s,baz=325,slow=6.7,SNR=14
GERES S **S 01 57 54.0 +0.4**
comp=Z,0.1nm,0.3s,baz=306,slow=25,SNR=1.5
GERES LR LR 02 03 16.2
comp=Z,670nm,18.4s,baz=328,slow=38
GERES GERESS Array B 22.93 119 P **P 01 53 42.8 -1.1**
RETA Reutte 22.99 125 *eP* **P 01 53 46.9 +2.4**
comp=Z,39nm,1.3s,SNR=8.2
IZAR Zarasai 22.99 92 *eP* **P 01 53 45.0 +0.7**
ISAL Salakas 23.06 93 *eP* **P 01 53 46.0 +1.0**
KRLC Kraliky 23.13 113 *eP* **P 01 53 46.7 +0.9**
KRLC *eS* **S 01 58 03.9 +6.9**
KRLC AMS AMS 02 07 30.0
comp=Z,2μm,10.3s
KRLC Kraliky 23.13 113 *eP* **P 01 53 46.7 +0.9**
KRLC MLR MLR
comp=Z,2μm,10.3s
MOTA Moosalm 23.23 125 *eP* **P 01 53 48.8 +1.8**
comp=Z,98nm,1.4s,SNR=17
TREC Trest 23.25 116 *eP* **P 01 53 46.1 -0.9**
TREC *eS* **S 01 58 03.1 +4.3**
TREC AMS AMS 02 07 30.0
comp=Z,2μm,9.0s
TREC Trest 23.25 116 *eP* **P 01 53 46.1 -0.9**
TREC MLR MLR
comp=Z,2μm,9.0s
IIGN Ignalina 23.25 93 *eP* **P 01 53 47.6 +0.7**
DAVOX Davos/Dischmat 23.29 127 P **P 01 53 46.1 -1.6**
comp=Z,3.7nm,0.8s,baz=306,slow=12,SNR=5.0
DAVOX S **S 01 58 00.2 +0.2**
comp=Z,1.8nm,0.9s,baz=322,slow=6.7,SNR=2.0
DAVOX LR LR 02 03 50.8
comp=Z,818nm,18.6s,baz=320,slow=39
TMCR Tamitsa 23.31 66 *eP* **P 01 53 46.3 -1.2**
TMCR *eS* **S 01 57 58.7 -0.9**
TMCR pmax pmax
comp=Z,14nm,0.8s
PGAV Gavieira, Arco 23.35 163 *eP* **P 01 53 51.7 +3.6**
comp=Z,69nm,1.8s
PGAV *i* LQ LQ 01 58 11.0
PGAV *eLR* LR 02 00 05.0
comp=Z,2μm,16.0s
SQTA Sankt Quirin 23.38 125 P **P 01 53 50.2 +1.8**
comp=Z,76nm,1.7s,SNR=9.2
FETA Feichten 23.38 126 *eP* **P 01 53 51.0 +2.4**
comp=Z,36nm,1.4s
TUE Stuetta 23.38 128 IAmb IAmb 01 54 16.0
comp=Z,110nm,1.6s
BEL Belsk 23.41 105 *eP* **P 01 53 52.5 +4.0**
WATA Walderalm 23.41 124 *eP* **P 01 53 50.2 +1.4**
comp=Z,45nm,1.6s,SNR=8.5
IDID Didziasis 23.49 92 *eP* **P 01 53 48.9 -0.5**
WTTA Wattenberg 23.49 124 *eP* **P 01 53 49.6 -0.1**
comp=Z,48nm,1.7s,SNR=7.7
FUORN Ofenpass-Fuorn 23.57 127 IAmb IAmb 01 54 18.4
comp=Z,72nm,1.5s
PCAB Cabril 23.63 162 *eP* **P 01 53 54.7 +3.8**
comp=Z,45nm,1.4s
VRAC Vranov 23.67 114 P **P 01 53 49.6 -1.5**
comp=Z,7.1nm,1.0s,baz=328,slow=10,SNR=17
VRAC S **S 01 58 10.1 +4.5**
comp=Z,0.7nm,0.4s,baz=296,slow=11,SNR=1.6
VRAC LR LR 02 04 10.2
comp=Z,731nm,18.5s,baz=330,slow=39
VRAC Vranov 23.67 114 ⇑P **P 01 53 53.4 +2.3**
VRAC Vranov 23.67 114 *eP* **P 01 53 52.8 +1.7**
VRAC *eS* Sn 01 58 18.1 -8.4
VRAC Vranov 23.67 114 ⇑P **P 01 53 53.4 +2.3**
MORC Moravsky Berou 23.67 112 ⇓P **P 01 53 53.6 +2.4**
MORC Moravsky Berou 23.67 112 *eP* **P 01 53 52.6 +1.4**
MORC *eS* Sn 01 58 16.5 -10
MORC Moravsky Berou 23.67 112 ⇓P **P 01 53 53.6 +2.4**
EUNU Eureka 23.68 336 P **P 01 53 51.9 +0.8**
PBRG Braganca 23.72 160 *eP* **P 01 53 53.2 +1.5**
comp=Z,47nm,1.5s
BNI Bardonecchia 23.78 134 IAmb IAmb 01 54 33.4
comp=Z,106nm,1.7s
NACGM Naroch 23.78 93 *eP* **P 01 53 53.0 +0.8**
NACGM *eS* **S 01 58 08.0 +0.6**
NACGM *eLQ* LQ 02 00 50.0
NACGM *eLR* LR 02 02 46.0
KRUC Moravsky 23.79 115 *eP* **P 01 53 53.8 +1.5**
KRUC *eS* Sn 01 58 19.2 -10
MOA Molln 23.96 119 *eP* **P 01 53 55.4 +1.4**
comp=Z,32nm,1.6s
POLO Lamas de Olo 23.99 162 *eP* **P 01 53 56.9 +2.5**
comp=Z,30nm,1.7s
PVRL Vila Real 24.10 162 *eP* **P 01 53 56.4 +1.1**
comp=Z,57nm,1.6s
OJC Ojcow 24.23 109 *eP* **P 01 53 59.2 +2.8**
ABTA Abfaltersbach 24.25 123 *eP* **P 01 53 56.7 -0.1**
comp=Z,43nm,1.4s
KBA Koelnbreinsper 24.27 122 *eP* **P 01 53 59.3 +2.2**
comp=Z,49nm,1.4s
MVO Moncorvo 24.30 161 *eP* **P 01 53 59.7 +2.4**
comp=Z,82nm,1.7s
MVO *i* LQ LQ 01 58 24.7
MVO *eLR* LR 02 00 50.8
comp=Z,1μm,18.0s
JAVC Velka Javorina 24.45 113 *eP* **P 01 54 01.1 +2.6**
CONA Conrad Observa 24.50 117 *eP* **P 01 53 58.6 -0.4**
comp=Z,17nm,1.0s,SNR=8.1
MICGM Minsk 24.53 93⇑ *eP* **P 01 54 01.0 +1.9**
MICGM PM 01 54 03.0
comp=Z,0.3nm,2.0s
MICGM PM 01 54 03.0
comp=N,0.3nm,2.0s
MICGM PM 01 54 04.0
comp=E,0.2nm,2.0s
MICGM *ePP* **PnPn 01 54 25.0 -4.8**
MICGM *eS* **S 01 58 20.0 +0.7**
MICGM *eSS* **SnSn 01 59 04.0 +0.6**
MICGM *eLR* LR 02 02 18.0
MICGM LRM MLR 02 05 30.0
comp=Z,1.7nm,10.0s
MNK Minsk 24.53 93⇑ *eP* **P 01 54 01.0 +1.9**
MNK *eS* **S 01 58 20.0 +0.7**
MNK pmax pmax
comp=N,310nm,2.0s
MNK pmax pmax
comp=E,240nm,2.0s
MNK pmax pmax
comp=Z,310nm,2.0s
CTI Castel Tesino 24.54 125 P **P 01 53 58.3 -1.1**
CTI pmax pmax
comp=Z,49nm,1.2s
CTI Castel Tesino 24.54 125 P **P 01 53 58.3 -1.1**
CTI IAmb IAmb 01 54 15.3
comp=Z,49nm,1.2s
ZOU Zoufplan 24.58 123 P **P 01 53 58.5 -1.4**
PVIS Viseu 24.62 162 *eP* **P 01 54 02.4 +2.2**
comp=Z,69nm,1.5s
SMOL Smolenice 24.63 114 *eP* **P 01 53 59.8 -0.3**
SMOL pmax pmax
comp=Z,40nm,1.6s
SMOL Smolenice 24.63 114 *eP* **P 01 53 59.8 -0.3**
MODS Modra-Piesok 24.69 115 *eP* **P 01 54 00.3 -0.3**
MODS pmax pmax
comp=Z,129nm,1.8s
MODS Modra-Piesok 24.69 115 *eP* **P 01 54 00.3 -0.3**
STAL STALIGIAL 24.73 124 P **P 01 53 58.6 -2.5**
STAL IAmb IAmb 01 54 33.3
comp=Z,73nm,1.4s
MYKA Terra Mystica 24.76 122 *eP* **P 01 54 00.6 -0.7**
comp=Z,28nm,1.4s
PRED Cave del Predi 24.89 122 IAmb IAmb 01 54 18.0
comp=Z,52nm,1.4s
LANS Liptovska Anna 24.93 111 *eP* **P 01 54 03.6 +0.7**
LANS pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 24.93 111 *eP* **P 01 54 03.6 +0.7**
ARSA Arzberg 24.93 119 *eP* **P 01 54 01.7 -1.2**
comp=Z,19nm,1.4s
MTE Manteigas 24.98 162 *eP* **P 01 54 04.2 +0.8**
comp=Z,55nm,2.0s
MTE *i* LQ LQ 01 58 40.1
MTE *eLR* LR 02 00 58.4
comp=Z,2μm,18.0s
MTE Manteigas 24.98 162 P **P 01 53 59.0 -4.5**
MTE IAmb IAmb 01 54 21.7
comp=Z,52nm,1.3s
NIE Niedzica 25.06 109 *eP* **P 01 54 05.4 +1.4**
COI Coimbra 25.06 164 P **P 01 53 59.4 -4.6**
COI pmax pmax
comp=Z,42nm,1.0s
COI Coimbra 25.06 164 *eP* **P 01 54 07.1 +3.1**
comp=Z,63nm,1.5s
COI Coimbra 25.06 164 P **P 01 53 59.4 -4.6**
COI IAmb IAmb 01 54 09.6
comp=Z,42nm,1.0s
TEOL Teio 25.15 126 P **P 01 54 01.8 -3.0**
OBKA Obir 25.19 121 *eP* **P 01 54 04.9 -0.4**
comp=Z,23nm,1.4s
PCAS Casmilo, Conde 25.20 164 *eP* **P 01 54 08.0 +2.7**
comp=Z,75nm,1.8s
VYHS Vyhne 25.20 113 *eP* **P 01 54 04.9 -0.4**
VYHS Vyhne 25.20 113 *eP* **P 01 54 04.9 -0.4**
PCBR Castelo Branco 25.54 162 *eP* **P 01 54 11.3 +2.9**
comp=Z,40nm,1.5s
SRO Srobarova 25.55 114 *eP* **P 01 54 09.7 +1.3**
SRO Srobarova 25.55 114 *eP* **P 01 54 09.7 +1.3**
PSBE So Bento 25.70 164 *eP* **P 01 54 14.6 +4.7**
comp=Z,67nm,2.2s
VLC Villacollemand 25.77 129 P **P 01 54 08.0 -2.4**
ZCCA Zocca 25.79 128 P **P 01 54 09.6 -1.1**
KWP Kalwaria Pacla 25.88 106 *eP* **P 01 54 15.2 +3.8**
PMRV Marv??o 25.96 162 *eP* **P 01 54 13.3 +1.1**
comp=Z,81nm,1.8s
PMRV *i* LQ LQ 01 58 56.8
PMRV *eLR* LR 02 01 31.3
comp=Z,2μm,20.0s
SCHQ Schefferville 26.07 271 P **P 01 54 10.3 -2.8**
comp=Z,30nm,1.1s,baz=49,slow=15,SNR=4.5
SCHQ LR LR 02 03 08.1
comp=Z,679nm,21.5s,baz=21,slow=34
SCHQ Schefferville 26.07 271 P **P 01 54 08.8 -4.4**
SCHQ IAmb IAmb 01 54 16.1
comp=Z,35nm,1.1s
PSZ Piszkesteto 26.09 112 ⇑P **P 01 54 09.9 -3.5**
PSZ Piszkesteto 26.09 112 ⇑P **P 01 54 09.9 -3.5**
PMAFR Mafra 26.20 166 *eP* **P 01 54 18.1 +3.7**
comp=Z,93nm,2.0s
KOLS Kolonicke sedl 26.24 108 *eP* **P 01 54 14.8 +0.1**
KOLS pmax pmax
comp=Z,57nm,1.4s
KOLS Kolonicke sedl 26.24 108 *eP* **P 01 54 14.8 +0.1**
LVV L'vov 26.28 104 *eP* **P 01 54 15.4 +0.3**
LVV *e* 01 54 50.3
LVV *eS* **S 01 58 45.5 -1.8**
RES Resolute Bay 26.48 324 LR LR 02 04 37.2
comp=Z,819nm,19.1s,baz=80,slow=36
UZH Uzhgorod 26.49 108 *eP* **P 01 54 16.8 -0.1**
UZH *i* 01 54 19.3
UZH *e* 01 54 24.5
UZH *e* 01 54 57.2
UZH *i* PPP PPP 01 55 08.2
UZH *e* 01 57 46.5
UZH *i* S **S 01 58 45.8 -4.7**
OSSC Osservatorio P 26.62 129 P **P 01 54 16.5 -1.6**
OSSC IAmb IAmb 01 54 34.0
comp=Z,58nm,1.4s
EVO Evora 26.76 163 *eP* **P 01 54 23.9 +4.5**
comp=Z,22nm,1.6s
PNCL Nicolau / Gran 27.11 164 *eP* **P 01 54 25.1 +2.5**
comp=Z,26nm,1.7s
AKASG Malin Array Be 27.81 98 P **P 01 54 26.7 -2.1**
comp=Z,0.9nm,0.4s,baz=323,slow=9.7,SNR=14
AKASG S **S 01 59 16.1 +4.8**
comp=Z,0.5nm,0.4s,baz=228,slow=2.6,SNR=1.1
AKASG LR LR 02 04 57.1
comp=Z,279nm,18.8s,baz=315,slow=35
AKASG Malin Array Be 27.81 98 *ceP* **P 01 54 29.2 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 27.81 98 IAmb IAmb 01 54 34.2
comp=Z,3.1nm,1.2s
AKBB Malin Array Si 27.81 98 *ceP* **P 01 54 30.7 +2.0**
AKBB Malin Array Si 27.81 98 IAmb IAmb 01 54 31.8
comp=Z,47nm,1.7s
OBN Obninsk 27.85 84 P **P 01 54 27.8 -1.2**
comp=Z,1.7nm,0.4s,baz=51,slow=2.7,SNR=8.8
OBN LR LR 02 05 31.2
comp=Z,67nm,19.4s,baz=347,slow=36
OBN Obninsk 27.85 84 *ceP* **P 01 54 30.2 +1.2**
OBN *i* 01 57 48.7
OBN *i* S **S 01 59 15.9 +4.1**
OBN *eSS* **SnSn 02 00 29.8 +5.3**
OBN pmax pmax
comp=Z,112nm,2.5s
OBN MLR MLR
comp=Z,386nm,14.0s
OBN Obninsk 27.85 84 P **P 01 54 29.4 +0.4**
MOS Moscow 27.88 82 *eP* **P 01 54 29.3 -0.1**
MOS *e* 01 55 15.1
MOS *eS* **S 01 59 09.1 -3.3**
MOS pmax pmax
comp=Z,42nm,1.2s
MOS MLR MLR
comp=Z,400nm,12.0s
PVAQ Vaqueiros 27.91 163 *eP* **P 01 54 31.5 +1.7**
comp=Z,30nm,1.9s
PVAQ *i* LQ LQ 01 59 19.6
PVAQ *eLR* LR 02 02 30.8
comp=Z,1μm,20.0s
SIRR Siria 28.13 112 ⇑P **P 01 54 28.7 -3.0**
BUR08 Bucovina Ar. S 28.46 106 P **P 01 54 34.0 -0.7**
BUR08 IAmb IAmb 01 54 41.8
comp=Z,74nm,1.9s
BURAR Bucovina Array 28.49 106 P **P 01 54 34.3 -0.7**
BZS Buzias 28.65 113 ⇑P **P 01 54 33.2 -3.1**
BZS Buzias 28.65 113 ⇑P **P 01 54 33.2 -3.1**
GZR Gura Zlata 29.30 112 ⇑P **P 01 54 41.2 -0.9**
GZR Gura Zlata 29.30 112 ⇑P **P 01 54 41.2 -0.9**
MDVR Moldovita 29.38 114 ⇑P **P 01 54 43.2 +0.4**
BIZ Bicaz 29.40 106 ⇓P **P 01 54 43.6 +0.7**
HERR Herculane 29.58 113 ⇑P P 01 54 36.6 -7.9
DOPR Dopca 29.89 108 ⇑P **P 01 54 45.5 -1.7**
ARR Arges 30.07 110 ⇓P **P 01 54 49.0 +0.1**
VOIR 30.18 109 ⇓P P 01 54 39.9 -10
VOIR 30.18 109 ⇓P P 01 54 39.9 -10
LPSR Galich'ya Gora 30.60 86 *eP* **P 01 54 53.1 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.4s
LPSR MLR MLR
comp=Z,520nm,10.0s
NEHR Nehoiu 30.70 108 ⇓P **P 01 54 52.6 -1.8**
KIRV Kirov 30.95 69 P **P 01 54 54.3 -2.1**
comp=Z,5.5nm,0.7s,baz=291,slow=11,SNR=2.6
KIRV Kirov 30.95 69 *ceP* **P 01 54 58.0 +1.6**
CFR Carcaliu 31.66 106 ⇑P **P 01 55 04.2 +1.4**
CFR Carcaliu 31.66 106 ⇑P **P 01 55 04.2 +1.4**
VSR Storozhevoye 31.70 88 *eP* **P 01 55 03.0 -0.2**
VSR pmax pmax
comp=Z,40nm,2.0s
VSR MLR MLR
comp=Z,480nm,13.0s
PMOZ Porto Moniz, M 31.88 180 *eLR* LR 02 04 04.9
comp=Z,608nm,20.0s
VORD Divnogorie 31.93 88 *eP* **P 01 55 05.2 0.0**
VORD pmax pmax
comp=Z,30nm,1.7s
PMAR Madeira 31.98 179 *eP* **P 01 55 07.6 +1.6**
comp=Z,43nm,1.4s
VRH Novokhopyorsk 32.80 85 *eP* **P 01 55 13.2 +0.4**
VRH pmax pmax
comp=Z,30nm,1.6s
VRH MLR MLR
comp=Z,620nm,11.0s
CHGQ Chibougamau 32.82 271 P **P 01 55 11.1 -2.0**
baz=42
KEST Kesra 33.14 138 LR LR 02 08 37.1
comp=Z,615nm,19.1s,baz=339,slow=36
D60A Saint Jean D'O 33.63 264 P **P 01 55 21.1 +1.0**
baz=39
F63A Nahmakanta, Br 33.81 261 P **P 01 55 24.0 +2.3**
baz=37
E61A Lac Etchemin 33.82 263 P **P 01 55 23.6 +1.8**
baz=38
G64A Maxfield 34.02 260 P **P 01 55 25.1 +1.6**
baz=37
E60A Ste Agathe de 34.28 264 P **P 01 55 27.1 +1.4**
baz=38
D58A Chemin du LacG 34.33 266 P **P 01 55 25.0 -1.2**
baz=39
F61A St Evariste 34.40 263 P **P 01 55 28.1 +1.3**
baz=38
LSQQ Lebel-sur-Quev 34.58 272 P **P 01 55 28.6 +0.3**
baz=41
D56A ZEC Mazanza, M 35.17 268 P **P 01 55 33.4 -0.1**
baz=39
E57A Chemin Saint G 35.41 267 P **P 01 55 34.5 -1.1**
baz=38
D55A Sainte-Anne-du 35.50 269 P **P 01 55 35.5 -0.8**
baz=39
VLDQ Val d'Or 35.51 272 P **P 01 55 34.7 -1.6**
G60A Masonville 35.67 264 P **P 01 55 38.8 +1.0**
baz=37
E56A St. Veronique 35.68 268 P **P 01 55 37.5 -0.4**
baz=38
G59A Clarenceville 36.04 265 P **P 01 55 42.2 +1.3**
baz=37
ARU Arti 36.05 66 P **P 01 55 38.8 -2.1**
comp=Z,0.4nm,0.3s,baz=318,slow=14,SNR=1.6
ARU Arti 36.05 66 *diP* **P 01 55 42.3 +1.4**
ARU 01 57 00.5
ARU S **S 02 01 22.9 +3.4**
ARU SS **SnSn 02 03 40.1 -3.5**
ARU pmax pmax
comp=Z,56nm,2.3s
ARU Arti 36.05 66 P **P 01 55 41.6 +0.7**
H60A Morristown 36.25 264 P **P 01 55 43.5 +0.7**
baz=37
FRNY Flat Rock 36.41 265 P **P 01 55 42.2 -1.9**
FRNY IAmb IAmb 01 55 47.4
comp=Z,47nm,1.5s
NRIK Noril'sk 36.43 35 P **P 01 55 42.8 -1.2**
comp=Z,2.2nm,0.5s,baz=328,slow=8.2,SNR=12
NRIK LR LR 02 12 26.7
comp=Z,323nm,18.9s,baz=12,slow=39
NRIK Noril'sk 36.43 35 *ceP* **P 01 55 44.5 +0.5**
NRIK pmax pmax
comp=Z,32nm,1.5s
SVE Sverdlovsk 36.58 64 *eP* **P 01 55 44.7 -0.7**
SVE pmax pmax
comp=Z,31nm,1.9s
G57A Newington 36.80 266 P **P 01 55 47.6 +0.2**
baz=37
C36M Paulatuk 36.84 325 P **P 01 55 49.8 +2.3**
baz=43
J62A Henniker 36.95 261 P **P 01 55 50.6 +1.8**
baz=36
LONY Lake Ozonia 37.01 265 P **P 01 55 50.2 +0.9**
baz=37
ALGO Algonquin Park 37.44 270 P **P 01 55 53.9 +1.0**
baz=38
SOC Sochi 37.83 96 *eP* **P 01 55 57.8 +1.6**
SOC *e* 01 57 24.0
SOC *eS* **S 02 01 49.9 +3.0**
SOC *eSS* **SnSn 02 04 26.8 -0.3**
SOC MLR MLR
comp=Z,564nm,12.0s
G54A Lake Saint Pet 37.90 269 P **P 01 55 57.4 +0.7**
baz=38
I57A Carthage 38.02 266 P **P 01 55 59.3 +1.5**
baz=36
GOF Gofitskoye 38.08 91⇑ *eP* **P 01 55 59.9 +1.6**
GOF pmax pmax
comp=Z,85nm,1.3s
BR131 Keskin Array S 38.45 105 *iP* **P 01 56 02.7 +1.1**
BR131 Keskin Array S 38.45 105 P **P 01 56 00.6 -1.0**
BRTR Keskin Array B 38.45 105 P **P 01 56 01.1 -0.5**
comp=Z,3.3nm,0.9s,baz=335,slow=5.0,SNR=9.0
BRTR LR LR 02 14 21.4
comp=Z,112nm,18.2s,baz=327,slow=40
BRTR Keskin Array B 38.45 105 *ceP* **P 01 56 04.4 +2.8**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 38.45 105 P **P 01 55 59.6 -2.0**
J57A Williamstown 38.59 266 P **P 01 56 02.8 +0.2**
baz=36
H53A Bobcaygeon 38.77 269 P **P 01 56 05.4 +1.3**
baz=37
KIV Kislovodsk 38.81 93 *eP* **P 01 56 07.9 +3.4**
KIV *e* 01 57 34.8
KIV *eS* **S 02 02 05.9 +4.1**
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,813nm,16.0s
KIV Kislovodsk 38.81 93 P **P 01 56 04.9 +0.4**
SADO Sadowa 38.85 270 P **P 01 56 01.5 -3.2**
SHA1 Shidzhatmaz 38.97 93 *iP* **P 01 56 07.1 +1.1**
KBZ Khabaz 39.08 93 P **P 01 56 04.9 -1.7**
comp=Z,7.3nm,0.9s,baz=328,slow=9.7,SNR=9.0
KBZ S **S 02 02 09.9 +4.2**
comp=Z,0.9nm,0.9s,baz=209,slow=18,SNR=1.1
KBZ LR LR 02 12 31.1
comp=Z,583nm,21.0s,baz=326,slow=37
KBZ Khabaz 39.08 93 *ceP* **P 01 56 08.0 +1.4**
KBZ pmax pmax
comp=Z,49nm,2.5s
YKA Yellowknife Ar 39.23 313 P **P 01 56 05.7 -2.0**
comp=Z,1.8nm,0.9s,baz=34,slow=9.9,SNR=2.8
YKA LR LR 02 12 17.5
comp=Z,487nm,18.3s,baz=0.0,slow=36
YKA Yellowknife Ar 39.23 313 *ceP* **P 01 56 11.5 +3.8**
YKA pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 39.85 329 P **P 01 56 14.7 +1.9**
INK pmax pmax
comp=Z,30nm,1.6s
INK Inuvik 39.85 329 P **P 01 56 14.7 +1.9**
L57A Andrews Acres 40.10 265 P **P 01 56 17.0 +1.7**
baz=35
AKTO Aktyubinsk 40.25 73 P **P 01 56 15.1 -1.3**
comp=Z,4.0nm,0.9s,baz=318,slow=6.0,SNR=12
ZEI Tsey 40.27 92 *eP* **P 01 56 15.7 -1.2**
ZEI pmax pmax

	comp=Z,10.0nm,1.3s							
L56A	**Greenwood**	40.30	266	P		**P**	**01 56 19.6**	**+2.7**
	baz=35							
I51A	**Listowel**	40.43	271	P		**P**	**01 56 19.4**	**+1.5**
	baz=36							
M57A	**Sunshine Farm,**	40.77	265	P		**P**	**01 56 21.7**	**+1.0**
	baz=35							
L54A	**Sinclairville**	40.97	268	P		**P**	**01 56 24.3**	**+1.9**
	baz=35							
N58A	**Sunbury**	41.00	264	P		**P**	**01 56 23.8**	**+1.2**
	baz=34							
KOPT	**Kop Dagi**	41.09	98	P		**P**	**01 56 23.2**	**-0.6**
M56A	**Emporium**	41.10	266	P		**P**	**01 56 25.8**	**+2.3**
	baz=35							
O59A	**Robesonia**	41.21	263	P		**P**	**01 56 26.2**	**+1.8**
	baz=34							
N56A	**West Decatur**	41.61	265	P		**P**	**01 56 30.0**	**+2.3**
	baz=34							
EYMN	**Ely**	41.61	283	P		**P**	**01 56 29.7**	**+2.0**
	baz=38							
ULM	**Lac du Bonnet**	41.63	289	LR		LR	02 12 17.0	
	comp=Z,322nm,21.3s,baz=56,slow=34							
SSPA	**Standing Stone**	41.67	265	P		**P**	**01 56 29.7**	**+1.5**
	baz=34							
O58A	**Lewisberry**	41.68	264	P		**P**	**01 56 30.0**	**+1.7**
	baz=34							
MAK	**Makhachkala**	41.68	89	*e*P		**P**	**01 56 24.5**	**-3.7**
MAK				*e*			01 58 03.2	
MAK				*e*S		**S**	**02 02 40.8**	**-3.7**
MAK				*e*SS		**SS**	**02 05 46.9**	**-2.6**
MAK				pmax		pmax		
	comp=Z,704nm,1.2s							
MAK				MLR		MLR		
	comp=Z,441nm,16.0s							
M54A	**Oil Creek Stat**	41.71	267	P		**P**	**01 56 28.8**	**+0.3**
	baz=35							
M54A	**Oil Creek Stat**	41.71	267	IAmb		IAmb	01 56 31.5	
	comp=Z,27nm,1.0s							
O57A	**Amberson**	41.91	264	P		**P**	**01 56 30.4**	**+0.2**
	baz=34							
ABKAR	**Akbulak array**	41.96	73	P		**P**	**01 56 30.0**	**-0.4**
TIXI	**Tiksi**	42.02	15*ce*P			**P**	**01 56 31.1**	**+0.5**
TIXI				pmax		pmax		
	comp=Z,302nm,2.5s							
TIXI	**Tiksi**	42.02	15	P		**P**	**01 56 31.2**	**+0.6**
N55A	**Marion Center**	42.02	266	P		**P**	**01 56 32.4**	**+1.3**
	baz=34							
GAZ	**Gaziantep**	42.10	104	P		**P**	**01 56 31.7**	**0.0**
GAZ				IAmb		IAmb	01 56 47.1	
	comp=Z,58nm,1.9s							
M53A	**WI Miller and**	42.20	268	P		**P**	**01 56 33.9**	**+1.4**
	baz=35							
O56A	**Blue Knob Stat**	42.26	265	P		**P**	**01 56 35.4**	**+2.4**
	baz=34							
N54A	**Moraine State**	42.30	267	P		**P**	**01 56 33.8**	**+0.4**
	baz=34							
P58A	**Pank, Wackersv**	42.37	263	P		**P**	**01 56 35.9**	**+2.1**
	baz=33							
M52A	**Chesterland**	42.41	269	P		**P**	**01 56 35.9**	**+1.7**
	baz=35							
M52A	**Chesterland**	42.41	269	IAmb		IAmb	01 56 37.1	
	comp=Z,31nm,0.9s							
O55A	**Ligonier**	42.63	266	P		**P**	**01 56 37.1**	**+1.1**
	baz=34							
P57A	**Homestead Farm**	42.68	264	P		**P**	**01 56 37.3**	**+0.9**
	baz=34							
TOLK	**Toolik Lake Re**	42.76	336	P		**P**	**01 56 36.9**	**+0.2**
	baz=28							
TOLK	**Toolik Lake Re**	42.76	336	P		**P**	**01 56 36.5**	**-0.3**
TOLK				IAmb		IAmb	01 56 40.9	
	comp=Z,36nm,1.2s							
BMAR	**Burnt Mountain**	42.91	333	P		**P**	**01 56 37.2**	**-0.8**
M51A	**Elyria**	42.94	269	P		**P**	**01 56 38.3**	**-0.1**
	baz=35							
Q58A	**Fox Den Farm,**	42.99	263	P		**P**	**01 56 40.5**	**+1.6**
	baz=33							
P56A	**Dayton Farm, R**	43.01	265	P		**P**	**01 56 41.5**	**+2.4**
	baz=34							
BRVK	**Borovoye**	43.10	62*ce*P			**P**	**01 56 41.9**	**+2.3**
BRVK				pmax		pmax		
	comp=Z,53nm,2.5s							
BRVK	**Borovoye**	43.10	62	P		**P**	**01 56 40.5**	**+0.8**
BRVK				IAmb		IAmb	01 56 45.1	
	comp=Z,49nm,1.6s							
O54A	**Avella**	43.11	267	P		**P**	**01 56 40.1**	**+0.2**
	baz=34							
AGMN	**Agassiz Nation**	43.15	287	P		**P**	**01 56 41.1**	**+1.0**
	baz=38							
BVAR	**Borovoye Array**	43.16	62	P		**P**	**01 56 38.3**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=335,slow=35,SNR=3.8							
G40A	**Rib Lake**	43.19	280	IAmb		IAmb	01 56 44.0	
	comp=Z,78nm,1.9s							
Q57A	**Strasburg**	43.22	264	P		**P**	**01 56 41.2**	**+0.4**
	baz=33							
M50A	**Fremont**	43.25	270	IAmb		IAmb	01 56 44.1	
	comp=Z,47nm,1.2s							
MCWV	**Mont Chateau**	43.32	266	P		**P**	**01 56 42.8**	**+1.3**
	baz=34							
N51A	**Ashland**	43.36	269	P		**P**	**01 56 41.7**	**-0.2**
	baz=34							
N51A	**Ashland**	43.36	269	IAmb		IAmb	01 56 44.8	
	comp=Z,30nm,0.9s							
L48A	**N Adams**	43.41	272	IAmb		IAmb	01 56 45.0	
	comp=Z,26nm,1.0s							
O53A	**New Philadelph**	43.41	268	P		**P**	**01 56 42.6**	**+0.3**
	baz=34							
MARD	**Mardin**	43.48	100	P		**P**	**01 56 41.8**	**-1.2**
Q56A	**Snyder Ridge,**	43.55	265	P		**P**	**01 56 45.3**	**+1.8**
	baz=33							
R58A	**Rapidan**	43.66	263	P		**P**	**01 56 46.0**	**+1.7**
	baz=33							
I42A	**Draeger Farm,**	43.75	277	IAmb		IAmb	01 56 47.8	
	comp=Z,46nm,1.8s							
O52A	**Adamsville**	43.79	268	P		**P**	**01 56 46.3**	**+0.9**
	baz=34							
O52A	**Adamsville**	43.79	268	IAmb		IAmb	01 56 48.4	
	comp=Z,35nm,1.1s							
R57A	**Stanardsville**	43.89	264	P		**P**	**01 56 48.1**	**+1.9**
	baz=33							
Q55A	**Buckhannon**	43.97	266	P		**P**	**01 56 48.5**	**+1.6**
	baz=33							
O51A	**Pataskala**	44.10	269	P		**P**	**01 56 48.3**	**+0.4**
	baz=34,SNR=8.2							
P53A	**Whipple**	44.12	267	P		**P**	**01 56 49.2**	**+1.2**
	baz=34,SNR=6.8							
P53A	**Whipple**	44.12	267	IAmb		IAmb	01 56 51.4	
	comp=Z,35nm,1.1s							
COLD	**Coldfoot**	44.13	336	P		**P**	**01 56 48.8**	**+1.1**
	baz=27							
COLD	**Coldfoot**	44.13	336	P		**P**	**01 56 49.0**	**+1.3**
R56A	**Bull Pasture M**	44.17	264	P		**P**	**01 56 49.9**	**+1.4**
	baz=33							
ACSO	**Alum Creek Sta**	44.19	269	P		**P**	**01 56 48.6**	**0.0**
	baz=34,SNR=6.2							
ACSO	**Alum Creek Sta**	44.19	269	IAmb		IAmb	01 56 52.8	
	comp=Z,22nm,1.0s							
P52A	**Corning**	44.32	268	P		**P**	**01 56 49.7**	**+0.1**
	baz=34,SNR=8.2							
SPMN	**Marine on St.**	44.32	282	P		**P**	**01 56 50.7**	**+1.1**
	baz=36							
SPMN	**Marine on St.**	44.32	282	IAmb		IAmb	01 56 53.3	
	comp=Z,48nm,1.9s							
K43A	**Burlington**	44.46	276	IAmb		IAmb	01 56 53.6	
	comp=Z,30nm,1.1s							
S57A	**Dark Hollow, R**	44.52	264	P		**P**	**01 56 53.3**	**+2.1**
	baz=32							
Q53A	**Leroy**	44.70	267	P		**P**	**01 56 54.5**	**+1.8**
	baz=33,SNR=6.5							
L44A	**Lake County Fo**	44.71	275	P		**P**	**01 56 54.5**	**+1.8**
	baz=35							
O49A	**Covington**	44.81	270	IAmb		IAmb	01 56 56.2	
	comp=Z,26nm,0.9s							
N47A	**Urbana**	44.82	272	IAmb		IAmb	01 56 56.1	
	comp=Z,29nm,1.2s							
MMAI	**Mount Meron Ar**	44.93	109	P		**P**	**01 56 53.2**	**-1.5**
	comp=Z,5.5nm,1.1s,baz=302,slow=15,SNR=3.8							
R54A	**Victor**	45.04	266	P		**P**	**01 56 54.3**	**-1.1**
	baz=33							
S55A	**Lewisburg**	45.17	265	P		**P**	**01 56 58.1**	**+1.6**
	baz=33							
F33A	**5 Mile Ranch,**	45.29	285	IAmb		IAmb	01 57 01.0	
	comp=Z,23nm,1.3s							
R53A	**Hurricane**	45.33	267	P		**P**	**01 56 59.5**	**+1.8**
	baz=33							
K27K	**Chicken**	45.34	329	P		**P**	**01 56 57.5**	**+0.1**
	baz=30							
K27K	**Chicken**	45.34	329	IAmb		IAmb	01 57 01.2	
	comp=Z,31nm,1.5s							
POKR	**Poker Plat Res**	45.50	333	P		**P**	**01 57 00.1**	**+1.4**
S54A	**Dingess, Beckl**	45.50	266	P		**P**	**01 56 58.5**	**-0.6**
	baz=33							
P49A	**Miami Univ. Ec**	45.51	270	P		**P**	**01 56 58.9**	**-0.2**
	baz=34							
P49A	**Miami Univ. Ec**	45.51	270	IAmb		IAmb	01 57 01.5	
	comp=Z,19nm,1.0s							
L42A	**Oliver, Polo**	45.60	277	IAmb		IAmb	01 57 03.4	
	comp=Z,22nm,1.1s							
IL31		45.70	332	IAmb		IAmb	01 57 04.9	
	comp=Z,35nm,1.6s							
ILAR	**Eielson Array**	45.70	332	P		**P**	**01 56 58.8**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=19,slow=5.9,SNR=16							
ILAR				PcP		**PcP**	**01 58 36.8**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=353,slow=3.0,SNR=10							
ILAR				LR		LR	02 18 36.7	
	comp=Z,418nm,18.8s,baz=36,slow=39							
ILAR	**Eielson Array**	45.70	332	P		**P**	**01 56 59.6**	**-0.7**
ILAR							01 58 36.8	
ILAR	**Eielson Array**	45.70	332	P		**P**	**01 56 59.6**	**-0.7**
COLA	**College**	45.80	333	IAmb		IAmb	01 57 08.0	
	comp=Z,20nm,1.2s							
TCOL	**CIGO, UAF Yank**	45.80	333	IAmb		IAmb	01 57 08.0	
	comp=Z,24nm,1.4s							
SCRK	**Sand Creek**	45.80	330	P		**P**	**01 57 02.2**	**+1.0**
	baz=29							
U57A	**Blanch**	45.81	263	P		**P**	**01 57 03.4**	**+1.9**
	baz=32							
I23K	**Minto, Yukon-K**	45.84	334	P		**P**	**01 57 01.7**	**+0.3**
	baz=26							
SFIN	**Lafayette**	45.84	273	P		**P**	**01 57 01.7**	**+0.1**
	baz=34							
SFIN	**Lafayette**	45.84	273	IAmb		IAmb	01 57 04.4	
	comp=Z,21nm,1.0s							
T55A	**Pulaski**	45.85	265	P		**P**	**01 57 03.5**	**+1.6**
	baz=32							
CCB	**Clear Creek Bu**	45.99	333	IAmb		IAmb	01 57 07.1	
	comp=Z,30nm,1.7s							
HDA	**Harding Lake**	46.03	332	IAmb		IAmb	01 57 07.6	
	comp=Z,34nm,1.6s							
DOT	**Dot Lake**	46.11	330	IAmb		IAmb	01 57 07.4	
	comp=Z,27nm,1.5s							
BCAR	**Beaver Creek A**	46.12	329	P		**P**	**01 57 03.6**	**0.0**
RIDG	**Independent Ri**	46.19	331	P		**P**	**01 57 04.5**	**+0.2**
RIDG				IAmb		IAmb	01 57 16.4	
	comp=Z,20nm,1.2s							
MLY	**Manley**	46.20	335	P		**P**	**01 57 04.4**	**+0.1**
	baz=26							
WRH	**Wood River Hil**	46.20	333	IAmb		IAmb	01 57 07.7	
	comp=Z,24nm,1.6s							
L40A	**Anamosa**	46.22	278	IAmb		IAmb	01 57 08.3	
	comp=Z,23nm,1.2s							
T54A	**Tazewell**	46.23	265	P		**P**	**01 57 04.3**	**-0.6**
	baz=32							
ASF	**Jabal al Asfar**	46.28	108	P		**P**	**01 57 03.6**	**-1.7**
	comp=Z,2.9nm,1.0s,baz=344,slow=6.1,SNR=3.1							
NEA2	**Nenana**	46.28	334	P		**P**	**01 57 04.8**	**-0.1**
	baz=26							
U56A	**King**	46.33	264	P		**P**	**01 57 07.6**	**+2.1**
	baz=32							
R50A	**Paris**	46.39	269	IAmb		IAmb	01 57 08.6	
	comp=Z,18nm,1.1s							
BRZS	**Berezniki**	46.45	63	*e*P		**P**	**01 57 06.5**	**0.0**
	comp=Z,48nm,2.6s							
BRZS				*e*PP		**PP**	**01 58 56.2**	**+1.1**
BRZS				*e*S		**S**	**02 03 57.1**	**+3.1**
BRZS	**Berezniki**	46.45	63	*e*P		**P**	**01 57 06.4**	**0.0**
BRZS				*e*			01 58 56.2	
BRZS				*e*S		**S**	**02 03 57.0**	**+3.1**
BRZS				pmax		pmax		
	comp=Z,48nm,2.6s							
V57A	**Coltrane Farms**	46.45	263	P		**P**	**01 57 07.0**	**+0.4**
	baz=32							
U55A	**TA2, Sparta**	46.48	265	P		**P**	**01 57 06.1**	**-0.7**
	baz=32,SNR=6.9							
WHY	**Whitehorse**	46.53	323	IAmb		IAmb	01 57 24.7	
	comp=Z,22nm,1.6s							
S51A	**Beattyville**	46.61	268	IAmb		IAmb	01 57 10.5	
	comp=Z,20nm,1.0s							
T53A	**Wise**	46.71	266	P		**P**	**01 57 09.2**	**+0.6**
	baz=32							
U54A	**Nelsons Funny**	46.79	265	P		**P**	**01 57 08.9**	**-0.3**
	baz=32							
V56A	**Mocksville**	46.83	264	P		**P**	**01 57 09.5**	**0.0**
	baz=32,SNR=8.0							
BPAW	**Bear Paw Mtn.**	47.09	334	IAmb		IAmb	01 57 18.7	
	comp=Z,23nm,1.4s							
DLBC	**Dease Lake**	47.09	318	P		**P**	**01 57 11.2**	**-0.2**
DLBC				IAmb		IAmb	01 57 48.4	
	comp=Z,34nm,1.9s							
V55A	**Taylorsville**	47.10	264	P		**P**	**01 57 13.7**	**+2.0**
	baz=32							
ECSD	**EROS Data Cent**	47.13	284	P		**P**	**01 57 11.9**	**+0.1**
	baz=35							
WCI	**Wyandotte Cave**	47.28	271	P		**P**	**01 57 13.3**	**+0.4**
	baz=33							
DHY	**Denali Highway**	47.31	332	IAmb		IAmb	01 58 47.8	
	comp=Z,37nm,2.0s							
W56A	**Indian Trail**	47.44	263	P		**P**	**01 57 14.2**	**-0.1**
	baz=31							
V54A	**Nebo**	47.48	265	P		**P**	**01 57 14.1**	**-0.5**
	baz=32,SNR=6.7							
TZTN	**Tazewell**	47.52	267	P		**P**	**01 57 16.4**	**+1.5**
	baz=32							
BILL	**Bilibino**	47.55	358	*e*P		**P**	**01 57 14.5**	**-0.2**
BILL				pmax		pmax		
	comp=Z,15nm,1.6s							
BILL	**Bilibino**	47.55	358	P		**P**	**01 57 13.7**	**-1.0**
ZAA0	**Zalesovo Array**	47.60	51	P		**P**	**01 57 15.6**	**+0.3**
ZAA0				IAmb		IAmb	01 57 20.4	
	comp=Z,29nm,1.8s							
ZALV	**Zalesovo Beam**	47.60	51	P		**P**	**01 57 13.7**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=324,slow=7.3,SNR=5.6							
ZALV				PcP		**PcP**	**01 58 43.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=263,slow=1.2,SNR=2.1							
ZALV	**Zalesovo Beam**	47.60	51	P		**P**	**01 57 14.2**	**-1.1**
ZALV							01 58 43.6	
ZALV	**Zalesovo Beam**	47.60	51	P		**P**	**01 57 14.2**	**-1.1**
EIL	**Elat**	47.69	111	P		**P**	**01 57 14.8**	**-1.5**
	comp=Z,6.9nm,1.1s,baz=338,slow=5.6,SNR=3.2							
KMSC	**Kings Mountain**	47.75	264	P		**P**	**01 57 16.4**	**-0.3**
	baz=31							
KMSC	**Kings Mountain**	47.75	264	IAmb		IAmb	01 57 21.0	
	comp=Z,12nm,1.0s							
N25K	**Chitina, Valde**	48.03	329	P		**P**	**01 57 21.5**	**+2.8**
	baz=27							
KURK	**Kurchatov**	48.08	58*ce*P			**P**	**01 57 18.3**	**-0.7**
KURK				pmax		pmax		
	comp=Z,44nm,2.5s							
KURK	**Kurchatov**	48.08	58	P		**P**	**01 57 18.0**	**-1.0**
KURK				IAmb		IAmb	01 57 23.8	
	comp=Z,23nm,1.4s							
KURBB	**Kurchatov Arra**	48.12	58	P		**P**	**01 57 18.1**	**-1.3**
	comp=Z,4.0nm,0.8s,baz=324,slow=7.2,SNR=18							
W54A	**Cherokee Point**	48.17	265	P		**P**	**01 57 20.6**	**+0.6**
	baz=31,SNR=8.1							
X56A	**White Oak**	48.18	263	P		**P**	**01 57 20.7**	**+0.7**
	baz=31							
BESE	**Bessie Mountai**	48.31	321	P		**P**	**01 57 20.4**	**-0.4**
BESE				IAmb		IAmb	01 57 31.4	
	comp=Z,23nm,1.3s							
TKL	**Tuckaleechee C**	48.36	267	IAmb		IAmb	01 57 25.1	
	comp=Z,18nm,1.2s							
X55A	**Gracelyn & Ava**	48.45	264	P		**P**	**01 57 23.6**	**+1.5**
	baz=31,SNR=5.6							
U49A	**Red Boiling Sp**	48.50	269	IAmb		IAmb	01 57 25.0	
	comp=Z,14nm,1.0s							
LAO	**LASA Array**	48.62	293	P		**P**	**01 57 23.8**	**+0.4**
	baz=35							
Z58A	**St. Stephen**	48.65	261	P		**P**	**01 57 25.7**	**+2.1**
	baz=30							
X54A	**Belton**	48.71	264	P		**P**	**01 57 25.5**	**+1.5**
	baz=31							
EGMT	**Eagleton**	48.90	297	P		**P**	**01 57 25.5**	**0.0**
	baz=35,SNR=6.9							
EGMT	**Eagleton**	48.90	297	P		**P**	**01 57 24.9**	**-0.6**
NHSC	**New Hope**	49.00	261	P		**P**	**01 57 26.3**	**0.0**
	baz=30							
TTA	**Tatalina**	49.07	336	IAmb		IAmb	01 57 33.6	
	comp=Z,31nm,1.8s							
CLTN	**Cedars of Leba**	49.09	269	IAmb		IAmb	01 57 29.6	
	comp=Z,21nm,1.2s							
CCM	**Cathedral Cave**	49.55	275	P		**P**	**01 57 30.8**	**+0.3**
	baz=33							
CCM	**Cathedral Cave**	49.55	275	P		**P**	**01 57 29.4**	**-1.1**
CCM				pmax		pmax		
	comp=Z,5.0nm,0.9s							
CCM	**Cathedral Cave**	49.55	275	P		**P**	**01 57 29.4**	**-1.1**
V48A	**Smith Brothers**	49.60	269	IAmb		IAmb	01 57 34.4	
	comp=Z,33nm,1.5s							
WVT	**Waverly**	49.71	271	P		**P**	**01 57 33.0**	**+1.3**
	baz=32							
WVT	**Waverly**	49.71	271	IAmb		IAmb	01 57 33.5	
	comp=Z,25nm,1.6s							
RSSD	**Black Hills**	49.87	290	P		**P**	**01 57 33.8**	**+0.7**
	baz=34							
FPAL	**Fort Paine**	50.10	267	P		**P**	**01 57 33.1**	**-1.7**
GOGA	**Godfrey**	50.15	265	P		**P**	**01 57 35.2**	**+0.2**
	baz=31							
GOGA	**Godfrey**	50.15	265	IAmb		IAmb	01 57 37.7	
	comp=Z,18nm,1.1s							
T42A	**Van Buren**	50.35	274	P		**P**	**01 57 35.4**	**-1.1**
T42A				IAmb		IAmb	01 57 38.4	
	comp=Z,54nm,1.9s							
GEYT	**Alibeck**	50.39	84	P		**P**	**01 57 36.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=333,slow=4.8,SNR=3.0							
GEYT				S		**S**	**02 04 56.2**	**+6.3**
	comp=Z,0.7nm,0.4s,baz=77,slow=26,SNR=1.4							
GEYT				LR		LR	02 20 41.4	
	comp=Z,214nm,18.5s,baz=5.0,slow=38							
GEYT	**Alibeck**	50.39	84	P		**P**	**01 57 36.4**	**-0.6**
GYA0B	**ALIBECK ARRAY**	50.39	84	P		**P**	**01 57 36.6**	**-0.3**
GYA0B				IAmb		IAmb	01 57 42.7	
	comp=Z,49nm,1.8s							
S39A	**Bolivar**	50.75	276	P		**P**	**01 57 37.8**	**-1.8**
MGMO	**Mountain Grove**	50.75	275	IAmb		IAmb	01 57 41.5	
	comp=Z,39nm,1.8s							
HRY	**Holter Researc**	50.78	298	P		**P**	**01 57 38.4**	**-1.5**
X48A	**Hartselle**	50.79	269	P		**P**	**01 57 38.1**	**-1.8**
KOWA	**Kowa**	50.96	163	P		**P**	**01 57 39.1**	**-2.3**
KOWA				IAmb		IAmb	01 57 44.3	
	comp=Z,37nm,1.6s							
KSU1	**Kansas State U**	50.96	280	P		**P**	**01 57 42.0**	**+0.8**
	baz=33							
KSU1	**Kansas State U**	50.96	280	IAmb		IAmb	01 57 43.0	
	comp=Z,20nm,1.1s							
Y49A	**Blount Mountai**	51.03	268	P		**P**	**01 57 40.1**	**-1.6**
Y49A				IAmb		IAmb	01 57 43.8	
	comp=Z,23nm,1.2s							
BTLS	**Baital**	51.03	66	*e*P		**P**	**01 57 41.7**	**+0.1**
	comp=Z,34nm,2.6s							
BTLS				*e*PP		**PP**	**01 59 38.3**	**+0.5**
BTLS	**Baital**	51.03	66	*e*P		**P**	**01 57 41.7**	**+0.1**
BTLS				*e*			01 59 38.2	
BTLS				pmax		pmax		
	comp=Z,34nm,2.6s							
RLMT	**Red Lodge**	51.12	295	P		**P**	**01 57 44.5**	**+2.0**
	baz=33,SNR=7.5							
KK31	**Karatay Array**	51.24	70	P		**P**	**01 57 42.4**	**-0.9**
KK31				pmax		pmax		
	comp=Z,40nm,1.6s							
KK31	**Karatay Array**	51.24	70	P		**P**	**01 57 42.4**	**-0.9**
KK31				IAmb		IAmb	01 57 49.1	
	comp=Z,40nm,1.6s							
KKAR	**Karatay Array**	51.24	70	P		**P**	**01 57 43.1**	**-0.2**
KKAR	**Karatay Array**	51.24	70	P		**P**	**01 57 43.1**	**-0.2**
MSO	**Missoula**	51.48	299	P		**P**	**01 57 43.8**	**-1.3**
	baz=33							
BOZ	**Bozeman (W)**	51.63	297	P		**P**	**01 57 46.0**	**-0.4**
	baz=33,SNR=16							
BOZ	**Bozeman (W)**	51.63	297	IAmb		IAmb	01 57 49.5	
	comp=Z,21nm,1.1s							
U40A	**Yellville**	51.67	275	P		**P**	**01 57 44.8**	**-1.7**
	baz=32							
U40A	**Yellville**	51.67	275	IAmb		IAmb	01 57 48.5	
	comp=Z,32nm,1.6s							
DZA	**Taraz**	51.75	69	*e*P		**P**	**01 57 46.6**	**-0.4**
DZA	**Taraz**	51.75	69	*e*P		**P**	**01 57 46.6**	**-0.4**
IUG	**luzhnay**	51.85	71	*e*P		**P**	**01 57 49.2**	**+1.3**
	comp=Z,34nm,1.7s							
IUG				*e*S		S	02 05 18.8	+8.7
IUG	**luzhnay**	51.85	71	*e*P		**P**	**01 57 49.2**	**+1.3**
IUG				*e*S		S	02 05 18.7	+8.7
IUG				pmax		pmax		
	comp=Z,34nm,1.7s							
LRAL	**Lakeview Retre**	51.98	268	P		**P**	**01 57 47.1**	**-1.8**
	baz=31							
LRAL	**Lakeview Retre**	51.98	268	IAmb		IAmb	01 57 50.5	
	comp=Z,25nm,1.4s							
DGZ	**Jazzator, Alta**	52.05	53*d i*P			**P**	**01 57 50.8**	**+1.4**
DGZ				pmax		pmax		
	comp=Z,45nm,2.4s							
K22A	**Casper**	52.09	291	P		**P**	**01 57 47.5**	**-2.3**
	baz=33							
K22A	**Casper**	52.09	291	IAmb		IAmb	01 57 51.7	
	comp=Z,20nm,1.1s							
H17A	**Grant Village**	52.23	295	P		**P**	**01 57 52.1**	**+1.2**
	baz=33,SNR=7.1							
H17A	**Grant Village**	52.23	295	IAmb		IAmb	01 57 56.0	
	comp=Z,21nm,1.2s							
TAS	**Tashkent**	52.23	72	P		**P**	**01 57 50.7**	**0.0**
TAS				pmax		pmax		
	comp=Z,52nm,0.3s							
TAS	**Tashkent**	52.23	72	P		**P**	**01 57 50.7**	**0.0**
C09A	**Chrisman Ranch**	52.26	303	P		**P**	**01 57 49.2**	**-1.6**
C09A				IAmb		IAmb	01 57 52.9	
	comp=Z,34nm,1.9s							
WHAR	**Wooly Hollow**	52.33	274	IAmb		IAmb	01 57 54.5	
	comp=Z,31nm,1.5s							
W41B	**Gary Mavity, V**	52.42	274	P		**P**	**01 57 51.8**	**-0.3**
	baz=32							
R32A	**Long Quarter,**	52.42	282	IAmb		IAmb	01 57 58.9	
	comp=Z,21nm,1.2s							
CBKS	**Cedar Bluff**	52.52	283	P		**P**	**01 57 53.2**	**+0.3**
	baz=32							
CBKS	**Cedar Bluff**	52.52	283	IAmb		IAmb	01 59 07.1	
	comp=Z,23nm,1.2s							
MAKZ	**Makanchi**	52.57	59	P		**P**	**01 57 53.3**	**+0.2**

PDAR LR LR 02 20 01.9
comp=Z,261nm,18.1s,baz=32,slow=35
REDW Red Top Meadow 53.21 295 IAmb IAmb 01 58 02.2
comp=Z,24nm,1.4s
AAK Ala-Archa 53.23 67*ceP* **P 01 57 58.0 -0.2**
AAK pmax pmax
comp=Z,126nm,2.5s
X40A Basin Creek Fa 53.25 274 P **P 01 57 58.3 +0.1**
baz=31
N23A Red Feather La 53.34 289 P **P 01 57 59.3 +0.2**
baz=32,SNR=9.0
MIAR Mount Ida 53.52 275 P **P 01 58 01.0 +0.8**
baz=31
MDOK Medeo 53.78 65 *eP* **P 01 58 02.7 +0.4**
MDOK *eS* S 02 05 46.7 +10
MDOK Medeo 53.78 65 *eP* **P 01 58 02.7 +0.4**
MDOK *eS* S 02 05 46.6 +10
TNSS Tian-Shan 53.85 65 *eP* **P 01 58 04.6 +1.6**
TNSS Tian-Shan 53.85 65 *eP* **P 01 58 04.6 +1.6**
BOOM Boomskoye usch 53.92 66 P **P 01 58 02.8 -0.5**
BOOM pmax pmax
comp=Z,25nm,1.4s
BOOM Boomskoye usch 53.92 66 P **P 01 58 02.8 -0.5**
BOOM IAmb IAmb 01 58 09.5
comp=Z,24nm,1.4s
ISCO Idaho Springs 54.12 288 P **P 01 58 04.8 -0.1**
baz=32
KPKS Kokpek 54.16 63 *eP* **P 01 58 06.0 +1.1**
comp=Z,52nm,2.1s
KPKS Kokpek 54.16 63 *eP* **P 01 58 06.0 +1.1**
KPKS pmax pmax
comp=Z,52nm,2.1s
SATY Saty 54.40 64 *eP* **P 01 58 07.6 +0.8**
comp=Z,21nm,1.9s
SATY *eS* **S 02 05 51.3 +6.4**
SATY Saty 54.40 64 *eP* **P 01 58 07.5 +0.8**
SATY *eS* **S 02 05 51.2 +6.4**
SATY pmax pmax
comp=Z,21nm,1.9s
BMO Blue Mountains 54.41 300 IAmb IAmb 01 58 08.5
comp=Z,23nm,1.6s
HLID Hailey 54.42 297 P **P 01 58 09.3 +2.4**
baz=32
CHGR Chuyangaron 54.43 74 P **P 01 58 06.1 -0.9**
UZB Uzynbulak 54.56 63 *eP* **P 01 58 07.5 -0.4**
comp=Z,34nm,2.2s
UZB *eS* S 02 05 56.3 +9.3
UZB Uzynbulak 54.56 63 *eP* **P 01 58 07.5 -0.4**
UZB *eS* S 02 05 56.2 +9.2
UZB pmax pmax
comp=Z,34nm,2.2s
GAR Garm 54.62 73 P **P 01 58 07.2 -1.1**
MOY Mondy 54.63 42 *eP* **P 01 58 08.5 +0.2**
MOY pmax pmax
comp=Z,104nm,2.1s
KDJ Kajisay 54.71 65 P **P 01 58 10.2 +1.1**
KDJ pmax pmax
comp=Z,32nm,1.6s
KDJ Kajisay 54.71 65 P **P 01 58 10.2 +1.1**
KDJ IAmb IAmb 01 58 14.8
comp=Z,32nm,1.6s
SHLS Shalkode 54.72 63 *eP* **P 01 58 09.8 +0.8**
SHLS Shalkode 54.72 63 *eP* **P 01 58 09.8 +0.8**
O20A White River Ci 54.91 290 P **P 01 58 10.7 +0.1**
baz=32
O20A White River Ci 54.91 290 IAmb IAmb 01 58 17.1
comp=Z,26nm,1.3s
HWUT Hardware Ranch 54.98 294 IAmb IAmb 01 58 13.7
comp=Z,18nm,1.1s
TLY Talaya 55.37 40 *i* P **P 01 58 15.0 +1.5**
TLY pmax pmax
comp=Z,6.0nm,1.0s
WMOK Wichita Mounta 55.58 279 P **P 01 58 16.5 +1.3**
baz=31,SNR=9.7
SDCO Great Sand Dun 55.83 287 P **P 01 58 19.7 +2.4**
baz=31
S22A 4UR Ranch, Cre 56.37 288 P **P 01 58 21.9 +0.7**
baz=31
KSH Kashi 56.47 68 P **P 01 58 21.8 +0.2**
KSH S **S 02 06 08.8 -3.7**
KSH pmax pmax
comp=Z,54nm,1.7s
KSH pmax pmax
comp=Z,170nm,3.0s
KSH LR LR
comp=Z,280nm,12.6s
KSH LR LR
comp=Z,600nm,16.2s
KSH LR LR
comp=Z,220nm,7.6s
DUG Dugway, Tooele 56.68 294 P **P 01 58 23.7 +0.6**
baz=31,SNR=7.3
DUG Dugway, Tooele 56.68 294 P **P 01 58 22.9 -0.2**
DUG pmax pmax
comp=Z,22nm,1.4s
DUG Dugway, Tooele 56.68 294 P **P 01 58 22.9 -0.2**
DUG IAmb IAmb 01 58 27.4
comp=Z,22nm,1.4s
J05D Fort Rock, OR 57.20 302 P **P 01 58 26.4 -0.4**
baz=30
WMQ Urumqi 57.20 56 *eP* **P 01 58 30.1 +3.4**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,170nm,28.9s
WMQ LR LR
comp=Z,490nm,29.1s
WMQ Urumqi 57.20 56 P **P 01 58 28.6 +1.9**
WMQ pmax pmax
comp=Z,13nm,0.5s
WMQ Urumqi 57.20 56 P **P 01 58 28.6 +1.9**
WHTX Lake Whitney, 57.37 276 P **P 01 58 29.9 +1.9**
baz=30
WHTX Lake Whitney, 57.37 276 IAmb IAmb 01 58 30.9
comp=Z,16nm,1.1s
MVCO Mesa Verde 57.51 289 P **P 01 58 29.5 +0.3**
baz=31
ABTX Abilene, Hawle 57.76 279 P **P 01 58 32.8 +2.0**
baz=30
MSTX Muleshoe 57.92 282 P **P 01 58 32.1 +0.1**
baz=30
HKT Hockley 58.44 274 *i* P **P 01 58 37.1 +1.7**
HKT pmax pmax
comp=Z,12nm,1.5s
DBIC Dimbokro 58.59 165 P **P 01 58 34.0 -2.6**
comp=Z,10nm,1.0s,baz=322,slow=9.7,SNR=7.4
DBIC LR LR 02 24 23.4
comp=Z,437nm,18.9s,baz=341,slow=37
DBIC Dimbokro 58.59 165 P **P 01 58 34.0 -2.6**
TIC Toumodi 58.59 166 *eP* **P 01 58 36.3 -0.4**
ANMO Albuquerque 58.62 286 P **P 01 58 37.4 +0.5**
baz=30
ANMO Albuquerque 58.62 286*ceP* **P 01 58 37.8 +0.9**
ANMO pmax pmax
comp=Z,16nm,2.5s
ZEA Zeya 58.82 24 *eP* **P 01 58 33.7 -4.1**
ZEA pmax pmax
comp=Z,10.0nm,2.0s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
KIC Kosan Boka 58.91 165 *eP* **P 01 58 35.6 -3.2**
comp=Z,114nm,1.6s
LIC Lamto 59.01 166 *eP* **P 01 58 37.3 -2.2**
comp=Z,64nm,1.4s
CCUT Cedar City 59.17 293 P **P 01 58 39.5 -1.2**
R11A Troy Canyon, C 59.35 295 P **P 01 58 41.9 0.0**
baz=30,SNR=9.4
R11A Troy Canyon, C 59.35 295 IAmb IAmb 01 58 46.2
comp=Z,22nm,1.5s
SONM Songino Array 59.61 40 P **P 01 58 42.4 -1.2**
comp=Z,0.7nm,0.4s,baz=355,slow=8.7,SNR=2.2
KVN Kaiserville 59.71 298 IAmb IAmb 01 58 47.2
comp=Z,13nm,1.2s
ULN Ulaanbaatar 59.77 40*ceP* **P 01 58 44.8 +0.1**
ULN pmax pmax
comp=Z,35nm,2.5s
ULN Ulaanbaatar 59.77 40 P **P 01 58 45.9 +1.2**
WUAZ Wupatki 60.14 290 P **P 01 58 47.1 -0.3**
baz=30,SNR=8.7
WUAZ Wupatki 60.14 290 P **P 01 58 46.8 -0.6**
WUAZ IAmb IAmb 01 58 50.2
comp=Z,18nm,1.1s

NVAR Mina Array Bea 60.33 297 P **P 01 58 47.5 -1.3**
comp=Z,1.2nm,0.8s,baz=43,slow=4.6,SNR=7.5
NVAR LR LR 02 23 47.0
comp=Z,462nm,21.3s,baz=32,slow=35
NVAR Mina Array Bea 60.33 297 P **P 01 58 49.5 +0.8**
NIL Nilore 60.42 74 P **P 01 58 48.5 -0.6**
NIL pmax pmax
comp=Z,55nm,1.6s
NIL Nilore 60.42 74 P **P 01 58 48.5 -0.6**
WAKR Walker 60.70 298 IAmb IAmb 01 58 58.3
comp=Z,22nm,1.6s
UOSS Minazif 60.74 93 P **P 01 58 52.1 +0.7**
UOSS IAmb IAmb 01 59 03.9
comp=Z,15nm,1.4s
TPNV Topopah Spring 60.83 295 P **P 01 58 52.6 +0.6**
baz=29
TPNV Topopah Spring 60.83 295 IAmb IAmb 01 58 54.8
comp=Z,15nm,1.4s
MNTX Cornudas Mount 60.98 283 P **P 01 58 54.1 +1.1**
baz=29
121A Cookes Peak, D 61.26 286 P **P 01 58 55.3 +0.2**
baz=29
121A Cookes Peak, D 61.26 286 IAmb IAmb 01 58 58.4
comp=Z,15nm,1.2s
FURC Furnace Creek, 61.49 295 P **P 01 58 57.4 +1.1**
baz=29
CWC Cottonwood Cre 61.98 296 P **P 01 59 02.9 +3.0**
baz=28
MPMC Manual Prospec 62.09 295 P **P 01 59 00.6 0.0**
baz=28
PDMCI Parker Dam,Lak 62.30 292 P **P 01 59 02.1 +0.2**
baz=29
TX31 Lajitas Ar. Si 62.32 280 P **P 01 59 02.4 +0.2**
TX31 IAmb IAmb 01 59 04.5
comp=Z,16nm,1.1s
TX32 Lajitas Array 62.32 280 P **P 01 59 02.4 +0.2**
TXAR Lajitas Array 62.32 280 P **P 01 59 00.6 -1.5**
comp=Z,3.0nm,0.9s,baz=52,slow=3.4,SNR=19
TXAR LR LR 02 24 55.6
comp=Z,419nm,21.2s,baz=0.0,slow=35
TXAR Lajitas Array 62.32 280 P **P 01 59 00.5 -1.6**
GSC Goldstone, Bar 62.48 295 P **P 01 59 03.9 +0.7**
baz=28
GMRC Granite Mounta 62.49 293 P **P 01 59 03.5 +0.3**
baz=29
PETK Petropavlovsk- 62.49 3 P **P 01 59 01.6 -1.3**
comp=Z,1.3nm,0.8s,baz=349,slow=5.9,SNR=3.2
PETK LR LR 02 27 16.2
comp=Z,109nm,19.1s,baz=353,slow=37
PETK Petropavlovsk- 62.49 3 P **P 01 59 04.5 +1.6**
PETK Petropavlovsk- 62.49 3 P **P 01 59 04.5 +1.6**
PET Petropavlovsk 62.60 3 *i* P **P 01 59 05.2 +1.7**
PET pmax pmax
comp=Z,93nm,1.3s
TUC Tucson 62.69 288 P **P 01 59 04.7 +0.2**
baz=29
TUC Tucson 62.69 288 IAmb IAmb 01 59 08.1
comp=Z,26nm,1.6s
ISA Isabella, Lake 62.82 296 P **P 01 59 05.1 -0.3**
baz=28
ISA Isabella, Lake 62.82 296 P **P 01 59 05.0 -0.3**
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 62.82 296 P **P 01 59 05.0 -0.3**
IRM Iron Mountain 62.83 293 P **P 01 59 05.2 -0.3**
baz=28
BELC Belle Mtn. Jos 63.31 293 P **P 01 59 08.6 -0.1**
baz=28
EDW2 Edwards Air Fo 63.32 295 P **P 01 59 11.2 +2.5**
baz=28
BC3 Big Chuckawall 63.40 293 P **P 01 59 09.9 +0.6**
baz=28
214A Organ Pipe Nat 63.82 289 P **P 01 59 10.8 -1.2**
baz=28
MONP2 Monument Peak 64.45 293 P **P 01 59 16.0 -0.3**
baz=28
IKP In-Ko-Pah, Jac 64.54 293 P **P 01 59 18.3 +1.6**
baz=28
GTA Gaotai 65.27 49 ⇑P **P 01 59 23.5 +2.0**
GTA pP sP 01 59 28.1 +1.5
GTA sP pP 01 59 30.6 +5.4
GTA S **S 02 08 08.6 +3.8**
GTA sS sS 02 08 15.4 +4.5
GTA pmax pmax
comp=Z,8.0nm,1.6s
GTA pmax pmax
comp=Z,200nm,6.2s
GTA LR LR
comp=Z,140nm,15.6s
GTA LR LR
comp=Z,190nm,15.6s
GTA LR LR
comp=Z,120nm,17.1s
HSIG 65.64 286 P **P 01 59 22.7 -1.1**
SPX San Pedro Mart 65.70 291 IAmb IAmb 01 59 30.7
comp=Z,16nm,1.4s
SDV Santo Domingo 66.85 239 *eP* **P 01 59 33.0 +1.0**
SDV Santo Domingo 66.85 239 P **P 01 59 29.1 -2.9**
SDV Santo Domingo 66.85 239 *eP* **P 01 59 32.3 +0.3**
PETF Flores 67.34 262 P **P 01 59 33.2 -1.6**
HHC Hu-ho-hao-te 67.49 40 *eP* **P 01 59 37.5 +1.9**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,100nm,6.5s
ZAIG Zacatecas 67.61 276 P **P 01 59 34.5 -2.3**
SJCC San Jacinto, C 67.65 244 *eP* **P 01 59 37.2 +0.4**
MDJ Mudanjiang 68.02 25 P **P 01 59 38.3 -0.5**
SMLC San Martn de 68.23 243 *eP* **P 01 59 39.5 -0.9**
OCAC Ocana 68.46 242 *eP* **P 01 59 42.6 +0.6**
MOTC Monteria, Cord 68.86 244 *eP* **P 01 59 43.5 -0.8**
PAMC Pamplona, Colo 69.05 241 *eP* **P 01 59 45.3 -0.8**
ESPN Las Esperanzas 69.23 254 P **P 01 59 44.6 -2.1**
BJI Beijing 69.47 36 P **P 01 59 49.8 +2.0**
BJI S **S 02 09 02.0 +7.1**
BJI pmax pmax
comp=Z,13nm,2.0s
BJI pmax pmax
comp=Z,180nm,3.9s
BJI LR LR
comp=Z,120nm,12.5s
BJI LR LR
comp=Z,240nm,18.4s
BJT Baijiatuao 69.48 36 P **P 01 59 48.9 +0.9**
BJT pmax pmax
comp=Z,60nm,1.9s
BJT Baijiatuao 69.48 36 P **P 01 59 48.9 +0.9**
TAMC Tame, Arauca 69.54 240 *eP* **P 01 59 47.5 -1.2**
LZH Lanzhou 69.60 48 *eP* **P 01 59 50.9 +1.9**
LZH pP sP 01 59 56.3 +2.2
LZH *eS* **S 02 09 04.4 +7.4**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,320nm,5.4s
LZH LR LR
comp=Z,1μm,11.4s
LZH LR LR
comp=Z,1μm,12.7s
LZH LR LR
comp=Z,1μm,14.1s
MCPB Macapa, AP 69.62 217 *eP* **P 01 59 51.5 +2.5**
BRRC Barranca, Sant 69.64 242 *eP* **P 01 59 49.6 +0.3**
UREC San Jos de Ur 69.75 244 *eP* **P 01 59 52.2 +2.3**
BARC Barichara 69.92 241 *eP* **P 01 59 49.5 -1.7**
ROSB Rosrio 70.22 208 *eP* **P 01 59 52.7 0.0**
PTBC PUERTO BERRIO, 70.45 242 *eP* **P 01 59 54.4 +0.2**
RUSC La Rusia 70.52 241 *eP* **P 01 59 53.4 -1.8**
DBBC Dabeiba 70.68 244 *eP* **P 01 59 51.4 -4.3**
LSA Lhasa 70.98 61 P **P 01 59 57.7 -0.2**
LSA pmax pmax
comp=Z,22nm,1.6s
LSA Lhasa 70.98 61 P **P 01 59 57.7 -0.2**
LSA IAmb IAmb 02 00 14.1
comp=Z,22nm,1.6s
SPBC San Pablo de B 71.12 241 *eP* **P 01 59 58.9 +0.5**
HELC Santa Helena 71.18 243 *eP* **P 01 59 55.4 -3.7**
MALB Monte Alegre 71.64 219 *eP* **P 02 00 03.1 +1.7**
CBOC Ciudad Bolivar 71.66 243 *eP* **P 02 00 03.1 +1.3**
DL2 Dalian 71.87 33 P P 01 59 54.8 -7.7
DL2 S **S 02 09 15.6 -7.3**
DL2 pmax pmax
comp=Z,23nm,0.8s
DL2 pmax pmax
comp=Z,280nm,6.5s
DL2 LR LR
comp=N,370nm,17.7s
DL2 LR LR
comp=E,570nm,20.1s
DL2 LR LR
comp=Z,160nm,19.2s
CHIC Chingaza 71.93 241 *eP* **P 02 00 02.2 -1.4**
ROSC El Rosal 71.96 241 P **P 02 00 03.0 -0.8**
comp=Z,12nm,0.4s,baz=173,slow=6.4,SNR=8.4
ROSC LR LR 02 28 03.8
comp=Z,76nm,21.8s,baz=14,slow=33
ROSC El Rosal 71.96 241 *eP* **P 02 00 06.0 +2.2**
ROSC El Rosal 71.96 241 P **P 02 00 01.5 -2.3**
GUY2C Guyana, Caldas 72.00 243 *eP* **P 02 00 02.8 -1.3**
VILC Villavicencio, 72.39 241 *eP* **P 02 00 03.5 -2.6**
TOLC Tolima 72.57 242 *eP* **P 02 00 06.7 -0.7**
XAN Xi'an 73.06 44 P **P 02 00 11.0 +1.2**
XAN pP sP 02 00 15.4 +0.5
XAN S **SKiKP 02 09 42.5 +0.8**
XAN pmax pmax
comp=Z,11nm,1.9s
XAN pmax pmax
comp=Z,260nm,7.3s
XAN Xi'an 73.06 44 P **P 02 00 09.7 -0.1**
XAN pmax pmax
comp=Z,36nm,1.8s
XAN Xi'an 73.06 44 P **P 02 00 09.7 -0.1**
XAN IAmb IAmb 02 00 14.4
comp=Z,36nm,1.8s
GUVC San Jose del G 73.44 239 *eP* **P 02 00 11.6 -0.6**
CD2 Chengdu 74.33 50 P **P 02 00 18.8 +1.5**
CD2 S **S 02 09 50.8 -0.4**
CD2 SS **SS 02 14 38.3 +2.2**
CD2 pmax pmax
comp=Z,30nm,1.4s
CD2 pmax pmax
comp=Z,240nm,5.6s
BETC Betania 74.36 242 *eP* **P 02 00 15.1 -2.6**
ITTB Itaituba 74.44 220 *eP* **P 02 00 19.9 +2.0**
PRPB Parauapebas 74.65 214 *eP* **P 02 00 21.5 +2.4**
MACA Manacapuru-AM 74.73 225 *eP* **P 02 00 21.7 +2.1**
SHL Shillong 74.99 62 P **P 02 00 20.6 -0.7**
SHL pmax pmax
comp=Z,13nm,0.3s
SHL Shillong 74.99 62 P **P 02 00 20.6 -0.7**
FLOC Florencia 75.45 241 *eP* **P 02 00 25.0 +1.1**
ENH Enshi 76.74 45 P **P 02 00 32.4 +1.3**
SMTB Santa Maria do 76.74 211 *eP* **P 02 00 32.9 +1.8**
NPGB Novo Progresso 76.90 219 *eP* **P 02 00 33.7 +1.7**
MJAR Matsushiro Arr 77.31 20 P **P 02 00 32.4 -1.8**
comp=Z,0.4nm,0.3s,baz=327,slow=5.8,SNR=1.6
NJ2 Nanjing 77.71 37 *eP* **P 02 00 39.4 +3.0**
NJ2 S **S 02 10 31.5 +3.2**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,5.2s
NJ2 LR LR
comp=Z,210nm,14.2s
NJ2 LR LR
comp=Z,280nm,16.1s
NJ2 LR LR
comp=Z,570nm,18.5s
OTAV Otavalo 77.76 244 P **P 02 00 33.7 -3.7**
OTAV pmax pmax
comp=Z,15nm,1.4s
OTAV Otavalo 77.76 244 P **P 02 00 33.7 -3.7**
OTAV IAmb IAmb 02 00 41.3
comp=Z,16nm,1.4s
OTAV Otavalo 77.76 244 *eP* **P 02 00 38.0 +0.6**
KMI Kunming 79.32 53⇓ *eP* **P 02 00 47.3 +1.6**
KMI pmax pmax
comp=Z,12nm,2.0s
GYA Guiyang 79.40 49 ⇓P **P 02 00 46.1 +0.1**
GYA PP **PP 02 03 47.0 +1.5**
GYA S **S 02 10 44.6 -2.2**
GYA sS sS 02 10 52.8 -0.2
GYA SS **SS 02 16 00.8 +7.9**
GYA pmax pmax
comp=Z,12nm,1.8s
GYA pmax pmax
comp=Z,200nm,3.8s
SDBA SAO DESIDERIO 79.63 207 *eP* **P 02 00 46.8 -0.3**
CLDB Colider 80.67 218 *eP* **P 02 00 54.9 +2.2**
SAML Samuel 80.97 226 P **P 02 00 53.8 -0.5**
SAML pmax pmax
comp=Z,16nm,1.5s
SAML Samuel 80.97 226 P **P 02 00 53.8 -0.5**
SAML Samuel 80.97 226 *eP* **P 02 00 55.9 +1.6**
ETMB Extrema 82.74 228 *eP* **P 02 01 04.2 +0.6**
CZSB Cruzeiro do Su 82.98 235 *eP* **P 02 01 05.2 +0.3**
SLVN Son La 83.22 53 P **P 02 01 06.5 +0.2**
SLVN IAmb IAmb 02 01 08.9
comp=Z,20nm,1.5s
BDFB Brasilia 83.41 210 LR LR 02 35 06.5
comp=Z,235nm,18.2s,baz=28,slow=34
CHTO Chiang Mai 83.77 59 P **P 02 01 08.5 -0.6**
CHTO pmax pmax
comp=Z,17nm,1.5s
CHTO Chiang Mai 83.77 59 P **P 02 01 08.4 -0.6**
CHTO IAmb IAmb 02 01 18.7
comp=Z,16nm,1.5s
VILB Vilhena 83.87 222 *eP* **P 02 01 10.4 +1.0**
CMAR Chiang Mai Arr 84.10 59 P **P 02 01 08.2 -2.6**
comp=Z,1.0nm,0.4s,baz=315,slow=7.1,SNR=8.2
CMAR Chiang Mai Arr 84.10 59*ceP* **P 02 01 12.1 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 84.10 59 P **P 02 01 09.8 -0.9**
PTLB Pontes e Lacer 85.95 220 *eP* **P 02 01 22.7 +2.9**
TSUM Tsumeb 87.83 147 P **P 02 01 25.6 -3.5**
TSUM IAmb IAmb 02 03 52.4
comp=Z,13nm,1.4s
LPAZ La Paz 89.43 228 LR LR 02 38 19.0
comp=Z,43nm,19.2s,baz=358,slow=33
CPUP Villa Florida 95.86 215 LR LR 02 44 01.7
comp=Z,87nm,19.2s,baz=24,slow=35
BOSA Boshof 98.75 143 LR LR 02 49 20.4
comp=Z,476nm,18.5s,baz=354,slow=37
WRAB Tennant Creek 131.49 36 PKIKP **PKPdf 02 07 52.3 +0.1**
WRAB Tennant Creek 131.49 36 PKPdf **PKPdf 02 07 52.3 +0.1**
WRA Warramunga Arr 131.50 36 PKP **PKPdf 02 07 51.0 -1.2**
comp=Z,0.9nm,1.1s,baz=7.1,slow=2.7,SNR=3.1
WRA Warramunga Arr 131.50 36 PKIKP **PKPdf 02 07 51.0 -1.2**
ASAR Alice Springs 134.94 38 PKP **PKPdf 02 07 55.1 -3.5**
comp=Z,0.5nm,0.9s,baz=302,slow=2.0,SNR=5.0
SYO Syowa Base 139.26 152⇑*eX* **PKiKP 02 08 14.0 +6.7**
BBOO Buckleboo 144.19 40 PKPbc 02 08 13.4 +0.2
STKA Stephens Creek 144.70 32 PKP **PKPab 02 08 12.4 -2.3**
comp=Z,1.6nm,0.7s,baz=320,slow=5.8,SNR=2.3
STKA Stephens Creek 144.70 32 PKIKP PKPbc 02 08 15.4 +0.5
STKA Stephens Creek 144.70 32 PKPbc 02 08 15.4 +0.5
ARMA Armidale 145.04 17 PKPbc **PKPdf 02 08 17.3 +0.5**

IDC ***25*** *02:25:59.6±0.5, 34˚.26N×102˚.47E, h0km, mb4.2/22, mb1 4.3/26, mb1mx4.2/52, mbtmp4.2/26, ML4.0/4, MS4.0/29, Ms1 4.0/29, ms1mx3.8/50, Error ellipse: s-maj=16.9km s-min=11.2km az=50.0*

MOS ***25*** *02:25:59.3±0.9, 34˚.20N×102˚.36E, h10km, mb4.7/24, Error ellipse: s-maj=6.7km s-min=4.9km az=113.7*

NEIC ***25*** *02:26:01.7±1.3, 34˚.25N±0˚.07×102˚.35E±0˚.09, h10km±1km, mb4.5/53, Error ellipse: s-maj=12.1km s-min=11.6km az=62.0*

BJI ***25*** *02:26:01.9±0.0, 34˚.30N×102˚.39E, h15km, mB4.8/28, mb4.8/42, ML4.8/24, Ms4.7/53, Ms7 4.5/47*

GCMT ***25*** *02:26:03.7±0.2, 34˚.35N×0˚.01×102˚.51E±0˚.02, h28km±1km, MW4.8/94, Moment Tensor Solution. s36,c39; s94,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.54±.12; Mθθ 1.23±.09; Mφφ-0.69±.08; Mrθ-0.40±.13; Mθφ 2.12±.06; Mφr 0.31±.13; Best double couple: M0 2.40100×10^16 NP1:φs193.00000°, δ76.00000°, λ-171.00000°. NP2: φs101.00000°, δ81.00000°, λ-14.00000°. Principal axes: T 2.6050, Plg3.0000°, Azm148.0000°; N -0.4070, Plg74.0000°, Azm248.0000°; P -2.1970, Plg16.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 02:26:01.6±0.3, 34˚21N±0˚.03×102˚38E±0˚.03, h10km, n234, σ1s53/227, mb4.5/53, MS4.1/30, 29C-6D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH	Lanzhou	2.23	32	i Pg	Pn	02 26 40.5	+1.8
LZH				Sg	Sg	02 27 12.3	-0.9
LZH				smax	smax		
	comp=N,9µm,1.0s						
LZH				smax	smax		
	comp=E,10µm,1.0s						
CD2	Chengdu	3.49	160	Pn	Pn	02 26 59.3	+3.3
CD2				Pg	Pg	02 27 07.4	-1.1
CD2				Sg	Sg	02 27 51.3	-2.4
CD2				smax	smax		
	comp=N,1µm,1.1s						
CD2				smax	smax		
	comp=E,1µm,1.5s						
CD2				LR	LR		
	comp=N,9µm,7.6s						
CD2				LR	LR		
	comp=Z,5µm,7.7s						
XAN	Xi'an	5.43	90	Pn	Pn	02 27 22.6	0.0
XAN				Sg	Sg	02 28 52.3	-3.7
XAN				smax	smax		
	comp=N,2µm,0.9s						
XAN				smax	smax		
	comp=E,2µm,0.9s						
XAN				LR	LR		
	comp=N,10µm,5.1s						
XAN				LR	LR		
	comp=E,6µm,2.4s						
XAN				LR	LR		
	comp=Z,5µm,4.1s						
XAN	Xi'an	5.43	90	P	Pn	02 27 22.7	0.0
XAN	Xi'an	5.43	90	Pn	Pn	02 27 22.7	0.0
GTA	Gaotai	5.58	339	⇑Pn	Pn	02 27 25.3	+0.5
GTA				Pg	Pb	02 27 42.8	+3.6
GTA				Sn	Sn	02 28 31.5	+2.4
GTA				Sg	Sg	02 29 00.0	-0.9
GTA				smax	smax		
	comp=N,200nm,1.2s						
GTA				smax	smax		
	comp=E,300nm,1.1s						
GTA				LR	LR		
	comp=N,3µm,9.8s						
GTA				LR	LR		
	comp=E,5µm,11.3s						
GTA				LR	LR		
	comp=Z,2µm,12.7s						
ENH	Enshi	7.19	121	Pn	Pn	02 27 47.1	+0.3
GYA	Guiyang	8.57	153	⇑P	Pn	02 28 07.8	+2.0
GYA				S	Sn	02 29 44.5	+1.9
GYA				smax	smax		
	comp=N,98nm,1.9s						
GYA				smax	smax		
	comp=E,120nm,1.6s						
GYA				LR	LR		
	comp=N,2µm,10.3s						
GYA				LR	LR		
	comp=E,1µm,5.0s						
GYA				LR	LR		
	comp=Z,1µm,11.2s						
BTO	Baotou	8.81	41	eP	Pn	02 28 07.8	-1.4
LKP	Lekhapani	8.86	221	ex	Pg	02 28 52.4	+1.1
LKP				ex	x	02 30 49.1	
LKP				IAML		02 31 08.2	
	comp=E,111nm,1.8s						
LKP				IAML		02 31 16.9	
	comp=N,111nm,1.4s						
TIY	Taiyuan	8.87	64	Pg	Pg	02 28 43.6	-7.8
TIY				Sg	Sg	02 30 35.0	-11
TIY				smax	smax		
	comp=N,620nm,1.3s						
TIY				smax	smax		
	comp=E,310nm,0.9s						
KMI	Kunming	9.06	178	⇑eP	Pn	02 28 14.8	+2.1
KMI				pP		02 28 17.4	
KMI				S	Sn	02 29 59.0	+4.1
KMI				pmax	pmax		
	comp=E,20nm,1.0s						
KMI				pmax	pmax		
	comp=E,110nm,3.7s						
KMI				LR	LR		
	comp=E,1µm,7.5s						
KMI				LR	LR		
	comp=E,9µm,13.1s						
KMI				LR	LR		
	comp=E,2µm,12.6s						
KMI	Kunming	9.06	178	P	Pn	02 28 12.6	-0.1
KMI	Kunming	9.06	178	Pn	Pn	02 28 12.6	-0.1
HHC	Hu-ho-hao-te	9.85	45	eP	Pn	02 28 22.8	-0.6
HHC				S	Sn	02 30 17.1	+3.0
HHC				sS		02 30 21.4	
HHC				pmax	pmax		
	comp=E,54nm,1.1s						
HHC				pmax	pmax		
	comp=E,120nm,5.4s						
HHC				LR	LR		
	comp=E,3µm,9.8s						
HHC				LR	LR		
	comp=E,3µm,9.8s						
HHC				LR	LR		
	comp=E,4µm,10.2s						
LSA	Lhasa	10.54	248	P	Pn	02 28 39.6	+6.4
LSA	Lhasa	10.54	248	P	Pn	02 28 32.7	-0.5
LSA	Lhasa	10.54	248	Pn	Pn	02 28 32.7	-0.5
WHN	Wuhan	10.76	107	⇑P	Pn	02 28 37.8	+2.0
WHN				S	Sn	02 30 37.1	+0.8
WHN				LR	LR		
	comp=E,13µm,8.1s						
WHN				LR	LR		
	comp=E,14µm,8.8s						
WHN				LR	LR		
	comp=E,6µm,6.8s						
BJT	Baijiatuau	12.44	58	P	Pn	02 28 59.1	+0.5
BJT	Baijiatuau	12.44	58	Pn	Pn	02 28 59.1	+0.5
BJI	Beijing	12.45	58	P	Pn	02 29 01.5	+2.7
BJI				S	Sn	02 31 18.1	+0.6
BJI				pmax	pmax		
	comp=E,12nm,0.7s						
BJI				LR	LR		
	comp=E,2µm,6.4s						
BJI				LR	LR		
	comp=E,2µm,10.0s						
BJI				LR	LR		
	comp=E,880nm,16.3s						
SHL	Shillong	12.53	229	P	Pn	02 28 59.4	-0.7
SHL	Shillong	12.53	229	Pn	Pn	02 28 59.4	-0.7
SLVN	Son La	12.90	174	Pn	Pn	02 29 06.1	+1.0
SONM	Songino Array	13.94	11	Pn	Pn	02 29 18.7	-0.6
	comp=E,1.1nm,0.3s,baz=192,slow=14,SNR=7.6						
SONM				Lg	Lg	02 33 18.9	
	comp=E,0.2nm,0.3s,baz=190,slow=25,SNR=3.9						
SONM				LR	LR	02 35 02.8	
	comp=E,1µm,18.7s,baz=192,slow=39						
SONM	Songino Array	13.94	11	Pn	Pn	02 29 18.5	-0.8
NJ2	Nanjing	13.98	94	eP	Pn	02 29 19.3	-0.4
NJ2				pmax	pmax		
	comp=E,20nm,0.7s						
NJ2				LR	LR		
	comp=E,2µm,8.5s						
NJ2				LR	LR		
	comp=E,2µm,9.5s						
NJ2				LR	LR		
	comp=E,2µm,13.2s						
ULN	Ulaanbaatar	14.09	13	ceP	Pn	02 29 21.7	+0.4
ULN				pmax	pmax		
	comp=Z,13nm,1.7s						
ULN	Ulaanbaatar	14.09	13		Pn	02 29 20.2	-1.1
SAIH	SAIHA	14.30	218	ex	Pn	02 29 22.9	-1.4
SAIH				ex	x	02 33 40.5	
SAIH				IAML		02 35 04.2	
	comp=E,2µm,2.9s						
SAIH				IAML		02 35 53.9	
	comp=N,788nm,10.1s						
ODAN	Odare	14.84	244	eP	Pn	02 29 30.6	-1.2
	comp=N,260nm,1.4s						
WMQ	Urumqi	14.89	314	eP	Pn	02 29 30.1	-2.1
WMQ				PP	PnPn	02 29 44.9	+4.7
WMQ				S	Sn	02 32 21.8	+4.5
WMQ				pmax	pmax		
	comp=N,8.0nm,0.9s						
WMQ				LR	LR		
	comp=N,540nm,7.5s						
WMQ				LR	LR		
	comp=N,490nm,6.9s						
WMQ	Urumqi	14.89	314	P	Pn	02 29 29.4	-2.8
WMQ	Urumqi	14.89	314	Pn	Pn	02 29 29.4	-2.8
GUN	Gumba	15.46	251	eP	Pn	02 29 37.7	-2.5
	comp=N,60nm,0.7s						
CHTO	Chiang Mai	15.64	192	P	Pn	02 29 42.5	+0.3
CHTO				pmax	pmax		
	comp=Z,27nm,1.0s						
CHTO	Chiang Mai	15.64	192	Pn	Pn	02 29 42.5	+0.3
CHTO				IAmb	IAmb	02 29 54.0	
	comp=Z,27nm,0.9s						
CM31	Chiang Mai Arr	15.98	192	Pn	Pn	02 29 45.4	-1.2
CM31				IAmb	IAmb	02 29 57.8	
	comp=Z,31nm,1.1s						
CMAR	Chiang Mai Arr	15.98	192	Pn	Pn	02 29 48.0	+1.4
	comp=Z,0.4nm,0.3s,baz=5.4,slow=12,SNR=10						
CMAR				Lg	Lg	02 34 32.6	
	comp=Z,1.2nm,0.3s,baz=0.5,slow=31,SNR=2.1						
CMAR				LR	LR	02 36 51.6	
	comp=Z,169nm,19.4s,baz=50,slow=41						
CMAR	Chiang Mai Arr	15.98	192	Pn	Pn	02 29 46.7	0.0
KKN	Kakani	15.99	251	eP	Pn	02 29 44.3	-2.6
	comp=Z,62nm,1.0s						
PKI	Pulchoki	15.99	250	eP	Pn	02 29 44.1	-2.9
	comp=Z,25nm,0.7s						
PKIN	Phulchoki	16.00	250	eP	Pn	02 29 44.5	-2.5
	comp=Z,35nm,0.7s						
SSE	Sheshan	16.14	96	P	Pn	02 29 44.8	-3.8
SSE				S	Sn	02 32 51.9	+4.2
SSE				pmax	pmax		
	comp=Z,13nm,0.7s						
SSE				pmax	pmax		
	comp=Z,50nm,4.2s						
SSE				LR	LR		
	comp=N,1µm,12.2s						
SSE				LR	LR		
	comp=E,460nm,11.2s						
DL2	Dalian	16.16	68	P	P	02 29 53.8	+1.8
DL2				eS	S	02 32 57.8	-3.4
DL2				pmax	pmax		
	comp=Z,58nm,1.1s						
DL2				LR	LR		
	comp=N,1µm,17.5s						
DL2				LR	LR		
	comp=E,550nm,15.6s						
DL2				LR	LR		
	comp=Z,1µm,10.9s						
ZAK	Zakamensk	16.18	2	eP	Pn	02 29 49.5	+0.5
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s						
DMN	Daman	16.21	251	eP	Pn	02 29 48.2	-1.5
	comp=Z,42nm,0.7s						
GKN	Gorkha	16.40	253	eP	Pn	02 29 49.5	-2.6
	comp=Z,247nm,1.0s						
QIZ	Qiongzhong	16.52	154	P	Pn	02 29 54.3	+0.9
QIZ				S	Sn	02 32 59.4	+2.5
QIZ				LR	LR		
	comp=Z,900nm,10.3s						
QIZ				LR	LR		
	comp=Z,1µm,11.3s						
QIZ				LR	LR		
	comp=Z,1µm,10.2s						
DANN	Dangsing	16.95	255	eP	Pn	02 29 56.3	-2.8
	comp=Z,177nm,0.9s						
KOLN	Koldanda	17.32	253	eP	Pn	02 30 02.3	-1.5
	comp=Z,245nm,1.0s						
MOY	Mondy	17.48	357	eP	P	02 30 07.9	+1.3
MOY				pmax	pmax		
	comp=Z,49nm,2.2s						
TLY	Talaya	17.49	3	P	P	02 30 06.2	-0.5
	comp=Z,0.0nm,0.3s,baz=164,slow=15,SNR=2.6						
TLY				Lg	Lg	02 35 11.4	
	comp=Z,0.0nm,0.3s,baz=50,slow=23,SNR=1.0						
TLY				LR	LR	02 37 44.2	
	comp=Z,396nm,18.2s,baz=173,slow=40						
TLY	Talaya	17.49	3	i P	Pn	02 30 05.8	+0.3
TLY				pmax	pmax		
	comp=Z,17nm,1.8s						
TLY	Talaya	17.49	3	Pn	Pn	02 30 03.3	-2.2
PYUN	Piuthan	17.67	255	eP	Pn	02 30 06.4	-1.7
	comp=Z,165nm,1.0s						
DGZ	Jazzator, Alta	19.00	329	eP	Pn	02 30 23.7	-0.5
DGZ				pmax	pmax		
	comp=Z,15nm,1.4s						
UBPT	Khong Chiam	19.05	171		Pn	02 30 24.9	+0.1
UBPT				IAmb	IAmb	02 30 34.5	
	comp=Z,83nm,1.7s						
NACB	Ninganchiao	19.50	116	P	P	02 30 29.7	+0.7
NACB				IAmb	IAmb	02 30 39.4	
	comp=Z,38nm,1.1s						
MK31	Makanchi Array	19.71	316	ceP	Pn	02 30 31.7	-0.9
MK31	Makanchi Array	19.71	316	P	P	02 30 30.0	-1.2
MKAR	Makanchi Array	19.71	316	P	P	02 30 31.4	+0.2
	comp=Z,0.2nm,0.3s,baz=116,slow=12,SNR=17						
MKAR				LR	LR	02 38 42.1	
	comp=Z,343nm,18.6s,baz=117,slow=39						
MKAR	Makanchi Array	19.71	316	P	P	02 30 30.3	-0.9
HIA	Hailar	19.78	35	d iP	P	02 30 32.4	+0.5
HIA				pmax	pmax		
	comp=Z,15nm,1.1s						
HIA	Hailar	19.78	35	P	P	02 30 32.5	+0.5
HIA				IAmb	IAmb	02 30 38.9	
	comp=Z,13nm,0.5s						
MAKZ	Makanchi	19.90	315	P	P	02 30 32.7	-0.5
MAKZ				pmax	pmax		
	comp=Z,11nm,1.1s						
MAKZ	Makanchi	19.90	315	P	P	02 30 32.7	-0.5
INCN	Inchon	19.92	74	P	P	02 30 34.2	+0.7
INCN				pmax	pmax		
	comp=Z,28nm,0.8s						
INCN	Inchon	19.92	74	P	P	02 30 34.2	+0.7
INCN				IAmb	IAmb	02 30 40.3	
	comp=Z,28nm,0.8s						
TWG	Pinlang	19.93	120	P	P	02 30 34.5	+0.8
TWG				IAmb	IAmb	02 30 52.9	
	comp=Z,43nm,1.2s						
CN2	Changchun	20.27	55	eP	P	02 30 36.9	-0.3
CN2				pmax	pmax		
	comp=Z,40nm,0.7s						
PRZ	Przheval'sk	20.49	301	P	P	02 30 37.8	-2.1
PRZ				pmax	pmax		
	comp=Z,44nm,1.5s						
PRZ	Przheval'sk	20.49	301	P	P	02 30 37.8	-2.1
PRZ				IAmb	IAmb	02 31 35.5	
	comp=Z,44nm,1.4s						
TJN	Taejon	20.50	77	ceP	P	02 30 39.5	-0.2
KS19	Wonju Array Si	20.90	74	P	P	02 30 43.7	-0.4
KSAR	Wonju Array Be	20.91	74	P	P	02 30 45.0	+0.8
KSAR	Wonju Array Be	20.91	74	P	P	02 30 45.0	+0.8
KSRS	Korea Array	20.94	74	P	P	02 30 43.4	-1.2
	comp=Z,10nm,0.8s,baz=260,slow=9.5,SNR=23						
KDJ	Kajisay	21.28	299	P	P	02 30 47.7	-0.6
KDJ				pmax	pmax		
	comp=Z,17nm,1.0s						
KDJ	Kajisay	21.28	299	P	P	02 30 47.7	-0.6
KDJ				IAmb	IAmb	02 30 54.6	
	comp=Z,17nm,0.9s						
KSH	Kashi	21.74	292	P	P	02 30 56.3	+3.0
KSH				pP	sP	02 31 01.4	+2.4
KSH				S	S	02 34 53.5	-0.4
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH				LR	LR		
	comp=Z,480nm,10.3s						
KSH				LR	LR		
	comp=Z,920nm,17.8s						
KSH				LR	LR		
	comp=Z,1µm,18.1s						
BOOM	Boomskoye usch	22.26	300	P	P	02 30 58.3	-0.6
BOOM				pmax	pmax		
	comp=Z,19nm,1.2s						
BOOM	Boomskoye usch	22.26	300	P	P	02 30 58.2	-0.6
BOOM				IAmb	IAmb	02 31 22.8	
	comp=Z,19nm,1.2s						
FRU1	Bishkek	23.27	300	P	P	02 31 10.0	+0.6
FRU1				pmax	pmax		
	comp=Z,26nm,0.4s						
FRU1	Bishkek	23.27	300	P	P	02 31 10.0	+0.6
ZAA0	Zalesovo Array	23.30	333	P	P	02 31 08.4	-1.0
ZALV	Zalesovo Beam	23.30	333	P	P	02 31 08.7	-0.8
	comp=Z,3.8nm,0.6s,baz=143,slow=9.6,SNR=17						
ZALV	Zalesovo Beam	23.30	333	i P	P	02 31 09.6	+0.2
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV	Zalesovo Beam	23.30	333	P	P	02 31 08.9	-0.6
AAK	Ala-Archa	23.33	299	i P	P	02 31 09.2	-0.9
AAK				pmax	pmax		
	comp=Z,50nm,1.1s						
MDJ	Mudanjiang	23.35	55	P	P	02 31 10.8	+0.7
MDJ				pmax	pmax		
	comp=Z,17nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,220nm,3.6s						
MDJ				LR	LR		
	comp=Z,670nm,13.9s						
MDJ				LR	LR		
	comp=Z,860nm,16.0s						
MDJ				LR	LR		
	comp=Z,1µm,12.6s						
MDJ	Mudanjiang	23.35	55	P	P	02 31 09.2	-0.9
MDJ				IAmb	IAmb	02 31 10.9	
	comp=Z,19nm,1.1s						
JNU	Nakatsue	23.72	85	LR	LR	02 40 52.0	
	comp=Z,443nm,18.3s,baz=296,slow=38						
KURBB	Kurchatov Arra	23.90	321	P	P	02 31 14.8	-0.6
	comp=Z,2.9nm,0.5s,baz=129,slow=10,SNR=24						
KURK	Kurchatov	23.91	321	ceP	P	02 31 15.3	-0.1
KURK				pmax	pmax		
	comp=Z,17nm,1.3s						
KURK	Kurchatov	23.91	321	P	P	02 31 14.7	-0.7
KURK				IAmb	IAmb	02 31 51.7	
	comp=Z,16nm,1.1s						
PBA	Port Blair	24.11	204	P	P	02 31 17.8	+0.2
NIL	Nilore	24.14	277	P	P	02 31 16.9	-1.0
NIL				pmax	pmax		
	comp=Z,33nm,1.0s						
NIL	Nilore	24.14	277	P	P	02 31 16.9	-1.0
BOD	Bodaibo	24.88	15	eP	P	02 31 23.4	-0.9
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
USA0B	Ussuriysk Arra	24.90	58	P	P	02 31 24.9	+0.3
USA0B				pmax	pmax		
	comp=Z,64nm,2.0s						
USA0B	Ussuriysk Arra	24.90	58	P	P	02 31 24.9	+0.3
USRK	Ussuriysk Ar.	24.90	58	P	P	02 31 23.6	-1.1
	comp=Z,3.8nm,0.7s,baz=268,slow=8.9,SNR=9.5						
USRK				LR	LR	02 41 59.5	
	comp=Z,453nm,19.7s,baz=213,slow=39						
USRK	Ussuriysk Ar.	24.90	58	P	P	02 31 23.8	-0.8
USRK	Ussuriysk Ar.	24.90	58	P	P	02 31 23.8	-0.8
ZEA	Zeya	26.25	34	⇑eP	P	02 31 37.8	+1.0
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=E,700nm,11.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,9.0s						
KK31	Karatay Array	26.29	299	P	P	02 31 37.2	-0.1
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KK31	Karatay Array	26.29	299	P	P	02 31 37.2	-0.1
KKAR	Karatay Array	26.29	299	P	P	02 31 37.5	+0.2
KKAR	Karatay Array	26.29	299	P	P	02 31 37.5	+0.2
MJAR	Matsushiro Arr	29.21	75	P	P	02 32 02.2	-1.2
	comp=Z,1.4nm,0.6s,baz=279,slow=10,SNR=4.1						
MJAR				LR	LR	02 43 30.9	
	comp=Z,241nm,20.1s,baz=240,slow=36						
BRVK	Borovoye	29.55	319	i P	P	02 32 05.9	-0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	Borovoye	29.55	319	P	P	02 32 05.8	-0.5
KKM	Kota Kinabalu	30.82	152	P	P	02 32 18.6	+0.7
JHJ	Hachijo jima 2	31.04	81	LR	LR	02 44 50.3	
	comp=Z,263nm,20.2s,baz=270,slow=36						
PSI	Prapat	31.41	187	LR	LR	02 45 31.9	
	comp=Z,273nm,19.6s,baz=324,slow=37						
MYLDM	Lahad Datu	32.53	149	P	P	02 32 34.4	+1.6
SBUM	Sibu	32.91	162	P	P	02 32 37.2	+1.0
SBUM				IAmb	IAmb	02 32 38.8	
	comp=Z,11nm,1.1s						
HRA	Herat	33.01	282	P	P	02 32 37.4	+0.3
HRA				IAmb	IAmb	02 32 45.1	
	comp=Z,8.2nm,1.0s						
KSM	Kuching	33.40	165	P	P	02 32 41.5	+1.1
BKNI	Bangkinang	33.73	182	P	P	02 32 45.1	+1.8
BKNI	Bangkinang	33.73	182	P	P	02 32 43.9	+0.6
ABKAR	Akbulak array	34.56	309	P	P	02 32 49.8	-0.4
GEYT	Alibeck	35.72	289	P	P	02 33 01.5	+1.1
	comp=Z,5.9nm,1.0s,baz=116,slow=6.8,SNR=7.0						
GEYT				LR	LR	02 49 39.5	
	comp=Z,179nm,19.3s,baz=30,slow=40						
GEYT	Alibeck	35.72	289	P	P	02 33 01.1	+0.7
GYA0B	ALIBECK ARRAY	35.72	289	P	P	02 33 00.6	+0.2
AKTO	Aktyubinsk	35.99	310	P	P	02 33 02.5	-0.1
	comp=Z,3.4nm,0.7s,baz=112,slow=16,SNR=6.8						
NRIK	Noril'sk	36.14	351	P	P	02 33 03.4	-0.3
	comp=Z,5.6nm,0.6s,baz=147,slow=7.1,SNR=7.1						
NRIK				LR	LR	02 48 34.0	
	comp=Z,347nm,19.8s,baz=194,slow=38						
NRIK	Noril'sk	36.14	351	ceP	P	02 33 03.3	-0.3
NRIK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SVE	Sverdlovsk	36.15	322	eP	P	02 33 04.7	+0.8
ARU	Arti	37.10	320	P	P	02 33 12.0	+0.1
	comp=Z,2.3nm,0.5s,baz=155,slow=3.8,SNR=9.9						
ARU	Arti	37.10	320	c iP	P	02 33 12.0	+0.1
ARU						02 34 34.3	
ARU				S	S	02 39 00.0	+2.1
ARU				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	Arti	37.10	320	P	P	02 33 12.1	+0.1
TIXI	Tiksi	40.02	13	ceP	P	02 33 36.1	-0.2
TIXI				pmax	pmax		
	comp=Z,36nm,2.5s						
TIXI	Tiksi	40.02	13	P	P	02 33 36.3	0.0
TIXI				IAmb	IAmb	02 33 47.5	
	comp=Z,12nm,0.8s						
LEM	Lembang	41.11	172	LR	LR	02 50 49.8	
	comp=Z,307nm,19.2s,baz=217,slow=36						
KAPI	Kappang	42.32	154	P	P	02 33 54.9	-0.9
	comp=Z,11nm,1.0s,baz=168,slow=3.6,SNR=4.2						
KAPI	Kappang	42.32	154	IAmb	IAmb	02 33 57.0	
	comp=Z,44nm,1.4s						
PETK	Petropavlovsk-	43.05	47	LR	LR	02 54 18.5	
	comp=Z,321nm,18.2s,baz=263,slow=40						
GUMO	Guam	43.54	108	LR	LR	02 51 11.0	
	comp=Z,110nm,20.7s,baz=84,slow=35						
ZEI	Tsey	45.75	299	eP	P	02 34 22.3	-1.1
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GOF	Gofitskoye	46.02	302	⇑eP	P	02 34 25.8	+0.6
KBZ	Khabaz	46.32	300	P	P	02 34 25.5	-2.1
	comp=Z,1.9nm,0.8s,baz=303,slow=20,SNR=2.8						
KBZ				LR	LR	02 56 04.0	
	comp=Z,268nm,18.5s,baz=58,slow=39						
KBZ	Khabaz	46.32	300	i P	P	02 34 26.8	-0.8
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VRH	Novokhopyorsk	46.33	311	eP	P	02 34 30.4	+2.9
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV	Kislovodsk	46.44	301	eP	P	02 34 27.7	-0.9
KIV				pmax	pmax		
	comp=Z,30nm,1.1s						
KIV				MLR	MLR		
	comp=Z,329nm,16.0s						
SHA1	Shidzhatmaz	46.49	300	i P	P	02 34 28.1	-1.1
VSR	Storozhevoye	47.93	311	eP	P	02 34 39.2	-0.8
VSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPSR	Galich'ya Gora	47.98	313	eP	P	02 34 40.0	-0.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MOS	Moscow	48.59	317	eP	P	02 34 46.0	+1.0
BILL	Bilibino	49.03	27	eP	P	02 34 48.6	+0.4
BILL				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN	Obninsk	49.22	316	eP	P	02 34 49.2	-0.7
OBN				e		02 36 42.9	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,199nm,18.0s						
MARD	Mardin	49.30	292	P	P	02 34 51.6	+0.6
ARCES	ARCESS Array B	53.84	335	P	P	02 35 23.6	-0.6
	comp=Z,5.9nm,1.0s,baz=89,slow=7.7,SNR=6.0						
ARCES				LR	LR	03 00 01.7	
	comp=Z,94nm,18.3s,baz=335,slow=38						
BR131	Keskin Array S	53.98	297	P	P	02 35 25.7	-0.3
BR131				pmax	pmax		
	comp=Z,4.0nm,0.9s						

BR131	**Keskin Array S**	**53.98**	**297**	P	**P**	**02 35 25.7**	**-0.3**
BR131				IAmb	IAmb	02 35 33.0	
	comp=Z,3.6nm,0.8s						
BRTR	**Keskin Array B**	**53.98**	**297**	P	**P**	**02 35 25.8**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=98,slow=7.3,SNR=11						
BRTR				LR	LR	03 02 16.0	
	comp=Z,43nm,19.0s,baz=66,slow=40						
BRTR	**Keskin Array B**	**53.98**	**297**	*ce*P	**P**	**02 35 26.2**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**53.98**	**297**	P	**P**	**02 35 26.1**	**+0.2**
FINES	**FINESS Array B**	**54.19**	**325**	P	**P**	**02 35 26.7**	**-0.2**
	comp=Z,7.3nm,1.0s,baz=103,slow=7.4,SNR=12						
FINES				LR	LR	03 01 50.8	
	comp=Z,105nm,18.1s,baz=65,slow=40						
AKASG	**Malin Array Be**	**54.22**	**311**	P	**P**	**02 35 26.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=67,slow=6.6,SNR=5.4						
AKASG	**Malin Array Be**	**54.22**	**311**	*ce*P	**P**	**02 35 28.1**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**54.22**	**311**	*i* P	**P**	**02 35 26.8**	**-0.5**
SORM	**Soroca**	**55.37**	**308**	⇑P	**P**	**02 35 34.0**	**-1.6**
SORM	**Soroca**	**55.37**	**308**	⇑P	**P**	**02 35 34.0**	**-1.6**
DAMY	**Dhamar**	**55.58**	**264**	P	**P**	**02 35 38.0**	**0.0**
SPITS	**Spitsbergen Ar**	**55.98**	**346**	LR	LR	03 03 31.6	
	comp=Z,134nm,18.4s,baz=15,slow=40						
VRI	**Vrincioaia**	**57.05**	**306**	⇑P	P	02 35 40.8	-7.0
VRI	**Vrincioaia**	**57.05**	**306**	⇑P	P	02 35 40.8	-7.0
PLOR	**Plostina**	**57.11**	**306**	⇑P	**P**	**02 35 49.4**	**+1.2**
PLOR	**Plostina**	**57.11**	**306**	⇑P	**P**	**02 35 49.4**	**+1.2**
BIZ	**Bicaz**	**57.16**	**308**	⇑P	P	02 35 38.2	-10
BURAR	**Bucovina Array**	**57.54**	**309**	⇑P	**P**	**02 35 51.7**	**+0.4**
BURAR	**Bucovina Array**	**57.54**	**309**	⇑P	**P**	**02 35 51.7**	**+0.4**
BURAR	**Bucovina Array**	**57.54**	**309**	⇑P	**P**	**02 35 51.5**	**+0.2**
MLR	**Muntele Rosu**	**57.69**	**306**	⇑P	P	02 35 46.1	-6.3
MLR	**Muntele Rosu**	**57.69**	**306**	⇑P	P	02 35 46.1	-6.3
DOPR	**Dopca**	**57.91**	**307**	⇓P	**P**	**02 35 54.5**	**+0.6**
ARR	**Arges**	**58.60**	**306**	⇓P	**P**	**02 35 58.9**	**+0.2**
HUMR	**Humele**	**58.64**	**305**	⇓P	P	02 36 04.3	+5.4
KOLS	**Kolonicke sedl**	**59.03**	**311**	*e*P	P	02 36 07.3	+5.7
KOLS	**Kolonicke sedl**	**59.03**	**311**	*e*P	P	02 36 07.3	+5.7
SIRR	**Siria**	**60.28**	**308**	⇑P	**P**	**02 36 10.9**	**+0.7**
BZS	**Buzias**	**60.53**	**307**	⇓P	**P**	**02 36 11.9**	**0.0**
BZS	**Buzias**	**60.53**	**307**	⇓P	**P**	**02 36 11.9**	**0.0**
NB2	**NORSAR Subarra**	**61.27**	**326**	P	**P**	**02 36 15.3**	**-1.5**
	comp=Z,7.3nm,1.2s,baz=66,slow=6.5						
NOA	**NORSAR Array B**	**61.27**	**326**	P	**P**	**02 36 15.2**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=72,slow=6.9,SNR=2.4						
NOA				LR	LR	03 03 06.5	
	comp=Z,90nm,20.2s,baz=340,slow=36						
VYHS	**Vyhne**	**61.32**	**311**	*e*P	**P**	**02 36 17.4**	**+0.1**
VYHS	**Vyhne**	**61.32**	**311**	*e*P	**P**	**02 36 17.3**	**0.0**
MORC	**Moravsky Berou**	**61.67**	**313**	P	**P**	**02 36 20.5**	**+0.8**
MORC				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MORC	**Moravsky Berou**	**61.67**	**313**	P	**P**	**02 36 20.5**	**+0.8**
WRAB	**Tennant Creek**	**61.85**	**146**	P	**P**	**02 36 21.5**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,11nm,0.5s						
WRAB	**Tennant Creek**	**61.85**	**146**	P	**P**	**02 36 21.5**	**+0.4**
WRA	**Warramunga Arr**	**61.85**	**146**	P	**P**	**02 36 20.3**	**-0.8**
	comp=Z,2.7nm,0.9s,baz=338,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**61.85**	**146**	*ce*P	**P**	**02 36 20.6**	**-0.5**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Ar**	**61.86**	**146**	P	**P**	**02 36 21.0**	**-0.1**
VRAC	**Vranov**	**62.42**	**313**	LR	LR	03 04 51.3	
	comp=Z,96nm,19.6s,baz=70,slow=37						
CONA	**Conrad Observa**	**63.38**	**311**	*e*P	**P**	**02 36 32.2**	**+1.0**
	comp=Z,6.9nm,1.1s						
CLL	**Collm**	**63.81**	**316**	*e*(sP)	P	02 36 39.0	+5.1
	comp=Z,11nm,1.3s						
CLL				*e*S	**S**	**02 45 12.0**	**+3.2**
CLL				*e*SS	**SS**	**02 49 06.0**	**-10**
CLL				LmV		03 05 00.0	
	comp=Z,200nm,18.5s						
CLL	**Collm**	**63.81**	**316**	*e*P	P	02 36 42.0	+8.1
ARSA	**Arzberg**	**63.85**	**311**	*e*P	**P**	**02 36 33.7**	**-0.5**
	comp=Z,5.9nm,1.1s						
GERES	**GERESS Array B**	**64.36**	**313**	P	**P**	**02 36 37.8**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=54,slow=6.9,SNR=5.8						
GERES				LR	LR	03 06 18.5	
	comp=Z,189nm,18.4s,baz=68,slow=38						
IMAR	**Indian Mountai**	**64.58**	**26**	P	**P**	**02 36 38.0**	**-0.6**
AS31	**Alice Springs**	**64.89**	**148**	P	**P**	**02 36 41.6**	**+0.4**
ASAR	**Alice Springs**	**64.89**	**148**	P	**P**	**02 36 41.0**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=328,slow=6.4,SNR=13						
ASAR	**Alice Springs**	**64.89**	**148**	P	**P**	**02 36 40.8**	**-0.4**
COLD	**Coldfoot**	**65.23**	**24**	P	**P**	**02 36 43.6**	**+0.7**
WATA	**Walderalm**	**66.27**	**312**	*e*P	**P**	**02 36 51.1**	**+1.0**
	comp=Z,6.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**66.51**	**27**	P	**P**	**02 36 51.4**	**+0.2**
FETA	**Feichten**	**66.93**	**312**	*e*P	**P**	**02 36 54.2**	**-0.2**
	comp=Z,4.0nm,1.0s						
BMAR	**Burnt Mountain**	**66.98**	**23**	P	**P**	**02 36 54.2**	**+0.1**
COLA	**College**	**67.27**	**26**	*i* P	**P**	**02 36 56.2**	**+0.2**
COLA				pmax	pmax		
	comp=Z,13nm,1.0s						
COLA	**College**	**67.27**	**26**	P	**P**	**02 36 56.1**	**+0.1**
DAVOX	**Davos/Dischmat**	**67.56**	**312**	LR	LR	03 08 19.9	
	comp=Z,119nm,19.7s,baz=75,slow=38						
IL31		**67.67**	**26**	P	**P**	**02 36 58.7**	**+0.2**
ILAR	**Eielson Array**	**67.67**	**26**	P	**P**	**02 36 57.3**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=286,slow=4.8,SNR=12						
ILAR				LR	LR	03 09 26.0	
	comp=Z,205nm,18.7s,baz=312,slow=39						
ILAR	**Eielson Array**	**67.67**	**26**	P	**P**	**02 36 57.9**	**-0.7**
ILAR	**Eielson Array**	**67.67**	**26**	P	**P**	**02 36 57.9**	**-0.7**
BCAR	**Beaver Creek A**	**70.50**	**26**	P	**P**	**02 37 16.0**	**-0.2**
RES	**Resolute Bay**	**70.78**	**5**	LR	LR	03 09 44.4	
	comp=Z,70nm,20.1s,baz=356,slow=37						
MBAR	**Mbarara**	**75.22**	**259**	*ce*P	**P**	**02 37 42.4**	**-2.7**
MBAR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
STKA	**Stephens Creek**	**75.40**	**146**	P	**P**	**02 37 45.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=331,slow=5.8,SNR=2.0						
YKA	**Yellowknife Ar**	**79.15**	**17**	LR	LR	03 16 03.6	
	comp=Z,64nm,20.7s,baz=0.0,slow=38						
TOA0	**Torodi Ar. Sit**	**91.33**	**287**	P	**P**	**02 39 08.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**91.33**	**287**	P	**P**	**02 39 07.6**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=52,slow=3.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**91.33**	**287**	P	**P**	**02 39 07.8**	**-0.3**
ULM	**Lac du Bonnet**	**94.37**	**12**	LR	LR	03 25 29.7	
	comp=Z,72nm,18.2s,baz=55,slow=38						
BCYI	**Bear Canyon**	**95.34**	**25**	P	**P**	**02 39 26.7**	**+0.4**
PDAR	**Pinedale Array**	**98.01**	**23**	LR	LR	03 29 02.0	
	comp=Z,74nm,18.6s,baz=340,slow=39						
NVAR	**Mina Array Bea**	**98.46**	**31**	LR	LR	03 25 13.7	
	comp=Z,73nm,19.0s,baz=278,slow=36						
OTAV	**Otavalo**	**145.72**	**1**	PKP2	**PKPbc**	**02 45 41.8**	**-0.1**
OTAV	**Otavalo**	**145.72**	**1**		**PKPbc**	**02 45 41.8**	**-0.1**
BDFB	**Brasilia**	**147.58**	**297**	PKPbc	**PKPdf**	**02 45 45.1**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=129,slow=13,SNR=3.4						

IDC 25 02:33:05.2±3.3, 9°43S×150°49E, h0km, mb2.9/1, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, ML1.4/1, Error ellipse: s-maj=73.0km s-min=53.5km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.29**	**270**	Pn	Pn	02 33 58.5	+0.6
	3.3nm,0.3s,baz=105,slow=16,SNR=2.9						
PMG				Sn	Sb	02 34 46.0	+1.1
	2.8nm,0.3s,baz=110,slow=22,SNR=1.5						
WRA	**Warramunga Arr**	**18.77**	**234**	P	Pn	02 37 27.2	+0.6
	baz=60,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**21.25**	**226**	P	P	02 37 52.4	-0.8
	0.4nm,0.7s,baz=54,slow=9.5,SNR=2.1						
TORD	**Torodi Ar. Bea**	**149.19**	**280**	PKPbc	PKPbc	02 52 56.0	-0.8
	0.3nm,0.8s,baz=93,slow=4.1,SNR=1.7						

*IDC **25** 02:34:47.7±1.3, 9°62S×150°53E, h0km, mb3.9/7, mb1 4.1/11, mb1mx3.9/36, mbtmp4.0/11, ML3.4/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/30, Error ellipse: s-maj=39.4km s-min=18.5km az=117.0*

*NEIC **25** 02:34:49.6±1.4, 9°63S±0°09×150°45E±0°03, h10km±1km, mb4.1/13, Error ellipse: s-maj=15.1km s-min=4.9km az=178.0*

ISC 25 02:34:49.3±0.7, 9°60S±0°07×150°47E±0°08, h10km, n28, σ0s80/28, mb4.2/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.27**	**273**	Pn	**Pn**	**02 35 40.8**	**+0.1**
	4.7nm,0.3s,baz=76,slow=15,SNR=1.3						
PMG				Sn	**Sb**	**02 36 27.1**	**-0.3**
	12nm,0.3s,baz=319,slow=19,SNR=1.8						
PMG				LR	LR	02 37 16.2	
	comp=Z,460nm,21.4s,baz=160,slow=44						
PMG	**Port Moresby**	**3.27**	**273**		**Pn**	**02 35 39.2**	**-1.4**
KRVT	**Keravat (AS076**	**5.48**	**16**	Pn	**Pn**	**02 36 11.0**	**-0.1**
	1.8nm,0.3s,baz=207,slow=16,SNR=1.3						
KRVT				Sn	**Sn**	**02 37 12.7**	**-1.6**
	11nm,0.3s,baz=227,slow=17,SNR=6.5						
RABL	**Rabaul**	**5.63**	**18**	Pn	**Pn**	**02 36 12.5**	**-0.6**
CTA	**Charters Tower**	**11.19**	**201**	Pn	**Pn**	**02 37 29.6**	**+0.1**
	0.1nm,0.3s,baz=32,slow=15,SNR=2.3						
EIDS	**Eidsvold**	**15.69**	**178**	Pn	**Pn**	**02 38 30.3**	**-0.3**
EIDS				IAmb	IAmb	02 38 42.3	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**18.53**	**235**	P	**Pn**	**02 39 05.8**	**-0.5**
WB0				IAmb	IAmb	02 39 12.4	
	comp=Z,13nm,1.3s						
WRAB	**Tennant Creek**	**18.65**	**235**	P	**P**	**02 39 06.5**	**-1.0**
WRAB				IAmb	IAmb	02 39 49.6	
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**	**18.66**	**235**	P	**P**	**02 39 07.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=60,slow=11,SNR=7.9						
WRA				LR	LR	02 46 11.7	
	comp=Z,83nm,19.3s,baz=70,slow=37						
SAUI	**Saumlaki**	**19.01**	**273**	P	**P**	**02 39 11.1**	**-0.4**
DZM	**Mont Dzumac**	**19.72**	**131**	LR	LR	02 45 16.3	
	comp=Z,180nm,20.1s,baz=35,slow=32						
AS31	**Alice Springs**	**21.12**	**227**	P	**P**	**02 39 34.9**	**+0.5**
ASAR	**Alice Springs**	**21.12**	**227**	P	**P**	**02 39 34.7**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=63,slow=10,SNR=13						
STKA	**Stephens Creek**	**23.64**	**199**	P	**P**	**02 40 00.9**	**0.0**
	comp=Z,0.8nm,0.3s,baz=0.8,slow=9.5,SNR=4.1						
STKA	**Stephens Creek**	**23.64**	**199**	IAmb	IAmb	02 40 17.6	
	comp=Z,3.7nm,1.8s						
FITZ	**Fitzroy Crossi**	**25.52**	**248**	P	**P**	**02 40 18.7**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=92,slow=7.9,SNR=7.0						
FITZ				LR	LR	02 50 37.9	
	comp=Z,70nm,18.7s,baz=64,slow=37						
OXZ	**Oxford**	**38.51**	**154**	P	**P**	**02 42 11.3**	**-0.5**
MJAR	**Matsushiro Arr**	**47.32**	**347**	P	**P**	**02 43 24.4**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=176,slow=8.2,SNR=4.1						
KS19	**Wonju Array Si**	**51.42**	**337**	P	**P**	**02 43 55.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**57.98**	**299**	P	**P**	**02 44 43.0**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=127,slow=5.9,SNR=1.3						
MKAR	**Makanchi Array**	**82.44**	**320**	P	**P**	**02 47 13.8**	**+1.8**
ZAA0	**Zalesovo Array**	**83.87**	**327**	P	**P**	**02 47 19.4**	**+0.2**
ZAA0				IAmb	IAmb	02 47 32.3	
	comp=Z,4.5nm,1.4s						
ZALV	**Zalesovo Beam**	**83.87**	**327**	P	**P**	**02 47 18.7**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=103,slow=6.7,SNR=3.6						
POKR	**Poker Plat Res**	**87.41**	**22**	P	**P**	**02 47 36.1**	**-0.4**
IL31		**87.45**	**22**	P	**P**	**02 47 37.2**	**+0.6**
ILAR	**Eielson Array**	**87.45**	**22**	P	**P**	**02 47 36.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=262,slow=5.0,SNR=10.0						
ILAR	**Eielson Array**	**87.45**	**22**	P	**P**	**02 47 37.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**149.20**	**280**	PKPbc	**PKiKP**	**02 54 39.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=55,slow=2.8,SNR=12						

DJA 25 02:40:34.2±1.8, 2°S±11°×12°5E±°, h27km±18km, M4.0/6, mb4.0/1, MLv4.0/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.36**	**77**	P	Pb	02 40 58.5	-0.5
SANI				S	Sn	02 41 15.2	+0.6
LUWI	**Luwuk**	**2.29**	**305**	P	Pn	02 41 10.4	+0.1
LUWI				S	Sn	02 41 38.5	+0.9
KMSI	**Cibinong**	**2.98**	**347**	P	Pn	02 41 21.4	+1.6
APSI	**Ampana**	**3.33**	**295**	P	Pn	02 41 25.1	+0.5
SPSI	**Sidrap Palu**	**5.14**	**252**	P	Pn	02 41 54.8	+5.3

*IDC **25** 02:44:34.4±21.0, 31°57N×47°39E, h0km, mb3.9/4, mb1 3.8/5, mb1mx3.5/40, mbtmp3.8/5, ML2.7/1, Error ellipse: s-maj=433.6km s-min=33.5km az=12.0*

*TEH **25** 02:44:45.9, 32°62N×47°79E, h12km, ML3.5*

*THR **25** 02:44:45.4±0.4, 32°55N×47°65E, h15km±6km, ML3.4*

*ISN **25** 02:44:47.2±1.2, 32°71N×47°68E, h6km±7km, ML3.1*

ISC 25 02:44:45.7±1.2, 32°59N±0°04×47°68E±0°03, h19km±3km, n49, σ1s56/54, mb3.8/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**8**	*e*		02 45 19.9	
IKFM				*e*Pg	**Pg**	**02 45 03.2**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.06**	**117**	*e*Pg	**Pb**	**02 45 05.3**	**-0.1**
SHGR				*e*Sg	**Sb**	**02 45 19.9**	**+0.9**
SHGR				IAML		02 45 31.7	
	comp=N,812nm,0.6s						
IKMR	**Kamar-syah**	**1.09**	**32**	*e*		02 45 25.9	
IKMR				*e*Pg	**Pb**	**02 45 05.1**	**-1.0**
IDOB	**Doab**	**1.27**	**19**	*e*Pg	**Pb**	**02 45 09.4**	**+0.3**
AHWZ	**Ahwaz**	**1.50**	**147**	*e*Pg	**Pb**	**02 45 14.1**	**+1.2**
AHWZ				*e*Sg	**Sg**	**02 45 34.3**	**+0.2**
IBDR	**Badra**	**1.56**	**290**	*e*Pg	**Pg**	**02 45 16.0**	**+0.1**
	baz=105						
IBDR				*e*Sg	**Sg**	**02 45 38.0**	**+1.7**
IBDR				AML	AML	02 45 42.7	
	comp=N,189nm,0.4s						
IBDR				AML	AML	02 45 44.7	
	comp=E,307nm,0.6s						
IKOM	**Komasi**	**1.59**	**355**	*e*Pg	**Pg**	**02 45 15.6**	**-0.8**
IKOM				*e*		02 45 42.8	
KCHF	**Cheshme Sefid,**	**1.77**	**342**	*e*Pg	**Pb**	**02 45 18.2**	**+0.6**
KCHF				*e*		02 45 47.3	
HSAM	**Samen**	**1.79**	**25**	*e*Pg	**Pb**	**02 45 17.9**	**-0.2**
HSAM				*e*		02 45 22.9	
KER	**Kermanshah**	**1.85**	**346**	*e*Pn	**Pb**	**02 45 19.5**	**+0.4**
IBZA	**Bozab**	**1.88**	**4**	*e*Pg	**Pb**	**02 45 20.1**	**+0.4**
IBZA				*e*		02 45 50.6	
IGHG	**Ghaleghazi**	**1.97**	**332**	*e*Pn	**Pb**	**02 45 21.4**	**+0.2**
IGHG				*e*		02 45 59.1	
IVIS	**Veis**	**2.05**	**340**	*e*Pn	**Pb**	**02 45 21.8**	**-0.7**
IVIS				*e*		02 45 57.9	
KHMZ	**Khomeyn**	**2.23**	**58**	*e*Pn	**Pb**	**02 45 24.4**	**-1.1**
KHMZ				*e*Sg	**Sg**	**02 45 57.0**	**-0.5**
IALM	**Almabolaq**	**2.30**	**10**	*e*Pn	**Pb**	**02 45 25.8**	**-1.0**
IDHR	**Dehrash**	**2.37**	**333**	*e*Pn	**Pn**	**02 45 25.4**	**+1.6**
IDHR				*e*		02 46 06.3	
ILIN	**Lien**	**2.40**	**346**	*e*Pn	**Pb**	**02 45 27.2**	**-1.3**
ILIN				*e*		02 46 09.5	
HAGD	**Aghdareh**	**2.54**	**28**	*e*Pn	**Pn**	**02 45 28.6**	**+2.5**
HAGD				*e*		02 46 13.1	
HSRG	**Sareghieh**	**2.69**	**10**	*e*Pn	**Pn**	**02 45 30.9**	**+2.6**
HSRG				*e*		02 46 15.6	
IPIR	**Pirpir**	**2.71**	**87**	*e*Pn	**Pn**	**02 45 30.1**	**+1.5**
IPIR				*e*		02 46 19.9	
ASAO	**Ashtian**	**2.76**	**44**	*e*Pn	**Pn**	**02 45 32.1**	**+2.9**
ROKH	**ROKH**	**2.84**	**94**	*e*Pn	**Pn**	**02 45 31.8**	**+1.5**
ROKH				*e*		02 46 19.1	
BHD	**Baghdad**	**2.86**	**285**	*e*Pn	**Pb**	**02 45 34.0**	**-2.2**
BHD				*e*Sn	**Sb**	**02 46 10.0**	**-0.8**
BHD				AML	AML	02 46 32.4	
	comp=E,204nm,0.4s						
IKLH	**Kolahrood**	**3.35**	**76**	*e*Pn	**Pn**	**02 45 39.9**	**+2.5**
IKLH				*e*		02 46 36.7	
QAM	**Ghamsar**	**3.36**	**69**	*e*Pn	**Pn**	**02 45 39.4**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.49**	**26**	*e*Pn	**Pn**	**02 45 41.5**	**+2.3**
GHVR	**GHOM**	**3.56**	**57**	*e*Pn	**Pn**	**02 45 42.5**	**+2.5**
IQOM	**Qom**	**3.61**	**51**	*e*Pn	**Pn**	**02 45 41.6**	**+0.7**
KLNJ	**Kolanjah**	**3.68**	**114**	*e*Pn	**Pn**	**02 45 43.0**	**+1.0**
KLNJ				*e*		02 46 31.6	
IZEF	**Zefreh**	**3.93**	**84**	*e*Pn	**Pn**	**02 45 46.8**	**+1.5**
KRSH	**Karshahi**	**3.97**	**69**	*e*Pn	**Pn**	**02 45 47.4**	**+1.6**
IRAM	**Ramesheh**	**4.06**	**100**	*e*Pn	**Pn**	**02 45 47.6**	**+0.6**
QSDN	**Sirdan**	**4.09**	**17**	*e*Pn	**Pn**	**02 45 50.7**	**+3.1**
QALM	**Alamut, Qazvin**	**4.55**	**32**	*e*Pn	**Pn**	**02 45 57.1**	**+3.3**
IDMV	**Damavand**	**4.68**	**49**	*e*Pn	**Pn**	**02 45 57.7**	**+2.0**
ANAR	**Anarak**	**5.12**	**82**	*e*Pn	**Pn**	**02 46 02.3**	**+0.7**
ISAD	**Sadrabad**	**5.13**	**96**	*e*Pn	**Pn**	**02 46 02.4**	**+0.6**
IFIR	**Firoozkooh**	**5.19**	**53**	*e*Pn	**Pn**	**02 46 04.2**	**+1.5**
ILAS	**Lasjerd**	**5.19**	**56**	*e*Pn	**Pn**	**02 46 04.2**	**+1.5**
IPRN	**Peran**	**5.30**	**45**	*e*Pn	**Pn**	**02 46 05.4**	**+1.4**
IALA	**Alasht**	**5.49**	**49**	*e*Pn	**Pn**	**02 46 09.5**	**+2.7**
ISHM	**Shahmirzad**	**5.65**	**54**	*e*Pn	**Pn**	**02 46 10.5**	**+1.6**
IANJ	**Anjilo**	**5.92**	**59**	*e*Pn	**Pn**	**02 46 13.3**	**+0.7**
IGLO	**Ghaloghah**	**6.40**	**51**	*e*Pn	**Pn**	**02 46 20.3**	**+1.1**
BRTR	**Keskin Array B**	**13.39**	**306**	Pn	**Pn**	**02 47 55.1**	**+0.3**
	comp=E,0.0nm,0.3s,baz=140,slow=12,SNR=1.7						
AKASG	**Malin Array Be**	**22.65**	**328**	P	**P**	**02 49 44.5**	**-1.0**
	comp=E,0.3nm,0.3s,baz=140,slow=9.2,SNR=2.0						
MKAR	**Makanchi Array**	**29.90**	**52**	P	**P**	**02 50 51.4**	**-0.9**
	comp=E,0.7nm,0.6s,baz=239,slow=8.5,SNR=5.7						
FINES	**FINESS Array B**	**32.09**	**341**	P	**P**	**02 51 10.6**	**-0.7**
	comp=E,8.9nm,1.0s,baz=136,slow=8.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**33.88**	**40**	P	**P**	**02 51 26.5**	**-0.6**
	comp=E,0.6nm,0.4s,baz=243,slow=9.3,SNR=2.6						

*IDC **25** 02:48:07.5±1.2, 47°25S×100°28E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.0/36, mbtmp4.1/7, MS3.9/11, Ms1 3.9/11, ms1mx3.7/26, Error ellipse: s-maj=41.7km s-min=19.6km az=117.0*

*NEIC **25** 02:48:08.8±1.5, 47°0S±0°1×100°0E±0°2, h10km±1km, mb4.3/9, Error ellipse: s-maj=29.7km s-min=18.6km az=301.0*

*GCMT **25** 02:48:10.9±0.4, 47°21S±0°02×99°87E±0°03, h24km±1km, MW4.9/68, Moment Tensor Solution. s17,c18; s68,c82; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.77±.20; Mθθ=2.50±.16; Mφφ=-1.73±.14; Mrθ=0.37±.20; Mrφ=1.84±.12; Mθφ=-1.01±.21; Best double couple: Mo=3.06900×10^16 NP1:φs=291.00000°, δ72.00000°, λ-19.00000°. NP2: φs=28.00000°, δ72.00000°, λ-161.00000°. Principal axes: T 3.1880, Plg0.0000°, Azm159.0000°; N -0.2390, Plg64.0000°, Azm69.0000°; P -2.9490, Plg26.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 02:48:08.8±0.8, 47°1S±0°1×100°1E±0°2, h10km, n33, σ0s90/22, mb4.2/8, MS3.9/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.11**	**46**	T	T	03 08 40.7	
	baz=215,slow=74,SNR=95						
H01W3	**Cape Leeuwin H**	**16.13**	**46**	T	T	03 08 30.9	
	baz=215,slow=74,SNR=66						
H01W1	**Cape Leeuwin H**	**16.13**	**46**	T	T	03 08 39.7	
	baz=215,slow=74,SNR=106						
NWAO	**Narrogin (SRO)**	**19.24**	**49**	LR	LR	02 58 03.9	
	comp=Z,383nm,19.3s,baz=270,slow=31						
CASY	**Casey**	**20.01**	**168**	P	Pn	02 52 44.7	+1.7
CASY				IAmb	IAmb	02 52 58.9	
	comp=Z,16nm,1.3s						
MAW	**Mawson**	**28.00**	**210**	LR	LR	03 03 24.7	
	comp=Z,191nm,19.2s,baz=44,slow=33						
STKA	**Stephens Creek**	**35.00**	**79**	P	**P**	**02 55 00.6**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=270,slow=8.4,SNR=5.1						
STKA				LR	LR	03 06 18.5	
	comp=Z,402nm,21.8s,baz=218,slow=31						
STKA	**Stephens Creek**	**35.00**	**79**	IAmb	IAmb	02 55 07.8	
	comp=Z,4.6nm,1.9s						
ASAR	**Alice Springs**	**35.71**	**61**	P	**P**	**02 55 07.4**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=228,slow=7.7,SNR=6.8						
ASAR				PcP	**PcP**	**02 57 35.4**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=206,slow=3.5,SNR=2.4						
ASAR				LR	LR	03 08 48.9	
	comp=Z,196nm,18.1s,baz=230,slow=35						
ASAR	**Alice Springs**	**35.71**	**61**	P	**P**	**02 55 08.2**	**+0.8**
AS31	**Alice Springs**	**35.71**	**61**	P	**P**	**02

25nm,0.8s
TPI **Tanjungpandan** 16.40 247 P P 02 59 36.2 +0.6
35nm,1.0s
KPJI **Karang Pucung** 17.60 232 P P 02 59 47.3 +0.8
74nm,1.1s
MTN **Manton Dam** 18.35 153 P P 02 59 53.6 +0.2
LEM **Lembang** 18.36 236 P P 02 59 53.3 -0.4
7.7nm,0.3s,baz=348,slow=11,SNR=6.1
LEM **Lembang** 18.36 236 P P 02 59 55.8 +2.1
CISI **Cisompet, Garu** 18.62 233 P P 02 59 55.7 -0.2
MYKOM **Kota Tinggi** 19.00 265 P P 02 59 59.5 +0.1
KNRA **Kununurra** 20.08 163 P P 03 00 09.5 +0.4
IPM **Ipoh** 21.72 273 P P 03 00 22.9 -1.1
FITZ **Fitzroy Crossi** 21.78 173 P P 03 00 24.8 +0.4
4.9nm,0.8s,baz=1.0,slow=5.6,SNR=10
FITZ **Fitzroy Crossi** 21.78 173 P P 03 00 24.5 +0.1
FITZ IAmb IAmb 03 00 26.4
comp=Z,5.1nm,0.8s
BKNI **Bangkinang** 21.97 262 P P 03 00 25.2 -1.1
KULM **Kulim** 22.12 275 P P 03 00 25.5 -2.1
RPSI **Rantau Prapat** 23.84 268 P P 03 00 42.4 -0.5
GSI **Gunungsitoli** 25.29 265 P P 03 00 54.4 -1.3
WB0 **Warramunga Arr** 25.91 154 P P 03 01 01.1 +0.1
WRAB **Tennant Creek** 26.04 155 P P 03 01 02.3 +0.1
WRA **Warramunga Arr** 26.04 155 P P 03 01 02.3 +0.1
comp=Z,12nm,0.7s,baz=336,slow=9.5,SNR=127
WRA ScP ScP 03 06 59.5 -0.2
comp=Z,1.6nm,0.6s,baz=341,slow=3.0,SNR=15
WB2 **Warramunga Arr** 26.04 155 P P 03 01 02.5 +0.2
WR0 **Warramunga Arr** 26.14 154 P P 03 01 02.6 -0.5
WR0 IAmb IAmb 03 01 04.1
comp=Z,7.6nm,0.9s
CMAR **Chiang Mai Arr** 27.59 304 P P 03 01 15.3 -0.5
comp=Z,1.2nm,0.4s,baz=127,slow=7.5,SNR=7.6
CMAR **Chiang Mai Arr** 27.59 304 P P 03 01 15.8 -0.1
CHTO **Chiang Mai** 27.76 305 P P 03 01 17.3 -0.1
AS31 **Alice Springs** 29.22 159 P P 03 01 30.1 0.0
AS31 IAmb IAmb 03 01 31.6
comp=Z,2.6nm,0.7s
ASAR **Alice Springs** 29.22 159 P P 03 01 30.9 +0.9
comp=Z,6.9nm,0.7s,baz=340,slow=7.2,SNR=138
ASAR ScP ScP 03 07 09.1 -0.5
comp=Z,1.6nm,0.6s,baz=340,slow=2.8,SNR=12
ASAR **Alice Springs** 29.22 159 P P 03 01 29.8 -0.3
CD2 **Chengdu** 32.53 329 P P 03 01 58.1 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.8s
XAN **Xi'an** 32.89 339 P P 03 02 01.3 0.0
XAN pmax pmax
comp=Z,12nm,1.1s
FORT **Forrest** 34.59 172 P P 03 02 16.3 +0.7
MAT **Matsushiro** 35.70 22 P P 03 02 23.9 -0.9
MJAR **Matsushiro Arr** 35.70 22 P P 03 02 23.9 -0.9
comp=Z,1.1nm,0.5s,baz=185,slow=6.7,SNR=4.6
HHC **Hu-ho-hao-te** 38.40 346 *eP* P 03 02 47.5 +0.5
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,100nm,7.0s
STKA **Stephens Creek** 39.59 154 P P 03 02 57.4 +0.8
comp=Z,10nm,0.7s,baz=332,slow=7.9,SNR=37
STKA **Stephens Creek** 39.59 154 P P 03 02 57.3 +0.7
STKA IAmb IAmb 03 02 59.0
comp=Z,2.5nm,0.8s
EIDS **Eidsvold** 39.81 138 P P 03 02 58.7 +0.3
TAPN **Taplejung** 40.95 309 *eP* P 03 03 08.6 +0.8
comp=Z,7.0nm,0.4s
ODAN **Odare** 40.96 308 *eP* P 03 03 08.5 +0.6
comp=Z,16nm,0.4s
GTA **Gaotai** 41.26 333 ⇑P P 03 03 11.4 +1.5
GTA pP pwP 03 04 52.3 +1.3
GTA PcP **PcP** 03 04 56.9 +1.4
GTA sP sP 03 05 51.8 +4.2
GTA ScP **ScP** 03 07 54.3 +0.9
GTA pmax pmax
comp=Z,10.0nm,0.8s
RAMN **Ramite** 41.63 308 *eP* P 03 03 14.1 +0.9
comp=Z,29nm,0.7s
PALK **Pallekele** 42.03 277 P P 03 03 16.5 +0.2
comp=Z,4.6nm,0.6s,baz=176,slow=7.1,SNR=6.0
PALK **Pallekele** 42.03 277 IAmb IAmb 03 03 24.9
comp=Z,8.0nm,0.9s
GUN **Gumba** 42.64 308 *eP* P 03 03 21.6 +0.4
comp=Z,61nm,0.7s
PKI **Pulchoki** 42.85 308 *eP* P 03 03 23.0 +0.1
comp=Z,9.6nm,0.4s
PKIN **Phulchoki** 42.87 308 *eP* P 03 03 23.0 +0.1
comp=Z,10nm,0.4s
KKN **Kakani** 43.06 308 *eP* P 03 03 24.6 +0.3
comp=Z,22nm,0.8s
DMN **Daman** 43.11 307 *eP* P 03 03 25.3 +0.5
comp=Z,30nm,0.9s
GKN **Gorkha** 43.66 308 *eP* P 03 03 29.1 +0.1
comp=Z,37nm,0.9s
ARMA **Armidale** 43.66 143 P P 03 03 31.1 +2.2
KOLN **Koldanda** 44.38 307 *eP* P 03 03 35.4 +0.8
comp=Z,89nm,0.7s
DANN **Dangsing** 44.51 308 *eP* P 03 03 36.1 +0.4
comp=Z,79nm,0.7s
PYUN **Piuthan** 45.01 307 *eP* P 03 03 40.4 +1.0
comp=Z,93nm,0.7s
SONM **Songino Array** 46.24 345 P P 03 03 48.7 +0.4
comp=Z,1.3nm,0.7s,baz=161,slow=10,SNR=2.2
SONM **Songino Array** 46.24 345 IAmb IAmb 03 03 49.8
comp=Z,7.1nm,1.8s
WMQ **Urumqi** 50.61 327 *eP* P 03 04 21.4 +0.6
MK31 **Makanchi Array** 55.44 327 P P 03 04 55.4 +0.4
MKAR **Makanchi Array** 55.44 327 P P 03 04 55.6 +0.5
comp=Z,2.0nm,0.3s,baz=125,slow=8.3,SNR=45
MKAR PcP **PcP** 03 05 47.0 -0.1
comp=Z,3.5nm,0.6s,baz=126,slow=4.4,SNR=17
MKAR ScP **ScP** 03 08 52.9 -0.5
comp=Z,1.2nm,0.7s,baz=129,slow=4.8,SNR=7.4
MKAR **Makanchi Array** 55.44 327 P P 03 04 54.9 -0.2
MKAR PcP **PcP** 03 05 46.8 -0.2
PETK **Petropavlovsk-** 57.07 24 P P 03 05 06.8 +0.6
comp=Z,2.3nm,1.0s,baz=192,slow=3.2,SNR=11
KBL **Kabul** 58.48 309 P P 03 05 16.1 -0.2
KBL IAmb IAmb 03 05 18.3
comp=Z,5.0nm,0.9s
ZAA0 **Zalesovo Array** 58.94 335 P P 03 05 19.1 +0.4
ZALV **Zalesovo Beam** 58.94 335 P P 03 05 18.1 -0.7
comp=Z,1.3nm,0.6s,baz=128,slow=4.9,SNR=8.2
ZALV **Zalesovo Beam** 58.94 335 P P 03 05 17.9 -0.8
GAR **Garm** 59.12 314 P P 03 05 20.7 +0.3
KURK **Kurchatov** 59.75 329 P P 03 05 24.2 0.0
KURK IAmb IAmb 03 05 25.2
comp=Z,9.8nm,0.6s
CHGR **Chuyangaron** 59.83 313 P P 03 05 24.4 -0.7
KK31 **Karatay Array** 60.65 318 P P 03 05 30.6 +0.3
KKAR **Karatay Array** 60.65 318 P P 03 05 30.4 +0.1
BRVK **Borovoye** 65.36 328 P P 03 05 59.7 -0.7
BRVK IAmb IAmb 03 06 00.8
comp=Z,3.8nm,0.8s
GEYT **Alibeck** 67.90 310 P P 03 06 15.5 -0.9
comp=Z,2.7nm,0.8s,baz=90,slow=13,SNR=4.3
GEYT **Alibeck** 67.90 310 P P 03 06 16.5 0.0
TIXI **Tiksi** 68.03 2 P P 03 06 16.4 -0.1
NRIK **Noril'sk** 69.62 347 P P 03 06 25.3 -0.8
comp=Z,3.1nm,0.6s,baz=106,slow=6.1,SNR=4.6
ABKAR **Akbulak array** 69.75 322 P P 03 06 26.5 -0.8
ABKAR IAmb IAmb 03 06 28.0
comp=Z,3.3nm,0.8s
ARU **Arti** 72.93 328 P P 03 06 44.3 -1.4
ARU IAmb IAmb 03 06 45.9
comp=Z,6.4nm,0.9s
ILAR **Eielson Array** 86.88 25 P P 03 07 57.1 -1.4
comp=Z,0.3nm,0.8s,baz=242,slow=5.2,SNR=6.5
BRTR **Keskin Array B** 87.04 309 P P 03 07 59.1 -0.8
comp=Z,1.2nm,0.9s,baz=79,slow=6.4,SNR=4.6
FINES **FINESS Array B** 90.04 331 P P 03 08 12.5 -0.8
comp=Z,2.1nm,0.6s,baz=45,slow=5.7,SNR=8.6
TORD **Torodi Ar. Bea** 119.19 287 PKP PKPdf 03 13 59.5 -0.5
comp=Z,1.0nm,0.7s,baz=51,slow=2.0,SNR=9.1
TORD SKP 03 16 42.8
comp=Z,0.6nm,0.8s,baz=61,slow=1.7,SNR=3.7
PLCA **Paso Flores** 141.16 164 PKP PKPdf 03 14 40.0 -0.9
comp=Z,1.1nm,0.9s,baz=104,slow=6.5,SNR=2.2

*IDC **25** 02:58:29.0±0.9, 64°.51N×17°.73W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/36, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=36.6km s-min=11.3km az=20.0*
*REY **25** 02:58:29.2, 64°.68N×17°.46W, h9km*

*NEIC **25** 02:58:31.0±1.5, 64°.5N±0°.1×17°.7W±0°.2, h8km±4km, mb4.3/25, Error ellipse: s-maj=19.4km s-min=8.6km az=198.0*
ISC 25 02:58:30.7±0.5, 64°.69N±0°.02×17°.48W±0°.03, h10km, n78, σ1°.74/87, mb4.1/14, Iceland

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IDYN Dyngjuhals 0.12 24 P Pg 02 58 32.1 -1.5
baz=18
IDYN S Sg 02 58 34.7 -1.0
baz=18
IVON Vonarskard 0.12 265 P Pg 02 58 32.0 -1.6
baz=269
IURH Urdarhals 0.20 46 P Pg 02 58 33.4 -1.5
baz=42
IURH S Sg 02 58 37.2 -0.5
baz=42
IDJK Dyngjujokull 0.21 150 P Pg 02 58 33.3 -1.8
baz=151
IDJK S Sg 02 58 36.8 -1.3
baz=151
IGRF Grimsfjall 0.29 162 P Pg 02 58 34.8 -1.8
baz=163
IKVE Kverkfjoll 0.34 91 P Pg 02 58 35.7 -1.9
baz=89
IHUS Husbondi 0.40 191 P Pg 02 58 36.9 -1.6
baz=193
IHUS S Sg 02 58 42.5 -1.3
baz=193
ISKR Skrokkalda 0.41 253 P Pg 02 58 37.0 -1.8
baz=254
THOR Thorvaldshraun 0.42 53 P Pg 02 58 37.2 -1.8
baz=52
THOR S Sg 02 58 43.6 -1.0
baz=52
IVOT Vottur 0.43 163 P Pg 02 58 37.0 -2.2
baz=164
IKRE Kreppuhraun 0.48 78 P Pg 02 58 37.7 -2.3
baz=76
IJOK Jokulheimar 0.49 222 P Pg 02 58 38.3 -1.9
baz=223
IASK Askja 0.51 43 P Pg 02 58 38.5 -2.1
baz=42
IASK S Sg 02 58 46.0 -1.4
baz=42
IMKO Mokollar 0.57 58 P Pg 02 58 39.5 -2.2
baz=57
IMKO S Sg 02 58 48.0 -1.2
baz=57
IIEY Innrieyrar 0.66 206 P Pg 02 58 41.0 -2.4
baz=207
ISVA Svartarkot 0.66 8 P Pg 02 58 41.2 -2.2
baz=7.3
ISVA S Sg 02 58 50.9 -1.2
baz=7.3
IKSK Karasker 0.68 140 P Pg 02 58 40.6 -3.2
baz=140
IVSH V-Sauoahnukur 0.76 80 P Pg 02 58 42.4 -2.9
baz=79
IVSH S Sg 02 58 52.8 -2.4
baz=79
IMEL Melhnausar 0.95 21 P Pg 02 58 46.0 -3.0
baz=20
IREN Reynihlio 1.00 14 P Pg 02 58 46.7 -3.1
baz=13
IKVO Krokottuvotn 1.06 13 P Pg 02 58 48.0 -3.1
baz=13
ISNB Snabyli 1.08 208 P Pg 02 58 48.2 -3.1
baz=209
IGRS Grimsstaoir 1.11 30 P Pb 02 58 48.7 -3.3
baz=30
BORG Borgarnes 1.66 274 Pg Pn 02 58 57.4 -2.3
11nm,0.3s,baz=89,slow=7.3,SNR=42
BORG Lg Lg 02 59 19.0
5.9nm,0.3s,baz=84,slow=11,SNR=3.5
BORG Borgarnes 1.66 274 Pn 02 58 57.3 -2.4
BORG Sn Sn 02 59 20.6 -0.4
EKA Eskdalemuir Ar 11.77 136 Pn Pn 03 01 16.8 -1.5
baz=341,slow=15,SNR=4.4
WLF Walferdange 19.57 129 P P 03 02 59.1 +0.7
WLF IAmb IAmb 03 03 38.8
comp=Z,23nm,1.4s
CLL Collm 20.70 116 P P 03 03 12.2 +1.6
STU Stuttgart 21.38 125 P P 03 03 17.9 0.0
STU IAmb IAmb 03 03 21.2
comp=Z,9.3nm,0.7s
BRG Berggiesshubel 21.41 115 *eP* P 03 03 19.0 +0.7
comp=Z,16nm,1.2s
PRU Pruhonice 22.35 116 *eP* P 03 03 28.9 +0.5
CHVC Chvalec 22.46 113 *eP* P 03 03 31.9 +2.3
OSTC Ostas 22.55 113 *eP* P 03 03 32.8 +2.2
KHC Kasperske Hory 22.67 118 *eP* P 03 03 33.0 +1.1
DPC Dobruska-Polom 22.76 113 *eP* P 03 03 34.3 +1.5
GEC2 GERESS Array S 22.95 119 P P 03 03 36.3 +1.4
GERES GERESS Array B 22.95 119 P P 03 03 34.4 -0.5
comp=Z,1.2nm,0.9s,baz=334,slow=8.9,SNR=7.6
GERES GERESS Array B 22.95 119 P P 03 03 36.0 +1.1
KRLC Kraliky 23.16 113 *eP* P 03 03 38.2 +1.3
DAVOX Davos/Dischmat 23.32 127 P P 03 03 38.8 0.0
comp=Z,2.2nm,0.8s,baz=310,slow=16,SNR=3.1
SMOL Smolenice 24.66 114 *eP* P 03 03 52.1 +0.9
VYHS Vyhne 25.23 112 *eP* P 03 03 57.3 +1.0
PSZ Piszkesteto 26.11 112 P P 03 04 05.3 +0.8
PSZ IAmb IAmb 03 04 31.0
comp=Z,6.6nm,1.1s
AKASG Malin Array Be 27.84 98 P P 03 04 20.3 +0.6
comp=Z,0.3nm,0.3s,baz=325,slow=9.5,SNR=2.2
AKASG Malin Array Be 27.84 98 IAmb IAmb 03 04 22.1
comp=Z,1.5nm,0.9s
PFVI Vila Bisbo 28.07 165 P P 03 04 20.6 -1.4
BR131 Keskin Array S 38.47 105 P P 03 05 53.7 +1.1
BR131 IAmb IAmb 03 05 57.4
comp=Z,14nm,1.9s
BRTR Keskin Array B 38.48 105 P P 03 05 54.0 +1.4
comp=Z,1.2nm,0.9s,baz=331,slow=8.5,SNR=3.1
ABKAR Akbulak array 41.98 73 P P 03 06 22.8 +1.5
LCO2 Lakeland CC 2, 42.31 269 P P 03 06 23.3 -0.9
MARD Mardin 43.50 100 P P 03 06 35.9 +1.9
MARD IAmb IAmb 03 06 39.7
comp=Z,6.7nm,1.0s
IL31 45.67 332 P P 03 06 53.3 +2.5
ILAR Eielson Array 45.67 332 P P 03 06 50.9 0.0
comp=Z,1.5nm,1.1s,baz=27,slow=5.3,SNR=8.8
ILAR Eielson Array 45.67 332 P P 03 06 52.6 +1.8
IMAR Indian Mountai 45.84 337 P P 03 06 53.7 +1.5
BCAR Beaver Creek A 46.10 329 P P 03 06 55.7 +1.4
BPAW Bear Paw Mtn. 47.07 334 P P 03 07 03.9 +2.0
KURK Kurchatov 48.09 58 P P 03 07 11.2 +1.3
KURK IAmb IAmb 03 07 11.9
comp=Z,3.5nm,0.9s
KK31 Karatay Array 51.26 70 P P 03 07 36.6 +2.4
KK31 IAmb IAmb 03 07 36.9
comp=Z,6.1nm,1.4s
KKAR Karatay Array 51.26 70 P P 03 07 36.1 +1.9
MKAR Makanchi Array 52.71 58 P P 03 07 46.5 +1.5
TORD Torodi Ar. Bea 53.15 156 P P 03 07 46.8 -1.7
comp=Z,1.5nm,1.0s,baz=352,slow=9.0,SNR=6.6
TORD Torodi Ar. Bea 53.15 156 P P 03 07 48.3 -0.2
BW06 Boulder Array 53.18 293 P P 03 07 49.9 +1.1
PD31 Pinedale Array 53.18 293 P P 03 07 49.2 +0.5
PDAR Pinedale Array 53.18 293 P P 03 07 48.5 -0.2
comp=Z,0.9nm,0.8s,baz=64,slow=6.8,SNR=7.3
PDAR Pinedale Array 53.18 293 P P 03 07 48.9 +0.2
CHGR Chuyangaron 54.45 74 P P 03 07 59.7 +1.8
GAR Garm 54.63 73 P P 03 08 01.7 +2.4
KDJ Kajisay 54.73 65 P P 03 08 02.6 +2.6
KDJ IAmb IAmb 03 09 38.2
comp=Z,4.6nm,1.1s
HWUT Hardware Ranch 54.95 294 P P 03 08 02.7 +1.1
PV01 Paradox Valley 56.72 289 P P 03 08 15.1 +0.7
MSU Marysvale 57.84 293 P P 03 08 23.1 +0.8
BNM Barren Site 59.35 285 P P 03 08 33.2 +0.4
NIL Nilore 60.44 74 P P 03 08 41.3 +1.2
DAMY Dhamar 65.04 110 P P 03 09 13.0 +1.7
CHTO Chiang Mai 83.79 59 P P 03 11 01.0 +1.0
CMAR Chiang Mai Arr 84.11 59 P P 03 11 01.6 0.0

IDC 25 03:08:31.7±4.5, 51°.08S×152°.65E, h55km±36km, mb3.2/4, mb1 3.5/4, mb1mx3.2/26, mbtmp3.5/4, Error ellipse: s-maj=51.2km s-min=22.8km az=113.0, New Britain region

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KRVT Keravat (AS076 0.99 321 P Pn 03 08 49.0 -0.5
60nm,0.3s,baz=180,slow=0.7,SNR=45
KRVT S Sn 03 09 03.0 +0.5
99nm,0.3s,baz=15,slow=23,SNR=20
WRA Warramunga Arr 23.15 229 P P 03 13 33.5 0.0
0.5nm,0.5s,baz=53,slow=9.9,SNR=7.2
ASAR Alice Springs 25.84 223 P P 03 13 59.2 +1.0
0.2nm,0.4s,baz=58,slow=8.1,SNR=4.4
FITZ Fitzroy Crossi 29.39 242 P P 03 14 28.9 -1.1
1.6nm,0.8s,baz=53,slow=7.7,SNR=2.4
PPT2 Papeete2 57.79 108 *e*LR LR 03 18 22.9
comp=Z,71nm,24.0s
ILAR Eielson Array 82.47 22 P P 03 20 48.0 +0.1
0.2nm,0.6s,baz=234,slow=4.6,SNR=5.5
TORD Torodi Ar. Bea 150.25 288 PKPbc PKPbc 03 28 17.3 -0.4
0.6nm,0.9s,baz=81,slow=1.6,SNR=3.0

*KRNET **25** 03:21:28.6±0.1, 42°.74N×78°.47E, h21km, mb1.9*
*NNC **25** 03:21:30.8±0.7, 42°.79N×78°.31E, h0km, mb2.2, mpv2.6, Error ellipse: s-maj=6.4km s-min=2.1km az=170.0*
*SOME **25** 03:21:32.4, 42°.88N×78°.33E, h10km*
ISC 25 03:21:29.0±1.0, 42°.74N±0°.03×78°.39E±0°.03, h10km±8km, n21, σ0°.57/41, 5C-13D, Lake Issyk-Kul region

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PRZ Przheval'sk 0.25 178 ⇓*i*P Pg 03 21 34.2 -0.1
baz=89
PRZ ⇓*e*S Sg 03 21 38.4 +0.6
baz=89
SATY Saty 0.32 2 *e*P Pb 03 21 36.7 -0.2
3.6nm,0.1s
SATY *e*S Sg 03 21 39.9 -0.1
59nm,0.1s
SATY Saty 0.32 2 P Pb 03 21 36.7 -0.2
3.6nm,0.1s
SATY S Sg 03 21 39.8 -0.1
59nm,0.1s
ZHN Zhinishke 0.43 5 *e*P Pb 03 21 38.6 -0.2
3.1nm,0.1s
ZHN *e*S Sg 03 21 43.3 0.0
18nm,0.2s
ZHN Zhinishke 0.43 5 P Pb 03 21 38.6 -0.2
3.1nm,0.1s
ZHN S Sg 03 21 43.3 0.0
18nm,0.2s
ANVS Anan'yevo 0.53 275 ⇓*i*P Pb 03 21 40.0 -0.5
baz=74
ANVS ⇓*i*S Sb 03 21 48.3 0.0
baz=74
UZB Uzynbulak 0.62 48 *e*P Pn 03 21 43.1 -0.8
1.5nm,0.1s
UZB *e*S Sb 03 21 51.0 +0.2
12nm,0.1s
UZB Uzynbulak 0.62 48 P Pn 03 21 43.1 -0.8
1.5nm,0.1s
UZB S Sb 03 21 51.0 +0.2
12nm,0.1s
KPKS Kokpek 0.76 16 *e*P Pg 03 21 43.8 0.0
2.3nm,0.1s
KPKS *e*S Sg 03 21 51.9 -1.8
10nm,0.1s
PDGK Podgornoye 1.00 53 ⇑P Pn 03 21 50.5 +1.3
0.7nm,0.5s
PDGK ⇑S Sn 03 22 04.5 +1.1
1.1nm,0.4s
KDJ Kajisay 1.08 236 ⇓*e*P Pb 03 21 49.4 -0.5
baz=37
KDJ ⇓*i*S Sn 03 22 04.8 -0.6
baz=37
TNSS Tian-Shan 1.10 286 P Pn 03 21 51.3 +0.5
0.3nm,0.1s
TNSS S Sg 03 22 04.3 -0.3
0.8nm,0.2s
KNDC Almaty 1.15 295 ⇑P Pg 03 21 51.5 +0.4
9.6nm,0.3s
KNDC ⇑S Sg 03 22 06.1 0.0
6.9nm,0.3s
MNBS Baschi 1.34 0 *e*P Pg 03 21 55.3 +0.5
3.1nm,0.1s
MNBS *e*S Sn 03 22 11.6 -0.3
5.6nm,0.2s
MNBS Baschi 1.34 0 P Pg 03 21 55.3 +0.5
3.1nm,0.1s
MNBS S Sn 03 22 11.6 -0.3
5.6nm,0.2s
KTBS Karatobe 1.58 309 *e*P Pg 03 22 00.1 +0.7
0.6nm,0.2s
KTBS *e*S Sg 03 22 19.8 -0.1
2.1nm,0.1s
KTBS Karatobe 1.58 309 P Pg 03 21 59.5 +0.1
0.6nm,0.2s
KTBS S Sg 03 22 19.8 -0.1
2.1nm,0.1s
ULHL Ulahol 1.66 254 ⇓*e*P Pb 03 22 00.0 +0.2
baz=54
ULHL ⇓*i*S Sg 03 22 22.3 -0.2
baz=54
BOOM Boomskoye usch 1.82 263 ⇓*i*P Pb 03 22 02.1 -0.4
baz=63
BOOM ⇓*i*S Sg 03 22 27.2 -0.5
baz=63
TKM2 Tokmak 2 2.06 276 ⇓*e*P Pb 03 22 06.4 -0.2
baz=76
TKM2 ⇓*i*S Sb 03 22 32.8 +0.4
baz=76
TKM2 Tokmak 2 2.06 276 ⇓Pg Pb 03 22 05.8 -0.8
1.1nm,0.8s
TKM2 ⇑Lg Lg 03 22 32.2
1.2nm,0.6s

*IDC **25** 04:04:11.4±11.0, 0°.30N×98°.20E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/39, mbtmp3.4/3, MS3.0/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=585.5km s-min=30.9km az=54.0*
*DJA **25** 04:04:12.3±0.5, 0°.5±3°×9°.8E±°, h10km±6km, M3.5/6, MLv3.5/6*
ISC 25 04:04:12.9±1.2, 0°.03S±0°.06×98°.42E±0°.08, h17km±9km, n15, σ2°.76/11, mb3.4/3, Southern Sumatera

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

PBSI Pulau Batu 0.14 262 P Pg 04 04 17.4 +0.4
MNSI Mandailing Nat 1.42 55 P Pn 04 04 38.8 +0.8
MNSI S Sg 04 04 58.5 -0.4
SISI Saibi 1.45 153 P Pn 04 04 35.9 -2.4
SISI S Sn 04 04 54.9 -2.0
GSI Gunungsitoli 1.57 328 P Pg 04 04 42.3 -1.0
SBSI Sibolga 1.64 17 P Pg 04 04 43.6 -1.0
BKNI Bangkinang 2.64 82 P Pn 04 04 53.0 -1.8
CMAR Chiang Mai Arr 18.38 2 LR LR 04 16 19.6
comp=Z,32nm,20.6s,baz=175,slow=40
H08S2 Diego Garcia H 26.93 253 T T 04 37 35.5
baz=76,slow=74
H08S3 Diego Garcia H 26.94 253 T T 04 37 36.7
baz=76,slow=74
H08S1 Diego Carcia H 26.95 253 T T 04 37 39.6
baz=76
WRA Warramunga Arr 40.35 122 P P 04 11 53.8 +3.7
0.6nm,1.0s,baz=294,slow=7.7,SNR=2.6
ASAR Alice Springs 41.68 127 P P 04 12 05.5 +4.5
0.9nm,1.1s,baz=295,slow=7.7,SNR=2.9
MKAR Makanchi Array 48.73 345 P P 04 12 54.8 -1.8
0.5nm,0.6s,baz=152,slow=8.3,SNR=5.0
TLY Talaya 51.72 4 LR LR 04 35 44.4
comp=Z,22nm,19.8s,baz=112,slow=37
YAK Yakutsk 66.27 16 LR LR 04 44 51.0
comp=Z,12nm,18.8s,baz=254,slow=37

IDC 25 04:27:34.2±1.7, 51°.99N×85°.03E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.0km s-min=11.7km az=102.0, Southwestern Siberia

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

I46RU ZALESOVO INFRA 1.97 356 *i* 04 38 13.0
baz=178,slow=310,SNR=2.5
ZALV Zalesovo Beam 1.97 356 Pg Pn 04 28 09.5 +0.6
2.0nm,0.3s,baz=179,slow=14,SNR=16
ZALV Lg Lg 04 28 36.2
1.4nm,0.3s,baz=174,slow=28,SNR=2.5
KURBB Kurchatov Arra 4.30 254 Pn Pn 04 28 42.5 +1.6

0.2nm,0.3s,baz=70,slow=14,SNR=7.2
KURBB Lg Lg 04 29 47.4
0.2nm,0.3s,baz=64,slow=30,SNR=4.5
MKAR Makanchi Array 5.50 200 Pn Pn 04 28 58.7 +1.4
0.2nm,0.3s,baz=20,slow=13,SNR=6.0
MKAR Lg Lg 04 30 25.0
0.5nm,0.3s,baz=25,slow=29,SNR=8.5

*NEIC **25** 04:47:47.5±1.9, 18°.87N±0°.07×70°.08W±0°.06, h116km±5km, mb4.1/35, Error ellipse: s-maj=11.2km s-min=6.6km az=206.0*
*IDC **25** 04:47:47.7±2.2, 18°.76N×70°.02W, h123km±23km, mb3.5/13, mb1 3.7/17, mb1mx3.6/43, mbtmp4.0/17, Error ellipse: s-maj=22.7km s-min=13.5km az=26.0*
*OSPL **25** 04:47:49.3±1.3, 18°.78N×70°.11W, h120km±15km, ML3.7*

ISC 25 04:47:46.3±0.5, 18°.87N±0°.05×70°.04W±0°.04, h100km, n88, σ1§55/90, mb4.0/20, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**0.43**	**164**	Pn	**Pn**	**04 48 04.1**	**+2.5**
SDD				Sn	**Sn**	**04 48 17.2**	**+4.2**
BANI	**BANI**	**0.57**	**213**		**Pn**	**04 48 05.2**	**+2.5**
DR12	**Loma Pena Alta**	**0.63**	**98**	Pn	**Pn**	**04 48 05.8**	**+2.7**
SC01	**Santiago de lo**	**0.85**	**310**	Pn	**Pn**	**04 48 08.4**	**+3.2**
SDDR	**Presa de Saban**	**1.19**	**275**		**Pn**	**04 48 10.9**	**+2.0**
SDDR				Sn	**Sn**	**04 48 28.2**	**+2.2**
SDDR	**Presa de Saban**	**1.19**	**275**	*i* P	**Pn**	**04 48 10.8**	**+2.0**
SDDR				*e*S	**Sn**	**04 48 28.5**	**+2.5**
SDDR				IAML		04 48 35.0	
	comp=Z,2μm,0.7s						
LOBA1	**Barahona**	**1.25**	**232**	*i* P	**Pn**	**04 48 11.1**	**+1.5**
LOBA1				*e*S	**Sn**	**04 48 28.9**	**+1.7**
LOBA1				IAML		04 48 29.0	
	comp=Z,1μm,1.5s						
LGNH	**Logne**	**2.46**	**262**		**Pn**	**04 48 26.0**	**+1.2**
LGNH	**Logne**	**2.46**	**262**	*i* P	**Pn**	**04 48 26.1**	**+1.3**
LGNH				*i* P	**Pn**	**04 48 26.6**	**+1.7**
LGNH				IAML		04 48 59.5	
	comp=Z,118nm,1.1s						
LGNH				IAML		04 49 02.3	
	comp=N,108nm,0.7s						
AGPR	**Aguadilla, PR**	**2.80**	**98**	*i* P	**Pn**	**04 48 32.3**	**+3.0**
AGPR				IAML		04 49 16.5	
	comp=Z,197nm,0.2s						
GRTK	**Grand Turk**	**2.82**	**339**		**Pn**	**04 48 30.7**	**+1.1**
MPR	**Mayaguez**	**2.83**	**103**	Pn	**Pn**	**04 48 32.3**	**+2.6**
MLPR	**Magueyes Islan**	**2.98**	**107**	Pn	**Pn**	**04 48 33.5**	**+1.8**
AOPR	**Arecibo Observ**	**3.16**	**99**		**Pn**	**04 48 36.5**	**+2.3**
SJG	**San Juan**	**3.76**	**101**	P	**Pn**	**04 48 43.3**	**+1.0**
	comp=Z,8.8nm,0.3s,baz=318,slow=12,SNR=19						
SJG				S	**Sn**	**04 49 24.7**	**-0.9**
	comp=Z,14nm,0.3s,baz=250,slow=23,SNR=7.2						
SJG	**San Juan**	**3.76**	**101**	Pn	**Pn**	**04 48 43.9**	**+1.7**
CBYP	**Canovanas**	**4.01**	**98**	Pn	**Pn**	**04 48 46.6**	**+1.0**
GTBY	**Guantanamo Bay**	**4.90**	**283**	Pn	**Pn**	**04 48 56.0**	**-1.7**
URIC	**Uribia, Colomb**	**7.38**	**195**	*e*P	**Pn**	**04 49 30.7**	**-0.6**
SDV	**Santo Domingo**	**9.95**	**183**	P	**Pn**	**04 50 06.1**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=12,slow=8.4,SNR=8.4						
SDV				S	Sn	04 51 47.0	-9.4
	comp=Z,1.1nm,0.3s,baz=20,slow=18,SNR=2.0						
SDV	**Santo Domingo**	**9.95**	**183**	*e*P	**Pn**	**04 50 07.4**	**+0.9**
SDV	**Santo Domingo**	**9.95**	**183**	Pn	**Pn**	**04 50 07.4**	**+0.9**
PCRV	**Puerto La Cruz**	**10.10**	**148**	P	**Pn**	**04 50 09.1**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=333,slow=2.6,SNR=14						
PCRV				S	Sn	04 51 51.5	-8.4
	comp=Z,1.1nm,0.3s,baz=322,slow=10,SNR=1.8						
PLCV	**Puerto La Cruz**	**10.14**	**148**		**Pn**	**04 50 09.1**	**+0.2**
SMLC	**San Martn de**	**10.75**	**202**	*e*P	**Pn**	**04 50 15.9**	**-1.4**
OCAC	**Ocana**	**11.04**	**197**	*e*P	**Pn**	**04 50 21.1**	**-0.3**
PAMC	**Pamplona, Colo**	**11.76**	**193**	*e*P	**Pn**	**04 50 31.9**	**+0.7**
BRRC	**Barranca, Sant**	**12.23**	**197**	*e*P	**Pn**	**04 50 37.1**	**0.0**
UREC	**San Jos de Ur**	**12.28**	**207**	*e*P	**Pn**	**04 50 37.9**	**+0.1**
BARC	**Barichara**	**12.59**	**194**	*e*P	**Pn**	**04 50 42.3**	**+0.3**
PTBC	**PUERTO BERRIO,**	**12.99**	**200**	*e*P	**Pn**	**04 50 46.8**	**-0.4**
RUSC	**La Rusia**	**13.24**	**193**	*e*P	**Pn**	**04 50 51.4**	**+0.6**
HELC	**Santa Helena**	**13.70**	**204**	*e*P	**Pn**	**04 50 57.9**	**+1.2**
SPBC	**San Pablo de B**	**13.72**	**197**	*e*P	**Pn**	**04 50 59.0**	**+2.3**
CBOC	**Ciudad Bolivar**	**14.18**	**205**	*e*P	**Pn**	**04 51 04.0**	**+1.2**
GUY2C	**Guyana, Caldas**	**14.53**	**202**	*e*P	**P**	**04 51 11.6**	**+0.2**
ROSC	**El Rosal**	**14.56**	**197**	P	**Pn**	**04 51 07.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=6.6,slow=18,SNR=5.3						
ROSC				S	Sn	04 53 37.4	-11
	comp=Z,1.2nm,0.3s,baz=121,slow=21,SNR=1.6						
ROSC	**El Rosal**	**14.56**	**197**	Pn	**Pn**	**04 51 09.1**	**+1.2**
CHIC	**Chingaza**	**14.61**	**195**	*e*P	**Pn**	**04 51 10.5**	**+2.0**
Y60A	**Bolivia**	**16.74**	**336**	P	**P**	**04 51 36.8**	**+1.5**
NHSC	**New Hope**	**16.84**	**329**	P	**P**	**04 51 39.1**	**+2.9**
V61A	**Roper**	**17.82**	**342**	P	**Pn**	**04 51 52.0**	**+4.3**
JSC	**Jenkinsville**	**18.32**	**329**	P	**Pn**	**04 51 53.8**	**+0.1**
Y52A	**Lilburn**	**19.48**	**323**		**Pn**	**04 52 07.2**	**-0.4**
Y52A				IAmb	IAmb	04 52 11.4	
	comp=Z,9.2nm,0.8s						
Z51A	**Franklin**	**19.76**	**320**	P	**P**	**04 52 09.3**	**+1.0**
S58A	**Poland Farm, P**	**19.94**	**341**	P	**P**	**04 52 11.4**	**+1.1**
RCRC	**Randolf Colleg**	**20.18**	**338**	P	**P**	**04 52 13.4**	**+0.5**
OTAV	**Otavalo**	**20.28**	**205**	P	**P**	**04 52 14.7**	**+0.1**
U54A	**Nelsons Funny**	**20.41**	**332**	P	**P**	**04 52 16.8**	**+1.3**
U54A				IAmb	IAmb	04 52 17.4	
	comp=Z,11nm,0.9s						
TKL	**Tuckaleechee C**	**20.66**	**327**	P	**P**	**04 52 19.8**	**+1.7**
	comp=Z,3.6nm,0.9s,baz=131,slow=7.7,SNR=4.1						
TKL				S	**S**	**04 55 59.9**	**-3.6**
	comp=Z,1.8nm,0.6s,baz=219,slow=17,SNR=2.3						
TKL	**Tuckaleechee C**	**20.66**	**327**	IAmb	IAmb	04 52 23.4	
	comp=Z,8.2nm,1.2s						
LRAL	**Lakeview Retre**	**20.73**	**316**		**P**	**04 52 19.2**	**+0.4**
LRAL				IAmb	IAmb	04 52 21.1	
	comp=Z,8.4nm,1.1s						
W50A	**Signal Mountai**	**21.16**	**323**	P	**P**	**04 52 25.1**	**+1.7**
W50A				IAmb	IAmb	04 52 26.7	
	comp=Z,9.3nm,1.1s						
P57A	**Homestead Farm**	**21.67**	**343**	P	**P**	**04 52 28.5**	**-0.2**
V48A	**Smith Brothers**	**22.41**	**322**	P	**P**	**04 52 37.4**	**+0.8**
V48A				IAmb	IAmb	04 52 38.3	
	comp=Z,5.7nm,0.7s						
PLAL	**Pickwick Lake**	**22.66**	**319**	P	**P**	**04 52 38.8**	**-0.4**
WVT	**Waverly**	**23.27**	**321**	P	**P**	**04 52 45.4**	**+0.3**
WVT				IAmb	IAmb	04 52 45.9	
	comp=Z,8.3nm,0.7s						
X40A	**Basin Creek Fa**	**25.54**	**312**	P	**P**	**04 53 06.7**	**+1.0**
X40A				IAmb	IAmb	04 53 07.8	
	comp=Z,5.5nm,1.0s						
SAML	**Samuel**	**28.46**	**166**	P	**P**	**04 53 29.8**	**-2.2**
SAML				IAmb	IAmb	04 53 30.0	
	comp=Z,2.3nm,0.7s						
WMOK	**Wichita Mounta**	**29.99**	**308**	P	**P**	**04 53 45.0**	**-0.5**
WMOK				IAmb	IAmb	04 53 47.5	
	comp=Z,5.2nm,1.4s						
TXAR	**Lajitas Array**	**32.31**	**295**	P	**P**	**04 54 05.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=116,slow=7.7,SNR=5.2						
MNTX	**Cornudas Mount**	**34.26**	**299**	P	**P**	**04 54 23.8**	**+0.9**
MNTX				IAmb	IAmb	04 54 24.0	
	comp=Z,3.9nm,0.9s						
BDFB	**Brasilia**	**40.57**	**146**	P	**P**	**04 55 14.3**	**-2.0**
	comp=Z,1.8nm,0.9s,baz=8.8,slow=8.8,SNR=4.0						
BDFB	**Brasilia**	**40.57**	**146**	IAmb	IAmb	04 55 16.1	
	comp=Z,3.6nm,0.9s						
PDAR	**Pinedale Array**	**40.94**	**314**	P	**P**	**04 55 19.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=91,slow=8.2,SNR=3.1						
RLMT	**Red Lodge**	**41.72**	**318**	P	**P**	**04 55 25.3**	**-0.3**
RLMT				IAmb	IAmb	04 55 26.3	
	comp=Z,3.3nm,0.7s						
SZCU	**Shurtz Canyon**	**41.84**	**306**	P	**P**	**04 55 25.3**	**-1.5**
LKWY	**Lake**	**42.22**	**316**	P	**P**	**04 55 29.2**	**-0.5**
GCMT	**Greycliff**	**42.27**	**318**	P	**P**	**04 55 29.3**	**-0.7**
PSUT	**Pine Spring**	**42.67**	**307**	P	**P**	**04 55 34.4**	**+1.0**
BGU	**Big Grassy Mou**	**42.73**	**310**	P	**P**	**04 55 34.2**	**+0.5**
HRY	**Holter Researc**	**44.02**	**319**	P	**P**	**04 55 43.9**	**-0.2**
NVAR	**Mina Array Bea**	**46.05**	**305**	P	**P**	**04 56 00.3**	**0.0**
	comp=Z,2.4nm,0.8s,baz=94,slow=7.2,SNR=15						
NVAR	**Mina Array Bea**	**46.05**	**305**	P	**P**	**04 56 01.2**	**+0.8**
EKA	**Eskdalemuir Ar**	**61.55**	**37**	P	**P**	**04 57 52.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=256,slow=5.8,SNR=3.8						
KOWA	**Kowa**	**63.08**	**83**	P	**P**	**04 58 02.5**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=283,slow=8.7,SNR=5.0						
KOWA	**Kowa**	**63.08**	**83**	IAmb	IAmb	04 58 05.1	
	comp=Z,5.8nm,1.4s						
DBIC	**Dimbokro**	**64.41**	**92**	P	**P**	**04 58 11.7**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=284,slow=7.4,SNR=3.0						
DBIC	**Dimbokro**	**64.41**	**92**	IAmb	IAmb	04 58 12.2	
	comp=Z,8.4nm,1.3s						
BCAR	**Beaver Creek A**	**65.08**	**332**	P	**P**	**04 58 15.8**	**-0.1**
BMAR	**Burnt Mountain**	**66.80**	**336**	P	**P**	**04 58 26.5**	**-0.4**
ILAR	**Eielson Array**	**67.49**	**333**	P	**P**	**04 58 29.9**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=107,slow=4.5,SNR=9.8						
TOA0	**Torodi Ar. Sit**	**68.79**	**83**	P	**P**	**04 58 39.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**68.79**	**83**	P	**P**	**04 58 39.6**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=293,slow=6.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**68.79**	**83**	IAmb	IAmb	04 58 40.4	
	comp=Z,0.8nm,0.8s						
NOA	**NORSAR Array B**	**69.45**	**31**	P	**P**	**04 58 43.9**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=274,slow=6.5,SNR=3.8						
GERES	**GERESS Array B**	**71.96**	**44**	P	**P**	**04 58 58.0**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=289,slow=4.1,SNR=4.8						
FINES	**FINESS Array B**	**76.49**	**29**	P	**P**	**04 59 24.5**	**-0.6**
	comp=Z,3.8nm,1.0s,baz=277,slow=3.3,SNR=3.6						

*CRAAG **25** 04:49:46.9, 35°.69N×4°.15E, MI2.9*
*MDD **25** 04:49:46.0±1.5, 35°.80N×4°.57E, h0km, mb4.1/6, Error ellipse: s-maj=22.8km s-min=6.8km az=172.0, PRXIMO*

ISC 25 04:49:43.2±1.9, 35°.8N±0°.1×4°.73E±0°.06, h10km, n19, σ1§36/25, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.38**	**287**	P	**Pg**	**04 49 50.2**	**-0.6**
ATAF	**Djebel Tarf**	**0.38**	**287**	P	**Pg**	**04 49 50.2**	**-0.6**
SET	**Setif**	**0.70**	**51**	P	**Pn**	**04 50 00.0**	**+0.8**
SET	**Setif**	**0.70**	**51**	P	**Pn**	**04 50 00.0**	**+0.8**
AKET	**Djebel Ketaf**	**0.74**	**293**	P	**Pg**	**04 49 57.5**	**-0.1**
AKET	**Djebel Ketaf**	**0.74**	**293**	P	**Pg**	**04 49 57.5**	**-0.1**
EMHD	**Djebel Mahouad**	**1.50**	**287**	P	**Pg**	**04 50 11.7**	**-0.4**
EMHD	**Djebel Mahouad**	**1.50**	**287**	P	**Pg**	**04 50 11.7**	**-0.4**
OKGL	**Djebel Kef Gue**	**3.33**	**276**	P	**Pn**	**04 50 36.2**	**+0.8**
	12nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**4.23**	**321**	P	**Pn**	**04 50 49.4**	**+1.7**
	1.2nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**04 51 35.0**	**-2.1**
	0.5nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.28**	**340**	P	**Pn**	**04 50 50.0**	**+1.7**
	0.4nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**04 51 36.3**	**-2.1**
	0.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.22**	**295**	P	**Pn**	**04 51 02.2**	**+0.8**
	1.8nm,0.2s,SNR=8.3						
EMUR				S	**Sn**	**04 52 00.2**	**-1.4**
	0.1nm,0.2s						
ENIJ	**Nijar**	**5.72**	**284**	P	**Pn**	**04 51 08.1**	**-0.2**
	2.4nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.78**	**302**	P	**Pn**	**04 51 11.3**	**+2.2**
	0.6nm,0.1s,SNR=7.8						
ETOB				S	**Sn**	**04 52 14.4**	**-1.0**
	0.1nm,0.3s						
ECHE	**Chera**	**5.92**	**312**	P	**Pn**	**04 51 12.8**	**+1.9**
	0.2nm,0.1s,SNR=4.0						
EBER	**Berja**	**6.25**	**283**	P	**Pn**	**04 51 15.9**	**+0.3**
	0.9nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.28**	**294**	P	**Pn**	**04 51 18.3**	**+2.3**
	1.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**04 52 26.9**	**-1.1**
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.58**	**290**	P	**Pn**	**04 51 21.8**	**+1.7**
	1.3nm,0.2s,SNR=10						
EQES				S	**Sn**	**04 52 35.5**	**+0.2**
	0.3nm,0.2s						
EQUE	**Quentar**	**6.74**	**285**	P	**Pn**	**04 51 23.4**	**+1.2**
	0.9nm,0.3s,SNR=7.9						

*IDC **25** 04:53:45.6±2.0, 27°.56N×20°.42W, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/51, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=63.7km s-min=27.7km az=57.0*
*IGIL **25** 04:53:47.0, 27°.81N×20°.54W, h10km*
*MDD **25** 04:53:50.5±0.4, 27°.85N×20°.68W, h48km±6km, mb4.4/18, Error ellipse: s-maj=6.0km s-min=3.0km az=6.0, PRXIMO TT-model: canary*
*INMG **25** 04:53:53.2±2.4, 27°.81N×20°.63W, h10km, ML4.1, Error ellipse: s-maj=44.7km s-min=15.3km az=109.0*

ISC 25 04:53:47.0±1.6, 27°.95N±0°.08×20°.36W±0°.05, h1km±10km, n79, σ2§32/110, mb3.6/4, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAD	**Las Tabladas,**	**2.02**	**95**	P	**Pg**	**04 54 24.6**	**-1.2**
	8.6nm,0.0s,SNR=7.9						
CTAD				S	**Sg**	**04 54 51.0**	**-1.1**
	670nm,0.1s,SNR=7.9						
CTAN	**El Hierro**	**2.05**	**95**	P	**Pg**	**04 54 25.2**	**-1.1**
	4.6nm,0.0s,SNR=7.9						
CTAN				S	**Sb**	**04 54 51.1**	**+0.1**
	866nm,0.1s,SNR=7.9						
CCUM	**Cumbre, El Hie**	**2.07**	**95**	P	**Pb**	**04 54 24.5**	**-0.9**
	0.7nm,0.1s,SNR=7.9						
CCUM				S	**Sb**	**04 54 52.0**	**+0.4**
	594nm,0.2s,SNR=7.9						
CMCL	**Mercadel, El H**	**2.08**	**96**	P	**Pg**	**04 54 26.2**	**-0.8**
	3.0nm,0.0s,SNR=7.9						
CMCL				S	**Sg**	**04 54 53.0**	**-1.0**
	917nm,0.1s,SNR=7.9						
CRST	**La Restinga, E**	**2.13**	**98**	P	**Pb**	**04 54 25.7**	**-0.6**
	6.8nm,0.1s,SNR=7.9						
CRST				S	**Sg**	**04 54 53.8**	**-1.5**
	880nm,0.2s,SNR=7.9						
CHIE	**El Hierro**	**2.13**	**95**	P	**Pb**	**04 54 24.3**	**-2.2**
	0.2nm,0.2s,SNR=7.9						
CHIE				S	**Sb**	**04 54 51.9**	**-1.5**
	32nm,0.2s,SNR=7.9						
CTIG	**El Hierro**	**2.16**	**94**	P	**Pb**	**04 54 26.0**	**-0.9**
	3.4nm,0.1s,SNR=7.9						
CTIG				S	**Sb**	**04 54 54.2**	**0.0**
	380nm,0.1s,SNR=7.9						
TBT	**Taburiente**	**2.27**	**71**	P	**Pn**	**04 54 27.6**	**+2.0**
	3.6nm,0.2s,SNR=7.9						
TBT				S	**Sn**	**04 54 55.0**	**+0.6**
	24nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**2.33**	**74**	P	**Pn**	**04 54 28.6**	**+2.1**
	0.5nm,0.1s,SNR=10						
EHIG				S	**Sn**	**04 54 58.3**	**+2.4**
	195nm,0.1s,SNR=6.6						
EGOM	**La Gomera**	**2.79**	**85**	P	**Pn**	**04 54 34.3**	**+1.6**
	1.3nm,0.1s,SNR=127						
EGOM				S	**Sn**	**04 55 07.8**	**+0.8**
	592nm,0.1s,SNR=6.3						
CCAN	**Las Canadas**	**3.33**	**84**	P	**Pn**	**04 54 42.1**	**+1.7**
	1.1nm,0.1s,SNR=7.9						
CCAN				S	**Sn**	**04 55 20.2**	**-0.5**
	64nm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**3.34**	**84**	P	**Pn**	**04 54 43.1**	**+2.5**
	18nm,0.1s,SNR=30						
CRAJ				S	**Sn**	**04 55 21.6**	**+0.6**
	424nm,0.2s,SNR=12						
MACI	**Morro de la Ar**	**3.41**	**84**	P	**Pn**	**04 54 44.1**	**+2.6**
	4.1nm,0.2s,SNR=7.9						
MACI				S	**Sn**	**04 55 23.7**	**+1.0**
	132nm,0.2s,SNR=7.9						
CGUI	**Guimar, Teneri**	**3.48**	**83**	P	**Pn**	**04 54 44.8**	**+2.5**
	8.8nm,0.2s,SNR=7.9						
CGUI				S	**Sn**	**04 55 24.9**	**+0.7**
	252nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**3.59**	**80**	P	**Pn**	**04 54 46.7**	**+2.9**
	0.8nm,0.2s,SNR=61						
EBAJ				S	**Sn**	**04 55 28.2**	**+1.3**
	39nm,0.2s						
GGC	**Guia, Gran Can**	**4.18**	**87**	P	**Pn**	**04 54 54.4**	**+2.5**
	3.7nm,0.2s,SNR=7.9						
GGC				S	**Sn**	**04 55 40.9**	**-0.5**
	7.8nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**5.56**	**84**	P	**Pn**	**04 55 13.1**	**+2.2**
	2.3nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**04 56 13.1**	**-2.4**
	16nm,0.2s,SNR=7.9						
FUL	**Funchal**	**5.56**	**32**	*e*Pn	**Pn**	**04 55 13.1**	**+2.3**
FUL				*e*Sn	**Sn**	**04 56 12.8**	**-2.5**
FUL				A	A	04 56 20.4	
	304nm,0.2s						
PMOZ	**Porto Moniz, M**	**5.57**	**29**	P	**Pn**	**04 55 13.1**	**+2.1**
	44nm,0.2s,SNR=7.9						
PMOZ				S	**Sn**	**04 56 13.7**	**-2.1**
	67nm,0.2s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**5.57**	**29**	P	**Pn**	**04 55 10.8**	**-0.3**
PMOZ				S	Sn	04 56 12.8	-3.1
PMOZ	**Porto Moniz, M**	**5.57**	**29**	*e*Pn	**Pn**	**04 55 13.2**	**+2.1**
PMOZ				*e*Sn	**Sn**	**04 56 13.5**	**-2.3**
PMOZ				A	A	04 56 21.3	
	221nm,0.4s						
PMAR	**Madeira**	**5.61**	**31**	P	**Pn**	**04 55 13.7**	**+1.9**
PMAR				S	**Sn**	**04 56 14.5**	**-2.4**
PMAR	**Madeira**	**5.61**	**31**	*e*Pn	**Pn**	**04 55 13.9**	**+2.2**
PMAR				*e*Sn	**Sn**	**04 56 15.0**	**-1.9**
PMAR				A	A	04 56 22.4	
	259nm,0.2s						
CFUE	**Fuerteventura**	**5.71**	**82**	P	**Pn**	**04 55 15.2**	**+2.3**
	4.0nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**04 56 17.9**	**-1.1**
	3.8nm,0.2s,SNR=7.9						
EFAM	**Famara**	**6.12**	**77**	P	**Pn**	**04 55 21.1**	**+2.5**
	2.8nm,0.1s,SNR=7.9						
EFAM				S	**Sn**	**04 56 27.3**	**-1.9**
	3.7nm,0.1s,SNR=7.9						
PMPS	**Porto Santo**	**6.16**	**33**	*e*Pn	**Pn**	**04 55 21.8**	**+2.7**
PMPS				*e*Sn	**Sn**	**04 56 27.9**	**-2.3**
PMPS				A	A	04 56 36.0	
	68nm,0.3s						
PMPST	**Porto Santo, M**	**6.18**	**33**	*e*Pn	**Pn**	**04 55 22.1**	**+2.7**
PMPST				*e*Sn	**Sn**	**04 56 28.3**	**-2.4**
PMPST				A	A	04 56 34.5	
	130nm,0.3s						
PSMN	**Pico do Norte,**	**9.86**	**337**	*e*P	Pn	04 56 07.0	-2.9
PSMN				*e*S	Sn	04 57 50.3	-11
PSMA	**Santa Maria**	**9.88**	**337**	*e*P	Pn	04 56 07.5	-2.6
PSMA				*e*S	Sn	04 57 49.7	-12
EAH	**EAH**	**10.06**	**66**	P	Pn	04 56 17.9	+5.3
EAH				S	**Sn**	**04 58 07.3**	**+1.2**
BART	**Pico Bartolome**	**10.60**	**339**	*e*P	**Pn**	**04 56 18.2**	**-1.9**
BART				*e*S	Sn	04 58 07.8	-12
CMLA	**Cha da Macela**	**10.70**	**337**	*e*P	**Pn**	**04 56 19.4**	**-2.0**
CMLA				*e*S	Sn	04 58 10.6	-11
GRON	**Grota Negra**	**10.71**	**337**	*e*P	**Pn**	**04 56 19.1**	**-2.5**
GRON				*e*S	Sn	04 58 09.6	-13
PDA	**Ponta Delgada**	**10.74**	**337**	*e*P	Pn	04 56 18.4	-3.4
PSET	**Sete Cidades**	**10.82**	**337**	*e*P	Pn	04 56 19.9	-3.2
OUK	**Oukaimeden**	**11.35**	**70**	P	Pn	04 56 35.2	+4.6
OUK				S	**Sn**	**04 58 36.1**	**-2.1**
OUZM	**OUZ**	**12.21**	**73**	P	**Pn**	**04 56 45.5**	**+3.3**
OUZM				S	**Sn**	**04 58 57.9**	**-1.2**
AVE	**Averroes**	**12.35**	**61**	P	Pn	04 56 50.2	+6.2
AVE				S	**Sn**	**04 59 04.0**	**+1.6**
PICO	**Pico**	**12.49**	**329**	*e*P	**Pn**	**04 56 43.8**	**-2.2**
PGRA	**Graciosa**	**12.74**	**332**	*e*P	Pn	04 56 46.0	-3.3
ZGR	**Zagora**	**13.08**	**77**	P	P	04 56 59.3	-5.3
ZGR				S	**Sn**	**04 59 19.1**	**-1.1**
TZRR	**Tazzarine**	**13.20**	**74**	P	**Pn**	**04 56 58.2**	**+2.5**
TZRR				S	**Sn**	**04 59 29.5**	**+6.2**
PFVI	**Vila Bisbo**	**13.35**	**44**	P	**Pn**	**04 56 59.2**	**+1.6**
	0.5nm,0.1s,SNR=7.9						
PFVI				S	Sn	04 59 20.4	-6.2
	0.2nm,0.0s,SNR=7.9						
PFVI	**Vila Bisbo**	**13.35**	**44**	*e*P	**Pn**	**04 56 59.7**	**+2.1**
PFVI				*e*S	**Sn**	**04 59 22.8**	**-3.8**
MORF	**Marmelete**	**13.57**	**44**	*e*P	**Pn**	**04 57 02.5**	**+1.9**
MORF	**Marmelete**	**13.57**	**44**	*e*P	**Pn**	**04 57 03.0**	**+2.4**
MORF				*e*S	**Sn**	**04 59 28.5**	**-3.6**
PTEO	**Sao Teotonio**	**13.68**	**43**	*e*P	Pn	04 57 06.8	+4.7
PTEO				*e*S	**Sn**	**04 59 31.3**	**-3.4**
PBDV	**Barranco-do-Ve**	**13.97**	**45**	*e*P	**Pn**	**04 57 09.7**	**+3.5**
PBDV				*e*S	**Sn**	**04 59 40.2**	**-1.7**
PCVE	**Castro Verde**	**14.15**	**44**	*e*P	**Pn**	**04 57 11.3**	**+2.8**
PCVE				*e*S	**Sn**	**04 59 44.5**	**-1.7**
PNCL	**Nicolau / Gran**	**14.17**	**41**	*e*P	**Pn**	**04 57 11.6**	**+2.8**
PNCL				*e*S	Sn	04 59 41.7	-4.9
RSA	**Sarsar**	**14.20**	**57**	P	**Pn**	**04 57 12.8**	**+3.5**
RSA				S	**Sn**	**04 59 48.2**	**+0.7**
PVAQ	**Vaqueiros**	**14.21**	**45**	*e*P	**Pn**	**04 57 11.6**	**+2.3**
PVAQ				*e*S	**Sn**	**04 59 43.5**	**-4.1**
MD31	**MD31**	**14.32**	**66**	P	**P**	**04 57 15.9**	**-2.5**
PMAFR	**

IDC ***25*** *05:04:00.6±0.6, 19.˙38N×108.˙98W, h0km, mb4.4/13, mb1 4.5/18, mb1mx4.4/37, mbtmp4.4/18, ML3.8/5, MS4.2/25, Ms1 4.2/25, ms1mx4.1/32, Error ellipse: s-maj=15.9km s-min=12.7km az=55.0*

GCMT ***25*** *05:04:02.9±0.2, 19.˙57N±0.˙01×108.˙70W±0.˙01, h18km, MW5.0/126, Moment Tensor Solution. s60,c80; s126,c208; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.44±.12; Mθθ-2.35±.09; Mϕϕ4.78±.10; Mrθ-0.12±.21; Mrϕ-2.57±.07; Mθϕ0.86±.20; Best double couple: Mo4.45600×10¹⁶ NP1:ϕs297.00000°, δ77.00000°, λ-176.00000°. NP2:ϕs206.00000°, δ86.00000°, λ-13.00000°. Principal axes: T 5.7010, Plg6.0000°, Azm252.0000°; N -2.4990, Plg76.0000°, Azm8.0000°; P -3.2120, Plg12.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***25*** *05:04:03.0±0.0, 19.˙50N×108.˙60W, h10km, mb5.2/1, Ms5.1/1*

NEIC ***25*** *05:04:03.9±2.0, 19.˙48N±0.˙04×108.˙63W±0.˙07, h10km±1km, mb4.8/196, Md5.1/15(MEX), Error ellipse: s-maj=10.9km s-min=6.7km az=282.0*

MEX ***25*** *05:04:05.5±0.6, 19.˙63N×108.˙63W, h13km, MD5.0*

ISC 25 05:04:04.5±0.4**, 19°55'**N±0'05×**108°61'**W±0'05, **h10**km, **n526**, σ1s**35**/513, **mb4.8**/66, **MS4.2**/25, **Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**2.32**	**251**	Pn	Pn	05 04 34.5	-8.3
H06E1				Sn	Sn	05 05 01.5	-10
H06E1				T	T	05 06 57.1	
	SNR=169						
H06N1	**SOCORRO T-PHAS**	**2.35**	**254**	Pn	Pn	05 04 34.4	-8.8
H06N1				Sn	Sn	05 04 58.7	-13
H06S1	**SOCORRO T**	**2.37**	**250**	Pn	Pn	05 04 35.0	-8.4
H06S1				Sn	Sn	05 05 00.4	-12
ANIG	**Ahuacatlan**	**4.12**	**68**	*e*P	**Pn**	**05 05 05.7**	**-1.8**
ANIG				*e*S	**Sn**	**05 05 53.6**	**-2.2**
MAIG	**Mazatlaan**	**4.15**	**29**	*e*P	**Pn**	**05 05 04.9**	**-3.1**
MAIG				*i* S	**Sn**	**05 05 51.9**	**-4.8**
R15V		**4.38**	**94**	*e*P	**Pn**	**05 05 08.4**	**-2.8**
R15V				*i* S	**Sn**	**05 05 59.9**	**-2.4**
COIG	**Colima**	**4.65**	**94**	*e*P	**Pn**	**05 05 12.9**	**-2.1**
COIG				*e*S	**Sn**	**05 06 06.0**	**-3.1**
EZ5V		**4.72**	**90**	*e*P	**Pn**	**05 05 15.1**	**-0.9**
EZ5V				*e*S	**Sn**	**05 06 08.2**	**-2.8**
EZ5V		**4.72**	**90**		**Pn**	**05 05 15.1**	**-0.9**
LPIG	**La Paz**	**4.80**	**341**	Pn	**Pn**	**05 05 14.6**	**-2.3**
	3.0nm,0.3s,baz=180,slow=6.1,SNR=5.8						
LPIG				LR	LR	05 06 47.2	
	comp=Z,4μm,18.7s,baz=167,slow=34						
SSIG	**Sanalona**	**5.42**	**14**	*e*P	**Pn**	**05 05 24.4**	**-1.1**
SSIG				*i* S	**Sn**	**05 06 23.7**	**-4.2**
AAIG	**Aguscalientes**	**6.30**	**66**	*i* P	**Pn**	**05 05 36.3**	**-1.5**
AAIG				*i* S	**Sn**	**05 06 47.5**	**-2.5**
ZAIG	**Zacatecas**	**6.48**	**59**	Pn	**Pn**	**05 05 41.2**	**+0.9**
ZAIG				Sn	**Sn**	**05 06 53.3**	**-1.2**
MOIG	**Morelia**	**6.99**	**88**	Pn	**Pn**	**05 05 48.0**	**+0.7**
MOIG				Sn	**Sn**	**05 07 05.9**	**-1.1**
ZIIG	**Zihuatanejo**	**7.04**	**105**	*e*P	**Pn**	**05 05 46.9**	**-0.8**
ZIIG				*i* S	**Sn**	**05 07 06.8**	**-1.0**
ZIIG	**Zihuatanejo**	**7.04**	**105**		**Pn**	**05 05 46.9**	**-0.8**
SRIG	**Santa Rosalia**	**8.43**	**337**	Pn	**Pn**	**05 06 07.4**	**+0.8**
SRIG				Sn	**Sn**	**05 07 42.0**	**+0.1**
UNM	**Universidad Na**	**8.90**	**90**	Pn	**Pn**	**05 06 14.6**	**+1.1**
UNM				Sn	**Sn**	**05 07 53.9**	**0.0**
HSIG		**9.67**	**348**	Pn	**Pn**	**05 06 26.4**	**+2.6**
HSIG				Sn	**Sn**	**05 08 12.1**	**-0.4**
TX31	**Lajitas Ar. Si**	**10.73**	**24**		**Pn**	**05 06 39.4**	**+1.0**
TX32	**Lajitas Array**	**10.73**	**24**		**Pn**	**05 06 39.3**	**+0.9**
TXAR	**Lajitas Array**	**10.73**	**24**	Pn	**Pn**	**05 06 38.9**	**+0.5**
	0.7nm,0.3s,baz=209,slow=13,SNR=89						
TXAR				LR	LR	05 10 23.9	
	comp=Z,590nm,18.4s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**10.73**	**24**		**Pn**	**05 06 39.8**	**+1.4**
NZIG	**Nacozari, Sono**	**10.81**	**356**	*e*P	**Pn**	**05 06 42.8**	**+3.2**
319A	**Douglas**	**11.79**	**357**		**Pn**	**05 06 56.2**	**+3.3**
833A	**Chaparral WMA,**	**12.13**	**42**	P	**Pn**	**05 07 00.0**	**+2.6**
	baz=226						
833A	**Chaparral WMA,**	**12.13**	**42**		**Pn**	**05 06 59.9**	**+2.4**
MNTX	**Cornudas Mount**	**12.44**	**13**	P	**Pn**	**05 07 04.6**	**+2.9**
	baz=194,SNR=30						
MNTX	**Cornudas Mount**	**12.44**	**13**	Pn	**Pn**	**05 07 04.3**	**+2.6**
PIX	**Pinacate**	**12.74**	**341**	Pn	**Pn**	**05 07 08.4**	**+2.7**
SFX	**San Felipe**	**12.76**	**335**	Pn	**Pn**	**05 07 07.2**	**+1.2**
TUC	**Tucson**	**12.86**	**352**	P	**Pn**	**05 07 10.1**	**+2.6**
	baz=171						
TUC	**Tucson**	**12.86**	**352**	*e*P	**Pn**	**05 07 11.8**	**+4.3**
TUC	**Tucson**	**12.86**	**352**	Pn	**Pn**	**05 07 09.9**	**+2.4**
214A	**Organ Pipe Nat**	**12.92**	**344**	P	**Pn**	**05 07 10.6**	**+2.3**
	baz=162,SNR=5.5						
214A	**Organ Pipe Nat**	**12.92**	**344**	Pn	**Pn**	**05 07 10.2**	**+1.9**
121A	**Cookes Peak, D**	**12.95**	**3**	P	**Pn**	**05 07 10.2**	**+1.4**
	baz=184						
121A	**Cookes Peak, D**	**12.95**	**3**		**Pn**	**05 07 10.2**	**+1.4**
SPX	**San Pedro Mart**	**13.01**	**333**		**Pn**	**05 07 10.5**	**+0.7**
GDL2	**Guadalupe Moun**	**13.16**	**16**		**Pn**	**05 07 15.6**	**+3.9**
CMIG	**Matias Romero**	**13.26**	**98**	Pn	**Pn**	**05 07 13.3**	**+0.4**
	0.8nm,0.3s,baz=282,slow=9.8,SNR=9.3						
CMIG				LR	LR	05 11 57.1	
	comp=Z,2μm,20.0s,baz=272,slow=35						
JCT	**Junction City**	**13.49**	**34**	P	**Pn**	**05 07 18.3**	**+2.2**
	baz=218,SNR=7.9						
JCT	**Junction City**	**13.49**	**34**	Pn	**Pn**	**05 07 18.6**	**+2.6**
735A	**Kenedy**	**13.52**	**45**	Pn	**Pn**	**05 07 17.4**	**+1.0**
ESJX	**Sierra Juarez**	**14.05**	**333**		**Pn**	**05 07 25.2**	**+1.3**
CPBX	**Cerro Prieto**	**14.16**	**336**	Pn	**Pn**	**05 07 26.8**	**+1.7**
CCX	**Cicese**	**14.25**	**331**		**Pn**	**05 07 27.9**	**+1.5**
GLA	**Glamis**	**14.55**	**339**	P	**Pn**	**05 07 33.1**	**+2.5**
	baz=156,SNR=5.9						
GLA	**Glamis**	**14.55**	**339**		**Pn**	**05 07 32.6**	**+2.0**
RMX	**La Rumorosa**	**14.62**	**334**		**Pn**	**05 07 33.2**	**+1.5**
LENM	**Lemitar**	**14.63**	**5**		**Pn**	**05 07 33.1**	**+1.3**
BNM	**Barren Site**	**14.65**	**6**	Pn	**Pn**	**05 07 34.5**	**+2.3**
IKP	**In-Ko-Pah, Jac**	**14.68**	**334**	P	**Pn**	**05 07 34.6**	**+2.2**
	baz=151,SNR=5.4						
SWSC	**Sam W. Stewart**	**14.81**	**336**	P	**Pn**	**05 07 36.4**	**+2.2**
	baz=153,SNR=8.6						
TKX	**Tecate**	**14.82**	**333**		**Pn**	**05 07 36.7**	**+2.5**
BAR	**Barrett**	**14.94**	**333**		**Pn**	**05 07 36.0**	**+0.1**
435B	**Jarrell**	**14.98**	**40**		**Pn**	**05 07 35.5**	**-0.9**
435B				IAmb	IAmb	05 07 45.6	
	comp=Z,32nm,1.1s						
MONP2	**Monument Peak**	**15.02**	**334**	P	**Pn**	**05 07 39.2**	**+2.1**
	baz=151,SNR=10						
MSTX	**Muleshoe**	**15.27**	**19**	P	**Pn**	**05 07 41.9**	**+1.5**
	baz=201						
MSTX	**Muleshoe**	**15.27**	**19**	Pn	**Pn**	**05 07 39.8**	**-0.6**
MSTX				IAmb	IAmb	05 08 07.5	
	comp=Z,61nm,1.1s						
ABTX	**Abilene, Hawle**	**15.30**	**30**	P	**Pn**	**05 07 41.6**	**+1.0**
	baz=214,SNR=17						
ABTX	**Abilene, Hawle**	**15.30**	**30**		**Pn**	**05 07 41.4**	**+0.7**
109C	**Camp Elliot, M**	**15.31**	**332**		**Pn**	**05 07 41.5**	**+0.8**
BC3	**Big Chuckawall**	**15.32**	**338**	P	**Pn**	**05 07 43.5**	**+2.6**
	baz=155,SNR=20						
ANMO	**Albuquerque**	**15.46**	**7**	Pn	**Pn**	**05 07 44.7**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=7.4						
ANMO	**Albuquerque**	**15.46**	**7**	P	**Pn**	**05 07 44.8**	**+1.9**
	baz=188						
ANMO	**Albuquerque**	**15.46**	**7**		**Pn**	**05 07 45.2**	**+2.4**
PDMCI	**Parker Dam,Lak**	**15.50**	**343**	P	**Pn**	**05 07 45.8**	**+2.6**
	baz=160						
HKT	**Hockley**	**15.54**	**46**		**Pn**	**05 07 43.1**	**-0.5**
HKT				IAmb	IAmb	05 07 50.3	
	comp=Z,55nm,1.5s						
W18A	**Petrified Fore**	**15.54**	**357**	P	**Pn**	**05 07 46.2**	**+2.2**
	baz=176,SNR=18						
W18A	**Petrified Fore**	**15.54**	**357**	P	**Pn**	**05 07 44.9**	**+0.9**
W18A				IAmb	IAmb	05 07 53.1	
	comp=Z,84nm,1.3s						
PFO	**Pinyon Flats O**	**15.66**	**335**	Pn	**Pn**	**05 07 46.0**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=160,slow=12,SNR=5.8						
PFO				LR	LR	05 12 52.5	
	comp=Z,2μm,20.8s,baz=158,slow=34						
PFO	**Pinyon Flats O**	**15.66**	**335**	P	**Pn**	**05 07 47.5**	**+2.1**
	baz=152,SNR=14						
PFO	**Pinyon Flats O**	**15.66**	**335**		**Pn**	**05 07 47.0**	**+1.5**
IRM	**Iron Mountain**	**15.67**	**340**	P	**Pn**	**05 07 47.8**	**+2.3**
	baz=157,SNR=12						
BELC	**Belle Mtn. Jos**	**15.83**	**337**	P	**Pn**	**05 07 49.9**	**+2.3**
	baz=154,SNR=44						
WHTX	**Lake Whitney,**	**15.93**	**37**	P	**Pn**	**05 07 51.2**	**+2.3**
	baz=221,SNR=7.6						
WHTX	**Lake Whitney,**	**15.93**	**37**		**Pn**	**05 07 49.1**	**+0.2**
WHTX				IAmb	IAmb	05 07 55.5	
	comp=Z,192nm,1.5s						
MURC	**Murrieta**	**15.96**	**333**	P	**Pn**	**05 07 51.2**	**+2.0**
	baz=150,SNR=10						
WUAZ	**Wupatki**	**16.10**	**352**	P	**P**	**05 07 54.6**	**+0.2**
	baz=171,SNR=16						
WUAZ	**Wupatki**	**16.10**	**352**		**Pn**	**05 07 51.9**	**+0.8**
CIS	**Catalina Islan**	**16.34**	**330**	P	**Pn**	**05 07 56.4**	**+2.3**
	baz=146,SNR=8.0						
GMRC	**Granite Mounta**	**16.42**	**339**	P	**Pn**	**05 07 57.4**	**+2.2**
	baz=156,SNR=17						
AMTX	**Amarillo**	**16.46**	**20**	P	**Pn**	**05 07 56.7**	**+0.9**
	baz=204						
AMTX	**Amarillo**	**16.46**	**20**		**Pn**	**05 07 55.7**	**-0.1**
BFSC	**Mount Baldy Ra**	**16.70**	**333**	P	**Pn**	**05 08 00.5**	**+1.7**
	baz=149,SNR=7.8						
SNCC	**San Nicolas Is**	**16.77**	**327**	P	**Pn**	**05 08 01.2**	**+1.6**
SNCC				IAmb	IAmb	05 08 04.7	
	comp=Z,102nm,1.4s						
MWC	**Mount Wilson**	**16.86**	**332**	P	**P**	**05 08 03.5**	**+0.5**
PASC	**Pasadena Art C**	**16.87**	**332**	P	**Pn**	**05 08 02.5**	**+1.6**
237A	**Washetta, Mont**	**16.91**	**40**	P	**Pn**	**05 07 59.9**	**-1.4**
Z35A	**Perchaven, San**	**17.06**	**34**	P	**Pn**	**05 08 04.6**	**+1.4**
Z35A				IAmb	IAmb	05 08 08.8	
	comp=Z,81nm,1.2s						
TUQ	**Turquoise Moun**	**17.10**	**339**	P	**P**	**05 08 05.9**	**+0.4**
	baz=156,SNR=8.9						
GSC	**Goldstone, Bar**	**17.29**	**337**	P	**P**	**05 08 08.7**	**+1.1**
	baz=153,SNR=15						
GSC	**Goldstone, Bar**	**17.29**	**337**	P	**P**	**05 08 08.7**	**+1.1**
EDW2	**Edwards Air Fo**	**17.39**	**333**	P	**Pn**	**05 08 08.6**	**+1.2**
	baz=149,SNR=5.1						
WMOK	**Wichita Mounta**	**17.46**	**28**	P	**Pn**	**05 08 08.8**	**+0.6**
	baz=212						
NATX	**Nacogdoches**	**17.47**	**43**	P	**P**	**05 08 09.8**	**+0.3**
	baz=229						
NATX	**Nacogdoches**	**17.47**	**43**	P	**Pn**	**05 08 07.7**	**-0.6**
NATX				IAmb	IAmb	05 08 14.4	
	comp=Z,72nm,1.3s						
OSI	**Osito Audit: C**	**17.49**	**331**	P	**P**	**05 08 10.9**	**+1.1**
MVCO	**Mesa Verde**	**17.60**	**0**	P	**Pn**	**05 08 11.4**	**+1.2**
	baz=180,SNR=30						
MVCO	**Mesa Verde**	**17.60**	**0**	P	**P**	**05 08 12.0**	**+0.8**
MVCO				IAmb	IAmb	05 08 15.3	
	comp=Z,64nm,1.3s						
SHOC	**Shoshone, Teco**	**17.64**	**339**	P	**P**	**05 08 12.3**	**+0.9**
	baz=156,SNR=15						
X34A	**Smith Ranch, M**	**17.78**	**30**	P	**Pn**	**05 08 12.1**	**-0.1**
X34A				IAmb	IAmb	05 08 15.9	
	comp=Z,88nm,1.5s						
KNB	**Kanab**	**17.79**	**349**	P	**P**	**05 08 15.1**	**+1.8**
441A	**DeRidder**	**17.84**	**48**	P	**Pn**	**05 08 13.0**	**0.0**
441A				IAmb	IAmb	05 08 27.0	
	comp=Z,62nm,1.1s						
SHPR	**Sheep Range**	**17.85**	**343**	P	**P**	**05 08 14.6**	**+0.7**
LCMT	**Little Creek M**	**17.87**	**348**	P	**P**	**05 08 15.0**	**+1.0**
T25A	**Trinidad**	**17.91**	**11**	P	**P**	**05 08 15.7**	**+1.1**
	baz=193,SNR=13						
T25A	**Trinidad**	**17.91**	**11**	P	**P**	**05 08 16.0**	**+1.5**
ARVC	**Arvin**	**17.96**	**332**	P	**P**	**05 08 15.8**	**+0.9**
	baz=147,SNR=6.4						
PETF	**Flores**	**17.99**	**95**	P	**P**	**05 08 16.4**	**+1.0**
PKCU	**Pink Cliffs**	**18.12**	**350**	P	**P**	**05 08 19.6**	**+2.6**
S22A	**4UR Ranch, Cre**	**18.20**	**5**	P	**P**	**05 08 19.9**	**+2.0**
	baz=185,SNR=13						
S22A	**4UR Ranch, Cre**	**18.20**	**5**	P	**P**	**05 08 19.3**	**+1.4**
MPMC	**Manual Prospec**	**18.21**	**336**	P	**P**	**05 08 19.0**	**+1.1**
	baz=152,SNR=15						
PKM	**Mcpherson Peak**	**18.22**	**329**	P	**P**	**05 08 19.3**	**+1.3**
	baz=144						
ISA	**Isabella, Lake**	**18.26**	**334**	P	**P**	**05 08 19.2**	**+0.9**
	baz=149,SNR=10						
ISA	**Isabella, Lake**	**18.26**	**334**	P	**P**	**05 08 19.4**	**+1.1**
Z38A	**Mt. Pleasant**	**18.29**	**39**	P	**Pn**	**05 08 18.6**	**+0.2**
SDCO	**Great Sand Dun**	**18.33**	**8**	P	**P**	**05 08 20.8**	**+1.5**
	baz=189,SNR=21						
SDCO	**Great Sand Dun**	**18.33**	**8**	P	**P**	**05 08 20.3**	**+0.9**
FURC	**Furnace Creek,**	**18.35**	**338**	P	**Pn**	**05 08 20.7**	**+1.6**
	baz=155						
CCUT	**Cedar City**	**18.41**	**348**	P	**Pn**	**05 08 22.4**	**+2.2**
PV13	**Radium Mtn., P**	**18.55**	**359**	P	**Pn**	**05 08 23.3**	**+1.5**
TPNV	**Topopah Spring**	**18.59**	**340**	P	**Pn**	**05 08 23.5**	**+1.3**
	baz=157,SNR=23						
TPNV	**Topopah Spring**	**18.59**	**340**	P	**Pn**	**05 08 23.9**	**+1.7**
PV02	**Paradox Valley**	**18.59**	**360**	P	**P**	**05 08 22.5**	**+0.3**
PV18	**Skein Mesa, Pa**	**18.64**	**359**	P	**Pn**	**05 08 24.1**	**+1.3**
PV03	**Paradox Valley**	**18.64**	**359**	P	**Pn**	**05 08 24.4**	**+1.4**
SMMC	**Simmler**	**18.65**	**330**	P	**Pn**	**05 08 25.3**	**+2.4**
	baz=145,SNR=8.1						
PRN	**Pahroc Range**	**18.66**	**344**	P	**Pn**	**05 08 24.9**	**+1.8**
PV17	**East Wray Mesa**	**18.67**	**359**	P	**Pn**	**05 08 24.7**	**+1.5**
VES	**Vestal, Richgr**	**18.67**	**333**	P	**Pn**	**05 08 24.9**	**+1.8**
	baz=148,SNR=6.6						
PV10	**Paradox Valley**	**18.77**	**359**	P	**P**	**05 08 23.7**	**-0.4**
PV10				IAmb	IAmb	05 08 28.8	
	comp=Z,74nm,1.4s						
CWC	**Cottonwood Cre**	**18.77**	**336**	P	**Pn**	**05 08 25.6**	**+1.1**
	baz=151						
342A	**Flagon Creek P**	**18.81**	**48**	P	**P**	**05 08 23.3**	**-0.9**
342A				IAmb	IAmb	05 08 28.2	
	comp=Z,59nm,1.2s						
OK025	**Westminster Rd**	**18.81**	**30**	P	**P**	**05 08 23.4**	**-0.9**
OK025				IAmb	IAmb	05 08 26.8	
	comp=Z,43nm,1.0s						
PV22	**Blue Mesa, Par**	**18.92**	**360**	P	**P**	**05 08 25.3**	**-0.4**
PV22				IAmb	IAmb	05 08 30.9	
	comp=Z,57nm,1.4s						
OK029	**Liberty Lake**	**18.94**	**29**	P	**P**	**05 08 25.6**	**0.0**
GRAC	**Grapevine Rang**	**19.00**	**338**	P	**Pn**	**05 08 28.9**	**+1.8**
	baz=154,SNR=9.3						
MVU	**Marysvale**	**19.15**	**351**		**P**	**05 08 28.0**	**-0.2**
MSU	**Marysvale**	**19.15**	**351**		**P**	**05 08 29.4**	**+1.1**
OK030	**Cody Creek RV**	**19.36**	**30**	P	**P**	**05 08 30.3**	**+0.1**
OK030				IAmb	IAmb	05 08 32.4	
	comp=Z,38nm,1.0s						
TIN	**Tinemaha, Big**	**19.37**	**336**	P	**Pn**	**05 08 32.9**	**+1.3**
	baz=152						
Q16A	**Castle Valley**	**19.43**	**354**	P	**P**	**05 08 31.8**	**+0.5**
PSUT	**Pine Spring**	**19.46**	**348**	P	**P**	**05 08 30.4**	**-1.3**
SRU	**San Rafael Swe**	**19.57**	**356**	P	**P**	**05 08 32.8**	**0.0**
QUOK	**Quay**	**19.59**	**30**	P	**P**	**05 08 32.2**	**-0.6**
QUOK				IAmb	IAmb	05 08 37.1	
	comp=Z,82nm,1.2s						
Z41A	**Richland Creek**	**19.63**	**43**	P	**P**	**05 08 33.4**	**+0.1**
	baz=230						
Z41A	**Richland Creek**	**19.63**	**43**	P	**P**	**05 08 32.7**	**-0.5**
Z41A				IAmb	IAmb	05 08 59.4	
	comp=Z,56nm,1.1s						
KAN14	**Manchester OK**	**19.69**	**26**	P	**P**	**05 08 33.2**	**-0.7**
R11A	**Troy Canyon, C**	**19.69**	**344**	P	**Pn**	**05 08 36.8**	**+1.2**
	baz=160,SNR=5.8						
R11A	**Troy Canyon, C**	**19.69**	**344**	P	**P**	**05 08 33.2**	**-0.9**
TUL1	**Leonard**	**19.82**	**32**	P	**P**	**05 08 36.4**	**+1.0**
	baz=218,SNR=9.2						
TUL1	**Leonard**	**19.82**	**32**	P	**P**	**05 08 34.4**	**-0.9**
TUL1				IAmb	IAmb	05 08 42.7	
	comp=Z,48nm,1.1s						
KAN05	**Bluff City Nor**	**19.86**	**26**	P	**P**	**05 08 35.7**	**0.0**
KAN13	**South Haven SW**	**19.94**	**27**	P	**P**	**05 08 37.5**	**+0.8**
344A	**Westbrook Farm**	**19.99**	**50**	P	**P**	**05 08 38.1**	**+1.0**
KSCO	**Kaye Shedlock'**	**20.07**	**14**	P	**Pn**	**05 08 40.4**	**+0.4**
	baz=197,SNR=8.0						
KSCO	**Kaye Shedlock'**	**20.07**	**14**	P	**P**	**05 08 39.6**	**+1.4**
KSCO				IAmb	IAmb	05 08 44.5	
	comp=Z,59nm,1.1s						
MLAC	**Mammoth, Mammo**	**20.11**	**336**	P	**Pn**	**05 08 41.7**	**+1.2**
	baz=151,SNR=7.3						
T35A	**Sooner Cattle**	**20.29**	**29**	P	**P**	**05 08 40.9**	**+0.4**
T35A				IAmb	IAmb	05 08 45.2	
	comp=Z,97nm,1.3s						
ISCO	**Idaho Springs**	**20.35**	**7**	P	**P**	**05 08 43.0**	**+1.6**
	baz=188,SNR=11						
W39A	**Magazine**	**20.36**	**37**	P	**P**	**05 08 40.9**	**-0.3**
	baz=224,SNR=6.1						
W39A	**Magazine**	**20.36**	**37**	P	**P**	**05 08 41.5**	**+0.3**
W39A				IAmb	IAmb	05 08 43.8	
	comp=Z,57nm,1.2s						
X40A	**Basin Creek Fa**	**20.42**	**40**	P	**P**	**05 08 42.8**	**+0.9**
	baz=227						
SAO	**San Andreas Ge**	**20.52**	**329**	P	**P**	**05 08 42.2**	**-0.7**
SAO				IAmb	IAmb	05 09 06.4	
	comp=Z,45nm,1.4s						
O20A	**White River Ci**	**20.52**	**1**	P	**P**	**05 08 44.3**	**+1.1**
	baz=181,SNR=22						
O20A	**White River Ci**	**20.52**	**1**	P	**P**	**05 08 43.8**	**+0.6**
O20A				IAmb	IAmb	05 08 46.7	
	comp=Z,39nm,1.0s						
LHV	**Little Huntoon**	**20.53**	**337**	P	**P**	**05 08 44.0**	**+1.0**
LHV				IAmb	IAmb	05 08 50.8	
	comp=Z,80nm,1.5s						
VBMS	**Vicksburg**	**20.55**	**49**	P	Pn	05 08 46.2	+0.6
	baz=236						
NV11	**Mina Array Sta**	**20.56**	**338**	P	**P**	**05 08 43.7**	**+0.1**
NVAR	**Mina Array Bea**	**20.61**	**338**	P	**P**	**05 08 44.9**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=165,slow=12,SNR=27						
NVAR				LR	LR	05 15 51.7	
	comp=Z,796nm,21.9s,baz=129,slow=34						
R32A	**Long Quarter,**	**20.68**	**22**	P	**P**	**05 08 43.8**	**-0.9**
R32A				IAmb	IAmb	05 08 46.7	
	comp=Z,37nm,1.1s						
CBKS	**Cedar Bluff**	**20.68**	**20**	P	**P**	**05 08 44.6**	**-0.1**
	baz=204						
CBKS	**Cedar Bluff**	**20.68**	**20**	P	**P**	**05 08 44.1**	**-0.6**
CBKS				IAmb	IAmb	05 08 47.0	
	comp=Z,48nm,0.9s						
CCAR	**Cane Creek**	**20.71**	**43**	P	**P**	**05 08 44.9**	**-0.1**
CCAR				IAmb	IAmb	05 08 56.3	
	comp=Z,87nm,1.4s						
RYN	**Ryan**	**20.87**	**338**	P	**P**	**05 08 46.5**	**-0.4**
346A	**Big Creek Wild**	**20.88**	**52**	P	**P**	**05 08 47.0**	**+0.1**
DUG	**Dugway, Tooele**	**20.89**	**351**	P	**P**	**05 08 48.7**	**+1.6**
	baz=169,SNR=42						
DUG	**Dugway, Tooele**	**20.89**	**351**	P	**P**	**05 08 47.2**	**0.0**
DUG				IAmb	IAmb	05 08 51.6	
	comp=Z,69nm,1.3s						
U38A	**Gravette**	**20.95**	**34**	P	**P**	**05 08 46.5**	**-1.2**
WAKR	**Walker**	**21.10**	**336**	P	**P**	**05 08 47.3**	**-2.1**
WAKR				IAmb	IAmb	05 08 56.0	
	comp=Z,71nm,1.3s						
W41B	**Gary Mavity, V**	**21.24**	**40**	P	**P**	**05 08 51.3**	**+0.5**
	baz=227,SNR=8.7						
CTU	**Camp Tracy**	**21.25**	**353**	P	**P**	**05 08 50.4**	**-0.6**
WHAR	**Wooly Hollow**	**21.30**	**39**	P	**P**	**05 08 51.2**	**-0.1**
WHAR				IAmb	IAmb	05 08 54.4	
	comp=Z,83nm,1.2s						
N23A	**Red Feather La**	**21.40**	**6**	P	**P**	**05 08 53.5**	**+0.8**
	baz=187,SNR=16						
YERR	**Yerington**	**21.45**	**337**	P	**P**	**05 08 51.8**	**-1.4**
YERR				IAmb	IAmb	05 08 58.4	
	comp=Z,72nm,1.2s						
TCUT	**Toone Canyon**	**21.63**	**354**	P	**P**	**05 08 55.4**	**+0.2**
BGU	**Big Grassy Mou**	**21.64**	**351**	P	**P**	**05 08 52.6**	**-2.6**
X43A	**Marvell**	**21.66**	**43**	P	**P**	**05 08 56.2**	**+0.9**
	baz=231						
X43A	**Marvell**	**21.66**	**43**	P	**P**	**05 08 55.4**	**+0.1**
U40A	**Yellville**	**21.72**	**36**	P	**P**	**05 08 56.0**	**+0.1**
	baz=224						
ELK	**Elko**	**21.88**	**346**	P	**P**	**05 08 58.4**	**+0.6**
	comp=Z,13nm,1.0s,baz=179,slow=6.8,SNR=31						
ELK				LR	LR	05 16 58.6	
	comp=Z,275nm,18.8s,baz=171,slow=35						
ELK	**Elko**	**21.88**	**346**	P	**P**	**05 08 58.8**	**+1.0**
ELK				IAmb	IAmb	05 09 02.5	
	comp=Z,27nm,1.1s						
SPUT	**South Promonto**	**21.94**	**352**	P	**P**	**05 08 58.9**	**+0.5**
KSU1	**Kansas State U**	**22.07**	**25**	P	**P**	**05 09 00.8**	**+1.2**
	baz=211						
KSU1	**Kansas State U**	**22.07**	**25**	P	**P**	**05 08 58.8**	**-0.9**
KSU1				IAmb	IAmb	05 09 03.5	
	comp=Z,67nm,1.5s						
AFDM	**Forest Hills D**	**22.10**	**334**	P	**P**	**05 08 57.0**	**-3.0**
RWWY	**Rawlins**	**22.10**	**3**	P	**P**	**05 08 59.5**	**-0.7**
RWWY				IAmb	IAmb	05 09 04.6	
	comp=Z,44nm,1.4s						
PAHR	**Pah Rah Range**	**22.13**	**

comp=Z,35nm,1.1s
L04D Klamath Falls 25.41 336 P P 05 09 32.6 +0.3
baz=149
YNE Yellowstone No 25.42 358 P P 05 09 32.5 0.0
TIGA Tifton 25.43 57 P P 05 09 34.4 +1.9
baz=248
MCMT McKenzie Canyo 25.46 353 P P 05 09 33.6 +0.7
RLMT Red Lodge 25.51 359 P P 05 09 36.4 +3.1
baz=179,SNR=5.4
RLMT Red Lodge 25.51 359 P P 05 09 33.8 +0.5
RLMT IAmb IAmb 05 09 37.8
comp=Z,30nm,1.5s
CLTN Cedars of Leba 25.59 45 P P 05 09 33.7 -0.2
CLTN IAmb IAmb 05 09 49.7
comp=Z,18nm,1.3s
T47A Sharon Grove 25.60 43 P P 05 09 34.1 +0.1
T47A IAmb IAmb 05 09 36.4
comp=Z,43nm,1.4s
Q44A Meyer Farm, Va 25.67 37 P P 05 09 34.7 +0.1
W50A Signal Mountai 25.81 48 P P 05 09 35.7 -0.3
W50A IAmb IAmb 05 09 38.5
comp=Z,34nm,0.9s
USIN University of 25.85 40 P P 05 09 36.0 -0.2
L02E Cave Junction 25.88 334 P P 05 09 36.7 +0.3
baz=146
J05D Fort Rock, OR 25.94 339 P P 05 09 38.3 +1.1
baz=152,SNR=8.6
DLMT Dillon 25.96 354 P P 05 09 37.9 +0.6
DLMT IAmb IAmb 05 09 43.3
comp=Z,26nm,1.3s
N41A Harden Midland 25.99 32 P P 05 09 36.0 -1.5
N41A IAmb IAmb 05 09 43.3
comp=Z,14nm,0.7s
BOZ Bozeman (W) 26.10 355 P P 05 09 39.9 +1.3
baz=174,SNR=9.2
BOZ Bozeman (W) 26.10 355 P P 05 09 39.4 +0.8
I07A Izee 26.11 342 P P 05 09 38.1 -0.6
ECSD EROS Data Cent 26.13 20 P P 05 09 41.4 +2.7
baz=206
ECSD EROS Data Cent 26.13 20 P P 05 09 38.0 -0.7
GCMT Greycliff 26.19 358 P P 05 09 39.0 -0.4
BMO Blue Mountains 26.25 346 P P 05 09 39.4 -0.5
154A Montrose 26.26 55 P P 05 09 39.1 -1.0
GOGA Godfrey 26.31 53 P P 05 09 41.1 +0.6
baz=244
GOGA Godfrey 26.31 53 P P 05 09 40.9 +0.4
GOGA IAmb IAmb 05 09 52.1
comp=Z,29nm,1.4s
K02D Willamette Mer 26.35 334 P P 05 09 41.5 +0.7
baz=147,SNR=7.6
LRM Limekiln Ridge 26.40 354 P P 05 09 40.9 -0.5
CPCT Cooper Cave 26.49 48 P P 05 09 42.1 0.0
CPCT IAmb IAmb 05 09 44.4
comp=Z,20nm,1.2s
255A Hazlehurst 26.49 57 P P 05 09 42.1 -0.1
255A IAmb IAmb 05 09 44.0
comp=Z,36nm,1.2s
HDIL Hopedale 26.68 34 P P 05 09 42.7 -1.0
HDIL IAmb IAmb 05 09 47.2
comp=Z,20nm,1.0s
W52A Murphy 26.74 50 P P 05 09 44.1 -0.3
W52A IAmb IAmb 05 09 46.7
comp=Z,25nm,1.1s
I04A Tendick Farm, 26.80 337 P P 05 09 45.7 +0.8
baz=150
WCI Wyandotte Cave 26.86 41 P P 05 09 46.8 +1.4
baz=232
WCI Wyandotte Cave 26.86 41 P P 05 09 44.2 -1.2
WCI IAmb IAmb 05 09 48.2
comp=Z,30nm,1.2s
I05D Terrebonne, OR 26.91 340 P P 05 09 46.7 +0.8
baz=153
I03D Drain, OR 27.07 336 P P 05 09 48.6 +1.4
baz=148
TKL Tuckaleechee C 27.12 49 P P 05 09 48.1 +0.3
comp=Z,5.9nm,1.1s,baz=245,slow=14,SNR=4.6
LAO LASA Array 27.14 4 P P 05 09 48.4 +0.5
baz=185,SNR=6.9
LAO LASA Array 27.14 4 P P 05 09 46.4 -1.5
LAO IAmb IAmb 05 09 50.4
comp=Z,26nm,1.3s
HRY Holter Researc 27.22 355 P P 05 09 48.4 -0.3
MSO Missoula 27.56 352 P P 05 09 53.4 +1.6
baz=169,SNR=9.9
I02D Swisshome 27.61 336 P P 05 09 53.4 +1.4
baz=148
X54A Belton 27.62 52 P P 05 09 53.9 +1.6
baz=244
TZTN Tazewell 27.73 47 P P 05 09 54.2 +1.0
baz=239,SNR=9.0
SFIN Lafayette 27.76 37 P P 05 09 54.5 +1.0
baz=228
157A Early Branch 27.93 57 P P 05 09 57.4 +2.4
baz=249
JFWS Jewell Farm 27.97 30 P P 05 09 55.4 +0.1
baz=219
W54A Cherokee Point 28.00 51 P P 05 09 57.1 +1.5
baz=243
F05D White Salmon 28.33 341 P P 05 10 00.2 +1.8
baz=154
Z57A Bowman 28.39 56 P P 05 10 00.8 +1.7
baz=248
V54A Nebo 28.49 50 P P 05 09 60.0 0.0
baz=242
P49A Miami Univ. Ec 28.63 41 P P 05 10 02.5 +1.2
baz=233,SNR=6.5
P49A Miami Univ. Ec 28.63 41 P P 05 09 59.9 -1.3
KMSC Kings Mountain 28.65 52 P P 05 10 02.8 +1.3
baz=244
T53A Wise 28.65 47 P P 05 10 02.9 +1.4
baz=240
D08A Wollman Farm, 28.71 345 P P 05 10 01.0 -0.8
NHSC New Hope 28.73 56 P P 05 10 04.4 +2.2
baz=249
NHSC New Hope 28.73 56 P P 05 10 01.3 -0.8
SPMN Marine on St. 28.77 24 P P 05 10 02.7 +0.3
baz=212
U54A Nelsons Funny 28.93 49 P P 05 10 05.3 +1.3
baz=241
MDND Maddock 29.16 12 P P 05 10 06.8 +0.9
baz=198
MDND Maddock 29.16 12 P P 05 10 06.1 +0.3
W56A Indian Trail 29.20 52 P P 05 10 07.7 +1.3
baz=245
S53A Williamson 29.29 46 P P 05 10 08.0 +0.9
baz=239
T54A Tazewell 29.36 48 P P 05 10 08.0 +0.2
baz=241,SNR=6.4
NEW Newport 29.47 348 P P 05 10 07.2 -1.3
comp=Z,4.5nm,0.9s,baz=157,slow=9.8,SNR=8.0
NEW LR LR 05 22 24.7
comp=Z,419nm,18.1s,baz=164,slow=37
NEW Newport 29.47 348 P P 05 10 10.9 +2.3
baz=164,SNR=5.8
NEW Newport 29.47 348 P P 05 10 08.0 -0.6
NEW IAmb IAmb 05 10 11.6
comp=Z,26nm,1.4s
U55A TA2, Sparta 29.47 49 P P 05 10 09.9 +1.1
baz=242
V56A Mocksville 29.56 51 P P 05 10 09.7 +0.2
baz=244
P51A Williamsport 29.64 42 P P 05 10 11.6 +1.5
baz=235
P51A Williamsport 29.64 42 P P 05 10 10.0 -0.2
N49A Columbus Grove 29.81 39 P P 05 10 11.5 -0.2
N49A IAmb IAmb 05 10 13.7
comp=Z,23nm,1.3s
Q52A Bidwell 29.86 44 P P 05 10 11.3 -0.8
baz=237
U56A King 29.87 50 P P 05 10 13.4 +1.1
baz=243
B08A Colville Reser 30.02 346 P P 05 10 13.5 0.0
B08A IAmb IAmb 05 10 15.8
comp=Z,23nm,1.4s
ACSO Alum Creek Sta 30.12 41 P P 05 10 16.0 +1.5
baz=234
ACSO Alum Creek Sta 30.12 41 P P 05 10 13.6 -0.8
O51A Pataskala 30.31 42 P P 05 10 16.2 +0.1
baz=235
D03D Eldon 30.31 340 P P 05 10 17.1 +1.1
baz=152
R54A Victor 30.31 46 P P 05 10 15.7 -0.5
baz=240
P52A Corning 30.32 43 P P 05 10 16.8 +0.6
baz=236,SNR=5.2
B05A Bryant 30.66 342 P P 05 10 19.5 +0.4
baz=155,SNR=5.6

P53A Whipple 30.72 44 P P 05 10 19.6 -0.2
baz=237,SNR=5.7
P53A Whipple 30.72 44 P P 05 10 19.4 -0.4
O52A Adamsville 30.78 42 P P 05 10 20.7 +0.4
baz=236
O52A Adamsville 30.78 42 P P 05 10 19.6 -0.6
O52A IAmb IAmb 05 10 29.9
comp=Z,24nm,1.0s
M50A Fremont 30.78 39 P P 05 10 19.7 -0.6
Q54A Coos Mills 30.82 45 P P 05 10 19.6 -1.1
baz=239
N51A Ashland 30.90 41 P P 05 10 21.8 +0.5
baz=234
N51A Ashland 30.90 41 P P 05 10 20.0 -1.3
R55A Marlinton 30.96 47 P P 05 10 22.1 +0.2
baz=241,SNR=5.7
R55A Marlinton 30.96 47 P P 05 10 20.5 -1.4
R55A IAmb IAmb 05 10 24.3
comp=Z,25nm,1.1s
T57A Hurt 30.98 50 P P 05 10 23.1 +1.0
baz=244
AAM Ann Arbor 30.98 37 P P 05 10 21.4 -0.5
AAM IAmb IAmb 05 10 25.4
comp=Z,25nm,1.4s
O53A New Philadelph 31.25 43 P P 05 10 25.5 +1.1
baz=237
M51A Elyria 31.26 40 P P 05 10 25.4 +0.9
baz=234
Q55A Buckhannon 31.34 46 P P 05 10 26.1 +0.8
baz=240
P54A Burton 31.38 44 P P 05 10 26.3 +0.7
baz=238
T58A Grand View Acr 31.47 50 P P 05 10 27.0 +0.6
baz=245
R56A Bull Pasture M 31.51 47 P P 05 10 27.3 +0.5
baz=242
O54A Avella 31.75 44 P P 05 10 29.0 +0.1
baz=238
O54A Avella 31.75 44 P P 05 10 28.2 -0.6
P55A Reedsville 31.77 45 P P 05 10 29.8 +0.8
baz=239
MCWV Mont Chateau 31.83 45 P P 05 10 30.3 +0.8
baz=239
MCWV Mont Chateau 31.83 45 P P 05 10 28.4 -1.1
MCWV IAmb IAmb 05 10 31.4
comp=Z,12nm,1.2s
M52A Chesterland 31.88 41 P P 05 10 30.9 +1.0
baz=235,SNR=7.8
M52A Chesterland 31.88 41 P P 05 10 29.3 -0.7
Q56A Snyder Ridge, 31.96 46 P P 05 10 31.8 +1.1
baz=241
M53A WI Miller and 32.25 41 P P 05 10 34.0 +0.8
baz=236,SNR=9.4
M53A WI Miller and 32.25 41 P P 05 10 32.6 -0.6
ULM Lac du Bonnet 32.27 15 P P 05 10 32.2 -1.0
comp=Z,8.0nm,1.0s,baz=225,slow=8.3,SNR=4.7
ULM LR LR 05 22 51.9
comp=Z,153nm,19.5s,baz=215,slow=35
ULM Lac du Bonnet 32.27 15 P P 05 10 32.4 -0.8
ULM IAmb IAmb 05 10 34.4
comp=Z,27nm,1.2s
N54A Moraine State 32.42 43 P P 05 10 35.1 +0.4
baz=237
N54A Moraine State 32.42 43 P P 05 10 34.3 -0.4
P56A Dayton Farm, R 32.43 46 P P 05 10 35.5 +0.8
baz=241
O55A Ligonier 32.47 44 P P 05 10 35.6 +0.5
baz=239
Q57A Strasburg 32.49 47 P P 05 10 36.8 +1.4
baz=242
ALLY Alegheny Colle 32.70 41 P P 05 10 36.3 -0.8
S59A Mechanicsville 32.71 50 P P 05 10 39.4 +2.1
baz=245
L53A Girard 32.79 41 P P 05 10 39.2 +1.3
baz=236
CBN Corbin Frederi 32.84 49 P P 05 10 40.2 +1.8
baz=244
CBN Corbin Frederi 32.84 49 P P 05 10 38.5 0.0
M54A Oil Creek Stat 32.92 42 P P 05 10 39.7 +0.6
baz=237
Q58A Fox Den Farm, 32.95 47 P P 05 10 40.5 +1.1
baz=243
N55A Marion Center 32.97 44 P P 05 10 39.8 +0.3
baz=239
P57A Homestead Farm 32.98 46 P P 05 10 40.6 +1.1
baz=242
ERPA Erie 33.05 41 P P 05 10 40.3 +0.1
I51A Listowel 33.42 37 P P 05 10 44.1 +0.7
baz=232
P58A Pank, Wackersv 33.47 47 P P 05 10 43.8 -0.1
baz=242,SNR=5.1
N56A West Decatur 33.49 44 P P 05 10 44.7 +0.6
baz=240
O57A Amberson 33.58 45 P P 05 10 45.8 +1.0
baz=241
MOTC Monteria, Cord 33.62 104 eP P 05 10 46.3 +0.8
DBBC Dabeiba 33.82 107 eP P 05 10 49.8 +2.5
N57A Milroy 33.90 45 P P 05 10 47.9 +0.3
baz=241
O58A Lewisberry 34.02 46 P P 05 10 49.0 +0.3
baz=242
K54A Basiliko Farm, 34.13 41 P P 05 10 50.2 +0.6
baz=237
UREC San Jos de Ur 34.13 105 eP P 05 10 51.3 +1.4
CBOC Ciudad Bolivar 34.49 109 eP P 05 10 55.6 +2.4
L56A Greenwood 34.59 43 P P 05 10 54.1 +0.5
baz=239
O59A Robesonia 34.61 46 P P 05 10 55.1 +1.3
baz=243
HELC Santa Helena 34.78 108 eP P 05 10 57.1 +1.2
L57A Andrews Acres 34.97 43 P P 05 10 57.2 +0.3
baz=240
K56A Middlesex 35.03 42 P P 05 10 58.2 +0.8
baz=238,SNR=5.6
SMLC San Martn de 35.07 103 eP P 05 10 59.1 +1.1
SDDR Presa de Saban 35.19 85 P P 05 10 58.5 -0.6
SDDR IAmb IAmb 05 11 02.7
comp=Z,16nm,0.9s
OTAV Otavalo 35.23 119 eP P 05 11 02.1 +2.1
OTAV Otavalo 35.23 119 P P 05 10 59.6 -0.3
OTAV IAmb IAmb 05 11 14.6
comp=Z,12nm,1.2s
OTAV Otavalo 35.23 119 eP P 05 11 01.0 +1.1
BBAC Balboa, Cauca 35.27 116 eP P 05 11 00.2 +0.3
H53A Bobcaygeon 35.29 38 P P 05 11 00.4 +0.8
baz=235
GUY2C Guyana, Caldas 35.35 109 eP P 05 11 03.8 +2.8
POPC Popayan, Colom 35.49 114 eP P 05 11 04.0 +2.1
L58A Harry Jones Me 35.64 44 P P 05 11 03.5 +0.8
baz=241
SC01 Santiago de lo 35.66 84 P P 05 11 03.2 +0.1
SOTA Rioblanco 35.75 115 eP P 05 11 18.4 +14
PCON Cinco Dias 35.83 115 eP P 05 11 06.9 +1.7
BBB Bella Bella 35.96 340 LR LR 05 25 58.2
comp=Z,303nm,19.5s,baz=172,slow=37
G54A Lake Saint Pet 36.06 37 P P 05 11 06.6 +0.4
baz=234
ORTC Ortega, Tolima 36.06 111 eP P 05 11 07.9 +1.3
K58A Earlville 36.12 43 P P 05 11 07.0 +0.2
baz=240
J57A Williamstown 36.23 42 P P 05 11 08.1 +0.5
baz=239
PRAC Prado 36.47 111 eP P 05 11 12.8 +2.7
PAMC Pamplona, Colo 36.88 104 eP P 05 11 15.4 +1.3
I58A Old Forge 37.01 42 P P 05 11 14.6 +0.2
baz=240
CHIC Chingaza 37.07 109 eP P 05 11 16.1 +0.5
RUSC La Rusia 37.11 107 eP P 05 11 18.5 +2.4
H57A Richville 37.14 41 P P 05 11 16.4 +1.0
baz=239
G57A Newington 37.72 40 P P 05 11 21.0 +0.7
baz=238
I59A Olmsteadville 37.76 42 P P 05 11 20.0 -0.7
baz=241
MACC Macarena, Meta 38.13 113 eP P 05 11 27.1 +2.9
SDV Santo Domingo 38.22 101 P P 05 11 24.7 -0.4
SDV IAmb IAmb 05 11 28.6
comp=Z,15nm,0.9s
SDV Santo Domingo 38.22 101 eP P 05 11 27.1 +2.0
H59A Cadyville 38.28 41 P P 05 11 25.7 +0.6
baz=240
D55A Sainte-Anne-du 38.47 37 P P 05 11 25.3 -1.4
baz=236
LSQQ Lebel-sur-Quev 38.85 33 P P 05 11 29.4 -0.4
baz=232
E57A Chemin Saint G 38.91 39 P P 05 11 28.6 -1.7

baz=238
MATQ Matagami 38.96 32 P P 05 11 30.3 -0.4
baz=230
ATAH Atahualpa 39.85 129 P P 05 11 39.1 +0.1
comp=Z,5.0nm,0.8s,baz=312,slow=8.7,SNR=4.9
G61A St-Isidore-de- 39.94 42 P P 05 11 39.6 +0.6
baz=242
SJG San Juan 40.13 85 P P 05 11 40.3 -0.6
CHGQ Chibougamau 40.73 34 P P 05 11 45.6 +0.2
baz=234
DLBC Dease Lake 41.87 343 LR LR 05 30 08.8
comp=Z,584nm,18.7s,baz=155,slow=37
TAOE Nuku Hiva Isla 41.98 231 eS S 05 18 14.9 -0.3
comp=Z,80nm,25.7s
TAOE eLR LR 05 23 15.4
comp=Z,1µm,25.6s
TAOE Nuku Hiva Isla 41.98 231 eT T 05 56 01.7
comp=Z,65nm,0.2s
D62A Allapoint, All 42.29 40 P P 05 11 59.2 +1.0
baz=243
E63A Oxbow 42.39 41 P P 05 11 59.2 +0.1
baz=244
CZSB Cruzeiro do Su 44.55 124 eP P 05 12 17.6 +0.7
SCHQ Schefferville 47.30 32 LR LR 05 31 23.3
comp=Z,187nm,21.9s,baz=316,slow=34
N25K Chitina, Valde 48.94 338 P P 05 12 52.1 +1.4
baz=133
BCAR Beaver Creek A 49.04 341 P P 05 12 50.4 -1.1
L26K Log Cabin Wild 49.51 340 P P 05 12 56.1 +1.1
baz=135
M24K Tolsona, Glenn 49.83 338 P P 05 12 59.2 +1.7
baz=131
K27K Chicken 49.84 341 P P 05 12 58.9 +1.4
baz=137
K27K Chicken 49.84 341 P P 05 12 57.0 -0.4
K27K IAmb IAmb 05 13 00.3
comp=Z,11nm,0.9s
EGAK Eagle 50.12 343 P P 05 13 00.2 +0.5
EGAK IAmb IAmb 05 13 01.6
comp=Z,11nm,0.9s
PAX Paxson 50.17 339 P P 05 13 00.5 +0.3
DOT Dot Lake 50.17 340 P P 05 13 00.3 +0.2
SCRK Sand Creek 50.38 341 P P 05 13 02.3 +0.5
baz=135,SNR=8.5
RIDG Independent Ri 50.49 340 P P 05 13 02.5 -0.1
ETMB Extrema 50.94 121 eP P 05 13 04.9 -1.6
INK Inuvik 51.19 348 P P 05 13 07.3 -0.3
INK IAmb IAmb 05 13 09.1
comp=Z,16nm,1.1s
RND Reindeer 51.61 338 P P 05 13 10.9 -0.1
RND IAmb IAmb 05 13 19.6
comp=Z,10nm,1.0s
PMOR Pomariorio Ree 51.70 231 eT T 06 08 10.4
comp=Z,1.9nm,0.2s
IL31 51.85 340 P P 05 13 13.1 +0.6
IL31 IAmb IAmb 05 13 14.0
comp=Z,16nm,1.1s
ILAR Eielson Array 51.85 340 P P 05 13 10.7 -2.0
comp=Z,5.3nm,0.9s,baz=152,slow=6.4,SNR=40
ILAR Eielson Array 51.85 340 P P 05 13 12.4 -0.2
MCK McKinley 51.85 339 P P 05 13 13.6 +0.9
baz=129
WRH Wood River Hil 52.04 340 P P 05 13 14.1 0.0
WRH IAmb IAmb 05 13 32.1
comp=Z,9.1nm,1.1s
CCB Clear Creek Bu 52.06 340 P P 05 13 14.5 +0.3
MACA Manacapuru-AM 52.20 110 eP P 05 13 17.7 +1.7
POKR Poker Plat Res 52.25 340 P P 05 13 16.6 +0.9
baz=132
BWN Browne 52.31 339 P P 05 13 16.1 +0.1
MDM Murphy Dome 52.40 340 P P 05 13 16.6 -0.2
NEA2 Nenana 52.44 339 P P 05 13 17.4 +0.4
baz=130,SNR=12
I23K Minto, Yukon-K 52.89 340 P P 05 13 20.7 +0.3
baz=130,SNR=8.6
I23K Minto, Yukon-K 52.89 340 P P 05 13 20.4 +0.1
I23K IAmb IAmb 05 13 22.1
comp=Z,16nm,1.1s
SAML Samuel 52.95 118 eP P 05 13 20.9 -0.6
BMAR Burnt Mountain 53.03 344 P P 05 13 21.0 -0.4
MLY Manley 53.27 339 P P 05 13 23.4 +0.2
baz=128,SNR=5.0
LPAZ La Paz 53.40 129 P P 05 13 23.5 -2.0
comp=Z,5.8nm,1.1s,baz=325,slow=4.8,SNR=12
LPAZ LR LR 05 33 11.4
comp=Z,289nm,19.8s,baz=314,slow=33
LPAZ La Paz 53.40 129 P P 05 13 22.9 -2.6
LPAZ IAmb IAmb 05 13 26.9
comp=Z,18nm,1.4s
LPAZ La Paz 53.40 129 eP P 05 13 24.4 -1.0
PB16 IPOC Station P 53.76 132 P P 05 13 27.6 -0.5
PB16 IAmb IAmb 05 13 38.4
comp=Z,12nm,0.8s
MNMC Minye Minye 54.23 133 P P 05 13 30.1 -1.0
COLD Coldfoot 54.49 341 P P 05 13 32.9 +0.8
baz=130
PPT2 Papeete2 54.60 230 eS S 05 21 12.4 -1.2
comp=Z,173nm,25.2s
PPT2 eLR LR 05 29 08.8
comp=Z,1µm,26.5s,baz=36
PB11 IPOC Station P 54.62 133 P P 05 13 32.7 -1.1
IMAR Indian Mountai 54.85 339 P P 05 13 34.0 -0.7
PB08 IPOC Station P 55.22 133 P P 05 13 37.5 -0.9
TOLK Toolik Lake Re 55.23 343 P P 05 13 37.7 +0.3
baz=131
PB01 IPOC Station P 55.62 134 P P 05 13 40.1 -0.8
RES Resolute Bay 55.66 4 LR LR 05 39 04.6
comp=Z,88nm,19.1s,baz=146,slow=38
PB09 IPOC Station P 56.30 135 P P 05 13 45.5 -0.4
LVC Limon Verde 57.08 135 P P 05 13 51.5 -0.2
LVC IAmb IAmb 05 13 53.6
comp=Z,21nm,1.4s
LVC Limon Verde 57.08 135 eP P 05 13 51.4 -0.3
VILB Vilhena 57.57 120 eP P 05 13 55.6 +0.7
TBI Tubuai 58.37 225 eS S 05 22 01.9 -1.3
comp=Z,254nm,30.0s
MCPB Macapa, AP 58.82 103 eP P 05 14 06.1 +2.4
AC02 Maricunga 59.93 139 P P 05 14 11.1 -0.5
AC02 IAmb IAmb 05 14 12.7
comp=Z,12nm,1.2s
AC05 El Transito 60.69 141 P P 05 14 14.8 -1.7
ZON Zonda 63.62 142 P P 05 14 35.3 -0.6
ZON IAmb IAmb 05 14 49.4
comp=Z,10.0nm,1.0s
RAR Rarotonga 64.40 234 LR LR 05 34 29.8
comp=Z,402nm,21.6s,baz=86,slow=29
SNDB Serra Nova Dou 64.54 114 eP P 05 14 43.7 +1.5
BO02 Sierra Bellavi 64.90 146 P P 05 14 42.8 -1.5
ARAG Araguaiana, MT 65.92 118 eP P 05 14 54.8 +3.7
BI02 San Fabin de 66.09 148 P P 05 14 49.4 -2.6
SMTB Santa Maria do 66.38 109 eP P 05 14 56.3 +2.1
PEXB Peixe 67.19 113 eP P 05 15 00.6 +1.3
CPUP Villa Florida 67.50 131 P P 05 14 59.8 -1.2
comp=Z,6.7nm,1.1s,baz=330,slow=6.2,SNR=8.1
BDFB Brasilia 69.08 116 P P 05 15 10.3 -1.0
comp=Z,4.3nm,0.9s,baz=290,slow=7.2,SNR=4.6
ITRB Iturama 69.14 121 eP P 05 15 13.2 +1.7
PCMB Pacaembu 69.40 123 eP P 05 15 14.2 +1.1
PLCA Paso Flores 69.63 150 P P 05 15 12.8 -1.4
comp=Z,5.5nm,1.1s,baz=327,slow=8.0,SNR=7.2
PLCA Paso Flores 69.63 150 eP P 05 15 13.4 -0.7
IPMB Ipameri, GO 70.04 118 eP P 05 15 17.5 +0.4
SDBA SÃO DESIDERIO 70.30 112 eP P 05 15 20.7 +2.0
PTGB Pitanga 70.45 126 eP P 05 15 20.8 +1.3
NBMO Morrinhos-CE 71.03 101 eP P 05 15 26.0 +2.8
VAO Valinhos 73.53 122 eP P 05 15 39.8 +1.8
H11S1 WAKE ISLAND Hy 79.18 286 T T 06 44 05.3
baz=77
H11S2 WAKE ISLAND Hy 79.18 286 T T 06 44 02.3
baz=77
H11S3 WAKE ISLAND Hy 79.20 286 T T 06 43 52.6
baz=77
TIXI Tiksi 81.09 344 P P 05 16 17.8 -1.7
TIXI IAmb IAmb 05 16 20.0
comp=Z,8.8nm,0.9s
ARCES ARCESS Array B 85.38 15 LR LR 05 55 31.4
comp=Z,116nm,20.7s,baz=325,slow=36
URZ Urewera 90.23 229 LR LR 05 47 45.4
comp=Z,272nm,21.0s,baz=33,slow=29
NRIK Noril'sk 90.60 354 P P 05 17 06.1 -0.7
comp=Z,2.6nm,0.5s,baz=33,slow=1.5,SNR=4.6
NRIK LR LR 05 58 47.0
comp=Z,99nm,20.6s,baz=19,slow=36
FINES FINESS Array B 91.55 20 LR LR 05 57 41.9
comp=Z,206nm,19.6s,baz=312,slow=35

DZM	**Mont Dzumac**	**92.71**	**248**	LR	LR	05 49 14.4		
	comp=Z,235nm,21.1s,baz=33,slow=29							
DZM	**Mont Dzumac**	**92.71**	**248**	*e*LR	LR	05 47 02.9		
	comp=Z,943nm,27.4s							
CLL	**Collm**	**92.94**	**32**	*e*P	**P**	**05 17 19.0**	**+1.1**	
CLL				Lm	MLR	05 59 00.0		
	comp=Z,200nm,18.5s							
HNR	**Honiara**	**94.45**	**262**	LR	LR	05 50 19.9		
	comp=Z,238nm,21.1s,baz=76,slow=30							
MJAR	**Matsushiro Arr**	**95.85**	**312**	LR	LR	05 53 00.2		
	comp=Z,67nm,21.4s,baz=80,slow=31							
USRK	**Ussuriysk Ar.**	**95.85**	**321**	LR	LR	05 57 05.5		
	comp=Z,35nm,19.1s,baz=17,slow=33							
KEST	**Kesra**	**99.57**	**47**	LR	LR	06 03 09.8		
	comp=Z,87nm,19.0s,baz=278,slow=36							
WMQ	**Urumqi**	**115.19**	**347**	*e*PKP	**PKiKP**	**05 22 45.8**	**-0.7**	
WMQ				LR	LR			
	comp=Z,400nm,28.8s							
WRA	**Warramunga Arr**	**121.09**	**258**	PKP	**PKPdf**	**05 22 55.3**	**-3.0**	
	comp=Z,0.5nm,0.7s,baz=82,slow=1.8,SNR=6.9							
ASAR	**Alice Springs**	**122.13**	**254**	PKP	**PKPdf**	**05 22 56.7**	**-3.5**	
	comp=Z,0.4nm,0.8s,baz=101,slow=1.9,SNR=2.8							
BOSA	**Boshof**	**137.14**	**111**	PKP	**PKPdf**	**05 23 26.0**	**-2.7**	
	comp=Z,2.1nm,0.8s,baz=170,slow=6.1,SNR=3.1							

EAF ***25*** *05:08:18.2±0.6,21˚.04S×26˚.54E,h10km,MD3.5*
ISC 25 05:08:18.0±3.6**,21˚.1S**±0˚.3×**26˚.5E**±0˚.3**,h10**km**,n6,**
σ0°**54**/10**,Botswana**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**1.95**	**72**	*i*	P		**Pn**	**05 08 50.4**	**-0.8**
MATP				*i*	Sg		**Sb**	**05 09 18.4**	**+0.3**
MATP	**Matopo**	**1.95**	**72**	*i*	P		**Pn**	**05 08 50.4**	**-0.8**
MATP				*i*	Sg		**Sb**	**05 09 18.4**	**+0.3**
BLWY	**Bulawayo**	**2.15**	**65**	*i*	P		**Pn**	**05 08 54.2**	**+0.1**
BLWY				*i*	Sg		**Sb**	**05 09 24.4**	**+0.5**
BLWY	**Bulawayo**	**2.15**	**65**	*i*	P		**Pn**	**05 08 54.2**	**+0.1**
BLWY				*i*	Sg		**Sb**	**05 09 24.4**	**+0.5**
LBTB	**Lobatse**	**4.04**	**192**	*i*	P		**Pn**	**05 09 19.9**	**-0.1**
LBTB	**Lobatse**	**4.04**	**192**	*i*	P		**Pn**	**05 09 19.9**	**-0.1**

IDC ***25*** *05:18:43.0±0.9,10˚.18N×126˚.18E,h0km,mb3.9/7,*
mb1 4.0/7,mb1mx3.7/50,mbtmp3.9/7,Error ellipse:
s-maj=48.2km s-min=19.6km az=66.0
MAN ***25*** *05:18:49.9,10˚.14N×126˚.04E,h12km,mb4.5,ML3.4,*
MS3.2
MAN Intensity II - Burgos Surigao del Norte.
ISC 25 05:18:47.2±1.5**,10˚.30N**±0˚.05×**126˚.23E**±0˚.07**,h26**km±10**km,**
n20,σ2°**16**/27**,mb4.0**/7**,1C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.52**	**191**	*e*	P		**Pb**	**05 18 57.2**	**-0.6**
GLSP				*e*	S		**Sb**	**05 19 03.0**	**-2.1**
MSLP	**Maasin**	**1.36**	**263**	*e*	P		**Pb**	**05 19 11.5**	**-0.5**
MSLP				*e*	S		**Sb**	**05 19 32.5**	**+3.5**
CGP	**Cagayan de Oro**	**2.38**	**220**	↑*e*	P		**Pn**	**05 19 25.9**	**+1.4**
CGP				*i*	S		**Sn**	**05 19 52.2**	**-0.6**
BUKP	**Musuan**	**2.67**	**206**	*e*	P		**Pn**	**05 19 29.8**	**+1.2**
BUKP				*e*	S		**Sn**	**05 20 01.4**	**+1.3**
CNP	**Catarman**	**2.68**	**325**	*e*	P		**Pb**	**05 19 33.3**	**-1.2**
CNP				*e*	S		**Sb**	**05 20 07.4**	**+0.4**
KCP	**Kidapawan**	**3.46**	**199**	↓*i*	P		**Pn**	**05 19 42.6**	**+3.1**
KCP				*i*	S		Sn	05 20 08.9	-11
CNOP	**Candoni, Negro**	**3.56**	**263**	*e*	P		**Pn**	**05 19 43.3**	**+2.5**
CNOP				*e*	S		**Sn**	**05 20 16.4**	**-5.8**
PAGZ	**Pagadian**	**3.72**	**229**	*e*	P		**Pn**	**05 19 45.0**	**+2.0**
PAGZ				*e*	S		**Sn**	**05 20 23.8**	**-2.1**
DDMP	**Don Marcelino,**	**4.20**	**187**	*e*	P		**Pn**	**05 19 52.6**	**+3.1**
DDMP				*e*	S		**Sn**	**05 20 35.5**	**-2.3**
CMAR	**Chiang Mai Arr**	**27.62**	**290**	P			**P**	**05 24 33.6**	**+0.8**
	1.4nm,0.3s,baz=102,slow=8.5,SNR=4.3								
WRA	**Warramunga Arr**	**31.09**	**165**	P			**P**	**05 25 02.2**	**-1.4**
	0.5nm,0.7s,baz=342,slow=9.5,SNR=7.0								
ASAR	**Alice Springs**	**34.58**	**168**	P			**P**	**05 25 33.0**	**-1.0**
	0.6nm,0.5s,baz=348,slow=6.8,SNR=9.3								
ASAR				PcP			**PcP**	**05 28 08.4**	**-0.1**
	0.2nm,0.5s,baz=340,slow=2.7,SNR=2.1								
H11N1	**WAKE ISLAND Hy**	**40.28**	**72**	T			T	06 09 44.2	
	baz=265,slow=74,SNR=40								
H11N2	**WAKE ISLAND Hy**	**40.29**	**72**	T			T	06 09 40.9	
	baz=265,slow=74,SNR=44								
H11N3	**WAKE ISLAND Hy**	**40.30**	**72**	T			T	06 09 50.0	
	baz=265,slow=74,SNR=44								
MKAR	**Makanchi Array**	**51.98**	**323**	P			**P**	**05 27 54.5**	**+0.2**
	1.5nm,0.7s,baz=119,slow=9.5,SNR=10								
MKAR				PcP			**PcP**	**05 29 06.8**	**+0.3**
	0.5nm,0.7s,baz=122,slow=5.2,SNR=3.6								
ZALV	**Zalesovo Beam**	**54.58**	**331**	P			**P**	**05 28 13.4**	**+0.3**
	0.7nm,0.5s,baz=110,slow=6.3,SNR=3.7								
ILAR	**Eielson Array**	**79.43**	**26**	P			**P**	**05 30 52.7**	**+1.8**
	0.1nm,0.6s,baz=242,slow=4.8,SNR=4.1								
FINES	**FINESS Array B**	**85.85**	**332**	P			**P**	**05 31 23.4**	**-1.0**
	6.3nm,1.1s,baz=61,slow=4.9,SNR=3.3								
TORD	**Torodi Ar. Bea**	**120.22**	**292**	PKP			**PKPdf**	**05 37 35.4**	**-1.5**
	0.5nm,0.8s,baz=67,slow=0.9,SNR=3.5								

IDC ***25*** *05:30:22.5±5.9,8˚.32S×107˚.23E,h58km±49km,mb3.2/4,*
mb1 3.4/4,mb1mx3.2/31,mbtmp3.6/4, Error ellipse:
s-maj=63.3km s-min=21.9km az=64.0
DJA ***25*** *05:30:23.9±0.6,8˚.S±3˚×10˚.8E±˚,h20km±4km,M4.0/13,*
MLv4.0/13
ISC 25 05:30:24.6±1.1**,8˚.20S**±0˚.08×**107˚.89E**±0˚.05**,h35**km**,n20,**
σ0°**75**/19**,mb3.6**/3**,Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.64**	**354**	P			**Pn**	**05 30 36.9**	**-0.3**
CISI				S			**Sn**	**05 30 45.2**	**-1.0**
CMJI	**Cimerak**	**0.69**	**54**	P			**Pn**	**05 30 38.3**	**+0.4**
CMJI				S			**Sn**	**05 30 47.1**	**-0.3**
CNJI	**Cibinong**	**1.16**	**320**	P			**Pn**	**05 30 44.0**	**-0.3**
CNJI				S			**Pn**	**05 30 44.0**	**-0.3**
KPJI	**Karang Pucung**	**1.34**	**50**	P			**Pn**	**05 30 47.1**	**+0.2**
LEM	**Lembang**	**1.39**	**349**	P			**Pn**	**05 30 47.6**	**0.0**
	85nm,0.3s,baz=105,slow=9.6,SNR=61								
LEM				S			**Sn**	**05 31 06.8**	**+2.1**
	81nm,0.3s,baz=340,slow=20,SNR=12								
LEM				LR			LR	05 31 34.3	
	comp=Z,130nm,21.2s,baz=180,slow=47								
LEM	**Lembang**	**1.39**	**349**	P			**Pn**	**05 30 47.3**	**-0.3**
SKJI	**Sukabumi**	**1.77**	**312**	P			**Pn**	**05 30 53.3**	**+0.6**
DBJI	**Dramaga**	**1.98**	**325**	S			**Sn**	**05 31 20.3**	**+1.0**
UGM	**Wanagama**	**2.63**	**84**	P			**Pn**	**05 31 05.3**	**+0.8**
CGJI	**Cibinong**	**2.68**	**306**	P			**Pn**	**05 31 05.7**	**+0.4**
WOJI	**Wonogiri, Jawa**	**3.03**	**83**	P			**Pn**	**05 31 10.0**	**0.0**
PWJI	**Pagerwojo**	**3.88**	**88**	P			**Pn**	**05 31 22.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.88**	**121**	P			**Pn**	**05 34 54.0**	**-0.7**
	0.9nm,0.6s,baz=315,slow=7.1,SNR=1.6								
WRA	**Warramunga Arr**	**28.14**	**117**	P			**P**	**05 36 13.6**	**-0.1**
	0.2nm,0.5s,baz=288,slow=11,SNR=2.2								
H08S2	**Diego Garcia H**	**35.05**	**268**	T			T	06 14 25.1	
	baz=92,slow=74								
H08S3	**Diego Garcia H**	**35.06**	**268**	T			T	06 14 20.5	
	baz=92,slow=74								
H08S1	**Diego Garcia H**	**35.07**	**268**	T			T	06 14 24.4	
	baz=92								
STKA	**Stephens Creek**	**39.19**	**132**	P			**P**	**05 37 49.1**	**-0.3**
	1.2nm,0.4s,baz=318,slow=10,SNR=5.8								
MKAR	**Makanchi Array**	**59.30**	**340**	P			P	05 40 17.2	-5.6
	0.3nm,0.6s,baz=157,slow=7.2,SNR=2.3								
TXAR	**Lajitas Array**	**143.67**	**50**	PKP			PKPab	05 49 52.9	-0.5
	0.1nm,0.3s,baz=270,slow=2.1,SNR=1.7								

ISK ***25*** *05:43:02.2,35˚.80N×33˚.31E,h17km±2km,ML2.6/15*
NIC ***25*** *05:43:04.2±0.0,35˚.67N×33˚.25E,h15km±4.1km,MI1.8/2*
ISC 25 05:43:02.4±1.4**,35˚.79N**±0˚.03×**33˚.30E**±0˚.05**,h19**km±3**km,**
n20,σ0°**33**/31**,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YORU	**Yoruktepe-Mers**	**0.37**	**13**	PG			**Pb**	**05 43 10.1**	**-0.5**
YORU				SG			**Sb**	**05 43 16.0**	**-0.1**
TEKE	**Tekeli-Mersin**	**0.39**	**337**	PG			**Pb**	**05 43 10.6**	**-0.2**
TEKE				SG			**Sb**	**05 43 16.5**	**+0.1**
AKK2	**Akkuyu-Mersin**	**0.40**	**30**	PG			**Pb**	**05 43 10.6**	**-0.4**
AKK2				SG			**Sb**	**05 43 16.8**	**0.0**
AKK1	**Akkuyu-Mersin**	**0.40**	**29**	PG			**Pb**	**05 43 10.6**	**-0.5**
AKK1				SG			**Sb**	**05 43 16.9**	**0.0**
AKKU	**Akkuyu-Mersin**	**0.42**	**29**	PG			**Pb**	**05 43 10.9**	**-0.4**
AKKU				SG			**Sb**	**05 43 17.3**	**-0.1**
OREN	**Orenkoy-Mersin**	**0.44**	**17**	PG			**Pg**	**05 43 11.1**	**-0.3**
OREN				SG			**Sb**	**05 43 17.8**	**0.0**
TEPK	**Tepekoy-MERSIN**	**0.48**	**24**	PG			**Pb**	**05 43 11.9**	**-0.4**
TEPK				SG			**Sb**	**05 43 19.3**	**+0.3**
TISA	**Tisan-Mersin**	**0.48**	**39**	PG			**Pb**	**05 43 12.1**	**-0.2**
TISA				SG			**Sb**	**05 43 19.4**	**+0.4**
YESI	**Yesilovacik-Me**	**0.49**	**34**	PG			**Pb**	**05 43 12.2**	**-0.3**
IKL	**Isikli**	**0.55**	**35**	PG			**Pb**	**05 43 13.2**	**-0.1**
BERE	**Bereket-Mersin**	**0.56**	**353**	PG			**Pb**	**05 43 13.6**	**-0.1**
TEVE	**Tevekalti-Mers**	**0.66**	**10**	PG			**Pb**	**05 43 15.2**	**-0.1**
KEBE	**Keben-Mersin**	**0.73**	**27**	PG			**Pg**	**05 43 16.9**	**0.0**
LEF	**Lefka**	**0.75**	**207**	PG			**Pg**	**05 43 17.4**	**+0.3**
SILI	**Silifke-Mersin**	**0.77**	**41**	PG			**Pg**	**05 43 17.5**	**0.0**
MVOU	**Mavrovouni**	**0.82**	**161**	P			**Pb**	**05 43 17.9**	**-0.1**
MVOU				AML		AML		05 43 28.4	
	0.2nm,0.6s								
MVOU				AML		AML		05 43 28.4	
	0.2nm,0.6s								
MVOU				S			**Sb**	**05 43 28.4**	**-0.2**
MVOU				AML		AML		05 43 28.8	
	0.3nm,0.3s								
MVOU				AML		AML		05 43 28.8	
	0.3nm,0.3s								
CSS	**Mathiatis**	**0.83**	**178**	P			**Pg**	**05 43 18.4**	**-0.2**
CSS				S			**Sb**	**05 43 29.2**	**+0.3**
ALFC	**Alefka**	**0.85**	**222**	P			**Pb**	**05 43 18.6**	**-0.1**
ALFC				S			**Sb**	**05 43 28.8**	**-1.0**
ALFC				AML		AML		05 43 31.2	
	0.2nm,0.4s								
ALFC				AML		AML		05 43 31.2	
	0.2nm,0.4s								
ALFC				AML		AML		05 43 32.9	
	0.1nm,0.2s								
ALFC				AML		AML		05 43 32.9	
	0.1nm,0.2s								
GAZI	**Gazipasa**	**0.92**	**299**	PG			**Pn**	**05 43 20.3**	**0.0**
AKMS	**Akamas**	**1.10**	**226**	S			**Sn**	**05 43 37.9**	**+0.3**

VAO ***25*** *06:03:28.9±0.4,22˚.16S×68˚.67W,h136km,mb3.9*
GUC ***25*** *06:03:30.5±0.7,21˚.87S×68˚.53W,h117km±4km,ML3.8*
ISC 25 06:03:29.3±0.8**,21˚.88S**±0˚.04×**68˚.53W**±0˚.07**,h122**km±9**km,**
n34,σ0°**78**/51**,12C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.67**	**277**	↑*i*	P		**Pn**	**06 03 49.2**	**+0.4**
PB09				*i*	S		**Sn**	**06 04 03.5**	**0.0**
LVC	**Limon Verde**	**0.81**	**206**	*i*	P		**Pn**	**06 03 50.1**	**0.0**
LVC				*i*	S		**Sn**	**06 04 05.4**	**-0.6**
LVC	**Limon Verde**	**0.81**	**206**	*e*	P		**Pn**	**06 03 49.9**	**-0.3**
LVC				*e*	S		**Sn**	**06 04 05.6**	**-0.4**
PB03	**IPOC Station P**	**1.15**	**261**	↑*i*	P		**Pn**	**06 03 53.3**	**+0.1**
PB03				*i*	S		**Sn**	**06 04 10.9**	**-0.4**
PB03				IAML				06 04 12.9	
	comp=N,1μm,0.5s								
PB01	**IPOC Station P**	**1.22**	**313**	↑*i*	P		**Pn**	**06 03 53.8**	**0.0**
PB01				*i*	S		**Sn**	**06 04 11.9**	**-0.6**
PB01				IAML				06 04 14.2	
	comp=N,1μm,0.2s								
PB06	**IPOC Station P**	**1.27**	**229**	↑*i*	P		**Pn**	**06 03 55.0**	**+0.6**
PB06				*i*	S		**Sn**	**06 04 14.2**	**+0.6**
PB06				IAML				06 04 15.8	
	comp=N,2μm,0.3s								
PB07	**IPOC Station P**	**1.27**	**277**	↑*i*	P		**Pn**	**06 03 54.6**	**+0.2**
PB07				*e*	S		**Sn**	**06 04 13.4**	**-0.2**
PB07				IAML				06 04 14.8	
	comp=N,2μm,0.1s								
PB04	**IPOC Station P**	**1.57**	**253**	↑*i*	P		**Pn**	**06 03 58.0**	**+0.1**
PB04				*i*	S		**Sn**	**06 04 19.3**	**-0.3**
PB04				IAML				06 04 26.4	
	comp=N,1μm,0.1s								
PB15	**IPOC Station P**	**1.58**	**213**	↓*i*	P		**Pn**	**06 03 58.9**	**+0.9**
PB15				*i*	S		**Sn**	**06 04 21.4**	**+1.5**
PB05	**IPOC Station P**	**1.83**	**238**	↑*i*	P		**Pn**	**06 04 00.8**	**0.0**
PB05				*e*	S		**Sn**	**06 04 24.7**	**-0.2**
PB05				IAML				06 04 30.7	
	comp=E,602nm,0.5s								
PB08	**IPOC Station P**	**1.83**	**341**	↑*i*	P		**Pn**	**06 04 02.3**	**+1.2**
PB08				*i*	S		**Sn**	**06 04 26.1**	**+0.7**
PB08				IAML				06 04 27.6	
	comp=E,873nm,0.3s								
PATCX	**Punta Patache**	**1.85**	**305**	↑*i*	P		**Pn**	**06 04 01.1**	**0.0**
PATCX				*i*	S		**Sn**	**06 04 24.7**	**-0.6**
PATCX				IAML				06 04 26.9	
	comp=N,2μm,0.2s								
TA01	**Diego Aracena**	**2.02**	**310**	↑*i*	P		**Pn**	**06 04 02.7**	**-0.4**
TA01				*i*	S		**Sn**	**06 04 28.3**	**-0.7**
TA01				IAML				06 04 29.8	
	comp=E,1μm,0.2s								
TA02	**Huaiquique**	**2.19**	**317**	*e*	P		**Pn**	**06 04 05.3**	**+0.1**
TA02				*i*	S		**Sn**	**06 04 32.5**	**-0.4**
PB11	**IPOC Station P**	**2.36**	**333**	↑*i*	P		**Pn**	**06 04 07.4**	**-0.1**
PB11				*i*	S		**Sn**	**06 04 36.0**	**-0.8**
PB11				IAML				06 04 37.8	
	comp=N,1μm,0.2s								
PB10	**IPOC Station P**	**2.48**	**229**	*e*	P		**Pn**	**06 04 09.6**	**+0.7**
PB10				IAML				06 04 50.8	
	comp=E,275nm,0.1s								
PSGC	**Pisagua**	**2.72**	**326**	*e*	P		**Pn**	**06 04 11.0**	**-1.1**
PSGC				*i*	S		**Sn**	**06 04 43.8**	**-1.2**
PSGC				IAML				06 04 46.4	
	comp=N,335nm,0.2s								
MNMC	**Minye Minye**	**2.91**	**340**	↑*i*	P		**Pn**	**06 04 15.0**	**+0.2**
MNMC				*i*	S		**Sn**	**06 04 50.1**	**+0.3**
PB14	**IPOC Station P**	**3.23**	**212**	*e*	P		**Pn**	**06 04 19.4**	**+0.5**
LPAZ	**La Paz**	**5.58**	**4**	*e*	P		**Pn**	**06 04 51.9**	**+1.3**
CZSB	**Cruzeiro do Su**	**14.63**	**343**	*e*	P		**Pn**	**06 06 52.5**	**+2.0**
TRCB	**Terra Rica**	**14.74**	**97**	*e*	P		**P**	**06 06 52.7**	**-1.9**
PTGB	**Pitanga**	**15.39**	**104**	*e*	P		**Pn**	**06 06 59.8**	**-0.2**
CPSB	**Cacapava Do Su**	**15.98**	**125**	*e*	P		**Pn**	**06 07 05.7**	**-1.4**
PCMB	**Pacaembu**	**16.05**	**92**	*e*	P		**P**	**06 07 09.6**	**+0.5**
CLDB	**Colider**	**16.39**	**50**	*e*	P		**P**	**06 07 12.9**	**0.0**
PLTB	**Pedras Altas**	**16.55**	**130**	*e*	P		**Pn**	**06 07 13.6**	**-0.5**
ARAG	**Araguaiana, MT**	**16.97**	**72**	*e*	P		**P**	**06 07 20.1**	**+0.8**
ITRB	**Iturama**	**17.13**	**86**	*e*	P		**P**	**06 07 21.4**	**+0.3**
CNLB	**Canela**	**17.57**	**119**	*e*	P		**P**	**06 07 24.3**	**-1.6**
BB19B	**Bebedouro**	**18.63**	**91**	*e*	P		**P**	**06 07 37.2**	**-0.4**
IPMB	**Ipameri, GO**	**19.49**	**82**	*e*	P		**P**	**06 07 46.3**	**-0.6**
PET01	**Itanhaem-SP**	**19.70**	**101**	*e*	P		**P**	**06 07 48.3**	**-0.8**
SMTB	**Santa Maria do**	**23.94**	**60**	*e*	P		**P**	**06 08 32.0**	**-0.3**

IDC ***25*** *06:15:06.9±1.3,37˚.90N×20˚.98E,h0km,mb3.8/6,*
mb1 3.7/10,mb1mx3.5/38,mbtmp3.6/10,ML3.5/4,MS2.6/1,
Ms1 2.6/1,ms1mx2.3/36,Error ellipse: s-maj=25.3km
s-min=20.8km az=86.0
BEO ***25*** *06:15:07.0±1.3,37˚.66N×20˚.59E,h0km,ML3.5/3*
ATH ***25*** *06:15:08.9,37˚.79N×21˚.16E,h14km±1km,ML3.6/13,Error*
ellipse: s-maj=1.9km s-min=0.8km az=355.0
THE ***25*** *06:15:09.5,37˚.81N×21˚.15E,h0km±2km,ML3.6/19,Error*
ellipse: s-maj=2.2km s-min=0.6km az=213.0
ISC 25 06:15:09.1±1.0**,37˚.80N**±0˚.02×**21˚.13E**±0˚.02**,h14**km±7**km,**
n89,σ1°**30**/119**,mb3.9**/6**,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.37**	**45**	P			**Pg**	**06 15 16.2**	**-0.5**
RLS				S			**Sg**	**06 15 21.6**	**-0.2**
	13μm,0.3s								
RLS	**Riolos of Patr**	**0.37**	**45**	P			**Pg**	**06 15 16.2**	**-0.5**
RLS				S			**Sg**	**06 15 21.8**	**0.0**
RLS				AML		AML		06 15 22.6	
	comp=E,27950μm,0.3s								
RLS				AML		AML		06 15 23.6	
	comp=N,26114μm,0.4s								
VLMS	**Volimes, Zakyn**	**0.38**	**282**	P			**Pg**	**06 15 17.3**	**+0.4**
VLMS				S			**Sb**	**06 15 23.6**	**+0.1**
DRO	**Drossia**	**0.48**	**71**	P			**Pg**	**06 15 17.8**	**-0.9**
DRO				S			**Sg**	**06 15 24.9**	**-0.3**
	comp=N,25μm,0.4s								
DRO	**Drossia**	**0.48**	**71**	P			**Pg**	**06 15 18.1**	**-0.6**
DRO				S			**Sb**	**06 15 25.8**	**-0.6**
DRO				AML		AML		06 15 30.9	
	comp=N,67908μm,0.5s								
DRO				AML		AML		06 15 33.0	
	comp=E,35189μm,0.4s								
VLS	**Valsamata**	**0.57**	**312**	P			**Pg**	**06 15 20.1**	**-0.3**
VLS				S			**Sb**	**06 15 29.6**	**+0.6**
	comp=E,4μm,0.5s								
VLS	**Valsamata**	**0.57**	**312**	P			**Pg**	**06 15 20.3**	**-0.2**
KEF5	**Kardakata, Kep**	**0.71**	**313**	P			**Pg**	**06 15 22.5**	**-0.5**
AST1	**Astakos**	**0.74**	**357**	P			**Pg**	**06 15 23.7**	**+0.1**
AST1				S			**Sb**	**06 15 35.1**	**+1.2**
	comp=E,8μm,0.3s								
DMLN	**Damoulianata-K**	**0.75**	**307**	P			**Pg**	**06 15 23.3**	**-0.4**
DMLN				S			**Sb**	**06 15 34.5**	**+0.6**
	comp=E,8μm,0.6s								
FSK	**Fiskardo**	**0.80**	**326**	P			**Pg**	**06 15 24.6**	**-0.1**
FSK				S			**Sb**	**06 15 36.0**	**+0.5**
	comp=E,2μm,0.5s								
FSK	**Fiskardo**	**0.80**	**326**	P			**Pg**	**06 15 24.0**	**-0.7**
KLV	**Kalavryta, Ach**	**0.84**	**73**	P			**Pg**	**06 15 24.1**	**-1.3**
KLV	**Kalavryta, Ach**	**0.84**	**73**	P			**Pg**	**06 15 24.2**	**-1.3**
KLV				S			**Sb**	**06 15 37.0**	**+0.2**
KLV				AML		AML		06 15 42.5	
	comp=N,4691μm,0.4s								
KLV				AML		AML		06 15 43.1	
	comp=E,5800μm,0.5s								
EFP	**Efpalio**	**0.88**	**44**	P			**Pg**	**06 15 25.2**	**-0.9**
EFP				S			**Sg**	**06 15 37.6**	**0.0**
EFP	**Efpalio**	**0.88**	**44**	P			**Pg**	**06 15 25.2**	**-0.9**
MGNA	**Meganis**	**0.90**	**343**	P			**Pg**	**06 15 26.2**	**-0.4**
ALIK	**Aliki, Aigiali**	**0.90**	**59**	P			**Pg**	**06 15 25.4**	**-1.2**
ALIK				S			**Sb**	**06 15 39.7**	**+1.3**
EVGI	**Lefkada island**	**0.91**	**336**	P			**Pg**	**06 15 25.9**	**-0.8**
EVGI				S			**Sg**	**06 15 38.9**	**+0.3**
	comp=E,1μm,1.1s								
EVGI	**Lefkada island**	**0.91**	**336**	P			**Pg**	**06 15 26.0**	**-0.8**
TRIZ	**Trizonia**	**0.93**	**52**	P			**Pg**	**06 15 26.1**	**-1.1**
TRIZ				S			**Sb**	**06 15 40.9**	**+1.6**
	comp=E,4μm,0.5s								
TRIZ	**Trizonia**	**0.93**	**52**	P			**Pg**	**06 15 26.2**	**-1.0**
TRIP	**Tripoli**	**0.94**	**106**	P			**Pg**	**06 15 26.5**	**-0.9**
TRIP				S			**Sb**	**06 15 40.5**	**+0.9**
	comp=E,3μm,0.6s								
TRIP	**Tripoli**	**0.94**	**106**	P			**Pg**	**06 15 26.6**	**-0.7**
TRIP				AML		AML		06 15 44.8	
	comp=E,4559μm,0.7s								
TRIP				AML		AML		06 15 51.2	
	comp=N,4482μm,0.6s								
GUR	**Goura**	**0.97**	**81**	P			**Pg**	**06 15 26.5**	**-1.4**
GUR				S			**Sb**	**06 15 40.7**	**+0.3**
	comp=N,8μm,0.5s								
GUR	**Goura**	**0.97**	**81**	P			**Pg**	**06 15 26.3**	**-1.5**
GUR				AML		AML		06 15 46.8	
	comp=E,16855μm,0.5s								
GUR				AML		AML		06 15 47.6	
	comp=N,12561μm,0.4s								
NYDR	**Nydri-Lefkada**	**0.98**	**340**	P			**Pg**	**06 15 27.1**	**-1.0**
NYDR				S			**Sb**	**06 15 42.4**	**+1.8**
	comp=N,2μm,0.6s								
KALE	**Kalithea**	**0.99**	**53**	P			**Pg**	**06 15 27.0**	**-1.3**
KALE				S			**Sb**	**06 15 41.8**	**+0.7**
	comp=N,4μm,0.5s								
KALE	**Kalithea**	**0.99**	**53**	P			**Pg**	**06 15 27.2**	**-1.1**
KALE				S			**Sb**	**06 15 41.4**	**+0.3**
KALE				AML		AML		06 15 45.4	
	comp=N,9882μm,0.5s								
KALE				AML		AML		06 15 46.7	
	comp=E,8211μm,0.5s								
ANX	**Ano Chora**	**1.01**	**38**	P			**Pg**	**06 15 27.6**	**-1.0**
ANX				S			**Sb**	**06 15 43.2**	**+1.6**
	comp=E,5μm,0.8s								
ANX	**Ano Chora**	**1.01**	**38**	P			**Pg**	**06 15 27.6**	**-1.0**
ANX				AML		AML		06 15 48.2	
	comp=N,9322μm,0.5s	

comp=N,0.1nm,0.3s,baz=269,slow=13,SNR=2.4
GERES GERESS Array B 12.29 336 Pn **Pn 06 18 02.3 -1.4**
comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=1.8
AKASG Malin Array Be 14.13 22 Pn **Pn 06 18 28.8 +0.1**
comp=N,0.8nm,0.3s,baz=211,slow=11,SNR=6.5
HFS Hagfors 22.86 350 P **P 06 20 12.0 +0.3**
comp=N,1.3nm,0.5s,baz=172,slow=12,SNR=1.1
FINES FINESS Array B 23.87 6 P **P 06 20 21.0 -0.8**
comp=N,3.3nm,0.7s,baz=179,slow=11,SNR=10
TORD Torodi Ar. Bea 30.05 220 P **P 06 21 18.1 +0.3**
comp=N,0.8nm,0.8s,baz=34,slow=8.5,SNR=5.2
ARCES ARCESS Array B 31.89 3 P **P 06 21 32.1 -1.4**
comp=N,2.2nm,1.0s,baz=186,slow=9.8,SNR=7.2
MKAR Makanchi Array 45.09 58 P **P 06 23 23.6 -1.1**
comp=N,0.6nm,0.5s,baz=270,slow=8.1,SNR=7.8
ZALV Zalesovo Beam 45.59 48 P **P 06 23 27.3 -1.2**
comp=N,1.0nm,0.5s,baz=274,slow=8.2,SNR=2.1

IDC 25 06:34:48.5±2.2,1°76.N×122°66.E,h456km±24km,mb2.8/5, mb1 2.8/5,mb1mx2.7/34,mbtmp3.6/5,Error ellipse: s-maj=126.8km s-min=16.2km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.42**	**153**	P		P	06 39 28.9	-0.6
	0.3nm,0.9s,baz=337,slow=9.8,SNR=2.4							
WRA				ScP		ScP	06 45 48.5	-0.5
	0.2nm,0.6s,baz=327,slow=2.8,SNR=1.7							
ASAR	**Alice Springs**	**27.54**	**157**	P		P	06 39 57.7	+0.5
	0.1nm,0.4s,baz=346,slow=12,SNR=1.0							
ASAR				ScP		ScP	06 45 57.6	-0.5
	0.3nm,0.6s,baz=336,slow=2.9,SNR=5.1							
SONM	**Songino Array**	**48.01**	**345**	P		P	06 42 45.6	+0.8
	2.0nm,0.7s,baz=160,slow=9.0,SNR=6.3							
MKAR	**Makanchi Array**	**56.95**	**328**	P		P	06 43 48.9	-0.3
	1.5nm,0.3s,baz=123,slow=8.4,SNR=23							
ZALV	**Zalesovo Beam**	**60.58**	**335**	P		P	06 44 12.7	-0.9
	0.5nm,0.3s,baz=118,slow=6.4,SNR=2.8							

*NEIC **25** 06:43:28.0±1.0, 19°.5N±0°.1×68°.44W±0°.06, h48km±80km, Error ellipse: s-maj=18.0km s-min=5.4km az=199.0*
*RSPR **25** 06:43:28.7, 19°.47N×68°.43W, h46km±12km, MD3.5/13*
ISC 25 06:43:28.1±6.7, 19°.45N±0°.09×68°.45W±0°.04, h38km±10km, n47,σ0§69/61,14C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.10**	**233**			**Pn**	**06 43 44.6**	**-2.4**
AGPR	**Aguadilla, PR**	**1.60**	**127**	i	eP	**Pn**	**06 43 53.1**	**-0.6**
AGPR	**Aguadilla, PR**	**1.60**	**127**	e	S	**Sn**	**06 44 13.0**	**-0.2**
AGPR	**Aguadilla, PR**	**1.60**	**127**			**Pn**	**06 43 53.6**	**-0.1**
AGPR						**Sn**	**06 44 13.3**	**+0.1**
SDD	**Santo Domingo**	**1.70**	**235**	Pn		**Pn**	**06 43 55.9**	**+0.7**
SDD				Sn		**Sn**	**06 44 17.1**	**+1.5**
LSP	**Las Mesas**	**1.81**	**134**	i	eP	**Pn**	**06 43 56.4**	**-0.3**
LSP	**Las Mesas**	**1.81**	**134**	e	S	**Sn**	**06 44 18.6**	**+0.2**
LSP	**Las Mesas**	**1.81**	**134**			**Pn**	**06 43 56.4**	**-0.3**
LSP						**Sn**	**06 44 18.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.92**	**138**	i	eP	**Pn**	**06 43 58.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.92**	**138**	e	S	**Sn**	**06 44 20.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.92**	**138**			**Pn**	**06 43 59.8**	**+1.7**
CRPR	**Cabo Rojo, PR**	**1.92**	**138**			**Sn**	**06 44 20.4**	**-0.6**
AOPR	**Arecibo Observ**	**1.94**	**124**	i	eP	**Pn**	**06 43 58.0**	**-0.6**
AOPR	**Arecibo Observ**	**1.94**	**124**	e	S	**Sn**	**06 44 21.0**	**-0.8**
AOPR	**Arecibo Observ**	**1.94**	**124**			**Pn**	**06 43 58.0**	**-0.6**
AOPR						**Sn**	**06 44 21.0**	**-0.8**
MLPR	**Magueyes Islan**	**1.98**	**138**	i	eP	**Pn**	**06 43 59.1**	**0.0**
MLPR	**Magueyes Islan**	**1.98**	**138**	e	S	**Sn**	**06 44 22.4**	**-0.3**
MLPR	**Magueyes Islan**	**1.98**	**138**			**Pn**	**06 43 58.4**	**-0.7**
MLPR						**Sn**	**06 44 22.7**	**0.0**
EMPR	**Esperanza - Ma**	**2.06**	**118**	i	eP	**Pn**	**06 44 00.1**	**0.0**
EMPR	**Esperanza - Ma**	**2.06**	**118**	e	S	**Sn**	**06 44 24.5**	**0.0**
EMPR	**Esperanza - Ma**	**2.06**	**118**			**Pn**	**06 44 00.4**	**+0.3**
EMPR						**Sn**	**06 44 26.2**	**+1.7**
BANI	**BANI**	**2.09**	**240**	Pn		**Pn**	**06 44 01.1**	**+0.5**
CELP	**Cerrillos**	**2.24**	**127**	i	eP	**Pn**	**06 44 02.3**	**-0.3**
CELP	**Cerrillos**	**2.24**	**127**	e	S	**Sn**	**06 44 28.9**	**-0.1**
CELP	**Cerrillos**	**2.24**	**127**			**Pn**	**06 44 02.3**	**-0.3**
CELP						**Sn**	**06 44 28.9**	**-0.1**
OBIP	**Obispado Ponce**	**2.24**	**128**	i	eP	**Pn**	**06 44 02.5**	**-0.1**
OBIP	**Obispado Ponce**	**2.24**	**128**	e	S	**Sn**	**06 44 28.8**	**-0.2**
OBIP	**Obispado Ponce**	**2.24**	**128**			**Pn**	**06 44 02.5**	**-0.1**
OBIP						**Sn**	**06 44 28.8**	**-0.2**
SJG	**San Juan**	**2.55**	**121**	Pn		**Pn**	**06 44 07.7**	**+0.8**
SJG						**Sn**	**06 44 39.1**	**+2.4**
IGPR	**InterUniversit**	**2.67**	**123**	i	eP	**Pn**	**06 44 08.6**	**+0.1**
IGPR	**InterUniversit**	**2.67**	**123**	e	S	**Sn**	**06 44 39.4**	**-0.1**
PDPR	**Patillas Dam,**	**2.70**	**121**	i	eP	**Pn**	**06 44 09.3**	**+0.3**
PDPR	**Patillas Dam,**	**2.70**	**121**	e	S	**Sn**	**06 44 40.5**	**0.0**
PDPR	**Patillas Dam,**	**2.70**	**121**			**Pn**	**06 44 09.3**	**+0.3**
PDPR						**Sn**	**06 44 40.5**	**0.0**
CBYP	**Canovanas**	**2.72**	**115**	i	eP	**Pn**	**06 44 09.3**	**+0.1**
CBYP	**Canovanas**	**2.72**	**115**	e	S	**Sn**	**06 44 40.5**	**-0.5**
CBYP	**Canovanas**	**2.72**	**115**			**Pn**	**06 44 09.3**	**+0.1**
CBYP						**Sn**	**06 44 40.5**	**-0.5**
HUMP	**Col San Antoni**	**2.78**	**117**	i	eP	**Pn**	**06 44 10.7**	**+0.6**
HUMP	**Col San Antoni**	**2.78**	**117**	e	S	**Sn**	**06 44 42.5**	**0.0**
HUMP	**Col San Antoni**	**2.78**	**117**			**Pn**	**06 44 10.7**	**+0.6**
HUMP						**Sn**	**06 44 42.5**	**0.0**
MTP	**Monte Pirata**	**3.06**	**116**	i	eP	**Pn**	**06 44 13.6**	**-0.3**
MTP	**Monte Pirata**	**3.06**	**116**	e	S	**Sn**	**06 44 49.0**	**-0.2**
MTP	**Monte Pirata**	**3.06**	**116**			**Pn**	**06 44 13.6**	**-0.3**
MTP						**Sn**	**06 44 49.0**	**-0.2**
CUPR	**Culebra, Puert**	**3.21**	**110**	i	eP	**Pn**	**06 44 15.9**	**0.0**
CUPR	**Culebra, Puert**	**3.21**	**110**	e	S	**Sn**	**06 44 52.8**	**-0.1**
CUPR	**Culebra, Puert**	**3.21**	**110**			**Pn**	**06 44 15.9**	**0.0**
CUPR						**Sn**	**06 44 52.8**	**-0.1**
GRTK	**Grand Turk**	**3.25**	**310**	Pn		**Pn**	**06 44 16.1**	**-0.4**

*IDC **25** 06:52:17.7±1.0, 11°.74S×164°.57E, h0km, mb4.0/9, mb1 4.2/11,mb1mx4.0/34,mbtmp4.0/11,ML4.1/2,MS3.2/6, Ms1 3.2/6,ms1mx2.8/26,Error ellipse: s-maj=31.4km s-min=22.3km az=121.0*
*NEIC **25** 06:52:19.3±0.6, 11°.77S±0°.09×164°.6E±0°.1, h10km±1km, mb4.4/6,Error ellipse: s-maj=22.7km s-min=7.5km az=53.0*
ISC 25 06:52:19.1±0.7, 11°.82S±0°.08×164°.59E±0°.09, h10km, n33, σ1§09/29, mb3.9/11, MS3.2/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.42**	**145**			**Pn**	**06 53 27.2**	**+1.0**
HNR	**Honiara**	**5.14**	**297**	Pn		**Pn**	**06 53 36.5**	**+0.2**
	32nm,0.3s,baz=273,slow=12,SNR=1.8							
HNR				Sn		**Sn**	**06 54 34.4**	**-1.2**
	10nm,0.3s,baz=247,slow=8.6,SNR=1.7							
HNR				LR		LR	06 56 03.3	
	comp=Z,107nm,18.4s,baz=152,slow=44							
HNR	**Honiara**	**5.14**	**297**			**Pn**	**06 53 35.5**	**-0.7**
HNR						**Sn**	**06 54 35.0**	**-0.6**
DZM	**Mont Dzumac**	**10.35**	**170**	Pn		**Pn**	**06 54 49.5**	**+1.7**
	0.3nm,0.3s,baz=27,slow=9.6,SNR=14							
DZM				Sn		**Sn**	**06 56 40.1**	**-3.9**
	0.1nm,0.3s,baz=95,slow=17,SNR=1.5							
DZM	**Mont Dzumac**	**10.35**	**170**			**Pn**	**06 54 48.7**	**+0.8**
PMG	**Port Moresby**	**17.30**	**276**	LR		LR	07 02 08.9	
	comp=Z,85nm,20.7s,baz=128,slow=34							
CTA	**Charters Tower**	**19.44**	**243**	P		**Pn**	**06 56 48.8**	**+1.7**
	0.2nm,0.3s,baz=74,slow=12,SNR=8.1							
CTAO	**Charters Tower**	**19.44**	**243**	P		**P**	**06 56 46.4**	**+0.5**
CTAO				IAmb		IAmb	06 56 49.9	
	comp=Z,12nm,0.8s							
URZ	**Urewera**	**28.61**	**159**	LR		LR	07 08 39.3	
	comp=Z,62nm,21.1s,baz=29,slow=34							
STKA	**Stephens Creek**	**29.11**	**223**	P		**P**	**06 58 21.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=29,slow=16,SNR=3.2							
STKA				LR		LR	07 08 52.8	
	comp=Z,54nm,19.4s,baz=27,slow=34							
STKA	**Stephens Creek**	**29.11**	**223**	P		**P**	**06 58 20.7**	**+0.5**
WB0	**Warramunga Arr**	**30.07**	**251**	P		**P**	**06 58 29.1**	**+0.2**
WB0				IAmb		IAmb	06 58 32.7	
	comp=Z,5.5nm,1.1s							
WRA	**Warramunga Arr**	**30.16**	**251**	P		**P**	**06 58 29.2**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=80,slow=9.2,SNR=6.3							
WRA				PcP		**PcP**	**07 01 30.1**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=97,slow=2.1,SNR=1.7							
WRA				LR		LR	07 09 05.2	
	comp=Z,40nm,20.6s,baz=190,slow=33							
H11S2	**WAKE ISLAND Hy**	**30.19**	**4**	T		T	07 29 52.2	
	baz=184,slow=76,SNR=6.4							
H11S3	**WAKE ISLAND Hy**	**30.19**	**4**	T		T	07 29 56.0	
	baz=184,slow=76,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**30.20**	**4**	T		T	07 29 56.4	
	baz=184,slow=76,SNR=4.8							
H11N1	**WAKE ISLAND Hy**	**31.41**	**4**	T		T	07 31 33.0	
	baz=184,slow=75,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**31.42**	**4**	T		T	07 31 30.3	
	baz=184,slow=75,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**31.43**	**4**	T		T	07 31 25.5	
	baz=184,slow=75,SNR=5.6							
ASAR	**Alice Springs**	**31.43**	**244**	P		**P**	**06 58 40.7**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=68,slow=9.8,SNR=8.6							
ASAR				PcP		**PcP**	**07 01 34.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=64,slow=4.2,SNR=2.4							
ASAR				LR		LR	07 10 03.4	
	comp=Z,56nm,19.9s,baz=309,slow=34							
LBZ	**Lake Benmore**	**32.81**	**173**	P		**P**	**06 58 53.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**63.13**	**334**	P		**P**	**07 02 47.4**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=108,slow=9.3,SNR=4.8							
USRK	**Ussuriysk Ar.**	**63.13**	**334**	P		**P**	**07 02 46.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**71.38**	**294**	P		**P**	**07 03 39.3**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=111,slow=4.9,SNR=1.2							
SONM	**Songino Array**	**78.62**	**324**	P		**P**	**07 04 21.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=133,slow=7.2,SNR=1.8							
SONM	**Songino Array**	**78.62**	**324**	IAmb		IAmb	07 04 23.5	
	comp=Z,1.1nm,1.0s							
HDA	**Harding Lake**	**84.34**	**19**	P		**P**	**07 04 51.0**	**-0.1**
HDA				IAmb		IAmb	07 04 52.3	
	comp=Z,4.1nm,1.0s							
ILAR	**Eielson Array**	**84.60**	**19**	P		**P**	**07 04 51.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=239,slow=6.1,SNR=8.1							
ILAR	**Eielson Array**	**84.60**	**19**	P		**P**	**07 04 52.4**	**-0.1**
NVAR	**Mina Array Bea**	**87.39**	**50**	P		**P**	**07 05 07.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=249,slow=7.6,SNR=3.0							
NVAR	**Mina Array Bea**	**87.39**	**50**	P		**P**	**07 05 07.2**	**0.0**
MKAR	**Makanchi Array**	**93.31**	**317**	P		**P**	**07 05 34.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=104,slow=5.2,SNR=2.4							
ESDC	**Sonseca Array**	**150.46**	**342**	PKPbc		**PKPbc**	**07 12 11.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=35,slow=4.7,SNR=2.7							

WEL 25 07:00:31.7,40°S±2°×17°5E±°, h48km±3km, M3.1/43, ML3.4/43, MLv3.1/43, Error ellipse: s-maj=0.0km s-min=0.0km az=30.1,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.38**	**104**	P		Pn	07 00 41.8	+0.3
OHWZ				S		Sn	07 00 49.3	+0.9
WAZ	**Wanganui**	**0.38**	**18**	P		Pn	07 00 41.4	-0.1
WAZ				S		Sn	07 00 49.2	+0.7
LREZ	**Lake Rotokare**	**0.73**	**333**	P		Pn	07 00 47.4	+1.6
LREZ				S		Sn	07 00 57.1	+1.0
OGWZ	**Otaki Gorge**	**0.74**	**160**	P		Pn	07 00 46.2	+0.2
OGWZ				S		Sn	07 00 56.2	-0.2
KIW	**Kapiti Island**	**0.75**	**175**	P		Pn	07 00 45.9	-0.1
KIW				S		Sn	07 00 55.5	-0.9
POWZ	**Post Office Ro**	**0.77**	**111**	P		Pn	07 00 47.0	+0.8
POWZ				S		Sn	07 00 58.0	+1.1
MRZ	**Mangatainoka R**	**0.79**	**134**	P		Pn	07 00 47.3	+0.7
MRZ				S		Sn	07 00 57.7	+0.3
TSZ	**Takapari Road**	**0.87**	**87**	P		Pn	07 00 48.3	+0.6
TSZ				S		Sn	07 00 59.8	+0.5
MTVZ	**Mangateitei**	**0.88**	**34**	P		Pn	07 00 48.1	+0.2
MTVZ				S		Sn	07 01 00.2	+0.5
PKVZ	**Pokaka**	**0.92**	**26**	P		Pn	07 00 48.1	-0.2
PKVZ				S		Sn	07 01 00.2	-0.3
PREZ	**Palmer Road**	**0.93**	**326**	P		Pn	07 00 49.1	+0.6
PREZ				S		Sn	07 01 03.1	+2.3
HOWZ	**Holdsworth Sta**	**0.94**	**146**	P		Pn	07 00 49.4	+0.8
HOWZ				S		Sn	07 01 01.3	+0.4
DUWZ	**D'Urville Isla**	**0.97**	**225**	P		Pn	07 00 48.4	-0.7
DUWZ				S		Sn	07 01 02.3	+0.4
PRWZ	**Pori Road**	**0.97**	**117**	P		Pn	07 00 50.8	+1.8
TRVZ	**Turoa**	**0.99**	**34**	P		Pn	07 00 49.3	-0.2
TRVZ				S		Sn	07 01 02.4	0.0
WNVZ	**Wahianoa**	**0.99**	**37**	P		Pn	07 00 49.4	0.0
WNVZ				S		Sn	07 01 02.6	+0.3
VRZ	**Vera Road**	**0.99**	**357**	P		Pn	07 00 49.3	+0.3
MOVZ	**Moawhango**	**1.00**	**45**	P		Pn	07 00 49.3	-0.2
CAW	**Cannon Point**	**1.00**	**170**	P		Pn	07 00 49.9	+0.5
DRZ	**Dome Shelter**	**1.01**	**34**	P		Pn	07 00 50.1	+0.3
NMEZ	**Namu Road**	**1.02**	**313**	P		Pn	07 00 50.4	+0.8
NMEZ				S		Sn	07 01 05.1	+2.3
NEZ	**North Egmont**	**1.02**	**326**	P		Pn	07 00 50.2	+0.5
WHVZ	**Whangaehu Hut**	**1.02**	**35**	P		Pn	07 00 49.9	0.0
FWVZ	**Far West T-bar**	**1.02**	**33**	P		Pn	07 00 49.9	-0.1
KHEZ	**Kahui Hut**	**1.03**	**322**	P		Pn	07 00 50.6	+0.7
KHEZ				S		Sn	07 01 05.2	+1.8
DVHZ	**Dannevirke**	**1.04**	**101**	P		Pn	07 00 51.3	+1.4
TIWZ	**Tintock**	**1.04**	**130**	P		Pn	07 00 51.6	+1.6
DREZ	**Durham Road**	**1.05**	**332**	P		Pn	07 00 50.8	+0.8
TUVZ	**Tukino**	**1.06**	**37**	P		Pn	07 00 50.7	+0.3
PNHZ	**Pukenui**	**1.07**	**79**	P		Pn	07 00 51.6	+1.2
MHEZ	**Mangahewa**	**1.11**	**339**	P		Pn	07 00 52.2	+1.3
NGZ	**Ngauruhoe**	**1.11**	**33**	P		Pn	07 00 51.3	+0.3
NBEZ	**Newall Road No**	**1.13**	**318**	P		Pn	07 00 51.9	+0.8
PKE	**Pukeiti**	**1.13**	**324**	P		Pn	07 00 52.0	+0.9
BHHZ	**Black Hill Sta**	**1.14**	**57**	P		Pn	07 00 51.4	+0.1
TWVZ	**Taurewa**	**1.15**	**24**	P		Pn	07 00 51.3	-0.1
OTVZ	**Oturere**	**1.15**	**34**	P		Pn	07 00 51.9	+0.3
MTW	**Mount Morrison**	**1.16**	**154**	P		Pn	07 00 53.1	+1.5
WTVZ	**West Tongariro**	**1.16**	**31**	P		Pn	07 00 51.7	0.0
WEL	**Wellington**	**1.17**	**182**	P		Pn	07 00 52.0	+0.3
TCW	**Tory Channel**	**1.17**	**201**	P		Pn	07 00 51.4	-0.3
ETVZ	**East Tongariro**	**1.19**	**35**	P		Pn	07 00 52.8	+0.6
KRVZ	**Karewarewa**	**1.20**	**32**	P		Pn	07 00 52.4	+0.2
TMVZ	**Te Maari**	**1.21**	**34**	P		Pn	07 00 52.6	+0.2
BFZ	**Birch Farm**	**1.22**	**118**	P		Pn	07 00 54.1	+1.8
KRHZ	**Kereru**	**1.27**	**69**	P		Pn	07 00 54.8	+1.6
TMWZ	**Te Maipa**	**1.28**	**141**	P		Pn	07 00 54.8	+1.7
BHW	**Baring Head**	**1.29**	**179**	P		Pn	07 00 54.0	+0.7
KATZ	**Kakaramea**	**1.32**	**31**	P		Pn	07 00 54.9	+1.0
MSWZ	**Moikau Station**	**1.34**	**166**	P		Pn	07 00 55.6	+1.6
PAWZ	**Paruwai Farm**	**1.34**	**160**	P		Pn	07 00 56.1	+2.0
KWHZ	**Kaweka Forest**	**1.41**	**61**	P		Pn	07 00 57.0	+2.0
TRWZ	**Traveller**	**1.44**	**153**	P		Pn	07 00 58.5	+3.2
RATZ	**Rangitukua**	**1.45**	**31**	P		Pn	07 00 58.1	+2.6
TUWZ	**Tuamarina**	**1.48**	**207**	P		Pn	07 00 55.8	0.0
PLWZ	**Palliser**	**1.49**	**168**	P		Pn	07 00 57.4	+1.3
NNZ	**Nelson**	**1.56**	**225**	P		Pn	07 00 56.9	0.0
PXZ	**Pawanui**	**1.56**	**87**	P		Pn	07 01 04.1	+7.1
MCHZ	**McNeill Hill**	**1.59**	**66**	P		Pn	07 01 01.4	+4.0
BKZ	**Black Stump Fm**	**1.60**	**54**	P		Pn	07 00 59.0	+1.5
HIZ	**Hauiti**	**1.60**	**1**	P		Pn	07 00 58.4	+0.8
BSWZ	**Blackbirch Sta**	**1.75**	**204**	P		Pn	07 01 00.2	+0.5
TLZ	**Tolley Road**	**1.87**	**17**	P		Pn	07 01 01.5	+0.2
QRZ	**Quartz Range**	**1.89**	**247**	P		Pn	07 01 01.5	-0.1
THZ	**Tophouse**	**2.20**	**221**	P		Pn	07 01 06.5	+0.7
MKRZ	**Makatiti**	**2.35**	**33**	P		Pn	07 01 06.5	-1.4
TOZ	**Tahuroa Road**	**2.44**	**13**	P		Pn	07 01 09.3	+0.2
KHZ	**Kahutara**	**2.50**	**203**	P		Pn	07 01 10.0	+0.2
URZ	**Urewera**	**2.56**	**44**	P		Pn	07 01 11.7	+0.9
DSZ	**Denniston Nort**	**2.81**	**234**	P		Pn	07 01 14.3	+0.1
RUGZ	**Raukumara Rang**	**3.09**	**47**	P		Pn	07 01 19.8	+1.7
GVZ	**Greta Valley S**	**3.15**	**205**	P		Pn	07 01 18.4	-0.5
LTZ	**Lake Taylor**	**3.29**	**215**	P		Pn	07 01 21.2	+0.5
INZ	**Inchbonnie**	**3.64**	**223**	P		Pn	07 01 25.7	+0.1
OXZ	**Oxford**	**3.83**	**212**	P		Pn	07 01 27.0	-1.1
MQZ	**McQueen's Vall**	**3.94**	**204**	P		Pn	07 01 27.9	-1.7
WVZ	**Waitaha Valley**	**4.26**	**225**	P		Pn	07 01 34.3	+0.3
FOZ	**Fox Glacier**	**5.07**	**226**	P		Pn	07 01 44.1	-1.0
JCZ	**Jackson Bay**	**5.99**	**227**	P		Pn	07 01 57.2	-0.6

WEL 25 07:06:05.0,46°S±2°×16°7E±°, h6km±1km, M3.2/7, ML3.3/7, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=83.3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.24**	**66**	P		Pg	07 06 11.2	+1.6
DCZ				S		Sg	07 06 15.2	+2.5
PYZ	**Puysegur Point**	**0.62**	**191**	P		Pb	07 06 18.1	0.0
PYZ				S		Sb	07 06 27.0	-0.1
WHZ	**Wether Hill Ro**	**0.84**	**114**	P		Pb	07 06 22.4	+0.5
WHZ				S		Sn	07 06 35.4	-0.6
MLZ	**Mavora Lakes**	**0.92**	**78**	P		Pg	07 06 22.4	-0.2
MLZ				S		Sb	07 06 35.2	-0.6
MSZ	**Milford Sound**	**1.17**	**41**	P		Pg	07 06 23.3	-4.1
MSZ				S		Sg	07 06 42.1	-0.5
APZ	**The Paps**	**1.50**	**148**	P		Pg	07 06 34.0	+0.3
WKZ	**Wanaka**	**1.70**	**65**	P		Pn	07 06 34.9	-0.3
WKZ				S		Sn	07 06 56.2	-1.1
SYZ	**Scrubby Hill**	**1.87**	**122**	P		Pb	07 06 39.1	-0.4
TUZ	**Tuapeka**	**1.99**	**102**	P		Pb	07 06 40.8	-0.8
JCZ	**Jackson Bay**	**2.03**	**44**	P		Pn	07 06 38.3	-1.5
JCZ				S		Sb	07 07 07.7	-0.2
LBZ	**Lake Benmore**	**2.65**	**65**	P		Pn	07 06 47.5	-0.7
ODZ	**Otahua Downs**	**2.73**	**80**	P		Pn	07 06 48.0	-1.3
FOZ	**Fox Glacier**	**2.94**	**47**	P		Pn	07 06 51.0	-1.1
GCSZ	**Gaunt Creek Bo**	**3.35**	**49**	P		Pn	07 06 59.0	+1.1
ARCZ	**Arundel**	**3.48**	**64**	P		Pn	07 06 58.9	-0.8
RPZ	**Rata Peaks**	**3.52**	**60**	P		Pn	07 06 59.5	-0.8
WVZ	**Waitaha Valley**	**3.74**	**50**	P		Pn	07 07 02.1	-1.0
INZ	**Inchbonnie**	**4.36**	**51**	P		Pn	07 07 11.1	-0.6
MQZ	**McQueen's Vall**	**4.54**	**68**	P		Pn	07 07 13.2	-0.9
GVZ	**Greta Valley S**	**5.14**	**62**	P		Pn	07 07 21.1	-1.5
DSZ	**Denniston Nort**	**5.24**	**45**	P		Pn	07 07 21.4	-2.5
THZ	**Tophouse**	**5.81**	**51**	P		Pn	07 07 30.5	-1.1
QRZ	**Quartz Range**	**6.30**	**43**	P		Pn	07 07 36.1	-2.2

*NEIC **25** 07:24:01.3±1.6, 7°.94S±0°.08×74°.39W±0°.10, h144km±11km, mb4.2/8,Error ellipse: s-maj=14.0km s-min=11.0km az=83.0*
*IDC **25** 07:24:01.5±0.8, 7°.90S×74°.38W, h144km±7km, mb3.7/11, mb1 3.8/16,mb1mx3.7/33,mbtmp4.2/16,Error ellipse: s-maj=15.0km s-min=12.3km az=64.0*
*VAO **25** 07:24:03.3±0.4, 7°.89S×74°.21W, h130km±4km, mb4.5*
ISC 25 07:24:02.1±0.4, 7°.94S±0°.04×74°.42W±0°.05, h150km, n113, σ1§38/123, mb4.1/15, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.02**	**281**	P		**Pn**	**07 25 01.9**	**-1.0**
	41nm,0.3s,baz=75,slow=3.4,SNR=551							
ATAH				S		**Sn**	**07 25 47.5**	**-2.7**
	29nm,0.3s,baz=59,slow=20,SNR=10							
NNA	**Nana**	**4.67**	**210**	P		**Pn**	**07 25 11.3**	**0.0**
	13nm,0.3s,baz=20,slow=7.6,SNR=28							
NNA				S		**Sn**	**07 26 01.1**	**-4.1**
	21nm,0.3s,baz=323,slow=20,SNR=6.6							
NNA	**Nana**	**4.67**	**210**			**Pn**	**07 25 11.7**	**+0.5**
NNA						**Sn**	**07 26 05.0**	**-0.2**
PTLC	**Puerto Leguiza**	**8.07**	**357**	e	P	Pn	07 25 50.2	-6.2
ETMB	**Extrema**	**8.32**	**104**	e	P	**Pn**	**07 26 58.9**	**-0.9**
PUAC	**Puerto Aysis, P**	**8.70**	**346**	e	P	**Pn**	**07 26 03.4**	**-1.6**
OTAV	**Otavalo**	**9.06**	**334**	e	P	**Pn**	**07 26 10.

TXAR	**Lajitas Array**	**46.55**	**324**	P		**P**	07 32 15.2	+0.2	
	comp=Z,0.7nm,0.8s,baz=147,slow=8.8,SNR=7.5								
TXAR				pP		**pP**	07 32 47.1	-1.7	
	comp=Z,0.2nm,0.6s,baz=146,slow=7.6,SNR=2.5								
TXAR				PcP		**PcP**	07 33 46.7	-0.1	
	comp=Z,0.1nm,0.4s,baz=147,slow=5.4,SNR=1.4								
TXAR	**Lajitas Array**	**46.55**	**324**	P		**P**	07 32 14.4	-0.5	
PMSA	**Palmer Station**	**57.21**	**175**	*eP*		**P**	07 33 35.9	+2.7	
PDAR	**Pinedale Array**	**59.76**	**331**	P		**P**	07 33 51.1	-0.4	
	comp=Z,0.1nm,0.3s,baz=125,slow=9.3,SNR=3.9								
PDAR				PcP		**PcP**	07 34 36.0	-0.8	
	comp=Z,0.3nm,0.3s,baz=107,slow=3.1,SNR=5.9								
HWUT	**Hardware Ranch**	**59.91**	**328**	P		**P**	07 33 52.3	-0.2	
HWUT				IAmb		IAmb	07 33 53.1		
	comp=Z,2.9nm,0.7s								
YHL	**Hebgen Lake**	**62.10**	**331**	P		**P**	07 34 08.2	+0.9	
LIC	**Lamto**	**70.62**	**81**	*eP*		**P**	07 35 00.8	-1.0	
	comp=Z,6.0nm,0.5s								
TIC	**Toumodi**	**70.71**	**80**	*eP*		**P**	07 35 02.2	-0.2	
DBIC	**Dimbokro**	**70.87**	**80**	P		**P**	07 35 02.8	-0.5	
	comp=Z,3.2nm,0.3s,baz=260,slow=3.3,SNR=14								
KIC	**Kosan Boka**	**70.93**	**80**	*eP*		**P**	07 35 03.0	-0.7	
	comp=Z,8.1nm,0.7s								
TORD	**Torodi Ar. Bea**	**78.44**	**75**	P		**P**	07 35 46.1	-0.8	
	comp=Z,1.0nm,0.3s,baz=265,slow=5.2,SNR=12								
TORD				pP		**pP**	07 36 22.3	-1.8	
	comp=Z,1.0nm,0.8s,baz=289,slow=4.2,SNR=2.5								
ESDC	**Sonseca Array**	**80.30**	**48**	P		**P**	07 35 56.8	+0.1	
	comp=Z,0.3nm,0.5s,baz=244,slow=6.0,SNR=2.4								
ILAR	**Eielson Array**	**89.78**	**336**	pP		pP	07 37 21.7	+0.4	
	comp=Z,0.8nm,0.8s,baz=128,slow=4.3,SNR=2.7								
STKA	**Stephens Creek**	**127.55**	**219**	PKP		**PKPdf**	07 42 49.9	-0.1	
	comp=Z,0.4nm,0.4s,baz=169,slow=4.1,SNR=3.5								
ZALV	**Zalesovo Beam**	**131.16**	**16**	pPKP		pPKPdf	07 43 37.3	+1.4	
	comp=Z,0.9nm,0.5s,baz=277,slow=1.6,SNR=2.5								
MKAR	**Makanchi Array**	**136.46**	**23**	pPKP		pPKPdf	07 43 46.6	+0.4	
	comp=Z,0.8nm,0.8s,baz=329,slow=2.1,SNR=3.9								
ASAR	**Alice Springs**	**138.13**	**221**	PKhKP		PKPpre	07 43 01.2		
	comp=Z,0.3nm,0.7s,baz=149,slow=3.2,SNR=5.1								
ASAR				PKP		**PKPdf**	07 43 09.8	-0.4	
	comp=Z,0.9nm,0.6s,baz=122,slow=2.0,SNR=12								
ASAR				pPKP		pPKPdf	07 43 48.4	-1.6	
	comp=Z,0.3nm,0.6s,baz=134,slow=2.8,SNR=2.2								
WRA	**Warramunga Arr**	**140.39**	**225**	PKhKP		PKPpre	07 43 07.8		
	comp=Z,0.4nm,0.4s,baz=131,slow=2.6,SNR=14								
WRA				PKP		**PKPdf**	07 43 14.2	-0.2	
	comp=Z,0.9nm,0.5s,baz=122,slow=1.9,SNR=14								
WRA				pPKP		pPKPdf	07 43 55.4	+1.2	
	comp=Z,0.8nm,0.7s,baz=130,slow=2.4,SNR=3.8								
FITZ	**Fitzroy Crossi**	**147.41**	**217**	PKPbc		**PKPbc**	07 43 29.3	+0.1	
	comp=Z,4.5nm,0.7s,baz=175,slow=3.2,SNR=9.5								

*SOME **25** 07:36:29.7, 43.08N×70.38E*
*NNC **25** 07:36:30.0±0.1, 43.05N×70.42E, h0km, Error ellipse: s-maj=0.7km s-min=0.2km az=48.0, Suspected Mining explosion.*

*KRNET **25** 07:36:33.2±0.1, 42.55N×70.49E, mb2.6*
ISC 25 07:36:31.1±1.4, **43.06N**±0.07×**70.51E**±0.07, **h0**km, **n17, σ0s89/34, 25C-9D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**0.03**	**350**	⇑P		**Pg**	**07 36 31.3**	**-0.3**
KK07				⇑S		**Sg**	**07 36 32.3**	**+0.3**
KK06	**Karatay Array**	**0.03**	**25**	⇑P		**Pg**	**07 36 31.7**	**-0.1**
KK06				⇑S		**Sg**	**07 36 32.8**	**+0.6**
KK02	**Karatay Array**	**0.04**	**5**	⇑P		**Pg**	**07 36 31.7**	**-0.3**
KK02				⇓S		**Sg**	**07 36 33.0**	**+0.5**
KK03	**Karatay Array**	**0.04**	**354**	⇑P		**Pg**	**07 36 31.5**	**-0.4**
KK03				⇑S		**Sg**	**07 36 32.8**	**+0.4**
KK31	**Karatay Array**	**0.04**	**5**	⇑P		**Pg**	**07 36 31.7**	**-0.2**
	14nm,0.3s,baz=227,slow=17,SNR=5440							
KK31				⇑S		**Sg**	**07 36 33.0**	**+0.5**
	718nm,0.5s,baz=230,slow=30							
KK01	**Karatay Array**	**0.04**	**359**	⇑P		**Pg**	**07 36 31.6**	**-0.4**
KK01				⇑S		**Sg**	**07 36 32.8**	**+0.3**
KK08	**Karatay Array**	**0.04**	**341**	⇑P		**Pg**	**07 36 31.5**	**-0.5**
KK08				⇑S		**Sg**	**07 36 32.5**	**0.0**
KK04	**Karatay Array**	**0.05**	**359**	⇑P		**Pg**	**07 36 31.7**	**-0.3**
KK04				⇑S		**Sg**	**07 36 32.9**	**+0.2**
KK05	**Karatay Array**	**0.05**	**13**	⇑P		**Pg**	**07 36 32.0**	**-0.2**
KK05				⇑S		**Sg**	**07 36 33.2**	**+0.3**
KK09	**Karatay Array**	**0.06**	**355**	⇑P		**Pg**	**07 36 31.8**	**-0.4**
KK09				⇑S		**Sg**	**07 36 33.1**	**+0.1**
MNAS	**Manas**	**1.58**	**111**	⇓*e*P		**Pb**	**07 37 01.0**	**-0.3**
	baz=92							
MNAS				⇓*i*S		**Sn**	**07 37 21.1**	**-0.7**
	baz=92							
EKS2	**Erkin-Say**	**2.44**	**98**	⇑*i*P		**Pb**	**07 37 15.4**	**-0.5**
	baz=86							
EKS2				⇑*i*S		**Sb**	**07 37 46.2**	**-0.4**
	baz=86							
AML	**Almayashu**	**2.53**	**111**	⇓*i*P		**Pn**	**07 37 15.3**	**+1.4**
	baz=99							
AML				⇓*i*S		**Sn**	**07 37 45.9**	**+0.3**
	baz=99							
USP	**Ospenovka**	**2.93**	**85**	⇓*i*P		**Pb**	**07 37 23.7**	**-0.6**
	baz=75							
USP				⇓*i*S		**Sb**	**07 38 00.8**	**+0.2**
	baz=75							
FRU1	**Bishkek**	**3.04**	**93**	⇑*i*P		**Pb**	**07 37 24.1**	**-2.0**
	baz=84							
FRU1				⇑*i*S		**Sb**	**07 38 01.2**	**-2.6**
	baz=84							
ARLS	**Aral**	**3.07**	**112**	⇑*i*P		**Pn**	**07 37 22.4**	**+1.4**
	baz=2.0							
ARLS				⇑*i*S		**Sn**	**07 37 57.8**	**-0.7**
	baz=2.0							
UCH	**Uchtor**	**3.07**	**104**	⇓*e*P		**Pn**	**07 37 23.3**	**+1.9**
	baz=95							
UCH				⇓*i*S		**Sn**	**07 38 00.3**	**+1.3**
	baz=95							

*JMA **25** 07:45:36.8±0.2, 37.39N×142.04E, h32km±4km, M3.9*
*NIED **25** 07:45:36.9, 37.39N×142.04E, h32km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.54; Mθθ=1.22; Mφφ=0.33; Mrθ=0.58; Mθφ=0.84; Mφr=1.51; Fault plane solution: Mo=2.30000×10^14^ NP1: φs=215.00000°, δ=68.00000°, λ=-110.00000°. NP2: φs=80.00000°, δ=30.00000°, λ=-49.00000°.*
*IDC **25** 07:45:41.0±3.1, 37.27N×142.06E, h58km±29km, mb3.2/5, mb1 3.5/9, mb1mx3.3/53, mbtmp3.6/9, ML2.3/3, MS2.5/3, Ms1 2.5/3, ms1mx2.3/20 Error ellipse: s-maj=32.1km s-min=19.5km az=97.0*
ISC 25 07:45:35.7±3.3, **37.40N**±0.04×**142.08E**±0.06, **h15**km±21km, **n30, σ1s22/33, mb3.5/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.96**	**268**	P		**Pb**	**07 45 53.8**	**-0.3**
JFK				*e*S		**Sb**	**07 46 05.4**	**-1.2**
JMST	**Minamisoumatoc**	**1.00**	**289**	P		**Pb**	**07 45 54.4**	**-0.3**
JMST				S		**Sb**	**07 46 06.7**	**-1.0**
JIKH	**Ishinomakikobu**	**1.03**	**332**	P		**Pb**	**07 45 55.1**	**-0.2**
JIKH				S		**Sb**	**07 46 07.5**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.06**	**254**	P		**Pb**	**07 45 55.2**	**-0.6**
ONAJ				*e*S		**Sb**	**07 46 08.0**	**-1.6**
JMM	**Marumori**	**1.12**	**295**	P		**Pn**	**07 45 56.4**	**-0.5**
JMM				*e*S		**Sb**	**07 46 10.2**	**-1.0**
JIO	**Ouri**	**1.20**	**332**	P		**Pn**	**07 45 57.7**	**-0.3**
JIO				*e*S		**Sb**	**07 46 11.9**	**-1.6**
JFT	**Otama**	**1.39**	**275**	P		**Pn**	**07 46 01.1**	**+0.5**
JFT				S		**Sn**	**07 46 18.0**	**-0.7**
JOU	**Okura**	**1.48**	**311**	P		**Pn**	**07 46 02.3**	**+0.5**
JOU				S		**Sn**	**07 46 20.9**	**0.0**
JMK	**Ichinoseki**	**1.69**	**337**	P		**Pn**	**07 46 05.4**	**+0.7**
JYS	**Shirataka**	**1.79**	**298**	P		**Pn**	**07 46 07.7**	**+1.6**
JYS				*e*S		**Sn**	**07 46 29.0**	**+0.4**
JYK	**Kaneyama**	**2.03**	**319**	P		**Pn**	**07 46 10.2**	**+0.8**
JYK				*e*S		**Sn**	**07 46 34.5**	**-0.1**
MJAR	**Matsushiro Arr**	**3.21**	**256**	P		**Pn**	**07 46 27.6**	**+1.9**
	0.4nm,0.3s,baz=71,slow=10,SNR=17							
MJAR				S		**Sn**	**07 47 05.6**	**+1.9**
	0.4nm,0.3s,baz=81,slow=21,SNR=2.0							
MAT	**Matsushiro**	**3.21**	**256**	P		**Pn**	**07 46 27.9**	**+2.2**
MAT				*e*S		**Sn**	**07 47 05.2**	**+1.4**
JHJ	**Hachijo jima 2**	**4.66**	**204**	P		**Pn**	**07 46 46.7**	**+1.1**
	15nm,0.3s,baz=54,slow=21,SNR=2.1							
JHJ				S		**Sn**	**07 47 36.6**	**-2.8**
	8.7nm,0.3s,baz=68,slow=19,SNR=1.9							
ASAJ	**Asahikawa**	**6.72**	**3**	LR		LR	07 50 00.1	
	comp=Z,31nm,20.0s,baz=356,slow=38							
USRK	**Ussuriysk Ar.**	**10.22**	**315**	P		Pn	07 48 07.2	+5.3
	baz=106,slow=13,SNR=2.7							
KSRS	**Korea Array**	**11.26**	**275**	LR		LR	07 52 20.5	
	comp=Z,28nm,18.6s,baz=70,slow=35							
KLR	**Kul'dur**	**14.00**	**331**	LR		LR	07 54 18.8	
	comp=Z,22nm,19.0s,baz=176,slow=37							
PETK	**Petropavlovsk-**	**19.11**	**30**	P		**Pn**	**07 50 00.2**	**+1.5**
	0.1nm,0.3s,baz=201,slow=10,SNR=1.2							
H11N2	**WAKE ISLAND Hy**	**27.89**	**122**	T		T	08 21 01.3	
	baz=315,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hy**	**27.89**	**122**	T		T	08 21 01.9	
	baz=315,slow=75,SNR=37							
H11N3	**WAKE ISLAND Hy**	**27.90**	**122**	T		T	08 21 02.1	
	baz=315,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy**	**28.62**	**124**	T		T	08 21 49.3	
	baz=316,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**28.62**	**124**	T		T	08 21 58.6	
	baz=316,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**28.64**	**124**	T		T	08 21 59.7	
	baz=316,slow=76,SNR=22							
MKAR	**Makanchi Array**	**44.38**	**302**	P		**P**	**07 53 46.0**	**+0.6**
	0.3nm,0.6s,baz=94,slow=8.7,SNR=2.6							
KURBB	**Kurchatov Arra**	**46.20**	**308**	P		**P**	**07 53 59.7**	**-0.1**
	0.7nm,0.4s,baz=81,slow=7.8,SNR=2.7							
ILAR	**Eielson Array**	**48.90**	**33**	P		**P**	**07 54 21.2**	**+0.6**
	0.3nm,0.7s,baz=277,slow=7.1,SNR=4.8							
WRA	**Warramunga Arr**	**57.50**	**189**	P		**P**	**07 55 23.4**	**-0.9**
	0.4nm,0.6s,baz=6.6,slow=7.3,SNR=7.8							
ASAR	**Alice Springs**	**61.22**	**189**	P		**P**	**07 55 49.1**	**-0.9**
	0.3nm,0.8s,baz=37,slow=6.4,SNR=2.7							

*IDC **25** 07:56:02.3±5.4, 36.38N×71.17E, h117km±52km, mb3.2/4, mb1 3.3/7, mb1mx3. 1/44, mbtmp3.6/7, MS2.8/1, Ms1 2.8/1, ms1mx2. 1/20, Error ellipse: s-maj=35.9km s-min=30.7km az=53.0*
*NNC **25** 07:56:06.5±10.0, 37.08N×70.66E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=82.9km s-min=61.0km az=171.0*
ISC 25 07:56:06.0±1.2, **36.69N**±0.10×**70.94E**±0.08, **h150**km, **n12, σ1s83/16, mb3.3/4, 5C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.41**	**357**	⇓P		**Pn**	**07 57 39.6**	**+1.5**
	3.0nm,0.2s,baz=182,slow=13,SNR=196							
KK31				⇑S		**Sn**	**07 58 50.1**	**-0.2**
	5.5nm,0.4s,baz=188,slow=23,SNR=18							
AAK	**Ala-Archa**	**6.54**	**24**	⇑P		**Pn**	**07 57 40.5**	**+0.5**
	2.3nm,0.5s							
AAK				⇑S		**Sn**	**07 58 52.9**	**-0.7**
	8.6nm,0.7s							
TKM2	**Tokmak 2**	**7.17**	**28**	⇓P		**Pn**	**07 57 48.7**	**+0.2**
	2.7nm,0.5s							
TKM2				⇑S		**Sn**	**07 59 08.6**	**-0.3**
	3.9nm,0.7s							
GEYT	**Alibeck**	**10.29**	**281**	P		**Pn**	**07 58 30.4**	**+0.5**
	0.4nm,0.3s,baz=104,slow=12,SNR=2.8							
GEYT				S		**Sn**	**08 00 21.3**	**-2.5**
	0.4nm,0.3s,baz=113,slow=20,SNR=1.8							
AB31	**Akbulak array**	**14.89**	**331**	⇓P		**P**	**07 59 31.9**	**+1.0**
	0.3nm,0.3s,baz=157,slow=12,SNR=24							
AB31				⇑S		**Sn**	**08 02 10.4**	**-3.8**
	0.4nm,0.4s,baz=253,slow=50,SNR=2.5							
KURBB	**Kurchatov Arra**	**14.95**	**19**	P		**Pn**	**07 59 28.7**	**-1.0**
	0.0nm,0.3s,baz=209,slow=10,SNR=1.7							
ZALV	**Zalesovo Beam**	**19.76**	**25**	P		**Pn**	**08 00 25.9**	**-1.3**
	0.1nm,0.3s,baz=232,slow=11,SNR=4.1							
ARCES	**ARCESS Array B**	**40.95**	**338**	P		**P**	**08 03 36.1**	**+2.7**
	2.0nm,0.8s,baz=113,slow=6.9,SNR=1.5							
YAK	**Yakutsk**	**43.83**	**-36**	LR		LR	08 23 58.5	
	comp=Z,9.6nm,18.7s,baz=210,slow=38							
NOA	**NORSAR Array B**	**44.20**	**323**	P		**P**	**08 04 01.5**	**+1.8**
	0.5nm,0.7s,baz=83,slow=8.7,SNR=1.1							
WRA	**Warramunga Arr**	**82.13**	**122**	P		**P**	**08 08 08.1**	**-2.0**
	0.1nm,0.5s,baz=324,slow=4.9,SNR=4.8							
ASAR	**Alice Springs**	**84.40**	**125**	P		**P**	**08 08 20.4**	**-1.3**
	0.3nm,0.6s,baz=319,slow=4.3,SNR=4.4							

IDC 25 08:04:55.3±5.4, **17.19S**×**175.80W, h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.5**/35, **mbtmp3.8**/3, **Error ellipse: s-maj=176.3km s-min=106.7km az=157.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.16**	**241**	P		P	08 12 42.0	+0.4
	0.5nm,0.4s,baz=66,slow=10.0,SNR=2.1							
WRA	**Warramunga Arr**	**47.21**	**259**	P		P	08 13 30.0	-0.4
	0.2nm,0.3s,baz=96,slow=7.8,SNR=13							
ASAR	**Alice Springs**	**47.38**	**253**	P		P	08 13 31.6	-0.1
	2.6nm,0.6s,baz=90,slow=8.3,SNR=57							
ASAR				PcP		PcP	08 15 02.1	-0.5
	0.1nm,0.5s,baz=93,slow=3.7,SNR=1.2							

*NEIC **25** 08:13:07.7±1.0, 62.02N±0.03×151.05W±0.07, h65km±8km, Error ellipse: s-maj=4.6km s-min=4.0km az=100.0*
*ANF **25** 08:13:07.9±0.5, 62.02N×150.98W, h69km±6km, ML3.7/17, ML3.7/17, Error ellipse: s-maj=6.4km s-min=3.1km az=84.0*
*AEIC **25** 08:13:08±0.9, 62.00N±0.03×151.04W±0.06, h65km±6km, ML3.2, Error ellipse: s-maj=4.3km s-min=3.5km az=206.0*
ISC 25 08:13:07.6±1.2, **62.02N**±0.02×**151.04W**±0.02, **h69**km±7km, **n131, σ0s78/176, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.24**	**261**			**Pn**	**08 13 18.0**	**-0.3**
SKT	**Skwentna**	**0.24**	**261**			**Sn**	**08 13 26.0**	**-0.2**
CUT	**Chulitna**	**0.53**	**43**	P		**Pn**	**08 13 20.7**	**+0.1**
	baz=222,SNR=235							
CUT				S		**Sn**	**08 13 30.9**	**+0.8**
	baz=222							
CUT	**Chulitna**	**0.53**	**43**			**Pn**	**08 13 20.7**	**+0.1**
CUT						**Sn**	**08 13 31.0**	**+0.8**
SUA	**Susitna One**	**0.57**	**166**			**Pn**	**08 13 20.5**	**-0.7**
SUA						**Sn**	**08 13 30.5**	**-0.7**
STLK	**Strandline Lak**	**0.65**	**216**			**Pn**	**08 13 21.4**	**-0.6**
CGLM	**Capps Glacier**	**0.85**	**213**			**Pn**	**08 13 23.6**	**-0.7**
CGLM						**Sn**	**08 13 36.4**	**-0.2**
SPCG	**Spurr Capps Gl**	**0.87**	**213**			**Pn**	**08 13 23.8**	**-0.7**
SPCG						**Sn**	**08 13 36.4**	**-0.6**
SPCP	**Crater Peak Br**	**0.92**	**216**			**Pn**	**08 13 24.7**	**-0.5**
SPCP						**Sn**	**08 13 38.0**	**-0.3**
CP2	**Crater Peak Tw**	**0.95**	**218**			**Pn**	**08 13 25.2**	**-0.4**
FIS	**Fire Island**	**0.96**	**156**			**Pn**	**08 13 26.1**	**+0.6**
SPCN	**Chakachatna No**	**0.97**	**215**			**Pn**	**08 13 25.4**	**-0.3**
SPCN						**Sn**	**08 13 39.9**	**+0.8**
SPBG	**Spurr Blockage**	**0.99**	**220**			**Pn**	**08 13 25.7**	**-0.3**
SPCR	**Spurr Chakacha**	**0.99**	**215**			**Pn**	**08 13 25.4**	**-0.6**
SPCR						**Sn**	**08 13 39.5**	**-0.2**
BGL	**Barrier Glacie**	**1.00**	**221**			**Pn**	**08 13 26.0**	**-0.1**
PMR	**Palmer**	**1.00**	**114**			**Pn**	**08 13 25.1**	**-0.9**
PMR						**Sn**	**08 13 40.0**	**+0.3**
PPLA	**Purkeypile**	**1.03**	**329**			**Pn**	**08 13 26.6**	**+0.1**
PPLA	**Purkeypile**	**1.03**	**329**			**Sn**	**08 13 40.7**	**0.0**
GHO	**Glory Hole Cre**	**1.03**	**103**			**Pn**	**08 13 26.4**	**-0.1**
GHO						**Sn**	**08 13 41.4**	**+0.8**
CKL	**Chakachamna La**	**1.03**	**218**			**Pn**	**08 13 26.1**	**-0.5**
SPWE	**Spurr West**	**1.04**	**225**			**Pn**	**08 13 26.7**	**0.0**
RC01	**Rabbit Creek A**	**1.12**	**146**	P		**Pn**	**08 13 26.8**	**-0.8**
	baz=326,SNR=130							
RC01				S		**Sn**	**08 13 42.3**	**-0.1**
	baz=326							
RC01	**Rabbit Creek A**	**1.12**	**146**			**Pn**	**08 13 26.8**	**-0.8**
RC01						**Sn**	**08 13 42.4**	**-0.1**
HUR	**Hurricane**	**1.16**	**33**			**Pn**	**08 13 28.5**	**+0.4**
HUR						**Sn**	**08 13 43.8**	**+0.4**
CAPN	**Captain Cook N**	**1.26**	**183**	P		**Pn**	**08 13 30.5**	**+1.2**
	baz=2.6							
CAPN	**Captain Cook N**	**1.26**	**183**			**Pn**	**08 13 30.9**	**+1.6**
SML	**Sawmill**	**1.30**	**98**			**Pn**	**08 13 29.6**	**-0.3**
SML						**Sn**	**08 13 47.1**	**+0.5**
WAT7	**Susitna Watana**	**1.31**	**50**			**Pn**	**08 13 30.3**	**+0.2**
WAT7						**Sn**	**08 13 47.6**	**+0.7**
KNK	**Knik Glacier**	**1.37**	**115**			**Pn**	**08 13 30.5**	**-0.3**
KNK						**Sn**	**08 13 48.1**	**-0.2**
WAT1	**Susitna Watana**	**1.42**	**54**			**Pn**	**08 13 31.5**	**+0.1**
TRF	**Thorofare Moun**	**1.48**	**13**			**Pn**	**08 13 32.8**	**+0.4**
TRF						**Sn**	**08 13 51.8**	**+0.8**
WAT2	**Susitna Watana**	**1.48**	**49**			**Pn**	**08 13 32.6**	**+0.2**
CAST	**Castle Rocks**	**1.48**	**342**			**Pn**	**08 13 32.6**	**+0.2**
SLKM	**Skilak Lake**	**1.57**	**165**			**Pn**	**08 13 32.5**	**-0.9**
SLKM						**Sn**	**08 13 53.6**	**+0.6**
RDT	**Redoubt**	**1.59**	**205**			**Pn**	**08 13 33.6**	**-0.3**
DFR	**Drift River**	**1.64**	**210**			**Pn**	**08 13 34.0**	**-0.4**
DFR	**Drift River**	**1.64**	**210**			**Pn**	**08 13 33.9**	**-0.5**
DFR						**Sn**	**08 13 56.1**	**+1.4**
WAT6	**Susitna Watana**	**1.64**	**68**			**Pn**	**08 13 34.5**	**-0.1**
WAT6						**Sn**	**08 13 55.1**	**+0.2**
O22K	**Cooper Landing**	**1.67**	**157**	P		**Pn**	**08 13 34.0**	**-0.8**
	baz=338,SNR=33							
O22K				S		**Sn**	**08 13 56.6**	**+1.4**
	baz=338							
O22K	**Cooper Landing**	**1.67**	**157**			**Pn**	**08 13 34.3**	**-0.4**
RND	**Reindeer**	**1.72**	**35**			**Pn**	**08 13 35.6**	**+0.1**
NCT	**North Crescent**	**1.72**	**213**			**Pn**	**08 13 35.4**	**-0.2**
RDN	**Redoubt North**	**1.73**	**210**			**Pn**	**08 13 35.2**	**-0.4**
REF	**Redoubt East F**	**1.73**	**208**			**Pn**	**08 13 35.9**	**0.0**
REF						**Sn**	**08 13 58.4**	**+1.2**
PWL	**Port Wells**	**1.74**	**131**			**Pn**	**08 13 34.6**	**-1.2**
PWL						**Sn**	**08 13 56.1**	**-1.0**
SCM	**Sheep Creek Mo**	**1.77**	**94**			**Pn**	**08 13 36.1**	**0.0**
SCM						**Sn**	**08 13 57.9**	**+0.2**
RDWB	**Redoubt West**	**1.77**	**210**			**Pn**	**08 13 36.0**	**-0.2**
RSO	**Redoubt South**	**1.77**	**209**			**Pn**	**08 13 36.2**	**-0.1**
RDSO	**Redoubt South**	**1.77**	**208**			**Pn**	**08 13 36.0**	**-0.4**
RDSO						**Sn**	**08 13 58.6**	**+0.6**
RED	**Redoubt Volcan**	**1.81**	**208**			**Pn**	**08 13 36.5**	**-0.3**
RED						**Sn**	**08 13 59.7**	**+0.9**
CHUM	**Lake Minchumin**	**1.96**	**343**			**Pn**	**08 13 39.1**	**+0.5**
CHUM						**Sn**	**08 14 02.0**	**-0.3**
MCK	**McKinley**	**1.97**	**28**	P		**Pn**	**08 13 39.2**	**+0.4**
	baz=210,SNR=62							
MCK				S		**Sn**	**08 14 04.0**	**+1.5**
	baz=210							
MCK	**McKinley**	**1.97**	**28**			**Pn**	**08 13 39.5**	**+0.6**
MCK						**Sn**	**08 14 04.3**	**+1.7**
DHY	**Denali Highway**	**2.00**	**56**			**Pn**	**08 13 39.6**	**+0.2**
DHY						**Sn**	**08 14 04.0**	**+0.5**
SEW	**Seward**	**2.07**	**157**			**Pn**	**08 13 41.2**	**+1.1**
BPAW	**Bear Paw Mtn.**	**2.09**	**1**			**Pn**	**08 13 40.5**	**+0.1**
BPAW						**Sn**	**08 14 05.6**	**+0.2**
GLI	**Glacier Island**	**2.21**	**119**			**Pn**	**08 13 40.5**	**-1.6**
GLI						**Sn**	**08 14 06.6**	**-1.8**
BRLK	**Bradley Lake**	**2.26**	**178**			**Pn**	**08 13 43.7**	**+0.9**
BWN	**Browne**	**2.28**	**18**			**Pn**	**08 13 43.7**	**+0.8**
BRSE	**Bradley Lake S**	**2.29**	**176**			**Pn**	**08 13 43.1**	**-0.1**
BRSE						**Sn**	**08 14 11.8**	**+1.5**
M24K	**Tolsona, Glenn**	**2.29**	**86**	P		**Pn**	**08 13 43.4**	**+0.2**
	baz=270,SNR=37							
M24K				S		**Sn**	**08 14 11.8**	**+1.4**
	baz=270							
M24K	**Tolsona, Glenn**	**2.29**	**86**			**Pn**	**08 13 43.2**	**+0.1**
M24K						**Sn**	**08 14 11.3**	**+0.9**
ILS	**Iliamna Low So**	**2.29**	**206**			**Pn**	**08 13 43.8**	**+0.5**
SVW2	**Sparrevohn**	**2.36**	**249**			**Pn**	**08 13 43.8**	**-0.3**
HOM	**Homer**	**2.39**	**187**	P		**Pn**	**08 13 45.1**	**+0.7**
	baz=7.0							
HOM				S		**Sn**	**08 14 14.7**	**+2.1**
	baz=7.0							
TT01	**Tatalina**	**2.48**	**293**			**Pn**	**08 13 45.1**	**-0.6**
TTA	**Tatalina**	**2.48**	**294**			**Pn**	**08 13 45.6**	**-0.2**
TTA						**Sn**	**08 14 13.6**	**-1.5**
KLU	**Klutina**	**2.49**	**100**			**Pn**	**08 13 45.4**	**-0.5**
CNPM	**China Poot**	**2.50**	**182**			**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.75**	**261**	P	**P**	**08 44 41.7**	**+0.4**
	1.2nm,0.4s,baz=96,slow=10,SNR=1.8						
STKA	**Stephens Creek**	**38.74**	**242**	P	**P**	**08 45 22.5**	**+0.2**
	1.0nm,0.6s,baz=96,slow=9.4,SNR=4.0						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**08 46 11.0**	**-0.2**
	0.7nm,0.4s,baz=98,slow=7.0,SNR=30						
ASAR	**Alice Springs**	**45.03**	**255**	P	**P**	**08 46 11.9**	**0.0**
	1.8nm,0.6s,baz=88,slow=8.3,SNR=34						
ASAR				PcP	**PcP**	**08 47 40.3**	**-0.9**
	0.3nm,0.5s,baz=110,slow=4.0,SNR=4.6						
PETK	**Petropavlovsk-**	**74.22**	**345**	P	**P**	**08 49 26.2**	**+0.7**
	2.6nm,0.9s,baz=110,slow=8.3,SNR=2.2						
TXAR	**Lajitas Array**	**85.92**	**57**	P	**P**	**08 50 28.2**	**+1.0**
	0.5nm,0.8s,baz=225,slow=5.3,SNR=8.3						
ILAR	**Eielson Array**	**86.25**	**13**	P	**P**	**08 50 26.9**	**-1.0**
	0.3nm,0.4s,baz=217,slow=4.4,SNR=7.3						
ARCES	**ARCESS Array B**	**126.83**	**350**	PKP	**PKPdf**	**08 56 44.6**	**-0.8**
	2.5nm,0.8s,baz=349,slow=1.9,SNR=3.6						
BRTR	**Keskin Array B**	**145.37**	**315**	PKPbc	**PKPdf**	**08 57 20.4**	**-0.2**
	1.0nm,0.8s,baz=54,slow=3.7,SNR=2.3						

*IDC **25** 08:40:14.4±1.2,13.17N×143.75E,h222km±15km,mb3.1/5, mb1 3.3/5,mb1mx3.0/45,mbtmp3.7/5,Error ellipse: s-maj=50.7km s-min=17.5km az=99.0*

ISC 25 08:40:12.9±1.0,13.2N±0.2×143.3E±0.2,h200km,n6, σ1§37/7,mb3.4/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.55**	**74**	P	**Pn**	**08 40 48.2**	**+1.2**
	8.3nm,0.3s,baz=238,slow=9.5,SNR=7.7						
GUMO				S	**Sn**	**08 41 13.6**	**+0.1**
	28nm,0.3s,baz=180,slow=20,SNR=16						
WRA	**Warramunga Arr**	**34.07**	**195**	P	**P**	**08 46 38.8**	**+0.3**
	2.4nm,0.6s,baz=17,slow=9.5,SNR=40						
ASAR	**Alice Springs**	**37.72**	**194**	P	**P**	**08 47 09.9**	**+0.2**
	0.6nm,0.7s,baz=23,slow=10,SNR=11						
STKA	**Stephens Creek**	**44.82**	**182**	P	**P**	**08 48 06.4**	**-0.6**
	0.5nm,0.3s,baz=9.9,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**60.76**	**316**	P	**P**	**08 50 04.8**	**+1.1**
	0.3nm,0.6s,baz=87,slow=7.9,SNR=2.3						
ILAR	**Eielson Array**	**69.58**	**25**	P	**P**	**08 50 58.0**	**-2.1**
	0.1nm,0.3s,baz=250,slow=5.5,SNR=4.3						

IDC 25 08:55:17.6±3.4,53.59N×90.80E,h0km,mb1 3.1/3, mb1mx3.0/43,mbtmp3.1/3,ML2.7/3,Error ellipse: s-maj=27.7km s-min=23.6km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.56**	**278**	*i*		09 19 10.0	
	baz=87,slow=331,SNR=2.2						
ZALV	**Zalesovo Beam**	**3.56**	**278**	Pn	Pn	08 56 15.8	+1.7
	1.1nm,0.3s,baz=91,slow=12,SNR=8.7						
ZALV				Lg	Lg	08 57 08.1	
	2.0nm,0.3s,baz=93,slow=28,SNR=5.3						
KURBB	**Kurchatov Arra**	**8.12**	**253**	Pn	Pn	08 57 16.6	+0.1
	0.1nm,0.3s,baz=64,slow=14,SNR=5.0						
KURBB				Sn	Sn	08 58 48.1	-0.8
	0.1nm,0.3s,baz=68,slow=27,SNR=8.4						
KURBB				Lg	Lg	08 59 35.4	
	0.0nm,0.3s,baz=70,slow=35,SNR=9.4						
MKAR	**Makanchi Array**	**8.72**	**222**	Pn	Pn	08 57 25.3	+0.4
	0.2nm,0.3s,baz=33,slow=12,SNR=6.9						
MKAR				Sn	Sn	08 59 02.1	-1.7
	0.1nm,0.3s,baz=38,slow=21,SNR=2.4						
MKAR				Lg	Lg	08 59 54.3	
	0.0nm,0.3s,baz=40,slow=31,SNR=3.8						
SONM	**Songino Array**	**11.44**	**114**	Lg	Lg	09 01 19.2	
	0.0nm,0.3s,baz=323,slow=24,SNR=4.2						

*NEIC **25** 09:14:06.6±1.4,27.1N±0.1×140.3E±0.1,h451km±6km, mb4.2/10,Error ellipse: s-maj=19.1km s-min=15.7km az=129.0*

*IDC **25** 09:14:07.3±1.7,27.15N×140.22E,h458km±18km, mb3.2/12,mb1 3.3/17,mb1mx3.2/48,mbtmp4.1/17,Error ellipse: s-maj=20.3km s-min=11.5km az=85.0*

*JMA **25** 09:14:09.0±0.4,27.54N×140.80E,h447km±5km,M3.8*

ISC 25 09:14:06.4±0.6,27.24N±0.07×140.37E±0.09,h450km,n74, σ1§64/83,mb3.7/16,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.63**	**95**	P	**P**	**09 15 06.3**	**+1.2**
CBIJ				*e*S	**S**	**09 15 50.9**	**-1.7**
JCJ	**Chichijima**	**1.63**	**95**	P	**P**	**09 15 06.1**	**+1.1**
JCJ					**S**	**09 15 53.0**	**+0.5**
JHH2	**Haha-jima-NKT2**	**1.73**	**110**	P	**P**	**09 15 07.4**	**+1.8**
JHJ2	**Mitsune**	**5.87**	**355**	P	**P**	**09 15 41.1**	**+1.8**
JHJ2	**Mitsune**	**5.87**	**355**	P	**P**	**09 15 41.3**	**+2.0**
JHJ	**Hachijo jima 2**	**5.88**	**355**	P	**P**	**09 15 40.9**	**+1.5**
	16nm,0.3s,baz=65,slon=21,SNR=6.4						
JHJ				S	**S**	**09 16 53.0**	**-2.4**
	15nm,0.3s,baz=258,slow=23,SNR=1.1						
BSO1	**Boso 1**	**7.41**	**4**	P	**P**	**09 15 56.7**	**+2.0**
BSO3	**Boso 3**	**7.54**	**1**	P	**P**	**09 15 58.0**	**+1.6**
JIE	**Ise**	**7.79**	**337**	P	**P**	**09 16 02.4**	**+3.0**
JKN2	**Miekihoku**	**7.81**	**334**	P	**P**	**09 16 02.5**	**+2.8**
HMMJ	**Hamamatsu 2**	**7.92**	**344**	P	**P**	**09 16 02.1**	**+1.3**
JOD2	**Odawara 2**	**8.07**	**353**	P	**P**	**09 16 04.6**	**+2.1**
JNY	**Yasuok**	**8.37**	**346**	P	**P**	**09 16 07.4**	**+1.6**
JMN	**Monobe**	**8.55**	**321**	P	**P**	**09 16 10.9**	**+3.2**
JEG	**Eigenji**	**8.57**	**338**	P	**P**	**09 16 12.5**	**+4.6**
INU	**Inuyama**	**8.57**	**341**	P	**P**	**09 16 10.2**	**+2.3**
JHU	**Hanno**	**8.63**	**354**	P	**P**	**09 16 08.8**	**+0.3**
JHU				*e*S	**S**	**09 17 46.0**	**-2.9**
JGF	**Kuroka**	**8.72**	**344**	P	**P**	**09 16 11.1**	**+1.6**
JRY	**Ryogami san**	**8.84**	**352**	P	**P**	**09 16 11.7**	**+0.9**
JYT	**Yasato**	**8.96**	**359**	P	**P**	**09 16 13.5**	**+1.4**
JYT	**Yasato**	**8.96**	**359**	P	**P**	**09 16 13.8**	**+1.8**
JWT	**Wachi**	**9.07**	**333**	P	**P**	**09 16 15.9**	**+2.6**
JAG	**Ashikaga**	**9.19**	**355**	P	**P**	**09 16 14.7**	**+0.1**
JAG				*e*S	**S**	**09 17 56.6**	**-3.4**
JHO	**Hitachi**	**9.34**	**1**	P	**P**	**09 16 18.0**	**+1.8**
JHO				*e*S	**S**	**09 18 00.7**	**-2.3**
MJAR	**Matsushiro Arr**	**9.45**	**349**	P	**P**	**09 16 18.0**	**+0.5**
	0.3nm,0.3s,baz=149,slow=8.7,SNR=8.3						
MJAR	**Matsushiro Arr**	**9.45**	**349**	P	**P**	**09 16 18.7**	**+1.3**
MAJO	**Matsushiro**	**9.45**	**349**	P	**P**	**09 16 19.2**	**+1.7**
MAT	**Matsushiro**	**9.45**	**349**	P	**P**	**09 16 18.4**	**+0.9**
MAT				*e*S	**S**	**09 18 04.4**	**-0.9**
MJB9	**Matsu-Tunnel**	**9.46**	**349**	P	**P**	**09 16 17.2**	**-0.3**
JSU	**Suzuyama**	**9.63**	**299**	P	**P**	**09 16 21.0**	**+1.5**
JHS	**Saijyo**	**9.91**	**323**	P	**P**	**09 16 24.8**	**+2.2**
JNU	**Nakatsue**	**10.08**	**308**	P	**P**	**09 16 26.8**	**+2.4**
	1.7nm,0.3s,baz=160,slow=5.3,SNR=19						
JMM	**Marumori**	**10.60**	**2**	P	**P**	**09 16 32.6**	**+2.7**
JSD	**Sado**	**10.91**	**351**	P	**P**	**09 16 34.3**	**+1.0**
JTU	**Tsushima**	**11.88**	**310**	P	**P**	**09 16 45.1**	**+1.2**
JTM	**Tenmabayashi**	**13.52**	**2**	P	**P**	**09 17 04.5**	**+2.9**
KSRS	**Korea Array**	**14.62**	**317**	P	**P**	**09 17 15.7**	**+2.3**
	0.2nm,0.3s,baz=139,slow=12,SNR=4.7						
SSLB	**Suanglung**	**17.85**	**263**	P	**P**	**09 17 47.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**18.22**	**340**	P	**P**	**09 17 51.8**	**+0.7**
	baz=166,slow=8.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**39.01**	**266**	P	**P**	**09 20 52.6**	**-0.4**
	1.1nm,0.4s,baz=74,slow=5.3,SNR=5.5						
RPSI	**Rantau Prapat**	**46.53**	**246**	P	**P**	**09 21 51.3**	**-1.0**
RPSI				IAmb	IAmb	09 21 51.9	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**47.27**	**188**	P	**P**	**09 21 56.7**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=5.9,slow=7.7,SNR=58						
WRA	**Warramunga Arr**	**47.27**	**188**	P	**P**	**09 21 56.8**	**-1.0**
ZALV	**Zalesovo Beam**	**48.32**	**319**	P	**P**	**09 22 05.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=112,slow=10,SNR=5.1						
ZALV				PcP	**PcP**	**09 23 23.2**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=123,slow=5.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**48.32**	**319**	P	**P**	**09 22 04.6**	**-0.7**
MKAR	**Makanchi Array**	**49.13**	**310**	P	**P**	**09 22 11.4**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=88,slow=10,SNR=11						
MKAR				PcP	**PcP**	**09 23 26.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=121,slow=3.2,SNR=2.1						
MKAR	**Makanchi Array**	**49.13**	**310**	P	**P**	**09 22 11.1**	**-0.4**
ASAR	**Alice Springs**	**50.99**	**188**	P	**P**	**09 22 24.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=356,slow=4.4,SNR=14						
ASAR	**Alice Springs**	**50.99**	**188**	P	**P**	**09 22 24.8**	**-0.7**
KURK	**Kurchatov**	**51.73**	**314**	P	**P**	**09 22 30.6**	**+0.2**
NIL	**Nilore**	**57.32**	**294**	P	**P**	**09 23 11.4**	**+1.0**
NIL				IAmb	IAmb	09 23 11.9	
	comp=Z,7.6nm,0.5s						
KK31	**Karatay Array**	**57.68**	**306**	P	**P**	**09 23 13.2**	**+0.5**
KKAR	**Karatay Array**	**57.68**	**306**	P	**P**	**09 23 13.0**	**+0.4**
ILAR	**Eielson Array**	**58.36**	**29**	P	**P**	**09 23 17.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=249,slow=6.0,SNR=5.7						
CHGR	**Chuyangaron**	**59.48**	**301**	P	**P**	**09 23 24.9**	**-0.1**
CHGR				IAmb	IAmb	09 23 25.8	
	comp=Z,9.2nm,0.6s						
BCAR	**Beaver Creek A**	**60.61**	**31**	P	**P**	**09 23 32.7**	**+0.6**
INK	**Inuvik**	**63.57**	**24**	P	**P**	**09 23 52.7**	**+1.5**
	comp=Z,3.7nm,1.2s,baz=359,slow=27,SNR=1.9						
INK	**Inuvik**	**63.57**	**24**	P	**P**	**09 23 51.9**	**+0.7**
INK				IAmb	IAmb	09 24 03.7	
	comp=Z,8.4nm,1.4s						
ABKAR	**Akbulak array**	**63.83**	**314**	P	**P**	**09 23 53.1**	**-0.1**
EUNU	**Eureka**	**69.98**	**8**	P	**P**	**09 24 32.9**	**+1.9**
EUNU				IAmb	IAmb	09 24 42.8	
	comp=Z,7.4nm,1.4s						
ARCES	**ARCESS Array B**	**72.86**	**340**	P	**P**	**09 24 48.6**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=70,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**77.09**	**333**	P	**P**	**09 25 11.6**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=68,slow=5.0,SNR=36						
FINES	**FINESS Array B**	**77.09**	**333**	P	**P**	**09 25 12.2**	**+0.3**
AKASG	**Malin Array Be**	**81.53**	**323**	P	**P**	**09 25 35.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=48,slow=5.4,SNR=4.6						
NC405	**NORSAR Array S**	**82.64**	**338**	P	**P**	**09 25 41.4**	**+0.1**
NB2	**NORSAR Subarra**	**82.86**	**338**	P	**P**	**09 25 41.7**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=44,slow=5.1						
NOA	**NORSAR Array B**	**82.86**	**338**	P	**P**	**09 25 42.0**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=46,slow=4.8,SNR=4.2						
GERES	**GERESS Array B**	**90.53**	**328**	P	**P**	**09 26 18.0**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=28,slow=4.4,SNR=2.3						
GERES	**GERESS Array B**	**90.53**	**328**	P	**P**	**09 26 16.3**	**-3.2**
TORD	**Torodi Ar. Bea**	**123.25**	**310**	PKP	**PKPdf**	**09 32 11.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=29,slow=0.8,SNR=4.3						
PLCA	**Paso Flores**	**151.21**	**126**	PKPbc	**PKiKP**	**09 33 09.1**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=231,slow=2.3,SNR=9.0						
PLCA	**Paso Flores**	**151.21**	**126**		**PKiKP**	**09 33 09.3**	**+0.9**
LPAZ	**La Paz**	**151.45**	**73**	PKPbc	**PKiKP**	**09 33 11.5**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=268,slow=5.4,SNR=5.6						
LPAZ	**La Paz**	**151.45**	**73**		**PKiKP**	**09 33 11.8**	**+1.5**

IDC 25 09:18:01.2±44.0,15.78S×171.75W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/43,mbtmp4.0/3,MS3.5/1,Ms1 3.5/1, ms1mx2.6/35,Error ellipse: s-maj=860.3km s-min=185.9km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**40.55**	**274**	LR	LR	09 40 10.8	
	comp=Z,61nm,21.2s,baz=125,slow=33						
STKA	**Stephens Creek**	**45.23**	**241**	P	P	09 26 21.1	+0.7
	0.6nm,0.4s,baz=90,slow=9.1,SNR=4.5						
WRA	**Warramunga Arr**	**51.31**	**257**	P	P	09 27 06.7	-0.9
	0.4nm,0.5s,baz=98,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**51.26**	**252**	P	P	09 27 09.2	+0.1
	4.8nm,0.6s,baz=88,slow=8.2,SNR=102						

IDC 25 09:27:38.3±2.1,2.68N×128.34E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/41,mbtmp3.5/4,Error ellipse: s-maj=143.1km s-min=26.9km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.24**	**166**	P	P	09 32 47.9	+0.4
	0.4nm,0.4s,baz=345,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**26.74**	**169**	P	P	09 33 19.6	-0.2
	0.2nm,0.5s,baz=352,slow=7.3,SNR=12						
STKA	**Stephens Creek**	**36.60**	**161**	P	P	09 34 45.4	-1.0
	0.4nm,0.4s,baz=313,slow=4.5,SNR=3.3						
MKAR	**Makanchi Array**	**59.33**	**325**	P	P	09 37 42.8	+0.6
	0.3nm,0.5s,baz=117,slow=8.7,SNR=2.5						

*KRNET **25** 09:45:54.1±0.1,41.19N×70.43E,mb2.6*

ISC 25 09:45:55.3±2.1,41.15N±0.06×70.33E±0.06,h24km±22km, n7,σ0§53/13,10C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.80**	**283**	⇓*i*P	**Pb**	**09 46 10.5**	**-0.1**
	baz=80						
TAS				⇓*i*S	**Sn**	**09 46 22.3**	**0.0**
	baz=80						
BTK	**Batken**	**1.15**	**161**	⇑*i*P	**Pn**	**09 46 15.6**	**-0.4**
	baz=65						
BTK				⇑*i*S	**Sn**	**09 46 31.6**	**+0.6**
	baz=65						
KK31	**Karatay Array**	**1.96**	**4**	⇑Pn	**Pn**	**09 46 27.3**	**+0.2**
	0.3nm,0.2s,baz=187,slow=16,SNR=14						
KK31				⇑Lg	Lg	09 46 55.0	
	0.8nm,0.3s,baz=187,slow=28,SNR=7.5						
MNAS	**Manas**	**2.11**	**50**	⇑*i*P	**Pn**	**09 46 29.0**	**-0.2**
	baz=49						
MNAS				⇑*i*S	**Sn**	**09 46 54.4**	**-0.3**
	baz=49						
AML	**Almayashu**	**2.71**	**68**	⇑*i*P	**Pn**	**09 46 38.2**	**+0.5**
	baz=68						
AML				⇑*i*S	**Sn**	**09 47 09.9**	**0.0**
	baz=68						
ARLS	**Aral**	**3.08**	**75**	⇓*i*P	**Pn**	**09 46 43.1**	**+0.4**
	baz=76						
ARLS				⇓*i*S	**Sn**	**09 47 18.1**	**-0.8**
	baz=76						
UCH	**Uchtor**	**3.31**	**70**	⇑*e*P	**Pn**	**09 46 46.9**	**+0.8**
	baz=70						
UCH				⇑*i*S	**Sn**	**09 47 24.5**	**-0.5**
	baz=70						

*NEIC **25** 10:02:23.6±1.4,29.68N±0.03×129.6E±0.1,h164km±7km, mb4.4/19,Error ellipse: s-maj=14.8km s-min=2.6km az=102.0*

*JMA **25** 10:02:24.2±0.1,29.69N×129.64E,h156km±2km,M3.9*

*IDC **25** 10:02:25.9±1.9,29.83N×129.32E,h187km±18km, mb3.5/14,mb1 3.6/19,mb1mx3.5/41,mbtmp4.0/19,MS2.9/2, Ms1 2.9/2,ms1mx2.4/39,Error ellipse: s-maj=18.4km s-min=11.4km az=69.0*

ISC 25 10:02:22.9±0.6,29.69N±0.04×129.54E±0.05,h162km±6km, n96,σ1§24/118,mb4.1/25,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.33**	**63**	P	**Pn**	**10 02 45.6**	**+0.7**
JTAJ	**Takarajima**	**0.61**	**209**	P	**Pn**	**10 02 47.2**	**+1.1**
JTAJ				*e*S	**Sn**	**10 03 05.0**	**+1.1**
JKC	**Kuchinoerabu**	**0.96**	**37**	P	**Pn**	**10 02 49.0**	**+0.6**
JKC				S	**Sn**	**10 03 08.0**	**-0.1**
JYAK	**Yakushimahirau**	**1.00**	**57**	P	**Pn**	**10 02 48.9**	**+0.1**
JYAK				S	**Sn**	**10 03 07.4**	**-1.3**
JAM	**Amami Oshima**	**1.28**	**177**	P	**Pn**	**10 02 52.0**	**+0.8**
JAM				S	**Sn**	**10 03 12.3**	**-0.6**
JMTN	**Minamitane**	**1.38**	**59**	P	**Pn**	**10 02 52.4**	**+0.3**
JMTN				S	**Sn**	**10 03 14.3**	**-0.3**
JZK	**Kikaishima**	**1.42**	**164**	P	**Pn**	**10 02 54.6**	**+2.0**
JZK				S	**Sn**	**10 03 18.4**	**+2.9**
JAMN	**Amaminishikomi**	**1.48**	**192**	P	**Pn**	**10 02 53.9**	**+0.8**
JAMN				S	**Sn**	**10 03 15.6**	**-0.8**
JTN	**Tanegashima 3**	**1.58**	**52**	P	**Pn**	**10 02 54.3**	**+0.2**
JTN				*e*S	**Sn**	**10 03 16.0**	**-2.2**
JTSR	**Tashiro 2**	**1.90**	**39**	P	**Pn**	**10 02 58.0**	**+0.5**
JTSR				S	**Sn**	**10 03 23.0**	**-1.4**
JTK	**Tokunoshima**	**1.97**	**195**	P	**Pn**	**10 02 59.3**	**+0.9**
JTK				S	**Sn**	**10 03 26.1**	**+0.3**
JSU	**Suzuyama**	**1.97**	**23**	P	**Pn**	**10 02 59.4**	**+1.0**
JSU				*e*S	**Sn**	**10 03 25.7**	**-0.3**
JSU	**Suzuyama**	**1.97**	**23**	Pn	**Pn**	**10 02 59.3**	**+0.9**
JSU				Sn	**Sn**	**10 03 26.8**	**+0.8**
JSJ	**Shimokoshiki**	**1.99**	**4**	P	**Pn**	**10 02 59.1**	**+0.6**
JSJ				*e*S	**Sn**	**10 03 25.9**	**-0.3**
JNAR	**Kushima--Naru**	**2.36**	**39**	P	**Pn**	**10 03 04.1**	**+1.2**
JNAR				S	**Sn**	**10 03 33.3**	**-0.6**
JOKE	**Okinoerabujima**	**2.47**	**200**	P	**Pn**	**10 03 04.9**	**+0.6**
JOKE				*e*S	**Sn**	**10 03 36.2**	**-0.1**
JTZ	**Takazaki**	**2.58**	**31**	P	**Pn**	**10 03 06.5**	**+1.1**
JTZ				S	**Sn**	**10 03 37.6**	**-0.9**
JZO	**Okuchi**	**2.61**	**20**	P	**Pn**	**10 03 07.3**	**+1.5**
JYRO	**Yoronjima**	**2.82**	**200**	P	**Pn**	**10 03 08.7**	**+0.2**
JYRO				S	**Sn**	**10 03 42.1**	**-1.8**
JIH	**Iheya**	**2.99**	**208**	P	**Pn**	**10 03 10.6**	**+0.1**
JIH				S	**Sn**	**10 03 45.4**	**-2.1**
JOW	**Kunigami**	**3.06**	**202**	P	**Pn**	**10 03 11.4**	**-0.1**
JNTH	**Nagotoyohara**	**3.43**	**203**	P	**Pn**	**10 03 16.1**	**-0.1**
JNTH				S	**Sn**	**10 03 56.1**	**-1.5**
JNU	**Nakatsue**	**3.61**	**18**	P	**Pn**	**10 03 20.1**	**+1.7**
	10nm,0.3s,baz=261,slow=3.5,SNR=113						
JNU				S	**Sn**	**10 03 59.7**	**-2.0**
	7.6nm,0.3s,baz=341,slow=5.9,SNR=4.6						
JNU	**Nakatsue**	**3.61**	**18**	Pn	**Pn**	**10 03 20.1**	**+1.7**
JNU				Sn	**Sn**	**10 04 02.8**	**+1.1**
JAGN	**Aguni-jima**	**3.70**	**214**	P	**Pn**	**10 03 19.0**	**-0.5**
JKDJ	**Kitadaitoujima**	**4.04**	**157**	P	**Pn**	**10 03 25.2**	**+1.2**
JKDJ				S	**Sn**	**10 04 11.4**	**-0.2**
JMZ	**Minamidaito 2**	**4.14**	**158**	P	**Pn**	**10 03 26.4**	**+1.2**
JMZ	**Minamidaito 2**	**4.14**	**158**		**Pn**	**10 03 26.2**	**+1.0**
JMZ					**Sn**	**10 04 13.0**	**-0.8**
JKE	**Kume jima 2**	**4.14**	**217**	P	**Pn**	**10 03 24.3**	**-1.0**
JTU	**Tsushima**	**4.82**	**359**	Pn	**Pn**	**10 03 36.5**	**+2.5**
JMN	**Monobe**	**5.47**	**41**	Pn	**Pn**	**10 03 43.0**	**+0.4**
JMN					**Sn**	**10 04 43.6**	**-1.5**
JHS	**Saijyo**	**6.10**	**29**	Pn	**Pn**	**10 03 52.2**	**+1.3**
JHS					**Sn**	**10 04 57.3**	**-2.8**
JWT	**Wachi**	**7.46**	**40**	Pn	**Pn**	**10 04 09.1**	**+0.2**
JWT					**Sn**	**10 05 29.6**	**-2.9**
KSRS	**Korea Array**	**7.86**	**351**	P	**Pn**	**10 04 16.0**	**+1.8**
	0.2nm,0.3s,baz=172,slow=12,SNR=6.9						
INU	**Inuyama**	**8.47**	**46**	Pn	**Pn**	**10 04 22.4**	**0.0**
INU				Sn	**Sn**	**10 05 57.1**	**+0.4**
JHJ	**Hachijo jima 2**	**9.40**	**66**	P	Pn	10 04 40.5	+5.8
	68nm,0.3s,baz=103,slow=7.4,SNR=12						
MJB9	**Matsu-Tunnel**	**9.97**	**44**	Pn	**Pn**	**10 04 42.9**	**+0.6**
MJAR	**Matsushiro Arr**	**9.97**	**45**	P	Pn	10 04 47.0	+4.6
	0.1nm,0.3s,baz=233,slow=6.5,SNR=4.1						
MJAR				S	**Sn**	**10 06 34.9**	**+2.0**
	0.1nm,0.3s,baz=210,slow=18,SNR=5.7						
BJT	**Baijiatuan**	**15.03**	**317**	P	**Pn**	**10 05 49.4**	**+2.3**
BJT				IAmb	IAmb	10 05 53.4	
	comp=Z,16nm,0.7s						
ENH	**Enshi**	**17.38**	**277**	P	**P**	**10 06 15.2**	**+0.6**
ENH				IAmb	IAmb	10 06 18.8	
	comp=Z,17nm,0.8s						
XAN	**Xi'an**	**18.03**	**289**	P	**P**	**10 06 22.0**	**+0.3**
XAN				pP	sP	10 07 03.5	-6.2
XAN				pmax	pmax		
	comp=Z,37nm,0.7s						
XAN				pmax	pmax		
	comp=Z,88nm,1.8s						
XAN	**Xi'an**	**18.03**	**289**	P	**P**	**10 06 21.7**	**0.0**
HHC	**Hu-ho-hao-te**	**18.38**	**312**	*e*P	**P**	**10 06 28.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,35nm,0.9s						
HHC				pmax	pmax		
	comp=Z,85nm,6.3s						
KLR	**Kul'dur**	**19.59**	**4**	P	**P**	**10 06 38.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=23,SNR=2.2						
KLR				LR	LR	10 13 33.4	
	comp=Z,8.2nm,20.9s,baz=67,slow=34						
CD2	**Chengdu**	**22.28**	**280**	P	**P**	**10 07 05.5**	**-1.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**22.46**	**293**	*e*P	**P**	**10 07 09.0**	**+0.2**
LZH				pP	pP	10 07 43.5	+5.5
LZH				sP	PP	10 08 04.0	+0.6
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
SONM	**Songino Array**	**25.41**	**322**	P	**P**	**10 07 34.9**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=139,slow=11,SNR=9.0						
SONM	**Songino Array**	**25.41**	**322**	P	**P**	**10 07 33.8**	**-1.6**
GTA	**Gaotai**	**26.23**	**300**	P	**P**	**10 07 44.5**	**+1.6**
GTA				pP	pP	10 08 18.0	+1.9
GTA				sP	sP	10 08 36.8	+1.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,41nm,7.8s						
GTA				LR	LR		
	comp=N,85nm,14.5s						
GTA				LR	LR		
	comp=E,110nm,13.1s						
GTA				LR	LR		
	comp=Z,81nm,13.8s						
CMAR	**Chiang Mai Arr**	**30

AKASG	**Malin Array Be**	**73.66**	**319**	IAmb	IAmb	10 13 39.6
	comp=Z,1.9nm,1.4s					
BRTR	**Keskin Array B**	**75.83**	**308**	P	**P**	**10 13 50.7 -0.8**
	comp=Z,0.9nm,0.7s,baz=149,slow=45,SNR=3.7					
NB2	**NORSAR Subarra**	**76.73**	**334**	P	**P**	**10 13 54.5 -1.5**
	comp=Z,4.9nm,1.0s,baz=50,slow=5.9					
NOA	**NORSAR Array B**	**76.73**	**334**	P	**P**	**10 13 54.0 -2.0**
	comp=Z,1.9nm,0.7s,baz=49,slow=5.5,SNR=5.9					
ASF	**Jabal al Asfar**	**76.87**	**300**	LR	LR	10 52 43.4
	comp=Z,37nm,18.8s,baz=289,slow=39					
SUMG	**Summit**	**77.67**	**356**	P	**P**	**10 14 02.1 +0.6**
VYHS	**Vyhne**	**80.60**	**321**	*e*P	**P**	**10 14 18.2 +0.9**
CLL	**Collm**	**81.97**	**325**	*i* P	**P**	**10 14 24.6 +0.1**
	comp=Z,5.0nm,0.7s					
GERES	**GERESS Array B**	**83.14**	**323**	P	**P**	**10 14 29.8 -1.0**
	comp=Z,1.1nm,0.6s,baz=46,slow=3.9,SNR=6.5					
GERES	**GERESS Array B**	**83.14**	**323**	P	**P**	**10 14 31.1 +0.4**

MOS ***25*** *10:06:03.1±1.9,56.˚45N×113.˚95E,h8km,mb4.1/2,Error ellipse: s-maj=12.5km s-min=6.8km az=69.1*

IDC ***25*** *10:06:04.1±1.2,56.˚45N×114.˚10E,h0km,mb3.2/5, mb1 3.5/8,mb1mx3.4/38,mbtmp3.4/8,ML3.7/3,MS2.7/3, Ms1 2.7/3,ms1mx2.4/27,Error ellipse: s-maj=24.6km s-min=21.1km az=19.0*

BYKL ***25*** *10:06:07.4±0.1,56.˚26N×113.˚96E,h17km,2km*

ISC 25 10:06:05.0±1.0,56.˚39N±0.˚02×114.˚10E±0.˚02,h10km±7km, n65,σ2s84/104,mb3.2/7,9C-6D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.41**	**228**	⇓*i*Pg	**Pg**	**10 06 13.3**	**+0.3**
SVKR				Pmax		10 06 13.5	
	16μm,0.1s						
SVKR				*e*Sg	**Sg**	**10 06 17.6**	**-0.8**
SVKR				Smax		10 06 17.7	
	25μm,0.2s						
SVKR	**Severomuysk**	**0.41**	**228**	⇓*i*PG	**Pg**	**10 06 13.3**	**+0.3**
SVKR				*e*		10 06 17.2	
SVKR				pmax	pmax		
	comp=Z,16μm,0.3s						
SVKR				smax	smax		
	comp=N,35μm,0.4s						
NLYR	**Nelyaty**	**0.90**	**83**	⇓*i*Pg	**Pn**	**10 06 25.7**	**+2.1**
NLYR				*e*Pb	Pb	10 06 27.1	+4.5
NLYR				max		10 06 27.4	
	comp=N,1μm,0.4s						
NLYR				*e*Sg	**Sn**	**10 06 39.6**	**+3.0**
NLYR				Smax		10 06 42.7	
	comp=N,5μm,0.8s						
NLYR	**Nelyaty**	**0.90**	**83**	*e*PG	**Pn**	**10 06 25.8**	**+2.1**
NLYR				*e*		10 06 39.4	
NLYR				pmax	pmax		
	comp=Z,1μm,0.6s						
NLYR				smax	smax		
	comp=E,5μm,1.1s						
UKT	**Uakit**	**0.94**	**197**	⇑*i*Pg	**Pg**	**10 06 22.1**	**-1.0**
UKT				Pmax		10 06 22.4	
	comp=E,960nm,0.5s						
UKT				*e*Sg	**Sg**	**10 06 32.5**	**-2.8**
UKT				Smax		10 06 33.5	
	comp=E,5μm,0.4s						
UKT	**Uakit**	**0.94**	**197**	⇑*i*PG	**Pg**	**10 06 22.1**	**-1.0**
UKT				*e*		10 06 33.5	
UKT				pmax	pmax		
	comp=Z,1μm,0.6s						
UKT				smax	smax		
	comp=E,5μm,0.4s						
YOA	**Uoyan**	**1.35**	**260**	*e*Pg	**Pn**	**10 06 28.6**	**-1.3**
YOA				Pmax		10 06 33.9	
	comp=E,662nm,0.2s						
YOA				*e*Sg	**Sb**	**10 06 45.8**	**-1.8**
YOA				Smax		10 06 51.9	
	comp=E,4μm,0.4s						
YOA	**Uoyan**	**1.35**	**260**	⇑*i*PG	**Pn**	**10 06 28.5**	**-1.3**
YOA				*i*		10 06 46.2	
YOA				pmax	pmax		
	comp=Z,229nm,0.2s						
YOA				smax	smax		
	comp=E,4μm,0.3s						
BOD	**Bodaibo**	**1.44**	**358**	*e*Pg	Pg	10 06 35.3	+2.8
BOD				Pmax		10 06 36.0	
	comp=E,992nm,0.2s						
BOD				*e*Sg	**Sg**	**10 06 55.9**	**+4.7**
BOD				Smax		10 06 56.8	
	comp=E,3μm,0.2s						
KMO	**Kumora**	**1.70**	**254**	⇑*i*Pg	**Pb**	**10 06 35.9**	**-0.4**
KMO				Pmax		10 06 36.8	
	comp=E,443nm,0.3s						
KMO				*e*Sg	**Sn**	**10 06 56.7**	**+0.3**
KMO				Smax		10 06 59.0	
	comp=E,3μm,0.6s						
KMO	**Kumora**	**1.70**	**254**	*e*PN	**Pb**	**10 06 36.1**	**-0.2**
KMO				*e*		10 06 57.0	
KMO				pmax	pmax		
	comp=Z,442nm,0.3s						
KMO				smax	smax		
	comp=E,3μm,0.5s						
YLYR	**Ulyunkhan**	**2.25**	**229**	⇑*i*Pn	**Pn**	**10 06 42.8**	**+0.6**
YLYR				*e*Pg	**Pb**	**10 06 44.6**	**-1.1**
YLYR				*e*		10 06 48.6	
YLYR				max		10 06 49.0	
	comp=E,189nm,0.3s						
YLYR				*e*Sn	**Sn**	**10 07 09.4**	**-0.6**
YLYR				*e*Sg	**Sb**	**10 07 12.6**	**-1.0**
YLYR				Smax		10 07 14.0	
	comp=E,1μm,0.3s						
YLYR	**Ulyunkhan**	**2.25**	**229**	⇑*i*PN	**Pn**	**10 06 42.8**	**+0.6**
YLYR				*e*		10 06 44.4	
YLYR				*e*		10 07 13.0	
YLYR				pmax	pmax		
	comp=Z,194nm,0.3s						
YLYR				smax	smax		
	comp=N,1μm,0.5s						
CRS	**Chara**	**2.36**	**76**	⇓*i*Pn	**Pb**	**10 06 47.6**	**0.0**
CRS				*e*Pg	**Pg**	**10 06 52.0**	**+1.8**
CRS				Pmax		10 06 52.9	
	comp=N,258nm,0.4s						
CRS				*e*		10 06 56.4	
CRS				*e*Sg	**Sg**	**10 07 24.2**	**+3.5**
CRS				Smax		10 07 26.8	
	comp=N,1μm,0.6s						
CRS	**Chara**	**2.36**	**76**	⇓*i*PN	**Pb**	**10 06 47.5**	**0.0**
CRS				*e*		10 07 23.7	
CRS				pmax	pmax		
	comp=Z,258nm,0.4s						
CRS				smax	smax		
	comp=E,1μm,0.6s						
NIZ	**Nizh Angarsk**	**2.63**	**258**	*e*Pn	**Pn**	**10 06 48.8**	**+1.4**
NIZ				*e*Pg	**Pb**	**10 06 52.3**	**+0.2**
NIZ				Pmax		10 06 56.0	
	comp=E,181nm,0.5s						
NIZ				*e*		10 07 00.3	
NIZ				*e*Sn	**Sn**	**10 07 18.2**	**-1.1**
NIZ				*e*Sg	**Sb**	**10 07 26.3**	**+1.9**
NIZ				Smax		10 07 27.8	
	comp=E,535nm,0.6s						
VTMR	**Vitim**	**3.17**	**346**	*e*Pn	**Pb**	**10 06 58.3**	**-3.0**
VTMR				*e*Pg	**Pg**	**10 07 05.7**	**0.0**
VTMR				*e*Sn	**Sb**	**10 07 35.4**	**-4.6**
VTMR				*e*Sg	**Sg**	**10 07 49.4**	**+2.6**
SYVR	**Suvo**	**3.61**	**223**	⇑*i*Pn	**Pn**	**10 07 00.9**	**0.0**
SYVR				*e*Pg	**Pb**	**10 07 09.6**	**+0.7**
SYVR				*e*		10 07 19.2	
SYVR				max		10 07 20.5	
	comp=E,69nm,0.4s						
SYVR				*e*Sn	**Sn**	**10 07 40.2**	**-3.4**
SYVR				*e*Sg	**Sb**	**10 07 54.5**	**+1.8**
SYVR				Smax		10 07 57.6	
	comp=E,652nm,0.6s						
SYVR	**Suvo**	**3.61**	**223**	⇑*i*PN	**Pn**	**10 07 00.8**	**-0.1**
SYVR				*e*		10 07 10.9	
SYVR				*e*		10 07 54.9	
SYVR				pmax	pmax		
	comp=Z,71nm,0.5s						
SYVR				smax	smax		
	comp=E,689nm,0.6s						
TUP	**Tupik**	**3.87**	**118**	⇓*i*Pn	**Pn**	**10 07 06.2**	**+1.7**
TUP				*e*Pg	**Pg**	**10 07 16.1**	**-3.0**
TUP				Pmax		10 07 20.1	
	comp=E,53nm,0.5s						
TUP				*e*Sn	**Sn**	**10 07 49.4**	**-0.6**
TUP				*e*Sg	**Sg**	**10 08 07.6**	**-1.6**
TUP				*e*		10 08 11.9	
TUP				max		10 08 12.3	
	comp=E,818nm,0.7s						
TUP	**Tupik**	**3.87**	**118**	⇑*i*PN	**Pn**	**10 07 06.3**	**+1.7**
TUP				*e*		10 07 16.2	
TUP				*e*S	**Sn**	**10 07 52.5**	**+2.5**
TUP				*e*		10 08 07.6	
TUP				pmax	pmax		
	comp=Z,53nm,0.5s						
TUP				smax	smax		
	comp=E,822nm,0.7s						
YKLR	**Yuktali**	**4.19**	**84**	*e*Pn	**Pn**	**10 07 12.0**	**+3.1**
YKLR				*e*Pg	**Pg**	**10 07 23.9**	**-1.3**
YKLR				*e*Sn	**Sn**	**10 08 00.3**	**+2.5**
YKLR				*e*Sg	**Sg**	**10 08 19.9**	**+0.4**
CIT	**Chita**	**4.39**	**184**	*e*Pg	**Pb**	**10 07 24.3**	**+2.2**
CIT				Pmax		10 07 26.6	
	comp=E,195nm,0.3s						
CIT				*e*Sg	**Sb**	**10 08 19.4**	**+4.4**
CIT				Smax		10 08 25.1	
	comp=E,798nm,0.2s						
CIT	**Chita**	**4.39**	**184**	*e*PN	**Pn**	**10 07 11.0**	**-0.6**
CIT				*e*		10 07 23.1	
CIT				*e*S	**Sn**	**10 08 01.6**	**-1.1**
CIT				*e*		10 08 18.3	
CIT				pmax	pmax		
	comp=Z,194nm,0.3s						
CIT				smax	smax		
	comp=E,786nm,0.2s						
MXMB	**Maximikha**	**4.40**	**227**	*e*	**Pb**	**10 07 25.7**	**+3.4**
MXMB				*e*		10 07 53.8	
MXMB				*e*Sg	**Sb**	**10 08 19.8**	**+4.4**
MXMB				*e*		10 08 27.6	
OGRR	**Ongureny**	**4.64**	**236**	*e*Pn	**Pn**	**10 07 16.5**	**+1.3**
OGRR				*e*		10 07 20.8	
OGRR				*e*Pg	**Pb**	**10 07 28.2**	**+1.7**
OGRR				Pmax		10 07 33.5	
	comp=E,75nm,0.8s						
OGRR				*e*Sn	**Sn**	**10 08 07.3**	**-1.7**
OGRR				*e*Sg	**Sb**	**10 08 27.3**	**+4.9**
OGRR				Smax		10 08 33.6	
	comp=E,157nm,0.8s						
OGRR	**Ongureny**	**4.64**	**236**	*e*PN	**Pn**	**10 07 16.4**	**+1.3**
OGRR				*e*		10 07 28.7	
OGRR				*e*		10 08 27.3	
OGRR				pmax	pmax		
	comp=Z,89nm,2.3s						
OGRR				smax	smax		
	comp=E,261nm,1.5s						
KELR	**Kotokel**	**5.05**	**226**	*e*Pg	**Pb**	**10 07 35.3**	**+2.0**
KELR				*e*Sg	**Sb**	**10 08 38.3**	**+4.4**
TRG	**Tyrgan**	**5.79**	**234**	*e*Pn	**Pn**	**10 07 30.7**	**-0.2**
TRG				*e*Pg	**Pb**	**10 07 48.4**	**+2.4**
TRG				Pmax		10 07 59.1	
	comp=E,12nm,0.3s						
TRG				*e*Sn	**Sn**	**10 08 32.7**	**-4.6**
TRG				*e*Sg	**Sb**	**10 09 01.1**	**+5.8**
TRG				Smax		10 09 14.1	
	comp=E,101nm,0.6s						
UUDB	**Ulan-Yde**	**5.90**	**223**	*e*Pn	**Pn**	**10 07 32.2**	**-0.2**
UUDB				*e*Pg	**Pb**	**10 07 50.8**	**+3.0**
UUDB				Pmax		10 07 53.2	
	comp=E,38nm,0.9s						
UUDB				*e*Sg	**Sb**	**10 09 05.3**	**+6.8**
UUDB				Smax		10 09 11.5	
	comp=E,651nm,1.7s						
CLNS	**Chul'man**	**5.98**	**81**	*e*Pn	Pn	10 07 37.6	+4.2
CLNS				*e*Pg	**Pg**	**10 07 57.0**	**-2.3**
CLNS				*e*Sn	**Sn**	**10 08 43.4**	**+1.6**
CLNS				*e*Sg	**Sg**	**10 09 15.6**	**-1.1**
IENR	**Iengra**	**5.99**	**87**	*e*Sg	**Sg**	**10 09 15.2**	**-1.9**
HRMR	**Khuramsha**	**6.36**	**224**	*e*Pn	**Pn**	**10 07 39.5**	**+0.8**
HRMR				*e*Pg	**Pb**	**10 08 00.1**	**+4.4**
HRMR				Pmax		10 08 19.5	
	comp=E,47nm,0.5s						
HRMR				*e*Sn	**Sn**	**10 08 45.6**	**-5.7**
HRMR				*e*Sg	**Sg**	**10 09 21.1**	**-7.9**
HRMR				Smax		10 09 34.3	
	comp=E,590nm,0.6s						
BGT	**Bolshoye Golou**	**6.70**	**233**	*e*Pg	**Pb**	**10 08 05.7**	**+4.3**
BGT				Pmax		10 08 10.1	
	comp=E,6.0nm,0.1s						
BGT				*e*Sg	**Sb**	**10 09 30.3**	**+8.9**
BGT				Smax		10 09 38.6	
	comp=E,106nm,1.0s						
KPC	**Khapcheranga**	**6.78**	**190**	*e*Pg	**Pb**	**10 08 06.8**	**+4.0**
KPC				Pmax		10 08 13.0	
	comp=E,10.0nm,0.4s						
KPC				*e*Sg	**Sb**	**10 09 32.2**	**+8.5**
KPC				Smax		10 09 44.5	
	comp=E,286nm,1.3s						
LSTR	**Listvyanka**	**7.08**	**234**	*e*Pn	**Pn**	**10 07 48.4**	**-0.1**
LSTR				*e*		10 08 14.5	
LSTR				max		10 08 17.9	
	comp=E,6.0nm,0.4s						
LSTR				*e*Sn	**Sn**	**10 09 04.9**	**-4.1**
LSTR				*e*Sg	Sb	10 09 42.0	+10
LSTR				Smax		10 09 47.0	
	comp=E,117nm,1.5s						
IVK	**Ivanovka**	**7.32**	**235**	*e*Pn	**Pn**	**10 07 52.6**	**+0.8**
IVK				*e*Pg	Pb	10 08 17.2	+5.3
IVK				Pmax		10 08 22.1	
	comp=E,14nm,1.3s						
IVK				*e*		10 09 42.0	
IVK				*e*Sg	Sb	10 09 49.6	+10
IVK				Smax		10 10 06.4	
	comp=E,74nm,1.3s						
TLY	**Talaya**	**7.75**	**237**	Pn	Pn	10 08 02.3	+4.5
	comp=E,0.0nm,0.3s,baz=70,slow=19,SNR=2.3						
TLY				Lg	Lg	10 10 02.1	
	comp=E,0.0nm,0.3s,baz=255,slow=19,SNR=2.8						
TLY				LR	LR	10 11 34.0	
	comp=E,17nm,19.6s,baz=3.0,slow=42						
TLY	**Talaya**	**7.75**	**237**	*e*Pn	**Pn**	**10 07 57.9**	**+0.2**
TLY				*e*		10 08 28.1	
TLY				max		10 08 34.6	
	comp=E,8.0nm,0.6s						
TLY				*e*		10 09 49.3	
TLY				*e*Sg	Sg	10 10 03.0	-11
TLY				Smax		10 10 09.0	
	comp=E,71nm,1.5s						
TLY	**Talaya**	**7.75**	**237**	*i* PN	**Pn**	**10 07 56.4**	**-1.3**
ZEA	**Zeya**	**8.00**	**104**	*e*PG	Pg	10 08 31.7	-6.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARS	**Arshan**	**8.18**	**242**	*e*Pg	Pb	10 08 31.5	+4.8
ARS				Pmax		10 08 36.8	
	comp=Z,15nm,0.4s						
ARS				*e*Sn	**Sn**	**10 09 31.9**	**-4.2**
ARS				*e*Sg	Sb	10 10 15.5	+11
ARS				Smax		10 10 30.6	
	comp=Z,212nm,0.8s						
ZAK	**Zakamensk**	**8.82**	**232**	Pg	Pg	10 08 44.8	-9.0
ZAK				Pmax		10 08 48.9	
	comp=Z,4.0nm,0.1s						
ZAK				*e*Sg	Sg	10 10 37.2	-11
ZAK				Smax		10 10 52.5	
	comp=Z,86nm,1.9s						
MOY	**Mondy**	**9.04**	**244**	*e*Pn	**Pn**	**10 08 17.2**	**+1.7**
MOY				*e*		10 08 32.1	
MOY				max		10 08 42.7	
	comp=Z,11nm,0.5s						
MOY				*e*		10 10 12.1	
MOY				*e*Sg	Sn	10 10 43.1	+46
MOY				Smax		10 11 05.8	
	comp=Z,88nm,1.3s						
ORL	**Orlik**	**9.17**	**251**	*e*Pn	**Pn**	**10 08 19.4**	**+2.1**
ORL				max		10 08 39.3	
	comp=Z,7.0nm,0.7s						
ORL				*e*		10 10 15.1	
ORL				*e*Sg	Sn	10 10 47.5	+47
ORL				Smax		10 10 53.9	
	comp=Z,67nm,1.2s						
ULN	**Ulaanbaatar**	**9.57**	**210**	*i* P	**Pn**	**10 08 22.3**	**-0.5**
YAK	**Yakutsk**	**9.77**	**48**	Lg	Lg	10 11 09.4	
	comp=Z,0.2nm,0.3s,baz=315,slow=22,SNR=11						
YAK	**Yakutsk**	**9.77**	**48**	*i* P	**Pn**	**10 08 23.5**	**-1.8**
SONM	**Songino Array**	**9.78**	**212**	Pn	**Pn**	**10 08 25.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=23,slow=13,SNR=6.7						
SONM				Pg		10 09 01.8	
	comp=Z,0.5nm,0.3s,baz=6.2,slow=18,SNR=3.6						
SONM				Lg	Lg	10 11 09.7	
	comp=Z,3.2nm,0.3s,baz=28,slow=22,SNR=13						
SONM				LR	LR	10 12 39.5	
	comp=Z,46nm,21.6s,baz=21,slow=40						
TDJR	**Todzha**	**11.22**	**257**	*e*		10 11 30.2	
TDJR				*e*Sg	Sn	10 11 49.9	+59
KNGR	**Kungurtug, Tuv**	**11.44**	**247**	*e*Sg		10 11 56.9	
KLR	**Kul'dur**	**12.83**	**117**	Pn	**Pn**	**10 09 07.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=52,slow=14,SNR=4.1						
KLR				Lg	Lg	10 12 49.5	
	comp=Z,0.6nm,0.3s,baz=228,slow=23,SNR=8.5						
USRK	**Ussuriysk Ar.**	**16.65**	**130**	Lg	Lg	10 14 51.3	
	baz=175,slow=32,SNR=2.5						
NRIK	**Noril'sk**	**17.53**	**328**	P	**Pn**	**10 10 07.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=118,slow=12,SNR=2.1						
NRIK				Sn	Sn	10 13 09.6	-14
	comp=Z,0.2nm,0.3s,baz=134,slow=7.7,SNR=2.1						
NRIK				Lg	Lg	10 15 17.8	
	comp=Z,0.2nm,0.3s,baz=69,slow=13,SNR=2.6						
NRIK	**Noril'sk**	**17.53**	**328**	*i* P	**Pn**	**10 10 07.7**	**-1.4**
KURK	**Kurchatov**	**21.65**	**270**	P	**P**	**10 10 58.0**	**+2.8**
KURBB	**Kurchatov Arra**	**21.75**	**270**	P	**P**	**10 10 58.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=4.8						
MK31	**Makanchi Array**	**21.79**	**257**	*i* P	**P**	**10 10 54.1**	**-2.6**
MKAR	**Makanchi Array**	**21.79**	**257**	P	**P**	**10 10 57.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=59,slow=7.2,SNR=3.9						
MKAR				LR	LR	10 19 39.0	
	comp=Z,62nm,18.1s,baz=40,slow=37						
BRVK	**Borovoye**	**25.20**	**281**	*i* P	**P**	**10 11 29.0**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**28.71**	**258**	*i* P	**P**	**10 12 00.2**	**-2.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ARU	**Arti**	**30.02**	**294**	P	**P**	**10 12 13.3**	**-0.2**
ILAR	**Eielson Array**	**44.48**	**37**	P	**P**	**10 14 16.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=293,slow=3.8,SNR=4.7						
WRA	**Warramunga Arr**	**77.93**	**161**	P	**P**	**10 18 05.9**	**+3.1**
	comp=Z,0.2nm,0.8s,baz=352,slow=6.0,SNR=1.6						
ASAR	**Alice Springs**	**81.49**	**162**	P	**P**	**10 18 22.2**	**+0.1**
	comp=Z,0.1nm,0.8s,baz=96,slow=38,SNR=1.7						

CNRM ***25*** *10:12:02.8±2.9,36.˚54N×5.˚10W,h24km±24km,Error ellipse: s-maj=8.9km s-min=6.0km az=84.0*

INMG ***25*** *10:12:05.7±1.6,36.˚65N×5.˚01W,h30km±11km,ML1.9, Error ellipse: s-maj=4.6km s-min=2.7km az=9.0*

SFS ***25*** *10:12:05.0,36.˚63N×5.˚00W,h62km,ML2.6,ISTAN (MALAGA)*

MDD ***25*** *10:12:05.9±0.5,36.˚76N×4.˚97W,h24km±6km,mbLg1.8/21, Error ellipse: s-maj=9.1km s-min=2.9km az=179.0, PRXIMO*

ISC 25 10:12:02.2±1.1,36.˚68N±0.˚03×4.˚97W±0.˚02,h26km±7km, n59,σ1s80/97,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.44**	**79**	P	**Pn**	**10 12 13.9**	**+1.1**
EMAL				S	**Sn**	**10 12 21.3**	**+1.4**
EMAL	**Malaga-Limoner**	**0.44**	**79**	*e*P	**Pn**	**10 12 13.9**	**+1.1**
EMAL				*i* S	**Sn**	**10 12 21.3**	**+1.4**
ESPR	**Espera**	**0.74**	**285**	P	Pn	10 12 20.7	+3.8
	1.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**10 12 28.7**	**+1.4**
	4.8nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**0.81**	**58**	P	**Pn**	**10 12 19.8**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**10 12 31.1**	**+1.7**
	10.0nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**1.09**	**80**	P	**Pb**	**10 12 24.2**	**+1.7**
	1.4nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**10 12 38.7**	**+2.5**
	1.2nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**1.19**	**349**	P	**Pb**	**10 12 26.6**	**+2.5**
HORN				S	**Sn**	**10 12 42.8**	**+4.3**
EQUE	**Quentar**	**1.33**	**66**	P	**Pb**	**10 12 27.8**	**+1.3**
	0.8nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**10 12 44.4**	**+2.3**
	3.7nm,0.2s,SNR=4.5						
ECAB	**El Cabril**	**1.44**	**346**	P	**Pb**	**10 12 28.6**	**+0.3**
	0.8nm,0.1s,SNR=15						
ECAB				S	**Sn**	**10 12 45.8**	**+1.1**
	2.3nm,0.1s,SNR=11						
EADA	**Adamuz**	**1.52**	**12**	P	**Pn**	**10 12 28.7**	**+1.0**
	1.9nm,0.1s,SNR=18						
EADA				S	**Sn**	**10 12 47.3**	**+0.6**
	1.7nm,0.1s,SNR=9.4						
EBER	**Berja**	**1.68**	**82**	P	**Pb**	**10 12 33.0**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**10 12 52.6**	**+1.7**
	0.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.74**	**309**	P	**Pb**	**10 12 32.5**	**-1.0**
	0.6nm,0.1s,SNR=11						
EMIN				S	**Sn**	**10 12 52.1**	**0.0**
	2.5nm,0.2s,SNR=9.9						
EQES	**Quesada**	**1.89**	**53**	P	**Pb**	**10 12 36.3**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**10 12 58.7**	**+2.9**
	6.4nm,0.2s,SNR=8.9						
EGRO	**El Granado**	**2.19**	**294**	P	**Pn**	**10 12 38.8**	**+2.0**
	1.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**10 13 03.2**	**+0.2**
	3.4nm,0.1s,SNR=5.9						
PBAR	**Barrancos**	**2.23**	**313**	*e*S	**Sn**	**10 13 04.7**	**+0.7**
PVAQ	**Vaqueiros**	**2.32**	**289**	P	**Pn**	**10 12 40.5**	**+1.9**
PVAQ				S	**Sn**	**10 13 06.7**	**+0.5**
	7.1nm,0.1s						
PVAQ	**Vaqueiros**	**2.32**	**289**	P	**Pn**	**10 12 39.7**	**+1.1**
PVAQ				S	**Sn**	**10 13 06.9**	**+0.6**
PVAQ	**Vaqueiros**	**2.32**	**289**	⇓*e*P	**Pn**	**10 12 40.5**	**+1.9**
PVAQ				*e*S	**Sn**	**10 13 06.7**	**+0.5**
PVAQ				A	A	10 13 08.5	
	7.1nm,0.1s						
SESP	**Santiago Espad**	**2.41**	**53**	S	**Sn**	**10 13 08.2**	**-0.6**
	0.0nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.41**	**53**	P	**Pn**	**10 12 39.4**	**-0.6**
SESP				S	**Sb**	**10 13 16.2**	**+1.9**
PBDV	**Barranco-do-Ve**	**2.44**	**284**	P	**Pn**	**10 12 42.3**	**+2.0**
PBDV				S	**Sn**	**10 13 10.1**	**+0.8**
	5.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.44**	**284**	*e*P	**Pn**	**10 12 42.3**	**+2.0**
PBDV				*e*S	**Sn**	**10 13 10.1**	**+0.8**
PBDV				A	A	10 13 12.8	
	5.5nm,0.7s						
PCVE	**Castro Verde**	**2.63**	**292**	P	**Pn**	**10 12 44.9**	**+1.9**
PCVE				S	**Sn**	**10 13 14.7**	**+0.7**
	1.7nm,0.4s						
PCVE	**Castro Verde**	**2.63**	**292**	*e*P	**Pn**	**10 12 44.9**	**+1.9**
PCVE				*e*S	**Sn**	**10 13 14.7**	**+0.7**
PCVE				A	A	10 13 18.7	
	1.7nm,0.4s						
PBEJ	**Beja**	**2.67**	**301**	P	**Pn**	**10 12 45.7**	**+2.2**
PBEJ				S	**Sn**	**10 13 16.2**	**+1.1**
	1.1nm,0.1s						
PBEJ	**Beja**	**2.67**	**301**	*e*P	**Pn**	**10 12 45.7**	**+2.2**
PBEJ				*e*S	**Sn**	**10 13 16.2**	**+1.1**
PBEJ				A	A	10 13 17.2	
	2.2nm,0.1

PMRV	**Marv??o**	**3.35**	**326**	P	**Pn**	**10 12 55.6**	**+2.8**
PMRV				S	**Sn**	**10 13 30.4**	**-1.3**
	2.2nm,0.2s						
PMRV	**Marv??o**	**3.35**	**326**	*e*P	**Pn**	**10 12 55.6**	**+2.8**
PMRV				*e*S	**Sn**	**10 13 30.4**	**-1.3**
PMRV				A	A	10 13 32.3	
	2.2nm,0.2s						
ETOB	**Tobarra**	**3.35**	**53**	P	**Pn**	**10 12 53.9**	**+1.0**
	0.3nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**10 13 29.6**	**-2.2**
	0.3nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**3.49**	**346**	S	**Sn**	**10 13 34.6**	**-0.7**
	1.5nm,0.3s,SNR=7.9						
ZHG	**ZHG**	**3.50**	**204**	P	**Pn**	**10 12 54.2**	**-0.8**
ZHG				S	**Sn**	**10 13 34.7**	**-1.0**
ETRV	**Los Montesinos**	**3.61**	**67**	S	**Sn**	**10 13 37.9**	**-0.2**
	80nm,0.4s,SNR=4.0						
PCBR	**Castelo Branco**	**3.73**	**329**	P	**Pn**	**10 13 00.5**	**+2.5**
PCBR				S	**Sn**	**10 13 38.7**	**-2.3**
	1.1nm,0.4s						
PCBR	**Castelo Branco**	**3.73**	**329**	*e*P	**Pn**	**10 13 00.5**	**+2.5**
PCBR				*e*S	**Sn**	**10 13 38.7**	**-2.3**
PCBR				A	A	10 13 40.5	
	2.2nm,0.4s						
MD31	**MD31**	**3.81**	**177**	P	**Pn**	**10 13 01.1**	**+1.9**
MD31				S	**Sn**	**10 13 42.5**	**-0.6**
MDT	**Midelt**	**3.87**	**175**	P	**Pn**	**10 13 00.3**	**+0.3**
MDT				S	**Sn**	**10 13 44.2**	**-0.4**
MTE	**Manteigas**	**4.23**	**332**	S	**Sn**	**10 13 51.9**	**-1.6**
MTE	**Manteigas**	**4.23**	**332**	*e*S	**Sn**	**10 13 51.9**	**-1.6**
PCAS	**Casmilo, Conde**	**4.37**	**322**	S	**Sn**	**10 13 55.1**	**-1.7**
	2.3nm,0.6s						
PCAS	**Casmilo, Conde**	**4.37**	**322**	*e*S	**Sn**	**10 13 55.1**	**-1.7**
PCAS				A	A	10 13 59.6	
	2.3nm,0.6s						
PVIS	**Viseu**	**4.64**	**331**	S	**Sn**	**10 14 01.7**	**-1.9**
PVIS	**Viseu**	**4.64**	**331**	*e*S	**Sn**	**10 14 01.7**	**-1.9**
MVO	**Moncorvo**	**4.76**	**341**	*e*S	**Sn**	**10 14 04.3**	**-2.3**
MVO				A	A	10 14 07.6	
	1.9nm,0.3s						
PVRL	**Vila Real**	**5.07**	**336**	S	**Sn**	**10 14 11.4**	**-2.7**
PVRL	**Vila Real**	**5.07**	**336**	*e*S	**Sn**	**10 14 11.4**	**-2.7**
PCAB	**Cabril**	**5.56**	**336**	S	**Sn**	**10 14 22.2**	**-4.0**
PCAB	**Cabril**	**5.56**	**336**	*e*S	**Sn**	**10 14 22.2**	**-4.0**

WEL 25 10:14:57.7,44°S±2°×17°2E±°,h16km±2km,M2.4/10, ML2.6/10,MLv2.4/10,Error ellipse: s-maj=0.0km s-min=0.0km az=152.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RACZ	**Rakaia**	**0.12**	**162**	P	Pb	10 15 02.4	+0.8
WACZ	**Wakanui South**	**0.37**	**209**	P	Pn	10 15 07.3	-1.2
MHCZ	**Mount Hutt**	**0.39**	**282**	P	Pb	10 15 06.8	+0.6
MQZ	**McQueen's Vall**	**0.42**	**103**	P	Pb	10 15 06.9	+0.2
AMCZ	**Amberley**	**0.60**	**43**	P	Pb	10 15 10.6	+0.9
AKCZ	**Akaroa Harbour**	**0.65**	**114**	P	Pn	10 15 11.6	-0.7
OKCZ	**Okains Bay**	**0.71**	**99**	P	Pn	10 15 12.6	-0.5
ARCZ	**Arundel**	**0.74**	**243**	P	Pn	10 15 13.4	-0.1
RPZ	**Rata Peaks**	**0.76**	**262**	P	Pb	10 15 13.0	+0.5
LTZ	**Lake Taylor**	**0.84**	**9**	P	Pg	10 15 14.4	+0.3
GVZ	**Greta Valley S**	**0.95**	**47**	P	Pb	10 15 15.8	+0.1
INZ	**Inchbonnie**	**1.01**	**332**	P	Pn	10 15 17.6	+0.4
LBZ	**Lake Benmore**	**1.58**	**240**	P	Pg	10 15 28.9	+0.9
KHZ	**Kahutara**	**1.60**	**42**	P	Pn	10 15 24.9	-0.5
ODZ	**Otahua Downs**	**1.77**	**215**	P	Pg	10 15 31.7	+0.1
DSZ	**Denniston Nort**	**1.88**	**353**	P	Pb	10 15 31.6	-0.1

*MAN **25** 10:22:13.8,8°72N×126°37E,h26km, mb4.7, ML3.6, MS3.7*
MAN Intensity II - Tandag Surigao del sur.
*IDC **25** 10:22:15.6±1.7,7°96N×127°48E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.6/45,mbtmp3.7/7,ML4.2/1,Error ellipse: s-maj=46.2km s-min=21.9km az=54.0*
*NEIC **25** 10:22:20.3±1.7,7°95N±0°05×127°32E±0°09,h35km±2km, mb4.4/11,Error ellipse: s-maj=15.8km s-min=6.2km az=66.0*

ISC 25 10:22:17.0±0.9,7°93N±0°08×127°27E±0°09,h10km,n31, σ1ᵍ11/26,mb4.0/10,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIP	**Bislig**	**1.05**	**286**	⇑*i*P	Pg	10 22 25.2	-12
BIP				*i* S	Sg	10 22 33.4	-17
MATI	**Mati**	**1.40**	**226**	*e*P	**Pg**	**10 22 43.2**	**-0.7**
MATI				*e*S	**Sg**	**10 23 04.6**	**+2.5**
DAV	**Davao City (W)**	**1.88**	**243**	Pn	**Pg**	**10 22 51.8**	**-1.3**
	80nm,0.3s,baz=273,slow=4.9,SNR=5.3						
DAV				Sn	**Sn**	**10 23 11.3**	**-1.7**
	100nm,0.3s,baz=56,slow=23,SNR=8.4						
DAV	**Davao City (W)**	**1.88**	**243**		**Pg**	**10 22 52.1**	**-1.0**
DAV					**Sn**	**10 23 12.7**	**-0.3**
KCP	**Kidapawan**	**2.34**	**247**	⇑*i*P	Pn	10 22 49.1	-6.6
KCP				*i* S	Sn	10 23 14.2	-10
DDMP	**Don Marcelino,**	**2.38**	**220**	*e*P	**Pn**	**10 22 55.8**	**-0.4**
DDMP				*e*S	**Sb**	**10 23 29.8**	**+0.3**
SKMP	**Bagumbayan, Su**	**3.04**	**243**	*e*P	Pn	10 22 58.1	-7.1
KNRA	**Kununurra**	**23.50**	**176**	P	**P**	**10 27 24.6**	**-2.7**
FITZ	**Fitzroy Crossi**	**25.91**	**184**	P	**P**	**10 27 49.3**	**-0.1**
	1.3nm,0.7s,baz=9.9,slow=11,SNR=1.7						
FITZ	**Fitzroy Crossi**	**25.91**	**184**	P	**P**	**10 27 49.0**	**-0.5**
FITZ				IAmb	IAmb	10 28 23.7	
	comp=Z,20nm,1.6s						
WB0	**Warramunga Arr**	**28.41**	**166**	P	**P**	**10 28 12.3**	**+0.4**
WRAB	**Tennant Creek**	**28.55**	**166**	P	**P**	**10 28 13.9**	**+0.7**
WRAB				IAmb	IAmb	10 28 59.4	
	comp=Z,8.0nm,1.4s						
WRA	**Warramunga Arr**	**28.56**	**166**	P	**P**	**10 28 13.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=348,slow=9.5,SNR=6.0						
WB2	**Warramunga Arr**	**28.56**	**166**	P	**P**	**10 28 12.6**	**-0.7**
WB2				IAmb	IAmb	10 28 30.1	
	comp=Z,16nm,1.7s						
WR0	**Warramunga Arr**	**28.63**	**166**	P	**P**	**10 28 14.3**	**+0.4**
WR0				IAmb	IAmb	10 28 37.7	
	comp=Z,6.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.45**	**294**	P	**P**	**10 28 23.1**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=104,slow=7.7,SNR=1.3						
ASAR	**Alice Springs**	**32.07**	**168**	P	**P**	**10 28 44.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=353,slow=6.3,SNR=9.2						
ASAR	**Alice Springs**	**32.07**	**168**	P	**P**	**10 28 45.1**	**+0.8**
FORT	**Forrest**	**38.50**	**179**	P	**P**	**10 29 39.1**	**-0.4**
FORT				IAmb	IAmb	10 30 29.4	
	comp=Z,18nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**39.70**	**71**	T	T	11 12 52.1	
	baz=262,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hy**	**39.72**	**71**	T	T	11 12 51.2	
	baz=262,slow=75,SNR=96						
H11S2	**WAKE ISLAND Hy**	**39.72**	**71**	T	T	11 12 51.4	
	baz=262,slow=75,SNR=139						
H11N1	**WAKE ISLAND Hy**	**40.12**	**69**	T	T	11 13 35.0	
	baz=266,slow=75,SNR=31						
H11N2	**WAKE ISLAND Hy**	**40.12**	**69**	T	T	11 13 32.4	
	baz=266,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**40.13**	**69**	T	T	11 13 27.4	
	baz=266,slow=75,SNR=41						
BBOO	**Buckleboo**	**41.37**	**169**	P	**P**	**10 30 03.8**	**+0.4**
STKA	**Stephens Creek**	**41.89**	**162**	P	**P**	**10 30 07.8**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=332,slow=8.5,SNR=3.9						
STKA	**Stephens Creek**	**41.89**	**162**	P	**P**	**10 30 08.7**	**+1.1**
SONM	**Songino Array**	**43.54**	**340**	P	**P**	**10 30 20.4**	**-0.6**
MKAR	**Makanchi Array**	**54.48**	**323**	P	**P**	**10 31 45.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=103,slow=6.2,SNR=2.5						
MKAR	**Makanchi Array**	**54.48**	**323**	P	**P**	**10 31 44.3**	**-0.6**

*IDC **25** 10:32:35.0±3.0,51°84N×175°35W,h38km±25km,mb4.0/23, mb1 4.2/25,mb1mx4.0/55,mbtmp4.2/25,ML3.7/2,MS3.2/11, Ms1 3.3/11,ms1mx3.0/48,Error ellipse: s-maj=19.3km s-min=10.7km az=168.0*
*AEIC **25** 10:32:35±2.5,51°66N±0°08×175°21W±0°05,h27km±4km, ML4.4,mb4.6/154(NEIC),Error ellipse: s-maj=11.6km s-min=3.7km az=166.0*
*NEIC **25** 10:32:36.4±2.0,51°73N±0°07×175°27W±0°05,h54km±5km, Error ellipse: s-maj=11.1km s-min=2.0km az=157.0*

ISC 25 10:32:34.4±0.4,51°64N±0°07×175°25W±0°04,h35km, n396,σ1ᵍ14/391,mb4.6/83,MS3.3/9,1C-1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.64**	**309**		**Pn**	**10 32 48.3**	**+1.3**
GSTR	**Great Sitkin T**	**0.67**	**312**		**Pn**	**10 32 49.1**	**+1.6**
GSTD	**Great Sitkin T**	**0.69**	**307**		**Pn**	**10 32 49.0**	**+1.3**
GSSP	**Great Sitkin S**	**0.73**	**308**		**Pn**	**10 32 49.7**	**+1.5**
ETKA	**Kagalaska Isla**	**0.75**	**287**		**Pn**	**10 32 49.6**	**+1.1**
ATKA	**Atka Island**	**0.86**	**49**		**Pn**	**10 32 50.1**	**+0.2**
ATKA				Sn	**Sn**	**10 33 00.6**	**-0.8**
ADAG	**Mount Adagdak**	**0.90**	**292**		**Pn**	**10 32 52.5**	**+1.9**
ADK	**Adak**	**0.92**	**286**		**Pn**	**10 32 52.0**	**+1.2**
ADK				Sn	**Sn**	**10 33 02.5**	**-0.3**
KOKL	**Mount Kliuchef**	**0.94**	**43**		**Pn**	**10 32 52.0**	**+0.8**
KOWE	**Korovin West**	**0.95**	**40**		**Pn**	**10 32 52.3**	**+1.0**
KOFP	**Korovin Flat P**	**0.95**	**48**		**Pn**	**10 32 52.0**	**+0.6**
KOSE	**Korovin Southe**	**1.02**	**46**		**Pn**	**10 32 53.2**	**+1.0**
KIKV	**Kanaga Island**	**1.22**	**282**		**Pn**	**10 32 56.4**	**+1.4**
KICM	**Kanaga Island**	**1.24**	**284**		**Pn**	**10 32 57.2**	**+2.0**
KIMD	**Kanaga Island**	**1.24**	**276**		**Pn**	**10 32 56.3**	**+1.1**
TAFP	**Tanaga Falls P**	**1.72**	**280**		**Pn**	**10 33 03.8**	**+2.0**
TASE	**Tanaga Southea**	**1.74**	**277**		**Pn**	**10 33 04.3**	**+2.1**
GALAA	**Gareloi Lava P**	**2.19**	**274**		**Pn**	**10 33 10.9**	**+2.5**
CERAA	**Semis' Rag'd T**	**3.16**	**277**		**Pn**	**10 33 24.5**	**+3.0**
CEAP	**Semis' Anvil P**	**3.23**	**278**		**Pn**	**10 33 25.7**	**+3.1**
CESW	**Semis' Southwe**	**3.23**	**277**		**Pn**	**10 33 25.4**	**+2.8**
CESW					**Sn**	**10 34 02.8**	**+3.0**
AMKA	**Amchitka**	**3.41**	**268**	Pn	**Pn**	**10 33 27.3**	**+2.2**
LSPA	**Little Sitkin**	**3.85**	**277**		**Pn**	**10 33 34.2**	**+3.2**
LSNW	**Little Sitkin**	**3.88**	**277**		**Pn**	**10 33 34.3**	**+2.8**
LSSA	**Little Sitkin**	**3.88**	**277**		**Pn**	**10 33 34.3**	**+2.7**
NIKH	**Nikolski High**	**4.14**	**69**	Pn	**Pn**	**10 33 38.1**	**+3.0**
NIKH	**Nikolski High**	**4.14**	**69**		**Sn**	**10 34 24.1**	**+1.8**
MGOD	**Makushin Gods**	**5.53**	**64**		**Pn**	**10 33 57.3**	**+3.1**
MREP	**Makushin Rep't**	**5.61**	**64**		**Pn**	**10 33 58.3**	**+3.1**
MNAT	**Makushin Natee**	**5.67**	**63**		**Pn**	**10 33 58.9**	**+2.8**
UNV	**Unalaska Valle**	**5.75**	**64**	Pn	**Pn**	**10 34 00.5**	**+3.3**
AKUT	**Akutan**	**6.26**	**63**	Pn	**Pn**	**10 34 08.2**	**+4.2**
SPIA	**Saint Paul Isl**	**6.26**	**26**	Pn	**Pn**	**10 34 07.1**	**+2.9**
SPIA					**Sn**	**10 35 16.9**	**+2.4**
FALS	**False Pass**	**7.79**	**61**		**Pn**	**10 34 27.9**	**+2.7**
SDPT	**Sand Point**	**9.55**	**61**	Pn	**Pn**	**10 34 50.8**	**+1.5**
CNBA	**Chernabura Isl**	**9.91**	**65**	Pn	**Pn**	**10 34 54.3**	**+0.1**
CHGN	**Chignik**	**10.95**	**58**	Pn	**Pn**	**10 35 10.1**	**+1.7**
GAMB	**Gambell**	**12.31**	**7**	Pn	**Pn**	**10 35 28.4**	**+1.5**
SVW2	**Sparrevohn**	**14.38**	**41**	Pn	**Pn**	**10 35 58.4**	**+3.2**
KDAK	**Kodiak Island**	**14.43**	**56**		**P**	**10 36 02.2**	**0.0**
TTA	**Tatalina**	**15.28**	**35**	P	**P**	**10 36 12.5**	**+0.7**
RSO	**Redoubt South**	**15.29**	**46**	P	**P**	**10 36 12.0**	**0.0**
CNPM	**China Poot**	**15.63**	**50**		**Pn**	**10 36 11.4**	**-0.4**
CNPM				IAmb	IAmb	10 36 17.0	
	comp=Z,24nm,0.8s						
BRLK	**Bradley Lake**	**15.88**	**50**		**Pn**	**10 36 15.4**	**+0.4**
BRLK				IAmb	IAmb	10 36 20.3	
	comp=Z,16nm,0.6s						
SKT	**Skwentna**	**16.50**	**42**	P	**P**	**10 36 26.2**	**+1.0**
PETK	**Petropavlovsk-**	**16.55**	**286**	Pn	**Pn**	**10 36 20.9**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=174,slow=15,SNR=9.3						
PETK				LR	LR	10 42 59.6	
	comp=Z,40nm,18.9s,baz=87,slow=38						
PETK	**Petropavlovsk-**	**16.55**	**286**		**Pn**	**10 36 23.7**	**+0.2**
SEW	**Seward**	**16.67**	**49**		**Pn**	**10 36 24.0**	**-1.0**
SEW				IAmb	IAmb	10 36 29.5	
	comp=Z,20nm,0.6s						
O22K	**Cooper Landing**	**16.68**	**48**	P	**P**	**10 36 29.1**	**+2.1**
	baz=250						
O22K	**Cooper Landing**	**16.68**	**48**	P	**P**	**10 36 28.9**	**+1.8**
O22K				IAmb	IAmb	10 36 36.2	
	comp=Z,39nm,0.8s						
PPLA	**Purkeypile**	**16.69**	**39**		**P**	**10 36 27.8**	**+0.4**
RC01	**Rabbit Creek A**	**16.89**	**46**	P	**P**	**10 36 32.3**	**+2.8**
	baz=248						
GHO	**Glory Hole Cre**	**17.52**	**44**		**Pn**	**10 36 36.1**	**+0.5**
KNIK	**Knik Glacier**	**17.59**	**46**	P	**Pn**	**10 36 36.4**	**-0.1**
TRF	**Thorofare Moun**	**17.72**	**39**	P	**P**	**10 36 40.2**	**+1.4**
SML	**Sawmill**	**17.79**	**45**		**Pn**	**10 36 39.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**17.80**	**36**	P	**P**	**10 36 41.7**	**+2.2**
GLI	**Glacier Island**	**18.03**	**48**	P	**P**	**10 36 43.2**	**+1.1**
IMAR	**Indian Mountai**	**18.03**	**29**	P	**P**	**10 36 43.4**	**+1.4**
SCM	**Sheep Creek Mo**	**18.25**	**45**	P	**P**	**10 36 44.0**	**-0.5**
RND	**Reindeer**	**18.26**	**40**	P	**P**	**10 36 43.9**	**-0.8**
RND				IAmb	IAmb	10 36 49.6	
	comp=Z,19nm,0.7s						
FID	**Port Fidalgo**	**18.28**	**49**	P	**P**	**10 36 43.8**	**-1.0**
FID				IAmb	IAmb	10 36 48.2	
	comp=Z,16nm,0.5s						
MCK	**McKinley**	**18.38**	**39**	P	**Pn**	**10 36 46.6**	**+0.4**
	baz=241,SNR=8.4						
BWN	**Browne**	**18.40**	**37**	P	**Pn**	**10 36 47.3**	**+1.0**
BWN				IAmb	IAmb	10 36 52.1	
	comp=Z,42nm,1.2s						
MLY	**Manley**	**18.41**	**34**	P	**Pn**	**10 36 48.1**	**+1.6**
	baz=235,SNR=14						
DHY	**Denali Highway**	**18.71**	**42**	P	**P**	**10 36 50.0**	**+0.3**
BILL	**Bilibino**	**18.74**	**338**	P	**P**	**10 36 50.3**	**+0.5**
BILL				IAmb	IAmb	10 36 54.9	
	comp=Z,20nm,0.6s						
KLU	**Klutina**	**18.76**	**47**	P	**P**	**10 36 49.6**	**-0.6**
NEA2	**Nenana**	**18.77**	**36**	P	**P**	**10 36 50.2**	**+0.1**
	baz=239						
M24K	**Tolsona, Glenn**	**18.85**	**45**	P	**Pn**	**10 36 52.7**	**+0.7**
	baz=250						
M24K	**Tolsona, Glenn**	**18.85**	**45**	P	**Pn**	**10 36 52.3**	**+0.4**
M24K				IAmb	IAmb	10 37 20.8	
	comp=Z,20nm,0.9s						
I23K	**Minto, Yukon-K**	**18.96**	**35**	P	**Pn**	**10 36 53.9**	**+0.8**
	baz=237,SNR=15						
I23K	**Minto, Yukon-K**	**18.96**	**35**	P	**Pn**	**10 36 54.0**	**+1.0**
WRH	**Wood River Hil**	**19.07**	**37**	P	**P**	**10 36 52.7**	**-0.7**
CCB	**Clear Creek Bu**	**19.26**	**37**	P	**P**	**10 36 54.7**	**-0.9**
MDM	**Murphy Dome**	**19.26**	**36**	P	**P**	**10 36 55.9**	**+0.3**
MDM				IAmb	IAmb	10 37 01.6	
	comp=Z,18nm,0.8s						
TCOL	**CIGO, UAF Yank**	**19.36**	**36**	P	**P**	**10 36 57.2**	**+0.7**
	baz=240						
TCOL	**CIGO, UAF Yank**	**19.36**	**36**	P	**P**	**10 36 57.0**	**+0.5**
COLA	**College**	**19.36**	**36**	P	**P**	**10 36 57.5**	**+0.9**
N25K	**Chitina, Valde**	**19.40**	**47**	P	**Pn**	**10 36 58.3**	**-0.2**
	baz=253						
N25K	**Chitina, Valde**	**19.40**	**47**	P	**Pn**	**10 37 01.3**	**+2.8**
PAX	**Paxson**	**19.47**	**43**	P	**Pn**	**10 37 00.7**	**+1.3**
HDA	**Harding Lake**	**19.48**	**38**	P	**P**	**10 36 58.4**	**+0.5**
HDA				IAmb	IAmb	10 37 04.0	
	comp=Z,12nm,0.6s						
POKR	**Poker Plat Res**	**19.64**	**36**	P	**Pn**	**10 37 02.0**	**+0.8**
	baz=240						
IL31		**19.67**	**37**	P	**P**	**10 37 00.6**	**+0.7**
IL31				IAmb	IAmb	10 37 05.0	
	comp=Z,9.5nm,0.5s						
ILAR	**Eielson Array**	**19.67**	**37**	P	**P**	**10 36 58.1**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=217,slow=9.6,SNR=53						
ILAR				ScP	**ScP**	**10 44 50.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=276,slow=3.1,SNR=6.7						
ILAR				LR	LR	10 44 50.7	
	comp=Z,57nm,18.5s,baz=276,slow=38						
ILAR	**Eielson Array**	**19.67**	**37**	P	**P**	**10 36 60.0**	**0.0**
COLD	**Coldfoot**	**19.92**	**29**	P	**Pn**	**10 37 04.5**	**+0.1**
	baz=231,SNR=7.9						
COLD	**Coldfoot**	**19.92**	**29**		**Pn**	**10 37 04.9**	**+0.4**
COLD				IAmb	IAmb	10 37 09.8	
	comp=Z,18nm,0.8s						
RIDG	**Independent Ri**	**20.02**	**41**	P	**P**	**10 37 03.8**	**-0.1**
RIDG				IAmb	IAmb	10 37 09.5	
	comp=Z,20nm,0.6s						
MENT	**Mentasta**	**20.21**	**44**	P	**P**	**10 37 06.0**	**+0.1**
DOT	**Dot Lake**	**20.31**	**42**	P	**P**	**10 37 06.8**	**-0.3**
DOT				IAmb	IAmb	10 37 11.1	
	comp=Z,26nm,0.8s						
L26K	**Log Cabin Wild**	**20.40**	**44**	P	**P**	**10 37 07.8**	**-0.1**
	baz=251						
SCRK	**Sand Creek**	**20.47**	**41**	P	**P**	**10 37 08.0**	**-0.8**
	baz=248,SNR=67						
TOLK	**Toolik Lake Re**	**21.02**	**26**	P	**P**	**10 37 16.2**	**+1.5**
	baz=229,SNR=5.8						
TOLK	**Toolik Lake Re**	**21.02**	**26**	P	**P**	**10 37 13.8**	**-0.8**
TOLK				IAmb	IAmb	10 37 18.9	
	comp=Z,17nm,0.8s						
BCAR	**Beaver Creek A**	**21.09**	**44**	P	**P**	**10 37 15.1**	**-0.4**
K27K	**Chicken**	**21.27**	**42**	P	**P**	**10 37 16.9**	**-0.5**
	baz=250						
K27K	**Chicken**	**21.27**	**42**	P	**P**	**10 37 17.6**	**+0.2**
K27K				IAmb	IAmb	10 37 25.2	
	comp=Z,33nm,0.8s						
EGAK	**Eagle**	**21.91**	**40**	P	**P**	**10 37 23.5**	**-0.6**
EGAK				IAmb	IAmb	10 37 39.2	
	comp=Z,12nm,0.8s						
EPYK	**Eagle Plains**	**24.18**	**38**	P	**P**	**10 37 46.7**	**-0.4**
	baz=252						
EPYK	**Eagle Plains**	**24.18**	**38**	P	**P**	**10 37 47.1**	**0.0**
INK	**Inuvik**	**25.98**	**34**	P	**P**	**10 38 01.9**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=221,slow=6.3,SNR=13						
INK				LR	LR	10 49 50.1	
	comp=Z,60nm,18.7s,baz=196,slow=40						
INK	**Inuvik**	**25.98**	**34**	P	**P**	**10 38 02.7**	**-0.6**
JKA	**Kamikawa-asahi**	**28.92**	**272**	P	**P**	**10 38 30.3**	**+0.5**
ASAJ	**Asahikawa**	**28.92**	**272**	P	**P**	**10 38 30.1**	**+0.2**
	comp=Z,7.3nm,0.7s,baz=110,slow=1.6,SNR=6.1						
ASAJ				LR	LR	10 48 58.1	
	comp=Z,22nm,21.9s,baz=320,slow=34						
YAK	**Yakutsk**	**30.91**	**311**	LR	LR	10 51 24.7	
	comp=Z,79nm,19.4s,baz=90,slow=37						
KLR	**Kul'dur**	**33.23**	**287**	P	**P**	**10 39 07.1**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=72,slow=5.7,SNR=20						
YKA	**Yellowknife Ar**	**33.43**	**47**	P	**P**	**10 39 08.6**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=81,slow=5.3,SNR=5.1						
YKA				PcP	**PcP**	**10 41 50.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=278,slow=3.7,SNR=6.2						
YKA				LR	LR	10 54 16.7	
	comp=Z,62nm,18.8s,baz=0.0,slow=39						
H11N2	**WAKE ISLAND Hy**	**34.80**	**210**	T	T	11 16 16.6	
	baz=18,slow=76,SNR=235						
H11N3	**WAKE ISLAND Hy**	**34.80**	**210**	T	T	11 16 12.8	
	baz=18,slow=76,SNR=314						
H11N1	**WAKE ISLAND Hy**	**34.81**	**210**	T	T	11 16 18.2	
	baz=18,slow=76,SNR=279						
B08A	**Colville Reser**	**35.35**	**73**	P	**P**	**10 39 26.9**	**+0.7**
B08A				IAmb	IAmb	10 39 28.5	
	comp=Z,6.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.45**	**279**	P	**P**	**10 39 26.3**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=57,slow=8.6,SNR=8.8						
USRK				LR	LR	10 53 04.7	
	comp=Z,50nm,20.9s,baz=69,slow=35						
H11S1	**WAKE ISLAND Hy**	**36.01**	**210**	T	T	11 17 42.7	
	baz=17,slow=76,SNR=258						
MJAR	**Matsushiro Arr**	**36.02**	**264**	P	**P**	**10 39 31.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=53,slow=7.4,SNR=7.1						
MJAR	**Matsushiro Arr**	**36.02**	**264**	P	**P**	**10 39 30.8**	**-1.2**
MAJO	**Matsushiro**	**36.02**	**264**	P	**P**	**10 39 31.1**	**-1.0**
MAJO				IAmb	IAmb	10 39 36.8	
	comp=Z,4.0nm,0.7s						
MAT	**Matsushiro**	**36.02**	**264**	P	**P**	**10 39 31.5**	**-0.5**
H11S2	**WAKE ISLAND Hy**	**36.02**	**210**	T	T	11 17 43.2	
	baz=17,slow=76,SNR=208						
H11S3	**WAKE ISLAND Hy**	**36.02**	**210**	T	T	11 17 38.3	
	baz=17,slow=76,SNR=144						
HAWA	**Hanford**	**36.15**	**76**	P	**P**	**10 39 34.4**	**+1.3**
HAWA				IAmb	IAmb	10 39 39.3	
	comp=Z,4.1nm,0.7s						
C09A	**Chrisman Ranch**	**36.24**	**73**	P	**P**	**10 39 34.5**	**+0.7**
C09A				IAmb	IAmb	10 39 36.8	
	comp=Z,5.0nm,0.8s						
NEW	**Newport**	**36.70**	**72**	P	**P**	**10 39 39.0**	**+1.2**
	comp=Z,4.3nm,0.5s,baz=300,slow=8.2,SNR=15						
NEW	**Newport**	**36.70**	**72**	P	**P**	**10 39 38.7**	**+0.9**
	baz=298,SNR=8.1						
NEW	**Newport**	**36.70**	**72**	P	**P**	**10 39 36.9**	**-1.0**
NEW				IAmb	IAmb	10 39 41.1	
	comp=Z,7.7nm,0.9s						
WALA	**Waterton Lakes**	**38.22**	**69**	P	**P**	**10 39 50.5**	**-0.2**
WALA				IAmb	IAmb	10 39 56.4	
	comp=Z,6.3nm,0.9s						
BMO	**Blue Mountains**	**38.28**	**77**	P	**P**	**10 39 51.6**	**+0.3**
JTMT	**Jette**	**38.63**	**71**	P	**P**	**10 39 55.5**	**+1.3**
JTMT				IAmb	IAmb	10 39 56.0	
	comp=Z,17nm,1.4s						
MSO	**Missoula**	**39.28**	**72**	P	**P**	**10 40 00.5**	**+0.8**
	baz=300,SNR=7.3						
**M

PV11					IAmb	IAmb	10 41 09.5	
	comp=Z,6.1nm,0.6s							
PV12	**Saucer Basin,**	**47.25**	**79**	P	**P**		**10 41 05.0**	**+0.9**
PV12					IAmb	IAmb	10 41 10.2	
	comp=Z,5.6nm,0.9s							
PV03	**Paradox Valley**	**47.26**	**79**	P	**P**		**10 41 02.4**	**-1.9**
PV03					IAmb	IAmb	10 41 14.4	
	comp=Z,3.3nm,0.9s							
PV13	**Radium Mtn., P**	**47.34**	**79**	P	**P**		**10 41 04.9**	**0.0**
PV13					IAmb	IAmb	10 41 09.7	
	comp=Z,7.7nm,0.9s							
N23A	**Red Feather La**	**47.39**	**74**	P	**P**		**10 41 05.9**	**+0.6**
	baz=308							
PV15	**Paradox Valley**	**47.43**	**79**	P	**P**		**10 41 06.5**	**+0.9**
PV15					IAmb	IAmb	10 41 10.2	
	comp=Z,6.3nm,1.0s							
PV01	**Paradox Valley**	**47.51**	**79**	P	**P**		**10 41 05.3**	**-0.9**
PV01					IAmb	IAmb	10 41 10.9	
	comp=Z,3.2nm,0.8s							
SUSD	**Miller**	**49.34**	**67**	P	**P**		**10 41 19.3**	**-0.7**
	baz=307,SNR=5.1							
SUSD	**Miller**	**49.34**	**67**	P	**P**		**10 41 19.6**	**-0.4**
SDCO	**Great Sand Dun**	**49.63**	**77**	P	**P**		**10 41 23.1**	**+0.6**
	baz=310							
SDCO	**Great Sand Dun**	**49.63**	**77**	P	**P**		**10 41 23.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**49.73**	**288**	*e*P	**P**		**10 41 24.5**	**+1.4**
HHC				pP	pwP		10 41 36.0	+2.6
HHC				S	**S**		**10 48 32.0**	**+2.3**
HHC				sS	sS		10 48 52.8	+7.2
HHC				pmax	pmax			
	comp=Z,12nm,0.9s							
HHC				pmax	pmax			
	comp=Z,140nm,5.9s							
SPB5	**Spitsbergen Ar**	**50.24**	**357**	P	**P**		**10 41 25.9**	**-0.4**
SPB1	**Spitsbergen Ar**	**50.24**	**357**	P	**P**		**10 41 25.8**	**-0.6**
SPA1	**Spitsbergen Ar**	**50.24**	**357**	P	**P**		**10 41 24.7**	**-1.7**
KSCO	**Kaye Shedlock'**	**50.56**	**74**	P	**P**		**10 41 30.2**	**+0.8**
	baz=310							
KSCO	**Kaye Shedlock'**	**50.56**	**74**	P	**P**		**10 41 29.8**	**+0.4**
T25A	**Trinidad**	**50.68**	**77**	P	**P**		**10 41 31.2**	**+0.7**
	baz=311							
T25A	**Trinidad**	**50.68**	**77**	P	**P**		**10 41 30.5**	**0.0**
T25A					IAmb	IAmb	10 41 33.2	
	comp=Z,6.9nm,1.1s							
NJ2	**Nanjing**	**51.01**	**274**	*e*P	**P**		**10 41 32.3**	**-0.4**
NJ2					pmax	pmax		
	comp=Z,17nm,0.5s							
ECSD	**EROS Data Cent**	**51.11**	**66**	P	**P**		**10 41 32.3**	**-1.1**
	baz=308							
ECSD	**EROS Data Cent**	**51.11**	**66**	P	**P**		**10 41 32.6**	**-0.8**
ECSD					IAmb	IAmb	10 41 33.1	
	comp=Z,5.0nm,1.0s							
EYMN	**Ely**	**51.35**	**59**	P	**P**		**10 41 34.7**	**-0.4**
EYMN					IAmb	IAmb	10 41 43.3	
	comp=Z,20nm,1.2s							
BGNE	**Belgrade**	**51.68**	**69**	P	**P**		**10 41 37.3**	**-0.4**
	baz=309							
CBKS	**Cedar Bluff**	**52.41**	**73**	P	**P**		**10 41 42.7**	**-0.4**
	baz=311							
CBKS	**Cedar Bluff**	**52.41**	**73**	P	**P**		**10 41 43.9**	**+0.8**
CBKS					IAmb	IAmb	10 41 44.3	
	comp=Z,7.5nm,0.6s							
SRIG	**Santa Rosalia**	**52.51**	**92**	P	**P**		**10 41 44.3**	**+0.4**
I37A	**Lemond, Waseca**	**52.75**	**64**	P	**P**		**10 41 45.6**	**+0.1**
R32A	**Long Quarter,**	**53.27**	**72**	P	**P**		**10 41 49.5**	**0.0**
R32A					IAmb	IAmb	10 41 50.4	
	comp=Z,16nm,1.5s							
N35A	**Tabor**	**53.49**	**68**	P	**P**		**10 41 51.9**	**+0.9**
MNTX	**Cornudas Mount**	**53.72**	**83**	P	**P**		**10 41 52.2**	**-0.6**
	baz=314							
MNTX	**Cornudas Mount**	**53.72**	**83**	P	**P**		**10 41 51.3**	**-1.5**
COWI	**Conover**	**53.76**	**59**	P	**P**		**10 41 52.2**	**-0.7**
MSTX	**Muleshoe**	**53.78**	**79**	P	**P**		**10 41 53.8**	**+0.4**
	baz=313							
MSTX	**Muleshoe**	**53.78**	**79**	P	**P**		**10 41 53.7**	**+0.4**
MSTX					IAmb	IAmb	10 41 57.1	
	comp=Z,7.9nm,1.1s							
KSU1	**Kansas State U**	**54.07**	**70**	P	**P**		**10 41 55.3**	**0.0**
	baz=311							
E43A	**Lone Tree Farm**	**54.73**	**58**	P	**P**		**10 41 59.9**	**0.0**
N38A	**Joes South For**	**54.92**	**67**	P	**P**		**10 42 01.6**	**+0.2**
KAN13	**South Haven SW**	**54.94**	**73**	P	**P**		**10 42 00.8**	**-0.8**
JFWS	**Jewell Farm**	**55.21**	**63**	P	**P**		**10 42 02.3**	**-1.2**
	baz=311							
JFWS	**Jewell Farm**	**55.21**	**63**	P	**P**		**10 42 02.3**	**-1.2**
JFWS					IAmb	IAmb	10 42 04.0	
	comp=Z,7.9nm,0.8s							
L40A	**Anamosa**	**55.23**	**64**	P	**P**		**10 42 03.1**	**-0.5**
L40A					IAmb	IAmb	10 42 03.3	
	comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**55.43**	**315**	PcP	**PcP**		**10 43 04.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=222,slow=2.0,SNR=4.0							
P38A	**Dawn**	**55.52**	**68**	P	**P**		**10 42 04.9**	**-0.9**
P38A					IAmb	IAmb	10 42 05.7	
	comp=Z,8.1nm,0.9s							
WMOK	**Wichita Mounta**	**55.69**	**76**	P	**P**		**10 42 07.0**	**0.0**
	baz=313							
WMOK	**Wichita Mounta**	**55.69**	**76**	P	**P**		**10 42 06.1**	**-1.0**
WMOK					IAmb	IAmb	10 42 08.1	
	comp=Z,3.0nm,0.8s							
TX31	**Lajitas Ar. Si**	**56.42**	**84**	P	**P**		**10 42 12.5**	**+0.1**
TX31					IAmb	IAmb	10 42 19.3	
	comp=Z,9.2nm,1.3s							
TX32	**Lajitas Array**	**56.42**	**84**	P	**P**		**10 42 11.4**	**-1.1**
TXAR	**Lajitas Array**	**56.42**	**84**	P	**P**		**10 42 12.7**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=300,slow=6.4,SNR=11							
TXAR					LR	LR	11 03 49.7	
	comp=Z,22nm,19.4s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**56.42**	**84**	P	**P**		**10 42 12.5**	**+0.1**
P40A	**Paris**	**56.44**	**67**	P	**P**		**10 42 11.4**	**-0.9**
ABTX	**Abilene, Hawle**	**56.61**	**78**	P	**P**		**10 42 13.9**	**+0.3**
	baz=314							
ABTX	**Abilene, Hawle**	**56.61**	**78**	P	**P**		**10 42 12.3**	**-1.4**
ABTX					IAmb	IAmb	10 42 18.8	
	comp=Z,10nm,1.1s							
R40A	**Maddies Statio**	**57.14**	**68**	P	**P**		**10 42 15.7**	**-1.6**
HDIL	**Hopedale**	**57.31**	**65**	P	**P**		**10 42 17.7**	**-0.8**
	baz=313,SNR=5.0							
HDIL	**Hopedale**	**57.31**	**65**	P	**P**		**10 42 16.5**	**-2.0**
LZH	**Lanzhou**	**57.42**	**288**	*e*P	P		10 42 13.8	-5.8
LZH				pP	pP		10 42 26.0	-4.0
LZH				sP	sP		10 42 33.5	-0.5
LZH				pmax	pmax			
	comp=Z,17nm,1.2s							
P43A	**Skaggs, Pawnee**	**57.80**	**65**	P	**P**		**10 42 20.2**	**-1.7**
U40A	**Yellville**	**58.12**	**70**	P	**P**		**10 42 23.0**	**-1.2**
	baz=314							
U40A	**Yellville**	**58.12**	**70**	P	**P**		**10 42 22.6**	**-1.7**
U40A					IAmb	IAmb	10 42 26.3	
	comp=Z,14nm,1.5s							
ARCES	**ARCESS Array B**	**58.18**	**352**	P	**P**		**10 42 22.5**	**-1.7**
	comp=Z,5.6nm,0.9s,baz=11,slow=7.0,SNR=7.1							
ARCES					LR	LR	11 12 07.7	
	comp=Z,20nm,18.5s,baz=240,slow=41							
W39A	**Magazine**	**58.37**	**72**	P	**P**		**10 42 25.3**	**-0.7**
	baz=314							
WHTX	**Lake Whitney,**	**58.38**	**77**	P	**P**		**10 42 26.3**	**+0.2**
	baz=314							
FVM	**French Village**	**58.41**	**67**	P	**P**		**10 42 24.5**	**-1.8**
SFIN	**Lafayette**	**58.66**	**63**	P	**P**		**10 42 27.2**	**-0.7**
	baz=313							
SFIN	**Lafayette**	**58.66**	**63**	P	**P**		**10 42 26.7**	**-1.3**
FCAR	**Ozark Folk Cen**	**58.87**	**70**	P	**P**		**10 42 30.0**	**+0.6**
FCAR					IAmb	IAmb	10 42 32.1	
	comp=Z,5.1nm,0.6s							
MIAR	**Mount Ida**	**58.94**	**72**	P	**P**		**10 42 30.0**	**0.0**
	baz=314							
MIAR	**Mount Ida**	**58.94**	**72**	P	**P**		**10 42 29.9**	**0.0**
MIAR					IAmb	IAmb	10 42 34.1	
	comp=Z,6.1nm,1.1s							
OLIL	**Olney**	**59.23**	**65**	P	**P**		**10 42 30.9**	**-1.1**
PBMO	**Poplar Bluff**	**59.24**	**69**	P	**P**		**10 42 31.3**	**-0.7**
PBMO					IAmb	IAmb	10 42 32.3	
	comp=Z,8.0nm,1.1s							
W41B	**Gary Mavity, V**	**59.29**	**71**	P	**P**		**10 42 31.6**	**-0.8**
	baz=314							
USIN	**University of**	**60.01**	**66**	P	**P**		**10 42 36.6**	**-0.7**
P48A	**Milroy**	**60.23**	**63**	P	**P**		**10 42 37.4**	**-1.4**
KURK	**Kurchatov**	**60.41**	**315**	P	**P**		**10 42 38.0**	**-1.9**
KURK					IAmb	IAmb	10 42 40.9	
	comp=Z,4.5nm,0.7s							
KURBB	**Kurchatov Arra**	**60.52**	**315**	P	**P**		**10 42 39.5**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=44,slow=6.8,SNR=7.2							
P49A	**Miami Univ. Ec**	**60.57**	**63**	P	**P**		**10 42 40.2**	**-0.9**
	baz=314							
P49A	**Miami Univ. Ec**	**60.57**	**63**	P	**P**		**10 42 40.6**	**-0.5**
WCI	**Wyandotte Cave**	**60.60**	**65**	P	**P**		**10 42 40.8**	**-0.6**
	baz=314							
WCI	**Wyandotte Cave**	**60.60**	**65**	P	**P**		**10 42 40.4**	**-0.9**
T47A	**Sharon Grove**	**61.01**	**66**	P	**P**		**10 42 44.0**	**-0.1**
T47A					IAmb	IAmb	10 42 44.7	
	comp=Z,8.0nm,0.8s							
WMQ	**Urumqi**	**61.03**	**305**	*e*P	**P**		**10 42 47.0**	**+2.7**
WVT	**Waverly**	**61.20**	**67**	P	**P**		**10 42 45.0**	**-0.4**
	baz=315							
O51A	**Pataskala**	**61.30**	**61**	P	**P**		**10 42 45.7**	**-0.4**
	baz=315							
OXF	**Oxford**	**61.42**	**70**	P	**P**		**10 42 46.7**	**-0.2**
	baz=315							
OXF	**Oxford**	**61.42**	**70**	P	**P**		**10 42 47.3**	**+0.3**
M53A	**WI Miller and**	**61.42**	**59**	P	**P**		**10 42 47.0**	**+0.1**
	baz=315							
ALLY	**Alegheny Colle**	**61.56**	**58**	P	**P**		**10 42 47.5**	**-0.3**
L54A	**Sinclairville**	**61.58**	**57**	P	**P**		**10 42 47.7**	**-0.2**
	baz=315							
MKAR	**Makanchi Array**	**61.58**	**310**	P	**P**		**10 42 47.1**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=42,slow=6.7,SNR=8.2							
MKAR	**Makanchi Array**	**61.58**	**310**	P	**P**		**10 42 45.7**	**-2.2**
R50A	**Paris**	**61.66**	**63**	P	**P**		**10 42 47.5**	**-1.1**
Q51A	**Peebles**	**61.68**	**62**	P	**P**		**10 42 47.8**	**-0.9**
O52A	**Adamsville**	**61.74**	**60**	P	**P**		**10 42 48.6**	**-0.4**
	baz=315,SNR=5.5							
O52A	**Adamsville**	**61.74**	**60**	P	**P**		**10 42 47.2**	**-1.8**
PLAL	**Pickwick Lake**	**61.86**	**68**	P	**P**		**10 42 49.8**	**-0.2**
PLAL					IAmb	IAmb	10 42 53.9	
	comp=Z,8.8nm,1.2s							
CLTN	**Cedars of Leba**	**62.08**	**66**	P	**P**		**10 42 51.9**	**+0.5**
CLTN					IAmb	IAmb	10 42 52.2	
	comp=Z,6.3nm,0.9s							
BVAR	**Borovoye Array**	**62.09**	**321**	P	**P**		**10 42 49.7**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=59,slow=16,SNR=5.0							
N54A	**Moraine State**	**62.13**	**59**	P	**P**		**10 42 51.4**	**-0.3**
	baz=316							
T50A	**Nancy**	**62.27**	**65**	P	**P**		**10 42 52.3**	**-0.4**
K56A	**Middlesex**	**62.28**	**56**	P	**P**		**10 42 53.0**	**+0.3**
	baz=316,SNR=6.0							
Q52A	**Bidwell**	**62.32**	**62**	P	**P**		**10 42 52.5**	**-0.4**
	baz=316							
P53A	**Whipple**	**62.43**	**61**	P	**P**		**10 42 53.0**	**-0.6**
	baz=316							
P53A	**Whipple**	**62.43**	**61**	P	**P**		**10 42 52.8**	**-0.8**
O54A	**Avella**	**62.48**	**59**	P	**P**		**10 42 53.7**	**-0.3**
	baz=316							
GYA	**Guiyang**	**62.49**	**279**	⇑P	**P**		**10 42 54.3**	**-0.1**
GYA					pmax	pmax		
	comp=Z,9.0nm,0.8s							
L56A	**Greenwood**	**62.56**	**56**	P	**P**		**10 42 54.8**	**+0.2**
	baz=316,SNR=6.8							
L56A	**Greenwood**	**62.56**	**56**	P	**P**		**10 42 54.0**	**-0.5**
K57A	**Scipio Center**	**62.67**	**55**	P	**P**		**10 42 55.1**	**-0.2**
	baz=316							
M56A	**Emporium**	**62.71**	**57**	P	**P**		**10 42 55.5**	**0.0**
	baz=316							
N55A	**Marion Center**	**62.79**	**58**	P	**P**		**10 42 55.7**	**-0.4**
	baz=316							
Q53A	**Leroy**	**62.80**	**61**	P	**P**		**10 42 56.2**	**0.0**
	baz=316,SNR=5.2							
P54A	**Burton**	**62.84**	**60**	P	**P**		**10 42 56.3**	**-0.1**
	baz=316							
R53A	**Hurricane**	**62.94**	**62**	P	**P**		**10 42 57.5**	**+0.3**
	baz=316,SNR=6.3							
R53A	**Hurricane**	**62.94**	**62**	P	**P**		**10 42 56.3**	**-0.8**
L57A	**Andrews Acres**	**63.03**	**56**	P	**P**		**10 42 57.8**	**+0.1**
	baz=316							
Q54A	**Coxs Mills**	**63.09**	**61**	P	**P**		**10 42 57.4**	**-0.6**
	baz=316							
Q54A	**Coxs Mills**	**63.09**	**61**	P	**P**		**10 42 57.9**	**-0.1**
MCWV	**Mont Chateau**	**63.14**	**59**	P	**P**		**10 42 58.6**	**+0.2**
	baz=316							
P55A	**Reedsville**	**63.26**	**60**	P	**P**		**10 42 59.3**	**+0.1**
	baz=316							
S53A	**Williamson**	**63.31**	**62**	P	**P**		**10 42 59.8**	**+0.2**
	baz=316							
BINY	**Binghamton**	**63.33**	**55**	P	**P**		**10 42 59.6**	**0.0**
	baz=317							
TZTN	**Tazewell**	**63.33**	**64**	P	**P**		**10 42 59.7**	**-0.1**
	baz=316							
M57A	**Sunshine Farm,**	**63.36**	**57**	P	**P**		**10 42 59.6**	**-0.2**
	baz=316							
O56A	**Blue Knob Stat**	**63.38**	**58**	P	**P**		**10 42 59.8**	**-0.2**
	baz=316							
SSPA	**Standing Stone**	**63.47**	**58**	P	**P**		**10 43 00.6**	**0.0**
	baz=316							
Q55A	**Buckhannon**	**63.49**	**60**	P	**P**		**10 43 01.1**	**+0.3**
	baz=316							
L58A	**Harry Jones Me**	**63.51**	**55**	P	**P**		**10 43 00.1**	**-0.8**
	baz=317							
R54A	**Victor**	**63.58**	**61**	P	**P**		**10 43 01.5**	**+0.1**
	baz=316,SNR=11							
T53A	**Wise**	**63.59**	**63**	P	**P**		**10 43 01.0**	**-0.5**
	baz=316							
FPAL	**Fort Paine**	**63.60**	**67**	P	**P**		**10 43 01.1**	**-0.5**
FPAL					IAmb	IAmb	10 43 05.6	
	comp=Z,11nm,1.1s							
S54A	**Dingess, Beckl**	**63.68**	**62**	P	**P**		**10 43 02.0**	**0.0**
	baz=316							
S54A	**Dingess, Beckl**	**63.68**	**62**	P	**P**		**10 43 03.0**	**+1.0**
M58A	**Price's Panora**	**63.68**	**56**	P	**P**		**10 43 01.8**	**-0.2**
	baz=317							
P56A	**Dayton Farm, R**	**63.79**	**59**	P	**P**		**10 43 02.9**	**+0.2**
	baz=316,SNR=5.3							
O57A	**Amberson**	**63.91**	**58**	P	**P**		**10 43 03.4**	**-0.1**
	baz=317							
R55A	**Marlinton**	**63.98**	**61**	P	**P**		**10 43 04.2**	**+0.2**
	baz=317							
R55A	**Marlinton**	**63.98**	**61**	P	**P**		**10 43 03.5**	**-0.6**
H62A	**Milan**	**63.98**	**50**	P	**P**		**10 43 03.0**	**-0.9**
	baz=318							
T54A	**Tazewell**	**64.06**	**63**	P	**P**		**10 43 04.8**	**+0.2**
	baz=316,SNR=7.5							
M59A	**Waymart**	**64.09**	**55**	P	**P**		**10 43 04.6**	**-0.1**
	baz=317							
S55A	**Lewisburg**	**64.14**	**61**	P	**P**		**10 43 05.4**	**+0.3**
	baz=317,SNR=5.5							
R56A	**Bull Pasture M**	**64.28**	**60**	P	**P**		**10 43 06.0**	**0.0**
	baz=317							
O58A	**Lewisberry**	**64.35**	**57**	P	**P**		**10 43 06.3**	**-0.1**
	baz=317							
N59A	**State Game Lan**	**64.37**	**56**	P	**P**		**10 43 06.3**	**-0.3**
	baz=317							
T55A	**Pulaski**	**64.46**	**62**	P	**P**		**10 43 07.4**	**+0.3**
	baz=317							
BLA	**Blacksburg**	**64.59**	**62**	P	**P**		**10 43 08.3**	**+0.3**
	baz=317							
BLA	**Blacksburg**	**64.59**	**62**	P	**P**		**10 43 06.6**	**-1.4**
S56A	**Natural Bridge**	**64.72**	**61**	P	**P**		**10 43 09.2**	**+0.4**
	baz=317							
N60A	**Cedar Hill Far**	**64.75**	**56**	P	**P**		**10 43 08.9**	**-0.1**
	baz=318							
U55A	**TA2, Sparta**	**64.76**	**63**	P	**P**		**10 43 09.2**	**0.0**
	baz=317							
V54A	**Nebo**	**64.78**	**64**	P	**P**		**10 43 09.4**	**+0.1**
	baz=317							
Q58A	**Fox Den Farm,**	**64.81**	**59**	P	**P**		**10 43 09.2**	**-0.2**
	baz=317,SNR=5.1							
R57A	**Stanardsville**	**64.83**	**60**	P	**P**		**10 43 09.6**	**+0.1**
	baz=317							
P59A	**Jarrettsville**	**64.98**	**57**	P	**P**		**10 43 10.6**	**+0.1**
	baz=317							
S57A	**Dark Hollow, R**	**64.99**	**60**	P	**P**		**10 43 11.0**	**+0.5**
	baz=317							
R58A	**Rapidan**	**65.11**	**59**	P	**P**		**10 43 11.2**	**-0.1**
	baz=317							
V55A	**Taylorsville**	**65.14**	**63**	P	**P**		**10 43 11.9**	**+0.3**
	baz=317							
W54A	**Cherokee Point**	**65.15**	**64**	P	**P**		**10 43 11.7**	**0.0**
	baz=317							
U56A	**King**	**65.24**	**62**	P	**P**		**10 43 12.2**	**0.0**
	baz=317							
T57A	**Hurt**	**65.38**	**61**	P	**P**		**10 43 13.2**	**+0.1**
	baz=317							
T57A	**Hurt**	**65.38**	**61**	P	**P**		**10 43 11.8**	**-1.3**
T57A					IAmb	IAmb	10 43 13.8	
	comp=Z,8.3nm,0.8s							
R58B	**Mineral**	**65.42**	**60**	P	**P**		**10 43 13.5**	**+0.2**
	baz=317							
R58B	**Mineral**	**65.42**	**60**	P	**P**		**10 43 14.1**	**+0.7**
R58B					IAmb	IAmb	10 43 14.2	
	comp=Z,6.2nm,0.8s							
X54A	**Belton**	**65.44**	**65**	P	**P**		**10 43 13.7**	**+0.2**
	baz=317							
V56A	**Mocksville**	**65.57**	**63**	P	**P**		**10 43 14.6**	**+0.2**
	baz=317							
S58A	**Poland Farm, P**	**65.59**	**60**	P	**P**		**10 43 14.4**	**0.0**
	baz=317							
KMSC	**Kings Mountain**	**65.59**	**64**	P	**P**		**10 43 14.7**	**+0.2**
	baz=317							
KMSC	**Kings Mountain**	**65.59**	**64**	P	**P**		**10 43 14.2**	**-0.3**
KMSC					IAmb	IAmb	10 43 15.3	
	comp=Z,9.0nm,0.8s							
GOGA	**Godfrey**	**65.64**	**67**	P	**P**		**10 43 14.3**	**-0.5**
	baz=317							
HODGE	**Hodges**	**65.73**	**65**	P	**P**		**10 43 16.0**	**+0.6**
HODGE					IAmb	IAmb	10 43 19.3	
	comp=Z,5.2nm,0.9s							
T58A	**Grand View Acr**	**65.81**	**61**	P	**P**		**10 43 15.7**	**-0.2**
	baz=318							
KMI	**Kunming**	**65.87**	**280**	⇓*e*P	**P**		**10 43 17.3**	**+0.6**
KMI					pmax	pmax		
	comp=Z,16nm,0.6s							
S59A	**Mechanicsville**	**65.88**	**59**	P	**P**		**10 43 16.6**	**+0.3**
	baz=318							
V57A	**Coltrane Farms**	**65.91**	**62**	P	**P**		**10 43 16.5**	**0.0**
	baz=317							
X55A	**Gracelyn & Ava**	**65.91**	**65**	P	**P**		**10 43 16.5**	**0.0**
	baz=317							
FINES	**FINESS Array B**	**65.98**	**349**	P	**P**		**10 43 15.1**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=18,slow=6.9,SNR=1.4							
FINES	**FINESS Array B**	**65.98**	**349**	P	**P**		**10 43 14.3**	**-2.3**
X56A	**White Oak**	**66.23**	**64**	P	**P**		**10 43 18.5**	**-0.1**
	baz=317							
JSC	**Jenkinsville**	**66.26**	**64**	P	**P**		**10 43 17.6**	**-1.1**
JSC					IAmb	IAmb	10 43 19.6	
	comp=Z,2.7nm,0.6s							
T59A	**Double "B" Far**	**66.33**	**60**	P	**P**		**10 43 19.4**	**+0.2**
	baz=318							
T59A	**Double "B" Far**	**66.33**	**60**	P	**P**		**10 43 19.2**	**0.0**
T59A					IAmb	IAmb	10 43 21.2	
	comp=Z,8.5nm,0.9s							
W57A	**Gilead**	**66.33**	**63**	P	**P**		**10 43 19.2**	**0.0**
	baz=318							
V58A	**Windy Hill, Pi**	**66.34**	**62**	P	**P**		**10 43 19.2**	**-0.1**
	baz=318							
V58A	**Windy Hill, Pi**	**66.34**	**62**	P	**P**		**10 43 18.1**	**-1.2**
U59A	**Littleton**	**66.65**	**61**	P	**P**		**10 43 21.6**	**+0.4**
	baz=318							
X57A	**Johnson Farm,**	**66.78**	**64**	P	**P**		**10 43 22.4**	**+0.3**
	baz=318							
V59A	**Middlesex**	**66.84**	**61**	P	**P**		**10 43 22.6**	**+0.1**
	baz=318,SNR=6.1							
Z57A	**Bowman**	**67.30**	**65**	P	**P**		**10 43 26.2**	**+0.9**
	baz=318							
NOA	**NORSAR Array B**	**67.55**	**357**	P	**P**		**10 43 25.5**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=7.4,slow=15,SNR=2.5							
W60A	**Pink Hill**	**67.66**	**62**	P	**P**		**10 43 28.1**	**+0.5**
	baz=318							
Z58A	**St. Stephen**	**67.77**	**64**	P	**P**		**10 43 28.9**	**+0.6**
	baz=318							
Y59A	**Loris**	**67.81**	**63**	P	**P**		**10 43 28.5**	**-0.1**
	baz=318							
X60A	**Albert Glenn T**	**67.87**	**62**	P	**P**		**10 43 28.8**	**-0.2**
	baz=318							
AKTO	**Aktyubinsk**	**68.72**	**327**	P	**P**		**10 43 33.9**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=60,slow=7.0,SNR=4.3							
CMAR	**Chiang Mai Arr**	**73.18**	**279**	P	**P**		**10 44 01.5**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=27,slow=7.3,SNR=23							
CMAR	**Chiang Mai Arr**	**73.18**	**279**	P	**P**		**10 44 01.3**	**-0.3**
RAR	**Rarotonga**	**73.80**	**165**	LR	LR		11 10 36.6	
	comp=Z,51nm,21.8s,baz=270,slow=31							
AKASG	**Malin Array Be**	**75.94**	**344**	P	**P**		**10 44 15.4**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=19,slow=6.2,SNR=5.0							
AKASG	**Malin Array Be**	**75.94**	**344**	P	**P**		**10 44 15.1**	**-2.0**
WRA	**Warramunga Arr**	**83.78**	**227**	P	**P**		**10 44 59.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=33,slow=5.7,SNR=20							
WRA	**Warramunga Arr**	**83.78**	**227**	P	**P**		**10 44 58.9**	**-1.0**
AS31	**Alice Springs**	**87.22**	**225**	P	**P**		**10 45 17.1**	**+0.2**
ASAR	**Alice Springs**	**87.22**	**225**	P	**P**		**10 45 17.2**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=30,slow=4.7,SNR=25							
STKA	**Stephens Creek**	**91.39**	**216**	P	**P**		**10 45 36.8**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=351,slow=6.5,SNR=6.2							
STKA	**Stephens Creek**	**91.39**	**216**	P	**P**		**10 45 36.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**115.43**	**3**	PKP	**PKiKP**		**10 51 11.5**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=345,slow=2.3,SNR=11							
H03N2	**Juan Fernandez**	**119.10**	**108**	T	T		13 02 46.1	
	baz=317,slow=77,SNR=52							
H03N1	**Juan Fernandez**	**119.11**	**108**	T	T		13 02 47.4	
	baz=317,slow=77,SNR=59							
H03N3	**Juan Fernandez**	**119.12**	**108**	T	T		13 02 46.7	
	baz=317,slow=77,SNR=53							
DBIC	**Dimbokro**	**121.33**	**11**	PKP	**PKPdf**		**10

AAK	**Ala-Archa**	**4.07**	**24**	P	**Pn**	**10 35 33.2**	**+2.4**
	SNR=24						
AAK	**Ala-Archa**	**4.07**	**24**	⇑Pn	**Pn**	**10 35 33.4**	**+2.6**
	46nm,0.4s						
AAK				⇑Sn	**Sn**	**10 36 20.0**	**+1.3**
	110nm,0.5s						
KBK	**Karagaybulak**	**4.25**	**28**	⇑*i*P	**Pn**	**10 35 35.0**	**+1.8**
	baz=31						
KBK				⇑*i*S	**Sn**	**10 36 21.5**	**-1.4**
	baz=31						
KBK	**Karagaybulak**	**4.25**	**28**	P	**Pn**	**10 35 35.7**	**+2.5**
	SNR=17						
FRU1	**Bishkek**	**4.27**	**24**	⇓*e*P	**Pn**	**10 35 35.2**	**+1.7**
	baz=27						
FRU1				⇓*e*S	**Sn**	**10 36 21.8**	**-1.6**
	baz=27						
KK31	**Karatay Array**	**4.38**	**343**	⇑Pn	**Pn**	**10 35 33.5**	**-1.4**
	31nm,0.3s,baz=150,slow=12,SNR=915						
KK31				⇑Sn	**Sn**	**10 36 27.0**	**+1.1**
	43nm,0.3s,baz=148,slow=23,SNR=6.1						
CHMS	**Chumysh**	**4.48**	**24**	⇑*e*P	**Pn**	**10 35 37.7**	**+1.4**
	baz=27						
CHMS				⇑*i*S	**Sn**	**10 36 26.8**	**-1.7**
	baz=27						
CHMS	**Chumysh**	**4.48**	**24**	P	**Pn**	**10 35 38.6**	**+2.3**
	SNR=45						
ULHL	**Ulahol**	**4.49**	**41**	P	**Pn**	**10 35 38.5**	**+1.9**
	SNR=28						
BRLS	**Borolday**	**4.49**	**337**	*e*P	**Pn**	**10 35 39.7**	**+3.3**
	70nm,0.2s						
BRLS				*e*S	**Sn**	**10 36 32.3**	**+3.6**
	103nm,0.3s						
BOOM	**Boomskoye usch**	**4.52**	**37**	⇓*e*P	**Pn**	**10 35 39.2**	**+2.2**
	baz=40						
BOOM				⇓*i*S	**Sn**	**10 36 29.4**	**-0.4**
	baz=40						
USP	**Ospenovka**	**4.65**	**21**	⇓*i*P	**Pn**	**10 35 40.3**	**+1.6**
	baz=23						
USP				⇓*i*S	**Sn**	**10 36 30.5**	**-2.2**
	baz=23						
USP	**Ospenovka**	**4.65**	**21**	P	**Pn**	**10 35 40.8**	**+2.1**
	SNR=28						
TKM2	**Tokmak 2**	**4.72**	**31**	⇑*e*P	**Pn**	**10 35 41.8**	**+2.0**
	baz=34						
TKM2				⇑*e*S	**Sn**	**10 36 33.6**	**-1.1**
	baz=34						
TKM2	**Tokmak 2**	**4.72**	**31**	P	**Pn**	**10 35 41.7**	**+2.0**
	SNR=30						
TKM2	**Tokmak 2**	**4.72**	**31**	⇑Pn	**Pn**	**10 35 41.7**	**+2.0**
	11nm,0.7s						
TKM2				⇑Pg	**Pb**	**10 35 55.7**	**+4.4**
	21nm,0.5s						
TKM2				⇓Sn	**Sn**	**10 36 40.8**	**+6.2**
	68nm,0.8s						
KST	**Kastek**	**4.97**	**33**	*e*P	**Pb**	**10 35 52.9**	**-2.7**
	16nm,0.5s						
KST				*e*S	**Sb**	**10 36 54.5**	**-0.9**
	103nm,0.6s						
CEP	**Cherat**	**5.10**	**183**	P	**Pb**	**10 35 55.5**	**-2.3**
TNSS	**Tian-Shan**	**5.42**	**39**	*e*P	**Pb**	**10 36 03.4**	**0.0**
	22nm,0.4s						
TNSS				*e*S	**Sb**	**10 37 12.9**	**+4.3**
	32nm,0.6s						
MDOK	**Medeo**	**5.57**	**39**	*e*P	**Pb**	**10 36 04.2**	**-1.4**
	18nm,0.7s						
MDOK				*e*S	**Sb**	**10 37 14.3**	**+1.8**
	57nm,1.0s						
ANVS	**Anan'yevo**	**5.62**	**45**	⇓*e*P	**Pn**	**10 35 54.9**	**+2.8**
	baz=48						
ANVS				⇓*i*S	**Sn**	**10 36 56.6**	**-0.3**
	baz=48						
KUU	**Kurty**	**5.83**	**30**	*e*P	**Pb**	**10 36 09.8**	**-0.3**
	16nm,0.6s						
KUU				*e*S	**Sb**	**10 37 23.8**	**+3.9**
	53nm,0.7s						
THW	**Thamme Wali**	**6.14**	**184**	P	Pb	10 36 08.8	-6.5
PDGK	**Podgornoye**	**7.00**	**49**	⇓Pn	**Pn**	**10 36 12.3**	**+1.2**
	7.2nm,0.8s						
PDGK				⇓Sn	**Sn**	**10 37 37.5**	**+6.7**
	56nm,1.1s						
MKAR	**Makanchi Array**	**10.76**	**40**	Pn	**Pn**	**10 37 03.4**	**+1.0**
	0.6nm,0.3s,baz=217,slow=13,SNR=21						
MKAR				Lg	Lg	10 40 01.2	
	0.4nm,0.3s,baz=128,slow=44,SNR=2.3						
GEYT	**Alibeck**	**11.14**	**269**	Pn	**Pn**	**10 37 10.0**	**+2.3**
	0.8nm,0.3s,baz=100,slow=15,SNR=2.5						
GEYT				Sn	**Sn**	**10 39 13.2**	**+0.8**
	0.4nm,0.3s,baz=132,slow=54,SNR=2.4						
KURBB	**Kurchatov Arra**	**12.51**	**19**	Pn	**Pn**	**10 37 23.9**	**-2.3**
	0.3nm,0.3s,baz=213,slow=12,SNR=14						
KURBB				Lg	Lg	10 40 55.5	
	0.1nm,0.3s,baz=201,slow=29,SNR=8.4						
AB31	**Akbulak array**	**13.58**	**323**	⇓Pn	**Pn**	**10 37 39.0**	**-1.9**
	2.4nm,0.3s,baz=132,slow=14,SNR=3.5						
AB31				⇓Sn	**Sn**	**10 40 09.6**	**-2.1**
	3.9nm,0.6s,baz=140,slow=25,SNR=4.6						
PYUN	**Piuthan**	**14.01**	**137**	*e*P	**Pn**	**10 37 47.6**	**+0.5**
	76nm,0.5s						
BVAR	**Borovoye Array**	**14.16**	**355**	Pn	**Pn**	**10 37 45.5**	**-3.3**
	0.6nm,0.3s,baz=122,slow=14,SNR=2.9						
DANN	**Dangsing**	**14.23**	**134**	*e*P	**Pn**	**10 37 50.0**	**-0.2**
	37nm,0.5s						
KOLN	**Koldanda**	**14.60**	**136**	*e*P	**Pn**	**10 37 55.8**	**+0.6**
	16nm,0.4s						
GKN	**Gorkha**	**15.00**	**133**	*e*P	**Pn**	**10 38 00.1**	**-0.4**
	60nm,0.4s						
AKTO	**Aktyubinsk**	**15.30**	**323**	Pn	**Pn**	**10 38 03.2**	**-1.0**
	1.2nm,0.3s,baz=130,slow=13,SNR=11						
AKTO				LR	LR	10 44 29.2	
	comp=Z,101nm,19.6s,baz=129,slow=39						
AKTO	**Aktyubinsk**	**15.30**	**323**	⇓Pn	**Pn**	**10 38 02.5**	**-1.7**
	8.1nm,0.5s						
AKTO				⇑Sn	**Sn**	**10 40 51.0**	**-2.6**
	6.8nm,0.8s						
DMN	**Daman**	**15.56**	**133**	*e*P	**Pn**	**10 38 08.5**	**+0.4**
	15nm,0.6s						
PKIN	**Phulchoki**	**15.76**	**132**	*e*P	**Pn**	**10 38 09.6**	**-1.0**
	24nm,0.5s						
PKI	**Pulchoki**	**15.77**	**132**	*e*P	**Pn**	**10 38 09.7**	**-1.1**
	30nm,0.6s						
GUN	**Gumba**	**15.79**	**130**	*e*P	**Pn**	**10 38 10.0**	**-1.1**
	11nm,0.4s						
RAMN	**Ramite**	**16.93**	**131**	*e*P	**Pn**	**10 38 25.5**	**-0.1**
	21nm,0.5s						
ZALV	**Zalesovo Beam**	**17.30**	**26**	P	**Pn**	**10 38 27.6**	**-2.1**
	1.0nm,0.3s,baz=212,slow=13,SNR=11						
ARU	**Arti**	**19.72**	**337**	P	**P**	**10 38 58.4**	**+0.5**
	0.0nm,0.3s,baz=170,slow=7.4,SNR=6.5						
ARU				LR	LR	10 46 56.4	
	comp=Z,66nm,20.0s,baz=285,slow=38						
SONM	**Songino Array**	**26.18**	**59**	P	**P**	**10 40 00.8**	**-2.2**
	1.3nm,0.5s,baz=41,slow=30,SNR=3.0						
FINES	**FINESS Array B**	**36.07**	**324**	P	**P**	**10 41 29.9**	**+0.2**
	1.9nm,0.7s,baz=116,slow=7.6,SNR=13						
ARCES	**ARCESS Array B**	**39.31**	**336**	P	**P**	**10 41 55.6**	**-1.5**
	1.9nm,0.8s,baz=55,slow=4.6,SNR=1.6						
KLR	**Kul'dur**	**42.93**	**56**	P	**P**	**10 42 27.1**	**+0.1**
	1.8nm,0.5s,baz=282,slow=7.4,SNR=11						
NB2	**NORSAR Subarra**	**43.08**	**321**	P	**P**	**10 42 28.0**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=108,slow=7.9						
NOA	**NORSAR Array B**	**43.08**	**321**	P	**P**	**10 42 28.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=107,slow=7.8,SNR=3.9						
NOA				LR	LR	11 01 08.8	
	comp=Z,38nm,18.4s,baz=250,slow=37						
ESDC	**Sonseca Array**	**57.23**	**297**	P	**P**	**10 44 16.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=199,slow=36,SNR=2.6						
TORD	**Torodi Ar. Bea**	**66.78**	**268**	P	**P**	**10 45 21.7**	**+1.4**
	comp=Z,2μm,1.0s,baz=49,slow=6.1,SNR=4.0						
INK	**Inuvik**	**71.35**	**10**	P	**P**	**10 45 47.5**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=333,slow=5.9,SNR=15						
ILAR	**Eielson Array**	**72.17**	**17**	P	**P**	**10 45 52.0**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=273,slow=4.9,SNR=5.6						
YKA	**Yellowknife Ar**	**78.77**	**3**	P	**P**	**10 46 31.3**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=163,slow=37,SNR=1.9						
WRA	**Warramunga Arr**	**82.45**	**123**	P	**P**	**10 46 52.0**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=323,slow=4.9,SNR=39						
ASAR	**Alice Springs**	**84.84**	**126**	P	**P**	**10 47 04.4**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=315,slow=5.0,SNR=18						

*BJI **25** 10:42:18.7±0.0,27.65N×120.00E,h10km,mB4.4/5, mb4.2/11,ML4.5/10,Ms4.2/15,Ms7.3-9/12*
*IDC **25** 10:42:19.4±1.1,27.69N×120.02E,h0km,mb3.5/5, mb1 3.7/7,mb1mx3.4/40,mbtmp3.5/7,ML2.8/2,MS3.3/9, Ms1 3.3/9,ms1mx3.1/34,Error ellipse: s-maj=28.6km s-min=20.9km az=93.0*
ISC 25 10:42:20.3±0.8,27.77N±0.04×120.04E±0.08,h10km,n25,σ1s40/27,mb3.6/5,MS3.3/7,Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**3.10**	**205**	Pn	**Pn**	**10 43 07.8**	**-1.5**
QZH				Pg	**Pb**	**10 43 15.0**	**-0.5**
QZH				Sn	**Sn**	**10 43 46.8**	**+0.4**
QZH				Sg	**Sb**	**10 43 52.5**	**-0.9**
QZH				*s*max	*s*max		
	comp=N,2μm,0.8s						
QZH				*s*max	*s*max		
	comp=E,2μm,0.9s						
NJ2	**Nanjing**	**4.39**	**347**	*e*Pn	**Pn**	**10 43 27.0**	**0.0**
NJ2				Pg	**Pg**	**10 43 42.0**	**-2.4**
NJ2				Sn	**Sn**	**10 44 19.8**	**+1.5**
NJ2				Sg	**Sg**	**10 44 39.3**	**-2.0**
NJ2				*s*max	*s*max		
	comp=N,570nm,0.7s						
NJ2				*s*max	*s*max		
	comp=E,380nm,0.9s						
WHN	**Wuhan**	**5.69**	**300**	Pn	**Pn**	**10 43 45.5**	**+0.6**
WHN				Sn	**Sn**	**10 44 50.3**	**0.0**
WHN				LR	LR		
	comp=E,6μm,6.0s						
WHN				LR	LR		
	comp=Z,3μm,4.1s						
XAN	**Xi'an**	**11.41**	**306**	P	**Pn**	**10 45 04.5**	**+1.1**
XAN				S	**Sn**	**10 47 09.5**	**-1.4**
XAN				LR	LR		
	comp=E,680nm,4.2s						
XAN				LR	LR		
	comp=Z,490nm,7.8s						
KSRS	**Korea Array**	**11.72**	**33**	Pn	**Pn**	**10 45 08.1**	**+0.6**
	0.2nm,0.3s,baz=213,slow=16,SNR=1.2						
KSRS				Lg	Lg	10 48 31.9	
	0.3nm,0.3s,baz=206,slow=31,SNR=6.1						
KSRS				LR	LR	10 49 45.9	
	comp=Z,28nm,18.3s,baz=80,slow=38						
TIY	**Taiyuan**	**11.80**	**329**	*e*P	**Pn**	**10 45 08.3**	**-0.4**
TIY				S	Sn	10 47 30.8	+10
TIY				*p*max	*p*max		
	comp=Z,87nm,6.1s						
TIY				LR	LR		
	comp=N,450nm,8.5s						
TIY				LR	LR		
	comp=E,560nm,8.2s						
TIY				LR	LR		
	comp=Z,370nm,13.5s						
GYA	**Guiyang**	**11.99**	**267**	*e*P	**Pn**	**10 45 13.0**	**+1.6**
GYA				S	**Sn**	**10 47 26.8**	**+1.5**
GYA				LR	LR		
	comp=N,290nm,5.4s						
GYA				LR	LR		
	comp=E,420nm,7.6s						
GYA				LR	LR		
	comp=Z,410nm,6.5s						
BJI	**Beijing**	**12.65**	**346**	P	**Pn**	**10 45 21.3**	**+1.0**
BJI				*p*max	*p*max		
	comp=Z,4.0nm,0.7s						
BJI				LR	LR		
	comp=N,350nm,10.8s						
BJI				LR	LR		
	comp=E,190nm,13.3s						
QIZ	**Qiongzhong**	**12.77**	**229**	P	**Pn**	**10 45 20.0**	**-2.1**
QIZ				S	**Sn**	**10 47 45.8**	**+1.4**
QIZ				LR	LR		
	comp=N,850nm,9.0s						
QIZ				LR	LR		
	comp=E,840nm,7.8s						
QIZ				LR	LR		
	comp=Z,160nm,7.6s						
LZH	**Lanzhou**	**16.04**	**305**	*e*P	**Pn**	**10 46 07.8**	**+1.6**
LZH				pP	P	10 46 11.0	+1.4
LZH				sP	pP	10 46 13.0	+0.4
LZH				*p*max	*p*max		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=E,450nm,9.5s						
LZH				LR	LR		
	comp=Z,220nm,11.1s						
MJAR	**Matsushiro Arr**	**17.68**	**56**	LR	LR	10 53 12.7	
	comp=Z,104nm,18.9s,baz=240,slow=37						
JHJ	**Hachijo jima 2**	**17.83**	**68**	LR	LR	10 53 47.6	
	comp=Z,108nm,18.8s,baz=294,slow=38						
USRK	**Ussuriysk Ar.**	**19.00**	**27**	P	**Pn**	**10 46 45.4**	**+2.6**
	baz=213,slow=9.6,SNR=2.7						
GTA	**Gaotai**	**20.41**	**310**	*e*P	Pn	10 47 01.5	+1.7
GTA				pP	sP	10 47 06.0	+4.0
GTA				sP	pP	10 47 08.5	+7.8
GTA				*p*max	*p*max		
	comp=Z,4.0nm,0.9s						
GTA				*p*max	*p*max		
	comp=Z,67nm,6.4s						
GTA				LR	LR		
	comp=N,370nm,13.1s						
GTA				LR	LR		
	comp=E,290nm,13.8s						
GTA				LR	LR		
	comp=Z,170nm,14.5s						
CMAR	**Chiang Mai Arr**	**21.48**	**249**	P	**P**	**10 47 10.1**	**+0.9**
	0.5nm,0.3s,baz=60,slow=7.0,SNR=5.4						
SONM	**Songino Array**	**22.68**	**336**	LR	LR	10 57 22.4	
	comp=Z,143nm,18.7s,baz=116,slow=40						
KLR	**Kul'dur**	**23.25**	**20**	LR	LR	10 57 27.9	
	comp=Z,86nm,18.6s,baz=200,slow=39						
WMQ	**Urumqi**	**30.50**	**310**	*e*P	**P**	**10 48 35.5**	**+1.9**
YAK	**Yakutsk**	**34.86**	**8**	LR	LR	11 05 18.7	
	comp=Z,51nm,20.3s,baz=249,slow=40						
MKAR	**Makanchi Array**	**35.10**	**313**	P	**P**	**10 49 14.6**	**+0.8**
	0.7nm,0.7s,baz=100,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**36.70**	**325**	P	**P**	**10 49 27.5**	**+0.2**
	0.5nm,0.3s,baz=106,slow=9.2,SNR=1.8						
ZALV				LR	LR	11 07 04.2	
	comp=Z,31nm,19.3s,baz=36,slow=40						
PALK	**Pallekele**	**42.42**	**249**	LR	LR	11 07 44.9	
	comp=Z,36nm,21.1s,baz=192,slow=36						
WRA	**Warramunga Arr**	**49.41**	**162**	P	**P**	**10 51 10.3**	**-0.1**
	0.6nm,0.8s,baz=347,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**52.86**	**164**	P	**P**	**10 51 36.3**	**-0.1**
	0.2nm,0.6s,baz=353,slow=6.5,SNR=2.2						
KBZ	**Khabaz**	**62.47**	**307**	LR	LR	11 21 42.6	
	comp=Z,28nm,19.3s,baz=71,slow=38						

*GII **25** 10:43:33.9±0.0,34.07N×37.19E,h3km,MD3.1/4,Mm3.0/6*
*GRAL **25** 10:43:36.9±0.3,33.85N×37.21E,h2km±4km,MD3.6*
ISC 25 10:43:36.4±3.9,33.93N±0.08×37.1E±0.1,h10km±20km,n25,σ0s44/33,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWQ	**Hawqa**	**1.05**	**289**	*e*P	**Pn**	**10 43 57.2**	**-0.1**
HWQ				*e*S	**Sn**	**10 44 12.2**	**+0.1**
RCY	**Rachaya**	**1.17**	**249**	*e*P	**Pb**	**10 43 58.3**	**-0.6**
BHL	**Bhannes**	**1.24**	**269**	*e*P	**Pb**	**10 43 59.7**	**-0.2**
QRWL	**Qaraoun**	**1.28**	**253**	*e*P	**Pn**	**10 44 00.1**	**-0.3**
SHBL	**Chebaa**	**1.30**	**244**	*e*P	**Pn**	**10 44 00.2**	**-0.6**
DQRL	**Deir Qamar**	**1.33**	**261**	*e*P	**Pb**	**10 44 01.2**	**-0.3**
DQRL				*e*S	**Sb**	**10 44 19.1**	**+0.5**
NATI	**Neve Ativ**	**1.35**	**241**	Pn	**Pn**	**10 44 00.5**	**+0.8**
NATI				Sn	**Sb**	**10 44 19.7**	**+0.6**
BEYL	**Beirut**	**1.37**	**268**	*e*P	**Pb**	**10 44 02.1**	**0.0**
GEM	**Giv'at Ha'Em**	**1.43**	**240**	Pn	**Pn**	**10 44 01.7**	**-0.7**
GEM				Sn	**Sg**	**10 44 22.7**	**+0.3**
SHMJ	**Saham**	**1.67**	**224**	Pn	**Pn**	**10 44 05.6**	**-0.1**
MMA0B	**Mount Meron ar**	**1.72**	**238**	Pn	**Pn**	**10 44 06.2**	**-0.3**
MMA0B				Sn	**Sb**	**10 44 30.0**	**+0.2**
HNTI	**Hanita**	**1.85**	**243**	Pn	**Pn**	**10 44 08.4**	**+0.2**
HNTI				Sn	**Sb**	**10 44 34.2**	**+0.7**
BLGI	**Bet Lehem HaGe**	**2.02**	**234**	Pn	**Pn**	**10 44 10.7**	**+0.1**
BLGI				Sn	**Sb**	**10 44 38.2**	**-0.4**
MMLI	**Mount Malkishu**	**2.08**	**225**	Pn	**Pn**	**10 44 11.0**	**-0.3**
MMLI				Sn	**Sb**	**10 44 39.5**	**-0.5**
HMDT	**Nahal Hemdat**	**2.16**	**219**	Pn	**Pn**	**10 44 11.9**	**-0.5**
HMDT				Sn	**Sb**	**10 44 42.6**	**+0.3**
OFRI	**`Ofer**	**2.23**	**235**	Pn	**Pn**	**10 44 13.4**	**-0.1**
SLTI	**Sal'it**	**2.44**	**227**	Pn	**Pn**	**10 44 16.7**	**+0.3**
DSI	**Dead Sea**	**2.79**	**213**	Pn	**Pn**	**10 44 20.4**	**-0.7**
GHAJ	**Ghor Haditha**	**2.94**	**207**	Pn	**Pn**	**10 44 23.4**	**+0.2**
AMAZ	**Amatzia**	**3.04**	**219**	Pn	**Pn**	**10 44 24.7**	**+0.1**
KARJ	**KARJ**	**3.08**	**205**	Pn	Pn	10 44 14.9	-10
YTIR	**Yattir**	**3.08**	**214**	Pn	**Pn**	**10 44 25.9**	**+0.7**
DAMI2	**DAM2**	**3.10**	**208**	Pn	**Pn**	**10 44 25.6**	**+0.2**
PRNI	**Paran**	**4.00**	**207**	Pn	**Pn**	**10 44 37.8**	**-0.1**
EIL	**Elat**	**4.64**	**204**	Pn	**Pn**	**10 44 47.2**	**+0.6**

*IDC **25** 10:44:23.6±1.1,37.21N×141.58E,h0km,mb3.6/6, mb1 3.8/8,mb1mx3.6/42,mbtmp3.6/8,ML3.2/2,MS3.9/1, Ms1 4.1/1,ms1mx2.4/50,Error ellipse: s-maj=23.0km s-min=17.3km az=154.0*
*JMA **25** 10:44:26.7±0.2,37.20N×141.48E,h32km±2km,M3.8*
*NIED **25** 10:44:26.7,37.20N×141.48E,h32km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=2.23; Mθθ=0.40; Mφφ=1.84; Mrθ=-0.70; Mθφ=1.48; Mφr=0.76; Fault plane solution: Mo=2.74000×10^14 NP1: φs=189.00000°,δ53.00000°,λ-121.00000°. NP2: φs=55.00000°,δ47.00000°,λ-55.00000°.*
ISC 25 10:44:26.8±1.0,37.23N±0.06×141.5E±0.1,h21km±5km,n27,σ1s06/25,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**285**	P	**Pb**	**10 44 36.8**	**-0.2**
JFK				S	**Sb**	**10 44 43.7**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.57**	**257**	P	**Pb**	**10 44 37.6**	**-0.5**
ONAJ				S	**Sb**	**10 44 45.5**	**-0.3**
JMST	**Minamisoumatoc**	**0.69**	**316**	P	**Pn**	**10 44 40.0**	**-1.2**
JMST				S	**Sb**	**10 44 49.7**	**+0.6**
JFFD	**Fukushimafurud**	**0.76**	**259**	P	**Pn**	**10 44 40.5**	**-1.7**
JFFD				*e*S	**Sb**	**10 44 50.6**	**-0.4**
JMM	**Marumori**	**0.84**	**319**	P	**Pn**	**10 44 42.5**	**-0.8**
JMM				S	**Sn**	**10 44 53.8**	**-1.3**
JFT	**Otama**	**0.96**	**288**	P	**Pb**	**10 44 44.7**	**0.0**
JFT				S	**Sb**	**10 44 57.6**	**+0.6**
JHO	**Hitachi**	**0.96**	**230**	P	**Pn**	**10 44 42.8**	**-2.2**
MJAR	**Matsushiro Arr**	**2.72**	**256**	Pn	**Pn**	**10 45 10.2**	**+1.0**
	0.5nm,0.3s,baz=82,slow=16,SNR=27						
MJAR				Pg	**Pb**	**10 45 15.8**	**+1.2**
	0.9nm,0.3s,baz=80,slow=32,SNR=19						
MJAR				Lg	Lg	10 45 50.0	
	0.8nm,0.3s,baz=192,slow=22,SNR=6.3						
MAT	**Matsushiro**	**2.72**	**256**	P	**Pn**	**10 45 10.5**	**+1.3**
MAT				*e*S	**Sn**	**10 45 42.9**	**+1.4**
ASAJ	**Asahikawa**	**6.93**	**7**	Pn	**Pn**	**10 46 07.7**	**+0.7**
	1.0nm,0.3s,baz=199,slow=13,SNR=9.2						
ASAJ				Sn	**Sn**	**10 47 23.6**	**-1.5**
	0.3nm,0.3s,baz=311,slow=16,SNR=1.8						
KSRS	**Korea Array**	**10.80**	**275**	Pn	Pn	10 47 07.8	+7.6
	0.2nm,0.3s,baz=81,slow=15,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	11 19 47.6	
	baz=314,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	11 19 47.3	
	baz=314,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	11 19 47.5	
	baz=314,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	11 20 40.6	
H11S3	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	11 20 40.6	
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	11 20 40.6	
CMAR	**Chiang Mai Arr**	**41.61**	**255**	LR	LR	11 11 39.5	
	comp=Z,140nm,18.2s,baz=158,slow=39						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**10 52 15.3**	**+0.5**
	0.4nm,0.3s,baz=75,slow=11,SNR=1.5						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**10 52 32.2**	**-0.9**
	0.4nm,0.8s,baz=99,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**10 54 12.9**	**+0.1**
	0.2nm,0.4s,baz=6.3,slow=7.4,SNR=9.5						
ASAR	**Alice Springs**	**60.99**	**188**	P	**P**	**10 54 38.2**	**-0.3**
	0.5nm,1.0s,baz=3.7,slow=5.5,SNR=2.6						
ARCES	**ARCESS Array B**	**63.83**	**339**	P	**P**	**10 54 57.7**	**+0.6**
	3.6nm,1.0s,baz=34,slow=8.8,SNR=4.1						
TXAR	**Lajitas Array**	**89.95**	**52**	P	**P**	**10 57 25.2**	**+0.4**
	0.2nm,0.7s,baz=298,slow=2.7,SNR=3.5						
H03N2	**Juan Fernandez**	**146.98**	**96**	T	T	13 48 23.3	
	baz=292,slow=76,SNR=5.6						
H03N3	**Juan Fernandez**	**147.00**	**96**	T	T	13 48 26.5	
	baz=292,slow=76,SNR=7.1						
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	13 48 26.1	
	baz=292,slow=76,SNR=5.1						

*INMG **25** 10:46:07.2±1.4,35.35N×11.20W,h10km,ML2.1,Error ellipse: s-maj=14.0km s-min=12.6km az=118.0*
*CNRM **25** 10:46:07.4±2.5,35.11N×10.47W,h0km,Error ellipse: s-maj=23.9km s-min=9.5km az=86.0*
*MDD **25** 10:46:07.1±2.6,35.42N×11.07W,h0km,mb3.2/3,Error ellipse: s-maj=32.4km s-min=20.4km az=133.0,PRXIMO*
ISC 25 10:46:01.4±2.3,35.14N±0.05×11.2W±0.1,h10km,n32,σ2s54/48,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.73**	**43**	P	**Pn**	**10 46 47.5**	**+2.2**
	1.5nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**10 47 17.2**	**-1.2**
	7.2nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.73**	**43**	*e*Pn	**Pn**	**10 46 47.5**	**+2.2**
PFVI				*e*Sn	**Sn**	**10 47 17.8**	**-0.6**
PFVI				A	A	10 47 19.5	
	9.6nm,0.9s						
MORF	**Marmelete**	**2.96**	**42**	S	**Sn**	**10 47 23.0**	**-1.0**
	5.9nm,0.2s						
MORF	**Marmelete**	**2.96**	**42**	*e*Sn	**Sn**	**10 47 23.0**	**-1.0**
MORF				A	A	10 47 24.8	
	5.9nm,0.2s						
PTEO	**Sao Teotonio**	**3.10**	**39**	S	**Sn**	**10 47 26.4**	**-0.9**
	2.0nm,0.6s						
PTEO	**Sao Teotonio**

	0.1nm,0.2s,SNR=7.9							
ECAB				S	Sn	10 48 23.1	-2.6	
	0.8nm,0.3s,SNR=7.9							
MD31	**MD31**	5.77	111	P	Pn	10 47 29.2	+2.0	
MD31				S	Sn	10 48 29.5	-4.0	
MDT	**Midelt**	5.91	111	P	Pn	10 47 30.8	+1.7	
MDT				S	Sn	10 48 33.1	-3.9	
EADA	**Adamuz**	6.08	58	S	Sn	10 48 38.6	-2.5	
	1.2nm,0.4s,SNR=7.9							
ELOB	**Lobios**	7.14	19	S	Sn	10 49 00.9	-6.1	
	4.5nm,0.7s,SNR=7.9							

*DJA **25** 10:52:49.0±2.1,9˚N±16˚×12˚5E±1˚0,h101km±13km, M5.0/10,mb5.0/10,mBS.2/7,MLv5.3/4,Mw(mB)4.6/7*
*IDC **25** 10:52:54.9±0.5,8˚.49N×126˚.07E,h0km,mb4.2/22, mb1 4.3/23,mb1mx4.2/51,mbtmp4.2/23,ML5.0/1,MS3.6/21, Ms1 3.6/21,ms1mx3.4/42,Error ellipse: s-maj=24.6km s-min=10.7km az=84.0*
*MAN **25** 10:52:58.4,8˚.42N×125˚.88E,h14km,mb5.7,ML4.7,MS5.0*
MAN Intensity V- Talacogon Agusan del sur; Intensity IV - La Paz Agusan del Sur; Intensity III - Bayugan City; San Francisco Agusan del Sur; Intensity II - Butuan City.
*NEIC **25** 10:53:00.6±2.3,8˚.48N±0˚.06×125˚.71E±0˚.08,h34km±4km, mb4.7/54, Error ellipse: s-maj=11.6km s-min=8.6km az=69.0*
*GCMT **25** 10:53:00.6±0.4,8˚.47N±0˚.02×125˚.85E±0˚.03,h26km±1km, MW4.8/70,Moment Tensor Solution. s21,c22; s70,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.32±.11; $M_{\theta\theta}$1.20±.08; $M_{\phi\phi}$-0.87±.08; $M_{r\theta}$-0.48±.14; $M_{\theta\phi}$-1.06±.06; $M_{\phi r}$-0.99±.17; Best double couple: $M_0$1.83900×10^{16} NP1:ϕ_s333.00000°,δ66.00000°,λ-23.00000°. NP2: ϕ_s73.00000°,δ69.00000°,λ-154.00000°. Principal axes: T 1.6480, Plg2.0000°, Azm202.0000°; N 0.3860, Plg57.0000°, Azm109.0000°; P -2.0290, Plg33.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 10:52:59.9±1.0,8˚.44N±0˚.03×125˚.80E±0˚.03,h29km±7km, n158,σ2.2°04/162,mb4.5/49,MS3.8/24,5C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIP	**Bislig**	**0.49**	**116**	⇓*iP*	**Pb**	**10 53 09.4**	**-0.8**
BIP				*i* S	**Sn**	**10 53 18.1**	**-0.5**
BUKP	**Musuan**	**0.92**	**233**	*eP*	**Pn**	**10 53 15.9**	**-1.1**
BUKP				*eS*	**Sb**	**10 53 31.9**	**+2.6**
CGP	**Cagayan de Oro**	**1.10**	**271**	⇑*iP*	**Pn**	**10 53 19.7**	**+0.4**
CGP				*i* S	**Sb**	**10 53 35.2**	**+0.9**
GLSP	**General Luna,**	**1.38**	**13**	*eP*	**Pn**	**10 53 22.0**	**-1.1**
GLSP				*eS*	**Sb**	**10 53 41.8**	**-0.4**
DAV	**Davao City (W)**	**1.38**	**189**	Pn	**Pn**	**10 53 24.4**	**+1.2**
	355nm,0.3s,baz=55,slow=4.7,SNR=61						
DAV				Sn	**Sb**	**10 53 46.6**	**+4.3**
	383nm,0.3s,baz=78,slow=22,SNR=7.0						
DAV				LR	LR	10 54 15.8	
	comp=Z,3μm,19.8s,baz=18,slow=54						
DAV	**Davao City (W)**	**1.38**	**189**		**Pn**	**10 53 24.1**	**+0.9**
DAV				Sn	**Sn**	**10 53 34.8**	**-5.7**
DAV	**Davao City (W)**	**1.38**	**189**	⇑*eP*	**Pn**	**10 53 21.2**	**-2.0**
MATI	**Mati**	**1.55**	**163**	*eP*	**Pn**	**10 53 24.0**	**-1.6**
MATI				*eS*	**Sn**	**10 53 45.2**	**+0.5**
KCP	**Kidapawan**	**1.59**	**206**	⇑*iP*	**Pn**	**10 53 26.7**	**+0.6**
KCP				*i* S	**Sn**	**10 53 37.5**	**-8.2**
MSLP	**Maasin**	**1.93**	**331**	*eP*	**Pn**	**10 53 29.9**	**-0.8**
MSLP				*eS*	**Sn**	**10 53 51.0**	**-3.0**
TBP	**Tagbilaran**	**2.29**	**303**	*eP*	**Pn**	**10 53 37.2**	**+1.5**
TBP				*eS*	**Sb**	**10 54 06.7**	**-1.7**
DDMP	**Don Marcelino,**	**2.32**	**182**	*eP*	**Pn**	**10 53 34.1**	**-2.1**
DDMP				*eS*	**Sn**	**10 54 05.6**	**+1.8**
PAGZ	**Pagadian**	**2.47**	**256**	*eP*	**Pn**	**10 53 38.9**	**+0.7**
PAGZ				*eS*	**Sb**	**10 54 15.5**	**+1.9**
LLP	**Lapu-Lapu**	**2.60**	**316**	⇓*eP*	**Pn**	**10 53 41.7**	**+1.6**
LLP				*eS*	**Sb**	**10 54 14.8**	**-2.6**
OCLP	**Ormoc**	**2.85**	**336**	*eP*	**Pn**	**10 53 44.1**	**+0.7**
OCLP				*eS*	**Sn**	**10 54 10.2**	**-6.6**
BESP	**Borongan**	**3.16**	**354**	*eP*	**Pn**	**10 53 49.7**	**+1.9**
BESP				*eS*	**Sb**	**10 54 34.4**	**+0.8**
CNOP	**Candoni, Negro**	**3.42**	**294**	*eP*	**Pn**	**10 53 51.4**	**+0.1**
CNOP				*eS*	**Sn**	**10 54 29.0**	**-1.8**
CNP	**Catarman**	**4.20**	**345**	*eP*	**Pn**	**10 54 05.4**	**+3.4**
CNP				*eS*	**Sb**	**10 54 59.0**	**-4.4**
JAP	**San Jose, Anti**	**4.44**	**301**	⇑*eP*	**Pn**	**10 54 08.4**	**+3.1**
SGSI	**Sangihe**	**4.73**	**183**	P	**Pn**	**10 54 10.9**	**+1.6**
	3.6nm59μm267nm,0.6s						
PVCP	**Virac**	**5.38**	**343**	*eP*	**Pn**	**10 54 20.8**	**+2.6**
PVCP				*eS*	**Sn**	**10 55 27.2**	**+8.0**
LQP	**Lukban**	**7.02**	**324**	⇑*eP*	**Pn**	**10 54 44.4**	**+3.4**
TGY	**Tagaytay City**	**7.32**	**320**	Pn	Pn	10 54 52.9	+7.1
	43nm,0.3s,baz=163,slow=8.0,SNR=1.7						
TNTI	**Ternate**	**7.77**	**168**	P	**Pn**	**10 54 52.5**	**+1.3**
	50nm,1.0s						
TNTI	**Ternate**	**7.77**	**168**	Pn	**Pn**	**10 54 52.2**	**+1.0**
MYLDM	**Lahad Datu**	**7.94**	**246**	Pn	**Pn**	**10 54 52.2**	**-1.2**
MYLDM				Sn	**Sn**	**10 56 20.8**	**-1.6**
GTOI	**Gorontalo**	**8.23**	**200**	P	**Pn**	**10 54 56.8**	**-0.7**
	424nm55nm,0.8s						
I39PW	**PALAU INFRASON**	**8.71**	**95**	*i*		11 42 50.0	
	baz=278,slow=305,SNR=1.9						
LUWI	**Luwuk**	**9.89**	**198**	P	**Pn**	**10 55 19.3**	**-0.9**
	2μm103nm,1.2s						
LUWI	**Luwuk**	**9.89**	**198**	Pn	**Pn**	**10 55 18.8**	**-1.5**
SANI	**Sanana**	**10.42**	**179**	P	**Pn**	**10 55 26.0**	**-1.5**
	42nm,1.1s						
NLAI	**Namlea**	**11.67**	**174**	P	**Pn**	**10 55 45.1**	**+0.5**
	39nm,0.8s						
FAKI	**Fak Fak**	**12.98**	**150**	Pn	**Pn**	**10 56 03.6**	**+1.0**
KAPI	**Kappang**	**14.66**	**205**	LR	LR	11 02 50.3	
	comp=Z,184nm,20.4s,baz=41,slow=40						
KAPI	**Kappang**	**14.66**	**205**	Pn	**Pn**	**10 56 24.8**	**-0.7**
SBUM	**Sibu**	**14.77**	**247**	Pn	**Pn**	**10 56 26.2**	**-0.7**
YULB	**Yu-li**	**15.48**	**344**	Pn	**Pn**	**10 56 35.2**	**-1.1**
KSM	**Kuching**	**16.91**	**247**	P	**Pn**	**10 56 53.3**	**-1.3**
MMRI	**Maumere**	**17.33**	**192**	P	**Pn**	**10 56 59.6**	**-0.2**
MMRI				IAmb	IAmb	10 57 06.8	
	comp=Z,40nm,1.0s						
DLV	**T Lat**	**17.39**	**283**	P	**P**	**10 57 01.7**	**-0.3**
JMZ	**Minamidaito 2**	**18.04**	**16**	P	**Pn**	**10 57 07.7**	**-0.8**
JMZ				IAmb	IAmb	10 57 23.2	
	comp=Z,80nm,1.0s						
SOEI	**Soe**	**18.14**	**185**	P	**Pn**	**10 57 03.8**	**-6.1**
SOEI	**Soe**	**18.14**	**185**	P	**Pn**	**10 57 07.5**	**-2.5**
BATI	**Baumata**	**18.64**	**187**	P	**P**	**10 57 14.9**	**-0.6**
	comp=Z,5.2nm,0.3s,baz=90,slow=1.5,SNR=4.1						
QIZ	**Qiongzhong**	**18.72**	**306**	P	**Pn**	**10 57 16.8**	**-0.1**
QIZ				S	**Sn**	**11 00 41.5**	**-4.1**
QIZ				LR	LR		
	comp=N,340nm,19.1s						
QIZ				LR	LR		
	comp=E,400nm,18.6s						
QIZ				LR	LR		
	comp=Z,400nm,17.2s						
KNRA	**Kununurra**	**24.14**	**173**	P	**P**	**10 58 12.4**	**-1.1**
NJ2	**Nanjing**	**24.37**	**346**	*eP*	**P**	**10 58 17.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
IPM	**Ipoh**	**24.93**	**262**	P	**P**	**10 58 18.7**	**-2.1**
IPM				IAmb	IAmb	10 58 32.0	
	comp=Z,9.3nm,0.7s						
JNU	**Nakatsue**	**25.01**	**10**	LR	LR	11 09 35.0	
	comp=Z,107nm,19.1s,baz=214,slow=40						
KULM	**Kulim**	**25.16**	**264**	P	**P**	**10 58 21.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**26.37**	**180**	P	**P**	**10 58 33.4**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=9.8,slow=11,SNR=15						
FITZ	**Fitzroy Crossi**	**26.37**	**180**	P	**P**	**10 58 33.3**	**-0.5**
FITZ				IAmb	IAmb	10 58 41.7	
	comp=Z,14nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.92**	**294**	P	**P**	**10 58 49.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=108,slow=6.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**27.92**	**294**	P	**P**	**10 58 47.1**	**-0.7**
JWT	**Wachi**	**28.13**	**17**	P	**P**	**10 58 50.5**	**+1.0**
COEN	**Coen**	**28.15**	**142**	P	**P**	**10 58 50.1**	**+0.3**
COEN				IAmb	IAmb	10 58 52.9	
	comp=Z,23nm,1.2s						
KSRS	**Korea Array**	**28.95**	**3**	P	**P**	**10 58 54.8**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=181,slow=9.9,SNR=5.6						
KSRS				LR	LR	11 10 12.4	
	comp=Z,79nm,21.9s,baz=203,slow=36						
WRAB	**Tennant Creek**	**29.42**	**163**	P	**P**	**10 58 58.5**	**-2.7**
WRA	**Warramunga Arr**	**29.43**	**163**	P	**P**	**10 58 59.1**	**-2.1**
	comp=Z,2.4nm,0.9s,baz=342,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**29.43**	**163**	P	**P**	**10 58 56.7**	**-4.5**
WB2	**Warramunga Arr**	**29.43**	**163**	P	**P**	**10 58 59.6**	**-1.6**
WB2				IAmb	IAmb	10 59 20.2	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**29.50**	**163**	P	**P**	**10 59 01.2**	**-0.7**
WR0				IAmb	IAmb	10 59 21.5	
	comp=Z,14nm,1.3s						
MJAR	**Matsushiro Arr**	**30.17**	**20**	P	**P**	**10 59 04.8**	**-2.8**
	comp=Z,2.5nm,0.8s,baz=195,slow=9.5,SNR=9.8						
MJAR				LR	LR	11 09 12.8	
	comp=Z,71nm,21.1s,baz=210,slow=33						
MJAR	**Matsushiro Arr**	**30.17**	**20**	IAmb	IAmb	10 59 06.7	
	comp=Z,1.0nm,0.7s						
BJI	**Beijing**	**32.62**	**346**	P	**P**	**10 59 33.5**	**+4.4**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI				LR	LR		
	comp=N,83nm,10.3s						
BJI				LR	LR		
	comp=E,150nm,18.6s						
AS31	**Alice Springs**	**32.88**	**166**	P	**P**	**10 59 30.6**	**-1.0**
ASAR	**Alice Springs**	**32.88**	**166**	P	**P**	**10 59 30.5**	**-1.1**
	comp=E,1.3nm,0.5s,baz=334,slow=6.4,SNR=23						
ASAR	**Alice Springs**	**32.88**	**166**	P	**P**	**10 59 31.0**	**-0.6**
LZH	**Lanzhou**	**34.03**	**327**	*eP*	**P**	**10 59 45.5**	**+3.8**
LZH				pP	sP	10 59 56.3	+2.4
LZH				sP	pP	10 59 59.8	+9.5
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC	**Hu-ho-hac-te**	**34.67**	**341**	*eP*	**P**	**10 59 49.0**	**+1.9**
HHC				sP	sP	11 00 04.0	+4.7
HHC				eS	**S**	**11 05 15.5**	**+0.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
HHC				LR	LR		
	comp=N,270nm,15.2s						
HHC				LR	LR		
	comp=E,180nm,14.3s						
HHC				LR	LR		
	comp=Z,260nm,14.7s						
USA0B	**Ussuriysk Arra**	**36.03**	**8**	P	**P**	**10 59 58.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**36.03**	**8**	P	**P**	**10 59 58.1**	**-0.4**
	comp=Z,9.2nm,0.6s,baz=195,slow=7.6,SNR=27						
USRK				LR	LR	11 12 59.1	
	comp=Z,86nm,20.3s,baz=195,slow=34						
USRK	**Ussuriysk Ar.**	**36.03**	**8**	P	**P**	**10 59 58.3**	**-0.3**
SHL	**Shillong**	**36.48**	**302**	P	**P**	**11 00 03.4**	**+0.5**
ERM	**Erimo**	**36.78**	**22**	P	**P**	**11 00 05.4**	**+0.3**
HNR	**Honiara**	**38.36**	**117**	LR	LR	11 14 36.1	
	comp=Z,30nm,21.7s,baz=258,slow=34						
GTA	**Gaotai**	**38.64**	**327**	P	**P**	**11 00 22.0**	**+1.0**
GTA				pP	pP	11 00 32.3	+2.6
GTA				sP	sP	11 00 36.3	+3.1
GTA				PcP	**PcP**	**11 02 40.5**	**+7.6**
GTA				S	**S**	**11 06 16.0**	**+0.2**
GTA				sS	sS	11 06 32.5	+2.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,92nm,8.5s						
GTA				LR	LR		
	comp=N,220nm,20.4s						
GTA				LR	LR		
	comp=E,190nm,21.8s						
GTA				LR	LR		
	comp=Z,240nm,19.3s						
TAPN	**Taplejung**	**40.61**	**303**	*eP*	**P**	**11 00 38.8**	**+1.0**
	comp=Z,70nm,1.2s						
ODAN	**Odare**	**40.71**	**302**	*eP*	**P**	**11 00 41.2**	**+2.7**
	comp=Z,69nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.91**	**72**	T	T	11 43 46.2	
	baz=262,slow=74,SNR=176						
H11S1	**WAKE ISLAND Hy**	**40.92**	**72**	T	T	11 43 47.1	
	baz=262,slow=74,SNR=105						
H11S2	**WAKE ISLAND Hy**	**40.92**	**72**	T	T	11 43 35.9	
	baz=262,slow=74,SNR=101						
KLR	**Kul'dur**	**40.96**	**6**	P	**P**	**11 00 38.9**	**-1.0**
	comp=Z,2.6nm,0.5s,baz=195,slow=4.8,SNR=11						
H11N1	**WAKE ISLAND Hy**	**41.29**	**70**	T	T	11 44 17.1	
	baz=265,slow=74,SNR=54						
H11N2	**WAKE ISLAND Hy**	**41.30**	**70**	T	T	11 44 17.1	
	baz=265,slow=74,SNR=55						
H11N3	**WAKE ISLAND Hy**	**41.31**	**70**	T	T	11 44 17.1	
	baz=265,slow=74,SNR=52						
RAMN	**Ramite**	**41.41**	**301**	*eP*	**P**	**11 00 47.1**	**+2.8**
	comp=Z,63nm,1.2s						
BBOO	**Buckleboo**	**42.17**	**167**	P	**P**	**11 00 49.8**	**-0.3**
BBOO				IAmb	IAmb	11 00 50.8	
	comp=Z,32nm,1.2s						
GUN	**Gumba**	**42.33**	**302**	*eP*	**P**	**11 00 53.2**	**+1.3**
	comp=Z,62nm,0.9s						
ULN	**Ulaanbaatar**	**42.39**	**341**	P	**P**	**11 00 52.8**	**+0.9**
SONM	**Songino Array**	**42.57**	**341**	P	**P**	**11 00 53.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=150,slow=12,SNR=2.6						
SONM				LR	LR	11 21 05.4	
	comp=Z,95nm,20.4s,baz=154,slow=40						
SONM	**Songino Array**	**42.57**	**341**	P	**P**	**11 00 53.2**	**-0.2**
PKI	**Pulchoki**	**42.61**	**302**	*eP*	**P**	**11 00 54.9**	**+0.7**
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**42.84**	**160**	P	**P**	**11 00 55.4**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=325,slow=8.1,SNR=6.1						
STKA	**Stephens Creek**	**42.84**	**160**	P	**P**	**11 00 55.6**	**+0.1**
KOLN	**Koldanda**	**44.20**	**301**	*eP*	**P**	**11 01 07.7**	**+0.8**
	comp=Z,50nm,1.0s						
DANN	**Dangsing**	**44.24**	**302**	*eP*	**P**	**11 01 07.9**	**+0.6**
	comp=Z,37nm,0.8s						
TARA	**Tarawa**	**47.43**	**96**	P	**P**	**11 01 33.0**	**+0.7**
WMQ	**Urumqi**	**48.39**	**323**	*eP*	**P**	**11 01 40.5**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,44nm,10.9s						
WMQ				LR	LR		
	comp=N,330nm,28.9s						
WMQ				LR	LR		
	comp=E,290nm,29.1s						
WMQ				LR	LR		
	comp=Z,62nm,29.5s						
PETK	**Petropavlovsk-**	**51.49**	**24**	P	**P**	**11 02 02.4**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=191,slow=6.9,SNR=3.0						
PETK				LR	LR	11 25 11.0	
	comp=Z,32nm,18.4s,baz=243,slow=38						
PETK	**Petropavlovsk-**	**51.49**	**24**	P	**P**	**11 02 01.8**	**-0.9**
MK31	**Makanchi Array**	**53.21**	**324**	P	**P**	**11 02 16.5**	**+0.9**
MK31				IAmb	IAmb	11 02 29.6	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**53.21**	**324**	P	**P**	**11 02 15.8**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=125,slow=7.8,SNR=12						
MKAR				LR	LR	11 24 10.3	
	comp=Z,67nm,21.9s,baz=100,slow=35						
MKAR	**Makanchi Array**	**53.21**	**324**	P	**P**	**11 02 15.9**	**+0.3**
MAKZ	**Makanchi**	**53.40**	**324**	P	**P**	**11 02 16.9**	**-0.1**
MAKZ				IAmb	IAmb	11 02 26.5	
	comp=Z,10nm,1.2s						
YAK	**Yakutsk**	**53.56**	**2**	P	**P**	**11 02 18.0**	**+0.1**
KDJ	**Kajisay**	**54.28**	**317**	P	**P**	**11 02 26.1**	**+2.4**
KDJ				IAmb	IAmb	11 02 33.2	
	comp=Z,6.0nm,0.8s						
NIL	**Nilore**	**54.40**	**305**	P	**P**	**11 02 23.9**	**-0.6**
ZAA0	**Zalesovo Array**	**56.01**	**332**	P	**P**	**11 02 36.2**	**+0.4**
ZAA0				IAmb	IAmb	11 02 42.8	
	comp=Z,6.5nm,0.9s						
ZALV	**Zalesovo Beam**	**56.01**	**332**	P	**P**	**11 02 35.5**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=134,slow=8.6,SNR=5.5						
ZALV				LR	LR	11 28 16.9	
	comp=Z,72nm,18.2s,baz=133,slow=38						
ZALV	**Zalesovo Beam**	**56.01**	**332**	P	**P**	**11 02 36.4**	**+0.6**
KURK	**Kurchatov**	**57.32**	**326**	P	**P**	**11 02 45.8**	**+0.7**
KURK				IAmb	IAmb	11 02 54.5	
	comp=Z,8.7nm,0.8s						
KURBB	**Kurchatov Arra**	**57.32**	**326**	P	**P**	**11 02 44.7**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=126,slow=6.7,SNR=7.5						
KBL	**Kabul**	**58.00**	**305**	P	**P**	**11 02 50.3**	**-0.2**
BTK	**Batken**	**58.05**	**312**	P	**P**	**11 02 51.1**	**+0.5**
GAR	**Garm**	**58.12**	**311**	P	**P**	**11 02 51.6**	**+0.4**
CHGR	**Chuyangaron**	**58.90**	**310**	P	**P**	**11 02 56.9**	**+0.3**
KK31	**Karatay Array**	**59.21**	**316**	P	**P**	**11 02 59.2**	**+0.7**
KK31				IAmb	IAmb	11 03 07.0	
	comp=Z,4.4nm,0.8s						
KKAR	**Karatay Array**	**59.21**	**316**	P	**P**	**11 02 59.4**	**+0.8**
KKAR				IAmb	IAmb	11 03 07.0	
	comp=Z,4.4nm,0.8s						
KKAR	**Karatay Array**	**59.21**	**316**	P	**P**	**11 02 59.0**	**+0.4**
BRVK	**Borovoye**	**62.98**	**326**	P	**P**	**11 03 24.3**	**+0.4**
BRVK				IAmb	IAmb	11 03 32.8	
	comp=Z,6.6nm,0.8s						
TIXI	**Tiksi**	**63.18**	**1**	P	**P**	**11 03 24.0**	**-0.9**
HRA	**Herat**	**63.49**	**304**	P	**P**	**11 03 27.2**	**-0.7**
HRA				IAmb	IAmb	11 03 37.5	
	comp=Z,13nm,1.5s						
NRIK	**Noril'sk**	**65.67**	**346**	P	**P**	**11 03 41.1**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=143,slow=9.3,SNR=2.7						
NRIK				LR	LR	11 34 28.3	
	comp=Z,105nm,20.4s,baz=199,slow=38						
GEYT	**Alibeck**	**67.28**	**308**	P	**P**	**11 03 54.4**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=151,slow=3.3,SNR=1.4						
GEYT				LR	LR	11 35 53.3	
	comp=Z,58nm,18.9s,baz=220,slow=38						
GEYT	**Alibeck**	**67.28**	**308**	P	**P**	**11 03 51.4**	**-0.8**
ABKAR	**Akbulak array**	**67.96**	**320**	P	**P**	**11 03 54.9**	**-1.3**
ABKAR				IAmb	IAmb	11 04 04.1	
	comp=Z,4.4nm,0.8s						
ABKAR	**Akbulak array**	**67.96**	**320**	P	**P**	**11 03 55.9**	**-0.3**
AKTO	**Aktyubinsk**	**69.44**	**321**	P	**P**	**11 04 05.3**	**0.0**
	comp=Z,1.9nm,0.8s,baz=88,slow=11,SNR=5.9						
ARU	**Arti**	**70.50**	**327**	P	**P**	**11 04 11.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=124,slow=11,SNR=3.5						
ARU	**Arti**	**70.50**	**327**	P	**P**	**11 04 11.1**	**-0.7**
ARU				IAmb	IAmb	11 04 22.1	
	comp=Z,5.3nm,0.7s						
KBZ	**Khabaz**	**79.11**	**313**	LR	LR	11 43 24.3	
	comp=Z,48nm,21.7s,baz=75,slow=38						
BPAW	**Bear Paw Mtn.**	**79.49**	**26**	P	**P**	**11 05 03.8**	**+0.2**
BPAW				IAmb	IAmb	11 05 16.5	
	comp=Z,4.7nm,0.6s						
I23K	**Minto, Yukon-K**	**80.23**	**25**	P	**P**	**11 05 08.5**	**+1.0**
I23K				IAmb	IAmb	11 05 19.2	
	comp=Z,4.0nm,0.8s						
DHY	**Denali Highway**	**81.10**	**27**	P	**P**	**11 05 13.7**	**+1.3**
HDA	**Harding Lake**	**81.26**	**26**	P	**P**	**11 05 12.8**	**-0.3**
HDA				IAmb	IAmb	11 05 24.5	
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**81.28**	**26**	P	**P**	**11 05 11.9**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=239,slow=5.2,SNR=7.7						
ILAR	**Eielson Array**	**81.28**	**26**	P	**P**	**11 05 13.2**	**0.0**
BMAR	**Burnt Mountain**	**82.12**	**23**	P	**P**	**11 05 18.7**	**+1.1**
RIDG	**Independent Ri**	**82.21**	**27**	P	**P**	**11 05 18.5**	**+0.3**
RIDG				IAmb	IAmb	11 05 39.0	
	comp=Z,6.9nm,0.9s						
DOT	**Dot Lake**	**82.56**	**27**	P	**P**	**11 05 21.2**	**+1.3**
K27K	**Chicken**	**83.41**	**26**	P	**P**	**11 05 24.0**	**-0.3**
K27K				IAmb	IAmb	11 05 41.1	
	comp=Z,8.0nm,1.2s						
BCAR	**Beaver Creek A**	**83.64**	**27**	P	**P**	**11 05 26.6**	**+1.1**
CTGM	**Chitina Glacie**	**84.08**	**29**	P	**P**	**11 05 29.9**	**+1.9**
ARCES	**ARCESS Array B**	**85.74**	**340**	P	**P**	**11 05 35.7**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=29,slow=2.8,SNR=3.9						
MMAI	**Mount Meron Ar**	**85.80**	**303**	LR	LR	11 49 00.6	
	comp=Z,38nm,18.6s,baz=10.0,slow=39						
INK	**Inuvik**	**86.15**	**21**	P	**P**	**11 05 38.1**	**+0.2**
INK				IAmb	IAmb	11 05 46.2	
	comp=Z,12nm,1.5s						
BRTR	**Keskin Array B**	**86.33**	**309**	LR	LR	11 49 47.5	
	comp=Z,12nm,18.2s,baz=61,slow=40						
FINES	**FINESS Array B**	**87.28**	**332**	P	**P**	**11 05 43.6**	**0.0**
	comp=Z,3.6nm,0.8s,baz=64,slow=4.4,SNR=6.1						
FINES				LR	LR	11 47 41.0	
	comp=Z,52nm,19.1s,baz=169,slow=38						
FINES	**FINESS Array B**	**87.28**	**332**	P	**P**	**11 05 41.3**	**-2.3**
AKASG	**Malin Array Be**	**87.68**	**321**	LR	LR	11 47 16.2	
	comp=Z,34nm,21.1s,baz=25,slow=37						
VNDA	**Vanda**	**88.18**	**173**	P	**P**	**11 05 46.6**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=290,slow=4.7,SNR=3.1						
VNDA				LR	LR	11 47 48.2	
	comp=Z,76nm,18.1s,baz=154,slow=37						
MLR	**Muntele Rosu**	**90.89**	**316**	LR	LR	11 52 22.3	
	comp=Z,75nm,18.0s,baz=298,slow=39						
IDI	**Anoyia**	**93.98**	**306**	LR	LR	11 54 16.9	
	comp=Z,15nm,18.8s,baz=126,slow=39						
NOA	**NORSAR Array B**	**94.19**	**334**	LR	LR	11 51 29.7	
	comp=Z,44nm,18.4s,baz=50,slow=37						
TORD	**Torodi Ar. Bea**	**120.50**	**291**	PKP	**PKPdf**	**11 11 48.4**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=41,slow=4.9,SNR=4.6						
PLCA	**Paso Flores**	**144.70**	**158**	PKP	**PKPdf**	**11 12 34.3**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=163,slow=8.0,SNR=3.2						
PLCA	**Paso Flores**	**144.70**	**158**		**PKPdf**	**11 12 35.1**

	baz=39							
BOOM				⇓*i*S		**Sb**	10 55 56.5	**-0.1**
	baz=39							
KPKS	**Kokpek**	**1.16**	**70**	*e*P		**Pn**	10 55 43.6	**-0.1**
	4.7nm,0.1s							
KPKS				*e*S		**Sb**	10 55 59.1	**+0.4**
	17nm,0.1s							
TKM2	**Tokmak 2**	**1.18**	**263**	⇓*i*P		**Pn**	10 55 43.8	**-0.3**
	baz=64							
TKM2				⇓*i*S		**Sb**	10 55 59.8	**+0.6**
	baz=64							
TKM2	**Tokmak 2**	**1.18**	**263**	⇑P		**Pg**	10 55 45.6	**+0.9**
	0.4nm,0.3s							
TKM2				⇑S		**Sn**	10 56 00.1	**+0.2**
	1.0nm,0.2s							
UZB	**Uzynbulak**	**1.34**	**86**	*e*P		**Pb**	10 55 46.9	**0.0**
	0.7nm,0.1s							
UZB				*e*S		**Sb**	10 56 04.7	**+0.7**
	10.0nm,0.3s							
UZB	**Uzynbulak**	**1.34**	**86**	P		**Pb**	10 55 46.9	**0.0**
	0.7nm,0.1s							
UZB				S		**Sb**	10 56 04.7	**+0.7**
	10.0nm,0.3s							
KBK	**Karagaybulak**	**1.70**	**257**	⇓*i*P		**Pb**	10 55 53.2	**+0.2**
	baz=57							
KBK				⇓*i*S		**Sg**	10 56 15.6	**-1.1**
	baz=57							
PDGK	**Podgornoye**	**1.70**	**80**	P		**Pb**	10 55 53.6	**+0.7**
	0.6nm,0.3s							
PDGK				S		**Sg**	10 56 16.0	**-0.8**
	2.9nm,0.5s							
PDGK	**Podgornoye**	**1.70**	**80**	⇑P		**Pb**	10 55 52.5	**-0.5**
	1.3nm,0.8s							
PDGK				⇑S		**Sb**	10 56 15.0	**+0.8**
	4.0nm,0.6s							
CHMS	**Chumysh**	**1.79**	**269**	⇑*i*P		**Pb**	10 55 54.6	**+0.2**
	baz=69							
CHMS				⇑*i*S		**Sg**	10 56 18.4	**-1.2**
	baz=69							
USP	**Ospenovka**	**1.98**	**277**	⇑*e*P		**Pb**	10 55 57.3	**-0.3**
	baz=77							
USP				⇑*i*S		**Sb**	10 56 22.7	**+0.6**
	baz=77							
AAK	**Ala-Archa**	**2.03**	**259**	⇑*i*P		**Pb**	10 55 58.1	**-0.5**
	baz=59							
AAK				⇑*i*S		**Sb**	10 56 24.1	**+0.4**
	baz=59							
AAK	**Ala-Archa**	**2.03**	**259**	⇓Pg		**Pb**	10 55 58.1	**-0.5**
	0.7nm,0.4s							
AAK				⇑Lg		Lg	10 56 25.3	
	2.2nm,0.5s							
UCH	**Uchtor**	**2.15**	**248**	⇓*i*P		**Pb**	10 55 59.7	**-1.1**
	baz=48							
UCH				⇓*i*S		**Sb**	10 56 27.1	**-0.2**
	baz=48							
ARLS	**Aral**	**2.44**	**241**	⇓*e*P		**Pb**	10 56 03.7	**-1.9**
	baz=42							
ARLS				⇓*i*S		**Sn**	10 56 33.3	**+2.3**
	baz=42							

IDC ***25*** *10:59:15.7±28.0, 14°68′N×124°46′E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/48, mbtmp3.8/4, Error ellipse: s-maj=511.5km s-min=158.9km az=155.0*

MAN ***25*** *11:00:15.0, 8°69′N×126°35′E, h33km, mb4.7, ML3.5, MS3.4*

ISC 25 11:00:14.4±1.0, 8°72′N±0°03′×126°41′E±0°07′, h35km, n20, σ2°37′/34, mb3.6/4, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BIP	**Bislig**	**0.51**	**198**	⇑*i*P	**Pn**		**11 00 25.8**	**+0.6**
BIP				*i* S	**Sn**		**11 00 34.3**	**+1.5**
GLSP	**General Luna,**	**1.10**	**345**	*e*P	**Pn**		**11 00 32.6**	**-0.7**
GLSP				*e*S	**Sn**		**11 00 46.7**	**-0.5**
BUKP	**Musuan**	**1.57**	**238**	*e*P	**Pn**		**11 00 41.3**	**+1.4**
BUKP				*e*S	**Sn**		**11 01 03.1**	**+4.0**
CGP	**Cagayan de Oro**	**1.72**	**261**	⇓*e*P	**Pn**		**11 00 43.8**	**+1.9**
CGP				*e*S	**Sn**		**11 00 59.2**	**-3.4**
MSLP	**Maasin**	**2.08**	**313**	*e*P	**Pn**		**11 00 47.9**	**+1.1**
MSLP				*e*S	**Sn**		**11 01 11.6**	**0.0**
KCP	**Kidapawan**	**2.14**	**218**	⇑*e*P	**Pn**		**11 00 53.3**	**+2.5**
KCP				*i* S	**Sn**		**11 01 15.4**	**+2.3**
DDMP	**Don Marcelino,**	**2.69**	**195**	*e*P	**Pn**		**11 00 57.1**	**+2.0**
DDMP				*e*S	**Sn**		**11 01 27.4**	**+0.9**
TBP	**Tagbilaran**	**2.70**	**291**	*i* P	**Pn**		**11 00 57.0**	**+1.7**
TBP				*e*S	**Sn**		**11 01 26.9**	**+0.1**
SKMP	**Bagumbayan, Su**	**2.86**	**220**	*e*P	**Pn**		**11 00 57.7**	**+0.2**
LLP	**Lapu-Lapu**	**2.89**	**304**	⇑*e*P	**Pn**		**11 00 59.9**	**+1.9**
LLP				*e*S	**Sn**		**11 01 32.4**	**+0.9**
OCLP	**Ormoc**	**2.92**	**323**	*e*P	**Pn**		**11 01 00.3**	**+1.9**
OCLP				*e*S	**Sn**		**11 01 26.2**	**-6.1**
BESP	**Borongan**	**3.02**	**342**	*e*P	**Pn**		**11 01 03.1**	**+3.3**
BESP				*e*S	**Sn**		**11 01 39.6**	**+4.8**
PAGZ	**Pagadian**	**3.12**	**254**	*e*P	**Pn**		**11 01 01.9**	**+0.7**
PAGZ				*e*S	**Sn**		**11 01 36.7**	**-0.5**
CNOP	**Candoni, Negro**	**3.88**	**287**	*e*P	**Pn**		**11 01 12.1**	**+0.5**
CNOP				*e*S	**Sn**		**11 01 55.5**	**-0.5**
CNP	**Catarman**	**4.14**	**336**	*e*P	**Pn**		**11 01 16.9**	**+1.6**
CNP				*e*S	**Sn**		**11 02 04.9**	**+2.4**
LQP	**Lukban**	**7.18**	**319**	⇓*e*P	**Pn**		**11 02 01.4**	**+4.2**
FITZ	**Fitzroy Crossi**	**26.65**	**182**	P	**P**		**11 05 50.3**	**+0.3**
	1.5nm,0.7s,baz=0.2,slow=6.5,SNR=7.9							
WRA	**Warramunga Arr**	**29.53**	**165**	P	**P**		**11 06 14.6**	**-1.1**
	0.6nm,0.6s,baz=342,slow=8.1,SNR=8.5							
ASAR	**Alice Springs**	**33.01**	**167**	P	**P**		**11 06 45.2**	**-1.2**
	0.2nm,0.3s,baz=351,slow=7.0,SNR=8.4							
STKA	**Stephens Creek**	**42.89**	**161**	P	**P**		**11 08 06.8**	**-2.8**
	1.6nm,0.6s,baz=328,slow=11,SNR=4.5							

IDC 25 11:00:48.0±7.7, 18°34′S×177°28′W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/37, mbtmp3.5/3, Error ellipse: s-maj=330.1km s-min=41.6km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**45.61**	**260**	P	P		11 09 10.8	+0.3
	0.3nm,0.3s,baz=96,slow=7.5,SNR=16							
ASAR	**Alice Springs**	**45.71**	**255**	P	P		11 09 10.5	-0.7
	0.3nm,0.8s,baz=82,slow=9.1,SNR=5.0							
ILAR	**Eielson Array**	**86.07**	**13**	P	P		11 13 30.1	0.0
	0.2nm,0.6s,baz=211,slow=6.3,SNR=2.2							

ANF ***25*** *11:07:34.9±0.1, 34°27′N×117°04′W, h16km±1km, ML3.1/31, Error ellipse: s-maj=1.0km s-min=0.9km az=80.0*

NEIC ***25*** *11:07:35.4±0.7, 34°28′N±0°01′×117°032′W±0°010′, h18km±1km, Error ellipse: s-maj=1.7km s-min=1.1km az=199.0*

PAS ***25*** *11:07:36.1±1.0, 34°284′N±0°008′×117°036′W±0°005′, h13km±2km, ML3.1/222, Error ellipse: s-maj=1.3km s-min=0.2km az=209.0*

SCEDC ***25*** *11:07:36.1, 34°28′N×117°04′W, h13km, ML3.1, ML3.0, ML3.1*

ISC 25 11:07:35.3±0.8, 34°29′N±0°01′×117°03′W±0°01′, h16km±4km, n131, σ0°68′/208, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BTL	**Butler Peak**	**0.04**	**139**		**Pg**		**11 07 38.5**	**-0.2**
BBRC	**Big Bear Solar**	**0.10**	**105**	P	**Pg**		**11 07 38.6**	**-0.4**
	baz=283,SNR=535							
BBRC				S	**Sg**		**11 07 41.3**	**-0.1**
	baz=283							
BBRC	**Big Bear Solar**	**0.10**	**105**		**Pg**		**11 07 38.9**	**-0.1**
BBRC					**Sg**		**11 07 41.3**	**-0.1**
SVD	**Seven Oaks Dam**	**0.19**	**197**		**Pg**		**11 07 40.0**	**+0.1**
SVD					**Sb**		**11 07 43.0**	**-0.8**
HLNC	**Highland**	**0.23**	**223**		**Pg**		**11 07 40.7**	**+0.2**
CFT	**Crafton Hills**	**0.26**	**194**		**Pg**		**11 07 41.3**	**+0.3**
CFT					**Sb**		**11 07 45.5**	**-0.3**
CFSC	**Central Fire S**	**0.28**	**229**		**Pg**		**11 07 41.6**	**+0.3**
CLTC	**Calectric**	**0.30**	**231**		**Pb**		**11 07 42.3**	**0.0**
CLTC					**Sb**		**11 07 47.1**	**0.0**
BBSC	**Beaumont Base**	**0.37**	**173**		**Pb**		**11 07 43.3**	**-0.1**
BBSC					**Sb**		**11 07 48.9**	**-0.1**
VTV	**Victorville**	**0.37**	**318**		**Pg**		**11 07 43.0**	**+0.1**
VTV					**Sg**		**11 07 48.0**	**-0.1**
FON	**Fontana**	**0.38**	**241**		**Pg**		**11 07 43.4**	**+0.2**
SS2	**San Sevaine**	**0.39**	**259**		**Pb**		**11 07 43.8**	**-0.1**
RSBC	**Riverside Bore**	**0.40**	**218**		**Pg**		**11 07 43.4**	**0.0**
RSBC	**Riverside Bore**	**0.40**	**218**		**Pg**		**11 07 43.5**	**0.0**
RSBC					**Sg**		**11 07 49.0**	**+0.2**
PEC	**Perris**	**0.41**	**195**		**Pg**		**11 07 43.7**	**+0.1**
PEC					**Sg**		**11 07 49.3**	**+0.1**
ADO	**Adelanto Recei**	**0.42**	**309**		**Pg**		**11 07 44.3**	**+0.4**
ADO					**Sb**		**11 07 50.7**	**+0.1**
DEVC	**Devers**	**0.52**	**133**		**Pb**		**11 07 46.1**	**+0.2**
DEVC					**Sb**		**11 07 53.3**	**+0.1**
BFSC	**Mount Baldy Ra**	**0.52**	**265**	P	**Pg**		**11 07 45.6**	**-0.1**
	baz=85,SNR=150							
BFSC				S	**Sg**		**11 07 52.6**	**-0.1**
	baz=85							
BFSC	**Mount Baldy Ra**	**0.52**	**265**		**Pg**		**11 07 45.6**	**-0.1**
BFSC					**Sg**		**11 07 52.8**	**0.0**
MLSC	**Mira Loma**	**0.52**	**237**		**Pg**		**11 07 45.7**	**0.0**
MLSC					**Sg**		**11 07 52.8**	**+0.2**
SME	**Santa Rosa Min**	**0.53**	**210**		**Pg**		**11 07 45.8**	**-0.2**
SSK	**Sunset Peak**	**0.55**	**262**		**Pg**		**11 07 46.4**	**+0.1**
GTM	**Goat Mountain**	**0.56**	**89**		**Pg**		**11 07 46.1**	**-0.3**
GTM					**Sg**		**11 07 53.5**	**-0.5**
BLAC	**Blackrock camp**	**0.58**	**112**		**Pb**		**11 07 47.0**	**0.0**
BLAC					**Sb**		**11 07 54.9**	**-0.1**
HMTC	**Hemet**	**0.58**	**178**		**Pg**		**11 07 46.7**	**-0.1**
HMTC					**Sg**		**11 07 54.2**	**-0.2**
RRX	**Edison Barstow**	**0.59**	**3**	P	**Pg**		**11 07 47.1**	**+0.1**
	baz=183,SNR=19							
RRX				S	**Sb**		**11 07 55.6**	**+0.3**
	baz=183							
RRX	**Edison Barstow**	**0.59**	**3**		**Pg**		**11 07 47.2**	**+0.2**
RRX					**Sb**		**11 07 55.5**	**+0.2**
CRNC	**Corona**	**0.60**	**227**		**Pg**		**11 07 47.0**	**-0.2**
POB	**Polly Butte**	**0.60**	**171**		**Pg**		**11 07 47.3**	**0.0**
POB					**Sg**		**11 07 55.4**	**+0.1**
CHNC	**Chino**	**0.61**	**242**		**Pg**		**11 07 47.3**	**0.0**
CHNC					**Sb**		**11 07 55.8**	**0.0**
EW2	**E Wide Canyon**	**0.62**	**123**		**Pg**		**11 07 47.7**	**+0.1**
EW2					**Sg**		**11 07 56.0**	**+0.1**
DGR	**Domenigoni Val**	**0.64**	**178**		**Pg**		**11 07 47.6**	**-0.2**
DGR					**Sg**		**11 07 55.9**	**-0.4**
PSRC	**Puddingstone R**	**0.67**	**253**		**Pb**		**11 07 48.5**	**-0.1**
PSRC					**Sb**		**11 07 58.0**	**+0.4**
BACC	**Bachelor Mtn.**	**0.67**	**181**		**Pb**		**11 07 48.1**	**-0.5**
BACC					**Sg**		**11 07 57.3**	**-0.2**
MURC	**Murrieta**	**0.70**	**191**	P	**Pb**		**11 07 48.6**	**-0.4**
	baz=11,SNR=36							
MURC				S	**Sb**		**11 07 57.8**	**-0.7**
	baz=11							
MURC	**Murrieta**	**0.70**	**191**		**Pb**		**11 07 48.7**	**-0.4**
ELS	**Elsinore Mount**	**0.72**	**207**		**Pb**		**11 07 48.9**	**-0.5**
ELS					**Sb**		**11 07 58.4**	**-0.6**
HYS	**Haystack Butte**	**0.73**	**323**		**Pb**		**11 07 49.5**	**-0.1**
HYS					**Sb**		**11 07 59.2**	**-0.1**
CRY	**Cary Ranch**	**0.76**	**161**		**Pb**		**11 07 50.1**	**-0.1**
CRY					**Sb**		**11 08 00.0**	**-0.3**
SBB	**Saddle Back Bu**	**0.77**	**302**		**Pb**		**11 07 50.0**	**-0.2**
SBB					**Sb**		**11 08 00.1**	**-0.4**
JNH	**Juniper Hills**	**0.78**	**282**		**Pb**		**11 07 50.2**	**-0.3**
JNH					**Sb**		**11 08 00.7**	**-0.1**
HEC	**Hector,Ludlow**	**0.79**	**47**	P	**Pb**		**11 07 50.7**	**0.0**
	baz=227,SNR=207							
HEC				S	**Sg**		**11 08 01.6**	**+0.4**
	baz=227							
HEC	**Hector,Ludlow**	**0.79**	**47**		**Pb**		**11 07 50.7**	**0.0**
HEC					**Sg**		**11 08 01.6**	**+0.4**
DNR	**Dunn Ranch,Anz**	**0.79**	**155**		**Pb**		**11 07 50.7**	**0.0**
DNR					**Sg**		**11 08 01.4**	**+0.1**
SNDA	**J Saunders Pla**	**0.81**	**154**		**Pb**		**11 07 51.0**	**0.0**
SNDA					**Sg**		**11 08 02.1**	**+0.2**
CHFC	**Chilao Flat St**	**0.82**	**274**		**Pb**		**11 07 51.0**	**-0.3**
CHFC					**Sb**		**11 08 01.8**	**-0.4**
PFO	**Pinyon Flats O**	**0.82**	**145**	P	**Pb**		**11 07 51.0**	**-0.3**
	baz=325,SNR=34							
PFO				S	**Sb**		**11 08 01.8**	**-0.4**
	baz=325							
PFO	**Pinyon Flats O**	**0.82**	**145**	Pg	**Pb**		**11 07 51.1**	**-0.2**
PFO				Sg	**Sb**		**11 08 01.7**	**-0.4**
PFO	**Pinyon Flats O**	**0.82**	**145**		**Pb**		**11 07 51.1**	**-0.2**
PFO					**Sb**		**11 08 01.8**	**-0.4**
XPFO	**Pion Flat**	**0.83**	**144**		**Pb**		**11 07 51.1**	**-0.3**
XPFO					**Sb**		**11 08 01.7**	**-0.6**
TPC	**Twentynine Pal**	**0.84**	**102**		**Pb**		**11 07 51.5**	**+0.1**
PMD	**Palm Desert**	**0.84**	**139**		**Pb**		**11 07 51.2**	**-0.3**
PMD					**Sb**		**11 08 02.4**	**-0.1**
BZNA	**Buzz No.'s Pla**	**0.85**	**159**		**Pb**		**11 07 51.8**	**0.0**
BZNA					**Sg**		**11 08 03.0**	**0.0**
MWC	**Mount Wilson**	**0.85**	**266**	Pg	**Pb**		**11 07 51.5**	**-0.3**
LRRC	**Littlerock Res**	**0.86**	**286**		**Pb**		**11 07 51.7**	**0.0**
RHC	**Rose Hills Cem**	**0.86**	**251**		**Pb**		**11 07 51.9**	**+0.1**
FRD	**Ford Ranch, An**	**0.87**	**155**		**Pb**		**11 07 52.0**	**0.0**
FRD					**Sg**		**11 08 03.5**	**-0.2**
FRD	**Ford Ranch, An**	**0.87**	**155**		**Pb**		**11 07 52.0**	**0.0**
FRD					**Sb**		**11 08 03.4**	**0.0**
BELC	**Belle Mtn. Jos**	**0.91**	**108**	P	**Pg**		**11 07 52.9**	**0.0**
	baz=288,SNR=327							
BELC				S	**Sg**		**11 08 04.9**	**+0.1**
	baz=288							
BELC	**Belle Mtn. Jos**	**0.91**	**108**		**Pg**		**11 07 52.9**	**0.0**
BELC					**Sb**		**11 08 04.6**	**+0.1**
BRSC	**Barre Substati**	**0.92**	**239**		**Pb**		**11 07 52.7**	**+0.2**
GVRC	**Garvey Reservo**	**0.93**	**256**		**Pb**		**11 07 53.2**	**+0.2**
PLM	**Palomar**	**0.94**	**171**		**Pb**		**11 07 53.2**	**-0.1**
PLM					**Sb**		**11 08 05.4**	**-0.2**
CJV	**Casa Juvan**	**0.95**	**285**		**Pb**		**11 07 53.2**	**-0.2**
CJV					**Sb**		**11 08 06.0**	**+0.2**
PASC	**Pasadena Art C**	**0.96**	**263**		**Sb**		**11 08 06.1**	**+0.1**
PASC	**Pasadena Art C**	**0.96**	**263**		**Pb**		**11 07 53.2**	**-0.3**
PASC	**Pasadena Art C**	**0.96**	**263**		**Sb**		**11 08 06.3**	**+0.3**
DLAC	**Del Amo**	**0.98**	**244**		**Pg**		**11 07 55.0**	**+0.6**
EDW2	**Edwards Air Fo**	**0.99**	**307**	P	**Pb**		**11 07 54.1**	**0.0**
	baz=127,SNR=107							
EDW2				S	**Sb**		**11 08 07.0**	**+0.1**
	baz=127							
EDW2	**Edwards Air Fo**	**0.99**	**307**		**Pb**		**11 07 54.2**	**+0.1**
EDW2					**Sb**		**11 08 07.0**	**+0.1**
GSC	**Goldstone, Bar**	**1.03**	**10**	P	**Pb**		**11 07 55.0**	**+0.2**
	baz=191,SNR=56							
GSC				S	**Sg**		**11 08 08.9**	**+0.1**
	baz=191							
GSC	**Goldstone, Bar**	**1.03**	**10**		**Pb**		**11 07 55.0**	**+0.2**
GSC	**Goldstone, Bar**	**1.03**	**10**		**Pn**		**11 07 55.2**	**+0.1**
GSC				Sg	**Sg**		**11 08 09.0**	**+0.2**
CTCC	**Cactus City**	**1.07**	**126**		**Pb**		**11 07 55.5**	**0.0**
DECC	**Green Verdugo**	**1.08**	**269**	Pg	**Pn**		**11 07 55.7**	**0.0**
	baz=88,SNR=38							
DECC				S	**Sn**		**11 08 10.2**	**-0.1**
	baz=88							
DECC	**Green Verdugo**	**1.08**	**269**		**Pn**		**11 07 55.7**	**0.0**
DECC					**Sg**		**11 08 10.4**	**+0.2**
LEOC	**Leona Valley**	**1.10**	**288**		**Pb**		**11 07 56.0**	**-0.1**
ALPC	**Antelope**	**1.12**	**291**		**Sb**		**11 08 10.6**	**0.0**
MATG	**Mataguay Scout**	**1.13**	**163**		**Pb**		**11 07 56.7**	**+0.2**
IR2C	**Iron Canyon**	**1.14**	**276**		**Pn**		**11 07 56.3**	**-0.2**
BORC	**Borrego Spring**	**1.14**	**153**		**Pb**		**11 07 56.8**	**+0.2**
BORC					**Sb**		**11 08 11.2**	**+0.1**
CTW	**Cottonwood Mou**	**1.14**	**122**		**Pg**		**11 07 57.3**	**0.0**
GORC	**Green Oak Ranc**	**1.14**	**188**		**Pn**		**11 07 56.1**	**-0.5**
GORC					**Sb**		**11 08 10.6**	**-0.6**
DSCC	**Desert Studies**	**1.15**	**42**		**Pn**		**11 07 56.4**	**-0.3**
TPO	**Tropico Hills**	**1.15**	**301**		**Pb**		**11 07 56.8**	**0.0**
CCAC	**Calif City Air**	**1.18**	**317**		**Pb**		**11 07 57.5**	**+0.1**
DTP	**Desert Tortois**	**1.19**	**326**		**Pb**		**11 07 57.1**	**-0.1**
DJJ	**Donna J Jenkin**	**1.19**	**262**		**Pb**		**11 07 57.5**	**+0.1**
FMP	**Fort Macarthur**	**1.19**	**242**	Pg	**Pb**		**11 07 57.9**	**+0.4**
	baz=61							
FMP				S	**Sn**		**11 08 13.0**	**-0.1**
	baz=61							
GMRC	**Granite Mounta**	**1.24**	**66**	Pn	**Pn**		**11 07 57.6**	**-0.4**
	baz=247,SNR=108							
GMRC				Pg	**Pb**		**11 07 58.6**	**+0.3**
	baz=247							
GMRC				S	**Sg**		**11 08 15.5**	**+0.1**
	baz=247							
GMRC	**Granite Mounta**	**1.24**	**66**		**Pn**		**11 07 57.7**	**-0.4**
RPV	**Rancho Palos V**	**1.26**	**245**		**Pb**		**11 07 58.5**	**-0.1**
CCCA	**Chr Cany lake**	**1.27**	**348**		**Pg**		**11 07 59.7**	**0.0**
SLH	**Sleepy Hollow**	**1.27**	**149**		**Pg**		**11 07 59.6**	**-0.2**
DPP	**Dos Picos Cty**	**1.29**	**177**		**Pn**		**11 07 58.7**	**+0.1**
LRMC	**Laurel Mtn Rad**	**1.30**	**336**	Pg	**Pg**		**11 08 00.5**	**+0.1**
	baz=156,SNR=7.9							
LRMC				Sb	**Sg**		**11 08 17.4**	**-0.1**
	baz=156							
109C	**Camp Elliot, M**	**1.40**	**182**	Pb	**Pn**		**11 08 00.2**	**+0.2**
	baz=2.4,SNR=8.8							
109C				S	**Sn**		**11 08 17.8**	**-0.2**
	baz=2.4							
109C	**Camp Elliot, M**	**1.40**	**182**		**Pn**		**11 08 00.2**	**+0.2**
109C				Sn	**Sn**		**11 08 17.9**	**-0.2**
OSI	**Osito Audit: C**	**1.43**	**284**	Pg	**Pb**		**11 08 02.1**	**+0.5**
	baz=103							
OSI				Sb	**Sg**		**11 08 21.0**	**-0.6**
	baz=103							
CIS	**Catalina Islan**	**1.45**	**233**	Pb	**Pb**		**11 08 01.3**	**-0.5**
	baz=52,SNR=8.4							
CIS				Sb	**Sb**		**11 08 20.8**	**+0.8**
	baz=52							
BC3	**Big Chuckawall**	**1.46**	**115**	Pb	**Pn**		**11 08 01.2**	**+0.2**
	baz=296,SNR=36							
BC3				Sg	**Sg**		**11 08 22.7**	**+0.4**
	baz=296							
TUQ	**Turquoise Moun**	**1.47**	**38**	Pg	**Pb**		**11 08 02.8**	**+0.6**
	baz=219,SNR=50							
TUQ				Sb	**Sg**		**11 08 22.0**	**-0.7**
	baz=219							
MONP2	**Monument Peak**	**1.48**	**160**	Pg	**Pb**		**11 08 02.8**	**+0.2**
	baz=340,SNR=19							
MONP2				Sb	**Sb**		**11 08 22.1**	**+0.9**
	baz=340							
IRM	**Iron Mountain**	**1.57**	**94**	Pn	**Pn**		**11 08 02.1**	**-0.4**
	baz=275							
IRM				Pg	**Pb**		**11 08 04.7**	**+0.7**
	baz=275,SNR=64							
IRM				Sb	**Sg**		**11 08 25.3**	**-0.6**
	baz=275							
IRM	**Iron Mountain**	**1.57**	**94**		**Pn**		**11 08 02.1**	**-0.4**
BAR	**Barrett**	**1.63**	**169**		**Pb**		**11 08 04.4**	**-0.6**
BAR				Sn	**Sb**		**11 08 25.0**	**-0.3**
SWSC	**Sam W. Stewart**	**1.69**	**142**	Pg	**Pg**		**11 08 06.9**	**-0.8**
	baz=323,SNR=13							
SWSC				Sb	**Sg**		**11 08 28.6**	**-1.1**
	baz=323							
ARVC	**Arvin**	**1.70**	**300**	P	**Pn**		**11 08 04.5**	**+0.2**
	baz=119,SNR=20							
ARVC				Sb	**Sg**		**11 08 29.1**	**-1.0**
	baz=119							
SHOC	**Shoshone, Teco**	**1.73**	**21**	Pg	**Pg**		**11 08 08.2**	**-0.2**
	baz=201,SNR=49							
SHOC				Sb	**Sg**		**11 08 30.5**	**-0.4**
	baz=201							
IKP	**In-Ko-Pah, Jac**	**1.81**	**154**	Pn	**Pn**		**11 08 06.3**	**+0.6**
	baz=335							
IKP				Pg	**Pb**		**11 08 08.9**	**+0.9**
	baz=335,SNR=9.9							
IKP				Sb	**Sb**		**11 08 31.8**	**+1.5**
	baz=335							
MPMC	**Manual Prospec**	**1.81**	**348**	Pg	**Pg**		**11 08 09.5**	**-0.5**
	baz=168,SNR=21							
MPMC				Sb	**Sg**		**11 08 33.4**	**-0.2**
	baz=168							
ISA	**Isabella, Lake**	**1.81**	**320**	Pn	**Pn**		**11 08 05.8**	**-0.1**
	baz=139,SNR=40							
ISA				Pb	**Pb**		**11 08 08.8**	**+0.6**
	baz=139							
ISA	**Isabella, Lake**	**1.81**	**320**	Pn	**Pn**		**11 08 05.7**	**-0.2**
NEE2	**Needles Airpor**	**2.05**	**76**	Pg	**Pb**		**11 08 13.3**	**+1.1**
	baz=257							
GLA	**Glamis**	**2.21**	**123**	P	**Pn**		**11 08 11.7**	**+0.3**
	baz=304							
GLA	**Glamis**	**2.21**	**123**		**Pn**		**11 08 11.9**	**+0.5**
CWC	**Cottonwood Cre**	**2.31**	**339**	Pg	**Pg**		**11 08 19.1**	**-0.6**
	baz=158							
ESJX	**Sierra Juarez**	**2.45**	**158**		**Pn**		**11 08 16.0**	**+1.3**
SMMC	**Simmler**	**2.64**	**294**	Sb	**Sb**		**11 08 56.7**	**+2.2**
	baz=112							
SHPR	**Sheep Range**	**2.69**	**34**	Pn	**Pn**		**11 08 19.0**	**+1.0**
TPNV	**Topopah Spring**	**2.73**	**13**	Sb	**Sg**		**11 09 01.9**	**-1.2**
	baz=194							
TPNV	**Topopah Spring**	**2.73**	**13**	Pn	**Pn**		**11 08 18.5**	**-0.1**
PRN	**Pahroc Range**	**3.50**	**27**		**Pn**		**11 08 28.2**	**-1.0**
TPH	**Tonopah**	**3.78**	**358**		**Pg**		**11 08 49.2**	**+1.4**
LCMT	**Little Creek M**	**4.11**	**48**	Pn	**Pn**		**11 08 40.8**	**+3.3**
R11A	**Troy Canyon, C**	**4.22**	**16**	Sb	**Sg**		**11 09 47.8**	**-3.0**
	baz=196							
KNB	**Kanab**	**4.38**	**50**		**Pn**		**11 08 43.2**	**+1.9**
CCUT	**Cedar City**	**4.41**	**41**	Pn	**Pn**		**11 08 42.2**	**+0.4**
PSUT	**Pine Spring**	**4.95**	**30**		**Pb**		**11 08 57.9**	**-3.8**
**PKC

URZ	**Urewera**	**17.50**	**191**	P	**P**	**12 00 10.1**	**-1.9**
	1.7nm,0.3s,baz=241,slow=1.9,SNR=9.4						
URZ				S	**S**	**12 02 59.9**	**-3.5**
	baz=270,slow=5.4,SNR=2.2						
URZ	**Urewera**	**17.50**	**191**	P	**P**	**12 00 10.0**	**-2.0**
MWZ	**Matawai**	**17.50**	**190**	P	**P**	**12 00 09.6**	**-2.5**
MUGZ	**Murupara**	**17.77**	**191**	P	**P**	**12 00 12.3**	**-2.2**
TLZ	**Tolley Road**	**17.89**	**195**	P	**P**	**12 00 17.5**	**+1.9**
OTVZ	**Oturere**	**18.66**	**194**	P	**P**	**12 00 21.6**	**-1.2**
BHHZ	**Black Hill Sta**	**18.89**	**192**	P	**P**	**12 00 23.1**	**-1.6**
MRZ	**Mangatainoka R**	**20.11**	**192**	P	**P**	**12 00 33.3**	**-2.4**
EIDS	**Eidsvold**	**27.96**	**255**	P	**P**	**12 01 46.4**	**+1.0**
EIDS				IAmb	IAmb	12 01 52.9	
	comp=Z,4.0nm,1.1s						
CTAO	**Charters Tower**	**32.67**	**265**	P	**P**	**12 02 26.4**	**+0.6**
STKA	**Stephens Creek**	**36.86**	**245**	P	**P**	**12 03 00.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=76,slow=11,SNR=4.1						
WR0	**Warramunga Arr**	**43.58**	**263**	P	**P**	**12 03 53.9**	**0.0**
AS31	**Alice Springs**	**43.65**	**257**	P	**P**	**12 03 55.2**	**+0.8**
ASAR	**Alice Springs**	**43.65**	**257**	P	**P**	**12 03 54.5**	**0.0**
	comp=Z,2.7nm,0.6s,baz=98,slow=7.7,SNR=54						
ASAR				PcP	**PcP**	**12 05 28.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=97,slow=4.1,SNR=8.3						
ASAR				S	**S**	**12 09 41.0**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=94,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**43.65**	**257**	P	**P**	**12 03 53.6**	**-0.8**
WB0	**Warramunga Arr**	**43.75**	**263**	P	**P**	**12 03 55.3**	**+0.1**
WB0				IAmb	IAmb	12 03 55.8	
	comp=Z,3.0nm,0.6s						
WB2	**Warramunga Arr**	**43.76**	**263**	P	**P**	**12 03 55.0**	**-0.3**
WB2				IAmb	IAmb	12 03 56.0	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**43.77**	**263**	P	**P**	**12 03 55.0**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=96,slow=6.9,SNR=26						
WRA	**Warramunga Arr**	**43.77**	**263**	P	**P**	**12 03 55.1**	**-0.3**
KNRA	**Kununurra**	**49.86**	**267**	P	**P**	**12 04 41.4**	**+0.3**
KNRA				IAmb	IAmb	12 04 56.9	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.20**	**263**	P	**P**	**12 04 58.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=76,slow=10,SNR=6.2						
VNDA	**Vanda**	**57.29**	**185**	P	**P**	**12 05 33.8**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=358,slow=4.8,SNR=5.1						
VNDA	**Vanda**	**57.29**	**185**	P	**P**	**12 05 34.7**	**+2.3**
QSPA	**South Pole Qui**	**69.01**	**180**	P	**P**	**12 06 48.8**	**+1.2**
QSPA				IAmb	IAmb	12 06 49.6	
	comp=Z,3.7nm,1.1s						
MJAR	**Matsushiro Arr**	**70.21**	**324**	P	**P**	**12 06 54.4**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=149,slow=6.4,SNR=4.2						
PETK	**Petropavlovsk-**	**76.61**	**346**	P	**P**	**12 07 30.8**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=298,slow=3.2,SNR=5.2						
PETK	**Petropavlovsk-**	**76.61**	**346**	P	**P**	**12 07 31.7**	**+0.8**
SDPT	**Sand Point**	**77.69**	**11**	P	**P**	**12 07 36.0**	**-0.7**
NVAR	**Mina Array Bea**	**81.96**	**44**	P	**P**	**12 08 00.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=229,slow=8.5,SNR=3.9						
NVAR	**Mina Array Bea**	**81.96**	**44**	P	**P**	**12 08 00.8**	**+1.2**
NV11	**Mina Array Sit**	**82.05**	**44**	P	**P**	**12 08 01.0**	**+1.0**
NV11				IAmb	IAmb	12 08 14.9	
	comp=Z,4.0nm,1.4s						
TXAR	**Lajitas Array**	**88.00**	**58**	P	**P**	**12 08 29.1**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=205,slow=5.5,SNR=5.9						
HDA	**Harding Lake**	**88.70**	**13**	P	**P**	**12 08 30.9**	**-0.3**
HDA				IAmb	IAmb	12 08 32.1	
	comp=Z,3.9nm,1.3s						
IMAR	**Indian Mountai**	**88.83**	**10**	P	**P**	**12 08 31.9**	**+0.1**
ILAR	**Eielson Array**	**89.03**	**13**	P	**P**	**12 08 31.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=225,slow=5.6,SNR=11						
ILAR	**Eielson Array**	**89.03**	**13**	P	**P**	**12 08 32.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**12 08 38.0**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=133,slow=3.2,SNR=6.1						
MOOW	**Moose Ponds**	**89.62**	**42**	P	**P**	**12 08 33.1**	**-3.2**
MOOW				IAmb	IAmb	12 08 33.3	
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**89.89**	**44**	P	**P**	**12 08 37.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=224,slow=3.1,SNR=5.1						
AKASG	**Malin Array Be**	**143.12**	**330**	PKhKP	PKPab	12 15 03.4	-2.2
	comp=Z,2.8nm,0.4s,baz=43,slow=4.2,SNR=9.3						
EKA	**Eskdalemuir Ar**	**145.62**	**4**	PKPbc	**PKPbc**	**12 15 13.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=345,slow=2.9,SNR=2.0						
BRTR	**Keskin Array B**	**146.64**	**311**	PKPbc	**PKPbc**	**12 15 17.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=120,slow=5.5,SNR=4.0						
BRTR	**Keskin Array B**	**146.64**	**311**		**PKPbc**	**12 15 17.2**	**+0.3**
GERES	**GERESS Array B**	**150.52**	**343**	PKPbc	**PKPbc**	**12 15 25.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=352,slow=2.8,SNR=5.3						
GERES	**GERESS Array B**	**150.52**	**343**		**PKiKP**	**12 15 26.4**	**-0.1**

IDC ***25*** *11:58:23.3±2.2,2.35S×99.92E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.7/47,mbtmp3.9/8,Error ellipse: s-maj=71.2km s-min=19.1km az=60.0*

NEIC ***25*** *11:58:25.6±1.0,2.57S±0.10×99.6E±0.1,h25km±7km, mb4.2/11,Error ellipse: s-maj=19.3km s-min=10.3km az=53.0*

ISC 25 11:58:27.5±1.0,2.5S±0.1×99.7E±0.1,h35km,n36, σ0s91/33,mb4.1/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**3.10**	**26**		**Pn**	**11 59 14.3**	**+0.3**
MNAI	**Manna**	**3.77**	**120**	Pn	**Pn**	**11 59 21.6**	**-1.6**
GSI	**Gunungsitoli**	**4.31**	**331**	Pn	**Pn**	**11 59 29.5**	**-1.0**
RPSI	**Rantau Prapat**	**5.20**	**352**	Pn	**Pn**	**11 59 42.7**	**0.0**
MYKOM	**Kota Tinggi**	**5.95**	**45**	Pn	**Pn**	**11 59 53.0**	**-0.1**
IPM	**Ipoh**	**7.04**	**11**	Pn	**Pn**	**12 00 08.6**	**+0.4**
KULM	**Kulim**	**7.78**	**7**	Pn	**Pn**	**12 00 17.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.82**	**358**	P	**P**	**12 03 04.2**	**-1.9**
	0.9nm,0.7s,baz=185,slow=10,SNR=8.0						
H08S2	**Diego Garcia H**	**27.55**	**258**	T	T	12 32 56.0	
	baz=80,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**27.55**	**258**	T	T	12 32 58.0	
	baz=80,slow=75,SNR=166						
H08S1	**Diego Garcia H**	**27.57**	**258**	T	T	12 33 00.3	
	baz=80,slow=75,SNR=22						
WB0	**Warramunga Arr**	**38.01**	**119**	P	**P**	**12 05 42.0**	**-0.6**
WB0				IAmb	IAmb	12 06 02.0	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**38.03**	**120**	P	**P**	**12 05 42.0**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=306,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**38.03**	**120**	P	**P**	**12 05 42.6**	**-0.2**
WRAB	**Tennant Creek**	**38.04**	**120**	P	**P**	**12 05 42.6**	**-0.3**
WRAB				IAmb	IAmb	12 06 06.0	
	comp=Z,2.5nm,0.8s						
WB2	**Warramunga Arr**	**38.05**	**120**	P	**P**	**12 05 42.5**	**-0.3**
WB2				IAmb	IAmb	12 05 43.5	
	comp=Z,2.6nm,0.8s						
WR0	**Warramunga Arr**	**38.22**	**120**	P	**P**	**12 05 44.0**	**-0.4**
AS31	**Alice Springs**	**39.24**	**125**	P	**P**	**12 05 55.1**	**+2.2**
ASAR	**Alice Springs**	**39.24**	**125**	P	**P**	**12 05 52.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=302,slow=8.3,SNR=9.9						
KSRS	**Korea Array**	**47.60**	**31**	P	**P**	**12 06 58.2**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=228,slow=7.6,SNR=6.1						
SONM	**Songino Array**	**50.45**	**6**	P	**P**	**12 07 22.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=186,slow=10,SNR=16						
SONM	**Songino Array**	**50.45**	**6**	P	**P**	**12 07 22.0**	**+0.1**
MK31	**Makanchi Array**	**51.40**	**345**	P	**P**	**12 07 29.6**	**+0.7**
MKAR	**Makanchi Array**	**51.40**	**345**	P	**P**	**12 07 29.3**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=151,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**51.40**	**345**	P	**P**	**12 07 29.5**	**+0.6**
KK31	**Karatay Array**	**52.43**	**333**	P	**P**	**12 07 38.0**	**+1.3**
KK31				IAmb	IAmb	12 07 50.3	
	comp=Z,4.0nm,1.2s						
KKAR	**Karatay Array**	**52.43**	**333**	P	**P**	**12 07 38.1**	**+1.5**
KKAR				IAmb	IAmb	12 07 50.3	
	comp=Z,4.0nm,1.2s						
KKAR	**Karatay Array**	**52.43**	**333**	P	**P**	**12 07 38.0**	**+1.4**
USA0B	**Ussuriysk Arra**	**54.73**	**28**	P	**P**	**12 07 53.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**54.73**	**28**	P	**P**	**12 07 53.5**	**0.0**
	comp=Z,5.1nm,0.8s,baz=228,slow=7.2,SNR=8.5						
USRK	**Ussuriysk Ar.**	**54.73**	**28**	P	**P**	**12 07 53.6**	**+0.2**
ZALV	**Zalesovo Beam**	**57.58**	**350**	P	**P**	**12 08 13.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=253,slow=1.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**57.58**	**350**	P	**P**	**12 08 13.4**	**-0.2**
ABKAR	**Akbulak array**	**61.91**	**332**	P	**P**	**12 08 43.2**	**-0.3**
TXAR	**Lajitas Array**	**145.28**	**37**	PKPbc	**PKPdf**	**12 18 02.8**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=283,slow=1.0,SNR=31						
TXAR	**Lajitas Array**	**145.28**	**37**		**PKPdf**	**12 18 03.0**	**+0.6**

SKHL ***25*** *11:59:56.8±0.8,45.51N×153.50E,h73km±5km,mb4.3/2*
IDC ***25*** *11:59:59.8±2.4,47.58N×152.03E,h153km±21km,mb3.1/7, mb1 3.3/11,mb1mx3.1/56,mbtmp3.7/11,Error ellipse: s-maj=29.4km s-min=15.7km az=133.0*

ISC 25 11:59:59.5±1.1,46.9N±0.2×152.4E±0.1,h150km,n31, σ2s02/31,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.55**	**244**	*eP*	**Pn**	**12 00 55.7**	**+1.8**
KUR				AMB	AMB	12 00 56.4	
	470nm,3.0s						
KUR				AMB	AMB	12 00 59.0	
	28nm,0.3s						
KUR				*eS*	**Sn**	**12 01 39.3**	**+3.3**
KUR				A	A	12 01 40.5	
	58nm,0.4s						
KUR				A	A	12 01 40.5	
	77nm,0.4s						
KUR				A	A	12 01 41.2	
	720nm,3.0s						
KUR				A	A	12 01 41.2	
	740nm,3.0s						
YUK	**Yuzh-Kuril'sk**	**5.40**	**241**	*eP*	**Pn**	**12 01 18.8**	**+0.7**
YUK				AMB	AMB	12 01 20.0	
	15nm,0.4s						
YUK				AMB	AMB	12 01 20.5	
	350nm,3.0s						
YUK				*eS*	**Sn**	**12 02 19.9**	**+0.4**
YUK				A	A	12 02 24.0	
	1μm,3.0s						
YUK				A	A	12 02 24.0	
	940nm,3.0s						
GLVR	**Golovnino**	**5.77**	**240**	*eP*	**Pn**	**12 01 23.0**	**-0.1**
GLVR				*eS*	**Sn**	**12 02 28.0**	**-0.4**
NEM2	**Nemuro 2**	**5.86**	**236**	P	**Pn**	**12 01 24.0**	**-0.3**
NEM2				*eS*	**Sn**	**12 02 28.3**	**-2.3**
NMR	**Nemuro--Hokkai**	**5.87**	**236**	*i* P	**Pn**	**12 01 23.3**	**-1.1**
NMR				*i* S	**Sn**	**12 02 28.0**	**-2.8**
JRA	**Rausu**	**5.90**	**243**	P	**Pn**	**12 01 26.1**	**+1.3**
JTKR	**Abashiri--Toko**	**6.64**	**247**	P	**Pn**	**12 01 36.0**	**+1.4**
JAK	**Akkeshi**	**6.69**	**238**	P	**Pn**	**12 01 35.3**	**-0.1**
JAK				*eS*	**Sn**	**12 02 48.2**	**-2.3**
PETK	**Petropavlovsk-**	**7.13**	**27**	P	Pn	12 01 34.5	-6.6
	0.2nm,0.3s,baz=173,slow=11,SNR=9.0						
PETK				S	Sn	12 02 43.7	-17
	baz=241,slow=33,SNR=2.2						
JOB	**Onbets**	**7.25**	**240**	P	**Pn**	**12 01 42.8**	**-0.1**
ASAJ	**Asahikawa**	**7.41**	**252**	P	**Pn**	**12 01 47.1**	**+2.1**
	5.7nm,0.3s,baz=65,slow=12,SNR=68						
ASAJ				S	**Sn**	**12 03 06.7**	**-1.1**
	baz=319,slow=32,SNR=1.2						
ASAJ	**Asahikawa**	**7.41**	**252**	P	**Pn**	**12 01 46.9**	**+1.9**
JKK2	**Kamakawa 2**	**7.42**	**250**	P	**Pn**	**12 01 46.6**	**+1.4**
JCH	**Churui**	**7.71**	**240**	P	**Pn**	**12 01 48.4**	**-0.5**
JCH				*eS*	**Sn**	**12 03 11.6**	**-3.2**
JNBK	**Urakawa-nobuka**	**8.27**	**240**	P	**Pn**	**12 01 54.8**	**-1.6**
JANG	**Nango**	**10.21**	**234**	P	**Pn**	**12 02 19.2**	**-3.0**
USRK	**Ussuriysk Ar.**	**14.55**	**267**	P	**Pn**	**12 03 16.6**	**-1.6**
	baz=73,slow=13,SNR=6.8						
MJAR	**Matsushiro Arr**	**14.76**	**231**	P	**P**	**12 03 24.7**	**+1.7**
	0.0nm,0.3s,baz=21,slow=12,SNR=5.0						
KSRS	**Korea Array**	**20.36**	**251**	P	**P**	**12 04 24.4**	**+0.2**
	1.6nm,0.8s,baz=68,slow=9.4,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**29.55**	**151**	T	T	12 37 54.1	
	baz=341,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**29.56**	**151**	T	T	12 37 54.1	
	baz=341,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**29.56**	**151**	T	T	12 37 56.3	
	baz=341,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**30.63**	**153**	T	T	12 39 21.6	
	baz=342,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**30.64**	**153**	T	T	12 39 16.1	
	baz=342,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.64**	**153**	T	T	12 39 10.4	
	baz=342,slow=76,SNR=11						
CMAR	**Chiang Mai Arr**	**51.92**	**256**	P	**P**	**12 08 52.6**	**-0.3**
	0.9nm,0.6s,baz=38,slow=6.9,SNR=5.3						
FINES	**FINESS Array B**	**63.73**	**334**	P	P	12 10 07.8	-6.8
	2.9nm,1.0s,baz=37,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**68.46**	**198**	P	**P**	**12 10 49.0**	**+3.7**
	0.4nm,0.9s,baz=23,slow=6.9,SNR=2.4						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**12 10 58.5**	**-3.1**
	0.3nm,0.2s,baz=24,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**72.16**	**198**	P	**P**	**12 11 11.1**	**+3.4**
	0.2nm,0.5s,baz=11,slow=6.6,SNR=4.5						
TXAR	**Lajitas Array**	**77.86**	**60**	P	**P**	**12 11 39.6**	**-1.1**
	0.1nm,0.6s,baz=319,slow=2.6,SNR=1.3						

JMA 25 12:01:34.1,43.45N×143.73E,h7km±1km,M0.3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.16**	**169**	P	Pg	12 01 37.4	+0.1
JAR				*eS*	Sg	12 01 40.0	+0.5

ISK ***25*** *12:04:01.3,39.74N×39.17E,h18km,ML1.8/3*
DDA 25 12:04:13.2,39.07N×38.68E,h7km±1km,ML1.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.25**	**324**	*i* P	Pg	12 04 18.8	+0.6
KEMA				*i* S	Sg	12 04 22.5	+0.9
KEMA				IAML		12 04 26.0	
	comp=E,120nm,0.3s						
ARPR	**Arapgir-MALATY**	**0.27**	**276**	PG	Pg	12 04 19.3	+0.7
ARPR				SG	Sb	12 04 32.6	+7.2
HEKM	**Malatya_Hekimh**	**0.59**	**252**	*i* P	Pg	12 04 25.2	+0.5
HEKM				*i* S	Sb	12 04 35.0	+0.3
ELZG	**Elazig**	**0.61**	**157**	*i* P	Pg	12 04 25.5	+0.4
ELZG				*i* S	Sb	12 04 34.7	-0.6
ELZG				IAML		12 04 37.0	
	comp=N,45nm,0.2s						
ELZG				IAML		12 04 37.0	
	comp=E,42nm,0.2s						
SVRC	**Sivrice-ELAZID**	**0.84**	**145**	PN	Pg	12 04 26.1	-3.3
SVRC				SN	Sn	12 04 43.9	-0.5
AKCD	**Akcadag**	**0.97**	**218**	*i* P	Pg	12 04 31.8	-0.1
AKCD				*i* S	Sg	12 04 44.5	-0.1
AKCD				IAML		12 04 49.0	
	comp=E,43nm,0.4s						
AKCD				IAML		12 04 50.0	
	comp=N,51nm,0.4s						
DARE	**Darende-Malaty**	**1.06**	**243**	PN	Pg	12 04 31.5	-2.1
DARE				SN	Sn	12 04 53.7	+4.1
KELT	**Kelkit**	**1.17**	**22**	*i* P	Pb	12 04 36.0	+0.1
KELT				*i* S	Sb	12 04 51.7	+0.5
BNGB	**Bingl**	**1.56**	**92**	SN	Pg	12 04 44.8	+1.8

IDC ***25*** *12:10:33.3±0.6,64.60N×17.70W,h0km,mb3.9/15, mb1 4.2/19,mb1mx4.0/44,mbtmp3.9/19,ML2.8/3,MS2.9/4, Ms1 2.9/4,ms1mx2.6/40,Error ellipse: s-maj=18.1km s-min=9.7km az=13.0*

REY ***25*** *12:10:33.5,64.67N×17.44W,h5km*

MOS ***25*** *12:10:34.3±1.0,64.62N×17.50W,h14km,mb4.4/31,Error ellipse: s-maj=11.9km s-min=7.8km az=111.7*

NEIC ***25*** *12:10:36±1.6,64.61N±0.10×17.5W±0.2,h11km±4km, mb4.6/77,Error ellipse: s-maj=15.1km s-min=9.6km az=202.0*

BGR ***25*** *12:10:43.0±0.0,64.50N×17.38W,h33km,mb4.5,Ms2.6*

ISC 25 12:10:35.5±0.3,64.67N±0.02×17.47W±0.02,h9km,n265, σ1s61/267,mb4.4/96,MS2.9/4,10C,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**274**	P	**Pg**	**12 10 36.3**	**-2.1**
IVON				S	**Sg**	**12 10 38.9**	**-1.4**
	baz=270						
IDYN	**Dyngjuhals**	**0.13**	**20**	P	**Pg**	**12 10 36.3**	**-2.3**
IDYN	baz=16			S	**Sg**	**12 10 38.9**	**-1.8**
	baz=16						
IDJK	**Dyngjujokull**	**0.19**	**148**	P	**Pg**	**12 10 37.5**	**-2.0**
IDJK	baz=152			S	**Sg**	**12 10 40.9**	**-1.3**
	baz=152						
IURH	**Urdarhals**	**0.21**	**42**	P	**Pg**	**12 10 37.6**	**-2.2**
	baz=41						
IGRF	**Grimsfjall**	**0.27**	**161**	P	**Pg**	**12 10 39.0**	**-2.0**
	baz=164						
IKVE	**Kverkfjoll**	**0.34**	**87**	P	**Pg**	**12 10 40.0**	**-2.3**
IKVE	baz=89			S	**Sg**	**12 10 44.7**	**-2.2**
	baz=89						
IHUS	**Husbondi**	**0.38**	**192**	P	**Pg**	**12 10 41.1**	**-1.8**
IHUS	baz=194			S	**Sg**	**12 10 46.7**	**-1.3**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**255**	P	**Pg**	**12 10 41.3**	**-2.2**
	baz=255						
IVOT	**Vottur**	**0.41**	**162**	P	**Pg**	**12 10 41.4**	**-2.2**
	baz=164						
THOR	**Thorvaldshraun**	**0.43**	**51**	P	**Pg**	**12 10 41.4**	**-2.6**
	baz=51						
THOR				S	**Sg**	**12 10 47.6**	**-2.1**
	baz=51						
IJOK	**Jokulheimar**	**0.48**	**223**	P	**Pg**	**12 10 42.4**	**-2.3**
	baz=224						
IJOK				S	**Sg**	**12 10 49.3**	**-1.7**
	baz=224						
IKRE	**Kreppuhraun**	**0.48**	**75**	P	**Pg**	**12 10 42.0**	**-2.9**
	baz=76						
IKRE				S	**Sg**	**12 10 48.5**	**-2.6**
	baz=76						
IASK	**Askja**	**0.52**	**42**	P	**Pg**	**12 10 42.7**	**-3.0**
	baz=42						
IASK				S	**Sg**	**12 10 49.6**	**-2.9**
	baz=42						
IMKO	**Mokollar**	**0.58**	**57**	P	**Pg**	**12 10 43.7**	**-3.0**
	baz=57						
IMKO				S	**Sg**	**12 10 51.2**	**-3.0**
	baz=57						
IIEY	**Innrieyrar**	**0.64**	**207**	P	**Pg**	**12 10 45.1**	**-2.7**
	baz=207						
IIEY				S	**Sg**	**12 10 54.3**	**-1.9**
	baz=207						
IKSK	**Karasker**	**0.67**	**139**	P	**Pg**	**12 10 44.7**	**-3.6**
	baz=140						
ISVA	**Svartarkot**	**0.68**	**8**	P	**Pg**	**12 10 45.6**	**-3.0**
	baz=6.8						
IKAL	**Kalfafell**	**0.73**	**188**	P	**Pg**	**12 10 46.8**	**-2.7**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**78**	P	**Pg**	**12 10 46.5**	**-3.7**
	baz=79						
IVSH				S	**Sg**	**12 10 56.8**	**-3.2**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**233**	P	**Pg**	**12 10 47.9**	**-2.8**
	baz=233						
IADA	**Aoalbol**	**0.89**	**65**	P	**Pg**	**12 10 48.5**	**-3.9**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**284**	P	**Pg**	**12 10 49.5**	**-3.7**
	baz=283						
IMEL	**Melhnausar**	**0.97**	**20**	P	Pg	12 10 50.3	-3.9
	baz=20						
IREN	**Reynihlio**	**1.01**	**13**	P	Pg	12 10 51.0	-3.9
	baz=13						
ISNB	**Snabyli**	**1.06**	**209**	P	**Pg**	**12 10 52.2**	**-3.6**
	baz=209						
IKVO	**Krokottuvotn**	**1.08**	**13**	P	Pb	12 10 52.1	-4.3
	baz=13						
ISLY	**Slysaalda**	**1.11**	**221**	P	**Pg**	**12 10 53.3**	**-3.4**
	baz=221						
IGRS	**Grimsstaoir**	**1.13**	**30**	P	Pb	12 10 52.9	-4.3
	baz=29						
IFED	**Fedgar**	**1.16**	**237**	P	**Pg**	**12 10 54.2**	**-3.5**
	baz=237						
IRJU	**Rjupnafell**	**1.18**	**207**	P	**Pg**	**12 10 54.3**	**-3.7**
	baz=208						
ISKI	**Skildingahlsh**	**1.22**	**9**	P	Pn	12 10 54.5	-4.3
	baz=8.1						
IGHA	**Grjothals**	**1.23**	**16**	P	Pn	12 10 54.4	-4.5
	baz=15						
IGYG	**Gygjarholskot**	**1.25**	**253**	P	**Pn**	**12 10 55.2**	**-3.8**
	baz=253						
IGRA	**Granastaoir**	**1.26**	**358**	P	Pn	12 10 54.9	-4.3
	baz=358						
IHVO	**Lagu-Hvolar**	**1.29**	**208**	P	**Pn**	**12 10 56.4**	**-3.3**
	baz=209						
IDIM	**Dimmadalss**	**1.32**	**10**	P	Pn	12 10 55.9	-4.2
	baz=9.2						
IHLA	**Hella**	**1.34**	**344**	P	Pn	12 10 56.5	-3.8
	baz=343						
IHED	**Heoinshofoi**	**1.42**	**3**	P	Pn	12 10 57.5	-4.0
	baz=2.2						
IESK	**Eystri-Skogar**	**1.44**	**218**	P	**Pn**	**12 10 58.6**	**-3.0**
	baz=218						
ISAU	**Saurbar**	**1.45**	**243**	P	**Pn**	**12 10 58.2**	**-3.6**
	baz=243						
IBRE	**Brettingsstaoi**	**1.48**	**353**	P	Pn	12 10 58.4	-3.8
	baz=353						
IGIL	**Gilhagi**	**1.49**	**18**	P	Pn	12 10 58.3	-4.1
	baz=18						
ISIG	**Siglufjorour**	**1.59**	**338**	P	**Pn**	**12 11 00.2**	**-3.5**
	baz=338						
BORG	**Borgarnes**	**1.66**	**275**	Pg	**Pn**	**12 11 01.4**	**-3.2**
	40nm,0.3s,baz=102,slow=7.9,SNR=65						
BORG				Lg	Lg	12 11 23.3	
	17nm,0.3s,baz=81,slow=15,SNR=3.5						
BORG				LR	LR	12 11 37.8	
	comp=Z,141nm,19.2s,baz=123,slow=41						
BORG	**Borgarnes**	**1.66**	**275**	Pn	**Pn**	**12 11 00.9**	**-3.8**
IKRO	**Krokur**	**1.69**	**252**	P	**Pn**	**12 11 01.7**	**-3.4**
	baz=252						
ISOL	**Solvholt**	**1.69**	**246**	P	**Pn**	**12 11 01.8**	**-3.2**
	baz=246						
IHRN	**Hraun**	**1.83**	**324**	P	**Pn**	**12 11 03.9**	**-3.1**
	baz=323

BRG pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 21.44 127 P **P** **12 15 23.1 -0.5**
BFO pmax pmax
comp=Z,16nm,1.3s
BFO Black Forest 21.44 127 P **P** **12 15 23.1 -0.5**
VSU Vasula 21.55 86 *i* P **P** **12 15 24.3 -0.4**
VSU pmax pmax
comp=Z,56nm,1.1s
CHVC Chvalec 22.46 113 *eP* **P** **12 15 31.9 -2.6**
OSTC Ostas 22.55 113 *eP* **P** **12 15 38.0 +2.6**
KHC Kasperske Hory 22.66 118 *eP* **P** **12 15 36.5 -0.2**
KHC Kasperske Hory 22.66 118 *eP* **P** **12 15 36.5 -0.2**
DPC Dobruska-Polom 22.75 113 *eP* **P** **12 15 37.0 -0.6**
DPC Dobruska-Polom 22.75 113 *eP* **P** **12 15 37.0 -0.6**
DAVA Damuels 22.87 126 *eP* **P** **12 15 40.4 +1.3**
comp=Z,9.8nm,1.1s
GERES GERESS Array B 22.95 119 P **P** **12 15 39.6 -0.1**
comp=Z,1.8nm,0.9s,baz=326,slow=6.9,SNR=9.2
RETA Reutte 23.01 125 *eP* **P** **12 15 42.6 +2.2**
comp=Z,5.6nm,1.0s
MOTA Moosalm 23.25 125 *eP* **P** **12 15 45.4 +2.5**
comp=Z,8.6nm,1.4s
DAVOX Davos/Dischmat 23.31 127 P **P** **12 15 44.0 +0.4**
comp=Z,3.2nm,0.9s,baz=309,slow=10.0,SNR=4.5
SQTA Sankt Quirin 23.39 125 *eP* **P** **12 15 44.8 +0.4**
comp=Z,9.0nm,1.5s
FETA Feichten 23.39 125 *eP* **P** **12 15 45.3 +0.9**
comp=Z,5.9nm,1.1s
WATA Walderalm 23.43 124 *eP* **P** **12 15 44.9 +0.2**
comp=Z,1.1nm,1.4s
WTTA Wattenberg 23.51 124 *eP* **P** **12 15 45.4 -0.2**
comp=Z,6.4nm,0.9s
EUNU Eureka 23.68 336 P **P** **12 15 48.0 +1.1**
VRAC Vranov 23.68 114 P **P** **12 15 46.9 -0.1**
comp=Z,0.9nm,0.3s,baz=323,slow=11,SNR=3.4
VRAC LR LR 12 25 03.0
comp=Z,42nm,18.5s,baz=314,slow=37
VRAC Vranov 23.68 114 *eP* **P** **12 15 47.8 +0.7**
MORC Moravsky Berou 23.69 112 *eP* **P** **12 15 47.6 +0.5**
MORC Moravsky Berou 23.69 112 P **P** **12 15 46.4 -0.8**
MORC Moravsky Berou 23.69 112 P **P** **12 15 46.4 -0.8**
PBRG Braganca 23.72 160 *eP* P 12 15 54.8 +7.3
comp=Z,27nm,1.7s
KRUC Moravsky 23.80 115 *eP* **P** **12 15 48.3 +0.1**
POLO Lamas de Olo 23.99 162 *eP* **P** **12 15 51.5 +1.3**
comp=Z,10.0nm,1.6s
CONA Conrad Observa 24.52 117 P **P** **12 15 55.2 +0.2**
comp=Z,7.4nm,1.2s
CTI Castel Tesino 24.56 125 P **P** **12 15 54.1 -1.3**
CTI pmax pmax
comp=Z,6.0nm,0.9s
CTI Castel Tesino 24.56 125 P **P** **12 15 54.1 -1.3**
SMOL Smolenice 24.65 114 *eP* **P** **12 15 57.1 +1.0**
SMOL pmax pmax
comp=Z,7.0nm,1.4s
SMOL Smolenice 24.65 114 *eP* **P** **12 15 57.1 +1.0**
MODS Modra-Piesok 24.70 115 *eP* **P** **12 15 55.9 -0.7**
MODS pmax pmax
comp=Z,33nm,1.8s
MODS Modra-Piesok 24.70 115 *eP* **P** **12 15 55.9 -0.7**
MYKA Terra Mystica 24.77 122 *eP* **P** **12 15 56.9 -0.4**
comp=Z,13nm,1.8s
ARSA Arzberg 24.95 118 *eP* **P** **12 16 00.3 +1.5**
comp=Z,5.4nm,1.0s
LANS Liptovska Anna 24.95 111 *eP* **P** **12 15 58.6 -0.2**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 24.95 111 *eP* **P** **12 15 58.6 -0.2**
MTE Manteigas 24.98 162 *eP* **P** **12 16 01.3 +2.1**
comp=Z,17nm,1.6s
VYHS Vyhne 25.22 112 *eP* **P** **12 16 01.0 -0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 25.22 112 *eP* **P** **12 16 01.0 -0.2**
PMRV Marv??o 25.96 162 *eP* **P** **12 16 10.5 +2.5**
comp=Z,20nm,2.0s
PMAFR Mafra 26.20 165 *eP* **P** **12 16 09.9 -0.2**
comp=Z,53nm,1.6s
ESBB Sonseca Array 26.25 156 P **P** **12 16 10.2 -0.4**
ESDC Sonseca Array 26.25 156 P **P** **12 16 09.7 -0.9**
comp=Z,1.8nm,0.8s,baz=346,slow=9.1,SNR=16
ESDC Sonseca Array 26.25 156 P **P** **12 16 10.9 +0.3**
KOLS Kolonicke sedl 26.26 108 *eP* **P** **12 16 11.4 +0.7**
KOLS Kolonicke sedl 26.26 108 *eP* **P** **12 16 11.4 +0.7**
PAB San Pablo 26.31 157 P **P** **12 16 10.9 -0.3**
PAB pmax pmax
comp=Z,4.0nm,1.1s
PAB San Pablo 26.31 157 P **P** **12 16 10.9 -0.3**
RES Resolute Bay 26.47 324 LR LR 12 25 48.6
comp=Z,30nm,20.6s,baz=114,slow=35
UZH Uzhgorod 26.51 108 *eP* **P** **12 16 15.0 +2.2**
UZH *e* 12 16 21.6
AKASG Malin Array Be 27.83 98 P **P** **12 16 24.2 -0.5**
comp=Z,1.8nm,0.8s,baz=68,slow=33,SNR=1.5
AKBB Malin Array Si 27.83 98 P **P** **12 16 24.6 -0.1**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 27.83 98 P **P** **12 16 24.6 -0.1**
OBN Obninsk 27.87 84 LR LR 12 27 46.5
comp=Z,15nm,19.3s,baz=182,slow=37
OBN Obninsk 27.87 84*ceP* **P** **12 16 24.7 -0.3**
OBN pmax pmax
comp=Z,9.0nm,0.5s
ARU Arti 36.07 66*c i*P **P** **12 17 38.3 +1.4**
ARU 12 18 57.3
ARU S **S** **12 23 20.0 +4.3**
ARU SS **SnSn** **12 25 39.3 -0.7**
ARU pmax pmax
comp=Z,5.0nm,1.3s
NRIK Noril'sk 36.45 35 P **P** **12 17 40.4 +0.4**
comp=Z,1.1nm,0.3s,baz=291,slow=2.7,SNR=4.8
NRIK Noril'sk 36.45 35*ce*P **P** **12 17 39.4 -0.6**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
SOC Sochi 37.86 96 *eP* **P** **12 17 50.7 -1.4**
SOC *eS* **S** **12 23 42.3 -0.8**
SOC MLR MLR
comp=Z,57nm,11.0s
BRTR Keskin Array B 38.47 105 P **P** **12 17 57.6 +0.1**
comp=Z,1.9nm,0.8s,baz=322,slow=7.8,SNR=4.7
KIV Kislovodsk 38.83 92 *eP* **P** **12 17 58.9 -1.6**
KIV pmax pmax
comp=Z,25nm,1.0s
KBZ Khabaz 39.10 92 P **P** **12 18 01.4 -1.2**
comp=Z,3.1nm,0.8s,baz=318,slow=11,SNR=5.3
KBZ Khabaz 39.10 92 *i* P **P** **12 18 03.7 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
K50A Casco 41.93 271 P **P** **12 18 27.0 +1.0**
ABKAR Akbulak array 41.98 73 P **P** **12 18 25.5 -0.8**
ABKAR Akbulak array 41.98 73 P **P** **12 18 26.1 -0.2**
TIXI Tiksi 42.03 15*ceP* **P** **12 18 27.7 +1.2**
TIXI Tiksi 42.03 15 P **P** **12 18 26.9 +0.4**
BMAR Burnt Mountain 42.90 333 P **P** **12 18 34.9 +1.2**
BRVK Borovoye 43.12 62*ceP* **P** **12 18 35.7 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BRVK Borovoye 43.12 62 P **P** **12 18 36.0 +0.4**
N51A Ashland 43.34 269 P **P** **12 18 38.7 +1.2**
N51A IAmb IAmb 12 18 43.1
comp=Z,16nm,1.2s
MARD Mardin 43.50 100 P **P** **12 18 39.6 +0.6**
MARD IAmb IAmb 12 18 44.4
comp=Z,7.3nm,0.7s
FYU Fort Yukon 43.78 333 P **P** **12 18 42.1 +1.4**
N49A Columbus Grove 44.12 271 P **P** **12 18 44.6 +0.9**
N49A IAmb IAmb 12 18 45.4
comp=Z,14nm,1.1s
Q51A Peebles 45.32 269 P **P** **12 18 54.0 +0.6**
POKR Poker Plat Res 45.49 333 P **P** **12 18 56.0 +1.6**
POKR IAmb IAmb 12 19 14.6
comp=Z,2.8nm,0.7s
IL31 45.69 332 P **P** **12 18 57.7 +1.8**
ILAR Eielson Array 45.69 332 P **P** **12 18 56.0 0.0**
comp=Z,2.8nm,1.1s,baz=18,slow=5.7,SNR=13
ILAR PcP **PcP** **12 20 32.5 -1.2**
comp=Z,0.9nm,0.9s,baz=357,slow=2.6,SNR=5.4
MDM Murphy Dome 45.79 333 P **P** **12 18 58.1 +1.3**
MDM IAmb IAmb 12 19 07.9
comp=Z,12nm,1.4s
COLA College 45.79 333 *i* P **P** **12 18 56.5 -0.2**
COLA pmax pmax
comp=Z,4.0nm,1.0s
IMAR Indian Mountai 45.86 337 P **P** **12 18 58.5 +1.2**

CCB Clear Creek Bu 45.98 333 P **P** **12 18 59.5 +1.2**
CCB IAmb IAmb 12 19 11.2
comp=Z,5.1nm,1.4s
BCAR Beaver Creek A 46.12 329 P **P** **12 18 59.9 +0.5**
O44A Mansfield 46.59 274 P **P** **12 19 04.8 +1.4**
N41A Harden Midland 47.16 277 P **P** **12 19 06.0 -1.7**
WCI Wyandotte Cave 47.26 271 P **P** **12 19 09.5 +0.9**
WCI pmax pmax
comp=Z,8.0nm,1.1s
WCI Wyandotte Cave 47.26 271 P **P** **12 19 09.5 +0.9**
ZAA0 Zalesovo Array 47.62 51 P **P** **12 19 11.0 -0.2**
ZAA0 IAmb IAmb 12 19 12.3
comp=Z,4.0nm,1.3s
ZALV Zalesovo Beam 47.62 51 P **P** **12 19 11.6 +0.4**
comp=Z,0.9nm,0.5s,baz=318,slow=6.0,SNR=5.6
ZALV Zalesovo Beam 47.62 51 P **P** **12 19 11.0 -0.2**
KURK Kurchatov 48.10 58*ce*P **P** **12 19 13.5 -1.5**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 48.10 58 P **P** **12 19 13.9 -1.1**
KURK IAmb IAmb 12 19 15.7
comp=Z,4.6nm,0.9s
V52A Sevierville 48.11 266 P **P** **12 19 16.0 +0.8**
PAULI Pauline 48.21 264 P **P** **12 19 17.0 +1.0**
LAO LASA Array 48.61 293 P **P** **12 19 20.0 +1.0**
LAO IAmb IAmb 12 19 21.5
comp=Z,8.7nm,1.1s
T47A Sharon Grove 48.65 270 P **P** **12 19 20.0 +0.7**
HODGE Hodges 48.90 264 P **P** **12 19 22.3 +1.0**
PBMO Poplar Bluff 50.25 273 P **P** **12 19 33.7 +2.1**
PBMO IAmb IAmb 12 19 37.2
comp=Z,4.7nm,0.6s
GEYT Alibeck 50.41 84 P **P** **12 19 33.0 +0.1**
Z51A Franklin 50.94 266 P **P** **12 19 36.7 -0.1**
Z51A IAmb IAmb 12 19 37.5
comp=Z,8.1nm,0.9s
KK31 Karatay Array 51.27 70 P **P** **12 19 39.4 +0.2**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 51.27 70 P **P** **12 19 39.4 +0.2**
KKAR Karatay Array 51.27 70 P **P** **12 19 37.9 -1.3**
KKAR pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 51.27 70 P **P** **12 19 35.6 -3.6**
KKAR Karatay Array 51.27 70 P **P** **12 19 37.9 -1.3**
KKAR IAmb IAmb 12 19 44.9
comp=Z,3.7nm,1.1s
BOZ Bozeman (W) 51.62 297 P **P** **12 19 43.0 +1.0**
BOZ pmax pmax
comp=Z,8.0nm,1.2s
BOZ Bozeman (W) 51.62 297 P **P** **12 19 43.0 +1.0**
BOZ IAmb IAmb 12 19 48.5
comp=Z,8.1nm,1.2s
YMP Mirror Lake Pl 51.77 295 P **P** **12 19 44.8 +1.5**
DGZ Jazzator, Alta 52.07 53 *i* P **P** **12 19 45.0 -0.3**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
H17A Grant Village 52.22 295 P **P** **12 19 48.5 +2.0**
H17A IAmb IAmb 12 19 55.0
comp=Z,6.9nm,1.4s
MK31 Makanchi Array 52.72 58*ce*P **P** **12 19 49.2 -0.8**
MK31 Makanchi Array 52.72 58 P **P** **12 19 49.0 -1.0**
MKAR Makanchi Array 52.72 58 P **P** **12 19 50.0 0.0**
comp=Z,1.5nm,0.9s,baz=330,slow=7.0,SNR=7.7
MKAR Makanchi Array 52.72 58 P **P** **12 19 49.1 -0.9**
TOA0 Torodi Ar. Sit 53.14 156 P **P** **12 19 52.1 -1.2**
TORD Torodi Ar. Bea 53.14 156 P **P** **12 19 52.5 -0.9**
comp=Z,2.7nm,1.1s,baz=339,slow=8.3,SNR=9.0
BW06 Boulder Array 53.19 293 P **P** **12 19 53.6 -0.2**
BW06 IAmb IAmb 12 19 55.0
comp=Z,4.9nm,1.1s
PD31 Pinedale Array 53.19 293 P **P** **12 19 53.6 -0.1**
PD31 IAmb IAmb 12 19 55.0
comp=Z,5.3nm,1.2s
PDAR Pinedale Array 53.19 293 P **P** **12 19 52.2 -1.5**
comp=Z,2.1nm,0.9s,baz=61,slow=7.0,SNR=13
PDAR Pinedale Array 53.19 293 P **P** **12 19 53.0 -0.7**
AAK Ala-Archa 53.25 67*ce*P **P** **12 19 54.9 +0.8**
AAK pmax pmax
comp=Z,17nm,1.7s
N23A Red Feather La 53.32 289 P **P** **12 19 55.4 +0.6**
N23A IAmb IAmb 12 20 01.4
comp=Z,11nm,1.2s
CHGR Chuyangaron 54.45 74 P **P** **12 20 02.9 +0.1**
GAR Garm 54.64 73 P **P** **12 20 05.3 +1.0**
HWUT Hardware Ranch 54.96 294 P **P** **12 20 07.3 +0.6**
HWUT IAmb IAmb 12 20 12.8
comp=Z,7.9nm,1.1s
TCUT Toone Canyon 55.32 294 P **P** **12 20 09.8 +0.5**
TLY Talaya 55.39 40 *eP* **P** **12 20 11.0 +1.6**
TLY pmax pmax
comp=Z,3.0nm,0.9s
WMOK Wichita Mounta 55.56 279 P **P** **12 20 11.6 +0.8**
WMOK pmax pmax
comp=Z,6.0nm,1.4s
WMOK Wichita Mounta 55.56 279 P **P** **12 20 11.6 +0.8**
WMOK IAmb IAmb 12 20 19.2
comp=Z,5.6nm,1.4s
ZAK Zakamensk 56.45 41 *eP* **P** **12 20 15.9 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
P17A Butcher Ranch, 56.46 292 P **P** **12 20 17.5 +0.1**
KSH Kashi 56.49 68 P **P** **12 20 19.0 +1.4**
KSH pmax pmax
comp=Z,9.0nm,1.2s
PV21 Cone Mtn., Par 56.53 290 P **P** **12 20 18.5 +0.5**
PV21 IAmb IAmb 12 20 25.1
comp=Z,8.1nm,1.4s
PV16 Nyswonger Mesa 56.72 290 P **P** **12 20 20.0 +0.7**
PV16 IAmb IAmb 12 20 25.4
comp=Z,9.0nm,1.3s
PV01 Paradox Valley 56.73 289 P **P** **12 20 20.2 +0.8**
PV01 IAmb IAmb 12 20 21.4
comp=Z,4.4nm,1.1s
PV03 Paradox Valley 56.74 290 P **P** **12 20 19.9 +0.4**
PV03 IAmb IAmb 12 20 23.9
comp=Z,5.6nm,1.2s
PV13 Radium Mtn., P 56.81 290 P **P** **12 20 20.0 0.0**
PV13 IAmb IAmb 12 20 21.3
comp=Z,8.8nm,1.0s
PV05 Paradox Valley 56.99 290 P **P** **12 20 20.0 -1.2**
PV05 IAmb IAmb 12 20 21.8
comp=Z,6.8nm,1.1s
WMQ Urumqi 57.22 56 *eP* **P** **12 20 26.0 +3.4**
MSU Marysvale 57.85 293 P **P** **12 20 28.3 +0.9**
MSU Marysvale 57.85 293 P **P** **12 20 28.3 +0.9**
TCRU Three Creeks R 57.88 293 P **P** **12 20 28.6 +1.1**
HKT Hockley 58.42 274 P **P** **12 20 31.9 +0.9**
HKT pmax pmax
comp=Z,3.0nm,1.1s
HKT Hockley 58.42 274 P **P** **12 20 31.9 +0.9**
ANMO Albuquerque 58.60 286 *i* P **P** **12 20 33.0 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
BNM Barren Site 59.36 285 P **P** **12 20 39.2 +1.3**
SONM Songino Array 59.63 40 P **P** **12 20 38.8 -0.6**
comp=Z,0.9nm,0.8s,baz=343,slow=7.7,SNR=4.4
SONM Songino Array 59.63 40 P **P** **12 20 39.4 -0.1**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 59.63 40 P **P** **12 20 39.4 -0.1**
JCT Junction City 59.66 278 P **P** **12 20 40.2 +0.4**
JCT pmax pmax
comp=Z,5.0nm,1.0s
JCT Junction City 59.66 278 P **P** **12 20 40.2 +0.4**
JCT IAmb IAmb 12 20 40.9
comp=Z,4.8nm,0.9s
KVN Kaiserville 59.69 298 P **P** **12 20 40.6 +0.5**
KVN pmax pmax
comp=Z,7.0nm,1.4s
KVN Kaiserville 59.69 298 P **P** **12 20 40.6 +0.5**
KVN IAmb IAmb 12 20 42.9
comp=Z,7.2nm,1.4s
WUAZ Wupatki 60.12 290 P **P** **12 20 43.9 +0.9**
WUAZ IAmb IAmb 12 20 44.6
comp=Z,8.4nm,1.3s
NIL Nilore 60.44 74 P **P** **12 20 45.4 +0.3**
NIL pmax pmax
comp=Z,12nm,1.1s
NIL Nilore 60.44 74 P **P** **12 20 45.4 +0.3**
SHPR Sheep Range 60.77 294 P **P** **12 20 48.8 +1.3**
SHPR IAmb IAmb 12 20 55.4
comp=Z,7.5nm,1.5s
121A Cookes Peak, D 61.24 286 P **P** **12 20 50.5 -0.2**

121A IAmb IAmb 12 20 53.6
comp=Z,5.8nm,1.2s
MDPB Devils Postpil 61.31 298 P **P** **12 20 50.5 -0.7**
TX31 Lajitas Ar. Si 62.30 280 P **P** **12 20 57.9 +0.2**
TX32 Lajitas Array 62.30 280 P **P** **12 20 58.1 +0.3**
TX32 IAmb IAmb 12 21 02.8
comp=Z,4.5nm,1.4s
TXAR Lajitas Array 62.30 280 P **P** **12 20 56.9 -0.9**
comp=Z,1.2nm,1.0s,baz=50,slow=3.9,SNR=7.0
TXAR Lajitas Array 62.30 280 P **P** **12 20 56.8 -0.9**
TXAR 12 21 37.3
TXAR Lajitas Array 62.30 280 P **P** **12 20 56.8 -0.9**
TXAR PcP **PcP** **12 21 37.3 -0.2**
PETK Petropavlovsk- 62.50 3 P **P** **12 20 59.0 +0.3**
PETK Petropavlovsk- 62.50 3 P **P** **12 20 59.0 +0.3**
319A Douglas 62.87 286 P **P** **12 21 01.6 0.0**
GTA Gaotai 65.29 49 *eP* **P** **12 21 20.5 +3.1**
GTA pP sP 12 21 24.8 +2.8
GTA sP pP 12 21 27.3 +6.5
GTA pmax pmax
comp=Z,3.0nm,1.2s
HHC Hu-ho-hao-te 67.50 40 *eP* **P** **12 21 32.5 +1.0**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,78nm,6.9s
LZH Lanzhou 69.62 48 *eP* **P** **12 21 48.0 +3.1**
LZH pP sP 12 21 54.0 +4.5
LZH sP pP 12 21 57.5 +9.3
LZH pmax pmax
comp=Z,19nm,1.2s
XAN Xi'an 73.08 44 P **P** **12 22 05.6 -0.1**
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN Xi'an 73.08 44 P **P** **12 22 05.6 -0.1**
XAN IAmb IAmb 12 22 09.9
comp=Z,3.7nm,0.7s
KSAR Wonju Array Be 74.65 28 P **P** **12 22 15.4 +0.6**
KSAR Wonju Array Be 74.65 28 P **P** **12 22 15.3 +0.6**
NJ2 Nanjing 77.73 37 *eP* **P** **12 22 32.8 +0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 84.12 59 P **P** **12 23 05.5 -1.1**
comp=Z,0.5nm,0.5s,baz=326,slow=7.6,SNR=6.1
CMAR Chiang Mai Arr 84.12 59 *i* P **P** **12 23 06.6 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 131.52 36 PKP **PKPdf** **12 29 47.4 -0.6**
comp=Z,0.8nm,1.2s,baz=186,slow=2.5,SNR=2.5
WRA Warramunga Arr 131.52 36 PKIKP **PKPdf** **12 29 47.8 -0.2**
WRA Warramunga Arr 131.52 36 **PKPdf** **12 29 47.8 -0.2**
ASAR Alice Springs 134.96 38 PKP **PKPdf** **12 29 53.9 -0.5**
comp=Z,0.4nm,0.9s,baz=32,slow=2.0,SNR=2.9
ASAR Alice Springs 134.96 38 PKIKP **PKPdf** **12 29 54.7 +0.2**
ASAR Alice Springs 134.96 38 **PKPdf** **12 29 54.7 +0.2**

CRAAG ***25*** *12:11:00.0,35.˚58N×1.˚36W,Ml2.8*
MDD ***25*** *12:11:01.3±1.0,35.˚45N×1.˚39W,h25km±25km,mbLg2.6/13, Error ellipse: s-maj=19.0km s-min=7.5km az=134.0, PRXIMO*
CNRM ***25*** *12:11:05.3,35.˚71N×1.˚90W,h19km*
ISC 25 12:10:57.2±1.3,35.˚64N±0.˚03×1.˚36W±0.˚03,h2km±11km, n33,σ1°38/56,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OLHC	**Oulhaca**	**0.40**	**187**	P	**Pb**	**12 11 07.7**	**+0.7**
OLHC	**Oulhaca**	**0.40**	**187**	P	**Pb**	**12 11 07.7**	**+0.7**
OTSS	**Djebel Tessala**	**0.58**	**128**	P	**Pn**	**12 11 11.8**	**-1.0**
OTSS	**Djebel Tessala**	**0.58**	**128**	P	**Pn**	**12 11 11.8**	**-1.0**
ODJA	**Bouhanifia**	**1.03**	**107**	P	**Pn**	**12 11 20.8**	**+1.9**
ODJA	**Bouhanifia**	**1.03**	**107**	P	**Pn**	**12 11 20.8**	**+1.9**
TAF	**Taforalt**	**1.20**	**227**	P	**Pn**	**12 11 20.8**	**-0.3**
TAF				S	**Sn**	**12 11 37.8**	**-0.3**
MELI	**Melilla**	**1.33**	**255**	P	**Pn**	**12 11 21.1**	**-1.8**
	19nm,0.1s,SNR=7.9						
MELI				S	**Sg**	**12 11 38.9**	**-1.1**
	44nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**1.35**	**256**	P	**Pb**	**12 11 23.1**	**-0.1**
	55nm,0.3s,SNR=7.9						
EMEL				S	**Sg**	**12 11 38.7**	**-1.9**
	134nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.39**	**283**	P	**Pb**	**12 11 24.2**	**+0.1**
	1.9nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**12 11 42.5**	**+0.2**
	23nm,0.1s,SNR=7.9						
GOG	**Mont Gurugu**	**1.40**	**253**	P	**Pn**	**12 11 23.5**	**-0.5**
GOG				S	**Sg**	**12 11 39.7**	**-2.6**
ENIJ	**Nijar**	**1.49**	**333**	P	**Pg**	**12 11 26.9**	**+1.0**
	2.5nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**12 11 44.9**	**-0.4**
	102nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.64**	**218**	P	**Pg**	**12 11 30.0**	**+1.3**
JBK				S	**Sg**	**12 11 50.2**	**+0.3**
EBER	**Berja**	**1.76**	**316**	P	**Pg**	**12 11 30.7**	**-0.3**
	1.8nm,0.2s,SNR=16						
EBER				S	**Sg**	**12 11 54.2**	**+0.4**
	34nm,0.4s,SNR=6.8						
CART	**Cartagena**	**1.96**	**8**	P	**Pb**	**12 11 32.3**	**-1.4**
CART				S	**Sn**	**12 11 54.7**	**-2.0**
CART	**Cartagena**	**1.96**	**8**	*e*P	**Pb**	**12 11 32.3**	**-1.4**
CART				*e*S	**Sn**	**12 11 54.7**	**-2.0**
CART				*e*Cod		12 13 19.1	
PALE	**Palemas**	**2.15**	**259**	P	**Pn**	**12 11 33.8**	**-0.4**
EMUR	**La Murta**	**2.20**	**2**	P	**Pb**	**12 11 36.6**	**-1.2**
	0.1nm,0.2s,SNR=9.4						
EMUR				S	**Sn**	**12 12 01.5**	**-1.1**
	5.9nm,0.2s,SNR=6.4						
ELGU	**Los Guajares,**	**2.20**	**304**	P	**Pn**	**12 11 35.6**	**+0.6**
	0.8nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**12 12 02.5**	**-0.4**
	9.4nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**2.29**	**313**	P	**Pb**	**12 11 39.1**	**-0.3**
	3.1nm,0.3s,SNR=17						
EQUE				S	**Sn**	**12 12 06.4**	**+1.3**
	4.4nm,0.3s						
AKLM	**AKL**	**2.34**	**242**	P	**Pn**	**12 11 37.7**	**+0.8**
AKLM				S	**Sn**	**12 12 04.4**	**-2.0**
EQES	**Quesada**	**2.56**	**328**	P	**Pb**	**12 11 44.1**	**+0.1**
	7.2nm,0.3s,SNR=24						
EQES				S	**Sb**	**12 12 15.3**	**-0.6**
	9.9nm,0.2s,SNR=5.5						
SESP	**Santiago Espad**	**2.65**	**339**	P	**Pb**	**12 11 45.2**	**-0.4**
	6.3nm,0.3s,SNR=7.9						
SESP				S	**Sb**	**12 12 17.7**	**-0.9**
	12nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.66**	**304**	P	**Pb**	**12 11 45.5**	**-0.2**
	0.8nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**12 12 16.4**	**+2.2**
	2.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.00**	**357**	P	**Pb**	**12 11 49.1**	**-2.4**
	2.4nm,0.1s,SNR=29						
ETOB				S	**Sn**	**12 12 24.3**	**+1.7**
	11nm,0.2s,SNR=7.6						
EADA	**Adamuz**	**3.60**	**315**	P	**Pn**	**12 11 56.0**	**+1.8**
	0.3nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**12 12 37.7**	**+0.2**
	2.0nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.00**	**32**	P	**Pn**	**12 12 01.9**	**+2.2**
	0.4nm,0.3s,SNR=11						
EIBI				S	**Sn**	**12 12 45.9**	**-1.3**
	3.9nm,0.2s						
ECAB	**El Cabril**	**4.06**	**308**	P	**Pn**	**12 12 02.5**	**+2.0**
	0.6nm,0.4s,SNR=7.9						
ECAB				S	**Sn**	**12 12 48.9**	**+0.3**
	0.9nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**4.52**	**334**	S	**Sn**	**12 12 58.5**	**-1.6**
	baz=153,slow=22,SNR=7.9						
PAB	**San Pablo**	**4.56**	**330**	P	**Pn**	**12 12 10.5**	**+3.1**
	0.4nm,0.5s,SNR=7.9						
PAB				S	**Sn**	**12 13 01.5**	**+0.4**
	0.8nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.76**	**8**	S	**Sn**	**12 13 06.1**	**-0.1**
	0.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.77**	**298**	P	**Pn**	**12 12 11.7**	**+1.5**
	0.2nm,0.4s,SNR=7.9						
EMIN				S	**Sn**	**12 13 04.7**	**-1.3**
	0.7nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.28**	**293**	P	**Pn**	**12 12 19.1**	**+2.0**
	1.9nm,0.4s,SNR=7.9						

WEL 25 12:20:31.6,43˚S±2˚×17˚1E±˚,h5km±2km,M2.3/7,ML2.3/7,

MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=107.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.23**	**345**	P	Pg	12 20 37.8	+1.6
GCSZ	**Gaunt Creek Bo**	**0.36**	**267**	P	Pb	12 20 40.2	-0.3
RPZ	**Rata Peaks**	**0.45**	**158**	P	Pb	12 20 42.2	+0.2
MHCZ	**Mount Hutt**	**0.59**	**113**	P	Pb	12 20 44.6	+0.1
ARCZ	**Arundel**	**0.70**	**158**	P	Pb	12 20 46.6	+0.3
INZ	**Inchbonnie**	**0.73**	**39**	P	Pg	12 20 46.0	+0.3
FOZ	**Fox Glacier**	**0.77**	**252**	P	Pb	12 20 47.7	+0.2
WACZ	**Wakanui South**	**0.98**	**131**	P	Pn	12 20 52.2	+0.2
LBZ	**Lake Benmore**	**1.18**	**203**	P	Pn	12 20 56.3	+1.5
LTZ	**Lake Taylor**	**1.18**	**64**	P	Pn	12 20 55.5	+0.7
MQZ	**McQueen's Vall**	**1.39**	**108**	P	Pg	12 20 58.3	0.0
JCZ	**Jackson Bay**	**1.67**	**242**	P	Pg	12 21 04.0	+0.5
DSZ	**Denniston Nort**	**1.72**	**25**	P	Pg	12 21 04.1	-0.4
ODZ	**Otahua Downs**	**1.75**	**184**	P	Pb	12 21 03.8	-0.3
THZ	**Tophouse**	**2.18**	**46**	P	Pb	12 21 10.7	-0.8

*TUL **25** 12:36:15±1.0, 35°.86N±0°.01×97°.30W±0°.02, h5km±7km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.8km az=122.0*
*NEIC **25** 12:36:15.6±1.3, 35°.87N±0°.03×97°.29W±0°.02, h9km±7km, Error ellipse: s-maj=5.2km s-min=1.5km az=159.0*
*ANF **25** 12:36:15.3±0.7, 35°.86N×97°.27W, h5km, ML3.7/12, Error ellipse: s-maj=10.5km s-min=5.4km az=159.0*
ISC 25 12:36:15.6±1.1, 35°.88N±0°.02×97°.29W±0°.02, h5km±9km, n49, σ0§86/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.15**	**239**		**Pg**	**12 36 18.1**	**-0.6**
OK029				Sg	**Sg**	**12 36 20.4**	**-0.3**
ADOK	**Arcadia Dam**	**0.23**	**196**		**Sg**	**12 36 27.0**	**+3.8**
OK025	**Westminster Rd**	**0.30**	**187**		**Pg**	**12 36 21.0**	**-0.4**
OK009	**Oakdale Elemen**	**0.31**	**200**		**Pg**	**12 36 21.2**	**-0.5**
OK009				Sg	**Sg**	**12 36 28.0**	**+0.2**
BCOK	**Bluff Creek, N**	**0.34**	**230**	Pg	**Pg**	**12 36 21.7**	**-0.5**
BCOK				Sg	**Sg**	**12 36 26.6**	**-0.1**
OK031	**S. Brethren Rd**	**0.38**	**78**		**Pg**	**12 36 22.9**	**0.0**
OK031				Sg	**Sg**	**12 36 28.4**	**+0.5**
OK030	**Cody Creek RV**	**0.42**	**83**		**Pg**	**12 36 23.7**	**0.0**
OK030				Sg	**Sg**	**12 36 29.6**	**+0.4**
OKCFA	**Oklahoma City**	**0.48**	**196**		**Pg**	**12 36 24.3**	**-0.6**
OKCFA				Sg	**Sg**	**12 36 30.7**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.48**	**194**		**Pg**	**12 36 24.4**	**-0.6**
QUOK	**Quay**	**0.56**	**58**	Pg	**Pg**	**12 36 26.4**	**0.0**
FNO	**Franklin**	**0.62**	**188**		**Pg**	**12 36 27.2**	**-0.5**
W35A	**Tecumseh**	**0.80**	**155**		**Pg**	**12 36 29.7**	**-1.2**
CROK	**Carrier**	**0.84**	**318**		**Pg**	**12 36 31.3**	**-0.5**
KAN13	**South Haven SW**	**1.15**	**353**		**Pg**	**12 36 37.0**	**-0.7**
KAN14	**Manchester OK**	**1.21**	**334**		**Pg**	**12 36 38.0**	**-0.9**
T35A	**Sooner Cattle**	**1.21**	**31**	Pn	**Pg**	**12 36 38.2**	**-0.7**
TUL1	**Leonard** baz=268	**1.22**	**88**	P	**Pg**	**12 36 37.4**	**-1.6**
TUL1	baz=268			S	**Sg**	**12 36 53.8**	**-1.0**
TUL1	**Leonard**	**1.22**	**88**		**Pg**	**12 36 37.4**	**-1.6**
KAN09	**Caldwell North**	**1.28**	**348**		**Pg**	**12 36 39.5**	**-0.8**
KAN05	**Bluff City Nor**	**1.32**	**339**		**Pg**	**12 36 39.9**	**-1.0**
KAN08	**Anthony NE Sta**	**1.46**	**338**		**Pn**	**12 36 42.2**	**-0.5**
U32A	**Winter Ranch,**	**1.47**	**290**		**Pn**	**12 36 41.8**	**-1.1**
WMOK	**Wichita Mounta** baz=46	**1.67**	**227**	P	**Pn**	**12 36 45.1**	**-0.5**
WMOK	baz=46			S	**Sn**	**12 37 06.9**	**-0.5**
WMOK	**Wichita Mounta**	**1.67**	**227**		**Pn**	**12 36 44.9**	**-0.7**
X37A	**Clayton**	**2.03**	**129**		**Pn**	**12 36 50.2**	**-0.3**
U38A	**Gravette**	**2.42**	**76**		**Pn**	**12 36 55.9**	**0.0**
HHAR	**Hobbs**	**2.75**	**81**		**Pn**	**12 37 00.7**	**+0.2**
R32A	**Long Quarter,**	**2.78**	**336**		**Pn**	**12 37 01.3**	**+0.4**
W39A	**Magazine** baz=284	**2.94**	**102**	P	**Pn**	**12 37 03.2**	**+0.1**
W39A	baz=284			S	**Sn**	**12 37 38.2**	**-0.6**
W39A	**Magazine**	**2.94**	**102**		**Pn**	**12 37 02.6**	**-0.5**
Z38A	**Mt. Pleasant**	**3.23**	**143**		**Pn**	**12 37 06.6**	**-0.5**
KSU1	**Kansas State U** baz=190	**3.27**	**9**	P	**Pn**	**12 37 07.8**	**+0.3**
KSU1	baz=190			S	**Sn**	**12 37 48.2**	**+1.4**
MIAR	**Mount Ida** baz=295	**3.32**	**112**	P	**Pn**	**12 37 08.1**	**-0.2**
MIAR	baz=295			S	**Sn**	**12 37 48.6**	**+0.4**
MIAR	**Mount Ida**	**3.32**	**112**	Pn	**Pn**	**12 37 09.6**	**+1.4**
CBKS	**Cedar Bluff** baz=146	**3.52**	**327**	S	**Sn**	**12 37 54.2**	**+1.0**
U40A	**Yellville** baz=264	**3.62**	**81**	P	**Pn**	**12 37 12.0**	**-0.5**
U40A	**Yellville**	**3.62**	**81**		**Pn**	**12 37 12.9**	**+0.4**
AMTX	**Amarillo** baz=73	**3.72**	**256**	P	**Pn**	**12 37 13.8**	**-0.1**
AMTX	baz=73			S	**Sn**	**12 37 57.7**	**-0.4**
AMTX	**Amarillo**	**3.72**	**256**	Pn	**Pn**	**12 37 15.3**	**+1.4**
ABTX	**Abilene, Hawle** baz=30	**3.78**	**212**	P	**Pn**	**12 37 15.1**	**+0.4**
ABTX	baz=30			S	**Sn**	**12 37 59.9**	**+0.2**
WHTX	**Lake Whitney,** baz=1.9	**3.88**	**182**	P	**Pn**	**12 37 16.9**	**+0.9**
X40A	**Basin Creek Fa** baz=292	**3.91**	**109**	P	**Pn**	**12 37 16.5**	**+0.2**
WHAR	**Wooly Hollow**	**4.12**	**97**		**Pn**	**12 37 19.3**	**0.0**
W41B	**Gary Mavity, V** baz=281	**4.17**	**98**	P	**Pn**	**12 37 19.8**	**-0.2**
W41B	**Gary Mavity, V**	**4.17**	**98**		**Pn**	**12 37 20.2**	**+0.2**
FCAR	**Ozark Folk Cen**	**4.20**	**88**		**Pn**	**12 37 20.1**	**-0.2**
MGMO	**Mountain Grove**	**4.24**	**71**		**Pn**	**12 37 22.6**	**+1.6**
R40A	**Maddies Statio**	**4.68**	**58**	Pn	**Pn**	**12 37 27.0**	**0.0**
SDCO	**Great Sand Dun**	**6.84**	**288**	Pn	**Pn**	**12 37 57.8**	**+0.7**

*IDC **25** 12:40:53.4±2.6, 27°.18N×57°.80E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/44, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=56.8km s-min=26.1km az=153.0*
*TEH **25** 12:40:59.1, 27°.76N×57°.43E, h16km, ML3.8*
*THR **25** 12:41:02.9±0.4, 27°.92N×57°.09E, h18km±4km, ML3.7*
ISC 25 12:40:57.6±0.8, 27°.48N±0°.05×57°.51E±0°.06, h10km, n35, σ1§39/36, mb3.6/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.50**	**21**	*e*Pg	**Pg**	**12 41 06.5**	**-0.9**
IBND	**Bandar-abas**	**0.86**	**268**	*e*Pg	**Pn**	**12 41 16.0**	**+0.3**
IBND				*e*		12 41 41.9	
GENO	**Geno**	**1.19**	**267**	*e*Pg	**Pb**	**12 41 21.0**	**+0.7**
GENO				*e*		12 41 38.7	
BNDS	**Bandar-Abbas**	**1.19**	**267**	*e*Pg	**Pg**	**12 41 21.1**	**+0.7**
BNDS	**Bandar-Abbas**	**1.19**	**267**	*e*Pg	**Pg**	**12 41 21.1**	**+0.7**
KBAM	**BAM**	**1.85**	**27**	*e*Pg	**Pn**	**12 41 28.7**	**-0.8**
SHME	**Shamm**	**1.88**	**221**	*e*Pn	**Pg**	**12 41 34.9**	**+1.4**
BANOM	**Banah**	**1.89**	**215**	*e*Pn	**Pg**	**12 41 34.8**	**+1.0**
NGRK	**Negar Kerman**	**2.26**	**343**	*e*Pn	**Pn**	**12 41 33.3**	**-2.1**
NGRK				*e*		12 42 03.4	
CHMN	**Cheshme madani**	**2.37**	**1**	*e*Pn	**Pn**	**12 41 36.0**	**-0.9**
CHMN				*e*		12 42 10.7	
KRBR	**Kerman**	**2.58**	**345**	*e*Pn	**Pn**	**12 41 39.4**	**-0.3**
KRBR	comp=N,449nm,0.6s			IAML		12 42 17.2	
KRBR	**Kerman**	**2.58**	**345**	*e*Pn	**Pn**	**12 41 39.4**	**-0.3**
TVBK	**TV Kerman**	**2.58**	**346**	*e*Pn	**Pn**	**12 41 39.0**	**-0.8**
UOSS	**Minazif**	**2.78**	**205**	*e*Pn	**Pb**	**12 41 46.4**	**-1.0**
HATD	**Hatta, Dubai**	**2.92**	**205**	*e*Pn	**Pb**	**12 41 49.8**	**+0.1**
NAZ	**Nazwa, Dubai**	**2.98**	**214**	*e*Pn	**Pb**	**12 41 48.8**	**-2.0**
KHGB	**Koh Gabri**	**3.02**	**343**	*e*Pn	**Pn**	**12 41 45.8**	**0.0**
KHGB				*e*		12 42 28.9	
FAQ	**Al Faqa, Dubai**	**3.22**	**213**	*e*Pn	**Pb**	**12 41 54.5**	**-0.4**
ZHSF	**Zahedan**	**3.58**	**53**	*e*P	**Pb**	**12 42 00.9**	**-0.1**
NHDN	**Nehbandan**	**4.49**	**29**	*e*Pn	**Pn**	**12 42 07.7**	**+1.9**
BSRN	**Basiran**	**4.69**	**17**	*e*Pn	**Pn**	**12 42 10.9**	**+2.4**
BSRN				*e*Sg	**Sb**	**12 43 19.5**	**+3.0**
BSRN	**Basiran**	**4.69**	**17**	*e*Pn	**Pn**	**12 42 10.9**	**+2.4**
IKOO	**Kooshah**	**5.10**	**14**	*e*Pn	**Pn**	**12 42 15.6**	**+1.3**
ITEG	**Tejag**	**5.51**	**11**	*e*Pn	**Pn**	**12 42 19.7**	**-0.1**
TPRV	**Parvadeh(Tabas**	**5.58**	**353**	*e*Pn	**Pn**	**12 42 19.7**	**-1.0**
TABS	**Tabas**	**6.16**	**357**	*e*Pn	**Pn**	**12 42 29.3**	**+0.6**
TABS	**Tabas**	**6.16**	**357**	*e*Pn	**Pn**	**12 42 29.3**	**+0.6**
GEYT	**Alibeck**	**10.44**	**3**	Pn	**Pn**	**12 43 29.4**	**+2.1**
	comp=N,0.3nm,0.3s,baz=168,slow=14,SNR=2.3						
AKTO	**Aktyubinsk**	**22.93**	**1**	P	**P**	**12 46 00.5**	**-1.2**
	comp=N,0.8nm,0.6s,baz=181,slow=9.7,SNR=1.9						
BRTR	**Keskin Array B**	**23.25**	**308**	P	**P**	**12 46 07.8**	**+2.5**
	comp=N,0.7nm,0.8s,baz=91,slow=13,SNR=2.0						
MKAR	**Makanchi Array**	**27.42**	**39**	P	**P**	**12 46 42.1**	**-1.3**
	comp=N,0.6nm,0.5s,baz=220,slow=8.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**28.11**	**29**	P	**P**	**12 46 48.0**	**-1.4**
	comp=N,0.1nm,0.4s,baz=224,slow=8.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**33.19**	**30**	P	**P**	**12 47 32.7**	**-1.6**
	comp=N,0.7nm,0.3s,baz=251,slow=9.2,SNR=6.8						
FINES	**FINESS Array B**	**39.93**	**337**	P	**P**	**12 48 31.9**	**+0.2**
	comp=N,5.2nm,0.9s,baz=192,slow=25,SNR=1.8						
TORD	**Torodi Ar. Bea**	**53.84**	**266**	P	**P**	**12 50 19.9**	**-1.2**
	comp=N,0.5nm,0.6s,baz=65,slow=6.8,SNR=3.8						

*HLW **25** 13:11:55.7, 34°.29N×27°.33E, h20km±10km, Md3.8*
*DDA **25** 13:12:11.6, 34°.97N×27°.14E, h5km±2km, ML2.6*
ISC 25 13:11:55.3±1.1, 34°.11N±0°.05×27°.04E±0°.10, h10km, n13, σ2§02/20, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**2.65**	**9**	*i*P	**Pg**	**13 12 44.6**	**-1.5**
DAT				*i*S	**Sn**	**13 13 09.9**	**-0.5**
TURN	**Turunc**	**2.83**	**20**	*i*P	**Pg**	**13 12 49.5**	**-0.2**
TURN				*i*S	**Sb**	**13 13 18.6**	**-2.1**
AKAS	**Kas**	**2.98**	**44**	*i*P	**Pg**	**13 12 53.0**	**+0.6**
AKAS				*i*S	**Sb**	**13 13 25.1**	**0.0**
AKAS	comp=E,51nm,1.9s			IAML		13 13 42.0	
DALY	**Dalyan (Mula)**	**3.00**	**26**	*i*P	**Pg**	**13 12 52.2**	**-0.7**
DALY				*i*S	**Sn**	**13 13 22.0**	**+3.0**
DALY	comp=E,39nm,1.8s			IAML		13 13 38.0	
DALY	comp=N,38nm,2.0s			IAML		13 13 43.0	
FETY	**Fethiye**	**3.02**	**33**	*i*P	**Pg**	**13 12 52.4**	**-0.8**
FETY				*i*S	**Sn**	**13 13 22.3**	**+2.8**
AYDN	**Tasoluk**	**3.61**	**11**	*i*P	**Pb**	**13 12 57.9**	**-1.3**
AYDN				*i*S	Sn	13 13 23.3	-11
TAVA	**DENIZLI_Tavas**	**3.68**	**24**	*i*P	**Pb**	**13 13 01.2**	**+0.7**
TAVA				*i*S	**Sn**	**13 13 39.9**	**+4.1**
TAVA	comp=N,23nm,2.7s			IAML		13 14 16.0	
TAVA	comp=E,24nm,2.4s			IAML		13 14 27.0	
GOLH	**Golhisar**	**3.73**	**33**	*i*P	**Pb**	**13 13 03.2**	**+1.8**
GOLH				*i*S	**Sb**	**13 13 44.4**	**-2.4**
GOLH	comp=N,44nm,2.7s			IAML		13 14 31.0	
GOLH	comp=E,31nm,3.4s			IAML		13 14 51.0	
SWA2	baz=199	**5.04**	**196**	P	**Pn**	**13 13 13.0**	**+2.1**
HNAT	**Natroun** baz=148	**5.40**	**145**	P	Pn	13 13 22.2	+6.3
SUZ	**Suez** baz=132	**6.51**	**129**	P	**Pn**	**13 13 29.7**	**-1.4**
NBNS	**Bani Suef** baz=149	**6.57**	**145**	P	**Pn**	**13 13 31.2**	**-0.8**
HFRF	**Wahat Farafira** baz=172	**7.03**	**171**	P	**Pn**	**13 13 39.7**	**+1.4**
HFRF	baz=172			S	**Sn**	**13 14 55.5**	**-2.7**

*SOME **25** 13:11:53.4, 40°.92N×69°.72E, h15km*
*KRNET **25** 13:12:04.5±0.1, 40°.81N×71°.25E, h14km, mb3.4*
NNC 25 13:11:55.0±2.9, 40°.84N×69°.90E, h0km, mb3.3, mpv2.9, 8C-4D, Error ellipse: s-maj=22.0km s-min=14.1km az=46.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=4.0	**1.05**	**138**	⇑*i*P	Pn	13 12 19.9	+2.8
BTK	baz=4.0			⇑*i*S	Sn	13 12 32.1	-0.3
IUG	**Iuzhnay** 53nm,0.3s	**1.31**	**4**	*e*P	Pg	13 12 17.7	-2.5
IUG	125nm,0.4s			*e*S	Sg	13 12 35.4	-1.8
BRLS	**Borolday** 12nm,0.2s	**2.19**	**359**	*e*P	Pn	13 12 27.8	-4.9
BRLS	58nm,0.4s			*e*S	Sn	13 12 52.5	-8.1
KK31	**Karatay Array** 3.9nm,0.5s,baz=204,slow=16,SNR=32	**2.31**	**11**	⇑Pn	Pn	13 12 34.4	0.0
KK31	8.6nm,0.4s,baz=202,slow=24,SNR=24			⇑Sn	Sn	13 13 04.5	+1.0
MNAS	**Manas** baz=29	**2.55**	**49**	⇓*i*P	Pn	13 12 39.8	+2.0
MNAS	baz=29			⇓*i*S	Sn	13 13 06.7	-3.0
MRKS	**Merke** 4.5nm,0.6s	**3.13**	**51**	*e*P	Pb	13 12 52.1	+0.5
MRKS	5.8nm,0.4s			*e*S	Sg	13 13 34.2	-1.4
ARLS	**Aral** baz=64	**3.48**	**71**	⇑*i*P	Pn	13 12 49.7	-0.9
ARLS	baz=64			⇑*i*S	Sn	13 13 21.5	-11
AAK	**Ala-Archa** 1.1nm,0.4s	**3.88**	**61**	⇑Pg	Pb	13 13 06.1	+1.7
AAK	3.1nm,0.8s			⇑Lg	Lg	13 13 57.8	
TKM2	**Tokmak 2** 1.1nm,0.5s	**4.73**	**62**	⇓Pg	Pb	13 13 21.0	+2.0
TKM2	1.3nm,0.5s			⇓Lg	Lg	13 14 24.2	

*ATH **25** 13:16:07.2, 38°.31N×20°.45E, h13km±1km, ML2.9/18, Error ellipse: s-maj=1.9km s-min=0.9km az=255.0*
*THE **25** 13:16:07.5, 38°.32N×20°.42E, h10km, ML3.0/15, Error ellipse: s-maj=1.2km s-min=0.5km az=271.0*
ISC 25 13:16:07.3±0.9, 38°.31N±0°.02×20°.44E±0°.04, h12km±5km, n53, σ0§51/77, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF5	**Kardakata, Kep**	**0.04**	**147**	P	**Pg**	**13 16 09.6**	**-0.1**
KEF5				S	**Sg**	**13 16 17.3**	**-0.1**
KEF4	**Livadi, Kephal**	**0.06**	**191**	P	**Pg**	**13 16 09.6**	**-0.1**
KEF4				S	**Sg**	**13 16 11.6**	**+0.1**
DMLN	**Damoulianata-K**	**0.09**	**214**	P	**Pg**	**13 16 09.9**	**-0.2**
DMLN	73μm,0.1s			S	**Sg**	**13 16 12.0**	**-0.2**
ARG2	**Argostoli**	**0.14**	**164**	P	**Pg**	**13 16 10.8**	**0.0**
ARG2	55μm,0.2s			S	**Sg**	**13 16 13.6**	**+0.4**
FSK	**Fiskardo**	**0.17**	**34**	P	**Pg**	**13 16 11.3**	**0.0**
FSK	11μm,0.4s			S	**Sg**	**13 16 14.2**	**+0.1**
FSK	**Fiskardo**	**0.17**	**34**	P	**Pg**	**13 16 10.8**	**-0.5**
FSK				S	**Sg**	**13 16 14.4**	**+0.3**
FSK	comp=N,21532μm,0.5s			AML	AML	13 16 15.1	
FSK	comp=E,21244μm,0.2s			AML	AML	13 16 16.1	
VLS	**Valsamata**	**0.18**	**139**	P	**Pg**	**13 16 11.4**	**0.0**
VLS				S	**Sg**	**13 16 14.8**	**+0.5**
VLS	**Valsamata**	**0.18**	**139**	P	**Pg**	**13 16 11.5**	**0.0**
VLS				S	**Sg**	**13 16 14.7**	**+0.5**
VLS	comp=N,41282μm,0.2s			AML	AML	13 16 14.9	
VLS	comp=E,24291μm,0.1s			AML	AML	13 16 15.1	
PSDA	**Pessada-Kefalo**	**0.23**	**150**	P	**Pg**	**13 16 12.3**	**+0.1**
PSDA				S	**Sg**	**13 16 16.5**	**+1.0**
PSDA	comp=E,898nm,0.3s **Pessada-Kefalo**	**0.23**	**150**	P	**Pg**	**13 16 12.1**	**-0.1**
EVGI	**Lefkada island**	**0.35**	**29**	P	**Pg**	**13 16 14.3**	**-0.1**
EVGI	comp=E,2μm,0.2s			S	**Sg**	**13 16 19.9**	**+0.8**
EVGI	**Lefkada island**	**0.35**	**29**	P	**Pg**	**13 16 14.3**	**-0.1**
EVGI				S	**Sg**	**13 16 19.9**	**+0.8**
MGNA	**Meganis**	**0.44**	**39**	P	**Pg**	**13 16 15.7**	**-0.3**
MGNA				S	**Sg**	**13 16 22.7**	**+0.9**
MGNA	comp=E,4310μm,0.2s			AML	AML	13 16 23.2	
MGNA				AML	AML	13 16 23.7	
	comp=N,3877μm,0.1s						
NYDR	**Nydri-Lefkada**	**0.45**	**27**	P	**Pg**	**13 16 15.7**	**-0.5**
NYDR	comp=N,2μm,0.4s			S	**Sg**	**13 16 22.7**	**+0.5**
VLMS	**Volimes, Zakyn**	**0.47**	**158**	P	**Pg**	**13 16 16.2**	**-0.4**
VLMS				S	**Sb**	**13 16 23.9**	**-0.5**
VLMS	comp=E,7982μm,0.3s			AML	AML	13 16 25.1	
VLMS	comp=N,9513μm,0.3s			AML	AML	13 16 26.8	
LKD2	**Lefkada island**	**0.50**	**20**	P	**Pg**	**13 16 16.8**	**-0.4**
LKD2	comp=N,2μm,0.4s			S	**Sb**	**13 16 24.8**	**-0.6**
LKD2	**Lefkada island**	**0.50**	**20**	P	**Pg**	**13 16 16.6**	**-0.6**
LKD2				S	**Sg**	**13 16 24.5**	**+0.6**
LKD2	comp=E,3318μm,0.3s			AML	AML	13 16 29.7	
LKD2	comp=N,2494μm,0.5s			AML	AML	13 16 30.0	
TSLK	**Tsoukalades, L**	**0.54**	**18**	P	**Pg**	**13 16 17.5**	**-0.4**
TSLK	comp=N,2μm,0.5s			S	**Sb**	**13 16 25.9**	**-0.4**
TSLK	**Tsoukalades, L**	**0.54**	**18**	P	**Pg**	**13 16 17.4**	**-0.4**
TSLK				S	**Sg**	**13 16 25.5**	**+0.5**
TSLK	comp=E,3830μm,0.7s			AML	AML	13 16 27.9	
TSLK	comp=N,3460μm,0.4s			AML	AML	13 16 32.4	
AST1	**Astakos**	**0.56**	**66**	P	**Pg**	**13 16 18.1**	**-0.2**
AST1	comp=N,3μm,0.4s			S	**Sg**	**13 16 26.0**	**+0.3**
KRI1	**kERI**	**0.72**	**155**	P	**Pg**	**13 16 20.4**	**-0.8**
RLS	**Riolos of Patr**	**0.85**	**107**	P	**Pg**	**13 16 23.2**	**-0.5**
RLS	comp=N,665nm,0.7s			S	**Sn**	**13 16 37.0**	**-0.4**
RLS	**Riolos of Patr**	**0.85**	**107**	P	**Pg**	**13 16 23.3**	**-0.5**
RLS	comp=N,1561μm,0.5s			AML	AML	13 16 44.0	
RLS	comp=E,856μm,0.3s			AML	AML	13 16 45.3	
DRO	**Drossia**	**1.07**	**109**	P	**Pb**	**13 16 27.3**	**-0.4**
DRO	**Drossia**	**1.07**	**109**	P	**Pb**	**13 16 27.3**	**-0.4**
EFP	**Efpalio**	**1.16**	**84**	P	**Pb**	**13 16 28.4**	**-0.8**
EFP	comp=E,688nm,0.6s			S	**Sn**	**13 16 45.3**	**+0.3**
EFP	**Efpalio**	**1.16**	**84**	P	**Pb**	**13 16 28.3**	**-1.0**
EFP	comp=N,974μm,0.5s			AML	AML	13 16 51.6	
EFP	comp=E,1574μm,0.5s			AML	AML	13 16 51.8	
ANX	**Ano Chora**	**1.20**	**76**	P	**Pn**	**13 16 29.6**	**-0.3**
ANX	comp=E,765nm,0.7s			S	**Sn**	**13 16 47.4**	**+1.3**
ANX	**Ano Chora**	**1.20**	**76**	P	**Pn**	**13 16 29.5**	**-0.3**
ANX	comp=N,2053μm,0.6s			AML	AML	13 16 53.5	
ANX	comp=E,1066μm,0.8s			AML	AML	13 16 53.9	
IGT	**Igoumenitsa**	**1.22**	**356**	P	**Pn**	**13 16 30.2**	**0.0**
IGT	comp=E,941μm,0.3s			AML	AML	13 16 51.5	
IGT	comp=N,1711μm,0.2s			AML	AML	13 16 51.6	
EVR	**Evrytania**	**1.23**	**60**	P	**Pn**	**13 16 30.1**	**-0.3**
EVR	comp=N,608μm,0.5s			AML	AML	13 16 53.9	
EVR	comp=E,455μm,0.6s			AML	AML	13 16 58.5	
KALE	**Kalithea**	**1.34**	**86**	P	**Pn**	**13 16 31.3**	**-0.5**
KALE	comp=E,350nm,0.3s			S	**Sg**	**13 16 50.9**	**+0.4**
KALE	**Kalithea**	**1.34**	**86**	P	**Pn**	**13 16 31.3**	**-0.5**
KALE	comp=E,549μm,0.4s			AML	AML	13 16 58.0	
KALE	comp=N,846μm,0.4s			AML	AML	13 16 58.0	
KLV	**Kalavryta, Ach**	**1.38**	**101**	P	**Pn**	**13 16 32.5**	**+0.2**
KLV	**Kalavryta, Ach**	**1.38**	**101**	P	**Pn**	**13 16 32.3**	**0.0**
KLV	comp=E,421μm,0.4s			AML	AML	13 16 59.2	
KLV	comp=N,417μm,0.5s			AML	AML	13 17 06.0	
JAN	**Janina**	**1.38**	**13**	P	**Pg**	**13 16 34.2**	**+0.4**
JAN	comp=E,942μm,0.2s			AML	AML	13 16 57.8	
JAN	comp=N,777μm,0.3s			AML	AML	13 16 59.0	
KASA	**Kassiopi**	**1.48**	**345**	P	**Pg**	**13 16 35.4**	**-0.4**
KEK	**Kerkira**	**1.48**	**341**	P	**Pn**	**13 16 34.0**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.50**	**62**	P	**Pb**	**13 16 35.0**	**0.0**
MAKR	comp=N,565nm,0.7s			S	**Sn**	**13 16 54.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.50**	**62**	P	**Pb**	**13 16 35.5**	**+0.5**
GUR	**Goura**	**1.55**	**104**	P	**Pn**	**13 16 35.0**	**+0.3**
GUR	**Goura**	**1.55**	**104**	P	**Pn**	**13 16 35.1**	**+0.4**
GUR	comp=E,960μm,0.4s			AML	AML	13 17 05.2	
GUR	comp=N,1098μm,0.5s			AML	AML	13 17 08.5	
AGG	**Agios Georgios**	**1.64**	**64**	P	**Pb**	**13 16 37.6**	**+0.2**
AGG	comp=E,515μm,0.7s			AML	AML	13 17 06.5	
AGG	comp=N,564μm,0.6s			AML	AML	13 17 11.6	
TRIP	**Tripoli**	**1.65**	**118**	P	**Pb**	**13 16 38.4**	**+0.7**
TRIP	comp=N,464μm,0.5s			AML	AML	13 17 08.4	
TRIP	comp=E,498μm,0.6s			AML	AML	13 17 13.8	
THL	**Klokotos Trika**	**1.75**	**44**	P	**Pb**	**13 16 39.7**	**+0.3**
THL	comp=E,423μm,0.6s			AML	AML	13 17 13.2	
THL	comp=N,272μm,0.6s			AML	AML	13 17 14.5	
PYL	**PYLOS**	**1.75**	**143**	P	**Pn**	**13 16 38.4**	**+0.9**
THAL	**Thalero**	**1.77**	**98**	P	**Pb**	**13 16 40.4**	**+0.7**
VLX	**Vlachokerasia**	**1.80**	**121**	P	**Pg**	**13 16 42.0**	**+0.1**
LTK	**Loutraki**	**2.01**	**98**	P	**Pb**	**13 16 42.9**	**-0.9**
LKR	**Lokris**	**2.04**	**80**	P	**Pb**	**13 16 43.5**	**-0.8**
ATAL	**Atalanti**	**2.06**	**79**	P	**Pb**	**13 16 44.0**	**-0.6**
NEST	**Nestorio**	**2.15**	**13**	P	**Pb**	**13 16 46.0**	**-0.2**
VIL2	**Platees**	**2.23**	**92**	P	**Pb**	**13 16 46.5**	**-1.0**

*JMA **25** 13:23:49.0±0.1, 22°.71N×121°.42E, h1km, M2.8*
*TAP **25** 13:23:51.9, 22°.79N×121°.23E, h17km, ML2.7, C*
ISC 25 13:23:52.1±0.8, 22°.78N±0°.02×121°.27E±0°.02, h18km±3km, n82, σ0§78/118, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung** baz=245	**0.12**	**258**	⇑*i*P	**Pg**	**13 23 56.1**	**+0.2**
TTN	baz=245			*i*S	**Sg**	**13 23 59.4**	**+0.9**
TWGBT	**Beinan** baz=285	**0.18**	**283**	P	**Pb**	**13 23 56.

baz=331
ELDTW S Sg 13 24 07.3 -0.9
baz=331
TAW Tawu 0.54 220 eP Pb 13 24 02.9 -0.2
baz=232
TAW eS Sg 13 24 10.7 +0.5
baz=232
EAST Anshuo 0.55 225 eP Pb 13 24 02.9 -0.4
baz=236
EAST eS Sb 13 24 10.5 -0.4
baz=236
EYUL Yuli 0.57 5 eP Pg 13 24 04.6 +1.2
baz=358
TWF1 Yuli 0.57 3 eP Pb 13 24 02.8 -0.8
baz=353
TWF1 eS Sb 13 24 10.1 -1.3
baz=353
TSMG Majia 0.58 263 eP Pb 13 24 02.8 -0.9
baz=269
TSMG eS Sb 13 24 10.1 -1.5
baz=269
SSD Sandimen 0.59 267 eP Pb 13 24 03.0 -0.9
baz=273
SSD eS Sb 13 24 10.3 -1.5
baz=273
STYT Tauyuan 0.61 309⇓ eP Pb 13 24 03.5 -0.7
baz=310
STYT eS Sb 13 24 12.1 -0.4
baz=310
MASBT Mashibuluo 0.61 254 P Pb 13 24 03.5 -0.7
baz=251
MASBT eS Sb 13 24 11.6 -0.8
baz=251
SLGT Liugui 0.61 291 eP Pb 13 24 03.6 -0.6
baz=294
SLGT eS Sb 13 24 12.1 -0.5
baz=294
YULB Yu-li 0.61 2 eP Pb 13 24 03.2 -1.1
baz=352
YULB eS Sb 13 24 10.6 -2.0
baz=352
SGST Jiashian 0.70 296 eP Pb 13 24 05.0 -0.8
baz=297
SGST eS Sg 13 24 15.6 +0.3
baz=297
SLIU Shizi 0.71 218 eP Pb 13 24 05.6 -0.3
baz=199
SLIU eS Sg 13 24 16.5 +1.1
baz=199
SSPT Xinbi 0.71 246 eP Pg 13 24 06.3 +0.3
baz=244
SSPT eS Sg 13 24 16.6 +1.1
baz=244
SCZT Fangliau 0.72 236 eP Pb 13 24 05.9 -0.2
baz=232
SCZT eS Sg 13 24 16.4 +0.5
baz=232
SCST Cishan 0.72 279 eP Pb 13 24 04.4 -1.8
baz=283
HGSD Ruisui 0.72 11 eP Pb 13 24 06.0 -0.2
baz=15
EHY Hungye 0.73 4 eP Pb 13 24 05.0 -1.3
baz=7.0
WTP Ta-pu 0.76 308 eP Pb 13 24 06.8 -0.1
baz=308
WTP eS Sb 13 24 16.4 -0.6
baz=308
LAY Lan-yu 0.78 160 eP Pb 13 24 06.6 -0.5
baz=146
LAY eS Sn 13 24 19.2 -0.3
baz=146
TWM1 Shoushan 0.78 274 eP Pn 13 24 08.7 +0.4
baz=271
TPUB Ta-pu 0.79 312 P Pb 13 24 07.1 -0.2
baz=312
TPUB S Sg 13 24 18.6 +0.6
baz=312
SNST Tainan City 0.84 302 eP Pb 13 24 08.6 +0.5
baz=315
ALS Alishan 0.84 330 eP Pb 13 24 07.5 -0.9
baz=331
CHN4 Tsaushan 0.84 313 eP Pb 13 24 08.5 +0.2
baz=314
TWK Hsinying 0.87 304 eP Pb 13 24 08.9 +0.2
baz=305
TWK eS Sn 13 24 23.1 +1.4
baz=305
EGFH Guangfu 0.90 9 eP Pn 13 24 09.9 0.0
baz=12
TWKBT Hengchun 0.93 207 eS Sg 13 24 22.6 +0.1
baz=191
TWK1 Hengchun 0.94 207 eS Sn 13 24 23.2 -0.1
baz=191
VWDT VWDT 0.98 353 eP Pb 13 24 09.6 -1.0
baz=359
CHN5 Tsauling 0.98 326 eP Pb 13 24 10.4 -0.2
baz=327
WHYT Xinyi Township 0.99 337 eP Pb 13 24 10.3 -0.5
baz=338
WHYT eS Sb 13 24 21.9 -1.6
baz=338
ESL Shilin 1.04 8 eP Pg 13 24 12.5 +0.1
baz=11
SSLB Suanglung 1.05 344 eP Pn 13 24 12.5 +0.5
baz=335
CHY Chiayi 1.06 313 eP Pn 13 24 12.2 +0.1
baz=314
ICHU Yijhu 1.08 303 eP Pb 13 24 12.7 +0.4
baz=304
WDLH Douliu 1.13 324 eP Pb 13 24 13.9 +0.8
baz=324
WLGB Puzi 1.13 308 eP Pg 13 24 14.8 +0.8
baz=309
SMLT Sun Moon Lake 1.15 343 eP Pb 13 24 14.2 +0.6
baz=343
WJS Zhushan 1.15 335 eP Pb 13 24 14.3 +0.8
baz=341
OWD Renai 1.18 356 eP Pn 13 24 12.5 -1.3
baz=8.0
TYC Yuchr 1.18 341 eP Pb 13 24 14.8 +0.8
baz=345
WTK Tuku 1.22 318 eP Pb 13 24 14.7 +0.2
baz=317
WTK eS Sg 13 24 31.8 +0.3
baz=317
WNT Mingjian 1.22 334 eP Pg 13 24 16.2 +0.5
baz=331
WNT eS Sg 13 24 32.4 +0.7
baz=331
CHGB Renai 1.28 356 eP Pn 13 24 15.1 -0.3
baz=6.0
DPDB Guoxing 1.29 346 eP Pn 13 24 13.7 -1.6
baz=345
WHF Hehuan Shan 1.36 360 eP Pn 13 24 15.8 -0.8
baz=13
NACB Ninganchiao 1.42 12 eP Pn 13 24 17.0 -0.1
baz=13
ETLH Xiulin Townshi 1.44 8 eP Pn 13 24 16.9 -0.5
baz=22
FUSS Fushou 1.46 359 eP Pn 13 24 17.1 -0.8
baz=10.0
TDCB Techi 1.47 356 eP Pn 13 24 18.4 +0.5
baz=8.0
WHP Taichung City 1.52 349 eP Pb 13 24 19.9 0.0
baz=349
WHP eS Sb 13 24 39.6 +0.7
baz=349
WDGT Dungji 1.56 288 eP Pn 13 24 18.8 -0.1
baz=290
TWQ1 Liyutan 1.63 344 eP Pn 13 24 21.0 +1.1
baz=339
TWQ1 eS Sg 13 24 44.3 -0.4
baz=339
NNSB Datong 1.65 4 eP Pn 13 24 20.9 +0.6
baz=18
NNSH Datong 1.65 4 eP Pn 13 24 21.2 +0.9
baz=18
NNS Nan Shan 1.66 3 eP Pb 13 24 23.0 +0.8
baz=19
NSY Sanyi 1.70 344 eP Pn 13 24 21.0 +0.1
baz=342
VCHM Qimei 1.75 285 eP Pn 13 24 21.4 -0.1
baz=287
NDT Datong Townshi 1.83 7 eP Pb 13 24 24.6 -0.5
baz=19
ENTT Nioudou 1.87 8 eP Pn 13 24 22.8 -0.5
baz=21
YHNB Yeheng 1.89 3 eP Pb 13 24 25.1 -1.0
baz=17

NSK Sanguang 1.89 2 eP Pn 13 24 23.4 -0.1
baz=17
TWE Neicheng 1.97 11 eP Pn 13 24 26.0 +1.5
baz=10.0
NWLT Wulai 2.00 6 eP Pb 13 24 27.0 -1.0
baz=18
TIPB Shuangxi 2.24 13 eP Pn 13 24 28.3 -0.1
baz=12
JYNG Yonagunijimaku 2.27 42 eS Sn 13 24 57.4 +1.2
HATJ Hateruma jima 2.66 61 P Pn 13 24 32.5 -1.5
HATJ eS Sn 13 25 04.9 -0.8
IRIF Iriomote-Funau 2.74 55 P Pn 13 24 34.1 -1.1
IRIF S Sn 13 25 08.6 +0.8
JKRS Kuro-shima 2.91 59 P Pn 13 24 37.9 +0.5
JKRS eS Sn 13 25 11.8 -0.1
JIJ Ishigaki jima 3.07 59 P Pn 13 24 40.4 +0.6
JIJ eS Sn 13 25 16.0 -0.1
JISG Ishigakijimahi 3.32 57 P Pn 13 24 42.4 -0.7
JISG eS Sn 13 25 22.2 +0.1
JTJ Tarama 3.65 59 S Sn 13 25 30.9 +0.5

*SKHL **25** 13:38:30.9±0.1, 47.97N×155.26E, h41km±5km, mb4.5/6*
*MOS **25** 13:38:31.1±1.6, 48.23N×155.05E, h24km, mb4.3/1, Error ellipse: s-maj=16.5km s-min=4.8km az=73.6*
*KRSC **25** 13:38:33.0±2.1, 48.20N×156.75E, h17km±43km, ML4.2*
*NEIC **25** 13:38:34.7±2.4, 48.3N±0.1×155.1E±0.2, h49km±9km, mb4.3/10, Error ellipse: s-maj=19.4km s-min=11.7km az=141.0*
*IDC **25** 13:38:34.7±5.5, 48.40N×154.90E, h33km±41km, mb3.6/12, mb1 3.8/17, mb1mx3.6/57, mbtmp3.8/17, ML3.1/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/37, Error ellipse: s-maj=28.2km s-min=17.9km az=119.0*

ISC 25 13:38:32.2±0.7, 48°02N±0°08×155°24E±0°08, h35km, n104, σ1s84/111, mb3.9/14, MS3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.73**	**12**	*eP*		**Pn**	**13 39 13.2**	**-0.3**
SKR				*eS*		**Sn**	**13 39 44.5**	**-0.8**
SKR	**Severo-Kuril's**	**2.73**	**12**	*eP*		**Pn**	**13 39 13.0**	**-0.5**
SKR				AMB		AMB	13 39 18.0	
	40nm,0.4s							
SKR				*eS*		**Sn**	**13 39 44.6**	**-0.8**
SKR				A		A	13 39 55.0	
	126nm,0.4s							
SKR				A		A	13 39 55.0	
	155nm,0.4s							
SKR	**Severo-Kuril's**	**2.73**	**12**	*e*PN		**Pn**	**13 39 16.0**	**+2.5**
SKR				*eS*		**Sn**	**13 39 44.4**	**-0.8**
SKR				pmax		pmax		
	comp=Z,60nm,0.7s							
SKR				smax		smax		
	comp=N,233nm,0.6s							
SKR				smax		smax		
	comp=E,216nm,0.9s							
PAU	**Pauzhetka**	**3.60**	**16**	*eP*		**Pn**	**13 39 26.1**	**+0.6**
PAU				*eS*		**Sn**	**13 40 05.7**	**-1.1**
PAU	**Pauzhetka**	**3.60**	**16**	*eP*		**Pn**	**13 39 25.7**	**+0.2**
PAU				AMB		AMB	13 39 29.7	
	comp=E,50nm,0.4s							
PAU				*eS*		**Sn**	**13 40 06.8**	**0.0**
PAU				A		A	13 40 07.9	
	comp=E,220nm,0.4s							
PAU				A		A	13 40 07.9	
	comp=E,170nm,0.4s							
PAU	**Pauzhetka**	**3.60**	**16**	PN		**Pn**	**13 39 26.1**	**+0.6**
PAU				S		**Sn**	**13 40 05.7**	**-1.1**
KDTR	**Khodutka, Kamc**	**4.22**	**25**	*e*S		**Sn**	**13 40 18.3**	**-3.6**
ASAK	**Asacha**	**4.69**	**20**	*eP*		**Pn**	**13 39 40.6**	**0.0**
ASAK	**Asacha**	**4.69**	**20**	PN		**Pn**	**13 39 40.6**	**0.0**
GRL	**Gorelyy**	**4.89**	**21**	*eP*		**Pn**	**13 39 43.2**	**-0.1**
GRL				*e*S		**Sn**	**13 40 37.5**	**-1.2**
GRL	**Gorelyy**	**4.89**	**21**	PN		**Pn**	**13 39 43.2**	**-0.1**
RUS	**Russkaya**	**4.90**	**24**	*eP*		**Pn**	**13 39 41.6**	**-1.6**
RUS				*e*S		**Sn**	**13 40 33.8**	**-4.8**
RUS	**Russkaya**	**4.90**	**24**	*eP*		**Pn**	**13 39 41.6**	**-1.6**
RUS	**Russkaya**	**4.90**	**24**	PN		**Pn**	**13 39 41.6**	**-1.6**
KRMR	**Karymshinskiy**	**5.16**	**20**	*eP*		**Pn**	**13 39 48.5**	**+1.6**
KRMR	**Karymshinskiy**	**5.16**	**20**	PN		**Pn**	**13 39 48.5**	**+1.6**
PEA0B	**Petropavlovsk-**	**5.33**	**16**	PN		**Pn**	**13 39 50.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**5.33**	**16**	Pn		**Pn**	**13 39 50.1**	**+0.8**
PETK	**Petropavlovsk-**	**5.33**	**16**	Pn		**Pn**	**13 39 49.1**	**-0.2**
	comp=E,1.1nm,0.3s,baz=169,slow=13,SNR=80							
PETK				LR		LR	13 42 14.8	
	comp=E,111nm,20.3s,baz=175,slow=44							
PETK	**Petropavlovsk-**	**5.33**	**16**	PN		**Pn**	**13 39 50.0**	**+0.7**
PETK	**Petropavlovsk-**	**5.33**	**16**			**Pn**	**13 39 50.0**	**+0.7**
PET	**Petropavlovsk**	**5.47**	**22**	*eP*		**Pn**	**13 39 49.6**	**-1.5**
PET				*e*S		**Sn**	**13 40 50.8**	**-1.9**
PET	**Petropavlovsk**	**5.47**	**22**	*eP*		**Pn**	**13 39 51.0**	**-0.1**
PET				*e*S		**Sn**	**13 40 51.5**	**-1.2**
PET				A		A	13 41 12.4	
	comp=E,70nm,0.7s							
PET				A		A	13 41 12.4	
	comp=E,60nm,0.7s							
PET	**Petropavlovsk**	**5.47**	**22**	*e*PN		**Pn**	**13 39 50.5**	**-0.6**
PET				MLR		MLR		
	comp=Z,100nm,16.0s							
PET	**Petropavlovsk**	**5.47**	**22**			**Pn**	**13 39 50.4**	**-0.6**
DALK	**Dalny**	**5.50**	**23**	*eP*		**Pn**	**13 39 50.8**	**-0.7**
DALK				*e*S		**Sn**	**13 40 51.2**	**-2.2**
DALK	**Dalny**	**5.50**	**23**	PN		**Pn**	**13 39 50.8**	**-0.7**
UGLR	**Uglovaya**	**5.68**	**22**	P		**Pn**	**13 39 55.6**	**+1.5**
UGLR	**Uglovaya**	**5.68**	**22**	PN		**Pn**	**13 39 55.6**	**+1.5**
AVH	**Avacha**	**5.71**	**22**	P		**Pn**	**13 39 54.6**	**+0.1**
AVH	**Avacha**	**5.71**	**22**	*eP*		**Pn**	**13 39 54.6**	**+0.1**
AVH	**Avacha**	**5.71**	**22**	PN		**Pn**	**13 39 54.6**	**+0.1**
KOK	**Koryaka**	**5.71**	**21**	*eP*		**Pn**	**13 39 54.9**	**+0.4**
KOK	**Koryaka**	**5.71**	**21**	*eP*		**Pn**	**13 39 54.9**	**+0.4**
KOK	**Koryaka**	**5.71**	**21**	PN		**Pn**	**13 39 54.9**	**+0.4**
SMAR	**Somma**	**5.72**	**22**	*eP*		**Pn**	**13 39 55.6**	**+0.8**
SMAR	**Somma**	**5.72**	**22**	PN		**Pn**	**13 39 55.6**	**+0.8**
KRER	**Koryakskii**	**5.75**	**22**	P		**Pn**	**13 39 55.1**	**0.0**
KRER	**Koryakskii**	**5.75**	**22**	PN		**Pn**	**13 39 55.1**	**0.0**
KRX	**Arik**	**5.77**	**21**	*eP*		**Pn**	**13 39 56.0**	**+0.6**
KRX	**Arik**	**5.77**	**21**	PN		**Pn**	**13 39 56.0**	**+0.6**
KUR	**Kuril'sk**	**5.79**	**244**	*eP*		**Pn**	**13 39 55.6**	**0.0**
KUR				AMB		AMB	13 39 58.0	
	comp=Z,78nm,0.5s							
KUR				*eS*		**Sn**	**13 40 57.0**	**-3.7**
KUR				A		A	13 41 06.0	
	comp=Z,30nm,0.5s							
KUR				A		A	13 41 06.0	
	comp=Z,40nm,0.5s							
SPN	**Mys Shipunski**	**5.93**	**29**	P		**Pn**	**13 39 55.1**	**-2.4**
SPN				S		**Sn**	**13 41 00.2**	**-3.9**
SPN	**Mys Shipunski**	**5.93**	**29**	PN		**Pn**	**13 39 55.1**	**-2.4**
GNL	**Ganaly**	**5.94**	**16**	P		**Pn**	**13 39 59.4**	**+1.7**
GNL	**Ganaly**	**5.94**	**16**	PN		**Pn**	**13 39 59.4**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**7.64**	**242**	*eP*		**Pn**	**13 40 21.0**	**0.0**
YUK				AMB		AMB	13 40 23.0	
	comp=Z,12nm,0.7s							
YUK				*eS*		**Sn**	**13 41 44.6**	**-1.7**
YUK				A		A	13 41 45.9	
	comp=Z,230nm,0.8s							
YUK				A		A	13 41 45.9	
	comp=Z,220nm,0.8s							
MKZ	**Mys Kozlova**	**7.71**	**29**	S		**Sn**	**13 41 41.2**	**-6.6**
GRPR	**Tuman**	**7.72**	**242**	*eP*		**Pn**	**13 40 22.0**	**-0.1**
GRPR				AMB		AMB	13 40 23.0	
	comp=Z,35nm,0.5s							
GRPR				*eS*		**Sn**	**13 41 43.0**	**-5.2**
KZV	**Kizimen**	**7.77**	**22**	*eP*		**Pn**	**13 40 24.0**	**+1.1**
KZV	**Kizimen**	**7.77**	**22**	PN		**Pn**	**13 40 24.0**	**+1.1**
GLVR	**Golovnino**	**8.02**	**241**	*eP*		**Pn**	**13 40 26.0**	**-0.1**
GLVR				*eS*		**Sn**	**13 41 51.0**	**-4.5**
NMR	**Nemuro--Hokkai**	**8.12**	**239**	*eP*		**Pn**	**13 40 25.0**	**-2.5**
NMR				*i S*		**Sn**	**13 41 52.0**	**-5.9**
YSS	**Yuzh-Sakhalins**	**8.53**	**267**	*eP*		**Pn**	**13 40 35.1**	**+2.0**
YSS				AMB		AMB	13 40 37.2	
	comp=Z,19nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.53**	**267**	Pn		**Pn**	**13 40 36.9**	**+3.8**
JKA	**Kamikawa-asahi**	**9.61**	**251**			**Pn**	**13 40 50.4**	**+2.4**
ASAJ	**Asahikawa**	**9.61**	**251**	Pn		**Pn**	**13 40 50.2**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=77,slow=15,SNR=9.7							
ERM	**Erimo**	**10.44**	**239**	Pn		**Pn**	**13 40 58.6**	**-0.8**
KLR	**Kul'dur**	**15.57**	**283**	Pn		**Pn**	**13 42 09.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=74,slow=15,SNR=2.0							
USRK	**Ussuriysk Ar.**	**16.55**	**265**	Pn		**Pn**	**13 42 22.1**	**+0.7**
	baz=74,slow=14,SNR=5.7							
USRK	**Ussuriysk Ar.**	**16.55**	**265**	P		**P**	**13 42 23.8**	**+0.1**

USRK Ussuriysk Ar. 16.55 265 P P 13 42 23.8 +0.1
MJAR Matsushiro Arr 17.00 234 P P 13 42 30.1 +1.5
comp=Z,0.0nm,0.3s,baz=22,slow=9.2,SNR=4.7
MJAR Matsushiro Arr 17.00 234 P P 13 42 30.5 +1.8
MJAR pmax pmax
comp=Z,25nm,1.3s
MJAR Matsushiro Arr 17.00 234 P P 13 42 30.4 +1.8
MJB9 Matsu-Tunnel 17.00 234 P P 13 42 31.0 +2.3
JGF Kuroka 18.16 233 P P 13 42 42.1 +0.6
ADK Adak 18.42 67 P Pn 13 42 44.7 +0.2
ADK pmax pmax
comp=Z,44nm,1.3s
ADK Adak 18.42 67 P Pn 13 42 44.7 +0.2
ADK lAmb lAmb 13 43 27.2
comp=Z,44nm,1.3s
JWT Wachi 19.46 236 P Pn 13 42 56.8 -0.4
JWT lAmb lAmb 13 43 09.5
comp=Z,14nm,1.2s
KSRS Korea Array 22.56 252 P P 13 43 29.3 +0.1
comp=Z,2.1nm,0.8s,baz=54,slow=10,SNR=6.7
KSRS LR LR 13 51 32.0
comp=Z,22nm,18.0s,baz=205,slow=35
SPIA Saint Paul Isl 22.65 53 P P 13 43 29.9 -0.1
H11N2 WAKE ISLAND Hy 29.76 157 T T 14 16 22.0
baz=344,slow=76,SNR=9.8
H11N1 WAKE ISLAND Hy 29.77 157 T T 14 16 26.2
baz=344,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 29.77 157 T T 14 16 19.0
baz=344,slow=76,SNR=7.7
H11S1 WAKE ISLAND Hy 30.88 158 T T 14 17 52.0
baz=344,slow=76,SNR=97
H11S3 WAKE ISLAND Hy 30.89 158 T T 14 18 01.2
baz=344,slow=76,SNR=118
H11S2 WAKE ISLAND Hy 30.90 158 T T 14 17 54.3
baz=344,slow=76,SNR=89
SONM Songino Array 32.29 288 LR LR 13 59 07.3
comp=Z,67nm,19.2s,baz=83,slow=39
ZALV Zalesovo Beam 43.05 305 LR LR 14 06 29.1
comp=Z,32nm,20.9s,baz=38,slow=39
MK31 Makanchi Array 47.65 297 P P 13 47 03.9 -0.8
MK31 Makanchi Array 47.65 297 P P 13 47 03.9 -0.8
MK31 lAmb lAmb 13 47 04.3
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 47.65 297 P P 13 47 03.8 -1.0
comp=Z,1.3nm,0.6s,baz=62,slow=8.3,SNR=14
MKAR Makanchi Array 47.65 297 P P 13 47 03.4 -1.4
KURK Kurchatov 47.87 303 eP P 13 47 05.0 -1.4
KURK Kurchatov 47.87 303 P P 13 47 05.0 -1.4
KURK Kurchatov 47.87 303 P P 13 47 05.0 -1.4
KURK lAmb lAmb 13 47 06.0
comp=Z,4.3nm,0.7s
CMAR Chiang Mai Arr 54.07 257 P P 13 47 54.9 +1.6
comp=Z,0.3nm,0.4s,baz=33,slow=6.9,SNR=1.9
FINES FINESS Array B 63.50 335 P P 13 48 57.4 -0.9
comp=Z,3.8nm,1.0s,baz=35,slow=7.0,SNR=4.1
FINES FINESS Array B 63.50 335 P P 13 48 57.8 -0.5
FINES FINESS Array B 63.50 335 P P 13 48 57.8 -0.5
NOA NORSAR Array B 67.48 342 P P 13 49 24.4 +0.3
comp=Z,0.8nm,0.6s,baz=24,slow=6.2,SNR=3.3
HFS Hagfors 67.76 340 P P 13 49 26.2 +0.4
comp=Z,1.6nm,0.4s,baz=67,slow=3.9,SNR=10.0
WRA Warramunga Arr 70.20 201 P P 13 49 47.1 +5.7
comp=Z,0.3nm,0.9s,baz=14,slow=6.4,SNR=1.4
WRA Warramunga Arr 70.20 201 P P 13 49 44.9 +3.6
AS31 Alice Springs 73.88 200 P P 13 50 06.7 +3.3
ASAR Alice Springs 73.88 200 P P 13 50 08.2 +4.9
comp=Z,0.3nm,0.6s,baz=10,slow=5.4,SNR=5.2
ASAR Alice Springs 73.88 200 P P 13 50 06.6 +3.2
EKA Eskdalemuir Ar 75.43 347 P P 13 50 13.0 +0.9
comp=Z,2.0nm,0.8s,baz=19,slow=5.3,SNR=1.7
EKA Eskdalemuir Ar 75.43 347 P P 13 50 13.0 +0.9
TXAR Lajitas Array 75.62 62 P P 13 50 15.1 +1.4
comp=Z,0.3nm,0.5s,baz=304,slow=4.4,SNR=5.6
GERES GERESS Array B 77.93 335 P P 13 50 27.8 +1.3
comp=Z,0.3nm,0.3s,baz=34,slow=5.5,SNR=5.2
GERES GERESS Array B 77.93 335 P P 13 50 26.0 -0.4
BRTR Keskin Array B 78.44 318 P P 13 50 29.2 -0.2
comp=Z,0.5nm,0.4s,baz=52,slow=8.2,SNR=2.0

IDC 25 14:02:04.6±11.0, 12.38S×166.76E, h243km±134km, mb2.9/3, mb1 3.3/4, mb1mx3.0/27, mbtmp3.6/4, Error ellipse: s-maj=102.8km s-min=30.6km az=157.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.64**	**182**	P		Pn	14 04 19.3	+0.5
	0.3nm,0.3s,baz=312,slow=22,SNR=10							
DZM				S		S	14 06 06.3	-1.1
	0.1nm,0.3s,baz=69,slow=16,SNR=1.1							
WRA	**Warramunga Arr**	**31.99**	**252**	P		P	14 08 08.4	0.0
	0.2nm,0.4s,baz=82,slow=8.9,SNR=6.9							
ASAR	**Alice Springs**	**33.11**	**246**	P		P	14 08 18.1	-0.1
	0.3nm,0.3s,baz=70,slow=10,SNR=12							
ILAR	**Eielson Array**	**84.46**	**18**	P		P	14 14 09.6	-0.1
	0.4nm,0.6s,baz=238,slow=4.9,SNR=5.9							

*MEX **25** 14:15:04.1±0.6, 16.00N×99.21W, h12km, MD3.9*
*IDC **25** 14:15:04.3±1.4, 16.30N×98.88W, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.9/37, mbtmp3.8/12, ML3.4/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/38, Error ellipse: s-maj=29.2km s-min=17.3km az=18.0*

ISC 25 14:15:04.4±0.7, 16.37N±0.05×99.08W±0.02, h10km, n46, σ2s24/60, mb3.9/9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.91**	**88**	*eP*		**Pb**	**14 15 21.6**	**-0.7**
PNIG				*i S*		**Sn**	**14 15 35.5**	**-1.1**
ACP2	**Acapulco**	**0.92**	**303**	*eP*		**Pg**	**14 15 19.6**	**-2.6**
ACP2				*eS*		**Sg**	**14 15 32.8**	**-1.5**
CAIG	**El Cayaco**	**1.32**	**301**	*eP*		**Pn**	**14 15 26.2**	**-2.8**
CAIG				*i S*		**Sb**	**14 15 44.3**	**-2.1**
TXIG	**Tlaxiaco**	**1.53**	**55**	*eP*		**Pg**	**14 15 32.7**	**-1.2**
TXIG				*eS*		**Sg**	**14 15 54.2**	**+0.4**
YOIG	**Yosondua**	**1.55**	**72**	*eP*		**Pn**	**14 15 31.6**	**-0.7**
YOIG				*eS*		**Sg**	**14 15 53.8**	**-0.4**
MEIG	**Mezcala**	**1.63**	**342**	*i P*		**Pb**	**14 15 34.0**	**-0.7**
MEIG				*i S*		**Sg**	**14 15 57.0**	**0.0**
FTIG	**Fresnillo de T**	**1.78**	**30**	*eP*		**Pg**	**14 15 36.7**	**-1.8**
PEIG	**Puerto Escondi**	**1.89**	**101**	*eP*		**Pn**	**14 15 34.2**	**-2.5**
PEIG				*i S*		**Sn**	**14 15 58.0**	**-2.7**
HLIG	**Huajuapan de L**	**1.90**	**40**	*eP*		**Pb**	**14 15 38.1**	**-1.1**
HLIG				*i S*		**Sg**	**14 16 05.1**	**-0.4**
PLIG	**Platanillo**	**2.05**	**349**	*eP*		**Pb**	**14 15 40.5**	**-1.3**
PLIG				*eS*		**Sg**	**14 16 08.4**	**-2.1**
ARIG	**Puente Sto Nin**	**2.25**	**328**	*i P*		**Pn**	**14 15 42.3**	**+0.5**
ARIG				*i S*		**Sb**	**14 16 11.3**	**-2.0**
VHO	**Vista Hermosa**	**2.35**	**72**	*eP*		**Pn**	**14 15 44.0**	**+0.7**
VHO				*i S*		**Sb**	**14 16 14.6**	**-1.7**
OXBJ	**Oaxaca**	**2.36**	**73**	*eP*		**Pn**	**14 15 42.6**	**-0.8**
YAIG	**Yautepec**	**2.48**	**0**	*eP*		**Pb**	**14 15 49.3**	**+0.1**
ZIIG	**Zihuatanejo**	**2.59**	**299**	*eP*		**Pn**	**14 15 45.2**	**-1.2**
ZIIG				*i S*		**Sn**	**14 16 15.8**	**-2.2**
MAVM	**Malinalco, Edo**	**2.60**	**351**	*eP*		**Pb**	**14 15 49.9**	**-1.5**
AMVM	**AMECAMECA**	**2.76**	**6**	*eP*		**Pg**	**14 15 56.0**	**-1.4**
UNM	**Universidad Na**	**2.95**	**358**	*eP*		**Pg**	**14 15 58.6**	**-2.3**
UNM				*eS*		**Sg**	**14 16 39.0**	**-0.1**
TOVM	**TOLUCA**	**2.95**	**349**	*eP*		**Pb**	**14 15 56.0**	**-1.3**
PTVM	**Pico Tres Padr**	**3.21**	**359**	*eP*		**Pb**	**14 16 00.1**	**-1.6**
VTVM	**Tizayuca**	**3.40**	**5**	*eP*		**Pb**	**14 16 03.0**	**-1.9**
ACIG	**Acambay**	**3.67**	**348**	*eP*		**Pg**	**14 16 11.9**	**-3.0**
CMIG	**Matias Romero**	**4.08**	**79**	Pn		**Pn**	**14 16 06.6**	**-0.4**
	1.3nm,0.3s,baz=258,slow=14,SNR=14							
CMIG				Sn		**Sn**	**14 16 53.5**	**-1.3**
	5.6nm,0.3s,baz=254,slow=18,SNR=2.6							
CMIG				Lg		Lg	14 17 08.9	
	5.5nm,0.3s,baz=346,slow=6.9,SNR=4.1							
CMIG				LR		LR	14 17 36.7	
	comp=Z,126nm,18.9s,baz=260,slow=39							
CMIG	**Matias Romero**	**4.08**	**79**	*eP*		**Pn**	**14 16 06.3**	**-0.6**
CMIG				*i S*		**Sb**	**14 17 00.6**	**-5.3**
MMIG	**Aquila**	**4.50**	**296**	*eP*		**Pn**	**14 16 09.2**	**-3.4**
MMIG				*eS*		**Sn**	**14 17 04.5**	**-0.6**
COIG	**Colima**	**5.21**	**303**	*i P*		**Pn**	**14 16 25.1**	**+2.6**
COIG				*eS*		**Sb**	**14 17 30.2**	**-8.1**
EZ5V		**5.30**	**306**	*eP*		**Pn**	**14 16 24.2**	**+0.2**
EZ5V				*i S*		**Sn**	**14 17 25.2**	**-0.1**
R15V		**5.44**	**302**	*eP*		**Pn**	**14 16 26.4**	**+0.7**
R15V				*eP*		**Pn**	**14 16 29.0**	**+3.3**
R15V				*eS*		**Sn**	**14 17 31.8**	**+3.4**
H06E1	**SOCORRO T-PHAS**	**1.55**	**284**	T		T	14 29 25.3	

	SNR=10.0							
LPIG	**La Paz**	**13.04**	**308**	LR	LR	14 22 23.5		
	comp=Z,84nm,18.9s,baz=117,slow=33							
TXAR	**Lajitas Array**	**13.58**	**343**	Pn	P	14 18 21.3	-5.1	
	baz=157,slow=14,SNR=4.1							
TXAR				LR	LR	14 23 36.0		
	comp=Z,57nm,19.0s,baz=0.0,slow=37							
ANMO	**Albuquerque**	**19.65**	**342**	P	**Pn**	**14 19 36.8**	**+1.9**	
	0.2nm,0.3s,baz=155,slow=12,SNR=7.5							
PFO	**Pinyon Flats O**	**23.24**	**321**	P	**P**	**14 20 16.8**	**+4.7**	
	0.6nm,0.5s,baz=74,slow=6.8,SNR=2.0							
TKL	**Tuckaleechee C**	**23.57**	**33**	P	**P**	**14 20 16.8**	**+1.6**	
	3.1nm,0.7s,baz=192,slow=12,SNR=5.8							
NVAR	**Mina Array Bea**	**27.71**	**326**	P	**P**	**14 20 56.4**	**+3.2**	
	0.7nm,0.7s,baz=138,slow=10.0,SNR=4.2							
PDAR	**Pinedale Array**	**27.80**	**343**	P	**P**	**14 20 56.4**	**+2.5**	
	2.1nm,0.9s,baz=140,slow=9.4,SNR=12							
PDAR				LR	LR	14 31 54.6		
	comp=Z,82nm,18.4s,baz=172,slow=36							
ULM	**Lac du Bonnet**	**33.90**	**4**	P	**P**	**14 21 47.9**	**+0.6**	
	7.2nm,0.9s,baz=200,slow=10,SNR=4.7							
YKA	**Yellowknife Ar**	**47.35**	**350**	P	**P**	**14 23 40.1**	**+1.8**	
	1.5nm,0.8s,baz=212,slow=34,SNR=2.8							
YKA				LR	LR	14 43 16.3		
	comp=Z,53nm,20.2s,baz=0.0,slow=36							
SIV	**San Ignacio**	**49.40**	**129**	P	**P**	**14 23 54.2**	**-0.5**	
	0.5nm,0.4s,baz=318,slow=15,SNR=1.7							
H03N2	**Juan Fernandez**	**53.13**	**159**	T	T	15 21 35.4		
	baz=338,slow=77,SNR=7.5							
H03N1	**Juan Fernandez**	**53.14**	**159**	T	T	15 21 31.1		
	baz=338,slow=77,SNR=7.3							
H03N3	**Juan Fernandez**	**53.15**	**159**	T	T	15 21 34.7		
	baz=338,slow=77,SNR=8.5							
INK	**Inuvik**	**56.34**	**345**	P	**P**	**14 24 46.5**	**+1.3**	
	1.8nm,0.8s,baz=67,slow=7.9,SNR=4.7							
ILAR	**Eielson Array**	**58.04**	**338**	P	**P**	**14 24 59.6**	**+2.3**	
	0.8nm,0.9s,baz=152,slow=4.7,SNR=6.1							
WRA	**Warramunga Arr**	**129.29**	**257**	PKP	**PKiKP**	**14 34 16.2**	**+1.5**	
	0.5nm,0.9s,baz=77,slow=2.4,SNR=3.3							
CMAR	**Chiang Mai Arr**	**141.11**	**332**	PKP	**PKPdf**	**14 34 36.2**	**+0.2**	
	0.2nm,0.4s,baz=346,slow=1.9,SNR=2.0							

*SCEDC **25** 14:31:14.9±0.2,36.14N×118.06W,h0km,ML3.6*
*ANF **25** 14:31:14.6±0.1,36.13N×118.06W,h7km±1km,ML3.7/36, Error ellipse: s-maj=0.9km s-min=0.8km az=139.0*
*PAS **25** 14:31:15.1±1.1,36.130N±0.009×118.05W±0.01, h0km±6km,ML3.6/196,Error ellipse: s-maj=1.4km s-min=1.2km az=50.0*
*NEIC **25** 14:31:15.2±1.2,36.132N±0.009×118.06W±0.01, h2km±6km,Error ellipse: s-maj=1.5km s-min=1.3km az=64.0*

ISC 25 14:31:15.1±1.0,36.13N±0.01×118.05W±0.01,h3km±9km, n125,σ0.87/190,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.16**	**96**		**Pg**	**14 31 18.4**	**+0.1**
WRVM	**Rose V. Centra**	**0.18**	**134**		**Pg**	**14 31 18.8**	**+0.1**
WRVM					**Sg**	**14 31 21.4**	**+0.4**
WLHM	**Little Horse**	**0.21**	**275**		**Pg**	**14 31 19.4**	**0.0**
WLHM					**Sg**	**14 31 22.6**	**+0.4**
JRC2	**Joshua Ridge**	**0.25**	**128**		**Pg**	**14 31 20.1**	**+0.2**
JRC2					**Sg**	**14 31 23.9**	**+0.7**
WCHM	**Chimney Peak**	**0.25**	**185**		**Pg**	**14 31 20.0**	**0.0**
WCSM	**Coso Springs S**	**0.25**	**115**		**Pg**	**14 31 20.2**	**+0.2**
WCSM					**Sg**	**14 31 23.9**	**+0.5**
WVPM	**Volcano Peak E**	**0.26**	**134**		**Pg**	**14 31 20.4**	**+0.2**
WVPM					**Sg**	**14 31 24.5**	**+0.7**
CWC	**Cottonwood Cre**	**0.31**	**355**	P	**Pg**	**14 31 20.7**	**-0.4**
	baz=176						
CWC				S	**Sg**	**14 31 25.1**	**0.0**
	baz=176						
CWC	**Cottonwood Cre**	**0.31**	**355**		**Pg**	**14 31 20.9**	**-0.2**
CWC					**Sg**	**14 31 25.1**	**0.0**
WNMM	**Nine Mile Cany**	**0.31**	**158**		**Pg**	**14 31 21.0**	**-0.1**
WNMM					**Sg**	**14 31 25.4**	**+0.2**
TOW	**Tower One**	**0.40**	**144**		**Pg**	**14 31 23.2**	**+0.3**
CGO	**Cerro Gordo**	**0.46**	**26**		**Pg**	**14 31 24.0**	**-0.1**
CGO					**Sg**	**14 31 31.0**	**+0.9**
MPMC	**Manual Prospec**	**0.46**	**99**	P	**Pg**	**14 31 24.0**	**0.0**
	baz=279,SNR=1000						
MPMC				S	**Sg**	**14 31 30.5**	**+0.5**
	baz=279						
MPMC	**Manual Prospec**	**0.46**	**99**		**Pg**	**14 31 24.0**	**0.0**
MPMC					**Sg**	**14 31 30.7**	**+0.7**
WORM	**Onyx Ranch**	**0.47**	**200**		**Pg**	**14 31 23.9**	**-0.2**
WORM					**Sg**	**14 31 30.1**	**0.0**
CLC	**China Lake**	**0.49**	**131**		**Pg**	**14 31 24.5**	**0.0**
CLC					**Sg**	**14 31 31.3**	**+0.6**
WHFM	**Hanning Flat**	**0.50**	**209**		**Pg**	**14 31 24.7**	**-0.1**
WHFM					**Sg**	**14 31 31.6**	**+0.4**
SRTC	**Snort**	**0.51**	**151**		**Pg**	**14 31 25.2**	**+0.4**
SRTC					**Sb**	**14 31 33.1**	**-1.3**
WASM	**Alta Sierra Ca**	**0.57**	**226**		**Pg**	**14 31 26.1**	**0.0**
WASM					**Sg**	**14 31 33.8**	**+0.3**
ISA	**Isabella, Lake**	**0.58**	**216**	P	**Pg**	**14 31 26.2**	**-0.2**
	baz=36,SNR=545						
ISA				S	**Sg**	**14 31 34.2**	**+0.3**
	baz=36						
ISA	**Isabella, Lake**	**0.58**	**216**		**Sg**	**14 31 34.2**	**+0.3**
ISA	**Isabella, Lake**	**0.58**	**216**	Pg	**Pg**	**14 31 25.9**	**-0.4**
SPG2	**Springville 2**	**0.58**	**277**		**Pg**	**14 31 26.1**	**-0.3**
SPG2					**Sg**	**14 31 34.0**	**+0.1**
WBSM	**Bird Springs**	**0.60**	**187**		**Pg**	**14 31 26.5**	**-0.1**
WBSM					**Sg**	**14 31 34.9**	**+0.4**
LRMC	**Laurel Mtn Rad**	**0.72**	**155**	P	**Pg**	**14 31 28.7**	**-0.3**
	baz=335,SNR=18						
LRMC				S	**Sg**	**14 31 38.5**	**+0.3**
	baz=335						
LRMC	**Laurel Mtn Rad**	**0.72**	**155**		**Pg**	**14 31 28.6**	**-0.3**
LRMC					**Sg**	**14 31 38.5**	**+0.3**
WOFM	**Oak Flat**	**0.81**	**222**		**Pg**	**14 31 30.3**	**-0.2**
CCCA	**Chr Cany lake**	**0.82**	**137**		**Pg**	**14 31 31.1**	**+0.1**
CCCA					**Sg**	**14 31 41.7**	**+0.1**
DTP	**Desert Tortois**	**0.88**	**169**		**Pg**	**14 31 31.6**	**-0.4**
DTP					**Sg**	**14 31 43.2**	**-0.2**
VES	**Vestal, Richgr**	**0.89**	**251**	P	**Pg**	**14 31 32.1**	**-0.1**
	baz=71,SNR=139						
VES				S	**Sg**	**14 31 43.5**	**-0.1**
	baz=71						
VES	**Vestal, Richgr**	**0.89**	**251**		**Pg**	**14 31 32.1**	**-0.1**
VES					**Sg**	**14 31 43.6**	**-0.1**
TIN	**Tinemaha, Big**	**0.93**	**351**	P	**Pg**	**14 31 32.7**	**-0.3**
	baz=171,SNR=141						
TIN				S	**Sg**	**14 31 45.7**	**+0.7**
	baz=171						
TIN	**Tinemaha, Big**	**0.93**	**351**		**Pg**	**14 31 32.8**	**-0.3**
TIN					**Sb**	**14 31 46.3**	**-0.4**
QSM	**Queen of Sheba**	**0.97**	**100**		**Pg**	**14 31 33.5**	**-0.3**
CCAC	**Calif City Air**	**0.98**	**178**		**Pg**	**14 31 33.5**	**-0.5**
CCAC					**Sg**	**14 31 46.7**	**+0.1**
RCTC	**Rector, Farmer**	**0.98**	**280**		**Pg**	**14 31 33.3**	**-0.6**
FURC	**Furnace Creek,**	**1.01**	**71**	P	**Pg**	**14 31 34.5**	**0.0**
	baz=251,SNR=139						
FURC				S	**Sg**	**14 31 48.4**	**+0.7**
	baz=251						
FURC	**Furnace Creek,**	**1.01**	**71**		**Pg**	**14 31 34.6**	**0.0**
FURC					**Sg**	**14 31 48.5**	**+0.7**
GRAC	**Grapevine Rang**	**1.02**	**32**	P	**Pg**	**14 31 34.4**	**-0.3**
	baz=213,SNR=124						
GRAC	**Grapevine Rang**	**1.02**	**32**		**Pg**	**14 31 34.5**	**-0.3**
TEJ	**El Tejon**	**1.04**	**210**		**Pg**	**14 31 34.4**	**-0.7**
TEJ					**Sg**	**14 31 48.3**	**-0.3**
MAGC	**SCE Magundon P**	**1.05**	**223**		**Pg**	**14 31 35.1**	**-0.1**
VOG	**Valley Oaks Go**	**1.09**	**280**	P	**Pg**	**14 31 35.6**	**-0.5**
	baz=100,SNR=26						
VOG				S	**Sg**	**14 31 50.5**	**+0.2**
	baz=100						
VOG	**Valley Oaks Go**	**1.09**	**280**		**Pg**	**14 31 35.6**	**-0.5**
VOG					**Sg**	**14 31 49.5**	**-0.8**
BAKC	**Calstate**	**1.17**	**228**		**Pg**	**14 31 37.3**	**-0.1**
BAKC					**Sb**	**14 31 53.6**	**+0.2**
ARVC	**Arvin**	**1.19**	**213**	P	**Pg**	**14 31 37.4**	**-0.5**
	baz=32,SNR=89						
ARVC				S	**Sg**	**14 31 53.4**	**+0.1**
	baz=32						
ARVC	**Arvin**	**1.19**	**213**		**Pg**	**14 31 37.5**	**-0.5**
ARVC					**Sg**	**14 31 53.4**	**+0.1**
TJR	**Tejon Ranch**	**1.24**	**207**		**Pg**	**14 31 38.0**	**-0.9**
EDW2	**Edwards Air Fo**	**1.25**	**178**	P	**Pg**	**14 31 38.0**	**-1.1**
	baz=358,SNR=189						
EDW2				S	**Sg**	**14 31 54.4**	**-1.0**
	baz=358						
EDW2	**Edwards Air Fo**	**1.25**	**178**		**Pg**	**14 31 38.0**	**-1.1**
EDW2					**Sg**	**14 31 54.5**	**-0.8**
TPO	**Tropico Hills**	**1.26**	**187**		**Pg**	**14 31 38.3**	**-1.0**
TPO					**Sg**	**14 31 55.5**	**-0.2**
GSC	**Goldstone, Bar**	**1.31**	**129**	P	**Pg**	**14 31 39.4**	**-0.8**
	baz=310,SNR=398						
GSC				S	**Sb**	**14 31 57.9**	**+0.2**
	baz=310						
GSC	**Goldstone, Bar**	**1.31**	**129**	Pg	**Pg**	**14 31 39.4**	**-0.8**
THC	**Tehachapi Micr**	**1.32**	**202**		**Pg**	**14 31 39.4**	**-1.1**
HYS	**Haystack Butte**	**1.33**	**163**		**Pg**	**14 31 39.8**	**-0.7**
HYS					**Sg**	**14 31 56.8**	**-1.0**
SBB	**Saddle Back Bu**	**1.45**	**173**		**Pn**	**14 31 41.7**	**-0.7**
SBB					**Sg**	**14 32 00.6**	**-1.3**
ALPC	**Antelope**	**1.46**	**188**		**Pn**	**14 31 42.5**	**+0.1**
SHOC	**Shoshone, Teco**	**1.46**	**99**	P	**Pn**	**14 31 41.3**	**-1.1**
	baz=280,SNR=304						
SHOC				Sb	**Sn**	**14 32 02.5**	**+0.6**
	baz=280						
SHOC	**Shoshone, Teco**	**1.46**	**99**		**Pn**	**14 31 41.2**	**-1.1**
SHOC					**Sn**	**14 32 02.6**	**+0.6**
AMDNV	**Amargosa**	**1.46**	**77**		**Pn**	**14 31 41.6**	**-0.8**
AMDNV					**Sb**	**14 32 01.2**	**-0.8**
LEOC	**Leona Valley**	**1.51**	**188**		**Pn**	**14 31 42.7**	**-0.5**
RRX	**Edison Barstow**	**1.52**	**145**	Pb	**Pn**	**14 31 43.1**	**-0.1**
	baz=326						
RRX				Sg	**Sg**	**14 32 05.0**	**+0.9**
	baz=326						
FRI	**Friant**	**1.59**	**303**		**Pn**	**14 31 43.6**	**-0.5**
ABL	**Mount Abel**	**1.60**	**217**		**Pn**	**14 31 44.2**	**-0.3**
LRRC	**Littlerock Res**	**1.60**	**179**		**Pn**	**14 31 44.8**	**+0.5**
OSI	**Osito Audit: C**	**1.61**	**200**	Pb	**Pn**	**14 31 44.7**	**+0.2**
	baz=20,SNR=81						
OSI				Sb	**Sg**	**14 32 07.0**	**0.0**
	baz=20						
OSI	**Osito Audit: C**	**1.61**	**200**		**Pn**	**14 31 44.6**	**0.0**
MLAC	**Mammoth, Mammo**	**1.62**	**337**	Pb	**Pn**	**14 31 45.4**	**+0.6**
	baz=157,SNR=69						
MLAC				Sb	**Sg**	**14 32 07.4**	**+0.2**
	baz=157						
MLAC	**Mammoth, Mammo**	**1.62**	**337**		**Pn**	**14 31 45.1**	**+0.3**
CRGC	**Crocker Grade**	**1.63**	**237**		**Pn**	**14 31 45.4**	**+0.6**
CRGC					**Sg**	**14 32 07.2**	**-0.2**
BCW	**Bitter Crk WRg**	**1.63**	**223**		**Pn**	**14 31 44.8**	**0.0**
BCW					**Sg**	**14 32 07.1**	**-0.4**
DMMB	**Old Mammoth Mi**	**1.66**	**333**	Pn	**Pn**	**14 31 45.7**	**+0.3**
PYR	**Pyramid**	**1.66**	**200**		**Pn**	**14 31 45.8**	**+0.5**
TPNV	**Topopah Spring**	**1.66**	**60**	P	**Pn**	**14 31 45.0**	**-0.2**
	baz=241,SNR=200						
TPNV				Sb	**Sg**	**14 32 08.8**	**+0.3**
	baz=241						
TPNV	**Topopah Spring**	**1.66**	**60**	Pn	**Pn**	**14 31 45.1**	**-0.2**
MCSM	**Casa Diablo Ho**	**1.67**	**336**		**Pb**	**14 31 46.2**	**-0.4**
CARC	**Carrizo Plain**	**1.68**	**241**		**Pb**	**14 31 46.1**	**-0.6**
JNH	**Juniper Hills**	**1.69**	**177**		**Pn**	**14 31 45.4**	**-0.2**
MDPB	**Devils Postpil**	**1.71**	**331**		**Pn**	**14 31 46.6**	**+0.6**
IR2C	**Iron Canyon**	**1.77**	**189**		**Pn**	**14 31 46.7**	**+0.1**
SMMC	**Simmler**	**1.78**	**243**	Pb	**Pn**	**14 31 47.2**	**+0.4**
	baz=62,SNR=52						
SMMC				Sb	**Sb**	**14 32 11.3**	**+0.1**
	baz=62						
CHFC	**Chilao Flat St**	**1.80**	**179**		**Pb**	**14 31 48.8**	**0.0**
PAGB	**Antelope Grade**	**1.83**	**258**		**Pn**	**14 31 47.7**	**+0.2**
TUQ	**Turquoise Moun**	**1.86**	**111**	P	**Pn**	**14 31 47.2**	**-0.9**
	baz=292,SNR=50						
TUQ				Sg	**Sg**	**14 32 15.6**	**+0.6**
	baz=292						
TUQ	**Turquoise Moun**	**1.86**	**111**		**Pn**	**14 31 47.3**	**-0.8**
MMIM	**Miami Mountain**	**1.87**	**314**		**Pb**	**14 31 49.2**	**-0.8**
DECC	**Green Verdugo**	**1.89**	**187**	Pb	**Pb**	**14 31 49.6**	**-0.7**
	baz=6.9,SNR=17						
DECC				Sb	**Sg**	**14 32 15.8**	**-0.1**
	baz=6.9						
PKM	**Mcpherson Peak**	**1.90**	**230**	Pb	**Pn**	**14 31 49.4**	**+0.7**
	baz=49,SNR=38						
PKM				S	**Sn**	**14 32 13.7**	**+0.5**
	baz=49						
BCH	**Branch Mountai**	**1.91**	**241**		**Pn**	**14 31 48.9**	**+0.3**
HEC	**Hector,Ludlow**	**1.91**	**132**	P	**Pn**	**14 31 47.7**	**-1.0**
	baz=313,SNR=39						
HEC				Sb	**Sb**	**14 32 15.7**	**+0.7**
	baz=313						
BFSC	**Mount Baldy Ra**	**1.92**	**170**	Sb	**Sg**	**14 32 16.1**	**-0.7**
	baz=350						
SSK	**Sunset Peak**	**1.94**	**171**		**Pb**	**14 31 51.3**	**0.0**
BLCC	**Black Canyon**	**1.95**	**195**		**Pn**	**14 31 49.9**	**+0.7**
PASC	**Pasadena Art C**	**1.96**	**183**		**Pn**	**14 31 49.5**	**+0.2**
TPH	**Tonopah**	**2.05**	**19**		**Pn**	**14 31 50.7**	**+0.1**
PSMM	**Smith Mountain**	**2.06**	**269**		**Pn**	**14 31 51.5**	**+0.8**
BBRC	**Big Bear Solar**	**2.08**	**153**	Sb	**Sb**	**14 32 21.1**	**+1.0**
	baz=334						
PMPB	**Monarch Peak**	**2.23**	**273**	Pn	**Pn**	**14 31 53.5**	**+0.6**
NV11	**Mina Array Sit**	**2.29**	**358**		**Pn**	**14 31 54.5**	**+0.5**
SHPR	**Sheep Range**	**2.36**	**80**	Pn	**Pn**	**14 31 55.0**	**0.0**
GMRC	**Granite Mounta**	**2.37**	**124**	P	**Pn**	**14 31 53.4**	**-1.6**
	baz=305,SNR=29						
BLDC	**Black Mountain**	**2.40**	**256**		**Pn**	**14 31 55.8**	**+0.6**
MURC	**Murrieta**	**2.62**	**164**	P	**Pn**	**14 31 58.6**	**+0.2**
	baz=345						
MURC				Sb	**Sg**	**14 32 37.7**	**-1.7**
	baz=345						
CMB	**Columbia Colle**	**2.66**	**316**	Pn	**Pn**	**14 32 00.3**	**+1.4**
BELC	**Belle Mtn. Jos**	**2.71**	**141**	P	**Pn**	**14 31 59.1**	**-0.7**
	baz=322,SNR=9.3						
PRN	**Pahroc Range**	**2.72**	**61**		**Pn**	**14 31 60.0**	**+0.1**
CIS	**Catalina Islan**	**2.74**	**186**	P	**Pn**	**14 31 59.6**	**-0.5**
	baz=6.1,SNR=10						
CIS				Sb	**Sg**	**14 32 41.7**	**-1.6**
	baz=6.1						
SAO	**San Andreas Ge**	**2.81**	**284**	Pn	**Pn**	**14 32 01.9**	**+0.9**
PFO	**Pinyon Flats O**	**2.84**	**152**	P	**Pn**	**14 32 00.9**	**-0.5**
	baz=333,SNR=8.8						
PFO				Sb	**Sb**	**14 32 43.8**	**+2.2**
	baz=333						
PFO	**Pinyon Flats O**	**2.84**	**152**	Pn	**Pn**	**14 32 01.0**	**-0.4**
KVN	**Kaiserville**	**2.91**	**359**		**Pn**	**14 32 03.0**	**+0.5**
R11A	**Troy Canyon, C**	**2.96**	**41**	Pn	**Pn**	**14 32 03.0**	**-0.1**
	baz=222						
R11A				Pb	**Pb**	**14 32 08.9**	**+0.3**
	baz=222,SNR=27						
R11A				Sb	**Sg**	**14 32 49.2**	**-1.0**
	baz=222						
IRM	**Iron Mountain**	**3.09**	**129**	P	**Pn**	**14 32 03.3**	**-1.6**
	baz=310,SNR=6.2						
IRM				Sb	**Sg**	**14 32 51.9**	**-2.6**
	baz=310						
109C	**Camp Elliot, M**	**3.33**	**166**	Sb	**Sb**	**14 32 57.5**	**+1.8**
	baz=347						
MONP2	**Monument Peak**	**3.50**	**157**	Pn	**Pn**	**14 32 11.4**	**+0.7**
	baz=338						
MONP2				Pg	**Pb**	**14 32 19.6**	**+1.8**
	baz=338,SNR=16						
MONP2				Sb	**Sb**	**14 33 03.4**	**+2.5**
	baz=338						
BAR	**Barrett**	**3.63**	**161**	Pn	**Pn**	**14 32 12.0**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**3.83**	**155**	Pg	**Pb**	**14 32 25.9**	**+2.5**
	baz=336						
IKP				Sb	**Sg**	**14 33 14.8**	**-3.4**
	baz=336						
LCMT	**Little Creek M**	**3.97**	**76**		**Pn**	**14 32 17.6**	**+0.6**
CCUT	**Cedar City**	**4.02**	**68**		**Pn**	**14 32 18.8**	**+1.0**
GLA	**Glamis**	**4.07**	**138**	Sb	**Sg**	**14 33 23.8**	**-2.0**
	baz=320						
SPR3	**Spring Creek 3**	**4.11**	**45**	Pn	**Pn**	**14 32 18.6**	**-0.6**
ESJX	**Sierra Juarez**	**4.47**	**156**		**Pn**	**14 32 24.1**	**+0.1**
O03E	**Paynes Creek**	**5.10**	**326**	Sb	**Sg**	**14 33 53.8**	**-5.0**
	baz=144						
ELK	**Elko**	**5.11**	**25**	Pn	**Pn**	**14 32 34.0**	**+1.3**
WUAZ	**Wupatki**	**5.46**	**95**	Pg	**Pg**	**14 32 56.8**	**-3.0**
	baz=278						

*IDC **25** 14:49:19.1±1.0,3.98S×149.13E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.8/30,mbtmp3.8/9,ML3.1/1,MS3.4/16, Ms1 3.4/16,ms1mx3.2/34,Error ellipse: s-maj=27.0km s-min=21.2km az=138.0*

ISC 25 14:49:20.6±0.8,4.0S±0.2×149.11E±0.09,h10km,n28, σ0.98/11,mb3.8/8,MS3.4/13,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.92**	**96**	Pn	**Pn**	**14 50 06.4**	**-0.7**
	2.7nm,0.3s,baz=30,slow=21,SNR=1.7						
KRVT				Sn	**Sn**	**14 50 43.3**	**+0.9**
	5.7nm,0.3s,baz=91,slow=16,SNR=1.6						
PMG	**Port Moresby**	**5.72**	**200**	LR	LR	14 53 26.9	
	comp=Z,133nm,18.6s,baz=263,slow=43						
HNR	**Honiara**	**12.04**	**117**	LR	LR	14 56 56.4	
	comp=Z,91nm,21.4s,baz=282,slow=38						
GUMO	**Guam**	**17.96**	**347**	LR	LR	14 58 22.3	
	comp=Z,174nm,21.9s,baz=172,slow=30						
WRA	**Warramunga Arr**	**21.42**	**221**	P	**P**	**14 54 08.5**	**-0.5**
	1.9nm,0.9s,baz=40,slow=11,SNR=13						
ASAR	**Alice Springs**	**24.46**	**216**	P	**P**	**14 54 40.1**	**+0.2**
	4.7nm,0.9s,baz=48,slow=8.3,SNR=15						
ASAR				LR	LR	15 04 00.8	
	comp=Z,80nm,18.1s,baz=52,slow=36						
DZM	**Mont Dzumac**	**24.61**	**138**	LR	LR	15 02 59.0	
	comp=Z,193nm,19.2s,baz=243,slow=33						
BATI	**Baumata**	**25.98**	**255**	LR	LR	15 06 24.2	
	comp=Z,106nm,20.4s,baz=100,slow=39						
FITZ	**Fitzroy Crossi**	**26.91**	**237**	P	**P**	**14 55 02.4**	**+0.2**
	12nm,1.0s,baz=65,slow=8.8,SNR=9.0						
FITZ				LR	LR	15 06 12.5	
	comp=Z,105nm,20.9s,baz=66,slow=38						
H11S3	**WAKE ISLAND Hy**	**28.27**	**37**	T	T	15 24 18.5	
	baz=220,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**28.27**	**37**	T	T	15 24 23.7	
	baz=220,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy**	**28.28**	**37**	T	T	15 24 19.8	
	baz=220,slow=76,SNR=54						
KAPI	**Kappang**	**29.29**	**267**	LR	LR	15 07 47.0	
	comp=Z,25nm,21.8s,baz=53,slow=38						
H11N1	**WAKE ISLAND Hy**	**29.33**	**36**	T	T	15 25 51.7	
	baz=219,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**29.34**	**36**	T	T	15 25 40.5	
	baz=219,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**29.35**	**36**	T	T	15 25 54.3	
	baz=219,slow=76,SNR=46						
LEM	**Lembang**	**41.40**	**264**	LR	LR	15 17 14.2	
	comp=Z,32nm,19.0s,baz=38,slow=40						
NWAO	**Narrogin (SRO)**	**41.42**	**222**	LR	LR	15 13 58.5	
	comp=Z,80nm,18.9s,baz=136,slow=36						
MJAR	**Matsushiro Arr**	**41.58**	**347**	LR	LR	15 12 07.7	
	comp=Z,30nm,19.7s,baz=165,slow=33						
KSRS	**Korea Array**	**45.70**	**336**	LR	LR	15 15 18.0	
	comp=Z,44nm,18.4s,baz=160,slow=34						
USRK	**Ussuriysk Ar.**	**50.37**	**344**	LR	LR	15 17 08.3	
	comp=Z,40nm,21.1s,baz=145,slow=33						
CMAR	**Chiang Mai Arr**	**54.21**	**296**	P	**P**	**14 58 47.7**	**+0.8**
	0.2nm,0.4s,baz=98,slow=6.5,SNR=2.5						
SONM	**Songino Array**	**63.72**	**329**	P	**P**	**14 59 51.3**	**-1.2**
	0.4nm,0.3s,baz=117,slow=5.5,SNR=2.0						
SONM				LR	LR	15 25 33.2	
	comp=Z,17nm,21.8s,baz=120,slow=34						
MKAR	**Makanchi Array**	**77.31**	**320**	P	**P**	**15 01 14.8**	**-0.8**
	0.2nm,0.5s,baz=104,slow=5.5,SNR=2.5						
MKAR				LR	LR	15 35 07.9	
	comp=Z,31nm,19.2s,baz=309,slow=36						
ZALV	**Zalesovo Beam**	**78.46**	**327**	P	**P**	**15 01 23.4**	**+1.8**
	0.7nm,0.7s,baz=126,slow=7.3,SNR=1.8						
ILAR	**Eielson Array**	**82.82**	**23**	P	**P**	**15 01 44.9**	**+0.1**
	0.6nm,1.0s,baz=235,slow=6.4,SNR=3.2						
NEW	**Newport**	**95.46**	**42**	LR	LR	15 36 30.1	
	comp=Z,80nm,20.5s,baz=161,slow=30						
TORD	**Torodi Ar. Bea**	**146.56**	**288**	PKPbc	**PKPab**	**15 09 04.1**	**-0.3**
	0.4nm,0.9s,baz=52,slow=2.2,SNR=2.5						

*ATH **25** 14:51:52.2,35.22N×27.16E,h22km±1km,ML2.5/1,Error ellipse: s-maj=4.6km s-min=1.4km az=319.0*
*DDA **25** 14:51:52.8,35.30N×27.25E,h9km±1km,ML2.1*

ISC 25 14:51:52.3±1.5,35.26N±0.07×27.23E±0.04,h11km±12km, n17,σ1.37/23,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.29**	**349**	P	**Pg**	**14 51 58.9**	**+0.7**
KARP				S	**Sb**	**14 52 04.8**	**+0.5**
KARP				AML	AML	14 52 06.0	
	comp=E,1923μm,0.3s						
KARP				AML	AML	14 52 06.7	
	comp=N,1885μm,0.4s						
ZKR	**Zakros**	**0.84**	**260**	P	**Pb**	**14 52 07.1**	**-1.8**
ZKR				S	**Sg**	**14 52 18.2**	**-1.3**
ARG	**Arkhangelos**	**1.20**	**37**	P	**Pg**	**14 52 16.3**	**+1.0**
NPS	**Neapolis**	**1.32**	**270**	P	**Pb**	**14 52 16.9**	**-0.3**
LAST	**Lasithi**	**1.44**	**266**	P	**Pb**	**14 52 18.5**	**-0.6**
DAT	**Datca**	**1

TEH ***25*** *15:31:30.0,28˚.57N×52˚.68E,h11km,ML4.0*
THR ***25*** *15:31:30.3±0.5, 28˚.49N×52˚.73E, h14km±10km, ML4.0*
NEIC ***25*** *15:31:32.3±1.7, 28˚.47N±0˚.10×52˚.7E±0˚.1, h36km±9km, Error ellipse: s-maj=16.0km s-min=13.9km az=88.0*
DSN ***25*** *15:31:33.0±1.3,28˚.32N×52˚.68E, h10km, ML4.3/9, Error ellipse: s-maj=18.6km s-min=8.1km az=11.0*
IDC ***25*** *15:31:33.4±2.9, 28˚.40N×52˚.66E, h43km±28km, mb3.7/18, mb1 3.8/21,mb1mx3.6/51,mbtmp3.9/21, ML3.5/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/37, Error ellipse: s-maj=18.1km s-min=14.9km az=3.0*
OMAN ***25*** *15:31:33.4, 28˚.16N×52˚.52E, h19km, mb5.1/5, ml4.2/4*

ISC 25 15:31:29.6±0.5, 28˚.54N±0˚.04×52˚.66E±0˚.04, h10km, n117, σ1§51/126, mb4.0/22, MS3.0/4, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.39**	**132**	*e*Pg	**Pg**	**15 31 36.8**	**-0.5**
GHIR				*e*Sg	**Sg**	**15 31 41.9**	**-0.6**
GHIR	comp=E,20μm,0.4s			IAML		15 31 48.1	
GHIR	**Ghir-Karzin**	**0.39**	**132**	*e*Pg	**Pg**	**15 31 36.8**	**-0.5**
JHRM	**Jahrom**	**0.81**	**93**	*e*Pg	**Pg**	**15 31 46.0**	**+0.7**
JHRM				*e*		15 32 05.0	
SHI	**Shiraz**	**1.10**	**353**	*e*Pg	**Pg**	**15 31 50.3**	**-0.5**
AHBU	**AHRAM**	**1.24**	**285**	*e*Pg	**Pg**	**15 31 54.1**	**+0.7**
LMD1	**Lamerd**	**1.28**	**159**	*e*Pg	**Pg**	**15 31 55.2**	**+1.0**
LMD1				*e*		15 32 00.4	
LMD1				*e*Sg	**Sg**	**15 32 15.5**	**+4.6**
KAZ1	**Kazerun**	**1.40**	**321**	*e*Pg	**Pb**	**15 31 56.5**	**+0.6**
KAZ1				*e*		15 32 26.2	
LAR1	**LAR**	**1.75**	**119**	*e*Pn	**Pn**	**15 32 01.7**	**+1.6**
KLNJ	**Kolanjah**	**2.62**	**340**	*e*Pn	**Pn**	**15 32 13.0**	**+0.6**
IRAM	**Ramesheh**	**3.26**	**356**	*e*Pn	**Pn**	**15 32 22.9**	**+1.8**
IMEH	**Mehriz**	**3.31**	**30**	*e*Pn	**Pn**	**15 32 24.4**	**+2.7**
BNDS	**Bandar-Abbas**	**3.31**	**109**	*e*Pn	**Pn**	**15 32 22.9**	**+1.3**
BNDS	**Bandar-Abbas**	**3.31**	**109**	*e*Pn	**Pn**	**15 32 22.9**	**+1.3**
GENO	**Geno**	**3.31**	**109**	*e*Pn	**Pn**	**15 32 23.6**	**+1.9**
GENO				*e*		15 32 53.7	
ISAD	**Sadrabad**	**3.47**	**15**	*e*Pn	**Pn**	**15 32 26.7**	**+2.7**
JRN	**Qarnain Island**	**3.59**	**177**	*e*Pn	**Pn**	**15 32 27.4**	**+2.0**
KHGB	**Koh Gabri**	**3.80**	**60**	*e*Pn	**Pn**	**15 32 30.5**	**+2.1**
KHGB				*e*		15 32 49.5	
KRBR	**Kerman**	**3.86**	**67**	*e*Pn	**Pn**	**15 32 31.2**	**+1.8**
KRBR	**Kerman**	**3.86**	**67**	*e*Pn	**Pn**	**15 32 31.2**	**+1.8**
TVBK	**TV Kerman**	**3.86**	**67**	*e*Pn	**Pn**	**15 32 31.5**	**+2.1**
TVBK				*e*		15 33 44.7	
IGAR	**Gharneh**	**3.88**	**352**	*e*Pn	**Pn**	**15 32 30.9**	**+1.3**
IBAF	**Bafgh**	**3.95**	**39**	*e*Pn	**Pn**	**15 32 32.7**	**+2.3**
SHME	**Shamm**	**3.97**	**128**	P	**Pn**	**15 32 31.9**	**+1.3**
SHME	**Shamm**	**3.97**	**128**	*e*Pn	**Pn**	**15 32 32.9**	**+2.2**
ICHK	**Chekchek**	**3.98**	**22**	*e*Pn	**Pn**	**15 32 33.1**	**+2.1**
BANOM	**Banah** SNR=8.0	**4.16**	**128**	*i* P	**Pn**	**15 32 33.9**	**+0.6**
BANOM				S	**Sn**	**15 33 22.6**	**+0.6**
BANOM	**Banah** SNR=7.1	**4.16**	**128**	P	**Pn**	**15 32 34.2**	**+0.9**
BANOM				S	**Sn**	**15 33 22.1**	**+0.1**
BANOM	**Banah**	**4.16**	**128**	*e*Pn	**Pn**	**15 32 34.5**	**+1.2**
IZEF	**Zefreh**	**4.35**	**356**	*e*Pn	**Pn**	**15 32 37.4**	**+1.4**
IPIR	**Pirpir**	**4.40**	**340**	*e*Pn	**Pn**	**15 32 38.9**	**+2.1**
NAZ	**Nazwa, Dubai** SNR=5.4	**4.44**	**142**	*i* P	**Pn**	**15 32 38.7**	**+1.6**
NAZ	**Nazwa, Dubai** SNR=5.5	**4.44**	**142**	P	**Pn**	**15 32 38.9**	**+1.8**
NAZ	**Nazwa, Dubai**	**4.44**	**142**	*e*Pn	**Pn**	**15 32 38.1**	**+1.0**
MSFE	**Esma-Masafi** SNR=6.8	**4.45**	**135**	*i* P	**Pn**	**15 32 38.2**	**+1.0**
MSFE	**Esma-Masafi**	**4.45**	**135**	*e*Pn	**Pn**	**15 32 38.3**	**+1.0**
CHMN	**Cheshme madani**	**4.46**	**72**	*e*Pn	**Pn**	**15 32 39.5**	**+1.8**
CHMN				*e*		15 33 40.0	
SLWR	**Sila**	**4.54**	**191**	*e*Pn	**Pn**	**15 32 41.8**	**+3.4**
GHWR	**Ruwais**	**4.57**	**178**	*e*Pn	**Pn**	**15 32 40.8**	**+2.0**
ASUD	**Al Ashush, Dub** SNR=18	**4.58**	**148**	*i* P	**Pn**	**15 32 40.5**	**+1.6**
ASUD	**Al Ashush, Dub** SNR=18	**4.58**	**148**	P	**Pn**	**15 32 40.6**	**+1.6**
FAQ	**Al Faqa, Dubai**	**4.61**	**145**	P	**Pn**	**15 32 40.5**	**+1.2**
ANAR	**Anarak**	**4.72**	**11**	*e*Pn	**Pn**	**15 32 42.3**	**+1.3**
UOSS	**Minazif** SNR=8.3	**4.79**	**138**	*i* P	**Pn**	**15 32 42.6**	**+0.8**
UOSS	**Minazif**	**4.79**	**138**	P	**Pn**	**15 32 42.8**	**+1.0**
UOSS				S	**Sn**	**15 33 35.2**	**-2.1**
UOSS	**Minazif**	**4.79**	**138**	*e*Pn	**Pn**	**15 32 42.3**	**+0.5**
UOSS	**Minazif**	**4.79**	**138**	Pn	**Pn**	**15 32 41.6**	**-0.2**
HATD	**Hatta, Dubai**	**4.83**	**139**	P	**Pn**	**15 32 43.7**	**+1.2**
HATD	**Hatta, Dubai**	**4.83**	**139**	*e*Pn	**Pn**	**15 32 42.6**	**+0.1**
IKLH	**Kolahrood**	**4.85**	**349**	*e*Pn	**Pn**	**15 32 43.8**	**+0.9**
KBAM	**BAM**	**5.12**	**82**	*e*Pn	**Pn**	**15 32 48.9**	**+2.5**
ALNE	**Al Ain**	**5.26**	**147**	*e*Pn	**Pn**	**15 32 49.9**	**+1.5**
KRSH	**Karshahi**	**5.43**	**355**	*e*Pn	**Pn**	**15 32 51.6**	**+0.8**
SOHO	**SOHO** SNR=7.7	**5.60**	**141**	*i* P	**Pn**	**15 32 53.3**	**+0.3**
SOHO	**SOHO**	**5.60**	**141**	P	**Pn**	**15 32 53.6**	**+0.6**
SOHO				S	**Sn**	**15 33 56.7**	**-0.8**
SOHO	**SOHO**	**5.60**	**141**	*e*Pn	**Pn**	**15 32 53.8**	**+0.8**
TPRV	**Parvadeh(Tabas**	**5.66**	**37**	*e*Pn	**Pn**	**15 32 56.0**	**+2.2**
UMZA	**Um Al Zommool**	**6.23**	**158**	*e*Pn	**Pn**	**15 33 02.2**	**+0.6**
ARQ	**Araqi** SNR=18	**6.24**	**145**	P	**Pn**	**15 33 02.8**	**+0.9**
ARQ				S	**Sn**	**15 34 13.0**	**-0.3**
TKDS	**Koohdasht(Taba**	**6.34**	**36**	*e*Pn	**Pn**	**15 33 04.8**	**+1.5**
TNSJ	**Nastanj**	**6.37**	**31**	*e*Pn	**Pn**	**15 33 05.1**	**+1.4**
IVRN	**Varamin**	**6.48**	**353**	*e*Pn	**Pn**	**15 33 06.0**	**+0.8**
HSAM	**Samen**	**6.63**	**329**	*e*Pn	**Pn**	**15 33 07.6**	**+0.2**
HAGD	**Aghdareh**	**6.94**	**335**	*e*Pn	**Pn**	**15 33 12.6**	**+1.0**
IANJ	**Anjilo**	**6.99**	**8**	*e*Pn	**Pn**	**15 33 13.9**	**+1.7**
IKOM	**Komasi**	**7.13**	**323**	*e*Pn	**Pn**	**15 33 14.3**	**+0.1**
ISHM	**Shahmirzad**	**7.26**	**4**	*e*Pn	**Pn**	**15 33 17.7**	**+1.6**
AFRZ	**Afriz**	**7.31**	**47**	*e*Pn	**Pn**	**15 33 19.9**	**+3.3**
WSAR	**Wadi Sarin** comp=E,1.2nm,0.3s,baz=307,slow=8.5,SNR=22	**7.54**	**133**	P	**Pn**	**15 33 19.0**	**-0.6**
WSAR	comp=E,2.0nm,0.3s,baz=128,slow=23,SNR=5.7			S	**Sn**	**15 34 40.8**	**-4.4**
WSAR	**Wadi Sarin** SNR=19	**7.54**	**133**	P	**Pn**	**15 33 19.6**	**0.0**
HSRG	**Sareghieh**	**7.64**	**332**	*e*Pn	**Pn**	**15 33 22.8**	**+1.5**
JMDO	**Jabal Madar**	**7.87**	**140**	P	**Pn**	**15 33 25.1**	**+0.9**
JMDO				S	**Sn**	**15 34 50.5**	**-2.9**
QALM	**Alamut, Qazvin**	**8.05**	**348**	*e*Pn	**Pn**	**15 33 27.7**	**+0.9**
JLN	**Jalan Bani Buh**	**8.82**	**135**	P	**Pn**	**15 33 36.8**	**-0.5**
SBZV	**Sabzevar**	**8.87**	**27**	*e*Pn	**Pn**	**15 33 40.3**	**+2.2**
GEYT	**Alibeck** comp=E,0.3nm,0.3s,baz=198,slow=12,SNR=3.3	**10.41**	**25**	P	**Pn**	**15 34 01.3**	**+2.3**
GEYT	**Alibeck**	**10.41**	**25**		**Pn**	**15 33 58.4**	**-0.7**
KBL	**Kabul** comp=Z,13nm,1.1s	**15.19**	**63**	P	**Pn**	**15 35 05.5**	**+1.0**
KBL				IAmb	IAmb	15 35 11.1	
THW	**Thamme Wali**	**16.95**	**71**	P	**P**	**15 35 30.2**	**+1.3**
CHGR	**Chuyangaron**	**17.02**	**49**	P	**P**	**15 35 30.2**	**+0.5**
KBZ	**Khabaz** comp=Z,36nm,19.8s,baz=191,slow=37	**17.06**	**335**	LR	LR	15 42 10.6	
GAR	**Garm** comp=Z,20nm,1.0s	**17.98**	**50**		**Pn**	**15 35 38.4**	**-1.4**
GAR				IAmb	IAmb	15 35 45.4	
NIL	**Nilore**	**18.35**	**69**	P	**Pn**	**15 35 42.7**	**-1.6**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=5.9	**19.25**	**310**	P	**P**	**15 35 53.8**	**-0.5**
KKAR	**Karatay Array**	**20.45**	**40**	P	**P**	**15 36 06.9**	**-0.3**
ABKAR	**Akbulak array**	**21.43**	**13**	P	**P**	**15 36 18.1**	**+0.4**
ABKAR	comp=Z,5.0nm,0.8s			IAmb	IAmb	15 36 25.1	
AKTO	**Aktyubinsk** comp=Z,6.3nm,0.7s,baz=190,slow=13,SNR=15	**22.24**	**9**	P	**P**	**15 36 28.4**	**+2.0**
BOOM	**Boomskoye usch**	**23.41**	**47**	P	**P**	**15 36 39.4**	**+0.5**
BOOM	comp=Z,6.5nm,1.1s			IAmb	IAmb	15 36 44.8	
IDI	**Anoyia** comp=Z,3.1nm,0.5s,baz=103,slow=18,SNR=1.3	**24.46**	**293**	P	**P**	**15 36 50.1**	**+1.2**
IDI	**Anoyia**	**24.46**	**293**	P	**P**	**15 36 48.9**	**0.0**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.4s,baz=123,slow=5.5,SNR=7.7	**27.75**	**23**	P	**P**	**15 37 18.5**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.6s,baz=228,slow=9.0,SNR=6.9	**29.45**	**44**	P	**P**	**15 37 34.0**	**+0.5**
MKAR	comp=Z,0.2nm,0.5s,baz=232,slow=1.3,SNR=2.2			PcP	**PcP**	**15 40 37.2**	**-1.8**
MKAR	comp=Z,37nm,19.9s,baz=265,slow=38			LR	LR	15 50 04.0	
MKAR	**Makanchi Array**	**29.45**	**44**	P	**P**	**15 37 33.0**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=237,slow=8.1,SNR=5.0	**29.46**	**34**	P	**P**	**15 37 33.9**	**+0.4**
KURK	**Kurchatov**	**29.57**	**34**	P	**P**	**15 37 34.3**	**-0.1**
ZAA0	**Zalesovo Array**	**34.55**	**34**	P	**P**	**15 38 17.6**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,2.3nm,0.6s,baz=241,slow=10,SNR=10	**34.55**	**34**	P	**P**	**15 38 18.3**	**+0.2**
ZALV	comp=Z,17nm,19.2s,baz=98,slow=40			LR	LR	15 54 51.3	
ZALV	**Zalesovo Beam**	**34.55**	**34**	P	**P**	**15 38 16.3**	**-1.8**
GERES	**GERESS Array B** comp=Z,0.2nm,0.4s,baz=106,slow=7.2,SNR=2.0	**36.02**	**315**	P	**P**	**15 38 31.6**	**+0.6**
GERES	**GERESS Array B**	**36.02**	**315**	P	**P**	**15 38 29.2**	**-1.8**
CLL	**Collm**	**37.33**	**319**	*e*P	**P**	**15 38 41.0**	**-1.0**
FINES	**FINESS Array B** comp=Z,1.8nm,0.5s,baz=146,slow=9.1,SNR=17	**37.35**	**339**	P	**P**	**15 38 42.2**	**+0.2**
FINES	**FINESS Array B**	**37.35**	**339**	P	**P**	**15 38 42.3**	**+0.3**
GTA	**Gaotai**	**40.18**	**62**	⇑P	**P**	**15 39 06.8**	**+0.6**
GTA				pP	pP	15 39 10.5	+0.8
GTA				sP	sP	15 39 13.3	+2.2
GTA	comp=Z,2.0nm,0.9s			pmax	pmax		
GTA	comp=Z,84nm,7.3s			pmax	pmax		
GTA	comp=N,59nm,16.4s			LR	LR		
GTA	comp=E,87nm,15.6s			LR	LR		
GTA	comp=Z,83nm,15.6s			LR	LR		
NOA	**NORSAR Array B** comp=Z,0.8nm,0.9s,baz=127,slow=6.7,SNR=2.2	**42.59**	**332**	P	**P**	**15 39 26.3**	**+0.7**
NOA	comp=Z,22nm,19.2s,baz=290,slow=38			LR	LR	15 58 49.9	
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.6s,baz=290,slow=9.2,SNR=4.3	**43.39**	**93**	P	**P**	**15 39 32.8**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.8s,baz=144,slow=7.8,SNR=5.1	**43.92**	**347**	P	**P**	**15 39 36.3**	**+0.1**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=294,slow=11,SNR=4.7	**45.42**	**50**	P	**P**	**15 39 48.8**	**+0.1**
NRIK	**Noril'sk** comp=Z,2.3nm,0.8s,baz=223,slow=5.6,SNR=4.0	**45.53**	**17**	P	**P**	**15 39 50.3**	**+1.2**
XAN	**Xi'an**	**47.89**	**69**	P	**P**	**15 40 10.0**	**+1.9**
XAN				pP	sP	15 40 27.3	+14
XAN	comp=Z,5.0nm,1.1s			pmax	pmax		
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.6s,baz=55,slow=7.3,SNR=9.0	**49.67**	**263**	P	**P**	**15 40 20.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**49.67**	**263**	P	**P**	**15 40 19.2**	**-2.7**
DBIC	**Dimbokro** comp=Z,3.4nm,0.7s,baz=28,slow=3.6,SNR=5.4	**58.38**	**260**	P	**P**	**15 41 24.9**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=327,slow=4.1,SNR=5.3	**85.75**	**8**	P	**P**	**15 44 07.6**	**-1.1**
WRA	**Warramunga Arr** comp=Z,0.6nm,1.0s,baz=317,slow=4.1,SNR=4.7	**92.37**	**111**	P	**P**	**15 44 39.3**	**-1.5**
WRA	**Warramunga Arr**	**92.37**	**111**	P	**P**	**15 44 38.9**	**-1.9**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=303,slow=4.5,SNR=13	**93.84**	**115**	P	**P**	**15 44 45.6**	**-1.9**
ASAR	**Alice Springs**	**93.84**	**115**	P	**P**	**15 44 45.5**	**-2.0**

WEL 25 16:07:49.5,40˚S±3˚×17˚5E±˚, h135km±7km, M2.6/17, mB3.8/1, MLv2.6/17, Mw(mB)2.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.15**	**147**	P	Pn	16 08 08.0	+0.2
LREZ	**Lake Rotokare**	**0.41**	**295**	P	Pn	16 08 05.0	-3.6
PKVZ	**Pokaka**	**0.49**	**47**	P	Pn	16 08 09.1	0.0
VRZ	**Vera Road**	**0.52**	**349**	P	Pn	16 08 09.5	+0.3
TRVZ	**Turoa**	**0.61**	**57**	P	Pn	16 08 10.1	0.0
WNVZ	**Wahianoa**	**0.63**	**61**	P	Pn	16 08 10.1	0.0
FWVZ	**Far West T-bar**	**0.64**	**54**	P	Pn	16 08 10.3	0.0
TUVZ	**Tukino**	**0.70**	**59**	P	Pn	16 08 10.8	+0.2
TSZ	**Takapari Road**	**0.93**	**118**	P	Pn	16 08 12.4	+0.2
KRHZ	**Kereru**	**1.15**	**91**	P	Pn	16 08 14.5	+0.3
OGWZ	**Otaki Gorge**	**1.21**	**170**	P	Pn	16 08 22.9	+8.2
HOWZ	**Holdsworth Sta**	**1.35**	**159**	P	Pn	16 08 16.7	+0.4
DUWZ	**D'Urville Isla**	**1.38**	**212**	P	Pn	16 08 17.3	+0.7
KAHZ	**Kahuranaki**	**1.55**	**97**	P	Pn	16 08 19.3	+0.8
PXZ	**Pawanui**	**1.58**	**105**	P	Pn	16 08 18.9	+0.2
TCW	**Tory Channel**	**1.64**	**196**	P	Pn	16 08 20.1	+0.6
NNZ	**Nelson**	**1.96**	**215**	P	Pn	16 08 23.9	+0.8
QRZ	**Quartz Range**	**2.16**	**236**	P	Pn	16 08 26.2	+0.6
KHZ	**Kahutara**	**2.96**	**200**	P	Pn	16 08 36.3	+0.6
PUZ	**Puketiti**	**3.06**	**60**	P	Pn	16 08 37.7	+0.6

WEL 25 16:08:36.2,44˚S±2˚×17˚2E±˚, h10km±2km, M2.5/10, ML2.6/10, MLv2.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=137.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RACZ	**Rakaia**	**0.14**	**226**	P	Pb	16 08 41.0	+0.1
MQZ	**McQueen's Vall**	**0.28**	**106**	P	Pb	16 08 43.1	-0.2
OXZ	**Oxford**	**0.35**	**330**	P	Pn	16 08 46.4	-0.9
WACZ	**Wakanui South**	**0.45**	**225**	P	Pb	16 08 46.9	+0.8
AKCZ	**Akaroa Harbour**	**0.52**	**118**	P	Pb	16 08 47.8	+0.5
MHCZ	**Mount Hutt**	**0.53**	**281**	P	Pb	16 08 47.8	+0.3
AMCZ	**Amberley**	**0.53**	**31**	P	Pb	16 08 47.7	+0.2
OKCZ	**Okains Bay**	**0.57**	**100**	P	Pb	16 08 48.9	+0.6
LTZ	**Lake Taylor**	**0.85**	**360**	P	Pb	16 08 53.1	+0.1
ARCZ	**Arundel**	**0.86**	**248**	P	Pn	16 08 53.8	-0.5
GVZ	**Greta Valley S**	**0.86**	**40**	P	Pn	16 08 54.0	-0.4
RPZ	**Rata Peaks**	**0.89**	**264**	P	Pn	16 08 54.4	-0.4
INZ	**Inchbonnie**	**1.09**	**326**	P	Pn	16 08 57.4	-0.1
WVZ	**Waitaha Valley**	**1.25**	**296**	P	Pg	16 09 00.5	+0.2
GCSZ	**Gaunt Creek Bo**	**1.46**	**282**	P	Pg	16 09 04.1	0.0
KHZ	**Kahutara**	**1.53**	**38**	P	Pn	16 09 02.8	-0.7
LBZ	**Lake Benmore**	**1.69**	**243**	P	Pb	16 09 07.6	+0.3
FOZ	**Fox Glacier**	**1.79**	**272**	P	Pb	16 09 08.9	-0.1
ODZ	**Otahua Downs**	**1.84**	**219**	P	Pn	16 09 08.4	+0.6
DSZ	**Denniston Nort**	**1.92**	**349**	P	Pn	16 09 09.3	+0.4

IDC ***25*** *16:13:57.8±0.6, 60˚.72S×26˚.10W, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.3/18, mbtmp4.3/9, MS3.9/10, Ms1 3.8/10, ms1mx3.7/20, Error ellipse: s-maj=29.2km s-min=17.1km az=61.0*
NEIC ***25*** *16:13:58.9±1.8, 60˚.82S±0˚.10×26˚.3W±0˚.3, h10km±1km, mb4.7/19, Error ellipse: s-maj=26.6km s-min=6.9km az=54.0*

ISC 25 16:13:58.8±0.5, 60˚.83S±0˚.10×26˚.2W±0˚.1, h10km, n53, σ1§68/44, mb4.7/16, MS3.8/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.58**	**315**	Pn	**Pn**	**16 16 00.2**	**-2.7**
VNA1	**Neumayer--Stat**	**12.23**	**151**	P	**Pn**	**16 16 49.9**	**-2.8**
VNA3	**Neumayer Olymp**	**12.35**	**155**	P	**Pn**	**16 16 51.2**	**-3.2**
VNA2	**Neumayer--Watz** baz=308,slow=18	**12.63**	**151**	P	**Pn**	**16 16 55.6**	**-2.6**
SNAA	**Sanae**	**14.23**	**149**	P	**Pn**	**16 17 16.5**	**-3.5**
SNAA	**Sanae** comp=Z,6.5nm,0.6s,baz=310,slow=14,SNR=132	**14.23**	**149**	Pn	**Pn**	**16 17 16.5**	**-3.5**
SNAA	comp=Z,0.8nm,0.3s,baz=343,slow=24,SNR=3.0			Sn	Sn	16 19 39.4	-18
SNAA	comp=Z,410nm,20.9s,baz=300,slow=32			LR	LR	16 21 35.4	
SNAA	**Sanae**	**14.23**	**149**	Pn	**Pn**	**16 17 16.4**	**-3.7**
PMSA	**Palmer Station**	**17.57**	**241**	P	**Pn**	**16 18 03.0**	**-0.3**
PMSA	comp=Z,46nm,1.4s			IAmb	IAmb	16 18 20.5	
QSPA	**South Pole Qui** comp=Z,6.5nm,0.6s,baz=199,slow=8.6,SNR=44	**29.41**	**180**	P	**P**	**16 20 04.5**	**+2.5**
QSPA	comp=Z,233nm,19.1s,baz=178,slow=36			LR	LR	16 31 28.3	
QSPA	**South Pole Qui**	**29.41**	**180**	P	**P**	**16 20 04.6**	**+2.5**
QSPA	comp=Z,21nm,1.3s			IAmb	IAmb	16 20 16.9	
PLCA	**Paso Flores** comp=Z,1.3nm,0.8s,baz=124,slow=7.4,SNR=4.8	**33.62**	**286**	P	**P**	**16 20 39.9**	**+0.8**
PLCA	comp=Z,197nm,19.6s,baz=172,slow=33			LR	LR	16 32 16.4	
PLCA	**Paso Flores**	**33.62**	**286**	P	**P**	**16 20 36.1**	**-3.0**
MAW	**Mawson** comp=Z,3.7nm,1.0s,baz=219,slow=9.0,SNR=5.0	**36.06**	**139**	P	**P**	**16 21 01.5**	**+1.7**
MAW	comp=Z,180nm,20.4s,baz=234,slow=32			LR	LR	16 33 12.0	
MAW	**Mawson**	**36.06**	**139**	P	**P**	**16 20 59.6**	**-0.2**
PEL	**Peldehue**	**39.87**	**293**	P	**P**	**16 21 32.2**	**-0.2**
MT02	**Curacav**	**39.98**	**293**	P	**P**	**16 21 34.5**	**+1.3**
MT02	comp=Z,26nm,1.2s			IAmb	IAmb	16 21 45.3	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**40.13**	**294**	P	**P**	**16 21 35.5**	**+0.9**
VA03	comp=Z,34nm,1.2s			IAmb	IAmb	16 21 47.0	
CPUP	**Villa Florida** comp=Z,4.0nm,0.5s,baz=147,slow=6.8,SNR=17	**40.46**	**314**	P	**P**	**16 21 37.4**	**+0.2**
CPUP	comp=Z,100nm,21.1s,baz=194,slow=33			LR	LR	16 36 26.3	
CPUP	**Villa Florida**	**40.46**	**314**	P	**P**	**16 21 37.7**	**+0.4**
CPUP	comp=Z,7.1nm,0.6s			IAmb	IAmb	16 21 47.1	
CO02	**Combarbal**	**41.66**	**295**	P	**P**	**16 21 49.2**	**+2.0**
CO02	comp=Z,18nm,1.0s			IAmb	IAmb	16 21 59.8	
VNDA	**Vanda** comp=Z,2.3nm,0.7s,baz=184,slow=7.7,SNR=7.1	**41.81**	**183**	P	**P**	**16 21 49.9**	**+2.0**
VNDA	comp=Z,134nm,21.5s,baz=168,slow=33			LR	LR	16 37 15.1	
VNDA	**Vanda**	**41.81**	**183**	P	**P**	**16 21 48.5**	**+0.6**
CO01	**Juntas del Tor**	**42.31**	**297**	P	**P**	**16 21 52.4**	**-0.3**
CO01	comp=Z,18nm,1.3s			IAmb	IAmb	16 21 59.6	
GO04	**Tololo Observa** comp=Z,26nm,1.3s	**42.45**	**296**	P	**P**	**16 21 53.6**	**-0.3**
GO04				IAmb	IAmb	16 21 56.9	
AC05	**El Transito**	**43.37**	**297**	P	**P**	**16 22 00.8**	**-0.3**
LCO	**Las Campanas** comp=Z,21nm,1.4s	**43.40**	**297**	P	**P**	**16 22 01.7**	**+0.1**
LCO				IAmb	IAmb	16 22 04.5	
GO02	**Mina Guanaco**	**46.28**	**300**	P	**P**	**16 22 25.6**	**+0.9**
BOSA	**Boshof** comp=Z,43nm,21.8s,baz=184,slow=31	**46.85**	**70**	LR	LR	16 37 49.7	
BOSA	**Boshof** comp=Z,10nm,1.3s	**46.85**	**70**	P	**P**	**16 22 29.1**	**+0.2**
BOSA				IAmb	IAmb	16 22 39.8	
H10S2	**ASCENSION HYDR** baz=187,slow=74,SNR=5.2	**52.47**	**14**	T	T	17 20 20.1	
H10S3	**ASCENSION HYDR** baz=33,slow=74,SNR=13	**52.47**	**14**	T	T	17 20 22.3	
H10N1	**ASCENSION HYDR** baz=195	**53.59**	**14**	T	T	17 21 51.3	
H10N3	**ASCENSION HYDR** baz=195,slow=74	**53.59**	**14**	T	T	17 21 42.5	
H10N2	**ASCENSION HYDR** baz=195,slow=74	**53.60**	**14**	T	T	17 21 50.4	
LPAZ	**La Paz** comp=Z,2.0nm,0.7s,baz=179,slow=7.7,SNR=7.2	**53.64**	**307**	P	**P**	**16 23 21.9**	**+0.9**
LPAZ	comp=Z,97nm,20.0s,baz=155,slow=37			LR	LR	16 47 20.2	
ROSC	**El Rosal** comp=Z,7.1nm,18.0s,baz=196,slow=39	**75.36**	**310**	LR	LR	17 03 18.6	
TOA0	**Torodi Ar. Sit**	**77.00**	**28**	P	**P**	**16 25 52.4**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,5.1nm,0.7s,baz=197,slow=6.1,SNR=25	**77.00**	**28**	P	**P**	**16 25 52.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**77.00**	**28**	P	**P**	**16 25 52.5**	**+1.0**
STKA	**Stephens Creek** comp=Z,1.7nm,0.8s,baz=304,slow=3.0,SNR=3.7	**87.09**	**170**	P	**P**	**16 26 44.4**	**-0.1**
ASAR	**Alice Springs** comp=Z,0.7nm,0.9s,baz=184,slow=4.2,SNR=6.0	**94.27**	**162**	P	**P**	**16 27 18.0**	**-0.1**
WRA	**Warramunga Arr** comp=Z,159nm,20.4s,baz=355,slow=34	**97.99**	**162**	LR	LR	17 09 30.5	
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.9s,baz=240,slow=3.1,SNR=7.3	**122.81**	**113**	PKP	**PKiKP**	**16 32 55.4**	**+0.5**
FINES	**FINESS Array B** comp=Z,7.1nm,1.1s,baz=132,slow=5.7,SNR=5.6	**128.34**	**29**	PKP	**PKPdf**	**16 33 04.0**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,3.1nm,0.9s,baz=191,slow=0.9,SNR=1.9	**135.17**	**23**	PKP	**PKPdf**	**16 33 16.4**	**-0.1**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.8s,baz=168,slow=1.3,SNR=4.0	**137.73**	**76**	PKP	**PKPdf**	**16 33 21.7**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=235,slow=5.1,SNR=2.3	**143.79**	**69**

KAPI	**Kappang**	**13.45**	**214**	P		**Pn**	**16 39 16.8**	**-1.0**
	0.5nm,0.3s,baz=10,slow=7.7,SNR=6.7								
KAPI				S		Sn	16 41 33.5	-13	
	1.3nm,0.3s,baz=152,slow=14,SNR=2.4								
SMPI	**Sarmi**	**13.95**	**125**	P		**Pn**	**16 39 28.3**	**+3.7**
	37nm,1.0s								
SBUM	**Sibu**	**15.53**	**257**			**P**	**16 39 50.5**	**+0.7**
SBUM	**Sibu**	**15.53**	**257**	P		**P**	**16 39 48.0**	**-1.7**
BBKI	**Banjar Baru**	**15.73**	**233**	P		**P**	**16 39 51.8**	**-0.2**
	49nm,1.6s								
EDFI	**Ende, Flores**	**15.86**	**201**	P		**Pn**	**16 39 51.6**	**+1.4**
	18nm,0.8s								
SOEI	**Soe**	**16.12**	**191**	P		**P**	**16 39 57.6**	**+1.2**
BATI	**Baumata**	**16.68**	**193**	P		**Pn**	**16 40 01.9**	**+1.3**
	1.4nm,0.3s,baz=132,slow=23,SNR=2.7								
WSI	**Waingapu**	**17.23**	**204**	P		**P**	**16 40 08.9**	**+0.3**
	25µm417nm,0.4s								
KSM	**Kuching**	**17.62**	**255**	P		**P**	**16 40 13.0**	**0.0**
KSM				IAmb		IAmb	16 40 15.2		
	comp=E,39nm,1.0s								
KSM	**Kuching**	**17.62**	**255**	P		**P**	**16 40 13.0**	**0.0**
PLAI	**Plampang**	**17.70**	**213**	P		**P**	**16 40 14.2**	**+0.5**
	comp=Z,92nm,0.9s								
TWSI	**Taliwang, Sumb**	**18.12**	**215**	P		**Pn**	**16 40 17.1**	**-1.2**
	comp=Z,31nm,1.3s								
YOJ	**Yonaguni jima**	**18.65**	**348**	P		**P**	**16 40 19.5**	**-4.7**
YOJ				IAmb		IAmb	16 40 35.2		
	comp=Z,52nm,1.2s								
QIZ	**Qiongzhong**	**21.30**	**308**	P		**P**	**16 40 52.0**	**-1.1**
QIZ				S		**S**	**16 44 47.8**	**-0.2**
QIZ				sS		sS	16 45 08.5	+10	
QIZ				LR		LR			
	comp=N,480nm,17.7s								
QIZ				LR		LR			
	comp=E,300nm,19.6s								
QIZ				LR		LR			
	comp=Z,500nm,19.6s								
KNRA	**Kununurra**	**21.76**	**176**	P		**P**	**16 40 57.8**	**-0.2**
MYKOM	**Kota Tinggi**	**23.83**	**260**	P		**P**	**16 41 17.0**	**-2.4**
FITZ	**Fitzroy Crossi**	**24.18**	**184**	P		**P**	**16 41 22.1**	**-0.4**
	comp=Z,11nm,1.0s,baz=3.3,slow=8.4,SNR=13								
FITZ	**Fitzroy Crossi**	**24.18**	**184**	P		**P**	**16 41 21.9**	**-0.6**
FITZ				IAmb		IAmb	16 41 37.4		
	comp=Z,28nm,1.2s								
MDSI	**Maura Dua**	**25.44**	**246**	P		P	16 41 54.0	+20	
IPM	**Ipoh**	**26.26**	**268**	P		**P**	**16 41 43.0**	**+1.4**
KULM	**Kulim**	**26.57**	**269**	P		**P**	**16 41 44.0**	**-0.4**
WB0	**Warramunga Arr**	**26.70**	**165**	P		**P**	**16 41 46.5**	**+1.1**
WB0				IAmb		IAmb	16 41 54.2		
	comp=Z,26nm,1.4s								
WRAB	**Tennant Creek**	**26.85**	**165**	P		**P**	**16 41 47.1**	**+0.4**
WRA	**Warramunga Arr**	**26.85**	**165**	P		**P**	**16 41 46.7**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=348,slow=10,SNR=26								
WRA				ScP		**ScP**	**16 48 44.2**	**-2.5**	
	comp=Z,1.4nm,1.0s,baz=340,slow=3.6,SNR=6.3								
WRA				LR		LR	16 55 14.3		
	comp=Z,155nm,18.1s,baz=0.0,slow=42								
WRA	**Warramunga Arr**	**26.85**	**165**	P		**P**	**16 41 49.3**	**+2.5**
WB2	**Warramunga Arr**	**26.86**	**165**	P		**P**	**16 41 47.4**	**+0.6**
WB2				IAmb		IAmb	16 41 56.4		
	comp=Z,9.6nm,0.8s								
WR0	**Warramunga Arr**	**26.92**	**165**	P		**P**	**16 41 49.0**	**+1.6**
NJ2	**Nanjing**	**26.94**	**344**	*eP*		**P**	**16 41 48.3**	**+0.9**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.6s								
JNU	**Nakatsue**	**27.01**	**7**	P		**P**	**16 41 48.0**	**-0.2**
	comp=Z,7.8nm,1.1s,baz=227,slow=20,SNR=2.2								
GSI	**Gunungsitoli**	**30.09**	**262**	P		**P**	**16 42 12.4**	**-3.4**
GSI				IAmb		IAmb	16 42 13.9		
	comp=Z,11nm,0.9s								
CMAR	**Chiang Mai Arr**	**30.25**	**296**	P		**P**	**16 42 16.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=119,slow=8.2,SNR=9.3								
CMAR				ScP		**ScP**	**16 48 55.7**	**-1.7**	
	comp=Z,2.5nm,1.0s,baz=134,slow=1.4,SNR=15								
CMAR				LR		LR	16 55 26.9		
	comp=Z,213nm,18.1s,baz=119,slow=38								
AS31	**Alice Springs**	**30.34**	**168**	P		**P**	**16 42 19.9**	**+2.0**
ASAR	**Alice Springs**	**30.34**	**168**	P		**P**	**16 42 18.2**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=359,slow=7.5,SNR=14								
ASAR				PcP		**PcP**	**16 45 17.2**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=0.8,slow=2.0,SNR=1.8								
ASAR				ScP		**ScP**	**16 48 55.9**	**-1.7**	
	comp=Z,0.9nm,0.8s,baz=334,slow=2.7,SNR=5.1								
ASAR	**Alice Springs**	**30.34**	**168**	P		**P**	**16 42 16.9**	**-1.0**
KSRS	**Korea Array**	**31.14**	**1**	P		**P**	**16 42 24.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=176,slow=9.4,SNR=4.7								
MAT	**Matsushiro**	**31.82**	**17**	P		**P**	**16 42 30.4**	**-0.4**
MJAR	**Matsushiro Arr**	**31.82**	**17**	P		**P**	**16 42 30.5**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=188,slow=8.9,SNR=7.5								
MJAR				LR		LR	16 56 24.3		
	comp=Z,138nm,19.2s,baz=180,slow=38								
XAN	**Xi'an**	**32.55**	**331**	P		P	16 42 41.5	+4.2	
XAN				pP		PnPn	16 43 44.5	-1.0	
XAN				S		**S**	**16 47 56.3**	**+5.8**	
XAN				pmax		pmax			
	comp=Z,12nm,0.8s								
XAN				LR		LR			
	comp=N,170nm,21.7s								
XAN				LR		LR			
	comp=E,200nm,20.6s								
XAN				LR		LR			
	comp=E,310nm,18.4s								
CD2	**Chengdu**	**33.09**	**321**	*eP*		**P**	**16 42 41.3**	**-0.7**
BJI	**Beijing**	**35.18**	**345**	P		**P**	**16 43 00.3**	**+0.4**
BJI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
HNR	**Honiara**	**36.00**	**115**	LR		LR	16 55 37.9		
	comp=Z,111nm,21.9s,baz=64,slow=32								
LZH	**Lanzhou**	**36.75**	**327**	*eP*		**P**	**16 43 13.3**	**-0.4**
LZH				pP		pwP	16 43 28.3	-4.5	
LZH				sP		sP	16 43 34.5	+10	
LZH				pmax		pmax			
	comp=Z,21nm,1.1s								
LZH				pmax		pmax			
	comp=Z,98nm,4.8s								
LZH				LR		LR			
	comp=N,380nm,16.0s								
LZH				LR		LR			
	comp=E,290nm,15.7s								
LZH				LR		LR			
	comp=Z,380nm,19.2s								
HHC	**Hu-ho-hao-te**	**37.30**	**340**	*eP*		**P**	**16 43 19.5**	**+1.3**
HHC				pP		sP	16 43 31.8	+3.0	
HHC				S		**S**	**16 49 03.3**	**-0.2**	
HHC				pmax		pmax			
	comp=Z,17nm,0.9s								
HHC				pmax		pmax			
	comp=Z,110nm,6.3s								
HHC				LR		LR			
	comp=N,270nm,15.2s								
HHC				LR		LR			
	comp=E,170nm,15.1s								
HHC				LR		LR			
	comp=Z,280nm,18.8s								
USRK	**Ussuriysk Ar.**	**38.09**	**5**	P		**P**	**16 43 24.9**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=186,slow=15,SNR=4.1								
BBOO	**Buckleboo**	**39.65**	**168**	P		**P**	**16 43 39.5**	**+1.6**
BBOO				IAmb		IAmb	16 43 45.3		
	comp=Z,20nm,1.2s								
NWAO	**Narrogin (SRO)**	**40.06**	**193**	P		**P**	**16 43 41.5**	**+0.3**
STKA	**Stephens Creek**	**40.21**	**161**	P		**P**	**16 43 43.1**	**+0.5**
	comp=Z,8.0nm,0.7s,baz=334,slow=8.1,SNR=21								
STKA	**Stephens Creek**	**40.21**	**161**	P		**P**	**16 43 43.1**	**+0.5**
GTA	**Gaotai**	**41.35**	**327**	⇑P		P	16 43 41.8	-10	
GTA				pP		pP	16 43 52.0	-7.7	
GTA				sP		sP	16 43 56.5	-6.3	
GTA				PcP		**PcP**	**16 45 44.8**	**-5.3**	
GTA				ScP		**ScP**	**16 49 36.0**	**-1.6**	
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GTA				pmax		pmax			
	comp=Z,48nm,8.0s								
GTA				LR		LR			
	comp=N,160nm,18.2s								
GTA				LR		LR			
	comp=E,210nm,21.4s								
GTA				LR		LR			
	comp=Z,320nm,19.6s								
TAPN	**Taplejung**	**43.12**	**304**	*eP*		**P**	**16 44 06.3**	**-0.6**
ODAN	**Odare**	**43.21**	**303**	*eP*		**P**	**16 44 06.3**	**-1.2**
	comp=Z,21nm,0.8s								
GUN	**Gumba**	**44.84**	**304**	*eP*		**P**	**16 44 19.9**	**-0.8**
	comp=Z,13nm,0.7s								
PKI	**Pulchoki**	**45.11**	**303**	*eP*		**P**	**16 44 21.2**	**-1.6**
	comp=Z,8.7nm,1.0s								
PKIN	**Phulchoki**	**45.12**	**303**	*eP*		**P**	**16 44 21.7**	**-1.2**
SONM	**Songino Array**	**45.20**	**340**	P		**P**	**16 44 23.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=151,slow=9.4,SNR=4.2								
SONM				LR		LR	17 07 10.3		
	comp=Z,121nm,18.3s,baz=160,slow=41								
KKN	**Kakani**	**45.29**	**303**	*eP*		**P**	**16 44 23.0**	**-1.2**
	comp=Z,10nm,0.9s								
DMN	**Daman**	**45.37**	**303**	*eP*		**P**	**16 44 23.8**	**-1.1**
	comp=Z,20nm,1.0s								
GKN	**Gorkha**	**45.90**	**303**	*eP*		**P**	**16 44 27.5**	**-1.4**
	comp=Z,14nm,1.1s								
KOLN	**Koldanda**	**46.68**	**303**	*eP*		**P**	**16 44 34.0**	**-1.1**
	comp=Z,21nm,0.8s								
DANN	**Dangsing**	**46.74**	**303**	*eP*		**P**	**16 44 34.5**	**-1.2**
	comp=Z,21nm,0.8s								
PYUN	**Piuthan**	**47.30**	**303**	*eP*		**P**	**16 44 39.3**	**-0.7**
	comp=Z,22nm,0.7s								
DZM	**Mont Dzumac**	**47.48**	**127**	P		**P**	**16 44 42.1**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=158,slow=21,SNR=2.1								
WMQ	**Urumqi**	**51.11**	**324**	*eP*		**P**	**16 45 10.3**	**+1.6**
PETK	**Petropavlovsk-**	**52.95**	**22**	P		**P**	**16 45 23.0**	**+0.9**
	comp=Z,4.5nm,0.8s,baz=268,slow=2.8,SNR=5.9								
YAK	**Yakutsk**	**55.76**	**1**	P		**P**	**16 45 43.2**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=346,slow=0.6,SNR=2.0								
MK31	**Makanchi Array**	**55.93**	**324**	P		**P**	**16 45 42.0**	**-1.9**
MKAR	**Makanchi Array**	**55.93**	**324**	P		**P**	**16 45 43.7**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=115,slow=7.3,SNR=26								
MKAR	**Makanchi Array**	**55.93**	**324**	P		**P**	**16 45 43.3**	**-0.6**
MAKZ	**Makanchi**	**56.12**	**324**	P		**P**	**16 45 44.0**	**-1.3**
MAKZ				IAmb		IAmb	16 45 46.2		
	comp=Z,8.3nm,1.3s								
NIL	**Nilore**	**56.95**	**306**	P		**P**	**16 45 50.9**	**-0.5**
ZALV	**Zalesovo Beam**	**58.71**	**332**	P		**P**	**16 46 02.8**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=104,slow=6.3,SNR=13								
ZALV				LR		LR	17 13 00.7		
	comp=Z,118nm,18.5s,baz=142,slow=38								
KURBB	**Kurchatov Arra**	**60.04**	**326**	P		**P**	**16 46 12.2**	**-0.4**
	comp=Z,5.3nm,1.0s,baz=127,slow=5.9,SNR=30								
KKAR	**Karatay Array**	**61.89**	**316**	P		**P**	**16 46 23.8**	**-1.6**
KKAR				IAmb		IAmb	16 46 25.6		
	comp=Z,6.6nm,0.9s								
NRIK	**Noril'sk**	**68.22**	**346**	P		**P**	**16 47 06.2**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=131,slow=11,SNR=2.0								
GEYT	**Alibeck**	**69.86**	**308**	P		**P**	**16 47 16.3**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=113,slow=3.4,SNR=7.4								
GEYT				LR		LR	17 21 06.4		
	comp=Z,51nm,20.9s,baz=185,slow=39								
GEYT	**Alibeck**	**69.86**	**308**	P		**P**	**16 47 15.6**	**-1.2**
ABKAR	**Akbulak array**	**70.67**	**320**	P		**P**	**16 47 20.2**	**-1.2**
ABKAR				IAmb		IAmb	16 47 21.9		
	comp=Z,7.3nm,1.0s								
ABKAR	**Akbulak array**	**70.67**	**320**	P		**P**	**16 47 20.5**	**-1.0**
AKTO	**Aktyubinsk**	**72.14**	**321**	P		**P**	**16 47 29.6**	**-0.7**
	comp=Z,5.4nm,0.9s,baz=106,slow=5.2,SNR=17								
ARU	**Arti**	**73.22**	**327**	P		**P**	**16 47 35.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=276,slow=1.9,SNR=6.7								
KIRV	**Kirov**	**78.47**	**328**	P		**P**	**16 48 05.8**	**-0.7**
	comp=Z,7.6nm,0.7s,baz=340,slow=2.4,SNR=5.0								
KBZ	**Khabaz**	**81.76**	**313**	LR		LR	17 30 34.7		
	comp=Z,67nm,18.6s,baz=62,slow=40								
ILAR	**Eielson Array**	**82.65**	**26**	P		**P**	**16 48 29.9**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=236,slow=5.3,SNR=5.6								
ILAR	**Eielson Array**	**82.65**	**26**	P		**P**	**16 48 29.4**	**+0.6**
BMAR	**Burnt Mountain**	**83.60**	**23**	P		**P**	**16 48 36.8**	**+3.0**
K27K	**Chicken**	**84.75**	**26**	P		**P**	**16 48 43.2**	**+3.6**
K27K				IAmb		IAmb	16 48 50.8		
	comp=Z,8.0nm,1.1s								
VNDA	**Vanda**	**85.76**	**173**	P		**P**	**16 48 45.7**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=318,slow=4.3,SNR=2.0								
ASF	**Jabal al Asfar**	**87.13**	**302**	P		**P**	**16 48 51.9**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=84,slow=4.5,SNR=5.4								
INK	**Inuvik**	**87.68**	**22**	P		**P**	**16 48 55.2**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=325,slow=7.2,SNR=2.3								
ARCES	**ARCESS Array B**	**88.38**	**340**	P		**P**	**16 48 56.5**	**-0.8**
	comp=Z,5.8nm,1.1s,baz=90,slow=6.2,SNR=6.8								
BRTR	**Keskin Array B**	**88.94**	**310**	P		**P**	**16 49 00.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=0.0,slow=4.6,SNR=1.9								
BRTR				LR		LR	17 33 34.9		
	comp=Z,17nm,21.3s,baz=63,slow=39								
FINES	**FINESS Array B**	**89.98**	**332**	P		**P**	**16 49 04.4**	**-0.5**
	comp=Z,5.1nm,1.0s,baz=48,slow=2.8,SNR=4.9								
AKASG	**Malin Array Be**	**90.39**	**321**	P		**P**	**16 49 06.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=57,slow=4.6,SNR=1.4								
AKASG				LR		LR	17 34 29.4		
	comp=Z,58nm,19.2s,baz=15,slow=39								
NOA	**NORSAR Array B**	**96.88**	**334**	LR		LR	17 38 29.7		
	comp=Z,74nm,18.3s,baz=70,slow=39								
TORD	**Torodi Ar. Bea**	**122.71**	**290**	PKP		**PKPdf**	**16 55 00.9**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=53,slow=2.4,SNR=7.6								
LPAZ	**La Paz**	**161.81**	**125**	PKPab		**PKPab**	**16 56 55.6**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=247,slow=7.7,SNR=1.9								

SJA ***25*** *17:04:59.9±0.7,33.96S×73.92W,h10km,ML5.4,MW5.1*

IDC ***25*** *17:05:14.9±0.6,33.96S×72.20W,h0km,mb4.6/13, mb1 4.6/16,mb1mx4.4/36,mbtmp4.5/16,ML4.5/3,MS4.3/15, Ms1 4.3/15,ms1mx4.2/23,Error ellipse: s-maj=20.0km s-min=14.7km az=101.0*

GUC ***25*** *17:05:17.7±1.0,34.04S×72.15W,h30km±12km,ML4.5*

NEIC ***25*** *17:05:17.2,34.00S×72.33W,h22km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.97; Mθθ-0.10; Mϕϕ-0.87; Mrθ0.58; Mθϕ-0.14; Mϕr-1.18; Fault plane solution: M₀1.61000×10¹⁶ NP1:ϕs162.58000°, δ73.27000°,λ76.14000°. NP2:ϕs23.19000°,δ21.60000°, λ128.56000°. Principal axes: T 1.7271, Plg59.0000°, Azm53.0000°; N -0.2722, Plg13.0000°, Azm167.0000°; P -1.4550, Plg27.0000°, Azm264.0000°;*

NEIC ***25*** *17:05:17.1±1.6,34.01S±0.03×72.30W±0.07,h18km±3km, mb5.0/47,Mwr4.7/34,ML4.6(GUC) Error ellipse: s-maj=8.9km s-min=4.7km az=98.0*

VAO ***25*** *17:05:18.0±0.5,33.95S×71.97W,h10km,mb4.8*

MOS ***25*** *17:05:18.2±1.1,33.97S×72.28W,h33km,mb4.8/5,Error ellipse: s-maj=13.6km s-min=7.6km az=80.7*

GCMT ***25*** *17:05:20.1±0.3,33.89S±0.02×72.58W±0.03,h30km±1km, MW5.0/67,Moment Tensor Solution. s32,c35; s67,c77; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.35±.17; Mθθ-0.82±.12; Mϕϕ-2.53±.11; Mrθ0.32±.14; Mθϕ-0.73±.07; Mϕr-2.55±.15; Best double couple: M₀3.98200×10¹⁶ NP1:ϕs29.00000°,δ27.00000°,λ112.00000°. NP2: ϕs184.00000°,δ65.00000°,λ79.00000°. Principal axes: T 4.3620, Plg68.0000°, Azm73.0000°; N -0.7610, Plg10.0000°, Azm189.0000°; P -3.6010, Plg19.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 17:05:16.6±0.7,33.97S±0.03×72.25W±0.04,h13km±4km, n253,σ1°31/259,mb4.9/34,MS4.5/16,7C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
GO05	**Huala**	**1.07**	**166**	‖*eP*		**Pb**	**17 05 35.9**			**-1.1**
GO05				*eS*		**Sg**	**17 05 50.0**			**-1.3**
GO05				IAML			17 05 52.8			
	comp=E,15µm,0.5s									
GO05	**Huala**	**1.07**	**166**			**Pb**	**17 05 35.9**			**-1.1**
GO05				Sg		**Sg**	**17 05 49.3**			**-1.9**
VA01	**Torpederas**	**1.07**	**28**	⇑*iP*		**Pn**	**17 05 38.0**			**+0.7**
VA01				*eS*		**Sn**	**17 05 52.8**			**+0.8**
VA01	**Torpederas**	**1.07**	**28**	Pn		**Pn**	**17 05 37.9**			**+0.7**
VA01						**Sn**	**17 05 53.4**			**+1.3**
MT02	**Curacav**	**1.17**	**53**	‖*eP*		**Pn**	**17 05 39.2**			**+0.5**
MT02				*eS*		**Sn**	**17 05 54.7**			**+0.3**
MT02	**Curacav**	**1.17**	**53**			**Pn**	**17 05 39.2**			**+0.5**
MT02						**Sn**	**17 05 55.1**			**+0.7**
MT05	**Renca**	**1.39**	**66**	⇑*iP*		**Pg**	**17 05 42.7**			**-0.7**
MT05				*eS*		**Sg**	**17 06 00.8**			**-0.6**
MT05				IAML			17 06 07.7			
	comp=E,15µm,0.3s									
MT05	**Renca**	**1.39**	**66**			**Pg**	**17 05 42.6**			**-0.7**
ROC1	**El Roble**	**1.43**	**46**			**Pg**	**17 05 43.8**			**-0.4**
ROCH	**El Roble**	**1.44**	**46**	⇑*iP*		**Pg**	**17 05 43.8**			**-0.6**
ROCH				*eS*		**Sg**	**17 06 03.9**			**+0.8**
ROCH				IAML			17 06 14.7			
	comp=E,16µm,0.5s									
BO02	**Sierra Bellavi**	**1.47**	**124**	⇑*iP*		**Pn**	**17 05 42.3**			**-0.5**
BO02				*eS*		**Sn**	**17 06 01.7**			**-0.2**
BO02	**Sierra Bellavi**	**1.47**	**124**	Pn		**Pn**	**17 05 42.3**			**-0.5**
MT03	**Universidad Ad**	**1.53**	**72**	‖*eP*		**Pb**	**17 05 44.7**			**-0.1**
MT03				*eS*		**Sg**	**17 06 04.5**			**-1.3**
MT03				IAML			17 06 12.1			
	comp=N,16µm,0.3s									

PEL	**Peldehue**	**1.55**	**58**	⇑*iP*		**Pb**	**17 05 45.1**		**0.0**
PEL				*eS*		**Sg**	**17 06 05.1**		**-1.4**
PEL				IAML			17 06 16.2		
	comp=E,13µm,0.3s								
PEL	**Peldehue**	**1.55**	**58**	P		**Pg**	**17 05 45.5**		**-0.9**
PEL	**Peldehue**	**1.55**	**58**	Pn		**Pg**	**17 05 45.5**		**-0.9**
LMEL	**Las Melosas**	**1.71**	**86**	‖*eP*		**Pb**	**17 05 47.6**		**-0.3**
LMEL				*eS*		**Sb**	**17 06 09.3**		**0.0**
LMEL				IAML			17 06 13.1		
	comp=N,14µm,0.1s								
VA03	**San Esteban**	**1.86**	**50**	⇑*iP*		**Pb**	**17 05 50.0**		**-0.6**
VA03				*eS*		**Sg**	**17 06 14.6**		**-2.1**
VA03	**San Esteban**	**1.86**	**50**			**Pb**	**17 05 50.1**		**-0.6**
BI02	**San Fabin de**	**2.80**	**164**	IAML			17 06 47.4		
	comp=N,2µm,0.4s								
BI02	**San Fabin de**	**2.80**	**164**	Pn		**Pn**	**17 06 01.5**		**+0.3**
BI02				Sn		**Sn**	**17 06 33.7**		**-1.2**
CO02	**Combarbal**	**2.96**	**21**	⇑*iP*		**Pn**	**17 06 04.5**		**+1.1**
CO02	**Combarbal**	**2.96**	**21**			**Pn**	**17 06 04.2**		**+0.9**
AUSP	**Uspallata**	**2.97**	**55**	*eP*		**Pb**	**17 06 07.8**		**-1.7**
AUSP				*eS*		**Sg**	**17 06 52.3**		**+0.2**
AAGR	**Agrelo**	**2.99**	**74**	*eP*		**Pb**	**17 06 09.6**		**-0.3**
ARCO	**CERRO ARCO**	**3.00**	**69**	*eP*		**Pb**	**17 06 09.4**		**-0.6**
ARCO				*eS*		**Sg**	**17 06 53.0**		**+0.1**
ASAL	**Salagasta**	**3.17**	**65**	*eP*		**Pb**	**17 06 11.0**		**-1.9**
ASAL				IAML			17 07 06.4		
	comp=Z,2µm,1.1s								
RTLS	**Leoncito**	**3.30**	**50**	*eP*		**Pb**	**17 06 12.1**		**-3.1**
RTLS				*eS*		**Sg**	**17 07 04.5**		**+1.9**
RTLS				IAML			17 07 12.0		
	comp=Z,2µm,0.7s								
CO03	**El Pedregal**	**3.39**	**23**	Pn		**Pn**	**17 06 10.5**		**+1.2**
RTCV	**Cerro Valdivia**	**3.76**	**57**	*eP*		**Pn**	**17 06 17.8**		**+3.4**
RTCV				IAML			17 07 24.0		
	comp=Z,1µm,2.4s								
ZON	**Zonda**	**3.86**	**52**	P		**Pn**	**17 06 18.6**		**+2.9**
ZON	**Zonda**	**3.86**	**52**	Pn		**Pn**	**17 06 18.6**		**+2.9**
GO04	**Tololo Observa**	**3.98**	**18**			**Pn**	**17 06 18.3**		**+0.7**
RTLL	**Cerro Villicun**	**4.13**	**51**	*eP*		**Pn**	**17 06 22.4**		**+2.9**
RTLL				*eS*		**Sg**	**17 07 23.4**		**-6.0**
RTLL				IAML			17 07 39.5		
	comp=Z,1µm,1.3s								
CO01	**Juntas del Tor**	**4.38**	**25**			**Pn**	**17 06 24.9**		**+1.8**
AROD	**Rodeo**	**4.47**	**33**	*eP*		**Pn**	**17 06 27.8**		**+3.5**
LC01	**Cunco**	**4.92**	**177**	Pn		**Pn**	**17 06 29.8**		**-0.5**
LCO	**Las Campanas**	**5.12**	**15**	P		**Pn**	**17 06 33.6**		**+0.4**
LCO	**Las Campanas**	**5.12**	**15**	Pn		**Pn**	**17 06 33.6**		**+0.4**
AC05	**El Transito**	**5.39**	**19**	Pn		**Pn**	**17 06 37.8**		**+1.0**
VA04	**Juan Fernndez**	**5.49**	**272**	Pn		**Pn**	**17 06 37.5**		**-0.5**
AGUA	**GUANDACOL**	**5.50**	**37**	*eP*		**Pn**	**17 06 41.1**		**+2.8**
AGUA				*eS*		**Sg**	**17 08 09.8**		**-3.4**
AGUA				IAML			17 08 21.4		
	comp=Z,1µm,2.0s								
H03S1	**Juan Fernandez**	**5.54**	**269**	Pn		**Pn**	**17 06 36.6**		**-1.9**
	baz=242,slow=74,SNR=14								
H03S1				T		T	17 12 26.2		
	baz=92,slow=74,SNR=4790								
H03S3	**Juan Fernandez**	**5.54**	**270**	Pn		**Pn**	**17 06 36.8**		**-1.7**
	baz=242,slow=74,SNR=12								
H03S3				T		T	17 12 27.5		
	baz=92,slow=74,SNR=4011								
H03S2	**Juan Fernandez**	**5.55**	**270**	Pn		**Pn**	**17 06 38.5**		**-0.2**
	baz=242,slow=74,SNR=21								
H03S2				T		T	17 12 26.7		
	baz=92,slow=74,SNR=5499								
H03N1	**Juan Fernandez**	**5.58**	**274**	Pn		**Pn**	**17 06 39.7**		**+0.7**
	baz=133,slow=24,SNR=41								
H03N1				T		T	17 12 44.8

VAO	**Valinhos**	**24.70**	**70**	*e*P		**P**		**17 10 37.4**	**-0.2**
ARAG	**Araguaiana, MT**	**25.89**	**50**	*e*P		**P**		**17 10 48.2**	**-0.1**
CZSB	**Cruzeiro do Su**	**26.12**	**359**	*e*P		**P**		**17 10 52.2**	**+1.8**
SAML	**Samuel**	**26.27**	**21**	P		**P**		**17 10 51.7**	**0.0**
SAML				pmax	pmax				
	comp=Z,23nm,0.9s								
SAML	**Samuel**	**26.27**	**21**	P		**P**		**17 10 51.7**	**0.0**
SAML				IAmb	IAmb			17 10 56.0	
	comp=Z,23nm,0.8s								
SAML	**Samuel**	**26.27**	**21**	*e*P		**P**		**17 10 52.4**	**+0.7**
IPMB	**Ipameri, GO**	**26.74**	**59**	*e*P		**P**		**17 10 55.8**	**-0.3**
CLDB	**Colider**	**27.48**	**37**	*e*P		**P**		**17 11 02.0**	**-0.7**
BDFB	**Brasilia**	**28.46**	**56**	P		**P**		**17 11 10.9**	**-0.7**
	comp=Z,8.1nm,0.7s,baz=229,slow=5.3,SNR=14								
BDFB				LR	LR			17 23 55.3	
	comp=Z,2µm,18.5s,baz=233,slow=39								
BDFB	**Brasilia**	**28.46**	**56**	P		**P**		**17 11 10.4**	**-1.1**
BDFB				IAmb	IAmb			17 11 12.1	
	comp=Z,16nm,1.0s								
SNDB	**Serra Nova Dou**	**29.07**	**46**	*e*P		**P**		**17 11 17.1**	**+0.3**
PEXB	**Peixe**	**30.83**	**51**	*e*P		**P**		**17 11 32.5**	**+0.1**
NPGB	**Novo Progresso**	**31.02**	**34**	*e*P		**P**		**17 11 34.0**	**-0.1**
JANB	**Januaria**	**31.47**	**60**	*e*P		**P**		**17 11 37.9**	**-0.3**
BSFB	**Barra de Sao F**	**31.76**	**70**	*e*P		**P**		**17 11 40.6**	**0.0**
RPN	**Rapa Nui**	**32.53**	**272**	LR	LR			17 21 35.1	
	comp=Z,781nm,18.3s,baz=110,slow=30								
SDBA	**SAO DESIDERIO**	**32.87**	**56**	*e*P		**P**		**17 11 50.0**	**-0.5**
ITTB	**Itaituba**	**33.22**	**31**	*e*P		**P**		**17 11 52.9**	**-0.6**
SMTB	**Santa Maria do**	**33.75**	**48**	*e*P		**P**		**17 11 58.2**	**+0.2**
OTAV	**Otavalo**	**34.52**	**349**	P		**P**		**17 12 05.1**	**-0.1**
OTAV				pmax	pmax				
	comp=Z,11nm,1.4s								
OTAV	**Otavalo**	**34.52**	**349**	P		**P**		**17 12 05.1**	**-0.1**
PRPB	**Parauapebas**	**34.60**	**42**	*e*P		**P**		**17 12 05.6**	**+0.2**
GDU01	**Guandu, BA**	**35.81**	**64**	*e*P		**P**		**17 12 15.4**	**-0.4**
MALB	**Monte Alegre**	**36.11**	**32**	*e*P		**P**		**17 12 18.4**	**+0.1**
MCPB	**Macapa, AP**	**38.43**	**34**	*e*P		**P**		**17 12 38.8**	**+0.8**
SDV	**Santo Domingo**	**42.65**	**2**	P		**P**		**17 13 13.4**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=203,slow=9.3,SNR=6.5								
SDV	**Santo Domingo**	**42.65**	**2**	P		**P**		**17 13 13.5**	**+0.3**
SDV	**Santo Domingo**	**42.65**	**2**	*e*P		**P**		**17 13 14.4**	**+1.3**
MDP	**Montagnes des**	**43.06**	**29**	P		**P**		**17 13 16.4**	**+0.2**
	comp=Z,21nm,0.8s,baz=199,slow=8.9,SNR=12								
RCBR	**Riachuelo**	**43.78**	**58**	P		**P**		**17 13 22.3**	**+0.1**
RCBR				pmax	pmax				
	comp=Z,45nm,1.4s								
RCBR	**Riachuelo**	**43.78**	**58**	P		**P**		**17 13 22.3**	**+0.1**
RCBR				IAmb	IAmb			17 13 23.9	
	comp=Z,44nm,1.4s								
JTS	**Las Juntas de**	**45.64**	**342**	*i* P		**P**		**17 13 35.6**	**-1.4**
JTS				pmax	pmax				
	comp=Z,8.0nm,1.0s								
VNA3	**Neumayer Olymp**	**49.45**	**158**	P		**P**		**17 14 07.0**	**+1.0**
VNA2	**Neumayer--Watz**	**50.11**	**157**	P		**P**		**17 14 11.8**	**+0.9**
SNAA	**Sanae**	**51.68**	**158**	P		**P**		**17 14 23.6**	**+0.7**
SNAA	**Sanae**	**51.68**	**158**	*i* P		**P**		**17 14 23.4**	**+0.6**
SNAA				pmax	pmax				
	comp=Z,11nm,1.1s								
SNAA	**Sanae**	**51.68**	**158**	P		**P**		**17 14 23.1**	**+0.3**
SNAA				IAmb	IAmb			17 14 34.6	
	comp=Z,22nm,1.2s								
SKI	**Saint Kitts**	**51.82**	**12**	P		**P**		**17 14 24.6**	**+0.3**
SKI	**Saint Kitts**	**51.82**	**12**	P		**P**		**17 14 24.6**	**+0.3**
ICMP	**Isla Caja de M**	**51.86**	**7**	P		**P**		**17 14 24.2**	**-0.4**
MLPR	**Magueyes Islan**	**51.89**	**6**	P		**P**		**17 14 24.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**51.92**	**6**	P		**P**		**17 14 24.4**	**-0.7**
CRPR				IAmb	IAmb			17 14 36.3	
	comp=Z,28nm,0.9s								
OBIP	**Obispado Ponce**	**52.00**	**7**	P		**P**		**17 14 26.2**	**+0.5**
OBIP				IAmb	IAmb			17 14 27.6	
	comp=Z,22nm,0.9s								
PDPR	**Patillas Dam,**	**52.04**	**8**	P		**P**		**17 14 25.4**	**-0.5**
PDPR				IAmb	IAmb			17 14 36.2	
	comp=Z,19nm,1.1s								
SJG	**San Juan**	**52.12**	**7**	P		**P**		**17 14 26.0**	**-0.5**
	comp=Z,8.4nm,0.7s,baz=355,slow=4.3,SNR=4.2								
SJG	**San Juan**	**52.12**	**7**	P		**P**		**17 14 25.7**	**-0.8**
SJG				IAmb	IAmb			17 14 37.3	
	comp=Z,12nm,0.8s								
MPR	**Mayaguez**	**52.12**	**6**	P		**P**		**17 14 26.0**	**-0.5**
QSPA	**South Pole Qui**	**56.26**	**180**	P		**P**		**17 14 58.0**	**+1.5**
	comp=Z,4.2nm,0.9s,baz=147,slow=3.7,SNR=8.0								
QSPA	**South Pole Qui**	**56.26**	**180**	P		**P**		**17 14 57.1**	**+0.6**
QSPA				IAmb	IAmb			17 15 08.6	
	comp=Z,17nm,1.0s								
H06E1	**SOCORRO T-PHAS**	**54.11**	**319**	T		T		18 25 43.3	
	SNR=5.5								
553A	**Crawfordville**	**64.85**	**348**	P		**P**		**17 15 54.5**	**-0.7**
SYO	**Syowa Base**	**65.96**	**159**	*e*pP		**P**		**17 16 03.2**	**+1.2**
SYO	**Syowa Base**	**65.96**	**159**	*e*sP		**P**		**17 16 06.0**	**+4.0**
TAOE	**Nuku Hiva Isla**	**66.79**	**275**	*e*LR		LR		17 36 18.4	
	comp=Z,204nm,21.7s								
TAOE	**Nuku Hiva Isla**	**66.79**	**275**	*e*T		T		18 28 21.6	
	comp=Z,24nm,0.2s								
TBI	**Tubuai**	**67.15**	**257**	*e*S		**S**		**17 25 09.9**	**+5.3**
	comp=Z,297nm,30.5s								
TBI	**Tubuai**	**67.15**	**257**	*e*LR		LR		17 36 27.0	
	comp=Z,500nm,26.5s,baz=112								
HKT	**Hockley**	**67.37**	**338**	*i* P		**P**		**17 16 11.1**	**-0.2**
HKT				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MEH	**Mehetia**	**68.68**	**262**	*e*T		T		18 30 34.9	
	comp=Z,15nm,0.2s								
X51A	**Calhoun**	**69.20**	**349**	P		**P**		**17 16 22.1**	**-0.7**
TXAR	**Lajitas Array**	**69.62**	**331**	LR	LR			17 42 59.3	
	comp=Z,170nm,18.2s,baz=0,slow=32								
TIAR	**Tiarei**	**69.89**	**262**	*e*T		T		18 32 06.0	
	comp=Z,1.8nm,0.2s								
PPT2	**Papeete2**	**70.06**	**262**	*e*S		**S**		**17 25 44.3**	**+4.8**
	comp=Z,149nm,22.5s								
PPT2	**Papeete2**	**70.06**	**262**	*e*LR		LR		17 37 45.8	
	comp=Z,331nm,28.2s,baz=118								
V48A	**Smith Brothers**	**70.68**	**347**	P		**P**		**17 16 32.1**	**+0.3**
T59A	**Double "B" Far**	**70.75**	**356**	P		**P**		**17 16 32.4**	**+0.2**
T59A				IAmb	IAmb			17 16 42.9	
	comp=Z,20nm,1.1s								
WVT	**Waverly**	**71.24**	**347**	P		**P**		**17 16 35.6**	**+0.3**
WVT				pmax	pmax				
	comp=Z,61nm,1.4s								
WVT	**Waverly**	**71.24**	**347**	P		**P**		**17 16 35.6**	**+0.3**
MAW	**Mawson**	**73.26**	**164**	P		**P**		**17 16 47.7**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=225,slow=6.8,SNR=10								
MAW				LR	LR			17 51 35.7	
	comp=Z,339nm,18.4s,baz=234,slow=38								
MAW	**Mawson**	**73.26**	**164**	P		**P**		**17 16 47.7**	**+0.7**
MSTX	**Muleshoe**	**73.41**	**334**	P		**P**		**17 16 48.7**	**+0.3**
MSTX				IAmb	IAmb			17 17 02.8	
	comp=Z,19nm,1.1s								
CCM	**Cathedral Cave**	**73.81**	**344**	P		**P**		**17 16 50.2**	**-0.3**
CCM				pmax	pmax				
	comp=Z,27nm,1.2s								
CCM	**Cathedral Cave**	**73.81**	**344**	P		**P**		**17 16 50.1**	**-0.3**
CCM				IAmb	IAmb			17 17 02.9	
	comp=Z,26nm,1.2s								
LIC	**Lamto**	**74.93**	**72**	*e*P		**P**		**17 16 57.8**	**+0.1**
	comp=Z,44nm,1.3s								
TIC	**Toumodi**	**75.19**	**71**	*e*P		**P**		**17 16 58.4**	**-0.8**
KIC	**Kosan Boka**	**75.24**	**72**	*e*P		**P**		**17 16 59.7**	**+0.2**
	comp=Z,28nm,1.0s								
N49A	**Columbus Grove**	**75.33**	**351**	P		**P**		**17 16 58.9**	**-0.4**
DBIC	**Dimbokro**	**75.34**	**71**	P		**P**		**17 16 59.5**	**-0.5**
	comp=Z,8.1nm,0.9s,baz=202,slow=4.7,SNR=5.6								
DBIC				LR	LR			17 48 47.6	
	comp=Z,222nm,19.2s,baz=214,slow=35								
DBIC	**Dimbokro**	**75.34**	**71**	P		**P**		**17 17 00.3**	**+0.3**
DBIC				pmax	pmax				
	comp=Z,15nm,1.2s								
DBIC	**Dimbokro**	**75.34**	**71**	P		**P**		**17 17 00.3**	**+0.3**
DBIC				IAmb	IAmb			17 17 01.5	
	comp=Z,15nm,1.1s								
ANMO	**Albuquerque**	**75.67**	**332**	P		**P**		**17 17 02.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=180,slow=9.1,SNR=1.8								
ANMO	**Albuquerque**	**75.67**	**332**	P		**P**		**17 17 00.9**	**-0.8**
WUAZ	**Wupatki**	**78.21**	**328**	P		**P**		**17 17 14.7**	**-1.3**
PFO	**Pinyon Flats O**	**79.01**	**324**	*i* P		**P**		**17 17 19.9**	**-0.4**
PFO				pmax	pmax				
	comp=Z,5.0nm,1.4s								
KNB	**Kanab**	**80.11**	**328**	P		**P**		**17 17 26.6**	**+0.3**
KNB				pmax	pmax				
	comp=Z,10.0nm,1.2s								
KNB	**Kanab**	**80.11**	**328**	P		**P**		**17 17 26.6**	**+0.3**
BOSA	**Boshof**	**80.24**	**118**	P		**P**		**17 17 27.7**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=268,slow=2.7,SNR=9.1								
BOSA				LR	LR			17 51 10.9	
	comp=Z,92nm,18.4s,baz=204,slow=34								
BOSA	**Boshof**	**80.24**	**118**	IAmb	IAmb			17 17 35.8	
	comp=Z,15nm,1.2s								
KOWA	**Kowa**	**80.79**	**66**	P		**P**		**17 17 30.3**	**+0.1**
KOWA				IAmb	IAmb			17 17 32.0	
	comp=Z,23nm,1.2s								
LBTB	**Lobatse**	**82.48**	**115**	P		**P**		**17 17 38.7**	**-0.6**
LBTB				pmax	pmax				
	comp=Z,27nm,1.4s								
LBTB	**Lobatse**	**82.48**	**115**	P		**P**		**17 17 38.7**	**-0.6**
LBTB				IAmb	IAmb			17 17 48.2	
	comp=Z,27nm,1.4s								
URZ	**Urewera**	**83.55**	**228**	LR	LR			17 46 51.1	
	comp=Z,197nm,18.0s,baz=211,slow=30								
NVAR	**Mina Array Bea**	**83.76**	**325**	LR	LR			17 47 55.7	
	comp=Z,80nm,21.7s,baz=96,slow=31								
KVN	**Kaiserville**	**84.16**	**326**	P		**P**		**17 17 48.3**	**+0.8**
KVN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KVN	**Kaiserville**	**84.16**	**326**	P		**P**		**17 17 48.2**	**+0.8**
E28A	**Huff**	**84.18**	**341**	P		**P**		**17 17 47.4**	**+0.2**
E28A				IAmb	IAmb			17 17 48.7	
	comp=Z,13nm,0.9s								
ELK	**Elko**	**84.25**	**329**	P		**P**		**17 17 48.8**	**+0.8**
ELK				pmax	pmax				
	comp=Z,6.0nm,1.2s								
ELK	**Elko**	**84.25**	**329**	P		**P**		**17 17 48.8**	**+0.8**
TOA0	**Torodi Ar. Sit**	**84.37**	**70**	P		**P**		**17 17 49.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P		**P**		**17 17 49.2**	**+0.3**
	comp=Z,8.2nm,0.8s,baz=258,slow=4.4,SNR=41								
TORD				LR	LR			17 54 49.6	
	comp=Z,231nm,18.5s,baz=240,slow=35								
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P		**P**		**17 17 49.0**	**+0.1**
RAO	**Raoul Island**	**85.74**	**238**	LR	LR			17 48 20.2	
	comp=Z,65nm,21.2s,baz=122,slow=30								
YHH	**Holmes Hill**	**85.87**	**334**	P		**P**		**17 17 56.7**	**+0.5**
YHL	**Hebgen Lake**	**86.05**	**333**	P		**P**		**17 17 55.6**	**-1.4**
HLID	**Hailey**	**86.22**	**331**	P		**P**		**17 17 59.0**	**+1.3**
DGMT	**Dagmar**	**86.90**	**339**	P		**P**		**17 18 01.3**	**+0.6**
MSVF	**Nonsavu**	**95.66**	**244**	*i* P		**P**		**17 18 40.6**	**-1.9**
MSVF				pmax	pmax				
	comp=Z,13nm,1.1s								
ESDC	**Sonseca Array**	**96.68**	**46**	P		**P**		**17 18 47.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=258,slow=5.1,SNR=2.6								
ESDC				LR	LR			18 01 44.5	
	comp=Z,118nm,18.9s,baz=235,slow=35								
DZM	**Mont Dzumac**	**101.11**	**234**	*e*LR		LR		17 52 17.6	
	comp=Z,210nm,27.6s								
ASAR	**Alice Springs**	**117.51**	**207**	PKP		**PKPdf**		**17 24 01.9**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=135,slow=1.6,SNR=7.4								
WRA	**Warramunga Arr**	**120.70**	**209**	PKP		**PKPdf**		**17 24 08.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=154,slow=1.8,SNR=17								
AKASG	**Malin Array Be**	**122.30**	**48**	PKIKP		**PKPdf**		**17 24 10.0**	**-0.8**
ARCES	**ARCESS Array B**	**124.06**	**25**	PKP		**PKPdf**		**17 24 14.0**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=262,slow=2.7,SNR=8.2								
AKASG	**Malin Array Be**	**122.30**	**48**	PKIKP		**PKPdf**		**17 24 10.0**	**-0.8**
ARCES	**ARCESS Array B**	**124.06**	**25**	PKP		**PKPdf**		**17 24 14.0**	**+0.4**
	comp=Z,5.5nm,1.1s,baz=294,slow=1.2,SNR=5.5								
H11S2	**WAKE ISLAND Hyl**	**25.59**	**269**	T		T		19 43 25.9	
	baz=129,slow=74								
H11S1	**WAKE ISLAND Hyl**	**25.61**	**269**	T		T		19 43 26.7	
	baz=129,slow=74								
H11S3	**WAKE ISLAND Hyl**	**25.61**	**269**	T		T		19 43 27.2	
	baz=129,slow=74								
H11N3	**WAKE ISLAND Hyl**	**26.01**	**271**	T		T		19 43 25.1	
	baz=118								
H11N1	**WAKE ISLAND Hyl**	**26.02**	**271**	T		T		19 43 24.2	
	baz=118								
H11N2	**WAKE ISLAND Hyl**	**26.03**	**271**	T		T		19 43 28.6	
	baz=118								
OBN	**Obninsk**	**127.54**	**43**	*e*PKIKP		**PKPdf**		**17 24 19.5**	**-1.1**
OBN				pmax	pmax				
	comp=Z,9.0nm,1.1s								
ARU	**Arti**	**139.84**	**41**	*i* PKIKP		**PKPdf**		**17 24 41.2**	**-2.5**
TIXI	**Tiksi**	**140.63**	**350**	*i* PKIKP		**PKPdf**		**17 24 44.6**	**-0.1**
NRIK	**Noril'sk**	**142.83**	**12**	*i* PKIKP		**PKPdf**		**17 24 47.9**	**-0.8**
BRVK	**Borovoye**	**147.31**	**43**	PKIKP		**PKPdf**		**17 24 55.2**	**-1.7**
BRVK								17 25 00.3	
BRVK	**Borovoye**	**147.31**	**43**	PKPdf		**PKPdf**		**17 24 55.2**	**-1.7**
BRVK				PKPbc		**pPKPdf**		**17 25 00.3**	**-1.1**
YAK	**Yakutsk**	**148.65**	**340**	*e*PKIKP		**PKPdf**		**17 25 00.6**	**+1.8**
YAK				pmax	pmax				
	comp=Z,14nm,1.0s								
HYB	**Hyderabad**	**149.10**	**115**	*i* PKP		**PKPbc**		**17 25 06.0**	**+0.9**
GAR	**Garm**	**149.63**	**70**			**PKPbc**		**17 25 05.1**	**-0.9**
KK31	**Karatay Array**	**149.69**	**61**	PKP2		**PKPbc**		**17 25 05.2**	**-0.6**
KK31	**Karatay Array**	**149.69**	**61**			**PKPbc**		**17 25 05.2**	**-0.6**
NIL	**Nilore**	**151.41**	**81**	PKIKP		**PKPbc**		**17 25 10.1**	**-0.2**
NIL	**Nilore**	**151.41**	**81**			**PKPbc**		**17 25 10.1**	**-0.2**
KURBB	**Kurchatov Arra**	**152.97**	**43**	PKPbc		**PKPbc**		**17 25 13.4**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=299,slow=2.9,SNR=13								
KURK	**Kurchatov**	**152.98**	**43**	PKIKP		**PKPbc**		**17 25 12.9**	**-0.2**
KURK	**Kurchatov**	**152.98**	**43**			**PKPbc**		**17 25 12.9**	**-0.2**
ZAA0	**Zalesovo Array**	**154.30**	**32**			**PKPdf**		**17 25 07.8**	**+0.2**
ZAA0				PKPbc		**PKPbc**		**17 25 15.8**	**-0.1**
ZALV	**Zalesovo Beam**	**154.30**	**32**	PKP		**PKPdf**		**17 25 07.9**	**+0.2**
ZALV				PKPbc		**PKiKP**		**17 25 16.6**	**+0.7**
	comp=Z,7.5nm,0.7s,baz=296,slow=3.2,SNR=32								
ZALV	**Zalesovo Beam**	**154.30**	**32**			**PKPdf**		**17 25 07.5**	**-0.2**
MKAR	**Makanchi Array**	**156.88**	**49**	PKP		**PKPdf**		**17 25 11.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=114,slow=2.9,SNR=5.0								
MKAR				PKPbc		**sPKPdf**		**17 25 22.0**	**+4.6**
	comp=Z,1.6nm,0.9s,baz=318,slow=1.6,SNR=7.8								
MKAR				PKPab		**PKPab**		**17 25 41.8**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=291,slow=4.0,SNR=11								
MKAR	**Makanchi Array**	**156.88**	**49**	PKPdf		**PKPdf**		**17 25 10.6**	**-0.8**
MKAR						**sPKPdf**		**17 25 21.1**	**+3.7**
MKAR						**PKPab**		**17 25 41.3**	**0.0**
WMQ	**Urumqi**	**161.59**	**52**	*e*P		**PKPdf**		**17 25 16.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**162.66**	**151**	PKP		**PKPdf**		**17 25 19.3**	**+0.5**
	comp=Z,1.0s,baz=238,slow=3.1,SNR=7.1								
CMAR	**Chiang Mai Arr**	**162.66**	**151**	PKIKP		**PKPdf**		**17 25 18.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**162.66**	**151**	PKPdf		**PKPdf**		**17 25 18.6**	**-0.2**
SONM	**Songino Array**	**166.11**	**4**	PKPab		**PKPab**		**17 26 23.0**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=324,slow=1.5,SNR=7.0								
SONM	**Songino Array**	**166.11**	**4**	PKP2		**PKPab**		**17 26 23.0**	**+1.3**
SONM	**Songino Array**	**166.11**	**4**	PKPdf		**PKPdf**		**17 25 20.5**	**-0.7**
NJ2	**Nanjing**	**170.48**	**261**	*e*P		**PKPdf**		**17 25 25.0**	**+0.6**
NJ2				pmax	pmax				
	comp=Z,7.0nm,0.6s								
GTA	**Gaotai**	**171.63**	**47**	*e*PKP		**PKPdf**		**17 25 25.8**	**+0.8**
GTA				PKPab		**PKPab**		**17 26 47.5**	**+1.0**
GTA				LR	LR				
	comp=N,72nm,21.5s								
GTA				LR	LR				
	comp=E,60nm,20.7s								
GTA				LR	LR				
	comp=Z,74nm,19.6s								
HHC	**Hu-ho-hao-te**	**172.50**	**337**	*e*P		**PKPdf**		**17 25 22.0**	**-3.3**
LZH	**Lanzhou**	**176.16**	**56**	*e*PKP		**PKPdf**		**17 25 22.8**	**-3.9**
LZH				pPKP		sPKPdf		17 25 32.3	0.0
LZH				sPKP				17 25 37.0	

GCG ***25*** *17:10:39.1±0.4, 15.32N×93.32W, h26km±999km, MD4.5*
MEX ***25*** *17:10:46.4±0.5, 14.88N×92.71W, h94km±5km, MD3.9*
NEIC ***25*** *17:10:46.1±2.1, 14.92N±0.05×92.71W±0.05, h88km±4km, mb4.3/13, Md3.9/20(MEX), Error ellipse: s-maj=8.0km s-min=5.4km az=213.0*
IDC ***25*** *17:10:47.6±2.6, 15.23N×92.29W, h92km±24km, mb3.7/5, mb1 4.0/8, mb1mx3.6/36, mbtmp4.0/8, MS3.3/1, Ms1 3.3/1, ms1mx2.6/39, Error ellipse: s-maj=69.4km s-min=22.3km az=35.0*

ISC 25 17:10:46.3±0.8, 14.91N±0.05×92.73W±0.04, h86km±6km, n52, σ1°20/63, mb4.3/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.45**	**91**	*i* P		**Pn**		**17 10 59.7**	**-0.5**
THIG				*i* S		**Sn**		**17 11 10.5**	**0.0**
THIG		**0.45**	**91**			**Pn**		**17 10 59.7**	**-0.5**
THIG						**Sn**		**17 11 10.5**	**0.0**
PCIG		**0.92**	**329**	*e*P		**Pn**		**17 11 04.8**	**-0.1**
PCIG				*i* S		**Sn**		**17 11 18.8**	**+0.1**
PCIG		**0.92**	**329**			**Pn**		**17 11 04.8**	**-0.1**
PCIG						**Sn**		**17 11 18.8**	**+0.1**
RTAL	**Retalhuleu**	**1.07**	**111**			**Pn**		**17 11 06.7**	**+0.1**
RTAL				Sn		**Sn**		**17 11 20.9**	**-0.9**
ERG	**Entre ros, C**	**1.21**	**113**	*e*P		**Pn**		**17 11 10.0**	**+1.7**
HUEH	**Huehuetenango**	**1.25**	**71**			**Pn**		**17 11 10.2**	**+1.2**
CCIG	**Comitan**	**1.48**	**23**	*i* P		**Pn**		**17 11 12.4**	**+0.7**
CCIG				*e*S		**Sn**		**17 11 30.9**	**-0.1**
CCIG	**Comitan**	**1.48**	**23**			**Pn**		**17 11 12.4**	**+0.7**
CCIG						**Sn**		**17 11 30.9**	**-0.1**
FUG	**Fuego 3**	**1.88**	**104**	*e*P		**Pn**		**17 11 19.3**	**+2.3**
TGIG		**1.89**	**348**	*e*P		**Pn**		**17 11 16.9**	**-0.2**
TGIG				*i* S		**Sn**		**17 11 39.8**	**-0.7**
TGIG		**1.89**	**348**			**Pn**		**17 11 16.9**	**-0.2**
TGIG						**Sn**		**17 11 39.8**	**-0.7**
PCG	**Pacaya**	**2.11**	**104**	*e*P		**Pn**		**17 11 23.2**	**+3.0**
NBG	**Las Nubes**	**2.32**	**98**	*e*P		Pn		17 11 29.2	+6.2
MRL	**Marmol**	**2.94**	**86**	*e*P		**Pn**		**17 11 33.2**	**+2.0**
CMIG	**Matias Romero**	**3.00**	**317**	P		**Pn**		**17 11 32.7**	**+0.9**
	10.0nm,0.3s,baz=142,slow=14,SNR=68								
CMIG				S		**Sn**		**17 12 07.3**	**+0.5**
	28nm,0.3s,baz=168,slow=22,SNR=7.4								
CMIG	**Matias Romero**	**3.00**	**317**	*e*P		**Pn**		**17 11 32.4**	**+0.6**
CMIG				*i* S		**Sn**		**17 12 07.5**	**+0.6**
CMIG	**Matias Romero**	**3.00**	**317**			**Pn**		**17 11 32.4**	**+0.6**
CMIG						**Sn**		**17 12 07.5**	**+0.6**
ESQI	**Esquipulas**	**3.29**	**96**			**Pn**		**17 11 37.0**	**+1.2**
MTO3	**Montecristo**	**3.30**	**98**	Pn		**Pn**		**17 11 35.2**	**-0.8**
HUIG	**Huatulco**	**3.37**	**285**	*e*P		**Pn**		**17 11 36.1**	**-0.7**
HUIG				*i* S		**Sn**		**17 12 14.5**	**-1.4**
HUIG	**Huatulco**	**3.37**	**285**			**Pn**		**17 11 36.1**	**-0.7**
HUIG						**Sn**		**17 12 14.5**	**-1.4**
PETF	**Flores**	**3.40**	**54**			**Pn**		**17 11 37.9**	**+0.8**
TEIG	**Tepich**	**6.78**	**38**	*e*P		**Pn**		**17 12 23.1**	**-0.1**
TEIG				*i* S		**Sn**		**17 13 37.2**	**-1.6**
TEIG	**Tepich**	**6.78**	**38**			**Sn**		**17 13 37.2**	**-1.6**
TEIG	**Tepich**	**6.78**	**38**			**Pn**		**17 12 22.2**	**-1.0**
MATN	**Matagalpa**	**6.89**	**106**			**Pn**		**17 12 25.2**	**+0.4**
JTS	**Las Juntas de**	**8.87**	**120**	P		**Pn**		**17 12 52.3**	**+0.6**
	0.8nm,0.3s,baz=1.3,slow=19,SNR=2.8								
553A	**Crawfordville**	**17.01**	**25**	P		**Pn**		**17 14 39.9**	**+1.1**
TXAR	**Lajitas Array**	**17.55**	**327**	P		**P**		**17 14 47.7**	**+2.3**
	0.6nm,0.3s,baz=158,slow=13,SNR=11								
W39A	**Magazine**	**20.22**	**357**	P		**P**		**17 15 13.8**	**-0.6**
W39A				IAmb	IAmb			17 15 31.8	
	comp=Z,24nm,1.6s								
GOGA	**Godfrey**	**20.24**	**23**	P		**P**		**17 15 14.8**	**+0.2**
GOGA				IAmb	IAmb			17 15 19.6	
	comp=Z,13nm,1.2s								
CPCT	**Cooper Cave**	**21.74**	**18**	P		**P**		**17 15 31.1**	**+0.5**
TKL	**Tuckaleechee C**	**22.16**	**20**	LR	LR			17 24 31.0	
	comp=Z,66nm,18.3s,baz=188,slow=38								
121A	**Cookes Peak, D**	**22.26**	**325**	P		**P**		**17 15 39.2**	**+2.7**
W57A	**Gilead**	**23.18**	**27**	P		**P**		**17 15 42.9**	**-2.7**
W57A				IAmb	IAmb			17 15 45.6	
	comp=Z,19nm,1.6s								
V55A	**Taylorsville**	**23.26**	**24**	P		**P**		**17 15 45.9**	**-0.5**
V58A	**Windy Hill, Pi**	**24.11**	**28**	P		**P**		**17 15 52.7**	**-1.3

U40A	Yellville	3.63	76	Pn		Pn	17 11 50.8	-0.1
AMTX	Amarillo	3.71	261			Pn	17 11 53.0	+0.9
237A	Washetta, Mont	3.73	161			Pn	17 11 52.0	-0.3
X40A	Basin Creek Fa	3.75	105			Pn	17 11 53.5	+0.9
S39A	Bolivar	3.79	55	Pn		Pn	17 11 53.2	+0.1
CBKS	Cedar Bluff	3.82	329			Pn	17 11 54.3	+0.7
WHAR	Wooly Hollow	4.04	92	Pn		Pn	17 11 56.8	+0.4
UALR	University of	4.07	100	Pn		Pn	17 11 57.8	+0.9
W41B	Gary Mavity, V	4.08	94			Pn	17 11 57.8	+0.7
FCAR	Ozark Folk Cen	4.16	84			Pn	17 11 58.7	+0.5
MGMO	Mountain Grove	4.30	67			Pn	17 11 59.2	-0.9
NATX	Nacogdoches	4.35	150	Pn		Pn	17 12 01.2	+0.5
CCAR	Cane Creek	4.77	108	Pn		Pn	17 12 06.0	-0.6
R40A	Maddies Statio	4.81	54	Pn		Pn	17 12 07.2	0.0
MSTX	Muleshoe	4.84	252			Pn	17 12 08.6	+1.0
LCAR	Lake Charles	4.95	82	Pn		Pn	17 12 10.0	+1.0
P38A	Dawn	5.01	35	Pn		Pn	17 12 10.3	+0.5
T42A	Van Buren	5.16	72			Pn	17 12 10.6	-1.3
CCM	Cathedral Cave	5.40	61			Pn	17 12 14.5	-0.7
N35A	Tabor	5.44	13			Pn	17 12 15.6	-0.1
JCT	Junction City	5.51	204			Pn	17 12 16.8	+0.1
BGNE	Belgrade	5.89	353			Pn	17 12 21.4	-0.6
FVM	French Village	5.97	64			Pn	17 12 23.0	0.0
N38A	Joes South For	6.10	30			Pn	17 12 25.6	+0.8
S44A	Carbondale	6.75	69	Pn		Pn	17 12 33.2	-0.6
SDCO	Great Sand Dun	7.01	291	Pn		Pn	17 12 39.2	+1.7
ANMO	Albuquerque	7.58	268	Pn		Pn	17 12 44.4	-1.0
BNM	Barren Site	7.86	262	Pn		Pn	17 12 48.8	-0.4
L40A	Anamosa	8.01	34	Pn		Pn	17 12 50.4	-0.5
TXAR	Lajitas Array	8.26	223			Pn	17 12 53.4	-1.2
N23A	Red Feather La	8.69	310	Pn		Pn	17 13 00.7	+0.1

*BJI **25** 17:25:23.4±0.0, 31°.51N×115°.51E, h6km, mb4.3/5, ML4.0/20, Ms3.7/6, Ms7 3.5/5*
*IDC **25** 17:25:24.1±2.1, 31°.69N×115°.37E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.3/44, mbtmpg3.5/4, ML2.8/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/57, Error ellipse: s-maj=44.5km s-min=33.0km az=161.0*
*NEIC **25** 17:25:25.0±2.1, 31°.5N±0°.1×115°.47E±0°.09, h14km±6km, mb4.0/5, Error ellipse: s-maj=16.1km s-min=10.6km az=195.0*
ISC 25 17:25:24.2±0.6, **31°.56N**±0°.06×**115°.48E**±0°.04, **h10**km, **n28**, σ1**°34**/33, **mb3.9**/5, **Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**2.91**	**79**	*e*Pn	**Pn**	**17 26 10.5**	**-0.1**
NJ2				Pg	**Pb**	**17 26 15.3**	**-0.9**
NJ2				Sg	**Sb**	**17 26 52.3**	**+0.4**
NJ2				smax	smax		
	comp=N,390nm,0.5s						
NJ2				smax	smax		
	comp=E,290nm,0.6s						
SSE	**Sheshan**	**4.91**	**94**	Pn	**Pn**	**17 26 36.8**	**-1.2**
ENH	**Enshi**	**5.31**	**258**		**Pn**	**17 26 43.6**	**+0.1**
XAN	**Xi'an**	**6.05**	**296**	Pn	**Pn**	**17 26 54.0**	**+0.3**
XAN				Pg	Pb	17 27 15.0	+5.3
XAN				Sn	**Sn**	**17 28 01.0**	**-2.1**
XAN				Sg	**Sg**	**17 28 36.5**	**-1.9**
XAN				smax	smax		
	comp=N,180nm,1.0s						
XAN				smax	smax		
	comp=E,170nm,0.9s						
XAN				LR	LR		
	comp=N,740nm,6.3s						
XAN				LR	LR		
	comp=E,470nm,4.2s						
XAN				LR	LR		
	comp=Z,220nm,5.1s						
XAN	**Xi'an**	**6.05**	**296**		**Pn**	**17 26 53.9**	**+0.2**
YHNB	**Yeheng**	**8.62**	**141**	Pn	**Pn**	**17 27 28.3**	**-0.7**
GYA	**Guiyang**	**9.24**	**239**	*e*P	**Pn**	**17 27 38.5**	**+0.9**
GYA				S	**Sn**	**17 29 23.5**	**+1.7**
GYA				smax	smax		
	comp=N,18nm,1.0s						
GYA				smax	smax		
	comp=E,12nm,1.0s						
TPUB	**Ta-pu**	**9.41**	**150**	Pn	**Pn**	**17 27 39.7**	**-0.2**
YULB	**Yu-li**	**9.64**	**146**	Pn	**Pn**	**17 27 43.6**	**+0.7**
TWG	**Pinlang**	**10.03**	**149**	Pn	**Pn**	**17 27 48.9**	**+0.6**
JOW	**Kunigami**	**12.13**	**110**	Pn	**Pn**	**17 28 18.4**	**+1.3**
JNU	**Nakatsue**	**13.12**	**79**	LR	LR	17 32 59.1	
	comp=Z,87nm,18.3s,baz=254,slow=34						
QIZ	**Qiongzhong**	**13.48**	**203**	P	**Pn**	**17 28 35.0**	**-0.5**
QIZ				S	**Sn**	**17 31 04.8**	**-0.6**
QIZ				LR	LR		
	comp=N,210nm,16.7s						
GTA	**Gaotai**	**14.96**	**306**	P	**Pn**	**17 28 56.0**	**+0.2**
GTA				pP	P	17 29 00.0	-1.4
GTA				sP		17 29 03.3	
GTA				S	**Sn**	**17 31 45.0**	**+3.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,190nm,12.0s						
GTA				LR	LR		
	comp=E,130nm,13.1s						
GTA				LR	LR		
	comp=Z,79nm,12.7s						
MJAR	**Matsushiro Arr**	**19.46**	**69**	P	**Pn**	**17 29 53.2**	**+1.0**
	0.0nm,0.3s,baz=263,slow=9.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**19.84**	**233**	P	**Pn**	**17 29 56.6**	**-0.2**
	0.0nm,0.3s,baz=36,slow=8.8,SNR=7.6						
CMAR	**Chiang Mai Arr**	**19.84**	**233**	P	**P**	**17 29 55.9**	**+0.7**
LSA	**Lhasa**	**21.01**	**271**	P	**P**	**17 30 04.7**	**-3.7**
SHL	**Shillong**	**21.55**	**260**	P	**P**	**17 30 11.6**	**-2.3**
SHL				IAmb	IAmb	17 30 18.9	
	comp=Z,4.6nm,0.7s						
WMQ	**Urumqi**	**25.04**	**307**	*e*P	**P**	**17 30 49.5**	**+1.0**
MK31	**Makanchi Array**	**29.62**	**310**	P	**P**	**17 31 28.8**	**-0.8**
MK31				IAmb	IAmb	17 31 57.3	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**29.62**	**310**	P	**P**	**17 31 29.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=98,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**29.62**	**310**	P	**P**	**17 31 28.8**	**-0.8**
ZAA0	**Zalesovo Array**	**31.33**	**325**	P	**P**	**17 31 45.3**	**+0.8**
ZAA0				IAmb	IAmb	17 32 01.5	
	comp=Z,3.1nm,1.3s						
ZALV	**Zalesovo Beam**	**31.33**	**325**	P	**P**	**17 31 44.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=119,slow=9.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**31.33**	**325**	P	**P**	**17 31 44.9**	**+0.4**
ABKAR	**Akbulak array**	**44.77**	**310**	P	**P**	**17 33 38.7**	**+0.9**
BBB	**Bella Bella**	**79.82**	**34**	LR	LR	18 16 18.7	
	comp=Z,38nm,18.5s,baz=240,slow=38						

*IDC **25** 17:28:14.8±1.4, 4°.54N×125°.09E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/44, mbtmpg3.5/5, ML4.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=59.3km s-min=21.2km az=71.0*
*MAN **25** 17:28:21.4, 6°.01N×127°.11E, h5km, mb4.9, ML3.8, MS3.8*
ISC 25 17:28:18.9±2.2, **5°.94N**±0°.10×**127°.2E**±0°.1, **h14**km±12km, **n11**, σ2**°26**/16, **mb3.2**/3, **1D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.39**	**316**	*e*P	**Pn**	**17 28 44.2**	**+0.3**
MATI				eS	**Sn**	**17 29 03.3**	**+1.1**
DDMP	**Don Marcelino,**	**1.52**	**276**	*e*P	**Pn**	**17 28 46.7**	**+0.9**
DDMP				eS	**Sg**	**17 29 06.5**	**-1.5**
DAV	**Davao City (W)**	**1.99**	**304**	Pn	**Pg**	**17 28 56.5**	**-0.6**
	56nm,0.3s,baz=120,slow=3.2,SNR=5.2						
DAV				Sn	**Sg**	**17 29 22.7**	**-0.3**
	28nm,0.3s,baz=306,slow=22,SNR=5.8						
DAV				LR	LR	17 29 50.5	
	comp=Z,139nm,18.9s,baz=150,slow=37						
KCP	**Kidapawan**	**2.38**	**297**	*i*P	**Pn**	**17 29 00.3**	**+2.7**
KCP				*i* S	**Sn**	**17 29 25.6**	**-1.1**
SKMP	**Bagumbayan, Su**	**2.74**	**282**	*e*P	**Pn**	**17 29 04.2**	**+1.7**
SKMP				eS	**Sn**	**17 29 34.7**	**-0.7**
BUKP	**Musuan**	**2.89**	**312**	*e*P	**Pn**	**17 29 06.7**	**+2.1**
BUKP				eS	**Sb**	**17 29 45.6**	**0.0**
PAGZ	**Pagadian**	**4.27**	**297**	*e*P	**Pn**	**17 29 27.3**	**+3.8**
SIJI	**Sorong**	**7.87**	**149**	Pn	**Pn**	**17 30 16.6**	**+3.6**
	1.4nm,0.3s,baz=111,slow=13,SNR=20						
SIJI				Sn	**Sn**	**17 31 39.1**	**-2.9**
	baz=65,slow=23,SNR=1.3						
WRA	**Warramunga Arr**	**26.65**	**165**	P	P	17 33 48.4	-9.1
	0.3nm,0.6s,baz=336,slow=9.9,SNR=8.6						
ASAR	**Alice Springs**	**30.14**	**168**	P	P	17 34 19.9	-8.7
	0.2nm,0.7s,baz=342,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**56.05**	**324**	P	**P**	**17 37 55.6**	**-1.9**
	0.2nm,0.4s,baz=112,slow=7.7,SNR=5.7						

*IDC **25** 17:32:11.7±1.6, 2°.94N×126°.15E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/38, mbtmpg3.5/5, ML3.5/1, Error ellipse: s-maj=82.1km s-min=24.3km az=60.0*
ISC 25 17:32:17.1±1.0, **3°.0N**±0°.2×**126°.5E**±0°.2, **h35**km, **n6**, σ1**°03**/7, **mb3.5**/4, **1C**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.21**	**340**	*e*P	**Pn**	**17 33 19.9**	**+1.0**
SIJI	**Sorong**	**6.11**	**129**	Pn	**Pn**	**17 33 44.8**	**-0.1**
	1.0nm,0.3s,baz=217,slow=22,SNR=6.5						
SIJI				Sn	**Sn**	**17 34 53.3**	**-0.3**
	0.3nm,0.3s,baz=273,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**24.07**	**162**	P	**P**	**17 37 29.7**	**+0.3**
	1.1nm,0.9s,baz=337,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.48**	**165**	P	**P**	**17 38 00.9**	**+0.7**
	0.2nm,0.6s,baz=342,slow=7.5,SNR=7.3						
STKA	**Stephens Creek**	**37.54**	**159**	P	**P**	**17 39 28.3**	**+0.3**
	1.9nm,1.0s,baz=336,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**58.02**	**326**	P	**P**	**17 42 05.0**	**-1.6**
	0.2nm,0.4s,baz=118,slow=8.6,SNR=4.6						

*REY **25** 17:39:46.8, 64°.68N×17°.42W, h9km*
*IDC **25** 17:39:48.6±0.7, 64°.72N×17°.55W, h0km, mb3.6/14, mb1 3.9/15, mb1mx3.7/45, mbtmpg3.7/15, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/52, Error ellipse: s-maj=21.5km s-min=10.2km az=10.0*
*NEIC **25** 17:39:50.9±2.1, 64°.7N±0°.1×17°.2W±0°.2, h8km±4km, mb4.6/18, Error ellipse: s-maj=14.9km s-min=10.7km az=196.0*
ISC 25 17:39:48.2±0.5, **64°.70N**±0°.02×**17°.49W**±0°.02, **h10**km, **n84**, σ2**°47**/75, **mb3.8**/21, **MS3.6**/3, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.10**	**31**	P	**Pg**	**17 39 49.5**	**-1.4**
	baz=12						
IDYN				S	**Sg**	**17 39 52.2**	**-0.8**
	baz=12						
IVON	**Vonarskard**	**0.12**	**256**	P	**Pg**	**17 39 49.6**	**-1.5**
	baz=267						
IURH	**Urdarhals**	**0.19**	**51**	P	**Pg**	**17 39 50.7**	**-1.6**
	baz=40						
IDJK	**Dyngjujokull**	**0.23**	**151**	P	**Pg**	**17 39 51.0**	**-2.0**
	baz=156						
IDJK				S	**Sg**	**17 39 54.1**	**-2.1**
	baz=156						
IGRF	**Grimsfjall**	**0.31**	**162**	P	**Pg**	**17 39 52.3**	**-2.2**
	baz=166						
IKVE	**Kverkfjoll**	**0.35**	**94**	P	**Pg**	**17 39 53.1**	**-2.1**
	baz=90						
ISKR	**Skrokkalda**	**0.41**	**250**	P	**Pb**	**17 39 55.3**	**-2.3**
	baz=254						
ISKR				S	**Sb**	**17 40 01.1**	**-2.8**
	baz=254						
IHUS	**Husbondi**	**0.41**	**190**	P	**Pg**	**17 39 54.5**	**-1.9**
	baz=195						
IHUS				S	**Sg**	**17 39 59.9**	**-1.9**
	baz=195						
THOR	**Thorvaldshraun**	**0.42**	**56**	P	**Pg**	**17 39 54.5**	**-2.0**
	baz=51						
THOR				S	**Sg**	**17 40 01.3**	**-0.7**
	baz=51						
IVOT	**Vottur**	**0.45**	**163**	P	**Pg**	**17 39 54.9**	**-2.1**
	baz=166						
IKRE	**Kreppuhraun**	**0.48**	**80**	P	**Pg**	**17 39 55.1**	**-2.6**
	baz=77						
IJOK	**Jokulheimar**	**0.50**	**220**	P	**Pb**	**17 39 56.3**	**-2.8**
	baz=224						
IMKO	**Mokollar**	**0.57**	**60**	P	**Pg**	**17 39 56.9**	**-2.3**
	baz=57						
IMKO				S	**Sg**	**17 40 05.2**	**-1.5**
	baz=57						
ISVA	**Svartarkot**	**0.65**	**9**	P	**Pg**	**17 39 58.7**	**-2.0**
	baz=6.0						
ISVA				S	**Sb**	**17 40 08.4**	**-2.2**
	baz=6.0						
IIEY	**Innrieyrar**	**0.67**	**204**	P	**Pg**	**17 39 58.7**	**-2.4**
	baz=208						
IKSK	**Karasker**	**0.70**	**140**	P	**Pg**	**17 39 57.9**	**-3.8**
	baz=141						
IKAL	**Kalfafell**	**0.76**	**186**	P	**Pg**	**17 40 00.2**	**-2.7**
	baz=189						
IKAL				S	**Sg**	**17 40 10.7**	**-2.1**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.76**	**81**	P	**Pg**	**17 39 59.7**	**-3.3**
	baz=79						
IVSH				S	**Sg**	**17 40 10.1**	**-2.8**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**231**	P	**Pb**	**17 40 01.6**	**-2.7**
	baz=233						
IADA	**Aoalbol**	**0.88**	**68**	P	**Pg**	**17 40 01.7**	**-3.4**
	baz=66						
IHVE	**Hveravellir**	**0.90**	**282**	P	**Pb**	**17 40 03.5**	**-2.5**
	baz=282						
IMEL	**Melhnausar**	**0.94**	**22**	P	**Pg**	**17 40 03.5**	**-2.8**
	baz=20						
IREN	**Reynihlio**	**0.98**	**14**	P	**Pg**	**17 40 04.2**	**-2.8**
	baz=12						
IKVO	**Krokottuvotn**	**1.05**	**14**	P	**Pg**	**17 40 05.3**	**-3.0**
	baz=12						
ISNB	**Snabyli**	**1.09**	**208**	P	**Pg**	**17 40 06.0**	**-3.2**
	baz=210						
IGRS	**Grimsstaoir**	**1.10**	**31**	P	**Pb**	**17 40 06.2**	**-3.2**
	baz=29						
ISLY	**Slysaalda**	**1.13**	**220**	P	**Pb**	**17 40 06.9**	**-2.9**
	baz=222						
IFED	**Fedgar**	**1.17**	**236**	P	**Pb**	**17 40 07.9**	**-2.6**
	baz=237						
ISKI	**Skildingahlsh**	**1.19**	**9**	P	**Pb**	**17 40 07.7**	**-3.2**
	baz=7.7						
IGHA	**Grjothals**	**1.20**	**17**	P	**Pb**	**17 40 07.8**	**-3.2**
	baz=15						
IRJU	**Rjupnafell**	**1.21**	**206**	P	**Pb**	**17 40 07.7**	**-3.4**
	baz=208						
IGRA	**Granastaoir**	**1.22**	**358**	P	**Pn**	**17 40 08.2**	**-3.1**
	baz=357						
IGRA				S	**Sn**	**17 40 26.0**	**-1.8**
	baz=357						
IMJO	**Mjoaskard**	**1.22**	**232**	P	**Pb**	**17 40 08.6**	**-2.8**
	baz=234						
IGYG	**Gygjarholskot**	**1.25**	**251**	P	**Pg**	**17 40 09.5**	**-2.7**
	baz=253						
IDIM	**Dimmadalss**	**1.29**	**10**	P	**Pn**	**17 40 09.2**	**-3.0**
	baz=8.8						
IHLA	**Hella**	**1.30**	**344**	P	**Pn**	**17 40 09.9**	**-2.5**
	baz=343						
IHVO	**Lagu-Hvolar**	**1.32**	**207**	P	**Pn**	**17 40 10.1**	**-2.6**
	baz=209						
IHED	**Heoinshofoi**	**1.39**	**3**	P	**Pn**	**17 40 10.8**	**-2.7**
	baz=1.8						
IALF	**Alftagrof**	**1.43**	**212**	P	**Pn**	**17 40 11.6**	**-2.5**
	baz=214						
IESK	**Eystri-Skogar**	**1.46**	**217**	P	**Pn**	**17 40 12.3**	**-2.3**
	baz=218						
BORG	**Borgarnes**	**1.65**	**273**	Pg	**Pb**	**17 40 16.2**	**-2.3**
	11nm,0.3s,baz=102,slow=14,SNR=23						
BORG				Lg	Lg	17 40 39.7	
	11nm,0.3s,baz=56,slow=23,SNR=8.3						
BORG	**Borgarnes**	**1.65**	**273**		**Pb**	**17 40 15.9**	**-2.7**
BORG				Sn	**Sg**	**17 40 39.9**	**-1.1**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**17 42 36.0**	**-0.1**
	baz=325,slow=11,SNR=4.3						
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**17 42 52.7**	**-3.2**
LVZ	**Lovozero**	**20.67**	**58**	P	Pn	17 44 29.4	-0.8
LVZ				IAmb	IAmb	17 45 07.8	
	comp=Z,57nm,1.3s						
CLL	**Collm**	**20.72**	**116**	*e*P	Pn	17 44 31.0	+0.3
	comp=Z,13nm,1.4s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**17 44 35.9**	**-0.1**
	comp=Z,24nm,2.1s						
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**17 44 55.2**	**+2.6**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**17 44 54.9**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=338,slow=10,SNR=4.8						
DAVOX	**Davos/Dischmat**	**23.34**	**127**	P	**P**	**17 44 59.1**	**+2.6**
	comp=Z,1.9nm,0.9s,baz=345,slow=9.5,SNR=3.6						
COI	**Coimbra**	**25.10**	**163**	P	**P**	**17 45 17.0**	**+4.3**
PSZ	**Piszkesteto**	**26.13**	**112**	P	**P**	**17 45 24.2**	**+2.1**
PSZ				IAmb	IAmb	17 45 26.7	
	comp=Z,32nm,1.9s						
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**17 45 26.5**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=350,slow=8.5,SNR=6.1						
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**17 45 38.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=325,slow=9.0,SNR=2.0						
ARU	**Arti**	**36.06**	**66**	LR	LR	18 01 22.5	
	comp=Z,16nm,20.8s,baz=326,slow=36						
BRTR	**Keskin Array B**	**38.49**	**105**	P	P	17 47 13.6	+3.3
	comp=Z,1.7nm,0.9s,baz=343,slow=9.3,SNR=3.2						
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**17 47 40.1**	**+1.2**
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**17 47 40.4**	**+1.5**
TIXI	**Tiksi**	**42.00**	**15**	P	P	17 47 42.3	+3.5
BMAR	**Burnt Mountain**	**42.86**	**333**	P	P	17 47 48.7	+2.7
MARD	**Mardin**	**43.52**	**100**	P	**P**	**17 47 54.2**	**+2.5**
MARD				IAmb	IAmb	17 48 20.0	
	comp=Z,15nm,1.5s						
M44A	**Midewin, Midew**	**45.38**	**275**	P	P	17 48 11.0	+4.6
IL31		**45.65**	**332**	P	P	17 48 12.3	+4.1
IL31				IAmb	IAmb	17 48 15.9	
	comp=Z,7.4nm,1.4s						
ILAR	**Eielson Array**	**45.65**	**332**	P	P	17 48 10.7	+2.4
	comp=Z,0.9nm,1.0s,baz=24,slow=5.8,SNR=7.2						
ILAR	**Eielson Array**	**45.65**	**332**	P	P	17 48 11.9	+3.7
MDM	**Murphy Dome**	**45.75**	**333**	P	P	17 48 13.9	+4.8
MDM				IAmb	IAmb	17 48 16.4	
	comp=Z,10nm,1.4s						
IMAR	**Indian Mountai**	**45.83**	**337**	P	P	17 48 13.8	+4.1
R49A	**Shelbyville**	**46.71**	**270**	P	P	17 48 22.7	+5.8
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**17 48 25.3**	**+1.6**
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**17 48 29.8**	**+2.3**
KURK	**Kurchatov**	**48.09**	**58**	IAmb	IAmb	17 48 29.9	
	comp=Z,3.6nm,1.1s						
KURBB	**Kurchatov Arra**	**48.13**	**58**	P	**P**	**17 48 29.8**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=326,slow=7.3,SNR=11						
GEYT	**Alibeck**	**50.42**	**84**	P	**P**	**17 48 47.1**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=270,slow=4.3,SNR=2.3						
GEYT	**Alibeck**	**50.42**	**84**	IAmb	IAmb	17 48 48.8	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**52.70**	**58**	P	**P**	**17 49 03.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=304,slow=6.6,SNR=4.4						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**17 49 08.3**	**+2.1**
	comp=Z,1.7nm,0.9s,baz=60,slow=8.8,SNR=9.7						
PDAR	**Pinedale Array**	**53.16**	**293**	P	P	17 49 08.8	+2.6
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**17 49 07.6**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=354,slow=7.3,SNR=3.2						
PV13	**Radium Mtn., P**	**56.79**	**290**	P	P	17 49 36.3	+3.8
PV13				IAmb	IAmb	17 49 38.3	
	comp=Z,7.1nm,1.0s						
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**17 49 54.0**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=356,slow=6.6,SNR=1.8						
TXAR	**Lajitas Array**	**62.28**	**280**	P	P	17 50 13.6	+3.4
	comp=Z,0.4nm,0.7s,baz=64,slow=5.7,SNR=3.5						
USRK	**Ussuriysk Ar.**	**68.83**	**23**	LR	LR	18 24 18.2	
	comp=Z,51nm,18.3s,baz=40,slow=39						
MJAR	**Matsushiro Arr**	**77.30**	**20**	LR	LR	18 25 45.6	
	comp=Z,27nm,18.4s,baz=285,slow=36						
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**17 52 20.3**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=331,slow=5.4,SNR=2.7						

*IDC **25** 17:55:34.3±2.6, 6°.12S×146°.78E, h79km±29km, mb3.4/5, mb1 3.7/11, mb1mx3.5/37, mbtmpg3.9/11, MS3.2/4, Ms1 3.2/4, ms1mx2.9/24, Error ellipse: s-maj=27.3km s-min=17.1km az=121.0*
ISC 25 17:55:36.1±0.8, **6°.18S**±0°.08×**146°.82E**±0°.09, **h100**km, **n19**, σ1**°25**/13, **mb3.5**/5, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.22**	**174**	P	**Pn**	**17 56 22.4**	**-2.5**
	20nm,0.3s,baz=6.2,slow=5.6,SNR=49						
PMG				S	**Sn**	**17 57 02.4**	**0.0**
	13nm,0.3s,baz=4.5,slow=22,SNR=1.1						
PMG				LR	LR	17 58 02.0	
	comp=Z,230nm,18.4s,baz=65,slow=45						
KRVT	**Keravat (AS076**	**5.51**	**71**	P	**Pn**	**17 56 54.1**	**-1.8**
	4.5nm,0.3s,baz=113,slow=2.1,SNR=8.5						
KRVT				LR	LR	17 58 59.4	
	comp=Z,127nm,21.6s,baz=274,slow=37						
HNR	**Honiara**	**13.40**	**105**	P	**Pn**	**17 58 43.5**	**+1.0**
	1.1nm,0.3s,baz=207,slow=16,SNR=1.5						
CTA	**Charters Tower**	**13.83**	**182**	P	**Pn**	**17 58 49.1**	**+1.1**
	0.6nm,0.3s,baz=356,slow=14,SNR=10						
SIJI	**Sorong**	**16.39**	**288**	P	**Pn**	**17 59 20.0**	**-0.4**
	0.0nm,0.3s,baz=71,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**18.28**	**220**	P	**P**	**17 59 41.6**	**-0.6**
	0.2nm,0.3s,baz=38,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.37**	**214**	P	**P**	**18 00 16.6**	**+0.9**
	0.6nm,0.5s,baz=54,slow=8.8,SNR=23						
FITZ	**Fitzroy Crossi**	**23.82**	**238**	P	**P**	**18 00 39.2**	**-0.9**
	4.1nm,0.6s,baz=58,slow=11,SNR=17						
STKA	**Stephens Creek**	**26.03**	**190**	P	**P**	**18 01 00.9**	**+1.0**
	1.0nm,0.6s,baz=1.0,slow=7.8,SNR=4.1						
STKA				LR	LR	18 12 20.7	
	comp=Z,36nm,18.6s,baz=199,slow=39						
H11S3	**WAKE ISLAND Hy**	**31.39**	**38**	T	T	18 34 34.4	
	baz=210,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**31.40**	**38**	T	T	18 34 31.8	
	baz=210,slow=76,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**31.41**	**38**	T	T	18

GCMT	**Greycliff**	**3.76**	**303**		**Pn**	**18 04 18.4**	**+0.5**
LKWY	**Lake**	**3.84**	**283**		**Pn**	**18 04 20.2**	**+1.2**
LKWY				IAML		18 04 51.0	
	comp=N,119nm,0.7s						
H17A	**Grant Village**	**3.94**	**280**		**Pn**	**18 04 21.8**	**+1.4**
H17A				IAML		18 05 25.2	
	comp=N,81nm,0.7s						
YUF	**Upper Falls**	**3.94**	**285**	Pn	**Pn**	**18 04 20.9**	**+0.5**
LOHW	**Long Hollow**	**3.95**	**269**		**Pn**	**18 04 20.8**	**+0.3**
FLWY	**Flagg Ranch**	**4.00**	**276**		**Pn**	**18 04 21.9**	**+0.6**
FLWY				IAML		18 05 34.1	
	comp=N,90nm,1.0s						
FLWY				IAML		18 06 00.7	
	comp=N,71nm,1.9s						
ISCO	**Idaho Springs**	**4.03**	**185**	Pn	**Pn**	**18 04 22.6**	**+0.9**
MOOW	**Moose Ponds**	**4.04**	**271**		**Pn**	**18 04 22.7**	**+0.9**
YNR	**Norris Junctio**	**4.06**	**285**		**Pn**	**18 04 22.8**	**+0.7**
SNOW	**Snow King Moun**	**4.07**	**267**		**Pn**	**18 04 22.9**	**+0.6**
SNOW				IAML		18 05 29.2	
	comp=N,95nm,1.3s						
SNOW				IAML		18 05 48.0	
	comp=N,94nm,2.2s						
YNM	**Yellowstone No**	**4.08**	**285**	Pn	**Pn**	**18 04 22.6**	**+0.2**
YPP	**Pitchstone Pla**	**4.09**	**278**		**Pn**	**18 04 22.8**	**+0.3**
REDW	**Red Top Meadow**	**4.15**	**266**		**Pn**	**18 04 23.4**	**+0.1**
REDW				IAML		18 05 49.4	
	comp=N,111nm,0.8s						
REDW				IAML		18 05 54.2	
	comp=N,130nm,0.9s						
IMW	**Indian Meadow**	**4.17**	**273**		**Pn**	**18 04 23.4**	**-0.3**
IMW				IAML		18 04 57.2	
	comp=N,86nm,0.6s						
IMW				IAML		18 05 34.5	
	comp=N,79nm,0.9s						
YHH	**Holmes Hill**	**4.19**	**285**	Pn	**Pn**	**18 04 23.5**	**-0.4**
E28A	**Huff**	**4.20**	**47**		**Pn**	**18 04 26.1**	**+2.3**
TPAW	**Teton Pass**	**4.21**	**268**	Pn	**Pn**	**18 04 24.8**	**+0.6**
TPAW				IAML		18 05 46.5	
	comp=N,95nm,0.8s						
YMR	**Madison River**	**4.25**	**284**	Pn	**Pn**	**18 04 24.5**	**-0.2**
O20A	**White River Ci**	**4.33**	**213**	Pn	**Pn**	**18 04 26.4**	**+0.6**
O20A				IAML		18 05 37.5	
	comp=E,127nm,0.8s						
O20A				IAML		18 05 39.9	
	comp=N,102nm,0.9s						
YHB	**Horse Butte**	**4.43**	**284**		**Pn**	**18 04 27.0**	**-0.1**
YHL	**Hebgen Lake**	**4.44**	**286**		**Pn**	**18 04 29.0**	**+1.7**
AHID	**Auburn Hatcher**	**4.46**	**258**		**Pn**	**18 04 29.3**	**+1.8**
AHID				IAML		18 05 46.7	
	comp=E,83nm,0.8s						
SUSD	**Miller**	**4.52**	**80**	Pn	**Pn**	**18 04 30.2**	**+2.1**
ECR	**Eagle Creek**	**4.58**	**263**		**Pn**	**18 04 31.2**	**+2.0**
RDMU	**Red Mountain**	**4.61**	**227**	Pn	**Pn**	**18 04 30.0**	**+0.4**
QLMT	**Earthquake Lak**	**4.61**	**285**		**Pn**	**18 04 30.2**	**+0.6**
DGMT	**Dagmar**	**4.70**	**8**	Pn	**Pn**	**18 04 32.4**	**+1.7**
K31A	**O'Neill**	**4.84**	**102**		**Pn**	**18 04 35.8**	**+3.2**
Q24A	**Divide**	**4.85**	**180**		**Pn**	**18 04 33.5**	**+0.5**
Q24A				IAML		18 05 59.4	
	comp=E,52nm,0.8s						
BOZ	**Bozeman (W)**	**4.94**	**293**		**Pn**	**18 04 34.4**	**+0.4**
BOZ				IAML		18 05 51.2	
	comp=E,45nm,0.8s						
BOZ				IAML		18 06 02.1	
	comp=E,50nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.17**	**157**	Pn	**Pn**	**18 04 37.5**	**+0.3**
HWUT	**Hardware Ranch**	**5.20**	**247**		**Pn**	**18 04 37.3**	**-0.4**
HWUT				IAML		18 06 07.0	
	comp=E,58nm,1.0s						
HWUT				IAML		18 06 14.3	
	comp=E,69nm,0.9s						
EGMT	**Eagleton**	**5.29**	**324**	Pn	**Pn**	**18 04 39.1**	**+0.3**
TCUT	**Toone Canyon**	**5.34**	**242**		**Pn**	**18 04 39.5**	**-0.3**
HRY	**Holter Researc**	**5.52**	**304**		**Pn**	**18 04 41.6**	**-0.5**
DLMT	**Dillon**	**5.53**	**289**		**Pn**	**18 04 44.2**	**+2.1**
LRM	**Limekiln Ridge**	**5.55**	**294**		**Pn**	**18 04 42.4**	**-0.3**
MDND	**Maddock**	**5.60**	**42**		**Pn**	**18 04 44.5**	**+1.5**
MCMT	**McKenzie Canyo**	**5.60**	**283**	Pn	**Pn**	**18 04 44.7**	**+1.4**
JLU	**Jordanelle**	**5.66**	**238**		**Pn**	**18 04 44.1**	**0.0**
BGNE	**Belgrade**	**5.71**	**113**		**Pn**	**18 04 46.8**	**+2.2**
CTU	**Camp Tracy**	**5.80**	**240**	Pn	**Pn**	**18 04 45.8**	**-0.1**
SPUT	**South Promonto**	**5.93**	**248**		**Pn**	**18 04 48.1**	**+0.4**
PV22	**Blue Mesa, Par**	**5.94**	**209**		**Pn**	**18 04 47.9**	**0.0**
HVU	**Hansel Valley**	**5.95**	**253**		**Pn**	**18 04 46.4**	**-1.6**
PV07	**Paradox Valley**	**5.98**	**207**		**Pn**	**18 04 48.6**	**+0.1**
PV15	**Paradox Valley**	**6.01**	**206**		**Pn**	**18 04 49.9**	**+0.9**
P17A	**Butcher Ranch,**	**6.02**	**226**		**Pn**	**18 04 49.9**	**+1.0**
SDCO	**Great Sand Dun**	**6.07**	**182**	Pn	**Pn**	**18 04 50.5**	**+0.7**
PV23	**Carpenter Ridg**	**6.09**	**210**		**Pn**	**18 04 50.5**	**+0.4**
PV04	**Paradox Valley**	**6.11**	**209**		**Pn**	**18 04 50.5**	**+0.3**
PV12	**Saucer Basin,**	**6.14**	**208**		**Pn**	**18 04 50.9**	**+0.3**
PV14	**Lion Creek, Pa**	**6.17**	**209**		**Pn**	**18 04 51.5**	**+0.4**
PV10	**Paradox Valley**	**6.17**	**210**		**Pn**	**18 04 52.3**	**+1.2**
PV20	**West Nyswonger**	**6.18**	**209**		**Pn**	**18 04 51.4**	**+0.3**
PV11	**David Mesa, Pa**	**6.18**	**208**		**Pn**	**18 04 51.7**	**+0.5**
PV16	**Nyswonger Mesa**	**6.18**	**209**		**Pn**	**18 04 51.6**	**+0.4**
SRU	**San Rafael Swe**	**6.19**	**222**	Pn	**Pn**	**18 04 50.6**	**-0.7**
S22A	**4UR Ranch, Cre**	**6.19**	**192**	Pn	**Pn**	**18 04 52.2**	**+0.8**
ECSD	**EROS Data Cent**	**6.19**	**88**	Pn	**Pn**	**18 04 52.7**	**+1.5**
PV19	**Morning Glory**	**6.21**	**209**	Pn	**Pn**	**18 04 52.0**	**+0.4**
PV03	**Paradox Valley**	**6.21**	**208**		**Pn**	**18 04 52.2**	**+0.6**
PV02	**Paradox Valley**	**6.22**	**207**		**Pn**	**18 04 52.2**	**+0.4**
PV17	**East Wray Mesa**	**6.23**	**209**		**Pn**	**18 04 52.3**	**+0.4**
PV01	**Paradox Valley**	**6.23**	**206**		**Pn**	**18 04 52.7**	**+0.8**
PV18	**Skein Mesa, Pa**	**6.24**	**208**	Pn	**Pn**	**18 04 52.7**	**+0.6**
PV13	**Radium Mtn., P**	**6.29**	**207**		**Pn**	**18 04 52.7**	**0.0**
TMUT	**Trail Mountain**	**6.39**	**227**		**Pn**	**18 04 54.3**	**+0.1**
CBKS	**Cedar Bluff**	**6.46**	**139**	Pn	**Pn**	**18 04 54.6**	**-0.2**
N33A	**J Bar K, Exete**	**6.50**	**116**	Pn	**Pn**	**18 04 56.5**	**+1.2**
BGU	**Big Grassy Mou**	**6.50**	**246**	Pn	**Pn**	**18 04 56.5**	**+1.0**
F33A	**5 Mile Ranch,**	**6.63**	**69**	Pn	**Pn**	**18 04 56.9**	**-0.3**
Q16A	**Castle Valley**	**6.66**	**225**		**Pn**	**18 04 57.7**	**0.0**
T25A	**Trinidad**	**6.70**	**175**		**Pn**	**18 04 59.0**	**+0.7**
HLID	**Hailey**	**6.71**	**271**	Pn	**Pn**	**18 04 59.1**	**+0.7**
L34A	**Svendsen Farm,**	**6.72**	**103**	Pn	**Pn**	**18 04 59.2**	**+0.8**
DUG	**Dugway, Tooele**	**6.75**	**240**	Pn	**Pn**	**18 04 58.6**	**-0.3**
MSO	**Missoula**	**6.88**	**299**	Pn	**Pn**	**18 05 00.3**	**-0.3**
MVCO	**Mesa Verde**	**7.07**	**202**	Pn	**Pn**	**18 05 03.4**	**0.0**
R32A	**Long Quarter,**	**7.26**	**136**	Pn	**Pn**	**18 05 07.3**	**+1.4**
MSU	**Marysvale**	**7.48**	**227**	Pn	**Pn**	**18 05 09.2**	**+0.1**
JTMT	**Jette**	**7.49**	**305**	Pn	**Pn**	**18 05 09.5**	**+0.5**
TCRU	**Three Creeks R**	**7.56**	**229**	Pn	**Pn**	**18 05 09.9**	**-0.2**
MFID	**Camas Ranch**	**7.75**	**271**	Pn	**Pn**	**18 05 13.5**	**+0.9**
MTPU	**Mount Pierson**	**7.84**	**225**	Pn	**Pn**	**18 05 13.4**	**-0.7**
WALA	**Waterton Lakes**	**8.00**	**314**	Pn	**Pn**	**18 05 15.2**	**-0.8**
ELK	**Elko**	**8.07**	**251**	Pn	**Pn**	**18 05 17.1**	**-0.1**
	comp=E,0.7nm,0.3s,baz=68,slow=7.7,SNR=5.8						
ELK				Lg	Lg	18 07 27.1	
	comp=E,0.0nm,0.3s,baz=142,slow=23,SNR=1.7						
PSUT	**Pine Spring**	**8.41**	**234**	Pn	**Pn**	**18 05 20.9**	**-0.9**
F36A	**Milaca**	**8.53**	**72**		**Pn**	**18 05 22.5**	**-0.7**
CCUT	**Cedar City**	**8.82**	**228**	Pn	**Pn**	**18 05 28.3**	**+0.8**
ANMO	**Albuquerque**	**8.91**	**187**	Pg	Pg	18 06 00.6	-8.6
	comp=E,0.1nm,0.3s,baz=328,slow=15,SNR=2.3						
ANMO				Lg	Lg	18 07 55.3	
	comp=E,0.0nm,0.3s,baz=83,slow=12,SNR=1.3						
I10CA	**LAC DU BONNET**	**8.93**	**41**	*i*		18 59 20.0	
	baz=220,slow=325,SNR=0.7						
ULM	**Lac du Bonnet**	**9.03**	**41**	Pn	**Pn**	**18 05 29.6**	**-0.5**
	comp=E,2.5nm,0.3s,baz=234,slow=12,SNR=15						
ULM				Pg		18 06 01.9	
	comp=E,1.4nm,0.3s,baz=243,slow=15,SNR=2.2						
ULM				Lg	Lg	18 08 01.2	
	comp=E,0.8nm,0.3s,baz=174,slow=12,SNR=3.8						
ULM	**Lac du Bonnet**	**9.03**	**41**		**Pn**	**18 05 29.9**	**-0.2**
NEW	**Newport**	**9.43**	**302**	Pn	**Pn**	**18 05 35.0**	**-0.5**
	comp=E,0.3nm,0.3s,baz=91,slow=5.9,SNR=3.0						
NEW				Lg	Lg	18 08 13.3	
	comp=E,0.2nm,0.3s,baz=126,slow=12,SNR=2.7						
NEW	**Newport**	**9.43**	**302**		**Pn**	**18 05 35.0**	**-0.5**
WUAZ	**Wupatki**	**9.57**	**212**	Pn	**Pn**	**18 05 38.1**	**+0.5**
KVN	**Kaiserville**	**10.81**	**248**		**Pn**	**18 05 55.6**	**+0.9**
FFC	**Flin Flon**	**11.12**	**10**	Pn	**Pn**	**18 05 57.7**	**-0.9**
NVAR	**Mina Array Bea**	**11.27**	**246**	Pn	**Pn**	**18 06 01.8**	**+0.8**
	comp=E,0.3nm,0.3s,baz=47,slow=12,SNR=6.1						
TXAR	**Lajitas Array**	**14.50**	**175**	Pn	**Pn**	**18 06 46.2**	**+1.2**
	comp=E,0.0nm,0.3s,baz=0.0,slow=14,SNR=2.4						
TXAR				Pg	P	18 07 42.5	+50
	comp=E,0.1nm,0.3s,baz=13,slow=12,SNR=2.7						
TXAR				Lg	Lg	18 10 53.1	
	comp=E,0.1nm,0.3s,baz=205,slow=44,SNR=3.6						
TKL	**Tuckaleechee C**	**18.33**	**109**	S	**Sn**	**18 10 58.0**	**-1.2**
	comp=E,0.2nm,0.3s,baz=338,slow=7.6,SNR=1.4						
TKL				Lg	Lg	18 12 48.2	

	comp=E,0.1nm,0.3s,baz=75,slow=18,SNR=1.7						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**18 07 47.8**	**+0.8**
	comp=E,0.2nm,0.3s,baz=157,slow=12,SNR=3.8						
ILAR	**Eielson Array**	**31.25**	**327**	P	**P**	**18 09 40.1**	**+0.6**
	comp=E,0.4nm,0.8s,baz=104,slow=5.7,SNR=4.1						
ARCES	**ARCESS Array B**	**61.32**	**18**	P	**P**	**18 13 34.6**	**-0.7**
	comp=E,0.9nm,0.6s,baz=338,slow=6.8,SNR=6.9						
AKASG	**Malin Array Be**	**77.85**	**28**	P	**P**	**18 15 17.8**	**+0.2**
	comp=E,0.2nm,0.3s,baz=315,slow=5.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**82.24**	**354**	P	**P**	**18 15 41.0**	**-0.3**
	comp=E,1.5nm,0.6s,baz=355,slow=5.5,SNR=7.3						
CPUP	**Villa Florida**	**82.43**	**138**	P	**P**	**18 15 42.4**	**-0.1**
	comp=E,0.6nm,0.5s,baz=352,slow=4.7,SNR=1.5						
SONM	**Songino Array**	**84.59**	**339**	P	**P**	**18 15 54.2**	**+0.5**
	comp=E,0.6nm,0.7s,baz=354,slow=5.8,SNR=3.0						
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**18 16 17.6**	**+0.1**
	comp=E,0.9nm,0.7s,baz=4.7,slow=4.5,SNR=8.7						

IDC 25 18:08:26.1±2.6, 53°02'N×35°35'W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/52, mbtmp3.5/3, Error ellipse: s-maj=90.7km s-min=42.7km az=43.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.21**	**109**	P	P	18 13 53.6	+0.2
	1.1nm,1.0s,baz=316,slow=8.9,SNR=6.9						
BRTR	**Keskin Array B**	**47.60**	**77**	P	P	18 17 03.4	-0.2
	1.7nm,1.0s,baz=299,slow=9.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**49.47**	**129**	P	P	18 17 17.7	-0.4
	0.3nm,0.8s,baz=340,slow=7.8,SNR=1.7						
WRA	**Warramunga Arr**	**146.03**	**18**	PKPbc	PKPdf	18 28 06.7	-0.2
	0.4nm,0.9s,baz=335,slow=2.9,SNR=2.2						
ASAR	**Alice Springs**	**149.57**	**20**	PKPbc	PKPbc	18 28 17.0	-0.3
	0.3nm,0.7s,baz=343,slow=2.2,SNR=2.7						

*IDC **25** 18:16:55.6±1.9, 31°46'N×115°66'E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/47, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=56.0km s-min=27.2km az=71.0*
*BJI **25** 18:16:55.1±0.0, 31°51'N×115°51'E, h5km, mB3.9/1, mb3.8/2, ML3.8/19, Ms3.5/4, Ms7 3.3/2*

ISC 25 18:16:56.5±0.8, 31°54'N±0°07'×115°46'E±0°04, h10km, n10, σ1°55'/15, mb3.4/3, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.38**	**224**	⇓Pg	**Pn**	**18 17 21.5**	**-0.3**
WHN				Sg	**Sb**	**18 17 40.0**	**0.0**
WHN				smax	smax		
	comp=N,5μm,0.4s						
WHN				smax	smax		
	comp=E,4μm,0.4s						
NJ2	**Nanjing**	**2.93**	**79**	*e*Pn	**Pn**	**18 17 43.0**	**-0.1**
NJ2				Pg	**Pb**	**18 17 47.3**	**-1.5**
NJ2				Sg	**Sb**	**18 18 24.0**	**-0.7**
NJ2				smax	smax		
	comp=N,240nm,0.6s						
NJ2				smax	smax		
	comp=E,130nm,0.3s						
XAN	**Xi'an**	**6.05**	**296**	Pn	**Pn**	**18 18 25.8**	**-0.2**
XAN				Pg	Pb	18 18 46.5	+4.5
XAN				Sn	**Sn**	**18 19 33.0**	**-2.4**
XAN				Sg	**Sg**	**18 20 08.8**	**-1.9**
XAN				smax	smax		
	comp=N,92nm,0.9s						
XAN				smax	smax		
	comp=E,70nm,0.9s						
XAN				LR	LR		
	comp=E,260nm,7.8s						
GTA	**Gaotai**	**14.96**	**306**	P	**Pn**	**18 20 27.5**	**-0.7**
GTA				pP	P	18 20 31.5	-2.3
GTA				sP		18 20 34.3	
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,39nm,6.4s						
GTA				LR	LR		
	comp=N,93nm,14.5s						
GTA				LR	LR		
	comp=E,76nm,14.2s						
GTA				LR	LR		
	comp=Z,97nm,14.5s						
SONM	**Songino Array**	**17.69**	**340**	P	**P**	**18 21 07.0**	**+3.1**
	0.1nm,0.3s,baz=139,slow=11,SNR=2.3						
CMAR	**Chiang Mai Arr**	**19.81**	**233**	P	**Pn**	**18 21 29.2**	**+0.3**
	0.1nm,0.3s,baz=37,slow=8.9,SNR=8.7						
WMQ	**Urumqi**	**25.04**	**307**	*e*P	**P**	**18 22 21.8**	**+0.9**
MKAR	**Makanchi Array**	**29.63**	**310**	P	**P**	**18 23 03.5**	**+1.5**
	0.3nm,0.5s,baz=103,slow=8.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**31.34**	**325**	P	**P**	**18 23 18.8**	**+1.8**
	0.5nm,0.5s,baz=123,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**57.66**	**160**	P	**P**	**18 26 46.9**	**-0.2**
	0.3nm,0.8s,baz=353,slow=7.9,SNR=2.2						

*IDC **25** 18:18:55.4±2.3, 3°59'S×148°97'E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/35, mbtmp3.7/4, ML3.0/1, MS3.2/7, Ms1 3.2/7, ms1mx3.0/31, Error ellipse: s-maj=59.1km s-min=32.2km az=165.0*
*NEIC **25** 18:19:00.5±0.4, 3°.8S±0°.2×149°.0E±0°.1, h29km±10km, mb4.0/7, Error ellipse: s-maj=29.9km s-min=5.3km az=208.0*

ISC 25 18:19:00.7±1.2, 3°.8S±0°.2×149°00E±0°.10, h35km, n24, σ0°96/13, mb3.9/7, MS3.2/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.38**	**317**	Pn	**Pn**	**18 19 37.2**	**+0.1**
KRVT	**Keravat (AS076**	**3.06**	**100**	Pn	**Pn**	**18 19 45.5**	**-1.1**
	1.9nm,0.3s,baz=85,slow=23,SNR=2.8						
RABL	**Rabaul**	**3.18**	**97**	Pn	**Pn**	**18 19 49.3**	**+1.0**
PMG	**Port Moresby**	**5.88**	**198**	LR	LR	18 22 57.0	
	comp=Z,114nm,20.5s,baz=274,slow=40						
HNR	**Honiara**	**12.24**	**118**	LR	LR	18 25 54.2	
	comp=Z,69nm,18.3s,baz=286,slow=34						
GUMO	**Guam**	**17.74**	**347**	LR	LR	18 30 13.4	
	comp=Z,36nm,18.1s,baz=136,slow=39						
MTN	**Manton Dam**	**19.82**	**242**	P	**P**	**18 23 26.6**	**-2.0**
WB0	**Warramunga Arr**	**21.34**	**221**	P	**P**	**18 23 44.9**	**-0.1**
WB0				IAmb	IAmb	18 23 51.6	
	comp=Z,13nm,1.6s						
WR0	**Warramunga Arr**	**21.39**	**220**	P	**P**	**18 23 46.1**	**+0.7**
WR0				IAmb	IAmb	18 24 17.4	
	comp=Z,6.7nm,1.3s						
WRAB	**Tennant Creek**	**21.49**	**221**	P	**P**	**18 23 46.7**	**+0.1**
WRAB				IAmb	IAmb	18 24 13.5	
	comp=Z,9.9nm,1.5s						
WB2	**Warramunga Arr**	**21.50**	**220**	P	**P**	**18 23 46.9**	**+0.3**
WB2				IAmb	IAmb	18 23 54.7	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**21.50**	**221**	P	**P**	**18 23 46.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=43,slow=11,SNR=8.1						
AS31	**Alice Springs**	**24.56**	**215**	P	**P**	**18 24 17.7**	**+0.2**
ASAR	**Alice Springs**	**24.56**	**215**	P	**P**	**18 24 18.9**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=50,slow=8.6,SNR=11						
ASAR				LR	LR	18 34 52.9	
	comp=Z,71nm,18.2s,baz=66,slow=39						
DZM	**Mont Dzumac**	**24.84**	**139**	LR	LR	18 33 08.6	
	comp=Z,72nm,19.2s,baz=217,slow=34						
BATI	**Baumata**	**25.93**	**254**	LR	LR	18 35 45.6	
	comp=Z,168nm,18.1s,baz=122,slow=39						
FITZ	**Fitzroy Crossi**	**26.93**	**236**	P	**P**	**18 24 39.6**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=83,slow=8.1,SNR=4.5						
FITZ				LR	LR	18 36 50.8	
	comp=Z,64nm,18.1s,baz=91,slow=40						
H11S3	**WAKE ISLAND Hy**	**28.17**	**38**	T	T	18 53 59.2	
	baz=220,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.18**	**38**	T	T	18 53 56.4	
	baz=220,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.19**	**38**	T	T	18 53 58.0	
	baz=220,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**29.23**	**36**	T	T	18 55 13.6	
	baz=219,slow=76,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**29.25**	**36**	T	T	18 55 14.4	
	baz=219,slow=76,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**29.25**	**36**	T	T	18 55 14.4	
	baz=219,slow=76,SNR=14						
TORD	**Torodi Ar. Bea**	**146.39**	**288**	PKPbc	**PKPbc**	**18 38 38.6**	**-0.4**
	comp=Z,0.5nm,1.1s,baz=45,slow=1.8,SNR=1.8						

*IDC **25** 18:20:40.6±1.6, 41°.94N×141°.58E, h103km±16km, mb3.3/5, mb1 3.3/8, mb1mx3.1/47, mbtmp3.6/8, Error ellipse: s-maj=29.5km s-min=15.3km az=104.0*

*JMA **25** 18:20:40.8±0.1, 41°.92N×141°.52E, h82km±1km, M2.7*

ISC 25 18:20:39.8±0.8, 41°.89N±0°.04×141°.51E±0°.05, h92km±6km, n31, σ0°76/34, mb3.7/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.36**	**269**	P	**Pn**	**18 20 53.7**	**0.0**
JKB				*e*S	**Sn**	**18 21 03.5**	**-0.6**
JOT	**Ohata**	**0.62**	**214**	P	**Pn**	**18 20 56.2**	**+0.5**
JOT				*e*S	**Sn**	**18 21 07.7**	**+0.2**
JAHD	**Aomorihigashid**	**0.64**	**192**	P	**Pn**	**18 20 56.3**	**+0.4**
JAHD				*e*S	**Sn**	**18 21 08.1**	**+0.2**
JNB	**Noboribetsu**	**0.68**	**329**	P	**Pn**	**18 20 56.0**	**-0.2**
JNB				*e*S	**Sn**	**18 21 08.0**	**-0.5**
JIAM	**Iburiatsuma**	**0.79**	**22**	P	**Pn**	**18 20 57.9**	**+0.6**
JYM2	**Yakumo 2**	**0.88**	**285**	P	**Pn**	**18 20 58.9**	**+0.6**
JSR	**Shiriuchi**	**0.90**	**247**	P	**Pn**	**18 20 59.1**	**+0.7**
JEW	**Eniwo**	**0.95**	**357**	P	**Pn**	**18 20 59.5**	**+0.5**
JEW				*e*S	**Sn**	**18 21 13.6**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.00**	**67**	P	**Pn**	**18 20 59.9**	**+0.3**
JBT2	**Biratori 2**	**1.09**	**35**	P	**Pn**	**18 21 01.0**	**+0.4**
JTM	**Tenmabayashi**	**1.15**	**197**	P	**Pn**	**18 21 02.3**	**+0.9**
JTM				*e*S	**Sn**	**18 21 18.2**	**+0.6**
JOMM	**Oshimamatsumae**	**1.19**	**252**	P	**Pn**	**18 21 03.1**	**+1.4**
JANG	**Nango**	**1.52**	**180**	P	**Pn**	**18 21 05.8**	**0.0**
JANG				*e*S	**Sn**	**18 21 25.2**	**-0.3**
JOSM	**Okushiri--Mats**	**1.53**	**278**	P	**Pn**	**18 21 06.6**	**+0.7**
JCH	**Churui**	**1.55**	**62**	P	**Pn**	**18 21 06.9**	**+0.7**
JCH				*e*S	**Sn**	**18 21 26.8**	**+0.5**
JSK	**Shakotan**	**1.65**	**333**	P	**Pn**	**18 21 08.4**	**+1.0**
JHR	**Hokuryu**	**1.86**	**5**	P	**Pn**	**18 21 11.4**	**+1.2**
ASAJ	**Asahikawa**	**2.36**	**19**	P	**Pn**	**18 21 17.2**	**+0.5**
	8.8nm,0.3s,baz=214,slow=14,SNR=94						
ASAJ				S	**Sn**	**18 21 45.8**	**+0.6**
	1.6nm,0.3s,baz=114,slow=33,SNR=4.7						
MJAR	**Matsushiro Arr**	**5.93**	**207**	P	**Pn**	**18 22 07.1**	**+2.1**
	0.1nm,0.3s,baz=27,slow=12,SNR=11						
USRK	**Ussuriysk Ar.**	**7.35**	**291**	P	**Pn**	**18 22 25.4**	**+1.1**
	baz=127,slow=12,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**30.83**	**128**	T	T	18 59 21.8	
	baz=325						
H11N1	**WAKE ISLAND Hy**	**30.84**	**128**	T	T	18 59 23.1	
	baz=325,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.85**	**128**	T	T	18 59 23.7	
	baz=325,slow=74						
H11S1	**WAKE ISLAND Hy**	**31.68**	**130**	T	T	19 00 25.2	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**31.68**	**130**	T	T	19 00 25.5	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**31.69**	**130**	T	T	19 00 26.8	
	baz=322						
ZALV	**Zalesovo Beam**	**38.84**	**308**	P	**P**	**18 27 55.8**	**+0.2**
	0.7nm,0.5s,baz=93,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**41.77**	**298**	P	**P**	**18 28 18.9**	**-1.0**
	0.4nm,0.7s,baz=76,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**61.88**	**188**	P	**P**	**18 30 49.2**	**-0.2**
	0.1nm,0.5s,baz=4.5,slow=6.9,SNR=8.7						
FINES	**FINESS Array B**	**64.58**	**331**	P	**P**	**18 31 06.3**	**-0.5**
	1.0nm,0.4s,baz=35,slow=7.0,SNR=9.4						
AKASG	**Malin Array Be**	**70.53**	**321**	P	**P**	**18 31 44.1**	**-0.3**
	0.5nm,0.5s,baz=44,slow=6.4,SNR=1.9						

IDC 25 18:37:32.8±3.7, 30°.79N×140°.40E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/38, mbtmp3.2/3, ML2.0/1, Error ellipse: s-maj=232.5km s-min=33.4km az=82.0, Southeast of Honshu

| Code | Station Name | Δ

s-min=7.1km az=60.0
*IDC **25** 18:41:26.9±0.7, 13°43S×76°46W, h50km±6km, mb4.1/14, mb1 4.3/17, mb1mx4.2/36, mbtmp4.4/17, MS3.6/11, Ms1 3.6/11, ms1mx3.4/28, Error ellipse: s-maj=22.0km s-min=7.3km az=68.0*
*VAO **25** 18:41:34.3±1.2, 13°20S×75°99W, h103km±8km, mb4.6*
ISC 25 18:41:24.9±0.4,**13°48S**±0.05×**76°53W**±0.07,**h35km**,**n199**, σ1§**48**/181,**mb4.7**/46,**MS3.7**/7,**2C-1D**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.52**	**348**	P	**Pn**	**18 41 49.5**	**-0.1**
	167nm,0.3s,baz=168,slow=14,SNR=181						
NNA				S	**Sn**	**18 42 09.7**	**+1.5**
	441nm,0.3s,baz=190,slow=19,SNR=8.8						
NNA				LR	LR	18 42 24.6	
	comp=Z,212nm,20.4s,baz=166,slow=39						
NNA	**Nana**	**1.52**	**348**	Pn	**Pn**	**18 41 49.2**	**-0.4**
ATAH	**Atahualpa**	**6.57**	**344**	P	**Pn**	**18 43 01.9**	**+2.4**
	21nm,0.3s,baz=140,slow=4.0,SNR=104						
ATAH				S	**Sn**	**18 44 15.4**	**+2.0**
	2.6nm,0.3s,baz=241,slow=10,SNR=1.2						
ATAH				LR	LR	18 45 30.4	
	comp=Z,277nm,19.6s,baz=180,slow=37						
CZSB	**Cruzeiro do Su**	**6.84**	**34**	*eP*	**Pn**	**18 43 05.4**	**+2.6**
AP01	**Chacalluta**	**7.68**	**130**	Pn	**Pn**	**18 43 17.2**	**+2.8**
PB16	**IPOC Station P**	**8.30**	**126**		**Pn**	**18 43 25.3**	**+2.0**
LPAZ	**La Paz**	**8.58**	**110**	P	Pn	18 43 32.2	+4.9
	3.6nm,0.3s,baz=278,slow=9.7,SNR=42						
LPAZ				S	**Sn**	**18 45 07.6**	**+4.4**
	0.7nm,0.3s,baz=305,slow=6.7,SNR=1.6						
LPAZ				LR	LR	18 47 18.3	
	comp=Z,448nm,19.9s,baz=266,slow=41						
LPAZ	**La Paz**	**8.58**	**110**	Pn	**Pn**	**18 43 31.5**	**+4.2**
LPAZ	**La Paz**	**8.58**	**110**	*eP*	Pn	18 43 32.2	+4.9
PSGCX	**Pisagua**	**8.64**	**136**		**Pn**	**18 43 27.1**	**-0.5**
MNMC	**Minye Minye**	**8.71**	**131**		**Pn**	**18 43 28.5**	**-0.2**
PB11	**IPOC Station P**	**9.07**	**134**		**Pn**	**18 43 33.1**	**-0.5**
TA01	**Diego Aracena**	**9.30**	**140**		**Pn**	**18 43 37.6**	**+1.1**
GO01	**Chusmiza**	**9.34**	**132**		**Pn**	**18 43 38.4**	**+0.9**
PATCX	**Punta Patache**	**9.51**	**141**		**Pn**	**18 43 39.8**	**+0.3**
PB08	**IPOC Station P**	**9.68**	**134**		**Pn**	**18 43 42.2**	**+0.1**
PB01	**IPOC Station P**	**10.09**	**139**		**Pn**	**18 43 47.9**	**+0.5**
PB07	**IPOC Station P**	**10.36**	**143**		**Pn**	**18 43 51.9**	**+0.7**
PB04	**IPOC Station P**	**10.69**	**146**	Pn	**Pn**	**18 43 56.5**	**+0.7**
ETMB	**Extrema**	**10.74**	**71**	*eP*	**Pn**	**18 43 57.1**	**+0.8**
PB09	**IPOC Station P**	**10.79**	**141**		**Pn**	**18 43 58.9**	**+1.7**
PB06	**IPOC Station P**	**11.30**	**145**	Pn	**Pn**	**18 44 05.0**	**+0.8**
PB10	**IPOC Station P**	**11.47**	**151**	Pn	**Pn**	**18 44 06.4**	**+0.1**
LVC	**Limon Verde**	**11.61**	**143**	P	**Pn**	**18 44 11.3**	**+2.8**
	1.9nm,0.3s,baz=314,slow=8.1,SNR=11						
LVC				S	**Sn**	**18 46 19.6**	**+2.5**
	3.8nm,0.3s,baz=94,slow=16,SNR=3.4						
LVC				LR	LR	18 48 28.0	
	comp=Z,151nm,20.4s,baz=294,slow=36						
LVC	**Limon Verde**	**11.61**	**143**		**Pn**	**18 44 10.2**	**+1.7**
PB15	**IPOC Station P**	**11.76**	**146**		**Pn**	**18 44 10.2**	**-0.3**
PB14	**IPOC Station P**	**12.50**	**153**		**Pn**	**18 44 20.4**	**-0.3**
GO02	**Mina Guanaco**	**13.33**	**152**	Pn	**Pn**	**18 44 32.9**	**+0.9**
PTLC	**Puerto Leguiza**	**13.67**	**7**	*eP*	**Pn**	**18 44 33.2**	**-3.3**
OTAV	**Otavalo**	**13.76**	**352**	*eP*	**Pn**	**18 44 40.1**	**+2.0**
OTAV	**Otavalo**	**13.76**	**352**	Pn	**Pn**	**18 44 39.0**	**+0.9**
OTAV	**Otavalo**	**13.76**	**352**	*eP*	**P**	**18 44 41.9**	**-4.4**
AC01	**Pan de Azucar**	**13.78**	**157**	Pn	**Pn**	**18 44 37.9**	**0.0**
CUSE	**Cuicocha Este**	**13.82**	**352**	*eP*	**P**	**18 44 49.3**	**+2.4**
PAC1	**Pacto, Paraso**	**13.84**	**350**	*eP*	**P**	**18 44 44.9**	**-1.9**
SAML	**Samuel**	**13.84**	**72**	Pn	**Pn**	**18 44 36.6**	**-2.1**
SAML	**Samuel**	**13.84**	**72**	*eP*	**Pn**	**18 44 37.7**	**-1.1**
FLOC	**Florencia**	**14.99**	**3**	*eP*	**Pn**	**18 44 56.4**	**+2.0**
SIV	**San Ignacio**	**15.16**	**101**	P	**Pn**	**18 44 57.8**	**+1.2**
	0.6nm,0.3s,baz=297,slow=13,SNR=11						
SIV				LR	LR	18 52 03.4	
	comp=Z,151nm,18.6s,baz=294,slow=42						
GO03	**Copiap**	**15.22**	**158**	Pn	**Pn**	**18 44 59.4**	**+2.1**
BBAC	**Balboa, Cauca**	**15.42**	**357**	*eP*	**Pn**	**18 45 01.2**	**+1.0**
AC04	**Llanos de Chal**	**15.51**	**162**	Pn	**Pn**	**18 45 00.8**	**-0.2**
PCON	**Cinco Dias**	**15.71**	**0**	*eP*	**P**	**18 45 10.8**	**+2.8**
VILB	**Vilhena**	**15.91**	**90**	*eP*	**Pn**	**18 45 04.9**	**-1.4**
POPC	**Popayan, Colom**	**15.92**	**359**	*eP*	**P**	**18 45 12.7**	**+2.8**
BETC	**Betania**	**16.09**	**4**	*eP*	**P**	**18 45 11.7**	**0.0**
AC05	**El Transito**	**16.35**	**160**		**P**	**18 45 13.8**	**-0.7**
LCO	**Las Campanas**	**16.37**	**162**	P	**P**	**18 45 15.0**	**+0.1**
PTLB	**Pontes e Lacer**	**16.95**	**99**	*eP*	**Pn**	**18 45 18.8**	**-0.7**
PRAC	**Prado**	**17.16**	**6**	*eP*	**P**	**18 45 29.0**	**+5.5**
ORTC	**Ortega, Tolima**	**17.32**	**4**	*eP*	**P**	**18 45 27.1**	**+1.8**
YOTC	**Yotoco, Valle**	**17.35**	**1**	*eP*	**P**	**18 45 32.5**	**+6.8**
GO04	**Tololo Observa**	**17.43**	**163**		**Pn**	**18 45 25.4**	**-0.2**
CO01	**Juntas del Tor**	**17.46**	**161**	P	**P**	**18 45 27.3**	**+0.4**
CO03	**El Pedregal**	**18.09**	**164**	P	**P**	**18 45 34.0**	**+0.2**
CO02	**Combarbal**	**18.36**	**165**	P	**Pn**	**18 45 37.0**	**+0.1**
CO02				IAmb	IAmb	18 45 54.9	
	comp=Z,45nm,1.2s						
GUY2C	**Guyana, Caldas**	**18.62**	**4**	*eP*	**Pn**	**18 45 43.2**	**+2.7**
PAYG	**Puerto Ayora**	**18.64**	**312**		**Pn**	**18 45 41.4**	**+1.1**
PAYG				IAmb	IAmb	18 45 44.6	
	comp=Z,56nm,0.9s						
MACA	**Manacapuru-AM**	**18.72**	**58**	*eP*	**P**	**18 45 39.1**	**-1.6**
RUSC	**La Rusia**	**19.55**	**10**	*eP*	**Pn**	**18 45 53.0**	**+1.3**
H03N1	**Juan Fernandez**	**19.99**	**186**	T	T	19 05 38.3	
	baz=14,slow=74,SNR=491						
H03N2	**Juan Fernandez**	**19.99**	**186**	T	T	19 05 40.0	
	baz=14,slow=74,SNR=506						
PTBC	**PUERTO BERRIO,**	**20.00**	**6**	*eP*	**P**	**18 45 54.3**	**-0.3**
H03N3	**Juan Fernandez**	**20.00**	**186**	T	T	19 05 39.6	
	baz=14,slow=74,SNR=502						
ROC1	**El Roble**	**20.05**	**166**	P	**P**	**18 45 55.4**	**+0.1**
CLDB	**Colider**	**20.43**	**85**	*eP*	**P**	**18 45 56.9**	**-2.5**
MT05	**Renca**	**20.51**	**166**	P	Pn	18 46 01.8	-0.7
MT05				IAmb	IAmb	18 46 15.6	
	comp=Z,110nm,1.8s						
PAMC	**Pamplona, Colo**	**21.03**	**11**	*eP*	**P**	**18 46 07.4**	**+1.1**
NPGB	**Novo Progresso**	**21.78**	**75**	*eP*	**P**	**18 46 11.0**	**-2.9**
OCAC	**Ocana**	**21.81**	**9**	*eP*	**P**	**18 46 08.4**	**-6.0**
BO02	**Sierra Bellavi**	**21.84**	**167**	P	**P**	**18 46 15.5**	**+1.0**
CPUP	**Villa Florida**	**22.08**	**128**	P	**P**	**18 46 17.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=315,slow=9.4,SNR=5.1						
CPUP				pP	**sP**	**18 46 28.9**	**-1.9**
	comp=Z,13nm,0.9s,baz=310,slow=11,SNR=21						
CPUP				LR	LR	18 56 51.8	
	comp=Z,204nm,18.4s,baz=339,slow=42						
CPUP	**Villa Florida**	**22.08**	**128**	P	**P**	**18 46 17.6**	**+0.6**
ITTB	**Itaituba**	**22.43**	**68**	*eP*	**P**	**18 46 19.4**	**-1.5**
SDV	**Santo Domingo**	**22.98**	**15**	P	**P**	**18 46 26.4**	**-0.4**
	comp=Z,20nm,0.7s,baz=201,slow=10,SNR=12						
SDV	**Santo Domingo**	**22.98**	**15**	P	**P**	**18 46 25.9**	**-0.9**
SDV				IAmb	IAmb	18 46 34.5	
	comp=Z,24nm,0.8s						
SDV	**Santo Domingo**	**22.98**	**15**	*eP*	**P**	**18 46 27.0**	**+0.1**
BI02	**San Fabin de**	**23.56**	**169**	P	**P**	**18 46 33.5**	**+1.2**
ITQB	**Itaqui**	**24.47**	**134**	*eP*	**P**	**18 46 41.3**	**+0.5**
SNDB	**Serra Nova Dou**	**24.66**	**89**	*eP*	**P**	**18 46 41.5**	**-1.1**
MALB	**Monte Alegre**	**24.87**	**64**	*eP*	**P**	**18 46 43.0**	**-1.5**
PTGB	**Pitanga**	**25.63**	**119**	*eP*	**P**	**18 46 51.8**	**+0.4**
LC01	**Cunco**	**25.65**	**172**	P	**P**	**18 46 51.8**	**+0.4**
ITRB	**Iturama**	**25.81**	**107**	*eP*	**P**	**18 46 53.4**	**+0.3**
PCRV	**Puerto La Cruz**	**26.30**	**27**	P	**P**	**18 46 58.5**	**+1.0**
	comp=Z,11nm,0.7s,baz=113,slow=0.6,SNR=3.1						
IPMB	**Ipameri, GO**	**27.61**	**103**	*eP*	**P**	**18 47 08.4**	**-0.9**
PLCA	**Paso Flores**	**27.65**	**170**	P	**P**	**18 47 10.3**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=346,slow=9.9,SNR=11						
PLCA	**Paso Flores**	**27.65**	**170**	P	**P**	**18 47 09.7**	**+0.2**
BDFB	**Brasilia**	**27.67**	**98**	LR	LR	18 59 21.9	
	comp=Z,158nm,22.0s,baz=309,slow=39						
BDFB	**Brasilia**	**27.67**	**98**	P	**P**	**18 47 09.6**	**-0.4**
TRQA	**Tornquist**	**27.68**	**155**	P	**P**	**18 47 09.4**	**-0.4**
BB19B	**Bebedouro**	**27.75**	**110**	*eP*	**P**	**18 47 09.6**	**-1.0**
MATN	**Matagalpa**	**27.84**	**340**	P	**P**	**18 47 10.1**	**-1.3**
OBIP	**Obispado Ponce**	**32.82**	**18**	P	**P**	**18 47 54.8**	**-0.5**
CUPR	**Culebra, Puert**	**33.48**	**20**	P	**P**	**18 47 59.4**	**-1.6**
SEUS	**St. Eustatius**	**33.56**	**24**	P	**P**	**18 48 00.4**	**-1.3**
TEIG	**Tepich**	**35.43**	**341**	P	**P**	**18 48 17.9**	**0.0**
GO09	**Cerro Castillo**	**37.84**	**176**	P	**P**	**18 48 39.6**	**+1.5**
Y52A	**Lilburn**	**47.63**	**352**	P	**P**	**18 49 57.5**	**-0.1**
Y52A				IAmb	IAmb	18 50 32.0	
	comp=Z,5.2nm,0.8s						
BIRD	**Birdtown, Kers**	**48.01**	**356**	P	**P**	**18 50 01.4**	**+0.9**
BIRD				IAmb	IAmb	18 50 32.1	
	comp=Z,16nm,1.5s						
WHTX	**Lake Whitney,**	**49.46**	**336**	P	**P**	**18 50 11.8**	**0.0**
WHTX				IAmb	IAmb	18 50 13.0	
	comp=Z,10nm,1.1s						
WLAR	**White Oak Lake**	**49.50**	**342**	P	**P**	**18 50 12.1**	**0.0**
TX31	**Lajitas Ar. Si**	**49.98**	**329**	P	**P**	**18 50 15.4**	**-0.5**
TX31				IAmb	IAmb	18 50 17.3	
	comp=Z,8.3nm,0.9s						
TX32	**Lajitas Array**	**49.98**	**329**	P	**P**	**18 50 16.0**	**0.0**
TXAR	**Lajitas Array**	**49.98**	**329**	P	**P**	**18 50 16.4**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=149,slow=8.7,SNR=27						
TXAR				LR	LR	19 10 15.6	
	comp=Z,52nm,18.6s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**49.98**	**329**	P	**P**	**18 50 16.1**	**+0.2**
T57A	**Hurt**	**50.27**	**357**	P	**P**	**18 50 17.1**	**-0.7**
T57A				IAmb	IAmb	18 50 49.9	
	comp=Z,8.7nm,0.8s						
MIAR	**Mount Ida**	**50.44**	**342**	P	**P**	**18 50 18.9**	**-0.2**
MIAR				IAmb	IAmb	18 50 19.9	
	comp=Z,4.6nm,0.7s						
WHAR	**Wooly Hollow**	**50.75**	**343**	P	**P**	**18 50 21.7**	**+0.2**
WHAR				IAmb	IAmb	18 50 42.8	
	comp=Z,9.8nm,1.2s						
ABTX	**Abilene, Hawle**	**50.90**	**335**	P	**P**	**18 50 22.4**	**-0.3**
ABTX				IAmb	IAmb	18 50 23.9	
	comp=Z,8.1nm,0.8s						
X37A	**Clayton**	**51.05**	**340**	P	**P**	**18 50 23.4**	**-0.4**
W39A	**Magazine**	**51.10**	**342**	P	**P**	**18 50 23.5**	**-0.6**
W39A				IAmb	IAmb	18 50 25.9	
	comp=Z,6.7nm,1.1s						
FCAR	**Ozark Folk Cen**	**51.27**	**344**	P	**P**	**18 50 24.8**	**-0.6**
FCAR				IAmb	IAmb	18 50 47.4	
	comp=Z,16nm,1.6s						
U40A	**Yellville**	**51.91**	**343**	P	**P**	**18 50 29.5**	**-0.7**
U40A				IAmb	IAmb	18 50 30.7	
	comp=Z,9.8nm,0.9s						
HHAR	**Hobbs**	**52.16**	**342**	P	**P**	**18 50 31.5**	**-0.5**
HHAR				IAmb	IAmb	18 50 33.9	
	comp=Z,20nm,1.7s						
TUL1	**Leonard**	**52.39**	**340**	P	**P**	**18 50 32.5**	**-1.3**
MGMO	**Mountain Grove**	**52.50**	**344**	P	**P**	**18 50 33.9**	**-0.7**
MGMO				IAmb	IAmb	18 50 56.9	
	comp=Z,24nm,1.7s						
SDMD	**Soldier's Deli**	**52.62**	**360**	P	**P**	**18 50 33.9**	**-1.5**
SDMD				IAmb	IAmb	18 50 41.9	
	comp=Z,14nm,1.4s						
MNTX	**Cornudas Mount**	**52.76**	**329**	P	**P**	**18 50 35.7**	**-0.9**
S39A	**Bolivar**	**53.29**	**343**	P	**P**	**18 50 38.9**	**-1.5**
Q44A	**Meyer Farm, Va**	**53.40**	**348**	P	**P**	**18 50 39.0**	**-2.2**
T35A	**Sooner Cattle**	**53.55**	**340**	P	**P**	**18 50 41.5**	**-0.8**
T35A				IAmb	IAmb	18 51 09.2	
	comp=Z,10.0nm,1.1s						
R40A	**Maddies Statio**	**53.57**	**345**	P	**P**	**18 50 41.2**	**-1.2**
R40A				IAmb	IAmb	18 50 44.3	
	comp=Z,7.2nm,0.8s						
319A	**Douglas**	**54.57**	**325**	P	**P**	**18 50 49.3**	**-0.7**
319A				IAmb	IAmb	18 50 52.0	
	comp=Z,11nm,1.0s						
121A	**Cookes Peak, D**	**54.66**	**327**	P	**P**	**18 50 49.9**	**-0.8**
121A				IAmb	IAmb	18 50 52.8	
	comp=Z,4.6nm,0.8s						
P38A	**Dawn**	**55.16**	**344**	P	**P**	**18 50 53.3**	**-0.7**
BNM	**Barren Site**	**55.35**	**330**	P	**P**	**18 50 53.9**	**-1.8**
LENM	**Lemitar**	**55.54**	**329**	P	**P**	**18 50 57.2**	**+0.2**
ANMO	**Albuquerque**	**55.91**	**330**	P	**P**	**18 50 59.9**	**+0.2**
ANMO				IAmb	IAmb	18 51 01.8	
	comp=Z,6.0nm,1.2s						
TUC	**Tucson**	**56.11**	**325**	P	**P**	**18 51 01.5**	**+0.5**
214A	**Organ Pipe Nat**	**57.01**	**323**	P	**P**	**18 51 08.2**	**+0.8**
214A				IAmb	IAmb	18 51 09.4	
	comp=Z,8.6nm,1.1s						
W18A	**Petrified Fore**	**57.69**	**328**	P	**P**	**18 51 11.5**	**-0.8**
W18A				IAmb	IAmb	18 51 14.2	
	comp=Z,8.0nm,0.9s						
SDCO	**Great Sand Dun**	**57.76**	**333**	P	**P**	**18 51 12.1**	**-0.8**
SDCO				IAmb	IAmb	18 51 14.2	
	comp=Z,3.5nm,0.8s						
WUAZ	**Wupatki**	**58.85**	**327**	P	**P**	**18 51 18.7**	**-1.7**
WUAZ				IAmb	IAmb	18 51 23.0	
	comp=Z,8.4nm,1.0s						
PV15	**Paradox Valley**	**59.61**	**331**	P	**P**	**18 51 25.3**	**-0.4**
PV15				IAmb	IAmb	18 51 27.5	
	comp=Z,8.6nm,0.9s						
PV02	**Paradox Valley**	**59.62**	**331**	P	**P**	**18 51 24.9**	**-0.9**
PV12	**Saucer Basin,**	**59.74**	**331**	P	**P**	**18 51 25.4**	**-1.1**
KNB	**Kanab**	**60.74**	**327**	P	**P**	**18 51 33.4**	**-0.1**
CCUT	**Cedar City**	**61.43**	**327**	P	**P**	**18 51 38.1**	**0.0**
P17A	**Butcher Ranch,**	**61.58**	**330**	P	**P**	**18 51 38.6**	**-0.4**
RDMU	**Red Mountain**	**61.89**	**332**	P	**P**	**18 51 40.8**	**-0.4**
PSUT	**Pine Spring**	**62.42**	**328**	P	**P**	**18 51 44.4**	**-0.4**
TPNV	**Topopah Spring**	**62.56**	**325**	P	**P**	**18 51 46.6**	**+1.0**
TPNV				IAmb	IAmb	18 52 14.6	
	comp=Z,7.3nm,1.2s						
DUG	**Dugway, Tooele**	**63.15**	**329**	P	**P**	**18 51 50.5**	**+1.0**
DUG				IAmb	IAmb	18 51 51.4	
	comp=Z,7.3nm,0.8s						
R11A	**Troy Canyon, C**	**63.20**	**326**	IAmb	IAmb	18 51 51.7	
	comp=Z,2.9nm,0.8s						
HWUT	**Hardware Ranch**	**63.64**	**331**	P	**P**	**18 51 52.4**	**-0.3**
HWUT				IAmb	IAmb	18 51 53.7	
	comp=Z,7.1nm,0.8s						
PD31	**Pinedale Array**	**63.65**	**333**	IAmb	IAmb	18 52 08.6	
	comp=Z,9.2nm,1.7s						
PDAR	**Pinedale Array**	**63.65**	**333**	P	**P**	**18 51 52.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=124,slow=10,SNR=12						
PDAR				pP	**sP**	**18 52 07.0**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=139,slow=8.9,SNR=3.8						
PDAR	**Pinedale Array**	**63.65**	**333**	P	**P**	**18 51 52.0**	**-0.8**
NVAR	**Mina Array Bea**	**64.76**	**325**	P	**P**	**18 52 00.9**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=140,slow=6.7,SNR=13						
NVAR	**Mina Array Bea**	**64.76**	**325**	P	**P**	**18 51 59.9**	**-0.3**
ULM	**Lac du Bonnet**	**65.69**	**347**	P	**P**	**18 52 04.0**	**-1.7**
	comp=Z,2.8nm,0.4s,baz=101,slow=7.9,SNR=2.8						
ULM	**Lac du Bonnet**	**65.69**	**347**	IAmb	IAmb	18 52 36.9	
	comp=Z,14nm,1.2s						
MFID	**Camas Ranch**	**67.05**	**330**	P	**P**	**18 52 15.1**	**+0.3**
MFID				IAmb	IAmb	18 52 16.2	
	comp=Z,5.3nm,0.7s						
F10A	**Beach Ranch, E**	**69.62**	**331**	IAmb	IAmb	18 52 33.2	
	comp=Z,5.6nm,0.6s						
VNA3	**Neumayer Olymp**	**69.95**	**162**	P	**P**	**18 52 33.4**	**+1.1**
VNA1	**Neumayer--Stat**	**70.22**	**161**	P	**P**	**18 52 35.0**	**+1.0**
VNA2	**Neumayer--Watz**	**70.57**	**161**	P	**P**	**18 52 37.2**	**+1.1**
SNAA	**Sanae**	**72.17**	**161**	P	**P**	**18 52 46.8**	**+0.9**
SNAA	**Sanae**	**72.17**	**161**	P	**P**	**18 52 46.6**	**+0.8**
SNAA				IAmb	IAmb	18 52 47.3	
	comp=Z,4.8nm,0.5s						
LIC	**Lamto**	**73.62**	**79**	*eP*	**P**	**18 52 54.9**	**-0.5**
	comp=Z,32nm,1.0s						
TIC	**Toumodi**	**73.75**	**79**	*eP*	**P**	**18 52 55.8**	**-0.4**
DBIC	**Dimbokro**	**73.91**	**79**	P	**P**	**18 52 56.6**	**-0.5**
	comp=Z,5.9nm,0.7s,baz=240,slow=6.8,SNR=7.8						
DBIC				LR	LR	19 23 06.4	
	comp=Z,48nm,20.6s,baz=211,slow=34						
DBIC	**Dimbokro**	**73.91**	**79**	IAmb	IAmb	18 52 57.4	
	comp=Z,7.2nm,0.8s						
KIC	**Kosan Boka**	**73.94**	**79**	*eP*	**P**	**18 52 56.9**	**-0.3**
	comp=Z,47nm,1.1s						
KOWA	**Kowa**	**76.97**	**71**	P	**P**	**18 53 14.3**	**-0.3**
YKA	**Yellowknife Ar**	**81.35**	**343**	P	**P**	**18 53 37.2**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=138,slow=6.5,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**81.89**	**74**	P	**P**	**18 53 41.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**18 53 41.3**	**-0.2**
	comp=Z,11nm,0.8s,baz=265,slow=5.2,SNR=60						
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**18 53 41.0**	**-0.5**
DLBC	**Dease Lake**	**83.84**	**335**	LR	LR	19 34 38.4	
	comp=Z,38nm,18.1s,baz=120,slow=38						
ESDC	**Sonseca Array**	**85.55**	**48**	P	**P**	**18 54 00.2**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=258,slow=5.5,SNR=9.4						
ESDC				LR	LR	19 27 55.7	
	comp=Z,33nm,22.0s,baz=25,slow=33						
ESDC	**Sonseca Array**	**85.55**	**48**	IAmb	IAmb	18 54 02.1	
	comp=Z,8.3nm,1.6s						
SYO	**Syowa Base**	**86.46**	**161**	*eP*	**P**	**18 54 03.0**	**-0.6**
SYO	**Syowa Base**	**86.46**	**161**	*es*	sP	18 54 19.0	+0.3
SUMG	**Summit**	**89.44**	**11**	*i* P	**P**	**18 54 18.2**	**+0.1**
SUMG	**Summit**	**89.44**	**11**	*eP*	**P**	**18 54 18.2**	**+0.1**
BCAR	**Beaver Creek A**	**91.19**	**336**	P	**P**	**18 54 25.7**	**-0.4**
BOSA	**Boshof**	**93.69**	**120**	LR	LR	19 35 28.7	
	comp=Z,54nm,19.3s,baz=224,slow=35						
ILAR	**Eielson Array**	**93.97**	**336**	P	**P**	**18 54 38.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=152,slow=2.7,SNR=10						
ILAR				pP	**sP**	**18 54 53.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=141,slow=2.8,SNR=6.0						
MDM	**Murphy Dome**	**94.57**	**336**	P	**P**	**18 54 40.2**	**-1.4**
DAVOX	**Davos/Dischmat**	**97.26**	**44**	P	Pdif	18 54 54.5	-0.1
	comp=Z,2.5nm,0.9s,baz=317,slow=8.1,SNR=3.9						
H11N3	**WAKE ISLAND Hyl**	**19.18**	**285**	T	T	21 10 19.5	
	baz=96,slow=74,SNR=102						
H11N2	**WAKE ISLAND Hyl**	**19.19**	**285**	T	T	21 10 20.5	
	baz=96,slow=74,SNR=81						
H11N1	**WAKE ISLAND Hyl**	**19.19**	**285**	T	T	21 10 20.8	
	baz=96,slow=74,SNR=55						
H11S2	**WAKE ISLAND Hyl**	**19.26**	**284**	T	T	21 10 26.5	
	baz=93,slow=74,SNR=72						
H11S1	**WAKE ISLAND Hyl**	**19.27**	**284**	T	T	21 10 40.5	
	baz=93,slow=74,SNR=57						
H11S3	**WAKE ISLAND Hyl**	**19.28**	**284**	T	T	21 10 34.2	
	baz=93,slow=74,SNR=65						
ASAR	**Alice Springs**	**132.58**	**219**	PKP	**PKPdf**	**19 00 36.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=126,slow=1.8,SNR=19						
ASAR				pPKP	**sPKPdf**	**19 00 52.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=135,slow=2.2,SNR=4.6						
WRA	**Warramunga Arr**	**134.99**	**223**	PKP	**PKPdf**	**19 00 41.4**	**0.0**
	comp=Z,1.2nm,0.3s,baz=134,slow=2.0,SNR=5.2						
WRA				pPKP	**sPKPdf**	**19 00 56.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=136,slow=1.9,SNR=3.8						
WRA	**Warramunga Arr**	**134.99**	**223**		**PKPdf**	**19 00 41.7**	**+0.4**
ZALV	**Zalesovo Beam**	**137.03**	**16**	PKhKP	PKPpre	19 00 41.8	
	comp=Z,0.8nm,0.6s,baz=222,slow=1.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**137.03**	**16**		**PKPdf**	**19 00 43.9**	**-0.1**
MJAR	**Matsushiro Arr**	**141.36**	**313**	PKhKP	PKPpre	19 00 45.7	
	comp=Z,0.4nm,0.6s,baz=84,slow=2.0,SNR=4.7						
MKAR	**Makanchi Array**	**142.33**	**24**	PKhKP	PKPpre	19 00 49.1	
	comp=Z,0.5nm,0.7s,baz=312,slow=4.5,SNR=2.6						
SONM	**Songino Array**	**145.66**	**357**	PKPbc	**PKPab**	**19 01 00.5**	**0.0**
	comp=Z,3.0nm,0.8s,baz=320,slow=2.6,SNR=13						
SONM	**Songino Array**	**145.66**	**357**		**PKPab**	**19 01 00.2**	**-0.3**
KSRS	**Korea Array**	**147.57**	**322**	PKPbc	**PKiKP**	**19 01 07.3**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=63,slow=3.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**173.41**	**41**	pPKP	pPKPdf	19 01 47.0	+4.0
	comp=Z,0.9nm,0.8s,baz=274,slow=2.4,SNR=4.0						

*NEIC **25** 18:45:00.9±0.8, 19°15N±0°07×66°83W±0°05, h39km±30km, Error ellipse: s-maj=10.3km s-min=6.4km az=181.0*
*RSPR **25** 18:45:02.2, 19°13N×66°84W, h43km±2km, MD3.3/14*
*OSPL **25** 18:45:08.6±0.3, 18°71N×67°16W, h25km, ML2.3*
ISC 25 18:45:01.1±1.1,**19°13N**±0°05×**66°82W**±0°04,**h35km**,**n57**, σ0§**53**/70,**9C-6D**,**Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0

MJAR	**Matsushiro Arr**	**15.14**	**24**	Pn	**Pn**	**19 02 21.2**	**+2.1**
	0.0nm,0.3s,baz=212,slow=13,SNR=5.5						
CMAR	**Chiang Mai Arr**	**29.83**	**267**	P	**P**	**19 04 53.1**	**+1.2**
	0.3nm,0.6s,baz=61,slow=7.3,SNR=2.5						
WRA	**Warramunga Arr**	**42.74**	**175**	P	P	19 06 39.2	-2.7
	0.4nm,0.8s,baz=354,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**46.40**	**176**	P	**P**	**19 07 09.9**	**-1.1**
	0.4nm,1.0s,baz=4.1,slow=12,SNR=2.0						

*IDC **25** 19:07:31.4±4.6,24°.68S×179°.24E,h505km±52km, mb3.2/5, mb1 3.4/7, mb1mx3.1/41, mbtmp4.1/7, Error ellipse: s-maj=45.4km s-min=32.6km az=4.0*
*NEIC **25** 19:07:34.2±1.5,24°.8S±0°.2×179°.1E±0°.1,h536km±16km, mb4.0/11, Error ellipse: s-maj=22.3km s-min=16.1km az=164.0*

ISC 25 19:07:34.4±0.8,**24°.8S**±0°.1×**179°.1E**±0°.1,**h550**km,**n24,** σ1§**14/22,mb4.0/10,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.10**	**352**	P		**P**	**P**	**19 09 21.7**	**-1.8**
DZM	**Mont Dzumac**	**11.97**	**281**	P		**P**	**P**	**19 10 11.5**	**-1.3**
	0.4nm,0.3s,baz=104,slow=16,SNR=2.2								
DZM	**Mont Dzumac**	**11.97**	**281**	P		**P**		**19 10 12.0**	**-0.7**
URZ	**Urewera**	**13.53**	**187**	P		**P**		**19 10 26.0**	**-2.5**
	0.4nm,0.3s,baz=349,slow=5.2,SNR=2.0								
URZ	**Urewera**	**13.53**	**187**	P		**P**		**19 10 26.5**	**-1.9**
AFI	**Afiamalu**	**13.80**	**40**	P		**P**		**19 10 32.2**	**+0.4**
MLZ	**Mavora Lakes**	**22.38**	**201**	P		**P**		**19 11 53.0**	**+1.4**
MLZ				IAmb		IAmb		19 12 11.5	
	comp=Z,2.3nm,0.7s								
CAN	**Canberra**	**28.02**	**241**	P		**P**		**19 12 42.5**	**+0.8**
CAN				IAmb		IAmb		19 12 45.9	
	comp=Z,4.9nm,1.1s								
PPT2	**Papeete2**	**29.98**	**82**	*e*LR		LR		19 13 05.8	
	comp=Z,84nm,26.8s								
CTA	**Charters Tower**	**30.71**	**272**	P		**P**		**19 13 05.8**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=86,slow=9.5,SNR=8.5								
CTAO	**Charters Tower**	**30.71**	**272**	P		**P**		**19 13 05.7**	**+0.6**
CTAO				IAmb		IAmb		19 13 10.5	
	comp=Z,6.4nm,1.1s								
TOO	**Toolangi**	**31.31**	**238**	P		**P**		**19 13 11.2**	**+1.2**
TAU	**Tasmania Unive**	**31.75**	**227**	P		**P**		**19 13 14.7**	**+1.0**
STKA	**Stephens Creek**	**33.67**	**249**	P		**P**		**19 13 30.8**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=63,slow=6.7,SNR=4.4								
STKA	**Stephens Creek**	**33.67**	**249**	P		**P**		**19 13 30.9**	**+0.8**
BBOO	**Buckleboo**	**38.38**	**248**	P		**P**		**19 14 08.8**	**-0.1**
BBOO				IAmb		IAmb		19 14 12.0	
	comp=Z,5.9nm,1.1s								
WRAB	**Tennant Creek**	**41.57**	**267**	P		**P**		**19 14 34.4**	**-0.3**
WRAB				IAmb		IAmb		19 14 35.7	
	comp=Z,4.6nm,0.8s								
WB0	**Warramunga Arr**	**41.57**	**268**	P		**P**		**19 14 35.0**	**+0.3**
WB0				IAmb		IAmb		19 14 35.5	
	comp=Z,3.8nm,0.7s								
WRA	**Warramunga Arr**	**41.58**	**267**	P		**P**		**19 14 34.8**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=98,slow=6.6,SNR=7.4								
WRA	**Warramunga Arr**	**41.58**	**267**	IAmb		IAmb		19 14 35.1	
	comp=Z,0.2nm,0.7s								
KNRA	**Kununurra**	**47.91**	**271**	P		**P**		**19 15 23.8**	**+0.4**
MJAR	**Matsushiro Arr**	**72.20**	**326**	P		**P**		**19 18 04.1**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=154,slow=5.9,SNR=2.9								
TXAR	**Lajitas Array**	**91.57**	**58**	P		**P**		**19 19 44.0**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=206,slow=6.0,SNR=2.0								
BRTR	**Keskin Array B**	**147.48**	**306**	PKPbc		**PKPbc**		**19 26 18.0**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=70,slow=0.9,SNR=3.4								

*NEIC **25** 19:09:28.0±1.6,6°.09S±0°.05×148°.6E±0°.1,h66km±7km, mb4.4/23, Error ellipse: s-maj=17.0km s-min=3.2km az=116.0*
*IDC **25** 19:09:27.5±1.4,6°.07S×148°.55E,h58km±15km, mb3.8/13, mb1 4.0/17, mb1mx3.8/36, mbtmp4.1/17, MS3.2/11, Ms1 3.2/11, ms1mx3.1/29, Error ellipse: s-maj=20.2km s-min=8.6km az=125.0*

ISC 25 19:09:27.8±0.5,**6°.11S**±0°.06×**148°.55E**±0°.08,**h65**km,**n60,** σ1§**50/63,mb4.2/22,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**203**	P		P	**Pn**	**19 10 21.0**	**+0.4**
	9.7nm,0.3s,baz=22,slow=11,SNR=47								
PMG				S			**Sn**	**19 11 02.6**	**+1.1**
	66nm,0.3s,baz=18,slow=19,SNR=33								
PMG				LR		LR	LR	19 11 34.1	
	comp=Z,122nm,21.0s,baz=76,slow=35								
PMG	**Port Moresby**	**3.56**	**203**	Pn		**Pn**	**Pn**	**19 10 21.6**	**+1.0**
PMG				Sn			**Sn**	**19 11 02.4**	**+1.0**
KRVT	**Keravat (AS076**	**3.90**	**63**	P		**P**	**Pn**	**19 10 24.4**	**-0.9**
	18nm,0.3s,baz=249,slow=0.3,SNR=27								
KRVT				S			**Sn**	**19 11 10.0**	**+0.2**
	8.9nm,0.3s,baz=209,slow=11,SNR=2.2								
KRVT				LR		LR	LR	19 11 55.1	
	comp=Z,297nm,19.6s,baz=271,slow=38								
RABL	**Rabaul**	**4.07**	**62**				**Pn**	**19 10 27.4**	**-0.3**
HNR	**Honiara**	**11.76**	**107**	LR		LR	LR	19 16 06.8	
	comp=Z,86nm,19.7s,baz=301,slow=34								
CTA	**Charters Tower**	**14.07**	**189**	P		**P**	**Pn**	**19 12 44.8**	**+0.6**
	0.2nm,0.3s,baz=0.0,slow=10,SNR=1.2								
CTAO	**Charters Tower**	**14.07**	**189**	Pn		**Pn**	**Pn**	**19 12 45.4**	**+1.2**
MTN	**Manton Dam**	**18.43**	**247**	P		**P**	**P**	**19 13 38.6**	**+0.5**
MTN				IAmb		IAmb	IAmb	19 13 40.5	
	comp=Z,18nm,1.3s								
EIDS	**Eidsvold**	**19.31**	**173**	P		**P**	**P**	**19 13 47.2**	**-0.5**
WB0	**Warramunga Arr**	**19.33**	**224**	P		**P**	**P**	**19 13 48.8**	**+0.7**
WR0	**Warramunga Arr**	**19.36**	**223**	P		**P**	**P**	**19 13 48.7**	**+0.3**
WRA	**Warramunga Arr**	**19.49**	**224**	P		**P**	**P**	**19 13 50.0**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=52,slow=10,SNR=68								
WRA				S			**S**	**19 17 16.8**	**-10**
	baz=45,slow=18,SNR=1.5								
WRA				PcP			**PcP**	**19 18 09.0**	**+0.4**
	baz=9.3,slow=1.5,SNR=4.8								
WRA	**Warramunga Arr**	**19.49**	**224**	P		**P**	**P**	**19 13 49.1**	**-0.6**
GUMO	**Guam**	**19.91**	**349**	LR		LR	LR	19 19 48.9	
	comp=Z,104nm,20.9s,baz=92,slow=31								
KNRA	**Kununurra**	**21.61**	**242**	P		**P**	**P**	**19 14 12.3**	**-0.4**
KNRA				IAmb		IAmb	IAmb	19 14 26.0	
	comp=Z,15nm,1.1s								
AS31	**Alice Springs**	**22.43**	**217**	P		**P**	**P**	**19 14 21.2**	**-0.3**
ASAR	**Alice Springs**	**22.44**	**217**	P		**P**	**P**	**19 14 21.4**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=56,slow=9.2,SNR=88								
ASAR				PcP			**PcP**	**19 18 14.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=66,slow=2.5,SNR=4.8								
ASAR				S			**S**	**19 18 22.6**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=34,slow=22,SNR=9.0								
ASAR				ScP			**ScP**	**19 21 48.8**	**+2.5**
	comp=Z,0.3nm,0.8s,baz=36,slow=1.6,SNR=2.0								
ASAR				LR		LR	LR	19 22 23.9	
	comp=Z,72nm,19.8s,baz=76,slow=35								
ASAR	**Alice Springs**	**22.44**	**217**	P		**P**	**P**	**19 14 21.1**	**-0.4**
DZM	**Mont Dzumac**	**23.47**	**134**	LR		LR	LR	19 21 33.8	
	comp=Z,111nm,19.7s,baz=346,slow=31								
DZM	**Mont Dzumac**	**23.47**	**134**	P		**P**	**P**	**19 14 30.5**	**-1.5**
DZM				IAmb		IAmb	IAmb	19 14 41.0	
	comp=Z,11nm,1.1s								
SOEI	**Soe**	**24.32**	**260**	P		**P**	**P**	**19 14 39.5**	**-0.3**
BATI	**Baumata**	**24.96**	**259**	P		**P**	**P**	**19 14 46.5**	**+0.9**
	comp=Z,12nm,0.7s,baz=144,slow=7.3,SNR=5.1								
FITZ	**Fitzroy Crossi**	**25.33**	**240**	P		**P**	**P**	**19 14 49.4**	**+0.5**
	comp=Z,29nm,0.9s,baz=65,slow=7.9,SNR=31								
FITZ				LR		LR	LR	19 24 54.3	
	comp=Z,62nm,21.2s,baz=86,slow=37								
FITZ	**Fitzroy Crossi**	**25.33**	**240**	P		**P**	**P**	**19 14 49.3**	**+0.4**
FITZ				IAmb		IAmb	IAmb	19 14 51.4	
	comp=Z,38nm,1.0s								
MMRI	**Maumere**	**26.21**	**263**	P		**P**	**P**	**19 14 55.5**	**-1.3**
STKA	**Stephens Creek**	**26.45**	**193**	P		**P**	**P**	**19 15 00.1**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=343,slow=9.5,SNR=5.6								
STKA				LR		LR	LR	19 25 45.9	
	comp=Z,78nm,18.7s,baz=25,slow=37								
STKA	**Stephens Creek**	**26.45**	**193**	P		**P**	**P**	**19 14 59.0**	**+0.2**
KAPI	**Kappang**	**28.68**	**271**	LR		LR	LR	19 28 04.8	
	comp=Z,34nm,19.7s,baz=102,slow=39								
CAN	**Canberra**	**29.07**	**179**	P		**P**	**P**	**19 15 22.1**	**-0.2**
CAN				IAmb		IAmb	IAmb	19 15 26.3	
	comp=Z,25nm,1.5s								
TOO	**Toolangi**	**31.44**	**185**	P		**P**	**P**	**19 15 43.2**	**0.0**
TOO				IAmb		IAmb	IAmb	19 15 49.9	
	comp=Z,8.9nm,1.3s								
MORW	**Morawa**	**38.26**	**229**	P		**P**	**P**	**19 16 43.0**	**+1.0**
TPUB	**Ta-pu**	**39.98**	**318**	P		**P**	**P**	**19 16 55.7**	**-0.7**
JNU	**Nakatsue**	**42.47**	**338**	P		**P**	**P**	**19 17 16.9**	**+0.2**
	comp=Z,5.4nm,0.9s,baz=73,slow=4.4,SNR=8.0								
JNU	**Nakatsue**	**42.47**	**338**	P		**P**	**P**	**19 17 16.9**	**+0.2**
MJAR	**Matsushiro Arr**	**43.52**	**348**	P		**P**	**P**	**19 17 24.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=160,slow=9.7,SNR=4.1								
MJAR				LR		LR	LR	19 35 48.1	
	comp=Z,32nm,18.2s,baz=220,slow=36								
KSRS	**Korea Array**	**47.42**	**338**	P		**P**	**P**	**19 17 56.5**	**+0.7**
	comp=Z,0.5nN,0.4s,baz=158,slow=9.0,SNR=4.5								
USRK	**Ussuriysk Ar.**	**52.26**	**345**	P		**P**	**P**	**19 18 33.1**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=159,slow=8.5,SNR=3.1								
PEA0B	**Petropavlovsk-**	**59.50**	**6**	P		**P**	**P**	**19 19 25.1**	**+1.0**
PETK	**Petropavlovsk-**	**59.50**	**6**	P		**P**	**P**	**19 19 25.2**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=158,slow=7.2,SNR=6.9								
PETK	**Petropavlovsk-**	**59.50**	**6**	P		**P**	**P**	**19 19 25.3**	**+1.2**
SONM	**Songino Array**	**65.26**	**330**	P		**P**	**P**	**19 20 03.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=142,slow=5.4,SNR=2.6								
SONM	**Songino Array**	**65.26**	**330**	P		**P**	**P**	**19 20 03.2**	**+0.3**
VNDA	**Vanda**	**71.72**	**177**	P		**P**	**P**	**19 20 42.6**	**+0.1**
VNDA				IAmb		IAmb	IAmb	19 20 43.6	
	comp=Z,5.1nm,1.3s								
MK31	**Makanchi Array**	**78.56**	**320**	P		**P**	**P**	**19 21 21.8**	**-0.7**
MK31				IAmb		IAmb	IAmb	19 21 23.1	
	comp=Z,3.0nm,1.4s								
MKAR	**Makanchi Array**	**78.56**	**320**	P		**P**	**P**	**19 21 21.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=94,slow=8.7,SNR=4.7								
ZALV	**Zalesovo Beam**	**79.93**	**327**	P		**P**	**P**	**19 21 28.4**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=110,slow=5.8,SNR=3.3								
ZALV	**Zalesovo Beam**	**79.93**	**327**	P		**P**	**P**	**19 21 29.7**	**0.0**
CNPM	**China Poot**	**80.74**	**27**	P		**P**	**P**	**19 21 34.0**	**0.0**
IMAR	**Indian Mountai**	**83.05**	**20**	P		**P**	**P**	**19 21 47.4**	**+1.5**
QSPA	**South Pole Qui**	**83.86**	**180**	P		**P**	**P**	**19 21 50.1**	**-0.2**
QSPA				IAmb		IAmb	IAmb	19 21 52.0	
	comp=Z,3.6nm,1.1s								
WRH	**Wood River Hil**	**84.38**	**23**	P		**P**	**P**	**19 21 53.3**	**+0.6**
WRH				IAmb		IAmb	IAmb	19 22 04.3	
	comp=Z,4.5nm,1.2s								
ILAR	**Eielson Array**	**84.98**	**23**	P		**P**	**P**	**19 21 55.6**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=248,slow=4.8,SNR=19								
ILAR	**Eielson Array**	**84.98**	**23**	P		**P**	**P**	**19 21 55.4**	**-0.3**
EGAK	**Eagle**	**87.24**	**24**	P		**P**	**P**	**19 22 07.8**	**+0.9**
EGAK				IAmb		IAmb	IAmb	19 22 22.4	
	comp=Z,4.4nm,1.5s								
YKA	**Yellowknife Ar**	**98.55**	**28**	LR		LR	LR	20 05 13.5	
	comp=Z,15nm,19.2s,baz=0.0,slow=34								
LPAZ	**La Paz**	**137.43**	**122**	PKP			**PKPdf**	**19 28 45.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=93,slow=4.8,SNR=3.7								
LPAZ	**La Paz**	**137.43**	**122**				**PKPdf**	**19 28 46.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**146.61**	**285**	PKPbc			**PKPbc**	**19 29 02.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=91,slow=2.6,SNR=14								
TORD	**Torodi Ar. Bea**	**146.61**	**285**				**PKPbc**	**19 29 02.8**	**-0.3**
BDFB	**Brasilia**	**152.87**	**143**	PKPbc			**PKPbc**	**19 29 18.6**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=155,slow=4.6,SNR=5.6								

WEL 25 19:29:39.7,43°S±79°×17°1E±4°1,h15km±28km**,M2.4/6, ML2.3/6,MLv2.4/6,Error ellipse: s-maj=0.1km s-min=0.0km az=153.1,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.24**	**319**	P		P	Pg	19 29 44.5	-0.6
RPZ	**Rata Peaks**	**0.46**	**171**	P		P	Pn	19 29 53.0	+1.1
GCSZ	**Gaunt Creek Bo**	**0.46**	**263**	P		P	Pb	19 29 50.0	+0.4
MHCZ	**Mount Hutt**	**0.52**	**122**	P		P	Pb	19 29 51.3	+0.6
INZ	**Inchbonnie**	**0.64**	**34**	P		P	Pb	19 29 52.8	+0.1
ARCZ	**Arundel**	**0.71**	**167**	P		P	Pg	19 29 53.3	-0.3
OXZ	**Oxford**	**0.79**	**95**	P		P	Pb	19 29 55.6	+0.4
FOZ	**Fox Glacier**	**0.88**	**251**	P		P	Pb	19 29 56.6	0.0
LBZ	**Lake Benmore**	**1.26**	**206**	P		P	Pb	19 30 03.1	-0.1

*GUC **25** 19:30:01.7±0.7,34°.04S×72°.29W,h22km±16km, ML3.4*
*IDC **25** 19:30:06.0±6.9,34°.15S×71°.29W,h33km±54km, mb3.4/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=62.4km s-min=34.8km az=78.0*

ISC 25 19:30:00.4±3.5,**34°.04S**±0°.04×**72°.31W**±0°.09,**h10**km±24km, **n22,**σ0§**57/25,5C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.02**	**162**	⇑*i*	P		**Pb**	**19 30 20.1**	**-0.1**
GO05				*i*	S		**Sb**	**19 30 33.4**	**-0.2**
GO05				IAML				19 30 36.3	
	comp=E,2μm,0.6s								
VA01	**Torpederas**	**1.16**	**29**	*i*	P		**Pn**	**19 30 22.1**	**-0.5**
VA01				*i*	S		**Sb**	**19 30 37.2**	**-0.2**
MT02	**Curacav**	**1.25**	**52**	⇓*i*	P		**Pn**	**19 30 23.2**	**-0.7**
MT02				*i*	S		**Sb**	**19 30 39.5**	**-0.6**
MT02				IAML				19 30 41.2	
	comp=N,692nm,0.2s								
MT05	**Renca**	**1.46**	**64**	⇑*e*	P		**Pn**	**19 30 26.8**	**0.0**
MT05				*i*	S		**Sn**	**19 30 45.8**	**-0.3**
MT05				IAML				19 30 52.1	
	comp=E,902nm,0.5s								
BO02	**Sierra Bellavi**	**1.47**	**121**	⇑*e*	P		**Pn**	**19 30 26.6**	**-0.4**
BO02				*i*	S		**Sn**	**19 30 46.4**	**+0.1**
BO02				*e*	S		**Sn**	**19 30 46.4**	**+0.1**
ROCH	**El Roble**	**1.52**	**46**	⇓*i*	P		**Pn**	**19 30 27.9**	**+0.1**
ROCH				*i*	S		**Sn**	**19 30 47.7**	**-0.1**
ROCH				IAML				19 30 53.9	
	comp=N,1μm,0.5s								
MT03	**Universidad Ad**	**1.59**	**71**	⇓*i*	P		**Pn**	**19 30 28.7**	**0.0**
MT03				*i*	S		**Sn**	**19 30 49.4**	**0.0**
MT03				IAML				19 31 04.2	
	comp=N,739nm,0.3s								
PEL	**Peldehue**	**1.62**	**57**	*e*	P		**Pn**	**19 30 29.5**	**+0.5**
PEL				*i*	S		**Sn**	**19 30 50.1**	**0.0**
PEL				IAML				19 30 58.5	
	comp=N,1μm,0.5s								
LMEL	**Las Melosas**	**1.76**	**84**	⇑*i*	P		**Pn**	**19 30 31.9**	**+0.9**
LMEL				IAML				19 30 58.2	
	comp=E,701nm,0.0s								
VA03	**San Esteban**	**1.94**	**50**	⇑*i*	P		**Pn**	**19 30 34.1**	**+0.6**
VA03				*i*	S		**Sn**	**19 30 59.5**	**+1.5**
H03S1	**Juan Fernandez**	**5.49**	**270**	T		T	T	19 37 21.2	
	baz=96,slow=74,SNR=101								
H03S3	**Juan Fernandez**	**5.49**	**270**	T		T	T	19 37 28.1	
	baz=96,slow=74,SNR=102								
H03S2	**Juan Fernandez**	**5.50**	**270**	T		T	T	19 37 23.8	
	baz=96,slow=74,SNR=102								
H03N1	**Juan Fernandez**	**5.53**	**274**	T		T	T	19 37 36.0	
	baz=89,slow=73,SNR=4.9								
H03N3	**Juan Fernandez**	**5.54**	**274**	T		T	T	19 37 36.9	
	baz=89,slow=73,SNR=8.9								
H03N2	**Juan Fernandez**	**5.55**	**274**	T		T	T	19 37 36.4	
	baz=89,slow=73,SNR=9.6								
PLCA	**Paso Flores**	**6.83**	**169**	Pn			**Pn**	**19 31 40.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=349,slow=18,SNR=3.6								
PLCA				Lg		Lg		19 33 27.9	
	comp=E,0.1nm,0.3s,baz=314,slow=20,SNR=1.2								
LPAZ	**La Paz**	**18.07**	**13**	P			**P**	**19 34 13.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=187,slow=6.7,SNR=5.8								
TXAR	**Lajitas Array**	**69.66**	**331**	P			P	19 41 16.2	+6.1
	comp=E,0.1nm,0.3s,baz=149,slow=7.2,SNR=4.5								
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P			**P**	**19 42 33.0**	**-0.5**
	comp=E,0.5nm,0.8s,baz=219,slow=6.7,SNR=3.3								
KURBB	**Kurchatov Arra**	**153.05**	**43**	PKPbc			**PKPbc**	**19 49 56.8**	**-0.8**
	comp=E,0.3nm,0.6s,baz=303,slow=2.6,SNR=5.0								
ZALV	**Zalesovo Beam**	**154.38**	**32**	PKPbc			**PKiKP**	**19 50 01.0**	**+0.6**
	comp=E,0.5nm,0.5s,baz=321,slow=3.7,SNR=2.6								

*JMA **25** 19:39:06.8±0.3,25°.27N×122°.53E,h192km±4km, M2.3*
*TAP **25** 19:39:07.0,25°.35N×122°.62E,h188km±1km,ML2.7,D*

ISC 25 19:39:07.2±2.5,**25°.3N**±0°.1×**122°.56E**±0°.04,**h191**km±14km, **n46,**σ0§**58/82,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.58**	**244**	*e*P			**Pn**	**19 39 33.7**	**+0.1**
	baz=239								
TIPB	**Shuangxi**	**0.73**	**246**	*e*P			**Pn**	**19 39 35.0**	**+0.6**
	baz=252								
TIPB				*e*S			**Sn**	**19 39 56.1**	**+0.8**
	baz=252								
JYNG	**Yonagunijimaku**	**0.88**	**157**	P			**Pn**	**19 39 35.4**	**+0.1**
JYNG				S			**Sn**	**19 39 57.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.90**	**153**	*e*P			**Pn**	**19 39 35.5**	**+0.1**
	baz=165								
TWA	**Mucha**	**0.93**	**252**	*e*P			**Pn**	**19 39 34.8**	**-0.8**
	baz=241								
TWE	**Neicheng**	**0.98**	**236**	*e*P			**Pn**	**19 39 36.0**	**+0.2**
	baz=227								
TWE				*e*S			**Sn**	**19 39 57.4**	**-0.6**
	baz=227								
NWLT	**Wulai**	**1.08**	**243**	*e*P			**Pn**	**19 39 36.3**	**-0.3**
	baz=245								
NWLT				*e*S			**Sn**	**19 39 59.0**	**-0.3**
	baz=245								
ENTT	**Nioudou**	**1.10**	**236**	P			**Pn**	**19 39 37.2**	**+0.4**
	baz=229								
ENTT				*e*S			**Sn**	**19 39 59.9**	**+0.3**
	baz=229								
NDT	**Datong Townshi**	**1.16**	**236**	P			**Pn**	**19 39 37.8**	**+0.5**
	baz=227								
NDT				*e*S			**Sn**	**19 40 01.3**	**+0.8**
	baz=227								
YHNB	**Yeheng**	**1.23**	**241**	*e*P			**Pn**	**19 39 37.7**	**-0.2**
	baz=239								
YHNB				*e*S			**Sn**	**19 40 00.7**	**-0.8**
	baz=239								
NSK	**Sanguang**	**1.24**	**242**	*e*P			**Pn**	**19 39 38.1**	**+0.1**
	baz=240								
NSK				*e*S			**Sn**	**19 40 01.4**	**-0.2**
	baz=240								
NNS	**Nan Shan**	**1.36**	**233**	*e*P			**Pn**	**19 39 39.3**	**+0.3**
	baz=225								
NNS				*e*S			**Sn**	**19 40 04.2**	**+0.6**
	baz=225								
NNSB	**Datong**	**1.36**	**232**	*e*P			**Pn**	**19 39 39.0**	**0.0**
	baz=225								
NNSB				*e*S			**Sn**	**19 40 02.8**	**-0.8**
	baz=225								
NNSH	**Datong**	**1.36**	**232**	P			**Pn**	**19 39 38.6**	**-0.4**
	baz=226								
NNSH				*e*S			**Sn**	**19 40 02.6**	**-1.0**
	baz=226								
NACB	**Ninganchiao**	**1.40**	**219**	*e*P			**Pn**	**19 39 38.6**	**-0.6**
	baz=227								
NACB				*e*S			**Sn**	**19 40 03.1**	**-0.9**
	baz=227								
IRIF	**Iriomote-Funau**	**1.41**	**131**	P			**Pn**	**19 39 39.7**	**+0.4**
IRIF				S			**Sn**	**19 40 04.2**	**+0.1**
ETLH	**Xiulin Townshi**	**1.44**	**223**	*e*P			**Pn**	**19 39 39.1**	**-0.6**
	baz=229								
ETLH				*e*S			**Sn**	**19 40 04.4**	**-0.5**
	baz=229								
LIOB	**Emei**	**1.54**	**247**	P			**Pn**	**19 39 40.8**	**+0.3**
	baz=244								
LIOB				*e*S			**Sn**	**19 40 05.6**	**-0.6**
	baz=244								
NSTT	**Nanjuang**	**1.55**	**246**	P			**Pn**	**19 39 40.8**	**+0.2**
	baz=244								
NSTT				*e*S			**Sn**	**19 40 06.3**	**-0.1**
	baz=244								
FUSS	**Fushou**	**1.57**	**230**	P			**Pn**	**19 39 41.9**	**+0.8**
	baz=225								
FUSS				*e*S			**Sn**	**19 40 07.3**	**+0.1**
	baz=225								
WHF	**Hehuan Shan**	**1.62**	**227**	P			**Pn**	**19 39 42.9**	**+1.1**
	baz=226								
WHF				*e*S			**Sn**	**19 40 08.0**	**-0.5**
	baz=226								
HATJ	**Hateruma jima**	**1.65**	**137**	P			**Pn**	**19 39 42.3**	**+0.8**
HATJ				*e*S			**Sn**	**19 40 08.4**	**+0.3**
JKRS	**Kuro-shima**	**1.67**	**128**	P			**Pn**	**19 39 42.1**	**+0.4**
JKRS				S			**Sn**	**19 40 08.3**	**-0.1**
JIJ	**Ishigaki jima**	**1.69**	**122**	P			**Pn**	**19 39 41.9**	**0.0**
JIJ				S			**Sn**	**19 40 07.8**	**-1.0**
JISG	**Ishigakijimahi**	**1.73**	**113**	P			**Pn**	**19 39 42.2**	**0.0**
JISG

WRA	**Warramunga Arr**	**36.19**	**157**	P	**P**	**19 50 13.1 -0.8**
	1.1nm,0.6s,baz=336,slow=9.6,SNR=16					
ASAR	**Alice Springs**	**39.45**	**160**	P	**P**	**19 50 41.4 -0.1**
	0.7nm,0.7s,baz=337,slow=6.4,SNR=13					

NEIC ***25*** *19:44:39.9±1.4,20°.1S±0°.1×177°.6W±0°.1, h554km±7km, mb4.3/21, Error ellipse: s-maj=20.1km s-min=16.6km az=52.0*
IDC ***25*** *19:44:43.9±2.1,20°.27S×177°.69W, h598km±24km, mb3.5/11, mb1 3.6/13, mb1mx3.4/35, mbtmp4.5/13, Error ellipse: s-maj=26.6km s-min=13.6km az=151.0*

ISC 25 19:44:39.7±0.6, 20°.1S±0°.1×177°.61W±0°.09, h550km, n54, σ1§15/60, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.73**	**299**	P	**P**	**19 46 09.5**	**+1.9**
AFI	**Afiamalu**	**8.31**	**43**	P	**P**	**19 46 40.0**	**-0.8**
DZM	**Mont Dzumac**	**15.01**	**260**	P	**P**	**19 47 49.9**	**+0.5**
	0.8nm,0.3s,baz=116,slow=23,SNR=9.8						
DZM	**Mont Dzumac**	**15.01**	**260**	P	**P**	**19 47 51.3**	**+1.8**
DZM				IAmb	IAmb	19 48 00.0	
	comp=Z,7.2nm,0.9s						
SANVU	**Saraoutou**	**15.18**	**285**	P	**P**	**19 47 51.4**	**+0.2**
URZ	**Urewera**	**18.66**	**193**	P	**P**	**19 48 22.5**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=0,slow=5.1,SNR=2.8						
QRZ	**Quartz Range**	**22.30**	**200**	P	**P**	**19 48 56.2**	**-0.2**
THZ	**Tophouse**	**23.04**	**198**	P	**P**	**19 49 02.8**	**-0.2**
THZ				IAmb	IAmb	19 49 03.7	
	comp=Z,13nm,1.1s						
WHZ	**Wether Hill Ro**	**28.33**	**202**	P	**P**	**19 49 50.5**	**+1.0**
ARMA	**Armidale**	**29.57**	**244**	P	**P**	**19 50 00.5**	**-0.1**
ARMA				IAmb	IAmb	19 50 18.9	
	comp=Z,4.6nm,0.9s						
CTA	**Charters Tower**	**33.89**	**264**	P	**P**	**19 50 38.0**	**+0.5**
	comp=Z,7.6nm,0.4s,baz=93,slow=10,SNR=19						
CTAO	**Charters Tower**	**33.89**	**264**	P	**P**	**19 50 37.8**	**+0.4**
CTAO				IAmb	IAmb	19 50 38.3	
	comp=Z,9.0nm,0.6s						
TOO	**Toolangi**	**36.42**	**233**	P	**P**	**19 50 58.3**	**0.0**
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**19 51 14.2**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=70,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**19 51 14.0**	**+0.4**
BBOO	**Buckleboo**	**43.05**	**243**	P	**P**	**19 51 51.5**	**0.0**
BBOO				IAmb	IAmb	19 51 52.7	
	comp=Z,8.1nm,1.1s						
WR0	**Warramunga Arr**	**44.83**	**262**	P	**P**	**19 52 04.9**	**-0.5**
WR0				IAmb	IAmb	19 52 06.0	
	comp=Z,6.0nm,0.3s						
AS31	**Alice Springs**	**44.96**	**256**	P	**P**	**19 52 06.6**	**+0.1**
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**19 52 06.5**	**+0.1**
	comp=Z,6.3nm,0.5s,baz=92,slow=7.7,SNR=150						
ASAR				PcP	**PcP**	**19 53 35.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=100,slow=4.2,SNR=4.3						
ASAR				S	**S**	**19 58 02.2**	**-3.0**
	comp=Z,1.1nm,0.7s,baz=92,slow=15,SNR=10						
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**19 52 06.2**	**-0.3**
WRA	**Warramunga Arr**	**45.02**	**262**	P	**P**	**19 52 06.5**	**-0.4**
	comp=Z,4.2nm,0.3s,baz=97,slow=7.3,SNR=360						
WRA				PcP	**PcP**	**19 53 34.3**	**-1.9**
	comp=Z,0.6nm,0.9s,baz=96,slow=3.3,SNR=2.9						
WRA				S	**S**	**19 58 01.8**	**-4.1**
	comp=Z,0.7nm,0.7s,baz=94,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**45.02**	**262**	P	**P**	**19 52 05.8**	**-1.0**
MTN	**Manton Dam**	**49.52**	**270**	P	**P**	**19 52 40.2**	**-0.5**
KNRA	**Kununurra**	**51.05**	**266**	P	**P**	**19 52 51.5**	**-0.3**
KNRA				IAmb	IAmb	19 53 09.8	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.44**	**262**	P	**P**	**19 53 09.1**	**+0.1**
SIJI	**Sorong**	**53.49**	**284**	P	**P**	**19 53 09.4**	**0.0**
	comp=Z,14nm,0.6s,baz=113,slow=3.4,SNR=10						
SOEI	**Soe**	**56.85**	**271**	P	**P**	**19 53 34.1**	**+1.2**
BATI	**Baumata**	**57.28**	**271**	P	**P**	**19 53 37.5**	**+1.7**
	comp=Z,14nm,0.6s,baz=294,slow=2.0,SNR=6.5						
PSA00	**Pilbara Seismi**	**58.11**	**257**	P	**P**	**19 53 40.9**	**-0.4**
PSA00				IAmb	IAmb	19 53 52.2	
	comp=Z,7.4nm,1.1s						
MMRI	**Maumere**	**59.10**	**272**	P	**P**	**19 53 47.8**	**-0.3**
QSPA	**South Pole Qui**	**69.96**	**180**	P	**P**	**19 54 57.0**	**+1.1**
KKM	**Kota Kinabalu**	**70.01**	**285**	P	**P**	**19 54 57.2**	**+0.2**
KKM				IAmb	IAmb	19 55 01.8	
	comp=Z,8.3nm,0.9s						
MJAR	**Matsushiro Arr**	**70.11**	**323**	P	**P**	**19 54 57.3**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=159,slow=6.0,SNR=25						
MJAR	**Matsushiro Arr**	**70.11**	**323**	P	**P**	**19 54 57.2**	**+0.2**
MAJO	**Matsushiro**	**70.11**	**323**	P	**P**	**19 54 57.5**	**+0.4**
MAJO				IAmb	IAmb	19 54 58.1	
	comp=Z,3.7nm,0.6s						
MAT	**Matsushiro**	**70.11**	**323**	P	**P**	**19 54 57.5**	**+0.4**
UGM	**Wanagama**	**70.33**	**269**	P	**P**	**19 54 58.4**	**-0.5**
KSRS	**Korea Array**	**76.83**	**318**	P	**P**	**19 55 35.4**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=30,slow=6.3,SNR=3.4						
USRK	**Ussuriysk Ar.**	**78.84**	**326**	P	**P**	**19 55 47.0**	**+1.0**
	comp=Z,3.0nm,1.0s,baz=184,slow=3.1,SNR=5.8						
USRK	**Ussuriysk Ar.**	**78.84**	**326**	P	**P**	**19 55 47.3**	**+1.4**
IPM	**Ipoh**	**83.44**	**277**	P	**P**	**19 56 11.0**	**+0.6**
IPM				IAmb	IAmb	19 56 11.9	
	comp=Z,4.4nm,0.7s						
TXAR	**Lajitas Array**	**86.54**	**57**	P	**P**	**19 56 25.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=235,slow=3.2,SNR=1.5						
ILAR	**Eielson Array**	**87.85**	**13**	P	**P**	**19 56 29.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=228,slow=5.1,SNR=4.6						
SNAA	**Sanae**	**88.39**	**178**	P	**P**	**19 56 33.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**90.32**	**289**	P	**P**	**19 56 43.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=119,slow=2.5,SNR=10						
CMAR	**Chiang Mai Arr**	**90.32**	**289**	P	**P**	**19 56 44.0**	**+1.2**
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP	**PKiKP**	**20 02 10.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=80,slow=1.4,SNR=3.7						
AKASG	**Malin Array Be**	**142.84**	**332**	PKP	**PKPdf**	**20 03 07.7**	**-3.0**
	comp=Z,1.3nm,0.6s,baz=41,slow=4.3,SNR=14						
AKASG	**Malin Array Be**	**142.84**	**332**		**PKPdf**	**20 03 07.6**	**-3.1**
BRTR	**Keskin Array B**	**146.84**	**313**	PKPbc	**PKPbc**	**20 03 20.8**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=149,slow=6.6,SNR=6.9						
BRTR	**Keskin Array B**	**146.84**	**313**	PKPdf	**PKPdf**	**20 03 17.1**	**-1.0**
BRTR					**PKPbc**	**20 03 20.6**	**-0.3**
CLL	**Collm**	**147.76**	**347**	*i* PKPbc	**PKPbc**	**20 03 23.3**	**+0.6**
CLL				*i* PKPab	**PKPab**	**20 03 26.8**	**-0.3**
GERES	**GERESS Array B**	**149.92**	**345**	PKPbc	**PKPbc**	**20 03 28.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=40,slow=2.3,SNR=8.0						
GERES	**GERESS Array B**	**149.92**	**345**		**PKPbc**	**20 03 28.0**	**-0.2**

WEL 25 19:55:52.7, 43°S±2°×17°1E±°, h5km±2km, M2.3/7, ML2.3/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=27.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVZ	**Waitaha Valley**	**0.23**	**344**	P	Pg	19 55 58.7	+1.6
GCSZ	**Gaunt Creek Bo**	**0.36**	**266**	P	Pb	19 56 01.3	-0.3
RPZ	**Rata Peaks**	**0.45**	**159**	P	Pb	19 56 03.3	+0.2
MHCZ	**Mount Hutt**	**0.59**	**114**	P	Pb	19 56 05.7	+0.2
ARCZ	**Arundel**	**0.70**	**159**	P	Pb	19 56 07.8	+0.4
INZ	**Inchbonnie**	**0.73**	**39**	P	Pg	19 56 07.0	+0.3
FOZ	**Fox Glacier**	**0.77**	**252**	P	Pb	19 56 09.0	+0.4
LTZ	**Lake Taylor**	**1.18**	**65**	P	Pn	19 56 16.4	+0.6
LBZ	**Lake Benmore**	**1.19**	**203**	P	Pn	19 56 16.0	+0.1
DSZ	**Denniston Nort**	**1.71**	**25**	P	Pn	19 56 23.5	+0.3
ODZ	**Otahua Downs**	**1.75**	**184**	P	Pb	19 56 25.3	0.0
THZ	**Tophouse**	**2.17**	**46**	P	Pb	19 56 31.6	-0.8

VAO ***25*** *19:59:20.6±0.4,21°.00S×68°.40W, h117km±8km, mb4.2*
NEIC ***25*** *19:59:21.1±1.8,21°.12S±0°.04×68°.58W±0°.08, h135km±5km, Error ellipse: s-maj=11.4km s-min=6.3km az=92.0*
IDC ***25*** *19:59:21.4±1.1,21°.17S×68°.21W, h124km±8km, mb3.9/5, mb1 3.8/9, mb1mx3.6/31, mbtmp4.2/9, MS3.5/2, Ms1 3.5/2, ms1mx3.0/22, Error ellipse: s-maj=31.8km s-min=11.3km az=120.0*
GUC ***25*** *19:59:21.9±0.5,21°.12S×68°.56W, h134km±3km, ML4.3*

ISC 25 19:59:20.6±0.6, 21°.09S±0°.03×68°.50W±0°.06, h130km±6km, n97, σ1§22/118, mb4.2/9, 11C-7D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.93**	**273**	⇓*i* P	**Pn**	**19 59 43.3**	**+0.4**
PB01				*i* S	**Sn**	**19 59 60.0**	**+0.2**
PB01				IAML		20 00 01.7	
	comp=N,6μm,0.7s						
PB01	**IPOC Station P**	**0.93**	**273**		**Pn**	**19 59 43.0**	**+0.1**
PB01				Sn	**Sn**	**20 00 00.4**	**+0.6**
PB09	**IPOC Station P**	**0.98**	**225**	⇓*i* P	**Pn**	**19 59 44.7**	**+1.1**
PB09				*i* S	**Sn**	**20 00 02.0**	**+1.0**
PB09				IAML		20 00 03.6	
	comp=N,5μm,0.4s						
PB09	**IPOC Station P**	**0.98**	**225**		**Pn**	**19 59 44.6**	**+1.0**
PB09				Sn	**Sn**	**20 00 01.9**	**+1.0**
PB08	**IPOC Station P**	**1.13**	**327**	⇑*i* P	**Pn**	**19 59 46.5**	**+1.3**
PB08				*i* S	**Sn**	**20 00 05.4**	**+1.6**
PB08				IAML		20 00 06.8	
	comp=N,4μm,0.2s						
PB08	**IPOC Station P**	**1.13**	**327**		**Pn**	**19 59 46.5**	**+1.3**
PB08				Sn	**Sn**	**20 00 05.2**	**+1.4**
PB02	**IPOC Station P**	**1.32**	**260**	⇓*i* P	**Pn**	**19 59 47.3**	**+0.5**
PB02				*i* S	**Sn**	**20 00 06.5**	**-0.3**
PB02				IAML		20 00 08.7	
	comp=E,9μm,0.4s						
PB07	**IPOC Station P**	**1.44**	**244**	⇓*i* P	**Pn**	**19 59 48.6**	**+0.4**
PB07				*i* S	**Sn**	**20 00 08.6**	**-0.6**
PB07				IAML		20 00 10.4	
	comp=E,5μm,0.2s						
PB07	**IPOC Station P**	**1.44**	**244**		**Pn**	**19 59 48.2**	**0.0**
PB07				Sn	**Sn**	**20 00 08.6**	**-0.6**
PB03	**IPOC Station P**	**1.50**	**231**	⇓*i* P	**Pn**	**19 59 49.3**	**+0.4**
PB03				*i* S	**Sn**	**20 00 10.0**	**-0.5**
PB03				IAML		20 00 10.5	
	comp=E,6μm,0.2s						
LVC	**Limon Verde**	**1.56**	**194**	P	**Pn**	**19 59 50.8**	**+1.1**
	comp=E,145nm,0.3s,baz=18,slow=9.8,SNR=576						
LVC				S	**Sn**	**20 00 12.3**	**+0.3**
	comp=E,171nm,0.3s,baz=283,slow=23,SNR=74						
LVC				LR	LR	20 00 17.1	
	comp=E,135nm,19.1s,baz=196,slow=35						
LVC	**Limon Verde**	**1.56**	**194**	*e*P	**Pn**	**19 59 50.6**	**+0.9**
LVC				*i* S	**Sn**	**20 00 12.2**	**+0.3**
LVC	**Limon Verde**	**1.56**	**194**	Pn	**Pn**	**19 59 50.6**	**+0.9**
LVC					**Sn**	**20 00 12.0**	**+0.1**
LVC	**Limon Verde**	**1.56**	**194**	*e*P	**Pn**	**19 59 50.6**	**+0.9**
LVC				*e*S	**Sn**	**20 00 12.6**	**+0.7**
GO01	**Chusmiza**	**1.56**	**335**	⇑*i* P	**Pn**	**19 59 51.1**	**+1.2**
GO01				*i* S	**Sn**	**20 00 13.2**	**+1.0**
GO01	**Chusmiza**	**1.56**	**335**		**Pn**	**19 59 50.9**	**+1.0**
PATCX	**Punta Patache**	**1.57**	**280**	⇓*i* P	**Pn**	**19 59 49.9**	**+0.4**
PATCX				*i* S	**Sn**	**20 00 11.9**	**+0.3**
PATCX				IAML		20 00 13.5	
	comp=N,5μm,0.2s						
PATCX	**Punta Patache**	**1.57**	**280**	Pn	**Pn**	**19 59 49.7**	**+0.1**
PATCX				Sn	**Sn**	**20 00 11.9**	**+0.3**
TA01	**Diego Aracena**	**1.66**	**288**	⇓*i* P	**Pn**	**19 59 50.4**	**-0.1**
TA01				*i* S	**Sn**	**20 00 12.4**	**-0.9**
TA01				IAML		20 00 14.6	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.66**	**288**		**Pn**	**19 59 50.4**	**-0.1**
PB11	**IPOC Station P**	**1.71**	**320**	⇑*i* P	**Pn**	**19 59 51.6**	**+0.3**
PB11				*i* S	**Sn**	**20 00 15.1**	**+0.3**
PB11				IAML		20 00 16.8	
	comp=N,6μm,0.1s						
PB11	**IPOC Station P**	**1.71**	**320**	Pn	**Pn**	**19 59 51.3**	**0.0**
TA02	**Huaiquique**	**1.73**	**298**	*e*P	**Pn**	**19 59 51.4**	**+0.1**
TA02				*i* S	**Sn**	**20 00 14.4**	**-0.5**
PB06	**IPOC Station P**	**1.89**	**212**	⇑*i* P	**Pn**	**19 59 54.0**	**+0.6**
PB06				*i* S	**Sn**	**20 00 18.4**	**-0.1**
PB06				IAML		20 00 19.3	
	comp=N,4μm,0.6s						
PB06	**IPOC Station P**	**1.89**	**212**		**Pn**	**19 59 53.8**	**+0.4**
PB04	**IPOC Station P**	**1.97**	**231**	⇑*i* P	**Pn**	**19 59 54.5**	**+0.2**
PB04				*i* S	**Sn**	**20 00 19.0**	**-1.2**
PB04				IAML		20 00 20.1	
	comp=E,3μm,0.6s						
PB04				IAML		20 00 22.2	
	comp=N,2μm,0.1s						
PB04	**IPOC Station P**	**1.97**	**231**		**Pn**	**19 59 54.3**	**0.0**
PSGC	**Pisagua**	**2.13**	**314**	⇑*i* P	**Pn**	**19 59 55.8**	**-0.5**
PSGC				*i* S	**Sn**	**20 00 22.4**	**-1.2**
PSGC				IAML		20 00 26.2	
	comp=E,1μm,0.4s						
PSGCX	**Pisagua**	**2.13**	**314**	Pn	**Pn**	**19 59 55.8**	**-0.5**
MNMC	**Minye Minye**	**2.21**	**332**	⇑*i* P	**Pn**	**19 59 58.2**	**+0.8**
MNMC				*e*S	**Sn**	**20 00 26.9**	**+1.3**
MNMC	**Minye Minye**	**2.21**	**332**		**Pn**	**19 59 58.3**	**+0.8**
PB15	**IPOC Station P**	**2.29**	**203**	⇑*i* P	**Pn**	**19 59 58.9**	**+0.5**
PB15				*i* S	**Sn**	**20 00 27.2**	**-0.1**
PB15	**IPOC Station P**	**2.29**	**203**		**Pn**	**19 59 58.6**	**+0.3**
PB05	**IPOC Station P**	**2.36**	**222**	⇑*i* P	**Pn**	**19 59 59.1**	**0.0**
PB05				IAML		20 00 30.8	
	comp=E,1μm,0.4s						
PB16	**IPOC Station P**	**2.91**	**341**	⇑*i* P	**Pn**	**20 00 07.8**	**+1.2**
PB16	**IPOC Station P**	**2.91**	**341**		**Pn**	**20 00 07.7**	**+1.2**
PB10	**IPOC Station P**	**3.07**	**218**	IAML		20 00 41.6	
	comp=E,416nm,0.5s						
PB10	**IPOC Station P**	**3.07**	**218**	Pn	**Pn**	**20 00 07.5**	**-0.6**
AP01	**Chacalluta**	**3.22**	**327**	Pn	**Pn**	**20 00 09.7**	**-0.4**
PB14	**IPOC Station P**	**3.93**	**206**	Pn	**Pn**	**20 00 18.9**	**-0.8**
GO02	**Mina Guanaco**	**4.17**	**194**	⇑*i* P	**Pn**	**20 00 22.3**	**-0.6**
GO02	**Mina Guanaco**	**4.17**	**194**	Pn	**Pn**	**20 00 22.4**	**-0.6**
LPAZ	**La Paz**	**4.79**	**4**	P	**Pn**	**20 00 34.3**	**+2.8**
	comp=E,14nm,0.3s,baz=166,slow=7.5,SNR=216						
LPAZ	**La Paz**	**4.79**	**4**	Pn	**Pn**	**20 00 33.2**	**+1.7**
AC01	**Pan de Azucar**	**5.39**	**201**	Pn	**Pn**	**20 00 36.8**	**-2.1**
AC02	**Maricunga**	**5.75**	**186**	Pn	**Pn**	**20 00 43.7**	**-0.4**
GO03	**Copiap**	**6.66**	**193**		**Pn**	**20 00 53.4**	**-2.6**
AC04	**Llanos de Chal**	**7.46**	**198**	Pn	**Pn**	20 01 02.0	-4.7
AC05	**El Transito**	**7.88**	**191**	Pn	**Pn**	**20 01 09.2**	**-3.2**
LCO	**Las Campanas**	**8.13**	**194**	Pn	**Pn**	**20 01 12.0**	**-4.1**
SIV	**San Ignacio**	**8.68**	**55**	P	**Pn**	**20 01 21.4**	**-1.8**
	comp=E,7.4nm,0.3s,baz=253,slow=11,SNR=84						
SIV				S	**Sn**	**20 02 54.4**	**-5.2**
	comp=E,0.1nm,0.3s,baz=141,slow=11,SNR=4.1						
CO01	**Juntas del Tor**	**8.96**	**189**		**Pn**	**20 01 24.7**	**-2.5**
PTLB	**Pontes e Lacer**	**10.51**	**59**	*e*P	**Pn**	**20 01 45.9**	**-1.9**
ETMB	**Extrema**	**11.43**	**11**	*e*P	**Pn**	**20 01 58.6**	**-1.4**
VA03	**San Esteban**	**11.77**	**189**	Pn	**Pn**	20 01 59.8	-4.7
SAML	**Samuel**	**13.12**	**24**	Pn	**Pn**	**20 02 19.5**	**-2.6**
SAML	**Samuel**	**13.12**	**24**	*e*P	**Pn**	**20 02 20.0**	**-2.1**
BO02	**Sierra Bellavi**	**13.79**	**188**	Pn	**Pn**	**20 02 28.1**	**-2.6**
TRCB	**Terra Rica**	**14.82**	**99**	*e*P	**Pn**	**20 02 44.5**	**+0.8**
BI02	**San Fabin de**	**15.70**	**188**	Pn	**Pn**	**20 02 53.8**	**-0.9**
BI02				IAmb	IAmb	20 02 56.5	
	comp=Z,17nm,0.8s						
ITAB	**Concordia**	**16.13**	**115**	*e*P	**Pn**	**20 02 59.9**	**-0.1**
ARAG	**Araguaiana, MT**	**16.71**	**74**	*e*P	**P**	**20 03 08.4**	**+1.2**
FRTB	**Fartura**	**17.68**	**101**	*e*P	**Pn**	**20 03 18.5**	**-0.2**
BB19B	**Bebedouro**	**18.64**	**94**	*e*P	**P**	**20 03 27.6**	**-0.8**
SNDB	**Serra Nova Dou**	**18.81**	**64**	*e*P	**P**	**20 03 30.0**	**-0.2**
IPMB	**Ipameri, GO**	**19.37**	**84**	*e*P	**P**	**20 03 35.9**	**-0.4**
PLCA	**Paso Flores**	**19.66**	**185**	P	**P**	**20 03 39.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=5.2,slow=12,SNR=3.6						
PLCA	**Paso Flores**	**19.66**	**185**		**P**	**20 03 37.7**	**-1.6**
VAO	**Valinhos**	**20.05**	**99**	*e*P	**P**	**20 03 42.2**	**-1.5**
BDFB	**Brasilia**	**20.18**	**78**	P	**P**	**20 03 45.5**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=246,slow=7.9,SNR=7.8						
BDFB	**Brasilia**	**20.18**	**78**	P	Pn	20 03 47.4	-0.9
BDFB				IAmb	IAmb	20 03 49.3	
	comp=Z,12nm,1.4s						
ITTB	**Itaituba**	**20.74**	**38**	*e*P	**P**	**20 03 50.4**	**-0.7**
BSCB	**Bom Sucesso**	**22.14**	**94**	*e*P	**P**	**20 04 06.7**	**+0.7**
MALB	**Monte Alegre**	**23.63**	**38**	*e*P	**P**	**20 04 20.3**	**+0.3**
JANB	**Januaria**	**23.75**	**79**	*e*P	**P**	**20 04 20.6**	**-0.6**
MCPB	**Macapa, AP**	**26.13**	**40**	*e*P	**P**	**20 04 43.4**	**+0.7**
CMIG	**Matias Romero**	**45.93**	**324**	LR	LR	20 25 55.5	
	comp=Z,39nm,19.3s,baz=194,slow=34						
SNAA	**Sanae**	**62.54**	**161**	P	**P**	**20 09 31.1**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=274,slow=6.9,SNR=18						
SNAA	**Sanae**	**62.54**	**161**	P	**P**	**20 09 30.6**	**+0.4**
SNAA				IAmb	IAmb	20 09 32.8	
	comp=Z,5.1nm,1.3s						
DBIC	**Dimbokro**	**68.25**	**73**	P	**P**	**20 10 07.0**	**-0.9**
	comp=Z,5.6nm,0.8s,baz=245,slow=7.1,SNR=6.2						
DBIC				LR	LR	20 39 41.2	
	comp=Z,49nm,19.0s,baz=188,slow=36						
DBIC	**Dimbokro**	**68.25**	**73**	P	**P**	**20 10 07.5**	**-0.3**
QSPA	**South Pole Qui**	**69.10**	**180**	P	**P**	**20 10 13.9**	**+1.5**
QSPA				IAmb	IAmb	20 10 15.2	
	comp=Z,2.1nm,0.7s						
KOWA	**Kowa**	**72.50**	**66**	P	**P**	**20 10 33.4**	**-0.2**
KOWA				IAmb	IAmb	20 10 34.1	
	comp=Z,3.9nm,0.7s						
TOA0	**Torodi Ar. Sit**	**76.86**	**70**	P	**P**	**20 10 58.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**20 10 58.6**	**-0.1**
	comp=Z,4.2nm,0.5s,baz=257,slow=5.2,SNR=32						
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**20 10 58.4**	**-0.4**
TSUM	**Tsumeb**	**79.79**	**107**	P	**P**	**20 11 15.5**	**+0.4**
TSUM				IAmb	IAmb	20 11 16.9	
	comp=Z,1.9nm,0.7s						
MAW	**Mawson**	**84.61**	**163**	P	**P**	**20 11 40.4**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=210,slow=8.1,SNR=2.5						
MAW	**Mawson**	**84.61**	**163**	P	**P**	**20 11 40.0**	**+1.0**
LBTB	**Lobatse**	**84.84**	**115**	P	**P**	**20 11 40.9**	**-0.3**
LBTB				IAmb	IAmb	20 11 42.9	
	comp=Z,3.3nm,0.8s						
ESDC	**Sonseca Array**	**85.28**	**44**	P	**P**	**20 11 44.1**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=222,slow=6.0,SNR=4.0						
ASAR	**Alice Springs**	**130.45**	**207**	PKP	**PKPdf**	**20 18 17.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=129,slow=2.0,SNR=6.8						
ASAR	**Alice Springs**	**130.45**	**207**		**PKPdf**	**20 18 16.8**	**+0.3**
WRA	**Warramunga Arr**	**133.50**	**210**	PKP	**PKPdf**	**20 18 23.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=155,slow=1.8,SNR=12						
WRA	**Warramunga Arr**	**133.50**	**210**		**PKPdf**	**20 18 23.4**	**+1.0**
ZALV	**Zalesovo Beam**	**141.43**	**25**	PKP	**PKPdf**	**20 18 37.1**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=273,slow=5.5,SNR=4.3						
MKAR	**Makanchi Array**	**145.08**	**36**	PKP	**PKPbc**	**20 18 43.5**	**+1.2**
	comp=Z,3.1nm,0.7s,baz=313,slow=3.4,SNR=25						

TAP 25 20:05:04.3, 24°.05N×121°.37E, h64km±1km, ML1.7, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHF	**Hehuan Shan**	**0.14**	**313**	*i* P	Pn	20 05 14.5	+0.1
	baz=314						
WHF				*e*S	Sn	20 05 22.1	+0.3
ETLH	**Xiulin Townshi**	**0.18**	**33**	P	Pn	20 05 14.0	-0.2
	baz=32						
ETLH				*e*S	Sn	20 05 20.9	-0.5
	baz=32						
CHGB	**Renai**	**0.18**	**272**	P	Pn	20 05 14.2	-0.1
	baz=272						
CHGB				*e*S	Sn	20 05 22.1	+0.5
	baz=272						
TWD	**Chiawan**	**0.20**	**82**	*e*P	Pn	20 05 14.6	+0.5
	baz=82						
OWD	**Renai**	**0.21**	**242**	P	Pn	20 05 14.2	-0.2
	baz=241						
OWD				*e*S	Sn	20 05 21.6	-0.1
	baz=241						
FUSS	**Fushou**	**0.23**	**328**	P	Pn	20 05 14.7	0.0
	baz=328						
FUSS				*e*S	Sn	20 05 22.7	+0.5
	baz=328						
NACB	**Ninganchiao**	**0.23**	**59**	*e*P	Pn	20 05 15.5	+1.1
	baz=59						
NACB				*e*S	Sn	20 05 20.4	-1.3
	baz=59						
ESL	**Shilin**	**0.24**	**167**	*e*S	Sn	20 05 22.0	+0.2
	baz=165						
VWDT	**VWDT**	**0.37**	**216**	*e*P	Pn	20 05 15.9	+0.6
	baz=215						
VWDT				*e*S	Sn	20 05 24.8	+1.5
	baz=215						
NNSB	**Datong**	**0.37**	**1**	P	Pn	20 05 15.7	+0.1
	baz=1.0						
NNSB				*e*S	Sn	20 05 24.1	+0.4
	baz=1.0						
NNSH	**Datong**	**0.37**	**1**	P	Pn	20 05 15.8	+0.2
	baz=1.0						
NNSH				*e*S	Sn	20 05 24.4	+0.7
	baz=1

*TAP **25** 20:07:00.9,24.35N×121.87E,h58km,ML2.7,C*
*JMA **25** 20:07:00.2±0.1,24.28N×121.89E,h64km±2km,M2.1*
ISC 25 20:07:01.4±1.2,**24.31N**±0.02×**121.93E**±0.02,**h53**km±6km,
n102,σ0.95/188,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ENAH	**Nanao**	**0.17**	**322**	P		**Pn**	**20 07 09.8**	**-0.2**
	baz=329							
ENAH				*e*S		**Sn**	**20 07 17.0**	**+0.9**
	baz=329							
TWC	**Suao**	**0.30**	**346**	P		**Pn**	**20 07 11.0**	**+0.1**
	baz=3.0							
TWC				*e*S		**Sn**	**20 07 18.2**	**+0.5**
	baz=3.0							
NACB	**Ninganchiao**	**0.33**	**246**	P		**Pn**	**20 07 10.7**	**-0.6**
	baz=243							
NACB				*e*S		**Sn**	**20 07 18.0**	**-0.2**
	baz=243							
TWD	**Chiawan**	**0.38**	**233**	P		**Pn**	**20 07 12.1**	**+0.4**
	baz=233							
TWD				S		**Sn**	**20 07 19.4**	**+0.5**
	baz=233							
ETLH	**Xiulin Townshi**	**0.42**	**256**	P		**Pn**	**20 07 11.8**	**-0.3**
	baz=248							
ETLH				*e*S		**Sn**	**20 07 19.5**	**-0.4**
	baz=248							
HWA	**Hwalien**	**0.45**	**222**	*e*P		**Pn**	**20 07 13.1**	**+0.8**
	baz=204							
HWA				*e*S		**Sn**	**20 07 22.0**	**+1.8**
	baz=204							
ENTT	**Nioudou**	**0.46**	**315**	*e*P		**Pn**	**20 07 12.3**	**-0.2**
	baz=313							
ENTT				*e*S		**Sn**	**20 07 20.4**	**-0.2**
	baz=313							
TWE	**Neicheng**	**0.47**	**330**	P		**Pn**	**20 07 12.5**	**-0.1**
	baz=332							
TWE				*e*S		**Sn**	**20 07 20.9**	**+0.3**
	baz=332							
NDT	**Datong Townshi**	**0.48**	**307**	*e*P		**Pn**	**20 07 12.6**	**-0.1**
	baz=308							
NDT				*e*S		**Sn**	**20 07 20.5**	**-0.3**
	baz=308							
ILA	**Ilan**	**0.48**	**340**	*e*P		**Pn**	**20 07 13.1**	**+0.4**
	baz=340							
NNSB	**Datong**	**0.51**	**283**	P		**Pn**	**20 07 12.6**	**-0.6**
	baz=274							
NNSB				*e*S		**Sn**	**20 07 21.3**	**-0.3**
	baz=274							
NNSH	**Datong**	**0.51**	**283**	*e*P		**Pn**	**20 07 12.8**	**-0.4**
	baz=277							
NNS	**Nan Shan**	**0.52**	**284**	*e*P		**Pn**	**20 07 13.1**	**-0.2**
	baz=281							
NNS				*e*S		**Sn**	**20 07 21.6**	**-0.3**
	baz=281							
NTC	**Toucheng**	**0.55**	**351**	P		**Pn**	**20 07 13.5**	**0.0**
	baz=3.0							
NTC				*e*S		**Sn**	**20 07 22.6**	**+0.5**
	baz=3.0							
NWLT	**Wulai**	**0.60**	**320**	*e*P		**Pn**	**20 07 13.9**	**-0.3**
	baz=315							
NWLT				*e*S		**Sn**	**20 07 22.8**	**-0.6**
	baz=315							
YHNB	**Yeheng**	**0.62**	**305**	P		**Pn**	**20 07 14.1**	**-0.3**
	baz=297							
YHNB				*e*S		**Sn**	**20 07 23.3**	**-0.4**
	baz=297							
FUSS	**Fushou**	**0.63**	**264**	P		**Pn**	**20 07 14.5**	**-0.2**
	baz=257							
FUSS				*e*S		**Sn**	**20 07 23.7**	**-0.5**
	baz=257							
WHF	**Hehuan Shan**	**0.63**	**255**	*i* P		**Pn**	**20 07 14.4**	**-0.4**
	baz=250							
WHF				*e*S		**Sn**	**20 07 24.1**	**-0.4**
	baz=250							
NSK	**Sanguang**	**0.63**	**305**	P		**Pn**	**20 07 14.3**	**-0.3**
	baz=298							
NSK				*e*S		**Sn**	**20 07 23.4**	**-0.8**
	baz=298							
TIPB	**Shuangxi**	**0.66**	**352**	*i* P		**Pn**	**20 07 14.9**	**0.0**
	baz=348							
TIPB				*e*S		**Sn**	**20 07 25.0**	**+0.3**
	baz=348							
ESL	**Shilin**	**0.67**	**222**	P		**Pn**	**20 07 14.1**	**-0.9**
	baz=224							
ESL				*e*S		**Sn**	**20 07 24.2**	**-0.6**
	baz=224							
TWT	**Tachien**	**0.69**	**265**	*e*P		**Pn**	**20 07 15.6**	**+0.2**
	baz=255							
TWT				*e*S		**Sn**	**20 07 25.4**	**-0.1**
	baz=255							
TWB1	**Santiao Chiao**	**0.69**	**5**	*i* P		**Pn**	**20 07 14.8**	**-0.5**
	baz=20							
TWB1				*e*S		**Sn**	**20 07 26.0**	**+0.6**
	baz=20							
TDCB	**Techi**	**0.70**	**265**	P		**Pn**	**20 07 15.5**	**0.0**
	baz=255							
TDCB				*e*S		**Sn**	**20 07 25.5**	**-0.3**
	baz=255							
CHGB	**Renai**	**0.73**	**250**	P		**Pn**	**20 07 15.8**	**-0.2**
	baz=240							
CHGB				*e*S		**Sn**	**20 07 26.8**	**+0.2**
	baz=240							
TWA	**Mucha**	**0.73**	**335**	P		**Pn**	**20 07 15.6**	**-0.2**
	baz=327							
TWA				*e*S		**Sn**	**20 07 26.1**	**-0.2**
	baz=327							
NWF	**Wu-fen Shan**	**0.77**	**350**	P		**Pn**	**20 07 16.3**	**0.0**
	baz=354							
NWF				*e*S		**Sn**	**20 07 27.2**	**+0.1**
	baz=354							
WFSB	**Wu-fen Shan**	**0.77**	**350**	P		**Pn**	**20 07 16.2**	**0.0**
	baz=354							
WFSB				*e*S		**Sn**	**20 07 27.2**	**+0.2**
	baz=354							
TATO	**Taipei**	**0.77**	**329**	*e*P		**Pn**	**20 07 16.5**	**+0.2**
	baz=331							
TATO				*e*S		**Sn**	**20 07 25.7**	**-1.3**
	baz=331							
OWD	**Renai**	**0.77**	**243**	*i* P		**Pn**	**20 07 16.0**	**-0.4**
	baz=234							
OWD				*e*S		**Sn**	**20 07 26.6**	**-0.7**
	baz=234							
EGFH	**Guangfu**	**0.79**	**216**	*e*P		**Pn**	**20 07 15.4**	**-1.1**
	baz=221							
EGFH				*e*S		**Sn**	**20 07 26.5**	**-0.9**
	baz=221							
YM01	**YM01**	**0.89**	**339**	P		**Pn**	**20 07 17.3**	**-0.6**
	baz=331							
YM01				*e*S		**Sn**	**20 07 29.4**	**-0.5**
	baz=331							
LIOB	**Emei**	**0.90**	**292**	P		**Pn**	**20 07 17.7**	**-0.2**
	baz=291							
LIOB				*e*S		**Sn**	**20 07 30.6**	**+0.6**
	baz=291							
WHP	**Taichung City**	**0.90**	**268**	P		**Pn**	**20 07 18.6**	**+0.6**
	baz=265							
WHP				*e*S		**Sn**	**20 07 30.2**	**0.0**
	baz=265							
NSTT	**Nanjuang**	**0.90**	**291**	*e*P		**Pn**	**20 07 17.9**	**0.0**
	baz=290							
NSTT				*e*S		**Sn**	**20 07 30.1**	**0.0**
	baz=290							
YM10	**YM10**	**0.90**	**338**	P		**Pn**	**20 07 17.5**	**-0.6**
	baz=331							
YM10				*e*S		**Sn**	**20 07 29.6**	**-0.6**
	baz=331							
YM11	**YM11**	**0.91**	**339**	P		**Pn**	**20 07 18.0**	**-0.1**
	baz=332							
YM11				*e*S		**Sn**	**20 07 29.6**	**-0.8**
	baz=332							
YM05	**YM05**	**0.91**	**339**	P		**Pn**	**20 07 17.6**	**-0.6**
	baz=331							
YM05				*e*S		**Sn**	**20 07 29.8**	**-0.7**
	baz=331							
VWDT	**VWDT**	**0.91**	**232**	P		**Pn**	**20 07 17.9**	**-0.1**
	baz=222							
VWDT				*e*S		**Sn**	**20 07 30.1**	**-0.2**
	baz=222							
YM04	**YM04**	**0.91**	**337**	P		**Pn**	**20 07 17.9**	**-0.2**
	baz=329							
YM04				*e*S		**Sn**	**20 07 29.4**	**-1.0**
	baz=329							
TWS1	**Kuangyinshan**	**0.91**	**329**	*e*S		**Sn**	**20 07 30.1**	**-0.3**
	baz=332							
YM08	**YM08**	**0.92**	**341**	*e*P		**Pn**	**20 07 17.8**	**-0.5**
	baz=343							
YM08				*e*S		**Sn**	**20 07 29.4**	**-1.2**
	baz=343							
YM03	**YM03**	**0.93**	**338**	*e*P		**Pn**	**20 07 18.7**	**+0.2**
	baz=331							
YM03				*e*S		**Sn**	**20 07 29.9**	**-1.1**
	baz=331							
HGSD	**Ruisui**	**0.94**	**210**	P		**Pn**	**20 07 18.7**	**+0.3**
	baz=216							
HGSD				*e*S		**Sn**	**20 07 31.7**	**+0.8**
	baz=216							
JYNG	**Yonagunijimaku**	**0.94**	**81**	P		**Pn**	**20 07 18.5**	**+0.1**
JYNG				S		**Sn**	**20 07 31.4**	**+0.5**
NTST	**Danshui**	**0.95**	**333**	*e*S		**Sn**	**20 07 30.6**	**-0.6**
	baz=335							
DPDB	**Guoxing**	**0.96**	**253**	P		**Pn**	**20 07 18.8**	**0.0**
	baz=248							
DPDB				*e*S		**Sn**	**20 07 31.8**	**+0.4**
	baz=248							
EHY	**Hungye**	**0.98**	**215**	P		**Pn**	**20 07 17.4**	**-1.5**
	baz=211							
EHY				*e*S		**Sn**	**20 07 30.1**	**-1.7**
	baz=211							
YOJ	**Yonaguni jima**	**1.00**	**81**	P		**Pn**	**20 07 19.7**	**+0.5**
	baz=73							
YOJ				*e*S		**Sn**	**20 07 32.6**	**+0.3**
	baz=73							
YOJ	**Yonaguni jima**	**1.00**	**81**	P		**Pn**	**20 07 19.3**	**+0.1**
YOJ				S		**Sn**	**20 07 32.6**	**+0.3**
TWY	**Chenhua**	**1.00**	**343**	*e*P		**Pn**	**20 07 19.1**	**-0.2**
	baz=346							
TWY				*e*S		**Sn**	**20 07 32.6**	**+0.1**
	baz=346							
SMLT	**Sun Moon Lake**	**1.03**	**246**	*e*P		**Pn**	**20 07 19.9**	**+0.1**
	baz=235							
SMLT				*e*S		**Sn**	**20 07 34.3**	**+0.9**
	baz=235							
SSLB	**Suanglung**	**1.03**	**240**	P		**Pn**	**20 07 19.4**	**-0.3**
	baz=233							
SSLB				*e*S		**Sn**	**20 07 33.8**	**+0.6**
	baz=233							
TWQ1	**Liyutan**	**1.05**	**272**	*e*P		**Pn**	**20 07 19.6**	**-0.3**
	baz=269							
TWQ1				*e*S		**Sn**	**20 07 34.1**	**+0.3**
	baz=269							
NMLH	**Miaoli**	**1.06**	**282**	*e*S		**Sn**	**20 07 33.4**	**-0.5**
	baz=281							
TYC	**Yuchr**	**1.06**	**248**	*e*P		**Pn**	**20 07 20.2**	**+0.2**
	baz=238							
TYC				*e*S		**Sn**	**20 07 34.6**	**+0.8**
	baz=238							
YULB	**Yu-li**	**1.08**	**212**	*e*P		**Pn**	**20 07 18.9**	**-1.5**
	baz=209							
YULB				*e*S		**Sn**	**20 07 32.8**	**-1.7**
	baz=209							
EYUL	**Yuli**	**1.11**	**210**	*e*P		**Pn**	**20 07 20.4**	**-0.4**
	baz=215							
EYUL				*e*S		**Sn**	**20 07 34.9**	**-0.2**
	baz=215							
TWF1	**Yuli**	**1.12**	**211**	*e*P		**Pn**	**20 07 19.4**	**-1.4**
	baz=215							
TWF1				*e*S		**Sn**	**20 07 34.1**	**-1.1**
	baz=215							
TCU	**Taichung**	**1.16**	**262**	*e*S		**Sn**	**20 07 35.8**	**-0.3**
	baz=270							
WHYT	**Xinyi Township**	**1.16**	**238**	*e*P		**Pn**	**20 07 22.2**	**+0.7**
	baz=234							
WHYT				*e*S		**Sn**	**20 07 38.3**	**+2.0**
	baz=234							
WJS	**Zhushan**	**1.20**	**246**	*e*P		**Pn**	**20 07 23.1**	**+1.1**
	baz=234							
WJS				*e*S		**Sn**	**20 07 38.9**	**+1.7**
	baz=234							
WNT	**Mingjian**	**1.22**	**249**	*e*P		**Pn**	**20 07 22.0**	**-0.2**
	baz=258							
WNT				*e*S		**Sn**	**20 07 39.0**	**+1.4**
	baz=258							
FULB	**Fuli**	**1.25**	**208**	*e*P		**Pn**	**20 07 22.2**	**-0.4**
	baz=213							
FULB				*e*S		**Sn**	**20 07 38.3**	**-0.2**
	baz=213							
ALS	**Alishan**	**1.30**	**232**	P		**Pn**	**20 07 23.9**	**+0.3**
	baz=221							
ALS				*e*S		**Sn**	**20 07 42.0**	**+1.9**
	baz=221							
CHKT	**Chengkung**	**1.31**	**203**	*e*S		**Sn**	**20 07 38.1**	**-1.9**
	baz=192							
CHN5	**Tsauling**	**1.35**	**238**	P		**Pn**	**20 07 24.7**	**+0.6**
	baz=235							
CHN5				*e*S		**Sn**	**20 07 42.6**	**+1.7**
	baz=235							
ELDTW	**Lidau**	**1.40**	**217**	*e*P		**Pn**	**20 07 24.1**	**-0.6**
	baz=209							
ELDTW				*e*S		**Sn**	**20 07 41.7**	**-0.4**
	baz=209							
WGK	**Gukeng**	**1.40**	**244**	*e*S		**Sn**	**20 07 44.2**	**+2.2**
	baz=240							
WDLH	**Douliu**	**1.42**	**244**	*e*P		**Pn**	**20 07 24.9**	**+0.1**
	baz=253							
WDLH				*e*S		**Sn**	**20 07 44.0**	**+1.6**
	baz=253							
EDH	**Donghe**	**1.45**	**203**	*e*P		**Pn**	**20 07 24.1**	**-1.2**
	baz=194							
EDH				*e*S		**Sn**	**20 07 41.4**	**-1.9**
	baz=194							
RLNB	**Erlin**	**1.49**	**254**	*e*S		**Sn**	**20 07 44.2**	**-0.1**
	baz=262							
WTK	**Tuku**	**1.54**	**246**	P		**Pn**	**20 07 26.6**	**0.0**
	baz=255							
WTK				*e*S		**Sn**	**20 07 46.0**	**+0.6**
	baz=255							
CHN4	**Tsaushan**	**1.55**	**232**	P		**Pn**	**20 07 28.1**	**+1.4**
	baz=221							
CHN4				*e*S		**Sn**	**20 07 48.3**	**+2.5**
	baz=221							
TPUB	**Ta-pu**	**1.56**	**230**	P		**Pn**	**20 07 27.4**	**+0.5**
	baz=219							
TPUB				*e*S		**Sn**	**20 07 47.7**	**+1.7**
	baz=219							
STYT	**Tauyuan**	**1.57**	**223**	*e*P		**Pn**	**20 07 27.8**	**+0.7**
	baz=212							
STYT				*e*S		**Sn**	**20 07 47.4**	**+1.2**
	baz=212							
WTCT	**Ta-ch'eng**	**1.57**	**254**	*e*S		**Sn**	**20 07 45.9**	**-0.2**
	baz=250							
WTP	**Ta-pu**	**1.60**	**229**	P		**Pn**	**20 07 27.9**	**+0.4**
	baz=225							
WTP				*e*S		**Sn**	**20 07 49.9**	**+2.8**
	baz=225							
IRIF	**Iriomote-Funau**	**1.64**	**89**	P		**Pn**	**20 07 27.2**	**-0.7**
IRIF				S		**Sn**	**20 07 47.8**	**-0.2**
TWGBT	**Beinan**	**1.68**	**208**	*e*P		**Pn**	**20 07 27.2**	**-1.3**
	baz=198							
TWGBT				*e*S		**Sn**	**20 07 46.9**	**-2.0**
	baz=198							
TWG	**Pinlang**	**1.68**	**208**	*e*P		**Pn**	**20 07 28.2**	**-0.3**
	baz=198							
TWG				*e*S		**Sn**	**20 07 46.8**	**-2.1**
	baz=198							
TWK	**Hsinying**	**1.68**	**232**	P		**Pn**	**20 07 29.6**	**+1.0**
	baz=228							
TWK				*e*S		**Sn**	**20 07 51.0**	**+2.0**
	baz=228							
LDUT	**Ludao**	**1.69**	**195**	*e*P		**Pn**	**20 07 26.8**	**-1.8**
	baz=186							
LDUT				*e*S		**Sn**	**20 07 46.5**	**-2.5**
	baz=186							
WSF	**Szhu**	**1.70**	**247**	*e*S		**Sn**	**20 07 49.6**	**+0.2**
	baz=254							
CHN1	**Nanshi**	**1.71**	**229**	*e*P		**Pn**	**20 07 29.4**	**+0.5**
	baz=225							
CHN1				*e*S		**Sn**	**20 07 51.5**	**+2.0**
	baz=225							
HATJ	**Hateruma jima**	**1.73**	**98**	P		**Pn**	**20 07 29.4**	**+0.2**
SGST	**Jiashian**	**1.74**	**225**	*e*P		**Pn**	**20 07 29.1**	**-0.1**
	baz=216							
SGST				*e*S		**Sn**	**20 07 51.5**	**+1.2**
	baz=216							
SLGT	**Liugui**	**1.76**	**222**	*e*P		**Pn**	**20 07 30.1**	**+0.5**
	baz=212							
SLGT				*e*S		**Sn**	**20 07 53.0**	**+2.1**
	baz=212							
ICHU	**Yijhu**	**1.78**	**238**	*e*P		**Pn**	**20 07 30.2**	**+0.4**
	baz=235							
JKRS	**Kuro-shima**	**1.90**	**92**	P		**Pn**	**20 07 32.1**	**+0.7**
JKRS				S		**Sn**	**20 07 55.1**	**+0.9**
ECL	**Taimali**	**1.93**	**208**	*e*S		**Sn**	**20 07 53.9**	**-1.1**
	baz=200							
SSD	**Sandimen**	**1.96**	**218**	*e*P		**Pn**	**20 07 33.0**	**+0.7**
	baz=209							
SSD				*e*S		**Sn**	**20 07 57.4**	**+1.6**
	baz=209							
TSMG	**Majia**	**1.99**	**217**	*e*P		**Pn**	**20 07 34.0**	**+1.3**
	baz=214							
TSMG				*e*S		**Sn**	**20 07 57.4**	**+1.0**
	baz=214							
JIJ	**Ishigaki jima**	**2.02**	**88**	P		**Pn**	**20 07 31.9**	**-1.2**
JIJ				S		**Sn**	**20 07 56.6**	**-0.6**
MASBT	**Mashibuluo**	**2.07**	**215**	*e*P		**Pn**	**20 07 34.3**	**+0.5**
	baz=213							
MASBT				*e*S		**Sn**	**20 07 59.7**	**+1.3**
	baz=213							
EAST	**Anshuo**	**2.16**	**208**	*e*P		**Pn**	**20 07 35.1**	**0.0**
	baz=199							
JISG	**Ishigakijimahi**	**2.19**	**82**	P		**Pn**	**20 07 35.1**	**-0.3**
JISG				S		**Sn**	**20 08 00.2**	**-1.1**
PHUB	**P'eng-hu**	**2.30**	**250**	*e*P		**Pn**	**20 07 36.4**	**-0.5**
	baz=247							
PHUB				*e*S		**Sn**	**20 08 00.9**	**-3.1**
	baz=247							
WDGT	**Dungji**	**2.33**	**244**	*e*P		**Pn**	**20 07 36.6**	**-0.7**
	baz=240							
WDGT				*e*S		**Sn**	**20 08 02.9**	**-1.9**
	baz=240							
SLIU	**Shizi**	**2.33**	**207**	*e*P		**Pn**	**20 07 38.0**	**+0.6**
	baz=202							
JTJ	**Tarama**	**2.55**	**82**	P		**Pn**	**20 07 40.6**	**+0.3**
JTJ				S		**Sn**	**20 08 10.6**	**+0.5**
JMJ2	**Miyako jima3**	**3.13**	**81**	P		**Pn**	**20 07 49.2**	**+1.0**
JMJ2				*e*S		**Sn**	**20 08 25.9**	**+1.6**

*GUC **25** 20:21:47.9±0.6,33.30S×69.81W,h7km±2km,ML3.6*
*NEIC **25** 20:21:48.5±1.9,33.32S±0.04×69.78W±0.04,h16km±4km,*
Error ellipse: s-maj=6.2km s-min=5.1km az=155.0
*IDC **25** 20:21:48.9±1.3,33.01S×69.36W,h0km,mb3.8/2,*
mb1 3.8/6,mb1mx3.7/36,mbtmp3.6/6,ML3.6/4,MS3.4/1,
Ms1 3.3/1,ms1mx2.7/24,Error ellipse: s-maj=49.2km
s-min=26.1km az=106.0
ISC 25 20:21:47.2±1.3,**33.32S**±0.02×**69.78W**±0.04,**h6**km±9km,
n46,σ1.08/60,**mb3.9**/4,**6C-5D,Chile-Argentina border**
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LMEL	**Las Melosas**	**0.63**	**214**	⇑*i* P		**Pg**	**20 22 00.0**	**+0.6**
LMEL				*i* S		**Sg**	**20 22 09.6**	**+1.9**
LMEL				IAML			20 22 10.8	
	comp=N,4μm,0.2s							
MT03	**Universidad Ad**	**0.64**	**254**	⇓*i* P		**Pb**	**20 22 00.6**	**-0.2**
MT03				*i* S		**Sb**	**20 22 09.4**	**-0.6**
MT03				IAML			20 22 12.8	
	comp=N,4μm,0.1s							
PEL	**Peldehue**	**0.78**	**283**	⇑*i* P		**Pg**	**20 22 02.5**	**+0.3**
PEL				*i* S		**Sb**	**20 22 14.1**	**0.0**
PEL				IAML			20 22 14.7	
	comp=N,3μm,0.3s							
PEL	**Peldehue**	**0.78**	**283**			**Pg**	**20 22 02.8**	**+0.6**
MT05	**Renca**	**0.81**	**265**	⇓*i* P		**Pb**	**20 22 03.7**	**+0.1**
MT05				*i* S		**Sb**	**20 22 15.8**	**+0.9**
MT05				IAML			20 22 17.2	
	comp=E,5μm,0.2s							
MT05	**Renca**	**0.81**	**265**			**Pb**	**20 22 03.8**	**+0.1**
MT05						**Sb**	**20 22 15.9**	**+1.1**
VA03	**San Esteban**	**0.85**	**310**	⇑*i* P		**Pg**	**20 22 04.1**	**+0.5**
VA03				*i* S		**Sb**	**20 22 16.5**	**+0.1**
VA03				IAML			20 22 17.0	
	comp=N,8μm,0.4s							
VA03	**San Esteban**	**0.85**	**310**			**Pg**	**20 22 04.1**	**+0.5**
VA03						**Sb**	**20 22 16.4**	**+0.1**
ROCH	**El Roble**	**1.09**	**288**	⇓*i* P		**Pg**	**20 22 08.4**	**+0.3**
ROCH				*i* S		**Sb**	**20 22 23.8**	**+0.5**
ROCH				IAML			20 22 25.1	
	comp=N,3μm,0.3s							
ROC1	**El Roble**	**1.09**	**288**			**Pg**	**20 22 08.1**	**-0.1**
ROC1						**Sb**	**20 22 23.8**	**+0.5**
MT02	**Curacav**	**1.14**	**273**	⇓*i* P		**Pg**	**20 22 09.2**	**+0.1**
MT02				*i* S		**Sn**	**20 22 25.1**	**-0.6**
MT02	**Curacav**	**1.14**	**273**	Pn		**Pg**	**20 22 09.2**	**+0.1**
MT02				Sn		**Sn**	**20 22 25.2**	**-0.6**
VA01	**Torpederas**	**1.59**	**280**	*e*P		**Pn**	**20 22 16.0**	**+0.1**
VA01				*i* S		**Sb**	**20 22 37.8**	**+0.3**
VA01				IAML			20 22 40.5	
	comp=N,2μm,0.3s							
VA01	**Torpederas**	**1.59**	**280**	Pn		**Pb**	**20 22 17.0**	**-0.1**
BO02	**Sierra Bellavi**	**1.69**	**209**	⇑*e*P		**Pn**	**20 22 18.2**	**+0.9**
BO02				*i* S		**Sb**	**20 22 41.4**	**+1.2**
BO02	**Sierra Bellavi**	**1.69**	**209**			**Pn**	**20 22 19.1**	**+0.4**
ZON	**Zonda**	**2.00**	**28**			**Pn**	**20 22 23.3**	**+1.7**
CO02	**Combarbal**	**2.35**	**334**	⇑*i* P		**Pb**	**20 22 29.7**	**-0.4**
CO02				*i* S		**Sg**	**20 23 01.0**	**-1.8**
CO02	**Combarbal**	**2.35**	**334**			**Pb**	**20 22 29.3**	**-0.8**
GO05	**Huala**	**2.45**	**226**	⇓*e*P		**Pb**	**20 22 31.1**	**-0.7**
GO05				*i* S		**Sb**	**20 23 02.3**	**0.0**
GO05				IAML			20 23 09.2	
	comp=E,433nm,0.2s							
GO05	**Huala**	**2.45**	**226**	Pn		**Pb**	**20 22 31.1**	**-0.7**
CO03	**El Pedregal**	**2.59**	**342**	⇑*e*P		**Pb**	**20 22 34.6**	**+0.4**
CO03				*i* S		**Sg**	**20 23 10.2**	**-0.4**
CO03	**El Pedregal**	**2.59**	**342**			**Pb**	**20 22 34.7**	**+0.5**
GO04	**Tololo Observa**	**3.26**	**344**			**Pb**	**20 22 43.0**	**-2.6**
BI02	**San Fabin de**	**3.55**	**200**	*e*P		**Pb**	**20 22 48.3**	**-2.2**
BI02				*i* S		**Sg**	**20 23 40.1**	**-1.2**
BI02				IAML			20 23 43.3	
	comp=E,80nm,0.4s							
BI02	**San Fabin de**	**3.55**	**200**			**Pb**	**20 22 47.8**	**-2.8**
AC04	**Llanos de Chal**	**5.22**	**347**			**Pn**	**20 23 08.1**	**+2.2**
LC01	**Cunco**	**5.82**	**196**			**Pn**	**20 23 12.0**	**-2.0**
PLCA	**Paso Flores**	**7.42**	**185**	Pn		Pn	20 23 45.0	+8.9
	comp=E,0.2nm,0.3s,baz=352,slow=14,SNR=2.6							
PLCA				Pg		**Pg**	**20 24 10.7**	**+1.3**
	comp=E,0.3nm,0.3s,baz=9.6,slow=14,SNR=8.8							
PLCA				Lg		Lg	20 25 50.7	
	comp=E,0.5nm,0.3s,baz=96,slow=9.2,SNR=1.8							
LVC	**Limon Verde**	**10.70**	**4**	Lg		Lg	20 27 23.5	
	comp=E,0.3nm,0.3s,baz=270,slow=15,SNR=2.3							
CPUP	**Villa Florida**	**12.85**	**60**	Pn		Pn	20 24 46.4	-4.1
	comp=E,0.1nm,0.3s,baz=350,slow=20,SNR=2.0							
CPUP				Lg		Lg	20 28 29.9	
	comp=E,0.1nm,0.3s,baz=163,slow=17,SNR=1.9							
MNMC	**Minye Minye**	**14.13**	**1**	Pn		**Pn**	**20 25 06.3**	**-2.0**
PB16	**IPOC Station P**	**14.93**	**1**	Pn		**Pn**	**20 25 19.9**	**+0.5**
LPAZ	**La Paz**	**17.03**	**5**	Pn		**Pn**	**20 25 45.3**	**-1.4**
	comp=E,0.1nm,0.3s,baz=183,slow=19,SNR=1.6							
LPAZ	**La Paz**	**17.03**	**5**			**Pn**	**20 25 46.1**	**-0.5**
SIV	**San Ignacio**	**18.97**	**27**	P		**P**	**20 26 08.6**	**-0.7**
	comp=E,0.1nm,0.3s,baz=218,slow=13,SNR=10.0							
SAML	**Samuel**	**25.01**	**16**	P		**P**	**20 27 11.8**	**-0.2**
SAML				IAmb		IAmb	20 27 30.8	
	comp=Z,3.2nm,1.2s							
BDFB	**Brasilia**	**26.41**	**53**	LR		LR	20 39 36.6	

$M_{\theta\theta}$-2.70±.09; $M_{\phi\phi}$-0.45±.10; $M_{r\theta}$1.80±.14; $M_{\theta\phi}$-1.10±.07; M_{rr}-0.11±.18; Best double couple: M_{θ}3.62700×10^{16} NP1:ϕ_{θ}237.00000°,δ32.00000°,λ70.00000°. NP2: ϕ_{θ}80.00000°,δ60.00000°,λ102.00000°. Principal axes: T 3.7000, Plg72.0000°, Azm19.0000°; N -0.1460, Plg10.0000°, Azm254.0000°; P -3.5530, Plg14.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*DJA **25** 20:49:27.2±0.6,6°S±3°×15°2E±°,h65km±6km,M4.8/24, mb4.7/24,mB5.1/6,MLv5.2/2,Mw(mB)4.4/6*

ISC 25 20:49:25.8±0.9,**5°53S**±0°04×**151°82E**±0°06,**h45**km±7km, **n154,**σ1°**47**/160,**mb4.7**/60,**MS4.2**/31,**1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.23**	**10**	P			**Pn**	**20 49 46.9**	**+0.3**
	5μm,0.3s,baz=173,slow=1.0,SNR=1271								
KRVT				S			**Sn**	**20 50 04.5**	**+2.5**
	6μm,0.3s,baz=197,slow=19,SNR=11								
RABL	**Rabaul**	**1.37**	**15**	Pn			**Pn**	**20 49 48.6**	**+0.1**
RABL				Sn			**Sn**	**20 50 05.7**	**+0.3**
PMG	**Port Moresby**	**6.02**	**230**	P			**Pn**	**20 50 54.3**	**+2.0**
	13nm,0.3s,baz=32,slow=9.3,SNR=30								
PMG				S			**Sn**	**20 52 01.1**	**+1.2**
	13nm,0.3s,baz=69,slow=17,SNR=6.6								
PMG	**Port Moresby**	**6.02**	**230**	Pn			**Pn**	**20 50 54.0**	**+1.7**
PMG				Sn			**Sn**	**20 51 58.5**	**-1.5**
HNR	**Honiara**	**8.95**	**116**	LR			LR	20 54 29.1	
	comp=Z,958nm,21.4s,baz=286,slow=34								
SMPI	**Sarmi**	**13.54**	**285**	P			**P**	**20 52 41.1**	**-2.3**
	656nm26nm,0.9s								
PATS	**Pohnpei**	**13.89**	**28**	Pn			**Pn**	**20 52 40.5**	**+0.4**
CTA	**Charters Tower**	**15.45**	**200**	P			**Pn**	**20 53 00.8**	**-0.1**
	0.1nm,0.3s,baz=43,slow=19,SNR=2.1								
CTA				LR			LR	20 59 05.5	
	comp=Z,577nm,18.2s,baz=28,slow=38								
CTAO	**Charters Tower**	**15.45**	**200**				**Pn**	**20 53 02.7**	**+1.8**
FAKI	**Fak Fak**	**19.68**	**277**	P			**Pn**	**20 53 52.3**	**-0.8**
EIDS	**Eidsvold**	**19.74**	**182**				**P**	**20 53 52.4**	**+0.5**
GUMO	**Guam**	**20.20**	**340**	LR			LR	21 00 15.3	
	comp=Z,218nm,21.8s,baz=155,slow=32								
SAUI	**Saumlaki**	**20.52**	**262**	P			Pn	20 54 02.4	-0.6
SIJI	**Sorong**	**21.03**	**282**	P			**P**	**20 54 07.5**	**+1.5**
	19nm,0.8s,baz=61,slow=9.3,SNR=8.2								
MTN	**Manton Dam**	**21.66**	**249**	P			**P**	**20 54 14.0**	**+1.2**
DZM	**Mont Dzumac**	**21.70**	**141**	P			**P**	**20 54 13.5**	**+0.3**
	5.1nm,0.5s,baz=260,slow=12,SNR=9.4								
DZM				LR			LR	21 01 55.4	
	comp=Z,1μm,19.4s,baz=221,slow=34								
DZM	**Mont Dzumac**	**21.70**	**141**	*e*S			**S**	**20 58 05.1**	**-6.0**
	366nm,23.4s								
DZM				*e*LR			LR	20 59 34.3	
	comp=Z,1μm,22.9s								
DZM	**Mont Dzumac**	**21.70**	**141**	P			**P**	**20 54 13.2**	**+0.1**
WB0	**Warramunga Arr**	**22.09**	**229**	P			**P**	**20 54 17.0**	**-0.3**
WB0				IAmb			IAmb	20 54 35.0	
	comp=Z,22nm,0.7s								
WR0	**Warramunga Arr**	**22.09**	**228**	P			**P**	**20 54 17.7**	**+0.3**
WR0				IAmb			IAmb	20 54 35.0	
	comp=Z,19nm,0.7s								
WB2	**Warramunga Arr**	**22.23**	**228**	P			**P**	**20 54 18.6**	**-0.2**
WB2				IAmb			IAmb	20 54 36.4	
	comp=Z,20nm,0.8s								
WRA	**Warramunga Arr**	**22.23**	**228**	P			**P**	**20 54 18.5**	**-0.4**
	comp=Z,15nm,0.7s,baz=53,slow=9.6,SNR=84								
WRA				PcP			**PcP**	**20 58 14.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=47,slow=2.0,SNR=2.9								
WRA				S			**S**	**20 58 17.9**	**-3.2**
	comp=Z,2.4nm,1.0s,baz=64,slow=17,SNR=4.1								
WRA				ScP			**ScP**	**21 01 49.8**	**+1.6**
	comp=Z,0.8nm,1.0s,baz=44,slow=2.7,SNR=3.8								
WRA				LR			LR	21 03 42.0	
	comp=Z,461nm,19.5s,baz=55,slow=38								
ARMA	**Armidale**	**24.76**	**180**	P			**P**	**20 54 44.2**	**+0.8**
KNRA	**Kununurra**	**24.77**	**244**	P			**P**	**20 54 44.0**	**+0.4**
AS31	**Alice Springs**	**24.96**	**222**	P			**P**	**20 54 45.1**	**-0.1**
AS31				IAmb			IAmb	20 54 55.5	
	comp=Z,7.6nm,0.6s								
ASAR	**Alice Springs**	**24.96**	**222**	P			**P**	**20 54 45.2**	**-0.1**
	comp=Z,20nm,0.7s,baz=55,slow=7.7,SNR=135								
ASAR				PcP			**PcP**	**20 58 20.8**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=46,slow=4.0,SNR=1.8								
ASAR				S			**S**	**20 59 07.3**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=43,slow=14,SNR=2.5								
ASAR				ScP			**ScP**	**21 01 56.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=46,slow=4.0,SNR=2.5								
ASAR				LR			LR	21 04 21.6	
	comp=Z,352nm,20.9s,baz=58,slow=36								
ASAR	**Alice Springs**	**24.96**	**222**	P			**P**	**20 54 45.5**	**+0.3**
TNTI	**Ternate**	**25.21**	**284**	P			**P**	**20 54 49.3**	**+1.8**
	comp=Z,12nm,1.0s								
SANI	**Sanana**	**26.00**	**277**	P			**P**	**20 54 56.9**	**+2.1**
	comp=Z,28nm,0.9s								
SOEI	**Soe**	**27.62**	**260**	P			**P**	**20 55 11.4**	**+1.9**
	comp=Z,46nm,0.8s								
SOEI	**Soe**	**27.62**	**260**	P			**P**	**20 55 10.4**	**+0.9**
STKA	**Stephens Creek**	**27.91**	**199**	P			**P**	**20 55 10.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=22,slow=13,SNR=5.2								
STKA				LR			LR	21 06 40.2	
	comp=Z,428nm,18.6s,baz=14,slow=37								
STKA	**Stephens Creek**	**27.91**	**199**	P			**P**	**20 55 11.8**	**+0.1**
BATI	**Baumata**	**28.26**	**259**	P			**P**	**20 55 16.4**	**+1.3**
	comp=Z,56nm,0.8s,baz=101,slow=2.1,SNR=15								
BATI				PcP			**PcP**	**20 58 26.7**	**-1.1**
	comp=Z,12nm,0.4s,baz=25,slow=9.3,SNR=4.8								
BATI	**Baumata**	**28.26**	**259**	P			**P**	**20 55 17.0**	**+1.9**
	comp=Z,26nm,0.6s								
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P			**P**	**20 55 16.4**	**-0.4**
	comp=Z,30nm,0.8s,baz=58,slow=8.0,SNR=42								
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P			**P**	**20 55 16.4**	**-0.4**
DAV	**Davao City (W)**	**29.02**	**295**	LR			LR	21 06 41.2	
	comp=Z,534nm,18.3s,baz=102,slow=36								
LUWI	**Luwuk**	**29.33**	**278**	P			**P**	**20 55 24.6**	**0.0**
LUWI				IAmb			IAmb	20 55 25.9	
	comp=Z,17nm,0.8s								
MMRI	**Maumere**	**29.51**	**262**	P			**P**	**20 55 25.8**	**-0.4**
EDFI	**Ende, Flores**	**30.06**	**262**	P			**P**	**20 55 30.3**	**-0.9**
	comp=Z,15nm,0.8s								
PLAI	**Plampang**	**33.92**	**262**	P			**P**	**20 56 03.9**	**-1.1**
	comp=Z,33nm,0.8s								
KKM	**Kota Kinabalu**	**37.35**	**287**	P			**P**	**20 56 34.4**	**-0.1**
KKM				IAmb			IAmb	20 56 45.5	
	comp=Z,14nm,1.1s								
UGM	**Wanagama**	**41.07**	**264**	P			**P**	**20 57 04.9**	**-0.6**
YULB	**Yu-li**	**41.40**	**315**	P			**P**	**20 57 08.6**	**+0.6**
YULB				IAmb			IAmb	20 57 10.8	
	comp=Z,12nm,0.9s								
RPZ	**Rata Peaks**	**41.64**	**159**	LR			LR	21 13 56.5	
	comp=Z,515nm,18.5s,baz=286,slow=35								
NACB	**Ninganchiao**	**41.70**	**316**	P			**P**	**20 57 10.0**	**-0.4**
NACB				IAmb			IAmb	20 57 13.6	
	comp=Z,15nm,1.0s								
SSLB	**Suanglung**	**41.90**	**315**	P			**P**	**20 57 11.9**	**-0.2**
SSLB				IAmb			IAmb	20 57 16.8	
	comp=Z,18nm,1.1s								
YHNB	**Yeheng**	**42.18**	**317**	P			**P**	**20 57 14.8**	**+0.3**
YHNB				IAmb			IAmb	20 57 16.5	
	comp=Z,13nm,0.8s								
JMN	**Monobe**	**42.58**	**338**	P			**P**	**20 57 17.5**	**0.0**
JNU	**Nakatsue**	**43.27**	**334**	P			**P**	**20 57 23.6**	**+0.5**
	comp=Z,12nm,0.9s,baz=113,slow=7.7,SNR=3.8								
JWT	**Wachi**	**43.43**	**340**	P			**P**	**20 57 25.0**	**+0.7**
MJAR	**Matsushiro Arr**	**43.74**	**344**	P			**P**	**20 57 24.3**	**-2.6**
	comp=Z,1.6nm,0.9s,baz=174,slow=7.7,SNR=3.0								
MJAR				PcP			**PcP**	**20 59 13.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=168,slow=3.9,SNR=4.1								
MJAR				LR			LR	21 14 26.4	
	comp=Z,186nm,20.9s,baz=190,slow=34								
MAT	**Matsushiro**	**43.75**	**344**	P			**P**	**20 57 27.3**	**+0.4**
MAT				*e*S			**S**	**21 03 53.2**	**-1.0**
CISI	**Cisompet, Garu**	**43.75**	**265**	P			**P**	**20 57 26.0**	**-1.3**
JHS	**Saijyo**	**43.99**	**338**	P			**P**	**20 57 28.0**	**-0.9**
JHS				IAmb			IAmb	20 57 47.2	
	comp=Z,24nm,1.5s								
JTM	**Tenmabayashi**	**47.13**	**349**	P			**P**	**20 57 54.4**	**+0.8**
QIZ	**Qiongzhong**	**48.00**	**302**	P			**P**	**20 58 01.0**	**+0.3**
QIZ				S			**S**	**21 04 55.3**	**-0.6**
QIZ				LR			LR		
	comp=Z,220nm,26.0s								
QIZ				LR			LR		
	comp=Z,220nm,20.9s								
QIZ				LR			LR		
	comp=Z,300nm,23.0s								
KSRS	**Korea Array**	**48.21**	**334**	P			**P**	**20 58 01.3**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=157,slow=7.6,SNR=3.0								
KSRS				PcP			**PcP**	**20 59 29.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=160,slow=4.4,SNR=2.5								
KSRS				LR			LR	21 19 30.5	
	comp=Z,111nm,18.0s,baz=169,slow=37								
NJ2	**Nanjing**	**48.80**	**322**	*e*P			**P**	**20 58 02.5**	**-4.1**
NJ2				pmax			pmax		
	comp=Z,14nm,0.7s								
NJ2				LR			LR		
	comp=Z,340nm,18.9s								
NJ2				LR			LR		
	comp=Z,290nm,18.5s								
NJ2				LR			LR		
	comp=Z,780nm,20.6s								
RAR	**Rarotonga**	**49.39**	**113**	LR			LR	21 16 54.5	
	comp=Z,55nm,20.0s,baz=294,slow=33								
KULM	**Kulim**	**52.21**	**281**	P			**P**	**20 58 32.4**	**-0.3**
KULM				IAmb			IAmb	20 58 49.4	
	comp=Z,5.7nm,1.1s								
USRK	**Ussuriysk Ar.**	**52.62**	**342**	LR			LR	21 17 39.4	
	comp=Z,129nm,21.9s,baz=162,slow=32								
ENH	**Enshi**	**53.94**	**314**	P			**P**	**20 58 44.9**	**-0.3**
ENH				IAmb			IAmb	20 58 47.2	
	comp=Z,12nm,1.0s								
GYA	**Guiyang**	**54.06**	**308**	*e*P			P	20 58 53.0	+6.7
GYA				PcP			**PcP**	**20 59 58.5**	**+7.6**
GYA				S			S	21 06 32.5	+13
GYA				sS			sS	21 06 43.5	+2.6
GYA				ScS			**ScS**	**21 08 42.0**	**+10**
GYA				pmax			pmax		
	comp=Z,4.0nm,1.0s								
GYA				LR			LR		
	comp=Z,240nm,16.5s								
GSI	**Gunungsitoli**	**54.59**	**276**	P			**P**	**20 58 48.8**	**-1.5**
XAN	**Xi'an**	**56.48**	**317**	P			**P**	**20 59 02.5**	**-1.0**
XAN				pP			sP	20 59 22.0	+0.4
XAN				S			**S**	**21 06 48.3**	**-3.4**
XAN				pmax			pmax		
	comp=Z,6.0nm,1.3s								
XAN				pmax			pmax		
	comp=Z,88nm,7.7s								
XAN				LR			LR		
	comp=Z,140nm,18.4s								
XAN				LR			LR		
	comp=Z,240nm,19.4s								
XAN				LR			LR		
	comp=Z,340nm,21.1s								
XAN	**Xi'an**	**56.48**	**317**	P			**P**	**20 59 02.2**	**-1.3**
XAN				IAmb			IAmb	20 59 05.3	
	comp=Z,9.1nm,1.3s								
CM31	**Chiang Mai Arr**	**57.30**	**296**	P			**P**	**20 59 09.6**	**0.0**
CMAR	**Chiang Mai Arr**	**57.30**	**296**	P			**P**	**20 59 10.6**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=129,slow=5.7,SNR=22								
CMAR				LR			LR	21 23 47.8	
	comp=Z,85nm,18.8s,baz=168,slow=36								
CMAR	**Chiang Mai Arr**	**57.30**	**296**	P			**P**	**20 59 09.5**	**-0.1**
CHTO	**Chiang Mai**	**57.42**	**296**	P			**P**	**20 59 09.9**	**-0.5**
PPT2	**Papeete2**	**58.45**	**107**	*e*LR			LR	21 16 32.0	
	comp=Z,92nm,21.5s								
CD2	**Chengdu**	**58.47**	**311**	*e*P			**P**	**20 59 18.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**58.62**	**4**	P			**P**	**20 59 18.8**	**-0.4**
PETK	**Petropavlovsk-**	**58.62**	**4**	P			**P**	**20 59 17.9**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=157,slow=6.5,SNR=7.6								
PETK				LR			LR	21 20 54.4	
	comp=Z,144nm,20.1s,baz=179,slow=32								
HHC	**Hu-ho-hao-te**	**59.07**	**325**	*e*P			**P**	**20 59 23.0**	**+1.4**
HHC				S			**S**	**21 07 24.8**	**-0.8**
HHC				sS			sS	21 07 49.8	+2.8
HHC				pmax			pmax		
	comp=Z,13nm,0.9s								
HHC				pmax			pmax		
	comp=Z,93nm,5.4s								
HHC				LR			LR		
	comp=Z,240nm,15.0s								
HHC				LR			LR		
	comp=Z,250nm,16.7s								
HHC				LR			LR		
	comp=Z,330nm,15.8s								
TBI	**Tubuai**	**59.16**	**114**	*e*LR			LR	21 16 50.4	
	comp=Z,170nm,32.2s								
LZH	**Lanzhou**	**61.07**	**317**	*e*P			**P**	**20 59 35.5**	**0.0**
LZH				pP			sP	20 59 51.8	-2.0
LZH				sP			pP	20 59 58.5	+10
LZH				pmax			pmax		
	comp=Z,27nm,1.3s								
LZH				LR			LR		
	comp=Z,160nm,14.6s								
LZH				LR			LR		
	comp=Z,170nm,12.5s								
LZH				LR			LR		
	comp=Z,230nm,14.6s								
ADK	**Adak**	**63.19**	**21**	P			**P**	**20 59 49.6**	**+0.5**
GTA	**Gaotai**	**65.53**	**318**	*e*P			**P**	**21 00 05.0**	**+0.1**
GTA				pP			sP	21 00 22.0	-1.3
GTA				sP			PcP	21 00 28.5	-7.9
GTA				S			**S**	**21 08 46.3**	**-0.7**
GTA				sS			sS	21 09 14.3	+5.1
GTA				pmax			pmax		
	comp=Z,3.0nm,1.2s								
GTA				pmax			pmax		
	comp=Z,99nm,7.1s								
GTA				LR			LR		
	comp=Z,98nm,19.3s								
GTA				LR			LR		
	comp=Z,150nm,18.5s								
GTA				LR			LR		
	comp=Z,180nm,19.6s								
SHL	**Shillong**	**65.83**	**301**	P			**P**	**21 00 06.2**	**-1.1**
SHL				IAmb			IAmb	21 00 08.0	
	comp=Z,4.8nm,0.8s								
ULN	**Ulaanbaatar**	**66.10**	**329**	P			**P**	**21 00 08.3**	**-0.2**
ULN				IAmb			IAmb	21 00 10.5	
	comp=Z,9.8nm,1.2s								
SONM	**Songino Array**	**66.42**	**328**	P			**P**	**21 00 10.7**	**+0.2**
	comp=Z,5.3nm,0.5s,baz=145,slow=5.3,SNR=30								
SONM				LR			LR	21 27 42.4	
	comp=Z,175nm,21.1s,baz=117,slow=35								
SONM	**Songino Array**	**66.42**	**328**	P			**P**	**21 00 10.5**	**+0.1**
LSA	**Lhasa**	**67.84**	**305**	P			**P**	**21 00 19.4**	**-0.9**
LSA				IAmb			IAmb	21 00 34.1	
	comp=Z,6.6nm,1.2s								
ODAN	**Odare**	**70.07**	**301**	*e*P			**P**	**21 00 34.1**	**+0.2**
GUN	**Gumba**	**71.66**	**302**	*e*P			**P**	**21 00 43.6**	**-0.1**
	comp=Z,11nm,0.7s								
PKI	**Pulchoki**	**71.96**	**301**	*e*P			**P**	**21 00 45.6**	**+0.1**
	comp=Z,4.2nm,0.7s								
PKIN	**Phulchoki**	**71.98**	**301**	*e*P			**P**	**21 00 45.0**	**-0.5**
	comp=Z,10.0nm,1.0s								
PALK	**Pallekele**	**72.08**	**279**	LR			LR	21 36 58.4	
	comp=Z,64nm,18.1s,baz=215,slow=40								
KKN	**Kakani**	**72.14**	**301**	*e*P			**P**	**21 00 45.8**	**-0.6**
	comp=Z,11nm,0.8s								
VNDA	**Vanda**	**72.15**	**178**	LR			LR	21 30 54.4	
	comp=Z,83nm,18.1s,baz=142,slow=34								
DMN	**Daman**	**72.23**	**301**	*e*P			**P**	**21 00 46.9**	**-0.1**
	comp=Z,15nm,0.9s								
GKN	**Gorkha**	**72.74**	**301**	*e*P			**P**	**21 00 49.3**	**-0.6**
	comp=Z,12nm,0.8s								
KOLN	**Koldanda**	**73.56**	**301**	*e*P			**P**	**21 00 54.2**	**-0.6**
	comp=Z,15nm,0.8s								
DANN	**Dangsing**	**73.58**	**302**	*e*P			**P**	**21 00 54.4**	**-0.7**
	comp=Z,26nm,0.9s								
CHGN	**Chignik**	**73.80**	**26**	P			**P**	**21 00 55.0**	**-0.3**
PYUN	**Piuthan**	**74.17**	**301**	*e*P			**P**	**21 00 57.6**	**-0.8**
	comp=Z,18nm,0.8s								
WMQ	**Urumqi**	**75.61**	**318**	*e*P			**P**	**21 01 07.8**	**+1.6**
OHAK	**Old Harbor**	**76.64**	**27**	P			**P**	**21 01 11.6**	**0.0**
OHAK				IAmb			IAmb	21 01 16.2	
	comp=Z,9.3nm,0.9s								
SVW2	**Sparrevohn**	**77.87**	**23**	P			**P**	**21 01 18.5**	**0.0**
SVW2				IAmb			IAmb	21 01 20.9	
	comp=Z,9.8nm,1.0s								
TIXI	**Tiksi**	**78.49**	**353**	P			**P**	**21 01 20.1**	**-1.5**
CNPM	**China Poot**	**78.79**	**26**	P			**P**	**21 01 23.8**	**+0.2**
MK31	**Makanchi Array**	**80.23**	**319**	P			**P**	**21 01 31.5**	**-0.3**
MKAR	**Makanchi Array**	**80.23**	**319**	P			**P**	**21 01 31.2**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=108,slow=6.3,SNR=17								
MAKZ	**Makanchi**	**80.44**	**319**	P			**P**	**21 01 32.5**	**-0.3**
MAKZ				IAmb			IAmb	21 01 33.8	
	comp=Z,4.7nm,0.9s								
ZAA0	**Zalesovo Array**	**81.21**	**327**	P			**P**	**21 01 35.4**	**-1.4**
ZAA0				IAmb			IAmb	21 01 37.0	
	comp=Z,3.1nm,0.6s								
ZALV	**Zalesovo Beam**	**81.21**	**327**	P			**P**	**21 01 35.6**	**-1.2**
	comp=Z,2.9nm,0.5s,baz=114,slow=6.2,SNR=15								
ZALV				LR			LR	21 37 23.3	
	comp=Z,111nm,20.2s,baz=96,slow=35								
PRZ	**Przheval'sk**	**81.62**	**314**	P			**P**	**21 01 39.7**	**+0.2**
PRZ				IAmb			IAmb	21 01 42.1	
	comp=Z,11nm,1.1s								
KDJ	**Kajisay**	**82.40**	**314**	P			**P**	**21 01 43.9**	**+0.3**
KDJ				IAmb			IAmb	21 01 45.6	
	comp=Z,9.7nm,0.8s								
ILAR	**Eielson Array**	**83.20**	**22**	P			**P**	**21 01 46.2**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=247,slow=5.2,SNR=22								
ILAR				LR			LR	21 36 54.3	
	comp=Z,135nm,18.7s,baz=272,slow=34								
ILAR	**Eielson Array**	**83.20**	**22**	P			**P**	**21 01 46.7**	**-0.2**
BOOM	**Boomskoye usch**	**83.38**	**314**	P			**P**	**21 01 48.6**	**0.0**
BOOM				IAmb			IAmb	21 01 50.6	
	comp=Z,5.8nm,0.7s								
NIL	**Nilore**	**83.58**	**305**	P			**P**	**21 01 49.1**	**-0.6**
NIL				IAmb			IAmb	21 01 50.8	
	comp=Z,11nm,1.1s								
KURK	**Kurchatov**	**83.74**	**322**	P			**P**	**21 01 49.4**	**-0.7**
KURK				IAmb			IAmb	21 01 51.6	
	comp=Z,12nm,1.2s								
DOT	**Dot Lake**	**83.78**	**24**	P			**P**	**21 01 50.4**	**+0.3**
DOT				IAmb			IAmb	21 01 52.2	
	comp=Z,9.9nm,1.4s								
TOLK	**Toolik Lake Re**	**84.21**	**18**	P			**P**	**21 01 52.1**	**-0.1**
TOLK				IAmb			IAmb	21 01 54.2	
	comp=Z,8.5nm,1.4s								
QSPA	**South Pole Qui**	**84.44**	**180**	P			**P**	**21 01 53.3**	**-0.3**
QSPA				IAmb			IAmb	21 02 02.8	
	comp=Z,3.9nm,0.8s								
BCAR	**Beaver Creek A**	**84.47**	**25**	P			**P**	**21 01 53.9**	**+0.3**
MAW	**Mawson**	**84.53**	**203**	P			**P**	**21 01 54.5**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=115,slow=7.3,SNR=1.8								
MAW				LR			LR	21 36 14.2	
	comp=Z,182nm,20.7s,baz=72,slow=33								
MAW	**Mawson**	**84.53**	**203**	P			**P**	**21 01 54.1**	**+0.3**
BMAR	**Burnt Mountain**	**85.26**	**20**	P			**P**	**21 01 57.9**	**+0.4**
EGAK	**Eagle**	**85.41**	**23**	P			**P**	**21 01 58.1**	**-0.1**
EGAK				IAmb			IAmb	21 02 13.4	
	comp=Z,3.0nm,0.9s								
KK31	**Karatay Array**	**87.42**	**314**	P			**P**	**21 02 08.3**	**-0.2**
KK31				IAmb			IAmb	21 02 10.7	
	comp=Z,6.3nm,1.2s								
KKAR	**Karatay Array**	**87.42**	**314**	P			**P**	**21 02 08.3**	**-0.3**
DLBC	**Dease Lake**	**88.50**	**31**	P			**P**	**21 02 14.2**	**+0.7**
SYO	**Syowa Base**	**92.66**	**200**	ĨeX			P	21 02 25.0	-7.5
NVAR	**Mina Array Bea**	**93.30**	**52**	P			**P**	**21 02 37.6**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=268,slow=6.9,SNR=5.4								
NVAR				LR			LR	21 40 49.6	
	comp=Z,188nm,18.2s,baz=273,slow=33								
NVAR	**Mina Array Bea**	**93.30**	**52**	P			**P**	**21 02 37.0**	**+0.6**
GEYT	**Ailbeck**	**96.28**	**307**	LR			LR	21 49 06.9	
	comp=Z,79nm,19.6s,baz=45,slow=37								
YKA	**Yellowknife Ar**	**96.52**	**28**	P			**P**	**21 02 49.5**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=264,slow=4.6,SNR=3.9								
YKA				LR			LR	21 42 41.5	
	comp=Z,99nm,20.1s,baz=0.0,slow=33								
PDAR	**Pinedale Array**	**100.06**	**48**	P			**Pdif**	**21 03 07.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=259,slow=3.0,SNR=4.1								
PDAR	**Pinedale Array**	**100.06**	**48**	Pdif			**Pdif**	**21 03 05.8**	**-1.2**
KOLS	**Kolonicke sedl**	**119.33**	**324**	*e*PKP			**PKiKP**	**21 08 10.7**	**+0.3**
VYHS	**Vyhne**	**121.52**	**325**	*e*PKP			**PKiKP**	**21 08 16.2**	**+1.5**
GERES	**GERESS Array B**	**124.15**	**328**	PKP			**PKiKP**	**21 08 20.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=82,slow=1.5,SNR=26								
GERES	**GERESS Array B**	**124.15**	**328**	PKPdf			**PKPdf**	**21 08 19.2**	**-0.5**
LPAZ	**La Paz**	**134.93**	**119**	PKP			**PKPdf**	**21 08 42.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=321,slow=6.5,SNR=4.1								
MDT	**Midelt**	**145.07**	**324**	PKPbc			**PKPbc**	**21 08 58.4**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=21,slow=1.8,SNR=12								
MDT	**Midelt**	**145.07**	**324**	P			**PKPdf**	**21 08 59.8**	**+0.7**
	SNR=6.4								
CZD	**Col de Zad**	**145.16**	**325**	P			**PKPdf**	**21 09 00.0**	**+0.6**
	SNR=7.1								
TZRR	**Tazzarine**	**147.09**	**322

SNZO IAmb IAmb 21 17 12.1
comp=Z,51nm,1.0s
BHW Baring Head 22.64 169 P **P** **21 17 08.9 +0.5**
THZ Tophouse 22.68 173 P **P** **21 17 09.6 +0.7**
THZ IAmb IAmb 21 17 13.1
comp=Z,43nm,1.1s
PLWZ Palliser 22.86 168 P **P** **21 17 10.6 +0.1**
KHZ Kahutara 23.41 172 P **P** **21 17 14.7 -0.7**
KHZ IAmb IAmb 21 17 16.6
comp=Z,28nm,0.6s
PMG Port Moresby 23.43 292 P **P** **21 17 17.0 +1.0**
comp=Z,29nm,0.8s,baz=122,slow=4.9,SNR=7.2
PMG Port Moresby 23.43 292 P **P** **21 17 16.6 +0.6**
PMG IAmb IAmb 21 17 19.0
comp=Z,38nm,1.1s
MTSU Mount Surprise 23.56 269 P **P** **21 17 18.4 +1.2**
baz=24,SNR=106
CNB Canberra Magne 23.73 224 P **P** **21 17 19.7 +1.1**
baz=24,SNR=144
YNG Young 23.79 227 P **P** **21 17 20.2 +1.1**
baz=24,SNR=55
CAN Canberra 23.97 224 P **P** **21 17 21.5 +0.7**
QLP Quilpie 24.07 248 P **P** **21 17 22.3 +0.5**
baz=24,SNR=29
FOZ Fox Glacier 24.23 179 P **P** **21 17 23.3 +0.4**
CMSA Cobar Meteorol 24.43 235 P **P** **21 17 25.3 +0.4**
baz=24,SNR=173
RPZ Rata Peaks 24.46 177 P **P** **21 17 25.4 +0.4**
comp=Z,14nm,0.5s,baz=307,slow=0.4,SNR=7.8
KNTN Kanton 24.84 51 P **P** **21 17 29.1 +0.3**
MLZ Mavora Lakes 26.08 182 P **P** **21 17 40.4 +0.7**
WHZ Wether Hill Ro 26.61 182 P **P** **21 17 44.8 +0.4**
TOO Toolangi 27.58 224 P **P** **21 17 53.7 +0.5**
baz=28,SNR=21
TOO Toolangi 27.58 224 P **P** **21 17 53.6 +0.4**
STKA Stephens Creek 27.79 238 P **P** **21 17 55.8 +0.7**
comp=Z,59nm,0.7s,baz=68,slow=9.4,SNR=192
STKA ScP **ScP** **21 24 34.7 +0.1**
comp=Z,3.0nm,0.8s,baz=329,slow=23,SNR=4.7
STKA Stephens Creek 27.79 238 P **P** **21 17 55.9 +0.7**
baz=28,SNR=115
STKA Stephens Creek 27.79 238 P **P** **21 17 55.5 +0.3**
STKA IAmb IAmb 21 17 56.6
comp=Z,11nm,0.6s
QIS Mount Isa 27.81 262 P **P** **21 17 55.7 +0.3**
baz=28,SNR=13
PATS Pohnpei 28.02 337 P **P** **21 17 57.3 0.0**
ARPS Mount Arapiles 29.64 228 P **P** **21 18 12.0 +0.5**
baz=30,SNR=18
MOO Moorlands 29.69 214 P **P** **21 18 12.4 +0.6**
baz=30,SNR=16
TAU Tasmania Unive 29.95 213 P **P** **21 18 14.1 0.0**
TAU IAmb IAmb 21 18 14.9
comp=Z,24nm,0.9s
HTT Hallett 30.44 236 P **P** **21 18 19.0 +0.4**
baz=30,SNR=19
BBOO Buckleboo 32.53 239 P **P** **21 18 37.0 +0.1**
baz=32,SNR=88
BBOO Buckleboo 32.53 239 P **P** **21 18 37.1 +0.1**
WB2 Warramunga Arr 32.77 263 P **P** **21 18 38.5 -0.7**
WB2 IAmb IAmb 21 18 41.2
comp=Z,32nm,0.8s
WRAB Tennant Creek 32.78 263 P **P** **21 18 38.4 -0.9**
WRAB IAmb IAmb 21 18 39.2
comp=Z,39nm,1.1s
WRA Warramunga Arr 32.78 263 P **P** **21 18 38.2 -1.1**
comp=Z,21nm,0.5s,baz=90,slow=8.5,SNR=344
WRA S S 21 23 34.3 -11
comp=Z,0.8nm,0.8s,baz=91,slow=15,SNR=3.1
WRA ScP **ScP** **21 24 51.0 -0.2**
comp=Z,3.7nm,1.0s,baz=88,slow=3.7,SNR=11
WRA PKiKP **PKiKP** **21 28 45.5 -2.2**
comp=Z,0.9nm,1.1s,baz=313,slow=0.2,SNR=5.0
WRA Warramunga Arr 32.78 263 P **P** **21 18 37.8 -1.6**
AS31 Alice Springs 33.06 256 P **P** **21 18 41.5 -0.2**
ASAR Alice Springs 33.06 256 P **P** **21 18 41.4 -0.3**
comp=Z,124nm,0.6s,baz=84,slow=8.8,SNR=1495
ASAR S S **21 23 46.5 -3.2**
comp=Z,3.1nm,1.0s,baz=83,slow=16,SNR=8.4
ASAR ScP **ScP** **21 24 51.6 -0.6**
comp=Z,3.8nm,0.9s,baz=103,slow=4.0,SNR=13
ASAR LR LR 21 31 53.7
comp=Z,93nm,19.1s,baz=85,slow=35
ASAR Alice Springs 33.06 256 P **P** **21 18 40.9 -0.8**
ASAR **ScP** **21 24 51.5 -0.6**
KDU Kakadu 35.82 275 P **P** **21 19 05.4 0.0**
baz=36,SNR=5.8
MTN Manton Dam 37.04 274 P **P** **21 19 15.9 0.0**
baz=37,SNR=17
MTN Manton Dam 37.04 274 P **P** **21 19 15.7 -0.2**
WRKA Warakurna 38.19 254 P **P** **21 19 25.2 -0.2**
baz=38,SNR=146
KNRA Kununurra 38.65 269 P **P** **21 19 29.0 -0.2**
baz=39,SNR=28
KNRA Kununurra 38.65 269 P **P** **21 19 28.9 -0.4**
FORT Forrest 38.79 245 P **P** **21 19 30.1 -0.2**
baz=39,SNR=37
FORT Forrest 38.79 245 P **P** **21 19 30.0 -0.3**
FAKI Fak Fak 39.55 290 P **P** **21 19 36.0 -0.8**
FITZ Fitzroy Crossi 41.17 264 P **P** **21 19 50.7 +0.6**
comp=Z,83nm,0.6s
FITZ LR LR 21 35 57.9
comp=Z,56nm,19.2s,baz=100,slow=34
FITZ Fitzroy Crossi 41.17 264 P **P** **21 19 50.5 +0.4**
baz=41,SNR=78
FITZ Fitzroy Crossi 41.17 264 P **P** **21 19 50.4 +0.3**
KMBL Kambalda 44.12 245 P **P** **21 20 13.1 -0.7**
baz=44,SNR=6.2
SOEI Soe 44.37 276 P **P** **21 20 16.2 +0.1**
comp=Z,20nm,0.9s
SOEI Soe 44.37 276 P **P** **21 20 15.8 -0.3**
BATI Baumata 44.80 275 P **P** **21 20 20.6 +1.2**
comp=Z,20nm,0.7s,baz=158,slow=5.4
BATI Baumata 44.80 275 P **P** **21 20 20.2 +0.8**
comp=Z,18nm,1.0s
PSA00 Pilbara Seismi 46.13 258 P **P** **21 20 29.7 -0.1**
MMRI Maumere 46.62 276 P **P** **21 20 33.3 -0.3**
MEEK Meekatharra 46.89 251 P **P** **21 20 35.4 -0.2**
baz=47,SNR=42
EDFI Ende, Flores 47.09 276 P **P** **21 20 37.3 -0.1**
comp=Z,4.2nm,0.7s
KLBR Kellerberrin 47.65 244 P **P** **21 20 40.4 -1.0**
baz=48,SNR=29
NWAO Narrogin (SRO) 48.15 243 P **P** **21 20 45.0 -0.3**
baz=48,SNR=7.9
NWAO Narrogin (SRO) 48.15 243 P **P** **21 20 44.8 -0.5**
NWAO IAmb IAmb 21 20 45.6
comp=Z,44nm,0.8s
BLDU Ballidu 48.52 246 P **P** **21 20 47.3 -0.9**
baz=48,SNR=14
LUWI Luwuk 48.89 286 P **P** **21 20 51.9 +0.8**
comp=Z,2µmcomp=Z,15nm,0.8s
MUN Mundaring 48.98 244 P **P** **21 20 51.8 +0.2**
baz=49,SNR=4.3
MORW Morawa 49.11 248 P **P** **21 20 52.3 -0.3**
baz=49,SNR=9.7
MORW Morawa 49.11 248 P **P** **21 20 52.3 -0.3**
MORW IAmb IAmb 21 20 53.0
comp=Z,20nm,0.8s
GIRL Giralia 51.18 256 P **P** **21 21 09.5 +1.2**
baz=51,SNR=4.1
GIRL Giralia 51.18 256 P **P** **21 21 09.2 +0.9**
AIN Ainahou 51.73 44 P **P** **21 21 12.9 +0.4**
OPA Opana 51.82 40 P **P** **21 21 13.3 +0.4**
HMH Humu'ula Sheep 51.88 44 P **P** **21 21 14.5 +0.8**
JCJ Chichijima 52.96 330 P **P** **21 21 20.9 -0.4**
UGM Wanagama 57.87 273 P **P** **21 21 56.2 -0.6**
VNDA Vanda 58.44 182 P **P** **21 21 59.3 -0.3**
comp=Z,2.1nm,0.6s,baz=355,slow=6.6,SNR=7.5
VNDA Vanda 58.44 182 P **P** **21 21 59.5 -0.1**
CASY Casey 60.10 203 P **P** **21 22 10.6 -0.6**
CASY IAmb IAmb 21 22 17.1
comp=Z,20nm,1.1s
INU Inuyama 62.26 331 P **P** **21 22 26.4 +0.3**
JGF Kuroka 62.31 331 P **P** **21 22 26.4 -0.2**
JMN Monobe 62.49 327 P **P** **21 22 28.4 +0.6**
JMN IAmb IAmb 21 22 29.2
comp=Z,19nm,0.8s
MJAR Matsushiro Arr 62.71 332 P **P** **21 22 28.9 -0.3**
comp=Z,9.1nm,0.9s,baz=166,slow=7.3,SNR=32
MJAR pP **PcP** **21 23 06.6 +0.1**
comp=Z,4.0nm,0.8s,baz=161,slow=4.9,SNR=3.2
MJAR Matsushiro Arr 62.71 332 P **P** **21 22 28.6 -0.5**
MAJO Matsushiro 62.72 332 P **P** **21 22 29.1 -0.1**
MAJO IAmb IAmb 21 22 29.6
comp=Z,12nm,0.6s
MAT Matsushiro 62.72 332 P **P** **21 22 29.0 -0.1**
JMM Marumori 62.75 335 P **P** **21 22 29.8 +0.5**
JWT Wachi 62.98 329 P **P** **21 22 31.3 +0.5**
JWT IAmb IAmb 21 22 32.4
comp=Z,16nm,0.8s
YULB Yu-li 63.06 310 P **P** **21 22 31.3 -0.4**
TPUB Ta-pu 63.48 310 P **P** **21 22 33.9 -0.6**
TPUB IAmb IAmb 21 22 34.5
comp=Z,13nm,0.8s
SSLB Suanglung 63.55 310 P **P** **21 22 34.3 -0.6**
SSLB IAmb IAmb 21 22 35.0
comp=Z,8.0nm,0.7s
JNU Nakatsue 63.62 325 P **P** **21 22 35.4 +0.2**
JNU IAmb IAmb 21 22 36.2
comp=Z,26nm,0.9s
YHNB Yeheng 63.79 311 P **P** **21 22 36.9 +0.3**
JHS Saijyo 63.88 327 P **P** **21 22 37.1 +0.3**
JHS IAmb IAmb 21 22 37.9
comp=Z,16nm,0.7s
JSD Sado 63.94 333 P **P** **21 22 37.8 +0.6**
JTM Tenmabayashi 65.17 337 P **P** **21 22 45.4 +0.3**
ERM Erimo 65.51 339 P **P** **21 22 47.9 +0.7**
JKA Kamikawa-asahi 67.57 340 P **P** **21 23 01.3 +1.0**
KSRS Korea Array 68.46 326 P **P** **21 23 06.4 +0.4**
comp=Z,1.4nm,0.6s,baz=139,slow=5.5,SNR=7.6
YSS Yuzh-Sakhalins 70.05 341 P **P** **21 23 16.7 +1.1**
QSPA South Pole Qui 70.82 180 P **P** **21 23 20.1 -0.2**
USRK Ussuriysk Ar. 71.70 333 P **P** **21 23 26.5 +1.0**
comp=Z,7.6nm,0.8s,baz=137,slow=4.9,SNR=12
USRK Ussuriysk Ar. 71.70 333 P **P** **21 23 26.3 +0.8**
USA0B Ussuriysk Arra 71.70 333 P **P** **21 23 26.5 +0.9**
ADK Adak 71.88 9 P **P** **21 23 26.4 -0.1**
ADK IAmb IAmb 21 23 33.0
comp=Z,18nm,1.0s
GSTR Great Sitkin T 72.18 10 P **P** **21 23 27.9 -0.5**
PET Petropavlovsk 72.53 353 P **P** **21 23 30.5 +0.2**
ATKA Atka Island 72.60 11 P **P** **21 23 29.9 -0.8**
ATKA IAmb IAmb 21 23 31.1
comp=Z,24nm,0.8s
PEA0B Petropavlovsk- 72.72 353 P **P** **21 23 31.6 +0.2**
PEA0B IAmb IAmb 21 23 45.5
comp=Z,32nm,1.1s
PETK Petropavlovsk- 72.72 353 P **P** **21 23 32.2 +0.8**
comp=Z,15nm,0.6s,baz=132,slow=5.6,SNR=41
PETK Petropavlovsk- 72.72 353 P **P** **21 23 31.9 +0.4**
MDJ Mudanjiang 73.08 332 P **P** **21 23 34.2 +0.4**
MDJ IAmb IAmb 21 23 35.7
comp=Z,17nm,0.9s
NIKH Nikolski High 74.39 14 P **P** **21 23 40.9 -0.2**
CN2 Changchun 74.42 329 *e*P **P** **21 23 41.0 -0.6**
CN2 *e*PP **PP** **21 26 31.5 +1.3**
CN2 pmax pmax
comp=Z,30nm,0.6s
UNV Unalaska Valle 75.73 15 P **P** **21 23 48.2 -0.7**
UNV IAmb IAmb 21 23 49.1
comp=Z,18nm,0.8s
GYA Guiyang 75.76 305 *e*P **P** **21 23 49.5 -0.3**
GYA pP pP 21 24 31.8 +5.4
GYA pmax pmax
comp=Z,4.0nm,1.6s
AKUT Akutan 76.18 15 P **P** **21 23 50.3 -1.0**
AKUT IAmb IAmb 21 24 01.6
comp=Z,41nm,1.0s
BJT Baijiatuau 76.88 321 P **P** **21 23 56.2 +0.5**
BJI Beijing 76.89 321 P **P** **21 23 56.3 +0.6**
BJI pmax pmax
comp=Z,13nm,0.7s
XAN Xi'an 78.06 313 P **P** **21 24 03.0 +0.6**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN Xi'an 78.06 313 P **P** **21 24 01.9 -0.5**
MAW Mawson 78.41 202 P **P** **21 24 04.4 +0.7**
comp=Z,9.5nm,0.7s,baz=120,slow=5.4,SNR=29
MAW Mawson 78.41 202 P **P** **21 24 04.5 +0.7**
baz=78,SNR=19
MAW Mawson 78.41 202 P **P** **21 24 04.1 +0.3**
CNBA Chernabura Isl 78.43 18 P **P** **21 24 03.0 -0.9**
CMAR Chiang Mai Arr 78.44 294 P **P** **21 24 06.1 +1.3**
comp=Z,1.3nm,0.7s,baz=131,slow=3.9,SNR=12
CMAR pP **pP** **21 24 44.1 +2.5**
comp=Z,0.7nm,0.7s,baz=126,slow=4.2,SNR=2.0
CMAR Chiang Mai Arr 78.44 294 P **P** **21 24 05.4 +0.6**
CHTO Chiang Mai 78.59 295 P **P** **21 24 05.5 -0.2**
SDPT Sand Point 78.64 17 P **P** **21 24 04.3 -0.7**
SDPT IAmb IAmb 21 24 04.9
comp=Z,27nm,0.8s
CHGN Chignik 80.05 18 P **P** **21 24 12.0 -0.6**
HHC Hu-ho-hao-te 80.17 319 *e*P **P** **21 24 13.5 -0.3**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,210nm,8.4s
SII Sitkinak Islan 81.54 20 P **P** **21 24 20.8 +0.1**
OHAK Old Harbor 82.37 20 P **P** **21 24 25.2 +0.3**
LZH Lanzhou 82.67 312 *e*P **P** **21 24 28.5 +1.3**
LZH pP pP 21 25 08.5 +4.1
LZH sP sP 21 25 25.5 +5.4
LZH pmax pmax
comp=Z,18nm,1.1s
KDAK Kodiak Island 83.05 20 P **P** **21 24 28.8 +0.4**
KDAK IAmb IAmb 21 24 29.8
comp=Z,28nm,0.9s
CNPM China Poot 84.87 19 P **P** **21 24 37.5 -0.2**
SYO Syowa Base 84.92 196 *e*pP pP 21 25 17.0 +1.9
BRLK Bradley Lake 85.17 19 P **P** **21 24 38.5 -0.6**
BRLK IAmb IAmb 21 24 40.1
comp=Z,16nm,0.9s
RSO Redoubt South 85.17 18 P **P** **21 24 39.0 -0.4**
KCPM Cahto Peak 85.77 46 P **P** **21 24 43.3 +0.5**
HOPS Hopland Field 85.79 46 P **P** **21 24 43.3 +0.7**
HOPS IAmb IAmb 21 24 44.4
comp=Z,29nm,1.0s
SAO San Andreas Ge 85.87 49 P **P** **21 24 42.9 -0.3**
SAO IAmb IAmb 21 24 45.4
comp=Z,23nm,1.1s
KMRM Mail Ridge 85.95 45 P **P** **21 24 44.5 +1.0**
JCC Jacoby Creek, 86.03 44 P **P** **21 24 44.4 +0.6**
PMPB Monarch Peak 86.08 50 P **P** **21 24 45.2 +0.9**
PMPB IAmb IAmb 21 24 51.2
comp=Z,20nm,1.0s
O22K Cooper Landing 86.09 19 P **P** **21 24 43.9 +0.3**
PKM Mcpherson Peak 86.20 51 P **P** **21 24 46.0 +0.9**
baz=244
SMMC Simmler 86.26 51 P **P** **21 24 46.3 +1.2**
baz=243
PAGB Antelope Grade 86.26 50 P **P** **21 24 46.2 +1.1**
PAGB IAmb IAmb 21 24 46.8
comp=Z,11nm,0.7s
TTA Tatalina 86.35 15 P **P** **21 24 44.9 0.0**
KRMB Red Mountain 86.45 44 P **P** **21 24 46.8 +0.8**
KRMB IAmb IAmb 21 24 52.3
comp=Z,19nm,1.0s
O02D Mt. Diablo Mer 86.55 45 P **P** **21 24 48.1 +1.6**
baz=241,SNR=5.4
SUA Susitna One 86.56 18 P **P** **21 24 44.5 -1.6**
SUA IAmb IAmb 21 24 46.5
comp=Z,9.2nm,0.8s
RC01 Rabbit Creek A 86.57 19 P **P** **21 24 45.6 -0.4**
baz=218
ULN Ulaanbaatar 86.82 323 P **P** **21 24 47.8 +0.1**
ULN IAmb IAmb 21 24 49.1
comp=Z,18nm,1.1s
YAK Yakutsk 86.84 343 P **P** **21 24 47.2 0.0**
YAK IAmb IAmb 21 24 47.9
comp=Z,23nm,1.0s
WDC Whiskeytown Da 86.90 45 P **P** **21 24 48.5 +0.4**
WDC IAmb IAmb 21 24 49.5
comp=Z,24nm,1.1s
N02D Trinity Center 86.98 45 P **P** **21 24 49.7 +1.2**
baz=241
DECC Green Verdugo 87.03 52 P **P** **21 24 49.5 +0.6**
baz=244
ARVC Arvin 87.03 51 P **P** **21 24 49.7 +0.8**
baz=244
GTA Gaotai 87.07 313 ⇑P **P** **21 24 49.8 +0.7**
GTA pP pP 21 25 30.8 +4.3
GTA sP sP 21 25 47.3 +5.1
GTA pmax pmax
comp=Z,8.0nm,1.0s
M02C Callahan 87.08 44 P **P** **21 24 50.5 +1.5**
baz=241
ORV Oroville 87.13 46 P **P** **21 24 49.7 +0.6**
ORV IAmb IAmb 21 24 50.6
comp=Z,11nm,0.9s
VES Vestal, Richgr 87.16 51 P **P** **21 24 49.7 +0.3**
baz=244
SONM Songino Array 87.17 323 P **P** **21 24 49.6 +0.3**
comp=Z,7.5nm,0.8s,baz=152,slow=6.1,SNR=39
SONM pP **pP** **21 25 29.5 +2.6**
comp=Z,2.3nm,0.9s,baz=122,slow=5.6,SNR=2.6
SONM Songino Array 87.17 323 P **P** **21 24 49.6 +0.3**
CMB Columbia Colle 87.20 48 P **P** **21 24 50.1 +0.5**
CMB IAmb IAmb 21 24 51.0
comp=Z,18nm,0.9s
AFDM Forest Hills D 87.21 47 P **P** **21 24 49.9 +0.2**
AFDM IAmb IAmb 21 24 51.1
comp=Z,24nm,1.0s
KNK Knik Glacier 87.21 19 P **P** **21 24 48.5 -0.5**
MWC Mount Wilson 87.22 52 P **P** **21 24 50.3 +0.3**
MWC IAmb IAmb 21 24 51.1
comp=Z,19nm,0.7s
O03E Paynes Creek 87.27 46 P **P** **21 24 50.6 +0.7**
baz=242
PPLA Purkeypile 87.31 17 P **P** **21 24 48.4 -1.2**
YBH Yreka Blue Hor 87.34 44 P **P** **21 24 51.1 +0.9**
YBH IAmb IAmb 21 24 52.1
comp=Z,24nm,1.1s
GHO Glory Hole Cre 87.35 19 P **P** **21 24 49.1 -0.7**
109C Camp Elliot, M 87.38 54 P **P** **21 24 51.3 +0.8**
baz=245
BFSC Mount Baldy Ra 87.53 53 P **P** **21 24 51.7 +0.4**
baz=245,SNR=9.7
ISA Isabella, Lake 87.53 51 P **P** **21 24 52.0 +0.7**
baz=244,SNR=13
ISA Isabella, Lake 87.53 51 P **P** **21 24 51.4 +0.1**
ISA IAmb IAmb 21 24 52.9
comp=Z,20nm,0.8s
EDW2 Edwards Air Fo 87.55 52 P **P** **21 24 52.0 +0.6**
baz=245,SNR=9.0
SML Sawmill 87.55 19 P **P** **21 24 51.0 +0.3**
HUMO Hull Mountain 87.60 43 P **P** **21 24 52.0 +0.6**
HUMO IAmb IAmb 21 24 53.6
comp=Z,23nm,0.9s
MURC Murrieta 87.60 53 P **P** **21 24 51.9 +0.2**
baz=245
L04D Klamath Falls 87.84 44 P **P** **21 24 53.5 +0.8**
baz=242
I03D Drain, OR 87.88 42 P **P** **21 24 53.4 +0.8**
baz=241
SCM Sheep Creek Mo 87.88 19 P **P** **21 24 51.4 -0.9**
MONP2 Monument Peak 87.90 54 P **P** **21 24 54.0 +0.8**
baz=246,SNR=20
DIB Dawson Inlet, 87.90 31 P **P** **21 24 52.6 +0.2**
DIB IAmb IAmb 21 24 53.9
comp=Z,13nm,0.8s
M04C Macdoel 87.94 44 P **P** **21 24 53.7 +0.6**
baz=242
IKP In-Ko-Pah, Jac 88.04 55 P **P** **21 24 54.5 +0.7**
baz=246,SNR=7.2
RMX La Rumorosa 88.04 55 P **P** **21 24 54.5 +0.6**
RMX IAmb IAmb 21 24 55.7
comp=Z,18nm,0.8s
BEKR Beckworth 88.05 47 P **P** **21 24 54.0 +0.2**
BEKR IAmb IAmb 21 24 54.8
comp=Z,10nm,0.7s
KLU Klutina 88.07 20 P **P** **21 24 52.5 -0.7**
CWC Cottonwood Cre 88.15 50 P **P** **21 24 54.5 +0.1**
baz=244
PFO Pinyon Flats O 88.17 54 P **P** **21 24 54.8 +0.4**
baz=246
PFO Pinyon Flats O 88.17 54 P **P** **21 24 54.3 -0.2**
PFO IAmb IAmb 21 24 55.8
comp=Z,9.3nm,0.8s
TPFO Pinon Flats 88.17 54 P **P** **21 24 55.0 +0.6**
baz=246
TIN Tinemaha, Big 88.31 50 P **P** **21 24 55.8 +0.8**
baz=244
SWSC Sam W. Stewart 88.40 54 P **P** **21 24 56.1 +0.7**
baz=246,SNR=7.7
MPMC Manual Prospec 88.42 51 P **P** **21 24 56.4 +0.7**
baz=245,SNR=11
M24K Tolsona, Glenn 88.45 19 P **P** **21 24 56.2 +1.3**
baz=222
CRQM Cirque 88.45 21 P **P** **21 24 54.4 -0.8**
CRQM IAmb IAmb 21 25 13.5
comp=Z,10nm,1.1s
I04A Tendick Farm, 88.52 42 P **P** **21 24 56.1 +0.4**
baz=242
N25K Chitina, Valde 88.58 20 P **P** **21 24 54.7 -0.9**
baz=223
N25K Chitina, Valde 88.58 20 P **P** **21 24 54.9 -0.8**
BPAW Bear Paw Mtn. 88.60 16 P **P** **21 24 55.1 -0.5**
GSC Goldstone, Bar 88.61 52 P **P** **21 24 56.9 +0.5**
baz=245,SNR=5.8
GSC Goldstone, Bar 88.61 52 P **P** **21 24 56.4 0.0**
ISLE Juniper Island 88.62 22 P **P** **21 24 54.9 -1.0**
ISLE IAmb IAmb 21 24 55.7
comp=Z,7.9nm,0.8s
RND Reindeer 88.64 18 P **P** **21 24 54.7 -1.2**
RND IAmb IAmb 21 24 57.2
comp=Z,6.6nm,0.7s
YAH Yahtse 88.66 22 P **P** **21 24 56.0 -0.2**
BELC Belle Mtn. Jos 88.68 53 P **P** **21 24 57.7 +0.8**
baz=246,SNR=11
VRDI Verde Repeater 88.68 21 P **P** **21 24 55.3 -0.9**
GLB Gilahina Butte 88.72 21 P **P** **21 24 55.7 -0.5**
HEC Hector,Ludlow 88.76 52 P **P** **21 24 57.5 +0.4**
baz=246
NVAR Mina Array Bea 88.85 49 P **P** **21 24 58.3 +0.6**
comp=Z,8.0nm,0.9s,baz=227,slow=7.9,SNR=23
NVAR Mina Array Bea 88.85 49 P **P** **21 24 58.0 +0.4**
MCK McKinley 88.87 17 P **P** **21 24 55.3 -1.6**
baz=219
GRAC Grapevine Rang 88.91 50 P **P** **21 24 58.9 +1.2**
baz=245
TABL Table Mountain 88.93 22 P **P** **21 24 57.0 -0.5**
TABL IAmb IAmb 21 24 57.5
comp=Z,11nm,0.7s
BC3 Big Chuckawall 88.95 54 P **P** **21 24 58.8 +0.7**
baz=246,SNR=9.1
NV11 Mina Array Sit 88.95 49 P **P** **21 24 58.3 +0.2**
NV11 IAmb IAmb 21 24 59.7
comp=Z,18nm,1.1s
K05A Summer Lake 89.00 44 P **P** **21 24 58.8 +0.6**
PCA Pinnacle 89.01 23 P **P** **21 24 56.8 -0.9**
PCA IAmb IAmb 21 24 58.9
comp=Z,8.9nm,0.9s
J05D Fort Rock, OR 89.04 43 P **P** **21 24 59.4 +1.1**
baz=242
FURC Furnace Creek, 89.05 51 P **P** **21 24 59.2 +0.9**
baz=245
H04A Detroit Lake 89.09 42 P **P** **21 24 58.6 +0.3**
H04A IAmb IAmb 21 24 59.2
comp=Z,17nm,0.8s
E03A Lebam 89.14 40 P **P** **21 24 59.2 +0.8**
SNAA Sanae 89.17 183 P **P** **21 24 57.1 -1.3**
SNAA Sanae 89.17 183 P **P** **21 24 57.4 -1.0**
BARN Barnard Glacie 89.18 22 P **P** **21 24 58.1 -0.5**
BARN IAmb IAmb 21 24 58.7
comp=Z,7.6nm,0.7s
GLA Glamis 89.19 55 P **P** **21 25 00.4 +1.2**
baz=246,SNR=6.6
GLA Glamis 89.19 55 P **P** **21 24 59.7 +0.6**
GLA IAmb IAmb 21 25 01.3
comp=Z,21nm,0.8s
CTGM Chitina Glacie 89.22 22 P **P** **21 24 58.1 -0.6**
CTGM IAmb IAmb 21 24 58.8
comp=Z,7.6nm,0.7s
SHOC Shoshone, Teco 89.25 52 P **P** **21 25 00.1 +0.8**
baz=246
GMRC Granite Mounta 89.25 53 P **P** **21 25 00.1 +0.6**
baz=246,SNR=9.6
KVN Kaiserville 89.26 48 P **P** **21 25 00.1 +0.6**
KVN IAmb IAmb 21 25 01.0
comp=Z,16nm,1.0s
TUQ Turquoise Moun 89.32 52 P **P** **21 25 00.5 +0.7**
baz=246
IRM Iron Mountain 89.39 53 P **P** **21 25 00.9 +0.9**
baz=246,SNR=14
MLY Manley 89.41 16 P **P** **21 24 58.0 -1.4**
baz=218
IMAR Indian Mountai 89.44 14 P **P** **21 24 59.3 -0.1**
I05D Terrebonne, OR 89.46 42 P **P** **21 25 00.9 +0.8**
baz=242
NEA2 Nenana 89.50 17 P **P** **21 24 58.1 -1.7**
baz=219
BBB Bella Bella 89.51 33 P **P** **21 25 00.6 +0.6**
BBB IAmb IAmb 21 25 01.7
comp=Z,14nm,0.8s
F04A Amboy 89.54 40 P **P** **21 25 01.0 +0.7**

SLBS Sierra La Lagu 89.64 65 P P 21 25 02.9 +1.4
SLBS IAmb IAmb 21 25 03.6
comp=Z,11nm,0.8s
PIX Pinacate 89.67 56 P P 21 25 02.1 +0.8
PIX IAmb IAmb 21 25 02.7
comp=Z,11nm,0.8s
TPNV Topopah Spring 89.70 51 P P 21 25 02.4 +0.8
baz=246,SNR=9.8
TPNV Topopah Spring 89.70 51 P P 21 25 01.8 +0.2
E04D Cinebar 89.74 40 P P 21 25 01.7 +0.4
baz=241
VNA3 Neumayer Olymp 89.76 180 P P 21 24 59.9 -1.3
I23K Minto, Yukon-K 89.86 16 P P 21 24 60.0 -1.4
baz=219
G05D Wamic, OR 89.89 41 P P 21 25 02.9 +0.8
baz=242
D03D Eldon 89.90 39 P P 21 25 03.0 +1.0
baz=241
D04E Lakebay 89.92 39 P P 21 25 03.5 +1.5
baz=241
L26K Log Cabin Wild 90.01 20 P P 21 25 01.4 -0.8
baz=224
NEE2 Needles Airpor 90.03 53 P P 21 25 04.2 +1.3
baz=246
VNA2 Neumayer--Watz 90.05 181 P P 21 25 01.7 -0.8
RIDG Independent Ri 90.07 19 P P 21 25 01.3 -1.2
RIDG IAmb IAmb 21 25 02.1
comp=Z,11nm,1.1s
F05D White Salmon 90.10 41 P P 21 25 03.7 +0.6
baz=242
BESE Bessie Mountai 90.11 26 P P 21 25 02.4 -0.5
BESE IAmb IAmb 21 25 03.9
comp=Z,16nm,0.8s
PDMCI Parker Dam,Lak 90.21 54 P P 21 25 05.0 +1.2
baz=247,SNR=9.2
DOT Dot Lake 90.24 19 P P 21 25 02.4 -0.9
DOT IAmb IAmb 21 25 03.8
comp=Z,5.4nm,0.6s
IL31 90.25 17 P P 21 25 01.7 -1.4
ILAR Eielson Array 90.25 17 P P 21 25 01.5 -1.7
comp=Z,2.8nm,0.4s,baz=238,slow=5.3,SNR=31
SHPR Sheep Range 90.32 51 P P 21 25 04.9 +0.4
SHPR IAmb IAmb 21 25 06.4
comp=Z,11nm,0.9s
214A Organ Pipe Nat 90.33 56 P P 21 25 05.4 +0.9
baz=248,SNR=10
214A Organ Pipe Nat 90.33 56 P P 21 25 05.3 +0.9
214A IAmb IAmb 21 25 06.5
comp=Z,18nm,1.0s
POKR Poker Plat Res 90.36 17 P P 21 25 02.8 -1.0
baz=220
D05A Enumclaw 90.39 40 P P 21 25 04.8 +0.5
SKAG Skagway 90.47 25 P P 21 25 04.9 +0.5
SKAG IAmb IAmb 21 25 05.5
comp=Z,14nm,0.8s
SCRK Sand Creek 90.50 19 P P 21 25 03.7 -0.9
baz=224
HYT Haines Junctio 90.51 23 P P 21 25 04.1 -0.6
HYT IAmb IAmb 21 25 05.1
comp=Z,12nm,1.0s
BCAR Beaver Creek A 90.54 20 P P 21 25 04.0 -0.7
A04D Lummi Island 90.70 38 P P 21 25 06.6 +0.9
baz=241
TLY Talaya 90.71 325 P P 21 25 05.5 -0.3
TLY IAmb IAmb 21 25 16.2
comp=Z,13nm,1.0s
R11A Troy Canyon, C 90.75 50 P P 21 25 06.8 +0.3
baz=246
R11A Troy Canyon, C 90.75 50 P P 21 25 06.2 -0.3
PRN Pahroc Range 90.76 51 P P 21 25 07.2 +0.8
B05A Bryant 90.84 39 P P 21 25 07.1 +0.8
baz=242
J08A Circle Bar Ran 90.87 44 P P 21 25 07.4 +0.6
K27K Chicken 91.13 19 P P 21 25 07.2 -0.2
baz=225
K27K Chicken 91.13 19 P P 21 25 07.6 +0.2
COLD Coldfoot 91.29 15 P P 21 25 08.2 +0.2
baz=218
COLD Coldfoot 91.29 15 P P 21 25 08.4 +0.4
COLD IAmb IAmb 21 25 09.2
comp=Z,7.1nm,0.7s
WHY Whitehorse 91.40 24 P P 21 25 08.3 -0.5
WHY IAmb IAmb 21 25 09.1
comp=Z,9.0nm,0.8s
HAWA Hanford 91.53 41 P P 21 25 10.4 +0.8
HAWA IAmb IAmb 21 25 11.9
comp=Z,16nm,0.9s
EGAK Eagle 91.94 19 P P 21 25 10.7 -0.4
EGAK IAmb IAmb 21 25 11.7
comp=Z,10nm,0.6s
ELK Elko 91.97 47 P P 21 25 12.3 +0.2
CCUT Cedar City 92.05 51 P P 21 25 13.5 +0.9
TUC Tucson 92.06 57 P P 21 25 13.5 +1.0
baz=249
DLBC Dease Lake 92.07 27 IAmb IAmb 21 25 13.8
comp=Z,18nm,1.1s
KNB Kanab 92.25 52 P P 21 25 14.1 +0.6
B08A Colville Reser 92.52 39 P P 21 25 14.4 +0.2
B08A IAmb IAmb 21 25 15.2
comp=Z,10.0nm,1.1s
TOLK Toolik Lake Re 92.55 14 P P 21 25 13.8 -0.1
baz=219
TOLK Toolik Lake Re 92.55 14 P P 21 25 13.5 -0.4
WUAZ Wupatki 92.77 53 P P 21 25 16.8 +1.0
baz=248
BMAR Burnt Mountain 92.86 16 P P 21 25 15.5 +0.1
MTPU Mount Pierson 93.10 51 P P 21 25 18.3 +0.8
HLID Hailey 93.64 45 P P 21 25 20.3 +0.6
baz=247
NEW Newport 93.81 40 P P 21 25 20.9 +0.7
baz=245
121A Cookes Peak, D 94.51 57 P P 21 25 24.8 +0.8
baz=250
MNTX Cornudas Mount 96.16 59 P P 21 25 31.5 +0.2
baz=251
MNTX Cornudas Mount 96.16 59 P P 21 25 31.5 +0.2
ANMO Albuquerque 96.35 55 P P 21 25 32.2 -0.1
baz=251
ANMO Albuquerque 96.35 55 P P 21 25 32.0 -0.3
INK Inuvik 96.56 18 P P 21 25 31.3 -0.8
INK IAmb IAmb 21 25 33.6
comp=Z,5.7nm,1.1s
PDAR Pinedale Array 96.66 47 P P 21 25 33.5 0.0
comp=Z,0.6nm,0.5s,baz=241,slow=3.1,SNR=5.2
TXAR Lajitas Array 96.82 61 P P 21 25 35.1 +0.6
comp=Z,0.8nm,0.7s,baz=225,slow=4.8,SNR=11
TXAR Lajitas Array 96.82 61 P P 21 25 34.2 -0.2
S22A 4UR Ranch, Cre 96.97 53 P P 21 25 37.4 +2.3
baz=251
WMQ Urumqi 97.15 314 *eP* Pdif 21 25 36.5 +0.9
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,39nm,4.1s
WMQ LR LR
comp=Z,170nm,29.2s
WMQ LR LR
comp=Z,420nm,29.0s
WMQ LR LR
comp=Z,39nm,28.8s
SDCO Great Sand Dun 97.97 53 P Pdif 21 25 41.5 +1.8
baz=252
C36M Paulatuk 100.01 19 P Pdif 21 25 46.8 -0.8
baz=242
YKA Yellowknife Ar 100.69 27 P Pdif 21 25 50.9 +0.1
comp=Z,2.2nm,0.5s,baz=251,slow=4.2,SNR=8.4
MKAR Makanchi Array 101.68 316 P Pdif 21 25 56.2 +0.6
comp=Z,1.0nm,0.5s,baz=94,slow=5.5,SNR=15
MKAR PKiKP **PKiKP 21 30 18.0 -0.4**
comp=Z,0.6nm,0.8s,baz=163,slow=1.4,SNR=4.1
MKAR PKKPbc **PKKPbc 21 41 59.5 -3.7**
comp=Z,0.4nm,0.5s,baz=261,slow=4.5,SNR=7.4
MKAR Makanchi Array 101.68 316 Pdif Pdif 21 25 53.2 -2.4
ZALV Zalesovo Beam 102.07 323 P Pdif 21 25 59.7 +2.6
comp=Z,0.4nm,0.5s,baz=74,slow=5.2,SNR=3.7
ZALV PKiKP **PKiKP 21 30 18.4 -0.3**
comp=Z,0.4nm,0.3s,baz=324,slow=2.0,SNR=4.3
ZALV Zalesovo Beam 102.07 323 Pdif 21 25 55.5 -1.6
ARU Arti 117.19 324 PKPdf PKPdf 21 30 46.2 -0.9
GEYT Alibeck 117.95 303 PKP PKPdf 21 30 49.0 -0.3
comp=Z,1.9nm,0.8s,baz=247,slow=3.1,SNR=4.8
GEYT Alibeck 117.95 303 PKPdf 21 30 48.8 -0.4
ARCES ARCESS Array B 125.04 345 PKP PKPdf 21 31 01.1 -0.8
comp=Z,4.4nm,0.3s,baz=68,slow=2.3,SNR=170
FINES FINESS Array B 130.55 338 PKhKP PKPpre 21 31 04.9
comp=Z,1.7nm,0.7s,baz=108,slow=4.5,SNR=7.9
FINES PKP **PKPdf 21 31 12.2 -0.4**
comp=Z,1.1nm,0.5s,baz=82,slow=2.8,SNR=7.9
FINES SKPbc **SKPbc 21 34 20.9 -1.5**
comp=Z,4.1nm,0.6s,baz=67,slow=3.8,SNR=21
NB2 NORSAR Subarra 135.42 345 PKPdf **PKPdf 21 31 21.3 -0.5**
comp=Z,1.6nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 135.42 345 PKP **PKPdf 21 31 21.9 +0.1**
comp=Z,1.5nm,0.6s,baz=34,slow=2.1,SNR=4.5
AKASG Malin Array Be 135.44 324 PKP **PKPdf 21 31 21.4 -0.7**
comp=Z,1.3nm,0.4s,baz=57,slow=2.0,SNR=8.8
AKASG SKPbc **SKPbc 21 34 38.3 -1.1**
comp=Z,5.7nm,1.0s,baz=46,slow=3.9,SNR=8.1
AKASG Malin Array Be 135.44 324 PKPdf **PKPdf 21 31 21.1 -1.0**
BRTR Keskin Array B 136.75 308 PKP **PKPdf 21 31 25.1 0.0**
comp=Z,1.6nm,0.9s,baz=323,slow=3.9,SNR=4.0
BRTR SKPbc **SKPbc 21 34 43.8 -0.2**
comp=Z,2.9nm,1.1s,baz=108,slow=4.7,SNR=4.1
SORM Soroca 137.20 321 ⇑P **PKPdf 21 31 24.5 -0.9**
MILM Milestii Mici 137.49 320 ⇑P **PKPdf 21 31 26.3 +0.3**
CFR Carcaliu 138.68 318 ⇓P **PKPdf 21 31 26.4 -1.9**
BIZ Bicaz 139.11 321 ⇑P **PKPdf 21 31 29.1 +0.1**
BURAR Bucovina Array 139.28 322 ⇑P **PKPdf 21 31 29.8 +0.3**
MLR Muntele Rosu 139.91 319 ⇓P **PKPdf 21 31 31.0 +0.3**
KOLS Kolonicke sedl 140.18 326 *e*PKP **PKPdf 21 31 30.5 -0.4**
ARR Arges 140.78 320 ⇓P **PKPdf 21 31 31.7 -0.5**
MORC Moravsky Berou 142.02 330 *e*PKP **PKPdf 21 31 31.2 -3.1**
KRLC Kraliky 142.17 331 *e*PKP **PKPdf 21 31 29.2 -5.3**
DPC Dobruska-Polom 142.19 332 *e*PKP **PKPdf 21 31 29.5 -5.0**
VYHS Vyhne 142.24 327 *e*PKP **PKPdf 21 31 30.0 -4.7**
HERR Herculane 142.38 320 ⇓P **PKPdf 21 31 30.9 -4.1**
JAVC Velka Javorina 142.58 329 *e*PKP **PKPdf 21 31 33.7 -1.6**
VRAC Vranov 142.79 330 ⇑P **PKPdf 21 31 31.7 -3.9**
VRAC Vranov 142.79 330 *e*PKP **PKPdf 21 31 31.7 -3.9**
PVCC Panska Ves 142.83 333 *e*PKP **PKPdf 21 31 32.1 -3.5**
BRG Berggiesshubel 142.83 334 *i* PKP **PKPdf 21 31 31.1 -4.5**
comp=Z,5.7nm,0.7s
CLL Collm 142.88 335 *i* (PKPdf) **PKPdf 21 31 31.7 -3.9**
comp=Z,9.0nm,0.5s
CLL *e*SKPbc **SKPbc 21 35 00.0 +0.1**
CLL Collm 142.88 335 *e*PKPdf **PKPdf 21 31 31.7 -3.9**
baz=38,slow=3.2
KRUC Moravsky 143.06 330 *e*PKP PKPab 21 31 32.6 +0.9
MODS Modra-Piesok 143.10 328 *e*PKP PKPbc 21 31 33.5 0.0
PRU Pruhonice 143.24 332 *e*PKP PKPab 21 31 32.8 +0.4
NEUB Neuenburg 143.44 336 *e*PKPdf PKPbc 21 31 33.9 -0.4
baz=38,slow=3.2
TANN Tannenbergstha 143.79 335 *e*PKPdf PKPbc 21 31 35.2 -0.2
baz=38,slow=3.2
WERD Werda 143.83 335 *e*PKPdf PKPbc 21 31 35.3 -0.2
baz=38,slow=3.2
GTTG Gottingen 143.84 338 *e*PKPdf PKPbc 21 31 35.4 -0.1
baz=38,slow=3.2
PLN Plauen 143.86 335 *e*PKPdf PKPbc 21 31 35.4 -0.1
baz=38,slow=3.2
GUNZ Gunzen 143.88 335 *e*PKPdf PKPbc 21 31 35.6 0.0
baz=38,slow=3.2
WERN Wernitzgruen 143.92 335 *e*PKPdf PKPbc 21 31 35.9 +0.1
baz=38,slow=3.2
IBBN Ibbenburen 143.93 341 *e*PKPdf PKPab 21 31 35.3 +0.3
baz=38,slow=3.2
NKC Novy Kostel 143.94 334 *e*PKP PKPbc 21 31 35.8 0.0
MOX Moxa 143.95 336 *e*PKPdf PKPbc 21 31 35.6 -0.2
baz=38,slow=3.2
CONA Conrad Observa 144.10 329 *i* P PKPbc 21 31 36.7 +0.3
comp=Z,1.9nm,0.6s,SNR=8.6
DIVS Divibare 144.26 321 PKPdf PKPbc 21 31 37.2 +0.1
MANZ Manzenberg 144.27 334 *e*PKPdf PKPbc 21 31 37.0 +0.1
baz=38,slow=3.2
KHC Kasperske Hory 144.29 332 *e*PKP **PKPab 21 31 36.8 +0.2**
ROTZ Rotzenmuhle 144.40 334 *e*PKPdf PKPbc 21 31 37.5 +0.3
baz=38,slow=3.2
UBBA Unterbreizbach 144.42 337 *e*PKPdf PKPbc 21 31 37.6 +0.5
baz=38,slow=3.2
GEC2 GERESS Array S 144.45 332 *e*PKPdf **PKPab 21 31 37.4 +0.1**
baz=38,slow=3.2
GEC2 GERESS Array S 144.45 332 PKPdf **PKPab 21 31 37.4 +0.1**
GERES GERESS Array B 144.45 332 PKP **PKPab 21 31 37.2 -0.1**
comp=Z,19nm,0.6s,baz=35,slow=4.2,SNR=187
GERES SKPbc **SKPbc 21 35 01.7 -2.1**
comp=Z,1.1nm,0.9s,baz=45,slow=0.6,SNR=4.5
GERES GERESS Array B 144.45 332 PKPdf **PKPab 21 31 37.4 +0.1**
WET Wettzell 144.59 333 *e*PKPdf PKPbc 21 31 38.0 +0.1
baz=38,slow=3.2
IDI Anoyia 144.67 304 ⇓P **PKPab 21 31 38.3 -0.2**
ARSA Arzberg 144.73 328 *i* P **PKPab 21 31 38.3 0.0**
comp=Z,20nm,1.1s,SNR=8.5
BUG Bochum--Univer 144.83 340 *e*PKPdf **PKPab 21 31 38.1 -0.3**
baz=38,slow=3.2
GRA1 Grafenberg Arr 144.85 335 PKPab 21 31 39.0 +0.3
GRF Grafenberg Arr 144.85 335 *e*PKPdf **PKPdf 21 31 39.1 -0.1**
baz=38,slow=3.2
KOGS Kog 144.91 327 *i* PKPbc PKPbc 21 31 38.7 -0.2
MOA Molln 144.92 330 *i* P **PKPab 21 31 39.1 +0.2**
comp=Z,57nm,0.6s,SNR=33
TNS Taunus Mts 145.47 338 *e*PKPdf **PKPbc 21 31 40.7 +0.1**
baz=38,slow=3.2
OBKA Obir 145.73 328 *i* P **PKPdf 21 31 40.8 -0.1**
comp=Z,18nm,0.8s
KBA Koelnbreinsper 145.91 330 *i* P **PKPdf 21 31 41.3 0.0**
comp=Z,11nm,0.5s,SNR=8.9
BTNL Ternell 145.93 341 PKPab **PKPdf 21 31 41.3 +0.3**
MEM Membach 145.95 341 PKPab **PKPdf 21 31 41.5 +0.5**
FUR Furstenfeldbru 146.02 333 *e*PKPdf **PKPbc 21 31 42.6 +0.3**
baz=38,slow=3.2
BOJS Bojanci 146.06 326 *i* PKPbc **PKPbc 21 31 42.7 +0.2**
LJU Ljubljana 146.06 328 *i* PKPbc **PKPbc 21 31 42.4 -0.1**
MYKA Terra Mystica 146.09 329 *i* P **PKPdf 21 31 41.7 +0.2**
comp=Z,12nm,0.5s,SNR=5.8
BSTI Sart Tilman 146.11 341 PKPdf **PKPdf 21 31 39.7 -1.5**
BSTI PKPab **PKPbc 21 31 42.2 -0.2**
BHOU Houvegnez 146.18 341 PKPab **PKPbc 21 31 42.2 -0.5**
PRED Cave del Predi 146.26 329 PKPdf **PKPdf 21 31 42.2 +0.4**
BCLA Clavier 146.33 341 PKPab **PKPbc 21 31 42.6 -0.5**
STU Stuttgart 146.39 336 *e*PKPdf **PKPbc 21 31 43.5 +0.2**
baz=38,slow=3.2
STU Stuttgart 146.39 336 PKPdf **PKPbc 21 31 42.8 -0.5**
BGES Geseves 146.43 341 PKPab **PKPbc 21 31 42.9 -0.5**
ZOU Zoufplan 146.46 330 PKPdf 21 31 42.5 +0.2
WATA Walderalm 146.53 332 *i* P **PKPbc 21 31 43.4 -0.6**
comp=Z,12nm,0.5s,SNR=7.3
ABTA Abfaltersbach 146.54 330 *i* P **PKPdf 21 31 43.0 +0.7**
comp=Z,18nm,0.5s,SNR=8.2
SNF Seneffe 146.56 342 PKPdf **PKPdf 21 31 40.9 -1.1**
SNF PKPab **PKPbc 21 31 43.4 -0.4**
WTTA Wattenberg 146.56 332 *i* P **PKPbc 21 31 43.8 -0.3**
comp=Z,16nm,0.8s,SNR=7.7
BMRD Maredsous 146.60 342 PKPab **PKPbc 21 31 43.4 -0.5**
BMRD PKiKP **PKPab 21 31 44.4 -0.8**
WLF Walferdange 146.73 340 PKPab **PKPbc 21 31 44.6 +0.3**
WLF Walferdange 146.73 340 *e*PKPdf **PKPbc 21 31 44.9 +0.6**
baz=38,slow=3.2
WLF Walferdange 146.73 340 PKPbc 21 31 44.3 0.0
MOTA Mooosalm 146.73 332 *i* P **PKPbc 21 31 44.1 -0.5**
comp=Z,29nm,0.7s,SNR=13
RETA Reutte 146.77 333 *i* P **PKPbc 21 31 44.2 -0.4**
comp=Z,8.1nm,0.5s
SQTA Sankt Quirin 146.78 332 *i* P **PKPbc 21 31 44.4 -0.3**
comp=Z,32nm,0.5s,SNR=17
STAL STALIGIAL 146.80 330 PKPdf 21 31 42.5 -0.2
DOU Dourbes 146.83 342 PKPab **PKPbc 21 31 44.3 -0.2**
CIMO Cimolais 146.89 330 PKPdf **PKPdf 21 31 42.2 -0.6**
UBR Ueberruh 146.89 334 *e*PKPdf **PKPbc 21 31 44.7 -0.2**
baz=38,slow=3.2
BFO Black Forest 147.08 336 *e*PKPdf **PKPbc 21 31 45.1 -0.2**
baz=38,slow=3.2
BFO Black Forest 147.08 336 PKPbc 21 31 45.0 -0.4
FETA Feichten 147.14 332 *i* P **PKPbc 21 31 45.5 -0.2**
comp=Z,27nm,0.6s,SNR=15
DAVA Damuels 147.30 334 *i* P **PKPbc 21 31 45.8 -0.3**
comp=Z,17nm,0.6s,SNR=7.4
CTI Castel Tesino 147.46 330 PKPbc 21 31 46.0 -0.5
ECH Echery 147.61 337 PKPbc 21 31 46.1 -0.7
FUORN Ofenpass-Fuorn 147.65 332 PKPbc 21 31 47.5 +0.2
TEOL Teolo 147.96 329 PKPbc 21 31 47.5 -0.3
MURB Monte Urbino 149.01 326 PKPbc 21 31 50.2 -0.4
INTR Introdacqua 149.08 323 PKPbc 21 31 50.1 -0.7
PAOL Paolisi 149.30 321 PKPbc 21 31 51.1 -0.4
OSSC Osservatorio P 149.49 327 PKPbc 21 31 50.6 -1.2
CASP Castiglione de 150.21 327 PKPbc 21 31 52.5 -1.0
SSB Saint Sauveur 151.06 337 PKPbc 21 31 54.4 -1.0
SSB PKPab **21 32 03.7 +0.2**
KEST Kesra 155.77 317 PKPbc PKPbc 21 32 05.9
comp=Z,2.1nm,0.7s,baz=321,slow=1.1,SNR=4.5
ESDC Sonseca Array 158.78 345 PKPab **PKPab 21 32 36.2 -0.4**
comp=Z,1.0nm,0.6s,baz=13,slow=3.9,SNR=15
TORD Torodi Ar. Bea 166.53 245 PKP **PKPdf 21 32 07.6 -0.9**
comp=Z,0.9nm,0.9s,baz=24,slow=0.2,SNR=4.2
TORD PKPab **PKPab 21 33 10.4 -1.0**
comp=Z,0.5nm,0.8s,baz=92,slow=4.1,SNR=2.1
TORD Torodi Ar. Bea 166.53 245 PKPdf 21 32 07.3 -1.2

*NEIC **25** 21:56:14.3±1.9, 7.°80S±0.°02×128.°19E±0.°06, h125km±9km, mb4.0/10, Error ellipse: s-maj=9.3km s-min=2.5km az=106.0*

*IDC **25** 21:56:14.3±1.9, 7.°88S×128.°25E, h130km±23km, mb3.5/7, mb1 3.8/12, mb1mx3.6/31, mbtmp4.1/12, Error ellipse: s-maj=22.6km s-min=18.1km az=133.0*

ISC 25 21:56:15.7±0.6, 7.°96S±0.°05×128.°23E±0.°05, h150km, n38, σ2s41/42, mb3.9/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.04**	**91**	P	Pn	**Pn**	**21 57 02.5**	**-1.1**
SAUI				Sn	Sn	**Sn**	**21 57 38.4**	**-2.1**
SOEI	**Soe**	**4.31**	**245**		**Pn**	**21 57 19.3**		**-0.8**
SOEI				Sn	**Sn**	**21 58 06.8**		**-3.4**
BATI	**Baumata**	**5.04**	**243**	P	**Pn**	**21 57 28.9**		**-0.7**
	18nm,0.3s,baz=114,slow=1.1,SNR=18							
BATI				S	**Sn**	**21 58 26.7**		**-0.6**
	21nm,0.3s,baz=228,slow=9.9,SNR=8.2							
MTN	**Manton Dam**	**5.63**	**150**	Pn	**Pn**	**21 57 38.1**		**+0.5**
MMRI	**Maumere**	**5.97**	**263**	Pn	**Pn**	**21 57 39.5**		**-2.6**
FAKI	**Fak Fak**	**6.41**	**39**	Pn	**Pn**	21 57 43.4		-4.5
SIJI	**Sorong**	**7.66**	**23**	P	**Pn**	**21 58 02.6**		**-2.1**
	4.0nm,0.3s,baz=204,slow=22,SNR=31							
SIJI				S	**Sn**	**21 59 29.6**		**-0.6**
	1.6nm,0.3s,baz=218,slow=23,SNR=2.0							
KNRA	**Kununurra**	**7.69**	**176**		**Pn**	**21 58 05.9**		**+0.9**
FITZ	**Fitzroy Crossi**	**10.39**	**194**	P	**Pn**	**21 58 40.2**		**-0.8**
	3.3nm,0.3s,baz=29,slow=11,SNR=53							
FITZ				S	**Sn**	**22 00 30.8**		**-5.2**
	2.9nm,0.3s,baz=75,slow=14,SNR=4.3							
WB0	**Warramunga Arr**	**13.17**	**154**		**Pn**	**21 59 17.1**		**0.0**
WRA	**Warramunga Arr**	**13.30**	**154**	P	**Pn**	**21 59 18.5**		**-0.4**
	1.9nm,0.3s,baz=326,slow=13,SNR=93							
WRA				S	**Sn**	**22 01 42.8**		**-3.4**
	5.2nm,0.3s,baz=330,slow=23,SNR=9.2							
WRA	**Warramunga Arr**	**13.30**	**154**	Pn	**Pn**	**21 59 18.0**		**-0.8**
WR0	**Warramunga Arr**	**13.41**	**154**		**Pn**	**21 59 21.0**		**+0.8**
PSAD1	**Pilbara Seismi**	**15.68**	**210**	Pn	**P**	**21 59 49.4**		**-0.1**
AS31	**Alice Springs**	**16.54**	**161**	P	**Pn**	**22 00 00.3**		**+1.1**
AS31				IAmb	IAmb	22 00 07.5		
	comp=Z,3.7nm,0.6s							
ASAR	**Alice Springs**	**16.54**	**161**	P	**Pn**	**22 00 01.6**		**+2.4**
	comp=Z,1.0nm,0.3s,baz=325,slow=9.4,SNR=82							
ASAR				S	**S**	**22 02 57.6**		**-5.4**
	comp=Z,0.7nm,0.3s,baz=327,slow=17,SNR=4.6							
ASAR	**Alice Springs**	**16.54**	**161**	P	**Pn**	**21 59 60.0**		**+0.8**
SBUM	**Sibu**	**19.02**	**302**	P	**P**	**22 00 25.4**		**-0.9**
SBUM				IAmb	IAmb	22 00 28.4		
	comp=Z,4.2nm,0.8s							
MORW	**Morawa**	**23.93**	**207**	P	**P**	**22 01 20.7**		**+4.7**
MORW				IAmb	IAmb	22 01 23.4		
	comp=Z,8.2nm,0.9s							
BBOO	**Buckleboo**	**25.77**	**165**	P	**P**	**22 01 38.7**		**+6.1**
BBOO				IAmb	IAmb	22 01 41.9		
	comp=Z,9.1nm,1.1s							
STKA	**Stephens Creek**	**26.86**	**154**	P	**P**	**22 01 47.3**		**+4.9**
	comp=Z,2.7nm,0.5s,baz=323,slow=9.8,SNR=6.9							
STKA	**Stephens Creek**	**26.86**	**154**	P	**P**	**22 01 47.1**		**+4.7**
GSI	**Gunungsitoli**	**31.93**	**285**	P	**P**	**22 02 28.3**		**+0.9**
CAN	**Canberra**	**33.23**	**148**	P	P	22 02 46.3		+7.7
TOO	**Toolangi**	**33.38**	**155**	P	P	22 02 47.5		+7.7
TOO				IAmb	IAmb	22 02 54.4		
	comp=Z,2.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**39.04**	**313**	P	**P**	**22 03 28.4**		**+0.3**
	comp=Z,0.4nm,0.3s,baz=137,slow=7.5,SNR=4.8							
KSRS	**Korea Array**	**45.17**	**360**	P	**P**	**22 04 18.1**		**+0.6**
	comp=Z,2.2nm,0.6s,baz=177,slow=9.6,SNR=11							
KS19	**Wonju Array Si**	**45.22**	**360**	P	**P**	**22 04 17.9**		**0.0**
MJAR	**Matsushiro Arr**	**45.24**	**11**	P	**P**	**22 04 16.2**		**-1.9**
	comp=Z,0.7nm,0.6s,baz=191,slow=9.6,SNR=4.0							
USRK	**Ussuriysk Ar.**	**52.02**	**3**	P	**P**	**22 05 09.9**		**+0.2**
	comp=Z,1.4nm,0.5s,baz=187,slow=5.3,SNR=5.2							
USRK	**Ussuriysk Ar.**	**52.02**	**3**	P	**P**	**22 05 09.5**		**-0.2**
SONM	**Songino Array**	**58.81**	**343**	P	**P**	**22 05 58.9**		**+0.5**
	comp=Z,1.2nm,0.8s,baz=148,slow=8.7,SNR=5.7							
MK31	**Makanchi Array**	**68.08**	**328**	P	**P**	**22 07 00.2**		**+1.0**
MKAR	**Makanchi Array**	**68.08**	**328**	P	**P**	**22 07 00.1**		**+0.9**
	comp=Z,0.2nm,0.3s,baz=117,slow=9.4,SNR=5.1							
MKAR	**Makanchi Array**	**68.08**	**328**	P	**P**	**22 06 59.9**		**+0.7**
ZALV	**Zalesovo Beam**	**71.68**	**335**	P	**P**	**22 07 20.6**		**-0.4**
	comp=Z,0.8nm,0.5s,baz=130,slow=6.0,SNR=4.3							
ZALV	**Zalesovo Beam**	**71.68**	**335**	P	**P**	**22 07 21.0**		**0.0**
VNDA	**Vanda**	**71.72**	**173**	P	**P**	**22 07 23.0**		**+2.1**
VNDA				IAmb	IAmb	22 07 29.7		
	comp=Z,2.3nm,1.1s							

*IDC **25** 22:06:42.7±1.8, 9.°74N×79.°16W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/25, mbtmp3.5/3, ML2.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=104.6km s-min=30.7km az=53.0*

*UPA **25** 22:06:47.2±1.1, 9.°97N×78.°48W, h29km±16km, MW4.4*

ISC 25 22:06:45.0±2.6, 10.°05N±0.°07×78.°45W±0.°03, h27km±20km, n29, σ1s32/45, 2C-6D, North of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNTA3	**Canitas, Panam**	**0.93**	**208**	⇓*i* P	**Pn**	**22 07 02.5**		**+0.1**
CNTA3				*e*S	**Sb**	**22 07 13.8**		**-0.8**
MIRA3	**Miramar, Colon**	**0.99**	**242**	⇓*e* P	**Pn**	**22 07 04.1**		**+1.0**
MIRA3				*e*S	**Sn**	**22 07 15.4**		**-0.8**
CHPO	**Chepo, Panama**	**1.09**	**217**	⇓*i* P	**Pn**	**22 07 04.9**		**+0.3**
CHPO				*e*S	**Sn**	**22 07 17.7**		**-1.2**
FRIJ	**El Hiral**	**1.51**	**237**	*e*P	**Pn**	**22 07 10.4**		**+0.2**
FRIJ				*e*S	**Sn**	**22 07 28.2**		**-0.8**
UPA	**Univ. de Panam**	**1.51**	**225**	⇓*i* P	**Pn**	**22 07 10.0**		**-0.3**
UPA				*e*S	**Sn**	**22 07 27.8**		**-1.3**
PML3	**Paraiso**	**1.54**	**228**	*e*S	**Sn**	**22 07 28.7**		**-1.2**
GAMB1	**Gamboa**	**1.55**	**233**	*e*S	**Sn**	**22 07 30.4**		**+0.3**
UPD2	**Meteti**	**1.56**	**164**	⇓*i* P	**Pn**	**22 07 11.3**		**+0.4**
UPD2				*e*S	**Sn**	**22 07 30.4**		**+0.1**
FLAM	**Flamenco Islan**	**1.56**	**224**	*e*P	**Pn**	**22 07 11.5**		**+0.5**
FLAM				*e*S	**Sn**	**22 07 29.5**		**-0.9**
ARRA3	**Arraijan, Pana**	**1.61**	**228**	*e*P	**Pn**	**22 07 12.5**		**+0.8**
ARRA3				*e*S	**Sn**	**22 07 31.4**		**-0.1**
CHOR3	**La Chorrera**	**1.73**	**229**	*e*P	**Pn**	**22 07 14.7**		**+1.3**
CHOR3				*e*S	**Sn**	**22 07 34.9**		**+0.3**
CAP2	**Capurgana**	**1.76**	**142**	⇑*i* P	**Pn**	**22 07 14.0**		**+0.2**
CAP2				*e*S	**Sn**	**22 07 35.9**		**+0.6**
VTON	**El Valle, Cocl**	**2.18**	**229**	⇑*i* P	**Pn**	**22 07 21.6**		**+2.0**
VTON				*e*S	**Sn**	**22 07 45.5**		**-0.2**
PNME	**Penonome**	**2.42**	**230**	*e*P	**Pn**	**22 07 24.5**		**+1.7**
AZU	**Azuero**	**2.88**	**219**	⇓*e* P	**Pn**	**22 07 29.9**		**+0.7**
AZU				*e*S	**Sn**	**22 08 00.9**		**-2.1**
MONA	**Monteria**	**3.03**	**115**	*e*P	**Pn**	**22 07 30.9**		**-0.4**
MONA				*e*S	**Sn**	**22 08 05.0**		**-1.8**
STIA3	**Santiago, Vera**	**3.16**	**232**	*e*S	**Sn**	**22 08 06.7**		**-3.1**
SJCC	**San Jacinto, C**	**3.22**	**92**	*e*P	**Pn**	**22 07 35.1**		**+1.2**
SJCC				*e*S	**Sn**	**22 08 09.7**		**-1.9**
PONU3	**Ponuga, Veragu**	**3.30**	**229**	*e*P	**Pn**	**22

s-maj=111.7km s-min=17.4km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.34**	**46**	Pn	Pb	22 08 31.3	+0.2
	66nm,0.3s,baz=252,slow=4.2,SNR=16						
KRVT				Sn	Sb	22 08 49.0	+0.2
	219nm,0.3s,baz=337,slow=21,SNR=27						
WRA	**Warramunga Arr**	**21.86**	**227**	P	P	22 12 57.7	-1.8
	0.4nm,0.5s,baz=51,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**24.67**	**220**	P	P	22 13 28.4	+0.6
	1.0nm,0.7s,baz=59,slow=8.7,SNR=15						
TORD	**Torodi Ar. Bea**	**148.79**	**287**	PKPbc	PKPbc	22 27 55.8	+0.1
	0.3nm,0.8s,baz=98,slow=4.4,SNR=1.8						

KRSC 25 22:08:32.5±1.4, 49°.53N×156°.48E, h22km±19km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**349**	*eP*	Pn	22 08 53.4	-0.2
SKR				*eS*	Sn	22 09 09.6	+0.6
PAU	**Pauzhetka**	**1.95**	**6**	*eP*	Pb	22 09 06.5	-0.7
PAU				*eS*	Sb	22 09 29.9	-1.2
KDTR	**Khodutka, Kamc**	**2.50**	**23**	*eP*	Pn	22 09 13.2	+1.5
KDTR				*eS*	Sb	22 09 44.7	-2.1
RUS	**Russkaya**	**3.18**	**23**	*eP*	Pn	22 09 23.5	+2.4
RUS				*eS*	Sb	22 10 02.6	-3.7
DALK	**Dalny**	**3.78**	**21**	P	Pn	22 09 33.3	+3.9
AVH	**Avacha**	**4.00**	**20**	P	Pb	22 09 37.8	-4.4
SMAR	**Somma**	**4.01**	**20**	*eP*	Pn	22 09 37.4	+4.7
KRX	**Arik**	**4.07**	**19**	*eP*	Pn	22 09 38.1	+4.7
KZV	**Kizimen**	**6.06**	**21**	*eP*	Pn	22 10 04.0	+3.2

*IDC **25** 22:24:00.4±2.8, 24°.03S×66°.85W, h188km±27km, mb1 3.2/3, mb1mx2.9/29, mbtmp3.7/3, Error ellipse: s-maj=40.7km s-min=29.0km az=141.0*
*GUC **25** 22:24:01.1±0.5, 24°.09S×67°.32W, h229km±7km, ML3.9*
ISC 25 22:24:00.8±1.3, 24°.04S±0°.07×67°.2W±0°.1, h220km±14km, n20, σ0°93/37, 11C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.10**	**312**	P	**Pn**	**22 24 42.9**	**+0.6**
	8.7nm,0.3s,baz=121,slow=5.9,SNR=111						
LVC				S	**S**	**22 25 15.2**	**+0.9**
	21nm,0.3s,baz=248,slow=22,SNR=54						
LVC	**Limon Verde**	**2.10**	**312**	*i*P	**Pn**	**22 24 42.4**	**+0.1**
LVC				*e*S	**S**	**22 25 14.4**	**+0.1**
PB15	**IPOC Station P**	**2.21**	**292**	*i*P	**Pn**	**22 24 43.4**	**+0.2**
PB15				*e*S	**S**	**22 25 16.1**	**0.0**
GO02	**Mina Guanaco**	**2.42**	**242**	*i*P	**Pn**	**22 24 45.5**	**0.0**
GO02				*e*S	**S**	**22 25 19.9**	**-0.3**
PB06	**IPOC Station P**	**2.53**	**301**	*i*P	**Pn**	**22 24 47.3**	**+0.8**
PB06				*e*S	**S**	**22 25 22.1**	**+0.2**
PB06				IAML		22 25 24.1	
	comp=E,457nm,0.2s						
PB09	**IPOC Station P**	**2.90**	**320**	*i*P	**Pn**	**22 24 51.7**	**+1.1**
PB09				*e*S	**S**	**22 25 30.1**	**+0.7**
PB09				IAML		22 25 33.2	
	comp=E,118nm,0.5s						
PB14	**IPOC Station P**	**2.95**	**258**	*e*P	**Pn**	**22 24 51.8**	**+0.5**
PB14				*i* S	**S**	**22 25 29.7**	**-0.9**
PB05	**IPOC Station P**	**2.97**	**293**	*i*P	**Pn**	**22 24 51.9**	**+0.6**
PB05				*e*S	**S**	**22 25 30.1**	**-0.6**
PB05				IAML		22 25 35.2	
	comp=E,114nm,0.2s						
PB03	**IPOC Station P**	**3.05**	**310**	*i*P	**Pn**	**22 24 53.0**	**+0.7**
PB03				*e*S	**S**	**22 25 32.2**	**-0.3**
PB10	**IPOC Station P**	**3.09**	**279**	*i*P	**Pn**	**22 24 52.9**	**+0.4**
PB10				*e*S	**S**	**22 25 31.6**	**-1.3**
PB04	**IPOC Station P**	**3.18**	**302**	*i*P	**Pn**	**22 24 54.6**	**+0.8**
PB04				*e*S	**S**	**22 25 34.5**	**-0.5**
PB07	**IPOC Station P**	**3.36**	**313**	*i*P	**Pn**	**22 24 56.6**	**+0.7**
PB07				*e*S	**S**	**22 25 38.9**	**0.0**
PB01	**IPOC Station P**	**3.64**	**325**	*e*P	**Pn**	**22 24 59.4**	**+0.2**
PB01				*i* S	**S**	**22 25 43.2**	**-1.6**
PB02	**IPOC Station P**	**3.66**	**317**	*e*P	**Pn**	**22 24 59.6**	**+0.2**
PB02				*i* S	**S**	**22 25 44.3**	**-0.9**
PATCX	**Punta Patache**	**4.19**	**319**	*e*P	**Pn**	**22 25 05.7**	**-0.1**
PATCX				*i* S	**S**	**22 25 54.1**	**-2.8**
PATCX				IAML		22 25 59.7	
PB08	**IPOC Station P**	**4.27**	**335**	*e*P	**Pn**	**22 25 07.7**	**+0.7**
PB08				*i* S	**S**	**22 25 59.0**	**-0.1**
LPAZ	**La Paz**	**7.76**	**354**	P	**Pn**	**22 25 52.0**	**+0.4**
	comp=E,0.4nm,0.3s,baz=178,slow=8.7,SNR=8.3						
LPAZ				S	**S**	**22 27 20.0**	**0.0**
	comp=E,0.1nm,0.3s,baz=70,slow=18,SNR=2.3						
BDFB	**Brasilia**	**19.90**	**69**	P	**P**	**22 28 13.8**	**-2.1**
	comp=E,0.2nm,0.3s,baz=253,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**131.49**	**208**	PKP	**PKiKP**	**22 42 50.6**	**+1.7**
	comp=E,0.1nm,0.5s,baz=153,slow=1.6,SNR=4.9						
MKAR	**Makanchi Array**	**146.69**	**39**	PKPbc	**PKPab**	**22 43 18.9**	**+0.6**
	comp=E,0.5nm,0.6s,baz=317,slow=3.0,SNR=6.5						

*IDC **25** 22:42:17.3±2.9, 5°.73S×151°.97E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/36, mbtmp3.7/3, Error ellipse: s-maj=84.0km s-min=13.4km az=105.0*
*NEIC **25** 22:42:19.8±1.0, 5°.79S±0°.06×152°.2E±0°.3, h26km±12km, mb3.9/7, Error ellipse: s-maj=39.7km s-min=7.9km az=94.0*
ISC 25 22:42:21.0±1.3, 5°.78S±0°.09×152°.2E±0°.3, h35km, n14, σ0°50/15, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.47**	**353**	Pg	**Pn**	**22 42 44.7**	**-0.4**
	282nm,0.3s,baz=194,slow=1.1,SNR=94						
KRVT				Lg	Lg	22 43 02.3	
	138nm,0.3s,baz=226,slow=22,SNR=9.3						
RABL	**Rabaul**	**1.58**	**358**		**Pn**	**22 42 46.4**	**-0.1**
RABL				Sn	**Sn**	**22 43 06.2**	**+0.5**
WB0	**Warramunga Arr**	**22.22**	**230**	P	**P**	**22 47 14.1**	**-0.6**
WB0				IAmb	IAmb	22 47 32.9	
	comp=Z,8.9nm,1.4s						
WR0	**Warramunga Arr**	**22.22**	**229**	P	**P**	**22 47 14.4**	**-0.3**
WR0				IAmb	IAmb	22 47 32.2	
	comp=Z,3.6nm,1.1s						
WRA	**Warramunga Arr**	**22.36**	**229**	P	**P**	**22 47 16.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=52,slow=9.6,SNR=16						
KNRA	**Kununurra**	**25.02**	**245**	P	**P**	**22 47 42.3**	**+0.4**
KNRA				IAmb	IAmb	22 47 44.5	
	comp=Z,30nm,1.4s						
AS31	**Alice Springs**	**25.03**	**223**	P	**P**	**22 47 42.0**	**-0.1**
AS31				IAmb	IAmb	22 47 46.5	
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**25.04**	**223**	P	**P**	**22 47 42.8**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=57,slow=8.7,SNR=24						
ASAR	**Alice Springs**	**25.04**	**223**	P	**P**	**22 47 42.4**	**+0.3**
LHI	**Lord Howe Isla**	**26.40**	**167**	P	**P**	**22 47 54.0**	**-0.3**
STKA	**Stephens Creek**	**27.80**	**200**	P	**P**	**22 48 07.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**28.68**	**242**	P	**P**	**22 48 14.3**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=79,slow=8.4,SNR=7.8						
FITZ	**Fitzroy Crossi**	**28.68**	**242**	P	**P**	**22 48 14.4**	**-0.5**
FITZ				IAmb	IAmb	22 48 22.7	
	comp=Z,2.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.03**	**286**	PKPbc	**PKPbc**	**23 02 08.5**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=74,slow=3.6,SNR=6.1						

*IDC **25** 22:44:14.1±12.0, 17°.21S×178°.94W, h509km±149km, mb3.1/7, mb1 3.4/7, mb1mx3.1/41, mbtmp4.0/7, Error ellipse: s-maj=89.3km s-min=45.1km az=164.0*
*NEIC **25** 22:44:16.7±1.0, 17°.7S±0°.2×178°.77W±0°.08, h552km±10km, mb4.0/19, Error ellipse: s-maj=24.0km s-min=10.6km az=174.0*
ISC 25 22:44:16.5±0.7, 17°.7S±0°.2×178°.7W±0°.1, h550km, n32, σ0°56/32, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**22 46 10.7**	**-0.5**
DZM	**Mont Dzumac**	**14.61**	**250**	P	**P**	**22 47 22.1**	**0.0**
KHZ	**Kahutara**	**25.54**	**193**	P	**P**	**22 49 02.6**	**+0.9**
RPZ	**Rata Peaks**	**27.36**	**196**	P	**P**	**22 49 18.6**	**+0.7**
MLZ	**Mavora Lakes**	**29.72**	**199**	P	**P**	**22 49 37.7**	**-0.7**
ARMA	**Armidale**	**29.79**	**239**	P	**P**	**22 49 39.7**	**+0.4**
ARMA				IAmb	IAmb	22 49 47.3	
	comp=Z,5.2nm,1.0s						
CTA	**Charters Tower**	**33.17**	**260**	P	**P**	**22 50 08.3**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=90,slow=13,SNR=2.3						
CTAO	**Charters Tower**	**33.17**	**260**	P	**P**	**22 50 08.1**	**-0.1**
CTAO				IAmb	IAmb	22 50 25.6	
	comp=Z,7.6nm,1.1s						
TOO	**Toolangi**	**37.08**	**230**	P	**P**	**22 50 40.8**	**+0.4**
TOO				IAmb	IAmb	22 50 41.5	
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**22 50 52.5**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=103,slow=13,SNR=7.3						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**22 50 52.3**	**+0.4**
BBOO	**Buckleboo**	**43.24**	**241**	P	**P**	**22 51 29.7**	**-0.1**
WR0	**Warramunga Arr**	**44.17**	**259**	P	**P**	**22 51 37.1**	**-0.1**
WR0				IAmb	IAmb	22 51 51.0	
	comp=Z,3.7nm,1.1s						
WB0	**Warramunga Arr**	**44.33**	**260**	P	**P**	**22 51 38.0**	**-0.3**
WC3	**Warramunga Arr**	**44.33**	**259**	P	**P**	**22 51 37.7**	**-0.7**
WB2	**Warramunga Arr**	**44.35**	**259**	P	**P**	**22 51 38.5**	**0.0**
WB2				IAmb	IAmb	22 51 38.5	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**22 51 37.6**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=94,slow=6.9,SNR=31						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**22 51 38.1**	**-0.5**
AS31	**Alice Springs**	**44.55**	**254**	P	**P**	**22 51 40.0**	**-0.1**
AS31				IAmb	IAmb	22 51 40.6	
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**22 51 40.0**	**0.0**
	comp=Z,12nm,0.6s,baz=88,slow=8.2,SNR=198						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**22 51 39.6**	**-0.4**
QSPA	**South Pole Qui**	**72.39**	**180**	P	**P**	**22 54 46.1**	**-0.8**
KNK	**Knik Glacier**	**82.44**	**14**	P	**P**	**22 55 41.8**	**+0.8**
KNK				IAmb	IAmb	22 55 50.9	
	comp=Z,4.1nm,1.1s						
GHO	**Glory Hole Cre**	**82.65**	**14**	P	**P**	**22 55 42.1**	**0.0**
GHO				IAmb	IAmb	22 55 44.3	
	comp=Z,7.9nm,1.1s						
SCM	**Sheep Creek Mo**	**83.07**	**14**	P	**P**	**22 55 44.2**	**-0.1**
SCM				IAmb	IAmb	22 55 45.2	
	comp=Z,3.6nm,0.8s						
GLB	**Gilahina Butte**	**83.62**	**16**	P	**P**	**22 55 47.2**	**+0.2**
GLB				IAmb	IAmb	22 55 47.4	
	comp=Z,3.2nm,1.1s						
BALM	**Baldy**	**83.68**	**17**	P	**P**	**22 55 47.4**	**0.0**
TRF	**Thorofare Moun**	**83.84**	**12**	P	**P**	**22 55 47.2**	**-1.0**
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**22 55 56.2**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=230,slow=5.3,SNR=2.2						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**22 56 01.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=218,slow=5.6,SNR=5.0						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**22 56 06.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=206,slow=7.7,SNR=2.3						
GERES	**GERESS Array B**	**147.29**	**345**	PKPbc	**PKPbc**	**23 02 58.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=42,slow=4.2,SNR=5.1						

*IDC **25** 22:45:05.1±0.5, 10°.44S×66°.40E, h0km, mb4.3/26, mb1 4.4/26, mb1mx4.3/52, mbtmp4.4/26, MS3.9/25, Ms1 3.9/25, ms1mx3.7/45, Error ellipse: s-maj=15.4km s-min=12.1km az=170.0*
*BJI **25** 22:45:06.0±0.0, 10°.40S×66°.40E, h5km, mB4.9/26, mb4.7/43, Ms4.5/21, Ms7 4.4/22*
*NEIC **25** 22:45:06.3±1.3, 10°.41S±0°.10×66°.44E±0°.09, h10km±1km, mb4.8/72, Error ellipse: s-maj=17.3km s-min=13.1km az=150.0*
*GCMT **25** 22:45:07.3±0.3, 10°.66S±0°.03×66°.47E±0°.03, h12km±1km, MW4.8/71, Moment Tensor Solution. s19,c22; s71,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37±.14; $M_{\theta\theta}$1.05±.10; $M_{\phi\phi}$0.31±.09; $M_{r\theta}$0.70±.26; $M_{\theta\phi}$-1.13±.06; $M_{r\phi}$0.41±.29; Best double couple: $M_0$1.86100×10^{16} NP1:ϕs153.00000°, δ47.00000°, λ-48.00000°. NP2: ϕ280.00000°, δ57.00000°, λ-125.00000°. Principal axes: T 1.9060, Plg6.0000°, Azm34.0000°; N -0.0910, Plg29.0000°, Azm301.0000°; P -1.8170, Plg60.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **25** 22:45:11.7±0.0, 10°.64S×66°.14E, h10km, mb5.1, Ms4.1*
ISC 25 22:45:06.6±0.3, 10°.46S±0°.07×66°.43E±0°.06, h10km, n207, σ1°95/192, mb4.7/82, MS4.0/32, 8C-3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.59**	**65**	T	T	22 53 34.1	
	baz=245,slow=74,SNR=23						
H08S2	**Diego Garcia H**	**6.61**	**66**	T	T	22 53 32.7	
	baz=245,slow=74,SNR=72						
H08S3	**Diego Garcia H**	**6.61**	**65**	T	T	22 53 32.3	
	baz=245,slow=74,SNR=1425						
DGAR	**Diego Garcia**	**6.68**	**64**	Pn	**Pn**	**22 46 42.5**	**-2.3**
RER	**Riviere de l'E**	**14.78**	**223**	Pn	**Pn**	**22 48 36.9**	**+1.0**
OPO	**Ambohidratompo**	**20.28**	**244**	P	Pn	22 49 50.0	+5.3
	4.5nm,0.8s,baz=69,slow=9.4,SNR=5.0						
PALK	**Pallekele**	**22.63**	**39**	P	**P**	**22 50 08.8**	**+0.9**
	26nm,1.1s,baz=315,slow=9.5,SNR=9.0						
PALK	**Pallekele**	**22.63**	**39**	P	**P**	**22 50 07.6**	**-0.4**
PALK				IAmb	IAmb	22 50 18.5	
	comp=Z,30nm,1.1s						
ATD	**Arta Tunnel**	**32.03**	**312**	P	**P**	**22 51 34.4**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=123,slow=18,SNR=2.3						
DAMY	**Dhamar**	**33.10**	**318**	P	**P**	**22 51 42.6**	**-0.7**
GSI	**Gunungsitoli**	**33.12**	**71**	P	**P**	**22 51 43.1**	**-0.2**
GSI				IAmb	IAmb	22 51 52.4	
	comp=Z,20nm,1.1s						
RPSI	**Rantau Prapat**	**34.89**	**70**	P	**P**	**22 51 58.1**	**-0.4**
RPSI				IAmb	IAmb	22 52 13.6	
	comp=Z,14nm,1.2s						
PSI	**Prapat**	**34.93**	**70**	LR	LR	23 03 47.6	
	comp=Z,420nm,20.6s,baz=264,slow=32						
UOSS	**Minazif**	**36.57**	**344**	P	**P**	**22 52 13.2**	**+0.4**
MBAR	**Mbarara**	**36.80**	**283**	P	**P**	**22 52 15.2**	**-0.1**
KULM	**Kulim**	**37.50**	**67**	P	**P**	**22 52 21.5**	**+0.5**
KULM				IAmb	IAmb	22 52 29.4	
	comp=Z,21nm,1.0s						
IPM	**Ipoh**	**37.51**	**68**	P	**P**	**22 52 21.0**	**-0.1**
LSZ	**Lusaka**	**37.55**	**259**	P	**P**	**22 52 22.0**	**+0.5**
	comp=Z,6.8nm,0.9s,baz=80,slow=6.7,SNR=14						
LSZ	**Lusaka**	**37.55**	**259**	P	**P**	**22 52 21.4**	**-0.1**
LSZ				IAmb	IAmb	22 52 23.5	
	comp=Z,22nm,1.4s						
MATP	**Matopo**	**37.79**	**250**	P	**P**	**22 52 23.5**	**0.0**
	comp=Z,3.1nm,1.0s,baz=61,slow=8.9,SNR=4.8						
LEM	**Lembang**	**40.86**	**88**	LR	LR	23 07 00.6	
	comp=Z,108nm,20.4s,baz=343,slow=32						
LBTB	**Lobatse**	**41.31**	**244**	P	**P**	**22 52 53.2**	**+0.4**
	comp=Z,8.0nm,1.0s,baz=88,slow=11,SNR=5.9						
LBTB	**Lobatse**	**41.31**	**244**	P	**P**	**22 52 53.2**	**+0.4**
LBTB				IAmb	IAmb	22 53 04.9	
	comp=Z,17nm,1.1s						
KOLN	**Koldanda**	**41.48**	**23**	*e*P	**P**	**22 52 55.1**	**+0.9**
	comp=Z,13nm,0.7s						
PYUN	**Piuthan**	**41.55**	**22**	*e*P	**P**	**22 52 55.9**	**+1.2**
	comp=Z,29nm,0.7s						
DMN	**Daman**	**41.95**	**25**	*e*P	**P**	**22 52 59.4**	**+1.3**
	comp=Z,20nm,1.0s						
RAMN	**Ramite**	**42.03**	**27**	*e*P	**P**	**22 53 00.4**	**+1.7**
	comp=Z,38nm,0.9s						
PKI	**Pulchoki**	**42.04**	**26**	*e*P	**P**	**22 53 00.4**	**+1.5**
	comp=Z,5.9nm,0.8s						
PKIN	**Phulchoki**	**42.04**	**26**	*e*P	**P**	**22 52 59.8**	**+1.0**
	comp=Z,12nm,1.0s						
DANN	**Dangsing**	**42.06**	**23**	*e*P	**P**	**22 52 59.9**	**+0.9**
	comp=Z,22nm,0.9s						
GKN	**Gorkha**	**42.10**	**24**	*e*P	**P**	**22 53 00.2**	**+1.0**
	comp=Z,34nm,1.0s						
KKN	**Kakani**	**42.18**	**25**	*e*P	**P**	**22 53 00.9**	**+1.0**
	comp=Z,12nm,0.8s						
ODAN	**Odare**	**42.31**	**28**	*e*P	**P**	**22 53 02.6**	**+1.6**
	comp=Z,45nm,1.0s						
BOSA	**Boshof**	**42.53**	**239**	P	**P**	**22 53 03.8**	**+1.0**
	comp=Z,3.9nm,1.1s,baz=282,slow=20,SNR=2.6						
BOSA				LR	LR	23 09 49.3	
	comp=Z,154nm,18.1s,baz=81,slow=35						
BOSA	**Boshof**	**42.53**	**239**	P	**P**	**22 53 02.9**	**+0.1**
BOSA				IAmb	IAmb	22 53 11.5	
	comp=Z,44nm,1.8s						
GUN	**Gumba**	**42.54**	**26**	*e*P	**P**	**22 53 04.3**	**+1.3**
	comp=Z,35nm,1.0s						
TAPN	**Taplejung**	**42.88**	**28**	*e*P	**P**	**22 53 06.6**	**+0.9**
	comp=Z,38nm,1.1s						
CM31	**Chiang Mai Arr**	**43.07**	**48**	P	**P**	**22 53 07.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**43.07**	**48**	P	**P**	**22 53 08.3**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=243,slow=8.9,SNR=28						
CMAR				LR	LR	23 11 17.8	
	comp=Z,83nm,18.2s,baz=235,slow=36						
CMAR	**Chiang Mai Arr**	**43.07**	**48**	P	**P**	**22 53 07.3**	**+0.3**
CHTO	**Chiang Mai**	**43.30**	**48**	P	**P**	**22 53 08.9**	**+0.1**
CHTO				IAmb	IAmb	22 53 17.5	
	comp=Z,14nm,1.0s						
SHL	**Shillong**	**43.55**	**34**	P	**P**	**22 53 11.1**	**+0.1**
NIL	**Nilore**	**44.34**	**8**	P	**P**	**22 53 17.3**	**+0.3**
NIL				IAmb	IAmb	22 53 28.1	
	comp=Z,8.7nm,1.1s						
HRA	**Herat**	**44.77**	**355**	P	**P**	**22 53 20.7**	**0.0**
KBL	**Kabul**	**44.82**	**3**	P	**P**	**22 53 21.7**	**+0.7**
LSA	**Lhasa**	**46.49**	**30**	P	**P**	**22 53 34.6**	**-0.1**
LSA				IAmb	IAmb	22 53 44.1	
	comp=Z,14nm,1.1s						
DLV	**T Lat**	**47.34**	**63**	P	**P**	**22 53 41.2**	**-0.1**
SBUM	**Sibu**	**47.35**	**77**	P	**P**	**22 53 41.7**	**+0.5**
SBUM				IAmb	IAmb	22 53 49.7	
	comp=Z,4.4nm,0.9s						
TSUM	**Tsumeb**	**47.88**	**254**	P	**P**	**22 53 45.9**	**+0.5**
TSUM				IAmb	IAmb	22 53 53.4	
	comp=Z,12nm,1.3s						
SLVN	**Son La**	**48.51**	**49**	P	**P**	**22 53 50.0**	**0.0**
SLVN				IAmb	IAmb	22 53 59.4	
	comp=Z,12nm,1.0s						
GEYT	**Alibeck**	**48.76**	**351**	LR	LR	23 12 37.4	
	comp=Z,82nm,19.3s,baz=175,slow=34						
CHGR	**Chuyangaron**	**48.92**	**3**	P	**P**	**22 53 53.0**	**0.0**
CHGR				IAmb	IAmb	22 54 00.4	
	comp=Z,9.5nm,1.0s						
GAR	**Garm**	**49.33**	**4**	P	**P**	**22 53 56.1**	**0.0**
GAR				IAmb	IAmb	22 54 07.6	
	comp=Z,13nm,1.0s						
H01W3	**Cape Leeuwin H**	**49.70**	**127**	T	T	23 47 09.1	
	baz=288,slow=75,SNR=55						
H01W2	**Cape Leeuwin H**	**49.70**	**127**	T	T	23 47 09.3	
	baz=288,slow=75,SNR=66						
H01W1	**Cape Leeuwin H**	**49.72**	**127**	T	T	23 47 10.5	
	baz=288,slow=75,SNR=60						
KSH	**Kashi**	**50.50**	**10**	P	**P**	**22 54 02.0**	**-3.1**
KSH				S	**S**	**23 01 13.0**	**-6.2**
KSH				pmax	pmax		
	comp=Z,23nm,1.0s						
KSH				pmax	pmax		
	comp=Z,74nm,4.4s						
KSH				LR	LR		
	comp=Z,260nm,7.8s						
KSH				LR	LR		
	comp=Z,150nm,4.3s						
KSH				LR	LR		
	comp=Z,170nm,8.7s						
NWAO	**Narrogin (SRO)**	**51.66**	**124**	LR	LR	23 13 52.5	
	comp=Z,77nm,18.3s,baz=18,slow=33						
QIZ	**Qiongzhong**	**51.87**	**56**	P	**P**	**22 54 15.5**	**0.0**
QIZ				S	**S**	**23 01 39.0**	**+0.5**
QIZ				LR	LR		
	comp=Z,270nm,23.5s						
QIZ				LR	LR		
	comp=Z,220nm,25.5s						
QIZ				LR	LR		
	comp=Z,250nm,21.1s						
KKM	**Kota Kinabalu**	**52.22**	**74**	P	**P**	**22 54 17.9**	**-0.4**
KDJ	**Kajisay**	**53.25**	**10**	P	**P**	**22 54 24.9**	**-0.7**
MARD	**Mardin**	**53.27**	**334**	P	**P**	**22 54 25.1**	**-0.6**
MARD				IAmb	IAmb	22 54 34.0	
	comp=Z,15nm,1.3s						
BOOM	**Boomskoye usch**	**53.40**	**9**	P	**P**	**22 54 26.3**	**-0.4**
KK31	**Karatay Array**	**53.43**	**4**	P	**P**	**22 54 26.1**	**-0.6**
KKAR	**Karatay Array**	**53.43**	**4**	P	**P**	**22 54 26.5**	**-0.2**
KKAR	**Karatay Array**	**53.43**	**4**	P	**P**	**22 54 26.5**	**-0.2**
GYA	**Guiyang**	**53.62**	**46**	P	**P**	**22 54 27.8**	**-0.7**
GYA				pP	pwP	22 54 34.5	-0.2
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
GYA				LR	LR		
	comp=Z,140nm,18.9s						
PRZ	**Przheval'sk**	**53.81**	**11**	P	**P**	**22 54 28.9**	**-0.8**
PRZ				IAmb	IAmb	22 54 37.0	
	comp=Z,6.6nm,1.0s						
CD2	**Chengdu**	**54.55**	**40**	*e*P	**P**	**22 54 36.0**	**+0.9**
CD2				sP	pwP	22 54 41.3	-0.1
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,180nm,7.7s						
CD2				LR	LR		
	comp=Z,180nm,10.3s						
CD2				LR	LR		
	comp=Z,290nm,10.6s						
GAZ	**Gaziantep**	**54.74**	**331**	P	**P**	**22 54 36.4**	**-0.1**
CSS	**Mathiatis**	**54.97**	**327**	P	**P**	**22 54 37.2**	**-0.9**
KOPT	**Kop Dagi**	**55.68**	**336**	P	**P**	**22 54 42.7**	**-0.8**
KOPT				IAmb	IAmb	22 54 56.0	
	comp=Z,9.7nm,1.2s						
SOEI	**Soe**	**56.88**	**95**	P	**P**	**22 54 51.6**	**-0.7**
MAW	**Mawson**	**57.13**	**182**	P	**P**	**22 54 52.7**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=347,slow=7.4,SNR=5.6						
MAW				LR	LR	23 13 11.8	
	comp=Z,223nm,21.7s,baz=48,slow=30						
MAW	**Mawson**	**57.13**	**182**	P	**P**	**22 54 54.0**	**+0.9**
WMQ	**Urumqi**	**57.38**	**18**	*e*P	**P**	**22 54 58.0**	**+2.8**
WMQ			

XAN pP pwP 22 55 18.8 -0.3
XAN pmax pmax
comp=Z,19nm,1.1s
XAN LR LR
comp=Z,110nm,18.4s
XAN LR LR
comp=Z,120nm,19.5s
XAN LR LR
comp=Z,250nm,18.4s
XAN Xi'an 59.88 40 P **P 22 55 11.8 -1.1**
SYO Syowa Base 61.02 191⇑ *eP* **P 22 55 18.1 -1.9**
SYO Syowa Base 61.02 191⇑ *epP* pP 22 55 24.2 +1.8
KURK Kurchatov 61.84 9 P **P 22 55 24.8 -0.9**
BRVK Borovoye 63.35 3 P **P 22 55 35.0 -0.7**
BRVK IAmb IAmb 22 55 43.6
comp=Z,7.3nm,0.8s
AGG Agios Georgios 64.07 323 P **P 22 55 39.5 -1.4**
ASAR Alice Springs 65.33 111 P **P 22 55 49.2 -0.3**
comp=Z,4.2nm,0.8s,baz=274,slow=5.8,SNR=30
ASAR LR LR 23 21 06.2
comp=Z,42nm,20.7s,baz=279,slow=33
ASAR Alice Springs 65.33 111 P **P 22 55 48.8 -0.8**
AS31 Alice Springs 65.33 111 P **P 22 55 48.4 -1.2**
WRA Warramunga Arr 65.85 107 P **P 22 55 53.0 +0.1**
comp=Z,8.1nm,0.9s,baz=278,slow=6.0,SNR=45
WRA LR LR 23 20 35.8
comp=Z,92nm,21.3s,baz=260,slow=32
WRA Warramunga Arr 65.85 107 P **P 22 55 52.5 -0.4**
WRAB Tennant Creek 65.86 107 P **P 22 55 52.4 -0.6**
ZAA0 Zalesovo Array 66.03 12 P **P 22 55 52.1 -1.1**
ZAA0 IAmb IAmb 22 55 59.5
comp=Z,9.7nm,1.1s
ZALV Zalesovo Beam 66.03 12 P **P 22 55 52.5 -0.7**
comp=Z,4.6nm,0.8s,baz=211,slow=5.9,SNR=18
ZALV LR LR 23 24 25.2
comp=Z,72nm,18.4s,baz=214,slow=36
ZALV Zalesovo Beam 66.03 12 P **P 22 55 52.1 -1.1**
WR0 Warramunga Arr 66.04 107 P **P 22 55 53.8 -0.3**
WR0 IAmb IAmb 22 55 55.9
comp=Z,6.4nm,0.8s
VRI Vrincioaia 66.43 331 ⇑P **P 22 55 57.2 +1.1**
PLOR Plostina 66.46 331 ⇑P **P 22 55 55.6 -0.6**
VOIR 66.94 330 ⇑P **P 22 55 59.4 0.0**
ARU Arti 66.96 355 P **P 22 55 58.9 -0.2**
ARU IAmb IAmb 22 56 06.1
comp=Z,7.5nm,1.0s
ARR Arges 67.10 329 ⇑P **P 22 56 00.4 0.0**
BBOO Buckleboo 67.32 121 P **P 22 56 02.2 +0.1**
HERR Herculane 67.91 328 ⇓P **P 22 56 05.3 -0.1**
SONM Songino Array 68.00 28 P **P 22 56 06.9 +0.8**
comp=Z,7.0nm,0.9s,baz=218,slow=6.1,SNR=21
SONM LR LR 23 25 01.3
comp=Z,427nm,20.7s,baz=248,slow=35
SONM Songino Array 68.00 28 P **P 22 56 06.3 +0.2**
BJI Beijing 68.14 39 P **P 22 56 08.3 +1.4**
BJI pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 68.32 28 P **P 22 56 07.9 -0.3**
ULN IAmb IAmb 22 56 15.6
comp=Z,4.5nm,1.1s
DEV Deva 68.33 329 ⇑P **P 22 56 07.0 -1.1**
TOA0 Torodi Ar. Sit 68.39 289 P **P 22 56 08.7 -0.4**
TORD Torodi Ar. Bea 68.39 289 P **P 22 56 08.5 -0.6**
comp=Z,2.0nm,1.0s,baz=92,slow=6.9,SNR=7.9
TORD LR LR 23 26 49.3
comp=Z,45nm,18.4s,baz=185,slow=37
TORD Torodi Ar. Bea 68.39 289 P **P 22 56 09.0 0.0**
BURAR Bucovina Array 68.42 331 ⇓P **P 22 56 11.5 +2.8**
BURAR Bucovina Array 68.42 331 ⇑P **P 22 56 08.2 -0.4**
BZS Buzias 68.82 328 ⇓P **P 22 56 11.8 +0.7**
AKASG Malin Array Be 68.96 336 P **P 22 56 11.2 -0.6**
comp=Z,1.3nm,0.5s,baz=140,slow=5.7,SNR=11
AKBB Malin Array Si 68.96 336 P **P 22 56 11.2 -0.7**
KEST Kesra 70.72 314 P **P 22 56 24.2 +1.1**
comp=Z,4.1nm,1.0s,baz=300,slow=0.4,SNR=3.6
KOLS Kolonicke sedl 70.74 331 *eP* **P 22 56 21.8 -1.1**
STKA Stephens Creek 72.00 120 P **P 22 56 31.8 +0.8**
comp=Z,2.1nm,0.8s,baz=305,slow=5.0,SNR=5.7
STKA LR LR 23 24 33.4
comp=Z,43nm,19.6s,baz=205,slow=33
STKA Stephens Creek 72.00 120 P **P 22 56 32.2 +1.2**
VYHS Vyhne 72.14 329 *eP* **P 22 56 31.8 +0.4**
KIC Kosan Boka 72.80 280 *eP* **P 22 56 35.8 -0.2**
comp=Z,32nm,1.2s
SMOL Smolenice 72.88 328 *eP* **P 22 56 36.3 +0.6**
JAVC Velka Javorina 72.97 329 *eP* **P 22 56 36.9 +0.5**
JAVC *e* 22 56 43.4
DBIC Dimbokro 72.98 280 P **P 22 56 36.4 -0.7**
comp=Z,6.7nm,1.0s,baz=98,slow=10,SNR=5.1
DBIC LR LR 23 27 20.4
comp=Z,115nm,18.9s,baz=120,slow=35
DBIC Dimbokro 72.98 280 P **P 22 56 35.9 -1.2**
LIC Lamto 73.05 280 *eP* **P 22 56 37.0 -0.5**
comp=Z,0.3nm,0.1s
ARSA Arzberg 73.11 326 *eP* **P 22 56 38.0 +0.8**
comp=Z,4.1nm,0.9s
TIC Toumodi 73.13 280 *eP* **P 22 56 38.0 0.0**
CONA Conrad Observa 73.33 327 *eP* **P 22 56 39.1 +0.5**
comp=Z,6.2nm,0.9s
MORC Moravsky Berou 73.62 329 *eP* **P 22 56 40.3 +0.1**
MORC *e* 22 56 46.2
SNAA Sanae 73.67 198 P **P 22 56 40.2 0.0**
SNAA Sanae 73.67 198 P **P 22 56 40.9 +0.7**
KRUC Moravsky 73.75 328 *eP* **P 22 56 40.8 -0.1**
KRUC *e* 22 56 47.0
VRAC Vranov 73.80 329 *eP* **P 22 56 41.4 +0.2**
KOWA Kowa 74.09 288 P **P 22 56 43.0 -0.7**
MOA Molln 74.15 326 *eP* **P 22 56 43.9 +0.6**
comp=Z,5.8nm,0.8s
KBA Koelnbreinsper 74.21 325 *eP* **P 22 56 45.3 +1.5**
comp=Z,7.8nm,1.1s
ABTA Abfaltersbach 74.48 325 *eP* **P 22 56 46.2 +0.9**
comp=Z,5.9nm,0.9s,SNR=4.8
KSRS Korea Array 74.67 46 P **P 22 56 47.0 +0.5**
comp=Z,3.5nm,1.1s,baz=232,slow=5.0,SNR=6.6
KSRS LR LR 23 30 02.1
comp=Z,86nm,19.1s,baz=239,slow=36
OSTC Ostas 74.77 329 *eP* **P 22 56 45.7 -1.1**
OSTC *ex* x 22 56 53.1
CHVC Chvalec 74.87 329 *eP* **P 22 56 47.8 +0.4**
CHVC *ex* x 22 56 54.1
VNA2 Neumayer--Watz 74.91 199 P **P 22 56 47.6 +0.3**
GERES GERESS Array B 75.04 327 P **P 22 56 47.8 -0.7**
comp=Z,1.0nm,0.8s,baz=134,slow=5.8,SNR=7.0
GERES GERESS Array B 75.04 327 P **P 22 56 47.4 -1.1**
TOO Toolangi 75.06 126 P **P 22 56 49.2 +0.2**
TOO IAmb IAmb 22 56 52.5
comp=Z,11nm,1.1s
VNA1 Neumayer--Stat 75.13 199 P **P 22 56 49.0 +0.4**
WTTA Wattenberg 75.27 325 *eP* **P 22 56 50.3 +0.3**
comp=Z,13nm,0.8s,SNR=8.7
KHC Kasperske Hory 75.27 327 *eP* **P 22 56 49.5 -0.3**
KHC *epP* **pwP 22 56 55.8 -0.6**
PRU Pruhonice 75.28 328 *eP* **P 22 56 48.6 -1.1**
PRU *epP* **pwP 22 56 56.5 +0.2**
WATA Walderalm 75.34 325 *eP* **P 22 56 50.5 +0.1**
comp=Z,9.9nm,1.1s
SQTA Sankt Quirin 75.49 325 *eP* **P 22 56 51.4 +0.2**
comp=Z,5.8nm,0.9s,SNR=4.7
PVCC Panska Ves 75.59 329 *eP* **P 22 56 52.7 +1.2**
MOTA Moosalm 75.62 325 *eP* **P 22 56 52.1 +0.1**
comp=Z,6.3nm,0.9s,SNR=6.5
FETA Feichten 75.66 324 *eP* **P 22 56 52.6 +0.4**
comp=Z,5.8nm,0.9s
VNA3 Neumayer Olymp 75.69 199 P **P 22 56 51.9 0.0**
FUORN Ofenpass-Fuorn 75.71 324 P **P 22 56 51.8 -0.8**
FUORN IAmb IAmb 22 56 55.3
comp=Z,6.2nm,1.0s
RETA Reutte 75.89 325 *eP* **P 22 56 53.7 +0.3**
comp=Z,10nm,1.3s
BRG Berggiesshubel 76.11 329 *eP* **P 22 56 55.4 +0.9**
comp=Z,8.5nm,1.4s
BRG *e* 22 57 02.1
comp=Z,12nm,1.2s
DAVA Damuels 76.29 324 *eP* **P 22 56 56.3 +0.5**
comp=Z,9.1nm,0.9s
UBR Ueberruh 76.37 325 *eP* P 22 57 02.8 +6.7
comp=Z,16nm,0.8s,baz=123,slow=6.9
NKC Novy Kostel 76.51 328 *eP* **P 22 56 57.9 +1.1**
NKC *ex* x 22 57 04.2
WERN Wernitzgruen 76.58 328 *eP* P 22 57 04.7 +7.5
comp=Z,25nm,1.6s,baz=123,slow=6.9
CLL Collm 76.85 329 *eP* **P 22 56 58.0 -0.6**
comp=Z,7.0nm,1.1s
CLL *i* 22 57 05.7
comp=Z,10.0nm,1.3s
CLL *e*PP **PP 22 59 53.0 +1.3**
CLL Collm 76.85 329 P **P 22 56 58.1 -0.6**
CLL IAmb IAmb 22 57 07.2
comp=Z,12nm,1.4s
GRA1 Grafenberg Arr 76.86 327 P **P 22 56 57.9 -0.8**
GRF Grafenberg Arr 76.86 327 *eP* P 22 57 05.1 +6.3
comp=Z,13nm,0.9s,baz=123,slow=6.9
GRF *eL* L 23 34 16.9
comp=Z,93nm,18.3s
MOX Moxa 77.18 328 *eL* L 23 34 25.1
comp=Z,75nm,18.9s
SENIN Lac Senin/Sane 77.32 322 P **P 22 57 00.8 -1.0**
SENIN IAmb IAmb 22 57 08.6
comp=Z,4.6nm,0.8s
STU Stuttgart 77.47 325 P **P 22 57 01.7 -0.5**
STU IAmb IAmb 22 57 09.8
comp=Z,11nm,0.9s
SSB Saint Sauveur 78.49 321 P **P 22 57 07.4 -0.6**
SSB IAmb IAmb 22 57 15.5
comp=Z,12nm,1.1s
CLZ Clausthal 78.50 328 *eP* P 22 57 15.3 +7.4
comp=Z,28nm,1.5s,baz=123,slow=6.9
QSPA South Pole Qui 79.60 180 LR LR 23 27 20.8
comp=Z,171nm,19.6s,baz=294,slow=32
QSPA South Pole Qui 79.60 180 P **P 22 57 13.1 -0.8**
QSPA IAmb IAmb 22 57 32.9
comp=Z,9.5nm,1.4s
USRK Ussuriysk Ar. 80.36 42 P **P 22 57 18.1 -0.1**
comp=Z,3.6nm,1.0s,baz=242,slow=4.6,SNR=4.4
USRK LR LR 23 31 53.6
comp=Z,52nm,21.6s,baz=217,slow=35
USRK Ussuriysk Ar. 80.36 42 P **P 22 57 16.7 -1.5**
NRIK Noril'sk 80.96 7 LR LR 23 33 45.1
comp=Z,70nm,20.2s,baz=200,slow=36
VNDA Vanda 81.04 167 LR LR 23 27 44.0
comp=Z,110nm,20.9s,baz=186,slow=32
MAT Matsushiro 81.91 51 P **P 22 57 27.0 +0.3**
MJAR Matsushiro Arr 81.91 51 P **P 22 57 28.3 +1.6**
comp=Z,8.9nm,1.1s,baz=242,slow=6.0,SNR=11
MJAR LR LR 23 32 28.4
comp=Z,66nm,21.4s,baz=195,slow=35
MJAR Matsushiro Arr 81.91 51 P **P 22 57 26.9 +0.2**
ESBB Sonseca Array 81.94 313 P **P 22 57 26.7 -0.1**
ESBB IAmb IAmb 22 57 35.7
comp=Z,8.6nm,1.4s
ESDC Sonseca Array 81.94 313 P **P 22 57 27.2 +0.4**
comp=Z,2.6nm,0.9s,baz=94,slow=4.1,SNR=17
ESDC Sonseca Array 81.94 313 P **P 22 57 27.1 +0.3**
PAB San Pablo 82.18 313 P **P 22 57 27.7 -0.4**
PAB IAmb IAmb 22 57 36.3
comp=Z,19nm,1.5s
KLR Kul'dur 82.36 37 P **P 22 57 28.2 -0.5**
comp=Z,1.5nm,0.6s,baz=274,slow=6.5,SNR=5.8
EKB10 Eskdalemuir Ar 87.25 328 P **P 22 57 52.7 -0.5**
TIXI Tiksi 91.54 16 P **P 22 58 12.2 -0.8**
PETK Petropavlovsk- 99.03 38 LR LR 23 47 46.7
comp=Z,58nm,19.0s,baz=267,slow=38
ILAR Eielson Array 121.01 16 PKP **PKPdf 23 03 57.7 -1.3**
comp=Z,0.6nm,0.9s,baz=255,slow=3.5,SNR=3.3
LPAZ La Paz 127.77 240 PKP **PKPdf 23 04 14.3 +0.1**
comp=Z,1.6nm,1.1s,baz=58,slow=9.5,SNR=4.5
PDAR Pinedale Array 147.62 354 PKPbc **PKPdf 23 04 49.4 +0.2**
comp=Z,1.6nm,0.8s,baz=99,slow=1.7,SNR=9.2
NVAR Mina Array Bea 151.82 8 PKPbc **PKiKP 23 05 03.8 +1.0**
comp=Z,4.4nm,0.8s,baz=290,slow=2.0,SNR=12
NVAR Mina Array Bea 151.82 8 **PKiKP 23 05 03.4 +0.6**
TXAR Lajitas Array 159.06 335 PKPab **PKPab 23 05 41.8 -0.3**
comp=Z,1.2nm,0.9s,baz=47,slow=2.7,SNR=9.5

*IDC **25** 22:54:23.1±1.6,6°.38S×147°.73E,h0km,mb4.2/3, mb1 4.3/6,mb1mx3.8/42,mbtmp4.2/6,ML4.1/2,MS2.9/3, Ms1 2.8/3,ms1mx2.6/31,Error ellipse: s-maj=39.4km s-min=24.3km az=124.0*
*NEIC **25** 22:54:29.4±1.0,6°.5S±0°.1×147°.9E±0°.2,h64km±12km, mb3.9/15,Error ellipse: s-maj=26.5km s-min=11.4km az=127.0*
ISC 25 22:54:27.1±0.9,**6°.31S**±0°.10×**147°.7E**±0°.1,**h35**km,**n28,** σ1§**18**/30,**mb4.0/7,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.13**	**190**	Pn	**Pn**	**22 55 14.9**	**+1.0**
	6.4nm,0.3s,baz=318,slow=3.9,SNR=13						
PMG				Sn	**Sn**	**22 55 53.2**	**+3.1**
	25nm,0.3s,baz=0.5,slow=16,SNR=5.4						
PMG				LR	LR	22 56 54.4	
	comp=Z,95nm,18.2s,baz=347,slow=49						
PMG	**Port Moresby**	**3.13**	**190**		**Pn**	**22 55 15.2**	**+1.3**
PMG				Sn	**Sn**	**22 55 50.4**	**+0.4**
KRVT	**Keravat (AS076**	**4.74**	**65**	Pn	**Pn**	**22 55 37.4**	**+1.2**
	7.8nm,0.3s,baz=3.8,slow=4.1,SNR=4.4						
KRVT				LR	LR	22 57 27.9	
	comp=Z,132nm,21.9s,baz=107,slow=39						
RABL	**Rabaul**	**4.92**	**65**	Pn	**Pn**	**22 55 39.9**	**+1.4**
CTAO	**Charters Tower**	**13.77**	**186**	Pn	**Pn**	**22 57 39.6**	**-0.3**
MTN	**Manton Dam**	**17.57**	**247**	P	**P**	**22 58 31.1**	**+0.9**
MTN				IAmb	IAmb	22 58 43.9	
	comp=Z,4.3nm,0.9s						
WB0	**Warramunga Arr**	**18.61**	**223**	P	**Pn**	**22 58 42.0**	**-0.1**
WR0	**Warramunga Arr**	**18.65**	**222**	P	**Pn**	**22 58 42.2**	**-0.4**
WR0				IAmb	IAmb	22 58 59.4	
	comp=Z,3.9nm,1.1s						
WB2	**Warramunga Arr**	**18.76**	**222**	P	**P**	**22 58 43.1**	**-0.1**
WB2				IAmb	IAmb	22 58 50.5	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**18.77**	**223**	P	**Pn**	**22 58 43.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=49,slow=11,SNR=35						
WRA	**Warramunga Arr**	**18.77**	**223**	P	**P**	**22 58 42.9**	**-0.5**
AS31	**Alice Springs**	**21.77**	**216**	P	**P**	**22 59 16.4**	**+0.4**
ASAR	**Alice Springs**	**21.77**	**216**	P	**P**	**22 59 16.4**	**+0.4**
	comp=Z,2.9nm,0.4s,baz=51,slow=8.7,SNR=62						
ASAR	**Alice Springs**	**21.77**	**216**	P	**P**	**22 59 15.6**	**-0.4**
ARMA	**Armidale**	**24.27**	**172**	P	**P**	**22 59 38.5**	**-2.7**
ARMA				IAmb	IAmb	22 59 58.0	
	comp=Z,4.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**24.50**	**239**	P	**P**	**22 59 44.2**	**+0.9**
	comp=Z,7.5nm,0.4s,baz=54,slow=7.8,SNR=72						
FITZ	**Fitzroy Crossi**	**24.50**	**239**	P	**P**	**22 59 44.1**	**+0.7**
FITZ				IAmb	IAmb	22 59 46.2	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**26.07**	**192**	P	**P**	**22 59 56.0**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=10,slow=8.8,SNR=5.5						
STKA				LR	LR	23 09 42.8	
	comp=Z,39nm,19.0s,baz=121,slow=35						
STKA	**Stephens Creek**	**26.07**	**192**	P	**P**	**22 59 56.4**	**-1.1**
BBOO	**Buckleboo**	**28.51**	**201**	P	**P**	**23 00 18.2**	**-1.1**
CAN	**Canberra**	**28.90**	**178**	P	**P**	**23 00 20.7**	**-2.1**
CAN				IAmb	IAmb	23 00 38.8	
	comp=Z,7.6nm,1.2s						
PSAD2	**Pilbara Seismi**	**30.84**	**238**	P	**P**	**23 00 40.4**	**+0.2**
PSAC2	**Pilbara Seismi**	**30.87**	**238**	P	**P**	**23 00 40.6**	**+0.2**
MORW	**Morawa**	**37.49**	**229**	P	**P**	**23 01 37.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**38.78**	**223**	P	**P**	**23 01 48.2**	**-0.2**
VNDA	**Vanda**	**71.57**	**177**	P	**P**	**23 05 43.5**	**-0.8**
VNDA				IAmb	IAmb	23 05 47.6	
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.66**	**180**	P	**P**	**23 06 51.4**	**-0.6**
QSPA				IAmb	IAmb	23 06 52.3	
	comp=Z,1.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.84**	**284**	PKPbc	**PKPab**	**23 14 04.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=61,slow=3.5,SNR=13						

*IDC **25** 22:57:58.1±2.2,7°.32S×129°.68E,h118km±28km,mb3.2/1, mb1 3.6/6,mb1mx3.3/36,mbtmp3.9/6,Error ellipse: s-maj=39.4km s-min=21.2km az=94.0*
ISC 25 22:57:56.3±0.9,**7°.41S**±0°.06×**129°.73E**±0°.10,**h100**km,**n6,** σ3§**09**/**11,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.61**	**245**	P	**Pn**	**22 59 33.0**	**+2.1**
	5.1nm,0.3s,baz=321,slow=21,SNR=3.5						
BATI				S	**Sn**	**23 00 42.9**	**-1.9**
	3.9nm,0.3s,baz=50,slow=24,SNR=2.1						
SIJI	**Sorong**	**6.67**	**13**	P	**Pn**	**22 59 32.9**	**+1.1**
	1.2nm,0.3s,baz=35,slow=23,SNR=22						
SIJI				S	**Sn**	**23 00 42.6**	**-3.9**
	2.9nm,0.3s,baz=84,slow=24,SNR=7.0						
FITZ	**Fitzroy Crossi**	**11.35**	**200**	P	**Pn**	**23 00 36.4**	**+1.1**
	0.9nm,0.3s,baz=18,slow=12,SNR=13						
FITZ				S	**Sn**	**23 02 36.3**	**-3.9**
	2.2nm,0.3s,baz=138,slow=22,SNR=9.5						

WRA Warramunga Arr 13.24 161 P **Pn 23 01 02.8 +2.4**
1.5nm,0.3s,baz=352,slow=13,SNR=27
WRA S **Sn 23 03 23.4 -2.7**
1.0nm,0.3s,baz=331,slow=23,SNR=6.3
ASAR Alice Springs 16.66 167 P **P 23 01 47.3 +2.8**
0.4nm,0.3s,baz=344,slow=14,SNR=13
ASAR S **Sn 23 04 45.0 -3.7**
0.1nm,0.3s,baz=347,slow=25,SNR=3.0
MKAR Makanchi Array 68.42 327 P **P 23 08 46.5 -0.9**
0.3nm,0.4s,baz=126,slow=8.1,SNR=4.5

*IDC **25** 23:07:07.6±4.8,12°.91N×91°.40W,h0km,mb3.8/1, mb1 4.1/2,mb1mx3.6/25,mbtmp3.5/2,ML4.0/1,Error ellipse: s-maj=447.0km s-min=69.3km az=49.0*
*UCR **25** 23:07:12.8±0.9,13°.46N×91°.24W,h12km±7km,ML3.0, mb4.0(NEIC)*
*SNET **25** 23:07:12.6±0.9,13°.45N×91°.24W,h13km±7km,ML3.1*
*NEIC **25** 23:07:14.2±2.0,13°.46N±0°.09×91°.20W±0°.08,h41km±21km, mb4.0/6,Error ellipse: s-maj=15.8km s-min=7.6km az=220.0*
*GCG **25** 23:07:18.9±0.3,13°.82N×91°.20W,h29km±6km,MD4.2*
ISC 25 23:07:10.8±2.3,**13°.37N**±0°.08×**91°.29W**±0°.05,**h12**km±13km, **n49,**σ1§**06**/62,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**1.10**	**346**	*eP*	**Pb**	**23 07 32.5**	**+0.7**
FUG	**Fuego 3**	**1.16**	**22**	*eP*	**Pb**	**23 07 33.1**	**+0.2**
RTAL	**Retalhuleu**	**1.21**	**341**	*eP*	**Pb**	**23 07 32.8**	**-0.9**
RTAL				*eS*	**Sb**	**23 07 49.2**	**-0.1**
RTAL				IAML		23 07 54.1	
	comp=Z,292nm,0.5s						
RTAL	**Retalhuleu**	**1.21**	**341**	Pn	**Pb**	**23 07 33.1**	**-0.5**
RTAL				Sn	**Sb**	**23 07 46.5**	**-2.8**
PCG	**Pacaya**	**1.22**	**33**	*eP*	**Pg**	**23 07 34.9**	**+0.6**
NBG	**Las Nubes**	**1.52**	**37**	*eP*	**Pb**	**23 07 39.6**	**+0.5**
SNJE	**San Jose**	**1.71**	**73**	*eP*	**Pn**	**23 07 41.3**	**+0.6**
SNJE	**San Jose**	**1.71**	**73**	*eP*	**Pn**	**23 07 41.3**	**+0.6**
UNIC	**Universidad Ca**	**1.80**	**70**	*eP*	**Pn**	**23 07 42.8**	**+1.0**
UNIC				*eS*	**Sb**	**23 08 05.6**	**-0.8**
UNIC	**Universidad Ca**	**1.80**	**70**	*eP*	**Pn**	**23 07 42.8**	**+1.0**
UNIC				*eS*	**Sb**	**23 08 05.6**	**-0.8**
HUEH	**Huehuetenango**	**1.95**	**354**	*eP*	**Pn**	**23 07 44.2**	**+0.3**
HUEH				*eS*	**Sb**	**23 08 10.0**	**-0.7**
HUEH	**Huehuetenango**	**1.95**	**354**	Pn	**Pn**	**23 07 43.8**	**-0.1**
TACO	**Tacachico**	**1.98**	**72**	*eP*	**Pn**	**23 07 44.4**	**+0.3**
TACO				IAML		23 08 03.4	
	comp=Z,63nm,0.4s						
TACO				*eS*	**Sn**	**23 08 09.2**	**+0.3**
TACO	**Tacachico**	**1.98**	**72**	*eP*	**Pn**	**23 07 44.4**	**+0.3**
TACO				IAML		23 08 03.4	
	comp=Z,63nm,0.4s						
TACO				*eS*	**Sn**	**23 08 09.2**	**+0.3**
BOQS	**Boqueron**	**1.99**	**79**	*eP*	**Pn**	**23 07 45.4**	**+0.8**
BOQS	**Boqueron**	**1.99**	**79**	*eP*	**Pn**	**23 07 45.4**	**+0.8**
SNET	**Serv Nac Est T**	**2.03**	**81**		**Pn**	**23 07 44.7**	**-0.2**
MTO3	**Montecristo**	**2.14**	**61**	*eP*	**Pn**	**23 07 47.2**	**+0.7**
MTO3	**Montecristo**	**2.14**	**61**	*eP*	**Pn**	**23 07 47.2**	**+0.7**
MTO3	**Montecristo**	**2.14**	**61**	Pn	**Pn**	**23 07 45.2**	**-1.4**
LFRS	**El Faro**	**2.19**	**83**	*eP*	**Pn**	**23 07 48.0**	**+0.9**
LFRS				*eS*	**Sn**	**23 08 15.4**	**+1.2**
LFRS	**El Faro**	**2.19**	**83**	*eP*	**Pn**	**23 07 48.0**	**+0.9**
LFRS				*eS*	**Sn**	**23 08 15.4**	**+1.2**
LBRS	**Las Brisas**	**2.22**	**80**	*eP*	**Pn**	**23 07 48.7**	**+1.2**
LBRS	**Las Brisas**	**2.22**	**80**	*eP*	**Pn**	**23 07 48.7**	**+1.2**
ESQI	**Esquipulas**	**2.23**	**58**	*eP*	**Pn**	**23 07 48.8**	**+1.1**
ESQI	**Esquipulas**	**2.23**	**58**	Pn	**Pn**	**23 07 47.8**	**0.0**
MRL	**Marmol**	**2.31**	**42**	*eP*	**Pb**	**23 07 51.3**	**-1.3**
PAVA	**Las Pavas**	**2.32**	**81**	*eP*	**Pn**	**23 07 50.2**	**+1.3**
PAVA				*eS*	**Sn**	**23 08 18.1**	**+0.6**
PAVA				IAML		23 08 25.6	
	comp=Z,172nm,0.3s						
PAVA	**Las Pavas**	**2.32**	**81**	*eP*	**Pn**	**23 07 50.2**	**+1.3**
PAVA				*eS*	**Sn**	**23 08 18.1**	**+0.6**
PAVA				IAML		23 08 25.6	
	comp=Z,172nm,0.3s						
TECA	**Tecapa**	**2.72**	**87**	*eP*	**Pn**	**23 07 55.5**	**+1.0**
TECA	**Tecapa**	**2.72**	**87**	*eP*	**Pn**	**23 07 55.5**	**+1.0**
CCIG	**Comitan**	**3.01**	**344**	Pn	**Pn**	**23 08 00.1**	**+1.6**
LCND	**La Caada**	**3.31**	**91**	*eP*	**Pn**	**23 08 03.2**	**+0.7**
LCND				*eS*	**Sn**	**23 08 43.1**	**+1.2**
LCND				IAML		23 08 53.5	
	comp=Z,126nm,0.4s						
LCND	**La Caada**	**3.31**	**91**	*eP*	**Pn**	**23 08 03.2**	**+0.7**
LCND				*eS*	**Sn**	**23 08 43.1**	**+1.2**
LCND				IAML		23 08 53.5	
	comp=Z,126nm,0.4s						
PETF	**Flores**	**3.79**	**21**	Pn	**Pn**	**23 08 08.8**	**-0.2**
TGUH	**Tegucigalpa,Un**	**3.97**	**80**	Pn	**Pn**	**23 08 11.7**	**+0.1**
CRIN	**San Cristobal**	**4.19**	**99**	Pn	**Pn**	**23 08 14.6**	**0.0**
MATN	**Matagalpa**	**5.25**	**94**		**Pn**	**23 08 28.2**	**-1.0**
TEIG	**Tepich**	**7.41**	**23**	Pn	**Pn**	**23 08 58.9**	**+0.2**
ROSC	**El Rosal**	**18.77**	**115**	P	**P**	**23 11 26.7**	**-3.7**
ROSC				IAmb	IAmb	23 11 48.4	
	comp=Z,6.5nm,0.5s						
TX32	**Lajitas Array**	**19.60**	**326**	P	**P**	**23 11 39.8**	**+0.6**
TX32				IAmb	IAmb	23 11 45.0	
	comp=Z,14nm,2.0s						
TXAR	**Lajitas Array**	**19.60**	**326**	P	**P**	**23 11 40.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=10						
TXAR	**Lajitas Array**	**19.60**	**326**	P	**P**	**23 11 39.9**	**+0.8**
TX31	**Lajitas Ar. Si**	**19.60**	**326**	P	**P**	**23 11 38.9**	**-0.2**
TX31				IAmb	IAmb	23 11 43.6	
	comp=Z,6.7nm,1.0s						
MNTX	**Cornudas Mount**	**22.36**	**327**	P	**P**	**23 12 08.0**	**-0.9**
PV22	**Blue Mesa, Par**	**29.48**	**331**	P	**P**	**23 13 14.6**	**-0.4**
PV22				IAmb	IAmb	23 14 12.0	
	comp=Z,5.6nm,1.2s						
PV23	**Carpenter Ridg**	**29.52**	**331**	P	**P**	**23 13 14.7**	**-0.8**
NVAR	**Mina Array Bea**	**34.59**	**321**	P	**P**	**23 14 01.4**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=138,slow=11,SNR=2.5						
CMAR	**Chiang Mai Arr**	**146.80**	**342**	PKPbc	**PKPdf**	**23 26 52.9**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=345,slow=3.1,SNR=4.9						

IDC 25 23:10:34.8±1.6,**7°.77N**×**94°.47E,h0**km,**mb3.5**/5,**mb1 3.7**/6, **mb1mx3.5**/37,**mbtmp3.5**/6,**ML4.0**/1,**MS3.2**/1,**Ms1 3.2**/1, **ms1mx2.5**/33,**Error ellipse: s-maj=66.0km s-min=23.7km az=59.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.48**	**22**	Pn	Pn	23 13 21.8	+1.6
	0.3nm,0.3s,baz=218,slow=15,SNR=1.9						
PALK	**Pallekele**	**13.66**	**269**	LR	LR	23 18 11.3	
	comp=Z,97nm,19.2s,baz=204,slow=33						
MKAR	**Makanchi Array**	**40.27**	**347**	P	P	23 18 12.7	-0.9
	0.9nm,0.8s,baz=155,slow=6.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**46.71**	**352**	P	P	23 19 04.9	-0.4
	0.4nm,0.4s,baz=178,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**47.93**	**126**	P	P	23 19 15.6	+0.1
	0.2nm,0.7s,baz=306,slow=8.6,SNR=2.2						
ASAR	**

az=203.0
*IDC **25** 23:41:33.0±0.9,0°.95N×10°.21E,h195km±7km,mb3.8/18, mb1 3.8/20,mb1mx3.6/43,mbtmp4.2/20,MS2.7/2, Ms1 2.7/2,ms1mx2.4/44,Error ellipse: s-maj=19.7km s-min=8.8km az=47.0*
*DJA **25** 23:41:34.1±0.3,1°.N±2°.×10°.0E±°,h193km±3km,M4.1/19, mB4.7/3,mb4.1/5,MLv4.1/19,Mw(mB)4.0/3*
ISC 25 23:41:33.2±0.6,**0.91N**±0.05×**100.13E**±0.04,**h199**km±5km, **n87**,σ**0**98/100,**mb4.0**/32,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.56**	**258**	P	**Pn**		**23 42 00.7**	**+0.2**
MNSI				S	**Sn**		**23 42 21.5**	**0.0**
BKNI	**Bangkinang**	**1.08**	**123**	P	**Pn**		**23 42 04.3**	**+0.8**
BKNI				S	**Sn**		**23 42 27.9**	**+1.0**
BKNI	**Bangkinang**	**1.08**	**123**		**Pn**		**23 42 04.5**	**+1.0**
BKNI				Sn	**Sn**		**23 42 27.7**	**+0.8**
RPSI	**Rantau Prapat**	**2.14**	**326**	Pn	**Pn**		**23 42 14.2**	**+1.0**
RPSI				Sn	**Sn**		**23 42 44.4**	**0.0**
PSI	**Prapat**	**2.23**	**327**	P	**Pn**		**23 42 14.3**	**0.0**
	21nm,0.3s,baz=167,slow=8.3,SNR=46							
PSI				S	**Sn**		**23 42 44.0**	**-2.3**
	5.5nm,0.3s,baz=2.6,slow=18,SNR=9.9							
PSI				LR	LR		23 42 49.0	
	comp=Z,56nm,20.1s,baz=258,slow=35							
SDSI	**Sungai Dareh**	**2.24**	**145**	P	**Pn**		**23 42 14.9**	**+0.6**
SDSI				S	**Sn**		**23 42 46.9**	**+0.6**
SISI	**Saibi**	**2.45**	**205**	P	**Pn**		**23 42 16.2**	**-0.4**
SISI				S	**Sn**		**23 42 49.1**	**-1.4**
GSI	**Gunungsitoli**	**2.58**	**279**	P	**Pn**		**23 42 18.8**	**+0.7**
GSI				S	**Sn**		**23 42 52.2**	**-0.8**
GSI	**Gunungsitoli**	**2.58**	**279**	Pn	**Pn**		**23 42 19.0**	**+0.9**
GSI				Sn	**Sn**		**23 42 52.4**	**-0.6**
TSI	**Tuntungan**	**3.01**	**329**	P	**Pn**		**23 42 24.1**	**+1.1**
IPM	**Ipoh**	**3.66**	**14**	Pn	**Pn**		**23 42 32.2**	**+1.4**
TPTI		**3.76**	**308**	P	**Pn**		**23 42 32.5**	**+0.4**
MYKOM	**Kota Tinggi**	**3.82**	**77**	Pn	**Pn**		**23 42 33.1**	**+0.3**
KULM	**Kulim**	**4.38**	**7**	Pn	**Pn**		**23 42 40.3**	**+0.5**
TPRI	**Tanjung Pinang**	**4.40**	**90**	P	**Pn**		**23 42 41.6**	**+1.6**
DSRI	**Dabo**	**4.66**	**107**	P	**Pn**		**23 42 45.6**	**+2.3**
MLSI	**Meulaboh, Aceh**	**5.00**	**312**	P	**Pn**		**23 42 47.7**	**+0.1**
LHMI	**Lhok Sumawe**	**5.34**	**324**	P	**Pn**		**23 42 52.5**	**+0.5**
	0.4nm1um40nm,0.8s							
LHMI	**Lhok Sumawe**	**5.34**	**324**	Pn	**Pn**		**23 42 53.0**	**+1.0**
MNAI	**Manna**	**5.95**	**152**	P	**Pn**		**23 43 00.0**	**+0.1**
	1.2nm241nm,1.0s							
MNAI	**Manna**	**5.95**	**152**	Pn	**Pn**		**23 42 59.6**	**-0.3**
MDSI	**Maura Dua**	**6.71**	**143**	P	**Pn**		**23 43 10.0**	**+0.2**
	0.1nm503nm8.2nm,0.9s							
PPBI	**Pangkal Pinang**	**6.74**	**117**	P	**Pn**		**23 43 12.0**	**+1.9**
CISI	**Cisompet, Garu**	**11.38**	**138**	Pn	**Pn**		**23 44 09.0**	**-1.4**
SBUM	**Sibu**	**12.18**	**83**	Pn	**P**		**23 44 20.7**	**-4.3**
UGM	**Wanagama**	**13.57**	**130**	Pn	**Pn**		**23 44 36.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**17.48**	**356**	P	**Pn**		**23 45 25.1**	**-0.2**
	0.2nm,0.3s,baz=174,slow=8.9,SNR=1.7							
PALK	**Pallekele**	**20.37**	**289**	P	**P**		**23 45 57.0**	**+2.1**
	5.9nm,0.8s,baz=213,slow=8.5,SNR=7.7							
PALK	**Pallekele**	**20.37**	**289**	P	**P**		**23 45 57.2**	**+2.2**
PALK				IAmb	IAmb		23 45 59.2	
	comp=Z,5.7nm,0.8s							
KAPI	**Kappang**	**20.46**	**107**	P	**P**		**23 45 56.1**	**+0.2**
	comp=Z,4.9nm,0.3s,baz=267,slow=11,SNR=4.7							
BATI	**Baumata**	**25.89**	**116**	P	**P**		**23 46 45.8**	**-1.3**
	comp=Z,8.9nm,0.4s,baz=44,slow=2.6,SNR=1.9							
MORW	**Morawa**	**33.47**	**154**	P	**P**		**23 47 55.0**	**+1.2**
MTN	**Manton Dam**	**33.66**	**115**	P	**P**		**23 47 55.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.33**	**156**	P	**P**		**23 48 27.2**	**+0.7**
	comp=Z,6.3nm,0.6s,baz=120,slow=23,SNR=1.8							
NWAO	**Narrogin (SRO)**	**37.33**	**156**	P	**P**		**23 48 27.0**	**+0.5**
WB0	**Warramunga Arr**	**39.38**	**123**	P	**P**		**23 48 43.0**	**-0.8**
WB0				IAmb	IAmb		23 48 43.9	
	comp=Z,3.4nm,0.8s							
WRA	**Warramunga Arr**	**39.42**	**124**	P	**P**		**23 48 43.8**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=308,slow=9.2,SNR=42							
WRA				PcP	**PcP**		**23 50 48.3**	**0.0**
	comp=Z,1.0nm,0.5s,baz=316,slow=2.6,SNR=14							
WRA	**Warramunga Arr**	**39.42**	**124**	P	**P**		**23 48 43.7**	**-0.5**
WRA					**PcP**		**23 50 48.2**	**0.0**
WR0	**Warramunga Arr**	**39.59**	**123**	P	**P**		**23 48 45.1**	**-0.5**
WR0				IAmb	IAmb		23 48 47.9	
	comp=Z,5.3nm,0.8s							
AS31	**Alice Springs**	**40.91**	**129**	P	**P**		**23 48 54.8**	**-1.7**
ASAR	**Alice Springs**	**40.91**	**129**	P	**P**		**23 48 55.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=307,slow=8.0,SNR=15							
ASAR				PcP	**PcP**		**23 50 53.5**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=311,slow=2.6,SNR=22							
ASAR				ScP	**ScP**		**23 54 23.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=288,slow=3.9,SNR=4.8							
ASAR				LR	LR		00 06 56.7	
	comp=Z,37nm,19.4s,baz=135,slow=37							
ASAR	**Alice Springs**	**40.91**	**129**	P	**P**		**23 48 54.7**	**-1.7**
ASAR					**PcP**		**23 50 53.5**	**+0.4**
NIL	**Nilore**	**41.18**	**325**	P	**P**		**23 48 58.8**	**+0.3**
NIL				IAmb	IAmb		23 48 59.4	
	comp=Z,5.5nm,1.1s							
FORT	**Forrest**	**41.21**	**142**	P	**P**		**23 48 58.9**	**+0.2**
KSRS	**Korea Array**	**44.48**	**32**	P	**P**		**23 49 24.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=230,slow=8.1,SNR=5.3							
KDJ	**Kajisay**	**45.94**	**336**	P	**P**		**23 49 37.2**	**+0.8**
KDJ				IAmb	IAmb		23 49 38.7	
	comp=Z,3.2nm,0.8s							
BBOO	**Buckleboo**	**47.68**	**138**	P	**P**		**23 49 49.0**	**-0.9**
BBOO				IAmb	IAmb		23 49 55.6	
	comp=Z,8.9nm,1.1s							
MK31	**Makanchi Array**	**48.28**	**344**	P	**P**		**23 49 54.7**	**+0.4**
MK31				IAmb	IAmb		23 49 55.4	
	comp=Z,2.9nm,0.7s							
MKAR	**Makanchi Array**	**48.28**	**344**	P	**P**		**23 49 54.6**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=158,slow=8.5,SNR=58							
MAKZ	**Makanchi**	**48.39**	**343**	P	**P**		**23 49 55.5**	**+0.4**
KK31	**Karatay Array**	**49.66**	**332**	P	**P**		**23 50 05.3**	**+0.6**
KKAR	**Karatay Array**	**49.66**	**332**	P	**P**		**23 50 05.3**	**+0.5**
KKAR	**Karatay Array**	**49.66**	**332**	P	**P**		**23 50 05.2**	**+0.4**
KKAR				IAmb	IAmb		23 50 18.0	
	comp=Z,1.6nm,1.1s							
STKA	**Stephens Creek**	**51.01**	**134**	P	**P**		**23 50 14.5**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=288,slow=5.3,SNR=3.5							
STKA	**Stephens Creek**	**51.01**	**134**	P	**P**		**23 50 14.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**51.55**	**29**	P	**P**		**23 50 19.0**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=281,slow=7.6,SNR=4.6							
KURK	**Kurchatov**	**52.88**	**343**	P	**P**		**23 50 28.7**	**+0.2**
KURK				IAmb	IAmb		23 50 29.5	
	comp=Z,3.7nm,0.7s							
ZAA0	**Zalesovo Array**	**54.35**	**349**	P	**P**		**23 50 38.6**	**-0.5**
ZAA0				IAmb	IAmb		23 50 39.2	
	comp=Z,2.2nm,0.7s							
ZALV	**Zalesovo Beam**	**54.35**	**349**	P	**P**		**23 50 38.9**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=156,slow=6.8,SNR=17							
ZALV	**Zalesovo Beam**	**54.35**	**349**	P	**P**		**23 50 38.7**	**-0.5**
BRVK	**Borovoye**	**57.59**	**339**	P	**P**		**23 51 01.9**	**-0.2**
BRVK				IAmb	IAmb		23 51 02.4	
	comp=Z,4.1nm,0.8s							
CAN	**Canberra**	**58.08**	**133**	P	**P**		**23 51 06.1**	**+0.2**
CAN				IAmb	IAmb		23 51 06.9	
	comp=Z,5.4nm,0.9s							
ABKAR	**Akbulak array**	**59.18**	**331**	P	**P**		**23 51 13.2**	**0.0**
ABKAR				IAmb	IAmb		23 51 13.8	
	comp=Z,3.0nm,0.8s							
ABKAR	**Akbulak array**	**59.18**	**331**	P	**P**		**23 51 12.9**	**-0.2**
KBZ	**Khabaz**	**66.22**	**318**	P	**P**		**23 51 59.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=159,slow=8.6,SNR=2.9							
BR131	**Keskin Array S**	**71.48**	**312**	P	**P**		**23 52 32.5**	**-0.1**
BRTR	**Keskin Array B**	**71.48**	**312**	P	**P**		**23 52 32.2**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=131,slow=6.5,SNR=9.0							
TIXI	**Tiksi**	**72.98**	**9**	P	**P**		**23 52 39.5**	**-1.1**
TIXI				IAmb	IAmb		23 52 40.4	
	comp=Z,1.5nm,0.5s							
LBTB	**Lobatse**	**76.39**	**244**	P	**P**		**23 53 02.4**	**+1.1**
LBTB				IAmb	IAmb		23 53 13.6	
	comp=Z,3.0nm,1.0s							
AKASG	**Malin Array Be**	**77.28**	**322**	P	**P**		**23 53 05.0**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=90,slow=4.9,SNR=5.8							
THZ	**Tophouse**	**77.82**	**133**	P	**P**		**23 53 09.3**	**+0.5**
BURAR	**Bucovina Array**	**79.18**	**318**	P	**P**		**23 53 17.5**	**+1.3**
BUR08	**Bucovina Ar. S**	**79.20**	**318**	P	**P**		**23 53 17.4**	**+1.0**
BUR08				IAmb	IAmb		23 53 18.0	
	comp=Z,5.8nm,1.1s							
BKZ	**Black Stump Fm**	**80.02**	**130**	P	**P**		**23 53 20.4**	**-0.5**
BKZ				IAmb	IAmb		23 53 21.4	
	comp=Z,5.5nm,1.1s							
FIA1	**FINESS Array S**	**81.61**	**332**	P	**P**		**23 53 28.8**	**+0.1**
FINES	**FINESS Array B**	**81.61**	**332**	P	**P**		**23 53 28.9**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=116,slow=6.4,SNR=22							

ARCES	**ARCESS Array B**	**83.80**	**340**	P	**P**		**23 53 40.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=87,slow=6.4,SNR=10							
GERES	**GERESS Array B**	**86.96**	**319**	P	**P**		**23 53 56.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=86,slow=4.1,SNR=5.7							
PRED	**Cave del Predi**	**86.97**	**316**	P	**P**		**23 53 56.5**	**+0.4**
PRED				IAmb	IAmb		23 53 57.6	
	comp=Z,3.9nm,0.8s							
CIMO	**Cimolais**	**87.75**	**316**	P	**P**		**23 54 00.5**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**89.25**	**316**	P	**P**		**23 54 08.3**	**+1.2**
DAVOX	**Davos/Dischmat**	**89.52**	**317**	P	**P**		**23 54 09.2**	**+1.0**
	comp=Z,2.8nm,0.5s,baz=155,slow=4.1,SNR=9.7							
QSPA	**South Pole Qui**	**90.85**	**180**	P	**P**		**23 54 15.3**	**+1.4**
PDAR	**Pinedale Array**	**128.97**	**28**	PKP	**PKPdf**		**00 00 17.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=328,slow=1.2,SNR=1.8							
TXAR	**Lajitas Array**	**142.29**	**35**	PKhKP	PKPpre		00 00 38.9	
	comp=Z,0.3nm,0.5s,baz=210,slow=1.2,SNR=7.2							
BDFB	**Brasilia**	**145.33**	**243**	PKPbc	**PKPdf**		**00 00 49.2**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=321,slow=3.9,SNR=4.4							
CPUP	**Villa Florida**	**146.69**	**219**	PKPbc	**PKPbc**		**00 00 52.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=128,slow=3.8,SNR=8.5							

*REY **25** 23:55:32.3,64°.68N×17°.49W,h6km*
*IDC **25** 23:55:32.9±0.6,64°.62N×17°.63W,h0km,mb4.0/21, mb1 4.2/24,mb1mx4.0/53,mbtmp4.0/24,ML3.4/3,MS3.2/4, Ms1 3.2/4,ms1mx2.7/47,Error ellipse: s-maj=15.7km s-min=9.4km az=11.0*
*MOS **25** 23:55:33.5±1.0,64°.60N×17°.54W,h17km,mb4.6/39,Error ellipse: s-maj=10.8km s-min=7.5km az=105.7*
*NEIC **25** 23:55:34.1±1.3,64°.65N±0°.08×17°.6W±0°.1,h9km±3km, mb4.6/85,Error ellipse: s-maj=12.2km s-min=7.5km az=204.0*
*BGR **25** 23:55:41.0±0.0,64°.28N×17°.38W,h33km,mb4.1,Ms3.0*
ISC 25 23:55:33.0±0.7,**64°.69N**±0°.02×**17°.53W**±0°.02,**h3**km±4km, **n308**,σ**1**9**50**/332,**mb4.5**/95,**MS3.2**/5,**10C-2D**,**Iceland**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**258**	P	**Pg**		**23 55 34.8**	**-0.2**
	baz=267							
IVON				S	**Sg**		**23 55 36.5**	**+0.1**
	baz=267							
IDYN	**Dyngjuhals**	**0.12**	**35**	P	**Pg**		**23 55 35.2**	**-0.2**
	baz=25							
IDYN				S	**Sg**		**23 55 37.2**	**+0.2**
	baz=25							
IURH	**Urdarhals**	**0.21**	**52**	P	**Pg**		**23 55 36.5**	**-0.5**
	baz=46							
IURH				S	**Sg**		**23 55 39.6**	**0.0**
	baz=46							
IDJK	**Dyngjujokull**	**0.23**	**147**	P	**Pg**		**23 55 36.9**	**-0.5**
	baz=148							
IHAM	**Hamarinn**	**0.25**	**211**	S	**Sg**		**23 55 40.8**	**-0.3**
	baz=216							
IGRF	**Grimsfjall**	**0.31**	**159**	P	**Pg**		**23 55 37.8**	**-1.1**
	baz=161							
IGRF				S	**Sg**		**23 55 42.4**	**-0.6**
	baz=161							
IKVE	**Kverkfjoll**	**0.36**	**92**	P	**Pg**		**23 55 38.9**	**-1.2**
	baz=90							
IKVE				S	**Sg**		**23 55 43.5**	**-1.3**
	baz=90							
ISKR	**Skrokkalda**	**0.40**	**250**	P	**Pg**		**23 55 39.7**	**-0.8**
	baz=253							
IHUS	**Husbondi**	**0.41**	**188**	P	**Pg**		**23 55 39.6**	**-1.1**
	baz=191							
THOR	**Thorvaldshraun**	**0.44**	**56**	P	**Pg**		**23 55 40.2**	**-1.1**
	baz=53							
THOR				S	**Sg**		**23 55 46.1**	**-0.9**
	baz=53							
IVOT	**Vottur**	**0.45**	**161**	P	**Pg**		**23 55 40.1**	**-1.5**
	baz=162							
IJOK	**Jokulheimar**	**0.49**	**219**	P	**Pg**		**23 55 41.0**	**-1.3**
	baz=221							
IKRE	**Kreppuhraun**	**0.50**	**79**	P	**Pg**		**23 55 40.9**	**-1.7**
	baz=77							
IKRE				S	**Sg**		**23 55 47.5**	**-1.4**
	baz=77							
IASK	**Askja**	**0.52**	**46**	P	**Pg**		**23 55 41.6**	**-1.3**
	baz=44							
IASK				S	**Sg**		**23 55 48.7**	**-1.0**
	baz=44							
IMKO	**Mokollar**	**0.58**	**60**	P	**Pg**		**23 55 42.6**	**-1.5**
	baz=58							
IMKO				S	**Sg**		**23 55 50.6**	**-1.1**
	baz=58							
IIEY	**Innrieyrar**	**0.66**	**204**	P	**Pg**		**23 55 43.8**	**-1.8**
	baz=206							
IIEY				S	**Sg**		**23 55 52.2**	**-1.8**
	baz=206							
ISVA	**Svartarkot**	**0.66**	**10**	P	**Pg**		**23 55 44.4**	**-1.2**
	baz=8.5							
IKSK	**Karasker**	**0.70**	**139**	P	**Pg**		**23 55 43.6**	**-2.8**
	baz=139							
IKSK				S	**Sg**		**23 55 52.7**	**-2.8**
	baz=139							
IKAL	**Kalfafell**	**0.75**	**185**	P	**Pg**		**23 55 45.3**	**-2.1**
	baz=187							
IKAL				S	**Sg**		**23 55 55.6**	**-1.5**
	baz=187							
IVSH	**V-Sauoahnukur**	**0.78**	**81**	P	**Pg**		**23 55 45.5**	**-2.4**
	baz=80							
IVSH				S	**Sg**		**23 55 55.8**	**-2.2**
	baz=80							
IVAT	**Vatnsfell**	**0.79**	**230**	P	**Pg**		**23 55 46.4**	**-1.7**
	baz=232							
IVAT				S	**Sg**		**23 55 56.5**	**-1.8**
	baz=232							
IHVE	**Hveravellir**	**0.89**	**282**	P	**Pg**		**23 55 48.0**	**-2.1**
	baz=283							
IADA	**Aoalbol**	**0.90**	**68**	P	**Pg**		**23 55 47.5**	**-2.6**
	baz=66							
IADA				S	**Sg**		**23 55 59.4**	**-2.3**
	baz=66							
IMEL	**Melhnausar**	**0.95**	**22**	P	**Pg**		**23 55 49.0**	**-2.2**
	baz=21							
IREN	**Reynihlio**	**0.99**	**15**	P	**Pg**		**23 55 49.8**	**-2.2**
	baz=14							
IKVO	**Krokottuvotn**	**1.06**	**15**	P	**Pg**		**23 55 50.9**	**-2.4**
	baz=14							
ISNB	**Snabyli**	**1.08**	**207**	P	**Pg**		**23 55 50.9**	**-2.7**
	baz=208							
IGRS	**Grimsstaoir**	**1.12**	**31**	P	**Pg**		**23 55 51.8**	**-2.6**
	baz=30							
IGRS				S	**Sg**		**23 56 07.3**	**-1.6**
	baz=30							
ISLY	**Slysaalda**	**1.12**	**219**	P	**Pg**		**23 55 51.8**	**-2.5**
	baz=220							
IFED	**Fedgar**	**1.16**	**235**	P	**Pg**		**23 55 52.9**	**-2.2**
	baz=237							
IRJU	**Rjupnafell**	**1.19**	**205**	P	**Pg**		**23 55 52.9**	**-2.9**
	baz=206							
ISKI	**Skildingahlsh**	**1.20**	**10**	P	**Pg**		**23 55 53.2**	**-2.7**
	baz=9.0							
ISKI				S	**Sg**		**23 56 09.0**	**-2.5**
	baz=9.0							
IMJO	**Mjoaskard**	**1.21**	**232**	P	**Pg**		**23 55 53.8**	**-2.3**
	baz=233							
IGRA	**Granastaoir**	**1.23**	**359**	P	**Pg**		**23 55 53.6**	**-2.9**
	baz=358							
IGRA				S	**Sg**		**23 56 09.8**	**-2.6**
	baz=358							
IGYG	**Gygjarholskot**	**1.24**	**252**	P	**Pg**		**23 55 53.6**	**-3.1**
	baz=252							
IHAU	**Haukadalur**	**1.29**	**237**	P	**Pg**		**23 55 54.5**	**-3.1**
	baz=238							
IDIM	**Dimmadalss**	**1.30**	**11**	P	**Pg**		**23 55 54.7**	**-3.1**
	baz=10.0							
IHLA	**Hella**	**1.31**	**344**	P	**Pg**		**23 55 55.2**	**-2.7**
	baz=344							
IHLA				S	**Sg**		**23 56 12.1**	**-2.8**
	baz=344							
IHVO	**Lagu-Hvolar**	**1.31**	**207**	P	**Pg**		**23 55 54.9**	**-3.1**
	baz=208							
IHED	**Heoinshofoi**	**1.40**	**4**	P	**Pn**		**23 55 56.4**	**-2.9**
	baz=3.0							
IALF	**Alftagrof**	**1.41**	**212**	P	**Pn**		**23 55 56.6**	**-2.9**
	baz=213							
ISAU	**Saurbar**	**1.44**	**242**	P	**Pn**		**23 55 56.7**	**-3.2**
	baz=243							
IBRE	**Brettingsstaoi**	**1.44**	**354**	P	**Pn**		**23 55 57.1**	**-2.8**
	baz=353							
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**		**23 55 57.0**	**-2.9**
	baz=218							
IMID	**Miomork**	**1.47**	**226**	P	**Pn**		**23 55 57.6**	**-2.6**
	baz=227							

IGIL	**Gilhagi**	**1.47**	**19**	P	**Pn**		**23 55 57.0**	**-3.3**
	baz=18							
ISIG	**Siglufjorour**	**1.56**	**339**	P	**Pn**		**23 55 58.9**	**-2.5**
	baz=338							
ISIG				S	**Sn**		**23 56 19.1**	**-3.0**
	baz=338							
IASM	**Asmuli**	**1.60**	**239**	P	**Pn**		**23 55 59.6**	**-2.5**
	baz=240							
BORG	**Borgarnes**	**1.63**	**274**	Pg	**Pn**		**23 56 00.1**	**-2.5**
	34nm,0.3s,baz=82,slow=7.0,SNR=25							
BORG				Lg	Lg		23 56 23.2	
	14nm,0.3s,baz=36,slow=22,SNR=4.1							
BORG	**Borgarnes**	**1.63**	**274**	P	**Pn**		**23 56 00.0**	**-2.5**
BORG							23 56 22.4	
BORG	**Borgarnes**	**1.63**	**274**	Pn	**Pn**		**23 55 60.0**	**-2.5**
BORG				Sn	**Sn**		**23 56 22.4**	**-1.6**
IKRO	**Krokur**	**1.67**	**251**	P	**Pn**		**23 56 00.3**	**-2.7**
	baz=251							
ISOL	**Solvholt**	**1.68**	**244**	P	**Pn**		**23 56 00.6**	**-2.6**
	baz=245							
IHEI	**Heioarbar**	**1.68**	**255**	P	**Pn**		**23 56 00.8**	**-2.4**
	baz=255							
IHRN	**Hraun**	**1.79**	**324**	P	**Pn**		**23 56 02.4**	**-2.3**
	baz=324							
IHRN				S	**Sn**		**23 56 24.8**	**-3.1**
	baz=324							
IBJA	**Bjarnastaoir**	**1.81**	**247**	P	**Pn**		**23 56 02.8**	**-2.1**
	baz=248							
ISAN	**Sandskeio**	**1.87**	**252**	P	**Pn**		**23 56 03.5**	**-2.3**
	baz=252							
IKAS	**Kald??rsel**	**2.00**	**252**	P	**Pn**		**23 56 05.7**	**-1.9**
	baz=253							
IVOS	**Vogsosar**	**2.01**	**247**	P	**Pn**		**23 56 06.2**	**-1.5**
	baz=248							
IKRI	**Krysuvik**	**2.15**	**250**	P	**Pn**		**23 56 07.7**	**-1.9**
	baz=250							
EKB10	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**		**23 58 19.0**	**-2.4**
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**		**23 58 21.3**	**-0.5**
	baz=331,slon=13,SNR=6.9							
ESK	**Eskdalemuir**	**11.79**	**136**	P	**Pn**		**23 58 20.0**	**-1.7**
ESK	**Eskdalemuir**	**11.79**	**136**	Pn	**Pn**		**23 58 20.0**	**-1.7**
NC204	**NORSAR Array S**	**13.24**	**92**		**Pn**		**23 58 38.8**	**-2.8**
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	**Pn**		**23 58 42.1**	**-3.7**
	0.0nm,0.3s,baz=302,slow=12,SNR=1.8							
ARCES	**ARCESS Array B**	**17.11**	**55**	P	**P**		**23 59 35.4**	**+0.9**
	baz=297,slow=6.0,SNR=1.8							
CLZ	**Clausthal**	**19.30**	**119**	*e*P	**Pn**		**23 59 59.2**	**-0.5**
	16nm,1.0s,baz=322,slow=9.6							
WLF	**Walferdange**	**19.59**	**129**	P	**P**		**00 00 01.4**	**-0.5**
WLF	**Walferdange**	**19.59**	**129**		**P**		**00 00 01.4**	**-0.5**
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**		**00 00 04.9**	**+0.4**
	0.1nm,0.3s,baz=252,slow=12,SNR=3.0							
FINES	**FINESS Array B**	**19.71**	**79**	P	**P**		**00 00 03.0**	**0.0**
CLL	**Collm**	**20.73**	**116**	*e*P	**P**		**00 00 14.0**	**-0.2**
	comp=Z,21nm,1.2s							
CLL	**Collm**	**20.73**	**116**	*e*P	**P**		**00 00 14.0**	**-0.2**
CLL				pmax	pmax			
	comp=Z,21nm,1.2s							
CLL	**Collm**	**20.73**	**116**	P	**P**		**00 00 13.1**	**-1.1**
CLL				IAmb	IAmb		00 00 17.8	
	comp=Z,28nm,1.4s							
MOX	**Moxa**	**20.73**	**119**	*e*P	**P**		**00 00 14.1**	**-0.1**
	comp=Z,23nm,1.3s,baz=322,slow=9.6							
MOX				*e*L	L		00 08 53.1	
	comp=Z,90nm,18.3s							
ECH	**Echery**	**21.18**	**129**	P	**P**		**00 00 19.1**	**-0.1**
ECH				pmax	pmax			
	comp=Z,11nm,1.0s							
ECH	**Echery**	**21.18**	**129**	P	**P**		**00 00 19.1**	**-0.1**
GRA1	**Grafenberg Arr**	**21.36**	**121**	P	**P**		**00 00 20.3**	**-0.8**
GRA1				IAmb	IAmb		00 00 34.4	
	comp=Z,35nm,1.3s							
GRF	**Grafenberg Arr**	**21.36**	**121**	P	**P**		**00 00 20.3**	**-0.8**
GRF				pmax	pmax			
	comp=Z,35nm,1.3s							
GRF	**Grafenberg Arr**	**21.36**	**121**	*e*P	**P**		**00 00 22.3**	**+1.2**
	comp=Z,13nm,1.0s,baz=322,slow=9.6							
GRF				*e*L	L		00 15 13.3	
	comp=Z,38nm,19.4s							
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**		**00 00 23.

comp=Z,7.6nm,1.4s
MVO Moncorvo 24.34 161 *e*P P **00 00 53.0 +1.2**
comp=Z,18nm,1.7s
JAVC Velka Javorina 24.50 113 *e*P P **00 00 54.3 +1.1**
CONA Conrad Observa 24.55 117 *e*P P **00 00 54.0 +0.3**
comp=Z,5.4nm,0.9s
CTI Castel Tesino 24.59 125 P P **00 00 52.9 -1.2**
CTI pmax pmax
comp=Z,11nm,1.1s
CTI Castel Tesino 24.59 125 P P **00 00 52.9 -1.2**
PRED Cave del Predi 24.94 122 P P **00 00 56.5 -0.7**
PRED IAmb IAmb 00 01 06.9
comp=Z,16nm,1.4s
MTE Manteigas 25.02 162 *e*P P **00 01 00.3 +2.4**
comp=Z,17nm,1.5s
MTE Manteigas 25.02 162 P P **00 00 58.1 +0.3**
COI Coimbra 25.09 163 P P **00 00 59.0 +0.5**
COI pmax pmax
comp=Z,28nm,1.3s
COI Coimbra 25.09 163 P P **00 00 59.0 +0.5**
PCBR Castelo Branco 25.58 162 *e*P P **00 01 03.5 +0.6**
comp=Z,13nm,1.9s
PSBE So Bento 25.73 164 *e*P P **00 01 09.2 +4.9**
comp=Z,26nm,1.4s
PMRV Marv??o 25.99 162 *e*P P **00 01 09.5 +2.8**
comp=Z,12nm,1.9s
PSZ Piszkesteto 26.14 112 P P **00 01 07.5 -0.5**
PSZ pmax pmax
comp=Z,17nm,1.3s
PSZ Piszkesteto 26.14 112 P P **00 01 07.5 -0.5**
PSZ IAmb IAmb 00 01 14.5
comp=Z,17nm,1.3s
ESDC Sonseca Array 26.28 156 P P **00 01 09.7 +0.3**
comp=Z,2.3nm,0.9s,baz=350,slow=9.2,SNR=17
ESDC Sonseca Array 26.28 156 P P **00 01 08.9 -0.4**
UZH Uzhgorod 26.54 108 *e*P P **00 01 11.3 -0.2**
UZH *i* 00 01 14.0
UZH *e* 00 01 20.9
OSSC Osservatorio P 26.67 129 P P **00 01 12.7 0.0**
OSSC IAmb IAmb 00 01 16.5
comp=Z,19nm,1.1s
AKASG Malin Array Be 27.86 98 P P **00 01 22.7 -0.6**
comp=Z,0.3nm,0.2s,baz=332,slow=9.8,SNR=1.8
AKASG Malin Array Be 27.86 98 P P **00 01 21.3 -2.0**
AKBB Malin Array Si 27.86 98 *ce*P P **00 01 23.6 +0.3**
OBN Obninsk 27.89 84 *e*P P **00 01 23.9 +0.3**
OBN *PP **sP** **00 01 26.0 +0.6**
OBN *SP **pP** **00 01 28.0 +3.0**
OBN pmax pmax
comp=Z,21nm,1.3s
BUR08 Bucovina Ar. S 28.51 106 P P **00 01 29.6 +0.3**
BUR08 IAmb IAmb 00 01 45.2
comp=Z,21nm,1.7s
BURAR Bucovina Array 28.54 106 P P **00 01 29.6 -0.1**
KIRV Kirov 30.98 69 LR LR 00 14 59.0
comp=Z,46nm,19.0s,baz=297,slow=38
KIRV Kirov 30.98 69 *ce*P P **00 01 50.2 -0.7**
MDT Midelt 32.89 160 P P **00 02 09.1 +1.0**
comp=Z,4.8nm,1.0s,baz=35,slow=7.5,SNR=7.3
CEL Celeste 32.94 127 P P **00 02 08.1 -0.4**
ARU Arti 36.08 66 P P **00 02 36.2 +0.9**
comp=Z,0.4nm,0.5s,baz=321,slow=16,SNR=3.0
ARU LR LR 00 16 57.7
comp=Z,42nm,18.5s,baz=299,slow=36
ARU Arti 36.08 66 *d*P P **00 02 34.7 -0.6**
ARU S **S** **00 08 14.5 -0.3**
ARU SS **SnSn** **00 10 33.0 -5.8**
ARU pmax pmax
comp=Z,6.0nm,1.1s
NRIK Noril'sk 36.44 35 P P **00 02 39.6 +1.4**
comp=Z,1.9nm,0.8s,baz=283,slow=4.9,SNR=5.3
NRIK Noril'sk 36.44 35 *ce*P P **00 02 39.5 +1.2**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 38.50 105 P P **00 02 57.5 +1.3**
comp=Z,1.8nm,0.9s,baz=343,slow=3.9,SNR=4.8
BRTR Keskin Array B 38.50 105 P P **00 02 56.4 +0.2**
SHA1 Shidzhatmaz 39.02 93 *i*P P **00 03 00.5 -0.1**
KBZ Khabaz 39.13 92 P P **00 03 02.7 +1.5**
comp=Z,5.9nm,0.9s,baz=354,slow=5.3,SNR=7.7
YKA Yellowknife Ar 39.19 313 LR LR 00 18 55.2
comp=Z,26nm,19.9s,baz=0.0,slow=36
AKTO Aktyubinsk 40.29 73 P P **00 03 11.3 +0.5**
comp=Z,3.2nm,1.0s,baz=308,slow=8.0,SNR=6.5
KOPT Kop Dagi 41.14 98 P P **00 03 19.0 +0.7**
KOPT IAmb IAmb 00 03 24.5
comp=Z,18nm,1.4s
ERPA Erie 41.31 268 P P **00 03 19.3 0.0**
AB09 Akbulak array 41.98 73 P P **00 03 24.9 +0.1**
ABKAR Akbulak array 41.99 73 P P **00 03 25.1 +0.2**
ABKAR Akbulak array 41.99 73 P P **00 03 25.3 +0.4**
TIXI Tiksi 42.01 15 *ce*P P **00 03 26.2 +1.5**
TIXI Tiksi 42.01 15 P P **00 03 26.1 +1.4**
GAZ Gaziantep 42.15 104 P P **00 03 26.4 +0.1**
BMAR Burnt Mountain 42.87 333 P P **00 03 32.5 +0.7**
BRVK Borovoye 43.13 62 *ce*P P **00 03 34.1 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BRVK Borovoye 43.13 62 P P **00 03 34.8 +0.7**
CBN Corbin Frederi 43.43 262 P P **00 03 36.4 -0.3**
CBN IAmb IAmb 00 03 41.2
comp=Z,13nm,1.1s
MARD Mardin 43.53 100 P P **00 03 38.2 +0.6**
FYU Fort Yukon 43.74 333 P P **00 03 39.6 +0.8**
N49A Columbus Grove 44.09 271 P P **00 03 42.0 +0.1**
TAM Tamanrasset 44.54 149 P P **00 03 45.5 -0.4**
TAM pmax pmax
comp=Z,2.0nm,1.0s
TAM Tamanrasset 44.54 149 P P **00 03 45.5 -0.4**
L44A Lake County Fo 44.66 275 P P **00 03 47.5 +1.0**
DAWY Dawson 44.67 328 P P **00 03 46.9 +0.5**
DAWY IAmb IAmb 00 03 51.9
comp=Z,13nm,1.5s
P51A Williamsport 44.80 269 P P **00 03 47.5 -0.1**
K27K Chicken 45.30 329 P P **00 03 52.2 +0.8**
K27K IAmb IAmb 00 03 57.8
comp=Z,11nm,1.5s
Q51A Peebles 45.30 269 P P **00 03 52.1 +0.4**
Q51A IAmb IAmb 00 03 57.0
comp=Z,12nm,1.2s
IL18 Eielson Array 45.65 332 P P **00 03 55.0 +1.0**
IL31 45.66 332 P P **00 03 55.3 +1.3**
IL31 IAmb IAmb 00 03 56.1
comp=Z,6.8nm,1.4s
ILAR Eielson Array 45.66 332 P P **00 03 56.0 +1.9**
comp=Z,2.4nm,1.0s,baz=24,slow=6.1,SNR=16
ILAR Eielson Array 45.66 332 P P **00 03 56.0 +1.9**
ILAR Eielson Array 45.66 332 P P **00 03 55.3 +1.2**
MDM Murphy Dome 45.75 333 P P **00 03 56.8 +1.9**
COLA College 45.75 333 *i*P P **00 03 56.9 +2.1**
COLA pmax pmax
comp=Z,5.0nm,1.2s
IMAR Indian Mountai 45.83 337 P P **00 03 57.3 +1.8**
BCAR Beaver Creek A 46.08 328 P P **00 03 59.3 +1.7**
ZAA0 Zalesovo Array 47.62 51 P P **00 04 09.7 +0.1**
ZAA0 IAmb IAmb 00 04 11.2
comp=Z,5.0nm,1.3s
ZALV Zalesovo Beam 47.62 51 P P **00 04 09.7 0.0**
comp=Z,1.0nm,0.5s,baz=317,slow=10,SNR=6.4
ZALV Zalesovo Beam 47.62 51 P P **00 04 09.9 +0.3**
ZALV Zalesovo Beam 47.62 51 P P **00 04 09.9 +0.3**
KURK Kurchatov 48.11 58 *ce*P P **00 04 13.3 -0.1**
KURK pmax pmax
comp=Z,11nm,1.7s
KURK Kurchatov 48.11 58 P P **00 04 13.5 +0.1**
KURK IAmb IAmb 00 04 14.5
comp=Z,7.1nm,0.9s
KURBB Kurchatov Arra 48.15 58 P P **00 04 14.1 +0.3**
comp=Z,4.7nm,0.9s,baz=324,slow=7.4,SNR=33
JSC Jenkinsville 48.41 263 P P **00 04 16.6 +0.6**
JSC pmax pmax
comp=Z,9.0nm,1.3s
JSC Jenkinsville 48.41 263 P P **00 04 16.6 +0.6**
JSC IAmb IAmb 00 04 18.2
comp=Z,8.8nm,1.3s
T47A Sharon Grove 48.62 270 P P **00 04 18.4 +0.8**
EGMT Eagleton 48.85 297 P P **00 04 20.1 +0.8**
W50A Signal Mountai 49.37 268 P P **00 04 23.5 +0.2**
W50A IAmb IAmb 00 04 26.4
comp=Z,11nm,1.1s
MBO M'Bour 50.25 179 P P **00 04 30.3 +0.2**
GEYT Alibeck 50.43 84 P P **00 04 32.2 +0.7**
comp=Z,2.7nm,0.9s,baz=289,slow=9.2,SNR=5.1
GEYT Alibeck 50.43 84 P P **00 04 31.1 -0.3**
GYA0 ALIBECK ARRAY 50.43 84 P P **00 04 31.1 -0.3**
GYA0 ALIBECK ARRAY 50.43 84 P P **00 04 31.1 -0.3**
S39A Bolivar 50.70 276 P P **00 04 33.9 +0.4**
S39A IAmb IAmb 00 04 39.2
comp=Z,12nm,1.6s
HRY Holter Researc 50.73 298 P P **00 04 35.6 +1.9**
KOWA Kowa 51.00 163 P P **00 04 35.9 +0.1**
YAK Yakutsk 51.25 19 *i*P P **00 04 39.2 +2.0**
YAK pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 51.28 70 P P **00 04 38.4 +0.7**
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 51.28 70 P P **00 04 38.4 +0.7**
KKAR Karatay Array 51.28 70 P P **00 04 38.2 +0.5**
KKAR Karatay Array 51.28 70 P P **00 04 38.2 +0.5**
BOZ Bozeman (W) 51.58 297 P P **00 04 40.8 +0.6**
BOZ pmax pmax
comp=Z,12nm,1.4s
BOZ Bozeman (W) 51.58 297 P P **00 04 40.8 +0.6**
BOZ IAmb IAmb 00 04 47.3
comp=Z,12nm,1.4s
DGZ Jazzator, Alta 52.07 53 *i*P P **00 04 44.9 +1.2**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
YPP Pitchstone Pla 52.38 295 P P **00 04 47.4 +1.1**
MAKZ Makanchi 52.59 59 P P **00 04 47.3 -0.2**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 52.59 59 P P **00 04 47.3 -0.2**
MCMT McKenzie Canyo 52.70 297 P P **00 04 48.9 +0.4**
MK31 Makanchi Array 52.72 58 *ce*P P **00 04 47.2 -1.2**
MK31 Makanchi Array 52.72 58 P P **00 04 47.9 -0.5**
MKAR Makanchi Array 52.72 58 P P **00 04 48.8 +0.4**
comp=Z,2.4nm,1.0s,baz=337,slow=5.8,SNR=11
MKAR Makanchi Array 52.72 58 P P **00 04 48.2 -0.2**
PD31 Pinedale Array 53.16 293 P P **00 04 51.6 -0.3**
PD31 IAmb IAmb 00 04 53.2
comp=Z,8.8nm,1.3s
PDAR Pinedale Array 53.16 293 P P **00 04 52.5 +0.5**
comp=Z,4.5nm,1.1s,baz=54,slow=7.5,SNR=13
PDAR Pinedale Array 53.16 293 P P **00 04 51.9 -0.1**
FRU1 Bishkek 53.17 67 P P **00 04 52.8 +1.0**
FRU1 pmax pmax
comp=Z,7.0nm,0.5s
FRU1 Bishkek 53.17 67 P P **00 04 52.8 +1.0**
TOA0 Torodi Ar. Sit 53.17 156 P P **00 04 51.0 -1.0**
TOA0 IAmb IAmb 00 04 52.0
comp=Z,7.4nm,1.2s
TORD Torodi Ar. Bea 53.17 156 P P **00 04 51.2 -0.8**
comp=Z,2.7nm,1.0s,baz=340,slow=8.8,SNR=10
TORD Torodi Ar. Bea 53.17 156 P P **00 04 51.4 -0.6**
AAK Ala-Archa 53.26 67 *ce*P P **00 04 53.9 +1.3**
AAK pmax pmax
comp=Z,19nm,1.3s
N23A Red Feather La 53.28 289 P P **00 04 53.1 +0.1**
N23A IAmb IAmb 00 05 00.8
comp=Z,10nm,1.2s
BOOM Boomskoye usch 53.95 66 P P **00 04 58.3 +0.6**
BOOM pmax pmax
comp=Z,5.0nm,1.1s
BOOM Boomskoye usch 53.95 66 P P **00 04 58.3 +0.6**
MOY Mondy 54.65 42 *e*P P **00 05 03.9 +1.3**
MOY pmax pmax
comp=Z,22nm,1.6s
KDJ Kajisay 54.74 65 P P **00 05 03.8 +0.3**
KDJ pmax pmax
comp=Z,6.0nm,1.3s
KDJ Kajisay 54.74 65 P P **00 05 03.8 +0.3**
KDJ IAmb IAmb 00 05 07.3
comp=Z,6.1nm,1.2s
HWUT Hardware Ranch 54.93 294 P P **00 05 05.2 +0.3**
RDMU Red Mountain 55.02 292 P P **00 05 05.7 +0.2**
HRA Herat 55.20 82 P P **00 05 06.9 0.0**
HRA IAmb IAmb 00 05 08.1
comp=Z,6.4nm,1.4s
X34A Smith Ranch, M 55.24 278 P P **00 05 07.2 +0.2**
TCUT Toone Canyon 55.28 293 P P **00 05 07.5 0.0**
WMOK Wichita Mounta 55.53 279 P P **00 05 09.2 +0.1**
WMOK pmax pmax
comp=Z,6.0nm,1.3s
WMOK Wichita Mounta 55.53 279 P P **00 05 09.2 +0.1**
WMOK IAmb IAmb 00 05 12.5
comp=Z,6.4nm,1.2s
Z35A Perchaven, San 56.08 277 P P **00 05 13.1 +0.1**
KSH Kashi 56.50 68 P P **00 05 18.3 +2.2**
KSH pmax pmax
comp=Z,200nm,6.1s
DUG Dugway, Tooele 56.62 294 P P **00 05 17.4 +0.4**
DUG pmax pmax
comp=Z,3.0nm,1.1s
DUG Dugway, Tooele 56.62 294 P P **00 05 17.4 +0.4**
PV11 David Mesa, Pa 56.68 290 P P **00 05 18.1 +0.6**
PV11 IAmb IAmb 00 05 19.4
comp=Z,4.5nm,0.7s
PV18 Skein Mesa, Pa 56.74 290 P P **00 05 18.2 +0.3**
PV18 IAmb IAmb 00 05 19.7
comp=Z,7.1nm,1.1s
MSU Marysvale 57.82 293 P P **00 05 26.3 +0.7**
MSU Marysvale 57.82 293 P P **00 05 26.3 +0.7**
KBL Kabul 57.94 76 P P **00 05 26.9 +0.5**
KBL pmax pmax
comp=Z,4.0nm,1.2s
KBL Kabul 57.94 76 P P **00 05 26.9 +0.5**
SPR3 Spring Creek 3 58.25 295 P P **00 05 29.7 +1.0**
SPR3 IAmb IAmb 00 05 45.5
comp=Z,6.5nm,1.3s
ANMO Albuquerque 58.57 286 *ce*P P **00 05 31.9 +1.1**
ANMO pmax pmax
comp=Z,10.0nm,2.5s
R11A Troy Canyon, C 59.30 295 P P **00 05 36.6 +0.8**
BNM Barren Site 59.33 285 P P **00 05 36.3 +0.2**
SONM Songino Array 59.63 40 P P **00 05 38.6 +0.7**
comp=Z,0.7nm,0.7s,baz=294,slow=1.5,SNR=4.2
SONM Songino Array 59.63 40 P P **00 05 38.5 +0.6**
JCT Junction City 59.63 277 P P **00 05 38.5 +0.5**
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 59.63 277 P P **00 05 38.5 +0.5**
JCT IAmb IAmb 00 05 40.2
comp=Z,5.9nm,0.9s
KVN Kaiserville 59.66 298 P P **00 05 38.9 +0.6**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 59.66 298 P P **00 05 38.9 +0.6**
KVN IAmb IAmb 00 05 56.1
comp=Z,7.5nm,1.1s
ULN Ulaanbaatar 59.78 40 *ce*P P **00 05 38.4 -0.6**
ULN pmax pmax
comp=Z,12nm,2.5s
WUAZ Wupatki 60.09 290 P P **00 05 42.1 +0.9**
NIL Nilore 60.45 73 P P **00 05 43.8 +0.2**
NIL pmax pmax
comp=Z,11nm,1.1s
NIL Nilore 60.45 73 P P **00 05 43.8 +0.2**
X16A Lo Mia Camp, P 61.07 290 P P **00 05 48.5 +0.5**
X16A IAmb IAmb 00 05 50.3
comp=Z,4.2nm,1.1s
HIA Hailar 61.61 30 *i*P P **00 05 53.6 +2.3**
HIA pmax pmax
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 62.27 280 P P **00 05 56.8 +0.8**
comp=Z,1.2nm,1.0s,baz=90,slow=2.9,SNR=6.6
TXAR Lajitas Array 62.27 280 P P **00 05 56.2 +0.2**
TUC Tucson 62.64 288 P P **00 05 58.6 +0.2**
TUC pmax pmax
comp=Z,7.0nm,1.5s
TUC Tucson 62.64 288 P P **00 05 58.6 +0.2**
TUC IAmb IAmb 00 06 01.2
comp=Z,6.6nm,1.4s
ISA Isabella, Lake 62.77 296 P P **00 05 60.0 +0.7**
319A Douglas 62.84 286 P P **00 06 00.4 +0.5**
GTA Gaotai 65.29 49 *e*P P **00 06 17.0 +1.1**
GTA pP sP 00 06 20.8 +3.0
GTA sP pP 00 06 24.0 +6.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,90nm,5.8s
GTA LR LR
comp=N,56nm,15.3s
GTA LR LR
comp=E,61nm,17.1s
GTA LR LR
comp=Z,89nm,16.0s
ZAIG Zacatecas 67.56 276 P P **00 06 31.2 +0.5**
ZAIG IAmb IAmb 00 06 35.3
comp=Z,3.4nm,0.9s
LSA Lhasa 71.01 61 P P **00 06 53.0 +0.7**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 71.01 61 P P **00 06 53.0 +0.7**
LSA IAmb IAmb 00 06 56.6
comp=Z,2.8nm,0.6s
SHL Shillong 75.02 62 P P **00 07 15.9 +0.2**
SHL pmax pmax
comp=Z,7.0nm,1.2s
SHL Shillong 75.02 62 P P **00 07 15.9 +0.2**
SHL IAmb IAmb 00 07 19.0
comp=Z,6.9nm,1.2s
SAML Samuel 80.95 226 P P **00 07 48.5 0.0**
SAML pmax pmax
comp=Z,10.0nm,1.8s
SAML Samuel 80.95 226 P P **00 07 48.5 0.0**
SAML IAmb IAmb 00 07 51.6
comp=Z,10nm,1.8s
CHTO Chiang Mai 83.80 59 P P **00 08 03.7 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.5s
CHTO Chiang Mai 83.80 59 P P **00 08 03.6 +0.2**
CHTO IAmb IAmb 00 08 05.3
comp=Z,7.8nm,1.5s
CMAR Chiang Mai Arr 84.13 59 P P **00 08 05.6 +0.5**
comp=Z,1.0nm,0.8s,baz=321,slow=6.3,SNR=8.3
CMAR Chiang Mai Arr 84.13 59 P P **00 08 05.3 +0.2**
ASAR Alice Springs 134.95 38 PKP **PKPdf** **00 14 52.7 -0.2**
comp=Z,0.5nm,0.8s,baz=271,slow=2.3,SNR=6.1

*IDC **25** 23:56:54.1±1.1,64.62N×17.68W,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.5/51,mbtmp3.7/6,ML3.7/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/42,Error ellipse: s-maj=28.2km s-min=13.6km az=15.0*
*NEIC **25** 23:56:54.5±0.7, 64.5N±0.1×18.0W±0.1, h5km±1km, mb4.1/10,Error ellipse: s-maj=22.8km s-min=4.2km az=198.0*
ISC 25 23:56:55.4±0.6,**64.5N**±0.1×**17.91W**±0.09,**h10**km,**n27**, σ0.9**63**/25,**mb4.0**/11,**Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.49**	**281**	Pg		**Pn**		**23 57 21.8**	**-0.4**
	51nm,0.3s,baz=96,slow=8.9,SNR=12								
BORG				Lg		Lg		23 57 44.4	
	12nm,0.3s,baz=238,slow=24,SNR=0.8								
BORG	**Borgarnes**	**1.49**	**281**			**Pn**		**23 57 21.6**	**-0.7**
EKA	**Eskdalemuir Ar**	**11.77**	**134**	Pn		**Pn**		**23 59 42.5**	**-0.6**
	baz=331,slow=12,SNR=2.3								
ESK	**Eskdalemuir**	**11.77**	**135**	Pn		**Pn**		**23 59 42.7**	**-0.4**
NOA	**NORSAR Array B**	**13.71**	**91**	LR		LR		00 04 39.9	
	comp=Z,30nm,18.9s,baz=300,slow=34								
EUNU	**Eureka**	**23.75**	**336**	P		**P**		**00 02 07.5**	**+0.1**
EUNU				IAmb	IAmb	IAmb		00 02 09.6	
	comp=Z,5.0nm,1.1s								
CTI	**Castel Tesino**	**24.62**	**124**	P		**P**		**00 02 15.8**	**+0.1**
CIMO	**Cimolais**	**24.68**	**123**	P		**P**		**00 02 15.5**	**-0.7**
ESBB	**Sonseca Array**	**26.17**	**155**	P		**P**		**00 02 29.1**	**-0.7**
ESDC	**Sonseca Array**	**26.18**	**155**	P		**P**		**00 02 31.1**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=346,slow=8.7,SNR=5.0								
RES	**Resolute Bay**	**26.50**	**325**	LR		LR		00 13 16.9	
	comp=Z,41nm,19.4s,baz=124,slow=37								
ABKAR	**Akbulak array**	**42.21**	**72**	P		**P**		**00 04 47.7**	**-0.3**
TIXI	**Tiksi**	**42.24**	**15**	P		**P**		**00 04 48.6**	**+0.6**
TIXI				IAmb	IAmb	IAmb		00 04 56.0	
	comp=Z,5.3nm,1.2s								
GAZ	**Gaziantep**	**42.26**	**103**	P		**P**		**00 04 48.8**	**+0.1**
GAZ				IAmb	IAmb	IAmb		00 04 51.2	
	comp=Z,3.9nm,0.9s								
ILAR	**Eielson Array**	**45.75**	**332**	P		**P**		**00 05 16.2**	**-0.1**
	comp=Z,1.5nm,1.2s,baz=33,slow=5.7,SNR=2.3								
IMAR	**Indian Mountai**	**45.94**	**337**	P		**P**		**00 05 18.0**	**+0.2**
ZALV	**Zalesovo Beam**	**47.88**	**51**	P		**P**		**00 05 32.5**	**-0.4**
KURBB	**Kurchatov Arra**	**48.40**	**58**	P		**P**		**00 05 35.7**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=322,slow=7.5,SNR=5.9								
KKAR	**Karatay Array**	**51.50**	**69**	P		**P**		**00 06 00.6**	**-0.1**
KKAR	**Karatay Array**	**51.50**	**69**	P		**P**		**00 06 00.9**	**+0.1**
KKAR				IAmb	IAmb	IAmb		00 06 01.7	
	comp=Z,3.2nm,1.5s								
MK31	**Makanchi Array**	**52.96**	**58**	P		**P**		**00 06 12.2**	**+0.6**
MK31				IAmb	IAmb	IAmb		00 06 24.9	
	comp=Z,2.2nm,1.2s								
MKAR	**Makanchi Array**	**52.96**	**58**	P		**P**		**00 06 12.0**	**+0.4**
TOA0	**Torodi Ar. Sit**	**53.06**	**156**	P		**P**		**00 06 13.5**	**+0.9**
TOA0				IAmb	IAmb	IAmb		00 06 31.0	
	comp=Z,4.8nm,1.4s								
TORD	**Torodi Ar. Bea**	**53.06**	**156**	P		**P**		**00 06 13.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=349,slow=8.4,SNR=1.3								
PD31	**Pinedale Array**	**53.08**	**293**	P		**P**		**00 06 12.2**	**-0.5**
PDAR	**Pinedale Array**	**53.08**	**293**	P		**P**		**00 06 13.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=61,slow=6.3,SNR=3.2								
PDAR	**Pinedale Array**	**53.08**	**293**	P		**P**		**00 06 13.0**	**+0.2**

*IDC **26** 00:07:41.2±1.1,46.71N×27.88W,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/54,mbtmp3.4/7,ML3.8/1,MS3.2/3, Ms1 3.2/3,ms1mx2.7/37,Error ellipse: s-maj=42.2km s-min=22.2km az=22.0*
ISC 26 00:07:42.4±1.0,**46.7N**±0.2×**27.9W**±0.2,**h10**km,**n11**, σ1.8**12**/9,**mb3.5**/6,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.76**	**103**	P		**P**		**00 12 01.5**	**0.0**
	0.1nm,0.3s,baz=296,slow=13,SNR=6.4								
ESDC				LR		LR		00 17 52.8	
	comp=Z,35nm,18.3s,baz=350,slow=33								
SFJD	**Kangerlussuaq**	**23.57**	**338**	LR		LR		00 19 12.0	
	comp=Z,46nm,20.3s,baz=140,slow=29								
GERES	**GERESS Array B**	**27.78**	**70**	P		**P**		**00 13 30.3**	**-1.1**
	0.4nm,0.9s,baz=295,slow=12,SNR=2.8								
TORD	**Torodi Ar. Bea**	**41.67**	**134**	P		**P**		**00 15 31.4**	**+0.3**
	0.9nm,0.8s,baz=329,slow=7.9,SNR=6.6								
MMAI	**Mount Meron Ar**	**49.20**	**82**	LR		LR		00 40 13.6	
	comp=Z,57nm,18.4s,baz=230,slow=40								
PDAR	**Pinedale Array**	**55.65**	**298**	P		**P**		**00 17 17.2**	**-1.5**
	0.3nm,0.3s,baz=68,slow=7.3,SNR=1.0								
ILAR	**Eielson Array**	**59.17**	**334**	P		**P**		**00 17 44.4**	**+1.5**
	0.5nm,1.0s,baz=35,slow=4.9,SNR=3.2								
TXAR	**Lajitas Array**	**59.92**	**282**	P		**P**		**00 17 48.8**	**+0.1**
	0.3nm,0.9s,baz=76,slow=3.8,SNR=2.1								
KURBB	**Kurchatov Arra**	**64.19**	**43**	P		**P**		**00 18 16.7**	**-0.2**
	0.1nm,0.5s,baz=315,slow=5.2,SNR=2.7								
WRA	**Warramunga Arr**	**149.60**	**35**	PKPbc		**PKiKP**		**00 27 33.2**	**-0.1**
	0.4nm,0.8s,baz=335,slow=2.7,SNR=4.7								
ASAR	**Alice Springs**	**152.75**	**39**	PKPbc		**PKiKP**		**00 27 41.0**	**+1.3**
	0.4nm,0.8s,baz=1.8,slow=2.5,SNR=4.5								

*DDA **26** 00:23:35.5,38.80N×27.84E,h7km±1km,ML3.5*
*ISK **26** 00:23:35.6,38.81N×27.83E,h6km,ML3.4/31*
*ATH **26** 00:23:35.5,38.79N×27.77E,h23km±3km,ML3.2/2, Error ellipse: s-maj=4.4km s-min=1.6km az=267.0*
*THE **26** 00:23:37.5,38.77N×27.74E,h5km±2km,ML3.2/4,Error ellipse: s-maj=2.6km s-min=1.2km az=221.0*
ISC 26 00:23:35.7±0.8,**38.81N**±0.02×**27.85E**±0.02,**h8**km±5km, **n81**, σ0.9**72**/104,**3D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.07**	**340**	*i* P		**Pg**		**00 23 37.8**	**+0.1**
AKHS				*i* S		**Sg**		**00 23 38.8**	**-0.3**
AKHS				IAML				00 23 40.0	
	comp=E,36μm,0.5s								
AKS	**Akhisar**	**0.07**	**340**	PG		**Pg**		**00 23 37.5**	**-0.2**
AKS				SG		**Sg**		**00 23 39.1**	**0.0**
GOMA	**Golmarmara-Man**	**0.12**	**151**	PG		**Pg**		**00 23 38.6**	**+0.3**
GOMA				SG		**Sg**		**00 23 40.7**	**+0.7**
STEP	**BALIKESIR_Sava**	**0.57**	**350**	*i* P		**Pb**		**00 23 47.9**	**-0.2**
STEP				*i* S		**Sg**		**00 23 55.3**	**+1.0**
STEP				IAML				00 23 57.0	
	comp=N,7μm,0.6s								
ZEDA	**zmir-Bergama**	**0.62**	**285**	*i* P		**Pg**		**00 23 48.0**	**+0.3**
ZEDA				*i* S		**Sb**		**00 23 56.9**	**-0.8**
MANT	**Manisa**	**0.64**	**120**	*i* P		**Pg**		**00 23 47.6**	**-0.5**
MANT				*i* S		**Sg**		**00 23 56.0**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**115**	PG		**Pg**		**00 23 49.4**	**+0.2**
BLCB	**Balcova**	**0.76**	**236**	P		**Pg**		**00 23 50.4**	**+0.1**
BLCB				S		**Sg**		**00 24 00.0**	**-0.2**

BLCB	**Balcova**	**0.76**	**236**	PG	**Pg**	**00 23 50.6**	**+0.3**
DKL	**Dikili**	**0.78**	**290**	PG	**Pg**	**00 23 50.8**	**+0.1**
BALB	**Balikesir**	**0.83**	**2**	PG	**Pb**	**00 23 52.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**178**	PG	**Pg**	**00 23 52.6**	**+0.3**
USAK	**Uak-Merkez**	**0.92**	**96**	*i* P	**Pg**	**00 23 52.9**	**-0.5**
USAK				*i* S	**Sg**	**00 24 03.1**	**-2.2**
SIMA	**Simav-Kutahya**	**0.93**	**72**	PG	**Pb**	**00 23 53.9**	**-0.2**
BALY	**Balya**	**0.95**	**349**	*i* P	**Pb**	**00 23 54.3**	**-0.1**
BALY				*i* S	**Sg**	**00 24 06.6**	**+0.4**
BALY				IAML		00 24 08.0	
	comp=E,2µm,0.3s						
BALY				IAML		00 24 08.0	
	comp=N,2µm,0.5s						
DST	**Dursunbey**	**0.99**	**37**	PG	**Pb**	**00 23 55.3**	**0.0**
AYVA	**Ayvalik**	**1.03**	**299**	*i* P	**Pg**	**00 23 55.6**	**+0.1**
AYVA				*i* S	**Sb**	**00 24 09.8**	**+0.3**
DGB	**zmir**	**1.07**	**225**	*i* P	**Pb**	**00 23 56.5**	**+0.1**
DGB				*i* S	**Sg**	**00 24 10.2**	**+0.1**
URLA	**Izmir**	**1.08**	**246**	PG	**Pb**	**00 23 56.6**	**-0.1**
URLA	**Izmir**	**1.08**	**246**	*i* P	**Pn**	**00 23 57.1**	**-0.1**
URLA				*i* S	**Sg**	**00 24 10.5**	**+0.1**
SHAP	**Saphane-Kutahy**	**1.09**	**78**	PN	**Pb**	**00 23 57.2**	**+0.2**
GEDZ	**Gediz**	**1.24**	**79**	PN	**Pg**	**00 24 00.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.24**	**354**	PN	**Pg**	**00 23 59.8**	**+0.3**
PRK	**Paraskevi**	**1.30**	**290**	P	**Pg**	**00 24 01.3**	**+0.6**
PRK				S	**Sb**	**00 24 17.0**	**-0.3**
	comp=N,1µm,0.6s						
PRK	**Paraskevi**	**1.30**	**290**	P	**Pn**	**00 23 59.5**	**-0.8**
GDZ	**Gediz**	**1.30**	**77**	*i* P	**Pb**	**00 24 00.6**	**0.0**
GDZ				*i* S	**Sb**	**00 24 16.8**	**-0.8**
SMG	**Samos**	**1.36**	**216**	P	**Pn**	**00 24 00.8**	**-0.2**
SMG				S	**Sb**	**00 24 18.7**	**-0.2**
	comp=N,765nm,0.7s						
SMG	**Samos**	**1.36**	**216**	P	**Pn**	**00 24 00.1**	**-0.9**
SMG				S	**Sb**	**00 24 18.9**	**0.0**
SMG				AML	AML	00 24 26.9	
	comp=E,1131µm,0.4s						
SMG				AML	AML	00 24 26.9	
	comp=N,1928µm,0.8s						
BAYC	**CANAKKALE_Bayr**	**1.37**	**313**	*i* P	**Pn**	**00 24 01.3**	**+0.1**
BAYC				*i* S	**Sb**	**00 24 18.7**	**-0.7**
BAYC				IAML		00 24 22.0	
	comp=E,470nm,0.3s						
BAYC				IAML		00 24 22.0	
	comp=N,480nm,0.5s						
KHL	**Karahalli**	**1.40**	**110**	PN	**Pg**	**00 24 02.5**	**-0.1**
TVSB	**Tavsanli**	**1.41**	**63**	PN	**Pg**	**00 24 02.7**	**-0.1**
ORLT	**Orhaneli**	**1.48**	**33**	PN	**Pb**	**00 24 03.6**	**+0.1**
MLSB	**Milas**	**1.51**	**182**	PN	**Pb**	**00 24 04.0**	**-0.1**
EDC	**Edincik**	**1.54**	**0**	PN	**Pb**	**00 24 04.4**	**-0.1**
EZN	**Ezine**	**1.56**	**311**	P	**Pn**	**00 24 03.7**	**0.0**
EZN				S	**Sn**	**00 24 23.8**	**-0.3**
	comp=N,355nm,0.6s						
EZN	**Ezine**	**1.56**	**311**	PN	**Pb**	**00 24 04.3**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.58**	**148**	*i* P	**Pn**	**00 24 04.5**	**+0.3**
TAVA				*i* S	**Sn**	**00 24 23.9**	**-1.0**
SIGR	**SIGRI**	**1.60**	**285**	P	**Pn**	**00 24 04.3**	**-0.1**
SIGR				S	**Sb**	**00 24 26.0**	**0.0**
	comp=N,705nm,0.6s						
SIGR	**SIGRI**	**1.60**	**285**	P	**Pn**	**00 24 03.6**	**-0.8**
SIGR				AML	AML	00 24 30.1	
	comp=N,1560µm,0.6s						
SIGR				AML	AML	00 24 32.0	
	comp=E,1301µm,0.7s						
ULDT	**Uludag**	**1.66**	**36**	*i* P	**Pn**	**00 24 05.3**	**-0.1**
ULDT				*i* S	**Sn**	**00 24 27.2**	**+0.2**
ULDT				IAML		00 24 31.0	
	comp=E,584nm,0.4s						
ULDT				IAML		00 24 34.0	
	comp=N,460nm,0.8s						
YER	**Yerkesik**	**1.71**	**168**	P	**Pn**	**00 24 05.8**	**-0.1**
YER	**Yerkesik**	**1.71**	**168**	PN	**Pb**	**00 24 06.7**	**-0.7**
BOZC	**Bozcaada**	**1.73**	**307**	*i* P	**Pn**	**00 24 06.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.75**	**27**	PN	**Pb**	**00 24 07.4**	**-0.7**
IGD	**Bursa**	**1.79**	**35**	*i* P	**Pn**	**00 24 06.6**	**-0.4**
IGD				*i* S	**Sn**	**00 24 30.1**	**+0.2**
BODT	**Bodrum**	**1.79**	**194**	P	**Pn**	**00 24 06.4**	**-0.6**
BODT				S	**Sn**	**00 24 30.2**	**+0.2**
BODT	**Bodrum**	**1.79**	**194**	PN	**Pn**	**00 24 07.6**	**+0.6**
MAR9	**Marsite Statio**	**1.81**	**357**	PN	**Pn**	**00 24 08.2**	**+1.0**
KZIL	**AFYON_Kizioren**	**1.88**	**106**	*i* P	**Pn**	**00 24 09.1**	**+0.8**
AFYO	**Afyonkarahisar**	**1.92**	**90**	*i* P	**Pn**	**00 24 08.7**	**-0.1**
ARMT	**Armutlu**	**1.92**	**24**	PN	**Pn**	**00 24 09.9**	**+1.1**
GEMT	**Gemlik**	**1.93**	**32**	PN	**Pb**	**00 24 10.3**	**-0.8**
BASM	**Basmaki-Afyon**	**1.95**	**116**	PN	**Pn**	**00 24 10.2**	**+1.0**
TURN	**Turunc**	**2.06**	**171**	PN	**Pn**	**00 24 10.5**	**-0.1**
TRML	**Termal-Yalova**	**2.07**	**29**	PN	**Pn**	**00 24 12.1**	**+1.3**
CAVI	**Cavuskoy**	**2.08**	**47**	PN	**Pn**	**00 24 12.2**	**+1.2**
DAT	**Datca**	**2.09**	**186**	P	**Pn**	**00 24 11.4**	**+0.2**
DAT	**Datca**	**2.09**	**186**	PN	**Pn**	**00 24 12.1**	**+0.9**
DALY	**Dalyan (Mula)**	**2.09**	**162**	PN	**Pn**	**00 24 12.2**	**+1.2**
SHUT	**Suhut-Afyon**	**2.13**	**96**	PN	**Pn**	**00 24 13.0**	**+1.2**
KOSK	**Kos Island**	**2.17**	**199**	PN	**Pn**	**00 24 12.8**	**+0.7**
ADVT	**Abdulvahap**	**2.18**	**41**	PN	**Pn**	**00 24 13.4**	**+1.0**
CAME	**Cameli-Denizli**	**2.19**	**148**	PN	**Pn**	**00 24 13.7**	**+1.1**
NIS1	**Nisyros Isl.**	**2.27**	**194**	PN	**Pn**	**00 24 14.2**	**+0.7**
ISP	**Isparta**	**2.32**	**114**	PN	**Pn**	**00 24 15.6**	**+1.2**
ENEZ	**Enez**	**2.33**	**326**	P	**Pn**	**00 24 15.2**	**+0.9**
LIA	**Limnos Island**	**2.33**	**299**	P	**Pn**	**00 24 14.3**	**-0.1**
FETY	**Fethiye**	**2.38**	**155**	P	**Pn**	**00 24 16.4**	**+1.3**
FETY	**Fethiye**	**2.38**	**155**	PN	**Pn**	**00 24 16.2**	**+1.1**
AMGA	**Amorgos Island**	**2.51**	**219**	P	**Pn**	**00 24 17.1**	**+0.3**
APE	**Apeiranthos**	**2.52**	**227**	P	**Pn**	**00 24 16.2**	**-0.9**
APE	**Apeiranthos**	**2.52**	**227**	⇓P	**Pg**	**00 24 26.1**	**+2.0**
CIFT	**Cifteler, Eski**	**2.56**	**77**	PN	**Pn**	**00 24 19.1**	**+1.4**
ARG	**Arkhangelos**	**2.60**	**175**	P	**Pn**	**00 24 18.4**	**+0.4**
ELL	**Elmali**	**2.63**	**141**	PN	**Pn**	**00 24 19.9**	**+1.3**
KORT	**Korkueli**	**2.68**	**132**	PN	**Pn**	**00 24 20.5**	**+1.2**
RDO	**Rodhopi**	**2.93**	**323**	P	**Pn**	**00 24 23.3**	**+0.6**
KARP	**Karpathos**	**3.30**	**190**	P	**Pn**	**00 24 28.1**	**+0.3**
NVR	**Nevrokopi**	**3.97**	**311**	P	**Pn**	**00 24 37.6**	**+0.6**
CFR	**Carcaliu**	**6.37**	**2**	⇓P	**Pn**	**00 25 09.5**	**-0.4**
BIZ	**Bicaz**	**8.22**	**352**	⇓P	**Pn**	**00 25 33.3**	**-2.0**

IDC ***26*** *00:30:46.4±0.5,34˚.24N×25˚.05E,h0km,mb4.1/28, mb1 4.2/40,mb1mx4.2/48,mbtmp4.2/40,ML4.3/10,MS3.1/9, Ms1 3.1/9,ms1mx2.9/50,Error ellipse: s-maj=10.8km s-min=9.5km az=86.0*

ISK ***26*** *00:30:47.1,34˚.19N×24˚.88E,h12km,ML3.9/21*

MOS ***26*** *00:30:48.3±1.3,34˚.24N×24˚.99E,h24km,mb4.4/21,Error ellipse: s-maj=6.7km s-min=3.7km az=90.7*

HLW ***26*** *00:30:48.5,34˚.34N×25˚.09E,h10km±26km,Md4.2,Ml4.3*

NEIC ***26*** *00:30:50.8±1.4,34˚.28N±0˚.06×24˚.98E±0˚.08,h28km±5km, Error ellipse: s-maj=9.3km s-min=8.8km az=52.0*

THE ***26*** *00:30:50.7,34˚.33N×24˚.99E,h0km±1km,ML3.7/12,Error ellipse: s-maj=2.0km s-min=0.6km az=179.0*

ATH ***26*** *00:30:51.4,34˚.38N×24˚.98E,h32km±1km,ML3.8/10,Error ellipse: s-maj=3.3km s-min=1.3km az=2.0*

BGR ***26*** *00:30:51.9±0.0,34˚.31N×24˚.88E,h33km,mb4.4,Ms2.9*

GII ***26*** *00:30:54.4±0.0,34˚.23N×25˚.60E,h10km,MD3.6/2*

DDA ***26*** *00:30:54.8,34˚.60N×25˚.29E,h8km±5km,MW4.3*

ISC 26 00:30:50.3±0.7,**34˚22N**±0˚04×**25˚01E**±0˚03,**h27**km±4km, **n472,σ1°58**/514,**mb4.3**/74,**MS3.0**/7,**6C-2D,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.81**	**349**	P	**Pb**	**00 31 04.6**	**-1.2**
SIVA				S	**Sn**	**00 31 15.9**	**-1.3**
	24µm,0.7s						
SIVA	**Sivas**	**0.81**	**349**	P	**Pb**	**00 31 04.7**	**-1.2**
SIVA				S	**Sb**	**00 31 14.7**	**-1.7**
SIVA				AML	AML	00 31 21.4	
	comp=N,41784µm,0.7s						
SIVA				AML	AML	00 31 27.2	
	comp=E,56781µm,0.8s						
TMBK	**Timbaki Herakl**	**0.88**	**347**	P	**Pb**	**00 31 06.1**	**-0.7**
TMBK				S	**Sb**	**00 31 16.9**	**-1.2**
	comp=E,6µm,0.8s						
GVD	**Gavdhos**	**0.98**	**310**	P	**Pn**	**00 31 08.0**	**-0.3**
GVD				S	**Sn**	**00 31 22.2**	**+0.9**
	comp=E,9µm,0.5s						
GVD	**Gavdhos**	**0.98**	**310**	P	**Pn**	**00 31 07.9**	**-0.3**
GVD				S	**Sn**	**00 31 20.4**	**-0.9**
GVD				AML	AML	00 31 37.2	
	comp=E,15761µm,0.6s						
GVD				AML	AML	00 31 39.8	
	comp=N,19953µm,0.5s						
GVDS	**Gavdos**	**0.98**	**310**	P	**Pb**	**00 31 08.2**	**-0.4**
GVDS				S	**Sn**	**00 31 22.7**	**+1.4**
	comp=N,6µm,0.4s						
FRMA	**Ierapetra Chan**	**1.00**	**37**	P	**Pb**	**00 31 09.3**	**+0.4**
FRMA				S	**Sb**	**00 31 24.9**	**+3.3**
	comp=N,3µm,0.5s						
LAST	**Lasithi**	**1.02**	**22**	P	**Pn**	**00 31 08.3**	**-0.6**
LAST				S	**Sn**	**00 31 23.2**	**+0.8**
	comp=N,4µm,0.9s						
LAST	**Lasithi**	**1.02**	**22**	P	**Pn**	**00 31 08.3**	**-0.6**
LAST				AML	AML	00 31 36.0	
	comp=N,8337µm,1.1s						
LAST				AML	AML	00 31 37.5	
	comp=E,7163µm,0.6s						
IDI	**Anoyia**	**1.07**	**355**	Pg	**Pn**	**00 31 08.7**	**-0.9**
	comp=E,73nm,0.3s,baz=152,slow=14,SNR=423						
IDI				Lg	Lg	00 31 23.2	
	comp=E,284nm,0.3s,baz=174,slow=19,SNR=11						
IDI				LR	LR	00 31 51.3	
	comp=E,1µm,19.1s,baz=240,slow=61						
IDI	**Anoyia**	**1.07**	**355**	P	**Pn**	**00 31 08.7**	**-0.9**
IDI				S	**Sb**	**00 31 23.8**	**-0.1**
	comp=E,4µm,0.5s						
IDI	**Anoyia**	**1.07**	**355**	P	**Pn**	**00 31 08.9**	**-0.8**
IDI				S	**Sn**	**00 31 22.6**	**-1.1**
IDI				AML	AML	00 31 31.1	
	comp=E,8799µm,0.6s						
IDI				AML	AML	00 31 36.7	
	comp=N,7375µm,0.5s						
IDI	**Anoyia**	**1.07**	**355**	PN	**Pn**	**00 31 08.8**	**-0.9**
IDI				SN	**Sb**	**00 31 24.1**	**+0.2**
IDI	**Anoyia**	**1.07**	**355**	Pn	**Pn**	**00 31 08.7**	**-0.9**
IDI				Sn	**Sn**	**00 31 22.2**	**-1.4**
KSTL	**Kastelli Herak**	**1.08**	**3**	P	**Pn**	**00 31 08.6**	**-1.1**
IACM	**Heraklion**	**1.09**	**3**	P	**Pn**	**00 31 09.7**	**0.0**
HRKL	**Herakleio**	**1.09**	**4**	P	**Pn**	**00 31 09.7**	**-0.1**
HRKL	**Herakleio**	**1.09**	**4**	PN	**Pn**	**00 31 09.3**	**-0.5**
HRKL				SN	**Sb**	**00 31 25.2**	**+0.8**
NPS	**Neapolis**	**1.16**	**25**	P	**Pn**	**00 31 10.6**	**-0.1**
NPS	**Neapolis**	**1.16**	**25**	P	**Pn**	**00 31 10.7**	**0.0**
NPS				AML	AML	00 31 36.2	
	comp=N,7738µm,0.6s						
NPS				AML	AML	00 31 38.7	
	comp=E,7539µm,0.7s						
PRNS	**Prines Rethymn**	**1.22**	**340**	P	**Pn**	**00 31 11.5**	**0.0**
PRNS				S	**Sb**	**00 31 27.8**	**-0.1**
STIA	**Sitia Lasithi**	**1.33**	**42**	P	**Pb**	**00 31 13.9**	**-0.6**
ZKR	**Zakros**	**1.34**	**48**	P	**Pb**	**00 31 14.2**	**-0.6**
ZKR				S	**Sb**	**00 31 33.0**	**+1.5**
	comp=E,3µm,0.6s						
ZKR	**Zakros**	**1.34**	**48**	P	**Pb**	**00 31 14.4**	**-0.4**
ZKR				AML	AML	00 31 44.5	
	comp=N,3366µm,0.7s						
ZKR				AML	AML	00 31 45.7	
	comp=E,6594µm,0.6s						
ZKR	**Zakros**	**1.34**	**48**	PN	**Pn**	**00 31 13.9**	**+0.6**
ZKR				SN	**Sb**	**00 31 33.1**	**+1.5**
VAM	**Vamos**	**1.36**	**331**	P	**Pn**	**00 31 13.8**	**+0.3**
VAM				S	**Sb**	**00 31 32.2**	**+0.2**
	comp=E,4µm,0.9s						
VAM	**Vamos**	**1.36**	**331**	P	**Pb**	**00 31 14.1**	**-1.0**
VAM				AML	AML	00 31 48.1	
	comp=E,9740µm,0.5s						
VAM				AML	AML	00 31 49.5	
	comp=N,8049µm,1.0s						
IMMV	**Iera Moni Meta**	**1.50**	**326**	P	**Pb**	**00 31 16.4**	**-1.0**
IMMV	**Iera Moni Meta**	**1.50**	**326**	P	**Pb**	**00 31 16.4**	**-1.0**
CHAN	**Chania**	**1.52**	**329**	P	**Pb**	**00 31 16.9**	**-0.9**
CHAN				S	**Sb**	**00 31 37.2**	**+0.6**
	comp=N,1µm,0.9s						
RODP	**Rodopos**	**1.69**	**323**	P	**Pb**	**00 31 19.7**	**-0.9**
THR6	**Thira Island,**	**2.16**	**8**	P	**Pn**	**00 31 25.9**	**+1.4**
ANKY	**Antikythira Is**	**2.16**	**320**	P	**Pb**	**00 31 26.3**	**-2.4**
ANKY	**Antikythira Is**	**2.16**	**320**	P	**Pb**	**00 31 26.2**	**-2.4**
SANT	**Santorini**	**2.18**	**10**	P	**Pn**	**00 31 25.7**	**+0.8**
SANT				AML	AML	00 32 08.8	
	comp=N,1316µm,0.7s						
SANT				AML	AML	00 32 12.5	
	comp=E,3204µm,0.7s						
SANT	**Santorini**	**2.18**	**10**	PN	**Pn**	**00 31 24.9**	**+0.1**
SANT	**Santorini**	**2.18**	**10**	Pn	**Pn**	**00 31 25.4**	**+0.6**
THR5	**Thira Island,**	**2.21**	**7**	P	**Pn**	**00 31 26.6**	**+1.4**
KARP	**Karpathos**	**2.21**	**53**	P	**Pb**	**00 31 28.0**	**-1.6**
KARP				S	**Sn**	**00 31 54.1**	**+2.3**
	comp=E,1µm,1.2s						
KARP	**Karpathos**	**2.21**	**53**	P	**Pb**	**00 31 27.8**	**-1.8**
KARP	**Karpathos**	**2.21**	**53**	PN	**Pn**	**00 31 26.4**	**+1.1**
KARP	**Karpathos**	**2.21**	**53**	Pn	**Pb**	**00 31 28.1**	**-1.6**
THR8	**Santorini-Mono**	**2.22**	**10**	P	**Pn**	**00 31 26.7**	**+1.4**
SAP3	**Santorini-Thir**	**2.23**	**7**	P	**Pn**	**00 31 26.4**	**+0.9**
THT2	**Imerovigli**	**2.24**	**9**	PN	**Pn**	**00 31 25.7**	**+0.1**
MHLO	**Agia Marina, M**	**2.52**	**349**	P	**Pn**	**00 31 30.0**	**+0.6**
MHLO	**Agia Marina, M**	**2.52**	**349**	P	**Pn**	**00 31 29.9**	**+0.6**
MHLO				AML	AML	00 32 19.5	
	comp=N,5285µm,0.7s						
MHLO				AML	AML	00 32 23.1	
	comp=E,4385µm,0.7s						
MHLA	**Plaka, Milos I**	**2.57**	**349**	P	**Pn**	**00 31 30.9**	**+0.8**
KTHA	**Kythira Island**	**2.58**	**323**	P	**Pn**	**00 31 31.4**	**+1.1**
KTHA				AML	AML	00 32 24.1	
	comp=N,1320µm,1.0s						
KTHA				AML	AML	00 32 37.1	
	comp=E,1574µm,1.0s						
AMGA	**Amorgos Island**	**2.71**	**15**	P	**Pn**	**00 31 32.4**	**+0.4**
SLUM	**Salum**	**2.72**	**176**	P	**Pn**	**00 31 34.2**	**+2.0**
	baz=177						
APE	**Apeiranthos**	**2.88**	**8**	P	**Pn**	**00 31 34.5**	**+0.1**
APE	**Apeiranthos**	**2.88**	**8**	PN	**Pn**	**00 31 34.5**	**+0.1**
APE	**Apeiranthos**	**2.88**	**8**	*i* P	**Pn**	**00 31 34.5**	**+0.1**
SERI	**Serifos**	**2.97**	**352**	P	**Pn**	**00 31 35.8**	**+0.2**
NIS1	**Nisyros Isl.**	**2.97**	**36**	PN	**Pn**	**00 31 36.8**	**+1.2**
KOSK	**Kos Island**	**3.00**	**32**	PN	**Pn**	**00 31 36.8**	**+0.8**
VLI	**Veliai**	**3.01**	**327**	P	**Pn**	**00 31 37.1**	**+0.9**
VLI	**Veliai**	**3.01**	**327**	P	**Pn**	**00 31 36.7**	**+0.5**
ARG	**Arkhangelos**	**3.24**	**51**	P	**Pn**	**00 31 41.7**	**+2.3**
ARG				S	**Sn**	**00 32 20.6**	**+3.5**
	comp=E,368nm,2.0s						
ARG	**Arkhangelos**	**3.24**	**51**	P	**Pn**	**00 31 41.6**	**+2.2**
ARG	**Arkhangelos**	**3.24**	**51**	PN	**Pn**	**00 31 40.6**	**+1.2**
DAT	**Datca**	**3.27**	**39**	PN	**Pn**	**00 31 41.1**	**+1.2**
DAT	**Datca**	**3.27**	**39**	*i* P	**Pn**	**00 31 39.9**	**+0.1**
DAT				*i* S	**Sn**	**00 32 13.0**	**-4.9**
BODT	**Bodrum**	**3.40**	**33**	PN	**Pn**	**00 31 42.6**	**+1.0**
KRND	**KRANIDI**	**3.50**	**335**	P	**Pn**	**00 31 43.3**	**+0.4**
TURN	**Turunc**	**3.67**	**45**	PN	**Pn**	**00 31 46.7**	**+1.4**
TURN	**Turunc**	**3.67**	**45**	*i* P	**Pn**	**00 31 46.0**	**+0.7**
TURN				*i* S	**Sn**	**00 32 23.6**	**-4.1**
TURN				IAML		00 32 39.0	
	comp=N,65nm,0.9s						
EPID	**Epidavros**	**3.72**	**336**	P	**Pn**	**00 31 46.3**	**+0.3**
VLY	**Voula,Athens**	**3.76**	**345**	P	**Pn**	**00 31 46.6**	**+0.1**
PYL	**PYLOS**	**3.77**	**316**	P	**Pn**	**00 31 48.8**	**+2.1**
SMG	**Samos**	**3.79**	**23**	P	**Pn**	**00 31 47.6**	**+0.7**
VLX	**Vlachokerasia**	**3.80**	**327**	P	**Pn**	**00 31 48.1**	**+0.9**
MLSB	**Milas**	**3.81**	**35**	PN	**Pn**	**00 31 48.5**	**+1.3**
KARY	**Karystos**	**3.83**	**353**	P	**Pn**	**00 31 48.3**	**+0.7**
ATHU	**Athens Univers**	**3.87**	**346**	P	**Pn**	**00 31 48.3**	**+0.3**
PTL	**Pentoli**	**3.93**	**347**	P	**Pn**	**00 31 49.3**	**+0.3**
DALY	**Dalyan (Mula)**	**3.95**	**48**	PN	**Pn**	**00 31 51.1**	**+2.0**
DALY	**Dalyan (Mula)**	**3.95**	**48**	*i* P	**Pn**	**00 31 48.9**	**-0.2**
DALY				*i* S	**Sn**	**00 32 23.0**	**-11**
DALY				IAML		00 32 53.0	
	comp=E,43nm,0.4s						
DALY				IAML		00 33 16.0	
	comp=N,62nm,1.2s						
YER	**Yerkesik**	**3.95**	**42**	P	**Pn**	**00 31 51.2**	**+2.0**
YER	**Yerkesik**	**3.95**	**42**	PN	**Pn**	**00 31 50.9**	**+1.7**
DION	**Dionisos Attik**	**3.95**	**348**	P	**Pn**	**00 31 49.7**	**+0.5**
DION	**Dionisos Attik**	**3.95**	**348**	P	**Pn**	**00 31 49.6**	**+0.5**
TRIP	**Tripoli**	**3.98**	**327**	P	**Pn**	**00 31 51.4**	**+1.8**
LOUT	**Loutraki**	**4.11**	**337**	P	**Pn**	**00 31 51.6**	**+0.3**
FETY	**Fethiye**	**4.11**	**53**	PN	**Pn**	**00 31 52.8**	**+1.4**
FETY	**Fethiye**	**4.11**	**53**	*i* P	**Pn**	**00 31 52.3**	**+0.9**
FETY				*i* S	**Sn**	**00 32 26.0**	**-13**
FETY				IAML		00 33 09.0	
	comp=N,41nm,1.2s						
DGB	**zmir**	**4.12**	**21**	*i* P	**Pn**	**00 31 52.3**	**+0.9**
LTK	**Loutraki**	**4.14**	**337**	P	**Pn**	**00 31 51.9**	**+0.2**
AYDN	**Tasoluk**	**4.15**	**33**	*i* P	**Pn**	**00 31 53.4**	**+1.4**
AYDN				IAML		00 33 27.0	
	comp=N,49nm,1.7s						
AYDN				IAML		00 33 27.0	
	comp=E,37nm,1.0s						
KSL	**Kastellorizon**	**4.22**	**61**	P	**Pn**	**00 31 53.9**	**+1.2**
VIL2	**Platees**	**4.23**	**341**	P	**Pn**	**00 31 52.1**	**-0.8**
AKAS	**Kas**	**4.27**	**61**	PN	**Pn**	**00 31 55.1**	**+1.5**
AKAS	**Kas**	**4.27**	**61**	*i* P	**Pn**	**00 31 54.3**	**+0.7**
AKAS				*i* S	Sn	00 32 32.7	-10
AKAS				IAML		00 33 07.0	
	comp=E,46nm,0.4s						
AKAS	**Kas**	**4.27**	**61**		**Pn**	**00 31 54.7**	**+1.1**
GUR	**Goura**	**4.29**	**331**	P	**Pn**	**00 31 54.4**	**+0.5**
URLA	**Izmir**	**4.33**	**17**	PN	**Pn**	**00 31 55.8**	**+1.4**
URLA	**Izmir**	**4.33**	**17**	*i* P	**Pn**	**00 31 53.9**	**-0.4**
URLA				IAML		00 32 45.0	
	comp=N,41nm,1.2s						
URLA				IAML		00 33 41.0	
	comp=E,43nm,2.0s						
AYDB	**Zeytinkoy-Aydi**	**4.39**	**31**	PN	**Pn**	**00 31 57.0**	**+1.7**
CAME	**Cameli-Denizli**	**4.43**	**51**	PN	**Pn**	**00 31 57.5**	**+1.6**
BLCB	**Balcova**	**4.47**	**21**	PN	**Pn**	**00 31 57.4**	**+1.1**
TAVA	**DENIZLI_Tavas**	**4.54**	**43**	*i* P	**Pn**	**00 31 58.5**	**+1.3**
TAVA				*i* S	**Sn**	**00 32 45.3**	**-3.9**
TAVA				IAML		00 33 18.0	
	comp=E,38nm,1.2s						
TAVA				IAML		00 33 23.0	
	comp=N,36nm,1.8s						
DRO	**Drosaia**	**4.58**	**325**	P	**Pn**	**00 31 59.5**	**+1.6**
LKR	**Lokris**	**4.71**	**341**	P	**Pn**	**00 32 00.9**	**+1.4**
ELL	**Elmali**	**4.73**	**56**	PN	**Pn**	**00 32 01.9**	**+1.9**
ELL	**Elmali**	**4.73**	**56**	P	**Pn**	**00 32 01.5**	**+1.5**
ELL	**Elmali**	**4.73**	**56**		**Pn**	**00 32 01.5**	**+1.5**
GOLH	**Golhisar**	**4.78**	**50**	*i* P	**Pn**	**00 32 01.3**	**+0.7**
GOLH				*i* S	**Sn**	**00 32 52.1**	**-3.0**
GOLH				IAML		00 33 47.0	
	comp=N,71nm,1.5s						
RLS	**Riolos of Patr**	**4.78**	**324**	P	**Pn**	**00 32 02.7**	**+2.1**
AKUM	**Antalya-Kumluc**	**4.85**	**63**	*i* P	**Pn**	**00 32 02.0**	**+0.6**
AKUM				*i* S	**Sn**	**00 32 50.8**	**-5.8**
AKUM				IAML		00 33 07.0	
	comp=N,60nm,0.8s						
AKUM				IAML		00 33 17.0	
	comp=E,59nm,1.2s						
AXAR	**Agios Charalam**	**4.92**	**338**	P	**Pn**	**00 32 03.0**	**+0.6**
SWA2		**4.97**	**175**	P	**Pn**	**00 32 04.6**	**+1.4**
	baz=176						
ZEDA	**zmir-Bergama**	**5.02**	**19**	*i* P	**Pn**	**00 32 03.0**	**-0.9**
ZEDA				IAML		00 33 39.0	
	comp=E,19nm,2.5s						
ZEDA				IAML		00 34 34.0	
	comp=N,28nm,2.1s						
ANX	**Ano Chora**	**5.03**	**331**	P	**Pn**	**00 32 04.5**	**+0.6**
DKL	**Dikili**	**5.08**	**17**	PN	**Pn**	**00 32 06.2**	**+1.6**
PRK	**Paraskevi**	**5.12**	**11**	P	**Pn**	**00 32 06.1**	**+0.9**
MANT	**Manisa**	**5.14**	**33**	*i* P	**Pn**	**00 32 05.5**	**-0.1**
MANT				IAML		00 33 53.0	
	comp=N,16nm,1.7s						
MANT	**Manisa**	**5.14**	**33**	Pn	**Pn**	**00 32 05.0**	**-0.6**
KORT	**Korkueli**	**5.16**	**56**	PN	**Pn**	**00 32 08.0**	**+2.1**
KORT	**Korkueli**	**5.16**	**56**	*i* P	**Pn**	**00 32 07.3**	**+1.4**
KORT				*i* S	**Sn**	**00 33 02.6**	**-2.1**
KORT				IAML		00 33 11.0	
	comp=E,73nm,0.6s						
KORT				IAML		00 33 18.0	
	comp=N,71nm,0.9s						
KULA	**Kula-Manisa**	**5.20**	**33**	PN	**Pn**	**00 32 08.1**	**+1.7**
AGG	**Agios Georgios**	**5.25**	**337**	P	**Pn**	**00 32 09.4**	**+2.3**
AGG	**Agios Georgios**	**5.25**	**337**	P	**Pn**	**00 32 08.0**	**+0.9**
AGG	**Agios Georgios**	**5.25**	**337**	Pn	**Pn**	**00 32 08.0**	**+

BRTR LR LR 00 37 17.6
comp=E,79nm,19.7s,baz=236,slow=44
BRTR Keskin Array B 8.83 49 Pn **Pn 00 32 57.5 +1.4**
MMLI Mount Malkishu 8.90 99 Pn **Pn 00 32 56.4 -0.7**
GEM Giv'at Ha'Em 8.94 93 Pn **Pn 00 32 56.6 -1.0**
GEM Sn **Sn 00 34 32.8 -4.6**
YTIR Yattir 8.97 106 Pn **Pn 00 32 58.4 +0.2**
YTIR Sn **Sn 00 34 34.4 -4.1**
NATI Neve Ativ 8.99 93 Pn **Pn 00 32 57.2 -1.1**
HMDT Nahal Hemdat 9.03 100 Pn **Pn 00 32 59.2 +0.3**
AKO Adana 9.07 66 *i* P **Pn 00 32 59.3 -0.2**
AKO *i* S **Sn 00 32 32.9 -7.9**
SHMJ Saham 9.11 96 Pn **Pn 00 32 59.4 -0.6**
DSI Dead Sea 9.12 104 Pn **Pn 00 33 00.0 -0.1**
RAFF Raffo Rosso 9.16 292 **Pn 00 33 00.7 0.0**
VAE Valguarnera 9.19 294 Pn **Pn 00 33 02.4 +1.2**
comp=E,2.2nm,0.3s,baz=150,slow=8.1,SNR=7.4
KRMI Paran Flat 9.20 114 Pn **Pn 00 33 00.9 -0.3**
YAHY KAYSERI_Yahyal 9.22 62 *i* P **Pn 00 33 01.2 -0.5**
PRNI Paran 9.30 112 Pn **Pn 00 33 03.0 +0.4**
DAMI2 DAM2 9.31 106 Pn **Pn 00 33 03.1 +0.5**
ZFRI Zfri 9.35 110 Pn **Pn 00 33 02.7 -0.5**
GHAJ Ghor Haditha 9.36 105 Pn **Pn 00 33 03.7 +0.4**
PDG Podgorica 9.36 333 Pn **Pn 00 33 03.1 -0.2**
HRFI Mount Harif 9.47 113 Pn **Pn 00 33 05.3 +0.3**
KARJ KARJ 9.49 106 Pn Pn 00 33 00.0 -5.2
MBRI Mt Berech 9.50 115 Pn **Pn 00 33 05.3 -0.1**
EIL Elat 9.59 116 Pn **Pn 00 33 06.7 +0.1**
comp=E,3.9nm,0.3s,baz=288,slow=9.6,SNR=48
EIL Sn **Sn 00 34 46.0 -7.4**
comp=E,1.4nm,0.3s,baz=308,slow=19,SNR=2.6
EIL Elat 9.59 116 Pn **Pn 00 33 06.2 -0.4**
AQBJ Aqaba 9.63 115 Pn **Pn 00 33 07.5 +0.3**
SAIM ADANA 9.72 64 *i* P **Pn 00 33 05.2 -3.1**
ANDN Andirin 9.79 67 *i* P **Pn 00 33 07.3 -2.1**
ANDN *i* S Sn 00 34 35.9 -23
CLTB Caltabellotta 10.13 293 Pn **Pn 00 33 15.0 +1.0**
CORL Corleone 10.16 295 Pn **Pn 00 33 14.8 +0.4**
ASF Jabal al Asfar 10.17 98 Pn **Pn 00 33 14.5 -0.1**
comp=E,0.7nm,0.3s,baz=251,slow=15,SNR=10
ASF Sn **Sn 00 35 04.3 -3.6**
comp=E,0.6nm,0.3s,baz=357,slow=20,SNR=2.5
SGRT San Giovanni R 10.48 319 Pn **Pn 00 33 18.0 -0.8**
DIVS Divibare 10.60 340 Pn **Pn 00 33 19.4 -1.0**
PAOL Paolisi 10.71 312 Pn **Pn 00 33 21.3 -0.6**
MLR Muntele Rosu 11.28 3 P **Pn 00 33 31.0 +1.2**
MLR Muntele Rosu 11.28 3 Pn **Pn 00 33 31.0 +1.2**
INTR Introdacqua 11.70 315 Pn **Pn 00 33 35.4 -0.1**
NRCA Norcia 12.66 316 Pn **Pn 00 33 49.0 +0.4**
KEST Kesra 12.93 281 Pn **Pn 00 33 52.9 +0.5**
comp=E,0.0nm,0.3s,baz=61,slow=10,SNR=1.6
KEST Kesra 12.93 281 **Pn 00 33 52.6 +0.3**
BURAR Bucovina Array 13.38 1 Pn **Pn 00 33 58.3 -0.2**
ANN Anapa 14.26 38 *eP* **Pn 00 34 09.1 -1.1**
ANN *eS* **Sn 00 36 52.1 +4.7**
ANN pmax pmax
comp=Z,126nm,1.3s
OBKA Obir 14.62 330 *eP* **P 00 34 20.6 -0.8**
comp=Z,6.6nm,0.8s
ARSA Arzberg 14.85 334 *eP* **P 00 34 23.8 -0.2**
comp=Z,6.1nm,1.2s
VYHS Vyhne 14.99 344 *eP* **P 00 34 25.6 +0.2**
VYHS Vyhne 14.99 344 *eP* **P 00 34 25.6 +0.2**
TEOL Teolo 15.11 321 Pn **Pn 00 34 20.8 -1.0**
MODS Modra-Piesok 15.28 340 *eP* **P 00 34 28.4 -0.2**
MODS Modra-Piesok 15.28 340 *eP* **P 00 34 28.4 -0.2**
ZOU Zoufplan 15.34 327 P **P 00 34 27.5 -2.0**
ZOU IAmb IAmb 00 34 30.8
comp=Z,24nm,0.9s
SMOL Smolenice 15.36 341 *eP* **P 00 34 29.5 -0.1**
SMOL Smolenice 15.36 341 *eP* **P 00 34 29.5 -0.1**
CIMO Cimolais 15.40 325 P **P 00 34 28.0 -2.0**
KBA Koelnbreinsper 15.57 329 *eP* **P 00 34 32.4 +0.3**
comp=Z,8.7nm,0.8s
CTI Castel Tesino 15.59 323 P **Pn 00 34 28.0 -0.2**
CTI pmax pmax
comp=Z,10.0nm,0.6s
CTI Castel Tesino 15.59 323 **Pn 00 34 28.0 -0.2**
CTI IAmb IAmb 00 34 33.4
comp=Z,10nm,0.6s
MSSA Maissana 15.64 315 **Pn 00 34 27.9 -1.0**
MSSA IAmb IAmb 00 34 46.0
comp=Z,23nm,1.1s
ABTA Abfaltersbach 15.69 327 *eP* **P 00 34 33.5 +0.2**
comp=Z,13nm,0.6s,SNR=5.8
MOA Molln 15.82 333 *eP* **P 00 34 32.9 -1.9**
comp=Z,9.9nm,0.9s
KRUC Moravsky 16.15 339 *eP* **P 00 34 39.0 +0.7**
VRAC Vranov 16.31 340 Pn **P 00 34 38.8 -1.3**
comp=Z,0.7nm,0.3s,baz=138,slow=11,SNR=13
VRAC Vranov 16.31 340 *eP* **P 00 34 39.4 -0.7**
WTTA Wattenberg 16.47 326 *eP* **Pn 00 34 38.8 -0.8**
comp=Z,20nm,1.0s,SNR=6.8
MORC Moravsky Berou 16.49 343 *eP* **P 00 34 41.8 -0.3**
MORC Moravsky Berou 16.49 343 P **Pn 00 34 40.6 +0.9**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 16.49 343 **Pn 00 34 40.6 +0.9**
WATA Walderalm 16.55 326 *eP* **Pn 00 34 40.5 -0.1**
comp=Z,14nm,1.2s
TREC Trest 16.63 338 *eP* **P 00 34 43.2 -0.5**
TREC Trest 16.63 338 *eP* **P 00 34 43.2 -0.5**
SQTA Sankt Quirin 16.64 325 *eP* **P 00 34 44.8 +0.9**
comp=Z,2.4nm,0.5s,SNR=5.6
SHA1 Shidzhatmaz 16.67 50 *i* P **P 00 34 44.7 +0.4**
FUORN Ofenpass-Fuorn 16.68 322 P **P 00 34 43.7 -0.8**
FETA Feichten 16.73 324 *eP* **P 00 34 46.2 +1.3**
comp=Z,14nm,1.1s,SNR=6.4
AKASG Malin Array Be 16.76 9 Pn **Pn 00 34 43.1 +0.1**
comp=Z,4.1nm,0.3s,baz=200,slow=11,SNR=15
AKASG Malin Array Be 16.76 9 *i* P **Pn 00 34 43.5 +0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 16.76 9 P **Pn 00 34 42.2 -0.7**
AKBB Malin Array Si 16.76 9 P **Pn 00 34 43.0 0.0**
AKBB pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 16.76 9 **Pn 00 34 43.0 0.0**
AKBB IAmb IAmb 00 34 51.7
comp=Z,14nm,0.7s
MOTA Moosalm 16.78 326 *eP* **P 00 34 46.0 +0.5**
comp=Z,6.9nm,0.9s
KIV Kislovodsk 16.79 49 *eP* **P 00 34 45.7 +0.1**
KIV pmax pmax
comp=Z,53nm,1.0s
KIV MLR MLR
comp=Z,101nm,13.0s
KIV Kislovodsk 16.79 49 P **P 00 34 46.1 +0.6**
KIV IAmb IAmb 00 34 58.6
comp=Z,27nm,1.1s
KVAR Kislovodsk Arr 16.80 49 Pn **P 00 34 46.4 +0.7**
baz=254,slow=21,SNR=1.7
KBZ Khabaz 16.82 50 Pn **P 00 34 47.4 +1.7**
comp=Z,0.3nm,0.3s,baz=234,slow=12,SNR=9.4
GEC2 GERESS Array S 16.86 333 *eP* **P 00 34 46.5 +0.2**
comp=Z,16nm,0.8s,baz=149,slow=11
GEC2 GERESS Array S 16.86 333 **P 00 34 46.2 -0.1**
GEC2 IAmb IAmb 00 34 47.4
comp=Z,15nm,0.8s
GERES GERESS Array B 16.86 333 Pn **P 00 34 46.8 +0.5**
comp=Z,1.4nm,0.3s,baz=153,slow=12,SNR=7.4
GERES GERESS Array B 16.86 333 P **P 00 34 46.2 -0.1**
KRLC Kraliky 16.96 342 *eP* **P 00 34 47.2 -0.1**
KRLC *es*P **sP 00 34 59.8 +3.2**
KRLC Kraliky 16.96 342 *eP* **P 00 34 47.2 -0.1**
DAVOX Davos/Dischmat 16.98 322 Pn **Pn 00 34 46.6 +0.5**
comp=Z,0.3nm,0.3s,baz=160,slow=16,SNR=8.1
DAVOX LR LR 00 42 01.2
comp=Z,68nm,20.1s,baz=102,slow=40
RETA Reutte 17.04 325 *eP* **Pn 00 34 46.0 -0.7**
comp=Z,5.6nm,0.7s
TUE Stuetta 17.06 321 P **Pn 00 34 47.5 +0.5**
ZEI Tsey 17.06 54 *eP* **Pn 00 34 40.5 -6.6**
ZEI pmax pmax
comp=Z,18nm,1.2s
KHC Kasperske Hory 17.14 334 *eP* **P 00 34 50.0 +0.7**
KHC *ep*P **pwP 00 34 58.2 -0.7**
KHC Kasperske Hory 17.14 334 *eP* **P 00 34 50.0 +0.7**
FUR Furstenfeldbru 17.31 328 *eL* L 00 43 25.2
comp=Z,48nm,20.3s
DAVA Damuels 17.33 323 *eP* **Pn 00 34 49.4 -0.9**
comp=Z,13nm,1.1s
DPC Dobruska-Polom 17.33 341 *eP* **P 00 34 51.8 +0.4**
DPC Dobruska-Polom 17.33 341 *eP* **P 00 34 51.8 +0.4**

WET Wettzell 17.41 333 *eP* **P 00 34 52.5 +0.1**
comp=Z,21nm,0.9s,baz=149,slow=11
WET *eL* L 00 44 48.7
comp=Z,48nm,19.7s
PBCC Pribram 17.46 336 *eP* **P 00 34 52.0 -0.8**
PRU Pruhonice 17.54 337 *eP* **P 00 34 53.4 -0.2**
PRU *ex* x 00 35 04.7
PRU Pruhonice 17.54 337 *eP* **P 00 34 53.4 -0.2**
OSTC Ostas 17.55 341 *eP* **P 00 34 54.1 +0.3**
UPC Upice 17.56 341 *eP* **P 00 34 54.1 +0.2**
UPC Upice 17.56 341 *eP* **P 00 34 54.1 +0.2**
CHVC Chvalec 17.62 341 *eP* **P 00 34 54.6 0.0**
PRA Prague 17.64 337 *eP* **Pn 00 34 54.1 +0.1**
PRA Prague 17.64 337 *eP* **Pn 00 34 54.1 +0.1**
SENIN Lac Senin/Sane 18.11 317 P **P 00 35 00.0 -0.2**
NKC Novy Kostel 18.47 334 *eP* **Pn 00 35 04.1 0.0**
NKC Novy Kostel 18.47 334 *eP* **Pn 00 35 04.1 0.0**
BRG Berggiesshubel 18.50 337 *eP* **P 00 35 03.5 -0.8**
comp=Z,11nm,1.5s
BRG Berggiesshubel 18.50 337 *eP* **P 00 35 03.4 -0.8**
BRG pmax pmax
comp=Z,11nm,1.5s
GRA1 Grafenberg Arr 18.50 331 P **P 00 35 03.6 -0.7**
GRF Grafenberg Arr 18.50 331 P **P 00 35 03.6 -0.7**
GRF pmax pmax
comp=Z,15nm,0.9s
GRF Grafenberg Arr 18.50 331 *eP* **Pn 00 35 04.4 -0.2**
comp=Z,20nm,1.1s,baz=149,slow=11
GRF *eL* L 00 42 25.9
comp=Z,117nm,18.1s
TANN Tannenbergstha 18.61 334 *eP* **Pn 00 35 05.8 -0.1**
comp=Z,27nm,0.9s,baz=149,slow=11
BFO Black Forest 18.81 324 P **P 00 35 07.7 0.0**
BFO pmax pmax
comp=Z,9.0nm,1.2s
BFO Black Forest 18.81 324 *eL* L 00 45 59.7
comp=Z,50nm,19.3s
BFO Black Forest 18.81 324 P **P 00 35 07.7 0.0**
MOX Moxa 19.11 333 *eL* L 00 45 54.8
comp=Z,25nm,21.1s
SSB Saint Sauveur 19.17 311 P **P 00 35 10.5 -1.2**
SSB pmax pmax
comp=Z,3.0nm,0.8s
SSB Saint Sauveur 19.17 311 P **P 00 35 10.5 -1.2**
CLL Collm 19.18 337 *eP* **P 00 35 11.0 -0.6**
comp=Z,11nm,1.3s
CLL *ep*P **pP 00 35 18.0 -0.2**
CLL Collm 19.18 337 P **P 00 35 11.1 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 19.18 337 *eL* L 00 44 29.6
comp=Z,115nm,18.3s
CLL Collm 19.18 337 P **P 00 35 11.1 -0.5**
ECH Echery 19.32 322 P **P 00 35 13.3 0.0**
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH Echery 19.32 322 P **P 00 35 13.3 0.0**
VORD Divnogorie 19.71 28 *eP* **Pn 00 35 25.0 +6.0**
VORD pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 19.86 27 *eP* **P 00 35 17.4 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.8s
TNS Taunus Mts 20.08 328 *eL* L 00 44 27.7
comp=Z,65nm,19.7s
GTTG Gottingen 20.46 332 *eP* **P 00 35 26.3 +0.7**
comp=Z,54nm,0.9s,baz=149,slow=11
TAM Tamanrasset 20.52 241 P Pn 00 35 28.5 -0.5
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 20.52 241 P Pn 00 35 28.5 -0.5
WLF Walferdange 20.77 324 P **P 00 35 29.4 +0.5**
WLF Walferdange 20.77 324 PnPn **PnPn 00 35 45.9 -1.5**
WLF Walferdange 20.77 324 P **P 00 35 29.4 +0.5**
WLF pmax pmax
comp=Z,16nm,1.0s
WLF Walferdange 20.77 324 P **P 00 35 29.4 +0.5**
WLF IAmb IAmb 00 35 34.1
comp=Z,16nm,1.0s
VRH Novokhopyorsk 20.87 31 *eP* **P 00 35 28.6 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 20.91 24 *eP* **P 00 35 27.6 -2.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BTNL Ternell 21.39 326 P **P 00 35 36.0 +0.3**
BTNL PnPn **PnPn 00 35 56.5 +0.5**
MEM Membach 21.46 325 P **P 00 35 37.0 +0.6**
MEM PnPn **PnPn 00 35 55.1 -1.8**
DOU Dourbes 21.81 323 P **P 00 35 40.5 +0.3**
CLF Chambon-Foret 21.89 316 P **P 00 35 41.4 +0.3**
CLF IAmb IAmb 00 35 43.9
comp=Z,14nm,1.0s
BSD Bornholm Skovb 22.05 344 *i* P **P 00 35 40.5 -2.1**
BSD Bornholm Skovb 22.05 344 *i* P **P 00 35 40.5 -2.1**
BSD Bornholm Skovb 22.05 344 *i* P **P 00 35 40.5 -2.1**
SNF Seneffe 22.23 323 P **P 00 35 45.4 +0.8**
OBN Obninsk 22.39 18 P **P 00 35 44.2 -2.1**
comp=Z,2.6nm,0.4s,baz=204,slow=14,SNR=3.1
OBN LR LR 00 44 38.4
comp=Z,24nm,20.7s,baz=14,slow=37
OBN Obninsk 22.39 18 *iePe* **P 00 35 48.0 +1.6**
OBN 00 35 54.8
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,75nm,15.0s
ESBB Sonseca Array 23.73 292 P **P 00 35 59.7 -0.5**
ESBB IAmb IAmb 00 36 01.9
comp=Z,7.5nm,0.8s
ESDC Sonseca Array 23.73 292 P **P 00 35 59.9 -0.3**
comp=Z,5.9nm,0.8s,baz=82,slow=9.2,SNR=58
ESDC LR LR 00 46 26.5
comp=Z,31nm,19.3s,baz=245,slow=40
ESDC Sonseca Array 23.73 292 P **P 00 35 59.9 -0.3**
PAB San Pablo 24.02 291 P **P 00 36 02.5 -0.5**
PAB pmax pmax
comp=Z,4.0nm,1.0s
PAB San Pablo 24.02 291 P **P 00 36 02.5 -0.5**
MDT Midelt 24.69 275 P **P 00 36 10.2 +1.0**
comp=Z,3.1nm,0.9s,baz=92,slow=13,SNR=8.9
PBRG Braganca 26.03 296 *eP* **P 00 36 21.6 +0.4**
comp=Z,16nm,1.5s
MVO Moncorvo 26.18 295 *eP* **P 00 36 23.1 +0.5**
comp=Z,23nm,0.8s
PMRV Marv??o 26.36 291 *eP* **P 00 36 24.6 +0.4**
comp=Z,10nm,1.3s
PCBR Castelo Branco 26.44 292 *eP* **P 00 36 24.9 0.0**
comp=Z,12nm,1.6s
MTE Manteigas 26.52 293 *eP* **P 00 36 25.7 +0.1**
comp=Z,25nm,1.8s
MTE Manteigas 26.52 293 P **P 00 36 25.2 -0.5**
MTE IAmb IAmb 00 36 45.0
comp=Z,18nm,1.4s
PVAQ Vaqueiros 26.65 286 *eP* **P 00 36 27.1 +0.3**
comp=Z,23nm,1.4s
PVRL Vila Real 26.70 295 *eP* **P 00 36 27.9 +0.6**
comp=Z,18nm,2.1s
PBEJ Beja 26.74 288 *eP* **P 00 36 29.9 +2.3**
comp=Z,10nm,2.0s
PVIS Viseu 26.80 294 *eP* **P 00 36 29.0 +0.8**
comp=Z,18nm,1.4s
PBDV Barranco-do-Ve 26.83 286 *eP* **P 00 36 29.0 +0.5**
comp=Z,19nm,1.7s
EVO Evora 26.85 289 *eP* **P 00 36 29.3 +0.8**
comp=Z,13nm,1.8s
GEYT Alibeck 26.94 72 P **P 00 36 28.0 -1.5**
comp=Z,0.8nm,0.5s,baz=297,slow=9.5,SNR=1.9
GEYT Alibeck 26.94 72 P **P 00 36 29.4 0.0**
HFS Hagfors 26.96 347 P **P 00 36 28.7 -0.6**
comp=Z,2.0nm,0.4s,baz=134,slow=11,SNR=13
HFS LR LR 00 49 16.3
comp=Z,86nm,19.1s,baz=132,slow=41
FINES FINESS Array B 27.25 1 P **P 00 36 30.1 -1.8**
comp=Z,1.8nm,0.3s,baz=164,slow=11,SNR=32
FINES PcP **PcP 00 39 51.6 +0.5**
comp=Z,2.3nm,0.7s,baz=167,slow=2.4,SNR=4.6
FIA1 FINESS Array S 27.25 1 P **P 00 36 30.2 -1.7**
PNCL Nicolau / Gran 27.26 288 *eP* **P 00 36 34.1 +1.8**
comp=Z,13nm,1.4s
KONO Kongsberg 27.39 343 P **P 00 36 31.4 -1.8**
KONO pmax pmax
comp=Z,28nm,1.3s
KONO Kongsberg 27.39 343 P **P 00 36 31.4 -1.8**
NAO01 NORSAR Array S 28.17 345 P **P 00 36 39.2 -1.0**

NB2 NORSAR Subarra 28.28 346 P **P 00 36 40.9 -0.3**
comp=Z,0.9nm,0.5s,baz=161,slow=11
NOA NORSAR Array B 28.28 346 P **P 00 36 39.2 -1.9**
comp=Z,0.5nm,0.5s,baz=146,slow=8.8,SNR=6.2
NOA LR LR 00 50 35.2
comp=Z,31nm,18.1s,baz=250,slow=42
UOSS Minazif 28.57 100 P **P 00 36 44.4 +0.3**
UOSS IAmb IAmb 00 36 51.5
comp=Z,12nm,1.5s
EKA Eskdalemuir Ar 28.74 326 P **P 00 36 44.8 -0.5**
comp=Z,1.1nm,0.4s,baz=119,slow=9.3,SNR=6.7
ESK Eskdalemuir 28.75 326 P **P 00 36 45.0 -0.4**
ESK pmax pmax
comp=Z,41nm,1.2s
ESK Eskdalemuir 28.75 326 P **P 00 36 45.0 -0.4**
AKTO Aktyubinsk 28.99 46 P **P 00 36 46.7 -0.8**
comp=Z,0.9nm,0.4s,baz=261,slow=11,SNR=4.4
KIRV Kirov 29.30 26 *ce*P **P 00 36 48.5 -1.7**
ABKAR Akbulak array 29.78 49 P **P 00 36 54.2 -0.4**
TOA0 Torodi Ar. Sit 29.79 231 P **P 00 36 56.4 +1.5**
TOA0 IAmb IAmb 00 36 57.6
comp=Z,4.9nm,0.7s
TORD Torodi Ar. Bea 29.79 231 P **P 00 36 56.6 +1.7**
comp=Z,4.1nm,0.5s,baz=32,slow=8.2,SNR=39
TORD Torodi Ar. Bea 29.79 231 P **P 00 36 56.2 +1.3**
ARU Arti 31.89 36 *d*/P **P 00 37 12.9 -0.2**
ARU 00 38 15.3
ARU S **S 00 42 28.2 +6.0**
ARU SS **SnSn 00 44 10.9 -0.3**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 31.89 36 P **P 00 37 12.6 -0.4**
ARU IAmb IAmb 00 37 21.6
comp=Z,15nm,1.5s
KOWA Kowa 32.75 240 P **P 00 37 22.2 +1.2**
comp=Z,0.6nm,0.4s,baz=31,slow=8.2,SNR=2.2
KOWA Kowa 32.75 240 P **P 00 37 21.7 +0.7**
KOWA IAmb IAmb 00 37 40.1
comp=Z,6.8nm,1.4s
SVE Sverdlovsk 33.09 36 *eP* **P 00 37 23.8 +0.2**
SVE pmax pmax
comp=Z,11nm,0.6s
ARCES ARCESS Array B 35.37 0 P **P 00 37 41.6 -1.6**
comp=Z,2.5nm,0.7s,baz=191,slow=9.7,SNR=30
ARCES PcP **PcP 00 40 12.9 +0.1**
comp=Z,5.4nm,1.0s,baz=151,slow=2.8,SNR=5.0
ARCES LR LR 00 53 02.1
comp=Z,47nm,20.2s,baz=255,slow=38
KK31 Karatay Array 36.25 62 P **P 00 37 51.2 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 36.25 62 P **P 00 37 51.1 +0.1**
KK31 IAmb IAmb 00 37 53.0
comp=Z,2.9nm,0.9s
KKAR Karatay Array 36.25 62 P **P 00 37 51.3 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 36.25 62 P **P 00 37 51.3 +0.2**
KKAR IAmb IAmb 00 37 53.0
comp=Z,2.9nm,0.9s
KKAR Karatay Array 36.25 62 P **P 00 37 51.7 +0.6**
BRVK Borovoye 37.04 45 *ce*P **P 00 37 56.5 -1.2**
BRVK pmax pmax
comp=Z,6.0nm,2.5s
BRVK Borovoye 37.04 45 P **P 00 37 57.9 +0.2**
BRVK IAmb IAmb 00 38 11.3
comp=Z,5.5nm,1.4s
DBIC Dimbokro 38.88 232 P **P 00 38 14.3 +0.7**
comp=Z,2.2nm,0.9s,baz=28,slow=11,SNR=1.6
DBIC LR LR 00 58 07.7
comp=Z,35nm,18.3s,baz=88,slow=42
DBIC Dimbokro 38.88 232 P **P 00 38 13.6 0.0**
DBIC IAmb IAmb 00 38 27.5
comp=Z,12nm,1.3s
AAK Ala-Archa 39.20 63 *ce*P **P 00 38 16.3 +0.1**
AAK pmax pmax
comp=Z,5.0nm,0.8s
KSH Kashi 40.67 67 P **P 00 38 29.0 +0.5**
KSH pmax pmax
comp=Z,98nm,3.7s
KDJ Kajisay 41.23 63 P **P 00 38 33.7 +0.6**
KDJ pmax pmax
comp=Z,3.0nm,0.8s
KDJ Kajisay 41.23 63 P **P 00 38 33.7 +0.6**
KURK Kurchatov 41.88 50 *ce*P **P 00 38 37.4 -0.6**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 41.88 50 P **P 00 38 38.0 0.0**
KURK IAmb IAmb 00 38 39.3
comp=Z,4.3nm,0.8s
MAKZ Makanchi 44.19 56 P **P 00 38 57.6 +0.8**
MAKZ pmax pmax
comp=Z,3.0nm,1.2s
MAKZ Makanchi 44.19 56 P **P 00 38 57.6 +0.8**
SPA0 Spitsbergen Ar 44.22 357 P **P 00 38 56.1 -0.6**
SPITS Spitsbergen Ar 44.22 357 P **P 00 38 55.9 -0.8**
comp=Z,1.1nm,0.3s,baz=146,slow=10,SNR=10
MK31 Makanchi Array 44.40 56 *ce*P **P 00 38 59.1 +0.5**
MK31 Makanchi Array 44.40 56 P **P 00 38 59.4 +0.9**
MK31 IAmb IAmb 00 39 00.2
comp=Z,3.5nm,0.9s
MKAR Makanchi Array 44.40 56 P **P 00 38 59.4 +0.9**
comp=Z,1.9nm,0.3s,baz=263,slow=7.3,SNR=42
MKAR PcP **PP 00 40 43.4 +1.2**
comp=Z,0.4nm,0.6s,baz=323,slow=2.2,SNR=1.3
MKAR Makanchi Array 44.40 56 P **P 00 38 59.2 +0.7**
ZAA0 Zalesovo Array 45.75 46 P **P 00 39 08.9 -0.2**
ZAA0 IAmb IAmb 00 39 09.6
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 45.75 46 P **P 00 39 09.0 -0.1**
comp=Z,3.9nm,0.3s,baz=270,slow=8.7,SNR=24
ZALV Zalesovo Beam 45.75 46 P **P 00 39 09.0 -0.1**
ZALV Zalesovo Beam 45.75 46 P **P 00 39 09.0 -0.1**
DGZ Jazzator, Alta 47.56 51 *i* P **P 00 39 24.2 +0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 48.59 59 *eP* **P 00 39 34.8 +3.3**
NRIK Noril'sk 48.78 25 P **P 00 39 32.5 0.0**
comp=Z,1.3nm,0.4s,baz=282,slow=7.0,SNR=5.1
NRIK Noril'sk 48.78 25 *i* P **P 00 39 32.7 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
PYUN Piuthan 49.43 80 *eP* **P 00 39 39.6 +1.3**
comp=Z,13nm,0.6s
SUMG Summit 49.81 339 P **P 00 39 40.9 +0.1**
SUMG Summit 49.81 339 P **P 00 39 40.9 +0.1**
DANN Dangsing 49.96 80 *eP* **P 00 39 43.9 +1.4**
comp=Z,27nm,0.6s
KOLN Koldanda 50.05 81 *eP* **P 00 39 44.0 +0.9**
GKN Gorkha 50.81 80 *eP* **P 00 39 49.5 +0.8**
comp=Z,9.6nm,0.7s
DMN Daman 51.35 80 *eP* **P 00 39 53.8 +0.9**
comp=Z,10nm,0.6s
KKN Kakani 51.42 80 *eP* **P 00 39 54.2 +0.8**
comp=Z,9.7nm,0.6s
PKIN Phulchoki 51.60 80 *eP* **P 00 39 55.5 +0.7**
comp=Z,12nm,0.7s
PKI Pulchoki 51.61 80 *eP* **P 00 39 55.5 +0.6**
comp=Z,11nm,0.8s
GUN Gumba 51.86 79 *eP* **P 00 39 57.3 +0.5**
comp=Z,9.5nm,0.5s
GTA Gaotai 58.52 61 *eP* **P 00 40 45.5 +1.0**
GTA pP pP 00 40 50.5 -1.6
GTA sP sP 00 40 53.3 -1.3
GTA pmax pmax
comp=Z,3.0nm,1.0s
LBTB Lobatse 58.91 179 P **P 00 40 47.7 +0.6**
LBTB pmax pmax
comp=Z,11nm,1.4s
LBTB Lobatse 58.91 179 P **P 00 40 47.7 +0.6**
SONM Songino Array 60.18 50 P **P 00 40 56.1 +0.3**
comp=Z,2.2nm,0.8s,baz=286,slow=7.0,SNR=6.8
SONM Songino Array 60.18 50 P **P 00 40 56.4 +0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 60.18 50 P **P 00 40 56.4 +0.6**
ULN Ulaanbaatar 60.59 50 *ce*P **P 00 40 58.8 +0.2**
ULN pmax pmax
comp=Z,9.0nm,2.5s
ULN Ulaanbaatar 60.59 50 P **P 00 40 59.1 +0.5**
ULN IAmb IAmb 00 41 09.2
comp=Z,3.2nm,0.7s
TIXI Tiksi 62.09 20 *i* P **P 00 41 06.7 -1.5**
BOSA Boshof 62.49 180 P **P 00 41 13.0 +1.6**
comp=Z,2.1nm,0.9s,baz=164,slow=15,SNR=1.5

BOSA	**Boshof**	**62.49**	**180**	P		**P**		**00 41 12.6**	**+1.2**
BOSA				IAmb		IAmb		00 41 14.1	
	comp=Z,7.5nm,1.2s								
SCHQ	**Schefferville**	**63.82**	**320**	P		**P**		**00 41 19.8**	**-0.1**
	comp=Z,5.5nm,0.6s,baz=72,slow=5.7,SNR=6.2								
SCHQ	**Schefferville**	**63.82**	**320**	P		**P**		**00 41 20.1**	**+0.1**
HHC	**Hu-ho-hao-te**	**66.27**	**56**	*eP*		**P**		**00 41 39.0**	**+2.8**
HHC				pmax		pmax			
	comp=Z,9.0nm,1.1s								
HHC				pmax		pmax			
	comp=Z,89nm,5.5s								
BATG	**Bathurst New B**	**66.45**	**312**	P		**P**		**00 41 37.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**66.81**	**83**	P		**P**		**00 41 40.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=305,slow=5.4,SNR=1.4								
CMAR				LR		LR		01 17 09.5	
	comp=Z,9.4nm,19.0s,baz=230,slow=42								
HIA	**Hailar**	**67.78**	**45**	P		**P**		**00 41 46.3**	**+0.7**
HIA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
HIA	**Hailar**	**67.78**	**45**	P		**P**		**00 41 46.3**	**+0.7**
HIA				IAmb		IAmb		00 42 01.4	
	comp=Z,4.5nm,1.0s								
PQI	**Presque Isle**	**67.92**	**312**	P		**P**		**00 41 46.5**	**+0.1**
D62A	**Allapoint, All**	**68.37**	**313**	P		**P**		**00 41 50.0**	**+0.7**
F64A	**Sherman**	**68.50**	**311**	P		**P**		**00 41 50.5**	**+0.4**
E62A	**Clayton Lake**	**68.87**	**313**	P		**P**		**00 41 52.5**	**+0.1**
KLR	**Kul'dur**	**74.56**	**41**	*i* P		**P**		**00 42 25.9**	**-0.7**
KLR				pmax		pmax			
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**76.53**	**352**	P		**P**		**00 42 38.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=37,slow=5.1,SNR=1.2								
USRK	**Ussuriysk Ar.**	**77.60**	**45**	P		**P**		**00 42 43.8**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=289,slow=6.3,SNR=8.6								
USRK	**Ussuriysk Ar.**	**77.60**	**45**	P		**P**		**00 42 43.6**	**-0.3**
YKA	**Yellowknife Ar**	**78.30**	**342**	P		**P**		**00 42 46.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=31,slow=4.9,SNR=1.6								
BMAR	**Burnt Mountain**	**78.36**	**356**	P		**P**		**00 42 49.2**	**+1.4**
KSRS	**Korea Array**	**78.96**	**52**	P		**P**		**00 42 52.0**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=305,slow=5.3,SNR=6.3								
KSRS	**Korea Array**	**78.96**	**52**	P		**P**		**00 42 52.0**	**+0.4**
IMAR	**Indian Mountai**	**80.12**	**359**	P		**P**		**00 42 58.3**	**+0.9**
EGAK	**Eagle**	**80.73**	**354**	P		**P**		**00 43 02.0**	**+1.2**
EGAK				IAmb		IAmb		00 43 16.3	
	comp=Z,9.5nm,1.5s								
MDM	**Murphy Dome**	**81.01**	**357**	P		**P**		**00 43 01.1**	**-1.1**
MDM				IAmb		IAmb		00 43 03.9	
	comp=Z,3.1nm,0.9s								
ILAR	**Eielson Array**	**81.13**	**356**	P		**P**		**00 43 03.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=354,slow=3.2,SNR=4.5								
ILAR	**Eielson Array**	**81.13**	**356**	P		**P**		**00 43 02.6**	**-0.2**
WRH	**Wood River Hil**	**81.49**	**357**	P		**P**		**00 43 04.6**	**-0.1**
WRH				IAmb		IAmb		00 43 18.4	
	comp=Z,4.7nm,0.9s								
BPAW	**Bear Paw Mtn.**	**81.96**	**358**	P		**P**		**00 43 06.9**	**-0.4**
BCAR	**Beaver Creek A**	**82.47**	**354**	P		**P**		**00 43 10.5**	**+0.5**
RND	**Reindeer**	**82.58**	**357**	P		**P**		**00 43 10.6**	**-0.1**
RND				pmax		pmax			
	comp=Z,5.0nm,1.3s								
RND	**Reindeer**	**82.58**	**357**	P		**P**		**00 43 10.6**	**-0.1**
RND				IAmb		IAmb		00 43 28.3	
	comp=Z,4.9nm,1.3s								
DHY	**Denali Highway**	**82.85**	**357**	P		**P**		**00 43 12.1**	**-0.1**
DHY				IAmb		IAmb		00 43 13.1	
	comp=Z,4.6nm,1.0s								
PPLA	**Purkeypile**	**83.19**	**359**	P		**P**		**00 43 14.2**	**+0.3**
CTGM	**Chitina Glacie**	**84.50**	**353**	P		**P**		**00 43 20.7**	**+0.1**
SUA	**Susitna One**	**84.60**	**358**	P		**P**		**00 43 21.1**	**+0.1**
TGL	**Tana Glacier**	**84.84**	**354**	P		**P**		**00 43 22.1**	**-0.2**
TGL				IAmb		IAmb		00 43 35.8	
	comp=Z,4.2nm,0.9s								
SVW2	**Sparrevohn**	**85.03**	**0**	P		**P**		**00 43 23.0**	**-0.1**
SVW2				IAmb		IAmb		00 43 32.1	
	comp=Z,3.1nm,1.0s								
MJAR	**Matsushiro Arr**	**86.05**	**48**	P		**P**		**00 43 28.4**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=308,slow=5.4,SNR=5.7								
FVM	**French Village**	**86.45**	**314**	P		**P**		**00 43 30.5**	**-0.1**
FVM				pmax		pmax			
	comp=Z,4.0nm,0.6s								
FVM	**French Village**	**86.45**	**314**	P		**P**		**00 43 30.4**	**-0.1**
CCM	**Cathedral Cave**	**86.89**	**315**	P		**P**		**00 43 32.4**	**-0.3**
CCM				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CCM	**Cathedral Cave**	**86.89**	**315**	P		**P**		**00 43 32.4**	**-0.3**
CCM				IAmb		IAmb		00 43 43.1	
	comp=Z,2.4nm,0.6s								
PDAR	**Pinedale Array**	**92.84**	**328**	P		**P**		**00 44 00.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=348,slow=3.9,SNR=1.8								
WRA	**Warramunga Arr**	**116.61**	**97**	PKP		**PKPdf**		**00 49 32.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=328,slow=1.0,SNR=4.7								
ASAR	**Alice Springs**	**118.00**	**101**	PKP		**PKPdf**		**00 49 35.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=290,slow=2.7,SNR=2.9								

IDC 26 00:50:22.2±2.9, 15°.64S×174°.08W, h0^{km}, mb3.5/4, mb1 3.9/4, mb1mx3.7/31, mbtmp3.5/4, Error ellipse: s-maj=280.8km s-min=27.6km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.15**	**257**	P	P	00 59 12.2	-0.1
	0.3nm,0.8s,baz=91,slow=7.1,SNR=5.0						
ASAR	**Alice Springs**	**49.41**	**252**	P	P	00 59 14.1	-0.2
	0.5nm,0.6s,baz=87,slow=8.2,SNR=11						
TXAR	**Lajitas Array**	**81.29**	**56**	P	P	01 02 40.5	-0.3
	0.3nm,0.9s,baz=203,slow=8.8,SNR=3.5						
PDAR	**Pinedale Array**	**82.88**	**42**	P	P	01 02 49.4	+0.3
	0.6nm,0.8s,baz=173,slow=1.5,SNR=5.1						

*IDC **26** 01:08:54.6±3.6, 9°.86S×119°.00E, h44^{km}±37^{km}, mb3.6/2, mb1 3.6/7, mb1mx3.3/37, mbtmp3.7/7, ML3.4/5, MS2.6/2, Ms1 2.7/2, ms1mx2.3/34, Error ellipse: s-maj=38.5km s-min=14.3km az=61.0*

*DJA **26** 01:08:54.3±0.6, 10°.S±11°×11°.9E±°, h95^{km}±20^{km}, M3.5/6, MLv3.5/6*

ISC 26 01:08:52.7±0.9, 10°.03S±0°.07×119°.05E±0°.06, h35^{km}, n14, σ3^{s}54/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.52**	**97**	P	**Pn**	**01 09 20.7**	**+3.3**
PLAI	**Plampang**	**1.73**	**313**	P	**Pn**	**01 09 21.4**	**+1.2**
TWSI	**Taliwang, Sumb**	**2.49**	**301**	P	**Pn**	**01 09 32.9**	**+2.2**
EDFI	**Ende, Flores**	**2.90**	**64**	P	**Pn**	**01 09 36.7**	**+0.2**
BATI	**Baumata**	**4.55**	**93**	P	**Pn**	**01 10 02.8**	**+3.7**
	8.7nm,0.3s,baz=358,slow=0.4,SNR=11						
BATI				S	**Sn**	**01 10 54.9**	**+4.0**
	5.0nm,0.3s,baz=279,slow=21,SNR=6.9						
BATI	**Baumata**	**4.55**	**93**	P	**Pn**	**01 10 00.8**	**+1.7**
KAPI	**Kappang**	**5.03**	**8**	P	**Pn**	**01 10 07.0**	**+1.3**
	2.2nm,0.3s,baz=126,slow=22,SNR=4.5						
KAPI				S	**Sn**	**01 11 00.2**	**-2.4**
	2.5nm,0.3s,baz=105,slow=22,SNR=2.3						
KAPI				LR	LR	01 12 15.8	
	comp=Z,46nm,20.3s,baz=205,slow=4.1						
JAGI	**Jajag, Banyuwa**	**5.07**	**287**	P	**Pn**	**01 10 07.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.26**	**142**	P	**Pn**	**01 11 19.9**	**+2.4**
	0.2nm,0.3s,baz=337,slow=13,SNR=12						
FITZ				S	**Sn**	**01 13 09.1**	**-2.2**
	0.4nm,0.3s,baz=330,slow=4.5,SNR=2.8						
WRA	**Warramunga Arr**	**17.75**	**125**	P	**P**	**01 12 58.8**	**+1.1**
	0.1nm,0.3s,baz=302,slow=12,SNR=4.6						
WRA				S	**Sn**	**01 16 06.9**	**-7.1**
	0.1nm,0.3s,baz=279,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**19.63**	**136**	P	**Pn**	**01 13 21.6**	**+1.7**
	0.1nm,0.3s,baz=316,slow=11,SNR=7.8						
ASAR				S	**S**	**01 16 50.1**	**-8.0**
	0.0nm,0.3s,baz=212,slow=37,SNR=2.7						
CMAR	**Chiang Mai Arr**	**34.56**	**325**	LR	LR	01 30 26.4	
	comp=Z,13nm,18.1s,baz=285,slow=38						
MKAR	**Makanchi Array**	**65.39**	**333**	P	**P**	**01 19 32.0**	**+0.4**
	0.7nm,0.7s,baz=139,slow=8.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**70.01**	**339**	P	**P**	**01 19 59.6**	**-1.0**
	0.4nm,0.4s,baz=135,slow=5.4,SNR=2.2						

*ISK **26** 01:14:02.2, 41°.92N×30°.61E, h6^{km}, ML2.8/15*

*DDA **26** 01:14:03.7, 41°.89N±30°.81E, h16^{km}±2^{km}, ML2.5*

ISC 26 01:14:00.6±1.4, 41°.98N±0°.04×30°.70E±0°.03, h15^{km}±10^{km}, n37, σ1^{s}04/47, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAND	**Kocaeli-Kandir**	**0.97**	**204**	*i* P	**Pn**	**01 14 20.8**	**+1.2**
KAND				*i* S	**Sn**	**01 14 32.5**	**-0.5**
KAND				IAML		01 14 34.0	
	comp=E,132nm,0.2s						
KAND				IAML		01 14 34.0	
	comp=N,204nm,0.3s						
SAHE	**Sakarya_HENDEK**	**1.13**	**174**	*i* P	**Pg**	**01 14 22.4**	**0.0**
YIGI	**Dzce**	**1.16**	**151**	*i* P	**Pg**	**01 14 22.6**	**-0.3**
YIGI				*i* S	**Sb**	**01 14 36.5**	**-0.7**
YIGI				IAML		01 14 38.0	
	comp=E,205nm,0.7s						
YIGI				IAML		01 14 38.0	
	comp=N,167nm,0.4s						
BTIN	**Bartın**	**1.21**	**106**	*i* P	**Pb**	**01 14 23.2**	**+0.1**
BTIN				*i* S	**Sb**	**01 14 37.3**	**-1.2**
BTIN				IAML		01 14 42.0	
	comp=N,243nm,0.4s						
BTIN				IAML		01 14 46.0	
	comp=E,98nm,0.6s						
SAUV	**Serdivan-Sakar**	**1.27**	**193**	PN	**Pg**	**01 14 25.4**	**+0.3**
SPNC	**Sapanca-Adapaz**	**1.33**	**193**	PN	**Pg**	**01 14 26.6**	**+0.4**
SPNC				SN	**Sg**	**01 14 44.3**	**+0.8**
GEYV	**SAKARYA_Geyve**	**1.53**	**192**	*i* P	**Pb**	**01 14 28.9**	**+0.3**
GEYV				*i* S	**Sb**	**01 14 47.3**	**-0.4**
GEYV				IAML		01 14 51.0	
	comp=E,43nm,0.7s						
GEYV				IAML		01 14 53.0	
	comp=N,58nm,0.4s						
ISK	**Istanbul-Kandi**	**1.54**	**234**	PN	**Pg**	**01 14 29.9**	**-0.2**
KAVV	**Kandilli-Istan**	**1.54**	**234**	PN	**Pg**	**01 14 29.5**	**-0.6**
BCAM	**Yenicaga**	**1.55**	**138**	*i* P	**Pb**	**01 14 29.4**	**+0.4**
BCAM				*i* S	**Sn**	**01 14 47.2**	**-0.4**
GULT	**Gulveren**	**1.56**	**185**	PN	**Pg**	**01 14 30.1**	**-0.4**
GULT				SN	**Sg**	**01 14 50.6**	**-0.1**
MDUB	**Mudurnu**	**1.56**	**166**	PN	**Pg**	**01 14 30.6**	**+0.1**
KBUK	**KARABUK-Merkez**	**1.62**	**117**	*i* P	**Pb**	**01 14 29.5**	**-0.7**
KBUK				*i* S	**Sn**	**01 14 48.9**	**-0.4**
BGKT	**Bogazkoy**	**1.66**	**242**	PN	**Pb**	**01 14 31.2**	**+0.5**
ADVT	**Abdulvahap**	**1.71**	**206**	PN	**Pb**	**01 14 32.1**	**+0.4**
YUVA	**Yuva-Kibriscik**	**1.75**	**155**	PN	**Pg**	**01 14 33.6**	**-0.7**
KIBS	**BOLU**	**1.79**	**151**	*i* P	**Pg**	**01 14 34.1**	**-0.8**
KIBS				IAML		01 15 02.0	
	comp=E,32nm,0.8s						
TRML	**Termal-Yalova**	**1.79**	**221**	PN	**Pb**	**01 14 32.8**	**-0.3**
CTKS	**Kestanelik-??a**	**1.81**	**246**	PN	**Pb**	**01 14 33.4**	**0.0**
SRCK	**Saricakaya, Es**	**1.94**	**182**	PN	**Pb**	**01 14 35.8**	**+0.2**
CMDR	**Camlidere-ANKA**	**2.00**	**137**	*i* P	**Pb**	**01 14 37.5**	**+0.8**
CMDR				IAML		01 15 00.0	
	comp=N,45nm,1.7s						
SLVT	**Silivri**	**2.02**	**249**	PN	**Pb**	**01 14 36.3**	**-0.6**
IGD	**Bursa**	**2.06**	**214**	*i* P	**Pb**	**01 14 36.7**	**-0.9**
IGD				*i* S	**Sn**	**01 14 58.3**	**-1.6**
IGD				IAML		01 15 03.0	
	comp=N,30nm,1.2s						
PELI	**Kastamonı-Ara**	**2.07**	**108**	*i* P	**Pb**	**01 14 37.0**	**-0.8**
PELI				*i* S	**Sn**	**01 15 01.3**	**+0.8**
BORA	**Eskisehir**	**2.11**	**185**	*i* P	**Pb**	**01 14 37.8**	**-0.8**
BORA				IAML		01 15 15.0	
	comp=N,35nm,0.6s						
AUBOZ	**BOZOYUK**	**2.13**	**194**	*i* P	**Pb**	**01 14 38.4**	**-0.5**
AUBOZ				IAML		01 15 09.0	
	comp=N,37nm,0.5s						
ULDT	**Uludag**	**2.19**	**213**	*i* P	**Pb**	**01 14 40.2**	**+0.3**
ULDT				IAML		01 15 10.0	
	comp=N,21nm,0.9s						
AUMIH	**MIHALICIK**	**2.19**	**164**	*i* P	**Pb**	**01 14 38.6**	**-1.4**
AUMIH				IAML		01 15 07.0	
	comp=E,43nm,1.7s						
SVRH	**Sivrihisar-ESK**	**2.61**	**166**	PN	**Pb**	**01 14 45.4**	**-1.7**
CIFT	**Cifteler, Eski**	**2.63**	**174**	PN	**Pb**	**01 14 45.8**	**-1.7**
MAR9	**Marsite Statio**	**2.64**	**240**	PN	**Pb**	**01 14 45.2**	**-2.3**
TVSB	**Tavsanli**	**2.70**	**201**	PN	**Pb**	**01 14 46.7**	**-1.9**
SIMA	**Simav-Kutahya**	**3.18**	**205**	PN	**Pn**	**01 14 52.9**	**+2.8**
CFR	**Carcaliu**	**3.70**	**331**	⇓P	**Pn**	**01 14 57.2**	**+0.1**
VRI	**Vrincioaia**	**4.83**	**325**	⇓P	**Pn**	**01 15 14.1**	**+1.4**
PLOR	**Plostina**	**4.85**	**324**	⇑P	**Pn**	**01 15 14.5**	**+1.4**
VOIR		**5.36**	**312**	⇑P	**Pn**	**01 15 21.7**	**+1.7**

*IDC **26** 01:19:02.9±0.6, 41°.30N×29°.41W, h0^{km}, mb4.0/18, mb1 4.1/19, mb1mx4.0/45, mbtmp4.0/19, ML4.2/1, MS3.7/30, Ms1 3.7/30, ms1mx3.6/50, Error ellipse: s-maj=19.6km s-min=14.1km az=21.0*

*GCMT **26** 01:19:04.3±0.3, 41°.44N±0°.04×29°.28W±0°.05, h14^{km}±1^{km}, MW4.7/80, Moment Tensor Solution. s12,c13; s80,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-1.36±.12; $M_{\theta\theta}$=0.49±.09; $M_{\phi\phi}$=0.87±.08; $M_{r\theta}$=-0.41±.23; $M_{\theta\phi}$=0.11±.04; $M_{\phi r}$=0.01±.23; Best double couple: M_0=1.17700×10^{16} NP1:∅$_S$186.00000°, δ43.00000°, λ-107.00000°. NP2: ∅$_S$29.00000°, δ49.00000°, λ-75.00000°. Principal axes: T 0.9070, Plg3.0000°, Azm108.0000°; N 0.5390, Plg12.0000°, Azm199.0000°; P -1.4460, Plg78.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **26** 01:19:05.3±2.2, 41°.28N±0°.09×29°.4W±0°.1, h10^{km}±1^{km}, mb4.7/103 Error ellipse: s-maj=14.8km s-min=14.5km az=216.0*

*BGR **26** 01:19:19.7±0.0, 41°.62N×28°.82W, h33^{km}, mb4.6, Ms3.7*

ISC 26 01:19:04.9±0.7, 41°.11N±0°.05×29°.36W±0°.04, h10^{km}±4^{km}, h10^{km}:pP-P, n192, σ1^{s}56/162, mb4.6/55, MS3.7/30, 1C-2D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.95**	**224**	*eP*	**Pn**	**01 19 38.1**	**-2.5**
H07N1	**FLORES T-PHASE**	**2.23**	**220**	*eP*	**Pn**	**01 19 42.2**	**+0.2**
H07S1				*eS*	**Sb**	**01 20 10.2**	**-2.9**
SRBC	**Serra Branca**	**2.31**	**154**	*eS*	**Sn**	**01 20 10.7**	**-0.7**
SRBC				A	A	01 20 14.1	
	357nm,0.5s						
PGRA	**Graciosa**	**2.33**	**153**	*eP*	**Pn**	**01 19 41.9**	**-1.5**
ROSA	**Rosais**	**2.54**	**160**	Pn	**Pn**	**01 19 47.5**	**+1.3**
CALA	**Caldeira**	**2.58**	**168**	*eP*	**Pn**	**01 19 47.3**	**+0.5**
CALA				*eS*	**Sn**	**01 20 19.2**	**+1.0**
CALA				A	A	01 20 26.2	
	91nm,0.5s						
HOR	**Horta**	**2.64**	**167**	*eP*	**Pn**	**01 19 48.0**	**+0.4**
HOR				*eS*	**Sn**	**01 20 20.4**	**+0.7**
HOR				A	A	01 20 25.6	
	156nm,0.4s						
PICO	**Pico**	**2.71**	**164**	*eP*	**Pn**	**01 19 49.3**	**+0.8**
PCAN	**Candelaria**	**2.73**	**165**	*eP*	**Pn**	**01 19 49.3**	**+0.5**
PCAN				*eS*	**Sn**	**01 20 23.2**	**+1.3**
PCAN				A	A	01 20 27.2	
	36nm,0.4s						
ADH	**Angra Heroismo**	**2.95**	**146**	*eP*	**Pn**	**01 19 50.5**	**-1.3**
ADH				*eS*	**Sn**	**01 20 24.6**	**-2.6**
ADH				A	A	01 20 31.1	
	62nm,0.6s						
PSCM	**Serra do Cume**	**2.96**	**144**	*eP*	**Pn**	**01 19 50.9**	**-1.1**
PSCM				*eS*	**Sn**	**01 20 24.3**	**-3.3**
PSCM				A	A	01 20 30.2	
	57nm,0.4s						
PSET	**Sete Cidades**	**4.33**	**138**	*eP*	**Pn**	**01 20 10.0**	**-0.8**
PSET				*eS*	**Sn**	**01 20 58.8**	**-2.5**
PSET				A	A	01 21 13.0	
	53nm,0.3s						
PDA	**Ponta Delgada**	**4.42**	**138**	*eP*	**Pn**	**01 20 11.5**	**-0.4**
PDA				*eS*	**Sn**	**01 21 01.0**	**-2.4**
PDA				A	A	01 21 08.2	
	34nm,0.3s						
GRON	**Grota Negra**	**4.46**	**137**	*eP*	**Pn**	**01 20 13.2**	**+0.5**
GRON				*eS*	**Sn**	**01 21 04.2**	**-0.5**
GRON				A	A	01 21 16.7	
	24nm,0.4s						
CMLA	**Cha da Macela**	**4.47**	**137**	*eP*	**Pn**	**01 20 12.3**	**-0.5**
CMLA				*eS*	**Sn**	**01 21 02.1**	**-2.7**
CMLA				A	A	01 21 07.4	
	109nm,0.4s						
CMLA	**Cha da Macela**	**4.47**	**137**	Pn	**Pn**	**01 20 12.2**	**-0.5**
BART	**Pico Bartolome**	**4.65**	**134**	*eP*	**Pn**	**01 20 14.4**	**-0.9**
BART				*eS*	**Sn**	**01 21 06.5**	**-2.8**
BART				A	A	01 21 14.7	
	45nm,0.4s						
PSMA	**Santa Maria**	**5.27**	**140**	*eP*	**Pn**	**01 20 23.6**	**-0.1**
PSMA				*eS*	**Sn**	**01 21 21.3**	**-3.1**
PSMA				A	A	01 21 26.6	
	21nm,0.3s						
PSMN	**Pico do Norte,**	**5.29**	**139**	*eP*	**Pn**	**01 20 23.4**	**-0.6**
PSMN				*eS*	**Sn**	**01 21 22.4**	**-2.6**
PSMN				A	A	01 21 26.7	
	22nm,0.4s						
PMOZ	**Porto Moniz, M**	**12.76**	**127**	*eP*	**Pn**	**01 22 07.6**	**+1.1**
	68nm,2.1s						
PMOZ	**Porto Moniz, M**	**12.76**	**127**	Pn	**Pn**	**01 22 06.7**	**+0.2**
PMAR	**Madeira**	**13.00**	**126**	*eP*	**Pn**	**01 22 11.0**	**+1.2**
	58nm,2.1s						
FUL	**Funchal**	**13.07**	**126**	*eP*	**Pn**	**01 22 12.8**	**+2.3**
	51nm,2.1s						
PGAV	**Gavieira, Arco**	**15.82**	**80**	*eP*	**Pn**	**01 22 45.3**	**-2.4**
	45nm,1.7s						
PGAV				*e*LR	LR	01 26 19.5	
	432nm,20.0s						
PCAS	**Casmilo, Conde**	**15.89**	**87**	*eP*	**P**	**01 22 52.5**	**+0.3**
	48nm,1.7s						
COI	**Coimbra**	**15.93**	**86**	Pn	**Pn**	**01 22 50.1**	**+1.1**
POLO	**Lamas de Olo**	**16.23**	**82**	*eP*	**Pn**	**01 22 52.3**	**-0.7**
	15nm,1.6s						
PVIS	**Viseu**	**16.23**	**84**	*eP*	**Pn**	**01 22 54.1**	**+1.1**
	16nm,1.4s						
PVRL	**Vila Real**	**16.29**	**82**	*eP*	**P**	**01 22 56.7**	**-0.1**
	28nm,1.6s						
PNCL	**Nicolau / Gran**	**16.33**	**94**	*eP*	**Pn**	**01 22 52.3**	**-1.9**
	25nm,1.6s						
PFVI	**Vila Bisbo**	**16.42**	**97**	*eP*	**P**	**01 22 59.5**	**+1.4**
	70nm,1.4s						
PFVI	**Vila Bisbo**	**16.42**	**97**		**Pn**	**01 22 55.8**	**+0.5**
PFVI				IAmb	IAmb	01 23 00.6	
	comp=Z,116nm,1.6s						
MORF	**Marmelete**	**16.49**	**97**	*eP*	**P**	**01 23 01.5**	**+2.5**
MTE	**Manteigas**	**16.55**	**85**	*eP*	**P**	**01 23 02.2**	**+2.6**
	comp=Z,24nm,1.4s						
MTE				*e*LR	LR	01 27 07.4	
	comp=Z,380nm,20.0s						
MTE	**Manteigas**	**16.55**	**85**	Pn	**Pn**	**01 22 57.0**	**0.0**
EVO	**Evora**	**16.60**	**92**	*eP*	**Pn**	**01 22 57.0**	**-0.7**
	comp=Z,26nm,1.4s						
PCBR	**Castelo Branco**	**16.70**	**87**	*eP*	**P**	**01 23 01.1**	**-0.1**
	comp=Z,16nm,1.6s						
MVO	**Moncorvo**	**16.82**	**82**	*eP*	**P**	**01 23 04.8**	**+2.1**
	comp=Z,33nm,1.5s						
MVO				*e*LR	LR	01 27 08.1	
	comp=Z,259nm,20.0s						
PCVE	**Castro Verde**	**16.84**	**95**	*eP*	**Pn**	**01 23 01.7**	**+0.9**
	comp=Z,23nm,1.8s						
PMRV	**Marv??o**	**16.85**	**89**	*eP*	**Pn**	**01 23 01.0**	**+0.2**
	comp=Z,25nm,1.8s						
PMRV				*e*LR	LR	01 27 05.5	
	comp=Z,490nm,20.0s						
PBEJ	**Beja**	**16.85**	**94**	*eP*	**P**	**01 23 05.2**	**+2.2**
	comp=Z,23nm,1.9s						
PBRG	**Braganca**	**16.97**	**80**	*eP*	**P**	**01 23 05.7**	**+1.4**
	comp=Z,28nm,1.6s						
PBDV	**Barranco-do-Ve**	**17.05**	**96**	*eP*	**P**	**01 23 07.0**	**+1.8**
	comp=Z,43nm,1.5s						
PVAQ	**Vaqueiros**	**17.16**	**95**	*eP*	**P**	**01 23 07.1**	**+0.8**
	comp=Z,18nm,1.6s						
PVAQ				*e*LR	LR	01 27 05.5	
	comp=Z,296nm,20.0s						
PAB	**San Pablo**	**19.12**	**86**		**Pn**	**01 23 30.6**	**+1.7**
ESDC	**Sonseca Array**	**19.38**	**86**	P	**P**	**01 23 31.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=288,slow=13,SNR=10						
ESDC				LR	LR	01 29 22.2	
	comp=Z,350nm,21.4s,baz=275,slow=32						
ESDC	**Sonseca Array**	**19.38**	**86**	P	**Pn**	**01 23 33.2**	**+1.2**
MDT	**Midelt**	**21.39**	**105**	P	**P**	**01 23 53.9**	**+1.1**
	comp=Z,6.7nm,1.0s,baz=307,slow=11,SNR=11						
MDT				LR	LR	01 30 23.6	
	comp=Z,160nm,20.3s,baz=302,slow=32						
CLF	**Chambon-Foret**	**23.45**	**62**	P	**P**	**01 24 14.9**	**+0.7**
BORG	**Borgarnes**	**24.13**	**8**	LR	LR	01 31 09.6	
	comp=Z,120nm,20.2s,baz=225,slow=30						
SSB	**Saint Sauveur**	**24.95**	**69**	P	**P**	**01 24 28.3**	**0.0**
SNF	**Seneffe**	**25.07**	**57**	P	**P**	**01 24 28.2**	**-1.1**
SNF	**Seneffe**	**25.07**	**57**	pP	pP	01 24 31.3	-0.5
SNF	**Seneffe**	**25.07**	**57**	sP	sP	01 24 32.9	+0.1
UCC	**Uccle**	**25.17**	**56**	P	**P**	**01 24 30.9**	**+0.8**
DOU	**Dourbes**	**25.21**	**58**	pP	pP	01 24 34.3	+1.2
BMRD	**Maredsous**	**25.35**	**57**	P	**P**	**01 24 32.0**	**+0.2**
BMRD				sP	**pwP**	**01 24 36.1**	**-0.9**
BGES	**Gesves**	**25.56**	**57**	pP	pP	01 24 37.9	+1.7
BCLA	**Clavier**	**25.71

CPCT	**Cooper Cave**	**43.06**	**281**	P	**P**	**01 27 06.0**	**+1.1**
CPCT				IAmb	IAmb	01 27 13.3		
	comp=Z,12nm,1.3s							
W50A	**Signal Mountai**	**43.75**	**281**	P	**P**	**01 27 11.8**	**+1.3**
W50A				IAmb	IAmb	01 27 12.4		
	comp=Z,14nm,1.2s							
MANT	**Manisa**	**43.87**	**74**	P	**P**	**01 27 11.7**	**+0.1**
CLTN	**Cedars of Leba**	**44.13**	**283**	P	**P**	**01 27 14.3**	**+0.8**
CLTN				IAmb	IAmb	01 27 19.9		
	comp=Z,16nm,1.4s							
T47A	**Sharon Grove**	**44.33**	**284**	IAmb	IAmb	01 27 17.9		
	comp=Z,7.7nm,0.8s							
RES	**Resolute Bay**	**44.39**	**340**	P	**P**	**01 27 13.4**	**-1.6**
	comp=Z,4.1nm,0.7s,baz=132,slow=7.0,SNR=7.7							
RES	**Resolute Bay**	**44.39**	**340**	P	**P**	**01 27 14.2**	**-0.8**
WVT	**Waverly**	**45.22**	**284**	P	**P**	**01 27 22.9**	**+0.8**
WVT				IAmb	IAmb	01 27 28.7		
	comp=Z,8.1nm,1.1s							
SPMN	**Marine on St.**	**45.40**	**297**	IAmb	IAmb	01 27 25.4		
	comp=Z,12nm,1.1s							
ULM	**Lac du Bonnet**	**45.93**	**305**	LR	LR	01 45 08.0		
	comp=Z,196nm,19.9s,baz=106,slow=34							
Z47A	**Carrollton**	**46.68**	**280**	P	**P**	**01 27 35.4**	**+1.6**
CCM	**Cathedral Cave**	**46.91**	**288**	P	**P**	**01 27 35.9**	**+0.4**
CCM				IAmb	IAmb	01 27 41.1		
	comp=Z,8.0nm,1.1s							
BRTR	**Keskin Array B**	**47.04**	**70**	P	**P**	**01 27 36.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=291,slow=5.7,SNR=3.7							
BRTR				LR	LR	01 46 25.3		
	comp=Z,21nm,19.4s,baz=288,slow=35							
BRTR	**Keskin Array B**	**47.04**	**70**	P	**P**	**01 27 38.0**	**+1.4**
FFC	**Flin Flon**	**48.35**	**312**	P	**P**	**01 27 46.0**	**-0.5**
ECSD	**EROS Data Cent**	**48.47**	**297**	IAmb	IAmb	01 27 49.6		
	comp=Z,9.6nm,1.1s							
S39A	**Bolivar**	**48.55**	**288**	IAmb	IAmb	01 27 54.2		
	comp=Z,6.7nm,0.8s							
SDV	**Santo Domingo**	**48.57**	**240**	P	**P**	**01 27 50.5**	**+1.7**
X40A	**Basin Creek Fa**	**49.61**	**284**	IAmb	IAmb	01 27 57.8		
	comp=Z,11nm,1.4s							
Z41A	**Richland Creek**	**50.16**	**283**	P	**P**	**01 28 00.1**	**-0.5**
KIRV	**Kirov**	**50.58**	**42**	LR	LR	01 48 43.4		
	comp=Z,82nm,18.1s,baz=281,slow=35							
KBZ	**Khabaz**	**51.82**	**61**	P	**P**	**01 28 12.7**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=313,slow=12,SNR=2.3							
YKA	**Yellowknife Ar**	**52.47**	**324**	P	**P**	**01 28 16.3**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=61,slow=6.9,SNR=2.6							
YKA				LR	LR	01 47 19.3		
	comp=Z,59nm,18.7s,baz=0.0,slow=32							
EIL	**Elat**	**52.58**	**81**	LR	LR	01 51 48.0		
	comp=Z,37nm,19.2s,baz=296,slow=37							
MARD	**Mardin**	**53.13**	**70**	P	**P**	**01 28 24.3**	**+1.4**
ROSC	**El Rosal**	**54.01**	**240**	LR	LR	01 48 22.2		
	comp=Z,72nm,21.7s,baz=58,slow=32							
AMTX	**Amarillo**	**55.83**	**289**	P	**P**	**01 28 42.5**	**0.0**
ARU	**Arti**	**55.95**	**42**	P	**P**	**01 28 41.5**	**-1.4**
RLMT	**Red Lodge**	**56.20**	**303**	IAmb	IAmb	01 28 46.8		
	comp=Z,7.0nm,1.1s							
T25A	**Trinidad**	**56.66**	**292**	IAmb	IAmb	01 28 51.7		
	comp=Z,4.8nm,0.9s							
MSTX	**Muleshoe**	**57.07**	**288**	IAmb	IAmb	01 28 53.4		
	comp=Z,6.5nm,0.9s							
PDAR	**Pinedale Array**	**57.46**	**301**	P	**P**	**01 28 52.5**	**-1.6**
	comp=Z,2.4nm,1.0s,baz=64,slow=6.8,SNR=11							
PDAR				LR	LR	01 53 34.6		
	comp=Z,127nm,18.1s,baz=53,slow=36							
PDAR	**Pinedale Array**	**57.46**	**301**	P	**P**	**01 28 52.8**	**-1.4**
LOHW	**Long Hollow**	**57.74**	**302**	IAmb	IAmb	01 28 57.8		
	comp=Z,7.7nm,1.4s							
IMW	**Indian Meadow**	**57.82**	**302**	IAmb	IAmb	01 28 58.7		
	comp=Z,4.5nm,0.9s							
AKTO	**Aktyubinsk**	**58.29**	**49**	LR	LR	01 53 17.3		
	comp=Z,61nm,21.2s,baz=317,slow=35							
MSO	**Missoula**	**58.32**	**307**	IAmb	IAmb	01 29 01.7		
	comp=Z,8.8nm,1.0s							
SAML	**Samuel**	**58.74**	**220**	P	**P**	**01 29 04.5**	**+1.5**
ANMO	**Albuquerque**	**59.19**	**291**	LR	LR	01 54 51.9		
	comp=Z,110nm,19.0s,baz=77,slow=36							
NEW	**Newport**	**59.53**	**309**	LR	LR	01 53 29.6		
	comp=Z,118nm,18.3s,baz=62,slow=35							
ABKAR	**Akbulak array**	**59.94**	**49**	P	**P**	**01 29 10.4**	**-0.6**
TXAR	**Lajitas Array**	**60.15**	**284**	P	**P**	**01 29 12.4**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=71,slow=7.1,SNR=27							
TXAR				LR	LR	01 54 39.1		
	comp=Z,45nm,19.5s,baz=0.0,slow=36							
TX32	**Lajitas Array**	**60.15**	**284**	IAmb	IAmb	01 29 20.3		
	comp=Z,11nm,1.6s							
NRIK	**Noril'sk**	**60.59**	**21**	P	**P**	**01 29 13.4**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=276,slow=5.6,SNR=2.5							
CMIG	**Matias Romero**	**60.61**	**267**	LR	LR	01 54 33.3		
	comp=Z,86nm,18.4s,baz=54,slow=35							
121A	**Cookes Peak, D**	**61.40**	**290**	IAmb	IAmb	01 29 23.0		
	comp=Z,5.6nm,1.1s							
DAWY	**Dawson**	**61.67**	**332**	P	**P**	**01 29 23.5**	**+0.8**
DAWY				IAmb	IAmb	01 29 28.8		
	comp=Z,9.2nm,1.4s							
ELK	**Elko**	**62.15**	**301**	LR	LR	01 57 59.0		
	comp=Z,63nm,18.5s,baz=70,slow=38							
ELK	**Elko**	**62.15**	**301**	P	**P**	**01 29 26.5**	**0.0**
ELK				IAmb	IAmb	01 29 33.5		
	comp=Z,5.3nm,1.1s							
WUAZ	**Wupatki**	**62.32**	**294**	IAmb	IAmb	01 29 35.8		
	comp=Z,5.6nm,1.1s							
BRVK	**Borovoye**	**63.52**	**42**	P	**P**	**01 29 34.3**	**-0.8**
BRVK				IAmb	IAmb	01 29 35.2		
	comp=Z,5.5nm,0.9s							
TUC	**Tucson**	**63.65**	**291**	P	**P**	**01 29 36.3**	**-0.1**
TUC				IAmb	IAmb	01 29 56.7		
	comp=Z,11nm,1.7s							
ILAR	**Eielson Array**	**63.76**	**335**	P	**P**	**01 29 34.3**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=41,slow=5.6,SNR=4.0							
PRN	**Pahroc Range**	**63.80**	**298**	IAmb	IAmb	01 29 40.9		
	comp=Z,6.6nm,1.1s							
SHPR	**Sheep Range**	**64.37**	**297**	P	**P**	**01 29 41.1**	**-0.1**
SHPR				IAmb	IAmb	01 29 47.6		
	comp=Z,11nm,1.7s							
GEYT	**Alibeck**	**64.71**	**61**	P	**P**	**01 29 42.5**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=265,slow=8.5,SNR=3.6							
GEYT	**Alibeck**	**64.71**	**61**	IAmb	IAmb	01 29 49.9		
	comp=Z,1.6nm,0.8s							
GSC	**Goldstone, Bar**	**66.15**	**297**	P	**P**	**01 29 53.2**	**+0.6**
TIXI	**Tiksi**	**66.48**	**7**	P	**P**	**01 29 55.7**	**+1.7**
LPAZ	**La Paz**	**67.47**	**221**	P	**P**	**01 30 02.3**	**+0.6**
	comp=Z,3.3nm,1.1s,baz=6.4,slow=9.2,SNR=6.9							
LPAZ				LR	LR	01 55 12.8		
	comp=Z,88nm,20.3s,baz=58,slow=32							
LPAZ	**La Paz**	**67.47**	**221**	P	**P**	**01 30 03.7**	**+2.0**
LPAZ				IAmb	IAmb	01 30 11.0		
	comp=Z,8.9nm,1.4s							
KURK	**Kurchatov**	**69.06**	**40**	P	**P**	**01 30 09.6**	**-1.0**
KURK				IAmb	IAmb	01 30 10.2		
	comp=Z,4.9nm,0.8s							
ATD	**Arta Tunnel**	**69.12**	**93**	LR	LR	01 59 27.4		
	comp=Z,40nm,21.8s,baz=321,slow=35							
KK09	**Karatay Array**	**69.43**	**50**	P	**P**	**01 30 12.7**	**-0.4**
KKAR	**Karatay Array**	**69.45**	**50**	P	**P**	**01 30 12.2**	**-0.9**
KKAR	**Karatay Array**	**69.45**	**50**	P	**P**	**01 30 12.3**	**-0.9**
KKAR				IAmb	IAmb	01 30 13.1		
	comp=Z,4.6nm,1.1s							
ZAA0	**Zalesovo Array**	**69.79**	**35**	P	**P**	**01 30 14.4**	**-0.7**
ZAA0				IAmb	IAmb	01 32 31.3		
	comp=Z,3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**69.79**	**35**	P	**P**	**01 30 11.8**	**-3.3**
	comp=Z,2.1nm,0.8s,baz=302,slow=8.5,SNR=7.1							
ZALV	**Zalesovo Beam**	**69.79**	**35**	P	**P**	**01 30 13.8**	**-1.3**
UOSS	**Minazif**	**70.87**	**73**	P	**P**	**01 30 23.2**	**+1.1**
MAKZ	**Makanchi**	**73.31**	**42**	P	**P**	**01 30 36.1**	**-0.4**
MK31	**Makanchi Array**	**73.48**	**42**	P	**P**	**01 30 35.7**	**-1.7**
MKAR	**Makanchi Array**	**73.48**	**42**	P	**P**	**01 30 35.5**	**-1.9**
	comp=Z,3.1nm,0.8s,baz=315,slow=5.6,SNR=22							
MKAR				LR	LR	02 01 56.2		
	comp=Z,67nm,21.2s,baz=330,slow=35							
MKAR	**Makanchi Array**	**73.48**	**42**	P	**P**	**01 30 36.0**	**-1.5**
KSH	**Kashi**	**74.90**	**51**	P	**P**	**01 30 44.0**	**-2.0**
KSH				pmax	pmax			
	comp=Z,13nm,1.2s							
AC02	**Maricunga**	**77.01**	**216**	P	**P**	**01 30 59.7**	**+1.2**
WMQ	**Urumqi**	**78.28**	**41**	*e*P	**P**	**01 31 06.8**	**+1.8**
SONM	**Songino Array**	**83.15**	**28**	P	**P**	**01 31 30.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=324,slow=7.1,SNR=2.5							
SONM	**Songino Array**	**83.15**	**28**	P	**P**	**01 31 31.1**	**+0.1**
ULN	**Ulaanbaatar**	**83.35**	**28**	P	**P**	**01 31 33.2**	**+1.1**
ULN				IAmb	IAmb	01 31 38.0		
	comp=Z,5.6nm,1.1s							
BOSA	**Boshof**	**85.84**	**134**	LR	LR	02 06 24.6		
	comp=Z,92nm,21.6s,baz=318,slow=33							
GTA	**Gaotai**	**87.45**	**37**	P	**P**	**01 31 57.0**	**+4.2**
GTA				pP	pwP	01 32 01.5	+3.6	
GTA				sP	sP	01 32 04.0	+7.3	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.4s							
GTA				pmax	pmax			
	comp=Z,150nm,7.1s							
GTA				LR	LR			
	comp=N,48nm,17.8s							
GTA				LR	LR			
	comp=E,76nm,17.8s							
GTA				LR	LR			
	comp=Z,88nm,17.4s							
HHC	**Hu-ho-hao-te**	**91.04**	**29**	*e*P	**P**	**01 32 09.5**	**-0.1**
HHC				pmax	pmax			
	comp=Z,28nm,0.9s							
HHC				pmax	pmax			
	comp=Z,55nm,5.0s							
LL01	**San Ignacio de**	**91.76**	**210**	P	**P**	**01 32 13.1**	**+0.8**
LZH	**Lanzhou**	**92.00**	**36**	*e*P	**P**	**01 32 13.5**	**-0.7**
LZH				pP	pwP	01 32 17.8	-1.5	
LZH				sP	sP	01 32 19.8	+1.7	
LZH				pmax	pmax			
	comp=Z,23nm,1.0s							
YSS	**Yuzh-Sakhalins**	**92.04**	**5**	P	**P**	**01 32 11.8**	**-2.0**
NJ2	**Nanjing**	**101.51**	**27**	*e*P	**Pdif**	**01 32 55.3**	**-1.8**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**148.61**	**50**	PKPbc	**PKPbc**	**01 38 51.4**	**-1.0**
	comp=Z,2.5nm,1.0s,baz=337,slow=7.7,SNR=3.0							
ASAR	**Alice Springs**	**157.66**	**44**	PKP	**PKPdf**	**01 38 58.9**	**-2.9**
	comp=Z,0.4nm,0.9s,baz=9.5,slow=2.8,SNR=2.8							
ASAR				PKPab	**PKPab**	**01 39 32.5**	**-1.4**	
	comp=Z,1.2nm,0.9s,baz=336,slow=4.9,SNR=7.5							

MOS ***26*** *01:22:52.4±0.8,44˚.12N×147˚.70E,h59km,mb4.6/16,Error ellipse: s-maj=8.2km s-min=7.0km az=85.5*
MOS Felt (III) at Malokuril'skoye, (II) at Yuzhno-Kuril'sk.
NIED ***26*** *01:22:53.9,43˚.93N×147˚.50E,h15km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.62; Mθθ-1.54; Mφφ-0.08; Mrθ0.97; Mrφ-0.62; Mθφ0.94; Fault plane solution: M₀2.17000×10¹⁵ NP1:φs55.00000°, δ65.00000°, λ76.00000°. NP2:φs265.00000°, δ29.00000°, λ117.00000°.*
JMA ***26*** *01:22:53.8±0.2,43˚.92N×147˚.50E,h15km,M4.9*
JMA Felt I J1.
IDC ***26*** *01:22:55.0±2.2,44˚.22N×147˚.57E,h63km±19km,mb3.9/25, mb1 4.1/29,mb1mx4.0/53,mbtmp4.2/29,MS3.0/9, Ms1 3.0/9,ms1mx2.8/41,Error ellipse: s-maj=15.1km s-min=11.6km az=140.0*
SKHL ***26*** *01:22:54.5±0.4,44˚.10N×147˚.66E,h71km±5km,mb5.0/10*
SKHL Felt (III) at Malokuril'skoye; (II) at Yushno-Kuril'sk.
NEIC ***26*** *01:22:56.5±1.3,44˚.24N±0˚.09×147˚.6E±0˚.1,h75km±3km, mb4.5/53,Error ellipse: s-maj=14.1km s-min=11.1km az=133.0*

ISC 26 01:22:54.4±0.8,44˚.11N±0˚.04×147˚.66E±0˚.05,h60km±7km, n227,σ1°13/237,mb4.4/73,3C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.14**	**7**	*i* P		**Pn**	**01 23 12.8**	**-1.4**
KUR					AMB	AMB	01 23 13.6	
	978nm,0.3s							
KUR				*i* S		**Sn**	**01 23 26.9**	**-2.1**
KUR				A		A	01 23 28.9	
	9μm,0.3s							
KUR				A		A	01 23 28.9	
	12μm,0.3s							
KUR	**Kuril'sk**	**1.14**	**7**	*d* iPN		**Pn**	**01 23 12.8**	**-1.4**
KUR				*i* S		**Sn**	**01 23 26.9**	**-2.1**
KUR				pmax		pmax		
	comp=Z,868nm,0.3s							
KUR				pmax		pmax		
	comp=N,258nm,0.2s							
KUR				pmax		pmax		
	comp=E,262nm,0.2s							
KUR				smax		smax		
	comp=N,7μm,0.3s							
KUR				smax		smax		
	comp=E,11μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.30**	**267**	*i* P		**Pn**	**01 23 15.5**	**-0.9**
YUK					AMB	AMB	01 23 17.1	
	comp=E,557nm,0.2s							
YUK				*i* S		**Sn**	**01 23 31.1**	**-1.7**
YUK				A		A	01 23 34.0	
	comp=E,11μm,0.3s							
YUK				A		A	01 23 34.0	
	comp=E,7μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.30**	**267**	*d* iPN		**Pn**	**01 23 15.5**	**-0.9**
YUK				*i* S		**Sn**	**01 23 31.1**	**-1.7**
YUK				pmax		pmax		
	comp=N,711nm,0.2s							
YUK				pmax		pmax		
	comp=E,1μm,0.2s							
YUK				pmax		pmax		
	comp=Z,6μm,0.2s							
YUK				smax		smax		
	comp=N,11μm,0.2s							
YUK				smax		smax		
	comp=E,7μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.30**	**267**	*d* iPN		**Pn**	**01 23 15.5**	**-0.9**
YUK				*i* S		**Sn**	**01 23 31.1**	**-1.7**
YUK				pmax		pmax		
	comp=N,711nm,0.2s							
YUK				pmax		pmax		
	comp=E,1μm,0.2s							
YUK				pmax		pmax		
	comp=Z,6μm,0.2s							
YUK				smax		smax		
	comp=N,11μm,0.2s							
YUK				smax		smax		
	comp=E,7μm,0.2s							
GRPR	**Tuman**	**1.37**	**266**	*i* P		**Pn**	**01 23 16.0**	**-1.3**
GRPR					AMB	AMB	01 23 17.0	
	comp=E,979nm,0.3s							
GRPR				*i* S		**Sn**	**01 23 32.0**	**-2.5**
GRPR				A		A	01 23 33.0	
	comp=E,8μm,0.3s							
GRPR				A		A	01 23 33.0	
	comp=E,5μm,0.3s							
GRPR	**Tuman**	**1.37**	**266**	↓*i* PN		**Pn**	**01 23 16.5**	**-0.8**
GRPR				*i* S		**Sn**	**01 23 32.2**	**-2.3**
GRPR				pmax		pmax		
	comp=Z,979nm,0.3s							
GRPR				pmax		pmax		
	comp=N,495nm,0.2s							
GRPR				pmax		pmax		
	comp=E,251nm,0.3s							
GRPR				smax		smax		
	comp=N,8μm,0.3s							
GRPR				smax		smax		
	comp=E,5μm,0.3s							
NEM2	**Nemuro 2**	**1.57**	**243**	P		**Pn**	**01 23 18.9**	**-1.2**
NEM2				*e*S		**Sn**	**01 23 37.0**	**-2.5**
NMR	**Nemuro--Hokkai**	**1.58**	**243**	*i* P		**Pn**	**01 23 19.2**	**-1.0**
NMR				*i* S		**Sn**	**01 23 38.0**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.58**	**243**	*i* PN		**Pn**	**01 23 18.9**	**-1.3**
NMR				*i* S		**Sn**	**01 23 38.4**	**-1.3**
GLVR	**Golovnino**	**1.59**	**257**	*i* P		**Pn**	**01 23 20.1**	**-0.2**
GLVR					AMB	AMB	01 23 22.0	
	comp=E,840nm,0.4s							
GLVR				*i* S		**Sn**	**01 23 39.0**	**-0.8**
GLVR				A		A	01 23 45.0	
	comp=E,12μm,0.4s							
GLVR				A		A	01 23 45.0	
	comp=E,6μm,0.4s							
GLVR	**Golovnino**	**1.59**	**257**	↓*i* PN		**Pn**	**01 23 19.9**	**-0.4**
GLVR				*i* S		**Sn**	**01 23 39.0**	**-0.8**
GLVR				pmax		pmax		
	comp=E,364nm,0.1s							
GLVR				pmax		pmax		
	comp=Z,840nm,0.1s							
GLVR				pmax		pmax		
	comp=N,286nm,0.2s							
GLVR				smax		smax		
	comp=E,6μm,0.2s							
GLVR				smax		smax		
	comp=N,12μm,0.4s							
JRA	**Rausu**	**1.84**	**266**	P		**Pn**	**01 23 23.7**	**0.0**
JRA				*e*S		**Sn**	**01 23 45.4**	**-0.5**
JNSB	**Nemuroshibetsu**	**1.95**	**261**	P		**Pn**	**01 23 25.3**	**+0.2**
JNSB				*e*S		**Sn**	**01 23 48.0**	**-0.5**
JKHN	**Kushirohamanak**	**2.08**	**241**	P		**Pn**	**01 23 26.3**	**-0.7**
JKHN				*e*S		**Sn**	**01 23 50.1**	**-1.8**
JNK	**Nakash**	**2.19**	**257**	P		**Pn**	**01 23 28.4**	**-0.1**
JNK				*e*S		**Sn**	**01 23 53.5**	**-1.0**
JAK	**Akkeshi**	**2.42**	**244**	P		**Pn**	**01 23 30.9**	**-0.7**
JAK				*e*S		**Sn**	**01 23 58.5**	**-1.6**
JTKR	**Abashiri--Toko**	**2.71**	**268**	P		**Pn**	**01 23 35.9**	**+0.4**
JAR	**Ashorobuto**	**2.94**	**255**	P		**Pn**	**01 23 39.1**	**+0.5**
JOB	**Onbets**	**3.03**	**248**	P		**Pn**	**01 23 40.1**	**+0.2**
JOB				*e*S		**Sn**	**01 24 13.9**	**-1.1**
JMP	**Maruseppu**	**3.10**	**270**	P		**Pn**	**01 23 41.6**	**+0.7**
JCH	**Churui**	**3.47**	**246**	P		**Pn**	**01 23 45.8**	**-0.2**
JCH				*e*S		**Sn**	**01 24 23.8**	**-2.0**
JKK2	**Kamakawa 2**	**3.55**	**268**	P		**Pn**	**01 23 48.4**	**+1.3**
JKA	**Kamikawa-asahi**	**3.64**	**272**	*e*P		**Pn**	**01 23 49.6**	**+1.3**
JKA	**Kamikawa-asahi**	**3.64**	**272**			**Pn**	**01 23 49.6**	**+1.3**
ASAJ	**Asahikawa**	**3.65**	**272**	P		**Pn**	**01 23 49.1**	**+0.8**
	comp=N,5.1nm,0.3s,baz=58,slow=16,SNR=20							
ASAJ				S		Sn	01 24 40.4	+10
	comp=N,12nm,0.3s,baz=234,slow=28,SNR=4.1							
ASAJ				LR		LR	01 25 32.0	
	comp=N,246nm,19.3s,baz=74,slow=44							
ASAJ	**Asahikawa**	**3.65**	**272**	P		**Pn**	**01 23 49.8**	**+1.4**
ASAJ	**Asahikawa**	**3.65**	**272**	PN		**Pn**	**01 23 49.6**	**+1.2**
JFR	**Furan**	**3.80**	**257**	P		**Pn**	**01 23 51.9**	**+1.5**
JFR				*e*S		**Sn**	**01 24 34.9**	**+1.1**
ERM	**Erimo**	**3.91**	**239**	PN		**Pn**	**01 23 53.7**	**+1.8**
ERM	**Erimo**	**3.91**	**239**			**Pn**	**01 23 53.7**	**+1.8**
JEM	**Erimo**	**3.91**	**239**			**Pn**	**01 23 53.6**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.03**	**245**	P		**Pn**	**01 23 53.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**4.47**	**311**	*i* P		**Pn**	**01 24 00.0**	**+0.5**
YSS				AMB		AMB	01 24 00.0	
	comp=N,140nm,0.5s							
YSS				*e*S		**Sn**	**01 24 49.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**4.47**	**311**	↑*i* PN		**Pn**	**01 24 00.1**	**+0.5**
YSS				*e*S		**Sn**	**01 24 50.7**	**+0.5**
YSS				pmax		pmax		
	comp=Z,140nm,0.5s							
YSS				smax		smax		
	comp=N,70nm,0.4s							
YSS				smax		smax		
	comp=E,80nm,0.6s							
YSS				MLR		MLR		
	comp=Z,600nm,10.0s							
YSS	**Yuzh-Sakhalins**	**4.47**	**311**			**Pn**	**01 23 58.5**	**-1.1**
JEW	**Eniwo**	**4.69**	**256**	Pn		**Pn**	**01 24 05.0**	**+2.3**
JTM	**Tenmabayashi**	**5.90**	**238**	Pn		**Pn**	**01 24 19.4**	**+0.2**
TYV	**Tymovskoe**	**7.56**	**335**	*e*P		**Pn**	**01 24 39.6**	**-2.3**
TYV				AMB		AMB	01 24 40.8	
	comp=Z,6.0nm,0.4s							
JMM	**Marumori**	**8.11**	**222**	Pn		**Pn**	**01 24 46.8**	**-2.7**
SKR	**Severo-Kuril's**	**8.72**	**38**	*e*P		**Pn**	**01 25 01.9**	**+4.1**
SKR				AMB		AMB	01 25 02.9	
	comp=Z,31nm,0.7s							
PAU	**Pauzhetka**	**9.59**	**37**	*e*P		**Pn**	**01 25 09.0**	**-0.6**
JYT	**Yasato**	**9.72**	**218**	Pn		**Pn**	**01 25 11.5**	**0.0**
OKH	**Okha**	**9.95**	**343**	*e*P		**Pn**	**01 25 17.5**	**+3.0**
OKH				AMB		AMB	01 25 18.2	
	comp=Z,90nm,0.7s							
MAJO	**Matsushiro**	**10.44**	**227**	*i* PN		**Pn**	**01 25 20.5**	**-0.9**
MJAR	**Matsushiro Arr**	**10.44**	**227**	P		**Pn**	**01 25 21.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=6.6							
MJAR				LR		LR	01 29 48.6	
	comp=Z,52nm,20.4s,baz=105,slow=40							
PETK	**Petropavlovsk-**	**11.18**	**33**	P		**Pn**	**01 25 30.9**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=194,slow=10.0,SNR=38							
PETK				LR		LR	01 29 40.1	
	comp=Z,37nm,20.9s,baz=210,slow=36							
USRK	**Ussuriysk Ar.**	**11.26**	**276**	P		**Pn**	**01 25 32.0**	**-0.5**
	baz=70,slow=16,SNR=4.0							
USRK				LR		LR	01 30 06.6	
	comp=Z,62nm,19.4s,baz=87,slow=39							
KLR	**Kul'dur**	**12.06**	**301**	P		**Pn**	**01 25 46.6**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=104,slow=15,SNR=9.8							
KLR				LR		LR	01 30 26.8	
	comp=Z,111nm,20.0s,baz=116,slow=38							
KLR	**Kul'dur**	**12.06**	**301**	*e*P		**Pn**	**01 25 42.9**	**-0.5**
JHJ	**Hachijo jima 2**	**12.57**	**212**	LR		LR	01 30 00.8	
	comp=Z,79nm,18.8s,baz=54,slow=34							
EKMR	**Ekimchan**	**13.21**	**318**	*e*P		**Pn**	**01 25 57.0**	**-2.1**
EKMR				AMB		AMB	01 26 05.9	
	comp=Z,8.0nm,0.9s							
MA2	**Magadan**	**15.61**	**6**	*e*P		**Pn**	**01 26 28.9**	**-1.5**
MA2	**Magadan**	**15.61**	**6**	*i* P		**Pn**	**01 26 28.9**	**-1.5**
BMKR	**Bomnak**	**16.15**	**318**	*e*P		**Pn**	**01 26 35.0**	**-2.3**
BMKR				AMB		AMB	01 26 40.0	
	comp=Z,2.0nm,1.0s							
KSRS	**Korea Array**	**16.34**	**253**	LR		LR	01 32 05.7	
	comp=Z,27nm,21.9s,baz=360,slow=34							
ZEA	**Zeya**	**16.46**	**313**	*e*P		**Pn**	**01 26 39.0**	**-2.2**
ZEA				AMB		AMB	01 26 44.8	
	comp=Z,30nm,1.0s							
ZEA	**Zeya**	**16.46**	**313**	*e*P		**P**	**01 26 42.3**	**-0.7**
ZEA				pmax		pmax		
	comp=Z,20nm,1.0s							
KROS	**Kirovskiy**	**16.93**	**315**	*e*P		**Pn**	**01 26 46.0**	**-1.

comp=Z,9.9nm,1.4s
CTGM Chitina Glacie 43.96 42 P P 01 30 56.2 +0.8
CTGM IAmb IAmb 01 30 57.2
comp=Z,12nm,1.1s
MK31 Makanchi Array 44.75 297 P P 01 31 01.9 +0.2
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 44.75 297 P P 01 31 01.9 +0.2
MKAR Makanchi Array 44.75 297 P P 01 31 01.0 -0.7
comp=Z,2.3nm,0.8s,baz=74,slow=6.9,SNR=9.5
MKAR PcP **PcP 01 32 43.0 +0.1**
comp=Z,1.3nm,0.6s,baz=68,slow=4.2,SNR=6.1
MAKZ Makanchi 44.94 298 P P 01 31 03.2 0.0
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 44.94 298 P P 01 31 03.2 0.0
KURK Kurchatov 45.64 304 *eP* **P 01 31 08.9 +0.3**
KURK Kurchatov 45.64 304 P **P 01 31 08.9 +0.3**
KURK pmax pmax
comp=Z,10.0nm,1.4s
KURK Kurchatov 45.64 304 P **P 01 31 08.9 +0.3**
KURK IAmb IAmb 01 32 47.1
comp=Z,9.8nm,1.4s
HYT Haines Junctio 45.82 41 P P 01 31 11.5 +1.5
INK Inuvik 45.91 31 P **P 01 31 10.2 -0.2**
comp=Z,1.9nm,0.5s,baz=301,slow=9.9,SNR=18
INK PcP **PcP 01 32 46.8 +0.3**
comp=Z,0.7nm,0.5s,baz=259,slow=5.2,SNR=1.1
INK Inuvik 45.91 31 IAmb IAmb 01 31 16.2
comp=Z,11nm,1.4s
TNTI Ternate 46.77 208 P P 01 31 19.6 +1.8
CHTO Chiang Mai 47.74 254 P P 01 31 25.8 +0.4
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 47.74 254 P P 01 31 25.8 +0.4
CMAR Chiang Mai Arr 47.98 254 P P 01 31 28.3 +1.0
comp=Z,1.7nm,0.3s,baz=47,slow=7.6,SNR=15
CMAR LR LR 01 51 07.6
comp=Z,15nm,20.0s,baz=300,slow=35
BRVK Borovoye 49.61 309 *i* P **P 01 31 36.1 -3.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BOOM Boomskoye usch 50.66 295 P P 01 31 47.1 -0.6
BOOM pmax pmax
comp=Z,5.0nm,1.0s
BOOM Boomskoye usch 50.66 295 P P 01 31 47.1 -0.6
BOOM IAmb IAmb 01 31 50.0
comp=Z,4.9nm,1.0s
GUN Gumba 51.36 273 *eP* **P 01 31 53.7 +0.4**
comp=Z,12nm,0.4s
RAMN Ramite 51.40 272 *eP* **P 01 31 53.9 +0.4**
comp=Z,17nm,0.3s
AAK Ala-Archa 51.53 296 *i* P **P 01 31 51.6 -2.6**
AAK pmax pmax
comp=Z,5.0nm,1.0s
KKN Kakani 51.86 274 *eP* **P 01 31 57.5 +0.6**
comp=Z,4.9nm,0.3s
PKI Pulchoki 51.90 273 *eP* **P 01 31 57.5 +0.2**
comp=Z,11nm,0.7s
PKIN Phulchoki 51.90 273 *eP* **P 01 31 57.5 +0.2**
comp=Z,8.4nm,0.6s
DMN Daman 52.09 274 *eP* **P 01 31 59.3 +0.6**
GKN Gorkha 52.20 274 *eP* **P 01 31 59.7 +0.4**
comp=Z,12nm,0.5s
DANN Dangsing 52.63 275 *eP* **P 01 32 03.5 +0.8**
comp=Z,22nm,0.4s
KOLN Koldanda 53.08 275 *eP* **P 01 32 06.3 +0.4**
comp=Z,12nm,0.6s
PYUN Piuthan 53.33 275 *eP* **P 01 32 08.3 +0.6**
comp=Z,14nm,0.4s
KKAR Karatay Array 53.87 298 P P 01 32 11.7 +0.4
KKAR pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 53.87 298 P P 01 32 11.7 +0.4
ARU Arti 54.34 317 *eP* **P 01 32 13.9 -0.5**
ARU Arti 54.34 317 *c iP* **P 01 32 13.9 -0.5**
ARU 01 34 17.5
ARU S **S 01 39 49.1 +1.5**
ARU pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 55.30 34 P P 01 32 21.1 -0.2
comp=Z,0.8nm,0.5s,baz=305,slow=5.1,SNR=4.7
ABKAR Akbulak array 57.13 309 P P 01 32 34.3 -0.2
ARCES ARCESS Array B 59.04 340 P P 01 32 47.0 -0.5
comp=Z,4.3nm,1.1s,baz=54,slow=7.5,SNR=6.4
KBL Kabul 59.41 290 P P 01 32 50.0 -0.9
KBL pmax pmax
comp=Z,4.0nm,0.7s
KBL Kabul 59.41 290 P P 01 32 50.0 -0.9
KBL IAmb IAmb 01 32 50.5
comp=Z,3.8nm,0.7s
GEYT Alibeck 64.59 299 P P 01 33 24.1 -1.2
comp=Z,2.2nm,0.6s,baz=20,slow=4.7,SNR=5.9
GEYT Alibeck 64.59 299 P P 01 33 25.2 -0.2
FINES FINESS Array B 64.72 333 P P 01 33 24.3 -1.5
comp=Z,1.5nm,0.5s,baz=42,slow=6.7,SNR=18
WR0 Warramunga Arr 64.88 194 P P 01 33 28.1 +0.9
WRA Warramunga Arr 64.89 194 P P 01 33 27.2 -0.1
comp=Z,2.5nm,0.8s,baz=12,slow=6.7,SNR=13
FITZ Fitzroy Crossi 65.10 203 P P 01 33 29.6 +0.9
comp=Z,3.4nm,0.9s,baz=52,slow=3.8,SNR=4.0
OBN Obninsk 65.24 324‖ *eP* **P 01 33 24.7 -4.5**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,72nm,15.0s
LRM Limekiln Ridge 65.84 49 P P 01 33 33.8 +0.1
NVAR Mina Array Bea 67.08 58 P P 01 33 42.8 +1.2
comp=Z,1.8nm,0.5s,baz=296,slow=7.5,SNR=10
NVAR Mina Array Bea 67.08 58 P P 01 33 42.5 +0.9
ASAR Alice Springs 68.61 194 P P 01 33 52.0 +1.0
comp=Z,0.8nm,0.6s,baz=10,slow=6.1,SNR=12
PD31 Pinedale Array 69.40 50 P P 01 33 56.8 +0.7
PDAR Pinedale Array 69.40 50 P P 01 33 56.5 +0.5
comp=Z,1.6nm,0.7s,baz=265,slow=1.9,SNR=12
PDAR Pinedale Array 69.40 50 P P 01 33 56.1 +0.1
NB2 NORSAR Subarra 69.40 339 P P 01 33 54.3 -1.2
comp=Z,3.6nm,0.7s,baz=32,slow=6.5
NOA NORSAR Array B 69.40 339 P P 01 33 54.5 -1.0
comp=Z,1.1nm,0.5s,baz=32,slow=6.6,SNR=7.4
KIV Kislovodsk 69.80 312 *eP* **P 01 33 59.5 +1.2**
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,123nm,17.0s
KBZ Khabaz 69.84 312 P P 01 33 59.1 +0.7
comp=Z,7.7nm,0.8s,baz=68,slow=4.6,SNR=19
ZEI Tsey 69.92 310 *eP* **P 01 33 58.2 -1.0**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
SHPR Sheep Range 70.23 58 P P 01 34 02.7 +1.5
ULM Lac du Bonnet 70.99 37 P P 01 34 04.8 -0.5
comp=Z,3.0nm,0.6s,baz=308,slow=7.2,SNR=5.9
ULM Lac du Bonnet 70.99 37 P P 01 34 04.9 -0.5
ULM pmax pmax
comp=Z,31nm,1.7s
RSSD Black Hills 71.44 46 P P 01 34 08.3 -0.2
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 71.44 46 P P 01 34 08.3 -0.2
RSSD IAmb IAmb 01 34 09.4
comp=Z,4.5nm,0.8s
AKASG Malin Array Be 71.51 324 P P 01 34 08.0 -0.5
comp=Z,1.2nm,0.4s,baz=39,slow=6.1,SNR=7.5
AKASG Malin Array Be 71.51 324 P P 01 34 08.0 -0.5
AKASG pmax pmax
comp=Z,5.0nm,1.6s
ISCO Idaho Springs 73.59 50 P P 01 34 22.2 +0.7
ISCO pmax pmax
comp=Z,13nm,1.9s
ISCO Idaho Springs 73.59 50 P P 01 34 22.2 +0.7
ISCO IAmb IAmb 01 35 25.7
comp=Z,13nm,1.9s
UOSS Minazif 74.08 289 P P 01 34 24.2 +0.1
UOSS IAmb IAmb 01 34 24.8
comp=Z,5.2nm,0.8s
MARD Mardin 75.41 308 P P 01 34 32.2 +0.4
BUR08 Bucovina Ar. S 75.55 324 P P 01 34 32.5 +0.1
BURAR Bucovina Array 75.56 324‖ **P P 01 34 32.6 +0.1**
BURAR Bucovina Array 75.56 324 P P 01 34 32.5 0.0
TOKA Tokat 75.64 313 P P 01 34 32.9 0.0
BSEG Bad Segeberg 75.75 336 *eL* L 02 10 27.4
comp=Z,91nm,19.3s
MORC Moravsky Berou 76.87 329‖ **P P 01 34 40.0 +0.2**
MORC Moravsky Berou 76.87 329 P P 01 34 39.7 -0.1
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 76.87 329 P P 01 34 39.7 -0.1
KRLC Kraliky 76.90 330 *eP* **P 01 34 39.8 -0.1**
KRLC Kraliky 76.90 330 *eP* **P 01 34 39.8 -0.1**
MLR Muntele Rosu 76.90 322‖ **P P 01 34 41.5 +1.3**
CLL Collm 77.17 333 *i* P **P 01 34 40.7 -0.6**
comp=Z,7.0nm,0.6s
CLL Collm 77.17 333 *i* P **P 01 34 40.7 -0.6**
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 77.17 333 *eP* **P 01 34 40.8 -0.6**
comp=Z,9.6nm,1.1s,baz=28,slow=4.6
CLL *eL* L 02 12 31.8
comp=Z,54nm,19.7s
CLL Collm 77.17 333 P **P 01 34 40.7 -0.6**
VOIR 77.34 323⇑ P **P 01 34 43.4 +0.8**
VYHS Vyhne 77.44 328 *eP* **P 01 34 42.9 -0.1**
VYHS Vyhne 77.44 328 *eP* **P 01 34 42.9 -0.1**
BRTR Keskin Array B 77.56 314 P **P 01 34 44.0 0.0**
comp=Z,1.5nm,0.6s,baz=92,slow=1.7,SNR=6.2
ARR Arges 77.57 323‖ **P P 01 34 45.2 +1.4**
PRU Pruhonice 77.76 331 *eP* **P 01 34 44.2 -0.5**
PRU Pruhonice 77.76 331 *eP* **P 01 34 44.2 -0.5**
EKA Eskdalemuir Ar 77.89 343 P **P 01 34 44.7 -0.6**
comp=Z,0.4nm,0.3s,baz=12,slow=4.9,SNR=4.0
SMOL Smolenice 77.95 329 *eP* **P 01 34 46.3 +0.5**
SMOL Smolenice 77.95 329 *eP* **P 01 34 46.3 +0.5**
MOX Moxa 78.19 333 *eP* **P 01 34 47.0 -0.1**
baz=28,slow=4.6
MOX *eL* L 02 12 21.6
comp=Z,80nm,18.5s
GUNZ Gunzen 78.19 333 *eP* **P 01 34 46.7 -0.5**
comp=Z,2.2nm,0.7s,baz=28,slow=4.6
PBCC Pribram 78.21 331 *eP* **P 01 34 46.7 -0.5**
WERN Wernitzgruen 78.25 333 *eP* **P 01 34 47.1 -0.3**
comp=Z,4.4nm,0.6s,baz=28,slow=4.6
BZS Buzias 78.66 325‖ **P P 01 34 48.8 -0.9**
KHC Kasperske Hory 78.83 331 *eP* **P 01 34 50.0 -0.6**
KHC Kasperske Hory 78.83 331 *eP* **P 01 34 50.0 -0.6**
CONA Conrad Observa 79.02 329 *eP* **P 01 34 52.2 +0.3**
comp=Z,3.6nm,0.7s,SNR=4.3
GEC2 GERESS Array S 79.03 331 *eP* **P 01 34 51.3 -0.5**
comp=Z,1.7nm,0.5s,baz=28,slow=4.6
GERES GESS Array B 79.03 331 P **P 01 34 51.4 -0.5**
comp=Z,1.2nm,0.5s,baz=38,slow=6.1,SNR=18
GERES GERESS Array B 79.03 331 P **P 01 34 50.6 -1.2**
WET Wettzell 79.05 332 *eP* **P 01 34 51.9 0.0**
comp=Z,3.5nm,0.8s,baz=28,slow=4.6
WET *eL* L 02 09 44.1
comp=Z,38nm,18.7s
GRF Grafenberg Arr 79.14 333 *eP* **P 01 34 52.5 +0.1**
comp=Z,4.9nm,0.9s,baz=28,slow=4.6
GRF *eL* L 02 11 22.9
comp=Z,61nm,19.3s
TNS Taunus Mts 79.56 335 *eL* L 02 10 28.5
comp=Z,62nm,18.0s
MOA Molln 79.67 330 *eP* **P 01 34 54.6 -0.6**
comp=Z,5.3nm,1.4s
ARSA Arzberg 79.72 329 *eP* **P 01 34 54.4 -1.1**
comp=Z,4.7nm,1.1s
RJOB Jochberg 80.29 331 *eP* **P 01 34 57.8 -0.8**
comp=Z,3.3nm,0.9s,baz=28,slow=4.6
PERS Persace 80.39 329 *eP* **P 01 34 58.9 -0.3**
GROS Grobnik 80.39 329 *i* P **P 01 34 58.7 -0.5**
FUR Furstenfeldbru 80.44 332 *eL* L 02 14 35.1
comp=Z,65nm,18.1s
WATA Walderalm 81.05 331 *eP* **P 01 35 02.8 -0.1**
comp=Z,4.8nm,0.5s
WTTA Wattenberg 81.09 331 *eP* **P 01 35 03.1 0.0**
comp=Z,4.8nm,0.4s
LJU Ljubljana 81.10 329 *i* P **P 01 35 02.5 -0.4**
MOTA Moosalm 81.21 332 *eP* **P 01 35 03.5 -0.2**
comp=Z,6.5nm,0.9s,SNR=5.9
BFO Black Forest 81.26 334 *eP* **P 01 35 02.9 -0.9**
comp=Z,3.5nm,1.0s,baz=28,slow=4.6
BFO *eL* L 02 17 05.6
comp=Z,94nm,18.2s
SQTA Sankt Quirin 81.28 332 *eP* **P 01 35 03.9 -0.1**
comp=Z,2.2nm,0.5s,SNR=4.3
FETA Feichten 81.62 332 *eP* **P 01 35 06.2 +0.4**
comp=Z,5.3nm,1.1s
S39A Bolivar 81.66 45 P **P 01 35 05.7 -0.3**
S39A IAmb IAmb 01 35 06.7
comp=Z,5.8nm,0.8s
R40A Maddies Statio 81.72 43 IAmb IAmb 01 35 06.8
comp=Z,6.4nm,0.8s
DAVOX Davos/Dischmat 82.11 332 P **P 01 35 08.3 -0.2**
comp=Z,1.6nm,0.5s,baz=45,slow=8.6,SNR=6.9
TX32 Lajitas Array 82.14 57 P **P 01 35 09.5 +0.6**
TX32 IAmb IAmb 01 35 10.3
comp=Z,4.5nm,0.7s
TXAR Lajitas Array 82.14 57 P **P 01 35 09.5 +0.7**
comp=Z,3.4nm,0.6s,baz=294,slow=4.1,SNR=59
CCM Cathedral Cave 82.41 43 P **P 01 35 10.3 +0.3**
CCM pmax pmax
comp=Z,6.0nm,0.9s
CCM Cathedral Cave 82.41 43 P **P 01 35 10.3 +0.3**
CCM IAmb IAmb 01 35 10.8
comp=Z,6.4nm,0.9s
MIAR Mount Ida 83.95 47 IAmb IAmb 01 35 20.1
comp=Z,5.8nm,1.0s
T47A Sharon Grove 85.25 41 P **P 01 35 23.9 -0.6**
FPAL Fort Paine 87.95 41 P **P 01 35 37.1 -0.7**
ESDC Sonseca Array 92.76 338 P **P 01 35 59.3 -0.8**
comp=Z,0.8nm,0.9s,baz=46,slow=2.1,SNR=6.8
TORD Torodi Ar. Bea 115.14 323 PKP **PKiKP 01 41 27.9 -1.3**
comp=Z,0.2nm,0.3s,baz=20,slow=2.2,SNR=6.5
H03N2 Juan Fernandez 142.59 90 T T 04 21 18.5
baz=304,slow=77,SNR=48
H03N3 Juan Fernandez 142.61 90 T T 04 21 22.8
baz=304,slow=77,SNR=54
H03N1 Juan Fernandez 142.61 90 T T 04 21 20.7
baz=304,slow=77,SNR=40
BDFB Brasilia 148.66 30 PKPbc **PKPbc 01 42 35.2 +0.1**
comp=Z,3.2nm,0.6s,baz=333,slow=3.3,SNR=5.9
SNAA Sanae 148.91 198 PKPbc **PKPbc 01 42 34.3 +0.2**
VNA2 Neumayer--Watz 150.43 196 PKPbc **PKiKP 01 42 38.7 +0.2**
VNA3 Neumayer Olymp 150.61 195 PKPbc **PKiKP 01 42 38.6 -0.2**
VNA1 Neumayer--Stat 150.83 196 PKPbc **PKiKP 01 42 39.6 +0.4**

*IDC **26** 01:23:46.0±2.6, 24°.44S×175°.92W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/34, mbtmp4.0/8, MS3.3/9, Ms1 3.3/9, ms1mx3.1/29, Error ellipse: s-maj=144.0km s-min=23.5km az=158.0*
*NEIC **26** 01:23:46.3±1.5, 24°.6S±0°.2×175°.72W±0°.08, h10km±1km, mb4.1/7, Error ellipse: s-maj=31.7km s-min=9.8km az=195.0*
ISC 26 01:23:46.3±0.9, 24°.6S×175°.68W±0°.10, h10km, n30, σ1s17/21, mb4.0/9, MS3.4/9, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.98**	**318**		**Pn**	**01 25 55.7**	**-0.5**
RAR	**Rarotonga**	**15.04**	**80**	Pn	**Pn**	**01 27 16.6**	**-2.3**
	2.5nm,0.3s,baz=260,slow=7.5,SNR=4.6						
RAR				LR	LR	01 32 01.4	
	comp=Z,74nm,20.8s,baz=274,slow=32						
RAR	**Rarotonga**	**15.04**	**80**		**Pn**	**01 27 17.4**	**-1.5**
DZM	**Mont Dzumac**	**16.61**	**275**	LR	LR	01 32 55.7	
	comp=Z,79nm,20.0s,baz=74,slow=34						
DZM	**Mont Dzumac**	**16.61**	**275**	*e*LR	LR	01 31 40.3	
	comp=Z,97nm,24.1s						
DZM	**Mont Dzumac**	**16.61**	**275**	Pn	**Pn**	**01 27 39.5**	**+0.1**
DZM				IAmb	IAmb	01 28 19.9	
	comp=Z,51nm,1.7s						
TBI	**Tubuai**	**23.98**	**92**	*e*LR	LR	01 34 36.5	
	comp=Z,127nm,29.5s						
PPT2	**Papeete2**	**25.30**	**79**	*e*LR	LR	01 35 12.7	
	comp=Z,67nm,22.8s						
PPT	**Papeete**	**25.31**	**79**	LR	LR	01 36 55.3	
	comp=Z,61nm,19.2s,baz=241,slow=31						
HNR	**Honiara**	**27.68**	**299**	LR	LR	01 39 04.7	
	comp=Z,86nm,18.3s,baz=134,slow=34						
CTA	**Charters Tower**	**35.42**	**270**	P	**P**	**01 30 42.5**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=99,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**38.15**	**249**	LR	LR	01 45 14.0	
	comp=Z,73nm,19.5s,baz=29,slow=34						
AS31	**Alice Springs**	**45.81**	**260**	P	**P**	**01 32 09.2**	**+0.5**
AS31				IAmb	IAmb	01 32 19.3	
	comp=Z,1.1nm,1.1s						
ASAR	**Alice Springs**	**45.81**	**260**	P	**P**	**01 32 07.7**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=93,slow=8.0,SNR=13						
ASAR				LR	LR	01 49 33.2	
	comp=Z,45nm,19.2s,baz=102,slow=34						
WB2 Warramunga Arr 46.28 265 P P 01 32 11.8 -0.5
WRA Warramunga Arr 46.29 265 P P 01 32 10.8 -1.6
comp=Z,0.6nm,0.3s,baz=90,slow=5.9,SNR=26
FITZ Fitzroy Crossi 54.70 265 P P 01 33 15.8 -0.2
comp=Z,1.5nm,0.8s,baz=90,slow=9.1,SNR=2.0
MJAR Matsushiro Arr 74.75 323 LR LR 02 03 01.1
comp=Z,21nm,21.6s,baz=60,slow=32
PETK Petropavlovsk- 80.76 344 LR LR 02 05 30.3
comp=Z,34nm,22.0s,baz=85,slow=31
KSRS Korea Array 81.35 318 LR LR 02 04 51.6
comp=Z,11nm,21.8s,baz=340,slow=30
NVAR Mina Array Bea 82.56 42 P P 01 36 11.5 +1.7
comp=Z,0.4nm,0.5s,baz=215,slow=7.6,SNR=2.0
USRK Ussuriysk Ar. 83.53 325 P P 01 36 13.9 -0.4
TXAR Lajitas Array 87.48 56 P P 01 36 36.2 +1.6
comp=Z,0.6nm,0.9s,baz=220,slow=5.4,SNR=2.4
ENH Enshi 90.08 303 P P
ILAR Eielson Array 91.82 12 P P 01 36 53.6 -0.3
comp=Z,0.5nm,1.1s,baz=224,slow=4.9,SNR=4.1
CM31 Chiang Mai Arr 93.47 289 P P 01 37 02.5 -0.1
CMAR Chiang Mai Arr 93.47 289 P P 01 37 04.6 +1.9
comp=Z,0.8nm,0.3s,baz=137,slow=3.0,SNR=9.7
CMAR Chiang Mai Arr 93.47 289 P P 01 37 02.8 +0.2
AKASG Malin Array Be 147.61 330 PKPbc PKPbc 01 43 29.8 -0.9
comp=Z,0.8nm,0.4s,baz=42,slow=3.9,SNR=7.3
MMAI Mount Meron Ar 151.57 294 PKPbc PKiKP 01 43 42.9 +1.3
comp=Z,1.0nm,0.6s,baz=70,slow=7.3,SNR=6.0
MMAI PKPab **PKPab 01 43 50.3 +0.6**
comp=Z,0.5nm,0.4s,baz=102,slow=7.8,SNR=4.2

*ATH **26** 01:43:51.4, 34°.32N×24°.98E, h22km±2km, ML2.6/7, Error ellipse: s-maj=5.7km s-min=1.7km az=2.0*
*THE **26** 01:43:53.6, 34°.36N×25°.00E, h25km±3km, ML2.5/5, Error ellipse: s-maj=4.0km s-min=1.5km az=184.0*
*GII **26** 01:44:02.2±0.2, 34°.15N×25°.84E, h300km*
ISC 26 01:43:50.6±1.5, 34°.26N±0°.07×25°.05E±0°.04, h33km±11km, n26, σ1s55/39, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.78**	**346**	P	**Pn**	**01 44 05.6**	**+0.3**
SIVA				S	**Sn**	**01 44 16.0**	**+0.1**
	2µm,0.7s						
SIVA	**Sivas**	**0.78**	**346**	P	**Pn**	**01 44 05.4**	**0.0**
SIVA				S	**Sn**	**01 44 16.0**	**+0.1**
SIVA				AML	AML	01 44 23.8	
	comp=E,3556µm,0.6s						
SIVA				AML	AML	01 44 25.8	
	comp=N,1872µm,0.4s						
LAST	**Lasithi**	**0.97**	**22**	P	**Pb**	**01 44 09.3**	**+0.3**
LAST				S	**Sn**	**01 44 21.4**	**+0.7**
	comp=N,160nm,0.7s						
LAST	**Lasithi**	**0.97**	**22**	P	**Pb**	**01 44 09.2**	**+0.3**
LAST				AML	AML	01 44 31.1	
	comp=E,378µm,0.8s						
LAST				AML	AML	01 44 43.9	
	comp=N,406µm,0.6s						
GVD	**Gavdhos**	**0.98**	**306**	P	**Pb**	**01 44 08.8**	**-0.3**
GVD				S	**Sn**	**01 44 21.2**	**+0.4**
	comp=N,728nm,0.4s						
GVD	**Gavdhos**	**0.98**	**306**	P	**Pb**	**01 44 08.8**	**-0.3**
GVD				S	**Sn**	**01 44 21.1**	**+0.3**
GVD				AML	AML	01 44 32.8	
	comp=N,1330µm,0.4s						
GVD				AML	AML	01 44 34.8	
	comp=E,1361µm,0.5s						
IDI	**Anoyia**	**1.03**	**353**	P	**Pb**	**01 44 09.8**	**-0.3**
IDI				S	**Sn**	**01 44 23.1**	**+0.8**
	comp=E,195nm,0.5s						
IDI	**Anoyia**	**1.03**	**353**	P	**Pb**	**01 44 09.7**	**-0.4**
IDI				AML	AML	01 44 35.0	
	comp=E,417µm,0.5s						
IDI				AML	AML	01 44 35.6	
	comp=N,354µm,0.4s						
KSTL	**Kastelli Herak**	**1.04**	**1**	P	**Pb**	**01 44 09.6**	**-0.5**
KSTL				S	**Sb**	**01 44 21.4**	**-2.1**
NPS	**Neapolis**	**1.10**	**25**	P	**Pb**	**01 44 11.7**	**+0.5**
NPS				S	**Sb**	**01 44 24.5**	**-0.8**
	comp=N,175nm,0.7s						
NPS	**Neapolis**	**1.10**	**25**	P	**Pb**	**01 44 11.6**	**+0.5**
ZKR	**Zakros**	**1.29**	**48**	P	**Pb**	**01 44 15.7**	**+1.4**
ZKR				AML	AML	01 44 46.4	
	comp=E,308µm,0.9s						
ZKR				AML	AML	01 44 47.8	
	comp=N,170µm,0.6s						
VAM	**Vamos**	**1.34**	**329**	P	**Pb**	**01 44 14.9**	**-0.2**
VAM	**Vamos**	**1.34**	**329**	P	**Pb**	**01 44 15.1**	**-0.1**
VAM				AML	AML	01 44 48.9	
	comp=N,507µm,0.7s						
VAM				AML	AML	01 44 49.0	
	comp=E,546µm,0.5s						
IMMV	**Iera Moni Meta**	**1.48**	**324**	P	**Pb**	**01 44 17.9**	**+0.3**
IMMV				AML	AML	01 44 52.8	
	comp=E,642µm,0.8s						
IMMV				AML	AML	01 44 56.6	
	comp=N,495µm,0.8s						
SANT	**Santorini**	**2.13**	**9**	P	**Pb**	**01 44 26.9**	**-1.7**
KARP	**Karpathos**	**2.16**	**53**	P	**Pb**	**01 44 29.5**	**+0.4**
AMGA	**Amorgos Island**	**2.66**	**15**	P	**Pn**	**01 44 33.7**	**+2.6**
VLI	**Veliai**	**3.00**	**326**	P	**Pn**	**01 44 37.9**	**+2.1**
MMA1	**Mount Meron ar**	**8.73**	**95**	Pn	**Pn**	**01 45 57.4**	**+2.8**
NATI	**Neve Ativ**	**8.96**	**93**	Pn	**Pn**	**01 45 59.1**	**+1.4**
NATI				Sn	**Sn**	**01 47 35.1**	**-2.3**
HMDT	**Nahal Hemdat**	**9.00**	**100**	Pn	**Pn**	**01 46 00.2**	**+1.9**
HMDT				Sn	**Sn**	**01 47 35.6**	**-2.9**
DSI	**Dead Sea**	**9.09**	**104**	Pn	**Pn**	**01 46 01.3**	**+1.8**
DSI				Sn	**Sn**	**01 47 37.9**	**-2.9**
PRNI	**Paran**	**9.28**	**112**	Pn	**Pn**	**01 46 03.7**	**+1.5**
PRNI				Sn	**Sn**	**01 47 42.1**	**-3.4**
MBRI	**Mt Berech**	**9.48**	**115**	Pn	**Pn**	**01 46 05.9**	**+0.9**
MBRI				Sn	**Sn**	**01 47 48.2**	**-2.3**
EIL	**Elat**	**9.58**	**116**	Pn	**Pn**	**01 46 07.0**	**+0.8**

IDC 26 01:59:03.3±4.0, 17°.35S×174°.84W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/41, mbtmp4.3/4, Error ellipse: s-maj=151.2km s-min=81.5km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.88**	**241**	P	P	02 06 56.2	+0.6
	1.6nm,0.5s,baz=75,slow=7.1,SNR=6.8						
WRA	**Warramunga Arr**	**48.08**	**259**	P	P	02 07 44.9	-0.2
	2.1nm,0.4s,baz=98,slow=7.3,SNR=45						
WRA				PcP	PcP	02 09 13.0	0.0
	0.3nm,0.9s,baz=99,slow=3.2,SNR=1.6						
ASAR	**Alice Springs**	**48.22**	**254**	P	P	02 07 45.8	-0.3
	5.5nm,0.7s,baz=89,slow=7.7,SNR=95						
ASAR				PcP	PcP	02 09 13.0	-0.5
	0.3nm,0.6s,baz=104,slow=3.7,SNR=2.1						
FITZ	**Fitzroy Crossi**	**56.48**	**260**	P	P	02 08 47.0	-0.5
	0.7nm,0.3s,baz=101,slow=5.2,SNR=10						

*NEIC **26** 02:07:07.6±0.8, 6°.51N±0°.09×123°.4E±0°.1, h631km±15km, mb4.1/7, Error ellipse: s-maj=21.2km s-min=11.1km az=108.0*
*IDC **26** 02:07:07.4±2.2, 6°.32N×123°.03E, h624km±24km, mb3.0/5, mb1 3.2/5, mb1mx2.6/37, mbtmp4.2/5, Error ellipse: s-maj=104.6km s-min=14.3km az=64.0*
ISC 26 02:07:08.7±0.8, 6°.5N±0°.1×123°.3E±0°.2, h650km, n13, σ1s35/14, mb3.9/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**4.93**	**255**	P	**P**	**02 08 43.1**	**-1.1**
TNTI	**Ternate**	**6.96**	**144**	P	**P**	**02 09 00.3**	**-0.4**
JOW	**Kunigami**	**20.81**	**13**	P	**P**	**02 11 06.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.51**	**175**	P	**P**	**02 11 40.2**	**-0.1**
	1.3nm,0.9s,baz=5.0,slow=9.2,SNR=6.5						
FITZ	**Fitzroy Crossi**	**24.51**	**175**	IAmb	IAmb	02 12 20.2	
	comp=Z,9.8nm,1.4s						
WRA	**Warramunga Arr**	**28.40**	**158**	P	**P**	**02 12 13.0**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=331,slow=11,SNR=43						
WRA				ScP	**ScP**	**02 17 48.2**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=343,slow=3.2,SNR=4.7						
WB2	**Warramunga Arr**	**28.40**	**158**	P	**P**	**02 12 13.2**	**-1.1**
AS31	**Alice Springs**	**31.68**	**161**	P	**P**	**02 12 42.0**	**-0.2**
AS31				IAmb	IAmb	02 12 42.7	
	comp=Z,2.2nm,0.3s						
ASAR	**Alice Springs**	**31.68**	**161**	P	**P**	**02 12 42.4**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=340,slow=7.3,SNR=92						
ASAR				ScP	**ScP**	**02 17 58.9**	**+2.6**

comp=Z,0.3nm,0.9s,baz=331,slow=3.1,SNR=1.5
SHL Shillong 35.51 306 P **P** **02 13 14.6 +0.3**
STKA Stephens Creek 41.93 156 P **P** **02 14 05.3 0.0**
comp=Z,1.4nm,0.5s,baz=343,slow=9.0,SNR=5.0
MK31 Makanchi Array 53.38 326 P **P** **02 15 30.1 +0.2**
MK31 IAmb IAmb 02 15 45.1
comp=Z,4.6nm,1.6s
MKAR Makanchi Array 53.38 326 P **P** **02 15 30.2 +0.3**
comp=Z,1.6nm,0.5s,baz=120,slow=7.5,SNR=25

EAF 26 02:16:57.0±0.8, 16°23S×27°59E, h10km, MD3.8, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**1.11**	**31**	*i* P	Pg	02 17 16.6	-1.8
LSZ	**Lusaka**	**1.11**	**31**	*i* P	Pg	02 17 16.6	-1.8
BLWY	**Bulawayo**	**4.00**	**166**	*i* P	Pn	02 17 58.0	-0.6
BLWY				*i* S	Sn	02 18 43.4	-2.3
BLWY	**Bulawayo**	**4.00**	**166**	*i* P	Pn	02 17 58.0	-0.6
BLWY				*i* S	Sn	02 18 43.4	-2.3
MATP	**Matopo**	**4.26**	**168**	*i* P	Pn	02 18 01.8	-0.3
MATP				*i* S	Sn	02 18 47.9	-4.0
MATP	**Matopo**	**4.26**	**168**	*i* P	Pn	02 18 01.8	-0.3
MATP				*i* S	Sn	02 18 47.9	-4.0

*SOME **26** 02:25:23.1, 40°.75N×74°.05E, h5km*
*KRNET **26** 02:25:24.0±0.1, 40°.85N×74°.06E, h18km, mb2.6*
*NNC **26** 02:25:25.2±1.9, 40°.77N×74°.01E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=14.3km s-min=7.8km az=164.0*
ISC 26 02:25:24.6±1.6, 40°.86N±0°.06×74°.17E±0°.03, h2km±12km, n31, σ1§26/53, 22C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.00**	**6**	⇑*iP*	**Pg**	**02 25 43.6**	**-0.3**
	baz=11						
ARLS				⇑*iS*	**Sb**	**02 25 58.0**	**-0.5**
	baz=11						
AML	**Almayashu**	**1.32**	**344**	⇑*iP*	**Pg**	**02 25 48.9**	**-1.0**
	baz=48						
AML				⇑*iS*	**Sg**	**02 26 07.0**	**0.0**
	baz=48						
UCH	**Uchtor**	**1.39**	**10**	⇑*iP*	**Pn**	**02 25 50.6**	**-0.8**
	baz=14						
UCH				⇑*iS*	**Sn**	**02 26 10.4**	**-0.1**
	baz=14						
AAK	**Ala-Archa**	**1.79**	**8**	⇑*iP*	**Pb**	**02 25 57.7**	**-0.5**
	baz=10.0						
AAK				⇑*iS*	**Sg**	**02 26 22.1**	**0.0**
	baz=10.0						
AAK	**Ala-Archa**	**1.79**	**8**	⇑P	**Pg**	**02 25 59.4**	**+0.5**
	2.8nm,0.4s						
AAK				⇓S	**Sg**	**02 26 25.8**	**+3.7**
	8.6nm,0.7s						
EKS2	**Erkin-Say**	**1.82**	**351**	⇑*iP*	**Pb**	**02 25 57.8**	**-0.9**
	baz=54						
EKS2				⇑*iS*	**Sg**	**02 26 22.4**	**-0.7**
	baz=54						
KBK	**Karagaybulak**	**1.88**	**18**	⇑*iP*	**Pb**	**02 25 59.5**	**-0.3**
	baz=20						
KBK				⇑*iS*	**Sg**	**02 26 25.5**	**+0.4**
	baz=20						
MRKS	**Merke**	**2.01**	**340**	*eP*	**Pb**	**02 26 02.0**	**+0.1**
	5.1nm,0.3s						
MRKS				*eS*	**Sg**	**02 26 29.8**	**+0.6**
	6.6nm,0.4s						
MRKS	**Merke**	**2.01**	**340**	P	**Pb**	**02 26 02.2**	**+0.3**
	5.1nm,0.3s						
MRKS				S	**Sb**	**02 26 27.7**	**+0.3**
	6.6nm,0.4s						
MNAS	**Manas**	**2.05**	**323**	⇑*iP*	**Pn**	**02 26 00.7**	**+0.5**
	baz=25						
MNAS				⇑*iS*	**Sb**	**02 26 27.6**	**-1.0**
	baz=25						
ULHL	**Ulahol**	**2.08**	**48**	⇑*iP*	**Pb**	**02 26 02.9**	**-0.2**
	baz=49						
ULHL				⇑*iS*	**Sg**	**02 26 31.3**	**-0.1**
	baz=49						
BOOM	**Boomskoye usch**	**2.10**	**39**	⇓*iP*	**Pb**	**02 26 03.1**	**-0.3**
	baz=40						
BOOM				⇓*iS*	**Sg**	**02 26 31.3**	**-0.7**
	baz=40						
TKM2	**Tokmak 2**	**2.31**	**27**	⇓Pg	**Pg**	**02 26 09.1**	**+0.1**
	1.5nm,0.5s						
TKM2				⇑Lg	Lg	02 26 44.2	
	4.7nm,0.6s						
USP	**Ospenovka**	**2.41**	**6**	⇑*iP*	**Pn**	**02 26 06.5**	**+1.4**
	baz=8.0						
USP				⇑*iS*	**Sb**	**02 26 37.6**	**-1.4**
	baz=8.0						
KST	**Kastek**	**2.55**	**31**	*eP*	**Pg**	**02 26 12.1**	**-1.5**
	5.0nm,0.5s						
KST				*eS*	**Sg**	**02 26 47.1**	**+0.4**
	6.5nm,0.5s						
KST	**Kastek**	**2.55**	**31**	Pg	**Pg**	**02 26 14.9**	**+1.3**
	2.7nm,0.4s						
KST				Lg	Lg	02 26 49.3	
	6.5nm,0.5s						
KDJ	**Kajisay**	**2.59**	**60**	⇓*iP*	**Pb**	**02 26 10.2**	**-1.6**
	baz=61						
KDJ				⇓*iS*	**Sb**	**02 26 44.0**	**-0.1**
	baz=61						
BTK	**Batken**	**2.68**	**254**	⇑*iP*	**Pn**	**02 26 08.7**	**-0.2**
	baz=53						
BTK				⇑*iS*	**Sn**	**02 26 42.0**	**+0.1**
	baz=53						
TNSS	**Tian-Shan**	**3.00**	**43**	*eP*	**Pg**	**02 26 21.3**	**-0.8**
	2.7nm,0.3s						
TNSS				*eS*	**Sg**	**02 27 03.1**	**+2.1**
	3.6nm,0.6s						
TNSS	**Tian-Shan**	**3.00**	**43**	Pg	**Pg**	**02 26 22.9**	**+0.8**
	1.6nm,0.4s						
TNSS				Lg	Lg	02 27 03.1	
	3.6nm,0.6s						
KRBS	**Karabastau**	**3.04**	**21**	*eP*	**Pg**	**02 26 21.1**	**-1.9**
	3.3nm,0.4s						
KRBS				*eS*	**Sg**	**02 27 02.8**	**+0.5**
	2.1nm,0.7s						
KRBS	**Karabastau**	**3.04**	**21**	Pg	**Pg**	**02 26 22.9**	**0.0**
	2.2nm,0.4s						
KRBS				Lg	Lg	02 27 02.8	
	2.1nm,0.7s						
KOTS	**Kotyrbulak**	**3.23**	**42**	*eP*	**Pg**	**02 26 26.3**	**-0.1**
	4.8nm,0.4s						
KOTS				*eS*	**Sg**	**02 27 11.5**	**+3.3**
	19nm,0.6s						
KOTS	**Kotyrbulak**	**3.23**	**42**	Pg	**Pg**	**02 26 28.3**	**+1.9**
	4.9nm,0.6s						
KOTS				Lg	Lg	02 27 12.1	
	19nm,0.6s						
IUG	**Iuzhnay**	**3.37**	**294**	*eP*	**Pb**	**02 26 24.4**	**-0.6**
	4.0nm,0.3s						
IUG				*eS*	**Sb**	**02 27 08.2**	**+1.8**
	16nm,0.5s						
IUG	**Iuzhnay**	**3.37**	**294**	Pg	**Pb**	**02 26 24.8**	**-0.2**
	4.0nm,0.3s						
IUG				Lg	Lg	02 27 06.2	
	16nm,0.5s						
KTBS	**Karatobe**	**3.40**	**32**	*eP*	**Pg**	**02 26 27.6**	**-2.2**
	1.0nm,0.5s						
KTBS				*eS*	**Sg**	**02 27 13.6**	**-0.2**
	4.3nm,0.5s						
KTBS	**Karatobe**	**3.40**	**32**	Pg	**Pg**	**02 26 28.4**	**-1.4**
	1.2nm,0.4s						
KTBS				Lg	Lg	02 27 12.4	
	6.6nm,0.6s						
KK31	**Karatay Array**	**3.53**	**311**	⇓Pg	**Pb**	**02 26 28.5**	**+0.7**
	0.9nm,0.7s,baz=138,slow=16,SNR=6.2						
KK31				Lg	Lg	02 27 16.2	
	2.4nm,0.5s,baz=128,slow=28,SNR=8.0						
BRLS	**Boroldaу**	**3.89**	**305**	*eP*	**Pb**	**02 26 35.0**	**+1.0**
	3.4nm,0.2s						
BRLS				*eS*	**Sg**	**02 27 27.1**	**-2.6**
	7.0nm,0.5s						
BRLS	**Boroldaу**	**3.89**	**305**	Pg	**Pb**	**02 26 36.1**	**+2.1**
	3.4nm,0.2s						
BRLS				Lg	Lg	02 27 26.3	
	7.0nm,0.5s						

*IDC **26** 02:45:49.9±1.0, 50°.56N×175°.12E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.6/48, mbtmp3.5/9, ML2.9/1, Error ellipse: s-maj=37.4km s-min=21.0km az=153.0*

*NEIC **26** 02:45:54.2±0.9, 50°.64N±0°.09×175°.4E±0°.2, h16km±8km, Error ellipse: s-maj=20.6km s-min=12.1km az=102.0*
*AEIC **26** 02:45:55±2.3, 50°.62N±0°.08×175°.7E±0°.2, h5km±8km, ML3.4, Error ellipse: s-maj=19.1km s-min=11.2km az=95.0*
ISC 26 02:45:51.3±0.9, 50°.7N±0°.2×175°.08E±0°.06, h10km, n27, σ1§81/30, mb3.4/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**2.48**	**59**		**Pn**	**02 46 32.1**	**+0.3**
LSSA					**Sn**	**02 47 00.8**	**-1.3**
LSNW	**Little Sitkin**	**2.49**	**58**		**Pn**	**02 46 32.3**	**+0.4**
LSPA	**Little Sitkin**	**2.52**	**59**		**Pn**	**02 46 32.6**	**+0.4**
LSPA					**Sn**	**02 47 02.2**	**-0.8**
AMKA	**Amchitka**	**2.75**	**74**		**Pn**	**02 46 34.2**	**-1.1**
AMKA					**Sn**	**02 47 03.5**	**-5.0**
CESW	**Semis' Southwe**	**3.05**	**65**		**Pn**	**02 46 40.0**	**+0.4**
CESW					**Sn**	**02 47 15.1**	**-1.1**
CEAP	**Semis' Anvil P**	**3.10**	**64**		**Pn**	**02 46 41.0**	**+0.8**
CERAA	**Semis' Rag'd T**	**3.12**	**66**		**Pn**	**02 46 41.3**	**+0.7**
TASE	**Tanaga Southea**	**4.46**	**73**		**Pn**	**02 46 59.7**	**+0.7**
KIMD	**Kanaga Island**	**4.94**	**75**		**Pn**	**02 47 05.6**	**+0.1**
ADK	**Adak**	**5.30**	**74**		**Pn**	**02 47 10.4**	**0.0**
GSTD	**Great Sitkin T**	**5.66**	**73**		**Pn**	**02 47 15.7**	**+0.3**
GSTD					**Sn**	**02 48 17.1**	**-3.3**
GSMY	**Great Sitkin M**	**5.71**	**73**		**Pn**	**02 47 16.1**	**+0.1**
ATKA	**Atka Island**	**6.87**	**73**		**Pn**	**02 47 31.9**	**0.0**
PETK	**Petropavlovsk-**	**11.00**	**289**	Pn	**Pn**	**02 48 30.1**	**+1.5**
	0.4nm,0.3s,baz=112,slow=18,SNR=5.0						
PETK				Sn	**Sn**	**02 50 26.0**	**-5.6**
	0.2nm,0.3s,baz=85,slow=32,SNR=1.1						
MREP	**Makushin Rep't**	**11.56**	**67**		**Pn**	**02 48 37.5**	**+1.3**
UNV	**Unalaska Valle**	**11.70**	**67**		**Pn**	**02 48 39.4**	**+1.2**
ILAR	**Eielson Array**	**24.21**	**40**	P	**P**	**02 51 07.9**	**+0.2**
	0.4nm,0.6s,baz=246,slow=7.8,SNR=9.9						
INK	**Inuvik**	**30.22**	**35**	P	**P**	**02 52 03.4**	**+1.8**
	0.4nm,0.5s,baz=254,slow=7.3,SNR=1.3						
H11N2	**WAKE ISLAND Hy**	**31.59**	**195**	T	T	03 25 27.7	
	baz=10						
H11N3	**WAKE ISLAND Hy**	**31.60**	**195**	T	T	03 25 28.2	
	baz=10						
H11N1	**WAKE ISLAND Hy**	**31.61**	**195**	T	T	03 25 30.9	
	baz=10						
YKA	**Yellowknife Ar**	**38.45**	**45**	P	**P**	**02 53 12.8**	**0.0**
	0.6nm,0.7s,baz=281,slow=9.3,SNR=2.2						
PDAR	**Pinedale Array**	**50.17**	**68**	P	**P**	**02 54 48.2**	**+1.2**
	0.6nm,0.7s,baz=315,slow=4.2,SNR=6.1						
MKAR	**Makanchi Array**	**57.34**	**305**	P	**P**	**02 55 40.5**	**+1.2**
	0.2nm,0.6s,baz=47,slow=8.9,SNR=2.2						
TXAR	**Lajitas Array**	**62.57**	**76**	P	**P**	**02 56 16.1**	**+0.6**
	0.4nm,0.7s,baz=304,slow=6.4,SNR=6.4						
WRA	**Warramunga Arr**	**78.97**	**219**	P	**P**	**02 57 53.8**	**-1.3**
	0.3nm,0.8s,baz=28,slow=6.5,SNR=2.9						
ASAR	**Alice Springs**	**82.50**	**218**	P	**P**	**02 58 14.1**	**+0.1**
	0.3nm,1.0s,baz=27,slow=5.4,SNR=1.9						

*IDC **26** 02:52:49.1±0.6, 20°.32S×70°.43W, h0km, mb4.4/14, mb1 4.4/18, mb1mx4.3/35, mbtmp4.4/18, ML4.1/4, MS3.5/9, Ms1 3.5/9, ms1mx3.2/37, Error ellipse: s-maj=21.4km s-min=12.6km az=59.0*
*VAO **26** 02:52:50.9±0.5, 20°.42S×70°.54W, h10km, mb4.4*
*NEIC **26** 02:52:53.5±2.5, 20°.58S±0°.03×70°.63W±0°.04, h32km±4km, Error ellipse: s-maj=5.6km s-min=4.3km az=79.0*
*GUC **26** 02:52:54.3±0.8, 20°.58S×70°.59W, h41km±2km, ML4.6*
ISC 26 02:52:53.6±0.4, 20°.55S±0°.02×70°.63W±0°.05, h35km, n167, σ1§39/171, mb4.7/24, MS3.8/5, 10C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.42**	**93**	⇓*iP*	**Pn**	**02 53 02.6**	**-0.6**
TA01				*i* S	**Sn**	**02 53 08.8**	**-0.9**
TA01				IAML		02 53 09.2	
	comp=N,71μm,0.3s						
TA01	**Diego Aracena**	**0.42**	**93**	Pn	**Pn**	**02 53 02.4**	**-0.8**
PATCX	**Punta Patache**	**0.52**	**122**	⇓*iP*	**Pn**	**02 53 04.1**	**-0.6**
PATCX				*i* S	**Sn**	**02 53 11.6**	**-0.8**
PATCX				IAML		02 53 12.3	
	comp=N,51μm,0.6s						
PATCX	**Punta Patache**	**0.52**	**122**		**Pn**	**02 53 03.6**	**-1.1**
PATCX				Sn	**Sn**	**02 53 11.1**	**-1.4**
TA02	**Huaiquique**	**0.54**	**60**	⇓*iP*	**Pn**	**02 53 04.6**	**-0.3**
TA02				*i* S	**Sn**	**02 53 12.3**	**-0.5**
PSGC	**Pisagua**	**1.06**	**27**	⇑*iP*	**Pn**	**02 53 12.2**	**+0.1**
PSGC				*i* S	**Sn**	**02 53 26.6**	**+1.0**
PSGC				IAML		02 53 27.9	
	comp=E,50μm,0.4s						
PSGCX	**Pisagua**	**1.06**	**27**	Pn	**Pn**	**02 53 12.1**	**0.0**
PSGCX				Sn	**Sn**	**02 53 26.4**	**+0.8**
PB01	**IPOC Station P**	**1.18**	**115**	⇓*iP*	**Pn**	**02 53 13.7**	**-0.1**
PB01				*i* S	**Sn**	**02 53 28.3**	**-0.3**
PB01				IAML		02 53 29.8	
	comp=N,16μm,0.5s						
PB01	**IPOC Station P**	**1.18**	**115**		**Pn**	**02 53 13.6**	**-0.1**
PB01				Sn	**Sn**	**02 53 28.7**	**+0.1**
PB11	**IPOC Station P**	**1.20**	**50**	⇑*iP*	**Pn**	**02 53 14.5**	**+0.4**
PB11				*i* S	**Sn**	**02 53 30.1**	**+0.8**
PB11	**IPOC Station P**	**1.20**	**50**	Pn	**Pn**	**02 53 14.3**	**+0.2**
PB11				Sn	**Sn**	**02 53 30.5**	**+1.2**
PB07	**IPOC Station P**	**1.36**	**150**	⇑*iP*	**Pn**	**02 53 16.4**	**+0.1**
PB07				*i* S	**Sn**	**02 53 33.8**	**+0.4**
PB07	**IPOC Station P**	**1.36**	**150**		**Pn**	**02 53 16.4**	**+0.1**
PB08	**IPOC Station P**	**1.44**	**74**	⇑*iP*	**Pn**	**02 53 18.1**	**+0.5**
PB08				*i* S	**Sn**	**02 53 36.5**	**+1.0**
PB08				IAML		02 53 37.9	
	comp=N,21μm,0.4s						
PB08	**IPOC Station P**	**1.44**	**74**		**Pn**	**02 53 17.9**	**+0.3**
GO01	**Chusmiza**	**1.60**	**57**	⇑*iP*	**Pn**	**02 53 20.7**	**+0.7**
GO01				*i* S	**Sn**	**02 53 40.8**	**+1.1**
GO01				IAML		02 53 44.2	
	comp=N,24μm,0.1s						
GO01	**Chusmiza**	**1.60**	**57**		**Pn**	**02 53 20.5**	**+0.6**
PB03	**IPOC Station P**	**1.70**	**152**	*eP*	**Pn**	**02 53 21.1**	**+0.1**
PB03				*i* S	**Sn**	**02 53 42.1**	**+0.4**
PB03				IAML		02 53 56.2	
	comp=E,9μm,0.9s						
MNMC	**Minye Minye**	**1.71**	**35**	⇑*iP*	**Pn**	**02 53 21.9**	**+0.7**
MNMC				*i* S	**Sn**	**02 53 43.6**	**+1.6**
MNMC				IAML		02 53 50.4	
	comp=N,21μm,0.2s						
MNMC	**Minye Minye**	**1.71**	**35**		**Pn**	**02 53 21.8**	**+0.7**
PB09	**IPOC Station P**	**1.79**	**134**	⇑*iP*	**Pn**	**02 53 23.8**	**+1.5**
PB09				*i* S	**Sn**	**02 53 44.3**	**+0.4**
PB09				IAML		02 53 52.3	
	comp=E,4μm,0.2s						
PB09	**IPOC Station P**	**1.79**	**134**		**Pn**	**02 53 22.9**	**+0.7**
PB04	**IPOC Station P**	**1.83**	**166**	*eP*	**Pn**	**02 53 22.3**	**-0.6**
PB04				IAML		02 53 59.4	
	comp=E,4μm,0.4s						
PB04	**IPOC Station P**	**1.83**	**166**		**Pn**	**02 53 22.7**	**-0.2**
AP01	**Chacalluta**	**2.18**	**7**	*eP*	**Pn**	**02 53 28.3**	**+0.9**
AP01				IAML		02 54 08.5	
	comp=N,9μm,0.3s						
AP01	**Chacalluta**	**2.18**	**7**		**Pn**	**02 53 29.0**	**+1.6**
PB05	**IPOC Station P**	**2.33**	**170**	*eP*	**Pn**	**02 53 28.9**	**-0.8**
PB06	**IPOC Station P**	**2.36**	**156**	⇑*iP*	**Pn**	**02 53 29.9**	**-0.2**
PB06				*i* S	**Sn**	**02 53 58.3**	**+0.3**
PB06				IAML		02 54 09.3	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**2.36**	**156**	Pn	**Pn**	**02 53 29.9**	**-0.2**
PB16	**IPOC Station P**	**2.44**	**26**	⇑*iP*	**Pn**	**02 53 32.5**	**+1.0**
PB16				*i* S	**Sn**	**02 54 03.8**	**+3.3**
PB16	**IPOC Station P**	**2.44**	**26**		**Pn**	**02 53 32.2**	**+0.7**
LVC	**Limon Verde**	**2.60**	**142**	Pn	**Pn**	**02 53 35.3**	**+1.7**
	comp=E,83nm,0.3s,baz=329,slow=11,SNR=125						
LVC				Sn	**Sn**	**02 54 05.9**	**+1.7**
	comp=E,244nm,0.3s,baz=102,slow=16,SNR=8.5						
LVC				Lg	Lg	02 54 15.7	
	comp=E,370nm,0.3s,baz=32,slow=23,SNR=5.3						
LVC				LR	LR	02 54 48.0	
	comp=E,1μm,18.8s,baz=336,slow=44						
LVC	**Limon Verde**	**2.60**	**142**	*eP*	**Pn**	**02 53 35.3**	**+1.7**
LVC				*i* S	**Sn**	**02 54 06.5**	**+2.3**
LVC	**Limon Verde**	**2.60**	**142**	*eP*	**Pn**	**02 53 34.2**	**+0.6**
LVC				*eS*	**Sn**	**02 54 07.1**	**+2.9**
PB15	**IPOC Station P**	**2.86**	**158**	*eP*	**Pn**	**02 53 36.7**	**-0.3**
PB15	**IPOC Station P**	**2.86**	**158**		**Pn**	**02 53 36.7**	**-0.3**
PB10	**IPOC Station P**	**2.95**	**179**	*eP*	**Pn**	**02 53 37.0**	**-1.1**
PB10	**IPOC Station P**	**2.95**	**179**	Pn	**Pn**	**02 53 36.7**	**-1.4**
PB14	**IPOC Station P**	**4.07**	**177**	Pn	**Pn**	**02 53 51.7**	**-2.0**
GO02	**Mina Guanaco**	**4.69**	**168**	*eP*	**Pn**	**02 54 01.8**	**-0.5**
GO02	**Mina Guanaco**	**4.69**	**168**	Pn	**Pn**	**02 54 02.0**	**-0.3**
LPAZ	**La Paz**	**4.85**	**30**	Pn	**Pn**	02 54 08.7	+3.9
	comp=E,9.8nm,0.3s,baz=289,slow=3.1,SNR=204						
LPAZ				LR	LR	02 56 05.8	
	comp=E,261nm,20.6s,baz=228,slow=43						
AC01	**Pan de Azucar**	**5.58**	**180**	Pn	**Pn**	**02 54 11.9**	**-2.2**
AC02	**Maricunga**	**6.41**	**168**		**Pn**	**02 54 26.4**	**+0.3**
SIV	**San Ignacio**	**10.14**	**65**	Pn	**Pn**	**02 55 14.6**	**-2.3**
	comp=E,2.2nm,0.3s,baz=266,slow=10,SNR=33						
SIV				LR	LR	02 59 47.8	
	comp=E,238nm,21.6s,baz=262,slow=42						
NNA	**Nana**	**10.39**	**324**	Pn	**Pn**	**02 55 20.6**	**+0.3**
	comp=E,2.2nm,0.3s,baz=141,slow=14,SNR=2.6						
NNA				Sn	**Sn**	**02 57 09.0**	**-6.6**
	comp=E,2.4nm,0.3s,baz=186,slow=13,SNR=2.3						
NNA				LR	LR	02 58 36.5	
	comp=E,64nm,19.1s,baz=157,slow=34						
ETMB	**Extrema**	**11.48**	**22**	*eP*	**Pn**	**02 55 32.6**	**-2.7**
PTLB	**Pontes e Lacer**	**12.05**	**67**	*eP*	**Pn**	**02 55 42.5**	**-0.4**
VILB	**Vilhena**	**12.52**	**55**	*eP*	**Pn**	**02 55 48.3**	**-1.0**
CZSB	**Cruzeiro do Su**	**12.90**	**351**	*eP*	**Pn**	**02 55 53.5**	**-1.0**
CPUP	**Villa Florida**	**13.49**	**118**	Pn	**Pn**	**02 56 00.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=270,slow=11,SNR=2.0						
CPUP				LR	LR	03 02 26.9	
	comp=E,90nm,21.4s,baz=294,slow=43						
CPUP	**Villa Florida**	**13.49**	**118**	*eP*	**Pn**	**02 56 02.2**	**-0.4**
SAML	**Samuel**	**13.59**	**33**		**Pn**	**02 56 02.4**	**-1.6**
SAML	**Samuel**	**13.59**	**33**	*eP*	**Pn**	**02 56 01.8**	**-2.2**
AQDB	**Aquidauana**	**13.99**	**92**	*eP*	**Pn**	**02 56 08.7**	**-0.8**
H03N1	**Juan Fernandez**	**14.81**	**208**	T	T	03 11 37.3	
	baz=33,slow=72,SNR=981						
H03N2	**Juan Fernandez**	**14.81**	**208**	T	T	03 11 37.0	
	baz=33,slow=72,SNR=509						
H03N3	**Juan Fernandez**	**14.82**	**208**	T	T	03 11 36.0	
	baz=33,slow=72,SNR=432						
ITQB	**Itaqui**	**15.59**	**128**	*eP*	**Pn**	**02 56 31.3**	**+0.5**
TRCB	**Terra Rica**	**16.88**	**101**	*eP*	**Pn**	**02 56 47.0**	**-0.3**
CLDB	**Colider**	**17.20**	**58**	*eP*	**Pn**	**02 56 49.5**	**-1.8**
PTGB	**Pitanga**	**17.63**	**107**	*eP*	**P**	**02 56 57.4**	**0.0**
PCMB	**Pacaembu**	**18.11**	**97**	*eP*	**P**	**02 57 02.2**	**-0.4**
ITAB	**Concordia**	**18.17**	**115**	*eP*	**Pn**	**02 57 02.1**	**-1.0**
CPSB	**Cacapava Do Su**	**18.34**	**126**	*eP*	**P**	**02 57 04.5**	**-0.7**
ARAG	**Araguaiana, MT**	**18.52**	**78**	*eP*	**P**	**02 57 06.0**	**-1.1**
PLTB	**Pedras Altas**	**18.90**	**130**	*eP*	**Pn**	**02 57 12.3**	**+0.2**
ITRB	**Itarama**	**19.05**	**91**	*eP*	**Pn**	**02 57 12.9**	**-1.1**
FRTB	**Fartura**	**19.73**	**102**	*eP*	**P**	**02 57 20.2**	**-0.3**
MACA	**Manacapuru-AM**	**19.81**	**31**	*eP*	**P**	**02 57 20.6**	**-0.8**
CNLB	**Canela**	**19.92**	**120**	*eP*	**P**	**02 57 22.4**	**-0.1**
NPGB	**Novo Progresso**	**19.97**	**50**	*eP*	**P**	**02 57 20.4**	**-2.7**
PLCA	**Paso Flores**	**20.12**	**180**	P	**P**	**02 57 26.2**	**+1.6**
	comp=E,3.2nm,0.7s,baz=2.7,slow=14,SNR=8.4						
PLCA	**Paso Flores**	**20.12**	**180**	P	**P**	**02 57 25.1**	**+0.4**
PLCA	**Paso Flores**	**20.12**	**180**	*eP*	**P**	**02 57 26.2**	**+1.6**
SNDB	**Serra Nova Dou**	**20.41**	**68**	*eP*	**P**	**02 57 25.5**	**-2.3**
TIJ01	**Guaruva-PR**	**20.47**	**107**	*eP*	**P**	**02 57 28.7**	**+0.1**
BB19B	**Bebedouro**	**20.67**	**95**	*eP*	**P**	**02 57 30.2**	**-0.5**
IPMB	**Ipameri, GO**	**21.31**	**87**	*eP*	**P**	**02 57 37.0**	**-0.7**
ITTB	**Itaituba**	**21.65**	**44**	*eP*	**P**	**02 57 38.7**	**-2.4**
SPB	**Sao Paulo**	**21.70**	**102**	P	**P**	**02 57 43.0**	**+1.2**
SPB				IAmb	IAmb	02 57 43.8	
	comp=Z,30nm,1.5s						
LL01	**San Ignacio de**	**21.82**	**184**	P	**P**	**02 57 43.9**	**+1.1**
BDFB	**Brasilia**	**22.03**	**81**	P	**P**	**02 57 42.8**	**-2.7**
	comp=Z,1.9nm,0.5s,baz=244,slow=12,SNR=5.9						
BDFB				LR	LR	03 07 46.6	
	comp=Z,428nm,18.6s,baz=300,slow=41						
BDFB	**Brasilia**	**22.03**	**81**	P	**P**	**02 57 46.3**	**+0.9**
GCUF	**Volcan Galeras**	**22.62**	**342**	*eP*	**P**	**02 57 56.5**	**+4.4**
PEXB	**Peixe**	**22.99**	**72**	*eP*	**P**	**02 57 55.5**	**-0.1**
GARC	**Garzon, Huila**	**23.09**	**348**	*eP*	**P**	**02 57 56.8**	**0.0**
SOTA	**Rioblanco**	**23.29**	**345**	*eP*	**P**	**02 58 03.5**	**+4.5**
POPC	**Popayan, Colom**	**23.70**	**345**	*eP*	**P**	**02 58 05.2**	**+2.5**
PRAC	**Prado**	**24.47**	**350**	*eP*	**P**	**02 58 10.8**	**+1.2**
MALB	**Monte Alegre**	**24.50**	**43**	*eP*	**P**	**02 58 09.7**	**-0.2**
ORTC	**Ortega, Tolima**	**24.72**	**349**	*eP*	**P**	**02 58 12.8**	**+0.9**
SMTB	**Santa Maria do**	**25.09**	**66**	*eP*	**P**	**02 58 15.5**	**+0.3**
TOLC	**Tolima**	**25.40**	**349**	*eP*	**P**	**02 58 20.1**	**+1.7**
JANB	**Januaria**	**25.63**	**82**	*eP*	**P**	**02 58 19.6**	**-0.6**
SDBA	**SAO DESIDERIO**	**25.93**	**76**	*eP*	**P**	**02 58 22.3**	**-0.7**
GUY2C	**Guyana, Caldas**	**26.03**	**349**	*eP*	**P**	**02 58 26.2**	**+2.0**
SPBC	**San Pablo de B**	**26.25**	**352**	*eP*	**P**	**02 58

KBZ	Khabaz	120.76	51	PKP		PKiKP	03 11 42.9	+0.7	
	comp=Z,1.3nm,0.7s,baz=288,slow=3.2,SNR=2.4								
H11S2	WAKE ISLAND Hyl	26.18	278	T		T	05 31 18.5		
	baz=102,slow=74,SNR=218								
H11S1	WAKE ISLAND Hyl	26.17	278	T		T	05 31 29.8		
	baz=102,slow=74,SNR=292								
H11S3	WAKE ISLAND Hyl	26.18	278	T		T	05 31 13.6		
	baz=102,slow=74,SNR=206								
H11N3	WAKE ISLAND Hyl	26.22	280	T		T	05 31 30.4		
	baz=101,slow=74,SNR=152								
H11N2	WAKE ISLAND Hyl	26.24	280	T		T	05 31 31.5		
	baz=101,slow=74,SNR=178								
H11N1	WAKE ISLAND Hyl	26.24	280	T		T	05 31 24.2		
	baz=101,slow=74,SNR=91								
ASAR	Alice Springs	129.97	210	PKP		PKPdf	03 12 00.8	+0.3	
	comp=Z,1.0nm,0.8s,baz=132,slow=1.6,SNR=6.1								
WRA	Warramunga Arr	132.92	213	PKP		PKPdf	03 12 06.8	+0.7	
	comp=Z,0.9nm,0.6s,baz=153,slow=1.8,SNR=14								
KURK	Kurchatov	141.38	31			PKPdf	03 12 21.5	+0.9	
KURBB	Kurchatov Arra	141.40	32	PKhKP		PKPpre	03 12 15.2		
	comp=Z,0.7nm,0.6s,baz=306,slow=2.5,SNR=4.3								
KURBB				PKP		PKPdf	03 12 21.5	+0.8	
	comp=Z,1.0nm,0.6s,baz=309,slow=2.6,SNR=8.4								
ZALV	Zalesovo Beam	141.75	23	PKhKP		PKPpre	03 12 17.3		
	comp=Z,4.4nm,0.6s,baz=300,slow=2.3,SNR=15								
ZALV				PKP		PKPdf	03 12 21.3	+0.1	
	comp=Z,4.4nm,0.6s,baz=306,slow=2.4,SNR=12								
KSH	Kashi	145.72	49	PKPbc		PKPbc	03 12 29.0	-0.3	
KSH				pPKP		pPKPdf	03 12 38.3	-1.6	
KSH				PP		PP	03 15 54.0	+3.8	
KSH				LR		LR			
	comp=N,960nm,19.2s								
KSH				LR		LR			
	comp=E,170nm,6.7s								
MKAR	Makanchi Array	145.77	34	PKPbc		PKPab	03 12 29.7	+0.3	
	comp=E,6.4nm,0.5s,baz=317,slow=4.4,SNR=38								
KLR	Kul'dur	146.26	333	PKPbc		PKPbc	03 12 30.6	+0.2	
	comp=E,1.3nm,0.6s,baz=76,slow=7.0,SNR=6.8								
USRK	Ussuriysk Ar.	149.84	327	PKPbc		PKiKP	03 12 41.6	+0.6	
	comp=E,4.6nm,0.7s,baz=357,slow=1.8,SNR=11								
MJAR	Matsushiro Arr	150.22	309	PKPbc		PKiKP	03 12 42.4	+0.2	
	comp=E,5.1nm,0.6s,baz=96,slow=1.6,SNR=23								
MJAR	Matsushiro Arr	150.22	309			PKiKP	03 12 42.7	+0.6	
MAT	Matsushiro	150.22	309	PKP		PKiKP	03 12 42.4	+0.3	
SONM	Songino Array	152.67	4	PKPbc		PKiKP	03 12 47.3	+0.4	
	comp=E,1.7nm,0.4s,baz=286,slow=1.3,SNR=8.9								
SONM				PKPab		pPKPbc	03 12 57.6	-0.2	
	comp=E,1.6nm,0.9s,baz=344,slow=3.9,SNR=4.0								
LZH	Lanzhou	163.78	16	ePKP		PKPdf	03 12 56.5	+3.0	
LZH				pPKP		sPKPdf	03 13 07.5	-0.9	
LZH				sPKP			03 13 11.3		
LZH				PKP		PKPab	03 13 48.5	+2.8	

NEIC ***26*** *02:56:20.5±2.4, 7.°15N±0.°09×94.°2E±0.°1, h10km±1km, mb4.3/34, Error ellipse: s-maj=19.5km s-min=12.8km az=237.0*

DJA ***26*** *02:56:26.9±1.3, 8.°3N±3.°9×9.°5E±.°, h13km±9km, M4.7/12, mb4.5/12, mB5.1/5, MLv4.8/6, Mw(mB)4.5/5*

IDC ***26*** *02:56:26.1±3.7, 7.°37N×94.°24E, h43km±34km, mb3.8/18, mb1 3.9/20, mb1mx3.8/48, mbtmp4.0/20, ML4.2/2, MS4.3/1, Ms1 4.3/1, ms1mx3.3/33, Error ellipse: s-maj=31.6km s-min=14.7km az=59.0*

NDI ***26*** *02:56:29.0±3.0, 8.°04N×93.°76E, h10km, mb4.5, MS4.3, mb4.3(NEIC)*

ISC 26 02:56:20.8±0.5, 7.°19N±0.°07×94.°18E±0.°08, h10km, n97, σ1§52/86, mb4.3/30, MS4.3/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	Lhok Sumawe	3.37	125	P	Pn	02 57 16.3	+2.7
LHMI				S	Sn	02 57 55.6	+2.0
LHMI	Lhok Sumawe	3.37	125	Pn	Pn	02 57 11.2	-2.3
MLSI	Meulaboh, Aceh	3.65	143	P	Pb	02 57 24.9	-0.6
PBA	Port Blair	4.66	342	eP	Pn	02 57 25.8	-5.6
TPTI		4.91	142	P	Pb	02 57 41.6	-5.4
PSI	Prapat	6.43	132	P	Pn	02 58 00.8	+5.0
	1.6nm,0.3s,baz=352,slow=11,SNR=4.4						
RPSI	Rantau Prapat	6.50	133	Pn	Pn	02 57 56.0	-0.7
KULM	Kulim	6.70	106	Pn	Pn	02 57 58.9	-0.6
GSI	Gunungsitoli	6.75	150	Pn	Pn	02 57 58.9	-1.2
IPM	Ipoh	7.32	111	Pn	Pn	02 58 06.9	-1.1
MYKOM	Kota Tinggi	11.03	119	Pn	Pn	02 58 57.9	-0.9
CMAR	Chiang Mai Arr	12.12	22	P	Pn	02 59 13.7	0.0
	0.8nm,0.3s,baz=214,slow=14,SNR=7.4						
CHTO	Chiang Mai	12.45	21	Pn	Pn	02 59 18.5	+0.2
SAIH	SAIHA	15.26	356	eP	Pn	02 59 53.5	-3.0
SAIH				ex	x	03 02 20.4	
MDSI	Maura Dua	15.30	139	P	P	03 00 03.5	+1.6
	10nm,1.1s						
AGT	Agartala	16.84	351	IAMs_20	IAMs_20	03 10 43.2	
	comp=Z,1μm,16.4s						
SLVN	Son La	16.92	33		P	03 00 19.5	-0.4
SLVN				IAmb	IAmb	03 00 28.3	
	comp=Z,19nm,1.3s						
KSM	Kuching	17.05	109		Pn	03 00 19.1	-0.4
BOK	Bokaro	18.33	335	eP	Pn	03 00 32.6	-2.8
BOK				IAmb	IAmb	03 00 42.3	
	comp=Z,15nm,1.1s						
SHL	Shillong	18.41	353	eP	P	03 00 33.0	-3.5
SHL				IAmb	IAmb	03 00 47.3	
	comp=Z,14nm,1.2s						
SHL	Shillong	18.41	353		P	03 00 35.6	-0.8
SHL				IAmb	IAmb	03 00 47.6	
	comp=Z,26nm,1.4s						
SBUM	Sibu	18.58	104	P	P	03 00 35.5	-2.7
MOKO	MOKOCHONG	19.03	1	eP	Pn	03 00 44.5	+0.5
KMI	Kunming	19.62	24	P	P	03 00 47.5	-2.4
KMI				IAmb	IAmb	03 01 06.0	
	comp=Z,21nm,1.1s						
ODAN	Odare	20.60	343	eP	Pn	03 01 02.4	-0.4
	comp=Z,25nm,0.6s						
RAMN	Ramite	20.93	341	eP	P	03 01 04.9	+0.8
	comp=Z,37nm,0.7s						
TAPN	Taplejung	20.97	344	eP	P	03 01 06.2	+1.6
	comp=Z,92nm,1.0s						
PKI	Pulchoki	21.91	339	eP	P	03 01 15.0	+0.2
	comp=Z,117nm,1.4s						
PKIN	Phulchoki	21.92	339	eP	P	03 01 16.0	+1.2
	comp=Z,19nm,0.6s						
DMN	Daman	22.06	338	eP	P	03 01 17.1	+0.9
	comp=Z,71nm,0.9s						
GUN	Gumba	22.06	340	eP	P	03 01 16.6	+0.2
	comp=Z,100nm,1.0s						
KKN	Kakani	22.16	339	eP	P	03 01 18.2	+0.9
	comp=Z,77nm,1.2s						
GYA	Guiyang	22.55	30	eP	P	03 01 26.8	+5.4
GYA				pmax	pmax		
	comp=Z,13nm,0.9s						
LSA	Lhasa	22.58	353	P	P	03 01 20.8	-1.2
GKN	Gorkha	22.59	338	eP	P	03 01 20.9	-0.9
	comp=Z,66nm,1.0s						
BHPL	Bhopal	22.68	317	eP	P	03 01 21.1	-1.6
BHPL				IAmb	IAmb	03 01 33.2	
	comp=Z,14nm,1.1s						
KOLN	Koldanda	22.80	335	eP	P	03 01 23.5	-0.5
	comp=Z,35nm,0.8s						
DANN	Dangsing	23.24	336	eP	P	03 01 27.5	-1.3
	comp=Z,45nm,0.8s						
PYUN	Piuthan	23.34	334	eP	P	03 01 30.1	+0.4
	comp=Z,77nm,1.0s						
CD2	Chengdu	25.25	20	eP	P	03 01 48.0	+0.7
CD2				S	S	03 06 15.5	+2.5
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,190nm,6.1s						
H08S3	Diego Garcia H	26.17	236	T	T	03 28 38.2	
	baz=55,slow=75						
H08S2	Diego Garcia H	26.17	236	T	T	03 28 36.1	
	baz=55,slow=75						
H08S1	Diego Carcia H	26.18	236	T	T	03 28 37.7	
	baz=55,slow=75						
ENH	Enshi	27.09	30	P	P	03 02 03.9	0.0
ENH				IAmb	IAmb	03 02 13.9	
	comp=Z,6.9nm,0.7s						
SMLA	Simla	28.65	328	IAmb	IAmb	03 02 24.6	
	comp=Z,5.1nm,0.5s						
DHRM	DHARAMSHALA	29.98	329	IAMs_20	IAMs_20	03 17 09.1	
	comp=Z,1μm,16.7s						
XAN	Xi'an	29.99	25	P	P	03 02 33.8	+4.0
XAN				pP	pwP	03 02 38.3	+3.8
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
XAN	Xi'an	29.99	25	P	P	03 02 29.4	-0.4
GTA	Gaotai	32.48	8	eP	P	03 02 56.8	+5.1
GTA				pP	pwP	03 03 01.5	+5.0
GTA				sP	sP	03 03 04.0	+8.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,25nm,5.1s						
GTA				LR	LR		
	comp=N,410nm,17.5s						
GTA				LR	LR		
	comp=E,300nm,17.8s						
GTA				LR	LR		
	comp=Z,490nm,17.8s						
NIL	Nilore	32.69	327	P	P	03 02 54.9	+1.3
SOEI	Soe	34.37	119	P	P	03 03 06.9	-1.7
WMQ	Urumqi	36.93	352	eP	P	03 03 31.5	+1.4
WMQ	Urumqi	36.93	352	P	P	03 03 31.6	+1.6
HHC	Hu-ho-hao-te	36.94	22	eP	P	03 03 30.8	+0.6
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
PRZ	Przheval'sk	37.82	341	P	P	03 03 39.2	+1.4
KDJ	Kajisay	37.92	339	P	P	03 03 39.3	+0.7
BOOM	Boomskoye usch	38.68	338	P	P	03 03 45.0	0.0
BOOM				IAmb	IAmb	03 03 51.0	
	comp=Z,9.6nm,1.4s						
FITZ	Fitzroy Crossi	39.95	129	P	P	03 03 56.7	+1.1
	comp=Z,2.3nm,1.0s,baz=235,slow=12,SNR=2.4						
MK31	Makanchi Array	40.76	347	P	P	03 04 01.0	-1.1
MK31				IAmb	IAmb	03 04 07.7	
	comp=Z,7.6nm,0.9s						
MKAR	Makanchi Array	40.76	347	P	P	03 04 00.7	-1.4
	comp=Z,2.6nm,0.8s,baz=160,slow=7.9,SNR=14						
MKAR	Makanchi Array	40.76	347	P	P	03 04 00.5	-1.6
MAKZ	Makanchi	40.84	347	P	P	03 04 02.2	-0.6
KK31	Karatay Array	41.39	334	P	P	03 04 07.5	+0.2
KK31				IAmb	IAmb	03 04 14.2	
	comp=Z,8.5nm,1.4s						
KKAR	Karatay Array	41.39	334	P	P	03 04 09.0	+1.7
KKAR				IAmb	IAmb	03 04 14.2	
	comp=Z,8.5nm,1.4s						
KKAR	Karatay Array	41.39	334	P	P	03 04 09.8	+2.4
SONM	Songino Array	41.82	12	P	P	03 04 10.0	-1.0
	comp=Z,1.5nm,0.9s,baz=201,slow=7.7,SNR=4.3						
SONM	Songino Array	41.82	12	P	P	03 04 11.8	+0.9
ULN	Ulaanbaatar	41.99	13	P	P	03 04 12.2	-0.2
KSRS	Korea Array	42.96	40	P	P	03 04 20.6	+0.4
	comp=Z,0.8nm,0.8s,baz=226,slow=9.8,SNR=2.4						
GEYT	Alibeck	44.74	319	P	P	03 04 35.6	+1.0
	comp=Z,3.2nm,0.7s,baz=142,slow=7.5,SNR=6.3						
GEYT	Alibeck	44.74	319	P	P	03 04 35.8	+1.2
GYA0B	ALIBECK ARRAY	44.74	319	P	P	03 04 35.6	+1.0
KURBB	Kurchatov Arra	45.22	346	P	P	03 04 37.3	-0.8
	comp=Z,9nm,0.6s,baz=167,slow=7.1,SNR=19						
KURK	Kurchatov	45.28	346	P	P	03 04 38.2	-0.4
ZAA0	Zalesovo Array	47.24	352	P	P	03 04 54.5	+0.5
ZALV	Zalesovo Beam	47.24	352	P	P	03 04 53.0	-0.9
	comp=Z,1.5nm,0.3s,baz=179,slow=8.2,SNR=8.8						
ZALV	Zalesovo Beam	47.24	352	P	P	03 04 53.2	-0.7
WRA	Warramunga Arr	47.84	125	P	P	03 05 00.2	+1.0
	comp=Z,0.7nm,0.8s,baz=306,slow=8.6,SNR=3.4						
WRA	Warramunga Arr	47.84	125	IAmb	IAmb	03 05 05.7	
	comp=Z,0.1nm,1.0s						
ASAR	Alice Springs	49.45	130	P	P	03 05 12.5	+0.9
	comp=Z,0.6nm,0.6s,baz=303,slow=7.8,SNR=11						
MJAR	Matsushiro Arr	49.59	47	LR	LR	03 28 47.2	
	comp=Z,296nm,18.5s,baz=240,slow=39						
BRVK	Borovoye	49.71	341	P	P	03 05 14.0	+1.0
FORT	Forrest	49.78	141	P	P	03 05 12.5	-1.4
ABKAR	Akbulak array	50.85	332	P	P	03 05 22.7	+1.0
ARU	Arti	56.53	337	P	P	03 06 03.8	+0.5
NRIK	Noril'sk	62.23	357	P	P	03 06 40.6	-1.8
	comp=Z,1.5nm,0.6s,baz=142,slow=6.3,SNR=2.0						
BRTR	Keskin Array B	62.91	311	P	P	03 06 46.5	-1.2
	comp=Z,0.8nm,0.8s,baz=121,slow=6.3,SNR=2.2						
TIXI	Tiksi	67.89	11	P	P	03 07 18.1	-1.1
FINES	FINESS Array B	73.33	332	P	P	03 07 51.3	-1.2
	comp=Z,6.4nm,1.1s,baz=100,slow=7.6,SNR=1.9						
ARCES	ARCESS Array B	75.92	340	P	P	03 08 07.0	-0.5
	comp=Z,4.4nm,1.1s,baz=88,slow=6.4,SNR=1.8						
GERES	GERESS Array B	78.36	318	P	P	03 08 21.9	+0.2
	comp=Z,0.3nm,0.4s,baz=114,slow=4.7,SNR=4.4						
GERES	GERESS Array B	78.36	318	P	P	03 08 20.4	-1.3
NOA	NORSAR Array B	80.34	331	P	P	03 08 33.8	+1.6
	comp=Z,2.2nm,0.9s,baz=95,slow=5.0,SNR=1.8						
TORD	Torodi Ar. Bea	90.79	283	P	P	03 09 26.9	+1.7
	comp=Z,0.6nm,0.8s,baz=78,slow=4.7,SNR=3.6						
ESDC	Sonseca Array	91.69	310	P	P	03 09 28.6	-0.3
	comp=Z,0.3nm,0.7s,baz=64,slow=4.9,SNR=2.2						
ILAR	Eielson Array	95.36	22	P	P	03 09 45.2	0.0
	comp=Z,0.3nm,0.9s,baz=293,slow=4.7,SNR=2.7						
CPUP	Villa Florida	146.87	232	PKPbc	PKPdf	03 16 03.5	+1.1
	comp=Z,0.4nm,0.4s,baz=162,slow=3.2,SNR=1.7						

BJI ***26*** *02:58:39.2±0.0, 7.°02N×94.°23E, h6km, mB4.8/33, mb4.7/47, Ms4.8/41, Ms7 4.5/37*

NEIC ***26*** *02:58:44.4±1.6, 7.°53N±0.°07×94.°41E±0.°07, h10km±1km, mb4.7/58, Error ellipse: s-maj=13.4km s-min=9.7km az=53.0*

BGR ***26*** *02:58:45.9±0.0, 7.°44N×94.°51E, h33km, mb4.5, Ms4.3*

GCMT ***26*** *02:58:47.4±0.2, 7.°48N±0.°01×94.°41E±0.°01, h19km±1km, MW5.0/119, Moment Tensor Solution. s55,c66; s119,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.81±.13; Mθθ=3.37±.10; Mϕϕ=4.17±.12; Mrθ=2.31±.31; Mθϕ=1.63±.10; Mϕr=0.53±.23; Best double couple: Mo=4.79100×10¹⁶ NP1:ϕs=150.00000°, δ62.00000°, λ=-167.00000°. NP2:ϕs=54.00000°, δ79.00000°, λ=-29.00000°. Principal axes: T 4.7050, Plg11.0000°, Azm105.0000°; N 0.1670, Plg59.0000°, Azm214.0000°; P =4.8770, Plg28.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***26*** *02:58:49.7±2.4, 7.°57N×94.°33E, h46km±22km, mb4.1/32, mb1 4.2/35, mb1mx4.1/48, mbtmp4.4/35, ML4.3/3, MS4.3/18, Ms1 4.3/18, ms1mx4.1/35 Error ellipse: s-maj=13.0km s-min=10.5km az=51.0*

DJA ***26*** *02:58:50.9±1.5, 8.°N±3.°×9.°5E±.°, h15km±11km, M4.7/25, mb4.8/25, mB5.2/13, MLv5.0/7, Mw(mB)4.6/13, Mwp5.2/5*

ISC 26 02:58:48.7±0.4, 7.°51N±0.°05×94.°38E±0.°05, h39km±3km, n220, σ1§68/212, mb4.5/67, MS4.4/28, 6C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	Lhok Sumawe	3.41	132	P	Pn	02 59 39.4	0.0
LHMI	Lhok Sumawe	3.41	132	Pn	Pn	02 59 37.9	-1.4
MLSI	Meulaboh, Aceh	3.80	148	P	Pn	02 59 47.6	+2.9
MLSI	Meulaboh, Aceh	3.80	148	S	Pn	02 59 46.9	+2.2
PBA	Port Blair	4.42	339	Pn	Pn	02 59 51.7	-1.6
TPTI		5.06	146	P	Pn	03 00 03.4	+1.4
TPTI		5.06	146	S	Pn	03 00 02.2	+0.2
PSI	Prapat	6.51	136	P	Pn	03 00 25.6	+3.5
	3.1nm,0.3s,baz=307,slow=3.9,SNR=5.0						
PSI				LR	LR	03 03 14.4	
	comp=Z,4μm,18.1s,baz=280,slow=40						
RPSI	Rantau Prapat	6.58	136	Pn	Pn	03 00 21.1	-1.9
KULM	Kulim	6.61	109	Pn	Pn	03 00 21.7	-1.6
GSI	Gunungsitoli	6.94	153	P	Pn	03 00 27.0	-0.9
	0.3nm2μm75nm,0.9s						
GSI	Gunungsitoli	6.94	153	Pn	Pn	03 00 25.7	-2.2
IPM	Ipoh	7.26	114	Pn	Pn	03 00 29.9	-2.4
MNSI	Mandailing Nat	8.45	142	P	Pn	03 00 49.4	+0.8
	14μm76nm,0.6s						
BKNI	Bangkinang	9.75	137	Pn	Pn	03 01 05.7	-0.7
MYKOM	Kota Tinggi	11.01	121	Pn	Pn	03 01 21.2	-2.6
CMAR	Chiang Mai Arr	11.75	22	P	Pn	03 01 35.5	+1.7
	1.7nm,0.3s,baz=214,slow=14,SNR=8.5						
CMAR				LR	LR	03 06 09.4	
	comp=Z,2μm,18.6s,baz=253,slow=38						
DSRI	Dabo	12.90	128	P	Pn	03 01 53.8	+4.2
	2μm1μm14nm,1.0s						
PALK	Pallekele	13.57	270	P	Pn	03 01 57.6	-1.2
	0.8nm,0.3s,baz=194,slow=13,SNR=5.5						
PALK				S	Sn	03 04 15.0	-13
	1.8nm,0.3s,baz=296,slow=21,SNR=5.3						
PALK				LR	LR	03 06 44.6	
	comp=Z,2μm,21.0s,baz=189,slow=35						
PALK	Pallekele	13.57	270	Pn	Pn	03 01 57.3	-1.5
LHSI	Lahat	14.49	141	P	P	03 02 23.4	+6.1
DLV	T Lat	14.58	71	Pn	Pn	03 02 08.4	-4.2
CHLP	Challavanipeta	14.84	318	eP	Pn	03 02 14.9	-1.1
PPBI	Pangkal Pinang	15.16	129	P	P	03 02 29.4	+4.6
MDSI	Maura Dua	15.41	140	P	P	03 02 28.1	+0.5
	25nm,1.0s						
SKHT	Srikalahasti	15.69	294	eP	Pn	03 02 26.4	-0.6
PVM	Polavaram	15.77	309	eP	Pn	03 02 27.0	-1.0
KLSI		15.92	139	P	Pn	03 02 28.5	-1.5
	7.9nm,0.8s						
MYLAV	Mylavaram	16.27	306	eP	Pn	03 02 33.8	-0.6
ADKI	Addanki	16.36	302	eP	Pn	03 02 35.0	-0.6
SLVN	Son La	16.54	33	Pn	Pn	03 02 36.0	-1.8
KSM	Kuching	16.96	110	Pn	Pn	03 02 40.3	-2.9
KSM				lAmb	lAmb	03 02 48.7	
	comp=Z,70nm,1.1s						
NJS	Nagarjunasagar	17.26	303	eP	P	03 02 48.2	+0.2
SRLM	Srisailam	17.39	301	eP	Pn	03 02 48.4	-0.1
CUPL	Choutuppal	17.95	304	eP	P	03 02 55.4	-0.2
SHL	Shillong	18.11	353		P	03 02 55.9	-1.7
SHL				IAmb	IAmb	03 03 10.3	
	comp=Z,115nm,1.7s						
HYB	Hyderabad	18.31	304	iP	P	03 02 59.0	-0.7
HYBB	Hyderabad (bro	18.31	304	eP	P	03 02 59.3	-0.4
SBUM	Sibu	18.46	105	P	P	03 02 59.1	-2.3
SBUM				lAmb	lAmb	03 03 04.9	
	comp=Z,40nm,1.1s						
RPR	Rampur	18.50	309	eP	Pn	03 03 02.6	+0.5
QIZ	Qiongzhong	18.89	51	P	P	03 03 03.5	-2.5
QIZ				S	Sn	03 06 35.0	-2.3
QIZ				LR	LR		
	comp=N,6μm,13.3s						
QIZ				LR	LR		
	comp=E,2μm,13.1s						
QIZ				LR	LR		
	comp=Z,1μm,11.4s						
KMI	Kunming	19.25	24⇑	eP	Pn	03 03 13.0	+1.7
KMI				pP	P	03 03 15.0	+4.9
KMI				sP	pP	03 03 17.5	-1.6
KMI				S	Sn	03 06 47.0	+0.7
KMI				sS	S	03 06 53.3	+7.0
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
KMI				pmax	pmax		
	comp=Z,140nm,4.8s						
KMI				LR	LR		
	comp=Z,880nm,14.2s						
KMI				LR	LR		
	comp=Z,1μm,14.4s						
KMI				LR	LR		
	comp=Z,1μm,15.6s						
LEM	Lembang	19.42	137	LR	LR	03 11 59.7	
	comp=Z,2μm,18.7s,baz=295,slow=40						
KLRI	Killari	20.25	303	eP	P	03 03 20.5	-0.4
ODAN	Odare	20.36	342	eP	Pn	03 03 24.8	+0.4
RAMN	Ramite	20.70	340	eP	Pn	03 03 27.1	-1.3
	comp=Z,53nm,0.7s						
TAPN	Taplejung	20.72	343	eP	Pn	03 03 27.5	-1.2
	comp=Z,125nm,0.8s						
PKI	Pulchoki	21.69	338	eP	P	03 03 36.8	+0.2
	comp=Z,72nm,0.8s						
PKIN	Phulchoki	21.70	338	eP	P	03 03 36.8	+0.1
	comp=Z,59nm,0.6s						
GUN	Gumba	21.83	339	eP	P	03 03 38.9	+0.8
	comp=Z,63nm,0.7s						
DMN	Daman	21.84	337	eP	P	03 03 39.8	+1.7
	comp=Z,61nm,0.7s						
KKN	Kakani	21.93	338	eP	P	03 03 39.5	+0.3
	comp=Z,63nm,0.9s						
GYA	Guiyang	22.17	30	⇑P	P	03 03 47.0	+5.4
GYA				S	S	03 07 40.0	-3.8
GYA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GYA				pmax	pmax		
	comp=Z,270nm,4.5s						
GYA				LR	LR		
	comp=Z,1μm,12.6s						
GYA				LR	LR		
	comp=Z,620nm,11.5s						
GYA				LR	LR		
	comp=Z,1μm,13.4s						
LSA	Lhasa	22.28	353	P	P	03 03 42.8	-0.4
LSA				lAmb	lAmb	03 03 52.5	
	comp=Z,23nm,0.8s						
GKN	Gorkha	22.37	337	eP	P	03 03 43.2	-0.6
	comp=Z,81nm,0.9s						
KOLN	Koldanda	22.59	334	eP	P	03 03 45.9	-0.3
	comp=Z,126nm,1.2s						
DANN	Dangsing	23.03	335	eP	P	03 03 50.5	-0.4
	comp=Z,62nm,0.7s						
PYUN	Piuthan	23.14	334	eP	P	03 03 51.3	-0.6
	comp=Z,113nm,1.0s						
BBKI	Banjar Baru	23.14	117	P	P	03 04 04.9	+13
MYLDM	Lahad Datu	24.08	94	P	P	03 04 00.9	+0.2
CD2	Chengdu	24.88	19	eP	P	03 04 09.5	+1.6
CD2				S	S	03 08 30.5	+2.0
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=Z,770nm,12.6s						
CD2				LR	LR		
	comp=Z,2μm,16.1s						
CD2				LR	LR		
	comp=Z,1μm,14.5s						
H08S3	Diego Garcia H	26.52	236	T	T	03 31 00.1	
	baz=55,slow=75						
H08S2	Diego Carcia H	26.52	236	T	T	03 31 00.7	
	baz=55,slow=75						
H08S1	Diego Carcia H	26.53	236	T	T	03 31 03.5	
	baz=55,slow=75						
KUDL	Kundal	26.60	323	ex	P	03 04 26.9	+3.4
GTOI	Gorontalo	29.34	102	P	P	03 04 49.6	+1.4
	comp=Z,356nmcomp=Z,30nm,0.9s						

SSE	**Sheshan**	**34.32**	**43**	P	**P**		**03 05 30.5**	**-1.1**
SSE				S	**S**		**03 10 56.5**	**0.0**
SSE				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SSE				pmax	pmax			
	comp=Z,60nm,7.1s							
SSE				LR	LR			
	comp=Z,750nm,15.2s							
SSE				LR	LR			
	comp=Z,460nm,15.1s							
KBL	**Kabul**	**35.60**	**323**	P	**P**		**03 05 42.0**	**-0.9**
KBL				lAmb	lAmb		03 05 44.5	
	comp=Z,6.9nm,0.8s							
KSH	**Kashi**	**35.90**	**335**	*e*P	**P**		**03 05 45.5**	**+0.2**
KSH				pmax	pmax			
	comp=Z,13nm,1.2s							
HHC	**Hu-ho-hao-te**	**36.56**	**22**	*e*P	**P**		**03 05 50.5**	**-0.4**
HHC				S	**S**		**03 11 32.3**	**+1.3**
HHC				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC				pmax	pmax			
	comp=Z,68nm,5.4s							
HHC				LR	LR			
	comp=Z,570nm,14.5s							
HHC				LR	LR			
	comp=Z,2μm,14.3s							
HHC				LR	LR			
	comp=Z,540nm,14.7s							
WMQ	**Urumqi**	**36.64**	**352**	*e*P	**P**		**03 05 53.0**	**+1.5**
WMQ				pP	pP		03 05 57.0	-4.8
WMQ				sP	pwP		03 05 58.5	-6.0
WMQ				pmax	pmax			
	comp=Z,12nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,91nm,3.7s							
WMQ				LR	LR			
	comp=Z,320nm,17.1s							
WMQ				LR	LR			
	comp=Z,330nm,21.3s							
PRZ	**Przheval'sk**	**37.58**	**340**	P	**P**		**03 05 59.7**	**0.0**
KDJ	**Kajisay**	**37.69**	**339**	P	**P**		**03 06 01.9**	**+1.3**
KDJ				lAmb	lAmb		03 06 08.0	
	comp=Z,14nm,0.9s							
WSAR	**Wadi Sarin**	**37.71**	**299**	P	**P**		**03 06 01.2**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=179,slow=7.0,SNR=4.9							
SIJI	**Sorong**	**37.72**	**101**	P	**P**		**03 06 02.2**	**+1.2**
	comp=Z,8.6nm,0.6s,baz=301,slow=6.8,SNR=6.9							
BJI	**Beijing**	**37.81**	**28**	P	P		03 06 10.5	+9.1
BJI				S	S		03 12 11.0	+21
BJI				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BJI				pmax	pmax			
	comp=Z,120nm,3.9s							
BJI				LR	LR			
	comp=N,640nm,17.9s							
BJI				LR	LR			
	comp=E,610nm,18.0s							
BJI				LR	LR			
	comp=Z,180nm,18.6s							
SHLS	**Shalkode**	**37.85**	**342**	*e*P	**P**		**03 06 01.7**	**-0.2**
UZB	**Uzynbulak**	**37.98**	**342**	*e*P	**P**		**03 06 03.5**	**+0.5**
SATY	**Saty**	**38.09**	**341**	*e*P	**P**		**03 06 03.3**	**-0.6**
KPKS	**Kokpek**	**38.37**	**341**	*e*P	**P**		**03 06 05.2**	**-1.0**
BOOM	**Boomskoye usch**	**38.45**	**338**	P	**P**		**03 06 06.4**	**-0.6**
TNSS	**Tian-Shan**	**38.56**	**339**	*e*P	**P**		**03 06 06.3**	**-1.9**
MDOK	**Medeo**	**38.64**	**340**	*e*P	**P**		**03 06 07.8**	**-0.8**
KUU	**Kurty**	**39.53**	**339**	*e*P	**P**		**03 06 15.1**	**-0.7**
SGDS	**Sogindy**	**39.77**	**337**	*e*P	**P**		**03 06 18.0**	**0.0**
HRA	**Herat**	**39.88**	**317**	P	**P**		**03 06 19.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**40.00**	**130**	P	**P**		**03 06 21.0**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=321,slow=8.1,SNR=2.1							
FITZ	**Fitzroy Crossi**	**40.00**	**130**	P	**P**		**03 06 20.2**	**+0.2**
MK31	**Makanchi Array**	**40.49**	**347**	P	**P**		**03 06 23.3**	**-0.5**
MK31				lAmb	lAmb		03 06 30.6	
	comp=Z,11nm,0.9s							
MKAR	**Makanchi Array**	**40.49**	**347**	P	**P**		**03 06 23.0**	**-0.8**
	comp=Z,11nm,0.8s,baz=165,slow=8.0,SNR=21							
MKAR				LR	LR		03 26 49.4	
	comp=Z,212nm,18.4s,baz=164,slow=42							
MKAR	**Makanchi Array**	**40.49**	**347**	P	**P**		**03 06 22.8**	**-1.0**
MAKZ	**Makanchi**	**40.57**	**347**	P	**P**		**03 06 24.3**	**-0.2**
MAKZ				lAmb	lAmb		03 06 32.3	
	comp=Z,11nm,0.8s							
ZSN	**Zaisan**	**40.62**	**350**	*e*P	**P**		**03 06 22.3**	**-2.5**
IUG	**Iuzhnay**	**40.66**	**332**	*e*P	**P**		**03 06 25.3**	**-0.1**
KK31	**Karatay Array**	**41.19**	**333**	P	**P**		**03 06 29.2**	**-0.4**
KK31				lAmb	lAmb		03 06 44.0	
	comp=Z,28nm,1.6s							
KKAR	**Karatay Array**	**41.19**	**333**	P	**P**		**03 06 28.9**	**-0.6**
KKAR				lAmb	lAmb		03 06 44.0	
	comp=Z,28nm,1.6s							
KKAR	**Karatay Array**	**41.19**	**333**	P	**P**		**03 06 29.6**	**0.0**
BTLS	**Baital**	**41.34**	**338**	*e*P	**P**		**03 06 29.5**	**-1.3**
SONM	**Songino Array**	**41.46**	**12**	P	**P**		**03 06 32.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=193,slow=5.9,SNR=6.0							
SONM				PcP	**PcP**		**03 08 30.4**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=176,slow=4.0,SNR=2.3							
SONM				LR	LR		03 25 38.2	
	comp=Z,447nm,18.6s,baz=184,slow=39							
SONM	**Songino Array**	**41.46**	**12**	P	**P**		**03 06 31.9**	**0.0**
ULN	**Ulaanbaatar**	**41.63**	**13**	P	**P**		**03 06 33.8**	**+0.5**
ULN				lAmb	lAmb		03 06 42.4	
	comp=Z,11nm,1.4s							
KSRS	**Korea Array**	**42.58**	**41**	P	**P**		**03 06 41.4**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=229,slow=8.6,SNR=5.6							
KSRS				LR	LR		03 26 20.1	
	comp=Z,548nm,18.2s,baz=230,slow=39							
GEYT	**Alibeck**	**44.63**	**318**	P	**P**		**03 06 57.8**	**+0.2**
	comp=Z,12nm,0.6s,baz=148,slow=8.7,SNR=24							
GEYT				LR	LR		03 28 53.4	
	comp=Z,385nm,19.4s,baz=65,slow=40							
GEYT	**Alibeck**	**44.63**	**318**	P	**P**		**03 06 57.4**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**44.63**	**318**	P	**P**		**03 06 57.1**	**-0.4**
KURBB	**Kurchatov Arra**	**44.95**	**346**	P	**P**		**03 06 59.6**	**-0.3**
	comp=Z,13nm,0.8s,baz=168,slow=7.1,SNR=26							
KURBB				PcP	**PcP**		**03 08 41.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=122,slow=1.9,SNR=2.6							
KURK	**Kurchatov**	**45.02**	**346**	P	**P**		**03 07 00.5**	**+0.1**
KURK	**Kurchatov**	**45.02**	**346**		**PcP**		**03 08 41.8**	**+0.9**
CN2	**Changchun**	**45.21**	**32**	*e*P	**P**		**03 07 01.5**	**-0.5**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				LR	LR			
	comp=Z,700nm,13.0s							
CN2				LR	LR			
	comp=Z,600nm,13.0s							
CN2				LR	LR			
	comp=Z,800nm,14.0s							
BRZS	**Berezniki**	**46.06**	**341**	*e*P	**P**		**03 07 08.1**	**-0.6**
ZAA0	**Zalesovo Array**	**46.94**	**352**	P	**P**		**03 07 15.8**	**+0.3**
ZALV	**Zalesovo Beam**	**46.94**	**352**	P	**P**		**03 07 15.4**	**-0.1**
	comp=Z,5.9nm,0.6s,baz=179,slow=8.2,SNR=13							
ZALV				LR	LR		03 31 41.3	
	comp=Z,347nm,19.0s,baz=182,slow=42							
ZALV	**Zalesovo Beam**	**46.94**	**352**	P	**P**		**03 07 15.3**	**-0.2**
WRA	**Warramunga Arr**	**47.86**	**125**	P	**P**		**03 07 22.3**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=304,slow=9.0,SNR=10.0							
WRA				PcP	**PcP**		**03 08 54.0**	**+2.5**
	comp=Z,1.6nm,0.6s,baz=309,slow=3.0,SNR=2.5							
WRA				LR	LR		03 29 08.5	
	comp=Z,460nm,21.1s,baz=300,slow=38							
WRAB	**Tennant Creek**	**47.86**	**125**	P	**P**		**03 07 21.3**	**-1.9**
WB2	**Warramunga Arr**	**47.87**	**125**	P	**P**		**03 07 21.3**	**-1.9**
WB2				lAmb	lAmb		03 07 34.2	
	comp=Z,7.4nm,0.7s							
WR0	**Warramunga Arr**	**48.03**	**125**	P	**P**		**03 07 23.3**	**-1.2**
MAT	**Matsushiro**	**49.22**	**47**	P	**P**		**03 07 34.0**	**+0.5**
MJAR	**Matsushiro Arr**	**49.23**	**47**	P	**P**		**03 07 35.6**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=242,slow=8.5,SNR=9.7							
BRVK	**Borovoye**	**49.47**	**341**	P	**P**		**03 07 34.0**	**-1.0**
BRVK				lAmb	lAmb		03 07 41.8	
	comp=Z,9.7nm,0.8s							
DAMY	**Dhamar**	**49.48**	**283**	P	**P**		**03 07 36.4**	**+0.3**
ASAR	**Alice Springs**	**49.50**	**130**	P	**P**		**03 07 34.9**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=305,slow=7.5,SNR=11							
ASAR				PcP	**PcP**		**03 08 58.4**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=307,slow=3.9,SNR=1.6							
ASAR				LR	LR		03 30 39.1	
	comp=Z,346nm,20.3s,baz=298,slow=38							
AS31	**Alice Springs**	**49.50**	**130**	P	**P**		**03 07 34.7**	**-1.1**
FORT	**Forrest**	**49.91**	**141**	P	**P**		**03 07 38.4**	**-0.3**
JYT	**Yasato**	**50.56**	**49**	P	**P**		**03 07 43.4**	**-0.2**
ABKAR	**Akbulak array**	**50.66**	**331**	P	**P**		**03 07 44.2**	**+0.1**
ATD	**Arta Tunnel**	**50.93**	**279**	P	**P**		**03 07 47.9**	**+1.1**
	comp=Z,5.6nm,0.8s,baz=62,slow=19,SNR=4.6							
OPO	**Ambohidratompo**	**53.27**	**240**	P	**P**		**03 08 05.4**	**+1.2**
	comp=Z,4.8nm,0.8s,baz=87,slow=9.2,SNR=5.2							
FURI	**Furi**	**55.11**	**276**	P	**P**		**03 08 18.0**	**0.0**
PMG	**Port Moresby**	**55.20**	**107**	LR	LR		03 34 09.0	
	comp=Z,166nm,21.4s,baz=267,slow=38							
ARU	**Arti**	**56.31**	**337**	P	**P**		**03 08 25.6**	**+0.1**
MARD	**Mardin**	**56.81**	**310**	P	**P**		**03 08 28.1**	**-1.4**
MARD				lAmb	lAmb		03 08 28.6	
	comp=Z,6.0nm,0.8s							
KBZ	**Khabaz**	**57.52**	**318**	P	**P**		**03 08 32.9**	**-1.3**
	comp=Z,2.9nm,0.8s,baz=188,slow=10,SNR=5.0							
STKA	**Stephens Creek**	**59.68**	**134**	P	**P**		**03 08 49.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=286,slow=2.8,SNR=4.6							
STKA				LR	LR		03 39 28.5	
	comp=Z,260nm,18.7s,baz=300,slow=41							
YAK	**Yakutsk**	**60.26**	**18**	P	**P**		**03 08 52.6**	**-0.3**
	comp=Z,7.8nm,0.4s,baz=346,slow=0.3,SNR=4.3							
YAK	**Yakutsk**	**60.26**	**18**	P	**P**		**03 08 52.1**	**-0.7**
NRIK	**Noril'sk**	**61.91**	**357**	P	**P**		**03 09 03.8**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=144,slow=3.6,SNR=5.9							
NRIK				LR	LR		03 40 44.0	
	comp=Z,261nm,19.9s,baz=198,slow=41							
BR131	**Keskin Array S**	**62.84**	**311**	P	**P**		**03 09 08.8**	**-2.1**
BRTR	**Keskin Array B**	**62.84**	**311**	P	**P**		**03 09 08.9**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=124,slow=7.1,SNR=10							
BRTR				LR	LR		03 39 24.2	
	comp=Z,83nm,21.0s,baz=116,slow=39							
BRTR	**Keskin Array B**	**62.84**	**311**	P	**P**		**03 09 09.6**	**-1.4**
MBAR	**Mbarara**	**63.97**	**266**	P	**P**		**03 09 18.4**	**-0.6**
OBN	**Obninsk**	**65.81**	**328**	P	**P**		**03 09 29.9**	**+0.1**
TIXI	**Tiksi**	**67.54**	**11**	P	**P**		**03 09 39.5**	**-1.1**
AKASG	**Malin Array Be**	**68.58**	**322**	P	**P**		**03 09 45.6**	**-2.0**
	comp=Z,1.4nm,0.7s,baz=91,slow=4.8,SNR=2.0							
AKASG	**Malin Array Be**	**68.58**	**322**	lAmb	lAmb		03 09 54.3	
	comp=Z,1.7nm,1.1s							
VRI	**Vrincioaia**	**69.13**	**316**	⇑P	**P**		**03 09 51.1**	**+0.1**
PLOR	**Plostina**	**69.18**	**316**	⇑P	**P**		**03 09 51.5**	**+0.1**
LSZ	**Lusaka**	**69.38**	**251**	P	**P**		**03 09 53.5**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=78,slow=4.3,SNR=8.3							
LSZ	**Lusaka**	**69.38**	**251**	P	**P**		**03 09 54.1**	**+0.8**
MATP	**Matopo**	**70.43**	**245**	P	**P**		**03 10 00.1**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=96,slow=4.6,SNR=6.3							
BURAR	**Bucovina Array**	**70.47**	**318**	⇑P	**P**		**03 09 59.3**	**-0.2**
BURAR	**Bucovina Array**	**70.47**	**318**	P	**P**		**03 09 59.3**	**-0.2**
ARR	**Arges**	**70.48**	**315**	⇓P	**P**		**03 09 58.1**	**-1.4**
FINES	**FINESS Array B**	**73.14**	**332**	P	**P**		**03 10 14.5**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=98,slow=6.3,SNR=14							
FINES				LR	LR		03 44 59.0	
	comp=Z,156nm,19.2s,baz=114,slow=38							
CRVS	**Cervenica-Dubn**	**73.16**	**319**	*e*P	**P**		**03 10 16.0**	**+0.6**
LBTB	**Lobatse**	**74.28**	**241**	P	**P**		**03 10 22.8**	**+0.3**
VYHS	**Vyhne**	**74.83**	**318**	*e*P	**P**		**03 10 24.4**	**-0.9**
SRO	**Srobarova**	**75.12**	**317**	*e*P	**P**		**03 10 27.2**	**+0.4**
OKC	**Ostrava-Krasne**	**75.42**	**319**	*e*P	**P**		**03 10 28.3**	**-0.3**
BOSA	**Boshof**	**75.60**	**238**	P	**P**		**03 10 30.4**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=90,slow=7.9,SNR=8.2							
BOSA	**Boshof**	**75.60**	**238**	lAmb	lAmb		03 10 38.9	
	comp=Z,13nm,0.9s							
JAVC	**Velka Javorina**	**75.64**	**318**	*e*P	**P**		**03 10 31.6**	**+1.7**
ARCES	**ARCESS Array B**	**75.69**	**340**	P	**P**		**03 10 29.2**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=74,slow=5.6,SNR=4.7							
MORC	**Moravsky Berou**	**75.80**	**319**	*e*P	**P**		**03 10 30.6**	**-0.2**
MODS	**Modra-Piesok**	**75.86**	**318**	*e*P	**P**		**03 10 30.2**	**-0.9**
KRLC	**Kraliky**	**76.32**	**320**	*e*P	**P**		**03 10 31.7**	**-2.1**
DZM	**Mont Dzumac**	**76.42**	**115**	*e*LR	LR		03 34 01.4	
	comp=Z,271nm,25.1s							
DPC	**Dobruska-Polom**	**76.64**	**320**	*e*P	**P**		**03 10 35.8**	**+0.2**
DPC				*e*pP	**PcP**		**03 10 42.3**	**-4.6**
ARSA	**Arzberg**	**76.96**	**317**	*e*P	**P**		**03 10 39.2**	**+1.7**
	comp=Z,5.6nm,1.1s							
PRU	**Pruhonice**	**77.75**	**319**	*e*P	**P**		**03 10 41.6**	**-0.2**
MOA	**Molln**	**77.84**	**317**	P	**P**		**03 10 43.6**	**+1.2**
	comp=Z,4.7nm,1.2s							
BRG	**Berggiesshubel**	**78.18**	**320**	*e*P	**P**		**03 10 45.9**	**+1.8**
	comp=Z,20nm,2.0s							
BRG				*e*			03 10 52.0	
	comp=Z,68nm,2.3s							
MAW	**Mawson**	**78.23**	**192**	P	**P**		**03 10 45.4**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=352,slow=2.7,SNR=5.0							
MAW				LR	LR		03 40 35.9	
	comp=Z,174nm,18.3s,baz=50,slow=32							
MAW	**Mawson**	**78.23**	**192**	P	**P**		**03 10 46.1**	**+2.2**
GEC2	**GERESS Array S**	**78.25**	**318**	P	**P**		**03 10 44.9**	**+0.2**
GERES	**GERESS Array B**	**78.25**	**318**	P	**P**		**03 10 44.5**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=84,slow=4.7,SNR=16							
GERES	**GERESS Array B**	**78.25**	**318**	P	**P**		**03 10 44.1**	**-0.6**
KHC	**Kasperske Hory**	**78.35**	**319**	*e*P	**P**		**03 10 44.1**	**-1.0**
KHC				*e*pP	**PcP**		**03 10 50.0**	**-4.3**
CLL	**Collm**	**78.79**	**321**	*e*PP	PP		03 13 44.0	-2.0
ABTA	**Abfaltersbach**	**79.00**	**316**	*e*P	**P**		**03 10 49.8**	**+1.0**
	comp=Z,7.6nm,1.5s							
CIMO	**Cimolais**	**79.05**	**316**	P	**P**		**03 10 48.9**	**-0.2**
WTTA	**Wattenberg**	**79.61**	**317**	*e*P	**P**		**03 10 51.0**	**-1.3**
	comp=Z,5.0nm,1.0s							
WATA	**Walderalm**	**79.65**	**317**	*e*P	**P**		**03 10 51.6**	**-0.9**
	comp=Z,7.8nm,1.0s							
MOX	**Moxa**	**79.65**	**320**	*e*L	L		03 42 18.7	
	comp=Z,142nm,21.3s							
GRC1	**Grafenberg Arr**	**79.69**	**318**	*e*P	**P**		**03 10 51.3**	**-1.2**
	comp=Z,5.9nm,1.0s,baz=101,slow=4.9							
GRF	**Grafenberg Arr**	**79.90**	**319**	*e*L	L		03 50 16.9	
	comp=Z,145nm,18.0s							
SQTA	**Sankt Quirin**	**79.90**	**317**	P	**P**		**03 10 52.4**	**-1.4**
	comp=Z,4.2nm,0.8s							
MOTA	**Moosalm**	**79.97**	**317**	P	**P**		**03 10 53.4**	**-0.8**
	comp=Z,7.7nm,1.1s							
NB2	**NORAR Subarra**	**80.16**	**331**	P	**P**		**03 10 53.8**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=96,slow=5.1							
NOA	**NORSAR Array B**	**80.16**	**331**	P	**P**		**03 10 54.3**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=91,slow=5.8,SNR=7.0							
RETA	**Reutte**	**80.20**	**317**	*e*P	**P**		**03 10 54.2**	**-1.1**
	comp=Z,5.0nm,0.7s							
DAVA	**Damuels**	**80.81**	**317**	*e*P	**P**		**03 10 57.5**	**-1.2**
	comp=Z,10nm,1.4s							
KEST	**Kesra**	**81.64**	**305**	P	**P**		**03 11 03.1**	**-0.2**
	comp=Z,4.1nm,1.1s,baz=14,slow=4.2,SNR=2.6							
SYO	**Syowa Base**	**85.13**	**197**	⇑*e*PcP	**PcP**		**03 11 25.4**	**+2.0**
TORD	**Torodi Ar. Bea**	**90.91**	**283**	P	**P**		**03 11 49.3**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=91,slow=4.9,SNR=6.7							
TORD	**Torodi Ar. Bea**	**90.91**	**283**	P	**P**		**03 11 49.0**	**-0.2**
ESDC	**Sonseca Array**	**91.63**	**310**	P	**P**		**03 11 51.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=61,slow=4.2,SNR=8.5							
IMAR	**Indian Mountai**	**91.87**	**22**	P	**P**		**03 11 53.9**	**+1.3**
VNDA	**Vanda**	**92.53**	**168**	LR	LR		03 50 30.6	
	comp=Z,117nm,18.1s,baz=338,slow=34							
BPAW	**Bear Paw Mtn.**	**93.72**	**24**	P	**P**		**03 12 00.9**	**-0.3**
SKT	**Skwentna**	**94.39**	**26**	P	**P**		**03 12 04.3**	**-0.1**
BMAR	**Burnt Mountain**	**94.45**	**19**	P	**P**		**03 12 06.2**	**+1.7**
ILAR	**Eielson Array**	**94.99**	**22**	P	**P**		**03 12 06.5**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=284,slow=4.8,SNR=7.2							
TBI	**Tubuai**	**116.93**	**112**	*e*LR	LR		03 52 40.7	
	comp=Z,210nm,31.0s							
PPT2	**Papeete2**	**117.01**	**106**	*e*LR	LR		03 52 53.0	
	comp=Z,138nm,26.0s							
TXAR	**Lajitas Array**	**139.45**	**25**	PKP	**PKPdf**		**03 18 11.8**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=256,slow=1.0,SNR=4.0							
JCT	**Junction City**	**139.85**	**19**	PKPdf	**PKPdf**		**03 18 11.7**	**-1.8**
BDFB	**Brasilia**	**142.34**	**254**	PKP	**PKPdf**		**03 18 16.5**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=0.0,slow=1.0,SNR=3.1							
PLCA	**Paso Flores**	**144.29**	**200**	PKP	**PKPab**		**03 18 19.2**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=193,slow=1.2,SNR=7.0							
LC01	**Cunco**	**146.39**	**200**	PKPbc	**PKPdf**		**03 18 25.1**	**+0.5**
CPUP	**Villa Florida**	**147.23**	**232**	PKPbc	**PKPbc**		**03 18 28.1**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=91,slow=4.9,SNR=7.6							
CPUP	**Villa Florida**	**147.23**	**232**		**PKPbc**		**03 18 28.5**	**-0.2**
LPAZ	**La Paz**	**160.81**	**241**	PKP	**PKPdf**		**03 18 46.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=121,slow=5.9,SNR=1.6							

JMA ***26*** *03:07:44.2±0.1,23.33N×122.44E,h22km,M2.7*
TAP ***26*** *03:07:46.0,23.31N×122.38E,h61km±1km,ML3.3,D*

ISC 26 03:07:41.0±1.2,23.30N±0.02×122.43E±0.02,h7km±10km, n71,σ0≤90/121, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.95**	**282**	*e*P		**Pn**		**03 08 01.5**	**+0.7**
	baz=288								
HGSD				S		**Sn**		**03 08 13.5**	**-1.1**
	baz=288								
EGFH	**Guangfu**	**0.99**	**292**	*e*P		**Pn**		**03 08 02.7**	**+1.2**
	baz=298								
EGFH				*e*S		**Sn**		**03 08 15.3**	**-0.4**
	baz=298								
CHKT	**Chengkung**	**1.00**	**259**	*e*P		**Pn**		**03 08 02.4**	**+0.8**
	baz=252								
CHKT				*e*S		**Sb**		**03 08 14.1**	**-0.1**
	baz=252								
EYUL	**Yuli**	**1.03**	**273**	*i* P		**Pn**		**03 08 03.2**	**+1.4**
	baz=269								
EYUL				S		**Sn**		**03 08 16.5**	**0.0**
	baz=269								
EHY	**Hungye**	**1.04**	**282**	P		**Pn**		**03 08 03.5**	**+1.4**
	baz=281								
EHY				*e*S		**Sn**		**03 08 16.1**	**-0.8**
	baz=281								
TWF1	**Yuli**	**1.05**	**273**	P		**Pn**		**03 08 03.4**	**+1.2**
	baz=269								
TWF1				*e*S		**Sn**		**03 08 15.5**	**-1.5**
	baz=269								
YULB	**Yu-li**	**1.05**	**275**	P		**Pn**		**03 08 03.4**	**+1.2**
	baz=273								
YULB				*e*S		**Sn**		**03 08 15.7**	**-1.4**
	baz=273								
FULB	**Fuli**	**1.05**	**265**	P		**Pn**		**03 08 03.2**	**+0.9**
	baz=258								
FULB				*e*S		**Sn**		**03 08 15.8**	**-1.4**
	baz=258								
LDUT	**Ludao**	**1.09**	**235**	P		**Pn**		**03 08 03.9**	**+1.3**
	baz=233								
LDUT				*e*S		**Sn**		**03 08 16.8**	**-1.2**
	baz=233								
EDH	**Donghe**	**1.09**	**253**	P		**Pn**		**03 08 03.8**	**+1.1**
	baz=249								
EDH				S		**Sn**		**03 08 17.4**	**-0.7**
	baz=249								
TWD	**Chiawan**	**1.09**	**315**	P		**Pn**		**03 08 03.4**	**+0.7**
	baz=317								
TWD				*e*S		**Sn**		**03 08 16.9**	**-1.2**
	baz=317								
NACB	**Ninganchiao**	**1.16**	**319**	*e*P		**Pn**		**03 08 04.0**	**+0.2**
	baz=316								
NACB				*e*S		**Sb**		**03 08 18.2**	**-0.5**
	baz=316								
JYNG	**Yonagunijimaku**	**1.24**	**22**	P		**Pn**		**03 08 05.8**	**+1.0**
JYNG				*e*S		**Sn**		**03 08 21.3**	**-0.4**
ETLH	**Xiulin Townshi**	**1.25**	**316**	*e*P		**Pn**		**03 08 05.9**	**+0.8**
	baz=311								
ETLH				*e*S		**Sn**		**03 08 21.3**	**-1.1**
	baz=311								
LONT	**Longtian**	**1.26**	**252**	*e*P		**Pg**		**03 08 06.9**	**+1.6**
	baz=251								
LONT				*e*S		**Sn**		**03 08 23.8**	**+1.4**
	baz=251								
VWDT	**VWDT**	**1.27**	**291**	P		**Pg**		**03 08 07.0**	**+1.5**
	baz=291								
VWDT				*e*S		**Sn**		**03 08 23.0**	**+0.5**
	baz=291								
YOJ	**Yonaguni jima**	**1.27**	**24**	P		**Pg**		**03 08 06.4**	**+1.0**
	baz=33								
YOJ				S		**Sn**		**03 08 23.9**	**+1.3**
	baz=33								
YOJ	**Yonaguni jima**	**1.27**	**24**	P		**Pg**		**03 08 06.6**	**+1.2**
YOJ				S		**Sn**		**03 08 23.5**	**+0.9**
ELDTW	**Lidau**	**1.31**	**265**	P		**Pg**		**03 08 07.1**	**+0.9**
	baz=258								
ELDTW				*e*S		**Sn**		**03 08 22.9**	**-0.8**
	baz=258								
OWD	**Renai**	**1.32**	**300**	P		**Pg**		**03 08 07.4**	**+0.9**
	baz=307								
OWD				*e*S		**Sn**		**03 08 23.3**	**-0.8**
	baz=307								
TWGBT	**Beinan**	**1.34**	**249**	*e*P		**Pg**		**03 08 07.6**	**+0.9**
	baz=250								
TWGBT				*e*S		**Sn**		**03 08 25.0**	**+0.8**
	baz=250	

	baz=257									
SGST					*e*S		**Sg**	03 08 34.9	**-1.4**	
	baz=257									
JKRS	**Kuro-shima**	**1.72**	**57**	P			**Pb**	03 08 13.0	**0.0**	
JKRS				S			**Sn**	03 08 34.0	**+0.4**	
EAST	**Anshuo**	**1.73**	**238**	P			**Pg**	03 08 13.6	**-0.5**	
	baz=236									
EAST					*e*S		**Sn**	03 08 33.0	**-0.9**	
	baz=236									
SSD	**Sandimen**	**1.75**	**252**	*e*P			**Pg**	03 08 13.7	**-0.9**	
	baz=250									
TSMG	**Majia**	**1.75**	**251**	*e*P			**Pg**	03 08 14.3	**-0.4**	
	baz=249									
TIPB	**Shuangxi**	**1.75**	**342**	*e*P			**Pg**	03 08 14.2	**-0.6**	
	baz=349									
TIPB					*e*S		**Sb**	03 08 34.8	**-1.1**	
	baz=349									
CHN1	**Nanshi**	**1.76**	**267**	*e*P			**Pg**	03 08 16.0	**+1.3**	
	baz=266									
SNST	**Tainan City**	**1.78**	**268**	*e*P			**Pg**	03 08 16.7	**+1.5**	
	baz=267									
TWK	**Hsinying**	**1.79**	**269**	*e*P			**Pg**	03 08 16.4	**+1.0**	
	baz=268									
TWK					*e*S		**Sg**	03 08 39.3	**+0.7**	
	baz=268									
MASBT	**Mashibuluo**	**1.80**	**248**	*e*P			**Pg**	03 08 14.8	**-0.7**	
	baz=244									
SCST	**Cishan**	**1.83**	**257**	*e*P			**Pg**	03 08 16.2	**0.0**	
	baz=252									
TWQ1	**Liyutan**	**1.84**	**305**	*e*P			**Pg**	03 08 17.1	**+0.7**	
	baz=305									
SLIU	**Shizi**	**1.85**	**235**	*e*P			**Pg**	03 08 15.6	**-1.0**	
	baz=233									
NSTT	**Nanjuang**	**1.86**	**316**	*e*P			**Pb**	03 08 15.2	**-0.2**	
	baz=310									
LIOB	**Emei**	**1.86**	**316**	*e*P			**Pg**	03 08 16.9	**+0.1**	
	baz=311									
JIJ	**Ishigaki jima**	**1.89**	**56**	P			**Pb**	03 08 15.2	**-0.7**	
JIJ				S			**Sn**	03 08 37.6	**-0.2**	
SCZT	**Fangliau**	**1.91**	**241**	*e*P			**Pg**	03 08 16.9	**-0.8**	
	baz=236									
TWKBT	**Hengchun**	**2.02**	**228**	*e*P			**Pb**	03 08 18.1	**0.0**	
	baz=220									
JISG	**Ishigakijimahi**	**2.14**	**53**	P			**Pb**	03 08 18.9	**-1.3**	
JISG				S			**Sn**	03 08 44.8	**+0.7**	
JTJ	**Tarama**	**2.47**	**57**	P			**Pb**	03 08 24.3	**-1.4**	
JTJ				S			**Sn**	03 08 53.2	**+1.1**	
JIRB	**Irabujima**	**2.93**	**58**	S			**Sn**	03 09 03.7	**+0.2**	

GEN ***26*** *03:08:38.7, 46˚09N×7˚54E, h3km±2km, MI1.3*
ROM ***26*** *03:08:38.1±0.2, 46˚09N±0˚02×7˚54E±0˚02, h9km±1km, ML1.5/4, Error ellipse: s-maj=2.4km s-min=0.8km az=337.0*
STR ***26*** *03:08:38.2±0.8, 46˚N±5˚×±˚, h7km±4km, MLv1.4/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
LDG ***26*** *03:08:38.9±0.1, 46˚09N×7˚54E, h2km, Md2.2/2, MI1.8/12, Error ellipse: s-maj=1.1km s-min=0.8km az=100.0*

ZUR 26 03:08:39.0, 46˚10N×7˚54E, h2km±1km, MLh1.3/12, 24C-3D, Error ellipse: s-maj=3.0km s-min=0.7km az=200.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.09**	**259**	⇑Pg	Pg	03 08 41.2	**+0.3**
DIX				⇑Pg	Pg	03 08 41.2	+0.3
	1.5nm,SNR=17						
DIX				Sg	Sg	03 08 42.5	+0.4
DIX	**Grande Dixence**	**0.09**	**259**	⇑P	Pg	03 08 41.2	+0.3
DIX				S	Sg	03 08 42.5	+0.3
DIX				AML	AML		
	comp=N,1400μm,0.1s						
DIX				AML	AML		
	comp=E,673μm,0.2s						
VANNI	**Vissoie, Val d**	**0.12**	**20**	⇑Pg	Pg	03 08 41.6	**+0.2**
VANNI				⇑Pg	Pg	03 08 41.6	+0.2
	comp=E,0.4nm,SNR=3.8						
VANNI				Sg	Sg	03 08 43.4	+0.4
SIOO	**Sion-Ophtalmol**	**0.17**	**321**	⇑Pg	Pg	03 08 42.6	+0.3
	comp=E,0.8nm,SNR=6.9						
SIOO				⇑Pg	Pg	03 08 42.6	+0.3
SIOO				Sg	Sg	03 08 45.0	+0.4
SIOM	**Sion-Mayennets**	**0.18**	**317**	⇑Pg	Pg	03 08 42.6	+0.2
SIOM				⇑Pg	Pg	03 08 42.6	+0.2
	comp=E,0.6nm,SNR=3.5						
SIOV	**Sion-Valere**	**0.18**	**319**	⇑Pg	Pg	03 08 42.7	+0.1
SIOV				⇑Pg	Pg	03 08 42.7	+0.1
	comp=E,0.2nm,SNR=1.3						
SIOV				Sg	Sg	03 08 44.7	-0.2
ESION	**College des Cr**	**0.18**	**314**	Pg	Pg	03 08 42.8	+0.2
	comp=E,1.7nm,SNR=9.0						
ESION				Pg	Pg	03 08 42.8	+0.2
ESION				Sg	Sg	03 08 45.3	+0.3
SGRA	**Graechen Ausbl**	**0.23**	**65**	Pg	Pg	03 08 43.7	+0.3
	comp=E,0.4nm,SNR=1.5						
SGRA				Pg	Pg	03 08 43.7	+0.3
LKBD	**Leukerbad**	**0.29**	**12**	⇑Pg	Pg	03 08 44.8	+0.1
LKBD				⇑Pg	Pg	03 08 44.8	+0.1
	comp=E,0.1nm,SNR=1.3						
MMK	**Mattmark**	**0.30**	**99**	Pg	Pg	03 08 44.8	0.0
MMK				Pg	Pg	03 08 44.8	0.0
	comp=E,0.1nm,SNR=0.7						
MMK	**Mattmark**	**0.30**	**99**	⇓P	Pg	03 08 44.8	0.0
MMK				S	Sg	03 08 49.3	+0.5
MMK				AML	AML		
	comp=E,39μm,1.5s						
MMK				AML	AML		
	comp=N,46μm,1.5s						
MMK				AML	AML		
	comp=E,39μm,1.5s						
MMK				AML	AML		
	comp=N,46μm,1.6s						
SENIN	**Lac Senin/Sane**	**0.31**	**328**	⇑Pg	Pg	03 08 45.0	-0.1
	comp=N,0.1nm,SNR=0.9						
SENIN				⇑Pg	Pg	03 08 45.0	-0.1
SENIN				Sg	Sg	03 08 49.2	0.0
SENIN	**Lac Senin/Sane**	**0.31**	**328**	P	Pg	03 08 45.2	+0.2
SATI	**Passo dei Sala**	**0.32**	**134**	⇑Pg	Pg	03 08 45.4	+0.2
SATI				⇑Pg	Pg	03 08 45.4	+0.2
	comp=N,0.2nm,SNR=3.4						
SATI				Sg	Sg	03 08 49.6	+0.2
SATI	**Passo dei Sala**	**0.32**	**134**	P	Pg	03 08 45.4	+0.2
SATI				S	Sg	03 08 49.6	+0.2
SATI	**Passo dei Sala**	**0.32**	**134**	⇑P	Pg	03 08 45.4	+0.2
SATI				S	Sg	03 08 49.6	+0.2
SATI				AML	AML		
	comp=N,124μm,1.1s						
SATI				AML	AML		
	comp=E,130μm,0.7s						
SMAO	**Martigny, Rue**	**0.32**	**270**	Pg	Pg	03 08 45.4	+0.3
	comp=E,0.1nm,SNR=1.2						
SMAO				Pg	Pg	03 08 45.4	+0.3
LAUCH	**Lauchernalp**	**0.36**	**27**	⇑Pg	Pg	03 08 45.9	+0.1
	comp=E,0.1nm,SNR=0.6						
LAUCH				⇑Pg	Pg	03 08 45.9	+0.1
SIMPL	**Simplonpass**	**0.36**	**67**	⇓Pg	Pg	03 08 46.0	0.0
	comp=E,0.1nm,SNR=0.8						
SIMPL				⇓Pg	Pg	03 08 46.0	0.0
MRGE	**Morge**	**0.47**	**226**	⇑P	Pg	03 08 47.9	-0.1
MRGE				S	Sg	03 08 54.1	+0.1
MRGE				AML	AML		
	comp=N,101μm,0.6s						
MRGE				AML	AML		
	comp=N,101μm,0.6s						
MRGE				AML	AML		
	comp=E,58μm,1.0s						
CIRO	**Champorcher**	**0.50**	**178**	Pg	Pg	03 08 48.2	-0.3
	comp=E,0.1nm,SNR=1.0						
CIRO				Pg	Pg	03 08 48.2	-0.3
CIRO	**Champorcher**	**0.50**	**178**	P	Pg	03 08 48.2	-0.3
CIRO				S	Sg	03 08 55.1	+0.2
CIRO	**Champorcher**	**0.50**	**178**	⇑P	Pg	03 08 48.2	-0.3
CIRO				S	Sg	03 08 55.4	+0.5
TRAV	**Traversella**	**0.60**	**166**	P	Pg	03 08 50.1	-0.4
TRAV				S	Sg	03 08 58.2	-0.2
TRAV	**Traversella**	**0.60**	**166**	⇑P	Pg	03 08 50.1	-0.4
LSD	**Lago del Serru**	**0.70**	**204**	Pg	Pg	03 08 51.9	-0.5
LSD				Pg	Pg	03 08 51.9	-0.5
	comp=E,0.1nm,SNR=0.9						
LSD	**Lago del Serru**	**0.70**	**204**	P	Pg	03 08 51.9	-0.5
LSD				S	Sg	03 09 01.2	-0.3
LSD	**Lago del Serru**	**0.70**	**204**	⇑P	Pg	03 08 51.9	-0.5
LSD				S	Sg	03 09 01.5	0.0
RSL	**Roselend**	**0.76**	**238**	Pg	Pg	03 08 53.5	0.0
RSL				Sg	Sg	03 09 03.5	+0.1
LPL	**La Plagne**	**0.81**	**224**	*e*Pg	Pg	03 08 54.2	-0.3
LPL				*e*Sg	Sg	03 09 04.4	-0.6
	comp=E,4.0nm,0.4s						
LPG	**La Plagne**	**0.81**	**223**	*e*Pg	Pg	03 08 54.1	-0.5
LPG				*e*Sg	Sg	03 09 04.6	-0.6
	comp=E,4.2nm,0.2s						
RSP	**Reno Superiore**	**0.97**	**191**	P	Pg	03 08 56.9	-0.7
RSP	**Reno Superiore**	**0.97**	**191**	P	Pg	03 08 56.8	-0.7
RSP				S	Sg	03 09 09.4	-0.7
OGMO	**Fort Saint-Gob**	**1.07**	**214**	Pg	Pg	03 08 58.9	-0.6
CABF	**La Chapelle**	**1.13**	**298**	*e*Pg	Pg	03 09 00.5	-0.1
CABF				*e*Sg	Sg	03 09 15.0	-0.2
	comp=E,2.5nm,0.3s						
CHMF	**Charmoille**	**1.30**	**332**	Pn	Pn	03 09 04.4	+0.1
CHMF				Sn	Sn	03 09 22.1	-0.2
OG35	**Corcelles**	**1.37**	**268**	Pn	Pb	03 09 05.7	+0.4
OG35				Pg	Pg	03 09 06.7	+1.5
OG35				Sn	Sn	03 09 25.3	+1.4
OGSM	**Saint Maurice**	**1.38**	**250**	Pg	Pb	03 09 06.4	+0.9
OGSM				Sn	Sn	03 09 23.9	-0.2
MBDF	**Montbardon**	**1.47**	**202**	*e*Pg	Pn	03 09 06.3	-0.4
MBDF				*e*Sg	Sg	03 09 25.2	-1.1
	comp=E,2.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.66**	**225**	*e*Pn	Pn	03 09 07.2	-2.0
ORIF	**Oris-en-Rattie**	**1.66**	**225**	*e*Pg	Pb	03 09 09.9	-0.4
ORIF				*e*Sg	Sn	03 09 31.4	+0.3
	comp=E,2.2nm,0.3s						
HINF	**Hinteralfeld**	**1.78**	**345**	*e*Pn	Pn	03 09 08.9	-1.9
HINF	**Hinteralfeld**	**1.78**	**345**	*e*Pg	Pb	03 09 12.2	-0.2
HINF				*e*Sg	Sb	03 09 35.4	+0.2
	comp=E,2.3nm,0.2s						
KIZ	**Kirchzarten**	**1.88**	**8**	Pn	Pn	03 09 11.2	-0.9
KIZ				Pg	Pg	03 09 14.6	-0.4
KIZ				Sn	Sn	03 09 35.7	-0.7
KIZ				Sg	Sg	03 09 39.0	-0.3
HAU	**Haudompre**	**2.07**	**337**	*e*Pn	Pn	03 09 13.4	-1.4
HAU	**Haudompre**	**2.07**	**337**	*e*Pg	Pb	03 09 17.9	+0.5
HAU				*e*Sg	Sb	03 09 44.3	+0.7
	comp=E,1.5nm,0.2s						
CDF	**Champ du Feu**	**2.32**	**356**	*e*Pn	Pn	03 09 17.1	-1.2
CDF	**Champ du Feu**	**2.32**	**356**	*e*Pg	Pb	03 09 22.2	+0.6
CDF				*e*Sn	Sn	03 09 44.7	-2.8
	comp=E,0.8nm,0.3s						
VIVF	**Saint-Julien-l**	**2.37**	**239**	*e*Pn	Pn	03 09 16.9	-2.0
VIVF	**Saint-Julien-l**	**2.37**	**239**	*e*Pg	Pb	03 09 22.8	+0.4
VIVF				*e*Sg	Sb	03 09 53.3	+1.3
	comp=E,1.6nm,0.3s						
SMRF	**Simiane la Rot**	**2.54**	**214**	*e*Pn	Pn	03 09 19.3	-1.9
SMRF				*e*Sn	Sn	03 09 48.7	-4.0
FRF	**La Foret Royal**	**2.62**	**194**	*e*Pg	Pb	03 09 27.1	+0.5
SMF	**Signal de Mont**	**2.62**	**283**	*e*P	Pn	03 09 23.0	+0.7
SMF				*e*Sn	Sn	03 09 51.0	-3.6
	comp=E,0.8nm,0.2s						
SFTF	**Sexfontaines**	**2.71**	**322**	*e*Pn	Pn	03 09 22.5	-1.1
	baz=140						
SFTF	**Sexfontaines**	**2.71**	**322**	*e*Pg	Pg	03 09 29.8	-1.1
SFTF				*e*Sg	Sb	03 10 03.7	+1.8
	comp=E,0.8nm,0.2s						
LOR	**Lormes**	**2.79**	**296**	*e*Sg	Sb	03 10 06.1	+1.9
	comp=E,0.8nm,0.3s						
SSF	**Saint Saulge**	**2.94**	**291**	*e*P	Pn	03 09 28.1	+1.3
SSF				*e*Sn	Sn	03 09 58.6	-4.1
	comp=E,0.2nm,0.2s						
AVF	**Avril sur Loir**	**2.98**	**285**	*e*P	Pn	03 09 27.5	+0.3
MFF	**Saint Martin d**	**5.34**	**278**	*e*P	Pn	03 10 01.1	+1.4

IDC ***26*** *03:22:25.9±3.6, 5˚61S×151˚92E, h51km±21km, mb3.7/5, mb1 3.9/6, mb1mx3.6/43, mbtmp4.0/6, ML2.1/1, Error ellipse: s-maj=66.2km s-min=10.1km az=115.0*
NEIC ***26*** *03:22:27.3±1.3, 5˚4S±0˚2×151˚8E±0˚2, h59km±14km, mb4.1/6, Error ellipse: s-maj=33.6km s-min=11.2km az=126.0*

ISC 26 03:22:24.7±1.7, 5˚6S±0˚1×152˚1E±0˚3, h45km, n18, σ1§02/18, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.30**	**357**	P	**Pn**	**03 22 46.6**	**+0.1**
	629nm,0.3s,baz=182,slow=1.2,SNR=74						
KRVT				S	**Sn**	**03 23 04.0**	**+1.4**
	1μm,0.3s,baz=196,slow=23,SNR=10.0						
RABL	**Rabaul**	**1.42**	**3**	Pn	**Pn**	**03 22 48.2**	**+0.2**
PMG	**Port Moresby**	**6.17**	**232**	P	**Pn**	**03 23 53.8**	**+0.4**
	3.1nm,0.3s,baz=50,slow=11,SNR=5.3						
PMG				S	**Sn**	**03 25 01.8**	**-0.9**
	4.3nm,0.3s,baz=152,slow=23,SNR=2.0						
PMG	**Port Moresby**	**6.17**	**232**		**Pn**	**03 23 55.0**	**+1.7**
WRA	**Warramunga Arr**	**22.38**	**229**	P	**P**	**03 27 18.4**	**-0.9**
	2.0nm,0.7s,baz=53,slow=9.7,SNR=24						
KNRA	**Kununurra**	**24.98**	**245**	P	**P**	**03 27 44.7**	**+0.3**
AS31	**Alice Springs**	**25.07**	**222**	P	**P**	**03 27 46.6**	**+1.4**
ASAR	**Alice Springs**	**25.08**	**222**	P	**P**	**03 27 45.0**	**-0.2**
	4.8nm,0.8s,baz=54,slow=9.4,SNR=44						
ASAR	**Alice Springs**	**25.08**	**222**	P	**P**	**03 27 46.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**28.65**	**242**	P	**P**	**03 28 16.1**	**-1.3**
	1.5nm,0.3s,baz=51,slow=9.1,SNR=8.4						
FITZ	**Fitzroy Crossi**	**28.65**	**242**	IAmb	IAmb	03 28 29.5	
	comp=Z,17nm,1.6s						
SONM	**Songino Array**	**66.64**	**328**	P	**P**	**03 33 10.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=136,slow=4.9,SNR=4.6						
SONM	**Songino Array**	**66.64**	**328**	IAmb	IAmb	03 33 12.0	
	comp=Z,0.9nm,0.8s						
MK31	**Makanchi Array**	**80.47**	**319**	P	**P**	**03 34 30.8**	**-1.2**
MK31				IAmb	IAmb	03 35 22.8	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**03 34 32.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=101,slow=7.5,SNR=2.4						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**03 34 31.3**	**-0.7**
GERES	**GERESS Array B**	**124.37**	**328**	PKP	**PKiKP**	**03 41 19.9**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=41,slow=1.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**149.87**	**287**	PKPbc	**PKPbc**	**03 42 10.5**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=86,slow=1.9,SNR=27						

IDC ***26*** *03:23:04.8±9.9, 17˚47S×178˚97W, h542km±115km, mb2.8/7, mb1 3.1/7, mb1mx2.9/44, mbtmp3.7/7, Error ellipse: s-maj=55.5km s-min=38.8km az=151.0*

ISC 26 03:23:05.2±1.3, 17˚5S±0˚3×179˚0W±0˚2, h550km, n9, σ0§94/9, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.36**	**241**	P	**P**	**03 29 39.3**	**-0.4**
	0.7nm,0.4s,baz=84,slow=9.5,SNR=4.7						
WRA	**Warramunga Arr**	**44.19**	**259**	P	**P**	**03 30 27.6**	**+1.7**
	0.2nm,0.7s,baz=95,slow=7.0,SNR=1.1						
ASAR	**Alice Springs**	**44.39**	**254**	P	**P**	**03 30 26.8**	**-0.7**
	0.6nm,0.4s,baz=87,slow=8.0,SNR=9.4						
MJAR	**Matsushiro Arr**	**67.27**	**324**	P	**P**	**03 33 05.4**	**-0.1**
	1.3nm,0.8s,baz=263,slow=6.9,SNR=3.2						
ILAR	**Eielson Array**	**85.62**	**13**	P	**P**	**03 34 44.9**	**-0.4**
	0.4nm,0.5s,baz=236,slow=5.2,SNR=13						
TXAR	**Lajitas Array**	**86.23**	**58**	P	**P**	**03 34 50.1**	**+1.0**
	0.3nm,0.7s,baz=214,slow=5.9,SNR=5.1						
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**	**03 34 54.2**	**-0.4**
	0.4nm,0.6s,baz=256,slow=6.0,SNR=3.6						
BRTR	**Keskin Array B**	**144.12**	**315**	PKP	**PKPab**	**03 41 39.0**	**+0.1**
	0.5nm,0.5s,baz=57,slow=2.0,SNR=5.7						
GERES	**GERESS Array B**	**147.09**	**345**	PKPbc	**PKPbc**	**03 41 46.0**	**-0.7**
	0.4nm,0.5s,baz=2.9,slow=2.7,SNR=4.0						

IDC 26 03:24:09.0±1.5, 2˚31S×139˚07E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/35, mbtmp3.6/3, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/36, Error ellipse: s-maj=29.7km s-min=14.4km az=5.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.65**	**97**	Pg	Pb	03 24 40.1	-0.1
	10nm,0.3s,baz=304,slow=18,SNR=39						
JAY				Lg	Lg	03 25 00.0	
	35nm,0.3s,baz=106,slow=18,SNR=18						
WRA	**Warramunga Arr**	**18.13**	**194**	P	Pn	03 28 22.3	-0.1
	0.3nm,0.3s,baz=17,slow=13,SNR=6.3						
ASAR	**Alice Springs**	**21.81**	**193**	P	P	03 29 03.3	+0.3
	0.7nm,0.6s,baz=17,slow=11,SNR=5.6						
JHJ	**Hachijo jima 2**	**35.24**	**1**	LR	LR	03 42 00.5	
	comp=Z,54nm,19.2s,baz=54,slow=30						
MKAR	**Makanchi Array**	**69.69**	**322**	P	P	03 35 20.5	-0.3
	0.8nm,0.7s,baz=115,slow=7.4,SNR=5.8						

IDC 26 03:25:29.8±1.6, 2˚35S×139˚06E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/36, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=31.3km s-min=15.4km az=4.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.65**	**96**	Pg	Pb	03 26 00.5	-0.5
	8.6nm,0.3s,baz=343,slow=16,SNR=1.7						
JAY				Lg	Lg	03 26 21.2	
	21nm,0.3s,baz=95,slow=18,SNR=5.9						
WRA	**Warramunga Arr**	**18.08**	**194**	P	P	03 29 43.3	+0.3
	0.2nm,0.3s,baz=14,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**21.77**	**193**	P	P	03 30 23.1	-0.2
	0.4nm,0.6s,baz=26,slow=10,SNR=1.2						
MKAR	**Makanchi Array**	**69.72**	**322**	P	P	03 36 41.5	-0.2
	0.6nm,0.6s,baz=111,slow=7.1,SNR=4.9						

IDC 26 03:35:24.5±4.5, 5˚73S×107˚60E, h136km±40km, mb3.2/4, mb1 3.3/4, mb1mx2.9/49, mbtmp3.6/4, Error ellipse: s-maj=131.5km s-min=65.1km az=62.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.08**	**179**	P	Pn	03 35 49.0	0.0
	30nm,0.3s,baz=328,slow=7.7,SNR=18						
LEM				S	Sn	03 36 07.8	+0.2
	39nm,0.3s,baz=145,slow=23,SNR=16						
FITZ	**Fitzroy Crossi**	**21.48**	**126**	P	P	03 40 02.5	0.0
	1.2nm,0.9s,baz=302,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**29.58**	**121**	P	P	03 41 17.8	+0.9
	0.1nm,0.3s,baz=302,slow=9.2,SNR=2.0						
ASAR	**Alice Springs**	**30.96**	**128**	P	P	03 41 28.8	-0.3
	0.3nm,0.4s,baz=302,slow=8.7,SNR=9.7						
STKA	**Stephens Creek**	**41.06**	**134**	P	P	03 42 54.4	-0.4
	2.1nm,0.5s,baz=305,slow=7.4,SNR=7.7						

IDC ***26*** *03:44:16.6±1.8, 51˚77N×151˚47E, h506km±23km, mb2.7/5, mb1 2.9/7, mb1mx2.6/62, mbtmp3.6/7, Error ellipse: s-maj=31.6km s-min=17.7km az=121.0*

ISC 26 03:44:16.0±1.1, 51˚7N±0˚2×151˚4E±0˚2, h500km, n7, σ0§80/7, mb3.2/5, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.10**	**68**	P	**P**	**03 45 35.4**	**+0.4**
	0.4nm,0.3s,baz=290,slow=15,SNR=11						
SEY	**Seymchan**	**11.27**	**2**	P	**P**	**03 46 46.9**	**+0.5**
	0.2nm,0.3s,baz=75,slow=22,SNR=4.9						
ILAR	**Eielson Array**	**33.52**	**43**	P	**P**	**03 50 12.2**	**-0.8**
	0.5nm,0.7s,baz=280,slow=9.7,SNR=8.0						
INK	**Inuvik**	**38.15**	**36**	P	**P**	**03 50 50.9**	**-0.4**
	1.2nm,0.3s,baz=292,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**43.85**	**292**	P	**P**	**03 51 36.8**	**-0.2**
	0.2nm,0.5s,baz=48,slow=7.0,SNR=2.9						
WRA	**Warramunga Arr**	**72.89**	**197**	P	**P**	**03 54 53.0**	**-0.7**
	0.2nm,0.6s,baz=17,slow=5.8,SNR=1.5						
ASAR	**Alice Springs**	**76.61**	**196**	P	**P**	**03 55 15.5**	**+1.0**
	0.6nm,0.6s,baz=9.1,slow=4.9,SNR=13						

LDG ***26*** *03:53:08.9±0.2, 51˚66N×16˚30E, h1km, MI4.2/12, Error ellipse: s-maj=7.6km s-min=4.6km az=172.0, Suspected Mining induced.*
IPEC ***26*** *03:53:09.7±0.3, 51˚58N×16˚23E, h0km, ML3.6/3, Error ellipse: s-maj=3.3km s-min=1.8km az=59.0*
NEIC ***26*** *03:53:10.2±1.9, 51˚55N±0˚04×16˚07E±0˚07, h2km±5km, mb4.1/3, Error ellipse: s-maj=7.3km s-min=3.7km az=122.0*
MOS ***26*** *03:53:10.1±2.0, 51˚50N×16˚00E, h2km, mb4.3/11, Error ellipse: s-maj=5.3km s-min=3.4km az=88.8*
IDC ***26*** *03:53:11.3±0.6, 51˚49N×16˚04E, h0km, mb3.8/6, mb1 3.9/14, mb1mx3.6/47, mbtmp3.8/14, ML3.2/8, Error ellipse: s-maj=10.9km s-min=6.0km az=120.0*
DNK ***26*** *03:53:11.1±3.1, 51˚58N×15˚54E, h0km±168km, ML2.5*
PRU ***26*** *03:53:11.5±0.0, 51˚49N×16˚05E, h0km, M4.1*
BGR ***26*** *03:53:12.1±0.4, 51˚48N×16˚11E, h1km, ML3.7/5, Error ellipse: s-maj=4.4km s-min=3.3km az=26.0*
VIE ***26*** *03:53:13.1±0.8, 51˚36N×16˚07E, h0km, mb3.0/18, ml3.4/16, ms3.8/4, Error ellipse: s-maj=7.8km s-min=4.5km az=37.0 72 km WNW of Wroclaw Suspected Mining induced.*
UPP ***26*** *03:53:15.4±3.0, 51˚81N×15˚59E, h0km, ML2.1, Suspected explosion*

ISC 26 03:53:10.3±0.5, 51˚56N±0˚02×16˚12E±0˚02, h0km, n206, σ1§20/287, mb3.9/12, 10C-9D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**171**	*i* Pg	**Pg**	**03 53 24.2**	**0.0**
KSP				*e*Sg	**Sg**	**03 53 33.1**	**-0.5**
CHVC	**Chvalec**	**0.97**	**183**	*e*PG	**Pg**	**03 53 28.4**	**-0.6**
CHVC				*e*SG	**Sg**	**03 53 40.7**	**-0.9**
	comp=Z,476nm,0.6s						
OSTC	**Ostas**	**1.01**	**177**	*e*PG	**Pg**	**03 53 29.1**	**-0.5**
OSTC				*e*SG	**Sg**	**03 53 41.6**	**-1.0**
	comp=Z,360nm,0.7s						
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pg**

CLL				*i* Pg	Pg	03 53 47.5	-0.6
CLL				*i*		03 53 51.4	
CLL				*e*Sg	Sg	03 54 13.0	-0.6
	comp=Z,184nm,0.9s						
CLL				*i*		03 54 22.3	
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**03 53 44.2**	**-0.8**
	SNR=62						
CLL				*e*Sg	**Sg**	**03 54 13.4**	**-0.2**
	SNR=3.0						
CLL	**Collm**	**1.97**	**264**	*e*P	**Pn**	**03 53 44.0**	**-0.9**
CLL				*e*		03 54 13.0	
CLL	**Collm**	**1.97**	**264**	Pn	**Pn**	**03 53 43.3**	**-1.6**
RAC	**Raciborz**	**1.98**	**138**	*e*P	**Pb**	**03 53 48.1**	**+0.9**
RAC				*e*		03 54 15.0	
MORC	**Moravsky Berou**	**2.00**	**153**	⇓P	**Pn**	**03 53 44.9**	**-0.5**
MORC	**Moravsky Berou**	**2.00**	**153**	⇑S	**Sn**	**03 54 12.6**	**+1.5**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*PN	**Pn**	**03 53 44.7**	**-0.7**
MORC				*e*SG	**Sn**	**03 54 11.9**	**+0.7**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**03 53 44.9**	**-0.5**
	SNR=88						
MORC				*e*Sg	**Sn**	**03 54 12.7**	**+1.5**
	SNR=4.7						
MORC	**Moravsky Berou**	**2.00**	**153**	⇓P	**Pn**	**03 53 44.9**	**-0.5**
MORC	**Moravsky Berou**	**2.00**	**153**	Pn	**Pn**	**03 53 44.5**	**-0.8**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**03 53 44.6**	**-0.8**
	baz=336						
MORC				*e*Sg	**Sn**	**03 54 11.9**	**+0.7**
	comp=Z,302nm,1.1s,baz=336						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**03 53 49.3**	**-0.8**
OKC				*e*SG	**Sb**	**03 54 17.2**	**-0.1**
	comp=Z,366nm,0.7s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*P	**Pb**	**03 53 49.3**	**-0.8**
OKC				*e*		03 54 17.2	
OKC				smax	smax		
	comp=N,366nm,0.7s						
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**03 53 49.3**	**+0.2**
	comp=N,3.0nm,0.3s,baz=343,slow=14,SNR=24						
VRAC				Sn	**Sn**	**03 54 17.6**	**-0.2**
	comp=N,6.3nm,0.3s,baz=256,slow=21,SNR=7.9						
VRAC	**Vranov**	**2.27**	**172**	⇑P	**Pn**	**03 53 49.1**	**0.0**
VRAC	**Vranov**	**2.27**	**172**	⇑S	**Sb**	**03 54 20.3**	**-0.6**
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**03 53 48.7**	**-0.4**
VRAC				*e*SG	**Sb**	**03 54 21.1**	**+0.2**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**03 53 48.6**	**-0.5**
	baz=354						
VRAC				*e*Sg	**Sb**	**03 54 21.1**	**+0.2**
	comp=N,275nm,1.1s,baz=354						
TREC	**Trest**	**2.30**	**190**	*e*PG	**Pb**	**03 53 51.9**	**-0.8**
TREC				*e*SG	**Sb**	**03 54 22.6**	**+0.9**
	comp=N,184nm,0.6s						
TREC	**Trest**	**2.30**	**190**	*e*P	**Pb**	**03 53 51.9**	**-0.8**
TREC				*e*		03 54 22.6	
TREC				smax	smax		
	comp=N,184nm,0.6s						
PBCC	**Pribram**	**2.31**	**217**	*e*PN	**Pn**	**03 53 48.7**	**-1.0**
PBCC				*e*SG	**Sb**	**03 54 22.2**	**+0.2**
KRUC	**Moravsky**	**2.51**	**176**	*e*PN	**Pn**	**03 53 51.9**	**-0.4**
KRUC				*e*SG	**Sb**	**03 54 28.7**	**+1.1**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**03 53 51.8**	**-0.5**
	baz=358						
KRUC				*e*Sg	**Sb**	**03 54 28.7**	**+1.1**
	comp=N,241nm,1.1s,baz=358						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**03 53 53.7**	**+0.3**
	SNR=78						
TANN				*e*Sg	**Sg**	**03 54 31.9**	**-1.3**
	SNR=4.6						
GUNZ	**Gunzen**	**2.68**	**245**	*e*Pn	**Pn**	**03 53 54.7**	**0.0**
	SNR=32						
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**03 53 54.6**	**-0.1**
NKC				*e*PG	**Pb**	**03 53 59.2**	**0.0**
NKC				*e*SG	**Sg**	**03 54 35.7**	**-0.6**
	comp=N,241nm,0.6s						
NKC	**Novy Kostel**	**2.68**	**242**	*e*P	**Pn**	**03 53 54.6**	**-0.1**
NKC				*e*		03 54 35.7	
NKC				smax	smax		
	comp=N,241nm,0.6s						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**03 53 53.4**	**-1.4**
OJC				*e*Pg	**Pg**	**03 54 01.8**	**0.0**
OJC				*e*Sg	**Sg**	**03 54 37.5**	**+0.9**
WERN	**Wernitzgruen**	**2.69**	**243**	*e*Pn	**Pn**	**03 53 55.4**	**+0.5**
	SNR=49						
WERN				*e*Pg	**Pg**	**03 54 02.2**	**+0.3**
	SNR=10						
NEUB	**Neuenburg**	**2.75**	**264**	*e*Pg	**Pg**	**03 54 03.3**	**+0.3**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*PN	**Pn**	**03 53 57.7**	**+0.2**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**03 53 57.8**	**-0.3**
KHC				*e*PG	**Pb**	**03 54 02.9**	**-0.5**
KHC				*e*SN	**Sn**	**03 54 32.0**	**-2.0**
KHC				*e*SG	**Sb**	**03 54 41.5**	**+1.8**
	comp=N,100nm,0.6s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*P	**Pn**	**03 53 57.8**	**-0.3**
KHC				*e*		03 54 32.0	
KHC				smax	smax		
	comp=N,100nm,0.6s						
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**03 53 58.7**	**-0.2**
	SNR=13						
MOX				*e*Pg	**Pg**	**03 54 06.9**	**-0.6**
	SNR=6.9						
MOX				*e*Sg	**Sg**	**03 54 46.9**	**+0.7**
	SNR=8.2						
MANZ	**Manzenberg**	**3.00**	**240**	*e*Pn	**Pn**	**03 53 59.4**	**+0.3**
	SNR=17						
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**03 53 59.8**	**-0.3**
	SNR=28						
ROTZ				*e*Pg	**Pg**	**03 54 09.0**	**-0.1**
	SNR=28						
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**03 54 00.8**	**-0.2**
	SNR=49						
GEC2	**GERESS Array S**	**3.13**	**211**	Pn	**Pn**	**03 54 00.3**	**-0.7**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**03 54 00.6**	**-0.4**
	comp=N,3.0nm,0.3s,baz=32,slow=12,SNR=106						
GERES				Pg	**Pb**	**03 54 07.4**	**+0.5**
	comp=N,4.3nm,0.3s,baz=37,slow=16,SNR=45						
GERES				Sn	**Sn**	**03 54 37.7**	**-1.4**
	comp=N,3.5nm,0.3s,baz=28,slow=26,SNR=8.7						
GERES				Lg	Lg	03 54 46.8	
	comp=N,7.7nm,0.3s,baz=32,slow=27,SNR=12						
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**03 53 59.8**	**-1.2**
SMOL	**Smolenice**	**3.16**	**164**	*e*P	**Pn**	**03 54 02.4**	**+1.0**
SMOL				pmax	pmax		
	comp=N,55nm,0.9s						
SMOL	**Smolenice**	**3.16**	**164**	*e*PN	**Pn**	**03 54 02.4**	**+1.0**
SMOL				*e*PG	**Pg**	**03 54 10.3**	**-0.6**
SMOL				*e*SG	**Sg**	**03 54 52.5**	**+0.6**
SMOL				*e*LG	Lg	03 54 58.5	
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**03 54 01.5**	**-0.3**
	SNR=39						
WET				*e*Sg	**Sg**	**03 54 50.8**	**-1.9**
	SNR=1.8						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*P	**Pn**	**03 54 02.9**	**+0.6**
LANS				pmax	pmax		
	comp=N,70nm,0.9s						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PN	**Pn**	**03 54 02.9**	**+0.6**
LANS				*e*PG	**Pg**	**03 54 14.3**	**+2.2**
LANS				*e*SG	**Sg**	**03 54 53.4**	**-0.5**
LANS				*e*LG	Lg	03 55 12.1	
MODS	**Modra-Piesok**	**3.27**	**166**	*e*P	**Pn**	**03 54 02.8**	**-0.1**
MODS				pmax	pmax		
	comp=N,175nm,0.8s						
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PN	**Pn**	**03 54 02.8**	**-0.1**
MODS				*e*PG	**Pb**	**03 54 11.5**	**+2.2**
MODS				*e*SG	**Sb**	**03 54 53.1**	**+3.4**
MODS				*e*LG	Lg	03 54 59.6	
NIE	**Niedzica**	**3.42**	**127**	*e*Pn	**Pn**	**03 54 05.6**	**+0.6**
NIE				*e*Pg	**Pg**	**03 54 15.5**	**-0.4**
NIE				*e*Sg	**Sg**	**03 55 01.4**	**+1.2**
ASSE	**Asse, Remlinge**	**3.43**	**282**	*e*Pn	**Pn**	**03 54 06.0**	**+1.1**
	SNR=2.0						
VYHS	**Vyhne**	**3.53**	**149**	*e*P	**Pn**	**03 54 05.9**	**-0.5**
VYHS	**Vyhne**	**3.53**	**149**	*e*PN	**Pn**	**03 54 05.9**	**-0.5**
VYHS				*e*PG	**Pg**	**03 54 18.1**	**+0.1**
VYHS				*e*SG	**Sg**	**03 55 03.4**	**-0.3**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**03 54 08.4**	**+1.1**
	SNR=7.3						
CLZ				*e*Sg	**Sg**	**03 55 06.7**	**+1.1**
	SNR=2.1						
BSD	**Bornholm Skovb**	**3.63**	**349**	*e*	**Pn**	**03 54 07.3**	**-0.5**
	baz=191,slow=16						
BSD				*i* P	Pb	03 54 08.2	-7.2
BSD				*e*S	**Sn**	**03 54 48.2**	**-3.1**
BSD				IAML		03 55 15.9	
	comp=Z,5.1nm,0.5s						
GRA1	**Grafenberg Arr**	**3.64**	**241**		**Pn**	**03 54 06.2**	**-1.7**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**03 54 08.2**	**+0.3**
	SNR=11						
GRF	**Grafenberg Arr**	**3.64**	**241**	P	**Pn**	**03 54 06.2**	**-1.7**
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn	**Pn**	**03 54 07.7**	**-0.3**
	comp=Z,4.2nm,0.4s,SNR=22						
CONA				Pg	**Pg**	**03 54 18.3**	**-1.8**
	comp=Z,16nm,0.5s						
CONA				Sg	**Sg**	**03 55 05.8**	**-1.4**
	comp=Z,124nm,0.6s						
NRDL	**Niedersach Rie**	**3.83**	**287**	*e*Pn	**Pn**	**03 54 12.1**	**+1.6**
	SNR=4.3						
GTTG	**Gottingen**	**3.84**	**272**	*e*Pg	**Pg**	**03 54 24.0**	**0.0**
MOA	**Molln**	**3.90**	**199**	*i* Pn	**Pn**	**03 54 11.2**	**-0.4**
	comp=Z,16nm,0.6s,SNR=12						
MOA				Pg	**Pg**	**03 54 25.2**	**+0.1**
	comp=Z,29nm,0.6s						
MOA				*e*Sn	**Sn**	**03 54 57.8**	**-0.3**
	comp=Z,38nm,0.7s						
MOA				Sg	**Sg**	**03 55 13.9**	**-1.8**
	comp=Z,56nm,0.5s						
SRO	**Srobarova**	**4.01**	**158**	*e*P	**Pg**	**03 54 27.0**	**-0.1**
SRO				pmax	pmax		
	comp=N,41nm,0.8s						
SRO	**Srobarova**	**4.01**	**158**	*e*PG	**Pg**	**03 54 27.0**	**-0.1**
SRO				*e*LG	Lg	03 55 34.0	
KECS	**Kecovo**	**4.17**	**136**	*e*P	**Pg**	**03 54 31.6**	**+1.4**
KECS				pmax	pmax		
	comp=N,18nm,0.8s						
KECS	**Kecovo**	**4.17**	**136**	*e*PG	**Pg**	**03 54 31.6**	**+1.4**
KECS				*e*SG	**Sg**	**03 55 25.3**	**+1.1**
KECS				*e*LG	Lg	03 55 34.6	
BSEG	**Bad Segeberg**	**4.25**	**306**	*e*Pn	**Pn**	**03 54 16.1**	**-0.2**
	SNR=6.8						
ARSA	**Arzberg**	**4.33**	**185**	*e*Pn	**Pn**	**03 54 17.3**	**-0.1**
	comp=N,2.5nm,0.4s,SNR=6.2						
ARSA				Sg	**Sg**	**03 55 28.3**	**-1.1**
	comp=N,129nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*P	**Pn**	**03 54 16.1**	**-1.4**
CRVS				pmax	pmax		
	comp=N,171nm,1.2s						
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PN	**Pn**	**03 54 16.1**	**-1.4**
CRVS				*e*PG	**Pg**	**03 54 34.1**	**+0.7**
CRVS				*e*LG	Lg	03 56 03.0	
LUNU	**Lund**	**4.38**	**340**	P	**Pn**	**03 54 17.9**	**-0.2**
LUNU				S	**Sn**	**03 55 05.5**	**-4.3**
PSZ	**Piszkesteto**	**4.39**	**145**	⇑P	**Pn**	**03 54 19.1**	**+0.9**
PSZ	**Piszkesteto**	**4.39**	**145**	⇑S	**Sn**	**03 55 11.4**	**+1.3**
PSZ	**Piszkesteto**	**4.39**	**145**	⇑P	**Pn**	**03 54 19.1**	**+0.9**
PSZ	**Piszkesteto**	**4.39**	**145**	Pn	**Pn**	**03 54 18.2**	**-0.1**
RJOB	**Jochberg**	**4.39**	**211**	*e*Pn	**Pn**	**03 54 18.3**	**-0.1**
	SNR=7.1						
FUR	**Furstenfeldbru**	**4.62**	**225**	*e*Pn	**Pn**	**03 54 21.5**	**+0.1**
	SNR=7.5						
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*P	**Pn**	**03 54 22.1**	**-0.9**
KOLS				pmax	pmax		
	comp=N,73nm,1.1s						
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**03 54 22.1**	**-0.9**
KOLS				*e*LG	Lg	03 56 03.0	
BLEU	**Blekinge**	**4.76**	**358**	P	**Pn**	**03 54 23.7**	**+0.4**
BLEU				S	**Sn**	**03 55 16.3**	**-2.8**
KBA	**Koelnbreinsper**	**4.84**	**203**	*e*Pn	**Pn**	**03 54 24.5**	**0.0**
	comp=N,9.8nm,0.6s,SNR=4.3						
KBA				Sg	**Sg**	**03 55 44.8**	**-0.9**
	comp=N,54nm,0.7s						
UZH	**Uzhgorod**	**4.94**	**124**	*e*P	**Pn**	**03 54 30.0**	**+4.3**
UZH				*e*S	**Sn**	**03 55 28.5**	**+5.1**
UZH				MLR	MLR		
	comp=Z,50nm,1.2s						
TNS	**Taunus Mts**	**5.04**	**258**	*e*Pn	**Pn**	**03 54 27.2**	**0.0**
	SNR=9.6						
DEL	**Delary**	**5.10**	**346**	P	**Pn**	**03 54 27.7**	**-0.2**
OBKA	**Obir**	**5.16**	**192**	*e*Pn	**Pn**	**03 54 28.9**	**0.0**
	comp=Z,2.1nm,0.6s						
OBKA				Sg	**Sg**	**03 55 54.8**	**-1.2**
	comp=Z,38nm,0.8s						
WATA	**Walderalm**	**5.16**	**217**	*e*Pn	**Pn**	**03 54 29.0**	**+0.1**
	comp=Z,13nm,0.5s,SNR=15						
MYKA	**Terra Mystica**	**5.20**	**199**	*e*Pn	**Pn**	**03 54 30.1**	**+0.8**
	comp=Z,1.1nm,0.3s						
MYKA				Sg	**Sg**	**03 55 55.9**	**-1.3**
	comp=Z,41nm,0.9s						
WTTA	**Wattenberg**	**5.20**	**216**	*e*Pn	**Pn**	**03 54 29.2**	**-0.3**
	comp=Z,8.9nm,0.7s,SNR=12						
WTTA				*e*Sn	**Sn**	**03 55 31.4**	**+1.1**
	comp=Z,14nm,0.6s						
WTTA				Sg	**Sg**	**03 55 57.3**	**0.0**
	comp=Z,48nm,0.7s						
STU	**Stuttgart**	**5.25**	**241**	P	**Pn**	**03 54 28.2**	**-1.9**
STU	**Stuttgart**	**5.25**	**241**	Pn	**Pn**	**03 54 28.2**	**-1.9**
LVV	**L'vov**	**5.32**	**106**	*e*P	**Pn**	**03 54 31.8**	**+0.8**
LVV				*e*S	**Sn**	**03 55 32.7**	**-0.2**
LVV				MLR	MLR		
	comp=Z,750nm,5.8s						
MOTA	**Moosalm**	**5.34**	**220**	*e*Pn	**Pn**	**03 54 30.7**	**-0.7**
	comp=Z,1.4nm,0.2s,SNR=12						
MOTA				*e*Sn	**Sn**	**03 55 32.1**	**-1.5**
	comp=Z,12nm,0.7s						
RETA	**Reutte**	**5.37**	**223**	*e*Pn	**Pn**	**03 54 30.6**	**-1.1**
	comp=Z,1.8nm,0.2s,SNR=13						
RETA				Sn	**Sn**	**03 55 32.3**	**-1.9**
	comp=Z,11nm,0.7s						
ABTA	**Abfaltersbach**	**5.37**	**208**	*e*Pn	**Pn**	**03 54 31.7**	**0.0**
	comp=Z,6.4nm,0.6s,SNR=13						
PRED	**Cave del Predi**	**5.39**	**199**	Pn	**Pn**	**03 54 31.6**	**-0.4**
SQTA	**Sankt Quirin**	**5.40**	**218**	*i* Pn	**Pn**	**03 54 32.6**	**+0.4**
	comp=Z,2.0nm,0.2s,SNR=12						
SQTA				*e*Sn	**Sn**	**03 55 35.4**	**+0.3**
	comp=Z,10nm,0.6s						
ZOU	**Zoufplan**	**5.42**	**204**		**Pn**	**03 54 32.7**	**+0.2**
VXJU	**Vaexsjoe**	**5.42**	**353**	P	**Pn**	**03 54 33.0**	**+0.7**
VXJU	**Vaexsjoe**	**5.42**	**353**	P	**Pn**	**03 54 33.0**	**+0.7**
OSKU	**Oskarshamn**	**5.65**	**360**	P	**Pn**	**03 54 35.9**	**+0.4**
OSKU	**Oskarshamn**	**5.65**	**360**	P	**Pn**	**03 54 35.9**	**+0.4**
FETA	**Feichten**	**5.75**	**220**	*e*Pn	**Pn**	**03 54 37.3**	**+0.2**
	comp=Z,4.1nm,0.7s,SNR=5.1						
STAL	**STALIGIAL**	**5.76**	**204**		**Pn**	**03 54 37.4**	**+0.3**
BYXU	**Byxelkrok**	**5.77**	**5**	P	**Pn**	**03 54 37.7**	**+0.7**
BYXU	**Byxelkrok**	**5.77**	**5**	P	**Pn**	**03 54 37.7**	**+0.7**
CIMO	**Cimolais**	**5.79**	**206**		**Pn**	**03 54 37.5**	**+0.1**
CIMO					LR	03 56 13.4	
DAVA	**Damuels**	**5.90**	**226**	*e*Pn	**Pn**	**03 54 38.5**	**-0.6**
	comp=Z,4.9nm,0.5s						
DAVA				Sg	**Sg**	**03 56 19.3**	**-0.6**
	comp=Z,27nm,0.7s						
BFO	**Black Forest**	**5.98**	**240**	P	**Pn**	**03 54 38.4**	**-1.7**
BFO	**Black Forest**	**5.98**	**240**	Pn	**Pn**	**03 54 38.4**	**-1.7**
EKSU	**Eksjoe**	**6.05**	**356**	P	**Pn**	**03 54 41.3**	**+0.4**
EKSU	**Eksjoe**	**6.05**	**356**	P	**Pn**	**03 54 41.3**	**+0.4**
VSTU	**Vaestervik**	**6.12**	**2**	P	**Pn**	**03 54 42.9**	**+1.1**
VSTU	**Vaestervik**	**6.12**	**2**	P	**Pn**	**03 54 42.9**	**+1.1**
CTI	**Castel Tesino**	**6.26**	**210**	P	**Pn**	**03 54 43.6**	**-0.3**
CTI	**Castel Tesino**	**6.26**	**210**	Pn	**Pn**	**03 54 43.6**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**6.26**	**220**		**Pn**	**03 54 43.0**	**-1.2**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**03 54 44.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=25,slow=11,SNR=17						
DAVOX				Sn	**Sn**	**03 55 54.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=342,slow=16,SNR=1.8						
DAVOX				Lg	Lg	03 56 28.1	
	comp=Z,0.7nm,0.3s,baz=214,slow=20,SNR=4.0						
SIRR	**Siria**	**6.43**	**143**	⇑P	**Pn**	**03 54 46.8**	**+0.6**
CDF	**Champ du Feu**	**6.52**	**245**	*e*Pn	**Pn**	**03 54 47.6**	**+0.1**
CDF	**Champ du Feu**	**6.52**	**245**	*e*Pg	**Pg**	**03 55 15.9**	**+0.8**
CDF				*e*Sg	**Sg**	**03 56 39.6**	**+0.1**
	comp=Z,120nm,1.0s						
WLF	**Walferdange**	**6.62**	**257**	P	**Pn**	**03 54 45.8**	**-3.1**
WLF	**Walferdange**	**6.62**	**257**	Pn	**Pn**	**03 54 45.8**	**-3.1**
ECH	**Echery**	**6.69**	**243**	P	**Pn**	**03 54 48.2**	**-1.6**
ECH	**Echery**	**6.69**	**243**	Pn	**Pn**	**03 54 48.2**	**-1.6**
TUE	**Stuetta**	**6.76**	**224**	Pn	**Pn**	**03 54 50.0**	**-1.0**
TEOL	**Teolo**	**6.87**	**207**	Pn	**Pn**	**03 54 52.2**	**-0.1**
CJR	**Cluj-Napoca**	**6.89**	**132**	⇓P	**Pn**	**03 54 52.4**	**-0.2**
CJR	**Cluj-Napoca**	**6.89**	**132**	⇓P	**Pn**	**03 54 52.4**	**-0.2**
BZS	**Buzias**	**6.97**	**146**	⇑P	**Pn**	**03 54 53.4**	**-0.3**
BZS	**Buzias**	**6.97**	**146**	⇓P	**Pn**	**03 54 55.3**	**+1.6**
ARCR	**ARCALIA**	**7.00**	**127**	⇑P	**Pn**	**03 54 53.7**	**-0.3**
BUR08	**Bucovina Ar. S**	**7.08**	**120**	Pn	**Pn**	**03 54 54.8**	**-0.4**
HINF	**Hinteralfeld**	**7.08**	**242**	*e*Pn	**Pn**	**03 54 55.3**	**+0.1**
HINF				*e*Sg	**Sg**	**03 56 55.5**	**-2.2**
	comp=Z,37nm,0.8s						
BURAR	**Bucovina Array**	**7.11**	**120**	⇓P	**Pn**	**03 54 55.4**	**-0.2**
BURAR	**Bucovina Array**	**7.11**	**120**	⇑P	**Pn**	**03 54 56.4**	**+0.8**
BURAR	**Bucovina Array**	**7.11**	**120**		**Pn**	**03 54 55.5**	**-0.2**
HAU	**Haudompre**	**7.26**	**244**	*e*Pn	**Pn**	**03 54 57.0**	**-0.6**
HAU				*e*Sg	**Sg**	**03 57 02.5**	**-0.8**
	comp=Z,112nm,1.3s						
GIVF	**Givet**	**7.30**	**263**	*e*Sg	**Sg**	**03 57 04.8**	**0.0**
	comp=Z,149nm,1.2s						
PAGF	**Fort de Pagny**	**7.34**	**250**	*e*Pn	**Pn**	**03 54 58.4**	**-0.3**
PAGF	**Fort de Pagny**	**7.34**	**250**	*e*Pg	**Pg**	**03 55 30.9**	**+0.1**
PAGF				*e*Sg	**Sg**	**03 57 04.7**	**-1.1**
	comp=Z,175nm,1.1s						
MEZF	**Maizieres J'vi**	**7.76**	**251**	*e*Pn	**Pn**	**03 55 03.0**	**-1.4**
MEZF				*e*Sg	**Sg**	**03 57 18.7**	**-0.6**
SENIN	**Lac Senin/Sane**	**7.79**	**232**	Pn	**Pn**	**03 55 05.6**	**+0.5**
SFTF	**Sexfontaines**	**7.91**	**249**	*e*Pn	**Pn**	**03 55 06.3**	**-0.2**
SFTF				*e*Sg	**Sg**	**03 57 23.6**	**-0.5**
CABF	**La Chapelle**	**8.24**	**237**	*e*Pg	**Pg**	**03 55 47.7**	**-0.4**
CABF				*e*Sg	**Sg**	**03 57 35.2**	**+0.5**
	comp=Z,170nm,1.3s						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**03 55 10.8**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=280,slow=12,SNR=21						
AKASG				Sn	**Sn**	**03 56 38.6**	**-7.3**
	comp=Z,0.6nm,0.3s,baz=277,slow=22,SNR=2.4						
AKASG				Lg	Lg	03 57 38.0	
	comp=Z,0.7nm,0.3s,baz=276,slow=27,SNR=4.8						
AKASG	**Malin Array Be**	**8.29**	**91**	*i* P	**Pn**	**03 55 12.8**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AKBB	**Malin Array Si**	**8.29**	**91**	*i* P	**Pn**	**03 55 12.6**	**+0.9**
AKBB	**Malin Array Si**	**8.29**	**91**	Pn	**Pn**	**03 55 11.0**	**-0.7**
LPL	**La Plagne**	**8.68**	**229**	*e*Pn	**Pn**	**03 55 17.3**	**0.0**
LPL				*e*Sg	**Sg**	**03 57 47.7**	**-1.1**
	comp=Z,49nm,1.4s						
LPG	**La Plagne**	**8.68**	**229**	*e*Pn	**Pn**	**03 55 17.4**	**0.0**
LPG				*e*Sg	**Sg**	**03 57 46.6**	**-2.4**
	comp=Z,47nm,1.2s						
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**03 55 17.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=189,slow=17,SNR=1.3						
LOR	**Lormes**	**9.07**	**247**	*e*Pn	**Pn**	**03 55 20.3**	**-2.2**
	baz=65						
LOR				*e*Sg	Sn	03 58 00.6	+55
VSU	**Vasula**	**9.21**	**37**	*i* P	**Pn**	**03 55 23.2**	**-1.1**
MBDF	**Montbardon**	**9.26**	**226**	*e*Pn	**Pn**	**03 55 25.2**	**+0.1**
MBDF	**Montbardon**	**9.26**	**226**	*e*P	Pn	03 55 30.8	+5.7
MBDF				*e*Sg	Sn	03 58 05.0	+55
	comp=Z,34nm,1.2s						
SSF	**Saint Saulge**	**9.39**	**246**	*e*Pn	**Pn**	**03 55 26.0**	**-0.8**
SSF				*e*Sg	Sn	03 58 08.9	+56
	comp=Z,14nm,0.9s						
SMF	**Signal de Mont**	**9.43**	**243**	*e*Sg	Sn	03 58 10.5	+56
ORIF	**Oris-en-Rattie**	**9.53**	**230**	*e*P	Pn	03 55 34.3	+5.5
ORIF				*e*Sg	Sn	03 58 14.4	+58
	comp=Z,76nm,1.5s						
AVF	**Avril sur Loir**	**9.62**	**245**	*e*Pn	**Pn**	**03 55 28.3**	**-1.7**
AVF				*e*Sg	Sn	03 58 15.7	+57
SBF	**Sospel**	**9.67**	**221**	*e*Pn	**Pn**	**03 55 30.2**	**-0.5**
HYF	**Humbligny**	**9.78**	**249**	*e*Sg	Sn	03 58 21.9	+59
VIVF	**Saint-Julien-l**	**10.16**	**233**	*e*Sg		03 58 34.0	
	comp=Z,37nm,1.4s						
FRF	**La Foret Royal**	**10.24**	**222**	*e*Pn	**Pn**	**03 55 38.4**	**-0.1**
LMR	**La Mourre**	**10.48**	**222**	*e*Pn	**Pn**	**03 55 40.6**	**-1.2**
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**03 55 51.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=197,slow=11,SNR=9.5						
FINES				Sn	Sn	03 57 51.0	-9.1
	comp=Z,0.1nm,0.3s,baz=205,slow=23,SNR=1.9						
EKA	**Eskdalemuir Ar**	**12.09**	**296**	Pn	**Pn**	**03 56 03.7**	**0.0**
	baz=102,slow=14,SNR=2.4						
OBN	**Obninsk**	**12.72**	**66**	⇓*e*P	**Pn**	**03 56 09.4**	**-2.8**
OBN				S	**Sn**	**03 58 33.0**	**-1.4**
OBN				pmax	pmax		
	comp=Z,13nm,1.5s						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**03 57 25.3**	**-3.2**
	baz=198,slow=11,SNR=10						
KIV	**Kislovodsk**	**19.33**	**103**	*e*P	**Pn**	**03 57 39.7**	**+1.6**
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
ARU	**Arti**	**25.11**	**62**	P	**P**	**03 58 36.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=298,slow=12,SNR=6.8						
ARU	**Arti**	**25.11**	**62**	*d i*P	**P**	**03 58 38.3**	**+1.9**
ARU						03 59 09.9	
ARU				S	**S**	**04 03 04.2**	**+2.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NRIK	**Noril'sk**	**36.78**	**34**	*i* P	**P**	**04 00 18.8**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURBB	**Kurchatov Arra**	**38.15**	**66**	P	**P**	**04 00 31.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=296,slow=9.2,SNR=3.7						
KURK	**Kurchatov**	**38.16**	**66**	*i* P	**P**	**04 00 31.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**38.16**	**66**	P	**P**	**04 00 31.3**	**+0.2**
KURK	**Kurchatov**	**38.16**	**66**	IAmb	IAmb	04 00 33.6	
	comp=Z,7.4nm,1.6s						
AAK	**Ala-Archa**	**39.75**	**79**	*i* P	**P**	**04 00 45.7**	**+1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**40.05**	**202**	P	**P**	**04 00 46.7**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=15,slow=9.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**40.05**	**202**	P	**P**	**04 00 46.7**	**-0.4**
ZALV	**Zalesovo Beam**	**40.16**	**59**	*i* P	**P**	**04 00 51.0**	**+3.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.16**	**59**	P	**P**	**04 00 47.4**	**-0.4**
DGZ	**Jazzator, Alta**	**43.61**	**63**	*i* P	**P**	**04 01 17.5**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**54.88**	**55**	P	**P**	**04 02 43.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=322,slow=9.1,SNR=4.4						
SONM	**Songino Array**	**54.88**	**55**	IAmb	IAmb	04 02 46.5	
	comp=Z,1.2nm,0.9s						
YKA	**Yellowknife Ar**	**59.82**	**336**	P	**P**	**04 03 17.7**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=30,slow=7.4,SNR=3.4						
ZEA	**Zeya**	**60.35**	**40**	*e*P	P	04 03 26.6	+6.0
ZEA				pmax	pmax		
	comp=Z,20nm,0.6s						
PDAR	**Pinedale Array**	**74.91**	**322**	P	**P**	**04 04 54.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=64,slow=5.5,SNR=4.2						

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*IDC **26** 03:54:06.0±1.4, 32°.44N×47°.92E, h0km, mb3.8/11, mb1 3.8/18, mb1mx3.7/49, mbtmp3.8/18, ML3.5/7, MS3.4/1, Ms1 3.4/1, ms1mx2.5/40, Error ellipse: s-maj=29.7km s-min=15.0km az=169.0*

*TEH **26** 03:54:09.7, 32°.56N×48°.02E, h15km, ML3.8*

*THR **26** 03:54:10.8±0.6, 32°.44N×48°.05E, h18km±9km, ML3.9*

*NEIC **26** 03:54:11.6±2.6, 32°.45N±0°.06×47°.89E±0°.08, h36km±10km, Error ellipse: s-maj=10.6km s-min=8.0km az=52.0*

ISC 26 03:54:08.2±0.5**, 32°.48N**±0°.03×**47°.86E**±0°.04**, h10km, n107, σ1§71**/105**, mb4.0**/18**, 4C, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.88**	**115**	*e*Pg	**Pg**	**03 54 24.6**	**-0.6**
SHGR	**Shooshtar-Gavs**	**0.88**	**115**	*e*Pg	**Pg**	**03 54 24.6**	**-0.6**
SHGR	**Shooshtar-Gavs**	**0.88**	**115**	Pg	**Pg**	**03 54 24.6**	**-0.6**
IKFM	**Kafar-mosalman**	**1.04**	**360**	*e*Pg	**Pg**	**03 54 27.6**	**-0.6**
IKFM				*e*		03 54 53.1	
IKMR	**Kamar-syah**	**1.12**	**23**	*e*Pg	**Pb**	**03 54 28.3**	**-1.4**
IKMR				*e*		03 54 49.8	
AHWZ	**Ahwaz**	**1.33**	**150**	*e*Pg	**Pg**	**03 54 34.8**	**+1.1**
AHWZ				*e*Sg	**Sg**	**03 54 53.9**	**+2.9**
AHWZ	**Ahwaz**	**1.33**	**150**		**Pg**	**03 54 34.8**	**+1.1**
AHWZ				Sg	**Sg**	**03 54 53.9**	**+2.9**
IDOB	**Doab**	**1.33**	**12**	*e*Pg	**Pn**	**03 54 32.4**	**-0.7**
IKOM	**Komasi**	**1.71**	**350**	*e*Pg	**Pb**	**03 54 40.7**	**+0.8**
IKOM				*e*Sg	**Sg**	**03 55 06.1**	**+2.8**
IKOM				*e*		03 55 14.0	
HSAM	**Samen**	**1.83**	**20**	*e*Pn	**Pn**	**03 54 41.2**	**+1.1**
HSAM				*e*		03 55 23.4	
KCHF	**Cheshme Sefid,**	**1.91**	**339**	*e*Pn	**Pb**	**03 54 43.1**	**-0.2**
KCHF				*e*		03 55 23.1	
IBZA	**Bozab**	**1.98**	**0**	*e*Pn	**Pn**	**03 54 44.0**	**+1.9**
IBZA				*e*		03 55 17.5	
KER	**Kermanshah**	**1.99**	**342**	*e*Pn	**Pb**	**03 54 44.7**	**+0.1**
IGHG	**Ghaleghazi**	**2.13**	**330**	*e*Pn	**Pb**	**03 54 46.7**	**-0.4**
IGHG				*e*		03 55 31.4	
KHMZ	**Khomeyn**	**2.17**	**54**	*e*Pn	**Pn**	**03 54 46.6**	**+2.1**
KHMZ	**Khomeyn**	**2.17**	**54**	*e*Pn	**Pn**	**03 54 46.6**	**+2.1**
IVIS	**Veis**	**2.21**	**338**	*e*Pn	**Pn**	**03 54 46.7**	**+1.7**
IVIS				*e*		03 55 30.3	
IALM	**Almabolaq**	**2.39**	**6**	*e*Pn	**Pn**	**03 54 49.6**	**+1.9**
IDHR	**Dehrash**	**2.53**	**331**	*e*Pn	**Pn**	**03 54 52.1**	**+2.5**
IDHR				*e*		03 55 36.5	
ILIN	**Lien**	**2.54**	**343**	*e*Pn	**Pn**	**03 54 51.1**	**+1.3**
ILIN				*e*		03 55 43.3	
HAGD	**Aghdareh**	**2.57**	**24**	*e*Pn	**Pn**	**03 54 52.2**	**+2.1**
HAGD				*e*		03 55 38.3	

IPIR	**Pirpir**	**2.57**	**85**	*e*Pn		**Pn**	**03 54 51.0**	**+0.8**
IPIR				*e*			03 55 36.6	
SNGE	**Sanandaj**	**2.64**	**351**	*e*Pn		**Pb**	**03 54 56.0**	**+0.3**
SNGE				IAML			03 55 48.3	
	comp=N,418nm,0.7s							
SNGE	**Sanandaj**	**2.64**	**351**	*e*Pn		**Pb**	**03 54 56.0**	**+0.3**
SNGE	**Sanandaj**	**2.64**	**351**	Pn		**Pb**	**03 54 56.0**	**+0.3**
ASAO	**Ashtian**	**2.74**	**41**	*e*Pn		**Pn**	**03 54 54.9**	**+2.4**
ASAO	**Ashtian**	**2.74**	**41**	*e*Pn		**Pn**	**03 54 54.9**	**+2.4**
HSRG	**Sareghieh**	**2.77**	**7**	*e*Pn		**Pn**	**03 54 55.0**	**+2.0**
HSRG				*e*			03 55 03.6	
IKLH	**Kolahrood**	**3.24**	**74**	*e*Pn		**Pn**	**03 55 00.7**	**+1.3**
GHVR	**GHOM**	**3.50**	**54**	*e*Sg		**Sb**	**03 55 55.4**	**+2.5**
KLNJ	**Kolanjah**	**3.50**	**114**	*e*Pn		**Pn**	**03 55 03.0**	**-0.1**
KLNJ				*e*			03 56 15.7	
QABG	**Abgarm-Qazvin**	**3.52**	**24**	*e*Pn		**Pn**	**03 55 05.0**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.52**	**24**	Pn		**Pn**	**03 55 04.9**	**+1.7**
IGAR	**Gharneh**	**3.54**	**90**	*e*Pn		**Pn**	**03 55 03.5**	**0.0**
IQOM	**Qom**	**3.57**	**48**	*e*Pn		**Pn**	**03 55 04.3**	**+0.4**
IZEF	**Zefreh**	**3.79**	**83**	*e*Pn		**Pn**	**03 55 08.0**	**+1.0**
KRSH	**Karshahi**	**3.88**	**66**	*e*Pn		**Pn**	**03 55 08.9**	**+0.8**
KRSH	**Karshahi**	**3.88**	**66**	Pn		**Pn**	**03 55 08.9**	**+0.8**
IRAM	**Ramesheh**	**3.90**	**99**	*e*Pn		**Pn**	**03 55 08.2**	**-0.2**
IVRN	**Varamin**	**4.08**	**51**	*e*Pn		**Pn**	**03 55 12.2**	**+1.4**
IHSB	**Hasanabad**	**4.09**	**43**	*e*Pn		**Pn**	**03 55 12.1**	**+1.1**
QSDN	**Sirdan**	**4.16**	**15**	*e*Pn		**Pn**	**03 55 14.4**	**+2.4**
QALM	**Alamut, Qazvin**	**4.56**	**30**	*e*Pn		**Pn**	**03 55 20.1**	**+2.5**
QALM	**Alamut, Qazvin**	**4.56**	**30**	Pn		**Pn**	**03 55 20.0**	**+2.5**
IDMV	**Damavand**	**4.64**	**47**	*e*Pn		**Pn**	**03 55 19.7**	**+1.0**
ISAD	**Sadrabad**	**4.97**	**95**	*e*Pn		**Pn**	**03 55 23.4**	**+0.2**
ANAR	**Anarak**	**4.99**	**80**	*e*Pn		**Pn**	**03 55 23.6**	**+0.2**
ILAS	**Lasjerd**	**5.13**	**54**	*e*Pn		**Pn**	**03 55 26.4**	**+1.0**
IFIR	**Firoozkooh**	**5.14**	**51**	*e*Pn		**Pn**	**03 55 26.6**	**+1.1**
IPRN	**Peran**	**5.27**	**43**	*e*Pn		**Pn**	**03 55 27.5**	**+0.3**
ICHK	**Chekchek**	**5.55**	**91**	*e*Pn		**Pn**	**03 55 31.8**	**+0.7**
ISHM	**Shahmirzad**	**5.59**	**52**	*e*Pn		**Pn**	**03 55 32.8**	**+1.0**
IMEH	**Mehriz**	**5.85**	**99**	*e*Pn		**Pn**	**03 55 35.3**	**+0.1**
IHRS	**Heris**	**5.86**	**354**	*e*Pn		**Pn**	**03 55 37.5**	**+2.1**
GEVA	**Gevas**	**7.01**	**327**	Pn		**Pn**	**03 55 52.8**	**+1.7**
MARD	**Mardin**	**7.55**	**312**			**Pn**	**03 55 59.4**	**+0.9**
ASF	**Jabal al Asfar**	**9.28**	**271**	Pn		**Pn**	**03 56 21.7**	**-0.5**
	comp=N,0.5nm,0.3s,baz=55,slow=17,SNR=4.4							
ASF				Sn		**Sn**	**03 58 04.0**	**-2.7**
	comp=N,0.5nm,0.3s,baz=161,slow=22,SNR=1.6							
ASF				Lg		Lg	03 59 05.0	
	comp=N,0.3nm,0.3s,baz=315,slow=22,SNR=1.0							
KOPT	**Kop Dagi**	**9.58**	**324**	Pn		**Pn**	**03 56 28.2**	**+1.7**
GEYT	**Alibeck**	**10.00**	**54**	Pn		**Pn**	**03 56 30.4**	**-1.6**
	comp=N,0.1nm,0.3s,baz=252,slow=16,SNR=2.1							
GYA0B	**ALIBECK ARRAY**	**10.00**	**54**	Pn		**Pn**	**03 56 31.6**	**-0.4**
UOSS	**Minazif**	**10.49**	**134**	Pn		**Pn**	**03 56 39.0**	**+0.3**
MMAI	**Mount Meron Ar**	**10.50**	**276**	Pn		**Pn**	**03 56 39.6**	**+0.7**
	comp=N,0.5nm,0.3s,baz=106,slow=14,SNR=1.4							
WSAR	**Wadi Sarin**	**13.24**	**131**	Pn		**Pn**	**03 57 13.4**	**-3.0**
	comp=N,0.7nm,0.3s,baz=318,slow=8.9,SNR=6.3							
BRTR	**Keskin Array B**	**13.57**	**306**	Pn		**Pn**	**03 57 23.3**	**+2.5**
	comp=N,0.0nm,0.3s,baz=127,slow=11,SNR=3.6							
BRTR	**Keskin Array B**	**13.57**	**306**	P		**Pn**	**03 57 23.3**	**+2.5**
BR231	**Keskin MP Arra**	**14.21**	**305**	Pn		**Pn**	**03 57 30.2**	**+0.5**
MANT	**Manisa**	**16.81**	**296**	Pn		**Pn**	**03 58 04.5**	**+0.5**
CHGR	**Chuyangaron**	**18.38**	**64**			**Pn**	**03 58 20.8**	**-2.4**
ABKAR	**Akbulak array**	**19.05**	**25**	P		**P**	**03 58 29.8**	**-0.6**
ABKAR	**Akbulak array**	**19.05**	**25**	P		**P**	**03 58 29.3**	**-1.1**
IDI	**Anoyia**	**19.27**	**285**	P		**Pn**	**03 58 34.6**	**+0.6**
	comp=N,0.7nm,0.3s,baz=352,slow=3.7,SNR=7.0							
IDI	**Anoyia**	**19.27**	**285**	IAmb		IAmb	03 58 41.9	
	comp=Z,21nm,1.1s							
GAR	**Garm**	**19.33**	**64**	P		**P**	**03 58 32.6**	**-1.2**
AKTO	**Aktyubinsk**	**19.45**	**20**	P		**P**	**03 58 34.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=170,slow=5.4,SNR=5.0							
AKTO	**Aktyubinsk**	**19.45**	**20**	P		**P**	**03 58 34.6**	**-0.3**
KK31	**Karatay Array**	**20.75**	**53**	P		**P**	**03 58 50.9**	**+1.9**
KKAR	**Karatay Array**	**20.75**	**53**	P		Pn	03 58 52.1	+0.7
NIL	**Nilore**	**21.30**	**80**	P		**P**	**03 58 55.0**	**-0.2**
NIL				IAmb		IAmb	03 59 02.9	
	comp=Z,21nm,1.6s							
MLR	**Muntele Rosu**	**21.34**	**314**	P		**P**	**03 58 57.8**	**+2.3**
	comp=Z,5.1nm,0.8s,baz=74,slow=19,SNR=6.0							
MLR	**Muntele Rosu**	**21.34**	**314**	⇑P		**P**	**03 59 00.8**	**+5.3**
MLR	**Muntele Rosu**	**21.34**	**314**	IAmb		IAmb	03 59 06.5	
	comp=Z,91nm,2.0s							
VOIR		**21.86**	**313**	⇑P		**P**	**03 58 58.1**	**-2.9**
DOPR	**Dopca**	**21.91**	**314**	⇑P		**P**	**03 59 02.9**	**+1.4**
ARR	**Arges**	**22.09**	**312**	⇑P		**P**	**03 59 10.6**	**+7.1**
AKASG	**Malin Array Be**	**22.81**	**328**	P		**P**	**03 59 10.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=134,slow=9.2,SNR=1.8							
BURAR	**Bucovina Array**	**22.88**	**318**	P		**P**	**03 59 12.6**	**+0.7**
BOOM	**Boomskoye usch**	**24.32**	**58**	P		**P**	**03 59 27.1**	**+0.9**
BOOM				IAmb		IAmb	03 59 56.2	
	comp=Z,4.8nm,1.2s							
PRZ	**Przheval'sk**	**26.09**	**59**	P		**P**	**03 59 42.7**	**+0.4**
BRVK	**Borovoye**	**26.14**	**32**	P		**P**	**03 59 43.7**	**+1.3**
BRVK	**Borovoye**	**26.14**	**32**	P		**P**	**03 59 43.7**	**+1.3**
BRVK				IAmb		IAmb	03 59 46.7	
	comp=Z,4.9nm,1.1s							
BRVK	**Borovoye**	**26.14**	**32**	pmax		pmax		
	comp=Z,5.0nm,1.1s							
PSZ	**Piszkesteto**	**26.15**	**314**	P		**P**	**03 59 45.9**	**+3.3**
KURBB	**Kurchatov Arra**	**28.95**	**42**	P		**P**	**04 00 08.4**	**+0.8**
	comp=Z,0.4nm,0.2s,baz=246,slow=9.8,SNR=2.2							
KURK	**Kurchatov**	**29.04**	**42**	P		**P**	**04 00 08.4**	**0.0**
KURK	**Kurchatov**	**29.04**	**42**	IAmb		IAmb	04 00 12.7	
	comp=Z,7.3nm,1.4s							
MK31	**Makanchi Array**	**29.86**	**51**	P		**P**	**04 00 15.7**	**0.0**
MK31				IAmb		IAmb	04 00 17.8	
	comp=Z,7.6nm,1.8s							
MKAR	**Makanchi Array**	**29.86**	**51**	P		**P**	**04 00 15.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=251,slow=7.4,SNR=5.9							
GERES	**GERESS Array B**	**30.31**	**313**	P		**P**	**04 00 19.3**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=120,slow=24,SNR=1.6							
DAVOX	**Davos/Dischmat**	**32.21**	**307**	P		**P**	**04 00 35.4**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=353,slow=14,SNR=2.1							
FINES	**FINESS Array B**	**32.24**	**340**	P		**P**	**04 00 35.9**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=148,slow=7.9,SNR=7.6							
ZAA0	**Zalesovo Array**	**33.87**	**40**	P		**P**	**04 00 49.5**	**-1.3**
ZAA0				IAmb		IAmb	04 01 45.0	
	comp=Z,3.4nm,1.2s							
ZALV	**Zalesovo Beam**	**33.87**	**40**	P		**P**	**04 00 49.4**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=237,slow=7.2,SNR=3.9							
HFS	**Hagfors**	**35.64**	**331**	P		**P**	**04 01 05.7**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=158,slow=12,SNR=3.1							
ARCES	**ARCESS Array B**	**39.17**	**348**	P		**P**	**04 01 35.9**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=158,slow=9.7,SNR=1.5							
ESDC	**Sonseca Array**	**42.01**	**295**	P		**P**	**04 01 59.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=78,slow=8.3,SNR=6.2							
TLY	**Talaya**	**44.43**	**47**	LR		LR	04 21 29.5	
	comp=Z,48nm,20.7s,baz=307,slow=37							
TORD	**Torodi Ar. Bea**	**46.29**	**256**	P		**P**	**04 02 33.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=63,slow=7.1,SNR=6.3							

IDC 26 04:11:40.3±2.3, 7.89S×129.46E, h0km, mb3.6/1, mb1 3.3/3, mb1mx3.1/33, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=153.9km s-min=33.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.88**	**159**	Pn	Pn	04 14 43.3	-1.5
	0.1nm,0.3s,baz=338,slow=9.7,SNR=5.0						
WRA				Sn	Sn	04 17 04.4	-4.6
	0.1nm,0.3s,baz=346,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**16.25**	**165**	Pn	P	04 15 32.0	-1.4
	0.1nm,0.3s,baz=349,slow=8.5,SNR=1.6						
MKAR	**Makanchi Array**	**68.68**	**327**	P	P	04 22 45.7	0.0
	0.4nm,0.5s,baz=122,slow=7.9,SNR=4.7						

*TEH **26** 04:17:04.8, 32.54N×47.97E, h9km, ML3.3*
*THR **26** 04:17:05.7±0.6, 32.53N×47.97E, h14km±5km, ML3.3*
*ISN **26** 04:17:07.9±1.2, 32.75N×47.72E, h9km±7km, MJ3.0*
ISC 26 04:17:05.9±0.9, 32.50N±0.04×47.92E±0.04, h10km, n40, σ1s09/44, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.84**	**117**	*e*Pg	**Pg**	**04 17 21.1**	**-0.9**
SHGR	**Shooshtar-Gavs**	**0.84**	**117**	*e*Pg	**Pg**	**04 17 21.1**	**-0.9**
IKFM	**Kafar-mosalman**	**1.03**	**356**	*e*Pg	**Pg**	**04 17 23.5**	**-2.1**
IKFM				*e*		04 17 45.9	
IKMR	**Kamar-syah**	**1.09**	**20**	*e*Pg	**Pg**	**04 17 24.4**	**-2.4**
IDOB	**Doab**	**1.30**	**9**	*e*Pg	**Pn**	**04 17 29.8**	**-0.6**
AHWZ	**Ahwaz**	**1.31**	**152**	*e*Pg	**Pn**	**04 17 30.4**	**+0.1**
AHWZ				*e*Sg	**Sg**	**04 17 50.3**	**+2.1**
IKOM	**Komasi**	**1.71**	**348**	*e*Pn	**Pn**	**04 17 36.6**	**+0.7**
IKOM				*e*		04 18 12.4	
IBDR	**Badra**	**1.79**	**291**	*e*Pn	**Pn**	**04 17 37.0**	**+0.2**
	baz=103						
IBDR				*e*Sg	**Sn**	**04 17 59.0**	**-0.6**
IBDR				AML	AML	04 18 06.8	
	comp=N,259nm,0.6s						
IBDR				AML	AML	04 18 09.3	
	comp=E,172nm,0.6s						
HSAM	**Samen**	**1.80**	**18**	*e*Pg	**Pn**	**04 17 38.0**	**+0.7**
HSAM				*e*		04 17 40.4	
KCHF	**Cheshme Sefid,**	**1.92**	**338**	*e*Pg	**Pn**	**04 17 40.6**	**+1.8**
IBZA	**Bozab**	**1.97**	**358**	*e*Pn	**Pn**	**04 17 40.8**	**+1.2**
IBZA				*e*		04 18 17.1	
KHMZ	**Khomeyn**	**2.11**	**53**	*e*Pn	**Pn**	**04 17 42.4**	**+0.9**
KHMZ	**Khomeyn**	**2.11**	**53**	*e*Pn	**Pn**	**04 17 42.4**	**+0.9**
IGHG	**Ghaleghazi**	**2.15**	**329**	*e*Pn	**Pn**	**04 17 42.8**	**+0.8**
IGHG				*e*		04 18 25.5	
IVIS	**Veis**	**2.21**	**336**	*e*Pn	**Pb**	**04 17 46.0**	**-0.1**
IVIS				*e*		04 18 28.8	
IALM	**Almabolaq**	**2.37**	**5**	*e*Pn	**Pn**	**04 17 47.2**	**+2.2**
IPIR	**Pirpir**	**2.51**	**85**	*e*Pn	**Pn**	**04 17 46.6**	**-0.5**
IPIR				*e*		04 18 37.0	
HAGD	**Aghdareh**	**2.53**	**23**	*e*Pn	**Pn**	**04 17 48.1**	**+0.8**
HAGD				*e*		04 18 33.5	
IDHR	**Dehrash**	**2.54**	**330**	*e*Pn	**Pn**	**04 17 47.8**	**+0.4**
IDHR				*e*		04 18 31.6	
ILIN	**Lien**	**2.54**	**342**	*e*Pn	**Pn**	**04 17 47.8**	**+0.3**
ILIN				*e*		04 18 38.7	
SNGE	**Sanandaj**	**2.63**	**350**	*e*Pn	**Pn**	**04 17 49.9**	**+1.2**
SNGE				*e*Sg	**Sb**	**04 18 27.5**	**+1.7**
SNGE				IAML		04 18 44.1	
	comp=N,106nm,0.6s						
SNGE	**Sanandaj**	**2.63**	**350**	*e*Pn	**Pn**	**04 17 49.9**	**+1.2**
ROKH	**ROKH**	**2.63**	**92**	*e*Pn	**Pn**	**04 17 49.1**	**+0.4**
ROKH				*e*		04 18 45.0	
ASAO	**Ashtian**	**2.69**	**40**	*e*Pn	**Pn**	**04 17 50.2**	**+0.7**
ASAO	**Ashtian**	**2.69**	**40**	*e*Pn	**Pn**	**04 17 50.2**	**+0.7**
HSRG	**Sareghieh**	**2.75**	**6**	*e*Pn	**Pn**	**04 17 52.4**	**+2.0**
HSRG				*e*		04 18 48.3	
BHD	**Baghdad**	**3.08**	**285**	*e*Pn	**Pn**	**04 17 55.0**	**+0.4**
BHD				*e*Sn	**Sn**	**04 18 31.0**	**-0.5**
IKLH	**Kolahrood**	**3.18**	**74**	*e*Pn	**Pn**	**04 17 57.1**	**+0.9**
IKLH				*e*		04 18 54.4	
GHVR	**GHOM**	**3.44**	**54**	*e*Pn	**Pn**	**04 17 59.9**	**+0.2**
GHVR	**GHOM**	**3.44**	**54**	*e*Pn	**Pn**	**04 17 59.9**	**+0.2**
KLNJ	**Kolanjah**	**3.46**	**114**	*e*Pn	**Pn**	**04 17 59.5**	**-0.6**
QABG	**Abgarm-Qazvin**	**3.49**	**23**	*e*Pn	**Pn**	**04 18 01.6**	**+1.2**
IZEF	**Zefreh**	**3.73**	**83**	*e*Pn	**Pn**	**04 18 03.8**	**-0.1**
KRSH	**Karshahi**	**3.82**	**66**	*e*Pn	**Pn**	**04 18 05.7**	**+0.7**
IVRN	**Varamin**	**4.03**	**51**	*e*Pn	**Pn**	**04 18 08.1**	**+0.4**
NASN	**Na'in**	**4.13**	**85**	*e*Pn	**Pn**	**04 18 09.8**	**+0.4**
NASN	**Na'in**	**4.13**	**85**	*e*Pn	**Pn**	**04 18 09.8**	**+0.4**
CHTH	**Charan**	**4.32**	**37**	*e*P	**Pn**	**04 18 12.9**	**+1.1**
CHTH	**Charan**	**4.32**	**37**	*e*Pn	**Pn**	**04 18 12.9**	**+1.1**
ANAR	**Anarak**	**4.93**	**80**	*e*Pn	**Pn**	**04 18 19.7**	**-0.5**

*IDC **26** 04:23:52.7±0.9, 12.47S×166.91E, h199km±7km, mb4.0/18, mb1 4.1/18, mb1mx4.0/31, mbtmp4.4/18, Error ellipse: s-maj=17.7km s-min=12.4km az=131.0*
*NEIC **26** 04:23:53.3±1.1, 12.41S±0.09×166.9E±0.1, h207km±5km, mb4.5/39, Error ellipse: s-maj=17.2km s-min=13.3km az=94.0*
ISC 26 04:23:52.7±0.4, 12.37S±0.06×166.92E±0.09, h200km, n88, σ0s93/89, mb4.4/29, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.07**	**175**	Pn	**Pn**	**04 24 43.5**	**+0.3**
DZM	**Mont Dzumac**	**9.66**	**183**	P	**Pn**	**04 26 10.1**	**+2.5**
	2.2nm,0.3s,baz=316,slow=21,SNR=19						
DZM				S	**Sn**	**04 27 56.1**	**+0.4**
	1.5nm,0.3s,baz=131,slow=22,SNR=9.0						
EIDS	**Eidsvold**	**19.77**	**227**	P	**P**	**04 28 08.5**	**+0.8**
AFI	**Afiamalu**	**20.80**	**97**	P	**P**	**04 28 17.7**	**-1.2**
CTA	**Charters Tower**	**21.26**	**246**	P	**P**	**04 28 23.6**	**-0.1**
	11nm,0.6s,baz=79,slow=11,SNR=18						
CTA				pP	**pP**	**04 28 55.4**	**-1.4**
	5.6nm,0.8s,baz=59,slow=7.5,SNR=3.2						
CTAO	**Charters Tower**	**21.26**	**246**	P	**P**	**04 28 23.3**	**-0.3**
CTAO				IAmb	IAmb	04 28 24.4	
	comp=Z,11nm,0.7s						
BFZ	**Birch Farm**	**29.37**	**165**	P	**P**	**04 29 36.7**	**-0.4**
RPZ	**Rata Peaks**	**31.43**	**174**	P	**P**	**04 29 56.0**	**+0.8**
	comp=Z,3.7nm,0.4s,baz=15,slow=20,SNR=1.1						
WB0	**Warramunga Arr**	**32.07**	**253**	P	**P**	**04 30 00.4**	**-0.7**
WRA	**Warramunga Arr**	**32.15**	**252**	P	**P**	**04 30 00.7**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=81,slow=9.1,SNR=16						
WRA				pP	**pP**	**04 30 42.7**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=83,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**32.15**	**252**	IAmb	IAmb	04 30 01.3	
	comp=Z,0.1nm,0.8s						
AS31	**Alice Springs**	**33.26**	**246**	P	**P**	**04 30 10.6**	**-0.9**
ASAR	**Alice Springs**	**33.27**	**246**	P	**P**	**04 30 10.4**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=70,slow=10,SNR=23						
ASAR				pP	**pP**	**04 30 52.1**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=72,slow=9.4,SNR=14						
ASAR				ScP	**ScP**	**04 36 14.5**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=84,slow=4.1,SNR=5.0						
MJAR	**Matsushiro Arr**	**55.67**	**332**	P	**P**	**04 33 08.0**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=169,slow=8.6,SNR=17						
MJAR	**Matsushiro Arr**	**55.67**	**332**	P	**P**	**04 33 07.6**	**-0.6**
MAJO	**Matsushiro**	**55.68**	**332**	P	**P**	**04 33 07.6**	**-0.6**
MAJO				IAmb	IAmb	04 33 08.8	
	comp=Z,8.5nm,0.9s						
JKA	**Kamikawa-asahi**	**60.42**	**340**	P	**P**	**04 33 42.3**	**+1.3**
ASAJ	**Asahikawa**	**60.42**	**340**	P	**P**	**04 33 42.3**	**+1.2**
	comp=Z,7.7nm,0.5s,baz=207,slow=8.5,SNR=12						
KSRS	**Korea Array**	**61.62**	**325**	P	**P**	**04 33 50.0**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=132,slow=6.5,SNR=4.4						
USRK	**Ussuriysk Ar.**	**64.64**	**333**	P	**P**	**04 34 10.2**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=129,slow=4.7,SNR=6.2						
USRK	**Ussuriysk Ar.**	**64.64**	**333**	P	**P**	**04 34 09.2**	**+0.2**
PETK	**Petropavlovsk-**	**65.69**	**354**	P	**P**	**04 34 16.0**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=153,slow=12,SNR=4.4						
IPM	**Ipoh**	**67.59**	**280**	P	**P**	**04 34 28.0**	**-0.4**
IPM				IAmb	IAmb	04 34 29.5	
	comp=Z,9.3nm,1.0s						
ENH	**Enshi**	**69.62**	**309**	P	**P**	**04 34 40.3**	**-0.4**
ENH				IAmb	IAmb	04 34 41.4	
	comp=Z,6.5nm,0.8s						
XAN	**Xi'an**	**71.86**	**312**	P	**P**	**04 34 54.0**	**-0.1**
XAN				IAmb	IAmb	04 34 55.0	
	comp=Z,5.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**73.70**	**294**	P	**P**	**04 35 06.7**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=126,slow=5.4,SNR=8.6						
CMAR	**Chiang Mai Arr**	**73.70**	**294**	P	**P**	**04 35 05.6**	**+0.4**
CHTO	**Chiang Mai**	**73.81**	**294**	P	**P**	**04 35 05.7**	**-0.2**
SEY	**Seymchan**	**75.92**	**353**	P	**P**	**04 35 17.7**	**+0.8**
	comp=Z,11nm,0.5s,baz=178,slow=5.8,SNR=31						
QSPA	**South Pole Qui**	**77.64**	**180**	P	**P**	**04 35 26.5**	**-0.3**
BILL	**Bilibino**	**80.20**	**360**	P	**P**	**04 35 40.4**	**0.0**
SONM	**Songino Array**	**80.41**	**323**	P	**P**	**04 35 42.7**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=135,slow=6.5,SNR=5.2						
SONM	**Songino Array**	**80.41**	**323**	IAmb	IAmb	04 35 43.2	
	comp=Z,1.8nm,1.0s						
PMR	**Palmer**	**81.40**	**20**	P	**P**	**04 35 46.7**	**-0.1**
SHL	**Shillong**	**82.16**	**298**	P	**P**	**04 35 51.6**	**-0.2**
N25K	**Chitina, Valde**	**82.96**	**21**	IAmb	IAmb	04 35 56.0	
	comp=Z,5.1nm,0.7s						
IMAR	**Indian Mountai**	**83.39**	**15**	P	**P**	**04 35 57.3**	**+0.2**
CCB	**Clear Creek Bu**	**84.03**	**18**	IAmb	IAmb	04 36 00.7	
	comp=Z,7.6nm,0.7s						
MDM	**Murphy Dome**	**84.13**	**18**	IAmb	IAmb	04 36 01.4	
	comp=Z,12nm,0.9s						
COLA	**College**	**84.19**	**18**	P	**P**	**04 36 00.8**	**-0.3**
RIDG	**Independent Ri**	**84.33**	**19**	IAmb	IAmb	04 36 02.8	
	comp=Z,9.5nm,1.0s						
IL31		**84.40**	**18**	P	**P**	**04 36 01.8**	**-0.3**
ILAR	**Eielson Array**	**84.40**	**18**	P	**P**	**04 36 01.8**	**-0.4**
	comp=Z,8.8nm,0.6s,baz=246,slow=5.1,SNR=144						
ILAR	**Eielson Array**	**84.40**	**18**	P	**P**	**04 36 01.5**	**-0.7**
BCAR	**Beaver Creek A**	**84.91**	**21**	P	**P**	**04 36 04.8**	**0.0**
NVAR	**Mina Array Bea**	**86.00**	**49**	P	**P**	**04 36 11.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=235,slow=9.9,SNR=5.0						
NVAR				pP	**pP**	**04 37 00.7**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=234,slow=7.9,SNR=3.8						
EGAK	**Eagle**	**86.22**	**20**	IAmb	IAmb	04 36 12.5	
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**87.61**	**349**	P	**P**	**04 36 18.1**	**+0.4**
MK31	**Makanchi Array**	**95.27**	**317**	P	**P**	**04 36 53.6**	**-0.2**
MK31				IAmb	IAmb	04 36 54.8	
	comp=Z,2.6nm,1.0s						
MKAR	**Makanchi Array**	**95.27**	**317**	P	**P**	**04 36 54.1**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=90,slow=6.4,SNR=17						
MKAR	**Makanchi Array**	**95.27**	**317**	P	**P**	**04 36 53.8**	**0.0**
ZALV	**Zalesovo Beam**	**95.30**	**324**	P	**P**	**04 36 53.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=108,slow=4.8,SNR=3.5						
TXAR	**Lajitas Array**	**95.45**	**61**	P	**P**	**04 36 55.6**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=229,slow=5.8,SNR=4.2						
MAKZ	**Makanchi**	**95.49**	**317**	P	**P**	**04 36 54.9**	**+0.1**
MAKZ				IAmb	IAmb	04 36 55.8	
	comp=Z,2.9nm,1.0s						
YKA	**Yellowknife Ar**	**95.62**	**27**	P	**P**	**04 36 54.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=261,slow=4.5,SNR=5.6						
SNAA	**Sanae**	**95.87**	**183**	P	**P**	**04 36 55.2**	**-1.0**
VNA3	**Neumayer Olymp**	**96.55**	**181**	P	**P**	**04 36 58.4**	**-0.8**
ARCES	**ARCESS Array B**	**117.90**	**346**	PKP	**PKPdf**	**04 42 14.4**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=71,slow=2.1,SNR=72						
LPAZ	**La Paz**		**118.56**	**116**	PKP	**PKPdf**	**04 42 17.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=262,slow=2.5,SNR=4.6							
CPUP	**Villa Florida**		**122.29**	**132**	PKP	**PKPdf**	**04 42 23.3**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=301,slow=3.2,SNR=4.3							
FINES	**FINESS Array B**		**123.42**	**339**	PKP	**PKPdf**	**04 42 25.5**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=82,slow=1.5,SNR=15							
NOA	**NORSAR Array B**		**128.27**	**345**	PKP	**PKiKP**	**04 42 35.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=51,slow=2.2,SNR=2.3							
BRTR	**Keskin Array B**		**130.71**	**312**	PKP	**PKPdf**	**04 42 40.3**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=141,slow=5.0,SNR=2.5							
BDFB	**Brasilia**		**135.62**	**128**	PKP	**PKPdf**	**04 42 49.3**	**-1.0**

USP	**Ospenovka** baz=7.0	**3.60**	**7**	⇑*i*P	**Pn**	**04 25 42.2**	**+0.3**
USP				⇑*i*S	**Sn**	**04 26 24.9**	**+0.4**
USP	**Ospenovka** SNR=7.1	**3.60**	**7**	P	**Pb**	**04 25 47.7**	**-2.1**
KST	**Kastek** 6.8nm,0.2s	**3.69**	**24**	*e*P	**Pb**	**04 25 48.7**	**-2.7**
KST	31nm,0.7s			*e*S	**Sb**	**04 26 37.1**	**+0.8**
KST	**Kastek** 6.8nm,0.2s	**3.69**	**24**	Pg	**Pb**	**04 25 48.7**	**-2.7**
KST	31nm,0.7s			Lg	Lg	04 26 37.1	
IUG	**Iuzhnay** 17nm,0.5s	**3.82**	**311**	*e*P	**Pb**	**04 25 53.2**	**-0.5**
IUG	43nm,0.4s			*e*S	**Sb**	**04 26 44.7**	**+4.7**
IUG	**Iuzhnay** 17nm,0.5s	**3.82**	**311**	Pg	**Pb**	**04 25 53.2**	**-0.5**
IUG	43nm,0.4s			Lg	Lg	04 26 44.7	
CHGR	**Chuyangaron** baz=56	**3.83**	**256**	⇓*i*P	**Pn**	**04 25 45.6**	**+0.5**
CHGR	20nm,0.6s			⇓*i*S	**Sn**	**04 26 31.4**	**+1.2**
IZV	**Izvestkoviy** 5.1nm,0.4s	**3.91**	**31**	*e*P	**Pb**	**04 25 53.6**	**-1.7**
IZV	41nm,0.8s			*e*S	**Sb**	**04 26 45.3**	**+2.5**
IZV	**Izvestkoviy** 5.1nm,0.4s	**3.91**	**31**	Pg	**Pb**	**04 25 53.6**	**-1.7**
IZV	41nm,0.8s			Lg	Lg	04 26 45.3	
MTBS	**Maitube** 8.8nm,0.4s	**3.92**	**28**	*e*P	**Pb**	**04 25 53.4**	**-2.0**
MTBS	20nm,0.6s			*e*S	**Sb**	**04 26 45.3**	**+2.3**
MTBS	**Maitube** 8.8nm,0.4s	**3.92**	**28**	Pg	**Pb**	**04 25 53.4**	**-2.0**
MTBS	20nm,0.6s			Lg	Lg	04 26 45.3	
TNSS	**Tian-Shan** 9.1nm,0.5s	**4.05**	**33**	*e*P	**Pb**	**04 25 55.7**	**-2.1**
TNSS	14nm,0.8s			*e*S	**Sb**	**04 26 49.0**	**+2.1**
TNSS	**Tian-Shan** 9.1nm,0.5s	**4.05**	**33**	Pg	**Pb**	**04 25 55.7**	**-2.1**
TNSS	14nm,0.8s			Lg	Lg	04 26 49.0	
ANVS	**Anan'yevo** baz=41	**4.19**	**41**	⇓*i*P	**Pn**	**04 25 50.4**	**+0.1**
ANVS	baz=41			⇓*i*S	**Sn**	**04 26 39.5**	**+0.1**
MDOK	**Medeo** 5.8nm,0.5s	**4.20**	**33**	*e*P	**Pb**	**04 25 58.1**	**-2.0**
MDOK	21nm,0.8s			*e*S	**Sb**	**04 26 53.6**	**+2.7**
MDOK	**Medeo** 5.8nm,0.5s	**4.20**	**33**	Pg	**Pb**	**04 25 58.1**	**-2.0**
MDOK	21nm,0.8s			Lg	Lg	04 26 53.6	
KK31	**Karatay Array** 0.9nm,0.3s,baz=135,slow=13,SNR=14	**4.25**	**324**	⇑Pn	**Pn**	**04 25 49.6**	**-1.3**
KK31	1.2nm,0.3s,baz=140,slow=17,SNR=10			⇑Pg	**Pb**	**04 26 01.1**	**+0.1**
KK31	2.6nm,0.3s			⇑Sn	**Sn**	**04 26 42.1**	**+1.5**
KK31	3.2nm,0.3s,baz=142,slow=31,SNR=3.7			⇓⇓Lg	Lg	04 26 58.2	
PRZ	**Przheval'sk** baz=49	**4.40**	**49**	⇑*i*P	**Pn**	**04 25 53.1**	**+0.1**
PRZ	baz=49			⇑*i*S	**Sn**	**04 26 44.4**	**0.0**
BRLS	**Borolday** 16nm,0.3s	**4.52**	**319**	*e*P	**Pb**	**04 26 04.1**	**-1.5**
BRLS	15nm,0.4s			*e*S	**Sb**	**04 27 03.5**	**+3.4**
BRLS	**Borolday** 16nm,0.3s	**4.52**	**319**	Pg	**Pb**	**04 26 04.1**	**-1.5**
BRLS	15nm,0.4s			Lg	Lg	04 27 03.5	
KUU	**Kurty** 2.3nm,0.5s	**4.58**	**23**	*e*P	**Pb**	**04 26 05.0**	**-1.4**
KUU	17nm,0.8s			*e*S	**Sb**	**04 27 05.0**	**+3.4**
KUU	**Kurty** 2.3nm,0.5s	**4.58**	**23**	Pg	**Pb**	**04 26 05.0**	**-1.4**
KUU	17nm,0.8s			Lg	Lg	04 27 05.0	
BTLS	**Baital** 2.1nm,0.2s	**5.34**	**1**	*e*P	**Pb**	**04 26 19.9**	**+0.4**
BTLS	5.1nm,0.6s			*e*S	**Sb**	**04 27 30.5**	**+6.8**
BTLS	**Baital** 2.1nm,0.2s	**5.34**	**1**	Pg	**Pb**	**04 26 19.9**	**+0.4**
BTLS	5.1nm,0.6s			Lg	Lg	04 27 30.5	
PDGK	**Podgornoye** 1.5nm,0.7s	**5.55**	**47**	⇑Pn	**Pn**	**04 26 08.3**	**-0.5**
PDGK	4.1nm,0.7s			⇑Pg	**Pb**	**04 26 25.3**	**+2.2**
PDGK	13nm,0.8s			⇑Lg	Lg	04 27 37.6	

BJI ***26*** *04:46:58.9±0.0, 24.71N×122.18E, h19km, mB4.6/17, mb4.5/26, ML4.5/10, Ms4.0/7, Ms7 3.8/7*
ASIES ***26*** *04:47:01.6, 24.75N×122.23E, h70km, MW4.3*
NEIC ***26*** *04:47:01.4±1.6, 24.68N±0.05×122.14E±0.05, h90km±3km, mb4.4/29, Error ellipse: s-maj=8.3km s-min=6.3km az=205.0*
TAP ***26*** *04:47:02.0, 24.73N×122.18E, h86km, ML5.0, B*
JMA ***26*** *04:47:01.1±0.3, 24.68N×122.15E, h91km±3km, M4.1*
NIED ***26*** *04:47:01.2, 24.68N×122.15E, h91km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.39; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-1.20; $M_{r\theta}$-0.47; $M_{\theta\phi}$-2.80; $M_{\phi r}$-4.05; Fault plane solution: $M_0$5.08000×10^{15} NP1: ϕ_s186.00000°, δ80.00000°, λ60.00000°. NP2:ϕ_s80.00000°, δ32.00000°, λ161.00000°.*
IDC ***26*** *04:47:03.7±1.7, 24.74N×122.24E, h108km±14km, mb4.0/15, mb1 4.1/18, mb1mx3.8/49, mbtmp4.3/18, MS3.1/13, Ms1 3.1/13, ms1mx2.9/61 Error ellipse: s-maj=16.9km s-min=11.9km az=73.0*
ISC 26 04:47:01.5±0.5, 24.72N±0.02×122.19E±0.02, h90km±4km, n250, σ1§19/354, mb4.2/23, 58C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
EGS		**0.27**	**298**	*i* P	**Pn**	**04 47 14.9**	**+0.2**
TWC	**Suao** baz=289	**0.33**	**251**	⇑*i*P	**Pn**	**04 47 15.1**	**0.0**
TWC	baz=249			S	**Sn**	**04 47 24.6**	**-0.5**
TWB1	**Santiao Chiao** baz=327	**0.34**	**328**	⇑*i*P	**Pn**	**04 47 15.3**	**+0.1**
TWB1	baz=327			*i* S	**Sn**	**04 47 24.6**	**-0.7**
NTC	**Toucheng** baz=291	**0.35**	**293**	⇑*i*P	**Pn**	**04 47 15.3**	**+0.1**
NTC	baz=291			S	**Sn**	**04 47 24.4**	**-1.0**
ILA	**Ilan** baz=282	**0.40**	**277**	⇑*i*P	**Pn**	**04 47 16.0**	**+0.5**
ILA	baz=282			S	**Sn**	**04 47 26.7**	**+0.7**
TIPB	**Shuangxi** baz=306	**0.41**	**308**	⇑*i*P	**Pn**	**04 47 15.9**	**+0.2**
TIPB	baz=306			*i* S	**Sn**	**04 47 25.4**	**-0.8**
ENAH	**Nanao** baz=232	**0.44**	**232**	⇑*i*P	**Pn**	**04 47 16.3**	**+0.5**
ENAH	baz=232			S	**Sn**	**04 47 26.5**	**+0.2**
TWE	**Neicheng** baz=275	**0.47**	**270**	⇑*i*P	**Pn**	**04 47 16.4**	**+0.4**
TWE	baz=275			S	**Sn**	**04 47 26.5**	**-0.3**
NWF	**Wu-fen Shan** baz=306	**0.51**	**314**	⇑*i*P	**Pn**	**04 47 16.7**	**+0.2**
NWF	baz=306			S	**Sn**	**04 47 27.2**	**-0.4**
WFSB	**Wu-fen Shan** baz=306	**0.51**	**314**	⇑*i*P	**Pn**	**04 47 16.7**	**+0.3**
WFSB	baz=306			*i* S	**Sn**	**04 47 27.2**	**-0.2**
ENTT	**Nioudou** baz=264	**0.57**	**262**	⇑*i*P	**Pn**	**04 47 17.6**	**+0.7**
ENTT	baz=264			*e*S	**Sn**	**04 47 29.1**	**+0.8**
TWA	**Mucha** baz=295	**0.61**	**296**	⇑*i*P	**Pn**	**04 47 17.3**	**+0.1**
TWA	baz=295			S	**Sn**	**04 47 28.1**	**-0.8**
NDT	**Datong Townshi** baz=261	**0.63**	**260**	⇑*i*P	**Pn**	**04 47 18.3**	**+0.9**
NDT	baz=261			S	**Sn**	**04 47 30.1**	**+0.9**
NWLT	**Wulai** baz=281	**0.63**	**276**	⇑*i*P	**Pn**	**04 47 17.6**	**+0.2**
NWLT	baz=281			S	**Sn**	**04 47 30.0**	**+0.8**
NWRT	**Kuosheng** baz=307	**0.68**	**315**	*e*P	**Pn**	**04 47 17.9**	**+0.1**
NWRT	baz=307			S	**Sn**	**04 47 29.1**	**-0.8**
TAP1	**Taipei** baz=304	**0.68**	**298**	⇑*i*P	**Pn**	**04 47 18.0**	**+0.2**
TAP1	baz=304			*i* S	**Sn**	**04 47 29.5**	**-0.5**
TATO	**Taipei** baz=291	**0.69**	**292**	⇑*i*P	**Pn**	**04 47 18.0**	**0.0**
TATO	baz=291			*i* S	**Sn**	**04 47 28.9**	**-1.1**
TATO	**Taipei**	**0.69**	**292**		**Pn**	**04 47 17.9**	**0.0**
TAP	**Taipei** baz=304	**0.70**	**297**	⇑*i*P	**Pn**	**04 47 18.1**	**+0.1**
TAP	baz=304			S	**Sn**	**04 47 29.5**	**-0.8**
YM01	**YM01** baz=299	**0.70**	**307**	⇑*i*P	**Pn**	**04 47 18.3**	**+0.2**
YM01	baz=299			S	**Sn**	**04 47 29.8**	**-0.7**
YM11	**YM11** baz=301	**0.71**	**309**	P	**Pn**	**04 47 18.2**	**0.0**
YM11	baz=301			S	**Sn**	**04 47 29.9**	**-0.9**
YM08	**YM08** baz=303	**0.72**	**311**	⇑*i*P	**Pn**	**04 47 18.1**	**-0.1**
YM08	baz=303			S	**Sn**	**04 47 29.5**	**-1.2**
YM10	**YM10** baz=300	**0.72**	**308**	⇑*i*P	**Pn**	**04 47 18.4**	**+0.1**
YM10	baz=300			S	**Sn**	**04 47 29.7**	**-1.1**
YM05	**YM05** baz=300	**0.72**	**308**	⇑*i*P	**Pn**	**04 47 18.3**	**0.0**
YM05	baz=300			S	**Sn**	**04 47 29.9**	**-0.9**
YM04	**YM04** baz=300	**0.73**	**306**	⇑*i*P	**Pn**	**04 47 18.5**	**+0.1**
YM04	baz=300			*i* S	**Sn**	**04 47 29.9**	**-1.0**
JYNG	**Yonagunijimaku**	**0.74**	**111**	P	**Pn**	**04 47 18.7**	**+0.3**
JYNG				S	**Sn**	**04 47 30.5**	**-0.5**
YHNB	**Yeheng** baz=272	**0.74**	**266**	⇑*i*P	**Pn**	**04 47 19.1**	**+0.6**
YHNB	baz=272			*i* S	**Sn**	**04 47 31.3**	**+0.1**
YHNB	**Yeheng**	**0.74**	**266**		**Pn**	**04 47 18.6**	**+0.1**
YM03	**YM03** baz=300	**0.75**	**308**	⇑*i*P	**Pn**	**04 47 18.5**	**-0.1**
YM03	baz=300			S	**Sn**	**04 47 30.8**	**-0.5**
NSK	**Sanguang** baz=274	**0.76**	**267**	⇑*i*P	**Pn**	**04 47 19.2**	**+0.5**
NSK	baz=274			*i* S	**Sn**	**04 47 31.8**	**+0.3**
ANP	**Anpu** baz=300	**0.77**	**308**	⇑*i*P	**Pn**	**04 47 18.6**	**-0.2**
ANP	baz=300			*e*S	**Sn**	**04 47 30.6**	**-1.1**
NACB	**Ninganchiao** baz=218	**0.77**	**225**	⇑*i*P	**Pn**	**04 47 18.4**	**-0.2**
NACB	baz=218			S	**Sn**	**04 47 30.9**	**-0.6**
NACB	**Ninganchiao**	**0.77**	**225**		**Pn**	**04 47 17.9**	**-0.8**
TWY	**Chenhua** baz=309	**0.77**	**316**	⇑*i*P	**Pn**	**04 47 19.2**	**+0.4**
TWY	baz=309			*e*S	**Sn**	**04 47 31.9**	**+0.3**
NSM	**Shimen** baz=309	**0.79**	**316**	P	**Pn**	**04 47 19.4**	**+0.5**
NSM	baz=309			S	**Sn**	**04 47 32.4**	**+0.5**
NNSB	**Datong** baz=240	**0.79**	**249**	⇑*i*P	**Pn**	**04 47 19.7**	**+0.6**
NNSB	baz=240			S	**Sn**	**04 47 31.9**	**-0.2**
NNSH	**Datong** baz=241	**0.79**	**249**	⇑*i*P	**Pn**	**04 47 19.7**	**+0.6**
NNSH	baz=241			S	**Sn**	**04 47 31.9**	**-0.3**
YOJ	**Yonaguni jima** baz=114	**0.79**	**109**	⇓*i*P	**Pn**	**04 47 19.3**	**+0.3**
YOJ	baz=114			S	**Sn**	**04 47 32.0**	**0.0**
YOJ	**Yonaguni jima**	**0.79**	**109**	P	**Pn**	**04 47 19.2**	**+0.3**
YOJ				S	**Sn**	**04 47 31.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.79**	**109**		**Pn**	**04 47 19.2**	**+0.3**
NNS	**Nan Shan** baz=242	**0.79**	**250**	⇑*i*P	**Pn**	**04 47 19.8**	**+0.7**
NNS	baz=242			S	**Sn**	**04 47 32.7**	**+0.5**
TWS1	**Kuangyinshan** baz=305	**0.80**	**299**	⇑*i*P	**Pn**	**04 47 19.4**	**+0.4**
TWS1	baz=305			*i* S	**Sn**	**04 47 31.8**	**-0.2**
NTST	**Danshui** baz=303	**0.81**	**304**	⇑*i*P	**Pn**	**04 47 19.5**	**+0.5**
NTST	baz=303			S	**Sn**	**04 47 31.9**	**-0.3**
ETLH	**Xiulin Townshi** baz=232	**0.82**	**232**	⇑*i*P	**Pn**	**04 47 19.5**	**+0.1**
ETLH	baz=232			S	**Sn**	**04 47 32.1**	**-0.6**
TWD	**Chiawan** baz=215	**0.83**	**221**	P	**Pn**	**04 47 19.5**	**+0.1**
TWD	baz=215			*e*S	**Sn**	**04 47 32.2**	**-0.5**
HWA	**Hwalien** baz=209	**0.91**	**216**	*i* P	**Pn**	**04 47 20.5**	**+0.3**
HWA	baz=209			*e*S	**Sn**	**04 47 35.1**	**+1.0**
PCYT	**Pengchaiyu** baz=346	**0.91**	**353**	⇑*i*P	**Pn**	**04 47 20.9**	**+0.6**
PCYT	baz=346			S	**Sn**	**04 47 35.0**	**+0.8**
NCU	**National Centr** baz=277	**0.94**	**286**	P	**Pn**	**04 47 21.2**	**+0.6**
NCU	baz=277			S	**Sn**	**04 47 35.9**	**+1.1**
NCUH	**Zhongli** baz=277	**0.94**	**285**	⇑*i*P	**Pn**	**04 47 21.6**	**+1.0**
NCUH	baz=277			*e*S	**Sn**	**04 47 35.1**	**+0.2**
FUSS	**Fushou** baz=236	**0.98**	**242**	⇑P	**Pn**	**04 47 21.9**	**+0.7**
FUSS	baz=236			*e*S	**Sn**	**04 47 36.7**	**+0.7**
WHF	**Hehuan Shan** baz=230	**1.02**	**236**	⇑*i*P	**Pn**	**04 47 22.2**	**+0.3**
WHF	baz=230			*e*S	**Sn**	**04 47 37.0**	**-0.1**
TWT	**Tachien** baz=237	**1.03**	**244**	⇑*i*P	**Pn**	**04 47 22.9**	**+1.1**
TWT	baz=237			*e*S	**Sn**	**04 47 37.4**	**+0.4**
TDCB	**Techi** baz=237	**1.05**	**244**	⇑*i*P	**Pn**	**04 47 22.9**	**+1.0**
TDCB	baz=237			S	**Sn**	**04 47 37.3**	**+0.1**
LIOB	**Emei** baz=266	**1.07**	**266**	⇑P	**Pn**	**04 47 22.9**	**+0.8**
LIOB	baz=266			*e*S	**Sn**	**04 47 37.9**	**+0.4**
NSTT	**Nanjuang** baz=265	**1.08**	**266**	⇑*i*P	**Pn**	**04 47 22.7**	**+0.5**
NSTT	baz=265			S	**Sn**	**04 47 37.9**	**+0.2**
SBCB	**Hsinchu** baz=273	**1.10**	**274**	⇑*i*P	**Pn**	**04 47 23.1**	**+0.8**
SBCB	baz=273			S	**Sn**	**04 47 38.8**	**+0.8**
CHGB	**Renai** baz=228	**1.13**	**235**	⇑*i*P	**Pn**	**04 47 23.8**	**+0.8**
CHGB	baz=228			S	**Sn**	**04 47 38.7**	**-0.4**
ESL	**Shilin** baz=225	**1.13**	**218**	⇑*i*P	**Pn**	**04 47 22.2**	**-0.6**
ESL	baz=225			*e*S	**Sn**	**04 47 37.0**	**-1.8**
OWD	**Renai** baz=225	**1.20**	**231**	⇑*i*P	**Pn**	**04 47 24.1**	**+0.4**
OWD	baz=225			S	**Sn**	**04 47 39.8**	**-0.5**
WHP	**Taichung City** baz=248	**1.21**	**249**	⇑*i*P	**Pn**	**04 47 25.2**	**+1.4**
WHP	baz=248			S	**Sn**	**04 47 41.7**	**+1.1**
EGFH	**Guangfu** baz=222	**1.25**	**214**	*e*P	**Pn**	**04 47 23.7**	**-0.6**
EGFH	baz=222			*e*S	**Sn**	**04 47 39.9**	**-1.5**
NMLH	**Miaoli** baz=261	**1.28**	**262**	⇑*i*P	**Pn**	**04 47 25.5**	**+0.9**
NMLH	baz=261			S	**Sn**	**04 47 43.1**	**+1.1**
NSY	**Sanyi** baz=256	**1.33**	**257**	⇑*i*P	**Pn**	**04 47 26.3**	**+1.1**
NSY	baz=256			S	**Sn**	**04 47 44.1**	**+1.0**
DPDB	**Guoxing** baz=248	**1.34**	**240**	⇑*i*P	**Pn**	**04 47 26.8**	**+1.5**
DPDB	baz=248			*e*S	**Sn**	**04 47 44.5**	**+1.2**
TWQ1	**Liyutan** baz=253	**1.34**	**254**	⇑*i*P	**Pn**	**04 47 26.1**	**+0.8**
TWQ1	baz=253			S	**Sn**	**04 47 43.5**	**+0.3**
VWDT	**VWDT** baz=220	**1.35**	**225**	⇑*i*P	**Pn**	**04 47 26.2**	**+0.7**
VWDT	baz=220			S	**Sn**	**04 47 43.4**	**-0.1**
HGSD	**Ruisui** baz=220	**1.41**	**210**	⇑P	**Pn**	**04 47 26.1**	**0.0**
HGSD	baz=220			S	**Sn**	**04 47 44.1**	**-0.6**
SMLT	**Sun Moon Lake** baz=234	**1.44**	**235**	*i* P	**Pn**	**04 47 27.9**	**+1.2**
SMLT	baz=234			*e*S	**Sn**	**04 47 47.2**	**+1.6**
EHY	**Hungye** baz=220	**1.44**	**213**	*e*P	**Pn**	**04 47 25.7**	**-0.9**
EHY	baz=220			*e*S	**Sn**	**04 47 43.5**	**-2.0**
IRIF	**Iriomote-Funau**	**1.46**	**105**	P	**Pn**	**04 47 26.8**	**+0.1**
IRIF				S	**Sn**	**04 47 45.7**	**0.0**
WDJ	**Dajia District** baz=255	**1.46**	**256**	⇑*i*P	**Pn**	**04 47 27.7**	**+0.9**
WDJ	baz=255			*e*S	**Sn**	**04 47 46.1**	**+0.3**
SSLB	**Suanglung** baz=226	**1.46**	**231**	⇑P	**Pn**	**04 47 27.5**	**+0.7**
SSLB	baz=226			*e*S	**Sn**	**04 47 47.4**	**+1.5**
SSLB	**Suanglung**	**1.46**	**231**		**Pn**	**04 47 27.5**	**+0.7**
TYC	**Yuchr** baz=232	**1.46**	**237**	P	**Pn**	**04 47 28.1**	**+1.3**
TYC	baz=232			*e*S	**Sn**	**04 47 47.4**	**+1.6**
TCU	**Taichung** baz=256	**1.49**	**248**	*e*P	**Pn**	**04 47 28.0**	**+0.8**
TCU	baz=256			*e*S	**Sn**	**04 47 47.0**	**+0.4**
YULB	**Yu-li** baz=218	**1.55**	**212**	*e*P	**Pn**	**04 47 27.4**	**-0.6**
YULB	**Yu-li**	**1.55**	**212**		**Pn**	**04 47 26.4**	**-1.6**
EYUL	**Yuli** baz=218	**1.58**	**210**	*e*P	**Pn**	**04 47 27.7**	**-0.7**
EYUL	baz=218			*e*S	**Sn**	**04 47 49.5**	**+0.9**
TWF1	**Yuli** baz=218	**1.58**	**211**	*e*P	**Pn**	**04 47 27.5**	**-0.9**
TWF1	baz=218			*e*S	**Sn**	**04 47 47.2**	**-1.5**
WHYT	**Xinyi Township** baz=239	**1.59**	**230**	*e*P	**Pn**	**04 47 30.0**	**+1.5**
WHYT	baz=239			*e*S	**Sn**	**04 47 51.8**	**+3.0**
WJS	**Zhushan** baz=246	**1.60**	**237**	P	**Pn**	**04 47 30.1**	**+1.5**
WJS	baz=246			*e*S	**Sn**	**04 47 51.0**	**+1.9**
WNT	**Mingjian** baz=247	**1.61**	**239**	*i* P	**Pn**	**04 47 29.7**	**+1.1**
WNT	baz=247			*e*S	**Sn**	**04 47 50.7**	**+1.5**
HATJ	**Hateruma jima**	**1.61**	**114**	P	**Pn**	**04 47 29.1**	**+0.4**
HATJ				*e*S	**Sn**	**04 47 49.7**	**+0.4**
WCHH	**Zhanghua** baz=246	**1.62**	**247**	P	**Pn**	**04 47 29.7**	**+1.0**
WCHH	baz=246			*e*S	**Sn**	**04 47 49.7**	**+0.3**
FULB	**Fuli** baz=217	**1.72**	**209**	*e*P	**Pn**	**04 47 30.1**	**-0.1**
FULB	baz=217			*e*S	**Sn**	**04 47 51.5**	**-0.3**
JKRS	**Kuro-shima**	**1.73**	**106**	P	**Pn**	**04 47 30.7**	**+0.5**
JKRS				S	**Sn**	**04 47 52.5**	**+0.6**
ALS	**Alishan** baz=219	**1.75**	**227**	⇑P	**Pn**	**04 47 32.1**	**+1.4**
ALS	baz=219			*e*S	**Sn**	**04 47 55.0**	**+2.1**
CHN5	**Tsauling** baz=240	**1.77**	**231**	⇑*i*P	**Pn**	**04 47 32.0**	**+1.1**
CHN5	baz=240			*e*S	**Sn**	**04 47 54.4**	**+1.2**
CHKT	**Chengkung** baz=199	**1.78**	**205**	P	**Pn**	**04 47 30.4**	**-0.5**
CHKT	baz=199			*e*S	**Sn**	**04 47 50.8**	**-2.3**
WGK	**Gukeng** baz=243	**1.81**	**236**	*e*P	**Pn**	**04 47 32.6**	**+1.4**
WGK	baz=243			*e*S	**Sn**	**04 47 56.1**	**+2.3**
JIJ	**Ishigaki jima**	**1.81**	**101**	P	**Pn**	**04 47 31.4**	**+0.1**
JIJ				S	**Sn**	**04 47 53.5**	**-0.5**
WDLH	**Douliu** baz=245	**1.82**	**236**	*e*P	**Pn**	**04 47 32.5**	**+1.1**
WDLH	baz=245			*e*S	**Sn**	**04 47 56.1**	**+2.0**
RLNB	**Erlin** baz=251	**1.86**	**244**	*e*P	**Pn**	**04 47 32.6**	**+0.7**
RLNB	baz=251			*e*S	**Sn**	**04 47 55.6**	**+0.6**
ELDTW	**Lidau** baz=216	**1.86**	**215**	*e*P	**Pn**	**04 47 31.7**	**-0.4**
ELDTW	baz=216			*e*S	**Sn**	**04 47 55.0**	**-0.3**
EDH	**Donghe** baz=215	**1.92**	**205**	*e*P	**Pn**	**04 47 32.5**	**-0.2**
EDH	baz=215			*e*S	**Sn**	**04 47 54.4**	**-1.9**
JISG	**Ishigakijimahi**	**1.94**	**93**	P	**Pn**	**04 47 33.2**	**+0.3**
JISG				S	**Sn**	**04 47 57.4**	**+0.6**
WTCT	**Ta-ch'eng** baz=251	**1.94**	**244**	*e*P	**Pn**	**04 47 33.4**	**+0.5**
WTCT	baz=251			*e*S	**Sn**	**04 47 56.7**	**-0.1**
WTK	**Tuku** baz=237	**1.94**	**238**	P	**Pn**	**04 47 34.0**	**+1.0**
WTK	baz=237			*e*S	**Sn**	**04 47 58.0**	**+1.1**
CHN2	**Minshiung** baz=242	**1.96**	**233**	*e*P	**Pn**	**04 47 35.0**	**+1.7**
CHN2	baz=242			*e*S	**Sn**	**04 48 00.8**	**+3.4**
TPUB	**Ta-pu** baz=235	**2.01**	**226**	*e*P	**Pn**	**04 47 35.5**	**+1.7**
TPUB	**Ta-pu**	**2.01**	**226**		**Pn**	**04 47 34.6**	**+0.7**
CHY	**Chiayi** baz=242	**2.02**	**233**	*e*P	**Pn**	**04 47 35.1**	**+1.1**
CHY	baz=242			*e*S	**Sn**	**04 47 59.6**	**+0.8**
STYT	**Tauyuan** baz=220	**2.03**	**221**	P	**Pn**	**04 47 35.7**	**+1.5**
STYT	baz=220			*e*S	**Sn**	**04 47 59.0**	**-0.1**
LONT	**Longtian**	**2.05**	**208**	*e*P	**Pn**	**04 47 33.7**	**-0.7**

baz=202
WTP Ta-pu 2.06 225 P **Pn** 04 47 35.9 +1.4
baz=235
WTP eS **Sn** 04 48 03.2 +3.5
baz=235
WSF Szhu 2.09 239 eP **Pn** 04 47 35.6 +0.7
baz=238
WSF eS **Sn** 04 48 01.2 +0.7
baz=238
WLGB Puzi 2.12 235 eP **Pn** 04 47 35.4 0.0
baz=233
TWK Hsinying 2.12 227 eP **Pn** 04 47 36.6 +1.2
baz=216
TWK eS **Sn** 04 48 02.7 +1.4
baz=216
LDUT Ludao 2.14 198 eP **Pn** 04 47 34.7 -0.9
baz=199
LDUT eS **Sn** 04 47 59.7 -1.9
baz=199
TWGBT Beinan 2.15 208 eP **Pn** 04 47 34.6 -1.1
baz=204
TWGBT eS **Sn** 04 48 00.1 -1.6
baz=204
TWG Pinlang 2.15 209 eP **Pn** 04 47 34.9 -0.8
baz=203
TWG Pinlang 2.15 209 **Pn** 04 47 34.4 -1.3
SNST Tainan City 2.15 226 eP **Pn** 04 47 37.3 +1.6
baz=235
CHN1 Nanshi 2.15 225 eP **Pn** 04 47 37.3 +1.5
baz=235
CHN1 eS **Sn** 04 48 03.8 +1.8
baz=235
TTN Taitung 2.18 206 eP **Pn** 04 47 36.4 +0.3
baz=206
SGST Jiashian 2.19 222 P **Pn** 04 47 37.1 +0.7
baz=221
ICHU Yijhu 2.21 233 eP **Pn** 04 47 37.3 +0.8
baz=231
SLGT Liugui 2.22 220 eP **Pn** 04 47 38.6 +1.9
baz=219
CHN8 Yiju 2.27 233 eP **Pn** 04 47 37.9 +0.6
baz=231
JTJ Tarama 2.29 91 P **Pn** 04 47 38.3 +0.8
JTJ S **Sn** 04 48 06.2 +1.1
PTTC Pingtan 2.33 290 eP **Pn** 04 47 38.4 +0.3
baz=289
SCLT Jiali 2.38 230 eP **Pn** 04 47 39.9 +1.0
baz=237
SCST Cishan 2.40 221 eP **Pn** 04 47 41.2 +2.2
baz=220
ECL Taimali 2.40 208 eP **Pn** 04 47 38.6 -0.4
baz=205
SSD Sandimen 2.43 216 eP **Pn** 04 47 41.2 +1.8
baz=216
TSMG Majia 2.45 216 eP **Pn** 04 47 41.2 +1.4
baz=224
TSMG eS **Sn** 04 48 12.2 +3.2
baz=224
MATB Ma-tsu 2.48 306 eP **Pn** 04 47 39.7 -0.4
baz=304
TWM1 Shoushan 2.48 221 eP **Pn** 04 47 42.8 +2.6
baz=219
VWUC VWUC 2.50 277 eP **Pn** 04 47 39.9 -0.5
baz=275
MASBT Mashibuluo 2.54 215 eP **Pn** 04 47 42.0 +1.1
baz=214
SNJT Kaohsiung City 2.59 221 eP **Pn** 04 47 43.6 +2.0
baz=220
EAST Anshuo 2.63 208 eP **Pn** 04 47 42.0 -0.2
baz=203
TAW Tawu 2.63 207 eP **Pn** 04 47 42.6 +0.4
baz=202
PNG Penghu 2.67 245 eP **Pn** 04 47 42.1 -0.4
baz=243
PHUB P'eng-hu 2.67 244 eP **Pn** 04 47 41.9 -0.8
baz=242
SSPT Xinbi 2.67 214 eP **Pn** 04 47 44.8 +2.1
baz=214
JIRB Irabujima 2.71 87 P **Pn** 04 47 44.2 +1.0
JIRB S **Sn** 04 48 15.5 +0.2
WDGT Dungji 2.73 238 eP **Pn** 04 47 43.5 0.0
baz=236
LAY Lan-yu 2.73 193 eP **Pn** 04 47 42.7 -0.8
baz=193
SCZT Fangliau 2.74 212 eP **Pn** 04 47 45.5 +1.9
baz=222
JIKM Ikemajima 2.79 85 P **Pn** 04 47 45.6 +1.4
JIKM S **Sn** 04 48 17.3 +0.3
SLIU Shizi 2.80 207 eP **Pn** 04 47 44.6 +0.2
baz=208
PTMZ Houxiangcun 2.81 277 eP **Pn** 04 47 44.2 -0.3
baz=275
JMJ Miyako jima 2 2.82 87 eP **Pn** 04 47 46.6 +1.9
baz=89
XPSS Dashiqiu 2.84 321 eP **Pn** 04 47 44.4 -0.5
baz=321
LYJJ Jianjiangzhen 2.85 310 eP **Pn** 04 47 44.6 -0.5
baz=309
JMJ2 Miyako jima3 2.85 89 P **Pn** 04 47 46.6 +1.5
JMJ2 S **Sn** 04 48 19.6 +1.0
WLCH Liuqiu 2.88 216 eP **Pn** 04 47 48.1 +2.6
baz=224
TWP Hsiaoliuchiu 2.90 216 eP **Pn** 04 47 48.9 +3.2
baz=224
JOGS Gusukube 2.93 89 S **Sn** 04 48 21.6 +1.2
VCHM Qimei 2.94 240 eP **Pn** 04 47 45.5 -0.7
baz=238
TWKBT Hengchun 3.04 205 eP **Pn** 04 47 48.5 +0.8
baz=215
TWK1 Hengchun 3.04 205 eP **Pn** 04 47 48.5 +0.8
baz=200
TSEB Hengchuen, Pin 3.04 203 eP **Pn** 04 47 48.8 +1.1
baz=200
MHZQ Yeshan 3.17 296 eP **Pn** 04 47 49.0 -0.3
baz=295
QZH Quanzhou 3.28 275 ǁ iPn **Pn** 04 47 50.5 -0.3
QZH Sn **Sn** 04 48 26.3 -2.5
QZH smax smax
comp=N,860nm,0.8s
QZH smax smax
comp=E,410nm,0.9s
KNMB Chin-men Tao 3.47 267 eP **Pn** 04 47 53.2 -0.2
baz=265
KNMB Chin-men Tao 3.47 267 **Pn** 04 47 52.3 -1.1
AXDP Jialang 3.84 274 eP **Pn** 04 47 58.2 -0.2
baz=272
ZZJH Jiuhuzhen 4.16 268 eP **Pn** 04 48 02.2 -0.5
baz=266
CVP Callao Caves 6.99 183 ǁ iP **Pn** 04 48 44.8 +3.5
CVP i S **Sn** 04 49 59.3 0.0
WHN Wuhan 9.05 312 ⇑P **Pn** 04 49 11.3 +1.9
WHN S Sn 04 51 00.8 +11
WHN LR LR
comp=Z,550nm,5.2s
JNU Nakatsue 11.31 40 P **Pn** 04 49 43.5 +3.3
0.3nm,0.3s,baz=180,slow=11,SNR=2.7
JNU LR LR 04 55 11.8
comp=Z,56nm,18.9s,baz=225,slow=43
QIZ Qiongzhong 12.78 246 P **Pn** 04 49 59.3 -0.6
QIZ S **Sn** 04 52 23.8 +3.4
QIZ pmax pmax
comp=Z,23nm,1.5s
INCN Inchon 13.28 16 Pn **Pn** 04 50 07.2 +0.8
KSAR Wonju Array Be 13.59 20 Pn **Pn** 04 50 10.2 -0.2
KSRS Korea Array 13.61 20 P **Pn** 04 50 13.3 +2.6
1.4nm,0.3s,baz=201,slow=11,SNR=39
KSRS LR LR 04 56 00.5
comp=Z,46nm,20.6s,baz=187,slow=40
KS19 Wonju Array Si 13.63 19 Pn **Pn** 04 50 12.8 +1.7
GYA Guiyang 14.12 280 ⇑P **P** 04 50 20.0 -2.4
GYA pP Pn 04 50 29.0 +11
GYA S **Sn** 04 52 52.8 -0.2
GYA pmax pmax
comp=Z,16nm,1.2s
GYA LR LR
comp=N,490nm,4.3s
GYA LR LR
comp=E,140nm,4.9s
GYA LR LR
comp=Z,180nm,5.3s
XAN Xi'an 14.82 312 **Pn** 04 50 27.8 +1.3
CD2 Chengdu 17.42 295 P **Pn** 04 50 59.5 +0.6
CD2 pmax pmax
comp=Z,30nm,0.8s
JHJ Hachijo jima 2 17.51 57 LR LR 04 57 15.7
comp=Z,51nm,21.1s,baz=16,slow=35
KMI Kunming 17.65 275 ǁ eP **Pn** 04 51 02.5 +0.6
KMI pmax pmax
comp=Z,5.0nm,0.5s
MAT Matsushiro 18.11 46 P **Pn** 04 51 10.6 +3.5
MAT eS **Sn** 04 54 30.4 +1.4
MJAR Matsushiro Arr 18.11 46 P **P** 04 51 05.3 -1.1
0.1nm,0.3s,baz=235,slow=9.7,SNR=7.7
MJAR Matsushiro Arr 18.11 46 P **P** 04 51 06.0 -0.3
HHC Hu-ho-hao-te 18.38 334 eP **Pn** 04 51 10.8 +0.4
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.9s
CN2 Changchun 19.22 7 eP **Pn** 04 51 20.8 +0.5
CN2 pmax pmax
comp=Z,20nm,0.7s
LZH Lanzhou 19.43 310 eP **Pn** 04 51 24.0 +1.0
LZH pP pP 04 51 38.0 -0.3
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.6s
MYLDM Lahad Datu 19.75 191 P **P** 04 51 22.6 -1.8
MYLDM IAmb IAmb 04 51 52.8
comp=Z,12nm,1.2s
CHTO Chiang Mai 22.36 259 P **P** 04 51 52.3 -0.1
CMAR Chiang Mai Arr 22.48 258 P **P** 04 51 55.2 +1.5
comp=Z,1.9nm,0.3s,baz=59,slow=8.5,SNR=7.8
CMAR LR LR 05 01 13.2
comp=Z,30nm,20.1s,baz=103,slow=38
CMAR Chiang Mai Arr 22.48 258 P **P** 04 51 54.1 +0.4
GTA Gaotai 23.87 313 P **P** 04 56 24.3 +7.7
GTA S **S**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,83nm,4.2s
GTA LR LR
comp=Z,68nm,14.5s
GTA LR LR
comp=Z,85nm,15.3s
GTA LR LR
comp=Z,99nm,15.3s
GUMO Guam 24.07 113 LR LR 04 59 47.9
comp=Z,38nm,20.8s,baz=309,slow=32
SBUM Sibu 24.14 205 P **P** 04 52 09.2 -0.1
ASAJ Asahikawa 25.53 36 LR LR 05 02 08.3
comp=Z,50nm,19.8s,baz=166,slow=36
KLR Kul'dur 25.59 15 P **P** 04 52 22.6 +0.4
comp=Z,4.6nm,0.9s,baz=210,slow=6.2,SNR=11
KLR PcP **PcP** 04 55 50.5 -0.4
comp=Z,0.8nm,0.5s,baz=227,slow=2.8,SNR=4.5
KLR LR LR 05 02 33.9
comp=Z,41nm,19.3s,baz=193,slow=36
ULN Ulaanbaatar 26.03 336 P **P** 04 52 26.1 -0.3
SONM Songino Array 26.25 336 P **P** 04 52 28.9 +0.6
comp=Z,5.4nm,0.9s,baz=146,slow=9.1,SNR=15
SONM PcP **PcP** 04 55 51.0 -1.7
comp=Z,0.9nm,0.5s,baz=166,slow=4.7,SNR=3.5
SONM ScP **ScP** 04 59 23.5 -0.9
comp=Z,3.3nm,1.1s,baz=160,slow=6.0,SNR=6.1
SONM LR LR 05 03 07.5
comp=Z,43nm,20.8s,baz=126,slow=37
SONM Songino Array 26.25 336 P **P** 04 52 29.0 +0.7
SONM Songino Array 26.25 336 **ScP** 04 59 24.6 +0.2
SONM Songino Array 26.25 336 **PcP** 04 55 51.0 -1.7
SHL Shillong 27.42 278 P **P** 04 52 39.0 -0.2
SHL IAmb IAmb 04 52 45.2
comp=Z,16nm,1.1s
MYKOM Kota Tinggi 28.87 221 P **P** 04 52 50.7 -1.1
KAPI Kappang 29.65 185 LR LR 05 04 43.6
comp=Z,33nm,20.3s,baz=72,slow=36
TLY Talaya 30.43 337 LR LR 05 05 02.7
comp=Z,35nm,18.7s,baz=148,slow=36
WMQ Urumqi 33.96 313 eP **P** 04 53 38.0 +1.6
WMQ sP sP 04 54 09.5 +2.0
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,92nm,5.7s
YAK Yakutsk 37.64 6 LR LR 05 11 16.2
comp=Z,30nm,18.8s,baz=162,slow=39
MTN Manton Dam 38.34 166 P **P** 04 54 12.5 -1.4
MK31 Makanchi Array 38.60 315 P **P** 04 54 15.4 -0.5
MK31 IAmb IAmb 04 54 38.9
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 38.60 315 P **P** 04 54 16.2 +0.4
comp=Z,1.7nm,0.6s,baz=101,slow=10.0,SNR=16
MKAR PcP **PcP** 04 56 26.3 -0.2
comp=Z,0.7nm,0.7s,baz=86,slow=1.1,SNR=4.1
MKAR ScP **S** 05 00 05.0 -0.4
comp=Z,0.9nm,0.8s,baz=115,slow=5.8,SNR=5.9
MKAR Makanchi Array 38.60 315 P **P** 04 54 15.1 -0.7
MAKZ Makanchi 38.81 315 P **P** 04 54 16.8 -0.7
MAKZ IAmb IAmb 04 54 18.8
comp=Z,3.1nm,0.8s
PETK Petropavlovsk- 38.91 34 LR LR 05 09 52.1
comp=Z,41nm,21.4s,baz=218,slow=35
ZALV Zalesovo Beam 40.30 326 P **P** 04 54 29.3 -0.5
comp=Z,1.7nm,0.5s,baz=107,slow=7.9,SNR=7.9
ZALV ScP **ScP** 05 00 09.9 -3.0
comp=Z,0.3nm,0.3s,baz=116,slow=6.8,SNR=4.4
ZALV Zalesovo Beam 40.30 326 P **P** 04 54 29.2 -0.6
ZALV ScP **ScP** 05 00 10.3 -2.6
RABL Rabaul 40.93 130 P **P** 04 54 36.0 +0.6
H11N1 WAKE ISLAND Hy 41.55 88 T T 05 40 54.9
baz=281,SNR=9.7
H11N2 WAKE ISLAND Hy 41.55 88 T T 05 40 52.1
baz=281
H11N3 WAKE ISLAND Hy 41.56 88 T T 05 40 49.1
baz=281
H11S3 WAKE ISLAND Hy 41.70 90 T T 05 41 03.1
baz=278
H11S1 WAKE ISLAND Hy 41.70 90 T T 05 41 02.5
baz=278
H11S2 WAKE ISLAND Hy 41.71 90 T T 05 41 05.7
baz=278
BOOM Boomskoye usch 41.84 307 P **P** 04 54 42.5 -0.3
BOOM IAmb IAmb 04 54 44.3
comp=Z,12nm,1.7s
KURK Kurchatov 42.28 319 P **P** 04 54 46.0 -0.1
KURK Kurchatov 42.28 319 **ScP** 05 00 18.4 -2.4
KURBB Kurchatov Arra 42.30 319 P **P** 04 54 46.0 -0.2
comp=Z,1.1nm,0.7s,baz=115,slow=8.4,SNR=5.3
KURBB ScP **ScP** 05 00 18.4 -2.4
comp=Z,0.3nm,0.3s,baz=97,slow=3.4,SNR=6.3
GAR Garm 45.72 301 P **P** 04 55 14.3 +0.4
WB0 Warramunga Arr 45.79 164 P **P** 04 55 13.8 -0.6
KKAR Karatay Array 45.88 307 P **P** 04 55 16.3 +1.3
WRAB Tennant Creek 45.93 164 P **P** 04 55 15.3 -0.3
WRA Warramunga Arr 45.94 164 P **P** 04 55 15.8 +0.2
comp=Z,17nm,0.5s,baz=346,slow=8.7,SNR=174
WB2 Warramunga Arr 45.94 164 P **P** 04 55 14.8 -0.8
WR0 Warramunga Arr 46.01 164 P **P** 04 55 15.3 -0.8
CHGR Chuyangaron 46.61 301 P **P** 04 55 21.4 +0.4
KBL Kabul 46.77 295 P **P** 04 55 22.0 -0.3
KBL IAmb IAmb 04 55 25.5
comp=Z,6.9nm,0.9s
TIXI Tiksi 47.11 3 P **P** 04 55 23.0 -1.2
AS31 Alice Springs 49.42 166 P **P** 04 55 41.9 -0.6
ASAR Alice Springs 49.42 166 P **P** 04 55 43.0 +0.4
comp=Z,6.4nm,0.8s,baz=345,slow=6.7,SNR=51
CTAO Charters Tower 50.32 150 P **P** 04 55 49.6 +0.3
ABKAR Akbulak array 53.73 314 P **P** 04 56 14.7 +0.3
GEYT Alibeck 55.32 300 P **P** 04 56 27.4 +1.3
comp=Z,2.4nm,0.7s,baz=78,slow=8.2,SNR=3.6
GEYT Alibeck 55.32 300 P **P** 04 56 25.6 -0.5
STKA Stephens Creek 59.26 161 P **P** 04 56 53.6 0.0
comp=Z,4.2nm,0.8s,baz=341,slow=9.0,SNR=7.1
STKA Stephens Creek 59.26 161 IAmb IAmb 04 57 07.8
comp=Z,5.8nm,1.7s
TOO Toolangi 65.72 160 P **P** 04 57 36.6 0.0
MDM Murphy Dome 67.72 27 P **P** 04 57 49.1 +0.1
MDM IAmb IAmb 04 57 50.0
comp=Z,5.2nm,0.9s
RND Reindeer 67.74 29 P **P** 04 57 48.6 -0.7
ILAR Eielson Array 68.32 27 P **P** 04 57 53.0 +0.2
comp=Z,1.2nm,0.9s,baz=286,slow=7.8,SNR=12
ARCES ARCESS Array B 69.39 338 P **P** 04 57 58.4 -1.0
comp=Z,2.1nm,0.8s,baz=46,slow=5.9,SNR=6.0
FINES FINESS Array B 71.45 330 P **P** 04 58 12.9 +0.9
comp=Z,3.3nm,0.9s,baz=97,slow=7.9,SNR=7.8
FINES LR LR 05 33 37.3
comp=Z,118nm,18.0s,baz=250,slow=39
YKA Yellowknife Ar 82.12 23 P **P** 04 59 11.6 -0.4
comp=Z,2.1nm,0.8s,baz=320,slow=4.4,SNR=12
NVAR Mina Array Bea 95.42 43 P **P** 05 00 17.2 +0.6
comp=Z,1.8nm,0.7s,baz=296,slow=6.6,SNR=13
NVAR Mina Array Bea 95.42 43 P **P** 05 00 16.7 +0.2
TXAR Lajitas Array 110.51 42 PKiKP **PKiKP** 05 05 23.2 -0.9
comp=Z,0.1nm,0.5s,baz=192,slow=2.5,SNR=6.0
TORD Torodi Ar. Bea 110.83 296 PKiKP **PKiKP** 05 05 23.6 -1.3
comp=Z,0.5nm,0.9s,baz=346,slow=3.8,SNR=2.6
ROSC El Rosal 146.51 31 PKPbc **PKPab** 05 06 34.4 -0.5
comp=Z,5.8nm,0.6s,baz=319,slow=19,SNR=5.5
ROSC El Rosal 146.51 31 **PKPab** 05 06 35.5 +0.6
LPAZ La Paz 167.21 51 PKPab **PKPab** 05 08 00.8 -2.5
comp=Z,0.7nm,0.8s,baz=349,slow=6.2,SNR=5.6

*IDC **26** 04:59:16.7±3.1, 38.06N×142.66E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.4/66, mbtmp3.8/5, ML2.7/3, MS2.2/1, Ms1 2.2/1, ms1mx2.0/43, Error ellipse: s-maj=61.4km s-min=37.0km az=52.0*

*JMA **26** 04:59:24.2±0.1, 38.06N×141.82E, h47km±1km, M3.6*

ISC 26 04:59:23.8±2.0, 38.03N±0.04×141.9E±0.1, h38km±4km, n27, σ1s14/33, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
JIKH	**Ishinomakikobu**	**0.45**	**308**	P	**Pn**	**04 59 33.9**	**+0.2**
JIKH				S	**Sn**	**04 59 40.5**	**-0.3**
JIO	**Ouri**	**0.62**	**313**	P	**Pn**	**04 59 35.8**	**-0.4**
JIO				S	**Sn**	**04 59 43.9**	**-0.9**
JKMT	**Kesennumamotoy**	**0.85**	**336**	P	**Pn**	**04 59 39.0**	**-0.3**
JKMT				eS	**Sn**	**04 59 49.5**	**-1.1**
JMST	**Minamisoumatoc**	**0.87**	**250**	P	**Pn**	**04 59 39.2**	**-0.4**
JMST				S	**Sn**	**04 59 50.1**	**-1.0**
JMM	**Marumori**	**0.91**	**260**	P	**Pn**	**04 59 39.5**	**-0.5**
JMM				eS	**Sn**	**04 59 50.8**	**-1.1**
JOU	**Okura**	**1.04**	**289**	P	**Pn**	**04 59 41.8**	**-0.1**
JOU				eS	**Sn**	**04 59 53.9**	**-1.4**
JFK	**Kawauchi**	**1.06**	**232**	P	**Pn**	**04 59 41.9**	**-0.3**
JFK				S	**Sn**	**04 59 54.7**	**-1.1**
JMK	**Ichinoseki**	**1.07**	**329**	P	**Pn**	**04 59 42.3**	**0.0**
JMK				eS	**Sn**	**04 59 55.2**	**-0.7**
JFT	**Otama**	**1.36**	**248**	P	**Pn**	**04 59 46.6**	**+0.4**
JYS	**Shirataka**	**1.48**	**278**	P	**Pn**	**04 59 47.8**	**0.0**
JYK	**Kaneyama**	**1.51**	**306**	P	**Pn**	**04 59 48.6**	**+0.3**
JOM	**Ohasama**	**1.52**	**341**	P	**Pn**	**04 59 49.0**	**+0.5**
JOM				eS	**Sn**	**05 00 06.9**	**-0.1**
JRG	**Rokugo**	**1.69**	**324**	P	**Pn**	**04 59 51.4**	**+0.6**
JRG				eS	**Sn**	**05 00 12.4**	**+1.1**
JYA	**Atsumi**	**1.82**	**289**	P	**Pn**	**04 59 52.8**	**+0.2**
JFY	**Yanaizu**	**1.86**	**251**	P	**Pn**	**04 59 53.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.31**	**244**	Pn	**Pn**	**05 00 16.9**	**+3.7**
	0.4nm,0.3s,baz=66,slow=11,SNR=44						
MJAR				LR	LR	05 01 21.2	
	comp=Z,32nm,19.2s,baz=105,slow=32						
MAT	**Matsushiro**	**3.31**	**244**	P	**Pn**	**05 00 15.0**	**+1.9**
MAT				eS	**Sn**	**05 00 51.7**	**+0.4**
JHJ	**Hachijo jima 2**	**5.20**	**200**	Pn	**Pn**	**05 00 39.5**	**+0.5**
	3.5nm,0.3s,baz=209,slow=18,SNR=2.4						
JHJ				Sn	**Sn**	**05 01 37.4**	**-0.4**
	1.5nm,0.3s,baz=60,slow=20,SNR=1.1						
USRK	**Ussuriysk Ar.**	**9.70**	**313**	Pn	**Pn**	**05 01 43.4**	**+2.7**
	baz=122,slow=14,SNR=2.7						
H11N2	**WAKE ISLAND Hy 28.33**	**123**		T	T	05 35 31.5	
	baz=316,slow=76,SNR=9.7						
H11N1	**WAKE ISLAND Hy 28.34**	**123**		T	T	05 35 32.2	
	baz=316,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy 28.35**	**123**		T	T	05 35 32.8	
	baz=316,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy 29.08**	**125**		T	T	05 36 29.2	
	baz=318,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy 29.08**	**125**		T	T	05 36 30.1	
	baz=318,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy 29.10**	**125**		T	T	05 36 29.7	
	baz=318,slow=76,SNR=20						
WRA	**Warramunga Arr**	**58.10**	**188**	P	**P**	**05 09 12.7**	**-0.7**
	0.9nm,0.7s,baz=7.4,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**61.83**	**188**	P	**P**	**05 09 38.2**	**-0.7**
	0.3nm,0.7s,baz=360,slow=4.3,SNR=2.2						

*IDC **26** 04:59:35.7±1.5, 1.83N×126.21E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.6/58, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=112.4km s-min=19.6km az=67.0*

*NEIC **26** 04:59:41.9±0.9, 1.7N±0.1×126.2E±0.0, h47km±13km, mb4.2/8, Error ellipse: s-maj=16.9km s-min=10.3km az=209.0*

ISC 26 04:59:41.0±0.9, 1.7N±0.1×126.2E±0.1, h35km, n19, σ1s13/16, mb4.1/7, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
TNTI	**Ternate**	**1.54**	**129**	Pn	**Pn**	**05 00 06.6**	**+0.5**
LUWI	**Luwuk**	**4.37**	**231**	Pn	**Pn**	**05 00 45.3**	**+0.3**
KCP	**Kidapawan**	**5.34**	**349**	ǁ eP	Pn	05 01 05.2	+6.9
MYLDM	**Lahad Datu**	**8.37**	**294**	Pn	**Pn**	**05 01 42.1**	**+2.2**
FITZ	**Fitzroy Crossi**	**19.72**	**181**	P	**P**	**05 04 07.6**	**-0.1**
	0.1nm,0.3s,baz=12,slow=13,SNR=1.8						
FITZ	**Fitzroy Crossi**	**19.72**	**181**	IAmb	IAmb	05 04 08.0	
	comp=Z,30nm,2.0s						
WRAB	**Tennant Creek**	**22.99**	**160**	P	**P**	**05 04 41.9**	**-1.0**
WRAB				IAmb	IAmb	05 05 38.5	
	comp=Z,9.0nm,1.0s						
WRA	**Warramunga Arr**	**23.00**	**160**	P	**P**	**05 04 42.5**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=339,slow=11,SNR=34						
WB2	**Warramunga Arr**	**23.00**	**160**	P	**P**	**05 04 43.0**	**0.0**
KNMB	**Chin-men Tao**	**23.81**	**342**	P	**P**	**05 04 47.9**	**-2.9**
AS31	**Alice Springs**	**26.36**	**164**	P	**P**	**05 05 13.9**	**-0.2**
ASAR	**Alice Springs**	**26.36**	**164**	P	**P**	**05 05 15.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=348,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**26.36**	**164**	P	**P**	**05 05 13.4**	**-0.7**
STKA	**Stephens Creek**	**36.50**	**158**	P	**P**	**05 06 43.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=322,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**36.50**	**158**	IAmb	IAmb	05 07 04.6	
	comp=Z,6.5nm,2.0s						
MKAR	**Makanchi Array**	**58.87**	**326**	P	**P**	**05 09 36.1**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=125,slow=7.2,SNR=6.1						
MAKZ	**Makanchi**	**59.05**	**326**	P	**P**	**05 09 37.6**	**0.0**
MAKZ				IAmb	IAmb	05 11 46.1	
	comp=Z,3.6nm,1.1s						
KURBB	**Kurchatov Arra**	**63.10**	**328**	P	**P**	**05 10 04.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=128,slow=6.3,SNR=2.3						
KURK	**Kurchatov**	**63.11**	**328**	P	**P**	**05 10 04.6**	**-0.4**

IDC 26 05:00:21.2±7.0, 0.57S×123.31E, h104km±64km, mb3.4/3, mb1 3.7/4, mb1mx3.2/57, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=57.4km s-min=23.0km az=48.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
KAPI	**Kappang**	**5.67**	**219**	P	Pn	05 01 42.7	-0.4
	3.4nm,0.3s,baz=20,slow=2.6,SNR=9.2						
KAPI				S	Sn	05 02 47.6	+0.7
	baz=44,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**22.08**	**151**	P	P	05 05 08.9	+0.9
	1.7nm,0.9s,baz=326,slow=12,SNR=13						
ASAR	**Alice Springs**	**25.16**	**157**	P	P	05 05 36.8	-0.2
	0.6nm,0.4s,baz=341,slow=7.9,SNR=8.2						
ASAR				PcP	PcP	05 09 07.4	-1.2
	0.7nm,0.7s,baz=347,slow=2.0,SNR=5.7						
CMAR	**Chiang Mai Arr**	**30.51**	**310**	P	P	05 06 25.2	+0.4
	0.9nm,0.4s,baz=118,slow=5.5,SNR=4.3						

*IDC **26** 05:05:34.2±3.8, 36.80N×71.64E, h61km±33km, mb3.5/11, mb1 3.7/15, mb1mx3.4/57, mbtmp4.0/15, ML4.2/4, Error ellipse: s-maj=25.4km s-min=17.8km az=7.0*

*NEIC **26** 05:05:40.8±1.6, 37.15N±0.05×71.54E±0.09, h126km±4km, mb4.0/11, Error ellipse: s-maj=11.0km s-min=7.9km az=87.0*

*NNC **26** 05:05:42.3±2.1, 37.33N×71.25E, h114km±29km, mb3.8, mpv4.4, Error ellipse: s-maj=19.4km s-min=10.4km az=161.0*

ISC 26 05:05:38.8±0.5, 37.11N±0.04×71.53E±0.04, h106km, n92, σ2s62/103, mb3.7/13, 10C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
BTK	**Batken**	**3.00**	**349**		**Pn**	**05 06 28.6**	**+3.9**
BTK				Sn	**Sn**	**05 07 00.1**	**-0.1**
KBL	**Kabul**	**3.26**	**219**		**Pn**	**05 06 32.0**	**+3.6**
KBL				Sn	**Sn**	**05 07 09.8**	**+3.2**
CEP	**Cherat**	**3.29**	**175**	P	**Pn**	**05 06 31.2**	**+2.5**

CEP				S		Sn	05 07 08.0 +0.8
NIL	**Nilore**	**3.72**	**157**			**Pn**	**05 06 37.3 +2.9**
NIL				Sn		Sn	05 07 15.4 -2.0
THW	**Thamme Wali**	**4.30**	**178**	P		**Pn**	**05 06 44.2 +2.0**
TAS	**Tashkent**	**4.56**	**338**	Pn		**Pn**	**05 06 48.4 +2.8**
SARP	**Sargodha**	**5.26**	**169**	P		**Pn**	**05 06 56.1 +1.0**
AML	**Almayashu**	**5.29**	**18**	P		**Pn**	**05 06 58.5 +2.7**
	SNR=30						
UCH	**Uchtor**	**5.61**	**23**	P		**Pn**	**05 07 02.6 +2.4**
	SNR=57						
EKS2	**Erkin-Say**	**5.81**	**17**	P		**Pn**	**05 07 05.5 +2.9**
	SNR=47						
AAK	**Ala-Archa**	**5.97**	**21**	P		**Pn**	**05 07 07.8 +2.9**
	SNR=42						
AAK	**Ala-Archa**	**5.97**	**21**	⇓P		**Pn**	**05 07 07.7 +2.9**
	12nm,0.3s						
AAK				⇑S		**Sn**	**05 08 12.5 +0.5**
	70nm,0.4s						
KK31	**Karatay Array**	**6.04**	**353**	⇑P		**Pn**	**05 07 08.0 +2.3**
	40nm,0.3s,baz=174,slow=12,SNR=1203						
KK31				⇑S		**Sn**	**05 08 12.1 -1.3**
	32nm,0.5s,baz=165,slow=19,SNR=10.0						
KK31	**Karatay Array**	**6.04**	**353**			**Pn**	**05 07 08.0 +2.3**
KK31				Sn		**Sn**	**05 08 12.4 -1.0**
KKAR	**Karatay Array**	**6.04**	**353**			**Pn**	**05 07 08.0 +2.4**
KKAR				Sn		**Sn**	**05 08 12.6 -0.8**
KKAR	**Karatay Array**	**6.04**	**353**			**Pn**	**05 07 07.7 +2.1**
KBK	**Karagaybulak**	**6.13**	**24**	P		**Pn**	**05 07 10.0 +2.9**
	SNR=9.0						
DHRM	**DHARAMSHALA**	**6.24**	**140**	*eP*		**Pn**	**05 07 08.7 +0.2**
DHRM				*eS*		**Sn**	**05 08 14.6 -3.9**
DHRM				IAML			05 08 18.6
	comp=E,734nm,0.3s						
DHRM				IAML			05 08 20.8
	comp=N,1μm,0.0s						
ULHL	**Ulahol**	**6.29**	**34**	P		**Pn**	**05 07 11.1 +2.0**
	SNR=11						
BOOM	**Boomskoye usch**	**6.36**	**31**	Pn		**Pn**	**05 07 12.5 +2.4**
CHMS	**Chumysh**	**6.38**	**22**	P		**Pn**	**05 07 12.8 +2.6**
	SNR=13						
USP	**Ospenovka**	**6.56**	**19**	P		**Pn**	**05 07 14.7 +2.0**
	SNR=7.1						
TKM2	**Tokmak 2**	**6.59**	**27**	P		**Pn**	**05 07 15.9 +2.6**
	SNR=15						
TKM2	**Tokmak 2**	**6.59**	**27**	⇑P		**Pn**	**05 07 15.8 +2.6**
	comp=N,9.9nm,0.5s						
TKM2				⇑S		**Sn**	**05 08 28.4 +1.3**
	comp=N,28nm,0.9s						
KDJ	**Kajisay**	**6.64**	**39**	Pn		**Pn**	**05 07 16.2 +2.2**
PRZ	**Przheval'sk**	**7.53**	**42**	Pn		**Pn**	**05 07 26.7 +0.6**
SMLA	**Simla**	**7.57**	**140**	*eP*		**Pn**	**05 07 26.3 -0.1**
SMLA				*eS*		**Sn**	**05 08 45.2 -5.4**
SMLA				IAML			05 08 52.7
	comp=N,317nm,0.6s						
HRA	**Herat**	**8.03**	**253**	Pn		**Pn**	**05 07 32.1 -0.7**
DDI	**Dehra Dun**	**8.67**	**139**	*eP*		**Pn**	**05 07 43.2 +1.7**
DDI				*eS*		**Sn**	**05 09 13.6 -4.0**
PDGK	**Podgornoye**	**8.70**	**42**	⇓P		**Pn**	**05 07 43.0 +1.2**
	comp=N,4.0nm,0.6s						
PDGK				⇓S		**Sn**	**05 09 21.8 +3.7**
	comp=N,14nm,0.9s						
NDI	**New Delhi**	**9.66**	**149**	*eP*		**Pn**	**05 07 57.5 +2.7**
SONA	**Sohna**	**9.99**	**151**	*eS*		Sn	05 09 41.1 -8.4
SONA				IAML			05 09 46.8
	comp=N,39nm,0.3s						
SONA				IAML			05 09 46.8
	comp=E,53nm,0.3s						
GYA2	**ALIBECK ARRAY**	**10.69**	**278**			**Pn**	**05 08 07.8 -0.9**
GEYT	**Alibeck**	**10.69**	**278**	P		**Pn**	**05 08 07.8 -1.0**
	comp=E,5.7nm,0.3s,baz=132,slow=12,SNR=32						
GEYT				S		**Sn**	**05 10 00.4 -6.1**
	comp=E,1.7nm,0.3s,baz=102,slow=14,SNR=4.2						
GEYT	**Alibeck**	**10.69**	**278**			**Pn**	**05 08 07.5 -1.3**
GYA0B	**ALIBECK ARRAY**	**10.69**	**278**	⇓P		**Pn**	**05 08 07.4 -1.3**
GYA0B				⇑S		**Sn**	**05 10 03.4 -3.1**
GYA0B	**ALIBECK ARRAY**	**10.69**	**278**	Pn		**Pn**	**05 08 08.1 -0.7**
MAKZ	**Makanchi**	**12.41**	**35**	Pn		**Pn**	**05 08 31.8 +0.2**
MK31	**Makanchi Array**	**12.55**	**36**			**Pn**	**05 08 34.4 +1.0**
MKAR	**Makanchi Array**	**12.55**	**36**	P		**Pn**	**05 08 30.9 -2.6**
	comp=E,0.2nm,0.3s,baz=207,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**12.55**	**36**	Pn		**Pn**	**05 08 34.6 +1.1**
PYUN	**Piuthan**	**13.18**	**130**	*eP*		Pn	05 08 37.8 -4.2
	comp=E,130nm,0.3s						
DANN	**Dangsing**	**13.49**	**127**	*eP*		Pn	05 08 41.4 -4.7
	comp=E,63nm,0.3s						
KOLN	**Koldanda**	**13.79**	**129**	*eP*		Pn	05 08 44.9 -5.1
	comp=E,34nm,0.3s						
GKN	**Gorkha**	**14.29**	**126**	*eP*		Pn	05 08 52.6 -3.7
	comp=E,70nm,0.3s						
KURBB	**Kurchatov Arra**	**14.41**	**18**	P		**Pn**	**05 08 55.5 -2.1**
	comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=2.5						
KURBB	**Kurchatov Arra**	**14.41**	**18**	⇓P		**P**	**05 09 00.4 -1.0**
	comp=E,5.1nm,0.7s						
KURK	**Kurchatov**	**14.52**	**18**	P		**P**	**05 09 04.0 +1.5**
BHPL	**Bhopal**	**14.72**	**158**	*eP*		**P**	**05 09 06.9 +1.8**
BHPL				*eS*		Sn	05 11 32.6 -12
AB08	**Akbulak array**	**14.77**	**329**	P		**Pn**	**05 09 01.6 -0.5**
AB31	**Akbulak array**	**14.77**	**329**	⇓P		**Pn**	**05 09 02.3 +0.1**
	comp=E,4.4nm,0.3s,baz=135,slow=14,SNR=291						
AB31				⇑S		**Sn**	**05 11 39.6 -5.5**
	comp=E,9.5nm,0.7s,baz=154,slow=24,SNR=9.7						
ABKAR	**Akbulak array**	**14.77**	**329**	P		**Pn**	**05 09 02.1 0.0**
KKN	**Kakani**	**14.85**	**125**	*eP*		Pn	05 08 58.9 -4.7
	comp=E,17nm,0.2s						
DMN	**Daman**	**14.86**	**126**	*eP*		Pn	05 08 59.8 -3.9
	comp=E,51nm,0.4s						
PKIN	**Phulchoki**	**15.07**	**125**	*eP*		**Pn**	**05 09 02.2 -4.2**
	comp=E,48nm,0.6s						
PKI	**Pulchoki**	**15.08**	**125**	*eP*		**Pn**	**05 09 02.6 -4.0**
	comp=E,32nm,0.4s						
GUN	**Gumba**	**15.17**	**123**	*eP*		**Pn**	**05 09 03.4 -4.3**
	comp=E,51nm,0.5s						
BRVK	**Borovoye**	**15.98**	**357**	⇑P		**P**	**05 09 18.9 +0.2**
	comp=E,2.9nm,0.5s						
BRVK	**Borovoye**	**15.98**	**357**			**Pn**	**05 09 16.4 -0.9**
BRVK				IAmb		IAmb	05 09 21.1
	comp=Z,4.7nm,0.5s						
RAMN	**Ramite**	**16.28**	**124**	*eP*		**Pn**	**05 09 17.9 -3.6**
	comp=Z,38nm,0.4s						
AKTO	**Aktyubinsk**	**16.48**	**328**	P		**Pn**	**05 09 24.2 +0.7**
	comp=Z,2.4nm,0.3s,baz=133,slow=12,SNR=26						
AKTO				S		**Sn**	**05 12 16.3 -10**
	comp=Z,0.1nm,0.3s,baz=183,slow=23,SNR=1.8						
AKTO	**Aktyubinsk**	**16.48**	**328**	⇑P		**Pn**	**05 09 23.2 -0.3**
	comp=Z,16nm,0.9s						
AKTO				⇑S		**Sn**	**05 12 20.1 -6.1**
	comp=Z,11nm,0.8s						
TAPN	**Taplejung**	**16.77**	**121**	*eP*		**Pn**	**05 09 24.6 -3.0**
	comp=Z,18nm,0.3s						
ODAN	**Odare**	**16.87**	**123**	*eP*		**Pn**	**05 09 25.7 -3.0**
	comp=Z,34nm,0.4s						
LSA	**Lhasa**	**17.95**	**109**	P		**P**	**05 09 39.9 -1.2**
ZAA0	**Zalesovo Array**	**19.19**	**24**	⇓P		**Pn**	**05 09 55.7 -0.2**
	comp=Z,0.4nm,0.4s						
ZAA0	**Zalesovo Array**	**19.19**	**24**			**P**	**05 09 54.8 +0.9**
ZAA0				IAmb		IAmb	05 09 58.0
	comp=Z,5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**19.19**	**24**	P		**P**	**05 09 55.2 +1.3**
	comp=Z,1.8nm,0.3s,baz=231,slow=9.4,SNR=21						
ZALV	**Zalesovo Beam**	**19.19**	**24**	P		**P**	**05 09 54.6 +0.7**
SHL	**Shillong**	**20.80**	**118**	P		**P**	**05 10 12.8 +1.0**
ARU	**Arti**	**21.21**	**340**	P		**P**	**05 10 17.3 +1.6**
	comp=Z,1.2nm,0.5s,baz=140,slow=16,SNR=6.6						
KBZ	**Khabaz**	**22.71**	**296**	P		**P**	**05 10 37.4 +5.8**
	comp=Z,2.8nm,0.8s,baz=127,slow=6.1,SNR=4.5						
KOPT	**Kop Dagi**	**24.38**	**286**	P		**P**	**05 10 47.0 -0.4**
KOPT				IAmb		IAmb	05 11 05.7
	comp=Z,6.5nm,1.1s						
SONM	**Songino Array**	**27.64**	**56**	P		**P**	**05 11 19.0 +2.5**
	comp=Z,0.9nm,0.4s,baz=241,slow=8.6,SNR=3.8						
SONM	**Songino Array**	**27.64**	**56**	P		**P**	**05 11 16.2 -0.3**
AKASG	**Malin Array Be**	**32.91**	**308**	P		**P**	**05 12 04.3 +1.7**
	comp=Z,0.6nm,0.5s,baz=79,slow=6.8,SNR=3.7						
AKASG	**Malin Array Be**	**32.91**	**308**	P		**P**	**05 12 00.2 -2.5**
FINES	**FINESS Array B**	**37.22**	**326**	P		**P**	**05 12 42.1 +2.5**
	comp=Z,1.3nm,0.4s,baz=120,slow=9.0,SNR=16						
FINES	**FINESS Array B**	**37.22**	**326**	P		**P**	**05 12 39.6 0.0**
ARCES	**ARCESS Array B**	**40.75**	**337**	P		**P**	**05 13 11.6 +2.7**
	comp=Z,1.3nm,0.4s,baz=116,slow=9.1,SNR=20						
NB2	**NORSAR Subarra**	**44.16**	**323**	P		**P**	**05 13 38.5 +1.9**
	comp=Z,1.3nm,0.5s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.16**	**323**	P		**P**	**05 13 38.4 +1.7**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.7,SNR=6.2						
ESDC	**Sonseca Array**	**57.55**	**298**	P		**P**	**05 15 19.5 +2.2**
	comp=Z,0.3nm,0.5s,baz=60,slow=7.7,SNR=7.2						
ESDC	**Sonseca Array**	**57.55**	**298**	P		**P**	**05 15 16.6 -0.7**
TORD	**Torodi Ar. Bea**	**66.16**	**269**	P		**P**	**05 16 16.0 +0.7**
	comp=Z,0.6nm,0.4s,baz=50,slow=6.0,SNR=15						
TORD	**Torodi Ar. Bea**	**66.16**	**269**	P		**P**	**05 16 14.7 -0.6**
INK	**Inuvik**	**73.24**	**9**	P		**P**	**05 16 59.5 +1.7**
	comp=Z,0.6nm,0.5s,baz=340,slow=5.0,SNR=1.1						
INK	**Inuvik**	**73.24**	**9**	P		**P**	**05 16 57.0 -0.8**
WRA	**Warramunga Arr**	**81.95**	**122**	P		**P**	**05 17 46.6 -0.3**
	comp=Z,0.1nm,0.3s,baz=325,slow=5.2,SNR=6.6						
WRA	**Warramunga Arr**	**81.95**	**122**	P		**P**	**05 17 47.7 +0.8**
ASAR	**Alice Springs**	**84.25**	**125**	P		**P**	**05 17 56.9 -1.9**
	comp=Z,0.2nm,0.8s,baz=312,slow=4.8,SNR=1.3						
ASAR	**Alice Springs**	**84.25**	**125**	P		**P**	**05 17 58.9 +0.1**

*NEIC **26** 05:13:40.4±0.8, 34.42N±0.07×69.0E±0.1, h10km±6km, mb3.7/3, Error ellipse: s-maj=13.9km s-min=8.3km az=120.0*

*NNC **26** 05:13:44.3±2.4, 34.80N×68.96E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=26.0km s-min=19.4km az=121.0*

ISC 26 05:13:40.6±1.6, 34.47N±0.09×68.93E±0.09, h11km±7km, n20, σ1§19/25, 5C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**0.12**	**52**		**Pg**	**05 13 43.5**	**-0.3**
KBL				Sg	**Sg**	**05 13 45.9**	**-0.1**
NIL	**Nilore**	**3.68**	**102**		**Pn**	**05 14 37.0**	**-0.5**
NIL				Sn	**Sn**	**05 15 19.8**	**-1.2**
AML	**Almayashu**	**8.52**	**25**	P	**Pn**	**05 15 46.4**	**+2.1**
	SNR=12						
KK31	**Karatay Array**	**8.71**	**8**	P	**Pn**	**05 15 46.5**	**-0.1**
	1.0nm,0.4s,baz=192,slow=15,SNR=22						
KK31				⇑S	**Sn**	**05 17 23.1**	**-1.8**
	1.2nm,0.5s,baz=173,slow=12,SNR=6.1						
KK31	**Karatay Array**	**8.71**	**8**		**Pn**	**05 15 46.8**	**+0.2**
KKAR	**Karatay Array**	**8.71**	**8**		**Pn**	**05 15 47.3**	**+0.7**
KKAR	**Karatay Array**	**8.71**	**8**		**Pn**	**05 15 47.4**	**+0.8**
UCH	**Uchtor**	**8.90**	**28**	P	**Pn**	**05 15 52.1**	**+2.5**
	SNR=14						
AAK	**Ala-Archa**	**9.25**	**26**	P	**Pn**	**05 15 56.3**	**+2.2**
	SNR=9.0						
AAK	**Ala-Archa**	**9.25**	**26**	⇑P	**Pn**	**05 15 55.7**	**+1.6**
	4.9nm,0.5s						
AAK				⇑S	**Sn**	**05 17 37.7**	**-0.5**
	7.6nm,0.9s						
USP	**Ospenovka**	**9.80**	**25**	P	**Pn**	**05 16 02.3**	**+0.8**
	SNR=5.7						
TKM2	**Tokmak 2**	**9.92**	**30**	P	**Pn**	**05 16 05.1**	**+1.8**
	SNR=6.4						
TKM2	**Tokmak 2**	**9.92**	**30**	⇓P	**Pn**	**05 16 03.5**	**+0.2**
	4.1nm,0.8s						
TKM2				⇑S	**Sn**	**05 17 55.0**	**+0.3**
	3.9nm,1.1s						
PDGK	**Podgornoye**	**12.07**	**40**	⇑P	**Pn**	**05 16 33.4**	**+0.7**
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**15.92**	**35**	P	**P**	**05 17 27.9**	**-0.4**
AB31	**Akbulak array**	**16.20**	**338**	⇓P	**P**	**05 17 30.8**	**-0.5**
	0.1nm,0.3s,baz=157,slow=12,SNR=4.3						
ABKAR	**Akbulak array**	**16.20**	**338**	P	**P**	**05 17 31.4**	**+0.1**
ABKAR				IAmb	IAmb	05 17 42.6	
	comp=Z,2.8nm,1.2s						
BRVK	**Borovoye**	**18.61**	**3**	P	**P**	**05 17 57.8**	**-0.1**
BRVK				IAmb	IAmb	05 18 09.0	
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**22.46**	**25**	P	**P**	**05 18 40.3**	**+0.7**
DAMY	**Dhamar**	**29.70**	**234**	P	**P**	**05 19 47.3**	**0.0**
DAMY				IAmb	IAmb	05 19 47.9	
	comp=Z,7.4nm,0.4s						

OTT 26 05:25:57.9±1.1, 75.78N×75.21W, h18km, ML3.5/1, Eastern Arctic Background Seismic Zone. 164km east from Craig Harbour, Nu, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**1.71**	**61**	PN	Pn	05 26 26.9	+0.1
TULEG				SN	Sn	05 26 47.7	-0.4
TULEG				Trac		05 26 59.2	
	comp=Z,20nm,0.3s						
TULEG	**Thule**	**1.71**	**61**	*e*	Pn	05 26 25.6	-1.1
	baz=280,slow=11						
TULEG				*i* P	Pb	05 26 26.8	-2.0
TULEG				*i* S	Sb	05 26 49.3	-0.6
TULEG				IAML		05 26 51.8	
	comp=Z,11nm,0.3s						
KULLO	**Kullorsuaq**	**4.76**	**96**	SN	Sn	05 27 57.3	-5.9
EUNU	**Eureka**	**4.89**	**337**	PN	Pn	05 27 13.3	+3.0
EUNU				Trac		05 28 14.2	
	comp=Z,153nm,3.1s						
RES	**Resolute Bay**	**5.14**	**267**	PN	Pn	05 27 12.9	-0.9
RES				SN	Sn	05 28 09.3	-3.2
RES				Trac		05 28 36.4	
	comp=Z,21nm,0.9s						

*IDC **26** 05:34:33.3±10.0, 7.40S×127.96E, h89km±106km, mb3.5/2, mb1 3.5/4, mb1mx3.2/34, mbtmp3.7/4, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=129.6km s-min=27.6km az=47.0*

ISC 26 05:34:42.2±2.2, 8.45S±0.2×127.8E±0.1, h100km, n7, σ1§06/9, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.44**	**246**	P	**Pn**	**05 35 47.3**	**-0.2**
	50nm,0.3s,baz=71,slow=4.8,SNR=20						
BATI				S	**Sn**	**05 36 38.0**	**-0.1**
	8.4nm,0.3s,baz=56,slow=20,SNR=5.7						
FITZ	**Fitzroy Crossi**	**9.88**	**192**	P	**Pn**	**05 37 02.2**	**+0.8**
	0.9nm,0.3s,baz=332,slow=5.1,SNR=26						
FITZ				S	**Sn**	**05 38 49.8**	**-0.7**
	0.8nm,0.3s,baz=134,slow=24,SNR=8.5						
WRA	**Warramunga Arr**	**13.14**	**152**	P	**Pn**	**05 37 45.1**	**+0.1**
	0.2nm,0.3s,baz=325,slow=14,SNR=8.6						
WRA				S	**Sn**	**05 40 08.3**	**-1.3**
	0.3nm,0.3s,baz=334,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**16.30**	**160**	P	**P**	**05 38 28.4**	**+1.8**
	0.4nm,0.3s,baz=341,slow=11,SNR=31						
ASAR				S	**Sn**	**05 41 26.0**	**-0.1**
	0.1nm,0.3s,baz=317,slow=18,SNR=2.2						
LEM	**Lembang**	**20.04**	**273**	LR	LR	05 48 05.5	
	comp=Z,30nm,20.1s,baz=160,slow=40						
STKA	**Stephens Creek**	**26.68**	**153**	P	**P**	**05 40 11.3**	**-0.7**
	1.2nm,0.4s,baz=324,slow=17,SNR=1.9						
MKAR	**Makanchi Array**	**68.19**	**328**	P	P	05 45 19.5	-12
	0.3nm,0.5s,baz=136,slow=8.5,SNR=2.6						

*NEIC **26** 05:36:00.5±2.5, 13.57S±0.08×166.6E±0.1, h36km±8km, mb4.2/12, Error ellipse: s-maj=20.3km s-min=9.6km az=65.0*

*IDC **26** 05:36:02.6±4.8, 13.81S×166.71E, h65km±44km, mb3.9/11, mb1 4.0/12, mb1mx3.8/34, mbtmp4.1/12, ML3.8/1, MS3.4/10, Ms1 3.4/10, ms1mx3.3/30, Error ellipse: s-maj=30.0km s-min=27.0km az=127.0*

ISC 26 05:35:59.9±0.7, 13.60S±0.07×166.7E±0.1, h35km, n47, σ1§26/42, mb4.2/15, MS3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.91**	**164**		**Pn**	**05 36 31.1**	**+1.1**
SANVU				Sn	**Sn**	**05 36 55.5**	**+2.6**
HNR	**Honiara**	**7.77**	**302**	LR	LR	05 40 19.2	
	comp=Z,120nm,19.9s,baz=139,slow=32						
HNR	**Honiara**	**7.77**	**302**	Pn	**Pn**	**05 37 50.7**	**+0.1**
DZM	**Mont Dzumac**	**8.43**	**181**	P	**Pn**	**05 37 59.9**	**+0.2**
	1.1nm,0.3s,baz=317,slow=20,SNR=17						
DZM				S	**Sn**	**05 39 31.7**	**-2.0**
	baz=140,slow=22,SNR=1.1						
DZM				LR	LR	05 40 55.4	
	comp=Z,162nm,21.0s,baz=28,slow=36						
DZM	**Mont Dzumac**	**8.43**	**181**	*e*Pn	**Pn**	**05 38 00.7**	**+1.0**
	24nm,0.3s						
DZM				*e*Sn	**Sn**	**05 39 29.5**	**-4.1**
	8.5nm,0.2s						
DZM				*e*LR	LR	05 39 54.9	
DZM	**Mont Dzumac**	**8.43**	**181**		**Pn**	**05 38 00.1**	**+0.4**
KRVT	**Keravat (AS076**	**17.14**	**301**	LR	LR	05 46 56.9	
	comp=Z,81nm,20.7s,baz=113,slow=38						
EIDS	**Eidsvold**	**18.75**	**229**	P	**Pn**	**05 40 18.3**	**+1.7**
PMG	**Port Moresby**	**19.55**	**280**	LR	LR	05 47 39.3	
	comp=Z,49nm,18.1s,baz=118,slow=36						
CTA	**Charters Tower**	**20.55**	**249**	P	**P**	**05 40 36.6**	**+0.9**
	3.9nm,0.6s,baz=74,slow=12,SNR=7.2						
CTAO	**Charters Tower**	**20.55**	**249**	P	**P**	**05 40 37.0**	**+1.4**
CTAO				IAmb	IAmb	05 40 37.6	
	comp=Z,6.5nm,0.8s						
URZ	**Urewera**	**26.26**	**161**	LR	LR	05 50 54.6	
	comp=Z,108nm,19.2s,baz=31,slow=34						
BFZ	**Birch Farm**	**28.25**	**164**	P	P	05 41 56.6	+6.8
STKA	**Stephens Creek**	**29.29**	**227**	P	**P**	**05 41 58.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=26,slow=8.8,SNR=3.8						
STKA				LR	LR	05 53 48.9	
	comp=Z,104nm,18.1s,baz=28,slow=36						
STKA	**Stephens Creek**	**29.29**	**227**	P	**P**	**05 41 60.0**	**+0.9**
STKA				IAmb	IAmb	05 42 13.1	
	comp=Z,1.4nm,0.7s						
TOO	**Toolangi**	**30.42**	**215**	P	**P**	**05 42 10.3**	**+1.3**
TOO				IAmb	IAmb	05 42 24.3	
	comp=Z,2.8nm,0.8s						
WB0	**Warramunga Arr**	**31.47**	**254**	P	**P**	**05 42 17.6**	**-0.9**
WB0				IAmb	IAmb	05 42 29.8	
	comp=Z,7.1nm,1.2s						
WC3	**Warramunga Arr**	**31.51**	**254**	P	**P**	**05 42 18.0**	**-0.9**
WC3				IAmb	IAmb	05 42 22.3	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**31.54**	**254**	P	**P**	**05 42 17.7**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=85,slow=8.7,SNR=5.4						
WRA				LR	LR	05 54 35.9	
	comp=Z,131nm,19.3s,baz=95,slow=35						
WRA	**Warramunga Arr**	**31.54**	**254**	P	**P**	**05 42 18.7**	**-0.5**
AS31	**Alice Springs**	**32.53**	**247**	P	**P**	**05 42 27.6**	**-0.3**
ASAR	**Alice Springs**	**32.53**	**247**	P	**P**	**05 42 26.6**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=75,slow=9.8,SNR=8.4						
ASAR				LR	LR	05 55 23.7	
	comp=Z,41nm,19.0s,baz=92,slow=36						
PPT	**Papeete**	**42.28**	**101**	LR	LR	05 56 54.8	
	comp=Z,46nm,21.6s,baz=259,slow=30						
PPT2	**Papeete2**	**42.28**	**101**	*e*LR	LR	05 55 50.1	
	comp=Z,69nm,24.0s						
PSAC2	**Pilbara Seismi**	**45.13**	**253**	P	P	**05 44 12.8**	**-0.6**
PSAC2				IAmb	IAmb	05 44 31.5	
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**56.63**	**333**	P	**P**	**05 45 40.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=161,slow=6.5,SNR=5.3						
JTM	**Tenmabayashi**	**59.08**	**338**	P	**P**	**05 45 57.3**	**+0.7**
VNDA	**Vanda**	**63.97**	**181**	P	**P**	**05 46 30.1**	**+0.9**
VNDA				IAmb	IAmb	05 46 55.2	
	comp=Z,3.8nm,1.4s						
USRK	**Ussuriysk Ar.**	**65.62**	**333**	P	**P**	**05 46 41.9**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=148,slow=5.9,SNR=7.6						
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P	**P**	**05 47 33.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=134,slow=5.2,SNR=2.0						
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P	**P**	**05 47 33.4**	**+1.1**
SONM	**Songino Array**	**81.24**	**324**	P	**P**	**05 48 13.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=134,slow=8.3,SNR=2.4						
ILAR	**Eielson Array**	**85.65**	**18**	P	**P**	**05 48 33.1**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=234,slow=5.5,SNR=7.1						
ILAR	**Eielson Array**	**85.65**	**18**	P	**P**	**05 48 34.1**	**-0.5**
LPIG	**La Paz**	**89.27**	**65**	LR	LR	06 20 21.2	
	comp=Z,112nm,21.7s,baz=160,slow=30						
SNAA	**Sanae**	**94.63**	**183**	P	**P**	**05 49 15.8**	**-1.2**
VNA3	**Neumayer Olymp**	**95.32**	**181**	P	**P**	**05 49 19.2**	**-0.9**
MKAR	**Makanchi Array**	**95.98**	**317**	P	**P**	**05 49 23.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=72,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**95.98**	**317**	P	**P**	**05 49 23.8**	**+0.4**
ZALV	**Zalesovo Beam**	**96.13**	**324**	P	**P**	**05 49 23.3**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=123,slow=5.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**96.13**	**324**	P	**P**	**05 49 23.0**	**-0.9**
ARCES	**ARCESS Array B**	**119.02**	**345**	PKP	**PKPdf**	**05 54 43.3**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=77,slow=1.9,SNR=24						
FINES	**FINESS Array B**	**124.46**	**338**	PKP	**PKPdf**	**05 54 54.0**	**-1.0**
	comp=Z,5.4nm,1.1s,baz=151,slow=4.4,SNR=4.7						
KEST	**Kesra**	**149.96**	**321**	PKPbc	**PKiKP**	**05 55 47.3**	**-0.9**
	comp=Z,7.3nm,0.6s,baz=193,slow=1.8,SNR=15						
KEST	**Kesra**	**149.96**	**321**		**PKiKP**	**05 55 48.0**	**-0.1**
ESDC	**Sonseca Array**	**152.75**	**344**	PKPbc	**PKPbc**	**05 55 53.0**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=9.3,slow=3.9,SNR=8.0

IJOK S Sg 05 54 59.3 -2.3
baz=232
THOR Thorvaldshraun 0.48 39 S Sg 05 54 58.5 -4.1
baz=42
THOR P Pg 05 54 51.6 -4.8
baz=42
IKRE Kreppuhraun 0.48 63 S Sg 05 54 59.7 -3.1
baz=68
IKRE P Pg 05 54 52.2 -4.3
baz=68
IKSK Karasker 0.57 136 P Pg 05 54 54.0 -4.1
baz=139
IIEY Innrieyrar 0.57 214 P Pg 05 54 54.4 -3.8
baz=213
IIEY S Sg 05 55 03.1 -2.6
baz=213
IMKO Mokollar 0.61 47 P Pg 05 54 52.8 -6.1
baz=50
IKAL Kalfafell 0.64 192 P Pg 05 54 56.0 -3.5
baz=192
IKAL S Sg 05 55 06.1 -1.6
baz=192
IVSH V-Sauoahnukur 0.75 71 P Pg 05 54 56.2 -5.5
baz=74
IVSH S Sg 05 55 06.7 -4.7
baz=74
IVAT Vatnsfell 0.77 241 P Pg 05 54 57.8 -4.2
baz=238
ISVA Svartarkot 0.77 4 S Sg 05 55 06.5 -5.6
baz=3.5
ISVA P Pg 05 54 56.1 -5.9
baz=3.5
IADA Aoalbol 0.90 59 S Sg 05 55 11.1 -4.9
baz=61
IADA P Pg 05 54 58.7 -5.7
baz=61
IHVE Hveravellir 0.98 289 P Pg 05 55 00.3 -5.8
baz=286
IMEL Melhnausar 1.05 17 P Pg 05 55 01.0 -6.4
baz=17
IRJU Rjupnafell 1.11 211 P Pg 05 55 02.9 -5.6
baz=210
IFED Fedgar 1.15 243 P Pg 05 55 03.8 -5.3
baz=241
IMJO Mjoaskard 1.19 238 P Pg 05 55 04.7 -5.2
baz=237
IGYG Gygjarholskot 1.26 258 P Pn 05 55 05.4 -6.3
baz=256
IGHA Grjothals 1.31 13 P Pn 05 55 05.3 -7.1
baz=13
IGRA Granastaoir 1.36 357 P Pn 05 55 06.4 -6.6
baz=356
IESK Eystri-Skogar 1.39 222 P Pn 05 55 07.9 -5.5
baz=221
IDIM Dimmadalss 1.41 8 P Pn 05 55 06.8 -6.9
baz=7.4
BORG Borgarnes 1.71 278 Pg **Pn 05 55 13.5 -4.2**
36nm,0.3s,baz=99,slow=8.2,SNR=161
BORG Lg Lg 05 55 38.4
64nm,0.3s,baz=268,slow=21,SNR=14
BORG LR LR 05 56 02.1
comp=Z,33μm,18.3s,baz=81,slow=47
BORG Borgarnes 1.71 278 **Pn 05 55 14.1 -3.6**
BORG Sn **Sn 05 55 39.7 -0.3**
JMIC Jan Mayen 7.26 24 LR LR 05 58 50.8
comp=Z,19μm,18.2s,baz=234,slow=33
LEWI Lewis, Hebride 8.18 137 *eP* **Pn 05 56 44.0 -2.6**
LEWI IAMs_20 IAMs_20 06 00 13.9
comp=Z,14μm,18.9s
DBG Daneborg 9.84 355 *eP* Pn 05 57 14.5 +5.3
DBG IAMs_20 IAMs_20 06 00 05.1
comp=Z,16μm,15.2s
ICESG Greenland Ices 9.84 307 *i* P Pn 05 57 15.0 +5.5
DRUM Mains of Drumt 10.56 130 *eP* **Pn 05 57 17.3 -1.9**
SUMG Summit 11.05 326 *i* P **Pn 05 57 27.0 +0.8**
SUMG MLR MLR
comp=Z,41μm,10.0s
SUMG Summit 11.05 326 **Pn 05 57 25.9 -0.3**
SUMG Summit 11.05 326 *i* P **Pn 05 57 27.0 +0.8**
comp=Z,41μm,10.0s
SUMG Summit 11.05 326 *i* P **Pn 05 57 27.0 +0.8**
SUMG IAML 06 00 17.0
comp=Z,19nm,0.9s
SUMG IAMs_20 IAMs_20 06 01 41.5
comp=Z,41μm,10.2s
CLGH Cloghs, Cushen 11.05 144 *eP* **Pn 05 57 23.5 -2.5**
CLGH IAMs_20 IAMs_20 06 02 01.9
comp=Z,10μm,16.9s
EDI Edinburgh 11.15 134 *eP* **Pn 05 57 24.3 -2.9**
EDI IAMs_20 IAMs_20 06 01 44.0
comp=Z,12μm,18.6s
NEWG New Galloway 11.53 139 *eP* **Pn 05 57 29.9 -2.5**
NEWG IAMs_20 IAMs_20 06 02 29.8
comp=Z,20μm,10.9s
EKB10 Eskdalemuir Ar 11.63 136 Pn **Pn 05 57 31.3 -2.4**
EKB9 Eskdalemuir Ar 11.63 136 Pn **Pn 05 57 33.5 -0.4**
EKB7 Eskdalemuir Ar 11.64 136 Pn **Pn 05 57 32.8 -1.2**
EKA Eskdalemuir Ar 11.65 136 Pn **Pn 05 57 31.9 -2.2**
baz=325,slow=13,SNR=18
EKA LR LR 06 02 00.2
comp=Z,8μm,18.2s,baz=330,slow=37
ESK Eskdalemuir 11.65 136 *eP* **Pn 05 57 31.1 -3.0**
ESK IAMs_20 IAMs_20 06 02 18.2
comp=Z,12μm,14.5s
ESK Eskdalemuir 11.65 136 P **Pn 05 57 33.6 -0.5**
ESK Eskdalemuir 11.65 136 Pn **Pn 05 57 33.6 -0.5**
EKB4 Eskdalemuir Ar 11.65 136 Pn **Pn 05 57 32.8 -1.3**
EKB3 Eskdalemuir Ar 11.66 136 Pn **Pn 05 57 32.7 -1.4**
DY2G Dye2 12.07 292 IAMs_20 IAMs_20 06 01 52.0
comp=Z,12μm,16.0s
DAG Danmarks Havn 12.27 359 *eP* **Pn 05 57 44.2 +1.8**
DAG MLR MLR
comp=Z,10μm,25.0s
DAG Danmarks Havn 12.27 359 *i* P **Pn 05 57 44.2 +1.8**
comp=Z,10μm,25.0s
DAG Danmarks Havn 12.27 359 *eP* **Pn 05 57 44.3 +1.8**
DAG IAMs_20 IAMs_20 06 01 06.9
comp=Z,10μm,24.7s
DSB Dublin 12.67 148 Pn **Pn 05 57 47.4 -0.7**
NC204 NORSAR Array S 13.18 92 **Pn 05 57 53.3 -1.7**
NBO00 NORSAR Array S 13.30 92 Pn **Pn 05 57 55.1 -1.4**
NC303 NORSAR Array S 13.46 91 Pn **Pn 05 57 59.2 +0.5**
NOA NORSAR Array B 13.48 92 Pn **Pn 05 57 55.8 -3.3**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.9
NOA LR LR 06 02 58.5
comp=Z,4μm,21.1s,baz=295,slow=36
NC405 NORSAR Array S 13.66 91 Pn **Pn 05 58 02.3 +0.8**
SFJD Kangerlussuaq 13.75 295 LR LR 06 02 57.6
comp=Z,17μm,18.2s,baz=88,slow=36
SFJD Kangerlussuaq 13.75 295 IAMs_20 IAMs_20 06 02 53.6
comp=Z,1μm,14.1s
FOEL Foel Wyfa 13.79 141 IAMs_20 IAMs_20 06 05 27.4
comp=Z,12μm,12.4s
ILULI Ilulissat 13.89 304 IAMs_20 IAMs_20 06 03 02.3
comp=Z,13μm,14.2s
CWF Charnwood Fore 14.45 138 IAMs_20 IAMs_20 06 04 11.4
comp=Z,11μm,11.7s
NUUK Nuuk 14.76 284 *i* P **P 05 58 23.1 +0.5**
NUUK IAMs_20 IAMs_20 06 03 51.2
comp=Z,8μm,10.2s
NUUG Nuugaatsiaq 14.87 313 IAMs_20 IAMs_20 06 03 48.5
comp=Z,14μm,12.2s
HFS Hagfors 14.99 93 Pn **Pn 05 58 18.0 -1.6**
comp=Z,0.1nm,0.3s,baz=277,slow=5.7,SNR=2.3
HFS LR LR 06 03 44.7
comp=Z,5μm,21.9s,baz=284,slow=36
UPNV Upernavik 15.98 317 IAMs_20 IAMs_20 06 04 27.5
comp=Z,13μm,11.4s
KULLO Kullorsuaq 16.70 323 IAMs_20 IAMs_20 06 04 56.2
comp=Z,9μm,11.8s
KBS Kingsbay 16.72 19 *eP* **P 05 58 45.4 +1.2**
SPITS Spitsbergen Ar 16.94 23 LR LR 06 03 37.3
comp=Z,6μm,19.5s,baz=215,slow=31
NOR Nord 17.12 0 *i* P **P 05 58 48.5 -0.2**
NOR MLR MLR
comp=Z,7μm,25.0s
NOR Nord 17.12 0 *i* P **P 05 58 48.5 -0.2**
comp=Z,7μm,25.0s
NOR Nord 17.12 0 *i* P **P 05 58 48.6 -0.2**
NOR IAMs_20 IAMs_20 06 03 44.7
comp=Z,7μm,24.7s
ARCES ARCESS Array B 17.14 54 P **Pn 05 58 47.2 0.0**
baz=300,slow=9.7,SNR=5.6
ARCES LR LR 06 04 08.6
comp=Z,6μm,20.0s,baz=285,slow=33
COP Copenhagen 17.15 107 *eP* **P 05 58 48.5 -0.6**
COP MLR MLR
comp=Z,3μm,21.0s
COP Copenhagen 17.15 107 *i* P **P 05 58 48.5 -0.6**
comp=Z,3μm,21.0s
COP Copenhagen 17.15 107 *eP* **P 05 58 48.6 -0.6**
COP IAMs_20 IAMs_20 06 04 19.5
comp=Z,3μm,21.1s
BSEG Bad Segeberg 17.55 114 *eP* **Pn 05 58 51.0 -1.4**
comp=Z,196nm,1.7s,baz=325,slow=11
BSEG eL L 06 06 17.3
comp=Z,9μm,18.1s
KEV Kevo 17.64 53 P **Pn 05 58 51.8 -1.6**
KEV pmax pmax
comp=Z,86nm,1.2s
KEV Kevo 17.64 53 Pn **Pn 05 58 51.8 -1.6**
IBBN Ibbenburen 17.84 122 *eP* **Pn 05 58 55.5 -0.5**
comp=Z,219nm,1.7s,baz=325,slow=11
UCC Uccle 17.90 130 P **Pn 05 58 53.0 -3.8**
UCC pmax pmax
comp=Z,44nm,1.3s
UCC Uccle 17.90 130 Pn **Pn 05 58 53.0 -3.8**
SNF Seneffe 18.12 131 Pn **Pn 05 58 57.7 -1.8**
BEBN Eben Emael 18.34 128 Pn **P 05 59 02.4 +0.1**
BEBN Eben Emael 18.34 128 P P 05 59 11.1 +8.8
BUG Bochum--Univer 18.36 124 *eP* **P 05 59 02.6 +0.1**
comp=Z,385nm,2.0s,baz=325,slow=11
BMRD Maredsous 18.46 130 Pn **P 05 59 02.1 -1.6**
BMRD x x 05 59 19.8
BSTI Sart Tilman 18.49 128 Pn **P 05 59 03.2 -0.7**
BSTI Sart Tilman 18.49 128 P Pn 05 59 12.3 +8.4
BGES Gesves 18.50 130 Pn **P 05 59 02.4 -1.7**
BGES PnPn **PnPn 05 59 18.8 +3.4**
BCLA Clavier 18.54 129 Pn **P 05 59 03.3 -1.2**
BCLA sPn **sP 05 59 08.3 +1.5**
BCLA Clavier 18.54 129 P Pn 05 59 12.8 +8.2
BSD Bornholm Skovb 18.57 105 *eP* **Pn 05 59 05.6 +0.7**
BSD MLR MLR
comp=Z,3μm,19.0s
BSD Bornholm Skovb 18.57 105 *i* P **Pn 05 59 05.6 +0.7**
comp=Z,3μm,19.0s
BSD Bornholm Skovb 18.57 105 *eP* **Pn 05 59 05.6 +0.7**
BSD IAMs_20 IAMs_20 06 05 12.8
comp=Z,3μm,19.2s
NRDL Niedersach Rie 18.57 118 *eP* **P 05 59 03.5 -1.2**
comp=Z,526nm,2.3s,baz=325,slow=11
DOU Dourbes 18.58 131 Pn **P 05 59 03.3 -1.7**
DOU sPn **sPn 05 59 08.5 +1.1**
DOU PnPn **PnPn 05 59 18.7 +2.1**
MEM Membach 18.61 128 Pn **P 05 59 03.6 -1.7**
BTNL Ternell 18.68 127 Pn **P 05 59 04.7 -1.4**
RCHB Rochefort 18.74 130 Pn **Pn 05 59 08.0 +0.9**
BHOU Houvegnez 18.83 128 Pn **P 05 59 05.6 -2.1**
BHOU Houvegnez 18.83 128 P **Pn 05 59 14.0 +5.8**
AHRW Bad Neuenahr-A 19.04 126 *eP* **P 05 59 08.6 -1.4**
comp=Z,452nm,2.2s,baz=325,slow=11
ASSE Asse, Remlinge 19.07 117 *eP* **P 05 59 09.3 -0.9**
comp=Z,446nm,2.3s,baz=325,slow=11
CLZ Clausthal 19.18 118 *eP* **P 05 59 10.8 -0.9**
comp=Z,307nm,1.9s,baz=325,slow=11
GTTG Gottingen 19.27 120 *eP* **P 05 59 11.9 -0.6**
comp=Z,274nm,1.8s,baz=325,slow=11
WLF Walferdange 19.47 129 Pn **Pn 05 59 15.6 -0.2**
WLF Walferdange 19.47 129 P **Pn 05 59 20.5 +4.7**
WLF Walferdange 19.47 129 P **Pn 05 59 15.0 -0.9**
WLF pmax pmax
comp=Z,70nm,1.4s
WLF Walferdange 19.47 129 **Pn 05 59 15.0 -0.9**
FIA1 FINESS Array S 19.68 79 P **P 05 59 16.9 +0.1**
FINES FINESS Array B 19.68 79 P **P 05 59 15.5 -1.3**
comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=6.4
FINES LR LR 06 06 27.4
comp=Z,4μm,20.9s,baz=303,slow=36
FINES FINESS Array B 19.68 79 P **P 05 59 17.1 +0.2**
FINES FINESS Array B 19.68 79 P **P 05 59 17.1 +0.2**
CLF Chambon-Foret 19.69 138 P **P 05 59 16.9 -0.2**
CLF IAmb IAmb 05 59 42.3
comp=Z,139nm,1.5s
TNS Taunus Mts 19.79 124 *eP* **P 05 59 17.1 -1.2**
comp=Z,429nm,2.5s,baz=325,slow=11
TNS eL L 06 06 27.3
comp=Z,2μm,21.8s
UBBA Unterbreizbach 19.87 121 *eP* **P 05 59 18.8 -0.2**
comp=Z,298nm,2.0s,baz=325,slow=11
TULEG Thule 19.96 328 P **P 05 59 19.3 -0.6**
TULEG IAmb IAmb 05 59 30.4
comp=Z,154nm,1.4s
TULEG IAMs_20 IAMs_20 06 06 29.5
comp=Z,7μm,20.0s
TULEG Thule 19.96 328 *eP* Pn 05 59 23.1 +1.6
TULEG IAMs_20 IAMs_20 06 06 48.9
comp=Z,14μm,12.6s
RUE Ruedersdorf 20.02 112 *eP* **Pn 05 59 21.3 -1.1**
RUE Ruedersdorf 20.02 112 *eP* **P 05 59 20.8 +0.1**
comp=Z,314nm,2.1s,baz=325,slow=11
SLIT Slitere, Latvi 20.10 92 *eP* Pn 05 59 22.3 -0.9
NEUB Neuenburg 20.22 118 *eP* **P 05 59 23.1 +0.2**
comp=Z,340nm,1.7s,baz=325,slow=11
APA Apatity 20.34 59 *i* P Pn 05 59 25.2 -0.8
APA *i* S **S 06 03 09.0 -3.0**
APA pmax pmax
comp=Z,22nm,1.0s
APA MLR MLR
comp=Z,5μm,18.0s
MOX Moxa 20.61 119 *eP* **P 05 59 26.0 -1.1**
comp=Z,311nm,1.8s,baz=325,slow=11
MOX eL L 06 08 29.4
comp=Z,7μm,18.5s
CLL Collm 20.62 116 *i* P **P 05 59 26.5 -0.7**
comp=Z,146nm,1.8s
CLL *i* 05 59 30.9
comp=Z,258nm,1.8s
CLL *e*Pmax 05 59 36.0
CLL *i* 05 59 39.5
CLL *e*S **S 06 03 18.0 +0.2**
CLL *e*SSS SSS 06 03 48.0
CLL Lmax 06 09 00.0
CLL Collm 20.62 116 *i* P **P 05 59 26.5 -0.7**
CLL *i* 05 59 30.9
CLL *e*S **S 06 03 18.0 +0.2**
CLL pmax pmax
comp=Z,146nm,1.8s
CLL Collm 20.62 116 *eP* **P 05 59 26.2 -1.0**
comp=Z,258nm,1.8s,baz=325,slow=11
CLL eL L 06 08 22.4
comp=Z,5μm,18.0s
CLL Collm 20.62 116 P **P 05 59 26.2 -1.0**
CLL IAmb IAmb 05 59 40.6
comp=Z,98nm,1.4s
LVZ Lovozero 20.70 58 *i* P **P 05 59 25.7 -2.4**
LVZ pmax pmax
comp=Z,45nm,1.3s
LVZ Lovozero 20.70 58 IAMs_20 IAMs_20 06 06 07.0
comp=Z,6μm,20.0s
GKP Gorka Klasztor 20.84 106 *eP* Pn 05 59 34.3 +2.3
PLN Plauen 20.95 118 *eP* **P 05 59 29.5 -1.3**
comp=Z,483nm,2.1s,baz=325,slow=11
ECH Echery 21.05 129 P **P 05 59 30.8 -1.2**
ECH pmax pmax
comp=Z,82nm,1.4s
ECH Echery 21.05 129 P **P 05 59 30.8 -1.2**
ECH IAmb IAmb 05 59 49.6
comp=Z,82nm,1.4s
FBE Freiberg 21.06 116 *eP* **P 05 59 31.8 -0.1**
comp=Z,592nm,2.1s,baz=325,slow=11
GUNZ Gunzen 21.11 118 *eP* **P 05 59 32.2 -0.4**
comp=Z,441nm,2.1s,baz=325,slow=11
TANN Tannenbergstha 21.12 118 *eP* **P 05 59 32.4 -0.3**
comp=Z,931nm,2.1s,baz=325,slow=11
WERN Wernitzgruen 21.19 118 *eP* **P 05 59 32.4 -1.0**
comp=Z,205nm,1.4s,baz=325,slow=11
GRA1 Grafenberg Arr 21.24 121 P **P 05 59 33.6 -0.3**
GRA1 IAmb IAmb 05 59 50.1
comp=Z,124nm,1.4s
GRF Grafenberg Arr 21.24 121 P **P 05 59 33.6 -0.3**
GRF pmax pmax
comp=Z,124nm,1.4s
GRF MLR MLR
comp=Z,4μm,20.0s
GRF Grafenberg Arr 21.24 121 *eP* **P 05 59 33.7 -0.3**
comp=Z,425nm,2.1s,baz=325,slow=11
GRF eL L 06 09 22.9
comp=Z,5μm,18.3s
NKC Novy Kostel 21.26 118 *eP* **P 05 59 34.3 +0.1**
NKC *e*S Sn 06 03 34.4 -3.1
NKC AMS AMS 06 08 40.0
comp=Z,6μm,17.4s
NKC Novy Kostel 21.26 118 *eP* **P 05 59 34.3 +0.1**
NKC *e*S Sn 06 03 34.4 -3.1
NKC MLR MLR
comp=Z,6μm,17.4s
STU Stuttgart 21.28 125 P **P 05 59 33.5 -0.8**
STU pmax pmax
comp=Z,69nm,1.1s
STU MLR MLR
comp=Z,5μm,18.0s
STU Stuttgart 21.28 125 *eP* **P 05 59 33.8 -0.5**
comp=Z,281nm,1.9s,baz=325,slow=11
STU Stuttgart 21.28 125 P **P 05 59 33.5 -0.8**
STU IAmb IAmb 05 59 42.0
comp=Z,68nm,1.1s
STU IAMs_20 IAMs_20 06 08 41.3
comp=Z,5μm,18.0s
BRG Berggiesshubel 21.33 115 *i* P **P 05 59 33.3 -1.6**
comp=Z,373nm,2.0s
BRG S Sn 06 03 42.0 +2.9
comp=N,6μm,17.6s
comp=E,4μm,14.1s
comp=Z,8μm,15.9s
BRG Berggiesshubel 21.33 115 *i* P **P 05 59 33.3 -1.6**
BRG S Sn 06 03 42.0 +2.9
BRG pmax pmax
comp=Z,373nm,2.0s
BRG MLR MLR
comp=N,6μm,17.6s
BRG MLR MLR
comp=E,4μm,14.1s
BRG MLR MLR
comp=Z,8μm,15.9s
BRG Berggiesshubel 21.33 115 *eP* **P 05 59 33.5 -1.4**
comp=Z,372nm,2.0s,baz=325,slow=11
MANZ Manzenberg 21.33 119 *eP* **P 05 59 34.2 -0.8**
comp=Z,152nm,1.6s,baz=325,slow=11
BFO Black Forest 21.35 127 P **P 05 59 33.9 -1.3**
BFO pmax pmax
comp=Z,79nm,1.3s
BFO MLR MLR
comp=Z,4μm,19.0s
BFO Black Forest 21.35 127 *eP* **P 05 59 34.0 -1.2**
comp=Z,253nm,1.9s,baz=325,slow=11
BFO eL L 06 08 25.4
comp=Z,4μm,18.4s
BFO Black Forest 21.35 127 P **P 05 59 33.9 -1.3**
BFO IAmb IAmb 05 59 38.4
comp=Z,79nm,1.3s
VSU Vasula 21.52 86 *eP* **P 05 59 37.8 +0.9**
VSU Vasula 21.52 86 *i* P **P 05 59 35.3 -1.6**
VSU pmax pmax
comp=Z,193nm,1.0s
ROTZ Rotzenmuhle 21.55 119 *eP* **P 05 59 36.7 -0.5**
comp=Z,365nm,2.6s,baz=325,slow=11
FRB Frobisher Bay 21.83 291 LR LR 06 07 48.0
comp=Z,5μm,18.4s,baz=70,slow=36
PVCC Panska Ves 21.84 115 *eP* **P 05 59 40.2 -0.2**
PVCC *e*S Sn 06 03 49.1 -2.4
PVCC AMS AMS 06 09 10.0
comp=Z,6μm,17.3s
PVCC Panska Ves 21.84 115 *eP* **P 05 59 40.2 -0.2**
PVCC MLR MLR
comp=Z,6μm,17.3s
PABE Paberze 22.15 95 *eP* **P 05 59 43.9 +0.3**
PRA Prague 22.16 116 *eP* **P 05 59 40.2 -3.5**
PRA *e*S Sn 06 03 53.3 -5.6
PRA AMS AMS 06 09 40.0
comp=Z,3μm,16.2s
PRA Prague 22.16 116 *eP* **P 05 59 40.2 -3.5**
PRA MLR MLR
comp=Z,3μm,16.2s
PRU Pruhonice 22.26 116 *eP* **P 05 59 43.9 -1.0**
PRU *e*S **S 06 03 52.1 +2.0**
PRU AMS AMS 06 09 30.0
comp=Z,6μm,16.2s
PRU Pruhonice 22.26 116 *eP* **P 05 59 43.9 -1.0**
PRU *e*S **S 06 03 52.1 +2.0**
PRU MLR MLR
comp=Z,6μm,16.2s
KSP Ksiaz 22.28 112 *eP* **P 05 59 45.1 0.0**
PBCC Pribram 22.29 117 *eP* **P 05 59 44.2 -1.1**
PBCC *e*S Sn 06 04 01.6 -0.7
WET Wettzell 22.31 119 *eP* **P 05 59 44.4 -1.1**
comp=Z,243nm,1.9s,baz=325,slow=11
WET eL L 06 09 01.9
comp=Z,6μm,19.7s
CHVC Chvalec 22.38 113 *eP* **P 05 59 47.3 +1.1**
CHVC *e*S Sn 06 04 00.6 -3.9
CHVC AMS AMS 06 08 40.0
comp=Z,5μm,17.7s
UPC Upice 22.43 113 *eP* **P 05 59 47.0 +0.3**
UPC *e*S **S 06 03 54.3 +1.0**
UPC AMS AMS 06 08 30.0
comp=Z,16μm,56.1s
UPC Upice 22.43 113 *eP* **P 05 59 47.0 +0.3**
UPC *e*S **S 06 03 54.3 +1.0**
UPC MLR MLR
comp=Z,16μm,56.1s
OSTC Ostas 22.47 113 *eP* **P 05 59 45.9 -1.3**
OSTC *e*S Sn 06 03 59.5 -7.1
OSTC AMS AMS 06 08 40.0
comp=Z,6μm,20.7s
UBR Ueberruh 22.52 125 *eP* **P 05 59 46.9 -0.9**
comp=Z,186nm,1.5s,baz=325,slow=11
FUR Furstenfeldbru 22.53 123 *eP* **P 05 59 48.5 +0.7**
comp=Z,689nm,2.2s,baz=325,slow=11
FUR eL L 06 10 34.2
comp=Z,3μm,18.1s
KHC Kasperske Hory 22.59 118 *eP* **P 05 59 46.7 -1.7**
KHC *e*S **S 06 03 58.5 +2.3**
KHC AMS AMS 06 09 10.0
comp=Z,5μm,18.2s
KHC Kasperske Hory 22.59 118 *eP* **P 05 59 46.7 -1.7**
KHC *e*S **S 06 03 58.5 +2.3**
KHC MLR MLR
comp=Z,5μm,18.2s
DPC Dobruska-Polom 22.68 113 *eP* **P 05 59 47.9 -1.5**
DPC *e*S **S 06 03 58.5 +0.6**
DPC AMS AMS 06 09 10.0
comp=Z,5μm,19.1s
DPC Dobruska-Polom 22.68 113 *eP* **P 05 59 47.9 -1.5**
DPC *e*S **S 06 03 58.5 +0.6**
DPC MLR MLR
comp=Z,5μm,19.1s
SENIN Lac Senin/Sane 22.72 132 P **P 05 59 51.6 +1.5**
DAVA Damuels 22.78 126 *eP* **P 05 59 50.0 -0.6**
comp=Z,48nm,1.6s,SNR=11
SUW Suwalki 22.82 98 *eP* **P 05 59 51.5 +0.8**
SSB Saint Sauveur 22.84 137 P **P 05 59 51.2 0.0**
SSB pmax pmax
comp=Z,37nm,1.3s
SSB MLR MLR
comp=Z,7μm,18.0s
SSB Saint Sauveur 22.84 137 P **P 05 59 51.1 0.0**
SSB Saint Sauveur 22.84 137 IAMs_20 IAMs_20 06 09 06.8
comp=Z,7μm,18.0s
GEC2 GERESS Array S 22.86 119 *eP* **P 05 59 52.0 +0.6**
comp=Z,363nm,2.3s,baz=325,slow=11
GEC2 eL L 06 09 27.7
comp=Z,5μm,19.3s
GEC2 GERESS Array S 22.86 119 P **P 05 59 51.8 +0.4**
GEC2 IAmb IAmb 05 59 54.9
comp=Z,66nm,1.4s
GEC2 IAMs_20 IAMs_20 06 09 28.3
comp=Z,6μm,19.0s
GERES GERESS Array B 22.86 119 P **P 05 59 49.3 -2.1**
comp=Z,5.7nm,0.9s,baz=323,slow=8.4,SNR=28
GERES LR LR 06 09 38.2
comp=Z,5μm,19.5s,baz=324,slow=39
GERES GERESS Array B 22.86 119 P **P 05 59 50.4 -1.0**
GERES GERESS Array B 22.86 119 P **P 05 59 50.4 -1.0**
RETA Reutte 22.92 125 *eP* **P 05 59 50.7 -1.3**
comp=Z,93nm,1.7s,SNR=10
ISAL Salakas 23.04 92 *eP* **P 05 59 54.1 +1.0**
KRLC Kraliky 23.08 113 *eP* **P 05 59 54.9 +1.3**
KRLC *e*S **S 06 04 05.8 +0.8**
KRLC AMS AMS 06 09 10.0
comp=Z,4μm,21.1s
KRLC Kraliky 23.08 113 *eP* **P 05 59 54.9 +1.3**
KRLC *e*S **S 06 04 05.8 +0.8**
KRLC MLR MLR
comp=Z,4μm,21.1s
MOTA Moosalm 23.16 124 P **P 05 59 53.9 -0.7**
comp=Z,74nm,2.0s,SNR=14
TREC Trest 23.19 116 *eP* **P 05 59 56.2 +1.5**

TREC eS S 06 04 08.9 +2.1
TREC AMS AMS 06 10 10.0
comp=Z,5µm,17.8s
TREC Trest 23.19 116 eP P **05 59 56.2 +1.5**
TREC eS S **06 04 08.9 +2.1**
TREC MLR MLR
comp=Z,5µm,17.8s
DAVOX Davos/Dischmat 23.22 127 P P **05 59 54.0 -1.2**
comp=Z,27nm,1.2s,baz=328,slow=9.8,SNR=9.8
DAVOX LR LR 06 10 04.8
comp=Z,5µm,18.3s,baz=338,slow=40
DAVOX Davos/Dischmat 23.22 127 P P **05 59 54.0 -1.2**
IIGN Ignalina 23.23 93 eP P **05 59 55.8 +0.8**
PGAV Gavieira, Arco 23.24 163 eP P **05 59 55.6 +0.2**
comp=Z,127nm,1.6s
PGAV *i* LQ LQ 06 04 16.1
PGAV eLR LR 06 05 59.6
comp=Z,6µm,18.0s
TUE Stuetta 23.31 128 P P **05 59 56.0 -0.2**
TUE IAMs_20 IAMs_20 06 09 17.0
comp=Z,5µm,20.0s
SQTA Sankt Quirin 23.31 124 eP P **05 59 55.4 -0.6**
comp=Z,112nm,1.5s,SNR=10
FETA Feichten 23.31 125 eP P **05 59 56.0 -0.1**
comp=Z,41nm,1.3s
TMCR Tamitsa 23.34 66 eP P **05 59 53.7 -2.3**
TMCR eS S **06 04 08.8 -0.2**
TMCR pmax pmax
comp=Z,99nm,1.3s
WATA Walderalm 23.34 124 eP P **05 59 56.2 -0.1**
comp=Z,52nm,1.7s,SNR=19
BEL Belsk 23.37 105 eP P **05 59 57.2 +0.8**
WTTA Wattenberg 23.42 124 eP P **05 59 56.5 -0.7**
comp=Z,50nm,1.4s,SNR=16
RJOB Jochberg 23.45 121 eP P **05 59 55.3 -2.1**
comp=Z,283nm,2.4s,baz=325,slow=11
IDID Didziasalis 23.47 92 eP P **05 59 58.2 +0.8**
FUORN Ofenpass-Fuorn 23.49 127 P P **05 59 58.2 +0.1**
FUORN IAMs_20 IAMs_20 06 10 11.9
comp=Z,5µm,18.0s
PCAB Cabril 23.53 162 eP P **05 59 59.0 +0.9**
comp=Z,87nm,1.7s
VRAC Vranov 23.61 114 P P **05 59 56.8 -2.1**
comp=Z,1.9nm,0.4s,baz=324,slow=10,SNR=19
VRAC LR LR 06 10 31.6
comp=Z,6µm,18.1s,baz=324,slow=40
VRAC Vranov 23.61 114 ⇓P P **05 59 58.9 0.0**
VRAC Vranov 23.61 114 ⇑*i*P P **05 59 59.2 +0.3**
VRAC eS S **06 04 22.4 +8.8**
VRAC Vranov 23.61 114 ⇓P P **05 59 58.9 0.0**
PBRG Braganca 23.61 160 eP P **05 59 59.9 +0.9**
comp=Z,102nm,1.9s
MORC Moravsky Berou 23.61 112 ⇑P P **05 59 58.3 -0.7**
MORC Moravsky Berou 23.61 112 ⇑*i*P P **05 59 58.8 -0.2**
MORC eS S **06 04 21.5 +7.7**
MORC Moravsky Berou 23.61 112 ⇑P P **05 59 58.3 -0.7**
MORC Moravsky Berou 23.61 112 P P **05 59 57.4 -1.6**
MORC IAmb IAmb 06 00 07.4
comp=Z,73nm,1.5s
KRUC Moravsky 23.73 115 ⇑*i*P P **06 00 00.3 +0.3**
KRUC eS S **06 04 24.5 +9.0**
NACGM Naroch 23.76 93 eP P **06 00 02.0 +1.7**
NACGM eS S **06 04 17.0 +1.1**
NACGM eLQ LQ 06 07 28.0
NACGM eLR LR 06 08 05.0
NACGM LRM MLR 06 10 53.0
comp=Z,6.1nm,13.0s
EUNU Eureka 23.78 336 P P **05 59 59.8 -0.5**
EUNU IAmb IAmb 06 00 06.7
comp=Z,48nm,1.0s
OKC Ostrava-Krasne 23.81 111 eP P **05 59 59.1 -1.7**
OKC eS S **06 04 25.7 +8.9**
OKC AMS AMS 06 09 00.0
comp=Z,3µm,19.3s
OKC Ostrava-Krasne 23.81 111 eP P **05 59 59.1 -1.7**
OKC MLR MLR
comp=Z,3µm,19.3s
POLO Lamas de Olo 23.89 162 eP P **06 00 02.2 +0.5**
comp=Z,38nm,1.8s
MOA Molln 23.90 119 eP P **06 00 00.8 -0.9**
comp=Z,55nm,1.6s,SNR=7.6
PVRL Vila Real 24.00 162 eP P **06 00 03.3 +0.6**
comp=Z,78nm,1.7s
ABTA Abfaltersbach 24.18 123 eP P **06 00 04.5 +0.1**
comp=Z,34nm,1.4s,SNR=11
OJC Ojcow 24.18 109 eP P **06 00 03.7 -0.7**
MVO Moncorvo 24.20 161 eP P **06 00 05.5 +0.9**
comp=Z,100nm,1.7s
MVO *i* LQ LQ 06 04 29.6
MVO eLR LR 06 06 38.0
comp=Z,4µm,18.0s
KBA Koelnbreinsper 24.20 122 P P **06 00 05.2 +0.4**
comp=Z,35nm,1.8s
JAVC Velka Javorina 24.39 113 ⇑*i*P P **06 00 07.9 +1.5**
JAVC eS S 06 04 39.1 +13
CONA Conrad Observa 24.44 117 P P **06 00 05.7 -1.1**
comp=Z,29nm,1.4s,SNR=12
CTI Castel Tesino 24.47 125 P P **06 00 06.8 -0.3**
CTI pmax pmax
comp=Z,104nm,1.5s
CTI MLR MLR
comp=Z,3µm,18.0s
CTI Castel Tesino 24.47 125 P P **06 00 06.8 -0.3**
MICGM Minsk 24.51 93 *e* P **06 00 07.0 -0.2**
MNK Minsk 24.51 93 eP P **06 00 07.0 -0.2**
ZOU Zoufplan 24.51 123 P P **06 00 08.3 +0.8**
ZOU IAmb IAmb 06 00 17.8
comp=Z,70nm,1.5s
PVIS Viseu 24.52 162 eP P **06 00 08.8 +1.2**
comp=Z,93nm,1.8s
CIMO Cimolais 24.53 124 P P **06 00 08.5 +1.0**
CIMO IAmb IAmb 06 00 25.4
comp=Z,40nm,1.4s
SMOL Smolenice 24.58 114 eP P **06 00 06.9 -1.1**
SMOL Smolenice 24.58 114 eP P **06 00 06.9 -1.1**
MODS Modra-Piesok 24.63 115 eP P **06 00 08.1 -0.4**
MODS pmax pmax
comp=Z,100nm,1.7s
MODS Modra-Piesok 24.63 115 eP P **06 00 08.1 -0.4**
MYKA Terra Mystica 24.69 122 eP P **06 00 09.3 +0.2**
comp=Z,45nm,1.9s
PRED Cave del Predi 24.82 122 P P **06 00 10.8 +0.5**
PRED IAmb IAmb 06 00 23.7
comp=Z,64nm,1.4s
ARSA Arzberg 24.87 118 eP P **06 00 09.2 -1.5**
comp=Z,17nm,1.1s,SNR=8.7
MTE Manteigas 24.88 162 eP P **06 00 11.7 +0.9**
comp=Z,130nm,1.7s
MTE *i* LQ LQ 06 04 44.1
MTE eLR LR 06 06 45.8
comp=Z,6µm,20.0s
MTE Manteigas 24.88 162 P P **06 00 09.7 -1.1**
MTE IAmb IAmb 06 00 19.6
comp=Z,54nm,1.1s
MTE IAMs_20 IAMs_20 06 08 41.7
comp=Z,6µm,20.0s
LANS Liptovska Anna 24.88 111 eP P **06 00 10.1 -0.7**
LANS pmax pmax
comp=Z,18nm,1.1s
LANS Liptovska Anna 24.88 111 eP P **06 00 10.1 -0.7**
COI Coimbra 24.96 164 P P **06 00 11.6 +0.2**
COI pmax pmax
comp=Z,86nm,1.3s
COI MLR MLR
comp=Z,5µm,19.0s
COI Coimbra 24.96 164 eP P **06 00 12.6 +1.2**
comp=Z,145nm,1.6s
COI Coimbra 24.96 164 P P **06 00 11.6 +0.2**
COI IAMs_20 IAMs_20 06 08 39.7
comp=Z,5µm,19.0s
ROBS Robic 24.97 122 eP P **06 00 11.7 +0.2**
NIE Niedzica 25.01 109 eP P **06 00 14.2 +2.3**
TEOL Teolo 25.07 126 P P **06 00 12.0 -0.5**
TEOL IAmb IAmb 06 00 15.9
comp=Z,25nm,0.9s
PCAS Casmilo, Conde 25.10 164 eP P **06 00 13.7 +1.0**
comp=Z,134nm,1.6s
OBKA Obir 25.13 121 eP P **06 00 11.6 -1.4**
comp=Z,33nm,1.6s
VYHS Vyhne 25.15 112 eP P **06 00 12.7 -0.4**
VYHS pmax pmax
comp=Z,96nm,1.6s
VYHS Vyhne 25.15 112 eP P **06 00 12.7 -0.4**
PERS Pernice 25.23 120 eP P **06 00 13.7 -0.3**
PCBR Castelo Branco 25.44 162 eP P **06 00 16.4 +0.6**

comp=Z,85nm,1.5s
SRO Srobarova 25.49 114 eP P **06 00 17.1 +0.9**
SRO pmax pmax
comp=Z,51nm,1.4s
SRO Srobarova 25.49 114 eP P **06 00 17.1 +0.9**
PSBE So Bento 25.60 164 eP P **06 00 18.0 +0.8**
comp=Z,103nm,1.9s
UCM Universidad Co 25.66 154 eP P **06 00 17.1 -0.7**
UCM eS S 06 04 57.1 +11
KWP Kalwaria Pacla 25.84 106 eP P **06 00 20.5 +1.2**
PMRV Marv??o 25.86 162 eP P **06 00 19.6 0.0**
comp=Z,76nm,2.0s
PMRV *i* LQ LQ 06 05 04.0
PMRV eLR LR 06 07 29.1
comp=Z,6µm,20.0s
CRVS Cervenica-Dubn 25.89 109 eP P **06 00 19.9 +0.1**
CRVS pmax pmax
comp=Z,205nm,1.7s
CRVS Cervenica-Dubn 25.89 109 eP P **06 00 19.9 +0.1**
PSZ Piszkesteto 26.04 112 ⇑P P **06 00 21.6 +0.3**
PSZ Piszkesteto 26.04 112 ⇑P P **06 00 21.6 +0.3**
PSZ Piszkesteto 26.04 112 P P **06 00 20.1 -1.2**
SCHQ Schefferville 26.09 272 P P **06 00 19.1 -2.5**
comp=Z,8.0nm,0.9s,baz=54,slow=12,SNR=2.5
SCHQ LR LR 06 09 40.6
comp=Z,2µm,18.6s,baz=50,slow=34
SCHQ Schefferville 26.09 272 P P **06 00 21.6 0.0**
SCHQ IAmb IAmb 06 00 26.6
comp=Z,31nm,1.1s
PMAFR Mafra 26.09 166 eP P **06 00 22.1 +0.4**
comp=Z,148nm,1.8s
ES18 SONSECA Array 26.11 156 IAMs_20 IAMs_20 06 10 27.3
comp=Z,5µm,19.0s
ES17 SONSECA Array 26.12 156 IAMs_20 IAMs_20 06 10 37.4
comp=Z,5µm,18.0s
ES16 SONSECA Array 26.13 156 IAMs_20 IAMs_20 06 10 38.6
comp=Z,5µm,18.0s
ES19 SONSECA Array 26.13 156 IAMs_20 IAMs_20 06 10 44.7
comp=Z,6µm,18.0s
ES07 SONSECA Array 26.13 156 IAMs_20 IAMs_20 06 10 43.8
comp=Z,5µm,18.0s
ES08 SONSECA Array 26.13 156 IAMs_20 IAMs_20 06 10 56.8
comp=Z,6µm,18.0s
ESBB Sonseca Array 26.14 156 P P **06 00 22.6 +0.3**
ESBB IAMs_20 IAMs_20 06 10 46.1
comp=Z,5µm,18.0s
ES06 SONSECA Array 26.14 156 IAMs_20 IAMs_20 06 10 44.1
comp=Z,6µm,18.0s
ESDC Sonseca Array 26.14 156 P P **06 00 20.2 -2.0**
comp=Z,3.8nm,0.8s,baz=348,slow=8.4,SNR=19
ESDC LR LR 06 10 39.6
comp=Z,5µm,18.0s,baz=345,slow=37
ESDC Sonseca Array 26.14 156 P P **06 00 20.2 -2.0**
ES02 SONSECA Array 26.15 156 IAMs_20 IAMs_20 06 10 44.2
comp=Z,5µm,18.0s
ES15 SONSECA Array 26.15 156 IAMs_20 IAMs_20 06 10 37.2
comp=Z,5µm,18.0s
ES01 SONSECA Array 26.15 156 IAMs_20 IAMs_20 06 10 28.3
comp=Z,4µm,18.0s
ES09 SONSECA Array 26.15 156 IAMs_20 IAMs_20 06 10 45.3
comp=Z,6µm,18.0s
ES05 SONSECA Array 26.16 156 IAMs_20 IAMs_20 06 10 28.4
comp=Z,5µm,18.0s
ES03 SONSECA Array 26.16 156 IAMs_20 IAMs_20 06 10 45.5
comp=Z,6µm,18.0s
ES14 SONSECA Array 26.16 156 IAMs_20 IAMs_20 06 10 45.6
comp=Z,5µm,18.0s
ES04 SONSECA Array 26.17 156 IAMs_20 IAMs_20 06 10 21.7
comp=Z,4µm,20.0s
ES13 SONSECA Array 26.17 156 IAMs_20 IAMs_20 06 10 39.7
comp=Z,5µm,18.0s
ES10 SONSECA Array 26.17 156 IAMs_20 IAMs_20 06 10 28.8
comp=Z,5µm,18.0s
ES11 SONSECA Array 26.18 156 IAMs_20 IAMs_20 06 10 46.0
comp=Z,5µm,18.0s
ES12 SONSECA Array 26.18 156 IAMs_20 IAMs_20 06 10 46.1
comp=Z,5µm,18.0s
KOLS Kolonicke sedl 26.20 108 eP P **06 00 22.0 -0.6**
KOLS pmax pmax
comp=Z,147nm,1.8s
KOLS Kolonicke sedl 26.20 108 eP P **06 00 22.0 -0.6**
PAB San Pablo 26.20 157 P P **06 00 22.9 +0.1**
PAB pmax pmax
comp=Z,35nm,1.4s
PAB MLR MLR
comp=Z,4µm,19.0s
PAB San Pablo 26.20 157 P P **06 00 22.9 +0.1**
PAB IAmb IAmb 06 00 32.1
comp=Z,35nm,1.4s
PAB San Pablo 26.20 157 IAMs_20 IAMs_20 06 10 36.7
comp=Z,4µm,19.0s
LVV L'vov 26.24 104 eP P **06 00 22.0 -1.0**
LVV eS S **06 04 51.0 -4.6**
LVV MLR MLR
comp=Z,2µm,15.0s
LIS Lisbon 26.34 165 eP P **06 00 24.5 +0.6**
LIS AMb AMB 06 00 38.9
comp=Z,118nm,1.2s
LIS eS S **06 04 58.3 +1.0**
LIS Lisbon 26.34 165 eP P **06 00 24.5 +0.6**
LIS eS S **06 04 58.2 +1.0**
LIS Lisbon 26.34 165 eP P **06 00 24.0 0.0**
comp=Z,119nm,1.0s
UZH Uzhgorod 26.44 108 eP P **06 00 22.4 -2.4**
UZH *e* 06 00 24.3
UZH *i* 06 00 29.4
UZH *e* 06 01 25.1
UZH *i* S S **06 04 51.0 -7.7**
OSSC Osservatorio P 26.54 129 P P **06 00 26.4 +0.6**
RES Resolute Bay 26.57 325 P P **06 00 23.1 -2.6**
comp=Z,6.2nm,1.1s,baz=60,slow=17,SNR=4.0
RES LR LR 06 11 06.3
comp=Z,4µm,18.9s,baz=69,slow=37
RES Resolute Bay 26.57 325 P P **06 00 25.7 -0.1**
RES pmax pmax
comp=Z,21nm,1.5s
RES MLR MLR
comp=Z,4µm,20.0s
RES Resolute Bay 26.57 325 P P **06 00 25.7 -0.1**
RES IAMs_20 IAMs_20 06 10 25.2
comp=Z,4µm,20.0s
EVO Evora 26.66 163 eP P **06 00 26.0 -0.8**
EVO eS S 06 05 13.9 +12
EVO Evora 26.66 163 eP P **06 00 26.6 -0.2**
comp=Z,32nm,1.9s
ROSA Rosais 26.67 199 P P **06 00 27.1 +0.1**
PNCL Nicolau / Gran 27.01 164 eP P 06 00 22.2 -7.8
comp=Z,24nm,1.7s
PBEJ Beja 27.18 163 eP P **06 00 32.4 +0.9**
comp=Z,38nm,1.8s
MURB Monte Urbino 27.20 127 P P **06 00 31.9 +0.1**
MURB IAMs_20 IAMs_20 06 12 34.1
comp=Z,4µm,19.0s
PCVE Castro Verde 27.54 164 eP P **06 00 34.7 -0.1**
comp=Z,45nm,1.7s
PTEO Sao Teotonio 27.55 165 eP P **06 00 34.9 +0.1**
comp=Z,32nm,1.5s
MAHO Mahon 27.75 142 eP P **06 00 37.9 +1.3**
MAHO eS S 06 05 32.9 +14
AKASG Malin Array Be 27.78 97 P P **06 00 35.3 -1.5**
comp=Z,2.8nm,0.8s,baz=325,slow=9.2,SNR=13
AKASG LR LR 06 11 21.3
comp=Z,3µm,21.6s,baz=315,slow=36
AKASG Malin Array Be 27.78 97 P P **06 00 36.9 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 27.78 97 P P **06 00 36.9 +0.1**
AKBB Malin Array Si 27.78 97 P P **06 00 35.7 -1.1**
AKBB pmax pmax
comp=Z,41nm,1.5s
AKBB MLR MLR
comp=Z,3µm,22.0s
AKBB Malin Array Si 27.78 97 P P **06 00 35.7 -1.1**
AKBB IAmb IAmb 06 00 39.3
comp=Z,41nm,1.5s
MORF Marmelete 27.79 165 eP P **06 00 37.6 +0.4**
MORF AMb AMB 06 00 54.6
comp=Z,40nm,1.2s
MORF eS S **06 05 21.4 +1.1**
MORF Marmelete 27.79 165 eP P **06 00 37.5 +0.4**
MORF eS S **06 05 21.4 +1.1**
PVAQ Vaqueiros 27.81 163 eP P **06 00 38.0 +0.8**
comp=Z,43nm,1.5s
PVAQ *i* LQ LQ 06 05 31.4
PVAQ eLR LR 06 08 17.0
comp=Z,4µm,22.0s

PVAQ Vaqueiros 27.81 163 IAMs_20 IAMs_20 06 09 55.2
comp=Z,5µm,20.0s
OBN Obninsk 27.84 84 LR LR 06 11 12.4
comp=Z,481nm,21.9s,baz=322,slow=35
OBN Obninsk 27.84 84⇓ eP P **06 00 35.3 -2.0**
OBN e*PP pP **06 00 37.9 -1.1**
OBN *SP sP **06 00 42.0 +2.3**
OBN 06 03 55.0
OBN *i* S S **06 05 22.9 +2.3**
OBN pmax pmax
comp=Z,112nm,1.7s
OBN MLR MLR
comp=Z,1µm,15.0s
OBN Obninsk 27.84 84 P P **06 00 36.5 -0.8**
MOS Moscow 27.88 82 eP P **06 00 35.2 -2.5**
MOS eS S **06 05 19.2 -2.1**
MOS pmax pmax
comp=Z,43nm,1.2s
MOS MLR MLR
comp=Z,2µm,16.0s
PFVI Vila Bisbo 27.95 165 IAMs_20 IAMs_20 06 09 30.9
comp=Z,4µm,21.0s
SIRR Siria 28.08 112 ⇑P P **06 00 39.7 +0.2**
AQU L'Aquila 28.31 127 IAMs_20 IAMs_20 06 13 28.4
comp=Z,5µm,19.0s
BUR08 Bucovina Ar. S 28.42 106 P P **06 00 42.1 -0.6**
BURAR Bucovina Array 28.45 106 ⇑P P **06 00 40.5 -2.4**
BURAR Bucovina Array 28.45 106 ⇑P P **06 00 40.5 -2.4**
BURAR Bucovina Array 28.45 106 P P **06 00 43.4 +0.4**
CJR Cluj-Napoca 28.50 109 ⇑P P **06 00 43.7 +0.3**
CJR Cluj-Napoca 28.50 109 ⇑P P **06 00 43.7 +0.3**
BZS Buzias 28.60 113 ⇑P P **06 00 44.5 +0.4**
BZS Buzias 28.60 113 ⇑P P **06 00 44.5 +0.4**
CART Cartagena 28.73 152 eP P **06 00 42.9 -2.5**
CART eS S 06 05 49.5 +15
EMAL Malaga-Limoner 28.91 158 eP P **06 00 48.9 +2.0**
EMAL eS S 06 05 46.6 +8.9
SFS San Fernando 28.93 161 eP P **06 00 48.7 +1.6**
SFS eS S 06 05 51.0 +13
DIVS Divibare 29.23 116 P P **06 00 49.9 0.0**
GZR Gura Zlata 29.25 112 ⇑P P **06 00 49.2 -0.8**
GZR Gura Zlata 29.25 112 ⇑P P **06 00 49.2 -0.8**
MDVR Moldovita 29.33 114 ⇑P P **06 00 49.3 -1.4**
HERR Herculane 29.52 113 ⇑P P **06 00 53.6 +1.3**
CEU Ceuta 29.61 160 eP P **06 00 52.8 -0.3**
CEU eS S 06 06 00.1 +11
PAOL Paolisi 29.89 127 P P **06 00 55.5 -0.1**
ARR Arges 30.02 109 ⇑P P **06 00 56.8 -0.1**
VOIR 30.13 109 ⇑P P **06 00 56.0 -1.9**
VOIR 30.13 109 ⇑P P **06 00 56.0 -1.9**
KIS Kishinev 30.44 103 eP P **06 00 57.0 -3.5**
comp=Z,220nm,3.0s
KIS Kishinev 30.44 103 eP P **06 00 57.0 -3.5**
KIS ePPP PPP 06 02 10.0
KIS eS S 06 05 52.0 -10
KIS pmax pmax
comp=Z,220nm,3.0s
KIS MLR MLR
comp=Z,800nm,14.0s
KIS MLR MLR
comp=N,800nm,11.0s
KIS MLR MLR
comp=E,600nm,13.0s
MLR Muntele Rosu 30.45 108 P P **06 01 00.0 -0.7**
comp=E,12nm,1.2s,baz=245,slow=20,SNR=3.5
MLR LR LR 06 14 57.2
comp=E,2µm,18.2s,baz=344,slow=40
MLR Muntele Rosu 30.45 108 ⇑P P **06 00 59.5 -1.2**
MLR Muntele Rosu 30.45 108 P P **06 01 01.4 +0.6**
MLR pmax pmax
comp=Z,36nm,1.3s
MLR MLR MLR
comp=Z,2µm,19.0s
MLR Muntele Rosu 30.45 108 P P **06 01 01.4 +0.6**
MLR IAmb IAmb 06 01 14.9
comp=Z,36nm,1.3s
VRI Vrincioaia 30.47 106 ⇑P P **06 01 00.5 -0.3**
VRI Vrincioaia 30.47 106 ⇑P P **06 01 00.5 -0.3**
PVLZ Peæn de 30.48 159 eP P **06 00 59.5 -1.4**
PVLZ eS S **06 06 07.6 +5.2**
LPSR Galich'ya Gora 30.59 86 eP P **06 00 59.6 -2.1**
LPSR pmax pmax
comp=Z,20nm,1.3s
LPSR MLR MLR
comp=Z,2µm,14.0s
MELI Melilla 30.59 156 eP P **06 01 02.4 +0.6**
MELI *es* S 06 06 15.7 +12
NEHR Nehoiu 30.65 107 ⇑P P **06 01 00.1 -2.3**
KIRV Kirov 30.97 69*eP P **06 01 02.7 -2.3**
RTC Rabat Centre 31.28 163 IAMs_20 IAMs_20 06 13 29.2
comp=Z,5µm,20.0s
TIR Tirane 31.53 119 IAMs_20 IAMs_20 06 14 54.5
comp=Z,3µm,20.0s
CFR Carcaliu 31.61 106 ⇑P P **06 01 10.0 -0.8**
CFR Carcaliu 31.61 106 ⇑P P **06 01 10.0 -0.8**
VSR Storozhevoye 31.69 87 eP P **06 01 11.0 -0.4**
VSR pmax pmax
comp=Z,40nm,1.5s
VSR MLR MLR
comp=Z,910nm,16.0s
PMOZ Porto Moniz, M 31.77 180 eLR LR 06 09 20.0
comp=Z,2µm,20.0s
AVE Averroes 31.89 164 eP P **06 01 11.7 -1.7**
AVE eS S **06 06 30.6 +6.1**
VORD Divnogorie 31.92 88 eP P **06 01 11.1 -2.4**
VORD pmax pmax
comp=Z,40nm,1.4s
IFR Ifrane 31.98 160 eP P **06 01 12.6 -1.7**
IFR eS S **06 06 30.7 +4.4**
SCTE Santa Cesarea 32.12 122 IAMs_20 IAMs_20 06 16 36.3
comp=Z,3µm,18.0s
CORL Corleone 32.28 131 P P **06 01 16.9 +0.1**
CORL IAMs_20 IAMs_20 06 14 23.5
comp=Z,3µm,18.0s
CLTB Caltabellotta 32.54 131 P P **06 01 19.0 -0.1**
PQI Presque Isle 32.58 261 IAMs_20 IAMs_20 06 12 27.9
comp=Z,3µm,19.0s
MDT Midelt 32.75 160 P P **06 01 19.4 -1.6**
comp=Z,11nm,0.9s,baz=18,slow=9.2,SNR=32
MDT LR LR 06 14 03.2
comp=Z,2µm,21.2s,baz=24,slow=35
VRH Novokhopyorsk 32.80 85 eP P **06 01 21.1 0.0**
VRH pmax pmax
comp=Z,80nm,1.5s
VRH MLR MLR
comp=Z,2µm,12.0s
CHGQ Chibougamau 32.84 271 P P **06 01 21.1 -0.4**
baz=42
E63A Oxbow 32.95 261 IAMs_20 IAMs_20 06 12 41.6
comp=Z,3µm,20.0s
KEST Kesra 33.05 138 P P **06 01 22.2 -1.4**
comp=Z,16nm,1.3s,baz=270,slow=9.4,SNR=6.9
KEST LR LR 06 14 51.4
comp=Z,3µm,18.5s,baz=312,slow=36
KEST Kesra 33.05 138 P P **06 01 23.8 +0.2**
KEST IAmb IAmb 06 01 47.0
comp=Z,33nm,1.4s
KEST IAMs_20 IAMs_20 06 14 49.9
comp=Z,4µm,18.0s
RAFF Raffo Rosso 33.24 130 IAMs_20 IAMs_20 06 16 37.8
comp=Z,3µm,18.0s
E62A Clayton Lake 33.26 263 IAMs_20 IAMs_20 06 12 52.0
comp=Z,3µm,21.0s
GGN Saint George 33.31 258 IAMs_20 IAMs_20 06 12 59.0
comp=Z,3µm,19.0s
F64A Sherman 33.36 261 IAMs_20 IAMs_20 06 13 01.5
comp=Z,3µm,20.0s
G65A Princeton 33.55 259 IAMs_20 IAMs_20 06 13 06.6
comp=Z,3µm,20.0s
F63A Nahmakanta, Br 33.81 261 P P **06 01 31.5 +1.5**
baz=38
F63A Nahmakanta, Br 33.81 261 IAMs_20 IAMs_20 06 13 06.3
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 34.24 261 IAMs_20 IAMs_20 06 13 18.7
comp=Z,3µm,20.0s
E60A Ste Agathe de 34.29 264 P P **06 01 34.4 +0.3**
baz=38
ALN Alexandroupoli 34.31 112 IAMs_20 IAMs_20 06 18 05.4
comp=Z,3µm,18.0s
D58A Chemin du LacG 34.34 267 P P **06 01 34.0 -0.6**
baz=39
F61A St Evariste 34.40 264 P P **06 01 35.0 -0.2**
baz=38
AGG Agios Georgios 34.48 118 IAMs_20 IAMs_20 06 17 54.8
comp=Z,4µm,19.0s

F60A Warwick 34.82 264 P P 06 01 38.6 -0.1
baz=38
WVL Waterville 34.95 261 IAMs_20 IAMs_20 06 13 59.7
comp=Z,3µm,19.0s
G61A St-Isidore-de- 35.18 263 P P 06 01 42.6 +0.7
baz=37
D56A ZEC Mazanza, M 35.18 268 P P 06 01 42.2 +0.3
baz=39
E57A Chemin Saint G 35.42 267 P P 06 01 43.1 -0.8
baz=38
D55A Sainte-Anne-du 35.52 269 P P 06 01 45.1 +0.4
baz=39
VLDQ Val d'Or 35.53 272 IAMs_20 IAMs_20 06 15 15.8
comp=Z,2µm,18.0s
H62A Milan 35.59 262 IAMs_20 IAMs_20 06 14 02.4
comp=Z,3µm,20.0s
G60A Masonville 35.67 264 P P 06 01 46.6 +0.5
baz=37
E56A St. Veronique 35.70 268 P P 06 01 46.9 +0.6
baz=39
I63A Otisfield 35.76 261 IAMs_20 IAMs_20 06 14 15.0
comp=Z,3µm,21.0s
ARU Arti 36.08 66*d i* P P 06 01 47.8 -1.6
ARU 06 03 07.1
ARU 06 04 15.8
ARU S S 06 07 28.8 0.0
ARU SS SnSn 06 09 56.5 +3.7
ARU pmax pmax
comp=Z,20nm,1.6s
ARU MLR MLR
comp=Z,4µm,20.0s
ARU Arti 36.08 66 P P 06 01 48.9 -0.6
ARU IAmb IAmb 06 01 55.1
comp=Z,43nm,1.4s
LBNH Lisbon 36.18 263 IAMs_20 IAMs_20 06 14 42.2
comp=Z,3µm,20.0s
I62A Tamworth 36.22 262 IAMs_20 IAMs_20 06 14 31.3
comp=Z,3µm,21.0s
MACI Morro de la Ar 36.33 179 P P 06 01 51.9 -0.2
MACI IAmb IAmb 06 01 59.1
comp=Z,23nm,0.8s
FRNY Flat Rock 36.42 265 P P 06 01 53.5 +1.0
FRNY IAmb IAmb 06 01 59.7
comp=Z,42nm,1.4s
VT1 Waterbury 36.46 264 IAMs_20 IAMs_20 06 14 49.8
comp=Z,3µm,20.0s
NRIK Noril'sk 36.51 35 P P 06 01 52.8 -0.3
comp=Z,35nm,1.3s,baz=317,slow=5.6,SNR=14
NRIK LR LR 06 18 44.9
comp=Z,2µm,18.2s,baz=349,slow=39
NRIK Noril'sk 36.51 35*ce* P P 06 01 51.8 -1.2
NRIK pmax pmax
comp=Z,32nm,1.3s
SVE Sverdlovsk 36.61 64 *e* P P 06 01 54.1 +0.1
SVE *e* S S 06 07 37.0 0.0
SVE *e* 06 10 04.3
SVE pmax pmax
comp=Z,36nm,1.5s
SVE MLR MLR
comp=Z,3µm,18.0s
FFD Franklin Falls 36.69 262 IAMs_20 IAMs_20 06 14 45.5
comp=Z,3µm,20.0s
HNH Hanover 36.77 262 IAMs_20 IAMs_20 06 14 59.6
comp=Z,3µm,21.0s
G57A Newington 36.81 266 P P 06 01 56.6 +0.9
baz=37,SNR=5.3
H58A Gabriels 37.01 265 P P 06 01 57.1 -0.5
baz=37
LONY Lake Ozonia 37.02 266 P P 06 01 58.0 +0.3
baz=37
J61A Chester 37.17 262 P P 06 01 59.5 +0.6
baz=36
WES Weston 37.43 260 IAMs_20 IAMs_20 06 15 59.1
comp=Z,2µm,18.0s
HRV Adam Dziewonsk 37.43 261 IAMs_20 IAMs_20 06 15 24.2
comp=Z,2µm,20.0s
K62A Royalston 37.59 261 IAMs_20 IAMs_20 06 15 21.4
comp=Z,3µm,20.0s
PLVO Plevna 37.76 268 IAMs_20 IAMs_20 06 15 44.0
comp=Z,3µm,22.0s
SOC Sochi 37.81 96 *e* P P 06 02 01.6 -2.7
SOC *e* 06 03 27.1
SOC *e* S S 06 07 53.7 -1.7
SOC *e* SS SnSn 06 10 26.8 -8.2
SOC MLR MLR
comp=Z,2µm,16.0s
QUA2 Belchertown 37.95 261 IAMs_20 IAMs_20 06 15 41.0
comp=Z,3µm,20.0s
GOF Gofitskoye 38.06 91⇑ *e* P P 06 02 07.0 +0.5
GOF pmax pmax
comp=Z,170nm,1.3s
TRY Troy 38.15 263 IAMs_20 IAMs_20 06 15 42.2
comp=Z,3µm,21.0s
J58A Remsen 38.33 265 IAMs_20 IAMs_20 06 15 48.1
comp=Z,2µm,21.0s
BR131 Keskin Array S 38.41 105 P P 06 02 09.0 -0.6
BR131 pmax pmax
comp=Z,14nm,1.3s
BR131 Keskin Array S 38.41 105 P P 06 02 09.0 -0.6
BRTR Keskin Array B 38.41 105 P P 06 02 09.9 +0.3
comp=Z,2.9nm,0.7s,baz=348,slow=6.2,SNR=8.6
BRTR LR LR 06 20 35.0
comp=Z,519nm,18.6s,baz=302,slow=40
BRTR Keskin Array B 38.41 105 P P 06 02 09.2 -0.3
DELO Deloro Mine 38.41 268 IAMs_20 IAMs_20 06 16 14.1
comp=Z,3µm,21.0s
K59A Cooperstown 38.62 264 P P 06 02 12.8 +1.6
baz=36
IDI Anoyia 38.73 118 P P 06 02 10.1 -2.2
comp=Z,12nm,0.9s,baz=343,slow=13,SNR=2.7
IDI Anoyia 38.73 118 P P 06 02 11.9 -0.4
IDI IAmb IAmb 06 02 35.9
comp=Z,41nm,1.3s
H53A Bobcaygeon 38.78 269 P P 06 02 14.2 +1.7
baz=37
KIV Kislovodsk 38.79 92 *e* P P 06 02 11.4 -1.3
KIV *e* 06 03 38.1
KIV *e* S S 06 08 09.2 -1.3
KIV pmax pmax
comp=Z,40nm,1.0s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 38.79 92 P P 06 02 12.2 -0.5
SADO Sadowa 38.87 270 IAMs_20 IAMs_20 06 16 17.2
comp=Z,2µm,21.0s
SHA1 Shidzhatmaz 38.95 93 P P 06 02 12.6 -1.6
K58A Earlville 38.97 265 IAMs_20 IAMs_20 06 16 19.0
comp=Z,2µm,21.0s
YLE Yale 38.99 261 IAMs_20 IAMs_20 06 16 19.6
comp=Z,2µm,19.0s
KBZ Khabaz 39.06 92 P P 06 02 14.9 +0.1
comp=Z,11nm,0.9s,baz=301,slow=10.0,SNR=10
KBZ LR LR 06 18 32.4
comp=Z,3µm,21.9s,baz=334,slow=36
L59A Walton 39.18 264 IAMs_20 IAMs_20 06 16 14.4
comp=Z,2µm,21.0s
WSPT Westport, CT 39.28 261 IAMs_20 IAMs_20 06 16 56.1
comp=Z,2µm,18.0s
YKA Yellowknife Ar 39.32 313 P P 06 02 14.7 -2.1
comp=Z,6.4nm,1.0s,baz=40,slow=9.1,SNR=14
YKA PcP PcP 06 04 25.8 +0.7
comp=Z,3.3nm,1.0s,baz=37,slow=3.9,SNR=6.3
YKA LR LR 06 18 26.2
comp=Z,3µm,18.4s,baz=0.0,slow=36
KARP Karpathos 39.38 116 IAMs_20 IAMs_20 06 20 04.3
comp=Z,2µm,20.0s
ELL Elmali 39.42 112 P P 06 02 19.0 +0.9
ELL pmax pmax
comp=Z,100nm,1.3s
ELL MLR MLR
comp=Z,7µm,19.0s
ELL Elmali 39.42 112 P P 06 02 19.0 +0.9
E46A Sault Ste Mari 39.83 276 IAMs_20 IAMs_20 06 17 19.8
comp=Z,3µm,20.0s
J54A Appleton 39.85 268 IAMs_20 IAMs_20 06 16 57.2
comp=Z,3µm,22.0s
ODNJ Ogdensburg 39.90 262 IAMs_20 IAMs_20 06 16 42.5
comp=Z,3µm,21.0s
INK Inuvik 39.95 329 P P 06 02 20.9 -1.1
comp=Z,9.5nm,1.1s,baz=32,slow=7.0
INK Inuvik 39.95 329 P P 06 02 21.6 -0.4
INK pmax pmax
comp=Z,26nm,1.3s
INK MLR MLR
comp=Z,2µm,20.0s
INK Inuvik 39.95 329 P P 06 02 21.6 -0.4
KSPA Keystone Colle 40.01 264 IAMs_20 IAMs_20 06 16 50.4
comp=Z,3µm,20.0s
L57A Andrews Acres 40.11 265 P P 06 02 24.3 +0.7
baz=35
ZEI Tsey 40.25 92 *e* P P 06 02 25.2 +0.2
ZEI pmax pmax
comp=Z,23nm,1.5s
WVNY West Valley, N 40.53 267 IAMs_20 IAMs_20 06 17 29.4
comp=Z,2µm,21.0s
LUPA Lehigh Univers 40.63 263 IAMs_20 IAMs_20 06 17 15.8
comp=Z,3µm,20.0s
FFC Flin Flon 40.68 298 P P 06 02 28.5 +0.3
FFC pmax pmax
FFC comp=Z,18nm,1.2s MLR MLR
FFC comp=Z,6µm,18.0s
FFC Flin Flon 40.68 298 P P 06 02 28.5 +0.3
GROC Groznyy 40.74 90 *e* P P 06 02 23.5 -5.3
GROC *e* S S 06 08 34.6 -4.8
GROC pmax pmax
comp=Z,16nm,0.4s
M57A Sunshine Farm, 40.77 265 IAMs_20 IAMs_20 06 17 25.6
comp=Z,2µm,20.0s
E43A Lone Tree Farm 40.98 278 IAMs_20 IAMs_20 06 18 09.1
comp=Z,3µm,20.0s
N58A Sunbury 41.00 264 P P 06 02 32.0 +1.0
baz=34
N58A Sunbury 41.00 264 P P 06 02 31.4 +0.4
N58A IAMs_20 IAMs_20 06 17 20.8
comp=Z,3µm,22.0s
KOPT Kop Dagi 41.06 98 P P 06 02 31.6 -0.2
KOPT IAmb IAmb 06 02 50.9
comp=Z,36nm,1.2s
M56A Emporium 41.10 266 P P 06 02 33.2 +1.3
baz=35
M56A Emporium 41.10 266 IAMs_20 IAMs_20 06 17 37.5
comp=Z,2µm,21.0s
D41A Chassel 41.11 280 IAMs_20 IAMs_20 06 18 02.6
comp=Z,3µm,21.0s
PSUB Penn St. - Bra 41.22 262 IAMs_20 IAMs_20 06 17 33.4
comp=Z,2µm,20.0s
ERPA Erie 41.37 268 IAMs_20 IAMs_20 06 17 55.4
comp=Z,2µm,21.0s
M55A Ridgway 41.37 267 IAMs_20 IAMs_20 06 17 44.4
comp=Z,2µm,22.0s
P60A Greenville 41.39 262 IAMs_20 IAMs_20 06 17 38.0
comp=Z,2µm,19.0s
N57A Milroy 41.43 265 P P 06 02 34.7 +0.2
baz=34
G45A Suttons Bay 41.46 276 IAMs_20 IAMs_20 06 18 46.9
comp=Z,2µm,18.0s
MVL Millersville 41.54 263 IAMs_20 IAMs_20 06 17 46.0
comp=Z,3µm,20.0s
N56A West Decatur 41.62 266 P P 06 02 36.7 +0.6
baz=34
EYMN Ely 41.65 283 IAMs_20 IAMs_20 06 18 38.0
comp=Z,2µm,20.0s
MAK Makhachkala 41.67 89 *e* P P 06 02 30.7 -5.7
MAK *e* S S 06 08 45.5 -7.8
MAK *e* SS SS 06 11 51.7 -6.3
MAK pmax pmax
comp=Z,199nm,1.2s
MAK MLR MLR
comp=Z,2µm,18.0s
ULM Lac du Bonnet 41.68 289 P P 06 02 36.5 +0.1
comp=Z,4.0nm,0.9s,baz=45,slow=13,SNR=3.4
ULM LR LR 06 18 45.8
comp=Z,1µm,20.4s,baz=40,slow=35
ULM Lac du Bonnet 41.68 289 P P 06 02 37.1 +0.7
ULM pmax pmax
comp=Z,9.0nm,1.2s
ULM MLR MLR
comp=Z,2µm,19.0s
ULM Lac du Bonnet 41.68 289 P P 06 02 37.1 +0.7
O58A Lewisberry 41.68 264 P P 06 02 37.1 +0.5
baz=34
M54A Oil Creek Stat 41.73 267 P P 06 02 37.4 +0.5
baz=35
M54A Oil Creek Stat 41.73 267 IAMs_20 IAMs_20 06 18 06.9
comp=Z,2µm,21.0s
ALLY Alegheny Colle 41.82 268 IAMs_20 IAMs_20 06 17 57.3
comp=Z,3µm,21.0s
O57A Amberson 41.92 264 P P 06 02 39.3 +0.7
baz=34
F42A Maple Grove Fa 41.95 279 IAMs_20 IAMs_20 06 18 37.8
comp=Z,3µm,21.0s
K50A Casco 41.97 271 P P 06 02 39.4 +0.5
K50A IAmb IAmb 06 02 44.0
comp=Z,44nm,1.1s
ABKAR Akbulak array 41.97 73 P P 06 02 38.0 -0.9
ABKAR Akbulak array 41.97 73 P P 06 02 37.8 -1.0
ABKAR IAmb IAmb 06 02 43.5
comp=Z,29nm,1.4s
N55A Marion Center 42.03 266 P P 06 02 40.6 +1.2
baz=34
GAZ Gaziantep 42.06 104 P P 06 02 40.5 +0.7
COWI Conover 42.11 280 P P 06 02 40.1 +0.1
COWI IAMs_20 IAMs_20 06 18 43.0
comp=Z,3µm,21.0s
TIXI Tiksi 42.11 15 *i* P P 06 02 40.9 +1.2
TIXI Tiksi 42.11 15 P P 06 02 38.9 -0.8
M53A WI Miller and 42.22 268 IAMs_20 IAMs_20 06 18 08.9
comp=Z,2µm,21.0s
B35A Bob, Littlefor 42.26 285 IAMs_20 IAMs_20 06 19 16.1
comp=Z,3µm,19.0s
O56A Blue Knob Stat 42.27 265 P P 06 02 42.8 +1.3
baz=34
O56A Blue Knob Stat 42.27 265 P P 06 02 42.4 +0.9
O56A IAmb IAmb 06 02 43.1
comp=Z,45nm,1.5s
N54A Moraine State 42.31 267 P P 06 02 42.8 +1.0
baz=35
N54A Moraine State 42.31 267 P P 06 02 42.6 +0.8
N54A IAMs_20 IAMs_20 06 18 25.4
comp=Z,3µm,22.0s
P58A Pank, Wackersv 42.37 263 P P 06 02 44.2 +2.0
baz=34
M52A Chesterland 42.43 269 IAMs_20 IAMs_20 06 18 37.5
comp=Z,3µm,20.0s
I45A Fontain 42.51 275 IAMs_20 IAMs_20 06 18 50.7
comp=Z,2µm,21.0s
O55A Ligonier 42.64 266 P P 06 02 45.5 +1.1
baz=34
P57A Homestead Farm 42.68 264 P P 06 02 46.0 +1.2
baz=34
P57A Homestead Farm 42.68 264 P P 06 02 45.3 +0.6
P57A IAMs_20 IAMs_20 06 18 23.2
comp=Z,3µm,22.0s
E38A The Farm, Brul 42.73 282 IAMs_20 IAMs_20 06 18 58.5
comp=Z,2µm,21.0s
H43A Windswept, Lux 42.82 277 IAMs_20 IAMs_20 06 19 03.9
comp=Z,3µm,21.0s
TOLK Toolik Lake Re 42.86 336 P P 06 02 47.2 +1.3
baz=28,SNR=19
TOLK Toolik Lake Re 42.86 336 P P 06 02 46.2 +0.3
TOLK IAMs_20 IAMs_20 06 22 23.4
comp=Z,2µm,20.0s
M51A Elyria 42.95 270 P P 06 02 48.2 +1.3
baz=35
Q58A Fox Den Farm, 42.99 263 P P 06 02 47.9 +0.7
baz=33
BMAR Burnt Mountain 43.01 333 P P 06 02 47.5 +0.4
O54A Avella 43.12 267 P P 06 02 49.5 +1.2
baz=34
O54A Avella 43.12 267 P P 06 02 49.3 +1.0
O54A IAmb IAmb 06 02 54.8
comp=Z,48nm,1.5s
O54A IAMs_20 IAMs_20 06 19 01.8
comp=Z,3µm,20.0s
BRVK Borovoye 43.13 62*ce* P P 06 02 47.2 -1.0
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 43.13 62 P P 06 02 47.3 -0.9
N52A McGinn's Farm, 43.17 269 P P 06 02 49.8 +1.2
baz=35
AGMN Agassiz Nation 43.20 287 P P 06 02 49.2 +0.4
baz=38,SNR=5.2
AGMN Agassiz Nation 43.20 287 P P 06 02 48.9 0.0
AGMN IAMs_20 IAMs_20 06 20 12.8
comp=Z,3µm,18.0s
G40A Rib Lake 43.22 280 P P 06 02 49.0 -0.1
G40A IAmb IAmb 06 02 50.6
comp=Z,32nm,1.2s
G40A IAMs_20 IAMs_20 06 19 16.5
comp=Z,3µm,21.0s
Q57A Strasburg 43.23 264 P P 06 02 49.7 +0.5
baz=33
M50A Fremont 43.27 270 P P 06 02 50.5 +1.0
M50A comp=Z,36nm,0.9s IAmb IAmb 06 02 51.6
M50A IAMs_20 IAMs_20 06 19 04.7
comp=Z,2µm,20.0s
MCWV Mont Chateau 43.33 266 P P 06 02 50.6 +0.6
baz=34
MCWV Mont Chateau 43.33 266 P P 06 02 50.2 +0.3
N51A Ashland 43.38 269 P P 06 02 51.4 +1.0
baz=35
N51A Ashland 43.38 269 P P 06 02 51.1 +0.7
N51A IAmb IAmb 06 02 52.3
comp=Z,26nm,0.8s
N51A IAMs_20 IAMs_20 06 19 06.6
comp=Z,3µm,21.0s
O53A New Philadelph 43.43 268 P P 06 02 52.0 +1.2
baz=34
O53A New Philadelph 43.43 268 P P 06 02 52.1 +1.4
O53A IAmb IAmb 06 03 07.6
comp=Z,49nm,1.4s
O53A IAMs_20 IAMs_20 06 19 09.9
comp=Z,2µm,20.0s
P55A Reedsville 43.44 266 P P 06 02 52.2 +1.2
baz=34
MARD Mardin 43.45 100 P P 06 02 51.6 +0.5
MARD IAmb IAmb 06 02 59.6
comp=Z,38nm,1.1s
CBN Corbin Frederi 43.48 263 IAMs_20 IAMs_20 06 18 53.2
comp=Z,2µm,19.0s
Q56A Snyder Ridge, 43.55 265 IAMs_20 IAMs_20 06 18 52.3
comp=Z,2µm,22.0s
GEVA Gevas 43.58 97 P P 06 02 53.9 +1.7
GEVA IAmb IAmb 06 03 00.8
comp=Z,36nm,1.4s
P54A Burton 43.65 267 P P 06 02 54.5 +2.0
baz=34
R58A Rapidan 43.67 263 P P 06 02 53.6 +0.9
baz=33
I42A Draeger Farm, 43.78 278 P P 06 02 54.0 +0.5
O52A Adamsville 43.81 268 P P 06 02 54.8 +1.0
baz=34
O52A Adamsville 43.81 268 P P 06 02 54.5 +0.7
O52A IAmb IAmb 06 02 56.0
comp=Z,31nm,1.1s
O52A IAMs_20 IAMs_20 06 19 30.9
comp=Z,2µm,20.0s
FYU Fort Yukon 43.88 333 P P 06 02 55.6 +1.5
R57A Stanardsville 43.89 264 P P 06 02 55.8 +1.3
baz=33
R58B Mineral 43.89 263 IAMs_20 IAMs_20 06 19 06.3
comp=Z,2µm,20.0s
O51A Pataskala 44.11 269 P P 06 02 56.1 -0.2
baz=34,SNR=7.7
P53A Whipple 44.13 267 P P 06 02 56.5 0.0
baz=34,SNR=7.4
P53A Whipple 44.13 267 P P 06 02 56.3 -0.1
P53A IAmb IAmb 06 02 59.0
comp=Z,31nm,1.1s
P53A IAMs_20 IAMs_20 06 19 31.6
comp=Z,3µm,22.0s
F36A Milaca 44.15 283 P P 06 02 56.7 +0.2
F36A IAMs_20 IAMs_20 06 20 04.1
comp=Z,2µm,21.0s
N49A Columbus Grove 44.16 271 P P 06 02 57.1 +0.5
L46A Eue Claire 44.17 274 IAMs_20 IAMs_20 06 20 27.7
comp=Z,2µm,18.0s
R56A Bull Pasture M 44.18 265 P P 06 02 57.0 +0.1
baz=33
ACSO Alum Creek Sta 44.20 269 P P 06 02 58.1 +1.1
baz=34
ACSO Alum Creek Sta 44.20 269 P P 06 02 57.0 0.0
ACSO IAmb IAmb 06 02 58.9
comp=Z,24nm,1.0s
ACSO IAMs_20 IAMs_20 06 19 41.5
comp=Z,2µm,20.0s
COLD Coldfoot 44.23 336 P P 06 02 57.2 +0.4
baz=27,SNR=12
COLD Coldfoot 44.23 336 P P 06 02 57.5 +0.6
COLD IAmb IAmb 06 02 59.8
comp=Z,29nm,1.4s
COLD IAMs_20 IAMs_20 06 23 28.6
comp=Z,2µm,20.0s
S58A Poland Farm, P 44.26 263 P P 06 02 57.8 +0.3
S58A IAmb IAmb 06 03 06.6
comp=Z,39nm,1.5s
S58A IAMs_20 IAMs_20 06 19 17.0
comp=Z,2µm,21.0s
Q54A Coxs Mills 44.31 266 P P 06 02 57.2 -0.7
baz=34
Q54A Coxs Mills 44.31 266 P P 06 02 56.9 -0.9
Q54A IAmb IAmb 06 03 01.5
comp=Z,34nm,1.4s
Q54A IAMs_20 IAMs_20 06 19 26.3
comp=Z,2µm,21.0s
P52A Corning 44.33 268 P P 06 02 57.4 -0.6
baz=34,SNR=5.2
P52A Corning 44.33 268 P P 06 02 57.4 -0.6
P52A IAmb IAmb 06 03 00.5
comp=Z,46nm,1.4s
P52A IAMs_20 IAMs_20 06 19 36.9
comp=Z,2µm,22.0s
SPMN Marine on St. 44.36 282 P P 06 02 58.9 +0.7
baz=37
SPMN Marine on St. 44.36 282 P P 06 02 58.8 +0.6
SPMN IAmb IAmb 06 03 05.5
comp=Z,36nm,1.5s
TAM Tamanrasset 44.40 149 P P 06 02 58.2 -0.7
TAM pmax pmax
comp=Z,7.0nm,1.1s
TAM MLR MLR
comp=Z,2µm,21.0s
TAM Tamanrasset 44.40 149 P P 06 02 58.2 -0.7
TAM IAMs_20 IAMs_20 06 21 22.6
comp=Z,2µm,21.0s
K43A Burlington 44.49 276 IAMs_20 IAMs_20 06 20 32.0
comp=Z,2µm,19.0s
I40A Norwalk 44.50 279 P P 06 02 59.3 0.0
I40A IAmb IAmb 06 03 00.8
comp=Z,18nm,1.1s
S57A Dark Hollow, R 44.52 264 P P 06 03 00.3 +0.7
baz=33
R55A Marlinton 44.59 265 IAMs_20 IAMs_20 06 19 35.7
comp=Z,2µm,22.0s
T59A Double "B" Far 44.59 262 P P 06 03 03.7 +3.6
baz=32
T59A Double "B" Far 44.59 262 P P 06 02 59.7 -0.4
EGAK Eagle 44.59 330 P P 06 02 59.6 -0.2
EGAK IAMs_20 IAMs_20 06 22 48.3
comp=Z,3µm,20.0s
Q53A Leroy 44.71 267 P P 06 03 00.9 -0.2
baz=33,SNR=5.7
L44A Lake County Fo 44.73 275 IAMs_20 IAMs_20 06 20 46.5
comp=Z,2µm,18.0s
DAWY Dawson 44.81 328 P P 06 03 00.8 -0.9
DAWY IAmb IAmb 06 03 04.9
comp=Z,27nm,1.3s
DAWY IAMs_20 IAMs_20 06 22 53.1
comp=Z,3µm,20.0s
Q49A Covington 44.83 271 P P 06 03 01.7 -0.2
Q49A IAMs_20 IAMs_20 06 20 02.9
comp=Z,2µm,21.0s
P51A Williamsport 44.86 269 P P 06 03 01.4 -0.8
baz=34
P51A Williamsport 44.86 269 P P 06 03 01.4 -0.8
P51A IAmb IAmb 06 03 03.9
comp=Z,27nm,1.1s
P51A IAMs_20 IAMs_20 06 20 01.8
comp=Z,2µm,20.0s
MMAI Mount Meron Ar 44.88 109 P P 06 03 02.4 -0.2
comp=Z,1.4nm,0.5s,baz=312,slow=11,SNR=4.9
Q52A Bidwell 44.95 268 P P 06 03 03.6 +0.7
baz=34
HQIL Hanson Quary C 45.02 275 IAMs_20 IAMs_20 06 21 03.0
comp=Z,2µm,18.0s
R54A Victor 45.05 266 P P 06 03 04.6 +0.8
baz=33
MDND Maddock 45.09 290 P P 06 03 04.2 +0.2
MDND IAmb IAmb 06 03 06.2
comp=Z,30nm,1.1s
V62A Hyde County Ai 45.11 259 IAMs_20 IAMs_20 06 19 46.3
comp=Z,3µm,22.0s
S55A Lewisburg 45.18 265 P P 06 03 05.4 +0.5
baz=33
U59A Littleton 45.22 262 P P 06 03 06.3 +1.2
T57A Hurt 45.30 263 P P 06 03 06.3 +0.6
baz=32
T57A Hurt 45.30 263 P P 06 03 06.0 +0.3
T57A IAmb IAmb 06 03 14.9

comp=Z,30nm,1.4s
T57A IAMs_20 IAMs_20 06 19 59.4
comp=Z,2µm,20.0s
F33A 5 Mile Ranch, 45.33 285 P P 06 03 07.2 +1.3
F33A IAmb IAmb 06 03 12.3
comp=Z,21nm,1.1s
F33A IAMs_20 IAMs_20 06 21 09.2
comp=Z,2µm,18.0s
R53A Hurricane 45.34 267 P P 06 03 06.5 +0.4
baz=33
R53A Hurricane 45.34 267 P P 06 03 06.8 +0.7
R53A IAmb IAmb 06 03 14.7
comp=Z,37nm,1.4s
R53A IAMs_20 IAMs_20 06 20 19.5
comp=Z,3µm,21.0s
Q51A Peebles 45.36 269 P P 06 03 06.3 +0.1
Q51A IAmb IAmb 06 03 08.0
comp=Z,28nm,1.1s
Q51A IAMs_20 IAMs_20 06 20 19.1
comp=Z,2µm,21.0s
RDOG Red Dog Mine 45.41 343 P P 06 03 07.6 +1.3
M44A Midewin, Midew 45.44 275 P P 06 03 07.0 +0.2
K27K Chicken 45.44 329 P P 06 03 07.4 +0.8
K27K Chicken 45.44 329 P P 06 03 07.0 +0.4
baz=30
K27K IAmb IAmb 06 03 10.2
comp=Z,30nm,1.4s
S54A Dingess, Beckl 45.51 266 P P 06 03 07.5 0.0
baz=33
S54A Dingess, Beckl 45.51 266 P P 06 03 08.1 +0.6
S54A IAmb IAmb 06 03 09.5
comp=Z,25nm,1.3s
P49A Miami Univ. Ec 45.53 270 P P 06 03 07.3 -0.3
baz=34
P49A Miami Univ. Ec 45.53 270 P P 06 03 07.0 -0.5
P49A IAmb IAmb 06 03 08.4
comp=Z,26nm,1.2s
P49A IAMs_20 IAMs_20 06 20 24.6
comp=Z,3µm,21.0s
I37A Lemond, Waseca 45.59 281 P P 06 03 08.7 +0.7
I37A IAmb IAmb 06 03 10.2
comp=Z,27nm,1.2s
I37A IAMs_20 IAMs_20 06 20 52.1
comp=Z,2µm,20.0s
POKR Poker Plat Res 45.59 333 P P 06 03 08.5 +0.7
POKR IAmb IAmb 06 03 30.8
comp=Z,23nm,0.9s
T56A Rocky Mt 45.60 264 P P 06 03 09.8 +1.6
baz=32
BLA Blacksburg 45.62 265 IAMs_20 IAMs_20 06 20 14.9
comp=Z,3µm,20.0s
L42A Oliver, Polo 45.63 277 P P 06 03 08.7 +0.3
L42A IAmb IAmb 06 03 10.2
comp=Z,25nm,1.2s
L42A IAMs_20 IAMs_20 06 20 49.2
comp=Z,2µm,20.0s
IL31 45.80 333 P P 06 03 10.1 +0.8
ILAR Eielson Array 45.80 333 P P 06 03 08.6 -0.8
comp=Z,24nm,1.2s,baz=28,slow=5.7,SNR=50
ILAR PcP PcP 06 04 45.5 -1.2
comp=Z,4.7nm,1.0s,baz=355,slow=2.9,SNR=7.2
ILAR LR LR 06 24 45.2
comp=Z,2µm,19.4s,baz=34,slow=39
ILAR Eielson Array 45.80 333 P P 06 03 08.4 -1.0
U57A Blanch 45.81 263 P P 06 03 10.9 +1.1
baz=32
T55A Pulaski 45.85 265 P P 06 03 10.7 +0.5
baz=32
SFIN Lafayette 45.86 273 P P 06 03 10.7 +0.5
baz=34
SFIN Lafayette 45.86 273 P P 06 03 10.6 +0.5
SFIN IAmb IAmb 06 03 11.4
comp=Z,28nm,1.1s
SFIN IAMs_20 IAMs_20 06 21 28.3
comp=Z,2µm,18.0s
MDM Murphy Dome 45.89 333 P P 06 03 10.8 +0.6
MDM IAMs_20 IAMs_20 06 25 19.6
comp=Z,2µm,18.0s
COLA College 45.89 333 P P 06 03 10.7 +0.6
COLA pmax pmax
comp=Z,114nm,0.4s
COLA MLR MLR
comp=Z,1µm,20.0s
COLA College 45.89 333 P P 06 03 10.7 +0.6
TCOL CIGO, UAF Yank 45.90 333 P P 06 03 10.9 +0.7
P48A Milroy 45.90 271 P P 06 03 09.7 -0.8
P48A IAmb IAmb 06 03 11.3
comp=Z,21nm,1.0s
P48A IAMs_20 IAMs_20 06 20 36.3
comp=Z,2µm,20.0s
SCRK Sand Creek 45.90 330 P P 06 03 10.8 +0.5
baz=29,SNR=7.2
I23K Minto, Yukon-K 45.94 334 P P 06 03 09.1 -1.3
I23K IAMs_20 IAMs_20 06 24 48.9
comp=Z,2µm,20.0s
S53A Williamson 45.96 267 P P 06 03 12.0 +1.0
baz=33
IMAR Indian Mountai 45.97 337 P P 06 03 10.9 +0.1
CCB Clear Creek Bu 46.09 333 P P 06 03 12.4 +0.7
HDA Harding Lake 46.13 332 P P 06 03 12.2 +0.1
HDA IAMs_20 IAMs_20 06 24 44.0
comp=Z,2µm,20.0s
DOT Dot Lake 46.20 330 P P 06 03 13.5 +0.8
DOT IAmb IAmb 06 03 15.8
comp=Z,21nm,1.4s
DOT IAMs_20 IAMs_20 06 23 50.0
comp=Z,2µm,18.0s
BCAR Beaver Creek A 46.22 329 P P 06 03 12.9 +0.1
ASF Jabal al Asfar 46.23 108 P P 06 03 12.8 -0.5
comp=Z,1.8nm,0.6s,baz=294,slow=2.9,SNR=8.8
ASF PP PP 06 05 05.9 +4.4
comp=Z,1.9nm,0.9s,baz=298,slow=2.8,SNR=3.7
T54A Tazewell 46.24 266 P P 06 03 12.8 -0.5
baz=32
V58A Windy Hill, Pi 46.25 262 IAMs_20 IAMs_20 06 21 18.7
comp=Z,2µm,18.0s
RIDG Independent Ri 46.29 331 P P 06 03 14.0 +0.6
RIDG IAMs_20 IAMs_20 06 24 37.2
comp=Z,2µm,19.0s
MLY Manley 46.30 335 P P 06 03 13.7 +0.3
baz=26,SNR=22
U56A King 46.33 264 P P 06 03 14.0 +0.1
baz=32
U56A King 46.33 264 P P 06 03 14.3 +0.4
R50A Paris 46.40 269 P P 06 03 14.2 -0.3
R50A IAmb IAmb 06 03 21.7
comp=Z,24nm,1.3s
R50A IAMs_20 IAMs_20 06 20 51.7
comp=Z,2µm,20.0s
K38A Parkersburg 46.43 280 IAMs_20 IAMs_20 06 21 06.4
comp=Z,3µm,22.0s
DGMT Dagmar 46.43 293 P P 06 03 14.5 -0.1
baz=36
DGMT Dagmar 46.43 293 P P 06 03 15.2 +0.6
DGMT Dagmar 46.43 293 IAMs_20 IAMs_20 06 21 36.4
comp=Z,3µm,21.0s
V57A Coltrane Farms 46.46 263 P P 06 03 14.2 -0.7
baz=32
U55A TA2, Sparta 46.48 265 P P 06 03 14.7 -0.5
baz=32,SNR=7.9
BRZS Berezniki 46.48 63 eP P 06 03 12.9 -2.1
comp=Z,36nm,2.0s
BRZS Berezniki 46.48 63 eP P 06 03 12.9 -2.1
BRZS pmax pmax
comp=Z,36nm,2.0s
E28A Huff 46.55 289 P P 06 03 15.8 +0.2
E28A IAmb IAmb 06 03 17.2
comp=Z,15nm,0.9s
L26K Log Cabin Wild 46.60 329 P P 06 03 16.7 +0.9
baz=29
BLO Bloomington 46.61 272 P P 06 03 16.5 +0.4
BLO pmax pmax
comp=Z,16nm,1.0s
BLO Bloomington 46.61 272 P P 06 03 16.5 +0.4
BLO IAmb IAmb 06 03 17.2
comp=Z,16nm,1.0s
WHY Whitehorse 46.62 323 P P 06 03 15.9 -0.1
WHY IAmb IAmb 06 03 20.5
comp=Z,19nm,1.5s
WHY IAMs_20 IAMs_20 06 22 49.1
comp=Z,2µm,21.0s
S51A Beattyville 46.62 268 P P 06 03 16.5 +0.3
S51A IAMs_20 IAMs_20 06 21 08.6
comp=Z,2µm,21.0s
O44A Mansfield 46.64 274 IAMs_20 IAMs_20 06 21 53.9
comp=Z,2µm,18.0s
HDIL Hopedale 46.66 275 P P 06 03 17.7 +1.2
baz=34
HDIL Hopedale 46.66 275 P P 06 03 17.2 +0.7
HDIL IAMs_20 IAMs_20 06 22 13.5
comp=Z,2µm,18.0s
T53A Wise 46.72 266 P P 06 03 16.3 -0.7
baz=32
MENT Mentasta 46.76 330 P P 06 03 18.3 +1.3
MENT IAMs_20 IAMs_20 06 24 04.6
comp=Z,2µm,20.0s
R49A Shelbyville 46.76 270 IAMs_20 IAMs_20 06 21 12.1
comp=Z,2µm,19.0s
U54A Nelsons Funny 46.80 265 P P 06 03 16.8 -0.9
baz=32
U54A Nelsons Funny 46.80 265 P P 06 03 16.8 -0.9
U54A IAmb IAmb 06 03 23.9
comp=Z,26nm,1.2s
V56A Mocksville 46.83 264 P P 06 03 15.9 -1.9
baz=32,SNR=6.1
BWN Browne 46.84 334 P P 06 03 17.2 -0.4
BWN IAMs_20 IAMs_20 06 25 27.8
comp=Z,2µm,19.0s
PAX Paxson 47.10 331 P P 06 03 20.9 +1.1
PAX pmax pmax
comp=Z,37nm,1.4s
PAX MLR MLR
comp=Z,2µm,19.0s
PAX Paxson 47.10 331 P P 06 03 20.9 +1.1
PAX IAMs_20 IAMs_20 06 25 01.8
comp=Z,2µm,19.0s
V55A Taylorsville 47.10 264 P P 06 03 17.4 -2.6
baz=32,SNR=5.4
V55A Taylorsville 47.10 264 P P 06 03 20.2 +0.2
V55A IAmb IAmb 06 03 23.6
comp=Z,29nm,1.4s
MCK McKinley 47.13 333 P P 06 03 19.3 -0.6
baz=26,SNR=11
HYT Haines Junctio 47.15 325 P P 06 03 21.9 +1.7
HYT IAmb IAmb 06 03 25.0
comp=Z,20nm,1.4s
HYT IAMs_20 IAMs_20 06 23 12.9
comp=Z,2µm,20.0s
ECSD EROS Data Cent 47.17 284 P P 06 03 21.3 +0.8
baz=35,SNR=6.6
ECSD EROS Data Cent 47.17 284 P P 06 03 20.4 0.0
ECSD IAmb IAmb 06 03 26.8
comp=Z,17nm,1.3s
ECSD EROS Data Cent 47.17 284 IAMs_20 IAMs_20 06 22 06.9
comp=Z,3µm,20.0s
W57A Gilead 47.17 263 P P 06 03 21.4 +0.9
baz=31
W57A Gilead 47.17 263 IAMs_20 IAMs_20 06 21 56.1
comp=Z,2µm,18.0s
DLBC Dease Lake 47.18 319 P P 06 03 20.4 0.0
DLBC IAMs_20 IAMs_20 06 23 21.9
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 47.19 334 P P 06 03 20.5 +0.1
N41A Harden Midland 47.20 277 IAMs_20 IAMs_20 06 21 36.9
comp=Z,2µm,21.0s
SCIA State Center 47.23 280 P P 06 03 20.2 -0.7
SCIA IAmb IAmb 06 03 22.5
comp=Z,12nm,0.9s
SCIA IAMs_20 IAMs_20 06 21 41.5
comp=Z,3µm,21.0s
WCI Wyandotte Cave 47.30 271 P P 06 03 21.7 +0.2
baz=33
WCI Wyandotte Cave 47.30 271 P P 06 03 22.0 +0.5
WCI pmax pmax
comp=Z,22nm,1.0s
WCI Wyandotte Cave 47.30 271 P P 06 03 22.0 +0.5
WCI IAMs_20 IAMs_20 06 21 39.4
comp=Z,2µm,20.0s
DHY Denali Highway 47.41 332 P P 06 03 23.4 +1.2
DHY IAMs_20 IAMs_20 06 24 31.8
comp=Z,2µm,18.0s
RND Reindeer 47.41 333 P P 06 03 22.7 +0.6
RND pmax pmax
comp=Z,14nm,1.3s
RND MLR MLR
comp=Z,2µm,20.0s
RND Reindeer 47.41 333 P P 06 03 22.7 +0.6
RND IAmb IAmb 06 03 26.8
comp=Z,14nm,1.3s
RND IAMs_20 IAMs_20 06 24 12.8
comp=Z,2µm,20.0s
W56A Indian Trail 47.44 263 P P 06 03 22.2 -0.4
baz=32,SNR=5.9
V54A Nebo 47.48 265 P P 06 03 22.5 -0.5
baz=32,SNR=11
P43A Skaggs, Pawnee 47.51 275 P P 06 03 23.7 +0.6
P43A IAMs_20 IAMs_20 06 22 39.1
comp=Z,2µm,18.0s
TZTN Tazewell 47.53 267 P P 06 03 24.6 +1.4
baz=32
TZTN Tazewell 47.53 267 P P 06 03 24.5 +1.2
TZTN IAmb IAmb 06 03 50.9
comp=Z,27nm,1.4s
TZTN IAMs_20 IAMs_20 06 21 38.4
comp=Z,2µm,21.0s
SUSD Miller 47.57 286 IAMs_20 IAMs_20 06 22 43.4
comp=Z,2µm,18.0s
EIL Elat 47.64 111 P P 06 03 23.8 -0.4
comp=Z,2.1nm,0.4s,baz=1.8,slow=3.6,SNR=5.7
TRF Thorofare Moun 47.65 334 P P 06 03 24.7 +0.6
TRF IAMs_20 IAMs_20 06 24 54.1
comp=Z,2µm,20.0s
BILL Bilibino 47.65 358⇓eP P 06 03 26.3 +2.5
BILL eSS SS 06 13 44.2 -2.5
BILL SSS SSS 06 14 56.0
BILL pmax pmax
comp=Z,26nm,1.4s
BILL MLR MLR
comp=Z,1µm,17.0s
ZAA0 Zalesovo Array 47.66 51 P P 06 03 23.6 -0.5
ZAA0 IAmb IAmb 06 03 28.4
comp=Z,27nm,1.4s
ZALV Zalesovo Beam 47.66 51 P P 06 03 24.0 -0.1
comp=Z,5.1nm,0.9s,baz=326,slow=9.6,SNR=20
ZALV PcP PcP 06 04 56.0 +2.6
comp=Z,3.3nm,1.0s,baz=278,slow=4.0,SNR=4.6
ZALV LR LR 06 26 22.8
comp=Z,805nm,18.1s,baz=322,slow=40
ZALV Zalesovo Beam 47.66 51 P P 06 03 24.0 -0.1
KTH Kantishna Hill 47.68 334 P P 06 03 25.1 +0.9
KTH IAMs_20 IAMs_20 06 24 55.8
comp=Z,2µm,20.0s
T50A Nancy 47.68 269 IAMs_20 IAMs_20 06 21 20.5
comp=Z,2µm,22.0s
KMSC Kings Mountain 47.76 264 P P 06 03 24.2 -0.9
baz=32,SNR=5.8
KMSC Kings Mountain 47.76 264 P P 06 03 24.8 -0.3
KMSC IAmb IAmb 06 03 27.1
comp=Z,20nm,1.1s
KMSC IAMs_20 IAMs_20 06 21 27.6
comp=Z,2µm,19.0s
SKAG Skagway 47.77 322 P P 06 03 24.2 -0.7
SKAG IAmb IAmb 06 03 42.1
comp=Z,17nm,1.4s
BARN Barnard Glacie 47.95 327 IAMs_20 IAMs_20 06 24 00.1
comp=Z,2µm,20.0s
CTGM Chitina Glacie 47.95 327 IAMs_20 IAMs_20 06 23 50.3
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 47.98 328 IAMs_20 IAMs_20 06 24 18.8
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 48.02 330 IAMs_20 IAMs_20 06 25 28.1
comp=Z,1µm,18.0s
GLB Gilahina Butte 48.10 329 P P 06 03 28.2 +0.8
GLB IAMs_20 IAMs_20 06 24 34.1
comp=Z,2µm,20.0s
USIN University of 48.11 272 P P 06 03 27.9 +0.1
KURK Kurchatov 48.12 58 ceP P 06 03 26.4 -1.3
KURK pmax pmax
comp=Z,28nm,1.3s
KURK Kurchatov 48.12 58 P P 06 03 26.8 -0.9
KURK IAmb IAmb 06 03 29.6
comp=Z,22nm,1.1s
KURK Kurchatov 48.12 58 IAMs_20 IAMs_20 06 23 44.8
comp=Z,2µm,20.0s
BALM Baldy 48.13 328 IAMs_20 IAMs_20 06 24 04.8
comp=Z,2µm,20.0s
N25K Chitina, Valde 48.13 329 P P 06 03 28.9 +1.2
baz=28,SNR=7.0
N25K Chitina, Valde 48.13 329 P P 06 03 28.3 +0.6
N25K IAmb IAmb 06 03 31.4
comp=Z,17nm,1.2s
V52A Sevierville 48.14 267 P P 06 03 28.3 +0.2
V52A IAmb IAmb 06 03 29.4
comp=Z,15nm,1.2s
V52A IAMs_20 IAMs_20 06 21 47.6
comp=Z,2µm,22.0s
W54A Cherokee Point 48.17 265 P P 06 03 29.1 +0.8
baz=32,SNR=7.1
X56A White Oak 48.18 263 P P 06 03 28.3 -0.1
baz=31,SNR=5.9
VRDI Verde Repeater 48.21 328 IAMs_20 IAMs_20 06 24 37.0
comp=Z,2µm,19.0s
PAULI Pauline 48.24 264 P P 06 03 28.4 -0.4
PAULI IAMs_20 IAMs_20 06 21 42.3
comp=Z,2µm,19.0s
TKL Tuckaleechee C 48.37 267 P P 06 03 30.2 +0.4
TKL pmax pmax
comp=Z,25nm,1.4s
TKL Tuckaleechee C 48.37 267 P P 06 03 30.2 +0.4
TKL IAmb IAmb 06 03 39.7
comp=Z,25nm,1.4s
TKL IAMs_20 IAMs_20 06 22 05.8
comp=Z,3µm,22.0s
BCPM Bancas Point 48.43 325 IAMs_20 IAMs_20 06 25 20.9
comp=Z,2µm,20.0s
PCA Pinnacle 48.46 326 IAMs_20 IAMs_20 06 25 31.6
comp=Z,2µm,20.0s
X55A Gracelyn & Ava 48.46 264 P P 06 03 31.7 +1.2
baz=31
JSC Jenkinsville 48.46 263 P P 06 03 32.0 +1.5
JSC pmax pmax
comp=Z,13nm,1.2s
JSC Jenkinsville 48.46 263 P P 06 03 32.0 +1.5
TGL Tana Glacier 48.49 328 P P 06 03 32.9 +2.4
TGL IAmb IAmb 06 03 34.1
comp=Z,21nm,1.4s
TGL IAMs_20 IAMs_20 06 24 37.4
comp=Z,2µm,19.0s
V51A Loudon 48.50 267 P P 06 03 30.9 +0.1
V51A IAmb IAmb 06 03 37.3
comp=Z,20nm,1.1s
V51A IAMs_20 IAMs_20 06 22 18.1
comp=Z,2µm,20.0s
ISLE Juniper Island 48.51 327 IAMs_20 IAMs_20 06 24 17.9
comp=Z,2µm,20.0s
PPLA Purkeypile 48.51 334 P P 06 03 32.0 +1.2
U49A Red Boiling Sp 48.51 269 P P 06 03 30.4 -0.6
U49A IAmb IAmb 06 03 32.6
comp=Z,14nm,1.1s
U49A IAMs_20 IAMs_20 06 21 55.6
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 48.52 331 P P 06 03 31.3 +0.6
SCM pmax pmax
comp=Z,53nm,1.3s
SCM MLR MLR
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 48.52 331 P P 06 03 31.3 +0.6
SCM IAMs_20 IAMs_20 06 24 55.0
comp=Z,1µm,19.0s
L34A Svendsen Farm, 48.52 282 IAMs_20 IAMs_20 06 22 41.6
comp=Z,2µm,19.0s
KLU Klutina 48.52 330 P P 06 03 31.4 +0.6
KLU IAmb IAmb 06 03 34.1
comp=Z,23nm,1.5s
KLU IAMs_20 IAMs_20 06 25 36.2
comp=Z,1µm,20.0s
JIS Juneau Island 48.53 321 IAMs_20 IAMs_20 06 24 12.6
comp=Z,2µm,19.0s
CRQM Cirque 48.56 328 P P 06 03 31.6 +0.4
CRQM IAMs_20 IAMs_20 06 24 39.0
comp=Z,2µm,20.0s
BG3 Lake Jocassee 48.57 265 P P 06 03 32.0 +0.6
BG3 IAmb IAmb 06 03 33.5
comp=Z,19nm,1.3s
BG3 IAMs_20 IAMs_20 06 21 59.1
comp=Z,2µm,21.0s
YAH Yahtse 48.58 327 IAMs_20 IAMs_20 06 24 10.0
comp=Z,2µm,21.0s
SLM Saint Louis 48.66 275 P P 06 03 32.5 +0.5
SLM pmax pmax
comp=Z,19nm,0.6s
SLM MLR MLR
comp=Z,2µm,19.0s
SLM Saint Louis 48.66 275 P P 06 03 32.5 +0.5
SLM IAMs_20 IAMs_20 06 23 24.4
comp=Z,2µm,19.0s
LAO LASA Array 48.68 294 P P 06 03 33.1 +0.9
baz=35,SNR=9.4
LAO LASA Array 48.68 294 P P 06 03 32.7 +0.5
T47A Sharon Grove 48.69 271 P P 06 03 31.1 -1.1
T47A IAMs_20 IAMs_20 06 22 12.2
comp=Z,2µm,20.0s
P40A Paris 48.69 277 IAMs_20 IAMs_20 06 22 33.3
comp=Z,2µm,20.0s
X54A Belton 48.71 265 P P 06 03 33.4 +0.9
baz=31
SML Sawmill 48.75 332 P P 06 03 33.1 +0.6
SML IAMs_20 IAMs_20 06 25 12.2
comp=Z,2µm,19.0s
CPCT Cooper Cave 48.87 267 P P 06 03 33.9 +0.2
CPCT IAmb IAmb 06 03 43.7
comp=Z,24nm,1.4s
CPCT IAMs_20 IAMs_20 06 22 30.0
comp=Z,2µm,19.0s
GHO Glory Hole Cre 48.90 332 P P 06 03 34.4 +0.7
GHO IAMs_20 IAMs_20 06 25 18.2
comp=Z,2µm,20.0s
W52A Murphy 48.92 266 P P 06 03 33.6 -0.5
W52A IAmb IAmb 06 03 35.4
comp=Z,16nm,1.2s
HODGE Hodges 48.93 264 P P 06 03 33.8 -0.3
HODGE IAmb IAmb 06 03 35.4
comp=Z,25nm,1.2s
HODGE IAMs_20 IAMs_20 06 22 04.6
comp=Z,2µm,20.0s
EGMT Eagleton 48.96 297 P P 06 03 35.0 +0.7
baz=35,SNR=18
EGMT Eagleton 48.96 297 P P 06 03 34.8 +0.5
NHSC New Hope 49.00 262 P P 06 03 35.3 +0.6
baz=30
S44A Carbondale 49.02 273 P P 06 03 34.8 0.0
S44A IAmb IAmb 06 03 36.4
comp=Z,21nm,1.4s
S44A IAMs_20 IAMs_20 06 23 10.0
comp=Z,2µm,18.0s
ANM Nome 49.05 342 IAMs_20 IAMs_20 06 24 19.0
comp=Z,1µm,20.0s
Z57A Bowman 49.06 262 P P 06 03 35.4 +0.3
baz=31
PMR Palmer 49.10 332 P P 06 03 35.4 +0.3
PMR pmax pmax
comp=Z,31nm,1.3s
PMR MLR MLR
comp=Z,2µm,20.0s
PMR Palmer 49.10 332 P P 06 03 35.4 +0.3
PMR IAmb IAmb 06 03 42.7
comp=Z,31nm,1.3s
PMR IAMs_20 IAMs_20 06 25 24.6
comp=Z,2µm,20.0s
CLTN Cedars of Leba 49.11 269 P P 06 03 36.0 +0.5
CLTN IAmb IAmb 06 03 37.3
comp=Z,15nm,1.2s
CLTN IAMs_20 IAMs_20 06 22 25.3
comp=Z,2µm,21.0s
KNK Knik Glacier 49.13 331 P P 06 03 36.0 +0.6
KNK IAmb IAmb 06 03 38.6
comp=Z,19nm,1.1s
KNK IAMs_20 IAMs_20 06 25 25.3
comp=Z,2µm,19.0s
TTA Tatalina 49.17 336 P P 06 03 36.3 +0.6
TTA pmax pmax
comp=Z,18nm,1.2s
TTA MLR MLR
comp=Z,2µm,20.0s
TTA Tatalina 49.17 336 P P 06 03 36.3 +0.6
TTA IAmb IAmb 06 03 40.0
comp=Z,18nm,1.2s
TTA IAMs_20 IAMs_20 06 24 45.3
comp=Z,1µm,20.0s
HMT Hamilton 49.19 328 P P 06 03 36.8 +0.9
SKT Skwentna 49.23 333 P P 06 03 36.3 +0.1
SKT IAmb IAmb 06 03 38.5
comp=Z,34nm,1.4s
SKT IAMs_20 IAMs_20 06 26 53.9
comp=Z,2µm,19.0s
FID Port Fidalgo 49.31 330 IAMs_20 IAMs_20 06 25 41.2
comp=Z,2µm,18.0s
Z56A Williston 49.32 263 P P 06 03 38.0 +0.9
baz=31

EYAK Cordova Ski Ar 49.33 329 P P 06 03 36.5 -0.4
EYAK IAMs_20 IAMs_20 06 27 33.6
comp=Z,2µm,19.0s
W50A Signal Mountai 49.42 268 P P 06 03 37.5 -0.4
W50A IAmb IAmb 06 03 39.9
comp=Z,25nm,1.1s
W50A IAMs_20 IAMs_20 06 22 46.6
comp=Z,2µm,20.0s
SUA Susitna One 49.55 333 P P 06 03 39.4 +0.8
SUA IAmb IAmb 06 03 42.1
comp=Z,25nm,1.2s
SUA IAMs_20 IAMs_20 06 26 30.3
comp=Z,2µm,19.0s
KAIM Kayak Island 49.59 328 IAMs_20 IAMs_20 06 25 21.5
comp=Z,1µm,18.0s
V48A Smith Brothers 49.62 270 P P 06 03 40.0 +0.7
V48A IAmb IAmb 06 03 53.5
comp=Z,18nm,1.2s
V48A IAMs_20 IAMs_20 06 22 40.8
comp=Z,2µm,21.0s
HIN Hinchinbrook I 49.63 330 IAMs_20 IAMs_20 06 25 51.6
comp=Z,1µm,18.0s
SWET Sewanee 49.68 268 P P 06 03 40.3 +0.4
SWET IAMs_20 IAMs_20 06 22 54.4
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 49.69 332 P P 06 03 39.8 +0.3
baz=25,SNR=12
WVT Waverly 49.72 271 IAMs_20 IAMs_20 06 22 53.6
comp=Z,2µm,21.0s
BGNE Belgrade 49.73 283 IAMs_20 IAMs_20 06 23 16.6
comp=Z,2µm,21.0s
X51A Calhoun 49.77 267 P P 06 03 41.5 +1.0
X51A IAMs_20 IAMs_20 06 22 49.7
comp=Z,2µm,21.0s
R40A Maddies Statio 49.82 276 P P 06 03 40.5 -0.4
R40A IAMs_20 IAMs_20 06 23 46.1
comp=Z,2µm,20.0s
SIT Sitka 49.84 321 IAMs_20 IAMs_20 06 25 02.2
comp=Z,2µm,19.0s
RSSD Black Hills 49.91 290 P P 06 03 42.3 +0.5
baz=34
RSSD Black Hills 49.91 290 P P 06 03 42.3 +0.5
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 49.91 290 P P 06 03 42.3 +0.5
RSSD Black Hills 49.91 290 IAMs_20 IAMs_20 06 23 32.5
comp=Z,2µm,21.0s
HENM Henderson Moun 49.94 273 IAMs_20 IAMs_20 06 24 28.2
comp=Z,1µm,18.0s
Y52A Lilburn 50.02 266 P P 06 03 43.1 +0.6
Y52A IAmb IAmb 06 03 44.4
comp=Z,28nm,1.2s
PARMO Parma 50.10 273 IAMs_20 IAMs_20 06 23 52.6
comp=Z,1µm,18.0s
FPAL Fort Paine 50.11 268 P P 06 03 43.9 +0.7
FPAL IAmb IAmb 06 03 44.8
comp=Z,27nm,1.3s
FPAL IAMs_20 IAMs_20 06 23 07.9
comp=Z,2µm,20.0s
GOGA Godfrey 50.15 265 P P 06 03 43.8 +0.3
baz=31
GOGA Godfrey 50.15 265 P P 06 03 43.6 +0.1
GOGA pmax pmax
comp=Z,25nm,1.3s
GOGA Godfrey 50.15 265 P P 06 03 43.5 +0.1
GOGA IAmb IAmb 06 03 44.7
comp=Z,25nm,1.2s
GOGA Godfrey 50.15 265 IAMs_20 IAMs_20 06 22 52.9
comp=Z,2µm,20.0s
GLAT Glass 50.23 272 P P 06 03 44.5 +0.4
O22K Cooper Landing 50.24 332 IAMs_20 IAMs_20 06 26 08.6
comp=Z,2µm,18.0s
PVMO Portageville 50.29 273 IAMs_20 IAMs_20 06 24 15.6
comp=Z,1µm,18.0s
PBMO Poplar Bluff 50.30 273 P P 06 03 44.8 +0.3
PBMO IAMs_20 IAMs_20 06 23 58.8
comp=Z,2µm,18.0s
T42A Van Buren 50.37 274 P P 06 03 44.7 -0.4
T42A IAMs_20 IAMs_20 06 24 10.7
comp=Z,1µm,18.0s
GEYT Alibeck 50.39 84 P P 06 03 46.1 +0.9
comp=Z,3.4nm,0.8s,baz=345,slow=5.2,SNR=9.6
GEYT PP PP 06 05 44.0 +3.6
comp=Z,1.4nm,0.4s,baz=307,slow=10,SNR=4.1
GEYT LR LR 06 27 28.3
comp=Z,2µm,18.7s,baz=325,slow=39
GEYT Alibeck 50.39 84 P P 06 03 47.5 +2.3
GYA0B ALIBECK ARRAY 50.39 84 P P 06 03 45.0 -0.2
GYA0B IAmb IAmb 06 03 50.8
comp=Z,19nm,1.2s
GYA0B IAMs_20 IAMs_20 06 27 08.8
comp=Z,2µm,19.0s
MID Middleton Isla 50.47 329 IAMs_20 IAMs_20 06 26 21.7
comp=Z,2µm,18.0s
ASHT Ashkhabad 50.49 83 IAMs_20 IAMs_20 06 27 49.5
comp=Z,2µm,19.0s
SEW Seward 50.53 331 IAMs_20 IAMs_20 06 26 07.2
comp=Z,2µm,21.0s
CRAG Craig 50.60 318 IAMs_20 IAMs_20 06 23 58.4
comp=Z,1µm,21.0s
PEBM Pemiscott Bayo 50.61 272 IAMs_20 IAMs_20 06 24 18.2
comp=Z,2µm,18.0s
154A Montrose 50.68 264 P P 06 03 48.0 +0.5
GCMT Greycliff 50.77 296 P P 06 03 47.4 -0.8
MGMO Mountain Grove 50.77 275 P P 06 03 47.8 -0.3
MGMO IAMs_20 IAMs_20 06 25 17.4
comp=Z,2µm,19.0s
S39A Bolivar 50.77 277 P P 06 03 47.8 -0.4
S39A IAMs_20 IAMs_20 06 24 24.4
comp=Z,1µm,18.0s
PLAL Pickwick Lake 50.80 270 P P 06 03 47.8 -0.6
PLAL IAmb IAmb 06 03 50.2
comp=Z,23nm,1.5s
PLAL IAMs_20 IAMs_20 06 23 27.1
comp=Z,2µm,20.0s
SVW2 Sparrevohn 50.80 335 P P 06 03 48.7 +0.6
GNAR Gosnell 50.81 273 P P 06 03 48.1 -0.3
X48A Hartselle 50.81 269 P P 06 03 47.9 -0.5
X48A IAmb IAmb 06 03 48.7
comp=Z,21nm,1.2s
X48A IAMs_20 IAMs_20 06 23 17.3
comp=Z,2µm,22.0s
HRY Holter Researc 50.84 298 P P 06 03 49.3 +0.6
KOWA Kowa 50.86 163 P P 06 03 47.3 -1.5
comp=Z,6.9nm,1.0s,baz=357,slow=5.7,SNR=8.9
KOWA Kowa 50.86 163 P P 06 03 47.4 -1.5
KOWA IAmb IAmb 06 03 55.0
comp=Z,18nm,1.1s
KOWA IAMs_20 IAMs_20 06 26 11.8
comp=Z,1µm,18.0s
KSU1 Kansas State U 51.00 280 P P 06 03 49.7 0.0
baz=33,SNR=5.6
KSU1 Kansas State U 51.00 280 P P 06 03 49.8 0.0
KSU1 IAmb IAmb 06 03 55.0
comp=Z,26nm,1.2s
255A Hazlehurst 51.00 263 P P 06 03 51.6 +1.7
Y49A Blount Mountai 51.04 268 P P 06 03 50.5 +0.3
Y49A IAmb IAmb 06 03 59.5
comp=Z,33nm,1.5s
Y49A IAMs_20 IAMs_20 06 23 35.4
comp=Z,2µm,21.0s
BRLS Borolday 51.05 70 eS S 06 11 12.4 +4.5
BTLS Baital 51.06 66 eP P 06 03 48.6 -1.7
comp=Z,15nm,1.2s
BTLS eS S 06 11 10.0 +2.0
BTLS Baital 51.06 66 eP P 06 03 48.5 -1.7
BTLS eS S 06 11 09.9 +2.0
BTLS pmax pmax
comp=Z,15nm,1.2s
W45A Hickory Valley 51.13 271 IAMs_20 IAMs_20 06 23 47.9
comp=Z,2µm,20.0s
RLMT Red Lodge 51.17 295 P P 06 03 51.7 +0.4
baz=34,SNR=14
RLMT Red Lodge 51.17 295 P P 06 03 51.4 0.0
RLMT IAmb IAmb 06 03 55.5
comp=Z,45nm,1.5s
LCAR Lake Charles 51.21 274 IAMs_20 IAMs_20 06 24 27.9
comp=Z,2µm,19.0s
KK31 Karatay Array 51.26 70 P P 06 03 51.7 -0.1
KK31 pmax pmax
comp=Z,42nm,1.4s
KK31 Karatay Array 51.26 70 P P 06 03 51.6 -0.1
KK31 IAmb IAmb 06 03 55.7
comp=Z,42nm,1.4s
KKAR Karatay Array 51.26 70 P P 06 03 51.5 -0.3
KKAR pmax pmax
comp=Z,42nm,1.4s
KKAR Karatay Array 51.26 70 P P 06 03 51.5 -0.3
KKAR IAmb IAmb 06 03 55.7
comp=Z,42nm,1.4s
KKAR Karatay Array 51.26 70 P P 06 03 51.4 -0.4
152A Waverly Hall 51.33 266 P P 06 03 52.4 +0.1
YAK Yakutsk 51.35 19 eP P 06 03 51.3 -0.8
YAK e*PP sP 06 03 57.5 +3.0
YAK e 06 05 06.3
YAK e 06 05 48.3
YAK ePPP PPP 06 06 47.0
YAK eS S 06 11 11.5 +0.2
YAK e*SS sS 06 11 20.9 +6.6
YAK eSS SS 06 14 49.7 +3.7
YAK eSSS SSS 06 16 23.6
YAK pmax pmax
comp=Z,12nm,1.2s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.6s
YAK pmax pmax
comp=Z,106nm,2.5s
YAK pmax pmax
comp=N,78nm,2.2s
YAK pmax pmax
comp=E,36nm,2.3s
YAK smax smax
comp=N,115nm,2.4s
YAK smax smax
comp=E,18nm,2.1s
YAK MLR MLR
comp=Z,629nm,18.0s
YAK MLR MLR
comp=N,504nm,17.0s
YAK MLR MLR
comp=E,194nm,18.0s
CNPM China Poot 51.42 332 P P 06 03 54.9 +2.2
MSO Missoula 51.54 299 P P 06 03 52.4 -1.6
baz=33
MSO Missoula 51.54 299 P P 06 03 53.9 -0.1
BOZ Bozeman (W) 51.70 297 P P 06 03 54.5 -0.6
baz=33,SNR=25
BOZ Bozeman (W) 51.70 297 P P 06 03 54.6 -0.6
BOZ pmax pmax
comp=Z,26nm,1.1s
BOZ Bozeman (W) 51.70 297 P P 06 03 54.6 -0.6
BOZ IAmb IAmb 06 03 57.0
comp=Z,26nm,1.1s
U40A Yellville 51.70 275 P P 06 03 54.4 -0.7
baz=32,SNR=6.5
U40A Yellville 51.70 275 P P 06 03 54.8 -0.3
U40A IAMs_20 IAMs_20 06 25 02.8
comp=Z,2µm,18.0s
DZA Taraz 51.77 69 eP P 06 03 55.8 +0.2
DZA Taraz 51.77 69 eP P 06 03 55.7 +0.2
OXF Oxford 51.78 271 IAMs_20 IAMs_20 06 24 16.9
comp=Z,2µm,21.0s
FCAR Ozark Folk Cen 51.78 274 P P 06 03 55.1 -0.6
FCAR IAMs_20 IAMs_20 06 25 03.0
comp=Z,1µm,18.0s
LRM Limekiln Ridge 51.82 298 P P 06 03 56.9 +0.7
456A Hilliard 51.84 262 IAMs_20 IAMs_20 06 23 48.7
comp=Z,1µm,20.0s
IUG luzhnay 51.87 71 eP P 06 03 55.0 -1.4
comp=Z,17nm,1.2s
IUG eS S 06 11 18.7 -0.6
IUG luzhnay 51.87 71 eP P 06 03 55.0 -1.4
IUG eS S 06 11 18.7 -0.6
IUG pmax pmax
comp=Z,17nm,1.2s
LRAL Lakeview Retre 51.99 268 P P 06 03 56.3 -1.0
baz=31
LRAL Lakeview Retre 51.99 268 P P 06 03 56.9 -0.5
LRAL IAmb IAmb 06 03 57.5
comp=Z,22nm,1.3s
YHH Holmes Hill 52.07 296 P P 06 03 59.0 +0.9
DGZ Jazzator, Alta 52.10 53 i P P 06 03 58.0 -0.1
DGZ pmax pmax
comp=Z,23nm,1.3s
K22A Casper 52.14 291 P P 06 03 57.5 -1.0
baz=33,SNR=5.3
K22A Casper 52.14 291 P P 06 03 58.1 -0.5
K22A IAmb IAmb 06 03 59.3
comp=Z,24nm,1.3s
K22A IAMs_20 IAMs_20 06 25 04.5
comp=Z,2µm,20.0s
YHL Hebgen Lake 52.15 296 P P 06 03 59.0 +0.3
YMR Madison River 52.22 296 P P 06 04 00.2 +1.1
HHAR Hobbs 52.23 276 P P 06 03 58.3 -0.7
B08A Colville Reser 52.23 304 IAMs_20 IAMs_20 06 25 27.8
comp=Z,2µm,19.0s
YHB Horse Butte 52.23 296 P P 06 03 59.8 +0.6
TAS Tashkent 52.25 72 IAMs_20 IAMs_20 06 26 27.0
comp=Z,2µm,21.0s
U38A Gravette 52.28 277 P P 06 03 58.5 -1.0
H17A Grant Village 52.29 295 P P 06 04 02.0 +2.2
baz=33,SNR=7.5
H17A Grant Village 52.29 295 P P 06 04 01.4 +1.6
H17A IAmb IAmb 06 04 03.4
comp=Z,27nm,1.2s
Z47A Carrollton 52.32 269 IAMs_20 IAMs_20 06 24 04.3
comp=Z,2µm,22.0s
WHAR Wooly Hollow 52.36 274 P P 06 04 00.1 +0.1
WHAR IAMs_20 IAMs_20 06 25 12.3
comp=Z,2µm,18.0s
DIB Dawson Inlet, 52.38 317 IAMs_20 IAMs_20 06 26 25.5
comp=Z,2µm,20.0s
Y45A Yeager Farm, C 52.38 271 IAMs_20 IAMs_20 06 24 45.0
comp=Z,2µm,19.0s
352A Blakely 52.44 265 IAMs_20 IAMs_20 06 24 47.5
comp=Z,1µm,18.0s
W41B Gary Mavity, V 52.44 274 P P 06 04 00.2 -0.4
baz=32
W41B Gary Mavity, V 52.44 274 IAMs_20 IAMs_20 06 25 14.4
comp=Z,2µm,19.0s
R32A Long Quarter, 52.46 282 P P 06 03 58.3 -2.4
R32A IAmb IAmb 06 04 01.7
comp=Z,18nm,1.1s
R32A IAMs_20 IAMs_20 06 24 57.9
comp=Z,2µm,20.0s
BOD Bodaibo 52.47 30 eP P 06 03 58.3 -2.2
BOD pmax pmax
comp=Z,21nm,1.5s
CBKS Cedar Bluff 52.56 283 IAMs_20 IAMs_20 06 25 06.6
comp=Z,1µm,21.0s
SEY Semchan 52.58 6 i P P 06 04 01.0 -0.2
250A Grady 52.59 266 P P 06 04 01.5 -0.2
SGDS Sogindy 52.62 66 eP P 06 04 01.2 -0.8
comp=Z,32nm,2.0s
SGDS eS S 06 11 27.1 -2.5
SGDS Sogindy 52.62 66 eP P 06 04 01.1 -0.9
SGDS eS S 06 11 27.0 -2.5
SGDS pmax pmax
comp=Z,31nm,2.0s
USP Ospenovka 52.73 67 P P 06 04 03.9 +1.2
SNR=13
MK31 Makanchi Array 52.73 58 i P P 06 04 02.9 +0.2
MK31 Makanchi Array 52.73 58 P P 06 04 01.8 -0.9
MKAR Makanchi Array 52.73 58 P P 06 04 01.9 -0.8
comp=Z,5.6nm,1.0s,baz=335,slow=5.4,SNR=16
MKAR LR LR 06 26 42.5
comp=Z,941nm,21.3s,baz=314,slow=36
MKAR Makanchi Array 52.73 58 ceP P 06 04 03.0 +0.3
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 52.73 58 P P 06 04 02.1 -0.6
T35A Sooner Cattle 52.79 279 P P 06 04 02.7 -0.5
T35A IAmb IAmb 06 04 04.7
comp=Z,35nm,1.4s
UALR University of 52.82 274 P P 06 04 01.3 -2.1
UALR IAmb IAmb 06 04 12.1
comp=Z,24nm,1.4s
UALR IAMs_20 IAMs_20 06 25 26.5
comp=Z,1µm,19.0s
PHWY Pilot Hill 52.84 289 P P 06 04 04.0 +0.1
PHWY IAmb IAmb 06 04 05.1
comp=Z,22nm,1.3s
IMW Indian Meadow 52.85 295 P P 06 04 04.5 +0.6
MOOW Moose Ponds 52.90 295 P P 06 04 04.6 +0.4
KUU Kurty 52.92 65 eP P 06 04 02.2 -1.9
comp=Z,41nm,1.3s
KUU eS S 06 11 37.3 +3.8
KUU Kurty 52.92 65 eP P 06 04 02.2 -1.9
KUU eS S 06 11 37.3 +3.8
KUU pmax pmax
comp=Z,41nm,1.3s
EKS2 Erkin-Say 52.95 68 P P 06 04 05.6 +1.2
SNR=18
LOHW Long Hollow 52.96 295 P P 06 04 05.2 +0.6
TOC1 Torodi Ar. Sit 53.01 156 IAMs_20 IAMs_20 06 26 34.7
comp=Z,1µm,19.0s
TOA0 Torodi Ar. Sit 53.03 157 P P 06 04 03.9 -1.2
TOA0 IAmb IAmb 06 04 10.7
comp=Z,35nm,1.2s
TORD Torodi Ar. Bea 53.03 157 P P 06 04 01.6 -3.5
comp=Z,8.4nm,1.1s,baz=341,slow=5.4,SNR=24
TORD LR LR 06 28 23.2
comp=Z,939nm,18.3s,baz=340,slow=38
TORD Torodi Ar. Bea 53.03 157 P P 06 04 01.8 -3.3
TOA2 Torodi Ar. Sit 53.03 157 IAMs_20 IAMs_20 06 28 02.3
comp=Z,1µm,18.0s
CHMS Chumysh 53.05 67 P P 06 04 06.8 +1.7
SNR=6.3
W39A Magazine 53.08 275 P P 06 04 04.3 -1.1
baz=32
W39A Magazine 53.08 275 P P 06 04 04.8 -0.6
ZSN Zaisan 53.11 56 eP P 06 04 03.9 -1.6
ZSN Zaisan 53.11 56 eP P 06 04 03.8 -1.7
KAN13 South Haven SW 53.12 280 P P 06 04 05.5 -0.2
SNOW Snow King Moun 53.15 295 P P 06 04 06.2 +0.1
KAN08 Anthony NE Sta 53.15 280 P P 06 04 05.0 -0.9
TPAW Teton Pass 53.20 295 P P 06 04 06.4 -0.1
KAN05 Bluff City Nor 53.21 280 P P 06 04 06.0 -0.3
146A Union 53.22 269 IAMs_20 IAMs_20 06 24 42.3
comp=Z,2µm,22.0s
656A Willston 53.24 261 IAMs_20 IAMs_20 06 24 49.7
comp=Z,1µm,20.0s
AAK Ala-Archa 53.25 67 P P 06 04 08.6 +1.9
SNR=14
AAK Ala-Archa 53.25 67 ceP P 06 04 05.4 -1.3
AAK pmax pmax
comp=Z,99nm,1.3s
PD31 Pinedale Array 53.26 293 P P 06 04 04.4 -2.5
PD31 IAmb IAmb 06 04 07.7
comp=Z,18nm,1.0s
PDAR Pinedale Array 53.26 293 P P 06 04 04.8 -2.1
comp=Z,9.8nm,0.8s,baz=61,slow=6.9,SNR=52
PDAR LR LR 06 26 35.1
comp=Z,2µm,18.7s,baz=25,slow=36
BW06 Boulder Array 53.26 293 P P 06 04 04.9 -1.9
baz=32,SNR=22
BW06 Boulder Array 53.26 293 P P 06 04 05.0 -1.9
BW06 IAmb IAmb 06 04 07.7
comp=Z,20nm,1.0s
REDW Red Top Meadow 53.27 295 P P 06 04 07.2 +0.3
REDW IAmb IAmb 06 04 08.9
comp=Z,20nm,1.2s
X40A Basin Creek Fa 53.27 274 P P 06 04 06.6 -0.2
baz=31
X40A Basin Creek Fa 53.27 274 P P 06 04 06.8 0.0
X40A IAMs_20 IAMs_20 06 25 58.6
comp=Z,2µm,19.0s
KDAK Kodiak Island 53.31 332 IAMs_20 IAMs_20 06 28 08.7
comp=Z,2µm,22.0s
553A Crawfordville 53.34 264 IAMs_20 IAMs_20 06 25 48.3
comp=Z,2µm,18.0s
AML Almayashu 53.36 68 P P 06 04 06.9 -0.9
SNR=5.9
E09A Wood Farm, Sta 53.37 302 IAMs_20 IAMs_20 06 27 17.8
comp=Z,1µm,19.0s
KAN14 Manchester OK 53.38 280 P P 06 04 07.5 0.0
N23A Red Feather La 53.38 289 P P 06 04 08.2 +0.4
baz=32,SNR=10
N23A Red Feather La 53.38 289 P P 06 04 08.6 +0.7
N23A IAMs_20 IAMs_20 06 26 23.3
comp=Z,2µm,18.0s
TKM2 Tokmak 2 53.45 66 P P 06 04 09.2 +0.9
SNR=11
BCYI Bear Canyon 53.46 297 P P 06 04 09.3 +1.0
MIAR Mount Ida 53.54 275 P P 06 04 08.7 0.0
baz=31
MIAR Mount Ida 53.54 275 P P 06 04 08.8 0.0
MIAR pmax pmax
comp=Z,14nm,1.3s
MIAR Mount Ida 53.54 275 P P 06 04 08.8 +0.1
MIAR IAMs_20 IAMs_20 06 26 01.7
comp=Z,1µm,18.0s
KSCO Kaye Shedlock' 53.60 285 P P 06 04 10.1 +0.8
baz=32
UCH Uchtor 53.60 67 P P 06 04 10.7 +1.0
SNR=19
LTY Liberty 53.65 305 IAMs_20 IAMs_20 06 26 22.1
comp=Z,2µm,18.0s
OK030 Cody Creek RV 53.74 278 P P 06 04 09.9 -0.3
OK030 IAmb IAmb 06 04 13.4
comp=Z,17nm,1.2s
OK031 S. Brethren Rd 53.75 278 P P 06 04 09.9 -0.3
OK031 IAmb IAmb 06 04 16.5
comp=Z,33nm,1.5s
MDOK Medeo 53.81 65 eP P 06 04 09.3 -1.5
MDOK eS S 06 11 45.3 -0.7
MDOK Medeo 53.81 65 eP P 06 04 09.3 -1.5
MDOK eS S 06 11 45.2 -0.7
AHID Auburn Hatcher 53.87 295 P P 06 04 11.8 +0.4
AHID IAmb IAmb 06 04 19.6
comp=Z,26nm,1.4s
TNSS Tian-Shan 53.88 65 eP P 06 04 10.6 -1.0
TNSS Tian-Shan 53.88 65 eP P 06 04 10.6 -1.0
BOOM Boomskoye usch 53.95 66 P P 06 04 12.0 +0.1
BOOM pmax pmax
comp=Z,35nm,1.5s
BOOM Boomskoye usch 53.95 66 P P 06 04 12.0 +0.1
BOOM IAmb IAmb 06 04 19.1
comp=Z,35nm,1.4s
WLAR White Oak Lake 54.08 274 P P 06 04 12.6 0.0
WLAR IAmb IAmb 06 04 17.3
comp=Z,14nm,1.0s
OK029 Liberty Lake 54.14 279 P P 06 04 12.4 -0.7
OK029 IAmb IAmb 06 04 19.0
comp=Z,18nm,1.1s
ISCO Idaho Springs 54.17 288 P P 06 04 14.0 +0.3
baz=32
ISCO Idaho Springs 54.17 288 P P 06 04 13.8 +0.1
ISCO pmax pmax
comp=Z,8.0nm,1.3s
ISCO Idaho Springs 54.17 288 P P 06 04 13.8 +0.1
ISCO IAMs_20 IAMs_20 06 26 41.2
comp=Z,2µm,20.0s
143A Socs Landing, 54.18 272 IAMs_20 IAMs_20 06 25 42.6
comp=Z,1µm,20.0s
KPKS Kokpek 54.19 63 eP P 06 04 12.7 -0.8
comp=Z,43nm,1.7s
KPKS eS S 06 11 51.6 +0.7
KPKS Kokpek 54.19 63 eP P 06 04 12.7 -0.8
KPKS eS S 06 11 51.6 +0.7
KPKS pmax pmax
comp=Z,43nm,1.7s
VBMS Vicksburg 54.21 271 IAMs_20 IAMs_20 06 26 11.5
comp=Z,2µm,18.0s
ULHL Ulahol 54.27 66 P P 06 04 12.9 -1.4
SNR=9.5
OK025 Westminster Rd 54.28 279 P P 06 04 14.0 -0.1
OK025 IAmb IAmb 06 04 16.1
comp=Z,31nm,1.3s
X37A Clayton 54.28 276 IAMs_20 IAMs_20 06 25 58.1
comp=Z,1µm,20.0s
Z41A Richland Creek 54.31 273 IAMs_20 IAMs_20 06 26 24.0
comp=Z,1µm,19.0s
BCOK Bluff Creek, N 54.33 279 P P 06 04 14.6 +0.1
SATY Saty 54.43 64 eP P 06 04 14.3 -1.1
comp=Z,24nm,1.5s
SATY eS S 06 11 59.5 +5.3
SATY Saty 54.43 64 eP P 06 04 14.2 -1.1
SATY eS S 06 11 59.5 +5.3
SATY pmax pmax
comp=Z,24nm,1.5s
OKCFA Oklahoma City 54.47 279 P P 06 04 15.3 -0.2
OKCFA IAmb IAmb 06 04 17.3
comp=Z,32nm,1.3s
346A Big Creek Wild 54.47 269 IAMs_20 IAMs_20 06 26 23.4
comp=Z,2µm,18.0s
BMO Blue Mountains 54.47 301 P P 06 04 14.6 -0.9
BMO pmax pmax
comp=Z,16nm,1.4s
BMO MLR MLR
comp=Z,4µm,18.0s
BMO Blue Mountains 54.47 301 P P 06 04 14.6 -0.9
HLID Hailey 54.48 298 P P 06 04 16.0 +0.3
baz=32
HLID Hailey 54.48 298 P P 06 04 16.1 +0.3

UZB Uzynbulak 54.59 63 *e*P **P 06 04 15.4 -1.2**
comp=Z,17nm,1.7s
UZB *e*S **S 06 12 00.8 +4.4**
UZB Uzynbulak 54.59 63 *e*P **P 06 04 15.3 -1.2**
UZB *e*S **S 06 12 00.8 +4.4**
UZB pmax pmax
comp=Z,17nm,1.7s
Q24A Divide 54.69 287 P **P 06 04 17.7 +0.2**
baz=32
Q24A Divide 54.69 287 IAms_20 IAms_20 06 27 12.9
comp=Z,2µm,19.0s
MOY Mondy 54.70 42 *e*P **P 06 04 18.5 +1.4**
MOY pmax pmax
comp=Z,87nm,2.1s
KDJ Kajisay 54.74 65 P **P 06 04 17.4 -0.2**
KDJ pmax pmax
comp=Z,23nm,1.4s
KDJ MLR MLR
comp=Z,4µm,19.0s
KDJ Kajisay 54.74 65 P **P 06 04 17.4 -0.2**
KDJ IAmb IAmb 06 04 22.9
comp=Z,23nm,1.4s
SHLS Shalkode 54.75 63 *e*P **P 06 04 18.6 +0.9**
comp=Z,21nm,1.1s
SHLS *e*S **S 06 11 59.2 +0.7**
SHLS Shalkode 54.75 63 *e*P **P 06 04 18.5 +0.9**
SHLS *e*S **S 06 11 59.2 +0.7**
SHLS pmax pmax
comp=Z,21nm,1.1s
SII Sitkinak Islan 54.77 332 IAms_20 IAms_20 06 29 18.4
comp=Z,2µm,20.0s
O20A White River Ci 54.96 291 P **P 06 04 19.2 -0.1**
baz=32,SNR=9.6
O20A White River Ci 54.96 291 P **P 06 04 19.6 +0.3**
O20A IAmb IAmb 06 04 23.2
comp=Z,22nm,1.1s
O20A IAms_20 IAms_20 06 26 35.0
comp=Z,1µm,20.0s
344A Westbrook Farm 54.96 270 IAms_20 IAms_20 06 26 08.3
comp=Z,2µm,19.0s
HWUT Hardware Ranch 55.03 294 P **P 06 04 19.5 -0.3**
RDMU Red Mountain 55.12 292 P **P 06 04 20.6 +0.1**
HRA Herat 55.15 82 P **P 06 04 21.0 +0.3**
HRA IAmb IAmb 06 04 28.2
comp=Z,24nm,1.4s
TLY Talaya 55.44 40 *e*P **P 06 04 23.4 +1.0**
TLY *e* 06 05 22.9
TLY *e* 06 06 29.5
TLY *e*PPP PPP 06 07 44.0
TLY *e*S **S 06 12 10.5 +3.2**
TLY *e*SS **SS 06 15 55.2 +4.2**
TLY pmax pmax
comp=Z,45nm,1.7s
TLY MLR MLR
comp=Z,4µm,13.0s
GRTK Grand Turk 55.49 246 IAms_20 IAms_20 06 23 53.3
comp=Z,2µm,20.0s
WMOK Wichita Mounta 55.61 279 P **P 06 04 23.7 -0.1**
baz=31,SNR=13
WMOK Wichita Mounta 55.61 279 P **P 06 04 24.3 +0.5**
WMOK pmax pmax
comp=Z,18nm,1.2s
WMOK Wichita Mounta 55.61 279 P **P 06 04 24.2 +0.5**
WMOK IAmb IAmb 06 04 26.5
comp=Z,18nm,1.2s
342A Flagon Creek P 55.72 272 IAms_20 IAms_20 06 27 01.3
comp=Z,2µm,19.0s
CHGN Chignik 55.82 335 IAms_20 IAms_20 06 28 48.2
comp=Z,1µm,20.0s
JLU Jordanelle 55.85 293 P **P 06 04 25.5 -0.2**
MA2 Magadan 55.85 7*ce*P **P 06 04 25.2 +0.1**
MA2 pmax pmax
comp=Z,59nm,2.5s
SDCO Great Sand Dun 55.87 287 P **P 06 04 26.4 +0.4**
baz=31
SDCO Great Sand Dun 55.87 287 P **P 06 04 26.1 +0.2**
T25A Trinidad 55.93 286 P **P 06 04 27.4 +1.0**
baz=31
T25A Trinidad 55.93 286 P **P 06 04 27.5 +1.2**
Z35A Perchaven, San 56.16 277 P **P 06 04 28.2 +0.5**
Z35A IAms_20 IAms_20 06 27 17.0
comp=Z,1µm,19.0s
NATX Nacogdoches 56.40 274 P **P 06 04 29.9 +0.5**
NATX IAmb IAmb 06 04 33.9
comp=Z,14nm,0.7s
NATX IAms_20 IAms_20 06 28 58.2
comp=Z,1µm,18.0s
S22A 4UR Ranch, Cre 56.42 288 P **P 06 04 30.2 +0.3**
baz=31,SNR=7.6
S22A 4UR Ranch, Cre 56.42 288 P **P 06 04 29.7 -0.1**
S22A IAms_20 IAms_20 06 28 14.6
comp=Z,1µm,20.0s
KSH Kashi 56.49 68 P **P 06 04 31.0 +0.8**
KSH S **S 06 12 22.0 +0.2**
KSH pmax pmax
comp=Z,38nm,1.1s
KSH pmax pmax
comp=Z,490nm,6.0s
KSH LR LR
comp=Z,2µm,15.7s
KSH LR LR
comp=Z,2µm,19.7s
KSH LR LR
comp=Z,4µm,17.9s
ZAK Zakamensk 56.50 41 *e*P **P 06 04 29.9 -0.2**
ZAK pmax pmax
comp=Z,19nm,1.4s
P17A Butcher Ranch, 56.53 292 P **P 06 04 31.0 +0.5**
PV22 Blue Mesa, Par 56.54 290 P **P 06 04 29.5 -1.2**
PV22 IAms_20 IAms_20 06 28 48.9
comp=Z,2µm,18.0s
PV07 Paradox Valley 56.57 290 IAms_20 IAms_20 06 28 27.5
comp=Z,1µm,19.0s
PV15 Paradox Valley 56.58 290 P **P 06 04 31.7 +0.7**
441A DeRidder 56.63 272 IAms_20 IAms_20 06 27 58.5
comp=Z,1µm,20.0s
237A Washetta, Mont 56.68 275 IAms_20 IAms_20 06 29 13.8
comp=Z,2µm,21.0s
PV23 Carpenter Ridg 56.70 290 P **P 06 04 31.6 -0.2**
PV23 IAmb IAmb 06 04 33.1
comp=Z,14nm,0.9s
PV04 Paradox Valley 56.71 290 P **P 06 04 31.3 -0.5**
PV04 IAmb IAmb 06 04 38.6
comp=Z,14nm,1.0s
DUG Dugway, Tooele 56.73 294 P **P 06 04 33.0 +1.1**
baz=31,SNR=9.3
DUG Dugway, Tooele 56.73 294 P **P 06 04 32.7 +0.8**
DUG pmax pmax
comp=Z,25nm,1.4s
DUG Dugway, Tooele 56.73 294 P **P 06 04 32.7 +0.8**
DUG IAmb IAmb 06 04 43.9
comp=Z,25nm,1.4s
PV12 Saucer Basin, 56.73 290 P **P 06 04 32.0 0.0**
PV12 IAmb IAmb 06 04 34.2
comp=Z,26nm,1.3s
SRU San Rafael Swe 56.75 292 P **P 06 04 32.1 0.0**
SRU pmax pmax
comp=Z,17nm,1.2s
SRU San Rafael Swe 56.75 292 P **P 06 04 32.1 0.0**
PV14 Lion Creek, Pa 56.78 290 P **P 06 04 32.4 +0.1**
PV14 IAmb IAmb 06 04 33.6
comp=Z,14nm,0.8s
PV14 IAms_20 IAms_20 06 28 54.1
comp=Z,2µm,21.0s
PV11 David Mesa, Pa 56.78 290 P **P 06 04 32.7 +0.4**
PV10 Paradox Valley 56.78 290 P **P 06 04 33.1 +0.7**
PV10 IAmb IAmb 06 04 34.4
comp=Z,25nm,1.0s
PV10 IAms_20 IAms_20 06 29 25.2
comp=Z,2µm,22.0s
PV20 West Nyswonger 56.78 290 P **P 06 04 32.3 0.0**
PV20 IAmb IAmb 06 04 33.6
comp=Z,13nm,1.1s
PV20 IAms_20 IAms_20 06 28 55.3
comp=Z,1µm,19.0s
PV16 Nyswonger Mesa 56.79 290 P **P 06 04 32.8 +0.4**
PV16 IAmb IAmb 06 04 33.9
comp=Z,31nm,1.4s
PV16 IAms_20 IAms_20 06 28 54.4
comp=Z,1µm,19.0s
PV01 Paradox Valley 56.80 290 P **P 06 04 31.5 -1.0**
PV01 IAmb IAmb 06 04 34.1
comp=Z,24nm,1.1s
PV02 Paradox Valley 56.80 290 P **P 06 04 32.8 +0.2**
PV03 Paradox Valley 56.81 290 P **P 06 04 31.8 -0.7**
PV03 IAmb IAmb 06 04 34.0
comp=Z,20nm,1.1s
PV03 IAms_20 IAms_20 06 28 43.9
comp=Z,1µm,19.0s
PV19 Morning Glory 56.81 290 P **P 06 04 32.7 +0.1**
PV19 IAmb IAmb 06 04 36.1
comp=Z,20nm,1.4s
PV19 IAms_20 IAms_20 06 28 46.1
comp=Z,1µm,21.0s
PV17 East Wray Mesa 56.83 290 P **P 06 04 32.9 +0.2**
PV18 Skein Mesa, Pa 56.84 290 P **P 06 04 33.5 +0.7**
PV18 IAmb IAmb 06 04 34.2
comp=Z,21nm,1.1s
PV18 IAms_20 IAms_20 06 28 56.8
comp=Z,1µm,20.0s
TMUT Trail Mountain 56.87 292 P **P 06 04 33.4 +0.3**
PV13 Radium Mtn., P 56.88 290 P **P 06 04 31.9 -1.2**
PV05 Paradox Valley 57.06 290 P **P 06 04 32.5 -1.9**
Q16A Castle Valley 57.17 292 P **P 06 04 35.6 +0.4**
ELK Elko 57.21 296 P **P 06 04 36.3 +0.9**
ELK pmax pmax
comp=Z,12nm,1.5s
ELK MLR MLR
comp=Z,5µm,19.0s
ELK Elko 57.21 296 P **P 06 04 36.3 +0.9**
WMQ Urumqi 57.24 56 *e*P **P 06 04 37.8 +2.4**
WMQ pP sP 06 04 43.5 +5.6
WMQ PP **PP 06 06 47.5 +5.5**
WMQ S **S 06 12 34.0 +2.5**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.3s
WMQ LR LR
comp=Z,600nm,18.3s
WMQ LR LR
comp=Z,710nm,19.5s
WMQ LR LR
comp=Z,660nm,21.3s
WMQ Urumqi 57.24 56 IAms_20 IAms_20 06 29 32.5
comp=Z,2µm,21.0s
J05D Fort Rock, OR 57.27 303 P **P 06 04 35.8 +0.2**
baz=30
WHTX Lake Whitney, 57.40 277 P **P 06 04 36.0 -0.5**
baz=30
WHTX Lake Whitney, 57.40 277 P **P 06 04 35.5 -1.0**
WHTX IAmb IAmb 06 04 37.6
comp=Z,17nm,1.1s
WHTX IAms_20 IAms_20 06 28 43.7
comp=Z,2µm,18.0s
CNBA Chernabura Isl 57.44 335 IAms_20 IAms_20 06 29 56.8
comp=Z,2µm,20.0s
MVCO Mesa Verde 57.56 289 P **P 06 04 38.3 +0.4**
baz=31,SNR=6.1
MVCO Mesa Verde 57.56 289 P **P 06 04 37.4 -0.5**
MVCO IAmb IAmb 06 04 44.5
comp=Z,19nm,1.5s
ABTX Abilene, Hawle 57.79 279 P **P 06 04 39.6 +0.3**
baz=30
ABTX Abilene, Hawle 57.79 279 P **P 06 04 39.0 -0.3**
ABTX IAmb IAmb 06 04 42.0
comp=Z,31nm,1.4s
SDDR Presa de Saban 57.84 245 P **P 06 04 40.5 +0.7**
SDDR IAmb IAmb 06 04 41.6
comp=Z,29nm,1.2s
KBL Kabul 57.91 77 IAms_20 IAms_20 06 30 02.8
comp=Z,2µm,20.0s
TCRU Three Creeks R 57.95 293 P **P 06 04 42.1 +1.4**
MSTX Muleshoe 57.96 282 P **P 06 04 40.4 -0.2**
baz=30
MSTX Muleshoe 57.96 282 P **P 06 04 39.8 -0.8**
MSTX IAms_20 IAms_20 06 28 33.6
comp=Z,1µm,19.0s
MTPU Mount Pierson 58.33 292 P **P 06 04 44.0 +0.5**
HKT Hockley 58.46 274 P **P 06 04 44.0 +0.1**
HKT pmax pmax
comp=Z,11nm,1.5s
HKT MLR MLR
comp=Z,1µm,19.0s
HKT Hockley 58.46 274 P **P 06 04 44.0 +0.1**
HKT Hockley 58.46 274 IAms_20 IAms_20 06 30 42.7
comp=Z,1µm,19.0s
DBIC Dimbokro 58.48 165 P **P 06 04 43.5 -0.7**
comp=Z,12nm,1.1s,baz=345,slow=8.0,SNR=4.8
DBIC LR LR 06 30 29.9
comp=Z,2µm,19.0s,baz=340,slow=37
DBIC Dimbokro 58.48 165 P **P 06 04 43.4 -0.8**
TIC Toumodi 58.49 166 *e*P **P 06 04 43.6 -0.7**
435B Jarrell 58.49 276 P **P 06 04 44.5 +0.3**
435B IAms_20 IAms_20 06 30 16.8
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 58.50 249 IAms_20 IAms_20 06 25 16.1
comp=Z,2µm,21.0s
PSUT Pine Spring 58.57 294 P **P 06 04 45.3 +0.4**
ANMO Albuquerque 58.66 286 P **P 06 04 46.2 +0.7**
baz=30
ANMO Albuquerque 58.66 286 P **P 06 04 46.3 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO MLR MLR
comp=Z,2µm,20.0s
ANMO Albuquerque 58.66 286 P **P 06 04 46.3 +0.7**
KIC Kosan Boka 58.80 165 *e*P **P 06 04 45.0 -1.5**
comp=Z,24nm,1.1s
PKCU Pink Cliffs 58.90 292 P **P 06 04 48.0 +0.7**
LIC Lamto 58.90 166 *e*P **P 06 04 45.8 -1.4**
comp=Z,128nm,1.7s
ZEA Zeya 58.91 24 *e*P **P 06 04 45.6 -1.2**
ZEA *e*S **S 06 12 50.5 -2.3**
ZEA pmax pmax
comp=Z,100nm,5.2s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA smax smax
comp=N,700nm,13.8s
ZEA MLR MLR
comp=Z,500nm,18.0s
SZCU Shurtz Canyon 59.08 293 P **P 06 04 49.3 +0.8**
YBH Yreka Blue Hor 59.15 303 IAms_20 IAms_20 06 31 21.9
comp=Z,2µm,19.0s
CCUT Cedar City 59.23 293 P **P 06 04 49.5 -0.1**
R11A Troy Canyon, C 59.41 295 P **P 06 04 51.7 +1.0**
baz=30,SNR=8.7
R11A Troy Canyon, C 59.41 295 P **P 06 04 51.1 +0.4**
R11A IAmb IAmb 06 04 52.9
comp=Z,22nm,1.5s
BNM Barren Site 59.42 286 P **P 06 04 50.8 -0.1**
KNB Kanab 59.47 292 P **P 06 04 51.7 +0.5**
KNB Kanab 59.47 292 P **P 06 04 51.7 +0.5**
Y22D IRIS PASSCAL I 59.61 286 IAms_20 IAms_20 06 30 00.2
comp=Z,1µm,19.0s
LCMT Little Creek M 59.65 293 P **P 06 04 51.0 -1.3**
SONM Songino Array 59.68 40 P **P 06 04 52.6 +0.2**
comp=Z,8.7nm,1.2s,baz=324,slow=7.3,SNR=13
SONM LR LR 06 32 59.5
comp=Z,2µm,20.1s,baz=335,slow=38
SONM Songino Array 59.68 40 P **P 06 04 51.8 -0.6**
PAHR Pah Rah Range 59.69 299 P **P 06 04 52.0 -0.6**
PAHR IAmb IAmb 06 04 55.7
comp=Z,15nm,1.3s
JCT Junction City 59.71 278 P **P 06 04 51.8 -0.9**
baz=30,SNR=8.4
JCT Junction City 59.71 278 P **P 06 04 51.8 -0.9**
JCT pmax pmax
comp=Z,41nm,1.4s
JCT Junction City 59.71 278 P **P 06 04 51.8 -0.9**
JCT IAms_20 IAms_20 06 29 17.9
comp=Z,2µm,20.0s
KVN Kaiserville 59.77 298 P **P 06 04 53.3 +0.1**
KVN pmax pmax
comp=Z,22nm,1.4s
KVN MLR MLR
comp=Z,5µm,18.0s
KVN Kaiserville 59.77 298 P **P 06 04 53.3 +0.1**
KVN IAmb IAmb 06 04 54.2
comp=Z,22nm,1.4s
ULN Ulaanbaatar 59.84 40*ce*P **P 06 04 52.6 -0.9**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 59.84 40 P **P 06 04 52.9 -0.6**
W18A Petrified Fore 59.87 289 P **P 06 04 53.8 -0.2**
W18A IAmb IAmb 06 05 05.0
comp=Z,16nm,1.4s
GDL2 Guadalupe Moun 60.16 283 P **P 06 04 56.3 +0.4**
WUAZ Wupatki 60.19 290 P **P 06 04 55.0 -1.1**
baz=30,SNR=7.9
WUAZ Wupatki 60.19 290 P **P 06 04 56.6 +0.5**
WUAZ IAms_20 IAms_20 06 29 31.5
comp=Z,1µm,22.0s
735A Kenedy 60.26 275 IAms_20 IAms_20 06 30 54.6
comp=Z,1µm,18.0s
YERR Yerington 60.26 299 P **P 06 04 58.4 +1.7**
NVAR Mina Array Bea 60.39 298 P **P 06 04 56.4 -1.2**
comp=Z,2.4nm,1.0s,baz=54,slow=6.4,SNR=8.6
NVAR LR LR 06 31 07.7
comp=Z,5µm,18.7s,baz=26,slow=36
NVAR Mina Array Bea 60.39 298 P **P 06 04 56.2 -1.3**
NIL Nilore 60.43 74 P **P 06 04 56.4 -1.2**
NIL pmax pmax
comp=Z,44nm,1.2s
NIL MLR MLR
comp=Z,900nm,19.0s
NIL Nilore 60.43 74 P **P 06 04 56.4 -1.2**
UOSS Minazif 60.72 93 P **P 06 04 58.7 -1.0**
NIKH Nikolski High 60.73 341 IAms_20 IAms_20 06 32 22.9
comp=Z,1µm,20.0s
SHPR Sheep Range 60.84 294 P **P 06 05 01.2 +0.7**
SHPR IAmb IAmb 06 05 03.0
comp=Z,14nm,1.2s
SHPR IAms_20 IAms_20 06 31 12.7
comp=Z,1µm,20.0s
TPNV Topopah Spring 60.89 295 P **P 06 05 00.4 -0.4**
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV MLR MLR
comp=Z,2µm,20.0s
TPNV Topopah Spring 60.89 295 P **P 06 05 00.4 -0.4**
TPNV IAmb IAmb 06 05 29.8
comp=Z,10nm,0.8s
MTDJ Mount Denham 61.01 250 IAms_20 IAms_20 06 27 54.6
comp=Z,987nm,20.0s
MNTX Cornudas Mount 61.02 283 P **P 06 05 00.8 -0.9**
baz=29,SNR=8.5
MNTX Cornudas Mount 61.02 283 P **P 06 05 00.3 -1.4**
MNTX IAms_20 IAms_20 06 30 44.6
comp=Z,1µm,20.0s
X16A Lo Mia Camp, P 61.17 290 P **P 06 05 02.6 -0.2**
X16A IAmb IAmb 06 05 05.0
comp=Z,16nm,1.1s
X16A IAms_20 IAms_20 06 31 00.4
comp=Z,1µm,21.0s
121A Cookes Peak, D 61.30 286 P **P 06 05 04.3 +0.6**
baz=29
121A Cookes Peak, D 61.30 286 P **P 06 05 04.5 +0.8**
121A IAmb IAmb 06 05 10.3
comp=Z,17nm,1.3s
121A IAms_20 IAms_20 06 30 57.0
comp=Z,1µm,19.0s
OMMB Old Mammoth Mi 61.37 298 P **P 06 05 04.7 +0.4**
OMMB IAmb IAmb 06 05 07.3
comp=Z,16nm,1.3s
833A Chaparral WMA, 61.40 276 P **P 06 05 03.7 -0.5**
baz=29
833A Chaparral WMA, 61.40 276 P **P 06 05 04.5 +0.3**
833A IAms_20 IAms_20 06 30 20.8
comp=Z,1µm,21.0s
HIA Hailar 61.69 30 IAms_20 IAms_20 06 32 28.7
comp=Z,1µm,18.0s
CWC Cottonwood Cre 62.04 296 P **P 06 05 08.6 -0.1**
baz=29
MPMC Manual Prospec 62.15 296 P **P 06 05 10.0 +0.6**
baz=29
TX31 Lajitas Ar. Si 62.35 280 P **P 06 05 09.7 -1.1**
TX32 Lajitas Array 62.35 280 P **P 06 05 09.7 -1.1**
TXAR Lajitas Array 62.35 280 P **P 06 05 09.4 -1.4**
comp=Z,4.4nm,1.0s,baz=53,slow=4.3,SNR=21
TXAR LR LR 06 31 32.0
comp=Z,2µm,20.3s,baz=0.0,slow=35
TXAR Lajitas Array 62.35 280 P **P 06 05 09.5 -1.2**
TXAR Lajitas Array 62.35 280 P **P 06 05 09.5 -1.2**
PDMCI Parker Dam,Lak 62.36 292 P **P 06 05 11.4 +0.8**
baz=29,SNR=5.5
GSC Goldstone, Bar 62.54 295 P **P 06 05 11.7 -0.2**
baz=29
GSC Goldstone, Bar 62.54 295 P **P 06 05 12.7 +0.8**
GSC pmax pmax
comp=Z,6.0nm,1.2s
GSC MLR MLR
comp=Z,2µm,18.0s
GSC Goldstone, Bar 62.54 295 P **P 06 05 12.7 +0.8**
GMRC Granite Mounta 62.54 293 P **P 06 05 12.6 +0.6**
baz=29,SNR=8.9
PETK Petropavlovsk- 62.59 3 P **P 06 05 12.0 +0.1**
comp=Z,10nm,1.1s,baz=333,slow=12,SNR=2.8
PET Petropavlovsk 62.70 3 *e*P **P 06 05 14.5 +1.9**
PET *e*S **S 06 13 37.4 -3.8**
PET MLR MLR
comp=Z,900nm,19.0s
TUC Tucson 62.73 288 P **P 06 05 14.3 +1.1**
baz=29
TUC Tucson 62.73 288 P **P 06 05 13.0 -0.2**
TUC pmax pmax
comp=Z,22nm,1.5s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 62.73 288 P **P 06 05 13.0 -0.2**
TUC IAmb IAmb 06 05 20.0
comp=Z,22nm,1.5s
ISA Isabella, Lake 62.88 296 P **P 06 05 14.8 +0.6**
baz=28,SNR=5.6
ISA Isabella, Lake 62.88 296 P **P 06 05 14.3 +0.1**
ISA pmax pmax
comp=Z,11nm,1.2s
ISA MLR MLR
comp=Z,4µm,18.0s
ISA Isabella, Lake 62.88 296 P **P 06 05 14.2 +0.1**
ISA IAmb IAmb 06 05 15.7
comp=Z,11nm,1.1s
IRM Iron Mountain 62.89 293 P **P 06 05 14.6 +0.4**
baz=29,SNR=6.2
319A Douglas 62.93 286 P **P 06 05 13.9 -0.7**
BELC Belle Mtn. Jos 63.36 293 P **P 06 05 18.9 +1.4**
baz=28,SNR=6.1
EDW2 Edwards Air Fo 63.38 295 P **P 06 05 18.4 +0.9**
baz=28
BC3 Big Chuckawall 63.45 293 P **P 06 05 19.0 +1.0**
baz=28
113A Mohawk Valley, 63.55 291 P **P 06 05 18.9 +0.3**
113A IAmb IAmb 06 05 20.4
comp=Z,14nm,1.4s
113A IAms_20 IAms_20 06 32 18.4
comp=Z,1µm,19.0s
TEIG Tepich 63.72 262 IAms_20 IAms_20 06 33 33.4
comp=Z,985nm,18.0s
GLA Glamis 63.73 292 P **P 06 05 20.9 +1.1**
baz=28
GLA Glamis 63.73 292 P **P 06 05 20.0 +0.2**
GLA pmax pmax
comp=Z,24nm,1.5s
GLA Glamis 63.73 292 P **P 06 05 20.0 +0.2**
214A Organ Pipe Nat 63.87 290 P **P 06 05 21.8 +1.1**
baz=28
214A Organ Pipe Nat 63.87 290 P **P 06 05 21.5 +0.8**
PFO Pinyon Flats O 63.89 293 P **P 06 05 21.9 +1.0**
baz=28
TPFO Pinon Flats 63.89 293 P **P 06 05 21.9 +0.9**
baz=28
SWSC Sam W. Stewart 64.21 293 P **P 06 05 24.6 +1.7**
baz=28
PIX Pinacate 64.48 290 P **P 06 05 24.4 -0.2**
PIX IAmb IAmb 06 05 26.5
comp=Z,19nm,1.4s
MONP2 Monument Peak 64.50 293 P **P 06 05 26.5 +1.4**
baz=28
URIC Uribia, Colomb 64.74 242 *e*P **P 06 05 26.0 -0.5**
HPIG 65.29 281 P **P 06 05 29.7 -0.6**
GTA Gaotai 65.33 49 ||P **P 06 05 29.3 -0.9**
GTA pP pP 06 05 32.5 +0.4
GTA sP sP 06 05 35.3 +2.5
GTA S **S 06 14 17.3 +2.8**
GTA sS sS 06 14 25.5 +8.0
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,330nm,4.7s
GTA LR LR
comp=Z,920nm,18.2s
GTA LR LR
comp=Z,840nm,17.8s
GTA LR LR
comp=Z,1µm,18.9s

HSIG		**65.68**	**286**	P	**P**	**06 05 32.1**	**-0.4**
HSIG				IAMs_20	IAMs_20	06 35 39.0	
	comp=Z,1μm,18.0s						
SPX	**San Pedro Mart**	**65.75**	**291**	P	**P**	**06 05 33.3**	**0.0**
SPX				IAmb	IAmb	06 05 34.7	
	comp=Z,18nm,1.3s						
SMRC	**Santa Marta, M**	**66.09**	**244**	*e*P	**P**	**06 05 35.0**	**-0.2**
SDV	**Santo Domingo**	**66.81**	**239**	*e*P	P	06 05 33.8	-6.3
SDV	**Santo Domingo**	**66.81**	**239**	P	**P**	**06 05 38.9**	**-1.2**
SDV	**Santo Domingo**	**66.81**	**239**	*e*P	**P**	**06 05 41.2**	**+1.1**
PETF	**Flores**	**67.34**	**262**	IAMs_20	IAMs_20	06 35 53.3	
	comp=Z,878nm,19.0s						
HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P	**P**	**06 05 46.3**	**+1.8**
HHC				S	**S**	**06 14 41.3**	**-0.1**
HHC				sS	sS	06 14 49.0	+4.5
HHC				pmax	pmax		
	comp=Z,42nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.2s						
HHC				LR	LR		
	comp=Z,980nm,15.8s						
HHC				LR	LR		
	comp=Z,690nm,13.3s						
HHC				LR	LR		
	comp=Z,790nm,13.7s						
SJCC	**San Jacinto, C**	**67.62**	**244**	*e*P	P	06 05 37.4	-7.6
ZAIG	**Zacatecas**	**67.63**	**276**	P	**P**	**06 05 46.3**	**+0.9**
ZAIG				IAmb	IAmb	06 05 52.5	
	comp=Z,14nm,1.1s						
SRIG	**Santa Rosalia**	**67.71**	**287**	IAMs_20	IAMs_20	06 33 59.8	
	comp=Z,817nm,19.0s						
YSS	**Yuzh-Sakhalins**	**67.73**	**15**	*e*P	P	06 05 50.7	+5.4
YSS				*e*S	**S**	**06 14 48.5**	**+5.4**
YSS				*e*PPS	PPS	06 15 20.0	
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS				MLR	MLR		
	comp=E,700nm,14.0s						
CN2	**Changchun**	**68.10**	**28**	*e*P	**P**	**06 05 44.8**	**-2.9**
CN2				*e*S	**S**	**06 14 44.0**	**-3.6**
CN2				pmax	pmax		
	comp=E,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=E,400nm,4.0s						
CN2				LR	LR		
	comp=E,700nm,15.0s						
CN2				LR	LR		
	comp=E,600nm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
MOTC	**Monteria, Cord**	**68.83**	**244**	*e*P	**P**	**06 05 52.9**	**+0.4**
CCIG	**Comitan**	**68.88**	**263**	IAMs_20	IAMs_20	06 34 16.0	
	comp=Z,1μm,22.0s						
USRK	**Ussuriysk Ar.**	**68.94**	**23**	LR	LR	06 38 12.4	
	comp=Z,477nm,18.1s,baz=332,slow=38						
PAMC	**Pamplona, Colo**	**69.01**	**241**	*e*P	**P**	**06 05 51.1**	**-3.2**
LCBC	**Los crdobas,**	**69.03**	**245**	*e*P	**P**	**06 05 55.3**	**+1.5**
MATN	**Matagalpa**	**69.23**	**256**	IAMs_20	IAMs_20	06 34 14.5	
	comp=Z,1μm,19.0s						
MTO3	**Montecristo**	**69.37**	**260**	IAMs_20	IAMs_20	06 38 42.0	
	comp=Z,824nm,19.0s						
HUEH	**Huehuetenango**	**69.46**	**262**	IAMs_20	IAMs_20	06 35 47.5	
	comp=Z,1μm,18.0s						
TAMC	**Tame, Arauca**	**69.50**	**240**	*e*P	**P**	**06 05 53.2**	**-3.6**
BJI	**Beijing**	**69.54**	**36**	P	**P**	**06 05 56.8**	**+0.1**
BJI				S	**S**	**06 15 09.5**	**+4.8**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BJI				pmax	pmax		
	comp=Z,370nm,4.6s						
BJI				LR	LR		
	comp=Z,2μm,17.4s						
BJI				LR	LR		
	comp=Z,960nm,17.0s						
BJI				LR	LR		
	comp=Z,1μm,18.6s						
BRRC	**Barranca, Sant**	**69.61**	**242**	*e*P	**P**	**06 05 54.6**	**-2.8**
LZH	**Lanzhou**	**69.66**	**48**	*e*P	**P**	**06 05 58.0**	**+0.3**
LZH				sP	sP	06 06 06.8	+6.6
LZH				*e*S	**S**	**06 15 09.8**	**+3.1**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,490nm,4.3s						
LZH				LR	LR		
	comp=Z,910nm,16.3s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
LZH				LR	LR		
	comp=Z,1μm,16.3s						
UREC	**San Jos de Ur**	**69.72**	**244**	*e*P	**P**	**06 05 55.1**	**-3.0**
PTBC	**PUERTO BERRIO,**	**70.41**	**242**	*e*P	**P**	**06 06 01.8**	**-0.6**
JKA	**Kamikawa-asahi**	**70.52**	**15**	IAMs_20	IAMs_20	06 40 38.3	
	comp=Z,753nm,18.0s						
DBBC	**Dabeiba**	**70.65**	**244**	*e*P	**P**	**06 06 01.9**	**-2.0**
TIY	**Taiyuan**	**70.72**	**40**	*e*P	**P**	**06 06 04.5**	**+0.4**
TIY				PP	**PP**	**06 08 38.0**	**-2.1**
TIY				S	**S**	**06 15 26.0**	**+7.1**
TIY				SS	**SS**	**06 19 46.8**	**-2.8**
TIY				pmax	pmax		
	comp=Z,260nm,5.2s						
TIY				LR	LR		
	comp=Z,1μm,16.0s						
TIY				LR	LR		
	comp=Z,450nm,13.2s						
TIY				LR	LR		
	comp=Z,1μm,16.3s						
LSA	**Lhasa**	**71.02**	**61**	P	**P**	**06 06 06.5**	**0.0**
LSA				pmax	pmax		
	comp=Z,19nm,1.3s						
LSA				MLR	MLR		
	comp=Z,400nm,21.0s						
LSA	**Lhasa**	**71.02**	**61**	P	**P**	**06 06 06.5**	**0.0**
LSA				IAmb	IAmb	06 06 10.6	
	comp=Z,19nm,1.3s						
SPBC	**San Pablo de B**	**71.08**	**242**	*e*P	**P**	**06 06 02.3**	**-4.2**
HDC	**Heredia**	**71.12**	**253**	IAMs_20	IAMs_20	06 33 53.3	
	comp=Z,964nm,21.0s						
CBOC	**Ciudad Bolivar**	**71.63**	**244**	*e*P	P	06 06 00.9	-9.1
CHIC	**Chingaza**	**71.89**	**241**	*e*P	**P**	**06 06 09.5**	**-2.3**
ROSC	**El Rosal**	**71.92**	**241**	P	**P**	**06 06 12.1**	**+0.1**
	comp=Z,7.6nm,0.7s,baz=45,slow=5.4,SNR=10						
ROSC				LR	LR	06 34 12.9	
	comp=Z,810nm,21.8s,baz=357,slow=33						
ROSC	**El Rosal**	**71.92**	**241**	P	**P**	**06 06 12.1**	**+0.1**
ROSC				IAMs_20	IAMs_20	06 33 16.6	
	comp=Z,1μm,20.0s						
GUY2C	**Guyana, Caldas**	**71.97**	**243**	*e*P	**P**	**06 06 10.4**	**-1.9**
VILC	**Villavicencio,**	**72.35**	**241**	*e*P	**P**	**06 06 11.3**	**-2.9**
TOLC	**Tolima**	**72.53**	**242**	*e*P	P	06 06 07.9	-7.7
ANIL	**Santa Ana**	**72.65**	**242**	*e*P	**P**	**06 06 17.1**	**+0.9**
XAN	**Xi'an**	**73.12**	**44**	P	**P**	**06 06 18.0**	**-0.6**
XAN				pP	sP	06 06 26.8	+5.7
XAN				PP	**PP**	**06 09 05.0**	**+4.3**
XAN				S	**SKiKP**	**06 15 48.5**	**-2.4**
XAN				ScS	**ScS**	**06 16 26.3**	**-1.0**
XAN				SS	**SS**	**06 20 31.3**	**+4.8**
XAN				pmax	pmax		
	comp=Z,11nm,1.6s						
XAN				LR	LR		
	comp=Z,2μm,22.5s						
XAN				LR	LR		
	comp=Z,1μm,18.1s						
XAN				LR	LR		
	comp=Z,2μm,21.6s						
XAN	**Xi'an**	**73.12**	**44**	P	**P**	**06 06 17.8**	**-0.8**
PRAC	**Prado**	**73.17**	**242**	*e*P	**P**	**06 06 18.9**	**-0.1**
GUVC	**San Jose del G**	**73.40**	**239**	*e*P	P	06 06 15.2	-5.1
MBAR	**Mbarara**	**73.81**	**129**	*i* P	**P**	**06 06 21.8**	**-1.1**
MBAR	**Mbarara**	**73.81**	**129**	P	**P**	**06 06 23.5**	**+0.6**
BETC	**Betania**	**74.33**	**242**	*e*P	P	06 06 20.4	-5.3
CD2	**Chengdu**	**74.39**	**50**	P	**P**	**06 06 26.0**	**0.0**
CD2				S	**S**	**06 16 05.0**	**+4.1**
CD2				SS	**SS**	**06 20 46.3**	**+0.4**
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
CD2				pmax	pmax		
	comp=Z,440nm,6.2s						
CD2				LR	LR		
	comp=Z,1μm,16.7s						
CD2				LR	LR		
	comp=Z,870nm,14.3s						
CD2				LR	LR		
	comp=Z,2μm,16.7s						
INCN	**Inchon**	**74.42**	**29**	IAMs_20	IAMs_20	06 40 16.7	
	comp=Z,1μm,22.0s						
KSRS	**Korea Array**	**74.71**	**28**	P	**P**	**06 06 27.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=12,slow=6.2,SNR=2.3						
KSRS				LR	LR	06 42 46.3	
	comp=Z,613nm,18.5s,baz=342,slow=38						
KSAR	**Wonju Array Be**	**74.72**	**28**	P	**P**	**06 06 28.2**	**+0.5**
SHL	**Shillong**	**75.02**	**62**	P	**P**	**06 06 28.6**	**-1.3**
SHL				IAmb	IAmb	06 06 33.0	
	comp=Z,23nm,1.1s						
TJN	**Taejon**	**75.64**	**29**⇑	*e*P	**P**	**06 06 30.8**	**-2.2**
ENH	**Enshi**	**76.80**	**45**	P	**P**	**06 06 38.3**	**-1.5**
MJB9	**Matsu-Tunnel**	**77.40**	**20**	IAMs_20	IAMs_20	06 47 02.5	
	comp=Z,654nm,19.0s						
MJAR	**Matsushiro Arr**	**77.40**	**20**	P	**P**	**06 06 43.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=339,slow=5.9,SNR=6.0						
MJAR	**Matsushiro Arr**	**77.40**	**20**	P	**P**	**06 06 43.1**	**0.0**
OTAV	**Otavalo**	**77.72**	**244**	P	**P**	**06 06 45.6**	**0.0**
OTAV				IAmb	IAmb	06 06 47.2	
	comp=Z,15nm,1.4s						
OTAV	**Otavalo**	**77.72**	**244**	IAMs_20	IAMs_20	06 36 45.6	
	comp=Z,953nm,21.0s						
OTAV	**Otavalo**	**77.72**	**244**	*e*P	**P**	**06 06 46.9**	**+1.2**
NJ2	**Nanjing**	**77.79**	**37**	*e*P	**P**	**06 06 44.3**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,19.7s						
NJ2				LR	LR		
	comp=Z,570nm,19.4s						
NJ2				LR	LR		
	comp=Z,1μm,22.4s						
JTU	**Tsushima**	**77.84**	**28**	IAMs_20	IAMs_20	06 44 59.1	
	comp=Z,754nm,18.0s						
SSE	**Sheshan**	**79.29**	**35**	P	**P**	**06 06 53.5**	**-0.1**
SSE				S	**S**	**06 16 54.5**	**+0.3**
SSE				pmax	pmax		
	comp=Z,21nm,0.6s						
SSE				pmax	pmax		
	comp=Z,150nm,5.5s						
SSE				LR	LR		
	comp=Z,510nm,18.8s						
SSE				LR	LR		
	comp=Z,370nm,19.9s						
KMI	**Kunming**	**79.37**	**53**⇑	*e*P	**P**	**06 06 56.8**	**+2.4**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				LR	LR		
	comp=Z,630nm,17.4s						
KMI				LR	LR		
	comp=Z,200nm,18.5s						
KMI				LR	LR		
	comp=Z,730nm,18.4s						
KMI	**Kunming**	**79.37**	**53**	IAMs_20	IAMs_20	06 47 33.0	
	comp=Z,805nm,19.0s						
GYA	**Guiyang**	**79.45**	**49**	⇑P	**P**	**06 06 54.5**	**-0.2**
GYA				sP	sP	06 06 59.8	+2.6
GYA				PP	**PP**	**06 09 57.8**	**+3.5**
GYA				S	**S**	**06 16 54.8**	**-1.6**
GYA				SS	**SS**	**06 22 06.5**	**+3.8**
GYA				pmax	pmax		
	comp=Z,16nm,1.6s						
GYA				pmax	pmax		
	comp=Z,190nm,4.8s						
GYA				LR	LR		
	comp=Z,330nm,18.5s						
GYA				LR	LR		
	comp=Z,410nm,20.2s						
GYA				LR	LR		
	comp=Z,560nm,19.3s						
JNU	**Nakatsue**	**79.49**	**27**	IAMs_20	IAMs_20	06 47 27.8	
	comp=Z,912nm,19.0s						
SAML	**Samuel**	**80.91**	**226**	P	**P**	**06 07 02.5**	**+0.1**
SAML				IAmb	IAmb	06 07 03.9	
	comp=Z,20nm,1.4s						
SAML				IAMs_20	IAMs_20	06 35 48.9	
	comp=Z,684nm,21.0s						
JSU	**Suzuyama**	**80.98**	**27**	IAMs_20	IAMs_20	06 46 57.1	
	comp=Z,698nm,18.0s						
SLVN	**Son La**	**83.27**	**53**	IAMs_20	IAMs_20	06 47 50.5	
	comp=Z,961nm,20.0s						
BDFB	**Brasilia**	**83.32**	**210**	P	**P**	**06 07 12.3**	**-2.8**
	comp=Z,2.4nm,0.8s,baz=57,slow=8.6,SNR=2.0						
BDFB				LR	LR	06 37 54.5	
	comp=Z,883nm,21.2s,baz=344,slow=31						
BDFB	**Brasilia**	**83.32**	**210**	P	**P**	**06 07 13.7**	**-1.4**
CHTO	**Chiang Mai**	**83.81**	**59**	P	**P**	**06 07 15.1**	**-2.6**
CHTO	**Chiang Mai**	**83.81**	**59**	IAMs_20	IAMs_20	06 47 08.8	
	comp=Z,601nm,20.0s						
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P	**P**	**06 07 19.3**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=316,slow=5.3,SNR=15						
CMAR				LR	LR	06 47 39.3	
	comp=Z,511nm,19.8s,baz=358,slow=38						
CMAR	**Chiang Mai Arr**	**84.14**	**59**	*i* P	**P**	**06 07 19.2**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ATAH	**Atahualpa**	**84.47**	**241**	LR	LR	06 42 22.6	
	comp=Z,613nm,22.0s,baz=313,slow=34						
LSZ	**Lusaka**	**86.82**	**136**	P	**P**	**06 07 33.9**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=34,slow=3.6,SNR=2.0						
PALK	**Pallekele**	**86.95**	**80**	IAMs_20	IAMs_20	06 48 07.3	
	comp=Z,834nm,20.0s						
QIZ	**Qiongzhong**	**87.41**	**49**	P	**P**	**06 07 35.5**	**-0.1**
QIZ				S	**S**	**06 18 19.8**	**+3.0**
QIZ				SS	**SS**	**06 24 04.0**	**+3.6**
QIZ				pmax	pmax		
	comp=Z,350nm,3.9s						
QIZ				LR	LR		
	comp=Z,630nm,14.7s						
QIZ				LR	LR		
	comp=Z,540nm,19.6s						
QIZ				LR	LR		
	comp=Z,920nm,17.2s						
NNA	**Nana**	**88.36**	**237**	LR	LR	06 46 34.4	
	comp=Z,288nm,19.4s,baz=346,slow=35						
LPAZ	**La Paz**	**89.37**	**228**	LR	LR	06 45 10.9	
	comp=Z,252nm,19.7s,baz=8.5,slow=34						
UBPT	**Khong Chiam**	**89.42**	**54**	IAMs_20	IAMs_20	06 50 47.2	
	comp=Z,566nm,19.0s						
DLV	**T Lat**	**93.56**	**53**	IAMs_20	IAMs_20	06 55 11.7	
	comp=Z,714nm,21.0s						
CPUP	**Villa Florida**	**95.79**	**215**	LR	LR	06 47 08.5	
	comp=Z,577nm,19.1s,baz=22,slow=33						
IPM	**Ipoh**	**97.75**	**62**	IAMs_20	IAMs_20	06 54 56.1	
	comp=Z,494nm,21.0s						
RPSI	**Rantau Prapat**	**98.57**	**65**	IAMs_20	IAMs_20	06 58 01.0	
	comp=Z,447nm,20.0s						
BOSA	**Boshof**	**98.65**	**143**	LR	LR	06 55 26.4	
	comp=Z,2μm,18.4s,baz=344,slow=37						
MYKOM	**Kota Tinggi**	**101.29**	**61**	IAMs_20	IAMs_20	06 58 19.9	
	comp=Z,582nm,20.0s						
BKNI	**Bangkinang**	**101.56**	**64**	IAMs_20	IAMs_20	06 59 37.2	
	comp=Z,530nm,22.0s						
KKM	**Kota Kinabalu**	**101.64**	**47**	IAMs_20	IAMs_20	06 57 24.0	
	comp=Z,507nm,22.0s						
SBUM	**Sibu**	**103.69**	**52**	IAMs_20	IAMs_20	07 01 54.3	
	comp=Z,512nm,18.0s						
PMBI	**Palembang**	**105.98**	**62**	IAMs_20	IAMs_20	06 48 10.9	
	comp=Z,636nm,20.0s						
CISI	**Cisompet, Garu**	**111.38**	**60**	IAMs_20	IAMs_20	07 07 07.4	
	comp=Z,578nm,20.0s						
TAOE	**Nuku Hiva Isla**	**111.64**	**297**	*e*LR	LR	06 46 28.0	
	comp=Z,746nm,23.3s						
JAGI	**Jajag, Banyuwa**	**114.53**	**54**	IAMs_20	IAMs_20	07 06 03.8	
	comp=Z,458nm,21.0s						
FAKI	**Fak Fak**	**114.69**	**34**	IAMs_20	IAMs_20	07 04 40.6	
	comp=Z,388nm,21.0s						
PPT2	**Papeete2**	**123.20**	**302**	*e*LR	LR	06 52 02.9	
	comp=Z,797nm,22.0s						
TBI	**Tubuai**	**128.42**	**299**	*e*LR	LR	06 54 26.3	
	comp=Z,869nm,22.5s						
WC1	**Warramunga Arr**	**131.55**	**37**	IAMs_20	IAMs_20	07 08 29.6	
	comp=Z,365nm,20.0s						
WRA	**Warramunga Arr**	**131.57**	**37**	PKP	**PKPdf**	**06 14 00.7**	**-0.1**
	comp=Z,6.9nm,1.3s,baz=333,slow=1.9,SNR=9.9						
WRA	**Warramunga Arr**	**131.57**	**37**		**PKPdf**	**06 14 00.8**	**0.0**
WB2	**Warramunga Arr**	**131.57**	**37**	PKPdf	**PKiKP**	**06 14 01.8**	**0.0**
WR6	**Warramunga Arr**	**131.61**	**36**	IAMs_20	IAMs_20	07 17 15.1	
	comp=Z,384nm,18.0s						
ASAR	**Alice Springs**	**135.01**	**39**	PKP	**PKPdf**	**06 14 06.6**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=324,slow=1.3,SNR=10						
ASAR	**Alice Springs**	**135.01**	**39**	PKPdf	**PKPdf**	**06 14 07.5**	**+0.4**
SNAA	**Sanae**	**136.34**	**173**	PKPdf	**PKPdf**	**06 14 07.8**	**-0.4**
SNAA	**Sanae**	**136.34**	**173**		**PKPdf**	**06 14 08.2**	**+0.1**
DZM	**Mont Dzumac**	**137.44**	**355**	*e*LR	LR	06 58 36.6	
	comp=Z,973nm,24.8s						
STKA	**Stephens Creek**	**144.78**	**32**	PKP	**PKPab**	**06 14 22.5**	**-1.0**
	comp=Z,7.9nm,0.9s,baz=304,slow=6.6,SNR=7.0						
STKA	**Stephens Creek**	**144.78**	**32**	PKPdf	**PKPab**	**06 14 23.3**	**-0.1**

NNC 26 05:55:09.9±3.1, 36.63N×71.08E, h112km±72km, mb2.9, mpv3.5, 3C, Error ellipse: s-maj=27.0km s-min=24.8km az=88.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.49**	**356**	P		Pn	05 56 43.1	+0.3
	1.2nm,0.3s,baz=181,slow=13,SNR=40						
KK31				⇑S		Sn	05 57 55.8	+0.5
	0.8nm,0.6s,baz=180,slow=24,SNR=5.7						
AAK	**Ala-Archa**	**6.55**	**23**	⇑P		Pn	05 56 43.5	-0.3
	1.5nm,0.3s						
AAK				⇑S		Sn	05 57 57.8	+0.6
	1.1nm,0.3s						
AB31	**Akbulak array**	**15.01**	**331**	P		Pn	05 58 36.0	0.0
	0.2nm,0.5s,baz=132,slow=11,SNR=6.0						

IDC 26 05:57:30.3±1.2, 46.85N×27.99W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.6/54, mbtmp3.8/5, ML4.3/1, Error ellipse: s-maj=57.7km s-min=23.3km az=17.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.86**	**104**	P	P	06 01 51.4	-0.6
	0.2nm,0.3s,baz=296,slow=13,SNR=9.1						
GERES	**GERESS Array B**	**27.80**	**70**	P	P	06 03 21.4	+0.4
	0.8nm,0.8s,baz=289,slow=9.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**41.82**	**134**	P	P	06 05 21.7	-0.1
	3.9nm,0.9s,baz=329,slow=7.3,SNR=5.7						
PDAR	**Pinedale Array**	**55.52**	**298**	P	P	06 07 06.1	-1.2
	1.2nm,1.0s,baz=47,slow=10.0,SNR=3.4						
TXAR	**Lajitas Array**	**59.82**	**282**	P	P	06 07 38.5	+0.9
	0.4nm,0.7s,baz=82,slow=7.4,SNR=3.2						

*IDC **26** 05:58:51.1±1.1, 46.82N×27.93W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/54, mbtmp3.8/7, ML4.4/1, Error ellipse: s-maj=40.3km s-min=21.7km az=10.0*

ISC 26 05:58:52.5±1.0, 46.8N±0.3×27.9W±0.1, h10km, n7, σ1.33/7, mb3.8/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.81**	**104**	P	**P**	**06 03 11.4**	**-0.7**
	0.3nm,0.3s,baz=296,slow=12,SNR=11						
GERES	**GERESS Array B**	**27.77**	**70**	P	**P**	**06 04 42.1**	**+0.7**
	1.1nm,0.9s,baz=272,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**37.07**	**62**	P	**P**	**06 06 01.4**	**-1.1**
	1.3nm,0.6s,baz=281,slow=9.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**41.76**	**134**	P	**P**	**06 06 42.1**	**+0.2**
	3.6nm,0.8s,baz=328,slow=8.4,SNR=7.7						
PDAR	**Pinedale Array**	**55.58**	**298**	P	P	06 08 26.8	-1.5
	0.9nm,0.9s,baz=65,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**59.87**	**282**	P	**P**	**06 08 59.5**	**+1.0**
	0.5nm,0.8s,baz=52,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**68.59**	**44**	P	**P**	**06 09 56.6**	**+1.3**
	0.7nm,0.8s,baz=351,slow=7.3,SNR=3.8						

*ATH **26** 06:09:15.2, 38.11N×25.82E, h27km±2km, ML2.6/2, Error ellipse: s-maj=2.3km s-min=1.0km az=210.0*
*ISK **26** 06:09:16.2, 38.21N×25.80E, h4km, ML2.6/11*
*DDA **26** 06:09:17.1, 38.10N×25.83E, h15km±3km, ML2.4*
*THE **26** 06:09:18.1, 38.07N×25.92E, h24km±5km, ML2.4/5, Error ellipse: s-maj=5.3km s-min=1.1km az=101.0*

ISC 26 06:09:16.2±1.1, 38.10N±0.02×25.83E±0.02, h18km±7km, n34, σ0.75/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESE	**eme**	**0.44**	**58**	PG	**Pg**	**06 09 25.4**	**+0.3**
PSRA	**Psara**	**0.49**	**335**	P	**Pg**	**06 09 25.5**	**-0.5**
PSRA				S	**Sg**	**06 09 32.0**	**-0.6**
PSRA				AML	AML	06 09 33.0	
	comp=N,1669μm,0.2s						
PSRA				AML	AML	06 09 36.6	
	comp=E,2499μm,0.2s						
URLA	**Izmir**	**0.66**	**67**	PG	**Pg**	**06 09 29.4**	**+0.2**
URLA				SG	**Sg**	**06 09 38.9**	**+0.9**
URLA	**Izmir**	**0.66**	**67**	*i* P	**Pg**	**06 09 28.9**	**-0.2**
URLA				*i* S	**Sg**	**06 09 37.8**	**-0.2**
URLA				IAML		06 09 41.0	
	comp=N,197nm,0.4s						
TNSA	**Tinos**	**0.77**	**223**	P	**Pb**	**06 09 30.8**	**-0.2**
TNSA				S	**Sg**	**06 09 41.5**	**+0.1**
TNSA				AML	AML	06 09 42.7	
	comp=N,884μm,0.3s						
TNSA				AML	AML	06 09 43.4	
	comp=E,902μm,0.2s						
DGB	**zmir**	**0.83**	**93**	*i* P	**Pb**	**06 09 30.5**	**-1.6**
DGB				*i* S	**Sb**	**06 09 42.9**	**-0.1**
SMG	**Samos**	**0.89**	**116**	P	**Pb**	**06 09 33.0**	**-0.1**
SMG				S	**Sb**	**06 09 45.3**	**+0.7**
	comp=E,312nm,0.3s						
SMG	**Samos**	**0.89**	**116**	P	**Pb**	**06 09 32.9**	**-0.1**
SMG				S	**Sb**	**06 09 45.3**	**+0.7**
BLCB	**Balcova**	**1.00**	**73**	P	**Pb**	**06 09 35.2**	**+0.3**
BLCB	**Balcova**	**1.00**	**73**	PG	**Pb**	**06 09 35.5**	**+0.6**
APE	**Apeiranthos**	**1.06**	**193**	P	**Pb**	**06 09 35.8**	**-0.1**
APE				S	**Sb**	**06 09 49.9**	**+0.4**
	comp=E,128nm,0.2s						
APE	**Apeiranthos**	**1.06**	**193**	P	**Pb**	**06 09 35.9**	**-0.1**
APE				S	**Sb**	**06 09 50.2**	**+0.7**
SIGR	**SIGRI**	**1.11**	**1**	P	**Pb**	**06 09 36.5**	**-0.4**
SIGR				S	**Sg**	**06 09 52.8**	**+0.6**
	comp=E,115nm,0.6s						
SIGR	**SIGRI**	**1.11**	**1**	P	**Pb**	**06 09 36.5**	**-0.4**
SIGR				S	**Sb**	**06 09 51.0**	**+0.1**
SIGR	**SIGRI**	**1.11**	**1**	PG	**Pb**	**06 09 35.9**	**-0.9**
PRK	**Paraskevi**	**1.20**	**17**	P	**Pn**	**06 09 38.5**	**+0.5**
PRK				S	**Sb**	**06 09 53.9**	**+0.5**
	comp=E,225nm,0.8s						
PRK	**Paraskevi**	**1.20**	**17**	P	**Pn**	**06 09 38.3**	**+0.3**
AMGA	**Amorgos Island**	**1.27**	**178**	P	**Pn**	**06 09 38.5**	**-0.5**
AMGA				S	**Sb**	**06 09 55.1**	**-0.4**
AMGA	**Amorgos Island**	**1.27**	**178**	P	**Pn**	**06 09 38.6**	**-0.5**
DKL	**Dikili**	**1.28**	**41**	PN	**Pb**	**06 09 40.1**	**+0.3**
ZEDA	**zmir-Berg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.46**	**259**	LR	LR	06 18 17.3	
	comp=Z,163nm,19.0s,baz=203,slow=30						
CTA	**Charters Tower**	**36.34**	**263**	P	P	06 16 44.3	+1.2
	1.8nm,0.4s,baz=90,slow=9.8,SNR=5.1						
STKA	**Stephens Creek**	**40.62**	**244**	P	P	06 17 19.2	+0.1
	2.1nm,0.4s,baz=109,slow=11,SNR=6.5						
JAY	**Jayapura**	**46.47**	**286**	LR	LR	06 36 05.3	
	comp=Z,163nm,20.2s,baz=160,slow=34						
ASAR	**Alice Springs**	**47.40**	**256**	P	P	06 18 13.2	-0.5
	6.2nm,0.5s,baz=96,slow=7.7,SNR=145						
ASAR				PcP	PcP	06 19 44.4	-0.1
	0.4nm,0.7s,baz=104,slow=3.9,SNR=2.3						
WRA	**Warramunga Arr**	**47.47**	**261**	P	P	06 18 13.2	-1.0
	2.0nm,0.3s,baz=97,slow=7.5,SNR=100						
PLCA	**Paso Flores**	**87.76**	**133**	LR	LR	06 58 00.9	
	comp=Z,250nm,18.4s,baz=27,slow=33						

MOS ***26*** *06:13:09.8±0.0, 42.˚49N×43.˚56E, h14km, MPVA3.4*
NORS ***26*** *06:13:09.7±0.0, 42.˚49N×43.˚54E, h12km, MPVA3.4*
ISC 26 06:13:09.9±0.9, 42.˚50N±0.˚03×43.˚55E±0.˚03, h12km±7km, n13, σ0961/24, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.12**	**323**	P	**Pg**	**06 13 12.8**	**-0.1**
ONI				S	**Sg**	**06 13 14.8**	**-0.4**
ZEI	**Tsey**	**0.39**	**42**	*i* Pg	**Pg**	**06 13 18.0**	**+0.2**
ZEI				*e*Sg	**Sg**	**06 13 23.8**	**+0.8**
DIGR	**Digorskoe uzhe**	**0.40**	**4**	*i* Pg	**Pg**	**06 13 18.0**	**0.0**
DIGR				*e*Sg	**Sg**	**06 13 23.8**	**+0.5**
TKB	**Tkibuli**	**0.43**	**250**	P	**Pb**	**06 13 19.1**	**-0.4**
TKB				S	**Sb**	**06 13 25.9**	**-0.2**
LACR	**Lac**	**0.64**	**59**	*e*Pg	**Pg**	**06 13 22.4**	**0.0**
LACR				*e*Sg	**Sg**	**06 13 31.2**	**+0.3**
KORR	**Kora**	**0.70**	**33**	*e*Pg	**Pg**	**06 13 23.3**	**-0.1**
KORR				*e*Sg	**Sn**	**06 13 35.1**	**-1.4**
TRLG	**Trialeti**	**1.04**	**156**	P	**Pn**	**06 13 30.6**	**+0.1**
TRLG				S	**Sn**	**06 13 45.1**	**0.0**
CHVG	**Ch'k'valeri**	**1.10**	**282**	P	**Pg**	**06 13 31.2**	**+0.1**
CHVG				S	**Sn**	**06 13 46.7**	**+0.4**
BTNK	**Botanikuri**	**1.24**	**131**	P	**Pg**	**06 13 33.8**	**+0.1**
KBZ	**Khabaz**	**1.32**	**339**	*e*Pg	**Pb**	**06 13 34.7**	**+0.2**
KBZ				*e*Sg	**Sg**	**06 13 53.0**	**+0.7**
SHA1	**Shidzhatmaz**	**1.40**	**333**	*e*Pg	**Pg**	**06 13 36.7**	**-0.1**
SHA1				*e*Sg	**Sg**	**06 13 55.3**	**+0.3**
LGD	**Lagodekhi**	**2.11**	**107**	P	**Pg**	**06 13 49.0**	**-1.3**
LGD				S	**Sg**	**06 14 18.9**	**+1.1**
DDFL	**Dedoflistskaro**	**2.19**	**118**	P	**Pg**	**06 13 52.1**	**+0.3**

IDC ***26*** *06:28:28.9±5.6, 35.˚25N×141.˚73E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/48, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=143.2km s-min=35.9km az=50.0*
JMA ***26*** *06:28:38.0±0.1, 35.˚05N×140.˚76E, h61km±2km, M3.2 Broadband fault plane solution: P waves. NP1: φs=54.00000°, δ54.00000°, λ-161.00000°. NP2: φs=312.00000°, δ75.00000°, λ-37.00000°. Principal axes: T Plg13.0000°, Azm7.0000°; N Plg50.0000°, Azm113.0000°; P Plg37.0000°, Azm267.0000°;*
ISC 26 06:28:38.8±1.2, 35.˚02N±0.˚05×140.˚74E±0.˚06, h57km±8km, n25, σ0960/28, 6C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.29**	**221**	⇑P	**Pn**	**06 28 48.3**	**+0.1**
BSO3				*e*X		06 28 55.3	
BSO4	**Boso 4**	**0.33**	**265**	⇑P	**Pn**	**06 28 48.8**	**+0.1**
BSO4				*e*X		06 28 56.4	
KTR	**Katsuura**	**0.37**	**290**	P	**Pn**	**06 28 48.6**	**-0.6**
KTR				S	**Sn**	**06 28 57.0**	**+0.3**
BSO1	**Boso 1**	**0.42**	**152**	⇑P	**Pn**	**06 28 49.2**	**+0.2**
BSO1				X		06 28 58.9	
JKUC	**kamogawauchiur**	**0.47**	**287**	⇓P	**Pn**	**06 28 49.9**	**-0.2**
JKUC				*e*S	**Sn**	**06 28 58.7**	**+0.4**
JCN	**Nagara**	**0.59**	**312**	⇑P	**Pn**	**06 28 51.7**	**+0.2**
JSMT	**Sammumatsuo**	**0.66**	**339**	⇑P	**Pn**	**06 28 52.1**	**-0.3**
CHOJ	**Chosi**	**0.69**	**8**	P	**Pn**	**06 28 51.8**	**-0.9**
CHOJ				*e*S	**Sn**	**06 29 02.2**	**-0.6**
JIM2	**Oshima 3**	**1.12**	**255**	P	**Pn**	**06 28 57.8**	**-0.5**
JIM2				S	**Sn**	**06 29 12.6**	**-0.2**
JOD2	**Odawara 2**	**1.38**	**281**	⇓P	**Pn**	**06 29 01.1**	**-0.6**
JOD2				S	**Sn**	**06 29 18.0**	**-0.9**
JMKN	**Mikurajimanish**	**1.48**	**220**	P	**Pn**	**06 29 02.4**	**-0.6**
JMKN				*e*S	**Sn**	**06 29 20.9**	**-0.4**
JIZS	**Izushimoda**	**1.56**	**259**	⇓P	**Pn**	**06 29 03.9**	**-0.3**
JIZS				*e*S	**Sn**	**06 29 23.3**	**-0.1**
JFNN	**Fujinakano**	**1.69**	**276**	P	**Pn**	**06 29 05.9**	**-0.1**
JFNN				*e*S	**Sn**	**06 29 26.7**	**+0.1**
JAG	**Ashikaga**	**1.75**	**324**	⇑P	**Pn**	**06 29 06.7**	**-0.1**
JRY	**Ryogami san**	**1.80**	**304**	⇓P	**Pn**	**06 29 07.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.56**	**307**	Pn	**Pn**	**06 29 19.1**	**+1.2**
	0.7nm,0.3s,baz=111,slow=15,SNR=23						
MAT	**Matsushiro**	**2.56**	**307**	P	**Pn**	**06 29 18.6**	**+0.8**
MAT				S	**Sn**	**06 29 47.3**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**27.66**	**117**	T	T	07 03 33.9	
	baz=309,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.67**	**117**	T	T	07 03 39.4	
	baz=309,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**27.68**	**117**	T	T	07 03 34.2	
	baz=309,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**28.30**	**119**	T	T	07 04 22.8	
	baz=312,slow=75,SNR=79						
H11S3	**WAKE ISLAND Hy**	**28.30**	**119**	T	T	07 04 21.9	
	baz=312,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**28.31**	**119**	T	T	07 04 23.2	
	baz=312,slow=75,SNR=38						
WRA	**Warramunga Arr**	**55.00**	**187**	P	**P**	**06 38 03.8**	**-0.6**
	0.3nm,0.4s,baz=6.3,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**58.73**	**187**	P	**P**	**06 38 32.0**	**+1.3**
	0.2nm,0.7s,baz=15,slow=11,SNR=1.8						

IDC ***26*** *06:30:10.7±5.2, 28.˚10S×69.˚39W, h103km±40km, mb3.3/2, mb1 3.4/5, mb1mx3.2/31, mbtmp3.6/5, Error ellipse: s-maj=49.0km s-min=28.4km az=46.0*
ISC 26 06:30:10.1±1.1, 28.˚1S±0.˚1×69.˚5W±0.˚2, h100km, n12, σ1905/10, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.52**	**6**	P	**Pn**	**06 31 30.4**	**+0.3**
	3.5nm,0.3s,baz=158,slow=6.5,SNR=2.4						
LVC				S	**Sn**	**06 32 32.1**	**-0.5**
	3.4nm,0.3s,baz=79,slow=21,SNR=2.6						
H03N1	**Juan Fernandez**	**9.66**	**234**	T	T	06 40 34.2	
	baz=64,slow=72,SNR=3.3						
H03N2	**Juan Fernandez**	**9.68**	**234**	T	T	06 40 41.6	
	baz=64,slow=72,SNR=11						
H03N3	**Juan Fernandez**	**9.68**	**234**	T	T	06 40 34.9	
	baz=64,slow=72,SNR=12						
CPUP	**Villa Florida**	**10.99**	**83**	P	**Pn**	**06 32 45.0**	**+0.8**
	0.1nm,0.3s,baz=244,slow=12,SNR=3.8						
LPAZ	**La Paz**	**11.85**	**6**	P	**Pn**	**06 32 55.4**	**-0.9**
	0.1nm,0.3s,baz=198,slow=7.4,SNR=2.2						
TXAR	**Lajitas Array**	**65.81**	**327**	P	**P**	**06 40 46.7**	**+1.8**
	0.1nm,0.6s,baz=134,slow=6.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**80.15**	**69**	P	**P**	**06 42 08.8**	**-0.8**
	1.1nm,0.6s,baz=253,slow=3.3,SNR=9.0						
ASAR	**Alice Springs**	**123.78**	**206**	PKP	**PKPdf**	**06 48 55.9**	**-1.0**
	0.2nm,0.6s,baz=147,slow=2.2,SNR=2.0						
WRA	**Warramunga Arr**	**126.94**	**208**	PKP	**PKiKP**	**06 49 02.6**	**-0.9**
	0.1nm,0.4s,baz=164,slow=1.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**148.08**	**29**	PKPbc	**PKPbc**	**06 49 44.0**	**+0.4**
	0.3nm,0.4s,baz=321,slow=3.8,SNR=3.5						
MKAR	**Makanchi Array**	**151.11**	**42**	PKPbc	**PKiKP**	**06 49 51.6**	**-0.3**
	0.7nm,0.6s,baz=323,slow=2.5,SNR=6.2						

IDC ***26*** *06:36:27.0±1.0, 23.˚69S×67.˚52W, h205km±21km, mb3.2/2, mb1 3.2/5, mb1mx3.0/27, mbtmp3.7/5, Error ellipse: s-maj=30.8km s-min=21.3km az=131.0*
ISC 26 06:36:26.4±1.1, 23.˚96S±0.˚10×67.˚6W±0.˚1, h200km, n7, σ2908/9, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.82**	**317**	P	**Pn**	**06 37 02.4**	**-1.2**
	7.1nm,0.3s,baz=150,slow=9.2,SNR=122						
LVC				S	**Sn**	**06 37 31.3**	**-1.1**
	24nm,0.3s,baz=358,slow=20,SNR=156						
LPAZ	**La Paz**	**7.65**	**356**	P	**Pn**	**06 38 17.5**	**+1.8**
	0.7nm,0.3s,baz=145,slow=5.0,SNR=29						
LPAZ				S	**Sn**	**06 39 45.1**	**+2.5**
	0.1nm,0.3s,baz=1.5,slow=10,SNR=3.5						
CPUP	**Villa Florida**	**9.57**	**106**	P	**Pn**	**06 38 41.4**	**+1.4**
	0.2nm,0.3s,baz=277,slow=12,SNR=6.0						
SIV	**San Ignacio**	**10.00**	**39**	P	**Pn**	**06 38 45.0**	**-0.8**
	0.3nm,0.3s,baz=242,slow=7.5,SNR=12						
PLCA	**Paso Flores**	**16.92**	**188**	P	**Pn**	**06 40 14.1**	**+2.4**
	0.1nm,0.3s,baz=17,slow=10,SNR=5.3						
BDFB	**Brasilia**	**20.15**	**69**	P	**P**	**06 40 43.4**	**-2.2**
	3.1nm,0.6s,baz=230,slow=12,SNR=7.1						
TORD	**Torodi Ar. Bea**	**77.03**	**69**	P	**P**	**06 47 57.4**	**-0.4**
	0.4nm,0.7s,baz=260,slow=5.2,SNR=2.6						

IDC 26 07:05:17.4±2.1, 4.˚33S×150.˚84E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/32, mbtmp3.1/2, Error ellipse: s-maj=64.8km s-min=13.5km az=169.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.18**	**89**	Pg	Pb	07 05 40.7	0.0
	7.4nm,0.3s,baz=212,slow=9.5,SNR=2.7						
KRVT				Lg	Lg	07 05 55.5	
	14nm,0.3s,baz=333,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**22.35**	**225**	P	P	07 10 17.2	-0.1
	0.4nm,0.8s,baz=51,slow=10.0,SNR=2.7						
ASAR	**Alice Springs**	**25.24**	**219**	P	P	07 10 45.3	-0.1
	0.4nm,0.7s,baz=51,slow=8.0,SNR=7.9						
TORD	**Torodi Ar. Bea**	**148.31**	**288**	PKPbc	PKPbc	07 25 06.1	-0.7
	0.4nm,0.7s,baz=89,slow=2.5,SNR=2.4						

IDC 26 07:18:39.1±6.7, 6.˚30S×148.˚49E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, ML2.7/2, Error ellipse: s-maj=98.1km s-min=59.0km az=50.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**203**	Pn	Pn	07 19 32.6	-0.2
	6.7nm,0.3s,baz=24,slow=12,SNR=9.2						
PMG				Sn	Sn	07 20 05.0	-8.4
	14nm,0.3s,baz=30,slow=17,SNR=11						
WRA	**Warramunga Arr**	**19.31**	**224**	P	P	07 23 05.4	-0.6
	0.1nm,0.3s,baz=49,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**22.25**	**218**	P	P	07 23 37.0	-0.8
	0.6nm,0.5s,baz=52,slow=8.8,SNR=20						
FITZ	**Fitzroy Crossi**	**25.18**	**240**	P	P	07 24 07.2	+0.7
	1.1nm,0.4s,baz=60,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**26.25**	**193**	P	P	07 24 16.5	+0.4
	0.7nm,0.3s,baz=20,slow=6.0,SNR=3.0						

WEL 26 07:20:57.8, 44.˚8S±7.˚×17.˚2E±.˚, h24km±4km, M2.6/6, ML2.6/6, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=168.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WACZ	**Wakanui South**	**0.26**	**46**	P	Pn	07 21 05.5	-0.6
ARCZ	**Arundel**	**0.34**	**301**	P	Pb	07 21 06.1	+0.7
RPZ	**Rata Peaks**	**0.56**	**317**	P	Pn	07 21 17.3	+7.1
RACZ	**Rakaia**	**0.56**	**46**	P	Pn	07 21 10.1	-0.2
MHCZ	**Mount Hutt**	**0.59**	**359**	P	Pn	07 21 10.6	-0.2
MQZ	**McQueen's Vall**	**0.88**	**62**	P	Pn	07 21 15.0	+0.3
AKCZ	**Akaroa Harbour**	**0.99**	**76**	P	Pb	07 21 16.6	+0.3
LBZ	**Lake Benmore**	**1.04**	**255**	P	Pb	07 21 17.6	+0.4
ODZ	**Otahua Downs**	**1.14**	**216**	P	Pn	07 21 16.5	-1.8
OKCZ	**Okains Bay**	**1.14**	**70**	P	Pb	07 21 19.4	+0.6
LTZ	**Lake Taylor**	**1.43**	**21**	P	Pn	07 21 22.8	+0.5
JCZ	**Jackson Bay**	**2.02**	**270**	P	Pb	07 21 36.1	+2.3
BFZ	**Birch Farm**	**4.87**	**47**	P	Pn	07 22 13.3	+3.7
RIZ	**Raoul Island**	**17.04**	**33**	P	P	07 25 02.4	+6.3

IDC ***26*** *07:28:29.4±1.7, 7.˚54N×127.˚44E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/35, mbtmp3.5/4, Error ellipse: s-maj=44.6km s-min=25.9km az=55.0*
MAN ***26*** *07:28:42.2, 7.˚19N×126.˚51E, h21km, mb4.3, ML3.2, MS2.9*
ISC 26 07:28:37.3±3.1, 7.˚25N±0.˚09×127.˚0E±0.˚2, h50km±28km, n12, σ2960/19, mb3.4/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.82**	**248**	*e*P	**Pn**	**07 28 50.8**	**-1.8**
MATI				*e*S	**Sn**	**07 29 02.4**	**-1.4**
DAV	**Davao City (W)**	**1.45**	**263**	Pn	**Pn**	**07 29 03.4**	**+2.4**
	72nm,0.3s,baz=82,slow=15,SNR=7.9						
DAV				Sn	**Sn**	**07 29 24.9**	**+6.0**
	76nm,0.3s,baz=259,slow=21,SNR=8.1						
DDMP	**Don Marcelino,**	**1.73**	**229**	*e*P	**Pn**	**07 29 04.7**	**-0.3**
DDMP				*e*S	**Sn**	**07 29 28.3**	**+2.4**
KCP	**Kidapawan**	**1.94**	**263**	⇑*e*P	**Pn**	**07 29 09.5**	**+1.7**
BUKP	**Musuan**	**2.04**	**288**	*e*P	**Pn**	**07 29 09.2**	**-0.1**
BUKP				*e*S	**Sn**	**07 29 29.3**	**-4.3**
SKMP	**Bagumbayan, Su**	**2.57**	**254**	*e*P	**Pn**	**07 29 16.2**	**-0.2**
SKMP				*e*S	**Sn**	**07 29 42.5**	**-4.0**
CGP	**Cagayan de Oro**	**2.60**	**298**	⇓*e*P	**Pn**	**07 29 19.2**	**+2.3**
CGP				*e*S	**Sn**	**07 29 48.5**	**+1.3**
PAGZ	**Pagadian**	**3.66**	**280**	*e*P	**Pn**	**07 29 30.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**25.22**	**183**	P	**P**	**07 33 59.5**	**+0.9**
	0.9nm,0.5s,baz=0.4,slow=9.8,SNR=6.9						
WRA	**Warramunga Arr**	**27.96**	**165**	P	**P**	**07 34 23.5**	**+0.1**
	0.1nm,0.3s,baz=350,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**31.45**	**168**	P	**P**	**07 34 54.5**	**+0.2**
	0.4nm,0.3s,baz=340,slow=7.1,SNR=21						
ASAR				PcP	**PcP**	**07 37 47.0**	**+0.3**
	0.4nm,0.4s,baz=356,slow=1.7,SNR=7.4						
MKAR	**Makanchi Array**	**54.88**	**324**	P	**P**	**07 38 01.4**	**-1.4**
	0.1nm,0.4s,baz=121,slow=9.2,SNR=2.2						

NEIC ***26*** *07:33:00.3±2.7, 24.˚71S±0.˚05×68.˚1W±0.˚1, h171km±11km, mb4.0/6, Md3.7(SJA), Error ellipse: s-maj=14.1km s-min=7.1km az=98.0*
IDC ***26*** *07:33:01.5±2.2, 24.˚69S×67.˚71W, h114km±20km, mb3.9/4, mb1 3.9/8, mb1mx3.6/25, mbtmp4.3/8, MS2.5/1, Ms1 2.5/1, ms1mx2.4/19, Error ellipse: s-maj=26.8km s-min=18.5km az=24.0*
GUC ***26*** *07:33:02.5±0.6, 24.˚69S×68.˚18W, h160km±8km, ML4.3*
VAO ***26*** *07:33:04.6±0.4, 24.˚44S×67.˚70W, h141km±4km, mb4.2*
ISC 26 07:33:01.5±0.7, 24.˚68S±0.˚04×67.˚97W±0.˚05, h140km±7km, n122, σ1971/144, mb4.0/4, 4C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.54**	**251**	⇑*i*P	**Pn**	**07 33 32.0**	**+0.8**
GO02				*i* S	**Sn**	**07 33 54.2**	**+0.4**
GO02				IAML		07 33 55.2	
	comp=E,7μm,0.4s						
GO02	**Mina Guanaco**	**1.54**	**251**		**Pn**	**07 33 32.1**	**+1.0**
GO02				Sn	**Sn**	**07 33 54.4**	**+0.7**
PB15	**IPOC Station P**	**2.00**	**317**	⇓*i*P	**Pn**	**07 33 37.5**	**+1.2**
PB15				*i* S	**Sn**	**07 34 03.8**	**+0.9**
PB15	**IPOC Station P**	**2.00**	**317**		**Pn**	**07 33 37.6**	**+1.3**
PB15				Sn	**Sn**	**07 34 04.3**	**+1.3**
PB14	**IPOC Station P**	**2.21**	**271**	⇓*i*P	**Pn**	**07 33 39.2**	**+0.3**
PB14				*i* S	**Sn**	**07 34 06.8**	**-0.8**
PB14	**IPOC Station P**	**2.21**	**271**	Pn	**Pn**	**07 33 39.3**	**+0.3**
PB14				Sn	**Sn**	**07 34 07.0**	**-0.6**
LVC	**Limon Verde**	**2.23**	**337**	P	**Pn**	**07 33 40.7**	**+1.5**
	comp=E,109nm,0.3s,baz=150,slow=12,SNR=905						
LVC				S	**Sn**	**07 34 08.7**	**+0.6**
	comp=E,171nm,0.3s,baz=170,slow=8.6,SNR=12						
LVC				LR	LR	07 34 32.4	
	comp=E,103nm,20.3s,baz=124,slow=39						
LVC	**Limon Verde**	**2.23**	**337**	*e*P	**Pn**	**07 33 40.7**	**+1.5**
LVC				*i* S	**Sn**	**07 34 09.0**	**+0.9**
LVC	**Limon Verde**	**2.23**	**337**	Pn	**Pn**	**07 33 40.7**	**+1.5**
LVC				Sn	**Sn**	**07 34 09.4**	**+1.3**
LVC	**Limon Verde**	**2.23**	**337**	*e*P	**Pn**	**07 33 40.9**	**+1.7**
LVC				*e*S	**Sn**	**07 34 09.1**	**+0.9**
AC02	**Maricunga**	**2.39**	**206**	⇑*i*P	**Pn**	**07 33 42.1**	**+0.8**
AC02	**Maricunga**	**2.39**	**206**	Pn	**Pn**	**07 33 42.1**	**+0.8**
AC02				Sn	**Sn**	**07 34 12.9**	**+1.2**
PB06	**IPOC Station P**	**2.45**	**323**	⇓*i*P	**Pn**	**07 33 42.8**	**+1.1**
PB06				*i* S	**Sn**	**07 34 13.1**	**+0.6**
PB06				IAML		07 34 14.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**2.45**	**323**	Pn	**Pn**	**07 33 42.9**	**+1.1**
PB06				Sn	**Sn**	**07 34 13.2**	**+0.6**
PB10	**IPOC Station P**	**2.63**	**296**	⇓*i*P	**Pn**	**07 33 44.9**	**+1.1**
PB10				*i* S	**Sn**	**07 34 15.1**	**-1.2**
PB10				IAML		07 34 21.8	
	comp=E,508nm,0.2s						
PB10	**IPOC Station P**	**2.63**	**296**	Pn	**Pn**	**07 33 44.9**	**+1.1**
PB10				Sn	**Sn**	**07 34 15.5**	**-0.8**
PB05	**IPOC Station P**	**2.73**	**311**	⇓*i*P	**Pn**	**07 33 46.3**	**+1.1**
PB05				*i* S	**Sn**	**07 34 19.4**	**+0.5**
PB05				IAML		07 34 23.0	
	comp=N,682nm,0.5s						
AC01	**Pan de Azucar**	**2.79**	**238**	⇑*i*P	**Pn**	**07 33 45.4**	**-0.4**
AC01				*i* S	**Sn**	**07 34 17.7**	**-2.3**
AC01				IAML		07 34 20.5	
	comp=N,891nm,0.8s						
AC01	**Pan de Azucar**	**2.79**	**238**	Pn	**Pn**	**07 33 45.4**	**-0.4**
AC01				Sn	**Sn**	**07 34 17.6**	**-2.4**
PB04	**IPOC Station P**	**3.07**	**319**	*e*P	**Pn**	**07 33 50.1**	**+0.5**
PB04				*i* S	**Sn**	**07 34 25.5**	**-1.2**
PB04				IAML		07 34 31.1	
	comp=E,764nm,0.3s						
PB04	**IPOC Station P**	**3.07**	**319**		**Pn**	**07 33 50.1**	**+0.5**
PB03	**IPOC Station P**	**3.09**	**328**	⇓*i*P	**Pn**	**07 33 50.8**	**+1.0**
PB03				*i* S	**Sn**	**07 34 26.5**	**-0.5**
PB03				IAML		07 34 29.1	
	comp=N,923nm,0.5s						
PB09	**IPOC Station P**	**3.10**	**338**	⇓*i*P	**Pn**	**07 33 51.7**	**+1.7**
PB09				*i* S	**Sn**	**07 34 28.0**	**+0.7**
PB09				IAML		07 34 35.0	
	comp=N,491nm,0.3s						
PB09	**IPOC Station P**	**3.10**	**338**		**Pn**	**07 33 51.7**	**+1.7**
PB09				Sn	**Sn**	**07 34 27.9**	**+0.6**
AHML	**Horco Molle**	**3.17**	**132**	*i* P	**Pn**	**07 33 51.0**	**+0.2**
AHML				*i* S	**Sn**	**07 34 27.6**	**-1.3**
PB07	**IPOC Station P**	**3.42**	**329**	⇓*i*P	**Pn**	**07 33 54.0**	**+0.6**
PB07				*i* S	**Sn**	**07 34 33.4**	**-1.5**
PB07	**IPOC Station P**	**3.42**	**329**		**Pn**	**07 33 54.8**	**+0.6**
GO03	**Copiap**	**3.54**	**214**	⇑*i*P	**Pn**	**07 33 54.7**	**-0.8**
GO03				*i* S	**Sn**	**07 34 35.4**	**-2.1**
GO03	**Copiap**	**3.54**	**214**		**Pn**	**07 33 54.8**	**-0.8**
PB01	**IPOC Station P**	**3.88**	**339**	*e*P	**Pn**	**07 34 00.3**	**+0.3**
PB01	**IPOC Station P**	**3.88**	**339**		**Pn**	**07 34 00.4**	**+0.3**
PATCX	**Punta Patache**	**4.33**	**332**		**Pn**	**07 34 05.5**	**-0.6**
AC04	**Llanos de Chal**	**4.48**	**218**	*i* P	**Pn**	**07 34 05.8**	**-2.0**
AC04	**Llanos de Chal**	**4.48**	**218**	Pn	**Pn**	**07 34 05.9**	**-2.0**
TA01	**Diego Aracena**	**4.57**	**333**	Pn	**Pn**	**07 34 08.2**	**-0.9**
AC05	**El Transito**	**4.62**	**206**	Pn	**Pn**	**07 34 08.8**	**-1.1**
PB08	**IPOC Station P**	**4.64**	**346**		**Pn**	**07 34 11.1**	**+0.6**
LCO	**Las Campanas**	**4.96**	**209**		**Pn**	**07 34 12.6**	**-1.8**
GO01	**Chusmiza**	**5.11**	**347**		**Pn**	**07 34 16.8**	**+0.1**
PB11	**IPOC Station P**	**5.13**	**342**		**Pn**	**07 34 15.8**	**-0.9**
PSGCX	**Pisagua**	**5.43**	**338**		**Pn**	**07 34 19.2**	**-1.5**
CO01	**Juntas del Tor**	**5.61**	**199**		**Pn**	**07 34 22.2**	**-0.9**
MNMC	**Minye Minye**	**5.72**	**344**		**Pn**	**07 34 23.4**	**-1.3**
GO04	**Tololo Observa**	**6.02**	**204**		**Pn**	**07 34 25.9**	**-2.7**
CO03	**El Pedregal**	**6.59**	**201**	Pn	**Pn**	**07 34 33.3**	**-2.8**
ZON	**Zonda**	**6.87**	**185**		**Pn**	**07 34 38.0**	**-1.8**
CO02	**Combarbal**	**7.03**	**202**		**Pn**	**07 34 38.7**	**-3.3**
LPAZ	**La Paz**	**8.35**	**359**	P	**Pn**	**07 35 00.7**	**+0.4**
	comp=N,3.6nm,0.3s,baz=182,slow=17,SNR=105						
LPAZ				S	**Sn**	**07 36 34.3**	**+0.9**
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=1.8						
LPAZ	**La Paz**	**8.35**	**359**		**Pn**	**07 35 00.3**	**0.0**
LPAZ	**La Paz**	**8.35**	**359**	*e*P	**Pn**	**07 35 00.5**	**+0.2**
VA03	**San Esteban**	**8.37**	**195**		**Pn**	**07 34 57.2**	**-2.7**
ROC1	**El Roble**	**8.59**	**197**		**Pn**	**07 35 00.1**	**-4.3**
PEL	**Peldehue**	**8.76**	**195**		**Pn**	**07 35 02.0**	**-3.2**
MT02	**Curacav**	**8.99**	**197**		**Pn**	**07 35 03.5**	**-4.7**
MT05	**Renca**	**9.01**	**195**	Pn	**Pn**	**07 35 05.2**	**-3.3**
CPUP	**Villa Florida**	**9.76**	**102**	P	**Pn**

LVC				*i* S		Sn	07 53 17.4	-1.3
PB15	**IPOC Station P**	**1.73**	**287**⇑	*i* P		Pn	07 52 54.9	+0.1
PB15				*i* S		Sn	07 53 20.6	-0.4
PB06	**IPOC Station P**	**2.02**	**300**	*e* P		Pn	07 52 57.8	-0.1
PB06				*e* P		Sn	07 53 25.9	-0.6
PB06				IAML			07 53 27.3	
	comp=N,297nm,0.4s							
GO02	**Mina Guanaco**	**2.26**	**230**	*e* P		Pn	07 53 00.9	+0.1
GO02				*i* S		Sn	07 53 31.9	+0.2
GO02				IAML			07 53 35.7	
	comp=N,275nm,0.1s							
PB09	**IPOC Station P**	**2.40**	**323**⇑	*i* P		Pn	07 53 02.6	+0.3
PB09				*i* S		Sn	07 53 34.0	-0.3
PB09				IAML			07 53 36.7	
	comp=N,85nm,0.7s							
PB05	**IPOC Station P**	**2.48**	**290**	*e* P		Pn	07 53 03.0	-0.1
PB05				*i* S		Sn	07 53 34.8	-1.0
PB05				IAML			07 53 39.1	
	comp=E,84nm,0.4s							
PB03	**IPOC Station P**	**2.54**	**311**	*e* P		Pn	07 53 03.6	-0.3
PB03				*i* S		Sn	07 53 35.9	-1.2
PB03				IAML			07 53 38.4	
	comp=E,177nm,0.2s							
PB10	**IPOC Station P**	**2.65**	**274**⇑	*e* P		Pn	07 53 05.4	+0.4
PB10				*i* S		Sn	07 53 38.3	-0.9
PB10				IAML			07 53 44.5	
	comp=N,64nm,0.1s							
PB04	**IPOC Station P**	**2.66**	**301**	*e* P		Pn	07 53 05.1	-0.2
PB04				*i* S		Sn	07 53 38.7	-1.1
PB07	**IPOC Station P**	**2.84**	**314**	*e* P		Pn	07 53 07.2	-0.4
PB07				*i* S		Sn	07 53 42.1	-1.7
PB07				IAML			07 53 43.4	
	comp=N,197nm,0.1s							
PB01	**IPOC Station P**	**3.15**	**327**⇓	*i* P		Pn	07 53 10.2	-1.0
PB01				*i* S		Sn	07 53 47.7	-2.6
PB01				IAML			07 53 52.3	
	comp=E,85nm,0.4s							
AC02	**Maricunga**	**3.37**	**203**	*e* P		Pn	07 53 14.3	0.0
AC02				*i* S		Sn	07 53 55.6	-0.4
AC01	**Pan de Azucar**	**3.59**	**227**	*e* P		Pn	07 53 15.4	-1.3
AC01				*i* S		Sn	07 53 57.6	-2.5
PATCX	**Punta Patache**	**3.68**	**321**	*e* P		Pn	07 53 17.6	-0.3
PATCX				*i* S		Sn	07 53 59.5	-2.9
PB08	**IPOC Station P**	**3.81**	**339**⇓	*i* P		Pn	07 53 19.3	-0.5
PB08				*i* S		Sn	07 54 02.3	-3.5
GO03	**Copiap**	**4.50**	**210**	*e* P		Pn	07 53 26.7	-1.6
GO03				*i* S		Sn	07 54 18.1	-2.9

*IDC **26** 07:58:49.5±1.0, 15°.71S×178°.19E, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/35, mbtmp3.9/9, MS3.7/14, Ms1 3.7/14, ms1mx3.5/30, Error ellipse: s-maj=47.1km s-min=20.6km az=145.0*

ISC 26 07:58:55.0±0.9, 15°.7S±0°.3×178°.2E±0°.2, h35km, n24, σ0§34/10, mb3.8/9, MS3.6/15, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**12.76**	**238**	LR		LR	08 05 55.9	
	comp=Z,309nm,18.6s,baz=47,slow=33							
DZM	**Mont Dzumac**	**12.76**	**238**	*e*LR		LR	08 05 15.5	
	comp=Z,289nm,24.6s							
HNR	**Honiara**	**18.82**	**287**	LR		LR	08 09 30.0	
	comp=Z,289nm,18.7s,baz=90,slow=34							
RAR	**Rarotonga**	**21.64**	**108**	LR		LR	08 09 49.4	
	comp=Z,286nm,21.0s,baz=272,slow=31							
URZ	**Urewera**	**22.49**	**182**	LR		LR	08 11 09.1	
	comp=Z,266nm,18.7s,baz=31,slow=33							
KRVT	**Keravat (AS076**	**28.06**	**291**	LR		LR	08 15 17.3	
	comp=Z,169nm,21.3s,baz=106,slow=35							
RPZ	**Rata Peaks**	**28.57**	**191**	LR		LR	08 15 16.6	
	comp=Z,123nm,18.4s,baz=55,slow=34							
PPT2	**Papeete2**	**30.96**	**98**	*e*LR		LR	08 13 18.4	
	comp=Z,192nm,26.0s							
PPT	**Papeete**	**30.96**	**98**	LR		LR	08 15 00.2	
	comp=Z,46nm,18.6s,baz=235,slow=31							
TBI	**Tubuai**	**31.41**	**109**	*e*LR		LR	08 13 32.5	
	comp=Z,279nm,26.2s							
STKA	**Stephens Creek**	**36.91**	**238**	P		**P**	**08 06 00.9**	**+0.3**
	1.4nm,0.7s,baz=70,slow=9.2,SNR=2.2							
STKA				LR		LR	08 19 50.4	
	comp=Z,67nm,18.8s,baz=34,slow=34							
TAOE	**Nuku Hiva Isla**	**41.26**	**86**	*e*LR		LR	08 18 03.1	
	comp=Z,215nm,25.9s							
WRA	**Warramunga Arr**	**41.83**	**258**	P		**P**	**08 06 41.4**	**-0.4**
	2.0nm,1.1s,baz=88,slow=8.4,SNR=6.8							
WRA				LR		LR	08 23 29.5	
	comp=Z,67nm,18.2s,baz=150,slow=35							
ASAR	**Alice Springs**	**42.27**	**252**	P		**P**	**08 06 45.4**	**0.0**
	1.1nm,0.8s,baz=79,slow=8.7,SNR=10							
ASAR				LR		LR	08 23 17.7	
	comp=Z,120nm,18.1s,baz=90,slow=35							
VNDA	**Vanda**	**62.38**	**184**	LR		LR	08 32 15.3	
	comp=Z,53nm,19.2s,baz=102,slow=32							
MJAR	**Matsushiro Arr**	**64.19**	**325**	P		**P**	**08 09 26.5**	**+0.2**
	1.1nm,0.7s,baz=154,slow=7.5,SNR=4.3							
KSRS	**Korea Array**	**70.88**	**320**	LR		LR	08 34 54.3	
	comp=Z,25nm,19.8s,baz=128,slow=30							
NVAR	**Mina Array Bea**	**80.18**	**46**	P		**P**	**08 11 02.3**	**+0.1**
	0.5nm,0.5s,baz=234,slow=7.5,SNR=5.3							
ILAR	**Eielson Array**	**84.53**	**14**	P		**P**	**08 11 24.1**	**+0.1**
	2.0nm,0.8s,baz=236,slow=5.8,SNR=29							
ILAR				LR		LR	08 42 22.6	
	comp=Z,58nm,20.4s,baz=234,slow=31							
MAW	**Mawson**	**84.79**	**200**	P		**P**	**08 11 25.4**	**0.0**
	1.2nm,0.8s,baz=107,slow=7.7,SNR=2.0							
TXAR	**Lajitas Array**	**87.64**	**59**	P		**P**	**08 11 40.2**	**-0.1**
	0.4nm,0.8s,baz=225,slow=5.0,SNR=5.4							
PDAR	**Pinedale Array**	**88.06**	**45**	P		**P**	**08 11 42.3**	**+0.1**
	0.4nm,0.9s,baz=258,slow=3.3,SNR=1.7							
GERES	**GERESS Array B**	**144.57**	**342**	PKP		**PKPdf**	**08 18 27.2**	**-0.7**
	0.5nm,0.6s,baz=28,slow=3.5,SNR=6.4							

*IDC **26** 08:00:18.2±3.2, 0°.17N×98°.77E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/41, mbtmp3.5/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/38, Error ellipse: s-maj=114.3km s-min=23.6km az=62.0*

*DJA **26** 08:00:22.7±0.4, 0°N±2°×9°9E±°, h24km±5km, M3.5/8, MLv3.5/8*

ISC 26 08:00:20.7±1.4, 0°.2N±0°.04×98°.62E±0°.05, h20km±6km, n16, σ1§15/18, mb3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PBSI	**Pulau Batu**	**0.43**	**232**	P		**Pn**	**08 00 32.9**	**+1.1**
PBSI				S		**Sn**	**08 00 38.8**	**-0.2**
MNSI	**Mandailing Nat**	**1.12**	**59**	P		**Pg**	**08 00 43.2**	**+0.7**
MNSI				S		**Sn**	**08 00 57.1**	**+0.8**
SBSI	**Sibolga**	**1.36**	**12**	P		**Pg**	**08 00 47.0**	**0.0**
SBSI				S		**Sg**	**08 01 04.0**	**-0.8**
GSI	**Gunungsitoli**	**1.51**	**316**	P		**Pb**	**08 00 47.4**	**-0.6**
GSI				S		**Sn**	**08 01 05.3**	**-0.4**
SISI	**Saibi**	**1.60**	**163**	P		**Pb**	**08 00 49.4**	**-0.1**
SISI				S		**Sg**	**08 01 10.1**	**-2.2**
BKNI	**Bangkinang**	**2.42**	**87**	P		**Pg**	**08 01 09.1**	**+1.8**
PSI	**Prapat**	**2.59**	**7**	Pn		**Pn**	**08 01 01.2**	**-0.5**
	6.7nm,0.3s,baz=197,slow=11,SNR=9.1							
TPTI		**3.35**	**335**	P		**Pn**	**08 01 13.7**	**+1.6**
TPTI				S		**Sn**	**08 01 51.7**	**+0.3**
TPRI	**Tanjung Pinang**	**5.95**	**83**	P		**Pb**	**08 02 02.7**	**-1.1**
H08S2	**Diego Garcia H**	**27.19**	**253**	T		T	08 33 36.1	
	baz=73,slow=74,SNR=3.1							
H08S3	**Diego Garcia H**	**27.20**	**253**	T		T	08 33 33.0	
	baz=73,slow=74,SNR=30							
H08S1	**Diego Carcia H**	**27.21**	**253**	T		T	08 33 46.1	
	baz=73,slow=74,SNR=5.1							
WRA	**Warramunga Arr**	**40.31**	**122**	P		**P**	**08 07 56.1**	**-1.0**
	0.2nm,0.3s,baz=304,slow=8.9,SNR=10							
ASAR	**Alice Springs**	**41.67**	**127**	P		**P**	**08 08 07.7**	**-0.6**
	0.3nm,0.4s,baz=300,slow=7.4,SNR=7.3							
GUMO	**Guam**	**47.68**	**72**	LR		LR	08 33 13.7	
	comp=Z,41nm,18.1s,baz=349,slow=42							
MKAR	**Makanchi Array**	**48.55**	**345**	P		**P**	**08 09 03.4**	**+0.8**
	0.3nm,0.4s,baz=163,slow=9.2,SNR=4.7							

*IDC **26** 08:12:14.0±3.9, 36°.31N×71°.61E, h174km±36km, mb3.2/10, mb1 3.4/15, mb1mx3.2/52, mbtmp3.8/15, Error ellipse: s-maj=25.0km s-min=17.6km az=2.0*

*NNC **26** 08:12:19.1±1.4, 37°.02N×71°.20E, h172km±19km, mb3.0, mpv3.8, Error ellipse: s-maj=13.6km s-min=7.7km az=159.0*

ISC 26 08:12:14.6±0.6, 36°.71N±0°.06×71°.35E±0°.06, h150km, n35, σ1§56/41, mb3.6/10, 8C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THN	**Thein Dam**	**5.58**	**139**	*e*P		Pn	08 13 40.0	+4.2
THN				*e*S		**Sn**	**08 14 39.0**	**-0.2**
AAK	**Ala-Archa**	**6.40**	**21**	⇑P		**Pn**	**08 13 49.3**	**+2.6**
	2.4nm,0.3s							
AAK				⇑S		**Sn**	**08 14 58.0**	**-0.8**
	23nm,0.6s							
KK31	**Karatay Array**	**6.42**	**355**	P		**Pn**	**08 13 48.6**	**+1.8**
	5.6nm,0.4s,baz=176,slow=12,SNR=80							
KK31				S		**Sn**	**08 14 58.2**	**-0.9**
	12nm,0.8s,baz=173,slow=19,SNR=9.1							
TKM2	**Tokmak 2**	**7.01**	**26**	⇑P		**Pn**	**08 13 56.7**	**+1.8**
	4.0nm,0.7s							
TKM2				⇓S		**Sn**	**08 15 13.3**	**-0.4**
	8.0nm,0.7s							
PDGK	**Podgornoye**	**9.09**	**41**	⇑P		**Pn**	**08 14 24.1**	**+1.4**
	3.3nm,0.7s							
GEYT	**Alibeck**	**10.61**	**281**	P		**Pn**	**08 14 45.3**	**+2.6**
	1.2nm,0.3s,baz=112,slow=11,SNR=8.5							
GEYT				S		**Sn**	**08 16 39.5**	**-0.5**
	1.0nm,0.3s,baz=83,slow=13,SNR=1.8							
GYA0B	**ALIBECK ARRAY**	**10.61**	**281**	⇑P		**Pn**	**08 14 44.0**	**+1.4**
GYA0B				⇓S		**Sn**	**08 16 39.6**	**-0.4**
MK31	**Makanchi Array**	**12.96**	**36**	P		**Pn**	**08 15 14.3**	**+1.1**
	0.7nm,0.4s,baz=224,slow=12,SNR=18							
MKAR	**Makanchi Array**	**12.96**	**36**	P		**Pn**	**08 15 14.2**	**+1.0**
	0.4nm,0.3s,baz=223,slow=12,SNR=9.7							
DANN	**Dangsing**	**13.38**	**125**	*e*P		**Pn**	**08 15 17.7**	**-1.2**
	12nm,0.3s							
KOLN	**Koldanda**	**13.66**	**127**	*e*P		**Pn**	**08 15 20.7**	**-1.8**
	5.0nm,0.4s							
GKN	**Gorkha**	**14.19**	**124**	*e*P		**Pn**	**08 15 28.5**	**-0.5**
	8.8nm,0.3s							
KKN	**Kakani**	**14.75**	**123**	*e*P		**Pn**	**08 15 35.4**	**-0.8**
	32nm,0.6s							
KURBB	**Kurchatov Arra**	**14.84**	**18**	P		**P**	**08 15 39.5**	**+0.7**
	0.1nm,0.3s,baz=205,slow=11,SNR=8.6							
PKIN	**Phulchoki**	**14.97**	**123**	*e*P		**Pn**	**08 15 38.3**	**-0.7**
	29nm,0.4s							
PKI	**Pulchoki**	**14.98**	**123**	*e*P		**Pn**	**08 15 39.0**	**-0.2**
	37nm,0.7s							
AB31	**Akbulak array**	**15.04**	**330**	⇓P		**Pn**	**08 15 39.8**	**+0.5**
	0.8nm,0.5s,baz=145,slow=12,SNR=16							
AB31				⇑S		**Sn**	**08 18 22.6**	**-3.7**
	1.7nm,0.7s,baz=146,slow=25,SNR=5.7							
GUN	**Gumba**	**15.08**	**121**	*e*P		**Pn**	**08 15 39.8**	**-0.6**
	13nm,0.4s							
RAMN	**Ramite**	**16.19**	**123**	*e*P		**Pn**	**08 15 52.8**	**-1.1**
	20nm,0.5s							
TAPN	**Taplejung**	**16.70**	**119**	*e*P		**P**	**08 15 59.8**	**-0.2**
	11nm,0.4s							
AKTO	**Aktyubinsk**	**16.74**	**329**	P		**Pn**	**08 16 01.9**	**+1.7**
	1.0nm,0.3s,baz=152,slow=7.8,SNR=11							
AKTO				S		**S**	**08 19 04.0**	**-2.2**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.5							
AKTO	**Aktyubinsk**	**16.74**	**329**	⇑P		**P**	**08 15 59.9**	**0.0**
	7.2nm,0.8s							
AKTO				⇑S		**S**	**08 19 01.3**	**-4.8**
	1.4nm,0.7s							
ODAN	**Odare**	**16.79**	**121**	*e*P		**P**	**08 15 59.3**	**-1.5**
	18nm,0.7s							
ZALV	**Zalesovo Beam**	**19.61**	**24**	P		**P**	**08 16 31.4**	**+0.3**
	0.7nm,0.3s,baz=214,slow=12,SNR=8.0							
BRTR	**Keskin Array B**	**29.64**	**287**	P		**P**	**08 18 07.2**	**+1.2**
	0.5nm,0.6s,baz=73,slow=11,SNR=1.9							
AKASG	**Malin Array Be**	**33.03**	**309**	P		**P**	**08 18 35.7**	**+0.3**
	0.7nm,0.4s,baz=78,slow=7.0,SNR=7.1							
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**08 19 13.8**	**+0.7**
	1.3nm,0.5s,baz=123,slow=9.5,SNR=14							
ARCES	**ARCESS Array B**	**41.06**	**337**	P		**P**	**08 19 43.6**	**+0.7**
	2.1nm,0.8s,baz=111,slow=6.9,SNR=7.2							
GERES	**GERESS Array B**	**43.04**	**305**	P		**P**	**08 19 59.8**	**+0.5**
	0.2nm,0.5s,baz=72,slow=7.3,SNR=1.7							
NB2	**NORSAR Subarra**	**44.38**	**323**	P		**P**	**08 20 09.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.38**	**323**	P		**P**	**08 20 10.0**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=96,slow=7.7,SNR=6.5							
ESDC	**Sonseca Array**	**57.60**	**298**	P		**P**	**08 21 48.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=57,slow=6.4,SNR=6.0							
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P		**P**	**08 22 42.8**	**-2.5**
	comp=Z,1.2nm,0.5s,baz=50,slow=5.8,SNR=13							
WRA	**Warramunga Arr**	**81.86**	**122**	P		P	08 24 12.1	-5.2
	comp=Z,0.1nm,0.4s,baz=323,slow=4.8,SNR=1.2							
ASAR	**Alice Springs**	**84.15**	**125**	P		P	08 24 23.8	-5.2
	comp=Z,0.2nm,0.7s,baz=330,slow=5.4,SNR=1.7							

*NNC **26** 08:29:53.9±0.5, 50°.02N×78°.63E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=9.7km s-min=2.2km az=74.0, Suspected Mining explosion.*

*IDC **26** 08:29:54.3±1.0, 50°.04N×78°.69E, h0km, mb1 3.1/2, mb1mx3.0/42, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=13.5km s-min=6.1km az=67.0*

ISC 26 08:29:54.6±1.4, 50°.02N±0°.05×78°.6E±0°.2, h0km, n16, σ0§75/29, 19C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**353**	⇑P		**Pg**	**08 30 05.1**	**-0.4**
KUR07				⇓S		**Sg**	**08 30 13.3**	**+0.5**
KUR06	**Kurchatov Arra**	**0.58**	**353**	⇑P		**Pg**	**08 30 05.4**	**-0.4**
KUR06				⇑S		**Sg**	**08 30 13.6**	**+0.2**
KUR14	**Kurchatov Arra**	**0.59**	**358**	⇑P		**Pg**	**08 30 05.3**	**-0.6**
KUR14				⇑S		**Sg**	**08 30 13.6**	**0.0**
KUR15	**Kurchatov Arra**	**0.60**	**356**	⇑P		**Pg**	**08 30 05.6**	**-0.5**
KUR15				⇑S		**Sg**	**08 30 14.1**	**+0.3**
KURBB	**Kurchatov Arra**	**0.60**	**354**	Pg		**Pg**	**08 30 05.4**	**-0.8**
	4.5nm,0.3s,baz=165,slow=19,SNR=171							
KURBB				Lg		Lg	08 30 14.7	
	3.9nm,0.3s,baz=168,slow=33,SNR=14							
KURBB	**Kurchatov Arra**	**0.60**	**354**	⇑P		**Pg**	**08 30 05.7**	**-0.5**
	38nm,0.3s							
KURBB				⇓S		**Sg**	**08 30 14.8**	**+0.7**
	159nm,0.6s							
KUR16	**Kurchatov Arra**	**0.61**	**352**	⇑P		**Pg**	**08 30 05.9**	**-0.5**
KUR16				⇓S		**Sg**	**08 30 14.5**	**+0.2**
KUR17	**Kurchatov Arra**	**0.62**	**351**	⇑P		**Pg**	**08 30 06.1**	**-0.4**
KUR17				⇑S		**Sg**	**08 30 14.9**	**+0.4**
KUR05	**Kurchatov Arra**	**0.62**	**355**	⇑P		**Pg**	**08 30 06.0**	**-0.5**
KUR05				⇓S		**Sg**	**08 30 14.8**	**+0.2**
KUR04	**Kurchatov Arra**	**0.64**	**355**	⇑P		**Pg**	**08 30 06.3**	**-0.6**
KUR04				⇑S		**Sg**	**08 30 15.2**	**-0.1**
MAKZ	**Makanchi**	**3.91**	**144**	⇑Pn		**Pn**	**08 30 57.4**	**+1.5**
	0.7nm,0.5s							
MAKZ				⇓Pg		**Pb**	**08 31 05.3**	**+0.9**
	2.6nm,0.6s							
MAKZ				⇑Lg		Lg	08 31 56.8	
	8.8nm,0.8s							
MK31	**Makanchi Array**	**4.05**	**142**	⇑Pn		**Pn**	**08 30 58.0**	**+0.2**
	0.1nm,0.1s,baz=322,slow=10,SNR=27							
MK31				⇓Pg		**Pb**	**08 31 06.4**	**-0.4**
	1.2nm,0.3s,baz=324,slow=14,SNR=19							
MK31				⇑Lg		Lg	08 32 00.4	
	2.8nm,0.4s,baz=331,slow=35,SNR=20							
MKAR	**Makanchi Array**	**4.05**	**142**	Pn		**Pn**	**08 30 57.7**	**-0.2**
	0.7nm,0.3s,baz=327,slow=10,SNR=26							
MKAR				Pg		**Pb**	**08 31 04.3**	**-2.5**
	1.3nm,0.3s,baz=322,slow=15,SNR=19							
MKAR				Sn		**Sn**	**08 31 46.5**	**+0.6**
	0.9nm,0.3s,baz=323,slow=19,SNR=2.1							
MKAR				Lg		Lg	08 32 02.1	
	2.2nm,0.3s,baz=328,slow=33,SNR=15							
ZAA0	**Zalesovo Array**	**5.48**	**42**	⇑Pn		**Pn**	**08 31 18.1**	**+0.6**
	0.1nm,0.2s							
ZAA0				⇓Sn		**Sn**	**08 32 21.3**	**+0.1**
	0.3nm,0.4s							
ZAA0				⇓Lg		Lg	08 32 47.2	
	0.8nm,0.9s							
ZALV	**Zalesovo Beam**	**5.48**	**42**	Pn		**Pn**	**08 31 18.2**	**+0.7**
	1.2nm,0.3s,baz=229,slow=14,SNR=8.9							
ZALV				Lg		Lg	08 32 50.7	
	0.5nm,0.3s,baz=221,slow=26,SNR=2.4							
I46RU	**ZALESOVO INFRA**	**5.49**	**42**	*i*			09 00 30.0	
	baz=227,slow=327,SNR=1.8							

IDC 26 08:35:52.0±8.9, 30°.45S×178°.59W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/23, mbtmp3.5/2, Error ellipse: s-maj=376.6km s-min=61.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**42.60**	**267**	P		P	08 43 49.9	-0.2
	0.3nm,0.7s,baz=101,slow=7.3,SNR=4.5							
WRA	**Warramunga Arr**	**43.59**	**273**	P		P	08 43 58.0	-0.1
	0.3nm,0.3s,baz=111,slow=8.1,SNR=20							
FINES	**FINESS Array B**	**145.01**	**340**	PKPbc		PKPbc	08 55 29.0	-0.8
	4.1nm,0.9s,baz=58,slow=3.4,SNR=4.1							

*NEIC **26** 08:38:21.5±1.7, 19°.24N±0°.09×145°.47E±0°.07, h177km±9km, mb4.4/17, Error ellipse: s-maj=12.8km s-min=9.2km az=189.0*

*IDC **26** 08:38:23.8±2.1, 19°.25N×145°.53E, h203km±22km, mb3.4/8, mb1 3.7/10, mb1mx3.4/42, mbtmp4.0/10, Error ellipse: s-maj=26.3km s-min=12.3km az=91.0*

ISC 26 08:38:23.4±0.6, 19°.34N±0°.05×145°.3E±0°.1, h200km, n53, σ1§79/54, mb4.2/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANA2	**Anatahan**	**3.00**	**173**	Pn		**Pn**	**08 39 09.6**	**-3.6**
GUMO	**Guam**	**5.73**	**184**	P		**Pn**	**08 39 46.9**	**-0.4**
	11nm,0.3s,baz=165,slow=23,SNR=8.4							
GUMO				S		**Sn**	**08 40 52.5**	**-1.1**
	7.2nm,0.3s,baz=180,slow=20,SNR=1.6							
GUMO	**Guam**	**5.73**	**184**			**Pn**	**08 39 45.4**	**-1.9**
JHH2	**Haha-jima-NKT2**	**7.82**	**339**	*e*S		**Sn**	**08 41 37.5**	**-5.0**
CBIJ	**Chichi jima**	**8.24**	**340**	P		**Pn**	**08 40 18.4**	**-1.4**
CBIJ				S		**Sn**	**08 41 47.4**	**-5.1**
JCJ	**Chichijima**	**8.24**	**340**	Pn		**Pn**	**08 40 18.5**	**-1.2**
JMZ	**Minamidaito 2**	**14.53**	**299**			**P**	**08 41 42.5**	**+1.4**
JOD2	**Odawara 2**	**16.79**	**342**	P		**P**	**08 42 07.9**	**+1.9**
HMMJ	**Hamamatsu 2**	**16.86**	**338**	P		**P**	**08 42 08.1**	**+1.4**
JHU	**Hanno**	**17.29**	**343**	P		**P**	**08 42 12.8**	**+1.4**
JYT	**Yasato**	**17.42**	**346**	P		**P**	**08 42 12.5**	**-0.3**
JRY	**Ryogami san**	**17.55**	**343**	P		**P**	**08 42 15.9**	**+1.6**
JGF	**Kuroka**	**17.66**	**338**	P		**P**	**08 42 17.6**	**+2.1**
JGF				IAmb		IAmb	08 42 20.4	
	comp=Z,7.4nm,0.6s							
JHO	**Hitachi**	**17.71**	**347**	P		**P**	**08 42 18.0**	**+2.0**
JAG	**Ashikaga**	**17.79**	**344**	P		**P**	**08 42 18.4**	**+1.6**
JNG	**Nsakai**	**18.15**	**341**	P		**P**	**08 42 22.5**	**+1.6**
MJAR	**Matsushiro Arr**	**18.24**	**341**	P		**P**	**08 42 23.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=163,slow=8.8,SNR=19							
MJAR	**Matsushiro Arr**	**18.24**	**341**	P		**P**	**08 42 22.6**	**+0.8**
MAJO	**Matsushiro**	**18.24**	**341**	P		**P**	**08 42 23.5**	**+1.6**
MAJO				IAmb		IAmb	08 42 25.1	
	comp=Z,9.0nm,0.4s							
MAT	**Matsushiro**	**18.24**	**341**	P		**P**	**08 42 22.9**	**+1.1**
MAT				S		**S**	**08 45 39.3**	**-0.7**
JHK	**Hiroka**	**18.68**	**344**	P		**P**	**08 42 28.0**	**+1.5**
JHK				*e*S		**S**	**08 45 51.2**	**+2.7**
JMM	**Marumori**	**18.88**	**349**	P		**P**	**08 42 31.1**	**+2.5**
JAW	**Awa shima**	**19.77**	**346**	P		**P**	**08 42 40.8**	**+2.6**
H11S3	**WAKE ISLAND Hy**	**20.23**	**89**	T		T	09 03 56.1	
	baz=275							
H11S1	**WAKE ISLAND Hy**	**20.24**	**89**	T		T	09 03 51.9	
	baz=275							
H11S2	**WAKE ISLAND Hy**	**20.25**	**89**	T		T	09 04 02.2	
	baz=275							
KSRS	**Korea Array**	**23.59**	**324**	P		**P**	**08 43 18.6**	**+2.6**
	comp=Z,1.6nm,0.7s,baz=152,slow=8.7,SNR=10							
KNRA	**Kununurra**	**38.42**	**206**	P		**P**	**08 45 26.4**	**+0.5**
WB0	**Warramunga Arr**	**40.31**	**196**	P		**P**	**08 45 41.1**	**-0.4**
WB0				IAmb		IAmb	08 45 41.7	
	comp=Z,5.9nm,0.8s							
WR0	**Warramunga Arr**	**40.46**	**196**	P		**P**	**08 45 42.3**	**-0.3**
WRAB	**Tennant Creek**	**40.48**	**196**	P		**P**	**08 45 42.9**	**+0.1**
WRAB				IAmb		IAmb	08 45 43.1	
	comp=Z,6.4nm,0.7s							
WB2	**Warramunga Arr**	**40.49**	**196**	P		**P**	**08 45 42.6**	**-0.3**
WB2				IAmb		IAmb	08 45 43.7	
	comp=Z,7.9nm,0.8s							
WRA	**Warramunga Arr**	**40.50**	**196**	P		**P**	**08 45 42.8**	**-0.2**
	comp=Z,3.9nm,0.5s,baz=18,slow=9.1,SNR=82

TWSI Taliwang, Sumb 4.40 69 P **Pn** 08 57 44.4 -1.5
PLAI Plampang 5.21 74 P **Pn** 08 57 55.3 -1.6
2.7nm2µm5µm274nm,0.6s
CISI Cisompet, Garu 5.59 299 P **Pn** 08 58 01.3 -0.9
4.6nm2µm12µm452nm,0.6s
CISI Cisompet, Garu 5.59 299 Pn **Pn** 08 58 01.8 -0.4
CISI Sn **Sn** 08 59 02.4 -2.9
LEM Lembang 6.14 304 Pn **Pn** 08 58 11.4 +1.4
12nm,0.3s,baz=146,slow=8.0,SNR=7.0
LEM Sn **Sn** 08 59 21.3 +2.2
15nm,0.3s,baz=300,slow=20,SNR=2.2
LEM LR LR 09 01 14.5
comp=Z,1µm,18.0s,baz=294,slow=45
XMIS Christmas Isla 6.96 268 Pn **Pn** 08 58 20.4 -0.6
XMIS **Sn** 08 59 32.1 -6.8
BBKI Banjar Baru 7.16 17 P **Pn** 08 58 24.5 +0.7
0.5nm4µm117nm,1.1s
KAPI Kappang 8.75 53 Pn **Pn** 08 58 45.3 -0.3
2.6nm,0.3s,baz=192,slow=3.2,SNR=7.8
KAPI Sn **Sn** 09 00 17.1 -6.0
4.1nm,0.3s,baz=49,slow=20,SNR=1.8
KAPI LR LR 09 02 54.0
comp=Z,3µm,18.5s,baz=216,slow=45
KAPI Kappang 8.75 53 P **Pn** 08 58 44.9 -0.8
KAPI 09 00 19.2
KAPI Kappang 8.75 53 **Pn** 08 58 44.9 -0.8
KAPI Sn **Sn** 09 00 19.2 -4.0
BLSI Bandar Lampung 8.91 303 P Pn 08 58 52.9 +5.1
EDFI Ende, Flores 8.99 81 P **Pn** 08 58 47.6 -1.3
905nm44nm,0.5s
KASI Kota Agung 9.45 300 P **Pn** 08 58 56.4 +1.2
2µm88nm,0.8s
MMRI Maumere 9.54 81 P **Pn** 08 58 55.6 -0.8
3µm118nm,0.6s
MMRI Maumere 9.54 81 **Pn** 08 58 56.2 -0.3
MMRI Sn **Sn** 09 00 42.3 -0.2
KLSI 9.72 305 P **Pn** 08 59 00.5 +1.7
274nm14nm,0.8s
LWLI Liwa 10.09 301 P **Pn** 08 59 05.6 +1.5
12µm244nm,0.5s
MDSI Mara Laua 10.28 304 P **Pn** 08 59 07.0 +0.4
552nm40nm,0.7s
BATI Baumata 10.77 90 Pn **Pn** 08 59 12.2 -1.0
15nm,0.3s,baz=60,slow=2.2,SNR=6.1
BATI Sn Sn 09 01 01.8 -11
10.0nm,0.3s,baz=291,slow=18,SNR=2.0
BATI Baumata 10.77 90 P **Pn** 08 59 12.7 -0.6
60nm,0.5s
LHSI Lahat 11.19 305 P Pn 08 59 31.9 +13
MNAI Manna 11.37 301 P **Pn** 08 59 20.6 -0.9
587nm,0.6s
MNAI Manna 11.37 301 **Pn** 08 59 21.2 -0.3
SOEI Soe 11.38 88 P **Pn** 08 59 21.6 -0.2
1µm145nm,0.8s
SOEI Soe 11.38 88 Pn **Pn** 08 59 21.4 -0.4
KSM Kuching 11.99 348 Pn **Pn** 08 59 28.0 -2.0
GIRL Giralia 12.31 173 **Pn** 08 59 32.1 -2.2
MASI Maura Aman, Be 12.63 304 P **Pn** 08 59 43.4 +4.6
SBUM Sibu 12.73 358 Pn **Pn** 08 59 38.8 -1.3
SBUM Sibu 12.73 358 P **Pn** 08 59 43.0 +2.9
PSAD1 Pilbara Seismi 12.98 149 Pn **Pn** 08 59 39.9 -3.6
PSAC1 Pilbara Seismi 13.04 149 Pn **Pn** 08 59 40.5 -3.7
PSAA2 Pilbara Seismi 13.08 149 **Pn** 08 59 41.4 -3.4
PSAA1 Pilbara Seismi 13.09 149 Pn **Pn** 08 59 41.4 -3.6
PSA00 Pilbara Seismi 13.09 149 Pn **Pn** 08 59 40.9 -4.1
PSA00 Pilbara Seismi 13.09 149 **Pn** 08 59 43.6 -1.3
PSAB3 Pilbara Seismi 13.11 149 Pn **Pn** 08 59 41.7 -3.6
KRJI Kerinci 13.87 306 P **Pn** 08 59 57.8 +2.0
326nm,0.8s
FITZ Fitzroy Crossi 14.69 123 Pn **Pn** 09 00 03.3 -3.6
3.4nm,0.3s,baz=301,slow=7.8,SNR=50
FITZ Sn Sn 09 02 36.2 -12
2.2nm,0.3s,baz=163,slow=13,SNR=4.7
FITZ LR LR 09 06 43.8
comp=Z,508nm,18.3s,baz=318,slow=41
FITZ Fitzroy Crossi 14.69 123 **Pn** 09 00 03.1 -3.7
GTOI Gorontalo 14.96 44 P **P** 09 00 15.9 +0.3
COCO West Island 15.69 262 P **Pn** 09 00 14.6 -5.4
COCO pmax pmax
comp=Z,227nm,1.3s
COCO West Island 15.69 262 Pn **Pn** 09 00 14.6 -5.4
KNRA Kununurra 16.50 110 **Pn** 09 00 29.3 -1.1
MEEK Meekatharra 17.13 162 P **Pn** 09 00 36.1 -2.1
baz=17,SNR=93
IPM Ipoh 18.78 321 P **Pn** 09 00 58.5 -0.1
IPM Ipoh 18.78 321 P **Pn** 09 01 00.0 +1.4
MORW Morawa 18.88 171 P **P** 09 00 56.6 -2.2
baz=19,SNR=8.9
MORW Morawa 18.88 171 P **P** 09 00 58.0 -0.9
GSI Gunungsitoli 19.01 307 P **P** 09 00 55.0 -5.4
GSI Gunungsitoli 19.01 307 P **P** 09 00 54.5 -6.0
KDU Kakadu 19.49 99 P **Pn** 09 01 07.3 +0.2
baz=20,SNR=4.3
KULM Kulim 19.65 322 **Pn** 09 01 08.2 -0.8
KULM Kulim 19.65 322 P **Pn** 09 01 09.0 0.0
BLDU Ballidu 20.50 170 P **P** 09 01 14.3 -2.2
baz=20,SNR=9.4
TPTI 20.55 310 P Pn 09 01 19.5 -0.1
comp=Z,12nm,0.6s
SIJI Sorong 20.70 64 P **P** 09 01 16.7 -2.2
comp=Z,7.4nm,0.6s,baz=240,slow=11,SNR=6.0
SIJI LR LR 09 12 21.6
comp=Z,516nm,18.1s,baz=240,slow=46
FAKI Fak Fak 20.74 70 P Pn 09 01 25.2 +3.4
FAKI Fak Fak 20.74 70 P **P** 09 01 17.9 -1.5
FAKI IAmb IAmb 09 01 30.1
comp=Z,142nm,1.2s
WRKA Warakurna 20.79 137 P **P** 09 01 17.0 -2.8
baz=21,SNR=28
DAV Davao City (W) 21.53 37 LR LR 09 09 47.9
comp=Z,408nm,21.9s,baz=204,slow=37
KLBR Kellerberrin 21.64 168 P **P** 09 01 26.5 -2.4
baz=21,SNR=8.8
MUN Mundaring 21.76 172 P **P** 09 01 28.0 -2.2
baz=22,SNR=9.4
KMBL Kambalda 22.57 159 P **P** 09 01 36.4 -2.5
baz=22,SNR=6.8
NWAO Narrogin (SRO) 22.85 170 P **P** 09 01 44.7 +3.0
comp=Z,5.7nm,0.8s,baz=297,slow=2.3,SNR=1.7
NWAO S **S** 09 05 46.5 -2.3
comp=Z,5.1nm,0.5s,baz=85,slow=19,SNR=1.2
NWAO LR LR 09 11 57.5
comp=Z,615nm,18.1s,baz=316,slow=40
NWAO Narrogin (SRO) 22.85 170 P **P** 09 01 39.8 -2.0
baz=23,SNR=4.9
NWAO Narrogin (SRO) 22.85 170 P **P** 09 01 44.7 +3.0
NWAO S **S** 09 05 46.6 -2.3
NWAO pmax pmax
comp=Z,42nm,1.4s
WB0 Warramunga Arr 22.90 117 P **P** 09 01 42.2 -0.3
WB0 IAmb IAmb 09 01 51.9
comp=Z,35nm,0.7s
WRA Warramunga Arr 22.91 117 P **P** 09 01 42.3 -0.3
comp=Z,13nm,0.7s,baz=291,slow=11,SNR=94
WRA S **S** 09 05 50.2 -0.1
comp=Z,1.5nm,0.7s,baz=290,slow=25,SNR=3.3
WRA Warramunga Arr 22.91 117 P **P** 09 01 42.1 -0.5
WRA S **S** 09 05 50.2 -0.1
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 22.91 117 P **P** 09 01 42.1 -0.5
WRAB Tennant Creek 22.92 117 P **P** 09 01 42.5 -0.1
WRAB pmax pmax
comp=Z,42nm,0.7s
WRAB Tennant Creek 22.92 117 P **P** 09 01 42.5 -0.1
WRAB IAmb IAmb 09 01 52.2
comp=Z,42nm,0.7s
WB2 Warramunga Arr 22.93 117 P **P** 09 01 42.7 0.0
WB2 IAmb IAmb 09 01 52.2
comp=Z,40nm,0.7s
WR0 Warramunga Arr 23.10 117 P **P** 09 01 44.0 -0.4
WR0 IAmb IAmb 09 01 58.8
comp=Z,60nm,1.1s
AS31 Alice Springs 24.15 126 P **P** 09 01 55.3 +0.8
ASAR Alice Springs 24.15 126 P **P** 09 01 55.0 +0.5
comp=Z,14nm,0.6s,baz=303,slow=9.6,SNR=181
ASAR PcP **PcP** 09 05 36.5 +1.4
comp=Z,3.3nm,0.5s,baz=302,slow=1.5,SNR=10
ASAR S **S** 09 06 15.8 +5.3
comp=Z,0.8nm,0.7s,baz=294,slow=23,SNR=2.2
ASAR LR LR 09 12 14.0
comp=Z,272nm,19.4s,baz=296,slow=39
ASAR Alice Springs 24.15 126 P **P** 09 01 55.6 +1.1
ASAR S **S** 09 06 15.8 +5.3
ASAR Alice Springs 24.15 126 P **P** 09 01 55.6 +1.1

FORT Forrest 24.83 147 P **P** 09 02 02.8 +2.2
QIZ Qiongzhong 29.33 354 P **P** 09 02 41.5 +0.4
QIZ S **S** 09 07 33.0 +0.7
QIZ sS **sS** 09 07 51.5 +4.4
QIZ LR LR
comp=Z,510nm,15.7s
QIZ LR LR
comp=Z,250nm,15.7s
QIZ LR LR
comp=Z,480nm,15.2s
BBOO Buckleboo 31.01 140 P **P** 09 02 56.8 +1.0
BBOO IAmb IAmb 09 03 16.2
comp=Z,22nm,1.1s
MTSU Mount Surprise 31.55 108 P **P** 09 03 02.1 +1.3
baz=32,SNR=4.5
CMAR Chiang Mai Arr 31.69 335 P **P** 09 03 02.5 +0.5
comp=Z,8.4nm,0.7s,baz=168,slow=8.1,SNR=17
CMAR PcP **PcP** 09 05 55.4 +2.0
comp=Z,1.1nm,0.4s,baz=194,slow=3.5,SNR=2.6
CMAR LR LR 09 17 13.0
comp=Z,658nm,19.1s,baz=197,slow=39
CMAR Chiang Mai Arr 31.69 335 **P** 09 03 02.6 +0.7
CHTO Chiang Mai 32.01 335 P **P** 09 03 04.3 -0.4
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 32.01 335 P **P** 09 03 04.3 -0.4
CTA Charters Tower 33.71 111 LR LR 09 17 29.5
comp=Z,508nm,21.6s,baz=289,slow=37
STKA Stephens Creek 34.22 133 P **P** 09 03 25.0 +1.0
comp=Z,10nm,0.7s,baz=306,slow=8.8,SNR=32
STKA Stephens Creek 34.22 133 P **P** 09 03 25.3 +1.3
baz=34,SNR=25
STKA Stephens Creek 34.22 133 P **P** 09 03 25.3 +1.3
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 34.22 133 P **P** 09 03 25.2 +1.3
YULB Yu-li 34.57 14 P **P** 09 03 26.3 -0.7
YULB IAmb IAmb 09 03 35.0
comp=Z,18nm,1.2s
SSLB Suanglung 34.87 13 IAmb IAmb 09 03 44.3
comp=Z,22nm,0.7s
NACB Ninganchiao 35.39 14 P **P** 09 03 33.2 -0.9
YHNB Yeheng 35.82 14 P **P** 09 03 37.2 -0.7
PALK Pallekele 36.37 298 LR LR 09 18 56.6
comp=Z,181nm,19.8s,baz=225,slow=37
PALK Pallekele 36.37 298 P **P** 09 03 44.9 +2.2
PALK pmax pmax
comp=Z,16nm,1.1s
PALK Pallekele 36.37 298 P **P** 09 03 44.9 +2.2
PALK IAmb IAmb 09 03 57.5
comp=Z,16nm,1.1s
KMI Kunming 36.58 345⇑ *eP* **P** 09 03 47.0 +2.5
KMI pP pP 09 03 55.0 +1.3
KMI sP pwP 09 03 57.8 -0.1
KMI pmax pmax
comp=Z,13nm,0.5s
KMI LR LR
comp=Z,370nm,15.2s
KMI LR LR
comp=Z,430nm,15.3s
KMI LR LR
comp=Z,500nm,19.3s
H08S2 Diego Garcia H 39.81 270 T T 09 46 36.8
baz=96,slow=74,SNR=36
H08S3 Diego Garcia H 39.82 270 T T 09 46 37.7
baz=96,slow=74,SNR=52
H08S1 Diego Garcia H 39.83 270 T T 09 46 38.7
baz=96,slow=74,SNR=31
TOO Toolangi 40.02 138 sP 09 04 27.2 +0.7
YNG Young 40.37 132 P **P** 09 04 16.9 +0.7
baz=40,SNR=6.3
ENH Enshi 40.51 356 P **P** 09 04 16.3 -0.9
WHN Wuhan 40.69 2⇑ P P 09 04 29.5 +11
WHN S **S** 09 10 27.8 +1.2
WHN LR LR
comp=Z,770nm,13.7s
SHL Shillong 41.07 331 P **P** 09 04 21.7 -0.4
SHL pmax pmax
comp=Z,68nm,1.0s
SHL Shillong 41.07 331 P **P** 09 04 21.7 -0.4
CD2 Chengdu 41.92 348 P **P** 09 04 30.8 +2.0
CD2 pP sP 09 04 40.3 -1.7
CD2 sP pwP 09 04 44.5 +2.2
CD2 S **S** 09 10 49.8 +4.8
CD2 SS **SS** 09 13 57.8 +5.1
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,90nm,4.7s
CD2 LR LR
comp=Z,550nm,17.5s
CD2 LR LR
comp=Z,780nm,17.6s
CD2 LR LR
comp=Z,570nm,15.8s
NJ2 Nanjing 42.57 8 *eP* **P** 09 04 34.5 +0.5
NJ2 pP **pP** 09 04 44.3 +0.9
NJ2 sP **sP** 09 04 49.3 +2.1
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 LR LR
comp=Z,290nm,14.1s
NJ2 LR LR
comp=Z,320nm,12.0s
NJ2 LR LR
comp=Z,580nm,16.1s
HYB Hyderabad 43.60 309 *iP* **P** 09 04 42.0 -0.7
HYB *e* 09 04 51.5
XAN Xi'an 44.29 355 P **P** 09 04 47.7 -0.3
XAN pmax pmax
comp=Z,52nm,0.8s
XAN Xi'an 44.29 355 P **P** 09 04 47.7 -0.3
ODAN Odare 44.42 327 *eP* **P** 09 04 49.4 0.0
comp=Z,39nm,0.6s
TAPN Taplejung 44.64 328 *eP* **P** 09 04 51.4 +0.2
comp=Z,51nm,0.6s
LSA Lhasa 44.92 333 P **P** 09 04 54.2 +0.6
LSA pmax pmax
comp=Z,44nm,1.2s
LSA Lhasa 44.92 333 P **P** 09 04 54.2 +0.6
LSA IAmb IAmb 09 05 06.2
comp=Z,44nm,1.2s
RAMN Ramite 44.92 326 *eP* **P** 09 04 53.4 0.0
comp=Z,18nm,0.5s
PKI Pulchoki 46.06 326 *eP* **P** 09 05 02.0 -0.5
comp=Z,18nm,0.5s
GUN Gumba 46.07 326 *eP* **P** 09 05 02.7 +0.1
comp=Z,122nm,0.6s
PKIN Phulchoki 46.07 326 *eP* **P** 09 05 01.9 -0.6
comp=Z,23nm,0.5s
DMN Daman 46.26 325 *eP* **P** 09 05 03.6 -0.4
comp=Z,69nm,0.6s
KKN Kakani 46.30 326 *eP* **P** 09 05 04.1 -0.2
comp=Z,31nm,0.6s
JNU Nakatsue 46.57 21 P **P** 09 05 03.9 -2.1
comp=Z,4.8nm,0.9s,baz=210,slow=20,SNR=1.6
JNU Nakatsue 46.57 21 P **P** 09 05 06.2 +0.1
JNU IAmb IAmb 09 05 21.4
comp=Z,35nm,1.3s
GKN Gorkha 46.83 325 *eP* **P** 09 05 07.9 -0.4
comp=Z,43nm,0.5s
LZH Lanzhou 46.94 350 *eP* **P** 09 05 10.0 +0.9
LZH pP sP 09 05 20.0 -2.3
LZH sP pwP 09 05 24.0 +1.4
LZH sS sS 09 12 24.5 +11
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,480nm,12.2s
LZH LR LR
comp=Z,280nm,14.6s
LZH LR LR
comp=Z,490nm,15.5s
KOLN Koldanda 47.24 324 *eP* **P** 09 05 11.3 -0.3
comp=Z,82nm,0.5s
DANN Dangsing 47.59 325 *eP* **P** 09 05 14.0 -0.4
comp=Z,126nm,0.5s
PYUN Piuthan 47.84 324 *eP* **P** 09 05 16.1 -0.2
comp=Z,45nm,0.6s
POO Poona 47.90 307 *ex* **P** 09 05 14.5 -2.2
KSRS Korea Array 49.65 16 P **P** 09 05 27.9 -1.7
comp=Z,1.4nm,0.5s,baz=203,slow=7.5,SNR=6.6
KSRS LR LR 09 28 34.8
comp=Z,74nm,19.3s,baz=209,slow=39

DL2 Dalian 49.70 9 P P 09 05 35.3 +5.2
DL2 pmax pmax
comp=Z,38nm,1.2s
BJT Baijiatuau 50.22 3 pP pP 09 05 43.6 +0.1
BJI Beijing 50.24 3 P P 09 05 43.3 +9.2
BJI pmax pmax
comp=Z,31nm,0.6s
BJI LR LR
comp=N,320nm,17.5s
BJI LR LR
comp=E,260nm,15.7s
BJI LR LR
comp=Z,140nm,16.5s
BTO Baotou 50.76 357 *eP* P 09 05 44.0 +5.8
INU Inuyama 50.93 26 pP 09 05 47.3 -1.8
GTA Gaotai 50.94 347 *eP* **P** 09 05 40.5 +0.9
GTA pP sP 09 05 51.5 -1.4
GTA sP pwP 09 05 55.0 +1.8
GTA S **S** 09 12 58.3 +4.1
GTA sS sS 09 13 16.0 +6.5
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,130nm,6.0s
GTA LR LR
comp=Z,340nm,15.3s
GTA LR LR
comp=Z,370nm,16.7s
GTA LR LR
comp=Z,400nm,15.6s
HHC Hu-ho-hao-te 50.95 359 *eP* **P** 09 05 41.0 +1.3
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.3s
JGF Kuroka 51.29 26 P **P** 09 05 43.8 +1.6
JGF IAmb IAmb 09 05 52.4
comp=Z,9.8nm,0.6s
MAT Matsushiro 52.45 26 P **P** 09 05 48.3 -2.5
MAT *eS* **S** 09 13 11.0 -3.8
MJAR Matsushiro Arr 52.45 26 P **P** 09 05 48.5 -2.3
comp=Z,3.7nm,0.8s,baz=196,slow=8.2,SNR=12
MJAR LR LR 09 31 42.3
comp=Z,59nm,18.1s,baz=210,slow=40
MJAR Matsushiro Arr 52.45 26 P **P** 09 05 49.0 -1.8
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 52.45 26 P **P** 09 05 49.0 -1.8
DZM Mont Dzumac 52.65 110 *eLR* LR 09 21 05.7
comp=Z,441nm,22.4s
JMM Marumori 54.69 27 P **P** 09 06 05.8 -1.4
CN2 Changchun 55.12 11 *eP* P 09 06 15.0 +4.8
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MDJ Mudanjiang 56.80 14 P **P** 09 06 24.3 +2.1
MDJ pmax pmax
comp=Z,26nm,2.5s
MDJ pmax pmax
comp=Z,550nm,3.4s
USA0B Ussuriysk Arra 57.04 16 *i* P **P** 09 06 23.4 -0.5
USRK Ussuriysk Ar. 57.04 16 P **P** 09 06 22.2 -1.7
comp=Z,3.2nm,0.7s,baz=197,slow=4.6,SNR=7.1
USRK LR LR 09 32 18.2
comp=Z,92nm,20.1s,baz=169,slow=38
USRK Ussuriysk Ar. 57.04 16 P **P** 09 06 22.3 -1.6
JTM Tenmabayashi 57.22 25 P **P** 09 06 23.3 -2.0
NIL Nilore 57.65 321 P **P** 09 06 26.6 -1.9
NIL pmax pmax
comp=Z,18nm,0.7s
NIL Nilore 57.65 321 P **P** 09 06 26.6 -1.9
ULN Ulaanbaatar 58.18 356 *ceP* **P** 09 06 31.1 -0.9
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 58.18 356 P **P** 09 06 31.4 -0.7
ULN IAmb IAmb 09 06 43.1
comp=Z,11nm,0.7s
SONM Songino Array 58.20 355 P **P** 09 06 31.3 -0.8
comp=Z,5.5nm,0.5s,baz=173,slow=8.3,SNR=25
SONM PcP **PcP** 09 07 23.8 +0.5
comp=Z,1.9nm,0.5s,baz=174,slow=4.3,SNR=1.3
SONM LR LR 09 34 08.0
comp=Z,358nm,18.3s,baz=179,slow=39
SONM Songino Array 58.20 355 P **P** 09 06 31.6 -0.6
WMQ Urumqi 58.52 339 *eP* **P** 09 06 35.8 +1.4
WMQ pP sP 09 06 45.8 -2.1
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,88nm,5.5s
WMQ LR LR
comp=Z,220nm,20.7s
WMQ LR LR
comp=Z,110nm,20.7s
KSH Kashi 60.22 328 P **P** 09 06 49.5 +3.2
KSH S **S** 09 14 56.5 -1.5
KSH pmax pmax
comp=Z,11nm,0.8s
KSH pmax pmax
comp=Z,140nm,7.3s
KSH LR LR
comp=Z,120nm,5.7s
KSH LR LR
comp=Z,170nm,6.4s
KSH LR LR
comp=Z,210nm,8.2s
ASAJ Asahikawa 60.62 24 P **P** 09 06 47.5 -1.2
comp=Z,2.5nm,0.7s,baz=228,slow=5.0,SNR=1.1
JKA Kamikawa-asahi 60.62 24 P **P** 09 06 46.8 -2.0
KBL Kabul 60.88 319 pP pP 09 07 02.3 +1.6
ZAK Zakamensk 61.04 353 *eP* P 09 07 00.0 +8.4
ZAK pmax pmax
comp=Z,8.0nm,1.5s
ZAK pmax pmax
comp=Z,6.0nm,0.9s
SHLS Shalkode 61.29 333 *eP* **P** 09 06 51.6 -1.9
SHLS Shalkode 61.29 333 *eP* **P** 09 06 51.6 -1.9
UZB Uzynbulak 61.48 332 *eP* **P** 09 06 53.8 -1.0
comp=Z,9.8nm,1.5s
UZB Uzynbulak 61.48 332 *eP* **P** 09 06 53.8 -1.0
UZB pmax pmax
comp=Z,10.0nm,1.5s
KDJ Kajisay 61.56 331 P **P** 09 06 56.6 +1.2
KDJ pmax pmax
comp=Z,14nm,1.0s
KDJ Kajisay 61.56 331 P **P** 09 06 56.6 +1.2
KDJ IAmb IAmb 09 07 08.8
comp=Z,14nm,0.9s
KLR Kul'dur 61.64 14 P **P** 09 06 53.5 -2.1
comp=Z,1.8nm,0.5s,baz=189,slow=4.5,SNR=7.4
SATY Saty 61.69 332 *eP* **P** 09 06 54.2 -2.1
SATY Saty 61.69 332 *eP* **P** 09 06 54.1 -2.1
KPKS Kokpek 61.88 332 *eP* **P** 09 06 54.9 -2.6
KPKS Kokpek 61.88 332 *eP* **P** 09 06 54.9 -2.6
TNSS Tian-Shan 62.36 331 *eP* **P** 09 06 59.2 -1.9
TNSS Tian-Shan 62.36 331 *eP* **P** 09 06 59.2 -1.9
MDOK Medeo 62.41 331 *eP* **P** 09 07 00.3 -0.9
MDOK Medeo 62.41 331 *eP* **P** 09 07 00.2 -0.9
BOOM Boomskoye usch 62.44 330 P **P** 09 07 01.6 +0.3
BOOM pmax pmax
comp=Z,11nm,0.9s
BOOM Boomskoye usch 62.44 330 P **P** 09 07 01.6 +0.3
BOOM IAmb IAmb 09 07 13.5
comp=Z,11nm,0.9s
YSS Yuzh-Sakhalins 63.03 23 P **P** 09 07 04.2 -0.8
YSS pmax pmax
comp=Z,53nm,1.3s
YSS Yuzh-Sakhalins 63.03 23 P **P** 09 07 04.2 -0.8
MK31 Makanchi Array 63.05 337 *ceP* **P** 09 07 04.4 -0.8
MK31 Makanchi Array 63.05 337 P **P** 09 07 04.8 -0.4
MK31 IAmb IAmb 09 07 16.7
comp=Z,8.3nm,0.7s
MKAR Makanchi Array 63.05 337 P **P** 09 07 04.8 -0.3
comp=Z,7.2nm,0.5s,baz=149,slow=7.7,SNR=45
MKAR LR LR 09 37 39.7
comp=Z,90nm,18.2s,baz=151,slow=39
MKAR Makanchi Array 63.05 337 P **P** 09 07 04.7 -0.4
TDK Taldyqorghan 63.21 333 *eP* **P** 09 07 04.7 -1.6
TDK Taldyqorghan 63.21 333 *eP* **P** 09 07 04.6 -1.6
AAK Ala-Archa 63.27 329 *ceP* **P** 09 07 06.1 -0.7
AAK pmax pmax
comp=Z,16nm,0.8s
KUU Kurty 63.30 331 *eP* **P** 09 07 04.6 -2.3
KUU Kurty 63.30 331 *eP* **P** 09 07 04.5 -2.3
CHGR Chuyangaron 63.44 323 P **P** 09 07 07.1 -0.9
ABPO Ambohimpanom 63.65 254 P **P** 09 07 11.9 +2.0

ABPO				pmax	pmax				
	comp=Z,9.0nm,0.8s								
ABPO	**Ambohimpanom**	**63.65**	**254**	P	**P**	**09 07 11.9**	**+2.0**		
ABPO				IAmb	IAmb	09 07 14.5			
	comp=Z,8.6nm,0.8s								
OPO	**Ambohidratompo**	**63.70**	**254**	P	**P**	**09 07 13.5**	**+3.2**		
	comp=Z,4.3nm,0.7s,baz=73,slow=5.1,SNR=6.2								
DGZ	**Jazzator, Alta**	**63.78**	**342**	*i* P	**P**	**09 07 07.9**	**-2.1**		
DGZ				pmax	pmax				
	comp=Z,5.0nm,0.7s								
BTLS	**Baital**	**65.25**	**331**	*e*P	**P**	**09 07 18.5**	**-1.1**		
BTLS	**Baital**	**65.25**	**331**	*e*P	**P**	**09 07 18.4**	**-1.1**		
IUG	**luzhnay**	**65.26**	**326**	*e*P	**P**	**09 07 18.4**	**-1.4**		
IUG	**luzhnay**	**65.26**	**326**	*e*P	**P**	**09 07 18.4**	**-1.4**		
UOSS	**Minazif**	**65.30**	**304**	P	**P**	**09 07 19.6**	**-0.7**		
KK31	**Karatay Array**	**65.66**	**327**	P	**P**	**09 07 22.3**	**0.0**		
KK31				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KK31	**Karatay Array**	**65.66**	**327**	P	**P**	**09 07 22.3**	**0.0**		
KK31				IAmb	IAmb	09 07 35.6			
	comp=Z,8.9nm,0.8s								
KKAR	**Karatay Array**	**65.66**	**327**	P	**P**	**09 07 22.1**	**-0.2**		
KKAR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KKAR	**Karatay Array**	**65.66**	**327**	P	**P**	**09 07 22.1**	**-0.2**		
KKAR				IAmb	IAmb	09 07 35.6			
	comp=Z,8.9nm,0.8s								
KKAR	**Karatay Array**	**65.66**	**327**	P	**P**	**09 07 22.1**	**-0.2**		
MAW	**Mawson**	**65.92**	**199**	P	**P**	**09 07 26.4**	**+2.8**		
	comp=Z,1.9nm,0.6s,baz=87,slow=6.5,SNR=7.5								
MAW				LR	LR	09 32 03.0			
	comp=Z,100nm,18.8s,baz=56,slow=32								
MAW	**Mawson**	**65.92**	**199**	P	**P**	**09 07 26.4**	**+2.8**		
MAW				pmax	pmax				
	comp=Z,1.0nm,1.1s								
MAW	**Mawson**	**65.92**	**199**	P	**P**	**09 07 26.4**	**+2.8**		
KURBB	**Kurchatov Arra**	**67.62**	**337**	P	**P**	**09 07 34.3**	**-0.3**		
	comp=Z,4.4nm,0.7s,baz=157,slow=4.9,SNR=8.0								
KURK	**Kurchatov**	**67.66**	**337**	P	**P**	**09 07 34.6**	**-0.2**		
KURK				pmax	pmax				
	comp=Z,14nm,0.8s								
KURK	**Kurchatov**	**67.66**	**337**	P	**P**	**09 07 34.6**	**-0.2**		
KURK				IAmb	IAmb	09 07 46.6			
	comp=Z,14nm,0.8s								
BOD	**Bodaibo**	**67.94**	**1**	*e*P	**P**	**09 07 35.4**	**-1.0**		
BOD				pmax	pmax				
	comp=Z,19nm,1.5s								
ZAA0	**Zalesovo Array**	**68.28**	**343**	P	**P**	**09 07 37.7**	**-1.0**		
ZAA0				IAmb	IAmb	09 07 49.8			
	comp=Z,15nm,0.8s								
ZALV	**Zalesovo Beam**	**68.28**	**343**	P	**P**	**09 07 37.8**	**-0.9**		
	comp=Z,5.4nm,0.5s,baz=151,slow=5.0,SNR=10.0								
ZALV	**Zalesovo Beam**	**68.28**	**343**	P	**P**	**09 07 37.3**	**-1.4**		
BRZS	**Berezniki**	**69.52**	**334**	*e*P	**P**	**09 07 44.9**	**-1.7**		
BRZS	**Berezniki**	**69.52**	**334**	*e*P	**P**	**09 07 44.8**	**-1.7**		
GEYT	**Alibeck**	**70.04**	**317**	P	**P**	**09 07 50.8**	**+0.8**		
	comp=Z,3.1nm,0.6s,baz=164,slow=7.7,SNR=8.5								
GEYT	**Alibeck**	**70.04**	**317**	P	**P**	**09 07 50.9**	**+0.8**		
GYA0B	**ALIBECK ARRAY**	**70.04**	**317**	P	**P**	**09 07 50.7**	**+0.7**		
GYA0B				IAmb	IAmb	09 08 12.6			
	comp=Z,14nm,0.9s								
VNDA	**Vanda**	**71.68**	**170**	LR	LR	09 38 55.2			
	comp=Z,104nm,18.2s,baz=358,slow=35								
VNDA	**Vanda**	**71.68**	**170**	P	**P**	**09 08 01.6**	**+2.3**		
VNDA				pmax	pmax				
	comp=Z,9.0nm,1.5s								
VNDA	**Vanda**	**71.68**	**170**	P	**P**	**09 08 01.6**	**+2.3**		
BRVK	**Borovoye**	**72.79**	**335**	P	**P**	**09 08 05.7**	**-0.5**		
BRVK				pmax	pmax				
	comp=Z,16nm,1.1s								
BRVK	**Borovoye**	**72.79**	**335**	P	**P**	**09 08 05.7**	**-0.5**		
BRVK				IAmb	IAmb	09 08 18.8			
	comp=Z,16nm,1.1s								
YAK	**Yakutsk**	**73.36**	**8**	P	**P**	**09 08 08.1**	**-1.2**		
	comp=Z,5.8nm,0.5s,baz=106,slow=0.2,SNR=1.4								
YAK	**Yakutsk**	**73.36**	**8**	*ce*P	**P**	**09 08 08.0**	**-1.4**		
YAK				pmax	pmax				
	comp=Z,8.0nm,0.4s								
YAK	**Yakutsk**	**73.36**	**8**	P	**P**	**09 08 06.4**	**-3.0**		
PEA0B	**Petropavlovsk-**	**73.91**	**26**	P	**P**	**09 08 12.2**	**-0.6**		
PEA0B				pmax	pmax				
	comp=Z,40nm,1.3s								
PEA0B	**Petropavlovsk-**	**73.91**	**26**	P	**P**	**09 08 12.2**	**-0.6**		
PEA0B				IAmb	IAmb	09 08 30.0			
	comp=Z,40nm,1.2s								
PETK	**Petropavlovsk-**	**73.91**	**26**	P	**P**	**09 08 11.6**	**-1.2**		
	comp=Z,3.0nm,0.6s,baz=169,slow=1.5,SNR=6.7								
PETK				LR	LR	09 45 26.8			
	comp=Z,47nm,18.0s,baz=242,slow=40								
PETK	**Petropavlovsk-**	**73.91**	**26**	P	**P**	**09 08 12.1**	**-0.7**		
PETK	**Petropavlovsk-**	**73.91**	**26**	P	**P**	**09 08 12.1**	**-0.7**		
SYO	**Syowa Base**	**74.37**	**201**	‖*e*P	**P**	**09 08 16.0**	**+0.7**		
SYO	**Syowa Base**	**74.37**	**201**	‖*e*X	P	09 08 24.0	+8.7		
NIUE	**Niue**	**74.82**	**107**	P	**P**	**09 08 17.1**	**-1.8**		
ABKAR	**Akbulak array**	**75.22**	**327**	P	**P**	**09 08 20.7**	**+0.2**		
ABKAR	**Akbulak array**	**75.22**	**327**	P	**P**	**09 08 20.2**	**-0.4**		
ABKAR				IAmb	IAmb	09 08 33.6			
	comp=Z,34nm,0.9s								
AKTO	**Aktyubinsk**	**76.92**	**328**	P	**P**	**09 08 30.6**	**+0.4**		
	comp=Z,5.8nm,0.5s,baz=98,slow=6.3,SNR=20								
SEY	**Seymchan**	**79.18**	**17**	P	**P**	**09 08 41.8**	**-0.6**		
	comp=Z,2.0nm,0.4s,baz=188,slow=5.1,SNR=8.6								
QSPA	**South Pole Qui**	**79.66**	**180**	P	**P**	**09 08 47.6**	**+2.4**		
	comp=Z,5.1nm,1.0s,baz=309,slow=3.7,SNR=10								
QSPA	**South Pole Qui**	**79.66**	**180**	P	**P**	**09 08 47.7**	**+2.4**		
ARU	**Arti**	**80.12**	**333**	P	**P**	**09 08 47.7**	**0.0**		
	comp=Z,1.3nm,0.4s,baz=44,slow=8.4,SNR=4.3								
ARU	**Arti**	**80.12**	**333**	*d* P	**P**	**09 08 47.3**	**-0.4**		
ARU				*PP	**pP**	**09 08 57.9**	**+0.4**		
ARU						09 11 47.6			
ARU				S	**S**	**09 18 53.1**	**+3.4**		
ARU				SS	**SS**	**09 23 59.8**	**-1.1**		
ARU				pmax	pmax				
	comp=Z,11nm,1.4s								
ARU	**Arti**	**80.12**	**333**	P	**P**	**09 08 47.3**	**-0.4**		
ARU				IAmb	IAmb	09 09 00.6			
	comp=Z,33nm,1.3s								
NRIK	**Noril'sk**	**81.42**	**351**	P	**P**	**09 08 54.1**	**-0.2**		
	comp=Z,1.8nm,0.5s,baz=161,slow=6.2,SNR=4.7								
NRIK	**Noril'sk**	**81.42**	**351**	*ce*P	**P**	**09 08 54.5**	**+0.1**		
ZEI	**Tsey**	**81.90**	**316**	*e*P	**P**	**09 08 58.6**	**+0.8**		
ZEI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MBAR	**Mbarara**	**82.01**	**271**	*ce*P	**P**	**09 09 02.2**	**+3.3**		
MBAR				pmax	pmax				
	comp=Z,9.0nm,1.3s								
MBAR	**Mbarara**	**82.01**	**271**	P	**P**	**09 09 01.3**	**+2.4**		
LSZ	**Lusaka**	**82.11**	**256**	P	**P**	**09 09 01.3**	**+1.9**		
LSZ				pmax	pmax				
	comp=Z,8.0nm,0.6s								
LSZ	**Lusaka**	**82.11**	**256**	P	**P**	**09 09 01.3**	**+1.9**		
LSZ				IAmb	IAmb	09 09 02.5			
	comp=Z,7.9nm,0.6s								
TIXI	**Tiksi**	**82.53**	**5**	*ce*P	**P**	**09 08 58.7**	**-1.4**		
TIXI	**Tiksi**	**82.53**	**5**	P	**P**	**09 08 59.0**	**-1.1**		
TIXI				IAmb	IAmb	09 09 11.3			
	comp=Z,17nm,0.9s								
BOSA	**Boshof**	**82.92**	**242**	P	**P**	**09 09 05.8**	**+2.5**		
	comp=Z,4.3nm,0.8s,baz=96,slow=5.4,SNR=6.9								
BOSA				LR	LR	09 41 36.8			
	comp=Z,186nm,19.3s,baz=152,slow=32								
BOSA	**Boshof**	**82.92**	**242**	P	**P**	**09 09 01.8**	**-1.5**		
BOSA				IAmb	IAmb	09 09 03.3			
	comp=Z,26nm,1.5s								
KBZ	**Khabaz**	**82.93**	**317**	P	**P**	**09 09 03.9**	**+1.1**		
	comp=Z,2.3nm,0.9s,baz=176,slow=3.3,SNR=3.7								
KIRV	**Kirov**	**85.44**	**332**	*ce*P	**P**	**09 09 15.3**	**+0.1**		
VORD	**Divnogorie**	**87.76**	**323**	*e*P	**P**	**09 09 24.8**	**-1.9**		
VORD				pmax	pmax				
	comp=Z,8.0nm,0.6s								
VSR	**Storozhevoye**	**87.92**	**323**	*e*P	**P**	**09 09 28.0**	**+0.5**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SNAA	**Sanae**	**87.99**	**197**	P	**P**	**09 09 30.6**	**+2.9**		
SNAA	**Sanae**	**87.99**	**197**	P	**P**	**09 09 30.6**	**+2.9**		
	comp=Z,3.4nm,0.6s,baz=152,slow=7.2,SNR=17								
SNAA	**Sanae**	**87.99**	**197**	*ce*P	**P**	**09 09 30.0**	**+2.3**		
SNAA				pmax	pmax				
	comp=Z,12nm,2.5s								
SNAA	**Sanae**	**87.99**	**197**	P	**P**	**09 09 30.8**	**+3.1**		
BR131	**Keskin Array S**	**88.28**	**311**	P	**P**	**09 09 29.7**	**0.0**		
BR131				pmax	pmax				
	comp=Z,6.0nm,0.9s								
BR131	**Keskin Array S**	**88.28**	**311**	P	**P**	**09 09 29.7**	**0.0**		
BR131				IAmb	IAmb	09 09 44.5			
	comp=Z,5.7nm,0.9s								
BRTR	**Keskin Array B**	**88.28**	**311**	P	**P**	**09 09 30.6**	**+0.9**		
	comp=Z,2.8nm,0.8s,baz=133,slow=5.9,SNR=10								
BRTR				LR	LR	09 51 46.2			
	comp=Z,36nm,19.4s,baz=110,slow=38								
BRTR	**Keskin Array B**	**88.28**	**311**	P	**P**	**09 09 31.0**	**+1.3**		
BRTR	**Keskin Array B**	**88.28**	**311**	P	**P**	**09 09 31.0**	**+1.3**		
TBI	**Tubuai**	**93.02**	**114**	*e*LR	LR	09 39 56.3			
	comp=Z,157nm,24.5s								
AKASG	**Malin Array Be**	**93.84**	**321**	LR	LR	09 59 06.7			
	comp=Z,56nm,19.0s,baz=290,slow=40								
PPT2	**Papeete2**	**94.14**	**109**	*e*LR	LR	09 40 22.9			
	comp=Z,116nm,22.8s								
FINES	**FINESS Array B**	**97.41**	**331**	LR	LR	09 59 02.8			
	comp=Z,110nm,19.3s,baz=145,slow=38								
ARCES	**ARCESS Array B**	**98.64**	**339**	LR	LR	10 01 59.4			
	comp=Z,138nm,19.6s,baz=140,slow=40								
ILAR	**Eielson Array**	**103.73**	**26**	Pdiff	**Pdif**	**09 10 38.9**	**-0.4**		
	comp=Z,0.3nm,1.0s,baz=302,slow=5.2,SNR=1.8								
ILAR				PKKPbc	**PKKPbc**	**09 26 31.6**	**-1.7**		
	comp=Z,0.2nm,0.7s,baz=93,slow=1.3,SNR=4.4								
YKA	**Yellowknife Ar**	**117.89**	**23**	PKP	**PKiKP**	**09 15 24.6**	**+0.6**		
	comp=Z,0.8nm,0.6s,baz=358,slow=0.2,SNR=9.1								
NVAR	**Mina Array Bea**	**126.62**	**50**	PKP	**PKiKP**	**09 15 43.8**	**+1.5**		
	comp=Z,0.5nm,0.7s,baz=260,slow=4.1,SNR=4.1								
PDAR	**Pinedale Array**	**131.06**	**41**	PKP	**PKiKP**	**09 15 51.2**	**+0.1**		
	comp=Z,0.2nm,0.5s,baz=241,slow=1.9,SNR=2.1								
TXAR	**Lajitas Array**	**141.13**	**56**	PKhKP	PKPpre	09 16 03.1			
	comp=Z,0.4nm,0.6s,baz=266,slow=2.7,SNR=6.7								
TXAR				PKP	**PKiKP**	**09 16 10.3**	**-1.5**		
	comp=Z,0.7nm,0.6s,baz=242,slow=1.9,SNR=9.3								
CPUP	**Villa Florida**	**142.28**	**195**	PKP	**PKPdf**	**09 16 11.9**	**+0.9**		
	comp=Z,1.1nm,0.6s,baz=214,slow=2.6,SNR=3.6								
CPUP	**Villa Florida**	**142.28**	**195**	PKIKP	**PKPdf**	**09 16 12.0**	**+0.9**		
JCT	**Junction City**	**143.74**	**52**	PKIKP	**PKPdf**	**09 16 12.8**	**-0.8**		
JCT	**Junction City**	**143.74**	**52**	PKPdf	**PKPdf**	**09 16 12.8**	**-0.8**		
MOQ	**Mont Orford**	**144.90**	**6**		**PKPdf**	**09 16 15.1**	**0.0**		
CCM	**Cathedral Cave**	**145.02**	**34**	PKIKP	**PKPdf**	**09 16 14.9**	**-0.6**		
CCM	**Cathedral Cave**	**145.02**	**34**	PKPdf	**PKPdf**	**09 16 14.9**	**-0.6**		
MGMO	**Mountain Grove**	**145.07**	**36**		**PKPbc**	**09 16 14.4**	**-0.7**		
U40A	**Yellville**	**145.27**	**38**		**PKPbc**	**09 16 14.1**	**-1.6**		
N47A	**Urbana**	**145.51**	**25**		**PKPdf**	**09 16 14.7**	**-1.6**		
T42A	**Van Buren**	**145.83**	**35**		**PKPdf**	**09 16 16.2**	**-0.7**		
FCAR	**Ozark Folk Cen**	**146.02**	**38**		**PKPdf**	**09 16 17.1**	**-0.2**		
LCAR	**Lake Charles**	**146.47**	**36**		**PKPdf**	**09 16 17.3**	**-0.7**		
ACSO	**Alum Creek Sta**	**147.14**	**22**		**PKPdf**	**09 16 18.9**	**-0.2**		
WCI	**Wyandotte Cave**	**147.42**	**28**	PKP2	**PKPab**	**09 16 22.7**	**-1.3**		
WCI	**Wyandotte Cave**	**147.42**	**28**		**PKPab**	**09 16 22.7**	**-1.3**		
M56A	**Emporium**	**147.54**	**15**		**PKPbc**	**09 16 22.5**	**+0.2**		
O52A	**Adamsville**	**147.66**	**21**		**PKiKP**	**09 16 23.4**	**-1.3**		
BDFB	**Brasilia**	**147.89**	**217**	PKPbc	**PKPab**	**09 16 26.6**	**+0.1**		
	comp=Z,10.0nm,0.5s,baz=132,slow=2.5,SNR=27								
BDFB	**Brasilia**	**147.89**	**217**	PKP2	**PKPab**	**09 16 27.4**	**+0.8**		
BDFB	**Brasilia**	**147.89**	**217**		**PKPab**	**09 16 27.4**	**+0.8**		
Q51A	**Peebles**	**148.04**	**24**	PKPdf	**PKPdf**	**09 16 18.9**	**-1.7**		
Q51A					**PKPbc**	**09 16 23.2**	**-0.5**		
W45A	**Hickory Valley**	**148.25**	**36**		**PKPab**	**09 16 26.7**	**-0.7**		
WVT	**Waverly**	**148.28**	**33**	PKP2	**PKPbc**	**09 16 24.7**	**+0.3**		
WVT	**Waverly**	**148.28**	**33**		**PKPbc**	**09 16 24.7**	**+0.3**		
OXF	**Oxford**	**148.58**	**37**	PKP2	**PKPbc**	**09 16 24.2**	**-1.1**		
OXF	**Oxford**	**148.58**	**37**		**PKPbc**	**09 16 24.2**	**-1.1**		
PLAL	**Pickwick Lake**	**149.00**	**34**		**PKPbc**	**09 16 25.6**	**-0.7**		
CLTN	**Cedars of Leba**	**149.09**	**31**		**PKPbc**	**09 16 26.8**	**+0.2**		
SWET	**Sewanee**	**149.97**	**32**	PKPdf	**PKPdf**	**09 16 23.2**	**-0.7**		
SWET					**PKPbc**	**09 16 27.1**	**-1.7**		
LRAL	**Lakeview Retre**	**151.03**	**36**		**PKPbc**	**09 16 30.4**	**-0.9**		
T59A	**Double "B" Far**	**151.92**	**18**		**PKiKP**	**09 16 33.3**	**-0.3**		
LPAZ	**La Paz**	**153.52**	**178**	PKPbc	**PKiKP**	**09 16 40.4**	**+2.2**		
	comp=Z,1.3nm,0.5s,baz=252,slow=5.1,SNR=11								
LPAZ	**La Paz**	**153.52**	**178**	PKIKP	**PKPbc**	**09 16 36.5**	**-1.6**		
LPAZ	**La Paz**	**153.52**	**178**		**PKPbc**	**09 16 36.5**	**-1.6**		

TAP 26 09:03:16.0, 23.64N×120.81E, h87km±1km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WHYT	**Xinyi Township**	**0.07**	**33**	*e*P			Pn	09 03 28.5	+0.2
	baz=32								
ALS	**Alishan**	**0.13**	**183**	*e*P			Pn	09 03 28.6	-0.2
	baz=180								
CHN5	**Tsauling**	**0.13**	**251**	*e*P			Pn	09 03 28.6	+0.2
	baz=252								
SSLB	**Suanglung**	**0.20**	**41**	*i* P			Pn	09 03 28.8	+0.2
	baz=41								
SSLB	**Suanglung**	**0.20**	**41**	P			Pn	09 03 29.3	+0.7
WJS	**Zhushan**	**0.20**	**337**	*e*P			Pn	09 03 28.9	+0.3
	baz=337								
VWDT	**VWDT**	**0.32**	**69**	*i* P			Pn	09 03 29.8	+0.7
	baz=69								
VWDT				*e*S			Sn	09 03 39.9	+1.0
	baz=69								
OWD	**Renai**	**0.46**	**47**	*e*P			Pn	09 03 31.0	+0.7
	baz=46								
OWD				*e*S			Sn	09 03 41.5	+0.7
	baz=46								
CHGB	**Renai**	**0.53**	**38**	*e*P			Pn	09 03 31.8	+0.8
	baz=38								
CHGB				*e*S			Sn	09 03 42.5	+0.4
	baz=38								

NNC 26 09:03:27.4±1.5, 52.87N×87.50E, h8km±8km, mb3.6, mpv3.2, 5C-5D, Error ellipse: s-maj=8.9km s-min=5.5km az=87.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.93**	**305**	⇓P			Pn	09 04 00.4	-0.1
	1.6nm,0.3s								
ZAA0				⇑Lg			Lg	09 04 29.1	
	6.5nm,0.6s								
KURBB	**Kurchatov Arra**	**6.01**	**252**	⇓P			Pn	09 04 57.2	+0.7
	1.6nm,0.5s								
KURBB				⇑Sn			Sn	09 06 06.5	+1.1
	5.0nm,0.8s								
KURBB				⇑Lg			Lg	09 06 37.3	
	21nm,0.9s								
MK31	**Makanchi Array**	**6.95**	**211**	⇑Pn			Pn	09 05 10.1	+0.6
	2.2nm,0.6s,baz=30,slow=13,SNR=74								
MK31				⇓Sn			Sn	09 06 30.1	+1.4
	2.9nm,0.7s,baz=36,slow=24,SNR=8.6								
MAKZ	**Makanchi**	**7.04**	**213**	⇓Pn			Pn	09 05 10.3	-0.5
	2.1nm,0.6s								
MAKZ				⇓Sn			Sn	09 06 31.7	+0.8
	4.2nm,0.7s								
MAKZ				⇑Lg			Lg	09 07 09.6	
	5.1nm,0.8s								

*IDC **26** 09:06:03.3±2.7, 9.97S×113.16E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/47, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=143.6km s-min=18.6km az=50.0*
*NEIC **26** 09:06:05.8±1.8, 10.37S±0.09×112.77E±0.07, h25km±8km, mb4.1/11, Error ellipse: s-maj=12.8km s-min=9.2km az=191.0*

ISC 26 09:06:06.7±0.7, 10.33S±0.09×112.84E±0.09, h35km, n31, σ1s26/28, mb4.0/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.26**	**35**				**Pn**	**09 06 41.5**	**-0.2**
UGM	**Wanagama**	**3.32**	**316**				**Pn**	**09 06 55.0**	**-1.2**
XMIS	**Christmas Isla**	**7.07**	**268**	Pn			**Pn**	**09 07 45.5**	**-2.3**
MMRI	**Maumere**	**9.42**	**80**	Pn			**Pn**	**09 08 18.3**	**-1.8**
MNAI	**Manna**	**11.46**	**300**	Pn			**Pn**	**09 08 47.4**	**-0.6**
GIRL	**Giralia**	**12.31**	**174**	Pn			**Pn**	**09 08 59.1**	**-0.6**
PSA00	**Pilbara Seismi**	**13.04**	**150**	Pn			**Pn**	**09 09 09.7**	**0.0**
FITZ	**Fitzroy Crossi**	**14.61**	**123**	Pn			**Pn**	**09 09 28.9**	**-2.0**
	0.2nm,0.3s,baz=308,slow=14,SNR=2.2								
FITZ	**Fitzroy Crossi**	**14.61**	**123**	Pn			**Pn**	**09 09 28.6**	**-2.3**
GSI	**Gunungsitoli**	**19.09**	**306**	P			**Pn**	**09 10 27.7**	**+0.1**
GSI				IAmb			IAmb	09 10 36.7	
	comp=Z,27nm,1.5s								
WB0	**Warramunga Arr**	**22.80**	**117**	P			**P**	**09 11 07.4**	**+0.7**
WB0				IAmb			IAmb	09 11 16.9	
	comp=Z,3.4nm,0.7s								
WRA	**Warramunga Arr**	**22.82**	**117**	P			**P**	**09 11 07.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=290,slow=11,SNR=8.0								
WRA	**Warramunga Arr**	**22.82**	**117**	P			**P**	**09 11 07.6**	**+0.7**
WRAB	**Tennant Creek**	**22.83**	**117**	P			**P**	**09 11 08.2**	**+1.3**
WRAB				IAmb			IAmb	09 11 17.2	
	comp=Z,5.1nm,0.8s								
WB2	**Warramunga Arr**	**22.83**	**117**	P			**P**	**09 11 07.7**	**+0.7**
WB2				IAmb			IAmb	09 11 17.0	
	comp=Z,3.4nm,0.7s								
WR0	**Warramunga Arr**	**23.00**	**117**	P			**P**	**09 11 09.5**	**+0.8**
ASAR	**Alice Springs**	**24.07**	**126**	P			**P**	**09 11 20.4**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=303,slow=9.4,SNR=15								
ASAR	**Alice Springs**	**24.07**	**126**	P			**P**	**09 11 20.1**	**+1.1**
AS31	**Alice Springs**	**24.07**	**126**	P			**P**	**09 11 21.1**	**+2.0**
CMAR	**Chiang Mai Arr**	**31.73**	**334**	P			**P**	**09 12 28.4**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=172,slow=7.3,SNR=1.4								
STKA	**Stephens Creek**	**34.15**	**133**	P			**P**	**09 12 50.6**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=276,slow=8.8,SNR=3.2								
STKA	**Stephens Creek**	**34.15**	**133**	P			**P**	**09 12 50.2**	**+1.5**
H08S2	**Diego Garcia H**	**39.92**	**270**	T			T	09 56 07.9	
	baz=96								
H08S3	**Diego Garcia H**	**39.93**	**270**	T			T	09 56 11.4	
	baz=96								
H08S1	**Diego Carcia H**	**39.94**	**270**	T			T	09 56 13.6	
	baz=96								
SONM	**Songino Array**	**58.19**	**355**	P			**P**	**09 15 56.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=164,slow=7.5,SNR=2.3								
SONM	**Songino Array**	**58.19**	**355**	P			**P**	**09 15 57.1**	**-0.2**
MK31	**Makanchi Array**	**63.08**	**337**	P			**P**	**09 16 30.8**	**+0.1**
MK31				IAmb			IAmb	09 16 45.6	
	comp=Z,2.2nm,1.4s								
MKAR	**Makanchi Array**	**63.08**	**337**	P			**P**	**09 16 30.4**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=152,slow=7.7,SNR=6.4								
KK31	**Karatay Array**	**65.70**	**327**	P			**P**	**09 16 48.9**	**+1.0**
ABKAR	**Akbulak array**	**75.27**	**327**	P			**P**	**09 17 45.8**	**-0.3**

*BJI **26** 09:07:19.1±0.0, 11.10S×112.84E, h37km, mB5.1/33, mb4.9/44, Ms4.7/23, Ms7 4.4/23*
*IDC **26** 09:07:21.5±0.5, 10.10S×112.92E, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.3/42, mbtmp4.4/26, ML4.1/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/33, Error ellipse: s-maj=17.4km s-min=11.8km az=68.0*
*GCMT **26** 09:07:23.0±0.4, 10.23S±0.03×112.87E±0.05, h26km±1km, MW4.8/65, Moment Tensor Solution. s16,c16; s65,c84; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.11±.19; Mθθ 1.61±.12; Mϕϕ 0.50±.12; Mrθ 1.21±.19; Mϕθ 0.44±.07; Mϕr-0.26±.27; Best double couple: Mo2.28200×10^16 NP1:ϕs62.00000°, δ31.00000°, λ-110.00000°. NP2: ϕs265.00000°, δ61.00000°, λ-78.00000°. Principal axes: T 2.0490, Plg15.0000°, Azm347.0000°; N 0.4710, Plg10.0000°, Azm79.0000°; P -2.5150, Plg72.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 09:07:25.0±2.2, 10.32S±0.06×112.79E±0.05, h30km±4km, mb4.9/56 Error ellipse: s-maj=9.4km s-min=7.6km az=177.0*
*DJA **26** 09:07:27.3±0.9, 10°S±3°×11°3E±°, h28km±8km, M5.0/16, mb5.0/16, mB5.4/6, MLv5.0/12, Mw(mB)4.9/6*

ISC 26 09:07:26.2±0.3, 10.32S±0.04×112.80E±0.05, h35km, n200, σ1s74/197, mb4.8/57, MS4.2/13, 4C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.27**	**36**	P			**Pn**	**09 08 01.4**	**+0.1**

comp=Z,18nm,1.2s,baz=352,slow=14,SNR=1.7
NWAO LR LR 09 22 50.5
comp=Z,297nm,18.1s,baz=304,slow=40
NWAO Narrogin (SRO) 22.87 170 P **P** **09 12 27.7 +1.1**
WRAB Tennant Creek 22.87 117 P **P** **09 12 26.2 -0.6**
WRAB IAmb IAmb 09 12 36.2
comp=Z,29nm,0.8s
WB2 Warramunga Arr 22.87 117 P **P** **09 12 26.4 -0.5**
WB2 IAmb IAmb 09 12 38.5
comp=Z,50nm,1.2s
WR0 Warramunga Arr 23.04 117 P **P** **09 12 28.0 -0.6**
WR0 IAmb IAmb 09 12 41.8
comp=Z,70nm,1.2s
ASAR Alice Springs 24.11 126 P **P** **09 12 39.4 +0.5**
comp=Z,6.6nm,0.6s,baz=304,slow=9.8,SNR=26
ASAR PcP **PcP** **09 16 21.0 +1.3**
comp=Z,2.5nm,0.9s,baz=294,slow=1.2,SNR=6.1
ASAR Alice Springs 24.11 126 P **P** **09 12 38.5 -0.3**
AS31 Alice Springs 24.11 126 P **P** **09 12 39.1 +0.3**
FORT Forrest 24.81 147 P **P** **09 12 47.3 +2.2**
FORT IAmb IAmb 09 13 00.5
comp=Z,50nm,1.1s
QIZ Qiongzhong 29.31 354 P **P** **09 13 25.8 +0.2**
QIZ S **S** **09 18 21.5 +4.8**
QIZ LR LR
comp=Z,380nm,16.7s
QIZ LR LR
comp=Z,330nm,19.6s
QIZ LR LR
comp=Z,380nm,16.7s
CM31 Chiang Mai Arr 31.70 334 P **P** **09 13 46.7 0.0**
CM31 IAmb IAmb 09 13 58.3
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 31.70 334 P **P** **09 13 46.9 +0.1**
comp=Z,4.2nm,0.8s,baz=170,slow=8.0,SNR=16
CMAR PcP **PcP** **09 16 40.2 +2.1**
comp=Z,0.8nm,0.3s,baz=194,slow=2.3,SNR=2.2
CMAR LR LR 09 27 56.4
comp=Z,319nm,18.0s,baz=201,slow=39
CMAR Chiang Mai Arr 31.70 334 P **P** **09 13 46.0 -0.7**
CHTO Chiang Mai 32.01 335 P **P** **09 13 48.4 -1.1**
CHTO IAmb IAmb 09 14 00.3
comp=Z,11nm,1.0s
STKA Stephens Creek 34.19 133 P **P** **09 14 09.5 +1.1**
comp=Z,7.3nm,0.7s,baz=300,slow=10,SNR=10
STKA LR LR 09 27 55.0
comp=Z,188nm,21.6s,baz=303,slow=36
STKA Stephens Creek 34.19 133 P **P** **09 14 10.0 +1.6**
baz=34,SNR=7.4
STKA Stephens Creek 34.19 133 P **P** **09 14 08.3 -0.1**
SSLB Suanglung 34.83 13 P **P** **09 14 14.0 +0.1**
SSLB IAmb IAmb 09 14 24.3
comp=Z,22nm,0.8s
NACB Ninganchiao 35.34 14 P **P** **09 14 18.0 -0.4**
PALK Pallekele 36.43 297 P **P** **09 14 28.5 +0.6**
comp=Z,5.6nm,0.8s,baz=251,slow=8.3,SNR=5.3
PALK Pallekele 36.43 297 P **P** **09 14 28.2 +0.3**
PALK IAmb IAmb 09 14 40.3
comp=Z,11nm,1.0s
KMI Kunming 36.57 345⫛ *eP* **P** **09 14 30.0 +0.9**
KMI pP pwP 09 14 41.5 -0.4
KMI sP sP 09 14 45.0 +2.6
KMI pmax pmax
comp=Z,16nm,0.6s
GYA Guiyang 37.04 351 *eP* **P** **09 14 32.8 -0.2**
GYA pP pP 09 14 43.3 +0.9
GYA S **S** **09 20 22.0 +5.3**
GYA pmax pmax
comp=Z,9.0nm,0.7s
GYA LR LR
comp=Z,190nm,18.7s
GYA LR LR
comp=Z,250nm,17.1s
GYA LR LR
comp=Z,340nm,17.2s
H08S2 Diego Garcia H 39.88 270 T T 09 57 22.0
baz=96,slow=74,SNR=21
H08S3 Diego Garcia H 39.89 270 T T 09 57 22.6
baz=96,slow=74,SNR=30
H08S1 Diego Carcia H 39.90 270 T T 09 57 24.5
baz=96,slow=74,SNR=14
ENH Enshi 40.48 356 P **P** **09 15 00.3 -1.4**
WHN Wuhan 40.66 2 ⇓P P 09 15 13.0 +10
WHN S **S** **09 21 15.8 +5.0**
WHN pmax pmax
comp=Z,110nm,1.0s
WHN LR LR
comp=Z,560nm,23.5s
SHL Shillong 41.08 331 P **P** **09 15 05.9 -1.0**
CD2 Chengdu 41.90 348 P **P** **09 15 13.0 -0.4**
CD2 pP pP 09 15 23.3 +0.4
CD2 S **S** **09 21 35.0 +5.5**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,220nm,5.1s
CD2 LR LR
comp=Z,420nm,16.4s
CD2 LR LR
comp=Z,310nm,17.6s
CD2 LR LR
comp=Z,420nm,15.6s
NJ2 Nanjing 42.53 8 *eP* **P** **09 15 20.3 +1.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
HYB Hyderabad 43.64 309 *i* P **P** **09 15 26.0 -1.7**
HYB *e* 09 15 36.5
XAN Xi'an 44.27 355 P P 09 15 41.5 +9.0
XAN pP sP 09 15 50.5 +4.6
XAN pmax pmax
comp=Z,65nm,0.8s
XAN Xi'an 44.27 355 P **P** **09 15 32.0 -0.5**
ODAN Odare 44.44 327 *eP* **P** **09 15 34.0 -0.2**
TAPN Taplejung 44.66 328 *eP* **P** **09 15 36.1 +0.1**
comp=Z,21nm,0.6s
LSA Lhasa 44.93 333 P **P** **09 15 38.6 +0.2**
PKI Pulchoki 46.08 325 *eP* **P** **09 15 46.3 -1.0**
comp=Z,9.2nm,0.5s
GUN Gumba 46.09 326 *eP* **P** **09 15 46.8 -0.6**
comp=Z,43nm,0.6s
PKIN Phulchoki 46.09 325 *eP* **P** **09 15 46.9 -0.5**
comp=Z,14nm,0.4s
DMN Daman 46.28 325 *eP* **P** **09 15 48.4 -0.4**
comp=Z,20nm,0.5s
GKN Gorkha 46.85 325 *eP* **P** **09 15 52.9 -0.2**
comp=Z,28nm,0.5s
LZH Lanzhou 46.92 350 *eP* **P** **09 15 54.0 +0.4**
LZH pP pP 09 16 00.8 -2.3
LZH *eS* **S** **09 22 48.0 +5.5**
LZH sS sS 09 23 02.5 +4.4
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,1μm,11.4s
LZH LR LR
comp=Z,1μm,13.3s
LZH LR LR
comp=Z,1μm,16.0s
KOLN Koldanda 47.26 324 *eP* **P** **09 15 55.3 -1.1**
comp=Z,31nm,0.5s
DANN Dangsing 47.61 325 *eP* **P** **09 15 59.0 -0.2**
comp=Z,42nm,0.5s
PYUN Piuthan 47.86 324 *eP* **P** **09 16 01.0 -0.1**
comp=Z,21nm,0.5s
POO Poona 47.94 307 *ex* P 09 16 07.0 +5.3
JMN Monobe 48.18 24 **P** **09 16 03.3 0.0**
KSAR Wonju Array Be 49.57 16 P **P** **09 16 13.3 -0.5**
KSRS Korea Array 49.60 16 P **P** **09 16 12.8 -1.2**
comp=Z,1.3nm,0.8s,baz=200,slow=9.5,SNR=4.4
JWT Wachi 50.14 24 P **P** **09 16 17.8 -0.4**
JWT IAmb IAmb 09 16 30.0
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 50.93 359 *eP* **P** **09 16 28.5 +4.3**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.2s
GTA Gaotai 50.93 347 *eP* **P** **09 16 24.5 +0.3**
GTA pP pP 09 16 34.8 +0.9
GTA sP pwP 09 16 38.8 +1.2
GTA SS **SS** **09 27 11.3 -2.9**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,68nm,6.6s
GTA LR LR
comp=Z,190nm,16.4s
GTA LR LR
comp=Z,250nm,16.4s
GTA LR LR
comp=Z,260nm,17.4s
JGF Kuroka 51.23 26 P **P** **09 16 26.5 0.0**
JGF IAmb IAmb 09 16 41.1
comp=Z,10.0nm,0.8s
MAJO Matsushiro 52.39 26 P **P** **09 16 34.9 -0.1**
MAJO IAmb IAmb 09 16 55.5
comp=Z,9.4nm,0.9s
MAT Matsushiro 52.39 26 P **P** **09 16 34.8 -0.3**
MJAR Matsushiro Arr 52.39 26 P **P** **09 16 33.6 -1.5**
comp=Z,1.0nm,0.4s,baz=211,slow=6.6,SNR=5.9
DZM Mont Dzumac 52.59 110 LR LR 09 40 47.8
comp=Z,126nm,19.5s,baz=217,slow=38
JMM Marumori 54.63 27 P **P** **09 16 50.7 -0.8**
CN2 Changchun 55.08 11 *eP* **P** **09 16 57.8 +3.2**
USA0B Ussuriysk Arra 56.99 16 P **P** **09 17 07.7 -0.6**
USRK Ussuriysk Ar. 56.99 16 P **P** **09 17 06.8 -1.5**
comp=Z,8.5nm,0.8s,baz=198,slow=6.4,SNR=11
USRK Ussuriysk Ar. 56.99 16 P **P** **09 17 07.0 -1.2**
NIL Nilore 57.67 321 P **P** **09 17 11.8 -1.6**
NIL IAmb IAmb 09 17 22.5
comp=Z,12nm,0.8s
ULN Ulaanbaatar 58.15 355 P **P** **09 17 14.9 -1.6**
ULN IAmb IAmb 09 17 26.7
comp=Z,14nm,0.8s
SONM Songino Array 58.18 355 P **P** **09 17 15.6 -1.1**
comp=Z,1.8nm,0.4s,baz=175,slow=8.0,SNR=12
SONM Songino Array 58.18 355 P **P** **09 17 15.7 -1.0**
WMQ Urumqi 58.52 339 *eP* **P** **09 17 20.0 +0.9**
WMQ pP pP 09 17 29.5 +0.6
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,120nm,6.5s
ERM Erimo 59.07 26 P **P** **09 17 22.4 -0.4**
RPZ Rata Peaks 59.13 135 LR LR 09 43 06.9
comp=Z,157nm,18.3s,baz=220,slow=36
KSH Kashi 60.23 328 P **P** **09 17 33.5 +2.4**
KSH S **S** **09 25 44.3 +1.4**
KSH pmax pmax
comp=Z,16nm,1.2s
KSH pmax pmax
comp=Z,130nm,5.2s
KSH LR LR
comp=Z,230nm,10.2s
KSH LR LR
comp=Z,190nm,7.8s
KSH LR LR
comp=Z,290nm,5.6s
KBL Kabul 60.91 319 P **P** **09 17 34.2 -1.7**
KBL IAmb IAmb 09 17 49.0
comp=Z,6.3nm,0.7s
SHLS Shalkode 61.30 333 *eP* **P** **09 17 35.6 -2.7**
UZB Uzynbulak 61.49 332 *eP* **P** **09 17 37.3 -2.3**
KDJ Kajisay 61.57 330 P **P** **09 17 39.4 -0.8**
KLR Kul'dur 61.60 14 P **P** **09 17 38.4 -1.6**
comp=Z,1.1nm,0.5s,baz=140,slow=8.6,SNR=3.6
SATY Saty 61.70 332 *eP* **P** **09 17 38.3 -2.8**
KPKS Kokpek 61.89 332 *eP* **P** **09 17 39.7 -2.5**
TNSS Tian-Shan 62.37 331 *eP* **P** **09 17 44.8 -1.1**
MDOK Medeo 62.42 331 *eP* **P** **09 17 44.5 -1.4**
BOOM Boomskoye usch 62.45 330 P **P** **09 17 44.7 -1.4**
BOOM IAmb IAmb 09 17 59.2
comp=Z,13nm,0.9s
ZSN Zaisan 62.66 339 *eP* **P** **09 17 44.7 -2.5**
GAR Garm 63.01 324 P **P** **09 17 48.3 -1.5**
MK31 Makanchi Array 63.05 337 P **P** **09 17 48.4 -1.5**
MK31 IAmb IAmb 09 18 00.3
comp=Z,7.1nm,0.8s
MKAR Makanchi Array 63.05 337 P **P** **09 17 49.0 -0.8**
comp=Z,2.9nm,0.5s,baz=149,slow=6.7,SNR=35
MKAR Makanchi Array 63.05 337 P **P** **09 17 48.9 -1.0**
KUU Kurty 63.31 331 *eP* **P** **09 17 49.6 -2.0**
CHGR Chuyangaron 63.46 323 P **P** **09 17 50.6 -2.2**
SGDS Sogindy 63.81 330 *eP* **P** **09 17 52.2 -2.8**
BTLS Baital 65.26 331 *eP* **P** **09 18 02.4 -1.9**
IUG Iuzhnay 65.28 326 *eP* **P** **09 18 02.7 -1.9**
KK31 Karatay Array 65.67 327 P **P** **09 18 06.7 -0.3**
KK31 IAmb IAmb 09 18 19.2
comp=Z,10nm,1.1s
KKAR Karatay Array 65.67 327 P **P** **09 18 06.8 -0.3**
KKAR IAmb IAmb 09 18 19.2
comp=Z,10nm,1.1s
MAW Mawson 65.97 199 P **P** **09 18 10.5 +1.9**
comp=Z,3.5nm,1.1s,baz=31,slow=5.9,SNR=4.3
MAW Mawson 65.97 199 P **P** **09 18 10.5 +1.9**
KURK Kurchatov 67.66 337 P **P** **09 18 18.4 -1.1**
KURK IAmb IAmb 09 18 30.1
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 68.28 343 P **P** **09 18 22.2 -1.2**
comp=Z,2.8nm,0.7s,baz=142,slow=7.3,SNR=3.7
ZALV Zalesovo Beam 68.28 343 P **P** **09 18 21.9 -1.4**
BRZS Berezniki 69.52 334 *eP* **P** **09 18 29.0 -2.3**
GEYT Alibeck 70.07 317 P **P** **09 18 35.0 +0.1**
comp=Z,14nm,1.0s,baz=177,slow=7.4,SNR=11
GEYT Alibeck 70.07 317 P **P** **09 18 34.6 -0.3**
GYA0B ALIBECK ARRAY 70.07 317 P **P** **09 18 34.6 -0.3**
BRVK Borovoye 72.79 335 P **P** **09 18 50.1 -0.9**
BRVK IAmb IAmb 09 19 02.3
comp=Z,13nm,1.0s
YAK Yakutsk 73.33 8 P **P** **09 18 52.7 -1.1**
comp=Z,3.0nm,0.3s,baz=180,slow=3.0,SNR=5.1
YAK Yakutsk 73.33 8 P **P** **09 18 52.3 -1.6**
PETK Petropavlovsk- 73.85 26 P **P** **09 18 56.9 -0.2**
comp=Z,5.0nm,0.9s,baz=224,slow=6.0,SNR=2.6
PETK Petropavlovsk- 73.85 26 P **P** **09 18 56.4 -0.8**
SYO Syowa Base 74.42 201⫛ *eP* **P** **09 19 00.4 +0.1**
SYO Syowa Base 74.42 201⫛ *epP* pP 09 19 10.0 +0.1
SYO Syowa Base 74.42 201⫛ *esP* sP 09 19 14.2 +0.8
SYO Syowa Base 74.42 201⫛ *ePcP* **PcP** **09 19 17.6 +2.8**
AB01 Akbulak array 75.24 327 P **P** **09 19 04.6 -0.7**
ABKAR Akbulak array 75.24 327 P **P** **09 19 04.2 -1.1**
AB09 Akbulak array 75.25 327 P **P** **09 19 04.5 -0.9**
AKTO Aktyubinsk 76.94 328 P **P** **09 19 15.6 +0.6**
comp=Z,1.6nm,0.5s,baz=118,slow=9.6,SNR=5.5
QSPA South Pole Qui 79.68 180 P **P** **09 19 31.7 +1.6**
comp=Z,7.3nm,1.0s,baz=314,slow=3.0,SNR=12
QSPA South Pole Qui 79.68 180 P **P** **09 19 31.5 +1.3**
QSPA IAmb IAmb 09 19 43.4
comp=Z,14nm,1.2s
ARU Arti 80.13 333 P **P** **09 19 29.6 -2.7**
ARU IAmb IAmb 09 19 44.1
comp=Z,17nm,1.1s
NRIK Noril'sk 81.40 351 P **P** **09 19 38.5 -0.5**
comp=Z,1.5nm,0.5s,baz=149,slow=5.5,SNR=5.1
MBAR Mbarara 82.08 271 P **P** **09 19 46.0 +2.0**
MBAR IAmb IAmb 09 19 47.3
comp=Z,11nm,1.1s
LSZ Lusaka 82.19 256 P **P** **09 19 45.7 +1.2**
LSZ IAmb IAmb 09 19 57.9
comp=Z,7.0nm,0.9s
TIXI Tiksi 82.49 5 P **P** **09 19 42.8 -1.8**
KBZ Khabaz 82.96 317 P **P** **09 19 47.9 +0.2**
comp=Z,3.5nm,1.0s,baz=128,slow=7.4,SNR=3.8
SNAA Sanae 88.04 197 P **P** **09 20 14.8 +2.2**
SNAA Sanae 88.04 197 P **P** **09 20 14.6 +2.0**
comp=Z,4.1nm,0.9s,baz=120,slow=8.6,SNR=9.8
SNAA Sanae 88.04 197 P **P** **09 20 14.1 +1.5**
SNAA IAmb IAmb 09 20 15.8
comp=Z,12nm,1.3s
BRTR Keskin Array B 88.31 311 P **P** **09 20 14.7 +0.1**
comp=Z,3.4nm,1.0s,baz=134,slow=5.3,SNR=7.3
BRTR Keskin Array B 88.31 311 P **P** **09 20 14.2 -0.4**
AKASG Malin Array Be 93.86 321 P **P** **09 20 40.4 +0.5**
comp=Z,0.1nm,0.3s,baz=86,slow=3.8,SNR=1.5
TORD Torodi Ar. Bea 112.67 280 PKiKP **PKiKP** **09 26 01.0 +1.0**
comp=Z,0.5nm,1.0s,baz=198,slow=3.0,SNR=2.6
TORD Torodi Ar. Bea 112.67 280 **PKiKP** **09 26 00.3 +0.3**
YKA Yellowknife Ar 117.83 23 PKP **PKiKP** **09 26 09.0 +0.4**
comp=Z,1.1nm,0.9s,baz=288,slow=0.6,SNR=2.9
NVAR Mina Array Bea 126.55 50 PKP **PKiKP** **09 26 27.8 +0.9**
comp=Z,0.4nm,0.8s,baz=273,slow=1.5,SNR=2.3
NVAR Mina Array Bea 126.55 50 **PKPdf** **09 26 25.4 -1.0**
QLMT Earthquake Lak 128.81 40 **PKPdf** **09 26 29.8 -0.7**
TXAR Lajitas Array 141.06 56 PKP **PKPdf** **09 26 53.8 +0.2**
comp=Z,0.8nm,0.9s,baz=259,slow=1.8,SNR=2.9
TXAR Lajitas Array 141.06 56 **PKPdf** **09 26 51.6 -2.0**
CPUP Villa Florida 142.32 195 PKP **PKPdf** **09 26 56.0 +0.1**
comp=Z,1.4nm,1.1s,baz=180,slow=2.0,SNR=2.4
CPUP Villa Florida 142.32 195 **PKPdf** **09 26 54.2 -1.7**
MGMO Mountain Grove 145.00 36 **PKPbc** **09 26 58.2 -1.3**
BDFB Brasilia 147.96 217 PKPbc **PKiKP** **09 27 10.8 -0.1**
comp=Z,1.1nm,1.0s,baz=147,slow=4.7,SNR=11
BDFB Brasilia 147.96 217 **PKiKP** **09 27 10.1 -0.8**
LPAZ La Paz 153.54 178 PKPbc **PKiKP** **09 27 24.6 +1.7**
comp=Z,1.7nm,0.9s,baz=350,slow=0.9,SNR=5.5

*ISK **26** 09:13:47.9, 36˚.03N×31˚.31E, h20km, ML2.6/10*
*NIC **26** 09:13:50.8±0.0, 35˚.94N×31˚.60E, h79km±4km, Ml2.3/2*
ISC 26 09:13:49.7±6.6**, 36˚.00N**±0˚.04×**31˚.34E**±0˚.05**, h38**km±8km**,
n17, σ0°**91**/23**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALAN	**Alanya-ANTALYA**	**0.79**	**45**	PG	**Pn**	**09 14 04.3**	**0.0**
GAZI	**Gazipasa**	**0.82**	**73**	PG	**Pn**	**09 14 04.8**	**0.0**
GAZI				SG	**Sn**	**09 14 16.8**	**+1.0**
AKMS	**Akamas**	**1.27**	**140**	P	**Pn**	**09 14 11.4**	**+0.5**
AKMS				S	**Sn**	**09 14 27.3**	**+0.6**
AKMS				AML	AML	09 14 28.1	
	0.2nm,0.4s						
AKMS				AML	AML	09 14 28.1	
	0.2nm,0.4s						
ALFC	**Alefka**	**1.33**	**129**	P	**Pn**	**09 14 11.2**	**-0.4**
ALFC				S	**Sn**	**09 14 27.5**	**-0.6**
ALFC				AML	AML	09 14 28.5	
	0.2nm,0.2s						
ALFC				AML	AML	09 14 28.5	
	0.2nm,0.2s						
ALFC				AML	AML	09 14 34.8	
	0.2nm,0.5s						
ALFC				AML	AML	09 14 34.8	
	0.2nm,0.5s						
TEKE	**Tekeli-Mersin**	**1.44**	**84**	PN	**Pn**	**09 14 13.9**	**+0.7**
SEYD	**Seydisehir-KON**	**1.46**	**16**	PN	**Pn**	**09 14 13.8**	**+0.2**
SEYD				SN	**Sn**	**09 14 32.1**	**+0.6**
BERE	**Bereket-Mersin**	**1.56**	**77**	PN	**Pn**	**09 14 15.7**	**+0.7**
TEVE	**Tevekalti-Mers**	**1.75**	**75**	PN	**Pn**	**09 14 18.3**	**+0.7**
SZAC	**Souni**	**1.77**	**134**	P	**Pn**	**09 14 17.7**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.80**	**84**	PN	**Pn**	**09 14 18.7**	**+0.6**
CAME	**Cameli-Denizli**	**1.90**	**300**	PN	**Pn**	**09 14 19.6**	**0.0**
IKL	**Isikli**	**1.91**	**82**	PN	**Pn**	**09 14 20.8**	**+1.1**
FETY	**Fethiye**	**1.93**	**290**	PN	**Pn**	**09 14 19.6**	**-0.4**
KEBE	**Keben-Mersin**	**1.97**	**76**	PN	**Pn**	**09 14 21.5**	**+0.9**
MVOU	**Mavrovouni**	**2.11**	**117**	P	**Pn**	**09 14 21.5**	**-0.9**
MVOU				S	**Sn**	**09 14 45.8**	**-1.6**
OSC1	**CSNet OBS 1**	**2.49**	**181**	S	**Sn**	**09 14 59.0**	**+2.1**
OSC2	**CSNet OBS 4**	**3.02**	**165**	P	**Pn**	**09 14 35.6**	**+0.7**
OSC2				S	**Sn**	**09 15 10.5**	**+0.8**

*NEIC **26** 09:36:05.0±2.1, 32˚.02S±0˚.07×177˚.4W±0˚.1, h50km±9km, mb4.5/18, Error ellipse: s-maj=14.8km s-min=9.9km az=88.0*
*IDC **26** 09:36:14.1±2.3, 31˚.57S×178˚.55W, h64km±22km, mb4.1/6, mb1 4.3/8, mb1mx4.0/30, mbtmp4.4/8, MS3.0/2, Ms1 3.0/2, ms1mx2.8/29, Error ellipse: s-maj=22.6km s-min=16.8km az=110.0*
ISC 26 09:36:09.5±0.6**, 31˚.95S**±0˚.06×**178˚.2W**±0˚.1**, h35**km**, n126**, σ2°13**/133**, mb4.5/12**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.69**	**5**	P	**Pn**	**09 36 50.3**	**+0.1**
RAO	**Raoul Island**	**2.70**	**5**	P	**Pn**	**09 36 50.8**	**+0.4**
	78nm,0.3s,baz=64,slow=23,SNR=2.8						
RAO				S	**Sn**	**09 37 19.3**	**-2.5**
	337nm,0.3s,baz=9.5,slow=23,SNR=5.9						
RAO				LR	LR	09 37 34.0	
	comp=Z,170nm,20.5s,baz=102,slow=34						
RAO	**Raoul Island**	**2.70**	**5**	Pn	**Pn**	**09 36 50.6**	**+0.2**
RAO				Sn	**Sn**	**09 37 18.4**	**-3.4**
RIZ	**Raoul Island**	**2.70**	**5**	P	**Pn**	**09 36 50.9**	**+0.5**
MXZ	**Matakaoa Point**	**6.30**	**206**	P	**Pn**	**09 37 40.8**	**+0.8**
MXZ				S	**Sn**	**09 38 49.3**	**-1.4**
MXZ	**Matakaoa Point**	**6.30**	**206**	Pn	**Pn**	**09 37 41.3**	**+1.4**
WMGZ	**Waiomatatini S**	**6.49**	**205**	P	**Pn**	**09 37 43.8**	**+1.3**
WMGZ				S	**Sn**	**09 38 54.4**	**-0.9**
PKGZ	**Pakihiroa**	**6.68**	**206**	P	**Pn**	**09 37 53.2**	**+8.1**
PKGZ				S	**Sn**	**09 38 03.3**	**+3.3**
HAZ	**Te Kaha**	**6.68**	**209**	P	**Pn**	**09 37 46.2**	**+1.2**
HAZ				S	**Sn**	**09 39 02.2**	**+2.3**
PUZ	**Puketiti**	**6.77**	**205**	P	**Pn**	**09 37 46.4**	**0.0**
PUZ				S	**Sn**	**09 38 59.9**	**-2.4**
RUGZ	**Raukumara Rang**	**6.90**	**208**	P	**Pn**	**09 37 48.3**	**+0.1**
TWGZ	**Tauwhareparae**	**6.97**	**206**	P	**Pn**	**09 37 50.5**	**+1.4**
TWGZ				S	**Sn**	**09 39 05.3**	**-1.7**
WHRZ	**Whale Island**	**7.11**	**213**	P	Pn	09 37 56.4	+5.3
CNGZ	**Carnagh Statio**	**7.16**	**203**	P	**Pn**	**09 37 53.1**	**+1.4**
TKGZ	**Te Karaka**	**7.25**	**206**	P	**Pn**	**09 37 52.4**	**-0.4**
TKGZ				S	**Sn**	**09 39 09.5**	**-4.4**
MWZ	**Matawai**	**7.28**	**208**	P	**Pn**	**09 37 52.5**	**-0.9**
MWZ				S	**Sn**	**09 39 09.7**	**-5.0**
OPRZ	**Ohinepanea**	**7.30**	**215**	P	**Pn**	**09 37 56.3**	**+2.6**
TGRZ	**Tauranga**	**7.36**	**217**	P	Pn	**09 37 58.8**	**+4.4**
WCZ	**Waipu Caves**	**7.38**	**235**	P	Pn	09 37 59.5	+4.8
URZ	**Urewera**	**7.38**	**210**	P	**Pn**	**09 37 54.6**	**-0.2**
	4.1nm,0.3s,baz=268,slow=4.9,SNR=37						
URZ				S	**Sn**	**09 39 17.2**	**-0.1**
	7.2nm,0.3s,baz=276,slow=19,SNR=10						
URZ	**Urewera**	**7.38**	**210**	P	**Pn**	**09 37 54.8**	**0.0**
URZ	**Urewera**	**7.38**	**210**	Pn	**Pn**	**09 37 54.8**	**0.0**
RAGZ	**Rawiri**	**7.46**	**208**	P	**Pn**	**09 37 57.8**	**+1.9**
RAGZ				S	**Sn**	**09 39 20.2**	**+0.9**
RIGZ	**Rimuhau**	**7.51**	**205**	P	**Pn**	**09 37 57.0**	**+0.4**
RIGZ				S	**Sn**	**09 39 16.0**	**-4.6**
KARZ	**Kaharoa**	**7.59**	**216**	P	**Pn**	**09 38 01.7**	**+4.0**
OUZ	**Omahuta**	**7.60**	**242**	P	Pn	09 38 02.4	+4.7
OUZ	**Omahuta**	**7.60**	**242**	Pn	Pn	09 38 02.4	+4.7
PRGZ	**Paritu Road**	**7.66**	**204**	P	**Pn**	**09 37 59.1**	**+0.5**
PRGZ				S	**Sn**	**09 39 20.1**	**-4.2**
MUGZ	**Murupara**	**7.71**	**211**	P	**Pn**	**09 37 58.8**	**+0.5**
MUGZ				S	**Sn**	**09 39 21.7**	**-3.7**
RRRZ	**Republican Roa**	**7.71**	**213**	P	**Pn**	**09 38 02.5**	**+3.2**
SNGZ	**Shannon Statio**	**7.74**	**207**	P	**Pn**	**09 38 00.2**	**+0.5**
SNGZ				S	**Sn**	**09 39 22.3**	**-3.7**
RTZ	**Ruatahuna**	**7.74**	**209**	P	**Pn**	**09 37 58.7**	**-1.0**
TOZ	**Tahuroa Road**	**7.76**	**220**	P	**Pn**	**09 38 04.2**	**+4.3**
MHGZ	**Mahia Peninsul**	**7.86**	**203**	P	**Pn**	**09 38 01.3**	**0.0**
MHGZ				S	**Sn**	**09 39 24.5**	**-4.6**
RAHZ	**Arahi**	**7.95**	**208**	P	**Pn**	**09 38 03.3**	**+0.7**
RAHZ				S	**Sn**	**09 39 29.6**	**-1.7**
MTHZ	**Maungataniwha**	**8.00**	**209**	P	**Pn**	**09 38 05.8**	**+2.6**
MTHZ				S	**Sn**	**09 39 29.9**	**-2.5**
KUTZ	**Kaahu Road**	**8.16**	**215**	P	**Pn**	**09 38 08.6**	**+3.1**
TLZ	**Tolley Road**	**8.18**	**217**	P	**Pn**	**09 38 09.3**	**+3.5**
NMHZ	**Naumai**	**8.22**	**208**	P	**Pn**	**09 38 07.7**	**+1.4**
NMHZ				S	**Sn**	**09 39 35.4**	**-2.5**
ARHZ	**Aropaoanui**	**8.29**	**207**	P	**Pn**	**09 38 08.5**	**+1.3**
WATZ	**Wairara**	**8.38**	**215**	P	**Pn**	**09 38 10.8**	**+2.4**
BKZ	**Black Stump Fm**	**8.41**	**210**	P	**Pn**	**09 38 08.2**	**-0.7**
BKZ	**Black Stump Fm**	**8.41**	**210**	Pn	**Pn**	**09 38 07.5**	**-1.3**
RITZ	**Rihia Road**	**8.53**	**213**	P	**Pn**	**09 38 12.4**	**+1.8**
MCHZ	**McNeill Hill**	**8.56**	**208**	P	**Pn**	**09 38 11.0**	**+0.1**
CKHZ	**Cape Kidnapper**	**8.60**	**205**	P	**Pn**	**09 38 12.4**	**+0.9**
HIZ	**Hauiti**	**8.68**	**219**	P	**Pn**	**09 38 16.8**	**+4.3**
HIZ	**Hauiti**	**8.68**	**219**	Pn	**Pn**	**09 38 16.8**	**+4.3**
TMVZ	**Te Maari**	**8.71**	**213**	P	**Pn**	**09 38 14.2**	**+1.1**
ETVZ	**East Tongariro**	**8.73**	**213**	P	**Pn**	**09 38 14.7**	**+1.4**
WTVZ	**West Tongariro**	**8.77**	**214**	P	**Pn**	**09 38 15.2**	**+1.4**
KAHZ	**Kahuranaki**	**8.80**	**206**	P	**Pn**	**09 38 12.5**	**-1.6**
TWVZ	**Taurewa**	**8.81**	**214**	P	**Pn**	**09 38 16.2**	**+1.8**
NGZ	**Ngauruhoe**	**8.81**	**213**	P	**Pn**	**09 38 16.0**	**+1.5**
TUVZ	**Tukino**	**8.86**	**213**	P	**Pn**	**09 38 16.6**	**+1.4**
KRHZ	**Kereru**	**8.86**	**208**	P	**Pn**	**09 38 14.9**	**-0.2**
FWVZ	**Far West T-bar**	**8.90**	**213**	P	**Pn**	**09 38 17.2**	**+1.5**
WHVZ	**Whangaehu Hut**	**8.90**	**213**	P	**Pn**	**09 38 17.0**	**+1.2**
MOVZ	**Moawhango**	**8.93**	**212**	P	**Pn**	**09 38 15.5**	**-0.5**
TRVZ	**Turoa**	**8.93**	**213**	P	**Pn**	**09 38 17.5**	**+1.3**
WNVZ	**Wahianoa**	**8.93**	**213**	P	**Pn**	**09 38 17.9**	**+1.7**
PXZ	**Pawanui**	**9.01**	**205**	P	**Pn**	**09 38 16.4**	**-0.7**
PNHZ	**Pukenui**	**9.16**	**208**	P	**Pn**	**09 38 18.1**	**-1.0**
VRZ	**Vera Road**	**9.18**	**217**	P	**Pn**	**09 38 22.0**	**+2.5**
TSZ	**Takapari Road**	**9.38**	**209**	P	**Pn**	**09 38 21.2**	**-1.0**
MRZ	**Mangatainoka R**	**10.04**	**208**	P	**Pn**	**09 38 28.9**	**-2.4**
TMWZ	**Te Maipa**	**10.31**	**206**	P	**Pn**	**09 38 33.2**	**-1.7**
MSWZ	**Moikau Station**	**10.82**	**207**	Pn	**Pn**	**09 38 42.8**	**+1.0**
WEL	**Wellington**	**10.90**	**209**	P	**Pn**	**09 38 45.9**	**+3.0**
PLWZ	**Palliser**	**10.95**	**207**	Pn	**Pn**	**09 38 41.5**	**-2.1**
BSWZ	**Blackbirch Sta**	**11.63**	**211**	Pn	**Pn**	**09 38 51.1**	**-1.9**

KHZ	**Kahutara**	**12.35**	**210**	Pn	**Pn**	**09 38 58.7**	**-4.1**
RPZ	**Rata Peaks**	**14.49**	**213**	P	**P**	**09 39 37.5**	**-0.7**
	1.1nm,0.3s,baz=69,slow=8.5,SNR=5.8						
RPZ				S	Sn	09 41 57.3	-14
	1.0nm,0.3s,baz=100,slow=8.2,SNR=2.4						
RPZ	**Rata Peaks**	**14.49**	**213**	P	**P**	**09 39 37.6**	**-0.6**
RPZ	**Rata Peaks**	**14.49**	**213**	P	**P**	**09 39 36.5**	**-1.6**
JCZ	**Jackson Bay**	**15.85**	**217**	P	**Pn**	**09 39 50.7**	**+0.7**
RAR	**Rarotonga**	**19.60**	**61**	P	P	09 40 23.4	-11
RAR				IAmb	IAmb	09 40 24.1	
	comp=Z,26nm,1.4s						
EIDS	**Eidsvold**	**27.70**	**276**	P	**P**	**09 41 55.6**	**+1.1**
EIDS				IAmb	IAmb	09 42 07.8	
	comp=Z,12nm,1.4s						
TOO	**Toolangi**	**30.24**	**249**	P	**P**	**09 42 16.8**	**-0.3**
TOO				IAmb	IAmb	09 42 29.4	
	comp=Z,12nm,1.5s						
CTAO	**Charters Tower**	**33.93**	**282**	P	**P**	**09 42 50.1**	**+0.6**
CTAO				IAmb	IAmb	09 42 51.3	
	comp=Z,9.7nm,0.8s						
STKA	**Stephens Creek**	**34.01**	**259**	P	**P**	**09 42 50.7**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=100,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**34.01**	**259**	P	**P**	**09 42 50.5**	**+0.4**
BBOO	**Buckleboo**	**38.43**	**256**	P	**P**	**09 43 26.2**	**-1.6**
BBOO				IAmb	IAmb	09 43 28.5	
	comp=Z,16nm,1.1s						
PMG	**Port Moresby**	**39.15**	**297**	P	**P**	**09 43 33.9**	**-0.1**
AS31	**Alice Springs**	**42.90**	**269**	P	**P**	**09 44 03.8**	**-1.1**
ASAR	**Alice Springs**	**42.90**	**269**	P	**P**	**09 44 03.9**	**-1.0**
	comp=Z,5.3nm,0.6s,baz=104,slow=7.5,SNR=115						
ASAR	**Alice Springs**	**42.90**	**269**	P	**P**	**09 44 03.3**	**-1.6**
WR0	**Warramunga Arr**	**43.85**	**274**	P	**P**	**09 44 11.5**	**-1.0**
WC3	**Warramunga Arr**	**43.99**	**274**	P	**P**	**09 44 12.5**	**-1.2**
WB2	**Warramunga Arr**	**44.02**	**274**	P	**P**	**09 44 12.8**	**-1.1**
WRAB	**Tennant Creek**	**44.02**	**274**	P	**P**	**09 44 12.8**	**-1.1**
WRA	**Warramunga Arr**	**44.03**	**274**	P	**P**	**09 44 12.8**	**-1.2**
	comp=Z,16nm,0.5s,baz=114,slow=7.9,SNR=475						
WRA				LR	LR	10 01 19.6	
	comp=Z,36nm,18.1s,baz=350,slow=34						
WRA	**Warramunga Arr**	**44.03**	**274**	P	**P**	**09 44 12.2**	**-1.8**
WB0	**Warramunga Arr**	**44.06**	**274**	P	**P**	**09 44 13.2**	**-1.1**
VNDA	**Vanda**	**46.54**	**186**	P	**P**	**09 44 37.2**	**+4.0**
	comp=Z,0.7nm,0.6s,baz=340,slow=2.9,SNR=1.5						
VNDA	**Vanda**	**46.54**	**186**	P	P	09 44 27.7	-5.5
MTN	**Manton Dam**	**50.09**	**280**	P	**P**	**09 45 00.2**	**-1.1**
KNRA	**Kununurra**	**50.69**	**276**	P	**P**	**09 45 04.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**52.22**	**271**	P	**P**	**09 45 16.1**	**-1.2**
FITZ				IAmb	IAmb	09 45 18.5	
	comp=Z,7.1nm,1.1s						
PSAC3	**Pilbara Seismi**	**55.64**	**264**	P	**P**	**09 45 40.3**	**-2.0**
PSA00	**Pilbara Seismi**	**55.65**	**264**	P	**P**	**09 45 40.3**	**-2.1**
PSA00				IAmb	IAmb	09 45 48.4	
	comp=Z,4.1nm,0.9s						
PSAD1	**Pilbara Seismi**	**55.71**	**265**	P	**P**	**09 45 40.7**	**-2.0**
QSPA	**South Pole Qui**	**58.17**	**180**	P	**P**	**09 46 04.0**	**+4.3**
	comp=Z,9.2nm,0.7s,baz=19,slow=1.5,SNR=24						
SNAA	**Sanae**	**76.62**	**178**	P	**PcP**	**09 48 03.2**	**-4.3**
VNA3	**Neumayer Olymp**	**76.78**	**176**	P	**PcP**	**09 48 04.3**	**-3.8**
VNA2	**Neumayer--Watz**	**77.21**	**177**	P	**PcP**	**09 48 07.3**	**-2.7**
VNA1	**Neumayer--Stat**	**77.44**	**177**	P	**PcP**	**09 48 08.2**	**-2.7**
H03S2	**Juan Fernandez**	**79.74**	**123**	T	T	11 16 55.0	
	baz=236,slow=74,SNR=25						
H03S1	**Juan Fernandez**	**79.75**	**123**	T	T	11 16 58.9	
	baz=236,slow=74,SNR=31						
H03S3	**Juan Fernandez**	**79.76**	**123**	T	T	11 16 57.9	
	baz=236,slow=74,SNR=26						
H03N3	**Juan Fernandez**	**79.94**	**123**	T	T	11 17 10.8	
	baz=241,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**79.94**	**123**	T	T	11 17 05.6	
	baz=241,slow=72,SNR=9.0						
H03N1	**Juan Fernandez**	**79.96**	**123**	T	T	11 17 07.5	
	baz=241,slow=72,SNR=16						
PLCA	**Paso Flores**	**81.57**	**133**	P	**P**	**09 48 28.4**	**+4.5**
	comp=Z,0.8nm,0.7s,baz=240,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**118.64**	**309**	PKP	**PKPdf**	**09 54 53.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=80,slow=1.8,SNR=3.0						
ARCES	**ARCESS Array B**	**140.06**	**347**	PKhKP	PKPpre	09 55 25.3	
	comp=Z,0.8nm,0.6s,baz=50,slow=3.2,SNR=7.1						
ARCES				PKP	**PKPdf**	**09 55 33.0**	**-0.3**
	comp=Z,3.9nm,1.0s,baz=32,slow=2.2,SNR=6.1						
FIA1	**FINESS Array S**	**146.54**	**339**	PKPab	**PKPdf**	**09 55 45.4**	**+0.6**
FINES	**FINESS Array B**	**146.54**	**339**	PKPbc	**PKPdf**	**09 55 45.6**	**+0.7**
	comp=Z,6.2nm,0.4s,baz=53,slow=4.3,SNR=77						
FINES	**FINESS Array B**	**146.54**	**339**	PKPab	**PKPdf**	**09 55 45.4**	**+0.5**
NC303	**NORSAR Array S**	**150.05**	**351**	PKPab	**PKPbc**	**09 55 55.5**	**-0.1**
NB2	**NORSAR Subarra**	**150.25**	**351**	PKP	**PKPbc**	**09 55 56.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**150.25**	**351**	PKPbc	**PKPbc**	**09 55 56.1**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=16,slow=4.2,SNR=4.2						
AKASG	**Malin Array Be**	**152.42**	**321**	PKPbc	**PKPbc**	**09 56 01.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=56,slow=2.6,SNR=2.8						
BRTR	**Keskin Array B**	**153.17**	**296**	PKPbc	**PKPbc**	**09 56 03.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=143,slow=4.3,SNR=4.9						
BRTR	**Keskin Array B**	**153.17**	**296**	PKPbc	**PKPbc**	**09 56 02.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**161.29**	**180**	PKPab	**PKPab**	**09 56 52.6**	**+2.0**
	comp=Z,3.2nm,0.7s,baz=181,slow=3.2,SNR=17						

JMA 26 09:43:11.4±0.3,24°87N×123°38E,h25km,M1.0,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**220**	P	Pb	09 43 21.7	-0.4
YOJ				*e*S	Sb	09 43 28.9	-0.4
JYNG	**Yonagunijimaku**	**0.57**	**224**	P	Pb	09 43 22.8	-0.1
JYNG				*e*S	Sb	09 43 30.4	-0.3
IRIF	**Iriomote-Funau**	**0.62**	**149**	P	Pb	09 43 23.5	-0.1
IRIF				S	Sb	09 43 31.9	-0.1
JKRS	**Kuro-shima**	**0.85**	**138**	P	Pb	09 43 27.5	0.0
JKRS				S	Sb	09 43 38.5	0.0
JIJ	**Ishigaki jima**	**0.86**	**126**	P	Pb	09 43 27.1	-0.6
JIJ				S	Sb	09 43 37.3	-1.4
JISG	**Ishigakijimahi**	**0.89**	**108**	*e*S	Sb	09 43 38.7	-1.0
HATJ	**Hateruma jima**	**0.90**	**154**	*e*S	Sb	09 43 40.0	+0.1

TAP 26 09:43:55.1,24°04N×121°74E,h53km,ML1.9,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.14**	**286**	*e*P	Pn	09 44 03.6	+0.2
TWD	baz=287			*e*S	Sn	09 44 10.2	+0.9
HWA	baz=287 **Hwalien**	**0.14**	**242**	*e*P	Pn	09 44 03.8	+0.4
NACB	baz=239 **Ninganchiao**	**0.18**	**315**	P	Pn	09 44 03.8	+0.2
NACB	baz=314			S	Sn	09 44 10.4	+0.7
ETLH	baz=314 **Xiulin Townshi**	**0.29**	**305**	*e*P	Pn	09 44 04.6	+0.1
ETLH	baz=304			*e*S	Sn	09 44 11.4	+0.3
ESL	baz=304 **Shilin**	**0.36**	**231**	*e*P	Pn	09 44 05.7	+0.6
WHF	baz=229 **Hehuan Shan**	**0.45**	**283**	P	Pn	09 44 06.5	+0.2
WHF	baz=283			S	Sn	09 44 14.7	+0.3
EGFH	baz=283 **Guangfu**	**0.47**	**218**	*e*P	Pn	09 44 06.5	+0.3
FUSS	baz=217 **Fushou**	**0.50**	**294**	*e*P	Pn	09 44 07.2	+0.5
FUSS	baz=294			*e*S	Sn	09 44 15.8	+0.7
NNSB	baz=294 **Datong**	**0.50**	**320**	P	Pn	09 44 07.1	+0.4
NNSB	baz=319			S	Sn	09 44 15.7	+0.7
NNSH	baz=319 **Datong**	**0.50**	**320**	P	Pn	09 44 07.0	+0.3
NNSH	baz=319			S	Sn	09 44 15.6	+0.6
CHGB	baz=319 **Renai**	**0.52**	**272**	P	Pn	09 44 07.2	+0.3
CHGB	baz=271			*e*S	Sn	09 44 15.8	+0.4
NNS	baz=271 **Nan Shan**	**0.52**	**320**	P	Pn	09 44 07.2	+0.3
OWD	baz=320 **Renai**	**0.52**	**260**	*e*P	Pn	09 44 07.0	+0.1
OWD	baz=260			*e*S	Sn	09 44 15.6	+0.1
TDCB	baz=260 **Techi**	**0.57**	**292**	*e*P	Pn	09 44 08.2	+0.7
TDCB	baz=291			S	Sn	09 44 17.4	+1.0
TWC	baz=291 **Suao**	**0.57**	**10**	*e*P	Pn	09 44 07.6	+0.2
NDT	baz=11 **Datong Townshi**	**0.59**	**340**	P	Pn	09 44 08.1	+0.5
ENTT	baz=339 **Nioudou**	**0.61**	**345**	P	Pn	09 44 08.5	+0.6
VWDT	baz=345 **VWDT**	**0.62**	**242**	*e*P	Pn	09 44 08.3	+0.4
VWDT	baz=242			*e*S	Sn	09 44 17.3	+0.2
HGSD	baz=242 **Ruisui**	**0.62**	**208**	*e*P	Pn	09 44 08.3	+0.4
YHNB	baz=207 **Yeheng**	**0.71**	**332**	*e*P	Pn	09 44 09.8	+0.7
YHNB	baz=332			S	Sn	09 44 20.3	+1.0
NSK	baz=332 **Sanguang**	**0.72**	**331**	*e*P	Pn	09 44 09.9	+0.7
WHP	baz=331 **Taichung City**	**0.76**	**288**	*e*P	Pn	09 44 10.9	+1.1
WHP	baz=287			*e*S	Sn	09 44 21.9	+1.4
NWLT	baz=287 **Wulai**	**0.76**	**344**	*e*P	Pn	09 44 10.4	+0.6
NWLT	baz=343			*e*S	Sn	09 44 21.2	+0.7
SSLB	baz=343 **Suanglung**	**0.76**	**251**	*e*P	Pn	09 44 12.1	+2.4
YULB	baz=250 **Yu-li**	**0.76**	**212**	*e*P	Pn	09 44 09.4	-0.3
EYUL	baz=211 **Yuli**	**0.79**	**209**	*e*P	Pn	09 44 11.3	+1.2
TWF1	baz=209 **Yuli**	**0.80**	**211**	*e*P	Pn	09 44 11.4	+1.2
TYC	baz=209 **Yuchr**	**0.82**	**260**	*e*P	Pn	09 44 12.3	+1.9
LIOB	baz=260 **Emei**	**0.89**	**312**	*e*P	Pn	09 44 13.0	+1.5
FULB	baz=312 **Fuli**	**0.93**	**206**	*e*P	Pn	09 44 13.0	+1.0
	baz=205						

*MAN **26** 10:02:21.3,9.°44N×126.°33E,h29km, mb4.9, ML3.8, MS3.8*
*IDC **26** 10:02:24.0±1.8,9.°42N×126.°14E,h75km±17km, mb3.7/17, mb1 3.9/19,mb1mx3.8/34, mbtmp4.1/19, MS3.0/11, Ms1 3.1/11,ms1mx2.9/34, Error ellipse: s-maj=23.5km s-min=9.9km az=83.0*
*NEIC **26** 10:02:26.5±2.2,9.°40N±0.°07×126.°0E±0.°1,h91km±7km, mb4.5/50, Error ellipse: s-maj=17.6km s-min=10.8km az=87.0*

ISC 26 10:02:22.4±0.9,9°43N±0.°03×126°26E±0.°06,h53km±8km,
n113,σ1§68/118,mb4.4/39,MS2.9/8,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.38**	**340**	*e*P	**Pn**	**10 02 30.9**	**-1.8**
GLSP				*e*S	**Sn**	**10 02 39.6**	**-0.3**
BIP	**Bislig**	**1.20**	**181**	*i*P	**Pn**	**10 02 42.6**	**-0.3**
BIP				*i* S	**Sn**	**10 02 58.5**	**+0.3**
MSLP	**Maasin**	**1.55**	**297**	*e*P	**Pn**	**10 02 48.1**	**+0.4**
MSLP				*e*S	**Sn**	**10 03 08.1**	**+1.3**
CGP	**Cagayan de Oro**	**1.82**	**238**	*i*P	**Pn**	**10 02 51.8**	**+0.3**
CGP				*i* S	**Sn**	**10 03 13.4**	**0.0**
BUKP	**Musuan**	**1.94**	**218**	*e*P	**Pn**	**10 02 53.5**	**+0.3**
BUKP				*e*S	**Sn**	**10 03 17.2**	**+0.8**
OCLP	**Ormoc**	**2.29**	**315**	*e*P	**Pn**	**10 02 59.6**	**+1.8**
OCLP				*e*S	**Sn**	**10 03 33.1**	**+8.2**
TBP	**Tagbilaran**	**2.38**	**277**	*i* P	**Pn**	**10 03 00.3**	**+1.3**
TBP				*i* S	**Sn**	**10 03 29.1**	**+2.0**
LLP	**Lapu-Lapu**	**2.43**	**292**	*e*P	**Pn**	**10 03 01.7**	**+2.0**
LLP				*e*S	**Sn**	**10 03 30.8**	**+2.5**
DAV	**Davao City (W)**	**2.44**	**196**	P	**Pn**	**10 03 00.6**	**+0.8**
	63nm,0.3s,baz=342,slow=9.6,SNR=2.4						
DAV				S	**Sn**	**10 03 30.5**	**+2.0**
	52nm,0.3s,baz=244,slow=21,SNR=5.2						
DAV				LR	LR	10 04 23.7	
	comp=Z,624nm,18.8s,baz=346,slow=50						
DAV	**Davao City (W)**	**2.44**	**196**		**Pn**	**10 03 03.4**	**+3.5**
MATI	**Mati**	**2.46**	**180**	*e*P	**Pn**	**10 03 00.8**	**+0.5**
MATI				*e*S	**Sn**	**10 03 35.4**	**+6.3**
KCP	**Kidapawan**	**2.67**	**206**	*i*P	**Pn**	**10 03 04.7**	**+1.6**
KCP				*i* S	**Sn**	**10 03 37.0**	**+2.8**
PAGZ	**Pagadian**	**3.25**	**241**	*e*P	**Pn**	**10 03 11.5**	**+0.5**
PAGZ				*e*S	**Sn**	**10 03 50.6**	**+2.2**
CNP	**Catarman**	**3.44**	**333**	*e*P	**Pn**	**10 03 14.5**	**+0.9**
CNP				*e*S	**Sn**	**10 03 55.2**	**+2.1**
LQP	**Lukban**	**6.56**	**316**	*e*P	Pn	10 04 03.0	+6.4
TGY	**Tagaytay City**	**6.98**	**312**	P	**Pn**	**10 04 02.9**	**+0.6**
	81nm,0.3s,baz=205,slow=12,SNR=2.9						
TGY				LR	LR	10 07 24.8	
	comp=Z,207nm,19.6s,baz=148,slow=44						
MYLDM	**Lahad Datu**	**8.78**	**242**	Pn	Pn	10 04 31.1	+4.3
KKM	**Kota Kinabalu**	**10.51**	**252**	Pn	**Pn**	**10 04 48.1**	**-2.5**
YULB	**Yu-li**	**14.68**	**342**	P	**P**	**10 05 50.8**	**-1.3**
KAPI	**Kappang**	**15.74**	**205**	LR	LR	10 12 37.8	
	comp=Z,52nm,20.3s,baz=44,slow=39						
QIZ	**Qiongzhong**	**18.54**	**303**	P	**Pn**	**10 06 37.5**	**+2.0**
QIZ				IAmb	IAmb	10 06 38.2	
	comp=Z,14nm,0.8s						
BATI	**Baumata**	**19.68**	**188**	P	**P**	**10 06 47.8**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=45,slow=4.3,SNR=1.9						
JSU	**Suzuyama**	**22.31**	**9**	P	**P**	**10 07 16.8**	**+1.2**
JSU				IAmb	IAmb	10 07 30.3	
	comp=Z,21nm,1.1s						
JNU	**Nakatsue**	**23.96**	**10**	P	**P**	**10 07 33.0**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=180,slow=4.0,SNR=3.0						
JNU	**Nakatsue**	**23.96**	**10**	P	**P**	**10 07 32.4**	**+0.4**
JNU				IAmb	IAmb	10 07 35.1	
	comp=Z,26nm,1.3s						
SLVN	**Son La**	**24.55**	**301**	P	**P**	**10 07 35.5**	**-2.0**
KNRA	**Kununurra**	**25.07**	**174**	P	**P**	**10 07 42.0**	**0.0**
KNRA				IAmb	IAmb	10 07 52.9	
	comp=Z,24nm,1.2s						
JMN	**Monobe**	**25.18**	**15**	P	**P**	**10 07 44.9**	**+1.8**
JMN				IAmb	IAmb	10 07 55.2	
	comp=Z,34nm,1.5s						
JHS	**Saijyo**	**26.21**	**13**	P	**P**	**10 07 53.4**	**+1.1**
JHS				IAmb	IAmb	10 08 06.2	
	comp=Z,12nm,1.1s						
JWT	**Wachi**	**27.06**	**17**	P	**P**	**10 08 01.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.36**	**181**	P	**P**	**10 08 02.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=4.6,slow=9.4,SNR=0.4						
INU	**Inuyama**	**27.61**	**19**	P	**P**	**10 08 05.6**	**+0.7**
INU				IAmb	IAmb	10 08 06.5	
	comp=Z,22nm,1.5s						
KSRS	**Korea Array**	**27.94**	**3**	P	**P**	**10 08 08.0**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=184,slow=9.7,SNR=9.0						
KSRS				LR	LR	10 18 42.9	
	comp=Z,18nm,21.5s,baz=240,slow=35						
CMAR	**Chiang Mai Arr**	**27.96**	**292**	P	**P**	**10 08 07.0**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=112,slow=7.4,SNR=5.6						
CMAR				LR	LR	10 18 60.0	
	comp=Z,43nm,18.8s,baz=172,slow=36						
MJAR	**Matsushiro Arr**	**29.09**	**20**	P	**P**	**10 08 17.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=188,slow=8.2,SNR=4.4						
MJAR				LR	LR	10 20 56.3	
	comp=Z,15nm,18.7s,baz=165,slow=38						
WB0	**Warramunga Arr**	**30.10**	**165**	P	**P**	**10 08 24.9**	**-2.3**
WRAB	**Tennant Creek**	**30.24**	**165**	P	**P**	**10 08 26.9**	**-1.5**
WRA	**Warramunga Arr**	**30.25**	**165**	P	**P**	**10 08 26.9**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=349,slow=9.8,SNR=9.8						
WRA				PcP	**PcP**	**10 11 27.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=334,slow=3.0,SNR=2.1						
WRA				LR	LR	10 21 10.1	
	comp=Z,23nm,21.2s,baz=115,slow=37						
WB2	**Warramunga Arr**	**30.25**	**165**	P	**P**	**10 08 27.0**	**-1.5**
WR0	**Warramunga Arr**	**30.32**	**164**	P	**P**	**10 08 30.9**	**+1.8**
WR0				IAmb	IAmb	10 08 39.1	
	comp=Z,12nm,1.4s						
JMM	**Marumori**	**31.20**	**23**	P	**P**	**10 08 37.3**	**+0.6**
PSA00	**Pilbara Seismi**	**31.44**	**191**	P	**P**	**10 08 39.7**	**+0.7**
BJT	**Baijiatuau**	**31.76**	**345**	P	**P**	**10 08 42.1**	**+0.5**
BJT				IAmb	IAmb	10 08 42.1	
	comp=Z,5.2nm,0.7s						
ASAR	**Alice Springs**	**33.73**	**167**	P	**P**	**10 08 57.8**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=344,slow=7.4,SNR=13						
ASAR				PcP	**PcP**	**10 11 37.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=350,slow=3.2,SNR=1.9						
ASAR	**Alice Springs**	**33.73**	**167**	P	**P**	**10 08 58.3**	**-0.7**
USA0B	**Ussuriysk Arra**	**35.00**	**7**	P	**P**	**10 09 11.5**	**+1.8**
USRK	**Ussuriysk Ar.**	**35.00**	**7**	P	**P**	**10 09 09.0**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=188,slow=9.4,SNR=9.3						
USRK	**Ussuriysk Ar.**	**35.00**	**7**	P	**P**	**10 09 09.4**	**-0.3**
ASAJ	**Asahikawa**	**37.36**	**20**	LR	LR	10 23 33.1	
	comp=Z,21nm,21.2s,baz=308,slow=34						
JKA	**Kamikawa-asahi**	**37.36**	**20**	P	**P**	**10 09 32.9**	**+3.0**
MORW	**Morawa**	**39.52**	**194**	P	**P**	**10 09 48.6**	**+0.4**
MORW				IAmb	IAmb	10 09 55.1	
	comp=Z,10nm,1.2s						
KLR	**Kul'dur**	**39.94**	**6**	LR	LR	10 25 04.1	
	comp=Z,20nm,20.9s,baz=202,slow=34						
FORT	**Forrest**	**40.01**	**178**	P	**P**	**10 09 52.8**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**40.17**	**73**	T	T	10 52 57.9	
	baz=262,slow=75,SNR=170						
H11S1	**WAKE ISLAND Hy**	**40.19**	**73**	T	T	10 52 50.5	
	baz=262,slow=75,SNR=151						
H11S2	**WAKE ISLAND Hy**	**40.19**	**73**	T	T	10 52 54.5	
	baz=262,slow=75,SNR=199						
H11N1	**WAKE ISLAND Hy**	**40.53**	**71**	T	T	10 53 26.2	
	baz=264,slow=74,SNR=38						
H11N2	**WAKE ISLAND Hy**	**40.54**	**71**	T	T	10 53 20.2	
	baz=264,slow=74,SNR=38						
H11N3	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	10 53 20.6	
	baz=264,slow=74,SNR=41						
SONM	**Songino Array**	**41.80**	**340**	P	**P**	**10 10 06.2**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=142,slow=7.3,SNR=2.6						
SONM	**Songino Array**	**41.80**	**340**	P	**P**	**10 10 07.3**	**+0.3**
BBOO	**Buckleboo**	**43.03**	**168**	P	**P**	**10 10 17.4**	**+0.4**
STKA	**Stephens Creek**	**43.61**	**161**	P	**P**	**10 10 20.8**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=346,slow=7.7,SNR=6.7						
STKA	**Stephens Creek**	**43.61**	**161**	P	**P**	**10 10 21.3**	**-0.3**
PEA0B	**Petropavlovsk-**	**50.41**	**24**	P	**P**	**10 11 16.1**	**+1.8**
PETK	**Petropavlovsk-**	**50.41**	**24**	P	**P**	**10 11 14.9**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=202,slow=3.0,SNR=14						
PETK				LR	LR	10 32 28.3	
	comp=Z,16nm,19.9s,baz=243,slow=36						
PETK	**Petropavlovsk-**	**50.41**	**24**	P	**P**	**10 11 16.1**	**+1.7**
MK31	**Makanchi Array**	**52.69**	**323**	P	**P**	**10 11 30.4**	**-1.2**
MK31				IAmb	IAmb	10 11 31.6	
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**52.69**	**323**	P	**P**	**10 11 30.5**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=125,slow=7.9,SNR=32						
MKAR				PcP	**PcP**	**10 12 39.7**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=130,slow=3.7,SNR=4.3						
MKAR				LR	LR	10 35 49.0	
	comp=Z,41nm,19.2s,baz=86,slow=38						
MKAR	**Makanchi Array**	**52.69**	**323**	P	**P**	**10 11 30.7**	**-0.9**
MAKZ	**Makanchi**	**52.88**	**323**	P	**P**	**10 11 32.1**	**-1.0**
MAKZ				IAmb	IAmb	10 11 32.9	
	comp=Z,3.3nm,0.5s						
KDJ	**Kajisay**	**53.88**	**316**	P	**P**	**10 11 40.5**	**-0.1**
ZALV	**Zalesovo Beam**	**55.36**	**332**	P	**P**	**10 11 48.7**	**-2.2**
	comp=Z,1.0nm,0.4s,baz=128,slow=7.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**55.36**	**332**	P	**P**	**10 11 48.1**	**-2.8**
KURK	**Kurchatov**	**56.75**	**326**	P	**P**	**10 11 59.9**	**-1.0**
KURK				IAmb	IAmb	10 12 00.6	
	comp=Z,5.2nm,0.7s						
KK31	**Karatay Array**	**58.84**	**315**	P	**P**	**10 12 14.1**	**-1.6**
KK31				IAmb	IAmb	10 12 15.3	
	comp=Z,3.1nm,0.6s						
KKAR	**Karatay Array**	**58.84**	**315**	P	**P**	**10 12 14.8**	**-0.9**
TIXI	**Tiksi**	**62.19**	**1**	P	**P**	**10 12 38.4**	**+0.4**
KIWB	**Kanaga Island**	**62.31**	**36**	P	**P**	**10 12 41.6**	**+2.4**
BRVK	**Borovoye**	**62.42**	**326**	P	**P**	**10 12 39.2**	**-0.7**
BRVK				IAmb	IAmb	10 12 39.6	
	comp=Z,4.7nm,0.7s						
ATKA	**Atka Island**	**64.15**	**36**	P	**P**	**10 12 52.2**	**+0.9**
NIKH	**Nikolski High**	**67.49**	**36**	P	**P**	**10 13 13.5**	**+0.7**
ABKAR	**Akbulak array**	**67.51**	**320**	P	**P**	**10 13 12.0**	**-1.0**
UNV	**Unalaska Valle**	**69.06**	**36**	P	**P**	**10 13 22.9**	**+0.3**
ARU	**Arti**	**69.92**	**327**	P	**P**	**10 13 26.3**	**-1.6**
ARU				IAmb	IAmb	10 13 27.0	
	comp=Z,5.5nm,0.6s						
IMAR	**Indian Mountai**	**77.37**	**24**	P	**P**	**10 14 12.6**	**+1.1**
KDAK	**Kodiak Island**	**77.37**	**33**	P	**P**	**10 14 12.8**	**+1.3**
BPAW	**Bear Paw Mtn.**	**78.41**	**26**	P	**P**	**10 14 18.2**	**+0.9**
TRF	**Thorofare Moun**	**78.70**	**27**	P	**P**	**10 14 19.5**	**+0.5**
TRF				IAmb	IAmb	10 14 28.0	
	comp=Z,5.8nm,1.5s						
TOLK	**Toolik Lake Re**	**79.16**	**22**	P	**P**	**10 14 21.9**	**+0.6**
RND	**Reindeer**	**79.34**	**27**	P	**P**	**10 14 23.1**	**+0.6**
RND				IAmb	IAmb	10 14 24.1	
	comp=Z,5.7nm,1.2s						
MDM	**Murphy Dome**	**79.62**	**26**	P	**P**	**10 14 24.7**	**+0.8**
MDM				IAmb	IAmb	10 14 36.2	
	comp=Z,6.7nm,1.4s						
HDA	**Harding Lake**	**80.18**	**26**	P	**P**	**10 14 26.6**	**-0.3**
ILAR	**Eielson Array**	**80.20**	**26**	P	**P**	**10 14 26.4**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=231,slow=5.1,SNR=9.1						
ILAR	**Eielson Array**	**80.20**	**26**	P	**P**	**10 14 26.8**	**-0.2**
M24K	**Tolsona, Glenn**	**80.60**	**28**	P	**P**	**10 14 31.2**	**+1.9**
M24K				IAmb	IAmb	10 14 32.7	
	comp=Z,10nm,1.1s						
BMAR	**Burnt Mountain**	**81.04**	**23**	P	**P**	**10 14 32.6**	**+1.1**
RIDG	**Independent Ri**	**81.13**	**27**	P	**P**	**10 14 32.6**	**+0.6**
RIDG				IAmb	IAmb	10 14 32.9	
	comp=Z,3.2nm,0.7s						
MENT	**Mentasta**	**

BSRN	**Basiran**	**4.13**	**15**	*e*Pn	**Pn**	**10 14 51.5**	**+2.0**
GHIR	**Ghir-Karzin**	**4.33**	**275**	*e*Pn	**Pn**	**10 14 53.5**	**+1.4**
GHIR	**Ghir-Karzin**	**4.33**	**275**	*e*Pn	**Pn**	**10 14 53.5**	**+1.4**
HOQ	**Hoqain**	**4.40**	**187**	P	**Pn**	**10 14 52.8**	**-0.2**
HOQ				S	**Sn**	**10 15 40.6**	**-2.8**
WSAR	**Wadi Sarin**	**4.76**	**172**	P	**Pn**	**10 14 58.4**	**+0.4**
	SNR=15						
WSAR				S	**Sn**	**10 15 49.8**	**-2.5**
ARQ	**Araqi**	**4.77**	**195**	P	**Pn**	**10 14 59.8**	**+1.7**
ARQ				S	**Sn**	**10 15 52.7**	**+0.1**
SMDO	**Samad**	**4.89**	**178**	P	**Pn**	**10 15 00.7**	**+0.8**
SMDO				S	**Sn**	**10 15 54.9**	**-0.8**
BSY	**Bisya**	**5.24**	**187**	P	**Pn**	**10 15 05.8**	**+1.2**
BSY				S	**Sn**	**10 16 01.6**	**-2.5**
IRAM	**Rameshen**	**6.11**	**310**	*e*Pn	**Pn**	**10 15 16.7**	**-0.1**
KLNJ	**Kolanjah**	**6.25**	**300**	*e*Pn	**Pn**	**10 15 19.0**	**+0.1**

IDC 26 10:38:46.2±65.0, 14°20S×166°25E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/24, mbtmp3.6/3, Error ellipse: s-maj=1088.0km s-min=119.2km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.60**	**228**	P	P	10 44 44.2	-0.1
	1.7nm,0.8s,baz=66,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**31.00**	**255**	P	P	10 45 06.0	+0.2
	0.2nm,0.5s,baz=86,slow=9.2,SNR=2.2						
ASAR	**Alice Springs**	**31.94**	**248**	P	P	10 45 13.9	-0.2
	0.2nm,0.3s,baz=75,slow=9.4,SNR=10.0						

TAP 26 10:42:04.7, 24.65N×121.70E, h64km, ML1.5, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWE	**Neicheng**	**0.08**	**335**	*e*P	Pn	10 42 14.3	+0.2
	baz=344						
ENTT	**Nioudou**	**0.12**	**265**	*e*P	Pn	10 42 14.6	+0.4
	baz=263						
ENTT				*e*S	Sn	10 42 21.9	+0.6
	baz=263						
TWC	**Suao**	**0.14**	**108**	*e*P	Pn	10 42 14.6	+0.3
	baz=106						
NDT	**Datong Townshi**	**0.18**	**254**	*e*P	Pn	10 42 14.6	+0.1
	baz=254						
NDT				S	Sn	10 42 22.1	+0.5
	baz=254						
NWLT	**Wulai**	**0.22**	**304**	*e*P	Pn	10 42 14.7	0.0
	baz=304						
NWLT				*e*S	Sn	10 42 22.5	+0.5
	baz=304						
NTC	**Toucheng**	**0.23**	**30**	*e*P	Pn	10 42 15.0	+0.3
	baz=29						
YHNB	**Yeheng**	**0.30**	**273**	*e*P	Pn	10 42 15.6	+0.3
	baz=273						
YHNB				S	Sn	10 42 23.4	+0.4
	baz=273						
NSK	**Sanguang**	**0.32**	**274**	*e*P	Pn	10 42 15.6	+0.3
	baz=274						
NSK				*e*S	Sn	10 42 23.3	+0.1
	baz=274						
TIPB	**Shuangxi**	**0.34**	**19**	*e*P	Pn	10 42 15.8	+0.3
	baz=19						
TIPB				*e*S	Sn	10 42 24.0	+0.6
	baz=19						
NNSB	**Datong**	**0.37**	**233**	*e*P	Pn	10 42 16.1	+0.2
	baz=232						
NNSB				*e*S	Sn	10 42 24.6	+0.6
	baz=232						
NNSH	**Datong**	**0.37**	**233**	*e*P	Pn	10 42 16.1	+0.2
	baz=232						
NACB	**Ninganchiao**	**0.49**	**192**	*e*P	Pn	10 42 17.3	+0.4
	baz=191						

JMA 26 10:42:08.5, 24.48N×123.59E, h0km, M0.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.19**	**139**	P	Pg	10 42 12.6	+0.4
IRIF				S	Sg	10 42 16.1	+1.4
JKRS	**Kuro-shima**	**0.45**	**122**	P	Pg	10 42 17.7	+0.5
JKRS				S	Sg	10 42 24.4	+1.4
HATJ	**Hateruma jima**	**0.47**	**155**	P	Pg	10 42 17.9	+0.5
HATJ				*e*S	Sg	10 42 24.7	+1.3
JIJ	**Ishigaki jima**	**0.52**	**103**	P	Pg	10 42 19.2	+0.8
JIJ				S	Sg	10 42 25.9	+0.8
YOJ	**Yonaguni jima**	**0.53**	**268**	P	Pg	10 42 19.2	+0.6
YOJ				*e*S	Sg	10 42 26.7	+1.2
JYNG	**Yonagunijimaku**	**0.59**	**267**	P	Pg	10 42 20.2	+0.4
JYNG				*e*S	Sg	10 42 28.4	+1.0
JISG	**Ishigakijimahi**	**0.67**	**81**	P	Pb	10 42 22.2	-0.8
JISG				*e*S	Sg	10 42 30.8	+0.9
JTJ	**Tarama**	**1.02**	**81**	P	Pg	10 42 28.2	0.0
JTJ				S	Sb	10 42 42.6	-0.5

MOS ***26*** *10:45:30.1±1.1, 10°.44S×74°.10W, h112km, mb5.7/31, Error ellipse: s-maj=8.5km s-min=5.8km az=95.2*

NEIC ***26*** *10:45:31.8±2.0, 10°.56S±0°.06×74°.08W±0°.06, h125km±1km, mb5.6/413, Mwb5.7/43, Mww5.7, ML6.0(ARE), Mwc5.7(GCMT), Error ellipse: s-maj=11.1km s-min=9.7km az=233.0*

ARE ***26*** *10:45:32±1.8, 10°.58S±0°.06×74°.25W±0°.07, h131km±3km, Error ellipse: s-maj=9.8km s-min=8.4km az=73.0*

NEIC ***26*** *10:45:32.3, 10°.53S×74°.06W, h123km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.22; $M_{\theta\theta}$1.31; $M_{\phi\phi}$0.91; $M_{r\theta}$1.84; $M_{\theta\phi}$-0.79; $M_{r\phi}$-3.35; Fault plane solution: $M_0$4.36000×10^{17} NP1:ϕ_s327.77000°, δ76.24000°, λ-82.51000°. NP2:ϕ_s118.84000°, δ15.63000°, λ-118.02000°. Principal axes: T 4.0876, Plg31.0000°, Azm52.0000°; N 0.4940, Plg7.0000°, Azm146.0000°; P -4.5816, Plg58.0000°, Azm248.0000°;*

IDC ***26*** *10:45:32.3±0.3, 10°.54S×74°.17W, h126km±2km, mb5.0/24, mb1 5.2/31, mb1mx5.2/31, mbtmp5.4/31, MS4.4/15, Ms1 4.4/15, ms1mx4.2/28 Error ellipse: s-maj=7.9km s-min=7.1km az=129.0*

BJI ***26*** *10:45:33.0±0.0, 10°.60S×74°.10W, h131km, mB5.3/27*

NEIC ***26*** *10:45:33, 10°.55S×73°.94W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.32; $M_{\theta\theta}$1.11; $M_{\phi\phi}$0.20; $M_{r\theta}$1.60; $M_{\theta\phi}$-1.79; $M_{r\phi}$-3.07; Fault plane solution: $M_0$4.09000×10^{17} NP1:ϕ_s92.00000°, δ23.00000°, λ-148.00000°. NP2:ϕ_s333.00000°, δ78.00000°, λ-70.00000°. Principal axes: T 4.3717, Plg30.0000°, Azm47.0000°; N -0.6485, Plg19.0000°, Azm149.0000°; P -3.7232, Plg53.0000°, Azm266.0000°;*

VAO ***26*** *10:45:33.7±0.3, 10°.54S×73°.91W, h128km±2km, mb5.7*

GCMT ***26*** *10:45:33.8±0.1, 10°.47S±0°.01×74°.08W±0°.01, h135km, MW5.7/150, Moment Tensor Solution. s148,c286; s150,c327; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.97±.04; $M_{\theta\theta}$1.07±.05; $M_{\phi\phi}$0.90±.06; $M_{r\theta}$1.58±.03; $M_{\theta\phi}$-2.56±.05; $M_{r\phi}$-3.90±.04; Best double couple: $M_0$5.15300×10^{17} NP1:ϕ_s100.00000°, δ25.00000°, λ-145.00000°. NP2:ϕ_s338.00000°, δ76.00000°, λ-69.00000°. Principal axes: T 5.6100, Plg28.0000°, Azm51.0000°; N -0.9120, Plg20.0000°, Azm153.0000°; P -4.6960, Plg54.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *10:45:34, 10°.46S×74°.10W, h133km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.74; $M_{\theta\theta}$1.09; $M_{\phi\phi}$0.65; $M_{r\theta}$1.57; $M_{\theta\phi}$-2.41; $M_{r\phi}$-3.93; Fault plane solution: $M_0$5.10000×10^{17} NP1:ϕ_s97.00000°, δ25.00000°, λ-149.00000°. NP2:ϕ_s338.00000°, δ78.00000°, λ-69.00000°. Principal axes: T 5.4532, Plg29.0000°, Azm51.0000°; N -0.7941, Plg21.0000°, Azm153.0000°; P -4.6590, Plg53.0000°, Azm273.0000°;*

ISC 26 10:45:32.3±0.2, 10°.57S±0°.03×74°.07W±0°.04, h127km±1km, h128km:pP-P, n1448, σ1.926/1947, mb5.5/274, 29C-6D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.06**	**242**	P	**Pn**	**10 46 18.6**	**-1.1**
	3μm,0.3s,baz=47,slow=11,SNR=1079						
NNA				S	**Sn**	**10 46 51.5**	**-4.8**
	3μm,0.3s,baz=215,slow=16,SNR=15						
NNA	**Nana**	**3.06**	**242**	Pn	**Pn**	**10 46 18.3**	**-1.4**
NNA					Sn	**Sn**	**10 46 51.0**	**-5.3**
ATAH	**Atahualpa**	**5.46**	**308**	P	**Pn**	**10 46 51.3**	**-0.7**
	52nm,0.3s,baz=127,slow=12,SNR=142						
ATAH				S	**Sn**	**10 47 51.7**	**-2.3**
	276nm,0.3s,baz=31,slow=4.7,SNR=4.1						
ETMB	**Extrema**	**7.77**	**85**	*e*P	**Pn**	**10 47 22.5**	**-0.2**
LPAZ	**La Paz**	**8.11**	**135**	P	**Pn**	**10 47 28.9**	**+1.2**
	36nm,0.3s,baz=320,slow=11,SNR=917						
LPAZ	**La Paz**	**8.11**	**135**	P	**Pn**	**10 47 29.0**	**+1.2**
LPAZ	**La Paz**	**8.11**	**135**	Pn	**Pn**	**10 47 28.4**	**+0.6**
LPAZ	**La Paz**	**8.11**	**135**	*e*P	**Pn**	**10 47 28.7**	**+0.9**
AP01	**Chacalluta**	**8.56**	**155**		**Pn**	**10 47 34.9**	**+1.6**
PB16	**IPOC Station P**	**8.90**	**151**		**Pn**	**10 47 40.2**	**+1.8**
MNMC	**Minye Minye**	**9.55**	**154**		**Pn**	**10 47 46.3**	**-0.7**
PSGCX	**Pisagua**	**9.75**	**157**	Pn	**Pn**	**10 47 48.1**	**-1.4**
PB11	**IPOC Station P**	**10.09**	**156**	Pn	**Pn**	**10 47 52.3**	**-1.7**
GO01	**Chusmiza**	**10.20**	**153**		**Pn**	**10 47 55.9**	**+0.1**
TA01	**Diego Aracena**	**10.62**	**160**	Pn	**Pn**	**10 47 58.3**	**-2.8**
PB08	**IPOC Station P**	**10.63**	**154**	Pn	**Pn**	**10 47 59.9**	**-1.6**
PTLC	**Puerto Leguiza**	**10.69**	**356**	*e*P	Pn	**10 47 54.8**	**-7.2**
SAML	**Samuel**	**10.85**	**82**	P	**Pn**	**10 48 02.5**	**-1.7**
SAML	**Samuel**	**10.85**	**82**	Pn	**Pn**	**10 48 02.5**	**-1.7**
SAML	**Samuel**	**10.85**	**82**	*e*P	**Pn**	**10 48 02.4**	**-1.7**
PATCX	**Punta Patache**	**10.87**	**160**	Pn	**Pn**	**10 48 02.2**	**-2.2**
PB01	**IPOC Station P**	**11.31**	**158**		**Pn**	**10 48 08.9**	**-1.4**
PUAC	**Puerto Asis, P**	**11.32**	**347**	*e*P	**Pn**	**10 48 08.5**	**-1.9**
OTAV	**Otavalo**	**11.58**	**338**	*e*P	**Pn**	**10 48 14.4**	**+0.1**
OTAV	**Otavalo**	**11.58**	**338**	P	**Pn**	**10 48 13.1**	**-1.2**
OTAV	**Otavalo**	**11.58**	**338**	Pn	**Pn**	**10 48 13.1**	**-1.2**
OTAV	**Otavalo**	**11.58**	**338**	*e*P	**Pn**	**10 48 14.4**	**+0.1**
CUSE	**Cuicocha Este**	**11.62**	**338**	*e*P	**Pn**	**10 48 15.2**	**+0.3**
PAC1	**Pacto, Paraso**	**11.74**	**336**	*e*P	**Pn**	**10 48 17.8**	**+1.7**
PB07	**IPOC Station P**	**11.80**	**161**		**Pn**	**10 48 16.2**	**-0.7**
CMBC	**Cumbal**	**12.03**	**342**	*e*P	**Pn**	**10 48 21.1**	**+0.9**
PB09	**IPOC Station P**	**12.09**	**158**		**Pn**	**10 48 20.1**	**-0.6**
CPAS1	**Pasto**	**12.12**	**344**	*e*P	**Pn**	**10 48 22.6**	**+1.3**
CPAS2	**Pasto**	**12.13**	**345**	*e*P	**Pn**	**10 48 21.3**	**0.0**
GCUF	**Volcan Galeras**	**12.16**	**344**	*e*P	**Pn**	**10 48 22.5**	**+0.6**
CCUFI	**Cufio, Nario**	**12.18**	**344**	*e*P	**Pn**	**10 48 21.8**	**-0.1**
PB04	**IPOC Station P**	**12.29**	**163**	Pn	**Pn**	**10 48 21.3**	**-1.6**
CRUC	**La Cruz**	**12.39**	**346**	*e*P	**Pn**	**10 48 24.5**	**-0.3**
MACC	**Macarena, Meta**	**12.63**	**1**	*e*P	**Pn**	**10 48 26.3**	**-1.3**
GARC	**Garzon, Huila**	**12.75**	**354**	*e*P	**Pn**	**10 48 28.4**	**-1.0**
PB06	**IPOC Station P**	**12.82**	**161**	Pn	**Pn**	**10 48 29.2**	**-0.9**
SOTA	**Rioblanco**	**12.87**	**349**	*e*P	**Pn**	**10 48 33.2**	**+2.1**
BBAC	**Balboa, Cauca**	**12.90**	**346**	*e*P	**Pn**	**10 48 32.2**	**+1.0**
LVC	**Limon Verde**	**12.96**	**158**	P	**Pn**	**10 48 32.0**	**0.0**
	4.3nm,0.3s,baz=326,slow=7.7,SNR=49						
LVC				S	**Sn**	**10 50 52.4**	**-2.8**
	3.7nm,0.3s,baz=139,slow=18,SNR=1.5						
LVC	**Limon Verde**	**12.96**	**158**	Pn	**Pn**	**10 48 31.6**	**-0.5**
LVC	**Limon Verde**	**12.96**	**158**	*e*P	**Pn**	**10 48 32.5**	**+0.4**
PCON	**Cinco Dias**	**13.02**	**350**	*e*P	**Pn**	**10 48 33.1**	**+0.2**
GUVC	**San Jose del G**	**13.10**	**6**	*e*P	**Pn**	**10 48 34.0**	**+0.3**
BETC	**Betania**	**13.23**	**354**	*e*P	**Pn**	**10 48 36.6**	**+1.1**
POPC	**Popayan, Colom**	**13.28**	**349**	*e*P	**Pn**	**10 48 36.7**	**+0.5**
PB10	**IPOC Station P**	**13.31**	**166**	Pn	**Pn**	**10 48 36.6**	**+0.3**
PB15	**IPOC Station P**	**13.32**	**161**		**Pn**	**10 48 36.1**	**-0.6**
SIV	**San Ignacio**	**13.75**	**114**	P	**Pn**	**10 48 42.3**	**+0.2**
	55nm,0.3s,baz=308,slow=10,SNR=543						
SIV				S	**Sn**	**10 51 09.3**	**-4.7**
	2.6nm,0.3s,baz=261,slow=19,SNR=1.7						
VILB	**Vilhena**	**13.79**	**101**	*e*P	**Pn**	**10 48 42.1**	**-0.5**
GR1C	**Gorgona, Isla**	**14.08**	**343**	*e*P	**Pn**	**10 48 46.4**	**+0.1**
PRAC	**Prado**	**14.21**	**357**	*e*P	**P**	**10 48 50.0**	**-1.5**
PB14	**IPOC Station P**	**14.41**	**166**		**Pn**	**10 48 51.2**	**+0.5**
ORTC	**Ortega, Tolima**	**14.43**	**355**	*e*P	**P**	**10 48 52.9**	**-1.0**
VILC	**Villavicio,**	**14.59**	**2**	*e*P	**Pn**	**10 48 53.2**	**+0.4**
YOTC	**Yotoco, Valle**	**14.63**	**351**	*e*P	**Pn**	**10 48 52.2**	**-1.2**
PTGC	**Puerto Gaitan,**	**14.79**	**8**	*e*P	**P**	**10 48 56.8**	**-1.1**
ANIL	**Santa Ana**	**15.02**	**355**	*e*P	**P**	**10 49 00.7**	**0.0**
CHIC	**Chingaza**	**15.10**	**1**	*e*P	**P**	**10 49 00.7**	**-1.0**
TOLC	**Tolima**	**15.10**	**355**	*e*P	**P**	**10 49 03.0**	**+1.3**
GO02	**Mina Guanaco**	**15.13**	**164**	P	**Pn**	**10 49 00.8**	**+1.1**
MACA	**Manacapuru-AM**	**15.19**	**62**	*e*P	**Pn**	**10 48 58.6**	**-1.6**
ROSC	**El Rosal**	**15.31**	**359**	P	**P**	**10 49 03.8**	**-0.2**
	32nm,0.3s,baz=131,slow=9.0,SNR=30						
ROSC				S	**Sn**	**10 51 49.8**	**-2.2**
	11nm,0.3s,baz=119,slow=22,SNR=1.2						
ROSC	**El Rosal**	**15.31**	**359**	*e*P	**P**	**10 49 06.5**	**+2.5**
ROSC	**El Rosal**	**15.31**	**359**	P	**P**	**10 49 04.3**	**+0.3**
ROSC					IAmb	IAmb	10 49 12.0
	comp=Z,368nm,0.7s						
PTLB	**Pontes e Lacer**	**15.34**	**110**	*e*P	**Pn**	**10 49 02.0**	**-0.1**
RREF	**El Recreo**	**15.42**	**355**	*e*P	**Pn**	**10 49 03.2**	**-0.5**
CMAN1	**Manizales, Cal**	**15.60**	**355**	*e*P	**P**	**10 49 11.4**	**+4.2**
GUY2C	**Guyana, Caldas**	**15.74**	**355**	*e*P	**P**	**10 49 09.5**	**+0.6**
AC01	**Pan de Azucar**	**15.84**	**168**	P	**P**	**10 49 10.0**	**+0.5**
SPBC	**San Pablo de B**	**16.11**	**0**	*e*P	**P**	**10 49 14.0**	**+1.4**
MAPC	**Malpelo**	**16.30**	**332**	*e*P	**P**	**10 49 16.4**	**+1.7**
RUSC	**La Rusia**	**16.38**	**3**	*e*P	**P**	**10 49 18.1**	**+2.1**
CBOC	**Ciudad Bolivar**	**16.43**	**353**	*e*P	**P**	**10 49 16.9**	**+0.7**
HELC	**Santa Helena**	**16.71**	**355**	*e*P	**Pn**	**10 49 18.4**	**-0.9**
AC02	**Maricunga**	**16.84**	**165**	P	**Pn**	**10 49 23.0**	**+2.0**
AC02					IAmb	IAmb	10 49 26.2
	comp=Z,236nm,0.8s						
PTBC	**PUERTO BERRIO,**	**17.00**	**359**	*e*P	**Pn**	**10 49 22.4**	**-0.1**
SOLC	**Bahia Solano**	**17.01**	**349**	*e*P	**Pn**	**10 49 26.2**	**+3.6**
TAMC	**Tame, Arauca**	**17.04**	**8**	*e*P	**Pn**	**10 49 24.1**	**+1.0**
BARC	**Barichara**	**17.07**	**3**	*e*P	**Pn**	**10 49 24.2**	**+0.6**
GO03	**Copiap**	**17.32**	**168**	P	**Pn**	**10 49 26.3**	**0.0**
BRRC	**Barranca, Sant**	**17.56**	**1**	*e*P	**P**	**10 49 28.3**	**-0.2**
DBBC	**Dabeiba**	**17.60**	**353**	*e*P	**Pn**	**10 49 29.9**	**+0.1**
PAMC	**Pamplona, Colo**	**17.84**	**4**	*e*P	**Pn**	**10 49 33.1**	**0.0**
CLDB	**Colider**	**17.96**	**93**	*e*P	**P**	**10 49 32.4**	**-0.5**
AHML	**Horco Molle**	**18.12**	**154**	*e*P	**Pn**	**10 49 36.8**	**+0.8**
UREC	**San Jos de Ur**	**18.25**	**355**	*e*P	**Pn**	**10 49 37.4**	**-0.2**
LCO	**Las Campanas**	**18.62**	**171**	P	**P**	**10 49 41.0**	**+0.7**
LCO					pmax	pmax	
	comp=Z,201nm,1.4s						
LCO	**Las Campanas**	**18.62**	**171**	P	**P**	**10 49 41.0**	**+0.7**
OCAC	**Ocana**	**18.70**	**2**	*e*P	**P**	**10 49 40.3**	**-0.8**
NPGB	**Novo Progresso**	**18.82**	**81**	*e*P	**P**	**10 49 42.2**	**-0.1**
PAYG	**Puerto Ayora**	**18.88**	**300**	P	**P**	**10 49 43.8**	**+0.9**
PAYG					IAmb	IAmb	10 49 47.6
	comp=Z,488nm,1.0s						
VCA	**Vinchina**	**18.89**	**164**	*e*P	**Pn**	**10 49 47.3**	**+2.1**
ITTB	**Itaituba**	**19.19**	**73**	*e*P	**P**	**10 49 46.3**	**-0.1**
MOTC	**Monteria, Cord**	**19.28**	**355**	*e*P	**P**	**10 49 48.3**	**+1.0**
AANI	**Anillaco**	**19.34**	**161**	*e*P	**Pn**	**10 49 50.7**	**+0.3**
CAPC	**Capurgana**	**19.35**	**350**	*e*P	**Pn**	**10 49 49.7**	**-0.7**
CYA	**Choya**	**19.40**	**158**	*e*P	**Pn**	**10 49 51.0**	**0.0**
LCBC	**Los crdobas,**	**19.43**	**353**	*e*P	**Pn**	**10 49 53.3**	**+2.0**
AGUA	**GUANDACOL**	**19.54**	**165**	*e*P	**Pn**	**10 49 52.8**	**+0.2**
SDV	**Santo Domingo**	**19.62**	**10**	P	**P**	**10 49 51.3**	**+0.1**
	comp=Z,84nm,0.3s,baz=189,slow=9.7,SNR=247						
SDV				S	**S**	**10 53 26.2**	**+0.1**
	baz=270,slow=16,SNR=2.2						
SDV	**Santo Domingo**	**19.62**	**10**	*e*P	**P**	**10 49 52.3**	**+1.1**
SDV	**Santo Domingo**	**19.62**	**10**	P	**P**	**10 49 50.6**	**-0.6**
SDV	**Santo Domingo**	**19.62**	**10**	*e*P	**P**	**10 49 51.8**	**+0.6**
GO04	**Tololo Observa**	**19.75**	**172**	P	**P**	**10 49 53.3**	**+0.8**
GO04					IAmb	IAmb	10 50 05.3
	comp=Z,278nm,1.0s						
ACLC	**CERRO LA CRUZ**	**19.91**	**161**	*e*P	**Pn**	**10 49 56.4**	**-0.6**
BAUV	**El Baul**	**20.29**	**17**	*e*P	**P**	**10 49 57.0**	**-1.1**
ARGC	**Ariguani, Magd**	**20.29**	**360**	*e*P	**P**	**10 49 59.2**	**+1.0**
SJCC	**San Jacinto, C**	**20.36**	**357**	*e*P	**P**	**10 50 00.0**	**+1.1**
CO03	**El Pedregal**	**20.42**	**172**	P	**P**	**10 50 00.3**	**+0.8**
CO02	**Combarbal**	**20.73**	**173**	P	**P**	**10 50 03.8**	**+0.9**
CO02					IAmb	IAmb	10 50 06.5
	comp=Z,273nm,1.1s						
APLL	**PUNTA DE LOS L**	**20.94**	**161**	*e*P	**P**	**10 50 06.9**	**+1.8**
CVALL	**Valledupar, Ce**	**20.95**	**2**	*e*P	**P**	**10 50 03.1**	**-2.2**
ZON	**Zonda**	**21.47**	**167**	P	**P**	**10 50 12.0**	**+1.3**
ZON					pmax	pmax	
	comp=Z,223nm,1.3s						
ZON	**Zonda**	**21.47**	**167**	P	**P**	**10 50 12.0**	**+1.3**
ZON					IAmb	IAmb	10 50 15.8
	comp=Z,223nm,1.3s						
MALB	**Monte Alegre**	**21.49**	**68**	*e*P	**P**	**10 50 10.8**	**-0.3**
RTLS	**Leoncito**	**21.59**	**169**	*e*P	**P**	**10 50 14.0**	**+1.7**
SMRC	**Santa Marta, M**	**21.59**	**360**	*e*P	**P**	**10 50 11.8**	**-0.3**
EDBA	**Buenos Aires**	**21.63**	**335**	*e*P	**P**	**10 50 14.6**	**+2.0**
DRK0	**Durika**	**21.71**	**335**	*e*P	**P**	**10 50 15.1**	**+1.5**
RTCV	**Cerro Valdivia**	**21.80**	**167**	*e*P	**P**	**10 50 15.7**	**+1.4**
EDLM	**Las Mercedes**	**21.87**	**334**	*e*P	**P**	**10 50 17.1**	**+2.0**
AUSP	**Uspallata**	**21.98**	**169**	*e*P	**P**	**10 50 18.2**	**+1.8**
ORIV	**Oritupano**	**22.21**	**29**	*e*P	**P**	**10 50 17.6**	**-0.9**
URIC	**Uribia, Colomb**	**22.22**	**5**	*e*P	**P**	**10 50 14.6**	**-4.0**
ARAG	**Araguaiana, MT**	**22.26**	**106**	*e*P	**P**	**10 50 19.9**	**+0.7**
CPUP	**Villa Florida**	**22.28**	**137**	P	**P**	**10 50 19.1**	**0.0**
	comp=Z,34nm,0.7s,baz=322,slow=10.0,SNR=101						
CPUP				LR	LR	11 00 21.9	
	comp=Z,1μm,19.6s,baz=302,slow=40						
CPUP	**Villa Florida**	**22.28**	**137**	P	**P**	**10 50 19.1**	**0.0**
CPUP	**Villa Florida**	**22.28**	**137**	*e*P	**P**	**10 50 20.1**	**+0.9**
VA03	**San Esteban**	**22.33**	**172**	P	**P**	**10 50 21.0**	**+1.3**
VA03					IAmb	IAmb	10 50 24.0
	comp=Z,430nm,1.4s						
SNDB	**Serra Nova Dou**	**22.38**	**96**	*e*P	**P**	**10 50 20.1**	**-0.3**
RIMA	**Rio Macho**	**22.43**	**334**	*e*P	**P**	**10 50 22.0**	**+1.1**
ASAL	**Salagasta**	**22.45**	**168**	*e*P	**P**	**10 50 22.9**	**+2.0**
TCA	**Tanti**	**22.46**	**158**	*e*P	**P**	**10 50 21.6**	**+0.6**
VA01	**Torpederas**	**22.46**	**175**	P	**P**	**10 50 22.3**	**+1.4**
VA01					IAmb	IAmb	10 50 24.7
	comp=Z,221nm,1.1s						
LCR2	**La Lucha 2**	**22.46**	**334**	*e*P	**P**	**10 50 22.4**	**+1.0**
ROC1	**El Roble**	**22.48**	**173**	P	**P**	**10 50 21.5**	**+0.1**
CVTR	**Volcan Turrial**	**22.61**	**334**	*e*P	**P**	**10 50 23.7**	**+0.7**
PCRV	**Puerto La Cruz**	**22.64**	**25**	P	**P**	**10 50 23.0**	**+0.1**
	comp=Z,162nm,0.6s,baz=191,slow=7.2,SNR=101						
PLCV	**Puerto La Cruz**	**22.65**	**25**	P	**P**	**10 50 23.0**	**0.0**
ARCO	**CERRO ARCO**	**22.67**	**169**	*e*P	**P**	**10 50 25.3**	**+2.1**
PEL	**Peldehue**	**22.69**	**173**	P	**P**	**10 50 23.9**	**+0.7**
PEL					pmax	pmax	
	comp=Z,195nm,1.1s						
PEL	**Peldehue**	**22.69**	**173**	P	**P**	**10 50 23.9**	**+0.7**
PEL					IAmb	IAmb	10 50 26.2
	comp=Z,195nm,1.1s						
JACO	**JACO, Garabito**	**22.69**	**332**	*e*P	**P**	**10 50 23.6**	**+0.3**
HDC3	**Heredia 3**	**22.74**	**334**	*e*P	**P**	**10 50 25.7**	**+1.7**
HDC	**Heredia**	**22.74**	**334**	*e*P	**P**	**10 50 25.6**	**+1.6**
HDC	**Heredia**	**22.74**	**334**	P	**P**	**10 50 25.6**	**+1.6**
HDC					IAmb	IAmb	10 50 53.0
	comp=Z,200nm,0.8s						
MT02	**Curacav**	**22.75**	**174**	P	**P**	**10 50 24.6**	**+0.8**
MT05	**Renca**	**22.93**	**173**	P	**P**	**10 50 26.6**	**+1.1**
MT05					IAmb	IAmb	10 50 28.5
	comp=Z,207nm,1.1s						
AAGR	**Agrelo**	**22.93**	**169**	*e*P	**P**	**10 50 27.6**	**+2.0**
LAFE	**Finca La Fe, P**	**22.93**	**332**	*e*P	**P**	**10 50 27.1**	**+1.5**
SRA1	**San Ramn**	**22.98**	**333**	*e*P	**P**	**10 50 27.1**	**+0.9**
MRA	**San Martin**	**23.07**	**162**	*e*P	**P**	**10 50 28.1**	**+1.1**
H03N1	**Juan Fernandez**	**23.20**	**190**	P	**P**	**10 50 29.6**	**+2.0**
H03N2	**Juan Fernandez**	**23.20**	**190**	P	**P**	**10 50 29.0**	**+1.4**
H03N3	**Juan Fernandez**	**23.21**	**190**	P	**P**	**10 50 28.8**	**+1.0**
JTS	**Las Juntas de**	**23.38**	**332**	P	**P**	**10 50 31.6**	**+1.8**
	comp=Z,21nm,0.6s,baz=216,slow=2.2,SNR=18						
JTS	**Las Juntas de**	**23.38**	**332**	P	**P**	**10 50 31.4**	**+1.6**
JTS					pmax	pmax	
	comp=Z,78nm,1.1s						
JTS	**Las Juntas de**	**23.38**	**332**	*e*P	**P**

BNJ Bonny Gate 28.84 354 *i* P P 10 51 25.7 +6.8
PET01 Itanhaem-SP 28.91 122 *e*P **P** **10 51 18.7 -0.8**
LGNH Logne 28.93 3 P **P** **10 51 20.7 +1.1**
LGNH IAmb IAmb 10 51 33.2
comp=Z,150nm,0.7s
BBJ Bamboo Saint A 28.94 354 *i* P P 10 51 26.8 +7.0
TDBA Terre de Bas, 28.99 25 *e*P **P** **10 51 19.7 -0.4**
BANI BANI 29.01 7 P **P** **10 51 21.7 +1.3**
MTO3 Montecristo 29.07 328 P **P** **10 51 21.9 +0.7**
SDD Santo Domingo 29.13 8 P **P** **10 51 22.6 +1.2**
MLPR Magueyes Islan 29.19 14 P **P** **10 51 21.0 -0.9**
ESQI Esquipulas 29.19 328 P **P** **10 51 23.1 +1.0**
ESQI IAmb IAmb 10 51 37.3
comp=Z,140nm,1.5s
CBE Ff, Capester 29.20 25 *e*P **P** **10 51 19.7 -2.3**
CRPR Cabo Rojo, PR 29.21 14 P **P** **10 51 21.5 -0.6**
MAGL Barre de l'ile 29.23 26 *e*P **P** **10 51 20.4 -1.9**
ICMP Isla Caja de M 29.24 15 P **P** **10 51 22.0 -0.3**
JANB Januaria 29.35 102 *e*P **P** **10 51 23.7 +0.2**
OBIP Obispado Ponce 29.37 15 P **P** **10 51 22.9 -0.6**
SDDR Presa de Saban 29.49 5 P **P** **10 51 25.9 +1.3**
SDDR IAmb IAmb 10 51 55.9
comp=Z,92nm,0.6s
PDPR Patillas Dam, 29.49 16 P **P** **10 51 23.9 -0.7**
DR12 Loma Pena Alta 29.53 9 P **P** **10 51 24.6 -0.4**
SJG San Juan 29.55 15 P **P** **10 51 24.2 -0.9**
comp=Z,178nm,0.5s,baz=171,slow=7.1,SNR=119
SJG S **S** **10 56 08.5 -2.3**
comp=Z,49nm,0.9s,baz=331,slow=19,SNR=2.1
SJG San Juan 29.55 15 P **P** **10 51 23.9 -1.2**
MLYT Lee's Yard 29.55 24 *e*P **P** **10 51 23.7 -1.5**
CDVI St. Croix 29.60 18 *e*P **P** **10 51 24.3 -1.3**
CDVI St. Croix 29.60 18 P **P** **10 51 24.2 -1.3**
ABD La Joyeuse, An 29.61 25 *e*P **P** **10 51 23.5 -2.2**
AOPR Arecibo Observ 29.62 14 *e*P **P** **10 51 25.3 -0.5**
AOPR Arecibo Observ 29.62 14 P **P** **10 51 25.0 -0.8**
SKI Saint Kitts 29.90 22 *e*P **P** **10 51 26.6 -1.6**
SEUS St. Eustatius 29.96 22 *e*P **P** **10 51 26.9 -1.8**
SEUS St. Eustatius 29.96 22 P **P** **10 51 27.8 -0.9**
PARB Paraibuna 29.96 119 *e*P **P** **10 51 28.8 -0.1**
BPA Boggy Peak 29.98 24 *e*P **P** **10 51 26.1 -2.8**
SC01 Santiago de Io 29.98 6 P **P** **10 51 29.9 +0.9**
BSCB Bom Sucesso 29.99 114 *e*P **P** **10 51 29.0 -0.2**
ANBD Bethesda, Anti 30.01 24 *e*P **P** **10 51 26.4 -2.8**
PLCA Paso Flores 30.21 175 P **P** **10 51 31.2 +0.4**
comp=Z,43nm,0.7s,baz=350,slow=10,SNR=176
PLCA Paso Flores 30.21 175 P **P** **10 51 31.0 +0.2**
PLCA IAmb IAmb 10 51 33.2
comp=Z,57nm,0.8s
PLCA Paso Flores 30.21 175 *e*P **P** **10 51 31.7 +0.9**
GTBY Guantanamo Bay 30.32 358 P **P** **10 51 33.5 +1.7**
GTBY IAmb IAmb 10 52 03.1
comp=Z,116nm,1.1s
ANWB Willy Bob 30.57 24 *e*P **P** **10 51 31.4 -2.7**
ANWB Willy Bob 30.57 24 P **P** **10 51 31.2 -2.9**
ROSB Rosrio 30.68 78 *e*P **P** **10 51 34.7 -0.5**
ESAR Angra dos Reis 30.88 117 *e*P **P** **10 51 37.5 +0.6**
HUEH Huehuetenango 30.98 326 P **P** **10 51 39.1 +1.2**
HUEH IAmb IAmb 10 51 41.0
comp=Z,67nm,0.9s
MAN01 Angra dos Reis 31.25 117 *e*P **P** **10 51 40.4 +0.2**
PETF Flores 31.46 330 P **P** **10 51 42.4 +0.4**
PETF IAmb IAmb 10 52 05.6
comp=Z,74nm,1.0s
VAS01 Vassouras-RJ 31.53 116 *e*P **P** **10 51 43.0 +0.3**
LL01 San Ignacio de 31.72 178 P **P** **10 51 43.6 -0.4**
LL01 IAmb IAmb 10 51 46.2
comp=Z,189nm,1.3s
GRTK Grand Turk 32.01 5 P **P** **10 51 47.4 +0.7**
GRTK pP **pP** **10 52 15.9 +1.5**
CCIG Comitan 32.11 326 P **P** **10 51 49.1 +1.2**
CCIG IAmb IAmb 10 51 50.4
comp=Z,124nm,1.5s
SJMB Sao Joao De Ma 32.79 108 *e*P **P** **10 51 53.7 0.0**
BSFB Barra de Sao F 33.12 108 *e*P **P** **10 51 56.2 -0.3**
RIB01 Linhares ES 33.63 109 *e*P **P** **10 52 00.9 -0.1**
TEIG Tepich 33.64 335 P **P** **10 52 01.0 0.0**
TEIG IAmb IAmb 10 52 02.9
comp=Z,145nm,1.1s
TEIG pP **pP** **10 52 30.1 +1.1**
NAN01 Guarapari, ES 33.65 106 *e*P **P** **10 52 01.6 +0.4**
GDU01 Guandu, BA 33.85 99 *e*P **P** **10 52 03.4 +0.4**
NBMO Morrinhos-CE 34.52 80 *e*P **P** **10 52 10.0 +1.4**
061Z Ochoppi 36.82 350 P **P** **10 52 29.1 +1.1**
RPN Rapa Nui 37.05 239 P **P** **10 52 29.9 -0.2**
comp=Z,36nm,0.7s,baz=48,slow=2.7,SNR=4.2
RPN Rapa Nui 37.05 239 P **P** **10 52 29.2 -0.8**
RCBR Riachuelo 38.05 86 P **P** **10 52 39.2 +0.4**
RCBR pmax pmax
comp=Z,58nm,1.0s
RCBR Riachuelo 38.05 86 P **P** **10 52 39.1 +0.4**
RCBR IAmb IAmb 10 52 41.8
comp=Z,58nm,0.9s
RCBR Riachuelo 38.05 86 *e*P **P** **10 52 39.2 +0.4**
MOIG Morelia 40.21 318 P **P** **10 52 58.7 +1.9**
MOIG IAmb IAmb 10 53 21.8
comp=Z,96nm,1.5s
GO09 Cerro Castillo 40.61 178 P **P** **10 53 01.1 +1.7**
GO09 IAmb IAmb 10 53 02.6
comp=Z,112nm,1.3s
TIGA Tifton 42.75 348 P **P** **10 53 17.5 +0.4**
baz=166,SNR=13
TIGA S **S** **10 59 33.1 +1.6**
baz=166
TIGA Tifton 42.75 348 P **P** **10 53 16.6 -0.4**
TIGA IAmb IAmb 10 53 27.0
comp=Z,158nm,0.8s
EFI East Falkland 43.02 165 *ce*P **P** **10 53 20.6 +1.5**
EFI pmax pmax
comp=Z,108nm,1.3s
EFI East Falkland 43.02 165 P **P** **10 53 20.0 +1.0**
EFI IAmb IAmb 10 53 21.7
comp=Z,139nm,1.2s
352A Blakely 43.08 346 P **P** **10 53 19.6 -0.2**
352A pP **pP** **10 53 49.0 +0.3**
ZAIG Zacatecas 43.32 320 P **P** **10 53 23.1 +0.9**
BRAL Brewton 43.32 344 P **P** **10 53 22.1 +0.4**
baz=161,SNR=6.0
BRAL Brewton 43.32 344 P **P** **10 53 20.9 -0.9**
158A Hollywood 43.45 352 P **P** **10 53 23.9 +1.2**
baz=171,SNR=11
157A Early Branch 43.51 352 P **P** **10 53 25.0 +1.8**
baz=170,SNR=15
RGRS Roger Stewart 43.62 353 P **P** **10 53 24.8 +0.7**
BBSR BB Station 43.62 12 P **P** **10 53 23.5 -0.6**
BBSR IAmb IAmb 10 53 27.2
comp=Z,98nm,0.8s
CSU Charleston Sou 43.68 353 P **P** **10 53 25.3 +0.7**
154A Montrose 43.79 349 P **P** **10 53 25.2 -0.3**
154A pP **pP** **10 53 55.4 +1.0**
NHSC New Hope 43.82 353 P **P** **10 53 26.5 +0.9**
baz=171,SNR=20
NHSC S **S** **10 59 47.4 +0.5**
baz=171
NHSC New Hope 43.82 353 P **P** **10 53 26.2 +0.6**
NHSC pP **pP** **10 53 55.6 +1.0**
Z59A Georgetown, SC 43.84 354 S **S** **10 59 47.0 -0.3**
baz=173
250A Grady 43.88 345 P **P** **10 53 25.3 -0.9**
250A pP **pP** **10 53 55.4 +0.2**
Z58A St. Stephen 44.00 353 P **P** **10 53 28.0 +1.0**
baz=172,SNR=7.8
Z58A S **S** **10 59 48.8 -0.7**
baz=172
Z57A Bowman 44.07 352 P **P** **10 53 28.8 +1.1**
baz=171,SNR=19
Z57A S **S** **10 59 50.3 -0.4**
baz=171
152A Waverly Hall 44.18 347 P **P** **10 53 27.2 -1.3**
Z56A Williston 44.20 351 P **P** **10 53 28.6 0.0**
baz=170,SNR=11
Z56A S **S** **10 59 53.1 +0.6**
baz=170
Z56A Williston 44.20 351 P **P** **10 53 28.5 -0.1**
346A Big Creek Wild 44.25 341 P **P** **10 53 28.9 -0.2**
346A IAmb IAmb 10 53 42.0
comp=Z,85nm,0.8s
KVTX Kingsville 44.37 329 P **P** **10 53 31.2 +1.1**
KVTX IAmb IAmb 10 53 33.7
comp=Z,96nm,0.5s
KVTX pP **pP** **10 54 02.2 +2.9**
Y60A Bolivia 44.50 355 P **P** **10 53 31.9 +0.8**
baz=174,SNR=13
Y60A Bolivia 44.50 355 P **P** **10 53 30.8 -0.3**
Y58A Scranton 44.54 353 S **S** **10 59 57.1 -0.3**
baz=172
Y59A Loris 44.54 354 P **P** **10 53 31.9 +0.5**
baz=173,SNR=12
Y59A S **S** **10 59 57.6 +0.2**
baz=173
Y59A Loris 44.54 354 P **P** **10 53 31.7 +0.3**
Y59A IAmb IAmb 10 53 40.4
comp=Z,142nm,0.8s
GOGA Godfrey 44.64 349 P **P** **10 53 32.2 +0.1**
baz=167,SNR=11
GOGA S **S** **10 59 54.7 -4.1**
baz=167
GOGA Godfrey 44.64 349 P **P** **10 53 31.9 -0.3**
GOGA pmax pmax
comp=Z,244nm,0.9s
GOGA Godfrey 44.64 349 P **P** **10 53 31.9 -0.3**
Y56A Pelion 44.65 351 P **P** **10 53 32.1 -0.1**
baz=170,SNR=9.1
Y56A S **S** **10 59 57.6 -1.4**
baz=170
344A Westbrook Farm 44.73 340 P **P** **10 53 32.9 0.0**
344A IAmb IAmb 10 53 46.5
comp=Z,146nm,1.3s
344A pP **pP** **10 54 02.4 +0.2**
Y57A Sumter 44.74 353 P **P** **10 53 33.8 +0.9**
baz=171,SNR=19
Y57A S **S** **10 59 58.0 -2.2**
baz=171
Y57A Sumter 44.74 353 P **P** **10 53 32.3 -0.7**
Y57A pP **pP** **10 54 03.0 +0.9**
Z51A Franklin 44.90 347 P **P** **10 53 33.7 -0.6**
Z51A IAmb IAmb 10 53 44.4
comp=Z,129nm,0.8s
441A DeRidder 45.00 336 P **P** **10 53 35.5 +0.4**
441A IAmb IAmb 10 53 44.6
comp=Z,74nm,0.8s
441A pP **pP** **10 54 05.1 +0.8**
X60A Albert Glenn T 45.05 355 P **P** **10 53 35.8 +0.5**
baz=175,SNR=22
X60A S **S** **11 00 04.8 +0.1**
baz=175
LRAL Lakeview Retre 45.08 345 P **P** **10 53 34.6 -1.0**
baz=162,SNR=12
LRAL Lakeview Retre 45.08 345 P **P** **10 53 34.6 -1.0**
LRAL IAmb IAmb 10 53 46.6
comp=Z,85nm,0.8s
LRAL pP **pP** **10 54 04.2 -0.6**
X59A McDuffie Farm, 45.09 355 P **P** **10 53 36.2 +0.5**
baz=174,SNR=18
X59A S **S** **11 00 05.1 -0.2**
baz=174
JSC Jenkinsville 45.12 352 P **P** **10 53 35.8 -0.1**
JSC pmax pmax
comp=Z,46nm,0.8s
JSC Jenkinsville 45.12 352 P **P** **10 53 35.8 -0.1**
X57A Johnson Farm, 45.15 353 P **P** **10 53 37.5 +1.4**
baz=172,SNR=18
X57A S **S** **11 00 05.4 -0.8**
baz=172
X58A Rowland 45.15 354 P **P** **10 53 36.5 +0.3**
baz=173,SNR=21
X58A S **S** **11 00 06.2 0.0**
baz=173
146A Union 45.28 342 P **P** **10 53 36.6 -0.7**
146A IAmb IAmb 10 53 49.5
comp=Z,136nm,0.8s
146A pP **pP** **10 54 06.4 -0.1**
X56A White Oak 45.29 352 P **P** **10 53 37.6 +0.2**
baz=170,SNR=48
X56A S **S** **11 00 05.6 -2.7**
baz=170
VBMS Vicksburg 45.36 340 P **P** **10 53 37.6 -0.3**
baz=157
VBMS Vicksburg 45.36 340 P **P** **10 53 37.5 -0.4**
X55A Gracelyn & Ava 45.36 351 P **P** **10 53 37.8 -0.1**
baz=170,SNR=9.7
X55A S **S** **11 00 07.5 -1.7**
baz=170
BIRD Birdtown, Kers 45.37 353 P **P** **10 53 37.6 -0.3**
735A Kenedy 45.40 330 P **P** **10 53 38.4 +0.1**
735A IAmb IAmb 10 53 42.2
comp=Z,55nm,0.8s
735A pP **pP** **10 54 08.8 +1.1**
HKT Hockley 45.41 333 *i* P **P** **10 53 38.0 -0.2**
HKT pmax pmax
comp=Z,79nm,2.0s
HKT Hockley 45.41 333 P **P** **10 53 37.8 -0.4**
HKT pP **pP** **10 54 09.2 +1.6**
W60A Pink Hill 45.50 356 P **P** **10 53 39.2 +0.3**
baz=175,SNR=35
W60A S **S** **11 00 10.6 -0.6**
baz=175
Z47A Carrollton 45.52 343 P **P** **10 53 38.2 -1.0**
Z47A IAmb IAmb 10 53 50.5
comp=Z,129nm,0.7s
X54A Belton 45.55 350 P **P** **10 53 39.5 +0.1**
baz=169,SNR=9.7
X54A S **S** **11 00 10.2 -1.8**
baz=169
W58A Raeford 45.60 354 S **S** **11 00 12.0 -0.6**
baz=173
W59A Clinton 45.67 355 P **P** **10 53 41.2 +0.9**
baz=174
W59A S **S** **11 00 13.8 +0.1**
baz=174
CNNC Cliffs of the 45.70 356 P **P** **10 53 40.9 +0.4**
baz=175,SNR=12
CNNC S **S** **11 00 14.2 +0.1**
baz=175
CNNC Cliffs of the 45.70 356 P **P** **10 53 39.8 -0.7**
CNNC IAmb IAmb 10 53 48.0
comp=Z,190nm,0.9s
Y49A Blount Mountai 45.71 346 P **P** **10 53 39.4 -1.3**
Y49A IAmb IAmb 10 53 50.7
comp=Z,76nm,0.7s
PAULI Pauline 45.73 351 P **P** **10 53 39.5 -1.3**
PAULI IAmb IAmb 10 53 50.9
comp=Z,159nm,1.0s
833A Chaparral WMA, 45.77 328 P **P** **10 53 41.8 +0.7**
baz=144
833A S **S** **11 00 14.3 -1.0**
baz=144
833A Chaparral WMA, 45.77 328 P **P** **10 53 41.0 -0.2**
833A IAmb IAmb 10 53 44.7
comp=Z,125nm,1.4s
833A pP **pP** **10 54 12.5 +1.8**
W57A Gilead 45.81 353 P **P** **10 53 41.7 +0.3**
baz=172,SNR=34
W57A S **S** **11 00 14.6 -1.1**
baz=172
W56A Indian Trail 45.87 353 P **P** **10 53 42.2 +0.4**
baz=171,SNR=13
W56A S **S** **11 00 15.0 -1.5**
baz=171
KMSC Kings Mountain 45.98 352 P **P** **10 53 43.1 +0.4**
baz=170,SNR=15
KMSC S **S** **11 00 17.0 -1.0**
baz=170
KMSC Kings Mountain 45.98 352 P **P** **10 53 42.1 -0.6**
KMSC IAmb IAmb 10 53 52.0
comp=Z,171nm,0.9s
W54A Cherokee Point 46.05 351 P **P** **10 53 43.7 +0.4**
baz=169,SNR=13
W54A S **S** **11 00 17.1 -2.0**
baz=169
143A Socs Landing, 46.10 340 P **P** **10 53 42.7 -1.0**
143A IAmb IAmb 10 53 57.9
comp=Z,116nm,1.2s
143A pP **pP** **10 54 13.0 -0.2**
V61A Roper 46.17 357 P **P** **10 53 44.6 +0.4**
baz=177,SNR=5.1
V61A Roper 46.17 357 P **P** **10 53 45.2 +1.0**
FPAL Fort Paine 46.17 347 P **P** **10 53 43.1 -1.2**
V60A Jim Taylor Roa 46.18 356 P **P** **10 53 44.9 +0.6**
baz=176,SNR=22
V60A S **S** **11 00 20.8 0.0**
baz=176
V60A Jim Taylor Roa 46.18 356 P **P** **10 53 44.1 -0.1**
V59A Middlesex 46.25 355 P **P** **10 53 45.3 +0.5**
baz=174,SNR=47
V59A S **S** **11 00 21.2 -0.7**
baz=174
V58A Windy Hill, Pi 46.35 354 P **P** **10 53 45.9 +0.3**
baz=173,SNR=33
V58A S **S** **11 00 22.2 -1.2**
baz=173
V58A Windy Hill, Pi 46.35 354 P **P** **10 53 45.2 -0.4**
V58A IAmb IAmb 10 53 53.6
comp=Z,181nm,0.9s
V58A pP **pP** **10 54 15.1 +0.2**
W52A Murphy 46.36 349 P **P** **10 53 45.1 -0.6**
X48A Hartselle 46.43 345 P **P** **10 53 45.2 -1.1**
X48A IAmb IAmb 10 53 57.0
comp=Z,117nm,0.9s
NATX Nacogdoches 46.48 336 P **P** **10 53 47.5 +0.8**
baz=152,SNR=12
NATX S **S** **11 00 25.0 -0.4**
baz=152
NATX Nacogdoches 46.48 336 P **P** **10 53 47.1 +0.4**
NATX IAmb IAmb 10 53 56.0
comp=Z,75nm,1.0s
NATX pP **pP** **10 54 16.5 +0.4**
V57A Coltrane Farms 46.51 354 P **P** **10 53 47.1 +0.2**
baz=172,SNR=23
V57A S **S** **11 00 24.6 -1.1**
baz=172
V56A Mocksville 46.52 353 P **P** **10 53 47.4 +0.5**
baz=171,SNR=97
V56A S **S** **11 00 25.1 -0.7**
baz=171
Y45A Yeager Farm, C 46.57 342 P **P** **10 53 46.0 -1.4**
Y45A IAmb IAmb 10 53 59.0
comp=Z,142nm,1.1s
Y45A pP **pP** **10 54 16.8 0.0**
V55A Taylorsville 46.66 352 P **P** **10 53 48.5 +0.4**
baz=170,SNR=64
V55A S **S** **11 00 26.8 -1.0**
baz=170
V55A Taylorsville 46.66 352 P **P** **10 53 47.5 -0.6**
V55A IAmb IAmb 10 53 57.6
comp=Z,162nm,1.1s
V54A Nebo 46.69 351 P **P** **10 53 48.6 +0.3**
baz=169,SNR=17
V54A S **S** **11 00 26.4 -1.9**
baz=169
U61A Possum Corner 46.70 357 P **P** **10 53 48.9 +0.6**
baz=177,SNR=15
U61A S **S** **11 00 28.7 +0.4**
baz=177
U61A Possum Corner 46.70 357 P **P** **10 53 47.9 -0.4**
V53A Saluda 46.72 350 P **P** **10 53 48.0 -0.6**
W50A Signal Mountai 46.74 347 P **P** **10 53 47.3 -1.5**
U59A Littleton 46.80 356 P **P** **10 53 49.5 +0.4**
baz=175,SNR=26
U59A S **S** **11 00 29.5 -0.3**
baz=175
U59A Littleton 46.80 356 P **P** **10 53 48.8 -0.3**
U59A IAmb IAmb 10 53 56.6
comp=Z,106nm,0.9s
CPCT Cooper Cave 46.82 348 P **P** **10 53 48.5 -0.8**
U60A Pendleton 46.88 357 P **P** **10 53 50.1 +0.5**
baz=176,SNR=22
U60A S **S** **11 00 30.2 -0.6**
baz=176
TKL Tuckaleechee C 46.88 349 P **P** **10 53 48.5 -1.3**
TKL pmax pmax
comp=Z,240nm,1.0s
TKL Tuckaleechee C 46.88 349 P **P** **10 53 48.5 -1.3**
SWET Sewanee 46.90 347 P **P** **10 53 48.9 -1.0**
U58A Oxford 46.90 355 P **P** **10 53 50.6 +0.7**
baz=174,SNR=40
U58A S **S** **11 00 30.4 -0.8**
baz=174
435B Jarrell 46.91 332 P **P** **10 53 50.4 +0.3**
baz=148
435B S **S** **11 00 31.2 -0.3**
baz=148
435B Jarrell 46.91 332 P **P** **10 53 49.7 -0.3**
435B IAmb IAmb 10 54 08.6
comp=Z,121nm,1.4s
435B pP **pP** **10 54 20.7 +1.1**
U57A Blanch 47.01 354 P **P** **10 53 51.1 +0.3**
baz=173,SNR=75
U57A S **S** **11 00 31.8 -0.9**
baz=173
V52A Sevierville 47.02 349 P **P** **10 53 50.2 -0.7**
U56A King 47.04 353 P **P** **10 53 52.0 +1.0**
baz=172,SNR=25
U56A S **S** **11 00 33.4 +0.2**
baz=172
U56A King 47.04 353 P **P** **10 53 51.0 0.0**
Z41A Richland Creek 47.09 338 P **P** **10 53 51.1 -0.3**
baz=154,SNR=6.8
Z41A Richland Creek 47.09 338 P **P** **10 53 51.3 -0.1**
Z41A pP **pP** **10 54 20.6 -0.4**
V51A Loudon 47.13 349 P **P** **10 53 51.0 -0.7**
OXF Oxford 47.13 343 P **P** **10 53 51.0 -0.7**
baz=159,SNR=7.8
OXF Oxford 47.13 343 P **P** **10 53 50.6 -1.1**
OXF IAmb IAmb 10 54 03.3
comp=Z,130nm,1.0s
OXF pP **pP** **10 54 20.9 -0.3**
237A Washetta, Mont 47.16 335 P **P** **10 53 52.0 0.0**
237A IAmb IAmb 10 54 08.5
comp=Z,156nm,1.2s
PLAL Pickwick Lake 47.20 344 P **P** **10 53 51.0 -1.3**
PLAL IAmb IAmb 10 54 02.7
comp=Z,112nm,0.9s
PLAL pP **pP** **10 54 21.1 -0.6**
U55A TA2, Sparta 47.27 352 P **P** **10 53 53.3 +0.4**
baz=171,SNR=7.6
U55A S **S** **11 00 35.5 -1.1**
baz=171
CCAR Cane Creek 47.33 340 P **P** **10 53 53.0 -0.3**
CCAR IAmb IAmb 10 54 06.4
comp=Z,136nm,0.9s
CCAR pP **pP** **10 54 22.8 +0.1**
T59A Double "B" Far 47.40 356 P **P** **10 53 54.2 +0.5**
baz=175,SNR=41
T59A S **S** **11 00 37.8 -0.4**
baz=175
T59A Double "B" Far 47.40 356 P **P** **10 53 53.6 -0.1**
U54A Nelsons Funny 47.40 352 P **P** **10 53 54.1 +0.2**
baz=170,SNR=15
U54A S **S** **11 00 36.6 -1.8**
baz=170
T58A Grand View Acr 47.44 355 P **P** **10 53 54.4 +0.3**
baz=174,SNR=44
T58A S **S** **11 00 38.3 -0.6**
baz=174
T60A Surry 47.52 357 P **P** **10 53 55.6 +0.9**
baz=176
T57A Hurt 47.56 354 P **P** **10 53 55.4 +0.3**
baz=173,SNR=49
T57A S **S** **11 00 39.6 -0.9**
baz=173
X43A Marvell 47.59 341 P **P** **10 53 55.3 +0.1**
baz=157
T56A Rocky Mt 47.67 354 P **P** **10 53 56.8 +0.9**
baz=172,SNR=18
T56A S **S** **11 00 41.5 -0.6**
baz=172
TZTN Tazewell 47.70 350 P **P** **10 53 55.7 -0.4**
baz=167,SNR=13
TZTN S **S** **11 00 39.0 -3.6**
baz=167
JCT Junction City 47.72 330 P **P** **10 53 56.5 +0.1**
baz=145
JCT S **S** **11 00 41.9 -1.3**
baz=145
JCT Junction City 47.72 330 P **P** **10 53 56.0 -0.4**
JCT pP **pP** **10 54 27.1 +1.0**
T55A Pulaski 47.85 353 P **P** **10 53 58.2 +0.9**
baz=171,SNR=27
T55A S **S** **11 00 44.2 -0.5**
baz=171
WHTX Lake Whitney, 47.87 333 P **P** **10 53 57.6 +0.1**
baz=148,SNR=8.2
WHTX S **S** **11 00 44.0 -1.0**
baz=148
WHTX Lake Whitney, 47.87 333 P **P** **10 53 57.2 -0.3**
WHTX IAmb IAmb 10 54 15.2
comp=Z,68nm,0.8s
WHTX pP **pP** **10 54 28.5 +1.5**
BLA Blacksburg 47.90 353 P **P** **10 53 58.4 +0.8**
baz=172,SNR=14
BLA S **S** **11 00 45.1 -0.3**
baz=172
BLA Blacksburg 47.90 353 P **P** **10 53 57.9 +0.2**
BLA pmax pmax

comp=Z,177nm,1.1s
BLA Blacksburg 47.90 353 P **P** **10 53 57.9 +0.2**
BLA IAmb IAmb 10 54 07.5
comp=Z,177nm,1.1s
T54A Tazewell 47.90 352 P **P** **10 53 57.7 0.0**
baz=170,SNR=9.9
T54A S **S** **11 00 43.7 -1.8**
baz=170
Z38A Mt. Pleasant 47.92 336 P **P** **10 53 58.0 +0.1**
Z38A IAmb IAmb 10 54 07.4
comp=Z,68nm,0.8s
Z38A pP **pP** **10 54 28.0 +0.5**
T53A Wise 47.96 351 P **P** **10 53 58.1 -0.1**
baz=169,SNR=13
T53A S **S** **11 00 44.7 -1.6**
baz=169
RCRC Randolf Colleg 47.99 354 P **P** **10 53 58.5 +0.2**
RCRC pP **pP** **10 54 27.7 -0.1**
S58A Poland Farm, P 48.07 356 P **P** **10 53 59.4 +0.6**
baz=175,SNR=26
S58A S **S** **11 00 46.9 -0.8**
baz=175
S58A Poland Farm, P 48.07 356 P **P** **10 53 58.5 -0.4**
S58A IAmb IAmb 10 54 06.5
comp=Z,99nm,0.8s
S58A pP **pP** **10 54 28.7 +0.4**
S60A Water View 48.08 357 P **P** **10 54 00.0 +1.1**
baz=177,SNR=12
S60A S **S** **11 00 48.6 +0.9**
baz=177
S59A Mechanicsville 48.17 357 P **P** **10 54 00.2 +0.5**
baz=176,SNR=28
S59A S **S** **11 00 49.0 0.0**
baz=176
X40A Basin Creek Fa 48.21 339 P **P** **10 54 00.7 +0.6**
baz=155,SNR=7.7
X40A Basin Creek Fa 48.21 339 P **P** **10 53 58.8 -1.3**
WVT Waverly 48.22 345 P **P** **10 53 58.5 -1.6**
baz=162
S56A Natural Bridge 48.26 354 P **P** **10 54 01.1 +0.7**
baz=173,SNR=48
HPIG 48.27 321 P **P** **10 54 00.4 -0.5**
S57A Dark Hollow, R 48.29 355 P **P** **10 54 01.4 +0.8**
baz=174,SNR=33
S57A S **S** **11 00 51.3 +0.5**
baz=174
S57A Dark Hollow, R 48.29 355 P **P** **10 54 01.1 +0.5**
S57A pP **pP** **10 54 30.9 +0.9**
UALR University of 48.30 340 P **P** **10 54 00.1 -0.7**
UALR IAmb IAmb 10 54 13.9
comp=Z,83nm,1.1s
UALR pP **pP** **10 54 30.5 +0.2**
T50A Nancy 48.40 348 P **P** **10 53 59.5 -2.0**
T50A IAmb IAmb 10 54 11.0
comp=Z,107nm,0.8s
R58B Mineral 48.41 356 P **P** **10 54 02.1 +0.6**
baz=175,SNR=24
R58B S **S** **11 00 53.1 +0.7**
baz=175
R58B Mineral 48.41 356 P **P** **10 54 01.5 +0.1**
R58B IAmb IAmb 10 54 09.4
comp=Z,91nm,1.0s
R58B pP **pP** **10 54 32.1 +1.2**
LPAR Lepanto 48.41 342 P **P** **10 54 00.9 -0.7**
LPAR pP **pP** **10 54 30.9 -0.2**
HALT Halls 48.42 343 P **P** **10 53 59.4 -2.2**
HALT IAmb IAmb 10 54 12.1
comp=Z,112nm,0.9s
S55A Lewisburg 48.46 353 P **P** **10 54 02.3 +0.4**
baz=172,SNR=44
S55A S **S** **11 00 52.6 -0.7**
baz=172
MIAR Mount Ida 48.53 338 P **P** **10 54 02.0 -0.5**
baz=154,SNR=13
MIAR Mount Ida 48.53 338 P **P** **10 54 01.5 -1.0**
MIAR pP **pP** **10 54 32.2 0.0**
S53A Williamson 48.58 351 P **P** **10 54 02.7 -0.2**
baz=169,SNR=15
S54A Dingess, Beckl 48.59 352 P **P** **10 54 03.3 +0.3**
baz=170,SNR=20
S54A S **S** **11 00 53.1 -2.0**
baz=170
S54A Dingess, Beckl 48.59 352 P **P** **10 54 02.8 -0.2**
R59A King George, V 48.59 357 P **P** **10 54 03.9 +1.0**
baz=176,SNR=27
R59A S **S** **11 00 55.2 +0.2**
baz=176
CBN Corbin Frederi 48.61 357 P **P** **10 54 03.7 +0.6**
baz=176,SNR=27
CBN S **S** **11 00 56.2 +0.9**
baz=176
CBN Corbin Frederi 48.61 357 P **P** **10 54 03.8 +0.8**
W41B Gary Mavity, V 48.63 340 P **P** **10 54 02.4 -0.8**
baz=156,SNR=16
W41B Gary Mavity, V 48.63 340 P **P** **10 54 02.6 -0.7**
W41B pP **pP** **10 54 31.3 -1.5**
GNAR Gosnell 48.66 343 P **P** **10 54 02.1 -1.4**
GNAR IAmb IAmb 10 54 14.3
comp=Z,78nm,0.8s
GNAR pP **pP** **10 54 33.0 -0.1**
R58A Rapidan 48.75 356 P **P** **10 54 04.9 +0.8**
baz=175,SNR=30
R58A S **S** **11 00 56.3 -0.9**
baz=175
WHAR Wooly Hollow 48.76 340 P **P** **10 54 03.5 -0.7**
WHAR IAmb IAmb 10 54 16.6
comp=Z,74nm,1.0s
WHAR pP **pP** **10 54 32.4 -1.4**
S51A Beattyville 48.77 350 P **P** **10 54 03.4 -1.0**
R57A Stanardsville 48.78 355 P **P** **10 54 05.1 +0.7**
baz=174,SNR=14
R57A S **S** **11 00 58.6 +0.8**
baz=174
T47A Sharon Grove 48.86 346 P **P** **10 54 03.8 -1.2**
TX32 Lajitas Array 48.87 325 P **P** **10 54 04.6 -0.8**
TX32 pP **pP** **10 54 35.2 +0.1**
TXAR Lajitas Array 48.87 325 P **P** **10 54 05.0 -0.4**
comp=Z,20nm,0.5s,baz=152,slow=8.6,SNR=625
TXAR pP **pP** **10 54 35.5 +0.4**
comp=Z,25nm,0.7s,baz=144,slow=8.7,SNR=6.5
TXAR Lajitas Array 48.87 325 P **P** **10 54 05.0 -0.4**
TXAR pP **pP** **10 54 36.2 +1.0**
TX31 Lajitas Ar. Si 48.87 325 P **P** **10 54 04.5 -0.9**
TX31 IAmb IAmb 10 54 06.4
comp=Z,67nm,0.5s
TX31 pP **pP** **10 54 36.4 +1.2**
SLBS Sierra La Lagu 48.88 315 P **P** **10 54 05.9 +0.5**
R55A Marlinton 48.92 354 P **P** **10 54 06.0 +0.5**
baz=172,SNR=16
R55A S **S** **11 00 59.8 -0.1**
baz=172
R55A Marlinton 48.92 354 P **P** **10 54 06.3 +0.8**
R55A IAmb IAmb 10 54 21.1
comp=Z,84nm,0.9s
R54A Victor 48.92 353 P **P** **10 54 05.5 0.0**
baz=171,SNR=16
R54A S **S** **11 00 57.9 -1.9**
baz=171
Z35A Perchaven, San 48.92 334 P **P** **10 54 05.4 -0.2**
Z35A IAmb IAmb 10 54 22.7
comp=Z,124nm,0.9s
Z35A pP **pP** **10 54 36.5 +1.3**
R56A Bull Pasture M 48.97 354 P **P** **10 54 06.9 +1.0**
baz=173
R56A S **S** **11 01 01.2 +0.7**
baz=173
HICK Hickman 48.98 344 P **P** **10 54 04.5 -1.4**
LCAR Lake Charles 49.10 342 P **P** **10 54 05.5 -1.4**
LCAR IAmb IAmb 10 54 17.9
comp=Z,55nm,1.0s
LCAR pP **pP** **10 54 35.3 -1.2**
W39A Magazine 49.19 339 P **P** **10 54 08.0 +0.5**
baz=154,SNR=16
W39A S **S** **11 01 01.0 -2.5**
baz=154
W39A Magazine 49.19 339 P **P** **10 54 07.4 -0.1**
W39A IAmb IAmb 10 54 21.4
comp=Z,98nm,0.9s
W39A pP **pP** **10 54 37.5 +0.3**
R53A Hurricane 49.20 352 P **P** **10 54 07.4 -0.1**
baz=170,SNR=6.4
R53A Hurricane 49.20 352 P **P** **10 54 07.6 0.0**
R53A IAmb IAmb 10 54 16.1
comp=Z,130nm,0.8s
Q59A Harwood 49.23 357 P **P** **10 54 08.5 +0.8**
baz=177
PARMO Parma 49.24 343 P **P** **10 54 07.0 -0.9**
PARMO pP **pP** **10 54 36.4 -1.2**
FCAR Ozark Folk Cen 49.25 341 P **P** **10 54 06.9 -1.1**
FCAR IAmb IAmb 10 54 20.1
comp=Z,66nm,0.8s
FCAR pP **pP** **10 54 35.4 -2.2**
T45A Paducah 49.27 345 P **P** **10 54 06.5 -1.7**
Q60A Greensboro 49.34 358 P **P** **10 54 09.9 +1.3**
baz=178
Q58A Fox Den Farm, 49.37 356 P **P** **10 54 10.0 +1.2**
baz=175,SNR=62
Q58A S **S** **11 01 06.7 +0.8**
baz=175
ABTX Abilene, Hawle 49.40 331 P **P** **10 54 09.2 -0.1**
baz=146,SNR=35
ABTX S **S** **11 01 06.1 -0.6**
baz=146
Q57A Strasburg 49.51 356 P **P** **10 54 11.3 +1.4**
baz=174,SNR=34
Q57A S **S** **11 01 08.4 +0.5**
baz=174
Q56A Snyder Ridge, 49.58 355 P **P** **10 54 11.4 +0.9**
baz=173,SNR=19
Q56A S **S** **11 01 09.5 +0.6**
baz=173
Q55A Buckhannon 49.62 354 P **P** **10 54 11.6 +0.8**
baz=172,SNR=14
Q55A S **S** **11 01 10.4 +0.8**
baz=172
Q53A Leroy 49.66 352 P **P** **10 54 11.1 +0.1**
baz=170,SNR=44
Q53A S **S** **11 01 07.6 -2.3**
baz=170
Q54A Coxs Mills 49.69 353 P **P** **10 54 11.4 +0.1**
baz=171,SNR=18
Q54A S **S** **11 01 09.0 -1.5**
baz=171
Q54A Coxs Mills 49.69 353 P **P** **10 54 10.7 -0.6**
Q54A pP **pP** **10 54 41.2 +0.3**
R49A Shelbyville 49.70 349 P **P** **10 54 09.8 -1.5**
R49A IAmb IAmb 10 54 20.3
comp=Z,133nm,1.0s
SDMD Soldier's Deli 49.78 357 P **P** **10 54 12.2 +0.2**
SDMD pP **pP** **10 54 42.2 +0.6**
Q52A Bidwell 49.86 352 P **P** **10 54 12.7 +0.2**
baz=170,SNR=9.3
Q52A S **S** **11 01 09.6 -3.1**
baz=170
WCI Wyandotte Cave 49.87 347 P **P** **10 54 11.9 -0.7**
baz=164
WCI S **S** **11 01 07.3 -5.6**
baz=164
WCI Wyandotte Cave 49.87 347 P **P** **10 54 10.8 -1.8**
WCI pmax pmax
comp=Z,213nm,0.8s
WCI Wyandotte Cave 49.87 347 P **P** **10 54 10.8 -1.8**
P58A Pank, Wackersv 49.89 357 P **P** **10 54 13.4 +0.7**
baz=176,SNR=26
P58A S **S** **11 01 13.7 +0.6**
baz=176
U40A Yellville 49.91 340 P **P** **10 54 12.1 -1.0**
baz=156,SNR=37
U40A S **S** **11 01 09.6 -4.0**
baz=156
U40A Yellville 49.91 340 P **P** **10 54 12.2 -0.8**
U40A pP **pP** **10 54 41.3 -1.4**
USIN University of 49.92 346 P **P** **10 54 11.4 -1.6**
P57A Homestead Farm 49.93 356 P **P** **10 54 15.3 +2.3**
baz=175,SNR=32
P57A S **S** **11 01 15.8 +2.2**
baz=175
P59A Jarrettsville 49.97 358 P **P** **10 54 14.2 +0.9**
baz=177,SNR=10
P59A S **S** **11 01 15.0 +0.9**
baz=177
T42A Van Buren 49.97 342 P **P** **10 54 11.1 -2.4**
T42A IAmb IAmb 10 54 24.4
comp=Z,72nm,0.8s
T42A pP **pP** **10 54 42.8 -0.4**
P61A Hammonton 49.98 359 P **P** **10 54 14.8 +1.3**
baz=179
P61A Hammonton 49.98 359 P **P** **10 54 13.0 -0.5**
P56A Dayton Farm, R 50.01 355 P **P** **10 54 14.9 +1.3**
baz=174,SNR=9.3
P56A S **S** **11 01 15.0 +0.2**
baz=174
S44A Carbondale 50.07 344 P **P** **10 54 13.2 -0.9**
S44A pP **pP** **10 54 41.8 -2.1**
Q51A Peebles 50.09 351 P **P** **10 54 12.9 -1.4**
Q51A IAmb IAmb 10 54 23.2
comp=Z,92nm,0.8s
P55A Reedsville 50.10 354 P **P** **10 54 15.2 +0.8**
baz=173,SNR=8.5
P55A S **S** **11 01 16.0 -0.1**
baz=173
P60A Greenville 50.14 358 P **P** **10 54 14.9 +0.3**
baz=178,SNR=9.9
P60A S **S** **11 01 16.1 -0.5**
baz=178
P60A Greenville 50.14 358 P **P** **10 54 14.4 -0.2**
HHAR Hobbs 50.22 339 P **P** **10 54 14.6 -0.7**
HHAR IAmb IAmb 10 54 28.7
comp=Z,93nm,1.0s
HHAR pP **pP** **10 54 44.9 -0.2**
PSUB Penn St. - Bra 50.25 359 P **P** **10 54 15.3 -0.2**
PSUB IAmb IAmb 10 54 21.8
comp=Z,71nm,0.9s
PSUB pP **pP** **10 54 45.3 +0.2**
MCWV Mont Chateau 50.25 354 P **P** **10 54 16.2 +0.7**
baz=173,SNR=49
MCWV S **S** **11 01 18.2 0.0**
baz=173
MCWV Mont Chateau 50.25 354 P **P** **10 54 15.4 -0.1**
MCWV IAmb IAmb 10 54 24.5
comp=Z,89nm,0.9s
P53A Whipple 50.26 353 P **P** **10 54 15.9 +0.3**
baz=171,SNR=16
P53A S **S** **11 01 15.5 -2.8**
baz=171
P53A Whipple 50.26 353 P **P** **10 54 15.3 -0.2**
P53A pP **pP** **10 54 45.6 +0.4**
P54A Burton 50.26 354 P **P** **10 54 16.1 +0.5**
baz=172,SNR=10
P54A S **S** **11 01 16.8 -1.6**
baz=172
MVL Millersville 50.35 358 P **P** **10 54 16.3 +0.1**
MVL pP **pP** **10 54 46.3 +0.4**
O61A Allentown 50.40 360 P **P** **10 54 18.1 +1.5**
baz=179
MGMO Mountain Grove 50.45 341 P **P** **10 54 16.6 -0.5**
MGMO pP **pP** **10 54 46.5 -0.3**
P51A Williamsport 50.49 351 P **P** **10 54 16.7 -0.5**
baz=168
P51A Williamsport 50.49 351 P **P** **10 54 16.4 -0.9**
P51A IAmb IAmb 10 54 25.6
comp=Z,91nm,0.8s
P51A pP **pP** **10 54 46.8 -0.2**
O58A Lewisberry 50.50 357 P **P** **10 54 18.2 +0.8**
baz=176,SNR=23
O58A S **S** **11 01 22.1 +0.5**
baz=176
P52A Corning 50.50 352 P **P** **10 54 17.1 -0.3**
baz=170,SNR=12
P52A S **S** **11 01 18.4 -3.2**
baz=170
TUL1 Leonard 50.57 337 P **P** **10 54 17.9 -0.1**
baz=152,SNR=15
TUL1 S **S** **11 01 21.3 -1.4**
baz=152
O57A Amberson 50.62 356 P **P** **10 54 19.6 +1.2**
baz=176,SNR=44
O57A S **S** **11 01 24.1 +0.7**
baz=176
FNO Franklin 50.64 335 P **P** **10 54 17.9 -0.6**
FNO pP **pP** **10 54 48.0 -0.5**
O60A Telford 50.64 359 P **P** **10 54 19.5 +1.1**
baz=178,SNR=11
O60A S **S** **11 01 23.0 -0.4**
baz=178
O59A Robesonia 50.66 358 P **P** **10 54 19.4 +0.9**
baz=177,SNR=18
O59A S **S** **11 01 25.0 +1.2**
baz=177
O56A Blue Knob Stat 50.75 356 P **P** **10 54 20.0 +0.8**
baz=174,SNR=21
O56A S **S** **11 01 24.2 -0.9**
baz=174
O55A Ligonier 50.75 355 P **P** **10 54 20.0 +0.7**
baz=173,SNR=8.9
O55A S **S** **11 01 25.3 +0.2**
baz=173
WMOK Wichita Mounta 50.78 334 P **P** **10 54 19.5 -0.1**
baz=148,SNR=13
WMOK S **S** **11 01 24.4 -1.3**
baz=148
OKCSW OKLAHOMA CITY 50.78 335 P **P** **10 54 19.2 -0.4**
OKCSW pP **pP** **10 54 49.4 -0.2**
OKCFA Oklahoma City 50.80 335 P **P** **10 54 19.1 -0.6**
OKCFA IAmb IAmb 10 54 34.5
comp=Z,81nm,0.6s
OKCFA pP **pP** **10 54 49.6 -0.1**
P49A Miami Univ. Ec 50.82 349 P **P** **10 54 18.5 -1.3**
baz=166,SNR=11
P49A Miami Univ. Ec 50.82 349 P **P** **10 54 18.3 -1.5**
BLO Bloomington 50.82 348 P **P** **10 54 19.1 -0.7**
BLO pmax pmax
comp=Z,328nm,0.7s
BLO Bloomington 50.82 348 P **P** **10 54 19.1 -0.7**
O54A Avella 50.83 354 P **P** **10 54 20.1 +0.3**
baz=172,SNR=7.6
O54A S **S** **11 01 24.7 -1.5**
baz=172
O54A Avella 50.83 354 P **P** **10 54 19.2 -0.7**
O54A IAmb IAmb 10 54 29.3
comp=Z,47nm,0.8s
P48A Milroy 50.88 349 P **P** **10 54 18.4 -1.8**
P48A IAmb IAmb 10 54 28.4
comp=Z,86nm,0.8s
OK025 Westminster Rd 50.89 335 P **P** **10 54 19.6 -0.8**
OK025 IAmb IAmb 10 54 37.6
comp=Z,71nm,0.9s
OK025 pP **pP** **10 54 49.4 -1.1**
LUPA Lehigh Univers 50.92 359 P **P** **10 54 21.3 +0.8**
LUPA IAmb IAmb 10 54 23.1
comp=Z,67nm,1.0s
O52A Adamsville 50.94 352 P **P** **10 54 20.3 -0.4**
baz=170,SNR=38
O52A Adamsville 50.94 352 P **P** **10 54 19.7 -0.9**
O52A pP **pP** **10 54 50.1 -0.3**
CCM Cathedral Cave 50.97 343 P **P** **10 54 20.1 -0.8**
baz=158
OK030 Cody Creek RV 50.97 336 P **P** **10 54 20.1 -0.8**
OK030 IAmb IAmb 10 54 35.9
comp=Z,111nm,1.0s
OK030 pP **pP** **10 54 50.7 -0.2**
O53A New Philadelph 50.99 353 P **P** **10 54 20.9 -0.1**
baz=171,SNR=15
O53A New Philadelph 50.99 353 P **P** **10 54 20.5 -0.5**
OK031 S. Brethren Rd 51.01 336 P **P** **10 54 20.6 -0.7**
OK031 IAmb IAmb 10 54 36.3
comp=Z,106nm,0.9s
OK031 pP **pP** **10 54 51.3 +0.1**
N61A South Mountain 51.06 360 P **P** **10 54 22.1 +0.6**
baz=180
SSPA Standing Stone 51.06 356 P **P** **10 54 22.2 +0.6**
baz=175
SSPA S **S** **11 01 30.1 +0.8**
baz=175
SSPA Standing Stone 51.06 356 P **P** **10 54 21.9 +0.3**
SSPA IAmb IAmb 10 54 29.2
comp=Z,74nm,0.9s
BCOK Bluff Creek, N 51.07 335 P **P** **10 54 21.2 -0.6**
BCOK pP **pP** **10 54 51.5 -0.2**
O51A Pataskala 51.07 352 P **P** **10 54 21.2 -0.5**
baz=169,SNR=8.5
CPNY Central Park 51.10 0 P **P** **10 54 22.1 +0.3**
CPNY IAmb IAmb 10 54 28.0
comp=Z,60nm,0.8s
OK029 Liberty Lake 51.12 336 P **P** **10 54 21.3 -0.8**
OK029 pP **pP** **10 54 52.1 -0.1**
Q44A Meyer Farm, Va 51.15 345 P **P** **10 54 21.0 -1.2**
QUOK Quay 51.15 336 P **P** **10 54 21.9 -0.4**
QUOK IAmb IAmb 10 54 37.7
comp=Z,69nm,0.7s
QUOK pP **pP** **10 54 51.7 -0.5**
N57A Milroy 51.16 357 P **P** **10 54 23.2 +0.9**
baz=176,SNR=22
N57A S **S** **11 01 31.2 +0.5**
baz=176
N60A Cedar Hill Far 51.19 359 P **P** **10 54 23.0 +0.5**
baz=179
N58A Sunbury 51.20 357 P **P** **10 54 23.3 +0.7**
baz=177,SNR=30
N58A S **S** **11 01 30.9 -0.4**
baz=177
N58A Sunbury 51.20 357 P **P** **10 54 23.0 +0.4**
N58A IAmb IAmb 10 54 25.3
comp=Z,128nm,0.9s
N58A pP **pP** **10 54 53.8 +1.5**
ACSO Alum Creek Sta 51.21 351 P **P** **10 54 22.4 -0.3**
baz=169,SNR=6.6
ACSO Alum Creek Sta 51.21 351 P **P** **10 54 21.8 -0.9**
ACSO pP **pP** **10 54 52.2 -0.3**
SLM Saint Louis 51.22 344 P **P** **10 54 22.1 -0.7**
SLM pmax pmax
comp=Z,207nm,0.8s
SLM Saint Louis 51.22 344 P **P** **10 54 22.1 -0.7**
CLNB Carlsbad 51.24 327 P **P** **10 54 23.4 +0.3**
CLNB pP **pP** **10 54 54.7 +1.4**
N59A State Game Lan 51.25 358 P **P** **10 54 23.8 +0.8**
baz=178,SNR=13
N59A S **S** **11 01 32.0 0.0**
baz=178
N59A State Game Lan 51.25 358 P **P** **10 54 23.3 +0.3**
N59A IAmb IAmb 10 54 25.7
comp=Z,67nm,0.9s
N59A pP **pP** **10 54 53.6 +0.9**
S39A Bolivar 51.28 340 P **P** **10 54 22.8 -0.4**
N55A Marion Center 51.29 355 P **P** **10 54 24.1 +0.8**
baz=174,SNR=15
N55A S **S** **11 01 32.1 -0.4**
baz=174
PAL Palisades 51.31 0 P **P** **10 54 23.6 +0.2**
baz=180
PAL S **S** **11 01 32.3 -0.4**
baz=180
PAL Palisades 51.31 0 P **P** **10 54 23.4 0.0**
PAL IAmb IAmb 10 54 29.6
comp=Z,116nm,0.9s
PAL pP **pP** **10 54 53.2 +0.1**
N56A West Decatur 51.37 356 P **P** **10 54 24.7 +0.8**
baz=175,SNR=14
N56A S **S** **11 01 33.9 +0.3**
baz=175
O49A Covington 51.38 350 P **P** **10 54 22.4 -1.6**
ODNJ Ogdensburg 51.39 359 P **P** **10 54 24.1 +0.1**
ODNJ IAmb IAmb 10 54 30.0
comp=Z,89nm,1.5s
ODNJ pP **pP** **10 54 55.2 +1.5**
P46A Rosedale 51.40 347 P **P** **10 54 22.5 -1.6**
P46A pP **pP** **10 54 53.7 -0.1**
GDL2 Guadalupe Moun 51.45 327 P **P** **10 54 24.5 -0.3**
TRNY Table Rock, Ra 51.45 360 P **P** **10 54 24.4 0.0**
TRNY IAmb IAmb 10 54 30.6
comp=Z,71nm,0.9s
WSPT Westport, CT 51.48 1 P **P** **10 54 24.8 +0.2**
WSPT IAmb IAmb 10 54 30.9
comp=Z,121nm,0.9s
WSPT pP **pP** **10 54 54.9 +0.5**
R40A Maddies Statio 51.49 342 P **P** **10 54 22.9 -1.9**
R40A IAmb IAmb 10 54 36.2
comp=Z,86nm,0.8s
R40A pP **pP** **10 54 53.6 -1.1**
N54A Moraine State 51.56 354 P **P** **10 54 26.0 +0.7**
baz=173,SNR=28
N54A Moraine State 51.56 354 P **P** **10 54 25.1 -0.2**
N52A McGinn's Farm, 51.60 353 P **P** **10 54 25.2 -0.4**
baz=170,SNR=14
M61A Granite Spring 51.62 0 P **P** **10 54 26.3 +0.6**
baz=180
MNTX Cornudas Mount 51.62 326 P **P** **10 54 25.3 -0.7**
baz=139,SNR=36
MNTX S **S** **11 01 36.5 -0.9**
baz=139
MNTX Cornudas Mount 51.62 326 P **P** **10 54 24.5 -1.5**
MNTX pP **pP** **10 54 56.1 +0.1**
YLE Yale 51.63 1 P **P** **10 54 25.9 +0.1**
YLE pP **pP** **10 54 56.3 +0.8**
M60A Port Jervis 51.63 359 P **P** **10 54 26.1 +0.3**
baz=179
M57A Sunshine Farm, 51.72 357 P **P** **10 54 27.5 +1.1**

M57A P S **S** **11 01 38.2 -0.2**
baz=176,SNR=36
M57A Sunshine Farm, 51.72 357 P **P** **10 54 26.1 -0.3**
M57A pP **pP** **10 54 58.0 +1.7**
M58A Price's Panora 51.73 358 P **P** **10 54 27.6 +1.1**
baz=177,SNR=36
M58A S **S** **11 01 38.7 +0.2**
baz=177
T35A Sooner Cattle 51.73 337 P **P** **10 54 26.6 0.0**
T35A IAmb IAmb 10 54 41.1
comp=Z,79nm,0.8s
T35A pP **pP** **10 54 56.3 -0.4**
M63A Gales Ferry 51.74 2 P **P** **10 54 27.4 +0.8**
baz=182,SNR=6.3
M62A Hamden 51.76 1 P **P** **10 54 27.3 +0.6**
baz=182,SNR=14
N51A Ashland 51.80 352 P **P** **10 54 26.7 -0.4**
baz=170,SNR=8.5
M59A Waymart 51.86 359 P **P** **10 54 28.6 +1.1**
baz=178,SNR=11
M59A S **S** **11 01 40.0 -0.3**
baz=178
M56A Emporium 51.93 356 P **P** **10 54 28.8 +0.7**
baz=175,SNR=30
M56A S **S** **11 01 40.8 -0.5**
baz=175
CROK Carrier 51.95 336 P **P** **10 54 27.2 -1.1**
CROK pP **pP** **10 54 57.8 -0.6**
MSTX Muleshoe 52.02 330 P **P** **10 54 28.3 -0.6**
baz=143,SNR=27
MSTX Muleshoe 52.02 330 P **P** **10 54 27.8 -1.1**
MSTX IAmb IAmb 10 54 31.6
comp=Z,106nm,1.4s
MSTX pP **pP** **10 54 59.7 +0.7**
KSCT Kent School, K 52.03 1 P **P** **10 54 29.7 +1.0**
KSCT IAmb IAmb 10 54 34.7
comp=Z,54nm,0.9s
KSCT pP **pP** **10 54 59.5 +0.9**
M54A Oil Creek Stat 52.07 355 P **P** **10 54 29.5 +0.4**
baz=173,SNR=9.3
M54A S **S** **11 01 41.7 -1.5**
baz=173
M53A WI Miller and 52.10 354 P **P** **10 54 33.9 +4.6**
baz=172,SNR=18
M53A S **S** **11 01 40.4 -3.2**
baz=172
SFIN Lafayette 52.10 347 P **P** **10 54 27.6 -1.7**
baz=164,SNR=11
SFIN S **S** **11 01 36.9 -6.7**
baz=164
SFIN Lafayette 52.10 347 P **P** **10 54 27.6 -1.7**
SFIN pP **pP** **10 54 58.0 -1.2**
KAN13 South Haven SW 52.19 336 P **P** **10 54 30.2 +0.2**
KAN13 pP **pP** **10 55 00.1 0.0**
L63A North Scituate 52.22 2 P **P** **10 54 31.2 +1.1**
baz=183,SNR=7.1
AMTX Amarillo 52.22 331 P **P** **10 54 29.5 -1.0**
AMTX pP **pP** **10 55 01.2 +0.7**
BRYW Bryant College 52.27 2 P **P** **10 54 31.2 +0.6**
BRYW pP **pP** **10 55 01.8 +1.4**
M52A Chesterland 52.28 353 P **P** **10 54 33.3 +2.7**
baz=171,SNR=5.9
L60A Shokan 52.29 360 P **P** **10 54 31.4 +0.7**
baz=180,SNR=14
L64A Middleborough 52.33 3 P **P** **10 54 30.9 0.0**
baz=184
L62A Suffield 52.35 1 P **P** **10 54 31.0 -0.1**
baz=182
L57A Andrews Acres 52.37 357 P **P** **10 54 32.2 +0.9**
baz=177,SNR=27
L57A S **S** **11 01 47.4 +0.2**
baz=177
L58A Harry Jones Me 52.38 358 P **P** **10 54 32.3 +0.9**
baz=178,SNR=32
L58A S **S** **11 01 47.2 -0.2**
baz=178
L61A Hillsdale 1, H 52.50 0 P **P** **10 54 32.5 +0.3**
baz=181,SNR=8.3
L59A Walton 52.50 359 P **P** **10 54 33.0 +0.7**
baz=179,SNR=20
L59A S **S** **11 01 51.0 +1.9**
baz=179
L59A Walton 52.50 359 P **P** **10 54 32.7 +0.4**
L59A IAmb IAmb 10 54 35.4
comp=Z,125nm,0.9s
L59A pP **pP** **10 55 02.9 +0.7**
BINY Binghamton 52.53 358 P **P** **10 54 33.5 +1.0**
baz=178,SNR=42
BINY S **S** **11 01 49.8 +0.4**
baz=178
BINY Binghamton 52.53 358 P **P** **10 54 33.0 +0.5**
L56A Greenwood 52.54 357 P **P** **10 54 33.1 +0.6**
baz=176,SNR=24
L56A S **S** **11 01 48.5 -1.1**
baz=176
L56A Greenwood 52.54 357 P **P** **10 54 32.6 0.0**
L56A IAmb IAmb 10 54 40.3
comp=Z,103nm,0.8s
L53A Girard 52.57 354 P **P** **10 54 33.0 +0.3**
baz=172,SNR=16
KAN12 Harper NE Stat 52.64 336 P **P** **10 54 33.1 -0.3**
KAN12 pP **pP** **10 55 03.9 +0.3**
ERPA Erie 52.70 354 P **P** **10 54 34.2 +0.4**
baz=173,SNR=12
ERPA Erie 52.70 354 P **P** **10 54 34.1 +0.4**
ERPA pP **pP** **10 55 03.5 -0.1**
BCX Boston College 52.71 3 P **P** **10 54 35.1 +1.4**
WES Weston 52.75 3 P **P** **10 54 34.4 +0.4**
WES *PP **pP** **10 55 04.6 +0.7**
WES pmax pmax
comp=Z,90nm,1.0s
WES Weston 52.75 3 P **P** **10 54 34.4 +0.4**
WES IAmb IAmb 10 54 38.9
comp=Z,90nm,1.0s
WES pP **pP** **10 55 04.6 +0.7**
L54A Sinclairville 52.76 355 P **P** **10 54 34.4 +0.2**
baz=174,SNR=7.5
L54A S **S** **11 01 50.6 -2.0**
baz=174
L61B Northampton 52.77 1 P **P** **10 54 34.3 +0.1**
baz=182
HDIL Hopedale 52.78 345 P **P** **10 54 33.1 -1.2**
baz=161,SNR=14
HDIL S **S** **11 01 47.9 -4.9**
baz=161
HDIL Hopedale 52.78 345 P **P** **10 54 32.3 -2.0**
HDIL IAmb IAmb 10 54 43.7
comp=Z,79nm,0.6s
HDIL pP **pP** **10 55 04.2 0.0**
SRIG Santa Rosalia 52.80 316 P **P** **10 54 34.1 -0.6**
SRIG pP **pP** **10 55 05.9 +1.1**
HRV Adam Dziewonsk 52.86 2 P **P** **10 54 35.3 +0.5**
baz=183
HRV Adam Dziewonsk 52.86 2 P **P** **10 54 35.0 +0.1**
HRV *PP **pP** **10 55 06.3 +1.5**
HRV pmax pmax
comp=Z,81nm,0.8s
HRV Adam Dziewonsk 52.86 2 P **P** **10 54 35.0 +0.1**
HRV IAmb IAmb 10 54 41.0
comp=Z,81nm,0.8s
HRV pP **pP** **10 55 06.3 +1.5**
WVNY West Valley, N 52.88 356 P **P** **10 54 35.1 +0.1**
WVNY IAmb IAmb 10 54 43.3
comp=Z,78nm,0.8s
WVNY pP **pP** **10 55 06.3 +1.4**
K60A Five Rivers En 52.92 0 P **P** **10 54 36.0 +0.7**
baz=180
K61A Williamstown 52.98 1 P **P** **10 54 36.3 +0.5**
baz=181
K62A Royalston 53.00 2 P **P** **10 54 36.2 +0.4**
baz=182
K62A Royalston 53.00 2 P **P** **10 54 35.8 -0.1**
K62A IAmb IAmb 10 54 42.0
comp=Z,80nm,1.3s
K62A pP **pP** **10 55 06.1 +0.3**
TRY Troy 53.04 0 P **P** **10 54 36.2 +0.1**
TRY IAmb IAmb 10 54 43.0
comp=Z,83nm,0.8s
TRY pP **pP** **10 55 05.6 -0.5**
K63A Dunstable 53.05 2 P **P** **10 54 36.6 +0.4**
baz=183,SNR=5.8
HSIG 53.06 319 P **P** **10 54 35.8 -0.8**
HSIG pP **pP** **10 55 07.3 +0.5**
K57A Scipio Center 53.08 358 P **P** **10 54 37.0 +0.5**
baz=177,SNR=20

K57A S **S** **11 01 56.5 -0.4**
baz=177
K54A Basiliko Farm, 53.08 356 P **P** **10 54 37.4 +0.9**
baz=174
K54A S **S** **11 01 57.0 +0.1**
baz=174
K59A Cooperstown 53.09 359 P **P** **10 54 37.2 +0.7**
baz=179,SNR=36
K59A S **S** **11 01 57.5 +0.6**
baz=179
K56A Middlesex 53.09 357 P **P** **10 54 37.2 +0.6**
baz=176,SNR=9.0
K56A S **S** **11 01 56.9 -0.1**
baz=176
K58A Earlville 53.09 359 P **P** **10 54 37.3 +0.8**
baz=178,SNR=32
K58A S **S** **11 01 56.5 -0.5**
baz=178
K58A Earlville 53.09 359 P **P** **10 54 37.2 +0.6**
K58A pP **pP** **10 55 07.1 +0.6**
MMNY Mt. Morris Dam 53.15 356 P **P** **10 54 37.2 +0.3**
MMNY IAmb IAmb 10 54 44.1
comp=Z,72nm,0.9s
N41A Harden Midland 53.32 344 P **P** **10 54 36.4 -1.9**
N41A IAmb IAmb 10 54 48.0
comp=Z,94nm,0.9s
N41A pP **pP** **10 55 07.7 -0.7**
AAM Ann Arbor 53.34 351 P **P** **10 54 37.3 -1.0**
baz=168,SNR=8.6
J60A Lant Hill Farm 53.55 1 P **P** **10 54 40.7 +0.8**
baz=181,SNR=17
J62A Henniker 53.57 2 P **P** **10 54 40.3 +0.3**
baz=183
121A Cookes Peak, D 53.60 324 P **P** **10 54 41.2 +0.5**
baz=137,SNR=24
121A S **S** **11 02 05.0 +0.4**
baz=137
121A Cookes Peak, D 53.60 324 P **P** **10 54 41.1 +0.5**
121A IAmb IAmb 10 54 42.2
comp=Z,87nm,1.4s
121A pP **pP** **10 55 12.4 +1.4**
J56A Wolcott 53.64 357 P **P** **10 54 40.9 +0.4**
baz=177,SNR=6.6
J56A S **S** **11 02 03.7 -0.6**
baz=177
J56A Wolcott 53.64 357 P **P** **10 54 40.4 -0.1**
K50A Casco 53.65 352 P **P** **10 54 39.8 -0.9**
J61A Chester 53.67 1 P **P** **10 54 41.5 +0.8**
baz=182
J58A Remsen 53.68 359 P **P** **10 54 41.4 +0.6**
baz=178,SNR=22
J58A S **S** **11 02 04.4 -0.5**
baz=178
KSU1 Kansas State U 53.69 338 P **P** **10 54 40.4 -0.6**
baz=152,SNR=8.9
KSU1 S **S** **11 02 02.1 -3.0**
baz=152
KSU1 Kansas State U 53.69 338 P **P** **10 54 39.8 -1.2**
KSU1 pP **pP** **10 55 10.8 -0.3**
ACCN Adirondack Com 53.69 0 P **P** **10 54 41.0 +0.1**
ACCN IAmb IAmb 10 54 44.0
comp=Z,50nm,1.1s
J57A Williamstown 53.74 358 P **P** **10 54 41.8 +0.5**
baz=178,SNR=10.0
J57A S **S** **11 02 04.8 -1.0**
baz=178
J59A Piesco 53.77 360 P **P** **10 54 42.2 +0.7**
baz=180,SNR=34
J59A S **S** **11 02 07.1 +0.9**
baz=180
FFD Franklin Falls 53.82 2 P **P** **10 54 41.8 0.0**
FFD IAmb IAmb 10 54 48.1
comp=Z,62nm,0.8s
FFD pP **pP** **10 55 13.4 +1.6**
I58A Old Forge 54.00 359 P **P** **10 54 43.8 +0.6**
baz=179,SNR=15
I58A S **S** **11 02 09.7 +0.4**
baz=179
N38A Joes South For 54.08 342 P **P** **10 54 42.1 -1.8**
N38A pP **pP** **10 55 13.8 -0.3**
I59A Olmsteadville 54.10 0 P **P** **10 54 44.5 +0.6**
baz=180,SNR=32
I59A S **S** **11 02 10.3 -0.3**
baz=180
I60A Shoreham 54.15 1 P **P** **10 54 45.1 +0.9**
baz=181,SNR=9.4
BNM Barren Site 54.16 327 P **P** **10 54 44.4 -0.5**
I62A Tamworth 54.24 2 P **P** **10 54 45.5 +0.7**
baz=183
I57A Carthage 54.26 359 P **P** **10 54 45.4 +0.4**
baz=178
I57A S **S** **11 02 11.7 -1.0**
baz=178
Y22D IRIS PASSCAL I 54.26 326 P **P** **10 54 45.2 -0.2**
baz=139
I61A Oroboro, Fairl 54.26 2 P **P** **10 54 46.1 +1.1**
baz=182,SNR=14
I61A S **S** **11 02 13.9 +1.1**
baz=182
PECO Prince Edward 54.30 357 P **P** **10 54 45.2 -0.1**
PECO IAmb IAmb 10 54 47.4
comp=Z,94nm,1.0s
LENM Lemitar 54.36 326 P **P** **10 54 46.5 +0.3**
LENM pP **pP** **10 55 18.9 +2.3**
I64A Boothbay 54.37 4 P **P** **10 54 46.7 +0.8**
baz=185
I63A Otisfield 54.45 3 P **P** **10 54 47.0 +0.6**
baz=184
I51A Listowel 54.48 354 P **P** **10 54 46.4 -0.3**
baz=172,SNR=7.9
LBNH Lisbon 54.58 2 P **P** **10 54 48.2 +0.9**
baz=183,SNR=10
LBNH Lisbon 54.58 2 P **P** **10 54 47.5 +0.1**
LBNH *PP **pP** **10 55 19.1 +1.6**
LBNH pmax pmax
comp=Z,84nm,1.2s
LBNH Lisbon 54.58 2 P **P** **10 54 47.5 +0.1**
LBNH IAmb IAmb 10 54 54.4
comp=Z,84nm,1.1s
LBNH pP **pP** **10 55 19.1 +1.6**
PMSA Palmer Station 54.58 175 P **P** **10 54 48.4 +1.3**
PMSA IAmb IAmb 10 54 53.6
comp=Z,105nm,1.4s
PMSA Palmer Station 54.58 175 *eP* **P** **10 54 49.5 +2.4**
CBKS Cedar Bluff 54.64 335 P **P** **10 54 47.9 -0.1**
baz=149,SNR=8.8
CBKS Cedar Bluff 54.64 335 P **P** **10 54 47.3 -0.7**
CBKS pP **pP** **10 55 18.8 +0.4**
VT1 Waterbury 54.65 1 P **P** **10 54 48.2 +0.3**
VT1 IAmb IAmb 10 54 54.5
comp=Z,58nm,1.0s
ANMO Albuquerque 54.67 327 LR LR 11 19 18.9
comp=Z,180nm,21.2s,baz=128,slow=37
ANMO Albuquerque 54.67 327 P **P** **10 54 48.1 -0.4**
baz=140
ANMO Albuquerque 54.67 327 *ceP* **P** **10 54 48.3 -0.2**
ANMO pmax pmax
comp=Z,33nm,1.4s
H58A Gabriels 54.72 360 P **P** **10 54 48.8 +0.4**
baz=180,SNR=27
H57A Richville 54.78 359 P **P** **10 54 49.2 +0.5**
baz=178,SNR=22
H57A S **S** **11 02 19.3 -0.3**
baz=178
H61A Lyndonville 54.87 2 P **P** **10 54 50.2 +0.8**
baz=183,SNR=13
H60A Morristown 54.88 1 P **P** **10 54 49.8 +0.3**
baz=182,SNR=11
DELO Deloro Mine 54.92 357 P **P** **10 54 49.6 -0.1**
DELO IAmb IAmb 10 54 56.7
comp=Z,65nm,0.8s
DELO pP **pP** **10 55 22.3 +2.4**
LONY Lake Ozonia 54.93 360 P **P** **10 54 50.4 +0.5**
baz=179,SNR=11
LONY S **S** **11 02 22.1 +0.5**
baz=179
LONY Lake Ozonia 54.93 360 P **P** **10 54 50.1 +0.2**
H62A Milan 54.94 3 P **P** **10 54 50.6 +0.6**
baz=184
H59A Cadyville 54.95 0 P **P** **10 54 50.6 +0.6**
baz=180,SNR=13
WVL Waterville 55.02 4 P **P** **10 54 50.6 +0.1**
WVL IAmb IAmb 10 54 56.2
comp=Z,68nm,1.1s
WVL pP **pP** **10 55 21.3 +0.8**
H53A Bobcaygeon 55.03 356 P **P** **10 54 50.6 0.0**

H53A S **S** **11 02 20.4 -2.6**
baz=175
H63A New Sharon 55.09 4 P **P** **10 54 52.0 +1.0**
baz=185,SNR=21
SCIA State Center 55.10 343 P **P** **10 54 50.7 -0.5**
baz=157
SCIA State Center 55.10 343 P **P** **10 54 50.5 -0.6**
SCIA pP **pP** **10 55 20.5 -1.0**
H64A Troy 55.12 4 P **P** **10 54 52.1 +0.9**
baz=186,SNR=5.6
TUC Tucson 55.21 322 P **P** **10 54 51.7 -0.5**
baz=134
TUC Tucson 55.21 322 P **P** **10 54 51.4 -0.9**
TUC pP **pP** **10 55 22.9 +0.2**
JFWS Jewell Farm 55.24 346 P **P** **10 54 51.9 -0.2**
baz=161
JFWS Jewell Farm 55.24 346 P **P** **10 54 50.5 -1.6**
JFWS IAmb IAmb 10 55 02.5
comp=Z,60nm,0.8s
JFWS pP **pP** **10 55 21.8 -0.5**
H65A Eastbrook 55.25 5 P **P** **10 54 52.9 +0.8**
baz=187
SADO Sadowa 55.27 356 P **P** **10 54 51.1 -1.1**
SADO IAmb IAmb 10 54 59.5
comp=Z,65nm,0.8s
T25A Trinidad 55.34 331 P **P** **10 54 53.4 +0.1**
baz=143,SNR=20
T25A Trinidad 55.34 331 P **P** **10 54 52.5 -0.8**
T25A pP **pP** **10 55 24.5 +0.9**
G59A Clarenceville 55.39 1 P **P** **10 54 52.9 -0.2**
baz=181
PLVO Plevna 55.41 357 P **P** **10 54 52.9 -0.4**
PLVO IAmb IAmb 10 54 55.4
comp=Z,47nm,1.0s
G57A Newington 55.41 359 P **P** **10 54 53.9 +0.6**
baz=179,SNR=16
G57A S **S** **11 02 26.6 -1.5**
baz=179
G60A Masonville 55.42 1 P **P** **10 54 54.5 +1.1**
baz=182,SNR=13
N33A J Bar K, Exete 55.43 339 P **P** **10 54 54.2 +0.6**
N33A pP **pP** **10 55 23.8 -0.2**
G58A Ormstown 55.45 0 P **P** **10 54 54.5 +0.9**
baz=180,SNR=14
G58A S **S** **11 02 28.8 +0.3**
baz=180
G63A Kingsbury 55.56 4 P **P** **10 54 55.1 +0.7**
baz=185,SNR=11
G62A West of Eustis 55.62 3 P **P** **10 54 55.9 +1.1**
baz=184,SNR=28
G61A St-Isidore-de- 55.63 2 P **P** **10 54 56.1 +1.2**
baz=183,SNR=19
G61A S **S** **11 02 31.0 0.0**
baz=183
MOQ Mont Orford 55.64 2 P **P** **10 54 55.6 +0.6**
MOQ pP **pP** **10 55 27.2 +2.0**
PKME Peaks-Kenny Pk 55.74 4 P **P** **10 54 56.2 +0.6**
baz=186,SNR=11
PKME Peaks-Kenny Pk 55.74 4 P **P** **10 54 55.9 +0.3**
PKME IAmb IAmb 10 55 00.1
comp=Z,86nm,1.1s
PKME pP **pP** **10 55 25.2 -0.6**
G64A Maxfield 55.76 5 P **P** **10 54 56.3 +0.5**
baz=186,SNR=7.4
G65A Princeton 55.81 6 P **P** **10 54 56.9 +0.7**
baz=188,SNR=18
G54A Lake Saint Pet 55.82 357 P **P** **10 54 56.8 +0.5**
baz=175,SNR=12
G54A S **S** **11 02 30.8 -2.7**
baz=175
I42A Draeger Farm, 55.85 347 P **P** **10 54 55.6 -0.9**
KSCO Kaye Shedlock' 56.04 333 P **P** **10 54 57.9 -0.1**
baz=146,SNR=12
SACV Santiago Islan 56.07 64 P **P** **10 54 57.8 -0.8**
SACV IAmb IAmb 10 55 01.6
comp=Z,92nm,1.0s
F57A Harrington 56.12 359 P **P** **10 55 00.1 +1.8**
baz=179
F57A S **S** **11 02 37.5 +0.1**
baz=179
L34A Svendsen Farm, 56.15 340 P **P** **10 54 57.6 -1.0**
L34A pP **pP** **10 55 28.4 -0.6**
F59A Saint Guilaume 56.17 1 P **P** **10 54 59.7 +1.1**
baz=182
F63A Nahmakanta, Br 56.19 4 P **P** **10 54 59.6 +0.8**
baz=186
214A Organ Pipe Nat 56.22 320 P **P** **10 54 59.4 0.0**
baz=132,SNR=14
214A S **S** **11 02 40.2 +0.8**
baz=132
BGNE Belgrade 56.27 338 P **P** **10 54 59.7 +0.1**
baz=151
BGNE S **S** **11 02 36.7 -3.0**
baz=151
BGNE Belgrade 56.27 338 P **P** **10 54 59.1 -0.5**
BGNE pP **pP** **10 55 29.5 -0.5**
F60A Warwick 56.30 2 P **P** **10 54 59.9 +0.3**
baz=182,SNR=18
F61A St Evariste 56.35 3 P **P** **10 55 00.2 +0.2**
baz=184,SNR=8.6
SDCO Great Sand Dun 56.35 330 P **P** **10 55 00.3 -0.2**
baz=142,SNR=56
SDCO Great Sand Dun 56.35 330 P **P** **10 55 00.7 +0.1**
SDCO IAmb IAmb 10 55 01.6
comp=Z,62nm,1.4s
SDCO pP **pP** **10 55 31.9 +0.9**
ALGO Algonquin Park 56.37 357 P **P** **10 55 00.6 +0.4**
baz=175,SNR=7.8
F64A Sherman 56.40 5 P **P** **10 55 01.0 +0.7**
baz=187,SNR=14
W18A Petrified Fore 56.59 325 P **P** **10 55 02.7 +0.6**
baz=137,SNR=12
W18A S **S** **11 02 45.4 +0.9**
baz=137
W18A Petrified Fore 56.59 325 P **P** **10 55 02.2 0.0**
W18A IAmb IAmb 10 55 05.3
comp=Z,90nm,1.4s
W18A pP **pP** **10 55 33.4 +0.7**
E58A La Victoria 56.68 1 P **P** **10 55 02.7 +0.4**
baz=181,SNR=18
E57A Chemin Saint G 56.72 360 P **P** **10 55 02.9 +0.3**
baz=180,SNR=14
E57A S **S** **11 02 45.4 0.0**
baz=180
E60A Ste Agathe de 56.72 2 P **P** **10 55 02.7 +0.1**
baz=183
LMN Caledonia Moun 56.77 8 P **P** **10 55 02.7 -0.3**
LMN pP **pP** **10 55 33.0 -0.3**
E55A Montcerf-Lytto 56.79 358 P **P** **10 55 03.5 +0.5**
baz=178,SNR=13
E55A S **S** **11 02 46.0 -0.2**
baz=178
E61A Lac Etchemin 56.83 3 P **P** **10 55 04.0 +0.6**
baz=184,SNR=15
E56A St. Veronique 56.85 359 P **P** **10 55 03.9 +0.4**
baz=179,SNR=23
E56A S **S** **11 02 46.2 -0.9**
baz=179
GBN Guysborough 56.85 11 P **P** **10 55 04.2 +0.7**
GBN pP **pP** **10 55 34.5 +0.6**
E63A Oxbow 56.95 5 P **P** **10 55 04.9 +0.6**
baz=187,SNR=8.2
E63A Oxbow 56.95 5 P **P** **10 55 04.1 -0.1**
E63A IAmb IAmb 10 55 09.2
comp=Z,35nm,0.8s
E64A Bridgewater 57.00 5 P **P** **10 55 04.9 +0.4**
baz=187
S22A 4UR Ranch, Cre 57.01 329 P **P** **10 55 04.9 -0.3**
baz=141,SNR=14
S22A 4UR Ranch, Cre 57.01 329 P **P** **10 55 04.7 -0.5**
S22A pP **pP** **10 55 37.2 +1.3**
E62A Clayton Lake 57.07 4 P **P** **10 55 06.0 +0.9**
baz=185,SNR=13
Q24A Divide 57.15 331 P **P** **10 55 06.0 -0.2**
baz=143
PQI Presque Isle 57.23 5 P **P** **10 55 06.2 0.0**
PQI IAmb IAmb 10 55 12.3
comp=Z,36nm,0.9s
PQI pP **pP** **10 55 37.4 +0.9**
D60A Saint Jean D'O 57.29 3 P **P** **10 55 07.0 +0.5**
baz=184
D55A Sainte-Anne-du 57.34 359 P **P** **10 55 07.1 +0.2**
baz=178,SNR=18
D55A S **S** **11 02 52.2 -1.2**
baz=178

SPX	San Pedro Mart	57.34	318	P		P		10 55 05.8	-1.9
D59A	Saint-Raymond	57.35	2	P		P		10 55 07.0	0.0
	baz=183								
D56A	ZEC Mazanza, M	57.36	359	P		P		10 55 07.1	0.0
	baz=179,SNR=13								
D56A				S		S		11 02 53.1	-0.6
	baz=179								
D58A	Chemin du LacG	57.41	1	P		P		10 55 08.0	+0.6
	baz=181,SNR=32								
D58A				S		S		11 02 53.6	-0.8
	baz=181								
G40A	Rib Lake	57.45	347	P		P		10 55 06.7	-1.1
MVCO	Mesa Verde	57.46	328	P		P		10 55 08.0	-0.4
	baz=139,SNR=17								
MVCO				S		S		11 02 55.0	-1.0
	baz=139								
MVCO	Mesa Verde	57.46	328	P		P		10 55 07.2	-1.1
MVCO				pP		pP		10 55 40.1	+1.2
D62A	Allapoint, All	57.56	4	P		P		10 55 09.3	+0.8
	baz=186,SNR=16								
D63A	Stockholm	57.59	5	P		P		10 55 09.5	+0.8
	baz=187,SNR=7.7								
D61A	St Aubert, Com	57.61	3	P		P		10 55 09.8	+1.0
	baz=184,SNR=14								
LATQ	La Tuque	57.70	1	P		P		10 55 09.9	+0.5
	baz=182,SNR=16								
LATQ	La Tuque	57.70	1	P		P		10 55 08.8	-0.6
LATQ				pP		pP		10 55 39.8	0.0
ECSD	EROS Data Cent	57.80	341	P		P		10 55 09.7	-0.7
	baz=154,SNR=10								
ECSD				S		S		11 02 55.3	-4.4
	baz=154								
ECSD	EROS Data Cent	57.80	341	P		P		10 55 09.1	-1.2
ECSD				lAmb		lAmb		10 55 22.0	
	comp=Z,43nm,1.1s								
ECSD				pP		pP		10 55 40.2	-0.6
WUAZ	Wupatki	57.81	324	P		P		10 55 10.9	+0.2
	baz=135,SNR=21								
WUAZ				S		S		11 03 00.3	-0.1
	baz=135								
WUAZ	Wupatki	57.81	324	P		P		10 55 11.2	+0.5
WUAZ				lAmb		lAmb		10 55 12.1	
	comp=Z,81nm,1.4s								
WUAZ				pP		pP		10 55 43.1	+1.7
COWI	Conover	58.01	348	P		P		10 55 10.1	-1.6
COWI				lAmb		lAmb		10 55 20.8	
	comp=Z,35nm,0.8s								
COWI				pP		pP		10 55 41.8	-0.4
BATG	Bathurst New B	58.02	6	P		P		10 55 11.5	-0.3
BATG				lAmb		lAmb		10 55 17.8	
	comp=Z,61nm,0.9s								
BATG				pP		pP		10 55 43.1	+0.9
ISCO	Idaho Springs	58.03	332	P		P		10 55 12.1	-0.2
	baz=143,SNR=13								
ISCO				S		S		11 03 03.8	+0.3
	baz=143								
ISCO	Idaho Springs	58.03	332	P		P		10 55 11.6	-0.7
ISCO				pP		pP		10 55 43.5	+0.5
SPMN	Marine on St.	58.05	344	P		P		10 55 11.1	-0.8
	baz=158,SNR=15								
SPMN				S		S		11 02 57.8	-5.0
	baz=158								
SPMN	Marine on St.	58.05	344	P		P		10 55 10.4	-1.5
SPMN				pP		pP		10 55 42.2	-0.1
PV01	Paradox Valley	58.20	328	P		P		10 55 12.9	-0.6
PV01				lAmb		lAmb		10 55 14.5	
	comp=Z,71nm,1.4s								
PV01				pP		pP		10 55 45.1	+0.9
GLA	Glamis	58.22	320	P		P		10 55 14.2	+0.7
	baz=131								
VLDQ	Val d'Or	58.49	357	P		P		10 55 14.8	-0.1
VLDQ				lAmb		lAmb		10 55 22.8	
	comp=Z,62nm,0.9s								
VLDQ				pP		pP		10 55 48.0	+2.5
PDMC	Parker Dam,Lak	58.62	321	P		P		10 55 15.8	-0.3
	baz=132								
IKP	In-Ko-Pah, Jac	58.78	319	P		P		10 55 18.4	+1.0
	baz=130								
H10N3	ASCENSION HYDR	58.80	93	P		P		10 55 18.2	+0.8
	baz=256,slow=6.9,SNR=5.6								
H10N2	ASCENSION HYDR	58.81	93	P		P		10 55 18.2	+0.6
	baz=256,slow=6.9,SNR=7.5								
H10N1	ASCENSION HYDR	58.82	93	P		P		10 55 18.1	+0.6
	baz=256,slow=6.9,SNR=5.3								
F36A	Milaca	58.83	344	P		P		10 55 16.4	-1.0
F36A				lAmb		lAmb		10 55 27.9	
	comp=Z,102nm,1.1s								
F36A				pP		pP		10 55 47.7	-0.2
ASCN	Ascension	58.92	93	P		P		10 55 18.1	-0.6
BC3	Big Chuckawall	59.01	320	P		P		10 55 19.3	+0.3
	baz=131,SNR=16								
N23A	Red Feather La	59.05	332	P		P		10 55 19.8	+0.5
	baz=143								
MONP2	Monument Peak	59.14	319	P		P		10 55 19.6	-0.4
	baz=130								
IRM	Iron Mountain	59.15	321	P		P		10 55 20.2	+0.4
	baz=131,SNR=30								
PHWY	Pilot Hill	59.16	333	P		P		10 55 20.1	0.0
PHWY				pP		pP		10 55 51.0	+0.1
BAR	Barrett	59.17	318	P		P		10 55 20.2	+0.2
SUSD	Miller	59.22	339	S		S		11 03 14.7	-3.2
	baz=151								
LSQQ	Lebel-sur-Quev	59.42	358	P		P		10 55 21.5	+0.2
	baz=177								
O20A	White River Ci	59.55	330	P		P		10 55 22.6	-0.1
	baz=140,SNR=12								
BELC	Belle Mtn. Jos	59.58	320	P		P		10 55 22.9	0.0
	baz=130,SNR=11								
109C	Camp Elliot, M	59.58	318	P		P		10 55 22.5	-0.3
	baz=129								
TPFO	Pinon Flats	59.62	319	P		P		10 55 23.8	+0.6
	baz=130,SNR=7.6								
PFO	Pinyon Flats O	59.62	319	P		P		10 55 23.8	+0.6
	baz=130,SNR=7.7								
PFO	Pinyon Flats O	59.62	319	*i* P		P		10 55 19.9	-3.3
PFO				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PFO	Pinyon Flats O	59.62	319	P		P		10 55 23.1	-0.1
PFO				pP		pP		10 55 56.0	+1.9
GMRC	Granite Mounta	59.88	321	P		P		10 55 25.0	+0.1
	baz=131,SNR=15								
LCMT	Little Creek M	59.94	324	P		P		10 55 25.2	-0.2
LCMT				pP		pP		10 55 57.8	+1.6
MTPU	Mount Pierson	60.06	326	P		P		10 55 25.9	-0.6
MTPU				pP		pP		10 55 58.2	+0.9
MURC	Murrieta	60.09	319	P		P		10 55 26.9	+0.5
	baz=129								
MATQ	Matagami	60.15	357	P		P		10 55 26.2	-0.1
	baz=176,SNR=19								
MATQ				S		S		11 03 26.1	-3.5
	baz=176								
CHGQ	Chibougamau	60.22	360	P		P		10 55 26.8	0.0
	baz=180,SNR=11								
CHGQ				S		S		11 03 28.9	-1.7
	baz=180								
RWWY	Rawlins	60.27	332	P		P		10 55 28.0	+0.3
RWWY				pP		pP		10 55 58.9	+0.3
EYMN	Ely	60.27	347	P		P		10 55 26.8	-0.5
	baz=160,SNR=11								
EYMN				S		S		11 03 25.6	-5.8
	baz=160								
HEC	Hector,Ludlow	60.33	320	P		P		10 55 29.0	+1.1
	baz=130								
BBRC	Big Bear Solar	60.33	320	P		P		10 55 28.8	+0.6
	baz=130								
CCUT	Cedar City	60.38	325	P		P		10 55 28.9	+0.4
CCUT				pP		pP		10 56 00.9	+1.6
TUQ	Turquoise Moun	60.47	321	P		P		10 55 29.2	+0.3
	baz=131,SNR=8.7								
K22A	Casper	60.72	333	P		P		10 55 30.6	+0.1
	baz=143,SNR=8.2								
K22A				S		S		11 03 37.6	+0.1
	baz=143								
RRX	Edison Barstow	60.77	320	P		P		10 55 32.0	+1.1
	baz=130								
BFSC	Mount Baldy Ra	60.79	319	P		P		10 55 31.7	+0.5
	baz=129								
RSSD	Black Hills	60.85	336	P		P		10 55 32.1	+0.6
	baz=146								
RSSD	Black Hills	60.85	336	P		P		10 55 30.9	-0.6
RSSD				pP		pP		10 56 03.1	+0.9
GSC	Goldstone, Bar	60.93	321	P		P		10 55 32.2	+0.2
	baz=130,SNR=10.0								
SHOC	Shoshone, Teco	60.99	321	P		P		10 55 33.1	+0.8
	baz=131								
PASC	Pasadena Art C	61.09	319	P		P		10 55 34.0	+0.9
PASC				pP		pP		10 56 05.3	+1.3
DECC	Green Verdugo	61.23	319	P		P		10 55 35.3	+1.2
	baz=129,SNR=6.1								
PSUT	Pine Spring	61.34	325	P		P		10 55 34.5	-0.4
PSUT				pP		pP		10 56 07.6	+1.7
EDW2	Edwards Air Fo	61.41	319	P		P		10 55 35.4	+0.1
	baz=129,SNR=6.3								
JLU	Jordanelle	61.52	328	P		P		10 55 35.9	-0.2
JLU				pP		pP		10 56 07.4	+0.2
TPNV	Topopah Spring	61.66	322	P		P		10 55 37.9	+0.8
	baz=132,SNR=14								
TPNV	Topopah Spring	61.66	322	P		P		10 55 37.2	+0.2
TPNV				pP		pP		10 56 09.9	+1.8
AGMN	Agassiz Nation	61.70	344	P		P		10 55 36.6	-0.3
	baz=156,SNR=12								
AGMN	Agassiz Nation	61.70	344	P		P		10 55 35.7	-1.2
AGMN				pP		pP		10 56 07.6	0.0
FURC	Furnace Creek,	61.72	322	P		P		10 55 37.7	+0.6
	baz=131,SNR=18								
CTU	Camp Tracy	61.74	328	P		P		10 55 36.5	-1.0
CTU				pP		pP		10 56 09.0	+0.4
MPMC	Manual Prospec	61.84	321	P		P		10 55 38.1	-0.2
	baz=130,SNR=13								
DUG	Dugway, Tooele	61.94	327	P		P		10 55 39.0	+0.1
	baz=136,SNR=30								
ARVC	Arvin	62.10	319	P		P		10 55 39.9	+0.1
	baz=128								
R11A	Troy Canyon, C	62.20	324	P		P		10 55 41.1	+0.5
	baz=133,SNR=41								
PDAR	Pinedale Array	62.20	331	P		P		10 55 39.8	-0.9
	comp=Z,6.0nm,0.5s,baz=122,slow=8.5,SNR=46								
PDAR				pP		pP		10 56 11.1	-0.7
	comp=Z,42nm,1.0s,baz=152,slow=7.7,SNR=11								
PDAR				LR		LR		11 24 45.7	
	comp=Z,149nm,19.6s,baz=128,slow=38								
PDAR				PKPPKP		P'P'df		11 24 46.6	+0.9
	comp=Z,0.6nm,0.8s,baz=349,slow=0.9,SNR=2.4								
PDAR	Pinedale Array	62.20	331	P		P		10 55 39.3	-1.3
PDAR				pP		pP		10 56 11.7	-0.1
BW06	Boulder Array	62.20	331	P		P		10 55 39.9	-0.8
	baz=140,SNR=15								
BW06	Boulder Array	62.20	331	P		P		10 55 39.3	-1.3
BW06				pP		pP		10 56 11.7	-0.1
ISA	Isabella, Lake	62.20	320	P		P		10 55 40.6	0.0
	baz=129,SNR=9.4								
MDND	Maddock	62.42	341	P		P		10 55 43.2	+1.5
	baz=152								
MDND				S		S		11 03 58.0	-0.6
	baz=152								
CWC	Cottonwood Cre	62.45	321	P		P		10 55 42.6	+0.3
	baz=130								
PKM	Mcpherson Peak	62.59	318	P		P		10 55 43.6	+0.3
	baz=128								
VES	Vestal, Richgr	62.70	320	P		P		10 55 44.7	+0.9
	baz=129,SNR=13								
TIN	Tinemaha, Big	62.93	321	P		P		10 55 46.3	+0.8
	baz=130,SNR=6.2								
AHID	Auburn Hatcher	62.95	330	P		P		10 55 45.2	-0.3
AHID				pP		pP		10 56 16.1	-0.7
SMMC	Simmler	62.97	319	P		P		10 55 46.4	+0.8
	baz=128								
ECR	Eagle Creek	63.29	330	P		P		10 55 47.5	-0.3
ECR				pP		pP		10 56 19.9	+0.8
PAGB	Antelope Grade	63.38	319	P		P		10 55 48.3	-0.1
PAGB				pP		pP		10 56 19.8	+0.2
ULM	Lac du Bonnet	63.49	345	P		P		10 55 47.4	-1.2
	comp=Z,42nm,0.8s,baz=158,slow=6.4,SNR=39								
ULM				pP		pP		10 56 19.0	-0.6
	comp=Z,94nm,0.8s,baz=157,slow=7.0,SNR=6.1								
ELK	Elko	63.64	326	LR		LR		11 23 03.2	
	comp=Z,198nm,19.8s,baz=126,slow=35								
ELK	Elko	63.64	326	P		P		10 55 49.4	-0.8
ELK				pP		pP		10 56 21.9	+0.5
MLAC	Mammoth, Mammo	63.67	321	P		P		10 55 51.5	+1.0
	baz=130								
NV11	Mina Array Sit	63.77	322	P		P		10 55 51.8	+0.8
NV11				pP		pP		10 56 23.9	+1.7
MDPB	Devils Postpil	63.82	321	P		P		10 55 51.0	-0.5
MDPB				pP		pP		10 56 23.9	+1.2
LAO	LASA Array	63.84	336	P		P		10 55 51.4	+0.2
	baz=144								
NVAR	Mina Array Bea	63.86	322	P		P		10 55 51.2	-0.5
	comp=Z,5.9nm,0.5s,baz=174,slow=6.7,SNR=54								
NVAR				pP		pP		10 56 23.6	+0.7
	comp=Z,18nm,0.8s,baz=143,slow=6.8,SNR=11								
NVAR				PKPPKP		P'P'df		11 24 43.8	+0.2
	comp=Z,0.1nm,0.3s,baz=278,slow=8.1,SNR=1.9								
LHV	Little Huntoon	63.87	322	P		P		10 55 52.0	+0.6
LHV				pP		pP		10 56 24.2	+1.6
RLMT	Red Lodge	63.88	333	P		P		10 55 51.5	-0.1
	baz=141,SNR=10								
H17A	Grant Village	63.92	332	P		P		10 55 52.9	+1.0
	baz=139								
H17A	Grant Village	63.92	332	P		P		10 55 52.8	+0.8
H17A				pP		PcP		10 56 25.1	-1.4
YPP	Pitchstone Pla	63.94	331	P		P		10 55 52.5	+0.3
YPP				pP		pP		10 56 22.7	-0.7
RYN	Ryan	64.12	322	P		P		10 55 52.8	-0.5
RYN				pP		pP		10 56 25.9	+1.3
YNE	Yellowstone No	64.13	332	P		P		10 55 51.6	-1.7
YNE				pP		pP		10 56 24.0	-0.6
KVN	Kaiserville	64.14	323	P		P		10 55 52.5	-0.9
KVN				pP		pP		10 56 25.9	+1.2
YNR	Norris Junctio	64.21	332	P		P		10 55 54.1	+0.2
YNR				pP		pP		10 56 25.9	+0.7
YHH	Holmes Hill	64.35	332	P		P		10 55 54.9	0.0
YHH				pP		pP		10 56 25.8	-0.3
DGMT	Dagmar	64.53	338	P		P		10 55 56.8	+1.2
	baz=147,SNR=9.1								
WAKR	Walker	64.59	322	P		P		10 55 56.9	+0.5
WAKR				pP		pP		10 56 28.4	+0.7
YERR	Yerington	64.78	322	P		P		10 55 57.1	-0.5
YERR				pP		PcP		10 56 30.4	+0.4
TAOE	Nuku Hiva Isla	65.04	265	*e*S		S		11 04 31.4	-1.1
	comp=Z,2μm,25.5s								
TAOE	Nuku Hiva Isla	65.04	265	*e*LR		LR		11 15 40.3	
	comp=Z,1μm,28.3s								
HLID	Hailey	65.19	329	P		P		10 56 00.2	+0.1
	baz=136,SNR=18								
BOZ	Bozeman (W)	65.32	332	P		P		10 56 00.7	-0.2
	baz=139,SNR=19								
SCHQ	Schefferville	65.43	5	P		P		10 56 01.1	-0.1
	comp=Z,42nm,0.8s,baz=212,slow=5.4,SNR=19								
SCHQ				pP		pP		10 56 33.6	+1.2
	comp=Z,110nm,1.0s,baz=184,slow=5.1,SNR=8.5								
SCHQ	Schefferville	65.43	5	P		P		10 56 01.7	+0.4
SCHQ				lAmb		lAmb		10 56 06.4	
	comp=Z,38nm,0.8s								
SCHQ				pP		pP		10 56 34.3	+1.9
DLMT	Dillon	65.60	331	P		P		10 56 02.2	-0.5
DLMT				pP		PcP		10 56 33.6	+0.3
AFDM	Forest Hills D	65.81	321	P		P		10 56 03.0	-1.0
AFDM				pP		pP		10 56 36.6	+1.2
EGMT	Eagleton	66.35	335	P		P		10 56 07.5	+0.1
	baz=141,SNR=7.1								
O03E	Paynes Creek	67.14	322	P		P		10 56 12.2	-0.3
	baz=128								
J08A	Circle Bar Ran	67.19	326	P		P		10 56 11.7	-1.2
MSO	Missoula	67.31	332	P		P		10 56 14.0	+0.5
	baz=137,SNR=12								
O02D	Mt. Diablo Mer	67.67	322	P		P		10 56 15.6	-0.3
	baz=127								
MACI	Morro de la Ar	67.70	54	P		P		10 56 16.4	0.0
M04C	Macdoel	68.08	323	P		P		10 56 18.8	+0.3
	baz=128,SNR=11								
N02D	Trinity Center	68.10	322	P		P		10 56 18.1	-0.5
	baz=127								
K05A	Summer Lake	68.12	325	P		P		10 56 19.1	+0.3
K05A				lAmb		lAmb		10 56 21.3	
	comp=Z,119nm,1.5s								
I07A	Izee	68.22	326	P		P		10 56 19.3	0.0
I07A				lAmb		lAmb		10 56 21.4	
	comp=Z,37nm,0.6s								
I07A				pP		pP		10 56 50.5	-0.4
F10A	Beach Ranch, E	68.30	329	P		P		10 56 20.4	+0.6
F10A				pP		pP		10 56 52.6	+1.2
M02C	Callahan	68.44	323	P		P		10 56 20.1	-0.6
	baz=127,SNR=15								
K04D	Chiloquin, OR	68.55	324	P		P		10 56 22.2	+0.8
	baz=129,SNR=5.2								
L04D	Klamath Falls	68.62	323	P		P		10 56 22.0	+0.1
	baz=128,SNR=7.3								
J05D	Fort Rock, OR	68.67	325	P		P		10 56 22.6	+0.5
	baz=129,SNR=10								
G08A	Pilot Rock	68.73	328	P		P		10 56 22.3	-0.2
G08A				pP		pP		10 56 54.0	-0.2
PINE	Pine Mountain	68.83	325	P		P		10 56 23.0	-0.1
PINE				pP		pP		10 56 55.0	+0.1
WALA	Waterton Lakes	68.94	333	P		P		10 56 22.6	-1.1
WALA				pP		pP		10 56 55.4	+0.2
J04D	Umpqua Nationa	69.14	324	P		P		10 56 25.6	+0.4
	baz=129,SNR=11								
PMOZ	Porto Moniz, M	69.26	49	*e*P		P		10 56 27.2	+1.2
	comp=Z,133nm,2.3s								
PMOZ	Porto Moniz, M	69.26	49	P		P		10 56 26.1	+0.2
L02E	Cave Junction	69.35	323	P		P		10 56 26.5	+0.3
	baz=127,SNR=10								
I05D	Terrebonne, OR	69.40	326	P		P		10 56 27.1	+0.6
	baz=130,SNR=17								
I04A	Tendick Farm,	69.66	325	P		P		10 56 28.1	0.0
	baz=128								
K02D	Willamette Mer	69.71	323	P		P		10 56 29.0	+0.5
	baz=127,SNR=18								
HAWA	Hanford	69.77	328	P		P		10 56 29.2	+0.6
HAWA				pP		pP		10 57 00.9	+0.5
NEW	Newport	69.84	331	P		P		10 56 29.7	+0.5
	baz=134								
NEW				S		S		11 05 27.7	-0.8
	baz=134								
G05D	Wamic, OR	69.96	326	P		P		10 56 31.1	+1.1
	baz=130								
I03D	Drain, OR	70.13	324	P		P		10 56 31.7	+0.8
	baz=128,SNR=14								
J01E	Myrtle Point	70.14	324	P		P		10 56 32.2	+1.2
	baz=127								
BELA	Belgrano 2	70.21	172	P		P		10 56 32.2	+1.3
H04D	Lebanon	70.29	325	P		P		10 56 31.9	0.0
	baz=128,SNR=8.3								
F05D	White Salmon	70.45	327	P		P		10 56 34.0	+1.2
	baz=130								
I02D	Swisshome	70.67	324	P		P		10 56 35.4	+1.3
	baz=127,SNR=8.0								
LIC	Lamto	70.73	80	*e*P		P		10 56 33.5	-1.7
	comp=Z,75nm,0.7s								
TIC	Toumodi	70.84	79	*e*P		P		10 56 34.5	-1.4
DBIC	Dimbokro	71.00	79	P		P		10 56 36.4	-0.5
	comp=Z,72nm,0.5s,baz=232,slow=6.0,SNR=214								
DBIC				pP		pP		10 57 07.5	-1.0
	comp=Z,83nm,0.8s,baz=245,slow=5.1,SNR=7.8								
DBIC				LR		LR		11 25 12.3	
	comp=Z,494nm,21.4s,baz=231,slow=34								
DBIC	Dimbokro	71.00	79	P		P		10 56 35.8	-1.1
DBIC				pP		pP		10 57 07.0	-1.4
KIC	Kosan Boka	71.04	80	*e*P		P		10 56 35.5	-1.6
	comp=Z,478nm,1.0s								
F04D	Rainier, OR	71.41	326	P		P		10 56 39.7	+1.1
	baz=129								
VAH	Vaihoa	71.56	257	*e*P		P		10 56 40.5	+0.3
	comp=Z,88nm,1.1s								
D05A	Enumclaw	71.56	328	P		P		10 56 39.6	+0.1
D05A				lAmb		lAmb		10 56 42.0	
	comp=Z,58nm,0.9s								
D05A				pP		pP		10 57 11.7	+0.2
MEH	Mehetia	71.71	255	*e*P		P		10 56 41.4	+0.3
	comp=Z,22nm,1.0s								
PMOR	Pomariqio Ree	71.84	258	*e*P		P		10 56 42.3	+0.4
	comp=Z,204nm,1.4s								
PMOR				*e*pP		pP		10 57 17.9	+4.1
	comp=Z,127nm,1.3s								
VNA3	Neumayer Olymp	71.95	162	P		P		10 56 43.1	+1.5
VNA1	Neumayer--Stat	72.18	161	P		P		10 56 44.9	+2.0
B05A	Bryant	72.31	329	P		P		10 56 44.1	+0.1
	baz=130,SNR=9.2								
D03D	Eldon	72.36	328	P		P		10 56 44.9	+0.6
	baz=129								
VNA2	Neumayer--Watz	72.54	162	P		P		10 56 46.6	+1.6
TBI	Tubuai	72.56	249	*e*S		S		11 06 00.1	-0.6
	comp=Z,557nm,27.5s								
TBI	Tubuai	72.56	249	*e*LQ		LQ		11 16 05.2	
	comp=Z,606nm,36.2s								
TBI				*e*LR		LR		11 19 15.2	
	comp=Z,698nm,42.5s								
A04D	Lummi Island	72.91	329	P		P		10 56 47.8	+0.3
	baz=130								
PPT2	Papeete2	73.17	255	*e*P		P		10 56 50.3	+0.5
	comp=Z,62nm,1.3s								
PPT2				*e*S		S		11 06 07.7	-0.3
	comp=Z,443nm,27.0s								
PPT2	Papeete2	73.17	255	*e*LR		LR		11 19 28.0	
	comp=Z,1μm,27.0s,baz=97								
PPT	Papeete	73.17	255	P		P		10 56 49.8	0.0
	comp=Z,18nm,0.5s,baz=107,slow=3.4,SNR=4.4								
PPT				LR		LR		11 22 07.2	
	comp=Z,337nm,18.8s,baz=84,slow=30								
KOWA	Kowa	73.77	71	P		P		10 56 52.5	-0.7
KOWA				pP		pP		10 57 24.8	-0.2
SNAA	Sanae	74.16	162	P		P		10 56 55.4	+0.8
SNAA	Sanae	74.16	162	*ce*P		P		10 56 55.9	+1.3
SNAA				pmax		pmax			
	comp=Z,125nm,1.3s								
SNAA	Sanae	74.16	162	P		P		10 56 55.7	+1.1
SNAA				lAmb		lAmb		10 56 57.2	
	comp=Z,95nm,1.0s								
TTIG	Tnine Tigouga,	75.06	54	P		P		10 57 03.0	+2.4
	SNR=10								
OUK	Oukaimeden	75.76	54	P		P		10 57 07.0	+2.1
	SNR=14								
OUZM	OUZ	76.53	55	P		P		10 57 11.0	+2.0
	SNR=23								
ZGR	Zagora	77.18	56	P		P		10 57 15.0	+2.4
	SNR=12								
PFVI	Vila Bisbo	77.32	48	*e*P		P		10 57 14.8	+1.8
	comp=Z,125nm,1.8s								
PFVI				*e*pP		pP		10 57 46.9	+1.8
PFVI	Vila Bisbo	77.32	48	P		P		10 57 13.9	+0.8
TZRR	Tazzarine	77.45	55	P		P		10 57 17.1	+3.0
	SNR=8.5								
MORF	Marmelete	77.52	48	*e*P		P		10 57 15.6	+1.4
MORF				AMb		AMB		10 57 18.3	
	comp=Z,151nm,1.

NVL **N'lazarevskaya** 78.75 160 *e*P **P** **10 57 21.0 +0.7**
NVL *e**PP **pP** **10 57 53.9 +1.2**
NVL *eS **S** **11 07 02.5 -4.6**
NVL *eS **S** **11 07 02.8 -4.3**
NVL pmax pmax
comp=Z,7.0nm,0.5s
ARF **Arif** 78.76 55 P **P** **10 57 24.0 +2.7**
SNR=7.8
TOA0 **Torodi Ar. Sit** 78.80 74 P **P** **10 57 21.3 -0.4**
TOA0 IAmb IAmb 10 57 23.1
comp=Z,110nm,0.8s
TOA0 pP **pP** **10 57 52.7 -1.2**
TORD **Torodi Ar. Bea** 78.80 74 P **P** **10 57 21.1 -0.6**
comp=Z,79nm,0.7s,baz=277,slow=5.8,SNR=279
TORD pP **pP** **10 57 52.6 -1.2**
comp=Z,123nm,0.9s,baz=266,slow=4.5,SNR=8.1
TORD S **S** **11 07 05.6 -4.0**
comp=Z,4.6nm,1.2s,baz=253,slow=12,SNR=9.4
TORD LR LR 11 30 04.9
comp=Z,440nm,20.9s,baz=260,slow=34
TORD **Torodi Ar. Bea** 78.80 74 P **P** **10 57 20.6 -1.1**
TORD pP **pP** **10 57 53.4 -0.5**
SICH **Sidi Chahed** 78.82 52 P **P** **10 57 24.0 +2.6**
SNR=6.9
COI **Coimbra** 78.86 45 P **P** **10 57 22.4 +0.9**
COI *PP **pP** **10 57 52.8 -0.8**
COI pmax pmax
comp=Z,58nm,0.9s
COI **Coimbra** 78.86 45 *e*P **P** **10 57 23.0 +1.5**
comp=Z,163nm,2.0s
COI *epP **pP** **10 57 55.2 +1.6**
COI **Coimbra** 78.86 45 P **P** **10 57 22.4 +0.9**
COI IAmb IAmb 10 57 26.1
comp=Z,58nm,0.8s
COI pP **pP** **10 57 52.8 -0.8**
MDT **MideIt** 78.92 53 P **P** **10 57 23.5 +1.4**
SNR=6.6
LCRM **LCR** 79.03 53 P **P** **10 57 25.0 +2.2**
SNR=6.5
SFJD **Kangerlussuaq** 79.22 9 *i*P **P** **10 57 22.7 -0.1**
SFJD *i* 10 57 53.0
SFJD **Kangerlussuaq** 79.22 9 *i*P **P** **10 57 22.7 -0.1**
SFJD *i* 10 57 53.0
SFJD **Kangerlussuaq** 79.22 9 *i*P **P** **10 57 22.8 -0.1**
SFJD *i* 10 57 53.1
PMRV **Marv??o** 79.27 46 *e*P **P** **10 57 24.2 +0.4**
comp=Z,37nm,1.7s
YKA **Yellowknife Ar** 79.30 342 P **P** **10 57 22.9 -0.5**
comp=Z,38nm,0.8s,baz=135,slow=5.8,SNR=121
YKA pP **pP** **10 57 54.2 -1.4**
comp=Z,65nm,1.0s,baz=134,slow=5.9,SNR=7.6
PCBR **Castelo Branco** 79.37 46 *e*P **P** **10 57 24.7 +0.4**
comp=Z,54nm,1.5s
PCBR *epP **pP** **10 57 55.4 -1.0**
PVIS **Viseu** 79.43 45 *e*P **P** **10 57 25.3 +0.7**
comp=Z,73nm,1.5s
PVIS *epP **pP** **10 57 56.7 -0.1**
MTE **Manteigas** 79.55 45 *e*P **P** **10 57 25.9 +0.6**
comp=Z,63nm,2.1s
MTE *epP **pP** **10 57 57.7 +0.2**
MTE *eS **S** **11 07 24.4 +7.7**
MTE **Manteigas** 79.55 45 P **P** **10 57 24.8 -0.5**
MTE pP **pP** **10 57 57.0 -0.5**
QSPA **South Pole Qui** 79.56 180 P **P** **10 57 25.6 +0.6**
PGAV **Gavieira, Arco** 79.68 44 *e*P **P** **10 57 26.4 +0.4**
comp=Z,46nm,1.6s
PGAV *epP **pP** **10 57 57.1 -1.1**
PCAB **Cabril** 79.74 44 *e*P **P** **10 57 27.1 +0.8**
comp=Z,72nm,2.0s
PCAB *epP **pP** **10 57 57.9 -0.6**
POLO **Lamas de Olo** 79.76 44 *e*P **P** **10 57 26.9 +0.4**
comp=Z,25nm,2.0s
POLO *epP **pP** **10 57 57.7 -1.0**
MVO **Moncorvo** 80.21 45 *e*P **P** **10 57 29.7 +0.8**
comp=Z,67nm,1.9s
MVO *epP **pP** **10 58 02.1 +1.0**
PALE **Palemas** 80.27 51 P **P** **10 57 30.3 +1.0**
SNR=12
PBRG **Braganca** 80.66 44 *e*P **P** **10 57 32.1 +0.9**
comp=Z,43nm,2.1s
PBRG *epP **pP** **10 58 03.8 +0.3**
GOG **Mont Gurugu** 81.00 52 P **P** **10 57 36.0 +2.7**
SNR=5.2
ILULI **Ilulissat** 81.20 8 *e*P **P** **10 57 33.4 0.0**
ILULI *i* 10 58 05.6
ILULI **Ilulissat** 81.20 8 *i*P **P** **10 57 33.4 0.0**
ILULI *i* 10 58 05.6
ILULI **Ilulissat** 81.20 8 *e*P **P** **10 57 33.4 0.0**
ILULI *i* 10 58 05.7
TAF **Taforalt** 81.31 52 P **P** **10 57 36.9 +2.0**
SNR=6.0
FIGM **Figuig** 81.37 55 P **P** **10 57 37.7 +2.4**
SNR=12
PAB **San Pablo** 81.49 47 P **P** **10 57 36.1 +0.3**
PAB pmax pmax
comp=Z,31nm,1.1s
PAB **San Pablo** 81.49 47 P **P** **10 57 36.1 +0.3**
ESDC **Sonseca Array** 81.82 47 P **P** **10 57 37.8 +0.3**
comp=Z,9.7nm,0.6s,baz=260,slow=5.4,SNR=69
ESDC pP **pP** **10 58 09.2 -0.6**
comp=Z,20nm,0.9s,baz=256,slow=5.6,SNR=7.9
ESDC LR LR 11 30 51.3
comp=Z,276nm,22.0s,baz=255,slow=33
ESDC **Sonseca Array** 81.82 47 P **P** **10 57 37.8 +0.3**
ESDC pP **pP** **10 58 09.5 -0.3**
DLBC **Dease Lake** 82.26 334 P **P** **10 57 39.8 +0.4**
DLBC pP **pP** **10 58 12.4 +0.4**
ICESG **Greenland Ices** 83.04 12 *i*P **P** **10 57 43.8 +0.3**
ICESG IAmb IAmb 10 57 45.5
comp=Z,71nm,1.1s
ICESG *i* 10 58 15.5
BESE **Bessie Mountai** 84.48 333 P **P** **10 57 50.7 0.0**
BESE pP **pP** **10 58 23.6 +0.1**
SUMG **Summit** 86.15 10⇑ *i*P **P** **10 57 59.8 +0.7**
SUMG *i* 10 58 30.8
SUMG pmax pmax
comp=Z,210nm,1.0s
SUMG **Summit** 86.15 10⇑ *i*P **P** **10 57 59.8 +0.7**
comp=Z,213nm,1.0s
SUMG *i* 10 58 30.8
SUMG **Summit** 86.15 10⇑ *i*P **P** **10 57 59.9 +0.7**
SUMG IAmb IAmb 10 58 01.4
comp=Z,213nm,1.0s
SUMG *i* 10 58 30.9
VNDA **Vanda** 86.68 190 P **P** **10 58 02.7 +1.4**
comp=Z,16nm,0.8s,baz=132,slow=4.2,SNR=43
VNDA LR LR 11 31 52.2
comp=Z,213nm,18.5s,baz=132,slow=32
VNDA **Vanda** 86.68 190 P **P** **10 58 02.2 +0.9**
HYT **Haines Junctio** 86.75 334 P **P** **10 58 02.6 +0.7**
HYT pP **pP** **10 58 36.2 +1.2**
TULEG **Thule** 87.00 1 *i*P **P** **10 58 03.4 +0.8**
TULEG IAmb IAmb 10 58 04.8
comp=Z,58nm,1.1s
TULEG *i* 10 58 35.4
BCPM **Bancas Point** 87.29 333 P **P** **10 58 04.0 -0.4**
BCPM IAmb IAmb 10 58 07.4
comp=Z,60nm,1.2s
BCPM pP **pP** **10 58 38.2 +0.7**
PCA **Pinnacle** 87.63 333 P **P** **10 58 06.7 +0.6**
PCA IAmb IAmb 10 58 09.1
comp=Z,51nm,1.0s
PCA pP **pP** **10 58 39.3 0.0**
TSUM **Tsumeb** 88.13 109 P **P** **10 58 09.3 -0.2**
TSUM pP **pP** **10 58 43.6 +1.3**
TABL **Table Mountain** 88.18 333 P **P** **10 58 09.5 +0.6**
TABL IAmb IAmb 10 58 26.1
comp=Z,35nm,1.0s
TABL pP **pP** **10 58 42.3 +0.3**
SYO **Syowa Base** 88.41 161⇑ *e*PcP **P** **10 58 09.0 -0.6**
SYO **Syowa Base** 88.41 161⇑ *i*pP pP 10 58 42.4 -0.3
SYO **Syowa Base** 88.41 161⇑ *e*PP PP 11 01 38.0 -0.7
YAH **Yahtse** 88.42 333 P **P** **10 58 10.6 +0.6**
YAH IAmb IAmb 10 58 12.3
comp=Z,25nm,0.6s
YAH pP **pP** **10 58 42.6 -0.6**
MESA **MESA** 88.44 332 P **P** **10 58 10.9 +0.9**
MESA IAmb IAmb 10 58 18.8
comp=Z,51nm,1.2s
MESA pP **pP** **10 58 44.2 +1.0**
CTGM **Chitina Glacie** 88.49 333 P **P** **10 58 10.4 +0.1**
CTGM IAmb IAmb 10 58 14.0
comp=Z,62nm,1.2s
CTGM pP **pP** **10 58 44.0 +0.6**

BARN **Barnard Glacie** 88.67 333 P **P** **10 58 11.1 -0.1**
BARN IAmb IAmb 10 58 14.9
comp=Z,30nm,0.9s
BARN pP **pP** **10 58 44.8 +0.4**
ISLE **Juniper Island** 88.79 333 P **P** **10 58 11.6 0.0**
ISLE IAmb IAmb 10 58 14.1
comp=Z,40nm,1.1s
ISLE pP **pP** **10 58 45.1 +0.3**
DAWY **Dawson** 89.03 336 P **P** **10 58 12.3 -0.3**
DAWY pP **pP** **10 58 45.9 +0.3**
INK **Inuvik** 89.04 341 P **P** **10 58 12.5 +0.1**
INK *PP **pP** **10 58 45.2 -0.4**
INK pmax pmax
comp=Z,78nm,1.1s
INK **Inuvik** 89.04 341 P **P** **10 58 12.5 +0.1**
INK IAmb IAmb 10 58 14.9
comp=Z,78nm,1.1s
INK pP **pP** **10 58 45.2 -0.4**
TGL **Tana Glacier** 89.07 333 P **P** **10 58 12.7 -0.3**
TGL IAmb IAmb 10 58 15.6
comp=Z,69nm,1.2s
TGL pP **pP** **10 58 45.8 -0.3**
EPYK **Eagle Plains** 89.12 339 P **P** **10 58 13.6 +0.6**
baz=119
EPYK **Eagle Plains** 89.12 339 P **P** **10 58 12.6 -0.4**
EPYK IAmb IAmb 10 58 16.9
comp=Z,50nm,1.4s
EPYK pP **pP** **10 58 45.7 -0.3**
CRQM **Cirque** 89.21 333 P **P** **10 58 13.6 -0.1**
CRQM IAmb IAmb 10 58 16.1
comp=Z,40nm,1.0s
CRQM pP **pP** **10 58 46.9 0.0**
MCARA **McCarthy VSAT** 89.41 333 P **P** **10 58 15.2 +0.9**
MCARA IAmb IAmb 10 58 17.2
comp=Z,35nm,0.8s
MCARA pP **pP** **10 58 48.5 +0.9**
KAIM **Kayak Island** 89.47 332 P **P** **10 58 15.4 +0.7**
KAIM pP **pP** **10 58 49.4 +1.5**
VRDI **Verde Repeater** 89.54 333 P **P** **10 58 14.6 -0.6**
VRDI IAmb IAmb 10 58 17.6
comp=Z,28nm,0.8s
VRDI pP **pP** **10 58 47.8 -0.6**
RAGM **Ragged Mountai** 89.77 332 P **P** **10 58 16.5 +0.4**
RAGM IAmb IAmb 10 58 19.4
comp=Z,67nm,1.4s
RAGM pP **pP** **10 58 49.9 +0.6**
EGAK **Eagle** 90.03 337 P **P** **10 58 17.0 -0.2**
EGAK IAmb IAmb 10 58 20.1
comp=Z,33nm,1.0s
EGAK pP **pP** **10 58 50.5 +0.4**
K27K **Chicken** 90.08 336 P **P** **10 58 18.7 +1.3**
baz=114
K27K S **S** **11 09 01.3 +1.6**
baz=114
N25K **Chitina, Valde** 90.19 333 P **P** **10 58 18.8 +0.7**
baz=112,SNR=6.6
L26K **Log Cabin Wild** 90.20 335 P **P** **10 58 18.3 +0.3**
baz=113,SNR=9.7
EUNU **Eureka** 90.71 358 P **P** **10 58 20.3 +0.1**
EUNU pP **pP** **10 58 53.7 +0.6**
DOT **Dot Lake** 90.74 335 P **P** **10 58 20.4 -0.1**
DOT pP **pP** **10 58 53.8 +0.3**
KLU **Klutina** 90.74 333 P **P** **10 58 19.6 -1.1**
KLU IAmb IAmb 10 58 23.5
comp=Z,42nm,0.8s
KLU pP **pP** **10 58 53.5 -0.3**
SNF **Seneffe** 90.77 39 P **P** **10 58 21.3 +0.4**
SNF pP **pP** **10 58 52.7 -1.1**
KEST **Kesra** 90.81 54 P **P** **10 58 21.8 +0.1**
comp=Z,18nm,0.8s,baz=162,slow=3.0,SNR=19
KEST pP **pP** **10 58 54.9 +0.4**
comp=Z,41nm,1.0s,baz=221,slow=3.5,SNR=6.1
KEST LR LR 11 39 21.2
comp=Z,220nm,18.7s,baz=211,slow=36
KEST **Kesra** 90.81 54 P **P** **10 58 21.3 -0.4**
SCRK **Sand Creek** 90.83 336 P **P** **10 58 21.2 +0.1**
baz=112,SNR=15
DOU **Dourbes** 90.86 39 P **P** **10 58 21.4 +0.1**
DOU pP **pP** **10 58 53.2 -1.0**
DOU sP **sP** **10 59 05.4 -2.2**
DOU x x 10 59 12.3
DBG **Daneborg** 91.00 13 *e*P **P** **10 58 20.0 -1.5**
DBG *e* 10 58 55.8
BMRD **Maredsous** 91.02 39 P **P** **10 58 22.2 +0.1**
BMRD pP **pP** **10 58 54.1 -0.8**
BMRD sP **sP** **10 59 07.8 -0.5**
M24K **Tolsona, Glenn** 91.07 333 P **P** **10 58 22.9 +0.7**
baz=111,SNR=19
M24K **Tolsona, Glenn** 91.07 333 P **P** **10 58 21.8 -0.3**
M24K IAmb IAmb 10 58 25.5
comp=Z,42nm,0.8s
M24K pP **pP** **10 58 56.2 +1.1**
PAX **Paxson** 91.07 334 P **P** **10 58 21.3 -0.9**
PAX *PP **pP** **10 58 55.1 0.0**
PAX pmax pmax
comp=Z,41nm,1.4s
PAX **Paxson** 91.07 334 P **P** **10 58 21.3 -0.9**
PAX IAmb IAmb 10 58 23.9
comp=Z,41nm,1.4s
PAX pP **pP** **10 58 55.1 0.0**
RIDG **Independent Ri** 91.10 335 P **P** **10 58 22.2 0.0**
RIDG IAmb IAmb 10 58 24.4
comp=Z,36nm,1.2s
RIDG pP **pP** **10 58 55.2 0.0**
BGES **Gesves** 91.24 39 P **P** **10 58 23.2 +0.1**
BGES pP **pP** **10 58 55.1 -0.9**
BGES sP **sP** **10 59 07.9 -1.5**
RCHB **Rochefort** 91.26 39 P **P** **10 58 22.6 -0.7**
RCHB pP **pP** **10 58 55.0 -1.1**
BCLA **Clavier** 91.38 39 P **P** **10 58 21.9 -1.8**
SCM **Sheep Creek Mo** 91.49 333 P **P** **10 58 23.6 -0.5**
SCM IAmb IAmb 10 58 26.2
comp=Z,31nm,1.1s
SCM pP **pP** **10 58 57.4 +0.1**
BSTI **Sart Tilman** 91.58 39 P **P** **10 58 25.5 +0.8**
BSTI pP **pP** **10 58 54.9 -2.7**
SENIN **Lac Senin/Sane** 91.68 43 P **P** **10 58 25.1 -0.4**
WLF **Walferdange** 91.72 40 P **P** **10 58 25.4 0.0**
WLF pP **pP** **10 58 56.6 -1.6**
WLF **Walferdange** 91.72 40 P **P** **10 58 24.8 -0.6**
WLF pmax pmax
comp=Z,29nm,1.0s
WLF **Walferdange** 91.72 40 P **P** **10 58 24.8 -0.6**
WLF IAmb IAmb 10 58 28.2
comp=Z,29nm,1.0s
KNK **Knik Glacier** 91.86 332 P **P** **10 58 25.6 -0.2**
KNK pP **pP** **10 58 59.2 +0.2**
MEM **Membach** 91.86 39 P **P** **10 58 26.3 +0.3**
MEM pP **pP** **10 58 59.6 +0.8**
SEW **Seward** 91.91 331 P **P** **10 58 25.7 -0.2**
SEW IAmb IAmb 10 58 28.2
comp=Z,29nm,1.2s
SEW pP **pP** **10 58 59.1 -0.1**
DHY **Denali Highway** 91.92 334 P **P** **10 58 25.6 -0.6**
DHY pP **pP** **10 58 59.3 +0.3**
SML **Sawmill** 91.93 333 P **P** **10 58 25.8 -0.3**
SML IAmb IAmb 10 58 28.1
comp=Z,39nm,1.0s
SML pP **pP** **10 58 59.1 -0.3**
BTNL **Ternell** 91.93 39 P **P** **10 58 26.9 +0.5**
BTNL pP **pP** **10 58 59.5 +0.3**
ECH **Echery** 92.02 41 P **P** **10 58 26.4 -0.4**
ECH IAmb IAmb 10 58 29.1
comp=Z,25nm,1.0s
ECH pP **pP** **10 58 57.8 -1.9**
O22K **Cooper Landing** 92.16 331 P **P** **10 58 27.1 0.0**
baz=108
O22K **Cooper Landing** 92.16 331 P **P** **10 58 26.7 -0.4**
O22K IAmb IAmb 10 58 28.9
comp=Z,41nm,1.2s
O22K pP **pP** **10 59 00.2 -0.1**
GHO **Glory Hole Cre** 92.18 333 P **P** **10 58 26.6 -0.8**
GHO IAmb IAmb 10 58 29.2
comp=Z,40nm,1.2s
GHO pP **pP** **10 59 00.5 -0.1**
PMR **Palmer** 92.22 332 P **P** **10 58 26.7 -0.7**
PMR *PP **pP** **10 59 00.4 -0.2**
PMR pmax pmax
comp=Z,15nm,1.2s
PMR **Palmer** 92.22 332 P **P** **10 58 26.7 -0.7**
PMR pP **pP** **10 59 00.4 -0.2**
FYU **Fort Yukon** 92.29 338 P **P** **10 58 27.9 +0.3**
FYU IAmb IAmb 10 58 43.4
comp=Z,32nm,1.1s
FYU pP **pP** **10 59 01.0 +0.4**
IL31 92.30 336 P **P** **10 58 27.2 -0.4**
IL31 pP **pP** **10 59 00.6 0.0**
ILAR **Eielson Array** 92.30 336 P **P** **10 58 27.7 0.0**
comp=Z,5.3nm,0.8s,baz=148,slow=3.0,SNR=61
ILAR pP **pP** **10 59 00.8 +0.1**
comp=Z,15nm,0.8s,baz=152,slow=3.3,SNR=14
ILAR PP **PP** **11 02 08.6 -1.5**
comp=Z,1.7nm,0.9s,baz=106,slow=6.2,SNR=2.3
ILAR **Eielson Array** 92.30 336 P **P** **10 58 27.2 -0.5**
ILAR pP **pP** **10 59 01.0 +0.3**
RC01 **Rabbit Creek A** 92.34 332 P **P** **10 58 28.1 +0.1**
baz=108,SNR=11
BMAR **Burnt Mountain** 92.37 339 P **P** **10 58 28.7 +0.6**
BMAR pP **pP** **10 59 01.7 +0.5**
AHRW **Bad Neuenahr-A** 92.51 39 *e*Pdiff **P** **10 58 30.3 +1.3**
CCB **Clear Creek Bu** 92.63 336 P **P** **10 58 27.6 -1.6**
CCB IAmb IAmb 10 58 31.7
comp=Z,36nm,1.5s
CCB pP **pP** **10 59 02.0 -0.2**
POKR **Poker Plat Res** 92.63 336 P **P** **10 58 30.1 +0.8**
baz=109,SNR=9.2
POKR S **S** **11 09 21.8 -1.0**
baz=109
POKR **Poker Plat Res** 92.63 336 P **P** **10 58 28.8 -0.5**
POKR IAmb IAmb 10 58 31.4
comp=Z,33nm,1.2s
POKR pP **pP** **10 59 02.7 +0.5**
RND **Reindeer** 92.67 334 P **P** **10 58 29.6 +0.1**
RND IAmb IAmb 10 58 31.8
comp=Z,42nm,1.2s
RND pP **pP** **10 59 03.5 +1.0**
WRH **Wood River Hil** 92.69 335 P **P** **10 58 28.9 -0.6**
WRH pP **pP** **10 59 02.7 +0.2**
COLA **College** 92.72 336 *i*P **P** **10 58 29.3 -0.4**
COLA pmax pmax
comp=Z,30nm,1.0s
COLA **College** 92.72 336 P **P** **10 58 29.2 -0.4**
COLA IAmb IAmb 10 58 31.6
comp=Z,37nm,0.9s
COLA pP **pP** **10 59 02.9 +0.3**
TCOL **CIGO, UAF Yank** 92.72 336 P **P** **10 58 30.2 +0.6**
baz=109,SNR=16
TCOL **CIGO, UAF Yank** 92.72 336 P **P** **10 58 29.6 0.0**
TCOL IAmb IAmb 10 58 31.6
comp=Z,37nm,0.9s
TCOL pP **pP** **10 59 02.5 -0.2**
DAG **Danmarks Havn** 92.79 11 *i*P **P** **10 58 30.4 +0.7**
DAG *i* 10 59 01.1
DAG pmax pmax
comp=Z,24nm,0.9s
DAG **Danmarks Havn** 92.79 11 *i*P **P** **10 58 30.4 +0.7**
comp=Z,24nm,0.9s
DAG *i* 10 59 01.1
DAG **Danmarks Havn** 92.79 11 *i*P **P** **10 58 30.4 +0.7**
DAG IAmb IAmb 10 58 31.4
comp=Z,24nm,0.9s
DAG *i* 10 59 01.1
MCK **McKinley** 92.80 335 P **P** **10 58 30.6 +0.5**
baz=108,SNR=8.2
BFO **Black Forest** 92.80 41 P **P** **10 58 29.8 -0.7**
BFO pmax pmax
comp=Z,14nm,1.4s
BFO **Black Forest** 92.80 41 *e*Pdiff **P** **10 58 30.2 -0.3**
BFO *eL L 11 33 56.7
comp=Z,237nm,21.9s
BFO **Black Forest** 92.80 41 P **P** **10 58 29.8 -0.7**
BUG **Bochum--Univer** 92.83 38 *e*Pdiff **P** **10 58 31.1 +0.6**
MDM **Murphy Dome** 92.90 336 P **P** **10 58 30.4 -0.1**
MDM pP **pP** **10 59 03.3 -0.3**
SUA **Susitna One** 92.92 332 P **P** **10 58 30.5 -0.3**
SUA IAmb IAmb 10 58 33.0
comp=Z,20nm,0.8s
SUA pP **pP** **10 59 03.8 -0.3**
CUT **Chulitna** 92.98 333 P **P** **10 58 31.1 +0.2**
baz=107,SNR=8.5
OHAK **Old Harbor** 93.03 328 P **P** **10 58 31.3 +0.1**
OHAK IAmb IAmb 10 58 34.0
comp=Z,23nm,0.8s
OHAK pP **pP** **10 59 03.8 -0.6**
BOSA **Boshof** 93.06 120 P **P** **10 58 32.5 +0.2**
comp=Z,7.5nm,0.8s,baz=261,slow=4.6,SNR=11
BOSA PKKPbc **PKKPbc** **11 15 41.0 -0.3**
comp=Z,2.5nm,0.8s,baz=23,slow=1.7,SNR=5.1
BOSA LR LR 11 38 39.2
comp=Z,96nm,19.1s,baz=249,slow=34
BOSA **Boshof** 93.06 120 P **P** **10 58 33.1 +0.8**
BOSA pmax pmax
comp=Z,25nm,1.1s
BOSA **Boshof** 93.06 120 P **P** **10 58 33.1 +0.8**
BOSA IAmb IAmb 10 58 34.4
comp=Z,25nm,1.1s
TUE **Stuetta** 93.08 43 P **P** **10 58 31.3 -0.7**
TUE IAmb IAmb 10 58 44.6
comp=Z,38nm,1.5s
TUE pP **pP** **10 59 04.3 -0.6**
NEA2 **Nenana** 93.13 335 P **P** **10 58 31.6 +0.1**
baz=108,SNR=19
TNS **Taunus Mts** 93.29 40 *e*Pdiff **P** **10 58 33.1 +0.4**
TNS *eL L 11 31 53.3
comp=Z,511nm,21.6s
TRF **Thorofare Moun** 93.30 334 P **P** **10 58 31.7 -0.9**
TRF pP **pP** **10 59 05.5 0.0**
IBBN **Ibbenburen** 93.32 38 *e*Pdiff **P** **10 58 33.6 +1.0**
I23K **Minto, Yukon-K** 93.42 336 P **P** **10 58 32.9 +0.1**
baz=108,SNR=11
I23K **Minto, Yukon-K** 93.42 336 P **P** **10 58 32.1 -0.7**
I23K IAmb IAmb 10 58 36.0
comp=Z,11nm,0.6s
I23K pP **pP** **10 59 06.5 +0.6**
SKT **Skwentna** 93.43 332 P **P** **10 58 32.9 -0.2**
SKT IAmb IAmb 10 58 35.5
comp=Z,58nm,1.2s
SKT pP **pP** **10 59 05.3 -1.0**
STU **Stuttgart** 93.46 41 P **P** **10 58 32.5 -0.9**
STU *PP **pP** **10 59 04.6 -1.7**
STU pmax pmax
comp=Z,25nm,1.1s
STU **Stuttgart** 93.46 41 *e*Pdiff **P** **10 58 33.8 +0.4**
STU **Stuttgart** 93.46 41 P **P** **10 58 32.5 -0.9**
STU IAmb IAmb 10 58 35.1
comp=Z,25nm,1.1s
STU pP **pP** **10 59 04.6 -1.7**
RSO **Redoubt South** 93.59 331 P **P** **10 58 32.8 -1.2**
RSO pP **pP** **10 59 07.6 +0.3**
KTH **Kantishna Hill** 93.60 334 P **P** **10 58 33.4 -0.5**
KTH pP **pP** **10 59 06.6 -0.2**
DAVA **Damuels** 93.61 43 *e*P **P** **10 58 34.6 +0.2**
comp=Z,10nm,0.8s
FUORN **Ofenpass-Fuorn** 93.73 43 P **P** **10 58 35.0 0.0**
BPAW **Bear Paw Mtn.** 93.78 335 P **P** **10 58 33.8 -0.8**
BPAW IAmb IAmb 10 58 36.1
comp=Z,18nm,0.8s
BPAW pP **pP** **10 59 07.6 0.0**
ZCCA **Zocca** 93.79 46 P **P** **10 58 34.3 -0.8**
ZCCA IAmb IAmb 10 58 37.2
comp=Z,26nm,0.8s
UBR **Ueberruh** 93.84 42 *e*Pdiff **P** **10 58 35.8 +0.5**
MLY **Manley** 93.94 336 P **P** **10 58 35.3 0.0**
baz=106,SNR=13
PPLA **Purkeypile** 93.97 333 P **P** **10 58 35.3 -0.3**
PPLA IAmb IAmb 10 58 38.1
comp=Z,15nm,0.7s
PPLA pP **pP** **10 59 08.6 0.0**
FETA **Feichten** 94.12 43 *e*P **P** **10 58 37.2 +0.4**
comp=Z,30nm,1.8s,SNR=9.0
FETA *eP **pP** **10 59 10.3 +0.6**
comp=Z,14nm,1.0s
LBTB **Lobatse** 94.20 116 P **P** **10 58 37.8 +0.2**
LBTB **Lobatse** 94.20 116 P **P** **10 58 37.8 +0.2**
RETA **Reutte** 94.23 43 *e*P **P** **10 58 37.3 +0.2**
comp=Z,7.9nm,0.6s
COLD **Coldfoot** 94.36 338 P **P** **10 58 38.3 +1.2**
baz=107
COLD **Coldfoot** 94.36 338 P **P** **10 58 37.4 +0.3**
COLD pP **pP** **10 59 11.0 +0.7**
MOTA **Moosalm** 94.44 43 *e*P **P** **10 58 38.3 +0.2**
comp=Z,12nm,0.7s,SNR=7.8
MOTA *eP **pP** **10 59 11.4 +0.3**
comp=Z,30nm,1.9s,SNR=4.7
TEOL **Teolo** 94.46 45 P **P** **10 58 38.0 -0.1**
SQTA **Sankt Quirin** 94.48 43 *e*P **P** **10 58 38.7 +0.4**
comp=Z,26nm,0.9s,SNR=8.7

SQTA eP **pP** **10 59 11.7 +0.5**
comp=Z,43nm,1.4s
TOLK **Toolik Lake Re** **94.55 339** P **P** **10 58 38.5 +0.5**
baz=107
CTI **Castel Tesino** **94.57 44** P **P** **10 58 38.2 -0.6**
CTI pmax pmax
comp=Z,12nm,0.8s
CTI **Castel Tesino** **94.57 44** P **P** **10 58 38.2 -0.6**
FUR **Furstenfeldbru** **94.70 42** ePdiff **P** **10 58 39.8 +0.6**
FUR eL L 11 33 44.0
comp=Z,226nm,18.6s
WATA **Walderalm** **94.75 43** eP **P** **10 58 39.8 +0.2**
comp=Z,24nm,0.8s,SNR=12
WATA eP **pP** **10 59 13.0 +0.5**
comp=Z,30nm,1.4s
WTTA **Wattenberg** **94.78 43** eP **P** **10 58 40.2 +0.4**
comp=Z,56nm,1.4s,SNR=14
WTTA eP **pP** **10 59 13.3 +0.6**
comp=Z,27nm,1.1s,SNR=4.3
GRF **Grafenberg Arr** **94.94 41** ePdiff **P** **10 58 41.0 +0.8**
GRF eL L 11 34 18.5
comp=Z,280nm,21.8s
SVW2 **Sparrevohn** **95.09 331** P **P** **10 58 39.7 -0.9**
SVW2 pP **pP** **10 59 13.0 -0.9**
CIMO **Cimolais** **95.16 44** P **P** **10 58 41.6 +0.3**
CIMO IAmb IAmb 10 58 43.8
comp=Z,36nm,1.4s
BSEG **Bad Segeberg** **95.17 36** eL L 11 35 12.8
comp=Z,296nm,19.9s
ABTA **Abfaltersbach** **95.28 44** eP **P** **10 58 42.2 +0.2**
comp=Z,43nm,1.6s,SNR=8.7
ABTA eP **pP** **10 59 15.4 +0.5**
comp=Z,23nm,1.0s
STAL **STALIGIAL** **95.33 44** P **P** **10 58 42.2 +0.1**
STAL IAmb IAmb 10 58 45.1
comp=Z,14nm,0.9s
MOX **Moxa** **95.36 40** ePdiff **P** **10 58 43.1 +0.9**
MOX eL L 11 34 22.6
comp=Z,297nm,19.1s
IMAR **Indian Mountai** **95.40 336** P **P** **10 58 42.0 +0.1**
IMAR pP **pP** **10 59 14.0 -1.0**
INTR **Introdacqua** **95.49 48** P **P** **10 58 43.1 +0.1**
INTR IAmb IAmb 10 58 44.6
comp=Z,47nm,1.2s
MANZ **Manzenberg** **95.56 40** ePdiff **P** **10 58 44.0 +0.9**
ZOU **Zoufplan** **95.56 44** P **P** **10 58 43.4 0.0**
ZOU pP **pP** **10 59 16.4 +0.1**
ROTZ **Rotzenmuhle** **95.58 41** ePdiff **P** **10 58 44.0 +0.9**
RJOB **Jochberg** **95.63 43** ePdiff **P** **10 58 43.0 -0.4**
PLN **Plauen** **95.67 40** ePdiff **P** **10 58 44.2 +0.7**
GUNZ **Gunzen** **95.76 40** ePdiff **P** **10 58 44.6 +0.6**
TANN **Tannenbergstha** **95.85 40** ePdiff **P** **10 58 45.4 +1.0**
NOR **Nord** **95.87 7** *i* P **P** **10 58 44.0 +0.2**
NOR *i* 10 59 16.6
NOR pmax pmax
comp=Z,11nm,1.2s
NOR **Nord** **95.87 7** *i* P **P** **10 58 44.0 +0.2**
comp=Z,11nm,1.2s
NOR *i* 10 59 16.6
NOR **Nord** **95.87 7** *i* P **P** **10 58 44.1 +0.2**
NOR IAmb IAmb 10 58 46.0
comp=Z,11nm,1.2s
NOR *i* 10 59 16.7
ROBS **Robic** **95.88 44** *i* P **P** **10 58 45.0 +0.4**
KBA **Koelnbreinsper** **95.89 43** eP **P** **10 58 45.0 +0.2**
comp=Z,19nm,1.2s
WET **Wettzell** **95.92 41** ePdiff **P** **10 58 45.0 +0.3**
WET eL L 11 34 24.0
comp=Z,243nm,19.7s
PRED **Cave del Predi** **95.94 44** P **P** **10 58 45.0 +0.1**
PRED pP **pP** **10 59 18.0 +0.1**
MYKA **Terra Mystica** **96.03 44** *i* P **P** **10 58 45.6 +0.3**
comp=Z,24nm,1.3s
MYKA *i* P **pP** **10 59 18.7 +0.5**
comp=Z,8.6nm,0.8s
VOJS **Vojsko** **96.10 44** eP **P** **10 58 46.4 +0.7**
VOJS epP **pP** **10 59 19.1 +0.5**
MAW **Mawson** **96.14 165** P **P** **10 58 46.3 +0.9**
comp=Z,14nm,1.0s,baz=225,slow=5.0,SNR=18
MAW pP **pP** **10 59 18.8 +0.3**
comp=Z,26nm,0.9s,baz=232,slow=5.8,SNR=16
MAW LR LR 11 41 49.5
comp=Z,172nm,19.6s,baz=232,slow=35
MAW **Mawson** **96.14 165** P **P** **10 58 46.2 +0.9**
MAW pP **pP** **10 59 18.8 +0.3**
CLL **Collm** **96.33 39** *i* P **P** **10 58 46.9 +0.4**
CLL *i* pP **pP** **10 59 20.6 +1.2**
CLL ePP **PP** **11 02 41.0 -0.8**
CLL eSKSac **SKSac** **11 09 10.0 -1.2**
CLL eS **S** **11 09 54.0 -1.5**
CLL eSP **SP** **11 11 16.0 +0.2**
CLL ePPS PPS 11 12 11.0
CLL eSS **SS** **11 16 36.0 +4.7**
CLL *e* 11 17 57.0
CLL eSSS SSS 11 20 30.0
CLL *e* 11 22 18.0
CLL **Collm** **96.33 39** *i* P **P** **10 58 46.9 +0.4**
CLL *i* *PP **pP** **10 59 20.6 +1.2**
CLL *e* 11 09 10.0
CLL eS **S** **11 09 54.0 -1.5**
CLL **Collm** **96.33 39** eL L 11 34 39.5
comp=Z,337nm,21.9s
CLL **Collm** **96.33 39** P **P** **10 58 46.5 0.0**
CLL IAmb IAmb 10 58 48.8
comp=Z,18nm,1.3s
KHC **Kasperske Hory** **96.37 41** eP **P** **10 58 46.6 -0.2**
KHC epP **pP** **10 59 18.5 -1.2**
KHC **Kasperske Hory** **96.37 41** eP **P** **10 58 46.6 -0.2**
KHC *e* 10 59 18.5
GEC2 **GERESS Array S** **96.40 42** ePdiff **P** **10 58 47.2 +0.2**
GEC2 eL L 11 34 18.6
comp=Z,252nm,22.0s
GEC2 **GERESS Array S** **96.40 42** P **P** **10 58 47.1 +0.1**
GEC2 IAmb IAmb 10 58 48.8
comp=Z,21nm,1.4s
GEC2 pP **pP** **10 59 18.8 -1.2**
GERES **GERESS Array B** **96.40 42** P **P** **10 58 46.8 -0.2**
comp=Z,3.3nm,0.6s,baz=258,slow=3.0,SNR=33
GERES pP **pP** **10 59 19.4 -0.6**
comp=Z,5.6nm,0.9s,baz=238,slow=4.1,SNR=5.3
GERES PP **PP** **11 02 38.9 -3.6**
comp=Z,2.9nm,1.0s,baz=262,slow=4.0,SNR=4.4
GERES **GERESS Array B** **96.40 42** P **P** **10 58 46.8 -0.2**
GERES pP **pP** **10 59 19.8 -0.2**
FBE **Freiberg** **96.49 40** ePdiff **P** **10 58 48.1 +0.9**
LJU **Ljubljana** **96.55 44** *i* P **P** **10 58 48.7 +1.1**
OBKA **Obir** **96.63 44** eP **P** **10 58 48.4 +0.4**
comp=Z,9.0nm,0.9s
MOA **Molln** **96.63 43** eP **P** **10 58 48.2 +0.2**
comp=Z,30nm,1.1s,SNR=11
MOA eP **pP** **10 59 21.3 +0.4**
comp=Z,14nm,0.9s
NC204 **NORSAR Array S** **96.70 29** P **P** **10 58 48.7 +0.7**
PBCC **Pribram** **96.72 41** eP **P** **10 58 49.2 +0.9**
BRG **Berggiesshubel** **96.86 40** eP **P** **10 58 49.5 +0.6**
comp=Z,37nm,1.7s
BRG epP **pP** **10 59 23.8 +2.0**
comp=Z,30nm,1.6s
BRG ePP **PP** **11 02 38.9 -6.9**
comp=Z,24nm,1.7s
BRG SKS **SKSac** **11 09 17.0 +3.1**
BRG S **ScS** **11 10 01.0 +0.7**
BRG **Berggiesshubel** **96.86 40** eP **P** **10 58 49.5 +0.6**
BRG e*PP **pP** **10 59 23.8 +2.0**
BRG 11 09 17.0
BRG S **ScS** **11 10 01.0 +0.7**
BRG pmax pmax
comp=Z,37nm,1.7s
BRG pmax pmax
comp=Z,31nm,1.6s
BRG pmax pmax
comp=Z,24nm,1.7s
BRG **Berggiesshubel** **96.86 40** ePdiff **P** **10 58 49.6 +0.8**
NB2 **NORSAR Subarra** **96.88 29** P **P** **10 58 50.2 +1.4**
comp=Z,26nm,1.2s,baz=259,slow=4.4
NB2 **NORSAR Subarra** **96.88 29** P **P** **10 58 50.2 +1.4**
baz=259,slow=4.4
NOA **NORSAR Array B** **96.88 29** P **P** **10 58 50.0 +1.2**
comp=Z,5.2nm,0.9s,baz=258,slow=4.6,SNR=7.4
NOA pP **pP** **10 59 21.0 -0.7**
comp=Z,17nm,1.0s,baz=258,slow=4.5,SNR=11
NOA LR LR 11 42 06.6
comp=Z,127nm,19.1s,baz=270,slow=35
LEGS **Legarje** **97.08 45** eP Pdif 10 58 50.7 +0.6
LEGS epP pP 10 59 23.6 +0.7
PRU **Pruhonice** **97.11 41** eP Pdif 10 58 51.8 +1.7
PRU epP pP 10 59 23.6 +0.6
PRU **Pruhonice** **97.11 41** eP Pdif 10 58 51.8 +1.7
PRU *e* 10 59 23.6
ARSA **Arzberg** **97.39 43** eP Pdif 10 58 51.7 +0.3
comp=Z,6.5nm,0.6s,SNR=6.6
ARSA eP pP 10 59 23.9 -0.5
comp=Z,12nm,1.3s
TREC **Trest** **97.63 41** eP Pdif 10 58 53.0 +0.5
TREC **Trest** **97.63 41** eP Pdif 10 58 53.0 +0.5
CONA **Conrad Observa** **97.70 43** eP Pdif 10 58 53.5 +0.6
comp=Z,39nm,1.4s,SNR=10
CONA *i* P pP 10 59 26.5 +0.6
comp=Z,12nm,0.8s,SNR=5.2
MATP **Matopo** **97.91 112** *i* P **P** **10 58 54.4 -0.1**
MATP **Matopo** **97.91 112** *i* P **P** **10 58 54.4 -0.1**
BLWY **Bulawayo** **98.08 112** *i* P **P** **10 58 52.2 -3.1**
BLWY **Bulawayo** **98.08 112** *i* P **P** **10 58 52.2 -3.1**
UPC **Upice** **98.11 40** eP Pdif 10 58 55.9 +1.3
UPC epP pP 10 59 27.9 +0.4
UPC **Upice** **98.11 40** eP Pdif 10 58 55.9 +1.3
UPC *e* 10 59 27.9
CHVC **Chvalec** **98.15 40** eP Pdif 10 58 56.1 +1.3
CHVC epP pP 10 59 27.5 -0.2
KRUC **Moravsky** **98.19 42** eP Pdif 10 58 55.5 +0.5
KRUC *e* 10 59 27.2
OSTC **Ostas** **98.25 40** eP Pdif 10 58 56.0 +0.8
OSTC epP pP 10 59 30.0 +1.8
DPC **Dobruska-Polom** **98.29 40** eP Pdif 10 58 56.2 +0.8
DPC epP pP 10 59 29.0 +0.6
DPC **Dobruska-Polom** **98.29 40** eP Pdif 10 58 56.2 +0.8
DPC *e* 10 59 29.0
KSP **Ksiaz** **98.33 40** eP Pdif 10 58 57.2 +1.7
VRAC **Vranov** **98.35 41** ⇑P Pdif 10 58 56.4 +0.7
VRAC **Vranov** **98.35 41** eP Pdif 10 58 56.3 +0.6
VRAC *e* 10 59 28.4
VRAC **Vranov** **98.35 41** ⇑P Pdif 10 58 56.4 +0.7
KRLC **Kraliky** **98.56 41** eP Pdif 10 58 57.6 +1.0
KRLC epP pP 10 59 29.7 +0.1
KRLC **Kraliky** **98.56 41** eP Pdif 10 58 57.6 +1.0
KRLC *e* 10 59 29.7
MODS **Modra-Piesok** **98.70 42** eP **P** **10 58 57.0 -0.2**
MODS **Modra-Piesok** **98.70 42** ePDIFF **P** **10 58 57.0 -0.2**
SMOL **Smolenice** **98.81 42** eP Pdif 10 58 58.7 +1.0
SMOL **Smolenice** **98.81 42** ePDIFF Pdif 10 58 58.6 +0.9
LSZ **Lusaka** **98.85 107** P Pdif 10 58 59.2 +0.4
LSZ pmax pmax
comp=Z,4.0nm,0.8s
LSZ **Lusaka** **98.85 107** P Pdif 10 58 59.2 +0.4
JAVC **Velka Javorina** **99.01 42** eP Pdif 10 59 00.3 +1.6
JAVC *e* 10 59 32.3
MORC **Moravsky Berou** **99.01 41** ⇑P **Pdif** **10 59 00.1 +1.4**
MORC **Moravsky Berou** **99.01 41** eP **Pdif** **10 58 59.7 +1.0**
MORC *e* 10 59 31.6
MORC **Moravsky Berou** **99.01 41** P **Pdif** **10 58 59.0 +0.3**
MORC *PP **pP** **10 59 31.2 -0.5**
MORC pmax pmax
comp=Z,40nm,1.5s
MORC **Moravsky Berou** **99.01 41** P **Pdif** **10 58 59.0 +0.3**
MORC IAmb IAmb 10 59 01.6
comp=Z,40nm,1.5s
MORC pP **pP** **10 59 31.2 -0.5**
PDG **Podgorica** **99.48 49** ⇑P **Pdif** **10 59 02.7 +1.9**
VYHS **Vyhne** **99.74 42** eP **Pdif** **10 59 02.7 +0.8**
VYHS **Vyhne** **99.74 42** ePDIFF **Pdif** **10 59 02.7 +0.8**
OJC **Ojcow** **100.50 41** eP **Pdif** **10 59 05.5 +0.2**
NIE **Niedzica** **100.77 42** eP **Pdif** **10 59 09.3 +2.8**
BZS **Buzias** **101.43 45** ⇑P **Pdif** **10 59 10.6 +1.1**
BZS **Buzias** **101.43 45** ⇑P **Pdif** **10 59 10.6 +1.1**
MDVR **Moldovita** **101.45 46** ⇓P **Pdif** **10 59 11.5 +1.9**
SIRR **Siria** **101.50 45** ⇓P **Pdif** **10 59 10.3 +0.6**
VOIR **103.83 46** ⇑P **Pdif** **10 59 23.8 +3.6**
VOIR **103.83 46** ⇑P **Pdif** **10 59 23.8 +3.6**
BURAR **Bucovina Array** **103.98 43** ⇑P **Pdif** **10 59 23.1 +2.2**
BURAR **Bucovina Array** **103.98 43** ⇑P **Pdif** **10 59 23.1 +2.2**
AKASG **Malin Array Be** **106.52 40** PKiKP **PKiKP** **11 03 41.5 -0.7**
comp=Z,0.2nm,0.2s,baz=262,slow=3.0,SNR=4.1
AKASG PP **PP** **11 03 54.3 -4.1**
comp=Z,3.1nm,0.8s,baz=267,slow=7.3,SNR=4.2
BRTR **Keskin Array B** **110.28 52** PKiKP **PKiKP** **11 03 49.7 -0.1**
comp=Z,0.7nm,0.8s,baz=354,slow=1.2,SNR=3.5
OBN **Obninsk** **110.38 35** *i* PKIKP **PKiKP** **11 03 50.2 +1.0**
DZM **Mont Dzumac** **112.39 241** ePP **PP** **11 04 39.1 -2.3**
comp=Z,229nm,28.4s
DZM **Mont Dzumac** **112.39 241** ePS PS 11 14 18.9 +1.4
comp=Z,407nm,24.4s
DZM **Mont Dzumac** **112.39 241** eLR LR 11 37 43.2
comp=Z,462nm,31.8s
SOC **Sochi** **114.42 47** *i* PKIKP PKPdf 11 03 56.1 -1.2
SOC *e* 11 04 54.5
SOC ePPP PPP 11 07 21.1
SOC ePS PS 11 14 18.1 -17
KIV **Kislovodsk** **116.47 46** *i* PKIKP **PKiKP** **11 04 03.0 +1.6**
KIV pmax pmax
comp=Z,20nm,1.1s
KBZ **Khabaz** **116.66 46** PKP **PKiKP** **11 04 02.0 +0.4**
comp=Z,5.9nm,0.8s,baz=297,slow=2.4,SNR=11
KBZ **Khabaz** **116.66 46***c* *i* PKIKP **PKiKP** **11 04 02.5 +0.9**
TIXI **Tiksi** **117.36 352***c* *i* PKIKP **PKPdf** **11 04 01.4 -0.8**
TIXI **Tiksi** **117.36 352** PKPdf **PKPdf** **11 04 00.7 -1.5**
ZEI **Tsey** **117.57 47** *i* PKIKP **PKiKP** **11 04 04.2 +0.5**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
NRIK **Noril'sk** **120.10 7***c* *i* PKIKP **PKiKP** **11 04 07.7 +0.1**
NRIK pmax pmax
comp=Z,3.0nm,0.8s
PETK **Petropavlovsk-** **120.81 327** PKP **PKiKP** **11 04 09.9 +0.4**
comp=Z,3.6nm,0.6s,baz=92,slow=3.2,SNR=12
PETK pPKP **pPKPdf** **11 04 43.5 -0.3**
comp=Z,8.8nm,0.9s,baz=83,slow=3.1,SNR=4.2
PETK **Petropavlovsk-** **120.81 327** PKPdf **PKPdf** **11 04 08.7 -0.6**
ARU **Arti** **121.43 29** *i* PKIKP **PKiKP** **11 04 10.7 +0.1**
ARU 11 05 45.3
ARU 11 11 11.0
ARU SS SS 11 22 01.8 -5.8
ARU **Arti** **121.43 29** PKPdf **PKPdf** **11 04 09.8 -0.6**
AKTO **Aktyubinsk** **124.16 35** PKIKP **PKPdf** **11 04 15.5 -0.4**
STKA **Stephens Creek** **125.72 218** PKP **PKiKP** **11 04 19.9 +0.1**
comp=Z,9.5nm,0.6s,baz=96,slow=3.4,SNR=23
STKA **Stephens Creek** **125.72 218** PKIKP **PKiKP** **11 04 20.0 +0.1**
STKA **Stephens Creek** **125.72 218** PKPdf **PKPdf** **11 04 18.8 -0.7**
YAK **Yakutsk** **125.80 346***c* *i* PKIKP **PKPdf** **11 04 18.6 0.0**
YAK pmax pmax
comp=Z,48nm,1.7s
AB31 **Akbulak array** **125.82 36** *i* PKIKP **PKiKP** **11 04 19.7 +0.2**
ABKAR **Akbulak array** **125.82 36** PKPdf **PKPdf** **11 04 18.8 -0.2**
ABKAR pPKPdf **pPKPdf** **11 04 54.9 +1.5**
ABKAR **Akbulak array** **125.82 36** PKPdf **PKPdf** **11 04 19.0 -0.1**
ABKAR pPKPdf **pPKPdf** **11 04 55.3 +1.9**
BRVK **Borovoye** **128.87 27***c* *i* PKIKP **PKiKP** **11 04 25.6 +0.1**
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK **Borovoye** **128.87 27** PKPdf **PKPdf** **11 04 24.9 +0.2**
GEYT **Alibeck** **129.32 49** PKP **PKiKP** **11 04 26.9 0.0**
comp=Z,4.6nm,0.8s,baz=256,slow=6.0,SNR=9.7
GEYT **Alibeck** **129.32 49** PKPdf **PKiKP** **11 04 26.8 -0.1**
GYA0B **ALIBECK ARRAY** **129.32 49** PKPdf **PKPdf** **11 04 25.5 -0.7**
CTA **Charters Tower** **129.97 233** PKP **PKiKP** **11 04 28.8 +0.1**
comp=Z,16nm,0.8s,baz=242,slow=1.9,SNR=18
CTAO **Charters Tower** **129.97 233** PKPdf **PKPdf** **11 04 28.1 +0.2**
CTAO pPKPdf **pPKPdf** **11 05 03.1 +0.5**
RABL **Rabaul** **131.69 255** PKPdf **PKPdf** **11 04 31.6 +0.3**
RABL pPKPdf **pPKPdf** **11 05 06.7 +0.7**
ZAA0 **Zalesovo Array** **133.56 17** PKPdf **PKiKP** **11 04 34.4 -0.5**
ZALV **Zalesovo Beam** **133.56 17** PKP **PKiKP** **11 04 34.4 -0.5**
comp=Z,34nm,0.7s,baz=293,slow=2.1,SNR=98
ZALV pPKP **pPKPdf** **11 05 07.7 -0.3**
comp=Z,21nm,0.7s,baz=277,slow=2.4,SNR=4.8
ZALV **Zalesovo Beam** **133.56 17** PKPdf **PKPdf** **11 04 33.7 +0.1**
KURK **Kurchatov** **134.11 24***c* *i* PKIKP **PKPdf** **11 04 35.4 +0.7**
KURK pmax pmax
comp=Z,40nm,1.7s
KURK **Kurchatov** **134.11 24** PKPdf **PKPdf** **11 04 35.1 +0.4**
KURBB **Kurchatov Arra** **134.15 24** PKIKP **PKiKP** **11 04 35.6 -0.6**
NWAO **Narrogin (SRO)** **135.43 194** PKP **PKPdf** **11 04 38.4 +0.5**
comp=Z,9.6nm,0.9s,baz=144,slow=11,SNR=3.6
NWAO **Narrogin (SRO)** **135.43 194** PKPdf **PKPdf** **11 04 37.3 -0.5**
KLR **Kul'dur** **135.87 336***c* *i* PKIKP **PKPdf** **11 04 38.3 +0.2**
AS31 **Alice Springs** **136.34 219** PKPdf **PKPdf** **11 04 38.8 -1.1**
ASAR **Alice Springs** **136.34 219** PKhKP PKPpre 11 04 26.6
comp=Z,0.9nm,0.6s,baz=130,slow=3.5,SNR=16
ASAR PKP **PKPdf** **11 04 39.6 -0.3**
comp=Z,13nm,0.7s,baz=122,slow=2.3,SNR=40
ASAR pPKP pPKPdf 11 05 13.2 -1.4
comp=Z,8.3nm,0.8s,baz=128,slow=2.0,SNR=2.8
ASAR **Alice Springs** **136.34 219** PKPdf **PKPdf** **11 04 39.0 -0.8**
ASAR pPKPdf **pPKPdf** **11 05 15.3 +0.8**
CHGR **Chuyangaron** **136.89 43** PKPdf **PKPdf** **11 04 40.4 0.0**
GAR **Garm** **137.48 42** PKPdf **PKPdf** **11 04 42.5 +0.9**
AAK **Ala-Archa** **137.91 35***c* *i* PKIKP **PKiKP** **11 04 44.3 0.0**
AAK pmax pmax
comp=Z,43nm,1.3s
DGZ **Jazzator, Alta** **138.07 18** *i* PKIKP **PKPdf** **11 04 42.8 +0.4**
TKM2 **Tokmak 2** **138.33 34** PKIKP **PKPdf** **11 04 41.2 -1.9**
MAKZ **Makanchi** **138.56 25** PKIKP **PKPdf** **11 04 43.3 +0.1**
WR0 **Warramunga Arr** **138.60 223** PKPdf **PKPdf** **11 04 43.9 -0.1**
WR0 pPKPdf **pPKPdf** **11 05 18.2 -0.4**
MK31 **Makanchi Array** **138.70 25** *i* PKIKP **PKPdf** **11 04 43.8 +0.4**
MK31 **Makanchi Array** **138.70 25** PKPpre PKPpre 11 04 35.2
MKAR **Makanchi Array** **138.70 25** PKhKP PKPpre 11 04 34.5
comp=Z,0.3nm,0.4s,baz=201,slow=35,SNR=5.7
MKAR PKP **PKPdf** **11 04 43.5 0.0**
comp=Z,11nm,0.9s,baz=349,slow=2.0,SNR=28
MKAR pPKP pPKPdf 11 05 16.7 -1.1
comp=Z,2.5nm,0.7s,baz=262,slow=0.9,SNR=1.5
MKAR **Makanchi Array** **138.70 25** PKHKP PKPpre 11 04 34.1
MKAR 11 04 44.1
MKAR **Makanchi Array** **138.70 25** PKPpre PKPpre 11 04 34.0
MKAR PKPdf **PKPdf** **11 04 44.0 +0.6**
WB2 **Warramunga Arr** **138.74 223** PKPpre PKPpre 11 04 36.0
WB2 PKPdf **PKPdf** **11 04 45.0 +0.7**
WRAB **Tennant Creek** **138.75 223** PKIKP **PKPdf** **11 04 45.0 +0.7**
WRAB **Tennant Creek** **138.75 223** PKPdf **PKPdf** **11 04 45.0 +0.7**
WRA **Warramunga Arr** **138.75 223** PKhKP PKPpre 11 04 34.9
comp=Z,1.5nm,0.7s,baz=136,slow=3.9,SNR=22
WRA PKP **PKPdf** **11 04 45.0 +0.7**
comp=Z,18nm,0.5s,baz=126,slow=1.9,SNR=71
WRA pPKP pPKPdf 11 05 19.3 +0.3
comp=Z,11nm,0.8s,baz=124,slow=1.3,SNR=3.3
WRA **Warramunga Arr** **138.75 223** PKPpre 11 04 34.6
WRA PKPdf **PKPdf** **11 04 44.5 +0.1**
BOOM **Boomskoye usch** **138.81 34** PKIKP **PKPdf** **11 04 43.1 -0.9**
BOOM **Boomskoye usch** **138.81 34** PKPdf **PKPdf** **11 04 43.1 -0.9**
MOY **Mondy** **138.82 5** ePKIKP **PKiKP** **11 04 45.2 -0.6**
MOY pmax pmax
comp=Z,33nm,2.4s
USRK **Ussuriysk Ar.** **139.63 331** PKhKP PKPpre 11 04 36.3
comp=Z,1.9nm,0.5s,baz=329,slow=0.4,SNR=6.7
USRK PKP **PKPdf** **11 04 45.1 -0.1**
comp=Z,6.7nm,0.6s,baz=243,slow=0.3,SNR=11
USRK pPKP pPKPdf 11 05 18.3 -1.3
comp=Z,10nm,0.8s,baz=355,slow=1.6,SNR=5.5
USRK **Ussuriysk Ar.** **139.63 331** PKPdf **PKPdf** **11 04 45.1 -0.1**
USRK pPKPdf **pPKPdf** **11 05 19.8 +0.2**
PDGK **Podgornoye** **140.09 30** PKHKP PKPpre 11 04 39.3
ZAK **Zakamensk** **140.24 3** ePKHKP PKPpre 11 04 39.3
ZAK pmax pmax
comp=Z,11nm,1.3s
ZAK pmax pmax
comp=Z,10.0nm,1.3s
MDJ **Mudanjiang** **140.42 333** PKP **PKPdf** **11 04 46.0 -0.6**
MJAR **Matsushiro Arr** **141.03 317** PKhKP **PKPdf** **11 04 40.9 -7.0**
comp=Z,11nm,0.5s,baz=87,slow=2.0,SNR=57
MJAR pPKP **pPKPdf** **11 05 20.9 -1.9**
comp=Z,5.4nm,0.7s,baz=69,slow=1.6,SNR=1.7
MJAR **Matsushiro Arr** **141.03 317** PKHKP **PKPdf** **11 04 40.3 -7.7**
MJAR **Matsushiro Arr** **141.03 317** PKPpre **PKPdf** **11 04 40.3 -7.7**
MAJO **Matsushiro** **141.03 317** *i* PKIKP **PKPdf** **11 04 48.4 +0.4**
MAJO **Matsushiro** **141.03 317** PKPpre PKPdf 11 04 40.0 -8.0
MAT **Matsushiro** **141.03 317** PKP **PKPdf** **11 04 40.5 -7.5**
JGF **Kuroka** **142.12 316** PKPpre **PKPdf** **11 04 43.4 -6.6**
INU **Inuyama** **142.49 316** PKPpre **PKPdf** **11 04 43.9 -6.7**
INU pPKPdf **pPKPdf** **11 05 19.4 -6.0**
ULN **Ulaanbaatar** **142.81 359** *i* PKIKP **PKPdf** **11 04 48.7 -2.3**
CN2 **Changchun** **142.81 336** ePKP **PKPdf** **11 04 46.5 -4.4**
SONM **Songino Array** **142.85 359** PKP **PKPdf** **11 04 49.1 -2.0**
comp=Z,8.4nm,0.8s,baz=328,slow=2.3,SNR=17
SONM pPKP **pPKPdf** **11 05 22.0 -3.4**
comp=Z,6.9nm,0.7s,baz=315,slow=1.4,SNR=4.3
SONM **Songino Array** **142.85 359** PKPdf **PKPdf** **11 04 48.9 -2.2**
WMQ **Urumqi** **143.29 22** ePKP **PKPdf** **11 04 51.3 -0.6**
WMQ pPKP pPKPdf 11 05 27.0 +0.8
WMQ LR LR
comp=Z,230nm,26.3s
WMQ LR LR
comp=Z,150nm,29.0s
JWT **Wachi** **143.62 317** PKPdf PKPab 11 04 49.1 -0.3
PSA00 **Pilbara Seismi** **145.26 203** **PKPbc** **11 04 53.9 -1.8**
PSA00 **Pilbara Seismi** **145.26 203** **PKPbc** **11 04 55.1 -0.7**
PSA00 pPKPdf pPKPab 11 05 29.5 -0.1
JHS **Saijyo** **145.29 319** PKPdf **PKPbc** **11 04 55.1 -0.4**
KNRA **Kununurra** **145.49 221** PKPdf **PKPdf** **11 04 55.9 -0.5**
FITZ **Fitzroy Crossi** **145.50 215** PKPbc **PKPbc** **11 04 56.6 0.0**
comp=Z,92nm,0.8s,baz=177,slow=4.6,SNR=102
FITZ pPKPbc pPKPab 11 05 30.9 +0.1
comp=Z,38nm,0.9s,baz=170,slow=7.3,SNR=3.7
FITZ **Fitzroy Crossi** **145.50 215** PKPdf **PKPdf** **11 04 55.5 -0.8**
JMN **Monobe** **145.54 316** PKPdf **PKPdf** **11 04 55.5 -0.5**
MTN **Manton Dam** **145.84 228** **PKPbc** **11 04 57.8 +0.1**
KS19 **Wonju Array Si** **146.70 327** PKPbc **PKPbc** **11 04 59.0 -0.6**
KSRS **Korea Array** **146.71 327** PKPbc **PKPbc** **11 04 59.1 -0.5**
comp=Z,70nm,0.9s,baz=33,slow=2.9,SNR=76
KSRS pPKPbc pPKPbc 11 05 33.5 -0.4
comp=Z,88nm,1.0s,baz=28,slow=2.5,SNR=10
KSAR **Wonju Array Be** **146.73 327** PKIKP **PKPdf** **11 04 58.4 +0.5**
KSAR **Wonju Array Be** **146.73 327** PKPbc **PKPdf** **11 04 58.4 +0.5**
INCN **Inchon** **147.36 329** PKIKP **PKPbc** **11 05 00.4 -1.1**
INCN **Inchon** **147.36 329** PKPbc **PKPbc** **11 05 00.4 -1.1**
TJN **Taejon** **147.80 326***c* *i* PKP2 **PKPbc** **11 05 03.1 +0.4**
JNU **Nakatsue** **147.91 318** PKPbc **PKPbc** **11 05 01.3 +1.3**
JTU **Tsushima** **147.94 322** PKPbc **PKPbc** **11 05 02.8 -0.3**
DL2 **Dalian** **148.49 336** PKPbc **PKPbc** **11 05 04.5 +0.1**
DL2 pPKP **pPKPbc** **11 05 38.0 -0.5**
DL2 PP **PP** **11 08 40.5 +6.9**
DL2 AMB AMB
comp=Z,240nm,6.6s
JSU **Suzuyama** **149.18 316** PKPbc **PKPbc** **11 05 05.0 -1.5**
BJI **Beijing** **149.27 344** PKPbc **PKiKP** **11 05 07.0 -0.5**
BJI SS SS 11 27 41.8 +2.1
BJI LR LR
comp=Z,270nm,27.1s
BJT **Baijiatuau** **149.29 344** PKHKP PKPpre 11 05 01.9
BJT **Baijiatuau** **149.29 344** PKPdf **PKPdf** **11 05 01.9 -0.1**
HHC **Hu-ho-hao-te** **149.43 352** ePKPbc **PKPbc** **11 05 05.3 -1.6**
HHC PP PP 11 08 47.3 +8.4
HHC SS SS 11 27 45.0 +3.5
HHC AMB AMB
comp=Z,77nm,5.8s
BTO **Baotou** **149.86 354** ePKPbc **PKPdf** **11 05 04.0 +1.0**
FAKI **Fak Fak** **150.57 244** PKPbc **PKiKP** **11 05 11.0 0.0**
KLRI **Killari** **150.65 72** ePKiKP **PKPbc** **11 05 10.7 +0.3**
GTA **Gaotai** **150.76 10** PKPbc **PKPdf** **11 05 06.0 +1.5**
GTA SKKS 11 15 27.0
GTA SS **SS** **11 28 01.3 +4.9**
GTA LR LR
comp=Z,160nm,21.8s
GTA LR LR
comp=Z,170nm,22.2s
GTA LR LR
comp=Z,230nm,19.6s
PYUN **Piuthan** **152.29 48** eP **PKPdf** **11 05 09.0 +1.7**
comp=Z,117nm,0.5s
TIY **Taiyuan** **152.34 349** PKPbc **PKPbc** **11 05 13.5 -0.3**
TIY PKPab **PKPab** **11 05 27.8 +3.7**
TIY PP **PP** **11 09 02.5 +6.9**
TIY SKS SKSdf 11 12 15.8 +13
SIJI **Sorong** **152.35 247** PKPbc **PKiKP** **11 05 15.2 +0.6**
comp=Z,42nm,0.6s,baz=46,slow=4.4,SNR=29
TIA **Tai'an** **152.53 340** PKPbc **PKPdf** **11 05 09.0 +1.9**
HYBB **Hyderabad (bro** **152.60 73** ePKiKP **PKiKP** **11 05 15.2 +0.1**
HYB **Hyderabad** **152.60 73** *i* PKP **PKPdf** **11 05 09.5 +1.8**
HYB *ep*PKP **pPKPbc** **11 05 46.5 -2.5**
HYB *es*PKP 11 05 59.5
HYB *e*PP **PP** **11 08 58.0 -1.2**
DANN **Dangsing** **152.70 46** eP **PKPdf** **11 05 09.2 +1.2**
comp=Z,178nm,0.7s
SOEI **Soe** **152.79 223** PKPdf **PKPdf** **11 05 09.8 +1.6**
SOEI PKPbc **PKiKP** **11 05 17.3 +1.6**
BATI **Baumata** **152.85 221** PKPbc **PKiKP** **11 05 17.2 +1.6**
comp=Z,42nm,0.7s,baz=227,slow=12,SNR=5.4
BATI PKPab **PKPab** **11 05 25.9 -0.9**
comp=Z,21nm,0.5s,baz=343,slow=18,SNR=4.1
KOLN **Koldanda** **152.92 48** eP **PKPdf** **11 05 09.5 +1.3**
comp=Z,60nm,0.7s

CUPL	**Choutuppal**	**152.97**	**73**	*e*PKiKP	**PKiKP**	**11 05 16.6**	**+0.8**
RPR	**Rampur**	**152.98**	**69**	*e*PKPdf	**PKPdf**	**11 05 09.3**	**+1.1**
SRLM	**Srisailam**	**153.14**	**75**	*e*PKiKP	**PKPbc**	**11 05 15.1**	**-1.0**
NJS	**Nagarjunasagar**	**153.46**	**74**	*e*PKPbc	**PKPbc**	**11 05 15.2**	**-1.5**
GKN	**Gorkha**	**153.53**	**46**	*e*P	**PKPdf**	**11 05 10.4**	**+1.4**
	comp=Z,38nm,0.5s						
DMN	**Daman**	**154.10**	**46**	*e*P	**PKPdf**	**11 05 10.7**	**+0.7**
KKN	**Kakani**	**154.11**	**46**	*e*P	**PKPdf**	**11 05 11.0**	**+1.1**
SKHT	**Srikalahasti**	**154.18**	**80**	*e*PKPab	**PKPab**	**11 05 33.0**	**+0.5**
ADKI	**Addanki**	**154.20**	**75**	*e*PKiKP	**PKiKP**	**11 05 19.3**	**+1.0**
PKIN	**Phulchoki**	**154.32**	**46**	*e*P	**PKPdf**	**11 05 11.1**	**+0.8**
PKI	**Pulchoki**	**154.34**	**46**	*e*P	**PKPdf**	**11 05 11.2**	**+0.8**
	comp=Z,174nm,0.9s						
GUN	**Gumba**	**154.46**	**45**	*e*P	**PKPdf**	**11 05 11.6**	**+1.0**
	comp=Z,202nm,0.7s						
LZH	**Lanzhou**	**154.52**	**4**	*e*PKPbc	**PKPdf**	**11 05 13.0**	**+2.8**
LZH				SKKS		11 15 49.8	
LZH				SS	**SS**	**11 28 35.5**	**-2.0**
MYLAV	**Mylavaram**	**154.68**	**73**	*e*PKiKP	**PKiKP**	**11 05 20.8**	**+1.5**
NJ2	**Nanjing**	**155.51**	**333**	*e*PKP	**PKPdf**	**11 05 11.3**	**-0.1**
PVM	**Polavaram**	**155.51**	**72**	*e*PKPdf	**PKPdf**	**11 05 12.4**	**+0.7**
RAMN	**Ramite**	**155.55**	**46**	*e*P	**PKPdf**	**11 05 12.7**	**+0.7**
TAPN	**Taplejung**	**156.06**	**43**	*e*P	**PKPdf**	**11 05 14.5**	**+1.8**
ODAN	**Odare**	**156.16**	**45**	*e*P	**PKPdf**	**11 05 13.9**	**+1.2**
XAN	**Xi'an**	**156.47**	**354**	P	**PKPab**	**11 05 48.5**	**+6.8**
XAN				pP	sPKPdf	11 05 58.5	-2.2
XAN				pmax	pmax		
	comp=Z,22nm,1.0s						
XAN	**Xi'an**	**156.47**	**354**	PKIKP	**PKPdf**	**11 05 13.6**	**+0.9**
XAN	**Xi'an**	**156.47**	**354**	PKPdf	**PKPdf**	**11 05 13.6**	**+0.9**
LSA	**Lhasa**	**156.49**	**34**	PKP	**PKPdf**	**11 05 15.5**	**+2.1**
LSA	**Lhasa**	**156.49**	**34**	PKIKP	**PKPdf**	**11 05 14.6**	**+1.2**
LSA	**Lhasa**	**156.49**	**34**	PKPdf	**PKPdf**	**11 05 14.6**	**+1.2**
CHLP	**Challavanipeta**	**157.42**	**67**	*e*PKPab	**PKPab**	**11 05 45.2**	**-1.2**
KAPI	**Kappang**	**159.29**	**222**	PKP	**PKPdf**	**11 05 18.0**	**+1.3**
	comp=Z,17nm,1.1s,baz=202,slow=4.3,SNR=3.7						
KAPI	**Kappang**	**159.29**	**222**	PKIKP	**PKPdf**	**11 05 18.0**	**+1.3**
KAPI	**Kappang**	**159.29**	**222**	PKPdf	**PKPdf**	**11 05 17.2**	**+0.6**
CD2	**Chengdu**	**159.66**	**5**	PKP	**PKPdf**	**11 05 18.5**	**+1.8**
CD2				SKS	**SKS**	**11 12 06.8**	**-3.9**
CD2				SKKS	**SKKSac**	**11 16 12.3**	**-1.9**
CD2				AMB	AMB		
	comp=Z,330nm,7.4s						
SHL	**Shillong**	**160.01**	**40**	PKIKP	**PKPdf**	**11 05 17.3**	**-0.1**
SHL	**Shillong**	**160.01**	**40**	PKPdf	**PKPdf**	**11 05 17.3**	**-0.1**
ENH	**Enshi**	**160.11**	**351**	PKPdf	**PKPdf**	**11 05 17.0**	**-0.2**
ENH				PKPab	**pPKPdf**	**11 05 53.1**	**+1.1**
LEM	**Lembang**	**162.64**	**186**	PKP	**PKPdf**	**11 05 21.3**	**+0.8**
	comp=Z,14nm,0.4s,baz=177,slow=1.8,SNR=5.7						
GYA	**Guiyang**	**164.18**	**358**	⇓PKP	**PKPdf**	**11 05 22.0**	**+0.5**
GYA				pPKP	pPKPdf	11 05 57.3	+1.3
GYA				PKPab	**PKPab**	**11 06 16.0**	**+0.5**
GYA				SKKS		11 16 38.0	
GYA				AMB	AMB		
	comp=Z,110nm,8.4s						
GYA				LR	LR		
	comp=Z,900nm,17.5s						
GYA				LR	LR		
	comp=Z,720nm,19.6s						
GYA				LR	LR		
	comp=Z,350nm,18.8s						
KMI	**Kunming**	**165.21**	**11**⇑	*e*PKP	**PKPdf**	**11 05 24.5**	**+1.9**
KMI				sPKP		11 06 10.0	
KMI				LR	LR		
	comp=Z,430nm,18.6s						
KMI				LR	LR		
	comp=Z,420nm,16.3s						
KMI				LR	LR		
	comp=Z,710nm,21.2s						
SLVN	**Son La**	**169.12**	**10**	PKPdf	**PKPdf**	**11 05 26.3**	**+1.0**
CHTO	**Chiang Mai**	**169.38**	**39**	PKPdf	**PKPdf**	**11 05 25.6**	**+0.1**
CHTO					**pPKPdf**	**11 05 59.6**	**-0.4**
RPSI	**Rantau Prapat**	**169.54**	**138**	PKPdf	**PKPdf**	**11 05 24.5**	**-1.2**
RPSI				PKPab	**PKPab**	**11 06 41.3**	**+1.8**
PSI	**Prapat**	**169.62**	**137**	PKP2	**PKPab**	**11 06 41.3**	**+1.3**
PSI				12 05 24.5			
CM31	**Chiang Mai Arr**	**169.65**	**40**	PKPdf	**PKPdf**	**11 05 26.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**169.65**	**40**	PKP	**PKPdf**	**11 05 26.5**	**+0.9**
	comp=Z,10.0nm,1.0s,baz=284,slow=1.6,SNR=56						
CMAR				pPKP	**pPKPdf**	**11 05 59.0**	**-1.3**
	comp=Z,7.4nm,1.0s,baz=271,slow=1.5,SNR=5.5						
CMAR				PKPab	**PKPab**	**11 06 38.8**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=300,slow=5.1,SNR=7.7						
CMAR	**Chiang Mai Arr**	**169.65**	**40**	PKPdf	**PKPdf**	**11 05 26.0**	**+0.4**
CMAR					**pPKPdf**	**11 06 00.9**	**+0.7**
SBUM	**Sibu**	**169.80**	**218**	PKPdf	**PKPdf**	**11 05 26.5**	**+0.7**
SBUM					**pPKPdf**	**11 06 00.6**	**-0.3**
KSM	**Kuching**	**169.97**	**206**	PKPdf	**PKPdf**	**11 05 26.2**	**+0.2**
KSM				PKPab	**PKPab**	**11 06 43.5**	**+2.3**
QIZ	**Qiongzhong**	**170.77**	**336**	PKP	**PKPdf**	**11 05 24.8**	**-1.4**
QIZ				PP	**PP**	**11 10 32.5**	**-1.6**
QIZ				SS	SS	11 31 26.3	+0.2
QIZ				AMB	AMB		
	comp=Z,300nm,7.7s						
QIZ				LR	LR		
	comp=Z,130nm,18.3s						
QIZ				LR	LR		
	comp=Z,170nm,25.5s						
IPM	**Ipoh**	**172.24**	**141**	PKPdf	**PKPdf**	**11 05 26.8**	**-0.3**
KULM	**Kulim**	**172.60**	**135**	PKPdf	**PKPdf**	**11 05 27.2**	**0.0**
UBPT	**Khong Chiam**	**175.29**	**5**	PKPdf	**PKPdf**	**11 05 29.0**	**+0.9**
UBPT					**pPKPdf**	**11 06 01.1**	**-1.6**

IDC 26 10:58:01.2±24.0, 3°25S×127°05E, h405km±236km, mb2.2/1, mb1 2.6/2, mb1mx2.5/30, mbtmp3.2/2, Error ellipse: s-maj=166.4km s-min=146.9km az=114.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.05**	**157**	P	P	11 01 46.4	+0.2
	0.2nm,0.3s,baz=336,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.35**	**163**	P	P	11 02 17.5	-0.2
	0.2nm,0.6s,baz=342,slow=8.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**125.14**	**284**	PKP	PKPdf	11 16 15.2	-0.2
	0.4nm,0.5s,baz=62,slow=2.8,SNR=3.1						

*NEIC **26** 11:10:14.5±2.8, 5.87S±0.08×147.96E±0.05, h122km±12km, mb4.0/9, Error ellipse: s-maj=11.8km s-min=7.3km az=171.0*
*IDC **26** 11:10:16.5±2.9, 5.79S×147.50E, h130km±37km, mb3.4/5, mb1 3.5/9, mb1mx3.3/35, mbtmp3.8/9, Error ellipse: s-maj=47.7km s-min=16.8km az=128.0*
ISC 26 11:10:17.7±0.8, 5.83S±0.06×147.6E±0.1, h150km, n32, σ1s54/25, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**187**	P	**Pn**	**11 11 11.4**	**-1.2**
	3.9nm,0.3s,baz=55,slow=7.3,SNR=4.4						
PMG				S	**Sn**	**11 11 53.7**	**-1.5**
	3.0nm,0.3s,baz=345,slow=15,SNR=3.6						
PMG	**Port Moresby**	**3.58**	**187**		**Pn**	**11 11 11.0**	**-1.6**
MANU	**Manus Island**	**3.76**	**357**	Pn	**Pn**	**11 11 12.4**	**-2.6**
KRVT	**Keravat (AS076**	**4.68**	**71**	P	**Pn**	**11 11 26.6**	**-0.4**
	6.7nm,0.3s,baz=20,slow=19,SNR=4.0						
RABL	**Rabaul**	**4.85**	**71**	Pn	Pn	11 11 20.9	-8.3
HNR	**Honiara**	**12.77**	**107**	Pn	Pn	11 13 06.3	-7.8
CTA	**Charters Tower**	**14.24**	**185**	P	**Pn**	**11 13 32.1**	**-0.6**
	0.1nm,0.3s,baz=15,slow=16,SNR=2.6						
CTAO	**Charters Tower**	**14.24**	**185**		**P**	**11 13 38.7**	**+3.1**
MTN	**Manton Dam**	**17.65**	**246**	P	**Pn**	**11 14 14.0**	**-0.6**
MTN				IAmb	IAmb	11 14 14.7	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**18.88**	**222**	P	**Pn**	**11 14 28.7**	**-0.3**
WR0	**Warramunga Arr**	**18.92**	**221**	P	**P**	**11 14 27.4**	**+0.2**
WR0				IAmb	IAmb	11 14 36.6	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**19.03**	**221**	P	**Pn**	**11 14 29.5**	**-1.3**
WRAB				IAmb	IAmb	11 14 36.4	
	comp=Z,7.9nm,0.9s						
WB2	**Warramunga Arr**	**19.03**	**221**	P	**P**	**11 14 28.2**	**-0.2**
WB2				IAmb	IAmb	11 14 36.6	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**19.04**	**221**	P	**P**	**11 14 27.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=42,slow=11,SNR=14						
EIDS	**Eidsvold**	**19.72**	**171**	P	**P**	**11 14 31.9**	**-3.9**
EIDS				IAmb	IAmb	11 14 32.0	
	comp=Z,4.1nm,0.9s						
KNRA	**Kununurra**	**20.90**	**241**	P	**P**	**11 14 48.6**	**+0.2**
AS31	**Alice Springs**	**22.09**	**215**	P	**P**	**11 15 02.8**	**+1.8**
ASAR	**Alice Springs**	**22.09**	**215**	P	**P**	**11 15 01.8**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=47,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**22.09**	**215**	P	**P**	**11 15 02.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.64**	**238**	P	**P**	**11 15 24.9**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=62,slow=8.8,SNR=9.9						
FITZ	**Fitzroy Crossi**	**24.64**	**238**	P	**P**	**11 15 25.1**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**30.65**	**38**	T	T	11 48 22.9	
	baz=220,slow=74						
H11S2	**WAKE ISLAND Hy**	**30.65**	**38**	T	T	11 48 16.5	
	baz=220,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.66**	**38**	T	T	11 48 17.8	
	baz=220,slow=74						
H11N1	**WAKE ISLAND Hy**	**31.71**	**36**	T	T	11 49 37.0	
	baz=218,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.72**	**36**	T	T	11 49 34.7	
	baz=218,slow=76						
H11N2	**WAKE ISLAND Hy**	**31.72**	**36**	T	T	11 49 36.9	
	baz=218,slow=76						
CMAR	**Chiang Mai Arr**	**53.67**	**298**	P	**P**	**11 19 24.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=127,slow=5.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**79.17**	**328**	P	**P**	**11 22 07.9**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=132,slow=9.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**79.17**	**328**	P	**P**	**11 22 07.1**	**+1.3**
ILAR	**Eielson Array**	**85.10**	**23**	P	**P**	**11 22 36.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=238,slow=5.2,SNR=5.9						
ILAR	**Eielson Array**	**85.10**	**23**	P	**P**	**11 22 36.6**	**+0.2**

*JMA **26** 11:15:32.6, 36.83N×138.09E, h4km±2km, M3.0*
JMA Felt II J1.
*IDC **26** 11:15:32.6±1.5, 36.34N×138.00E, h0km, mb3.1/1, mb1 3.4/2, mb1mx3.2/44, mbtmp3.2/2, ML3.0/1, Error ellipse: s-maj=8.9km s-min=8.5km az=66.0*
ISC 26 11:15:32.2±0.8, 36.78N±0.04×138.18E±0.05, h10km, n13, σ1s05/16, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.24**	**174**	P	**Pg**	**11 15 36.4**	**-0.8**
MAT	**Matsushiro**	**0.24**	**174**	P	**Pb**	**11 15 38.1**	**+0.9**
MAT				S	**Sb**	**11 15 42.2**	**+1.7**
MAT	**Matsushiro**	**0.24**	**174**	P	**Pb**	**11 15 38.1**	**+0.9**
MAT				*e*S	**Sb**	**11 15 42.0**	**+1.5**
MJAR	**Matsushiro Arr**	**0.24**	**173**	Pg	**Pg**	**11 15 37.4**	**+0.2**
	30nm,0.3s,baz=227,slow=20,SNR=296						
MJAR				Lg	Lg	11 15 42.2	
	55nm,0.3s,baz=98,slow=34,SNR=50						
JNG	**Nsakai**	**0.38**	**189**	P	**Pb**	**11 15 40.4**	**-0.8**
JNG				S	**Sb**	**11 15 46.3**	**-0.8**
JGK	**Kuni**	**0.43**	**120**	P	**Pb**	**11 15 41.8**	**-0.2**
JTT	**Ttatey**	**0.70**	**255**	P	**Pb**	**11 15 46.1**	**-0.4**
JHK	**Hiroka**	**0.82**	**55**	P	**Pb**	**11 15 48.4**	**-0.2**
JIZZ	**Izumozaki**	**0.86**	**30**	S	**Sn**	**11 16 03.8**	**+0.8**
JKT	**Katashina**	**0.86**	**91**	P	**Pn**	**11 15 49.8**	**-0.7**
JSZ	**Suzu**	**0.93**	**316**	P	**Pg**	**11 15 49.3**	**-0.8**
KSRS	**Korea Array**	**8.22**	**278**	Pn	**Pn**	**11 17 33.4**	**+1.9**
	0.2nm,0.3s,baz=93,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**56.53**	**184**	P	**P**	**11 25 14.4**	**-0.4**
	0.2nm,0.5s,baz=360,slow=7.7,SNR=5.1						

*TEH **26** 11:20:03.5, 32.79N×47.60E, h10km, ML2.9*
*ISN **26** 11:20:04.9±2.3, 32.72N×47.51E, h15km±16km, ML2.9*
ISC 26 11:20:02.3±2.5, 32.7N±0.1×47.68E±0.08, h10km, n11, σ0s72/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**9**	*e*Pg	**Pg**	**11 20 17.6**	**-1.0**
IKMR	**Kamar-syah**	**1.01**	**35**	*e*Pg	**Pn**	**11 20 22.6**	**0.0**
IKMR				*e*		11 20 45.2	
IDOB	**Doab**	**1.17**	**21**	*e*Pg	**Pn**	**11 20 25.7**	**+0.7**
IDOB				*e*		11 20 45.9	
IKOM	**Komasi**	**1.48**	**354**	*e*Pg	**Pb**	**11 20 30.1**	**0.0**
IKOM				*e*Sg	**Sg**	**11 20 51.0**	**+0.8**
IKOM				*e*		11 20 55.5	
IBDR	**Badra**	**1.53**	**286**	*e*Pg	**Pn**	**11 20 30.0**	**+0.3**
	baz=106						
IBDR				*e*Sg	**Sb**	**11 20 50.0**	**-0.3**
IBDR				AML	AML	11 20 56.9	
	comp=N,72nm,0.6s						
IBDR				AML	AML	11 20 57.2	
	comp=E,85nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.67**	**341**	*e*Pg	**Pb**	**11 20 32.4**	**-0.9**
KCHF				*e*		11 20 57.2	
IBZA	**Bozab**	**1.78**	**5**	*e*Pg	**Pb**	**11 20 35.6**	**+0.4**
IBZA				*e*		11 20 39.1	
IGHG	**Ghaleghazi**	**1.88**	**331**	*e*Pg	**Pb**	**11 20 36.8**	**-0.1**
IGHG				*e*		11 21 11.8	
IVIS	**Veis**	**1.96**	**339**	*e*Pn	**Pb**	**11 20 38.0**	**-0.2**
IVIS				*e*		11 21 10.8	
IDHR	**Dehrash**	**2.27**	**332**	*e*Pn	**Pb**	**11 20 42.6**	**-1.0**
IDHR				*e*		11 21 18.5	
BHD	**Baghdad**	**2.83**	**283**	*e*Pn	**Pn**	**11 20 48.0**	**+0.3**
BHD				*e*Sn	**Sn**	**11 21 23.0**	**+1.1**
BHD				AML	AML	11 21 25.3	
	comp=E,430nm,0.5s						

*IDC **26** 11:30:14.8±0.5, 4.02S×133.88E, h0km, mb4.3/13, mb1 4.5/18, mb1mx4.4/28, mbtmp4.4/18, ML4.1/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/33, Error ellipse: s-maj=18.8km s-min=11.6km az=61.0*
*BJI **26** 11:30:15.6±0.0, 4.53S×133.79E, h31km, mB5.0/16, mb4.8/28, Ms4.4/3, Ms7 4.3/3*
*DJA **26** 11:30:16.3±0.2, 4°S±2°×13°4E±°, h10km, M4.8/24, mb4.9/24, mB5.3/11, MLv4.8/12, Mw(mB)4.8/11, Mwp5.4/1*
*NEIC **26** 11:30:19.4±1.5, 4.09S±0.06×133.88E±0.06, h33km±4km, mb4.6/44, Error ellipse: s-maj=9.1km s-min=6.8km az=223.0*
ISC 26 11:30:18.9±0.3, 4.20S±0.04×133.97E±0.04, h35km, n111, σ1s91/123, mb4.6/33, MS3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**0.59**	**334**	P	**Pn**	**11 30 26.6**	**-4.2**
KMPI				S	**Sn**	**11 30 33.5**	**-5.7**
FAKI	**Fak Fak**	**2.13**	**306**	P	**Pn**	**11 30 50.1**	**-1.9**
FAKI				S	**Sn**	**11 31 16.3**	**-1.0**
FAKI	**Fak Fak**	**2.13**	**306**	Pn	**Pn**	**11 30 50.4**	**-1.6**
SRPI	**Serui, Papua**	**3.24**	**45**	P	**Pn**	**11 31 05.7**	**-1.5**
SRPI				S	**Sn**	**11 31 43.1**	**-1.5**
BAKI	**Biak**	**3.67**	**36**	P	**Pn**	**11 31 13.2**	**0.0**
BNDI	**Bandanaira**	**4.06**	**265**	P	**Pn**	**11 31 19.0**	**+0.4**
BNDI				S	**Sn**	**11 32 08.0**	**+3.0**
SIJI	**Sorong**	**4.26**	**321**	Pn	**Pn**	**11 31 19.1**	**-2.3**
	6.4nm,0.3s,baz=233,slow=22,SNR=24						
SIJI				Sn	**Sn**	**11 32 06.0**	**-4.0**
	24nm,0.3s,baz=241,slow=23,SNR=7.7						
SIJI				Lg	Lg	11 32 24.6	
	17nm,0.3s,baz=127,slow=20,SNR=0.9						
SIJI				LR	LR	11 33 28.6	
	comp=Z,791nm,18.1s,baz=108,slow=48						
SAUI	**Saumlaki**	**4.60**	**215**	Pn	**Pn**	**11 31 26.8**	**+0.8**
MSAI	**Masohi**	**5.10**	**279**	P	**Pn**	**11 31 32.4**	**-0.4**
	0.2nm13μm59nm,0.7s						
MSAI				S	**Sn**	**11 32 31.4**	**+0.9**
	0.2nm13μm59nm,0.7s						
AAI	**Ambon**	**5.78**	**275**	P	**Pn**	**11 31 41.6**	**-0.6**
	1.0nm3μm204nm,0.4s						
GENI	**Genyem**	**6.39**	**76**	P	**Pn**	**11 31 52.7**	**+2.1**
	0.4nm75nm,0.6s						
NLAI	**Namlea**	**6.92**	**278**	P	**Pn**	**11 31 59.3**	**+1.5**
	0.2nm937nm60nm,0.6s						
JAY	**Jayapura**	**6.93**	**76**	Pn	**Pn**	**11 31 59.0**	**+0.9**
	2.1nm,0.3s,baz=220,slow=12,SNR=6.0						
JAY				Sn	**Sn**	**11 33 15.6**	**-0.2**
	0.5nm,0.3s,baz=135,slow=17,SNR=1.8						
JAY				Lg	Lg	11 33 56.6	
	0.9nm,0.3s,baz=287,slow=19,SNR=1.1						
JAY				LR	LR	11 34 42.8	
	comp=Z,94nm,19.4s,baz=188,slow=38						
SANI	**Sanana**	**8.25**	**285**	P	**Pn**	**11 32 13.2**	**-2.9**
	583nm46nm,0.7s						
MTN	**Manton Dam**	**9.04**	**198**	Pn	**Pn**	**11 32 28.4**	**+1.5**
SOEI	**Soe**	**11.10**	**240**	P	**Pn**	**11 32 55.1**	**-0.2**
	96nm,0.7s						
SOEI				S	**Sn**	**11 34 56.3**	**-2.0**
	96nm,0.7s						
SOEI	**Soe**	**11.10**	**240**	Pn	**Pn**	**11 32 55.8**	**+0.5**
BATI	**Baumata**	**11.84**	**239**	Pn	**Pn**	**11 33 05.3**	**0.0**
	14nm,0.3s,baz=158,slow=4.1,SNR=15						
BATI				Sn	**Sn**	**11 35 13.6**	**-2.7**
	3.5nm,0.3s,baz=108,slow=19,SNR=2.4						
BATI				LR	LR	11 37 48.0	
	comp=Z,136nm,19.4s,baz=50,slow=38						
BATI	**Baumata**	**11.84**	**239**	P	**Pn**	**11 33 07.1**	**+1.8**
MMRI	**Maumere**	**12.46**	**249**	Pn	**Pn**	**11 33 14.0**	**+0.1**
KNRA	**Kununurra**	**12.50**	**204**	Pn	**Pn**	**11 33 13.6**	**-0.8**
EDFI	**Ende, Flores**	**13.01**	**249**	P	**Pn**	**11 33 21.2**	**-0.2**
	27nm,1.0s						
PMG	**Port Moresby**	**14.08**	**112**	Pn	**Pn**	**11 33 37.1**	**+1.1**
	1.0nm,0.3s,baz=291,slow=8.6,SNR=3.0						
PMG				Sn	**Sn**	**11 36 05.2**	**-6.0**
	0.9nm,0.3s,baz=246,slow=19,SNR=1.4						
PMG	**Port Moresby**	**14.08**	**112**	Pn	**Pn**	**11 33 37.4**	**+1.4**
WB0	**Warramunga Arr**	**15.48**	**178**		**Pn**	**11 33 52.0**	**-2.7**
WB0				IAmb	IAmb	11 34 03.0	
	comp=Z,38nm,0.8s						
WRAB	**Tennant Creek**	**15.65**	**179**		**Pn**	**11 33 54.1**	**-2.8**
WRAB				IAmb	IAmb	11 34 04.9	
	comp=Z,54nm,0.8s						
WRA	**Warramunga Arr**	**15.66**	**179**	Pn	**Pn**	**11 33 54.3**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=359,slow=13,SNR=63						
WRA				Sn	**Sn**	**11 36 43.5**	**-6.0**
	comp=Z,0.9nm,0.3s,baz=358,slow=23,SNR=5.4						
WRA				LR	LR	11 40 48.3	
	comp=Z,344nm,18.8s,baz=0.0,slow=40						
WRA	**Warramunga Arr**	**15.66**	**179**	Pn	**Pn**	**11 33 53.9**	**-3.1**
WB2	**Warramunga Arr**	**15.66**	**179**	Pn	**Pn**	**11 33 54.9**	**-2.1**
WB2				IAmb	IAmb	11 34 05.0	
	comp=Z,59nm,0.9s						
WR0	**Warramunga Arr**	**15.68**	**178**	Pn	**Pn**	**11 33 55.0**	**-2.2**
FITZ	**Fitzroy Crossi**	**16.04**	**210**	Pn	**Pn**	**11 33 58.6**	**-3.3**
	comp=Z,4.0nm,0.3s,baz=38,slow=10,SNR=42						
FITZ				Sn	**Sn**	**11 36 50.2**	**-8.6**
	comp=Z,2.4nm,0.3s,baz=204,slow=15,SNR=8.1						
FITZ	**Fitzroy Crossi**	**16.04**	**210**	Pn	**Pn**	**11 34 00.1**	**-1.8**
MYLDM	**Lahad Datu**	**18.04**	**301**	P	**Pn**	**11 34 26.7**	**-0.3**
AS31	**Alice Springs**	**19.36**	**180**	P	**Pn**	**11 34 43.3**	**+0.4**
ASAR	**Alice Springs**	**19.36**	**180**	P	**Pn**	**11 34 43.5**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=355,slow=12,SNR=121						
ASAR				S	**S**	**11 38 15.2**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=5.7						
ASAR				LR	LR	11 42 54.8	
	comp=Z,218nm,19.3s,baz=360,slow=39						
ASAR	**Alice Springs**	**19.36**	**180**	P	**Pn**	**11 34 44.0**	**+1.0**
CTA	**Charters Tower**	**19.82**	**144**	P	**Pn**	**11 34 49.6**	**+1.1**
	comp=Z,16nm,0.7s,baz=321,slow=13,SNR=38						
CTAO	**Charters Tower**	**19.82**	**144**	P	**Pn**	**11 34 49.5**	**+1.1**
CTAO				IAmb	IAmb	11 34 51.8	
	comp=Z,32nm,1.0s						
KMMI	**Kalianget**	**20.10**	**261**	P	Pn	11 34 54.0	+2.2
	comp=Z,2μmcomp=Z,93nm,1.2s						
JAGI	**Jajag, Banyuwa**	**20.14**	**257**	P	**P**	**11 34 50.3**	**0.0**
KKM	**Kota Kinabalu**	**20.44**	**300**	P	**P**	**11 34 54.2**	**+0.7**
KKM				IAmb	IAmb	11 35 09.5	
	comp=Z,68nm,1.3s						
PSA00	**Pilbara Seismi**	**22.05**	**217**	P	**P**	**11 35 11.0**	**+0.3**
PSA00	**Pilbara Seismi**	**22.05**	**217**	P	**P**	**11 35 11.9**	**+1.2**
PSA00				IAmb	IAmb	11 35 13.8	
	comp=Z,43nm,1.1s						
SBUM	**Sibu**	**22.71**	**287**	P	**P**	**11 35 17.6**	**-0.3**
SBUM				IAmb	IAmb	11 35 26.2	
	comp=Z,11nm,0.7s						
KSM	**Kuching**	**24.30**	**283**	P	**P**	**11 35 34.0**	**+0.6**
KSM				IAmb	IAmb	11 35 35.3	
	comp=Z,24nm,1.0s						
CISI	**Cisompet, Garu**	**26.22**	**261**	P	**P**	**11 35 50.5**	**-0.3**
HNR	**Honiara**	**26.31**	**103**	LR	LR	11 46 55.9	
	comp=Z,254nm,19.3s,baz=54,slow=38						
FORT	**Forrest**	**27.02**	**191**	P	**P**	**11 35 58.3**	**+0.5**
STKA	**Stephens Creek**	**28.45**	**166**	P	**P**	**11 36 11.9**	**+1.3**
	comp=Z,7.8nm,0.9s,baz=340,slow=6.8,SNR=8.8						
STKA				LR	LR	11 47 36.5	
	comp=Z,246nm,21.3s,baz=163,slow=36						
STKA	**Stephens Creek**	**28.45**	**166**	P	**P**		
RGRI	**Rengat**	**31.83**	**276**	P	**P**	**11 36 39.7**	**-1.0**
	comp=Z,47μmcomp=Z,234nm,0.5s						
IPM	**Ipoh**

KURK	**Kurchatov**	**72.28**	**327**	P	**P**	11 41 40.6	**-0.1**
KURK				IAmb	IAmb	11 41 42.1	
	comp=Z,4.4nm,0.7s						
KK31	**Karatay Array**	**73.92**	**317**	P	**P**	**11 41 50.5**	**-0.2**
KKAR	**Karatay Array**	**73.92**	**317**	P	**P**	**11 41 50.6**	**0.0**
KKAR	**Karatay Array**	**73.92**	**317**	P	**P**	**11 41 50.6**	**0.0**
VNDA	**Vanda**	**74.77**	**174**	P	**P**	**11 41 56.7**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=331,slow=6.2,SNR=5.6						
TIXI	**Tiksi**	**75.78**	**358**	P	**P**	**11 42 00.8**	**+0.2**
UNV	**Unalaska Valle**	**76.05**	**32**	P	**P**	**11 42 03.7**	**+1.1**
BRVK	**Borovoye**	**77.94**	**326**	P	**P**	**11 42 14.4**	**+0.7**
BRVK				IAmb	IAmb	11 42 14.8	
	comp=Z,7.2nm,0.9s						
MAW	**Mawson**	**78.99**	**202**	P	**P**	**11 42 21.6**	**+2.8**
	comp=Z,2.5nm,0.7s,baz=86,slow=6.0,SNR=10.0						
MAW	**Mawson**	**78.99**	**202**	P	**P**	**11 42 19.4**	**+0.6**
NRIK	**Noril'sk**	**79.86**	**345**	P	**P**	**11 42 24.2**	**+0.8**
	comp=Z,7.1nm,1.1s,baz=114,slow=5.4,SNR=4.9						
GEYT	**Alibeck**	**81.47**	**309**	P	**P**	**11 42 33.2**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=98,slow=3.0,SNR=9.3						
GEYT	**Alibeck**	**81.47**	**309**	P	**P**	**11 42 33.9**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**81.47**	**309**	P	**P**	**11 42 32.8**	**0.0**
GYA0B				IAmb	IAmb	11 42 38.2	
	comp=Z,8.0nm,1.1s						
ABKAR	**Akbulak array**	**82.82**	**321**	P	**P**	**11 42 39.7**	**+0.1**
ABKAR				IAmb	IAmb	11 42 41.5	
	comp=Z,4.8nm,0.9s						
ABKAR	**Akbulak array**	**82.82**	**321**	P	**P**	**11 42 39.8**	**+0.1**
ARCES	**ARCESS Array B**	**100.32**	**340**	P	**Pdif**	**11 44 00.7**	**-0.8**
	comp=Z,5.3nm,0.9s,baz=78,slow=5.6,SNR=5.0						
TXAR	**Lajitas Array**	**120.11**	**58**	PKP	**PKiKP**	**11 49 08.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**132.06**	**284**	PKP	**PKiKP**	**11 49 30.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=81,slow=4.5,SNR=2.7						
CPUP	**Villa Florida**	**147.74**	**161**	PKPbc	**PKiKP**	**11 50 02.5**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=272,slow=1.1,SNR=7.7						
CPUP	**Villa Florida**	**147.74**	**161**		**PKiKP**	**11 50 02.3**	**-0.4**
LPAZ	**La Paz**	**150.14**	**133**	PKPbc	**PKiKP**	**11 50 10.4**	**+1.7**
	comp=Z,1.9nm,0.8s,baz=119,slow=0.6,SNR=10.0						
LPAZ	**La Paz**	**150.14**	**133**		**PKiKP**	**11 50 09.4**	**+0.7**
ROSC	**El Rosal**	**151.79**	**88**	PKPbc	**PKiKP**	**11 50 14.1**	**+2.1**
	comp=Z,12nm,0.6s,baz=78,slow=11,SNR=7.1						
ROSC	**El Rosal**	**151.79**	**88**		**PKPbc**	**11 50 11.2**	**-0.4**

IDC 26 11:59:41.2±4.0, 20°.33S×68°.24W, h324km±211km, mb3.0/2, mb1 3.0/3, mb1mx2.8/18, mbtmp3.5/3, Error ellipse: s-maj=579.5km s-min=22.4km az=111.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.02**	**1**	P	P	12 00 50.4	+0.6
	0.5nm,0.3s,baz=159,slow=12,SNR=14						
LPAZ				S	S	12 01 44.7	0.0
	baz=253,slow=19,SNR=1.7						
PLCA	**Paso Flores**	**20.43**	**185**	P	P	12 03 54.8	-0.1
	0.7nm,0.5s,baz=347,slow=11,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.37**	**70**	P	P	12 10 55.9	0.0
	0.8nm,0.6s,baz=252,slow=5.3,SNR=9.1						

WEL 26 12:10:29.2, 39°S±2°×17°6E±°, h178km±4km, M2.7/25, MLv2.7/25, Error ellipse: s-maj=0.0km s-min=0.0km az=78.8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUTZ	**Kaahu Road**	**0.04**	**307**	P	Pn	12 10 52.9	+0.2
WATZ	**Wairara**	**0.22**	**209**	P	Pn	12 10 53.1	+0.2
WPRZ	**Whakapapatarin**	**0.23**	**91**	P	Pn	12 10 53.0	+0.1
TLZ	**Tolley Road**	**0.32**	**306**	P	Pn	12 10 53.2	0.0
TLZ				S	Sn	12 11 11.3	-0.3
RATZ	**Rangitukua**	**0.36**	**192**	P	Pn	12 10 53.2	-0.1
HSRZ	**Hossack Road**	**0.36**	**55**	P	Pn	12 10 55.5	+2.2
HSRZ				S	Sn	12 11 12.6	+0.8
ALRZ	**Allen Road**	**0.38**	**97**	P	Pn	12 10 53.4	+0.1
ALRZ				S	Sn	12 11 11.1	-0.8
PRRZ	**Plateau Road**	**0.41**	**88**	P	Pn	12 10 57.9	+4.5
RITZ	**Rihia Road**	**0.46**	**181**	P	Pn	12 10 53.9	+0.3
MRHZ	**Matea Rd**	**0.53**	**127**	P	Pn	12 10 53.8	-0.1
MRHZ				S	Sn	12 11 10.8	-2.2
RRRZ	**Republican Roa**	**0.54**	**71**	P	Pn	12 10 54.2	+0.2
KRVZ	**Karewarewa**	**0.60**	**197**	P	Pn	12 10 52.4	-1.9
TMVZ	**Te Maari**	**0.61**	**192**	P	Pn	12 10 54.4	0.0
ETVZ	**East Tongariro**	**0.63**	**191**	P	Pn	12 10 54.6	+0.1
WTVZ	**West Tongariro**	**0.64**	**200**	P	Pn	12 10 54.6	+0.1
TWVZ	**Taurewa**	**0.65**	**211**	P	Pn	12 10 54.5	0.0
TWVZ				S	Sn	12 11 13.1	-1.2
OTVZ	**Oturere**	**0.67**	**194**	P	Pn	12 10 54.9	+0.2
OTVZ				S	Sn	12 11 13.8	-0.7
NGZ	**Ngauruhoe**	**0.69**	**198**	P	Pn	12 10 54.8	0.0
MUGZ	**Murupara**	**0.71**	**87**	P	Pn	12 10 54.5	-0.3
TUVZ	**Tukino**	**0.77**	**193**	P	Pn	12 10 55.4	+0.1
TUVZ				S	Sn	12 11 14.3	-1.3
FWVZ	**Far West T-bar**	**0.78**	**198**	P	Pn	12 10 55.3	-0.1
DRZ	**Dome Shelter**	**0.79**	**197**	P	Pn	12 10 55.8	+0.1
HIZ	**Hauiti**	**0.80**	**270**	P	Pn	12 10 55.0	-0.2
WHVZ	**Whangaehu Hut**	**0.80**	**196**	P	Pn	12 10 55.4	-0.1
BKZ	**Black Stump Fm**	**0.81**	**143**	P	Pn	12 10 55.6	+0.2
TRVZ	**Turoa**	**0.82**	**198**	P	Pn	12 10 55.8	+0.1
MARZ	**Manawahe**	**0.83**	**50**	P	Pn	12 10 55.8	+0.3
MTHZ	**Maungataniwha**	**0.83**	**114**	P	Pn	12 10 56.0	+0.4
MTHZ				S	Sn	12 11 14.8	-1.1
TOZ	**Tahuroa Road**	**0.84**	**340**	P	Pn	12 10 55.6	+0.1
TOZ				S	Sn	12 11 15.0	-0.8
WNVZ	**Wahianoa**	**0.84**	**195**	P	Pn	12 10 55.8	+0.1
WNVZ				S	Sn	12 11 16.1	-0.3
TGRZ	**Tauranga**	**0.84**	**22**	P	Pn	12 10 55.5	-0.1
OPRZ	**Ohinepanea**	**0.86**	**39**	P	Pn	12 10 55.7	0.0
PKVZ	**Pokaka**	**0.87**	**208**	P	Pn	12 10 55.8	0.0
PKVZ				S	Sn	12 11 15.5	-1.1
RTZ	**Ruatahuna**	**0.88**	**97**	P	Pn	12 10 56.0	+0.1
RTZ				S	Sn	12 11 15.2	-1.3
MOVZ	**Moawhango**	**0.89**	**186**	P	Pn	12 10 55.8	-0.2
MTVZ	**Mangateitei**	**0.92**	**200**	P	Pn	12 10 56.3	+0.2
NMHZ	**Naumai**	**0.93**	**129**	P	Pn	12 10 57.6	+1.3
BHHZ	**Black Hill Sta**	**0.98**	**171**	P	Pn	12 10 56.6	0.0
KWHZ	**Kaweka Forest**	**1.00**	**155**	P	Pn	12 10 57.3	+0.6
URZ	**Urewera**	**1.01**	**76**	P	Pn	12 10 56.4	-0.3
RAHZ	**Arahi**	**1.03**	**113**	P	Pn	12 10 57.8	+0.8
VRZ	**Vera Road**	**1.06**	**235**	P	Pn	12 10 57.1	0.0
MCHZ	**McNeill Hill**	**1.13**	**145**	P	Pn	12 10 58.8	+1.2
ARHZ	**Aropaoanui**	**1.15**	**131**	P	Pn	12 10 58.8	+1.0
SNGZ	**Shannon Statio**	**1.18**	**103**	P	Pn	12 10 58.8	+0.7
KRHZ	**Kereru**	**1.19**	**161**	P	Pn	12 10 58.6	+0.4
WHHZ	**Waihua**	**1.21**	**118**	P	Pn	12 10 59.2	+0.9
RAGZ	**Rawiri**	**1.21**	**90**	P	Pn	12 10 58.8	+0.3
MWZ	**Matawai**	**1.32**	**83**	P	Pn	12 10 59.3	0.0
MHEZ	**Mangahewa**	**1.33**	**245**	P	Pn	12 10 59.7	+0.4
WAZ	**Wanganui**	**1.41**	**209**	P	Pn	12 11 00.1	-0.1
PNHZ	**Pukenui**	**1.42**	**170**	P	Pn	12 11 00.3	+0.1
DREZ	**Durham Road**	**1.47**	**242**	P	Pn	12 11 00.7	+0.1
CKHZ	**Cape Kidnapper**	**1.48**	**141**	P	Pn	12 11 01.7	+1.0
LREZ	**Lake Rotokare**	**1.48**	**230**	P	Pn	12 11 01.3	+0.6
RIGZ	**Rimuhau**	**1.50**	**98**	P	Pn	12 11 01.5	+0.6
KAHZ	**Kahuranaki**	**1.50**	**149**	P	Pn	12 11 01.8	+0.9
KNZ	**Kokohu**	**1.50**	**110**	P	Pn	12 11 01.4	+0.5
RUGZ	**Raukumara Rang**	**1.53**	**69**	P	Pn	12 11 00.6	-0.8
TSZ	**Takapari Road**	**1.54**	**177**	P	Pn	12 11 01.5	+0.1
TKGZ	**Te Karaka**	**1.56**	**88**	P	Pn	12 11 02.1	+0.6
PREZ	**Palmer Road**	**1.57**	**238**	P	Pn	12 11 01.8	+0.2
NEZ	**North Egmont**	**1.57**	**241**	P	Pn	12 11 01.9	+0.2
WPHZ	**Waipukurau**	**1.61**	**164**	P	Pn	12 11 02.3	+0.3
PKE	**Pukeiti**	**1.62**	**245**	P	Pn	12 11 02.0	-0.1
PRGZ	**Paritu Road**	**1.63**	**105**	P	Pn	12 11 02.8	+0.6
KHEZ	**Kahui Hut**	**1.64**	**241**	P	Pn	12 11 02.4	0.0
HAZ	**Te Kaha**	**1.69**	**64**	P	Pn	12 11 02.1	-0.7
TWGZ	**Tauwhareparae**	**1.69**	**79**	P	Pn	12 11 03.4	+0.5
PXZ	**Pawanui**	**1.70**	**153**	P	Pn	12 11 03.3	+0.4
MHGZ	**Mahia Peninsul**	**1.71**	**112**	P	Pn	12 11 03.9	+0.9
ETAZ	**East Tamaki Re**	**1.73**	**334**	P	Pn	12 11 03.0	-0.2
NBEZ	**Newall Road No**	**1.73**	**244**	P	Pn	12 11 03.0	-0.2
OHWZ	**Ohakea**	**1.74**	**194**	P	Pn	12 11 03.6	+0.3
AWAZ	**Awhitu Peninsu**	**1.75**	**326**	P	Pn	12 11 03.4	0.0
KUZ	**Kuaotunu**	**1.77**	**356**	P	Pn	12 11 03.4	-0.2
DVHZ	**Dannevirke**	**1.79**	**173**	P	Pn	12 11 03.7	-0.2
WIAZ	**Waiheke Island**	**1.82**	**341**	P	Pn	12 11 03.0	-1.1
CNGZ	**Carnagh Statio**	**1.83**	**90**	P	Pn	12 11 05.3	+1.0
PRHZ	**Porangahau**	**1.85**	**161**	P	Pn	12 11 04.7	+0.3
PKGZ	**Pakihiroa**	**1.85**	**71**	P	Pn	12 11 11.3	+6.8
POWZ	**Post Office Ro**	**1.88**	**182**	P	Pn	12 11 04.3	-0.4
WTAZ	**Waiatarua**	**1.89**	**327**	P	Pn	12 11 05.1	+0.2
MBAZ	**Motutapu North**	**1.91**	**336**	P	Pn	12 11 04.9	-0.2
PUZ	**Puketiti**	**1.93**	**77**	P	Pn	12 11 05.2	-0.2
ANWZ	**Angora Road**	**2.00**	**167**	P	Pn	12 11 06.1	+0.1
RVAZ	**Riverhead Bore**	**2.02**	**329**	P	Pn	12 11 06.1	-0.2
PRWZ	**Pori Road**	**2.04**	**178**	P	Pn	12 11 06.3	-0.1
WMGZ	**Waiomatatini S**	**2.12**	**72**	P	Pn	12 11 07.4	-0.1
MXZ	**Matakaoa Point**	**2.15**	**64**	P	Pn	12 11 07.8	+0.1
MRZ	**Mangatainoka R**	**2.15**	**186**	P	Pn	12 11 07.0	-0.8
BFZ	**Birch Farm**	**2.18**	**172**	P	Pn	12 11 07.6	-0.5
TIWZ	**Tintock**	**2.26**	**180**	P	Pn	12 11 08.3	-0.6
GRZ	**Great Barrier**	**2.29**	**352**	P	Pn	12 11 09.2	-0.1
OGWZ	**Otaki Gorge**	**2.36**	**193**	P	Pn	12 11 09.2	-0.8
HOWZ	**Holdsworth Sta**	**2.39**	**186**	P	Pn	12 11 09.4	-1.1
CPWZ	**Castlepoint**	**2.40**	**174**	P	Pn	12 11 10.4	-0.1
KIW	**Kapiti Island**	**2.46**	**197**	P	Pn	12 11 09.9	-1.3
TMWZ	**Te Maipa**	**2.59**	**180**	P	Pn	12 11 11.6	-1.2
MTW	**Mount Morrison**	**2.65**	**186**	P	Pn	12 11 12.1	-1.4
CAW	**Cannon Point**	**2.66**	**193**	P	Pn	12 11 12.3	-1.3
DUWZ	**D'Urville Isla**	**2.73**	**213**	P	Pn	12 11 12.9	-1.6
WCZ	**Waipu Caves**	**2.85**	**334**	P	Pn	12 11 15.8	0.0
PAWZ	**Paruwai Farm**	**2.88**	**187**	P	Pn	12 11 14.6	-1.7
TRWZ	**Traveller**	**2.88**	**183**	P	Pn	12 11 14.8	-1.4
MSWZ	**Moikau Station**	**2.94**	**189**	P	Pn	12 11 15.1	-1.7
TCW	**Tory Channel**	**2.96**	**204**	P	Pn	12 11 15.5	-1.6
BHW	**Baring Head**	**2.99**	**195**	P	Pn	12 11 15.7	-1.8
PLWZ	**Palliser**	**3.08**	**189**	P	Pn	12 11 16.7	-2.0
TUWZ	**Tuamarina**	**3.26**	**206**	P	Pn	12 11 18.8	-2.1
NNZ	**Nelson**	**3.31**	**215**	P	Pn	12 11 19.2	-2.2
QRZ	**Quartz Range**	**3.46**	**227**	P	Pn	12 11 20.6	-2.7
CMWZ	**Cape Campbell**	**3.47**	**201**	P	Pn	12 11 22.4	-1.0
BSWZ	**Blackbirch Sta**	**3.54**	**205**	P	Pn	12 11 22.4	-1.9
OUZ	**Omahuta**	**3.76**	**330**	P	Pn	12 11 27.4	+0.2
THZ	**Tophouse**	**3.96**	**214**	P	Pn	12 11 27.1	-2.6
KHZ	**Kahutara**	**4.28**	**204**	P	Pn	12 11 31.6	-2.1
GVZ	**Greta Valley S**	**4.94**	**205**	P	Pn	12 11 39.6	-2.6
LTZ	**Lake Taylor**	**5.06**	**212**	P	Pn	12 11 40.7	-3.2
AMCZ	**Amberley**	**5.25**	**207**	P	Pn	12 11 43.1	-3.2
INZ	**Inchbonnie**	**5.38**	**217**	P	Pn	12 11 44.8	-3.2
OKCZ	**Okains Bay**	**5.62**	**201**	P	Pn	12 11 48.1	-3.0
MQZ	**McQueen's Vall**	**5.72**	**204**	P	Pn	12 11 48.4	-4.0
AKCZ	**Akaroa Harbour**	**5.80**	**202**	P	Pn	12 11 50.1	-3.3
RACZ	**Rakaia**	**5.92**	**207**	P	Pn	12 11 51.0	-3.9
MHCZ	**Mount Hutt**	**5.97**	**212**	P	Pn	12 11 52.3	-3.5
WVZ	**Waitaha Valley**	**5.99**	**219**	P	Pn	12 11 53.4	-2.5
RPZ	**Rata Peaks**	**6.34**	**213**	P	Pn	12 11 57.8	-2.7
GCSZ	**Gaunt Creek Bo**	**6.37**	**219**	P	Pn	12 11 57.5	-3.4
ARCZ	**Arundel**	**6.47**	**212**	P	Pn	12 11 59.5	-2.8
FOZ	**Fox Glacier**	**6.79**	**220**	P	Pn	12 12 03.3	-3.0
LBZ	**Lake Benmore**	**7.25**	**214**	P	Pn	12 12 09.4	-3.2
ODZ	**Otahua Downs**	**7.60**	**209**	P	Pn	12 12 13.9	-3.2
JCZ	**Jackson Bay**	**7.70**	**222**	P	Pn	12 12 14.9	-3.5

*UPP **26** 12:13:13.7±0.1, 64°.22N×20°.49E, h8km±4km, ML2.8, Confirmed Earthquake*
*HEL **26** 12:13:14.1±0.1, 64°.22N×20°.51E, h6km, ML1.9, ML2.8(UPP), Confirmed Earthquake*
*IDC **26** 12:13:15.2±1.1, 64°.34N×20°.97E, h0km, mb1 2.9/3, mb1mx2.8/32, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=15.1km s-min=7.8km az=75.0*

ISC 26 12:13:13.8±0.9, 64°.25N±0°.02×20°.46E±0°.02, h10km±7km, n30, σ1s26/57, 2D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODEU	**Stanfors**	**0.20**	**35**	⇓P	**Pg**	**12 13 17.9**	**+0.1**
ODEU				S	**Sg**	**12 13 20.7**	**+0.1**
ODEU	**Stanfors**	**0.20**	**35**	⇓*i*P	**Pg**	**12 13 17.9**	**+0.1**
ODEU				*i*S	**Sg**	**12 13 20.7**	**+0.1**
UMAU	**Umeaa**	**0.38**	**165**	*i*P	**Pg**	**12 13 24.4**	**-0.8**
UMAU				*i*S	**Sg**	**12 13 24.8**	**-1.4**
BURU	**Burvik**	**0.52**	**49**	P	**Pg**	**12 13 23.6**	**-0.3**
BURU				S	**Sg**	**12 13 31.0**	**+0.3**
BURU	**Burvik**	**0.52**	**49**	*i*P	**Pg**	**12 13 23.6**	**-0.3**
BURU				*i*S	**Sg**	**12 13 30.3**	**-0.4**
BREU	**Bredtraesk**	**0.90**	**247**	P	**Pg**	**12 13 30.3**	**-0.8**
BREU				S	**Sg**	**12 13 42.4**	**-0.5**
BREU	**Bredtraesk**	**0.90**	**247**	*e*P	**Pg**	**12 13 30.3**	**-0.8**
BREU				*e*S	**Sg**	**12 13 42.4**	**-0.5**
HUSU	**Husum**	**1.06**	**212**	P	**Pg**	**12 13 33.0**	**-1.2**
HUSU				S	**Sg**	**12 13 46.3**	**-1.7**
HUSU	**Husum**	**1.06**	**212**	*e*P	**Pg**	**12 13 32.9**	**-1.3**
HUSU				*e*S	**Sg**	**12 13 45.7**	**-2.3**
LILU	**Lilltraesk**	**1.07**	**346**	P	**Pg**	**12 13 33.8**	**-0.6**
LILU				S	**Sg**	**12 13 47.9**	**-0.4**
LILU	**Lilltraesk**	**1.07**	**346**	*e*P	**Pg**	**12 13 33.8**	**-0.6**
LILU				*e*S	**Sg**	**12 13 47.9**	**-0.4**
SJUU	**Sjulsmark**	**1.35**	**21**	P	**Sb**	**12 13 38.9**	**+0.1**
SJUU				S	**Sb**	**12 13 56.5**	**-0.1**
SJUU	**Sjulsmark**	**1.35**	**21**	*e*P	**Pn**	**12 13 38.9**	**+0.1**
SJUU				*e*S	**Sb**	**12 13 56.5**	**-0.1**
VAF	**Ylistaro**	**1.56**	**140**	*e*P	**Pn**	**12 13 41.4**	**-0.2**
VAF				*e*S	**Sn**	**12 14 01.2**	**-0.6**
VAF				MSG		12 14 02.2	
	comp=Z,20nm,0.1s						
OBF7	**Kamusenper, K**	**1.57**	**91**	*e*P	**Pn**	**12 13 41.8**	**+0.1**
OBF7				*e*S	**Sn**	**12 14 01.4**	**-0.7**
OBF7				MSG		12 14 04.8	
	comp=Z,11nm,0.1s						
OBF0	**Syolatti, Pyha**	**1.66**	**80**	*e*P	**Pn**	**12 13 43.1**	**+0.2**
OBF0				*e*SG	**Sn**	**12 14 04.7**	**+0.5**
OBF0				MSG		12 14 07.2	
	comp=Z,16nm,0.1s						
SOLU	**Sollefteaa**	**1.74**	**236**	P	**Pn**	**12 13 44.7**	**+0.7**
SOLU				S	**Sn**	**12 14 06.9**	**+0.6**
SOLU	**Sollefteaa**	**1.74**	**236**	*e*P	**Pn**	**12 13 44.7**	**+0.7**
SOLU				*e*S	**Sn**	**12 14 06.9**	**+0.6**
OBF6	**Kekajrvi, Yli**	**1.80**	**92**	*e*P	**Pn**	**12 13 44.9**	**+0.1**
OBF6				*e*S	**Sn**	**12 14 07.6**	**-0.1**
OBF6				MSG		12 14 09.8	
	comp=Z,7.0nm,0.1s						
OUF	**Merijarvi**	**1.86**	**84**	*e*P	**Pn**	**12 13 45.6**	**-0.1**
OUF				*e*SG	**Sb**	**12 14 10.8**	**-0.4**
OUF				MSG		12 14 11.9	
	comp=Z,6.6nm,0.1s						
HEMU	**Hemsoen**	**1.92**	**216**	*e*P	**Pn**	**12 13 47.1**	**+0.6**
OBF4	**Vikkela, Lumij**	**2.08**	**72**	*e*P	**Pn**	**12 13 49.0**	**+0.3**
OBF4				*e*S	**Sn**	**12 14 15.2**	**+0.5**
OBF4				MSG		12 14 20.4	
	comp=Z,3.3nm,0.1s						
ERTU	**Ertsjaerv**	**2.42**	**17**	*e*P	**Pn**	**12 13 54.2**	**+0.7**
TOF	**Tornio**	**2.46**	**40**	*e*P	**Pn**	**12 13 54.9**	**+1.1**
TOF				*e*SB	**Sb**	**12 14 28.8**	**+0.5**
TOF				MSG		12 14 31.6	
	comp=Z,2.7nm,0.1s						
OUL	**Oulu**	**2.48**	**68**	*e*P	**Pn**	**12 13 54.4**	**+0.2**
OUL				*e*SG	**Sb**	**12 14 30.9**	**+1.9**
KEF	**Keuruu**	**2.89**	**134**	*e*P	**Pn**	**12 14 01.2**	**+1.3**
KEF				MSG		12 14 42.1	
	comp=Z,4.5nm,0.1s						
SUF	**Sumiainen**	**2.98**	**118**	*e*P	**Pn**	**12 14 01.4**	**+0.4**
SUF				MSG		12 14 42.8	
	comp=Z,3.8nm,0.1s						
FINES	**FINESS Array B**	**3.81**	**135**	Pn	**Pn**	**12 14 14.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=327,slow=9.9,SNR=8.0						
FINES				Pg	**Pb**	**12 14 21.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=328,slow=15,SNR=12						
FINES				Sn	**Sn**	**12 14 57.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=320,slow=27,SNR=1.2						
FINES				Lg	Lg	12 15 10.9	
	comp=Z,0.7nm,0.3s,baz=323,slow=25,SNR=5.6						
NOA	**NORSAR Array B**	**5.34**	**237**	Pn	**Pn**	**12 14 37.1**	**+3.6**
	comp=Z,0.0nm,0.3s,baz=54,slow=18,SNR=3.3						
NOA				Sn	**Sb**	**12 15 54.3**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=226,slow=27,SNR=0.9						
ARCES	**ARCESS Array B**	**5.67**	**18**	Pn	**Pn**	**12 14 37.4**	**-0.6**
	baz=197,slow=14,SNR=11						
ARCES				Sn	**Sn**	**12 15 37.5**	**-5.4**
	baz=204,slow=24,SNR=8.2						
ARCES				Lg	Lg	12 16 06.8	
	baz=201,slow=26,SNR=1.1						

*IDC **26** 12:13:18.9±0.5, 5°.34S×150°.48E, h0km, mb4.7/21, mb1 4.9/25, mb1mx4.8/31, mbtmp4.7/25, ML3.3/4, MS4.7/31, Ms1 4.7/31, ms1mx4.7/35, Error ellipse: s-maj=13.7km s-min=10.0km az=105.0*
*BJI **26** 12:13:20.7±0.0, 5°.07S×150°.32E, h6km, mB5.4/53, mb5.1/70, Ms5.1/65, Ms7 4.9/62*
*DJA **26** 12:13:22.8±0.2, 5°.5S×3°×15°.0E±°, h10km, M5.1/43, mb5.1/43, mB5.5/27, MLv5.4/2, Mw(mB)5.0/27, Mwp5.3/4*
*GCMT **26** 12:13:23.6±0.1, 5°.41S±0°.01×150°.44E±0°.01, h12km, MW5.3/140, Moment Tensor Solution. s97, c141; s140, c257; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.02±.01; $M_{\theta\theta}$=1.04±.01; $M_{\phi\phi}$=-1.02±.01; $M_{r\theta}$=0.07±.04; $M_{\theta\phi}$=0.53±.01; $M_{\phi r}$=-0.06±.04; Best double couple: M_0=1.16400×10^{17} NP1:ϕ_S=31.00000°, δ=86.00000°, λ=-179.00000°. NP2:ϕ_S=301.00000°, δ=89.00000°, λ=-4.00000°. Principal axes: T 1.1730, Plg3.0000°, Azm346.0000°; N -0.0150, Plg86.0000°, Azm112.0000°; P -1.1550, Plg4.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **26** 12:13:23.1±1.2, 5°.42S×150°.34E, h34km, mb5.4/42, MS4.8/9 Error ellipse: s-maj=9.7km s-min=6.1km az=108.5*
*NEIC **26** 12:13:24.6±2.5, 5°.39S±0°.07×150°.48E±0°.07, h41km±5km, mb5.2/99, Error ellipse: s-maj=10.4km s-min=8.6km az=141.0*

ISC 26 12:13:24.6±0.3, 5°.39S±0°.03×150°.49E±0°.04, h35km, h36km: pP-P, n355, σ1s94/380, mb5.2/111, MS4.8/53, 14C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.87**	**55**	Pn	**Pn**	**12 13 50.7**	**-3.5**
	29nm,0.3s,baz=26,slow=1.0,SNR=26						
KRVT				Sn	**Sn**	**12 14 17.5**	**+0.9**
	179nm,0.3s,baz=192,slow=24,SNR=9.2						
KRVT				LR	LR	12 14 42.0	
	comp=Z,38μm,18.9s,baz=282,slow=45						
RABL	**Rabaul**	**2.05**	**55**	Pn	**Pn**	**12 13 53.9**	**-2.7**
MANU	**Manus Island**	**4.55**	**317**		**Pn**	**12 14 33.3**	**+2.2**
PMG	**Port Moresby**	**5.18**	**219**	Pn	**Pn**	**12 14 39.3**	**-0.4**
	13nm,0.3s,baz=30,slow=5.3,SNR=27						
PMG				Sn	**Sn**	**12 15 41.5**	**+3.2**
	36nm,0.3s,baz=45,slow=19,SNR=7.8						
PMG				LR	LR	12 16 26.9	
	comp=Z,8μm,18.3s,baz=30,slow=36						
PMG	**Port Moresby**	**5.18**	**219**	*ce*P	**Pn**	**12 14 39.0**	**-0.7**
PMG				pmax	pmax		
	comp=Z,156nm,0.8s						
PMG	**Port Moresby**	**5.18**	**219**	Pn	**Pn**	**12 14 39.5**	**-0.2**
PMG				Sn	**Sn**	**12 15 38.7**	**+0.4**
JAY	**Jayapura**	**10.17**	**286**	Pn	**Pn**	**12 15 46.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=310,slow=8.6,SNR=9.9						
JAY				LR	LR	12 20 14.4	
	comp=Z,7μm,18.2s,baz=77,slow=41						
JAY	**Jayapura**	**10.17**	**286**	P	**Pn**	**12 15 48.9**	**+0.7**
	comp=Z,2μmcomp=Z,82nm,1.5s						

ARMA	**Armidale**	**24.92**	**178**	P	**P**	**12**	**18**	**45.8**	**+1.1**
ARMA	comp=Z,47nm,1.2s			IAmb	IAmb	12	18	49.9	
CMSA	**Cobar Meteorol**	**26.40**	**189**	P	**P**	**12**	**18**	**59.5**	**+1.6**
	baz=26,SNR=8.1								
BATI	**Baumata**	**26.99**	**258**	LR	LR	12	32	03.8	
	comp=Z,3µm,19.1s,baz=98,slow=42								
FITZ	**Fitzroy Crossi**	**27.36**	**240**	P	**P**	**12**	**19**	**04.6**	**-2.2**
	comp=Z,58nm,0.6s,baz=43,slow=7.5,SNR=76								
FITZ				S	**S**	**12**	**23**	**40.8**	**-3.8**
	comp=Z,2.7nm,0.7s,baz=20,slow=15,SNR=1.3								
FITZ				LR	LR	12	31	18.5	
	comp=Z,3µm,19.0s,baz=68,slow=39								
FITZ	**Fitzroy Crossi**	**27.36**	**240**	P	**P**	**12**	**19**	**04.6**	**-2.2**
	baz=27,SNR=196								
FITZ	**Fitzroy Crossi**	**27.36**	**240**	P	**P**	**12**	**19**	**05.0**	**-1.7**
STKA	**Stephens Creek**	**27.64**	**196**	P	**P**	**12**	**19**	**08.3**	**-0.8**
	comp=Z,8.8nm,0.8s,baz=354,slow=8.7,SNR=10								
STKA				LR	LR	12	30	04.9	
	comp=Z,4µm,20.0s,baz=13,slow=36								
STKA	**Stephens Creek**	**27.64**	**196**	P	**P**	**12**	**19**	**10.0**	**+0.9**
	baz=28,SNR=7.9								
STKA	**Stephens Creek**	**27.64**	**196**	P	**P**	**12**	**19**	**08.5**	**-0.6**
STKA	comp=Z,15nm,1.3s			pmax	pmax				
STKA	**Stephens Creek**	**27.64**	**196**	P	**P**	**12**	**19**	**08.5**	**-0.6**
DAV	**Davao City (W)**	**27.77**	**296**	LR	LR	12	29	49.7	
	comp=Z,2µm,18.7s,baz=113,slow=36								
WRKA	**Warakurna**	**28.89**	**225**	P	**P**	**12**	**19**	**18.8**	**-1.7**
	baz=29,SNR=40								
BBOO	**Buckleboo**	**30.43**	**204**	P	**P**	**12**	**19**	**33.0**	**-0.8**
BBOO	comp=Z,34nm,1.3s			IAmb	IAmb	12	19	47.6	
ARPS	**Mount Arapiles**	**32.23**	**193**	P	**P**	**12**	**19**	**50.8**	**+1.2**
	baz=32,SNR=8.9								
TOO	**Toolangi**	**32.36**	**187**	P	**P**	**12**	**19**	**52.2**	**+1.4**
	baz=32,SNR=4.0								
FORT	**Forrest**	**32.91**	**217**	P	**P**	**12**	**19**	**55.4**	**-0.2**
MYLDM	**Lahad Datu**	**33.62**	**288**	P	**P**	**12**	**20**	**02.4**	**+0.2**
PSA00	**Pilbara Seismi**	**33.75**	**239**	P	**P**	**12**	**20**	**00.6**	**-2.6**
PSA00	**Pilbara Seismi**	**33.75**	**239**	P	**P**	**12**	**20**	**00.3**	**-2.9**
PSA00	comp=Z,74nm,1.1s			IAmb	IAmb	12	20	05.7	
MEEK	**Meekatharra**	**37.02**	**232**	P	**P**	**12**	**20**	**30.6**	**-0.7**
	baz=37,SNR=28								
KMBL	**Kambalda**	**37.25**	**223**	P	**P**	**12**	**20**	**35.1**	**+1.9**
	baz=37,SNR=4.8								
KNTN	**Kanton**	**37.78**	**88**	P	**P**	**12**	**20**	**38.0**	**+0.1**
GIRL	**Giralia**	**38.97**	**240**	P	**P**	**12**	**20**	**47.6**	**-0.2**
	baz=39,SNR=3.8								
SBUM	**Sibu**	**39.01**	**281**	P	**P**	**12**	**20**	**48.1**	**-0.1**
SBUM	comp=Z,69nm,1.5s			IAmb	IAmb	12	20	59.9	
SBUM	**Sibu**	**39.01**	**281**	P	**P**	**12**	**20**	**49.0**	**+0.8**
MORW	**Morawa**	**40.20**	**230**	P	**P**	**12**	**20**	**57.7**	**-0.2**
	baz=40,SNR=12								
MORW	**Morawa**	**40.20**	**230**	P	**P**	**12**	**20**	**57.8**	**-0.1**
MORW	comp=Z,44nm,1.1s			IAmb	IAmb	12	21	00.8	
KLBR	**Kellerberrin**	**40.24**	**226**	P	**P**	**12**	**20**	**56.4**	**-1.8**
	baz=40,SNR=15								
YULB	**Yu-li**	**40.38**	**316**	P	**P**	**12**	**20**	**57.7**	**-1.8**
YULB	comp=Z,96nm,1.3s			IAmb	IAmb	12	21	08.6	
BLDU	**Ballidu**	**40.47**	**228**	P	**P**	**12**	**20**	**58.4**	**-1.8**
	baz=40,SNR=5.1								
NACB	**Ninganchiao**	**40.69**	**317**	P	**P**	**12**	**21**	**00.1**	**-1.9**
URZ	**Urewera**	**40.70**	**147**	P	**P**	**12**	**21**	**02.6**	**+0.7**
	comp=Z,10nm,0.6s,baz=132,slow=3.8,SNR=8.4								
URZ				LR	LR	12	37	02.6	
	comp=Z,612nm,19.4s,baz=346,slow=35								
URZ	**Urewera**	**40.70**	**147**	P	**P**	**12**	**21**	**00.5**	**-1.4**
URZ	comp=Z,53nm,1.4s			IAmb	IAmb	12	21	07.3	
KSM	**Kuching**	**40.70**	**279**	P	P	12	21	07.0	+4.7
YHNB	**Yeheng**	**41.17**	**318**	P	**P**	**12**	**21**	**06.0**	**0.0**
MUN	**Mundaring**	**41.56**	**226**	P	**P**	**12**	**21**	**08.6**	**-0.4**
	baz=41,SNR=8.8								
TUWZ	**Tuamarina**	**41.56**	**153**	P	**P**	**12**	**21**	**11.2**	**+2.4**
LTZ	**Lake Taylor**	**41.95**	**156**	P	**P**	**12**	**21**	**12.5**	**+0.3**
LTZ	comp=Z,72nm,1.3s			IAmb	IAmb	12	21	15.6	
JMN	**Monobe**	**41.96**	**339**	P	**P**	**12**	**21**	**12.4**	**+0.1**
BFZ	**Birch Farm**	**42.06**	**150**	P	**P**	**12**	**21**	**12.1**	**-0.9**
BFZ	comp=Z,99nm,1.2s			IAmb	IAmb	12	21	16.6	
MSWZ	**Moikau Station**	**42.15**	**152**	P	**P**	**12**	**21**	**14.8**	**+1.0**
RPZ	**Rata Peaks**	**42.26**	**158**	P	**P**	**12**	**21**	**15.0**	**+0.4**
	comp=Z,46nm,1.0s,baz=7.9,slow=16,SNR=7.2								
RPZ				LR	LR	12	37	08.7	
	comp=Z,3µm,19.8s,baz=322,slow=34								
PLWZ	**Palliser**	**42.27**	**152**	P	**P**	**12**	**21**	**16.2**	**+1.4**
INU	**Inuyama**	**42.45**	**344**	P	**P**	**12**	**21**	**14.0**	**-2.3**
JGF	**Kuroka**	**42.60**	**344**	P	**P**	**12**	**21**	**16.6**	**-0.9**
JWT	**Wachi**	**42.87**	**342**	P	**P**	**12**	**21**	**18.5**	**-1.1**
JWT	comp=Z,30nm,1.0s			IAmb	IAmb	12	21	30.4	
MJAR	**Matsushiro Arr**	**43.26**	**346**	P	**P**	**12**	**21**	**20.0**	**-2.8**
	comp=Z,3.7nm,0.9s,baz=167,slow=9.1,SNR=9.9								
MJAR				LR	LR	12	38	38.5	
	comp=Z,1µm,19.2s,baz=160,slow=35								
MJAR	**Matsushiro Arr**	**43.26**	**346**	P	**P**	**12**	**21**	**20.6**	**-2.3**
MJAR	comp=Z,4.0nm,0.9s			pmax	pmax				
MJAR	**Matsushiro Arr**	**43.26**	**346**	P	**P**	**12**	**21**	**20.6**	**-2.3**
MAJO	**Matsushiro**	**43.27**	**346**	*i* P	**P**	**12**	**21**	**24.4**	**+1.6**
MAJO	comp=Z,11nm,0.8s			pmax	pmax				
MAJO	**Matsushiro**	**43.27**	**346**	P	**P**	**12**	**21**	**20.9**	**-2.0**
MAT	**Matsushiro**	**43.27**	**346**	P	**P**	**12**	**21**	**20.1**	**-2.7**
MAT				S	**S**	**12**	**27**	**46.8**	**-1.0**
JHS	**Saijyo**	**43.37**	**339**	P	**P**	**12**	**21**	**23.3**	**-0.4**
JHS	comp=Z,67nm,1.3s			IAmb	IAmb	12	21	35.3	
DLV	**T Lat**	**45.18**	**293**	P	**P**	**12**	**21**	**37.8**	**-0.9**
SSE	**Sheshan**	**45.82**	**324**	P	**P**	**12**	**21**	**43.0**	**-0.3**
SSE				S	**S**	**12**	**28**	**27.8**	**+2.8**
SSE	comp=Z,15nm,0.8s			pmax	pmax				
SSE	comp=Z,130nm,3.5s			pmax	pmax				
SSE	comp=Z,340nm,17.3s			LR	LR				
SSE	**Sheshan**	**45.82**	**324**	P	**P**	**12**	**21**	**43.6**	**+0.3**
JTM	**Tenmabayashi**	**46.75**	**350**	P	**P**	**12**	**21**	**51.4**	**+1.0**
QIZ	**Qiongzhong**	**46.80**	**302**	P	**P**	**12**	**21**	**49.3**	**-2.0**
QIZ				sP	**pP**	**12**	**21**	**54.5**	**-7.1**
QIZ				PP	**PP**	**12**	**23**	**40.5**	**-1.3**
QIZ				S	**S**	**12**	**28**	**41.0**	**+1.5**
QIZ	comp=Z,12nm,1.8s			pmax	pmax				
QIZ	comp=Z,1µm,24.3s			LR	LR				
QIZ	comp=Z,600nm,20.1s			LR	LR				
QIZ	comp=Z,760nm,23.0s			LR	LR				
QIZ	**Qiongzhong**	**46.80**	**302**	P	**P**	**12**	**21**	**51.0**	**-0.3**
QIZ	comp=Z,49nm,1.1s			IAmb	IAmb	12	21	56.4	
TJN	**Taejon**	**46.85**	**334**	*i* P	**P**	**12**	**21**	**50.7**	**-0.6**
MYKOM	**Kota Tinggi**	**47.12**	**277**	P	**P**	**12**	**21**	**53.7**	**-0.2**
MYKOM	comp=Z,40nm,1.3s			IAmb	IAmb	12	22	00.2	
MYKOM	**Kota Tinggi**	**47.12**	**277**	P	**P**	**12**	**21**	**54.0**	**+0.1**
KSRS	**Korea Array**	**47.53**	**336**	P	**P**	**12**	**21**	**56.2**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=150,slow=8.3,SNR=8.2								
KSAR	**Wonju Array Be**	**47.53**	**336**	P	**P**	**12**	**21**	**56.3**	**-0.3**
KSAR	**Wonju Array Be**	**47.53**	**336**	P	**P**	**12**	**21**	**56.3**	**-0.3**
NJ2	**Nanjing**	**47.88**	**323**	*eP*	**P**	**12**	**22**	**00.8**	**+1.4**
NJ2				pP	**pP**	**12**	**22**	**04.5**	**-5.3**
NJ2				sP	**sP**	**12**	**22**	**08.5**	**-5.5**
NJ2				S	**S**	**12**	**29**	**01.0**	**+6.5**
NJ2				sS	**sS**	**12**	**29**	**05.0**	**-6.6**
NJ2	comp=Z,21nm,0.7s			pmax	pmax				
NJ2	comp=Z,200nm,3.5s			pmax	pmax				
NJ2	comp=Z,1µm,19.4s			LR	LR				
NJ2	comp=Z,960nm,16.2s			LR	LR				
NJ2	comp=Z,1µm,18.4s			LR	LR				
YUK	**Yuzh-Kuril'sk**	**49.37**	**356**	P	**P**	**12**	**22**	**10.8**	**+0.2**
YUK				*eS*	**S**	**12**	**29**	**11.9**	**-3.1**
WHN	**Wuhan**	**49.72**	**318**	⇓P	**P**	**12**	**22**	**15.0**	**+1.5**
WHN				S	**S**	**12**	**29**	**27.0**	**+6.7**
WHN	comp=Z,1µm,10.4s			LR	LR				
WHN	comp=Z,1µm,16.9s			LR	LR				
WHN	comp=Z,3µm,17.1s			LR	LR				
IPM	**Ipoh**	**50.36**	**280**	P	**P**	**12**	**22**	**18.0**	**-0.8**
IPM	comp=Z,33nm,1.4s			IAmb	IAmb	12	22	24.5	
IPM	**Ipoh**	**50.36**	**280**	P	**P**	**12**	**22**	**19.0**	**+0.2**
KUR	**Kuril'sk**	**50.45**	**358**	P	**P**	**12**	**22**	**19.4**	**+0.6**
KUR						12	24	13.2	
KUR				*eS*	S	12	29	41.4	+11
KUR	comp=Z,271nm,1.4s			pmax	pmax				
KUR	comp=Z,459nm,15.0s			MLR	MLR				
KULM	**Kulim**	**50.88**	**281**	P	**P**	**12**	**22**	**21.3**	**-1.4**
KULM	comp=Z,46nm,1.5s			IAmb	IAmb	12	22	28.3	
KULM	**Kulim**	**50.88**	**281**	P	**P**	**12**	**22**	**22.0**	**-0.7**
MNSI	**Mandailing Nat**	**51.21**	**275**	P	**P**	**12**	**22**	**25.1**	**0.0**
	comp=Z,24nm,1.2s								
DL2	**Dalian**	**51.53**	**331**	P	P	12	22	32.5	+5.4
DL2				S	S	12	29	56.0	+11
DL2	comp=Z,68nm,1.2s			pmax	pmax				
DL2	comp=N,920nm,19.2s			LR	LR				
DL2	comp=E,760nm,19.2s			LR	LR				
DL2	comp=Z,1µm,21.3s			LR	LR				
USRK	**Ussuriysk Ar.**	**52.10**	**343**	P	**P**	**12**	**22**	**31.6**	**+0.4**
	comp=Z,6.3nm,0.8s,baz=175,slow=7.9,SNR=8.9								
USRK				LR	LR	12	44	09.9	
	comp=Z,552nm,18.7s,baz=150,slow=36								
USRK	**Ussuriysk Ar.**	**52.10**	**343**	P	**P**	**12**	**22**	**29.0**	**-2.2**
USRK	**Ussuriysk Ar.**	**52.10**	**343**	P	**P**	**12**	**22**	**29.0**	**-2.2**
RPSI	**Rantau Prapat**	**52.13**	**278**	P	**P**	**12**	**22**	**30.8**	**-1.2**
PSI	**Prapat**	**52.14**	**278**	P	**P**	**12**	**22**	**30.8**	**-1.5**
PSI	comp=Z,14nm,1.1s			pmax	pmax				
YSS	**Yuzh-Sakhalins**	**52.56**	**353**	*eP*	**P**	**12**	**22**	**37.9**	**+3.3**
YSS				*e*		12	30	07.0	
YSS	comp=Z,30nm,1.6s			pmax	pmax				
YSS	comp=Z,500nm,3.2s			pmax	pmax				
YSS	comp=Z,800nm,19.0s			MLR	MLR				
SLVN	**Son La**	**52.82**	**302**	P	**P**	**12**	**22**	**37.5**	**+0.4**
SLVN	comp=Z,34nm,1.1s			IAmb	IAmb	12	22	44.9	
ENH	**Enshi**	**52.89**	**315**	P	**P**	**12**	**22**	**36.5**	**-0.9**
GYA	**Guiyang**	**52.94**	**309**	P	**P**	**12**	**22**	**38.5**	**+0.5**
GYA				pP	pP	12	22	42.5	-6.0
GYA				PP	**PP**	**12**	**24**	**43.3**	**+5.4**
GYA				S	**S**	**12**	**30**	**08.5**	**+3.2**
GYA	comp=Z,8.0nm,1.1s			pmax	pmax				
GYA	comp=Z,200nm,3.5s			pmax	pmax				
GYA	comp=Z,480nm,13.7s			LR	LR				
GYA	comp=Z,440nm,17.5s			LR	LR				
GYA	comp=Z,690nm,16.5s			LR	LR				
MDJ	**Mudanjiang**	**53.20**	**341**	P	**P**	**12**	**22**	**38.5**	**-0.9**
MDJ	comp=Z,35nm,1.2s			pmax	pmax				
MDJ	comp=Z,620nm,3.4s			pmax	pmax				
MDJ	**Mudanjiang**	**53.20**	**341**	P	**P**	**12**	**22**	**39.0**	**-0.3**
GSI	**Gunungsitoli**	**53.26**	**276**	P	**P**	**12**	**22**	**40.5**	**+0.1**
	comp=Z,43nm,1.9s								
GSI	**Gunungsitoli**	**53.26**	**276**	P	**P**	**12**	**22**	**35.7**	**-4.7**
GSI	comp=Z,34nm,1.1s			IAmb	IAmb	12	22	51.4	
CN2	**Changchun**	**53.92**	**338**	*eP*	P	12	22	39.5	-5.2
CN2				*eS*	**S**	**12**	**30**	**14.5**	**-3.3**
CN2	comp=Z,20nm,1.2s			pmax	pmax				
CN2	comp=Z,300nm,4.0s			pmax	pmax				
CN2	comp=N,600nm,14.0s			LR	LR				
CN2	comp=E,700nm,14.0s			LR	LR				
CN2	comp=Z,800nm,14.0s			LR	LR				
BJT	**Baijiatuau**	**55.12**	**328**	P	**P**	**12**	**22**	**54.9**	**+1.4**
BJT	comp=Z,27nm,1.3s			pmax	pmax				
BJT	**Baijiatuau**	**55.12**	**328**	P	**P**	**12**	**22**	**54.9**	**+1.4**
BJT	comp=Z,27nm,1.3s			IAmb	IAmb	12	23	05.5	
BJI	**Beijing**	**55.14**	**328**	P	**P**	**12**	**22**	**54.0**	**+0.4**
BJI				S	**S**	**12**	**30**	**40.0**	**+5.8**
BJI	comp=Z,13nm,2.0s			pmax	pmax				
BJI	comp=Z,230nm,3.5s			pmax	pmax				
BJI	comp=Z,750nm,16.4s			LR	LR				
BJI	comp=Z,490nm,19.9s			LR	LR				
BJI	comp=Z,540nm,20.2s			LR	LR				
KMI	**Kunming**	**55.42**	**305**	⇓*eP*	**P**	**12**	**22**	**57.5**	**+1.3**
KMI				sP	pP	12	23	01.8	-5.0
KMI				PP	**PP**	**12**	**25**	**00.5**	**+0.1**
KMI				S	**S**	**12**	**30**	**41.3**	**+2.2**
KMI				sS	pS	12	30	47.8	-3.8
KMI	comp=Z,28nm,0.9s			pmax	pmax				
KMI	comp=Z,230nm,3.5s			pmax	pmax				
KMI	comp=Z,200nm,11.6s			LR	LR				
KMI	comp=Z,280nm,15.7s			LR	LR				
KMI	comp=Z,320nm,20.3s			LR	LR				
KMI	**Kunming**	**55.42**	**305**	P	**P**	**12**	**22**	**57.2**	**+1.0**
KMI	comp=Z,75nm,1.3s			pmax	pmax				
KMI	**Kunming**	**55.42**	**305**	P	**P**	**12**	**22**	**57.2**	**+1.0**
XAN	**Xi'an**	**55.48**	**318**	P	**P**	**12**	**22**	**56.0**	**-0.3**
XAN				pP	pP	12	23	02.8	-4.0
XAN				S	**S**	**12**	**30**	**42.5**	**+3.3**
XAN				sS	pS	12	30	45.3	-6.4
XAN	comp=Z,31nm,1.2s			pmax	pmax				
XAN	comp=Z,150nm,5.6s			LR	LR				
XAN	comp=Z,840nm,17.2s			LR	LR				
XAN	comp=Z,780nm,20.1s			LR	LR				
XAN	comp=Z,1µm,17.2s			LR	LR				
XAN	**Xi'an**	**55.48**	**318**	P	**P**	**12**	**22**	**55.5**	**-0.8**
XAN	comp=Z,44nm,1.3s			pmax	pmax				
XAN	**Xi'an**	**55.48**	**318**	P	**P**	**12**	**22**	**55.5**	**-0.8**
XAN	comp=Z,44nm,1.3s			IAmb	IAmb	12	22	57.1	
CM31	**Chiang Mai Arr**	**56.05**	**296**	P	**P**	**12**	**23**	**01.8**	**+1.2**
CM31	comp=Z,37nm,1.3s			IAmb	IAmb	12	23	12.5	
CMAR	**Chiang Mai Arr**	**56.05**	**296**	P	**P**	**12**	**23**	**00.3**	**-0.2**
	comp=Z,8.1nm,0.9s,baz=120,slow=5.5,SNR=18								
CMAR				LR	LR	12	47	47.1	
	comp=Z,150nm,18.1s,baz=154,slow=37								
CMAR	**Chiang Mai Arr**	**56.05**	**296**	*i* P	**P**	**12**	**23**	**01.2**	**+0.6**
CMAR	comp=Z,8.0nm,0.9s			pmax	pmax				
CMAR	**Chiang Mai Arr**	**56.05**	**296**	P	**P**	**12**	**23**	**00.5**	**0.0**
SKR	**Severo-Kuril's**	**56.05**	**4**	*eP*	**P**	**12**	**22**	**59.2**	**-0.7**
SKR				*eS*	S	12	30	56.9	+11
SKR				*eSS*	**SS**	**12**	**34**	**27.9**	**-5.0**
SKR	comp=Z,39nm,1.9s			pmax	pmax				
SKR	comp=Z,100nm,3.7s			pmax	pmax				
SKR	comp=Z,200nm,5.7s			pmax	pmax				
SKR	comp=Z,500nm,16.0s			MLR	MLR				
SKR	comp=Z,600nm,17.0s			MLR	MLR				
CHTO	**Chiang Mai**	**56.17**	**297**	P	**P**	**12**	**23**	**01.5**	**+0.1**
CHTO	comp=Z,45nm,1.4s			pmax	pmax				
CHTO	**Chiang Mai**	**56.17**	**297**	P	**P**	**12**	**23**	**01.5**	**+0.1**
CHTO	comp=Z,45nm,1.4s			IAmb	IAmb	12	23	07.8	
KLR	**Kul'dur**	**56.79**	**345**	LR	LR	12	44	57.3	
	comp=Z,272nm,20.9s,baz=168,slow=34								
KLR	**Kul'dur**	**56.79**	**345**	*ceP*	**P**	**12**	**23**	**05.8**	**+0.6**
KLR	comp=Z,18nm,1.3s			pmax	pmax				
GRNR	**Gornyy**	**57.23**	**349**	⇑*iP*	**P**	**12**	**23**	**11.6**	**+3.3**
GRNR	comp=Z,8.0nm,1.2s			pmax	pmax				
GRNR	comp=E,190nm,15.0s			MLR	MLR				
GRNR	comp=N,170nm,20.0s			MLR	MLR				
GRNR	comp=Z,270nm,13.0s			MLR	MLR				
CD2	**Chengdu**	**57.39**	**312**	P	**P**	**12**	**23**	**10.0**	**+0.1**
CD2				PP	**PP**	**12**	**25**	**13.8**	**-3.8**
CD2				S	**S**	**12**	**31**	**08.5**	**+3.9**
CD2				SS	**SS**	**12**	**34**	**56.5**	**+1.7**
CD2	comp=Z,70nm,1.6s			pmax	pmax				
CD2	comp=Z,300nm,6.1s			pmax	pmax				
CD2	comp=Z,1µm,21.5s			LR	LR				
CD2	comp=Z,860nm,14.7s			LR	LR				
CD2	comp=Z,1µm,25.7s			LR	LR				
HHC	**Hu-ho-hao-te**	**58.21**	**326**	*eP*	**P**	**12**	**23**	**14.0**	**-1.5**
HHC				S	**S**	**12**	**31**	**17.5**	**+2.4**
HHC	comp=Z,10.0nm,1.1s			pmax	pmax				
HHC	comp=Z,190nm,5.2s			pmax	pmax				
HHC	comp=Z,920nm,17.5s			LR	LR				
HHC	comp=Z,620nm,18.7s			LR	LR				
HHC	comp=Z,1µm,20.4s			LR	LR				
PETK	**Petropavlovsk-**	**58.59**	**5**	P	**P**	**12**	**23**	**17.8**	**0.0**
	comp=Z,21nm,0.8s,baz=166,slow=5.0,SNR=23								
PETK				LR	LR	12	44	45.1	
	comp=Z,621nm,21.5s,baz=185,slow=32								
PETK	**Petropavlovsk-**	**58.59**	**5**	P	**P**	**12**	**23**	**16.8**	**-1.1**
PETK	**Petropavlovsk-**	**58.59**	**5**	P	**P**	**12**	**23**	**16.8**	**-1.1**
PET	**Petropavlovsk**	**58.60**	**6**	*eP*	P	12	23	24.8	+7.0
PET				*eS*	**S**	**12**	**31**	**26.8**	**+7.4**
PET				*eSS*	**SS**	**12**	**35**	**13.9**	**+1.1**
PET	comp=Z,600nm,19.0s			MLR	MLR				
BTO	**Baotou**	**58.92**	**325**	*eP*	**P**	**12**	**23**	**17.3**	**-3.2**
PPT	**Papeete**	**59.75**	**107**	LR	LR	12	48	16.8	
	comp=Z,127nm,18.1s,baz=276,slow=35								
PPT2	**Papeete2**	**59.75**	**107**	*eS*	**S**	**12**	**31**	**38.8**	**+3.0**
PPT2	comp=Z,249nm,22.5s			*eLQ*	LQ	12	38	35.0	
PPT2	comp=Z,2µm,34.2s			*eLR*	LR	12	41	00.0	
PPT2	comp=Z,682nm,25.0s,baz=283								
PAE	**Paea**	**59.75**	**107**	*eP*	**P**	**12**	**23**	**29.6**	**+3.0**
	comp=Z,6.5nm,1.0s								
TIAR	**Tiarei**	**59.97**	**107**	*eP*	**P**	**12**	**23**	**31.4**	**+3.3**
	comp=Z,32nm,1.3s								
LZH	**Lanzhou**	**60.06**	**317**	*eP*	**P**	**12**	**23**	**29.5**	**+0.9**
LZH				pP	pP	12	23	33.3	-5.9
LZH				sP	sP	12	23	35.5	-7.8
LZH				*eS*	**S**	**12**	**31**	**44.0**	**+4.5**
LZH	comp=Z,40nm,1.0s			pmax	pmax				
LZH	comp=Z,440nm,4.6s			pmax	pmax				
LZH	comp=Z,2µm,14.6s			LR	LR				
LZH	comp=Z,1µm,14.1s			LR	LR				
LZH	comp=Z,2µm,18.2s			LR	LR				
TBI	**Tubuai**	**60.43**	**114**	*eLQ*	LQ	12	38	46.9	
TBI	comp=Z,3µm,33.5s			*eLR*	LR	12	41	18.9	
	comp=Z,936nm,30.8s,baz=286								
HIA	**Hailar**	**60.65**	**337**	P	**P**	**12**	**23**	**28.3**	**-3.8**
HIA	comp=Z,78nm,1.1s			pmax	pmax				
HIA	**Hailar**	**60.65**	**337**	P	**P**	**12**	**23**	**28.3**	**-3.8**
MEH	**Mehetia**	**61.21**	**107**	*eP*	**P**	**12**	**23**	**39.6**	**+3.1**
	comp=Z,25nm,1.1s								
PMOR	**Pomariorio Ree**	**61.23**	**104**	*eP*	**P**	**12**	**23**	**39.9**	**+3.2**
	comp=Z,160nm,1.3s								
VAH	**Vaihoa**	**61.49**	**104**	*eP*	**P**	**12**	**23**	**41.4**	**+2.9**
	comp=Z,48nm,1.2s								
ZEA	**Zeya**	**62.06**	**345**	*eP*	**P**	**12**	**23**	**42.4**	**+0.9**
ZEA				*e*		12	32	24.4	
ZEA	comp=Z,97nm,1.6s			pmax	pmax				
ZEA	comp=E,20nm,1.7s			pmax	pmax				
ZEA	comp=Z,30nm,2.0s			pmax	pmax				
GTA	**Gaotai**	**64.54**	**318**	⇓P	**P**	**12**	**23**	**59.3**	**+0.9**
GTA				pP	pP	12	24	03.8	-5.4
GTA				sP	sP	12	24	07.0	-6.2
GTA				S	**S**	**12**	**32**	**42.5**	**+6.9**
GTA	comp=Z,8.0nm,1.2s			pmax	pmax				
GTA	comp=Z,180nm,4.4s			pmax	pmax				
GTA	comp=Z,310nm,19.3s			LR	LR				
GTA	comp=Z,470nm,18.2s			LR	LR				
GTA	comp=Z,650nm,17.4s			LR	LR				
SHL	**Shillong**	**64.63**	**301**	P	**P**	**12**	**24**	**01.0**	**+1.7**
SHL	comp=Z,119nm,1.4s			pmax	pmax				
SHL	**Shillong**	**64.63**	**301**	P	**P**	**12**	**24**	**01.0**	**+1.7**
MA2	**Magadan**	**64.76**	**0**	*ceP*	**P**	**12**	**24**	**00.7**	**+1.4**
MA2	comp=Z,36nm,1.3s			pmax	pmax				
CIT	**Chita**	**65.26**	**336**	*eP*	**P**	**12**	**24**	**04.3**	**+1.5**
CIT				*e*		12	24	13.8	
CIT				*e*		12	24	28.3	
CIT	comp=Z,193nm,2.2s			pmax	pmax				
ULN	**Ulaanbaatar**	**65.30**	**329**	*ceP*	**P**	**12**	**24**	**03.5**	**+0.3**
ULN	comp=Z,82nm,2.5s			pmax	pmax				
ULN	**Ulaanbaatar**	**65.30**	**329**	P	**P**	**12**	**24**	**02.9**	**-0.3**
SONM	**Songino Array**	**65.61**	**329**	P	**P**	**12**	**24**	**06.1**	**+0.8**
	comp=Z,26nm,1.1s,baz=141,slow=5.9,SNR=52								
SONM				LR	LR	12	51	14.6	
	comp=Z,770nm,22.0s,baz=131,slow=35								
SONM	**Songino Array**	**65.61**	**329**	P	**P**	**12**	**24**	**05.8**	**+0.6**
SONM	comp=Z,38nm,1.2s			pmax	pmax				
SONM	**Songino Array**	**65.61**	**329**	P	**P**	**12**	**24**	**05.8**	**+0.6**
LSA	**Lhasa**	**66.68**	**305**	P	**P**	**12**	**24**	**14.5**	**+1.6**
LSA	**Lhasa**	**66.68**	**305**	P	**P**	**12**	**24**	**13.7**	**+0.8**
LSA	comp=Z,32nm,1.1s			pmax	pmax				
LSA	**Lhasa**	**66.68**	**305**	P	**P**	**12**	**24**	**13.7**	**+0.8**
LSA	comp=Z,32nm,1.1s			IAmb	IAmb	12	24	19.7	
SEY	**Seymchan**	**68.14**	**1**	*i* P	**P**	**12**	**24**	**22

ZAK pmax pmax
comp=Z,68nm,1.6s
TAOE Nuku Hiva Isla 68.84 97 *e*LR LR 12 45 11.5
comp=Z,484nm,20.7s
ODAN Odare 68.86 301 *e*P **P 12 24 27.9 +1.5**
comp=Z,255nm,1.5s
YAK Yakutsk 69.11 350 LR LR 12 54 08.7
comp=Z,125nm,20.3s,baz=144,slow=36
YAK Yakutsk 69.11 350 *e*P **P 12 24 25.9 -1.0**
YAK *e**PP **sP 12 24 41.7 0.0**
YAK *e* 12 24 46.9
YAK *e* 12 27 03.7
YAK *e*S **S 12 33 28.4 -1.3**
YAK *e**SS **sS 12 33 49.8 +2.6**
YAK *e* 12 34 20.2
YAK *e*SS **SS 12 37 56.5 +0.1**
YAK pmax pmax
comp=Z,43nm,1.4s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,43nm,2.3s
YAK pmax pmax
comp=N,12nm,2.1s
YAK pmax pmax
comp=E,22nm,2.2s
YAK smax smax
comp=N,49nm,3.5s
YAK smax smax
comp=E,66nm,3.3s
YAK Yakutsk 69.11 350 P **P 12 24 27.0 +0.1**
TLY Talaya 69.45 331 LR LR 12 53 17.8
comp=E,439nm,21.9s,baz=129,slow=35
TLY Talaya 69.45 331 *e*P **P 12 24 30.9 +1.6**
TLY *e*S **S 12 33 38.0 +3.8**
TLY pmax pmax
comp=Z,130nm,1.6s
TLY MLR MLR
comp=Z,1µm,19.0s
IRK Irkutsk 69.51 332 *e*P **P 12 24 32.3 +2.7**
IRK pmax pmax
comp=Z,110nm,2.5s
BOD Bodaibo 69.53 340 *e*P **P 12 24 29.6 0.0**
BOD pmax pmax
comp=Z,61nm,1.7s
RAMN Ramite 69.56 301 *e*P **P 12 24 32.9 +2.1**
comp=Z,110nm,1.6s
GUN Gumba 70.46 302 *e*P **P 12 24 37.2 +0.8**
comp=Z,72nm,1.0s
MOY Mondy 70.74 330 *e*P **P 12 24 38.4 +1.1**
MOY pmax pmax
comp=Z,181nm,1.8s
PKI Pulchoki 70.76 301 *e*P **P 12 24 38.4 +0.2**
comp=Z,146nm,1.6s
PKIN Phulchoki 70.77 302 *e*P **P 12 24 38.4 +0.2**
comp=Z,163nm,1.7s
KKN Kakani 70.93 302 *e*P **P 12 24 39.4 +0.3**
comp=Z,136nm,1.5s
DMN Daman 71.03 301 *e*P **P 12 24 39.9 +0.2**
comp=Z,106nm,1.3s
GKN Gorkha 71.54 302 *e*P **P 12 24 42.3 -0.4**
comp=Z,127nm,1.3s
VNDA Vanda 72.34 177 P **P 12 24 47.8 +1.4**
comp=Z,6.8nm,0.7s,baz=330,slow=6.6,SNR=23
VNDA LR LR 12 54 57.8
comp=Z,348nm,18.1s,baz=350,slow=34
VNDA Vanda 72.34 177 P **P 12 24 47.9 +1.5**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 72.34 177 P **P 12 24 47.9 +1.5**
KOLN Koldanda 72.36 301 *e*P **P 12 24 47.7 0.0**
comp=Z,130nm,1.4s
DANN Dangsing 72.38 302 *e*P **P 12 24 47.9 0.0**
comp=Z,60nm,1.1s
BILL Bilibino 74.10 6⇓*e*P **P 12 24 59.4 +2.6**
BILL *SP **pP 12 25 05.0 -2.7**
BILL 12 25 14.0
BILL S **S 12 34 28.0 +1.0**
BILL pmax pmax
comp=Z,31nm,1.3s
BILL MLR MLR
comp=Z,353nm,20.0s
BILL Bilibino 74.10 6 P **P 12 24 58.0 +1.2**
BILL IAmb IAmb 12 25 06.2
comp=Z,31nm,1.2s
WMQ Urumqi 74.62 318 *e*P **P 12 25 04.3 +3.8**
WMQ pP pP 12 25 06.5 -4.9
WMQ pmax pmax
comp=Z,32nm,1.5s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,390nm,16.9s
WMQ LR LR
comp=Z,320nm,19.7s
WMQ LR LR
comp=Z,170nm,20.1s
DGZ Jazzator, Alta 77.17 324 *i* P **P 12 25 16.3 +1.3**
DGZ pmax pmax
comp=Z,80nm,1.8s
ZSN Zaisan 77.85 321 *e*P **P 12 25 19.3 +0.6**
comp=Z,42nm,1.7s
ZSN Zaisan 77.85 321 *e*P **P 12 25 19.2 +0.6**
ZSN pmax pmax
comp=Z,42nm,1.7s
TIXI Tiksi 78.19 353*ce*P **P 12 25 21.0 +1.0**
TIXI Tiksi 78.19 353 P **P 12 25 18.7 -1.3**
HOM Homer 79.14 26 P **P 12 25 26.7 +1.2**
baz=239
CNPM China Poot 79.25 26 P **P 12 25 24.6 -1.5**
CNPM IAmb IAmb 12 25 29.6
comp=Z,35nm,0.9s
MK31 Makanchi Array 79.26 320*ce*P **P 12 25 27.1 +0.6**
MK31 Makanchi Array 79.26 320 P **P 12 25 26.4 -0.1**
MK31 IAmb IAmb 12 25 32.8
comp=Z,46nm,1.4s
MKAR Makanchi Array 79.26 320 P **P 12 25 26.3 -0.2**
comp=Z,6.2nm,1.0s,baz=98,slow=6.5,SNR=13
MKAR LR LR 13 00 44.6
comp=Z,399nm,18.4s,baz=105,slow=36
MKAR Makanchi Array 79.26 320 P **P 12 25 25.7 -0.8**
MKAR Makanchi Array 79.26 320 P **P 12 25 25.7 -0.8**
MAKZ Makanchi 79.47 319 P **P 12 25 26.8 -0.8**
MAKZ pmax pmax
comp=Z,51nm,1.3s
MAKZ Makanchi 79.47 319 P **P 12 25 26.8 -0.8**
MAKZ IAmb IAmb 12 25 33.9
comp=Z,51nm,1.2s
SHLS Shalkode 80.02 315 *e*P **P 12 25 28.9 -2.0**
SHLS Shalkode 80.02 315 *e*P **P 12 25 28.8 -2.0**
UZB Uzynbulak 80.32 315 *e*P **P 12 25 31.8 -0.8**
comp=Z,31nm,1.6s
UZB Uzynbulak 80.32 315 *e*P **P 12 25 31.7 -0.8**
UZB pmax pmax
comp=Z,31nm,1.6s
ZAA0 Zalesovo Array 80.37 327 P **P 12 25 33.2 +0.9**
ZAA0 IAmb IAmb 12 25 37.5
comp=Z,22nm,1.0s
ZALV Zalesovo Beam 80.37 327 P **P 12 25 31.4 -0.9**
comp=Z,3.5nm,0.6s,baz=114,slow=5.9,SNR=17
ZALV LR LR 13 00 26.6
comp=Z,418nm,20.2s,baz=114,slow=35
ZALV Zalesovo Beam 80.37 327 *i* P **P 12 25 34.0 +1.7**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 80.37 327 P **P 12 25 31.1 -1.2**
O22K Cooper Landing 80.38 26 P **P 12 25 34.4 +2.2**
baz=241
KPKS Kokpek 80.65 315 *e*P **P 12 25 35.6 +1.4**
comp=Z,64nm,1.9s
KPKS Kokpek 80.65 315 *e*P **P 12 25 35.5 +1.4**
KPKS pmax pmax
comp=Z,64nm,1.9s
RC01 Rabbit Creek A 80.67 25 P **P 12 25 34.5 +0.7**
baz=241
SATY Saty 80.73 315 *e*P **P 12 25 33.8 -0.8**
SATY Saty 80.73 315 *e*P **P 12 25 33.8 -0.8**
CUT Chulitna 81.11 24 P **P 12 25 36.7 +0.7**
baz=240
KTH Kantishna Hill 81.43 23 P **P 12 25 36.9 -0.9**
KTH IAmb IAmb 12 25 46.3
comp=Z,16nm,1.2s
KSH Kashi 81.57 311 P **P 12 25 39.0 -0.2**
KSH S **S 12 35 50.5 +1.4**

KSH pmax pmax
comp=Z,96nm,2.1s
KSH LR LR
comp=Z,180nm,8.9s
KSH LR LR
comp=Z,180nm,4.6s
KSH LR LR
comp=Z,420nm,14.0s
SML Sawmill 81.61 25 P **P 12 25 39.0 +0.2**
SML IAmb IAmb 12 25 51.4
comp=Z,11nm,0.8s
TRF Thorofare Moun 81.62 23 P **P 12 25 38.6 -0.4**
BPAW Bear Paw Mtn. 81.69 22 P **P 12 25 37.8 -1.3**
IMAR Indian Mountai 81.71 20 P **P 12 25 38.1 -1.1**
MDOK Medeo 81.71 315 *e*P **P 12 25 39.1 -0.9**
MDOK Medeo 81.71 315 *e*P **P 12 25 39.0 -0.9**
TNSS Tian-Shan 81.75 315 *e*P **P 12 25 40.8 +0.4**
TNSS Tian-Shan 81.75 315 *e*P **P 12 25 40.8 +0.4**
RND Reindeer 82.17 23 P **P 12 25 40.1 -1.6**
RND pmax pmax
comp=Z,12nm,0.9s
RND Reindeer 82.17 23 P **P 12 25 40.1 -1.6**
RND IAmb IAmb 12 25 43.6
comp=Z,12nm,0.9s
MLY Manley 82.26 21 P **P 12 25 41.0 -1.2**
baz=239
MCK McKinley 82.29 23 P **P 12 25 40.1 -2.2**
baz=241
BOOM Boomskoye usch 82.33 314 P **P 12 25 42.8 -0.4**
BOOM pmax pmax
comp=Z,21nm,1.3s
BOOM Boomskoye usch 82.33 314 P **P 12 25 42.8 -0.4**
BOOM IAmb IAmb 12 25 50.9
comp=Z,21nm,1.3s
KUU Kurty 82.40 315 *e*P **P 12 25 41.8 -1.6**
KUU Kurty 82.40 315 *e*P **P 12 25 41.7 -1.6**
NIL Nilore 82.41 305 P **P 12 25 43.2 -0.4**
NIL pmax pmax
comp=Z,24nm,1.2s
NIL Nilore 82.41 305 P **P 12 25 43.2 -0.4**
NIL IAmb IAmb 12 25 56.5
comp=Z,24nm,1.2s
DHY Denali Highway 82.60 24 P **P 12 25 42.6 -1.5**
M24K Tolsona, Glenn 82.66 25 P **P 12 25 46.0 +1.7**
baz=244
NEA2 Nenana 82.66 22 P **P 12 25 42.5 -1.7**
baz=241
KURK Kurchatov 82.82 322*ce*P **P 12 25 44.8 -0.4**
KURK pmax pmax
comp=Z,41nm,1.3s
KURK Kurchatov 82.82 322 P **P 12 25 44.9 -0.4**
I23K Minto, Yukon-K 82.83 22 P **P 12 25 48.1 +3.1**
baz=240
WRH Wood River Hil 82.97 23 P **P 12 25 45.7 -0.1**
N25K Chitina, Valde 83.11 26 P **P 12 25 46.5 -0.2**
baz=245
CCB Clear Creek Bu 83.16 22 P **P 12 25 44.9 -1.9**
TCOL CIGO, UAF Yank 83.25 22 P **P 12 25 47.7 +0.5**
baz=242
TCOL CIGO, UAF Yank 83.25 22 P **P 12 25 45.6 -1.6**
COLA College 83.25 22 P **P 12 25 46.2 -1.0**
COLA pmax pmax
comp=Z,11nm,1.0s
COLA College 83.25 22 P **P 12 25 46.1 -1.0**
COLA IAmb IAmb 12 25 48.4
comp=Z,11nm,1.0s
HDA Harding Lake 83.38 23 P **P 12 25 46.5 -1.5**
GLB Gilahina Butte 83.39 26 P **P 12 25 48.3 +0.2**
AAK Ala-Archa 83.40 314*ce*P **P 12 25 49.0 +0.3**
AAK pmax pmax
comp=Z,64nm,2.5s
VRDI Verde Repeater 83.46 26 P **P 12 25 49.4 +0.7**
SGDS Sogindy 83.50 315 *e*P **P 12 25 50.0 +0.8**
SGDS Sogindy 83.50 315 *e*P **P 12 25 49.9 +0.8**
IL31 83.57 23 P **P 12 25 47.4 -1.4**
ILAR Eielson Array 83.57 23 P **P 12 25 46.9 -2.0**
comp=Z,5.0nm,0.9s,baz=254,slow=5.0,SNR=29
ILAR LR LR 13 02 48.2
comp=Z,336nm,18.7s,baz=261,slow=36
ILAR Eielson Array 83.57 23 P **P 12 25 45.4 -3.5**
ILAR Eielson Array 83.57 23 P **P 12 25 45.4 -3.5**
COLD Coldfoot 83.57 20 P **P 12 25 48.2 -0.7**
baz=240
MCARA McCarthy VSAT 83.71 26 P **P 12 25 51.0 +1.2**
BALM Baldy 83.88 27 P **P 12 25 51.1 +0.4**
RIDG Independent Ri 83.92 24 P **P 12 25 50.3 -0.5**
RIDG IAmb IAmb 12 26 03.5
comp=Z,18nm,1.3s
MENT Mentasta 84.04 25 P **P 12 25 51.5 +0.1**
MAW Mawson 84.15 203 P **P 12 25 50.7 -1.1**
comp=Z,7.1nm,1.0s,baz=82,slow=6.1,SNR=10.0
MAW LR LR 13 00 28.3
comp=Z,772nm,21.9s,baz=76,slow=34
MAW Mawson 84.15 203 P **P 12 25 52.1 +0.3**
MAW pmax pmax
comp=Z,9.0nm,1.5s
MAW Mawson 84.15 203 P **P 12 25 52.1 +0.3**
DOT Dot Lake 84.19 24 P **P 12 25 51.7 -0.5**
DOT IAmb IAmb 12 25 54.9
comp=Z,11nm,1.0s
BARN Barnard Glacie 84.20 27 P **P 12 25 52.0 -0.4**
L26K Log Cabin Wild 84.23 25 P **P 12 25 53.4 +1.0**
baz=246
BTLS Baital 84.28 316 *e*P **P 12 25 52.6 -0.4**
comp=Z,46nm,1.7s
BTLS Baital 84.28 316 *e*P **P 12 25 52.5 -0.4**
BTLS pmax pmax
comp=Z,46nm,1.7s
CTGM Chitina Glacie 84.31 27 P **P 12 25 53.7 +0.8**
SCRK Sand Creek 84.36 24 P **P 12 25 52.1 -1.0**
baz=246
TOLK Toolik Lake Re 84.49 19 P **P 12 25 54.0 +0.4**
baz=240
QSPA South Pole Qui 84.58 180 P **P 12 25 52.7 -1.6**
QSPA IAmb IAmb 12 25 56.9
comp=Z,18nm,1.0s
BCAR Beaver Creek A 84.90 25 P **P 12 25 55.3 -0.5**
K27K Chicken 85.15 24 P **P 12 25 56.8 -0.1**
baz=247
NRIK Noril'sk 85.78 342 P **P 12 25 59.4 -0.5**
comp=Z,5.5nm,0.9s,baz=120,slow=6.1,SNR=2.2
NRIK LR LR 13 06 06.1
comp=Z,330nm,18.1s,baz=144,slow=37
NRIK Noril'sk 85.78 342*ce*P **P 12 26 01.1 +1.2**
NRIK pmax pmax
comp=Z,8.0nm,1.0s
HYT Haines Junctio 86.02 28 P **P 12 26 01.0 -0.4**
HYT IAmb IAmb 12 26 06.6
comp=Z,9.9nm,0.8s
BRZS Berezniki 86.30 321 *e*P **P 12 26 04.1 +1.1**
BRZS Berezniki 86.30 321 *e*P **P 12 26 04.0 +1.1**
KKAR Karatay Array 86.36 314 P **P 12 26 01.8 -1.7**
KKAR Karatay Array 86.36 314 P **P 12 26 01.8 -1.7**
EPYK Eagle Plains 88.09 23 P **P 12 26 11.9 +0.6**
baz=252
EPYK Eagle Plains 88.09 23 P **P 12 26 11.2 -0.1**
EPYK IAmb IAmb 12 26 14.4
comp=Z,15nm,1.1s
BRVK Borovoye 88.40 323*ce*P **P 12 26 11.7 -1.3**
BRVK pmax pmax
comp=Z,26nm,2.5s
INK Inuvik 89.82 21 P **P 12 26 18.9 -0.4**
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 89.82 21 P **P 12 26 18.9 -0.4**
INK IAmb IAmb 12 26 24.4
comp=Z,13nm,1.3s
SYO Syowa Base 92.35 200⇑*e*P **P 12 26 30.2 -0.9**
SYO Syowa Base 92.35 200⇓*e*X P 12 26 39.4 +8.3
NVAR Mina Array Bea 94.26 52 P **P 12 26 39.5 -1.3**
comp=Z,2.3nm,0.9s,baz=253,slow=6.1,SNR=11
NVAR LR LR 13 02 33.1
comp=Z,499nm,20.6s,baz=269,slow=31
NVAR Mina Array Bea 94.26 52 P **P 12 26 40.2 -0.6**
ABKAR Akbulak array 94.39 319 P **P 12 26 40.7 -0.2**
GEYT Alibeck 95.14 308 LR LR 13 12 36.1
comp=Z,372nm,19.0s,baz=55,slow=37
ARU Arti 95.52 326*c i*P **P 12 26 48.8 +2.9**
ARU 12 30 40.6
ARU SS SS 12 44 32.3 +3.9
ARU pmax pmax
comp=Z,9.0nm,1.2s
BELA Belgrano 2 96.81 179 P **P 12 26 51.4 0.0**
YKA Yellowknife Ar 97.02 28 P **P 12 26 52.3 -0.3**
comp=Z,0.8nm,0.7s,baz=258,slow=3.1,SNR=3.3

PDAR Pinedale Array 100.94 48 P **Pdif 12 27 10.2 -0.7**
comp=Z,0.6nm,0.7s,baz=240,slow=3.0,SNR=5.7
PDAR Pinedale Array 100.94 48 Pdif **Pdif 12 27 09.2 -1.7**
SNAA Sanae 101.13 188 Pdiff **Pdif 12 27 05.5 -5.5**
MAK Makhachkala 103.15 313 *e*P **Pdif 12 27 15.3 -5.1**
MAK *i* 12 31 34.9
MAK *e* 12 37 52.7
MAK pmax pmax
comp=Z,134nm,1.3s
MAK MLR MLR
comp=Z,621nm,19.0s
VYHS Vyhne 120.65 325 *e*PKIKP **PKiKP 12 32 12.9 -0.2**
VYHS *e* 12 33 42.0
VYHS Vyhne 120.65 325 *e*PKP **PKiKP 12 32 12.9 -0.2**
VYHS *e*PP **PP 12 33 42.0 +1.6**
CLL Collm 122.22 330 *e*(PKPdf) **PKiKP 12 32 19.0 +3.0**
CLL *e*SS SS 12 50 42.0 +14
CLL LmH 13 26 00.0
comp=N,400nm,18.6s
CLL LmH 13 26 00.0
comp=E,400nm,19.8s
CLL LmV 13 28 00.0
comp=Z,500nm,19.7s
CLL Collm 122.22 330 *e*PKIKP **PKiKP 12 32 19.0 +3.0**
CLL MLR MLR
comp=Z,500nm,19.7s
GERES GERESS Array B 123.32 327 PKP **PKPdf 12 32 17.9 -0.3**
comp=Z,0.5nm,0.7s,baz=52,slow=1.7,SNR=4.5
LPAZ La Paz 136.15 120 PKP **PKPdf 12 32 44.5 +0.5**
comp=Z,3.2nm,1.0s,baz=279,slow=3.0,SNR=7.5
LPAZ La Paz 136.15 120 PKIKP **PKPdf 12 32 43.4 -0.7**
LPAZ La Paz 136.15 120 PKPdf 12 32 43.4 -0.7
CPUP Villa Florida 138.52 141 PKP **PKPdf 12 32 47.4 -0.1**
comp=Z,1.4nm,0.9s,baz=267,slow=1.4,SNR=3.0
CPUP Villa Florida 138.52 141 PKIKP **PKPdf 12 32 46.5 -0.9**
CPUP Villa Florida 138.52 141 PKPdf 12 32 46.5 -0.9
SAML Samuel 143.54 113 PKIKP PKPbc 12 32 54.2 +0.1
SAML Samuel 143.54 113 PKPdf PKPbc 12 32 54.2 +0.1
TOA0 Torodi Ar. Sit 148.28 286 PKPbc **PKPbc 12 33 07.2 -1.0**
TORD Torodi Ar. Bea 148.28 286 PKPbc **PKPbc 12 33 07.2 -1.0**
comp=Z,2.2nm,0.8s,baz=51,slow=2.4,SNR=11
TORD Torodi Ar. Bea 148.28 286 PKPbc **PKPbc 12 33 06.8 -1.4**
BDFB Brasilia 152.21 139 PKPbc **PKPbc 12 33 16.4 -1.4**
comp=Z,7.1nm,0.8s,baz=233,slow=2.7,SNR=10.0
BDFB Brasilia 152.21 139 PKIKP **PKPbc 12 33 16.0 -1.8**
BDFB Brasilia 152.21 139 PKPbc **PKPbc 12 33 15.9 -1.8**

IDC 26 12:20:56.5±10.0**, 19°.53S**×**178°.41W, h528**km±108km**, mb2.7**/4**, mb1 3.1**/4**, mb1mx2.8**/32**, mbtmp3.6**/4**, Error ellipse: s-maj=110.8km s-min=39.4km az=151.0, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 44.36 261 P P 12 28 20.0 -0.1
0.2nm,0.3s,baz=96,slow=7.7,SNR=21
ASAR Alice Springs 44.37 256 P P 12 28 20.1 -0.1
0.6nm,0.6s,baz=85,slow=8.5,SNR=8.1
ASAR PcP PcP 12 29 51.8 -1.0
0.4nm,0.7s,baz=109,slow=3.9,SNR=5.1
TXAR Lajitas Array 86.86 58 P P 12 32 45.2 -0.3
0.4nm,0.8s,baz=210,slow=7.0,SNR=4.4
ILAR Eielson Array 87.46 13 P P 12 32 47.3 0.0
0.3nm,0.5s,baz=220,slow=5.5,SNR=2.6
GERES GERESS Array B 149.16 344 PKPbc PKPbc 12 39 45.5 +0.1
0.6nm,0.8s,baz=52,slow=6.4,SNR=4.1

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*KRNET **26** 12:33:56.2±0.1, 39°.53N×74°.06E, mb3.5*
*SOME **26** 12:33:57.6, 39°.72N×73°.95E, h5km*
*NNC **26** 12:34:00.9±1.6, 39°.80N×73°.96E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=12.8km s-min=6.8km az=175.0*
ISC 26 12:33:56.6±1.5**, 39°.32N**±0°.07×**73°.95E**±0°.04**, h10**km**, n44,** σ**1**s**15**/70**, 31C-5D, Tajikistan-Xinjiang border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BTK Batken 2.52 288⇑*i*P **Pb 12 34 41.1 -0.9**
baz=83
BTK ⇑*i*S **Sb 12 35 13.6 +0.5**
baz=83
ARLS Aral 2.55 6⇑*e*P **Pn 12 34 38.0 -0.2**
baz=5.0
ARLS ⇑*i*S **Sn 12 35 09.0 -0.4**
baz=5.0
AML Almayashu 2.81 356⇑*i*P **Pn 12 34 42.1 +0.1**
baz=54
AML ⇑*i*S **Sn 12 35 15.5 -0.7**
baz=54
AML Almayashu 2.81 356 P **Pn 12 34 43.0 +1.0**
SNR=18
GAR Garm 2.84 265⇑*i*P **Pb 12 34 46.7 -0.7**
baz=61
GAR ⇑*i*S **Sb 12 35 23.2 +0.9**
baz=61
UCH Uchtor 2.94 8⇑*e*P **Pn 12 34 43.4 -0.3**
baz=7.0
UCH ⇑*i*S **Sn 12 35 18.0 -1.2**
baz=7.0
UCH Uchtor 2.94 8 P **Pn 12 34 45.7 +2.0**
SNR=26
AAK Ala-Archa 3.34 7⇑*i*P **Pn 12 34 48.8 -0.2**
baz=6.0
AAK ⇑*i*S **Sn 12 35 27.3 -1.5**
baz=6.0
AAK Ala-Archa 3.34 7 P **Pn 12 34 50.4 +1.4**
SNR=12
AAK Ala-Archa 3.34 7 Pn **Pn 12 34 49.1 +0.1**
13nm,0.7s
AAK ⇓Lg Lg 12 35 31.4
45nm,0.9s
EKS2 Erkin-Say 3.34 358⇑*e*P **Pn 12 34 49.1 +0.1**
baz=56
EKS2 ⇑*i*S **Sn 12 35 27.8 -1.0**
baz=56
MNAS Manas 3.35 341⇑*i*P **Pn 12 34 49.7 +0.6**
baz=39
MNAS ⇑*i*S **Sn 12 35 29.2 +0.3**
baz=39
ULHL Ulahol 3.40 30⇑*i*P **Pn 12 34 49.6 -0.3**
baz=31
ULHL ⇑*i*S **Sn 12 35 28.7 -1.7**
baz=31
ULHL Ulahol 3.40 30 P **Pn 12 34 50.6 +0.7**
SNR=11
KBK Karagaybulak 3.42 13 P **Pn 12 34 51.6 +1.6**
SNR=7.5
MRKS Merke 3.46 351 *e*P **Pn 12 34 52.6 +1.9**
12nm,0.4s
MRKS *e*S **Sn 12 35 31.9 +0.1**
21nm,0.6s
MRKS Merke 3.46 351 Pg **Pn 12 34 52.6 +1.9**
12nm,0.4s
MRKS Lg Lg 12 35 31.9
21nm,0.6s
BOOM Boomskoye usch 3.51 25⇑*e*P **Pn 12 34 51.5 +0.2**
baz=25
BOOM ⇑*i*S **Sn 12 35 31.5 -1.5**
baz=25
FRU1 Bishkek 3.52 8⇑*e*P **Pn 12 34 51.4 0.0**
baz=7.0
FRU1 ⇑*e*S **Sn 12 35 31.8 -1.4**
baz=7.0
KDJ Kajisay 3.73 40⇓*i*P **Pn 12 34 54.6 +0.2**
baz=41
KDJ ⇓*i*S **Sn 12 35 37.2 -1.3**
baz=41
TKM2 Tokmak 2 3.81 19⇑*e*P **Pn 12 34 55.4 0.0**
baz=18
TKM2 ⇑*i*S **Sn 12 35 38.4 -2.0**
baz=18
TKM2 Tokmak 2 3.81 19 P **Pn 12 34 57.4 +2.0**
SNR=10
TKM2 Tokmak 2 3.81 19 ⇑Pn **Pn 12 34 55.8 +0.4**
2.6nm,0.4s
TKM2 ⇑Lg Lg 12 35 48.0
18nm,0.6s
USP Ospenovka 3.96 6 P **Pb 12 35 03.7 -2.8**
SNR=5.6
KST Kastek 4.02 22 *e*P **Pb 12 35 07.0 -0.6**
7.5nm,0.4s
KST *e*S **Sb 12 35 57.0 +0.8**
22nm,0.6s
KST Kastek 4.02 22 Pg **Pb 12 35 07.0 -0.6**
7.5nm,0.4s

KST					Lg	Lg	12 35 57.0	
	22nm,0.6s							
IUG	**luzhnay**	**4.10**	**315**	*eP*	**Pb**		**12 35 08.6**	**-0.3**
	9.4nm,0.6s							
IUG				*eS*	**Sb**		**12 35 59.3**	**+0.7**
	41nm,0.5s							
IUG	**luzhnay**	**4.10**	**315**	Pg	**Pb**		**12 35 08.6**	**-0.3**
	9.4nm,0.6s							
IUG				Lg	Lg		12 35 59.3	
	41nm,0.5s							
IZV	**Izvestkoviy**	**4.22**	**28**	*eP*	**Pb**		**12 35 10.8**	**-0.2**
	5.8nm,0.7s							
IZV				*eS*	**Sb**		**12 36 03.5**	**+1.4**
	20nm,0.5s							
IZV	**Izvestkoviy**	**4.22**	**28**	Pg	**Pb**		**12 35 10.8**	**-0.2**
	5.8nm,0.7s							
IZV				Lg	Lg		12 36 03.5	
	20nm,0.5s							
TNSS	**Tian-Shan**	**4.35**	**30**	*eP*	**Pb**		**12 35 11.4**	**-1.9**
	5.0nm,0.5s							
TNSS				*eS*	**Sb**		**12 36 04.7**	**-1.3**
	7.9nm,0.6s							
TNSS	**Tian-Shan**	**4.35**	**30**	Pg	**Pb**		**12 35 11.4**	**-1.9**
	5.0nm,0.5s							
TNSS				Lg	Lg		12 36 04.6	
	7.9nm,0.6s							
MDOK	**Medeo**	**4.50**	**30**	*eP*	**Pb**		**12 35 15.3**	**-0.4**
	5.2nm,0.6s							
MDOK				*eS*	**Sb**		**12 36 11.3**	**+1.3**
	16nm,1.1s							
MDOK	**Medeo**	**4.50**	**30**	Pg	**Pb**		**12 35 15.3**	**-0.4**
	5.2nm,0.6s							
MDOK				Lg	Lg		12 36 11.3	
	16nm,1.1s							
KRBS	**Karabastau**	**4.56**	**16**	*eP*	**Pb**		**12 35 15.7**	**-1.0**
	4.5nm,0.5s							
KRBS				*eS*	**Sb**		**12 36 12.0**	**+0.2**
	4.8nm,0.7s							
KRBS	**Karabastau**	**4.56**	**16**	Pg	**Pb**		**12 35 15.7**	**-1.0**
	4.5nm,0.5s							
KRBS				Lg	Lg		12 36 12.0	
	4.8nm,0.7s							
KOTS	**Kotyrbulak**	**4.58**	**30**	*eP*	**Pb**		**12 35 17.7**	**+0.6**
	12nm,0.5s							
KOTS				*eS*	**Sb**		**12 36 15.1**	**+2.7**
	21nm,0.5s							
KOTS	**Kotyrbulak**	**4.58**	**30**	Pg	**Pb**		**12 35 17.7**	**+0.6**
	12nm,0.5s							
KOTS				Lg	Lg		12 36 15.1	
	21nm,0.5s							
KK31	**Karatay Array**	**4.58**	**327**	⇓Pn	**Pn**		**12 35 06.3**	**+0.3**
	0.6nm,0.3s,baz=135,slow=12,SNR=9.2							
KK31				⇑Pg	**Pb**		**12 35 18.2**	**+1.2**
	1.7nm,0.5s,baz=136,slow=15,SNR=4.0							
KK31				⇑Sn	**Sn**		**12 35 59.0**	**-0.2**
	3.1nm,0.3s,baz=135,slow=23,SNR=4.9							
KK31				⇑Lg	Lg		12 36 15.2	
	5.3nm,0.4s,baz=137,slow=30,SNR=4.1							
BRLS	**Boroldav**	**4.83**	**321**	*eP*	**Pb**		**12 35 20.3**	**-1.0**
	26nm,0.5s							
BRLS				*eS*	**Sb**		**12 36 19.8**	**+0.3**
	17nm,0.5s							
BRLS	**Boroldav**	**4.83**	**321**	Pg	**Pb**		**12 35 20.3**	**-1.0**
	26nm,0.5s							
BRLS				Lg	Lg		12 36 19.8	
	17nm,0.5s							
KUU	**Kurty**	**4.91**	**21**	*eP*	**Pb**		**12 35 22.5**	**-0.1**
	1.8nm,0.1s							
KUU				*eS*	**Sb**		**12 36 23.6**	**+1.9**
	19nm,0.6s							
KUU	**Kurty**	**4.91**	**21**	Pg	**Pb**		**12 35 22.5**	**-0.1**
	1.8nm,0.1s							
KUU				Lg	Lg		12 36 23.6	
	19nm,0.6s							
PDGK	**Podgornoye**	**5.78**	**44**	⇑Pn	**Pn**		**12 35 22.0**	**-0.6**
	3.5nm,1.1s							
PDGK				⇑Pg	**Pb**		**12 35 39.7**	**+2.1**
	4.1nm,0.7s							
PDGK				⇓Lg	Lg		12 36 53.0	
	14nm,1.0s							

*KRNET **26** 12:37:39.7±0.1,41°.42N×73°.48E,h20km,mb3.0*
*NNC **26** 12:37:40.5±1.1,41°.49N×73°.43E,h0km,mb3.4,mpv3.3,*
Error ellipse: s-maj=10.1km s-min=4.5km az=167.0
*KNET **26** 12:37:42.3±0.5,41°.52N×73°.63E,h8km±3km,ml2.4, Error ellipse: s-maj=5.4km s-min=3.0km az=106.0*

ISC 26 12:37:40.2±1.4,41°.47N±0°.05×73°.49E±0°.03,h6km±11km, n36,σ0s89/58,33C-15D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.68**	**13**	⇑*iP*	**Pb**	**12 37 54.0**	**-0.7**
AML	baz=12			⇑*iS*	**Sb**	**12 38 04.0**	**-0.6**
AML	**Almayashu**	**0.68**	**13**	⇓P	**Pb**	**12 37 54.2**	**-0.6**
AML	78nm,0.2s,SNR=132			⇑S	**Sb**	**12 38 04.9**	**+0.3**
ARLS	82nm,0.1s **Aral**	**0.74**	**57**	⇑*iP*	**Pg**	**12 37 54.3**	**-0.1**
ARLS	baz=54			⇑*iS*	**Sg**	**12 38 04.9**	**+0.9**
UCH	**Uchtor**	**1.08**	**45**	⇑*iP*	**Pg**	**12 38 00.7**	**-0.2**
UCH	baz=43			⇑*iS*	**Sb**	**12 38 15.6**	**-0.5**
UCH	baz=43 **Uchtor**	**1.08**	**45**	⇓P	**Pg**	**12 38 00.9**	**0.0**
UCH	14nm,0.1s,SNR=9.9			⇓S	**Sb**	**12 38 16.1**	**0.0**
EKS2	47nm,0.2s **Erkin-Say**	**1.21**	**10**	⇑*iP*	**Pb**	**12 38 03.1**	**-0.5**
EKS2	baz=10.0			⇑*iS*	**Sn**	**12 38 19.7**	**-1.0**
EKS2	baz=10.0 **Erkin-Say**	**1.21**	**10**	⇑P	**Pn**	**12 38 03.7**	**-0.2**
MNAS	17nm,0.2s,SNR=6.8 **Manas**	**1.26**	**325**	⇑*iP*	**Pb**	**12 38 03.9**	**-0.5**
MNAS	baz=26			⇑*iS*	**Sn**	**12 38 21.1**	**-0.7**
MRKS	baz=26 **Merke**	**1.29**	**351**	P	**Pg**	**12 38 04.9**	**-0.1**
MRKS	33nm,0.4s			S	**Sn**	**12 38 23.1**	**+0.5**
AAK	109nm,0.2s **Ala-Archa**	**1.39**	**32**	⇑*iP*	**Pn**	**12 38 06.2**	**-0.1**
AAK	baz=31			⇑*iS*	**Sg**	**12 38 25.0**	**+0.2**
AAK	baz=31 **Ala-Archa**	**1.39**	**32**	⇓P	**Pb**	**12 38 06.6**	**-0.1**
AAK	10nm,0.2s,SNR=14			⇓S	**Sg**	**12 38 25.4**	**+0.5**
AAK	27nm,0.3s **Ala-Archa**	**1.39**	**32**	⇑P	**Pb**	**12 38 06.5**	**-0.1**
AAK	4.1nm,0.3s			⇑S	**Sg**	**12 38 25.3**	**+0.5**
FRU1	12nm,0.3s **Bishkek**	**1.59**	**32**	⇓*iP*	**Pb**	**12 38 09.6**	**-0.4**
FRU1	baz=31			⇓*iS*	**Sg**	**12 38 31.4**	**+0.2**
KBK	baz=31 **Karagaybulak**	**1.61**	**42**	⇑*iP*	**Pb**	**12 38 10.1**	**-0.3**
KBK	baz=41			⇑*iS*	**Sg**	**12 38 31.7**	**-0.2**
KBK	baz=41 **Karagaybulak**	**1.61**	**42**	⇑P	**Pg**	**12 38 10.7**	**-0.3**
KBK	10nm,0.1s,SNR=14			⇓S	**Sg**	**12 38 33.1**	**+1.2**
CHMS	72nm,0.3s **Chumysh**	**1.79**	**31**	⇓*iP*	**Pb**	**12 38 13.3**	**-0.2**
CHMS	baz=30			⇓*iS*	**Sg**	**12 38 36.8**	**-1.0**
CHMS	baz=30 **Chumysh**	**1.79**	**31**	⇑P	**Pb**	**12 38 13.8**	**+0.3**
CHMS	14nm,0.3s,SNR=8.9			⇑S	**Sg**	**12 38 38.2**	**+0.4**
BOOM	27nm,0.3s **Boomskoye usch**	**2.09**	**60**	⇑*eP*	**Pn**	**12 38 17.2**	**+1.2**
BOOM	baz=59			⇑*iS*	**Sb**	**12 38 44.4**	**-0.6**
TKM2	baz=59 **Tokmak 2**	**2.13**	**46**	⇑*iP*	**Pn**	**12 38 17.6**	**+1.0**
TKM2	baz=46			⇑*iS*	**Sb**	**12 38 45.2**	**-1.1**
TKM2	baz=46 **Tokmak 2**	**2.13**	**46**	⇓P	**Pb**	**12 38 19.8**	**+0.3**
	10nm,0.2s,SNR=22						

TKM2	**Tokmak 2**	**2.13**	**46**	⇓Pn	**Pb**		**12 38 19.4**	**0.0**
	6.3nm,0.3s							
TKM2				⇑Lg	Lg		12 38 48.0	
	29nm,0.6s							
DZA	**Taraz**	**2.15**	**312**	Pg	**Pb**		**12 38 20.0**	**+0.5**
	59nm,0.1s							
DZA				Lg	Lg		12 38 48.7	
	131nm,0.2s							
ULHL	**Ulahol**	**2.20**	**68**	⇑*iP*	**Pn**		**12 38 18.5**	**+1.1**
	baz=67							
ULHL				⇑*iS*	**Sb**		**12 38 46.6**	**-1.4**
	baz=67							
KST	**Kastek**	**2.42**	**49**	Pg	**Pb**		**12 38 25.2**	**+1.0**
	12nm,0.5s							
KST				Lg	Lg		12 38 57.5	
	29nm,0.4s							
BTK	**Batken**	**2.47**	**236**	⇓*iP*	**Pn**		**12 38 21.1**	**0.0**
	baz=37							
BTK				⇓*iS*	**Sn**		**12 38 51.0**	**-0.6**
	baz=37							
IUG	**luzhnay**	**2.67**	**286**	Pg	**Pb**		**12 38 27.8**	**-0.7**
	6.4nm,0.3s							
IUG				Lg	Lg		12 39 02.2	
	39nm,0.4s							
MTBS	**Maitube**	**2.74**	**52**	Pg	**Pb**		**12 38 30.6**	**+1.0**
	4.0nm,0.2s							
MTBS				Lg	Lg		12 39 07.0	
	24nm,0.4s							
KK31	**Karatay Array**	**2.75**	**307**	⇑Pn	**Pn**		**12 38 26.8**	**+2.0**
	0.4nm,0.4s,baz=128,slow=16,SNR=24							
KK31				⇑Pg	**Pb**		**12 38 30.9**	**+1.2**
	2.3nm,0.5s,baz=127,slow=17,SNR=14							
KK31				Lg	Lg		12 39 06.5	
	3.7nm,0.3s,baz=126,slow=28,SNR=11							
IZV	**Izvestkoviy**	**2.80**	**55**	Pg	**Pb**		**12 38 32.3**	**+1.6**
	4.0nm,0.4s							
IZV				Lg	Lg		12 39 09.8	
	28nm,0.6s							
KDJ	**Kajisay**	**2.84**	**75**	⇑*iP*	**Pn**		**12 38 26.8**	**+0.6**
	baz=74							
KDJ				⇑*iS*	**Sn**		**12 39 01.5**	**+0.7**
	baz=74							
TNSS	**Tian-Shan**	**3.01**	**57**	Pg	**Pb**		**12 38 35.7**	**+1.3**
	2.1nm,0.3s							
TNSS				Lg	Lg		12 39 15.7	
	11nm,0.5s							
BRLS	**Boroldav**	**3.13**	**301**	Pg	**Pb**		**12 38 37.3**	**+1.0**
	16nm,0.3s							
BRLS				Lg	Lg		12 39 18.6	
	21nm,0.6s							
MDOK	**Medeo**	**3.14**	**56**	Pg	**Pb**		**12 38 37.5**	**+1.1**
	3.4nm,0.3s							
MDOK				Lg	Lg		12 39 19.3	
	13nm,0.9s							
KUU	**Kurty**	**3.21**	**40**	Pg	**Pb**		**12 38 38.8**	**+1.2**
	6.2nm,0.4s							
KUU				Lg	Lg		12 39 21.5	
	17nm,0.5s							
KTBS	**Karatobe**	**3.25**	**45**	Pg	**Pb**		**12 38 39.2**	**+0.9**
	6.4nm,0.8s							
KTBS				Lg	Lg		12 39 22.4	
	24nm,0.5s							
PDGK	**Podgornoye**	**4.82**	**65**	⇓Pg	**Pg**		**12 39 09.3**	**-3.1**
PDGK				⇑Lg	Lg		12 40 14.5	
	6.8nm,0.8s							

*IDC **26** 12:47:56.0±0.7,5°.33S×150°.43E,h0km,mb4.3/15,*
mb1 4.4/17,mb1mx4.2/39,mbtmp4.3/17,ML3.1/2,MS3.7/12,
Ms1 3.7/12,ms1mx3.5/31,Error ellipse: s-maj=19.5km
s-min=12.5km az=106.0
*NEIC **26** 12:47:59.5±2.7,5°.20S±0°.07×150°.36E±0°.05,h35km±1km,*
mb4.7/28,Error ellipse: s-maj=12.1km s-min=6.5km
az=23.0
*BJI **26** 12:47:59.4±0.0,5°.34S×150°.62E,h63km,mB5.1/22,*
mb4.8/31,Ms4.5/5,Ms7 4.2/5
*DJA **26** 12:48:01.6±0.5,5°.5S±4°×15°1E±°,h54km±7km,M4.7/16,*
mb4.7/16,mB5.0/4,MLv4.8/2,Mw(mB)4.3/4

ISC 26 12:48:00.7±0.4,5°.29S±0°.06×150°.40E±0°.06,h35km,n70, σ2s19/66,mb4.6/31,MS3.8/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.89**	**59**	Pn	**Pn**	**12 48 28.2**	**-2.3**
	55nm,0.3s,baz=226,slow=1.8,SNR=17						
KRVT				Sn	**Sn**	**12 49 01.0**	**+7.9**
	75nm,0.3s,baz=191,slow=24,SNR=38						
RABL	**Rabaul**	**2.07**	**58**		**Pn**	**12 48 31.1**	**-1.9**
PMG	**Port Moresby**	**5.20**	**218**	Pn	**Pn**	**12 49 16.6**	**+0.6**
	16nm,0.3s,baz=45,slow=12,SNR=20						
PMG				Sn	**Sn**	**12 50 15.4**	**+0.6**
	1.7nm,0.3s,baz=15,slow=16,SNR=2.6						
PMG				LR	LR	12 50 54.0	
	comp=Z,349nm,21.3s,baz=36,slow=34						
PMG	**Port Moresby**	**5.20**	**218**	Pn	**Pn**	**12 49 17.8**	**+1.7**
JAY	**Jayapura**	**10.06**	**286**	LR	LR	12 54 28.4	
	comp=Z,207nm,21.4s,baz=82,slow=39						
CTA	**Charters Tower**	**15.25**	**195**	Pn	**P**	**12 51 36.0**	**-2.0**
	0.1nm,0.3s,baz=8.1,slow=14,SNR=2.7						
CTAO	**Charters Tower**	**15.25**	**195**	P	**P**	**12 51 36.2**	**-1.9**
GUMO	**Guam**	**19.54**	**344**	LR	LR	12 58 32.6	
	comp=Z,192nm,21.5s,baz=140,slow=32						
SIJI	**Sorong**	**19.60**	**282**	P	**Pn**	**12 52 28.3**	**+0.6**
	0.3nm,0.3s,baz=126,slow=19,SNR=3.4						
EIDS	**Eidsvold**	**19.98**	**178**		**Pn**	**12 52 32.9**	**+0.9**
EIDS				IAmb	IAmb	12 52 33.4	
	comp=Z,21nm,0.8s						
MTN	**Manton Dam**	**20.44**	**247**		**P**	**12 52 33.8**	**-1.5**
WB0	**Warramunga Arr**	**21.21**	**226**	P	**P**	**12 52 42.9**	**-0.7**
WB0				IAmb	IAmb	12 52 47.5	
	comp=Z,28nm,0.8s						
WR0	**Warramunga Arr**	**21.23**	**225**	P	**P**	**12 52 43.0**	**-0.8**
WR0				IAmb	IAmb	12 52 50.3	
	comp=Z,30nm,0.8s						
WRAB	**Tennant Creek**	**21.35**	**226**	P	**P**	**12 52 43.9**	**-1.2**
WRAB				IAmb	IAmb	12 52 48.9	
	comp=Z,28nm,0.9s						
WB2	**Warramunga Arr**	**21.36**	**226**	P	**P**	**12 52 44.3**	**-0.8**
WB2				IAmb	IAmb	12 52 57.0	
	comp=Z,25nm,0.9s						
WRA	**Warramunga Arr**	**21.36**	**226**	P	**P**	**12 52 44.1**	**-1.1**
	comp=Z,12nm,0.5s,baz=49,slow=10.0,SNR=37						
WRA				PcP	**PcP**	**12 56 49.2**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=49,slow=1.8,SNR=2.8						
WRA	**Warramunga Arr**	**21.36**	**226**	P	**P**	**12 52 42.2**	**-3.0**
DZM	**Mont Dzumac**	**22.79**	**139**	P	**P**	**12 53 01.1**	**+0.6**
	comp=Z,9.1nm,1.0s,baz=338,slow=16,SNR=5.9						
DZM	**Mont Dzumac**	**22.79**	**139**	P	**P**	**12 53 00.9**	**+0.4**
KNRA	**Kununurra**	**23.62**	**242**	P	**P**	**12 53 06.0**	**-2.8**
AS31	**Alice Springs**	**24.22**	**219**	P	**P**	**12 53 13.5**	**-0.8**
ASAR	**Alice Springs**	**24.22**	**219**	P	**P**	**12 53 13.6**	**-0.8**
	comp=Z,6.1nm,0.6s,baz=53,slow=8.7,SNR=30						
ASAR				S	**S**	**12 57 35.6**	**+4.9**
	comp=Z,1.1nm,1.1s,baz=48,slow=19,SNR=3.5						
ASAR	**Alice Springs**	**24.22**	**219**	P	**P**	**12 53 13.3**	**-1.1**
ARMA	**Armidale**	**25.02**	**177**	P	**P**	**12 53 23.4**	**+1.8**
ARMA				IAmb	IAmb	12 53 36.1	
	comp=Z,18nm,1.2s						
BATI	**Baumata**	**26.93**	**258**	LR	LR	13 05 37.3	
	comp=Z,261nm,19.2s,baz=97,slow=39						
FITZ	**Fitzroy Crossi**	**27.34**	**240**	P	**P**	**12 53 41.1**	**-1.5**
	comp=Z,22nm,0.8s,baz=55,slow=7.8,SNR=38						
FITZ				LR	LR	13 05 38.1	
	comp=Z,243nm,18.4s,baz=64,slow=39						
FITZ	**Fitzroy Crossi**	**27.34**	**240**	P	**P**	**12 53 41.5**	**-1.1**
DAV	**Davao City (W)**	**27.65**	**296**	LR	LR	13 02 38.6	
	comp=Z,111nm,19.3s,baz=104,slow=32						
STKA	**Stephens Creek**	**27.71**	**196**	P	**P**	**12 53 44.5**	**-1.3**
	comp=Z,5.0nm,0.8s,baz=32,slow=12,SNR=8.3						
STKA				LR	LR	13 04 08.1	
	comp=Z,248nm,19.6s,baz=13,slow=35						
STKA	**Stephens Creek**	**27.71**	**196**	P	**P**	**12 53 44.8**	**-0.9**
MSVF	**Nonsavu**	**29.72**	**117**	P	**P**	**12 54 00.4**	**-3.6**
MSVF				IAmb	IAmb	12 54 07.6	
	comp=Z,11nm,1.0s						
PSAD2	**Pilbara Seismi**	**33.65**	**238**	P	**P**	**12 54 36.7**	**-1.7**
PSA00	**Pilbara Seismi**	**33.73**	**238**	P	**P**	**12 54 36.3**	**-2.8**
JHJ	**Hachijo jima 2**	**39.51**	**346**	LR	LR	13 08 48.8	
	comp=Z,165nm,19.2s,baz=39,slow=32						
MORW	**Morawa**	**40.19**	**230**	P	**P**	**12 55 32.9**	**-1.0**
MORW				IAmb	IAmb	12 55 35.0	
	comp=Z,20nm,1.2s						
YULB	**Yu-li**	**40.25**	**316**	P	**P**	**12 55 31.4**	**-3.0**
YULB				IAmb	IAmb	12 55 45.0	
	comp=Z,11nm,1.0s						

BKZ	**Black Stump Fm**	**41.16**	**149**	P	**P**		**12 55 40.5**	**-1.4**
TUWZ	**Tuamarina**	**41.68**	**153**	P	**P**		**12 55 46.7**	**+0.8**
RPZ	**Rata Peaks**	**42.38**	**158**	P	**P**		**12 55 52.4**	**+0.8**
JNU	**Nakatsue**	**42.45**	**335**	P	**P**		**12 55 52.9**	**+0.5**
	comp=Z,13nm,0.9s,baz=148,slow=14,SNR=3.6							
JNU	**Nakatsue**	**42.45**	**335**	P	**P**		**12 55 53.2**	**+0.8**
JNU				IAmb	IAmb		12 55 58.6	
	comp=Z,20nm,1.0s							
MLZ	**Mavora Lakes**	**42.81**	**162**	P	**P**		**12 55 54.6**	**-0.5**
MLZ				IAmb	IAmb		12 56 13.4	
	comp=Z,18nm,1.1s							
MQZ	**McQueen's Vall**	**42.99**	**156**	P	**P**		**12 55 56.1**	**-0.5**
MJAR	**Matsushiro Arr**	**43.15**	**346**	P	**P**		**12 55 57.4**	**-0.6**
	comp=Z,3.5nm,1.1s,baz=177,slow=9.9,SNR=5.8							
MJAR				LR	LR		13 13 16.1	
	comp=Z,95nm,18.1s,baz=40,slow=35							
MJAR	**Matsushiro Arr**	**43.15**	**346**	P	**P**		**12 55 56.8**	**-1.2**
MAT	**Matsushiro**	**43.15**	**346**	P	**P**		**12 55 54.8**	**-3.2**
KSRS	**Korea Array**	**47.41**	**336**	P	**P**		**12 56 33.7**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=154,slow=9.8,SNR=4.3							
KSAR	**Wonju Array Be**	**47.41**	**336**	P	**P**		**12 56 30.1**	**-1.7**
NJ2	**Nanjing**	**47.76**	**323**	*eP*	P		12 56 29.5	-5.0
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**51.98**	**343**	LR	LR		13 17 28.5	
	comp=Z,84nm,18.8s,baz=165,slow=34							
CMAR	**Chiang Mai Arr**	**55.94**	**296**	P	**P**		**12 57 37.0**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=122,slow=6.1,SNR=8.7							
CD2	**Chengdu**	**57.26**	**312**	P	**P**		**12 57 46.3**	**+1.2**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**58.08**	**326**	*eP*	**P**		**12 57 46.5**	**-4.2**
HHC				pmax	pmax			
	comp=Z,17nm,1.0s							
HHC				pmax	pmax			
	comp=Z,72nm,5.2s							
PETK	**Petropavlovsk-**	**58.51**	**5**	LR	LR		13 19 21.2	
	comp=Z,74nm,20.3s,baz=186,slow=32							
LZH	**Lanzhou**	**59.94**	**317**	*eP*	**P**		**12 58 06.8**	**+3.0**
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
HIA	**Hailar**	**60.53**	**337**	P	**P**		**12 58 03.9**	**-3.5**
GTA	**Gaotai**	**64.41**	**318**	*eP*	**P**		**12 58 36.8**	**+3.1**
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,150nm,6.4s							
GTA				LR	LR			
	comp=Z,120nm,17.8s							
GTA				LR	LR			
	comp=Z,95nm,17.8s							
GTA				LR	LR			
	comp=Z,120nm,17.4s							
SONM	**Songino Array**	**65.49**	**329**	P	**P**		**12 58 43.0**	**+2.4**
	comp=Z,4.5nm,0.9s,baz=137,slow=5.9,SNR=17							
SONM	**Songino Array**	**65.49**	**329**	P	**P**		**12 58 42.9**	**+2.4**
VNDA	**Vanda**	**72.44**	**177**	P	**P**		**12 59 24.9**	**+1.9**
	comp=Z,4.3nm,0.9s,baz=314,slow=7.0,SNR=9.9							
VNDA	**Vanda**	**72.44**	**177**	P	**P**		**12 59 26.2**	**+3.1**
VNDA				IAmb	IAmb		12 59 26.6	
	comp=Z,7.9nm,1.0s							
WMQ	**Urumqi**	**74.50**	**318**	*eP*	**P**		**12 59 32.0**	**-3.8**
WMQ				pmax	pmax			
	comp=Z,22nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,58nm,6.3s							
MKAR	**Makanchi Array**	**79.13**	**320**	P	**P**		**13 00 03.0**	**+1.2**
	comp=Z,1.7nm,1.1s,baz=114,slow=6.5,SNR=3.5							
ZALV	**Zalesovo Beam**	**80.25**	**327**	P	**P**		**13 00 07.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=104,slow=5.7,SNR=4.4							
ZALV				LR	LR		13 35 53.0	
	comp=Z,51nm,19.1s,baz=0.0,slow=36							
IMAR	**Indian Mountai**	**81.65**	**20**	P	**P**		**13 00 17.1**	**+2.2**
KURBB	**Kurchatov Arra**	**82.72**	**322**	P	**P**		**13 00 21.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=100,slow=5.6,SNR=1.7							
ILAR	**Eielson Array**	**83.52**	**23**	P	**P**		**13 00 24.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=260,slow=4.4,SNR=3.4							
QSPA	**South Pole Qui**	**84.67**	**180**	P	**P**		**13 00 29.8**	**-1.0**
QSPA				IAmb	IAmb		13 00 34.5	
	comp=Z,6.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**148.17**	**286**	PKPbc	**PKiKP**		**13 07 45.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=61,slow=3.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**148.17**	**286**		**PKPdf**		**13 07 42.0**	**+1.3**

NNC 26 12:48:33.2±2.1,54°.42N×86°.30E,h0km,mb4.1,mpv3.2, 4C-3D,Error ellipse: s-maj=38.2km s-min=13.0km az=157.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.99**	**242**	⇑P	Pg	12 48 52.0	-0.2
ZAA0	1.2nm,0.3s			⇓S	Sb	12 49 06.2	-0.6
KURBB	14nm,1.1s **Kurchatov Arra**	**6.08**	**234**	⇑Pn	Pn	12 50 05.9	+1.6
KURBB	8.9nm,0.8s			⇑Sn	Sn	12 51 15.2	+0.7
KURBB	5.3nm,0.6s			⇓Lg	Lg	12 51 46.1	
MK31	16nm,0.7s **Makanchi Array**	**8.05**	**200**	⇑Pn	Pn	12 50 31.9	+0.5
MK31	3.0nm,0.9s,baz=22,slow=13,SNR=7.5			⇓Lg	Lg	12 52 46.6	
	9.4nm,0.9s,baz=28,slow=32,SNR=6.6						

IDC 26 12:56:56.2±1.3,53°.47N×159°.17E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/37,mbtmp3.5/4,Error ellipse: s-maj=28.6km s-min=12.6km az=155.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.96**	**248**	Pg	Pg	12 57 14.1	-0.5
PETK	26nm,0.3s,baz=71,slow=20,SNR=209			Lg	Lg	12 57 28.4	
ILAR	11nm,0.3s,baz=45,slow=52,SNR=8.6 **Eielson Array**	**28.94**	**46**	P	P	13 02 56.6	-0.1
KURBB	0.5nm,0.8s,baz=257,slow=7.7,SNR=4.7 **Kurchatov Arra**	**47.16**	**301**	P	P	13 05 29.4	-0.7
WRA	0.3nm,0.2s,baz=48,slow=8.9,SNR=1.4 **Warramunga Arr**	**76.20**	**204**	P	P	13 08 46.4	+0.3
ASAR	0.2nm,0.9s,baz=22,slow=5.8,SNR=1.8 **Alice Springs**	**79.88**	**203**	P	P	13 09 07.1	+0.6
	0.3nm,1.0s,baz=18,slow=5.5,S

CDF				*e*Sn	Sb	13 02 16.5	-1.7
	3.0nm,0.2s							
ECH	**Echery**	**1.22**	**264**	Pn	Pn	13 02 02.4	-2.5
ECH				Pg	Pb	13 02 04.2	-0.8
ECH				Sn	Sb	13 02 20.8	+0.2
HINF	**Hinteralfeld**	**1.52**	**250**	*e*Pn	Pn	13 02 07.4	-1.6
HINF	**Hinteralfeld**	**1.52**	**250**	*e*Pg	Pb	13 02 10.6	+0.4
HINF				*e*Sn	Sn	13 02 25.1	-3.5
	1.1nm,0.2s							
HAU	**Haudompre**	**1.79**	**260**	*e*Pn	Pn	13 02 10.7	-2.0
HAU	**Haudompre**	**1.79**	**260**	*e*Pg	Pb	13 02 15.6	+0.8
HAU				*e*Sn	Sn	13 02 32.3	-3.0
	1.8nm,0.2s							
PAGF	**Fort de Pagny**	**2.17**	**276**	*e*Pn	Pn	13 02 16.0	-1.9
	baz=97							
PAGF	**Fort de Pagny**	**2.17**	**276**	*e*Pg	Pb	13 02 22.4	+1.2
PAGF				*e*Sn	Sn	13 02 41.3	-3.3
	1.4nm,0.3s							
MEZF	**Maizieres J'vi**	**2.61**	**275**	*e*Pn	Pn	13 02 22.1	-1.9
MEZF				*e*Sn	Sn	13 02 51.9	-3.6
	1.6nm,0.3s							
CABF	**La Chapelle**	**2.62**	**229**	*e*Pn	Pn	13 02 21.8	-2.4
CABF				*e*Sn	Sn	13 02 51.6	-4.3
	0.4nm,0.2s							
SFTF	**Sexfontaines**	**2.63**	**268**	*e*Pn	Pn	13 02 22.4	-1.8
SFTF	**Sexfontaines**	**2.63**	**268**	*e*Pg	Pg	13 02 31.0	-1.6
SFTF				*e*Sn	Sn	13 02 52.2	-3.8
	1.5nm,0.3s							

ROM 26 13:03:05.1±0.1,**42.812N**±0.003×**13.153E**±0.007,
h10km,**Md1.5/3,ML1.7/4,2C-1D,Error ellipse:**
s-maj=0.6km s-min=0.2km az=264.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**307**	⇑P	Pg	13 03 07.4	+0.3
NRCA				S	Sg	13 03 08.6	+0.1
NRCA				AML	AML		
	comp=E,1183μm,0.5s						
NRCA				AML	AML		
	comp=N,1845μm,1.1s						
NRCA				END			
LNSS	**Leonessa**	**0.23**	**202**	⇓P	Pg	13 03 10.6	+0.8
LNSS				S	Sg	13 03 14.6	+1.6
LNSS				AML	AML		
	comp=N,520μm,0.2s						
LNSS				AML	AML		
	comp=E,532μm,0.1s						
LNSS				END			
FDMO	**Fiordimonte**	**0.23**	**348**	P	Pg	13 03 10.5	+0.7
FDMO				S	Sg	13 03 14.4	+1.3
FDMO				AML	AML		
	comp=E,47μm,0.8s						
FDMO				AML	AML		
	comp=N,51μm,1.4s						
FDMO				AML	AML		
	comp=E,47μm,0.8s						
CESI	**CESI - Serrava**	**0.27**	**317**	P	Pg	13 03 11.3	+0.8
CESI				S	Sb	13 03 15.7	-1.1
CSP1	**Cessapalombo**	**0.28**	**8**	⇑P	Pg	13 03 11.6	+0.7
CSP1				S	Sb	13 03 16.1	-1.1
CSP1				END			
RM33	**Pellescritta (**	**0.31**	**171**	P	Pg	13 03 11.9	+0.6
RM33				S	Sb	13 03 17.0	-1.0
TERO	**Teramo**	**0.38**	**120**	P	Pg	13 03 13.2	+0.5
TERO				S	Sb	13 03 18.9	-1.1
EL6	**Elcito**	**0.52**	**356**	P	Pg	13 03 15.6	+0.4
GUMA	**Gualdo di Mace**	**0.63**	**66**	P	Pg	13 03 11.9	-5.4
GUMA				S	Sg	13 03 16.8	-8.8
GUMA				AML	AML		
	comp=N,203μm,0.9s						
GUMA				AML	AML		
	comp=E,210μm,1.3s						

*JMA **26** 13:13:45.8±0.1,23.67N×121.56E,h0km,M2.5*
*TAP **26** 13:13:47.0,23.72N×121.40E,h21km,ML3.0,C*
ISC 26 13:13:47.3±0.9,**23.72N**±0.01×**121.44E**±0.02,**h18**km±2km,
n111,σ0**64/213,1C-1D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.05**	**197**	⇓*i*P	**Pg**	**13 13 50.8**	**+0.2**
EGFH	baz=155			*i* S	**Sg**	**13 13 53.2**	**+0.4**
ESL	**Shilin**	**0.10**	**355**	*i* P	**Pg**	**13 13 51.2**	**+0.2**
ESL	baz=22			*i* S	**Sg**	**13 13 54.0**	**+0.5**
HGSD	**Ruisui**	**0.22**	**184**	P	**Pg**	**13 13 53.0**	**+0.5**
HGSD	baz=181			*e*S	**Sg**	**13 13 57.4**	**+1.2**
EHY	**Hungye**	**0.23**	**208**	*i* P	**Pb**	**13 13 52.3**	**-0.5**
EHY	baz=191			S	**Sb**	**13 13 56.4**	**0.0**
VWDT	**VWDT**	**0.28**	**278**	P	**Pg**	**13 13 53.3**	**-0.2**
VWDT	baz=278			S	**Sg**	**13 13 57.4**	**-0.3**
HWA	**Hwalien**	**0.30**	**30**	P	**Pg**	**13 13 54.4**	**+0.6**
HWA	baz=29			*e*S	**Sb**	**13 13 59.3**	**+0.6**
OWD	**Renai**	**0.34**	**314**	*i* P	**Pg**	**13 13 54.1**	**-0.5**
OWD	baz=319			*i* S	**Sg**	**13 13 58.4**	**-1.3**
YULB	**Yu-li**	**0.35**	**203**	P	**Pg**	**13 13 54.1**	**-0.6**
YULB	baz=188			S	**Sg**	**13 13 59.5**	**-0.1**
EYUL	**Yuli**	**0.38**	**197**	P	**Pg**	**13 13 54.9**	**-0.3**
EYUL	baz=191			S	**Sg**	**13 14 00.8**	**+0.1**
TWF1	**Yuli**	**0.39**	**200**	*i* P	**Pg**	**13 13 54.9**	**-0.4**
TWF1	baz=193			*i* S	**Sg**	**13 14 00.7**	**-0.1**
TWD	**Chiawan**	**0.39**	**21**	*i* P	**Pg**	**13 13 55.2**	**-0.2**
TWD	baz=20			*i* S	**Sg**	**13 14 01.2**	**+0.3**
CHGB	**Renai**	**0.42**	**325**	P	**Pg**	**13 13 55.8**	**-0.3**
CHGB	baz=335			S	**Sg**	**13 14 01.3**	**-0.7**
SSLB	**Suanglung**	**0.45**	**279**	P	**Pg**	**13 13 55.6**	**-1.0**
SSLB	baz=287			S	**Sg**	**13 14 01.0**	**-1.8**
WHF	**Hehuan Shan**	**0.46**	**339**	*i* P	**Pg**	**13 13 56.4**	**-0.4**
WHF	baz=344			*i* S	**Sg**	**13 14 03.0**	**-0.2**
NACB	**Ninganchiao**	**0.48**	**17**	P	**Pg**	**13 13 56.1**	**-0.9**
NACB	baz=20			S	**Sg**	**13 14 03.6**	**+0.2**
ETLH	**Xiulin Townshi**	**0.49**	**4**	P	**Pg**	**13 13 56.6**	**-0.7**
ETLH	baz=15			S	**Sg**	**13 14 03.6**	**-0.3**
SMLT	**Sun Moon Lake**	**0.52**	**289**	*i* P	**Pg**	**13 13 57.1**	**-0.7**
SMLT	baz=294			*i* S	**Sg**	**13 14 04.0**	**-0.9**
FULB	**Fuli**	**0.53**	**195**	*i* P	**Pg**	**13 13 58.0**	**0.0**
FULB	baz=198			S	**Sb**	**13 14 07.0**	**+1.6**
WHYT	**Xinyi Township**	**0.54**	**268**	*i* P	**Pb**	**13 13 57.6**	**-0.6**
WHYT	baz=266			*i* S	**Sg**	**13 14 04.6**	**-0.8**
FUSS	**Fushou**	**0.56**	**341**	P	**Pb**	**13 13 58.3**	**-0.3**
FUSS	baz=344			S	**Sg**	**13 14 05.8**	**-0.4**
TYC	**Yuchr**	**0.57**	**289**	*i* P	**Pb**	**13 13 57.7**	**-0.9**
TYC	baz=295			S	**Sb**	**13 14 05.2**	**-1.2**
DPDB	**Guoxing**	**0.57**	**304**	P	**Pb**	**13 13 58.0**	**-0.7**
DPDB	baz=312			S	**Sb**	**13 14 05.9**	**-0.6**
TWT	**Tachien**	**0.59**	**336**	*i* P	**Pb**	**13 13 58.9**	**-0.1**
TWT	baz=332			*i* S	**Sb**	**13 14 06.2**	**-1.0**
TDCB	**Techi**	**0.60**	**334**	P	**Pb**	**13 13 58.9**	**-0.3**
TDCB	baz=332			S	**Sb**	**13 14 05.9**	**-1.4**
CHKT	**Chengkung**	**0.62**	**187**	*i* P	**Pb**	**13 13 58.9**	**-0.6**
CHKT	baz=171			*i* S	**Sg**	**13 14 09.0**	**+1.3**
ALS	**Alishan**	**0.62**	**251**	⇑*i*P	**Pb**	**13 13 59.1**	**-0.5**
ALS	baz=249			*i* S	**Sb**	**13 14 07.5**	**-0.6**
ELDTW	**Lidau**	**0.65**	**217**	*i* P	**Pb**	**13 13 58.9**	**-1.3**
ELDTW	baz=206			S	**Sb**	**13 14 08.2**	**-0.8**
WJS	**Zhushan**	**0.66**	**279**	*i* P	**Pb**	**13 14 00.5**	**+0.3**
WJS	baz=280			*i* S	**Sg**	**13 14 10.1**	**+0.9**
CHN5	**Tsauling**	**0.71**	**261**	*i* P	**Pb**	**13 14 01.0**	**-0.1**
CHN5	baz=254			*i* S	**Sb**	**13 14 11.2**	**+0.6**
NNSB	**Datong**	**0.71**	**356**	P	**Pb**	**13 14 00.7**	**-0.5**
NNSB	baz=8.0			S	**Sb**	**13 14 09.9**	**-0.8**
NNSH	**Datong**	**0.71**	**356**	*i* P	**Pb**	**13 14 00.7**	**-0.5**
NNSH	baz=6.0			*i* S	**Sb**	**13 14 10.2**	**-0.5**
WNT	**Mingjian**	**0.71**	**283**	*i* P	**Pb**	**13 14 01.4**	**+0.3**
WNT	baz=284			*i* S	**Sg**	**13 14 11.9**	**+1.1**
WHP	**Taichung City**	**0.72**	**321**	*i* P	**Pb**	**13 14 01.0**	**-0.4**
WHP	baz=328			*i* S	**Sb**	**13 14 11.0**	**+0.1**
NNS	**Nan Shan**	**0.72**	**355**	*i* P	**Pb**	**13 14 01.0**	**-0.4**
NNS	baz=8.0			S	**Sb**	**13 14 10.6**	**-0.5**
EDH	**Donghe**	**0.75**	**190**	P	**Pb**	**13 14 01.0**	**-0.7**
EDH	baz=187			S	**Sb**	**13 14 12.2**	**+0.6**
ENAH	**Nanao**	**0.81**	**25**	P	**Pb**	**13 14 02.0**	**-0.8**
ENAH	baz=18			S	**Sb**	**13 14 13.2**	**-0.1**
WDLH	**Douliu**	**0.83**	**268**	*i* P	**Pb**	**13 14 02.8**	**-0.4**
WDLH	baz=269			*i* S	**Sb**	**13 14 14.4**	**+0.5**
STYT	**Tauyuan**	**0.83**	**229**	*i* P	**Pb**	**13 14 02.9**	**-0.4**
STYT	baz=227			*i* S	**Sb**	**13 14 14.4**	**+0.2**
TPUB	**Ta-pu**	**0.85**	**241**	P	**Pb**	**13 14 03.4**	**-0.1**
TPUB	baz=240			S	**Sg**	**13 14 15.6**	**+0.3**
LONT	**Longtian**	**0.85**	**200**	P	**Pb**	**13 14 03.0**	**-0.6**
LONT	baz=197			S	**Sb**	**13 14 14.7**	**0.0**
TWQ1	**Liyutan**	**0.88**	**316**	*i* P	**Pb**	**13 14 04.6**	**+0.6**
TWQ1	baz=325			S	**Sg**	**13 14 16.6**	**+0.5**
NDT	**Datong Townshi**	**0.89**	**4**	*i* P	**Pb**	**13 14 04.2**	**+0.1**
NDT	baz=12			*i* S	**Sb**	**13 14 16.2**	**+0.6**
WCHH	**Zhanghua**	**0.89**	**294**	*i* P	**Pb**	**13 14 04.1**	**0.0**
WCHH	baz=295			*i* S	**Sb**	**13 14 16.4**	**+0.8**
WTP	**Ta-pu**	**0.89**	**239**	*i* P	**Pb**	**13 14 04.0**	**-0.2**
WTP	baz=237			*i* S	**Sg**	**13 14 17.0**	**+0.5**
ENTT	**Nioudou**	**0.93**	**7**	*i* P	**Pb**	**13 14 04.1**	**-0.7**
ENTT	baz=16			*i* S	**Sb**	**13 14 17.5**	**+0.7**
NSY	**Sanyi**	**0.94**	**318**	*i* P	**Pn**	**13 14 06.0**	**+0.4**
NSY	baz=321			*i* S	**Sn**	**13 14 19.4**	**+0.9**
TWG	**Pinlang**	**0.95**	**201**	*i* P	**Pb**	**13 14 04.6**	**-0.7**
TWG	baz=186			S	**Sb**	**13 14 17.3**	**-0.2**
TWGBT	**Beinan**	**0.95**	**201**	P	**Pb**	**13 14 04.5**	**-0.8**
TWGBT	baz=186			S	**Sb**	**13 14 16.8**	**-0.7**
YHNB	**Yeheng**	**0.95**	**356**	P	**Pb**	**13 14 04.8**	**-0.5**
YHNB	baz=358			S	**Sb**	**13 14 17.5**	**-0.1**
CHY	**Chiayi**	**0.96**	**257**	*i* P	**Pb**	**13 14 04.7**	**-0.6**
CHY	baz=257			*i* S	**Sb**	**13 14 18.4**	**+0.8**
NSK	**Sanguang**	**0.96**	**355**	*i* P	**Pb**	**13 14 05.2**	**-0.2**
NSK	baz=357			*i* S	**Sb**	**13 14 17.3**	**-0.5**
TWC	**Suao**	**0.96**	**23**	P	**Pb**	**13 14 05.1**	**-0.4**
TWC	baz=18			S	**Sb**	**13 14 18.1**	**+0.2**
WTK	**Tuku**	**0.97**	**269**	P	**Pb**	**13 14 05.7**	**+0.2**
WTK	baz=269			S	**Sb**	**13 14 18.4**	**+0.5**
WDJ	**Dajia District**	**0.97**	**311**	*i* P	**Pb**	**13 14 06.0**	**+0.5**
WDJ	baz=324			S	**Sg**	**13 14 19.4**	**+0.6**
TWK	**Hsinying**	**0.98**	**243**	*i* P	**Pb**	**13 14 05.7**	**-0.1**
TWK	baz=242			*i* S	**Sb**	**13 14 19.1**	**+0.7**
CHN1	**Nanshi**	**0.99**	**238**	*i* P	**Pb**	**13 14 06.3**	**+0.4**
CHN1	baz=237			S	**Sg**	**13 14 19.9**	**+0.3**
NSTT	**Nanjuang**	**1.00**	**336**	*i* P	**Pb**	**13 14 06.4**	**+0.4**
NSTT	baz=345			*i* S	**Sb**	**13 14 18.9**	**+0.1**
SNST	**Tainan City**	**1.00**	**241**	P	**Pb**	**13 14 06.2**	**+0.2**
SNST	baz=239			S	**Sb**	**13 14 19.9**	**+1.1**
LIOB	**Emei**	**1.00**	**337**	*i* P	**Pb**	**13 14 06.7**	**+0.6**
LIOB	baz=346			S	**Sb**	**13 14 20.1**	**+1.1**
RLNB	**Erlin**	**1.01**	**280**	P	**Pb**	**13 14 06.1**	**0.0**
RLNB	baz=281			S	**Sn**	**13 14 20.2**	**+0.1**
SGST	**Jiashian**	**1.01**	**232**	*i* P	**Pb**	**13 14 05.5**	**-0.7**
SGST	baz=225			*i* S	**Sb**	**13 14 20.1**	**+1.0**
NMLH	**Miaoli**	**1.01**	**324**	*i* P	**Pn**	**13 14 07.2**	**+0.6**
NMLH	baz=326			S	**Sn**	**13 14 20.7**	**+0.4**
TWE	**Neicheng**	**1.02**	**12**	*i* P	**Pb**	**13 14 05.7**	**-0.7**
TWE	baz=26			*e*S	**Sb**	**13 14 19.6**	**+0.1**
SLGT	**Liugui**	**1.02**	**226**	*i* P	**Pb**	**13 14 06.4**	**-0.1**
SLGT	baz=223			*i* S	**Sb**	**13 14 19.9**	**+0.3**
LDUT	**Ludao**	**1.04**	**179**	P	**Pb**	**13 14 05.0**	**-1.7**
LDUT	baz=176			S	**Sb**	**13 14 18.6**	**-1.4**
NWLT	**Wulai**	**1.06**	**3**	*i* P	**Pb**	**13 14 07.5**	**+0.4**
NWLT	baz=13			S	**Sb**	**13 14 20.8**	**+0.1**
WLGB	**Puzi**	**1.07**	**258**	S	**Sb**	**13 14 21.7**	**+0.7**
WTCT	**Ta-ch'eng**	**1.07**	**278**	*e*P	**Pb**	**13 14 07.3**	**0.0**
WTCT	baz=268			*e*S	**Sb**	**13 14 21.7**	**+0.7**
ICHU	**Yijhu**	**1.12**	**252**	P	**Pb**	**13 14 08.7**	**+0.5**
ICHU	baz=252			S	**Sb**	**13 14 23.0**	**+0.6**
CHN8	**Yiju**	**1.19**	**252**	P	**Pn**	**13 14 09.0**	**+0.1**
CHN8	baz=252			S	**Sn**	**13 14 25.4**	**+0.7**
ECL	**Taimali**	**1.20**	**202**	*i* P	**Pn**	**13 14 08.8**	**-0.4**
ECL	baz=186			*e*S	**Sb**	**13 14 23.9**	**-0.7**
SCST	**Cishan**	**1.20**	**227**	*e*P	**Pn**	**13 14 08.6**	**-0.5**
SCST	baz=225			S	**Sg**	**13 14 27.3**	**+1.1**
EGS		**1.21**	**22**	*e*P	**Pn**	**13 14 09.6**	**+0.3**
SSD	**Sandimen**	**1.22**	**218**	*i* P	**Pn**	**13 14 09.4**	**0.0**
SSD	baz=215			*e*S	**Sg**	**13 14 27.5**	**+0.6**
TSMG	**Majia**	**1.24**	**216**	P	**Pn**	**13 14 09.7**	**0.0**
TSMG	baz=214			S	**Sg**	**13 14 27.5**	**-0.1**
TATO	**Taipei**	**1.26**	**2**	*e*P	**Pn**	**13 14 10.6**	**+0.7**
TATO	baz=16			*e*S	**Sn**	**13 14 26.9**	**+0.6**
TWA	**Mucha**	**1.27**	**6**	P	**Pn**	**13 14 10.4**	**+0.3**
TWA	baz=6.0			S	**Sn**	**13 14 27.2**	**+0.6**
TWM1	**Shoushan**	**1.29**	**227**	P	**Pg**	**13 14 12.3**	**+0.1**
TWM1	baz=240			*e*S	**Sg**	**13 14 30.8**	**+1.7**
TIPB	**Shuangxi**	**1.30**	**16**	*i* P	**Pn**	**13 14 10.8**	**+0.2**
TIPB	baz=16			*e*S	**Sn**	**13 14 26.9**	**-0.6**
MASBT	**Mashibuluo**	**1.33**	**214**	P	**Pn**	**13 14 11.1**	**+0.2**
MASBT	baz=212			S	**Sg**	**13 14 30.6**	**+0.3**
TWS1	**Kuangyinshan**	**1.38**	**359**	*e*P	**Pb**	**13 14 12.7**	**+0.2**
TWS1	baz=13			*e*S	**Sg**	**13 14 32.0**	**+0.1**
TWB1	**Santiao Chiao**	**1.38**	**21**	P	**Pn**	**13 14 12.4**	**+0.8**
TWB1	baz=22			*e*S	**Sn**	**13 14 29.5**	**+0.1**
NWF	**Wu-fen Shan**	**1.39**	**13**	*e*P	**Pn**	**13 14 12.4**	**+0.7**
NWF	baz=26			*e*S	**Sn**	**13 14 30.1**	**+0.4**
WFSB	**Wu-fen Shan**	**1.39**	**13**	*e*P	**Pn**	**13 14 12.5**	**+0.8**
WFSB	baz=25			*e*S	**Sn**	**13 14 29.9**	**+0.3**
YM01	**YM01**	**1.43**	**5**	*e*P	**Pn**	**13 14 12.8**	**+0.5**
YM01	baz=20			*e*S	**Sb**	**13 14 31.7**	**+0.4**
EAST	**Anshuo**	**1.43**	**203**	*i* P	**Pn**	**13 14 12.2**	**-0.2**
EAST	baz=189			*e*S	**Sn**	**13 14 30.1**	**-0.7**
YM04	**YM04**	**1.44**	**3**	*e*P	**Pn**	**13 14 13.1**	**+0.7**
YM04	baz=23			*e*S	**Sn**	**13 14 31.5**	**+0.7**
NTST	**Danshui**	**1.44**	**0**	*e*S	**Sb**	**13 14 33.1**	**+1.5**
YM05	**YM05**	**1.45**	**4**	P	**Pn**	**13 14 13.7**	**+1.1**
YM05	baz=19			S	**Sn**	**13 14 31.8**	**+0.6**
YM11	**YM11**	**1.45**	**5**	P	**Pn**	**13 14 12.9**	**+0.3**
YM11	baz=19			S	**Sn**	**13 14 32.0**	**+0.8**
YM03	**YM03**	**1.46**	**3**	P	**Pn**	**13 14 13.2**	**+0.4**
YM03	baz=18			*e*S	**Sn**	**13 14 31.8**	**+0.3**
SSPT	**Xinbi**	**1.47**	**213**	*e*P	**Pb**	**13 14 14.7**	**+0.7**
SCZT	**Fangliau**	**1.54**	**210**	*i* P	**Pb**	**13 14 15.3**	**+0.1**
SCZT	baz=207			S	**Sg**	**13 14 36.1**	**-0.8**
JYNG	**Yonagunijimaku**	**1.56**	**62**	P	**Pn**	**13 14 14.0**	**0.0**
JYNG				*e*S	**Sn**	**13 14 34.1**	**+0.3**
SLIU	**Shizi**	**1.60**	**202**	*e*P	**Pn**	**13 14 15.9**	**+1.2**
YOJ	**Yonaguni jima**	**1.61**	**62**	P	**Pn**	**13 14 15.0**	**+0.2**
WDGT	**Dungji**	**1.70**	**255**	*i* P	**Pn**	**13 14 16.1**	**+0.1**
WDGT	baz=254			S	**Sn**	**13 14 36.8**	**-0.4**
PHUB	**P'eng-hu**	**1.73**	**264**	P	**Pn**	**13 14 16.2**	**-0.1**
PHUB	baz=247			S	**Sn**	**13 14 37.8**	**-0.2**
PNG	**Penghu**	**1.74**	**266**	*i* P	**Pn**	**13 14 16.7**	**+0.2**
PNG	baz=249			S	**Sn**	**13 14 38.9**	**+0.7**
VCHM	**Qimei**	**1.92**	**255**	*e*P	**Pn**	**13 14 18.2**	**-0.7**
VCHM	baz=255			*e*S	**Sn**	**13 14 43.7**	**+1.1**
IRIF	**Iriomote-Funau**	**2.18**	**73**	P	**Pn**	**13 14 23.1**	**+0.5**
IRIF				*e*S	**Sn**	**13 14 50.2**	**+1.0**
HATJ	**Hateruma jima**	**2.19**	**81**	P	**Pn**	**13 14 22.4**	**-0.3**
HATJ				*e*S	**Sn**	**13 14 49.4**	**0.0**
VWUC	**VWUC**	**2.22**	**305**	P	**Pn**	**13 14 22.2**	**-0.9**
	baz=305						
JKRS	**Kuro-shima**	**2.41**	**77**	P	**Pn**	**13 14 26.0**	**+0.3**
JKRS				*e*S	**Sn**	**13 14 55.0**	**+0.3**
PTMZ	**Houxiangcun**	**2.50**	**302**	*e*P	**Pn**	**13 14 26.6**	**-0.4**
PTMZ	baz=303			*e*S	**Sn**	**13 14 55.7**	**-1.2**
JIJ	**Ishigaki jima**	**2.55**	**75**	P	**Pn**	**13 14 27.4**	**-0.3**
JIJ				*e*S	**Sn**	**13 14 57.4**	**-0.9**
JISG	**Ishigakijimahi**	**2.76**	**71**	P	**Pn**	**13 14 30.2**	**-0.4**
JISG				*e*S	**Sn**	**13 15 02.1**	**-1.4**
MATB	**Ma-tsu**	**2.78**	**331**	*e*S	**Sn**	**13 15 03.4**	**-0.6**
	baz=333						
KNMB	**Chin-men Tao**	**2.89**	**286**	*e*P	**Pn**	**13 14 33.1**	**+0.8**
KNMB	baz=286			*e*S	**Sn**	**13 15 06.0**	**-0.7**
JTJ	**Tarama**	**3.12**	**72**	P	**Pn**	**13 14 35.5**	**0.0**
JTJ				*e*S	**Sn**	**13 15 12.0**	**-0.3**
JIRB	**Irabujima**	**3.58**	**71**	S	**Sn**	**13 15 24.7**	**+1.0**

NNC 26 13:17:21.6±4.6,**37.69N**×**71.64E,h155**km±95km,**mb2.7,**
mpv3.5,1C-3D,Error ellipse: s-maj=52.6km
s-min=42.1km az=168.0,Afghanistan-Tajikistan border region

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

AAK	**Ala-Archa**	**5.40**	**23**	⇑P	Pn	13 18 40.3	-0.2
	1.4nm,0.3s						
AAK				⇓S	Sn	13 19 42.7	+0.5
	4.2nm,0.6s						
KK31	**Karatay Array**	**5.47**	**351**	⇓P	Pn	13 18 41.3	+0.1
	3.4nm,0.3s,baz=178,slow=13,SNR=57						
KK31				⇓S	Sn	13 19 43.7	+0.2
	0.7nm,0.3s,baz=125,slow=21,SNR=3.7						
AB31	**Akbulak array**	**14.32**	**328**	P	Pn	13 20 37.0	0.0
	0.6nm,0.6s,baz=132,slow=15,SNR=13						

*IDC **26** 13:20:22.8±1.2,5˚45S×146˚86E,h224km±11km,mb3.7/6, mb1 3.9/12,mb1mx3.6/31,mbtmp4.5/12,Error ellipse: s-maj=18.7km s-min=11.6km az=112.0*
*DJA **26** 13:20:22.5±0.4,5˚5S×14˚7E±˚,h211km±8km,M4.4/12, mb4.1/12,mB4.2/2,MLv4.5/4,Mw(mB)3.3/2*
*NEIC **26** 13:20:23.8±1.6,5˚42S±0˚07×146˚79E±0˚09,h231km±8km, mb4.6/17,Error ellipse: s-maj=13.5km s-min=10.2km az=112.0*

ISC 26 13:20:24.3±0.6,5˚30S±0˚07×146˚67E±0˚07,h250km,n35, σ1§96/38,mb4.5/10,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.31**	**12**	Pn	**Pn**	**13 21 21.0**	**+0.8**
PMG	**Port Moresby**	**4.11**	**173**	P	**Pn**	**13 21 25.5**	**-3.9**
	7.9nm,0.3s,baz=32,slow=5.5,SNR=28						
PMG				S	S	13 22 12.9	-8.2
	11nm,0.3s,baz=200,slow=22,SNR=7.6						
PMG	**Port Moresby**	**4.11**	**173**		**Pn**	**13 21 25.6**	**-3.8**
KRVT	**Keravat (AS076**	**5.43**	**80**	P	**Pn**	**13 21 41.5**	**-3.9**
	7.7nm,0.3s,baz=167,slow=11,SNR=5.2						
RABL	**Rabaul**	**5.59**	**79**	Pn	**Pn**	**13 21 44.9**	**-2.4**
JAY	**Jayapura**	**6.56**	**295**	P	**Pn**	**13 22 00.0**	**+0.5**
	2.9nm,0.3s,baz=169,slow=4.4,SNR=13						
JAY				S	**S**	**13 23 11.3**	**-4.5**
	1.5nm,0.3s,baz=347,slow=23,SNR=1.4						
JAY	**Jayapura**	**6.56**	**295**	P	**Pn**	**13 21 57.3**	**-2.2**
	0.1nm14nm,1.1s						
GENI	**Genyem**	**7.02**	**292**	P	**Pn**	**13 22 03.7**	**-1.6**
	0.3nm43nm,1.3s						
HNR	**Honiara**	**13.79**	**108**	P	**Pn**	**13 23 28.0**	**-2.0**
	6.2nm,0.3s,baz=71,slow=1.6,SNR=5.6						
CTA	**Charters Tower**	**14.71**	**182**	P	**P**	**13 23 40.6**	**-0.4**
	0.2nm,0.3s,baz=13,slow=12,SNR=8.4						
CTAO	**Charters Tower**	**14.71**	**182**	P	**P**	**13 23 40.8**	**-0.1**
MTN	**Manton Dam**	**17.07**	**243**	Pn	**Pn**	**13 24 09.7**	**+0.7**
WB0	**Warramunga Arr**	**18.70**	**219**	P	**P**	**13 24 25.4**	**+0.8**
WB0				IAmb	IAmb	13 24 30.1	
	comp=Z,18nm,0.9s						
WR0	**Warramunga Arr**	**18.75**	**218**	P	**P**	**13 24 26.0**	**+0.9**
WRAB	**Tennant Creek**	**18.85**	**218**	P	**P**	**13 24 27.1**	**+1.0**
WRAB				IAmb	IAmb	13 24 31.5	
	comp=Z,23nm,0.7s						
WB2	**Warramunga Arr**	**18.86**	**218**	P	**P**	**13 24 27.2**	**+1.0**
WRA	**Warramunga Arr**	**18.86**	**218**	P	**P**	**13 24 27.1**	**+0.8**
	comp=Z,3.6nm,0.3s,baz=44,slow=9.6,SNR=243						
WRA				S	**S**	**13 27 44.0**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=40,slow=21,SNR=2.9						
WRA	**Warramunga Arr**	**18.86**	**218**	P	**P**	**13 24 26.1**	**-0.2**
KNRA	**Kununurra**	**20.38**	**238**	P	**P**	**13 24 42.6**	**+0.1**
KNRA				IAmb	IAmb	13 24 46.8	
	comp=Z,14nm,0.6s						
EIDS	**Eidsvold**	**20.40**	**168**	P	**P**	**13 24 42.4**	**-0.3**
AS31	**Alice Springs**	**22.02**	**213**	P	**P**	**13 24 59.9**	**+1.4**
AS31				IAmb	IAmb	13 25 01.1	
	comp=Z,8.8nm,0.6s						
ASAR	**Alice Springs**	**22.02**	**213**	P	**P**	**13 24 59.9**	**+1.3**
	comp=Z,19nm,0.6s,baz=42,slow=7.6,SNR=177						
ASAR				S	**S**	**13 28 45.2**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=37,slow=14,SNR=6.1						
ASAR				ScP	**ScP**	**13 32 04.4**	**+3.6**
	comp=Z,0.2nm,0.8s,baz=35,slow=2.3,SNR=1.4						
FITZ	**Fitzroy Crossi**	**24.16**	**236**	P	**P**	**13 25 19.7**	**+1.5**
	comp=Z,10nm,0.4s,baz=36,slow=7.1,SNR=100						
FITZ	**Fitzroy Crossi**	**24.16**	**236**	P	**P**	**13 25 19.6**	**+1.5**
FITZ				IAmb	IAmb	13 25 22.5	
	comp=Z,13nm,0.7s						
ARMA	**Armidale**	**25.42**	**170**	P	**P**	**13 25 30.1**	**+0.7**
STKA	**Stephens Creek**	**26.86**	**190**	P	**P**	**13 25 41.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=3.1,slow=8.5,SNR=7.4						
STKA	**Stephens Creek**	**26.86**	**190**	IAmb	IAmb	13 25 45.3	
	comp=Z,2.1nm,1.4s						
BBOO	**Buckleboo**	**29.11**	**199**	P	**P**	**13 26 02.5**	**+0.5**
BBOO				IAmb	IAmb	13 26 18.8	
	comp=Z,27nm,1.4s						
PSA00	**Pilbara Seismi**	**30.61**	**236**	P	**P**	**13 26 16.1**	**+0.6**
PSA00				IAmb	IAmb	13 26 45.0	
	comp=Z,21nm,1.4s						
FORT	**Forrest**	**30.80**	**212**	P	**P**	**13 26 17.9**	**+0.9**
MORW	**Morawa**	**37.40**	**227**	P	**P**	**13 27 14.7**	**+1.1**
MORW				IAmb	IAmb	13 27 22.6	
	comp=Z,28nm,1.4s						
MQZ	**McQueen's Vall**	**44.58**	**153**	P	**P**	**13 28 12.8**	**+1.2**
PETK	**Petropavlovsk-**	**58.93**	**8**	P	**P**	**13 29 59.5**	**+2.3**
	comp=Z,4.9nm,1.0s,baz=179,slow=6.6,SNR=4.2						
VNDA	**Vanda**	**72.63**	**177**	P	**P**	**13 31 24.8**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=353,slow=2.0,SNR=1.2						
ILAR	**Eielson Array**	**84.97**	**23**	P	**P**	**13 32 31.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=254,slow=5.1,SNR=8.7						

WEL 26 13:20:25.3±1.2,33˚S±19˚×17˚8W±2˚7,h272km±33km, M4.0/21,mB4.4/8,ML4.6/18,MLv4.5/21,Mw(mB)3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.69**	**206**	P	Pn	13 21 50.2	+0.2
WMGZ				S	S	13 23 01.2	+3.2
PKGZ	**Pakihiroa**	**5.88**	**208**	P	Pn	13 21 56.5	+4.1
PKGZ				S	S	13 23 08.1	+5.8
HAZ	**Te Kaha**	**5.89**	**211**	P	Pn	13 21 49.5	-2.9
HAZ				S	S	13 23 00.4	-1.9
PUZ	**Puketiti**	**5.97**	**206**	P	Pn	13 21 52.9	-0.5
PUZ				S	S	13 23 03.9	-0.4
RUGZ	**Raukumara Rang**	**6.11**	**210**	P	Pn	13 21 53.4	-1.9
TWGZ	**Tauwhareparae**	**6.17**	**207**	P	Pn	13 21 56.0	+0.1
TWGZ				S	S	13 23 09.5	+0.8
TKGZ	**Te Karaka**	**6.45**	**207**	P	Pn	13 21 59.2	-0.1
TKGZ				S	S	13 23 11.8	-3.0
MWZ	**Matawai**	**6.48**	**209**	P	Pn	13 21 59.1	-0.7
MWZ				S	S	13 23 14.3	-1.5
OPRZ	**Ohinepanea**	**6.54**	**217**	P	Pn	13 22 00.4	0.0
MARZ	**Manawahe**	**6.59**	**216**	P	Pn	13 22 01.2	+0.2
URZ	**Urewera**	**6.60**	**212**	P	Pn	13 22 00.6	-0.5
URZ				S	S	13 23 18.8	+0.5
RIGZ	**Rimuhau**	**6.71**	**206**	P	Pn	13 22 09.9	+0.3
RIGZ				S	S	13 23 21.0	+0.1
PRGZ	**Paritu Road**	**6.86**	**205**	P	Pn	13 22 04.7	+0.2
PRGZ				S	S	13 23 26.5	+2.3
MUGZ	**Murupara**	**6.93**	**213**	P	Pn	13 22 02.7	-2.6
MUGZ				S	S	13 23 23.2	-2.7
SNGZ	**Shannon Statio**	**6.94**	**208**	P	Pn	13 22 06.0	+0.6
SNGZ				S	S	13 23 23.5	-2.6
RTZ	**Ruatahuna**	**6.95**	**211**	P	Pn	13 22 05.0	-0.6
MHGZ	**Mahia Peninsul**	**7.06**	**204**	P	Pn	13 22 07.2	+0.4
MHGZ				S	S	13 23 30.1	+1.4
RAHZ	**Arahi**	**7.16**	**209**	P	Pn	13 22 08.4	+0.3
MTHZ	**Maungataniwha**	**7.21**	**211**	P	Pn	13 22 09.0	+0.2
MTHZ				S	S	13 23 34.7	+2.5
ARHZ	**Aropaoanui**	**7.49**	**208**	P	Pn	13 22 12.4	+0.2
BKZ	**Black Stump Fm**	**7.62**	**211**	P	Pn	13 22 13.6	-0.3
MCHZ	**McNeill Hill**	**7.77**	**209**	P	Pn	13 22 11.7	-4.0
CKHZ	**Cape Kidnapper**	**7.80**	**206**	P	Pn	13 22 16.1	0.0
KAHZ	**Kahuranaki**	**8.00**	**207**	P	Pn	13 22 18.5	-0.1
BHHZ	**Black Hill Sta**	**8.07**	**212**	P	Pn	13 22 19.0	-0.5
PXZ	**Pawanui**	**8.21**	**206**	P	Pn	13 22 20.6	-0.6
PREZ	**Palmer Road**	**8.91**	**220**	P	P	13 22 36.9	+0.8

*GCG **26** 13:20:31.9±1.9,13˚46N×92˚18W,h5km±46km,MD4.1*
*MEX **26** 13:20:35.6±0.8,14˚62N×92˚32W,h83km±8km,MD3.8*

ISC 26 13:20:35.6±1.9,14˚5N±0.1×92˚52W±0˚09,h67km±15km,n9, σ1§64/15,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.45**	**33**	*i* P	**Pn**	**13 20 46.7**	**-1.0**
THIG				*i* S	**Sn**	**13 20 55.8**	**-0.7**
ERG	**Entre ros, C**	**0.93**	**96**	*e*P	**Pn**	**13 20 53.2**	**+0.2**
ERG				*e*S	**Sn**	**13 21 08.8**	**+2.9**
PCIG		**1.35**	**330**	*i* P	**Pn**	**13 20 58.5**	**0.0**
PCIG				*i* S	**Sn**	**13 21 15.8**	**+0.3**
FUG	**Fuego 3**	**1.63**	**93**	*e*P	**Pn**	**13 21 02.2**	**-0.2**
CCIG	**Comitan**	**1.78**	**12**	*i* P	**Pn**	**13 21 05.2**	**+0.8**
CCIG				*i* S	**Sn**	**13 21 28.8**	**+2.6**
PCG	**Pacaya**	**1.86**	**94**	*e*S	**Sn**	**13 21 28.1**	**-0.1**
NBG	**Las Nubes**	**2.10**	**88**	*e*P	**Pn**	**13 21 06.4**	**-2.5**
NBG				*e*S	Sn	13 21 39.4	+5.2
TGIG		**2.31**	**346**	*i* P	**Pn**	**13 21 10.0**	**-1.4**
TGIG				*e*S	**Sn**	**13 21 36.9**	**-1.9**
CMIG	**Matias Romero**	**3.41**	**319**	*i* P	**Pn**	**13 21 27.0**	**+0.6**
CMIG				*i* S	**Sn**	**13 22 06.1**	**+0.4**

*IDC **26** 13:27:38.9±2.4,5˚39S×150˚61E,h53km±35km,mb3.3/4, mb1 3.5/5,mb1mx3.3/25,mbtmp3.6/5,ML1.6/1,Error ellipse: s-maj=74.5km s-min=16.1km az=129.0*

ISC 26 13:27:42.5±1.4,5˚7S±0˚3×150˚8E±0˚3,h100km,n6, σ1§47/7,mb3.4/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.86**	**43**	P	Pn	13 28 07.0	-6.2
	6.6nm,0.3s,baz=119,slow=23,SNR=2.0						
KRVT				S	**Sn**	**13 28 36.4**	**-0.3**
	8.6nm,0.3s,baz=154,slow=22,SNR=2.2						
PMG	**Port Moresby**	**5.14**	**224**	P	**Pn**	**13 28 55.2**	**-1.9**
	1.5nm,0.3s,baz=316,slow=8.8,SNR=2.5						
PMG				S	**Sn**	**13 29 55.3**	**0.0**
	baz=213,slow=8.6,SNR=1.6						
WRA	**Warramunga Arr**	**21.35**	**227**	P	**P**	**13 32 22.7**	**+0.9**
	1.7nm,0.7s,baz=49,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**24.15**	**221**	P	**P**	**13 32 51.2**	**+1.8**
	0.6nm,0.7s,baz=57,slow=8.8,SNR=6.6						
FITZ	**Fitzroy Crossi**	**27.45**	**241**	P	**P**	**13 33 20.3**	**+1.0**
	1.3nm,0.7s,baz=66,slow=10.0,SNR=1.6						
SONM	**Songino Array**	**65.99**	**329**	P	**P**	**13 38 18.2**	**-0.2**
	0.2nm,0.4s,baz=140,slow=7.6,SNR=1.9						

*NEIC **26** 13:29:31.5±2.1,7˚0S±0˚1×156˚13E±0˚09,h115km±8km, mb4.0/13,Error ellipse: s-maj=20.6km s-min=7.4km az=215.0*
*IDC **26** 13:29:33.2±3.7,7˚01S×156˚21E,h129km±35km,mb3.4/8, mb1 3.6/9,mb1mx3.4/26,mbtmp3.8/9,Error ellipse: s-maj=33.9km s-min=22.4km az=149.0*

ISC 26 13:29:30.1±0.7,7˚0S±0˚1×156˚14E±0˚09,h100km,n29, σ1§18/25,mb3.9/12,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.50**	**123**	P	**Pn**	**13 30 37.9**	**+1.8**
	6.4nm,0.3s,baz=232,slow=7.4,SNR=2.1						
HNR				S	**Sn**	**13 31 24.5**	**-2.8**
	0.9nm,0.3s,baz=231,slow=7.7,SNR=1.2						
WR0	**Warramunga Arr**	**24.62**	**236**	P	**P**	**13 34 42.5**	**+1.1**
WR0				IAmb	IAmb	13 34 55.0	
	comp=Z,7.8nm,1.5s						
WB0	**Warramunga Arr**	**24.66**	**237**	P	**P**	**13 34 42.9**	**+1.2**
WB0				IAmb	IAmb	13 34 57.8	
	comp=Z,9.7nm,1.4s						
WRAB	**Tennant Creek**	**24.77**	**236**	P	**P**	**13 34 43.6**	**+0.9**
WRAB				IAmb	IAmb	13 35 02.0	
	comp=Z,6.0nm,1.4s						
WB2	**Warramunga Arr**	**24.77**	**236**	P	**P**	**13 34 43.6**	**+0.8**
WB2				IAmb	IAmb	13 35 04.9	
	comp=Z,7.0nm,1.3s						
WRA	**Warramunga Arr**	**24.78**	**236**	P	**P**	**13 34 43.9**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=60,slow=9.1,SNR=17						
WRA				PcP	**PcP**	**13 38 15.3**	**-1.8**
	comp=Z,0.1nm,0.5s,baz=62,slow=2.8,SNR=1.4						
WRA	**Warramunga Arr**	**24.78**	**236**	P	**P**	**13 34 43.5**	**+0.6**
AS31	**Alice Springs**	**27.06**	**230**	P	**P**	**13 35 02.8**	**-0.7**
ASAR	**Alice Springs**	**27.06**	**230**	P	**P**	**13 35 03.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=62,slow=9.7,SNR=9.7						
ASAR				PcP	**PcP**	**13 38 20.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=59,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**27.06**	**230**	P	**P**	**13 35 02.8**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**27.34**	**22**	T	T	14 03 32.6	
	baz=202,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**27.35**	**22**	T	T	14 03 35.4	
	baz=202,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**27.36**	**22**	T	T	14 03 36.7	
	baz=202,slow=76,SNR=20						
STKA	**Stephens Creek**	**28.27**	**207**	P	**P**	**13 35 15.0**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=4.1,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**28.27**	**207**	P	**P**	**13 35 14.6**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**28.54**	**22**	T	T	14 05 07.0	
	baz=202						
H11N3	**WAKE ISLAND Hy**	**28.55**	**22**	T	T	14 05 21.0	
	baz=202						
H11N2	**WAKE ISLAND Hy**	**28.55**	**22**	T	T	14 05 13.8	
	baz=202						
FITZ	**Fitzroy Crossi**	**31.71**	**247**	P	**P**	**13 35 45.3**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=57,slow=8.5,SNR=7.3						
FITZ	**Fitzroy Crossi**	**31.71**	**247**	P	**P**	**13 35 44.4**	**-0.2**
FITZ				IAmb	IAmb	13 36 00.8	
	comp=Z,9.1nm,1.4s						
FORT	**Forrest**	**35.41**	**224**	P	**P**	**13 36 15.1**	**-1.4**
TAU	**Tasmania Unive**	**36.65**	**191**	P	**P**	**13 36 27.6**	**+0.7**
JOHN	**Johnston Islan**	**41.31**	**55**	P	**P**	**13 37 06.8**	**+0.6**
JMN	**Monobe**	**45.64**	**334**	P	**P**	**13 37 39.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**61.80**	**295**	P	**P**	**13 39 39.8**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=120,slow=4.5,SNR=4.6						
MKAR	**Makanchi Array**	**84.13**	**318**	P	**P**	**13 41 49.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=102,slow=5.1,SNR=3.8						
MAW	**Mawson**	**84.87**	**203**	P	**P**	**13 41 52.9**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=118,slow=7.3,SNR=5.0						
MAW	**Mawson**	**84.87**	**203**	IAmb	IAmb	13 42 20.4	
	comp=Z,1.5nm,1.4s						
NVAR	**Mina Array Bea**	**90.80**	**52**	P	**P**	**13 42 23.6**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=271,slow=10,SNR=3.7						

WEL 26 13:34:37.9,38˚S±3˚×17˚7E±˚,h189km±8km,M2.8/70, MLv2.8/70,Error ellipse: s-maj=0.0km s-min=0.0km az=150.7,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.09**	**61**	P	Pn	13 35 01.6	-1.2
OPRZ	**Ohinepanea**	**0.18**	**354**	P	Pn	13 35 01.3	-1.6
RRRZ	**Republican Roa**	**0.31**	**189**	P	Pn	13 35 02.1	-1.0
HSRZ	**Hossack Road**	**0.39**	**223**	P	Pn	13 35 02.7	-0.7
TGRZ	**Tauranga**	**0.39**	**320**	P	Pn	13 35 01.9	-1.4
MUGZ	**Murupara**	**0.47**	**161**	P	Pn	13 35 02.6	-1.1
URZ	**Urewera**	**0.48**	**119**	P	Pn	13 35 02.4	-1.2
GRRZ	**Galatos Road**	**0.49**	**229**	P	Pn	13 35 03.2	-0.5
PRRZ	**Plateau Road**	**0.49**	**197**	P	Pn	13 35 02.9	-0.8
ALRZ	**Allen Road**	**0.56**	**199**	P	Pn	13 35 03.4	-0.6
WPRZ	**Whakapapatarin**	**0.59**	**214**	P	Pn	13 35 03.6	-0.5
RTZ	**Ruatahuna**	**0.67**	**152**	P	Pn	13 35 04.0	-0.6
KUTZ	**Kaahu Road**	**0.75**	**232**	P	Pn	13 35 04.6	-0.3
RAGZ	**Rawiri**	**0.81**	**126**	P	Pn	13 35 05.2	-0.1
MWZ	**Matawai**	**0.81**	**112**	P	Pn	13 35 04.9	-0.5
MRHZ	**Matea Rd**	**0.81**	**189**	P	Pn	13 35 05.0	-0.3
MTHZ	**Maungataniwha**	**0.85**	**166**	P	Pn	13 35 05.4	-0.2
RUGZ	**Raukumara Rang**	**0.87**	**86**	P	Pn	13 35 04.3	-1.5
TLZ	**Tolley Road**	**0.87**	**250**	P	Pn	13 35 05.6	-0.1
TOZ	**Tahuroa Road**	**0.90**	**289**	P	Pn	13 35 05.6	-0.3
SNGZ	**Shannon Statio**	**0.96**	**142**	P	Pn	13 35 06.5	+0.3
RAHZ	**Arahi**	**0.97**	**156**	P	Pn	13 35 06.8	+0.4
HAZ	**Te Kaha**	**0.99**	**74**	P	Pn	13 35 05.2	-1.2
RATZ	**Rangitukua**	**1.05**	**217**	P	Pn	13 35 07.1	+0.2
NMHZ	**Naumai**	**1.08**	**171**	P	Pn	13 35 08.1	+0.9
RITZ	**Rihia Road**	**1.10**	**211**	P	Pn	13 35 07.8	+0.5
TWGZ	**Tauwhareparae**	**1.12**	**98**	P	Pn	13 35 07.8	+0.4
BKZ	**Black Stump Fm**	**1.14**	**183**	P	Pn	13 35 07.5	-0.1
RIGZ	**Rimuhau**	**1.15**	**126**	P	Pn	13 35 08.2	+0.5
ARHZ	**Aropaoanui**	**1.28**	**165**	P	Pn	13 35 09.4	+0.8
TMVZ	**Te Maari**	**1.28**	**212**	P	Pn	13 35 09.2	+0.4
KRVZ	**Karewarewa**	**1.29**	**214**	P	Pn	13 35 09.5	+0.6
ETVZ	**East Tongariro**	**1.30**	**211**	P	Pn	13 35 09.5	+0.5
KNZ	**Kokohu**	**1.31**	**139**	P	Pn	13 35 09.4	+0.5
PUZ	**Puketiti**	**1.33**	**92**	P	Pn	13 35 09.0	-0.2
WTVZ	**West Tongariro**	**1.33**	**215**	P	Pn	13 35 09.7	+0.5
PRGZ	**Paritu Road**	**1.36**	**131**	P	Pn	13 35 10.0	+0.6
CNGZ	**Carnagh Statio**	**1.36**	**110**	P	Pn	13 35 10.5	+1.2
TWVZ	**Taurewa**	**1.37**	**220**	P	Pn	13 35 10.0	+0.4
NGZ	**Ngauruhoe**	**1.38**	**213**	P	Pn	13 35 10.3	+0.6
KWHZ	**Kaweka Forest**	**1.40**	**185**	P	Pn	13 35 10.4	+0.6
MCHZ	**McNeill Hill**	**1.42**	**176**	P	Pn	13 35 10.9	+1.0
TUVZ	**Tukino**	**1.43**	**210**	P	Pn	13 35 10.7	+0.6
HIZ	**Hauiti**	**1.44**	**250**	P	Pn	13 35 10.8	+0.7
MXZ	**Matakaoa Point**	**1.45**	**72**	P	Pn	13 35 10.4	+0.3
KUZ	**Kuaotunu**	**1.45**	**332**	P	Pn	13 35 10.1	-0.1
FWVZ	**Far West T-bar**	**1.46**	**213**	P	Pn	13 35 10.9	+0.4
WMGZ	**Waiomatatini S**	**1.47**	**82**	P	Pn	13 35 10.6	+0.2
WHVZ	**Whangaehu Hut**	**1.47**	**211**	P	Pn	13 35 11.1	+0.4
TRVZ	**Turoa**	**1.50**	**212**	P	Pn	13 35 11.5	+0.6
WNVZ	**Wahianoa**	**1.51**	**210**	P	Pn	13 35 11.3	+0.5
BHHZ	**Black Hill Sta**	**1.51**	**195**	P	Pn	13 35 11.1	+0.3
MOVZ	**Moawhango**	**1.52**	**205**	P	Pn	13 35 10.9	+0.1
MHGZ	**Mahia Peninsul**	**1.53**	**138**	P	Pn	13 35 12.0	+1.1
PKVZ	**Pokaka**	**1.59**	**217**	P	Pn	13 35 12.2	+0.7
MTVZ	**Mangateitei**	**1.61**	**212**	P	Pn	13 35 12.4	+0.7
KRHZ	**Kereru**	**1.62**	**186**	P	Pn	13 35 12.2	+0.4
CKHZ	**Cape Kidnapper**	**1.67**	**167**	P	Pn	13 35 13.4	+1.1
ETAZ	**East Tamaki Re**	**1.69**	**309**	P	Pn	13 35 13.3	+0.8
KAHZ	**Kahuranaki**	**1.78**	**173**	P	Pn	13 35 14.5	+1.1
VRZ	**Vera Road**	**1.80**	**232**	P	Pn	13 35 14.7	+1.2
AWAZ	**Awhitu Peninsu**	**1.81**	**301**	P	Pn	13 35 14.4	+0.7
MBAZ	**Motutapu North**	**1.83**	**313**	P	Pn	13 35 14.9	+1.0
PNHZ	**Pukenui**	**1.91**	**189**	P	Pn	13 35 15.0	+0.4
WTAZ	**Waiatarua**	**1.93**	**304**	P	Pn	13 35 15.8	+0.9
PXZ	**Pawanui**	**2.01**	**174**	P	Pn	13 35 16.5	+0.9
WPHZ	**Waipukurau**	**2.04**	**183**	P	Pn	13 35 16.6	+0.6
TSZ	**Takapari Road**	**2.08**	**193**	P	Pn	13 35 16.9	+0.5
DVHZ	**Dannevirke**	**2.29**	**188**	P	Pn	13 35 19.1	+0.4
ANWZ	**Angora Road**	**2.43**	**182**	P	Pn	13 35 21.1	+0.9
PRWZ	**Pori Road**	**2.57**	**190**	P	Pn	13 35 22.8	+0.9
BFZ	**Birch Farm**	**2.66**	**185**	P	Pn	13 35 23.4	+0.5
MRZ	**Mangatainoka R**	**2.74**	**196**	P	Pn	13 35 24.0	+0.2
TIWZ	**Intock**	**2.80**	**191**	P	Pn	13 35 24.9	+0.4
CPWZ	**Castlepoint**	**2.89**	**186**	P	Pn	13 35 26.8	+1.2
HOWZ	**Holdsworth Sta**	**2.98**	**196**	P	Pn	13 35 26.7	0.0
OGWZ	**Otaki Gorge**	**2.99**	**201**	P	Pn	13 35 27.0	+0.2
KIW	**Kapiti Island**	**3.11**	**204**	P	Pn	13 35 28.1	-0.2
TMWZ	**Te Maipa**	**3.12**	**190**	P	Pn	13 35 28.6	+0.2
MTW	**Mount Morrison**	**3.23**	**195**	P	Pn	13 35 29.5	-0.2
CAW	**Cannon Point**	**3.29**	**200**	P	Pn	13 35 30.3	-0.1
TRWZ	**Traveller**	**3.44**	**191**	P	Pn	13 35 32.2	0.0
MSWZ	**Moikau Station**	**3.54**	**196**	P	Pn	13 35 33.0	-0.4
BHW	**Baring Head**	**3.62**	**201**	P	Pn	13 35 34.0	-0.5
TCW	**Tory Channel**	**3.64**	**208**	P	Pn	13 35 34.2	-0.5
PLWZ	**Palliser**	**3.68**	**196**	P	Pn	13 35 34.8	-0.5
TUWZ	**Tuamarina**	**3.96**	**210**	P	Pn	13 35 38.1	-0.6
CMWZ	**Cape Campbell**	**4.14**	**205**	P	Pn	13 35 43.9	+2.9
BSWZ	**Blackbirch Sta**	**4.23**	**209**	P	Pn	13 35 42.1	0.0
THZ	**Tophouse**	**4.68**	**216**	P	Pn	13 35 48.0	+0.7
KHZ	**Kahutara**	**4.96**	**207**	P	Pn	13 35 51.0	-0.4
GVZ	**Greta Valley S**	**5.62**	**208**	P	Pn	13 35 59.3	-0.7
LTZ	**Lake Taylor**	**5.77**	**213**	P	Pn	13 36 01.6	-0.4
OKCZ	**Okains Bay**	**6.28**	**204**	P	Pn	13 36 07.9	-0.7
MQZ	**McQueen's Vall**	**6.40**	**206**	P	Pn	13 36 08.4	-1.8
ODZ	**Otahua Downs**	**8.30**	**211**	P	Pn	13

*GUC **26** 14:11:32.1±0.5,20.°38S×68.°13W,h178km±4km,ML3.6*
*SCB **26** 14:11:35.8±2.3,20.°44S×68.°06W,h124km±23km,ML3.5/4,*
Error ellipse: s-maj=6.6km s-min=5.4km az=1.0

ISC 26 14:11:30.9±0.8,20.°40S±0.°03×68.°08W±0.°05,h171km±8km, n44,σ1§42/67,13C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.04**	**284**	*iP*	**Pn**	**14 11 59.4**	**+0.9**
PB08				*i* S	**Sn**	**14 12 20.5**	**+0.8**
PB08				IAML		14 12 22.1	
	comp=E,347nm,0.6s						
PB08	**IPOC Station P**	**1.04**	**284**	P	**Pn**	**14 11 59.7**	**+1.2**
GO01	**Chusmiza**	**1.28**	**304**	⇑*iP*	**Pn**	**14 12 01.3**	**+0.7**
PB01	**IPOC Station P**	**1.47**	**244**	⇑*iP*	**Pn**	**14 12 02.4**	**+0.5**
PB01				*i* S	**Sn**	**14 12 26.4**	**+0.5**
PB01				IAML		14 12 27.8	
	comp=N,547nm,0.3s						
PB01	**IPOC Station P**	**1.47**	**244**	P	**Pn**	**14 12 02.8**	**+0.9**
PB11	**IPOC Station P**	**1.61**	**293**	⇑*iP*	**Pn**	**14 12 03.8**	**+0.3**
PB11				*i* S	**Sn**	**14 12 28.4**	**-0.1**
PB11				IAML		14 12 31.5	
	comp=E,621nm,0.1s						
PB11	**IPOC Station P**	**1.61**	**293**	P	**Pn**	**14 12 04.0**	**+0.5**
PB09	**IPOC Station P**	**1.77**	**218**	⇓*iP*	**Pn**	**14 12 06.6**	**+1.6**
PB09				*i* S	**Sn**	**14 12 32.8**	**+1.3**
PB09	**IPOC Station P**	**1.77**	**218**	P	**Pn**	**14 12 05.4**	**+0.4**
MNMC	**Minye Minye**	**1.91**	**311**	⇑*iP*	**Pn**	**14 12 07.4**	**+0.7**
MNMC				*i* S	**Sn**	**14 12 34.4**	**+0.1**
MNMC				IAML		14 12 36.2	
	comp=N,691nm,0.1s						
MNMC	**Minye Minye**	**1.91**	**311**	P	**Pn**	**14 12 07.4**	**+0.7**
MNMC				S	**Sn**	**14 12 30.9**	**-3.4**
MNMC				IAML		14 12 39.0	
	comp=N,477nm,0.3s						
TA02	**Huaiquique**	**1.93**	**273**	*eP*	**Pn**	**14 12 06.6**	**0.0**
TA02				*i* S	**Sn**	**14 12 33.4**	**-0.9**
PB02	**IPOC Station P**	**1.93**	**241**	⇑*iP*	**Pn**	**14 12 07.1**	**+0.3**
PB02				*i* S	**Sn**	**14 12 34.3**	**-0.2**
PB02				IAML		14 12 36.3	
	comp=E,546nm,0.2s						
PB02	**IPOC Station P**	**1.93**	**241**	P	**Pn**	**14 12 07.2**	**+0.4**
PB02				S	**Sn**	**14 12 30.8**	**-3.7**
PB02				IAML		14 12 38.7	
	comp=E,332nm,0.2s						
TA01	**Diego Aracena**	**1.98**	**265**	⇑*iP*	**Pn**	**14 12 07.2**	**+0.1**
TA01				*i* S	**Sn**	**14 12 34.0**	**-1.1**
TA01				IAML		14 12 35.9	
	comp=E,198nm,0.2s						
PATCX	**Punta Patache**	**1.99**	**257**	⇑*iP*	**Pn**	**14 12 07.8**	**+0.4**
PATCX				*i* S	**Sn**	**14 12 34.7**	**-0.8**
PATCX				IAML		14 12 37.5	
	comp=N,296nm,0.2s						
PSGC	**Pisagua**	**2.08**	**292**	⇑*iP*	**Pn**	**14 12 08.4**	**0.0**
PSGC				*i* S	**Sn**	**14 12 35.9**	**-1.5**
PSGC				IAML		14 12 37.7	
	comp=N,287nm,0.2s						
PSGC	**Pisagua**	**2.08**	**292**	P	**Pn**	**14 12 08.6**	**+0.2**
PB07	**IPOC Station P**	**2.15**	**232**	⇑*iP*	**Pn**	**14 12 09.9**	**+0.7**
PB07				*i* S	**Sn**	**14 12 38.4**	**-0.5**
PB07				IAML		14 12 40.1	
	comp=N,211nm,0.2s						
PB03	**IPOC Station P**	**2.27**	**223**	*eP*	**Pn**	**14 12 11.3**	**+0.7**
PB03				*i* S	**Sn**	**14 12 40.3**	**-1.1**
PB03				IAML		14 12 44.4	
	comp=E,183nm,0.6s						
LVC	**Limon Verde**	**2.33**	**199**	P	**Pn**	**14 12 12.4**	**+0.8**
	comp=E,3.3nm,0.3s,baz=19,slow=7.9,SNR=21						
LVC				S	**Sn**	**14 12 43.9**	**+0.8**
	comp=E,5.6nm,0.3s,baz=310,slow=3,SNR=22						
MOCB	**Mochara**	**2.43**	**111**	P	**Pn**	**14 12 13.5**	**+0.7**
MOCB				S	**Sn**	**14 12 41.2**	**-4.0**
MOCB				IAML		14 12 46.6	
	comp=E,74nm,0.4s						
PB16	**IPOC Station P**	**2.46**	**326**	⇑*iP*	**Pn**	**14 12 14.4**	**+1.1**
PB16				*i* S	**Sn**	**14 12 47.0**	**+1.0**
PB16				IAML		14 12 49.5	
	comp=N,119nm,0.6s						
PB06	**IPOC Station P**	**2.69**	**211**	⇑*iP*	**Pn**	**14 12 16.2**	**+0.7**
PB06				*i* S	**Sn**	**14 12 50.0**	**-0.2**
PB06				IAML		14 12 53.3	
	comp=N,252nm,0.1s						
PB06	**IPOC Station P**	**2.69**	**211**	P	**Pn**	**14 12 16.4**	**+0.9**
PB04	**IPOC Station P**	**2.73**	**225**	*eP*	**Pn**	**14 12 16.7**	**+0.8**
PB04				*i* S	**Sn**	**14 12 50.2**	**-0.9**
PB04				IAML		14 12 54.2	
	comp=E,156nm,0.3s						
PB04	**IPOC Station P**	**2.73**	**225**	P	**Pn**	**14 12 16.8**	**+0.8**
PB04				S	**Sn**	**14 12 46.0**	**-5.1**
PB04				IAML		14 12 54.3	
	comp=E,147nm,0.2s						
PB12	**IPOC Station P**	**2.77**	**310**	⇑*iP*	**Pn**	**14 12 15.6**	**-0.8**
PB12				*i* S	**Sn**	**14 12 49.5**	**-2.3**
PB12				IAML		14 12 51.6	
	comp=N,157nm,0.5s						
YJA	**Yavi**	**2.97**	**127**	P	**Pn**	**14 12 20.1**	**+0.8**
PB15	**IPOC Station P**	**3.08**	**205**	*eP*	**Pn**	**14 12 21.3**	**+0.9**
PB15				*i* S	**Sn**	**14 12 59.3**	**+0.4**
PB05	**IPOC Station P**	**3.14**	**219**	*eP*	**Pn**	**14 12 21.4**	**+0.4**
PB05				*i* S	**Sn**	**14 12 58.3**	**-1.8**
PB05				IAML		14 13 01.4	
	comp=E,120nm,0.3s						
BBOJ	**La Paz, Jacaqu**	**3.41**	**358**	P	**Pn**	**14 12 26.5**	**+1.7**
BBOE	**La Paz, Chanca**	**3.57**	**1**	P	**Pn**	**14 12 28.4**	**+1.6**
BBOD	**La Paz, Gloria**	**3.77**	**352**	P	**Pn**	**14 12 30.7**	**+1.3**
PB10	**IPOC Station P**	**3.86**	**216**	P	**Pn**	**14 12 30.1**	**+0.1**
LPAZ	**La Paz**	**4.09**	**359**	P	**Pn**	**14 12 33.9**	**+0.4**
	comp=E,1.5nm,0.3s,baz=238,slow=1.3,SNR=41						
LPAZ				S	**Sn**	**14 13 20.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=3.2,slow=23,SNR=4.6						
LPAZ	**La Paz**	**4.09**	**359**	P	**Pn**	**14 12 34.6**	**+1.1**
BBOB	**La Paz, Bander**	**4.23**	**359**	P	**Pn**	**14 12 36.0**	**+0.7**
SIV	**San Ignacio**	**7.97**	**58**	P	Pn	14 13 20.1	-3.9
	comp=E,0.6nm,0.3s,baz=272,slow=7.7,SNR=11						
SIV				S	Sn	14 14 41.5	-12
	comp=E,0.1nm,0.3s,baz=338,slow=22,SNR=6.2						
CPUP	**Villa Florida**	**11.50**	**123**	P	**Pn**	**14 14 07.8**	**-2.4**
	comp=E,0.2nm,0.3s,baz=302,slow=14,SNR=4.7						
PLCA	**Paso Flores**	**20.38**	**185**	P	**P**	**14 15 57.1**	**+2.7**
	comp=E,1.9nm,0.8s,baz=4.4,slow=9.4,SNR=5.1						
TXAR	**Lajitas Array**	**60.18**	**324**	P	**P**	**14 21 20.7**	**-0.2**
	comp=E,0.1nm,0.5s,baz=160,slow=5.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.25**	**70**	P	**P**	**14 23 01.2**	**+0.1**
	comp=E,0.3nm,0.3s,baz=258,slow=5.7,SNR=4.9						
ASAR	**Alice Springs**	**131.24**	**207**	PKP	**PKPdf**	**14 30 23.8**	**+0.4**
	comp=E,0.4nm,0.9s,baz=141,slow=1.7,SNR=1.5						

*IDC **26** 14:12:45.8±8.4,7.°26S×128.°92E,h147km±88km,**mb3.2**/1,*
mb1 3.3/5,mb1mx3.1/28,mbtmp3.7/5,Error ellipse:
s-maj=78.2km s-min=26.2km az=38.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.96**	**240**	P	Pn	14 14 11.7	-0.3
	6.2nm,0.3s,baz=177,slow=5.4,SNR=6.8						
BATI				S	Sn	14 15 20.6	+1.2
	8.1nm,0.3s,baz=126,slow=5.2,SNR=7.5						
FITZ	**Fitzroy Crossi**	**11.24**	**196**	P	Pn	14 15 21.4	-0.8
	0.1nm,0.3s,baz=13,slow=12,SNR=10.0						
FITZ				S	Sn	14 17 18.4	-8.0
	0.4nm,0.3s,baz=207,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**13.66**	**158**	P	Pn	14 15 53.1	-0.5
	0.2nm,0.3s,baz=326,slow=14,SNR=11						
WRA				S	Sn	14 18 15.1	-10
	0.8nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.00**	**164**	P	Pn	14 16 35.3	+0.4
	0.4nm,0.3s,baz=337,slow=9.5,SNR=49						
ASAR				S	S	14 19 35.7	-8.6
	0.2nm,0.3s,baz=349,slow=26,SNR=6.4						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	14 23 28.3	0.0
	0.3nm,0.5s,baz=121,slow=5.2,SNR=4.3						

MAN 26 14:31:50.4,7.°45N×125.°07E,h21km,mb4.5,ML3.4,MS3.2, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.43**	**359**	*eP*	Pn	14 32 00.5	-0.9
BUKP				*eS*	Sn	14 32 09.6	+0.8
KCP	**Kidapawan**	**0.43**	**177**	⇓*eP*	Pb	14 31 59.6	+0.2
SKMP	**Bagumbayan, Su**	**1.06**	**210**	*eP*	Pb	14 32 08.6	-1.4
SKMP				*eS*	Sn	14 32 25.0	+0.8
CGP	**Cagayan de Oro**	**1.07**	**340**	⇑*iP*	Pb	14 32 10.2	0.0
CGP				*i* S	Sn	14 32 24.5	+0.1
DDMP	**Don Marcelino,**	**1.48**	**154**	*eP*	Pn	14 32 16.2	+0.4
DDMP				*eS*	Sn	14 32 35.0	+0.5

*IDC **26** 14:33:17.3±1.0,26.°60S×115.°59W,h0km,mb3.8/7,*
mb1 4.1/7,mb1mx3.9/26,mbtmp3.8/7,MS4.3/18,
Ms1 4.3/18,ms1mx4.3/21,Error ellipse: s-maj=42.6km
s-min=24.2km az=43.0
*NEIC **26** 14:33:18.9±1.4,26.°6S±0.°2×115.°3W±0.°2,h10km±1km,*
mb4.6/23,Error ellipse: s-maj=26.5km s-min=22.7km
az=194.0
*GCMT **26** 14:33:21.9±0.2,26.°67S±0.°02×115.°33W±0.°01,h12km,*
MW5.0/128,Moment Tensor Solution. s62,c74;
s128,c190; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}-4.19±.09; $M_{\theta\theta}$1.29±.10; $M_{\phi\phi}$2.90±.08; $M_{r\theta}$-0.08±.31;
$M_{\theta\phi}$-1.75±.07; $M_{\phi r}$-0.38±.27; Best double couple:
M_o4.12300×10^{16} NP1:ϕs144.00000°,δ43.00000°,
λ-95.00000°. NP2:ϕs331.00000°,δ47.00000°,
λ-85.00000°. Principal axes: T 4.0300, Plg2.0000°,
Azm57.0000°; N 0.1850, Plg3.0000°, Azm148.0000°; P
-4.2160, Plg86.0000°, Azm299.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function

ISC 26 14:33:19.0±0.6,26.°6S±0.°1×115.°31W±0.°09,h10km,n72, σ1§05/49,mb4.5/17,MS4.5/21,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**5.36**	**97**	LR	LR	14 36 17.7	
	comp=Z,4μm,18.1s,baz=311,slow=32						
PTCN	**Pitcairn Islan**	**13.41**	**273**	Pn	**Pn**	**14 36 29.1**	**-0.3**
TAOE	**Nuku Hiva Isla**	**29.44**	**302**	*eS*	**S**	**14 44 21.9**	**+4.4**
	141nm,26.6s						
TAOE				*e*LR	LR	14 47 08.3	
	comp=Z,1μm,24.8s						
TBI	**Tubuai**	**31.07**	**268**	*e*LR	LR	14 47 31.2	
	comp=Z,1μm,29.5s,baz=99						
H03N2	**Juan Fernandez**	**32.09**	**111**	T	T	15 13 40.2	
	baz=277,slow=74,SNR=343						
H03N3	**Juan Fernandez**	**32.10**	**111**	T	T	15 13 41.4	
	baz=277,slow=74,SNR=420						
H03N1	**Juan Fernandez**	**32.11**	**111**	T	T	15 13 41.2	
	baz=277,slow=74,SNR=518						
PPT2	**Papeete2**	**32.92**	**279**	*e*LR	LR	14 48 22.5	
	comp=Z,3μm,25.5s,baz=106						
PPT	**Papeete**	**32.92**	**279**	LR	LR	14 49 16.8	
	comp=Z,2μm,21.1s,baz=81,slow=29						
LL01	**San Ignacio de**	**38.25**	**125**	P	**P**	**14 40 40.2**	**+0.9**
PLCA	**Paso Flores**	**39.39**	**123**	P	**P**	**14 40 50.8**	**+1.8**
	2.4nm,1.1s,baz=302,slow=8.4,SNR=5.8						
PLCA				LR	LR	14 53 05.3	
	comp=Z,356nm,18.9s,baz=286,slow=30						
PLCA	**Paso Flores**	**39.39**	**123**	IAmb	IAmb	14 40 57.0	
	comp=Z,3.9nm,1.0s						
PB08	**IPOC Station P**	**42.67**	**91**	P	**P**	**14 41 14.9**	**-1.8**
OTAV	**Otavalo**	**44.41**	**59**	P	**P**	**14 41 29.7**	**-1.1**
LPAZ	**La Paz**	**44.88**	**87**	P	**P**	**14 41 36.9**	**+2.2**
	comp=Z,1.2nm,0.9s,baz=303,slow=4.2,SNR=2.9						
LPAZ				PcP	**PcP**	**14 43 16.9**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=216,slow=4.3,SNR=2.7						
LPAZ				LR	LR	14 57 04.3	
	comp=Z,110nm,18.9s,baz=248,slow=32						
LPAZ	**La Paz**	**44.88**	**87**	P	**P**	**14 41 34.5**	**-0.2**
H06E1	**SOCORRO T-PHAS**	**45.35**	**6**	T	T	15 30 19.6	
ROSC	**El Rosal**	**50.52**	**58**	LR	LR	14 59 45.0	
	comp=Z,662nm,18.4s,baz=240,slow=31						
CPUP	**Villa Florida**	**51.49**	**103**	LR	LR	15 00 54.3	
	comp=Z,378nm,18.2s,baz=257,slow=32						
SAML	**Samuel**	**52.28**	**80**	P	**P**	**14 42 31.5**	**+0.5**
SAML				IAmb	IAmb	14 42 34.1	
	comp=Z,5.4nm,1.0s						
TXAR	**Lajitas Array**	**56.77**	**12**	P	**P**	**14 43 03.4**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=261,slow=2.4,SNR=3.4						
TXAR				PcP	**PcP**	**14 43 58.3**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=195,slow=6.5,SNR=2.9						
TXAR				LR	LR	15 02 35.3	
	comp=Z,127nm,19.5s,baz=0.0,slow=31						
JCT	**Junction City**	**58.70**	**16**	P	**P**	**14 43 17.5**	**+0.6**
121A	**Cookes Peak, D**	**59.28**	**7**	P	**P**	**14 43 21.0**	**0.0**
121A				IAmb	IAmb	14 43 27.7	
	comp=Z,4.1nm,1.0s						
HKT	**Hockley**	**59.28**	**20**	P	**P**	**14 43 21.3**	**+0.5**
HKT				IAmb	IAmb	14 43 25.0	
	comp=Z,3.1nm,0.9s						
VNDA	**Vanda**	**62.64**	**194**	LR	LR	15 04 38.2	
	comp=Z,249nm,19.1s,baz=94,slow=30						
SHPR	**Sheep Range**	**62.81**	**0**	P	**P**	**14 43 45.2**	**+0.3**
SHPR				IAmb	IAmb	14 44 01.3	
	comp=Z,7.0nm,1.2s						
BDFB	**Brasilia**	**63.10**	**95**	P	**P**	**14 43 49.2**	**+1.8**
	comp=Z,6.6nm,1.0s,baz=211,slow=5.1,SNR=6.8						
BDFB				LR	LR	15 08 51.4	
	comp=Z,325nm,19.9s,baz=290,slow=34						
451A	**Vernon**	**63.57**	**28**	P	**P**	**14 43 50.2**	**+0.4**
NVAR	**Mina Array Bea**	**64.79**	**357**	P	**P**	**14 43 58.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=174,slow=10.0,SNR=4.5						
NVAR				LR	LR	15 05 53.9	
	comp=Z,218nm,19.8s,baz=168,slow=30						
Z47A	**Carrollton**	**64.90**	**25**	P	**P**	**14 43 58.2**	**-0.4**
LRAL	**Lakeview Retre**	**65.17**	**26**	P	**P**	**14 43 60.0**	**-0.3**
LRAL				IAmb	IAmb	14 44 08.0	
	comp=Z,5.7nm,1.0s						
W41B	**Gary Mavity, V**	**65.24**	**21**	P	**P**	**14 44 01.0**	**+0.4**
AFDM	**Forest Hills D**	**65.46**	**355**	P	**P**	**14 44 02.3**	**+0.2**
U40A	**Yellville**	**66.14**	**20**	P	**P**	**14 44 06.5**	**0.0**
U40A				IAmb	IAmb	14 44 32.5	
	comp=Z,7.6nm,1.4s						
BEKR	**Beckworth**	**66.33**	**356**	P	**P**	**14 44 07.4**	**-0.5**
FPAL	**Fort Paine**	**67.04**	**26**	P	**P**	**14 44 12.1**	**-0.3**
FPAL				IAmb	IAmb	14 44 14.9	
	comp=Z,5.7nm,0.9s						
RDMU	**Red Mountain**	**67.08**	**5**	P	**P**	**14 44 12.8**	**+0.1**
SWET	**Sewanee**	**67.50**	**26**	P	**P**	**14 44 15.7**	**+0.4**
SWET				IAmb	IAmb	14 44 18.0	
	comp=Z,5.1nm,0.9s						
WVT	**Waverly**	**67.60**	**24**	P	**P**	**14 44 15.0**	**-0.8**
WVT				IAmb	IAmb	14 44 18.2	
	comp=Z,4.6nm,0.8s						
T47A	**Sharon Grove**	**68.63**	**24**	P	**P**	**14 44 22.3**	**+0.1**
U49A	**Red Boiling Sp**	**68.70**	**25**	P	**P**	**14 44 23.3**	**+0.5**
U49A				IAmb	IAmb	14 44 25.0	
	comp=Z,5.0nm,0.8s						
PDAR	**Pinedale Array**	**69.27**	**5**	P	**P**	**14 44 26.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=181,slow=4.5,SNR=1.6						
PDAR				LR	LR	15 10 12.6	
	comp=Z,38nm,19.2s,baz=149,slow=32						
PDAR	**Pinedale Array**	**69.27**	**5**	P	**P**	**14 44 25.7**	**-0.7**
DZM	**Mont Dzumac**	**70.39**	**255**	*eS*	**S**	**14 53 46.4**	**-0.3**
	comp=Z,101nm,24.6s						
DZM	**Mont Dzumac**	**70.39**	**255**	*e*LR	LR	15 06 02.2	
	comp=Z,639nm,26.9s						
ULM	**Lac du Bonnet**	**78.47**	**13**	LR	LR	15 16 06.5	
	comp=Z,150nm,18.0s,baz=158,slow=33						
MAW	**Mawson**	**86.03**	**179**	LR	LR	15 20 13.0	
	comp=Z,230nm,20.0s,baz=225,slow=33						
STKA	**Stephens Creek**	**86.46**	**236**	LR	LR	15 19 20.4	
	comp=Z,221nm,18.6s,baz=87,slow=32						
H11S2	**WAKE ISLAND Hy**	**87.93**	**292**	T	T	16 23 09.8	
	baz=121						
H11S1	**WAKE ISLAND Hy**	**87.94**	**292**	T	T	16 23 18.5	
	baz=121,slow=74						
H11S3	**WAKE ISLAND Hy**	**87.94**	**292**	T	T	16 23 52.2	
	baz=121,slow=74						
H11N3	**WAKE ISLAND Hy**	**88.35**	**293**	T	T	16 23 49.8	
	baz=121						
CTA	**Charters Tower**	**88.35**	**248**	LR	LR	15 18 37.3	
	comp=Z,250nm,22.0s,baz=164,slow=31						
H11N1	**WAKE ISLAND Hy**	**88.36**	**293**	T	T	16 23 43.3	
	baz=121,slow=75						
H11N2	**WAKE ISLAND Hy**	**88.36**	**293**	T	T	16 23 36.4	
	baz=121,slow=75						
YKA	**Yellowknife Ar**	**88.82**	**0**	P	**P**	**14 46 12.3**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=177,slow=4.6,SNR=4.5						
YKA				LR	LR	15 20 43.5	
	comp=Z,122nm,19.9s,baz=0.0,slow=32						
KTH	**Kantishna Hill**	**94.19**	**345**	P	**P**	**14 46 37.5**	**-0.2**
ILAR	**Eielson Array**	**94.37**	**347**	LR	LR	15 21 19.7	
	comp=Z,60nm,19.4s,baz=132,slow=31						
FRB	**Frobisher Bay**	**97.28**	**19**	LR	LR	15 27 28.4	
	comp=Z,192nm,18.2s,baz=198,slow=33						
TORD	**Torodi Ar. Bea**	**119.78**	**90**	PKP	**PKPdf**	**14 52 10.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=262,slow=1.5,SNR=3.0						
AKASG	**Malin Array Be**	**143.88**	**39**	PKP	**PKPdf**	**14 52 53.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=279,slow=4.2,SNR=2.2						
KIRV	**Kirov**	**146.32**	**14**	PKPbc	**PKPdf**	**14 52 57.9**	**-0.3**
	comp=Z,12nm,0.8s,baz=100,slow=3.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	**147.41**	**263**	PKPbc	**PKPbc**	**14 53 03.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=126,slow=0.9,SNR=9.9						
CMAR	**Chiang Mai Arr**	**147.41**	**263**	PKPdf	**PKPdf**	**14 52 59.7**	**-1.7**
ZALV	**Zalesovo Beam**	**148.93**	**337**	PKPbc	**PKPbc**	**14 53 04.8**	**-1.9**
	comp=Z,4.2nm,0.8s,baz=6.5,slow=3.3,SNR=19						
ZALV	**Zalesovo Beam**	**148.93**	**337**		**PKPbc**	**14 53 06.4**	**-0.3**
ARU	**Arti**	**149.91**	**7**	PKPbc	**PKPbc**	**14 53 08.2**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=88,slow=24,SNR=2.8						
BRTR	**Keskin Array B**	**151.07**	**55**	PKPbc	**PKPbc**	**14 53 11.9**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=292,slow=2.9,SNR=2.9						
KURK	**Kurchatov**	**153.71**	**340**		**PKPbc**	**14 53 17.7**	**-0.3**
KURK	**Kurchatov**	**153.71**	**340**		**PKPdf**	**14 53 09.4**	**-0.7**
KURBB	**Kurchatov Arra**	**153.82**	**340**	PKP	**PKPdf**	**14 53 09.4**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=20,slow=1.6,SNR=1.4						
KURBB				PKPbc	**PKPbc**	**14 53 18.1**	**0.0**
	comp=Z,2.6nm,0.9s,baz=27,slow=1.7,SNR=11						
MKAR	**Makanchi Array**	**155.54**	**330**	PKPbc	PKPbc	14 53 22.7	
	comp=Z,0.8nm,0.8s,baz=46,slow=3.5,SNR=5.8						

*IDC **26** 14:51:04.9±1.1,37.°84N×21.°08E,h0km,mb3.7/8,*
mb1 3.7/14,mb1mx3.6/41,mbtmp3.6/14,ML3.3/6,MS3.0/4,
Ms1 3.1/4,ms1mx2.6/43,Error ellipse: s-maj=19.8km
s-min=18.9km az=165.0
*ATH **26** 14:51:07.3,37.°81N×21.°18E,h7km±2km,ML3.6/26,Error*
ellipse: s-maj=2.3km s-min=0.6km az=351.0
*THE **26** 14:51:07.8,37.°83N×21.°18E,h0km±1km,ML3.7/18,Error*
ellipse: s-maj=1.6km s-min=0.4km az=203.0

ISC 26 14:51:07.7±0.8,37.°82N±0.°02×21.°16E±0.°02,h18km±2km, n92,σ1§05/122,mb3.7/8,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAK2	**Zakynthos**	**0.21**	**261**	P	**Pb**	**14 51 12.1**	**-0.4**
ZAK2				S	**Sb**	**14 51 16.0**	**+0.3**
	55μm,0.6s						
KRI1	**kERI**	**0.31**	**240**	P	**Pg**	**14 51 14.1**	**-0.4**
KRI1				S	**Sg**	**14 51 19.2**	**+0.1**
	41μm,0.4s						
RLS	**Riolos of Patr**	**0.34**	**46**	P	**Pg**	**14 51 14.4**	**-0.6**
RLS				S	**Sg**	**14 51 18.3**	**-1.6**
	9μm,0.8s						
RLS	**Riolos of Patr**	**0.34**	**46**	P	**Pg**	**14 51 14.3**	**-0.7**
RLS				S	**Sg**	**14 51 18.3**	**-1.6**
RLS				AML	AML	14 51 22.0	
	comp=N,16514μm,0.5s						
RLS				AML	AML	14 51 22.2	
	comp=E,17392μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.40**	**278**	P	**Pg**	**14 51 15.5**	**-0.5**
VLMS				S	**Sg**	**14 51 21.8**	**+0.2**
VLMS				AML	AML	14 51 23.8	
	comp=N,35349μm,0.3s						
VLMS				AML	AML	14 51 25.4	
	comp=E,22818μm,0.3s						
DRO	**Drossia**	**0.46**	**73**	P	**Pg**	**14 51 16.1**	**-0.9**
DRO				S	**Sg**	**14 51 22.9**	**-0.4**
	comp=E,24μm,0.5s						
DRO	**Drossia**	**0.46**	**73**	P	**Pg**	**14 51 16.2**	**-0.9**
DRO				S	**Sg**	**14 51 22.9**	**-0.4**
DRO				AML	AML	14 51 29.1	
	comp=N,55603μm,0.5s						
DRO				AML	AML	14 51 29.6	
	comp=E,40268μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.54**	**303**	P	**Pg**	**14 51 18.2**	**-0.4**
PSDA				S	**Sb**	**14 51 26.9**	**+0.9**
	comp=E,1μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.54**	**303**	P	**Pg**	**14 51 18.0**	**-0.5**
PSDA				S	**Sb**	**14 51 26.6**	**+0.6**
VLS	**Valsamata**	**0.57**	**309**	P	**Pb**	**14 51 18.5**	**-0.6**
VLS				S	**Sg**	**14 51 27.5**	**+0.6**
	comp=E,4μm,0.5s						
VLS	**Valsamata**	**0.57**	**309**	P	**Pb**	**14 51 18.6**	**-0.6**
VLS				S	**Sg**	**14 51 27.8**	**+0.8**
VLS				AML	AML	14 51 29.3	
	comp=N,9718μm,0.5s						
VLS				AML	AML	14 51 30.3	
	comp=E,6933μm,0.3s						
KEF5	**Kardakata, Kep**	**0.71**	**310**	P	**Pb**	**14 51 21.0**	**-0.6**
KEF5				S	**Sg**	**14 51 31.7**	**+0.5**
AST1	**Astakos**	**0.72**	**356**	P	**Pb**	**14 51 21.9**	**+0.2**
AST1				S	**

LKD2					S	Sg	14 51 43.1	+1.4	
	comp=N,6μm,0.6s								
LKD2	Lefkada island	1.04	338		P	Pb	14 51 27.0	-0.2	
LKD2					AML	AML	14 51 49.6		
	comp=E,13426μm,0.6s								
LKD2					AML	AML	14 51 50.3		
	comp=N,11956μm,0.7s								
VLX	Vlachokerasia	1.07	114		P	Pb	14 51 27.2	-0.5	
VLX					S	Sg	14 51 43.8	+1.3	
	comp=N,3μm,0.7s								
VLX	Vlachokerasia	1.07	114		P	Pb	14 51 27.4	-0.2	
VLX					AML	AML	14 51 48.4		
	comp=E,6187μm,0.8s								
VLX					AML	AML	14 51 50.7		
	comp=N,5248μm,0.6s								
TSLK	Tsoukalades, L	1.08	339		P	Pb	14 51 27.6	-0.2	
TSLK	Tsoukalades, L	1.08	339		P	Pb	14 51 27.7	-0.2	
TSLK					AML	AML	14 51 49.5		
	comp=E,5626μm,0.7s								
TSLK					AML	AML	14 51 52.9		
	comp=N,8352μm,0.6s								
EVR	Evrytania	1.21	25		P	Pn	14 51 29.8	0.0	
EVR	Evrytania	1.21	25		P	Pn	14 51 29.8	0.0	
THAL	Thalero	1.21	79		P	Pn	14 51 29.9	+0.2	
THAL					S	Sg	14 51 47.4	+0.5	
	comp=N,9μm,0.7s								
THAL	Thalero	1.21	79		P	Pn	14 51 30.0	+0.4	
THAL					AML	AML	14 51 52.8		
	comp=E,12825μm,0.6s								
THAL					AML	AML	14 51 53.1		
	comp=N,14774μm,0.7s								
MAKR	Makrakomi, Fth	1.42	32		P	Pb	14 51 33.8	+0.2	
MAKR	Makrakomi, Fth	1.42	32		P	Pb	14 51 33.7	+0.1	
MAKR					AML	AML	14 51 58.2		
	comp=N,2868μm,1.5s								
MAKR					AML	AML	14 51 58.9		
	comp=E,4203μm,1.2s								
LTK	Loutraki	1.44	81		P	Pb	14 51 34.1	0.0	
LTK	Loutraki	1.44	81		P	Pb	14 51 34.1	0.0	
LOUT	Loutraki	1.45	83		P	Pb	14 51 34.7	+0.6	
LOUT	Loutraki	1.45	83		P	Pb	14 51 34.6	+0.6	
LOUT					AML	AML	14 52 02.0		
	comp=N,338μm,0.6s								
LOUT					AML	AML	14 52 02.0		
	comp=E,566μm,0.7s								
AGG	Agios Georgios	1.51	37		P	Pn	14 51 34.9	+1.0	
AGG					AML	AML	14 52 02.5		
	comp=N,2264μm,0.9s								
AGG					AML	AML	14 52 03.6		
	comp=E,2904μm,0.9s								
AXAR	Agios Charalam	1.51	51		P	Pn	14 51 34.6	+0.7	
AXAR	Agios Charalam	1.51	51		P	Pn	14 51 34.8	+0.9	
AXAR					AML	AML	14 52 06.5		
	comp=E,12292μm,1.1s								
AXAR					AML	AML	14 52 06.9		
	comp=N,10936μm,0.9s								
EPID	Epidavros	1.57	97		P	Pb	14 51 36.6	+0.5	
KRND	KRANIDI	1.64	105		P	Pb	14 51 38.2	+0.8	
KRND					AML	AML	14 52 07.0		
	comp=E,3019μm,1.0s								
KRND					AML	AML	14 52 07.8		
	comp=N,2006μm,0.7s								
LKR	Lokris	1.67	60		P	Pb	14 51 38.2	+0.4	
LKR					AML	AML	14 52 04.6		
	comp=N,1995μm,1.2s								
LKR					AML	AML	14 52 08.3		
	comp=E,1956μm,0.8s								
ATAL	Atalanti	1.71	59		P	Pb	14 51 38.8	+0.3	
ATAL					S	Sg	14 52 02.5	-0.3	
ATAL					AML	AML	14 52 06.2		
	comp=E,2152μm,1.3s								
ATAL					AML	AML	14 52 07.1		
	comp=N,3870μm,1.3s								
VIL2	Platees	1.71	76		P	Pb	14 51 40.2	+1.5	
VIL2					AML	AML	14 52 09.6		
	comp=E,3536μm,1.0s								
VIL2					AML	AML	14 52 10.2		
	comp=N,2266μm,1.2s								
IGT	Igoumenitsa	1.83	340		P	Pb	14 51 40.8	+0.2	
THL	Klokotos Trika	1.87	21		P	Pb	14 51 42.1	+0.9	
ATH	Athens Observa	2.03	85		P	Pb	14 51 44.2	+0.1	
ATH					AML	AML	14 52 16.2		
	comp=E,2067μm,0.9s								
ATH					AML	AML	14 52 17.1		
	comp=N,2379μm,0.8s								
ATHU	Athens Univers	2.08	85		P	Pb	14 51 44.7	-0.2	
VLY	Voula,Athens	2.09	88		P	Pb	14 51 44.6	-0.4	
PTL	Penteli	2.15	83		P	Pb	14 51 45.7	-0.5	
PTL					AML	AML	14 52 21.6		
	comp=E,1966μm,0.7s								
PTL					AML	AML	14 52 21.7		
	comp=N,1304μm,0.7s								
DION	Dionisos Attik	2.21	82		P	Pb	14 51 46.6	-0.4	
LIT	Litokhoron	2.50	24		P	Pb	14 51 51.5	-0.6	
KARY	Karystos	2.60	84		P	Pb	14 51 52.1	-1.7	
OHR	Ohrid	3.30	355	*i*	Pn	Pb	14 52 05.8	+0.1	
IDI	Anoyia	3.92	129		Pn	Pn	14 52 09.2	+2.1	
	comp=N,0.7nm,0.3s,baz=328,slow=10,SNR=6.1								
IDI					Sn	Sn	14 52 53.6	+0.9	
	comp=N,3.5nm,0.3s,baz=269,slow=22,SNR=3.4								
IDI					LR	LR	14 53 40.7		
	comp=N,154nm,19.3s,baz=281,slow=39								
STIP	Stip	3.95	11	*i*	Pn	Pb	14 52 13.5	-3.2	
VAE	Valguarnera	5.37	268		Pn	Pn	14 52 28.1	+1.2	
	comp=N,1.0nm,0.3s,baz=54,slow=7.5,SNR=2.0								
VAE					Sn	Sn	14 53 25.7	-2.5	
	comp=N,2.5nm,0.3s,baz=356,slow=6.1,SNR=1.9								
MLR	Muntele Rosu	8.46	24		Pn	Pn	14 53 11.7	+2.3	
	comp=N,0.1nm,0.3s,baz=112,slow=22,SNR=1.8								
BRTR	Keskin Array B	9.93	75		Pn	Pn	14 53 34.6	+5.0	
	comp=N,0.1nm,0.3s,baz=254,slow=12,SNR=2.5								
BRTR					LR	LR	14 58 11.7		
	comp=N,45nm,18.3s,baz=316,slow=43								
OBKA	Obir	9.97	333		Pn	Pn	14 53 33.6	+3.6	
	comp=N,1.6nm,0.6s								
MOA	Molln	11.22	335	*e*	Pn	Pn	14 53 50.2	+3.1	
	comp=N,0.2nm,0.1s								
WTTA	Wattenberg	11.75	326	*e*	Sn	Sn	14 56 03.5	-1.8	
	comp=N,8.2nm,0.9s								
DAVOX	Davos/Dischmat	12.23	321		Pn	Pn	14 54 03.5	+2.5	
	comp=N,0.1nm,0.3s,baz=243,slow=6.8,SNR=3.1								
DAVOX					Sn	Sn	14 56 12.6	-4.4	
	comp=N,0.2nm,0.3s,baz=89,slow=20,SNR=1.7								
GERES	GERESS Array B	12.28	336		Pn	Pn	14 54 01.2	-0.4	
	comp=N,0.1nm,0.3s,baz=159,slow=14,SNR=1.5								
AKASG	Malin Array Be	14.10	21		Pn	P	14 54 34.7	+0.7	
	comp=N,0.5nm,0.3s,baz=210,slow=9.3,SNR=4.2								
ESDC	Sonseca Array	19.67	283		P	P	14 55 35.0	-0.6	
	comp=N,0.1nm,0.3s,baz=80,slow=11,SNR=4.6								
HFS	Hagfors	22.83	350		P	P	14 56 09.3	-0.2	
	comp=N,3.1nm,0.7s,baz=172,slow=16,SNR=2.0								
FINES	FINESS Array B	23.85	6		P	P	14 56 19.2	-0.4	
	comp=N,4.9nm,1.0s,baz=160,slow=6.1,SNR=5.0								
NOA	NORSAR Array B	24.07	348		P	P	14 56 21.7	0.0	
	comp=N,1.3nm,0.9s,baz=170,slow=8.1,SNR=1.6								
NOA					LR	LR	15 08 30.1		
	comp=N,41nm,20.0s,baz=275,slow=44								
KIRV	Kirov	27.68	32		LR	LR	15 07 20.3		
	comp=N,62nm,18.0s,baz=272,slow=35								
TORD	Torodi Ar. Bea	30.08	220		P	P	14 57 15.5	-0.6	
	comp=N,0.4nm,0.5s,baz=26,slow=9.1,SNR=4.4								
ARCES	ARCESS Array B	31.86	3		P	P	14 57 31.2	-0.1	
	comp=N,0.6nm,0.7s,baz=190,slow=10,SNR=0.9								
MKAR	Makanchi Array	45.06	58			P	14 59 22.8	+0.4	
	comp=N,0.6nm,0.5s,baz=272,slow=7.1,SNR=2.5								
ZALV	Zalesovo Beam	45.55	48		P	P	14 59 25.5	-0.6	
	comp=N,0.5nm,0.4s,baz=267,slow=7.8,SNR=2.8								
CMAR	Chiang Mai Arr	69.44	82		P	P	15 02 14.2	-0.8	
	comp=N,0.3nm,0.6s,baz=304,slow=8.6,SNR=2.2								

NEIC ***26*** *15:21:44.8±0.8, 37°.12S±0°.06×177°.1E±0°.2, h263km±13km, Error ellipse: s-maj=18.9km s-min=9.0km az=93.0*
WEL ***26*** *15:21:49.8, 37°S±5°×17°7E±°, h209km±7km, M3.5/43, ML3.5/7, MLv3.5/43, Error ellipse: s-maj=0.0km s-min=0.0km az=178.8*

ISC 26 15:21:43.7±2.0, 37°.1S±0°.1×177°.08E±0°.09, h256km±10km, n186, σ2ŝ25/195, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYRZ	Mayor Island	0.71	252	P	Pn	15 22 19.0	+1.0
WHRZ	Whale Island	0.80	186	P	Pn	15 22 20.5	+2.2
WHRZ				S	S	15 22 46.8	+1.1
OPRZ	Ohinepanea	0.89	208	P	Pn	15 22 19.5	+0.8
HAZ	Te Kaha	0.89	142	P	Pn	15 22 19.9	+1.2
HAZ				S	S	15 22 42.3	-4.0
TGRZ	Tauranga	0.94	224	P	Pn	15 22 19.9	+1.0
MARZ	Manawahe	0.98	199	P	Pn	15 22 20.9	+1.7
RUGZ	Raukumara Rang	1.02	153	P	Pn	15 22 20.4	+0.9
RUGZ				S	S	15 22 42.9	-5.0
EDRZ	Edgecumbe	1.08	195	P	Pn	15 22 21.8	+2.0
LIRZ	Lichensteins R	1.09	210	P	Pn	15 22 21.7	+1.8
MXZ	Matakaoa Point	1.10	118	P	Pn	15 22 21.6	+1.8
MXZ				S	S	15 22 46.0	-2.2
MXZ	Matakaoa Point	1.10	118	Pn	Pn	15 22 21.5	+1.7
KUZ	Kuaotunu	1.14	286	P	Pn	15 22 20.4	+0.3
PKGZ	Pakihiroa	1.14	137	P	Pn	15 22 29.2	+9.0
PKGZ				S	S	15 22 53.2	+4.2
KARZ	Kaharoa	1.17	215	P	Pn	15 22 22.1	+1.9
OMRZ	Omania	1.19	208	P	Pn	15 22 22.4	+2.0
URZ	Urewera	1.20	179	P	Pn	15 22 21.7	+1.3
URZ				S	S	15 22 45.9	-3.5
URZ	Urewera	1.20	179		Pn	15 22 21.6	+1.3
KMRZ	Kaimai	1.20	229	P	Pn	15 22 21.9	+1.4
NGRZ	Ngongotaha	1.26	214	P	Pn	15 22 23.1	+2.2
TARZ	Mount Tarawera	1.26	201	P	Pn	15 22 23.3	+2.4
WMGZ	Waiomatatini S	1.30	126	P	Pn	15 22 23.6	+2.5
WMGZ				S	S	15 22 49.1	-1.5
MWZ	Matawai	1.32	165	P	Pn	15 22 22.9	+1.7
MWZ				S	S	15 22 48.9	-2.1
UTU	Utuhina	1.32	212	P	Pn	15 22 23.7	+2.5
TWGZ	Tauwhareparae	1.32	148	P	Pn	15 22 24.1	+2.8
TWGZ				S	S	15 22 49.5	-1.5
HLRZ	Highlands Stat	1.32	206	P	Pn	15 22 23.6	+2.3
RRRZ	Republican Roa	1.35	199	P	Pn	15 22 23.6	+2.1
PUZ	Puketiti	1.37	138	P	Pn	15 22 24.0	+2.3
PUZ				S	S	15 22 49.2	-2.4
HSRZ	Hossack Road	1.42	208	P	Pn	15 22 24.5	+2.6
TOZ	Tahuroa Road	1.43	242	P	Pn	15 22 23.5	+1.5
MUGZ	Murupara	1.44	190	P	Pn	15 22 23.7	+1.6
RAGZ	Rawiri	1.46	170	P	Pn	15 22 24.8	+2.5
HRRZ	Handcock Road	1.47	205	P	Pn	15 22 24.8	+2.4
GRRZ	Galatos Road	1.50	211	P	Pn	15 22 25.0	+2.5
TKGZ	Te Karaka	1.50	156	P	Pn	15 22 24.8	+2.3
PRRZ	Plateau Road	1.54	201	P	Pn	15 22 24.9	+2.1
GRZ	Great Barrier	1.54	301	P	Pn	15 22 23.4	+0.5
RTZ	Ruatahuna	1.55	183	P	Pn	15 22 24.7	+1.7
WIAZ	Waiheke Island	1.58	279	P	Pn	15 22 24.4	+1.2
ALRZ	Allen Road	1.61	201	P	Pn	15 22 25.6	+2.2
WPRZ	Whakapapatarin	1.63	206	P	Pn	15 22 25.9	+2.4
CNGZ	Carnagh Statio	1.68	148	P	Pn	15 22 27.2	+3.4
RIGZ	Rimuhau	1.73	162	P	Pn	15 22 27.2	+2.9
ETAZ	East Tamaki Re	1.73	272	P	Pn	15 22 26.8	+1.7
SNGZ	Shannon Statio	1.73	173	P	Pn	15 22 28.0	+2.5
KUTZ	Kaahu Road	1.74	215	P	Pn	15 22 27.2	+2.8
TLZ	Tolley Road	1.76	224	P	Pn	15 22 27.2	+2.6
MBAZ	Motutapu North	1.78	279	P	Pn	15 22 26.2	+1.5
MTHZ	Maungataniwha	1.80	186	P	Pn	15 22 26.9	+2.0
WHTZ	Whakaora	1.83	209	P	Pn	15 22 28.2	+3.0
MRHZ	Matea Rd	1.85	196	P	Pn	15 22 27.3	+2.0
RAHZ	Arahi	1.85	180	P	Pn	15 22 27.9	+2.6
ABAZ	Army Bay	1.86	284	P	Pn	15 22 27.1	+1.7
EPAZ	Eden Park BICE	1.88	275	P	Pn	15 22 27.2	+1.6
HBAZ	Herne Bay Bore	1.90	276	P	Pn	15 22 27.2	+1.5
AWAZ	Awhitu Peninsu	1.95	269	P	Pn	15 22 27.8	+1.6
WATZ	Wairara	1.96	213	P	Pn	15 22 29.0	+2.7
PRGZ	Paritu Road	1.96	161	P	Pn	15 22 29.4	+3.1
HATZ	Hinemaiaia	1.99	203	P	Pn	15 22 28.7	+2.2
KNZ	Kokohu	2.01	167	P	Pn	15 22 29.4	+2.7
WTAZ	Waiatarua	2.01	273	P	Pn	15 22 28.5	+1.7
WHHZ	Waihua	2.02	177	P	Pn	15 22 29.6	+2.8
RVAZ	Riverhead Bore	2.03	277	P	Pn	15 22 28.3	+1.4
NMHZ	Naumai	2.04	186	P	Pn	15 22 29.9	+2.8
RATZ	Rangitukua	2.08	210	P	Pn	15 22 29.9	+2.5
RITZ	Rihia Road	2.14	206	P	Pn	15 22 30.7	+2.8
BKZ	Black Stump Fm	2.15	192	P	Pn	15 22 29.8	+1.8
BKZ	Black Stump Fm	2.15	192		Pn	15 22 29.8	+1.8
MHGZ	Mahia Peninsul	2.19	163	P	Pn	15 22 31.6	+3.3
ARHZ	Aropaoanui	2.20	182	P	Pn	15 22 31.2	+2.8
KATZ	Kakaramea	2.20	209	P	Pn	15 22 31.1	+2.5
HIZ	Hauiti	2.28	230	P	Pn	15 22 32.3	+3.1
HIZ	Hauiti	2.28	230		Pn	15 22 31.9	+2.7
TMVZ	Te Maari	2.32	208	P	Pn	15 22 32.1	+2.4
KRVZ	Karewarewa	2.33	209	P	Pn	15 22 32.3	+2.5
ETVZ	East Tongariro	2.34	207	P	Pn	15 22 32.4	+2.5
WTVZ	West Tongariro	2.37	209	P	Pn	15 22 32.6	+2.5
OTVZ	Oturere	2.38	208	P	Pn	15 22 33.0	+2.7
TWVZ	Taurewa	2.39	212	P	Pn	15 22 33.0	+2.7
MCHZ	McNeill Hill	2.40	187	P	Pn	15 22 33.2	+2.9
NGZ	Nguruhoe	2.41	209	P	Pn	15 22 33.2	+2.6
KWHZ	Kaweka Forest	2.42	192	P	Pn	15 22 33.1	+2.6
TUVZ	Tukino	2.48	207	P	Pn	15 22 33.8	+2.6
WCZ	Waipu Caves	2.48	296	P	Pn	15 22 32.5	+1.4
FWVZ	Far West T-bar	2.50	208	P	Pn	15 22 33.9	+2.3
WHVZ	Whangaehu Hut	2.51	208	P	Pn	15 22 34.1	+2.5
DRZ	Dome Shelter	2.52	208	P	Pn	15 22 34.4	+2.6
TRVZ	Turoa	2.54	208	P	Pn	15 22 34.4	+2.4
WNVZ	Wahianoa	2.55	207	P	Pn	15 22 34.3	+2.3
BHHZ	Black Hill Sta	2.56	198	P	Pn	15 22 33.9	+2.0
MOVZ	Moawhango	2.57	204	P	Pn	15 22 33.9	+1.8
CKHZ	Cape Kidnapper	2.59	180	P	Pn	15 22 35.1	+2.9
PKVZ	Pokaka	2.61	211	P	Pn	15 22 35.1	+2.6
KRHZ	Kereru	2.64	192	P	Pn	15 22 35.0	+2.3
MTVZ	Mangateitei	2.65	208	P	Pn	15 22 35.5	+2.7
KAHZ	Kahuranaki	2.73	183	P	Pn	15 22 36.6	+2.9
VRZ	Vera Road	2.76	221	P	Pn	15 22 37.4	+3.5
PNHZ	Pukenui	2.93	193	P	Pn	15 22 37.8	+2.1
MHEZ	Mangahewa	2.97	226	P	Pn	15 22 40.9	+4.8
PXZ	Pawanui	2.97	183	P	Pn	15 22 38.5	+2.4
WPHZ	Waipukurau	3.04	189	P	Pn	15 22 39.2	+2.3
DREZ	Durham Road	3.11	226	P	Pn	15 22 42.0	+4.3
TSZ	Takapari Road	3.12	196	P	Pn	15 22 39.8	+2.0
WAZ	Wanganui	3.15	211	P	Pn	15 22 40.8	+2.7
LREZ	Lake Rotokare	3.19	221	P	Pn	15 22 42.3	+3.8
PRHZ	Porangahau	3.22	186	P	Pn	15 22 41.3	+2.4
NEZ	North Egmont	3.23	226	P	Pn	15 22 43.4	+4.4
PREZ	Palmer Road	3.24	224	P	Pn	15 22 43.4	+4.3
PKE	Pukeiti	3.24	228	P	Pn	15 22 43.5	+4.4
KHEZ	Kahui Hut	3.29	226	P	Pn	15 22 44.1	+4.4
DVHZ	Dannevirke	3.31	192	P	Pn	15 22 41.8	+1.9
NBEZ	Newall Road No	3.36	228	P	Pn	15 22 45.0	+4.6
OUZ	Omahuta	3.37	302	P	Pn	15 22 42.8	+2.2
OUZ	Omahuta	3.37	302	Pn	Pn	15 22 42.6	+2.0
ANWZ	Angora Road	3.43	188	P	Pn	15 22 43.7	+2.5
OHWZ	Ohakea	3.43	203	P	Pn	15 22 43.2	+2.1
NMEZ	Namu Road	3.45	226	P	Pn	15 22 45.5	+4.1
POWZ	Post Office Ro	3.48	197	P	Pn	15 22 43.8	+2.1
PRWZ	Pori Road	3.60	194	P	Pn	15 22 45.4	+2.4
BFZ	Birch Farm	3.67	190	P	Pn	15 22 45.9	+2.0
BFZ	Birch Farm	3.67	190	Pn	Pn	15 22 45.8	+1.9
MRZ	Mangatainoka R	3.78	198	P	Pn	15 22 46.9	+1.8
TIWZ	Tintock	3.83	194	P	Pn	15 22 48.0	+2.3
CPWZ	Castlepoint	3.91	190	P	Pn	15 22 49.5	+2.9
HOWZ	Holdsworth Sta	4.02	197	P	Pn	15 22 49.4	+1.5
OGWZ	Otaki Gorge	4.04	201	P	Pn	15 22 49.8	+1.7
TMWZ	Te Maipa	4.15	193	P	Pn	15 22 51.2	+1.8
KIW	Kapiti Island	4.16	203	P	Pn	15 22 50.9	+1.4
MTW	Mount Morrison	4.27	196	P	Pn	15 22 52.2	+1.3
CAW	Cannon Point	4.33	201	P	Pn	15 22 52.9	+1.3
TRWZ	Traveller	4.46	194	P	Pn	15 22 54.8	+1.6
DUWZ	D'Urville Isla	4.48	212	P	Pn	15 22 54.8	+1.5
PAWZ	Paruwai Farm	4.50	196	P	Pn	15 22 55.0	+1.4
MSWZ	Moikau Station	4.58	198	P	Pn	15 22 55.7	+1.2
MSWZ	Moikau Station	4.58	198		Pn	15 22 55.4	+0.9
WEL	Wellington	4.58	202	P	Pn	15 22 56.0	+1.5
SNZO	South Karori	4.63	203		Pn	15 22 56.1	+1.1
BHW	Baring Head	4.67	201	P	Pn	15 22 56.6	+1.0
BHW	Baring Head	4.67	201		Pn	15 22 56.4	+0.8
TCW	Tory Channel	4.68	207	P	Pn	15 22 57.0	+1.2
PLWZ	Palliser	4.72	197	P	Pn	15 22 57.3	+1.1
PLWZ	Palliser	4.72	197		Pn	15 22 57.0	+0.8
TUWZ	Tuamarina	5.00	208	P	Pn	15 23 00.6	+1.1
TUWZ	Tuamarina	5.00	208		Pn	15 23 00.3	+0.8
NNZ	Nelson	5.05	214	P	Pn	15 23 01.1	+0.9
NNZ	Nelson	5.05	214	Pn	Pn	15 23 00.8	+0.6
QRZ	Quartz Range	5.17	222	P	Pn	15 23 02.8	+1.2
QRZ	Quartz Range	5.17	222	Pn	Pn	15 23 02.5	+0.8
CMWZ	Cape Campbell	5.18	205	Pn	Pn	15 23 01.6	-0.2
BSWZ	Blackbirch Sta	5.27	207	P	Pn	15 23 04.2	+1.3
BSWZ	Blackbirch Sta	5.27	207	Pn	Pn	15 23 04.1	+1.3
THZ	Tophouse	5.70	213	P	Pn	15 23 09.4	+1.2
THZ	Tophouse	5.70	213	Pn	Pn	15 23 09.2	+0.9
KHZ	Kahutara	6.00	206	P	Pn	15 23 13.3	+1.4
KHZ	Kahutara	6.00	206		Pn	15 23 13.1	+1.2
DSZ	Denniston Nort	6.21	220	P	Pn	15 23 16.9	+2.4
GVZ	Greta Valley S	6.67	207	P	Pn	15 23 21.4	+1.2
LTZ	Lake Taylor	6.80	211	P	Pn	15 23 23.4	+1.5
LTZ	Lake Taylor	6.80	211	Pn	Pn	15 23 23.1	+1.2
AMCZ	Amberley	6.99	208	P	Pn	15 23 25.4	+1.3
INZ	Inchbonnie	7.13	216	P	Pn	15 23 27.4	+1.6
OKCZ	Okains Bay	7.33	204	P	Pn	15 23 30.1	+1.6
MQZ	McQueen's Vall	7.45	206	P	Pn	15 23 30.2	+0.3
MQZ	McQueen's Vall	7.45	206	Pn	Pn	15 23 30.1	+0.3
AKCZ	Akaroa Harbour	7.51	204	P	Pn	15 23 32.7	+2.0
RACZ	Rakaia	7.65	208	P	Pn	15 23 33.3	+0.8
MHCZ	Mount Hutt	7.71	211	P	Pn	15 23 34.1	+0.7
WVZ	Waitaha Valley	7.73	217	P	Pn	15 23 35.1	+1.6
WACZ	Wakanui South	7.95	209	P	Pn	15 23 38.2	+2.0
RPZ	Rata Peaks	8.08	213	P	Pn	15 23 39.1	+1.2
RPZ	Rata Peaks	8.08	213	Pn	Pn	15 23 39.0	+1.0
GCSZ	Gaunt Creek Bo	8.11	218	P	Pn	15 23 40.3	+2.0
ARCZ	Arundel	8.22	211	P	Pn	15 23 40.9	+1.2
FOZ	Fox Glacier	8.52	218	P	Pn	15 23 45.3	+1.8
FOZ	Fox Glacier	8.52	218	Pn	Pn	15 23 44.8	+1.4
LBZ	Lake Benmore	8.99	213	P	Pn	15 23 51.1	+1.6
LBZ	Lake Benmore	8.99	213	Pn	Pn	15 23 50.5	+1.1
ODZ	Otahua Downs	9.34	209	P	Pn	15 23 56.2	+2.4
ODZ	Otahua Downs	9.34	209	Pn	Pn	15 23 54.6	+0.8
JCZ	Jackson Bay	9.43	219	P	Pn	15 23 55.7	+0.7
WKZ	Wanaka	9.87	216	P	Pn	15 24 03.0	+2.6
WKZ	Wanaka	9.87	216	Pn	Pn	15 24 00.9	+0.5
MLZ	Mavora Lakes	10.69	216	P	P	15 24 13.8	-1.5
MLZ	Mavora Lakes	10.69	216	P	Pn	15 24 13.2	+2.4
WHZ	Wether Hill Ro	11.16	215	P	Pn	15 24 18.7	+2.1
WHZ	Wether Hill Ro	11.16	215		Pn	15 24 17.8	+1.1
DCZ	Deep Cove	11.23	219		Pn	15 24 18.7	+1.3

IDC ***26*** *16:02:29.5±0.6, 27°.18N×103°.52E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.2/35, mbtmp4.2/22, ML3.7/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/41, Error ellipse: s-maj=16.8km s-min=12.9km az=59.0*
BJI ***26*** *16:02:30.0±0.0, 27°.10N×103°.32E, h12km, mB4.7/25, mb4.5/33, ML4.3/20, Ms4.2/32, Ms7.3 9/28*
MOS ***26*** *16:02:32.9±1.1, 27°.12N×103°.56E, h34km, mb4.6/21, Error ellipse: s-maj=9.1km s-min=5.8km az=94.0*
NEIC ***26*** *16:02:34.8±1.5, 27°.11N±0°.06×103°.55E±0°.09, h33km±4km, mb4.6/88, Error ellipse: s-maj=11.7km s-min=8.4km az=116.0*

ISC 26 16:02:31.4±0.3, 27°.14N±0°.03×103°.52E±0°.04, h10km, n212, σ1ŝ46/217, mb4.6/82, MS3.4/10, 6C-3D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	2.13	199	*e*Pg	Pn	16 03 06.8	-0.4
KMI				Sg	Sb	16 03 36.0	-0.7
KMI				smax	smax		
	comp=N,880nm,0.8s						
KMI				smax	smax		
	comp=E,1μm,1.5s						
KMI	Kunming	2.13	199	P	Pn	16 03 06.2	-1.0
KMI	Kunming	2.13	199		Pn	16 03 06.2	-1.0
GYA	Guiyang	2.89	103	Pn	Pb	16 03 21.5	-1.7
GYA				Pg	Pg	16 03 29.0	+2.1
GYA				Sn	Sn	16 03 53.8	+1.2
GYA				Sg

	comp=Z,170nm,3.7s								
TIA					LR	LR			
	comp=Z,450nm,14.2s								
RAMN	**Ramite**	**15.08**	**273**	*e*P	**Pn**		**16 06 04.1**	**-0.7**	
	comp=Z,19nm,0.6s								
HHC	**Hu-ho-hao-te**	**15.20**	**24**	*e*P	**Pn**		**16 06 07.8**	**+1.5**	
HHC				S	**Sn**		**16 08 56.0**	**+1.2**	
HHC				pmax	pmax				
	comp=Z,17nm,0.9s								
HHC				pmax	pmax				
	comp=Z,88nm,5.1s								
HHC				LR	LR				
	comp=Z,360nm,4.7s								
HHC				LR	LR				
	comp=Z,320nm,5.0s								
HHC				LR	LR				
	comp=Z,150nm,4.4s								
GUN	**Gumba**	**15.67**	**277**	*e*P	**Pn**		**16 06 08.5**	**-4.2**	
	comp=Z,18nm,0.5s								
SSE	**Sheshan**	**15.93**	**72**	P	**Pn**		**16 06 12.8**	**-2.9**	
SSE				S	**Sn**		**16 09 10.8**	**-1.7**	
SSE				pmax	pmax				
	comp=Z,9.0nm,0.7s								
SSE				pmax	pmax				
	comp=Z,13nm,3.5s								
SSE				LR	LR				
	comp=N,300nm,9.5s								
SSE				LR	LR				
	comp=E,190nm,8.4s								
PKI	**Pulchoki**	**16.10**	**276**	*e*P	**Pn**		**16 06 14.5**	**-3.7**	
	comp=E,30nm,0.7s								
PKIN	**Phulchoki**	**16.11**	**276**	*e*P	**Pn**		**16 06 14.4**	**-3.9**	
	comp=E,22nm,0.6s								
KKN	**Kakani**	**16.20**	**276**	*e*P	**Pn**		**16 06 15.5**	**-4.0**	
	comp=E,26nm,0.6s								
DMN	**Daman**	**16.37**	**276**	*e*P	**Pn**		**16 06 18.8**	**-2.8**	
	comp=E,23nm,0.7s								
BJI	**Beijing**	**16.61**	**36**	P	**Pn**		**16 06 25.0**	**+0.7**	
BJI				pmax	pmax				
	comp=E,6.0nm,1.2s								
BJI				LR	LR				
	comp=E,240nm,12.6s								
BJI				LR	LR				
	comp=E,270nm,10.0s								
BJI				LR	LR				
	comp=E,99nm,13.7s								
GKN	**Gorkha**	**16.77**	**277**	*e*P	**Pn**		**16 06 22.2**	**-4.4**	
	comp=E,19nm,0.7s								
DANN	**Dangsing**	**17.53**	**279**	*e*P	**Pn**		**16 06 30.8**	**-5.5**	
	comp=E,27nm,0.5s								
KOLN	**Koldanda**	**17.69**	**277**	*e*P	**Pn**		**16 06 33.9**	**-4.3**	
	comp=E,13nm,0.7s								
PYUN	**Piuthan**	**18.22**	**278**	*e*P	**Pn**		**16 06 39.4**	**-5.3**	
	comp=E,34nm,0.9s								
SONM	**Songino Array**	**20.78**	**5**	P	**P**		**16 07 12.6**	**-0.1**	
	comp=E,2.6nm,0.5s,baz=188,slow=12,SNR=12								
SONM	**Songino Array**	**20.78**	**5**	P	**P**		**16 07 11.4**	**-1.3**	
ULN	**Ulaanbaatar**	**20.87**	**7**	*ce*P	**P**		**16 07 13.2**	**-0.5**	
ULN				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ULN	**Ulaanbaatar**	**20.87**	**7**	P	**P**		**16 07 12.8**	**-0.9**	
WMQ	**Urumqi**	**20.99**	**327**	*e*P	**P**		**16 07 18.0**	**+3.1**	
WMQ				pP	sP		16 07 24.5	+4.5	
WMQ				pmax	pmax				
	comp=Z,15nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,19nm,4.7s								
IPM	**Ipoh**	**22.66**	**186**	P	**P**		**16 07 31.3**	**-1.7**	
IPM				IAmb	IAmb		16 07 34.4		
	comp=Z,10nm,0.8s								
KSAR	**Wonju Array Be**	**22.96**	**57**	P	**P**		**16 07 36.4**	**+0.5**	
KSAR	**Wonju Array Be**	**22.96**	**57**	P	**P**		**16 07 36.4**	**+0.5**	
KS19	**Wonju Array Si**	**22.96**	**57**	P	**P**		**16 07 35.8**	**-0.2**	
KS19				IAmb	IAmb		16 07 52.6		
	comp=Z,16nm,1.0s								
KSRS	**Korea Array**	**22.99**	**57**	P	**P**		**16 07 35.7**	**-0.5**	
	comp=Z,3.7nm,0.7s,baz=244,slow=10,SNR=9.2								
KSRS				LR	LR		16 16 17.9		
	comp=Z,96nm,21.1s,baz=250,slow=36								
ZAK	**Zakamensk**	**23.21**	**360**	*e*P	**P**		**16 07 37.4**	**-1.1**	
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
JSU	**Suzuyama**	**23.86**	**73**	P	**P**		**16 07 45.8**	**+0.8**	
JSU				IAmb	IAmb		16 07 46.0		
	comp=Z,19nm,1.1s								
CN2	**Changchun**	**24.29**	**41**	*e*P	**P**		**16 07 48.5**	**-0.4**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
JNU	**Nakatsue**	**24.36**	**69**	P	**P**		**16 07 48.8**	**-1.0**	
	comp=Z,5.4nm,1.0s,baz=273,slow=18,SNR=1.3								
JNU				LR	LR		16 18 01.2		
	comp=Z,115nm,18.1s,baz=262,slow=38								
JNU	**Nakatsue**	**24.36**	**69**	P	**P**		**16 07 49.3**	**-0.4**	
JNU				IAmb	IAmb		16 08 00.1		
	comp=Z,14nm,0.9s								
TLY	**Talaya**	**24.51**	**0**	LR	LR		16 18 31.4		
	comp=Z,116nm,19.5s,baz=166,slow=39								
PSI	**Prapat**	**24.60**	**191**	LR	LR		16 17 48.3		
	comp=Z,102nm,18.6s,baz=276,slow=37								
HIA	**Hailar**	**25.40**	**25**	P	**P**		**16 07 57.6**	**-1.3**	
HIA				pmax	pmax				
	comp=Z,14nm,0.9s								
HIA	**Hailar**	**25.40**	**25**	P	**P**		**16 07 57.6**	**-1.3**	
HIA				IAmb	IAmb		16 08 02.5		
	comp=Z,14nm,0.9s								
DGZ	**Jazzator, Alta**	**25.70**	**335**	*i* P	**P**		**16 08 03.6**	**+1.7**	
DGZ				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MK31	**Makanchi Array**	**25.79**	**325**	*ce*P	**P**		**16 08 03.7**	**+1.2**	
MK31	**Makanchi Array**	**25.79**	**325**	P	**P**		**16 08 01.0**	**-1.6**	
MKAR	**Makanchi Array**	**25.79**	**325**	P	**P**		**16 08 03.2**	**+0.7**	
	comp=Z,3.5nm,0.6s,baz=129,slow=9.5,SNR=18								
MKAR				LR	LR		16 19 27.7		
	comp=Z,142nm,19.0s,baz=145,slow=40								
MKAR	**Makanchi Array**	**25.79**	**325**	*i* P	**P**		**16 08 04.0**	**+1.5**	
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
MKAR	**Makanchi Array**	**25.79**	**325**	P	**P**		**16 08 00.7**	**-1.8**	
SBUM	**Sibu**	**25.93**	**160**	P	**P**		**16 08 03.9**	**-0.1**	
MAKZ	**Makanchi**	**25.96**	**325**	P	**P**		**16 08 04.5**	**+0.4**	
MAKZ				pmax	pmax				
	comp=Z,10.0nm,1.3s								
MAKZ	**Makanchi**	**25.96**	**325**	P	**P**		**16 08 04.5**	**+0.4**	
MYLDM	**Lahad Datu**	**26.09**	**144**	P	**P**		**16 08 03.3**	**-2.2**	
MYLDM				IAmb	IAmb		16 08 21.5		
	comp=Z,10nm,1.0s								
KDJ	**Kajisay**	**26.19**	**312**	P	**P**		**16 08 05.6**	**-0.8**	
KDJ				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KDJ	**Kajisay**	**26.19**	**312**	P	**P**		**16 08 05.6**	**-0.8**	
NIL	**Nilore**	**26.84**	**291**	P	**P**		**16 08 12.8**	**+0.6**	
NIL				pmax	pmax				
	comp=Z,13nm,0.7s								
NIL	**Nilore**	**26.84**	**291**	P	**P**		**16 08 12.8**	**+0.6**	
NIL				IAmb	IAmb		16 08 24.9		
	comp=Z,13nm,0.7s								
AAK	**Ala-Archa**	**28.21**	**311**	*ce*P	**P**		**16 08 26.0**	**+1.5**	
AAK				pmax	pmax				
	comp=Z,6.0nm,0.5s								
JWT	**Wachi**	**28.36**	**65**	P	**P**		**16 08 24.9**	**-0.8**	
JWT				IAmb	IAmb		16 08 52.7		
	comp=Z,8.9nm,1.1s								
USA0B	**Ussuriysk Arra**	**28.52**	**46**	P	**P**		**16 08 26.8**	**-0.2**	
USA0B				pmax	pmax				
	comp=Z,20nm,1.4s								
USA0B	**Ussuriysk Arra**	**28.52**	**46**	P	**P**		**16 08 26.8**	**-0.2**	
USA0B				IAmb	IAmb		16 08 52.3		
	comp=Z,20nm,1.4s								
USRK	**Ussuriysk Ar.**	**28.52**	**46**	P	**P**		**16 08 26.5**	**-0.5**	
	comp=Z,5.2nm,0.7s,baz=246,slow=8.7,SNR=11								
USRK				LR	LR		16 19 48.9		
	comp=Z,72nm,20.7s,baz=233,slow=36								
ZAA0	**Zalesovo Array**	**30.12**	**338**	P	**P**		**16 08 41.6**	**+0.5**	
ZALV	**Zalesovo Beam**	**30.12**	**338**	P	**P**		**16 08 42.3**	**+1.1**	
	comp=Z,1.6nm,0.4s,baz=138,slow=8.8,SNR=9.7								
ZALV				LR	LR		16 21 33.5		
	comp=Z,147nm,18.3s,baz=144,slow=38								
ZALV	**Zalesovo Beam**	**30.12**	**338**	*i* P	**P**		**16 08 42.5**	**+1.3**	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ZALV	**Zalesovo Beam**	**30.12**	**338**	P	**P**		**16 08 41.6**	**+0.4**	
KURBB	**Kurchatov Arra**	**30.20**	**328**	P	**P**		**16 08 41.2**	**-0.6**	
	comp=Z,1.2nm,0.3s,baz=135,slow=9.6,SNR=8.2								
KURK	**Kurchatov**	**30.22**	**328**	*ce*P	**P**		**16 08 44.9**	**+2.9**	
KURK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**30.22**	**328**	P	**P**		**16 08 41.4**	**-0.6**	
MJAR	**Matsushiro Arr**	**30.79**	**64**	LR	LR		16 21 53.2		
	comp=Z,115nm,20.3s,baz=285,slow=38								
KLR	**Kul'dur**	**30.98**	**37**	*i* P	**P**		**16 08 49.1**	**+0.3**	
KLR				pmax	pmax				
	comp=Z,4.0nm,1.4s								
KKAR	**Karatay Array**	**31.10**	**309**	P	**P**		**16 08 50.7**	**+0.7**	
KKAR				pmax	pmax				
	comp=Z,5.0nm,1.5s								
KKAR	**Karatay Array**	**31.10**	**309**	P	**P**		**16 08 50.7**	**+0.7**	
BRVK	**Borovoye**	**35.74**	**326**	*ce*P	**P**		**16 09 31.3**	**+1.1**	
BRVK				pmax	pmax				
	comp=Z,9.0nm,2.5s								
BRVK	**Borovoye**	**35.74**	**326**	P	**P**		**16 09 31.9**	**+1.7**	
YAK	**Yakutsk**	**38.99**	**19**	*e*P	**P**		**16 09 55.8**	**-1.8**	
YAK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
YAK	**Yakutsk**	**38.99**	**19**	P	**P**		**16 09 56.8**	**-0.8**	
GEYT	**Alibeck**	**39.42**	**298**	P	**P**		**16 10 02.4**	**+0.7**	
	comp=Z,2.2nm,0.7s,baz=99,slow=9.2,SNR=5.0								
GEYT	**Alibeck**	**39.42**	**298**	P	**P**		**16 10 00.3**	**-1.4**	
ABKAR	**Akbulak array**	**40.02**	**315**	P	**P**		**16 10 05.6**	**-0.8**	
ABKAR	**Akbulak array**	**40.02**	**315**	P	**P**		**16 10 05.1**	**-1.3**	
NRIK	**Noril'sk**	**43.26**	**352**	P	**P**		**16 10 33.1**	**+0.4**	
	comp=Z,2.5nm,0.4s,baz=144,slow=5.8,SNR=7.2								
NRIK	**Noril'sk**	**43.26**	**352**	*ce*P	**P**		**16 10 33.9**	**+1.2**	
NRIK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
ARU	**Arti**	**43.31**	**325**	*d i* P	**P**		**16 10 35.1**	**+1.8**	
ARU							16 12 12.2		
ARU				S	**S**		**16 17 04.7**	**+4.1**	
ARU				pmax	pmax				
	comp=Z,7.0nm,1.2s								
ARU	**Arti**	**43.31**	**325**	P	**P**		**16 10 34.3**	**+1.0**	
TIXI	**Tiksi**	**46.73**	**11**	*i* P	**P**		**16 10 59.8**	**-0.4**	
TIXI	**Tiksi**	**46.73**	**11**	P	**P**		**16 10 58.3**	**-1.9**	
PETK	**Petropavlovsk-**	**47.44**	**42**	LR	LR		16 33 35.1		
	comp=Z,62nm,18.7s,baz=239,slow=39								
KBZ	**Khabaz**	**50.99**	**306**	P	**P**		**16 11 33.4**	**+0.1**	
	comp=Z,1.5nm,0.9s,baz=72,slow=6.4,SNR=1.7								
BILL	**Bilibino**	**54.98**	**24**	P	**P**		**16 12 01.9**	**-0.5**	
BILL				pmax	pmax				
	comp=Z,31nm,1.5s								
BILL	**Bilibino**	**54.98**	**24**	P	**P**		**16 12 01.9**	**-0.5**	
WB0	**Warramunga Arr**	**55.40**	**144**	P	**P**		**16 12 05.5**	**-0.5**	
WB0				IAmb	IAmb		16 12 13.2		
	comp=Z,3.5nm,0.9s								
WRAB	**Tennant Creek**	**55.52**	**144**	P	**P**		**16 12 06.8**	**-0.1**	
WRAB				pmax	pmax				
	comp=Z,7.0nm,0.6s								
WRAB	**Tennant Creek**	**55.52**	**144**	P	**P**		**16 12 06.8**	**-0.1**	
WRAB				IAmb	IAmb		16 12 08.8		
	comp=Z,6.6nm,0.6s								
WRA	**Warramunga Arr**	**55.52**	**144**	P	**P**		**16 12 07.0**	**+0.1**	
	comp=Z,5.1nm,0.7s,baz=334,slow=8.4,SNR=76								
WRA	**Warramunga Arr**	**55.52**	**144**	P	**P**		**16 12 06.7**	**-0.2**	
WB2	**Warramunga Arr**	**55.53**	**144**	P	**P**		**16 12 06.8**	**-0.1**	
WR0	**Warramunga Arr**	**55.64**	**144**	P	**P**		**16 12 07.5**	**-0.3**	
WR0				IAmb	IAmb		16 12 09.6		
	comp=Z,3.8nm,0.6s								
KRVT	**Keravat (AS076**	**56.30**	**116**	LR	LR		16 34 31.5		
	comp=Z,34nm,21.4s,baz=263,slow=34								
LVZ	**Lovozero**	**57.21**	**335**	P	**P**		**16 12 18.9**	**+0.4**	
LVZ				pmax	pmax				
	comp=Z,89nm,1.5s								
LVZ	**Lovozero**	**57.21**	**335**	P	**P**		**16 12 18.9**	**+0.4**	
BRTR	**Keskin Array B**	**58.31**	**302**	P	**P**		**16 12 27.0**	**+0.2**	
	comp=Z,1.1nm,0.8s,baz=96,slow=6.3,SNR=2.1								
BRTR	**Keskin Array B**	**58.31**	**302**	P	**P**		**16 12 25.9**	**-1.0**	
AS31	**Alice Springs**	**58.42**	**147**	P	**P**		**16 12 27.1**	**-0.4**	
ASAR	**Alice Springs**	**58.42**	**147**	P	**P**		**16 12 27.8**	**+0.3**	
	comp=Z,2.3nm,0.6s,baz=327,slow=6.9,SNR=41								
AKASG	**Malin Array Be**	**59.76**	**315**	P	**P**		**16 12 34.7**	**-1.8**	
	comp=Z,0.5nm,0.4s,baz=68,slow=6.5,SNR=7.0								
AKASG	**Malin Array Be**	**59.76**	**315**	P	**P**		**16 12 36.4**	**-0.1**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**59.76**	**315**	P	**P**		**16 12 36.4**	**-0.1**	
AKBB	**Malin Array Si**	**59.76**	**315**	P	**P**		**16 12 37.2**	**+0.7**	
AKBB				pmax	pmax				
	comp=Z,11nm,1.5s								
AKBB	**Malin Array Si**	**59.76**	**315**	P	**P**		**16 12 37.1**	**+0.7**	
AKBB				IAmb	IAmb		16 12 45.0		
	comp=Z,11nm,1.5s								
KEV	**Kevo**	**60.15**	**337**	P	**P**		**16 12 39.4**	**+0.6**	
KEV				pmax	pmax				
	comp=Z,37nm,1.3s								
KEV	**Kevo**	**60.15**	**337**	P	**P**		**16 12 39.4**	**+0.6**	
FIA1	**FINESS Array S**	**60.59**	**327**	P	**P**		**16 12 42.5**	**+0.6**	
FINES	**FINESS Array B**	**60.59**	**327**	P	**P**		**16 12 40.6**	**-1.3**	
	comp=Z,2.2nm,0.4s,baz=97,slow=7.3,SNR=16								
FINES	**FINESS Array B**	**60.59**	**327**	P	**P**		**16 12 42.4**	**+0.5**	
FINES	**FINESS Array B**	**60.59**	**327**	P	**P**		**16 12 42.4**	**+0.5**	
ARCES	**ARCESS Array B**	**60.67**	**337**	P	**P**		**16 12 40.4**	**-2.0**	
	comp=Z,1.7nm,0.6s,baz=90,slow=7.5,SNR=12								
ELL	**Elmali**	**61.82**	**299**	P	**P**		**16 12 51.4**	**+0.5**	
ELL				pmax	pmax				
	comp=Z,31nm,1.0s								
ELL	**Elmali**	**61.82**	**299**	P	**P**		**16 12 51.4**	**+0.5**	
BURAR	**Bucovina Array**	**62.85**	**312**	P	**P**		**16 12 58.5**	**+0.9**	
RDOG	**Red Dog Mine**	**66.45**	**24**	P	**P**		**16 13 21.3**	**+0.7**	
RDOG				IAmb	IAmb		16 13 28.3		
	comp=Z,9.5nm,1.2s								
VYHS	**Vyhne**	**66.81**	**314**	*e*P	**P**		**16 13 22.2**	**-1.1**	
VYHS	**Vyhne**	**66.81**	**314**	*e*P	**P**		**16 13 22.2**	**-1.1**	
NC405	**NORSAR Array S**	**67.48**	**328**	P	**P**		**16 13 27.1**	**-0.2**	
NC303	**NORSAR Array S**	**67.61**	**328**	P	**P**		**16 13 28.5**	**+0.4**	
NC602	**NORSAR Array S**	**67.66**	**328**	P	**P**		**16 13 28.4**	**0.0**	
NB201	**NORSAR Array S**	**67.69**	**328**	P	**P**		**16 13 28.6**	**-0.1**	
NB2	**NORSAR Subarra**	**67.73**	**328**	P	**P**		**16 13 28.9**	**0.0**	
	comp=Z,3.9nm,0.7s,baz=76,slow=6.5								
NOA	**NORSAR Array B**	**67.73**	**328**	P	**P**		**16 13 26.9**	**-2.0**	
	comp=Z,1.5nm,0.7s,baz=86,slow=4.6,SNR=4.4								
NC204	**NORSAR Array S**	**67.88**	**329**	P	**P**		**16 13 28.7**	**-1.2**	
NC204				IAmb	IAmb		16 13 53.1		
	comp=Z,2.1nm,0.5s								
STKA	**Stephens Creek**	**69.00**	**146**	P	**P**		**16 13 36.1**	**-1.0**	
	comp=Z,1.4nm,0.8s,baz=311,slow=11,SNR=3.0								
STKA	**Stephens Creek**	**69.00**	**146**	P	**P**		**16 13 38.2**	**+1.1**	
STKA				pmax	pmax				
	comp=Z,2.0nm,1.3s								
STKA	**Stephens Creek**	**69.00**	**146**	P	**P**		**16 13 38.2**	**+1.1**	
CLL	**Colim**	**69.62**	**318**	*e*P	**P**		**16 13 40.0**	**-0.8**	
CLL	**Colim**	**69.62**	**318**	*e*P	**P**		**16 13 40.0**	**-0.8**	
GERES	**GERESS Array B**	**69.97**	**315**	P	**P**		**16 13 41.6**	**-1.5**	
	comp=Z,1.1nm,0.7s,baz=60,slow=7.9,SNR=8.5								
GERES	**GERESS Array B**	**69.97**	**315**	P	**P**		**16 13 42.4**	**-0.8**	
GERES	**GERESS Array B**	**69.97**	**315**	P	**P**		**16 13 42.4**	**-0.8**	
TTA	**Tatalina**	**70.77**	**28**	P	**P**		**16 13 47.4**	**-0.3**	
TTA				pmax	pmax				
	comp=Z,8.0nm,1.3s								
TTA	**Tatalina**	**70.77**	**28**	P	**P**		**16 13 47.4**	**-0.3**	
TTA				IAmb	IAmb		16 14 14.9		
	comp=Z,7.5nm,1.3s								
PRED	**Cave del Predi**	**70.84**	**313**	P	**P**		**16 13 48.7**	**+0.2**	
PRED				IAmb	IAmb		16 14 06.9		
	comp=Z,12nm,1.4s								
TOLK	**Toolik Lake Re**	**70.90**	**22**	P	**P**		**16 13 49.1**	**+0.7**	
TOLK				IAmb	IAmb		16 13 57.3		
	comp=Z,6.7nm,1.1s								
COLD	**Coldfoot**	**71.29**	**23**	P	**P**		**16 13 51.2**	**+0.4**	
COLD				IAmb	IAmb		16 13 54.7		
	comp=Z,5.6nm,1.0s								
ABTA	**Abfaltersbach**	**71.42**	**314**	*e*P	**P**		**16 13 52.0**	**0.0**	
	comp=Z,3.1nm,1.0s								
SVW2	**Sparrevohn**	**71.66**	**30**	P	**P**		**16 13 53.6**	**+0.6**	
SVW2				IAmb	IAmb		16 13 58.4		
	comp=Z,12nm,1.3s								
CNBA	**Chernabura Isl**	**72.05**	**37**	P	**P**		**16 13 54.4**	**-1.1**	
SQTA	**Sankt Quirin**	**72.09**	**314**	*e*P	**P**		**16 13 56.2**	**+0.1**	
	comp=Z,3.0nm,0.6s								
BPAW	**Bear Paw Mtn.**	**72.36**	**26**	P	**P**		**16 13 56.7**	**-0.5**	
BPAW				IAmb	IAmb		16 14 00.8		
	comp=Z,8.6nm,0.7s								
PPLA	**Purkeypile**	**72.39**	**28**	P	**P**		**16 13 57.2**	**-0.4**	
FETA	**Feichten**	**72.47**	**314**	P	**P**		**16 13 57.2**	**-1.1**	
	comp=Z,5.5nm,1.4s								
I23K	**Minto, Yukon-K**	**72.52**	**25**	P	**P**		**16 13 58.7**	**+0.6**	
EUNU	**Eureka**	**72.89**	**2**	P	**P**		**16 14 00.7**	**+0.5**	
FUORN	**Ofenpass-Fuorn**	**72.91**	**314**	P	**P**		**16 14 01.2**	**+0.1**	
FUORN				IAmb	IAmb		16 14 04.5		
	comp=Z,9.1nm,1.3s								
TRF	**Thorofare Moun**	**72.92**	**27**	P	**P**		**16 14 00.9**	**+0.1**	
TRF				IAmb	IAmb		16 14 12.2		
	comp=Z,7.5nm,1.1s								
MDM	**Murphy Dome**	**73.03**	**25**	P	**P**		**16 14 00.5**	**-0.8**	
MDM				IAmb	IAmb		16 14 03.6		
	comp=Z,6.3nm,0.7s								
SKT	**Skwentna**	**73.06**	**28**	P	**P**		**16 14 00.3**	**-1.1**	
SKT				IAmb	IAmb		16 14 05.9		
	comp=Z,11nm,1.4s								
SPU	**Mount Spurr**	**73.18**	**29**	P	**P**		**16 14 02.4**	**+0.2**	
POKR	**Poker Plat Res**	**73.26**	**25**	P	**P**		**16 14 02.1**	**-0.4**	
POKR				IAmb	IAmb		16 14 04.9		
	comp=Z,8.2nm,0.8s								
WRH	**Wood River Hil**	**73.31**	**25**	P	**P**		**16 14 01.5**	**-1.4**	
CCB	**Clear Creek Bu**	**73.34**	**25**	P	**P**		**16 14 01.8**	**-1.2**	
TUE	**Stuetta**	**73.55**	**314**	P	**P**		**16 14 05.1**	**+0.2**	
TUE				IAmb	IAmb		16 14 11.8		
	comp=Z,4.5nm,0.6s								
SUA	**Susitna One**	**73.62**	**29**	P	**P**		**16 14 05.8**	**+0.9**	
SUA				IAmb	IAmb		16 14 09.2		
	comp=Z,14nm,1.2s								
IL31		**73.63**	**25**	P	**P**		**16 14 04.2**	**-0.4**	
ILAR	**Eielson Array**	**73.63**	**25**	P	**P**		**16 14 03.4**	**-1.4**	
	comp=Z,0.5nm,0.4s,baz=288,slow=4.0,SNR=9.0								
ILAR	**Eielson Array**	**73.63**	**25**	P	**P**		**16 14 02.7**	**-2.1**	
GHO	**Glory Hole Cre**	**74.25**	**28**	P	**P**		**16 14 08.1**	**-0.5**	
GHO				IAmb	IAmb		16 14 32.8		
	comp=Z,8.7nm,1.1s								
OHAK	**Old Harbor**	**74.33**	**33**	P	**P**		**16 14 08.3**	**-0.6**	
KDAK	**Kodiak Island**	**74.43**	**33**	P	**P**		**16 14 09.0**	**-0.5**	
KDAK				pmax	pmax				
	comp=Z,40nm,1.5s								
KDAK	**Kodiak Island**	**74.43**	**33**	P	**P**		**16 14 09.0**	**-0.5**	
SML	**Sawmill**	**74.48**	**28**	P	**P**		**16 14 09.3**	**-0.5**	
SML				IAmb	IAmb		16 14 20.6		
	comp=Z,9.9nm,0.9s								
KNK	**Knik Glacier**	**74.62**	**28**	P	**P**		**16 14 11.9**	**+1.3**	
KNK				IAmb	IAmb		16 14 21.4		
	comp=Z,10nm,1.4s								
SEW	**Seward**	**74.81**	**30**	P	**P**		**16 14 12.8**	**+1.1**	
SCM	**Sheep Creek Mo**	**74.89**	**28**	P	**P**		**16 14 13.1**	**+0.9**	
SCM				pmax	pmax				
	comp=Z,15nm,1.2s								
SCM	**Sheep Creek Mo**	**74.89**	**28**	P	**P**		**16 14 13.1**	**+0.9**	
SENIN	**Lac Senin/Sane**	**74.90**	**315**	P	**P**		**16 14 13.1**	**+0.3**	
SENIN				IAmb	IAmb		16 14 31.0		
	comp=Z,5.3nm,1.3s								
M24K	**Tolsona, Glenn**	**75.23**	**27**	P	**P**		**16 14 14.6**	**+0.4**	
M24K				IAmb	IAmb		16 14 17.3		
	comp=Z,9.9nm,0.8s								
DOT	**Dot Lake**	**75.26**	**25**	P	**P**		**16 14 15.0**	**+0.7**	
KLU	**Klutina**	**75.64**	**28**	P	**P**		**16 14 16.3**	**-0.3**	
KLU				IAmb	IAmb		16 14 18.7		
	comp=Z,6.9nm,0.7s								
EGAK	**Eagle**	**75.72**	**24**	P	**P**		**16 14 17.0**	**+0.2**	
FID	**Port Fidalgo**	**75.78**	**28**	P	**P**		**16 14 17.6**	**+0.3**	
INK	**Inuvik**	**76.06**	**19**	P	**P**		**16 14 17.8**	**-0.9**	
INK				pmax	pmax				
	comp=Z,6.0nm,1.2s								
INK	**Inuvik**	**76.06**	**19**	P	**P**		**16 14 17.8**	**-0.9**	
INK				IAmb	IAmb		16 14 24.0		
	comp=Z,5.6nm,1.1s								
N25K	**Chitina, Valde**	**76.13**	**27**	P	**P**		**16 14 18.9**	**-0.4**	
N25K				IAmb	IAmb		16 14 22.0		
	comp=Z,3.5nm,0.6s								
EYAK	**Cordova Ski Ar**	**76.20**	**28**	P	**P**		**16 14 19.1**	**-0.5**	
GLB	**Gilahina Butte**	**76.53**	**27**	P	**P**		**16 14 21.6**	**0.0**	
GLB				IAmb	IAmb		16 14 24.2		
	comp=Z,4.1nm,0.6s								
VRDI	**Verde Repeater**	**76.79**	**27**	P	**P**		**16 14 23.3**	**0.0**	
VRDI				IAmb	IAmb		16 14 28.7		
	comp=Z,6.3nm,1.2s								
MCARA	**

comp=Z,0.5nm,0.9s,baz=54,slow=4.0,SNR=2.0
TORD LR LR 16 44 19.5
comp=Z,70nm,18.1s,baz=300,slow=36
TORD Torodi Ar. Bea 35.96 265 P P 16 29 51.7 -1.2
KOWA Kowa 40.98 269 P P 16 30 34.9 -0.3
comp=Z,1.1nm,0.6s,baz=8.6,slow=4.0,SNR=3.8
ESDC Sonseca Array 41.35 308 P P 16 30 38.0 0.0
comp=Z,1.3nm,1.1s,baz=101,slow=6.7,SNR=4.0
ESDC Sonseca Array 41.35 308 IAmb IAmb 16 30 40.9
comp=Z,3.0nm,1.1s
KURK Kurchatov 43.95 36 P P **16 30 58.9 +0.1**
KURK IAmb IAmb 16 31 01.4
comp=Z,4.6nm,1.1s
MAKZ Makanchi 44.25 43 P P **16 31 01.8 +0.4**
MK31 Makanchi Array 44.44 43 P P **16 31 03.4 +0.4**
MK31 IAmb IAmb 16 31 04.4
comp=Z,2.3nm,0.7s
MKAR Makanchi Array 44.44 43 P P **16 31 04.0 +1.0**
comp=Z,3.2nm,0.8s,baz=239,slow=7.2,SNR=16
MKAR Makanchi Array 44.44 43 P P **16 31 03.3 +0.4**
NOA NORSAR Array B 45.32 342 P P **16 31 09.2 -0.5**
comp=Z,1.1nm,0.8s,baz=152,slow=8.6,SNR=2.2
ZAA0 Zalesovo Array 48.81 35 P P **16 31 36.9 -0.1**
ZAA0 IAmb IAmb 16 31 38.5
comp=Z,2.7nm,1.1s
ZALV Zalesovo Beam 48.81 35 P P **16 31 37.8 +0.8**
comp=Z,0.9nm,0.5s,baz=243,slow=8.9,SNR=6.6
ZALV Zalesovo Beam 48.81 35 P P **16 31 36.8 -0.2**
CMAR Chiang Mai Arr 56.73 81 P P **16 32 36.1 -0.1**
comp=Z,0.2nm,0.3s,baz=284,slow=8.3,SNR=2.1
SONM Songino Array 60.64 46 P P **16 33 03.4 +0.3**
comp=Z,1.7nm,0.9s,baz=271,slow=8.5,SNR=5.4
SONM Songino Array 60.64 46 IAmb IAmb 16 33 04.2
comp=Z,1.1nm,0.8s
KSRS Korea Array 77.62 55 LR LR 17 15 22.6
comp=Z,30nm,20.7s,baz=357,slow=41

*GCG **26** 16:24:33.6±2.0, 16°.63N×92°.12W, h81km±865km, MD4.0*
*MEX **26** 16:24:35.1±1.0, 15°.52N×91°.80W, h237km±14km, MD4.0*
ISC 26 16:24:35.6±2.6, 15°.5N±0°.1×91°.99W±0°.09, h226km±18km, n9, σ1°67/15, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.66**	**204**	*i* P	**Pn**	**16 25 06.0**	**-0.4**
THIG				*i* S	**S**	**16 25 30.4**	**0.0**
CCIG	**Comitan**	**0.78**	**349**	*i* P	**Pn**	**16 25 07.4**	**+0.3**
CCIG				*i* S	**S**	**16 25 31.2**	**-0.7**
ERG	**Entre ros, C**	**1.14**	**159**	*e*P	**Pn**	**16 25 09.5**	**+0.4**
ERG				*e*S	**S**	**16 25 32.5**	**-2.7**
PCIG		**1.20**	**279**	*i* P	**Pn**	**16 25 09.4**	**0.0**
PCIG				*i* S	**S**	**16 25 36.0**	**+0.2**
FUG	**Fuego 3**	**1.53**	**134**	*e*P	**Pn**	**16 25 11.9**	**-0.3**
FUG				*e*S	**S**	**16 25 44.8**	**+4.2**
TGIG		**1.67**	**319**	*i* P	**Pn**	**16 25 14.1**	**+0.9**
NBG	**Las Nubes**	**1.83**	**120**	*e*P	**Pn**	**16 25 14.9**	**0.0**
MRL	**Marmol**	**2.26**	**101**	*e*P	**Pn**	**16 25 17.8**	**-1.2**
CMIG	**Matias Romero**	**3.20**	**300**	*i* P	**Pn**	**16 25 29.6**	**+0.7**
CMIG				*i* S	**S**	**16 26 09.3**	**-1.4**

*IDC **26** 16:25:19.4±1.3, 22°.25S×170°.40E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/36, mbtmp3.9/9, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=41.0km s-min=27.4km az=151.0*
*NEIC **26** 16:25:24.4±0.7, 22°.3S±0°.1×170°.3E±0°.1, h32km±6km, mb4.4/14, Error ellipse: s-maj=20.9km s-min=14.9km az=204.0*
ISC 26 16:25:24.8±0.7, 22°.3S±0°.1×170°.32E±0°.09, h35km, n38, σ0°61/36, mb4.0/12, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.59**	**272**	Pn	**Pn**	**16 26 18.2**	**0.0**
	8.9nm,0.3s,baz=122,slow=12,SNR=1448						
DZM				Sn	**Sn**	**16 26 59.1**	**-0.4**
	23nm,0.3s,baz=335,slow=20,SNR=15						
DZM	**Mont Dzumac**	**3.59**	**272**	*e*Pn	**Pn**	**16 26 18.3**	**+0.2**
	73nm,0.3s						
DZM				*e*Sn	**Sn**	**16 26 58.8**	**-0.6**
	85nm,0.2s						
DZM	**Mont Dzumac**	**3.59**	**272**		**Pn**	**16 26 18.1**	**-0.1**
OUZ	**Omahuta**	**13.24**	**168**	Pn	**Pn**	**16 28 30.2**	**0.0**
URZ	**Urewera**	**16.99**	**161**	LR	LR	16 34 25.9	
	comp=Z,94nm,20.3s,baz=31,slow=32						
CTA	**Charters Tower**	**22.54**	**271**	P	**P**	**16 30 22.4**	**+0.4**
	2.0nm,0.8s,baz=90,slow=19,SNR=3.0						
STKA	**Stephens Creek**	**27.25**	**243**	LR	LR	16 41 07.3	
	comp=Z,46nm,19.1s,baz=26,slow=35						
WR0	**Warramunga Arr**	**33.41**	**267**	P	**P**	**16 31 59.9**	**-0.5**
WR0				IAmb	IAmb	16 32 28.1	
	comp=Z,7.6nm,1.4s						
AS31	**Alice Springs**	**33.50**	**260**	P	**P**	**16 32 01.2**	**0.0**
ASAR	**Alice Springs**	**33.50**	**260**	P	**P**	**16 32 00.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=77,slow=9.5,SNR=6.7						
WB0	**Warramunga Arr**	**33.58**	**267**	P	**P**	**16 32 01.9**	**0.0**
WB0				IAmb	IAmb	16 32 17.6	
	comp=Z,8.6nm,1.5s						
WB2	**Warramunga Arr**	**33.59**	**267**	P	**P**	**16 32 01.4**	**-0.6**
WB2				IAmb	IAmb	16 32 13.3	
	comp=Z,6.5nm,1.2s						
WRAB	**Tennant Creek**	**33.59**	**267**	P	**P**	**16 32 01.6**	**-0.4**
WRAB				IAmb	IAmb	16 32 15.2	
	comp=Z,9.0nm,1.3s						
WRA	**Warramunga Arr**	**33.60**	**267**	P	**P**	**16 32 01.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=96,slow=8.4,SNR=9.7						
WRA				PcP	**PcP**	**16 34 41.9**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=91,slow=3.4,SNR=2.0						
WRA	**Warramunga Arr**	**33.60**	**267**	IAmb	IAmb	16 32 10.5	
	comp=Z,0.2nm,0.9s						
MORW	**Morawa**	**49.04**	**250**	P	**P**	**16 34 08.3**	**-0.3**
INU	**Inuyama**	**65.41**	**330**	P	**P**	**16 36 04.7**	**+0.7**
JGF	**Kuroka**	**65.46**	**331**	P	**P**	**16 36 04.2**	**-0.1**
MJAR	**Matsushiro Arr**	**65.87**	**332**	P	**P**	**16 36 06.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=161,slow=5.5,SNR=8.1						
MJAR	**Matsushiro Arr**	**65.87**	**332**	IAmb	IAmb	16 36 10.7	
	comp=Z,1.9nm,1.1s						
MAJO	**Matsushiro**	**65.88**	**332**	P	**P**	**16 36 06.9**	**-0.1**
JWT	**Wachi**	**66.11**	**329**	P	**P**	**16 36 08.7**	**+0.2**
QSPA	**South Pole Qui**	**67.82**	**180**	P	**P**	**16 36 18.9**	**-0.3**
MAW	**Mawson**	**76.03**	**202**	P	**P**	**16 37 08.8**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=100,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**80.66**	**294**	P	**P**	**16 37 36.5**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=138,slow=4.2,SNR=9.5						
SONM	**Songino Array**	**90.22**	**323**	P	**P**	**16 38 22.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=134,slow=4.3,SNR=4.4						
SONM	**Songino Array**	**90.22**	**323**	IAmb	IAmb	16 38 23.2	
	comp=Z,1.5nm,1.1s						
ILAR	**Eielson Array**	**92.80**	**17**	P	**P**	**16 38 32.2**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=238,slow=5.9,SNR=2.6						
ARCES	**ARCESS Array B**	**128.22**	**345**	PKP	**PKPdf**	**16 44 26.7**	**0.0**
	comp=Z,4.0nm,1.0s,baz=58,slow=3.0,SNR=4.6						
BRG	**Berggiesshubel**	**146.00**	**333**	*e*PKP	**PKPab**	**16 45 01.5**	**+0.3**
	comp=Z,4.4nm,1.1s						
CLL	**Collm**	**146.06**	**334**	*i* PKPbc	**PKPab**	**16 45 01.1**	**-0.3**
	comp=Z,13nm,1.5s						
GERES	**GERESS Array B**	**147.60**	**331**	PKPbc	**PKPbc**	**16 45 05.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=31,slow=4.0,SNR=5.3						
ABTA	**Abfaltersbach**	**149.68**	**329**	*e*P	**PKPbc**	**16 45 10.3**	**-0.6**
	comp=Z,6.5nm,1.3s						
WATA	**Walderalm**	**149.68**	**331**	*e*P	**PKPbc**	**16 45 10.5**	**-0.4**
	comp=Z,1.9nm,0.6s						
WTTA	**Wattenberg**	**149.71**	**331**	*e*P	**PKPbc**	**16 45 10.7**	**-0.4**
	comp=Z,6.2nm,1.1s						
MOTA	**Moosalm**	**149.89**	**331**	*e*P	**PKPbc**	**16 45 10.2**	**-1.3**
	comp=Z,2.1nm,0.7s						
SQTA	**Sankt Quirin**	**149.93**	**331**	*e*P	**PKPbc**	**16 45 10.8**	**-0.8**
	comp=Z,2.0nm,0.4s						
FETA	**Feichten**	**150.30**	**331**	*e*P	**PKPbc**	**16 45 11.3**	**-1.1**
	comp=Z,4.1nm,1.1s						

*IDC **26** 16:56:37.9±1.6, 26°.56S×115°.53W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/27, mbtmp3.7/5, MS4.2/22, Ms1 4.2/22, ms1mx4.1/27, Error ellipse: s-maj=48.6km s-min=43.9km az=18.0*
*NEIC **26** 16:56:39.7±1.3, 26°.7S±0°.2×115°.51W±0°.07, h10km±1km, mb4.7/76, Error ellipse: s-maj=31.8km s-min=7.6km az=192.0*
*GCMT **26** 16:56:41.7±0.2, 26°.57S±0°.02×115°.36W±0°.01, h12km, MW5.0/122, Moment Tensor Solution. s47,c58; s122,c164; Duration: 0 Moment tensor: Scale 10¹⁶Nm;*
Mrr-3.16±.08; Mθθ0.38±.09; Mϕϕ2.77±.07; Mrθ1.94±.30; Mθϕ-1.17±.07; Mrϕ-0.78±.26; Best double couple: Mo3.80900×10¹⁶ NP1:ϕs176.00000°, δ36.00000°, λ-56.00000°. NP2:ϕs317.00000°, δ61.00000°, λ-112.00000°. Principal axes: T 3.5940, Plg13.0000°, Azm62.0000°; N 0.4230, Plg19.0000°, Azm328.0000°; P -4.0250, Plg67.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 26 16:56:39.6±1.2, 26.7S±0°.3×115.5W±0°.1, h10km, n116, σ0°89/87, mb4.7/35, MS4.3/25, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAOE	**Nuku Hiva Isla**	**30.91**	**303**	*e*LR	LR	17 10 15.0	
	comp=Z,1μm,25.5s						
TBI	**Tubuai**	**30.91**	**269**	*e*S	**S**	**17 07 59.6**	**-1.3**
	88nm,28.0s						
TBI				*e*LQ	LQ	17 09 36.3	
	438nm,36.8s						
TBI				*e*LR	LR	17 10 50.9	
	comp=Z,1μm,29.5s,baz=103						
TBI	**Tubuai**	**30.91**	**269**	*e*T	T	17 34 48.0	
	11nm,0.3s						
H03N2	**Juan Fernandez**	**32.23**	**111**	T	T	17 37 03.8	
	baz=277,slow=74,SNR=277						
H03N3	**Juan Fernandez**	**32.24**	**111**	T	T	17 37 02.6	
	baz=277,slow=74,SNR=399						
H03N1	**Juan Fernandez**	**32.25**	**111**	T	T	17 37 03.8	
	baz=277,slow=74,SNR=505						
PPT2	**Papeete2**	**32.76**	**279**	*e*S	**S**	**17 08 32.8**	**+2.8**
	125nm,25.8s						
PPT2				*e*LR	LR	17 11 43.0	
	comp=Z,3μm,25.5s,baz=105						
PPT	**Papeete**	**32.77**	**279**	LR	LR	17 12 46.7	
	comp=Z,1μm,18.8s,baz=114,slow=30						
PLCA	**Paso Flores**	**39.51**	**122**	LR	LR	17 16 24.8	
	comp=Z,211nm,20.5s,baz=294,slow=30						
LPAZ	**La Paz**	**45.04**	**87**	P	**P**	**17 04 56.7**	**+0.2**
	1.5nm,0.9s,baz=228,slow=11,SNR=3.7						
LPAZ				LR	LR	17 20 22.9	
	comp=Z,127nm,19.8s,baz=259,slow=32						
LPAZ	**La Paz**	**45.04**	**87**	P	**P**	**17 04 58.6**	**+2.1**
ROSC	**El Rosal**	**50.66**	**58**	LR	LR	17 23 13.8	
	comp=Z,568nm,19.3s,baz=238,slow=32						
CPUP	**Villa Florida**	**51.64**	**104**	LR	LR	17 24 13.4	
	comp=Z,352nm,18.4s,baz=244,slow=32						
SAML	**Samuel**	**52.44**	**80**	P	**P**	**17 05 52.5**	**-0.2**
RAO	**Raoul Island**	**54.63**	**252**	LR	LR	17 23 02.4	
	comp=Z,268nm,19.7s,baz=102,slow=29						
SDV	**Santo Domingo**	**56.05**	**57**	P	**P**	**17 06 19.2**	**0.0**
TXAR	**Lajitas Array**	**56.81**	**12**	P	**P**	**17 06 23.5**	**-0.8**
	0.3nm,0.8s,baz=184,slow=6.8,SNR=2.5						
TXAR				LR	LR	17 25 45.2	
	comp=Z,113nm,20.0s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**56.81**	**12**	P	**P**	**17 06 22.8**	**-1.5**
URZ	**Urewera**	**56.91**	**240**	LR	LR	17 26 05.5	
	comp=Z,583nm,18.6s,baz=208,slow=31						
JCT	**Junction City**	**58.76**	**16**	P	**P**	**17 06 37.4**	**-0.5**
JCT				IAmb	IAmb	17 06 39.5	
	comp=Z,7.0nm,1.0s						
MNTX	**Cornudas Mount**	**58.83**	**10**	P	**P**	**17 06 37.5**	**-0.7**
113A	**Mohawk Valley,**	**59.12**	**2**	P	**P**	**17 06 41.5**	**+1.3**
113A				IAmb	IAmb	17 06 48.0	
	comp=Z,8.9nm,1.4s						
121A	**Cookes Peak, D**	**59.32**	**8**	P	**P**	**17 06 42.1**	**+0.3**
121A				IAmb	IAmb	17 07 11.1	
	comp=Z,5.8nm,1.0s						
HKT	**Hockley**	**59.35**	**20**	P	**P**	**17 06 42.1**	**+0.3**
HKT				IAmb	IAmb	17 07 07.1	
	comp=Z,8.2nm,1.5s						
GLA	**Glamis**	**59.38**	**1**	P	**P**	**17 06 42.1**	**0.0**
RPZ	**Rata Peaks**	**60.53**	**233**	LR	LR	17 29 18.5	
	comp=Z,269nm,18.3s,baz=94,slow=32						
WHTX	**Lake Whitney,**	**60.80**	**18**	P	**P**	**17 06 51.0**	**-0.8**
ABTX	**Abilene, Hawle**	**60.85**	**15**	P	**P**	**17 06 51.3**	**-0.9**
ABTX				IAmb	IAmb	17 06 53.6	
	comp=Z,6.3nm,1.0s						
ANMO	**Albuquerque**	**61.86**	**8**	P	**P**	**17 06 59.9**	**+0.7**
WUAZ	**Wupatki**	**61.96**	**4**	P	**P**	**17 07 00.3**	**+0.5**
WUAZ				IAmb	IAmb	17 07 26.7	
	comp=Z,8.5nm,1.4s						
ISA	**Isabella, Lake**	**62.05**	**357**	P	**P**	**17 07 01.8**	**+1.5**
VNDA	**Vanda**	**62.59**	**194**	LR	LR	17 28 06.9	
	comp=Z,198nm,18.6s,baz=92,slow=30						
SHPR	**Sheep Range**	**62.83**	**0**	P	**P**	**17 07 06.2**	**+0.7**
BDFB	**Brasilia**	**63.26**	**95**	LR	LR	17 31 12.4	
	comp=Z,296nm,19.9s,baz=293,slow=33						
TPNV	**Topopah Spring**	**63.27**	**359**	P	**P**	**17 07 09.4**	**+0.9**
TPNV				IAmb	IAmb	17 07 12.9	
	comp=Z,6.9nm,1.4s						
LCMT	**Little Creek M**	**63.37**	**2**	P	**P**	**17 07 09.7**	**+0.6**
KNB	**Kanab**	**63.38**	**2**	P	**P**	**17 07 10.0**	**+0.7**
PRN	**Pahroc Range**	**63.73**	**0**	P	**P**	**17 07 12.7**	**+1.2**
PRN				IAmb	IAmb	17 07 21.3	
	comp=Z,6.1nm,1.1s						
MVCO	**Mesa Verde**	**63.87**	**6**	P	**P**	**17 07 13.5**	**+0.9**
CCUT	**Cedar City**	**63.90**	**2**	P	**P**	**17 07 13.2**	**+0.5**
CMB	**Columbia Colle**	**64.52**	**356**	P	**P**	**17 07 16.5**	**-0.1**
U32A	**Winter Ranch,**	**64.60**	**15**	P	**P**	**17 07 17.9**	**+0.7**
LHV	**Little Huntoon**	**64.63**	**357**	P	**P**	**17 07 18.5**	**+1.3**
LHV				IAmb	IAmb	17 07 33.5	
	comp=Z,8.2nm,1.4s						
R11A	**Troy Canyon, C**	**64.67**	**360**	P	**P**	**17 07 17.9**	**+0.2**
R11A				IAmb	IAmb	17 07 32.6	
	comp=Z,5.2nm,1.3s						
SDCO	**Great Sand Dun**	**64.75**	**9**	P	**P**	**17 07 18.9**	**+0.5**
SDCO				IAmb	IAmb	17 07 19.6	
	comp=Z,8.3nm,1.4s						
PV01	**Paradox Valley**	**64.78**	**6**	P	**P**	**17 07 18.4**	**-0.2**
PV01				IAmb	IAmb	17 07 21.7	
	comp=Z,7.7nm,1.4s						
PV13	**Radium Mtn., P**	**64.78**	**6**	P	**P**	**17 07 18.2**	**-0.3**
PV13				IAmb	IAmb	17 07 21.6	
	comp=Z,5.6nm,1.3s						
NV11	**Mina Array Sit**	**64.80**	**358**	P	**P**	**17 07 18.8**	**+0.3**
NVAR	**Mina Array Bea**	**64.80**	**358**	P	**P**	**17 07 18.4**	**-0.2**
	comp=Z,2.8nm,1.2s,baz=193,slow=6.1,SNR=5.4						
NVAR				LR	LR	17 29 14.3	
	comp=Z,130nm,21.6s,baz=104,slow=30						
PV02	**Paradox Valley**	**64.83**	**6**	P	**P**	**17 07 18.7**	**-0.1**
PV02				IAmb	IAmb	17 07 25.8	
	comp=Z,4.8nm,1.2s						
PV18	**Skein Mesa, Pa**	**64.86**	**6**	P	**P**	**17 07 18.0**	**-1.0**
PV18				IAmb	IAmb	17 07 20.2	
	comp=Z,7.9nm,1.3s						
PSUT	**Pine Spring**	**64.87**	**1**	P	**P**	**17 07 20.6**	**+1.6**
PV17	**East Wray Mesa**	**64.89**	**6**	P	**P**	**17 07 20.3**	**+1.1**
MVU	**Marysvale**	**64.89**	**3**	P	**P**	**17 07 19.9**	**+0.6**
MSU	**Marysvale**	**64.90**	**3**	P	**P**	**17 07 19.5**	**+0.2**
PV11	**David Mesa, Pa**	**64.91**	**6**	P	**P**	**17 07 19.6**	**+0.3**
PV11				IAmb	IAmb	17 07 41.7	
	comp=Z,8.1nm,1.3s						
PV16	**Nyswonger Mesa**	**64.92**	**6**	P	**P**	**17 07 19.8**	**+0.4**
PV14	**Lion Creek, Pa**	**64.97**	**6**	P	**P**	**17 07 19.9**	**+0.1**
TCRU	**Three Creeks R**	**64.99**	**3**	P	**P**	**17 07 21.6**	**+1.7**
RYN	**Ryan**	**65.01**	**357**	P	**P**	**17 07 20.7**	**+0.8**
RYN				IAmb	IAmb	17 07 27.2	
	comp=Z,9.3nm,1.5s						
PV23	**Carpenter Ridg**	**65.05**	**6**	P	**P**	**17 07 20.9**	**+0.6**
SPR3	**Spring Creek 3**	**65.32**	**1**	P	**P**	**17 07 22.1**	**0.0**
SPR3				IAmb	IAmb	17 07 39.1	
	comp=Z,6.7nm,1.5s						
Q16A	**Castle Valley**	**65.36**	**4**	P	**P**	**17 07 22.2**	**0.0**
YERR	**Yerington**	**65.39**	**357**	P	**P**	**17 07 22.8**	**+0.3**
KVN	**Kaiserville**	**65.41**	**358**	P	**P**	**17 07 22.7**	**+0.2**
KVN				IAmb	IAmb	17 07 29.5	
	comp=Z,8.9nm,1.5s						
AFDM	**Forest Hills D**	**65.47**	**355**	P	**P**	**17 07 23.2**	**+0.5**
AFDM				IAmb	IAmb	17 07 29.6	
	comp=Z,8.7nm,1.4s						
PNTR	**Pine Nut**	**65.52**	**356**	P	**P**	**17 07 25.1**	**+1.8**
PNTR				IAmb	IAmb	17 07 35.9	
	comp=Z,4.5nm,1.0s						
SRU	**San Rafael Swe**	**65.59**	**4**	P	**P**	**17 07 23.2**	**-0.5**
T35A	**Sooner Cattle**	**65.71**	**17**	P	**P**	**17 07 24.8**	**+0.5**
TMUT	**Trail Mountain**	**65.73**	**4**	P	**P**	**17 07 25.9**	**+1.1**
P17A	**Butcher Ranch,**	**65.94**	**4**	P	**P**	**17 07 25.7**	**-0.2**
ORV	**Oroville**	**66.11**	**355**	P	**P**	**17 07 28.4**	**+1.6**
ORV				IAmb	IAmb	17 07 36.4	
	comp=Z,8.2nm,1.5s						
BEKR	**Beckworth**	**66.34**	**356**	P	**P**	**17 07 29.4**	**+0.9**
BEKR				IAmb	IAmb	17 07 58.7	
	comp=Z,6.1nm,1.4s						
KSCO	**Kaye Shedlock'**	**66.42**	**11**	P	**P**	**17 07 28.5**	**-0.5**
ISCO	**Idaho Springs**	**66.75**	**8**	P	**P**	**17 07 30.8**	**-0.5**
JLU	**Jordanelle**	**67.02**	**3**	P	**P**	**17 07 33.7**	**+0.8**
ELK	**Elko**	**67.06**	**0**	P	**P**	**17 07 33.1**	**-0.1**
CTU	**Camp Tracy**	**67.10**	**3**	P	**P**	**17 07 32.8**	**-0.5**
RDMU	**Red Mountain**	**67.11**	**5**	P	**P**	**17 07 34.0**	**+0.6**
BGU	**Big Grassy Mou**	**67.28**	**2**	P	**P**	**17 07 35.3**	**+0.8**
HWUT	**Hardware Ranch**	**68.02**	**3**	P	**P**	**17 07 40.0**	**+0.9**
P38A	**Dawn**	**69.05**	**18**	P	**P**	**17 07 44.2**	**-1.2**
BW06	**Boulder Array**	**69.29**	**5**	P	**P**	**17 07 47.1**	**0.0**
PD31	**Pinedale Array**	**69.29**	**5**	P	**P**	**17 07 47.3**	**+0.2**
PDAR	**Pinedale Array**	**69.29**	**5**	P	**P**	**17 07 47.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=187,slow=6.4,SNR=3.0						
PDAR				LR	LR	17 32 15.2	
	comp=Z,79nm,21.2s,baz=139,slow=31						
MFID	**Camas Ranch**	**69.73**	**360**	P	**P**	**17 07 49.2**	**-0.4**
MFID				IAmb	IAmb	17 07 52.2	
	comp=Z,9.8nm,1.4s						
REDW	**Red Top Meadow**	**69.80**	**4**	P	**P**	**17 07 50.5**	**+0.3**
REDW				IAmb	IAmb	17 08 01.1	
	comp=Z,7.2nm,1.2s						
HLID	**Hailey**	**69.88**	**1**	P	**P**	**17 07 50.9**	**+0.2**
HLID				IAmb	IAmb	17 07 57.3	
	comp=Z,11nm,1.5s						
SNOW	**Snow King Moun**	**69.91**	**4**	P	**P**	**17 07 51.6**	**+0.7**
TPAW	**Teton Pass**	**69.93**	**4**	P	**P**	**17 07 51.2**	**+0.1**
TPAW				IAmb	IAmb	17 07 52.0	
	comp=Z,4.7nm,1.0s						
MOOW	**Moose Ponds**	**70.19**	**4**	P	**P**	**17 07 51.6**	**-1.1**
MOOW				IAmb	IAmb	17 07 53.4	
	comp=Z,5.6nm,1.1s						
DZM	**Mont Dzumac**	**70.23**	**255**	LR	LR	17 30 29.7	
	comp=Z,221nm,22.0s,baz=164,slow=29						
DZM	**Mont Dzumac**	**70.23**	**255**	*e*LR	LR	17 29 04.9	
	comp=Z,539nm,27.7s						
BMO	**Blue Mountains**	**71.18**	**359**	P	**P**	**17 07 58.9**	**+0.4**
BMO				IAmb	IAmb	17 08 19.7	
	comp=Z,6.7nm,1.4s						
YHL	**Hebgen Lake**	**71.27**	**3**	P	**P**	**17 07 59.5**	**+0.2**
G08A	**Pilot Rock**	**71.67**	**357**	P	**P**	**17 08 01.7**	**+0.2**
SNAA	**Sanae**	**71.68**	**162**	LR	LR	17 34 44.3	
	comp=Z,46nm,21.4s,baz=200,slow=32						
DLMT	**Dillon**	**71.72**	**2**	P	**P**	**17 08 01.4**	**-0.4**
SFIN	**Lafayette**	**71.73**	**22**	P	**P**	**17 08 02.9**	**+1.2**
NEW	**Newport**	**74.59**	**359**	P	**P**	**17 08 19.4**	**+0.8**
NEW				IAmb	IAmb	17 08 29.6	
	comp=Z,12nm,1.5s						
ULM	**Lac du Bonnet**	**78.52**	**13**	LR	LR	17 39 17.5	
	comp=Z,105nm,19.2s,baz=143,slow=33						
HNR	**Honiara**	**81.01**	**264**	LR	LR	17 38 13.6	
	comp=Z,96nm,19.1s,baz=95,slow=31						
MAW	**Mawson**	**86.02**	**179**	LR	LR	17 43 22.3	
	comp=Z,210nm,20.2s,baz=232,slow=33						
H11S2	**WAKE ISLAND Hy**	**87.78**	**292**	T	T	18 47 03.1	
	baz=119,slow=75,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**87.80**	**292**	T	T	18 47 05.9	
	baz=119,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**87.80**	**292**	T	T	18 47 06.5	
	baz=119,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**88.21**	**293**	T	T	18 47 03.2	
	baz=122						
H11N1	**WAKE ISLAND Hy**	**88.22**	**293**	T	T	18 47 04.8	
	baz=122						
H11N2	**WAKE ISLAND Hy**	**88.22**	**293**	T	T	18 47 02.8	
	baz=122						
YKA	**Yellowknife Ar**	**88.84**	**0**	P	**P**	**17 09 31.0**	**-2.3**
	comp=Z,1.6nm,0.9s,baz=188,slow=3.7,SNR=3.6						
YKA				LR	LR	17 44 42.3	
	comp=Z,86nm,18.6s,baz=0.0,slow=32						
SCHQ	**Schefferville**	**91.26**	**26**	LR	LR	17 48 04.7	
	comp=Z,78nm,20.3s,baz=286,slow=34						
FRB	**Frobisher Bay**	**97.35**	**19**	LR	LR	17 50 37.0	
	comp=Z,117nm,21.2s,baz=198,slow=33						
WRA	**Warramunga Arr**	**97.99**	**243**	LR	LR	17 50 54.6	
	comp=Z,140nm,19.7s,baz=155,slow=33						
CMAR	**Chiang Mai Arr**	**147.25**	**263**	PKPbc	**PKPbc**	**17 16 23.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=118,slow=1.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**148.88**	**337**	PKPbc	**PKPbc**	**17 16 25.8**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=359,slow=2.9,SNR=13						
ARU	**Arti**	**149.94**	**7**		**PKPdf**	**17 16 25.8**	**+1.0**

*IDC **26** 17:30:20.9±0.6, 56°.15S×26°.98W, h0km, mb4.5/8, mb1 4.5/10, mb1mx4.3/19, mbtmp4.5/10, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/18, Error ellipse: s-maj=24.3km s-min=18.0km az=64.0*
*NEIC **26** 17:30:32.5±1.5, 56°.2S±0°.1×26°.7W±0°.2, h96km±9km, mb4.5/17, Error ellipse: s-maj=20.0km s-min=16.2km

TORD	**Torodi Ar. Bea**	**73.16**	**29**	P		**P**	**17 41 52.7**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=198,slow=6.1,SNR=20							
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P		**P**	**17 41 52.6**	**+0.2**
STKA	**Stephens Creek**	**91.67**	**170**	P		**P**	**17 43 30.8**	**+2.0**
	comp=Z,3.4nm,1.0s,baz=180,slow=3.0,SNR=2.3							
ASAR	**Alice Springs**	**98.75**	**162**	P		Pdif	17 44 02.9	+1.8
	comp=Z,1.2nm,0.7s,baz=183,slow=3.9,SNR=8.9							
CMAR	**Chiang Mai Arr**	**124.86**	**110**	PKP		**PKiKP**	**17 49 22.6**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=228,slow=4.1,SNR=4.4							
ARCES	**ARCESS Array B**	**131.08**	**22**	PKP		**PKPdf**	**17 49 30.0**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=226,slow=6.0,SNR=1.9							
YKA	**Yellowknife Ar**	**136.42**	**318**	PKP		**PKPdf**	**17 49 40.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=110,slow=3.8,SNR=1.8							
ZALV	**Zalesovo Beam**	**142.33**	**64**	PKP		**PKiKP**	**17 49 54.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=229,slow=8.3,SNR=3.6							
NRIK	**Norilʹsk**	**149.07**	**39**	PKPbc		**PKPbc**	**17 50 07.7**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=229,slow=3.4,SNR=4.8							
ILAR	**Eielson Array**	**150.36**	**311**	PKPbc		**PKPbc**	**17 50 10.9**	**0.0**
	comp=Z,3.1nm,0.9s,baz=119,slow=1.7,SNR=23							
SONM	**Songino Array**	**150.59**	**87**	PKPbc		**PKPbc**	**17 50 12.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=208,slow=2.5,SNR=5.9							

*REY **26** 17:34:57.5, 64.˚62N×17.˚40W, h7km*
*IDC **26** 17:34:59.1±1.0, 64.˚51N×17.˚70W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.6/39, mbtmp3.7/6, Error ellipse: s-maj=30.9km s-min=13.6km az=10.0*
*NEIC **26** 17:34:59.3±2.5, 64.˚4N±0.˚1×17.˚8W±0.˚2, h8km±5km, mb4.3/8, Error ellipse: s-maj=20.1km s-min=5.8km az=224.0*

ISC 26 17:34:57.6±0.6, 64.˚62N±0.˚02×17.˚42W±0.˚02, h10km, n50, σ1§82/59, mb4.0/10, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDJK	**Dyngjujokull**	**0.14**	**146**	P	**Pg**	**17 35 00.4**	**-0.5**
	baz=148						
IDJK				S	**Sg**	**17 35 03.6**	**+0.4**
	baz=148						
IVON	**Vonarskard**	**0.16**	**290**	P	**Pg**	**17 35 00.8**	**-0.3**
	baz=290						
IDYN	**Dyngjuhals**	**0.17**	**7**	P	**Pg**	**17 35 01.0**	**-0.5**
	baz=4.6						
IGRF	**Grimsfjall**	**0.22**	**163**	P	**Pg**	**17 35 01.9**	**-0.4**
	baz=165						
IURH	**Urdarhals**	**0.23**	**30**	P	**Pg**	**17 35 02.3**	**-0.2**
	baz=28						
IURH				S	**Sg**	**17 35 06.2**	**+0.5**
	baz=28						
IKVE	**Kverkfjoll**	**0.32**	**79**	P	**Pb**	**17 35 03.9**	**-1.7**
	baz=79						
IHUS	**Husbondi**	**0.34**	**198**	P	**Pb**	**17 35 04.0**	**-1.9**
	baz=199						
IVOT	**Vottur**	**0.36**	**164**	P	**Pb**	**17 35 04.2**	**-2.0**
	baz=165						
IVOT				S	**Sb**	**17 35 10.6**	**-1.5**
	baz=165						
ISKR	**Skrokkalda**	**0.42**	**262**	P	**Pb**	**17 35 05.3**	**-1.9**
	baz=263						
IJOK	**Jokulheimar**	**0.47**	**229**	P	**Pb**	**17 35 05.9**	**-2.1**
	baz=230						
IJOK				S	**Sb**	**17 35 13.0**	**-1.9**
	baz=230						
IKRE	**Kreppuhraun**	**0.47**	**69**	P	**Pg**	**17 35 05.7**	**-1.2**
	baz=69						
IMKO	**Mokollar**	**0.58**	**52**	P	**Pg**	**17 35 07.7**	**-1.3**
	baz=51						
IMKO				S	**Sb**	**17 35 16.4**	**-1.9**
	baz=51						
IIEY	**Innrieyrar**	**0.61**	**211**	P	**Pb**	**17 35 08.5**	**-1.9**
	baz=211						
IIEY				S	**Sb**	**17 35 17.5**	**-1.5**
	baz=211						
IKSK	**Karasker**	**0.62**	**138**	P	**Pg**	**17 35 07.7**	**-1.9**
	baz=138						
IKAL	**Kalfafell**	**0.69**	**190**	P	**Pb**	**17 35 09.7**	**-1.9**
	baz=191						
IKAL				S	**Sb**	**17 35 19.6**	**-1.5**
	baz=191						
ISVA	**Svartarkot**	**0.72**	**5**	P	**Pg**	**17 35 10.2**	**-1.4**
	baz=4.8						
IVSH	**V-Sauoahnukur**	**0.75**	**75**	P	**Pg**	**17 35 10.3**	**-1.7**
	baz=74						
IVSH				S	**Sb**	**17 35 21.4**	**-1.6**
	baz=74						
IVAT	**Vatnsfell**	**0.78**	**237**	P	**Pb**	**17 35 11.6**	**-1.8**
	baz=237						
IVAT				S	**Sb**	**17 35 22.9**	**-1.1**
	baz=237						
IADA	**Aoalbol**	**0.88**	**62**	P	**Pg**	**17 35 12.7**	**-1.9**
	baz=62						
IADA				S	**Sb**	**17 35 25.2**	**-1.7**
	baz=62						
IHVE	**Hveravellir**	**0.96**	**286**	P	**Pg**	**17 35 14.3**	**-1.7**
	baz=286						
IMEL	**Melhnausar**	**1.01**	**18**	P	**Pg**	**17 35 15.0**	**-1.9**
	baz=18						
ISNB	**Snabyli**	**1.03**	**212**	P	**Pg**	**17 35 15.4**	**-2.0**
	baz=212						
ISNB				S	**Sb**	**17 35 29.8**	**-1.4**
	baz=212						
IREN	**Reynihlio**	**1.05**	**12**	P	**Pg**	**17 35 15.7**	**-2.1**
	baz=11						
IKVO	**Krokottuvotn**	**1.12**	**11**	P	**Pb**	**17 35 16.9**	**-2.2**
	baz=11						
IRJU	**Rjupnafell**	**1.15**	**209**	P	**Pb**	**17 35 17.7**	**-1.8**
	baz=210						
IRJU				S	**Sn**	**17 35 33.9**	**-1.5**
	baz=210						
IFED	**Fedgar**	**1.16**	**240**	P	**Pb**	**17 35 17.8**	**-1.9**
	baz=240						
IGRS	**Grimsstaoir**	**1.16**	**28**	P	**Pb**	**17 35 17.6**	**-2.1**
	baz=27						
IGRS				S	**Sg**	**17 35 33.5**	**-1.4**
	baz=27						
IGYG	**Gygjarholskot**	**1.26**	**256**	P	**Pn**	**17 35 19.4**	**-1.8**
	baz=256						
IGYG				S	**Sg**	**17 35 36.4**	**-1.7**
	baz=256						
ISKI	**Skildingahlsh**	**1.27**	**7**	P	**Pn**	**17 35 19.4**	**-2.0**
	baz=6.9						
IGHA	**Grjothals**	**1.27**	**14**	P	**Pn**	**17 35 19.3**	**-2.1**
	baz=14						
BORG	**Borgarnes**	**1.69**	**276**	Pg		**Pn**	**17 35 26.1**	**-1.0**
	17nm,0.3s,baz=94,slow=8.1,SNR=71							
BORG				Lg		Lg	17 35 49.8	
	10nm,0.3s,baz=18,slow=19,SNR=5.6							
BORG	**Borgarnes**	**1.69**	**276**			**Pb**	**17 35 26.5**	**-2.2**
CLL	**Collm**	**20.65**	**116**	*e*P		Pn	17 39 38.0	-1.4
ESDC	**Sonseca Array**	**26.20**	**156**	P		**P**	**17 40 35.2**	**+3.1**
	0.8nm,0.8s,baz=345,slow=9.8,SNR=7.9							
ESDC	**Sonseca Array**	**26.20**	**156**	P		**P**	**17 40 33.0**	**+0.8**
TIXI	**Tiksi**	**42.07**	**15**	P		P	17 42 53.8	+5.0
TIXI				IAmb		IAmb	17 42 55.5	
	comp=Z,9.1nm,1.4s							
BMAR	**Burnt Mountain**	**42.95**	**333**	P		**P**	**17 42 57.8**	**+1.7**
ILAR	**Eielson Array**	**45.74**	**332**	P		P	17 43 22.8	+4.4
	comp=Z,1.8nm,1.1s,baz=30,slow=5.9,SNR=12							
ILAR				PcP		**PcP**	**17 44 58.2**	**+2.4**
	comp=Z,0.6nm,0.9s,baz=1.3,slow=4.0,SNR=4.1							
ILAR	**Eielson Array**	**45.74**	**332**	P		**P**	**17 43 21.2**	**+2.9**
MDM	**Murphy Dome**	**45.84**	**333**	P		P	17 43 22.4	+3.2
MDM				IAmb		IAmb	17 43 26.3	
	comp=Z,6.6nm,1.2s							
ZALV	**Zalesovo Beam**	**47.63**	**51**	P		P	17 43 38.0	+4.7
	comp=Z,0.2nm,0.3s,baz=325,slow=5.7,SNR=3.5							
ZALV	**Zalesovo Beam**	**47.63**	**51**	P		**P**	**17 43 32.8**	**-0.5**
K22A	**Casper**	**52.11**	**291**	P		**P**	**17 44 05.5**	**-2.2**
KAN13	**South Haven SW**	**53.10**	**280**	P		**P**	**17 44 15.5**	**+0.6**
BW06	**Boulder Array**	**53.23**	**293**	P		**P**	**17 44 18.4**	**+2.3**
BW06				IAmb		IAmb	17 44 20.9	
	comp=Z,2.7nm,1.0s							
PD31	**Pinedale Array**	**53.23**	**293**	P		**P**	**17 44 18.1**	**+2.1**
PDAR	**Pinedale Array**	**53.23**	**293**	P		**P**	**17 44 18.4**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=46,slow=6.4,SNR=8.4							
HWUT	**Hardware Ranch**	**55.00**	**294**	P		P	17 44 32.6	+3.6
HWUT				IAmb		IAmb	17 44 33.7	
	comp=Z,3.0nm,0.9s							
TXAR	**Lajitas Array**	**62.33**	**280**	P		**P**	**17 45 23.0**	**+3.0**
	comp=Z,1.1nm,1.0s,baz=46,slow=3.6,SNR=5.8							
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P		**P**	**17 47 30.9**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=316,slow=5.8,SNR=5.0							

WEL 26 17:48:35.8, 39.˚S±3.˚×17.˚9E±.˚, h21km±5km, M2.9/12, ML3.1/12, MLv2.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=53.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.35**	**281**	P	Pb	17 48 43.9	+0.7
PUZ	**Puketiti**	**0.57**	**328**	P	Pb	17 48 47.1	0.0
PUZ				S	Sb	17 48 55.4	+0.5
TKGZ	**Te Karaka**	**0.63**	**280**	P	Pb	17 48 48.3	0.0
TKGZ				S	Sb	17 48 57.7	+0.9
TWGZ	**Tauwhareparae**	**0.64**	**305**	P	Pb	17 48 48.5	+0.1
TWGZ				S	Sn	17 48 58.4	-0.9
PRGZ	**Paritu Road**	**0.70**	**238**	P	Pn	17 48 50.1	-0.5
PRGZ				S	Sn	17 49 01.8	+1.0
RIGZ	**Rimuhau**	**0.71**	**257**	P	Pb	17 48 49.8	+0.3
RIGZ				S	Sn	17 49 00.8	-0.1
WMGZ	**Waiomatatini S**	**0.75**	**346**	P	Pn	17 48 51.3	+0.1
WMGZ				S	Sn	17 49 02.9	+0.9
PKGZ	**Pakihiroa**	**0.80**	**326**	P	Pn	17 48 57.9	+6.0
MHGZ	**Mahia Peninsul**	**0.83**	**224**	P	Pn	17 48 52.3	-0.1
KNZ	**Kokohu**	**0.89**	**238**	P	Pb	17 48 52.0	-0.6
MWZ	**Matawai**	**0.90**	**284**	P	Pb	17 48 52.1	-0.7
RUGZ	**Raukumara Rang**	**0.96**	**307**	P	Pb	17 48 52.9	-0.9
RAGZ	**Rawiri**	**0.96**	**273**	P	Pb	17 48 53.7	-0.2
MXZ	**Matakaoa Point**	**1.02**	**345**	P	Pn	17 48 55.1	+0.1
HAZ	**Te Kaha**	**1.04**	**319**	P	Pb	17 48 54.4	-0.8
SNGZ	**Shannon Statio**	**1.05**	**257**	P	Pb	17 48 54.8	-0.4
URZ	**Urewera**	**1.24**	**283**	P	Pn	17 48 57.6	-0.4
RTZ	**Ruatahuna**	**1.30**	**267**	P	Pb	17 48 59.5	-0.2
MTHZ	**Maungataniwha**	**1.44**	**257**	P	Pb	17 49 01.9	-0.1
ARHZ	**Aropaoanui**	**1.47**	**241**	P	Pn	17 49 01.5	+0.4
MUGZ	**Murupara**	**1.47**	**272**	P	Pb	17 49 02.4	0.0
BKZ	**Black Stump Fm**	**1.79**	**249**	P	Pn	17 49 05.5	0.0
BHHZ	**Black Hill Sta**	**2.22**	**244**	P	Pn	17 49 10.7	-0.7
PNHZ	**Pukenui**	**2.33**	**234**	P	Pb	17 49 19.9	+2.7
ANWZ	**Angora Road**	**2.54**	**221**	P	Pn	17 49 15.9	+0.1
CTZ	**Chatham Island**	**6.29**	**147**	P	Pn	17 50 08.9	+1.6

WEL 26 17:51:37.2, 44.˚S±3.˚×16.˚8E±.˚, h5km±1km, M3.6/14, ML3.7/14, MLv3.6/14, Error ellipse: s-maj=0.0km s-min=0.0km az=88.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.43**	**63**	P	Pb	17 51 47.0	-0.3
JCZ				S	Sb	17 51 53.6	-0.6
MSZ	**Milford Sound**	**0.46**	**210**	P	Pg	17 51 46.3	+0.2
MSZ				S	Sg	17 51 52.4	+0.3
WKZ	**Wanaka**	**0.78**	**136**	P	Pb	17 51 53.9	+0.6
WKZ				S	Sn	17 52 05.5	-1.4
MLZ	**Mavora Lakes**	**1.10**	**185**	P	Pg	17 51 58.1	-0.1
MLZ				S	Sn	17 52 14.2	-0.6
FOZ	**Fox Glacier**	**1.35**	**57**	P	Pn	17 52 01.8	-0.8
FOZ				S	Sn	17 52 22.3	+1.3
LBZ	**Lake Benmore**	**1.39**	**95**	P	Pg	17 52 05.3	+1.4
DCZ	**Deep Cove**	**1.43**	**213**	P	Pn	17 52 02.5	-1.1
DCZ				S	Sb	17 52 21.3	-1.3
WHZ	**Wether Hill Ro**	**1.64**	**187**	P	Pn	17 52 06.7	+0.2
WHZ				S	Sg	17 52 29.2	-0.5
GCSZ	**Gaunt Creek Bo**	**1.78**	**58**	P	Pg	17 52 10.9	-0.3
ODZ	**Otahua Downs**	**1.87**	**115**	P	Pb	17 52 11.6	-0.3
TUZ	**Tuapeka**	**1.94**	**150**	P	Pb	17 52 13.2	+0.2
RPZ	**Rata Peaks**	**2.10**	**76**	P	Pb	17 52 14.8	-0.9
ARCZ	**Arundel**	**2.13**	**82**	P	Pn	17 52 14.8	+1.4
WVZ	**Waitaha Valley**	**2.17**	**57**	P	Pn	17 52 13.3	-0.5
PYZ	**Puysegur Point**	**2.19**	**210**	P	Pn	17 52 14.7	+0.5
HHSZ	**Highcliff Hill**	**2.32**	**135**	P	Pb	17 52 18.2	-1.1
HHSZ				S	Sb	17 52 46.9	-1.4
SYZ	**Scrubby Hill**	**2.35**	**165**	P	Pb	17 52 18.2	-1.7
APZ	**The Paps**	**2.57**	**184**	P	Pn	17 52 20.5	+1.1
APZ				S	Sn	17 52 53.2	+2.2
WACZ	**Wakanui South**	**2.60**	**84**	P	Pn	17 52 21.6	+1.7
INZ	**Inchbonnie**	**2.79**	**57**	P	Pn	17 52 22.2	-0.3
MQZ	**McQueen's Vall**	**3.23**	**81**	P	Pn	17 52 29.4	+0.9
LTZ	**Lake Taylor**	**3.28**	**64**	P	Pn	17 52 30.3	+1.1
THZ	**Tophouse**	**4.24**	**55**	P	Pn	17 52 43.6	+1.2

*IDC **26** 18:19:14.1±1.3, 5.˚09S×153.˚15E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/30, mbtmp3.6/5, ML1.7/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/20, Error ellipse: s-maj=27.1km s-min=16.9km az=46.0*

ISC 26 18:19:19.5±1.3, 5.˚1S±0.˚1×153.˚0E±0.˚2, h35km, n9, σ0§79/9, mb3.5/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.29**	**308**	Pg	**Pn**	**18 19 41.1**	**+0.1**
	469nm,0.3s,baz=194,slow=1.6,SNR=481						
KRVT				Lg	Lg	18 19 57.2	
	330nm,0.3s,baz=191,slow=24,SNR=197						
KRVT				LR	LR	18 20 06.6	
	comp=Z,207nm,18.2s,baz=102,slow=38						
PMG	**Port Moresby**	**7.22**	**233**	Pn	**Pn**	**18 21 02.9**	**+0.2**
	0.7nm,0.3s,baz=70,slow=7.0,SNR=4.2						
PMG				S	**Sn**	**18 22 23.0**	**-0.5**
	0.9nm,0.3s,baz=353,slow=14,SNR=2.1						
GUMO	**Guam**	**20.27**	**337**	LR	LR	18 29 50.0	
	comp=Z,18nm,20.0s,baz=176,slow=31						
WRA	**Warramunga Arr**	**23.42**	**229**	P	**P**	**18 24 24.7**	**-1.0**
	0.7nm,0.8s,baz=54,slow=9.6,SNR=5.6						
ASAR	**Alice Springs**	**26.08**	**223**	P	**P**	**18 24 51.4**	**+1.2**
	0.7nm,0.8s,baz=53,slow=9.4,SNR=12						
CMAR	**Chiang Mai Arr**	**58.22**	**295**	P	**P**	**18 29 11.4**	**+0.6**
	0.8nm,0.8s,baz=112,slow=4.7,SNR=7.9						
ILAR	**Eielson Array**	**82.36**	**22**	P	**P**	**18 31 37.0**	**-0.5**
	0.5nm,0.8s,baz=243,slow=6.0,SNR=3.0						
LPAZ	**La Paz**	**134.06**	**118**	PKP	**PKPdf**	**18 38 35.3**	**+0.2**
	1.4nm,0.3s,baz=251,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**150.63**	**288**	PKPbc	**PKPbc**	**18 39 08.4**	**-0.5**
	0.3nm,0.4s,baz=77,slow=2.1,SNR=5.6						

*IDC **26** 18:23:10.6±1.6, 36.˚60N×99.˚33W, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.6/32, mbtmp3.6/4, ML4.3/2, Error ellipse: s-maj=28.1km s-min=11.1km az=98.0*
*TUL **26** 18:23:10.2±2.0, 36.˚49N±0.˚03×99.˚09W±0.˚04, h9km±5km, ML3.7, Error ellipse: s-maj=5.0km s-min=4.1km az=133.0*
*NEIC **26** 18:23:11.1±1.0, 36.˚51N±0.˚02×98.˚98W±0.˚04, h5km±2km, Error ellipse: s-maj=5.1km s-min=4.0km az=276.0*

ISC 26 18:23:11.1±0.8, 36.˚51N±0.˚04×98.˚98W±0.˚04, h10km, n59, σ0§84/64, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.13**	**187**		**Pg**	**18 23 13.3**	**-0.8**
CROK	**Carrier**	**0.80**	**90**		**Pg**	**18 23 26.5**	**-0.1**
CROK				Sg	**Sg**	**18 23 37.5**	**+0.5**
KAN14	**Manchester OK**	**0.93**	**61**	Pg	**Pg**	**18 23 29.0**	**0.0**
KAN14				Sg	**Sb**	**18 23 42.2**	**+0.4**
KAN10	**Anthony SW Sta**	**0.94**	**49**	Pg	**Pg**	**18 23 28.7**	**-0.4**
KAN10				Sg	**Sb**	**18 23 42.5**	**+0.5**
KAN05	**Bluff City Nor**	**1.07**	**56**		**Pg**	**18 23 31.5**	**-0.2**
KAN05				Sg	**Sn**	**18 23 46.5**	**-0.7**
KAN05					**Sb**	**18 23 46.8**	**+1.0**
KAN08	**Anthony NE Sta**	**1.08**	**48**		**Pg**	**18 23 31.3**	**-0.6**
KAN12	**Harper NE Stat**	**1.11**	**45**		**Pb**	**18 23 31.8**	**-0.6**
KAN09	**Caldwell North**	**1.26**	**60**		**Pn**	**18 23 34.7**	**-0.1**
KAN13	**South Haven SW**	**1.31**	**67**	Pn	**Pn**	**18 23 35.4**	**0.0**
BCOK	**Bluff Creek, N**	**1.40**	**127**	Pn	**Pn**	**18 23 36.4**	**-0.3**
OK029	**Liberty Lake**	**1.43**	**119**		**Pn**	**18 23 36.8**	**-0.3**
OK025	**Westminster Rd**	**1.62**	**124**		**Pn**	**18 23 40.3**	**+0.5**
OKCFA	**Oklahoma City**	**1.65**	**131**		**Pn**	**18 23 40.7**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**1.67**	**131**		**Pn**	**18 23 40.8**	**+0.5**
WMOK	**Wichita Mounta**	**1.77**	**175**		**Pn**	**18 23 41.5**	**-0.4**
FNO	**Franklin**	**1.79**	**134**		**Pb**	**18 23 43.3**	**-0.7**
OK031	**S. Brethren Rd**	**1.82**	**107**		**Pn**	**18 23 43.0**	**+0.6**
QUOK	**Quay**	**1.87**	**100**	Pn	**Pn**	**18 23 43.1**	**0.0**
OK030	**Cody Creek RV**	**1.87**	**107**		**Pn**	**18 23 43.4**	**+0.2**
R32A	**Long Quarter,**	**1.92**	**6**		**Pb**	**18 23 44.8**	**-1.5**
T35A	**Sooner Cattle**	**2.02**	**78**	Pn	**Pn**	**18 23 45.9**	**+0.6**
W35A	**Tecumseh**	**2.18**	**128**		**Pn**	**18 23 47.6**	**+0.2**
CBKS	**Cedar Bluff**	**2.38**	**346**	Pn	**Pn**	**18 23 50.6**	**+0.5**
TUL1	**Leonard**	**2.65**	**102**		**Pn**	**18 23 54.6**	**+0.8**
AMTX	**Amarillo**	**2.73**	**234**		**Pn**	**18 23 55.6**	**+0.6**
KSU1	**Kansas State U**	**3.20**	**35**	Pn	**Pn**	**18 24 02.6**	**+1.3**
Z35A	**Perchaven, San**	**3.47**	**155**		**Pn**	**18 24 05.8**	**+0.6**
X37A	**Clayton**	**3.51**	**122**		**Pn**	**18 24 06.3**	**+0.6**
U38A	**Gravette**	**3.70**	**90**		**Pn**	**18 24 09.7**	**+1.3**
KSCO	**Kaye Shedlock'**	**3.82**	**312**		**Pn**	**18 24 11.2**	**+1.1**
ABTX	**Abilene, Hawle**	**3.91**	**188**	Pn	**Pn**	**18 24 11.6**	**+0.3**
MSTX	**Muleshoe**	**4.01**	**232**		**Pn**	**18 24 12.4**	**-0.3**
HHAR	**Hobbs**	**4.07**	**92**	Pn	**Pn**	**18 24 13.5**	**+0.1**
N33A	**J Bar K, Exete**	**4.39**	**15**		**Pn**	**18 24 17.9**	**+0.2**
T25A	**Trinidad**	**4.40**	**280**		**Pn**	**18 24 18.0**	**-0.1**
W39A	**Magazine**	**4.42**	**106**	Pn	**Pn**	**18 24 18.5**	**+0.3**
S39A	**Bolivar**	**4.67**	**74**	Pn	**Pn**	**18 24 22.3**	**+0.6**
WHTX	**Lake Whitney,**	**4.68**	**164**	Pn	**Pn**	**18 24 22.6**	**+0.8**
MIAR	**Mount Ida**	**4.82**	**112**		**Pn**	**18 24 24.4**	**+0.6**
U40A	**Yellville**	**4.94**	**90**	Pn	**Pn**	**18 24 26.7**	**+1.3**
P38A	**Dawn**	**5.31**	**52**	Pn	**Pn**	**18 24 31.2**	**+0.8**
X40A	**Basin Creek Fa**	**5.41**	**110**		**Pn**	**18 24 32.2**	**+0.5**
MGMO	**Mountain Grove**	**5.42**	**81**	Pn	**Pn**	**18 24 33.0**	**+1.0**
WHAR	**Wooly Hollow**	**5.57**	**101**	Pn	**Pn**	**18 24 35.9**	**+1.9**
W41B	**Gary Mavity, V**	**5.63**	**102**		**Pn**	**18 24 35.6**	**+0.8**
R40A	**Maddies Statio**	**5.63**	**70**	Pn	**Pn**	**18 24 35.2**	**+0.4**
UALR	**University of**	**5.67**	**106**	Pn	**Pn**	**18 24 36.2**	**+0.8**
LCAR	**Lake Charles**	**6.34**	**92**	Pn	**Pn**	**18 24 43.7**	**-0.8**
T42A	**Van Buren**	**6.35**	**83**	Pn	**Pn**	**18 24 45.6**	**+0.9**
MNTX	**Cornudas Mount**	**7.16**	**230**	Pn	**Pn**	**18 24 55.5**	**-0.3**
ECSD	**EROS Data Cent**	**7.44**	**13**		**Pn**	**18 24 59.7**	**0.0**
OXF	**Oxford**	**8.05**	**102**	Pn	**Pn**	**18 25 08.1**	**0.0**
TX31	**Lajitas Ar. Si**	**8.17**	**210**	Pn	**Pn**	**18 25 09.0**	**-0.7**
TXAR	**Lajitas Array**	**8.17**	**210**	Pn	**Pn**	**18 25 08.6**	**-1.2**
	1.1nm,0.3s,baz=32,slow=10,SNR=16						
TXAR				Pg	**Pb**	**18 25 35.8**	**+3.1**
	1.2nm,0.3s,baz=27,slow=14,SNR=6.4						
TXAR				Lg	Lg	18 27 19.4	
	2.0nm,0.3s,baz=25,slow=28,SNR=6.2						
TXAR	**Lajitas Array**	**8.17**	**210**		**Pn**	**18 25 08.8**	**-1.0**
TX32	**Lajitas Array**	**8.17**	**210**		**Pn**	**18 25 09.1**	**-0.7**
PDAR	**Pinedale Array**	**10.27**	**311**	Pn	**Pn**	**18 25 38.0**	**-0.7**
	0.3nm,0.3s,baz=120,slow=9.9,SNR=5.8						
PDAR				Lg	Lg	18 28 22.1	
	0.4nm,0.3s,baz=127,slow=30,SNR=2.5						
ULM	**Lac du Bonnet**	**13.92**	**8**	Pn	Pn	18 26 23.2	-5.1
	0.1nm,0.3s,baz=194,slow=12,SNR=2.2						
ULM				Sn	Sn	18 28 49.9	-13
	0.3nm,0.3s,baz=270,slow=9.1,SNR=2.2						
ULM				Lg	Lg	18 30 20.9	
	0.3nm,0.3s,baz=112,slow=19,SNR=4.1						
ILAR	**Eielson Array**	**39.94**	**330**	P	**P**	**18 30 43.4**	**-1.8**
	0.8nm,0.4s,baz=118,slow=7.6,SNR=8.4						

WEL 26 18:53:08.3, 44.˚S±3.˚×16.˚8E±.˚, h5km±2km, M3.0/8, ML2.9/8, MLv3.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.36**	**212**	P	Pb	18 53 16.7	-0.4
MSZ				S	Sb	18 53 22.7	-0.4
JCZ	**Jackson Bay**	**0.52**	**55**	P	Pg	18 53 17.4	-0.8
JCZ				S	Sg	18 53 24.0	-1.0
WKZ	**Wanaka**	**0.74**	**128**	P	Pb	18 53 24.4	+0.7
WKZ				S	Sn	18 53 35.9	-1.2
MLZ	**Mavora Lakes**	**1.00**	**183**	P	Pn	18 53 28.7	-0.3
DCZ	**Deep Cove**	**1.32**	**214**	P	Pb	18 53 33.5	-0.1
DCZ				S	Sn	18 53 52.0	+0.7
LBZ	**Lake Benmore**	**1.43**	**91**	P	Pg	18 53 36.0	+0.4
LBZ				S	Sg	18 53 54.3	+0.2
FOZ	**Fox Glacier**	**1.44**	**55**	P	Pn	18 53 34.4	-0.5
FOZ				S	Sb	18 53 52.7	-1.4
WHZ	**Wether Hill Ro**	**1.53**	**186**	P	Pg	18 53 37.9	+0.3
GCSZ	**Gaunt Creek Bo**	**1.87**	**56**	P	Pb	18 53 42.3	-0.5
ODZ	**Otahua Downs**	**1.87**	**112**	P	Pb	18 53 42.1	-0.8
TUZ	**Tuapeka**	**1.88**	**148**	P	Pg	18 53 44.5	+0.2
TU

*IDC **26** 19:35:22.8±1.1,32.°54N×47.°56E, h0km, mb3.8/12, mb1 3.9/18,mb1mx3.7/54,mbtmp3.8/18,ML3.7/5,MS2.6/2, Ms1 2.6/2,ms1mx2.3/39,Error ellipse: s-maj=25.4km s-min=15.4km az=175.0*

*TEH **26** 19:35:25.7,32.°68N×47.°52E, h12km,ML3.8*

*ISN **26** 19:35:26.0±0.5,32.°61N×47.°51E, h14km±2km,ML3.7*

*THR **26** 19:35:26.8±0.3,32.°64N×47.°55E, h15km±4km,ML3.9*

*OMAN **26** 19:35:30.4±0.4,32.°54N×47.°75E, h30km±42km,mb5.3/12, Error ellipse: s-maj=8.1km s-min=4.2km az=234.0*

ISC 26 19:35:25.9±1.2,32°64N±0°03×47°55E±0°03,h17km±8km, n113,σ1§80/127,mb3.9/21,12C,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.92**	**16**	*e*Pg	**Pg**	**19 35 42.2**	**-1.5**
IKMR	**Kamar-syah**	**1.12**	**38**	*e*Pg	**Pb**	**19 35 46.4**	**-0.4**
IKMR				*e*		19 36 06.4	
SHGR	**Shooshtar-Gavs**	**1.18**	**116**	*e*Pg	**Pb**	**19 35 48.9**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.18**	**116**	*e*Pg	**Pb**	**19 35 48.9**	**+1.0**
IDOB	**Doab**	**1.26**	**24**	*e*Pg	**Pg**	**19 35 49.7**	**-0.6**
IBDR	**Badra**	**1.44**	**289**	*e*Pg	**Pb**	**19 35 52.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**19 36 11.0**	**-1.5**
IBDR				AML	AML	19 36 18.1	
	comp=E,2μm,0.7s						
IBDR				AML	AML	19 36 19.3	
	comp=N,926nm,0.8s						
IKOM	**Komasi**	**1.53**	**359**	*e*Pg	**Pg**	**19 35 54.3**	**-1.1**
IKOM				*e*		19 35 56.2	
AHWZ	**Ahwaz**	**1.60**	**144**	*e*Pg	**Pb**	**19 35 56.1**	**+1.0**
AHWZ				*e*Sg	**Sg**	**19 36 20.3**	**+2.6**
KCHF	**Cheshme Sefid,**	**1.68**	**345**	*e*Pg	**Pg**	**19 35 56.8**	**-1.6**
KCHF				*e*		19 36 22.8	
KER	**Kermanshah**	**1.77**	**349**	*e*Pg	**Pb**	**19 35 58.1**	**0.0**
HSAM	**Samen**	**1.80**	**29**	*e*Pg	**Pg**	**19 35 59.3**	**-1.2**
HSAM				*e*		19 36 27.6	
IBZA	**Bozab**	**1.84**	**8**	*e*Pg	**Pb**	**19 35 59.6**	**+0.3**
IBZA				*e*		19 36 32.3	
IGHG	**Ghaleghazi**	**1.87**	**334**	*e*Pg	**Pb**	**19 35 59.6**	**-0.2**
IGHG				*e*		19 36 37.8	
IVIS	**Veis**	**1.97**	**343**	*e*Pn	**Pb**	**19 36 00.2**	**-1.2**
IVIS				*e*		19 36 36.9	
NSR	**Nassriya**	**2.02**	**217**	*e*Pn	**Pn**	**19 36 00.0**	**+0.8**
NSR				*e*Sn	**Sn**	**19 36 25.0**	**+0.9**
NSR				AML	AML	19 36 44.8	
	comp=E,1μm,0.6s						
IDHR	**Dehrash**	**2.27**	**335**	*e*Pn	**Pb**	**19 36 04.4**	**-2.2**
IDHR				*e*		19 36 45.2	
KHMZ	**Khomeyn**	**2.30**	**61**	*e*Pn	**Pb**	**19 36 06.4**	**-0.6**
KHMZ				*e*Sg	**Sg**	**19 36 39.3**	**-0.6**
KHMZ	**Khomeyn**	**2.30**	**61**	*e*Pn	**Pb**	**19 36 06.4**	**-0.6**
ILIN	**Lien**	**2.32**	**348**	*e*Pn	**Pb**	**19 36 05.6**	**-1.9**
ILIN				*e*		19 36 52.5	
SNGE	**Sanandaj**	**2.45**	**356**	*e*Pn	**Pb**	**19 36 08.4**	**-1.2**
SNGE	**Sanandaj**	**2.45**	**356**	*e*Pn	**Pb**	**19 36 08.4**	**-1.2**
HAGD	**Aghdareh**	**2.55**	**31**	*e*Pn	**Pb**	**19 36 09.6**	**-1.7**
HSRG	**Sareghieh**	**2.66**	**13**	*e*	**Sg**	**19 36 55.3**	**+3.7**
BHD	**Baghdad**	**2.74**	**284**	*e*Pn	**Pn**	**19 36 11.0**	**+1.9**
BHD				*e*Sn	**Sn**	**19 36 44.0**	**+2.2**
BHD				AML	AML	19 37 10.1	
	comp=E,440nm,0.6s						
ASAO	**Ashtian**	**2.81**	**47**	*e*Pn	**Pb**	**19 36 13.6**	**-2.2**
ASAO	**Ashtian**	**2.81**	**47**	*e*Pn	**Pb**	**19 36 13.6**	**-2.2**
IPIR	**Pirpir**	**2.82**	**88**	*e*Pn	**Pn**	**19 36 12.6**	**+2.1**
IPIR				*e*		19 36 50.8	
ROKH	**ROKH**	**2.96**	**95**	*e*Pn	**Pn**	**19 36 14.3**	**+2.0**
ROKH				*e*		19 37 21.9	
QAM	**Ghamsar**	**3.44**	**70**	*e*Pn	**Pn**	**19 36 21.4**	**+2.4**
IKLH	**Kolahrood**	**3.45**	**78**	*e*Pn	**Pn**	**19 36 22.0**	**+2.9**
IKLH				*e*		19 37 25.2	
QABG	**Abgarm-Qazvin**	**3.49**	**28**	*e*Pn	**Pn**	**19 36 22.1**	**+2.4**
GHVR	**GHOM**	**3.62**	**59**	*e*Pn	**Pn**	**19 36 24.1**	**+2.8**
GHVR				IAML		19 37 11.9	
	comp=E,135nm,0.5s						
GHVR	**GHOM**	**3.62**	**59**	*e*Pn	**Pn**	**19 36 24.1**	**+2.8**
IQOM	**Qom**	**3.66**	**52**	*e*Pn	**Pn**	**19 36 23.9**	**+1.9**
IGAR	**Gharneh**	**3.80**	**92**	*e*Pn	**Pn**	**19 36 25.8**	**+1.9**
IGAR				*e*		19 37 15.5	
KLNJ	**Kolanjah**	**3.81**	**114**	*e*Pn	**Pn**	**19 36 25.5**	**+1.4**
KLNJ				*e*		19 36 49.0	
IZEF	**Zefreh**	**4.03**	**85**	*e*Pn	**Pn**	**19 36 29.5**	**+2.4**
KRSH	**Karshahi**	**4.06**	**70**	*e*Pn	**Pn**	**19 36 29.6**	**+2.2**
QSDN	**Sirdan**	**4.08**	**19**	*e*Pn	**Pn**	**19 36 30.9**	**+3.2**
IRAM	**Ramesheh**	**4.18**	**100**	*e*Pn	**Pn**	**19 36 30.1**	**+1.0**
IVRN	**Varamin**	**4.19**	**55**	*e*Pn	**Pn**	**19 36 31.7**	**+2.5**
MAHB	**Mahabad**	**4.39**	**340**	*e*Pn	**Pn**	**19 36 33.9**	**+2.0**
QALM	**Alamut, Qazvin**	**4.56**	**33**	*e*Pn	**Pn**	**19 36 36.9**	**+2.5**
IDMV	**Damavand**	**4.73**	**51**	*e*Pn	**Pn**	**19 36 38.9**	**+2.1**
ISRB	**Sarab**	**5.17**	**1**	*e*Pn	**Pn**	**19 36 45.0**	**+2.3**
ANAR	**Anarak**	**5.22**	**82**	*e*Pn	**Pn**	**19 36 44.8**	**+1.4**
MSL	**Mosul**	**5.24**	**317**	*e*Pn	**Pn**	**19 36 46.0**	**+2.5**
MSL				*e*Sn	**Sn**	**19 37 45.0**	**+1.4**
ISAD	**Sadrabad**	**5.25**	**96**	*e*Pn	**Pn**	**19 36 45.4**	**+1.6**
IFIR	**Firoozkooh**	**5.25**	**54**	*e*Pn	**Pn**	**19 36 45.9**	**+2.0**
ILAS	**Lasjerd**	**5.26**	**57**	*e*Pn	**Pn**	**19 36 45.7**	**+1.8**
ISHM	**Shahmirzad**	**5.71**	**55**	*e*Pn	**Pn**	**19 36 52.1**	**+1.9**
TPRV	**Parvadeh(Tabas**	**7.70**	**85**	*e*Pn	**Pn**	**19 37 18.6**	**+1.3**
ASF	**Jabal al Asfar**	**9.02**	**270**	Pn	**Pn**	**19 37 34.7**	**-0.8**
	comp=E,0.8nm,0.3s,baz=339,slow=2.5,SNR=9.6						
ASF				Pg		19 38 22.5	
	comp=E,0.4nm,0.3s,baz=48,slow=7.3,SNR=2.2						
ASF				Lg	Lg	19 40 19.8	
	comp=E,0.3nm,0.3s,baz=162,slow=20,SNR=2.2						
BANOM	**Banah**	**10.15**	**129**	P	**Pn**	**19 37 50.1**	**-0.8**
MMAI	**Mount Meron Ar**	**10.23**	**275**	Pn	**Pn**	**19 37 51.9**	**-0.1**
	comp=E,0.7nm,0.3s,baz=167,slow=37,SNR=2.0						
MMAI				LR	LR	19 42 31.0	
	comp=E,40nm,18.5s,baz=330,slow=42						
AJN	**Ajban**	**10.36**	**139**	P	**Pn**	**19 37 54.5**	**+0.7**
NAZ	**Nazwa, Dubai**	**10.42**	**135**	P	**Pn**	**19 37 55.5**	**+0.9**
ASUD	**Al Ashush, Dub**	**10.51**	**138**	P	**Pn**	**19 37 56.0**	**+0.3**
	SNR=5.5						
ASUD				S	**Sn**	**19 39 51.6**	**-1.5**
FAQ	**Al Faqa, Dubai**	**10.57**	**136**	P	**Pn**	**19 37 56.7**	**+0.2**
FAQ				S	**Sn**	**19 39 53.0**	**-1.6**
MDH	**Madha**	**10.59**	**131**	P	**Pn**	**19 37 56.4**	**-0.5**
MDH				S	**Sn**	**19 39 53.5**	**-1.5**
UOSS	**Minazif**	**10.78**	**133**	P	**Pn**	**19 37 59.0**	**-0.6**
UOSS				S	**Sn**	**19 39 58.5**	**-1.4**
HATD	**Hatta, Dubai**	**10.83**	**134**	P	**Pn**	**19 37 60.0**	**-0.2**
HATD				S	**Sn**	**19 39 56.0**	**-5.0**
EIL	**Elat**	**11.19**	**258**	Pn	**Pn**	**19 38 04.0**	**-1.1**
	comp=E,0.4nm,0.3s,baz=93,slow=6.1,SNR=5.7						
EIL				Pg		19 39 02.6	
	comp=E,0.2nm,0.3s,baz=69,slow=9.8,SNR=4.3						
EIL				Lg	Lg	19 41 25.1	
	comp=E,0.2nm,0.3s,baz=64,slow=20,SNR=1.5						
EIL				LR	LR	19 42 35.9	
	comp=E,26nm,20.1s,baz=49,slow=39						
ARQ	**Araqi**	**12.19**	**137**	P	**Pn**	**19 38 18.8**	**-0.1**
HOQ	**Hoqain**	**12.47**	**134**	P	**Pn**	**19 38 23.0**	**+0.4**
HOQ				S	**Sn**	**19 40 36.6**	**-4.6**
BSY	**Bisya**	**13.04**	**137**	P	**Pn**	**19 38 30.3**	**-0.2**
	SNR=8.3						
BSY				S	**Sn**	**19 40 50.1**	**-5.1**
BRTR	**Keskin Array B**	**13.27**	**306**	Pn	**Pn**	**19 38 35.6**	**+2.0**
	comp=E,0.0nm,0.3s,baz=322,slow=38,SNR=2.3						
SMDO	**Samad**	**13.31**	**133**	P	**Pn**	**19 38 33.9**	**-0.3**
SMDO				S	**Sn**	**19 40 59.0**	**-2.8**
WSAR	**Wadi Sarin**	**13.54**	**131**	Pn	**Pn**	**19 38 34.0**	**-3.3**
	comp=E,0.8nm,0.3s,baz=325,slow=7.6,SNR=12						
WSAR				Sn	Sn	19 40 59.2	-8.2
	comp=E,0.3nm,0.3s,baz=211,slow=22,SNR=1.6						
WSAR	**Wadi Sarin**	**13.54**	**131**	P	**Pn**	**19 38 34.9**	**-2.4**
	SNR=5.5						
MHTO	**MHTO**	**14.86**	**139**	P	**Pn**	**19 38 53.2**	**-2.1**
AKTO	**Aktyubinsk**	**19.39**	**20**	P	**P**	**19 39 51.3**	**+0.4**
	comp=E,0.2nm,0.3s,baz=208,slow=10,SNR=4.9						
MLR	**Muntele Rosu**	**21.04**	**314**	P	**P**	**19 40 10.0**	**+1.0**
	comp=E,2.7nm,0.8s,baz=90,slow=6.1,SNR=1.9						
MLR	**Muntele Rosu**	**21.04**	**314**	⇑P	**P**	**19 40 10.5**	**+1.5**
HUMR	**Humele**	**21.19**	**311**	⇑P	**P**	**19 40 11.9**	**+1.5**
SORM	**Soroca**	**21.20**	**322**	⇑P	**P**	**19 40 12.7**	**+2.2**
VOIR		**21.56**	**313**	⇑P	**P**	**19 40 16.6**	**+2.0**
DOPR	**Dopca**	**21.62**	**314**	⇑P	**P**	**19 40 16.5**	**+1.5**
BIZ	**Bicaz**	**21.71**	**317**	⇑P	**P**	**19 40 17.4**	**+1.4**
ARR	**Arges**	**21.79**	**312**	⇑P	**P**	**19 40 18.3**	**+1.3**
PRAR	**RASCA**	**21.88**	**318**	⇑P	**P**	**19 40 20.0**	**+2.2**
SRE	**Strehaia**	**22.39**	**309**	⇑P	**P**	**19 40 25.8**	**+2.4**
AKASG	**Malin Array Be**	**22.54**	**329**	P	**P**	**19 40 24.0**	**-0.9**
	comp=E,1.6nm,0.5s,baz=135,slow=8.8,SNR=13						
BURAR	**Bucovina Array**	**22.59**	**318**	⇑P	**P**	**19 40 27.7**	**+2.1**
MDVR	**Moldovita**	**23.42**	**309**	⇑P	**P**	**19 40 36.9**	**+2.8**
KOLS	**Kolonicke sedl**	**24.95**	**318**	*e*P	**P**	**19 40 49.5**	**+1.2**
CRVS	**Cervenica-Dubn**	**25.40**	**317**	*e*P	**P**	**19 40 54.3**	**+2.0**
PSZ	**Piszkesteto**	**25.86**	**314**	⇑P	**P**	**19 40 59.2**	**+2.6**
LANS	**Liptovska Anna**	**26.67**	**316**	*e*P	**P**	**19 41 06.1**	**+2.3**
VYHS	**Vyhne**	**26.74**	**315**	*e*P	**P**	**19 41 06.9**	**+2.4**
KRLC	**Kraliky**	**28.64**	**317**	*e*P	**P**	**19 41 22.2**	**+0.7**
KURBB	**Kurchatov Arra**	**29.00**	**43**	P	**P**	**19 41 26.1**	**+1.4**
	comp=E,0.5nm,0.3s,baz=247,slow=9.5,SNR=1.4						
DPC	**Dobruska-Polom**	**29.03**	**317**	*e*P	**P**	**19 41 25.5**	**+0.5**
OSTC	**Ostas**	**29.18**	**317**	*e*P	**P**	**19 41 27.2**	**+0.9**
CHVC	**Chvalec**	**29.29**	**317**	*e*P	**P**	**19 41 27.9**	**+0.7**
MOA	**Modry**	**29.33**	**311**	*e*P	**P**	**19 41 29.1**	**+1.4**
	comp=E,3.6nm,0.6s,SNR=4.7						
KBA	**Koelnbreinsper**	**29.69**	**309**	*e*P	**P**	**19 41 32.2**	**+1.2**
	comp=E,3.5nm,1.1s						
MKAR	**Makanchi Array**	**29.96**	**52**	P	**P**	**19 41 34.3**	**+1.1**
	comp=E,1.0nm,0.8s,baz=249,slow=7.3,SNR=6.4						
GERES	**GERESS Array B**	**30.02**	**313**	P	**P**	**19 41 33.8**	**0.0**
	comp=E,0.3nm,0.5s,baz=99,slow=8.2,SNR=5.0						
WTTA	**Wattenberg**	**30.86**	**309**	*e*P	**P**	**19 41 42.2**	**+0.8**
	comp=E,3.9nm,0.5s,SNR=5.0						
WATA	**Walderalm**	**30.92**	**309**	*e*P	**P**	**19 41 42.4**	**+0.5**
	comp=E,1.7nm,0.5s,SNR=4.1						
SQTA	**Sankt Quirin**	**31.13**	**309**	*e*P	**P**	**19 41 44.3**	**+0.6**
	comp=E,6.8nm,0.5s,SNR=11						
MOTA	**Moosalm**	**31.23**	**309**	*e*P	**P**	**19 41 44.9**	**+0.3**
	comp=E,5.2nm,0.5s,SNR=11						
FETA	**Feichten**	**31.40**	**308**	*e*P	**P**	**19 41 47.0**	**+0.9**
	comp=E,4.4nm,0.6s,SNR=5.8						
RETA	**Reutte**	**31.49**	**309**	*e*P	**P**	**19 41 47.0**	**+0.3**
	comp=E,1.4nm,0.4s						
FINES	**FINESS Array B**	**32.00**	**341**	P	**P**	**19 41 50.7**	**-0.2**
	comp=E,0.9nm,0.5s,baz=142,slow=9.2,SNR=8.5						
DAVA	**Damuels**	**32.02**	**308**	*e*P	**P**	**19 41 52.0**	**+0.4**
	comp=E,10nm,0.5s						
ZALV	**Zalesovo Beam**	**33.91**	**40**	P	**P**	**19 42 08.4**	**+0.6**
	comp=E,0.9nm,0.5s,baz=230,slow=8.5,SNR=5.5						
ARCES	**ARCESS Array B**	**38.96**	**348**	P	**P**	**19 42 50.9**	**+0.2**
	comp=E,1.1nm,0.5s,baz=166,slow=8.7,SNR=16						
ESDC	**Sonseca Array**	**41.70**	**295**	P	**P**	**19 43 14.5**	**+0.6**
	comp=E,1.1nm,1.0s,baz=79,slow=9.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**46.07**	**256**	P	**P**	**19 43 48.9**	**-0.3**
	comp=E,0.7nm,0.7s,baz=71,slow=6.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**48.04**	**94**	P	**P**	**19 44 02.9**	**-1.6**
	comp=E,0.2nm,0.3s,baz=286,slow=6.1,SNR=1.8						
ILAR	**Eielson Array**	**82.25**	**6**	P	**P**	**19 47 45.2**	**-0.8**
	comp=E,0.2nm,0.8s,baz=332,slow=3.6,SNR=2.0						

JMA 26 19:41:46.5±0.1,24.°94N×123.°35E,h108km±2km,M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**213**	P	Pn	19 42 03.8	+0.2
JYNG	**Yonagunijimaku**	**0.61**	**217**	P	Pn	19 42 04.1	+0.2
IRIF	**Iriomote-Funau**	**0.69**	**150**	P	Pn	19 42 04.7	+0.1
IRIF				S	Sn	19 42 18.7	+0.5
JIJ	**Ishigaki jima**	**0.92**	**128**	P	Pn	19 42 06.8	+0.1
JIJ				S	Sn	19 42 21.8	-0.2
JKRS	**Kuro-shima**	**0.92**	**139**	P	Pn	19 42 07.1	+0.4
JKRS				S	Sn	19 42 22.6	+0.7
JISG	**Ishigakijimahi**	**0.94**	**112**	P	Pn	19 42 07.2	+0.3
JISG				S	Sn	19 42 22.8	+0.5
HATJ	**Hateruma jima**	**0.97**	**155**	*e*S	Sn	19 42 23.1	+0.2
JTJ	**Tarama**	**1.26**	**103**	P	Pn	19 42 10.8	+0.4
JTJ				S	Sn	19 42 29.3	+0.8
JIRB	**Irabujima**	**1.66**	**93**	P	Pn	19 42 15.2	+0.1
JIRB				S	Sn	19 42 37.1	+0.2
JIKM	**Ikemajima**	**1.72**	**90**	P	Pn	19 42 16.4	+0.5
JIKM				*e*S	Sn	19 42 38.6	+0.3
JMJ2	**Miyako jima3**	**1.81**	**96**	P	Pn	19 42 17.6	+0.7

TAP 26 19:42:33.5,24.°25N×121.°45E,h27km,ML1.3,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi**	**0.05**	**148**	*e*S	Sb	19 42 42.7	+1.1
	baz=148						
NACB	**Ninganchiao**	**0.15**	**120**	*e*P	Pb	19 42 38.2	-0.7
	baz=119						
FUSS	**Fushou**	**0.19**	**270**	*e*S	Sb	19 42 44.8	+1.1
	baz=269						
WHF	**Hehuan Shan**	**0.20**	**239**	*e*P	Pb	19 42 40.3	+0.4
	baz=237						
WHF				*e*S	Sb	19 42 44.3	+0.1
	baz=237						
NNS	**Nan Shan**	**0.20**	**339**	*e*S	Sb	19 42 44.3	+0.5
	baz=340						
TWT	**Tachien**	**0.25**	**271**	*e*P	Pn	19 42 41.8	+0.2
	baz=270						
TWT				S	Sn	19 42 46.0	-0.8
	baz=270						
TDCB	**Techi**	**0.27**	**271**	*e*P	Pb	19 42 40.5	0.0
	baz=270						
TDCB				*e*S	Sn	19 42 46.2	-0.9
	baz=270						
HWA	**Hwalien**	**0.30**	**153**	*e*P	Pn	19 42 41.9	-0.2
	baz=151						
HWA				*e*S	Sb	19 42 46.5	+0.8
	baz=151						
CHGB	**Renai**	**0.32**	**234**	*e*P	Pn	19 42 42.5	-0.1
	baz=233						
CHGB				*e*S	Sb	19 42 47.0	+0.6
	baz=233						
OWD	**Renai**	**0.39**	**221**	*e*P	Pb	19 42 41.2	-1.0
	baz=221						
OWD				*e*S	Sb	19 42 47.5	-0.5
	baz=221						
YHNB	**Yeheng**	**0.43**	**350**	*e*P	Pb	19 42 41.8	-0.9
	baz=350						
NSK	**Sanguang**	**0.43**	**348**	*e*P	Pb	19 42 43.1	+0.2
	baz=349						
NSK				*e*S	Sn	19 42 50.3	-0.8
	baz=349						
WHP	**Taichung City**	**0.47**	**274**	*e*S	Sn	19 42 51.2	-0.7
	baz=273						
VWDT	**VWDT**	**0.57**	**210**	*e*P	Pn	19 42 45.5	-0.3
	baz=210						
EGFH	**Guangfu**	**0.58**	**182**	*e*P	Pn	19 42 45.9	0.0
	baz=182						
EGFH				*e*S	Sn	19 42 54.4	-0.1
	baz=182						
TYC	**Yuchr**	**0.64**	**238**	*e*S	Sn	19 42 56.5	+0.4
	baz=237						
SSLB	**Suanglung**	**0.65**	**225**	*e*S	Sb	19 42 55.5	+0.5
	baz=224						
EHY	**Hungye**	**0.75**	**189**	*e*P	Pn	19 42 49.0	+0.7
	baz=188						
EHY				*e*S	Sb	19 42 58.1	+0.2
	baz=188						
HGSD	**Ruisui**	**0.75**	**182**	*e*P	Pn	19 42 48.5	+0.1
	baz=182						
WJS	**Zhushan**	**0.79**	**238**	*e*S	Sn	19 42 59.8	+0.1
	baz=237						
YULB	**Yu-li**	**0.86**	**190**	*e*P	Pb	19 42 50.5	+0.6
	baz=189						
TWF1	**Yuli**	**0.90**	**189**	*e*P	Pb	19 42 51.2	+0.6
	baz=188						
TWF1				*e*S	Sn	19 43 03.0	+0.4
	baz=188						
ALS	**Alishan**	**0.94**	**219**	*e*S	Sb	19 43 02.9	-0.8
	baz=218						
CHN5	**Tsauling**	**0.96**	**228**	*e*S	Sb	19 43 04.0	0.0
	baz=227						
FULB	**Fuli**	**1.05**	**188**	*e*P	Pb	19 42 54.6	+1.4
	baz=188						
ELDTW	**Lidau**	**1.13**	**201**	*e*P	Pn	19 42 54.0	+0.3
	baz=200						
CHN4	**Tsaushan**	**1.19**	**222**	*e*S	Sn	19 43 08.8	-0.9
	baz=221						
TPUB	**Ta-pu**	**1.21**	**219**	*e*P	Pb	19 42 55.3	-0.5
	baz=218						
TPUB				*e*S	Sn	19 43 08.5	-1.7
	baz=218						
EDH	**Donghe**	**1.28**	**186**	*e*P	Pn	19 42 56.2	+0.7
	baz=186						

*BJI **26** 19:47:32.9±0.0,4.°62S×152.°99E,h58km,mB5.0/30, mb4.9/53,Ms4.5/8,Ms7 4.2/6*

*MOS **26** 19:47:33.3±0.9,4.°67S×152.°61E,h47km,mb5.1/13,Error ellipse: s-maj=10.1km s-min=7.2km az=102.8*

*NEIC **26** 19:47:35.6±1.7,4.°77S±0.°07×152.°63E±0.°07,h60km±4km, mb5.0/63,Error ellipse: s-maj=10.5km s-min=8.9km az=213.0*

*IDC **26** 19:47:35.1±1.0,4.°77S×152.°66E,h54km±7km,mb4.5/23, mb1 4.6/26,mb1mx4.5/39,mbtmp4.7/26,MS3.8/18, Ms1 3.8/18,ms1mx3.7/28,Error ellipse: s-maj=11.9km s-min=8.8km az=112.0*

*DJA **26** 19:47:35.8±0.6,5.°3S×15.°3E±.°,h58km±6km,M5.0/30, mb4.9/30,mB5.2/5,MLv5.3/1,Mw(mB)4.6/5*

ISC 26 19:47:35.3±0.7,4.79S±0.04×152.73E±0.06,h59km±5km, n326,σ1§15/318,mb5.0/79,MS3.7/21,23C-6D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.82**	**317**	Pn	**Pn**	**19 47 50.5**	**-0.4**
RABL				Sn	**Sn**	**19 48 02.9**	**+0.5**
KRVT	**Keravat (AS076**	**0.85**	**304**	P	**Pn**	**19 47 50.8**	**-0.6**
	4μm,0.3s,baz=10,slow=24,SNR=3764						
KRVT				S	**Sn**	**19 48 02.4**	**-0.7**
	6μm,0.3s,baz=194,slow=24,SNR=13						
PMG	**Port Moresby**	**7.18**	**230**	P	**Pn**	**19 49 18.7**	**+1.0**
	5.4nm,0.3s,baz=26,slow=5.5,SNR=14						
PMG				S	**Sn**	**19 50 36.4**	**-1.6**
	15nm,0.3s,baz=52,slow=17,SNR=3.0						
PMG	**Port Moresby**	**7.18**	**230**	Pn	**Pn**	**19 49 19.2**	**+1.5**
HNR	**Honiara**	**8.52**	**123**	P	**Pn**	**19 49 37.1**	**+1.0**
	4.4nm,0.3s,baz=254,slow=3.2,SNR=5.2						
HNR				LR	LR	19 53 04.3	
	comp=Z,917nm,21.0s,baz=288,slow=38						
PATS	**Pohnpei**	**12.82**	**26**	P	**Pn**	**19 50 33.9**	**-0.9**
	baz=13,SNR=4.3						
PATS	**Pohnpei**	**12.82**	**26**	Pn	**Pn**	**19 50 35.0**	**+0.1**
MTSU	**Mount Surprise**	**15.61**	**211**	P	**P**	**19 51 13.5**	**-1.4**
	baz=16,SNR=15						
CTA	**Charters Tower**	**16.46**	**202**	P	**Pn**	**19 51 23.5**	**+1.0**
	0.4nm,0.3s,baz=25,slow=14,SNR=12						
CTAO	**Charters Tower**	**16.46**	**202**	P	**P**	**19 51 24.0**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**16.46**	**202**		**P**	**19 51 23.9**	**-0.3**
QIS	**Mount Isa**	**20.21**	**218**	P	**P**	**19 52 06.5**	**+1.0**
	baz=20,SNR=19						
EIDS	**Eidsvold**	**20.53**	**184**	P	**P**	**19 52 10.1**	**+1.2**
	baz=21,SNR=6.0						
EIDS	**Eidsvold**	**20.53**	**184**	P	**P**	**19 52 08.2**	**-0.6**
KDU	**Kakadu**	**21.49**	**247**	P	**P**	**19 52 18.0**	**-1.2**
	baz=22,SNR=68						
DZM	**Mont Dzumac**	**21.72**	**144**	P	**P**	**19 52 22.8**	**+1.0**
	comp=Z,14nm,0.8s,baz=179,slow=20,SNR=11						
DZM				LR	LR	20 00 39.4	
	comp=Z,160nm,18.6s,baz=241,slow=36						
DZM	**Mont Dzumac**	**21.72**	**144**	*e*P	**P**	**19 52 23.4**	**+1.6**
	comp=Z,59nm,0.9s						
DZM				*e*S	**S**	**19 56 14.2**	**-4.9**
	comp=Z,477nm,24.9s						
DZM				*e*LR	LR	19 57 38.9	
	comp=Z,625nm,23.9s						
DZM	**Mont Dzumac**	**21.72**	**144**	P	**P**	**19 52 23.0**	**+1.3**
SIJI	**Sorong**	**21.78**	**280**	P	**P**	**19 52 23.1**	**+0.7**
	comp=Z,21nm,0.5s,baz=56,slow=9.8,SNR=16						
RMQ	**Roma**	**21.91**	**190**	P	**P**	**19 52 24.5**	**+0.9**
	baz=22,SNR=15						
MTN	**Manton Dam**	**22.77**	**248**	P	**P**	**19 52 31.5**	**-1.5**
	baz=23,SNR=46						
MTN	**Manton Dam**	**22.77**	**248**	P	**P**	**19 52 31.5**	**-1.5**
MTN				IAmb	IAmb	19 52 39.4	
	comp=Z,26nm,0.4s						
WB0	**Warramunga Arr**	**23.25**	**229**	P	**P**	**19 52 37.1**	**-0.7**
WB0				IAmb	IAmb	19 52 39.5	
	comp=Z,43nm,1.0s						
WR0	**Warramunga Arr**	**23.26**	**228**	P	**P**	**19 52 37.4**	**-0.4**
WR0				IAmb	IAmb	19 52 40.2	
	comp=Z,69nm,1.1s						
WRAB	**Tennant Creek**	**23.38**	**228**	*ce*P	**P**	**19 52

MDSI	Maura Dua	48.38	268	P	P	19 56 11.1	-0.7	MKAR		LR	LR	20 35 48.8	
	comp=Z,16nm,1.2s								comp=Z,35nm,19.9s,baz=48,slow=36				
QIZ	Qiongzhong	48.40	301	P	P	19 56 10.8	-1.0	MKAR	Makanchi Array	80.27	319	P	P	19 59 40.1	+0.2
QIZ				S	S	20 03 09.0	+0.6	MKAR	Makanchi Array	80.27	319	P	P	19 59 40.1	+0.2
QIZ				pmax	pmax			BPAW	Bear Paw Mtn.	80.30	22	P	P	19 59 38.8	-0.8
	comp=Z,19nm,1.2s							IMAR	Indian Mountai	80.40	19	P	P	19 59 41.1	+1.0
QIZ				LR	LR			MCK	McKinley	80.88	23	P	P	19 59 42.7	0.0
	comp=Z,95nm,19.9s								baz=239,SNR=23						
NJ2	Nanjing	48.79	321	eP	P	19 56 16.0	+1.4	MLY	Manley	80.90	21	P	P	19 59 43.6	+0.7
NJ2				pmax	pmax				baz=237,SNR=38						
	comp=Z,5.0nm,0.5s							ZAA0	Zalesovo Array	81.10	326	IAmb	IAmb	19 59 44.2	
USRK	Ussuriysk Ar.	52.21	341	P	P	19 56 40.5	+0.4		comp=Z,9.1nm,0.7s						
	comp=Z,5.1nm,0.8s,baz=175,slow=8.3,SNR=8.3							ZALV	Zalesovo Beam	81.10	326	P	P	19 59 43.6	-0.4
MNSI	Mandailing Nat	53.38	275	P	P	19 56 48.4	-1.0		comp=Z,10nm,0.6s,baz=111,slow=6.0,SNR=51						
	comp=Z,402nmcomp=Z,16nm,0.9s							ZALV				LR	LR	20 34 28.7	
MDJ	Mudanjiang	53.38	340	P	P	19 56 50.5	+1.7		comp=Z,34nm,21.3s,baz=68,slow=35						
MDJ				pmax	pmax			ZALV	Zalesovo Beam	81.10	326	P	P	19 59 43.5	-0.5
	comp=Z,11nm,0.8s							DHY	Denali Highway	81.16	23	IAmb	IAmb	19 59 46.2	
MDJ				pmax	pmax				comp=Z,14nm,0.8s						
	comp=Z,300nm,3.2s							SHLS	Shalkode	81.17	315	eP	P	19 59 42.7	-2.2
CN2	Changchun	54.26	336	eP	P	19 56 55.5	+0.3	SHLS	Shalkode	81.17	315	eP	P	19 59 42.6	-2.2
CN2				pmax	pmax			M24K	Tolsona, Glenn	81.18	25	P	P	19 59 45.7	+1.3
	comp=Z,10.0nm,0.6s								baz=242,SNR=6.5						
GYA	Guiyang	54.33	307	⇑P	P	19 56 58.0	+1.8	NEA2	Nenana	81.27	22	P	P	19 59 44.6	-0.2
GYA				pmax	pmax				baz=239,SNR=19						
	comp=Z,4.0nm,0.7s							I23K	Minto, Yukon-K	81.45	21	P	P	19 59 46.1	+0.4
KLR	Kul'dur	56.81	344	ceP	P	19 57 13.0	-0.5		baz=239,SNR=11						
KLR				pmax	pmax			I23K	Minto, Yukon-K	81.45	21	IAmb	IAmb	19 59 48.1	
	comp=Z,7.0nm,0.7s								comp=Z,9.1nm,0.7s						
KMI	Kunming	56.92	304	⇓eP	P	19 57 16.5	+1.5	UZB	Uzynbulak	81.48	315	eP	P	19 59 45.9	-0.7
KMI				pmax	pmax			UZB	Uzynbulak	81.48	315	eP	P	19 59 45.8	-0.7
	comp=Z,12nm,1.1s							WRH	Wood River Hil	81.58	22	IAmb	IAmb	19 59 47.0	
PPT2	Papeete2	57.80	108	eLR	LR	20 14 11.5			comp=Z,22nm,1.2s						
	comp=Z,62nm,24.8s							N25K	Chitina, Valde	81.61	25	P	P	19 59 47.7	+1.0
CM31	Chiang Mai Arr	57.80	295	P	P	19 57 22.2	+1.1		baz=244						
CMAR	Chiang Mai Arr	57.80	295	P	P	19 57 22.1	+1.1	CCB	Clear Creek Bu	81.77	22	IAmb	IAmb	19 59 47.7	
	comp=Z,18nm,0.8s,baz=118,slow=5.4,SNR=184								comp=Z,15nm,0.8s						
CMAR				PcP	PcP	19 58 13.9	+0.7	KPKS	Kokpek	81.80	315	eP	P	19 59 47.2	-0.9
	comp=Z,2.5nm,0.7s,baz=99,slow=2.7,SNR=5.8							KPKS	Kokpek	81.80	315	eP	P	19 59 47.2	-0.9
CMAR	Chiang Mai Arr	57.80	295	P	P	19 57 21.4	+0.4	TCOL	CIGO, UAF Yank	81.86	22	P	P	19 59 47.7	-0.2
CMAR					PcP	19 58 14.0	+0.7		baz=240,SNR=10.0						
PETK	Petropavlovsk-	57.83	4	P	P	19 57 21.2	+0.6	COLA	College	81.87	22	⇓iP	P	19 59 47.6	-0.2
	comp=Z,13nm,0.5s,baz=156,slow=6.4,SNR=126							COLA				pmax	pmax		
PETK				PcP	PcP	19 58 12.2	-0.3		comp=Z,26nm,0.7s						
	comp=Z,4.5nm,0.8s,baz=165,slow=6.9,SNR=3.0							CRQM	Cirque	81.88	27	IAmb	IAmb	19 59 50.0	
PETK				LR	LR	20 17 27.3			comp=Z,18nm,0.8s						
	comp=Z,83nm,21.7s,baz=183,slow=31							VRDI	Verde Repeater	81.94	26	IAmb	IAmb	19 59 50.3	
CHTO	Chiang Mai	57.91	296	P	P	19 57 22.3	+0.5		comp=Z,15nm,0.8s						
CHTO				pmax	pmax			HDA	Harding Lake	81.97	22	IAmb	IAmb	19 59 48.9	
	comp=Z,20nm,1.2s								comp=Z,7.0nm,0.6s						
CHTO	Chiang Mai	57.91	296	P	P	19 57 22.3	+0.5	POKR	Poker Flat Res	82.14	22	P	P	19 59 49.0	-0.3
CHTO				IAmb	IAmb	19 57 24.0			baz=240						
	comp=Z,20nm,1.1s							ISLE	Juniper Island	82.17	27	IAmb	IAmb	19 59 51.4	
TBI	Tubuai	58.63	114	eLR	LR	20 14 40.8			comp=Z,16nm,0.7s						
	comp=Z,225nm,31.0s							IL31		82.17	22	IAmb	IAmb	19 59 49.7	
CD2	Chengdu	58.67	311	P	P	19 57 27.8	+0.8		comp=Z,16nm,0.8s						
CD2				pmax	pmax			ILAR	Eielson Array	82.17	22	P	P	19 59 48.7	-0.8
	comp=Z,50nm,0.7s								comp=Z,16nm,0.8s,baz=244,slow=5.5,SNR=147						
CD2				pmax	pmax			ILAR				LR	LR	20 32 22.2	
	comp=Z,160nm,7.6s								comp=Z,62nm,19.5s,baz=260,slow=33						
HHC	Hu-ho-hao-te	58.99	324	eP	P	19 57 30.0	+0.9	ILAR	Eielson Array	82.17	22	P	P	19 59 49.0	-0.5
HHC				pmax	pmax			ILAR	Eielson Array	82.17	22	P	P	19 59 49.0	-0.5
	comp=Z,14nm,1.0s							COLD	Coldfoot	82.27	19	P	P	19 59 51.3	+1.3
HHC				pmax	pmax				baz=238						
	comp=Z,89nm,5.2s							BALM	Baldy	82.35	26	IAmb	IAmb	19 59 52.3	
LZH	Lanzhou	61.17	316	eP	P	19 57 45.3	+1.2		comp=Z,14nm,0.8s						
LZH				pP	pP	19 58 02.3	+3.0	RIDG	Independent Ri	82.47	23	IAmb	IAmb	19 59 52.5	
LZH				sP	sP	19 58 08.5	+2.8		comp=Z,15nm,0.9s						
LZH				pmax	pmax			L26K	Log Cabin Wild	82.76	24	P	P	19 59 53.6	+1.0
	comp=Z,18nm,1.3s								baz=244,SNR=11						
MA2	Magadan	64.18	359	ceP	P	19 58 03.4	-0.1	KSH	Kashi	82.87	311	P	P	19 59 52.8	-1.1
MA2				pmax	pmax			KSH				S	S	20 10 08.5	+0.3
	comp=Z,11nm,0.7s							KSH				pmax	pmax		
GTA	Gaotai	65.60	317	⇓P	P	19 58 14.5	+1.2		comp=Z,4.0nm,0.9s						
GTA				pmax	pmax			KSH				pmax	pmax		
	comp=Z,8.0nm,1.0s								comp=Z,160nm,7.1s						
GTA				pmax	pmax			KSH				LR	LR		
	comp=Z,91nm,5.1s								comp=Z,260nm,6.0s						
GTA				LR	LR			KSH				LR	LR		
	comp=Z,94nm,15.6s								comp=Z,190nm,8.1s						
GTA				LR	LR			KSH				LR	LR		
	comp=Z,92nm,16.4s								comp=Z,280nm,6.8s						
GTA				LR	LR			MDOK	Medeo	82.89	314	eP	P	19 59 54.1	+0.1
	comp=Z,82nm,15.3s							MDOK	Medeo	82.89	314	eP	P	19 59 54.0	+0.1
ULN	Ulaanbaatar	65.95	328	ceP	P	19 58 16.6	+1.2	SCRK	Sand Creek	82.92	23	P	P	19 59 54.1	+0.5
ULN				pmax	pmax				baz=244,SNR=19						
	comp=Z,5.0nm,1.0s							TNSS	Tian-Shan	82.93	314	eP	P	19 59 54.6	+0.2
SONM	Songino Array	66.28	328	P	P	19 58 18.1	+0.7	TNSS	Tian-Shan	82.93	314	eP	P	19 59 54.6	+0.2
	comp=Z,2.6nm,0.6s,baz=146,slow=5.6,SNR=7.0							TOLK	Toolik Lake Re	83.23	18	P	P	19 59 56.2	+1.3
SONM				PcP	PcP	19 58 45.8	-1.3		baz=238						
	comp=Z,3.4nm,0.7s,baz=157,slow=4.1,SNR=5.7							BCAR	Beaver Creek A	83.43	25	P	P	19 59 57.4	+1.3
SONM				LR	LR	20 25 23.9		KUU	Kurty	83.55	315	eP	P	19 59 55.9	-1.3
	comp=Z,72nm,21.8s,baz=182,slow=34							KUU	Kurty	83.55	315	eP	P	19 59 55.8	-1.3
SEY	Seymchan	67.53	360	iP	P	19 58 25.6	+0.6	K27K	Chicken	83.71	24	P	P	19 59 59.0	+1.5
LSA	Lhasa	68.17	304	P	P	19 58 30.5	+0.2		baz=246						
LSA				pmax	pmax			K27K	Chicken	83.71	24	IAmb	IAmb	19 59 60.0	
	comp=Z,36nm,0.7s								comp=Z,9.9nm,0.7s						
LSA	Lhasa	68.17	304	P	P	19 58 30.4	+0.2	KURK	Kurchatov	83.71	322	ceP	P	19 59 57.5	-0.3
LSA				pmax	pmax			KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s								comp=Z,8.0nm,1.0s						
LSA	Lhasa	68.17	304	P	P	19 58 30.4	+0.2	KURK	Kurchatov	83.71	322	P	P	19 59 57.9	+0.1
YAK	Yakutsk	68.95	349	ceP	P	19 58 34.2	+0.4	TKM2	Tokmak 2	83.87	314	P	P	20 00 00.4	+1.4
YAK				pmax	pmax				SNR=6.1						
	comp=Z,12nm,1.2s							NIL	Nilore	83.91	304	P	P	19 59 58.6	-0.6
ZAK	Zakamensk	69.44	329	eP	P	19 58 37.5	+0.2	NIL				pmax	pmax		
ZAK				pmax	pmax				comp=Z,22nm,0.7s						
	comp=Z,4.0nm,0.8s							NIL	Nilore	83.91	304	P	P	19 59 58.6	-0.6
TAPN	Taplejung	70.34	301	eP	P	19 58 43.6	+0.1	BMAR	Burnt Mountain	84.26	20	P	P	20 00 01.6	+1.3
	comp=Z,33nm,0.9s							EGAK	Eagle	84.38	23	IAmb	IAmb	20 00 03.2	
ODAN	Odare	70.47	301	eP	P	19 58 44.6	+0.3		comp=Z,12nm,0.7s						
	comp=Z,58nm,0.8s							CHMS	Chumysh	84.49	314	P	P	20 00 02.5	+0.6
RAMN	Ramite	71.18	300	eP	P	19 58 48.6	0.0		SNR=6.9						
GUN	Gumba	72.05	301	eP	P	19 58 54.1	+0.1	AAK	Ala-Archa	84.61	313	P	P	20 00 03.8	+1.1
	comp=Z,46nm,0.8s								SNR=7.5						
PKI	Pulchoki	72.36	301	eP	P	19 58 55.6	-0.2	AAK	Ala-Archa	84.61	313	ceP	P	20 00 03.0	+0.3
	comp=Z,35nm,1.0s							AAK				pmax	pmax		
PKIN	Phulchoki	72.38	301	eP	P	19 58 55.4	-0.4		comp=Z,18nm,0.7s						
	comp=Z,26nm,1.0s							SGDS	Sogindy	84.67	314	eP	P	20 00 02.6	-0.4
KKN	Kakani	72.53	301	eP	P	19 58 56.5	-0.2	SGDS	Sogindy	84.67	314	eP	P	20 00 02.5	-0.4
	comp=Z,29nm,0.8s							USP	Ospenovka	84.73	314	P	P	20 00 02.4	-0.8
DMN	Daman	72.63	301	eP	P	19 58 57.5	+0.2		SNR=8.7						
	comp=Z,51nm,0.9s							H02S1	DAWSON INLET T	84.78	36	T	T	21 33 25.9	
VNDA	Vanda	72.84	178	P	P	19 58 58.4	+1.1		SNR=31						
	comp=Z,5.5nm,0.8s,baz=322,slow=6.1,SNR=20							DAWY	Dawson	84.81	24	IAmb	IAmb	20 00 06.1	
VNDA	Vanda	72.84	178	P	P	19 58 57.8	+0.5		comp=Z,16nm,1.2s						
GKN	Gorkha	73.14	301	eP	P	19 59 00.0	-0.2	AML	Almayashu	85.09	313	P	P	20 00 07.0	+1.6
	comp=Z,54nm,1.0s								SNR=5.9						
KOLN	Koldanda	73.97	301	eP	P	19 59 04.9	-0.2	EKS2	Erkin-Say	85.13	313	P	P	20 00 06.1	+0.8
	comp=Z,35nm,0.8s								SNR=9.7						
DANN	Dangsing	73.97	301	eP	P	19 59 04.9	-0.3	QSPA	South Pole Qui	85.17	180	P	P	20 00 05.8	+0.7
	comp=Z,15nm,0.6s							QSPA				IAmb	IAmb	20 00 23.6	
PYUN	Piuthan	74.57	301	eP	P	19 59 08.0	-0.6		comp=Z,13nm,1.1s						
	comp=Z,62nm,0.9s							BTLS	Baital	85.40	316	eP	P	20 00 06.8	+0.3
OHAK	Old Harbor	75.57	27	P	P	19 59 13.9	+0.4	BTLS	Baital	85.40	316	eP	P	20 00 06.7	+0.3
WMQ	Urumqi	75.68	317	eP	P	19 59 17.0	+2.5	MAW	Mawson	85.55	203	P	P	20 00 06.9	+0.2
WMQ				pP	pwP	19 59 33.5	+2.9		comp=Z,5.5nm,0.6s,baz=116,slow=6.4,SNR=13						
WMQ				pmax	pmax			MAW	Mawson	85.55	203	P	P	20 00 07.2	+0.5
	comp=Z,28nm,0.7s								baz=86,SNR=8.7						
WMQ				pmax	pmax			MAW	Mawson	85.55	203	P	P	20 00 06.7	0.0
	comp=Z,120nm,5.7s							NRIK	Noril'sk	85.93	341	P	P	20 00 09.3	+0.8
HYB	Hyderabad	76.42	289	iP	P	19 59 19.0	-0.2		comp=Z,5.2nm,0.6s,baz=99,slow=5.9,SNR=5.7						
SVW2	Sparrevohn	76.84	23	P	P	19 59 21.9	+1.3	NRIK				LR	LR	20 37 05.0	
CNPM	China Poot	77.73	26	P	P	19 59 26.5	+0.8		comp=Z,37nm,22.0s,baz=24,slow=35						
TTA	Tatalina	77.78	21	IAmb	IAmb	19 59 28.0		NRIK	Noril'sk	85.93	341	ceP	P	20 00 08.5	0.0
	comp=Z,21nm,1.4s							NRIK				pmax	pmax		
DGZ	Jazzator, Alta	78.03	323	⇑iP	P	19 59 28.1	+0.4		comp=Z,6.0nm,1.0s						
DGZ				pmax	pmax			EPYK	Eagle Plains	86.68	22	P	P	20 00 13.5	+1.1
	comp=Z,12nm,0.7s								baz=250						
ZSN	Zaisan	78.81	320	eP	P	19 59 31.4	-0.5	KKAR	Karatay Array	87.57	313	P	P	20 00 16.0	-1.1
ZSN	Zaisan	78.81	320	eP	P	19 59 31.4	-0.5	KKAR	Karatay Array	87.57	313	P	P	20 00 16.0	-1.1
O22K	Cooper Landing	78.89	25	P	P	19 59 32.0	+0.1	IUG	luzhnay	87.78	312	eP	P	20 00 18.4	+0.2
	baz=239							IUG	luzhnay	87.78	312	eP	P	20 00 18.4	+0.2
SUA	Susitna One	78.98	24	IAmb	IAmb	19 59 33.2		INK	Inuvik	88.47	21	P	P	20 00 20.9	+0.2
	comp=Z,17nm,0.6s								baz=266,slow=6.1,SNR=1.2						
RC01	Rabbit Creek A	79.19	25	P	P	19 59 34.1	+0.4	INK	Inuvik	88.47	21	P	P	20 00 20.9	+0.2
	baz=239,SNR=6.5							INK				pmax	pmax		
CUT	Chulitna	79.67	23	P	P	19 59 36.4	+0.3		comp=Z,27nm,1.2s						
	baz=238							INK	Inuvik	88.47	21	P	P	20 00 20.9	+0.2
KTH	Kantishna Hill	80.03	22	IAmb	IAmb	19 59 38.8		BRVK	Borovoye	89.25	323	ceP	P	20 00 23.3	-1.5
	comp=Z,19nm,0.9s							BRVK				pmax	pmax		
TRF	Thorofare Moun	80.22	22	P	P	19 59 39.0	-0.4		comp=Z,7.0nm,0.8s						
TRF				IAmb	IAmb	19 59 42.0		BRVK	Borovoye	89.25	323	P	P	20 00 23.0	-1.8
	comp=Z,13nm,0.9s							BRVK				IAmb	IAmb	20 00 25.5	
MK31	Makanchi Array	80.27	319	ceP	P	19 59 40.0	+0.2		comp=Z,6.2nm,0.8s						
MKAR	Makanchi Array	80.27	319	P	P	19 59 39.9	+0.1	C36M	Paulatuk	92.04	21	P	P	20 00 37.6	+0.2
	comp=Z,5.2nm,0.8s,baz=98,slow=6.9,SNR=22								baz=262						

NVAR	Mina Array Bea	92.13	52	P	P	20 00 40.0	+1.1
	comp=Z,1.6nm,0.7s,baz=256,slow=6.1,SNR=14						
NVAR				LR	LR	20 37 57.7	
	comp=Z,84nm,18.6s,baz=268,slow=33						
NEW	Newport	93.64	42	P	P	20 00 45.7	+0.3
	comp=Z,2.1nm,0.9s,baz=189,slow=4.6,SNR=4.5						
SYO	Syowa Base	93.66	199	⇓eP	P	20 00 45.0	+0.1
SYO	Syowa Base	93.66	199	epP	pP	20 01 03.4	+2.2
SYO	Syowa Base	93.66	199	esP	sP	20 01 09.4	+1.9
R11A	Troy Canyon, C	94.26	52	P	P	20 00 49.3	+0.6
	baz=267						
ABKAR	Akbulak array	95.41	319	P	P	20 00 50.9	-2.5
YKA	Yellowknife Ar	95.45	28	P	P	20 00 53.6	+0.4
	comp=Z,4.3nm,0.7s,baz=270,slow=4.4,SNR=15						
YKA				LR	LR	20 38 12.5	
	comp=Z,86nm,21.9s,baz=0.0,slow=32						
ARU	Arti	96.27	326	P	P	20 00 55.2	-1.9
ARU						20 04 47.1	
ARU				S	SKSac	20 11 31.3	+2.8
PDAR	Pinedale Array	98.89	48	P	Pdif	20 01 09.6	0.0
	comp=Z,0.8nm,0.7s,baz=269,slow=2.6,SNR=7.2						
PDAR				LR	LR	20 43 39.5	
	comp=Z,53nm,18.1s,baz=307,slow=34						
PDAR	Pinedale Array	98.89	48	P	Pdif	20 01 09.9	+0.3
VNA3	Neumayer Olymp	103.23	186	Pdiff	Pdif	20 01 28.4	+0.4
FINES	FINESS Array B	111.01	336	Pdiff	Pdif	20 02 01.3	-1.4
	comp=Z,2.3nm,0.6s,baz=99,slow=4.8,SNR=6.9						
FINES				PKiKP	PKiKP	20 06 01.5	-0.2
	comp=Z,6.8nm,1.0s,baz=202,slow=14,SNR=3.7						
AKASG	Malin Array Be	114.44	324	PKP	PKPdf	20 06 08.1	-0.5
	comp=Z,2.2nm,0.6s,baz=55,slow=2.5,SNR=9.1						
BRTR	Keskin Array B	115.24	312	PKP	PKPdf	20 06 11.2	+0.6
	comp=Z,0.6nm,0.8s,baz=112,slow=2.3,SNR=1.8						
NOA	NORSAR Array B	116.88	340	PKiKP	PKiKP	20 06 13.0	0.0
	comp=Z,1.3nm,0.7s,baz=345,slow=1.4,SNR=3.6						
NOA	NORSAR Array B	116.88	340	PKiKP	PKiKP	20 06 13.0	0.0
BURAR	Bucovina Array	118.14	323	⇑P	PKiKP	20 06 16.9	+0.9
BURAR	Bucovina Array	118.14	323	⇑PKiKP	PKiKP	20 06 16.9	+0.9
KOLS	Kolonicke sedl	119.26	325	ePKiKP	PKiKP	20 06 18.0	0.0
KOLS	Kolonicke sedl	119.26	325	ePKP	PKiKP	20 06 18.0	0.0
HUMR	Humele	119.62	319	⇑P	PKiKP	20 06 19.0	+0.2
TKL	Tuckaleechee C	119.74	51	PKP	PKiKP	20 06 19.5	+0.2
	comp=Z,2.5nm,0.7s,baz=149,slow=5.6,SNR=5.4						
PLCA	Paso Flores	119.83	143	PKP	PKiKP	20 06 20.3	+0.8
	comp=Z,1.6nm,0.8s,baz=299,slow=3.9,SNR=4.9						
HERR	Herculane	121.11	321	⇑P	PKiKP	20 06 22.0	+0.3
BZS	Buzias	121.26	322	⇑P	PKiKP	20 06 22.1	+0.1
BZS	Buzias	121.26	322	⇑PKiKP	PKiKP	20 06 22.1	+0.1
MORC	Moravsky Berou	121.43	328	⇑P	PKiKP	20 06 23.1	+0.8
MORC	Moravsky Berou	121.43	328	⇑PKiKP	PKiKP	20 06 23.1	+0.8
VYHS	Vyhne	121.43	326	ePKiKP	PKiKP	20 06 22.6	+0.3
VYHS	Vyhne	121.43	326	ePKP	PKiKP	20 06 22.6	+0.3
MDVR	Moldovita	121.60	321	⇑P	PKiKP	20 06 22.7	0.0
KRLC	Kraliky	121.66	328	ePKPDF	PKiKP	20 06 22.7	0.0
KRLC	Kraliky	121.66	328	ePKiKP	PKiKP	20 06 22.7	0.0
OSTC	Ostas	121.67	329	ePKPDF	PKPdf	20 06 22.5	0.0
OSTC				ex	x	20 06 41.4	
SRO	Srobarova	122.09	325	ePKiKP	PKiKP	20 06 23.8	+0.3
SRO	Srobarova	122.09	325	ePKP	PKiKP	20 06 23.8	+0.3
BRG	Berggiesshubel	122.62	330	ePKP	PKiKP	20 06 24.9	+0.4
	comp=Z,7.3nm,1.0s						
BRG	Berggiesshubel	122.62	330	ePKiKP	PKiKP	20 06 24.9	+0.4
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	Collm	122.81	331	iPKPdf	PKiKP	20 06 25.1	+0.3
	comp=Z,7.0nm,0.8s						
CLL				e		20 06 29.0	
CLL	Collm	122.81	331	iPKiKP	PKiKP	20 06 25.1	+0.3
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	Collm	122.81	331	ePKPdf	PKiKP	20 06 25.2	+0.4
	baz=49,slow=2.0						
PRU	Pruhonice	122.87	329	ePKPDF	PKiKP	20 06 25.0	0.0
PRU	Pruhonice	122.87	329	ePKiKP	PKiKP	20 06 25.0	0.0
FBE	Freiberg	122.88	331	ePKPdf	PKiKP	20 06 25.4	+0.4
	baz=49,slow=2.0						
NRDL	Niedersach Rie	123.35	334	ePKPdf	PKiKP	20 06 26.0	+0.2
	baz=49,slow=2.0						
CONA	Conrad Observa	123.40	327	eP	PKiKP	20 06 26.9	+0.6
	comp=Z,4.2nm,0.7s						
NEUB	Neuenburg	123.45	332	ePKPdf	PKiKP	20 06 26.9	+0.8
	baz=49,slow=2.0						
TANN	Tannenbergstha	123.64	331	ePKPdf	PKiKP	20 06 27.0	+0.3
	baz=49,slow=2.0						
CLZ	Clausthal	123.68	333	ePKPdf	PKiKP	20 06 27.6	+1.0
	baz=49,slow=2.0						
GUNZ	Gunzen	123.74	331	ePKPdf	PKiKP	20 06 27.6	+0.8
	baz=49,slow=2.0						
NKC	Novy Kostel	123.77	330	ePKPDF	PKiKP	20 06 27.4	+0.6
NKC	Novy Kostel	123.77	330	ePKiKP	PKiKP	20 06 27.4	+0.6
WERN	Wernitzgruen	123.77	331	ePKPdf	PKiKP	20 06 27.6	+0.8
	baz=49,slow=2.0						
KHC	Kasperske Hory	123.89	329	ePKPDF	PKPdf	20 06 26.8	-0.1
KHC				epPKP	pPKPdf	20 06 44.5	+0.4
KHC	Kasperske Hory	123.89	329	ePKiKP	PKPdf	20 06 26.8	-0.1
KHC				e		20 06 44.5	
MOX	Moxa	123.90	331	eL	L	21 02 46.5	
	comp=Z,106nm,19.6s						
GEC2	GERESS Array S	124.00	328	ePKPdf	PKiKP	20 06 28.0	+0.6
	baz=49,slow=2.0						
GERES	GERESS Array B	124.00	328	PKP	PKiKP	20 06 27.8	+0.3
	comp=Z,3.6nm,0.6s,baz=74,slow=1.7,SNR=29						
GERES	GERESS Array B	124.00	328	PKiKP	PKiKP	20 06 28.0	+0.6
GERES	GERESS Array B	124.00	328		PKiKP	20 06 28.0	+0.6
MANZ	Manzenberg	124.09	330	ePKPdf	PKiKP	20 06 28.4	+0.9
	baz=49,slow=2.0						
WET	Wettzell	124.24	329	ePKPdf	PKiKP	20 06 28.2	+0.4
	baz=49,slow=2.0						
MOA	Molln	124.31	327	eP	PKiKP	20 06 28.2	+0.2
	comp=Z,1.6nm,0.6s						
UBBA	Unterbreizbach	124.55	332	ePKPdf	PKiKP	20 06 29.2	+1.0
	baz=49,slow=2.0						
GRF	Grafenberg Arr	124.72	331	ePKPdf	PKiKP	20 06 29.0	+0.3
	baz=49,slow=2.0						
GRF				eL	L	21 04 38.8	
	comp=Z,83nm,18.4s						
MYKA	Terra Mystica	125.38	326	eP	PKiKP	20 06 30.1	-0.1
	comp=Z,4.6nm,0.9s						
ABTA	Abfaltersbach	125.93	327	eP	PKiKP	20 06 31.2	-0.2
	comp=Z,4.9nm,0.7s						
WATA	Walderalm	126.06	328	eP	PKiKP	20 06 31.5	-0.2
	comp=Z,7.1nm,1.3s						
WTTA	Wattenberg	126.08	328	eP	PKiKP

PCBR	**Castelo Branco**	**140.79**	**336**	*e*PKPdf	**PKPdf**	**20 06 54.1 -4.7**
PCAS	**Casmilo, Conde**	**141.02**	**337**	*e*PKPdf	**PKiKP**	**20 07 00.6 -1.4**
PSBE	**So Bento**	**141.60**	**337**	*e*PKPdf	**PKPdf**	**20 06 55.9 -4.5**
SAML	**Samuel**	**141.69**	**111**	*e*P	**PKPdf**	**20 06 56.4 -4.8**
SAML	**Samuel**	**141.69**	**111**	PKPdf	**PKPdf**	**20 06 56.4 -4.8**
EVO	**Evora**	**142.12**	**335**	*e*PKPdf	**PKPdf**	**20 06 57.0 -4.3**
PBEJ	**Beja**	**142.48**	**334**	*e*PKPdf	**PKPdf**	**20 06 58.5 -3.4**
PNCL	**Nicolau / Gran**	**142.69**	**335**	*e*PKPdf	**PKPdf**	**20 06 59.1 -3.2**
PCVE	**Castro Verde**	**142.88**	**334**	*e*PKPdf	**PKPdf**	**20 06 59.9 -2.8**
PVAQ	**Vaqueiros**	**142.94**	**334**	*e*PKPdf	**PKPdf**	**20 06 58.2 -4.6**
PTEO	**Sao Teotonio**	**143.25**	**335**	*e*PKPdf	PKPab	20 06 58.4 -0.7
MORF	**Marmelete**	**143.42**	**335**	*e*PKPdf	**PKPdf**	**20 07 02.5 -1.2**
TORD	**Torodi Ar. Bea**	**150.23**	**288**	PKPbc	**PKPbc**	**20 07 20.5 -0.3**
	comp=Z,9.8nm,0.5s,baz=67,slow=2.5,SNR=83					
TORD				PKPab	**PKPab**	**20 07 26.7 -0.3**
	comp=Z,26nm,0.6s,baz=67,slow=3.7,SNR=31					
BDFB	**Brasilia**	**151.13**	**135**	PKPbc	**PKiKP**	**20 07 23.5 -0.1**
	comp=Z,6.3nm,0.7s,baz=208,slow=11,SNR=3.7					
KIC	**Kosan Boka**	**157.52**	**275**	*e*PKP1	**PKPab**	**20 07 57.8 -0.2**
	comp=Z,41nm,0.8s					
DBIC	**Dimbokro**	**157.62**	**276**	PKPab	**PKPab**	**20 07 58.2 -0.2**
	comp=Z,12nm,0.6s,baz=87,slow=4.0,SNR=22					
TIC	**Toumodi**	**157.78**	**276**	*e*PKP1	**PKPab**	**20 07 58.8 -0.4**
LIC	**Lamto**	**157.81**	**275**	*e*PKP1	**PKPab**	**20 07 58.9 -0.4**
	comp=Z,35nm,0.8s					

IDC ***26*** *19:56:26.2±0.7,8.67°S×126.77°E, h0km, mb4.1/9, mb1 4.2/10,mb1mx4.0/31,mbtmp4.2/10,ML4.3/1, MS2.9/1, Ms1 2.9/1,ms1mx2.4/35,Error ellipse: s-maj=24.3km s-min=17.2km az=64.0*

NEIC ***26*** *19:56:31.2±3.0, 9.05°S±0.09°×126.84°E±0.05°, h66km±14km, mb4.2/5,Error ellipse: s-maj=12.3km s-min=6.7km az=182.0*

DJA ***26*** *19:56:32.1±1.9, 9°S±3°×12°7'E±°, h24km±18km, M4.4/7, mb4.9/3, mb4.6/7, MLv4.4/7, Mw(mB)4.2/3*

ISC 26 19:56:30.1±0.5, 9°02'S±0'.05×126°90'E±0'.06, h35km, n43, σ2§27/49, mb4.0/10, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.70**	**254**	P		**Pn**	**19 57 13.2**	**+2.0**
SOEI				S		**Sn**	**19 57 43.4**	**+0.6**
SOEI	**Soe**	**2.70**	**254**			**Pn**	**19 57 12.7**	**+1.4**
BATI	**Baumata**	**3.41**	**249**	Pn		**Pn**	**19 57 22.1**	**+1.2**
	27nm,0.3s,baz=107,slow=4.4,SNR=33							
BATI				Sn		**Sn**	**19 58 02.7**	**+2.7**
	69nm,0.3s,baz=23,slow=20,SNR=13							
BATI				LR		LR	19 58 35.9	
	comp=Z,188nm,22.0s,baz=98,slow=38							
BATI	**Baumata**	**3.41**	**249**	P		**Pn**	**19 57 23.1**	**+2.3**
MMRI	**Maumere**	**4.63**	**274**	P		**Pn**	**19 57 38.5**	**+0.9**
MMRI	**Maumere**	**4.63**	**274**			**Pn**	**19 57 38.1**	**+0.5**
MTN	**Manton Dam**	**5.63**	**133**	Pn		Pn	19 57 56.0	+4.6
NLAI	**Namlea**	**5.75**	**2**	P		**Pn**	**19 57 57.7**	**+4.7**
	0.1nm1µm34nm,0.6s							
KNRA	**Kununurra**	**6.86**	**165**	Pn		**Pn**	**19 58 10.9**	**+2.6**
SANI	**Sanana**	**6.99**	**352**	P		**Pn**	**19 58 14.0**	**+4.0**
	0.1nm20nm,0.9s							
FAKI	**Fak Fak**	**8.06**	**42**	Pn		**Pn**	**19 58 26.5**	**+1.7**
KAPI	**Kappang**	**8.14**	**299**	Pn		**Pn**	**19 58 26.2**	**+0.3**
LUWI	**Luwuk**	**8.93**	**332**	Pn		**Pn**	**19 58 35.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.11**	**188**	Pn		**Pn**	**19 58 39.9**	**+0.8**
	3.5nm,0.3s,baz=6.1,slow=10,SNR=51							
FITZ				Sn		**Sn**	**20 00 18.2**	**-2.2**
	14nm,0.3s,baz=279,slow=4.7,SNR=12							
FITZ	**Fitzroy Crossi**	**9.11**	**188**	Pn		**Pn**	**19 58 40.2**	**+1.1**
FITZ				Sn		**Sn**	**20 00 18.8**	**-1.7**
SIJI	**Sorong**	**9.19**	**28**	Pn		**Pn**	**19 58 43.8**	**+3.6**
	1.8nm,0.3s,baz=328,slow=23,SNR=9.9							
WB0	**Warramunga Arr**	**12.91**	**147**			**Pn**	**19 59 31.0**	**-0.2**
WRA	**Warramunga Arr**	**13.02**	**147**	Pn		**Pn**	**19 59 32.0**	**-0.8**
	1.2nm,0.3s,baz=318,slow=15,SNR=33							
WRA				Sn		**Sn**	**20 01 50.8**	**-5.7**
	3.3nm,0.3s,baz=319,slow=22,SNR=10							
WRA	**Warramunga Arr**	**13.02**	**147**			**Pn**	**19 59 31.9**	**-0.8**
WB2	**Warramunga Arr**	**13.03**	**147**	Pn		**Pn**	**19 59 32.6**	**-0.2**
WR0	**Warramunga Arr**	**13.14**	**147**	Pn		**Pn**	**19 59 33.9**	**-0.5**
AS31	**Alice Springs**	**16.03**	**156**	P		**Pn**	**20 00 14.1**	**+1.0**
ASAR	**Alice Springs**	**16.03**	**156**	Pn		**Pn**	**20 00 13.9**	**+0.8**
	0.7nm,0.3s,baz=322,slow=11,SNR=32							
ASAR				Sn		**Sn**	**20 03 05.7**	**-4.1**
	1.4nm,0.3s,baz=323,slow=19,SNR=8.0							
ASAR	**Alice Springs**	**16.03**	**156**	P		**P**	**20 00 14.9**	**-1.2**
CISI	**Cisompet, Garu**	**18.95**	**273**			**P**	**20 00 46.7**	**-1.7**
PMG	**Port Moresby**	**20.00**	**93**	P		**P**	**20 00 58.8**	**-1.1**
PMG				IAmb		IAmb	20 01 07.8	
	comp=Z,11nm,0.8s							
CTA	**Charters Tower**	**21.69**	**123**	P		**P**	**20 01 22.2**	**+4.1**
	comp=Z,3.8nm,0.8s,baz=305,slow=14,SNR=5.1							
NWAO	**Narrogin (SRO)**	**25.41**	**199**	P		**P**	**20 01 57.2**	**+2.7**
	comp=Z,12nm,1.0s,baz=324,slow=13,SNR=1.8							
STKA	**Stephens Creek**	**26.52**	**151**	P		**P**	**20 02 07.9**	**+3.3**
	comp=Z,2.3nm,0.9s,baz=309,slow=23,SNR=2.0							
TPUB	**Ta-pu**	**32.70**	**349**	P		**P**	**20 02 55.3**	**-4.1**
CMAR	**Chiang Mai Arr**	**38.82**	**315**	P		**P**	**20 03 50.5**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=144,slow=7.1,SNR=20							
CMAR	**Chiang Mai Arr**	**38.82**	**315**	P		**P**	**20 03 50.2**	**-1.8**
CHTO	**Chiang Mai**	**39.06**	**315**	P		**P**	**20 03 50.6**	**-3.3**
CHTO				IAmb		IAmb	20 04 00.2	
	comp=Z,2.2nm,0.7s							
SONM	**Songino Array**	**59.45**	**344**	P		**P**	**20 06 28.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=142,slow=4.9,SNR=2.1							
SONM	**Songino Array**	**59.45**	**344**	P		**P**	**20 06 28.3**	**-1.2**
PETK	**Petropavlovsk-**	**67.21**	**20**	P		**P**	**20 07 20.5**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=168,slow=4.2,SNR=7.0							
PETK	**Petropavlovsk-**	**67.21**	**20**	P		**P**	**20 07 21.0**	**+0.3**
MKAR	**Makanchi Array**	**68.29**	**329**	P		**P**	**20 07 26.1**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=119,slow=7.4,SNR=15							
ZALV	**Zalesovo Beam**	**72.08**	**335**	P		**P**	**20 07 49.2**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=130,slow=5.0,SNR=12							
GEYT	**Alibeck**	**79.21**	**311**	P		**P**	**20 08 32.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=160,slow=4.6,SNR=2.0							
TORD	**Torodi Ar. Bea**	**126.16**	**280**	PKP		**PKiKP**	**20 15 31.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=112,slow=1.5,SNR=6.4							
CPUP	**Villa Florida**	**144.62**	**173**	PKP		**PKPdf**	**20 16 05.4**	**+1.6**
	comp=Z,1.2nm,0.4s,baz=161,slow=4.8,SNR=4.3							
LPAZ	**La Paz**	**150.78**	**149**	PKPbc		**PKiKP**	**20 16 23.6**	**+2.4**
	comp=Z,1.6nm,0.9s,baz=167,slow=1.6,SNR=5.2							
LPAZ				PKPab		**pPKPbc**	**20 16 31.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=109,slow=4.8,SNR=9.6							

IDC ***26*** *20:02:28.0±0.8,43°.94N×105°.66W, h0km, mb4.2/3, mb1 4.0/10,mb1mx3.7/47,mbtmp3.8/10,ML3.2/6,Error ellipse: s-maj=21.7km s-min=7.2km az=146.0*

NEIC ***26*** *20:02:29.3±1.5, 43°.75N±0°.05×105°.28W±0°.09, h0km±2km, ML3.4/33,Error ellipse: s-maj=11.0km s-min=8.1km az=93.0*

ISC 26 20:02:27.9±0.7, 43°84'N±0'.06×105°37'W±0'.06, h0km, n56, σ1§71/56, mb4.1/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**73**			**Pg**	**20 02 47.5**	**+0.3**
K22A	**Casper**	**1.45**	**216**			**Pn**	**20 02 54.4**	**-1.2**
K22A				IAML			20 03 19.2	
	comp=N,766nm,0.3s							
K22A				IAML			20 03 22.6	
	comp=E,431nm,0.3s							
PHWY	**Pilot Hill**	**2.53**	**181**	Pn		**Pn**	**20 03 11.1**	**+0.5**
PHWY				IAML			20 03 54.2	
	comp=E,118nm,0.6s							
RWWY	**Rawlins**	**2.54**	**213**			**Pn**	**20 03 12.1**	**+1.6**
RWWY				IAML			20 03 47.0	
	comp=E,299nm,0.6s							
RWWY				IAML			20 03 50.2	
	comp=E,256nm,0.9s							
N23A	**Red Feather La**	**2.97**	**188**			**Pn**	**20 03 17.0**	**+0.6**
N23A				IAML			20 03 60.0	
	comp=N,169nm,0.6s							
N23A				IAML			20 04 06.1	
	comp=E,121nm,0.8s							
RLMT	**Red Lodge**	**3.07**	**296**			**Pn**	**20 03 20.0**	**+2.2**
RLMT				IAML			20 04 10.9	
	comp=E,67nm,0.5s							
RLMT				IAML			20 04 18.9	
	comp=E,83nm,0.7s							
PD31	**Pinedale Array**	**3.23**	**252**			**Pn**	**20 03 21.4**	**+1.2**
PDAR	**Pinedale Array**	**3.23**	**252**	Pn		**Pn**	**20 03 21.4**	**+1.2**
	comp=E,6.7nm,0.3s,baz=68,slow=16,SNR=97							
PDAR				Pg		**Pb**	**20 03 25.1**	**-1.2**
	comp=E,17nm,0.3s,baz=74,slow=19,SNR=30							
PDAR				Lg		Lg	20 04 05.6	
	comp=E,12nm,0.3s,baz=75,slow=32,SNR=2.1							
PDAR	**Pinedale Array**	**3.23**	**252**			**Pn**	**20 03 21.4**	**+1.3**
BW06	**Boulder Array**	**3.24**	**252**			**Pn**	**20 03 21.6**	**+1.5**
BW06				IAML			20 04 10.2	
	comp=E,53nm,0.5s							
BW06				IAML			20 04 18.2	
	comp=E,52nm,0.6s							
LOHW	**Long Hollow**	**3.80**	**268**			**Pn**	**20 03 30.4**	**+2.5**
FLWY	**Flagg Ranch**	**3.85**	**276**			**Pn**	**20 03 30.9**	**+2.3**
FLWY				IAML			20 05 07.7	
	comp=E,57nm,1.1s							
FLWY				IAML			20 05 10.4	
	comp=E,65nm,1.2s							
MOOW	**Moose Ponds**	**3.89**	**271**			**Pn**	**20 03 32.3**	**+3.2**
ISCO	**Idaho Springs**	**4.04**	**183**			**Pn**	**20 03 31.8**	**+0.6**
O20A	**White River Ci**	**4.27**	**211**	Pn		**Pn**	**20 03 35.6**	**+1.2**
O20A				IAML			20 04 47.8	
	comp=N,67nm,0.9s							
O20A				IAML			20 05 00.2	
	comp=E,66nm,0.9s							
E28A	**Huff**	**4.29**	**49**			**Pn**	**20 03 36.6**	**+2.1**
DGMT	**Dagmar**	**4.71**	**10**			**Pn**	**20 03 43.3**	**+3.1**
BOZ	**Bozeman (W)**	**4.79**	**294**			**Pn**	**20 03 44.1**	**+2.7**
BOZ				IAML			20 05 04.1	
	comp=E,31nm,0.9s							
BOZ				IAML			20 05 10.5	
	comp=E,24nm,1.1s							
HWUT	**Hardware Ranch**	**5.08**	**246**			**Pn**	**20 03 46.9**	**+1.5**
KSCO	**Kaye Shedlock'**	**5.24**	**156**	Pn		**Pn**	**20 03 47.4**	**-0.2**
SPUT	**South Promonto**	**5.80**	**247**	Pn		**Pn**	**20 03 57.4**	**+2.1**
PV22	**Blue Mesa, Par**	**5.89**	**207**			**Pn**	**20 03 58.1**	**+1.5**
PV07	**Paradox Valley**	**5.93**	**206**			**Pn**	**20 03 58.8**	**+1.6**
PV15	**Paradox Valley**	**5.97**	**204**			**Pn**	**20 03 58.7**	**+1.0**
PV04	**Paradox Valley**	**6.05**	**207**	Pn		**Pn**	**20 04 00.3**	**+1.4**
SRU	**San Rafael Swe**	**6.10**	**221**	Pn		**Pn**	**20 03 59.8**	**+0.3**
PV14	**Lion Creek, Pa**	**6.11**	**208**			**Pn**	**20 04 00.4**	**+0.7**
PV16	**Nyswonger Mesa**	**6.13**	**207**			**Pn**	**20 04 01.2**	**+1.2**
PV03	**Paradox Valley**	**6.16**	**206**			**Pn**	**20 04 01.4**	**+1.1**
PV02	**Paradox Valley**	**6.17**	**205**			**Pn**	**20 04 02.1**	**+1.6**
S22A	**4UR Ranch, Cre**	**6.18**	**191**			**Pn**	**20 04 01.9**	**+1.2**
PV01	**Paradox Valley**	**6.19**	**204**	Pn		**Pn**	**20 04 02.3**	**+1.6**
TMUT	**Trail Mountain**	**6.30**	**226**			**Pn**	**20 04 03.9**	**+1.6**
ECSD	**EROS Data Cent**	**6.34**	**88**	Pn		**Pn**	**20 04 03.0**	**+0.4**
BGU	**Big Grassy Mou**	**6.37**	**245**	Pn		**Pn**	**20 04 05.0**	**+1.8**
HLID	**Hailey**	**6.56**	**271**			**Pn**	**20 04 08.9**	**+3.2**
Q16A	**Castle Valley**	**6.57**	**224**			**Pn**	**20 04 06.8**	**+0.9**
DUG	**Dugway, Tooele**	**6.63**	**239**			**Pn**	**20 04 07.8**	**+1.2**
JTMT	**Jette**	**7.35**	**305**	Pn		**Pn**	**20 04 18.7**	**+2.1**
MSU	**Marysvale**	**7.39**	**226**	Pn		**Pn**	**20 04 18.9**	**+1.7**
MVU	**Marysvale**	**7.41**	**226**			**Pn**	**20 04 18.8**	**+1.2**
MTPU	**Mount Pierson**	**7.75**	**224**	Pn		**Pn**	**20 04 22.8**	**+0.5**
ELK	**Elko**	**7.94**	**250**	Pn		**Pn**	**20 04 26.4**	**+1.7**
	comp=E,0.4nm,0.3s,baz=65,slow=9.7,SNR=7.0							
ELK				Lg		Lg	20 06 30.5	
	comp=E,0.1nm,0.3s,baz=140,slow=10,SNR=1.8							
ELK	**Elko**	**7.94**	**250**			**Pn**	**20 04 25.9**	**+1.2**
PSUT	**Pine Spring**	**8.30**	**233**	Pn		**Pn**	**20 04 31.6**	**+2.0**
CCUT	**Cedar City**	**8.73**	**227**	Pn		**Pn**	**20 04 35.5**	**0.0**
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn		**Pn**	**20 04 39.8**	**-0.8**
	comp=E,2.1nm,0.3s,baz=235,slow=12,SNR=15							
ULM				Pg			20 05 11.8	
	comp=E,1.9nm,0.3s,baz=229,slow=18,SNR=6.5							
ULM				Lg		Lg	20 07 10.8	
	comp=E,0.6nm,0.3s,baz=124,slow=21,SNR=1.5							
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn		**Pn**	**20 04 39.5**	**-1.1**
NEW	**Newport**	**9.29**	**303**	Lg		Lg	20 07 13.7	
	comp=E,0.1nm,0.3s,baz=30,slow=17,SNR=1.7							
NVAR	**Mina Array Bea**	**11.14**	**245**	Pn		**Pn**	**20 05 10.4**	**+1.8**
	comp=E,0.2nm,0.3s,baz=52,slow=11,SNR=6.1							
TXAR	**Lajitas Array**	**14.54**	**174**	Pn		**Pn**	**20 05 57.2**	**+2.3**
	comp=E,0.0nm,0.3s,baz=339,slow=9.7,SNR=4.5							
TXAR				Pg		Pg	20 06 56.9	
	comp=E,0.1nm,0.3s,baz=357,slow=16,SNR=2.9							
BBB	**Bella Bella**	**17.30**	**307**	P		**Pn**	**20 06 26.4**	**-4.3**
	comp=E,0.1nm,0.3s,baz=169,slow=10,SNR=3.5							
YKA	**Yellowknife Ar**	**19.46**	**347**	P		**P**	**20 06 54.2**	**-1.5**
	comp=E,0.1nm,0.3s,baz=163,slow=13,SNR=1.7							
ARCES	**ARCESS Array B**	**61.35**	**18**	P		**P**	**20 12 44.4**	**-0.5**
	comp=E,5.2nm,0.9s,baz=350,slow=4.9,SNR=5.7							
ZALV	**Zalesovo Beam**	**82.20**	**354**	P		**P**	**20 14 49.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=15,slow=4.9,SNR=4.6							
MKAR	**Makanchi Array**	**89.50**	**355**	P		**P**	**20 15 26.5**	**-0.3**
	comp=E,0.6nm,0.6s,baz=352,slow=4.7,SNR=2.6							

JMA ***26*** *20:03:04.1±1.2,43°.63N×150°.13E, h30km,M4.1*

SKHL ***26*** *20:03:05.5±0.3,43°.19N×149°.97E, h39km±2km, mb4.3/2*

ISC 26 20:03:08.2±4.0, 43°3'N±0'.1×149°8'E±0'.2, h35km, n16, σ0§53/22, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.38**	**325**	*e*P		**Pn**	**20 03 44.6**	**-0.1**
KUR				AMB		AMB	20 03 50.0	
	60nm,0.6s							
KUR				*i* S		**Sn**	**20 04 12.5**	**-0.1**
KUR				A		A	20 04 15.0	
	156nm,0.2s							
KUR				A		A	20 04 15.0	
	81nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.95**	**286**	*i* P		**Pn**	**20 03 52.0**	**-0.5**
YUK				AMB		AMB	20 03 52.0	
	63nm,0.4s							
YUK				*i* S		**Sn**	**20 04 27.0**	**+0.3**
YUK				A		A	20 04 28.0	
	139nm,0.4s							
YUK				A		A	20 04 28.0	
	155nm,0.4s							
NEM2	**Nemuro 2**	**2.96**	**273**	P		**Pn**	**20 03 52.2**	**-0.5**
NEM2				*e*S		**Sn**	**20 04 27.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**2.98**	**273**	*e*P		**Pn**	**20 03 52.0**	**-0.8**
NMR				*e*S		**Sn**	**20 04 27.0**	**-0.3**
GRPR	**Tuman**	**3.01**	**285**	*e*P		**Pn**	**20 03 52.8**	**-0.5**
GRPR				*e*S		**Sn**	**20 04 28.0**	**-0.1**
GRPR				A		A	20 04 30.0	
	61nm,0.2s							
GRPR				A		A	20 04 30.0	
	102nm,0.2s							
JRA	**Rausu**	**3.46**	**282**	P		**Pn**	**20 03 59.3**	**-0.2**
JNK	**Nakash**	**3.71**	**276**	P		**Pn**	**20 04 02.5**	**-0.5**
JAK	**Akkeshi**	**3.75**	**267**	P		**Pn**	**20 04 03.0**	**-0.5**
JAK				*e*S		**Sn**	**20 04 46.1**	**-0.3**
JTKR	**Abashiri--Toko**	**4.33**	**281**	P		**Pn**	**20 04 12.4**	**+0.9**
JAR	**Ashorobuto**	**4.41**	**272**	P		**Pn**	**20 04 12.9**	**+0.4**
JCH	**Churui**	**4.78**	**264**	P		**Pn**	**20 04 17.9**	**+0.3**
JFR	**Furan**	**5.27**	**271**	P		**Pn**	**20 04 25.5**	**+1.1**
JNK	**Urakawa-nobuka**	**5.29**	**261**	P		**Pn**	**20 04 24.3**	**-0.3**
JBT2	**Biratori 2**	**5.48**	**267**	P		**Pn**	**20 04 27.0**	**-0.3**
JNB	**Noboribetsu**	**6.49**	**266**	P		**Pn**	**20 04 41.6**	**+0.4**
JKB	**Kayabe**	**6.63**	**261**	P		**Pn**	**20 04 43.5**	**+0.5**

IDC ***26*** *20:06:33.2±1.6,2°.76N×90°.01E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/44, mbtmp3.6/8, ML3.7/2, Error ellipse: s-maj=43.8km s-min=25.8km az=39.0*

ISC 26 20:06:34.5±1.4, 2°8N±0°.2×90°0E±0°.1, h10km, n15, σ0§58/9, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.29**	**296**	Pn		**Pn**	**20 09 01.8**	**-0.5**
	0.5nm,0.3s,baz=60,slow=17,SNR=2.3							
PALK				Sn		Sn	20 10 46.2	-12
	8.6nm,0.3s,baz=0.5,slow=4.1,SNR=20							
CMAR	**Chiang Mai Arr**	**17.89**	**29**	P		**P**	**20 10 44.0**	**-0.3**
	0.1nm,0.3s,baz=224,slow=12,SNR=6.4							
H08S3	**Diego Garcia H**	**20.30**	**239**	T		T	20 31 54.4	
	baz=58,slow=74,SNR=91							
H08S2	**Diego Garcia H**	**20.30**	**239**	T		T	20 31 53.2	
	baz=246,slow=74,SNR=3.8							
H08S1	**Diego Garcia H**	**20.32**	**239**	T		T	20 31 51.6	
H01W3	**Cape Leeuwin H**	**43.77**	**151**	T		T	21 01 12.4	
	baz=325,slow=75,SNR=20							
H01W2	**Cape Leeuwin H**	**43.78**	**151**	T		T	21 01 19.3	
	baz=325,slow=75,SNR=14							
H01W1	**Cape Leeuwin H**	**43.79**	**151**	T		T	21 01 15.6	
	baz=325,slow=75,SNR=17							
MKAR	**Makanchi Array**	**44.37**	**352**	P		**P**	**20 14 46.0**	**+0.9**
	0.4nm,0.7s,baz=161,slow=7.3,SNR=1.7							
GEYT	**Alibeck**	**45.57**	**324**	P		**P**	**20 14 55.2**	**+0.3**
	1.0nm,0.8s,baz=142,slow=10,SNR=2.1							
SONM	**Songino Array**	**47.08**	**15**	P		**P**	**20 15 06.3**	**-0.3**
	1.1nm,0.5s,baz=198,slow=8.9,SNR=4.1							
WRA	**Warramunga Arr**	**49.01**	**119**	P		**P**	**20 15 21.8**	**-0.1**
	0.3nm,0.6s,baz=298,slow=8.6,SNR=7.2							
ZALV	**Zalesovo Beam**	**51.20**	**356**	P		**P**	**20 15 37.3**	**-0.6**
	0.3nm,0.4s,baz=195,slow=10,SNR=2.0							
BRTR	**Keskin Array B**	**62.79**	**314**	P		**P**	**20 17 00.9**	**+0.3**
	0.6nm,0.8s,baz=132,slow=5.4,SNR=1.6							
TXAR	**Lajitas Array**	**145.50**	**21**	PKPbc		**PKPab**	**20 26 14.4**	**+0.4**
	0.4nm,0.8s,baz=339,slow=2.2,SNR=4.0							

IDC ***26*** *20:16:19.3±2.9,23°.41S×179°.98W, h581km±28km, mb3.3/7, mb1 3.5/7,mb1mx3.2/22,mbtmp4.3/7,Error ellipse: s-maj=27.7km s-min=17.7km az=34.0*

ISC 26 20:16:16.2±0.9, 23°65'S±0'.1×179°9'W±0'.2, h550km, n16, σ1§90/20, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.83**	**189**	P		**P**	**20 19 24.0**	**+0.3**
	1.4nm,0.3s,baz=296,slow=2.1,SNR=8.6							
URZ				S		**S**	**20 21 53.6**	**-4.6**
	1.1nm,0.3s,baz=225,slow=17,SNR=6.1							
RPZ	**Rata Peaks**	**21.39**	**198**	P		**P**	**20 20 26.4**	**+1.8**
	10nm,0.6s,baz=24,slow=3.6,SNR=7.6							
STKA	**Stephens Creek**	**34.89**	**248**	P		**P**	**20 22 22.4**	**+0.3**
	1.3nm,0.3s,baz=119,slow=21,SNR=6.9							
ASAR	**Alice Springs**	**42.15**	**260**	P		**P**	**20 23 22.6**	**+1.5**
	1.2nm,0.4s,baz=90,slow=7.4,SNR=39							
ASAR				PcP		**PcP**	**20 25 01.1**	**-1.5**
	0.4nm,0.5s,baz=107,slow=4.5,SNR=4.3							
ASAR				ScP		**ScP**	**20 27 57.7**	**-3.4**
	0.2nm,0.6s,baz=108,slow=5.0,SNR=1.1							
WRA	**Warramunga Arr**	**42.49**	**266**	P		**P**	**20 23 24.9**	**+1.2**
	1.3nm,0.3s,baz=95,slow=8.4,SNR=119							
WRA				S		**S**	**20 29 05.8**	**-0.7**
	0.7nm,1.0s,baz=96,slow=14,SNR=1.8							
VNDA	**Vanda**	**54.68**	**185**	P		**P**	**20 24 56.3**	**+3.1**
	2.0nm,0.5s,baz=17,slow=8.0,SNR=10							
MAW	**Mawson**	**78.05**	**200**	P		**P**	**20 27 19.7**	**+1.9**
	2.0nm,0.5s,baz=137,slow=10,SNR=7.2							
SNAA	**Sanae**	**84.96**	**179**	P		**P**	**20 27 53.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P		**P**	**20 28 15.3**	**0.0**
	0.8nm,0.8s,baz=136,slow=4.4,SNR=7.4							
MKAR	**Makanchi Array**	**112.00**	**313**	PKiKP		**PKiKP**	**20 33 47.2**	**-1.9**
	0.6nm,0.8s,baz=14,slow=0.5,SNR=1.5							
MATP	**Matopo**	**128.20**	**215**	PKP		**PKPdf**	**20 34 20.8**	**-0.4**
	1.3nm,0.8s,baz=44,slow=15,SNR=1.9							
ARCES	**ARCESS Array B**	**131.61**	**348**	PKP		**PKPdf**	**20 34 25.2**	**-0.7**
	3.9nm,1.0s,baz=42,slow=2.0,SNR=5.6							
AKASG	**Malin Array Be**	**144.75**	**328**	PKP		**PKPdf**	**20 34 49.6**	**-0.7**
	1.4nm,0.4s,baz=44,slow=4.2,SNR=12							
BRTR	**Keskin Array B**	**147.45**	**308**	PKPbc		**PKPbc**	**20 34 58.6**	**-0.3**
	0.6nm,0.6s,baz=139,slow=5.0,SNR=2.3						

WRA	**Warramunga Arr**	**52.63**	**309**	P		**P**	**20 56 50.4**	**-0.1**
	1.1nm,1.0s,baz=160,slow=6.6,SNR=4.5							
TVO	**Taravao**	**53.04**	**44**	*e*T		T	21 52 23.0	
	3.3nm,0.3s							
PAE	**Paea**	**53.06**	**44**	*e*T		T	21 52 24.3	
	1.5nm,0.2s							
PPT2	**Papeete2**	**53.13**	**43**	*e*LR		LR	21 11 17.5	
	comp=Z,189nm,28.5s							
PPT2	**Papeete2**	**53.13**	**43**	*e*T		T	21 52 29.7	
	4.7nm,0.3s							
PPT	**Papeete**	**53.15**	**43**	LR		LR	21 13 18.8	
	comp=Z,45nm,19.5s,baz=182,slow=29							
TIAR	**Tiarei**	**53.23**	**44**	*e*T		T	21 52 36.8	
	2.4nm,0.2s							
VAH	**Vaihoa**	**55.93**	**45**	*e*T		T	21 55 57.1	
	34nm,0.2s							
PMOR	**Pomariorio Ree**	**56.07**	**44**	*e*T		T	21 56 09.4	
	2.4nm,0.3s							
HNR	**Honiara**	**56.77**	**342**	LR		LR	21 17 34.1	
	comp=Z,100nm,20.2s,baz=170,slow=32							
FITZ	**Fitzroy Crossi**	**57.34**	**301**	LR		LR	21 19 52.5	
	comp=Z,89nm,21.3s,baz=154,slow=34							
TAOE	**Nuku Hiva Isla**	**64.26**	**50**	*e*LR		LR	21 16 22.5	
	comp=Z,253nm,28.2s							
H03S2	**Juan Fernandez**	**65.98**	**119**	T		T	22 09 30.6	
	baz=205,slow=74,SNR=14							
H03S1	**Juan Fernandez**	**65.98**	**119**	T		T	22 09 32.2	
	baz=205,slow=74,SNR=11							
H03S3	**Juan Fernandez**	**66.00**	**119**	T		T	22 09 29.8	
	baz=205,slow=74,SNR=11							
H03N3	**Juan Fernandez**	**66.32**	**119**	T		T	22 09 58.0	
	SNR=8.2							
H03N2	**Juan Fernandez**	**66.33**	**119**	T		T	22 09 57.9	
	SNR=32							
H03N1	**Juan Fernandez**	**66.34**	**119**	T		T	22 10 02.1	
	SNR=5.9							
BOSA	**Boshof**	**83.55**	**206**	LR		LR	21 34 48.2	
	comp=Z,87nm,20.6s,baz=178,slow=34							
ILAR	**Eielson Array**	**132.66**	**21**	PKP		**PKiKP**	**21 06 52.1**	**+1.4**
	0.4nm,0.8s,baz=216,slow=2.9,SNR=4.6							
KBZ	**Khabaz**	**146.10**	**254**	PKPbc		**PKiKP**	**21 07 17.2**	**-1.7**
	3.0nm,0.9s,baz=337,slow=9.3,SNR=3.5							
BRTR	**Keskin Array B**	**146.25**	**240**	PKPbc		**PKPdf**	**21 07 14.8**	**-0.4**
	3.1nm,0.8s,baz=169,slow=6.9,SNR=4.8							

*NIC **26** 21:09:16.8±0.0,35˚.43N×31˚.40E,h28km±10km,Ml2.5/2*
*DDA **26** 21:09:16.0,35˚.58N×31˚.75E,h9km±6km,ML1.9*
*ISK **26** 21:09:17.2,35˚.63N×31˚.86E,h2km,ML2.2/11*
ISC 26 21:09:15.7±1.2,35˚.56N±0˚.03×31˚.72E±0˚.03,h1km±11km, n25,σ0°81/40,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.74**	**137**	P			**Pg**	**21 09 29.8**	**-0.2**
AKMS				S			**Sn**	**21 09 45.0**	**-0.3**
AKMS				AML		AML		21 09 47.1	
	1.0nm,0.4s								
AKMS				AML		AML		21 09 47.1	
	1.0nm,0.4s								
AKMS				AML		AML		21 09 47.2	
	0.4nm,0.4s								
AKMS				AML		AML		21 09 47.2	
	0.4nm,0.4s								
GAZI	**Gazipasa**	**0.83**	**36**	PG			**Pg**	**21 09 32.1**	**+0.5**
GAZI				SG			**Sg**	**21 09 42.6**	**+0.3**
GAZI	**Gazipasa**	**0.83**	**36**	*i* P			**Pb**	**21 09 32.6**	**-0.3**
GAZI				*i* S			**Sg**	**21 09 41.8**	**-0.5**
GAZI				IAML				21 09 49.0	
	comp=E,62nm,0.4s								
ALFC	**Alefka**	**0.83**	**119**	P			**Pn**	**21 09 35.0**	**+0.5**
ALFC				S			**Sn**	**21 09 48.8**	**+1.4**
ALFC				AML		AML		21 09 50.8	
	comp=E,0.4nm,0.3s								
ALFC				AML		AML		21 09 50.8	
	comp=E,0.4nm,0.3s								
ALFC				AML		AML		21 09 52.9	
	comp=E,0.4nm,0.3s								
ALFC				AML		AML		21 09 52.9	
	comp=E,0.4nm,0.3s								
NATA	**Nata**	**1.05**	**138**	P			**Pb**	**21 09 37.1**	**+0.4**
NATA				S			**Sn**	**21 09 54.1**	**+1.3**
LEF	**Lefka**	**1.06**	**115**	PG			**Pg**	**21 09 36.3**	**+0.3**
LEF				SG			**Sb**	**21 09 50.6**	**-0.5**
LEF	**Lefka**	**1.06**	**115**	*i* P			**Pg**	**21 09 35.4**	**-0.5**
LEF				*i* S			**Sg**	**21 09 49.1**	**-0.5**
LEF				IAML				21 09 56.0	
	comp=E,32nm,0.4s								
LEF				IAML				21 09 59.0	
	comp=N,30nm,0.5s								
SZAC	**Souni**	**1.25**	**130**	P			**Pn**	**21 09 40.2**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.27**	**63**	PN			**Pg**	**21 09 39.9**	**-0.2**
TEKE				SN			**Sg**	**21 09 56.3**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.35**	**305**	*i* P			**Pn**	**21 09 40.4**	**-1.2**
AKUM				*i* S			**Sg**	**21 09 58.4**	**-0.7**
AKUM				IAML				21 10 04.0	
	comp=N,19nm,0.8s								
AKUM				IAML				21 10 11.0	
	comp=E,28nm,0.6s								
ERMK	**Ermenek**	**1.45**	**42**	*i* P			**Pn**	**21 09 43.5**	**+0.3**
ERMK				*i* S			**Sn**	**21 10 03.3**	**+0.3**
ERMK				IAML				21 10 16.0	
	comp=N,29nm,0.7s								
BERE	**Bereket-Mersin**	**1.45**	**57**	PN			**Pn**	**21 09 43.3**	**+0.1**
CSS	**Mathiatis**	**1.45**	**114**	PN			**Pg**	**21 09 44.2**	**+0.7**
ASGA	**Asgata**	**1.47**	**121**	P			**Pb**	**21 09 43.8**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.60**	**68**	PN			**Pn**	**21 09 45.6**	**+0.4**
AKKU				SN			**Sn**	**21 10 06.5**	**0.0**
GULN	**MERSIN_Gulnar**	**1.61**	**67**	*i* P			**Sn**	**21 10 03.9**	**-2.7**
TEVE	**Tevekalti-Mers**	**1.65**	**58**	PN			**Pb**	**21 09 46.5**	**-0.4**
MVOU	**Mavrovouni**	**1.66**	**109**	P			**Pn**	**21 09 45.2**	**-0.7**
IKL	**Isikli**	**1.73**	**67**	PN			**Pn**	**21 09 47.2**	**+0.2**
IKL				SN			**Sn**	**21 10 09.7**	**0.0**
KORT	**Korkueli**	**1.81**	**323**	PN			**Pg**	**21 09 50.7**	**+0.2**
KORT	**Korkueli**	**1.81**	**323**	*i* P			**Pg**	**21 09 50.6**	**+0.2**
KORT				*i* S			**Sg**	**21 10 15.4**	**+1.5**
KORT				IAML				21 10 28.0	
	comp=E,16nm,1.1s								
SEYD	**Seydisehir-KON**	**1.84**	**3**	PN			**Pb**	**21 09 49.7**	**-0.6**
KEBE	**Keben-Mersin**	**1.84**	**61**	PN			**Pn**	**21 09 49.0**	**+0.5**
DOGA	**KONYA_Doganhis**	**2.54**	**359**	*i* P			**Pn**	**21 09 59.5**	**+1.3**
DOGA				*i* S			**Sn**	**21 10 29.5**	**-0.3**
DOGA				IAML				21 10 39.0	
	comp=E,7.7nm,0.7s								
DOGA				IAML				21 10 44.0	
	comp=N,5.5nm,0.9s								
KERG	**Konya-Eregli**	**2.68**	**46**	*i* P			**Pn**	**21 10 01.4**	**+1.3**
KERG				*i* S			**Sn**	**21 10 33.2**	**0.0**
KERG				IAML				21 10 46.0	
	comp=N,6.7nm,0.6s								
KERG				IAML				21 11 12.0	
	comp=E,4.4nm,2.0s								

*IDC **26** 21:11:19.1±7.9,35˚.94N×71˚.14E,h68km±56km,mb3.4/4, mb1 3.5/5,mb1mx3.2/42,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=72.8km s-min=29.9km az=148.0*
*NNC **26** 21:11:28.1±2.6,36˚.62N×70˚.87E,h78km±60km,mb3.4, mpv3.6,Error ellipse: s-maj=21.9km s-min=18.5km az=133.0*
ISC 26 21:11:21.9±0.9,36˚.18N±0˚.08×71˚.10E±0˚.07,h100km,n19, σ2°63/24,mb4.1/3,1C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.93**	**356**	P			**Pn**	**21 13 01.5**	**+0.8**
	0.8nm,0.2s,baz=174,slow=12,SNR=40								
KK31				S			**Sn**	**21 14 14.3**	**-3.7**
	5.6nm,0.4s,baz=190,slow=24,SNR=14								
AAK	**Ala-Archa**	**6.96**	**21**	⇑P			**Pn**	**21 13 02.8**	**+1.4**
	2.6nm,0.3s								
AAK				⇓S			**Sn**	**21 14 17.7**	**-1.3**
	5.1nm,0.7s								
TKM2	**Tokmak 2**	**7.57**	**26**	⇓P			**Pn**	**21 13 11.1**	**+1.4**
	1.1nm,0.3s								
TKM2				⇓S			**Sn**	**21 14 34.0**	**0.0**
	5.6nm,1.2s								
GEYT	**Alibeck**	**10.52**	**283**	P			**Pn**	**21 13 50.2**	**+0.6**
	0.3nm,0.3s,baz=109,slow=9.9,SNR=5.0								
GEYT				S			**Sn**	**21 15 42.8**	**-2.7**
	0.9nm,0.3s,baz=148,slow=23,SNR=3.9								
PYUN	**Piuthan**	**12.89**	**125**	*e*P			**Pn**	**21 14 19.1**	**-2.5**
	9.2nm,0.2s								
DANN	**Dangsing**	**13.25**	**123**	*e*P			**Pn**	**21 14 23.8**	**-2.5**
	6.6nm,0.3s								
KOLN	**Koldanda**	**13.52**	**125**	*e*P			**Pn**	**21 14 27.4**	**-2.3**
	4.3nm,0.3s								
GKN	**Gorkha**	**14.07**	**122**	*e*P			**Pn**	**21 14 34.3**	**-2.5**
	3.9nm,0.2s								
DMN	**Daman**	**14.64**	**122**	*e*P			**Pn**	**21 14 42.2**	**-2.1**
	3.7nm,0.3s								
KKN	**Kakani**	**14.65**	**121**	*e*P			**Pn**	**21 14 41.5**	**-2.8**
	6.3nm,0.5s								
PKIN	**Phulchoki**	**14.86**	**121**	*e*P			**Pn**	**21 14 44.8**	**-2.3**
	3.9nm,0.2s								
PKI	**Pulchoki**	**14.87**	**121**	*e*P			**Pn**	**21 14 45.2**	**-2.1**
	2.7nm,0.2s								
GUN	**Gumba**	**14.99**	**119**	*e*P			**Pn**	**21 14 46.7**	**-2.1**
	5.6nm,0.4s								
AB31	**Akbulak array**	**15.40**	**331**	P			**Pn**	**21 14 54.4**	**+0.9**
	0.2nm,0.3s,baz=169,slow=12,SNR=19								
AB31				⇓S			**Sn**	**21 17 37.0**	**-6.5**
	1.4nm,0.7s,baz=155,slow=23,SNR=5.8								
AKTO	**Aktyubinsk**	**17.09**	**331**	⇓P			**P**	**21 15 17.3**	**+2.7**
	2.8nm,0.9s								
ZALV	**Zalesovo Beam**	**20.17**	**24**	P			**P**	**21 15 48.8**	**+0.6**
	0.6nm,0.4s,baz=220,slow=10,SNR=4.4								
FINES	**FINESS Array B**	**37.79**	**326**	P			**P**	**21 18 30.6**	**+2.6**
	5.2nm,0.9s,baz=119,slow=14,SNR=1.8								
ARCES	**ARCESS Array B**	**41.47**	**338**	P			**P**	**21 19 01.3**	**+2.9**
	2.8nm,0.9s,baz=113,slow=11,SNR=1.3								
TORD	**Torodi Ar. Bea**	**65.79**	**269**	P			**P**	**21 21 57.3**	**+0.7**
	0.8nm,0.9s,baz=47,slow=5.6,SNR=4.6								

*IDC **26** 21:25:09.7±1.0,5˚.40S×150˚.39E,h0km,mb4.0/8, mb1 4.2/9,mb1mx3.9/32,mbtmp4.0/9,ML2.1/1,MS3.2/2, Ms1 3.1/2,ms1mx2.6/27,Error ellipse: s-maj=31.7km s-min=15.6km az=128.0*
*NEIC **26** 21:25:14.1±1.4,5˚.26S±0˚.08×150˚.4E±0˚.1,h45km±11km, mb4.2/11,Error ellipse: s-maj=16.6km s-min=9.4km az=122.0*
ISC 26 21:25:14.3±0.6,5˚.3S±0˚.1×150˚.4E±0˚.1,h35km,n34, σ1°08/35,mb4.2/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.93**	**59**	Pn			**Pn**	**21 25 44.3**	**-0.4**
	20nm,0.3s,baz=254,slow=5.2,SNR=7.9								
KRVT				Sn			**Sn**	**21 26 10.6**	**+2.8**
	27nm,0.3s,baz=139,slow=23,SNR=2.7								
RABL	**Rabaul**	**2.11**	**58**				**Pn**	**21 25 45.7**	**-1.5**
PMG	**Port Moresby**	**5.16**	**218**	Pn			**Pn**	**21 26 29.3**	**+0.1**
	4.2nm,0.3s,baz=59,slow=6.1,SNR=7.7								
PMG				Sn			**Sn**	**21 27 28.1**	**+0.5**
	1.1nm,0.3s,baz=264,slow=6.9,SNR=3.5								
PMG	**Port Moresby**	**5.16**	**218**				**Pn**	**21 26 30.1**	**+0.9**
PMG							**Sn**	**21 27 28.7**	**+1.2**
WB0	**Warramunga Arr**	**21.17**	**226**	P			**P**	**21 29 57.3**	**+0.5**
WR0	**Warramunga Arr**	**21.19**	**225**	P			**P**	**21 29 57.4**	**+0.4**
WR0				IAmb		IAmb		21 30 04.4	
	comp=Z,9.9nm,1.1s								
WRAB	**Tennant Creek**	**21.31**	**226**	P			**P**	**21 29 58.3**	**0.0**
WRAB				IAmb		IAmb		21 30 01.7	
	comp=Z,8.2nm,0.5s								
WC3	**Warramunga Arr**	**21.31**	**226**	P			**P**	**21 29 58.1**	**-0.2**
WB2	**Warramunga Arr**	**21.31**	**226**	P			**P**	**21 29 58.7**	**+0.4**
WB2				IAmb		IAmb		21 30 01.8	
	comp=Z,8.2nm,0.6s								
WRA	**Warramunga Arr**	**21.32**	**226**	P			**P**	**21 29 58.3**	**-0.2**
	comp=Z,4.6nm,0.5s,baz=49,slow=10,SNR=46								
WRA	**Warramunga Arr**	**21.32**	**226**	P			**P**	**21 29 57.8**	**-0.6**
DZM	**Mont Dzumac**	**22.79**	**138**	LR		LR		21 37 19.6	
	comp=Z,73nm,18.1s,baz=215,slow=32								
KNRA	**Kununurra**	**23.58**	**242**	P			**P**	**21 30 21.1**	**-1.0**
KNRA				IAmb		IAmb		21 30 24.0	
	comp=Z,11nm,0.9s								
AS31	**Alice Springs**	**24.17**	**219**	P			**P**	**21 30 27.7**	**0.0**
ASAR	**Alice Springs**	**24.18**	**219**	P			**P**	**21 30 28.2**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=52,slow=8.2,SNR=33								
ASAR	**Alice Springs**	**24.18**	**219**	P			**P**	**21 30 27.9**	**+0.3**
ARMA	**Armidale**	**25.00**	**177**	P			**P**	**21 30 34.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**27.29**	**240**	P			**P**	**21 30 55.5**	**-0.4**
	comp=Z,7.1nm,0.5s,baz=58,slow=9.2,SNR=30								
FITZ	**Fitzroy Crossi**	**27.29**	**240**	P			**P**	**21 30 55.1**	**-0.7**
STKA	**Stephens Creek**	**27.67**	**196**	LR		LR		21 41 58.9	
	comp=Z,33nm,18.1s,baz=208,slow=37								
PSAC2	**Pilbara Seismi**	**33.64**	**238**	P			**P**	**21 31 51.3**	**-0.7**
RPSI	**Rantau Prapat**	**52.00**	**278**	P			**P**	**21 34 20.8**	**0.0**
CM31	**Chiang Mai Arr**	**55.92**	**296**	P			**P**	**21 34 47.1**	**-2.3**
CM31				IAmb		IAmb		21 34 47.6	
	comp=Z,1.5nm,0.7s								
CMAR	**Chiang Mai Arr**	**55.92**	**296**	P			**P**	**21 34 50.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=124,slow=6.2,SNR=4.6								
CMAR	**Chiang Mai Arr**	**55.92**	**296**	P			**P**	**21 34 47.8**	**-1.5**
PETK	**Petropavlovsk-**	**58.53**	**5**	P			**P**	**21 35 09.1**	**+1.9**
	comp=Z,2.7nm,0.9s,baz=178,slow=3.8,SNR=4.1								
PETK	**Petropavlovsk-**	**58.53**	**5**	P			**P**	**21 35 07.3**	**+0.2**
SONM	**Songino Array**	**65.50**	**329**	P			**P**	**21 35 56.3**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=147,slow=8.3,SNR=4.9								
SONM	**Songino Array**	**65.50**	**329**	P			**P**	**21 35 54.5**	**+0.3**
VNDA	**Vanda**	**72.42**	**177**	P			**P**	**21 36 36.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=302,slow=5.2,SNR=1.2								
ZALV	**Zalesovo Beam**	**80.25**	**327**	P			**P**	**21 37 22.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.7,SNR=1.7								
ZALV	**Zalesovo Beam**	**80.25**	**327**	P			**P**	**21 37 21.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**148.15**	**286**	PKPbc			**PKPbc**	**21 44 56.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=162,slow=36,SNR=2.1								
TORD	**Torodi Ar. Bea**	**148.15**	**286**	PKPdf			**PKPdf**	**21 44 52.8**	**-1.5**

*IDC **26** 22:07:12.5±0.7,7˚.49N×94˚.27E,h0km,mb4.1/16, mb1 4.3/19,mb1mx4.1/56,mbtmp4.1/19,ML4.2/3,MS4.1/37, Ms1 4.1/37,ms1mx4.1/43,Error ellipse: s-maj=26.2km s-min=15.9km az=53.0*
*NDI **26** 22:07:15.4±3.1,7˚.43N×94˚.50E,h28km±64km,mb4.5, mb4.7(NEIC)*
*NEIC **26** 22:07:15.2±1.2,7˚.49N±0˚.07×94˚.19E±0˚.08,h19km±5km, mb4.7/25,Error ellipse: s-maj=13.6km s-min=7.3km az=54.0*
*BJI **26** 22:07:16.1±0.0,7˚.72N×94˚.07E,h7km,mB4.8/22, mb4.5/34,Ms4.7/25,Ms7 4.4/21*
*GCMT **26** 22:07:18.2±0.2,7˚.53N±0˚.01×94˚.40E±0˚.01,h15km±1km, MW5.0/107,Moment Tensor Solution. s29,c35; s107,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.60±.10; Mθθ-2.45±.07; Mϕϕ3.05±.09; Mrθ-1.86±.34; Mθϕ 1.15±.08; Mϕr-0.26±.26; Best double couple: M₀3.55100×10¹⁶ NP1:φs150.00000°,δ61.00000°, λ-165.00000°. NP2:φs53.00000°,δ77.00000°, λ-29.00000°. Principal axes: T 3.3920, Plg10.0000°, Azm104.0000°; N 0.3170, Plg58.0000°, Azm211.0000°; P -3.7100, Plg30.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **26** 22:07:19.3±0.6,8˚N±3˚×9˚4E±˚,h39km±6km,M4.5/26, mb4.6/26,mB5.0/13,MLv4.8/7,Mw(mB)4.3/13,Mwp5.7/1*
ISC 26 22:07:14.2±0.4,7˚.42N±0˚.05×94˚.22E±0˚.05,h10km,n151, σ1°58/123,mb4.6/37,MS4.2/39,4C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.48**	**129**	P			**Pn**	**22 08 09.1**	**+0.6**
LHMI	**Lhok Sumawe**	**3.48**	**129**				**Pn**	**22 08 09.5**	**+1.1**
MLSI	**Meulaboh, Aceh**	**3.81**	**145**	P			**Pb**	**22 08 18.6**	**-3.1**
PBA	**Port Blair**	**4.45**	**341**	*e*P			Pn	22 08 22.9	+1.1
PBA				*e*S			Sn	22 09 11.4	-2.4
PBA	**Port Blair**	**4.45**	**341**	Pn			Pn	22 08 20.2	-1.6
TPTI		**5.08**	**144**	P			**Pn**	**22 08 33.1**	**+2.6**
	0.4nm2µm72nm,1.2s								
PSI	**Prapat**	**6.56**	**134**	Pn			**Pn**	**22 08 53.8**	**+2.8**
	3.6nm,0.3s,baz=237,slow=12,SNR=5.1								
PSI				LR			LR	22 11 36.5	
	comp=Z,2µm,20.8s,baz=281,slow=40								
RPSI	**Rantau Prapat**	**6.63**	**135**	Pn			**Pn**	**22 08 52.9**	**+1.0**
KULM	**Kulim**	**6.73**	**108**	Pn			**Pn**	**22 08 52.4**	**-0.8**
GSI	**Gunungsitoli**	**6.94**	**151**	Pn			**Pn**	**22 08 57.0**	**+0.9**
IPM	**Ipoh**	**7.37**	**113**	Pn			**Pn**	**22 09 00.6**	**-1.5**
IPM				Sn			**Sn**	**22 10 23.0**	**-2.8**
MNSI	**Mandailing Nat**	**8.48**	**141**	P			**Pn**	**22 09 17.5**	**+0.3**
	565nm29nm,1.7s								
BKNI	**Bangkinang**	**9.79**	**136**	P			**Pn**	**22 09 37.6**	**+2.3**
	1µm91nm,1.3s								
BKNI	**Bangkinang**	**9.79**	**136**	Pn			**Pn**	**22 09 36.8**	**+1.5**
CM31	**Chiang Mai Arr**	**11.89**	**22**				**Pn**	**22 10 03.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**11.89**	**22**	Pn			**Pn**	**22 10 04.0**	**0.0**
	1.0nm,0.3s,baz=214,slow=15,SNR=20								
CMAR				LR			LR	22 14 47.6	
	comp=Z,1µm,18.2s,baz=253,slow=38								
CMAR	**Chiang Mai Arr**	**11.89**	**22**				**Pn**	**22 10 03.4**	**-0.6**
CHTO	**Chiang Mai**	**12.22**	**22**	Pn			**Pn**	**22 10 07.3**	**-1.1**
DSRI	**Dabo**	**12.97**	**127**	P			**Pn**	**22 10 21.9**	**+3.1**
	20nm,1.7s								
PALK	**Pallekele**	**13.41**	**270**	Pn			**Pn**	**22 10 25.3**	**+0.5**
	0.4nm,0.3s,baz=181,slow=15,SNR=4.5								
PALK	**Pallekele**	**13.41**	**270**				**Pn**	**22 10 23.9**	**-0.8**
LHSI	**Lahat**	**14.53**	**140**	P			**Pn**	**22 10 43.7**	**+3.6**
	42nm,1.0s								
SAIH	**SAIHA**	**15.03**	**356**	*e*P			**Pn**	**22 10 46.7**	**-0.2**
PPBI	**Pangkal Pinang**	**15.23**	**128**	P			**Pn**	**22 10 52.0**	**+2.4**
	3µm17nm,1.1s								
MDSI	**Maura Dua**	**15.45**	**140**	P			**Pn**	**22 10 53.6**	**+1.2**
	22nm,1.2s								
KLSI		**15.96**	**139**	P			**Pn**	**22 11 01.3**	**+2.2**
	10nm,1.1s								
SLVN	**Son La**	**16.70**	**33**	Pn			**Pn**	**22 11 07.3**	**-1.3**
KSM	**Kuching**	**17.09**	**109**	P			**P**	**22 11 16.0**	**+0.8**
BOK	**Bokaro**	**18.14**	**335**	*e*P			**Pn**	**22 11 24.8**	**-1.6**
BOK				IAmb			IAmb	22 11 34.8	
	comp=Z,22nm,0.8s								
BOK				*e*S			**Sn**	**22 14 50.0**	**+1.1**
SHL	**Shillong**	**18.18**	**353**	*e*P			**Pn**	**22 11 24.8**	**-2.3**
SHL				IAmb			IAmb	22 11 42.3	
	comp=Z,40nm,1.4s								
SHL	**Shillong**	**18.18**	**353**	P			**Pn**	**22 11 25.4**	**-1.7**
KOHI	**KOHIMA**	**18.20**	**360**	*e*P			**Pn**	**22 11 25.4**	**-1.8**
KOHI				IAmb			IAmb	22 11 30.9	
	comp=Z,12nm,0.7s								
HYB	**Hyderabad**	**18.23**	**304**	*i* P			**P**	**22 11 29.5**	**+1.7**
SBUM	**Sibu**	**18.60**	**105**				**Pn**	**22 11 32.7**	**+0.6**
TEZP	**TEZPUR**	**19.14**	**356**	*e*P			**Pn**	**22 11 37.9**	**-0.7**
KMI	**Kunming**	**19.39**	**24**	⇑*e*P			**Pn**	**22 11 44.5**	**+2.6**
KMI				S			Sn	22 15 06.8	-13
KMI				pmax		pmax			
	comp=Z,17nm,1.1s								
KMI				pmax		pmax			
	comp=Z,230nm,4.0s								
KMI				LR		LR			
	comp=Z,700nm,13.9s								
KMI				LR		LR			
	comp=Z,680nm,13.9s								
KMI				LR		LR			
	comp=Z,1µm,15.6s								
LEM	**Lembang**	**19.47**	**136**	LR		LR		22 20 51.4	
	comp=Z,1µm,18.7s,baz=296,slow=42								
ZIRO	**ZIRO**	**20.00**	**359**	*e*P			**P**	**22 11 46.5**	**-0.8**
ODAN	**Odare**	**20.39**	**342**	*e*P			Pn	22 11 52.3	-1.4
	comp=Z,88nm,1.1s								
GTK	**Tadong**	**20.49**	**346**	*e*P			**P**	**22 11 52.4**	**-0.2**
GTK				IAmb		IAmb	IAmb	22 11 59.8	
	comp=Z,22nm,0.7s								
RAMN	**Ramite**	**20.73**	**340**	*e*P			Pn	22 11 56.7	-0.9
	comp=Z,72nm,0.8s								
TAPN	**Taplejung**	**20.76**	**343**	*e*P			**P**	**22 11 55.8**	**+0.1**
	comp=Z,176nm,1.1s								
PKI	**Pulchoki**	**21.71**	**338**	*e*P			**P**	**22 12 06.6**	**+0.6**
	comp=Z,168nm,1.4s								
PKIN	**Phulchoki**	**21.72**	**338**	*e*P			**P**	**22 12 06.5**	**+0.5**
	comp=Z,162nm,1.5s								
GUN	**Gumba**	**21.85**	**340**	*e*P			**P**	**22 12 07.0**	**-0.5**
	comp=Z,250nm,1.2s								
DMN	**Daman**	**21.86**	**338**	*e*P			**P**	**22 12 07.2**	**-0.3**
	comp=Z,102nm,1.1s								
KKN	**Kakani**	**21.96**	**338**	*e*P			**P**	**22 12 08.7**	**+0.2**
	comp=Z,256nm,1.5s								
GYA	**Guiyang**	**22.33**	**31**	⇑P			**P**	**22 12 14.8**	**+2.4**
GYA				pP			pwP	22 12 23.8	+6.3
GYA				S			**S**	**22 16 17.8**	**-0.3**
GYA				pmax		pmax			
	comp=Z,9.0nm,1.1s								
GYA				LR		LR			
	comp=Z,770nm,13.3s								
GYA				LR		LR			
	comp=Z,1µm,14.1s								
GYA				LR		LR			
	comp=Z,1µm,17.1s								
LSA	**Lhasa**	**22.35**	**353**	P			**P**	**22 12

SIJI	**Sorong**	**37.86**	**101**	LR	LR	22 31 35.4		
	comp=Z,122nm,18.6s,baz=238,slow=39							
SHLS	**Shalkode**	**37.88**	**342**	*eP*	**P**	**22 14 33.5**	**+1.9**	
UZB	**Uzynbulak**	**38.01**	**342**	*eP*	**P**	**22 14 32.6**	**-0.1**	
SATY	**Saty**	**38.12**	**341**	*eP*	**P**	**22 14 34.4**	**+0.7**	
KPKS	**Kokpek**	**38.40**	**342**	*eP*	**P**	**22 14 39.0**	**+3.0**	
TNSS	**Tian-Shan**	**38.59**	**340**	*eP*	**P**	**22 14 41.4**	**+3.4**	
MDOK	**Medeo**	**38.67**	**340**	*eP*	**P**	**22 14 39.1**	**+0.8**	
FITZ	**Fitzroy Crossi**	**40.06**	**130**	LR	LR	22 31 47.0		
	comp=Z,170nm,21.0s,baz=298,slow=37							
MK31	**Makanchi Array**	**40.54**	**347**	P	**P**	**22 14 53.4**	**-0.3**	
MK31				IAmb	IAmb	22 14 59.0		
	comp=Z,14nm,0.9s							
MKAR	**Makanchi Array**	**40.54**	**347**	P	**P**	**22 14 53.1**	**-0.6**	
	comp=Z,5.2nm,0.8s,baz=160,slow=8.3,SNR=17							
MKAR				LR	LR	22 34 48.8		
	comp=Z,129nm,19.6s,baz=162,slow=41							
IUG	**luzhnay**	**40.66**	**332**	*eP*	**P**	**22 14 54.1**	**-0.7**	
ZSN	**Zaisan**	**40.68**	**350**	*eP*	**P**	**22 14 54.9**	**+0.1**	
KK31	**Karatay Array**	**41.20**	**333**	P	**P**	**22 14 57.6**	**-1.6**	
KKAR	**Karatay Array**	**41.20**	**333**	P	**P**	**22 14 58.8**	**-0.4**	
KKAR	**Karatay Array**	**41.20**	**333**	P	**P**	**22 14 57.5**	**-1.7**	
KKAR				IAmb	IAmb	22 15 04.8		
	comp=Z,7.5nm,1.1s							
BTLS	**Baital**	**41.37**	**338**	*eP*	**P**	**22 15 00.2**	**-0.2**	
SONM	**Songino Array**	**41.58**	**12**	LR	LR	22 34 38.1		
	comp=Z,275nm,18.5s,baz=182,slow=40							
ULN	**Ulaanbaatar**	**41.76**	**13**	P	**P**	**22 15 03.5**	**-0.3**	
KSRS	**Korea Array**	**42.75**	**41**	LR	LR	22 34 59.0		
	comp=Z,317nm,19.1s,baz=228,slow=39							
GEYT	**Alibeck**	**44.59**	**318**	P	**P**	**22 15 27.2**	**+0.5**	
	comp=Z,4.5nm,0.6s,baz=148,slow=8.7,SNR=14							
GEYT				LR	LR	22 37 12.1		
	comp=Z,280nm,18.5s,baz=105,slow=40							
GYA0B	**ALIBECK ARRAY**	**44.59**	**318**	P	**P**	**22 15 26.3**	**-0.5**	
GYA0B				IAmb	IAmb	22 15 28.4		
	comp=Z,7.3nm,0.8s							
KURK	**Kurchatov**	**45.06**	**346**	P	**P**	**22 15 30.1**	**-0.2**	
CN2	**Changchun**	**45.37**	**32**	*eP*	**P**	**22 15 35.0**	**+2.2**	
CN2				*eS*	**S**	**22 22 14.3**	**+0.5**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				LR	LR			
	comp=Z,500nm,11.0s							
CN2				LR	LR			
	comp=Z,500nm,11.0s							
CN2				LR	LR			
	comp=Z,500nm,11.0s							
NWAO	**Narrogin (SRO)**	**45.71**	**153**	LR	LR	22 33 22.9		
	comp=Z,269nm,21.2s,baz=288,slow=34							
NWAO	**Narrogin (SRO)**	**45.71**	**153**	P	**P**	**22 15 35.6**	**-0.1**	
NWAO				IAmb	IAmb	22 15 42.8		
	comp=Z,16nm,1.0s							
H01W3	**Cape Leeuwin H**	**46.09**	**157**	T	T	23 05 31.4		
	baz=332							
H01W2	**Cape Leeuwin H**	**46.11**	**157**	T	T	23 05 26.3		
	baz=332							
H01W1	**Cape Leeuwin H**	**46.11**	**157**	T	T	23 05 20.9		
	baz=332							
ZAA0	**Zalesovo Array**	**47.01**	**352**	P	**P**	**22 15 44.7**	**-0.9**	
ZALV	**Zalesovo Beam**	**47.01**	**352**	P	**P**	**22 15 45.1**	**-0.4**	
	comp=Z,4.7nm,0.5s,baz=176,slow=7.1,SNR=22							
ZALV				LR	LR	22 40 10.4		
	comp=Z,214nm,19.0s,baz=200,slow=42							
ZALV	**Zalesovo Beam**	**47.01**	**352**	P	**P**	**22 15 44.9**	**-0.7**	
WRA	**Warramunga Arr**	**47.94**	**125**	P	**P**	**22 15 52.4**	**-0.9**	
	comp=Z,1.7nm,1.0s,baz=306,slow=8.4,SNR=14							
WRA				LR	LR	22 37 28.4		
	comp=Z,288nm,20.9s,baz=295,slow=38							
WRA	**Warramunga Arr**	**47.94**	**125**	P	**P**	**22 15 52.8**	**-0.6**	
BRVK	**Borovoye**	**49.50**	**341**	P	**P**	**22 16 03.7**	**-1.2**	
BRVK				IAmb	IAmb	22 16 10.1		
	comp=Z,11nm,1.0s							
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**22 16 05.2**	**-0.7**	
	comp=Z,0.5nm,0.4s,baz=301,slow=7.7,SNR=7.5							
ASAR				LR	LR	22 39 00.0		
	comp=Z,257nm,19.9s,baz=298,slow=38							
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**22 16 06.5**	**+0.6**	
GUMO	**Guam**	**50.10**	**79**	LR	LR	22 36 49.5		
	comp=Z,89nm,20.8s,baz=278,slow=36							
ABKAR	**Akbulak array**	**50.66**	**332**	P	**P**	**22 16 12.5**	**-1.2**	
ABKAR				IAmb	IAmb	22 16 19.4		
	comp=Z,7.8nm,1.1s							
ABKAR	**Akbulak array**	**50.66**	**332**	P	**P**	**22 16 12.5**	**-1.2**	
ARU	**Arti**	**56.33**	**337**	P	**P**	**22 16 54.1**	**-1.1**	
KBZ	**Khabaz**	**57.47**	**318**	LR	LR	22 44 50.2		
	comp=Z,69nm,18.6s,baz=119,slow=39							
STKA	**Stephens Creek**	**59.74**	**134**	LR	LR	22 47 59.2		
	comp=Z,193nm,18.1s,baz=294,slow=41							
NRIK	**Noril'sk**	**61.99**	**357**	LR	LR	22 48 28.5		
	comp=Z,189nm,20.6s,baz=199,slow=40							
BRTR	**Keskin Array B**	**62.78**	**311**	P	**P**	**22 17 38.5**	**-1.7**	
	comp=Z,0.8nm,0.6s,baz=134,slow=7.8,SNR=3.4							
BRTR				LR	LR	22 48 03.7		
	comp=Z,48nm,20.9s,baz=114,slow=39							
BRTR	**Keskin Array B**	**62.78**	**311**	P	**P**	**22 17 39.0**	**-1.3**	
KLMR	**Klimovskoe**	**66.89**	**334**	*eP*	**P**	**22 18 06.7**	**+0.3**	
KLMR				AMP		22 18 13.3		
	comp=Z,37nm,1.5s							
PETK	**Petropavlovsk-**	**68.32**	**35**	LR	LR	22 49 45.9		
	comp=Z,114nm,18.5s,baz=238,slow=37							
AKASG	**Malin Array Be**	**68.55**	**322**	P	**P**	**22 18 17.5**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=86,slow=4.7,SNR=1.4							
AKASG				LR	LR	22 53 00.8		
	comp=Z,83nm,18.6s,baz=105,slow=40							
SEY	**Seymchan**	**69.30**	**25**	LR	LR	22 51 02.3		
	comp=Z,325nm,18.6s,baz=238,slow=38							
FINES	**FINESS Array B**	**73.14**	**332**	P	**P**	**22 18 44.2**	**-0.6**	
	comp=Z,3.9nm,0.8s,baz=108,slow=6.6,SNR=13							
FINES				LR	LR	22 52 50.3		
	comp=Z,121nm,20.6s,baz=98,slow=37							
VYHS	**Vyhne**	**74.79**	**318**	*eP*	**P**	**22 18 57.9**	**+3.1**	
BOSA	**Boshof**	**75.41**	**238**	P	**P**	**22 18 59.8**	**+0.9**	
	comp=Z,5.5nm,1.1s,baz=87,slow=4.1,SNR=5.8							
BOSA				LR	LR	22 48 36.7		
	comp=Z,69nm,19.1s,baz=7.5,slow=33							
BOSA	**Boshof**	**75.41**	**238**	P	**P**	**22 18 58.6**	**-0.2**	
BOSA				IAmb	IAmb	22 19 03.6		
	comp=Z,12nm,1.1s							
ARCES	**ARCESS Array B**	**75.71**	**340**	P	**P**	**22 18 59.1**	**-0.6**	
	comp=Z,2.0nm,0.7s,baz=105,slow=6.9,SNR=7.5							
ARCES				LR	LR	22 55 07.7		
	comp=Z,316nm,20.0s,baz=235,slow=38							
MAW	**Mawson**	**78.11**	**192**	LR	LR	22 49 07.4		
	comp=Z,166nm,18.5s,baz=54,slow=32							
GERES	**GERESS Array B**	**78.21**	**318**	P	**P**	**22 19 13.9**	**-0.3**	
	comp=Z,1.0nm,0.7s,baz=97,slow=4.4,SNR=7.4							
GERES				LR	LR	22 59 23.1		
	comp=Z,62nm,18.8s,baz=88,slow=40							
GERES	**GERESS Array B**	**78.21**	**318**	P	**P**	**22 19 13.1**	**-1.2**	
CLL	**Collm**	**78.76**	**321**	*e*pP	pP	22 19 23.0	+3.3	
	comp=Z,30nm,2.0s							
NB2	**NORSAR Subarra**	**80.16**	**331**	P	**P**	**22 19 22.9**	**-1.7**	
	comp=Z,23nm,1.7s,baz=92,slow=5.9							
NOA	**NORSAR Array B**	**80.16**	**331**	P	**P**	**22 19 23.5**	**-1.1**	
	comp=Z,1.4nm,0.7s,baz=93,slow=5.8,SNR=3.1							
NOA				LR	LR	22 58 20.8		
	comp=Z,104nm,18.1s,baz=110,slow=38							
KEST	**Kesra**	**81.56**	**305**	P	**P**	**22 19 32.9**	**+0.1**	
	comp=Z,1.8nm,0.8s,baz=57,slow=12,SNR=2.1							
KEST				LR	LR	23 02 29.3		
	comp=Z,64nm,18.3s,baz=244,slow=41							
KEST	**Kesra**	**81.56**	**305**	P	**P**	**22 19 31.2**	**-1.5**	
KEST				IAmb	IAmb	22 19 33.5		
	comp=Z,4.2nm,1.0s							
SYO	**Syowa Base**	**85.00**	**197**	*e*P	**P**	**22 19 51.6**	**+2.1**	
SYO	**Syowa Base**	**85.00**	**197**	*e*pP	pP	22 19 55.2	+3.0	
TORD	**Torodi Ar. Bea**	**90.78**	**283**	P	**P**	**22 20 18.9**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=46,slow=33,SNR=4.0							
TORD				LR	LR	23 01 12.9		
	comp=Z,113nm,19.1s,baz=110,slow=36							
ESDC	**Sonseca Array**	**91.57**	**310**	P	**P**	**22 20 21.3**	**-0.4**	
	comp=Z,0.4nm,0.7s,baz=45,slow=2.3,SNR=4.7							
ESDC				LR	LR	23 05 46.7		
	comp=Z,90nm,18.2s,baz=355,slow=38							
IMAR	**Indian Mountai**	**92.01**	**22**	P	**P**	**22 20 22.6**	**-0.6**	
VNDA	**Vanda**	**92.47**	**168**	LR	LR	22 59 19.3		
	comp=Z,86nm,18.3s,baz=334,slow=34							
PVAQ	**Vaqueiros**	**94.92**	**309**	*eP*	**P**	**22 20 35.5**	**-1.7**	
PBDV	**Barranco-do-Ve**	**95.12**	**308**	*eP*	**P**	**22 20 34.8**	**-3.3**	
ILAR	**Eielson Array**	**95.13**	**22**	P	**P**	**22 20 37.8**	**+0.3**	
	comp=Z,0.3nm,0.7s,baz=155,slow=44,SNR=1.9							
ILAR				LR	LR	23 05 50.8		
	comp=Z,97nm,19.0s,baz=318,slow=37							
ILAR	**Eielson Array**	**95.13**	**22**	P	**P**	**22 20 36.8**	**-0.8**	
PNCL	**Nicolau / Gran**	**95.38**	**309**	*eP*	P	22 20 32.5	-6.7	
MENT	**Mentasta**	**97.28**	**23**	P	**P**	**22 20 46.3**	**-1.1**	
INK	**Inuvik**	**97.40**	**16**	LR	LR	23 10 18.6		
	comp=Z,104nm,18.3s,baz=304,slow=39							
RES	**Resolute Bay**	**97.84**	**2**	LR	LR	23 09 53.5		
	comp=Z,70nm,18.0s,baz=356,slow=38							
DBIC	**Dimbokro**	**98.08**	**278**	LR	LR	23 05 11.6		
	comp=Z,159nm,18.9s,baz=64,slow=36							
TXAR	**Lajitas Array**	**139.60**	**24**	PKiKP	PKPpre	22 26 39.3		
	comp=Z,0.1nm,0.3s,baz=280,slow=1.6,SNR=1.4							
CPUP	**Villa Florida**	**147.05**	**232**	PKPbc	**PKPbc**	**22 26 58.5**	**+0.3**	
	comp=Z,0.9nm,0.6s,baz=7.1,slow=14,SNR=3.4							

MOS ***26*** *22:10:13.7±1.4,56.03N×113.87E,h11km,mb4.0/1,Error ellipse: s-maj=12.3km s-min=7.8km az=77.1*
BYKL ***26*** *22:10:14.7±0.2,56.06N×113.88E,h8km±3km*
ISC 26 22:10:13.6±1.1,56.06N±0.03×113.89E±0.02,h3km±8km,
n62,σ2s90/116,5C-10D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.20**	**287**	⇑*i*Pg	**Pg**	**22 10 18.6**	**+1.2**
SVKR				Pmax		22 10 19.0	
	5μm,0.3s						
SVKR				*i* Sg	**Sg**	**22 10 21.9**	**+1.9**
SVKR				Smax		22 10 22.2	
	48μm,0.4s						
SVKR	**Severomuysk**	**0.20**	**287**	⇑*i*PG	**Pg**	**22 10 18.7**	**+1.3**
SVKR				*e*		22 10 21.8	
SVKR				pmax	pmax		
	comp=Z,5μm,0.5s						
SVKR				smax	smax		
	comp=N,1μm,0.8s						
UKT	**Uakit**	**0.59**	**195**	⇑*i*Pg	**Pg**	**22 10 25.2**	**+0.2**
UKT				Pmax		22 10 25.4	
	comp=N,279nm,0.3s						
UKT				*e*Sg	**Sg**	**22 10 33.0**	**+0.3**
UKT				Smax		22 10 33.5	
	comp=N,5μm,0.7s						
NLYR	**Nelyaty**	**1.10**	**66**	⇓*i*Pg	**Pg**	**22 10 34.7**	**0.0**
NLYR				*e*Pb	**Pn**	**22 10 36.8**	**+0.9**
NLYR				max		22 10 37.2	
	comp=N,734nm,0.3s						
NLYR				*e*Sg	**Sg**	**22 10 50.2**	**+1.3**
NLYR				*e*Sb	**Sn**	**22 10 53.4**	**+1.8**
NLYR				max		22 10 57.8	
	comp=N,2μm,0.8s						
NLYR	**Nelyaty**	**1.10**	**66**	⇓*i*PG	**Pg**	**22 10 34.6**	**-0.1**
NLYR				*e*		22 10 49.7	
NLYR				pmax	pmax		
	comp=Z,729nm,0.3s						
NLYR				smax	smax		
	comp=E,2μm,1.0s						
YOA	**Uoyan**	**1.22**	**274**	⇓*i*PG	**Pb**	**22 10 34.6**	**-2.7**
YOA				*i*		22 10 51.4	
YOA				pmax	pmax		
	comp=Z,324nm,0.2s						
YOA				smax	smax		
	comp=N,7μm,0.5s						
KMO	**Kumora**	**1.52**	**265**	⇓*i*Pg	**Pn**	**22 10 42.0**	**+0.2**
KMO				*e*Pb	**Pg**	**22 10 44.8**	**+2.0**
KMO				max		22 10 45.9	
	comp=N,773nm,0.5s						
KMO				*e*Sg	**Sb**	**22 11 02.3**	**+0.1**
KMO				*e*Sb	**Sg**	**22 11 04.4**	**+1.9**
KMO				max		22 11 06.3	
	comp=N,4μm,1.1s						
KMO	**Kumora**	**1.52**	**265**	⇓*i*PG	**Pn**	**22 10 42.0**	**+0.2**
KMO				*e*		22 11 02.3	
KMO				pmax	pmax		
	comp=Z,201nm,0.4s						
KMO				smax	smax		
	comp=N,4μm,1.1s						
BOD	**Bodaibo**	**1.76**	**2**	⇑*i*Pg	**Pn**	**22 10 46.3**	**+1.3**
BOD				Pmax		22 10 47.5	
	comp=N,228nm,0.2s						
BOD				*e*Sg	**Sb**	**22 11 09.4**	**+0.3**
BOD				Smax		22 11 11.8	
	comp=N,1μm,0.3s						
BOD	**Bodaibo**	**1.76**	**2**	⇑*i*PN	**Pn**	**22 10 46.4**	**+1.4**
BOD				*e*		22 11 09.5	
BOD				pmax	pmax		
	comp=Z,258nm,0.2s						
BOD				smax	smax		
	comp=E,856nm,0.4s						
YLYR	**Ulyunkhan**	**1.96**	**234**	⇓*i*Pg	**Pb**	**22 10 49.6**	**-0.3**
YLYR				Pmax		22 10 50.2	
	comp=E,190nm,0.4s						
YLYR				*e*Sg	**Sg**	**22 11 16.4**	**0.0**
YLYR				Smax		22 11 19.0	
	comp=E,1μm,0.3s						
YLYR	**Ulyunkhan**	**1.96**	**234**	⇓*i*PN	**Pb**	**22 10 49.6**	**-0.3**
YLYR				*e*S	**Sb**	**22 11 14.8**	**+0.1**
YLYR				*e*		22 11 16.5	
YLYR				pmax	pmax		
	comp=Z,371nm,0.5s						
YLYR				smax	smax		
	comp=E,1μm,0.4s						
NIZ	**Nizh Angarsk**	**2.47**	**265**	*e*Pn	**Pn**	**22 10 56.4**	**+1.7**
NIZ				*e*Pg	**Pb**	**22 10 58.0**	**-0.6**
NIZ				*e*		22 11 02.5	
NIZ				max		22 11 03.3	
	comp=E,80nm,0.3s						
NIZ				*e*		22 11 28.5	
NIZ				*e*Sg	**Sg**	**22 11 31.7**	**-1.1**
NIZ				Smax		22 11 33.1	
	comp=E,990nm,0.6s						
NIZ	**Nizh Angarsk**	**2.47**	**265**	*e*PN	**Pn**	**22 10 56.8**	**+2.1**
NIZ				*e*		22 11 00.4	
NIZ				*e*S	**Sn**	**22 11 26.8**	**+1.5**
NIZ				*e*		22 11 31.7	
NIZ				pmax	pmax		
	comp=Z,794nm,0.3s						
NIZ				smax	smax		
	comp=N,1μm,0.8s						
CRS	**Chara**	**2.57**	**69**	*e*Pn	**Pn**	**22 10 57.6**	**+1.5**
CRS				⇓*i*Pg	**Pb**	**22 11 01.6**	**+1.3**
CRS				Pmax		22 11 02.1	
	comp=N,1μm,1.0s						
CRS				*e*Sg	**Sg**	**22 11 35.6**	**-0.5**
CRS				Smax		22 11 44.4	
	comp=N,845nm,0.9s						
SYVR	**Suvo**	**3.30**	**225**	*e*Pn	**Pn**	**22 11 07.5**	**+1.4**
SYVR				*e*Pg	**Pb**	**22 11 14.3**	**+1.6**
SYVR				Pmax		22 11 18.5	
	comp=N,124nm,0.5s						
SYVR				*e*Sn	**Sn**	**22 11 46.5**	**+0.7**
SYVR				*e*Sg	**Sg**	**22 11 56.9**	**-2.5**
SYVR				*e*		22 12 05.2	
SYVR				max		22 12 08.6	
	comp=N,902nm,1.7s						
SYVR	**Suvo**	**3.30**	**225**	*e*PN	**Pn**	**22 11 07.2**	**+1.1**
SYVR				*e*		22 11 12.8	
SYVR				*e*		22 11 56.9	
SYVR				pmax	pmax		
	comp=Z,127nm,0.7s						
SYVR				smax	smax		
	comp=N,923nm,1.3s						
VTMR	**Vitim**	**3.46**	**349**	*e*Pn	**Pn**	**22 11 09.3**	**+0.9**
VTMR				*e*Pg	**Pb**	**22 11 16.7**	**+1.2**
VTMR				*e*Sg	**Sb**	**22 12 00.8**	**+2.8**
TUP	**Tupik**	**3.84**	**113**	⇓*i*Pn	**Pn**	**22 11 14.3**	**+0.7**
TUP				*e*Pg	**Pb**	**22 11 23.8**	**+1.9**
TUP				Pmax		22 11 29.3	
	comp=N,60nm,0.6s						
TUP				*e*Sn	**Sn**	**22 11 56.5**	**-2.6**
TUP				*e*Sg	**Sb**	**22 12 13.1**	**+4.3**
TUP				*e*		22 12 18.5	
TUP				max		22 12 20.9	
	comp=N,947nm,0.8s						
TUP	**Tupik**	**3.84**	**113**	⇓*i*PN	**Pn**	**22 11 14.3**	**+0.7**
TUP				*e*		22 11 24.0	
TUP				*e*S	**Sn**	**22 11 59.5**	**+0.4**
TUP				*e*		22 12 13.3	
TUP				pmax	pmax		
	comp=Z,60nm,0.6s						
TUP				smax	smax		
	comp=E,952nm,0.9s						
CIT	**Chita**	**4.05**	**183**	*e*Pn	**Pn**	**22 11 16.9**	**+0.4**
CIT				*e*Pg	**Pb**	**22 11 27.2**	**+1.6**
CIT				Pmax		22 11 28.9	
	comp=E,68nm,0.2s						
CIT				*e*		22 11 37.0	
CIT				*e*Sn	**Sn**	**22 12 02.1**	**-2.4**
CIT				*e*Sg	**Sb**	**22 12 19.3**	**+4.3**
CIT				Smax		22 12 23.9	
	comp=E,628nm,0.7s						
CIT	**Chita**	**4.05**	**183**	*e*PN	**Pn**	**22 11 15.4**	**-1.1**
CIT				*e*		22 11 25.3	
CIT				*e*S	**Sn**	**22 12 03.1**	**-1.4**
CIT				*e*		22 12 19.1	
CIT				pmax	pmax		
	comp=Z,100nm,0.8s						
CIT				smax	smax		
	comp=E,676nm,1.0s						
MXMB	**Maximikha**	**4.10**	**229**	*e*Pg	**Pb**	**22 11 28.9**	**+2.5**
MXMB				*e*Sn	**Sn**	**22 12 04.2**	**-1.3**
MXMB				*e*Sg	**Sg**	**22 12 22.2**	**-3.0**
MXMB				*e*		22 12 27.8	
YKLR	**Yuktali**	**4.35**	**80**	*e*Pn	**Pn**	**22 11 21.3**	**+0.7**
YKLR				*e*Pg	**Pb**	**22 11 31.9**	**+1.2**
YKLR				*e*Sn	**Sn**	**22 12 10.5**	**-1.3**
YKLR				*e*Sg	**Sg**	**22 12 30.3**	**-3.0**
OGRR	**Ongureny**	**4.37**	**239**	*e*Pn	**Pn**	**22 11 23.1**	**+2.2**
OGRR				*e*Pg	**Pb**	**22 11 32.7**	**+1.7**
OGRR				Pmax		22 11 35.3	
	comp=E,90nm,1.1s						
OGRR				*e*		22 12 08.7	
OGRR				*e*Sg	**Sg**	**22 12 30.1**	**-3.8**
OGRR				Smax		22 12 41.8	
	comp=E,208nm,1.3s						
OGRR	**Ongureny**	**4.37**	**239**	*e*PN	**Pn**	**22 11 22.2**	**+1.3**
OGRR				*e*		22 11 33.7	
OGRR				*e*		22 12 29.8	
OGRR				pmax	pmax		
	comp=Z,92nm,2.0s						
OGRR				smax	smax		
	comp=N,216nm,1.4s						
KELR	**Kotokel**	**4.74**	**228**	*e*Pn	**Pn**	**22 11 25.6**	**-0.3**
KELR				*e*Pg	**Pb**	**22 11 40.1**	**+2.8**
KELR				*e*Sg	**Sg**	**22 12 42.0**	**-3.7**
KELR				*e*		22 12 48.2	
TRG	**Tyrgan**	**5.51**	**236**	*e*Pn	**Pn**	**22 11 38.2**	**+1.7**
TRG				*e*Pg	**Pb**	**22 11 52.2**	**+1.8**
TRG				Pmax		22 11 52.4	
	comp=N,36nm,1.4s						
TRG				*e*Sg	**Sb**	**22 13 03.6**	**+6.8**
TRG				Smax		22 13 07.9	
	comp=N,124nm,1.4s						
TRG	**Tyrgan**	**5.51**	**236**	*e*PN	**Pn**	**22 11 36.3**	**-0.2**
TRG				*e*		22 11 52.0	
TRG				*e*S	**Sn**	**22 12 37.3**	**-3.0**
TRG				*e*		22 13 02.0	
TRG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
TRG				smax	smax		
	comp=N,125nm,0.6s						
UUDB	**Ulan-Yde**	**5.58**	**224**	*e*Pg	**Pb**	**22 11 54.5**	**+2.8**
UUDB				Pmax		22 11 58.4	
	comp=N,54nm,0.8s						
UUDB				*e*Sg	**Sg**	**22 13 08.1**	**-4.7**
UUDB				Smax		22 13 13.5	
	comp=N,685nm,1.2s						
FFNB	**Fofonovo**	**5.81**	**229**	*e*Pn	**Pn**	**22 11 42.9**	**+2.2**
FFNB				*e*Pg	**Pb**	**22 11 59.2**	**+3.6**
FFNB				*e*Sn	**Sn**	**22 12 44.1**	**-3.7**
FFNB				*e*Sg	**Sg**	**22 13 14.1**	**-6.1**
KAB	**Kabansk**	**5.86**	**230**	*e*Pn	**Pn**	**22 11 41.8**	**+0.5**
KAB				*e*Pg	**Pb**	**22 12 00.4**	**+4.1**
KAB				Pmax		22 12 05.2	
	comp=N,30nm,0.2s						
KAB				*e*Sg	**Sg**	**22 13 17.3**	**-4.3**
KAB				Smax		22 13 39.3	
	comp=N,820nm,0.9s						
IENR	**Ienga**	**6.13**	**84**	*e*Sg	**Sg**	**22 13 24.7**	**-5.7**
CLNS	**Chul'man**	**6.15**	**78**	*e*Pn	**Pn**	**22 11 46.5**	**+1.2**
CLNS				*e*Pg	**Pb**	**22 12 05.4**	**+4.1**
CLNS				*e*Sn	**Sn**	**22 12 53.9**	**-2.2**
CLNS				*e*Sg	**Sg**	**22 13 25.8**	**-5.2**
BGT	**Bolshoye Golou**	**6.41**	**235**	*e*	**Pb**	**22 12 04.3**	**-1.5**
BGT				*e*Pg	Pg	22 12 11.0	-5.4
BGT				Pmax		22 12 11.7	
	comp=N,6.0nm,0.2s						
BGT				*e*Sg	**Sg**	**22 13 34.5**	**-4.9**
BGT				Smax		22 13 49.7	
	comp=N,116nm,1.0s						
KPC	**Khapcheranga**	**6.43**	**189**	*e*Pn	**Pn**	**22 11 49.0**	**-0.3**
KPC				*e*Pg	**Pb**	**22 12 10.4**	**+4.2**
KPC				Pmax		22 12 13.7	
	comp=N,12nm,0.6s						
KPC				*e*Sg	**Sg**	**22 13 33.5**	**-6.6**
KPC				Smax		22 13 43.9	
	comp=N,366nm,1.5s						
KPC				*e*		22 13 48.0	
KPC	**Khapcheranga**	**6.43**	**189**	*e*PN	**Pn**	**22 11 49.0**	**-0.3**
KPC				*e*		22 12 09.2	
KPC				*e*		22 13 32.4	
KPC				pmax	pmax		
	comp=Z,12nm,0.6s						
KPC				smax	smax		
	comp=E,365nm,1.8s						
LSTR	**Listvyanka**	**6.80**	**236**	*e*	**Pn**	**22 11 56.7**	**+2.5**
LSTR				max		22 12 19.5	
	comp=E,5.0nm,0.6s						
LSTR				*e*Sn	**Sn**	**22 13 08.1**	**-3.9**
LSTR				*e*Sg	**Sg**	**22 13 45.0**	**-6.7**
LSTR				Smax			
	comp=E,160nm,1.4s						
IRK	**Irkutsk**	**6.82**	**240**	*e*PG	**Pb**	**22 12 17.5**	**+4.8**
IRK				*e*		22 13 46.0	
IRK				pmax	pmax		
	comp=Z,134nm,0.2s						
IRK				smax	smax		
	comp=E,280nm,0.9s						
IVK	**Ivanovka**	**7.04**	**237**	*e*Pn	**Pn**	**22 11 58.7**	**+1.3**
IVK				max		22 12 37.6	
	comp=E,19nm,0.1s						
IVK				*e*Sn	**Sn**	**22 13 14.1**	**-3.8**
IVK				*e*Sg	**Sg**	**22 13 52.3**	**-7.

ORL				*e*		22 12 33.9	
ORL				max		22 12 56.4	
	comp=Z,15nm,1.3s						
ORL				*e*Sg	Sg	22 14 51.6	-9.3
ORL				Smax			
	comp=Z,101nm,1.5s						
ORL	**Oriik**	**8.96**	**253**	*e*PN	**Pn**	**22 12 25.9**	**+2.0**
ORL				*e*		22 12 56.7	
ORL				*e*		22 14 51.9	
ORL				pmax	pmax		
	comp=Z,13nm,0.8s						
ORL				smax	smax		
	comp=N,100nm,1.3s						
ULN	**Ulaanbaatar**	**9.22**	**210**	*e*Sg	Sn	22 15 00.5	+49
ULN	**Ulaanbaatar**	**9.22**	**210**	*i* P	**Pn**	**22 12 28.1**	**+0.5**
TDJR	**Todzha**	**11.04**	**258**	*e*Pn	**Pn**	**22 12 54.0**	**+1.7**
TDJR				*e*Sg	Sn	22 15 53.8	+58
KNGR	**Kungurtug, Tuv**	**11.20**	**248**	*e*Pn	**Pn**	**22 12 57.4**	**+2.8**
KNGR				*e*Sg		22 16 00.5	
KRAR	**Krasnoyarsk**	**11.75**	**278**	*i* P	**Pn**	**22 12 59.1**	**-2.9**
ARDR	**Aradan**	**12.43**	**262**	*e*Pg	Pn	22 13 57.6	+46
ARDR				*e*		22 15 26.7	
ARDR				*e*Sg		22 16 37.4	
TIXI	**Tiksi**	**16.89**	**16**	*i* P	**P**	**22 14 12.9**	**+0.2**
NRIK	**Noril'sk**	**17.75**	**329**	*i* P	**Pn**	**22 14 20.0**	**-1.4**
KURK	**Kurchatov**	**21.54**	**271**	*i* P	**P**	**22 15 06.0**	**+2.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRZS	**Berezniki**	**25.22**	**274**	*e*P	**P**	**22 15 39.8**	**-0.6**
BRZS	**Berezniki**	**25.22**	**274**	*e*P	**P**	**22 15 39.7**	**-0.6**

*SNET **26** 22:11:24.1±0.7, 14.°48N×89.°15W, h0km±5km, ML2.6*
*GCG **26** 22:11:25.3±0.4, 14.°89N×89.°01W, h33km±110km, MD3.3*
ISC 26 22:11:22.0±1.6**, 14.°58N**±0.°08×**89.°02W**±0.°07**, h10km, n12,**
σ1s31/16, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.31**	**266**	*e*P	**Pb**	**22 11 29.1**	**-0.6**
ESQI				IAML		22 11 33.3	
	comp=Z,2μm,0.2s						
ESQI				*e*S	**Sg**	**22 11 33.4**	**+0.9**
MTO3	**Montecristo**	**0.38**	**241**	*e*P	**Pb**	**22 11 30.0**	**-0.9**
MTO3				*e*S	**Sg**	**22 11 34.5**	**-0.1**
MTO3				IAML		22 11 35.2	
	comp=Z,1μm,0.2s						
MRL	**Marmol**	**0.81**	**308**	*e*P	**Pn**	**22 11 39.4**	**-0.3**
MRL				*e*S	**Sn**	**22 11 50.0**	**-1.9**
LFU	**La Fuente**	**0.83**	**186**	*e*P	**Pn**	**22 11 39.6**	**-0.3**
LBRS	**Las Brisas**	**0.84**	**182**	*e*P	**Pn**	**22 11 39.5**	**-0.5**
BOQS	**Boqueron**	**0.88**	**197**	*e*P	**Pn**	**22 11 40.0**	**-0.7**
SNJE	**San Jose**	**0.91**	**219**	*e*P	**Pn**	**22 11 40.0**	**-1.0**
RTR	**El Retiro**	**0.91**	**222**	*e*P	**Pn**	**22 11 40.3**	**-0.8**
LFRS	**El Faro**	**0.96**	**182**	*e*P	**Pn**	**22 11 41.7**	**+0.1**
TECA	**Tecapa**	**1.19**	**155**	*e*P	**Pg**	**22 11 46.2**	**+1.3**
NBG	**Las Nubes**	**1.28**	**270**	*e*P	**Pg**	**22 11 48.2**	**+1.5**
NBG				*e*S	**Sg**	**22 12 06.5**	**+3.1**
FUG	**Fuego 3**	**1.77**	**266**	*e*S	**Sg**	**22 12 18.3**	**-0.7**

*JMA **26** 22:11:37.9±0.1, 23.°79N×122.°26E, h24km±3km, M2.6*
*TAP **26** 22:11:38.0, 23.°84N×122.°31E, h30km±1km, ML2.9, D*
ISC 26 22:11:37.7±1.1**, 23.°80N**±0.°02×**122.°29E**±0.°02**, h27**km±11km**,**
n71, σ0s64/135, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.65**	**286**	*e*P	**Pb**	**22 11 50.4**	**-0.1**
HWA				*e*S	**Sb**	**22 11 60.0**	**+0.8**
	baz=272						
TWD	**Chiawan**	**0.69**	**294**	*i* P	**Pb**	**22 11 50.9**	**-0.3**
TWD				S	**Sb**	**22 12 00.2**	**-0.2**
	baz=279						
NACB	**Ninganchiao**	**0.74**	**301**	*e*P	**Pb**	**22 11 51.5**	**-0.5**
NACB				*e*S	**Sb**	**22 12 01.5**	**-0.1**
	baz=286						
ESL	**Shilin**	**0.78**	**272**	P	**Pb**	**22 11 51.9**	**-0.9**
ESL				S	**Sn**	**22 12 04.0**	**+0.1**
	baz=268						
ENAH	**Nanao**	**0.78**	**326**	*e*S	**Sb**	**22 12 03.0**	**0.0**
	baz=322						
EGFH	**Guangfu**	**0.80**	**261**	P	**Pb**	**22 11 53.0**	**0.0**
EGFH				S	**Sn**	**22 12 04.5**	**+0.2**
	baz=258						
ETLH	**Xiulin Townshi**	**0.84**	**299**	*e*P	**Pb**	**22 11 52.9**	**-0.9**
ETLH	baz=295			S	**Sb**	**22 12 05.1**	**+0.3**
	baz=295						
HGSD	**Ruisui**	**0.85**	**249**	*e*P	**Pb**	**22 11 53.4**	**-0.4**
HGSD	baz=247			*e*S	**Sb**	**22 12 04.7**	**-0.1**
	baz=247						
JYNG	**Yonagunijimaku**	**0.89**	**43**	P	**Pb**	**22 11 54.7**	**+0.2**
JYNG				S	**Sb**	**22 12 05.9**	**-0.1**
TWC	**Suao**	**0.90**	**334**	*e*P	**Pb**	**22 11 54.8**	**0.0**
TWC	baz=331			*e*S	**Sb**	**22 12 06.3**	**-0.1**
	baz=331						
EHY	**Hungye**	**0.93**	**252**	*e*P	**Pn**	**22 11 55.0**	**-0.1**
EHY	baz=265			S	**Sb**	**22 12 07.7**	**+0.5**
	baz=265						
YOJ	**Yonaguni jima**	**0.94**	**45**	P	**Pb**	**22 11 55.5**	**+0.2**
YOJ				S	**Sb**	**22 12 07.2**	**-0.2**
YULB	**Yu-li**	**0.99**	**246**	P	**Pn**	**22 11 56.1**	**+0.2**
YULB	baz=244			S	**Sb**	**22 12 08.8**	**-0.2**
	baz=244						
EYUL	**Yuli**	**0.99**	**244**	*e*P	**Pn**	**22 11 56.2**	**+0.3**
EYUL	baz=242			S	**Sb**	**22 12 09.9**	**+0.9**
	baz=242						
WHF	**Hehuan Shan**	**1.00**	**291**	P	**Pn**	**22 11 55.9**	**-0.4**
WHF	baz=276			S	**Sb**	**22 12 08.7**	**-0.8**
	baz=276						
TWF1	**Yuli**	**1.01**	**244**	P	**Pn**	**22 11 56.4**	**+0.2**
TWF1	baz=242			S	**Sn**	**22 12 09.7**	**+0.2**
	baz=242						
OWD	**Renai**	**1.03**	**279**	*e*P	**Pn**	**22 11 56.0**	**-0.5**
OWD	baz=276			*e*S	**Sn**	**22 12 08.8**	**-1.4**
	baz=276						
NNSB	**Datong**	**1.04**	**308**	*e*P	**Pn**	**22 11 56.5**	**-0.2**
NNSB	baz=304			*e*S	**Sn**	**22 12 10.2**	**-0.2**
	baz=304						
NNSH	**Datong**	**1.04**	**308**	*e*P	**Pn**	**22 11 56.7**	**0.0**
NNSH	baz=304			*e*S	**Sn**	**22 12 10.1**	**-0.3**
	baz=304						
VWDT	**VWDT**	**1.05**	**268**	*e*P	**Pn**	**22 11 56.8**	**+0.1**
VWDT	baz=265			*e*S	**Sb**	**22 12 10.8**	**+0.2**
	baz=265						
CHGB	**Renai**	**1.05**	**285**	*e*P	**Pn**	**22 11 57.2**	**+0.3**
CHGB	baz=273			*e*S	**Sn**	**22 12 10.0**	**-0.9**
	baz=273						
NNS	**Nan Shan**	**1.05**	**308**	P	**Pn**	**22 11 56.9**	**0.0**
NNS	baz=304			S	**Sn**	**22 12 10.1**	**-0.7**
	baz=304						
FUSS	**Fushou**	**1.05**	**295**	*e*P	**Pn**	**22 11 57.1**	**+0.1**
FUSS	baz=292			*e*S	**Sn**	**22 12 10.7**	**-0.2**
	baz=292						
ENTT	**Nioudou**	**1.07**	**322**	*e*P	**Pb**	**22 11 58.0**	**+0.4**
ENTT	baz=319			*e*S	**Sn**	**22 12 10.2**	**-0.8**
	baz=319						
NDT	**Datong Townshi**	**1.07**	**319**	*e*P	**Pb**	**22 11 57.4**	**-0.2**
NDT	baz=315			*e*S	**Sb**	**22 12 11.5**	**+0.3**
	baz=315						
TWE	**Neicheng**	**1.08**	**329**	P	**Pn**	**22 11 57.3**	**+0.1**
TWE	baz=326			*e*S	**Sn**	**22 12 11.2**	**0.0**
	baz=326						
FULB	**Fuli**	**1.09**	**237**	*e*P	**Pn**	**22 11 56.8**	**-0.5**
FULB	baz=224			*e*S	**Sn**	**22 12 11.0**	**-0.4**
	baz=224						
CHKT	**Chengkung**	**1.09**	**231**	*e*P	**Pn**	**22 11 56.7**	**-0.6**
CHKT	baz=219			*e*S	**Sn**	**22 12 10.2**	**-1.4**
	baz=219						
EGS		**1.09**	**343**	*e*P	**Pn**	**22 11 56.9**	**-0.4**
EGS	baz=340			*e*S	**Sn**	**22 12 10.6**	**-0.9**
	baz=340						
TWT	**Tachien**	**1.11**	**294**	*e*P	**Pn**	**22 11 57.9**	**+0.1**
TWT	baz=291			S	**Sb**	**22 12 13.1**	**+0.4**
	baz=291						
TDCB	**Techi**	**1.13**	**294**	*e*P	**Pb**	**22 11 58.5**	**-0.1**
TDCB	baz=291			*e*S	**Sn**	**22 12 12.4**	**-0.3**
	baz=291						
YHNB	**Yeheng**	**1.20**	**316**	*e*P	**Pn**	**22 11 58.8**	**-0.1**
YHNB	baz=313			*e*S	**Sn**	**22 12 14.3**	**-0.1**
	baz=313						
NWLT	**Wulai**	**1.21**	**324**	*e*P	**Pn**	**22 11 58.7**	**-0.2**
EDH	baz=308			*e*P	**Pn**	**22 11 58.6**	**-0.4**
EDH	**Donghe**	**1.22**	**228**				
EDH	baz=218			S	**Sn**	**22 12 13.4**	**-1.2**
	baz=218						
NSK	**Sanguang**	**1.22**	**316**	*e*P	**Pb**	**22 11 59.9**	**-0.3**
NSK	baz=313			S	**Sn**	**22 12 14.7**	**-0.1**
	baz=313						
SSLB	**Suanglung**	**1.22**	**270**	*e*P	**Pn**	**22 11 59.3**	**+0.2**
SSLB	baz=267			*e*S	**Sn**	**22 12 14.7**	**-0.1**
	baz=267						
DPDB	**Guoxing**	**1.27**	**281**	*e*P	**Pn**	**22 12 00.5**	**+0.7**
SMLT	baz=279			*e*S	**Sn**	**22 12 16.4**	**+0.3**
SMLT	**Sun Moon Lake**	**1.27**	**274**	*e*P	**Pn**	**22 12 00.3**	**+0.4**
SMLT	baz=272			*e*S	**Sn**	**22 12 16.4**	**+0.3**
	baz=272						
ELDTW	**Lidau**	**1.31**	**243**	P	**Pn**	**22 12 00.3**	**-0.1**
ELDTW	baz=241			S	**Sn**	**22 12 16.4**	**-0.8**
	baz=241						
TYC	**Yuchr**	**1.31**	**275**	*e*P	**Pn**	**22 12 01.1**	**+0.7**
WHP	baz=273			*e*P	**Pb**	**22 12 02.3**	**+0.5**
WHP	**Taichung City**	**1.32**	**292**				
WHP	baz=289			*e*S	**Sb**	**22 12 17.9**	**-0.5**
	baz=289						
WHYT	**Xinyi Township**	**1.32**	**266**	*e*P	**Pn**	**22 12 00.9**	**+0.4**
WHYT	baz=264			*e*S	**Sb**	**22 12 18.1**	**-0.2**
	baz=264						
LDUT	**Ludao**	**1.35**	**214**	*e*P	**Pn**	**22 12 00.5**	**-0.3**
LDUT	baz=213			S	**Sn**	**22 12 16.1**	**-1.7**
	baz=213						
LONT	**Longtian**	**1.38**	**230**	*e*P	**Pn**	**22 12 00.8**	**-0.5**
LONT	baz=242			*e*S	**Sn**	**22 12 18.0**	**-0.7**
	baz=242						
ALS	**Alishan**	**1.39**	**259**	P	**Pb**	**22 12 03.2**	**0.0**
ALS	baz=256			S	**Sn**	**22 12 20.0**	**+0.8**
	baz=256						
HATJ	**Hateruma jima**	**1.41**	**79**	S	**Sb**	**22 12 22.5**	**+1.5**
IRIF	**Iriomote-Funau**	**1.43**	**68**	P	**Pb**	**22 12 03.1**	**-0.5**
IRIF				S	**Sb**	**22 12 22.3**	**+0.9**
WJS	**Zhushan**	**1.43**	**271**	*e*P	**Pb**	**22 12 05.1**	**+1.4**
WJS	baz=269			*e*S	**Sb**	**22 12 23.8**	**+2.3**
	baz=269						
LIOB	**Emei**	**1.44**	**306**	*e*P	**Pb**	**22 12 03.2**	**-0.7**
LIOB	baz=293			*e*S	**Sn**	**22 12 20.8**	**+0.7**
	baz=293						
NSTT	**Nanjuang**	**1.44**	**306**	*e*P	**Pb**	**22 12 03.6**	**-0.3**
NSTT	baz=292			S	**Sb**	**22 12 22.0**	**+0.2**
	baz=292						
WNT	**Mingjian**	**1.47**	**274**	*e*P	**Pb**	**22 12 04.2**	**-0.2**
WNT	baz=271			*e*S	**Sb**	**22 12 23.5**	**+0.8**
	baz=271						
TTN	**Taitung**	**1.47**	**226**	*e*P	**Pn**	**22 12 03.4**	**+0.8**
TTN	baz=224			*e*S	**Sn**	**22 12 20.9**	**0.0**
	baz=224						
TWGBT	**Beinan**	**1.48**	**229**	*e*P	**Pn**	**22 12 03.2**	**+0.6**
TWGBT	baz=241			*e*S	**Sn**	**22 12 20.6**	**-0.4**
	baz=241						
TWG	**Pinlang**	**1.48**	**229**	*e*P	**Pn**	**22 12 02.3**	**-0.3**
TWG	baz=241			*e*S	**Sn**	**22 12 20.6**	**-0.5**
	baz=241						
CHN5	**Tsauling**	**1.49**	**263**	*e*P	**Pb**	**22 12 04.9**	**+0.2**
CHN5	baz=261			S	**Sb**	**22 12 24.6**	**+1.3**
	baz=261						
TWQ1	**Liyutan**	**1.49**	**292**	*e*P	**Pb**	**22 12 04.6**	**-0.1**
TWQ1	baz=289			*e*S	**Sb**	**22 12 24.2**	**+1.0**
	baz=289						
STYT	**Tauyuan**	**1.54**	**246**	*e*P	**Pn**	**22 12 04.8**	**+1.3**
STYT	baz=236			*e*S	**Sn**	**22 12 23.6**	**+0.9**
	baz=236						
NMLH	**Miaoli**	**1.55**	**299**	*e*P	**Pb**	**22 12 05.9**	**+0.1**
TPUB	baz=295			*e*P	**Pb**	**22 12 06.4**	**-0.2**
TPUB	**Ta-pu**	**1.60**	**252**				
TPUB	baz=241			*e*S	**Sb**	**22 12 27.1**	**+0.7**
	baz=241						
WCHH	**Zhanghua**	**1.61**	**280**	*e*P	**Pb**	**22 12 06.6**	**-0.1**
WCHH	baz=278			*e*S	**Sb**	**22 12 27.6**	**+1.0**
	baz=278						
WDLH	**Douliu**	**1.61**	**267**	*e*P	**Pb**	**22 12 06.2**	**-0.5**
WDLH	baz=264			*e*S	**Sb**	**22 12 26.6**	**0.0**
	baz=264						
CHN4	**Tsaushan**	**1.62**	**254**	*e*P	**Pb**	**22 12 06.8**	**-0.1**
CHN4	baz=253			*e*S	**Sb**	**22 12 27.4**	**+0.5**
	baz=253						
WTP	**Ta-pu**	**1.63**	**251**	*e*P	**Pb**	**22 12 07.2**	**0.0**
WTP	baz=249			*e*S	**Sb**	**22 12 26.7**	**-0.6**
	baz=249						
JKRS	**Kuro-shima**	**1.64**	**74**	P	**Pn**	**22 12 06.1**	**+1.3**
JKRS				*e*S	**Sb**	**22 12 26.6**	**-0.8**
SLGT	**Liugui**	**1.71**	**242**	*e*P	**Pb**	**22 12 07.7**	**-0.7**
SLGT	baz=234			*e*S	**Sb**	**22 12 29.0**	**-0.4**
	baz=234						
SGST	**Jiashian**	**1.72**	**246**	*e*P	**Pb**	**22 12 07.9**	**-0.7**
SGST	baz=245			S	**Sb**	**22 12 31.4**	**+1.5**
	baz=245						
CHN1	**Nanshi**	**1.73**	**250**	P	**Pb**	**22 12 09.0**	**+0.2**
CHN1	baz=248			S	**Sb**	**22 12 30.1**	**+0.1**
	baz=248						
TWK	**Hsinying**	**1.73**	**253**	*e*P	**Pb**	**22 12 08.6**	**-0.3**
TWK	baz=251			S	**Sb**	**22 12 30.9**	**+0.6**
	baz=251						
WTK	**Tuku**	**1.74**	**267**	*e*P	**Pb**	**22 12 08.1**	**-0.9**
WTK	baz=265			*e*S	**Sb**	**22 12 30.3**	**-0.2**
	baz=265						
JIJ	**Ishigaki jima**	**1.79**	**71**	*e*S	**Sb**	**22 12 31.0**	**-0.8**
TSMG	**Majia**	**1.86**	**235**	*e*P	**Pn**	**22 12 08.7**	**+0.9**
TSMG	baz=230			*e*S	**Sn**	**22 12 31.1**	**+0.6**
	baz=230						

*MDD **26** 22:19:04.7±1.9, 33.°24N×12.°28W, h36km±44km, mb3.6/5, Error ellipse: s-maj=23.3km s-min=9.1km az=130.0, PRXIMO*

*IGIL **26** 22:19:06.1, 33.°63N×12.°35W, h0km, ML2.5*
*INMG **26** 22:19:06.8±1.5, 33.°24N×12.°43W, h10km, ML2.5, Error ellipse: s-maj=14.2km s-min=4.9km az=85.0*
*CNRM **26** 22:19:08.3±2.1, 33.°47N×11.°43W, h0km, Error ellipse: s-maj=19.7km s-min=8.3km az=77.0*
ISC 26 22:19:08.6±4.3**, 33.7N**±0.°2×**11.9W**±0.°2**, h10**km**, n51,**
σ1s20/59, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAH	**EAH**	**2.76**	**136**	P	Pn	22 19 46.9	-6.0
EAH				S	Sn	22 20 16.1	-10
PMPST	**Porto Santo, M**	**3.80**	**263**	*e*Sn	Sn	22 20 31.3	-21
PMPS	**Porto Santo**	**3.80**	**262**	S	Sn	22 20 31.3	-21
PMPS	**Porto Santo**	**3.80**	**262**	*e*Sn	Sn	22 20 31.8	-20
OUK	**Oukaimeden**	**4.15**	**125**	P	Pn	22 20 08.2	-4.2
OUK				S	Sn	22 20 53.6	-7.6
PFVI	**Vila Bisbo**	**4.26**	**34**	P	**Pn**	**22 20 13.1**	**-0.5**
	1.2nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**22 21 03.4**	**0.0**
	1.6nm,0.1s,SNR=6.1						
PFVI	**Vila Bisbo**	**4.26**	**34**	P	**Pn**	**22 20 12.4**	**-1.2**
PFVI				S	**Sn**	**22 21 03.7**	**+0.3**
PFVI	**Vila Bisbo**	**4.26**	**34**	*e*Pn	**Pn**	**22 20 13.5**	**-0.1**
PFVI				*e*Sn	**Sn**	**22 21 04.1**	**+0.7**
PFVI				A	A	22 21 18.8	
	3.5nm,0.4s						
PMAR	**Madeira**	**4.35**	**259**	S	Sn	22 20 41.9	-24
PMAR	**Madeira**	**4.35**	**259**	*e*Sn	Sn	22 20 41.9	-24
MORF	**Marmelete**	**4.49**	**35**	*e*P	**Pn**	**22 20 16.4**	**-0.3**
MORF				*e*S	**Sn**	**22 21 09.0**	**0.0**
MORF				AML	AML	22 21 12.9	
	comp=N,7.9nm,0.1s						
MORF	**Marmelete**	**4.49**	**35**	P	**Pn**	**22 20 16.6**	**-0.1**
MORF				S	**Sn**	**22 21 09.4**	**+0.4**
	comp=N,4.4nm,0.3s						
MORF	**Marmelete**	**4.49**	**35**	*e*Pn	**Pn**	**22 20 16.6**	**-0.1**
MORF				*e*Sn	**Sn**	**22 21 09.4**	**+0.4**
MORF				A	A	22 21 12.8	
	comp=N,4.4nm,0.3s						
PTEO	**Sao Teotonio**	**4.65**	**32**	S	**Sn**	**22 21 13.7**	**+0.8**
	comp=N,1.5nm,0.5s						
PTEO	**Sao Teotonio**	**4.65**	**32**	*e*Sn	**Sn**	**22 21 13.7**	**+0.8**
PTEO				A	A	22 21 18.1	
	comp=N,3.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.80**	**41**	P	**Pn**	**22 20 21.6**	**+0.6**
PBDV				S	**Sn**	**22 21 18.2**	**+1.4**
	comp=N,1.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.80**	**41**	*e*Pn	**Pn**	**22 20 21.6**	**+0.6**
PBDV				*e*Sn	**Sn**	**22 21 18.2**	**+1.4**
PBDV				A	A	22 21 20.9	
	comp=N,1.8nm,0.2s						
PVAQ	**Vaqueiros**	**5.04**	**41**	P	**Pn**	**22 20 24.7**	**+0.5**
PVAQ				S	**Sn**	**22 21 24.4**	**+1.9**
	comp=N,2.9nm,0.1s						
PVAQ	**Vaqueiros**	**5.04**	**41**	P	**Pn**	**22 20 24.4**	**+0.2**
PVAQ				S	**Sn**	**22 21 23.2**	**+0.7**
PVAQ	**Vaqueiros**	**5.04**	**41**	*e*Pn	**Pn**	**22 20 24.7**	**+0.5**
PVAQ				*e*Sn	**Sn**	**22 21 24.4**	**+1.9**
PVAQ				A	A	22 21 25.8	
	comp=N,2.9nm,0.1s						
PCVE	**Castro Verde**	**5.04**	**37**	P	**Pn**	**22 20 26.4**	**+2.1**
PCVE				S	**Sn**	**22 21 24.0**	**+1.4**
	comp=N,1.9nm,0.4s						
PCVE	**Castro Verde**	**5.04**	**37**	*e*Pn	**Pn**	**22 20 26.4**	**+2.1**
PCVE				*e*Sn	**Sn**	**22 21 24.0**	**+1.4**
PCVE				A	A	22 21 25.8	
	comp=N,1.9nm,0.4s						
OUZM	**OUZ**	**5.10**	**121**	P	Pn	22 20 21.5	-3.8
OUZM				S	Sn	22 21 15.2	-9.0
PNCL	**Nicolau / Gran**	**5.21**	**30**	P	**Pn**	**22 20 28.4**	**+1.9**
PNCL				S	**Sn**	**22 21 27.1**	**+0.5**
	comp=N,2.4nm,0.1s						
PNCL	**Nicolau / Gran**	**5.21**	**30**	*e*Pn	**Pn**	**22 20 28.4**	**+1.9**
PNCL				*e*Sn	**Sn**	**22 21 27.1**	**+0.5**
PNCL				A	A	22 21 30.6	
	comp=N,2.4nm,0.1s						
EGRO	**El Granado**	**5.26**	**41**	P	**Pn**	**22 20 28.1**	**+0.8**
	comp=N,0.8nm,0.2s,SNR=5.9						
EGRO				S	**Sn**	**22 21 28.8**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=7.7						
CFUE	**Fuerteventura**	**5.30**	**200**	S	Sn	22 21 05.4	-24
	SNR=7.9						
PBEJ	**Beja**	**5.43**	**35**	S	**Sn**	**22 21 32.7**	**+0.4**
PBEJ	**Beja**	**5.43**	**35**	*e*Sn	**Sn**	**22 21 32.7**	**+0.4**
CFTV	**Fuerteventura**	**5.56**	**201**	S	Sn	22 21 10.2	-25
	SNR=7.9						
PMAFR	**Mafra**	**5.69**	**21**	*e*Sn	**Sn**	**22 21 40.1**	**+1.6**
PMAFR				A	A	22 21 44.9	
	comp=N,13nm,0.5s						
EVO	**Evora**	**5.78**	**31**	S	**Sn**	**22 21 40.3**	**-0.4**
	comp=N,3.0nm,0.3s						
EVO	**Evora**	**5.78**	**31**	*e*Sn	**Sn**	**22 21 40.3**	**-0.4**
EVO				A	A	22 21 42.9	
	comp=N,3.0nm,0.3s						
EMIN	**Mina Concepcio**	**5.88**	**44**	P	**Pn**	**22 20 35.7**	**-0.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 21 44.1**	**+0.8**
	comp=N,0.9nm,0.1s,SNR=7.9						
MD31	**MD31**	**5.99**	**96**	P	Pn	22 20 36.2	-1.1
MD31				S	Sn	22 21 38.2	-7.8
TZRR	**Tazzarine**	**6.04**	**117**	P	Pn	22 20 34.5	-3.6
TZRR				S	Sn	22 21 42.0	-5.2
MDT	**Midelt**	**6.12**	**96**	P	Pn	22 20 38.3	-1.0
MDT				S	Sn	22 21 43.1	-6.3
PSBE	**So Bento**	**6.35**	**22**	*e*Sn	**Sn**	**22 21 54.5**	**-0.3**
PMRV	**Marv??o**	**6.79**	**31**	P	**Pn**	**22 20 48.5**	**+0.2**
PMRV				S	**Sn**	**22 22 04.3**	**-1.4**
PMRV	**Marv??o**	**6.79**	**31**	*e*Pn	**Pn**	**22 20 48.5**	**+0.2**
PMRV				*e*Sn	**Sn**	**22 22 04.3**	**-1.4**
ECAB	**El Cabril**	**6.84**	**48**	P	**Pn**	**22 20 49.4**	**+0.4**
	comp=N,0.1nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**22 22 05.9**	**-0.9**
	comp=N,0.1nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**6.93**	**22**	S	**Sn**	**22 22 08.6**	**-0.6**
PCAS	**Casmilo, Conde**	**6.93**	**22**	*e*Sn	**Sn**	**22 22 08.6**	**-0.6**
EADA	**Adamuz**	**7.42**	**51**	P	**Pn**	**22 20 56.5**	**-0.5**
	comp=N,0.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**22 22 19.8**	**-1.5**
	comp=N,0.8nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**7.90**	**34**	S	**Sn**	**22 22 31.6**	**-1.3**
	SNR=7.9						
EQES	**Quesada**	**8.25**	**57**	S	**Sn**	**22 22 40.1**	**-1.7**
	SNR=7.9						
POLO	**Lamas de Olo**	**8.36**	**21**	S	**Sn**	**22 22 44.0**	**-0.3**
POLO	**Lamas de Olo**	**8.36**	**21**	*e*Sn	**Sn**	**22 22 44.0**	**-0.3**
PAB	**San Pablo**	**8.42**	**44**	S	**Sn**	**22 22 43.2**	**-2.8**
	SNR=7.9						
PGAV	**Gavieira, Arco**	**8.77**	**18**	S	**Sn**	**22 22 51.7**	**-2.8**
PGAV	**Gavieira, Arco**	**8.77**	**18**	*e*Sn	**Sn**	**22 22 51.7**	**-2.8**

*IDC **26** 22:20:55.6±3.2, 20.°81S×169.°95E, h114km±25km, mb4.0/12, mb1 4.2/13, mb1mx4.0/34, mbtmp4.4/13, MS2.7/1, Ms1 2.7/1, ms1mx2.5/31, Error ellipse: s-maj=23.4km s-min=21.2km az=90.0*
*NEIC **26** 22:20:56.2±1.1, 20.°77S±0.°08×170.°0E±0.°1, h126km±5km, mb4.4/20, Error ellipse: s-maj=14.1km s-min=11.9km az=110.0*
ISC 26 22:20:55.5±2.0**, 20.°81S**±0.°08×**170.°0E**±0.°1**, h117**km±15km**,**
n61, σ0s92/67, mb4.4/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.56**	**249**	P	**Pn**	**22 21 50.0**	**+0.7**
	21nm,0.3s,baz=95,slow=11,SNR=273						
DZM				S	**Sn**	**22 22 29.3**	**-1.5**
	28nm,0.3s,baz=92,slow=22,SNR=10						
DZM				LR	LR	22 23 03.1	
	comp=Z,131nm,21.8s,baz=219,slow=36						
DZM	**Mont Dzumac**	**3.56**	**249**	*e*Pn	**Pn**	**22 21 50.1**	**+0.9**
	80nm,0.2s						
DZM				*e*Sn	**Sn**	**22 22 30.0**	**-0.7**
	112nm,0.3s						
DZM				*e*LR	LR	22 42 53.8	
	comp=Z,188nm,25.9s						
**D

BSWZ	**Blackbirch Sta**	**21.09**	**172**	P		**P**	**22 25 30.2**	**-0.5**
CTA	**Charters Tower**	**22.28**	**268**	P		**P**	**22 25 43.9**	**+0.5**
	comp=Z,4.8nm,0.7s,baz=99,slow=11,SNR=9.2							
CTAO	**Charters Tower**	**22.28**	**268**	P		**P**	**22 25 42.6**	**-0.8**
STKA	**Stephens Creek**	**27.67**	**241**	P		**P**	**22 26 33.0**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=75,slow=12,SNR=5.7							
STKA				PcP		**PcP**	**22 29 48.6**	**+1.6**
	comp=Z,1.7nm,0.9s,baz=103,slow=7.8,SNR=2.9							
STKA	**Stephens Creek**	**27.67**	**241**	P		**P**	**22 26 32.5**	**-0.2**
STKA						**PcP**	**22 29 45.8**	**-1.2**
WR0	**Warramunga Arr**	**33.23**	**265**	P		**P**	**22 27 20.9**	**-0.8**
WR0				IAmb		IAmb	22 27 21.3	
	comp=Z,3.8nm,0.7s							
WB0	**Warramunga Arr**	**33.39**	**265**	P		**P**	**22 27 21.7**	**-1.5**
WB0				IAmb		IAmb	22 27 22.7	
	comp=Z,6.4nm,0.9s							
WB2	**Warramunga Arr**	**33.41**	**265**	P		**P**	**22 27 22.6**	**-0.7**
WRA	**Warramunga Arr**	**33.42**	**265**	P		**P**	**22 27 22.1**	**-1.3**
	comp=Z,3.4nm,0.6s,baz=96,slow=8.4,SNR=16							
WRA				PcP		**PcP**	**22 30 01.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=93,slow=3.0,SNR=5.1							
WRA	**Warramunga Arr**	**33.42**	**265**	P		**P**	**22 27 21.9**	**-1.5**
WRA				PcP		**PcP**	**22 30 01.3**	**-1.0**
AS31	**Alice Springs**	**33.49**	**258**	P		**P**	**22 27 23.5**	**-0.5**
AS31				IAmb		IAmb	22 27 24.7	
	comp=Z,4.7nm,1.1s							
ASAR	**Alice Springs**	**33.49**	**258**	P		**P**	**22 27 23.4**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=90,slow=8.8,SNR=56							
ASAR				PcP		**PcP**	**22 30 02.0**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=100,slow=3.2,SNR=9.5							
MTN	**Manton Dam**	**37.98**	**276**	P		**P**	**22 28 01.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.84**	**266**	P		**P**	**22 28 34.2**	**0.0**
	comp=Z,11nm,0.7s,baz=110,slow=7.0,SNR=23							
FITZ	**Fitzroy Crossi**	**41.84**	**266**	P		**P**	**22 28 33.1**	**-1.2**
MJAR	**Matsushiro Arr**	**64.48**	**332**	P		**P**	**22 31 19.0**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=172,slow=7.5,SNR=2.8							
MJAR	**Matsushiro Arr**	**64.48**	**332**	P		**P**	**22 31 19.7**	**0.0**
QSPA	**South Pole Qui**	**69.25**	**180**	P		**P**	**22 31 49.9**	**+0.1**
	comp=Z,7.3nm,0.9s,baz=348,slow=1.2,SNR=20							
QSPA	**South Pole Qui**	**69.25**	**180**	P		**P**	**22 31 49.9**	**+0.1**
QSPA				IAmb		IAmb	22 31 51.1	
	comp=Z,6.3nm,0.8s							
NJ2	**Nanjing**	**71.84**	**316**	*e*P		**P**	**22 32 08.8**	**+3.0**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MAW	**Mawson**	**77.26**	**202**	P		**P**	**22 32 37.4**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=137,slow=8.5,SNR=7.6							
CMAR	**Chiang Mai Arr**	**79.81**	**294**	P		**P**	**22 32 52.7**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=131,slow=4.0,SNR=20							
CMAR	**Chiang Mai Arr**	**79.81**	**294**	P		**P**	**22 32 50.6**	**-0.9**
CHTO	**Chiang Mai**	**79.97**	**295**	P		**P**	**22 32 51.2**	**-1.1**
CHTO				IAmb		IAmb	22 32 54.2	
	comp=Z,4.7nm,0.7s							
HHC	**Hu-ho-hao-te**	**81.88**	**319**	*e*P		**P**	**22 33 04.5**	**+2.4**
HHC				pmax		pmax		
	comp=Z,14nm,1.0s							
HHC				pmax		pmax		
	comp=Z,41nm,5.4s							
SNAA	**Sanae**	**87.63**	**182**	P		**P**	**22 33 30.0**	**-0.5**
CMB	**Columbia Colle**	**87.66**	**48**	P		**P**	**22 33 31.5**	**+0.4**
CMB				IAmb		IAmb	22 33 33.3	
	comp=Z,4.3nm,0.8s							
AFDM	**Forest Hills D**	**87.70**	**47**	P		**P**	**22 33 31.6**	**+0.4**
AFDM				IAmb		IAmb	22 33 33.1	
	comp=Z,4.3nm,0.9s							
VNA3	**Neumayer Olymp**	**88.19**	**180**	P		**P**	**22 33 33.0**	**-0.1**
VNA2	**Neumayer--Watz**	**88.49**	**181**	P		**P**	**22 33 33.9**	**-0.5**
GTA	**Gaotai**	**88.73**	**313**	*e*P		**P**	**22 33 37.3**	**+1.1**
GTA				pP		PcP	22 33 41.5	+3.8
GTA	**Gaotai**	**88.73**	**313**	SS		SS	22 50 08.8	+0.3
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,100nm,7.3s							
GTA				LR		LR		
	comp=N,84nm,14.2s							
GTA				LR		LR		
	comp=E,100nm,14.2s							
GTA				LR		LR		
	comp=Z,110nm,16.7s							
SONM	**Songino Array**	**88.91**	**323**	P		**P**	**22 33 37.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=132,slow=6.6,SNR=3.7							
SONM	**Songino Array**	**88.91**	**323**	P		**P**	**22 33 36.1**	**-0.7**
RYN	**Ryan**	**89.23**	**48**	P		**P**	**22 33 38.1**	**-0.5**
RYN				IAmb		IAmb	22 33 40.9	
	comp=Z,4.2nm,0.9s							
NVAR	**Mina Array Bea**	**89.29**	**48**	P		**P**	**22 33 40.3**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=226,slow=8.8,SNR=15							
NVAR	**Mina Array Bea**	**89.29**	**48**	P		**P**	**22 33 39.1**	**+0.1**
KVN	**Kaiserville**	**89.72**	**48**	P		**P**	**22 33 40.9**	**0.0**
TPNV	**Topopah Spring**	**90.08**	**50**	P		**P**	**22 33 42.9**	**+0.2**
ILAR	**Eielson Array**	**91.51**	**17**	P		**P**	**22 33 47.0**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=225,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**91.51**	**17**	P		**P**	**22 33 47.1**	**-1.3**
WMQ	**Urumqi**	**98.81**	**313**	*e*P		Pdif	22 34 24.3	+2.0
ARCES	**ARCESS Array B**	**126.77**	**345**	PKP		**PKPdf**	**22 39 44.3**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=46,slow=5.2,SNR=4.0							
BRG	**Berggiesshubel**	**144.59**	**334**	*i* PKP		**PKPab**	**22 40 16.4**	**-0.5**
	comp=Z,6.3nm,0.7s							
CLL	**Collm**	**144.64**	**335**	*i* PKPdf		**PKPab**	**22 40 16.9**	**-0.3**
	comp=Z,6.0nm,0.7s							
CONA	**Conrad Observa**	**145.86**	**329**	*e*P		**PKPab**	**22 40 21.8**	**-0.1**
	comp=Z,4.5nm,1.0s							
GERES	**GERESS Array B**	**146.22**	**331**	PKPbc		**PKPbc**	**22 40 22.0**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=35,slow=2.9,SNR=18							
GERES	**GERESS Array B**	**146.22**	**331**	PKPdf		**PKPdf**	**22 40 21.1**	**-0.1**
MOA	**Molln**	**146.68**	**330**	*e*P		**PKPbc**	**22 40 23.8**	**+0.1**
	comp=Z,1.4nm,0.8s							
WATA	**Walderalm**	**148.29**	**332**	*e*P		**PKPbc**	**22 40 27.6**	**-0.7**
	comp=Z,1.9nm,0.5s							
ABTA	**Abfaltersbach**	**148.30**	**330**	*e*P		**PKPbc**	**22 40 27.0**	**-1.2**
	comp=Z,3.0nm,0.6s							
WTTA	**Wattenberg**	**148.32**	**331**	*e*P		**PKPbc**	**22 40 27.7**	**-0.7**
	comp=Z,2.1nm,0.6s							
MOTA	**Moosalm**	**148.49**	**332**	*e*P		**PKPbc**	**22 40 28.7**	**0.0**
	comp=Z,6.2nm,1.1s							
SQTA	**Sankt Quirin**	**148.54**	**332**	*e*P		**PKPbc**	**22 40 28.4**	**-0.5**
	comp=Z,4.0nm,0.6s							
FETA	**Feichten**	**148.90**	**332**	*e*P		**PKPbc**	**22 40 29.4**	**-0.4**
	comp=Z,2.0nm,0.6s							

DJA ***26*** *23:20:59.3±0.3, 5°S±3°×12°2E±°, h10km, M4.3/8, mB4.8/4, mb4.7/4, MLv4.2/8, Mw(mB)4.0/4, Sulawesi*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.15**	**60**	P	Pb	22 21 20.4	-0.8
LUWI	**Luwuk**	**3.65**	**18**	P	Pn	22 21 55.5	-0.4
MMRI	**Maumere**	**4.12**	**171**	P	Pn	22 22 01.6	-0.8
EDFI	**Ende, Flores**	**4.19**	**179**	P	Pn	22 22 04.0	+0.5
GTOI	**Gorontalo**	**5.32**	**15**	P	Pn	22 22 20.0	+1.2
	0.2nm674nm47nm,0.5s						
PLAI	**Plampang**	**5.73**	**222**	P	Pn	22 22 25.3	+0.8

IDC ***26*** *23:05:44.5±2.7, 6°27S×130°02E, h96km±37km, mb3.6/2, mb1 3.5/6, mb1mx3.2/41, mbtmp3.8/6, Error ellipse: s-maj=52.6km s-min=19.6km az=91.0*

ISC 26 23:05:42.2±0.8, 6°34S±0°06×130°5E±0°1, h90km, n7, σ2ş92/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.49**	**8**	P	**Pn**	**23 07 04.1**	**+2.6**
	2.9nm,0.3s,baz=241,slow=23,SNR=13						
SIJI				S	**Sn**	**23 08 00.7**	**-2.6**
	3.6nm,0.3s,baz=255,slow=23,SNR=7.6						
BATI	**Baumata**	**7.80**	**240**	S	**Sn**	**23 09 00.1**	**+0.2**
	5.3nm,0.3s,baz=99,slow=16,SNR=2.5						
FITZ	**Fitzroy Crossi**	**12.62**	**202**	P	**Pn**	**23 08 40.2**	**+1.7**
	0.3nm,0.3s,baz=22,slow=10,SNR=19						
FITZ				S	**Sn**	**23 10 54.3**	**-2.9**
	0.6nm,0.3s,baz=263,slow=21,SNR=7.6						
WRA	**Warramunga Arr**	**14.02**	**165**	P	**P**	**23 09 00.6**	**-1.3**
	0.2nm,0.3s,baz=346,slow=13,SNR=18						
WRA				S	**Sn**	**23 11 27.3**	**-4.0**
	0.6nm,0.3s,baz=350,slow=41,SNR=3.7						
ASAR	**Alice Springs**	**17.53**	**170**	P	**Pn**	**23 09 45.7**	**+4.7**
	0.2nm,0.3s,baz=347,slow=10,SNR=8.7						
ASAR				S	**Sn**	**23 12 56.0**	**-0.1**
	0.3nm,0.3s,baz=352,slow=25,SNR=5.3						
CMAR	**Chiang Mai Arr**	**39.72**	**309**	P	**P**	**23 13 04.7**	**-1.5**
	0.7nm,0.5s,baz=138,slow=7.5,SNR=6.5						
MKAR	**Makanchi Array**	**67.96**	**326**	P	**P**	**23 16 30.6**	**-1.0**
	1.3nm,0.6s,baz=109,slow=9.9,SNR=3.5						

IDC ***26*** *23:24:51.4±0.8, 9°96S×113°12E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/33, mbtmp4.2/14, ML3.9/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/25, Error ellipse: s-maj=34.0km s-min=14.4km az=50.0*

DJA ***26*** *23:24:53.1±1.1, 10°S±5°×11°3E±°, h14km±9km, M4.7/12, mB5.2/3, mb4.9/5, MLv4.6/12, Mw(mB)4.5/3*

NEIC ***26*** *23:24:56.0±2.2, 10°28S±0°07×112°81E±0°06, h47km±7km, mb4.5/43, Error ellipse: s-maj=9.6km s-min=9.1km az=205.0*

ISC 26 23:24:55.0±0.4, 10°28S±0°06×112°80E±0°06, h35km, n106, σ1ş18/105, mb4.5/32, MS3.2/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.24**	**37**	P	**Pn**	**23 25 31.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.24**	**37**	Pn	**Pn**	**23 25 30.1**	**+0.5**
JAGI				Sn	**Sn**	**23 25 55.9**	**0.0**
DNP	**Denpasar**	**2.86**	**56**	P	**Pn**	**23 25 39.5**	**+1.4**
WOJI	**Wonogiri, Jawa**	**3.05**	**322**	P	**Pn**	**23 25 41.0**	**+0.2**
UGM	**Wanagama**	**3.25**	**316**	P	**Pn**	**23 25 44.0**	**+0.4**
UGM	**Wanagama**	**3.25**	**316**	Pn	**Pn**	**23 25 44.4**	**+0.8**
KMMI	**Kalianget**	**3.41**	**20**	P	**Pn**	**23 25 47.0**	**+1.3**
YOGI	**Yogyakarta**	**3.48**	**314**	P	**Pn**	**23 25 47.0**	**+0.4**
SMRI	**Semarang**	**3.96**	**324**	Pn	**Pn**	**23 25 55.0**	**+1.7**
TWSI	**Taliwang, Sumb**	**4.31**	**70**	P	**Pn**	**23 25 58.3**	**+0.2**
PLAI	**Plampang**	**5.12**	**74**	P	**Pn**	**23 26 09.9**	**+0.7**
	0.6nm1μm115nm,0.6s						
CISI	**Cisompet, Garu**	**5.62**	**298**	P	**Pn**	**23 26 16.9**	**+0.8**
	0.7nm5μm78nm,0.6s						
CISI	**Cisompet, Garu**	**5.62**	**298**	Pn	**Pn**	**23 26 17.1**	**+0.9**
LEM	**Lembang**	**6.16**	**303**	Pn	**Pn**	**23 26 27.1**	**+3.3**
	2.6nm,0.3s,baz=286,slow=21,SNR=2.0						
LEM				LR	LR	23 29 28.4	
	comp=Z,268nm,19.4s,baz=122,slow=44						
XMIS	**Christmas Isla**	**7.04**	**268**	Pn	**Pn**	**23 26 35.2**	**-0.3**
BASI	**Baing, Sumba**	**7.66**	**90**	P	**Pn**	**23 26 44.6**	**+0.5**
KAPI	**Kappang**	**8.65**	**53**	LR	LR	23 31 08.5	
	comp=Z,403nm,18.0s,baz=222,slow=46						
MMRI	**Maumere**	**9.45**	**81**	Pn	**Pn**	**23 27 10.0**	**+1.2**
SOEI	**Soe**	**11.31**	**88**	Pn	**Pn**	**23 27 35.1**	**+0.8**
MNAI	**Manna**	**11.39**	**300**	Pn	**Pn**	**23 27 35.9**	**+0.6**
GIRL	**Giralia**	**12.38**	**174**	Pn	**Pn**	**23 27 47.6**	**-1.2**
PSA00	**Pilbara Seismi**	**13.11**	**150**		**Pn**	**23 27 57.5**	**-1.3**
PSA00	**Pilbara Seismi**	**13.11**	**150**	Pn	**Pn**	**23 27 58.8**	**0.0**
FITZ	**Fitzroy Crossi**	**14.67**	**123**	Pn	**Pn**	**23 28 17.6**	**-2.5**
	0.4nm,0.3s,baz=264,slow=7.1,SNR=8.3						
FITZ				Sn	Sn	23 30 49.0	-13
	0.6nm,0.3s,baz=105,slow=15,SNR=5.6						
FITZ	**Fitzroy Crossi**	**14.67**	**123**	Pn	**Pn**	**23 28 18.3**	**-1.9**
COCO	**West Island**	**15.78**	**262**	Pn	**Pn**	**23 28 34.9**	**+0.3**
MYLDM	**Lahad Datu**	**16.37**	**21**	Pn	**Pn**	**23 28 43.1**	**+0.9**
KNRA	**Kununurra**	**16.45**	**111**	Pn	**Pn**	**23 28 42.8**	**-0.5**
KNRA				IAmb	IAmb	23 29 00.1	
	comp=Z,51nm,1.5s						
MTN	**Manton Dam**	**18.14**	**100**	P	**P**	**23 29 05.1**	**+0.7**
MORW	**Morawa**	**18.94**	**171**	P	**P**	**23 29 13.0**	**-0.1**
KULM	**Kulim**	**19.63**	**321**	P	**P**	**23 29 17.8**	**-2.9**
FAKI	**Fak Fak**	**20.64**	**71**	P	**P**	**23 29 30.9**	**-0.9**
FAKI				IAmb	IAmb	23 29 39.3	
	comp=Z,29nm,1.0s						
WB0	**Warramunga Arr**	**22.87**	**117**	P	**P**	**23 29 55.9**	**+0.3**
WB0				IAmb	IAmb	23 30 04.6	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**22.88**	**117**	P	**P**	**23 29 54.2**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=291,slow=11,SNR=22						
WRA				PcP	**PcP**	**23 33 48.4**	**+2.5**
	comp=Z,1.6nm,1.1s,baz=319,slow=1.8,SNR=4.7						
WRA				LR	LR	23 40 33.1	
	comp=Z,80nm,18.2s,baz=295,slow=41						
WRA	**Warramunga Arr**	**22.88**	**117**	P	**P**	**23 29 56.0**	**+0.2**
WRAB	**Tennant Creek**	**22.89**	**117**	P	**P**	**23 29 56.8**	**+0.9**
WRAB				IAmb	IAmb	23 30 06.7	
	comp=Z,16nm,1.2s						
WB2	**Warramunga Arr**	**22.89**	**117**	P	**P**	**23 29 57.3**	**+1.4**
WB2				IAmb	IAmb	23 30 06.7	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**22.91**	**170**	P	**P**	**23 29 55.9**	**0.0**
NWAO				IAmb	IAmb	23 30 10.1	
	comp=Z,30nm,1.4s						
NWAO	**Narrogin (SRO)**	**22.91**	**170**	P	**P**	**23 29 56.2**	**+0.3**
NWAO				IAmb	IAmb	23 30 10.1	
	comp=Z,37nm,1.4s						
WR0	**Warramunga Arr**	**23.07**	**117**	P	**P**	**23 29 58.5**	**+0.9**
WR0				IAmb	IAmb	23 30 08.7	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**24.14**	**126**	P	**P**	**23 30 08.7**	**+0.7**
ASAR	**Alice Springs**	**24.14**	**126**	P	**P**	**23 30 09.1**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=300,slow=9.4,SNR=22						
ASAR				PcP	**PcP**	**23 33 51.0**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=280,slow=1.9,SNR=4.8						
ASAR				LR	LR	23 39 47.7	
	comp=Z,56nm,19.7s,baz=294,slow=37						
ASAR	**Alice Springs**	**24.14**	**126**	P	**P**	**23 30 09.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**31.66**	**334**	P	**P**	**23 31 15.9**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=169,slow=7.9,SNR=21						
CMAR				LR	LR	23 45 36.6	
	comp=Z,147nm,18.0s,baz=190,slow=40						
STKA	**Stephens Creek**	**34.22**	**133**	P	**P**	**23 31 39.3**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=304,slow=9.9,SNR=4.9						
STKA				LR	LR	23 45 48.7	
	comp=Z,57nm,19.8s,baz=205,slow=37						
STKA	**Stephens Creek**	**34.22**	**133**	P	**P**	**23 31 38.5**	**+1.0**
NACB	**Ninganchiao**	**35.30**	**14**	P	**P**	**23 31 47.0**	**+0.1**
ENH	**Enshi**	**40.44**	**356**	P	**P**	**23 32 29.7**	**-0.5**
SHL	**Shillong**	**41.04**	**331**	P	**P**	**23 32 35.2**	**-0.1**
SHL				IAmb	IAmb	23 32 36.8	
	comp=Z,21nm,1.1s						
CD2	**Chengdu**	**41.86**	**348**	P	**P**	**23 32 42.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				pmax	pmax		
	comp=Z,240nm,5.8s						
NJ2	**Nanjing**	**42.48**	**8**	*e*P	**P**	**23 32 48.5**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**44.22**	**355**	P	**P**	**23 33 00.3**	**-0.7**
XAN				IAmb	IAmb	23 33 13.3	
	comp=Z,6.6nm,0.8s						
ODAN	**Odare**	**44.40**	**327**	*e*P	**P**	**23 33 02.5**	**-0.2**
	comp=Z,15nm,0.6s						
TAPN	**Taplejung**	**44.62**	**328**	*e*P	**P**	**23 33 04.8**	**+0.3**
	comp=Z,20nm,0.7s						
LSA	**Lhasa**	**44.88**	**333**	P	**P**	**23 33 07.2**	**+0.4**
LSA				IAmb	IAmb	23 33 09.2	
	comp=Z,6.2nm,0.8s						
PKI	**Pulchoki**	**46.04**	**325**	*e*P	**P**	**23 33 15.6**	**-0.3**
	comp=Z,15nm,0.9s						
GUN	**Gumba**	**46.05**	**326**	*e*P	**P**	**23 33 16.4**	**+0.5**
	comp=Z,22nm,0.5s						
PKIN	**Phulchoki**	**46.05**	**325**	*e*P	**P**	**23 33 15.9**	**0.0**
	comp=Z,5.4nm,0.5s						
DMN	**Daman**	**46.24**	**325**	*e*P	**P**	**23 33 17.5**	**+0.1**
	comp=Z,57nm,1.0s						
KKN	**Kakani**	**46.28**	**326**	*e*P	**P**	**23 33 17.7**	**+0.1**
	comp=Z,13nm,0.7s						
GKN	**Gorkha**	**46.81**	**325**	*e*P	**P**	**23 33 21.7**	**0.0**
	comp=Z,32nm,0.9s						
KOLN	**Koldanda**	**47.22**	**324**	*e*P	**P**	**23 33 25.1**	**+0.1**
	comp=Z,25nm,0.6s						
DANN	**Dangsing**	**47.57**	**325**	*e*P	**P**	**23 33 27.9**	**+0.1**
	comp=Z,40nm,0.6s						
PYUN	**Piuthan**	**47.83**	**324**	*e*P	**P**	**23 33 29.8**	**+0.1**
	comp=Z,22nm,0.7s						
INCN	**Inchon**	**49.25**	**15**	P	**P**	**23 33 36.3**	**-3.9**
KSAR	**Wonju Array Be**	**49.53**	**16**	P		**23 33 37.3**	**-5.0**
KSRS	**Korea Array**	**49.55**	**16**	LR	LR	23 57 57.4	
	comp=Z,13nm,19.1s,baz=355,slow=40						
HHC	**Hu-ho-hao-te**	**50.88**	**359**	*e*P	**P**	**23 33 53.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.4s						
GTA	**Gaotai**	**50.88**	**347**	*e*P	**P**	**23 33 54.0**	**+1.3**
GTA				pP	pP	23 34 04.0	+1.6
GTA				sP	sP	23 34 07.8	+1.6
GTA				sS	sS	23 41 29.5	+6.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,60nm,6.5s						
GTA				LR	LR		
	comp=N,130nm,14.9s						
GTA				LR	LR		
	comp=E,120nm,16.0s						
GTA				LR	LR		
	comp=Z,140nm,15.6s						
MJAR	**Matsushiro Arr**	**52.35**	**26**	P	**P**	**23 34 02.3**	**-1.3**
	comp=Z,9.2nm,1.0s,baz=179,slow=8.4,SNR=4.5						
USRK	**Ussuriysk Ar.**	**56.95**	**16**	P	**P**	**23 34 36.2**	**-0.6**

comp=Z,2.6nm,0.8s,baz=185,slow=6.7,SNR=6.8
USRK Ussuriysk Ar. 56.95 16 P **P** **23 34 37.3 +0.6**
NIL Nilore 57.64 321 P **P** **23 34 40.7 -1.2**
NIL IAmb IAmb 23 34 57.2
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 58.11 355 P **P** **23 34 44.1 -0.9**
ULN IAmb IAmb 23 34 56.5
comp=Z,3.9nm,0.5s
SONM Songino Array 58.13 355 P **P** **23 34 45.0 -0.2**
comp=Z,1.9nm,0.4s,baz=172,slow=8.5,SNR=7.1
SONM PcP **PcP** **23 35 37.5 +0.9**
comp=Z,0.8nm,0.5s,baz=160,slow=4.6,SNR=1.6
SONM Songino Array 58.13 355 P **P** **23 34 45.2 0.0**
WMQ Urumqi 58.48 339 *eP* **P** **23 34 49.3 +1.6**
KBL Kabul 60.87 319 P **P** **23 35 03.2 -1.3**
KBL IAmb IAmb 23 35 20.2
comp=Z,7.8nm,1.4s
MSWZ Moikau Station 62.67 131 P **P** **23 35 16.3 0.0**
MKAR Makanchi Array 63.01 337 P **P** **23 35 19.0 +0.6**
comp=Z,1.7nm,0.5s,baz=149,slow=8.5,SNR=20
FRU1 Bishkek 63.30 329 P **P** **23 35 19.9 -0.5**
CHGR Chuyangaron 63.42 323 P **P** **23 35 20.4 -1.1**
KK31 Karatay Array 65.63 327 P **P** **23 35 34.6 -1.0**
KKAR Karatay Array 65.63 327 P **P** **23 35 35.5 -0.2**
KKAR Karatay Array 65.63 327 P **P** **23 35 34.5 -1.1**
KKAR IAmb IAmb 23 35 52.3
comp=Z,2.3nm,0.8s
KURK Kurchatov 67.62 337 P **P** **23 35 47.9 -0.2**
KURK IAmb IAmb 23 35 49.4
comp=Z,3.7nm,0.8s
ZAA0 Zalesovo Array 68.23 343 IAmb IAmb 23 35 52.6
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 68.23 343 P **P** **23 35 51.5 -0.4**
comp=Z,2.8nm,0.6s,baz=148,slow=4.4,SNR=12
ZALV Zalesovo Beam 68.23 343 P **P** **23 35 52.0 +0.1**
GEYT Alibeck 70.04 317 P **P** **23 36 05.0 +1.4**
comp=Z,2.6nm,0.9s,baz=156,slow=8.1,SNR=6.6
GEYT Alibeck 70.04 317 P **P** **23 36 03.3 -0.2**
GYA0B ALIBECK ARRAY 70.04 317 P **P** **23 36 02.6 -0.9**
GYA0B IAmb IAmb 23 36 06.0
comp=Z,8.8nm,1.2s
DAMY Dhamar 72.16 289 P **P** **23 36 15.2 -1.9**
BRVK Borovoye 72.75 335 P **P** **23 36 19.6 +0.1**
PETK Petropavlovsk- 73.81 26 P **P** **23 36 22.4 -3.3**
ABKAR Akbulak array 75.20 327 P **P** **23 36 34.4 +0.5**
ABKAR Akbulak array 75.20 327 IAmb IAmb 23 36 50.3
comp=Z,5.0nm,0.8s
KNTN Kanton 75.23 90 P **P** **23 36 33.3 -1.6**
NRIK Noril'sk 81.36 351 P **P** **23 37 08.3 +0.8**
comp=Z,2.9nm,0.9s,baz=126,slow=3.8,SNR=4.9
TIXI Tiksi 82.45 5 P **P** **23 37 12.8 -0.4**
GAZ Gaziantep 84.89 309 P **P** **23 37 27.0 +0.3**
GAZ IAmb IAmb 23 37 32.2
comp=Z,3.8nm,0.9s
BR131 Keskin Array S 88.28 311 P **P** **23 37 41.3 -1.9**
BR131 IAmb IAmb 23 37 45.3
comp=Z,4.5nm,1.1s
BRTR Keskin Array B 88.28 311 P **P** **23 37 44.4 +1.1**
comp=Z,1.9nm,0.9s,baz=126,slow=6.3,SNR=5.7
BRTR Keskin Array B 88.28 311 P **P** **23 37 43.5 +0.3**
TORD Torodi Ar. Bea 112.66 280 PKiKP **PKiKP** **23 43 30.4 +1.5**
comp=Z,0.3nm,0.6s,baz=30,slow=1.6,SNR=6.1
BDFB Brasilia 148.00 217 PKPbc **PKPab** **23 44 40.8 +0.3**
comp=Z,3.0nm,0.6s,baz=191,slow=11,SNR=5.3

*CNRM **26** 23:32:09.2, 34°.23N×3°.84W, h0km*
*INMG **26** 23:32:12.3±1.3, 34°.31N×3°.93W, h10km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.9km az=116.0*
*MDD **26** 23:32:12.4±1.3, 34°.32N×3°.94W, h9km±11km, mb3.6/5, Error ellipse: s-maj=13.8km s-min=6.3km az=178.0, PRXIMO*
*SFS **26** 23:32:13.0, 34°.45N×3°.99W, ML3.6, BAB EL MAROUJ (MARRUECOS)*
ISC 26 23:32:10.8±1.1, 34°.31N±0°.03×3°.91W±0°.02, h15km±9km, n63, σ1§19/112, 2C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.90**	**358**	P	**Pn**	**23 32 29.1**	**+0.1**
PALE				S	**Sn**	**23 32 41.9**	**+0.1**
PVLZ	**Peæn de**	**0.92**	**340**	P	**Pb**	**23 32 28.9**	**+0.5**
PVLZ				S	**Sn**	**23 32 41.8**	**-0.3**
PVLZ	**Peæn de**	**0.92**	**340**	*iP*	**Pb**	**23 32 28.9**	**+0.5**
PVLZ				*eS*	**Sn**	**23 32 41.8**	**-0.3**
GOG	**Mont Gurugu**	**1.18**	**39**	P	**Pg**	**23 32 31.5**	**-2.1**
GOG				S	**Sg**	**23 32 48.5**	**-0.5**
SICH	**Sidi Chahed**	**1.18**	**260**	P	**Pg**	**23 32 33.0**	**-0.7**
SICH				S	**Sb**	**23 32 48.8**	**+0.7**
EMEL	**Melilla**	**1.26**	**38**	P	**Pg**	**23 32 35.1**	**0.0**
	110nm,0.2s,SNR=13						
EMEL				S	**Sn**	**23 32 51.8**	**+1.2**
	62nm,0.2s						
MELI	**Melilla**	**1.27**	**39**	P	**Pg**	**23 32 35.1**	**-0.1**
	112nm,0.3s,SNR=7.9						
MELI				S	**Sg**	**23 32 51.5**	**-0.3**
	5.6nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.27**	**39**	*iP*	**Pg**	**23 32 35.2**	**0.0**
MELI				*eS*	**Sg**	**23 32 51.5**	**-0.3**
IFR	**Ifrane**	**1.28**	**232**	*iP*	**Pn**	**23 32 33.5**	**-0.9**
IFR				*eS*	**Sb**	**23 32 49.2**	**-2.0**
TAF	**Taforalt**	**1.33**	**67**	P	**Pn**	**23 32 33.8**	**-1.2**
TAF				S	**Sb**	**23 32 52.4**	**-0.1**
CZD	**Col de Zad**	**1.59**	**217**	P	**Pn**	**23 32 39.3**	**+0.6**
CZD				S	**Sb**	**23 33 01.2**	**+1.2**
MDT	**Midelt**	**1.60**	**201**	P	**Pn**	**23 32 39.2**	**+0.5**
MDT				S	**Sn**	**23 32 59.3**	**+0.1**
RSA	**Sarsar**	**1.68**	**290**	S	**Sg**	**23 33 06.1**	**+1.2**
EALB	**Alboran**	**1.78**	**24**	P	**Pb**	**23 32 43.9**	**+0.8**
	3.3nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**23 33 03.7**	**+0.4**
	2.6nm,0.1s,SNR=7.9						
SMIR	**Smir Dam**	**1.82**	**319**	P	**Pg**	**23 32 44.8**	**-1.1**
SMIR				S	**Sg**	**23 33 10.5**	**+0.9**
CEU	**Ceuta**	**1.99**	**323**	P	**Pb**	**23 32 47.1**	**+0.5**
CEU				S	**Sn**	**23 33 07.2**	**-1.3**
CEU	**Ceuta**	**1.99**	**323**	*eP*	**Pb**	**23 32 47.1**	**+0.5**
CEU				*eS*	**Sn**	**23 33 07.2**	**-1.3**
ECEU	**Ceuta**	**1.99**	**323**	P	**Pn**	**23 32 44.9**	**+0.9**
	2.4nm,0.2s,SNR=4.0						
ECEU				S	**Sn**	**23 33 08.1**	**-0.4**
	1.1nm,0.1s,SNR=7.9						
TDRA	**Tendrara**	**2.02**	**128**	P	**Pn**	**23 32 44.0**	**-0.4**
EMAL	**Malaga-Limoner**	**2.48**	**350**	P	**Pn**	**23 32 50.4**	**-0.3**
EMAL				S	**Sn**	**23 33 19.6**	**-1.1**
EMAL	**Malaga-Limoner**	**2.48**	**350**	*eP*	**Pn**	**23 32 50.4**	**-0.3**
EMAL				*eS*	**Sn**	**23 33 19.6**	**-1.1**
ELGU	**Los Guajares,**	**2.56**	**5**	P	**Pn**	**23 32 50.7**	**-1.2**
	0.9nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**23 33 20.8**	**-2.0**
	1.8nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.71**	**18**	P	**Pn**	**23 32 54.3**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**23 33 27.6**	**+0.9**
	2.5nm,0.2s,SNR=10						
GOLM	**Goulmima**	**2.74**	**199**	Lg	Lg	23 33 36.0	
EGOR	**Sierra Gorda,**	**2.80**	**357**	P	**Pn**	**23 32 55.5**	**+0.3**
	0.9nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**23 33 26.6**	**-2.1**
	0.8nm,0.3s,SNR=7.9						
ARF	**Arif**	**2.88**	**185**	Lg	Lg	23 33 36.2	
EQUE	**Quentar**	**2.91**	**7**	P	**Pn**	**23 32 57.7**	**+1.0**
	0.8nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**23 33 29.6**	**-1.9**
	0.8nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**3.00**	**27**	S	**Sn**	**23 33 33.3**	**-0.1**
	2.2nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.00**	**329**	S	**Sn**	**23 33 33.7**	**+0.1**
	4.6nm,0.2s,SNR=7.9						
AVE	**Averroes**	**3.09**	**252**	P	**Pn**	**23 33 00.6**	**+1.6**
AVE				Lg	Lg	23 33 46.3	
EQES	**Quesada**	**3.55**	**11**	P	**Pn**	**23 33 07.3**	**+1.8**
	1.2nm,0.2s,SNR=12						
EQES				S	**Sn**	**23 33 49.0**	**+1.8**
	0.8nm,0.2s,SNR=5.3						
TZRR	**Tazzarine**	**3.79**	**202**	P	**Pn**	**23 33 07.6**	**-1.1**
TZRR				Lg	Lg	23 34 07.6	
EADA	**Adamuz**	**3.89**	**352**	P	**Pn**	**23 33 11.4**	**+1.4**
	0.6nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**23 33 54.3**	**-1.1**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.95**	**342**	P	**Pn**	**23 33 11.9**	**+1.0**
	0.3nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**23 33 56.2**	**-0.8**
	5.1nm,0.4s,SNR=7.4						
SESP	**Santiago Espad**	**3.96**	**16**	P	**Pn**	**23 33 12.6**	**+1.5**
	0.8nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**23 33 58.3**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.11**	**328**	P	**Pn**	**23 33 13.9**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**23 33 58.7**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
OUZM	**OUZ**	**4.16**	**216**	P	**Pn**	**23 33 16.8**	**+2.9**
EGRO	**El Granado**	**4.33**	**319**	P	**Pn**	**23 33 16.6**	**+0.5**
	1.5nm,0.3s,SNR=7.5						
EGRO				S	**Sn**	**23 34 03.2**	**-3.1**
	0.3nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.37**	**316**	P	**Pn**	**23 33 17.3**	**+0.7**
PVAQ				S	**Sn**	**23 34 06.9**	**-0.4**
	5.4nm,0.2s						
PVAQ	**Vaqueiros**	**4.37**	**316**	*eP*	**Pn**	**23 33 17.3**	**+0.7**
PVAQ				*eSn*	**Sn**	**23 34 06.9**	**-0.4**
PVAQ				A	A	23 34 07.7	
	5.4nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.39**	**313**	P	**Pn**	**23 33 17.3**	**+0.4**
PBDV				S	**Sn**	**23 34 06.5**	**-1.3**
	2.3nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.39**	**313**	*eP*	**Pn**	**23 33 17.3**	**+0.4**
PBDV				*eSn*	**Sn**	**23 34 06.5**	**-1.3**
PBDV				A	A	23 34 19.4	
	2.3nm,0.6s						
PCVE	**Castro Verde**	**4.71**	**316**	P	**Pn**	**23 33 22.0**	**+0.7**
PCVE				S	**Sn**	**23 34 15.3**	**-0.4**
	2.0nm,0.5s						
PCVE	**Castro Verde**	**4.71**	**316**	*eP*	**Pn**	**23 33 22.0**	**+0.7**
PCVE				*eSn*	**Sn**	**23 34 15.3**	**-0.4**
PCVE				A	A	23 34 20.7	
	2.0nm,0.5s						
ETOB	**Tobarra**	**4.72**	**23**	P	**Pn**	**23 33 23.1**	**+1.5**
	0.6nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**23 34 15.0**	**-1.2**
	0.2nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**4.88**	**309**	P	**Pn**	**23 33 24.5**	**+0.8**
MORF				S	**Sn**	**23 34 19.1**	**-0.8**
	2.2nm,0.1s						
MORF	**Marmelete**	**4.88**	**309**	*eP*	**Pn**	**23 33 24.5**	**+0.8**
MORF				*eSn*	**Sn**	**23 34 19.1**	**-0.8**
MORF				A	A	23 34 22.0	
	2.2nm,0.1s						
PFVI	**Vila Bisbo**	**4.89**	**307**	P	**Pn**	**23 33 23.7**	**-0.1**
	3.3nm,0.4s,SNR=7.9						
PFVI				S	**Sn**	**23 34 17.8**	**-2.4**
	1.5nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.89**	**307**	*eP*	**Pn**	**23 33 24.0**	**+0.2**
PFVI				*eSn*	**Sn**	**23 34 19.8**	**-0.4**
PFVI				A	A	23 34 31.7	
	3.6nm,0.5s						
PTEO	**Sao Teotonio**	**5.07**	**311**	P	**Pn**	**23 33 26.7**	**+0.5**
PTEO				S	**Sn**	**23 34 24.1**	**-0.4**
	1.6nm,0.8s						
PTEO	**Sao Teotonio**	**5.07**	**311**	*eP*	**Pn**	**23 33 26.7**	**+0.5**
PTEO				*eSn*	**Sn**	**23 34 24.1**	**-0.4**
PTEO				A	A	23 34 33.1	
	3.1nm,0.8s						
PAB	**San Pablo**	**5.24**	**356**	P	**Pn**	**23 33 30.2**	**+1.6**
	0.1nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**23 34 28.8**	**0.0**
	1.3nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.32**	**317**	P	**Pn**	**23 33 30.5**	**+0.8**
PNCL				S	**Sn**	**23 34 29.5**	**-1.3**
	1.9nm,0.6s						
PNCL	**Nicolau / Gran**	**5.32**	**317**	*eP*	**Pn**	**23 33 30.5**	**+0.8**
PNCL				*eSn*	**Sn**	**23 34 29.5**	**-1.3**
PNCL				A	A	23 34 32.4	
	1.9nm,0.6s						
ESDC	**Sonseca Array**	**5.35**	**360**	P	**Pn**	**23 33 32.2**	**+1.9**
	0.1nm,0.3s,baz=180,slow=12,SNR=3.8						
ESDC				S	**Sn**	**23 34 28.9**	**-2.7**
	0.6nm,0.6s,baz=189,slow=22,SNR=46						
EVO	**Evora**	**5.36**	**323**	P	**Pn**	**23 33 31.4**	**+1.2**
EVO				S	**Sn**	**23 34 29.5**	**-2.1**
	2.5nm,0.3s						
EVO	**Evora**	**5.36**	**323**	*eP*	**Pn**	**23 33 31.4**	**+1.2**
EVO				*eSn*	**Sn**	**23 34 29.5**	**-2.1**
EVO				A	A	23 34 32.9	
	2.5nm,0.3s						
PMRV	**Marv??o**	**5.82**	**332**	P	**Pn**	**23 33 37.6**	**+1.0**
PMRV				S	**Sn**	**23 34 40.8**	**-2.3**
	1.3nm,0.5s						
PMRV	**Marv??o**	**5.82**	**332**	*eP*	**Pn**	**23 33 37.6**	**+1.0**
PMRV				*eSn*	**Sn**	**23 34 40.8**	**-2.3**
PMRV				A	A	23 34 57.5	
	1.3nm,0.5s						
PMAFR	**Mafra**	**6.33**	**319**	*eSn*	**Sn**	**23 34 55.3**	**-0.4**
PSBE	**So Bento**	**6.50**	**324**	*eP*	**Pn**	**23 33 47.9**	**+1.9**
PSBE				*eSn*	**Sn**	**23 34 59.4**	**-0.5**
MTE	**Manteigas**	**6.73**	**336**	S	**Sn**	**23 35 05.0**	**-0.6**
MTE	**Manteigas**	**6.73**	**336**	*eSn*	**Sn**	**23 35 05.0**	**-0.6**

*IDC **27** 00:02:42.1±0.5, 5°.27N×97°.84E, h0km, mb4.4/20, mb1 4.4/22, mb1mx4.3/41, mbtmp4.3/22, ML3.8/2, MS3.8/21, Ms1 3.8/21, ms1mx3.7/47, Error ellipse: s-maj=23.3km s-min=12.3km az=59.0*
*BJI **27** 00:02:46.6±0.0, 5°.32N×97°.96E, h42km, mB4.9/33, mb4.7/51, Ms4.6/32, Ms7 4.4/32*
*DJA **27** 00:02:47.7±0.4, 5°N±2°×9°8E±°, h38km±6km, M4.8/17, mb4.6/17, mB5.7/2, MLv4.8/12, Mw(mB)5.2/2*
*NEIC **27** 00:02:49.6±1.9, 5°.29N±0°.03×97°.98E±0°.04, h60km±5km, mb4.7/65, Error ellipse: s-maj=6.4km s-min=3.0km az=60.0*
*KLM **27** 00:02:50.0, 5°.27N×97°.93E, h69km, mb4.6*
ISC 27 00:02:47.9±0.3, 5°39N±0°04×97°97E±0°03, h35km, n208, σ1§69/208, mb4.7/62, MS3.9/25, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.03**	**261**	P	**Pn**	**00 03 06.7**	**+0.8**
LHMI				S	**Sn**	**00 03 23.3**	**+4.2**
LHMI	**Lhok Sumawe**	**1.03**	**261**	Pn	**Pn**	**00 03 08.1**	**+2.2**
LHMI				Sn	**Sn**	**00 03 23.4**	**+4.3**
MLSI	**Meulaboh, Aceh**	**1.92**	**234**	P	**Pn**	**00 03 19.8**	**+1.7**
TSI	**Tuntungan**	**1.97**	**163**	P	**Pn**	**00 03 18.1**	**-0.7**
TPTI		**2.26**	**200**	P	**Pn**	**00 03 23.9**	**+1.1**
PKDT	**Phuket**	**2.51**	**8**	P	**Pn**	**00 03 23.2**	**-3.0**
KULM	**Kulim**	**2.67**	**92**	Pn	**Pn**	**00 03 29.8**	**+1.4**
KULM				Sn	**Sn**	**00 04 05.8**	**+6.3**
KULM	**Kulim**	**2.67**	**92**	P	**Pn**	**00 03 31.0**	**+2.6**
PSI	**Prapat**	**2.74**	**160**	Pn	**Pn**	**00 03 29.2**	**-0.3**
	7.3nm,0.3s,baz=349,slow=11,SNR=15						
PSI				Lg	Lg	00 04 13.2	
	260nm,0.3s,baz=0.1,slow=19,SNR=10						
PSI				LR	LR	00 04 58.4	
	comp=Z,3µm,18.7s,baz=288,slow=49						
RPSI	**Rantau Prapat**	**2.84**	**160**	Pn	**Pn**	**00 03 30.1**	**-0.6**
RPSI	**Rantau Prapat**	**2.84**	**160**		**Pn**	**00 03 29.2**	**-1.5**
TRTT	**Trang**	**2.97**	**35**	P	**Pn**	**00 03 29.7**	**-2.8**
IPM	**Ipoh**	**3.17**	**106**	Pn	**Pn**	**00 03 36.7**	**+1.3**
IPM				Sn	**Sn**	**00 04 16.2**	**+4.1**
IPM	**Ipoh**	**3.17**	**106**	P	**Pn**	**00 03 37.0**	**+1.6**
SRIT	**Nakonsritamara**	**3.57**	**27**	P	**Pn**	**00 03 37.2**	**-3.6**
SRIT	**Nakonsritamara**	**3.57**	**27**	Pn	**Pn**	**00 03 43.1**	**+2.4**
SURT	**Suratani**	**3.63**	**13**	P	**Pn**	**00 03 38.5**	**-3.1**
GSI	**Gunungsitoli**	**4.08**	**186**	P	**Pn**	**00 03 45.5**	**-2.3**
GSI	**Gunungsitoli**	**4.08**	**186**	Pn	**Pn**	**00 03 48.9**	**+1.1**
MNSI	**Mandailing Nat**	**4.84**	**161**	P	**Pn**	**00 03 58.8**	**+0.5**
BKNI	**Bangkinang**	**5.89**	**149**	Pn	**Pn**	**00 04 13.1**	**+0.4**
SISI	**Saibi**	**6.77**	**170**	P	Pn	00 04 27.5	+2.7
	0.2nm30nm,1.5s						
PHET	**Kaeng Krachan**	**7.65**	**12**	P	**Pn**	**00 04 35.7**	**-1.1**
PATY	**Pattaya**	**8.01**	**21**	P	**Pn**	**00 04 40.8**	**-1.0**
PBA	**Port Blair**	**8.09**	**321**	Pn	Pn	00 04 44.4	+1.5
SRDT	**SRDT**	**8.97**	**7**	P	**Pn**	**00 04 52.6**	**-2.4**
CHAI	**Chaiyaphum**	**11.16**	**20**	P	**Pn**	**00 05 22.6**	**-2.5**
KLSI		**12.08**	**146**	P	**Pn**	**00 05 37.7**	**+0.1**
	5.5nm,1.2s						
DLV	**T Lat**	**12.26**	**57**	Pn	**Pn**	**00 05 42.6**	**+2.3**
KSM	**Kuching**	**12.91**	**107**	Pn	**Pn**	**00 05 50.8**	**+1.8**
CM31	**Chiang Mai Arr**	**13.02**	**4**	Pn	**Pn**	**00 05 52.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**13.02**	**4**	Pn	**Pn**	**00 05 50.7**	**+0.2**
	0.3nm,0.3s,baz=197,slow=14,SNR=12						
CMAR				Lg	Lg	00 09 31.9	
	1.9nm,0.3s,baz=201,slow=31,SNR=10						
CMAR				LR	LR	00 10 41.4	
	comp=Z,528nm,18.4s,baz=222,slow=36						
CMAR	**Chiang Mai Arr**	**13.02**	**4**	Pn	**Pn**	**00 05 51.9**	**+1.4**
CHTO	**Chiang Mai**	**13.37**	**4**	Pn	**Pn**	**00 05 55.7**	**+0.4**
LEM	**Lembang**	**15.49**	**141**	LR	LR	00 12 42.2	
	comp=Z,435nm,19.7s,baz=346,slow=39						
SLVN	**Son La**	**16.86**	**19**	Pn	**Pn**	**00 06 41.7**	**+0.4**
PALK	**Pallekele**	**17.27**	**277**	P	**P**	**00 06 47.7**	**+0.1**
	0.1nm,0.3s,baz=120,slow=20,SNR=6.1						
PALK				LR	LR	00 13 53.0	
	comp=Z,282nm,18.7s,baz=191,slow=39						
PALK	**Pallekele**	**17.27**	**277**	P	**P**	**00 06 47.2**	**-0.4**
SAIH	**SAIHA**	**17.67**	**345**	*eP*	**Pn**	**00 06 50.6**	**-0.9**
SAIH				IAmb	IAmb	00 06 54.6	
	comp=Z,61nm,1.0s						
QIZ	**Qiongzhong**	**17.82**	**39**	P	**P**	**00 06 53.8**	**+0.1**
QIZ				S	**S**	**00 10 17.0**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,230nm,8.8s						
QIZ				LR	LR		
	comp=Z,700nm,14.7s						
QIZ				LR	LR		
	comp=Z,760nm,16.7s						
QIZ				LR	LR		
	comp=Z,830nm,11.6s						
MDRS	**Chennai**	**19.07**	**295**	*eP*	**Pn**	**00 07 10.4**	**+1.9**
MDRS				IAmb	IAmb	00 07 11.8	
	comp=Z,41nm,0.9s						
BKB	**Balikpapan**	**20.02**	**109**	P	**P**	**00 07 16.1**	**-1.8**
KMI	**Kunming**	**20.14**	**13**	*iP*	Pn	00 07 22.0	+0.6
KMI				pP	pP	00 07 29.8	+1.2
KMI				PP	**PnPn**	**00 07 45.3**	**+8.8**
KMI				S	**S**	**00 10 58.8**	**-5.2**
KMI				sS	sS	00 11 15.3	-3.3
KMI				pmax	pmax		
	comp=Z,23nm,0.9s						
KMI				pmax	pmax		
	comp=Z,130nm,3.8s						
KMI				LR	LR		
	comp=Z,960nm,12.6s						
KMI				LR	LR		
	comp=Z,600nm,10.6s						
KMI				LR	LR		
	comp=Z,1µm,13.5s						
KMI	**Kunming**	**20.14**	**13**	P	**P**	**00 07 20.7**	**+1.3**
KMI				IAmb	IAmb	00 07 22.6	
	comp=Z,17nm,0.7s						
MYLDM	**Lahad Datu**	**20.44**	**90**		Pn	00 07 23.6	-1.2
MYLDM				IAmb	IAmb	00 07 29.9	
	comp=Z,44nm,1.1s						
KOHI	**KOHIMA**	**20.55**	**350**	*eP*	**P**	**00 07 22.3**	**-1.4**
KOHI				IAmb	IAmb	00 07 28.5	
	comp=Z,74nm,1.0s						
SHL	**Shillong**	**20.89**	**344**	*eP*	**P**	**00 07 26.9**	**-0.6**
SHL				IAmb	IAmb	00 07 30.7	
	comp=Z,53nm,0.6s						
SHL	**Shillong**	**20.89**	**344**	P	**P**	**00 07 27.4**	**0.0**
MOKO	**MOKOCHONG**	**21.07**	**351**	*eP*	**P**	**00 07 29.1**	**-0.2**
MOKO				IAmb	IAmb	00 07 30.3	
	comp=Z,74nm,0.7s						
GUWA	**GUWAHATI**	**21.54**	**344**	*eP*	**P**	**00 07 33.5**	**-0.6**
GUWA				IAmb	IAmb	00 07 37.5	
	comp=Z,50nm,1.2s						
TEZP	**TEZPUR**	**21.68**	**347**	*eP*	**P**	**00 07 34.0**	**-1.6**
TEZP				IAmb	IAmb	00 07 36.0	
	comp=Z,67nm,0.8s						
BOK	**Bokaro**	**21.68**	**329**	*eP*	**P**	**00 07 36.7**	**+1.0**
BOK				IAmb	IAmb	00 07 39.0	
	comp=Z,44nm,0.9s						
ZIRO	**ZIRO**	**22.36**	**350**	*eP*	**P**	**00 07 42.0**	**-1.2**
ZIRO				IAmb	IAmb	00 07 45.6	
	comp=Z,81nm,0.8s						
HYB	**Hyderabad**	**22.45**	**304**	*i*	P	**00 07 45.0**	**+0.9**
HYB				*e*		00 08 00.5	
GYA	**Guiyang**	**22.53**	**21**		P	**00 07 45.0**	**0.0**
GYA					sP	00 07 59.5	+0.8
GYA					PP	**00 08 15.5**	**+6.4**
GYA					S	**00 11 53.3**	**+3.2**
GYA					pmax	pmax	
	comp=Z,18nm,0.9s						
GYA					LR	LR	
	comp=Z,1µm,13.8s						
GYA					LR	LR	
	comp=Z,610nm,13.8s						
GYA					LR	LR	
	comp=Z,2µm,12.2s						
ODAN	**Odare**	**23.61**	**336**	*eP*	**P**	**00 07 57.4**	**+1.3**
	comp=Z,66nm,1.0s						
TAPN	**Taplejung**	**23.93**	**337**	*eP*	**P**	**00 08 00.4**	**+1.3**
	comp=Z,90nm,0.9s						
RAMN	**Ramite**	**24.03**	**334**	*eP*	**P**	**00 08 01.6**	**+1.6**
KAPI	**Kappang**	**24.08**	**115**	LR	LR	00 18 04.4	
	comp=Z,216nm,18.2s,baz=260,slow=38						
KAPI	**Kappang**	**24.08**	**115**	P	**P**	**00 07 57.9**	**-2.4**
LSA	**Lhasa**	**25.02**	**346**	P	**P**	**00 08 10.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,53nm,1.0s						
LSA	**Lhasa**	**25.02**	**346**	IAmb	IAmb	00 08 20.7	
	comp=Z,15nm,0.6s						
PKI	**Pulchoki**	**25.09**	**333**	*eP*	**P**	**00 08 10.2**	**+0.5**
	comp=Z,67nm,1.1s						
PKIN	**Phulchoki**	**25.10**	**333**	*eP*	**P**	**00 08 10.3**	**+0.5**
	comp=Z,39nm,0.9s						
GUN	**Gumba**	**25.17**	**334**	*eP*	**P**	**00 08 11.4**	**+0.9**
	comp=Z,127nm,0.7s						
DMN	**Daman**	**25.26**	**332**	*eP*	**P**	**00 08 11.9**	**+0.7**
	comp=Z,68nm,1.0s						
KKN	**Kakani**	**25.34**	**333**	*eP*	**P**	**00 08 12.7**	**+0.9**
	comp=Z,112nm,0.9s						
LUWI	**Luwuk**	**25.58**	**104**	P	**P**	**00 08 16.2**	**+2.2**
CD2	**Chengdu**	**25.96**	**11**	P	**P**	**00 08 19.0**	**+1.7**
CD2				S	**S**	**00 12 46.0**	**+0.5**
CD2

PSA00 Pilbara Seismi 34.32 142 P **P** **00 09 29.2 -2.1**
PSA00 IAmb IAmb 00 09 34.7
comp=Z,9.9nm,1.1s
SAUI Saumlaki 35.80 112 P **P** **00 09 43.9 -0.3**
FITZ Fitzroy Crossi 35.92 131 P **P** **00 09 43.7 -1.4**
comp=Z,2.0nm,0.8s,baz=323,slow=10,SNR=3.0
FITZ Fitzroy Crossi 35.92 131 P **P** **00 09 48.1 +3.0**
baz=36,SNR=4.3
NIL Nilore 36.30 324 P **P** **00 09 49.4 +1.0**
HHC Hu-ho-hao-te 37.35 17 *eP* **P** **00 09 58.5 +1.3**
HHC S **S** **00 15 44.3 +1.5**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,70nm,5.3s
HHC LR LR
comp=Z,640nm,11.5s
HHC LR LR
comp=Z,310nm,10.1s
HHC LR LR
comp=Z,570nm,13.7s
MTN Manton Dam 37.60 119 P **P** **00 09 56.3 -3.3**
MTN IAmb IAmb 00 10 03.2
comp=Z,5.7nm,0.8s
BJT Baijiatuan 38.17 23 P **P** **00 10 03.6 -0.4**
BJT IAmb IAmb 00 10 12.1
comp=Z,7.9nm,0.8s
BJI Beijing 38.19 23 P **P** **00 10 05.5 +1.3**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI LR LR
comp=Z,250nm,13.3s
BJI LR LR
comp=Z,260nm,12.2s
BJI LR LR
comp=Z,110nm,24.6s
MORW Morawa 38.42 154 P **P** **00 10 03.9 -2.3**
MORW IAmb IAmb 00 10 15.7
comp=Z,8.5nm,1.1s
WMQ Urumqi 39.33 348 *eP* **P** **00 10 15.0 +1.2**
WMQ pP pP 00 10 25.3 +1.3
WMQ sP sP 00 10 29.5 +1.3
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,86nm,5.5s
WMQ Urumqi 39.33 348 P **P** **00 10 13.7 0.0**
WMQ IAmb IAmb 00 10 17.0
comp=Z,24nm,1.2s
KSH Kashi 39.35 333 P **P** **00 10 13.5 -0.6**
KSH S **S** **00 16 13.5 +0.3**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH pmax pmax
comp=Z,150nm,7.7s
KSH LR LR
comp=Z,250nm,6.3s
KSH LR LR
comp=Z,280nm,6.1s
KSH LR LR
comp=Z,230nm,6.2s
KBL Kabul 39.46 321 P **P** **00 10 15.1 -0.1**
KBL IAmb IAmb 00 10 16.9
comp=Z,18nm,1.1s
KDJ Kajisay 40.99 336 P **P** **00 10 28.0 +0.2**
GAR Garm 41.78 327 P **P** **00 10 34.1 -0.1**
GAR IAmb IAmb 00 10 35.8
comp=Z,18nm,1.1s
KSRS Korea Array 42.01 36 P **P** **00 10 36.8 +0.9**
comp=Z,0.7nm,0.3s,baz=220,slow=9.4,SNR=2.2
KSRS LR LR 00 30 13.0
comp=Z,157nm,18.9s,baz=222,slow=39
CHGR Chuyangaron 42.18 326 P **P** **00 10 37.4 0.0**
CHGR IAmb IAmb 00 10 39.0
comp=Z,26nm,1.0s
UCH Uchtor 42.20 334 P **P** **00 10 38.9 +1.0**
SNR=12
WRKA Warakurna 42.24 137 P **P** **00 10 40.8 +2.8**
baz=42,SNR=3.5
BTK Batken 42.29 329 P **P** **00 10 39.4 +1.1**
BTK IAmb IAmb 00 10 40.6
comp=Z,17nm,1.0s
TKM2 Tokmak 2 42.30 335 P **P** **00 10 39.3 +0.9**
SNR=5.7
KBK Karagaybulak 42.35 335 P **P** **00 10 40.6 +1.7**
SNR=15
AML Almayashu 42.48 333 P **P** **00 10 41.4 +1.3**
SNR=11
AAK Ala-Archa 42.53 334 P **P** **00 10 42.3 +2.0**
SNR=6.2
FRU1 Bishkek 42.62 334 P **P** **00 10 40.8 -0.1**
FRU1 IAmb IAmb 00 10 43.4
comp=Z,14nm,0.7s
CHMS Chumysh 42.72 335 P **P** **00 10 42.8 +1.2**
SNR=9.1
EKS2 Erkin-Say 42.87 334 P **P** **00 10 44.8 +1.8**
SNR=5.5
SONM Songino Array 42.90 8 P **P** **00 10 43.8 +0.6**
comp=Z,6.2nm,0.9s,baz=193,slow=9.0,SNR=17
SONM PcP **PcP** **00 12 34.2 +0.7**
comp=Z,2.1nm,0.8s,baz=183,slow=2.9,SNR=4.3
SONM LR LR 00 30 20.1
comp=Z,304nm,18.3s,baz=241,slow=38
SONM Songino Array 42.90 8 P **P** **00 10 43.0 -0.1**
ULN Ulaanbaatar 43.03 9 P **P** **00 10 44.7 +0.5**
ULN IAmb IAmb 00 10 45.9
comp=Z,8.6nm,1.1s
USP Ospenovka 43.04 335 P **P** **00 10 45.0 +0.7**
SNR=15
MK31 Makanchi Array 43.41 344 P **P** **00 10 47.9 +0.7**
MK31 IAmb IAmb 00 10 49.2
comp=Z,13nm,0.9s
MKAR Makanchi Array 43.41 344 P **P** **00 10 47.9 +0.7**
comp=Z,14nm,0.9s,baz=165,slow=10.0,SNR=35
MKAR PcP **PcP** **00 12 36.2 +1.0**
comp=Z,2.0nm,1.1s,baz=145,slow=3.8,SNR=1.6
MKAR LR LR 00 33 20.1
comp=Z,108nm,18.3s,baz=170,slow=42
MKAR Makanchi Array 43.41 344 P **P** **00 10 47.3 +0.1**
MAKZ Makanchi 43.51 344 P **P** **00 10 48.1 +0.2**
MAKZ IAmb IAmb 00 10 49.3
comp=Z,14nm,1.0s
WB0 Warramunga Arr 43.69 126 P **P** **00 10 48.8 -0.9**
WRA Warramunga Arr 43.73 126 P **P** **00 10 49.0 -1.1**
comp=Z,3.1nm,1.1s,baz=303,slow=9.0,SNR=23
WRA LR LR 00 29 46.4
comp=Z,94nm,19.8s,baz=290,slow=37
WRA Warramunga Arr 43.73 126 IAmb IAmb 00 10 53.8
comp=Z,0.3nm,1.1s
WRAB Tennant Creek 43.74 126 P **P** **00 10 49.8 -0.4**
WB2 Warramunga Arr 43.74 126 P **P** **00 10 49.0 -1.2**
WC3 Warramunga Arr 43.77 126 P **P** **00 10 49.7 -0.7**
HRA Herat 43.87 316 P **P** **00 10 51.3 0.0**
WR0 Warramunga Arr 43.90 126 P **P** **00 10 50.0 -1.5**
SOCY Socotra 43.94 282 P **P** **00 10 52.4 +0.3**
SOCY IAmb IAmb 00 11 04.7
comp=Z,19nm,1.1s
KK06 Karatay Array 44.70 331 P **P** **00 10 58.0 +0.4**
KK07 Karatay Array 44.71 331 P **P** **00 10 57.9 +0.2**
KK02 Karatay Array 44.72 331 P **P** **00 10 56.9 -0.8**
KK31 Karatay Array 44.72 331 P **P** **00 10 57.2 -0.5**
KKAR Karatay Array 44.72 331 P **P** **00 10 58.6 +0.9**
KKAR Karatay Array 44.72 331 P **P** **00 10 57.2 -0.5**
KKAR IAmb IAmb 00 10 59.8
comp=Z,6.9nm,1.1s
KK01 Karatay Array 44.72 331 P **P** **00 10 57.8 +0.1**
KK03 Karatay Array 44.72 331 P **P** **00 10 57.5 -0.2**
KK05 Karatay Array 44.72 331 P **P** **00 10 58.0 +0.2**
KK04 Karatay Array 44.72 331 P **P** **00 10 57.1 -0.6**
KK08 Karatay Array 44.73 331 P **P** **00 10 57.6 -0.2**
KK09 Karatay Array 44.74 331 P **P** **00 10 57.5 -0.3**
CN2 Changchun 45.25 28 *eP* **P** **00 11 03.8 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,60nm,4.2s
CN2 LR LR
comp=Z,220nm,11.0s
CN2 LR LR
comp=Z,210nm,11.0s
CN2 LR LR
comp=Z,250nm,13.0s
ASAR Alice Springs 45.42 131 P **P** **00 11 02.5 -1.0**
comp=Z,2.1nm,0.6s,baz=302,slow=8.1,SNR=24
ASAR LR LR 00 32 16.8
comp=Z,100nm,19.3s,baz=304,slow=39

ASAR Alice Springs 45.42 131 P **P** **00 11 03.1 -0.5**
KURK Kurchatov 47.99 344 P **P** **00 11 23.6 +0.4**
QIS Mount Isa 48.34 124 P **P** **00 11 29.7 +3.3**
baz=49,SNR=4.2
ASHT Ashkhabad 48.41 318 P **P** **00 11 28.0 +1.3**
GYB1 ALIBECK ARRAY 48.57 317 P **P** **00 11 29.1 +1.1**
GYA1 ALIBECK ARRAY 48.58 317 P **P** **00 11 29.2 +1.1**
GEYT Alibeck 48.58 317 P **P** **00 11 28.3 +0.2**
comp=Z,44nm,0.9s,baz=143,slow=5.2,SNR=80
GEYT LR LR 00 33 26.8
comp=Z,69nm,20.0s,baz=180,slow=38
GEYT Alibeck 48.58 317 P **P** **00 11 28.6 +0.5**
GYA0 ALIBECK ARRAY 48.58 317 P **P** **00 11 29.4 +1.2**
GYA0B ALIBECK ARRAY 48.58 317 P **P** **00 11 29.6 +1.5**
GYA2 ALIBECK ARRAY 48.58 317 P **P** **00 11 29.1 +1.0**
GYB5 ALIBECK ARRAY 48.58 317 P **P** **00 11 29.2 +1.1**
GYA3 ALIBECK ARRAY 48.59 317 P **P** **00 11 29.7 +1.5**
USRK Ussuriysk Ar. 48.82 32 LR LR 00 34 30.0
comp=Z,74nm,19.6s,baz=181,slow=39
ZALV Zalesovo Beam 49.58 350 P **P** **00 11 35.6 +0.2**
comp=Z,21nm,0.9s,baz=166,slow=6.9,SNR=65
ZALV LR LR 00 35 10.0
comp=Z,38nm,20.8s,baz=148,slow=39
BRVK Borovoye 52.66 339 P **P** **00 11 58.2 -0.3**
BRVK IAmb IAmb 00 11 59.6
comp=Z,10nm,0.8s
ERM Erimo 54.18 41 P **P** **00 12 07.1 -2.8**
ABKAR Akbulak array 54.24 330 P **P** **00 12 09.9 -0.4**
ABKAR Akbulak array 54.24 330 IAmb IAmb 00 12 11.6
comp=Z,13nm,1.1s
STKA Stephens Creek 55.66 135 P **P** **00 12 21.9 +1.2**
comp=Z,2.3nm,0.8s,baz=286,slow=15,SNR=1.6
STKA LR LR 00 36 47.2
comp=Z,121nm,21.9s,baz=236,slow=37
ARU Arti 59.67 336 P **P** **00 12 48.7 +0.1**
MARD Mardin 60.89 310 P **P** **00 12 55.9 -1.5**
MARD IAmb IAmb 00 13 10.9
comp=Z,5.0nm,0.9s
KBZ Khabaz 61.48 317 P **P** **00 13 00.8 -0.3**
comp=Z,6.5nm,1.0s,baz=146,slow=5.7,SNR=8.0
KIV Kislovodsk 61.70 318 P **P** **00 13 02.9 +0.1**
GAZ Gaziantep 63.60 309 P **P** **00 13 14.9 -0.7**
GAZ IAmb IAmb 00 13 16.0
comp=Z,4.2nm,0.7s
NRIK Noril'sk 64.23 356 P **P** **00 13 18.6 -0.4**
comp=Z,3.9nm,0.8s,baz=162,slow=7.9,SNR=8.4
NRIK LR LR 00 44 50.5
comp=Z,120nm,18.6s,baz=204,slow=39
BRTR Keskin Array B 66.92 311 P **P** **00 13 35.6 -1.5**
comp=Z,1.5nm,0.8s,baz=131,slow=8.4,SNR=7.8
BRTR LR LR 00 45 39.5
comp=Z,26nm,18.0s,baz=339,slow=38
BRTR Keskin Array B 66.92 311 P **P** **00 13 35.2 -1.9**
MBAR Mbarara 67.40 267 P **P** **00 13 40.1 -0.5**
MBAR IAmb IAmb 00 13 42.4
comp=Z,5.6nm,0.8s
PETK Petropavlovsk- 67.85 34 LR LR 00 46 29.9
comp=Z,68nm,18.2s,baz=242,slow=39
PET Petropavlovsk 68.35 35 P **P** **00 13 44.7 -0.9**
TIXI Tiksi 68.95 10 P **P** **00 13 48.0 -1.1**
OBN Obninsk 69.50 327 P **P** **00 13 51.6 -1.2**
OBN IAmb IAmb 00 13 53.4
comp=Z,18nm,1.1s
LSZ Lusaka 72.09 252 P **P** **00 14 09.3 -0.1**
comp=Z,3.8nm,1.1s,baz=146,slow=2.7,SNR=3.8
LSZ Lusaka 72.09 252 P **P** **00 14 09.0 -0.4**
AKASG Malin Array Be 72.45 322 P **P** **00 14 09.3 -1.5**
comp=Z,4.5nm,0.8s,baz=87,slow=4.7,SNR=20
AKASG Malin Array Be 72.45 322 P **P** **00 14 09.8 -0.9**
AKBB Malin Array Si 72.45 322 P **P** **00 14 09.8 -0.9**
AKBB IAmb IAmb 00 14 10.5
comp=Z,8.5nm,0.8s
MLR Muntele Rosu 73.59 316 P **P** **00 14 16.7 -1.2**
BURAR Bucovina Array 74.43 318 P **P** **00 14 22.6 0.0**
BUR08 Bucovina Ar. S 74.44 318 P **P** **00 14 22.2 -0.5**
BUR08 IAmb IAmb 00 14 23.9
comp=Z,8.3nm,1.1s
KWP Kalwaria Pacla 76.37 320 *eP* **P** **00 14 33.8 +0.1**
KOLS Kolonicke sedl 76.56 319 *eP* **P** **00 14 34.0 -0.7**
FINES FINESS Array B 76.67 332 P **P** **00 14 34.9 -0.2**
comp=Z,4.9nm,0.7s,baz=102,slow=6.2,SNR=12
FINES FINESS Array B 76.67 332 P **P** **00 14 33.5 -1.5**
SUW Suwalki 76.73 324 *eP* **P** **00 14 34.8 -0.7**
MAW Mawson 76.94 193 P **P** **00 14 34.6 -1.7**
comp=Z,0.3nm,0.3s,baz=31,slow=12,SNR=1.7
MAW LR LR 00 42 47.8
comp=Z,50nm,19.6s,baz=237,slow=31
CRVS Cervenica-Dubn 77.09 319 *eP* **P** **00 14 38.3 +0.6**
PSZ Piszkesteto 78.03 318 P **P** **00 14 43.0 -0.1**
PSZ IAmb IAmb 00 14 44.2
comp=Z,5.7nm,1.1s
OJC Ojcow 78.31 320 *eP* **P** **00 14 44.0 -0.4**
VYHS Vyhne 78.78 318 *eP* **P** **00 14 47.1 0.0**
ARCES ARCESS Array B 78.88 340 P **P** **00 14 47.7 +0.5**
comp=Z,4.0nm,0.9s,baz=76,slow=6.4,SNR=7.1
MORC Moravsky Berou 79.72 319 P **P** **00 14 52.5 +0.3**
KSP Ksiaz 80.59 321 *eP* **P** **00 14 57.5 +0.6**
RPZ Rata Peaks 81.62 135 LR LR 00 50 10.0
comp=Z,102nm,18.1s,baz=232,slow=35
BRG Berggiesshubel 82.08 320 *eP* **P** **00 15 05.4 +0.7**
comp=Z,43nm,1.9s
GEC2 GERESS Array S 82.20 318 P **P** **00 15 04.7 -0.9**
GERES GERESS Array B 82.20 318 P **P** **00 15 05.8 +0.2**
comp=Z,2.1nm,1.1s,baz=80,slow=7.3,SNR=7.6
GERES GERESS Array B 82.20 318 P **P** **00 15 05.6 0.0**
CIMO Cimolais 83.05 316 P **P** **00 15 09.7 -0.3**
GSTR Great Sitkin T 83.30 38 P **P** **00 15 07.2 -3.9**
CMWZ Cape Campbell 83.38 133 P **P** **00 15 08.3 -3.3**
NOA NORSAR Array B 83.75 331 P **P** **00 15 12.9 -0.3**
comp=Z,4.2nm,0.9s,baz=90,slow=5.6,SNR=7.1
SYO Syowa Base 84.20 198 *eX* P 00 15 10.2 -5.0
VNDA Vanda 89.76 169 LR LR 00 53 30.3
comp=Z,36nm,18.3s,baz=209,slow=34
IMAR Indian Mountai 92.44 23 P **P** **00 15 54.7 -0.2**
TORD Torodi Ar. Bea 94.87 284 P **P** **00 16 05.6 -1.5**
ESDC Sonseca Array 95.71 311 P **P** **00 16 10.1 -0.5**
comp=Z,0.4nm,0.8s,baz=90,slow=5.1,SNR=2.9
LPAZ La Paz 162.59 230 PKPab **PKPab** **00 23 35.0 -1.1**
comp=Z,1.1nm,0.7s,baz=141,slow=2.1,SNR=6.8

RSNC 27 00:13:04.1±1.0, 6.81N×73.13W, h150km±4km, ML2.9, Mw3.6, 2C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BARC	**Barichara**	**0.22**	**195**	*i*P		Pn	00 13 24.3	-0.5
BARC				*e*S		Sn	00 13 39.4	-1.2
BARC				*i*			00 13 40.6	
comp=Z,161nm,0.4s								
BRRC	**Barranca, Sant**	**0.66**	**297**	↓*i*P		Pn	00 13 26.1	-0.2
BRRC				*e*S		Sn	00 13 43.6	+0.3
BRRC				*i*			00 13 46.8	
comp=Z,98nm,0.1s								
PAMC	**Pamplona, Colo**	**0.68**	**39**	↓*e*P		Pn	00 13 27.0	-0.1
PAMC				*e*S		Sn	00 13 44.2	-0.3
PAMC				*i*			00 13 46.4	
comp=Z,228nm,0.6s								
RUSC	**La Rusia**	**0.91**	**177**	↓*e*P		Pn	00 13 28.1	-0.7
RUSC				*e*S		Sn	00 13 47.0	-0.5
RUSC				*i*			00 13 49.8	
comp=Z,106nm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P		Pn	00 13 31.0	-1.1
PTBC				*e*S		Sn	00 13 52.4	-1.1
PTBC				*i*			00 13 54.6	
comp=Z,127nm,0.1s								
TAMC	**Tame, Arauca**	**1.38**	**105**	↓*i*P		Pn	00 13 32.4	0.0
TAMC				*e*S		Sn	00 13 54.4	+0.3
TAMC				*i*			00 13 55.7	
comp=Z,31nm,0.3s								
OCAC	**Ocana**	**1.44**	**352**	*e*P		Pn	00 13 32.5	-0.7
OCAC				*e*S		Sn	00 13 54.5	-1.0
OCAC				*i*			00 13 59.9	
comp=Z,114nm,0.2s								
SPBC	**San Pablo de B**	**1.48**	**219**	*e*P		Pn	00 13 33.0	-0.6
SPBC				*e*S		Sn	00 13 55.7	-0.5
SPBC				*i*			00 14 00.3	
comp=Z,188nm,0.2s								
CHIC	**Chingaza**	**2.24**	**196**	*e*P		Pn	00 13 42.0	-0.6
CHIC				*e*S		Sn	00 14 11.6	-0.6
CHIC				*i*			00 14 17.2	
comp=Z,40nm,0.3s								
ROSC	**El Rosal**	**2.29**	**211**	↑*e*P		Pn	00 13 43.8	+0.7
ROSC				*e*S		Sn	00 14 15.2	+2.2
ROSC				*i*			00 14 18.9	
comp=Z,82nm,0.4s								
HELC	**Santa Helena**	**2.46**	**256**	*e*P		Pn	00 13 44.9	-0.2
HELC				*e*S		Sn	00 14 16.8	0.0
HELC				*i*			00 14 22.6	
comp=Z,55nm,0.3s								
UREC	**San Jos de Ur**	**2.57**	**292**	*e*P		Pn	00 13 44.1	-2.0
UREC				*e*S		Sn	00 14 15.1	-3.4
UREC				*i*			00 14 19.1	
comp=Z,58nm,0.1s								
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P		Pn	00 13 48.4	-0.1
GUY2C				*e*S		Sn	00 14 24.6	+1.9
GUY2C				*i*			00 14 29.7	
comp=Z,56nm,0.3s								
VILC	**Villavicencio,**	**2.73**	**192**	*e*P		Pn	00 13 47.0	-1.3
VILC				*e*S		Sn	00 14 21.6	-0.9
VILC				*i*			00 14 27.6	
comp=Z,50nm,0.5s								
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*e*P		Pn	00 13 47.2	-1.4
PTGC				*e*S		Sn	00 14 20.4	-2.7
PTGC				*i*			00 14 25.4	
comp=Z,44nm,0.3s								
RREF	**El Recreo**	**2.91**	**230**	*e*P		Pn	00 13 47.5	-3.5
RREF				*e*S		Sn	00 14 24.2	-2.9
RREF				*i*			00 14 31.3	
comp=Z,75nm,0.2s								
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P		Pn	00 13 52.1	+0.2
CBOC				*e*			00 13 52.1	
CBOC				*e*S		Sn	00 14 28.5	-0.3
CBOC				*i*			00 14 34.4	
comp=Z,23nm,0.6s								
DBBC	**Dabeiba**	**3.07**	**274**	*e*P		Pn	00 13 51.8	-0.6
DBBC				*e*S		Sn	00 14 28.8	-1.0
DBBC				*i*			00 14 32.4	
comp=Z,140nm,0.5s								
TOLC	**Tolima**	**3.10**	**225**	*e*P		Pn	00 13 53.6	+0.4
TOLC				*e*S		Sn	00 14 32.8	+1.7
TOLC				*i*			00 14 37.1	
comp=Z,80nm,0.2s								
SDV	**Santo Domingo**	**3.22**	**50**	*e*P		Pn	00 13 53.6	-0.9
SDV				*e*S		Sn	00 14 31.2	-2.3
SDV				*i*			00 14 32.9	
comp=Z,22nm,0.4s								
ANIL	**Santa Ana**	**3.23**	**225**	*e*P		Pn	00 13 54.8	+0.1
ANIL				*e*S		Sn	00 14 34.4	+0.6
ANIL				*i*			00 14 41.1	
comp=Z,10nm,0.4s								
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P		Pn	00 13 54.5	+0.1
ARGC				*e*S		Sn	00 14 32.9	-0.6
ARGC				*i*			00 14 38.5	
comp=Z,26nm,0.2s								
PRAC	**Prado**	**3.54**	**210**	*e*P		Pn	00 13 57.7	-0.7
PRAC				*e*S		Sn	00 14 39.9	-0.7
PRAC				*i*			00 14 44.3	
comp=Z,40nm,0.3s								
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P		Pn	00 13 58.4	-0.4
ORTC				*e*S		Sn	00 14 41.5	+0.3
ORTC				*i*			00 14 48.1	
comp=Z,30nm,0.4s								
SJCC	**San Jacinto, C**	**3.68**	**327**	*e*P		Pn	00 13 58.5	-1.8
SJCC				*e*S		Sn	00 14 39.6	-4.3
SJCC				*i*			00 14 43.9	
comp=Z,21nm,0.5s								
YOTC	**Yotoco, Valle**	**4.26**	**229**	*e*P		Pn	00 14 06.7	-1.2
YOTC				*e*S		Sn	00 15 00.0	+2.5
YOTC				*i*			00 15 11.0	
comp=Z,3.4nm,0.6s								
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P		Pn	00 14 08.7	-1.8
SMRC				*e*S		Sn	00 14 57.5	-4.7
CAPC	**Capurgana**	**4.56**	**294**	*e*P		Pn	00 14 08.9	-2.9
CAPC				*e*S		Sn	00 14 59.6	-4.9
CAPC				*i*			00 15 03.4	
comp=Z,9.3nm,0.1s								
MACC	**Macarena, Meta**	**4.69**	**189**	↓*e*P		Pn	00 14 11.1	-2.4
MACC				*e*S		Sn	00 15 02.7	-4.8
MACC				*i*			00 15 09.5	
comp=Z,7.1nm,0.6s								
URIC	**Uribia, Colomb**	**4.99**	**13**	*e*P		Pn	00 14 14.5	-2.9
URIC				*e*S		Sn	00 15 07.7	-7.0
BBAC	**Balboa, Cauca**	**6.28**	**221**	*e*P		Pn	00 14 35.1	+0.3
BBAC				*e*S		Sn	00 15 43.6	-2.2
BBAC				*i*			00 15 46.4	
comp=Z,2.3nm,0.4s								

RSNC 27 00:24:37.2±0.8, 6.80N×73.14W, h150km±3km, ML2.8, Mw3.5, 5C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BARC	**Barichara**	**0.21**	**191**	↑*e*P		Pn	00 24 57.3	-0.5
BARC				*e*S		Sn	00 25 12.6	-0.8
BARC				*i*			00 25 13.8	
comp=Z,155nm,0.3s								
BRRC	**Barranca, Sant**	**0.64**	**298**	↑*e*P		Pn	00 24 59.1	-0.2
BRRC				*e*S		Sn	00 25 16.2	+0.1
BRRC				*i*			00 25 20.2	
comp=Z,114nm,0.3s								
PAMC	**Pamplona, Colo**	**0.69**	**39**	↑*e*P		Pn	00 25 00.1	-0.2
PAMC				*e*S		Sn	00 25 17.3	-0.4
PAMC				*i*			00 25 20.5	
comp=Z,66nm,0.5s								
RUSC	**La Rusia**	**0.90**	**176**	↓*e*P		Pn	00 25 01.2	-0.6
RUSC				*e*S		Sn	00 25 20.0	-0.4
RUSC				*i*			00 25 21.4	
comp=Z,54nm,0.2s								
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*e*P		Pn	00 25 03.7	-1.3
PTBC				*e*S		Sn	00 25 25.5	-0.7
PTBC				*i*			00 25 27.6	
comp=Z,78nm,0.2s								
TAMC	**Tame, Arauca**	**1.39**	**105**	↑*e*P		Pn	00 25 05.7	0.0
TAMC				*e*S		Sn	00 25 27.3	-0.1
TAMC				*i*			00 25 28.9	
comp=Z,35nm,0.5s								
OCAC	**Ocana**	**1.44**	**353**	↓*e*P		Pn	00 25 05.4	-1.0
OCAC				*e*S		Sn	00 25 27.7	-1.0
OCAC				*i*			00 25 31.0	
comp=Z,7μm,0.0s								
SPBC	**San Pablo de B**	**1.47**	**219**	*e*P		Pn	00 25 06.2	-0.3
SPBC				*e*S		Sn	00 25 28.5	-0.5
SPBC				*i*			00 25 33.2	
comp=Z,82nm,0.2s								
CHIC	**Chingaza**	**2.23**	**195**	*e*P		Pn	00 25 15.6	0.0
CHIC				*e*S		Sn	00 25 44.7	-0.3
CHIC				*i*			00 25 48.6	
comp=Z,30nm,0.4s								
ROSC	**El Rosal**	**2.27**	**211**	*e*P		Pn	00 25 17.0	+1.1
ROSC				*e*S		Sn	00 25 47.1	+1.3
ROSC				*i*			00 25 52.0	
comp=Z,99nm,0.5s								
HELC	**Santa Helena**	**2.45**	**256**	*e*P		Pn	00 25 17.1	-0.9
HELC				*e*S		Sn	00 25 49.6	+0.2
HELC				*i*			00 25 55.7	
comp=Z,28nm,0.4s								
UREC	**San Jos de Ur**	**2.55**	**292**	*e*S		Sn	00 25 47.8	-3.4
UREC				*i*			00 25 55.6	
comp=Z,30nm,0.1s								
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*e*P		Pn	00 25 21.2	-0.1
GUY2C				*e*S		Sn	00 25 58.5	+3.1
GUY2C				*i*			00 26 03.7	
comp=Z,39nm,0.6s								
VILC	**Villavicencio,**	**2.73**	**192**	*e*P		Pn	00 25 21.1	-0.1
VILC				*e*S		Sn	00 25 54.7	-0.6
VILC				*i*			00 26 05.2	
comp=Z,51nm,0.5s								
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*e*P		Pn	00 25 20.4	-1.3
PTGC				*e*S		Sn	00 25 53.7	-2.4
PTGC				*i*			00 25 55.1	
comp=Z,20nm,0.3s								
RREF	**El Recreo**	**2.89**	**229**	*e*P		Pn	00 25 20.0	-3.8
RREF				*e*S		Sn	00 25 58.5	-1.2
RREF				*i*			00 26 00.6	
comp=Z,35nm,0.2s								
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P		Pn	00 25 24.9	+0.2
CBOC				*e*S		Sn	00 26 00.7	-0.7
DBBC	**Dabeiba**	**3.05**	**274**	*e*P		Pn	00 25 25.1	-0.2
DBBC				*e*S		Sn	00 26 01.9	-0.6
DBBC				*i*			00 26 04.9	
comp=Z,79nm,0.5s								
TOLC	**Tolima**	**3.09**	**225**	*e*P		Pn	00 25 26.0	0.0
TOLC				*e*S		Sn	00 26 04.9	+1.2
TOLC				*i*			00 26 13.7	
comp=Z,69nm,0.3s								
ANIL	**Santa Ana**	**3.21**	**225**	*e*P		Pn	00 25 28.8	+1.2
ANIL				*e*S		Sn	00 26 08.0	+1.5

ANIL				*i*			00 26 17.6	
	comp=Z,8.2nm,0.3s							
ARGC	**Ariguani, Magd**	**3.23**	**340**	*eP*	Pn		00 25 27.3	-0.2
ARGC				*eS*	Sn		00 26 06.6	+0.1
ARGC				*i*			00 26 23.8	
	comp=Z,15nm,0.2s							
SDV	**Santo Domingo**	**3.24**	**50**	*eP*	Pn		00 25 26.7	-1.1
SDV				*eS*	Sn		00 26 04.3	-2.6
SDV				*i*			00 26 08.1	
	comp=Z,3.7nm,0.3s							
PRAC	**Prado**	**3.52**	**210**	*eP*	Pn		00 25 30.8	-0.5
PRAC				*eS*	Sn		00 26 12.6	-0.7
PRAC				*i*			00 26 19.6	
	comp=Z,39nm,0.4s							
ORTC	**Ortega, Tolima**	**3.55**	**216**	*eP*	Pn		00 25 31.1	-0.6
ORTC				*eS*	Sn		00 26 13.1	-0.9
ORTC				*i*			00 26 18.7	
	comp=Z,21nm,0.2s							
SJCC	**San Jacinto, C**	**3.68**	**327**⇑	*eP*	Pn		00 25 31.5	-1.9
SJCC				*eS*	Sn		00 26 12.6	-4.4
SJCC				*i*			00 26 27.2	
	comp=Z,9.1nm,0.3s							
YOTC	**Yotoco, Valle**	**4.24**	**229**	*eP*	Pn		00 25 40.4	-0.4
YOTC				*eS*	Sn		00 26 30.3	+0.1
YOTC				*i*			00 26 37.0	
	comp=Z,1.7nm,0.6s							
URIC	**Uribia, Colomb**	**5.00**	**13**	*eP*	Pn		00 25 47.9	-2.8
URIC				*eS*	Sn		00 26 42.5	-5.5
URIC				*i*			00 26 50.2	
	comp=Z,3.4nm,0.5s							

*KRNET **27** 00:31:43.0±0.1, 40.°04N×77.°31E, mb4.1*
*SOME **27** 00:31:44.8, 40.°28N×77.°17E, h5km*
*NNC **27** 00:31:47.1±1.1, 40.°29N×77.°21E, h0km, mb4.5, mpv4.1,*
Error ellipse: s-maj=7.7km s-min=5.4km az=160.0

ISC 27 00:31:49.3±1.6, 40.°34N±0.°07×77.°17E±0.°03, h10km, n70, σ1§55/104, 24C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.79**	**0**	⇓*iP*	**Pn**	**00 32 20.7**	**+0.3**
KDJ	baz=58			⇓*iS*	**Sg**	**00 32 48.1**	**+1.2**
ULHL	**Ulahol**	**2.03**	**340**	⇑*iP*	**Pn**	**00 32 24.7**	**+1.0**
ULHL	baz=40			⇑*iS*	**Sg**	**00 32 54.4**	**-0.1**
ULHL	**Ulahol**	**2.03**	**340**	P	**Pb**	**00 32 24.9**	**-1.5**
	SNR=60						
PRZ	**Przheval'sk**	**2.34**	**23**	⇑*iP*	**Pn**	**00 32 27.9**	**0.0**
PRZ	baz=18			⇑*iS*	**Sb**	**00 33 00.1**	**-0.5**
BOOM	**Boomskoye usch**	**2.34**	**337**	⇑*eP*	**Pn**	**00 32 29.1**	**+1.1**
BOOM	baz=38			⇑*iS*	**Sb**	**00 33 01.8**	**+1.1**
ANVS	**Anan'yevo**	**2.47**	**9**	⇑*iP*	**Pn**	**00 32 30.5**	**+0.7**
ANVS	baz=5.0			⇑*iS*	**Sb**	**00 33 04.5**	**0.0**
	baz=5.0						
ARLS	**Aral**	**2.63**	**306**	⇓*iP*	**Pn**	**00 32 32.5**	**+0.5**
ARLS	baz=10.0			⇓*iS*	**Sb**	**00 33 08.2**	**-0.9**
	baz=10.0						
TNSS	**Tian-Shan**	**2.70**	**357**	*eP*	**Pb**	**00 32 36.8**	**-1.2**
TNSS	77nm,0.4s			*eS*	**Sg**	**00 33 14.5**	**-1.7**
	52nm,0.5s						
TNSS	**Tian-Shan**	**2.70**	**357**	Pg	**Pb**	**00 32 36.8**	**-1.2**
TNSS	77nm,0.4s			Lg	Lg	00 33 14.5	
	52nm,0.5s						
IZV	**Izvestkoviy**	**2.73**	**351**	*eP*	**Pb**	**00 32 37.5**	**-0.7**
IZV	47nm,0.6s			*eS*	**Sg**	**00 33 15.9**	**-1.0**
	108nm,0.6s						
IZV	**Izvestkoviy**	**2.73**	**351**	Pg	**Pb**	**00 32 37.5**	**-0.7**
IZV	47nm,0.6s			Lg	Lg	00 33 15.5	
	108nm,0.6s						
UCH	**Uchtor**	**2.75**	**314**	⇑*iP*	**Pn**	**00 32 34.4**	**+0.5**
UCH	baz=17			⇑*iS*	**Sb**	**00 33 11.4**	**-1.3**
	baz=17						
UCH	**Uchtor**	**2.75**	**314**	P	**Pn**	**00 32 35.1**	**+1.3**
	SNR=22						
MDOK	**Medeo**	**2.82**	**358**	*eP*	**Pb**	**00 32 39.7**	**-0.2**
MDOK	46nm,0.4s			*eS*	**Sg**	**00 33 19.9**	**-0.1**
	230nm,0.6s						
MDOK	**Medeo**	**2.82**	**358**	Pg	**Pb**	**00 32 39.7**	**-0.2**
MDOK	46nm,0.4s			Lg	Lg	00 33 19.9	
	230nm,0.6s						
TKM2	**Tokmak 2**	**2.84**	**336**	⇓*iP*	**Pn**	**00 32 36.0**	**+1.2**
TKM2	baz=36			⇓*iS*	**Sb**	**00 33 14.1**	**-0.9**
	baz=36						
TKM2	**Tokmak 2**	**2.84**	**336**	P	**Pn**	**00 32 36.5**	**+1.6**
	SNR=23						
TKM2	**Tokmak 2**	**2.84**	**336**	⇑Pn	**Pn**	**00 32 36.2**	**+1.4**
TKM2	28nm,0.4s			⇑Lg	Lg	00 33 19.8	
	30nm,0.6s						
MTBS	**Maitube**	**2.84**	**349**	*eP*	**Pb**	**00 32 39.6**	**-0.6**
MTBS	28nm,0.2s			*eS*	**Sg**	**00 33 19.6**	**-1.1**
	43nm,0.4s						
MTBS	**Maitube**	**2.84**	**349**	Pg	**Pb**	**00 32 39.6**	**-0.6**
MTBS	28nm,0.2s			Lg	Lg	00 33 19.6	
	43nm,0.4s						
KST	**Kastek**	**2.85**	**342**	*eP*	**Pb**	**00 32 39.8**	**-0.5**
KST	60nm,0.4s			*eS*	**Sg**	**00 33 19.9**	**-0.9**
	70nm,0.5s						
KST	**Kastek**	**2.85**	**342**	Pg	**Pb**	**00 32 39.8**	**-0.5**
KST	60nm,0.4s			Lg	Lg	00 33 19.3	
	70nm,0.5s						
KBK	**Karagaybulak**	**2.85**	**325**	⇑*iP*	**Pn**	**00 32 36.0**	**+1.0**
KBK	baz=27			⇑*iS*	**Sb**	**00 33 14.1**	**-1.3**
	baz=27						
KBK	**Karagaybulak**	**2.85**	**325**	P	**Pb**	**00 32 39.8**	**-0.6**
	SNR=110						
SATY	**Saty**	**2.87**	**18**	*eP*	**Pb**	**00 32 40.1**	**-0.6**
SATY	48nm,0.7s			*eS*	**Sg**	**00 33 20.2**	**-1.3**
	117nm,0.5s						
SATY	**Saty**	**2.87**	**18**	Pg	**Pb**	**00 32 40.1**	**-0.6**
SATY	48nm,0.7s			Lg	Lg	00 33 20.2	
	117nm,0.5s						
KNDC	**Almaty**	**2.88**	**357**	⇑Pg	**Pb**	**00 32 40.4**	**-0.4**
KNDC	23nm,0.3s			⇓Lg	Lg	00 33 22.6	
	100nm,0.5s						
KOTS	**Kotyrbulak**	**2.89**	**359**	*eP*	**Pb**	**00 32 40.9**	**-0.2**
KOTS	224nm,0.4s			*eS*	**Sg**	**00 33 21.8**	**-0.4**
	476nm,0.5s						
KOTS	**Kotyrbulak**	**2.89**	**359**	Pg	**Pb**	**00 32 40.9**	**-0.2**
KOTS	224nm,0.4s			Lg	Lg	00 33 21.2	
	476nm,0.5s						
ZHN	**Zhinishke**	**2.98**	**18**	*eP*	**Pb**	**00 32 42.3**	**-0.3**
ZHN	26nm,0.2s			*eS*	**Sg**	**00 33 24.3**	**-0.8**
	44nm,0.4s						
ZHN	**Zhinishke**	**2.98**	**18**	Pg	**Pb**	**00 32 42.3**	**-0.3**
ZHN	26nm,0.2s			Lg	Lg	00 33 24.3	
	44nm,0.4s						
AAK	**Ala-Archa**	**3.05**	**320**	⇓*eP*	**Pn**	**00 32 38.4**	**+0.7**
AAK	baz=22			⇓*iS*	**Sb**	**00 33 18.5**	**-2.6**
	baz=22						
AAK	**Ala-Archa**	**3.05**	**320**	P	**Pn**	**00 32 39.9**	**+2.1**
	SNR=13						
AAK	**Ala-Archa**	**3.05**	**320**	⇑Pn	**Pn**	**00 32 39.8**	**+2.1**
AAK	23nm,0.3s			⇓Lg	Lg	00 33 25.8	
	52nm,0.6s						

UZB	**Uzynbulak**	**3.13**	**26**	*eP*	**Pb**	**00 32 44.5**	**-0.6**
UZB	32nm,0.7s			*eS*	**Sg**	**00 33 27.9**	**-2.0**
	59nm,0.5s						
UZB	**Uzynbulak**	**3.13**	**26**	Pg	**Pb**	**00 32 44.5**	**-0.6**
UZB	32nm,0.7s			Lg	Lg	00 33 27.9	
	59nm,0.5s						
AML	**Almayashu**	**3.17**	**306**	⇓*eP*	**Pn**	**00 32 39.5**	**-0.1**
AML	baz=9.0			⇓*iS*	**Sn**	**00 33 20.6**	**+2.9**
	baz=9.0						
AML	**Almayashu**	**3.17**	**306**	P	**Pn**	**00 32 40.6**	**+1.0**
	SNR=48						
CHMS	**Chumysh**	**3.21**	**327**	⇑*iP*	**Pn**	**00 32 40.7**	**+0.8**
CHMS	baz=28			⇑*iS*	**Sb**	**00 33 22.7**	**-3.0**
	baz=28						
CHMS	**Chumysh**	**3.21**	**327**	P	**Pn**	**00 32 41.5**	**+1.6**
	SNR=19						
SHLS	**Shalkode**	**3.30**	**31**	*eP*	**Pb**	**00 32 49.0**	**+1.1**
SHLS	14nm,0.1s			*eS*	**Sg**	**00 33 35.6**	**+0.4**
	111nm,0.6s						
SHLS	**Shalkode**	**3.30**	**31**	Pg	**Pb**	**00 32 49.0**	**+1.1**
SHLS	14nm,0.1s			Lg	Lg	00 33 35.3	
	111nm,0.6s						
KPKS	**Kokpek**	**3.33**	**19**	*eP*	**Pb**	**00 32 48.1**	**-0.3**
KPKS	80nm,0.3s			*eS*	**Sg**	**00 33 34.1**	**-2.0**
	148nm,0.5s						
KTBS	**Karatobe**	**3.39**	**354**	*eP*	**Pb**	**00 32 48.6**	**-0.9**
KTBS	28nm,0.4s			*eS*	**Sg**	**00 33 35.1**	**-3.1**
	98nm,0.5s						
KTBS	**Karatobe**	**3.39**	**354**	Pg	**Pb**	**00 32 48.8**	**-0.7**
KTBS	28nm,0.4s			Lg	Lg	00 33 34.7	
	98nm,0.5s						
EKS2	**Erkin-Say**	**3.44**	**313**	P	**Pn**	**00 32 44.9**	**+1.8**
	SNR=8.6						
PDGK	**Podgornoye**	**3.46**	**29**	Pg	**Pb**	**00 32 50.2**	**-0.5**
PDGK	13nm,0.4s			Lg	Lg	00 33 37.5	
	51nm,0.6s						
PDGK	**Podgornoye**	**3.46**	**29**	⇑Pg	**Pb**	**00 32 50.1**	**-0.5**
PDGK	13nm,0.4s			⇑Lg	Lg	00 33 37.8	
	54nm,0.6s						
KRBS	**Karabastau**	**3.54**	**342**	*eP*	**Pb**	**00 32 51.2**	**-0.7**
KRBS	28nm,0.4s			*eS*	**Sg**	**00 33 39.5**	**-3.3**
	20nm,0.4s						
KRBS	**Karabastau**	**3.54**	**342**	Pg	**Pb**	**00 32 51.2**	**-0.7**
KRBS	28nm,0.4s			Lg	Lg	00 33 38.9	
	20nm,0.4s						
USP	**Ospenovka**	**3.54**	**327**	⇑*eP*	**Pn**	**00 32 45.6**	**+1.2**
USP	baz=28			⇑*eS*	**Sn**	**00 33 30.3**	**+4.0**
	baz=28						
USP	**Ospenovka**	**3.54**	**327**	P	**Pn**	**00 32 46.4**	**+2.1**
	SNR=8.4						
SGDS	**Sogindy**	**3.64**	**330**	Pg	**Pb**	**00 32 53.2**	**-0.6**
SGDS	11nm,0.3s			Lg	Lg	00 33 42.7	
	13nm,0.5s						
MRKS	**Merke**	**3.81**	**310**	*eP*	**Pb**	**00 32 56.5**	**-0.2**
MRKS	22nm,0.3s			*eS*	**Sg**	**00 33 48.8**	**-2.9**
	13nm,0.4s						
MRKS	**Merke**	**3.81**	**310**	Pg	**Pb**	**00 32 56.5**	**-0.2**
MRKS	22nm,0.3s			Lg	Lg	00 33 48.1	
	13nm,0.4s						
MNBS	**Baschi**	**3.85**	**13**	*eP*	**Pb**	**00 32 58.1**	**+0.8**
MNBS	17nm,0.3s			*eS*	**Sg**	**00 33 51.2**	**-1.7**
	74nm,0.4s						
MNBS	**Baschi**	**3.85**	**13**	Pg	**Pb**	**00 32 58.2**	**+0.8**
MNBS	17nm,0.3s			Lg	Lg	00 33 50.9	
	74nm,0.4s						
ARXS	**Arharly**	**3.90**	**7**	*eP*	**Pb**	**00 32 59.1**	**+0.9**
ARXS	61nm,0.7s			*eS*	**Sg**	**00 33 53.2**	**-1.5**
	43nm,0.4s						
ARXS	**Arharly**	**3.90**	**7**	Pg	**Pb**	**00 32 59.1**	**+0.9**
ARXS	61nm,0.7s			Lg	Lg	00 33 53.2	
	43nm,0.4s						
KTMS	**Ketmen**	**3.91**	**36**	*eP*	**Pb**	**00 32 58.0**	**-0.4**
KTMS	15nm,0.3s			*eS*	**Sg**	**00 33 51.1**	**-3.8**
	58nm,0.7s						
KTMS	**Ketmen**	**3.91**	**36**	Pg	**Pb**	**00 32 58.0**	**-0.4**
KTMS	15nm,0.3s			Lg	Lg	00 33 50.6	
	58nm,0.7s						
MNAS	**Manas**	**4.11**	**303**	⇑*iP*	**Pn**	**00 32 52.2**	**-0.1**
MNAS	baz=6.0			⇑*iS*	**Sn**	**00 33 43.2**	**+2.7**
	baz=6.0						
TDK	**Taldyqorghan**	**4.75**	**11**	*eP*	**Pb**	**00 33 13.9**	**+1.3**
TDK	48nm,0.7s			*eS*	**Sg**	**00 34 18.6**	**-3.2**
	83nm,0.5s						
TDK	**Taldyqorghan**	**4.75**	**11**	Pg	**Pb**	**00 33 13.9**	**+1.3**
TDK	48nm,0.7s			Lg	Lg	00 34 18.3	
	83nm,0.5s						
BTLS	**Baital**	**5.23**	**335**	*eP*	**Pb**	**00 33 23.2**	**+2.4**
BTLS	5.3nm,0.7s			*eS*	**Sg**	**00 34 34.5**	**-2.7**
	8.6nm,0.2s						
BTLS	**Baital**	**5.23**	**335**	Pg	**Pb**	**00 33 23.2**	**+2.4**
BTLS	5.3nm,0.7s			Lg	Lg	00 34 33.7	
	8.9nm,0.7s						
IUG	**Iuzhnay**	**5.67**	**291**	*eP*	**Pb**	**00 33 29.9**	**+1.5**
IUG	7.8nm,0.8s			*eS*	**Sg**	**00 34 46.1**	**-5.3**
	17nm,0.7s						
IUG	**Iuzhnay**	**5.67**	**291**	Pg	**Pb**	**00 33 29.5**	**+1.1**
IUG	7.8nm,0.8s			Lg	Lg	00 34 45.0	
	17nm,0.7s						
KK31	**Karatay Array**	**5.69**	**301**	⇓Pg	**Pb**	**00 33 29.8**	**+1.1**
KK31	1.9nm,0.5s,baz=120,slow=16,SNR=10			⇓Lg	Lg	00 34 46.9	
	3.7nm,0.7s,baz=124,slow=28,SNR=3.7						
WMQ	**Urumqi**	**8.57**	**63**	*eP*	**Pn**	**00 33 51.0**	**-2.4**
WMQ	comp=N,10.0nm,0.7s			smax	smax		
WMQ	comp=E,12nm,0.7s			smax	smax		

*DJA **27** 00:35:57.4±0.4, 6.°S±2.°×13.°1E±.°, h140km±7km, M4.7/8,*
mB5.3/6, mb4.7/7, MLv4.8/8, Mw(mB)4.7/6
*NEIC **27** 00:35:58.9±3.0, 6.°37S±0.°05×131.°01E±0.°10, h93km±11km,*
mb4.2/10, Error ellipse: s-maj=13.7km s-min=6.8km
az=93.0
*IDC **27** 00:35:58.8±2.7, 6.°32S×131.°00E, h78km±24km, mb3.6/4,*
mb1 3.7/4, mb1mx3.2/42, mbtmp3.9/4, MS2.7/1, Ms1 2.7/1,
ms1mx2.3/32, Error ellipse: s-maj=33.9km s-min=22.0km
az=61.0

ISC 27 00:35:58.4±0.6, 6.°38S±0.°04×131.°08E±0.°07, h100km, n55, σ2§40/60, mb4.0/7, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.61**	**172**	P	**Pn**	**00 36 27.2**	**+1.2**
SAUI				S	**Sn**	**00 36 49.2**	**+2.3**
SAUI	**Saumlaki**	**1.61**	**172**	Pn	**Pn**	**00 36 27.2**	**+1.2**
SAUI				Sn	**Sn**	**00 36 45.6**	**-1.3**
BNDI	**Bandanaira**	**2.19**	**328**	P	**Pn**	**00 36 35.2**	**+1.8**
FAKI	**Fak Fak**	**3.63**	**19**	P	**Pn**	**00 36 53.2**	**+0.7**
FAKI				S	**Sn**	**00 37 36.3**	**+1.8**
FAKI	**Fak Fak**	**3.63**	**19**	Pn	**Pn**	**00 36 53.3**	**+0.7**
FAKI				Sn	**Sn**	**00 37 34.1**	**-0.4**
MSAI	**Masohi**	**3.70**	**324**	P	**Pn**	**00 36 55.2**	**+1.7**
NLAI	**Namlea**	**5.05**	**308**	P	**Pn**	**00 37 14.0**	**+2.2**
	0.3nm2μm67nm,0.8s						
SIJI	**Sorong**	**5.48**	**2**	P	**Pn**	**00 37 17.1**	**-0.5**
	39nm,0.3s,baz=188,slow=22,SNR=24						
SIJI				S	**Sn**	**00 38 13.8**	**-5.6**
	38nm,0.3s,baz=252,slow=20,SNR=14						
MTN	**Manton Dam**	**6.42**	**180**		**Pn**	**00 37 29.6**	**-0.9**
MTN					**Sn**	**00 38 38.0**	**-4.4**
SANI	**Sanana**	**6.66**	**310**	P	**Pn**	**00 37 35.5**	**+1.9**
	0.3nm1μm42nm,0.6s						
SOEI	**Soe**	**7.54**	**243**	P	**Pn**	**00 37 45.9**	**+0.2**
	0.4nm60nm,0.6s						
SOEI	**Soe**	**7.54**	**243**	Pn	**Pn**	**00 37 46.1**	**+0.4**
TNTI	**Ternate**	**8.01**	**332**	Pn	**Pn**	**00 37 52.0**	**-0.1**
BATI	**Baumata**	**8.27**	**242**	P	**Pn**	**00 37 55.5**	**0.0**
	30nm,0.3s,baz=97,slow=6.1,SNR=15						
BATI				S	**Sn**	**00 39 21.0**	**-6.4**
	8.5nm,0.3s,baz=113,slow=16,SNR=3.1						
BATI	**Baumata**	**8.27**	**242**	P	**Pn**	**00 37 55.6**	**0.0**
	1μm51nm,0.5s						
KNRA	**Kununurra**	**9.52**	**194**		**Pn**	**00 38 11.1**	**-1.4**
EDFI	**Ende, Flores**	**9.60**	**255**	P	**Pn**	**00 38 13.0**	**-0.8**
	7.3nm,0.6s						
LUWI	**Luwuk**	**9.84**	**302**	Pn	**Pn**	**00 38 17.3**	**+0.3**
KAPI	**Kappang**	**11.36**	**276**	LR	LR	00 44 20.4	
	comp=Z,32nm,18.3s,baz=69,slow=44						
FITZ	**Fitzroy Crossi**	**12.80**	**204**	P	**Pn**	**00 38 52.3**	**-4.4**
	2.3nm,0.3s,baz=25,slow=12,SNR=60						
FITZ				S	Sn	00 41 05.0	-13
	5.0nm,0.3s,baz=80,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**12.80**	**204**		**Pn**	**00 38 54.2**	**-2.5**
WB0	**Warramunga Arr**	**13.69**	**167**		**Pn**	**00 39 04.8**	**-3.6**
WRAB	**Tennant Creek**	**13.84**	**167**		**Pn**	**00 39 06.3**	**-4.0**
WRA	**Warramunga Arr**	**13.85**	**167**	P	Pn	00 39 05.1	-5.3
	6.7nm,0.3s,baz=352,slow=13,SNR=116						
WRA				S	Sn	00 41 29.4	-14
	1.7nm,0.3s,baz=339,slow=24,SNR=5.2						
WRA	**Warramunga Arr**	**13.85**	**167**		**Pn**	**00 39 05.9**	**-4.5**
WB2	**Warramunga Arr**	**13.85**	**167**	Pn	**Pn**	**00 39 05.8**	**-4.7**
WC3	**Warramunga Arr**	**13.87**	**167**	Pn	**Pn**	**00 39 06.3**	**-4.4**
WR0	**Warramunga Arr**	**13.91**	**166**	Pn	**Pn**	**00 39 07.8**	**-3.4**
BBKI	**Banjar Baru**	**16.44**	**279**	P	**P**	**00 39 49.3**	**+5.1**
AS31	**Alice Springs**	**17.40**	**171**		**P**	**00 39 53.6**	**-1.2**
AS31				IAmb	IAmb	00 39 58.0	
	comp=Z,7.2nm,0.6s						
ASAR	**Alice Springs**	**17.40**	**171**	P	**P**	**00 39 53.0**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=354,slow=14,SNR=80						
ASAR				S	Sn	00 42 56.8	-12
	comp=Z,0.6nm,0.3s,baz=351,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**17.40**	**171**		**P**	**00 39 53.6**	**-1.2**
PSA00	**Pilbara Seismi**	**18.61**	**215**		**Pn**	**00 40 08.7**	**-0.8**
PSA00				IAmb	IAmb	00 40 10.4	
	comp=Z,8.4nm,0.7s						
PSAA1	**Pilbara Seismi**	**18.62**	**215**	P	**Pn**	**00 40 09.6**	**0.0**
PSAB1	**Pilbara Seismi**	**18.62**	**215**	P	**Pn**	**00 40 09.3**	**-0.2**
PSAB3	**Pilbara Seismi**	**18.62**	**215**	P	**Pn**	**00 40 09.2**	**-0.4**
PSAC3	**Pilbara Seismi**	**18.66**	**215**	P	**Pn**	**00 40 09.8**	**-0.2**
PSAD3	**Pilbara Seismi**	**18.70**	**215**	P	**Pn**	**00 40 10.6**	**0.0**
CTA	**Charters Tower**	**20.07**	**134**	P	**Pn**	**00 40 26.9**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=297,slow=11,SNR=5.4						
CTAO	**Charters Tower**	**20.07**	**134**	P	**Pn**	**00 40 26.7**	**+0.1**
UGM	**Wanagama**	**20.46**	**264**	P	**P**	**00 40 28.1**	**0.0**
GIRL	**Giralia**	**22.92**	**223**	P	**P**	**00 40 55.7**	**+1.6**
FORT	**Forrest**	**24.44**	**186**	P	**P**	**00 41 07.8**	**0.0**
FORT				IAmb	IAmb	00 41 18.6	
	comp=Z,20nm,1.1s						
MORW	**Morawa**	**26.67**	**210**	P	**P**	**00 41 29.1**	**+1.0**
MORW				IAmb	IAmb	00 41 47.8	
	comp=Z,5.0nm,0.9s						
BBOO	**Buckleboo**	**26.70**	**171**	P	**P**	**00 41 29.7**	**+1.4**
NWAO	**Narrogin (SRO)**	**29.39**	**204**	P	**P**	**00 41 53.7**	**+1.5**
NWAO				IAmb	IAmb	00 42 12.0	
	comp=Z,11nm,1.1s						
NWAO	**Narrogin (SRO)**	**29.39**	**204**	P	**P**	**00 41 53.0**	**+0.8**
NWAO				IAmb	IAmb	00 42 12.1	
	comp=Z,14nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.17**	**308**	P	**P**	**00 43 26.8**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=139,slow=7.2,SNR=4.4						
MK31	**Makanchi Array**	**68.30**	**326**	P	**P**	**00 46 50.8**	**+2.0**
MK31				IAmb	IAmb	00 47 07.9	
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**68.30**	**326**	P	**P**	**00 46 51.2**	**+2.5**
	comp=Z,0.8nm,0.4s,baz=117,slow=7.2,SNR=9.3						
MKAR	**Makanchi Array**	**68.30**	**326**	P	**P**	**00 46 51.0**	**+2.2**
ZALV	**Zalesovo Beam**	**71.51**	**333**	P	**P**	**00 47 10.3**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=142,slow=7.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**129.74**	**282**	PKP	**PKiKP**	**00 54 58.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=105,slow=1.8,SNR=4.1						
CPUP	**Villa Florida**	**146.48**	**166**	PKPbc	**PKiKP**	**00 55 31.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=270,slow=2.0,SNR=3.6						
LPAZ	**La Paz**	**150.53**	**140**	PKPbc	**PKPab**	**00 55 43.8**	**-3.3**
	comp=Z,0.5nm,0.4s,baz=207,slow=4.5,SNR=3.6						

NNC 27 00:53:34.9±6.6, 37.°12N×71.°02E, h0km, mb3.6, mpv3.4,
2C-2D, Error ellipse: s-maj=65.4km s-min=43.0km
az=142.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.99**	**356**	P	Pn	00 55 06.4	+1.5
	1.4nm,0.2s,baz=182,slow=13,SNR=45						
KK31				⇓S	Sn	00 56 15.6	+1.5
	0.6nm,0.2s,baz=182,slow=22,SNR=7.9						
AAK	**Ala-Archa**	**6.13**	**25**	⇑P	Pn	00 55 06.4	-0.4
	1.1nm,0.6s						
AAK				⇓S	Sn	00 56 18.5	+0.7
	4.5nm,0.8s						
AB31	**Akbulak array**	**14.55**	**330**	⇑P	Pn	00 56 59.1	-2.9
	0.2nm,0.3s,baz=168,slow=9.9,SNR=9.1						

*IDC **27** 00:58:00.8±1.0, 34.°03N×139.°84E, h108km±8km, mb3.1/3,*
mb1 3.3/4, mb1mx3.0/61, mbtmp3.4/4, Error ellipse:
s-maj=37.1km s-min=9.4km az=73.0
*JMA **27** 00:58:01.0±0.2, 34.°14N×139.°93E, h95km±2km, M2.6*

ISC 27 00:58:00.5±0.9, 34.°08N±0.°05×139.°89E±0.°08, h102km±7km,
n20, σ0§83/25, mb3.5/3, Near south coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMKN	**Mikurajimanish**	**0.31**	**232**	P	**Pn**	**00 58 15.4**	**0.0**
JMKN				*eS*	**Sn**	**00 58 26.5**	**0.0**
JSKK	**Shikinejimakit**	**0.61**	**294**	P	**Pn**	**00 58 17.3**	**0.0**
JKO	**Kozu shima**	**0.63**	**280**	P	**Pn**	**00 58 17.8**	**+0.3**
JKO				*eS*	**Sn**	**00 58 30.7**	**+0.5**
JTHY	**Toshimahigashi**	**0.66**	**312**	P	**Pn**	**00 58 18.0**	**+0.2**
JIM2	**Oshima 3**	**0.74**	**329**	P	**Pn**	**00 58 18.3**	**-0.2**
JIM2				S	**Sn**	**00 58 31.2**	**-0.7**
BSO3	**Boso 3**	**0.88**	**36**	P	**Pn**	**00 58 20.0**	**+0.5**
JHJ	**Hachijo jima 2**	**0.97**	**185**	P	**Pn**	**00 58 21.4**	**+0.6**
	135nm,0.3s,baz=0.0,slow=20,SNR=48						
JHJ				S	**Sn**	**00 58 36.7**	**+0.8**
	159nm,0.3s,baz=125,slow=23,SNR=17						
JHJ2	**Mitsune**	**0.97**	**184**	P	**Pn**	**00 58 21.8**	**+1.0**
JIZS	**Izushimoda**	**1.05**	**307**	P	**Pn**	**00 58 21.7**	**+0.1**
JIZS				*eS*	**Sn**	**00 58 37.3**	**-0.1**
BSO1	**Boso 1**	**1.06**	**57**	P	**Pn**	**00 58 21.4**	**+0.2**
JOD2	**Odawara 2**	**1.35**	**331**	P	**Pn**	**00 58 25.1**	**0.0**
JOD

*IDC **27** 01:05:17.2±0.4,64˚.55N×17˚.70W,h0km,mb4.3/33, mb1 4.4/37,mb1mx4.3/56,mbtmp4.3/37,ML3.1/3,MS4.0/38, Ms1 4.0/38,ms1mx3.9/47,Error ellipse: s-maj=13.4km s-min=9.1km az=16.0*

*NEIC **27** 01:05:19.0±2.0,64˚.51N±0˚.09×17˚.8W±0˚.1,h10km±4km, mb4.8/139,Error ellipse: s-maj=13.0km s-min=6.3km az=194.0*

*GCMT **27** 01:05:21.0±0.3,64˚.74N±0˚.03×17˚.36W±0˚.04,h12km, MW4.7/80,Moment Tensor Solution. s13,c17; s80,c108; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~0.69±.06; Mθθ~0.78±.06; Mφφ 1.47±.04; Mrθ~0.38±.22; Mθφ~0.19±.05; Mφr~0.91±.15; Best double couple: Mo1.53200×10^16^ NP1:φs213.00000°,δ36.00000°,λ-31.00000°. NP2: φs329.00000°,δ72.00000°,λ-122.00000°. Principal axes: T 1.8380, Plg21.0000°, Azm83.0000°; N -0.6160, Plg31.0000°, Azm340.0000°; P -1.2260, Plg52.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **27** 01:05:21.1±0.0,64˚.46N×17˚.50W,h10km,mb4.8,Ms3.8*

ISC 27 01:05:18.0±0.6,64˚.63N±0˚.02×17˚.59W±0˚.02,h6km±3km, n455,σ1$77/389,mb4.7/149,MS4.0/37,36C-1D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IVON	**Vonarskard**	**0.09**	**304**	P	**Pg**		**01 05 18.8**	**-1.2**
	baz=303							
IDYN	**Dyngjuhals**	**0.19**	**30**	P	**Pg**		**01 05 20.5**	**-1.3**
	baz=27							
IDJK	**Dyngjujokull**	**0.20**	**128**	P	**Pg**		**01 05 20.5**	**-1.4**
	baz=129							
IGRF	**Grimsfjall**	**0.26**	**147**	P	**Pg**		**01 05 21.6**	**-1.5**
	baz=149							
IURH	**Urdarhals**	**0.27**	**44**	P	**Pg**		**01 05 21.9**	**-1.4**
	baz=42							
IHUS	**Husbondi**	**0.33**	**185**	P	**Pg**		**01 05 23.1**	**-1.4**
	baz=187							
ISKR	**Skrokkalda**	**0.35**	**260**	P	**Pg**		**01 05 23.5**	**-1.3**
	baz=260							
IKVE	**Kverkfjoll**	**0.40**	**82**	P	**Pg**		**01 05 24.1**	**-1.6**
	baz=81							
IVOT	**Vottur**	**0.40**	**153**	P	**Pg**		**01 05 23.9**	**-1.8**
	baz=154							
IJOK	**Jokulheimar**	**0.41**	**222**	P	**Pg**		**01 05 24.4**	**-1.6**
	baz=223							
IKRE	**Kreppuhraun**	**0.54**	**72**	P	**Pg**		**01 05 26.6**	**-1.8**
	baz=72							
IIEY	**Innrieyrar**	**0.58**	**204**	P	**Pg**		**01 05 27.1**	**-2.0**
	baz=205							
IIEY				S	**Sg**		**01 05 35.8**	**-0.8**
	baz=205							
IASK	**Askja**	**0.59**	**43**	P	**Pg**		**01 05 27.0**	**-2.3**
	baz=42							
IASK				S	**Sg**		**01 05 35.2**	**-1.7**
	baz=42							
IMKO	**Mokollar**	**0.64**	**56**	P	**Pg**		**01 05 28.1**	**-2.2**
	baz=55							
IKSK	**Karasker**	**0.67**	**133**	P	**Pg**		**01 05 28.1**	**-2.8**
	baz=134							
IKAL	**Kalfafell**	**0.68**	**184**	P	**Pg**		**01 05 28.7**	**-2.3**
	baz=184							
IVAT	**Vatnsfell**	**0.72**	**233**	P	**Pg**		**01 05 29.8**	**-2.0**
	baz=234							
ISVA	**Svartarkot**	**0.73**	**11**	P	**Pg**		**01 05 29.6**	**-2.4**
	baz=10							
ISVA				S	**Sg**		**01 05 39.5**	**-1.9**
	baz=10							
IVSH	**V-Sauoahnukur**	**0.82**	**76**	P	**Pg**		**01 05 31.2**	**-2.5**
	baz=76							
IVSH				S	**Sg**		**01 05 43.0**	**-1.3**
	baz=76							
IHVE	**Hveravellir**	**0.88**	**287**	P	**Pg**		**01 05 32.0**	**-2.9**
	baz=287							
IADA	**Aoalbol**	**0.95**	**64**	P	**Pg**		**01 05 33.2**	**-2.9**
	baz=64							
ISNB	**Snabyli**	**1.00**	**207**	P	**Pg**		**01 05 34.2**	**-3.0**
	baz=208							
IMEL	**Melhnausar**	**1.03**	**22**	P	**Pg**		**01 05 34.4**	**-3.3**
	baz=22							
ISLY	**Slysaalda**	**1.04**	**220**	P	**Pg**		**01 05 35.0**	**-2.9**
	baz=221							
IREN	**Reynihlio**	**1.07**	**15**	P	**Pg**		**01 05 35.1**	**-3.3**
	baz=15							
IRJU	**Rjupnafell**	**1.12**	**206**	P	**Pb**		**01 05 35.6**	**-4.0**
	baz=206							
IKVO	**Krokottuvotn**	**1.13**	**15**	P	**Pb**		**01 05 36.1**	**-3.8**
	baz=14							
IMJO	**Mjoaskard**	**1.14**	**233**	P	**Pb**		**01 05 36.8**	**-3.3**
	baz=234							
IGYG	**Gygjarholskot**	**1.19**	**254**	P	**Pb**		**01 05 37.3**	**-3.5**
	baz=255							
IGRS	**Grimsstaoir**	**1.19**	**31**	P	**Pb**		**01 05 37.1**	**-3.8**
	baz=30							
IHAU	**Haukadalur**	**1.23**	**239**	P	**Pn**		**01 05 38.0**	**-3.5**
	baz=239							
IHVO	**Lagu-Hvolar**	**1.23**	**207**	P	**Pn**		**01 05 38.3**	**-3.4**
	baz=208							
ISKI	**Skildingahlsh**	**1.27**	**11**	P	**Pn**		**01 05 38.4**	**-3.9**
	baz=10							
IGHA	**Grjothals**	**1.28**	**17**	P	**Pn**		**01 05 38.5**	**-3.9**
	baz=17							
IGRA	**Granastaoir**	**1.30**	**0**	P	**Pn**		**01 05 38.7**	**-3.8**
	baz=360							
IALF	**Alftagrof**	**1.34**	**212**	P	**Pn**		**01 05 39.9**	**-3.2**
	baz=213							
IHLA	**Hella**	**1.37**	**346**	P	**Pn**		**01 05 40.0**	**-3.5**
	baz=346							
IDIM	**Dimmadalss**	**1.37**	**11**	P	**Pn**		**01 05 40.0**	**-3.6**
	baz=11							
IESK	**Eystri-Skogar**	**1.37**	**217**	P	**Pn**		**01 05 40.3**	**-3.3**
	baz=218							
ISAU	**Saurbar**	**1.39**	**244**	P	**Pn**		**01 05 40.5**	**-3.3**
	baz=244							
IMID	**Miomork**	**1.40**	**227**	P	**Pn**		**01 05 40.9**	**-3.0**
	baz=228							
IHED	**Heoinshofoi**	**1.47**	**4**	P	**Pn**		**01 05 41.3**	**-3.6**
	baz=4.1							
IBRE	**Brettingsstaoi**	**1.51**	**355**	P	**Pn**		**01 05 42.3**	**-3.2**
	baz=355							
IASM	**Asmuli**	**1.54**	**240**	P	**Pn**		**01 05 43.3**	**-2.6**
	baz=241							
IGIL	**Gilhagi**	**1.55**	**19**	P	**Pn**		**01 05 42.4**	**-3.6**
	baz=19							
BORG	**Borgarnes**	**1.61**	**276**	Pn	**Pn**		**01 05 44.1**	**-2.7**
	124nm,0.3s,baz=92,slow=7.1,SNR=254							
BORG					Sn		**Sn**	**01 06 05.8**	**-2.1**
	88nm,0.3s,baz=44,slow=22,SNR=7.7							
BORG	**Borgarnes**	**1.61**	**276**		**Pn**		**01 05 44.0**	**-2.9**
ISIG	**Siglufjorour**	**1.61**	**340**	P	**Pn**		**01 05 43.6**	**-3.2**
	baz=340							
ISOL	**Solvholt**	**1.62**	**246**	P	**Pn**		**01 05 44.3**	**-2.7**
	baz=246							
IKRO	**Krokur**	**1.62**	**253**	P	**Pn**		**01 05 43.9**	**-3.1**
	baz=253							
IHEI	**Heioarbar**	**1.64**	**257**	P	**Pn**		**01 05 44.2**	**-3.0**
	baz=257							
IVME	**Vestmannaeyjar**	**1.69**	**226**	P	**Pn**		**01 05 45.6**	**-2.3**
	baz=226							
IBJA	**Bjarnastaoir**	**1.76**	**249**	P	**Pn**		**01 05 46.4**	**-2.5**
	baz=249							
ISAN	**Sandskeio**	**1.82**	**254**	P	**Pn**		**01 05 46.9**	**-2.9**
	baz=254							
IHRN	**Hraun**	**1.83**	**326**	P	**Pn**		**01 05 46.9**	**-2.9**
	baz=326							
IKUD	**Kuludalsa**	**1.88**	**263**	P	**Pn**		**01 05 47.7**	**-2.8**
	baz=263							
IKAS	**Kald??rsel**	**1.95**	**254**	P	**Pn**		**01 05 49.5**	**-2.1**
	baz=254							
IVOS	**Vogsosar**	**1.96**	**249**	P	**Pn**		**01 05 49.5**	**-2.1**
	baz=249							
JMIC	**Jan Mayen**	**7.25**	**24**	LR	LR		01 09 11.4	
	comp=Z,967nm,21.2s,baz=226,slow=32							
SUMG	**Summit**	**10.95**	**326**	P	**Pn**		**01 07 57.2**	**+1.9**
SUMG	**Summit**	**10.95**	**326**	Pn	**Pn**		**01 07 57.2**	**+1.9**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**		**01 08 05.1**	**-0.9**
	baz=323,slow=13,SNR=21							
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**		**01 08 04.5**	**-1.5**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**		**01 08 04.5**	**-1.5**
NC204	**NORSAR Array S**	**13.27**	**92**	Pn	**Pn**		**01 08 25.4**	**-1.3**
NBO00	**NORSAR Array S**	**13.39**	**93**	Pn	P		01 08 32.7	-5.2
NOA	**NORSAR Array B**	**13.57**	**92**	Pn	**Pn**		**01 08 28.7**	**-2.1**
	0.0nm,0.3s,baz=298,slow=13,SNR=5.4							
NOA					LR		LR	01 13 49.0	
	comp=Z,509nm,19.1s,baz=295,slow=38							
NB201	**NORSAR Array S**	**13.60**	**92**	Pn	**P**		**01 08 35.6**	**-4.6**
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR		01 13 17.2	
	comp=Z,2μm,18.0s,baz=86,slow=35							
HFS	**Hagfors**	**15.08**	**93**	LR	LR		01 14 35.6	
	comp=Z,576nm,19.4s,baz=326,slow=37							
KBS	**Kingsbay**	**16.69**	**19**	*ce*P	**P**		**01 09 13.6**	**-0.8**
KBS				pmax	pmax			
	comp=Z,64nm,1.7s							
SPITS	**Spitsbergen Ar**	**16.92**	**23**	LR	LR		01 13 56.0	
	comp=Z,500nm,21.6s,baz=235,slow=30							
NOR	**Nord**	**17.07**	**0**	*i* P	**P**		**01 09 19.0**	**+0.5**
NOR				pmax	pmax			
	comp=Z,110nm,1.6s							
NOR	**Nord**	**17.07**	**0**	*i* P	**P**		**01 09 19.0**	**+0.5**
	comp=Z,112nm,1.6s							
NOR	**Nord**	**17.07**	**0**	*i* P	**P**		**01 09 19.0**	**+0.5**
NOR				IAmb	IAmb		01 09 27.3	
	comp=Z,113nm,1.6s							
ARD7	**ARCESS Array S**	**17.16**	**54**	P	**P**		**01 09 20.5**	**+0.9**
ARC1	**ARCESS Array S**	**17.18**	**54**	P	**P**		**01 09 20.8**	**+1.1**
ARC1				IAmb	IAmb		01 09 24.1	
	comp=Z,139nm,2.0s							
ARCES	**ARCESS Array B**	**17.18**	**54**	P	**P**		**01 09 18.3**	**-1.5**
	baz=269,slow=8.5,SNR=11							
ARCES					LR	LR	01 14 20.5	
	comp=Z,251nm,21.5s,baz=245,slow=32							
BSEG	**Bad Segeberg**	**17.65**	**114**	*e*L	L		01 16 30.8	
	comp=Z,487nm,20.5s							
KEV	**Kevo**	**17.68**	**54**	P	**P**		**01 09 27.1**	**+1.8**
KEV				pmax	pmax			
	comp=Z,83nm,1.7s							
KEV	**Kevo**	**17.68**	**54**	P	**P**		**01 09 27.1**	**+1.8**
SNF	**Seneffe**	**18.23**	**130**	P	P		01 09 39.8	+8.3
SNF				Pn	sP		01 09 42.9	+8.3
SNF				pP	pP		01 09 44.2	+11
BMRD	**Maredsous**	**18.56**	**130**	Pn	**Pn**		**01 09 35.9**	**+0.6**
BMRD				sPn	**sPn**		**01 09 40.7**	**+2.3**
BMRD				pP	sP		01 09 47.7	+9.3
BGES	**Gesves**	**18.60**	**129**	P	Pn		01 09 43.4	+7.6
BCLA	**Clavier**	**18.64**	**129**	Pn	**Pn**		**01 09 37.1**	**+0.8**
BCLA	**Clavier**	**18.64**	**129**	P	Pn		01 09 43.9	+7.6
BCLA				pP	sP		01 09 46.9	+7.7
DOU	**Dourbes**	**18.68**	**131**	Pn	**Pn**		**01 09 37.3**	**+0.4**
DOU	**Dourbes**	**18.68**	**131**	P	Pn		01 09 44.2	+7.4
MEM	**Membach**	**18.72**	**127**	Pn	**Pn**		**01 09 38.7**	**+1.4**
BTNL	**Ternell**	**18.78**	**127**	x	**P**		**01 09 40.4**	**+2.8**
BTNL	**Ternell**	**18.78**	**127**	P	Pn		01 09 45.3	+7.3
BTNL				pP	sP		01 09 49.7	+8.9
BHOU	**Houvegnez**	**18.93**	**128**	Pn	**Pn**		**01 09 40.8**	**+0.9**
BHOU	**Houvegnez**	**18.93**	**128**	P	Pn		01 09 46.3	+6.4
BHOU				pP	sP		01 09 51.1	+8.6
WLF	**Walferdange**	**19.57**	**129**	Pn	**Pn**		**01 09 45.9**	**-1.6**
WLF				PnPn	**PnPn**		**01 10 01.9**	**+1.3**
FIA1	**FINESS Array S**	**19.75**	**79**	P	**Pn**		**01 09 51.9**	**+2.4**
FIA1				IAmb	IAmb		01 10 07.4	
	comp=Z,42nm,1.2s							
FINES	**FINESS Array B**	**19.75**	**79**	P	**Pn**		**01 09 48.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=282,slow=9.5,SNR=5.1							
FINES					LR	LR	01 16 47.3	
	comp=Z,454nm,21.3s,baz=260,slow=35							
FINES	**FINESS Array B**	**19.75**	**79**	P	**Pn**		**01 09 48.7**	**-0.8**
FINES	**FINESS Array B**	**19.75**	**79**	P	**Pn**		**01 09 48.7**	**-0.8**
CLF	**Chambon-Foret**	**19.79**	**138**	P	**Pn**		**01 09 48.4**	**-1.7**
CLF				IAmb	IAmb		01 10 04.5	
	comp=Z,94nm,1.5s							
TNS	**Taunus Mts**	**19.90**	**124**	*e*L	L		01 18 27.3	
	comp=Z,203nm,19.5s							
MOX	**Moxa**	**20.72**	**119**	*e*P	Pn		01 09 59.5	-1.6
	comp=Z,44nm,1.4s,baz=323,slow=11							
MOX				*e*L	L		01 18 32.9	
	comp=Z,527nm,19.7s							
CLL	**Collm**	**20.72**	**115**	*e*P	Pn		01 10 00.0	-1.1
	comp=Z,40nm,1.7s							
CLL				*i*			01 10 03.6	
	comp=Z,158nm,2.3s							
CLL				*e*PPP	PPP		01 10 27.0	
CLL				*e*S	Sn		01 13 59.0	+4.2
CLL				*e*SSS	SSS		01 14 36.0	
CLL				Lm	MLR		01 18 00.0	
	comp=N,500nm,18.8s							
CLL				Lm	MLR		01 18 00.0	
	comp=E,600nm,18.1s							
CLL	**Collm**	**20.72**	**115**	*e*P	Pn		01 10 00.0	-1.1
CLL				*i*			01 10 03.6	
CLL				pmax	pmax			
	comp=Z,40nm,1.7s							
CLL	**Collm**	**20.72**	**115**	*e*P	Pn		01 09 59.7	-1.4
	comp=Z,158nm,2.3s,baz=323,slow=11							
CLL				*e*L	L		01 18 05.7	
	comp=Z,437nm,18.3s							
CLL	**Collm**	**20.72**	**115**	P	Pn		01 09 59.3	-1.8
LVZ	**Lovozero**	**20.75**	**58**	*ce*P	Pn		01 10 01.9	+0.6
LVZ				pmax	pmax			
	comp=Z,98nm,2.5s							
ECH	**Echery**	**21.16**	**129**	P	**P**		**01 10 05.0**	**+1.5**
ECH				pmax	pmax			
	comp=Z,21nm,0.9s							
ECH	**Echery**	**21.16**	**129**	P	**P**		**01 10 05.0**	**+1.5**
GRA1	**Grafenberg Arr**	**21.35**	**121**	P	**P**		**01 10 07.2**	**+1.7**
GRA1				IAmb	IAmb		01 10 18.8	
	comp=Z,47nm,1.1s							
GRF	**Grafenberg Arr**	**21.35**	**121**	P	**P**		**01 10 07.2**	**+1.7**
GRF				pmax	pmax			
	comp=Z,47nm,1.1s							
GRF	**Grafenberg Arr**	**21.35**	**121**	*e*P	**P**		**01 10 07.5**	**+2.0**
	comp=Z,54nm,1.2s,baz=323,slow=11							
GRF				*e*L	L		01 19 26.1	
	comp=Z,489nm,18.2s							
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**		**01 10 05.5**	**-0.2**
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**		**01 10 05.5**	**-0.2**
STU	**Stuttgart**	**21.38**	**125**	P	**P**		**01 10 06.1**	**+0.2**
STU				pmax	pmax			
	comp=Z,46nm,1.0s							
STU	**Stuttgart**	**21.38**	**125**	P	**P**		**01 10 06.1**	**+0.2**
STU				IAmb	IAmb		01 10 12.1	
	comp=Z,46nm,1.0s							
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**		**01 10 06.4**	**0.0**
	comp=Z,26nm,1.5s							
BRG				*i*			01 10 11.4	
	comp=Z,39nm,1.4s							
BRG				S	Sn		01 14 14.0	+2.1
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**		**01 10 06.4**	**0.0**
BRG				*i*			01 10 11.4	
BRG				S	Sn		01 14 14.0	+2.1
BRG				pmax	pmax			
	comp=Z,27nm,1.5s							
BRG				pmax	pmax			
	comp=Z,39nm,1.4s							
BFO	**Black Forest**	**21.46**	**127**	P	**P**		**01 10 08.0**	**+1.3**
BFO				pmax	pmax			
	comp=Z,34nm,1.2s							
BFO	**Black Forest**	**21.46**	**127**	*e*P	**P**		**01 10 08.8**	**+2.1**
	comp=Z,72nm,1.7s,baz=323,slow=11							
BFO				*e*L	L		01 21 12.5	
	comp=Z,207nm,18.5s							
BFO	**Black Forest**	**21.46**	**127**	P	**P**		**01 10 08.0**	**+1.3**
BFO				IAmb	IAmb		01 10 23.9	
	comp=Z,34nm,1.2s							
VSU	**Vasula**	**21.61**	**86**	*e*P	**P**		**01 10 09.6**	**+1.4**
VSU	**Vasula**	**21.61**	**86**	*i* P	**P**		**01 10 09.1**	**+0.9**
VSU				pmax	pmax			
	comp=Z,137nm,0.9s							
FRB	**Frobisher Bay**	**21.73**	**291**	LR	LR		01 17 59.0	
	comp=Z,356nm,19.9s,baz=64,slow=35							
PVCC	**Panska Ves**	**21.95**	**115**	*e*P	**P**		**01 10 15.2**	**+3.3**
PVCC	**Panska Ves**	**21.95**	**115**	*e*P	**P**		**01 10 15.2**	**+3.3**
PABE	**Paberze**	**22.25**	**95**	*e*P	**P**		**01 10 16.7**	**+1.6**
PRU	**Pruhonice**	**22.37**	**116**	*e*P	**P**		**01 10 15.8**	**-0.6**
PRU				*e*pP	**sP**		**01 10 22.3**	**+2.6**
PRU				AMS	AMS		01 20 10.0	
	comp=Z,800nm,19.5s							
PRU	**Pruhonice**	**22.37**	**116**	*e*P	**P**		**01 10 15.8**	**-0.6**
PRU				*e*			01 10 22.3	
PRU				MLR	MLR			
	comp=Z,800nm,19.5s							
KSP	**Ksiaz**	**22.39**	**112**	*e*P	**P**		**01 10 16.9**	**+0.3**
WET	**Wettzell**	**22.41**	**119**	*e*L	L		01 19 12.6	
	comp=Z,387nm,20.7s							
CHVC	**Chvalec**	**22.49**	**113**	*e*P	**P**		**01 10 18.6**	**+0.8**
UPC	**Upice**	**22.54**	**113**	*e*P	**P**		**01 10 19.9**	**+1.7**
UPC	**Upice**	**22.54**	**113**	*e*P	**P**		**01 10 19.9**	**+1.7**
OSTC	**Ostas**	**22.58**	**112**	*e*P	**P**		**01 10 19.4**	**+0.7**
FUR	**Furstenfeldbru**	**22.64**	**123**	*e*L	L		01 20 36.5	
	comp=Z,541nm,18.0s							
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**		**01 10 20.0**	**+0.1**
KHC				*e*pP	**sP**		**01 10 24.7**	**+1.5**
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**		**01 10 20.0**	**+0.1**
KHC				*e*			01 10 24.7	
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**		**01 10 20.8**	**-0.1**
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**		**01 10 20.8**	**-0.1**
SENIN	**Lac Senin/Sane**	**22.83**	**131**	P	**P**		**01 10 22.7**	**+1.2**
SENIN				IAmb	IAmb		01 10 35.0	
	comp=Z,44nm,1.6s							
DAVA	**Damuels**	**22.89**	**126**	*e*P	**P**		**01 10 25.3**	**+3.1**
	comp=Z,22nm,1.2s							
SUW	**Suwalki**	**22.92**	**98**	*e*P	**P**		**01 10 25.3**	**+3.1**
SSB	**Saint Sauveur**	**22.95**	**137**	P	**P**		**01 10 23.5**	**+0.8**
SSB				pmax	pmax			
	comp=Z,52nm,1.6s							
SSB	**Saint Sauveur**	**22.95**	**137**	P	**P**		**01 10 23.5**	**+0.8**
SSB				IAmb	IAmb		01 10 35.2	
	comp=Z,52nm,1.6s							
GEC2	**GERESS Array S**	**22.97**	**118**	*e*P	**P**		**01 10 25.2**	**+2.3**
	comp=Z,41nm,1.3s,baz=323,slow=11							
GEC2	**GERESS Array S**	**22.97**	**118**	P	**P**		**01 10 24.7**	**+1.8**
GEC2				IAmb	IAmb		01 10 36.1	
	comp=Z,42nm,1.4s							
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**		**01 10 22.7**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=334,slow=8.9,SNR=15							
GERES					LR	LR	01 20 39.2	
	comp=Z,429nm,18.1s,baz=326,slow=40							
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**		**01 10 23.9**	**+1.0**
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**		**01 10 23.9**	**+1.0**
RETA	**Reutte**	**23.03**	**125**	*e*P	**P**		**01 10 25.2**	**+1.7**
	comp=Z,18nm,1.2s							
IZAR	**Zarasai**	**23.07**	**92**	*e*P	**P**		**01 10 24.6**	**+0.8**
ISAL	**Salakas**	**23.13**	**92**	*e*P	**P**		**01 10 25.4**	**+1.0**
KRLC	**Kraliky**	**23.18**	**112**	*e*P	**P**		**01 10 25.4**	**+0.3**
KRLC	**Kraliky**	**23.18**	**112**	*e*P	**P**		**01 10 25.3**	**+0.3**
MOTA	**Moosalm**	**23.27**	**124**	*e*P	P		01 10 32.0	+5.9
	comp=Z,23nm,1.2s							
TREC	**Trest**	**23.29**	**115**	*e*P	**P**		**01 10 27.6**	**+1.5**
TREC	**Trest**	**23.29**	**115**	*e*P	**P**		**01 10 27.6**	**+1.5**
IIGN	**Ignalina**	**23.32**	**93**	*e*P	**P**		**01 10 26.9**	**+0.6**
PGAV	**Gavieira, Arco**	**23.32**	**162**	*e*P	**P**		**01 10 26.3**	**-0.3**
	comp=Z,33nm,1.7s							
PGAV				*e*LR	LR		01 17 17.7	
	comp=Z,712nm,20.0s							
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P	**P**		**01 10 26.9**	**+0.2**
	comp=Z,4.8nm,1.0s,baz=301,slow=8.4,SNR=7.2							
TMCR	**Tamitsa**	**23.40**	**66**	*e*P	**P**		**01 10 28.3**	**+1.3**
TMCR				pmax	pmax			
	comp=Z,38nm,0.9s							
TUE	**Stuetta**	**23.41**	**128**	P	**P**		**01 10 29.0**	**+1.5**
SQTA	**Sankt Quirin**	**23.41**	**124**	*e*P	P		01 10 33.9	+6.4
	comp=Z,35nm,1.3s							
FETA	**Feichten**	**23.41**	**125**	*e*P	**P**		**01 10 30.2**	**+2.6**
	comp=Z,17nm,1.4s							
WATA	**Walderalm**	**23.45**	**124**	*e*P	**P**		**01 10 28.7**	**+0.8**
	comp=Z,14nm,1.2s							
WTTA	**Wattenberg**	**23.53**	**124**	*e*P	**P**		**01 10 30.2**	**+1.5**
	comp=Z,23nm,1.5s							
IDID	**Didziasalis**	**23.56**	**92**	*e*P	**P**		**01 10 28.7**	**0.0**
FUORN	**Ofenpass-Fuorn**	**23.60**	**126**	P	**P**		**01 10 30.4**	**+0.9**
FUORN				IAmb	IAmb		01 10 37.2	
	comp=Z,34nm,1.6s							
EUNU	**Eureka**	**23.69**	**336**	P	**P**		**01 10 31.3**	**+1.4**
EUNU				IAmb	IAmb		01 10 36.4	
	comp=Z,19nm,1.0s							
PBRG	**Braganca**	**23.70**	**160**	*e*P	**P**		**01 10 33.2**	**+3.0**
	comp=Z,37nm,1.5s							
VRAC	**Vranov**	**23.71**	**114**	P	**P**		**01 10 30.7**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=318,slow=9.5,SNR=10							
VRAC					LR	LR	01 20 17.0	
	comp=Z,373nm,18.3s,baz=328,slow=38							
VRAC	**Vranov**	**23.71**	**114**	⇑P	**P**		**01 10 31.0**	**+0.7**
VRAC	**Vranov**	**23.71**	**114**	*e*P	**P**		**01 10 30.9**	**+0.7**
VRAC	**Vranov**	**23.71**	**114**	⇑P	**P**		**01 10 31.0**	**+0.7**
MORC	**Moravsky Berou**	**23.72**	**112**	⇑P	**P**		**01 10 30.9**	**+0.5**
MORC	**Moravsky Berou**	**23.72**	**112**	*e*P	**P**		**01 10 30.6**	**+0.2**
MORC	**Moravsky Berou**	**23.72**	**112**	⇑P	**P**		**01 10 30.9**	**+0.5**
MORC	**Moravsky Berou**	**23.72**	**112**	P	**P**		**01 10 30.6**	**+0.2**
MORC				IAmb	IAmb		01 10 47.5	
	comp=Z,67nm,1.8s							
KRUC	**Moravsky**	**23.83**	**115**	*e*P	**P**		**01 10 31.6**	**+0.2**
NACGM	**Naroch**	**23.86**	**93**	*e*	**P**		**01 10 33.0**	**+1.4**
POLO	**Lamas de Olo**	**23.97**	**162**	*e*P	**P**		**01 10 36.0**	**+3.1**
	comp=Z,15nm,1.4s							
MOA	**Molln**	**24.00**	**119**	*e*P	P		01 10 38.3	+5.2
	comp=Z,22nm,1.6s							
PVRL	**Vila Real**	**24.08**	**162**	*e*P	**P**		**01 10 34.5**	**+0.7**
	comp=Z,30nm,1.5s							
MVO	**Moncorvo**	**24.28**	**160**	*e*P	**P**		**01 10 38.6**	**+2.8**
	comp=Z,33nm,1.3s							
MVO				*e*LR	LR		01 18 12.7	
	comp=Z,439nm,18.0s							
ABTA	**Abf

PMAFR **Mafra** 26.17 165 *e*P P **01 10 55.5 +2.7**
comp=Z,61nm,1.6s
ESBB Sonseca Array 26.23 156 P P **01 10 53.4 0.0**
ESDC Sonseca Array 26.23 156 P P **01 10 53.3 -0.1**
comp=Z,3.1nm,0.7s,baz=348,slow=9.2,SNR=29
ESDC LR LR 01 21 10.4
comp=Z,485nm,18.2s,baz=330,slow=36
ESDC Sonseca Array 26.23 156 P P **01 10 53.3 -0.1**
PAB San Pablo 26.29 156 P P **01 10 53.9 -0.1**
PAB pmax pmax
comp=Z,18nm,1.3s
PAB San Pablo 26.29 156 P P **01 10 53.9 -0.1**
KOLS Kolonicke sedl 26.30 107 *e*P P **01 10 56.5 +2.6**
KOLS Kolonicke sedl 26.30 107 *e*P P **01 10 56.5 +2.6**
LVV L'vov 26.34 104 *e*P P **01 10 55.9 +1.6**
RES Resolute Bay 26.48 324 LR LR 01 20 42.0
comp=Z,220nm,20.1s,baz=151,slow=35
UZH Uzhgorod 26.55 108 *e*P P **01 10 56.7 +0.6**
UZH *e* 01 10 59.1
UZH *i* 01 11 01.0
UZH *e* 01 11 44.1
UZH *e*PPP PPP 01 11 58.6
UZH *e* 01 14 28.9
UZH *e*S **S** **01 15 26.7 -3.8**
UZH *e*SS SnSn 01 16 52.4 +21
UZH MLR MLR
comp=N,250nm,17.0s
UZH MLR MLR
comp=E,100nm,17.0s
UZH MLR MLR
comp=Z,70nm,17.0s
EVO Evora 26.74 163 *e*P P 01 11 07.4 +9.5
comp=Z,14nm,1.9s
MORF Marmelete 27.87 165 *e*P P **01 11 06.1 -2.1**
comp=Z,12nm,1.7s
AKASG **Malin Array Be 27.88 97** P P **01 11 07.6 -0.4**
comp=Z,2.6nm,0.8s,baz=322,slow=10,SNR=4.3
AKASG LR LR 01 22 13.2
comp=Z,287nm,19.6s,baz=330,slow=36
AKASG **Malin Array Be 27.88 97** *i*P P **01 11 11.1 +3.1**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG **Malin Array Be 27.88 97** P P **01 11 09.9 +1.9**
AKBB Malin Array Si 27.88 97*ce*P P **01 11 09.6 +1.6**
PVAQ Vaqueiros 27.89 163 *e*LR LR 01 19 22.3
comp=Z,495nm,20.0s
OBN Obninsk 27.93 84 P P **01 11 09.5 +1.1**
comp=Z,1.7nm,0.5s,baz=246,slow=10.0,SNR=3.7
OBN LR LR 01 21 31.1
comp=Z,63nm,19.9s,baz=356,slow=35
OBN Obninsk 27.93 84 *e*P P **01 11 09.9 +1.5**
OBN *e*PPP PPP 01 12 04.1
OBN *e* 01 14 24.7
OBN pmax pmax
comp=Z,19nm,1.1s
OBN Obninsk 27.93 84 P P **01 11 09.3 +0.9**
MOS Moscow 27.96 82 *e*P P **01 11 12.9 +4.1**
MOS *e* 01 12 04.4
MOS pmax pmax
comp=Z,29nm,1.4s
SIRR Siria 28.18 112 ⇑P P **01 11 11.5 +0.7**
BURAR **Bucovina Array 28.55 106** ⇑P P 01 11 21.7 +7.5
BURAR **Bucovina Array 28.55 106** ⇑P P 01 11 21.7 +7.5
BURAR **Bucovina Array 28.55 106** P P **01 11 14.6 +0.3**
CJR Cluj-Napoca 28.61 109 ⇑P P **01 11 16.4 +1.7**
CJR Cluj-Napoca 28.61 109 ⇑P P **01 11 16.4 +1.7**
BZS Buzias 28.70 113 ⇑P P **01 11 17.2 +1.8**
BZS Buzias 28.70 113 ⇑P P **01 11 17.2 +1.8**
GZR Gura Zlata 29.35 111 ⇑P P **01 11 22.5 +1.2**
GZR Gura Zlata 29.35 111 ⇑P P **01 11 22.5 +1.2**
SORM Soroca 29.46 102 ⇑P P **01 11 23.4 +1.3**
SORM Soroca 29.46 102 ⇑P P **01 11 23.4 +1.3**
BIZ Bicaz 29.46 106 ⇑P P **01 11 22.9 +0.8**
HERR Herculane 29.63 112 ⇑P P **01 11 23.8 +0.2**
ARR Arges 30.12 109 ⇑P P **01 11 30.1 +2.0**
VOIR 30.23 109 ⇑P P **01 11 28.6 -0.5**
VOIR 30.23 109 ⇑P P **01 11 28.6 -0.5**
MLR Muntele Rosu 30.56 108 ⇑P P 01 11 38.8 +6.8
MLR Muntele Rosu 30.56 108 ⇑P P 01 11 38.8 +6.8
MILM Milestii Mici 30.60 103 ⇑P P **01 11 32.3 0.0**
LPSR Galich'ya Gora 30.67 86 *e*P P 01 11 37.0 +4.2
LPSR pmax pmax
comp=Z,6.0nm,1.0s
NEHR Nehoiu 30.75 107 ⇑P P **01 11 35.5 +1.8**
KIRV Kirov 31.03 69 LR LR 01 24 00.7
comp=Z,424nm,18.2s,baz=312,slow=36
VSR Storozhevoye 31.77 87 *e*P P **01 11 42.7 +0.2**
VSR pmax pmax
comp=Z,5.0nm,0.9s
CLTB Caltabellotta 32.64 131 IAmb IAmb 01 12 03.1
comp=Z,17nm,1.0s
MDT Midelt 32.83 160 P P **01 11 52.6 +0.5**
comp=Z,10nm,1.0s,baz=355,slow=9.8,SNR=20
MDT LR LR 01 24 22.9
comp=Z,304nm,21.5s,baz=40,slow=35
VRH Novokhopyorsk 32.88 85 *e*P P **01 11 51.8 -0.4**
VRH pmax pmax
comp=Z,8.0nm,1.0s
KEST Kesra 33.15 138 P P **01 11 54.8 -0.1**
comp=Z,2.9nm,1.0s,baz=323,slow=5.1,SNR=2.1
KEST LR LR 01 25 23.0
comp=Z,304nm,18.7s,baz=336,slow=36
KEST Kesra 33.15 138 P P **01 11 54.2 -0.6**
KEST IAmb IAmb 01 12 05.8
comp=Z,15nm,1.2s
ARU Arti 36.13 66 P P **01 12 21.4 +1.1**
comp=Z,0.5nm,0.4s,baz=312,slow=5.5,SNR=3.4
ARU Arti 36.13 66*d i*P P 01 12 23.7 +3.4
ARU 01 13 42.1
ARU S **S** **01 18 05.7 +5.8**
ARU SS **SS** **01 20 30.8 -6.0**
ARU pmax pmax
comp=Z,12nm,2.0s
ARU Arti 36.13 66 P P **01 12 22.4 +2.1**
NRIK Noril'sk 36.52 35 P P **01 12 24.4 +1.0**
comp=Z,9.5nm,1.3s,baz=298,slow=4.8,SNR=7.5
NRIK LR LR 01 29 05.4
comp=Z,266nm,18.1s,baz=7.5,slow=39
NRIK Noril'sk 36.52 35*ce*P P **01 12 24.4 +1.0**
NRIK pmax pmax
comp=Z,13nm,1.3s
SOC Sochi 37.90 95 *e*P P 01 12 39.7 +4.2
SOC *e*S S 01 18 34.9 +7.9
SOC *e*SS **SnSn** **01 21 02.1 -5.5**
SOC MLR MLR
comp=Z,218nm,17.0s
BR131 Keskin Array S 38.51 105⇑ *i*P P 01 12 43.9 +3.1
BRTR Keskin Array B 38.51 105 P P **01 12 42.2 +1.4**
comp=Z,4.4nm,0.8s,baz=335,slow=7.1,SNR=11
BRTR LR LR 01 31 09.9
comp=Z,54nm,18.0s,baz=336,slow=40
BRTR Keskin Array B 38.51 105 *i*P P 01 12 45.4 +4.6
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 38.51 105 P P **01 12 42.9 +2.1**
IDI Anoyia 38.84 118 P P **01 12 43.0 -0.5**
comp=Z,20nm,1.1s,baz=311,slow=11,SNR=2.0
KIV Kislovodsk 38.88 92 *e*P P **01 12 45.0 +1.2**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,545nm,16.0s
SHA1 Shidzhatmaz 39.04 93 *i*P P **01 12 47.8 +2.5**
KBZ Khabaz 39.15 92 P P **01 12 46.8 +0.9**
comp=Z,4.1nm,0.9s,baz=329,slow=15,SNR=8.5
KBZ LR LR 01 29 13.4
comp=Z,364nm,19.9s,baz=328,slow=37
KBZ Khabaz 39.15 92*ce*P P **01 12 48.0 +2.1**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 39.21 313 P P **01 12 47.2 +0.9**
comp=Z,9.1nm,1.1s,baz=42,slow=8.4,SNR=4.6
YKA LR LR 01 28 29.5
comp=Z,117nm,18.2s,baz=0.0,slow=36
AKTO Aktyubinsk 40.34 73 P P **01 12 56.1 +0.3**
comp=Z,3.0nm,0.8s,baz=330,slow=7.2,SNR=11
FFC Flin Flon 40.58 297 P P **01 12 59.3 +1.6**
FFC pmax pmax
comp=Z,35nm,1.4s
FFC Flin Flon 40.58 297 P P **01 12 59.3 +1.6**
FFC IAmb IAmb 01 13 04.8
comp=Z,35nm,1.4s
ULM Lac du Bonnet 41.58 289 LR LR 01 29 24.1
comp=Z,178nm,19.1s,baz=43,slow=35

ABKAR **Akbulak array 42.04 73** P P **01 13 11.0 +1.2**
ABKAR **Akbulak array 42.04 73** IAmb IAmb 01 13 12.0
comp=Z,7.2nm,1.2s
TIXI Tiksi 42.08 15*ce*P P **01 13 11.6 +1.8**
TIXI pmax pmax
comp=Z,123nm,1.7s
TIXI Tiksi 42.08 15 P P **01 13 11.8 +1.9**
GAZ Gaziantep 42.16 103 P P **01 13 12.7 +1.8**
BMAR Burnt Mountain 42.91 333 P P **01 13 17.7 +1.0**
G40A Rio Lake 43.12 280 IAmb IAmb 01 13 25.4
comp=Z,22nm,1.2s
BRVK Borovoye 43.19 62*ce*P P **01 13 20.8 +1.8**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
N51A Ashland 43.29 269 IAmb IAmb 01 13 27.7
comp=Z,26nm,1.1s
MARD Mardin 43.54 100 P P **01 13 24.9 +2.6**
MARD IAmb IAmb 01 13 35.1
comp=Z,16nm,0.9s
P53A Whipple 44.05 267 IAmb IAmb 01 13 30.0
comp=Z,20nm,1.0s
TAM Tamanrasset 44.50 149 P P **01 13 30.2 +0.1**
TAM pmax pmax
comp=Z,9.0nm,1.4s
TAM Tamanrasset 44.50 149 P P **01 13 30.1 +0.1**
DAWY Dawson 44.71 328 IAmb IAmb 01 13 38.4
comp=Z,16nm,1.2s
O49A Covington 44.73 270 P P **01 13 31.1 -0.5**
O49A IAmb IAmb 01 13 34.8
comp=Z,20nm,1.0s
MMAI Mount Meron Ar 44.99 108 P P **01 13 34.1 +0.3**
comp=Z,3.6nm,0.9s,baz=357,slow=4.2,SNR=6.3
F33A 5 Mile Ranch, 45.23 285 IAmb IAmb 01 13 43.2
comp=Z,12nm,0.9s
K27K Chicken 45.35 329 IAmb IAmb 01 13 43.5
comp=Z,16nm,1.3s
IL31 45.70 332 IAmb IAmb 01 13 46.5
comp=Z,14nm,1.2s
ILAR Eielson Array 45.70 332 P P **01 13 40.7 +1.6**
comp=Z,6.4nm,1.1s,baz=22,slow=7.4,SNR=15
ILAR PcP **PcP** **01 15 17.1 +0.4**
comp=Z,2.1nm,0.7s,baz=5.0,slow=3.2,SNR=14
ILAR LR LR 01 35 13.8
comp=Z,149nm,19.5s,baz=32,slow=39
ILAR Eielson Array 45.70 332 P P **01 13 40.0 +1.0**
SFIN Lafayette 45.77 273 P P **01 13 39.4 -0.4**
MDM Murphy Dome 45.80 333 IAmb IAmb 01 13 47.5
comp=Z,18nm,1.2s
P48A Milroy 45.81 271 IAmb IAmb 01 13 42.9
comp=Z,14nm,0.9s
IMAR Indian Mountai 45.88 337 P P **01 13 40.5 +0.1**
BCAR Beaver Creek A 46.12 328 P P **01 13 44.2 +1.8**
ASF Jabal al Asfar 46.33 107 P P **01 13 45.1 +0.6**
comp=Z,2.9nm,0.9s,baz=304,slow=7.3,SNR=4.4
WCI Wyandotte Cave 47.21 271 P P **01 13 49.9 -1.2**
WCI pmax pmax
comp=Z,13nm,0.9s
WCI Wyandotte Cave 47.21 271 P P **01 13 49.9 -1.2**
BILL Bilibino 47.59 358 *e*P P 01 13 56.8 +3.1
BILL *e* 01 15 26.0
BILL *e* 01 15 47.6
BILL pmax pmax
comp=Z,10.0nm,1.3s
ZALV Zalesovo Beam 47.69 51 P P **01 13 55.8 +1.1**
comp=Z,1.7nm,0.6s,baz=324,slow=7.7,SNR=9.3
ZALV Zalesovo Beam 47.69 51 *i*P P 01 13 57.7 +3.0
ZALV pmax pmax
comp=Z,2.0nm,0.6s
EIL Elat 47.74 111 P P **01 13 56.6 +1.2**
comp=Z,3.1nm,0.8s,baz=343,slow=12,SNR=4.0
KURK Kurchatov 48.17 58*ce*P P **01 13 59.1 +0.7**
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 48.17 58 P P **01 13 58.9 +0.5**
KURK IAmb IAmb 01 14 03.4
comp=Z,10.0nm,1.1s
KURBB **Kurchatov Arra 48.21 58** P P **01 13 58.9 +0.1**
comp=Z,6.6nm,1.0s,baz=324,slow=7.2,SNR=16
KURBB PP **PP** **01 15 52.5 +1.8**
comp=Z,0.5nm,0.2s,baz=326,slow=8.6,SNR=5.0
U49A Red Boiling Sp 48.43 269 IAmb IAmb 01 14 02.9
comp=Z,12nm,1.2s
LAO LASA Array 48.58 293 P P **01 14 01.1 -0.6**
EGMT Eagleton 48.86 297 P P **01 14 04.8 +0.9**
CLTN Cedars of Leba 49.02 269 IAmb IAmb 01 14 13.6
comp=Z,12nm,1.3s
W50A Signal Mountai 49.34 268 P P **01 14 07.8 +0.2**
X51A Calhoun 49.68 267 IAmb IAmb 01 14 18.8
comp=Z,16nm,1.1s
GOGA Godfrey 50.07 265 IAmb IAmb 01 14 21.1
comp=Z,16nm,1.1s
GEYT Alibeck 50.47 83 P P **01 14 15.7 -0.6**
comp=Z,0.9nm,0.6s,baz=294,slow=7.1,SNR=3.3
GEYT LR LR 01 37 49.3
comp=Z,217nm,18.1s,baz=0.0,slow=39
GEYT Alibeck 50.47 83 P P **01 14 18.2 +2.0**
S39A Bolivar 50.68 276 P P **01 14 17.3 -0.5**
S39A IAmb IAmb 01 14 22.3
comp=Z,8.3nm,0.8s
KOWA Kowa 50.94 163 P P **01 14 19.2 -0.6**
RLMT Red Lodge 51.07 295 P P **01 14 21.6 +0.7**
RLMT IAmb IAmb 01 14 36.0
comp=Z,21nm,1.4s
BOZ Bozeman (W) 51.59 297 IAmb IAmb 01 14 32.4
comp=Z,20nm,1.1s
U40A Yellville 51.60 275 P P **01 14 24.2 -0.5**
K22A Casper 52.04 291 IAmb IAmb 01 14 34.6
comp=Z,12nm,1.0s
YHL Hebgen Lake 52.04 296 P P **01 14 29.7 +1.4**
T35A Sooner Cattle 52.70 279 IAmb IAmb 01 14 40.0
comp=Z,14nm,1.1s
MCMT McKenzie Canyo 52.70 297 P **01 14 33.9 +0.8**
MKAR Makanchi Array 52.78 58 P P **01 14 33.5 +0.1**
comp=Z,3.4nm,1.1s,baz=327,slow=6.5,SNR=7.0
MKAR LR LR 01 38 52.6
comp=Z,86nm,18.5s,baz=314,slow=38
LOHW Long Hollow 52.86 295 P P **01 14 35.4 +1.2**
SNOW Snow King Moun 53.04 295 IAmb IAmb 01 14 44.1
comp=Z,13nm,1.1s
TPAW Teton Pass 53.09 295 P P **01 14 37.0 +1.0**
TPAW IAmb IAmb 01 14 45.1
comp=Z,16nm,1.4s
TOA0 Torodi Ar. Sit 53.12 156 P P **01 14 35.2 -0.9**
TOA0 IAmb IAmb 01 14 40.3
comp=Z,9.2nm,1.0s
TORD Torodi Ar. Bea 53.12 156 P P **01 14 35.1 -1.0**
comp=Z,7.6nm,1.0s,baz=342,slow=8.8,SNR=21
TORD LR LR 01 37 26.1
comp=Z,117nm,18.0s,baz=345,slow=36
TORD Torodi Ar. Bea 53.12 156 P P **01 14 34.5 -1.6**
BW06 Boulder Array 53.16 293 IAmb IAmb 01 14 50.7
comp=Z,15nm,1.1s
PD31 Pinedale Array 53.16 293 IAmb IAmb 01 14 50.7
comp=Z,13nm,1.1s
PDAR Pinedale Array 53.16 293 P P **01 14 36.1 -0.4**
comp=Z,5.5nm,0.8s,baz=56,slow=6.4,SNR=31
PDAR LR LR 01 37 03.6
comp=Z,195nm,18.4s,baz=30,slow=36
PDAR Pinedale Array 53.16 293 P P **01 14 35.8 -0.7**
REDW Red Top Meadow 53.16 295 IAmb IAmb 01 14 44.8
comp=Z,9.1nm,1.1s
N23A Red Feather La 53.28 289 P **01 14 36.8 -0.6**
AAK Ala-Archa 53.31 67*ce*P P **01 14 38.9 +1.4**
AAK pmax pmax
comp=Z,51nm,1.7s
MIAR Mount Ida 53.45 274 P P **01 14 38.6 +0.2**
MIAR pmax pmax
comp=Z,11nm,1.3s
MIAR Mount Ida 53.45 274 P P **01 14 38.6 +0.2**
MIAR IAmb IAmb 01 14 43.3
comp=Z,11nm,1.2s
HLID Hailey 54.38 297 P P **01 14 44.6 -0.7**
MOY Mondy 54.72 42 *e*P P **01 14 50.2 +2.6**
MOY pmax pmax
comp=Z,43nm,3.0s
O20A White River Ci 54.85 290 P P **01 14 49.2 +0.4**
O20A IAmb IAmb 01 14 59.8
comp=Z,21nm,1.4s
WMOK Wichita Mounta 55.51 279 IAmb IAmb 01 15 01.2
comp=Z,10nm,1.1s
T25A Trinidad 55.83 285 P P **01 14 57.4 +1.4**
ZAK Zakamensk 56.52 41 *e*P P **01 15 00.9 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KSH Kashi 56.55 68 P P **01 15 03.0 +2.0**
KSH S **S** **01 22 52.0 -0.7**

KSH pmax pmax
comp=Z,33nm,1.5s
KSH LR LR
comp=Z,230nm,8.1s
KSH LR LR
comp=Z,190nm,6.1s
KSH LR LR
comp=Z,200nm,6.1s
PV23 Carpenter Ridg 56.60 290 IAmb IAmb 01 15 07.4
comp=Z,12nm,0.9s
DUG Dugway, Tooele 56.63 294 P P **01 15 01.9 +0.4**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 56.63 294 P P **01 15 01.9 +0.4**
DUG IAmb IAmb 01 15 10.6
comp=Z,8.1nm,1.1s
SRU San Rafael Swe 56.65 292 P P **01 15 01.3 -0.4**
SRU pmax pmax
comp=Z,8.0nm,1.0s
SRU San Rafael Swe 56.65 292 P P **01 15 01.3 -0.4**
PV20 West Nyswonger 56.68 290 IAmb IAmb 01 15 08.4
comp=Z,7.2nm,0.9s
PV16 Nyswonger Mesa 56.68 290 IAmb IAmb 01 15 09.2
comp=Z,9.2nm,0.9s
PV01 Paradox Valley 56.69 289 IAmb IAmb 01 15 09.5
comp=Z,15nm,1.1s
PV03 Paradox Valley 56.70 290 P P **01 15 02.3 +0.2**
PV17 East Wray Mesa 56.73 290 IAmb IAmb 01 15 09.5
comp=Z,11nm,0.9s
ELK Elko 57.10 296 P P **01 15 06.0 +1.0**
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 57.10 296 P P **01 15 06.0 +1.0**
WMQ Urumqi 57.29 56 *e*P P **01 15 07.3 +1.2**
WMQ pP sP 01 15 14.8 +5.3
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,150nm,5.7s
MSU Marysvale 57.82 292 P P **01 15 10.7 +0.6**
MSU Marysvale 57.82 292 P P **01 15 10.7 +0.6**
MSTX Muleshoe 57.86 282 IAmb IAmb 01 15 18.2
comp=Z,12nm,1.1s
MTPU Mount Pierson 58.23 292 P P **01 15 14.4 +1.3**
DBIC Dimbokro 58.56 165 P P **01 15 14.1 -1.0**
comp=Z,7.7nm,0.9s,baz=7.2,slow=6.7,SNR=6.3
DBIC LR LR 01 41 10.1
comp=Z,137nm,19.0s,baz=348,slow=37
DBIC Dimbokro 58.56 165 P P **01 15 15.7 +0.6**
DBIC pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 58.56 165 P P **01 15 15.7 +0.6**
DBIC IAmb IAmb 01 15 19.0
comp=Z,8.1nm,0.9s
ANMO Albuquerque 58.56 286 P P **01 15 15.8 +0.5**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 58.56 286 P P **01 15 15.8 +0.5**
TIC Toumodi 58.57 165 *e*P P **01 15 13.9 -1.3**
KIC Kosan Boka 58.88 165 *e*P P **01 15 16.3 -1.1**
comp=Z,60nm,1.4s
LIC Lamto 58.98 165 *e*P P **01 15 16.7 -1.4**
comp=Z,44nm,1.1s
CCUT Cedar City 59.12 293 P P **01 15 20.2 +1.1**
R11A Troy Canyon, C 59.30 295 IAmb IAmb 01 15 27.5
comp=Z,9.9nm,1.1s
BNM Barren Site 59.32 285 P P **01 15 21.3 +0.7**
PAHR Pah Rah Range 59.58 299 P P **01 15 22.9 +0.6**
KVN Kaiserville 59.67 297 P P **01 15 23.7 +0.8**
KVN pmax pmax
comp=Z,11nm,1.1s
KVN Kaiserville 59.67 297 P P **01 15 23.7 +0.8**
KVN IAmb IAmb 01 15 29.5
comp=Z,11nm,1.1s
SONM Songino Array 59.70 40 P P **01 15 24.0 +1.1**
comp=Z,1.3nm,0.6s,baz=344,slow=4.8,SNR=2.1
SONM LR LR 01 44 24.2
comp=Z,140nm,18.9s,baz=320,slow=39
SONM Songino Array 59.70 40 P P **01 15 22.9 0.0**
NVAR Mina Array Bea 60.29 297 P P **01 15 26.4 -0.8**
comp=Z,1.0nm,0.8s,baz=60,slow=5.3,SNR=4.4
NVAR LR LR 01 39 57.9
comp=Z,261nm,21.8s,baz=37,slow=35
NVAR Mina Array Bea 60.29 297 P P **01 15 27.1 -0.1**
NIL Nilore 60.50 73 P P **01 15 29.0 +0.5**
NIL pmax pmax
comp=Z,20nm,1.2s
NIL Nilore 60.50 73 P P **01 15 29.0 +0.5**
SHPR Sheep Range 60.74 294 P P **01 15 29.4 -0.8**
SHPR IAmb IAmb 01 15 37.7
comp=Z,12nm,1.2s
X16A Lo Mia Camp, P 61.06 290 IAmb IAmb 01 15 40.3
comp=Z,10nm,1.1s
121A Cookes Peak, D 61.20 285 P P **01 15 33.9 +0.5**
121A IAmb IAmb 01 15 40.6
comp=Z,8.6nm,1.2s
TX31 Lajitas Ar. Si 62.25 280 P P **01 15 39.6 -0.8**
TXAR Lajitas Array 62.25 280 P P **01 15 40.5 0.0**
comp=Z,1.7nm,0.9s,baz=64,slow=3.6,SNR=14
TXAR LR LR 01 42 01.5
comp=Z,252nm,19.5s,baz=0.0,slow=35
TXAR Lajitas Array 62.25 280 P P **01 15 40.2 -0.2**
PETK Petropavlovsk- 62.54 3 LR LR 01 44 13.3
comp=Z,71nm,18.1s,baz=348,slow=37
TUC Tucson 62.63 288 P P **01 15 43.5 +0.6**
TUC pmax pmax
comp=Z,15nm,1.4s
TUC Tucson 62.63 288 P P **01 15 43.5 +0.6**
GTA Gaotai 65.36 49 *e*P P **01 16 02.5 +1.7**
GTA pP sP 01 16 07.5 +3.2
GTA sP pP 01 16 11.0 +7.6
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,59nm,7.3s
GTA LR LR
comp=Z,100nm,16.0s
GTA LR LR
comp=Z,160nm,15.3s
GTA LR LR
comp=Z,130nm,15.6s
SDV Santo Domingo 66.77 239 *e*P P **01 16 09.4 -0.8**
SDV Santo Domingo 66.77 239 P P **01 16 10.1 -0.1**
SJCC San Jacinto, C 67.56 244 *e*P P **01 16 12.8 -2.3**
HHC Hu-ho-hao-te 67.57 40 *e*P P 01 16 18.5 +3.6
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.3s
LZH Lanzhou 69.69 47 *e*P P 01 16 31.5 +3.2
LZH pP sP 01 16 36.5 +4.7
LZH sP pP 01 16 38.5 +7.7
LZH PcP PcP 01 16 57.3 +6.2
LZH pmax pmax
comp=Z,15nm,0.4s
RUSC La Rusia 70.44 240 *e*P P **01 16 32.2 -1.2**
DBBC Dabeiba 70.59 244 *e*P P **01 16 31.2 -2.7**
SPBC San Pablo de B 71.03 241 *e*P P **01 16 35.8 -0.8**
HELC Santa Helena 71.09 243 *e*P P **01 16 36.6 -0.7**
CBOC Ciudad Bolivar 71.58 243 *e*P P **01 16 40.9 +0.9**
CHIC Chingaza 71.84 241 *e*P P **01 16 41.0 -0.8**
ROSC El Rosal 71.87 241 P P **01 16 43.5 +1.5**
comp=Z,13nm,0.7s,baz=97,slow=8.8,SNR=6.4
ROSC LR LR 01 45 18.9
comp=Z,42nm,21.0s,baz=48,slow=34
ROSC El Rosal 71.87 241 *e*P P **01 16 43.0 +1.0**
GUY2C **Guyana, Caldas 71.91 242** *e*P P **01 16 43.1 +0.8**
RREF El Recreo 72.20 242 *e*P P **01 16 40.7 -3.6**
TOLC Tolima 72.48 242 *e*P P **01 16 48.3 +2.7**
ORTC Ortega, Tolima 73.08 242 *e*P P **01 16 48.5 -0.3**
PRAC Prado 73.12 241 *e*P P **01 16 49.0 0.0**
YOTC Yotoco, Valle 73.43 243 *e*P P **01 16 50.4 -0.5**
KSRS Korea Array 74.70 28 LR LR 01 54 44.2
comp=Z,48nm,18.4s,baz=352,slow=40
POPC Popayan, Colom 74.88 243 *e*P P **01 16 57.8 -1.8**
NJ2 Nanjing 77.80 37 *e*P P **01 17 16.3 +0.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 78.00 41 P P 01 17 20.0 +3.2
WHN pmax pmax
comp=Z,38nm,0.4s
SAML Samuel 80.88 226 *e*P P **01 17 31.1 -1.6**
SAML Samuel 80.88 226 P P **01 17 31.0 -1.6**
SAML pmax pmax
comp=Z,4.0nm,1.0s

SAML	**Samuel**	**80.88**	**226**	P	**P**	**01 17 31.0**	**-1.6**
BDFB	**Brasilia**	**83.33**	**209**	P	**P**	**01 17 45.5**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=28,slow=6.9,SNR=2.0						
BDFB	**Brasilia**	**83.33**	**209**	P	**P**	**01 17 44.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**84.19**	**59**	P	**P**	**01 17 50.6**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=318,slow=6.2,SNR=9.7						
CMAR	**Chiang Mai Arr**	**84.19**	**59**	*i* P	**P**	**01 17 52.2**	**+2.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**84.19**	**59**	P	**P**	**01 17 51.4**	**+1.5**
LPAZ	**La Paz**	**89.34**	**228**	LR	LR	01 56 37.8	
	comp=Z,32nm,18.8s,baz=26,slow=34						
CPUP	**Villa Florida**	**95.78**	**215**	LR	LR	01 57 36.1	
	comp=Z,75nm,20.2s,baz=70,slow=33						
BOSA	**Boshof**	**98.75**	**143**	LR	LR	02 05 27.8	
	comp=Z,199nm,19.3s,baz=344,slow=37						
WRA	**Warramunga Arr**	**131.58**	**36**	PKP	**PKiKP**	**01 24 31.3**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=321,slow=2.9,SNR=3.1						
ASAR	**Alice Springs**	**135.02**	**38**	PKP	**PKiKP**	**01 24 38.8**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=342,slow=1.8,SNR=7.6						
ASAR	**Alice Springs**	**135.02**	**38**	PKPdf	**PKiKP**	**01 24 38.1**	**-0.9**
STKA	**Stephens Creek**	**144.78**	**32**	PKP	**PKPdf**	**01 24 53.0**	**-1.9**
	comp=Z,4.4nm,1.0s,baz=270,slow=4.0,SNR=4.6						
STKA	**Stephens Creek**	**144.78**	**32**		**PKPdf**	**01 24 52.8**	**-2.2**

*IDC **27** 01:32:23.7±1.4, 38°.36N×22°.61E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/30, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=58.2km s-min=22.8km az=157.0*
*THE **27** 01:32:24.9, 38°.14N×22°.62E, h0km±1km, ML3.1/14, Error ellipse: s-maj=1.9km s-min=0.5km az=241.0*
*ATH **27** 01:32:24.5, 38°.14N×22°.63E, h14km±1km, ML3.1/24, Error ellipse: s-maj=1.2km s-min=0.5km az=145.0*

ISC 27 01:32:24.7±0.8, **38°.14N**±0°.01×**22°.65E**±0°.02, **h13**km±5km, **n93**, σ0°**83**/136, **mb3.7**/3, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.10**	**173**	P	**Pg**	**01 32 27.7**	**0.0**
THAL				S	**Sg**	**01 32 29.7**	**-0.1**
	6μm,0.2s						
THAL	**Thalero**	**0.10**	**173**	P	**Pg**	**01 32 27.7**	**0.0**
THAL				S	**Sg**	**01 32 30.0**	**+0.2**
THAL				AML	AML	01 32 30.8	
THAL				AML	AML	01 32 33.2	
	comp=N,69633μm,0.3s						
LTK	**Loutraki**	**0.28**	**114**	P	**Pg**	**01 32 30.7**	**+0.2**
LTK				S	**Sb**	**01 32 35.5**	**-0.7**
	comp=N,4μm,0.5s						
LTK	**Loutraki**	**0.28**	**114**	P	**Pg**	**01 32 30.7**	**+0.2**
LTK				S	**Sb**	**01 32 35.3**	**-0.9**
LTK				AML	AML	01 32 36.2	
	comp=N,8430μm,0.4s						
LTK				AML	AML	01 32 40.4	
	comp=E,8178μm,0.5s						
LOUT	**Loutraki**	**0.30**	**120**	P	**Pb**	**01 32 31.1**	**-0.9**
LOUT				S	**Sb**	**01 32 36.3**	**-0.5**
	comp=E,3μm,0.6s						
LOUT	**Loutraki**	**0.30**	**120**	P	**Pb**	**01 32 31.1**	**-0.9**
LOUT				S	**Sb**	**01 32 36.0**	**-0.7**
LOUT				AML	AML	01 32 44.1	
	comp=E,1337μm,0.4s						
LOUT				AML	AML	01 32 45.1	
	comp=N,1220μm,0.7s						
GUR	**Goura**	**0.31**	**231**	P	**Pg**	**01 32 30.9**	**-0.3**
GUR				S	**Sg**	**01 32 34.9**	**-0.6**
	comp=N,15μm,0.3s						
GUR	**Goura**	**0.31**	**231**	P	**Pg**	**01 32 30.9**	**-0.3**
GUR				S	**Sg**	**01 32 34.9**	**-0.6**
GUR				AML	AML	01 32 37.2	
	comp=E,27700μm,0.3s						
GUR				AML	AML	01 32 37.3	
	comp=N,31480μm,0.3s						
DLFA	**Delphi**	**0.36**	**341**	P	**Pg**	**01 32 31.7**	**-0.4**
DLFA				S	**Sg**	**01 32 36.7**	**-0.3**
DLFA				AML	AML	01 32 37.9	
	comp=N,13558μm,0.3s						
DLFA				AML	AML	01 32 38.3	
	comp=E,13462μm,0.3s						
KLV	**Kalavryta, Ach**	**0.40**	**257**	P	**Pg**	**01 32 32.3**	**-0.5**
KLV				S	**Sg**	**01 32 37.6**	**-0.6**
	comp=E,2μm,0.2s						
KLV	**Kalavryta, Ach**	**0.40**	**257**	P	**Pg**	**01 32 32.3**	**-0.5**
KLV				S	**Sg**	**01 32 37.5**	**-0.8**
KLV				AML	AML	01 32 40.1	
	comp=N,3407μm,0.2s						
KLV				AML	AML	01 32 40.8	
	comp=E,3038μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.44**	**287**	P	**Pg**	**01 32 33.5**	**0.0**
ALIK				S	**Sg**	**01 32 39.6**	**+0.2**
KALE	**Kalithea**	**0.47**	**303**	P	**Pg**	**01 32 33.8**	**-0.3**
KALE				S	**Sg**	**01 32 40.7**	**+0.2**
	comp=E,3μm,0.4s						
KALE	**Kalithea**	**0.47**	**303**	P	**Pg**	**01 32 33.6**	**-0.5**
KALE				S	**Sg**	**01 32 40.4**	**-0.1**
KALE				AML	AML	01 32 46.5	
	comp=E,5743μm,0.5s						
KALE				AML	AML	01 32 47.1	
	comp=N,5435μm,0.3s						
VIL2	**Platees**	**0.49**	**81**	P	**Pb**	**01 32 35.4**	**0.0**
VIL2				S	**Sb**	**01 32 43.3**	**+0.8**
VIL2				AML	AML	01 32 50.9	
	comp=N,4656μm,0.4s						
VIL2				AML	AML	01 32 53.8	
	comp=E,5862μm,0.5s						
TRIZ	**Trizonia**	**0.51**	**297**	P	**Pg**	**01 32 34.3**	**-0.5**
TRIZ				S	**Sg**	**01 32 41.7**	**+0.2**
	comp=E,4μm,0.4s						
TRIZ	**Trizonia**	**0.51**	**297**	P	**Pg**	**01 32 34.2**	**-0.5**
TRIZ				S	**Sg**	**01 32 41.1**	**-0.4**
VILL	**Villia**	**0.53**	**87**	P	**Pb**	**01 32 35.3**	**-0.6**
VILL				S	**Sn**	**01 32 44.9**	**-1.9**
	comp=E,330nm,0.5s						
LAKA	**Lakka**	**0.54**	**281**	P	**Pg**	**01 32 34.9**	**-0.4**
LKR	**Lokris**	**0.58**	**28**	P	**Pg**	**01 32 35.3**	**-0.9**
LKR				S	**Sb**	**01 32 44.4**	**-0.6**
	comp=E,3μm,0.4s						
LKR	**Lokris**	**0.58**	**28**	P	**Pg**	**01 32 35.3**	**-0.9**
LKR				S	**Sg**	**01 32 43.7**	**-0.2**
LKR				AML	AML	01 32 48.4	
	comp=N,6679μm,0.4s						
LKR				AML	AML	01 32 49.4	
	comp=E,7020μm,0.3s						
ATAL	**Atalanti**	**0.63**	**28**	P	**Pg**	**01 32 36.1**	**-0.9**
ATAL				S	**Sb**	**01 32 46.5**	**+0.1**
	comp=E,2μm,0.3s						
ATAL	**Atalanti**	**0.63**	**28**	P	**Pg**	**01 32 36.1**	**-0.9**
ATAL				S	**Sb**	**01 32 46.3**	**-0.1**
ATAL				AML	AML	01 32 47.7	
	comp=E,3016μm,0.4s						
ATAL				AML	AML	01 32 50.1	
	comp=N,3312μm,0.4s						
AXAR	**Agios Charalam**	**0.63**	**1**	P	**Pg**	**01 32 36.4**	**-0.6**
AXAR				S	**Sb**	**01 32 46.6**	**+0.2**
	comp=N,14μm,0.4s						
AXAR	**Agios Charalam**	**0.63**	**1**	P	**Pg**	**01 32 36.4**	**-0.6**
AXAR				S	**Sg**	**01 32 45.3**	**-0.1**
AXAR				AML	AML	01 32 48.8	
	comp=N,35055μm,0.3s						
AXAR				AML	AML	01 32 50.6	
	comp=E,21998μm,0.5s						
EPID	**Epidavros**	**0.64**	**144**	P	**Pg**	**01 32 37.0**	**-0.2**
EPID				S	**Sn**	**01 32 48.0**	**-1.6**
EPID	**Epidavros**	**0.64**	**144**	P	**Pg**	**01 32 37.0**	**-0.2**
EPID				S	**Sg**	**01 32 45.2**	**-0.5**
EFP	**Efpalio**	**0.65**	**297**	P	**Pg**	**01 32 37.1**	**-0.4**
EFP	**Efpalio**	**0.65**	**297**	P	**Pg**	**01 32 37.0**	**-0.5**
EFP				S	**Sg**	**01 32 45.9**	**-0.2**
EFP				AML	AML	01 32 50.2	
	comp=E,2828μm,0.2s						
EFP				AML	AML	01 32 55.1	
	comp=N,2705μm,0.5s						
TRIP	**Tripoli**	**0.68**	**206**	P	**Pg**	**01 32 37.6**	**-0.3**
TRIP				S	**Sb**	**01 32 47.2**	**-0.5**
	comp=N,2μm,0.5s						
TRIP	**Tripoli**	**0.68**	**206**	P	**Pg**	**01 32 37.7**	**-0.3**
TRIP				S	**Sb**	**01 32 47.2**	**-0.5**
TRIP				AML	AML	01 32 52.7	
	comp=N,3185μm,0.5s						
TRIP				AML	AML	01 32 52.9	
	comp=E,4613μm,0.4s						
ANX	**Ano Chora**	**0.73**	**309**	P	**Pg**	**01 32 38.4**	**-0.6**
ANX	**Ano Chora**	**0.73**	**309**	P	**Pg**	**01 32 38.4**	**-0.6**
ANX				S	**Sg**	**01 32 48.8**	**+0.2**
ANX				AML	AML	01 32 53.5	
	comp=N,8034μm,0.4s						
ANX				AML	AML	01 32 54.5	
	comp=E,4709μm,0.4s						
DRO	**Drossia**	**0.76**	**256**	P	**Pg**	**01 32 38.9**	**-0.6**
DRO	**Drossia**	**0.76**	**256**	P	**Pg**	**01 32 39.0**	**-0.6**
DRO				S	**Sb**	**01 32 49.9**	**-0.3**
DRO				AML	AML	01 32 55.7	
	comp=N,5078μm,0.2s						
DRO				AML	AML	01 32 56.3	
	comp=E,2537μm,0.3s						
VLX	**Vlachokerasia**	**0.79**	**196**	P	**Pg**	**01 32 39.7**	**-0.4**
VLX				S	**Sg**	**01 32 49.5**	**-1.0**
	comp=E,3μm,0.8s						
VLX	**Vlachokerasia**	**0.79**	**196**	P	**Pg**	**01 32 39.7**	**-0.4**
VLX				S	**Sb**	**01 32 50.4**	**-0.7**
VLX				AML	AML	01 32 54.8	
	comp=E,4591μm,0.6s						
VLX				AML	AML	01 32 55.4	
	comp=N,6259μm,0.7s						
KRND	**KRANIDI**	**0.85**	**152**	P	**Pb**	**01 32 41.1**	**-0.3**
KRND	**KRANIDI**	**0.85**	**152**	P	**Pg**	**01 32 40.8**	**-0.4**
ATH	**Athens Observa**	**0.86**	**101**	P	**Pb**	**01 32 41.3**	**-0.2**
ATH	**Athens Observa**	**0.86**	**101**	P	**Pb**	**01 32 41.4**	**-0.1**
ATH				S	**Sb**	**01 32 52.5**	**-0.4**
ATH				AML	AML	01 32 56.6	
	comp=E,2253μm,0.3s						
ATH				AML	AML	01 33 01.6	
	comp=N,2972μm,0.6s						
ATHU	**Athens Univers**	**0.91**	**100**	P	**Pb**	**01 32 42.2**	**-0.2**
ATHU				S	**Sb**	**01 32 54.9**	**+0.4**
ATHU				AML	AML	01 33 02.4	
	comp=N,1210μm,0.6s						
ATHU				AML	AML	01 33 03.4	
	comp=E,722μm,0.4s						
AGG	**Agios Georgios**	**0.92**	**344**	P	**Pb**	**01 32 41.5**	**-1.1**
AGG				S	**Sg**	**01 32 54.6**	**0.0**
AGG				AML	AML	01 32 58.6	
	comp=N,2018μm,0.7s						
AGG				AML	AML	01 33 01.7	
	comp=E,2284μm,0.6s						
RLS	**Riolos of Patr**	**0.94**	**266**	P	**Pb**	**01 32 41.8**	**-1.0**
RLS				S	**Sb**	**01 32 54.8**	**-0.3**
RLS				AML	AML	01 32 57.7	
	comp=E,947μm,0.4s						
RLS				AML	AML	01 32 59.3	
	comp=N,960μm,0.4s						
VLY	**Voula,Athens**	**0.95**	**107**	P	**Pn**	**01 32 43.5**	**-0.3**
VLY				S	**Sn**	**01 32 56.3**	**-0.9**
VLY				AML	AML	01 32 58.4	
	comp=E,2196μm,0.4s						
VLY				AML	AML	01 33 03.7	
	comp=N,1587μm,0.4s						
PTL	**Penteli**	**0.96**	**95**	P	**Pn**	**01 32 44.2**	**+0.2**
PTL				S	**Sn**	**01 32 57.5**	**-0.1**
	comp=N,2μm,0.7s						
PTL	**Penteli**	**0.96**	**95**	P	**Pn**	**01 32 43.5**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.96**	**335**	P	**Pb**	**01 32 42.6**	**-0.8**
MAKR				S	**Sg**	**01 32 56.2**	**+0.2**
MAKR				AML	AML	01 33 02.3	
	comp=N,1648μm,0.5s						
MAKR				AML	AML	01 33 03.5	
	comp=E,2564μm,1.0s						
DION	**Dionisos Attik**	**1.02**	**93**	P	**Pn**	**01 32 44.5**	**-0.2**
DION	**Dionisos Attik**	**1.02**	**93**	P	**Pn**	**01 32 44.3**	**-0.5**
DION				S	**Sn**	**01 32 58.3**	**-0.6**
DION				AML	AML	01 33 05.6	
	comp=N,6122μm,0.7s						
DION				AML	AML	01 33 06.7	
	comp=E,6808μm,0.7s						
YDRA	**Hydra**	**1.02**	**140**	P	**Pb**	**01 32 43.5**	**-0.7**
EVR	**Evrytania**	**1.02**	**320**	P	**Pb**	**01 32 44.0**	**-0.3**
EVR				S	**Sg**	**01 32 58.0**	**+0.2**
EVR				AML	AML	01 33 03.6	
	comp=N,2041μm,0.5s						
EVR				AML	AML	01 33 07.9	
	comp=E,2465μm,0.7s						
KYMI	**Kymi, Euboea I**	**1.25**	**66**	P	**Pn**	**01 32 47.7**	**-0.2**
VOL2	**Volos**	**1.25**	**11**	P	**Pg**	**01 32 49.9**	**+1.1**
NEO	**Neokhori**	**1.25**	**21**	P	**Pn**	**01 32 47.9**	**-0.1**
XOR	**Xorichti**	**1.30**	**19**	P	**Pb**	**01 32 48.8**	**-0.3**
ALNA	**Alonissos**	**1.39**	**43**	P	**Pb**	**01 32 50.6**	**0.0**
AOS	**Alonnisos**	**1.41**	**43**	P	**Pn**	**01 32 49.9**	**-0.3**
KARY	**Karystos**	**1.42**	**94**	P	**Pb**	**01 32 50.9**	**-0.1**
PYL	**PYLOS**	**1.43**	**210**	P	**Pb**	**01 32 51.2**	**-0.1**
VLI	**Veliai**	**1.43**	**171**	P	**Pb**	**01 32 50.7**	**-0.6**
MNVA	**Monemvasia**	**1.48**	**168**	P	**Pb**	**01 32 51.7**	**-0.3**
THL	**Klokotos Trika**	**1.51**	**341**	P	**Pb**	**01 32 52.3**	**-0.3**
MGNA	**Meganis**	**1.55**	**290**	P	**Pg**	**01 32 53.9**	**-0.6**
VLMS	**Volimes, Zakyn**	**1.59**	**261**	P	**Pb**	**01 32 53.9**	**-0.1**
VLS	**Valsamata**	**1.62**	**272**	P	**Pb**	**01 32 54.1**	**-0.5**
PSDA	**Pessada-Kefalo**	**1.63**	**270**	P	**Pb**	**01 32 54.5**	**-0.1**
EVGI	**Lefkada island**	**1.64**	**288**	P	**Pb**	**01 32 55.7**	**-0.5**
FSK	**Fiskardo**	**1.67**	**282**	P	**Pb**	**01 32 55.5**	**+0.1**
LKD2	**Lefkada island**	**1.69**	**293**	P	**Pb**	**01 32 56.1**	**+0.3**
LKD2	**Lefkada island**	**1.69**	**293**	P	**Pb**	**01 32 55.9**	**+0.2**
TSLK	**Tsoukalades, L**	**1.71**	**294**	P	**Pg**	**01 32 56.8**	**-0.8**
KEF5	**Kardakata, Kep**	**1.72**	**275**	P	**Pb**	**01 32 56.3**	**0.0**
SERI	**Serifos**	**1.75**	**123**	P	**Pn**	**01 32 55.0**	**+0.2**
LIT	**Litokhoron**	**1.97**	**356**	P	**Pn**	**01 32 58.3**	**+0.5**
JAN	**Janina**	**2.07**	**318**	P	**Pb**	**01 33 01.5**	**-0.6**
KZN	**Kozani**	**2.27**	**343**	P	**Pn**	**01 33 03.2**	**+1.1**
IGT	**Igoumenitsa**	**2.28**	**308**	P	**Pb**	**01 33 04.6**	**-1.3**
PENT	**Pentalofos**	**2.37**	**331**	P	**Pb**	**01 33 05.3**	**-2.0**
APE	**Apeiranthos**	**2.52**	**114**	P	**Pn**	**01 33 06.5**	**+1.0**
NEST	**Nestorio**	**2.59**	**332**	P	**Pn**	**01 33 08.6**	**+2.2**
KEK	**Kerkira**	**2.72**	**306**	P	**Pn**	**01 33 10.5**	**+2.3**
SOH	**Sokhos**	**2.74**	**11**	P	**Pn**	**01 33 09.2**	**+0.8**
IMMV	**Iera Moni Meta**	**2.88**	**158**	P	**Pn**	**01 33 11.6**	**+1.3**
OHR	**Ohrid**	**3.30**	**335**	*i* Pn	**Pb**	**01 33 19.6**	**-3.6**
MMB	**Musomiste**	**3.55**	**13**	*eP*	**Pn**	**01 33 19.7**	**+0.1**
STIP	**Stip**	**3.57**	**354**	*i* Pn	**Pn**	**01 33 21.8**	**+1.9**
KKB	**Krupnik**	**3.74**	**5**	*eP*	**Pn**	**01 33 22.5**	**+0.3**
KKB				*eS*	**Sn**	**01 34 06.3**	**+0.2**
BRTR	**Keskin Array B**	**8.71**	**76**	Pn	**Pn**	**01 34 34.5**	**+3.9**
	comp=E,0.1nm,0.3s,baz=268,slow=12,SNR=1.6						
ESDC	**Sonseca Array**	**20.74**	**283**	P	**P**	**01 37 05.8**	**+0.7**
	comp=E,0.4nm,0.8s,baz=75,slow=11,SNR=4.7						
TORD	**Torodi Ar. Bea**	**31.09**	**222**	P	**P**	**01 38 44.7**	**+1.9**
	comp=E,0.3nm,0.7s,baz=28,slow=9.3,SNR=2.1						
MKAR	**Makanchi Array**	**43.89**	**59**	P	**P**	**01 40 30.6**	**-0.3**
	comp=E,0.6nm,0.5s,baz=277,slow=7.5,SNR=9.7						
ZALV	**Zalesovo Beam**	**44.47**	**48**	P	**P**	**01 40 35.1**	**-0.3**
	comp=E,0.8nm,0.5s,baz=274,slow=8.9,SNR=4.6						

*AEIC **27** 01:39:31±1.6, 53°.65N±0°.04×165°.57W±0°.05, h38km±8km, ML3.2, mb3.7/4(NEIC), Error ellipse: s-maj=6.6km s-min=4.1km az=165.0*
*NEIC **27** 01:39:31.9±1.5, 53°.64N±0°.07×165°.57W±0°.07, h42km±15km, Error ellipse: s-maj=11.9km s-min=2.9km az=153.0*

ISC 27 01:39:31.5±1.6, **53°.61N**±0°.08×**165°.57W**±0°.05, **h29**km±12km, **n59**, σ1°**13**/70, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHB	**Akutan Harbor**	**0.52**	**344**		**Pb**	**01 39 42.3**	**0.0**
AKSA	**Akutan Strait**	**0.53**	**352**		**Pb**	**01 39 42.0**	**-0.4**
AKSA					**Sb**	**01 39 50.6**	**+0.8**
AKBBA	**Akutan Broad B**	**0.53**	**337**		**Pb**	**01 39 42.3**	**-0.1**
AKBBA					**Sn**	**01 39 51.0**	**-0.1**
AKUT	**Akutan**	**0.54**	**347**		**Pb**	**01 39 42.3**	**-0.1**
AKUT					**Sb**	**01 39 50.7**	**+0.8**
ZRO	**Akutan Zero**	**0.54**	**334**		**Pb**	**01 39 42.5**	**0.0**
AKMO	**Akutan Morgan**	**0.54**	**332**		**Pb**	**01 39 42.5**	**-0.1**
AKMO					**Sb**	**01 39 51.3**	**+1.1**
AKLV	**Akutan Long Va**	**0.59**	**338**		**Pb**	**01 39 42.9**	**-0.6**
AKLV					**Sb**	**01 39 52.0**	**+0.4**
AKRB	**Akutan Reef Bi**	**0.59**	**331**		**Pb**	**01 39 43.2**	**-0.3**
UNV	**Unalaska Valle**	**0.60**	**293**		**Pb**	**01 39 43.5**	**0.0**
UNV	**Unalaska Valle**	**0.60**	**293**		**Sn**	**01 39 52.9**	**+0.1**
LVA	**Lava Point**	**0.61**	**334**		**Pb**	**01 39 43.3**	**-0.5**
AKGG	**Akutan Green G**	**0.64**	**337**		**Pb**	**01 39 43.6**	**-0.6**
MNAT	**Makushin Natee**	**0.71**	**293**		**Pb**	**01 39 45.0**	**-0.4**
MNAT					**Sb**	**01 39 55.5**	**+0.6**
MREP	**Makushin Rep't**	**0.72**	**286**		**Pb**	**01 39 45.5**	**-0.1**
MSW	**Makushin Switc**	**0.78**	**293**		**Pb**	**01 39 45.8**	**-0.7**
MSW					**Sb**	**01 39 56.9**	**+0.1**
MGOD	**Makushin Gods**	**0.79**	**284**		**Pb**	**01 39 46.3**	**-0.5**
MGOD					**Sb**	**01 39 57.9**	**+0.7**
MAPS	**Pakushin South**	**0.84**	**284**		**Pb**	**01 39 46.7**	**-0.8**
MAPS					**Sb**	**01 39 58.6**	**+0.2**
WESP	**Westdahl Peak**	**1.01**	**29**		**Pn**	**01 39 48.9**	**-0.9**
WESP					**Sb**	**01 40 02.6**	**-0.9**
WESE	**West Dahl East**	**1.04**	**34**		**Pn**	**01 39 49.4**	**-0.8**
WEBT	**Westdahl Beart**	**1.09**	**26**		**Pn**	**01 39 49.9**	**-0.9**
OKFG	**Magazine Ridge**	**1.41**	**263**		**Pn**	**01 39 55.9**	**+0.7**
SSLS	**Shishaldin Sou**	**1.44**	**39**		**Pn**	**01 39 55.0**	**-0.6**
SSLS					**Sn**	**01 40 12.8**	**-0.8**
SSLN	**Shishaldin Nor**	**1.52**	**37**		**Pn**	**01 39 56.2**	**-0.5**
OKSP	**Okmok Steeple**	**1.67**	**259**		**Pn**	**01 39 59.2**	**+0.5**
FALS	**False Pass**	**1.78**	**45**		**Pn**	**01 39 59.8**	**-0.4**
FALS	**False Pass**	**1.78**	**45**		**Sn**	**01 40 21.9**	**+0.1**
NIKH	**Nikolski High**	**2.07**	**253**		**Sn**	**01 40 29.3**	**+0.2**
NIKH	**Nikolski High**	**2.07**	**253**	Pn	**Pn**	**01 40 04.2**	**-0.1**
DT1	**Dutton Round H**	**2.44**	**51**		**Pn**	**01 40 09.5**	**+0.1**
SDPT	**Sand Point**	**3.44**	**58**	Pn	**Pn**	**01 40 23.3**	**+0.2**
CNBA	**Chernabura Isl**	**3.72**	**69**	Pn	**Pn**	**01 40 25.2**	**-1.6**
OHAK	**Old Harbor**	**7.87**	**58**	Pn	**Pn**	**01 41 25.1**	**+1.3**
KDAK	**Kodiak Island**	**8.44**	**55**	Pn	**Pn**	**01 41 32.8**	**+1.1**
SVW2	**Sparrevohn**	**9.23**	**32**	Pn	**Pn**	**01 41 44.1**	**+1.6**
CNPM	**China Poot**	**9.87**	**47**	Pn	**Pn**	**01 41 49.4**	**-2.0**
SEW	**Seward**	**10.94**	**47**	Pn	**Pn**	**01 42 06.4**	**+0.6**
ANM	**Nome**	**10.99**	**0**	Pn	**Pn**	**01 42 03.5**	**-3.0**
O22K	**Cooper Landing**	**11.02**	**45**	Pn	**Pn**	**01 42 08.3**	**+1.3**
SUA	**Susitna One**	**11.17**	**39**	Pn	**Pn**	**01 42 09.9**	**+0.7**
HIN	**Hinchinbrook I**	**12.39**	**49**	Pn	**Pn**	**01 42 24.2**	**-1.5**
FID	**Port Fidalgo**	**12.55**	**48**	Pn	**Pn**	**01 42 25.6**	**-2.3**
SCM	**Sheep Creek Mo**	**12.72**	**42**	Pn	**Pn**	**01 42 27.8**	**-2.5**
KLU	**Klutina**	**13.13**	**45**	Pn	**Pn**	**01 42 33.1**	**-2.8**
M24K	**Tolsona, Glenn**	**13.33**	**43**	Pn	**Pn**	**01 42 36.4**	**-2.1**
HMT	**Hamilton**	**13.39**	**51**	Pn	**Pn**	**01 42 38.5**	**-0.8**
N25K	**Chitina, Valde**	**13.75**	**46**	Pn	**Pn**	**01 42 42.5**	**-2.2**
GLB	**Gilahina Butte**	**14.02**	**47**	Pn	**Pn**	**01 42 46.3**	**-1.7**
CRQM	**Cirque**	**14.06**	**50**	Pn	**Pn**	**01 42 48.3**	**-0.3**
PAX	**Paxson**	**14.06**	**40**	Pn	**Pn**	**01 42 49.3**	**+0.7**
VRDI	**Verde Repeater**	**14.09**	**48**	Pn	**Pn**	**01 42 48.9**	**-0.2**
ISLE	**Juniper Island**	**14.38**	**52**	Pn	**Pn**	**01 42 52.6**	**-0.3**
BALM	**Baldy**	**14.52**	**50**	Pn	**Pn**	**01 42 54.9**	**+0.1**
RIDG	**Independent Ri**	**14.72**	**38**	Pn	**Pn**	**01 42 57.5**	**-0.1**
BARN	**Barnard Glacie**	**14.84**	**50**	Pn	**Pn**	**01 42 58.6**	**-0.6**
CTGM	**Chitina Glacie**	**14.96**	**51**	Pn	**Pn**	**01 43 00.4**	**-0.4**
EGAK	**Eagle**	**16.64**	**38**	P	**Pn**	**01 43 22.8**	**+0.5**
WHY	**Whitehorse**	**17.95**	**55**	P	**P**	**01 43 42.4**	**+3.3**
WHY				IAmb	IAmb	01 43 45.7	
	comp=Z,7.0nm,1.4s						
INK	**Inuvik**	**21.04**	**33**	P	**P**	**01 44 13.9**	**+1.3**
INK				IAmb	IAmb	01 44 20.6	
	comp=Z,7.6nm,1.4s						
PGC	**Sidney**	**26.60**	**83**	P	**P**	**01 45 06.8**	**-0.1**

*IDC **27** 02:02:39.8±5.7, 68°.10N×162°.72W, h0km, mb3.1/2, mb1 3.8/4, mb1mx3.3/50, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=91.1km s-min=59.2km az=141.0*
*AEIC **27** 02:02:42±1.9, 67°.67N±0°.04×162°.1W±0°.1, h13km±6km, ML3.1, Error ellipse: s-maj=6.4km s-min=5.4km az=135.0*
*NEIC **27** 02:02:43.6±2.0, 67°.73N±0°.05×162°.5W±0°.2, h35km±8km, Error ellipse: s-maj=13.6km s-min=6.9km az=102.0*

ISC 27 02:02:42.3±1.0, **67°.73N**±0°.07×**162°.02W**±0°.07, **h10**km, **n49**, σ1°**48**/55, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.47**	**315**		**Pg**	**02 02 51.5**	**0.0**
RDOG					**Sb**	**02 02 58.8**	**-0.9**
IM03		**3.71**	**114**		**Pn**	**02 03 39.9**	**+0.4**
IMAR	**Indian Mountai**	**3.71**	**114**		**Pn**	**02 03 39.2**	**-0.3**
A21K	**Barrow**	**4.08**	**25**		**Pn**	**02 03 45.4**	**+0.7**
A21K					**Sn**	**02 04 33.2**	**+0.8**
COLD	**Coldfoot**	**4.58**	**91**		**Pn**	**02 03 53.8**	**+2.4**
TOLK	**Toolik Lake Re**	**4.74**	**73**		**Pn**	**02 03 55.8**	**+2.1**
TOLK					**Sn**	**02 04 49.5**	**+0.9**
MLY	**Manley**	**5.28**	**116**		**Pn**	**02 04 01.2**	**0.0**
MLY					**Sn**	**02 05 02.5**	**+0.5**
TT01	**Tatalina**	**5.45**	**150**		**Pn**	**02 04 03.5**	**-0.1**
I23K	**Minto, Yukon-K**	**5.70**	**111**		**Pn**	**02 04 08.1**	**+1.3**
BPAW	**Bear Paw Mtn.**	**5.80**	**124**	Pn	**Pn**	**02 04 09.1**	**+0.8**
NEA2	**Nenana**	**6.12**	**115**		**Pn**	**02 04 13.6**	**+1.0**
MDM	**Murphy Dome**	**6.20**	**110**	Pn	**Pn**	**02

	comp=Z,4.3nm,0.7s							
CAN	**Canberra**	**37.73**	**232**	P	**P**	**02 17 52.4**	**+0.3**
CAN				IAmb	IAmb	02 18 08.7	
	comp=Z,14nm,1.3s							
STKA	**Stephens Creek**	**42.63**	**240**	P	**P**	**02 18 32.6**	**+0.4**
	comp=Z,6.6nm,0.5s,baz=88,slow=10.0,SNR=18							
STKA	**Stephens Creek**	**42.63**	**240**	P	**P**	**02 18 32.4**	**+0.2**
BBOO	**Buckleboo**	**47.40**	**240**	P	**P**	**02 19 09.5**	**-0.1**
BBOO				IAmb	IAmb	02 19 10.2	
	comp=Z,12nm,0.7s							
WR0	**Warramunga Arr**	**48.10**	**257**	P	**P**	**02 19 15.2**	**0.0**
WR0				IAmb	IAmb	02 19 16.6	
	comp=Z,6.5nm,0.8s							
WB0	**Warramunga Arr**	**48.24**	**257**	P	**P**	**02 19 15.8**	**-0.5**
WB0				IAmb	IAmb	02 19 17.2	
	comp=Z,18nm,0.9s							
WB2	**Warramunga Arr**	**48.27**	**257**	P	**P**	**02 19 16.2**	**-0.2**
WB2				IAmb	IAmb	02 19 18.0	
	comp=Z,19nm,0.7s							
WRA	**Warramunga Arr**	**48.29**	**257**	P	**P**	**02 19 16.5**	**-0.1**
	comp=Z,12nm,0.6s,baz=92,slow=7.3,SNR=190							
WRA	**Warramunga Arr**	**48.29**	**257**	P	**P**	**02 19 16.3**	**-0.3**
AS31	**Alice Springs**	**48.58**	**252**	P	**P**	**02 19 19.0**	**+0.2**
ASAR	**Alice Springs**	**48.58**	**252**	P	**P**	**02 19 19.6**	**+0.7**
	comp=Z,96nm,0.6s,baz=88,slow=7.9,SNR=957							
ASAR	**Alice Springs**	**48.58**	**252**	P	**P**	**02 19 18.9**	**0.0**
FAKI	**Fak Fak**	**53.36**	**278**	P	**P**	**02 19 55.1**	**+0.7**
FAKI				IAmb	IAmb	02 20 01.5	
	comp=Z,22nm,1.3s							
FORT	**Forrest**	**53.97**	**243**	P	**P**	**02 19 58.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**56.65**	**258**	P	**P**	**02 20 18.3**	**+0.6**
FITZ				IAmb	IAmb	02 20 25.7	
	comp=Z,4.1nm,0.8s							
PSA00	**Pilbara Seismi**	**61.66**	**254**	P	**P**	**02 20 52.0**	**-0.1**
PSA00				IAmb	IAmb	02 20 52.3	
	comp=Z,9.0nm,0.8s							
VNDA	**Vanda**	**63.13**	**185**	P	**P**	**02 21 01.6**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=24,slow=7.7,SNR=5.3							
VNDA	**Vanda**	**63.13**	**185**	P	**P**	**02 21 02.0**	**+1.2**
VNDA				IAmb	IAmb	02 21 09.7	
	comp=Z,8.7nm,1.5s							
JAGI	**Jajag, Banyuwa**	**69.37**	**267**	P	**P**	**02 21 40.2**	**-1.2**
JNU	**Nakatsue**	**70.72**	**314**	P	**P**	**02 21 49.1**	**-0.1**
PEA0B	**Petropavlovsk-**	**72.25**	**343**	P	**P**	**02 21 57.4**	**-0.4**
PETK	**Petropavlovsk-**	**72.25**	**343**	P	**P**	**02 21 57.7**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=148,slow=9.5,SNR=9.9							
PETK	**Petropavlovsk-**	**72.25**	**343**	P	**P**	**02 21 57.5**	**-0.4**
UGM	**Wanagama**	**72.99**	**266**	P	**P**	**02 22 03.0**	**-0.1**
OMMB	**Old Mammoth Mi**	**74.55**	**43**	P	**P**	**02 22 12.1**	**+0.1**
QSPA	**South Pole Qui**	**74.55**	**180**	P	**P**	**02 22 11.5**	**+0.2**
QSPA				IAmb	IAmb	02 22 12.1	
	comp=Z,2.9nm,0.7s							
YBH	**Yreka Blue Hor**	**74.63**	**38**	P	**P**	**02 22 12.4**	**+0.4**
WAKR	**Walker**	**74.76**	**42**	P	**P**	**02 22 13.0**	**0.0**
NVAR	**Mina Array Bea**	**75.46**	**43**	P	**P**	**02 22 16.6**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=225,slow=8.4,SNR=12							
NVAR	**Mina Array Bea**	**75.46**	**43**	P	**P**	**02 22 16.7**	**-0.3**
TPNV	**Topopah Spring**	**76.03**	**45**	P	**P**	**02 22 19.9**	**-0.4**
K05A	**Summer Lake**	**76.31**	**38**	P	**P**	**02 22 21.9**	**+0.2**
TUC	**Tucson**	**77.67**	**51**	P	**P**	**02 22 29.6**	**+0.2**
X16A	**Lo Mia Camp, P**	**78.16**	**49**	P	**P**	**02 22 33.2**	**+1.0**
X16A				IAmb	IAmb	02 22 33.7	
	comp=Z,3.9nm,0.9s							
SUA	**Susitna One**	**79.09**	**12**	P	**P**	**02 22 36.1**	**-0.4**
SUA				IAmb	IAmb	02 22 43.9	
	comp=Z,11nm,1.2s							
PMR	**Palmer**	**79.53**	**12**	P	**P**	**02 22 37.7**	**-0.9**
PMR				IAmb	IAmb	02 22 45.2	
	comp=Z,5.9nm,1.3s							
GHO	**Glory Hole Cre**	**79.74**	**12**	P	**P**	**02 22 39.0**	**-0.9**
GHO				IAmb	IAmb	02 22 39.9	
	comp=Z,15nm,1.4s							
SCM	**Sheep Creek Mo**	**80.13**	**13**	P	**P**	**02 22 41.2**	**-0.8**
SCM				IAmb	IAmb	02 22 45.5	
	comp=Z,18nm,1.4s							
N25K	**Chitina, Valde**	**80.55**	**14**	P	**P**	**02 22 43.5**	**-0.7**
N25K				IAmb	IAmb	02 22 56.2	
	comp=Z,6.2nm,1.4s							
GLB	**Gilahina Butte**	**80.59**	**15**	P	**P**	**02 22 43.5**	**-1.0**
GLB				IAmb	IAmb	02 22 46.4	
	comp=Z,6.9nm,1.3s							
BALM	**Baldy**	**80.61**	**15**	P	**P**	**02 22 44.0**	**-0.6**
BALM				IAmb	IAmb	02 22 50.2	
	comp=Z,19nm,1.5s							
BARN	**Barnard Glacie**	**80.81**	**16**	P	**P**	**02 22 46.0**	**+0.3**
BARN				IAmb	IAmb	02 22 59.0	
	comp=Z,8.3nm,1.2s							
MNTX	**Cornudas Mount**	**81.55**	**54**	P	**P**	**02 22 50.3**	**+0.2**
PV14	**Lion Creek, Pa**	**81.72**	**47**	P	**P**	**02 22 51.4**	**+0.2**
PV14				IAmb	IAmb	02 22 52.9	
	comp=Z,7.0nm,1.0s							
PV01	**Paradox Valley**	**81.93**	**47**	P	**P**	**02 22 51.8**	**-0.5**
TXAR	**Lajitas Array**	**81.98**	**57**	P	**P**	**02 22 52.5**	**0.0**
	comp=Z,0.8nm,0.9s,baz=219,slow=7.7,SNR=5.8							
TXAR	**Lajitas Array**	**81.98**	**57**	P	**P**	**02 22 52.8**	**+0.3**
DOT	**Dot Lake**	**82.45**	**13**	P	**P**	**02 22 53.6**	**-0.5**
DOT				IAmb	IAmb	02 23 03.2	
	comp=Z,5.1nm,1.4s							
IMAR	**Indian Mountai**	**82.79**	**9**	P	**P**	**02 22 55.1**	**-0.6**
IL31		**82.85**	**12**	P	**P**	**02 22 55.0**	**-1.0**
ILAR	**Eielson Array**	**82.85**	**12**	P	**P**	**02 22 54.5**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=220,slow=5.6,SNR=16							
ILAR	**Eielson Array**	**82.85**	**12**	P	**P**	**02 22 55.0**	**-1.1**
BW06	**Boulder Array**	**83.39**	**42**	P	**P**	**02 22 58.7**	**-0.9**
PDAR	**Pinedale Array**	**83.39**	**42**	P	**P**	**02 22 58.4**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=202,slow=3.1,SNR=11							
PDAR	**Pinedale Array**	**83.39**	**42**	P	**P**	**02 22 58.7**	**-1.0**
MAW	**Mawson**	**87.20**	**199**	P	**P**	**02 23 17.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=136,slow=10,SNR=2.5							
MAW	**Mawson**	**87.20**	**199**	P	**P**	**02 23 18.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**87.94**	**313**	*e*P	**P**	**02 23 22.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,29nm,1.0s							
HHC				pmax	pmax		
	comp=Z,120nm,5.4s							
CMAR	**Chiang Mai Arr**	**91.15**	**289**	P	**P**	**02 23 38.5**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=98,slow=2.8,SNR=10.0							
CMAR	**Chiang Mai Arr**	**91.15**	**289**	P	**P**	**02 23 37.5**	**+0.3**
LZH	**Lanzhou**	**92.01**	**307**	*e*P	**P**	**02 23 42.5**	**+1.5**
LZH				pP	pwP	02 24 44.3	+1.0
LZH				sP	sP	02 25 09.3	+2.4
LZH				pmax	pmax		
	comp=Z,12nm,0.6s							
GTA	**Gaotai**	**96.01**	**309**	*e*P	**P**	**02 24 01.5**	**+2.4**
GTA				pP	PcP	02 24 06.5	+7.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**124.47**	**351**	PKP	**PKPdf**	**02 29 27.1**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=2.9,slow=2.4,SNR=4.7							
FINES	**FINESS Array B**	**131.68**	**347**	PKP	**PKPdf**	**02 29 41.9**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=116,slow=4.8,SNR=3.6							
FINES	**FINESS Array B**	**131.68**	**347**		**PKPdf**	**02 29 42.7**	**0.0**
BRTR	**Keskin Array B**	**145.22**	**320**	PKPbc	**PKPbc**	**02 30 08.1**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=89,slow=2.5,SNR=20							
BRTR	**Keskin Array B**	**145.22**	**320**		**PKPdf**	**02 30 07.8**	**-0.5**
GERES	**GERESS Array B**	**145.97**	**350**	PKPbc	**PKPbc**	**02 30 09.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=25,slow=4.7,SNR=6.6							
GERES	**GERESS Array B**	**145.97**	**350**	PKPbc	**PKPbc**	**02 30 09.7**	**-0.7**
CONA	**Conrad Observa**	**146.42**	**347**	*e*P	**PKPbc**	**02 30 11.4**	**-0.3**
	comp=Z,2.7nm,0.7s							
MOA	**Molln**	**146.83**	**349**	*e*P	**PKPbc**	**02 30 12.1**	**-0.7**
	comp=Z,2.7nm,0.9s							
ARSA	**Arzberg**	**147.14**	**347**	*e*P	**PKPbc**	**02 30 12.1**	**-1.5**
	comp=Z,2.0nm,0.9s							
WATA	**Walderalm**	**147.78**	**352**	*e*P	**PKPbc**	**02 30 14.9**	**-0.7**
	comp=Z,7.1nm,1.4s							
MOTA	**Moosalm**	**147.83**	**352**	*e*P	**PKPbc**	**02 30 14.6**	**-1.1**
	comp=Z,3.3nm,1.1s							
WTTA	**Wattenberg**	**147.84**	**351**	*e*P	**PKPbc**	**02 30 14.8**	**-1.0**
	comp=Z,3.0nm,0.5s							
SQTA	**Sankt Quirin**	**147.94**	**352**	*e*P	**PKPbc**	**02 30 15.5**	**-0.5**
	comp=Z,3.8nm,1.2s							
ABTA	**Abfaltersbach**	**148.21**	**350**	*e*P	**PKPbc**	**02 30 14.4**	**-2.2**
	comp=Z,3.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**176.07**	**126**	PKPab	**PKPab**	**02 32 19.8**	**-2.3**
	comp=Z,0.9nm,0.7s,baz=254,slow=2.8,SNR=7.9							
TORD	**Torodi Ar. Bea**	**176.07**	**126**		**PKPab**	**02 32 20.0**	**-2.1**

IDC 27 02:35:29.9±7.9, 18°.11S×168°.99E, h194km±107km, mb3.1/3, mb1 3.4/4, mb1mx3.2/29, mbtmp3.6/4, Error ellipse: s-maj=171.0km s-min=34.0km az=153.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.61**	**211**	P	Pn	02 36 38.6	-0.7
	2.8nm,0.3s,baz=61,slow=12,SNR=45						
DZM				S	Sn	02 37 34.9	+0.9
	0.7nm,0.3s,baz=155,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**32.78**	**261**	P	P	02 41 45.1	0.0
	0.2nm,0.5s,baz=96,slow=8.6,SNR=1.7						
ASAR	**Alice Springs**	**33.19**	**254**	P	P	02 41 48.4	-0.2
	0.9nm,0.4s,baz=82,slow=8.7,SNR=16						
ILAR	**Eielson Array**	**89.23**	**17**	P	P	02 48 03.5	+0.1
	0.3nm,0.7s,baz=236,slow=5.2,SNR=5.4						

*NEIC **27** 02:53:11.6±2.0, 35°.27S±0°.09×179°.2W±0°.1, h10km±1km, mb4.3/7, ML4.4(WEL), Error ellipse: s-maj=21.6km s-min=14.0km az=111.0*

*IDC **27** 02:53:11.3±1.1, 35°.19S×179°.50W, h0km, mb4.3/3, mb1 4.4/4, mb1mx4.0/24, mbtmp4.2/4, ML3.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/23, Error ellipse: s-maj=32.1km s-min=30.1km az=57.0*

*WEL **27** 02:53:12.2±1.2, 35°.S±11°×17°.9W±1°.7, h33km, M4.4/16, ML4.5/16, MLv4.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=117.7*

ISC 27 02:53:15.9±0.8, 35°.29S±0°.08×179°.3W±0°.1, h35km, n57, σ1s60/62, mb4.3/7, MS3.1/4, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.99**	**220**	P	**Pn**	**02 53 58.8**	**-2.0**
MXZ				S	**Sn**	**02 54 36.3**	**+0.9**
MXZ	**Matakaoa Point**	**2.99**	**220**	Pn	**Pn**	**02 53 58.8**	**-2.0**
MXZ				Sn	**Sn**	**02 54 36.3**	**+0.9**
WMGZ	**Waiomatatini S**	**3.13**	**216**	P	**Pn**	**02 54 02.4**	**-0.4**
WMGZ				S	**Sn**	**02 54 41.2**	**+2.2**
PUZ	**Puketiti**	**3.41**	**215**	P	**Pn**	**02 54 05.3**	**-1.4**
PUZ				S	**Sn**	**02 54 45.9**	**0.0**
HAZ	**Te Kaha**	**3.42**	**223**	P	**Pn**	**02 54 05.5**	**-1.1**
RUGZ	**Raukumara Rang**	**3.62**	**222**	P	**Pn**	**02 54 08.7**	**-0.9**
TWGZ	**Tauwhareparae**	**3.63**	**217**	P	**Pn**	**02 54 07.8**	**-1.8**
TWGZ				S	**Sn**	**02 54 52.4**	**+1.1**
CNGZ	**Carnagh Statio**	**3.77**	**212**	P	**Pn**	**02 54 11.1**	**-0.5**
CNGZ				S	**Sn**	**02 54 59.9**	**+5.2**
TKGZ	**Te Karaka**	**3.90**	**215**	P	**Pn**	**02 54 12.7**	**-0.6**
MWZ	**Matawai**	**3.98**	**219**	P	**Pn**	**02 54 12.8**	**-1.7**
MWZ				S	**Sn**	**02 54 59.9**	**+0.1**
URZ	**Urewera**	**4.15**	**223**	Pn	**Pn**	**02 54 15.1**	**-1.6**
	6.0nm,0.3s,baz=258,slow=4.1,SNR=14						
URZ				Sn	**Sn**	**02 55 03.5**	**-0.5**
	4.1nm,0.3s,baz=209,slow=19,SNR=1.6						
URZ	**Urewera**	**4.15**	**223**	P	**Pn**	**02 54 15.4**	**-1.4**
RIGZ	**Rimuhau**	**4.15**	**214**	P	**Pn**	**02 54 15.6**	**-1.3**
RAGZ	**Rawiri**	**4.16**	**219**	P	**Pn**	**02 54 15.7**	**-1.2**
OPRZ	**Ohinepanea**	**4.21**	**232**	P	**Pn**	**02 54 16.0**	**-1.6**
KUZ	**Kuaotunu**	**4.31**	**249**	P	**Pn**	**02 54 18.3**	**-0.7**
SNGZ	**Shannon Statio**	**4.41**	**217**	P	**Pn**	**02 54 19.5**	**-0.9**
KNZ	**Kokohu**	**4.45**	**212**	P	**Pn**	**02 54 18.0**	**-2.8**
KNZ				S	**Sn**	**02 55 10.8**	**-0.6**
MUGZ	**Murupara**	**4.49**	**224**	P	**Pn**	**02 54 18.7**	**-2.8**
TOZ	**Tahuroa Road**	**4.86**	**238**	P	**Pn**	**02 54 25.1**	**-1.4**
NMHZ	**Naumai**	**4.92**	**218**	P	**Pn**	**02 54 24.8**	**-2.7**
BKZ	**Black Stump Fm**	**5.13**	**220**	P	**Pn**	**02 54 27.5**	**-2.8**
BKZ				S	**Sn**	**02 55 29.0**	**+0.6**
BKZ	**Black Stump Fm**	**5.13**	**220**	Pn	**Pn**	**02 54 28.8**	**-1.5**
PXZ	**Pawanui**	**5.64**	**212**	S	**Sn**	**02 55 39.4**	**-1.3**
OUZ	**Omahuta**	**5.83**	**269**	Pn	**Pn**	**02 54 40.0**	**+0.1**
BFZ	**Birch Farm**	**6.44**	**212**	Pn	**Pn**	**02 54 45.7**	**-2.6**
QRZ	**Quartz Range**	**8.50**	**227**	Pn	**Pn**	**02 55 17.9**	**+1.4**
KHZ	**Kahutara**	**9.05**	**216**	Pn	**Pn**	**02 55 23.9**	**-0.2**
DZM	**Mont Dzumac**	**18.15**	**313**	LR	LR	03 02 32.9	
	comp=Z,126nm,18.2s,baz=271,slow=31						
DZM	**Mont Dzumac**	**18.15**	**313**	*e*LR	LR	03 01 25.0	
	comp=Z,66nm,24.5s						
TBI	**Tubuai**	**28.48**	**73**	*e*LR	LR	03 06 15.8	
	comp=Z,80nm,30.2s						
PPT2	**Papeete2**	**31.73**	**64**	*e*LR	LR	03 07 56.8	
	comp=Z,70nm,25.0s						
PPT	**Papeete**	**31.74**	**64**	LR	LR	03 09 15.1	
	comp=Z,33nm,21.2s,baz=173,slow=30						
STKA	**Stephens Creek**	**32.63**	**265**	LR	LR	03 11 05.4	
	comp=Z,22nm,20.8s,baz=31,slow=33						
CTAO	**Charters Tower**	**33.88**	**287**	P	**P**	**02 59 56.1**	**+0.7**
AS31	**Alice Springs**	**42.03**	**273**	P	**P**	**03 01 03.7**	**-0.5**
ASAR	**Alice Springs**	**42.03**	**273**	P	**P**	**03 01 03.4**	**-0.8**
	4.0nm,0.7s,baz=116,slow=7.5,SNR=45						
ASAR	**Alice Springs**	**42.03**	**273**	P	**P**	**03 01 03.0**	**-1.3**
WB2	**Warramunga Arr**	**43.45**	**278**	P	**P**	**03 01 14.7**	**-1.0**
WB2				IAmb	IAmb	03 01 16.8	
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**43.46**	**278**	P	**P**	**03 01 15.5**	**-0.3**
WRAB				IAmb	IAmb	03 01 23.5	
	comp=Z,5.4nm,0.8s						
WRA	**Warramunga Arr**	**43.46**	**278**	P	**P**	**03 01 14.7**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=121,slow=7.6,SNR=40						
WRA	**Warramunga Arr**	**43.46**	**278**	P	**P**	**03 01 14.9**	**-0.9**
WB0	**Warramunga Arr**	**43.51**	**278**	P	**P**	**03 01 15.3**	**-0.9**
WB0				IAmb	IAmb	03 01 15.6	
	comp=Z,7.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.47**	**274**	P	**P**	**03 02 17.6**	**-0.5**
FITZ				IAmb	IAmb	03 02 19.8	
	comp=Z,4.2nm,0.9s						
QSPA	**South Pole Qui**	**54.83**	**180**	P	**P**	**03 02 44.6**	**+2.2**
	comp=Z,2.2nm,0.9s,baz=43,slow=5.7,SNR=4.6						
FINES	**FINESS Array B**	**149.28**	**336**	PKPbc	**PKiKP**	**03 13 01.0**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=37,slow=4.8,SNR=8.8						
FINES	**FINESS Array B**	**149.28**	**336**		**PKiKP**	**03 12 59.8**	**-1.4**
LIC	**Lamto**	**150.59**	**168**	*e*PKIKP	**PKiKP**	**03 13 06.3**	**+0.9**
	comp=Z,11nm,0.7s						
KIC	**Kosan Boka**	**150.77**	**169**	*e*PKIKP	**PKiKP**	**03 13 06.6**	**+0.8**
	comp=Z,9.1nm,0.7s						
TIC	**Toumodi**	**151.00**	**168**	*e*PKIKP	**PKiKP**	**03 13 07.0**	**+0.7**
DBIC	**Dimbokro**	**151.06**	**168**	PKPbc	**PKiKP**	**03 13 06.7**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=166,slow=4.7,SNR=5.5						
DBIC	**Dimbokro**	**151.06**	**168**		**PKiKP**	**03 13 06.5**	**+0.2**
BRTR	**Keskin Array B**	**153.61**	**289**	PKPbc	**PKiKP**	**03 13 10.4**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=146,slow=2.8,SNR=2.3						
BRTR	**Keskin Array B**	**153.61**	**289**		**PKPbc**	**03 13 07.2**	**-3.8**
AKASG	**Malin Array Be**	**154.30**	**316**	PKPbc	**PKiKP**	**03 13 12.0**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=68,slow=2.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**157.94**	**183**	PKPab	**PKPab**	**03 13 42.7**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=185,slow=2.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**157.94**	**183**	PKPdf	**PKPdf**	**03 13 12.3**	**+2.9**
TORD					**PKPab**	**03 13 42.8**	**+0.3**

WEL 27 03:15:39.5±0.8, 36°.S±6°×17°.9W±1°, h33km, M3.9/20, ML4.0/20, MLv3.9/20, Error ellipse: s-maj=0.0km s-min=0.0km az=152.5, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.32**	**232**	P	Pn	03 16 14.5	-0.8
MXZ				S	Sn	03 16 43.3	+0.6
WMGZ	**Waiomatatini S**	**2.42**	**226**	P	Pn	03 16 17.8	+1.2
PUZ	**Puketiti**	**2.68**	**224**	P	Pn	03 16 20.7	+0.3
PUZ				S	Sn	03 16 53.1	+1.4
HAZ	**Te Kaha**	**2.77**	**234**	P	Pn	03 16 22.0	+0.5
HAZ				S	Sn	03 16 55.3	+1.4
TWGZ	**Tauwhareparae**	**2.91**	**226**	P	Pn	03 16 23.6	0.0
TWGZ				S	Sn	03 16 59.9	+2.5
RUGZ	**Raukumara Rang**	**2.96**	**232**	P	Pn	03 16 24.8	+0.5
TKGZ	**Te Karaka**	**3.17**	**223**	P	Pn	03 16 27.2	+0.2
TKGZ				S	Sn	03 17 05.3	+1.7
MWZ	**Matawai**	**3.28**	**228**	P	Pn	03 16 28.5	-0.1
MWZ				S	Sn	03 17 07.4	+0.8
RIGZ	**Rimuhau**	**3.41**	**221**	P	Pn	03 16 30.1	-0.2
RIGZ				S	Sn	03 17 11.1	+1.6
URZ	**Urewera**	**3.49**	**232**	P	Pn	03 16 31.0	-0.4
URZ				S	Sn	03 17 12.1	+0.4
PRGZ	**Paritu Road**	**3.51**	**217**	P	Pn	03 16 32.2	+0.5
MHGZ	**Mahia Peninsul**	**3.68**	**215**	P	Pn	03 16 34.2	+0.2
KNZ	**Kokohu**	**3.69**	**218**	P	Pn	03 16 33.8	-0.4
SNGZ	**Shannon Statio**	**3.69**	**224**	P	Pn	03 16 34.5	+0.3
RTZ	**Ruatahuna**	**3.79**	**229**	P	Pn	03 16 37.2	+1.5
MUGZ	**Murupara**	**3.84**	**232**	P	Pn	03 16 35.3	-1.0
RAHZ	**Arahi**	**3.93**	**225**	P	Pn	03 16 38.4	+0.9
KUZ	**Kuaotunu**	**3.99**	**260**	P	Pn	03 16 37.1	-1.2
MTHZ	**Maungataniwha**	**4.03**	**227**	P	Pn	03 16 39.2	+0.4
MTHZ				S	Sn	03 17 26.0	+1.1
GRZ	**Great Barrier**	**4.17**	**267**	P	Pn	03 16 41.1	+0.3
NMHZ	**Naumai**	**4.21**	**225**	P	Pn	03 16 41.9	+0.5
NMHZ				S	Sn	03 17 31.2	+1.7
BKZ	**Black Stump Fm**	**4.44**	**226**	P	Pn	03 16 44.3	-0.2
BKZ				S	Sn	03 17 34.0	-1.1
CKHZ	**Cape Kidnapper**	**4.47**	**218**	S	Sn	03 17 35.9	0.0
KWHZ	**Kaweka Forest**	**4.65**	**224**	P	Pn	03 16 46.9	-0.6
KWHZ				S	Sn	03 17 40.3	0.0
KAHZ	**Kahuranaki**	**4.67**	**218**	P	Pn	03 16 46.6	-1.2
BHHZ	**Black Hill Sta**	**4.90**	**226**	P	Pn	03 16 48.9	-2.0
BHHZ				S	Sn	03 17 44.9	-1.6
CTZ	**Chatham Island**	**7.85**	**165**	P	Pn	03 17 33.7	+2.4
CTZ				S	Sn	03 18 58.3	-0.7

WEL 27 03:36:16.6, 38°S±2°×17°6E±°, h165km±3km, M2.8/40, MLv2.8/40, Error ellipse: s-maj=0.0km s-min=0.0km az=118.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.11**	**237**	P	Pn	03 36 38.4	-0.2
HSRZ	**Hossack Road**	**0.27**	**64**	P	Pn	03 36 39.0	+0.1
WATZ	**Wairara**	**0.32**	**210**	P	Pn	03 36 39.3	+0.3
ALRZ	**Allen Road**	**0.34**	**112**	P	Pn	03 36 39.2	+0.1
RATZ	**Rangitukua**	**0.45**	**197**	P	Pn	03 36 39.5	+0.1
RITZ	**Rihia Road**	**0.55**	**186**	P	Pn	03 36 40.4	+0.5
MRHZ	**Matea Rd**	**0.55**	**137**	P	Pn	03 36 39.0	-0.2
MRHZ				S	Sn	03 36 57.1	-0.8
KATZ	**Kakaramea**	**0.57**	**199**	P	Pn	03 36 40.5	+0.3
MUGZ	**Murupara**	**0.66**	**94**	P	Pn	03 36 39.8	-0.7
MUGZ				S	Sn	03 36 58.1	-0.6
OTVZ	**Oturere**	**0.76**	**196**	P	Pn	03 36 41.5	+0.3
TOZ	**Tahuroa Road**	**0.78**	**334**	P	Pn	03 36 41.4	+0.2
NGZ	**Ngauruhoe**	**0.79**	**199**	P	Pn	03 36 41.3	-0.2
MTHZ	**Maungataniwha**	**0.82**	**121**	P	Pn	03 36 41.7	+0.2
MTHZ				S	Sn	03 36 59.5	-1.2
RTZ	**Ruatahuna**	**0.84**	**103**	P	Pn	03 36 41.5	-0.1
RTZ				S	Sn	03 36 59.9	-1.0
BKZ	**Black Stump Fm**	**0.85**	**150**	P	Pn	03 36 41.7	0.0
BKZ				S	Sn	03 36 59.9	-1.3
HIZ	**Hauiti**	**0.85**	**264**	P	Pn	03 36 41.8	+0.2
TUVZ	**Tukino**	**0.86**	**195**	P	Pn	03 36 42.1	+0.2
TUVZ				S	Sn	03 37 01.2	-0.4
FWVZ	**Far West T-bar**	**0.88**	**200**	P	Pn	03 36 42.3	+0.2
WHVZ	**Whangaehu Hut**	**0.89**	**198**	P	Pn	03 36 42.3	+0.1
TRVZ	**Turoa**	**0.92**	**199**	P	Pn	03 36 42.6	+0.1
WNVZ	**Wahianoa**	**0.93**	**196**	P	Pn	03 36 42.6	+0.1
URZ	**Urewera**	**0.94**	**80**	P	Pn	03 36 41.8	-0.5
URZ				S	Sn	03 37 00.0	-1.9
NMHZ	**Naumai**	**0.95**	**135**	P	Pn	03 36 43.3	+0.9
NMHZ				S	Sn	03 37 03.1	+0.7
PKVZ	**Pokaka**	**0.97**	**208**	P	Pn	03 36 42.7	+0.1
MOVZ	**Moawhango**	**0.98**	**188**	P	Pn	03 36 42.5	-0.2
MOVZ				S	Sn	03 37 01.7	-1.3
MTVZ	**Mangateitei**	**1.02**	**201**	P	Pn	03 36 43.2	+0.2
RAHZ	**Arahi**	**1.02**	**119**	P	Pn	03 36 43.6	+0.6
BHHZ	**Black Hill Sta**	**1.06**	**175**	P	Pn	03 36 43

FITZ			Sn	Sn	03 46 39.5	-13
	0.3nm,0.3s,baz=150,slow=16,SNR=3.9					
FITZ	**Fitzroy Crossi**	**14.64 123**	Pn	**Pn**	**03 44 09.4**	**-1.5**
WB0	**Warramunga Arr**	**22.84 117**	P	**P**	**03 45 47.3**	**+0.7**
WB0			IAmb	IAmb	03 45 59.7	
	comp=Z,2.9nm,0.7s					
WRA	**Warramunga Arr**	**22.86 117**	P	**P**	**03 45 47.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=291,slow=11,SNR=14					
WRA			S	**S**	**03 49 54.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=288,slow=24,SNR=3.2					
WRA	**Warramunga Arr**	**22.86 117**	P	**P**	**03 45 46.9**	**+0.1**
WRAB	**Tennant Creek**	**22.86 117**	P	**P**	**03 45 47.3**	**+0.5**
WRAB			IAmb	IAmb	03 45 48.6	
	comp=Z,5.3nm,1.1s					
WB2	**Warramunga Arr**	**22.87 117**	P	**P**	**03 45 47.8**	**+0.9**
WB2			IAmb	IAmb	03 45 57.2	
	comp=Z,3.9nm,0.8s					
WR0	**Warramunga Arr**	**23.04 117**	P	**P**	**03 45 49.1**	**+0.5**
WR0			IAmb	IAmb	03 46 02.2	
	comp=Z,6.2nm,0.9s					
ASAR	**Alice Springs**	**24.10 126**	P	**P**	**03 45 60.0**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=302,slow=9.2,SNR=15					
ASAR	**Alice Springs**	**24.10 126**	P	**P**	**03 46 00.5**	**+1.7**
STKA	**Stephens Creek**	**34.17 133**	P	**P**	**03 47 29.9**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=309,slow=6.5,SNR=3.1					
STKA	**Stephens Creek**	**34.17 133**	P	**P**	**03 47 31.0**	**+2.6**
MK31	**Makanchi Array**	**63.08 337**	P	**P**	**03 51 10.5**	**+0.4**
MK31			IAmb	IAmb	03 51 18.4	
	comp=Z,7.0nm,1.2s					
MKAR	**Makanchi Array**	**63.08 337**	P	**P**	**03 51 09.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=157,slow=7.9,SNR=6.2					
MKAR	**Makanchi Array**	**63.08 337**	P	**P**	**03 51 09.5**	**-0.6**
MAKZ	**Makanchi**	**63.21 337**	P	**P**	**03 51 11.8**	**+0.8**
ABKAR	**Akbulak array**	**75.26 327**	P	**P**	**03 52 25.8**	**+0.4**

*DJA **27** 03:50:22.8±4.6,13˚N±28˚×12˚7E±1˚5,h34km±20km, M4.7/12,mb5.0/12,mB5.2/6,Mw(mB)4.6/6*
*MAN **27** 03:50:24.5,12˚.53N×126˚.29E,h35km,mb5.3,ML4.2, MS4.4*
*BJI **27** 03:50:25.0±0.0,12˚.48N×126˚.14E,h16km,mB4.9/9, mb4.7/20*
*NEIC **27** 03:50:28.8±1.8,12˚.44N±0˚.09×126˚.16E±0˚.10,h37km±5km, mb4.9/47,Error ellipse: s-maj=14.3km s-min=12.2km az=71.0*
*IDC **27** 03:50:29.7±2.8,12˚.44N×126˚.15E,h44km±26km,mb4.3/23, mb1 4.5/25,mb1mx4.3/44,mbtmp4.6/25,ML4.8/2,MS3.3/13, Ms1 3.3/13,ms1mx3.1/42,Error ellipse: s-maj=21.5km s-min=9.7km az=76.0*
ISC 27 03:50:28.5±0.3,12˚.42N±0˚.04×126˚.21E±0˚.06,h35km,n146, σ1ş25/153,mb4.7/52,MS3.2/10,3C-4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.11**	**223**	*eP*	**Pn**	**03 50 44.9**	**-2.7**
BESP				*eS*	**Sn**	**03 51 00.7**	**-1.0**
CNP	**Catarman**	**1.51**	**273**	*eP*	**Pn**	**03 50 51.4**	**-1.6**
CNP				*eS*	**Sn**	**03 51 09.8**	**-1.7**
GLSP	**General Luna,**	**2.62**	**182**	*eP*	**Pn**	**03 51 05.5**	**-2.9**
GLSP				*eS*	Sn	03 51 28.4	-11
MSLP	**Maasin**	**2.63**	**210**	*eP*	**Pn**	**03 51 08.8**	**+0.3**
MSLP				*eS*	**Sn**	**03 51 42.2**	**+3.0**
LLP	**Lapu-Lapu**	**3.04**	**227**	*eP*	**Pn**	**03 51 13.0**	**-1.1**
LLP				*eS*	**Sn**	**03 51 50.0**	**+0.7**
TBP	**Tagbilaran**	**3.56**	**221**‖	*eP*	**Pn**	**03 51 22.8**	**+1.5**
CGP	**Cagayan de Oro**	**4.22**	**201**‖	*eP*	**Pn**	**03 51 34.4**	**+4.1**
CGP				*eS*	**Sn**	**03 52 18.2**	**-0.2**
CNOP	**Candoni, Negro**	**4.35**	**234**	*eP*	**Pn**	**03 51 30.6**	**-1.5**
CNOP				*eS*	**Sn**	**03 52 20.8**	**-0.9**
JAP	**San Jose, Anti**	**4.50**	**249**ñ	*eP*	**Pn**	**03 51 37.4**	**+3.2**
BUKP	**Musuan**	**4.66**	**194**	*eP*	**Pn**	**03 51 36.5**	**+0.1**
BUKP				*eS*	**Sn**	**03 52 24.5**	**-4.8**
LQP	**Lukban**	**4.84**	**291**‖	*eP*	**Pn**	**03 51 37.6**	**-1.6**
PAGZ	**Pagadian**	**5.33**	**212**	*eP*	**Pn**	**03 51 46.2**	**+0.6**
DAV	**Davao City (W)**	**5.36**	**187**	LR	LR	03 54 25.1	
	comp=Z,694nm,18.3s,baz=321,slow=44						
TGY	**Tagaytay City**	**5.40**	**289**	P	**Pn**	**03 51 47.5**	**+0.9**
	30nm,0.3s,baz=68,slow=19,SNR=1.3						
BCP	**Baguio City**	**6.72**	**307**ñ	*iP*	**Pn**	**03 52 03.7**	**-1.2**
CVP	**Callao Caves**	**6.74**	**322**	*iP*	**Pn**	**03 52 02.9**	**-2.2**
TNTI	**Ternate**	**11.63**	**174**	P	**Pn**	**03 53 12.6**	**+0.4**
	295nm,0.5s						
GTOI	**Gorontalo**	**12.13**	**195**	P	**Pn**	**03 53 17.0**	**-2.0**
GTOI	**Gorontalo**	**12.13**	**195**	P	**Pn**	**03 53 16.9**	**-2.0**
MPSI	**Mapaga**	**13.54**	**208**	P	**Pn**	**03 53 35.9**	**-2.3**
MPSI	**Mapaga**	**13.54**	**208**	P	**Pn**	**03 53 39.7**	**+1.5**
	22nm,0.7s						
JMZ	**Minamidaito 2**	**14.14**	**19**	Pn	**Pn**	**03 53 45.6**	**-0.7**
BKB	**Balikpapan**	**16.44**	**215**	P	**Pn**	**03 54 17.1**	**+0.4**
TTSI	**Tana Toraja**	**16.63**	**203**	P	**P**	**03 54 21.7**	**+0.6**
TTSI	**Tana Toraja**	**16.63**	**203**	P	**P**	**03 54 21.4**	**+0.2**
	1μm79nm,1.4s						
SBUM	**Sibu**	**17.03**	**236**	P	**P**	**03 54 26.8**	**+1.1**
MTKI	**Muara Teweh, K**	**17.39**	**221**	P	**P**	**03 54 32.1**	**+2.5**
SPSI	**Sidrap Palu**	**17.49**	**202**	P	**P**	**03 54 31.7**	**+1.0**
	56nm,0.7s						
BNSI	**Bone**	**17.78**	**200**	P	**P**	**03 54 35.5**	**+1.6**
BNSI	**Bone**	**17.78**	**200**	P	**P**	**03 54 34.6**	**+0.7**
	1μm89nm,0.8s						
GUMO	**Guam**	**18.22**	**84**	LR	LR	04 01 51.4	
	comp=Z,52nm,18.8s,baz=264,slow=37						
KAPI	**Kappang**	**18.48**	**201**	P	**Pn**	**03 54 43.4**	**+1.5**
	2.9nm,0.3s,baz=4.2,slow=5.8,SNR=32						
KAPI				LR	LR	04 02 34.3	
	comp=Z,47nm,21.7s,baz=34,slow=39						
KAPI	**Kappang**	**18.48**	**201**	P	**Pn**	**03 54 43.8**	**+1.9**
KAPI				IAmb	IAmb	03 54 44.3	
	comp=Z,60nm,0.8s						
BKSI	**Bulukumba**	**18.64**	**199**	P	**Pn**	**03 54 43.9**	**0.0**
	comp=Z,44nm,0.8s						
BBKI	**Banjar Baru**	**19.41**	**216**	P	**P**	**03 54 52.4**	**+0.6**
JNU	**Nakatsue**	**21.04**	**11**	P	**P**	**03 55 10.2**	**+0.7**
	comp=Z,15nm,0.9s,baz=109,slow=4.7,SNR=3.9						
JNU				LR	LR	04 02 11.0	
	comp=Z,60nm,19.0s,baz=196,slow=33						
WHN	**Wuhan**	**21.11**	**331**	P	**P**	**03 55 11.5**	**+1.3**
EDFI	**Ende, Flores**	**21.51**	**192**	P	**P**	**03 55 15.4**	**+0.7**
EDFI	**Ende, Flores**	**21.51**	**192**	P	**P**	**03 55 15.7**	**+1.0**
	comp=Z,275nmcomp=Z,28nm,0.8s						
SOEI	**Soe**	**22.12**	**185**	P	**P**	**03 55 20.3**	**-0.9**
SOEI	**Soe**	**22.12**	**185**	P	**P**	**03 55 20.1**	**-1.1**
	comp=Z,56nm,1.0s						
SOEI	**Soe**	**22.12**	**185**	P	**P**	**03 55 21.3**	**+0.1**
SOEI				IAmb	IAmb	03 55 37.0	
	comp=Z,45nm,0.7s						
BATI	**Baumata**	**22.62**	**187**	P	**P**	**03 55 27.4**	**+0.9**
	comp=Z,80nm,0.5s,baz=286,slow=1.3,SNR=10.0						
BATI				LR	LR	04 05 33.0	
	comp=Z,91nm,19.4s,baz=40,slow=40						
BATI	**Baumata**	**22.62**	**187**	P	**P**	**03 55 26.4**	**-0.2**
BATI	**Baumata**	**22.62**	**187**	P	**P**	**03 55 25.7**	**-0.9**
	comp=Z,720nmcomp=Z,64nm,1.0s						
PLAI	**Plampang**	**22.71**	**202**	P	**P**	**03 55 27.9**	**+0.4**
PLAI	**Plampang**	**22.71**	**202**	P	**P**	**03 55 27.0**	**-0.5**
	comp=Z,49nm,1.0s						
KMMI	**Kalianget**	**22.86**	**213**	P	**P**	**03 55 29.2**	**+0.2**
	comp=Z,63nm,0.9s						
TWSI	**Taliwang, Sumb**	**22.98**	**204**	P	**P**	**03 55 30.5**	**+0.3**
	comp=Z,18nm,1.2s						
GYA	**Guiyang**	**23.07**	**310**	*eP*	**P**	**03 55 32.0**	**+0.7**
GYA				S	**S**	**03 59 39.0**	**-1.1**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SLVN	**Son La**	**23.08**	**296**	P	**P**	**03 55 29.9**	**-1.5**
ENH	**Enshi**	**23.57**	**321**	P	**P**	**03 55 35.0**	**-0.9**
BLJI	**Banyuglugur**	**23.64**	**213**	P	**P**	**03 55 37.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**23.97**	**211**	P	**P**	**03 55 39.6**	**-0.2**
JAGI				IAmb	IAmb	03 55 43.7	
	comp=Z,39nm,0.8s						
KSRS	**Korea Array**	**24.97**	**3**	P	**P**	**03 55 49.0**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=185,slow=10,SNR=9.4						
KSRS				LR	LR	04 04 51.5	
	comp=Z,78nm,20.1s,baz=168,slow=34						
TIA	**Tai'an**	**25.06**	**342**	P	**P**	**03 55 50.3**	**+0.6**
TIA				pmax	pmax		
	comp=Z,17nm,1.2s						
KMI	**Kunming**	**25.50**	**303**ñ	*eP*	**P**	**03 55 56.5**	**+2.4**
KMI				pP	pP	03 55 59.8	-2.2
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
KMI				pmax	pmax		
	comp=Z,120nm,4.2s						

MTN	**Manton Dam**	**25.57**	**169**	P	**P**	**03 55 54.1**	**-0.3**
MTN				IAmb	IAmb	03 56 01.6	
	comp=Z,19nm,0.5s						
KPJI	**Karang Pucung**	**26.08**	**222**	P	**P**	**03 55 57.7**	**-1.4**
KPJI	**Karang Pucung**	**26.08**	**222**	P	**P**	**03 55 57.7**	**-1.4**
IPM	**Ipoh**	**26.11**	**255**	P	**P**	**03 55 58.3**	**-1.2**
MJAR	**Matsushiro Arr**	**26.33**	**22**	LR	LR	04 04 38.3	
	comp=Z,84nm,21.7s,baz=205,slow=32						
XAN	**Xi'an**	**26.66**	**327**	P	**P**	**03 56 08.8**	**+4.5**
XAN				pP	sP	03 56 16.5	+0.6
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
CM31	**Chiang Mai Arr**	**26.94**	**286**	P	**P**	**03 56 06.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**26.94**	**286**	P	**P**	**03 56 06.5**	**-0.4**
	comp=Z,8.7nm,0.7s,baz=94,slow=7.3,SNR=42						
CMAR				LR	LR	04 08 10.7	
	comp=Z,32nm,18.2s,baz=95,slow=40						
CMAR	**Chiang Mai Arr**	**26.94**	**286**	P	**P**	**03 56 06.1**	**-0.7**
KNRA	**Kununurra**	**28.04**	**175**	P	**P**	**03 56 16.8**	**+0.2**
KNRA				IAmb	IAmb	03 56 17.7	
	comp=Z,36nm,1.1s						
PSI	**Prapat**	**28.65**	**253**	LR	LR	04 07 55.0	
	comp=Z,97nm,20.1s,baz=87,slow=36						
FITZ	**Fitzroy Crossi**	**30.33**	**181**	P	**P**	**03 56 37.0**	**0.0**
	comp=Z,12nm,0.7s,baz=15,slow=8.3,SNR=23						
XMIS	**Christmas Isla**	**30.57**	**223**	P	**P**	**03 56 37.8**	**-1.4**
USA0B	**Ussuriysk Arra**	**32.05**	**8**	P	**P**	**03 56 50.9**	**-1.0**
USA0B				IAmb	IAmb	03 56 56.7	
	comp=Z,14nm,0.9s						
USRK	**Ussuriysk Ar.**	**32.05**	**8**	P	**P**	**03 56 50.7**	**-1.2**
WB0	**Warramunga Arr**	**32.99**	**166**	P	**P**	**03 56 59.3**	**-1.0**
WB0				IAmb	IAmb	03 57 00.1	
	comp=Z,8.1nm,0.7s						
WRA	**Warramunga Arr**	**33.14**	**166**	P	**P**	**03 57 00.7**	**-1.0**
	comp=Z,5.6nm,0.8s,baz=346,slow=9.2,SNR=54						
WRA				PcP	**PcP**	**03 59 44.9**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=338,slow=3.2,SNR=8.2						
WRA				LR	LR	04 13 45.4	
	comp=Z,20nm,20.1s,baz=190,slow=42						
WB2	**Warramunga Arr**	**33.15**	**166**	P	**P**	**03 57 01.1**	**-0.7**
PSA00	**Pilbara Seismi**	**34.36**	**191**	P	**P**	**03 57 11.1**	**-1.1**
PSA00				IAmb	IAmb	03 57 27.4	
	comp=Z,36nm,1.5s						
GTA	**Gaotai**	**35.60**	**324**	*eP*	**P**	**03 57 24.8**	**+1.8**
GTA				pP	pP	03 57 30.0	-1.3
GTA				sP	sP	03 57 33.3	-1.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAR	**Alice Springs**	**36.65**	**168**	P	**P**	**03 57 31.5**	**-0.5**
	comp=Z,8.0nm,0.6s,baz=348,slow=7.3,SNR=80						
ASAR				PcP	**PcP**	**03 59 54.9**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=353,slow=2.4,SNR=6.5						
ASAR	**Alice Springs**	**36.65**	**168**	P	**P**	**03 57 31.9**	**-0.1**
ULN	**Ulaanbaatar**	**38.79**	**339**	P	**P**	**03 57 50.4**	**+0.4**
SONM	**Songino Array**	**39.00**	**339**	P	**P**	**03 57 51.7**	**0.0**
	comp=Z,5.4nm,0.8s,baz=151,slow=8.8,SNR=12						
SONM				LR	LR	04 15 30.9	
	comp=Z,40nm,18.6s,baz=43,slow=38						
SONM	**Songino Array**	**39.00**	**339**	P	**P**	**03 57 51.7**	**0.0**
MORW	**Morawa**	**42.40**	**193**	P	**P**	**03 58 19.1**	**-0.7**
MORW				IAmb	IAmb	03 58 21.8	
	comp=Z,18nm,1.1s						
FORT	**Forrest**	**42.99**	**178**	P	**P**	**03 58 25.5**	**+1.0**
EIDS	**Eidsvold**	**44.71**	**147**	P	**P**	**03 58 39.0**	**+0.6**
EIDS				IAmb	IAmb	03 59 30.5	
	comp=Z,14nm,1.2s						
NWAO	**Narrogin (SRO)**	**45.90**	**191**	P	**P**	**03 58 47.9**	**+0.2**
BBOO	**Buckleboo**	**45.95**	**168**	P	**P**	**03 58 49.1**	**+0.9**
HYB	**Hyderabad**	**46.23**	**282**	*i* P	**P**	**03 58 50.5**	**-0.2**
STKA	**Stephens Creek**	**46.45**	**162**	P	**P**	**03 58 52.9**	**+0.8**
	comp=Z,15nm,0.7s,baz=336,slow=8.2,SNR=27						
STKA				PcP	**PcP**	**04 00 26.7**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=0.0,slow=6.1,SNR=2.0						
STKA	**Stephens Creek**	**46.45**	**162**	P	**P**	**03 58 52.9**	**+0.8**
PETK	**Petropavlovsk-**	**47.72**	**25**	P	**P**	**03 59 02.1**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=202,slow=1.6,SNR=5.3						
PETK				LR	LR	04 16 59.1	
	comp=Z,48nm,21.7s,baz=239,slow=33						
PETK	**Petropavlovsk-**	**47.72**	**25**	P	**P**	**03 59 03.7**	**+1.9**
ARMA	**Armidale**	**49.12**	**151**	P	**P**	**03 59 13.6**	**+0.7**
MK31	**Makanchi Array**	**50.30**	**322**	P	**P**	**03 59 22.2**	**+0.5**
MKAR	**Makanchi Array**	**50.30**	**322**	P	**P**	**03 59 22.0**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=113,slow=8.4,SNR=30						
MKAR	**Makanchi Array**	**50.30**	**322**	P	**P**	**03 59 21.9**	**+0.2**
MAKZ	**Makanchi**	**50.49**	**322**	P	**P**	**03 59 24.1**	**+0.9**
MAKZ				IAmb	IAmb	04 00 30.2	
	comp=Z,14nm,1.4s						
DZM	**Mont Dzumac**	**52.27**	**131**	P	**P**	**03 59 36.0**	**-0.9**
DZM				IAmb	IAmb	04 00 35.9	
	comp=Z,19nm,1.3s						
ZALV	**Zalesovo Beam**	**52.73**	**331**	P	**P**	**03 59 39.3**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=113,slow=7.9,SNR=10						
ZALV	**Zalesovo Beam**	**52.73**	**331**	P	**P**	**03 59 39.7**	**0.0**
TOO	**Toolangi**	**52.92**	**161**	P	**P**	**03 59 43.0**	**+1.6**
KURK	**Kurchatov**	**54.28**	**325**	P	**P**	**03 59 51.7**	**+0.6**
KURK				IAmb	IAmb	03 59 52.1	
	comp=Z,16nm,0.9s						
CHGR	**Chuyangaron**	**56.70**	**308**	P	**P**	**04 00 08.7**	**-0.2**
CHGR				IAmb	IAmb	04 00 10.7	
	comp=Z,13nm,0.7s						
KK31	**Karatay Array**	**56.72**	**314**	P	**P**	**04 00 09.3**	**+0.4**
KK31				IAmb	IAmb	04 00 40.0	
	comp=Z,17nm,1.7s						
KKAR	**Karatay Array**	**56.72**	**314**	P	**P**	**04 00 09.0**	**+0.1**
BRVK	**Borovoye**	**59.95**	**325**	P	**P**	**04 00 31.2**	**0.0**
BRVK				IAmb	IAmb	04 00 32.1	
	comp=Z,8.3nm,0.8s						
NRIK	**Noril'sk**	**61.93**	**345**	P	**P**	**04 00 44.2**	**-0.2**
	comp=Z,5.9nm,1.0s,baz=126,slow=6.5,SNR=5.9						
ABKAR	**Akbulak array**	**65.22**	**319**	P	**P**	**04 01 06.2**	**-0.3**
GEYT	**Alibeck**	**65.22**	**306**	P	**P**	**04 01 07.7**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=122,slow=1.9,SNR=12						
GEYT	**Alibeck**	**65.22**	**306**	P	**P**	**04 01 07.1**	**+0.3**
ARU	**Arti**	**67.41**	**326**	P	**P**	**04 01 19.8**	**-0.5**
ARU				IAmb	IAmb	04 01 30.9	
	comp=Z,24nm,1.7s						
RPZ	**Rata Peaks**	**69.21**	**147**	P	**P**	**04 01 32.3**	**+0.5**
SOCY	**Socotra**	**70.34**	**279**	P	**P**	**04 01 38.1**	**-1.3**
IMAR	**Indian Mountai**	**74.68**	**25**	P	**P**	**04 02 05.4**	**+1.1**
COLD	**Coldfoot**	**76.15**	**23**	P	**P**	**04 02 12.4**	**-0.2**
KBZ	**Khabaz**	**76.72**	**312**	P	**P**	**04 02 15.8**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=124,slow=3.2,SNR=6.2						
KIV	**Kislovodsk**	**76.85**	**313**	P	**P**	**04 02 18.5**	**+1.2**
KIV				IAmb	IAmb	04 02 19.3	
	comp=Z,17nm,0.9s						
ILAR	**Eielson Array**	**77.54**	**26**	P	**P**	**04 02 20.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=250,slow=4.7,SNR=9.3						
ILAR	**Eielson Array**	**77.54**	**26**	P	**P**	**04 02 20.0**	**-0.6**
BMAR	**Burnt Mountain**	**78.32**	**23**	P	**P**	**04 02 26.5**	**+1.6**
RIDG	**Independent Ri**	**78.50**	**27**	P	**P**	**04 02 28.2**	**+2.3**
RIDG				IAmb	IAmb	04 02 36.7	
	comp=Z,12nm,1.3s						
CASY	**Casey**	**79.34**	**186**	P	**P**	**04 02 31.2**	**+1.0**
CTGM	**Chitina Glacie**	**80.44**	**30**	P	**P**	**04 02 38.2**	**+1.6**
ARCES	**ARCESS Array B**	**82.17**	**340**	P	**P**	**04 02 45.0**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=63,slow=3.8,SNR=5.3						
INK	**Inuvik**	**82.32**	**22**	P	**P**	**04 02 46.3**	**+0.1**
INK				IAmb	IAmb	04 02 57.4	
	comp=Z,11nm,1.4s						
FINES	**FINESS Array B**	**83.98**	**332**	P	**P**	**04 02 53.8**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=68,slow=6.6,SNR=5.3						
FINES	**FINESS Array B**	**83.98**	**332**	P	**P**	**04 02 54.1**	**-0.8**
BR131	**Keskin Array S**	**84.13**	**309**	P	**P**	**04 02 56.3**	**-0.1**
BR131				IAmb	IAmb	04 03 51.5	
	comp=Z,9.2nm,1.4s						
BRTR	**Keskin Array B**	**84.13**	**309**	P	**P**	**04 02 55.9**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=100,slow=4.5,SNR=13						
BRTR	**Keskin Array B**	**84.13**	**309**	P	**P**	**04 02 54.9**	**-1.6**
AKASG	**Malin Array Be**	**84.87**	**321**	P	**P**	**04 02 59.0**	**-0.7**
	comp=Z,9.7nm,1.0s,baz=63,slow=4.9,SNR=17						
AKASG	**Malin Array Be**	**84.87**	**321**	P	**P**	**04 02 59.5**	**-0.2**
AKBB	**Malin Array Si**	**84.87**	**321**	P	**P**	**04 02 59.5**	**-0.2**
AKBB				IAmb	IAmb	04 03 10.3	
	comp=Z,15nm,1.2s						
PPT	**Papeete**	**88.29**	**108**	LR	LR	04 43 58.3	
	comp=Z,14nm,18.1s,baz=313,slow=36						
CRVS	**Cervenica-Dubn**	**90.20**	**320**	*eP*	**P**	**04 03 25.9**	**+0.4**
MAW	**Mawson**	**91.69**	**200**	P	**P**	**04 03 31.9**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=78,slow=4.1,SNR=6.8						
MAW	**Mawson**	**91.69**	**200**	P	**P**	**04 03 32.2**	**+0.5**
VNDA	**Vanda**	**92.06**	**173**	P	**P**	**04 03 34.1**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=300,slow=4.8,SNR=8.4						
GERES	**GERESS Array B**	**94.96**	**322**	P	**P**	**04 03 46.7**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=90,slow=4.3,SNR=4.6						
TXAR	**Lajitas Array**	**116.46**	**48**	PKP	**PKiKP**	**04 09 09.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=356,slow=1.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**119.40**	**293**	PKP	**PKPdf**	**04 09 14.4**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=73,slow=2.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**119.40**	**293**		**PKPdf**	**04 09 14.6**	**-0.7**
PLCA	**Paso Flores**	**148.19**	**155**	PKPbc	**PKiKP**	**04 10 12.4**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=194,slow=3.5,SNR=8.1						
CPUP	**Villa Florida**	**165.77**	**167**	PKP	**PKPdf**	**04 10 31.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=215,slow=4.9,SNR=4.0						
CPUP				PKPab	**PKPab**	**04 11 30.1**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=228,slow=6.4,SNR=3.7						
CPUP	**Villa Florida**	**165.77**	**167**		**PKPab**	**04 11 29.6**	**+0.2**
BDFB	**Brasilia**	**173.54**	**240**	PKPab	**PKPab**	**04 12 03.1**	**-1.4**
	comp=Z,4.2nm,1.1s,baz=154,slow=8.2,SNR=3.1						

*JMA **27** 04:02:55.4±0.2,40˚.69N×142˚.65E,h26km±4km,M3.9*
JMA Felt I J1.
*NIED **27** 04:02:55.4,40˚.69N×142˚.65E,h26km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr5.27; Mθθ-2.70; Mφφ-2.58; Mrθ4.32; Mθφ-2.12; Mφr5.14; Fault plane solution: M₀8.38000×10¹⁴ NP1:φs41.00000°, δ72.00000°,λ88.00000°. NP2:φs229.00000°,δ19.00000°, λ97.00000°.*
*NEIC **27** 04:02:57.8±1.7,40˚.65N±0˚.06×142˚.7E±0˚.1,h55km±7km, mb4.6/9 Error ellipse: s-maj=15.2km s-min=7.7km az=110.0*
*IDC **27** 04:02:59.0±2.5,40˚.73N×142˚.61E,h62km±20km,mb3.5/7, mb1 3.7/10,mb1mx3.5/36,mbtmp3.8/10,Error ellipse: s-maj=29.5km s-min=15.7km az=104.0*
ISC 27 04:02:57.4±1.2,40˚.67N±0˚.04×142˚.57E±0˚.07,h46km±11km, n56,σ1ş36/56,mb4.2/12,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	**0.80**	**235**	‖*P*	**Pn**	**04 03 11.3**	**-1.1**
JKEN				S	**Sn**	**04 03 22.3**	**-0.9**
JANG	**Nango**	**0.85**	**250**	‖*P*	**Pn**	**04 03 12.3**	**-0.8**
JANG				S	**Sn**	**04 03 24.2**	**-0.3**
JTH	**Tanohata**	**0.91**	**217**	‖*P*	**Pn**	**04 03 12.8**	**-1.0**
JTH				*eS*	**Sn**	**04 03 25.2**	**-0.6**
JARK	**Aomorirokkasho**	**0.97**	**291**	‖*P*	**Pn**	**04 03 13.5**	**-1.1**
JTM	**Tenmabayashi**	**1.14**	**276**	‖*P*	**Pn**	**04 03 16.4**	**-0.6**
JOT	**Ohata**	**1.35**	**302**	‖*P*	**Pn**	**04 03 18.8**	**-1.0**
ERM	**Erimo**	**1.42**	**18**		**Pn**	**04 03 20.3**	**-0.5**
ERM				Sn	**Sn**	**04 03 39.1**	**+0.9**
JAH	**Hinai**	**1.55**	**253**	‖*P*	**Pn**	**04 03 23.3**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.61**	**5**	P	**Pn**	**04 03 22.6**	**-0.9**
JKB	**Kayabe**	**1.68**	**317**	P	**Pn**	**04 03 23.4**	**-0.9**
JKB				*eS*	**Sn**	**04 03 44.4**	**-0.2**
JMK	**Ichinoseki**	**2.00**	**212**	P	**Pn**	**04 03 30.4**	**+1.6**
JIAM	**Iburiatsuma**	**2.01**	**346**	‖*P*	**Pn**	**04 03 29.6**	**+0.7**
JEW	**Eniwo**	**2.32**	**339**	Pn	**Pn**	**04 03 33.8**	**+0.6**
JEW				Sn	**Sn**	**04 04 01.5**	**+1.0**
JMM	**Marumori**	**3.12**	**207**	Pn	**Pn**	**04 03 45.2**	**+1.1**
JKA	**Kamikawa-asahi**	**3.44**	**0**	Pn	**Pn**	**04 03 48.0**	**-0.6**
ASAJ	**Asahikawa**	**3.44**	**0**	P	**Pn**	**04 03 48.3**	**-0.2**
	12nm,0.3s,baz=199,slow=14,SNR=16	

comp=Z,170nm,0.2s
SOTA Rioblanco 1.89 46 *e*P Pb 04 05 40.1 +0.1
SOTA *e*S Sn 04 06 02.4 -0.7
POPC Popayan, Colom 2.15 37 *e*P Pb 04 05 43.0 -1.3
POPC *e*S Sn 04 06 09.5 +0.4
POPC *i* 04 06 16.7
comp=Z,12nm,0.5s
PCON Cinco Dias 2.17 46 *e*P Pb 04 05 44.9 -0.1
PCON *e*S Sg 04 06 17.0 +2.7
PCON *i* 04 06 22.3
comp=Z,35nm,0.7s
GARC Garzon, Huila 2.83 61 *e*P Pb 04 05 54.5 -1.3
GARC *e*S Sg 04 06 34.0 -1.3
GARC *i* 04 06 37.8
comp=Z,71nm,0.4s
MARP Paez Belalcaza 2.85 45 *e*P Pg 04 05 58.4 -0.5
PTLC Puerto Leguiza 3.24 101 *e*P Pn 04 05 56.8 +0.3
PTLC *e*S Sb 04 06 42.4 -0.3
PTLC *i* 04 06 46.9
comp=Z,35nm,0.5s
YOTC Yotoco, Valle 3.54 27 *e*P Pb 04 06 05.7 -2.3
YOTC *e*S Sb 04 06 48.0 -3.5
YOTC *i* 04 07 05.2
comp=Z,3.9nm,0.6s
ORTC Ortega, Tolima 4.11 42 *e*P Pn 04 06 12.1 +3.7
PRAC Prado 4.22 47 *e*P Pb 04 06 16.9 -2.5
MACC Macarena, Meta 4.33 72 *e*P Pb 04 06 18.3 -3.0
MACC *e*S Sb 04 07 11.1 -3.1
MACC *i* 04 07 29.8
comp=Z,11nm,0.5s
TOLC Tolima 4.59 35 *e*P Pb 04 06 21.0 -4.9
TOLC *e*S Sb 04 07 17.1 -4.8
TOLC *i* 04 07 33.7
comp=Z,8.4nm,0.6s
GUY2C Guyana, Caldas 5.09 31 *e*P Pn 04 06 27.8 +5.5
CBOC Ciudad Bolivar 5.38 21 *e*P Pb 04 06 29.6 +3.5
CHIC Chingaza 5.68 48 *e*P Pb 04 06 39.4 -5.2

JMA ***27*** *04:16:13.5±0.1,38°.93N×141°.92E,h51km±1km,M3.8*
JMA Felt I J1.
NIED ***27*** *04:16:13.6,38°.93N×141°.92E,h51km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.47; Mθθ0.50; Mϕϕ-2.97; Mrθ0.96; Mθϕ-1.73; Mϕr3.44; Fault plane solution: M₀4.72000×10¹⁴ NP1:ϕs16.00000°, δ70.00000°,λ83.00000°. NP2:ϕs214.00000°,δ21.00000°, λ107.00000°.*
NEIC ***27*** *04:16:15.1±1.3,38°.86N±0°.03×141°.9E±0°.1,h68km±8km, mb4.4/9 Error ellipse: s-maj=14.4km s-min=3.4km az=99.0*
IDC ***27*** *04:16:15.2±8.0,38°.94N×142°.04E,h76km±56km,mb3.8/4, mb1 3.8/6,mb1mx3.4/38,mbtmp4.0/6,ML2.6/2,MS2.9/1, Ms1 2.9/1,ms1mx2.1/42,Error ellipse: s-maj=98.8km s-min=21.8km az=74.0*
ISC 27 04:16:13.0±1.1,38°.90N±0°.05×142°.00E±0°.08,h51km±8km, n50,σ1§49/53,mb4.3/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
OFUJ	**Ofunato**	**0.31**	**305**	P		**Pn**	**04 16 22.5**	**+0.1**
OFUJ				S		**Sn**	**04 16 28.6**	**-0.4**
JKMT	**Kesennumamotoy**	**0.42**	**258**	P		**Pn**	**04 16 23.4**	**0.0**
JKMT				*i* S		**Sn**	**04 16 30.1**	**-0.7**
JMK	**Ichinoseki**	**0.61**	**275**	P		**Pn**	**04 16 25.5**	**-0.1**
JMK				S		**Sn**	**04 16 34.0**	**-0.7**
JIO	**Ouri**	**0.67**	**229**	P		**Pn**	**04 16 26.4**	**-0.1**
JIO				S		**Sn**	**04 16 35.3**	**-0.9**
JOM	**Ohasama**	**0.79**	**317**	P		**Pn**	**04 16 27.9**	**-0.1**
JOM				S		**Sn**	**04 16 38.3**	**-0.6**
JRG	**Rokugo**	**1.17**	**296**	P		**Pn**	**04 16 32.7**	**-0.4**
JRG				*e*S		**Sn**	**04 16 47.1**	**-0.8**
JOU	**Okura**	**1.17**	**243**	P		**Pn**	**04 16 32.8**	**-0.3**
JOU				*e*S		**Sn**	**04 16 47.0**	**-1.0**
JYK	**Kaneyama**	**1.28**	**271**	P		**Pn**	**04 16 34.3**	**-0.2**
JMM	**Marumori**	**1.40**	**223**			**Pn**	**04 16 35.9**	**-0.3**
JMM				Sn		**Sn**	**04 16 53.0**	**-0.5**
JTM	**Tenmabayashi**	**2.02**	**340**	Pn		**Pn**	**04 16 44.6**	**0.0**
JYT	**Yasato**	**3.03**	**209**	Pn		**Pn**	**04 17 01.2**	**+2.7**
JYT				Sn		**Sn**	**04 17 33.8**	**+0.4**
JSD	**Sado**	**3.06**	**255**	Pn		**Pn**	**04 16 58.2**	**-0.6**
ERM	**Erimo**	**3.23**	**16**	Pn		**Pn**	**04 17 03.4**	**+2.1**
MAJO	**Matsushiro**	**3.81**	**233**	Pn		**Pn**	**04 17 10.6**	**+1.3**
MAT	**Matsushiro**	**3.81**	**233**	P		**Pn**	**04 17 11.0**	**+1.7**
MAT				*e*S		**Sn**	**04 17 53.6**	**+0.7**
MJAR	**Matsushiro Arr**	**3.81**	**233**	P		**Pn**	**04 17 11.5**	**+2.3**
	0.6nm,0.3s,baz=39,slow=12,SNR=13							
MJAR	**Matsushiro Arr**	**3.81**	**233**	Pn		**Pn**	**04 17 10.7**	**+1.4**
JGF	**Kuroka**	**4.95**	**230**	Pn		**Pn**	**04 17 27.4**	**+2.5**
JKA	**Kamikawa-asahi**	**5.23**	**5**	Pn		**Pn**	**04 17 31.6**	**+3.0**
JWT	**Wachi**	**6.39**	**238**	Pn		**Pn**	**04 17 48.0**	**+3.5**
USA0B	**Ussuriysk Arra**	**9.18**	**308**	P		**Pn**	**04 18 27.5**	**+4.8**
USRK	**Ussuriysk Ar.**	**9.18**	**308**	P		**Pn**	**04 18 25.5**	**+2.8**
	baz=121,slow=14,SNR=6.2							
USRK	**Ussuriysk Ar.**	**9.18**	**308**	Pn		**Pn**	**04 18 24.9**	**+2.2**
H11N2	**WAKE ISLAND Hy**	**28.77**	**124**	T		T	04 52 32.2	
	baz=317,slow=75,SNR=254							
H11N1	**WAKE ISLAND Hy**	**28.77**	**125**	T		T	04 52 32.9	
	baz=317,slow=75,SNR=443							
H11N3	**WAKE ISLAND Hy**	**28.78**	**124**	T		T	04 52 32.2	
	baz=317,slow=75,SNR=291							
TLY	**Talaya P**	**29.50**	**308**	LR		LR	04 34 42.0	
	comp=Z,19nm,18.5s,baz=284,slow=38							
H11S1	**WAKE ISLAND Hy**	**29.54**	**126**	T		T	04 53 30.7	
	baz=318,slow=76,SNR=104							
H11S3	**WAKE ISLAND Hy**	**29.54**	**126**	T		T	04 53 30.8	
	baz=318,slow=76,SNR=207							
H11S2	**WAKE ISLAND Hy**	**29.56**	**126**	T		T	04 53 31.9	
	baz=318,slow=76,SNR=131							
ZALV	**Zalesovo Beam**	**41.02**	**311**	P		**P**	**04 23 49.9**	**-1.1**
	1.3nm,0.5s,baz=74,slow=9.5,SNR=5.6							
ZALV	**Zalesovo Beam**	**41.02**	**311**	P		**P**	**04 23 50.1**	**-0.9**
MK31	**Makanchi Array**	**43.54**	**301**	P		**P**	**04 24 11.8**	**+0.1**
MKAR	**Makanchi Array**	**43.54**	**301**	P		**P**	**04 24 11.6**	**-0.1**
	2.3nm,0.7s,baz=86,slow=10,SNR=11							
MKAR	**Makanchi Array**	**43.54**	**301**	P		**P**	**04 24 11.4**	**-0.3**
KURK	**Kurchatov**	**45.16**	**307**	P		**P**	**04 24 24.2**	**-0.3**
BRVK	**Borovoye**	**49.73**	**311**	P		**P**	**04 25 00.1**	**+0.2**
BRVK				IAmb		IAmb	04 25 01.3	
	comp=Z,4.0nm,1.1s							
INK	**Inuvik**	**52.52**	**28**	P		**P**	**04 25 22.3**	**+1.8**
KKAR	**Karatay Array**	**52.60**	**299**	P		**P**	**04 25 21.5**	**-0.1**
ABKAR	**Akbulak array**	**57.10**	**309**	P		**P**	**04 25 53.6**	**-0.4**
ABKAR				IAmb		IAmb	04 25 54.3	
	comp=Z,2.0nm,0.6s							
WB0	**Warramunga Arr**	**58.79**	**188**	P		**P**	**04 26 05.9**	**-0.1**
WB0				IAmb		IAmb	04 26 20.8	
	comp=Z,4.4nm,1.3s							
WR0	**Warramunga Arr**	**58.96**	**188**	P		**P**	**04 26 07.3**	**0.0**
WB2	**Warramunga Arr**	**58.97**	**188**	P		**P**	**04 26 07.5**	**+0.2**
WB2				IAmb		IAmb	04 26 09.7	
	comp=Z,5.6nm,1.4s							
WRA	**Warramunga Arr**	**58.97**	**188**	P		**P**	**04 26 07.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=5.8,slow=7.0,SNR=14							
WRA	**Warramunga Arr**	**58.97**	**188**	P		**P**	**04 26 06.8**	**-0.6**
FINES	**FINESS Array B**	**67.38**	**332**	P		**P**	**04 27 01.6**	**-1.0**
	comp=Z,3.8nm,1.0s,baz=46,slow=9.0,SNR=4.5							
FINES	**FINESS Array B**	**67.38**	**332**	P		**P**	**04 27 02.2**	**-0.4**
NVAR	**Mina Array Bea**	**73.51**	**54**	P		**P**	**04 27 37.6**	**-3.1**
BURAR	**Bucovina Array**	**77.13**	**322**	P		**P**	**04 28 01.6**	**+0.4**
BRTR	**Keskin Array B**	**77.96**	**312**	P		**P**	**04 28 06.2**	**+0.2**

WEL 27 04:21:05.3,43°S±8°×17°1E±1°0,h5km±3km,M2.5/7, ML2.5/7,MLv2.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=125.6,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WVZ	**Waitaha Valley**	**0.18**	**276**	P		Pg	04 21 10.3	+1.4
INZ	**Inchbonnie**	**0.50**	**43**	P		Pg	04 21 15.4	+0.5
GCSZ	**Gaunt Creek Bo**	**0.53**	**245**	P		Pb	04 21 16.4	-0.6
MHCZ	**Mount Hutt**	**0.61**	**136**	P		Pg	04 21 15.7	-1.4
RPZ	**Rata Peaks**	**0.62**	**175**	P		Pb	04 21 18.1	-0.6
ARCZ	**Arundel**	**0.86**	**171**	P		Pb	04 21 22.5	-0.4
FOZ	**Fox Glacier**	**0.96**	**242**	P		Pb	04 21 24.4	+0.1
LTZ	**Lake Taylor**	**1.00**	**72**	P		Pn	04 21 25.6	-0.4
LBZ	**Lake Benmore**	**1.41**	**204**	P		Pg	04 21 32.9	+0.5
DSZ	**Denniston Nort**	**1.48**	**25**	P		Pb	04 21 33.0	-0.3
JCZ	**Jackson Bay**	**1.87**	**238**	P		Pg	04 21 41.6	+0.4
ODZ	**Otahua Downs**	**1.96**	**187**	P		Pb	04 21 40.5	-1.1

BJI ***27*** *04:32:58.4±0.0,40°.74N×142°.15E,h101km,mB4.9/31, mb4.6/38*
MOS ***27*** *04:32:58.6±0.9,40°.76N×141°.95E,h84km,mb4.7/33,Error ellipse: s-maj=8.3km s-min=4.7km az=91.0*
NEIC ***27*** *04:32:59.6±1.7,40°.72N±0°.04×141°.94E±0°.08,h81km±4km, mb4.6/124,Error ellipse: s-maj=8.9km s-min=5.9km az=117.0*
IDC ***27*** *04:32:59.8±1.5,40°.75N×141°.95E,h83km±12km,mb4.2/25, mb1 4.3/29,mb1mx4.2/48,mbtmp4.5/29,MS3.2/6, Ms1 3.3/6,ms1mx2.9/34,Error ellipse: s-maj=13.1km s-min=9.1km az=111.0*
JMA ***27*** *04:33:00.8±0.1,40°.77N×142°.06E,h92km±1km,M4.3 Broadband fault plane solution: P waves. NP1: ϕs181.00000°,δ25.00000°,λ-111.00000°. NP2: ϕs23.00000°,δ67.00000°,λ-81.00000°. Principal axes: T Plg21.0000°, Azm106.0000°; N Plg9.0000°, Azm199.0000°; P Plg67.0000°, Azm310.0000°;*
JMA Felt III J1.
NIED ***27*** *04:33:00.8,40°.77N×142°.06E,h92km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-3.92; Mθθ0.28; Mϕϕ3.64; Mrθ-0.97; Mθϕ1.23; Mϕr-2.09; Fault plane solution: M₀4.60000×10¹⁵ NP1:ϕs22.00000°, δ60.00000°,λ-87.00000°. NP2:ϕs195.00000°,δ30.00000°, λ-96.00000°.*
ISC 27 04:33:00.3±0.6,40°.77N±0°.03×142°.06E±0°.04,h89km±5km, n381,σ1§21/406,mb4.6/120,36C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JANG	**Nango**	**0.57**	**226**	⇑P		**Pn**	**04 33 16.3**	**+0.8**
JANG				*e*S		**Sn**	**04 33 27.8**	**+1.0**
JARK	**Aomorirokkasho**	**0.57**	**295**	⇑P		**Pn**	**04 33 16.4**	**+0.9**
JARK				*e*S		**Sn**	**04 33 28.5**	**+1.7**
JKEN	**Kujiedanarisaw**	**0.62**	**205**	⇓P		**Pn**	**04 33 16.9**	**+1.0**
JKEN				*e*S		**Sn**	**04 33 28.9**	**+1.4**
JAHD	**Aomorihigashid**	**0.74**	**313**	⇑P		**Pn**	**04 33 17.9**	**+0.9**
JAHD				S		**Sn**	**04 33 31.0**	**+1.5**
JTM	**Tenmabayashi**	**0.75**	**272**	⇑P		**Pn**	**04 33 17.7**	**+0.5**
JTM				S		**Sn**	**04 33 30.5**	**+0.7**
JTM	**Tenmabayashi**	**0.75**	**272**			**Pn**	**04 33 18.0**	**+0.8**
JTM				Sn		**Sn**	**04 33 30.2**	**+0.4**
JOT	**Ohata**	**0.98**	**309**	⇑P		**Pn**	**04 33 20.1**	**+0.5**
JOT				S		**Sn**	**04 33 34.9**	**+0.8**
JAH	**Hinai**	**1.23**	**242**	⇑P		**Pn**	**04 33 23.6**	**+1.0**
JAH				S		**Sn**	**04 33 41.1**	**+1.7**
JKB	**Kayabe**	**1.36**	**326**	⇑P		**Pn**	**04 33 24.7**	**+0.5**
JKB				S		**Sn**	**04 33 42.7**	**+0.5**
JOM	**Ohasama**	**1.42**	**205**	⇓P		**Pn**	**04 33 25.8**	**+0.8**
JOM				S		**Sn**	**04 33 44.3**	**+0.7**
ERM	**Erimo**	**1.50**	**33**	P		**Pn**	**04 33 27.4**	**+1.5**
ERM							04 33 46.3	
ERM	**Erimo**	**1.50**	**33**			**Pn**	**04 33 27.4**	**+1.5**
ERM				Sn		**Sn**	**04 33 46.3**	**+1.0**
JEM	**Erimo**	**1.50**	**33**	P		**Pn**	**04 33 27.2**	**+1.3**
JEM				*e*S		**Sn**	**04 33 46.7**	**+1.4**
JIW	**Iwasaki**	**1.57**	**264**	⇑P		**Pn**	**04 33 27.7**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.60**	**19**	P		**Pn**	**04 33 28.7**	**+1.5**
JEW	**Eniwo**	**2.12**	**348**	Pn		**Pn**	**04 33 33.9**	**-0.1**
JEW				Sn		**Sn**	**04 33 59.3**	**-0.5**
JMM	**Marumori**	**3.06**	**199**	Pn		**Pn**	**04 33 46.4**	**-0.1**
ASAJ	**Asahikawa**	**3.37**	**7**	P		**Pn**	**04 33 51.9**	**+1.1**
	15nm,0.3s,baz=222,slow=12,SNR=34							
ASAJ				S		**Sn**	**04 34 28.6**	**-1.1**
	19nm,0.3s,baz=127,slow=31,SNR=7.1							
JKA	**Kamikawa-asahi**	**3.37**	**7**	Pn		**Pn**	**04 33 51.3**	**+0.5**
JKA				Sn		**Sn**	**04 34 29.5**	**-0.2**
NMR	**Nemuro--Hokkai**	**3.77**	**45**	⇑*i*P		**Pn**	**04 33 55.5**	**-0.7**
NMR				*i* S		**Sn**	**04 34 36.0**	**-3.4**
JSD	**Sado**	**4.01**	**228**	Pn		**Pn**	**04 33 59.9**	**+0.5**
GRPR	**Tuman**	**4.24**	**39**	⇓*i*P		**Pn**	**04 34 02.5**	**0.0**
GRPR				*i* S		**Sn**	**04 34 48.0**	**-2.7**
GRPR				pmax	pmax			
	comp=Z,407nm,0.1s							
GRPR				smax	smax			
	comp=N,3μm,0.3s							
GRPR				smax	smax			
	comp=E,2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.31**	**40**	*d*/*i*P		**Pn**	**04 34 03.9**	**+0.4**
YUK				*i* S		**Sn**	**04 34 49.9**	**-2.6**
YUK				pmax	pmax			
	comp=Z,1069μm,0.2s							
YUK				pmax	pmax			
	comp=E,185μm,0.1s							
YUK				pmax	pmax			
	comp=N,173μm,0.2s							
YUK				smax	smax			
	comp=N,3μm,0.4s							
YUK				smax	smax			
	comp=E,731nm,0.3s							
JYT	**Yasato**	**4.76**	**198**	Pn		**Pn**	**04 34 09.3**	**-0.4**
JYT				Sn		**Sn**	**04 34 59.6**	**-4.0**
MAJO	**Matsushiro**	**5.18**	**217**	P		**Pn**	**04 34 17.0**	**+1.5**
MAJO	**Matsushiro**	**5.18**	**217**	Pn		**Pn**	**04 34 16.9**	**+1.5**
MAT	**Matsushiro**	**5.18**	**217**	P		**Pn**	**04 34 16.3**	**+0.9**
MAT				*e*S		**Sn**	**04 35 14.9**	**+1.0**
MJAR	**Matsushiro Arr**	**5.18**	**217**	P		**Pn**	**04 34 15.0**	**-0.4**
	comp=E,0.4nm,0.3s,baz=30,slow=13,SNR=19							
MJAR	**Matsushiro Arr**	**5.18**	**217**	P		**Pn**	**04 34 16.5**	**+1.1**
MJAR	**Matsushiro Arr**	**5.18**	**217**			**Pn**	**04 34 16.5**	**+1.1**
TEY	**Ternei**	**5.85**	**319**	⇑*i*P		**Pn**	**04 34 25.1**	**+0.7**
TEY				pmax	pmax			
	comp=N,210nm,0.7s							
TEY				pmax	pmax			
	comp=E,190nm,0.7s							
TEY				pmax	pmax			
	comp=Z,250nm,0.7s							
KUR	**Kuril'sk**	**6.17**	**42**	*d*/*i*P		**Pn**	**04 34 29.6**	**+0.9**
KUR				*i* S		**Sn**	**04 35 36.7**	**-1.1**
KUR				pmax	pmax			
	comp=Z,202nm,0.6s							
KUR				pmax	pmax			
	comp=N,79nm,0.2s							
KUR				pmax	pmax			
	comp=E,64nm,0.2s							
KUR				smax	smax			
	comp=N,312nm,0.2s							
KUR				smax	smax			
	comp=E,169nm,0.2s							
YSS	**Yuzh-Sakhalins**	**6.20**	**4**	⇓*e*P		**Pn**	**04 34 30.3**	**+1.1**
YSS				*e*S		**Sn**	**04 35 38.7**	**+0.1**
YSS				pmax	pmax			
	comp=Z,50nm,0.7s							
YSS				smax	smax			
	comp=N,60nm,0.9s							
YSS				smax	smax			
	comp=E,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**6.20**	**4**	Pn		**Pn**	**04 34 30.3**	**+1.1**
JGF	**Kuroka**	**6.35**	**217**	Pn		**Pn**	**04 34 31.9**	**+0.6**
INU	**Inuyama**	**6.71**	**218**	Pn		**Pn**	**04 34 38.6**	**+2.4**
JWT	**Wachi**	**7.59**	**226**	Pn		**Pn**	**04 34 50.4**	**+2.3**
JHJ	**Hachijo jima 2**	**7.85**	**194**	P		**Pn**	**04 34 50.1**	**-1.6**
	comp=E,13nm,0.3s,baz=99,slow=19,SNR=4.1							
JHJ				S		**Sn**	**04 36 12.6**	**-6.3**
	comp=E,17nm,0.3s,baz=87,slow=23,SNR=2.2							
JHJ2	**Mitsune**	**7.85**	**194**	Pn		**Pn**	**04 34 51.0**	**-0.7**
USA0B	**Ussuriysk Arra**	**8.19**	**298**	P		**Pn**	**04 34 59.2**	**+2.9**
USA0B	**Ussuriysk Arra**	**8.19**	**298**	Pn		**Pn**	**04 34 59.2**	**+2.9**
USRK	**Ussuriysk Ar.**	**8.19**	**298**	P		**Pn**	**04 34 56.9**	**+0.6**
	baz=105,slow=14,SNR=61							
USRK	**Ussuriysk Ar.**	**8.19**	**298**	P		**Pn**	**04 34 58.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**8.19**	**298**	Pn		**Pn**	**04 34 58.9**	**+2.6**
JHS	**Saijyo**	**9.11**	**234**	Pn		**Pn**	**04 35 11.1**	**+2.1**
JMN	**Monobe**	**9.58**	**225**	Pn		**Pn**	**04 35 15.3**	**-0.1**
MDJ	**Mudanjiang**	**9.95**	**297**	P		**Pn**	**04 35 20.0**	**-0.3**
MDJ				sP			04 35 43.0	
MDJ				pmax	pmax			
	comp=E,21nm,0.8s							
MDJ				pmax	pmax			
	comp=E,230nm,4.1s							
MDJ	**Mudanjiang**	**9.95**	**297**			**Pn**	**04 35 20.4**	**+0.2**
KLR	**Kul'dur**	**11.16**	**323**	P		**Pn**	**04 35 38.5**	**+1.8**
	comp=E,0.2nm,0.3s,baz=123,slow=15,SNR=4.7							
KLR				LR		LR	04 39 11.7	
	comp=E,87nm,20.7s,baz=186,slow=33							
KLR	**Kul'dur**	**11.16**	**323**	*c*e*i*P		**Pn**	**04 35 38.1**	**+1.4**
KLR				pmax	pmax			
	comp=Z,19nm,1.9s							
KSRS	**Korea Array**	**11.47**	**258**	P		**Pn**	**04 35 45.2**	**+4.3**
	comp=Z,0.5nm,0.3s,baz=60,slow=14,SNR=6.5							
KSRS				LR		LR	04 39 58.9	
	comp=Z,53nm,18.5s,baz=76,slow=37							
PETK	**Petropavlovsk-**	**16.28**	**35**	LR		LR	04 43 11.5	
	comp=Z,29nm,21.2s,baz=228,slow=37							
ZEA	**Zeya**	**16.37**	**327**	*e*P		**Pn**	**04 36 42.9**	**-1.6**
ZEA				pmax	pmax			
	comp=Z,51nm,1.4s							
ZEA				pmax	pmax			
	comp=E,10.0nm,0.4s							
ZEA				pmax	pmax			
	comp=Z,20nm,0.6s							
PET	**Petropavlovsk**	**16.65**	**37**	*e*P		**P**	**04 36 50.4**	**+1.5**
PET				*e*S		**Sn**	**04 39 52.7**	**+0.4**
PET				MLR	MLR			
	comp=Z,100nm,13.0s							
NJ2	**Nanjing**	**20.56**	**252**	*e*P		**P**	**04 37 31.0**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
YAK	**Yakutsk**	**22.57**	**345**	*e*P		**P**	**04 37 51.3**	**-1.6**
YAK				*e**PP		**pP**	**04 38 08.1**	**-2.2**
YAK				*e*			04 41 44.0	
YAK				*e*S		**S**	**04 41 48.0**	**-5.7**
YAK				*e**SS		**sS**	**04 42 20.8**	**-3.9**
YAK				*e*			04 48 58.2	
YAK				pmax	pmax			
	comp=Z,21nm,1.0s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.4s							
YAK				smax	smax			
	comp=E,146nm,2.7s							
YAK				smax	smax			
	comp=N,76nm,2.1s							
HHC	**Hu-ho-hao-te**	**23.03**	**280**	*e*P		**P**	**04 37 56.0**	**-1.9**
HHC				pmax	pmax			
	comp=N,9.0nm,1.0s							
HHC				pmax	pmax			
	comp=N,89nm,5.3s							
SEY	**Seymchan**	**23.04**	**12**	P		**P**	**04 37 58.0**	**+0.4**
	comp=N,8.3nm,0.7s,baz=189,slow=7.8,SNR=11							
WHN	**Wuhan**	**24.62**	**254**	P		**P**	**04 38 19.5**	**+7.1**
BOD	**Bodaibo**	**24.74**	**323**	*e*P		**P**	**04 38 12.4**	**-0.8**
BOD				pmax	pmax			
	comp=Z,11nm,0.8s							
ULN	**Ulaanbaatar**	**25.86**	**298**	*c*e*i*P		**P**	**04 38 23.6**	**-0.1**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**25.86**	**298**	P		**P**	**04 38 24.4**	**+0.8**
SONM	**Songino Array**	**26.30**	**298**	P		**P**	**04 38 28.4**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=91,slow=9.3,SNR=10.0							
SONM	**Songino Array**	**26.30**	**298**	P		**P**	**04 38 28.4**	**+0.7**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**26.30**	**298**	P		**P**	**04 38 28.4**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**29.82**	**127**	T		T	05 10 10.2	
	baz=319,slow=75,SNR=125							
H11N1	**WAKE ISLAND Hy**	**29.83**	**127**	T		T	05 10 05.6	
	baz=319,slow=75,SNR=189							
H11N3	**WAKE ISLAND Hy**	**29.84**	**127**	T		T	05 10 06.1	
	baz=319,slow=75,SNR=155							
LZH	**Lanzhou**	**30.14**	**274**	*e*P		**P**	**04 39 02.8**	**+0.9**
LZH				pP		pP	04 39 23.0	+0.9
LZH				sP		sP	04 39 36.0	+3.6
LZH				pmax	pmax			
	comp=Z,14nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**30.65**	**129**	T		T	05 11 47.7	
	baz=322,slow=76,SNR=178							
H11S3	**WAKE ISLAND Hy**	**30.65**	**129**	T		T	05 11 48.8	
	baz=322,slow=76,SNR=97							
H11S2	**WAKE ISLAND Hy**	**30.66**	**129**	T		T	05 11 46.3	
	baz=322,slow=76,SNR=114							
TIXI	**Tiksi**	**31.66**	**352**	*c*e*i*P		**P**	**04 39 13.4**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,21nm,1.7s							
TIXI	**Tiksi**	**31.66**	**352**	P		**P**	**04 39 13.8**	**-0.8**
TIXI				IAmb	IAmb		04 39 18.9	
	comp=Z,9.8nm,0.8s							
GTA	**Gaotai**	**32.12**	**282**	*e*P		**P**	**04 39 20.5**	**+1.2**
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GYA	**Guiyang**	**32.51**	**255**	⇑P		**P**	**04 39 21.8**	**-1.0**
GYA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
KMI	**Kunming**	**36.16**	**257**	P		**P**	**04 39 54.0**	**-0.5**
KMI				pmax	pmax			
	comp=Z,17nm,0.5s							
KMI				pmax	pmax			
	comp=Z,84nm,4.2s							
DGZ	**Jazzator, Alta**	**38.72**	**302**	⇑*i*P		**P**	**04 40 15.7**	**0.0**
DGZ				pmax	pmax			
	comp=Z,13nm,0.6s							
WMQ	**Urumqi**	**39.72**	**293**	*e*P		**P**	**04 40 25.0**	**+1.0**
WMQ				pmax	pmax			
	comp=Z,11nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,110nm,5.5s							
ZAA0	**Zalesovo Array**	**39.86**	**309**	P		**P**	**04 40 24.1**	**-0.8**
ZALV	**Zalesovo Beam**	**39.86**	**309**	P		**P**	**04 40 24.6**	**-0.3**
	comp=Z,6.3nm,0.4s,baz=94,slow=8.0,SNR=21							
ZALV				PcP		**PcP**	**04 42 28.9**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=99,slow=2.6,SNR=6.6							
ZALV	**Zalesovo Beam**	**39.86**	**309**	P		**P**	**04 40 24.1**	**-0.8**
ZALV				PcP		**PcP**	**04 42 28.8**	**-0.2**
NRIK	**Noril'sk**	**40.12**	**333**	P		**P**	**04 40 26.9**	**0.0**
	comp=Z,3.5nm,0.5s,baz=135,slow=13,SNR=3.6							
NRIK	**Noril'sk

I23K Minto, Yukon-K 45.03 34 P P 04 41 08.2 +1.5
RND Reindeer 45.34 36 P P 04 41 10.4 +1.1
RND pmax pmax
comp=Z,3.0nm,0.9s
RND Reindeer 45.34 36 P P 04 41 10.4 +1.1
MDM Murphy Dome 45.52 34 P P 04 41 12.1 +1.5
MDM IAmb IAmb 04 41 19.7
comp=Z,7.3nm,1.2s
POKR Poker Plat Res 45.84 34 P P 04 41 15.2 +2.1
POKR IAmb IAmb 04 41 15.6
comp=Z,8.7nm,0.9s
DHY Denali Highway 46.04 37 P P 04 41 15.9 +1.0
DHY IAmb IAmb 04 41 16.1
comp=Z,3.8nm,0.7s
IL31 46.10 34 P P 04 41 16.2 +1.2
IL31 IAmb IAmb 04 41 16.6
comp=Z,4.1nm,0.8s
ILAR Eielson Array 46.10 34 P P 04 41 15.7 +0.6
comp=Z,2.8nm,0.7s,baz=269,slow=6.3,SNR=33
ILAR Eielson Array 46.10 34 P P 04 41 15.4 +0.3
HDA Harding Lake 46.10 35 P P 04 41 15.5 +0.4
HDA IAmb IAmb 04 41 16.3
comp=Z,3.1nm,0.6s
IL18 Eielson Array 46.15 34 P P 04 41 16.0 +0.5
FYU Fort Yukon 46.65 32 P P 04 41 21.8 +2.5
BMAR Burnt Mountain 46.84 30 P P 04 41 23.1 +2.1
GUN Gumba 47.39 273 eP P 04 41 25.7 -0.4
comp=Z,44nm,0.6s
DOT Dot Lake 47.45 36 P P 04 41 26.3 +0.6
HMT Hamilton 47.90 40 P P 04 41 31.1 +1.9
KKN Kakani 47.91 273 eP P 04 41 29.8 -0.1
comp=Z,33nm,0.8s
PKI Pulchoki 47.92 272 eP P 04 41 29.3 -0.9
comp=Z,7.8nm,0.6s
PKIN Phulchoki 47.93 273 eP P 04 41 29.6 -0.5
comp=Z,7.9nm,0.4s
DMN Daman 48.13 273 eP P 04 41 31.6 -0.1
comp=Z,21nm,0.7s
K27K Chicken 48.27 35 P P 04 41 33.4 +1.5
K27K IAmb IAmb 04 41 51.0
comp=Z,4.1nm,1.0s
GKN Gorkha 48.28 273 eP P 04 41 32.1 -0.7
comp=Z,9.0nm,0.4s
MCARA McCarthy VSAT 48.30 39 P P 04 41 33.8 +1.6
MCARA IAmb IAmb 04 41 50.4
comp=Z,17nm,1.3s
BOOM Boomskoye usch 48.30 295 P P 04 41 33.2 +0.5
BOOM pmax pmax
comp=Z,38nm,1.3s
BOOM Boomskoye usch 48.30 295 P P 04 41 33.2 +0.5
EGAK Eagle 48.54 34 P P 04 41 34.5 +0.5
EGAK IAmb IAmb 04 41 51.2
comp=Z,9.4nm,1.4s
BRVK Borovoye 48.55 310 ceP P 04 41 33.6 -0.6
BRVK pmax pmax
comp=Z,13nm,2.5s
BRVK Borovoye 48.55 310 P P 04 41 34.6 +0.3
BRVK IAmb IAmb 04 41 34.8
comp=Z,8.1nm,1.1s
BCAR Beaver Creek A 48.56 36 P P 04 41 35.8 +1.5
BALM Baldy 48.69 39 P P 04 41 36.7 +1.4
BALM IAmb IAmb 04 41 37.0
comp=Z,4.3nm,0.7s
DANN Dangsing 48.77 274 eP P 04 41 36.6 -0.1
comp=Z,70nm,0.6s
ISLE Juniper Island 48.78 39 P P 04 41 37.3 +1.2
BARN Barnard Glacie 49.01 39 P P 04 41 39.6 +1.7
BARN IAmb IAmb 04 41 45.4
comp=Z,12nm,1.4s
YAH Yahtse 49.12 40 P P 04 41 40.1 +1.4
CTGM Chitina Glacie 49.18 39 P P 04 41 40.9 +1.7
CTGM IAmb IAmb 04 41 41.1
comp=Z,9.5nm,1.2s
KOLN Koldanda 49.19 274 eP P 04 41 39.4 -0.4
comp=Z,15nm,0.6s
KAPI Kappang 49.94 210 P P 04 41 45.0 -0.2
comp=Z,7.4nm,0.8s,baz=70,slow=15,SNR=2.8
INK Inuvik 50.85 28 P P 04 41 52.7 +1.3
comp=Z,9.2nm,0.5s,baz=279,slow=6.0,SNR=59
INK Inuvik 50.85 28 P P 04 41 52.7 +1.3
INK pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 50.85 28 P P 04 41 52.7 +1.3
HYT Haines Junctio 51.03 38 P P 04 41 55.5 +2.4
KK31 Karatay Array 51.76 298 P P 04 41 58.2 -0.5
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 51.76 298 P P 04 41 58.2 -0.5
KK31 IAmb IAmb 04 41 58.7
comp=Z,3.9nm,0.8s
KKAR Karatay Array 51.76 298 P P 04 41 58.1 -0.6
KKAR Karatay Array 51.76 298 P P 04 41 58.1 -0.6
KKAR Karatay Array 51.76 298 P P 04 41 58.0 -0.7
KKAR IAmb IAmb 04 41 58.2
comp=Z,3.9nm,0.8s
WHY Whitehorse 52.32 38 P P 04 42 03.7 +1.0
WHY IAmb IAmb 04 42 04.7
comp=Z,3.6nm,0.7s
C36M Paulatuk 53.84 26 P P 04 42 14.4 +0.9
ARU Arti 53.94 317 d iP P 04 42 13.4 -1.1
ARU 04 43 15.4
ARU S S 04 49 43.8 +0.8
ARU SS SKiKP 04 53 20.4 +2.4
ARU pmax pmax
comp=Z,15nm,1.6s
NIL Nilore 54.00 286 P P 04 42 15.9 +0.6
NIL pmax pmax
comp=Z,21nm,0.9s
NIL Nilore 54.00 286 P P 04 42 15.8 +0.6
AB01 Akbulak array 55.97 308 P P 04 42 28.8 -0.4
ABKAR Akbulak array 55.97 308 P P 04 42 29.1 -0.1
KNRA Kununurra 57.50 195 P P 04 42 40.1 -0.2
KIRV Kirov 57.60 322 ceP P 04 42 40.1 -0.5
RES Resolute Bay 58.87 15 P P 04 42 49.3 +0.2
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 58.87 15 P P 04 42 49.3 +0.2
KEV Kevo 60.14 339 P P 04 42 58.1 +0.1
KEV pmax pmax
comp=Z,9.0nm,1.0s
KEV Kevo 60.14 339 P P 04 42 58.1 +0.1
KEV IAmb IAmb 04 43 04.4
comp=Z,8.9nm,1.0s
YKA Yellowknife Ar 60.35 31 P P 04 42 59.9 +0.5
comp=Z,1.2nm,0.8s,baz=275,slow=6.8,SNR=3.7
YKA Yellowknife Ar 60.35 31 P P 04 43 00.0 +0.5
FITZ Fitzroy Crossi 60.52 198 P P 04 43 01.0 -0.1
FITZ IAmb IAmb 04 43 14.1
comp=Z,4.8nm,1.2s
WB0 Warramunga Arr 60.64 188 P P 04 43 00.7 -1.2
ARCES ARCESS Array B 60.69 339 P P 04 43 01.4 -0.3
comp=Z,1.7nm,0.7s,baz=42,slow=8.2,SNR=13
WRAB Tennant Creek 60.81 188 ceP P 04 43 01.7 -1.4
WRAB pmax pmax
comp=Z,14nm,2.5s
WR0 Warramunga Arr 60.82 188 P P 04 43 02.1 -1.0
WB2 Warramunga Arr 60.82 188 P P 04 43 02.1 -1.1
WB2 IAmb IAmb 04 43 02.8
comp=Z,6.8nm,0.8s
WRA Warramunga Arr 60.82 188 P P 04 43 01.9 -1.3
comp=Z,5.3nm,0.5s,baz=5.2,slow=7.0,SNR=104
WRA Warramunga Arr 60.82 188 P P 04 43 02.5 -0.7
WRA Warramunga Arr 60.82 188 P P 04 43 02.5 -0.7
WC3 Warramunga Arr 60.84 188 P P 04 43 02.1 -1.1
DAG Danmarks Havn 62.10 355 iP P 04 43 10.6 -0.5
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 62.10 355 iP P 04 43 10.6 -0.5
comp=Z,7.6nm,0.9s
DAG Danmarks Havn 62.10 355 iP P 04 43 10.7 -0.5
DAG IAmb IAmb 04 43 11.9
comp=Z,7.6nm,0.9s
GYA2 ALIBECK ARRAY 62.51 298 P P 04 43 13.4 -1.1
GYB1 ALIBECK ARRAY 62.51 298 P P 04 43 13.8 -0.7
GEYT Alibeck 62.51 298 P P 04 43 14.0 -0.6
comp=Z,5.6nm,0.7s,baz=29,slow=3.4,SNR=16
GEYT Alibeck 62.51 298 P P 04 43 13.6 -1.0
GYA0 ALIBECK ARRAY 62.51 298 P P 04 43 13.9 -0.7
GYA0 ALIBECK ARRAY 62.51 298 P P 04 43 13.9 -0.7
GYA0B ALIBECK ARRAY 62.51 298 P P 04 43 13.7 -0.8
GYA0B IAmb IAmb 04 43 14.7
comp=Z,6.6nm,0.7s
GYA3 ALIBECK ARRAY 62.51 298 P P 04 43 13.9 -0.7
AS31 Alice Springs 64.55 188 P P 04 43 27.4 -0.6
ASAR Alice Springs 64.55 188 P P 04 43 27.3 -0.6
comp=Z,5.9nm,0.7s,baz=12,slow=6.5,SNR=60
ASAR Alice Springs 64.55 188 P P 04 43 27.6 -0.4
ASAR Alice Springs 64.55 188 P P 04 43 27.6 -0.4
OBN Obninsk 65.42 322 eP P 04 43 32.7 -0.6
OBN e 04 44 02.5
OBN e 04 46 00.4
OBN pmax pmax
comp=Z,7.0nm,1.1s
FIA1 FINESS Array S 65.76 332 P P 04 43 34.8 -0.5
FINES FINESS Array B 65.76 332 P P 04 43 34.9 -0.4
comp=Z,10.0nm,0.7s,baz=46,slow=8.4,SNR=19
FINES LR LR 05 18 24.9
comp=Z,75nm,19.0s,baz=274,slow=42
FINES FINESS Array B 65.76 332 P P 04 43 34.5 -0.9
EIDS Eidsvold 66.33 171 P P 04 43 40.1 +0.8
EIDS IAmb IAmb 04 43 54.5
comp=Z,11nm,1.4s
D08A Wollman Farm, 66.84 47 P P 04 43 43.2 +0.7
D08A IAmb IAmb 04 43 43.7
comp=Z,3.5nm,0.8s
SUMG Summit 66.95 0 P P 04 43 44.2 +0.9
SUMG pmax pmax
comp=Z,19nm,1.1s
SUMG Summit 66.95 0 P P 04 43 44.2 +0.9
SUMG Summit 66.95 0 iP P 04 43 43.7 +0.4
comp=Z,51nm,1.1s
SUMG Summit 66.95 0 iP P 04 43 43.7 +0.4
SUMG IAmb IAmb 04 43 44.7
comp=Z,51nm,1.1s
HUMO Hull Mountain 67.05 53 P P 04 43 44.9 +1.0
PINE Pine Mountain 67.57 51 P P 04 43 49.3 +1.9
YBH Yreka Blue Hor 67.70 54 P P 04 43 49.5 +1.3
YBH pmax pmax
comp=Z,4.0nm,1.1s
YBH Yreka Blue Hor 67.70 54 P P 04 43 49.5 +1.3
K05A Summer Lake 68.22 52 P P 04 43 53.5 +2.0
K05A IAmb IAmb 04 43 54.1
comp=Z,8.4nm,0.9s
KIV Kislovodsk 68.86 310 eP P 04 43 55.6 +0.2
KIV pmax pmax
comp=Z,83nm,1.1s
KIV Kislovodsk 68.86 310 P P 04 43 55.9 +0.5
KBZ Khabaz 68.87 310 P P 04 43 55.8 +0.5
comp=Z,7.3nm,0.7s,baz=81,slow=2.7,SNR=14
BMO Blue Mountains 69.05 48 P P 04 43 56.8 +0.2
BMO pmax pmax
comp=Z,2.0nm,1.1s
BMO Blue Mountains 69.05 48 P P 04 43 56.8 +0.2
MOD Modoc Plateau 69.06 52 P P 04 43 56.5 -0.2
BEKR Beckworth 70.23 54 P P 04 44 03.9 -0.1
BEKR IAmb IAmb 04 44 05.8
comp=Z,4.6nm,0.8s
FFC Flin Flon 70.31 34 P P 04 44 03.9 0.0
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 70.31 34 P P 04 44 03.9 0.0
FFC IAmb IAmb 04 44 05.0
comp=Z,11nm,1.0s
ICESG Greenland Ices 70.45 1 iP P 04 44 05.3 +0.3
ICESG IAmb IAmb 04 44 06.0
comp=Z,9.4nm,0.7s
NC405 NORSAR Array S 70.74 337 P P 04 44 05.1 -1.4
MFID Camas Ranch 70.77 49 P P 04 44 07.8 +0.7
PAHR Pah Rah Range 70.93 54 P P 04 44 09.4 +1.2
NOA NORSAR Array B 70.94 337 P P 04 44 07.6 -0.1
comp=Z,7.2nm,0.8s,baz=39,slow=6.1,SNR=15
NOA LR LR 05 22 27.0
comp=Z,45nm,19.5s,baz=0.0,slow=42
LRM Limekiln Ridge 71.15 45 P P 04 44 09.9 +0.4
DLMT Dillon 71.36 46 P P 04 44 11.2 +0.5
DLMT IAmb IAmb 04 44 12.5
comp=Z,5.9nm,0.7s
AKASG Malin Array Be 71.66 322 P P 04 44 11.4 -0.8
comp=Z,8.1nm,0.6s,baz=45,slow=6.0,SNR=22
AKASG Malin Array Be 71.66 322 ceP P 04 44 11.3 -0.9
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 71.66 322 P P 04 44 11.2 -1.0
AKBB Malin Array Si 71.66 322 ceP P 04 44 11.0 -1.2
AKBB Malin Array Si 71.66 322 P P 04 44 11.2 -1.0
AKBB IAmb IAmb 04 44 12.3
comp=Z,8.8nm,0.8s
BOZ Bozeman (W) 71.73 45 P P 04 44 12.9 -0.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 71.73 45 P P 04 44 12.9 -0.1
BOZ IAmb IAmb 04 44 14.7
comp=Z,6.6nm,0.8s
KVN Kaiserville 72.12 54 P P 04 44 15.9 +0.5
KVN pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 72.12 54 P P 04 44 15.9 +0.5
KVN IAmb IAmb 04 44 17.6
comp=Z,4.3nm,0.8s
NVAR Mina Array Bea 72.38 54 P P 04 44 18.5 +1.5
comp=Z,2.2nm,0.8s,baz=291,slow=5.9,SNR=13
NVAR Mina Array Bea 72.38 54 P P 04 44 17.9 +0.9
YHL Hebgen Lake 72.46 46 P P 04 44 17.8 +0.3
YHH Holmes Hill 72.68 45 P P 04 44 19.4 +0.6
ELK Elko 72.78 51 P P 04 44 20.8 +1.4
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 72.78 51 P P 04 44 20.8 +1.4
YNE Yellowstone No 72.99 45 P P 04 44 21.8 +1.2
IMW Indian Meadow 73.21 46 P P 04 44 23.1 +1.1
TPH Tonopah 73.26 54 P P 04 44 23.1 +0.9
TPH pmax pmax
comp=Z,17nm,1.0s
TPH Tonopah 73.26 54 P P 04 44 23.1 +0.9
RLMT Red Lodge 73.31 44 P P 04 44 22.9 +0.5
MOOW Moose Ponds 73.41 46 P P 04 44 25.1 +2.1
MORW Morawa 73.55 204 P P 04 44 23.4 -0.1
MORW IAmb IAmb 04 44 36.2
comp=Z,21nm,1.5s
SORM Soroca 73.83 320 ↑P P 04 44 23.9 -1.2
BORG Borgarnes 74.01 353 P P 04 44 27.5 +1.7
BORG pmax pmax
comp=Z,24nm,1.0s
BORG Borgarnes 74.01 353 P P 04 44 27.4 +1.7
DUG Dugway, Tooele 74.56 50 P P 04 44 30.9 +1.3
DUG pmax pmax
comp=Z,3.0nm,1.1s
DUG Dugway, Tooele 74.56 50 P P 04 44 30.9 +1.3
BW06 Boulder Array 74.71 46 P P 04 44 30.1 -0.5
PD31 Pinedale Array 74.71 46 P P 04 44 31.2 +0.6
PDAR Pinedale Array 74.71 46 P P 04 44 31.2 +0.6
comp=Z,1.5nm,0.8s,baz=268,slow=1.8,SNR=16
PDAR Pinedale Array 74.71 46 P P 04 44 31.1 +0.5
BUR08 Bucovina Ar. S 75.69 321 P P 04 44 36.4 +0.4
BUR08 IAmb IAmb 04 44 36.8
comp=Z,7.0nm,0.7s
BURAR Bucovina Array 75.70 321 ↑P P 04 44 35.7 -0.3
BURAR Bucovina Array 75.70 321 P P 04 44 35.1 -1.0
BIZ Bicaz 75.76 321 ↓P P 04 44 35.9 -0.3
CCUT Cedar City 75.95 52 P P 04 44 38.2 +0.4
CFR Carcaliu 75.99 318 ↑P P 04 44 37.5 -0.1
TPGR Topolog 76.07 318 ↑P P 04 44 38.2 +0.1
KOLS Kolonicke sedl 76.10 324 eP P 04 44 36.2 -2.0
KOLS Kolonicke sedl 76.10 324 eP P 04 44 36.2 -2.0
RDMU Red Mountain 76.17 48 P P 04 44 39.9 +0.9
VRI Vrincioaia 76.21 319 ↑P P 04 44 38.8 -0.1
MTPU Mount Pierson 76.33 51 P P 04 44 40.6 +0.5
CRVS Cervenica-Dubn 76.49 324 eP P 04 44 39.7 -0.6
CRVS Cervenica-Dubn 76.49 324 eP P 04 44 39.7 -0.6
OZUR 76.51 320 ↓P P 04 44 40.6 0.0
SRU San Rafael Swe 76.60 50 P P 04 44 42.3 +0.9
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 76.60 50 P P 04 44 42.2 +0.9
BR131 Keskin Array S 76.76 311 P P 04 44 42.5 +0.3
BR131 pmax pmax
comp=Z,5.0nm,1.4s
BR131 Keskin Array S 76.76 311 P P 04 44 42.5 +0.3
BRTR Keskin Array B 76.76 311 P P 04 44 42.2 0.0
comp=Z,1.0nm,0.6s,baz=117,slow=3.3,SNR=8.7
BRTR Keskin Array B 76.76 311 P P 04 44 42.0 -0.2
NWAO Narrogin (SRO) 76.83 201 P P 04 44 42.4 +0.2
NWAO pmax pmax
comp=Z,24nm,1.4s
NWAO Narrogin (SRO) 76.83 201 P P 04 44 42.4 +0.2
OKC Ostrava-Krasne 77.21 327 eP P 04 44 45.2 +0.8
OKC ePCP PcP 04 44 57.7 +3.0
OKC Ostrava-Krasne 77.21 327 eP P 04 44 45.2 +0.8
OKC e 04 44 57.7
VOIR 77.34 320 ⇑P P 04 44 45.8 +0.5
CHVC Chvalec 77.49 328 eP P 04 44 46.0 0.0
CHVC ex x 04 45 00.7
MORC Moravsky Berou 77.51 327 ⇑P P 04 44 46.7 +0.6
MORC Moravsky Berou 77.51 327 eP P 04 44 46.5 +0.4
MORC Moravsky Berou 77.51 327 P P 04 44 46.6 +0.4
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 77.51 327 P P 04 44 46.6 +0.5
MORC IAmb IAmb 04 44 47.3
comp=Z,7.4nm,0.8s
DPC Dobruska-Polom 77.57 328 eP P 04 44 47.0 +0.6
DPC Dobruska-Polom 77.57 328 eP P 04 44 47.0 +0.6
UPC Upice 77.57 328 eP P 04 44 46.8 +0.4
UPC Upice 77.57 328 eP P 04 44 46.8 +0.4
KRLC Kraliky 77.59 327 eP P 04 44 47.0 +0.4
KRLC Kraliky 77.59 327 eP P 04 44 47.0 +0.4
ARR Arges 77.60 320 ⇓P P 04 44 47.3 +0.6
VYHS Vyhne 77.94 325 eP P 04 44 48.8 +0.3
VYHS Vyhne 77.94 325 eP P 04 44 48.8 +0.3
PV22 Blue Mesa, Par 77.99 49 P P 04 44 49.9 +0.7
PV22 IAmb IAmb 04 44 50.9
comp=Z,3.8nm,0.8s
CLL Collm 78.11 330 iP P 04 44 48.8 -0.5
comp=Z,6.0nm,0.7s
CLL Collm 78.11 330 iP P 04 44 48.8 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.7s
JAVC Velka Javorina 78.16 326 eP P 04 44 51.2 +1.4
VRAC Vranov 78.27 327 ⇑P P 04 44 51.1 +0.9
VRAC Vranov 78.27 327 eP P 04 44 50.8 +0.5
SIRR Siria 78.35 322 ⇑P P 04 44 50.6 -0.2
PV01 Paradox Valley 78.39 49 P P 04 44 51.5 +0.1
GZR Gura Zlata 78.47 321 ⇑P P 04 44 51.7 +0.2
KRUC Moravsky 78.54 327 eP P 04 44 52.2 +0.5
PRU Pruhonice 78.56 329 eP P 04 44 52.3 +0.4
PRU Pruhonice 78.56 329 eP P 04 44 52.3 +0.4
PBCC Pribram 79.02 329 eP P 04 44 54.5 +0.1
HERR Herculane 79.02 321 ⇑P P 04 44 54.2 -0.2
SUSD Miller 79.03 40 P P 04 44 54.1 -0.5
MVCO Mesa Verde 79.06 50 P P 04 44 55.8 +0.7
MVCO IAmb IAmb 04 44 56.9
comp=Z,3.2nm,0.7s
X16A Lo Mia Camp, P 79.19 54 P P 04 44 56.8 +0.9
F33A 5 Mile Ranch, 79.25 37 P P 04 44 55.7 0.0
F33A IAmb IAmb 04 44 56.6
comp=Z,12nm,1.2s
KHC Kasperske Hory 79.63 328 eP P 04 44 58.1 +0.4
KHC Kasperske Hory 79.63 328 eP P 04 44 58.1 +0.4
CONA Conrad Observa 79.64 327 eP P 04 44 57.6 -0.3
comp=Z,7.4nm,1.0s
GEC2B GERESS ARRAY S 79.81 328 P P 04 44 58.2 -0.6
GERES GERESS Array B 79.81 328 P P 04 44 58.8 0.0
comp=Z,1.5nm,0.5s,baz=32,slow=5.3,SNR=15
GERES GERESS Array B 79.81 328 P P 04 44 58.1 -0.7
ESK Eskdalemuir 79.81 341 P P 04 44 58.7 +0.2
ESK pmax pmax
comp=Z,61nm,1.4s
ESK Eskdalemuir 79.81 341 P P 04 44 58.7 +0.2
ARSA Arzberg 80.32 326 eP P 04 45 00.8 -0.7
comp=Z,3.0nm,0.7s
MOA Molln 80.37 327 eP P 04 45 01.7 0.0
comp=Z,9.1nm,1.6s
ECSD EROS Data Cent 80.69 39 P P 04 45 03.4 -0.1
OBKA Obir 81.31 326 eP P 04 45 06.5 -0.4
comp=Z,4.7nm,0.6s
KBA Koelnbreinsper 81.36 327 eP P 04 45 07.0 -0.2
comp=Z,11nm,0.9s
T25A Trinidad 81.45 48 P P 04 45 09.1 +1.1
T25A IAmb IAmb 04 45 22.4
comp=Z,6.2nm,1.4s
MYKA Terra Mystica 81.60 327 eP P 04 45 07.5 -0.8
comp=Z,3.5nm,0.6s
SCHQ Schefferville 81.62 16 P P 04 45 07.7 -0.5
comp=Z,4.0nm,0.7s,baz=332,slow=7.0,SNR=3.6
SCHQ Schefferville 81.62 16 P P 04 45 08.6 +0.4
SCHQ IAmb IAmb 04 45 09.1
comp=Z,7.8nm,1.0s
PRED Cave del Predi 81.78 327 P P 04 45 08.3 -1.0
PRED IAmb IAmb 04 45 08.8
comp=Z,5.7nm,0.7s
ANMO Albuquerque 81.81 51 ceP P 04 45 10.9 +1.0
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 81.81 51 P P 04 45 09.9 0.0
WATA Walderalm 81.87 328 eP P 04 45 09.6 -0.2
comp=Z,4.4nm,0.6s
WTTA Wattenberg 81.90 328 eP P 04 45 09.9 -0.1
comp=Z,4.9nm,0.7s
ABTA Abfaltersbach 81.97 328 eP P 04 45 08.7 -1.6
comp=Z,4.8nm,1.1s
MOTA Moosalm 82.05 329 iP P 04 45 10.8 0.0
comp=Z,7.5nm,0.7s,SNR=6.9
RETA Reutte 82.06 329 iP P 04 45 10.8 +0.1
comp=Z,10nm,0.8s,SNR=7.7
SQTA Sankt Quirin 82.11 329 eP P 04 45 11.0 0.0
comp=Z,3.5nm,0.5s
BFO Black Forest 82.29 331 P P 04 45 11.7 -0.2
BFO pmax pmax
comp=Z,4.0nm,0.8s
BFO Black Forest 82.29 331 P P 04 45 11.7 -0.2
BFO IAmb IAmb 04 45 12.6
comp=Z,4.4nm,0.8s
CIMO Cimolais 82.35 327 P P 04 45 11.2 -1.0
CIMO IAmb IAmb 04 45 11.6
comp=Z,5.7nm,0.9s
PDG Podgorica 82.38 321 ⇑P P 04 45 11.3 -1.1
FETA Feichten 82.46 329 eP P 04 45 12.3 -0.7
comp=Z,3.6nm,0.7s
DAVA Damuels 82.57 329 iP P 04 45 13.3 -0.2
comp=Z,12nm,0.9s,SNR=6.6
ECH Echery 82.82 331 P P 04 45 14.1 -0.6
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 82.82 331 P P 04 45 14.1 -0.6
ECH IAmb IAmb 04 45 15.1
comp=Z,6.7nm,0.9s
FUORN Ofenpass-Fuorn 82.97 329 P P 04 45 15.4 -0.4
AGG Agios Georgios 83.42 317 P P 04 45 16.8 -1.2
AGG pmax pmax
comp=Z,16nm,1.2s
AGG Agios Georgios 83.42 317 P P 04 45 16.8 -1.2
I42A Draeger Farm, 84.05 34 P P 04 45 21.3 +0.3
SENIN Lac Senin/Sane 84.32 330 P P 04 45 22.4 -0.2
SENIN IAmb IAmb 04 45 25.0
comp=Z,8.8nm,1.2s
TX31 Lajitas Ar. Si 87.46 53 P P 04 45 38.4 +0.2
TX31 IAmb IAmb 04 45 45.0
comp=Z,4.2nm,1.2s
TX32 Lajitas Array 87.46 53 P P 04 45 37.8 -0.4
TXAR Lajitas Array 87.46 53 P P 04 45 38.9 +0.7
comp=Z,0.7nm,0.7s,baz=308,slow=3.0,SNR=14
TXAR Lajitas Array 87.46 53 P P 04 45 37.7 -0.5
U40A Yellville 88.20 41 P P 04 45 41.0 -0.5
U40A IAmb IAmb 04 45 42.2
comp=Z,3.4nm,0.7s
ESDC Sonseca Array 94.16 334 P P 04 46 08.7 -0.5
comp=Z,1.0nm,0.7s,baz=12,slow=4.2,SNR=8.3
ESDC Sonseca Array 94.16 334 P P 04 46 07.6 -1.6
TORD Torodi Ar. Bea 115.01 317 PKP PKiKP 04 51 30.2 -1.2
comp=Z,0.5nm,0.6s,baz=22,slow=1.0,SNR=9.7
TORD Torodi Ar. Bea 115.01 317 PKiKP 04 51 29.8 -1.6
DBIC Dimbokro 123.85 319 PKP PKPdf 04 51 47.5 -0.9
comp=Z,1.5nm,0.5s,baz=46,slow=2.7,SNR=5.3
QSPA South Pole Qui 130.50 180 PKPdf PKPdf 04 51 59.6 0.0
LPAZ La Paz 144.27 56 PKP PKPab 04 52 25.1 -0.1
comp=Z,1.1nm,0.7s,baz=281,slow=3.2,SNR=5.8
LPAZ La Paz 144.27 56 PKIKP PKPab 04 52 25.2 0.0
LPAZ La Paz 144.27 56 PKPdf PKPab 04 52 25.1 0.0
SNAA Sanae 144.46 198 PKPab PKPab 04 52 23.1 -0.5
SNAA Sanae 144.46 198 PKIKP PKPab 04 52 23.3 -0.3
SNAA Sanae 144.46 198 PKPdf PKPab 04 52 23.3 -0.3
PB16 IPOC Station P 144.90 60 PKPbc PKPbc 04 52 27.5 +0.1
PSGCX Pisagua 145.38 62 PKPab 04 52 28.6 +0.1
MNMC Minye Minye 145.41 61 PKPbc 04 52 28.8 +0.2
PB11 IPOC Station P 145.81 62 PKPbc PKPab 04 52 30.2 0.0
VNA2 Neumayer--Watz 146.03 197 PKPdf PKPbc 04 52 28.3 -0.4
VNA1 Neumayer--Stat 146.43 197 PKPdf PKPbc 04 52 29.5 -0.3
AC01 Pan de Azucar 149.30 72 PKPbc PKPbc 04 52 39.4 +0.5
AC05 El Transito 151.07 76 PKPbc PKiKP 04 52 43.7 -0.1
CO02 Combarbal 151.74 81 PKPbc PKPbc 04 52 44.8 +0.1
MT02 Curacav 152.57 85 PKPbc PKiKP 04 52 46.6 +0.1
VA03 San Esteban 152.80 83 PKPbc PKPbc 04 52 45.7 -1.3

PLCA **Paso Flores** 155.37 101 PKPab **PKPab** 04 53 10.9 +1.9
comp=Z,1.0nm,0.8s,baz=225,slow=4.3,SNR=3.6

*JMA **27** 04:52:43.1±0.2,26.60N×127.23E,h69km±2km,M3.6*
JMA Felt I J1.
*IDC **27** 04:52:47.4±14.0,26.77N×127.44E,h120km±171km, mb3.3/4,mb1 3.3/5,mb1mx3.2/36,mbtmp3.7/5,ML3.1/1, Error ellipse: s-maj=190.8km s-min=19.5km az=62.0*
ISC 27 04:52:43.0±0.9,26.61N±0.07×127.22E±0.06,h71km±7km, n13,σ0ᵎ54/21,mb3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.03**	**139**	P	**Pn**	**04 52 53.2**	**0.0**
JAGN				S	**Sn**	**04 53 00.9**	**+0.2**
JKE	**Kume jima 2**	**0.48**	**234**	P	**Pn**	**04 52 55.7**	**0.0**
JKE				S	**Sn**	**04 53 05.0**	**0.0**
JJT3	**Tamagusuku3**	**0.69**	**133**	P	**Pn**	**04 52 58.2**	**+0.4**
JJT3				S	**Sn**	**04 53 09.3**	**+0.6**
JNTH	**Nagotoyohara**	**0.72**	**97**	P	**Pn**	**04 52 58.3**	**+0.1**
JNTH				S	**Sn**	**04 53 09.2**	**-0.2**
JIH	**Iheya**	**0.79**	**57**	P	**Pn**	**04 52 59.3**	**+0.3**
JIH				S	**Sn**	**04 53 10.8**	**0.0**
JOW	**Kunigami**	**0.97**	**77**	P	**Pn**	**04 53 01.2**	**+0.1**
JOW				S	**Sn**	**04 53 14.5**	**-0.1**
JYRO	**Yoronjima**	**1.17**	**69**	P	**Pn**	**04 53 03.7**	**0.0**
JYRO				S	**Sn**	**04 53 18.8**	**-0.4**
JOKE	**Okinoerabujima**	**1.42**	**58**	P	**Pn**	**04 53 06.8**	**-0.1**
JOKE				eS	**Sn**	**04 53 24.1**	**-0.8**
JNU	**Nakatsue**	**7.22**	**25**	P	**Pn**	**04 54 27.4**	**+1.4**
	0.3nm,0.3s,baz=210,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**40.61**	**312**	P	**P**	**05 00 15.6**	**-0.2**
	0.5nm,0.5s,baz=90,slow=9.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**41.40**	**323**	P	**P**	**05 00 21.3**	**-0.9**
	0.9nm,0.4s,baz=116,slow=6.7,SNR=2.9						
WRA	**Warramunga Arr**	**46.79**	**171**	P	**P**	**05 01 05.3**	**-0.3**
	0.4nm,0.6s,baz=353,slow=8.6,SNR=6.0						
ASAR	**Alice Springs**	**50.40**	**172**	P	**P**	**05 01 33.9**	**+0.6**
	0.4nm,0.5s,baz=1.2,slow=14,SNR=8.1						

*REY **27** 05:48:19.7,64.68N×17.49W,h4km*
*NEIC **27** 05:48:20.6±2.3,64.63N±0.09×17.65W±0.09,h10km±1km, mb4.1/13,Error ellipse: s-maj=15.5km s-min=7.0km az=356.0*
*IDC **27** 05:48:20.9±0.9,64.45N×17.83W,h0km,mb3.7/8, mb1 4.0/9,mb1mx3.7/37,mbtmp3.7/9,ML3.7/1,MS3.5/2, Ms1 3.5/2,ms1mx2.6/51,Error ellipse: s-maj=37.0km s-min=14.0km az=33.0*
ISC 27 05:48:20.0±0.9,64.63N±0.03×17.58W±0.02,h6km±6km, n97,σ1ᵎ65/85,mb3.9/10,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.08**	**299**	P	**Pg**	**05 48 22.2**	**+0.2**
	baz=266						
IVON				S	**Sg**	**05 48 24.8**	**+1.4**
	baz=266						
IDYN	**Dyngjuhals**	**0.18**	**30**	P	Pg	05 48 22.5	-1.2
	baz=26						
IDJK	**Dyngjujokull**	**0.20**	**131**	P	**Pg**	**05 48 24.2**	**+0.2**
	baz=148						
IGRF	**Grimsfjall**	**0.27**	**149**	P	**Pg**	**05 48 25.5**	**+0.2**
	baz=161						
IURH	**Urdarhals**	**0.27**	**45**	P	Pg	05 48 24.2	-1.0
	baz=46						
IHUS	**Husbondi**	**0.34**	**185**	P	**Pg**	**05 48 27.8**	**+1.1**
	baz=190						
IHUS				S	**Sg**	**05 48 33.3**	**+2.1**
	baz=190						
ISKR	**Skrokkalda**	**0.35**	**258**	P	**Pb**	**05 48 27.3**	**-1.5**
	baz=253						
IKVE	**Kverkfjoll**	**0.39**	**83**	P	Pg	05 48 26.8	-0.9
	baz=90						
IKVE				S	**Sg**	**05 48 31.8**	**-1.1**
	baz=90						
IVOT	**Vottur**	**0.40**	**154**	P	**Pg**	**05 48 28.0**	**+0.2**
	baz=162						
IJOK	**Jokulheimar**	**0.42**	**221**	P	**Pg**	**05 48 28.8**	**+0.6**
	baz=221						
THOR	**Thorvaldshraun**	**0.49**	**52**	P	Pg	05 48 28.1	-1.4
	baz=54						
THOR				S	**Sg**	**05 48 34.7**	**-1.3**
	baz=54						
IKRE	**Kreppuhraun**	**0.54**	**73**	P	Pg	05 48 28.2	-2.1
	baz=77						
IKRE				S	**Sg**	**05 48 36.0**	**-1.4**
	baz=77						
IASK	**Askja**	**0.58**	**43**	S	Sg	05 48 36.6	-2.2
	baz=44						
IASK				P	Pg	05 48 29.6	-1.6
	baz=44						
IIEY	**Innrieyrar**	**0.59**	**204**	P	**Pn**	**05 48 31.4**	**-3.5**
	baz=205						
IIEY				S	**Sb**	**05 48 41.2**	**-0.2**
	baz=205						
IMKO	**Mokollar**	**0.64**	**56**	P	Pg	05 48 30.1	-2.1
	baz=58						
IMKO				S	**Sg**	**05 48 39.2**	**-1.4**
	baz=58						
IKSK	**Karasker**	**0.68**	**134**	P	**Pg**	**05 48 31.3**	**-1.7**
	baz=139						
IKAL	**Kalfafell**	**0.69**	**184**	P	**Pn**	**05 48 33.0**	**-3.3**
	baz=187						
IKAL				S	**Sn**	**05 48 43.9**	**-3.4**
	baz=187						
ISVA	**Svartarkot**	**0.72**	**11**	P	Pg	05 48 31.8	-2.1
	baz=8.6						
IVAT	**Vatnsfell**	**0.73**	**233**	P	**Pn**	**05 48 34.3**	**-2.7**
	baz=232						
IVAT				S	**Sn**	**05 48 44.5**	**-3.9**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.82**	**77**	S	**Sg**	**05 48 43.8**	**-2.5**
	baz=80						
IVSH				P	Pg	05 48 33.1	-2.6
	baz=80						
IHVE	**Hveravellir**	**0.88**	**287**	P	**Pg**	**05 48 36.0**	**-0.9**
	baz=283						
IADA	**Aoalbol**	**0.94**	**65**	P	Pb	05 48 35.1	-3.7
	baz=67						
ISNB	**Snabyli**	**1.01**	**207**	P	**Pn**	**05 48 38.6**	**-2.1**
	baz=208						
IMEL	**Melhnausar**	**1.02**	**22**	P	Pn	05 48 36.7	-4.2
	baz=21						
ISLY	**Slysaalda**	**1.05**	**220**	P	**Pn**	**05 48 39.9**	**-1.4**
	baz=220						
IREN	**Reynihlio**	**1.06**	**15**	P	Pn	05 48 37.3	-4.1
	baz=14						
IKVO	**Krokottuvotn**	**1.12**	**15**	P	Pn	05 48 38.4	-3.9
	baz=14						
IRJU	**Rjupnafell**	**1.13**	**206**	P	**Pn**	**05 48 40.6**	**-1.7**
	baz=206						
IMJO	**Mjoaskard**	**1.15**	**233**	P	**Pn**	**05 48 41.8**	**-0.9**
	baz=233						
IGRS	**Grimsstaoir**	**1.18**	**31**	P	Pn	05 48 39.8	-3.3
	baz=30						
IGYG	**Gygjarholskot**	**1.19**	**254**	P	**Pb**	**05 48 41.3**	**-1.8**
	baz=252						
IHAU	**Haukadalur**	**1.23**	**238**	P	**Pn**	**05 48 42.8**	**-1.0**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.24**	**207**	P	**Pn**	**05 48 43.1**	**-0.8**
	baz=208						
ISKI	**Skildingahlsh**	**1.26**	**10**	P	Pn	05 48 40.8	-3.4
	baz=9.1						
ISKI				S	**Sn**	**05 48 58.3**	**-3.2**
	baz=9.1						
IGHA	**Grjothals**	**1.28**	**17**	P	Pn	05 48 40.8	-3.6
	baz=16						
IGRA	**Granastaoir**	**1.29**	**0**	P	Pn	05 48 41.6	-3.0
	baz=358						
IALF	**Alftagrof**	**1.35**	**212**	P	**Pn**	**05 48 44.8**	**-0.5**
	baz=213						
IHLA	**Hella**	**1.36**	**346**	P	Pn	05 48 42.8	-2.7
	baz=344						
IDIM	**Dimmadalss**	**1.36**	**11**	P	Pn	05 48 42.6	-3.0
	baz=10						
IESK	**Eystri-Skogar**	**1.38**	**217**	P	**Pg**	**05 48 45.4**	**-1.1**
	baz=217						
ISAU	**Saurbar**	**1.39**	**244**	P	**Pg**	**05 48 45.4**	**-1.3**
	baz=243						
IMID	**Miomork**	**1.41**	**227**	P	**Pg**	**05 48 45.8**	**-1.2**
	baz=227						
IHED	**Heoinshofoi**	**1.46**	**4**	P	Pn	05 48 44.1	-2.8
	baz=3.0						
IBRE	**Brettingsstaoi**	**1.50**	**355**	P	Pn	05 48 44.8	-2.7
	baz=353						
IGIL	**Gilhagi**	**1.54**	**19**	P	Pn	05 48 45.1	-2.9
	baz=18						
IASM	**Asmuli**	**1.55**	**240**	P	**Pg**	**05 48 47.9**	**-1.8**
	baz=239						
ISIG	**Siglufjorour**	**1.60**	**340**	P	**Pn**	**05 48 46.5**	**-2.4**
	baz=338						
BORG	**Borgarnes**	**1.61**	**276**	Pn	**Pn**	**05 48 47.8**	**-1.2**
	13nm,0.3s,baz=82,slow=5.4,SNR=4.2						
BORG				Sn	**Sg**	**05 49 12.9**	**+1.1**
	15nm,0.3s,baz=275,slow=23,SNR=6.2						
BORG	**Borgarnes**	**1.61**	**276**		**Pn**	**05 48 48.2**	**-0.8**
BORG				Sn	**Sg**	**05 49 10.2**	**-1.5**
ISOL	**Solvholt**	**1.63**	**246**	P	**Pb**	**05 48 48.2**	**-2.2**
	baz=245						
IKRO	**Krokur**	**1.63**	**252**	P	**Pb**	**05 48 48.5**	**-1.9**
	baz=251						
IHEI	**Heioarbar**	**1.64**	**256**	P	**Pb**	**05 48 48.5**	**-2.2**
	baz=255						
IBJA	**Bjarnastaoir**	**1.76**	**249**	P	**Pb**	**05 48 50.8**	**-1.9**
	baz=248						
IHRN	**Hraun**	**1.82**	**325**	P	**Pn**	**05 48 50.4**	**-1.5**
	baz=324						
SUMG	**Summit**	**10.95**	**326**	Pn	**Pn**	**05 50 56.2**	**-1.1**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**05 51 09.9**	**+1.8**
	baz=323,slow=14,SNR=3.8						
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**05 51 08.8**	**+0.7**
DSB	**Dublin**	**12.77**	**148**	Pn	**Pn**	**05 51 20.9**	**-1.0**
NC204	**NORSAR Array S**	**13.27**	**92**	Pn	**Pn**	**05 51 29.1**	**+0.4**
NBO00	**NORSAR Array S**	**13.38**	**93**	Pn	**Pn**	**05 51 30.8**	**+0.5**
KONO	**Kongsberg**	**13.58**	**99**	Pn	**Pn**	**05 51 33.6**	**+0.6**
NB201	**NORSAR Array S**	**13.60**	**92**	Pn	**Pn**	**05 51 32.1**	**-1.1**
SFJD	**Kangerlussuaq**	**13.65**	**295**	Pn	**Pn**	**05 51 33.9**	**+0.1**
NC405	**NORSAR Array S**	**13.75**	**91**	Pn	**Pn**	**05 51 36.6**	**+1.4**
HFS	**Hagfors**	**15.08**	**93**	Pn	**P**	**05 52 01.2**	**+2.4**
	0.2nm,0.3s,baz=263,slow=12,SNR=4.4						
KBS	**Kingsbay**	**16.68**	**19**		**Pn**	**05 52 15.8**	**+1.8**
KBS				IAmb	IAmb	05 52 17.8	
	comp=Z,25nm,1.2s						
ARD9	**ARCESS Array S**	**17.16**	**54**		**Pn**	**05 52 20.2**	**+0.1**
ARC1	**ARCESS Array S**	**17.17**	**54**	Pn	**Pn**	**05 52 18.9**	**-1.3**
ARC1				IAmb	IAmb	05 52 19.4	
	comp=Z,39nm,1.5s						
ARD1	**ARCESS Array S**	**17.17**	**54**	Pn	**Pn**	**05 52 20.8**	**+0.6**
ARD1				IAmb	IAmb	05 52 29.2	
	comp=Z,26nm,1.5s						
ARC4	**ARCESS Array S**	**17.17**	**55**	Pn	**Pn**	**05 52 20.1**	**-0.1**
ARC4				IAmb	IAmb	05 52 20.2	
	comp=Z,20nm,1.3s						
CLL	**Collm**	**20.72**	**115**	*i* (P)	Pn	05 53 04.4	+1.2
	comp=Z,10.0nm,1.3s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**05 53 09.9**	**+1.4**
	comp=Z,12nm,1.1s						
GEC2	**GERESS Array S**	**22.97**	**118**	P	**P**	**05 53 24.5**	**-0.5**
GEC2				IAmb	IAmb	05 53 28.9	
	comp=Z,4.8nm,1.1s						
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**	**05 53 28.2**	**+3.1**
	comp=Z,1.0nm,0.8s,baz=322,slow=8.5,SNR=4.6						
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**	**05 53 24.6**	**-0.4**
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**05 53 56.2**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=352,slow=8.0,SNR=7.0						
NRCA	**Norcia**	**27.89**	**127**	P	**P**	**05 54 10.6**	**+0.1**
BRTR	**Keskin Array B**	**38.51**	**105**	P	**P**	**05 55 43.5**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=10,slow=8.8,SNR=2.5						
BRTR	**Keskin Array B**	**38.51**	**105**	P	**P**	**05 55 41.9**	**-1.1**
ABKAR	**Akbulak array**	**42.04**	**73**	P	**P**	**05 56 13.4**	**+1.6**
TIXI	**Tiksi**	**42.07**	**15**	P	**P**	**05 56 14.1**	**+2.2**
TIXI				IAmb	IAmb	05 56 16.3	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**05 56 43.9**	**+2.8**
	comp=Z,1.3nm,1.0s,baz=18,slow=6.1,SNR=7.9						
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**05 56 42.5**	**+1.4**
IMAR	**Indian Mountai**	**45.87**	**337**	P	**P**	**05 56 44.5**	**+2.1**
M24K	**Tolsona, Glenn**	**47.93**	**330**	P	**P**	**05 56 58.7**	**+0.1**
GEYT	**Ailbeck**	**50.47**	**83**	LR	LR	06 19 12.7	
	comp=Z,50nm,18.6s,baz=0.0,slow=37						
KAN05	**Bluff City Nor**	**53.11**	**280**	P	**P**	**05 57 35.9**	**-2.1**
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P	**P**	**05 57 38.8**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=338,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P	**P**	**05 57 38.9**	**+0.6**
PD31	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 57 37.7**	**-0.9**
PD31				IAmb	IAmb	05 57 41.7	
	comp=Z,2.8nm,1.1s						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 57 40.2**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=58,slow=5.6,SNR=7.6						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 57 37.7**	**-0.9**
DBIC	**Dimbokro**	**58.57**	**165**	P	**P**	**05 58 17.8**	**+0.5**
	comp=Z,6.4nm,1.1s,baz=342,slow=6.4,SNR=3.4						
DBIC	**Dimbokro**	**58.57**	**165**	P	**P**	**05 58 18.0**	**+0.7**
SONM	**Songino Array**	**59.69**	**40**	LR	LR	06 26 04.0	
	comp=Z,38nm,18.7s,baz=234,slow=38						
TXAR	**Lajitas Array**	**62.25**	**280**	P	**P**	**05 58 44.5**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=23,slow=6.8,SNR=4.9						
TXAR	**Lajitas Array**	**62.25**	**280**	P	**P**	**05 58 44.2**	**+1.7**

*SNET **27** 05:53:34.3±0.6, 13.82N×90.39W,h67km±10km,ML3.4*
*GCG **27** 05:53:38.7±0.6, 14.03N×90.65W,h54km±6km,MD4.0*
ISC 27 05:53:33.3±2.1,13.6N±0.1×90.52W±0.06,h56km±36km, n13,σ0ᵎ89/19,2C,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.78**	**354**	*e*P	**Pn**	**05 53 49.5**	**+0.8**
PCG				*e*S	**Sn**	**05 53 58.4**	**-1.5**
FUG	**Fuego 3**	**0.89**	**339**	*e*P	**Pn**	**05 53 50.4**	**+0.4**
RTR	**El Retiro**	**0.90**	**71**	*e*P	**Pn**	**05 53 50.3**	**+0.3**
RTR				*e*S	**Sn**	**05 54 02.7**	**+0.4**
SBLS	**San Blas**	**0.90**	**75**	*i*P	**Pn**	**05 53 50.2**	**+0.1**
SBLS				*e*S	**Sn**	**05 54 02.5**	**0.0**
SNJE	**San Jose**	**0.92**	**74**	*e*P	**Pn**	**05 53 50.4**	**0.0**
NBG	**Las Nubes**	**0.99**	**10**	*e*P	**Pn**	**05 53 52.4**	**+1.0**
SNET	**Serv Nac Est T**	**1.25**	**86**	*e*P	**Pn**	**05 53 54.9**	**+0.2**
SNET				*e*S	**Sn**	**05 54 10.8**	**+0.2**
SNET				IAML		05 54 12.9	
	comp=Z,611nm,0.3s						
ERG	**Entre ros, C**	**1.31**	**309**	*e*P	**Pn**	**05 53 56.7**	**+1.2**
ERG				*e*S	**Sn**	**05 54 09.8**	**-2.1**
MTO3	**Montecristo**	**1.37**	**55**	*i*P	**Pn**	**05 53 55.3**	**-1.1**
LFU	**La Fuente**	**1.37**	**84**	*e*P	**Pn**	**05 53 56.2**	**-0.1**
LFRS	**El Faro**	**1.42**	**89**	*e*P	**Pn**	**05 53 57.0**	**+0.1**
LFRS				*e*S	**Sn**	**05 54 14.8**	**+0.2**
LBRS	**Las Brisas**	**1.44**	**85**	*e*P	**Pn**	**05 53 57.0**	**-0.2**
MRL	**Marmol**	**1.67**	**29**	*e*S	**Sn**	**05 54 21.5**	**+0.5**

RSNC 27 06:00:39.2±1.5,5.96N×74.05W,h94km±19km,ML1.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.31**	**185**	*e*S	Sn	06 01 04.3	+0.6
PTBC	**PUERTO BERRIO,**	**0.70**	**325**	*e*P	Pn	06 00 55.0	-1.2
PTBC				*e*S	Sn	06 01 07.7	-1.0
PTBC				*i*		06 01 08.9	
	comp=Z,2.3nm,0.3s						
RUSC	**La Rusia**	**0.96**	**94**	*e*S	Sn	06 01 13.3	-0.9
BARC	**Barichara**	**1.06**	**54**	*e*S	Sn	06 01 15.6	-0.2
BARC				*i*		06 01 19.8	
	comp=Z,4.9nm,0.4s						
BRRC	**Barranca, Sant**	**1.19**	**16**	*e*P	Pn	06 01 01.6	+0.3
BRRC				*e*S	Sn	06 01 18.0	0.0
BRRC				*i*		06 01 18.3	
	comp=Z,2.1nm,0.4s						

*IDC **27** 06:01:02.3±5.0,5.14N×82.20W,h0km,mb3.3/4,mb1 3.8/4, mb1mx3.5/35,mbtmp3.3/4,MS3.2/1,Ms1 3.2/1, ms1mx2.7/13,Error ellipse: s-maj=204.9km s-min=99.4km az=52.0*
*UPA **27** 06:01:03.6±0.8,4.97N×82.57W,h29km±106km,MW4.8*
*NEIC **27** 06:01:05.0±1.4,5.19N±0.05×82.6W±0.1,h10km±2km, mb4.1/6,Error ellipse: s-maj=21.3km s-min=4.0km az=247.0*
*UCR **27** 06:01:11.6±1.2,5.47N×83.02W,h36km±999km,MW3.9, mb4.1(NEIC)*
ISC 27 06:01:03.5±0.7,5.05N±0.05×82.58W±0.06,h12km,n67, σ2ᵎ16/83,mb3.7/6,2C-2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.42**	**137**	*e*P	**Pn**	**06 01 26.7**	**-2.5**
MAPC				*e*S	**Sb**	**06 01 42.5**	**-5.6**
MAPC				*i*		06 01 44.1	
	comp=Z,609nm,0.2s						
CACAO	**El Cacao, Vera**	**2.85**	**37**	*i*P	**Pn**	**06 01 47.9**	**-1.0**
CACAO				*e*S	**Sn**	**06 02 19.2**	**-3.9**
TOSI3	**Tonosi**	**3.16**	**42**	*e*S	**Sn**	**06 02 28.3**	**-2.6**
PEDE3	**Pedregal, Chir**	**3.32**	**3**	*e*P	**Pn**	**06 01 50.9**	**-4.4**
PEDE3				*e*S	**Sn**	**06 02 33.6**	**-1.1**
LOCO3	**Loma Colorada,**	**3.34**	**3**	*e*P	**Pb**	**06 01 59.2**	**-3.6**
LOCO3				*e*S	**Sb**	**06 02 40.2**	**-3.2**
DVD	**David**	**3.37**	**2**	*e*P	**Pn**	**06 01 54.8**	**-1.2**
DVD				*e*S	**Sn**	**06 02 34.2**	**-1.7**
PTJ1	**Puerto Jimnez**	**3.54**	**348**	*e*P	**Pn**	**06 01 57.2**	**-1.1**
PTJ1				*e*S	**Sn**	**06 02 38.5**	**-1.6**
AZU	**Azuero**	**3.56**	**40**	*e*P	**Pn**	**06 01 58.4**	**-0.2**
AZU				*e*S	**Sn**	**06 02 35.0**	**-5.6**
PTAR3	**Potrerillos Ar**	**3.62**	**1**	*e*P	**Pn**	**06 01 59.3**	**-0.3**
PTAR3				*e*S	**Sn**	**06 02 39.2**	**-3.2**
BCO2	**Palmira**	**3.65**	**1**	*e*P	**Pn**	**06 01 58.9**	**-1.1**
BCO2				*e*S	**Sn**	**06 02 41.9**	**-1.1**
BRU2	**Volcan**	**3.72**	**358**	*i*P	**Pn**	**06 01 60.0**	**-1.0**
BRU2				*e*S	**Sn**	**06 02 45.4**	**+0.4**
MLIR3	**Monte Lirio, C**	**3.73**	**356**	*e*P	**Pn**	**06 02 00.9**	**-0.1**
EDSV	**San Vito**	**3.77**	**354**	*e*P	**Pn**	**06 02 00.8**	**-0.8**
EDPN	**Palmar Norte**	**3.98**	**347**	*e*P	**Pn**	**06 02 03.2**	**-1.3**
EDBA	**Buenos Aires**	**4.14**	**350**	*e*P	**Pn**	**06 02 06.0**	**-0.7**
DRK0	**Durika**	**4.24**	**351**	*e*P	**Pn**	**06 02 07.3**	**-0.8**
DRK0				*e*S	**Sn**	**06 02 55.9**	**-1.8**
EDLM	**Las Mercedes**	**4.32**	**347**	*e*P	**Pn**	**06 02 08.6**	**-0.6**
LCR2	**La Lucha 2**	**4.87**	**343**	*e*P	**Pn**	**06 02 15.9**	**-0.9**
UPA	**Univ. de Panam**	**4.94**	**38**	*e*P	**Pn**	**06 02 18.3**	**+0.7**
UPA				*e*S	**Sn**	**06 03 19.2**	**+4.5**
JACO	**JACO, Garabito**	**5.03**	**336**	*e*P	**Pn**	**06 02 17.0**	**-1.8**
CVTR	**Volcan Turrial**	**5.08**	**347**	*e*P	**Pn**	**06 02 19.8**	**-0.1**
HDC	**Heredia**	**5.15**	**343**	*i*P	**Pn**	**06 02 20.2**	**-0.5**
HDC				*e*S	**Sn**	**06 03 18.5**	**-1.7**
HDC	**Heredia**	**5.15**	**343**	*e*P	**Pn**	**06 02 19.8**	**-0.9**
HDC	**Heredia**	**5.15**	**343**		**Pn**	**06 02 20.5**	**-0.2**
HDC				Sn	**Sn**	**06 03 18.4**	**-1.7**
LAFE	**Finca La Fe, P**	**5.26**	**334**	*e*P	**Pn**	**06 02 20.6**	**-1.5**
GRZA	**Playa Garza**	**5.71**	**328**	*e*P	**Pn**	**06 02 26.4**	**-1.8**
JTS	**Las Juntas de**	**5.71**	**336**	*e*P	**Pn**	**06 02 27.6**	**-0.7**
JTS				*e*S	**Sn**	**06 03 31.8**	**-2.1**
JTS	**Las Juntas de**	**5.71**	**336**	*e*P	**Pn**	**06 02 27.2**	**-1.2**
JTS	**Las Juntas de**	**5.71**	**336**		**Pn**	**06 02 27.1**	**-1.2**
JTS				Sn	**Sn**	**06 03 31.8**	**-2.1**
DUNO	**Dulce Nombre,**	**5.77**	**330**	*e*P	**Pn**	**06 02 27.7**	**-1.4**
ARE1	**Arenal 1**	**5.78**	**339**	*e*P	**Pn**	**06 02 29.1**	**-0.1**
CEDE	**Laguna Cedeo**	**5.80**	**339**	*e*P	**Pn**	**06 02 29.7**	**+0.2**
COVE	**Coope Vega, Sa**	**5.92**	**342**	*e*P	**Pn**	**06 02 30.9**	**-0.2**
ORTG	**Ortega, Santa**	**6.00**	**332**	*e*P	**Pn**	**06 02 30.6**	**-1.7**
PAC1	**Pacto, Paraso**	**6.07**	**141**	*e*P	**Pn**	**06 02 34.2**	**+0.8**
PAC1				*e*S	**Sn**	**06 03 40.4**	**-2.6**
PAC1				*i*		06 03 44.8	
	comp=Z,46nm,1.0s						
BBAC	**Balboa, Cauca**	**6.11**	**119**	*e*P	**Pn**	**06 02 33.8**	**-0.1**
BBAC				*e*S	**Sn**	**06 03 38.0**	**-6.0**
BBAC				*i*		06 03 45.5	
	comp=Z,16nm,0.4s						
CUSE	**Cuicocha Este**	**6.30**	**138**	*e*P	**Pn**	**06 02 36.9**	**+0.2**
CUSE				*e*S	**Sn**	**06 03 44.5**	**-4.3**
GCUF	**Volcan Galeras**	**6.46**	**126**	*e*P	**Pn**	**06 02 41.0**	**+2.0**
GCUF				*e*S	**Sn**	**06 03 50.1**	**-2.9**
PCON	**Cinco Dias**	**6.74**	**113**	*e*P	Pn	06 02 46.3	+3.5
PCON				*e*S	**Sn**	**06 04 02.5**	**+2.6**
PCON				*i*		06 04 14.5	
	comp=Z,14nm,0.7s						
HELC	**Santa Helena**	**7.11**	**80**	*e*P	**Pn**	**06 02 49.9**	**+2.1**
HELC				*e*S	**Sn**	**06 04 12.4**	**+3.7**
HELC				*i*		06 04 16.7	
	comp=Z,2.4nm,0.7s						
GUY2C	**Guyana, Caldas**	**7.19**	**88**	*e*P	Pn	06 02 52.2	+3.3
GUY2C				*e*S	**Sn**	**06 04 10.9**	**+0.1**
GUY2C				*i*		06 04 18.0	
	comp=Z,5.8nm,0.9s						
ESPN	**Las Esperanzas**	**7.30**	**347**		**Pn**	**06 02 50.0**	**-0.1**
ACON	**Acoyapa**	**7.34**	**340**		**Pn**	**06 02 49.9**	**-0.7**
ORTC	**Ortega, Tolima**	**7.40**	**99**	*e*P	Pn	06 02 54.5	+3.0
ORTC				*e*S	**Sn**	**06 04 18.3**	**+2.9**
ORTC				*i*		06 04 29.8	
	comp=Z,16nm,0.7s						
ROSC	**El Rosal**	**8.23**	**91**	Pn	Pn	06 03 06.8	+3.5
MATN	**Matagalpa**	**8.50**	**337**		**Pn**	**06 03 06.8**	**+0.1**
SJCC	**San Jacinto, C**	**8.78**	**56**	*e*P	Pn	06 03 17.1	+6.7
CRIN	**San Cristobal**	**8.79**	**330**	Pn	**Pn**	**06 03 12.2**	**+1.6**
CSGN	**Cosiguina Volc**	**9.28**	**328**	Pn	**Pn**	**06 03 18.5**	**+1.1**
TGUH	**Tegucigalpa,Un**	**10.07**	**333**	Pn	**Pn**	**06 03 28.7**	**+0.4**
MTO3	**Montecristo**	**11.44**	**325**	Pn	**Pn**	**06 03 48.3**	**+1.2**
SDV	**Santo Domingo**	**12.45**	**72**	

PEL	**Peldehue**	**2.72**	**60**	*eP*		**Pn**	**06 08 06.8**	**+1.3**
PEL				*i* S		**Sn**	**06 08 38.7**	**+0.2**
PEL				IAML			06 08 41.0	
	comp=N,566nm,0.5s							
PEL	**Peldehue**	**2.72**	**60**	Pn		**Pn**	**06 08 06.8**	**+1.3**
BI02	**San Fabin de**	**2.80**	**140**	Pn		**Pn**	**06 08 06.7**	**+0.2**
BI02				Sn		**Sn**	**06 08 38.0**	**-2.4**
LMEL	**Las Melosas**	**2.81**	**77**	*eP*		**Pn**	**06 08 08.0**	**+1.1**
LMEL				*i* S		**Sn**	**06 08 41.1**	**+0.1**
LMEL				IAML			06 08 44.0	
	comp=N,695nm,0.1s							
LAJA	**Laja**	**2.82**	**167**	*eP*		**Pn**	**06 08 05.4**	**-1.4**
VA03	**San Esteban**	**3.02**	**55**	*eP*		**Pn**	**06 08 10.9**	**+1.2**
VA03				*eS*		**Sn**	**06 08 45.2**	**-0.8**
VA03	**San Esteban**	**3.02**	**55**	Pn		**Pn**	**06 08 10.9**	**+1.2**
VA03				Sn		**Sn**	**06 08 45.9**	**-0.2**
CO02	**Combarbal**	**3.93**	**33**	*eP*		**Pn**	**06 08 22.8**	**+0.6**
CO02	**Combarbal**	**3.93**	**33**			**Pn**	**06 08 22.8**	**+0.6**
CO03	**El Pedregal**	**4.38**	**34**	Pn		**Pn**	**06 08 29.6**	**+1.2**
CO03				Sn		**Sn**	**06 09 19.4**	**0.0**
VA04	**Juan Fernndez**	**4.51**	**280**	Pn		**Pn**	**06 08 30.7**	**+0.7**
GO04	**Tololo Observa**	**4.91**	**28**			**Pn**	**06 08 36.2**	**+0.4**
ZON	**Zonda**	**5.02**	**55**	Pn		**Pn**	**06 08 38.4**	**+1.2**
CO01	**Juntas del Tor**	**5.38**	**33**			**Pn**	**06 08 43.6**	**+1.4**
LCO	**Las Campanas**	**6.00**	**24**	Pn		**Pn**	**06 08 50.5**	**-0.2**
AC05	**El Transito**	**6.31**	**27**			**Pn**	**06 08 55.9**	**+1.1**
PLCA	**Paso Flores**	**6.62**	**160**	Pn		**Pn**	**06 08 60.0**	**+0.9**
AC04	**Llanos de Chal**	**6.64**	**19**			**Pn**	**06 08 58.5**	**-0.8**
LL01	**San Ignacio de**	**7.88**	**174**			**Pn**	**06 09 15.3**	**-1.0**
AC02	**Maricunga**	**8.54**	**27**	Pn		**Pn**	**06 09 25.1**	**-0.7**
AC01	**Pan de Azucar**	**8.72**	**17**	Pn		**Pn**	**06 09 26.3**	**-1.6**
PB14	**IPOC Station P**	**10.23**	**16**	Pn		**Pn**	**06 09 47.8**	**-1.0**
SNAA	**Sanae**	**51.55**	**158**	P		**P**	**06 16 29.2**	**+1.7**
QSPA	**South Pole Qui**	**55.71**	**180**	P		**P**	**06 17 00.0**	**+1.9**
QSPA				IAmb		IAmb	06 17 00.6	
	comp=Z,4.6nm,1.1s							

IDC 27 06:29:36.2±6.4, 4°40S×126°43E, h450km±88km, mb3.1/4, mb1 3.2/5, mb1mx2.9/47, mbtmp4.0/5, Error ellipse: s-maj=200.0km s-min=29.4km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.27**	**154**	P	P	06 33 09.6	-1.8
	0.8nm,0.3s,baz=333,slow=10.0,SNR=49						
ASAR	**Alice Springs**	**20.47**	**160**	P	P	06 33 42.0	+0.1
	1.8nm,0.4s,baz=334,slow=8.1,SNR=36						
STKA	**Stephens Creek**	**30.82**	**154**	P	P	06 35 14.4	+0.7
	0.9nm,0.3s,baz=330,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**64.13**	**328**	P	P	06 39 25.3	+0.2
	0.7nm,0.6s,baz=122,slow=8.0,SNR=6.7						
KURBB	**Kurchatov Arra**	**68.47**	**329**	P	P	06 39 52.1	+0.1
	0.4nm,0.6s,baz=108,slow=6.0,SNR=2.2						

*BJI **27** 06:36:15.1±0.0,35°.70N×140°.82E, h52km, mB4.8/26, mb4.7/45, Ms4.9/2, Ms7 4.7/2*
*MOS **27** 06:36:22.8±1.3,35°.86N×140°.14E, h69km, mb4.8/35, Error ellipse: s-maj=8.8km s-min=5.4km az=116.7*
*JMA **27** 06:36:24.5±0.1,35°.92N×140°.11E, h61km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs181.00000°, δ18.00000°, λ86.00000°. NP2: φs5.00000°, δ72.00000°, λ91.00000°. Principal axes: T Plg63.0000°, Azm277.0000°; N Plg1.0000°, Azm185.0000°; P Plg27.0000°, Azm94.0000°;*
JMA Felt III J1.
*NEIC **27** 06:36:24.6±2.1,35°.82N±0°.05×140°.11E±0°.07, h72km±5km, mb4.7/66 Error ellipse: s-maj=8.5km s-min=7.1km az=90.0*
*NIED **27** 06:36:24.6,35°.92N×140°.11E, h61km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr6.21; Mθθ1.16; Mφφ-7.37; Mrθ-0.52; Mrφ-1.85; Mθφ5.36; Fault plane solution: M₀8.86000×10¹⁵ NP1: φs360.00000°, δ64.00000°, λ77.00000°. NP2: φs207.00000°, δ28.00000°, λ114.00000°.*
*IDC **27** 06:36:25.2±1.2,35°.76N×140°.07E, h77km±10km, mb4.1/26, mb1 4.2/30, mb1mx4.1/61, mbtmp4.4/30, MS3.3/18, Ms1 3.3/18, ms1mx3.2/40 Error ellipse: s-maj=13.7km s-min=6.9km az=69.0*

ISC 27 06:36:23.8±0.7, 35°.87N±0°.04×140°.16E±0°.05, h63km±5km, n240, σ1°.23/242, mb4.6/79, 11C-20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.31**	**71**	⇑P	**Pn**	**06 36 35.5**	**+1.2**
JSMT	**Sammumatsuo**	**0.32**	**133**	⇑P	**Pn**	**06 36 36.2**	**+1.8**
JYT	**Yasato**	**0.36**	**5**	⇑P	**Pn**	**06 36 35.0**	**+0.3**
JYT				S	**Sn**	**06 36 42.9**	**+0.3**
JYT	**Yasato**	**0.36**	**5**		**Pn**	**06 36 35.0**	**+0.3**
JAG	**Ashikaga**	**0.80**	**315**	⇓P	**Pn**	**06 36 39.7**	**+0.3**
JAG				S	**Sn**	**06 36 50.9**	**0.0**
JRY	**Ryogami san**	**1.03**	**279**	⇓P	**Pn**	**06 36 43.0**	**+0.6**
JRY				S	**Sn**	**06 36 57.0**	**+0.8**
JOD2	**Odawara 2**	**1.06**	**236**	⇓P	**Pn**	**06 36 43.1**	**+0.3**
JOD2				S	**Sn**	**06 36 56.6**	**-0.2**
BSO3	**Boso 3**	**1.10**	**165**	P	**Pn**	**06 36 43.8**	**+0.8**
JKT	**Katashina**	**1.16**	**321**	⇓P	**Pn**	**06 36 44.2**	**+0.1**
JKT				*eS*	**Sn**	**06 36 59.4**	**+0.1**
JIM2	**Oshima 3**	**1.29**	**208**	P	**Pn**	**06 36 45.8**	**0.0**
JIM2				*eS*	**Sn**	**06 37 02.1**	**-0.2**
JYN	**Shimob**	**1.36**	**255**	⇓P	**Pn**	**06 36 47.5**	**+0.7**
JYN				S	**Sn**	**06 37 04.4**	**+0.3**
JFNN	**Fujinakano**	**1.38**	**241**	⇓P	**Pn**	**06 36 47.5**	**+0.6**
BSO1	**Boso 1**	**1.38**	**151**	P	**Pn**	**06 36 47.6**	**+1.1**
MJAR	**Matsushiro Arr**	**1.71**	**294**	P	**Pn**	**06 36 51.9**	**+0.4**
	34nm,0.3s,baz=98,slow=11,SNR=1549						
MJAR				S	**Sn**	**06 37 13.9**	**+1.5**
	16nm,0.3s,baz=137,slow=13,SNR=3.9						
MJAR				LR	LR	06 37 42.8	
	comp=Z,943nm,20.3s,baz=135,slow=47						
MJAR	**Matsushiro Arr**	**1.71**	**294**	Pn	**Pn**	**06 36 50.7**	**-0.7**
MAJO	**Matsushiro**	**1.72**	**294**	*d* P	**Pn**	**06 36 52.4**	**+0.9**
MAJO	**Matsushiro**	**1.72**	**294**	Pn	**Pn**	**06 36 52.6**	**+1.1**
MAT	**Matsushiro**	**1.72**	**294**	P	**Pn**	**06 36 52.3**	**+0.8**
MAT				*eS*	**Sn**	**06 37 13.1**	**+0.6**
MJB9	**Matsu-Tunnel**	**1.72**	**294**	Pn	**Pn**	**06 36 52.6**	**+1.0**
JSG	**Sagara**	**2.00**	**234**	Pn	**Pn**	**06 36 57.4**	**+2.1**
JMM	**Marumori**	**2.06**	**14**		**Pn**	**06 36 57.3**	**+1.2**
JGF	**Kuroka**	**2.29**	**264**	Pn	**Pn**	**06 37 00.6**	**+1.2**
INU	**Inuyama**	**2.61**	**260**		**Pn**	**06 37 04.5**	**+0.9**
JSD	**Sado**	**2.65**	**325**	Pn	**Pn**	**06 37 04.8**	**+0.7**
JHJ	**Hachijo jima 2**	**2.76**	**187**	P	**Pn**	**06 37 05.8**	**+0.2**
	155nm,0.3s,baz=32,slow=2.9,SNR=47						
JHJ				S	**Sn**	**06 37 36.7**	**-1.1**
	198nm,0.3s,baz=9.0,slow=21,SNR=8.5						
JHJ				LR	LR	06 37 46.1	
	comp=Z,142nm,21.5s,baz=36,slow=31						
JHJ2	**Mitsune**	**2.76**	**186**	Pn	**Pn**	**06 37 06.5**	**+0.8**
JWT	**Wachi**	**3.92**	**263**	Pn	**Pn**	**06 37 22.8**	**+1.3**
JTM	**Tenmabayashi**	**4.96**	**8**	Pn	**Pn**	**06 37 37.7**	**+1.9**
JMN	**Monobe**	**5.59**	**249**		**Pn**	**06 37 45.5**	**+1.2**
JHS	**Saijyo**	**5.81**	**263**	Pn	**Pn**	**06 37 49.3**	**+1.9**
ERM	**Erimo**	**6.57**	**20**	⇑*eP*	**Pn**	**06 37 58.6**	**+0.9**
JNU	**Nakatsue**	**8.13**	**253**	P	**Pn**	**06 38 20.0**	**+0.7**
	1.3nm,0.3s,baz=42,slow=7.3,SNR=6.7						
JNU				LR	LR	06 41 40.6	
	comp=Z,427nm,21.5s,baz=62,slow=39						
JNU	**Nakatsue**	**8.13**	**253**		**Pn**	**06 38 20.7**	**+1.4**
ASAJ	**Asahikawa**	**8.45**	**12**	P	**Pn**	**06 38 22.1**	**-1.3**
	3.6nm,0.3s,baz=223,slow=12,SNR=8.9						
ASAJ				S	**Sn**	**06 39 52.1**	**-5.2**
	2.8nm,0.3s,baz=66,slow=20,SNR=2.7						
JKA	**Kamikawa-asahi**	**8.45**	**12**	Pn	**Pn**	**06 38 22.1**	**-1.4**
NMR	**Nemuro--Hokkai**	**8.64**	**28**	*eP*	**Pn**	**06 38 22.9**	**-3.0**
JCJ	**Chichijima**	**8.91**	**168**		**Pn**	**06 38 27.4**	**-2.5**
JSU	**Suzuyama**	**9.18**	**244**	Pn	**Pn**	**06 38 34.7**	**+1.2**
GRPR	**Tuman**	**9.19**	**26**	*eP*	**Pn**	**06 38 30.4**	**-3.1**
KSRS	**Korea Array**	**9.96**	**283**	P	**Pn**	**06 38 47.0**	**+2.9**
	0.9nm,0.3s,baz=97,slow=14,SNR=26						
KSRS				LR	LR	06 42 28.3	
	comp=Z,285nm,20.5s,baz=124,slow=36						
KSAR	**Wonju Array Be**	**9.99**	**283**	P	**Pn**	**06 38 47.1**	**+2.6**
KSAR	**Wonju Array Be**	**9.99**	**283**		**Pn**	**06 38 47.1**	**+2.6**
USA0B	**Ussuriysk Arra**	**10.41**	**326**	P	**Pn**	**06 38 53.0**	**+2.8**
USA0B	**Ussuriysk Arra**	**10.41**	**326**		**Pn**	**06 38 53.0**	**+2.8**
USRK	**Ussuriysk Ar.**	**10.41**	**326**	P	**Pn**	**06 38 52.6**	**+2.4**
	baz=136,slow=12,SNR=16						
USRK				LR	LR	06 42 33.4	
	comp=Z,112nm,18.6s,baz=137,slow=35						
USRK	**Ussuriysk Ar.**	**10.41**	**326**	P	**Pn**	**06 38 52.7**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.41**	**326**	Pn	**Pn**	**06 38 52.7**	**+2.5**
MDJ	**Mudanjiang**	**11.89**	**321**	P	**Pn**	**06 39 11.0**	**+0.6**
MDJ				sP		06 39 30.5	
MDJ				pmax	pmax		
	comp=Z,12nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.9s						
KLR	**Kul'dur**	**14.71**	**338**	P	**Pn**	**06 39 46.9**	**-1.3**
	0.4nm,0.3s,baz=136,slow=11,SNR=5.9						
KLR				LR	LR	06 44 44.8	
	comp=Z,139nm,21.5s,baz=34,slow=34						
KLR	**Kul'dur**	**14.71**	**338**	⇑*eP*	**Pn**	**06 39 47.8**	**-0.4**
DL2	**Dalian**	**15.04**	**287**	P	**P**	**06 39 55.8**	**-0.8**
DL2				pmax	pmax		
	comp=Z,81nm,1.1s						
NJ2	**Nanjing**	**18.07**	**264**	*eP*	**P**	**06 40 30.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
BJI	**Beijing**	**19.35**	**290**	P	**P**	**06 40 43.0**	**-1.1**
BJI				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	**Baijiatuau**	**19.35**	**290**	P	**P**	**06 40 43.4**	**-0.8**
BJT				pmax	pmax		
	comp=Z,14nm,1.0s						
BJT	**Baijiatuau**	**19.35**	**290**	P	**P**	**06 40 43.4**	**-0.8**
ZEA	**Zeya**	**20.02**	**337**	*eP*	**P**	**06 40 50.0**	**-1.3**
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				pmax	pmax		
	comp=E,41nm,0.8s						
PETK	**Petropavlovsk-**	**21.20**	**30**	LR	LR	06 49 21.7	
	comp=E,44nm,19.2s,baz=220,slow=36						
WHN	**Wuhan**	**22.21**	**264**	P	**P**	**06 41 15.0**	**0.0**
WHN				pmax	pmax		
	comp=E,42nm,0.7s						
WHN				LR	LR		
	comp=E,310nm,7.6s						
WHN				LR	LR		
	comp=E,450nm,7.9s						
WHN				LR	LR		
	comp=E,700nm,10.9s						
GUMO	**Guam**	**22.58**	**168**	LR	LR	06 47 40.2	
	comp=E,27nm,21.7s,baz=339,slow=30						
HHC	**Hu-ho-hao-te**	**22.92**	**291**	*eP*	**P**	**06 41 23.3**	**+0.8**
HHC				pmax	pmax		
	comp=E,15nm,1.0s						
HHC				pmax	pmax		
	comp=E,120nm,5.3s						
MA2	**Magadan**	**24.71**	**13**	⇓*eP*	**P**	**06 41 40.2**	**+1.4**
XAN	**Xi'an**	**25.62**	**275**	P	**P**	**06 41 46.0**	**-1.4**
XAN				pP	pP	06 41 55.8	-6.7
XAN				pmax	pmax		
	comp=E,14nm,0.7s						
XAN	**Xi'an**	**25.62**	**275**	P	**P**	**06 41 46.2**	**-1.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN	**Xi'an**	**25.62**	**275**	P	**P**	**06 41 46.2**	**-1.1**
ENH	**Enshi**	**26.24**	**267**	P	**P**	**06 41 51.8**	**-1.2**
YAK	**Yakutsk**	**27.00**	**349**	LR	LR	06 52 27.2	
	comp=Z,62nm,20.0s,baz=130,slow=36						
YAK	**Yakutsk**	**27.00**	**349**	⇓*eP*	**P**	**06 42 01.0**	**+1.5**
YAK				pmax	pmax		
	comp=Z,12nm,0.5s						
ULN	**Ulaanbaatar**	**27.20**	**306**	⇓*eP*	**P**	**06 42 00.6**	**-1.1**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
SONM	**Songino Array**	**27.63**	**306**	P	**P**	**06 42 04.6**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=104,slow=7.0,SNR=8.7						
SONM	**Songino Array**	**27.63**	**306**	P	**P**	**06 42 07.0**	**+1.6**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**27.63**	**306**	P	**P**	**06 42 07.0**	**+1.6**
BOD	**Bodaibo**	**28.00**	**330**	*eP*	**P**	**06 42 07.8**	**-0.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SEY	**Seymchan**	**28.13**	**12**	P	**P**	**06 42 10.3**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=360,slow=20,SNR=4.7						
SEY	**Seymchan**	**28.13**	**12**	⇓*eP*	**P**	**06 42 11.0**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**28.47**	**117**	T	T	07 12 14.8	
	baz=312,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.48**	**117**	T	T	07 12 16.3	
	baz=312,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.48**	**117**	T	T	07 12 13.4	
	baz=312,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**29.12**	**119**	T	T	07 13 20.5	
	baz=314,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.12**	**119**	T	T	07 13 20.4	
	baz=314,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**29.14**	**119**	T	T	07 13 22.4	
	baz=314,slow=76,SNR=34						
LZH	**Lanzhou**	**29.28**	**281**	*eP*	**P**	**06 42 21.0**	**+0.7**
LZH				pP	pP	06 42 38.3	+2.6
LZH				pmax	pmax		
	comp=Z,16nm,0.6s						
GYA	**Guiyang**	**30.04**	**261**	⇓P	**P**	**06 42 25.3**	**-1.7**
GYA				pmax	pmax		
	comp=Z,18nm,1.0s						
GTA	**Gaotai**	**31.96**	**289**	*eP*	**P**	**06 42 44.0**	**+0.2**
GTA				pP	pP	06 42 57.3	-1.9
GTA				sP	sP	06 43 05.0	-1.6
GTA				PcP	**PcP**	**06 45 33.5**	**+0.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,84nm,7.3s						
BILL	**Bilibino**	**35.43**	**17**	*eP*	**P**	**06 43 17.5**	**+4.0**
BILL				*e*		06 44 34.9	
BILL				*e*		06 45 42.3	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TIXI	**Tiksi**	**36.33**	**354**	⇑*eP*	**P**	**06 43 20.3**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s						
UBPT	**Khong Chiam**	**37.12**	**246**	P	**P**	**06 43 28.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**40.22**	**256**	P	**P**	**06 43 53.9**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=44,slow=6.1,SNR=5.0						
CMAR				PcP	**PcP**	**06 45 57.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=0.0,slow=1.8,SNR=5.6						
CMAR				LR	LR	07 02 03.5	
	comp=Z,36nm,19.2s,baz=98,slow=38						
CMAR	**Chiang Mai Arr**	**40.22**	**256**	*i* P	**P**	**06 43 55.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DGZ	**Jazzator, Alta**	**40.27**	**307**	⇓*i* P	**P**	**06 43 54.8**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ	**Urumqi**	**40.48**	**298**	*eP*	**P**	**06 43 57.8**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,160nm,6.9s						
WMQ	**Urumqi**	**40.48**	**298**	P	**P**	**06 43 53.7**	**-2.7**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ	**Urumqi**	**40.48**	**298**	P	**P**	**06 43 53.7**	**-2.7**
WMQ				IAmb	IAmb	06 43 59.7	
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**41.31**	**276**	P	**P**	**06 44 03.6**	**-0.3**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LSA	**Lhasa**	**41.31**	**276**	P	**P**	**06 44 03.5**	**-0.3**
LSA				IAmb	IAmb	06 44 06.0	
	comp=Z,9.9nm,0.9s						
ZAA0	**Zalesovo Array**	**41.97**	**313**	P	**P**	**06 44 08.0**	**-0.4**
ZAA0				IAmb	IAmb	06 44 08.8	
	comp=Z,8.3nm,0.9s						
ZALV	**Zalesovo Beam**	**41.97**	**313**	P	**P**	**06 44 08.4**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=89,slow=6.6,SNR=12						
ZALV				PcP	**PcP**	**06 46 01.7**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=122,slow=3.2,SNR=4.7						
ZALV				LR	LR	07 01 24.0	
	comp=Z,36nm,21.0s,baz=133,slow=36						
ZALV	**Zalesovo Beam**	**41.97**	**313**	P	**P**	**06 44 07.6**	**-0.7**
ZALV				PP	**PcP**	**06 46 01.6**	**-0.9**
MK31	**Makanchi Array**	**43.89**	**303**	*ce* P	**P**	**06 44 23.7**	**-0.3**
MK31	**Makanchi Array**	**43.89**	**303**	P	**P**	**06 44 23.2**	**-0.9**
MK31				IAmb	IAmb	06 44 24.9	
	comp=Z,8.2nm,0.8s						
MKAR	**Makanchi Array**	**43.89**	**303**	P	**P**	**06 44 24.0**	**0.0**
	comp=Z,7.3nm,0.8s,baz=93,slow=10.0,SNR=34						
MKAR				PP	**PP**	**06 46 08.1**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=81,slow=7.2,SNR=3.1						
MKAR				LR	LR	07 03 37.2	
	comp=Z,49nm,18.2s,baz=76,slow=37						
MKAR	**Makanchi Array**	**43.89**	**303**	*i* P	**P**	**06 44 24.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**43.89**	**303**	P	**P**	**06 44 23.6**	**-0.4**
NRIK	**Noril'sk**	**43.91**	**336**	⇓*eP*	**P**	**06 44 23.7**	**-0.1**
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSM	**Kuching**	**44.02**	**226**	P	**P**	**06 44 22.9**	**-2.4**
KSM				IAmb	IAmb	06 44 30.0	
	comp=Z,8.1nm,0.5s						
MAKZ	**Makanchi**	**44.10**	**303**	P	**P**	**06 44 24.6**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAKZ	**Makanchi**	**44.10**	**303**	P	**P**	**06 44 24.6**	**-1.1**
MAKZ				IAmb	IAmb	06 44 26.7	
	comp=Z,10nm,0.9s						
KURK	**Kurchatov**	**45.87**	**309**	*ce* P	**P**	**06 44 38.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,28nm,1.3s						
KURK	**Kurchatov**	**45.87**	**309**	P	**P**	**06 44 39.0**	**-0.7**
KDAK	**Kodiak Island**	**48.64**	**41**	P	**P**	**06 45 02.2**	**+1.1**
KDAK				pmax	pmax		
	comp=Z,27nm,1.5s						
KDAK	**Kodiak Island**	**48.64**	**41**	P	**P**	**06 45 02.2**	**+1.1**
MTN	**Manton Dam**	**49.19**	**192**	P	**P**	**06 45 05.2**	**-0.5**
SUA	**Susitna One**	**49.40**	**36**	P	**P**	**06 45 07.1**	**+0.1**
SUA				IAmb	IAmb	06 45 08.1	
	comp=Z,13nm,1.4s						
TRF	**Thorofare Moun**	**49.56**	**34**	P	**P**	**06 45 07.6**	**-0.6**
COLD	**Coldfoot**	**49.66**	**29**	P	**P**	**06 45 10.6**	**+1.8**
BWN	**Browne**	**49.92**	**33**	P	**P**	**06 45 13.3**	**+2.6**
O22K	**Cooper Landing**	**49.94**	**37**	P	**P**	**06 45 12.5**	**+1.6**
AAK	**Ala-Archa**	**50.16**	**299**	⇓*eP*	**P**	**06 45 13.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,76nm,2.5s						
PMR	**Palmer**	**50.16**	**36**	P	**P**	**06 45 14.0**	**+1.4**
PMR				pmax	pmax		
	comp=Z,11nm,1.3s						
PMR	**Palmer**	**50.16**	**36**	P	**P**	**06 45 14.0**	**+1.4**
PMR				IAmb	IAmb	06 45 29.3	
	comp=Z,11nm,1.3s						
RND	**Reindeer**	**50.21**	**34**	P	**P**	**06 45 10.8**	**-2.3**
RND				pmax	pmax		
	comp=Z,5.0nm,1.0s						
RND	**Reindeer**	**50.21**	**34**	P	**P**	**06 45 10.8**	**-2.3**
GHO	**Glory Hole Cre**	**50.25**	**36**	P	**P**	**06 45 13.5**	**+0.1**
GHO				IAmb	IAmb	06 45 40.0	
	comp=Z,9.2nm,1.0s						
MDM	**Murphy Dome**	**50.44**	**32**	P	**P**	**06 45 16.5**	**+1.8**
MDM				IAmb	IAmb	06 45 17.2	
	comp=Z,11nm,0.8s						
COLA	**College**	**50.60**	**32**	⇓*eP*	**P**	**06 45 17.4**	**+1.6**
COLA				pmax	pmax		
	comp=Z,17nm,2.1s						
BRVK	**Borovoye**	**50.67**	**313**	⇓*eP*	**P**	**06 45 18.8**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**50.67**	**313**	P	**P**	**06 45 15.4**	**-1.2**
BRVK				IAmb	IAmb	06 45 20.1	
	comp=Z,15nm,1.5s						
POKR	**Poker Plat Res**	**50.77**	**31**	P	**P**	**06 45 17.8**	**+0.6**
POKR				IAmb	IAmb	06 45 20.4	
	comp=Z,15nm,0.9s						
HDA	**Harding Lake**	**51.01**	**32**	P	**P**	**06 45 18.5**	**-0.5**
HDA				IAmb	IAmb	06 45 20.3	
	comp=Z,5.9nm,0.9s						
IL31		**51.02**	**32**	P	**P**	**06 45 19.5**	**+0.5**
IL31				IAmb	IAmb	06 45 22.3	
	comp=Z,5.5nm,0.9s						
ILAR	**Eielson Array**	**51.02**	**32**	P	**P**	**06 45 19.2**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=272,slow=6.3,SNR=40						
ILAR	**Eielson Array**	**51.02**	**32**	P	**P**	**06 45 19.1**	**+0.1**
KLU	**Klutina**	**51.70**	**36**	P	**P**	**06 45 26.0**	**+1.7**
KLU				IAmb	IAmb	06 46 03.9	
	comp=Z,7.5nm,1.3s						
EYAK	**Cordova Ski Ar**	**51.89**	**37**	P	**P**	**06 45 25.2**	**-0.3**
EYAK				IAmb	IAmb	06 45 37.3	
	comp=Z,20nm,1.3s						
GSI	**Gunungsitoli**	**52.33**	**239**	P	**P**	**06 45 26.7**	**-2.8**
DOT	**Dot Lake**	**52.33**	**33**	P	**P**	**06 45 29.2**	**+0.3**
DOT				IAmb	IAmb	06 45 47.4	
	comp=Z,8.2nm,1.4s						
KNRA	**Kununurra**	**52.38**	**194**	P	**P**	**06 45 28.8**	**-0.9**
KK31	**Karatay Array**	**52.84**	**300**	P	**P**	**06 45 33.5**	**+0.6**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KK31	**Karatay Array**	**52.84**	**300**	P	**P**	**06 45 33.5**	**+0.6**
KK31				IAmb	IAmb	06 45 35.4	
	comp=Z,6.9nm,0.9s						
KKAR	**Karatay Array**	**52.84**	**300**	P	**P**	**06 45 32.5**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	**Karatay

EUNU	**Eureka**	**61.49**	**8**	P		**P**	**06 46 33.9**	**+0.5**
EUNU				IAmb		IAmb	06 46 34.5	
	comp=Z,4.8nm,0.8s							
DZM	**Mont Dzumac**	**62.77**	**152**	*e*LR		LR	07 05 21.7	
	comp=Z,92nm,23.9s							
GEYT	**Alibeck**	**63.51**	**299**	P		**P**	**06 46 48.1**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=20,slow=4.7,SNR=7.6							
GEYT	**Alibeck**	**63.51**	**299**	P		**P**	**06 46 47.5**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**63.51**	**299**	P		**P**	**06 46 48.0**	**+0.4**
GYA0B				IAmb		IAmb	06 46 55.5	
	comp=Z,4.5nm,0.8s							
RES	**Resolute Bay**	**63.98**	**14**	P		**P**	**06 46 50.5**	**+0.6**
RES				pmax		pmax		
	comp=Z,9.0nm,1.4s							
RES	**Resolute Bay**	**63.98**	**14**	P		**P**	**06 46 50.5**	**+0.6**
RES				IAmb		IAmb	06 47 26.9	
	comp=Z,9.3nm,1.4s							
ARCES	**ARCESS Array B**	**64.73**	**339**	P		**P**	**06 46 55.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=58,slow=4.6,SNR=4.6							
DAG	**Danmarks Havn**	**66.84**	**355**	*i* P		**P**	**06 47 07.6**	**-0.8**
DAG				pmax		pmax		
	comp=Z,9.0nm,1.1s							
DAG	**Danmarks Havn**	**66.84**	**355**	*i* P		**P**	**06 47 07.6**	**-0.8**
	comp=Z,8.8nm,1.1s							
DAG	**Danmarks Havn**	**66.84**	**355**	*i* P		**P**	**06 47 07.6**	**-0.8**
DAG				IAmb		IAmb	06 47 09.7	
	comp=Z,8.8nm,1.1s							
FORT	**Forrest**	**67.26**	**191**	P		**P**	**06 47 14.0**	**+2.4**
STKA	**Stephens Creek**	**67.40**	**179**	P		**P**	**06 47 11.1**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=355,slow=12,SNR=4.2							
STKA				LR		LR	07 18 26.4	
	comp=Z,18nm,18.1s,baz=22,slow=38							
STKA	**Stephens Creek**	**67.40**	**179**	P		**P**	**06 47 12.9**	**+0.5**
STKA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
STKA	**Stephens Creek**	**67.40**	**179**	P		**P**	**06 47 12.9**	**+0.5**
PGC	**Sidney**	**67.87**	**45**	P		**P**	**06 47 16.3**	**+0.9**
OBN	**Obninsk**	**68.42**	**323**	*e*P		**P**	**06 47 16.9**	**-1.8**
OBN				*e*			06 47 42.0	
OBN				*e*			06 49 49.3	
OBN				*e*PPP		PPP	06 51 32.0	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
FINES	**FINESS Array B**	**69.37**	**332**	P		**P**	**06 47 24.2**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=72,slow=6.2,SNR=9.7							
KBZ	**Khabaz**	**70.89**	**310**	P		**P**	**06 47 33.8**	**-0.3**
	comp=Z,8.3nm,0.9s,baz=44,slow=5.8,SNR=10							
KBZ	**Khabaz**	**70.89**	**310**	⇓*e*P		**P**	**06 47 34.6**	**+0.5**
KIV	**Kislovodsk**	**70.90**	**311**	*e*P		**P**	**06 47 35.2**	**+0.9**
KIV				pmax		pmax		
	comp=Z,57nm,1.1s							
KIV				MLR		MLR		
	comp=Z,158nm,18.0s							
KIV	**Kislovodsk**	**70.90**	**311**	P		**P**	**06 47 34.4**	**+0.1**
KIV				IAmb		IAmb	06 47 36.1	
	comp=Z,14nm,0.8s							
VSU	**Vasula**	**70.94**	**329**	*ce*P		**P**	**06 47 33.8**	**-0.3**
SUMG	**Summit**	**71.85**	**360**	P		**P**	**06 47 40.7**	**+0.9**
SUMG				pmax		pmax		
	comp=Z,5.0nm,1.0s							
SUMG	**Summit**	**71.85**	**360**	P		**P**	**06 47 40.7**	**+0.9**
SUMG	**Summit**	**71.85**	**360**	*i* P		**P**	**06 47 40.0**	**+0.1**
	comp=Z,14nm,0.7s							
SUMG	**Summit**	**71.85**	**360**	*i* P		**P**	**06 47 40.0**	**+0.1**
SUMG				IAmb		IAmb	06 47 42.3	
	comp=Z,14nm,0.7s							
AKASG	**Malin Array Be**	**74.60**	**322**	P		**P**	**06 47 55.6**	**-0.3**
	comp=Z,7.7nm,0.7s,baz=48,slow=6.0,SNR=20							
AKASG				LR		LR	07 25 21.4	
	comp=Z,30nm,18.3s,baz=330,slow=39							
NOA	**NORSAR Array B**	**74.87**	**337**	P		**P**	**06 47 57.0**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=40,slow=5.8,SNR=7.8							
NOA				LR		LR	07 23 57.2	
	comp=Z,31nm,18.6s,baz=355,slow=38							
ICESG	**Greenland Ices**	**75.36**	**360**	*i* P		**P**	**06 48 00.3**	**-0.1**
ICESG				IAmb		IAmb	06 48 02.8	
	comp=Z,8.2nm,0.8s							
DLMT	**Dillon**	**75.88**	**44**	P		**P**	**06 48 03.4**	**-0.2**
NVAR	**Mina Array Bea**	**76.50**	**52**	P		**P**	**06 48 08.8**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=282,slow=6.0,SNR=7.6							
ELK	**Elko**	**77.08**	**49**	P		**P**	**06 48 11.8**	**+1.2**
ELK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ELK	**Elko**	**77.08**	**49**	P		**P**	**06 48 11.8**	**+1.2**
BUR08	**Bucovina Ar. S**	**78.58**	**321**	P		**P**	**06 48 19.2**	**+0.6**
BURAR	**Bucovina Array**	**78.59**	**321**	P		**P**	**06 48 19.1**	**+0.3**
BRTR	**Keskin Array B**	**78.86**	**311**	P		**P**	**06 48 20.5**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=54,slow=3.2,SNR=6.3							
BRTR	**Keskin Array B**	**78.86**	**311**	*i* P		**P**	**06 48 21.1**	**+0.7**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KOLS	**Kolonicke sedl**	**79.17**	**324**	*e*P		**P**	**06 48 20.2**	**-1.5**
KOLS	**Kolonicke sedl**	**79.17**	**324**	*e*P		**P**	**06 48 20.2**	**-1.5**
PD31	**Pinedale Array**	**79.20**	**45**	P		**P**	**06 48 22.1**	**-0.2**
PDAR	**Pinedale Array**	**79.20**	**45**	P		**P**	**06 48 22.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=258,slow=2.3,SNR=10							
PDAR	**Pinedale Array**	**79.20**	**45**	P		**P**	**06 48 21.1**	**-1.2**
MORC	**Moravsky Berou**	**80.78**	**326**	P		**P**	**06 48 30.6**	**+0.2**
MORC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MORC	**Moravsky Berou**	**80.78**	**326**	P		**P**	**06 48 30.6**	**+0.2**
MORC				IAmb		IAmb	06 48 31.6	
	comp=Z,5.9nm,0.9s							
SRU	**San Rafael Swe**	**80.94**	**48**	P		**P**	**06 48 33.2**	**+1.5**
SRU				pmax		pmax		
	comp=Z,3.0nm,0.7s							
SRU	**San Rafael Swe**	**80.94**	**48**	P		**P**	**06 48 33.2**	**+1.5**
VYHS	**Vyhne**	**81.10**	**325**	*e*P		**P**	**06 48 32.7**	**+0.6**
VYHS	**Vyhne**	**81.10**	**325**	*e*P		**P**	**06 48 32.7**	**+0.6**
CLL	**Collm**	**81.60**	**330**	*i* P		**P**	**06 48 34.3**	**-0.4**
	comp=Z,9.0nm,1.0s							
CLL	**Collm**	**81.60**	**330**	*i* P		**P**	**06 48 34.3**	**-0.4**
CLL				pmax		pmax		
	comp=Z,9.0nm,1.0s							
WUAZ	**Wupatki**	**82.68**	**51**	P		**P**	**06 48 42.0**	**+1.1**
GERES	**GERESS Array B**	**83.16**	**328**	P		**P**	**06 48 42.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=36,slow=5.3,SNR=5.6							
DIVS	**Divibare**	**83.66**	**321**	P		**P**	**06 48 45.0**	**-0.6**
DIVS				IAmb		IAmb	06 48 46.5	
	comp=Z,13nm,1.1s							
PMOR	**Pomariorio Ree**	**84.65**	**113**	*e*T		T	08 20 54.4	
	comp=Z,2.1nm,0.2s							
PPT	**Papeete**	**85.03**	**116**	LR		LR	07 17 54.1	
	comp=Z,45nm,21.3s,baz=335,slow=29							
PPT2	**Papeete2**	**85.04**	**116**	*e*LR		LR	07 15 15.0	
	comp=Z,148nm,32.0s							
ANMO	**Albuquerque**	**86.11**	**49**	⇓*e*P		**P**	**06 49 00.2**	**+1.9**
ANMO				pmax		pmax		
	comp=Z,6.0nm,2.5s							
ANMO	**Albuquerque**	**86.11**	**49**	P		**P**	**06 48 58.2**	**-0.1**
TAOE	**Nuku Hiva Isla**	**86.88**	**103**	*e*LR		LR	07 16 06.2	
	comp=Z,105nm,29.9s							
TBI	**Tubuai**	**88.81**	**120**	*e*LR		LR	07 16 59.5	
	comp=Z,82nm,30.5s							
LPIG	**La Paz**	**90.65**	**59**	LR		LR	07 24 08.1	
	comp=Z,17nm,19.4s,baz=178,slow=32							
TXAR	**Lajitas Array**	**91.64**	**52**	P		**P**	**06 49 25.3**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=289,slow=3.3,SNR=11							
TXAR	**Lajitas Array**	**91.64**	**52**	P		**P**	**06 49 25.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**117.42**	**313**	PKP		**PKPdf**	**06 55 02.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=55,slow=1.7,SNR=7.8							
LBTB	**Lobatse**	**123.48**	**262**	PKP		**PKiKP**	**06 55 14.3**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=346,slow=4.2,SNR=3.7							
QSPA	**South Pole Qui**	**125.61**	**180**	PKP		**PKPdf**	**06 55 17.0**	**0.0**
	comp=Z,4.2nm,1.0s,baz=294,slow=1.8,SNR=12							
QSPA	**South Pole Qui**	**125.61**	**180**			**PKPdf**	**06 55 16.6**	**-0.4**
DBIC	**Dimbokro**	**126.42**	**315**	PKP		**PKPdf**	**06 55 19.4**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=166,slow=9.1,SNR=4.8							
LPAZ	**La Paz**	**148.16**	**60**	PKPbc		**PKPbc**	**06 56 04.3**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=18,slow=7.8,SNR=11							
LPAZ	**La Paz**	**148.16**	**60**			**PKPbc**	**06 56 04.2**	**+0.4**

IDC 27 06:37:20.8±1.8,2°34N×128°57E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/47,mbtmp3.8/5,Error ellipse: s-maj=93.7km s-min=24.2km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.51**	**188**	P	P	06 42 01.4	+0.8
	1.8nm,0.9s,baz=30,slow=8.1,SNR=2.3						
WRA	**Warramunga Arr**	**22.85**	**166**	P	P	06 42 26.8	+0.9
	0.9nm,0.3s,baz=345,slow=11,SNR=28						
ASAR	**Alice Springs**	**26.36**	**169**	P	P	06 42 58.3	-0.6
	0.4nm,0.8s,baz=354,slow=8.4,SNR=4.8						
STKA	**Stephens Creek**	**36.20**	**161**	P	P	06 44 24.3	-1.1
	1.6nm,0.3s,baz=329,slow=7.2,SNR=9.4						
MKAR	**Makanchi Array**	**59.74**	**325**	P	P	06 47 27.9	+0.4
	0.5nm,0.4s,baz=115,slow=8.4,SNR=5.0						

IDC 27 06:41:28.4±3.8,37°32S×52°06E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.5/38,mbtmp3.7/3,MS3.2/4,Ms1 3.2/4, ms1mx2.9/31,Error ellipse: s-maj=123.5km s-min=60.6km az=54.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**25.66**	**291**	LR	LR	06 56 02.5	
	comp=Z,61nm,19.1s,baz=150,slow=34						
SUR	**Sutherland**	**26.04**	**272**	LR	LR	06 55 29.5	
	comp=Z,35nm,18.9s,baz=206,slow=32						
MATP	**Matopo**	**26.51**	**303**	LR	LR	06 56 15.2	
	comp=Z,41nm,20.3s,baz=158,slow=34						
H01W2	**Cape Leeuwin H**	**49.41**	**107**	T	T	07 42 13.2	
	baz=250,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**49.41**	**107**	T	T	07 42 14.4	
	baz=250,slow=75,SNR=8.1						
H01W1	**Cape Leeuwin H**	**49.42**	**107**	T	T	07 42 14.5	
	baz=250,slow=75,SNR=13						
TORD	**Torodi Ar. Bea**	**68.96**	**307**	LR	LR	07 21 23.7	
	comp=Z,31nm,18.8s,baz=355,slow=35						
ASAR	**Alice Springs**	**69.84**	**105**	P		06 52 41.5	+0.4
	0.4nm,0.6s,baz=232,slow=5.5,SNR=2.9						
CMAR	**Chiang Mai Arr**	**70.90**	**47**	P	P	06 52 47.7	+0.2
	1.1nm,0.3s,baz=231,slow=5.7,SNR=4.1						
WRA	**Warramunga Arr**	**72.22**	**102**	P	P	06 52 55.4	-0.2
	0.4nm,0.7s,baz=233,slow=5.9,SNR=5.9						
ILAR	**Eielson Array**	**150.29**	**16**	PKPbc	PKPbc	07 01 19.9	-0.6
	0.4nm,0.8s,baz=318,slow=3.1,SNR=3.6						

KRNET 27 07:03:12.2±0.1,39°32N×72°44E,mb2.8
SOME 27 07:03:16.1,39°65N×72°57E,h15km
ISC 27 07:03:14.3±2.5,39°4N±0°1×72°39E±0°06,h10km,n11, σ2°23/22,10C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.16**	**15**	⇑*i*P	**Pb**	**07 03 35.2**	**-1.2**
	baz=12						
OHH				⇑*i*S	**Sg**	**07 03 52.2**	**+0.6**
	baz=12						
BTK	**Batken**	**1.38**	**299**	⇑*i*P	**Pn**	**07 03 39.1**	**-0.5**
	baz=1.0						
BTK				⇑*e*S	**Sg**	**07 03 58.8**	**+0.2**
	baz=1.0						
ARLS	**Aral**	**2.86**	**30**	⇑*i*P	**Pn**	**07 04 01.2**	**+1.1**
	baz=29						
ARLS				⇑*i*S	**Sn**	**07 04 37.0**	**+2.3**
	baz=29						
AML	**Almayashu**	**2.90**	**20**	⇓*i*P	**Pn**	**07 04 02.0**	**+1.2**
	baz=18						
AML				⇓*i*S	**Sn**	**07 04 38.5**	**+2.6**
	baz=18						
MNAS	**Manas**	**3.08**	**2**	⇑*i*P	**Pn**	**07 04 04.9**	**+1.8**
	baz=1.0						
MNAS				⇑*i*S	**Sn**	**07 04 43.1**	**+3.0**
	baz=1.0						
UCH	**Uchtor**	**3.25**	**29**	⇓*e*P	**Pn**	**07 04 06.8**	**+1.1**
	baz=28						
UCH				⇓*i*S	**Sn**	**07 04 46.3**	**+1.7**
	baz=28						
IUG	**Iuzhnay**	**3.27**	**328**	*e*P	**Pb**	**07 04 13.0**	**+0.5**
	7.3nm,0.5s						
IUG				*e*S	**Sb**	**07 04 51.0**	**-1.4**
	18nm,0.5s						
MRKS	**Merke**	**3.40**	**10**	*e*P	**Pb**	**07 04 13.3**	**-1.3**
	1.6nm,0.3s						
MRKS				*e*S	**Sb**	**07 04 53.3**	**-2.7**
	3.1nm,0.3s						
EKS2	**Erkin-Say**	**3.42**	**17**	⇑*i*P	**Pn**	**07 04 09.3**	**+1.6**
	baz=16						
EKS2				⇑*i*S	**Sn**	**07 04 50.9**	**+2.5**
	baz=16						
AAK	**Ala-Archa**	**3.60**	**26**	⇓Pn	**Pb**	**07 04 15.5**	**-2.6**
	1.1nm,0.5s						
AAK				Sn	**Sb**	**07 04 59.0**	**-2.9**
	2.1nm,0.4s						
KK31	**Karatay Array**	**3.96**	**340**	⇓Pn	**Pn**	**07 04 17.2**	**+2.2**
	0.3nm,0.2s,baz=142,slow=11,SNR=28						
KK31				⇓Sn	**Sb**	**07 05 07.4**	**-4.6**
	3.1nm,0.6s,baz=144,slow=25,SNR=3.6						

NEIC 27 07:21:55.4±1.1,21°2S±0°2×179°0W±0°2,h619km±10km, mb4.2/17,Error ellipse: s-maj=27.8km s-min=20.2km az=128.0
IDC 27 07:22:00.1±5.0,20°49S×179°38W,h669km±58km,mb2.9/9, mb1 3.2/9,mb1mx3.0/32,mbtmp3.9/9,Error ellipse: s-maj=80.3km s-min=26.1km az=152.0
ISC 27 07:21:53.6±0.7,21°3S±0°1×178°9W±0°1,h600km,n34, σ1°22/34,mb4.0/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.57**	**320**	P	**P**	**07 23 25.4**	**+2.0**
URZ	**Urewera**	**17.29**	**191**	P	**P**	**07 25 24.3**	**+1.7**
BKZ	**Black Stump Fm**	**18.29**	**192**	P	**P**	**07 25 33.5**	**+1.8**
CMWZ	**Cape Campbell**	**21.25**	**194**	P	**P**	**07 25 59.3**	**+0.9**
CTA	**Charters Tower**	**32.63**	**266**	P	**P**	**07 27 37.5**	**-0.4**
	1.9nm,0.4s,baz=95,slow=13,SNR=6.0						
CTAO	**Charters Tower**	**32.63**	**266**	P	**P**	**07 27 38.1**	**+0.2**
CTAO				IAmb	IAmb	07 28 02.6	
	comp=Z,13nm,1.6s						
STKA	**Stephens Creek**	**36.74**	**245**	P	**P**	**07 28 12.9**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=90,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**36.74**	**245**	P	**P**	**07 28 12.7**	**+0.8**
BBOO	**Buckleboo**	**41.50**	**244**	P	**P**	**07 28 50.3**	**+0.3**
WR0	**Warramunga Arr**	**43.52**	**263**	P	**P**	**07 29 05.1**	**-0.8**
AS31	**Alice Springs**	**43.57**	**258**	P	**P**	**07 29 06.6**	**+0.3**
ASAR	**Alice Springs**	**43.57**	**258**	P	**P**	**07 29 06.2**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=97,slow=7.5,SNR=49						
ASAR				PcP	**PcP**	**07 30 39.5**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=103,slow=4.1,SNR=6.3						
ASAR	**Alice Springs**	**43.57**	**258**	P	**P**	**07 29 05.5**	**-0.8**
WC3	**Warramunga Arr**	**43.68**	**263**	P	**P**	**07 29 06.5**	**-0.7**
WC3				IAmb	IAmb	07 29 06.8	
	comp=Z,3.8nm,0.8s						
WB0	**Warramunga Arr**	**43.69**	**263**	P	**P**	**07 29 06.8**	**-0.5**
WB0				IAmb	IAmb	07 29 07.0	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**43.70**	**263**	P	**P**	**07 29 06.6**	**-0.7**
WB2				IAmb	IAmb	07 29 07.1	
	comp=Z,4.4nm,1.0s						
WRA	**Warramunga Arr**	**43.71**	**263**	P	**P**	**07 29 06.6**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=97,slow=7.5,SNR=74						
WRA	**Warramunga Arr**	**43.71**	**263**	P	**P**	**07 29 06.4**	**-1.0**
FORT	**Forrest**	**48.26**	**247**	P	**P**	**07 29 41.7**	**0.0**
MTN	**Manton Dam**	**48.38**	**272**	P	**P**	**07 29 41.6**	**-1.1**
MTN				IAmb	IAmb	07 29 45.5	
	comp=Z,24nm,1.6s						
FITZ	**Fitzroy Crossi**	**52.14**	**263**	P	**P**	**07 30 09.4**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=118,slow=5.4,SNR=7.1						
FITZ	**Fitzroy Crossi**	**52.14**	**263**	P	**P**	**07 30 09.6**	**-0.4**
MAW	**Mawson**	**80.58**	**200**	P	**P**	**07 33 02.6**	**-1.7**
YBH	**Yreka Blue Hor**	**81.38**	**39**	P	**P**	**07 33 09.6**	**+0.6**
YBH				IAmb	IAmb	07 33 40.9	
	comp=Z,11nm,1.4s						
KDAK	**Kodiak Island**	**81.74**	**14**	P	**P**	**07 33 12.7**	**+2.4**
KDAK				IAmb	IAmb	07 33 39.7	
	comp=Z,17nm,1.3s						
HUMO	**Hull Mountain**	**81.78**	**38**	P	**P**	**07 33 10.8**	**0.0**
HUMO				IAmb	IAmb	07 33 31.7	
	comp=Z,23nm,1.5s						
NVAR	**Mina Array Bea**	**82.12**	**44**	P	**P**	**07 33 13.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=227,slow=8.0,SNR=3.7						
NVAR	**Mina Array Bea**	**82.12**	**44**	P	**P**	**07 33 13.0**	**+0.1**
TXAR	**Lajitas Array**	**88.14**	**58**	P	**P**	**07 33 43.2**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=224,slow=5.2,SNR=3.6						
ILAR	**Eielson Array**	**89.23**	**13**	P	**P**	**07 33 43.5**	**-2.7**
	comp=Z,0.4nm,0.5s,baz=214,slow=5.1,SNR=9.8						
PDAR	**Pinedale Array**	**90.06**	**44**	P	**P**	**07 33 49.6**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=184,slow=5.4,SNR=2.4						
ARCES	**ARCESS Array B**	**129.52**	**349**	PKP	**PKPdf**	**07 39 53.4**	**-1.1**
	comp=Z,4.5nm,1.1s,baz=343,slow=3.8,SNR=4.2						
AKASG	**Malin Array Be**	**143.28**	**330**	PKP	PKPab	07 40 16.3	-2.4
	comp=Z,3.1nm,0.4s,baz=43,slow=4.3,SNR=15						
GERES	**GERESS Array B**	**150.71**	**343**	PKPbc	**PKPbc**	**07 40 36.6**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=351,slow=1.8,SNR=4.5						

SNET 27 07:47:15.5±0.9,12°63N×88°76W,h26km±6km,ML3.4
INET 27 07:47:16.3,12°39N×88°69W,h15km,ML3.5
UCR 27 07:47:16.8±1.2,12°68N×88°76W,h47km±60km,ML3.4, MW3.8
ISC 27 07:47:17.4±1.6,12°67N±0°06×88°74W±0°06,h35km,n47, σ0°67/52,2C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEB	**Comit de Eme**	**0.85**	**14**	⇑*e*P	**Pn**	**07 47 32.3**	**-0.7**
COEB				*e*S	**Sn**	**07 47 45.0**	**+0.7**
COEB				IAML		07 47 52.0	
	comp=Z,729nm,0.4s						
COEB	**Comit de Eme**	**0.85**	**14**	⇑*e*P	**Pn**	**07 47 32.3**	**-0.7**
COEB				*e*S	**Sn**	**07 47 45.0**	**+0.7**
COEB				IAML		07 47 52.0	
	comp=Z,729nm,0.4s						
TECA	**Tecapa**	**0.85**	**16**	*i* P	**Pn**	**07 47 32.6**	**-0.5**
TECA				*e*S	**Sn**	**07 47 45.3**	**+0.8**
TECA	**Tecapa**	**0.85**	**16**	*i* P	**Pn**	**07 47 32.6**	**-0.5**
TECA				*e*S	**Sn**	**07 47 45.3**	**+0.8**
LCY	**Lacayo**	**0.87**	**30**	*e*P	**Pn**	**07 47 32.6**	**-0.6**
LCY	**Lacayo**	**0.87**	**30**	*e*P	**Pn**	**07 47 32.6**	**-0.6**
BLLM	**Bellamira**	**0.91**	**33**	*e*P	**Pn**	**07 47 33.5**	**-0.3**
BLLM	**Bellamira**	**0.91**	**33**	*e*P	**Pn**	**07 47 33.5**	**-0.3**
COEG	**Centro de Oper**	**0.95**	**352**	*e*P	**Pn**	**07 47 33.4**	**-1.0**
COEG	**Centro de Oper**	**0.95**	**352**	*e*P	**Pn**	**07 47 33.4**	**-1.0**
CNRM	**Centro Naciona**	**0.98**	**35**	*e*P	**Pn**	**07 47 34.4**	**-0.2**
CNRM	**Centro Naciona**	**0.98**	**35**	*e*P	**Pn**	**07 47 34.4**	**-0.2**
LFRS	**El Faro**	**1.00**	**342**	*e*P	**Pn**	**07 47 34.2**	**-0.8**
LFRS	**El Faro**	**1.00**	**342**	*e*P	**Pn**	**07 47 34.2**	**-0.8**
LCND	**La Caada**	**1.05**	**53**	⇓*i*P	**Pn**	**07 47 34.8**	**-0.8**
LCND				IAML		07 47 53.4	
	comp=Z,1μm,0.4s						
LCND	**La Caada**	**1.05**	**53**	⇓*i*P	**Pn**	**07 47 34.8**	**-0.8**
LCND				IAML		07 47 53.4	
	comp=Z,1μm,0.4s						
PAVA	**Las Pavas**	**1.05**	**350**	⇓*i*P	**Pn**	**07 47 35.3**	**-0.5**
PAVA				IAML		07 47 53.8	
	comp=Z,2μm,0.3s						
PAVA	**Las Pavas**	**1.05**	**350**	⇓*i*P	**Pn**	**07 47 35.3**	**-0.5**
PAVA				IAML		07 47 53.8	
	comp=Z,2μm,0.3s						
LBRS	**Las Brisas**	**1.10**	**345**	*e*P	**Pn**	**07 47 35.9**	**-0.5**
LBRS	**Las Brisas**	**1.10**	**345**	*e*P	**Pn**	**07 47 35.9**	**-0.5**
UDBS	**Universidad Do**	**1.11**	**339**	⇓*i*P	**Pn**	**07 47 36.7**	**+0.1**
UDBS				IAML		07 47 55.7	
	comp=Z,1μm,0.2s						
UDBS	**Universidad Do**	**1.11**	**339**	⇓*i*P	**Pn**	**07 47 36.7**	**+0.1**
UDBS				IAML		07 47 55.7	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**1.12**	**335**	*i* P	**Pn**	**07 47 35.6**	**-1.0**
SNET				IAML		07 47 53.4	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.12**	**335**	*i* P	**Pn**	**07 47 35.6**	**-1.0**
SNET				IAML		07 47 53.4	
	comp=Z,2μm,0.3s						
OPAM	**Oficina de Pla**	**1.13**	**337**	*e*P	**Pn**	**07 47 36.0**	**-0.8**
OPAM	**Oficina de Pla**	**1.13**	**337**	*e*P	**Pn**	**07 47 36.0**	**-0.8**
LFU	**La Fuente**	**1.13**	**341**	*e*P	**Pn**	**07 47 36.4**	**-0.4**
LFU	**La Fuente**	**1.13**	**341**	*e*P	**Pn**	**07 47 36.4**	**-0.4**
BOQS	**Boqueron**	**1.18**	**334**	*e*P	**Pn**	**07 47 37.2**	**-0.4**
BOQS	**Boqueron**	**1.18**	**334**	*e*P	**Pn**	**07 47 37.2**	**-0.4**
QUEZ	**Alcaldia de Qu**	**1.27**	**336**	*e*P	**Pn**	**07 47 38.2**	**-0.5**
CEDA	**San Andres**	**1.29**	**331**	*i* P	**Pn**	**07 47 38.3**	**-0.7**
CEDA	**San Andres**	**1.29**	**331**	*i* P	**Pn**	**07 47 38.3**	**-0.7**
TACO	**Tacachico**	**1.42**	**335**	*e*P	**Pn**	**07 47 40.2**	**-0.6**
TACO				IAML		07 48 00.4	
	comp=Z,187nm,0.4s						
TACO	**Tacachico**	**1.42**	**335**	*e*P	**Pn**	**07 47 40.2**	**-0.6**
TACO				IAML		07 48 00.4	
	comp=Z,187nm,0.4s						
SBLS	**San Blas**	**1.44**	**324**	*e*P	**Pn**	**07 47 40.7**	**-0.6**
SBLS	**San Blas**	**

STLK	**Strandline Lak**	**3.30**	**28**			**Pn**	**07 56 48.6 +1.7**
VNSG	**Veniaminof 6**	**3.32**	**222**			**Pn**	**07 56 48.1 +0.9**
SUA	**Susitna One**	**3.57**	**36**			**Pn**	**07 56 51.7 +1.3**
RC01	**Rabbit Creek A**	**3.65**	**45**	P		**Pn**	**07 56 52.0 +0.7**
	baz=229						
RC01				S		**Sn**	**07 57 32.5 -2.0**
	baz=229						
RC01	**Rabbit Creek A**	**3.65**	**45**			**Pn**	**07 56 52.4 +1.0**
SKT	**Skwentna**	**3.79**	**26**			**Pn**	**07 56 54.7 +1.5**
PWL	**Port Wells**	**4.08**	**54**			**Pn**	**07 56 57.5 +0.5**
PMR	**Palmer**	**4.20**	**43**			**Pn**	**07 56 58.3 -0.2**
TT01	**Tatalina**	**4.31**	**354**			**Pn**	**07 57 01.7 +1.8**
KNK	**Knik Glacier**	**4.33**	**47**			**Pn**	**07 57 00.5 +0.2**
GHO	**Glory Hole Cre**	**4.39**	**42**			**Pn**	**07 57 01.3 +0.1**
SDPT	**Sand Point**	**4.42**	**224**			**Pn**	**07 57 01.4 -0.1**
CUT	**Chulitna**	**4.46**	**30**	P		**Pn**	**07 57 03.2 +1.3**
	baz=214,SNR=8.4						
CUT				S		**Sn**	**07 57 51.8 -1.7**
	baz=214						
CUT	**Chulitna**	**4.46**	**30**			**Pn**	**07 57 03.3 +1.4**
PPLA	**Purkeypile**	**4.50**	**17**			**Pn**	**07 57 05.6 +3.0**
CNBA	**Chernabura Isl**	**4.56**	**215**			**Pn**	**07 57 02.5 -0.8**
Q23K	**Middleton Isla**	**4.58**	**76**	P		**Pn**	**07 57 04.8 +1.3**
	baz=263						
Q23K				S		**Sn**	**07 57 53.8 -2.5**
	baz=263						
Q23K	**Middleton Isla**	**4.58**	**76**			**Pn**	**07 57 04.8 +1.3**
MID	**Middleton Isla**	**4.59**	**76**			**Pn**	**07 57 04.7 +1.1**
GLI	**Glacier Island**	**4.62**	**58**			**Pn**	**07 57 04.5 +0.4**
SML	**Sawmill**	**4.63**	**44**			**Pn**	**07 57 04.2 0.0**
HIN	**Hinchinbrook I**	**4.71**	**64**			**Pn**	**07 57 06.6 +1.2**
FID	**Port Fidalgo**	**4.85**	**60**			**Pn**	**07 57 07.2 +0.1**
SCM	**Sheep Creek Mo**	**5.02**	**47**			**Pn**	**07 57 09.8 +0.4**
HUR	**Hurricane**	**5.10**	**29**			**Pn**	**07 57 11.0 +0.6**
EYAK	**Cordova Ski Ar**	**5.12**	**64**			**Pn**	**07 57 11.6 +1.1**
WAT7	**Susitna Watana**	**5.20**	**33**			**Pn**	**07 57 12.1 +0.3**
WAT1	**Susitna Watana**	**5.29**	**35**			**Pn**	**07 57 13.1 +0.2**
DIV	**Divide**	**5.31**	**58**			**Pn**	**07 57 14.8 +1.5**
KTH	**Kantishna Hill**	**5.33**	**21**			**Pn**	**07 57 14.5 +1.1**
WAT6	**Susitna Watana**	**5.36**	**39**			**Pn**	**07 57 13.9 0.0**
TRF	**Thorofare Moun**	**5.36**	**24**			**Pn**	**07 57 14.7 +0.7**
WAT2	**Susitna Watana**	**5.38**	**34**			**Pn**	**07 57 14.3 +0.1**
KLU	**Klutina**	**5.41**	**54**			**Pn**	**07 57 15.0 +0.5**
RAGM	**Ragged Mountai**	**5.58**	**67**	Pn		**Pn**	**07 57 18.3 +1.5**
GOAT	**Goat Mountain**	**5.61**	**65**			**Pn**	**07 57 18.4 +1.1**
KAIM	**Kayak Island**	**5.62**	**72**			**Pn**	**07 57 19.2 +1.9**
M24K	**Tolsona, Glenn**	**5.62**	**48**	P		**Pn**	**07 57 18.2 +0.8**
	baz=235,SNR=7.8						
M24K				S		**Sn**	**07 58 18.9 -2.2**
	baz=235						
M24K	**Tolsona, Glenn**	**5.62**	**48**			**Pn**	**07 57 18.1 +0.8**
RNT	**Reindeer**	**5.66**	**30**			**Pn**	**07 57 18.4 +0.5**
HMT	**Hamilton**	**5.77**	**68**			**Pn**	**07 57 20.8 +1.4**
BMRM	**Bremner River**	**5.78**	**62**			**Pn**	**07 57 20.5 +1.0**
BPAW	**Bear Paw Mtn.**	**5.82**	**18**			**Pn**	**07 57 20.6 +0.6**
DHY	**Denali Highway**	**5.83**	**37**			**Pn**	**07 57 20.3 +0.1**
NICHA	**Nichawak Mount**	**5.90**	**70**			**Pn**	**07 57 22.6 +1.6**
MCK	**McKinley**	**5.91**	**28**	P		**Pn**	**07 57 21.7 +0.5**
	baz=212,SNR=6.9						
MCK				S		**Sn**	**07 58 24.7 -3.2**
	baz=212						
MCK	**McKinley**	**5.91**	**28**			**Pn**	**07 57 21.8 +0.6**
SUCK	**Suckling Hills**	**5.96**	**71**			**Pn**	**07 57 23.5 +1.6**
N25K	**Chitina, Valde**	**6.03**	**56**	P		**Pn**	**07 57 24.2 +1.4**
	baz=244						
N25K				S		**Sn**	**07 58 28.5 -2.2**
	baz=244						
N25K	**Chitina, Valde**	**6.03**	**56**			**Pn**	**07 57 24.2 +1.4**
BERG	**Berg Lake**	**6.06**	**68**			**Pn**	**07 57 24.2 +1.1**
BGLC	**Bering Glacier**	**6.21**	**71**			**Pn**	**07 57 27.0 +1.8**
KHIT	**Khitrov Hills**	**6.29**	**68**			**Pn**	**07 57 27.6 +1.3**
GLB	**Gilahina Butte**	**6.31**	**59**			**Pn**	**07 57 27.9 +1.4**
VRDI	**Verde Repeater**	**6.40**	**61**			**Pn**	**07 57 29.2 +1.4**
PAX	**Paxson**	**6.40**	**43**			**Pn**	**07 57 28.4 +0.7**
CRQM	**Cirque**	**6.41**	**66**			**Pn**	**07 57 29.4 +1.5**
SNH	**Sunshine Point**	**6.44**	**71**			**Pn**	**07 57 30.0 +1.7**
KULT	**Kultieth River**	**6.51**	**70**			**Pn**	**07 57 30.7 +1.5**
TGL	**Tana Glacier**	**6.56**	**66**			**Pn**	**07 57 31.5 +1.6**
NEA2	**Nenana**	**6.62**	**23**	P		**Pn**	**07 57 30.4 -0.2**
	baz=208,SNR=7.5						
NEA2	**Nenana**	**6.62**	**23**			**Pn**	**07 57 30.7 +0.1**
MCARA	**McCarthy VSAT**	**6.64**	**60**			**Pn**	**07 57 32.3 +1.4**
BARK	**Barkley Ridge**	**6.65**	**69**			**Pn**	**07 57 33.1 +2.0**
MLY	**Manley**	**6.73**	**16**	P		**Pn**	**07 57 32.2 0.0**
	baz=199						
MLY	**Manley**	**6.73**	**16**			**Pn**	**07 57 32.6 +0.4**
WRH	**Wood River Hil**	**6.74**	**27**			**Pn**	**07 57 32.3 +0.2**
ISLE	**Juniper Island**	**6.76**	**68**	Pn		**Pn**	**07 57 34.4 +1.8**
KIAG	**Kiagna River**	**6.82**	**65**			**Pn**	**07 57 35.0 +1.6**
PTPK	**Patty Peak**	**6.84**	**63**			**Pn**	**07 57 35.4 +1.7**
BALM	**Baldy**	**6.86**	**64**			**Pn**	**07 57 35.5 +1.6**
MESA	**MESA**	**6.88**	**71**			**Pn**	**07 57 36.1 +1.8**
CCB	**Clear Creek Bu**	**6.95**	**27**			**Pn**	**07 57 35.1 +0.1**
HDA	**Harding Lake**	**6.97**	**30**			**Pn**	**07 57 37.3 +0.2**
YAH	**Yahtse**	**7.01**	**70**			**Pn**	**07 57 38.0 +2.0**
I23K	**Minto, Yukon-K**	**7.07**	**20**	P		**Pn**	**07 57 36.5 -0.1**
	baz=205,SNR=7.2						
I23K	**Minto, Yukon-K**	**7.07**	**20**			**Pn**	**07 57 36.9 +0.4**
PS08	**TAPS Pump Stn8**	**7.11**	**30**			**Pn**	**07 57 37.3 +0.2**
RIDG	**Independent Ri**	**7.11**	**40**			**Pn**	**07 57 38.0 +0.8**
MDM	**Murphy Dome**	**7.12**	**24**			**Pn**	**07 57 37.7 +0.4**
TCOL	**CIGO, UAF Yank**	**7.13**	**26**	P		**Pn**	**07 57 37.2 -0.1**
	baz=212,SNR=6.6						
TCOL				S		**Sn**	**07 58 54.7 -2.3**
	baz=212						
TCOL	**CIGO, UAF Yank**	**7.13**	**26**			**Pn**	**07 57 37.8 +0.5**
COLA	**College**	**7.13**	**26**			**Pn**	**07 57 37.5 +0.1**
BARN	**Barnard Glacie**	**7.18**	**65**			**Pn**	**07 57 40.0 +1.7**
RKAV	**Rock Avalanche**	**7.20**	**71**			**Pn**	**07 57 40.7 +2.2**
L26K	**Log Cabin Wild**	**7.22**	**48**	P		**Pn**	**07 57 39.1 +0.4**
	baz=237,SNR=5.1						
L26K	**Log Cabin Wild**	**7.22**	**48**			**Pn**	**07 57 39.5 +0.8**
IL31		**7.28**	**29**			**Pn**	**07 57 38.8 -0.5**
ILAR	**Eielson Array**	**7.28**	**29**	Pn		**Pn**	**07 57 38.9 -0.5**
TABL	**Table Mountain**	**7.32**	**70**			**Pn**	**07 57 41.9 +1.8**
CTGM	**Chitina Glacie**	**7.32**	**66**			**Pn**	**07 57 42.2 +2.1**
DOT	**Dot Lake**	**7.32**	**42**	Pn		**Pn**	**07 57 41.5 +1.5**
IM03		**7.40**	**4**			**Pn**	**07 57 42.5 +1.6**
IMAR	**Indian Mountai**	**7.40**	**4**	Pn		**Pn**	**07 57 42.6 +1.6**
POKR	**Poker Plat Res**	**7.43**	**26**	P		**Pn**	**07 57 41.8 +0.4**
	baz=212,SNR=7.9						
POKR	**Poker Plat Res**	**7.43**	**26**			**Pn**	**07 57 41.9 +0.4**
LOGN	**Logan Glacier**	**7.45**	**67**			**Pn**	**07 57 43.1 +1.3**
SAMH	**Samovar Hills**	**7.46**	**72**			**Pn**	**07 57 44.2 +2.3**
SCRK	**Sand Creek**	**7.56**	**40**	P		**Pn**	**07 57 42.7 -0.5**
	baz=230						
SCRK				S		**Sn**	**07 59 02.1 -5.4**
	baz=230						
SCRK	**Sand Creek**	**7.56**	**40**			**Pn**	**07 57 43.0 -0.2**
PCA	**Pinnacle**	**7.72**	**73**			**Pn**	**07 57 47.6 +2.3**
YUK2	**White River**	**7.76**	**60**			**Pn**	**07 57 47.8 +1.9**
BC03		**7.86**	**50**			**Pn**	**07 57 49.3 +2.2**
BCAR	**Beaver Creek A**	**7.86**	**50**			**Pn**	**07 57 49.2 +2.0**
YUK3	**Moose Creek**	**7.90**	**60**			**Pn**	**07 57 51.0 +2.7**
UNV	**Unalaska Valle**	**7.97**	**238**			**Pn**	**07 57 49.2 +0.6**
BCPM	**Bancas Point**	**8.02**	**74**	Pn		**Pn**	**07 57 52.2 +2.9**
MNAT	**Makushin Natee**	**8.02**	**239**			**Pn**	**07 57 50.0 +0.6**
MSW	**Makushin Switc**	**8.04**	**239**			**Pn**	**07 57 50.4 +0.7**
PNL	**Peninsula**	**8.13**	**76**			**Pn**	**07 57 52.5 +1.7**
K27K	**Chicken**	**8.26**	**44**	Pn		**Pn**	**07 57 53.7 +1.3**
YUK7	**Dusty Glacier**	**8.80**	**70**			**Pn**	**07 58 02.4 +2.5**
EGAK	**Eagle**	**9.02**	**41**			**Pn**	**07 58 03.4 +0.9**
FYU	**Fort Yukon**	**9.15**	**26**	Pn		**Pn**	**07 58 03.7 -0.5**
DAWY	**Dawson**	**9.28**	**48**			**Pn**	**07 58 08.0 +1.9**
BM03	**Burnt Mountain**	**9.99**	**24**			**Pn**	**07 58 14.2 -1.3**
BMAR	**Burnt Mountain**	**10.01**	**24**	Pn		**Pn**	**07 58 14.7 -1.0**
SKAG	**Skagway**	**10.21**	**77**	Pn		**Pn**	**07 58 20.3 +2.0**
WHY	**Whitehorse**	**10.41**	**70**			**Pn**	**07 58 23.3 +2.1**
SIT	**Sitka**	**10.65**	**90**			**Pn**	**07 58 25.1 +0.9**
JIS	**Juneau Island**	**10.85**	**83**	Pn		**Pn**	**07 58 30.1 +3.3**
EPYK	**Eagle Plains**	**11.45**	**40**	Pn		**Pn**	**07 58 38.4 +3.7**
CRAG	**Craig**	**12.35**	**95**	Pn		**Pn**	**07 58 46.8 +0.4**
WRAK	**Wrangell Islan**	**12.40**	**91**	Pn		**Pn**	**07 58 51.5 +4.4**
DLBC	**Dease Lake**	**13.07**	**80**	Pn		**Pn**	**07 58 59.1 +3.4**

JMA ***27*** *07:59:16.3±0.3,43°.99N×147°.91E, h0km,M4.5*
MOS ***27*** *07:59:16.4±1.3,44°.42N×148°.09E, h62km,mb4.2/6, Error ellipse: s-maj=11.9km s-min=9.4km az=53.7*
SKHL ***27*** *07:59:16.6±0.5,44°.35N×148°.19E, h66km±7km, mb5.0/5*
NIED ***27*** *07:59:16.3,43°.99N×147°.91E, h0km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.34; Mθθ-1.96; Mφφ0.62; Mrθ4.34; Mrφ-1.92; Mθφ4.89; Fault plane solution: M06.97000×10^14 NP1:φ40.00000°, δ82.00000°, λ77.00000°. NP2:φ280.00000°, δ15.00000°, λ149.00000°.*
NEIC ***27*** *07:59:20.4±1.5,44°.4N±0°.1×147°.9E±0°.08, h90km±9km, mb4.5/5 Error ellipse: s-maj=16.0km s-min=8.5km az=174.0*
IDC ***27*** *07:59:21.1±3.0,44°.49N×148°.04E, h90km±26km, mb3.5/8, mb1 3.7/11,mb1mx3.4/38,mbtmp3.8/11, MS2.8/4, Ms1 2.8/4,ms1mx2.6/37, Error ellipse: s-maj=32.5km s-min=18.1km az=148.0*

ISC 27 07:59:16.7±1.3, 44°.34N±0°.06×148°.13E±0°.08, h55km±11km, n84,σ1°44/89, mb3.9/12, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.92**	**348**	*i*	P	**Pn**		**07 59 32.9**	**-0.5**
KUR					AMB	AMB		07 59 33.0	
	2μm,0.3s								
KUR				*i*	S	**Sn**		**07 59 44.7**	**-1.0**
KUR					A	A		07 59 46.0	
	2μm,0.4s								
KUR					A	A		07 59 46.0	
	5μm,0.4s								
KUR	**Kuril'sk**	**0.92**	**348**	*d*	iPN	**Pn**		**07 59 32.9**	**-0.5**
KUR				*i*	S	**Sn**		**07 59 44.6**	**-1.1**
KUR					pmax	pmax			
	comp=Z,2296μm,0.3s								
KUR					pmax	pmax			
	comp=N,478μm,0.4s								
KUR					pmax	pmax			
	comp=E,937μm,0.1s								
KUR					smax	smax			
	comp=N,590nm,0.2s								
KUR					smax	smax			
	comp=E,5μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.66**	**260**	*i*	P	**Pn**		**07 59 43.0**	**-0.4**
YUK					AMB	AMB		07 59 45.0	
	comp=E,660nm,0.3s								
YUK				*e*	S	**Sn**		**08 00 03.1**	**-0.5**
YUK					A	A		08 00 09.0	
	comp=E,2μm,0.4s								
YUK					A	A		08 00 09.0	
	comp=E,3μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.66**	**260**	*d*	iPN	**Pn**		**07 59 43.6**	**+0.2**
YUK				*e*	S	**Sn**		**08 00 02.6**	**-1.0**
YUK					pmax	pmax			
	comp=E,164μm,0.1s								
YUK					pmax	pmax			
	comp=Z,794μm,0.1s								
YUK					smax	smax			
	comp=N,1μm,0.5s								
YUK					smax	smax			
	comp=E,3μm,0.4s								
GRPR	**Tuman**	**1.73**	**259**	*i*	P	**Pn**		**07 59 44.0**	**-0.4**
GRPR					AMB	AMB		07 59 47.0	
	comp=E,465nm,0.2s								
GRPR				*i*	S	**Sn**		**08 00 04.8**	**-0.6**
GRPR					A	A		08 00 08.0	
	comp=E,2μm,0.2s								
GRPR					A	A		08 00 08.0	
	comp=E,666nm,0.2s								
GRPR	**Tuman**	**1.73**	**259**	⇓	iPN	**Pn**		**07 59 44.6**	**+0.2**
GRPR				*i*	S	**Sn**		**08 00 04.3**	**-1.1**
GRPR					pmax	pmax			
	comp=N,194nm,0.2s								
GRPR					pmax	pmax			
	comp=E,256nm,0.2s								
GRPR					pmax	pmax			
	comp=E,465nm,0.2s								
GRPR					smax	smax			
	comp=N,2μm,0.2s								
GRPR					smax	smax			
	comp=E,666nm,0.2s								
GLVR	**Golovnino**	**1.98**	**253**	*e*	P	**Pn**		**07 59 48.0**	**+0.3**
GLVR					AMB	AMB		07 59 49.0	
	comp=E,232nm,0.4s								
GLVR				*i*	S	**Sn**		**08 00 12.0**	**+0.7**
GLVR					A	A		08 00 19.0	
	comp=E,2μm,0.4s								
GLVR					A	A		08 00 19.0	
	comp=E,3μm,0.4s								
GLVR	**Golovnino**	**1.98**	**253**	*e*	PN	**Pn**		**07 59 48.0**	**+0.3**
GLVR				*i*	S	**Sn**		**08 00 13.4**	**+2.1**
GLVR					pmax	pmax			
	comp=Z,232nm,0.4s								
GLVR					smax	smax			
	comp=N,2241μm,0.3s								
GLVR					smax	smax			
	comp=E,2946μm,0.3s								
NEM2	**Nemuro 2**	**1.98**	**242**		P	**Pn**		**07 59 47.4**	**-0.4**
NEM2				*e*	S	**Sn**		**08 00 09.5**	**-2.0**
NMR	**Nemuro--Hokkai**	**1.99**	**242**	*i*	P	**Pn**		**07 59 47.4**	**-0.5**
NMR				*i*	S	**Sn**		**08 00 10.0**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.99**	**242**	⇓	iPN	**Pn**		**07 59 47.3**	**-0.6**
NMR				*i*	S	**Sn**		**08 00 10.2**	**-1.5**
JRA	**Rausu**	**2.21**	**261**		P	**Pn**		**07 59 52.3**	**+1.5**
JRA				*e*	S	**Sn**		**08 00 18.6**	**+1.7**
JNSB	**Nemuroshibetsu**	**2.33**	**257**		P	**Pn**		**07 59 53.6**	**+1.1**
JNSB				*e*	S	**Sn**		**08 00 21.2**	**+1.4**
JKHN	**Kushirohamanak**	**2.49**	**241**		P	**Pn**		**07 59 54.8**	**0.0**
JKHN				*e*	S	**Sn**		**08 00 22.7**	**-1.3**
JNK	**Nakash**	**2.58**	**254**		P	**Pn**		**07 59 56.9**	**+1.0**
JNK				*e*	S	**Sn**		**08 00 26.0**	**-0.1**
JAK	**Akkeshi**	**2.83**	**243**		P	**Pn**		**07 59 59.5**	**+0.1**
JAK				*e*	S	**Sn**		**08 00 30.5**	**-1.8**
JTKR	**Abashiri--Toko**	**3.06**	**265**		P	**Pn**		**08 00 04.5**	**+1.9**
JAR	**Ashorobuto**	**3.33**	**253**		P	**Pn**		**08 00 07.7**	**+1.5**
JAR				*e*	S	**Sn**		**08 00 45.9**	**+1.5**
JOB	**Onbets**	**3.44**	**247**		P	**Pn**		**08 00 08.5**	**+0.8**
JOB				*e*	S	**Sn**		**08 00 47.0**	**-0.1**
JMP	**Maruseppu**	**3.45**	**266**		P	**Pn**		**08 00 09.2**	**+1.3**
JCH	**Churui**	**3.88**	**245**		P	**Pn**		**08 00 14.4**	**+0.7**
JKK2	**Kamakawa 2**	**3.91**	**265**		P	**Pn**		**08 00 17.7**	**+3.5**
JKA	**Kamikawa-asahi**	**3.98**	**269**	*e*	P	**Pn**		**08 00 18.0**	**+2.8**
JKA	**Kamikawa-asahi**	**3.98**	**269**			**Pn**		**08 00 17.9**	**+2.8**
ASAJ	**Asahikawa**	**3.99**	**269**		P	**Pn**		**08 00 18.0**	**+2.8**
	comp=E,2.5nm,0.3s,baz=68,slow=20,SNR=13								
ASAJ					S	Sn		08 01 13.8	+13
	comp=E,3.2nm,0.3s,baz=65,slow=19,SNR=1.7								
ASAJ					LR	LR		08 01 56.9	
	comp=E,110nm,19.5s,baz=156,slow=40								
ASAJ	**Asahikawa**	**3.99**	**269**		PN	**Pn**		**08 00 18.0**	**+2.8**
JEM	**Erimo**	**4.32**	**239**		Pn	**Pn**		**08 00 22.3**	**+2.6**
ERM	**Erimo**	**4.32**	**239**	*ce*	PN	**Pn**		**08 00 22.7**	**+3.0**
ERM	**Erimo**	**4.32**	**239**		Pn	**Pn**		**08 00 22.8**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.43**	**244**		P	**Pn**		**08 00 21.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.59**	**307**	*e*	P	**Pn**		**08 00 23.1**	**-0.4**
YSS					AMB	AMB		08 00 25.0	
	comp=E,20nm,0.3s								
YSS	**Yuzh-Sakhalins**	**4.59**	**307**	⇓	ePN	**Pn**		**08 00 23.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.59**	**307**		Pn	**Pn**		**08 00 23.8**	**+0.3**
JEW	**Eniwo**	**5.08**	**255**		Pn	Pn		08 00 35.0	+4.8
JTM	**Tenmabayashi**	**6.31**	**238**		Pn	**Pn**		**08 00 47.7**	**+0.6**
JMM	**Marumori**	**8.51**	**223**		Pn	**Pn**		**08 01 16.0**	**-1.2**
PETK	**Petropavlovsk-**	**10.81**	**32**		P	**Pn**		**08 01 52.0**	**+3.5**
	comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=1.9								
USRK	**Ussuriysk Ar.**	**11.58**	**275**		P	Pn		08 02 03.0	+3.9
	baz=84,slow=13,SNR=3.1								
USRK					LR	LR		08 07 06.8	
	comp=E,53nm,19.1s,baz=134,slow=40								
USRK	**Ussuriysk Ar.**	**11.58**	**275**		PN	Pn		08 02 03.0	+3.9
KLR	**Kul'dur**	**12.24**	**299**		LR	LR		08 07 05.0	
	comp=E,56nm,18.3s,baz=77,slow=38								
EKMR	**Ekimchan**	**13.28**	**317**	*e*	P	**Pn**		**08 02 21.0**	**-1.3**
MA2	**Magadan**	**15.35**	**5**	*e*	P	**Pn**		**08 02 47.6**	**-1.9**
MA2	**Magadan**	**15.35**	**5**	⇑	eP	**Pn**		**08 02 47.6**	**-1.9**
MA2					pmax	pmax			
	comp=Z,39nm,1.5s								
BMKR	**Bomnak**	**16.21**	**317**	*e*	P	**Pn**		**08 02 59.0**	**-1.6**
KSRS	**Korea Array**	**16.73**	**253**		LR	LR		08 09 01.7	
	comp=Z,17nm,18.7s,baz=320,slow=35								
KROS	**Kirovskiy**	**17.02**	**314**	*e*	P	**Pn**		**08 03 08.0**	**-2.7**
YAK	**Yakutsk**	**20.75**	**335**	*e*	P	Pn		08 03 53.4	-2.0
YAK	**Yakutsk**	**20.75**	**335**	⇓	eP	Pn		08 03 53.4	-2.0
YAK					pmax	pmax			
	comp=Z,11nm,0.5s								
BILL	**Bilibino**	**25.60**	**16**	*e*	P	**P**		**08 04 41.0**	**+0.6**
BILL	**Bilibino**	**25.60**	**16**	*e*	P	**P**		**08 04 41.0**	**+0.6**
BILL				*e*				08 05 19.1	
BILL					pmax	pmax			
	comp=Z,4.0nm,1.1s								
ULN	**Ulaanbaatar**	**28.46**	**292**	*e*	P	**P**		**08 05 05.9**	**-0.5**
ULN	**Ulaanbaatar**	**28.46**	**292**	⇑	eP	**P**		**08 05 05.9**	**-0.5**
ULN					pmax	pmax			
	comp=Z,2.0nm,0.7s								
SONM	**Songino Array**	**28.91**	**292**		P	**P**		**08 05 11.3**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=29,slow=6.8,SNR=3.7								
SONM	**Songino Array**	**28.91**	**292**	*e*	P	**P**		**08 05 11.7**	**+1.4**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SONM	**Songino Array**	**28.91**	**292**		P	**P**		**08 05 09.5**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**29.10**	**141**		T	T		08 35 55.6	
	baz=332,slow=76,SNR=284								
H11N1	**WAKE ISLAND Hy**	**29.11**	**141**		T	T		08 35 58.0	
	baz=332,slow=76,SNR=254								
H11N3	**WAKE ISLAND Hy**	**29.12**	**141**		T	T		08 35 59.0	
	baz=332,slow=76,SNR=262								
H11S1	**WAKE ISLAND Hy**	**30.09**	**143**		T	T		08 37 11.7	
	baz=333,slow=76,SNR=458								
H11S3	**WAKE ISLAND Hy**	**30.09**	**143**		T	T		08 37 14.7	
	baz=333,slow=76,SNR=358								
H11S2	**WAKE ISLAND Hy**	**30.11**	**143**		T	T		08 37 14.7	
	baz=333,slow=76,SNR=284								
IMAR	**Indian Mountai**	**37.76**	**35**		P	**P**		**08 06 26.8**	**-0.1**
KDAK	**Kodiak Island**	**38.33**	**48**		P	**P**		**08 06 30.6**	**-1.1**
KDAK					pmax	pmax			
	comp=Z,22nm,1.5s								
KDAK	**Kodiak Island**	**38.33**	**48**		P	**P**		**08 06 30.6**	**-1.1**
SKT	**Skwentna**	**38.59**	**41**		P	**P**		**08 06 33.0**	**-0.9**
KTH	**Kantishna Hill**	**38.85**	**39**		P	**P**		**08 06 36.0**	**-0.2**
KTH					IAmb	IAmb		08 06 59.8	
	comp=Z,8.2nm,1.3s								
ILAR	**Eielson Array**	**40.59**	**37**		P	**P**		**08 06 50.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=270,slow=9.1,SNR=5.3								
ILAR	**Eielson Array**	**40.59**	**37**		P	**P**		**08 06 52.6**	**+2.1**
ILAR	**Eielson Array**	**40.59**	**37**		P	**P**		**08 06 52.6**	**+2.1**
BCAR	**Beaver Creek A**	**43.00**	**39**		P	**P**		**08 07 11.5**	**+1.3**
MKAR	**Makanchi Array**	**44.94**	**297**		P	**P**		**08 07 25.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=77,slow=7.8,SNR=4.7								
MKAR	**Makanchi Array**	**44.94**	**297**	*e*	P	**P**		**08 07 26.2**	**+0.2**
MKAR	**Makanchi Array**	**44.94**	**297**	*e*	P	**P**		**08 07 26.2**	**+0.2**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**44.94**	**297**		P	**P**		**08 07 25.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**48.37**	**254**		P	**P**		**08 07 53.8**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=40,slow=8.6,SNR=1.5								
RES	**Resolute Bay**	**54.20**	**17**		P	**P**		**08 08 35.3**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=318,slow=6.0,SNR=4.4								
RES	**Resolute Bay**	**54.20**	**17**		P	**P**		**08 08 35.2**	**-0.7**
RES					IAmb	IAmb		08 08 55.4	
	comp=Z,5.9nm,1.2s								
FINES	**FINESS Array B**	**64.67**	**333**		P	**P**		**08 09 46.9**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=20,slow=6.1,SNR=3.6								
FINES	**FINESS Array B**	**64.67**	**333**	*i*	P	**P**		**08 09 48.4**	**+0.1**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
FINES	**FINESS Array B**	**64.67**	**333**		P	**P**		**08 09 47.2**	**-1.0**
WRA	**Warramunga Arr**	**65.20**	**194**		P	**P**		**08 09 53.4**	**+1.3**
	comp=Z,0.6nm,1.0s,baz=12,slow=4.2,SNR=1.

MRKS					*e*S	**Sg**	**08 13 19.4**	**+0.4**
	110nm,0.4s								
MRKS	**Merke**	**2.59**	**84**		Pg	**Pg**	**08 12 45.8**	**+0.4**
	39nm,0.4s								
MRKS					Lg	Lg	08 13 19.0		
	110nm,0.4s								
BTK	**Batken**	**2.61**	**161**	⇑	*i*P	**Pb**	**08 12 42.2**	**-1.2**
	baz=60								
BTK				⇑	*i*S	**Sb**	**08 13 14.4**	**-1.6**
	baz=60								
AML	**Almayashu**	**2.97**	**97**	⇑	*i*P	**Pb**	**08 12 49.2**	**-0.4**
	baz=94								
AML				⇑	*i*S	**Sb**	**08 13 25.5**	**-1.0**
	baz=94								
AML	**Almayashu**	**2.97**	**97**		P	**Pg**	**08 12 52.8**	**+0.1**
	SNR=27								
EKS2	**Erkin-Say**	**2.99**	**86**	⇓	*i*P	**Pb**	**08 12 49.6**	**-0.3**
	baz=84								
EKS2				⇓	*i*S	**Sb**	**08 13 27.2**	**+0.3**
	baz=84								
EKS2	**Erkin-Say**	**2.99**	**86**		P	**Pg**	**08 12 53.3**	**+0.1**
	SNR=14								
ARLS	**Aral**	**3.48**	**100**	⇓	*e*P	**Pb**	**08 12 56.5**	**-1.7**
	baz=97								
ARLS				⇓	*i*S	**Sb**	**08 13 39.4**	**-1.6**
	baz=97								
AAK	**Ala-Archa**	**3.52**	**87**	⇑	*e*P	**Pb**	**08 12 56.9**	**-2.0**
	baz=85								
AAK				⇑	*i*S	**Sb**	**08 13 39.7**	**-2.4**
	baz=85								
AAK	**Ala-Archa**	**3.52**	**87**		P	**Pg**	**08 13 03.0**	**-0.2**
	SNR=10								
AAK	**Ala-Archa**	**3.52**	**87**	⇓	Pg	**Pg**	**08 13 02.8**	**-0.5**
	8.9nm,0.4s								
AAK				⇓	Lg	Lg	08 13 50.6		
	18nm,0.4s								
UCH	**Uchtor**	**3.56**	**93**	⇑	*i*P	**Pb**	**08 12 57.5**	**-2.2**
	baz=91								
UCH				⇑	*i*S	**Sb**	**08 13 41.2**	**-2.3**
	baz=91								
UCH	**Uchtor**	**3.56**	**93**		P	**Pg**	**08 13 03.9**	**-0.1**
	SNR=12								
GAR	**Garm**	**3.57**	**173**	⇑	*i*P	**Pn**	**08 12 54.3**	**+2.0**
	baz=72								
GAR				⇑	*i*S	**Sn**	**08 13 36.3**	**+1.3**
	baz=72								
USP	**Ospenovka**	**3.58**	**77**	⇑	*e*P	**Pb**	**08 12 57.5**	**-2.3**
	baz=75								
USP				⇑	*i*S	**Sb**	**08 13 41.2**	**-2.5**
	baz=75								
USP	**Ospenovka**	**3.58**	**77**		P	**Pg**	**08 13 04.5**	**+0.1**
	SNR=8.6								
SGDS	**Sogindy**	**3.71**	**74**		Pg	**Pg**	**08 13 07.0**	**+0.1**
	11nm,0.5s								
SGDS					Lg	Lg	08 13 55.9		
	30nm,0.3s								
CHMS	**Chumysh**	**3.73**	**81**	⇓	*i*P	**Pb**	**08 12 59.4**	**-2.9**
	baz=79								
CHMS				⇓	*e*S	**Sb**	**08 13 44.8**	**-3.1**
	baz=79								
KBK	**Karagaybulak**	**3.85**	**87**		P	**Pg**	**08 13 09.2**	**-0.5**
	SNR=7.3								
BTLS	**Baital**	**4.00**	**50**		*e*P	**Pg**	**08 13 12.7**	**+0.2**
	6.5nm,0.2s								
BTLS					*e*S	**Sg**	**08 14 06.4**	**+2.1**
	19nm,0.4s								
BTLS	**Baital**	**4.00**	**50**		Pg	**Pg**	**08 13 12.5**	**0.0**
	7.1nm,0.2s								
BTLS					Lg	Lg	08 14 06.6		
	16nm,0.5s								
TKM2	**Tokmak 2**	**4.34**	**83**	⇓	Pg	**Pg**	**08 13 17.4**	**-1.6**
	6.6nm,0.3s								
TKM2				⇓	Lg	Lg	08 14 15.4		
	32nm,0.5s								
KRBS	**Karabastau**	**4.50**	**73**		*e*P	**Pg**	**08 13 21.4**	**-0.7**
	10nm,0.5s								
KRBS					*e*S	**Sg**	**08 14 21.0**	**+0.5**
	28nm,0.4s								
KRBS	**Karabastau**	**4.50**	**73**		Pg	**Pg**	**08 13 21.4**	**-0.7**
	10nm,0.5s								
KRBS					Lg	Lg	08 14 21.0		
	28nm,0.4s								
BOOM	**Boomskoye usch**	**4.59**	**89**	⇓	*i*P	Pn	08 13 11.1	+4.7	
	baz=87								
BOOM				⇓	*i*S	**Sb**	**08 14 05.9**	**-7.1**
	baz=87								
KST	**Kastek**	**4.62**	**82**		*e*P	**Pg**	**08 13 23.5**	**-0.8**
	8.7nm,0.3s								
KST					*e*S	**Sg**	**08 14 24.5**	**+0.4**
	38nm,0.6s								
KST	**Kastek**	**4.62**	**82**		Pg	**Pg**	**08 13 23.5**	**-0.8**
	13nm,0.4s								
KST					Lg	Lg	08 14 24.5		
	38nm,0.5s								
MTBS	**Maitube**	**4.96**	**81**		*e*P	**Pg**	**08 13 30.4**	**-0.5**
	8.0nm,0.4s								
MTBS					*e*S	**Sg**	**08 14 36.1**	**+0.9**
	19nm,0.4s								
MTBS	**Maitube**	**4.96**	**81**		Pg	**Pg**	**08 13 30.4**	**-0.5**
	8.0nm,0.4s								
MTBS					Lg	Lg	08 14 36.1		
	19nm,0.4s								
KUU	**Kurty**	**5.02**	**72**		*e*P	**Pg**	**08 13 30.4**	**-1.5**
	6.1nm,0.6s								
KUU					*e*S	**Sg**	**08 14 36.3**	**-0.6**
	38nm,0.5s								
KUU	**Kurty**	**5.02**	**72**		Pg	**Pg**	**08 13 30.4**	**-1.5**
	6.1nm,0.6s								
KUU					Lg	Lg	08 14 36.3		
	38nm,0.5s								
KTBS	**Karatobe**	**5.22**	**75**		*e*P	**Pg**	**08 13 34.5**	**-1.3**
	4.9nm,0.5s								
KTBS					*e*S	**Sg**	**08 14 43.4**	**-0.1**
	58nm,0.5s								
KTBS	**Karatobe**	**5.22**	**75**		Pg	**Pg**	**08 13 34.5**	**-1.3**
	4.9nm,0.5s								
KTBS					Lg	Lg	08 14 43.4		
	58nm,0.5s								
TNSS	**Tian-Shan**	**5.33**	**82**		*e*P	**Pg**	**08 13 36.9**	**-1.1**
	4.2nm,0.5s								
TNSS					*e*S	**Sg**	**08 14 48.1**	**+0.9**
	8.9nm,0.8s								
TNSS	**Tian-Shan**	**5.33**	**82**		Pg	**Pg**	**08 13 36.9**	**-1.1**
	8.5nm,0.4s								
TNSS					Lg	Lg	08 14 48.1		
	16nm,0.6s								
KOTS	**Kotyrbulak**	**5.47**	**80**		*e*P	**Pg**	**08 13 39.8**	**-0.8**
	23nm,0.5s								
KOTS					*e*S	**Sg**	**08 14 52.5**	**+1.1**
	95nm,0.5s								
KOTS	**Kotyrbulak**	**5.47**	**80**		Pg	**Pg**	**08 13 39.7**	**-0.8**
	23nm,0.5s								
KOTS					Lg	Lg	08 14 52.5		
	95nm,0.5s								
SATY	**Saty**	**6.40**	**82**		Pg	**Pg**	**08 13 56.6**	**-1.9**
	4.6nm,0.5s								
SATY					Lg	Lg	08 15 20.9		
	9.5nm,0.6s								
MNBS	**Baschi**	**6.51**	**73**		Pg	**Pg**	**08 13 59.0**	**-1.5**
	4.7nm,0.4s								
MNBS					Lg	Lg	08 15 24.5		
	23nm,0.5s								
PDGK	**Podgornoye**	**7.21**	**80**	⇓	Pg	**Pg**	**08 14 14.2**	**+0.4**
	3.9nm,0.8s								
PDGK				⇑	Lg	Lg	08 15 44.5		
	16nm,0.9s								
AB31	**Akbulak array**	**9.57**	**318**			Pn	**08 14 16.0**	**+1.6**
	0.2nm,0.3s,baz=128,slow=14,SNR=11								
AB31				⇓	Sn	**Sn**	**08 15 59.7**	**-2.7**
	0.7nm,0.4s,baz=124,slow=26,SNR=2.6								
MK31	**Makanchi Array**	**9.90**	**60**	⇓	Lg	Lg	08 17 15.9		
	2.1nm,0.6s,baz=233,slow=12,SNR=4.0								

*NNC **27** 08:18:39.4±7.4,39°.63N×70°.26E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=52.1km s-min=31.0km az=26.0*
*KRNET **27** 08:18:39.6±0.1,39°.73N×70°.20E,h12km,mb3.2*
*SOME **27** 08:18:39.0,39°.85N×70°.27E,h0km*

ISC 27 08:18:38.5±1.2,39°.79N±0°.03×70°.37E±0°.04,h18km±4km, n22,σ1§73/36,12C-12D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
BTK	**Batken**	**0.44**	**53**	⇓	*i*P	**Pn**	**08**	**18**	**50.9**	**+1.0**
	baz=55									
BTK				⇓	*i*S	**Sb**	**08**	**18**	**59.1**	**+5.1**
	baz=55									
GAR	**Garm**	**0.79**	**183**	⇓	*e*P	**Pg**	**08**	**18**	**54.0**	**0.0**
	baz=73									
GAR				⇓	*i*S	**Sg**	**08**	**19**	**04.1**	**-0.5**
	baz=73									
CHGR	**Chuyangaron**	**1.47**	**220**	⇓	*e*P	**Pn**	**08**	**19**	**04.8**	**+0.6**
	baz=17									
CHGR				⇓	*i*S	**Sn**	**08**	**19**	**23.9**	**+0.9**
	baz=17									
TAS	**Tashkent**	**1.73**	**332**	⇑	*i*P	**Pg**	**08**	**19**	**12.0**	**+0.2**
	baz=37									
TAS				⇑	*i*S	**Sg**	**08**	**19**	**35.7**	**+1.3**
	baz=37									
OHH	**Osh**	**1.99**	**68**	⇑	*i*P	**Pg**	**08**	**19**	**17.6**	**+0.8**
	baz=67									
OHH				⇑	*i*S	**Sg**	**08**	**19**	**45.5**	**+2.8**
	baz=67									
IUG	**Iuzhnay**	**2.36**	**354**		*e*P	**Pg**	**08**	**19**	**23.6**	**-0.3**
	32nm,0.3s									
IUG					*e*S	**Sg**	**08**	**19**	**55.8**	**+1.3**
	152nm,0.5s									
IUG	**Iuzhnay**	**2.36**	**354**		Pg	**Pg**	**08**	**19**	**23.5**	**-0.3**
	32nm,0.3s									
IUG					Lg	Lg	08	19	55.8	
	152nm,0.5s									
MNAS	**Manas**	**3.14**	**30**	⇑	*e*P	**Pb**	**08**	**19**	**33.5**	**-0.3**
	baz=32									
MNAS				⇑	*i*S	**Sb**	**08**	**20**	**13.5**	**+1.7**
	baz=32									
BRLS	**Boroldaу**	**3.26**	**353**		*e*P	**Pb**	**08**	**19**	**34.9**	**-0.9**
	24nm,0.3s									
BRLS					*e*S	**Sb**	**08**	**20**	**15.1**	**+0.1**
	36nm,0.2s									
BRLS	**Boroldaу**	**3.26**	**353**		Pg	**Pb**	**08**	**19**	**34.9**	**-0.9**
	24nm,0.3s									
BRLS					Lg	Lg	08	20	15.1	
	36nm,0.2s									
KK31	**Karatay Array**	**3.31**	**2**	⇑	Pn	**Pb**	**08**	**19**	**35.1**	**-1.5**
	0.7nm,0.2s,baz=183,slow=18,SNR=7.8									
KK31				⇓	Sn	**Sg**	**08**	**20**	**24.3**	**-0.4**
	8.0nm,0.3s,baz=183,slow=28,SNR=23									
AML	**Almayashu**	**3.44**	**46**	⇓	*i*P	**Pb**	**08**	**19**	**37.4**	**-1.6**
	baz=47									
AML				⇓	*i*S	**Sb**	**08**	**20**	**20.8**	**+0.2**
	baz=47									
ARLS	**Aral**	**3.64**	**54**	⇑	*e*P	**Pb**	**08**	**19**	**40.3**	**-2.1**
	baz=54									
ARLS				⇑	*i*S	**Sb**	**08**	**20**	**25.7**	**-0.6**
	baz=54									
MRKS	**Merke**	**3.65**	**35**		*e*P	**Pg**	**08**	**19**	**47.6**	**-0.8**
	12nm,0.4s									
MRKS					*e*S	**Sg**	**08**	**20**	**36.6**	**+0.9**
	11nm,0.4s									
MRKS	**Merke**	**3.65**	**35**		Pg	**Pg**	**08**	**19**	**47.7**	**-0.7**
	12nm,0.4s									
MRKS					Lg	Lg	08	20	36.6	
	11nm,0.4s									
EKS2	**Erkin-Say**	**3.85**	**41**	⇑	*i*P	**Pb**	**08**	**19**	**43.3**	**-2.6**
	baz=42									
EKS2				⇑	*e*S	**Sb**	**08**	**20**	**30.1**	**-2.1**
	baz=42									
UCH	**Uchtor**	**3.97**	**51**	⇓	*i*P	Pn	08	19	44.7	+5.9
	baz=51									
UCH				⇓	*e*S	**Sb**	**08**	**20**	**33.4**	**-2.6**
	baz=51									
AAK	**Ala-Archa**	**4.21**	**46**	⇑	Pn	Pb	08	19	48.7	-3.4
	2.5nm,0.6s									
AAK				⇓	Sn	**Sb**	**08**	**20**	**41.7**	**-1.0**
	4.5nm,0.7s									
SGDS	**Sogindy**	**4.86**	**40**		Pg	**Pg**	**08**	**20**	**09.3**	**-2.1**
	2.1nm,0.3s									
SGDS					Lg	Lg	08	21	13.6	
	2.7nm,0.6s									
KST	**Kastek**	**5.31**	**51**		*e*P	**Pg**	**08**	**20**	**19.4**	**-0.7**
	4.8nm,0.6s									
KST					*e*S	**Sg**	**08**	**21**	**31.9**	**+2.9**
	0.6nm,0.2s									
KST	**Kastek**	**5.31**	**51**		Pg	**Pg**	**08**	**20**	**19.5**	**-0.7**
	3.8nm,0.8s									
KST					Lg	Lg	08	21	31.4	
	4.4nm,0.7s									
KTBS	**Karatobe**	**6.13**	**48**		Pg	**Pg**	**08**	**20**	**33.4**	**-2.4**
	1.4nm,0.7s									
KTBS					Lg	Lg	08	21	55.2	
	6.8nm,0.5s									

*DJA **27** 08:26:29.3±1.1,3°.5±2°×12°.8E±°,h23km±11km,M4.7/11, mB5.2/6,mb4.9/11,MLv4.7/11,Mw(mB)4.6/6*
*NEIC **27** 08:26:30.9±1.4,2°.81S±0°.09×128°.01E±0°.08,h59km±11km, mb4.3/13,Error ellipse: s-maj=12.9km s-min=11.1km az=186.0*
*IDC **27** 08:26:32.6±1.8,2°.99S×128°.15E,h59km±17km,mb4.0/5, mb1 4.3/10,mb1mx3.8/37,mbtmp4.4/10,MS4.5/1, Ms1 4.7/1,ms1mx3.2/29,Error ellipse: s-maj=15.7km s-min=10.2km az=93.0*

ISC 27 08:26:30.0±0.6,2°.90S±0°.06×127°.93E±0°.05,h35km,n45, σ1§87/50,mb4.3/9,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
NLAI	**Namlea**	**0.89**	**248**		P	**Pn**	**08**	**26**	**46.1**	**0.0**
NLAI					S	**Sn**	**08**	**26**	**59.4**	**+1.6**
MSAI	**Masohi**	**1.09**	**114**		P	**Pn**	**08**	**26**	**50.6**	**+1.8**
MSAI					S	**Sn**	**08**	**27**	**06.0**	**+3.3**
SANI	**Sanana**	**2.12**	**294**		P	**Pn**	**08**	**27**	**00.1**	**-2.8**
SANI					S	**Sn**	**08**	**27**	**25.4**	**-2.6**
TNTI	**Ternate**	**3.69**	**351**		Pn	**Pn**	**08**	**27**	**25.0**	**+0.4**
SIJI	**Sorong**	**3.90**	**59**		P	**Pn**	**08**	**27**	**27.1**	**-0.4**
	62nm,0.3s,baz=243,slow=11,SNR=50									
SIJI					S	**Sn**	**08**	**28**	**11.8**	**-0.3**
	8.7nm,0.3s,baz=360,slow=21,SNR=13									
FAKI	**Fak Fak**	**4.32**	**90**		P	**Pn**	**08**	**27**	**33.1**	**-0.2**
FAKI	**Fak Fak**	**4.32**	**90**		Pn	**Pn**	**08**	**27**	**33.0**	**-0.2**
LUWI	**Luwuk**	**5.47**	**290**		P	**Pn**	**08**	**27**	**49.5**	**+0.4**
	1.5nm4µm279nm,0.7s									
LUWI	**Luwuk**	**5.47**	**290**		Pn	**Pn**	**08**	**27**	**49.5**	**+0.4**
GTOI	**Gorontalo**	**6.04**	**305**		P	**Pn**	**08**	**27**	**59.6**	**+2.6**
	776nm56nm,0.8s									
APSI	**Ampana**	**6.58**	**287**		P	**Pn**	**08**	**28**	**05.0**	**+0.7**
	1.8nm5µm408nm,0.4s									
SOEI	**Soe**	**7.72**	**208**		P	**Pn**	**08**	**28**	**22.3**	**+2.2**
	0.4nm1µm120nm,0.9s									
TTSI	**Tana Toraja**	**8.10**	**269**		P	**Pn**	**08**	**28**	**26.5**	**+1.3**
	47nm,0.7s									
SPSI	**Sidrap Palu**	**8.21**	**262**		P	**Pn**	**08**	**28**	**27.5**	**+0.7**
BATI	**Baumata**	**8.40**	**210**		P	**Pn**	**08**	**28**	**33.8**	**+4.4**
	6.9nm,0.3s,baz=342,slow=5.1,SNR=3.7									
BATI					LR	LR	08	31	53.5	
	comp=Z,308nm,18.8s,baz=36,slow=38									
KAPI	**Kappang**	**8.42**	**255**		P	**Pn**	**08**	**28**	**33.6**	**+4.0**
	2.2nm,0.3s,baz=110,slow=10,SNR=7.5									
KAPI	**Kappang**	**8.42**	**255**		Pn	**Pn**	**08**	**28**	**33.5**	**+3.8**
MTN	**Manton Dam**	**10.37**	**162**		Pn	**Pn**	**08**	**28**	**58.5**	**+2.1**
KNRA	**Kununurra**	**12.72**	**176**		Pn	**Pn**	**08**	**29**	**30.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**15.27**	**188**		P	**Pn**	**08**	**30**	**03.8**	**+0.7**
	0.2nm,0.3s,baz=52,slow=10,SNR=5.5									
FITZ	**Fitzroy Crossi**	**15.27**	**188**			**Pn**	**08**	**30**	**04.1**	**+1.0**
WB0	**Warramunga Arr**	**17.91**	**160**		P	**Pn**	**08**	**30**	**35.3**	**-1.2**
WB0					IAmb	IAmb	08	30	38.3	
	comp=Z,18nm,0.8s									
WRA	**Warramunga Arr**	**18.06**	**160**		P	**Pn**	**08**	**30**	**37.1**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=341,slow=12,SNR=128									
WRA					S	**Sn**	**08**	**33**	**57.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=344,slow=19,SNR=4.5									
WRA	**Warramunga Arr**	**18.06**	**160**		P	**Pn**	**08**	**30**	**35.5**	**-2.8**
WB2	**Warramunga Arr**	**18.06**	**160**			**Pn**	**08**	**30**	**37.3**	**-1.1**
WB2					IAmb	IAmb	08	30	40.7	
	comp=Z,13nm,0.8s									
PSA00	**Pilbara Seismi**	**20.15**	**202**		P	**P**	**08**	**31**	**01.7**	**+0.3**
PSA00	**Pilbara Seismi**	**20.15**	**202**		P	**P**	**08**	**31**	**00.7**	**-0.8**
PSA00					IAmb	IAmb	08	31	05.2	
	comp=Z,15nm,0.8s									
AS31	**Alice Springs**	**21.43**	**165**		P	**P**	**08**	**31**	**14.9**	**-0.4**
AS31					IAmb	IAmb	08	31	16.6	
	comp=Z,12nm,0.8s									
ASAR	**Alice Springs**	**21.44**	**165**		P	**P**	**08**	**31**	**14.1**	**-1.3**
	comp=Z,35nm,0.8s,baz=345,slow=11,SNR=211									
ASAR					S	**S**	**08**	**35**	**07.3**	**-4.1**
	comp=Z,6.7nm,0.9s,baz=346,slow=19,SNR=18									
ASAR	**Alice Springs**	**21.44**	**165**		P	**P**	**08**	**31**	**14.7**	**-0.6**
CTA	**Charters Tower**	**24.73**	**135**		P	**P**	**08**	**31**	**47.9**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=320,slow=12,SNR=7.1									
CTAO	**Charters Tower**	**24.73**	**135**		P	**P**	**08**	**31**	**47.4**	**-1.0**
FORT	**Forrest**	**27.73**	**180**		P	**P**	**08**	**32**	**14.3**	**-1.0**
MORW	**Morawa**	**28.37**	**202**		P	**P**	**08**	**32**	**21.2**	**+0.1**
MORW					IAmb	IAmb	08	32	47.4	
	comp=Z,17nm,1.4s									
BBOO	**Buckleboo**	**30.71**	**167**		P	**P**	**08**	**32**	**40.4**	**-1.4**
STKA	**Stephens Creek**	**31.56**	**157**		P	**P**	**08**	**32**	**48.6**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=338,slow=8.7,SNR=22									
STKA	**Stephens Creek**	**31.56**	**157**		P	**P**	**08**	**32**	**48.8**	**-0.5**
STKA					IAmb	IAmb	08	33	01.6	
	comp=Z,4.9nm,1.4s									
CMAR	**Chiang Mai Arr**	**35.57**	**308**		LR	LR	08	49	55.5	
	comp=Z,676nm,18.2s,baz=312,slow=39									
PETK	**Petropavlovsk-**	**61.15**	**20**		P	**P**	**08**	**36**	**44.9**	**+4.0**
	comp=Z,2.8nm,0.9s,baz=224,slow=10,SNR=2.3									
MKAR	**Makanchi Array**	**63.69**	**327**		P	**P**	**08**	**36**	**58.5**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=124,slow=6.5,SNR=9.8									
VNDA	**Vanda**	**76.74**	**173**		P	**P**	**08**	**38**	**15.4**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=296,slow=6.5,SNR=3.8									
QSPA	**South Pole Qui**	**87.05**	**180**		P	**P**	**08**	**39**	**10.4**	**-1.5**
QSPA					IAmb	IAmb	08	39	11.0	
	comp=Z,3.5nm,0.9s									
TORD	**Torodi Ar. Bea**	**125.90**	**284**		PKP	**PKPdf**	**08**	**45**	**29.6**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=51,slow=1.6,SNR=4.7									
PLCA	**Paso Flores**	**133.40**	**161**		PKP	**PKiKP**	**08**	**45**	**44.0**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=217,slow=5.5,SNR=5.4									
CPUP	**Villa Florida**	**150.50**	**170**		PKPbc	**PKPbc**	**08**	**46**	**19.1**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=174,slow=2.6,SNR=7.0									

*MAN **27** 08:32:02.1,9°.88N×127°.03E,h18km,mb5.3,ML4.3,MS4.4*
MAN Intensity III - Surigao City and General Luna Surigao del Norte;Intensity II - Socorro Surigao del Norte;Intensity I - Dapa Surigao del Norte.
*MOS **27** 08:32:06.5±1.2,9°.72N×126°.70E,h44km,mb5.2/40, MS4.8/4,Error ellipse: s-maj=9.5km s-min=4.7km az=117.6*
*BJI **27** 08:32:07.0±0.0,9°.65N×126°.74E,h51km,mB5.0/62, mb4.8/61,Ms5.1/57,Ms7 4.8/52*
*GCMT **27** 08:32:08.2±0.2,9°.83N±0°.01×126°.82E±0°.01,h20km, MW5.4/132,Moment Tensor Solution. s98,c158; s132,c230; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr0.30±.03; Mθθ0.29±.03; Mφφ-0.59±.03; Mrθ-0.46±.06; Mrφ-1.02±.02; Mθφ0.71±.07; Best double couple: M0.41600×10^17 NP1:φ253.00000°,δ56.00000°, λ164.00000°. NP2:φ352.00000°,δ77.00000°,λ35.00000°. Principal axes: T 1.4860, Plg34.0000°, Azm218.0000°; N -0.1410, Plg53.0000°, Azm10.0000°; P -1.3450, Plg14.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 08:32:09.2±1.8,9°.67N±0°.06×126°.75E±0°.08,h59km±5km, mb5.1/107 Error ellipse: s-maj=12.0km s-min=8.1km az=78.0*
*IDC **27** 08:32:09.1±1.8,9°.74N×126°.73E,h48km±18km,mb4.5/34, mb1 4.6/38,mb1mx4.6/44,mbtmp4.8/38,ML4.9/5,Error ellipse: s-maj=13.2km s-min=8.0km az=72.0*
*DJA **27** 08:32:10.9±0.9,10°.N±7°×12°.7E±°,h53km±6km,M5.1/51, mB5.5/41,mb5.4/51,MLv6.0/5,Mw(mB)5.0/41,Mwp5.3/7*

ISC 27 08:32:08.6±0.4,9°.72N±0°.03×126°.75E±0°.04,h46km±3km, h45km;pP-P,n422,σ1§81/465,mb5.0/128,MS4.8/22, 23C-13D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
GLSP	**General Luna,**	**0.61**	**276**		*e*P	**Pn**	**08**	**32**	**18.0**	**-3.1**
GLSP					*e*S	**Sn**	**08**	**32**	**28.3**	**-1.8**
BIP	**Bislig**	**1.56**	**198**	⇑	*e*P	**Pn**	**08**	**32**	**32.4**	**-1.6**
BIP					*e*S	**Sn**	**08**	**32**	**50.4**	**-2.7**
MSLP	**Maasin**	**1.91**	**283**		*e*P	**Pn**	**08**	**32**	**38.6**	**-0.1**
MSLP					*e*S	**Sn**	**08**	**33**	**03.8**	**+2.3**
BESP	**Borongan**	**2.27**	**326**		*e*P	**Pn**	**08**	**32**	**39.7**	**-4.0**
BESP					*e*S	**Sn**	**08**	**33**	**08.3**	**-2.2**
CGP	**Cagayan de Oro**	**2.39**	**238**	⇑	*e*P	**Pn**	**08**	**32**	**46.2**	**+0.9**
CGP					*i* S	**Sn**	**08**	**33**	**15.9**	**+2.6**
BUKP	**Musuan**	**2.47**	**222**		*e*P	**Pn**	**08**	**32**	**47.7**	**+1.2**
BUKP					*e*S	**Sn**	**08**	**33**	**14.6**	**-1.0**
OCLP	**Ormoc**	**2.49**	**302**		*e*P	**Pn**	**08**	**32**	**46.4**	**-0.3**
OCLP					*e*S	**Sn**	**08**	**33**	**09.9**	**-5.9**
MATI	**Mati**	**2.80**	**190**		*e*P	**Pn**	**08**	**32**	**49.2**	**-1.8**
MATI					*e*S	**Sn**	**08**	**33**	**17.1**	**-6.4**
LLP	**Lapu-Lapu**	**2.80**	**282**	⇓	*i*P	**Pn**	**08**	**32**	**51.7**	**+0.6**
LLP					*i* S	**Sn**	**08**	**33**	**25.8**	**+2.2**
TBP	**Tagbilaran**	**2.84**	**270**	⇑	*e*P	**Pn**	**08**	**32**	**52.7**	**+1.1**
TBP					*e*S	**Sn**	**08**	**33**	**25.9**	**+1.3**
DAV	**Davao City (W)**	**2.88**	**204**		P	**Pn**	**08**	**32**	**53.5**	**+1.5**
	117nm,0.3s,baz=46,slow=4.3,SNR=7.6									
DAV					S	**Sn**	**08**	**33**	**30.6**	**+5.2**
	199nm,0.3s,baz=352,slow=15,SNR=4.5									
DAV	**Davao City (W)**	**

KAPI Kappang 16.21 206 P **Pn** **08 35 53.6 +0.2**
comp=Z,2.1nm,0.3s,baz=20,slow=4.5,SNR=10.0
KAPI Kappang 16.21 206 **Pn** **08 35 52.6 -0.8**
BKSI Bulukumba 16.34 204 P **P** **08 35 57.5 +0.2**
comp=Z,1μmcomp=Z,53nm,0.7s
KBKI Kotabaru 16.68 220 P **P** **08 36 04.4 +3.2**
comp=Z,102nm,0.7s
KNMB Chin-men Tao 16.69 333 Pn **Pn** **08 35 59.2 -0.1**
KNMB IAmb IAmb 08 36 18.0
comp=Z,75nm,0.8s
QZH Quanzhou 17.01 334 P **P** **08 36 04.8 +0.1**
QZH S **S** **08 39 16.3 -3.5**
QZH LR LR
comp=Z,2μm,18.4s
QZH LR LR
comp=Z,1μm,11.8s
QZH LR LR
comp=Z,3μm,19.9s
BBKI Banjar Baru 17.67 223 P **P** **08 36 15.0 +2.9**
comp=Z,6μmcomp=Z,118nm,1.0s
STKI Sintang 17.97 239 P **P** **08 36 18.6 +3.2**
comp=Z,28μmcomp=Z,97nm,0.7s
GENI Genyem 18.12 132 P **Pn** **08 36 20.6 +3.5**
comp=Z,6μmcomp=Z,6μmcomp=Z,212nm,0.8s
KSM Kuching 18.29 244 P **Pn** **08 36 19.3 +0.1**
JAY Jayapura 18.47 130 P **Pn** **08 36 21.4 0.0**
comp=Z,2.3nm,0.3s,baz=311,slow=5.0,SNR=13
JAY Jayapura 18.47 130 P **Pn** **08 36 21.9 +0.5**
comp=Z,2μmcomp=Z,80nm,0.9s
MMRI Maumere 18.78 194 **P** **08 36 20.9 -3.4**
QIZ Qiongzhong 18.79 301 P **P** **08 36 24.0 -0.4**
QIZ S **Sn** **08 39 53.8 -1.0**
QIZ pmax pmax
comp=Z,400nm,7.1s
QIZ LR LR
comp=Z,3μm,14.1s
QIZ LR LR
comp=Z,3μm,18.2s
QIZ LR LR
comp=Z,4μm,18.1s
EDFI Ende, Flores 19.03 196 P **Pn** **08 36 28.0 -0.2**
comp=Z,1μmcomp=Z,134nm,0.7s
SOEI Soe 19.50 187 P **Pn** **08 36 35.9 +2.0**
comp=Z,3μmcomp=Z,3μmcomp=Z,258nm,0.7s
BATI Baumata 20.03 189 P **P** **08 36 39.2 +1.2**
comp=Z,805nm,0.7s,baz=352,slow=0.4,SNR=100
BATI Baumata 20.03 189 P **P** **08 36 38.9 +0.9**
comp=Z,4μmcomp=Z,667nm,0.8s
PLAI Plampang 20.48 206 P Pn 08 36 45.2 -0.1
comp=Z,2μmcomp=Z,203nm,0.8s
BASI Baing, Sumba 20.74 197 P Pn 08 36 48.2 -0.2
comp=Z,3μmcomp=Z,326nm,0.8s
TWSI Taliwang, Sumb 20.80 208 P Pn 08 36 48.4 -0.8
comp=Z,1μmcomp=Z,110nm,1.2s
KMMI Kalianget 20.97 218 P Pn 08 36 51.9 +0.8
comp=Z,2μmcomp=Z,139nm,0.8s
SRBI Singaraja 21.09 213 P **P** **08 36 51.9 +2.5**
comp=Z,125nm,0.9s
UBPT Khong Chiam 21.49 287 P **P** **08 36 53.3 -0.4**
SSE Sheshan 21.89 347 P **P** **08 36 58.0 +0.2**
SSE S **S** **08 40 58.0 +0.8**
SSE pmax pmax
comp=Z,43nm,0.8s
SSE pmax pmax
comp=Z,190nm,3.3s
SSE LR LR
comp=Z,850nm,16.9s
SSE LR LR
comp=Z,380nm,12.7s
SSE Sheshan 21.89 347 P **P** **08 36 58.7 +0.9**
SSE IAmb IAmb 08 37 16.9
comp=Z,71nm,0.7s
JSU Suzuyama 21.95 8 P **P** **08 36 58.8 +0.2**
JSU IAmb IAmb 08 37 08.3
comp=Z,40nm,1.0s
JAGI Jajag, Banyuwa 22.00 215 P **P** **08 37 01.2 +2.1**
comp=Z,2μmcomp=Z,144nm,0.8s
JAGI Jajag, Banyuwa 22.00 215 P **P** **08 36 57.9 -1.3**
GMJI Gumukmas 22.25 217 P **P** **08 37 03.6 +1.8**
comp=Z,62nm,0.9s
JCJ Chichijima 22.61 38 P **P** **08 37 05.9 +0.3**
TPI Tanjungpandan 22.70 238 P **P** **08 37 07.0 +0.3**
comp=Z,1μmcomp=Z,161nm,0.7s
MTN Manton Dam 22.84 169 P **P** **08 37 09.4 +1.3**
baz=23,SNR=27
MTN Manton Dam 22.84 169 P **P** **08 37 07.0 -1.1**
MTN IAmb IAmb 08 37 14.2
comp=Z,141nm,1.1s
KDU Kakadu 22.98 166 P **P** **08 37 08.8 -0.6**
baz=23,SNR=23
NJ2 Nanjing 23.39 343⇑ *i*P **P** **08 37 14.5 +1.0**
NJ2 pP **sP** **08 37 26.5 -0.9**
NJ2 S **S** **08 41 24.8 +1.5**
NJ2 pmax pmax
comp=Z,30nm,0.5s
NJ2 pmax pmax
comp=Z,460nm,3.6s
NJ2 LR LR
comp=Z,1μm,13.3s
NJ2 LR LR
comp=Z,2μm,12.1s
NJ2 LR LR
comp=Z,1μm,21.8s
WOJI Wonogiri, Jawa 23.51 223 P **P** **08 37 15.4 +0.7**
comp=Z,53nm,0.8s
JNU Nakatsue 23.60 9 P **P** **08 37 16.8 +1.3**
comp=Z,22nm,1.0s,baz=180,slow=6.1,SNR=3.9
JNU Nakatsue 23.60 9 P **P** **08 37 15.1 -0.4**
JNU IAmb IAmb 08 37 31.6
comp=Z,62nm,1.2s
PPBI Pangkal Pinang 23.68 241 P **P** **08 37 17.7 +1.3**
comp=Z,59nm,0.5s
WHN Wuhan 23.73 333 P **P** **08 37 17.5 +0.9**
WHN pmax pmax
comp=Z,200nm,1.4s
WHN pmax pmax
comp=Z,670nm,4.4s
WHN LR LR
comp=Z,3μm,17.1s
WHN LR LR
comp=Z,4μm,12.8s
WHN LR LR
comp=Z,8μm,18.3s
UGM Wanagama 23.83 223 P **P** **08 37 17.2 -0.7**
MYKOM Kota Tinggi 24.09 252 P **P** **08 37 19.1 -1.1**
DSRI Dabo 24.28 247 P **P** **08 37 23.3 +1.3**
comp=Z,36nm,0.8s
KPJI Karang Pucung 24.54 227 P **P** **08 37 24.7 +0.5**
comp=Z,2μmcomp=Z,142nm,0.8s
SLVN Son La 24.81 300 P **P** **08 37 26.3 -0.5**
LEM Lembang 25.17 230 P **P** **08 37 31.5 +1.3**
comp=Z,75nm,0.7s,baz=355,slow=5.8,SNR=15
GYA Guiyang 25.27 314⇑ P **P** **08 37 31.3 +0.4**
GYA pP pP 08 37 41.5 +0.2
GYA PP **PnPn** **08 38 07.8 +0.8**
GYA S **S** **08 41 53.5 -0.3**
GYA sS sS 08 42 13.0 +2.4
GYA pmax pmax
comp=Z,110nm,3.6s
GYA LR LR
comp=Z,2μm,27.7s
GYA LR LR
comp=Z,3μm,23.2s
GYA LR LR
comp=Z,3μm,21.9s
KNRA Kununurra 25.31 175 P **P** **08 37 33.5 +2.3**
baz=25,SNR=89
KNRA Kununurra 25.31 175 P **P** **08 37 30.9 -0.3**
CBJI Citeko 25.50 232 P **P** **08 37 36.9 +3.9**
comp=Z,238nm,0.7s
CISI Cisompet, Garu 25.50 228 P **P** **08 37 31.8 -1.2**
CISI IAmb IAmb 08 37 41.3
comp=Z,54nm,0.8s
TNG Tangerang 25.50 233 P **P** **08 37 33.6 +0.5**
comp=Z,1μm,0.5s
TNG P **P** **08 37 33.5 +0.5**
comp=Z,2μm,0.5s
ENH Enshi 26.03 324 P **P** **08 37 37.2 -0.5**
ENH IAmb IAmb 08 37 56.4
comp=Z,31nm,0.9s
IPM Ipoh 26.04 260 P **P** **08 37 37.0 -1.0**
KLSI 26.20 238 P **P** **08 37 40.0 +0.7**
comp=Z,524nmcomp=Z,59nm,0.9s
KULM Kulim 26.24 262 P **P** **08 37 41.2 +1.5**
KULM IAmb IAmb 08 37 43.4
comp=Z,33nm,0.8s

TJN Taejon 26.54 1⇑ *e*P **P** **08 37 46.3 +4.1**
MDSI Maura Dua 26.55 239 P **P** **08 37 42.7 +0.2**
comp=Z,2μmcomp=Z,97nm,0.9s
LWLI Liwa 26.93 238 P **P** **08 37 46.4 +0.3**
comp=Z,183nm,0.7s
KMI Kunming 27.48 307⇑ *e*P **P** **08 37 52.0 +0.9**
KMI PP **PnPn** **08 38 39.8 +2.4**
KMI S **S** **08 42 25.5 -3.6**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI pmax pmax
comp=Z,88nm,3.6s
KMI LR LR
comp=Z,2μm,18.9s
KMI LR LR
comp=Z,2μm,21.3s
KMI LR LR
comp=Z,2μm,21.1s
KSI Kapahiang 27.49 242 P **P** **08 37 57.0 +6.0**
comp=Z,93nm,0.7s
KSAR Wonju Array Be 27.62 2 P **P** **08 37 51.3 -0.5**
KSAR Wonju Array Be 27.62 2 P **P** **08 37 51.3 -0.5**
KSRS Korea Array 27.63 2 P **P** **08 37 52.1 +0.1**
comp=Z,4.7nm,0.8s,baz=171,slow=12,SNR=12
FITZ Fitzroy Crossi 27.66 182 P **P** **08 37 52.1 -0.3**
comp=Z,58nm,0.7s,baz=8.1,slow=9.2,SNR=44
FITZ Fitzroy Crossi 27.66 182 P **P** **08 37 53.0 +0.7**
baz=28,SNR=96
FITZ Fitzroy Crossi 27.66 182 P **P** **08 37 50.9 -1.5**
TIA Tai'an 27.79 343 P **P** **08 37 53.3 -0.1**
TIA S **S** **08 42 38.8 +5.7**
TIA SS **SnSn** **08 43 49.8 +0.6**
TIA pmax pmax
comp=Z,12nm,1.0s
TIA LR LR
comp=Z,810nm,24.6s
TIA LR LR
comp=Z,1μm,15.2s
TIA LR LR
comp=Z,1μm,23.5s
PMG Port Moresby 27.82 132 P **P** **08 37 52.8 -1.0**
comp=Z,23nm,0.8s,baz=11,slow=9.4,SNR=6.0
PMG Port Moresby 27.82 132 P **P** **08 37 52.5 -1.4**
PMG IAmb IAmb 08 37 59.2
comp=Z,21nm,0.7s
CMAR Chiang Mai Arr 28.30 291 P **P** **08 37 58.4 +0.2**
comp=Z,4.4nm,0.7s,baz=107,slow=7.2,SNR=18
CMAR Chiang Mai Arr 28.30 291 P **P** **08 37 56.8 -1.4**
MNSI Mandailing Nat 28.44 253 P **P** **08 37 59.4 -0.1**
comp=Z,105nm,0.7s
PSI Prapat 28.48 258 P **P** **08 38 00.0 0.0**
comp=Z,15nm,0.7s,baz=45,slow=3.8,SNR=6.2
PSI Prapat 28.48 258 P **P** **08 38 00.0 0.0**
PSI pmax pmax
comp=Z,17nm,0.8s
RPSI Rantau Prapat 28.51 258 P **P** **08 37 59.2 -0.9**
RPSI Rantau Prapat 28.51 258 P **P** **08 38 00.0 -0.1**
MAT Matsushiro 28.66 19 P **P** **08 38 01.0 -0.1**
MAT S **S** **08 42 47.8 +0.9**
MJAR Matsushiro Arr 28.66 19 P **P** **08 37 59.3 -1.8**
comp=Z,0.8nm,0.5s,baz=202,slow=9.2,SNR=2.3
KRVT Keravat (AS076 28.78 118 P **P** **08 38 03.2 +0.7**
comp=Z,43nm,0.5s,baz=61,slow=22,SNR=6.0
XAN Xi'an 29.22 329 P **P** **08 38 05.3 -1.0**
XAN pP pP 08 38 18.0 +2.1
XAN S **S** **08 42 58.0 +2.2**
XAN pmax pmax
comp=Z,43nm,0.6s
XAN pmax pmax
comp=Z,100nm,3.8s
XAN LR LR
comp=Z,2μm,15.6s
XAN LR LR
comp=Z,2μm,17.6s
XAN LR LR
comp=Z,2μm,15.8s
XAN Xi'an 29.22 329 P **P** **08 38 05.2 -1.0**
XAN pmax pmax
comp=Z,30nm,0.5s
XAN Xi'an 29.22 329 P **P** **08 38 05.2 -1.0**
XAN IAmb IAmb 08 38 06.2
comp=Z,30nm,0.5s
DL2 Dalian 29.42 352 P **P** **08 38 10.8 +2.9**
DL2 S **S** **08 43 04.0 +5.2**
DL2 pmax pmax
comp=Z,35nm,1.1s
DL2 pmax pmax
comp=Z,180nm,4.1s
DL2 LR LR
comp=Z,1μm,17.3s
DL2 LR LR
comp=Z,670nm,12.9s
DL2 LR LR
comp=Z,2μm,13.3s
CD2 Chengdu 30.03 318 P **P** **08 38 14.3 +0.8**
CD2 S **S** **08 43 09.5 +0.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
GSI Gunungsitoli 30.19 256 P **P** **08 38 13.9 -1.1**
WB0 Warramunga Arr 30.25 166 P **P** **08 38 14.1 -1.3**
WB0 IAmb IAmb 08 38 32.4
comp=Z,23nm,0.8s
WRAB Tennant Creek 30.40 166 P **P** **08 38 14.8 -2.0**
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB Tennant Creek 30.40 166 P **P** **08 38 14.8 -2.0**
WRAB IAmb IAmb 08 38 22.1
comp=Z,18nm,0.8s
WRA Warramunga Arr 30.41 166 P **P** **08 38 15.6 -1.2**
comp=Z,12nm,0.8s,baz=347,slow=9.3,SNR=32
WRA Warramunga Arr 30.41 166 P **P** **08 38 14.7 -2.1**
WB2 Warramunga Arr 30.41 166 P **P** **08 38 15.2 -1.6**
WB2 IAmb IAmb 08 38 22.1
comp=Z,18nm,0.8s
WR0 Warramunga Arr 30.47 165 P **P** **08 38 15.3 -2.0**
WR0 IAmb IAmb 08 38 34.7
comp=Z,34nm,1.1s
TIY Taiyuan 30.71 337 *e*P **P** **08 38 23.8 +4.4**
TIY PP **PP** **08 39 26.0 -3.4**
TIY SS SS 08 45 03.3 -28
TIY pmax pmax
comp=Z,170nm,4.9s
TIY LR LR
comp=Z,1μm,12.8s
TIY LR LR
comp=Z,710nm,13.6s
TIY LR LR
comp=Z,830nm,11.9s
BJT Baijiatuan 31.61 344 P **P** **08 38 26.7 -0.5**
BJT pmax pmax
comp=Z,9.0nm,0.7s
BJT Baijiatuan 31.61 344 P **P** **08 38 26.6 -0.5**
BJI Beijing 31.63 344 P **P** **08 38 29.5 +2.2**
BJI S **S** **08 43 32.0 -1.3**
BJI pmax pmax
comp=Z,12nm,0.8s
BJI pmax pmax
comp=Z,220nm,5.1s
BJI LR LR
comp=Z,880nm,18.8s
BJI LR LR
comp=Z,620nm,12.4s
BJI LR LR
comp=Z,820nm,22.6s
PSA00 Pilbara Seismi 31.83 192 P **P** **08 38 28.6 -0.7**
PSA00 Pilbara Seismi 31.83 192 P **P** **08 38 28.9 -0.4**
PSA00 IAmb IAmb 08 38 32.7
comp=Z,16nm,0.8s
SNY Shenyang 32.10 356⇑ P **P** **08 38 35.5 +4.0**
SNY S **S** **08 43 37.3 -3.4**
SNY pmax pmax
comp=Z,19nm,2.6s
SNY pmax pmax
comp=Z,390nm,7.5s
SNY LR LR
comp=Z,1μm,19.6s
SNY LR LR
comp=Z,1μm,23.5s
SNY LR LR
comp=Z,2μm,17.6s
QIS Mount Isa 32.64 157 P **P** **08 38 36.2 -0.2**
baz=33,SNR=65
LZH Lanzhou 33.49 325 *e*P **P** **08 38 46.5 +2.5**
LZH S **S** **08 44 01.0 -1.9**
LZH pmax pmax
comp=Z,87nm,1.5s
LZH pmax pmax
comp=Z,150nm,6.0s
LZH LR LR
comp=Z,2μm,15.8s
LZH LR LR
comp=Z,3μm,15.1s
LZH LR LR
comp=Z,3μm,17.0s
HHC Hu-ho-hao-te 33.80 339 *e*P **P** **08 38 48.8 +2.3**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,300nm,5.1s
AS31 Alice Springs 33.91 168 P **P** **08 38 46.5 -1.0**
AS31 IAmb IAmb 08 38 53.2
comp=Z,9.8nm,0.4s
ASAR Alice Springs 33.91 168 P **P** **08 38 46.5 -1.1**
comp=Z,5.8nm,0.3s,baz=352,slow=7.1,SNR=57
ASAR Alice Springs 33.91 168 P **P** **08 38 45.5 -2.0**
CN2 Changchun 33.97 358 *e*P **P** **08 38 49.5 +1.7**
CN2 *e*S **S** **08 44 09.8 +0.1**
CN2 SS **SnSn** **08 46 18.0 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 pmax pmax
comp=Z,170nm,4.1s
CN2 LR LR
comp=Z,860nm,16.0s
CN2 LR LR
comp=Z,680nm,16.0s
CN2 LR LR
comp=Z,960nm,16.0s
BTO Baotou 34.15 337 *e*P **P** **08 38 49.3 -0.2**
BTO S **S** **08 44 16.3 +3.5**
GIRL Giralia 34.42 201 P **P** **08 38 53.9 +2.0**
baz=35,SNR=9.8
WRKA Warakurna 34.58 178 P **P** **08 38 53.6 +0.3**
baz=35,SNR=95
USRK Ussuriysk Ar. 34.65 7 P **P** **08 38 54.2 +0.5**
comp=Z,8nm,0.8s,baz=156,slow=10,SNR=4.5
USRK Ussuriysk Ar. 34.65 7 P **P** **08 38 53.7 +0.1**
MDJ Mudanjiang 34.85 4 P **P** **08 38 56.3 +0.9**
MDJ S **S** **08 44 28.8 +5.5**
MDJ pmax pmax
comp=Z,17nm,1.2s
MDJ pmax pmax
comp=Z,350nm,4.2s
CTA Charters Tower 35.30 147 P **P** **08 39 00.1 +0.6**
comp=Z,9.9nm,0.7s,baz=327,slow=12,SNR=12
CTAO Charters Tower 35.30 147 P **P** **08 39 00.0 +0.4**
CTAO pmax pmax
comp=Z,52nm,0.7s
CTAO Charters Tower 35.30 147 P **P** **08 38 60.0 +0.4**
SHL Shillong 36.62 300 P **P** **08 39 10.3 -0.8**
SHL pmax pmax
comp=Z,26nm,0.5s
SHL Shillong 36.62 300 P **P** **08 39 10.3 -0.8**
MEEK Meekatharra 36.99 192 P **P** **08 39 13.8 -0.1**
baz=37,SNR=27
GTA Gaotai 38.10 325⇑ P **P** **08 39 23.8 +0.4**
GTA S **S** **08 45 19.8 +6.5**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.6s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,2μm,19.6s
GTA LR LR
comp=Z,3μm,19.3s
YSS Yuzh-Sakhalins 39.53 17 *e*P **P** **08 39 34.3 -0.7**
YSS *e* 08 39 49.4
YSS *e* 08 41 13.2
YSS *e*S **S** **08 45 34.3 +0.1**
YSS MLR MLR
comp=Z,700nm,16.0s
KLR Kul'dur 39.60 5 P **P** **08 39 36.0 +0.3**
comp=Z,4.2nm,0.7s,baz=173,slow=5.7,SNR=12
KLR Kul'dur 39.60 5⇓ *e*P **P** **08 39 35.9 +0.3**
KLR pmax pmax
comp=Z,29nm,2.2s
H11S3 WAKE ISLAND Hy 39.63 73 T T 09 22 46.2
baz=262
H11S1 WAKE ISLAND Hy 39.64 73 T T 09 22 46.8
baz=262
H11S2 WAKE ISLAND Hy 39.65 73 T T 09 22 47.3
baz=262
QLP Quilpie 39.88 155 P **P** **08 39 37.7 -0.5**
baz=40,SNR=9.0
MORW Morawa 39.92 195 P **P** **08 39 38.6 +0.1**
baz=40,SNR=36
MORW Morawa 39.92 195 P **P** **08 39 38.6 +0.1**
H11N1 WAKE ISLAND Hy 39.98 71 T T 09 23 05.7
baz=263,SNR=243
H11N2 WAKE ISLAND Hy 39.99 71 T T 09 23 06.4
baz=263
H11N3 WAKE ISLAND Hy 40.00 71 T T 09 23 06.6
baz=263
FORT Forrest 40.29 178 P **P** **08 39 41.3 -0.2**
baz=40,SNR=31
FORT Forrest 40.29 178 P **P** **08 39 41.2 -0.3**
TAPN Taplejung 40.73 301 *e*P **P** **08 39 44.5 -1.2**
comp=Z,18nm,0.4s
ODAN Odare 40.86 300 *e*P **P** **08 39 45.6 -1.1**
comp=Z,42nm,0.5s
KMBL Kambalda 41.12 186 P **P** **08 39 48.2 -0.1**
baz=41,SNR=25
BLDU Ballidu 41.25 193 P **P** **08 39 49.6 +0.2**
baz=41,SNR=14
ULN Ulaanbaatar 41.50 340 *de*P **P** **08 39 52.2 +0.7**
ULN pmax pmax
comp=Z,37nm,1.0s
ULN Ulaanbaatar 41.50 340 P **P** **08 39 50.9 -0.6**
ULN IAmb IAmb 08 40 08.3
comp=Z,59nm,1.3s
RAMN Ramite 41.56 300 *e*P **P** **08 39 52.1 -0.3**
comp=Z,31nm,0.7s
SONM Songino Array 41.70 339 P **P** **08 39 53.5 +0.4**
comp=Z,9.5nm,0.6s,baz=157,slow=9.1,SNR=32
SONM Songino Array 41.70 339 P **P** **08 39 53.3 +0.2**
SONM pmax pmax
comp=Z,22nm,1.2s
SONM Songino Array 41.70 339 P **P** **08 39 53.3 +0.2**
RMQ Roma 41.86 150 P **P** **08 39 54.9 +0.3**
baz=42,SNR=5.1
KLBR Kellerberrin 41.97 192 P **P** **08 39 55.3 0.0**
baz=42,SNR=58
EIDS Eidsvold 42.17 146 P **P** **08 39 56.7 -0.3**
baz=42,SNR=4.2
EIDS Eidsvold 42.17 146 P **P** **08 39 56.2 -0.8**
GUN Gumba 42.45 301 *e*P **P** **08 39 58.3 -1.5**
comp=Z,44nm,0.6s
MUN Mundaring 42.67 193 P **P** **08 40 01.3 +0.3**
baz=43,SNR=17
PKI Pulchoki 42.75 300 *e*P **P** **08 40 00.4 -1.9**
comp=Z,16nm,0.5s
PKIN Phulchoki 42.77 300 *e*P **P** **08 40 01.0 -1.3**
comp=Z,24nm,0.6s
BBOO Buckleboo 43.21 169 P **P** **08 40 05.5 +0.1**
baz=43,SNR=46
BBOO Buckleboo 43.21 169 P **P** **08 40 04.7 -0.7**
NWAO Narrogin (SRO) 43.37 192 P **P** **08 40 07.0 +0.4**
comp=Z,37nm,0.4s,baz=25,slow=7.6,SNR=39
NWAO Narrogin (SRO) 43.37 192 P **P** **08 40 07.0 +0.4**
baz=44,SNR=46
NWAO Narrogin (SRO) 43.37 192 P **P** **08 40 06.8 +0.1**
NWAO Narrogin (SRO) 43.37 192 P **P** **08 40 05.6 -1.1**
NWAO IAmb IAmb 08 40 09.3
comp=Z,53nm,0.8s
STKA Stephens Creek 43.73 162 P **P** **08 40 09.8 +0.2**
comp=Z,10nm,0.7s,baz=352,slow=7.6,SNR=21
STKA Stephens Creek 43.73 162 P **P** **08 40 10.0 +0.4**
baz=44,SNR=20
STKA Stephens Creek 43.73 162 P **P** **08 40 09.2 -0.4**
DANN Dangsing 44.37 301 *e*P **P** **08 40 12.4 -2.8**
comp=Z,31nm,0.4s
HTT Hallett 44.45 165 P **P** **08 40 16.0 +0.6**
baz=45,SNR=22
CMSA Cobar Meteorol 44.86 157 P **P** **08 40 19.0 +0.4**
baz=45,SNR=21
ZAK Zakamensk 44.95 339 *e*P **P** **08 40 18.5 -0.7**
ZAK pmax pmax
comp=Z,13nm,1.0s
ZAK pmax pmax
comp=Z,16nm,1.1s

RKGY **Rocky Gully** 45.05 191 P P 08 40 21.1 +1.1
baz=45,SNR=42
PALK **Pallekele** 45.58 271 P P 08 40 24.7 0.0
comp=Z,8.4nm,0.6s,baz=186,slow=9.5,SNR=8.1
PALK **Pallekele** 45.58 271 P P 08 40 23.7 -1.0
PALK IAmb IAmb 08 40 26.9
comp=Z,26nm,1.4s
TLY **Talaya** 45.91 340 *c iP P 08 40 28.1 +1.4
TLY pmax pmax
comp=Z,37nm,1.0s
TLY **Talaya** 45.91 340 P P 08 40 27.3 +0.5
TLY IAmb IAmb 08 40 31.9
comp=Z,28nm,0.9s
ARMA **Armidale** 46.52 150 P P 08 40 33.7 +1.8
baz=47,SNR=4.5
MOY **Mondy** 46.83 338 *eP P 08 40 35.4 +1.3
MOY pmax pmax
comp=Z,88nm,2.6s
HYB **Hyderabad** 47.37 285 *i P P 08 40 38.0 -0.7
WMQ **Urumqi** 47.94 322 *eP P 08 40 44.3 +1.5
WMQ pmax pmax
comp=Z,24nm,0.6s
WMQ pmax pmax
comp=Z,170nm,7.5s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,860nm,24.3s
WMQ LR LR
comp=Z,380nm,20.3s
WMQ **Urumqi** 47.94 322 P P 08 40 40.0 -2.8
WMQ pmax pmax
comp=Z,89nm,1.2s
WMQ **Urumqi** 47.94 322 P P 08 40 40.0 -2.8
YNG **Young** 48.36 156 P P 08 40 47.2 +1.2
baz=48,SNR=9.5
ARPS **Mount Arapiles** 48.37 164 P P 08 40 47.0 +1.0
baz=48,SNR=20
BOD **Bodaibo** 48.98 351 *eP P 08 40 50.6 +0.1
BOD pmax pmax
comp=Z,18nm,1.7s
CNB **Canberra Magne** 49.63 156 P P 08 40 57.1 +1.3
baz=50,SNR=6.0
PEA0B **Petropavlovsk-** 49.94 24‖ *eP P 08 41 02.4 +4.5
PETK **Petropavlovsk-** 49.94 24 P P 08 40 58.5 +0.6
comp=Z,3.8nm,0.7s,baz=188,slow=3.5,SNR=12
PETK **Petropavlovsk-** 49.94 24 P P 08 40 58.1 +0.2
DZM **Mont Dzumac** 50.14 129 P P 08 41 00.2 +0.3
comp=Z,12nm,0.7s,baz=114,slow=23,SNR=11
DZM **Mont Dzumac** 50.14 129 *eP P 08 40 59.6 -0.3
comp=Z,39nm,1.1s
DZM **Mont Dzumac** 50.14 129 P P 08 40 59.7 -0.3
DZM IAmb IAmb 08 41 00.9
comp=Z,14nm,0.8s
TOO **Toolangi** 50.21 161 P P 08 41 01.9 +1.7
baz=50,SNR=5.1
PET **Petropavlovsk** 50.27 25 *eP P 08 41 09.9 +10
PET *eS S 08 48 19.9 +10
PET MLR MLR
comp=Z,900nm,16.0s
PET MLR MLR
comp=Z,900nm,18.0s
DGZ **Jazzator, Alta** 51.48 328 *deP P 08 41 09.9 +0.2
DGZ pmax pmax
comp=Z,2.0nm,0.4s
POO **Poona** 51.89 286 *eP P 08 41 11.0 -2.1
YAK **Yakutsk** 52.26 2 *eP P 08 41 18.2 +3.1
YAK *e*PP **sP** 08 41 30.4 +1.2
YAK *e 08 42 32.2
YAK *eS S 08 48 39.7 +3.0
YAK *e*SS sS 08 49 05.4 +12
YAK *e 08 51 04.4
YAK pmax pmax
comp=Z,22nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=N,14nm,1.2s
YAK smax smax
comp=E,118nm,3.5s
YAK smax smax
comp=N,80nm,2.7s
YAK **Yakutsk** 52.26 2 P P 08 41 14.9 -0.2
MK31 **Makanchi Array** 52.75 323 *ceP P 08 41 18.5 -0.6
MK31 **Makanchi Array** 52.75 323 P P 08 41 17.7 -1.4
MKAR **Makanchi Array** 52.75 323 P P 08 41 18.7 -0.4
comp=N,6.1nm,0.6s,baz=123,slow=7.3,SNR=53
MKAR **Makanchi Array** 52.75 323 P P 08 41 18.4 -0.7
SHLS **Shalkode** 52.87 318 *eP P 08 41 17.1 -3.0
SHLS **Shalkode** 52.87 318 *eP P 08 41 17.1 -3.0
MAKZ **Makanchi** 52.94 323 P P 08 41 19.8 -0.7
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
MAKZ **Makanchi** 52.94 323 P P 08 41 19.8 -0.7
UZB **Uzynbulak** 53.16 317 *eP P 08 41 21.0 -1.3
UZB **Uzynbulak** 53.16 317 *eP P 08 41 20.9 -1.3
KPKS **Kokpek** 53.51 318 *eP P 08 41 24.2 -0.6
KPKS **Kokpek** 53.51 318 *eP P 08 41 24.2 -0.6
SATY **Saty** 53.53 317 *eP P 08 41 23.6 -1.5
SATY **Saty** 53.53 317 *eP P 08 41 23.5 -1.5
KSH **Kashi** 53.95 312 P P 08 41 31.3 +3.2
KSH S S 08 49 01.3 +0.6
KSH pmax pmax
comp=Z,15nm,1.3s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,3μm,25.2s
KSH LR LR
comp=Z,1μm,17.4s
KDJ **Kajisay** 54.01 316 P P 08 41 27.8 -0.8
KDJ pmax pmax
comp=Z,64nm,1.5s
KDJ **Kajisay** 54.01 316 P P 08 41 27.8 -0.8
NIL **Nilore** 54.43 304 P P 08 41 30.0 -1.6
NIL pmax pmax
comp=Z,29nm,1.0s
NIL **Nilore** 54.43 304 P P 08 41 30.0 -1.6
NIL IAmb IAmb 08 41 33.4
comp=Z,29nm,0.9s
TNSS **Tian-Shan** 54.51 317 *eP P 08 41 32.2 -0.3
TNSS **Tian-Shan** 54.51 317 *eP P 08 41 32.2 -0.3
KUU **Kurty** 55.24 317 *eP P 08 41 36.2 -1.2
KUU **Kurty** 55.24 317 *eP P 08 41 36.1 -1.2
ZAA0 **Zalesovo Array** 55.33 331 P P 08 41 36.8 -0.9
ZAA0 IAmb IAmb 08 41 39.4
comp=Z,9.2nm,0.8s
ZALV **Zalesovo Beam** 55.33 331 P P 08 41 36.8 -1.0
comp=Z,7.0nm,0.6s,baz=120,slow=6.9,SNR=22
ZALV **Zalesovo Beam** 55.33 331 *i P P 08 41 37.0 -0.7
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV **Zalesovo Beam** 55.33 331 P P 08 41 36.6 -1.1
AAK **Ala-Archa** 56.05 315‖ *eP P 08 41 41.9 -1.4
AAK pmax pmax
comp=Z,46nm,1.9s
SEY **Seymchan** 56.24 14‖ *eP P 08 41 48.2 +4.2
KURK **Kurchatov** 56.78 326 *c iP P 08 41 48.1 0.0
KURK pmax pmax
comp=Z,38nm,1.3s
KURK **Kurchatov** 56.78 326 P P 08 41 47.7 -0.5
KURK IAmb IAmb 08 42 06.5
comp=Z,29nm,1.0s
KURBB **Kurchatov Arra** 56.79 325 P P 08 41 47.2 -1.0
BTLS **Baital** 57.19 318 *eP P 08 41 50.2 -1.0
BTLS **Baital** 57.19 318 *eP P 08 41 50.1 -1.0
MSVF **Nonsavu** 57.54 118 P P 08 41 52.9 -1.2
MSVF pmax pmax
comp=Z,18nm,0.9s
MSVF **Nonsavu** 57.54 118 P P 08 41 52.9 -1.2
MSVF IAmb IAmb 08 41 58.1
comp=Z,18nm,0.8s
GAR **Garm** 58.00 310 P P 08 41 56.2 -0.9
GAR IAmb IAmb 08 42 14.5
comp=Z,20nm,0.9s
KBL **Kabul** 58.03 305 P P 08 41 56.3 -1.2
KBL pmax pmax
comp=Z,11nm,0.6s
KBL **Kabul** 58.03 305 P P 08 41 56.3 -1.2
KBL IAmb IAmb 08 41 57.6
comp=Z,11nm,0.6s
CHGR **Chuyangaron** 58.80 309 P P 08 42 01.5 -1.2
KK31 **Karatay Array** 58.97 315 *i P P 08 42 03.1 -0.6
KK31 **Karatay Array** 58.97 315 P P 08 42 02.9 -0.8
KK31 IAmb IAmb 08 42 22.8
comp=Z,5.9nm,0.6s
KKAR **Karatay Array** 58.97 315 P P 08 42 02.6 -1.0
KKAR pmax pmax
comp=Z,7.0nm,1.0s
KKAR **Karatay Array** 58.97 315 P P 08 42 02.7 -1.0
KKAR **Karatay Array** 58.97 315 P P 08 42 02.6 -1.0
KKAR IAmb IAmb 08 42 21.1
comp=Z,6.9nm,0.9s
IUG **Iuzhnay** 59.04 314 *eP P 08 42 03.4 -0.9
IUG **Iuzhnay** 59.04 314 *eP P 08 42 03.4 -0.9
BRZS **Berezniki** 59.90 323 *eP P 08 42 09.2 -0.7
BRZS **Berezniki** 59.90 323 *eP P 08 42 09.2 -0.7
TIXI **Tiksi** 61.89 1 *d iP P 08 42 26.3 +3.3
TIXI **Tiksi** 61.89 1 P P 08 42 22.8 -0.3
TIXI IAmb IAmb 08 42 39.3
comp=Z,23nm,1.0s
BRVK **Borovoye** 62.45 325 *deP P 08 42 27.2 0.0
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK **Borovoye** 62.45 325 P P 08 42 27.3 +0.2
BRVK IAmb IAmb 08 42 30.2
comp=Z,8.3nm,0.8s
HRA **Herat** 63.56 304 P P 08 42 32.3 -2.8
HRA IAmb IAmb 08 42 37.5
comp=Z,9.4nm,0.7s
BILL **Bilibino** 63.80 15 *eP P 08 42 38.2 +2.4
BILL *e 08 43 13.4
BILL *e 08 45 00.3
BILL pmax pmax
comp=Z,6.0nm,1.1s
NRIK **Noril'sk** 64.66 346 P P 08 42 41.1 -0.3
comp=Z,14nm,0.9s,baz=133,slow=6.3,SNR=10
NRIK **Noril'sk** 64.66 346 *deP P 08 42 41.4 0.0
THZ **Tophouse** 66.45 144 P P 08 42 52.5 -1.0
RPZ **Rata Peaks** 66.67 147 P P 08 42 55.5 +0.7
BKZ **Black Stump Fm** 67.06 140 P P 08 42 58.3 +0.9
KHZ **Kahutara** 67.23 144 P P 08 42 58.8 +0.5
KHZ IAmb IAmb 08 43 01.6
comp=Z,24nm,1.0s
GEYT **Alibeck** 67.25 307 P P 08 42 58.4 -0.4
comp=Z,7.0nm,0.8s,baz=116,slow=3.4,SNR=12
GEYT **Alibeck** 67.25 307 P P 08 42 58.3 -0.5
GYA0B **ALIBECK ARRAY** 67.25 307 P P 08 42 58.6 -0.1
GYA0B IAmb IAmb 08 43 16.6
comp=Z,25nm,1.2s
BHW **Baring Head** 67.39 143 P P 08 42 59.4 0.0
AB31 **Akbulak array** 67.60 319 *eP P 08 42 59.7 -0.9
ABKAR **Akbulak array** 67.60 319 P P 08 42 59.5 -1.2
ABKAR IAmb IAmb 08 43 03.0
comp=Z,7.7nm,0.7s
AKTO **Aktyubinsk** 69.05 320 P P 08 43 09.2 -0.5
ARU **Arti** 69.94 327 *c iP P 08 43 14.3 -0.8
ARU *PP **sP** 08 43 31.4 +0.9
ARU 08 45 47.5
ARU S S 08 52 19.1 -2.7
ARU SS SS 08 56 44.5 -6.9
ARU pmax pmax
comp=Z,11nm,0.6s
ARU **Arti** 69.94 327 P P 08 43 14.2 -0.9
ARU IAmb IAmb 08 43 18.0
comp=Z,14nm,0.6s
KIRV **Kirov** 75.16 328 *ceP P 08 43 46.0 0.0
MAK **Makhachkala** 75.58 312 *eP P 08 43 48.4 -0.4
MAK *e*PP **sP** 08 44 04.4 -0.1
MAK *e*SP **pwP** 08 44 10.2 +1.9
MAK *e 08 46 36.9
MAK *ePPP PPP 08 48 21.4
MAK *eS S 08 53 25.0 -1.5
MAK *e*SS **SKSac** 08 53 52.2 -3.1
MAK pmax pmax
comp=Z,469nm,1.3s
BPAW **Bear Paw Mtn.** 77.94 26 P P 08 44 00.3 -1.5
BPAW IAmb IAmb 08 44 18.9
comp=Z,13nm,1.0s
ZEI **Tsey** 78.23 312 *eP P 08 44 03.7 -0.4
ZEI pmax pmax
comp=Z,17nm,1.4s
O22K **Cooper Landing** 78.42 30 P P 08 44 01.0 -3.4
O22K IAmb IAmb 08 44 15.6
comp=Z,30nm,1.2s
I23K **Minto, Yukon-K** 78.68 25 P P 08 44 03.9 -1.8
PMR **Palmer** 78.72 29 P P 08 44 03.3 -2.7
PMR pmax pmax
comp=Z,6.0nm,0.9s
PMR **Palmer** 78.72 29 P P 08 44 03.3 -2.7
RND **Reindeer** 78.87 27 P P 08 44 06.5 -0.5
RND pmax pmax
comp=Z,4.0nm,0.8s
RND **Reindeer** 78.87 27 P P 08 44 06.5 -0.5
KBZ **Khabaz** 78.92 313 P P 08 44 06.8 -0.7
comp=Z,4.6nm,1.0s,baz=120,slow=7.0,SNR=5.2
KBZ **Khabaz** 78.92 313‖ *eP P 08 44 07.4 -0.1
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KNK **Knik Glacier** 79.04 29 P P 08 44 08.4 +0.5
KIV **Kislovodsk** 79.07 313 *eP P 08 44 08.3 -0.2
KIV pmax pmax
comp=Z,40nm,1.1s
MDM **Murphy Dome** 79.15 26 P P 08 44 08.9 +0.5
VRH **Novokhopyorsk** 79.39 320 *eP P 08 44 08.1 -1.8
VRH pmax pmax
comp=Z,20nm,1.0s
SCM **Sheep Creek Mo** 79.58 29 P P 08 44 11.1 +0.2
SCM pmax pmax
comp=Z,16nm,1.0s
SCM **Sheep Creek Mo** 79.58 29 P P 08 44 11.1 +0.2
SCM IAmb IAmb 08 44 23.7
comp=Z,16nm,1.0s
ILAR **Eielson Array** 79.73 26 P P 08 44 11.2 -0.3
comp=Z,0.8nm,0.7s,baz=243,slow=4.9,SNR=9.6
ILAR **Eielson Array** 79.73 26 P P 08 44 09.8 -1.7
HIN **Hinchinbrook I** 80.02 30 P P 08 44 13.3 +0.1
HIN IAmb IAmb 08 44 20.7
comp=Z,20nm,1.1s
M24K **Tolsona, Glenn** 80.11 28 P P 08 44 12.8 -1.0
M24K IAmb IAmb 08 44 31.4
comp=Z,12nm,0.8s
RIDG **Independent Ri** 80.65 27 P P 08 44 15.8 -0.8
VORD **Divnogorie** 80.93 320 *eP P 08 44 17.0 -1.2
VORD pmax pmax
comp=Z,10.0nm,0.8s
LPSR **Galich'ya Gora** 81.04 322 *eP P 08 44 17.6 -1.2
LPSR pmax pmax
comp=Z,20nm,0.9s
SOC **Sochi** 81.24 313 *eP P 08 44 17.7 -2.3
SOC *ePPP PPP 08 49 16.4
SOC *eS S 08 54 22.0 -5.2
SOC MLR MLR
comp=Z,494nm,20.0s
K27K **Chicken** 81.86 26 P P 08 44 22.7 -0.2
BCAR **Beaver Creek A** 82.08 27 P P 08 44 23.3 -0.8
EGAK **Eagle** 82.18 26 P P 08 44 24.8 +0.3
OBN **Obninsk** 82.21 325 *eP P 08 44 25.0 +0.1
OBN *e 08 47 28.5
OBN pmax pmax
comp=Z,107nm,2.5s
APA **Apatity** 82.37 337 *i P P 08 44 26.7 +1.2
APA pmax pmax
comp=Z,24nm,0.9s
ABPO **Ambohimpanom** 83.38 249 P P 08 44 30.2 -1.7
ABPO pmax pmax
comp=Z,16nm,1.0s
ABPO **Ambohimpanom** 83.38 249 P P 08 44 30.2 -1.7
ABPO IAmb IAmb 08 44 33.3
comp=Z,16nm,0.9s
EPYK **Eagle Plains** 83.78 24 P P 08 44 32.2 -0.7
KEV **Kevo** 84.31 340 P P 08 44 35.7 +0.3
KEV pmax pmax
comp=Z,24nm,1.0s
KEV **Kevo** 84.31 340 P P 08 44 35.7 +0.3
KEV IAmb IAmb 08 44 54.0
comp=Z,24nm,1.0s
HYT **Haines Junctio** 84.39 29 P P 08 44 36.5 +0.3
INK **Inuvik** 84.62 22 P P 08 44 37.3 +0.3
INK pmax pmax
comp=Z,5.0nm,0.9s
INK **Inuvik** 84.62 22 P P 08 44 37.3 +0.3
SPA0 **Spitsbergen Ar** 84.64 349 P P 08 44 37.5 +0.4
ARD3 **ARCESS Array S** 84.86 340 P P 08 44 38.8 +0.6
ARD3 IAmb IAmb 08 44 57.2
comp=Z,30nm,1.2s
ARD2 **ARCESS Array S** 84.86 340 P P 08 44 38.0 -0.3
ARD2 IAmb IAmb 08 44 53.1
comp=Z,30nm,1.3s
ARD4 **ARCESS Array S** 84.86 340 P P 08 44 38.6 +0.3
ARD4 IAmb IAmb 08 44 57.1
comp=Z,22nm,1.1s
ARC1 **ARCESS Array S** 84.87 340 P P 08 44 37.9 -0.4
ARC1 IAmb IAmb 08 44 47.4
comp=Z,18nm,0.9s
ARA2 **ARCESS Array S** 84.87 340 P P 08 44 37.5 -0.8
ARA2 IAmb IAmb 08 44 48.9
comp=Z,30nm,1.1s
ARCES **ARCESS Array B** 84.87 340 P P 08 44 38.4 +0.1
comp=Z,2.0nm,0.5s,baz=83,slow=10,SNR=25
ARD9 **ARCESS Array S** 84.87 340 P P 08 44 38.5 +0.2
ARD9 IAmb IAmb 08 44 47.4
comp=Z,18nm,0.8s
ARD7 **ARCESS Array S** 84.88 340 P P 08 44 39.2 +0.8
ARD7 IAmb IAmb 08 44 51.3
comp=Z,19nm,0.9s
WHY **Whitehorse** 85.68 29 P P 08 44 40.7 -2.0
BRTR **Keskin Array B** 86.24 309 P P 08 44 44.9 -1.1
comp=Z,1.8nm,0.8s,baz=126,slow=3.5,SNR=4.4
FINES **FINESS Array B** 86.59 332 P P 08 44 46.9 -0.1
comp=Z,6.5nm,0.6s,baz=59,slow=5.7,SNR=16
FINES **FINESS Array B** 86.59 332 P P 08 44 46.7 -0.3
PPT2 **Papeete2** 86.95 108 *eS S 08 55 27.0 +1.6
comp=Z,188nm,28.5s
PPT2 **Papeete2** 86.95 108 *eLQ LQ 09 09 04.0
comp=Z,529nm,32.0s
PPT2 *eLR LR 09 12 46.2
comp=Z,771nm,26.5s
VSU **Vasula** 86.98 329‖ *eP P 08 44 49.9 +1.0
VSU pmax pmax
comp=Z,109nm,1.2s
CSS **Mathiatis** 87.28 305 P P 08 44 48.3 -2.6
CSS IAmb IAmb 08 44 54.1
comp=Z,12nm,0.8s
AKASG **Malin Array Be** 87.28 321 P P 08 44 49.8 -0.8
comp=Z,2.0nm,0.6s,baz=63,slow=5.1,SNR=7.4
AKASG **Malin Array Be** 87.28 321 P P 08 44 48.3 -2.2
AKBB **Malin Array Si** 87.28 321‖ *eP P 08 44 52.1 +1.5
TBI **Tubuai** 88.17 114 *eS S 08 55 39.0 +2.3
comp=Z,280nm,26.2s
TBI **Tubuai** 88.17 114 *eLQ LQ 09 09 34.0
comp=Z,441nm,30.5s
TBI *eLR LR 09 13 17.2
comp=Z,1μm,28.2s
VNDA **Vanda** 89.33 173 P P 08 44 59.7 +0.1
comp=Z,3.1nm,0.9s,baz=320,slow=6.2,SNR=17
VNDA **Vanda** 89.33 173 P P 08 44 56.9 -2.7
VNDA IAmb IAmb 08 45 06.2
comp=Z,7.4nm,0.6s
MAW **Mawson** 89.35 200 P P 08 45 00.5 +0.7
comp=Z,2.4nm,0.7s,baz=76,slow=6.4,SNR=6.3
MAW **Mawson** 89.35 200 P P 08 45 00.5 +0.7
MAW pmax pmax
comp=Z,1.0nm,0.9s
BURAR **Bucovina Array** 90.56 318 P P 08 45 04.7 -1.6
UZH **Uzhgorod** 92.16 320 *eP P 08 45 14.2 +0.7
UZH *e 08 45 25.7
UZH *i 08 45 31.6
CRVS **Cervenica-Dubn** 92.61 320 *eP P 08 45 16.2 +0.6
CRVS **Cervenica-Dubn** 92.61 320 *eP P 08 45 16.2 +0.6
NB2 **NORSAR Subarra** 93.46 334 P P 08 45 18.0 -1.3
comp=Z,32nm,1.4s,baz=65,slow=4.6
NB2 **NORSAR Subarra** 93.46 334 P P 08 45 18.0 -1.3
baz=65,slow=4.6
NOA **NORSAR Array B** 93.46 334 P P 08 45 18.5 -0.8
comp=Z,1.9nm,0.8s,baz=65,slow=4.8,SNR=6.2
VYHS **Vyhne** 94.38 321 *eP P 08 45 24.0 +0.2
VYHS **Vyhne** 94.38 321 *eP P 08 45 24.0 +0.2
JAVC **Velka Javorina** 94.98 321 *eP P 08 45 28.6 +2.0
VRAC **Vranov** 95.48 322 *eP P 08 45 29.7 +0.9
CLL **Collm** 96.81 325 *eP P 08 45 33.0 -1.7
CLL *eS S 08 56 56.0 +2.8
CLL *ePS PS 08 58 24.0 +4.5
CLL *ePPS PPS 08 58 54.0
CLL *eSS SS 09 03 36.0 +7.5
CLL **Collm** 96.81 325 *eP P 08 45 33.0 -1.7
CLL MLR MLR
comp=Z,600nm,20.4s
GERES **GERESS Array B** 97.41 322 P Pdif 08 45 37.7 0.0
comp=Z,2.1nm,1.0s,baz=56,slow=5.0,SNR=8.3
GERES **GERESS Array B** 97.41 322 P P 08 45 36.4 -1.2
SYO **Syowa Base** 97.98 201‖ *eP Pdif 08 45 40.2 +0.7
SYO **Syowa Base** 97.98 201‖ *ePcP Pdif 08 45 41.2 +1.7
NVAR **Mina Array Bea** 102.87 47 PKKPbc PKKPbc 09 02 00.7 -0.4
comp=Z,0.4nm,0.7s,baz=112,slow=2.1,SNR=2.5
PDAR **Pinedale Array** 106.81 40 PKKPbc PKKPbc 09 01 51.4 +2.0
comp=Z,0.3nm,0.6s,baz=142,slow=5.6,SNR=4.4
PDAR PKKP **PKKPdf** 09 02 01.9 +0.7
comp=Z,0.5nm,0.7s,baz=124,slow=6.7,SNR=3.7
ULM **Lac du Bonnet** 109.70 28 PKKPbc PKKPbc 09 01 41.2 +1.0
comp=Z,2.9nm,0.7s,baz=285,slow=9.2,SNR=3.5
TXAR **Lajitas Array** 117.83 50 PKP **PKiKP** 08 50 51.7 +0.7
comp=Z,0.5nm,0.8s,baz=338,slow=0.6,SNR=4.9
TXAR PKKPab **PKKPab** 09 01 17.4 +1.4
comp=Z,0.2nm,0.7s,baz=216,slow=1.1,SNR=4.2
TXAR **Lajitas Array** 117.83 50 **PKPdf** 08 50 48.8 -2.1
S39A **Bolivar** 119.76 36 PKPdf **PKPdf** 08 50 51.9 -2.4
HHAR **Hobbs** 120.34 38 **PKPdf** 08 50 52.5 -3.0
TORD **Torodi Ar. Bea** 120.91 292 PKP **PKPdf** 08 50 56.1 -1.0
comp=Z,1.0nm,0.5s,baz=53,slow=2.0,SNR=12
TORD **Torodi Ar. Bea** 120.91 292 **PKPdf** 08 50 55.8 -1.3
U40A **Yellville** 120.94 37 **PKPdf** 08 50 55.4 -1.3
WVT **Waverly** 123.96 34 PKIKP **PKiKP** 08 51 02.6 -0.1
WVT **Waverly** 123.96 34 PKPdf **PKiKP** 08 51 02.6 -0.1
PLAL **Pickwick Lake** 124.67 35 **PKPdf** 08 51 03.2 -0.6
KOWA **Kowa** 125.57 296 **PKPdf** 08 51 05.5 -0.5
PLCA **Paso Flores** 145.52 156 PKPbc **PKPab** 08 51 43.9 +1.2
comp=Z,22nm,0.9s,baz=225,slow=3.6,SNR=59
LC01 **Cunco** 146.50 153 **PKPbc** 08 51 45.5 +0.2
DR12 **Loma Pena Alta** 147.51 29 PKPab **PKPbc** 08 51 49.6 +0.8
BI02 **San Fabin de** 148.60 151 PKPab **PKiKP** 08 51 53.1 +0.3
CO03 **El Pedregal** 153.45 145 PKPab **PKPab** 08 52 12.1 -2.9
GO04 **Tololo Observa** 153.88 144 **PKPbc** 08 52 02.2 -1.8
CPUP **Villa Florida** 163.03 167 PKP **PKPdf** 08 52 08.2 +1.4
comp=Z,2.6nm,1.0s,baz=258,slow=7.5,SNR=3.5
CPUP PKPab **PKPab** 08 52 57.3 +1.0
comp=Z,1.4nm,0.8s,baz=212,slow=4.7,SNR=3.1
LPAZ **La Paz** 164.11 116 PKP **PKPdf** 08 52 09.9 +1.1
comp=Z,2.1nm,1.0s,baz=21,slow=5.7,SNR=6.4
LPAZ PKPab **PKPab** 08 53 04.3 +2.0
comp=Z,1.8nm,0.7s,baz=237,slow=4.7,SNR=5.2

*GCMT **27** 08:34:17.9±0.1,9.°88N±0.°01×126.°81E±0.°01,h20km, MW5.4/135,Moment Tensor Solution. s115,c180; s135,c255; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.55±.03; $M_{\theta\theta}$0.34±.02; $M_{\phi\phi}$-0.88±.03; $M_{r\theta}$-0.33±.05; $M_{r\phi}$-1.24±.02; $M_{\theta\phi}$0.91±.06; Best double couple: $M_0$1.74700×10^{17} NP1:ϕ_s252.00000°,δ53.00000°, λ163.00000°. NP2:ϕ_s353.00000°,δ77.00000°,λ39.00000°. Principal axes: T 1.6730, Plg36.0000°, Azm220.0000°; N 0.1470, Plg49.0000°, Azm9.0000°; P -1.8200, Plg15.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **27** 08:34:18.0±1.1,9.°74N×126.°65E,h34km,mb5.5/48, MS4.8/17 Error ellipse: s-maj=8.5km s-min=4.5km az=111.9*

*BJI **27** 08:34:19.3±0.0,9.°37N×126.°83E,h77km,mB5.0/56, mb4.9/65,Ms5.1/58,Ms7 4.8/54*

*NEIC **27** 08:34:19,9.°89N×126.°82E,h19km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.45; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-0.93; $M_{r\theta}$-0.25; $M_{r\phi}$-1.25; $M_{\theta\phi}$1.21; Fault plane solution: $M_0$1.93000×10^{17} NP1:ϕ_s253.00000°, δ47.00000°,λ168.00000°. NP2:ϕ_s351.00000°,δ81.00000°, λ43.00000°. Principal axes: T 1.8180, Plg36.0000°, Azm221.0000°; N 0.2152, Plg46.0000°, Azm360.0000°; P -2.0332, Plg22.0000°, Azm114.0000°;*

*IDC **27** 08:34:19.8±2.3,9.°72N×126.°67E,h33km±17km,mb4.7/36, mb1 4.8/39,mb1mx4.8/43,mbtmp5.0/39,ML4.9/3,MS4.7/19, Ms1 4.7/19,ms1mx4.6/25 Error ellipse: s-maj=12.9km s-min=7.4km az=82.0*

*MAN **27** 08:34:19.2,9.°73N×126.°75E,h25km,mb5.7,ML4.7,MS5.0*

MAN Intensity III - Suriago City; Socorro and General Luna Surigao del Norte; Intensity II - Dapa Surigao del Norte and Butuan City; Intensity I - Tacloban City.

*NEIC **27** 08:34:20.9±2.3,9.°76N±0.°06×126.°75E±0.°07,h46km±4km, mb5.3/138,Ms_20 5.0/157,Mwc5.5(GCMT),Error ellipse:*

s-maj=10.9km s-min=8.2km az=80.0
DJA 27 08:34:22.0±0.6, 10°N·4°×12°7E±°, h51km±5km, M5.3/69, mB5.8/45, mb5.5/69, Mw(mB)5.3/45, Mwp5.8/5
ISC 27 08:34:20.7±0.5,**9.76N**±0.03°×**126.77E**±0.04,**h41**km±4km, **n577**,σ1§**64**/549,**mb5.3**/167,**MS5.0**/115,**18C-12D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.63**	**272**	*eP*	**Pn**	**08 34 31.6**	**-1.6**
GLSP				*eS*	**Sn**	**08 34 40.8**	**-1.3**
BIP	**Bislig**	**1.60**	**199**⇑	*eP*	**Pn**	**08 34 44.8**	**-1.8**
BIP				*eS*	**Sn**	**08 35 02.9**	**-3.2**
MSLP	**Maasin**	**1.92**	**281**	*eP*	**Pn**	**08 34 51.0**	**+0.2**
MSLP				*eS*	**Sn**	**08 35 16.4**	**+2.6**
CGP	**Cagayan de Oro**	**2.42**	**238**⇑	*eP*	Pn	08 34 48.5	-9.3
CGP				*i* S	**Sn**	**08 35 28.3**	**+2.1**
BUKP	**Musuan**	**2.51**	**222**	*eP*	**Pn**	**08 35 00.5**	**+1.4**
BUKP				*eS*	**Sn**	**08 35 33.1**	**+4.5**
LLP	**Lapu-Lapu**	**2.81**	**282**⇑	*iP*	**Pn**	**08 35 04.9**	**+1.8**
LLP				*i* S	**Sn**	**08 35 38.6**	**+2.7**
TBP	**Tagbilaran**	**2.86**	**269**⇑	*eP*	**Pn**	**08 35 05.2**	**+1.3**
TBP				*eS*	**Sn**	**08 35 38.6**	**+1.4**
DAV	**Davao City (W)**	**2.92**	**204**	Pn	**Pn**	**08 35 05.9**	**+1.3**
	180nm,0.3s,baz=145,slow=18,SNR=4.2						
DAV				Sn	**Sn**	**08 35 38.6**	**+0.2**
	213nm,0.3s,baz=66,slow=18,SNR=2.7						
DAV				LR	LR	08 36 35.9	
	comp=Z,43μm,18.7s,baz=27,slow=48						
DAV	**Davao City (W)**	**2.92**	**204**	Pn	**Pn**	**08 35 06.5**	**+1.9**
KCP	**Kidapawan**	**3.19**	**211**⇑	*eP*	**Pn**	**08 35 11.5**	**+3.0**
KCP				*i* S	**Sn**	**08 35 46.9**	**+1.6**
CNP	**Catarman**	**3.43**	**323**	*eP*	**Pn**	**08 35 09.1**	**-2.5**
CNP				*eS*	**Sn**	**08 35 49.9**	**-1.1**
DDMP	**Don Marcelino,**	**3.78**	**196**	*eP*	**Pn**	**08 35 18.4**	**+1.9**
DDMP				*eS*	Sn	08 35 45.9	-14
CNOP	**Candoni, Negro**	**4.07**	**271**	*eP*	**Pn**	**08 35 20.8**	**+0.4**
CNOP				*eS*	**Sn**	**08 36 07.8**	**+1.0**
JAP	**San Jose, Anti**	**4.84**	**282**⇑	*eP*	**Pn**	**08 35 34.3**	**+3.2**
LQP	**Lukban**	**6.70**	**311**⇑	*eP*	**Pn**	**08 35 52.5**	**-4.3**
TGY	**Tagaytay City**	**7.15**	**308**	Pn	**Pn**	**08 36 05.7**	**+2.8**
	70nm,0.3s,baz=33,slow=17,SNR=2.2						
TGY				LR	LR	08 38 30.5	
	comp=Z,7μm,19.3s,baz=168,slow=35						
TNTI	**Ternate**	**8.95**	**176**	P	**Pn**	**08 36 28.8**	**+1.4**
	7μm461nm,0.5s						
TNTI	**Ternate**	**8.95**	**176**		**Pn**	**08 36 26.9**	**-0.5**
TNTI				Sn	**Sn**	**08 38 05.1**	**-1.9**
MYLDM	**Lahad Datu**	**9.37**	**242**	Pn	**Pn**	**08 36 34.7**	**+1.4**
KMSI	**Cibinong**	**9.53**	**197**	P	Pn	08 36 47.8	+12
KKM	**Kota Kinabalu**	**11.08**	**251**	Pn	**Pn**	**08 36 57.9**	**+1.1**
LUWI	**Luwuk**	**11.44**	**201**	P	Pn	08 37 05.8	+4.2
	24μm5μm469nm,0.8s						
LUWI	**Luwuk**	**11.44**	**201**	Pn	**Pn**	**08 37 04.5**	**+2.9**
SIJI	**Sorong**	**11.47**	**157**	Pn	**Pn**	**08 37 01.7**	**-0.3**
	15nm,0.3s,baz=357,slow=17,SNR=9.5						
SIJI				Sn	Sn	08 38 55.9	-13
	3.8nm,0.3s,baz=229,slow=19,SNR=2.1						
SIJI				LR	LR	08 43 53.4	
	comp=Z,2μm,18.0s,baz=322,slow=50						
MPSI	**Mapaga**	**11.59**	**217**	P	Pn	08 37 15.0	+11
SANI	**Sanana**	**11.75**	**184**	P	**Pn**	**08 37 02.7**	**-3.2**
	5μm231nm,0.7s						
APSI	**Ampana**	**11.76**	**206**	P	Pn	08 37 10.8	+4.8
	12μm2μm121nm,1.2s						
NLAI	**Namlea**	**12.91**	**179**	P	**Pn**	**08 37 20.6**	**-1.1**
	7μm412nm,0.5s						
MSAI	**Masohi**	**13.19**	**170**	P	**P**	**08 37 35.8**	**+1.1**
FAKI	**Fak Fak**	**13.73**	**156**	P	**Pn**	**08 37 34.5**	**+1.6**
	3μm309nm,1.0s						
FAKI	**Fak Fak**	**13.73**	**156**	Pn	**Pn**	**08 37 31.9**	**-0.9**
SMKI	**Samarinda**	**13.90**	**224**	P	**P**	**08 37 43.0**	**+0.4**
TWG	**Pinlang**	**14.09**	**338**	Pn	**Pn**	**08 37 35.6**	**-2.2**
BAKI	**Biak**	**14.31**	**139**	P	**Pn**	**08 37 43.5**	**+2.7**
	5μm434nm,1.3s						
TTSI	**Tana Toraja**	**14.48**	**209**	P	**Pn**	**08 37 46.1**	**+3.1**
	4μm170nm,1.0s						
BNDI	**Bandanaira**	**14.53**	**167**	P	P	08 37 58.2	+8.7
YULB	**Yu-li**	**14.53**	**340**		**Pn**	**08 37 43.3**	**-0.4**
TPUB	**Ta-pu**	**14.69**	**337**	Pn	**Pn**	**08 37 46.1**	**+0.3**
BKB	**Balikpapan**	**14.71**	**222**	P	**P**	**08 37 55.0**	**+3.4**
SSLB	**Suanglung**	**15.02**	**339**	Pn	**Pn**	**08 37 49.2**	**-1.0**
SSLB				IAmb	IAmb	08 37 57.9	
	comp=Z,142nm,0.7s						
NACB	**Ninganchiao**	**15.16**	**342**	Pn	**Pn**	**08 37 51.4**	**-0.7**
SPSI	**Sidrap Palu**	**15.31**	**207**	P	**P**	**08 37 56.7**	**-1.6**
	comp=Z,3μmcomp=Z,201nm,1.2s						
BNSI	**Bone**	**15.55**	**206**	P	**P**	**08 38 00.0**	**-0.9**
	comp=Z,3μmcomp=Z,232nm,1.3s						
YHNB	**Yeheng**	**15.69**	**342**		**P**	**08 38 00.6**	**-2.0**
MTKI	**Muara Teweh, K**	**15.89**	**229**	P	**P**	**08 38 08.7**	**+3.9**
SBUM	**Sibu**	**16.18**	**244**	P	**Pn**	**08 38 06.2**	**+1.0**
SBUM				IAmb	IAmb	08 38 11.5	
	comp=Z,315nm,1.0s						
KAPI	**Kappang**	**16.25**	**206**	Pn	**Pn**	**08 38 06.7**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=26,slow=9.6,SNR=7.1						
KAPI				LR	LR	08 44 08.6	
	comp=Z,3μm,21.7s,baz=28,slow=36						
KAPI	**Kappang**	**16.25**	**206**	Pn	**Pn**	**08 38 06.2**	**0.0**
KAPI				IAmb	IAmb	08 38 14.8	
	comp=Z,175nm,1.0s						
BKSI	**Bulukumba**	**16.38**	**204**	P	**Pn**	**08 38 09.2**	**+1.5**
	comp=Z,1μmcomp=Z,88nm,0.8s						
JMZ	**Minamidaito 2**	**16.52**	**14**	P	**Pn**	**08 38 08.6**	**-1.0**
JMZ				IAmb	IAmb	08 38 14.6	
	comp=Z,315nm,1.2s						
KBKI	**Kotabaru**	**16.73**	**220**	P	**P**	**08 38 16.9**	**+2.9**
	comp=Z,3μmcomp=Z,151nm,0.8s						
QZH	**Quanzhou**	**16.99**	**334**	P	**P**	**08 38 18.3**	**+1.5**
QZH				S	**S**	**08 41 30.5**	**-1.4**
QZH				LR	LR		
	comp=Z,1μm,11.8s						
QZH				LR	LR		
	comp=Z,1μm,12.6s						
QZH				LR	LR		
	comp=Z,2μm,14.2s						
BBKI	**Banjar Baru**	**17.71**	**223**	P	**P**	**08 38 28.7**	**+3.8**
	comp=Z,5μmcomp=Z,246nm,1.2s						
STKI	**Sintang**	**18.00**	**239**	P	P	08 38 38.0	+10
DLV	**T Lat**	**18.08**	**279**	P	**Pn**	**08 38 29.3**	**+0.1**
GENI	**Genyem**	**18.13**	**132**	P	**P**	**08 38 31.4**	**+1.9**
	comp=Z,11μmcomp=Z,551nm,1.9s						
GUMO	**Guam**	**18.13**	**76**	LR	LR	08 44 52.6	
	comp=Z,2μm,18.6s,baz=248,slow=35						
KSM	**Kuching**	**18.32**	**244**	P	**P**	**08 38 30.5**	**-1.1**
JAY	**Jayapura**	**18.48**	**131**	P	**P**	**08 38 33.6**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=299,slow=7.9,SNR=20						
JAY				LR	LR	08 45 11.6	
	comp=Z,3μm,18.5s,baz=294,slow=35						
JAY	**Jayapura**	**18.48**	**131**	P	**Pn**	**08 38 33.9**	**+0.1**
	comp=Z,3μmcomp=Z,224nm,1.0s						
QIZ	**Qiongzhong**	**18.79**	**301**	P	**Pn**	**08 38 37.8**	**+0.3**
QIZ				S	**Sn**	**08 42 05.0**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,21nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,630nm,10.8s						
QIZ				LR	LR		
	comp=Z,3μm,14.7s						
QIZ				LR	LR		
	comp=Z,3μm,17.5s						
QIZ				LR	LR		
	comp=Z,4μm,18.6s						
MMRI	**Maumere**	**18.82**	**194**	P	**P**	**08 38 34.4**	**-2.7**
EDFI	**Ende, Flores**	**19.07**	**196**	P	**Pn**	**08 38 43.5**	**+2.5**
	comp=Z,1μmcomp=Z,177nm,0.7s						
PBKI	**Pangkalan Bun**	**19.48**	**231**	P	**Pn**	**08 38 46.6**	**+0.8**
	comp=Z,629nm,1.2s						
SOEI	**Soe**	**19.54**	**187**	P	**Pn**	**08 38 47.2**	**+0.5**
	comp=Z,6μmcomp=Z,584nm,0.9s						
SOEI	**Soe**	**19.54**	**187**	P	**P**	**08 38 45.2**	**+0.1**
BATI	**Baumata**	**20.07**	**189**	P	**P**	**08 38 51.5**	**+0.7**
	comp=Z,1μm,0.8s,baz=180,slow=1.2,SNR=28						
BATI				S	**S**	**08 42 32.4**	**-1.9**
	comp=Z,59nm,0.3s,baz=79,slow=24,SNR=6.6						
BATI				LR	LR	08 46 40.9	
	comp=Z,3μm,21.9s,baz=9.5,slow=37						
BATI	**Baumata**	**20.07**	**189**	P	**P**	**08 38 51.8**	**+1.0**
	comp=Z,9μmcomp=Z,1μm,0.9s						
PLAI	**Plampang**	**20.52**	**206**	P	Pn	08 38 58.6	+0.6
	comp=Z,4μmcomp=Z,430nm,0.9s						
KMMI	**Kalianget**	**21.01**	**218**	P	**P**	**08 39 04.6**	**+3.7**
	comp=Z,5μmcomp=Z,370nm,1.4s						
ABJI	**Asem Bagus**	**21.44**	**216**	P	**P**	**08 39 07.0**	**+1.4**
	comp=Z,3μmcomp=Z,120nm,0.9s						
UBPT	**Khong Chiam**	**21.49**	**287**	P	**P**	**08 39 04.7**	**-1.4**
DNP	**Denpasar**	**21.63**	**213**	P	**P**	**08 39 10.1**	**+2.5**
	comp=Z,42μmcomp=Z,492nm,1.0s						
BLJI	**Banyuglugur**	**21.78**	**217**	P	**P**	**08 39 12.0**	**+2.8**
	comp=Z,185nm,1.2s						
GRJI	**Gresik**	**21.84**	**221**	P	**P**	**08 39 14.0**	**+4.2**
	comp=Z,2μmcomp=Z,200nm,1.1s						
SSE	**Sheshan**	**21.86**	**347**	P	**P**	**08 39 11.3**	**+1.4**
SSE				S	**S**	**08 43 14.0**	**+4.7**
SSE				pmax	pmax		
	comp=Z,35nm,0.9s						
SSE				pmax	pmax		
	comp=Z,180nm,4.6s						
SSE				LR	LR		
	comp=Z,850nm,16.8s						
SSE				LR	LR		
	comp=Z,380nm,11.8s						
JSU	**Suzuyama**	**21.91**	**8**	P	**P**	**08 39 07.8**	**-2.7**
JAGI	**Jajag, Banyuwa**	**22.04**	**215**	P	**P**	**08 39 08.7**	**-3.3**
GMJI	**Gumukmas**	**22.29**	**217**	P	**P**	**08 39 16.2**	**+1.5**
	comp=Z,148nm,1.2s						
JCJ	**Chichijima**	**22.57**	**38**	P	**P**	**08 39 17.4**	**-0.3**
JCJ				IAmb	IAmb	08 39 18.9	
	comp=Z,127nm,0.9s						
TPI	**Tanjungpandan**	**22.74**	**238**	P	**P**	**08 39 19.5**	**0.0**
	comp=Z,3μmcomp=Z,314nm,1.1s						
MTN	**Manton Dam**	**22.87**	**169**	P	**P**	**08 39 20.8**	**0.0**
	baz=23,SNR=12						
MTN	**Manton Dam**	**22.87**	**169**	P	**P**	**08 39 18.9**	**-1.8**
MTN				IAmb	IAmb	08 39 44.5	
	comp=Z,169nm,1.1s						
KDU	**Kakadu**	**23.01**	**166**	P	**P**	**08 39 21.0**	**-1.2**
	baz=23,SNR=9.1						
PWJI	**Pagerwojo**	**23.11**	**221**	P	**P**	**08 39 24.2**	**+0.9**
	comp=Z,71nm,1.3s						
NJ2	**Nanjing**	**23.36**	**343**	*eP*	**P**	**08 39 26.3**	**+0.7**
NJ2				S	**S**	**08 43 37.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,470nm,3.6s						
NJ2				LR	LR		
	comp=Z,1μm,11.4s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s						
NJ2				LR	LR		
	comp=Z,2μm,15.2s						
WOJI	**Wonogiri, Jawa**	**23.55**	**223**	P	**P**	**08 39 27.6**	**+0.1**
	comp=Z,190nm,1.2s						
JNU	**Nakatsue**	**23.56**	**9**	P	**P**	**08 39 27.8**	**+0.3**
	comp=Z,19nm,0.9s,baz=184,slow=9.2,SNR=3.4						
JNU	**Nakatsue**	**23.56**	**9**	P	**P**	**08 39 28.3**	**+0.8**
JNU				IAmb	IAmb	08 39 45.1	
	comp=Z,90nm,1.1s						
WHN	**Wuhan**	**23.70**	**333**	P	**P**	**08 39 31.3**	**+2.5**
WHN				S	**S**	**08 43 46.8**	**+5.7**
WHN				pmax	pmax		
	comp=Z,260nm,1.1s						
WHN				LR	LR		
	comp=Z,3μm,17.7s						
WHN				LR	LR		
	comp=Z,3μm,12.4s						
WHN				LR	LR		
	comp=Z,5μm,16.1s						
PPBI	**Pangkal Pinang**	**23.71**	**241**	P	**P**	**08 39 29.7**	**+0.5**
	comp=Z,10μmcomp=Z,342nm,1.3s						
TPRI	**Tanjung Pinang**	**23.80**	**250**	P	**P**	**08 39 31.4**	**+1.4**
	comp=Z,231nm,1.2s						
UGM	**Wanagama**	**23.87**	**223**	P	**P**	**08 39 33.6**	**+3.0**
	comp=Z,305nm,1.0s						
UGM	**Wanagama**	**23.87**	**223**	P	**P**	**08 39 31.4**	**+0.7**
UGM				IAMs_20	IAMs_20	08 49 00.8	
	comp=Z,4μm,22.0s						
YOGI	**Yogyakarta**	**23.96**	**224**	P	**P**	**08 39 35.8**	**+4.4**
	comp=Z,115nm,0.9s						
MYKOM	**Kota Tinggi**	**24.12**	**252**	P	**P**	**08 39 33.1**	**+0.2**
DSRI	**Dabo**	**24.31**	**247**	P	**P**	**08 39 36.2**	**+1.5**
	comp=Z,1μmcomp=Z,83nm,1.5s						
KPJI	**Karang Pucung**	**24.57**	**227**	P	**P**	**08 39 37.2**	**+0.2**
	comp=Z,2μmcomp=Z,171nm,1.1s						
SLVN	**Son La**	**24.81**	**300**	P	**P**	**08 39 36.6**	**-2.7**
LEM	**Lembang**	**25.20**	**230**	P	**P**	**08 39 43.4**	**+0.4**
	comp=Z,173nm,0.9s,baz=104,slow=5.7,SNR=12						
LEM				LR	LR	08 50 04.6	
	comp=Z,2μm,19.8s,baz=352,slow=38						
GYA	**Guiyang**	**25.25**	**314**	⇑P	**P**	**08 39 43.8**	**+0.5**
GYA				pP	sP	08 39 57.3	+1.1
GYA				S	**S**	**08 44 10.3**	**+3.8**
GYA				pmax	pmax		
	comp=Z,14nm,1.3s						
GYA				LR	LR		
	comp=Z,3μm,15.9s						
GYA				LR	LR		
	comp=Z,3μm,18.0s						
GYA				LR	LR		
	comp=Z,4μm,19.1s						
PMBI	**Palembang**	**25.27**	**241**	P	**P**	**08 39 46.7**	**+3.3**
	comp=Z,17μmcomp=Z,1μm,1.2s						
PMBI	**Palembang**	**25.27**	**241**	P	**P**	**08 39 43.8**	**+0.4**
KNRA	**Kununurra**	**25.35**	**176**	P	**P**	**08 39 43.6**	**-0.4**
CBJI	**Citeko**	**25.53**	**232**	P	**P**	**08 39 48.8**	**+3.0**
	comp=Z,318nm,0.8s						
CISI	**Cisompet, Garu**	**25.54**	**228**	P	**P**	**08 39 49.1**	**+3.2**
	comp=Z,4μmcomp=Z,200nm,1.2s						
CISI	**Cisompet, Garu**	**25.54**	**228**	P	**P**	**08 39 43.1**	**-2.8**
CISI				IAmb	IAmb	08 39 50.0	
	comp=Z,129nm,0.9s						
ENH	**Enshi**	**26.01**	**324**	P	**P**	**08 39 49.4**	**-0.6**
ENH				IAmb	IAmb	08 39 52.2	
	comp=Z,55nm,0.9s						
ENH				IAMs_20	IAMs_20	08 51 09.8	
	comp=Z,4μm,19.0s						
IPM	**Ipoh**	**26.07**	**260**	P	**P**	**08 39 47.9**	**-2.7**
JHJ	**Hachijo jima 2**	**26.16**	**25**	LR	LR	08 49 26.4	
	comp=Z,2μm,19.9s,baz=204,slow=34						
KLSI		**26.23**	**238**	P	**P**	**08 39 52.8**	**+0.7**
	comp=Z,1μmcomp=Z,113nm,1.4s						
KULM	**Kulim**	**26.26**	**262**	P	**P**	**08 39 51.5**	**-0.9**
KULM				IAmb	IAmb	08 39 55.1	
	comp=Z,132nm,1.2s						
TJN	**Taejon**	**26.51**	**1**⇑	*eP*	**P**	**08 39 54.0**	**-0.3**
CGJI	**Cibinong**	**26.56**	**233**	P	**P**	**08 39 57.3**	**+2.3**
	comp=Z,10μmcomp=Z,152nm,1.0s						
MDSI	**Maura Dua**	**26.58**	**239**	P	**P**	**08 39 55.9**	**+0.6**
	comp=Z,3μmcomp=Z,290nm,1.1s						
LWLI	**Liwa**	**26.97**	**238**	P	**P**	**08 39 59.4**	**+0.5**
	comp=Z,435nm,0.8s						
BKNI	**Bangkinang**	**27.26**	**251**	P	**P**	**08 40 03.6**	**+2.2**
	comp=Z,196nm,1.2s						
BKNI	**Bangkinang**	**27.26**	**251**	P	**P**	**08 40 01.3**	**-0.1**
KMI	**Kunming**	**27.47**	**307**⇓	*iP*	**P**	**08 40 04.3**	**+0.8**
KMI				PP	**PnPn**	**08 40 55.8**	**+6.4**
KMI				S	**S**	**08 44 38.3**	**-3.5**
KMI				SS	**SnSn**	**08 45 58.0**	**+3.8**
KMI				pmax	pmax		
	comp=Z,19nm,0.8s						
KMI				pmax	pmax		
	comp=Z,190nm,7.5s						
KMI				LR	LR		
	comp=Z,2μm,16.6s						
KMI				LR	LR		
	comp=Z,2μm,16.9s						
KMI				LR	LR		
	comp=Z,2μm,17.8s						
JGF	**Kuroka**	**27.48**	**19**	IAMs_20	IAMs_20	08 48 21.3	
	comp=Z,3μm,21.0s						
KSI	**Kapahiang**	**27.52**	**242**	P	**P**	**08 40 05.8**	**+2.0**
	comp=Z,126nm,0.6s						
KSAR	**Wonju Array Be**	**27.58**	**2**	P	**P**	**08 40 03.6**	**-0.4**
KSAR	**Wonju Array Be**	**27.58**	**2**	P	**P**	**08 40 03.6**	**-0.4**
KSRS	**Korea Array**	**27.59**	**2**	P	**P**	**08 40 04.4**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=184,slow=9.5,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.70**	**182**	P	**P**	**08 40 04.8**	**-0.4**
	comp=Z,95nm,0.8s,baz=36,slow=7.6,SNR=15						
FITZ				S	**S**	**08 44 50.9**	**+6.1**
	comp=Z,3.5nm,0.7s,baz=0.0,slow=20,SNR=1.2						
FITZ				LR	LR	08 52 43.3	
	comp=Z,451nm,20.1s,baz=13,slow=40						
FITZ	**Fitzroy Crossi**	**27.70**	**182**	P	**P**	**08 40 06.7**	**+1.4**
	baz=28						
FITZ	**Fitzroy Crossi**	**27.70**	**182**	P	**P**	**08 40 04.5**	**-0.7**
KRJI	**Kerinci**	**27.82**	**246**	P	**P**	**08 40 09.3**	**+2.8**
	comp=Z,207nm,0.9s						
PMG	**Port Moresby**	**27.83**	**133**	P	**P**	**08 40 05.1**	**-1.4**
	comp=Z,65nm,1.0s,baz=315,slow=6.4,SNR=7.6						
PMG	**Port Moresby**	**27.83**	**133**	P	**P**	**08 40 04.5**	**-1.9**
PMG				IAmb	IAmb	08 40 08.3	
	comp=Z,61nm,0.9s						
CM31	**Chiang Mai Arr**	**28.30**	**291**	P	**P**	**08 40 08.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**28.30**	**291**	P	**P**	**08 40 09.8**	**-0.9**
	comp=Z,14nm,0.9s,baz=106,slow=7.1,SNR=9.4						
CMAR	**Chiang Mai Arr**	**28.30**	**291**	P	**P**	**08 40 07.2**	**-3.5**
CHTO	**Chiang Mai**	**28.39**	**292**	P	**P**	**08 40 09.6**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,36nm,1.5s						
CHTO	**Chiang Mai**	**28.39**	**292**	P	**P**	**08 40 09.6**	**-1.9**
MNSI	**Mandailing Nat**	**28.47**	**253**	P	**P**	**08 40 12.1**	**-0.1**
	comp=Z,8μmcomp=Z,124nm,0.9s						
PSI	**Prapat**	**28.51**	**258**	P	**P**	**08 40 11.2**	**-1.5**
	comp=Z,38nm,0.8s,baz=14,slow=1.9,SNR=7.3						
PSI				LR	LR	08 53 01.4	
	comp=Z,3μm,20.6s,baz=90,slow=39						
PSI	**Prapat**	**28.51**	**258**	P	**P**	**08 40 11.2**	**-1.5**
PSI				pmax	pmax		
	comp=Z,54nm,0.9s						
PSI				MLR	MLR		
	comp=Z,3μm,19.0s						
RPSI	**Rantau Prapat**	**28.54**	**258**	P	**P**	**08 40 11.4**	**-1.4**
RPSI				IAmb	IAmb	08 40 15.9	
	comp=Z,54nm,0.9s						
RPSI				IAMs_20	IAMs_20	08 52 48.8	
	comp=Z,3μm,19.0s						
RPSI	**Rantau Prapat**	**28.54**	**258**	P	**P**	**08 40 11.2**	**-1.6**
MAJO	**Matsushiro**	**28.61**	**19**	P	**P**	**08 40 10.4**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,53nm,1.6s						
MAJO	**Matsushiro**	**28.61**	**19**	P	**P**	**08 40 10.4**	**-2.9**
MAT	**Matsushiro**	**28.61**	**19**	P	**P**	**08 40 11.0**	**-2.3**
MJAR	**Matsushiro Arr**	**28.61**	**19**	P	**P**	**08 40 12.0**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=193,slow=9.4,SNR=4.9						
MJAR				PP	PP	08 41 05.0	-13
	comp=Z,9.2nm,1.0s,baz=204,slow=7.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**28.61**	**19**	P	**P**	**08 40 12.0**	**-1.3**
MJAR	**Matsushiro Arr**	**28.61**	**19**	P	**P**	**08 40 11.6**	**-1.7**
KRVT	**Keravat (AS076**	**28.79**	**118**	P	**P**	**08 40 15.9**	**+0.9**
	comp=Z,38nm,0.7s,baz=155,slow=16,SNR=5.8						
KRVT				LR	LR	08 53 07.3	
	comp=Z,1μm,18.3s,baz=292,slow=39						
XAN	**Xi'an**	**29.19**	**329**	P	**P**	**08 40 16.7**	**-1.8**
XAN				pmax	pmax		
	comp=Z,50nm,1.0s						
XAN				MLR	MLR		
	comp=Z,2μm,20.0s						
XAN	**Xi'an**	**29.19**	**329**	P	**P**	**08 40 16.7**	**-1.8**
XAN				IAmb	IAmb	08 40 33.2	
	comp=Z,50nm,1.0s						
SISI	**Saibi**	**29.68**	**250**	P	**P**	**08 40 23.9**	**+1.0**
	comp=Z,78nm,1.2s						
LHMI	**Lhok Sumawe**	**29.89**	**264**	P	P	08 40 29.0	+4.1
	comp=Z,2μmcomp=Z,108nm,1.1s						
LHMI	**Lhok Sumawe**	**29.89**	**264**	P	**P**	**08 40 24.4**	**-0.4**
CD2	**Chengdu**	**30.02**	**318**	P	**P**	**08 40 25.0**	**-0.8**
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
CD2				LR	LR		
	comp=Z,4μm,22.0s						
CD2				LR	LR		
	comp=Z,4μm,20.8s						
CD2				LR	LR		
	comp=Z,4μm,14.5s						
GSI	**Gunungsitoli**	**30.22**	**256**	P	**P**	**08 40 27.7**	**0.0**
	comp=Z,3μmcomp=Z,162nm,1.0s						
GSI	**Gunungsitoli**	**30.22**	**256**	P	**P**	**08 40 26.1**	**-1.7**
WB0	**Warramunga Arr**	**30.28**	**166**	P	**P**	**08 40 26.1**	**-2.1**
WB0				IAmb	IAmb	08 40 43.8	
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**30.43**	**166**⇑	*eP*	**P**	**08 40 27.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**30.43**	**166**	P	**P**	**08 40 26.9**	**-2.6**
WRAB				IAmb	IAmb	08 41 14.8	
	comp=Z,179nm,1.9s						
WRA	**Warramunga Arr**	**30.44**	**166**	P	**P**	**08 40 27.8**	**-1.8**
	comp=Z,13nm,0.7s,baz=343,slow=9.9,SNR=6.7						
WRA				PcP	**PcP**	**08 43 29.3**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=334,slow=3.0,SNR=4.9						
WRA	**Warramunga Arr**	**30.44**	**166**	P	**P**	**08 40 27.9**	**-1.6**
WB2	**Warramunga Arr**	**30.44**	**166**	P	**P**	**08 40 27.0**	**-2.6**
WR0	**Warramunga Arr**	**30.51**	**165**	P	**P**	**08 40 28.5**	**-1.7**
WR0				IAmb	IAmb	08 41 03.8	
	comp=Z,42nm,1.0s						
MLSI	**Meulaboh, Aceh**	**30.61**	**262**	P	**P**	**08 40 32.7**	**+1.5**
	comp=Z,44nm,1.0s						
PATS	**Pohnpei**	**31.34**	**93**	P	**P**	**08 40 37.0**	**-0.7**
	baz=31,SNR=3.7						
PATS	**Pohnpei**	**31.34**	**93**	P	**P**	**08 40 36.0**	**-1.7**
BJT	**Baijiatuao**	**31.58**	**344**	P	**P**	**08 40 38.4**	**-1.0**
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
BJT				MLR	MLR		
	comp=Z,900nm,19.0s						
BJT	**Baijiatuao**	**31.58

BTO Baotou 34.12 337 *e*P **P** **08 41 01.3 -0.5**
GIRL Giralia 34.46 201 P **P** **08 41 06.6 +1.8**
baz=34,SNR=4.3
USA0B Ussuriysk Arra 34.61 7 P **P** **08 41 07.8 +2.0**
USA0B IAmb IAmb 08 41 24.2
comp=Z,26nm,1.1s
USRK Ussuriysk Ar. 34.61 7 P **P** **08 41 06.3 +0.5**
comp=Z,5.8nm,0.8s,baz=198,slow=7.5,SNR=4.9
USRK PcP **PcP** **08 43 40.4 +0.8**
comp=Z,2.6nm,0.7s,baz=159,slow=2.5,SNR=2.6
WRKA Warakurna 34.62 178 P **P** **08 41 06.9 +0.8**
baz=35,SNR=5.5
MDJ Mudanjiang 34.82 4 P **P** **08 41 09.0 +1.4**
MDJ pP sP 08 41 23.0 +3.3
MDJ S **S** **08 46 37.5 +1.9**
MDJ sS ScP 08 47 07.8 -15
MDJ SS **SnSn** **08 48 58.5 +6.5**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,260nm,5.8s
MDJ LR LR
comp=Z,1μm,15.4s
MDJ LR LR
comp=Z,1μm,14.4s
MDJ LR LR
comp=Z,910nm,22.9s
CTA Charters Tower 35.32 147 P **P** **08 41 12.1 -0.1**
comp=Z,18nm,0.7s,baz=331,slow=12,SNR=10
CTA PP **PnPn** **08 42 32.1 +0.7**
comp=Z,11nm,0.9s,baz=315,slow=11,SNR=3.3
CTA ScP **ScP** **08 47 26.4 +1.5**
comp=Z,11nm,1.0s,baz=309,slow=5.9,SNR=5.9
CTAO Charters Tower 35.32 147 P **P** **08 41 11.8 -0.5**
CTAO pmax pmax
comp=Z,63nm,0.9s
CTAO Charters Tower 35.32 147 P **P** **08 41 11.8 -0.5**
SHL Shillong 36.62 300 P **P** **08 41 22.0 -1.6**
SHL pmax pmax
comp=Z,42nm,0.7s
SHL MLR MLR
comp=Z,2μm,19.0s
SHL Shillong 36.62 300 P **P** **08 41 22.0 -1.6**
SHL IAMs_20 IAMs_20 08 56 32.2
comp=Z,2μm,19.0s
ASAJ Asahikawa 36.88 19 P **P** **08 41 26.4 +1.1**
comp=Z,14nm,1.0s,baz=238,slow=18,SNR=2.9
JKA Kamikawa-asahi 36.88 19 IAMs_20 IAMs_20 08 58 44.9
comp=Z,2μm,19.0s
MEEK Meekatharra 37.03 192 P **P** **08 41 26.2 -0.6**
baz=37,SNR=10
YSS Yuzh-Sakhalins 39.48 17 *e*P **P** **08 41 48.2 +1.0**
YSS *e* 08 43 24.2
YSS *e*S **S** **08 47 53.3 +6.8**
YSS MLR MLR
comp=Z,900nm,17.0s
KLR Kul'dur 39.57 5 P **P** **08 41 47.4 -0.5**
comp=Z,4.8nm,0.6s,baz=169,slow=6.9,SNR=5.6
KLR PcP **PcP** **08 43 55.4 +0.8**
comp=Z,4.4nm,0.8s,baz=257,slow=2.0,SNR=4.1
H11S3 WAKE ISLAND Hy 39.60 73 T T 09 24 58.2
baz=262,slow=75,SNR=459
H11S1 WAKE ISLAND Hy 39.62 73 T T 09 24 55.6
baz=262,slow=75,SNR=248
H11S2 WAKE ISLAND Hy 39.62 73 T T 09 24 59.5
baz=262,slow=75,SNR=195
QLP Quilpie 39.91 155 P **P** **08 41 49.7 -1.2**
baz=40,SNR=10.0
H11N1 WAKE ISLAND Hy 39.96 71 T T 09 25 20.8
baz=264,slow=74,SNR=31
MORW Morawa 39.96 195 P **P** **08 41 51.2 -0.1**
baz=40,SNR=23
MORW Morawa 39.96 195 P **P** **08 41 50.5 -0.8**
H11N2 WAKE ISLAND Hy 39.96 71 T T 09 25 21.4
baz=264,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 39.97 71 T T 09 25 21.6
baz=264,slow=74,SNR=29
FORT Forrest 40.32 178 P **P** **08 41 54.0 -0.3**
baz=40,SNR=11
FORT Forrest 40.32 178 P **P** **08 41 53.6 -0.7**
KMBL Kambalda 41.16 186 P **P** **08 42 00.7 -0.5**
baz=41,SNR=16
BLDU Ballidu 41.29 193 P **P** **08 42 02.0 -0.3**
baz=41,SNR=6.6
ULN Ulaanbaatar 41.47 340 P **P** **08 42 04.1 +0.3**
ULN pmax pmax
comp=Z,33nm,0.9s
ULN MLR MLR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 41.47 340 P **P** **08 42 04.1 +0.3**
ULN Ulaanbaatar 41.47 340 IAMs_20 IAMs_20 08 59 25.5
comp=Z,2μm,20.0s
GRNR Gornyy 41.66 9↓ *i*P **P** **08 42 06.4 +1.3**
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,970nm,16.0s
GRNR MLR MLR
comp=N,620nm,19.0s
GRNR MLR MLR
comp=Z,920nm,16.0s
SONM Songino Array 41.67 339 P **P** **08 42 04.7 -0.7**
comp=Z,24nm,0.9s,baz=162,slow=9.0,SNR=10
SONM Songino Array 41.67 339 P **P** **08 42 04.9 -0.5**
SONM pmax pmax
comp=Z,32nm,1.2s
SONM Songino Array 41.67 339 P **P** **08 42 04.8 -0.5**
KLBR Kellerberrin 42.01 192 P **P** **08 42 07.9 -0.3**
baz=42,SNR=11
EIDS Eidsvold 42.19 146 P **P** **08 42 09.0 -0.7**
baz=42,SNR=6.5
EIDS Eidsvold 42.19 146 P **P** **08 42 08.7 -1.1**
EIDS IAmb IAmb 08 42 09.9
comp=Z,45nm,1.0s
EIDS IAMs_20 IAMs_20 09 00 05.7
comp=Z,2μm,21.0s
MUN Mundaring 42.71 193 P **P** **08 42 13.9 0.0**
baz=43,SNR=24
BBOO Buckleboo 43.25 169 P **P** **08 42 17.9 -0.3**
baz=43,SNR=13
BBOO Buckleboo 43.25 169 P **P** **08 42 17.9 -0.3**
NWAO Narrogin (SRO) 43.41 192 P **P** **08 42 19.4 -0.1**
comp=Z,50nm,0.6s,baz=53,slow=8.0,SNR=14
NWAO Narrogin (SRO) 43.41 192 P **P** **08 42 19.6 +0.1**
baz=44,SNR=11
NWAO Narrogin (SRO) 43.41 192 P **P** **08 42 19.5 +0.1**
NWAO pmax pmax
comp=Z,63nm,0.8s
NWAO Narrogin (SRO) 43.41 192 P **P** **08 42 19.5 +0.1**
NWAO IAmb IAmb 08 42 20.7
comp=Z,63nm,0.8s
NWAO Narrogin (SRO) 43.41 192 P **P** **08 42 19.3 -0.1**
NWAO IAmb IAmb 08 42 20.7
comp=Z,50nm,0.8s
STKA Stephens Creek 43.76 162 P **P** **08 42 21.7 -0.7**
comp=Z,17nm,0.8s,baz=330,slow=8.3,SNR=5.8
STKA LR LR 09 06 30.1
comp=Z,440nm,18.2s,baz=333,slow=44
STKA Stephens Creek 43.76 162 P **P** **08 42 22.0 -0.4**
STKA pmax pmax
comp=Z,18nm,1.5s
STKA Stephens Creek 43.76 162 P **P** **08 42 22.0 -0.4**
HTT Hallett 44.48 165 P **P** **08 42 29.0 +0.8**
baz=44,SNR=4.8
CMSA Cobar Meteorol 44.88 157 P **P** **08 42 31.6 +0.3**
baz=45,SNR=8.2
RKGY Rocky Gully 45.09 191 P **P** **08 42 33.6 +0.7**
baz=45,SNR=21
PALK Pallekele 45.60 271 P **P** **08 42 36.9 -0.5**
comp=Z,9.1nm,0.4s,baz=169,slow=7.6,SNR=8.4
PALK Pallekele 45.60 271*c i*P **P** **08 42 37.1 -0.3**
PALK pmax pmax
comp=Z,39nm,1.4s
PALK Pallekele 45.60 271 P **P** **08 42 36.7 -0.7**
TLY Talaya 45.88 340 *e*P **P** **08 42 41.1 +2.1**
TLY *e*S **S** **08 49 22.4 +1.9**
TLY *e*SSS SSS 08 53 38.3
TLY pmax pmax
comp=Z,174nm,1.5s
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 45.88 340 P **P** **08 42 38.5 -0.5**
TLY IAmb IAmb 08 42 56.4
comp=Z,40nm,1.0s
TLY IAMs_20 IAMs_20 09 02 16.2
comp=Z,1μm,20.0s
ARMA Armidale 46.55 150 P **P** **08 42 44.9 +0.3**
baz=47,SNR=3.6
ARMA Armidale 46.55 150 P **P** **08 42 44.9 +0.3**
ARMA IAmb IAmb 08 42 45.9
comp=Z,64nm,1.3s
TARA Tarawa 46.64 97 IAMs_20 IAMs_20 08 56 51.4
comp=Z,2μm,22.0s
MOY Mondy 46.80 338 *e*P **P** **08 42 47.9 +1.5**
MOY pmax pmax
comp=Z,99nm,1.5s
HYB Hyderabad 47.38 285 *i* P **P** **08 42 50.0 -1.3**
SKR Severo-Kuril's 47.43 25 *e*P **P** **08 42 55.3 +4.2**
SKR *e*S **S** **08 49 46.2 +3.6**
SKR pmax pmax
comp=Z,100nm,13.1s
SKR MLR MLR
comp=Z,900nm,20.0s
SKR MLR MLR
comp=Z,900nm,18.0s
WMQ Urumqi 47.92 322 *e*P **P** **08 42 55.5 +0.3**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,91nm,4.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,950nm,18.5s
YNG Young 48.38 156 P **P** **08 42 59.1 +0.4**
baz=48,SNR=12
ARPS Mount Arapiles 48.40 164 P **P** **08 42 59.0 +0.3**
baz=48,SNR=5.9
BOD Bodaibo 48.95 351 *e*P **P** **08 43 03.6 +0.9**
BOD pmax pmax
comp=Z,41nm,1.3s
CAN Canberra 49.52 156 P **P** **08 43 06.3 -1.2**
CAN pmax pmax
comp=Z,85nm,1.0s
CAN Canberra 49.52 156 P **P** **08 43 06.2 -1.2**
CNB Canberra Magne 49.66 156 P **P** **08 43 09.2 +0.7**
baz=50,SNR=9.4
PEA0B Petropavlovsk- 49.90 24↓ *e*P **P** **08 43 10.4 +0.3**
PEA0B Petropavlovsk- 49.90 24 IAMs_20 IAMs_20 09 06 30.7
comp=Z,2μm,20.0s
PETK Petropavlovsk- 49.90 24 P **P** **08 43 11.2 +1.1**
comp=Z,11nm,0.7s,baz=189,slow=5.5,SNR=11
PETK PcP **PcP** **08 44 30.1 0.0**
comp=Z,3.8nm,0.7s,baz=207,slow=6.0,SNR=1.7
PETK Petropavlovsk- 49.90 24 P **P** **08 43 10.8 +0.7**
DZM Mont Dzumac 50.15 130 P **P** **08 43 12.9 +0.4**
comp=Z,28nm,1.0s,baz=2.7,slow=6.7,SNR=7.4
DZM Mont Dzumac 50.15 130 *e*P **P** **08 43 11.2 -1.3**
comp=Z,82nm,1.3s
DZM Mont Dzumac 50.15 130 *e*LR LR 08 57 10.4
comp=Z,1μm,27.1s
DZM Mont Dzumac 50.15 130 P **P** **08 43 11.3 -1.2**
DZM IAmb IAmb 08 43 13.2
comp=Z,35nm,1.1s
PET Petropavlovsk 50.23 25*de*P **P** **08 43 12.7 +0.2**
PET pmax pmax
comp=Z,122nm,1.3s
TOO Toolangi 50.24 161 P **P** **08 43 13.9 +1.0**
baz=50,SNR=7.1
TOO Toolangi 50.24 161 P **P** **08 43 13.9 +1.0**
TOO pmax pmax
comp=Z,43nm,0.8s
TOO Toolangi 50.24 161 P **P** **08 43 13.9 +1.0**
DGZ Jazzator, Alta 51.46 328↓ *e*P **P** **08 43 24.3 +2.2**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
ZSN Zaisan 51.57 325 *e*P **P** **08 43 21.2 -1.6**
ZSN Zaisan 51.57 325 *e*P **P** **08 43 21.1 -1.6**
YAK Yakutsk 52.22 2 *e*P **P** **08 43 26.3 -1.0**
YAK *e**PP **pP** **08 43 34.9 -1.3**
YAK *e* 08 44 38.7
YAK *e*S **S** **08 50 50.7 +1.6**
YAK *e**SS **pS** **08 50 57.9 -2.1**
YAK *e* 08 53 18.5
YAK *e*SS **SS** **08 54 19.3 -7.6**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK smax smax
comp=N,209nm,4.2s
YAK smax smax
comp=E,138nm,4.7s
YAK MLR MLR
comp=Z,1μm,24.0s
YAK MLR MLR
comp=N,616nm,16.0s
YAK MLR MLR
comp=E,234nm,19.0s
YAK Yakutsk 52.22 2 P **P** **08 43 27.9 +0.6**
YAK IAmb IAmb 08 43 58.5
comp=Z,33nm,0.8s
MK31 Makanchi Array 52.73 323 P **P** **08 43 32.3 +0.9**
MK31 pmax pmax
comp=Z,35nm,1.4s
MK31 Makanchi Array 52.73 323 P **P** **08 43 32.3 +0.9**
MK31 IAmb IAmb 08 43 50.4
comp=Z,35nm,1.4s
MKAR Makanchi Array 52.73 323 P **P** **08 43 31.9 +0.5**
comp=Z,9.4nm,0.5s,baz=119,slow=7.5,SNR=9.5
MKAR Makanchi Array 52.73 323 P **P** **08 43 32.3 +0.9**
MKAR Makanchi Array 52.73 323 P **P** **08 43 32.3 +0.9**
SHLS Shalkode 52.85 318 *e*P **P** **08 43 28.2 -4.4**
SHLS Shalkode 52.85 318 *e*P **P** **08 43 28.1 -4.4**
MA2 Magadan 52.90 15↓ *e*P **P** **08 43 33.6 +1.2**
MA2 pmax pmax
comp=Z,35nm,1.3s
MA2 Magadan 52.90 15 P **P** **08 43 32.8 +0.4**
MA2 IAmb IAmb 08 43 49.0
comp=Z,36nm,1.1s
MAKZ Makanchi 52.92 323 P **P** **08 43 32.4 -0.5**
MAKZ pmax pmax
comp=Z,47nm,1.5s
MAKZ MLR MLR
comp=Z,1μm,20.0s
MAKZ Makanchi 52.92 323 P **P** **08 43 32.4 -0.5**
MAKZ IAmb IAmb 08 43 51.9
comp=Z,47nm,1.4s
MAKZ IAMs_20 IAMs_20 09 08 02.2
comp=Z,1μm,20.0s
UZB Uzynbulak 53.14 317 *e*P **P** **08 43 32.9 -1.8**
UZB Uzynbulak 53.14 317 *e*P **P** **08 43 32.9 -1.8**
PRZ Przheval'sk 53.29 316 IAMs_20 IAMs_20 09 04 54.9
comp=Z,2μm,21.0s
KPKS Kokpek 53.50 318 *e*P **P** **08 43 36.6 -0.7**
KPKS Kokpek 53.50 318 *e*P **P** **08 43 36.5 -0.7**
SATY Saty 53.52 317 *e*P **P** **08 43 36.9 -0.6**
SATY Saty 53.52 317 *e*P **P** **08 43 36.8 -0.6**
KSH Kashi 53.94 312 P **P** **08 43 41.0 +0.4**
KSH S **S** **08 51 17.3 +3.8**
KSH pmax pmax
comp=Z,170nm,2.5s
KSH pmax pmax
comp=Z,150nm,4.5s
KSH LR LR
comp=Z,2μm,17.1s
KSH LR LR
comp=Z,2μm,17.3s
KSH LR LR
comp=Z,1μm,16.4s
KDJ Kajisay 53.99 316 IAMs_20 IAMs_20 09 04 34.4
comp=Z,2μm,20.0s
NIL Nilore 54.42 304 P **P** **08 43 42.8 -1.3**
NIL pmax pmax
comp=Z,38nm,0.7s
NIL MLR MLR
comp=Z,1μm,19.0s
NIL Nilore 54.42 304 P **P** **08 43 42.8 -1.3**
NIL Nilore 54.42 304 IAMs_20 IAMs_20 09 08 36.7
comp=Z,1μm,19.0s
TNSS Tian-Shan 54.49 317 *e*P **P** **08 43 44.3 -0.7**
TNSS Tian-Shan 54.49 317 *e*P **P** **08 43 44.2 -0.7**
KUU Kurty 55.23 317 *e*P **P** **08 43 47.8 -1.9**
KUU Kurty 55.23 317 *e*P **P** **08 43 47.8 -1.9**
ZAA0 Zalesovo Array 55.31 331 P **P** **08 43 50.4 +0.3**
ZALV Zalesovo Beam 55.31 331 P **P** **08 43 50.1 +0.1**
comp=Z,6.6nm,0.5s,baz=118,slow=5.7,SNR=7.5
ZALV Zalesovo Beam 55.31 331 P **P** **08 43 49.4 -0.7**
AAK Ala-Archa 56.03 315↑ *e*P **P** **08 43 56.2 +0.5**
AAK pmax pmax
comp=Z,37nm,1.5s
AAK Ala-Archa 56.03 315 IAMs_20 IAMs_20 09 08 03.5
comp=Z,1μm,21.0s
SEY Seymchan 56.20 14↑ *e*P **P** **08 43 57.6 +1.3**
KURK Kurchatov 56.76 326*d i*P **P** **08 44 01.0 +0.5**
KURK pmax pmax
comp=Z,44nm,1.7s
KURK Kurchatov 56.76 326 P **P** **08 44 00.5 -0.1**
KURK IAmb IAmb 08 44 20.6
comp=Z,56nm,1.1s
KURK IAMs_20 IAMs_20 09 09 07.8
comp=Z,793nm,19.0s
KURBB Kurchatov Arra 56.77 325 P **P** **08 44 00.3 -0.3**
BTLS Baital 57.18 318 *e*P **P** **08 44 01.7 -1.9**
BTLS Baital 57.18 318 *e*P **P** **08 44 01.7 -1.9**
MSVF Nonsavu 57.55 118↓ *e*P **P** **08 44 07.2 +0.5**
MSVF pmax pmax
comp=Z,96nm,1.5s
MSVF Nonsavu 57.55 118 P **P** **08 44 07.2 +0.5**
GAR Garm 57.99 310 P **P** **08 44 08.1 -1.5**
GAR IAmb IAmb 08 44 10.4
comp=Z,27nm,0.7s
KBL Kabul 58.02 305 P **P** **08 44 09.1 -0.9**
KBL pmax pmax
comp=Z,19nm,0.6s
KBL MLR MLR
comp=Z,400nm,21.0s
KBL Kabul 58.02 305 P **P** **08 44 09.1 -0.9**
KBL IAmb IAmb 08 44 10.7
comp=Z,19nm,0.6s
CHGR Chuyangaron 58.79 309 P **P** **08 44 12.8 -2.3**
CHGR IAmb IAmb 08 44 16.7
comp=Z,24nm,0.8s
KK31 Karatay Array 58.96 315 *i* P **P** **08 44 15.2 -0.9**
KK31 Karatay Array 58.96 315 P **P** **08 44 15.0 -1.2**
KKAR Karatay Array 58.96 315 P **P** **08 44 15.2 -0.9**
KKAR pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 58.96 315 P **P** **08 44 15.2 -0.9**
IUG luzhnay 59.03 314 *e*P **P** **08 44 15.0 -1.8**
IUG luzhnay 59.03 314 *e*P **P** **08 44 14.9 -1.8**
BRZS Berezniki 59.88 323 *e*P **P** **08 44 21.4 -1.0**
BRZS Berezniki 59.88 323 *e*P **P** **08 44 21.3 -1.0**
TIXI Tiksi 61.85 1 P **P** **08 44 34.9 -0.4**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI MLR MLR
comp=Z,700nm,19.0s
TIXI Tiksi 61.85 1 P **P** **08 44 34.9 -0.4**
TIXI IAmb IAmb 08 44 53.4
comp=Z,31nm,1.0s
TIXI IAMs_20 IAMs_20 09 13 11.0
comp=Z,665nm,19.0s
BRVK Borovoye 62.43 325 P **P** **08 44 40.6 +1.0**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 62.43 325 P **P** **08 44 40.6 +1.0**
BRVK IAmb IAmb 08 44 41.2
comp=Z,18nm,0.9s
BRVK Borovoye 62.43 325 IAMs_20 IAMs_20 09 10 33.7
comp=Z,932nm,20.0s
HRA Herat 63.56 304 P **P** **08 44 47.1 -0.6**
HRA IAmb IAMs_20 IAMs_20 09 16 11.8
comp=Z,747nm,20.0s
BILL Bilibino 63.76 15 *e*P **P** **08 44 50.6 +2.5**
BILL *e* 08 45 25.5
BILL *e* 08 47 06.3
BILL *e*PPP PPP 08 48 39.9
BILL pmax pmax
comp=Z,35nm,1.7s
NRIK Noril'sk 64.63 346 P **P** **08 44 53.8 0.0**
comp=Z,16nm,0.8s,baz=132,slow=5.7,SNR=8.3
DCZ Deep Cove 65.87 150 P **P** **08 45 03.1 +1.0**
DCZ IAmb IAmb 08 45 03.9
comp=Z,38nm,0.9s
RAO Raoul Island 65.90 128 LR LR 09 12 23.2
comp=Z,280nm,19.7s,baz=318,slow=35
THZ Tophouse 66.47 144 P **P** **08 45 05.9 -0.3**
LBZ Lake Benmore 66.67 148 P **P** **08 45 06.8 -0.6**
RPZ Rata Peaks 66.69 147 LR LR 09 12 03.6
comp=Z,633nm,21.7s,baz=312,slow=34
RPZ Rata Peaks 66.69 147 P **P** **08 45 06.9 -0.6**
LTZ Lake Taylor 66.75 145 P **P** **08 45 08.0 +0.1**
TUWZ Tuamarina 66.87 143 P **P** **08 45 07.6 -1.0**
BKZ Black Stump Fm 67.08 140 P **P** **08 45 10.6 +0.5**
GEYT Alibeck 67.24 307 P **P** **08 45 10.8 -0.5**
comp=Z,11nm,0.9s,baz=103,slow=4.7,SNR=5.4
GEYT Alibeck 67.24 307 P **P** **08 45 10.0 -1.2**
GYA0B ALIBECK ARRAY 67.24 307 P **P** **08 45 10.0 -1.2**
GYA0B IAmb IAmb 08 45 17.1
comp=Z,32nm,1.1s
BHW Baring Head 67.41 143 P **P** **08 45 12.1 0.0**
AB31 Akbulak array 67.58 319 P **P** **08 45 12.0 -1.1**
ABKAR Akbulak array 67.58 319 P **P** **08 45 12.0 -1.1**
ABKAR IAmb IAmb 08 45 17.3
comp=Z,40nm,1.8s
ABKAR Akbulak array 67.58 319 P **P** **08 45 11.9 -1.2**
SVE Sverdlovsk 68.90 327 *e*P **P** **08 45 22.6 +1.4**
SVE pmax pmax
comp=Z,41nm,1.2s
AKTO Aktyubinsk 69.03 320 P **P** **08 45 21.6 -0.5**
ARU Arti 69.92 327*d i*P **P** **08 45 26.9 -0.6**
ARU *PP **sP** **08 45 41.1 +0.7**
ARU 08 47 57.0
ARU S **S** **08 54 33.7 -0.8**
ARU SS **SS** **08 58 59.5 -4.4**
ARU pmax pmax
comp=Z,61nm,1.7s
ARU Arti 69.92 327 P **P** **08 45 27.0 -0.5**
ARU IAmb IAmb 08 45 32.0
comp=Z,26nm,0.5s
SOCY Socotra 71.30 280 P **P** **08 45 36.0 -0.8**
SOCY IAmb IAmb 08 45 41.9
comp=Z,30nm,0.8s
KIRV Kirov 75.14 328*ce*P **P** **08 45 57.9 -0.6**
OHAK Old Harbor 76.42 33 P **P** **08 46 06.5 +0.6**
OHAK IAmb IAmb 08 46 22.6
comp=Z,42nm,1.6s
OHAK IAMs_20 IAMs_20 09 13 40.1
comp=Z,1μm,21.0s
CASY Casey 76.77 187 P **P** **08 46 08.8 +1.3**
KDAK Kodiak Island 76.82 33 P **P** **08 46 08.9 +0.8**
KDAK pmax pmax
comp=Z,14nm,0.9s
KDAK MLR MLR
comp=Z,1μm,20.0s
KDAK Kodiak Island 76.82 33 P **P** **08 46 08.9 +0.8**
IMAR Indian Mountai 76.86 24 P **P** **08 46 09.2 +1.0**
PPLA Purkeypile 77.29 28 P **P** **08 46 11.7 +0.8**
PPLA IAmb IAmb 08 48 21.8
comp=Z,76nm,1.9s
SKT Skwentna 77.55 29 IAMs_20 IAMs_20 09 22 02.8
comp=Z,835nm,18.0s
BPAW Bear Paw Mtn. 77.90 26 P **P** **08 46 15.0 +0.9**
BPAW IAmb IAmb 08 46 31.1
comp=Z,49nm,1.2s
SUA Susitna One 77.90 29 P **P** **08 46 14.6 +0.3**
MLY Manley 78.05 25 P **P** **08 46 15.5 +0.5**
baz=267
CUT Chulitna 78.16 28 P **P** **08 46 13.5 -2.0**
baz=268
ZEI Tsey 78.22 312 *e*P **P** **08 46 15.2 -1.4**
ZEI pmax pmax
comp=Z,26nm,1.4s
COLD Coldfoot 78.37 23 P **P** **08 46 17.0 +0.4**
baz=267
COLD Coldfoot 78.37 23 P **P** **08 46 16.2 -0.4**
O22K Cooper Landing 78.38 30 P **P** **08 46 15.9 -0.8**
baz=269
O22K Cooper Landing 78.38 30 P **P** **08 46 17.4 +0.6**
O22K IAmb IAmb 08 46 42.0
comp=Z,33nm,0.8s
RC01 Rabbit Creek A 78.38 30 P **P** **08 46 17.3 +0.5**
baz=269
RAR Rarotonga 78.39 114 LR LR 09 15 03.2
comp=Z,430nm,20.0s,baz=324,slow=31
SEW Seward 78.51 31 P **P** **08 46 17.7 +0.2**
I23K Minto, Yukon-K 78.64 25 P **P** **08 46 18.3 +0.2**
baz=269

I23K	**Minto, Yukon-K**	**78.64**	**25**	P	**P**	**08 46 19.4**	**+1.3**
I23K				IAmb	IAmb	08 46 20.2	
	comp=Z,66nm,2.0s						
TOLK	**Toolik Lake Re**	**78.67**	**22**	P	**P**	**08 46 18.9**	**+0.6**
	baz=268						
TOLK	**Toolik Lake Re**	**78.67**	**22**	P	**P**	**08 46 19.7**	**+1.4**
TOLK				IAmb	IAmb	08 46 37.4	
	comp=Z,41nm,1.4s						
NEA2	**Nenana**	**78.75**	**26**	P	**P**	**08 46 19.1**	**+0.3**
	baz=269						
GHO	**Glory Hole Cre**	**78.78**	**29**	P	**P**	**08 46 19.5**	**+0.4**
MCK	**McKinley**	**78.79**	**27**	P	**P**	**08 46 18.9**	**-0.2**
	baz=269						
RND	**Reindeer**	**78.83**	**27**	P	**P**	**08 46 18.2**	**-1.1**
RND				pmax	pmax		
	comp=Z,36nm,1.2s						
RND	**Reindeer**	**78.83**	**27**	P	**P**	**08 46 18.2**	**-1.1**
RND				IAmb	IAmb	08 46 36.1	
	comp=Z,36nm,1.2s						
KBZ	**Khabaz**	**78.91**	**313**	P	**P**	**08 46 19.2**	**-0.8**
	comp=Z,5.0nm,1.0s,baz=60,slow=5.2,SNR=3.1						
KNK	**Knik Glacier**	**79.00**	**29**	P	**P**	**08 46 20.5**	**+0.3**
KNK				IAmb	IAmb	08 46 37.5	
	comp=Z,36nm,1.3s						
KIV	**Kislovodsk**	**79.05**	**313**	*e*P	**P**	**08 46 20.4**	**-0.6**
KIV				pmax	pmax		
	comp=Z,59nm,1.1s						
KIV	**Kislovodsk**	**79.05**	**313**	IAMs_20	IAMs_20	09 26 50.8	
	comp=Z,681nm,18.0s						
MDM	**Murphy Dome**	**79.11**	**26**	P	**P**	**08 46 21.7**	**+0.9**
TCOL	**CIGO, UAF Yank**	**79.27**	**26**	P	**P**	**08 46 21.6**	**+0.1**
	baz=270						
COLA	**College**	**79.27**	**26**⇑	*e*P	**P**	**08 46 22.4**	**+0.8**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VRH	**Novokhopyorsk**	**79.37**	**320**	*e*P	**P**	**08 46 21.5**	**-0.9**
VRH				pmax	pmax		
	comp=Z,20nm,0.7s						
POKR	**Poker Plat Res**	**79.45**	**25**	P	**P**	**08 46 23.3**	**+0.7**
	baz=270						
DHY	**Denali Highway**	**79.50**	**28**	P	**P**	**08 46 23.9**	**+0.8**
DHY				IAmb	IAmb	08 46 28.5	
	comp=Z,54nm,2.0s						
SCM	**Sheep Creek Mo**	**79.54**	**29**	P	**P**	**08 46 22.4**	**-0.8**
SCM				pmax	pmax		
	comp=Z,52nm,1.2s						
SCM				MLR	MLR		
	comp=Z,800nm,19.0s						
SCM	**Sheep Creek Mo**	**79.54**	**29**	P	**P**	**08 46 22.4**	**-0.8**
SCM				IAmb	IAmb	08 46 39.9	
	comp=Z,52nm,1.2s						
SCM				IAMs_20	IAMs_20	09 22 20.3	
	comp=Z,752nm,19.0s						
HDA	**Harding Lake**	**79.67**	**26**	P	**P**	**08 46 22.9**	**-0.8**
IL31		**79.69**	**26**	P	**P**	**08 46 23.9**	**0.0**
ILAR	**Eielson Array**	**79.69**	**26**	P	**P**	**08 46 23.4**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=237,slow=6.3,SNR=6.9						
ILAR	**Eielson Array**	**79.69**	**26**	P	**P**	**08 46 23.3**	**-0.6**
HIN	**Hinchinbrook I**	**79.98**	**30**	IAMs_20	IAMs_20	09 17 09.0	
	comp=Z,811nm,21.0s						
M24K	**Tolsona, Glenn**	**80.07**	**28**	P	**P**	**08 46 26.4**	**+0.3**
	baz=272						
KLU	**Klutina**	**80.22**	**29**	IAMs_20	IAMs_20	09 23 57.4	
	comp=Z,707nm,20.0s						
EYAK	**Cordova Ski Ar**	**80.34**	**30**	IAMs_20	IAMs_20	09 17 21.7	
	comp=Z,818nm,21.0s						
PAX	**Paxson**	**80.37**	**28**	IAMs_20	IAMs_20	09 23 35.2	
	comp=Z,570nm,20.0s						
BMAR	**Burnt Mountain**	**80.55**	**23**	P	**P**	**08 46 29.2**	**+0.6**
RIDG	**Independent Ri**	**80.61**	**27**	P	**P**	**08 46 29.0**	**0.0**
RIDG				IAmb	IAmb	08 46 46.1	
	comp=Z,86nm,1.6s						
N25K	**Chitina, Valde**	**80.84**	**29**	P	**P**	**08 46 30.8**	**+0.5**
	baz=274						
N25K	**Chitina, Valde**	**80.84**	**29**	P	**P**	**08 46 31.3**	**+1.0**
N25K				IAmb	IAmb	08 46 49.2	
	comp=Z,63nm,2.0s						
VORD	**Divnogorie**	**80.91**	**320**	*e*P	**P**	**08 46 26.1**	**-4.6**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DOT	**Dot Lake**	**80.97**	**27**	P	**P**	**08 46 30.4**	**-0.4**
DOT				IAMs_20	IAMs_20	09 21 34.9	
	comp=Z,677nm,20.0s						
VSR	**Storozhevoye**	**80.97**	**320**	*e*P	**P**	**08 46 28.7**	**-2.3**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
SCRK	**Sand Creek**	**80.98**	**27**	P	**P**	**08 46 30.8**	**-0.2**
	baz=274						
LPSR	**Galich'ya Gora**	**81.02**	**322**	*e*P	**P**	**08 46 30.8**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
MENT	**Mentasta**	**81.17**	**28**	P	**P**	**08 46 31.8**	**-0.1**
MENT				IAMs_20	IAMs_20	09 19 15.4	
	comp=Z,560nm,19.0s						
GLB	**Gilahina Butte**	**81.23**	**29**	P	**P**	**08 46 32.5**	**+0.2**
GLB				IAMs_20	IAMs_20	09 18 25.2	
	comp=Z,552nm,22.0s						
L26K	**Log Cabin Wild**	**81.33**	**27**	P	**P**	**08 46 32.4**	**-0.3**
	baz=274						
VRDI	**Verde Repeater**	**81.42**	**29**	IAMs_20	IAMs_20	09 22 17.2	
	comp=Z,665nm,19.0s						
MOS	**Moscow**	**81.53**	**325**	*e*P	**P**	**08 46 31.8**	**-2.1**
CRQM	**Cirque**	**81.61**	**30**	IAMs_20	IAMs_20	09 19 31.9	
	comp=Z,492nm,20.0s						
K27K	**Chicken**	**81.81**	**26**	P	**P**	**08 46 36.4**	**+1.2**
	baz=275						
K27K	**Chicken**	**81.81**	**26**	P	**P**	**08 46 34.9**	**-0.3**
K27K				IAmb	IAmb	08 46 53.9	
	comp=Z,66nm,1.6s						
BALM	**Baldy**	**81.97**	**29**	IAMs_20	IAMs_20	09 23 49.8	
	comp=Z,470nm,20.0s						
ISLE	**Juniper Island**	**82.02**	**30**	P	**P**	**08 46 37.2**	**+0.7**
ISLE				IAmb	IAmb	08 46 53.6	
	comp=Z,47nm,1.3s						
BCAR	**Beaver Creek A**	**82.04**	**27**	P	**P**	**08 46 37.6**	**+1.1**
OBN	**Obninsk**	**82.19**	**325**	*e*P	**P**	**08 46 36.7**	**-0.7**
OBN				*e*		08 49 47.3	
OBN				*e*PPP	PPP	08 51 39.5	
OBN				pmax	pmax		
	comp=Z,44nm,1.2s						
BARN	**Barnard Glacie**	**82.30**	**29**	P	**P**	**08 46 38.9**	**+0.7**
BARN				IAmb	IAmb	08 47 02.6	
	comp=Z,40nm,1.3s						
BARN				IAMs_20	IAMs_20	09 22 21.5	
	comp=Z,482nm,20.0s						
APA	**Apatity**	**82.34**	**337**⇓	*i*P	**P**	**08 46 38.1**	**+0.2**
APA				pmax	pmax		
	comp=Z,15nm,0.8s						
APA				MLR	MLR		
	comp=Z,2μm,24.0s						
CTGM	**Chitina Glacie**	**82.47**	**29**	P	**P**	**08 46 40.0**	**+1.0**
CTGM				IAmb	IAmb	08 46 56.8	
	comp=Z,30nm,1.0s						
CTGM				IAMs_20	IAMs_20	09 22 48.9	
	comp=Z,599nm,20.0s						
TABL	**Table Mountain**	**82.62**	**30**	P	**P**	**08 46 41.4**	**+1.5**
TABL				IAmb	IAmb	08 47 10.3	
	comp=Z,30nm,1.0s						
TABL				IAMs_20	IAMs_20	09 20 33.9	
	comp=Z,567nm,20.0s						
DAWY	**Dawson**	**82.98**	**26**	P	**P**	**08 46 42.4**	**+1.0**
DAWY				IAmb	IAmb	08 47 00.5	
	comp=Z,40nm,1.6s						
ABPO	**Ambohimpanom**	**83.41**	**249**	P	**P**	**08 46 43.1**	**-1.5**
ABPO				pmax	pmax		
	comp=Z,22nm,1.0s						
ABPO	**Ambohimpanom**	**83.41**	**249**	P	**P**	**08 46 43.1**	**-1.5**
ABPO				IAmb	IAmb	08 46 47.3	
	comp=Z,22nm,1.0s						
EPYK	**Eagle Plains**	**83.74**	**24**	P	**P**	**08 46 45.7**	**+0.4**
	baz=280						
HYT	**Haines Junctio**	**84.34**	**29**	P	**P**	**08 46 49.6**	**+1.1**
HYT				IAMs_20	IAMs_20	09 26 02.5	
	comp=Z,425nm,20.0s						
INK	**Inuvik**	**84.58**	**22**	P	**P**	**08 46 49.2**	**-0.2**
INK				pmax	pmax		
	comp=Z,21nm,1.2s						
INK	**Inuvik**	**84.58**	**22**	P	**P**	**08 46 49.2**	**-0.2**
INK				IAmb	IAmb	08 47 06.1	
	comp=Z,21nm,1.2s						
SPA0	**Spitsbergen Ar**	**84.61**	**349**	P	**P**	**08 46 48.9**	**-0.6**
ARD3	**ARCESS Array S**	**84.83**	**340**	P	**P**	**08 46 51.2**	**+0.5**
ARD3				IAmb	IAmb	08 47 09.0	
	comp=Z,29nm,1.0s						
ARB2	**ARCESS Array S**	**84.84**	**340**	P	**P**	**08 46 51.4**	**+0.6**
ARA2	**ARCESS Array S**	**84.84**	**340**	P	**P**	**08 46 51.2**	**+0.5**
ARA2				IAmb	IAmb	08 47 09.1	
	comp=Z,32nm,0.9s						
ARCES	**ARCESS Array B**	**84.84**	**340**	P	**P**	**08 46 51.2**	**+0.5**
	comp=Z,13nm,0.6s,baz=82,slow=6.5,SNR=19						
ARC7	**ARCESS Array S**	**84.84**	**340**	P	**P**	**08 46 50.6**	**-0.2**
ARD8	**ARCESS Array S**	**84.85**	**340**	P	**P**	**08 46 50.9**	**+0.1**
ARD8				IAmb	IAmb	08 47 09.2	
	comp=Z,35nm,0.9s						
PUL	**Pulkovo**	**84.88**	**330**⇓	*e*P	**P**	**08 46 53.7**	**+2.6**
PUL				pmax	pmax		
	comp=Z,72nm,0.6s						
WHY	**Whitehorse**	**85.64**	**29**	P	**P**	**08 46 56.4**	**+1.3**
WHY				IAmb	IAmb	08 46 57.3	
	comp=Z,14nm,0.9s						
WHY				IAMs_20	IAMs_20	09 26 34.8	
	comp=Z,556nm,20.0s						
SKAG	**Skagway**	**85.67**	**30**	P	**P**	**08 46 56.5**	**+1.5**
SKAG				IAmb	IAmb	08 47 13.1	
	comp=Z,24nm,1.5s						
SKAG				IAMs_20	IAMs_20	09 25 47.6	
	comp=Z,481nm,20.0s						
BRTR	**Keskin Array B**	**86.23**	**309**	P	**P**	**08 46 57.6**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=153,slow=2.9,SNR=2.7						
BRTR	**Keskin Array B**	**86.23**	**309**	P	**P**	**08 46 58.6**	**+0.1**
BRTR	**Keskin Array B**	**86.23**	**309**	P	**P**	**08 46 58.6**	**+0.1**
FINES	**FINESS Array B**	**86.57**	**332**	P	**P**	**08 46 59.1**	**-0.3**
	comp=Z,7.4nm,0.5s,baz=54,slow=5.0,SNR=12						
FINES	**FINESS Array B**	**86.57**	**332**	P	**P**	**08 46 58.6**	**-0.9**
FURI	**Furi**	**86.65**	**278**	IAMs_20	IAMs_20	09 23 56.2	
	comp=Z,818nm,20.0s						
PPT2	**Papeete2**	**86.94**	**108**	*e*LR	LR	09 14 30.0	
	comp=Z,1μm,24.2s						
NOR	**Nord**	**87.13**	**355**	*i*P	**P**	**08 47 00.5**	**-1.3**
NOR				*i*		08 47 17.6	
NOR	**Nord**	**87.13**	**355**	*i*P	**P**	**08 47 00.5**	**-1.3**
NOR				*i*		08 47 17.6	
NOR	**Nord**	**87.13**	**355**	*i*P	**P**	**08 47 00.6**	**-1.3**
NOR				*i*		08 47 17.7	
TIAR	**Tiarei**	**87.16**	**108**	*e*P	**P**	**08 47 05.5**	**+2.3**
	comp=Z,6.3nm,1.1s						
AKASG	**Malin Array Be**	**87.27**	**321**	P	**P**	**08 47 01.7**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=82,slow=4.6,SNR=5.9						
AKASG	**Malin Array Be**	**87.27**	**321**	P	**P**	**08 47 01.1**	**-2.0**
AKBB	**Malin Array Si**	**87.27**	**321**	P	**P**	**08 47 03.3**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,32nm,1.5s						
AKBB	**Malin Array Si**	**87.27**	**321**	P	**P**	**08 47 03.3**	**+0.2**
AKBB				IAmb	IAmb	08 47 21.7	
	comp=Z,32nm,1.4s						
PMOR	**Pomariorio Ree**	**88.05**	**105**	*e*P	**P**	**08 47 09.8**	**+2.4**
	comp=Z,45nm,1.1s						
TBI	**Tubuai**	**88.17**	**114**	*e*LR	LR	09 14 55.7	
	comp=Z,1μm,28.2s						
VAH	**Vaihoa**	**88.34**	**106**	*e*P	**P**	**08 47 11.0**	**+2.2**
	comp=Z,30nm,1.1s						
VNDA	**Vanda**	**89.36**	**173**	P	**P**	**08 47 12.7**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=313,slow=5.4,SNR=5.1						
VNDA				PP	PP	08 50 40.6	-3.1
	comp=Z,4.0nm,1.1s,baz=347,slow=7.0,SNR=3.7						
VNDA	**Vanda**	**89.36**	**173**	P	**P**	**08 47 11.6**	**-0.8**
VNDA				IAmb	IAmb	08 47 18.6	
	comp=Z,15nm,0.9s						
MAW	**Mawson**	**89.39**	**200**	P	**P**	**08 47 12.7**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=50,slow=12,SNR=4.1						
MAW	**Mawson**	**89.39**	**200**	P	**P**	**08 47 12.1**	**-0.5**
KMBO	**Kilima Mbogo**	**89.71**	**269**	LR	LR	09 25 26.2	
	comp=Z,390nm,20.6s,baz=96,slow=34						
BURAR	**Bucovina Array**	**90.55**	**318**	P	**P**	**08 47 17.9**	**-0.9**
DAG	**Danmarks Havn**	**91.32**	**352**	*i*P	**P**	**08 47 21.0**	**-0.6**
DAG				*i*		08 47 36.5	
DAG				pmax	pmax		
	comp=Z,14nm,0.7s						
DAG	**Danmarks Havn**	**91.32**	**352**	*i*P	**P**	**08 47 21.0**	**-0.6**
	comp=Z,14nm,0.7s						
DAG				*i*		08 47 36.5	
DAG	**Danmarks Havn**	**91.32**	**352**	*i*P	**P**	**08 47 21.1**	**-0.6**
DAG				IAmb	IAmb	08 47 22.3	
	comp=Z,14nm,0.7s						
DAG				*i*		08 47 36.5	
RES	**Resolute Bay**	**91.91**	**10**	P	**P**	**08 47 24.4**	**0.0**
RES				pmax	pmax		
	comp=Z,9.0nm,0.7s						
RES	**Resolute Bay**	**91.91**	**10**	P	**P**	**08 47 24.4**	**0.0**
RES				IAmb	IAmb	08 47 42.9	
	comp=Z,8.8nm,0.7s						
UZH	**Uzhgorod**	**92.15**	**320**⇑	*i*P	**P**	**08 47 26.0**	**0.0**
UZH				*e*		08 47 41.5	
CRVS	**Cervenica-Dubn**	**92.59**	**320**	*e*P	**P**	**08 47 28.2**	**+0.1**
CRVS	**Cervenica-Dubn**	**92.59**	**320**	*e*P	**P**	**08 47 28.2**	**+0.1**
NB2	**NORSAR Subarra**	**93.43**	**334**	P	**P**	**08 47 30.3**	**-1.4**
	comp=Z,6.1nm,0.9s,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**93.43**	**334**	P	**P**	**08 47 30.4**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=73,slow=6.6,SNR=5.8						
YKA	**Yellowknife Ar**	**94.02**	**24**	P	**P**	**08 47 34.8**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=297,slow=4.8,SNR=5.0						
JAVC	**Velka Javorina**	**94.96**	**321**	*e*P	**P**	**08 47 39.0**	**-0.1**
DIVS	**Divibare**	**95.06**	**316**	IAMs_20	IAMs_20	09 31 21.2	
	comp=Z,373nm,18.0s						
VRAC	**Vranov**	**95.46**	**322**	*e*P	**P**	**08 47 41.1**	**-0.2**
MBAR	**Mbarara**	**96.04**	**270**	IAMs_20	IAMs_20	09 29 55.1	
	comp=Z,580nm,20.0s						
B06A	**Marblemount**	**96.72**	**38**	IAMs_20	IAMs_20	09 24 59.5	
	comp=Z,659nm,21.0s						
CLL	**Collm**	**96.79**	**325**	*e*P	**P**	**08 47 47.0**	**-0.2**
CLL				*e*S	**S**	**08 59 00.0**	**-6.1**
CLL				*e*PS	**PS**	**09 00 30.0**	**-1.7**
CLL				LmV		09 34 00.0	
	comp=Z,600nm,20.4s						
CLL				LmH		09 35 00.0	
	comp=N,500nm,19.1s						
CLL				LmH		09 35 00.0	
	comp=E,400nm,20.4s						
CLL	**Collm**	**96.79**	**325**	*e*P	**P**	**08 47 47.0**	**-0.2**
SUMG	**Summit**	**97.27**	**356**	*e*P	**P**	**08 47 49.1**	**-0.4**
SUMG				*i*		08 48 03.8	
SUMG	**Summit**	**97.27**	**356**	*i*P	**P**	**08 47 49.1**	**-0.4**
SUMG				*i*		08 48 03.8	
SUMG	**Summit**	**97.27**	**356**	*e*P	**P**	**08 47 49.1**	**-0.4**
SUMG				*i*		08 48 03.8	
GERES	**GERESS Array B**	**97.39**	**322**	P	**P**	**08 47 50.1**	**0.0**
	comp=E,1.1nm,0.7s,baz=68,slow=3.6,SNR=5.4						
GERES				LR	LR	09 35 59.5	
	comp=E,358nm,18.5s,baz=74,slow=38						
GERES	**GERESS Array B**	**97.39**	**322**	P	**P**	**08 47 48.8**	**-1.3**
SCTE	**Santa Cesarea**	**97.44**	**313**	IAMs_20	IAMs_20	09 38 54.4	
	comp=Z,425nm,22.0s						
SYO	**Syowa Base**	**98.02**	**201**⇑	*e*Pdiff	**P**	**08 47 51.5**	**-0.7**
SYO	**Syowa Base**	**98.02**	**201**⇓	*e*pP	pP	08 48 04.6	+2.1
B08A	**Colville Reser**	**98.10**	**38**	IAMs_20	IAMs_20	09 27 19.9	
	comp=Z,579nm,19.0s						
OSSC	**Osservatorio P**	**101.15**	**318**	IAMs_20	IAMs_20	09 34 44.2	
	comp=Z,624nm,22.0s						
RYN	**Ryan**	**102.60**	**47**	IAMs_20	IAMs_20	09 24 34.7	
	comp=Z,689nm,21.0s						
NVAR	**Mina Array Bea**	**102.83**	**47**	P	**Pdif**	**08 48 16.2**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=251,slow=4.5,SNR=4.7						
NVAR				PKKPbc	**PKKPbc**	**09 04 15.4**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=136,slow=4.3,SNR=5.8						
NVAR	**Mina Array Bea**	**102.83**	**47**		**Pdif**	**08 48 14.1**	**-0.7**
BOZ	**Bozeman (W)**	**104.05**	**38**	IAMs_20	IAMs_20	09 29 32.4	
	comp=Z,384nm,20.0s						
PDAR	**Pinedale Array**	**106.77**	**40**	PKKPbc	PKKPbc	09 04 02.4	+0.2
	comp=Z,0.5nm,0.6s,baz=139,slow=5.6,SNR=5.0						
PDAR				PKKP		09 04 13.3	
	comp=Z,0.5nm,0.6s,baz=126,slow=7.7,SNR=3.9						
CART	**Cartagena**	**112.17**	**317**	IAMs_20	IAMs_20	09 30 43.8	
	comp=Z,326nm,20.0s						
EPT	**El Paso**	**114.45**	**49**	IAMs_20	IAMs_20	09 27 12.7	
	comp=Z,562nm,22.0s						
TXAR	**Lajitas Array**	**117.79**	**50**	PKP	**PKPdf**	**08 53 03.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=197,slow=0.5,SNR=5.4						
TXAR	**Lajitas Array**	**117.79**	**50**	PKIKP	**PKiKP**	**08 53 03.8**	**+0.3**
TXAR	**Lajitas Array**	**117.79**	**50**		**PKiKP**	**08 53 03.8**	**+0.3**
OKCFA	**Oklahoma City**	**118.68**	**40**	IAMs_20	IAMs_20	09 32 15.8	
	comp=Z,470nm,20.0s						
S39A	**Bolivar**	**119.72**	**36**		**PKPdf**	**08 53 06.6**	**-0.3**
R40A	**Maddies Stadio**	**119.91**	**35**	PKPdf	**PKiKP**	**08 53 07.3**	**0.0**
JCT	**Junction City**	**120.00**	**46**	PKIKP	**PKiKP**	**08 53 08.0**	**+0.3**
JCT	**Junction City**	**120.00**	**46**		**PKiKP**	**08 53 08.0**	**+0.3**
CCM	**Cathedral Cave**	**120.65**	**34**	PKIKP	**PKPdf**	**08 53 08.7**	**+0.1**
CCM	**Cathedral Cave**	**120.65**	**34**		**PKPdf**	**08 53 08.7**	**+0.1**
TOC2	**Torodi Ar. Sit**	**120.88**	**292**	IAMs_20	IAMs_20	09 47 47.8	
	comp=Z,352nm,20.0s						
TOC3	**Torodi Ar. Sit**	**120.89**	**292**	IAMs_20	IAMs_20	09 47 48.0	
	comp=Z,345nm,21.0s						
TOC1	**Torodi Ar. Sit**	**120.89**	**292**	IAMs_20	IAMs_20	09 47 38.2	
	comp=Z,400nm,20.0s						
U40A	**Yellville**	**120.90**	**37**	PKPdf	**PKPdf**	**08 53 08.5**	**-0.7**
TOB3	**Torodi Ar. Sit**	**120.90**	**292**	IAMs_20	IAMs_20	09 47 36.4	
	comp=Z,328nm,19.0s						
TOB1	**Torodi Ar. Sit**	**120.91**	**292**	IAMs_20	IAMs_20	09 49 41.5	
	comp=Z,328nm,20.0s						
TOA0	**Torodi Ar. Sit**	**120.91**	**292**	IAMs_20	IAMs_20	09 49 41.6	
	comp=Z,344nm,21.0s						
TORD	**Torodi Ar. Bea**	**120.91**	**292**	PKP	**PKPdf**	**08 53 08.8**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=65,slow=2.1,SNR=15						
TORD	**Torodi Ar. Bea**	**120.91**	**292**		**PKPdf**	**08 53 08.2**	**-1.5**
TOA3	**Torodi Ar. Sit**	**120.91**	**292**	IAMs_20	IAMs_20	09 47 36.6	
	comp=Z,331nm,19.0s						
TOC4	**Torodi Ar. Sit**	**120.91**	**292**	IAMs_20	IAMs_20	09 49 51.7	
	comp=Z,336nm,21.0s						
TOC7	**Torodi Ar. Sit**	**120.92**	**292**	IAMs_20	IAMs_20	09 49 40.8	
	comp=Z,350nm,22.0s						
TOB5	**Torodi Ar. Sit**	**120.92**	**292**	IAMs_20	IAMs_20	09 49 41.8	
	comp=Z,388nm,21.0s						
TOB4	**Torodi Ar. Sit**	**120.92**	**292**	IAMs_20	IAMs_20	09 47 37.9	
	comp=Z,333nm,19.0s						
TOC5	**Torodi Ar. Sit**	**120.93**	**292**	IAMs_20	IAMs_20	09 49 41.2	
	comp=Z,386nm,21.0s						
L48A	**N Adams**	**121.12**	**27**		**PKPdf**	**08 53 08.2**	**-1.2**
T42A	**Van Buren**	**121.46**	**35**		**PKPdf**	**08 53 08.6**	**-1.6**
DELO	**Deloro Mine**	**121.64**	**20**	IAMs_20	IAMs_20	09 47 54.2	
	comp=Z,367nm,19.0s						
OLIL	**Olney**	**121.85**	**32**		**PKPdf**	**08 53 11.0**	**+0.1**
PBMO	**Poplar Bluff**	**122.01**	**35**		**PKPdf**	**08 53 10.4**	**-0.9**
WVT	**Waverly**	**123.92**	**34**	PKIKP	**PKiKP**	**08 53 15.7**	**+0.5**
WVT	**Waverly**	**123.92**	**34**		**PKiKP**	**08 53 15.7**	**+0.5**
P52A	**Corning**	**124.02**	**27**		**PKPdf**	**08 53 14.9**	**-0.1**
OXF	**Oxford**	**124.20**	**36**	IAMs_20	IAMs_20	09 38 54.5	
	comp=Z,459nm,22.0s						
Y45A	**Yeager Farm, C**	**124.58**	**37**		**PKPdf**	**08 53 16.3**	**+0.1**
PLAL	**Pickwick Lake**	**124.63**	**35**		**PKPdf**	**08 53 15.9**	**-0.4**
U49A	**Red Boiling Sp**	**124.73**	**32**		**PKPdf**	**08 53 16.7**	**+0.2**
V48A	**Smith Brothers**	**124.76**	**33**	IAMs_20	IAMs_20	09 43 58.9	
	comp=Z,422nm,19.0s						
T50A	**Nancy**	**124.82**	**31**		**PKPdf**	**08 53 16.9**	**+0.2**
S51A	**Beattyville**	**124.95**	**29**		**PKPdf**	**08 53 17.0**	**+0.1**
146A	**Union**	**125.73**	**37**	IAMs_20	IAMs_20	09 43 22.2	
	comp=Z,449nm,20.0s						
W50A	**Signal Mountai**	**125.97**	**33**	PKPdf	**PKiKP**	**08 53 19.3**	**-0.1**
V52A	**Sevierville**	**126.36**	**31**		**PKiKP**	**08 53 20.4**	**+0.2**
U54A	**Nelsons Funny**	**126.69**	**29**	IAMs_20	IAMs_20	09 45 44.5	
	comp=Z,430nm,21.0s						
BG3	**Lake Jocassee**	**127.36**	**31**	IAMs_20	IAMs_20	09 44 16.6	
	comp=Z,290nm,20.0s						
V58A	**Windy Hill, Pi**	**128.53**	**27**	IAMs_20	IAMs_20	09 48 36.1	
	comp=Z,428nm,20.0s						
JSC	**Jenkinsville**	**128.76**	**30**	IAMs_20	IAMs_20	09 45 04.5	
	comp=Z,219nm,20.0s						
DBIC	**Dimbokro**	**129.12**	**287**	PKP	**PKPdf**	**08 53 24.8**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=45,slow=2.9,SNR=2.3						
451A	**Vernon**	**129.15**	**37**	IAMs_20	IAMs_20	09 42 36.4	
	comp=Z,441nm,20.0s						
V60A	**Jim Taylor Roa**	**129.36**	**25**	IAMs_20	IAMs_20	09 48 13.9	
	comp=Z,419nm,22.0s						
X58A	**Rowland**	**129.46**	**28**	IAMs_20	IAMs_20	09 47 10.8	
	comp=Z,425nm,20.0s						
NHSC	**New Hope**	**130.24**	**30**	IAMs_20	IAMs_20	09 39 31.7	
	comp=Z,473nm,22.0s						
PLCA	**Paso Flores**	**145.54**	**156**	PKPbc	**PKPab**	**08 53 56.4**	**+1.0**
	comp=Z,38nm,0.7s,baz=249,slow=3.1,SNR=28						
PLCA	**Paso Flores**	**145.54**	**156**	PKP2	**PKPdf**	**08 53 54.9**	**-0.1**
PLCA	**Paso Flores**	**145.54**	**156**		**PKPdf**	**08 53 54.9**	**-0.1**
SDDR	**Presa de Saban**	**146.35**	**32**		**PKPdf**	**08 53 56.1**	**-0.8**
LC01	**Cunco**	**146.53**	**153**		**PKPbc**	**08 53 58.6**	**+0.5**
DR12	**Loma Pena Alta**	**147.47**	**29**	PKPbc	**PKPbc**	**08 54 00.4**	**-0.9**
CUPR	**Culebra, Puert**	**149.68**	**23**		**PKPbc**	**08 54 06.2**	**-0.7**
VA01	**Torpederas**	**151.29**	**146

H11S2	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	09 53 30.7		
	baz=146,slow=76,SNR=101							
H11S3	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	09 53 30.8		
	baz=146,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	09 53 26.2		
	baz=146,slow=76,SNR=47							
H11N3	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	09 55 40.8		
	baz=149,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	09 55 35.6		
	baz=149,slow=76,SNR=16							
H11N2	**WAKE ISLAND Hy**	**39.93**	**330**	T	T	09 55 41.4		
	baz=149,slow=76,SNR=3.4							
WRA	**Warramunga Arr**	**50.04**	**257**	P	**P**	**09 14 10.6**		**-0.7**
	comp=Z,1.6nm,0.7s,baz=95,slow=6.4,SNR=35							
WRA				PcP	**PcP**	**09 15 31.4**		**+0.4**
	comp=Z,0.8nm,0.6s,baz=92,slow=3.5,SNR=7.0							
WRA	**Warramunga Arr**	**50.04**	**257**	P	**P**	**09 14 10.0**		**-1.3**
AS31	**Alice Springs**	**50.31**	**252**	P	**P**	**09 14 12.4**		**-0.9**
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**09 14 13.1**		**-0.3**
	comp=Z,3.5nm,0.4s,baz=88,slow=7.7,SNR=52							
ASAR				LR	LR	09 34 10.8		
	comp=Z,76nm,19.1s,baz=80,slow=34							
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**09 14 11.7**		**-1.6**
FORT	**Forrest**	**55.62**	**243**	P	**P**	**09 14 51.5**		**-0.9**
VNDA	**Vanda**	**63.49**	**186**	P	**P**	**09 15 47.6**		**+1.7**
	comp=Z,2.6nm,0.9s,baz=1.4,slow=8.3,SNR=9.6							
VNDA	**Vanda**	**63.49**	**186**	P	**P**	**09 15 45.0**		**-0.8**
VNDA				IAmb	IAmb	09 15 48.9		
	comp=Z,3.5nm,0.9s							
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**09 16 54.7**		**+1.7**
	comp=Z,0.5nm,0.6s,baz=229,slow=9.5,SNR=4.0							
QSPA	**South Pole Qui**	**74.75**	**180**	P	**P**	**09 16 57.2**		**+1.2**
QSPA				IAmb	IAmb	09 16 59.0		
	comp=Z,7.1nm,0.9s							
HLID	**Hailey**	**79.44**	**39**	P	**P**	**09 17 23.0**		**+0.3**
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**09 17 29.6**		**+1.5**
	comp=Z,0.7nm,0.9s,baz=217,slow=4.2,SNR=5.9							
PDAR	**Pinedale Array**	**82.07**	**42**	P	**P**	**09 17 38.0**		**+1.1**
	comp=Z,0.9nm,0.8s,baz=242,slow=3.2,SNR=5.8							
MAW	**Mawson**	**87.95**	**199**	P	**P**	**09 18 06.3**		**+0.6**
	comp=Z,1.9nm,0.7s,baz=124,slow=6.3,SNR=7.3							
MAW	**Mawson**	**87.95**	**199**	IAmb	IAmb	09 18 07.4		
	comp=Z,0.7nm,0.9s							
SYO	**Syowa Base**	**92.73**	**191**	*e*P	**P**	**09 18 26.7**		**-1.3**
SYO	**Syowa Base**	**92.73**	**191**	*e*SP	sP	09 18 36.4		-3.5
LPAZ	**La Paz**	**99.67**	**110**	LR	LR	09 54 32.2		
	comp=Z,165nm,20.9s,baz=358,slow=30							
KMBO	**Kilima Mbogo**	**145.74**	**244**	PKPbc	**PKiKP**	**09 24 58.1**		**-2.0**
	comp=Z,0.9nm,0.3s,baz=228,slow=6.5,SNR=3.7							
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	**PKiKP**	**09 24 58.8**		**-1.4**
	comp=Z,4.5nm,0.8s,baz=159,slow=1.1,SNR=8.2							

*IDC **27** 09:24:32.4±2.9, 24.79S×179.83E, h496km±31km, mb3.3/7, mb1 3.6/8, mb1mx3.3/25, mbtmp4.2/8, Error ellipse: s-maj=32.1km s-min=21.5km az=171.0*

*NEIC **27** 09:24:34.5±1.3, 24.9S±0.1×179.7E±0.1, h528km±8km, mb4.4/14, Error ellipse: s-maj=23.3km s-min=15.3km az=148.0*

ISC 27 09:24:32.6±0.9, 24.8S±0.1×179.8E±0.1, h500km, n27, σ1°9°04/28, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.59**	**280**	P	**P**	**09 27 19.1**	**+1.5**
	0.5nm,0.3s,baz=70,slow=14,SNR=5.7						
BKZ	**Black Stump Fm**	**14.58**	**190**	P	**P**	**09 27 39.3**	**+0.9**
QRZ	**Quartz Range**	**17.09**	**199**	P	**P**	**09 28 04.5**	**+0.2**
TUWZ	**Tuamarina**	**17.28**	**195**	P	**P**	**09 28 05.2**	**-0.9**
THZ	**Tophouse**	**17.85**	**197**	P	**P**	**09 28 09.9**	**-1.6**
KHZ	**Kahutara**	**18.31**	**195**	P	**P**	**09 28 14.4**	**-1.2**
KHZ				IAmb	IAmb	09 28 20.8	
	comp=Z,19nm,1.2s						
LTZ	**Lake Taylor**	**18.97**	**197**	P	**P**	**09 28 20.8**	**-0.9**
CTA	**Charters Tower**	**31.34**	**272**	P	**P**	**09 30 12.1**	**+0.4**
	comp=Z,12nm,0.4s,baz=95,slow=11,SNR=35						
CTAO	**Charters Tower**	**31.34**	**272**	P	**P**	**09 30 12.1**	**+0.4**
STKA	**Stephens Creek**	**34.25**	**249**	P	**P**	**09 30 36.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=58,slow=11,SNR=2.9						
BBOO	**Buckleboo**	**38.95**	**248**	P	**P**	**09 31 14.2**	**-0.9**
AS31	**Alice Springs**	**41.74**	**262**	P	**P**	**09 31 37.0**	**-0.7**
ASAR	**Alice Springs**	**41.74**	**262**	P	**P**	**09 31 37.3**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=92,slow=5.9,SNR=17						
WR0	**Warramunga Arr**	**42.01**	**267**	P	**P**	**09 31 38.6**	**-1.2**
WR0				IAmb	IAmb	09 31 39.5	
	comp=Z,9.7nm,1.3s						
WB2	**Warramunga Arr**	**42.19**	**267**	P	**P**	**09 31 40.1**	**-1.1**
WB2				IAmb	IAmb	09 31 40.9	
	comp=Z,6.4nm,0.8s						
WRAB	**Tennant Creek**	**42.19**	**267**	P	**P**	**09 31 40.1**	**-1.1**
WRAB				IAmb	IAmb	09 31 40.5	
	comp=Z,5.8nm,0.5s						
WB0	**Warramunga Arr**	**42.20**	**267**	P	**P**	**09 31 40.2**	**-1.1**
WB0				IAmb	IAmb	09 31 41.0	
	comp=Z,6.8nm,0.7s						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**09 31 40.5**	**-0.7**
	comp=Z,3.3nm,0.3s,baz=100,slow=6.8,SNR=169						
WRA				ScP	**ScP**	**09 36 28.1**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=94,slow=3.8,SNR=6.8						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**09 31 39.4**	**-1.9**
FORT	**Forrest**	**45.85**	**250**	P	**P**	**09 32 08.4**	**-1.1**
FORT				IAmb	IAmb	09 32 09.5	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**48.54**	**271**	P	**P**	**09 32 28.4**	**-1.5**
KNRA				IAmb	IAmb	09 32 45.5	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.61**	**266**	P	**P**	**09 32 44.8**	**-0.4**
VNDA	**Vanda**	**53.46**	**185**	P	**P**	**09 33 05.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=38,slow=8.3,SNR=1.5						
QSPA	**South Pole Qui**	**65.27**	**180**	P	**P**	**09 34 24.7**	**+0.4**
NVAR	**Mina Array Bea**	**85.52**	**44**	P	**P**	**09 36 17.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=224,slow=8.3,SNR=4.6						
TXAR	**Lajitas Array**	**91.05**	**58**	P	**P**	**09 36 43.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=218,slow=6.0,SNR=9.4						
TORD	**Torodi Ar. Bea**	**168.26**	**189**	PKPab	**PKPab**	**09 44 52.8**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=182,slow=3.2,SNR=2.6						

IDC 27 09:26:46.9±4.3, 22.70S×179.83E, h697km±51km, mb3.0/5, mb1 3.2/5, mb1mx2.9/25, mbtmp4.1/5, Error ellipse: s-maj=43.4km s-min=23.7km az=143.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.34**	**268**	P	P	09 32 15.8	0.0
	6.5nm,0.5s,baz=96,slow=11,SNR=14						
STKA	**Stephens Creek**	**35.04**	**247**	P	P	09 32 44.4	-2.0
	1.5nm,0.6s,baz=102,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**42.09**	**259**	P	P	09 33 42.6	0.0
	3.0nm,0.8s,baz=93,slow=8.0,SNR=19						
WRA	**Warramunga Arr**	**42.35**	**265**	P	P	09 33 44.4	-0.2
	2.1nm,0.5s,baz=102,slow=8.3,SNR=20						
TXAR	**Lajitas Array**	**89.93**	**58**	P	P	09 38 35.4	0.0
	0.1nm,0.6s,baz=230,slow=5.6,SNR=2.4						

IDC 27 09:35:56.8±4.0, 26.24S×178.60W, h696km±376km, mb2.5/4, mb1 2.9/5, mb1mx2.7/21, mbtmp3.8/5, Error ellipse: s-maj=271.3km s-min=35.7km az=8.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.52**	**196**	P	P	09 38 40.0	+0.4
	0.8nm,0.3s,baz=299,slow=4.1,SNR=6.1						
URZ				S	S	09 40 49.6	-2.6
	0.1nm,0.3s,baz=135,slow=13,SNR=1.5						
STKA	**Stephens Creek**	**35.11**	**251**	P	P	09 41 55.9	-0.9
	2.7nm,0.9s,baz=97,slow=16,SNR=2.3						
ASAR	**Alice Springs**	**42.96**	**263**	P	P	09 42 59.4	+0.2
	0.5nm,0.4s,baz=92,slow=7.6,SNR=23						
WRA	**Warramunga Arr**	**43.56**	**268**	P	P	09 43 03.6	-0.2
	0.2nm,0.3s,baz=108,slow=6.4,SNR=12						
TXAR	**Lajitas Array**	**90.60**	**57**	P	P	09 47 48.6	+0.2
	0.2nm,0.7s,baz=209,slow=5.0,SNR=2.0						

*BJI **27** 09:54:01.6±0.0, 51.53N×178.21W, h34km, mB5.2/53, mb5.2/64, Ms4.8/41, Ms7 4.5/44*

*AEIC **27** 09:54:02.4±3.0, 51.24N±0.06×177.73W±0.05, h22km±3km, Error ellipse: s-maj=9.0km s-min=4.3km az=163.0*

*GCMT **27** 09:54:02.9±0.2, 51.51N±0.01×177.74W±0.02, h15km, MW5.2/106, Moment Tensor Solution. s59,c70; s106,c145; Duration: 1↑0 Moment tensor: Scale 10^16 Nm; Mrr1.70±.09; Mθθ-1.60±.08; Mφφ-0.10±.08; Mrθ8.78±.24; Mrφ-0.07±.06; Mθφ2.36±.29; Best double couple: Mw9.24000×10^16 NP1:↑φs276.00000°, δ5.00000°, λ111.00000°. NP2:↑φs75.00000°, δ85.00000°, λ88.00000°. Principal axes: T 9.3200, Plg50.0000°, Azm343.0000°; N -0.1630, Plg2.0000°, Azm75.0000°; P -9.1590, Plg40.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 09:54:04.9±2.0, 51.44N±0.07×177.84W±0.06, h53km±4km, mb5.1/448, ML4.9(AEIC) Error ellipse: s-maj=10.0km s-min=4.8km az=165.0*

*IDC **27** 09:54:04.0±1.3, 51.50N×177.88W, h45km±10km, mb4.5/42, mb1 4.6/44, mb1mx4.5/56, mbtmp4.7/44, ML4.0/2, MS4.2/36, Ms1 4.2/36, ms1mx4.1/56, Error ellipse: s-maj=12.2km s-min=8.6km az=159.0*

*MOS **27** 09:54:05.0±1.0, 51.52N×177.88W, h69km, mb5.2/75, MS4.6/6, Error ellipse: s-maj=6.7km s-min=5.8km az=97.3*

ISC 27 09:54:04.1±0.6, 51.39N±0.05×177.85W±0.03, h49km±4km, n1095, σ1°10/1104, mb5.1/307, MS4.3/55, 35C-22D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.46**	**346**		**Pn**	**09 54 15.3**	**+0.4**
TAFP	**Tanaga Falls P**	**0.52**	**351**		**Pn**	**09 54 15.7**	**+0.1**
KIMD	**Kanaga Island**	**0.54**	**46**		**Pn**	**09 54 14.5**	**-1.2**
KIKV	**Kanaga Island**	**0.65**	**41**		**Pn**	**09 54 16.4**	**-0.8**
KICM	**Kanaga Island**	**0.67**	**37**		**Pn**	**09 54 17.0**	**-0.4**
GALAA	**Gareloi Lava P**	**0.69**	**303**		**Pn**	**09 54 18.1**	**+0.5**
ADK	**Adak**	**0.88**	**55**		**Pn**	**09 54 18.8**	**-1.4**
ADK				Sn	**Sn**	**09 54 30.0**	**-2.0**
ADAG	**Mount Adagdak**	**0.98**	**52**		**Pn**	**09 54 20.9**	**-0.6**
GSTD	**Great Sitkin T**	**1.25**	**57**		**Pn**	**09 54 24.4**	**-0.9**
GSSP	**Great Sitkin S**	**1.26**	**55**		**Sn**	**09 54 41.6**	**+0.6**
GSMY	**Great Sitkin M**	**1.29**	**59**		**Pn**	**09 54 24.9**	**-1.0**
GSTR	**Great Sitkin T**	**1.32**	**57**		**Pn**	**09 54 25.6**	**-0.5**
CERB	**Semis' Cerberu**	**1.66**	**290**		**Pn**	**09 54 31.9**	**+1.2**
CESW	**Semis' Southwe**	**1.69**	**289**		**Pn**	**09 54 32.1**	**+0.9**
CEAP	**Semis' Anvil P**	**1.71**	**292**		**Pn**	**09 54 33.0**	**+1.5**
AMKA	**Amchitka**	**1.78**	**271**	Pn	**Pn**	**09 54 31.6**	**-0.8**
AMKA				Sn	**Sn**	**09 54 53.8**	**-0.1**
LSPA	**Little Sitkin**	**2.30**	**286**		**Pn**	**09 54 41.0**	**+1.5**
LSSA	**Little Sitkin**	**2.33**	**285**		**Pn**	**09 54 41.7**	**+1.7**
LSNW	**Little Sitkin**	**2.33**	**286**		**Pn**	**09 54 41.1**	**+1.2**
ATKA	**Atka Island**	**2.41**	**69**	Pn	**Pn**	**09 54 39.9**	**-1.2**
ATKA	**Atka Island**	**2.41**	**69**		**Sn**	**09 55 11.5**	**+2.2**
KOWE	**Korovin West**	**2.44**	**65**		**Pn**	**09 54 42.0**	**+0.6**
KOKV	**Korovin Volcan**	**2.48**	**65**		**Pn**	**09 54 42.1**	**0.0**
KOFP	**Korovin Flat P**	**2.49**	**68**		**Pn**	**09 54 42.4**	**+0.2**
KOSE	**Korovin Southe**	**2.54**	**66**		**Pn**	**09 54 43.9**	**+1.0**
NIKH	**Nikolski High**	**5.76**	**71**	Pn	**Pn**	**09 55 27.8**	**+0.9**
NIKH	**Nikolski High**	**5.76**	**71**		**Sn**	**09 56 32.9**	**+1.3**
OKSP	**Okmok Steeple**	**6.15**	**69**		**Pn**	**09 55 33.6**	**+1.2**
OKFG	**Magazine Ridge**	**6.41**	**68**		**Pn**	**09 55 37.8**	**+2.0**
OKFG					**Sn**	**09 56 50.9**	**+3.3**
MAPS	**Pakushin South**	**7.07**	**66**		**Pn**	**09 55 45.9**	**+1.0**
MAPS					**Sn**	**09 57 06.2**	**+2.3**
MREP	**Makushin Rep't**	**7.19**	**66**		**Pn**	**09 55 47.6**	**+1.1**
MNAT	**Makushin Natee**	**7.24**	**65**		**Pn**	**09 55 49.0**	**+1.8**
SPIA	**Saint Paul Isl**	**7.31**	**35**		**Pn**	**09 55 51.2**	**+3.2**
UNV	**Unalaska Valle**	**7.33**	**66**	Pn	**Pn**	**09 55 50.0**	**+1.5**
AKMO	**Akutan Morgan**	**7.68**	**65**		**Pn**	**09 55 54.8**	**+1.6**
AKGG	**Akutan Green G**	**7.72**	**64**		**Pn**	**09 55 55.5**	**+1.7**
AKUT	**Akutan**	**7.83**	**65**	Pn	**Pn**	**09 55 57.5**	**+2.2**
AKSA	**Akutan Strait**	**7.87**	**65**		**Pn**	**09 55 57.6**	**+1.7**
WTUG	**Tugumak**	**8.81**	**62**		**Pn**	**09 56 10.6**	**+1.9**
SSLS	**Shishaldin Sou**	**8.98**	**63**		**Pn**	**09 56 13.2**	**+2.1**
SDPT	**Sand Point**	**11.11**	**62**		**Pn**	**09 56 39.8**	**-0.2**
CNBA	**Chernabura Isl**	**11.50**	**65**	Pn	**Pn**	**09 56 43.1**	**-2.3**
CHGN	**Chignik**	**12.47**	**59**	Pn	**Pn**	**09 56 56.5**	**-2.1**
PET	**Petropavlovsk**	**14.48**	**286**	*e*P	P	**09 57 33.6**	**+2.1**
PET				*e*S	**Sn**	**10 00 13.3**	**+8.3**
PET				pmax	pmax		
	comp=Z,100nm,14.1s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
SII	**Sitkinak Islan**	**14.82**	**60**	Pn	**Pn**	**09 57 27.1**	**-3.3**
PEA0B	**Petropavlovsk-**	**15.06**	**286**	P	**P**	**09 57 36.8**	**-1.1**
PEA0B				pmax	pmax		
	comp=Z,209nm,1.8s						
PEA0B	**Petropavlovsk-**	**15.06**	**286**	P	**P**	**09 57 36.8**	**-1.1**
PEA0B				IAmb	IAmb	09 57 48.9	
	comp=Z,209nm,1.8s						
PETK	**Petropavlovsk-**	**15.06**	**286**	P	**Pn**	**09 57 34.8**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=95,slow=17,SNR=20						
PETK				S	**Sn**	**10 00 14.9**	**-4.0**
	baz=118,slow=15,SNR=2.1						
PETK				LR	LR	10 03 08.3	
	comp=Z,2μm,21.6s,baz=91,slow=36						
PETK	**Petropavlovsk-**	**15.06**	**286**	Pn	**Pn**	**09 57 32.6**	**-0.8**
OHAK	**Old Harbor**	**15.43**	**58**	Pn	**Pn**	**09 57 34.9**	**-3.4**
OHAK				IAmb	IAmb	09 57 44.5	
	comp=Z,79nm,0.4s						
SVW2	**Sparrevohn**	**15.66**	**43**	P	**P**	**09 57 42.4**	**-2.2**
KDAK	**Kodiak Island**	**15.92**	**56**	P	**Pn**	**09 57 40.7**	**-3.9**
KDAK				pmax	pmax		
	comp=Z,85nm,0.4s						
KDAK	**Kodiak Island**	**15.92**	**56**	Pn	**Pn**	**09 57 40.7**	**-3.9**
KDAK				IAmb	IAmb	09 57 50.5	
	comp=Z,85nm,0.4s						
SKR	**Severo-Kuril's**	**16.36**	**278**	*e*P	**P**	**09 57 57.5**	**+5.1**
SKR				pmax	pmax		
	comp=Z,100nm,4.2s						
SKR				MLR	MLR		
	comp=Z,500nm,21.0s						
SKR				MLR	MLR		
	comp=Z,200nm,18.0s						
HOM	**Homer**	**16.89**	**50**	P	**P**	**09 57 57.6**	**-0.6**
	baz=252						
CNPM	**China Poot**	**17.05**	**51**		**P**	**09 57 58.8**	**-1.2**
CNPM				IAmb	IAmb	09 58 04.2	
	comp=Z,69nm,0.4s						
SKT	**Skwentna**	**17.79**	**43**	P	**P**	**09 58 08.7**	**+0.6**
SKT				IAmb	IAmb	09 58 34.8	
	comp=Z,101nm,1.0s						
PPLA	**Purkeypile**	**17.92**	**40**		**P**	**09 58 10.3**	**+0.6**
SUA	**Susitna One**	**17.93**	**45**	P	**P**	**09 58 10.3**	**+0.6**
O22K	**Cooper Landing**	**18.06**	**49**	P	**P**	**09 58 10.4**	**-0.7**
	baz=252,SNR=30						
O22K	**Cooper Landing**	**18.06**	**49**	P	**Pn**	**09 58 10.0**	**-1.1**
O22K				IAmb	IAmb	09 58 25.1	
	comp=Z,191nm,0.8s						
SEW	**Seward**	**18.08**	**50**		**Pn**	**09 58 09.9**	**-1.5**
RDOG	**Red Dog Mine**	**18.24**	**18**	P	**Pn**	**09 58 15.8**	**+2.5**
RC01	**Rabbit Creek A**	**18.25**	**47**	P	**Pn**	**09 58 13.4**	**-0.1**
	baz=251						
BILL	**Bilibino**	**18.41**	**341**	*e*P	**Pn**	**09 58 17.0**	**+1.6**
BILL				pmax	pmax		
	comp=Z,56nm,0.8s						
BILL	**Bilibino**	**18.41**	**341**	P	**Pn**	**09 58 16.6**	**+1.3**
CUT	**Chulitna**	**18.50**	**43**	P	**Pn**	**09 58 15.8**	**-0.7**
	baz=246						
PMR	**Palmer**	**18.70**	**46**	P	**Pn**	**09 58 20.1**	**+1.3**
PMR				pmax	pmax		
	comp=Z,13nm,0.8s						
PMR	**Palmer**	**18.70**	**46**	P	**Pn**	**09 58 20.1**	**+1.3**
KTH	**Kantishna Hill**	**18.74**	**39**	P	**Pn**	**09 58 19.4**	**0.0**
KTH				IAmb	IAmb	09 58 41.6	
	comp=Z,103nm,1.0s						
GHO	**Glory Hole Cre**	**18.85**	**45**	P	**Pn**	**09 58 21.5**	**+0.8**
KNK	**Knik Glacier**	**18.94**	**47**	P	**Pn**	**09 58 21.6**	**-0.2**
TRF	**Thorofare Moun**	**18.94**	**40**	P	**Pn**	**09 58 20.7**	**-1.3**
TRF				IAmb	IAmb	09 58 34.9	
	comp=Z,91nm,1.0s						
BPAW	**Bear Paw Mtn.**	**18.98**	**38**	P	**Pn**	**09 58 21.0**	**-1.2**
IMAR	**Indian Mountai**	**19.06**	**31**	P	**Pn**	**09 58 22.9**	**-0.3**
SML	**Sawmill**	**19.13**	**46**		**Pn**	**09 58 27.2**	**+3.1**
GLI	**Glacier Island**	**19.41**	**49**	P	**P**	**09 58 25.5**	**-0.4**
MA2	**Magadan**	**19.42**	**307**	*e*P	**Pn**	**09 58 28.8**	**+1.3**
MA2				pmax	pmax		
	comp=Z,31nm,1.0s						
Q23K	**Middleton Isla**	**19.45**	**53**	P	**Pn**	**09 58 27.7**	**-0.1**
	baz=260						
Q23K	**Middleton Isla**	**19.45**	**53**	P	**Pn**	**09 58 26.6**	**-1.2**
MID	**Middleton Isla**	**19.46**	**53**	P	**Pn**	**09 58 27.5**	**-0.4**
MID				pmax	pmax		
	comp=Z,457nm,1.6s						
MID	**Middleton Isla**	**19.46**	**53**	P	**Pn**	**09 58 27.5**	**-0.4**
RND	**Reindeer**	**19.51**	**41**	P	**P**	**09 58 26.6**	**-0.4**
RND				pmax	pmax		
	comp=Z,32nm,0.6s						
RND	**Reindeer**	**19.51**	**41**	P	**P**	**09 58 26.6**	**-0.4**
MLY	**Manley**	**19.54**	**35**	P	**Pn**	**09 58 28.4**	**-0.5**
	baz=239,SNR=60						
HIN	**Hinchinbrook I**	**19.58**	**50**	P	**Pn**	**09 58 28.1**	**-1.3**
SCM	**Sheep Creek Mo**	**19.59**	**46**	P	**P**	**09 58 27.4**	**-0.5**
SCM				pmax	pmax		
	comp=Z,45nm,0.9s						
SCM	**Sheep Creek Mo**	**19.59**	**46**	P	**P**	**09 58 27.4**	**-0.5**
BWN	**Browne**	**19.60**	**38**	P	**Pn**	**09 58 29.1**	**-0.5**
BWN				IAmb	IAmb	09 58 44.5	
	comp=Z,221nm,1.2s						
MCK	**McKinley**	**19.61**	**40**	P	**P**	**09 58 27.1**	**-1.0**
	baz=245,SNR=22						
SEY	**Seymchan**	**19.64**	**317**	P	**P**	**09 58 28.1**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=122,slow=8.2,SNR=47						
SEY				LR	LR	10 05 30.0	
	comp=Z,1μm,21.4s,baz=114,slow=35						
SEY				ScP	**ScP**	**10 06 17.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=130,slow=7.9,SNR=5.3						
SEY	**Seymchan**	**19.64**	**317**	*e*P	**Pn**	**09 58 30.0**	**0.0**
FID	**Port Fidalgo**	**19.67**	**49**	P	**P**	**09 58 28.4**	**-0.4**
FID				IAmb	IAmb	09 58 34.2	
	comp=Z,40nm,0.5s						
NEA2	**Nenana**	**19.95**	**38**	P	**P**	**09 58 31.4**	**-0.3**
	baz=242,SNR=17						
EYAK	**Cordova Ski Ar**	**19.98**	**50**	P	**Pn**	**09 58 32.8**	**-1.2**
DHY	**Denali Highway**	**19.99**	**42**	P	**P**	**09 58 32.2**	**-0.1**
I23K	**Minto, Yukon-K**	**20.11**	**36**	P	**P**	**09 58 33.1**	**-0.2**
	baz=241,SNR=12						
I23K	**Minto, Yukon-K**	**20.11**	**36**	P	Pn	09 58 35.4	-0.1
I23K				IAmb	IAmb	09 58 40.9	
	comp=Z,54nm,0.8s						
KLU	**Klutina**	**20.13**	**48**	P	Pn	09 58 35.4	-0.5
M24K	**Tolsona, Glenn**	**20.19**	**46**	P	**P**	**09 58 34.3**	**-0.1**
	baz=253,SNR=16						
M24K	**Tolsona, Glenn**	**20.19**	**46**	P	Pn	09 58 36.4	-0.3
M24K				IAmb	IAmb	09 59 02.3	
	comp=Z,60nm,0.7s						
WRH	**Wood River Hil**	**20.27**	**38**	P	**P**	**09 58 34.3**	**-0.9**
MDM	**Murphy Dome**	**20.43**	**37**	P	Pn	09 58 37.4	-2.1
MDM				IAmb	IAmb	09 58 44.0	
	comp=Z,74nm,0.8s						
RAGM	**Ragged Mountai**	**20.46**	**51**	P	Pn	09 58 38.3	-1.6
KAIM	**Kayak Island**	**20.50**	**52**	P	**P**	**09 58 38.2**	**+0.4**
KAIM				IAmb	IAmb	09 59 33.7	
	comp=Z,119nm,1.4s						
TCOL	**CIGO, UAF Yank**	**20.54**	**37**	P	Pn	09 58 38.5	-2.1
	baz=243,SNR=11						
TCOL	**CIGO, UAF Yank**	**20.54**	**37**	P	Pn	09 58 39.1	-1.5
COLA	**College**	**20.54**	**37**	*de*P	Pn	09 58 39.0	-1.7
COLA				pmax	pmax		
	comp=Z,21nm,0.8s						
COLA	**College**	**20.54**	**37**	P	Pn	09 58 39.1	-1.5
HMT	**Hamilton**	**20.66**	**51**	P	Pn	09 58 41.5	-0.6
HDA	**Harding Lake**	**20.69**	**39**	P	**P**	**09 58 39.7**	**0.0**
N25K	**Chitina, Valde**	**20.77**	**48**	P	**P**	**09 58 40.5**	**-0.2**
	baz=256,SNR=23						
N25K	**Chitina, Valde**	**20.77**	**48**	P	Pn	09 58 43.0	-0.6
PAX	**Paxson**	**20.77**	**44**	P	**P**	**09 58 39.9**	**-0.8**
PAX				pmax	pmax		
	comp=Z,43nm,1.1s						
PAX	**Paxson**	**20.77**	**44**	P	**P**	**09 58 39.9**	**-0.8**
POKR	**Poker Plat Res**	**20.81**	**37**	P	**P**	**09 58 41.2**	**+0.2**
	baz=243,SNR=14						
POKR	**Poker Plat Res**	**20.81**	**37**	P	Pn	09 58 42.5	-1.5
SUCK	**Suckling Hills**	**20.85**	**52**	P	Pn	09 58 42.3	-2.1
SUCK				IAmb	IAmb	09 58 46.1	
	comp=Z,130nm,1.7s						
IL31		**20.87**	**38**	P	**P**	**09 58 41.4**	**-0.1**
ILAR	**Eielson Array**	**20.87**	**38**	P	**P**	**09 58 39.4**	**-2.2**
	comp=Z,3.5nm,0.6s,baz=239,slow=8.2,SNR=39						
ILAR				PcP	**PcP**	**10 02 47.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=273,slow=3.0,SNR=5.1						
ILAR				ScP	**ScP**	**10 06 19.1**

DLBC LR LR 10 12 02.5
comp=Z,374nm,18.5s,baz=276,slow=39
DLBC Dease Lake 27.86 57 P P 09 59 49.4 +0.6
YAK Yakutsk 29.86 311 P P 10 00 04.5 -1.8
comp=Z,5.7nm,0.4s,baz=108,slow=1.5,SNR=1.9
YAK PcP PcP **10 03 08.6 +0.4**
comp=Z,7.5nm,0.5s,baz=102,slow=0.9,SNR=4.4
YAK LR LR 10 12 39.4
comp=Z,746nm,18.8s,baz=99,slow=38
YAK Yakutsk 29.86 311 *e*P **P 10 00 03.8 -2.6**
YAK *e**PP **pP 10 00 15.9 -3.1**
YAK *e* 10 01 05.6
YAK *e* 10 03 07.5
YAK *e*S **S 10 04 57.1 -2.5**
YAK *e*SS **SnSn 10 06 29.7 -3.7**
YAK *e* 10 10 43.1
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,198nm,4.3s
YAK pmax pmax
comp=E,164nm,4.1s
YAK smax smax
comp=N,196nm,4.3s
YAK smax smax
comp=E,89nm,3.2s
YAK MLR MLR
comp=Z,867nm,19.0s
YAK MLR MLR
comp=E,411nm,17.0s
TEY Ternei 30.60 276‖ *e*P **P 10 00 13.4 +0.3**
TEY pmax pmax
comp=E,40nm,1.0s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=Z,50nm,1.0s
C36M Paulatuk 30.68 34 P **P 10 00 13.4 -0.2**
baz=262
C36M Paulatuk 30.68 34 P **P 10 00 13.3 -0.3**
C36M lAmb lAmb 10 00 18.8
comp=Z,63nm,1.6s
TIXI Tiksi 30.92 330‖ *i*P **P 10 00 15.4 -0.3**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI Tiksi 30.92 330 P **P 10 00 15.3 -0.4**
KLR Kul'dur 31.75 286 P **P 10 00 23.4 +0.1**
comp=Z,71nm,0.5s,baz=69,slow=7.5,SNR=265
KLR LR LR 10 13 37.5
comp=Z,618nm,20.1s,baz=65,slow=37
KLR Kul'dur 31.75 286 *c i*P **P 10 00 23.2 0.0**
KLR pmax pmax
comp=Z,157nm,1.1s
ZEA Zeya 32.76 296 *e*P **P 10 00 32.1 +0.1**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=N,29nm,1.0s
ZEA pmax pmax
comp=E,200nm,3.9s
ZEA pmax pmax
comp=Z,200nm,3.9s
ZEA MLR MLR
comp=Z,300nm,22.0s
H11N2 WAKE ISLAND Hy 33.80 206 T T 10 37 18.2
baz=17,slow=75,SNR=937
H11N3 WAKE ISLAND Hy 33.81 206 T T 10 37 10.1
baz=17,slow=75,SNR=856
H11N1 WAKE ISLAND Hy 33.81 206 T T 10 37 11.7
baz=17,slow=75,SNR=700
USA0B Ussuriysk Arra 33.88 278 *ce*P **P 10 00 41.6 -0.3**
USA0B Ussuriysk Arra 33.88 278 P **P 10 00 42.1 +0.2**
USA0B lAmb lAmb 10 00 42.5
comp=Z,29nm,0.8s
USRK Ussuriysk Ar. 33.88 278 P **P 10 00 41.6 -0.3**
comp=Z,28nm,0.7s,baz=59,slow=7.9,SNR=44
USRK LR LR 10 16 05.1
comp=Z,243nm,19.1s,baz=53,slow=39
MJAR Matsushiro Arr 34.37 262 P **P 10 00 47.1 +0.9**
comp=Z,8.1nm,0.8s,baz=50,slow=7.6,SNR=16
MJAR PcP **PcP 10 03 22.1 +1.1**
comp=Z,2.8nm,0.8s,baz=91,slow=2.1,SNR=4.9
MJAR LR LR 10 14 21.5
comp=Z,162nm,20.0s,baz=75,slow=35
MJAR Matsushiro Arr 34.37 262 P **P 10 00 47.8 +1.6**
MAJO Matsushiro 34.37 262 *d i*P **P 10 00 47.2 +0.9**
MAJO pmax pmax
comp=Z,28nm,1.1s
MAJO Matsushiro 34.37 262 P **P 10 00 46.7 +0.4**
MAJO lAmb lAmb 10 00 49.5
comp=Z,20nm,0.8s
MAT Matsushiro 34.37 262 P **P 10 00 46.9 +0.6**
MAT *e*S **S 10 06 09.8 -0.7**
YKA Yellowknife Ar 34.79 47 P **P 10 00 49.0 -0.5**
comp=Z,3.8nm,0.5s,baz=280,slow=7.4,SNR=20
YKA PcP **PcP 10 03 22.0 +0.2**
comp=Z,3.7nm,0.7s,baz=289,slow=3.2,SNR=7.2
YKA LR LR 10 15 50.7
comp=Z,541nm,21.8s,baz=0.0,slow=38
H11S1 WAKE ISLAND Hy 35.01 206 T T 10 38 11.7
baz=17,slow=76,SNR=1738
H11S2 WAKE ISLAND Hy 35.03 206 T T 10 38 16.3
baz=17,slow=76,SNR=807
H11S3 WAKE ISLAND Hy 35.03 206 T T 10 38 39.0
baz=17,slow=76,SNR=581
D03D Eldon 35.10 74 P **P 10 00 52.8 +0.4**
baz=297
MDJ Mudanjiang 35.16 280 P **P 10 00 51.8 -1.1**
MDJ sP sP 10 01 10.5 -0.9
MDJ pmax pmax
comp=Z,29nm,0.9s
MDJ pmax pmax
comp=Z,340nm,4.4s
MDJ Mudanjiang 35.16 280 P **P 10 00 52.4 -0.5**
MDJ lAmb lAmb 10 00 53.6
comp=Z,23nm,0.9s
B05A Bryant 35.37 73 P **P 10 00 55.5 +0.8**
baz=297,SNR=11
JGF Kuroka 35.51 261 P **P 10 00 57.1 +1.0**
JGF lAmb lAmb 10 00 58.4
comp=Z,25nm,0.9s
E04D Cinebar 35.88 75 P **P 10 00 59.8 +0.7**
baz=299
F04A Amboy 36.27 76 P **P 10 01 04.2 +1.9**
F04A lAmb lAmb 10 01 17.5
comp=Z,45nm,1.1s
LTY Liberty 36.69 73 P **P 10 01 07.0 +1.0**
LTY lAmb lAmb 10 01 20.5
comp=Z,28nm,1.2s
H04D Lebanon 36.78 79 P **P 10 01 06.5 -0.3**
baz=301
JWT Wachi 36.93 263 P **P 10 01 08.9 +0.8**
B08A Colville Reser 36.97 71 P **P 10 01 09.3 +0.8**
B08A lAmb lAmb 10 01 27.7
comp=Z,22nm,0.9s
H04A Detroit Lake 37.03 78 P **P 10 01 11.2 +2.2**
G05D Wamic, OR 37.28 77 P **P 10 01 11.2 +0.1**
baz=300
I04A Tendick Farm, 37.36 79 P **P 10 01 12.4 +0.7**
baz=302
L02E Cave Junction 37.50 82 P **P 10 01 13.8 +0.9**
baz=304
E07A Sunnyside 37.51 74 P **P 10 01 15.3 +2.2**
I05D Terrebonne, OR 37.73 78 P **P 10 01 15.1 +0.2**
baz=302
HAWA Hanford 37.79 74 P **P 10 01 16.4 +1.1**
HAWA lAmb lAmb 10 01 30.1
comp=Z,30nm,0.8s
D08A Wollman Farm, 37.83 73 P **P 10 01 16.6 +0.9**
D08A lAmb lAmb 10 01 30.7
comp=Z,64nm,1.7s
J04D Umpqua Nationa 37.84 80 P **P 10 01 15.8 -0.2**
baz=303
C09A Chrisman Ranch 37.86 71 P **P 10 01 16.6 +0.7**
C09A lAmb lAmb 10 01 29.0
comp=Z,34nm,1.4s
E08A Dider Farm, El 38.02 74 P **P 10 01 18.7 +1.4**
E08A lAmb lAmb 10 01 31.8
comp=Z,42nm,1.5s
CN2 Changchun 38.13 281 *e*P **P 10 01 17.5 -0.7**
CN2 *e*S **S 10 07 02.5 -5.1**
CN2 sS ScP 10 07 20.5 +5.0
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,90nm,3.8s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,220nm,19.0s
CN2 LR LR
comp=Z,260nm,20.0s
PINE Pine Mountain 38.26 78 P **P 10 01 20.4 +0.8**
PINE lAmb lAmb 10 01 44.8
comp=Z,21nm,0.9s
L04D Klamath Falls 38.27 81 P **P 10 01 20.2 +0.6**
baz=304
YBH Yreka Blue Hor 38.29 82 P **P 10 01 22.2 +2.5**
YBH pmax pmax
comp=Z,23nm,1.1s
YBH Yreka Blue Hor 38.29 82 P **P 10 01 22.2 +2.5**
YBH lAmb lAmb 10 01 34.3
comp=Z,23nm,1.1s
NEW Newport 38.32 70 P **P 10 01 20.1 +0.3**
baz=298,SNR=30
NEW Newport 38.32 70 P **P 10 01 20.3 +0.4**
NEW pmax pmax
comp=Z,19nm,0.7s
NEW Newport 38.32 70 P **P 10 01 20.3 +0.4**
NEW lAmb lAmb 10 01 33.3
comp=Z,19nm,0.7s
J05D Fort Rock, OR 38.35 79 P **P 10 01 21.9 +1.7**
baz=303,SNR=11
K04D Chiloquin, OR 38.39 81 P **P 10 01 21.1 +0.6**
baz=303
M02C Callahan 38.39 83 P **P 10 01 21.4 +0.9**
baz=304
BOD Bodaibo 38.45 307 *e*P **P 10 01 18.7 -2.0**
BOD pmax pmax
comp=Z,7.0nm,1.6s
JHS Saijyo 38.53 264 P **P 10 01 22.9 +1.2**
E09A Wood Farm, Sta 38.56 73 P **P 10 01 23.2 +1.4**
E09A lAmb lAmb 10 01 36.8
comp=Z,33nm,1.2s
JCJ Chichijima 38.63 247 P **P 10 01 23.6 +1.1**
G08A Pilot Rock 38.69 75 P **P 10 01 24.2 +1.2**
N02D Trinity Center 38.72 83 P **P 10 01 24.2 +0.9**
baz=305
M04C Macdoel 38.80 82 P **P 10 01 24.3 +0.2**
baz=304
HIA Hailar 38.83 292 P **P 10 01 24.4 +0.3**
HIA pmax pmax
comp=Z,33nm,1.0s
HIA Hailar 38.83 292 P **P 10 01 24.4 +0.3**
HIA lAmb lAmb 10 01 25.3
comp=Z,32nm,1.0s
K05A Summer Lake 38.87 80 P **P 10 01 26.9 +2.3**
K05A lAmb lAmb 10 01 39.8
comp=Z,54nm,1.1s
I07A Izee 38.99 77 P **P 10 01 27.0 +1.5**
I07A lAmb lAmb 10 01 40.7
comp=Z,24nm,1.1s
WDC Whiskeytown Da 39.05 84 P **P 10 01 28.2 +2.3**
WDC pmax pmax
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 39.05 84 P **P 10 01 28.2 +2.3**
O02D Mt. Diablo Mer 39.13 84 P **P 10 01 27.3 +0.6**
baz=306
F10A Beach Ranch, E 39.38 73 P **P 10 01 29.5 +0.7**
F10A lAmb lAmb 10 01 43.2
comp=Z,49nm,1.6s
RES Resolute Bay 39.49 25 P **P 10 01 29.3 +0.1**
comp=Z,1.7nm,0.5s,baz=247,slow=6.9,SNR=14
RES PcP **PcP 10 03 35.5 -0.3**
comp=Z,6.1nm,0.8s,baz=22,slow=3.4,SNR=7.5
RES Resolute Bay 39.49 25 P **P 10 01 29.3 +0.1**
RES 10 03 35.5
RES pmax pmax
comp=Z,15nm,1.4s
O03E Paynes Creek 39.67 84 P **P 10 01 31.5 +0.3**
baz=306,SNR=6.6
MOD Modoc Plateau 39.69 81 P **P 10 01 32.8 +1.3**
MOD lAmb lAmb 10 01 45.6
comp=Z,22nm,0.9s
WALA Waterton Lakes 39.82 67 P **P 10 01 32.6 +0.2**
WALA lAmb lAmb 10 01 33.8
comp=Z,27nm,1.0s
BMO Blue Mountains 39.92 75 P **P 10 01 34.2 +0.9**
BMO pmax pmax
comp=Z,29nm,1.4s
BMO Blue Mountains 39.92 75 P **P 10 01 34.2 +0.9**
BMO lAmb lAmb 10 01 47.9
comp=Z,29nm,1.4s
J08A Circle Bar Ran 40.01 78 P **P 10 01 35.4 +1.3**
EUNU Eureka 40.12 16 P **P 10 01 37.6 +3.2**
KSRS Korea Array 40.23 271 P **P 10 01 36.8 +1.0**
comp=Z,10nm,0.8s,baz=52,slow=8.0,SNR=32
KSRS LR LR 10 15 38.4
comp=Z,110nm,22.0s,baz=58,slow=32
KS19 Wonju Array Si 40.24 272 P **P 10 01 37.4 +1.5**
KS19 lAmb lAmb 10 01 39.3
comp=Z,26nm,1.0s
JTMT Jette 40.24 69 P **P 10 01 36.6 +0.7**
KSAR Wonju Array Be 40.26 272 P **P 10 01 36.2 +0.1**
KSAR Wonju Array Be 40.26 272 P **P 10 01 36.2 +0.1**
BEKR Beckworth 40.82 83 P **P 10 01 40.3 -0.6**
MSO Missoula 40.91 70 P **P 10 01 41.2 -0.2**
baz=301,SNR=15
MSO Missoula 40.91 70 P **P 10 01 41.1 -0.3**
MSO lAmb lAmb 10 01 56.8
comp=Z,36nm,1.1s
AFDM Forest Hills D 40.98 85 P **P 10 01 44.1 +2.1**
JNU Nakatsue 41.16 264 P **P 10 01 44.7 +1.1**
JNU lAmb lAmb 10 01 49.0
comp=Z,44nm,0.9s
TJN Taejon 41.25 271‖ *e*P **P 10 01 44.6 +0.4**
PAHR Pah Rah Range 41.52 83 P **P 10 01 47.6 +1.0**
PAHR lAmb lAmb 10 02 00.4
comp=Z,32nm,1.0s
MFID Camas Ranch 41.59 76 P **P 10 01 47.5 +0.4**
VCNR Virginia City 41.60 83 P **P 10 01 48.5 +1.2**
VCNR lAmb lAmb 10 02 02.1
comp=Z,41nm,1.3s
PNTR Pine Nut 41.76 84 P **P 10 01 50.5 +1.9**
PNTR lAmb lAmb 10 02 04.7
comp=Z,33nm,0.8s
CMB Columbia Colle 41.90 85 P **P 10 01 51.4 +1.8**
CMB pmax pmax
comp=Z,17nm,1.4s
CMB Columbia Colle 41.90 85 P **P 10 01 51.4 +1.8**
YERR Yerington 42.04 83 P **P 10 01 52.6 +1.7**
HRY Holter Researc 42.21 69 P **P 10 01 52.0 -0.1**
WAKR Walker 42.21 84 P **P 10 01 52.6 +0.4**
LRM Limekiln Ridge 42.31 71 P **P 10 01 53.0 -0.1**
HLID Hailey 42.37 75 P **P 10 01 53.9 +0.4**
baz=304,SNR=25
HLID Hailey 42.37 75 P **P 10 01 54.4 +0.9**
HLID lAmb lAmb 10 02 08.0
comp=Z,35nm,1.2s
DLMT Dillon 42.47 71 P **P 10 01 55.2 +0.9**
BCYI Bear Canyon 42.56 73 P **P 10 01 55.3 +0.2**
MCMT McKenzie Canyo 42.61 72 P **P 10 01 55.7 +0.2**
RYN Ryan 42.70 83 P **P 10 01 57.7 +1.5**
KVN Kaiserville 42.71 83 P **P 10 01 57.5 +1.1**
KVN pmax pmax
comp=Z,12nm,1.1s
KVN Kaiserville 42.71 83 P **P 10 01 57.5 +1.1**
BOZ Bozeman (W) 42.92 71 P **P 10 01 57.8 -0.1**
baz=303,SNR=22
BOZ Bozeman (W) 42.92 71 P **P 10 01 57.4 -0.5**
BOZ pmax pmax
comp=Z,53nm,1.6s
BOZ Bozeman (W) 42.92 71 P **P 10 01 57.4 -0.5**
BOZ lAmb lAmb 10 02 10.8
comp=Z,53nm,1.6s
LHV Little Huntoon 42.95 84 P **P 10 02 00.2 +2.3**
LHV lAmb lAmb 10 02 12.5
comp=Z,38nm,1.3s
NVAR Mina Array Bea 42.96 83 P **P 10 01 59.5 +1.1**
comp=Z,5.7nm,0.9s,baz=285,slow=8.5,SNR=17
NVAR ScP **ScP 10 07 35.7 +0.8**
comp=Z,0.5nm,0.6s,baz=316,slow=5.0,SNR=3.5
NVAR Mina Array Bea 42.96 83 P **P 10 01 58.9 +0.5**
MDPB Devils Postpil 42.97 85 P **P 10 02 00.7 +2.2**
OMMB Old Mammoth Mi 43.03 85 P **P 10 01 59.8 +0.8**
NV11 Mina Array Sit 43.05 83 P **P 10 02 00.1 +1.0**
QLMT Earthquake Lak 43.45 71 P **P 10 02 04.4 +2.1**
ELK Elko 43.47 79 P **P 10 02 03.5 +1.0**
ELK pmax pmax
comp=Z,16nm,1.0s
ELK Elko 43.47 79 P **P 10 02 03.5 +1.0**
YHL Hebgen Lake 43.59 71 P **P 10 02 04.2 +0.7**
VOG Valley Oaks Go 43.59 87 P **P 10 02 03.7 +0.5**
baz=309
YHB Horse Butte 43.64 71 P **P 10 02 04.5 +0.7**
YMR Madison River 43.82 71 P **P 10 02 06.0 +0.8**
YHH Holmes Hill 43.82 71 P **P 10 02 05.6 +0.3**
TPH Tonopah 43.85 83 P **P 10 02 05.9 +0.3**
TPH pmax pmax
comp=Z,60nm,0.9s
TPH Tonopah 43.85 83 P **P 10 02 05.9 +0.3**
SMMC Simmler 43.85 88 P **P 10 02 05.6 +0.2**
baz=310
YNR Norris Junctio 43.96 71 P **P 10 02 07.9 +1.4**
GCMT Greycliff 43.97 69 P **P 10 02 07.4 +1.1**
VES Vestal, Richgr 44.09 87 P **P 10 02 07.3 +0.1**
baz=310
YNE Yellowstone No 44.20 70 P **P 10 02 08.9 +0.6**
H17A Grant Village 44.20 72 P **P 10 02 09.2 +0.8**
baz=304
H17A Grant Village 44.20 72 P **P 10 02 10.2 +1.8**
IMW Indian Meadow 44.27 72 P **P 10 02 10.9 +2.0**
IMW lAmb lAmb 10 02 23.3
comp=Z,47nm,1.9s
CWC Cottonwood Cre 44.33 86 P **P 10 02 09.7 +0.3**
baz=309
HVU Hansel Valley 44.37 76 P **P 10 02 11.1 +1.5**
HVU pmax pmax
comp=Z,20nm,1.0s
HVU Hansel Valley 44.37 76 P **P 10 02 11.1 +1.5**
MOOW Moose Ponds 44.47 72 P **P 10 02 12.3 +1.8**
ECR Eagle Creek 44.49 74 P **P 10 02 13.6 +2.9**
TPAW Teton Pass 44.49 73 P **P 10 02 13.2 +2.5**
RLMT Red Lodge 44.57 70 P **P 10 02 11.4 +0.1**
baz=304,SNR=22
RLMT Red Lodge 44.57 70 P **P 10 02 11.5 +0.2**
RLMT lAmb lAmb 10 02 27.7
comp=Z,51nm,1.2s
ISA Isabella, Lake 44.58 87 P **P 10 02 11.2 -0.1**
baz=310
ISA Isabella, Lake 44.58 87 P **P 10 02 11.7 +0.5**
ISA pmax pmax
comp=Z,12nm,1.2s
ISA Isabella, Lake 44.58 87 P **P 10 02 11.7 +0.5**
REDW Red Top Meadow 44.62 73 P **P 10 02 13.3 +1.6**
REDW lAmb lAmb 10 02 26.4
comp=Z,50nm,1.8s
SNOW Snow King Moun 44.62 73 P **P 10 02 13.6 +1.8**
LOHW Long Hollow 44.63 72 P **P 10 02 13.8 +2.1**
R11A Troy Canyon, C 44.70 82 P **P 10 02 12.6 +0.3**
baz=308,SNR=12
R11A Troy Canyon, C 44.70 82 P **P 10 02 13.2 +0.8**
NRIK Noril'sk 44.70 330 P **P 10 02 11.5 -0.2**
comp=Z,20nm,0.9s,baz=79,slow=7.4,SNR=16
NRIK PcP **PcP 10 03 53.6 +0.4**
comp=Z,8.1nm,0.8s,baz=307,slow=1.9,SNR=3.9
NRIK ScP **ScP 10 07 41.5 +0.4**
comp=Z,6.1nm,0.7s,baz=74,slow=3.6,SNR=7.4
NRIK LR LR 10 23 04.3
comp=Z,316nm,19.3s,baz=30,slow=39
BGU Big Grassy Mou 44.72 77 P **P 10 02 14.2 +1.8**
SPUT South Promonto 44.85 76 P **P 10 02 15.2 +1.8**
MPMC Manual Prospec 44.95 86 P **P 10 02 14.5 +0.2**
baz=310
FURC Furnace Creek, 45.08 85 P **P 10 02 15.6 +0.6**
baz=310
SPR3 Spring Creek 3 45.08 80 P **P 10 02 16.8 +1.3**
TPNV Topopah Spring 45.16 84 P **P 10 02 16.5 +0.5**
baz=309,SNR=20
TPNV Topopah Spring 45.16 84 P **P 10 02 16.8 +0.8**
TPNV pmax pmax
comp=Z,24nm,0.9s
TPNV Topopah Spring 45.16 84 P **P 10 02 16.8 +0.8**
TPNV lAmb lAmb 10 02 31.6
comp=Z,24nm,0.9s
HWUT Hardware Ranch 45.21 75 P **P 10 02 17.1 +0.7**
DUG Dugway, Tooele 45.29 78 P **P 10 02 17.3 +0.3**
baz=307,SNR=22
DUG Dugway, Tooele 45.29 78 P **P 10 02 17.7 +0.8**
DUG pmax pmax
comp=Z,35nm,1.3s
DUG Dugway, Tooele 45.29 78 P **P 10 02 17.7 +0.8**
DUG lAmb lAmb 10 02 35.4
comp=Z,35nm,1.2s
EDW2 Edwards Air Fo 45.38 87 P **P 10 02 17.9 +0.3**
baz=311
LAO LASA Array 45.47 66 P **P 10 02 18.4 +0.1**
baz=304,SNR=5.3
LAO LASA Array 45.47 66 P **P 10 02 18.5 +0.3**
LAO lAmb lAmb 10 02 19.6
comp=Z,49nm,1.1s
PRN Pahroc Range 45.61 82 P **P 10 02 20.2 +0.7**
PRN lAmb lAmb 10 02 34.0
comp=Z,40nm,1.1s
DGMT Dagmar 45.65 63 P **P 10 02 19.3 -0.2**
baz=303
PSUT Pine Spring 45.66 80 P **P 10 02 21.1 +1.2**
BW06 Boulder Array 45.74 73 P **P 10 02 20.3 -0.3**
baz=306,SNR=38
BW06 Boulder Array 45.74 73 P **P 10 02 20.8 +0.2**
BW06 lAmb lAmb 10 02 35.2
comp=Z,47nm,1.2s
PD31 Pinedale Array 45.74 73 P **P 10 02 20.7 +0.1**
PD31 lAmb lAmb 10 02 35.2
comp=Z,43nm,1.2s
PDAR Pinedale Array 45.74 73 P **P 10 02 20.7 +0.1**
comp=Z,14nm,0.6s,baz=310,slow=3.5,SNR=77
PDAR LR LR 10 19 21.9
comp=Z,167nm,21.2s,baz=317,slow=33
PDAR Pinedale Array 45.74 73 P **P 10 02 20.2 -0.4**
SHOC Shoshone, Teco 45.80 85 P **P 10 02 21.6 +0.7**
baz=310
GSC Goldstone, Bar 45.86 86 P **P 10 02 21.8 +0.5**
baz=310,SNR=6.4
GSC Goldstone, Bar 45.86 86 P **P 10 02 21.7 +0.3**
GSC pmax pmax
comp=Z,25nm,1.2s
GSC Goldstone, Bar 45.86 86 P **P 10 02 21.7 +0.3**
GSC lAmb lAmb 10 02 35.7
comp=Z,25nm,1.1s
JLU Jordanelle 45.88 76 P **P 10 02 22.5 +0.9**
BJI Beijing 45.95 283 P **P 10 02 22.8 +0.9**
BJI S **S 10 09 05.8 +2.8**
BJI pmax pmax
comp=Z,21nm,0.9s
BJI LR LR
comp=Z,170nm,13.9s
BJI LR LR
comp=Z,240nm,15.2s
BJI LR LR
comp=Z,420nm,14.0s
BJT Baijiatuau 45.97 283 P **P 10 02 23.3 +1.2**
BJT pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 45.97 283 P **P 10 02 23.3 +1.2**
BJT lAmb lAmb 10 02 26.0
comp=Z,19nm,0.8s
BFSC Mount Baldy Ra 46.01 88 P **P 10 02 22.8 +0.1**
baz=311
CIS Catalina Islan 46.09 89 P **P 10 02 23.9 +0.7**
baz=312
SHPR Sheep Range 46.11 83 P **P 10 02 24.8 +1.3**
TUQ Turquoise Moun 46.32 85 P **P 10 02 25.2 +0.1**
baz=310
HEC Hector,Ludlow 46.45 86 P **P 10 02 26.4 +0.3**
baz=311
TCRU Three Creeks R 46.48 79 P **P 10 02 28.2 +1.8**
TLY Talaya 46.56 303 *e*P P 10 02 32.8 +6.2
TLY *e*S S 10 09 29.0 +17
TLY pmax pmax
comp=Z,27nm,0.9s
TLY MLR MLR
comp=Z,505nm,16.0s
CCUT Cedar City 46.57 81 P **P 10 02 28.6 +1.4**
MVU Marysvale 46.69 79 P **P 10 02 30.6 +2.5**
MSU Marysvale 46.70 79 P **P 10 02 29.6 +1.4**
MSU Marysvale 46.70 79 P **P 10 02 29.6 +1.4**
SZCU Shurtz Canyon 46.71 81 P **P 10 02 29.8 +1.6**
MURC Murrieta 46.72 88 P **P 10 02 28.7 +0.5**
baz=312
ULN Ulaanbaatar 46.79 297 *c i*P **P 10 02 28.8 +0.2**
ULN pmax pmax

comp=Z,13nm,0.8s
ULN Ulaanbaatar 46.79 297 P **P** **10 02 29.2 +0.5**
ULN IAmb IAmb 10 02 30.5
comp=Z,12nm,0.6s
TMUT Trail Mountain 46.81 78 P **P** **10 02 31.1 +1.9**
GMRC Granite Mounta 46.91 86 P **P** **10 02 30.1 +0.4**
baz=311
LCMT Little Creek M 46.98 82 P **P** **10 02 31.1 +0.9**
MTPU Mount Pierson 46.99 80 P **P** **10 02 32.7 +2.1**
P17A Butcher Ranch, 46.99 77 P **P** **10 02 30.2 -0.2**
RDMU Red Mountain 47.04 75 P **P** **10 02 31.8 +1.0**
Q16A Castle Valley 47.07 78 P **P** **10 02 32.2 +1.1**
SONM Songino Array 47.17 297 P **P** **10 02 31.7 +0.2**
comp=Z,12nm,0.8s,baz=67,slow=8.4,SNR=22
SONM ScP **ScP** **10 07 53.6 +1.6**
comp=Z,6.2nm,0.9s,baz=74,slow=3.1,SNR=13
SONM LR LR 10 23 08.7
comp=Z,852nm,20.3s,baz=62,slow=37
SONM Songino Array 47.17 297 P **P** **10 02 31.8 +0.2**
BELC Belle Mtn. Jos 47.21 87 P **P** **10 02 32.4 +0.4**
baz=311
KNB Kanab 47.24 81 P **P** **10 02 33.7 +1.4**
KNB pmax pmax
comp=Z,16nm,0.9s
KNB Kanab 47.24 81 P **P** **10 02 33.7 +1.4**
109C Camp Elliot, M 47.25 89 P **P** **10 02 32.9 +0.7**
baz=312
PKCU Pink Cliffs 47.29 80 P **P** **10 02 34.0 +1.1**
SRU San Rafael Swe 47.35 77 P **P** **10 02 34.2 +1.1**
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael Swe 47.35 77 P **P** **10 02 34.2 +1.1**
ZAK Zakamensk 47.46 302 *e*P **P** **10 02 33.3 -0.4**
ZAK pmax pmax
comp=Z,24nm,1.0s
ZAK pmax pmax
comp=Z,8.0nm,1.1s
K22A Casper 47.62 71 P **P** **10 02 34.9 -0.2**
baz=307
K22A Casper 47.62 71 P **P** **10 02 35.6 +0.4**
K22A IAmb IAmb 10 02 52.1
comp=Z,12nm,0.8s
IRM Iron Mountain 47.64 86 P **P** **10 02 35.4 +0.2**
baz=311
MONP2 Monument Peak 47.67 88 P **P** **10 02 36.5 +0.7**
baz=312
TIA Tai'an 47.75 278 P **P** **10 02 36.3 +0.2**
TIA pmax pmax
comp=Z,22nm,0.8s
BC3 Big Chuckawall 47.77 87 P **P** **10 02 37.0 +0.5**
baz=312
MOY Mondy 47.95 304 *e*P **P** **10 02 37.3 -0.3**
MOY pmax pmax
comp=Z,14nm,1.2s
IKP In-Ko-Pah, Jac 48.03 88 P **P** **10 02 39.1 +0.7**
baz=312
O20A White River Ci 48.11 75 P **P** **10 02 39.2 +0.2**
baz=308,SNR=26
O20A White River Ci 48.11 75 P **P** **10 02 38.2 -0.8**
PDMCI Parker Dam,Lak 48.17 85 P **P** **10 02 39.6 +0.3**
baz=311
GUMO Guam 48.18 232 LR LR 10 19 39.2
comp=Z,138nm,19.8s,baz=54,slow=32
RSSD Black Hills 48.20 68 P **P** **10 02 39.3 -0.5**
baz=306
RSSD Black Hills 48.20 68 P **P** **10 02 39.6 -0.1**
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 48.20 68 P **P** **10 02 39.6 -0.1**
RSSD IAmb IAmb 10 02 45.1
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 48.26 286⇑ *i*P **P** **10 02 41.3 +1.2**
HHC S **S** **10 09 36.3 +0.2**
HHC pmax pmax
comp=Z,66nm,1.1s
HHC pmax pmax
comp=Z,84nm,5.2s
HHC LR LR
comp=Z,350nm,21.6s
HHC LR LR
comp=Z,510nm,22.0s
HHC LR LR
comp=Z,530nm,19.8s
MDND Maddock 48.55 62 P **P** **10 02 41.8 -0.3**
baz=305
MDND Maddock 48.55 62 P **P** **10 02 42.5 +0.5**
GLA Glamis 48.57 87 P **P** **10 02 42.7 +0.3**
baz=312
PV23 Carpenter Ridg 48.68 77 P **P** **10 02 43.1 -0.5**
PV23 IAmb IAmb 10 02 49.0
comp=Z,29nm,1.2s
PV10 Paradox Valley 48.71 77 P **P** **10 02 43.8 0.0**
PV10 IAmb IAmb 10 02 46.4
comp=Z,16nm,0.6s
PV14 Lion Creek, Pa 48.73 77 P **P** **10 02 44.0 +0.1**
PV14 IAmb IAmb 10 03 36.9
comp=Z,13nm,0.8s
PV22 Blue Mesa, Par 48.77 77 P **P** **10 02 44.5 +0.4**
PV20 West Nyswonger 48.78 77 P **P** **10 02 44.8 +0.6**
PV20 IAmb IAmb 10 02 58.2
comp=Z,19nm,1.0s
PV04 Paradox Valley 48.78 77 P **P** **10 02 44.7 +0.5**
PV04 IAmb IAmb 10 03 00.8
comp=Z,29nm,1.0s
PV19 Morning Glory 48.79 77 P **P** **10 02 45.0 +0.7**
PV19 IAmb IAmb 10 03 00.8
comp=Z,20nm,1.0s
PV17 East Wray Mesa 48.82 77 P **P** **10 02 45.0 +0.4**
PV16 Nyswonger Mesa 48.83 77 P **P** **10 02 45.0 +0.4**
PV16 IAmb IAmb 10 02 46.4
comp=Z,19nm,0.6s
PV11 David Mesa, Pa 48.86 77 P **P** **10 02 45.3 +0.4**
PV18 Skein Mesa, Pa 48.87 77 P **P** **10 02 45.4 +0.4**
PV18 IAmb IAmb 10 03 02.1
comp=Z,35nm,1.1s
PV12 Saucer Basin, 48.90 77 P **P** **10 02 45.5 +0.4**
PV12 IAmb IAmb 10 03 02.3
comp=Z,30nm,1.1s
PV03 Paradox Valley 48.91 77 P **P** **10 02 45.0 -0.3**
PV03 IAmb IAmb 10 02 47.0
comp=Z,17nm,0.6s
PV07 Paradox Valley 48.91 77 P **P** **10 02 45.8 +0.5**
PV07 IAmb IAmb 10 02 51.2
comp=Z,11nm,0.7s
PV13 Radium Mtn., P 48.98 77 P **P** **10 02 46.0 +0.2**
PV02 Paradox Valley 49.00 77 P **P** **10 02 46.5 +0.5**
N23A Red Feather La 49.02 73 P **P** **10 02 46.0 -0.1**
baz=308
N23A Red Feather La 49.02 73 P **P** **10 02 46.6 +0.5**
N23A IAmb IAmb 10 03 00.5
comp=Z,28nm,1.3s
PV15 Paradox Valley 49.08 77 P **P** **10 02 46.8 +0.3**
PV15 IAmb IAmb 10 02 50.0
comp=Z,15nm,0.6s
WUAZ Wupatki 49.10 82 P **P** **10 02 46.5 -0.2**
baz=311,SNR=7.9
WUAZ Wupatki 49.10 82 P **P** **10 02 47.8 +1.2**
WUAZ IAmb IAmb 10 03 13.6
comp=Z,21nm,1.1s
PV01 Paradox Valley 49.15 77 P **P** **10 02 46.6 -0.5**
PV01 IAmb IAmb 10 02 48.9
comp=Z,18nm,0.7s
ULM Lac du Bonnet 49.18 57 P **P** **10 02 46.1 -0.8**
comp=Z,3.6nm,0.6s,baz=304,slow=9.4,SNR=7.5
ULM LR LR 10 23 24.4
comp=Z,236nm,21.8s,baz=302,slow=36
ULM Lac du Bonnet 49.18 57 P **P** **10 02 46.1 -0.8**
ULM pmax pmax
comp=Z,17nm,1.4s
ULM Lac du Bonnet 49.18 57 IAmb IAmb 10 04 29.1
comp=Z,17nm,1.4s
BTO Baotou 49.33 287 *e*P **P** **10 02 49.0 +0.7**
NJ2 Nanjing 49.40 273 *e*P **P** **10 02 48.8 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
113A Mohawk Valley, 49.42 86 P **P** **10 02 50.1 +1.2**
113A IAmb IAmb 10 03 02.9
comp=Z,22nm,1.6s
TIY Taiyuan 49.68 283 *e*P **P** **10 02 49.8 -1.2**
TIY PP **PP** **10 04 50.0 +4.5**
TIY S **S** **10 10 01.0 +4.9**
TIY pmax pmax
comp=Z,190nm,5.1s
TIY LR LR
comp=Z,200nm,13.7s
TIY LR LR
comp=Z,89nm,6.8s
TIY LR LR
comp=Z,180nm,20.7s
X16A Lo Mia Camp, P 49.77 83 P **P** **10 02 53.4 +1.5**
X16A IAmb IAmb 10 03 06.6
comp=Z,47nm,1.9s
MVCO Mesa Verde 49.78 78 P **P** **10 02 51.7 -0.2**
baz=310,SNR=11
MVCO Mesa Verde 49.78 78 P **P** **10 02 52.1 +0.1**
MVCO IAmb IAmb 10 03 19.8
comp=Z,49nm,1.6s
ISCO Idaho Springs 49.90 74 P **P** **10 02 52.7 -0.2**
baz=309,SNR=15
ISCO Idaho Springs 49.90 74 P **P** **10 02 53.1 +0.2**
ISCO pmax pmax
comp=Z,13nm,1.1s
ISCO Idaho Springs 49.90 74 P **P** **10 02 53.1 +0.2**
AGMN Agassiz Nation 50.32 59 P **P** **10 02 55.0 -0.6**
baz=306
W18A Petrified Fore 50.37 81 P **P** **10 02 56.6 +0.2**
baz=311
W18A Petrified Fore 50.37 81 P **P** **10 02 58.0 +1.6**
W18A IAmb IAmb 10 03 10.1
comp=Z,22nm,1.1s
S22A 4UR Ranch, Cre 50.46 76 P **P** **10 02 57.4 +0.3**
baz=310,SNR=12
S22A 4UR Ranch, Cre 50.46 76 P **P** **10 02 57.5 +0.3**
S22A IAmb IAmb 10 03 12.1
comp=Z,49nm,1.9s
214A Organ Pipe Nat 50.56 86 P **P** **10 02 58.4 +0.7**
baz=313
214A Organ Pipe Nat 50.56 86 P **P** **10 02 58.3 +0.6**
214A IAmb IAmb 10 03 11.9
comp=Z,29nm,1.6s
SUSD Miller 50.93 65 P **P** **10 03 00.3 0.0**
baz=308
SDCO Great Sand Dun 51.27 76 P **P** **10 03 03.4 +0.2**
baz=310,SNR=14
SDCO Great Sand Dun 51.27 76 P **P** **10 03 04.0 +0.8**
TUC Tucson 51.59 84 P **P** **10 03 06.3 +0.9**
baz=313
TUC Tucson 51.59 84 P **P** **10 03 06.4 +1.0**
TUC pmax pmax
comp=Z,14nm,1.2s
TUC Tucson 51.59 84 P **P** **10 03 06.4 +1.0**
K31A O'Neill 52.17 67 P **P** **10 03 09.7 +0.1**
T25A Trinidad 52.32 75 P **P** **10 03 11.6 +0.6**
baz=311,SNR=8.4
T25A Trinidad 52.32 75 P **P** **10 03 11.9 +1.0**
T25A IAmb IAmb 10 03 25.6
comp=Z,35nm,1.1s
ANMO Albuquerque 52.51 79 P **P** **10 03 12.7 +0.4**
baz=312
ANMO Albuquerque 52.51 79⇑ *e*P **P** **10 03 12.1 -0.3**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 52.51 79 P **P** **10 03 13.7 +1.3**
ECSD EROS Data Cent 52.69 64 P **P** **10 03 12.3 -1.1**
baz=309,SNR=7.2
ECSD EROS Data Cent 52.69 64 P **P** **10 03 11.9 -1.5**
ECSD IAmb IAmb 10 03 13.0
comp=Z,16nm,1.1s
LENM Lemitar 52.71 80 P **P** **10 03 15.1 +1.3**
EYMN Ely 52.87 57 P **P** **10 03 14.4 -0.2**
baz=308
BNM Barren Site 52.93 80 P **P** **10 03 17.3 +1.8**
F36A Milaca 53.08 60 P **P** **10 03 15.4 -0.8**
SUMG Summit 53.14 14 *i* P **P** **10 03 17.0 +0.3**
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG Summit 53.14 14 P **P** **10 03 16.3 -0.4**
SUMG IAmb IAmb 10 04 25.2
comp=Z,23nm,1.2s
SUMG Summit 53.14 14 *i* P **P** **10 03 17.0 +0.3**
comp=Z,32nm,1.0s
SUMG Summit 53.14 14 *i* P **P** **10 03 17.0 +0.3**
SUMG IAmb IAmb 10 03 18.4
comp=Z,32nm,1.0s
319A Douglas 53.16 84 P **P** **10 03 18.8 +1.7**
319A IAmb IAmb 10 03 32.3
comp=Z,26nm,1.4s
WHN Wuhan 53.25 274 P **P** **10 03 17.5 -0.1**
BGNE Belgrade 53.29 67 P **P** **10 03 16.9 -0.9**
baz=310,SNR=5.4
BGNE Belgrade 53.29 67 P **P** **10 03 17.9 +0.1**
121A Cookes Peak, D 53.30 82 P **P** **10 03 17.8 -0.4**
baz=313
121A Cookes Peak, D 53.30 82 P **P** **10 03 20.1 +1.9**
121A IAmb IAmb 10 03 32.9
comp=Z,14nm,1.1s
SPMN Marine on St. 53.87 61 P **P** **10 03 21.2 -0.8**
baz=310
SPMN Marine on St. 53.87 61 P **P** **10 03 21.5 -0.5**
L34A Swendsen Farm, 53.95 66 P **P** **10 03 22.2 -0.5**
CBKS Cedar Bluff 54.03 71 P **P** **10 03 23.3 0.0**
baz=311
CBKS Cedar Bluff 54.03 71 P **P** **10 03 23.8 +0.5**
CBKS pmax pmax
comp=Z,26nm,0.8s
CBKS Cedar Bluff 54.03 71 P **P** **10 03 23.8 +0.5**
CBKS IAmb IAmb 10 03 30.5
comp=Z,26nm,0.8s
XAN Xi'an 54.24 282 P **P** **10 03 24.8 -0.1**
XAN pP pP 10 03 34.8 -3.4
XAN pmax pmax
comp=Z,18nm,0.9s
XAN Xi'an 54.24 282 P **P** **10 03 25.2 +0.3**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 54.24 282 P **P** **10 03 25.2 +0.3**
XAN IAmb IAmb 10 03 35.8
comp=Z,15nm,1.0s
I37A Lemond, Waseca 54.31 62 P **P** **10 03 23.9 -1.3**
I37A IAmb IAmb 10 03 25.6
comp=Z,29nm,1.0s
ZALV Zalesovo Beam 54.45 314 P **P** **10 03 26.5 +0.4**
comp=Z,2.4nm,0.7s,baz=32,slow=8.7,SNR=6.3
ZALV PcP **PcP** **10 04 29.6 +0.6**
comp=Z,16nm,0.8s,baz=32,slow=4.1,SNR=28
ZALV ScP **ScP** **10 08 22.9 -0.1**
comp=Z,1.7nm,0.6s,baz=46,slow=4.3,SNR=5.6
ZALV LR LR 10 27 27.4
comp=Z,247nm,20.9s,baz=27,slow=37
R32A Long Quarter, 54.90 71 P **P** **10 03 29.5 -0.1**
R32A IAmb IAmb 10 03 42.8
comp=Z,38nm,1.4s
N35A Tabor 55.09 66 P **P** **10 03 30.9 0.0**
COWI Conover 55.28 58 P **P** **10 03 31.4 -0.8**
MNTX Cornudas Mount 55.36 81 P **P** **10 03 33.9 +0.9**
baz=314,SNR=18
MNTX Cornudas Mount 55.36 81 P **P** **10 03 34.1 +1.1**
MNTX IAmb IAmb 10 03 47.6
comp=Z,15nm,0.9s
SFJD Kangerlussuaq 55.41 22 P **P** **10 03 32.7 0.0**
comp=Z,3.6nm,0.5s,baz=320,slow=11,SNR=3.5
SFJD PcP **PcP** **10 04 32.3 -0.2**
comp=Z,3.3nm,0.7s,baz=83,slow=6.3,SNR=3.6
MSTX Muleshoe 55.42 77 P **P** **10 03 33.1 -0.4**
baz=313,SNR=11
MSTX Muleshoe 55.42 77 P **P** **10 03 33.5 0.0**
MSTX IAmb IAmb 10 03 35.8
comp=Z,18nm,1.0s
AMTX Amarillo 55.47 76 P **P** **10 03 33.6 -0.3**
baz=313
KSU1 Kansas State U 55.68 69 P **P** **10 03 34.2 -1.0**
baz=312,SNR=8.9
KSU1 Kansas State U 55.68 69 P **P** **10 03 34.6 -0.6**
KSU1 IAmb IAmb 10 03 35.3
comp=Z,29nm,1.0s
I40A Norwalk 55.92 61 P **P** **10 03 36.4 -0.4**
I40A IAmb IAmb 10 03 37.7
comp=Z,10nm,0.8s
LZH Lanzhou 55.95 287 *e*P **P** **10 03 38.5 +1.2**
LZH pP pP 10 03 49.0 -1.7
LZH sP sP 10 03 56.3 0.0
LZH S **S** **10 11 21.0 -0.7**
LZH sS sS 10 11 42.5 -1.5
LZH pmax pmax
comp=Z,180nm,1.5s
LZH pmax pmax
comp=Z,200nm,5.8s
LZH LR LR
comp=Z,520nm,15.1s
LZH LR LR
comp=Z,570nm,15.6s
LZH LR LR
comp=Z,640nm,17.6s
DGZ Jazzator, Alta 55.99 309⇑ *i*P **P** **10 03 38.0 +0.5**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 56.11 292⇑ P **P** **10 03 38.5 +0.1**
GTA pP pP 10 03 48.5 -3.3
GTA sP sP 10 03 52.8 -4.5
GTA PcP **PcP** **10 04 39.0 +3.1**
GTA ScP **ScP** **10 08 32.0 +1.2**
GTA S **S** **10 11 25.0 +1.3**
GTA ScS **ScS** **10 13 21.5 -1.8**
GTA pmax pmax
comp=Z,59nm,0.9s
GTA pmax pmax
comp=Z,94nm,4.7s
GTA LR LR
comp=Z,370nm,20.7s
GTA LR LR
comp=Z,360nm,18.2s
GTA LR LR
comp=Z,590nm,19.3s
E43A Lone Tree Farm 56.23 56 P **P** **10 03 38.8 -0.2**
E43A IAmb IAmb 10 03 39.4
comp=Z,19nm,0.6s
ENH Enshi 56.46 278 P **P** **10 03 40.7 -0.2**
ENH IAmb IAmb 10 03 42.8
comp=Z,20nm,0.8s
N38A Joes South For 56.51 65 P **P** **10 03 40.6 -0.4**
JFWS Jewell Farm 56.77 61 P **P** **10 03 41.3 -1.6**
baz=312
JFWS Jewell Farm 56.77 61 P **P** **10 03 41.1 -1.8**
JFWS pmax pmax
comp=Z,14nm,0.8s
JFWS Jewell Farm 56.77 61 P **P** **10 03 41.1 -1.8**
JFWS IAmb IAmb 10 03 43.2
comp=Z,14nm,0.8s
L40A Anamosa 56.80 63 P **P** **10 03 42.1 -0.9**
L40A IAmb IAmb 10 03 44.5
comp=Z,11nm,0.8s
P38A Dawn 57.12 66 P **P** **10 03 44.5 -0.9**
T35A Sooner Cattle 57.20 70 P **P** **10 03 45.2 -0.8**
T35A IAmb IAmb 10 03 58.9
comp=Z,20nm,1.1s
WMOK Wichita Mounta 57.32 74 P **P** **10 03 46.7 -0.2**
baz=313,SNR=12
WMOK Wichita Mounta 57.32 74 P **P** **10 03 46.0 -0.9**
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK Wichita Mounta 57.32 74 P **P** **10 03 46.0 -0.9**
WMOK IAmb IAmb 10 04 00.9
comp=Z,13nm,1.1s
OK029 Liberty Lake 57.40 72 P **P** **10 03 48.0 +0.6**
OK029 IAmb IAmb 10 04 00.8
comp=Z,23nm,0.8s
QUOK Quay 57.59 71 P **P** **10 03 49.4 +0.6**
QUOK IAmb IAmb 10 03 50.3
comp=Z,14nm,0.8s
E46A Sault Ste Mari 57.63 55 P **P** **10 03 48.8 0.0**
E46A IAmb IAmb 10 04 44.4
comp=Z,22nm,0.8s
P40A Paris 58.03 65 P **P** **10 03 50.9 -0.8**
TX31 Lajitas Ar. Si 58.06 82 P **P** **10 03 53.2 +1.0**
TX32 Lajitas Array 58.06 82 P **P** **10 03 53.2 +1.0**
TX32 IAmb IAmb 10 04 06.3
comp=Z,19nm,1.1s
TXAR Lajitas Array 58.06 82 P **P** **10 03 53.1 +0.8**
comp=Z,2.5nm,0.6s,baz=304,slow=5.0,SNR=42
TXAR Lajitas Array 58.06 82 P **P** **10 03 52.6 +0.3**
ARD1 ARCESS Array S 58.17 351 P **P** **10 03 51.2 -1.1**
ARD2 ARCESS Array S 58.17 351 P **P** **10 03 51.8 -0.5**
ARD9 ARCESS Array S 58.17 351 P **P** **10 03 51.1 -1.2**
ARC2 ARCESS Array S 58.18 351 P **P** **10 03 51.9 -0.5**
ARC7 ARCESS Array S 58.18 351 P **P** **10 03 52.4 0.0**
ARC7 IAmb IAmb 10 04 44.8
comp=Z,27nm,1.0s
ARCES ARCESS Array B 58.18 351 P **P** **10 03 51.3 -1.1**
comp=Z,2.8nm,0.5s,baz=36,slow=10,SNR=30
ARCES PcP **PcP** **10 04 43.0 -0.3**
comp=Z,13nm,0.8s,baz=17,slow=5.1,SNR=8.1
ARCES ScP **ScP** **10 08 39.1 -0.1**
comp=Z,4.1nm,1.1s,baz=12,slow=4.6,SNR=4.3
ARCES LR LR 10 29 50.8
comp=Z,214nm,20.8s,baz=335,slow=37
ARD8 ARCESS Array S 58.18 351 P **P** **10 03 51.8 -0.7**
W35A Tecumseh 58.18 72 P **P** **10 03 53.0 0.0**
ARD7 ARCESS Array S 58.19 351 P **P** **10 03 51.8 -0.7**
ABTX Abilene, Hawle 58.25 76 P **P** **10 03 53.4 0.0**
baz=314
ABTX Abilene, Hawle 58.25 76 P **P** **10 03 54.5 +1.1**
ABTX IAmb IAmb 10 03 56.2
comp=Z,35nm,1.4s
TUL1 Leonard 58.31 71 P **P** **10 03 53.4 -0.4**
baz=313,SNR=6.9
TUL1 Leonard 58.31 71 P **P** **10 03 53.4 -0.4**
TUL1 IAmb IAmb 10 04 09.9
comp=Z,16nm,0.8s
GLMI Grayling 58.51 56 P **P** **10 03 54.2 -0.9**
baz=313
HPIG 58.52 85 P **P** **10 03 55.5 -0.1**
HPIG IAmb IAmb 10 04 09.6
comp=Z,14nm,1.1s
S39A Bolivar 58.54 68 P **P** **10 03 53.6 -1.8**
S39A IAmb IAmb 10 04 07.0
comp=Z,42nm,1.8s
R40A Maddies Statio 58.74 67 P **P** **10 03 55.2 -1.6**
U38A Gravette 58.77 70 P **P** **10 03 56.0 -1.1**
U38A IAmb IAmb 10 04 09.7
comp=Z,8.4nm,0.8s
HDIL Hopedale 58.88 63 P **P** **10 03 56.6 -1.1**
baz=313,SNR=5.0
HDIL Hopedale 58.88 63 P **P** **10 03 57.2 -0.5**
HHAR Hobbs 59.15 69 P **P** **10 03 58.7 -0.9**
HHAR IAmb IAmb 10 04 09.8
comp=Z,7.4nm,0.6s
P43A Skaggs, Pawnee 59.38 64 P **P** **10 04 00.1 -1.1**
LSQQ Lebel-sur-Quev 59.39 49 P **P** **10 04 00.1 -1.0**
baz=314
KURK Kurchatov 59.44 314 P **P** **10 04 00.1 -1.3**
KURK 10 04 48.5
KURK pmax pmax
comp=Z,23nm,1.2s
KURK Kurchatov 59.44 314 P **P** **10 04 00.1 -1.3**
KURK Kurchatov 59.44 314 IAmb IAmb 10 04 49.6
comp=Z,22nm,1.1s
X37A Clayton 59.47 72 P **P** **10 04 02.2 +0.4**
X37A IAmb IAmb 10 04 03.6
comp=Z,22nm,0.8s
CCM Cathedral Cave 59.49 66 P **P** **10 04 00.5 -1.5**
baz=314
MGMO Mountain Grove 59.52 68 P **P** **10 04 00.7 -1.5**
MGMO IAmb IAmb 10 04 03.5
comp=Z,15nm,0.9s
KURBB Kurchatov Arra 59.55 314 P **P** **10 04 00.7 -1.4**
comp=Z,4.3nm,0.5s,baz=43,slow=6.6,SNR=26
KURBB PcP **PcP** **10 04 48.5 -0.6**
comp=Z,5.0nm,0.6s,baz=42,slow=4.3,SNR=12
CD2 Chengdu 59.55 282 P **P** **10 04 02.5 0.0**
CD2 S **S** **10 12 07.0 -1.8**
CD2 pmax pmax
comp=Z,30nm,0.6s
O44A Mansfield 59.62 63 P **P** **10 04 02.0 -0.8**
O44A IAmb IAmb 10 04 03.7
comp=Z,15nm,0.7s
SCHQ Schefferville 59.63 39 P **P** **10 04 03.5 +0.8**
comp=Z,1.7nm,0.4s,baz=353,slow=6.1,SNR=5.8
SCHQ Schefferville 59.63 39 IAmb IAmb 10 04 45.1
comp=Z,32nm,1.4s
JCT Junction City 59.65 78 P **P** **10 04 02.6 -0.5**
baz=315
JCT Junction City 59.65 78 P **P** **10 04 01.5 -1.7**
JCT pmax pmax
comp=Z,9.0nm,0.5s
JCT Junction City 59.65 78 P **P** **10 04 01.5 -1.7**
JCT IAmb IAmb 10 04 11.5
comp=Z,9.4nm,0.5s
U40A Yellville 59.73 69 P **P** **10 04 02.2 -1.4**
baz=314,SNR=12
U40A Yellville 59.73 69 P **P** **10 04 02.5 -1.2**
U40A IAmb IAmb 10 04 16.1
comp=Z,13nm,0.8s
WMQ Urumqi 59.83 303 *e*P **P** **10 04 07.3 +3.0**
WMQ pP pP 10 04 18.0 +0.2
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax

comp=Z,68nm,4.1s
WMQ LR LR
comp=Z,290nm,17.5s
WMQ LR LR
comp=Z,230nm,21.9s
W39A Magazine 59.99 70 P P 10 04 04.8 -0.6
baz=314,SNR=6.7
W39A Magazine 59.99 70 P P 10 04 04.5 -0.8
W39A IAmb IAmb 10 04 18.8
comp=Z,22nm,1.1s
CHGQ Chibougamau 59.99 47 P P 10 04 03.9 -1.3
baz=315
WHTX Lake Whitney, 60.02 75 P P 10 04 05.7 0.0
baz=315,SNR=6.7
WHTX Lake Whitney, 60.02 75 P P 10 04 06.3 +0.7
Q44A Meyer Farm, Va 60.17 64 P P 10 04 06.2 -0.4
SFIN Lafayette 60.22 62 P P 10 04 06.4 -0.6
baz=314,SNR=14
SFIN Lafayette 60.22 62 P P 10 04 07.0 0.0
T42A Van Buren 60.28 67 P P 10 04 05.8 -1.6
FCAR Ozark Folk Cen 60.48 69 P P 10 04 07.5 -1.2
FCAR IAmb IAmb 10 04 14.3
comp=Z,19nm,0.8s
MK31 Makanchi Array 60.49 309 *de* **P P 10 04 10.6 +1.9**
MK31 Makanchi Array 60.49 309 P P 10 04 07.1 -1.6
MKAR Makanchi Array 60.49 309 P P 10 04 06.5 -2.2
comp=Z,3.5nm,0.5s,baz=51,slow=5.8,SNR=16
MKAR LR LR 10 30 44.9
comp=Z,380nm,21.9s,baz=33,slow=36
MKAR Makanchi Array 60.49 309 P P 10 04 07.0 -1.7
MKAR Makanchi Array 60.49 309 P P 10 04 07.0 -1.7
MIAR Mount Ida 60.56 71 P P 10 04 09.0 -0.4
baz=314,SNR=16
MIAR Mount Ida 60.56 71 P P 10 04 09.4 +0.1
MIAR pmax pmax
comp=Z,27nm,1.0s
MIAR Mount Ida 60.56 71 P P 10 04 09.4 +0.1
L48A N Adams 60.59 59 P P 10 04 09.5 +0.1
Z38A Mt. Pleasant 60.62 73 P P 10 04 10.2 +0.4
N47A Urbana 60.65 60 P P 10 04 09.1 -0.8
P46A Rosedale 60.69 62 P P 10 04 10.1 -0.1
AAM Ann Arbor 60.75 58 P P 10 04 10.1 -0.4
baz=314
435B Jarrell 60.79 76 P P 10 04 11.2 +0.3
baz=315
WHAR Wooly Hollow 60.80 69 P P 10 04 09.4 -1.6
WHAR IAmb IAmb 10 05 09.0
comp=Z,18nm,1.2s
OLIL Olney 60.81 64 P P 10 04 10.8 -0.1
PBMO Poplar Bluff 60.84 67 P P 10 04 10.4 -0.8
PBMO IAmb IAmb 10 04 11.1
comp=Z,22nm,0.9s
S44A Carbondale 60.88 65 P P 10 04 10.8 -0.6
S44A IAmb IAmb 10 04 12.9
comp=Z,22nm,1.1s
W41B Gary Mavity, V 60.90 69 P P 10 04 10.2 -1.4
baz=315,SNR=8.3
W41B Gary Mavity, V 60.90 69 P P 10 04 10.8 -0.9
W41B IAmb IAmb 10 04 24.6
comp=Z,14nm,0.9s
GYA Guiyang 60.91 277 ⇓ **P P 10 04 12.3 +0.3**
GYA pP pP 10 04 25.5 +0.4
GYA PP **PP 10 06 25.5 -0.8**
GYA S **S 10 12 28.3 +1.9**
GYA sS pS 10 12 43.8 +1.4
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA LR LR
comp=Z,160nm,20.6s
LCAR Lake Charles 60.92 68 P P 10 04 11.0 -0.7
X40A Basin Creek Fa 61.04 70 P P 10 04 12.0 -0.5
baz=315
X40A Basin Creek Fa 61.04 70 P P 10 04 11.7 -0.9
X40A IAmb IAmb 10 04 13.7
comp=Z,9.2nm,0.8s
I51A Listowel 61.08 55 P P 10 04 13.1 +0.3
baz=315
BRVK Borovoye 61.28 320 ⇑ *eP* **P 10 04 14.7 +0.8**
BRVK pmax pmax
comp=Z,15nm,1.5s
BRVK Borovoye 61.28 320 P P 10 04 14.9 +1.0
BRVK IAmb IAmb 10 04 57.8
comp=Z,12nm,0.7s
BLO Bloomington 61.38 62 P P 10 04 14.7 -0.1
BLO pmax pmax
comp=Z,39nm,1.1s
BLO Bloomington 61.38 62 P P 10 04 14.7 -0.1
G54A Lake Saint Pet 61.43 52 P P 10 04 14.1 -1.0
baz=316
N49A Columbus Grove 61.44 59 P P 10 04 15.1 -0.1
WLAR White Oak Lake 61.44 71 P P 10 04 15.1 -0.2
TMCR Tamitsa 61.44 343 *eP* **P 10 04 13.0 -1.8**
TMCR pmax pmax
comp=Z,36nm,1.0s
D55A Sainte-Anne-du 61.55 49 P P 10 04 14.7 -1.1
baz=316
H53A Bobcaygeon 61.77 53 P P 10 04 16.2 -1.1
baz=316
P48A Milroy 61.78 61 P P 10 04 16.4 -1.1
D56A ZEC Mazanza, M 61.86 49 P P 10 04 16.6 -1.4
baz=316
NATX Nacogdoches 61.87 74 P P 10 04 18.4 +0.2
baz=315
O49A Covington 61.87 60 P P 10 04 17.6 -0.5
O49A IAmb IAmb 10 04 18.3
comp=Z,29nm,1.4s
SVE Sverdlovsk 61.90 328 *eP* **P 10 04 18.4 +0.4**
SVE pmax pmax
comp=Z,19nm,0.9s
SVE MLR MLR
comp=Z,1μm,24.0s
E56A St. Veronique 62.10 50 P P 10 04 18.2 -1.3
baz=316
P49A Miami Univ. Ec 62.12 61 P P 10 04 18.9 -0.9
baz=315,SNR=12
P49A Miami Univ. Ec 62.12 61 P P 10 04 18.4 -1.4
X43A Marvell 62.16 69 P P 10 04 19.8 -0.3
baz=315
X43A Marvell 62.16 69 P P 10 04 20.1 0.0
WCI Wyandotte Cave 62.17 63 P P 10 04 19.7 -0.5
baz=315
WCI Wyandotte Cave 62.17 63 P P 10 04 19.0 -1.1
WCI pmax pmax
comp=Z,26nm,0.8s
WCI Wyandotte Cave 62.17 63 P P 10 04 19.0 -1.1
M51A Elyria 62.22 58 P P 10 04 19.7 -0.7
baz=315
N51A Ashland 62.41 58 P P 10 04 21.1 -0.6
baz=315,SNR=8.4
N51A Ashland 62.41 58 P P 10 04 21.7 0.0
HKT Hockley 62.44 76 ⇑ *eP* **P 10 04 22.3 +0.3**
HKT pmax pmax
comp=Z,11nm,1.4s
HKT Hockley 62.44 76 P P 10 04 25.1 +3.2
HKT IAmb IAmb 10 04 37.5
comp=Z,15nm,1.2s
M52A Chesterland 62.51 57 P P 10 04 22.1 -0.3
baz=316
LATQ La Tuque 62.55 48 P P 10 04 21.8 -0.6
baz=317
ACSO Alum Creek Sta 62.57 59 P P 10 04 22.3 -0.5
baz=316,SNR=5.6
ACSO Alum Creek Sta 62.57 59 P P 10 04 22.6 -0.2
ACSO IAmb IAmb 10 04 23.4
comp=Z,16nm,0.8s
BRZS Berezniki 62.59 317 *eP* **P 10 04 20.8 -2.1**
BRZS Berezniki 62.59 317 *eP* **P 10 04 20.7 -2.1**
T47A Sharon Grove 62.59 64 P P 10 04 22.0 -1.0
E57A Chemin Saint G 62.62 49 P P 10 04 21.8 -1.3
baz=317
W45A Hickory Valley 62.70 67 P P 10 04 23.9 +0.2
D58A Chemin du LacG 62.71 48 P P 10 04 22.9 -0.7
baz=317
R49A Shelbyville 62.75 62 P P 10 04 23.8 -0.2
R49A IAmb IAmb 10 04 24.8
comp=Z,13nm,1.1s
WVT Waverly 62.79 66 P P 10 04 24.0 -0.3
baz=315
WVT Waverly 62.79 66 P P 10 04 24.0 -0.3
WVT pmax pmax
comp=Z,11nm,1.0s
WVT Waverly 62.79 66 P P 10 04 24.0 -0.3
WVT IAmb IAmb 10 04 25.1
comp=Z,11nm,0.9s
O51A Pataskala 62.83 59 P P 10 04 24.1 -0.5
baz=316,SNR=14
N52A McGinn's Farm, 62.85 58 P P 10 04 23.7 -0.9
baz=316
ARU Arti 62.91 329 P P 10 04 24.5 -0.3
comp=Z,3.8nm,0.5s,baz=3.6,slow=4.5,SNR=10.0
ARU LR LR 10 34 49.6
comp=Z,274nm,18.6s,baz=35,slow=39
ARU Arti 62.91 329 *c i* **P P 10 04 24.4 -0.3**
ARU 10 05 01.6
ARU 10 06 41.5
ARU S **S 10 12 52.3 +1.8**
ARU SS **SS 10 16 52.5 -2.8**
ARU pmax pmax
comp=Z,11nm,0.6s
ARU Arti 62.91 329 P P 10 04 23.5 -1.3
ARU IAmb IAmb 10 04 25.4
comp=Z,15nm,0.9s
M53A WI Miller and 62.94 57 P P 10 04 24.7 -0.5
baz=316
M53A WI Miller and 62.94 57 P P 10 04 26.1 +0.9
OXF Oxford 63.02 68 P P 10 04 25.2 -0.7
baz=316,SNR=9.1
OXF Oxford 63.02 68 P P 10 04 25.8 -0.1
OXF pmax pmax
comp=Z,48nm,1.0s
OXF Oxford 63.02 68 P P 10 04 25.8 -0.1
ALLY Alegheny Colle 63.06 56 P P 10 04 26.8 +0.7
K54A Basiliko Farm, 63.12 55 P P 10 04 26.1 -0.3
baz=316
143A Socs Landing, 63.14 71 P P 10 04 28.1 +1.4
143A IAmb IAmb 10 04 40.6
comp=Z,23nm,1.1s
R50A Paris 63.22 62 P P 10 04 26.7 -0.4
Q51A Peebles 63.23 60 P P 10 04 27.6 +0.4
D59A Saint-Raymond 63.26 47 P P 10 04 25.8 -1.4
baz=318
O52A Adamsville 63.27 59 P P 10 04 27.1 -0.3
baz=316,SNR=16
O52A Adamsville 63.27 59 P P 10 04 27.6 +0.1
Y45A Yeager Farm, C 63.41 68 P P 10 04 28.5 +0.1
M54A Oil Creek Stat 63.41 56 P P 10 04 28.2 -0.2
baz=316
M54A Oil Creek Stat 63.41 56 P P 10 04 28.8 +0.4
M54A IAmb IAmb 10 06 16.4
comp=Z,44nm,1.6s
H57A Richville 63.44 51 P P 10 04 28.2 -0.2
baz=317
P52A Corning 63.45 59 P P 10 04 28.0 -0.7
baz=316,SNR=5.1
P52A Corning 63.45 59 P P 10 04 28.4 -0.3
P52A IAmb IAmb 10 04 29.0
comp=Z,19nm,0.8s
PLAL Pickwick Lake 63.46 67 P P 10 04 27.8 -1.0
PLAL IAmb IAmb 10 04 35.0
comp=Z,10nm,0.8s
ZAIG Zacatecas 63.46 86 P P 10 04 28.3 -1.0
O53A New Philadelph 63.50 58 P P 10 04 28.4 -0.6
baz=316
O53A New Philadelph 63.50 58 P P 10 04 28.6 -0.4
O53A IAmb IAmb 10 04 30.0
comp=Z,32nm,1.2s
V48A Smith Brothers 63.64 65 P P 10 04 29.9 -0.1
V48A IAmb IAmb 10 04 30.6
comp=Z,12nm,0.9s
N54A Moraine State 63.64 57 P P 10 04 29.3 -0.6
baz=316
N54A Moraine State 63.64 57 P P 10 04 29.9 0.0
N54A IAmb IAmb 10 04 58.8
comp=Z,16nm,0.8s
CLTN Cedars of Leba 63.66 65 P P 10 04 30.5 +0.4
F59A Saint Guilaume 63.67 49 P P 10 04 29.1 -0.8
baz=318
U49A Red Boiling Sp 63.68 64 P P 10 04 29.9 -0.2
U49A IAmb IAmb 10 04 31.0
comp=Z,22nm,1.1s
D60A Saint Jean D'O 63.75 47 P P 10 04 29.4 -1.1
baz=318
K56A Middlesex 63.76 54 P P 10 04 30.3 -0.4
baz=317,SNR=6.5
KIRV Kirov 63.82 335 P P 10 04 30.2 -0.5
comp=Z,15nm,0.5s,baz=306,slow=3.8,SNR=4.7
KIRV Kirov 63.82 335 ‖ *eP* **P 10 04 31.0 +0.3**
T50A Nancy 63.84 63 P P 10 04 31.1 -0.1
Q52A Bidwell 63.86 60 P P 10 04 31.1 -0.3
baz=316,SNR=7.2
D61A St Aubert, Com 63.87 46 P P 10 04 30.4 -0.9
baz=318
J57A Williamstown 63.91 53 P P 10 04 30.5 -1.0
baz=317
E60A Ste Agathe de 63.91 48 P P 10 04 30.3 -1.2
baz=318
P53A Whipple 63.96 59 P P 10 04 31.6 -0.4
baz=316,SNR=6.3
P53A Whipple 63.96 59 P P 10 04 31.4 -0.6
P53A IAmb IAmb 10 04 36.6
comp=Z,20nm,1.0s
O54A Avella 64.00 58 P P 10 04 31.9 -0.4
baz=316
O54A Avella 64.00 58 P P 10 04 32.4 +0.2
VBMS Vicksburg 64.01 70 P P 10 04 32.3 -0.1
baz=316
VBMS Vicksburg 64.01 70 P P 10 04 33.7 +1.3
L56A Greenwood 64.05 54 P P 10 04 32.2 -0.4
baz=317,SNR=8.4
L56A Greenwood 64.05 54 P P 10 04 32.9 +0.3
S51A Beattyville 64.09 62 P P 10 04 32.5 -0.3
S51A IAmb IAmb 10 04 33.6
comp=Z,34nm,1.1s
H59A Cadyville 64.13 50 P P 10 04 32.1 -1.0
baz=318
K57A Scipio Center 64.14 53 P P 10 04 32.8 -0.3
baz=317
M56A Emporium 64.20 55 P P 10 04 33.5 -0.1
baz=317
M56A Emporium 64.20 55 P P 10 04 34.0 +0.5
I58A Old Forge 64.21 52 P P 10 04 33.6 0.0
baz=317
J58A Remsen 64.29 52 P P 10 04 33.3 -0.8
baz=317
N55A Marion Center 64.29 56 P P 10 04 33.4 -0.8
baz=317
KMI Kunming 64.31 279 ⇓ *eP* **P 10 04 35.5 +0.7**
KMI pP pP 10 04 42.0 -6.2
KMI sP sP 10 04 49.5 -4.2
KMI pmax pmax
comp=Z,21nm,0.7s
KMI pmax pmax
comp=Z,130nm,4.1s
KMI LR LR
comp=Z,160nm,8.9s
KMI LR LR
comp=Z,130nm,9.2s
KMI LR LR
comp=Z,140nm,11.9s
Q53A Leroy 64.34 59 P P 10 04 34.3 -0.2
baz=316,SNR=17
P54A Burton 64.36 58 P P 10 04 34.1 -0.6
baz=317
X48A Hartselle 64.43 66 P P 10 04 33.2 -2.0
X48A IAmb IAmb 10 04 36.9
comp=Z,18nm,1.3s
D62A Allapoint, All 64.47 46 P P 10 04 34.5 -0.7
baz=319
R53A Hurricane 64.49 60 P P 10 04 35.3 -0.1
baz=316,SNR=11
R53A Hurricane 64.49 60 P P 10 04 36.0 +0.5
SHLS Shalkode 64.50 308 *eP* **P 10 04 33.6 -2.1**
SHLS Shalkode 64.50 308 *eP* **P 10 04 33.6 -2.1**
L57A Andrews Acres 64.51 54 P P 10 04 35.2 -0.4
baz=317
SWET Sewanee 64.52 65 P P 10 04 35.3 -0.5
SWET IAmb IAmb 10 04 36.0
comp=Z,15nm,0.8s
K58A Earlville 64.55 53 P P 10 04 35.9 +0.1
baz=318
146A Union 64.57 69 P P 10 04 36.5 +0.4
J59A Piesco 64.60 52 P P 10 04 35.6 -0.6
baz=318
E62A Clayton Lake 64.61 46 P P 10 04 35.3 -0.8
baz=319
Q54A Coxs Mills 64.62 59 P P 10 04 36.2 -0.2
baz=317,SNR=5.9
Q54A Coxs Mills 64.62 59 P P 10 04 36.5 +0.1
Q54A IAmb IAmb 10 04 39.3
comp=Z,29nm,1.3s
KPKS Kokpek 64.66 308 *eP* **P 10 04 36.4 -0.2**
KPKS Kokpek 64.66 308 *eP* **P 10 04 36.4 -0.2**
G61A St-Isidore-de- 64.68 49 P P 10 04 35.7 -1.0
baz=318
UZB Uzynbulak 64.73 308 *eP* **P 10 04 36.1 -1.1**
UZB Uzynbulak 64.73 308 *eP* **P 10 04 36.0 -1.1**
Z47A Carrollton 64.74 68 P P 10 04 36.7 -0.4
Z47A IAmb IAmb 10 04 38.6
comp=Z,22nm,0.7s
P55A Reedsville 64.78 58 P P 10 04 37.2 -0.2
baz=317
BINY Binghamton 64.80 53 P P 10 04 37.2 -0.2
baz=318
M57A Sunshine Farm, 64.85 55 P P 10 04 37.6 -0.2
baz=317
S53A Williamson 64.86 61 P P 10 04 37.8 -0.2
baz=317,SNR=9.6
W50A Signal Mountai 64.88 65 P P 10 04 37.5 -0.7
TZTN Tazewell 64.90 62 P P 10 04 38.2 0.0
baz=317,SNR=9.4
TZTN Tazewell 64.90 62 P P 10 04 37.9 -0.3
TZTN IAmb IAmb 10 04 39.4
comp=Z,32nm,1.0s
K59A Cooperstown 64.94 52 P P 10 04 38.2 -0.2
baz=318
SSPA Standing Stone 64.97 56 P P 10 04 38.5 0.0
baz=317
L58A Harry Jones Me 64.98 54 P P 10 04 38.5 -0.1
baz=318
V51A Loudon 64.99 64 P P 10 04 38.9 +0.1
V51A IAmb IAmb 10 04 39.5
comp=Z,31nm,1.1s
Q55A Buckhannon 65.01 58 P P 10 04 38.9 0.0
baz=317,SNR=5.8
N57A Milroy 65.06 56 P P 10 04 38.4 -0.7
baz=317
R54A Victor 65.12 60 P P 10 04 39.4 -0.2
baz=317,SNR=14
T53A Wise 65.14 61 P P 10 04 39.8 -0.1
baz=317,SNR=17
CPCT Cooper Cave 65.15 64 P P 10 04 39.7 -0.1
CPCT IAmb IAmb 10 04 40.4
comp=Z,28nm,1.3s
M58A Price's Panora 65.17 54 P P 10 04 39.8 -0.1
baz=318
FPAL Fort Paine 65.19 65 P P 10 04 39.9 -0.2
G62A West of Eustis 65.20 48 P P 10 04 39.4 -0.6
baz=319
S54A Dingess, Beckl 65.22 60 P P 10 04 40.1 -0.2
baz=317,SNR=11
S54A Dingess, Beckl 65.22 60 P P 10 04 40.8 +0.5
Y49A Blount Mountai 65.22 66 P P 10 04 39.3 -1.0
Y49A IAmb IAmb 10 04 53.3
comp=Z,9.6nm,0.7s
E63A Oxbow 65.25 46 P P 10 04 39.6 -0.7
baz=320
L59A Walton 65.28 53 P P 10 04 40.1 -0.5
baz=318
J60A Lant Hill Farm 65.30 51 P P 10 04 40.4 -0.2
baz=318
P56A Dayton Farm, R 65.30 57 P P 10 04 40.3 -0.5
baz=317,SNR=5.1
V52A Sevierville 65.38 63 P P 10 04 40.7 -0.6
H62A Milan 65.39 49 P P 10 04 40.5 -0.8
baz=319
O57A Amberson 65.41 56 P P 10 04 41.2 -0.3
baz=318
TKL Tuckaleechee C 65.42 63 P P 10 04 41.3 -0.3
TKL pmax pmax
comp=Z,37nm,0.9s
TKL Tuckaleechee C 65.42 63 P P 10 04 41.3 -0.3
N58A Sunbury 65.43 55 P P 10 04 41.2 -0.3
baz=318
LRAL Lakeview Retre 65.48 67 P P 10 04 41.0 -1.0
baz=317
LRAL Lakeview Retre 65.48 67 P P 10 04 41.3 -0.7
R55A Marlinton 65.51 59 P P 10 04 42.0 -0.2
baz=317,SNR=5.8
R55A Marlinton 65.51 59 P P 10 04 42.6 +0.4
R55A IAmb IAmb 10 04 43.4
comp=Z,13nm,0.8s
E64A Bridgewater 65.52 46 P P 10 04 40.9 -1.1
baz=320
M59A Waymart 65.56 54 P P 10 04 41.8 -0.6
baz=318
X51A Calhoun 65.60 65 P P 10 04 41.8 -0.9
X51A IAmb IAmb 10 04 43.4
comp=Z,21nm,1.0s
T54A Tazewell 65.61 61 P P 10 04 43.0 +0.1
baz=317,SNR=30
J61A Chester 65.64 51 P P 10 04 42.4 -0.5
baz=319
S55A Lewisburg 65.68 60 P P 10 04 43.2 0.0
baz=317
BTLS Baital 65.69 312 *eP* **P 10 04 42.6 -0.6**
BTLS Baital 65.69 312 *eP* **P 10 04 42.6 -0.6**
W52A Murphy 65.74 64 P P 10 04 43.4 -0.3
W52A IAmb IAmb 10 04 45.0
comp=Z,27nm,1.0s
P57A Homestead Farm 65.75 57 P P 10 04 43.3 -0.3
baz=318
R56A Bull Pasture M 65.81 58 P P 10 04 43.8 -0.3
baz=317
L60A Shokan 65.83 53 P P 10 04 43.7 -0.5
baz=318
N59A State Game Lan 65.85 54 P P 10 04 43.7 -0.6
baz=318
Q57A Strasburg 65.87 57 P P 10 04 44.6 +0.2
baz=318
U54A Nelsons Funny 65.87 61 P P 10 04 44.8 +0.2
baz=317,SNR=12
U54A Nelsons Funny 65.87 61 P P 10 04 44.8 +0.2
FINES FINESS Array B 65.90 348 P P 10 04 43.2 -1.0
comp=Z,12nm,1.0s,baz=15,slow=7.9,SNR=11
FINES LR LR 10 35 40.7
comp=Z,159nm,20.3s,baz=51,slow=38
FINES FINESS Array B 65.90 348 *i* **P P 10 04 43.5 -0.7**
FINES pmax pmax
comp=Z,12nm,1.0s
V53A Saluda 65.94 63 P P 10 04 45.0 0.0
T55A Pulaski 66.00 60 P P 10 04 45.4 0.0
baz=317,SNR=7.2
I63A Otisfield 66.06 49 P P 10 04 44.4 -1.1
baz=319
J62A Henniker 66.09 50 P P 10 04 45.2 -0.6
baz=319
P58A Pank, Wackersv 66.12 56 P P 10 04 45.4 -0.6
baz=318
M60A Port Jervis 66.13 53 P P 10 04 45.5 -0.5
baz=318
BLA Blacksburg 66.13 60 P P 10 04 46.2 0.0
baz=317,SNR=5.7
BLA Blacksburg 66.13 60 P P 10 04 46.7 +0.5
BLA pmax pmax
comp=Z,15nm,0.8s
BLA Blacksburg 66.13 60 P P 10 04 46.6 +0.5
BLA IAmb IAmb 10 04 46.9
comp=Z,15nm,0.8s
N60A Cedar Hill Far 66.23 54 P P 10 04 46.4 -0.3
baz=318
S56A Natural Bridge 66.25 59 P P 10 04 46.8 -0.1
baz=318
LUPA Lehigh Univers 66.29 54 P P 10 04 47.2 +0.2
LUPA IAmb IAmb 10 04 48.3
comp=Z,27nm,1.2s
U55A TA2, Sparta 66.31 61 P P 10 04 47.5 +0.1
baz=317
Q58A Fox Den Farm, 66.32 57 P P 10 04 47.0 -0.3
baz=318
Z51A Franklin 66.33 66 P P 10 04 46.6 -0.8
V54A Nebo 66.35 62 P P 10 04 47.7 +0.2
baz=317,SNR=27
R57A Stanardsville 66.36 58 P P 10 04 47.4 -0.1
baz=318
SLVN Son La 66.36 275 P P 10 04 48.5 +0.6
BG3 Lake Jocassee 66.37 63 P P 10 04 48.0 +0.3
T56A Rocky Mt 66.48 60 P P 10 04 48.2 -0.2
baz=318
P59A Jarrettsville 66.48 56 P P 10 04 48.1 -0.2
baz=318
O60A Telford 66.48 55 P P 10 04 47.1 -1.2
baz=318
S57A Dark Hollow, R 66.52 59 P P 10 04 48.3 -0.3
baz=318
Y52A Lilburn 66.56 65 P P 10 04 48.6 -0.3
Y52A IAmb IAmb 10 04 50.2
comp=Z,24nm,1.0s
R58A Rapidan 66.63 58 P P 10 04 49.4 +0.1

baz=318
250A Grady 66.67 68 P P 10 04 47.8 -1.9
V55A Taylorsville 66.70 61 P P 10 04 49.7 -0.1
baz=318,SNR=16
V55A Taylorsville 66.70 61 P P 10 04 50.1 +0.3
W54A Cherokee Point 66.72 63 P P 10 04 49.7 -0.2
baz=317,SNR=20
U56A King 66.79 61 P P 10 04 50.2 -0.1
baz=318,SNR=7.1
U56A King 66.79 61 P P 10 04 49.2 -1.2
U56A IAmb IAmb 10 04 51.9
comp=Z,20nm,0.7s
BRAL Brewton 66.81 69 P P 10 04 50.6 +0.1
T57A Hurt 66.92 59 P P 10 04 50.7 -0.5
baz=318,SNR=5.2
T57A Hurt 66.92 59 P P 10 04 51.2 +0.1
T57A IAmb IAmb 10 04 51.8
comp=Z,13nm,0.9s
R58B Mineral 66.94 58 P P 10 04 51.3 0.0
baz=318
X54A Belton 67.01 63 P P 10 04 51.8 0.0
baz=318,SNR=28
152A Waverly Hall 67.06 66 P P 10 04 51.1 -1.0
152A IAmb IAmb 10 04 57.9
comp=Z,12nm,0.8s
S58A Poland Farm, P 67.11 58 P P 10 04 52.0 -0.3
baz=318
S58A Poland Farm, P 67.11 58 P P 10 04 52.8 +0.5
S58A IAmb IAmb 10 04 54.4
comp=Z,13nm,1.0s
PAULI Pauline 67.12 63 P P 10 04 51.9 -0.6
V56A Mocksville 67.12 61 P P 10 04 52.2 -0.2
baz=318,SNR=13
KMSC Kings Mountain 67.15 62 P P 10 04 52.4 -0.3
baz=318,SNR=36
KMSC Kings Mountain 67.15 62 P P 10 04 52.6 -0.1
GOGA Godfrey 67.23 65 P P 10 04 52.5 -0.7
baz=318,SNR=15
GOGA Godfrey 67.23 65 P P 10 04 51.3 -1.9
GOGA pmax pmax
comp=Z,17nm,0.8s
GOGA Godfrey 67.23 65 P P 10 04 51.3 -1.9
GOGA IAmb IAmb 10 04 54.1
comp=Z,17nm,0.8s
U57A Blanch 67.30 60 P P 10 04 53.2 -0.3
baz=318,SNR=6.5
HODGE Hodges 67.31 63 P P 10 04 53.7 +0.1
AAK Ala-Archa 67.31 310⇑ *eP* P 10 04 55.9 +2.1
AAK pmax pmax
comp=Z,17nm,0.7s
T58A Grand View Acr 67.35 59 P P 10 04 53.5 -0.4
baz=318
S59A Mechanicsville 67.40 58 P P 10 04 54.3 +0.2
baz=318
SIJI Sorong 67.45 237 P P 10 04 52.5 -2.3
comp=Z,27nm,0.9s,baz=1.0,slow=7.5,SNR=8.1
V57A Coltrane Farms 67.46 61 P P 10 04 54.4 -0.1
baz=318
X55A Gracelyn & Ava 67.48 63 P P 10 04 54.6 -0.1
baz=318,SNR=26
W56A Indian Trail 67.57 62 P P 10 04 54.8 -0.5
baz=318,SNR=8.1
NB2 NORSAR Subarra 67.69 355 P P 10 04 55.8 +0.1
comp=Z,1.1nm,0.5s,baz=7.2,slow=6.5
NOA NORSAR Array B 67.69 355 P P 10 04 53.5 -2.2
comp=Z,1.0nm,0.5s,baz=238,slow=6.4,SNR=10
NOA LR LR 10 32 56.4
comp=Z,187nm,21.9s,baz=0.0,slow=34
X56A White Oak 67.80 62 P P 10 04 56.6 -0.2
baz=318,SNR=20
352A Blakely 67.81 67 P P 10 04 56.6 -0.3
352A IAmb IAmb 10 05 10.2
comp=Z,27nm,1.1s
JSC Jenkinsville 67.83 63 P P 10 04 55.9 -1.0
JSC pmax pmax
comp=Z,32nm,1.2s
JSC Jenkinsville 67.83 63 P P 10 04 55.9 -1.0
JSC IAmb IAmb 10 04 58.0
comp=Z,32nm,1.2s
T59A Double "B" Far 67.85 58 P P 10 04 57.4 +0.4
baz=318
T59A Double "B" Far 67.85 58 P P 10 04 57.0 0.0
T59A IAmb IAmb 10 04 59.3
comp=Z,16nm,0.9s
W57A Gilead 67.88 61 P P 10 04 56.9 -0.3
baz=318,SNR=10
W57A Gilead 67.88 61 P P 10 04 57.2 0.0
W57A IAmb IAmb 10 04 58.0
comp=Z,26nm,1.1s
V58A Windy Hill, Pi 67.89 60 P P 10 04 57.2 -0.1
baz=318,SNR=7.1
V58A Windy Hill, Pi 67.89 60 P P 10 04 57.2 -0.1
V58A IAmb IAmb 10 04 58.3
comp=Z,25nm,0.9s
LSA Lhasa 68.00 290 P P 10 05 00.5 +1.8
LSA Lhasa 68.00 290 P P 10 05 00.4 +1.8
LSA pmax pmax
comp=Z,117nm,0.8s
LSA Lhasa 68.00 290 P P 10 05 00.4 +1.8
BIRD Birdtown, Kers 68.00 62 P P 10 04 57.8 -0.2
BIRD IAmb IAmb 10 04 59.4
comp=Z,28nm,0.9s
AKTO Aktyubinsk 68.02 325 P P 10 04 57.6 -0.2
comp=Z,22nm,0.5s,baz=53,slow=7.1,SNR=88
154A Montrose 68.02 65 P P 10 04 58.0 -0.1
T60A Surry 68.16 58 P P 10 04 59.0 +0.1
baz=319
Y56A Pelion 68.16 63 P P 10 04 59.2 +0.2
baz=318
U59A Littleton 68.19 59 P P 10 04 59.4 +0.3
baz=319
TAOE Nuku Hiva Isla 68.24 139 *e*LR LR 10 25 34.3
comp=Z,774nm,23.7s,baz=342
TAOE Nuku Hiva Isla 68.24 139 *e*T T 11 19 20.7
comp=Z,34nm,0.3s
ABKAR Akbulak array 68.29 323 P P 10 04 58.3 -1.2
ABKAR Akbulak array 68.29 323 P P 10 04 59.1 -0.4
ABKAR IAmb IAmb 10 05 26.3
comp=Z,9.6nm,0.8s
X57A Johnson Farm, 68.34 62 P P 10 05 00.0 -0.1
baz=318
V59A Middlesex 68.38 60 P P 10 05 00.3 -0.1
baz=319,SNR=11
U60A Pendleton 68.44 58 P P 10 05 00.9 +0.2
baz=319
HFS Hagfors 68.44 354 LR LR 10 33 06.4
comp=Z,225nm,22.0s,baz=345,slow=34
Z56A Williston 68.47 63 P P 10 05 01.1 +0.1
baz=318,SNR=9.2
Z56A Williston 68.47 63 P P 10 05 01.6 +0.6
Y57A Sumter 68.51 62 P P 10 05 01.3 +0.2
baz=318
Y57A Sumter 68.51 62 P P 10 05 01.7 +0.6
TIGA Tifton 68.61 66 P P 10 05 02.1 +0.3
baz=318
X58A Rowland 68.69 61 P P 10 05 02.4 +0.1
baz=318
X58A Rowland 68.69 61 P P 10 05 02.8 +0.5
X58A IAmb IAmb 10 05 03.3
comp=Z,39nm,1.1s
KK31 Karatay Array 68.81 313 P P 10 05 01.6 -1.4
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 68.81 313 P P 10 05 01.6 -1.4
KKAR Karatay Array 68.81 313 P P 10 05 02.0 -1.0
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 68.81 313 P P 10 05 02.4 -0.6
KKAR Karatay Array 68.81 313 P P 10 05 02.0 -1.0
Z57A Bowman 68.87 63 P P 10 05 03.8 +0.4
baz=318,SNR=25
255A Hazlehurst 68.89 65 P P 10 05 03.7 +0.1
255A IAmb IAmb 10 05 04.6
comp=Z,23nm,0.8s
KSH Kashi 68.97 307 P P 10 05 06.5 +2.4
KSH S S **10 14 09.3 +4.2**
KSH pmax pmax
comp=Z,9.0nm,0.5s
KSH pmax pmax
comp=Z,170nm,4.1s
KSH LR LR
comp=Z,580nm,12.4s
KSH LR LR
comp=Z,470nm,9.3s
KSH LR LR
comp=Z,140nm,4.3s

553A Crawfordville 69.05 68 P P 10 05 04.1 -0.5
553A IAmb IAmb 10 05 06.9
comp=Z,27nm,0.8s
X59A McDuffie Farm, 69.08 61 P P 10 05 04.7 0.0
baz=319
157A Early Branch 69.16 64 P P 10 05 05.9 +0.6
baz=318,SNR=5.2
W60A Pink Hill 69.20 60 P P 10 05 05.9 +0.5
baz=319
V61A Roper 69.26 58 P P 10 05 05.7 -0.1
baz=319
NHSC New Hope 69.30 63 P P 10 05 06.8 +0.6
baz=319,SNR=13
NHSC New Hope 69.30 63 P P 10 05 07.0 +0.9
Z58A St. Stephen 69.33 62 P P 10 05 06.7 +0.4
baz=319,SNR=14
Y59A Loris 69.36 61 P P 10 05 06.6 +0.2
baz=319
Y59A Loris 69.36 61 P P 10 05 07.2 +0.7
X60A Albert Glenn T 69.41 60 P P 10 05 06.9 +0.1
baz=319
RGRS Roger Stewart 69.44 63 P P 10 05 07.3 +0.4
158A Hollywood 69.57 63 P P 10 05 08.9 +1.1
baz=319
Z59A Georgetown, SC 69.70 62 P P 10 05 08.6 0.0
baz=319,SNR=5.6
MYLDM Lahad Datu 69.70 252 P P 10 05 08.3 -0.5
MYLDM IAmb IAmb 10 05 25.1
comp=Z,52nm,1.6s
Y60A Bolivia 69.71 61 P P 10 05 08.3 -0.3
baz=319
IUG luzhnay 69.78 313 *eP* P 10 05 08.8 -0.4
IUG luzhnay 69.78 313 *eP* P 10 05 08.7 -0.4
OBN Obninsk 70.07 340 P P 10 05 11.2 +0.8
comp=Z,6.0nm,0.4s,baz=342,slow=9.6,SNR=5.1
OBN Obninsk 70.07 340 *eP* P 10 05 10.8 +0.4
OBN *e* 10 05 30.7
OBN *e* 10 07 45.2
OBN pmax pmax
comp=Z,22nm,0.6s
SHL Shillong 70.62 287 P P 10 05 14.7 +0.2
SHL pmax pmax
comp=Z,202nm,1.3s
SHL Shillong 70.62 287 P P 10 05 14.7 +0.2
PMOR Pomariorio Ree 71.09 149 *eT* T 11 22 55.3
comp=Z,16nm,0.3s
CHTO Chiang Mai 71.33 277 P P 10 05 18.1 -0.7
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 71.33 277 P P 10 05 18.1 -0.7
CM31 Chiang Mai Arr 71.60 277 P P 10 05 21.0 +0.7
CMAR Chiang Mai Arr 71.60 277 P P 10 05 20.9 +0.6
comp=Z,8.2nm,0.8s,baz=27,slow=6.9,SNR=36
CMAR LR LR 10 40 58.7
comp=Z,80nm,18.3s,baz=102,slow=39
CMAR Chiang Mai Arr 71.60 277 *ce*P P 10 05 21.0 +0.6
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 71.60 277 P P 10 05 19.7 -0.7
TAPN Taplejung 71.76 291 *eP* P 10 05 22.7 +1.1
comp=Z,316nm,0.9s
LPSR Galich'ya Gora 71.85 337 *eP* P 10 05 21.3 0.0
LPSR pmax pmax
comp=Z,20nm,1.0s
GAR Garm 72.13 311 P P 10 05 23.3 -0.1
GAR IAmb IAmb 10 05 26.7
comp=Z,23nm,0.6s
ODAN Odare 72.31 291 *eP* P 10 05 25.6 +0.8
comp=Z,85nm,0.7s
GUN Gumba 72.40 293 *eP* P 10 05 26.3 +0.8
comp=Z,430nm,0.8s
VRH Novokhopyorsk 72.43 335 *eP* P 10 05 24.0 -0.8
VRH pmax pmax
comp=Z,20nm,0.8s
RAMN Ramite 72.71 291 *eP* P 10 05 28.0 +0.8
comp=Z,211nm,0.6s
MPSI Mapaga 72.76 248 P P 10 05 28.0 +0.7
comp=Z,14nm,0.9s
KKN Kakani 72.84 293 *eP* P 10 05 28.9 +1.0
comp=Z,145nm,0.8s
PKI Pulchoki 72.93 293 *eP* P 10 05 29.1 +0.5
comp=Z,183nm,0.9s
PKIN Phulchoki 72.93 293 *eP* P 10 05 29.2 +0.7
comp=Z,95nm,0.5s
CHGR Chuyangaron 72.95 311 P P 10 05 28.1 -0.1
PPT Papeete 72.99 152 LR LR 10 29 46.3
comp=Z,233nm,19.9s,baz=328,slow=29
PPT2 Papeete2 73.01 152 *eS* S 10 14 50.5 -1.4
comp=Z,406nm,28.0s
PPT2 Papeete2 73.01 152 *e*LR LR 10 27 50.1
comp=Z,648nm,27.5s,baz=344
PPT2 Papeete2 73.01 152 *eT* T 11 25 19.3
comp=Z,6.2nm,0.3s
TIAR Tiarei 73.05 152 *eT* T 11 25 22.0
comp=Z,1.8nm,0.3s
GKN Gorkha 73.05 294 *eP* P 10 05 29.6 +0.5
comp=Z,194nm,0.9s
VSR Storozhevoye 73.07 337 *eP* P 10 05 27.8 -0.8
VSR pmax pmax
comp=Z,40nm,1.3s
PAE Paea 73.07 152 *eT* T 11 25 24.2
comp=Z,1.7nm,0.3s
DMN Daman 73.08 293 *eP* P 10 05 30.0 +0.6
comp=Z,119nm,0.9s
DANN Dangsing 73.29 294 *eP* P 10 05 31.6 +1.0
comp=Z,145nm,0.8s
KOLN Koldanda 73.82 294 *eP* P 10 05 34.3 +0.6
comp=Z,83nm,0.9s
PYUN Piuthan 73.92 295 *eP* P 10 05 35.2 +1.0
DZM Mont Dzumac 74.43 195 P P 10 05 37.6 +0.7
comp=Z,111nm,1.0s,baz=55,slow=15,SNR=4.0
DZM Mont Dzumac 74.43 195 *eP* P 10 05 36.6 -0.3
comp=Z,42nm,1.3s
DZM Mont Dzumac 74.43 195 *e*LR LR 10 28 19.0
comp=Z,658nm,25.1s
DZM Mont Dzumac 74.43 195 IAmb IAmb 10 05 38.7
comp=Z,17nm,1.1s
NIL Nilore 74.90 305 P P 10 05 39.5 -0.1
NIL pmax pmax
comp=Z,17nm,0.7s
NIL Nilore 74.90 305 P P 10 05 39.5 -0.1
NIL IAmb IAmb 10 05 42.4
comp=Z,16nm,0.7s
AKASG Malin Array Be 75.72 343 P P 10 05 43.5 -0.5
comp=Z,8.3nm,0.6s,baz=20,slow=5.9,SNR=27
AKASG LR LR 10 42 03.8
comp=Z,188nm,21.5s,baz=15,slow=38
AKASG Malin Array Be 75.72 343 P P 10 05 44.0 0.0
AKASG pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 75.72 343 P P 10 05 44.0 0.0
AKBB Malin Array Si 75.72 343⇑ *i*P P 10 05 43.6 -0.4
AKBB pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 75.72 343 P P 10 05 43.2 -0.8
AKBB IAmb IAmb 10 05 45.1
comp=Z,16nm,0.8s
KBL Kabul 76.30 309 P P 10 05 46.6 -1.3
KBL pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 76.30 309 P P 10 05 46.6 -1.3
KBL IAmb IAmb 10 05 48.1
comp=Z,21nm,1.0s
CLL Collm 77.27 353 *eP* P 10 05 55.0 +2.3
CLL *e* 10 06 01.0
CLL Lm MLR 10 43 00.0
comp=N,200nm,19.5s
CLL Lm MLR 10 43 00.0
comp=E,200nm,18.7s
CLL Collm 77.27 353 *eP* P 10 05 55.0 +2.3
CLL *e* 10 06 01.0
GOF Gofitskoye 77.64 332⇑ *eP* P 10 05 55.5 +0.6
GOF pmax pmax
comp=Z,112nm,0.8s
CTA Charters Tower 77.82 214 P P 10 05 55.4 -0.8
comp=Z,8.9nm,1.1s,baz=14,slow=6.6,SNR=6.3
CTAO Charters Tower 77.82 214 P P 10 05 56.3 +0.2
CTAO pmax pmax
comp=Z,19nm,1.3s
CTAO Charters Tower 77.82 214 P P 10 05 56.3 +0.2
CTAO IAmb IAmb 10 05 57.2
comp=Z,19nm,1.3s
MEM Membach 78.33 357 P P 10 05 58.5 -0.1
SORM Soroca 78.34 342 ⇓P P 10 05 58.5 -0.2
GEYT Alibeck 78.48 318 P P 10 06 00.1 +0.3
comp=Z,13nm,0.8s,baz=352,slow=4.5,SNR=31

GEYT LR LR 10 43 32.4
comp=Z,600nm,21.0s,baz=10.0,slow=38
GEYT Alibeck 78.48 318 P P 10 06 00.1 +0.3
GYA0B ALIBECK ARRAY 78.48 318 P P 10 06 00.2 +0.4
GYA0B IAmb IAmb 10 06 01.3
comp=Z,16nm,0.9s
TBI Tubuai 78.49 154 *e*LR LR 10 30 14.1
comp=Z,621nm,30.2s,baz=334
KOLS Kolonicke sedl 78.58 347 *eP* P 10 05 59.8 -0.3
KOLS Kolonicke sedl 78.58 347 *eP* P 10 05 59.8 -0.3
BMRD Maredsous 78.66 358 P P 10 05 59.0 -1.5
BMRD PcP **PcP 10 06 07.9 -1.4**
CRVS Cervenica-Dubn 78.73 347 *eP* P 10 06 00.8 -0.1
CRVS Cervenica-Dubn 78.73 347 *eP* P 10 06 00.8 -0.1
KIV Kislovodsk 78.75 331 *eP* P 10 06 01.1 -0.1
KIV pmax pmax
comp=Z,92nm,1.1s
KIV MLR MLR
comp=Z,594nm,19.0s
KIV Kislovodsk 78.75 331 P P 10 06 00.7 -0.5
KIV IAmb IAmb 10 06 04.3
comp=Z,29nm,1.0s
UZH Uzhgorod 78.88 347 *eP* P 10 05 59.9 -1.8
KBZ Khabaz 78.89 331 P P 10 06 02.6 +0.8
comp=Z,16nm,0.8s,baz=43,slow=2.3,SNR=23
KBZ LR LR 10 45 55.7
comp=Z,422nm,20.6s,baz=24,slow=40
KBZ Khabaz 78.89 331⇑ *eP* P 10 06 02.1 +0.3
KBZ pmax pmax
comp=Z,23nm,1.0s
VRAC Vranov 78.92 350 ⇑P P 10 06 01.4 -0.6
BATI Baumata 79.33 239 P P 10 06 04.5 -0.1
comp=Z,28nm,0.6s,baz=325,slow=0.5,SNR=4.0
BUR08 Bucovina Ar. S 79.38 344 P P 10 06 04.8 +0.1
BURAR Bucovina Array 79.41 344 ⇓P P 10 06 04.8 0.0
BURAR Bucovina Array 79.41 344 P P 10 06 04.4 -0.4
ZEI Tsey 79.43 330 *eP* P 10 06 03.7 -1.4
ZEI pmax pmax
comp=Z,31nm,0.8s
ANN Anapa 79.45 335 *eP* P 10 06 02.2 -2.7
ANN *e**PP **pP 10 06 17.1 -1.7**
ANN *eS* **S 10 15 58.8 -3.2**
ANN pmax pmax
comp=Z,68nm,1.2s
VYHS Vyhne 79.47 349 *eP* P 10 06 05.5 +0.5
VYHS Vyhne 79.47 349 *eP* P 10 06 05.5 +0.5
HRA Herat 79.64 313 P P 10 06 06.1 -0.3
HRA IAmb IAmb 10 06 07.4
comp=Z,20nm,0.9s
GERES GERESS Array B 79.66 352 P P 10 06 05.8 -0.3
comp=Z,0.7nm,0.5s,baz=46,slow=11,SNR=5.2
GERES GERESS Array B 79.66 352 P P 10 06 09.0 +2.9
GERES GERESS Array B 79.66 352 P P 10 06 09.0 +2.9
BIZ Bicaz 79.91 344 ⇑P P 10 06 08.4 +1.0
SOC Sochi 79.95 333 *eP* P 10 06 05.5 -2.1
SOC *e*PPP PPP 10 10 57.5
SOC *eS* **S 10 16 02.8 -4.6**
SOC pmax pmax
comp=Z,40nm,1.0s
SOC MLR MLR
comp=Z,374nm,16.0s
ARCR ARCALIA 80.06 345 ⇓P P 10 06 09.2 +0.9
CONA Conrad Observa 80.36 351 *eP* P 10 06 09.9 0.0
comp=Z,6.3nm,0.9s
MOA Molln 80.59 352 *eP* P 10 06 11.2 +0.1
comp=Z,3.8nm,0.8s
ECH Echery 80.68 357 P P 10 06 11.5 0.0
ECH pmax pmax
comp=Z,14nm,1.2s
ECH Echery 80.68 357 P P 10 06 11.5 0.0
VRI Vrincioaia 80.83 343 ⇑P P 10 06 13.6 +1.2
PLOR Plostina 80.86 343 ⇑P P 10 06 13.3 +0.8
ODBI Odobesti 80.87 343 ⇑P P 10 06 13.9 +1.3
ARSA Arzberg 81.07 351 *eP* P 10 06 14.0 +0.3
comp=Z,9.8nm,1.3s
TLCR 81.08 341 ⇑P P 10 06 14.6 +1.0
BATM Batumi 81.19 331 ⇑P P 10 06 14.0 -0.3
CFR Carcaliu 81.22 342 ⇓P P 10 06 14.7 +0.3
RETA Reutte 81.23 354 *eP* P 10 06 14.7 +0.2
comp=Z,1.5nm,0.4s
WATA Walderalm 81.32 354 *eP* P 10 06 14.9 -0.2
comp=Z,9.4nm,1.0s
MLR Muntele Rosu 81.33 343 ⇑P P 10 06 16.0 +0.8
MLR Muntele Rosu 81.33 343 P P 10 06 16.1 +0.8
MLR pmax pmax
comp=Z,25nm,0.9s
MLR Muntele Rosu 81.33 343 P P 10 06 16.1 +0.8
MLR IAmb IAmb 10 06 17.6
comp=Z,25nm,0.9s
MOTA Moosalm 81.34 354 *eP* P 10 06 14.9 -0.3
comp=Z,16nm,1.5s
WTTA Wattenberg 81.39 353 *eP* P 10 06 15.5 -0.1
comp=Z,13nm,1.4s
KBA Koelnbreinsper 81.44 352 *eP* P 10 06 14.9 -0.9
comp=Z,17nm,1.1s
SQTA Sankt Quirin 81.46 354 *eP* P 10 06 12.9 -3.0
comp=Z,3.4nm,0.5s
TPGR Topolog 81.48 341 ⇓P P 10 06 16.2 +0.4
DAVA Damuels 81.48 355 *eP* P 10 06 15.0 -1.0
comp=Z,8.8nm,1.2s
VOIR 81.55 344 ⇓P P 10 06 17.4 +1.1
ARR Arges 81.68 344 ⇑P P 10 06 18.5 +1.6
FETA Feichten 81.69 354 *eP* P 10 06 16.8 -0.3
comp=Z,6.4nm,0.8s
MTUR Matau 81.75 344 ⇑P P 10 06 18.7 +1.4
SECR 81.75 343 ⇓P P 10 06 18.4 +1.2
ABTA Abfaltersbach 81.84 353 *eP* P 10 06 17.9 +0.2
comp=Z,7.9nm,1.0s
TLBR Topalu 81.85 342 ⇑P P 10 06 19.3 +1.6
MYKA Terra Mystica 81.86 352 *eP* P 10 06 18.5 +0.7
comp=Z,5.9nm,1.2s
TIRR Tirgusor 81.86 341 ⇑P P 10 06 18.1 +0.3
OBKA Obir 81.90 351 *eP* P 10 06 18.2 +0.1
comp=Z,12nm,0.7s
BZS Buzias 81.92 346 ⇓P P 10 06 17.5 -0.6
GZR Gura Zlata 81.96 345 ⇑P P 10 06 18.8 +0.4
PRED Cave del Predi 82.05 352 P P 10 06 19.0 +0.1
PRED IAmb IAmb 10 06 21.9
comp=Z,17nm,0.8s
FUORN Ofenpass-Fuorn 82.12 354 P P 10 06 20.4 +1.0
WB0 Warramunga Arr 82.26 225 P P 10 06 20.4 +0.3
TUE Stuetta 82.32 355 P P 10 06 20.7 +0.2
WRAB Tennant Creek 82.42 225⇓ *eP* P 10 06 20.2 -0.7
WRAB pmax pmax
comp=Z,12nm,1.7s
WRAB Tennant Creek 82.42 225 P P 10 06 19.6 -1.3
WRAB IAmb IAmb 10 06 21.5
comp=Z,16nm,1.2s
WB2 Warramunga Arr 82.43 225 P P 10 06 20.5 -0.4
WRA Warramunga Arr 82.44 225 P P 10 06 20.5 -0.5
comp=Z,2.8nm,0.7s,baz=32,slow=5.9,SNR=30
WRA LR LR 10 40 15.0
comp=Z,106nm,20.8s,baz=25,slow=34
WRA Warramunga Arr 82.44 225 P P 10 06 19.7 -1.3
HERR Herculane 82.52 346 ⇓P P 10 06 21.0 -0.2
MDVR Moldovita 82.72 346 ⇓P P 10 06 23.0 +0.6
LHMI Lhok Sumawe 82.95 270 P P 10 06 24.8 +0.9
KOPT Kop Dagi 83.00 331 P P 10 06 24.7 +0.5
KOPT IAmb IAmb 10 06 28.0
comp=Z,17nm,0.8s
PUNG Punghina 83.03 345 ⇑P P 10 06 24.4 +0.6
RAZG Razgrad 83.09 342 ⇑P P 10 06 24.5 +0.2
TEOL Teolo 83.28 353 P P 10 06 24.9 -0.3
PSI Prapat 83.59 266 P P 10 06 26.8 -0.6
PSI pmax pmax
comp=Z,39nm,0.9s
DIVS Divibare 83.64 347 P P 10 06 26.8 -0.4
DIVS IAmb IAmb 10 06 28.8
comp=Z,16nm,1.0s
RPSI Rantau Prapat 83.67 266 P P 10 06 26.8 -0.8
GEVA Gevas 83.76 329 P P 10 06 28.9 +0.8
TOKA Tokat 83.87 334 P P 10 06 27.8 -0.6
ILGA Ilgaz 83.91 337 P P 10 06 30.5 +1.7
ILGA IAmb IAmb 10 06 30.7
comp=Z,33nm,1.1s
HYB Hyderabad 84.77 291 *i* P P 10 06 33.0 -0.2
comp=Z,64nm,0.8s
FITZ Fitzroy Crossi 84.94 233 P P 10 06 35.2 +1.4
comp=Z,4.9nm,0.6s,baz=27,slow=5.2,SNR=15
FITZ LR LR 10 41 25.5
comp=Z,117nm,19.7s,baz=62,slow=33
FITZ Fitzroy Crossi 84.94 233 P P 10 06 35.3 +1.4
FITZ IAmb IAmb 10 06 49.8
comp=Z,9.9nm,0.9s

OSSC	Osservatorio P	85.14	353	P		P		10 06 34.5	-0.1
BR131	Keskin Array S	85.18	336	P		P		10 06 35.1	0.0
BR131				pmax		pmax			
	comp=Z,37nm,0.8s								
BR131	Keskin Array S	85.18	336	P		P		10 06 35.1	0.0
BRTR	Keskin Array B	85.18	336	P		P		10 06 35.1	0.0
	comp=Z,24nm,0.8s,baz=46,slow=2.8,SNR=60								
BRTR				LR		LR		10 50 11.2	
	comp=Z,58nm,18.4s,baz=28,slow=40								
BRTR	Keskin Array B	85.18	336	P		P		10 06 34.7	-0.4
MURB	Monte Urbino	85.30	352	P		P		10 06 36.3	+0.7
PDG	Podgorica	85.38	347	⇓P		P		10 06 35.7	-0.1
PDG	Podgorica	85.38	347	P		P		10 06 34.4	-1.5
MARD	Mardin	85.40	330	P		P		10 06 37.2	+0.9
NRCA	Norcia	85.67	352	P		P		10 06 37.8	+0.4
AS31	Alice Springs	85.90	223	P		P		10 06 38.0	+0.2
ASAR	Alice Springs	85.90	223	P		P		10 06 38.4	-0.1
	comp=Z,2.7nm,0.5s,baz=24,slow=5.7,SNR=67								
ASAR				LR		LR		10 42 28.9	
	comp=Z,130nm,18.9s,baz=29,slow=34								
ASAR	Alice Springs	85.90	223	P		P		10 06 38.0	-0.6
MDSI	Maura Dua	86.01	258	P		P		10 06 38.2	-1.1
DR12	Loma Pena Alta	86.48	64	P		P		10 06 42.7	+0.9
POO	Poona	86.59	296	⇑*iP*		P		10 06 40.0	-2.3
	comp=Z,170nm,1.0s								
GAZ	Gaziantep	86.61	333	P		P		10 06 43.4	+1.3
PCAB	Cabril	86.86	8	*eP*		P		10 06 43.0	-0.2
	comp=Z,27nm,1.5s								
PBRG	Braganca	86.86	7	*eP*		P		10 06 42.9	-0.4
	comp=Z,17nm,1.9s								
POLO	Lamas de Olo	87.21	7	*eP*		P		10 06 44.4	-0.6
	comp=Z,8.5nm,1.5s								
PVRL	Vila Real	87.31	7	*eP*		P		10 06 45.3	-0.2
MVO	Moncorvo	87.48	7	*eP*		P		10 06 45.8	-0.5
	comp=Z,20nm,1.2s								
PVIS	Viseu	87.86	8	*eP*		P		10 06 47.5	-0.6
	comp=Z,19nm,1.0s								
MTE	Manteigas	88.20	7	*eP*		P		10 06 49.2	-0.5
	comp=Z,19nm,1.0s								
MTE	Manteigas	88.20	7	P		P		10 06 49.2	-0.5
MTE				IAmb		IAmb		10 06 50.7	
	comp=Z,15nm,0.9s								
PCAS	Casmilo, Conde	88.46	8	*eP*		P		10 06 50.2	-0.7
	comp=Z,16nm,1.0s								
PCBR	Castelo Branco	88.76	7	*eP*		P		10 06 51.3	-1.0
	comp=Z,8.6nm,1.0s								
SJG	San Juan	88.83	62	P		P		10 06 54.9	+2.0
SJG				pmax		pmax			
	comp=Z,16nm,1.0s								
SJG	San Juan	88.83	62	P		P		10 06 54.9	+2.0
SJG				IAmb		IAmb		10 06 55.3	
	comp=Z,16nm,1.0s								
ESBB	Sonseca Array	89.16	5	P		P		10 06 53.0	-1.2
ESBB				IAmb		IAmb		10 06 54.2	
	comp=Z,7.4nm,0.9s								
ESDC	Sonseca Array	89.16	5	P		P		10 06 53.4	-0.9
	comp=Z,7.2nm,0.9s,baz=351,slow=4.4,SNR=36								
ESDC				LR		LR		10 49 08.4	
	comp=Z,92nm,19.4s,baz=25,slow=37								
ESDC	Sonseca Array	89.16	5	P		P		10 06 53.0	-1.2
MTP	Monte Pirata	89.17	62	P		P		10 06 55.3	+0.8
PMRV	Marv??o	89.17	7	*eP*		P		10 06 53.4	-0.9
	comp=Z,9.2nm,1.0s								
PAB	San Pablo	89.26	5	P		P		10 06 54.0	-0.8
PAB				pmax		pmax			
	comp=Z,5.0nm,0.9s								
PAB	San Pablo	89.26	5	P		P		10 06 54.0	-0.8
AKAS	Kas	89.48	338	P		P		10 06 55.4	-0.5
AKAS				IAmb		IAmb		10 06 56.1	
	comp=Z,10.0nm,0.9s								
CSS	Mathiatis	89.75	335	P		P		10 06 56.8	-0.3
CSS				IAmb		IAmb		10 06 58.4	
	comp=Z,17nm,1.0s								
CEL	Celeste	89.92	349	P		P		10 06 56.5	-1.3
STKA	Stephens Creek	90.26	214	P		P		10 06 59.6	+0.5
	comp=Z,3.3nm,0.5s,baz=27,slow=5.8,SNR=10								
STKA				LR		LR		10 43 47.5	
	comp=Z,251nm,19.5s,baz=25,slow=33								
STKA	Stephens Creek	90.26	214	P		P		10 06 59.6	+0.5
STKA				pmax		pmax			
	comp=Z,4.0nm,1.3s								
UOSS	Minazif	90.40	313	P		P		10 06 58.9	-1.4
UOSS				IAmb		IAmb		10 07 00.2	
	comp=Z,9.5nm,0.8s								
PBEJ	Beja	90.53	8	*eP*		P		10 07 00.1	-0.5
	comp=Z,7.6nm,0.9s								
PVAQ	Vaqueiros	91.16	8	*eP*		P		10 07 02.9	-0.6
	comp=Z,9.9nm,1.8s								
PALK	Pallekele	91.45	283	P		P		10 07 05.0	-0.3
PALK				pmax		pmax			
	comp=Z,9.0nm,0.9s								
PALK	Pallekele	91.45	283	P		P		10 07 05.0	-0.3
PALK				IAmb		IAmb		10 07 07.8	
	comp=Z,8.9nm,0.8s								
KEST	Kesra	93.02	354	LR		LR		10 51 00.5	
	comp=Z,72nm,21.1s,baz=313,slow=37								
SDV	Santo Domingo	93.65	71	P		P		10 07 17.4	+1.8
SDV				IAmb		IAmb		10 07 18.0	
	comp=Z,4.2nm,0.8s								
TORD	Torodi Ar. Bea	115.73	0	PKP		PKiKP		10 12 40.4	-0.8
	comp=Z,2.2nm,0.5s,baz=350,slow=2.4,SNR=22								
TORD				PKKPbc		PKKPbc		10 23 10.2	-1.1
	comp=Z,1.7nm,1.0s,baz=184,slow=2.4,SNR=3.5								
TORD	Torodi Ar. Bea	115.73	0	PKP		PKiKP		10 12 40.3	-0.9
H03N2	Juan Fernandez	120.58	106	T		T		12 24 39.6	
	baz=317,slow=77,SNR=147								
H03N1	Juan Fernandez	120.59	106	T		T		12 24 41.1	
	baz=317,slow=77,SNR=188								
H03N3	Juan Fernandez	120.59	106	T		T		12 24 40.3	
	baz=317,slow=77,SNR=257								
DBIC	Dimbokro	121.86	8	PKP		PKPdf		10 12 52.1	-0.9
	comp=Z,4.8nm,0.4s,baz=339,slow=2.2,SNR=21								
VNDA	Vanda	129.26	186	PKP		PKPdf		10 13 05.8	+0.6
	comp=Z,0.3nm,0.6s,baz=29,slow=5.2,SNR=4.0								
VNDA				SKPab		SKPbc		10 16 23.7	+1.4
	comp=Z,2.4nm,1.0s,baz=338,slow=3.0,SNR=11								
PLCA	Paso Flores	130.41	108	PKP		PKPdf		10 13 09.1	+0.6
	comp=Z,1.7nm,0.9s,baz=216,slow=20,SNR=4.0								
PLCA				SKPab		SKPab		10 16 27.5	-0.1
	comp=Z,1.2nm,0.9s,baz=286,slow=4.3,SNR=3.1								
QSPA	South Pole Qui	141.14	180			PKPpre		10 13 22.8	
TSUM	Tsumeb	145.65	334	PKPdf		PKPbc		10 13 37.4	0.0
MAW	Mawson	146.85	218	PKPbc		PKPbc		10 13 39.2	-0.2
	comp=Z,4.9nm,0.6s,baz=81,slow=4.2,SNR=18								
MAW	Mawson	146.85	218	PKP2		PKPbc		10 13 39.9	+0.5
MAW	Mawson	146.85	218			PKPbc		10 13 39.9	+0.5
LBTB	Lobatse	148.13	317	PKP2		PKPbc		10 13 45.0	+0.7
LBTB	Lobatse	148.13	317			PKPbc		10 13 45.0	+0.7
BOSA	Boshof	151.40	314	PKPbc		PKPbc		10 13 52.2	0.0
	comp=Z,11nm,0.5s,baz=17,slow=2.6,SNR=37								
BOSA	Boshof	151.40	314			PKPbc		10 13 50.6	-1.7
SYO	Syowa Base	154.99	211	⇑*ep*		PKPdf		pPKPdf 10 14 06.4	+2.1
SYO	Syowa Base	154.99	211	⇓*es*		PKPbc		PKPab 10 14 12.2	-2.3

IDC ***27*** *10:06:32.8±0.7,9.78N×126.76E,h0km,mb4.3/14, mb1 4.4/16,mb1mx4.1/48,mbtmp4.3/16,ML4.2/2,MS3.4/5, Ms1 3.4/5,ms1mx3.0/44,Error ellipse: s-maj=38.9km s-min=12.6km az=67.0*

NEIC ***27*** *10:06:37.2±2.4,9.91N±0.03×127.0E±0.1,h31km±6km, mb4.5/18,Error ellipse: s-maj=15.2km s-min=4.6km az=95.0*

MAN ***27*** *10:06:37.8,9.89N×126.71E,h31km,mb5.2, ML4.2, MS4.3*

DJA ***27*** *10:06:47.3±1.8,9.N±10.×12.7E±.,h32km±14km,M4.9/22, mb4.7/22, mB5.4/5, MLv5.1/3, Mw(mB)4.8/5*

ISC 27 10:06:33.5±1.7, 9.74N±0.03×126.68E±0.05, h1km±10km, n82, σ1§99/84, mb4.3/19, 5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.55	274	*eP*	Pn	10 06 49.7	+1.2
GLSP				*eS*	Sn	10 06 59.1	+0.7
MSLP	Maasin	1.84	282	*eP*	Pg	10 07 08.7	-0.1
MSLP				*eS*	Sg	10 07 34.1	+1.4
CGP	Cagayan de Oro	2.34	237	⇓*eP*	Pb	10 07 16.9	+0.3
CGP				*eS*	Sb	10 07 45.9	-0.2
OCLP	Ormoc	2.42	303	*eP*	Pb	10 07 16.7	-1.2
OCLP				*eS*	Sb	10 07 48.2	0.0
BUKP	Musuan	2.45	221	*eP*	Pb	10 07 17.6	-0.8
BUKP				*eS*	Sb	10 07 49.5	+0.4
LLP	Lapu-Lapu	2.74	282	⇓*eP*	Pb	10 07 22.4	-0.9
LLP				*iS*	Sb	10 07 56.3	-1.1
TBP	Tagbilaran	2.78	269	⇓*eP*	Pb	10 07 24.2	+0.1
TBP				*eS*	Sn	10 07 34.8	-19
MATI	Mati	2.81	189	*eP*	Pb	10 07 24.4	-0.2
MATI				*eS*	Sn	10 07 51.4	-2.8
DAV	Davao City (W)	2.87	202	Pn	Pg	10 07 27.6	-1.0
	27nm,0.3s,baz=39,slow=19,SNR=1.9						
DAV				Sn	Sb	10 07 59.1	-2.2
	32nm,0.3s,baz=270,slow=20,SNR=1.4						
DAV				LR	LR	10 08 27.2	
	comp=Z,274nm,21.3s,baz=10,slow=39						
KCP	Kidapawan	3.14	210	⇓*iP*	Pb	10 07 28.1	-2.1
KCP				*iS*	Sb	10 08 06.1	-3.0
CNP	Catarman	3.39	324	*eP*	Pn	10 07 27.5	-0.1
CNP				*eS*	Sn	10 08 06.4	-2.1
PAGZ	Pagadian	3.77	240	*eP*	Pb	10 07 36.5	-4.4
PAGZ				*eS*	Sb	10 08 22.5	-4.6
CNOP	Candoni, Negro	3.99	272	*eP*	Pb	10 07 40.3	-4.3
CNOP				*eS*	Sn	10 08 26.9	+3.6
GUIM	Jordan	4.12	283	*eP*	Pn	10 07 40.1	+2.4
GUIM				*eS*	Sn	10 08 27.5	+0.9
LQP	Lukban	6.65	311	⇓*eP*	Pn	10 08 06.7	-6.0
TGY	Tagaytay City	7.10	308	LR	LR	10 11 04.1	
	comp=Z,233nm,21.5s,baz=114,slow=38						
TNTI	Ternate	8.94	176	P	Pn	10 08 46.4	+2.5
	36nm,0.7s						
TNTI	Ternate	8.94	176		Pn	10 08 46.0	+2.1
MYLDM	Lahad Datu	9.29	241	Pn	Pn	10 08 54.1	+5.3
GTOI	Gorontalo	9.76	202	P	Pn	10 08 57.9	+2.8
	9.7nm,0.8s						
LUWI	Luwuk	11.40	200	P	Pn	10 09 20.7	+3.1
	2µm68nm,0.9s						
SIJI	Sorong	11.49	156	Pn	Pn	10 09 18.9	+0.1
	3.6nm,0.3s,baz=347,slow=14,SNR=9.2						
APSI	Ampana	11.71	206	P	Pn	10 09 27.6	+5.7
	26nm,0.6s						
SANI	Sanana	11.73	183	P	Pn	10 09 21.7	-0.5
	31nm,1.0s						
FAKI	Fak Fak	13.75	156	P	Pn	10 09 51.3	+1.5
	30nm,1.0s						
TTSI	Tana Toraja	14.43	209	P	P	10 10 03.9	-2.3
	1µm19nm,1.2s						
YULB	Yu-li	14.52	340	Pn	Pn	10 10 01.1	+0.9
TPUB	Ta-pu	14.67	337	Pn	Pn	10 10 01.1	-1.3
SSLB	Suanglung	15.00	339	Pn	Pn	10 10 06.7	-0.2
SPSI	Sidrap Palu	15.26	207	P	P	10 10 14.2	-1.2
	69nm20nm,0.8s						
BNSI	Bone	15.50	205	P	P	10 10 19.8	+1.7
	28nm,1.2s						
YHNB	Yeheng	15.68	342	Pn	Pn	10 10 15.0	-0.9
YHNB				IAmb	IAmb	10 10 23.9	
	comp=Z,30nm,0.9s						
SBUM	Sibu	16.10	244	Pn	P	10 10 26.4	+1.7
SBUM				IAmb	IAmb	10 10 29.5	
	comp=Z,30nm,1.0s						
KAPI	Kappang	16.21	206	LR	LR	10 17 31.4	
	comp=Z,56nm,18.2s,baz=36,slow=40						
KBKI	Kotabaru	16.66	219	P	P	10 10 34.1	+3.1
	comp=Z,2µmcomp=Z,21nm,0.9s						
BBKI	Banjar Baru	17.64	223	P	P	10 10 47.7	+5.8
	comp=Z,27nm,0.8s						
GENI	Genyem	18.18	132	P	P	10 10 51.3	+3.5
	comp=Z,60nm,1.5s						
JAY	Jayapura	18.53	130	P	Pn	10 10 51.5	-0.2
	comp=Z,0.4nm,0.3s,baz=324,slow=16,SNR=3.9						
JAY	Jayapura	18.53	130	P	Pn	10 10 56.0	+4.2
	comp=Z,24nm,1.1s						
EDFI	Ende, Flores	19.03	195	P	Pn	10 10 59.6	+1.7
	comp=Z,11nm,0.5s						
SOEI	Soe	19.52	187	P	Pn	10 11 06.1	+2.3
	comp=Z,49nm,0.7s						
SOEI	Soe	19.52	187		Pn	10 11 05.0	+1.2
SOEI				IAmb	IAmb	10 11 13.5	
	comp=Z,21nm,0.7s						
BATI	Baumata	20.05	189	P	Pn	10 11 08.8	-1.2
	comp=Z,85nm,0.8s,baz=328,slow=0.6,SNR=11						
BATI				LR	LR	10 20 47.3	
	comp=Z,121nm,18.6s,baz=260,slow=42						
BATI	Baumata	20.05	189	P	Pn	10 11 10.1	+0.1
	comp=Z,57nm,0.9s						
MTN	Manton Dam	22.87	169	P	P	10 11 38.5	-0.1
MTN				IAmb	IAmb	10 11 47.0	
	comp=Z,15nm,0.8s						
LEM	Lembang	25.13	230	P	P	10 12 04.4	+3.8
	comp=Z,16nm,0.4s,baz=347,slow=18,SNR=2.0						
KNRA	Kununurra	25.34	175	P	P	10 12 02.5	+0.4
IPM	Ipoh	25.98	260	P	P	10 12 08.6	+0.4
FITZ	Fitzroy Crossi	27.68	182	P	P	10 12 24.3	+1.0
	comp=Z,3.8nm,0.4s,baz=6.4,slow=9.1,SNR=18						
FITZ	Fitzroy Crossi	27.68	182	P	P	10 12 24.9	+1.5
CMAR	Chiang Mai Arr	28.23	291	P	P	10 12 27.4	-1.0
	comp=Z,0.7nm,0.4s,baz=107,slow=7.0,SNR=5.2						
CMAR	Chiang Mai Arr	28.23	291	P	P	10 12 27.6	-0.8
WRA	Warramunga Arr	30.45	166	P	P	10 12 45.8	-2.2
	comp=Z,0.7nm,0.6s,baz=344,slow=9.6,SNR=8.3						
WRA	Warramunga Arr	30.45	166	P	P	10 12 50.1	+2.2
WB2	Warramunga Arr	30.45	166	P	P	10 12 50.5	+2.6
WR0	Warramunga Arr	30.51	165	P	P	10 12 45.7	-2.8
AS31	Alice Springs	33.95	168	P	P	10 13 19.2	+0.5
AS31				IAmb	IAmb	10 13 23.8	
	comp=Z,1.4nm,0.3s						
ASAR	Alice Springs	33.95	168	P	P	10 13 17.3	-1.4
	comp=Z,0.7nm,0.3s,baz=354,slow=6.9,SNR=16						
ASAR				PcP	PcP	10 15 56.0	-1.3
	comp=Z,1.1nm,0.7s,baz=350,slow=2.8,SNR=8.6						
CTA	Charters Tower	35.35	147	P	P	10 13 29.9	-0.9
	comp=Z,1.3nm,0.7s,baz=348,slow=9.3,SNR=2.3						
CTAO	Charters Tower	35.35	147	P	P	10 13 30.6	-0.3
H11N1	WAKE ISLAND Hy	40.04	71	T	T	10 57 42.3	
	baz=264,slow=75,SNR=10.0						
H11N2	WAKE ISLAND Hy	40.05	71	T	T	10 57 38.6	
	baz=264,slow=75,SNR=8.1						
H11N3	WAKE ISLAND Hy	40.05	71	T	T	10 57 38.2	
	baz=264,slow=75,SNR=12						
ULN	Ulaanbaatar	41.45	340	P	P	10 14 20.9	-1.2
ULN				IAmb	IAmb	10 14 39.1	
	comp=Z,14nm,1.4s						
SONM	Songino Array	41.65	339	P	P	10 14 23.3	-0.4
	comp=Z,3.0nm,0.6s,baz=155,slow=8.0,SNR=7.8						
SONM	Songino Array	41.65	339	P	P	10 14 22.5	-1.2
NWAO	Narrogin (SRO)	43.38	192	P	P	10 14 37.2	-0.5
	comp=Z,7.8nm,0.7s,baz=64,slow=7.8,SNR=2.9						
NWAO	Narrogin (SRO)	43.38	192	P	P	10 14 37.4	-0.3
NWAO				IAmb	IAmb	10 14 38.0	
	comp=Z,12nm,1.0s						
NWAO	Narrogin (SRO)	43.38	192	IAmb	IAmb	10 14 50.6	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	43.77	162	P	P	10 14 43.1	+2.2
	comp=Z,1.9nm,0.4s,baz=336,slow=7.9,SNR=8.7						
STKA	Stephens Creek	43.77	162	P	P	10 14 40.6	-0.3
MKAR	Makanchi Array	52.69	323	P	P	10 15 48.7	-1.0
	comp=Z,1.3nm,0.6s,baz=124,slow=8.0,SNR=8.4						
MKAR	Makanchi Array	52.69	323	P	P	10 15 49.1	-0.6
ZALV	Zalesovo Beam	55.28	331	P	P	10 16 06.9	-1.6
	comp=Z,1.4nm,0.5s,baz=110,slow=6.5,SNR=6.2						
ZALV	Zalesovo Beam	55.28	331	P	P	10 16 06.5	-1.9
KURK	Kurchatov	56.73	326	P	P	10 16 18.1	-0.8
KURK				IAmb	IAmb	10 16 20.9	
	comp=Z,5.1nm,1.0s						
GEYT	Alibeck	67.19	307	P	P	10 17 31.1	+1.5
	comp=Z,1.8nm,0.7s,baz=167,slow=7.0,SNR=3.9						
GEYT	Alibeck	67.19	307	IAmb	IAmb	10 17 33.1	
	comp=Z,1.7nm,0.9s						
ARCES	ARCESS Array B	84.83	340	P	P	10 19 09.2	-0.3
	comp=Z,1.4nm,0.7s,baz=74,slow=5.2,SNR=5.7						
FINES	FINESS Array B	86.55	332	P	P	10 19 17.3	-0.9
	comp=Z,4.4nm,0.9s,baz=76,slow=5.9,SNR=3.3						
VNDA	Vanda	89.36	173	P	P	10 19 30.4	-0.9
	comp=Z,0.4nm,0.7s,baz=350,slow=5.3,SNR=3.2						
VNDA				LR	LR	10 59 40.8	
	comp=Z,91nm,21.4s,baz=14,slow=36						
PLCA	Paso Flores	145.56	157	PKPbc	PKPab	10 26 13.8	-0.6
	comp=Z,4.7nm,0.8s,baz=243,slow=3.8,SNR=18						

SOME ***27*** *10:19:00.9,39.63N×77.28E,h10km*

KRNET ***27*** *10:19:02.5±0.1,39.60N×77.43E,mb3.0*

NNC ***27*** *10:19:02.5±1.4,39.69N×77.24E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=9.7km s-min=7.1km az=166.0*

ISC 27 10:19:09.1±3.5, 40.0N±0.1×77.10E±0.04, h0km±20km, n40, σ1§52/64, 24C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	2.15	2	⇑*iP*	Pn	10 19 47.4	+0.9
	baz=56						
KDJ				⇑*eS*	Sg	10 20 19.8	+1.4
	baz=56						
ULHL	Ulahol	2.36	344	⇑*iP*	Pn	10 19 50.7	+1.4
	baz=42						
ULHL				⇑*iS*	Sg	10 20 26.2	+1.2
	baz=42						
BOOM	Boomskoye usch	2.66	341	⇑*iP*	Pn	10 19 55.3	+1.9
	baz=39						
BOOM				⇑*iS*	Sg	10 20 33.4	-1.3
	baz=39						
PRZ	Przheval'sk	2.69	21	⇑*iP*	Pn	10 19 53.0	-0.9
	baz=14						
PRZ				⇑*iS*	Sb	10 20 30.8	-1.1
	baz=14						
ARLS	Aral	2.83	313	⇑*iP*	Pn	10 19 57.7	+2.0
	baz=15						
ARLS				⇑*iS*	Sg	10 20 37.1	-2.9
	baz=15						
ANVS	Anan'yevo	2.84	8	⇑*iP*	Pn	10 19 56.1	+0.2
	baz=3.0						
ANVS				⇑*iS*	Sb	10 20 35.2	-1.0
	baz=3.0						
UCH	Uchtor	2.98	320	⇑*eP*	Pn	10 19 59.8	+1.7
	baz=21						
UCH				⇑*iS*	Sg	10 20 41.3	-3.7
	baz=21						
TNSS	Tian-Shan	3.06	358	*eP*	Pb	10 20 04.2	-0.5
	8.0nm,0.4s						
TNSS				*eS*	Sg	10 20 49.5	+1.9
	18nm,0.4s						
TNSS	Tian-Shan	3.06	358	Pg	Pb	10 20 04.0	-0.7
	8.0nm,0.4s						
TNSS				Lg	Lg	10 20 49.0	
	18nm,1.1s						
KBK	Karagaybulak	3.13	330	⇓*eP*	Pn	10 20 01.9	+2.0
	baz=29						
KBK				⇓*iS*	Sb	10 20 45.1	+0.5
	baz=29						
TKM2	Tokmak 2	3.15	339	⇑*iP*	Pn	10 20 02.1	+1.9
	baz=38						
TKM2				⇑*iS*	Sb	10 20 45.1	-0.2
	baz=38						
KST	Kastek	3.18	345	*eP*	Pb	10 20 06.5	-0.2
	5.2nm,0.3s						
KST				*eS*	Sg	10 20 53.6	+2.2
	26nm,0.4s						
KST	Kastek	3.18	345	Pg	Pb	10 20 06.5	-0.2
	4.4nm,0.7s						
KST				Lg	Lg	10 20 53.6	
	24nm,0.5s						
MDOK	Medeo	3.19	359	*eP*	Pb	10 20 06.0	-0.7
	22nm,1.2s						
MDOK				*eS*	Sg	10 20 52.8	+1.3
	53nm,0.6s						
MDOK	Medeo	3.19	359	Pg	Pb	10 20 06.0	-0.7
	22nm,1.2s						
MDOK				Lg	Lg	10 20 52.6	
	53nm,0.6s						
SATY	Saty	3.23	17	*eP*	Pb	10 20 06.2	-1.3
	11nm,0.3s						
SATY				*eS*	Sg	10 20 52.9	-0.1
	21nm,0.5s						
SATY	Saty	3.23	17	Pg	Pb	10 20 06.2	-1.3
	8.4nm,0.5s						
SATY				Lg	Lg	10 20 52.7	
	18nm,0.5s						
KOTS	Kotyrbulak	3.26	0	*eP*	Pb	10 20 07.7	-0.2
	14nm,0.4s						
KOTS				*eS*	Sg	10 20 55.7	+1.9
	188nm,0.7s						
KOTS	Kotyrbulak	3.26	0	Pg	Pb	10 20 07.5	-0.4
	14nm,0.4s						
KOTS				Lg	Lg	10 20 55.7	
	188nm,0.7s						
AAK	Ala-Archa	3.31	324	⇑*iP*	Pn	10 20 04.3	+2.0
	baz=25						
AAK				⇑*iS*	Sb	10 20 49.3	-0.3
	baz=25						
AAK	Ala-Archa	3.31	324	⇓Pg	Pb	10 20 08.6	-0.1
	1.9nm,0.4s						
AAK				Lg	Lg	10 20 58.1	
	16nm,0.5s						
AML	Almayashu	3.36	311	⇑*eP*	Pn	10 20 04.7	+1.5
	baz=13						
AML				⇑*eS*	Sb	10 20 50.3	-1.0
	baz=13						
UZB	Uzynbulak	3.48	24	*eP*	Pb	10 20 10.2	-1.5
	3.8nm,0.3s						
UZB				*eS*	Sg	10 21 00.1	-0.9
	3.6nm,0.5s						
UZB	Uzynbulak	3.48	24	Pg	Pb	10 20 10.3	-1.5
	3.3nm,0.5s						
UZB				Lg	Lg	10 21 00.1	
	5.6nm,0.6s						
SHLS	Shalkode	3.64	28	*eP*	Pb	10 20 15.4	+1.0
	12nm,0.3s						
SHLS				*eS*	Sg	10 21 08.7	+2.6
	18nm,0.8s						
SHLS	Shalkode	3.64	28	Pg	Pb	10 20 15.4	+1.0
	14nm,0.5s						
SHLS				Lg	Lg	10 21 08.7	
KPKS	Kokpek	3.69	18	*eP*	Pb	10 20 13.6	-1.5
	7.8nm,0.5s						
KPKS				*eS*	Sg	10 21 06.0	-1.6
	19nm,0.3s						
KTBS	Karatobe	3.75	355	*eP*	Pb	10 20 15.9	-0.3
	3.6nm,0.5s						
KTBS				*eS*	Sg	10 21 09.9	+0.3
	38nm,0.6s	

KAN05	Bluff City Nor	1.09	55		Pg		10 42 51.9	-0.2
KAN08	Anthony NE Sta	1.10	48		Pg		10 42 51.7	-0.6
KAN12	Harper NE Stat	1.13	45		Pg		10 42 52.2	-0.7
KAN09	Caldwell North	1.27	59		Pg		10 42 55.0	-0.6
KAN13	South Haven SW	1.32	67		Pn		10 42 56.1	-0.2
BCOK	Bluff Creek, N	1.40	126	Pn	Pn		10 42 57.2	-0.2
OK029	Liberty Lake	1.43	119		Pn		10 42 57.4	-0.4
OK025	Westminster Rd	1.62	124		Pn		10 43 00.7	+0.2
OKCFA	Oklahoma City	1.65	130		Pn		10 43 00.9	0.0
OKCSW	OKLAHOMA CITY	1.67	130		Pn		10 43 01.2	+0.1
WMOK	Wichita Mounta	1.76	174	Pn	Pn		10 43 02.2	-0.2
FNO	Franklin	1.79	133	Pn	Pb		10 43 03.9	-0.6
QUOK	Quay	1.87	99	Pn	Pb		10 43 05.2	-0.7
OK030	Cody Creek RV	1.87	107		Pb		10 43 05.2	-0.7
R32A	Long Quarter,	1.94	7	Pn	Pn		10 43 05.2	+0.4
T35A	Sooner Cattle	2.04	77	Pn	Pn		10 43 06.8	+0.6
X34A	Smith Ranch, M	2.11	153	Pn	Pn		10 43 08.6	+1.3
W35A	Tecumseh	2.18	127		Pn		10 43 08.2	0.0
CBKS	Cedar Bluff	2.39	346	Pn	Pn		10 43 11.7	+0.6
TUL1	Leonard	2.65	102		Pn		10 43 15.0	+0.3
AMTX	Amarillo	2.72	234	Pn	Pn		10 43 16.1	+0.5
KSU1	Kansas State U	3.21	35		Pn		10 43 22.6	+0.3
Z35A	Perchaven, San	3.47	155		Pn		10 43 25.2	-0.6
X37A	Clayton	3.51	122		Pn		10 43 26.0	-0.5
U38A	Gravette	3.71	90		Pn		10 43 29.6	+0.3
ABTX	Abilene, Hawle	3.90	188	Pn	Pn		10 43 31.8	-0.1
MSTX	Muleshoe	3.99	232	Pn	Pn		10 43 32.8	-0.4
HHAR	Hobbs	4.08	92	Pn	Pn		10 43 35.1	+0.8
T25A	Trinidad	4.39	280	Pn	Pn		10 43 38.1	-0.7
N33A	J Bar K, Exete	4.41	15	Pn	Pn		10 43 36.2	-2.6
W39A	Magazine	4.42	106		Pn		10 43 38.9	-0.1
Z38A	Mt. Pleasant	4.61	133	Pn	Pn		10 43 41.1	-0.4
WHTX	Lake Whitney,	4.67	164	Pn	Pn		10 43 41.6	-0.7
S39A	Bolivar	4.69	74	Pn	Pn		10 43 42.9	+0.2
MIAR	Mount Ida	4.83	112		Pn		10 43 44.4	-0.1
BGNE	Belgrade	4.95	7	Pn	Pn		10 43 45.4	-0.8
U40A	Yellville	4.95	90		Pn		10 43 46.4	+0.1
N35A	Tabor	5.09	30	Pn	Pn		10 43 49.0	+0.9
237A	Washetta, Mont	5.20	149	Pn	Pn		10 43 49.2	-0.5
P38A	Dawn	5.32	52		Pn		10 43 51.0	-0.3
SDCO	Great Sand Dun	5.35	285	Pn	Pn		10 43 51.8	-0.2
X40A	Basin Creek Fa	5.41	110		Pn		10 43 52.5	0.0
MGMO	Mountain Grove	5.43	81	Pn	Pn		10 43 52.8	-0.1
Q24A	Divide	5.47	299	Pn	Pn		10 43 55.1	+1.5
WHAR	Wooly Hollow	5.57	100	Pn	Pn		10 43 56.1	+1.3
WLAR	White Oak Lake	5.58	118	Pn	Pn		10 43 54.8	0.0
FCAR	Ozark Folk Cen	5.59	94	Pn	Pn		10 43 57.5	+2.6
W41B	Gary Mavity, V	5.64	102		Pn		10 43 56.6	+0.9
R40A	Maddies Statio	5.65	69		Pn		10 43 55.4	-0.4
UALR	University of	5.68	106	Pn	Pn		10 43 57.7	+1.4
JCT	Junction City	6.04	187	Pn	Pn		10 44 01.1	-0.1
N38A	Joes South For	6.22	45	Pn	Pn		10 44 04.1	+0.4
CCM	Cathedral Cave	6.37	74	Pn	Pn		10 44 06.4	+0.7
N23A	Red Feather La	6.99	311	Pn	Pn		10 44 15.4	+0.9
MNTX	Cornudas Mount	7.14	230		Pn		10 44 16.0	-0.3

IDC ***27*** *11:47:11.6±0.8, 32°.30N×141°.93E, h0km, mb4.1/13, mb1 4.2/16, mb1mx4.0/36, mbtmp4.0/16, ML3.5/3, MS3.4/12, Ms1 3.4/12, ms1mx3.1/42, Error ellipse: s-maj=23.0km s-min=16.4km az=69.0*

NEIC ***27*** *11:47:11.9±1.0, 32°.31N±0°.07×141°.85E±0°.05, h4km±5km, mb4.6/13, Error ellipse: s-maj=11.5km s-min=3.5km az=205.0*

JMA ***27*** *11:47:16.3±0.1, 32°.41N×141°.78E, h55km, M3.7*

NIED ***27*** *11:47:16.4, 32°.41N×141°.78E, h55km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}2.13; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-2.39; $M_{r\theta}$0.71; $M_{\theta\phi}$0.11; $M_{\phi r}$1.07; Fault plane solution: $M_0$2.61000×10^{15} NP1:ϕ_s15.00000°, δ60.00000°, λ109.00000°. NP2:ϕ_s160.00000°, δ35.00000°, λ60.00000°.*

ISC 27 11:47:13.5±3.5, 32°.34N±0°.07×141°.82E±0°.07, h11km±21km, n67, σ0s99/67, mb4.3/20, MS3.5/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	**Aogashimamukai**	**1.74**	**275**	P		**Pb**	**11 47 44.4**	**-1.1**
JHCJ	**Hachijojimakas**	**1.85**	**294**	P		**Pn**	**11 47 45.5**	**+0.3**
JHCJ				*e*S		**Sn**	**11 48 07.2**	**-1.4**
JHJ2	**Mitsune**	**1.85**	**295**	P		**Pn**	**11 47 45.6**	**+0.4**
JHJ2				*e*S		**Sn**	**11 48 07.3**	**-1.3**
JHJ2	**Mitsune**	**1.85**	**295**			**Pn**	**11 47 44.9**	**-0.2**
JHJ	**Hachijo jima 2**	**1.88**	**295**	Pn		**Pn**	**11 47 45.8**	**+0.2**
	99nm,0.3s,baz=61,slow=21,SNR=49							
JHJ				Sn		**Sb**	**11 48 11.9**	**+0.5**
	76nm,0.3s,baz=331,slow=14,SNR=4.1							
BSO1	**Boso 1**	**2.41**	**343**	P		**Pn**	**11 47 53.1**	**+0.8**
BSO1				*e*S		**Sn**	**11 48 20.4**	**-1.2**
BSO2	**Boso 2**	**2.56**	**340**	*e*S		**Sn**	**11 48 25.1**	**-0.6**
BSO3	**Boso 3**	**2.69**	**336**	P		**Pn**	**11 47 57.5**	**+1.1**
BSO3				*e*S		**Sn**	**11 48 28.1**	**-0.6**
JOD2	**Odawara 2**	**3.70**	**323**	P		**Pn**	**11 48 11.4**	**+0.9**
JOD2				*e*S		**Sn**	**11 48 52.4**	**-1.7**
JYT	**Yasato**	**4.10**	**341**			**Pn**	**11 48 17.1**	**+1.1**
JYN	**Shimob**	**4.16**	**320**	*e*S		**Sn**	**11 49 03.8**	**-1.8**
JRY	**Ryogami san**	**4.39**	**327**	P		**Pn**	**11 48 21.2**	**+1.1**
JRY				*e*S		**Sn**	**11 49 09.5**	**-1.7**
JAG	**Ashikaga**	**4.52**	**335**	P		**Pn**	**11 48 22.7**	**+0.9**
JGF	**Kuroka**	**4.93**	**312**	Pn		**Pn**	**11 48 28.9**	**+1.4**
INU	**Inuyama**	**5.00**	**308**	Pn		**Pn**	**11 48 29.2**	**+0.9**
MJAR	**Matsushiro Arr**	**5.14**	**326**	Pn		**Pn**	**11 48 32.0**	**+1.6**
	0.4nm,0.3s,baz=151,slow=12,SNR=15							
MJAR				LR		LR	11 50 46.8	
	comp=Z,257nm,18.9s,baz=135,slow=41							
MJAR	**Matsushiro Arr**	**5.14**	**326**			**Pn**	**11 48 32.1**	**+1.7**
MAJO	**Matsushiro**	**5.14**	**326**	Pn		**Pn**	**11 48 32.6**	**+2.1**
MAT	**Matsushiro**	**5.14**	**326**	P		**Pn**	**11 48 32.4**	**+2.0**
MAT				S		**Sn**	**11 49 29.2**	**-0.6**
JCJ	**Chichijima**	**5.24**	**176**	Pn		**Pn**	**11 48 31.1**	**-0.6**
JMM	**Marumori**	**5.58**	**352**			**Pn**	**11 48 36.3**	**0.0**
JWT	**Wachi**	**6.09**	**301**	Pn		**Pn**	**11 48 43.4**	**-0.1**
JMN	**Monobe**	**6.81**	**284**	Pn		**Pn**	**11 48 52.9**	**-0.5**
JTM	**Tenmabayashi**	**8.45**	**356**	Pn		**Pn**	**11 49 16.7**	**+0.9**
JNU	**Nakatsue**	**9.25**	**278**	LR		LR	11 52 32.6	
	comp=Z,379nm,18.0s,baz=128,slow=34							
ERM	**Erimo**	**9.71**	**6**	Pn		**Pn**	**11 49 32.5**	**-0.6**
ASAJ	**Asahikawa**	**11.77**	**3**	Pn		**Pn**	**11 49 60.0**	**-1.3**
	0.6nm,0.3s,baz=218,slow=9.6,SNR=8.0							
KSRS	**Korea Array**	**12.49**	**298**	LR		LR	11 55 00.5	
	comp=Z,187nm,20.5s,baz=114,slow=37							
USRK	**Ussuriysk Ar.**	**14.12**	**330**	LR		LR	11 55 58.4	
	comp=Z,128nm,18.1s,baz=147,slow=37							
KLR	**Kul'dur**	**18.48**	**339**	P		**P**	**11 51 29.3**	**0.0**
	0.2nm,0.3s,baz=146,slow=7.3,SNR=4.3							
GUMO	**Guam**	**18.87**	**171**	LR		LR	11 59 51.2	
	comp=Z,57nm,18.6s,baz=4.0,slow=40							
PETK	**Petropavlovsk-**	**23.70**	**24**	LR		LR	12 04 49.3	
	comp=Z,51nm,18.1s,baz=243,slow=45							
SONM	**Songino Array**	**30.89**	**310**	P		**P**	**11 53 32.6**	**+2.5**
	2.4nm,0.6s,baz=106,slow=8.1,SNR=9.2							
SONM	**Songino Array**	**30.89**	**310**	P		**P**	**11 53 31.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**40.85**	**261**	P		**P**	**11 54 56.7**	**+1.1**
	0.5nm,0.4s,baz=37,slow=9.1,SNR=1.6							
CMAR				LR		LR	12 13 15.8	
	comp=Z,24nm,18.1s,baz=264,slow=38							
ZAA0	**Zalesovo Array**	**45.42**	**316**	P		**P**	**11 55 30.8**	**-1.2**
ZALV	**Zalesovo Beam**	**45.42**	**316**	P		**P**	**11 55 32.3**	**+0.3**
	1.4nm,0.7s,baz=90,slow=7.4,SNR=6.1							
ZALV	**Zalesovo Beam**	**45.42**	**316**	P		**P**	**11 55 31.7**	**-0.3**
MK31	**Makanchi Array**	**47.02**	**306**	P		**P**	**11 55 45.0**	**+0.3**
MK31				IAmb		IAmb	11 56 00.9	
	comp=Z,5.0nm,0.9s							
MKAR	**Makanchi Array**	**47.02**	**306**	P		**P**	**11 55 45.1**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=91,slow=9.1,SNR=9.7							
MKAR				LR		LR	12 15 14.2	
	comp=Z,46nm,19.2s,baz=102,slow=36							
MKAR	**Makanchi Array**	**47.02**	**306**	P		**P**	**11 55 44.6**	**-0.1**
KURK	**Kurchatov**	**49.19**	**311**	P		**P**	**11 56 00.9**	**-0.4**
WB0	**Warramunga Arr**	**52.30**	**189**	P		**P**	**11 56 23.9**	**-1.2**
WRAB	**Tennant Creek**	**52.47**	**189**	P		**P**	**11 56 25.0**	**-1.4**
WRAB				IAmb		IAmb	11 56 40.1	
	comp=Z,8.7nm,0.9s							
WR0	**Warramunga Arr**	**52.47**	**189**	P		**P**	**11 56 26.0**	**-0.4**
WR0				IAmb		IAmb	11 56 40.0	
	comp=Z,8.2nm,0.8s							
WB2	**Warramunga Arr**	**52.48**	**189**	P		**P**	**11 56 26.3**	**-0.1**
WB2				IAmb		IAmb	11 56 40.1	
	comp=Z,8.6nm,0.8s							
WRA	**Warramunga Arr**	**52.48**	**189**	P		**P**	**11 56 25.9**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=5.5,slow=7.7,SNR=44							
WRA	**Warramunga Arr**	**52.48**	**189**	P		**P**	**11 56 25.4**	**-1.1**
ILAR	**Eielson Array**	**53.32**	**30**	P		**P**	**11 56 31.8**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=266,slow=6.6,SNR=6.5							
ILAR	**Eielson Array**	**53.32**	**30**	P		**P**	**11 56 31.9**	**-0.3**
KK31	**Karatay Array**	**55.86**	**303**	P		**P**	**11 56 51.4**	**+0.4**
KK31				IAmb		IAmb	11 57 05.8	
	comp=Z,6.9nm,1.1s							
KKAR	**Karatay Array**	**55.86**	**303**	P		**P**	**11 56 51.0**	**-0.1**
KKAR				IAmb		IAmb	11 57 05.8	
	comp=Z,6.9nm,1.1s							
KKAR	**Karatay Array**	**55.86**	**303**	P		**P**	**11 56 50.9**	**-0.1**
ASAR	**Alice Springs**	**56.20**	**189**	P		**P**	**11 56 53.2**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=0.2,slow=6.5,SNR=12							
ABKAR	**Akbulak array**	**61.28**	**312**	P		**P**	**11 57 28.5**	**-0.2**
ABKAR	**Akbulak array**	**61.28**	**312**	P		**P**	**11 57 28.1**	**-0.5**
ARCES	**ARCESS Array B**	**68.50**	**340**	LR		LR	12 33 10.4	
	comp=Z,42nm,18.3s,baz=255,slow=40							
YBH	**Yreka Blue Hor**	**72.98**	**51**	LR		LR	12 25 23.5	
	comp=Z,29nm,21.2s,baz=332,slow=31							
FINES	**FINESS Array B**	**73.13**	**333**	P		**P**	**11 58 43.8**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=102,slow=12,SNR=3.5							
KBZ	**Khabaz**	**74.24**	**312**	P		**P**	**11 58 51.3**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=45,slow=1.0,SNR=5.1							
NVAR	**Mina Array Bea**	**77.56**	**52**	LR		LR	12 26 07.7	
	comp=Z,46nm,21.3s,baz=304,slow=30							
AKASG	**Malin Array Be**	**78.22**	**323**	P		**P**	**11 59 12.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=45,slow=6.0,SNR=4.0							
NOA	**NORSAR Array B**	**78.64**	**338**	P		**P**	**11 59 15.2**	**0.0**
	comp=Z,2.1nm,0.8s,baz=40,slow=5.2,SNR=3.6							
NOA				LR		LR	12 37 25.1	
	comp=Z,23nm,20.0s,baz=355,slow=38							
BRTR	**Keskin Array B**	**82.23**	**312**	P		**P**	**11 59 34.7**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=69,slow=7.9,SNR=3.8							
CLL	**Collm**	**85.33**	**331**	*e*P		**P**	**11 59 50.0**	**-0.4**
	comp=Z,5.0nm,0.9s							
CLL				*e*			12 00 03.0	
TXAR	**Lajitas Array**	**92.70**	**53**	P		**P**	**12 00 27.3**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=317,slow=7.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**120.83**	**313**	PKP		**PKPdf**	**12 06 06.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=13,slow=2.7,SNR=2.1							

IDC ***27*** *12:05:23.8±1.2, 32°.26N×141°.92E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.5/43, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=31.7km s-min=19.5km az=66.0*

JMA ***27*** *12:05:25.6±0.3, 32°.33N×141°.91E, h34km, M3.5*

ISC 27 12:05:28.0±0.8, 32°.29N±0°.06×141°.94E±0°.08, h35km, n18, σ1s70/25, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHCJ	**Hachijojimakas**	**1.97**	**294**	P		**Pn**	**12 05 57.1**	**-1.7**
JHCJ				*e*S		**Sn**	**12 06 20.4**	**-1.9**
JHJ2	**Mitsune**	**1.97**	**295**	P		**Pn**	**12 05 57.1**	**-1.7**
JHJ2				*e*S		**Sn**	**12 06 20.9**	**-1.4**
JHJ	**Hachijo jima 2**	**2.00**	**295**	Pn		**Pn**	**12 05 57.4**	**-1.8**
	baz=36,slow=17							
JHJ				Sn		**Sn**	**12 06 23.4**	**+0.4**
	56nm,0.3s,baz=53,slow=20,SNR=2.2							
BSO1	**Boso 1**	**2.49**	**341**	P		**Pn**	**12 06 04.7**	**-0.7**
BSO2	**Boso 2**	**2.64**	**338**	*e*S		**Sn**	**12 06 38.4**	**-0.1**
BSO3	**Boso 3**	**2.77**	**335**	P		**Pn**	**12 06 08.5**	**-1.1**
BSO4	**Boso 4**	**3.00**	**334**	P		**Pn**	**12 06 13.1**	**+0.2**
JYT	**Yasato**	**4.18**	**340**	P		**Pn**	**12 06 28.4**	**-0.8**
JYT				*e*S		**Sn**	**12 07 16.1**	**-0.8**
JHO	**Hitachi**	**4.45**	**346**	P		**Pn**	**12 06 31.2**	**-1.8**
JHO				*e*S		**Sn**	**12 07 19.4**	**-4.2**
JAG	**Ashikaga**	**4.61**	**334**	P		**Pn**	**12 06 34.4**	**-0.7**
JAG				*e*S		**Sn**	**12 07 24.5**	**-2.8**
CBIJ	**Chichi jima**	**5.18**	**178**	P		**Pn**	**12 06 43.5**	**+0.4**
CBIJ				*e*S		**Sn**	**12 07 39.2**	**-2.4**
MJAR	**Matsushiro Arr**	**5.24**	**325**	Pn		**Pn**	**12 06 43.5**	**-0.3**
	0.2nm,0.3s,baz=156,slow=13,SNR=7.5							
ASAJ	**Asahikawa**	**11.81**	**2**	Pn		**Pn**	**12 08 12.4**	**-1.4**
	0.4nm,0.3s,baz=340,slow=21,SNR=5.3							
SONM	**Songino Array**	**31.00**	**310**	P		**P**	**12 11 43.0**	**+0.9**
	0.5nm,0.5s,baz=99,slow=8.9,SNR=2.4							
MKAR	**Makanchi Array**	**47.13**	**306**	P		**P**	**12 13 59.1**	**+2.4**
	0.2nm,0.4s,baz=80,slow=8.9,SNR=4.6							
WRA	**Warramunga Arr**	**52.45**	**189**	P		**P**	**12 14 37.5**	**+0.2**
	0.4nm,0.5s,baz=5.3,slow=7.7,SNR=18							
ILAR	**Eielson Array**	**53.31**	**30**	P		**P**	**12 14 44.3**	**+1.2**
	0.3nm,0.8s,baz=236,slow=6.4,SNR=1.7							
ASAR	**Alice Springs**	**56.17**	**189**	P		**P**	**12 15 05.3**	**+1.0**
	0.3nm,1.0s,baz=3.1,slow=6.4,SNR=2.5							

SKHL ***27*** *12:07:55.6±0.2, 45°.85N×153°.61E, h53km±1km, mb4.7/4*

IDC ***27*** *12:07:59.9±3.4, 46°.29N×152°.97E, h42km±30km, mb3.5/11, mb1 3.8/13, mb1mx3.5/47, mbtmp3.8/13, ML3.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/45, Error ellipse: s-maj=29.0km s-min=20.2km az=157.0*

ISC 27 12:07:58.6±0.9, 46°.2N±0°.1×153°.1E±0°.1, h35km, n26, σ1s27/26, mb3.7/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**3.81**	**257**	*e*P		**Pn**	**12 08 56.6**	**+1.9**
KUR				AMB		AMB	12 08 59.0	
	60nm,0.4s							
KUR				*i* S		**Sn**	**12 09 41.2**	**+2.9**
KUR				A		A	12 09 47.0	
	124nm,0.4s							
KUR				A		A	12 09 47.0	
	139nm,0.4s							
SKR	**Severo-Kuril's**	**4.92**	**23**	*e*P		**Pn**	**12 09 10.0**	**0.0**
SKR				AMB		AMB	12 09 14.4	
	23nm,0.4s							
SKR				*e*S		**Sn**	**12 10 06.0**	**+0.4**
SKR				A		A	12 10 07.9	
	30nm,0.6s							
SKR				A		A	12 10 07.9	
	40nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.58**	**250**	*e*P		**Pn**	**12 09 20.0**	**+1.0**
YUK				AMB		AMB	12 09 23.0	
	30nm,0.4s							
YUK				*e*S		**Sn**	**12 10 21.0**	**-0.8**
YUK				A		A	12 10 28.0	
	142nm,0.4s							
YUK				A		A	12 10 28.0	
	73nm,0.4s							
GRPR	**Tuman**	**5.65**	**250**	*e*P		**Pn**	**12 09 21.0**	**+0.9**
GRPR				AMB		AMB	12 09 25.0	
	54nm,0.4s							
GRPR				*i* S		**Sn**	**12 10 23.0**	**-0.7**
GRPR				A		A	12 10 30.0	
	80nm,0.3s							
GRPR				A		A	12 10 30.0	
	58nm,0.3s							
PAU	**Pauzhetka**	**5.81**	**23**	*e*S		**Sn**	**12 10 29.1**	**+1.4**
PAU				A		A	12 10 37.3	
	60nm,0.5s							
PAU				A		A	12 10 37.3	
	80nm,0.5s							
GLVR	**Golovnino**	**5.93**	**248**	*e*P		**Pn**	**12 09 25.0**	**+1.1**
GLVR				*e*S		**Sn**	**12 10 30.5**	**0.0**
NMR	**Nemuro--Hokkai**	**5.97**	**245**	*e*P		**Pn**	**12 09 23.0**	**-1.5**
NMR				*i* S		**Sn**	**12 10 29.0**	**-2.6**
PETK	**Petropavlovsk-**	**7.53**	**21**	P		**Pn**	**12 09 44.9**	**-1.0**
	0.5nm,0.3s,baz=168,slow=12,SNR=26							
ASAJ	**Asahikawa**	**7.73**	**258**	P		**Pn**	**12 09 50.2**	**+1.6**
	0.6nm,0.3s,baz=76,slow=20,SNR=4.9							
ASAJ				LR		LR	12 12 50.3	
	comp=Z,58nm,18.3s,baz=15,slow=38							
H11N2	**WAKE ISLAND Hy**	**28.72**	**152**	T		T	12 45 28.5	
	baz=340,slow=76,SNR=46							
H11N1	**WAKE ISLAND Hy**	**28.73**	**152**	T		T	12 45 28.4	
	baz=340,slow=76,SNR=29							
H11N3	**WAKE ISLAND Hy**	**28.73**	**152**	T		T	12 45 38.2	
	baz=340,slow=76,SNR=33							
H11S1	**WAKE ISLAND Hy**	**29.80**	**153**	T		T	12 46 55.9	
	baz=340,slow=76,SNR=31							
H11S3	**WAKE ISLAND Hy**	**29.81**	**153**	T		T	12 46 53.6	
	baz=340,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**29.82**	**153**	T		T	12 46 54.8	
	baz=340,slow=76,SNR=25							
ILAR	**Eielson Array**	**36.98**	**38**	P		**P**	**12 15 04.1**	**-0.1**
	0.3nm,0.7s,baz=256,slow=7.3,SNR=1.7							
INK	**Inuvik**	**42.12**	**32**	P		**P**	**12 15 47.0**	**+0.1**
	0.9nm,0.7s,baz=343,slow=4.4,SNR=1.8							
MKAR	**Makanchi Array**	**47.21**	**298**	P		**P**	**12 16 26.7**	**-1.1**
	0.3nm,0.5s,baz=66,slow=8.3,SNR=2.7							
MKAR				LR		LR	12 37 15.5	
	comp=Z,47nm,19.3s,baz=5.5,slow=37							
ARCES	**ARCESS Array B**	**58.39**	**341**	P		**P**	**12 17 49.2**	**-0.7**
	2.7nm,0.9s,baz=19,slow=6.8,SNR=2.1							
NVAR	**Mina Array Bea**	**62.69**	**62**	P		**P**	**12 18 21.4**	**+1.4**
	0.3nm,0.5s,baz=290,slow=8.6,SNR=3.3							
FINES	**FINESS Array B**	**64.55**	**335**	P		**P**	**12 18 31.2**	**-0.4**
	4.1nm,0.8s,baz=33,slow=5.1,SNR=7.7							
PDAR	**Pinedale Array**	**65.07**	**54**	P		**P**	**12 18 36.4**	**+0.7**
	0.1nm,0.3s,baz=296,slow=6.8,SNR=2.4							
WRA	**Warramunga Arr**	**67.99**	**199**	P		**P**	**12 18 54.0**	**-0.1**
	0.4nm,0.9s,baz=19,slow=6.9,SNR=2.5							
NOA	**NORSAR Array B**	**68.76**	**341**	P		**P**	**12 18 58.6**	**0.0**
	0.5nm,0.5s,baz=28,slow=6.5,SNR=1.7							
AKASG	**Malin Array Be**	**72.02**	**326**	P		**P**	**12 19 18.0**	**-0.6**
	2.0nm,0.4s,baz=37,slow=6.3,SNR=7.8							
TXAR	**Lajitas Array**	**77.76**	**60**	P		**P**	**12 19 53.2**	**+1.0**
	0.5nm,0.5s,baz=299,slow=4.8,SNR=7.8							

INET ***27*** *13:00:29.8, 10°.90N×86°.78W, h29km, ML2.7*

UCR 27 13:00:30.0±1.1, 10°.65N×86°.71W, h20km±4km, MW3.6, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HZTE	**Horizontes, Gu**	**1.09**	**87**	⇑*e*P		**Pn**	**13 00 50.1**	**-0.1**
GUAI	**GUAI**	**1.23**	**108**	*i* P		**Pn**	**13 00 52.2**	**+0.1**
GBS3	**Finca Las Img**	**1.24**	**84**	*i* P		**Pn**	**13 00 51.4**	**-0.8**
LAPC	**Finca la Perla**	**1.26**	**85**	*i* P		**Pn**	**13 00 51.9**	**-0.6**
LAPC				*i* S		**Sb**	**13 01 08.9**	**+0.1**
ORTG	**Ortega, Santa**	**1.26**	**103**	⇑*i* P		**Pn**	**13 00 52.6**	**+0.1**
BUEV	**Buena Vista**	**1.28**	**83**	*e*P		**Pn**	**13 00 52.4**	**-0.5**
BUEV				*i* S		**Sb**	**13 01 11.3**	**+1.6**
GB1A	**Borinquen Arri**	**1.30**	**82**	*i* P		**Pn**	**13 00 52.6**	**-0.4**
GPS3	**Bodega del ICE**	**1.32**	**85**	*i* P		**Pn**	**13 00 53.0**	**-0.4**
GPS2	**Hotel Rincn d**	**1.33**	**85**	*e*P		**Pn**	**13 00 53.2**	**-0.3**
GPS2				*i* S		**Sb**	**13 01 11.5**	**+0.4**
GPS1	**Guardaparques**	**1.34**	**85**	*i* P		**Pn**	**13 00 53.1**	**-0.5**
BUAI	**Buenos Aires**	**1.37**	**80**	⇑*i* P		**Pn**	**13 00 54.0**	**0.0**
LIM1	**Limonal**	**1.43**	**88**	*i* P		**Pn**	**13 00 54.6**	**-0.2**
HORNC	**Hornillas**	**1.50**	**87**	*i* P		**Pn**	**13 00 55.7**	**-0.2**
HORNC				*i* S		**Sb**	**13 01 16.3**	**+0.4**
CUI	**Cuipilapa**	**1.52**	**90**	*i* P		**Pn**	**13 00 56.1**	**0.0**
JTS	**Las Juntas de**	**1.76**	**102**	*e*P		**Pn**	**13 00 59.6**	**+0.2**
LAFE	**Finca La Fe, P**	**1.96**	**115**	*e*P		**Pn**	**13 01 02.0**	**0.0**
LAFE				*e*S		**Sn**	**13 01 25.8**	**-0.2**
ARE1	**Arenal 1**	**1.96**	**95**	*e*P		**Pn**	**13 01 02.8**	**+0.6**

IDC ***27*** *13:01:00.8±4.0, 33°.47N×140°.71E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/41, mbtmp3.4/5, ML2.1/1, Error ellipse: s-maj=151.5km s-min=22.9km az=68.0*

JMA ***27*** *13:01:04.1±0.6, 33°.90N×141°.33E

DZM	**Mont Dzumac**	**10.06 181**	Pn	**Pn**	**13 14 03.8 +1.0**	MQZ	**McQueen's Vall**	**32.07 172**	P	**P**	**13 17 55.7 +0.3**
MSVF	**Nonsavu**	**12.48 119**	P	**P**	**13 14 44.5 +3.6**	LBZ	**Lake Benmore**	**32.46 175**	P	**P**	**13 17 58.9 0.0**
MSVF	**Nonsavu**	**12.48 119**	P	**P**	**13 14 44.5 +3.6**	LBZ			IAmb	IAmb	13 18 01.8
FUNA	**Funafuti**	**12.87 76**	Pn	**Pn**	**13 14 40.4 +0.7**		comp=Z,43nm,1.1s				
KRVT	**Keravat (AS076**	**16.28 297**	LR	LR	13 21 10.9	WKZ	**Wanaka**	**32.82 177**	P	**P**	**13 18 02.3 +0.3**
	comp=Z,183nm,21.3s,baz=105,slow=35					HTT	**Hallett**	**33.10 225**	P	**P**	**13 18 05.5 +0.9**
PMG	**Port Moresby**	**19.25 276**	P	**P**	**13 15 54.6 -1.0**		baz=33,SNR=12				
	0.3nm,0.3s,baz=107,slow=5.4,SNR=2.7					AS31	**Alice Springs**	**33.13 245**	P	**P**	**13 18 03.9 -1.1**
PMG	**Port Moresby**	**19.25 276**⇓	*e*P	**P**	**13 15 55.7 +0.1**	AS31			PcP	**PcP**	**13 20 45.1 +0.1**
PMG			pmax	pmax		ASAR	**Alice Springs**	**33.13 245**	P	**P**	**13 18 03.8 -1.2**
	comp=Z,47nm,1.4s						comp=Z,13nm,0.8s,baz=75,slow=9.4,SNR=106				
PMG	**Port Moresby**	**19.25 276**	P	**P**	**13 15 54.9 -0.7**	ASAR			PcP	**PcP**	**13 20 45.2 +0.1**
EIDS	**Eidsvold**	**19.81 226**	P	**P**	**13 16 03.3 +1.7**		comp=Z,12nm,0.8s,baz=81,slow=2.7,SNR=30				
	baz=20,SNR=19					ASAR			ScP	**ScP**	**13 24 19.8 +3.1**
EIDS	**Eidsvold**	**19.81 226**	P	**P**	**13 16 02.7 +1.1**		comp=Z,2.2nm,0.9s,baz=64,slow=3.6,SNR=9.5				
EIDS			IAmb	IAmb	13 16 04.5	ASAR			PKiKP	**PKiKP**	**13 28 09.6 -1.4**
	comp=Z,83nm,1.1s						comp=Z,0.6nm,0.8s,baz=105,slow=1.8,SNR=8.0				
PATS	**Pohnpei**	**20.40 336**	P	**P**	**13 16 08.3 +0.4**	ASAR			LR	LR	13 31 21.7
	baz=20,SNR=5.3						comp=Z,126nm,19.0s,baz=74,slow=36				
PATS	**Pohnpei**	**20.40 336**	P	**P**	**13 16 07.2 -0.7**	ASAR	**Alice Springs**	**33.13 245**	P	**P**	**13 18 03.6 -1.4**
PATS			IAmb	IAmb	13 16 08.8	ASAR			PcP	**PcP**	**13 20 44.5 -0.6**
	comp=Z,174nm,1.4s					ASAR			ScP	**ScP**	**13 24 19.4 +2.8**
CTA	**Charters Tower**	**21.13 245**	P	**P**	**13 16 16.4 +0.6**	ODZ	**Otahua Downs**	**33.16 175**	P	**P**	**13 18 04.8 -0.1**
	comp=Z,13nm,0.9s,baz=79,slow=12,SNR=17					ODZ			IAmb	IAmb	13 18 06.0
CTA			PcP	**PcP**	**13 20 16.7 +0.3**		comp=Z,34nm,1.3s				
	comp=Z,4.0nm,0.7s,baz=146,slow=3.9,SNR=6.1					ARPS	**Mount Arapiles**	**33.25 218**	P	**P**	**13 18 07.3 +1.5**
CTAO	**Charters Tower**	**21.13 245**	P	**P**	**13 16 15.9 +0.2**		baz=33,SNR=5.3				
CTAO			pmax	pmax		KDU	**Kakadu**	**33.32 265**	P	**P**	**13 18 06.6 0.0**
	comp=Z,29nm,1.1s						baz=33,SNR=18				
CTAO	**Charters Tower**	**21.13 245**	P	**P**	**13 16 15.9 +0.2**	MLZ	**Mavora Lakes**	**33.32 178**	P	**P**	**13 18 07.2 +0.9**
RMQ	**Roma**	**22.14 227**	P	**P**	**13 16 27.6 +1.2**	MLZ			IAmb	IAmb	13 18 17.6
	baz=22,SNR=21						comp=Z,26nm,1.0s				
MTSU	**Mount Surprise**	**22.35 251**	P	**P**	**13 16 29.6 +1.1**	DCZ	**Deep Cove**	**33.40 179**	P	**P**	**13 18 07.5 +0.6**
	baz=22,SNR=20					DCZ			IAmb	IAmb	13 18 08.8
ARMA	**Armidale**	**23.02 215**	P	**P**	**13 16 36.1 +1.3**		comp=Z,38nm,1.0s				
	baz=23,SNR=34					WHZ	**Wether Hill Ro**	**33.84 178**	P	**P**	**13 18 11.1 +0.3**
ARMA	**Armidale**	**23.02 215**	P	**P**	**13 16 35.6 +0.8**	WHZ			IAmb	IAmb	13 18 11.9
ARMA			IAmb	IAmb	13 16 38.2		comp=Z,37nm,1.2s				
	comp=Z,156nm,1.1s					MTN	**Manton Dam**	**34.62 265**	P	**P**	**13 18 18.3 +0.5**
KNTN	**Kanton**	**23.35 69**	P	**P**	**13 16 39.0 +1.0**		baz=35,SNR=7.8				
KNTN			IAmb	IAmb	13 16 40.5	MTN	**Manton Dam**	**34.62 265**	P	**P**	**13 18 17.8 -0.1**
	comp=Z,38nm,0.7s					MTN			IAmb	IAmb	13 18 18.9
NIUE	**Niue**	**23.70 110**	P	**P**	**13 16 41.3 +0.2**		comp=Z,33nm,1.1s				
OUZ	**Omahuta**	**24.02 166**	P	**P**	**13 16 44.7 +1.0**	BBOO	**Buckleboo**	**34.83 228**	P	**P**	**13 18 19.8 +0.3**
TOZ	**Tahuroa Road**	**26.88 164**	P	**P**	**13 17 11.7 +2.1**		baz=35,SNR=41				
QIS	**Mount Isa**	**27.24 248**	P	**P**	**13 17 13.0 -0.1**	BBOO	**Buckleboo**	**34.83 228**	P	**P**	**13 18 19.5 +0.1**
	baz=27,SNR=3.1					BBOO			IAmb	IAmb	13 18 20.8
CMSA	**Cobar Meteorol**	**27.40 221**	P	**P**	**13 17 14.8 +0.5**		comp=Z,40nm,0.8s				
	baz=28,SNR=17					KNRA	**Kununurra**	**36.88 260**	P	**P**	**13 18 36.9 -0.2**
MXZ	**Matakaoa Point**	**27.58 160**	P	**P**	**13 17 16.0 +0.2**		baz=37,SNR=28				
RRRZ	**Republican Roa**	**27.73 163**	P	**P**	**13 17 20.6 +3.4**	KNRA	**Kununurra**	**36.88 260**	P	**P**	**13 18 36.9 -0.2**
YNG	**Young**	**27.73 214**	P	**P**	**13 17 18.5 +1.2**	WRKA	**Warakurna**	**38.43 245**	P	**P**	**13 18 49.5 -0.6**
	baz=28,SNR=7.6						baz=38,SNR=56				
WPRZ	**Whakapapatarin**	**27.80 164**	P	P	13 17 10.5 -7.3	FITZ	**Fitzroy Crossi**	**39.95 256**	P	**P**	**13 19 02.6 -0.2**
URZ	**Urewera**	**27.83 162**	P	**P**	**13 17 18.1 +0.1**		baz=40,SNR=63				
	comp=Z,15nm,0.8s,baz=26,slow=4.2,SNR=2.9					FITZ	**Fitzroy Crossi**	**39.95 256**	P	**P**	**13 19 02.1 -0.6**
URZ	**Urewera**	**27.83 162**	P	**P**	**13 17 19.3 +1.3**	FITZ			IAmb	IAmb	13 19 03.9
URZ	**Urewera**	**27.83 162**	P	**P**	**13 17 18.2 +0.2**		comp=Z,52nm,0.9s				
PRRZ	**Plateau Road**	**27.84 163**	P	**P**	**13 17 21.4 +3.2**	FITZ				**PcP**	**13 21 06.5 +0.9**
MUGZ	**Murupara**	**27.93 163**	P	**P**	**13 17 20.1 +1.1**	NLAI	**Namlea**	**40.03 279**	P	**P**	**13 19 06.0 +2.4**
CNB	**Canberra Magne**	**28.01 211**	P	**P**	**13 17 20.9 +1.1**		comp=Z,958nmcomp=Z,51nm,1.3s				
	baz=28,SNR=4.8					FORT	**Forrest**	**40.21 236**	P	**P**	**13 19 05.3 +0.5**
RATZ	**Rangitukua**	**28.02 165**	P	**P**	**13 17 22.2 +2.4**		baz=40,SNR=24				
MWZ	**Matawai**	**28.03 161**	P	**P**	**13 17 20.9 +1.1**	FORT	**Forrest**	**40.21 236**	P	**P**	**13 19 04.8 +0.1**
CAN	**Canberra**	**28.20 212**	P	**P**	**13 17 22.0 +0.6**	SANI	**Sanana**	**41.42 281**	P	**P**	**13 19 15.6 +0.7**
CAN			pmax	pmax			comp=Z,40nm,1.2s				
	comp=Z,32nm,1.3s					SOEI	**Soe**	**41.59 269**	P	**P**	**13 19 17.4 +0.9**
CAN	**Canberra**	**28.20 212**	P	**P**	**13 17 22.0 +0.6**		comp=Z,45nm,1.2s				
CAN			IAmb	IAmb	13 17 43.9	SOEI	**Soe**	**41.59 269**	P	**P**	**13 19 16.4 -0.1**
	comp=Z,32nm,1.3s					SOEI			IAmb	IAmb	13 19 18.1
NGZ	**Ngauruhoe**	**28.27 165**	P	**P**	**13 17 24.4 +2.3**		comp=Z,40nm,1.0s				
OTVZ	**Oturere**	**28.27 165**	P	**P**	**13 17 24.9 +2.7**	BATI	**Baumata**	**42.12 268**	P	**P**	**13 19 22.1 +1.4**
TUVZ	**Tukino**	**28.37 165**	P	**P**	**13 17 25.4 +2.4**		comp=Z,77nm,1.0s				
RIGZ	**Rimuhau**	**28.44 161**	P	**P**	**13 17 23.9 +0.3**	PPT2	**Papeete2**	**42.69 103**	*e*S	**S**	**13 25 36.7 -2.0**
BKZ	**Black Stump Fm**	**28.49 164**	P	**P**	**13 17 24.3 +0.2**		comp=Z,82nm,26.5s				
BKZ	**Black Stump Fm**	**28.49 164**	P	**P**	**13 17 24.1 +0.1**	PPT2			*e*LQ	LQ	13 29 40.5
BKZ			IAmb	IAmb	13 17 26.5		comp=Z,228nm,24.2s				
	comp=Z,27nm,0.8s					PPT2			*e*LR	LR	13 31 33.5
NMHZ	**Naumai**	**28.52 163**	P	**P**	**13 17 25.1 +0.8**		comp=Z,395nm,38.0s				
WAZ	**Wanganui**	**28.67 166**	P	**P**	**13 17 25.8 +0.3**	PPTF	**Pamatai, Papee**	**42.70 103**	P	**P**	**13 19 26.0 +0.6**
QRZ	**Quartz Range**	**29.23 171**	P	**P**	**13 17 31.6 +1.1**	TIAR	**Tiarei**	**42.91 103**	*e*P	**P**	**13 19 27.0 0.0**
NNZ	**Nelson**	**29.75 170**	P	**P**	**13 17 37.9 +2.9**		comp=Z,3.2nm,0.7s				
NNZ	**Nelson**	**29.75 170**	P	**P**	**13 17 36.2 +1.1**	TVO	**Tarawa**	**43.00 103**	*e*P	**P**	**13 19 27.8 0.0**
NNZ			IAmb	IAmb	13 17 50.1		comp=Z,7.5nm,1.2s				
	comp=Z,60nm,1.3s					TBI	**Tubuai**	**43.23 111**	*e*LQ	LQ	13 29 52.8
BFZ	**Birch Farm**	**29.85 165**	P	**P**	**13 17 35.3 -0.6**		comp=Z,407nm,28.2s				
BFZ			IAmb	IAmb	13 17 36.4	TBI			*e*LR	LR	13 31 39.9
	comp=Z,44nm,0.7s						comp=Z,134nm,36.5s				
TIWZ	**Tintock**	**29.85 166**	P	**P**	**13 17 36.8 +0.8**	MMRI	**Maumere**	**43.72 270**	P	**P**	**13 19 33.4 -0.1**
TCW	**Tory Channel**	**29.91 168**	P	**P**	**13 17 36.4 -0.1**		comp=Z,1µmcomp=Z,97nm,1.1s				
DSZ	**Denniston Nort**	**30.03 172**	P	**P**	**13 17 40.2 +2.6**	MMRI	**Maumere**	**43.72 270**	P	**P**	**13 19 32.4 -1.2**
TUWZ	**Tuamarina**	**30.06 169**	P	**P**	**13 17 37.5 -0.2**	MEH	**Metia**	**44.13 103**	*e*P	**P**	**13 19 37.2 +0.4**
SNZO	**South Karori**	**30.10 168**	P	**P**	**13 17 38.0 -0.1**		comp=Z,7.2nm,0.8s				
THZ	**Tophouse**	**30.20 171**	P	**P**	**13 17 39.7 +0.6**	EDFI	**Ende, Flores**	**44.24 270**	P	**P**	**13 19 37.3 -0.5**
BHW	**Baring Head**	**30.23 168**	P	**P**	**13 17 38.8 -0.4**		comp=Z,20nm,1.3s				
H11S2	**WAKE ISLAND Hy**	**30.25 0**	T	T	13 48 22.6	PMOR	**Pomariorio Ree**	**44.32 99**	*e*P	**P**	**13 19 38.4 +0.1**
	baz=181,slow=76,SNR=29						comp=Z,50nm,1.1s				
H11S3	**WAKE ISLAND Hy**	**30.26 0**	T	T	13 48 23.8	VAH	**Vaihoa**	**44.57 100**	*e*P	**P**	**13 19 40.2 0.0**
	baz=181,slow=76,SNR=15						comp=Z,31nm,1.0s				
H11S1	**WAKE ISLAND Hy**	**30.27 0**	T	T	13 48 27.2	LUWI	**Luwuk**	**44.78 281**	P	**P**	**13 19 42.1 +0.2**
	baz=181,slow=76,SNR=17					LUWI			IAmb	IAmb	13 19 53.8
MSWZ	**Moikau Station**	**30.32 167**	P	**P**	**13 17 39.5 -0.5**		comp=Z,52nm,1.0s				
PAWZ	**Paruwai Farm**	**30.32 167**	P	**P**	**13 17 37.8 -2.3**	GTOI	**Gorontalo**	**45.03 283**	P	**P**	**13 19 47.9 +3.9**
BSWZ	**Blackbirch Sta**	**30.33 169**	P	**P**	**13 17 39.7 -0.4**		comp=Z,16nm,0.9s				
STKA	**Stephens Creek**	**30.37 225**	P	**P**	**13 17 41.3 +0.7**	KMBL	**Kambalda**	**45.44 238**	P	**P**	**13 19 47.3 +0.2**
	comp=Z,27nm,0.7s,baz=54,slow=8.8,SNR=37						baz=46,SNR=19				
STKA			PcP	**PcP**	**13 20 37.3 -0.1**	PSA00	**Pilbara Seismi**	**45.61 252**	P	**P**	**13 19 48.6 +0.2**
	comp=Z,2.0nm,0.7s,baz=349,slow=5.2,SNR=1.5					PSA00			IAmb	IAmb	13 19 50.0
STKA			LR	LR	13 30 08.9		comp=Z,78nm,1.1s				
	comp=Z,143nm,18.2s,baz=46,slow=36					PSA00	**Pilbara Seismi**	**45.61 252**	P	**P**	**13 19 47.5 -0.9**
STKA	**Stephens Creek**	**30.37 225**	P	**P**	**13 17 41.4 +0.7**	PSA00			IAmb	IAmb	13 19 49.2
	baz=30,SNR=30						comp=Z,50nm,1.1s				
STKA	**Stephens Creek**	**30.37 225**	P	**P**	**13 17 41.0 +0.3**	APSI	**Ampana**	**45.90 280**	P	**P**	**13 19 52.4 +1.6**
CMWZ	**Cape Campbell**	**30.42 169**	P	**P**	**13 17 40.3 -0.6**		comp=Z,602nmcomp=Z,42nm,1.0s				
PLWZ	**Palliser**	**30.46 167**	P	**P**	**13 17 41.0 -0.4**	BNSI	**Bone**	**46.55 275**	P	**P**	**13 19 56.8 +0.9**
KHZ	**Kahutara**	**30.95 170**	P	**P**	**13 17 44.2 -1.3**		comp=Z,627nmcomp=Z,69nm,1.1s				
KHZ	**Kahutara**	**30.95 170**	P	**P**	**13 17 44.9 -0.7**	MEEK	**Meekatharra**	**47.29 245**	P	**P**	**13 20 01.9 +0.3**
LTZ	**Lake Taylor**	**31.11 172**	P	**P**	**13 17 47.7 +0.7**		baz=47,SNR=36				
FOZ	**Fox Glacier**	**31.59 176**	P	**P**	**13 17 51.2 +0.1**	MPSI	**Mapaga**	**47.92 281**	P	**P**	**13 20 06.3 -0.2**
FOZ	**Fox Glacier**	**31.59 176**	P	**P**	**13 17 51.9 +0.7**		comp=Z,572nmcomp=Z,44nm,1.0s				
TOO	**Toolangi**	**31.74 213**	P	**P**	**13 17 53.7 +1.1**	PLAI	**Plampang**	**48.06 269**	P	**P**	**13 20 07.9 +0.3**
	baz=32,SNR=15						comp=Z,70nm,1.2s				
TOO	**Toolangi**	**31.74 213**	P	**P**	**13 17 53.2 +0.6**	KLBR	**Kellerberrin**	**48.92 238**	P	**P**	**13 20 13.5 -0.4**
TOO			pmax	pmax			baz=49,SNR=46				
	comp=Z,24nm,0.8s					TWSI	**Taliwang, Sumb**	**48.95 269**	P	**P**	**13 20 16.5 +2.1**
TOO	**Toolangi**	**31.74 213**	P	**P**	**13 17 53.2 +0.6**		comp=Z,28nm,0.9s				
TOO			IAmb	IAmb	13 17 54.0	BLDU	**Ballidu**	**49.61 240**	P	**P**	**13 20 19.2 0.0**
	comp=Z,24nm,0.8s						baz=50,SNR=9.5				
WR0	**Warramunga Arr**	**31.77 251**	P	**P**	**13 17 52.3 -0.9**	NWAO	**Narrogin (SRO)**	**49.65 237**	LR	LR	13 42 08.5
WR0				**PcP**	**13 20 42.4 +1.1**		comp=Z,216nm,18.1s,baz=72,slow=37				
WB0	**Warramunga Arr**	**31.88 252**	P	**P**	**13 17 53.4 -0.6**	NWAO	**Narrogin (SRO)**	**49.65 237**	P	**P**	**13 20 19.5 0.0**
WB0			IAmb	IAmb	13 17 54.5		baz=50,SNR=12				
	comp=Z,42nm,1.1s					NWAO	**Narrogin (SRO)**	**49.65 237**	P	**P**	**13 20 19.0 -0.4**
WB0				**PcP**	**13 20 42.6 +1.0**	NWAO			pmax	pmax	
RPZ	**Rata Peaks**	**31.88 174**	P	**P**	**13 17 53.8 +0.1**		comp=Z,57nm,1.0s				
	comp=Z,33nm,0.7s,baz=256,slow=4.6,SNR=27					NWAO	**Narrogin (SRO)**	**49.65 237**	P	**P**	**13 20 19.0 -0.4**
RPZ	**Rata Peaks**	**31.88 174**	P	**P**	**13 17 52.5 -1.3**	NWAO			IAmb	IAmb	13 20 20.5
RPZ	**Rata Peaks**	**31.88 174**	P	**P**	**13 17 54.5 +0.7**		comp=Z,57nm,1.0s				
RPZ			IAmb	IAmb	13 17 57.7	MORW	**Morawa**	**49.91 242**	P	**P**	**13 20 21.9 +0.4**
	comp=Z,31nm,0.7s						baz=50,SNR=11				
WRAB	**Tennant Creek**	**31.95 252**	P	**P**	**13 17 53.5 -1.1**	MORW	**Morawa**	**49.91 242**	P	**P**	**13 20 21.1 -0.5**
WRAB					13 20 42.3	MORW			IAmb	IAmb	13 20 22.8
WRAB			pmax	pmax			comp=Z,58nm,1.0s				
	comp=Z,37nm,1.3s					RKGY	**Rocky Gully**	**50.25 235**	P	**P**	**13 20 24.8 +0.8**
WRAB	**Tennant Creek**	**31.95 252**	P	**P**	**13 17 53.5 -1.1**		baz=50,SNR=6.8				
WRAB			IAmb	IAmb	13 17 55.0	MUN	**Mundaring**	**50.29 238**	P	**P**	**13 20 24.7 +0.4**
	comp=Z,37nm,1.2s						baz=50,SNR=14				
WRAB				**PcP**	**13 20 42.3 +0.5**	MYLDM	**Lahad Datu**	**50.75 287**	P	**P**	**13 20 27.6 -0.4**
WB2	**Warramunga Arr**	**31.95 251**	P	**P**	**13 17 53.7 -1.0**	MYLDM			IAmb	IAmb	13 20 31.8
WB2			IAmb	IAmb	13 17 55.1		comp=Z,46nm,1.1s				
	comp=Z,36nm,1.2s					GIRL	**Giralia**	**50.87 251**	P	**P**	**13 20 30.7 +1.9**
WB2			PcP	**PcP**	**13 20 42.1 +0.3**		baz=51,SNR=3.2				
WRA	**Warramunga Arr**	**31.96 251**	P	**P**	**13 17 53.8 -1.0**	GIRL	**Giralia**	**50.87 251**	P	**P**	**13 20 30.1 +1.3**
	comp=Z,11nm,0.9s,baz=82,slow=8.8,SNR=103					JAGI	**Jajag, Banyuwa**	**51.66 269**	P	**P**	**13 20 33.5 -1.3**
WRA			PcP	**PcP**	**13 20 42.5 +0.7**	BBKI	**Banjar Baru**	**51.89 275**	P	**P**	**13 20 37.8 +1.3**
	comp=Z,10nm,0.9s,baz=79,slow=2.9,SNR=27						comp=Z,5µmcomp=Z,30nm,1.2s				
WRA			ScP	**ScP**	**13 24 15.7 +3.1**	BLJI	**Banyuglugur**	**52.31 269**	P	**P**	**13 20 40.0 +0.4**
	comp=Z,0.9nm,0.8s,baz=80,slow=3.9,SNR=5.1						comp=Z,77nm,1.0s				
WRA			PKiKP	**PKiKP**	**13 28 09.2 -1.0**	TAOE	**Nuku Hiva Isla**	**52.42 92**	*e*LR	LR	13 35 54.3
	comp=Z,1.1nm,0.7s,baz=0.0,slow=0.6,SNR=15						comp=Z,64nm,21.4s				
WRA			LR	LR	13 30 30.8	SPMM	**Sapulut**	**52.51 285**	P	**P**	**13 20 42.0 +0.9**
	comp=Z,156nm,18.6s,baz=85,slow=35					JYT	**Yasato**	**54.01 334**	P	**P**	**13 20 51.6 +0.1**
WRA	**Warramunga Arr**	**31.96 251**	P	**P**	**13 17 52.8 -2.0**	JYT			IAmb	IAmb	13 20 52.5
WRA				**PcP**	**13 20 41.1 -0.8**		comp=Z,19nm,0.8s				
						PWJI	**Pagerwojo**	**54.02 269**	P	**P**	**13 20 53.0 +0.9**
							comp=Z,47nm,0.9s				
						INU	**Inuyama**	**54.74 330**	P	**P**	**13 20 57.1 +0.2**
						INU			IAmb	IAmb	13 21 24.8
							comp=Z,34nm,1.5s				
						JGF	**Kuroka**	**54.78 331**	P	**P**	**13 20 57.7 +0.4**
						JGF			IAmb	IAmb	13 21 10.0
							comp=Z,23nm,1.2s				
						JMN	**Monobe**	**55.07 327**	P	**P**	**13 20 59.6 +0.2**
						MJAR	**Matsushiro Arr**	**55.15 332**	P	**P**	**13 20 59.4 -0.5**
							comp=Z,3.7nm,0.6s,baz=168,slow=8.4,SNR=7.5				
						MJAR	**Matsushiro Arr**	**55.15 332**	P	**P**	**13 20 59.7 -0.2**
						MJAR			pmax	pmax	
							comp=Z,5.0nm,0.8s				
						MJAR	**Matsushiro Arr**	**55.15 332**	P	**P**	**13 20 59.7 -0.2**
						MAJO	**Matsushiro**	**55.15 332**⇓	*e*P	**P**	**13 20 58.1 -1.8**
						MAJO			pmax	pmax	
							comp=Z,31nm,1.6s				
						MAJO	**Matsushiro**	**55.15 332**	P	**P**	**13 20 59.2 -0.7**
						MAT	**Matsushiro**	**55.15 332**	P	**P**	**13 20 59.0 -0.9**
						MAT			*e*S	**S**	**13 28 30.2 -2.1**
						UGM	**Wanagama**	**55.29 269**	P	**P**	**13 21 01.4 +0.1**
						JWT	**Wachi**	**55.49 329**	P	**P**	**13 21 03.5 +1.2**
						JWT			IAmb	IAmb	13 21 12.9
							comp=Z,33nm,1.3s				
						SBUM	**Sibu**	**55.88 281**	P	**P**	**13 21 04.4 -1.1**
						SBUM			IAmb	IAmb	13 21 07.3
							comp=Z,18nm,1.0s				
						SBUM	**Sibu**	**55.88 281**	P	**P**	**13 21 06.0 +0.5**
						JNU	**Nakatsue**	**56.29 324**	P	**P**	**13 21 08.9 +0.8**
							comp=Z,24nm,0.9s,baz=112,slow=5.5,SNR=6.8				
						JNU	**Nakatsue**	**56.29 324**	P	**P**	**13 21 07.6 -0.5**
						JNU			IAmb	IAmb	13 21 09.8
							comp=Z,46nm,1.1s				
						JHS	**Saijyo**	**56.45 327**	P	**P**	**13 21 09.3 +0.1**
						JHS			IAmb	IAmb	13 21 14.4
							comp=Z,58nm,1.4s				
						YULB	**Yu-li**	**56.54 309**	P	**P**	**13 21 10.9 +0.9**
						TPUB	**Ta-pu**	**57.00 308**	P	**P**	**13 21 12.9 -0.4**
						SSLB	**Suanglung**	**57.02 309**	P	**P**	**13 21 13.3 -0.1**
						SSLB			IAmb	IAmb	13 21 14.0
							comp=Z,56nm,1.4s				
						YHNB	**Yeheng**	**57.19 310**	P	**P**	**13 21 14.1 -0.6**
						KSM	**Kuching**	**57.46 280**	P	**P**	**13 21 15.6 -1.1**
						KSM			IAmb	IAmb	13 21 17.8
							comp=Z,24nm,1.1s				
						KSM	**Kuching**	**57.46 280**	P	**P**	**13 21 17.0 +0.3**
						JTM	**Tenmabayashi**	**57.54 337**	P	**P**	**13 21 17.4 +0.6**
						ERM	**Erimo**	**57.87 340**	*ce*P	**P**	**13 21 19.5 +0.6**
						ERM			pmax	pmax	
							comp=Z,353nm,3.6s				
						CISI	**Cisompet, Garu**	**58.00 269**	P	**P**	**13 21 21.1 +0.6**
							comp=Z,82nm,1.2s				
						LEM	**Lembang**	**58.31 269**	LR	LR	13 48 33.2
							comp=Z,31nm,18.9s,baz=318,slow=38				
						CBJI	**Citeko**	**59.13 270**	P	P	13 21 34.4 +6.1
						JKA	**Kamikawa-asahi**	**59.92 340**	P	**P**	**13 21 33.7 +0.6**
						JKA			IAmb	IAmb	13 21 34.5
							comp=Z,19nm,0.9s				
						ASAJ	**Asahikawa**	**59.92 340**	P	**P**	**13 21 33.7 +0.6**
						ASAJ			pmax	pmax	
							comp=Z,19nm,0.9s				
						CGJI	**Cibinong**	**60.23 269**	P	**P**	**13 21 35.4 -0.4**
							comp=Z,2µmcomp=Z,148nm,1.2s				
						PPBI	**Pangkal Pinang**	**60.66 274**	P	**P**	**13 21 39.6 +0.9**
							comp=Z,34nm,1.1s				
						KSRS	**Korea Array**	**61.09 325**	P	**P**	**13 21 41.4 +0.3**
							comp=Z,4.1nm,0.8s,baz=140,slow=6.9,SNR=12				
						KSRS			LR	LR	13 47 41.6
							comp=Z,20nm,18.6s,baz=112,slow=35				
						KSAR	**Wonju Array Be**	**61.10 325**	P	**P**	**13 21 40.4 -0.8**
						KSAR	**Wonju Array Be**	**61.10 325**	P	**P**	**13 21 40.4 -0.8**
						MDSI	**Maura Dua**	**62.10 271**	P	**P**	**13 21 48.9 +0.5**
							comp=Z,21nm,1.6s				
						YSS	**Yuzh-Sakhalins**	**62.40 342**	*e*P	**P**	**13 21 49.2 -0.5**
						YSS			pmax	pmax	
							comp=Z,30nm,1.1s				
						NJ2	**Nanjing**	**63.24 315**	⇓P	**P**	**13 21 56.8 +1.2**
						NJ2			pmax	pmax	
							comp=Z,16nm,0.5s				
						MNAI	**Manna**	**63.32 271**	P	**P**	**13 21 55.4 -1.2**
						MYKOM	**Kota Tinggi**	**63.78 278**	P	**P**	**13 22 01.0 +1.4**
						USRK	**Ussuriysk Ar.**	**64.12 333**	P	**P**	**13 22 02.8 +1.6**
							comp=Z,9.4nm,0.9s,baz=152,slow=5.8,SNR=9.0				
						USRK	**Ussuriysk Ar.**	**64.12 333**	P	**P**	**13 22 01.8 +0.7**
						PET	**Petropavlovsk**	**65.07 355**⇓	*e*P	**P**	**13 22 09.5 +2.4**
						PETK	**Petropavlovsk-**	**65.25 354**	P	**P**	**13 22 06.9 -1.4**
							comp=Z,1.3nm,0.7s,baz=190,slow=5.9,SNR=1.1				
						PETK			LR	LR	13 46 26.8
							comp=Z,30nm,20.9s,baz=153,slow=32				
						VNDA	**Vanda**	**65.60 181**	P	**P**	**13 22 11.0 +0.7**
							comp=Z,18nm,1.1s,baz=2.1,slow=7.0,SNR=40				
						VNDA	**Vanda**	**65.60 181**	P	**P**	**13 22 11.0 +0.7**
						VNDA	**Vanda**	**65.60 181**	P	**P**	**13 22 10.7 +0.4**
						VNDA			IAmb	IAmb	13 22 12.3
							comp=Z,24nm,1.1s				
						WHN	**Wuhan**	**65.61 312**	P	**P**	**13 22 11.5 +0.5**
						BKNI	**Bangkinang**	**66.17 276**	P	**P**	**13 22 16.5 +1.5**
							comp=Z,1µmcomp=Z,117nm,1.1s				
						BKNI	**Bangkinang**	**66.17 276**	P	**P**	**13 22 14.3 -0.8**
						UBPT	**Khong Chiam**	**66.27 293**	P	**P**	**13 22 14.3 -1.3**
						UBPT			IAmb	IAmb	13 22 17.5
							comp=Z,17nm,0.8s				
						CN2	**Changchun**	**66.94 329**	*e*P	**P**	**13 22 20.0 +0.7**
						CN2			*e*S	**S**	**13 30 56.5 -4.9**
						CN2			pmax	pmax	
							comp=Z,20nm,0.8s				
						CN2			pmax	pmax	
							comp=Z,110nm,3.9s				
						CN2			LR	LR	
							comp=Z,160nm,13.0s				
						CN2			LR	LR	
							comp=Z,120nm,13.0s				
						CN2			LR	LR	
							comp=Z,230nm,14.0s				
						IPM

comp=Z,61nm,1.0s
KMI pmax pmax
comp=Z,130nm,4.3s
HHC Hu-ho-hao-te 73.05 319 *e*P **P 13 22 57.0 +0.2**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,72nm,5.5s
CM31 Chiang Mai Arr 73.22 294 P **P 13 22 59.0 +0.8**
CM31 IAmb IAmb 13 23 00.5
comp=Z,35nm,0.9s
CMAR Chiang Mai Arr 73.22 294 P **P 13 22 59.2 +1.1**
comp=Z,18nm,0.9s,baz=118,slow=4.3,SNR=98
CMAR Chiang Mai Arr 73.22 294 P **P 13 22 58.7 +0.6**
ZEA Zeya 73.50 337 *e*P **P 13 23 00.6 +1.6**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA pmax pmax
comp=Z,32nm,1.2s
HIA Hailar 73.56 330 P **P 13 22 59.9 +0.4**
HIA pmax pmax
comp=Z,15nm,0.8s
HIA Hailar 73.56 330 P **P 13 22 59.9 +0.4**
CD2 Chengdu 73.80 307 P **P 13 23 02.0 +0.6**
CD2 pmax pmax
comp=Z,60nm,1.1s
SEY Seymchan 75.47 353⇓ *e*P **P 13 23 10.0 -0.1**
LZH Lanzhou 75.97 312 *e*P **P 13 23 14.5 +0.6**
LZH pP pP 13 23 49.0 +1.4
LZH pmax pmax
comp=Z,27nm,1.3s
OHAK Old Harbor 76.45 21 P **P 13 23 15.5 -0.3**
KDAK Kodiak Island 77.12 21 P **P 13 23 19.6 0.0**
KDAK pmax pmax
comp=Z,19nm,1.4s
KDAK Kodiak Island 77.12 21 P **P 13 23 19.6 0.0**
QSPA South Pole Qui 78.06 180 P **P 13 23 25.4 +0.4**
CNPM China Poot 78.90 20 P **P 13 23 30.3 +0.8**
YAK Yakutsk 79.20 343*c i*P **P 13 23 30.5 -0.4**
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 79.20 343 P **P 13 23 30.6 -0.3**
YAK IAmb IAmb 13 23 31.8
comp=Z,19nm,0.6s
ULN Ulaanbaatar 79.52 324*c i*P **P 13 23 33.6 +0.3**
ULN pmax pmax
comp=Z,41nm,1.3s
ULN Ulaanbaatar 79.52 324 P **P 13 23 33.5 +0.3**
ULN IAmb IAmb 13 23 35.1
comp=Z,23nm,0.8s
BILL Bilibino 79.78 360 *e*P **P 13 23 33.6 -0.4**
BILL *e* 13 23 40.0
BILL *e* 13 26 37.4
BILL pmax pmax
comp=Z,31nm,1.2s
BILL Bilibino 79.78 360 P **P 13 23 34.1 +0.1**
BILL IAmb IAmb 13 23 35.1
comp=Z,31nm,1.2s
SONM Songino Array 79.88 324 P **P 13 23 35.6 +0.4**
comp=Z,7.2nm,0.7s,baz=143,slow=7.0,SNR=19
SONM LR LR 13 59 25.4
comp=Z,14nm,18.6s,baz=57,slow=36
SONM Songino Array 79.88 324 P **P 13 23 35.5 +0.4**
GTA Gaotai 80.28 314 ⇑P **P 13 23 38.8 +1.3**
GTA pP pP 13 24 08.0 -3.4
GTA sP sP 13 24 25.0 -0.8
GTA PP **PP 13 26 40.3 -1.9**
GTA pmax pmax
comp=Z,27nm,1.2s
GTA pmax pmax
comp=Z,150nm,4.4s
GTA LR LR
comp=Z,63nm,17.5s
GTA LR LR
comp=Z,110nm,16.7s
GTA LR LR
comp=Z,99nm,16.4s
SHL Shillong 81.67 298 P **P 13 23 45.0 -0.2**
SHL pmax pmax
comp=Z,37nm,1.1s
SHL Shillong 81.67 298 P **P 13 23 45.0 -0.2**
SHL IAmb IAmb 13 23 46.7
comp=Z,36nm,1.1s
M24K Tolsona, Glenn 82.48 20 P **P 13 23 49.0 +0.5**
M24K IAmb IAmb 13 23 50.5
comp=Z,25nm,1.2s
RND Reindeer 82.53 19 P **P 13 23 48.3 -0.4**
RND pmax pmax
comp=Z,11nm,1.2s
RND Reindeer 82.53 19 P **P 13 23 48.3 -0.4**
N25K Chitina, Valde 82.69 21 P **P 13 23 49.8 +0.2**
GLB Gilahina Butte 82.86 22 P **P 13 23 50.9 +0.4**
ZAK Zakamensk 82.91 325 *e*P **P 13 23 49.8 -1.3**
ZAK pmax pmax
comp=Z,14nm,1.4s
BALM Baldy 83.14 22 P **P 13 23 52.5 +0.5**
TLY Talaya 83.33 326 *e*P **P 13 23 52.7 -0.4**
TLY pmax pmax
comp=Z,90nm,1.8s
BARN Barnard Glacie 83.41 23 P **P 13 23 53.6 +0.1**
CTGM Chitina Glacie 83.47 23 P **P 13 23 54.2 +0.4**
CTGM **pP 13 24 27.9 -0.6**
LSA Lhasa 83.53 302 P **P 13 23 55.9 +0.7**
LSA pmax pmax
comp=Z,15nm,1.0s
LSA Lhasa 83.53 302 P **P 13 23 55.9 +0.7**
HDA Harding Lake 83.84 18 P **P 13 23 55.0 -0.3**
HDA IAmb IAmb 13 23 56.8
comp=Z,32nm,1.3s
MDM Murphy Dome 83.84 18 P **P 13 23 55.0 -0.3**
MENT Mentasta 83.89 21 P **P 13 23 55.7 0.0**
COLA College 83.89 18⇓ *e*P **P 13 23 53.9 -1.7**
COLA pmax pmax
comp=Z,15nm,1.5s
RIDG Independent Ri 84.05 20 pP pP 13 24 30.9 -0.2
IL31 84.11 18 P **P 13 23 56.2 -0.5**
IL31 **pP 13 24 30.1 -1.1**
ILAR Eielson Array 84.11 18 P **P 13 23 56.8 0.0**
comp=Z,5.8nm,0.9s,baz=237,slow=4.5,SNR=28
ILAR LR LR 13 56 33.3
comp=Z,27nm,18.8s,baz=194,slow=32
ILAR Eielson Array 84.11 18 P **P 13 23 55.5 -1.2**
MAW Mawson 84.19 202 P **P 13 23 57.2 +0.1**
comp=Z,15nm,0.9s,baz=109,slow=6.6,SNR=32
MAW LR LR 13 58 39.4
comp=Z,44nm,18.1s,baz=238,slow=34
MAW Mawson 84.19 202 P **P 13 23 57.4 +0.2**
baz=84,SNR=19
MAW Mawson 84.19 202 P **P 13 23 57.0 -0.2**
DOT Dot Lake 84.25 20 P **P 13 23 57.0 -0.5**
DOT IAmb IAmb 13 23 58.7
comp=Z,19nm,1.2s
DOT pP **pP 13 24 30.5 -1.5**
MOY Mondy 84.79 325 *e*P **P 13 24 00.9 +0.3**
MOY pmax pmax
comp=Z,35nm,2.3s
TAPN Taplejung 85.76 299 *e*P **P 13 24 07.0 +0.8**
ODAN Odare 85.90 298 *e*P **P 13 24 07.1 +0.3**
comp=Z,86nm,1.1s
EGAK Eagle 85.95 20 P **P 13 24 06.1 +0.3**
NVAR Mina Array Bea 85.98 50 P **P 13 24 07.2 +0.2**
comp=Z,0.8nm,0.9s,baz=236,slow=8.9,SNR=5.6
NVAR LR LR 13 54 55.2
comp=Z,70nm,21.1s,baz=274,slow=30
RAMN Ramite 86.61 298 *e*P **P 13 24 10.3 0.0**
comp=Z,52nm,1.2s
TIXI Tiksi 87.14 349⇓ *e*P **P 13 24 11.5 0.0**
TIXI pmax pmax
comp=Z,44nm,2.5s
TIXI Tiksi 87.14 349 P **P 13 24 11.0 -0.5**
TIXI IAmb IAmb 13 24 12.3
comp=Z,37nm,1.2s
GUN Gumba 87.47 299 *e*P **P 13 24 14.7 +0.1**
comp=Z,36nm,0.9s
PALK Pallekele 87.48 278⇓ *e*P **P 13 24 15.0 +0.5**
PALK pmax pmax
comp=Z,14nm,1.0s
PKI Pulchoki 87.79 299 *e*P **P 13 24 15.7 -0.4**
comp=Z,78nm,1.1s
PKIN Phulchoki 87.80 299 *e*P **P 13 24 15.9 -0.1**
comp=Z,69nm,1.1s
KKN Kakani 87.96 299 *e*P **P 13 24 16.8 +0.1**
comp=Z,41nm,0.9s
DMN Daman 88.06 299 *e*P **P 13 24 17.3 0.0**
comp=Z,98nm,0.8s
GKN Gorkha 88.56 299 *e*P **P 13 24 18.9 -0.6**
comp=Z,66nm,0.8s
DANN Dangsing 89.39 299 *e*P **P 13 24 23.0 -0.6**
comp=Z,44nm,0.7s
KOLN Koldanda 89.39 298 *e*P **P 13 24 22.8 -0.7**
comp=Z,50nm,1.0s
BELA Belgrano 2 89.52 176 P **P 13 24 21.7 -1.1**
KNB Kanab 89.74 52 P **P 13 24 24.9 +0.1**
KNB pmax pmax
comp=Z,9.0nm,1.5s
KNB Kanab 89.74 52 P **P 13 24 24.9 +0.1**
PYUN Piuthan 90.00 299 *e*P **P 13 24 25.8 -0.5**
comp=Z,55nm,0.9s
WMQ Urumqi 90.31 315 *e*P **P 13 24 27.0 -0.2**
WMQ pP pP 13 25 02.8 +0.7
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,97nm,5.5s
HLID Hailey 90.33 46 P **P 13 24 27.6 +0.2**
MSU Marysvale 90.61 51 P **P 13 24 27.7 -1.2**
MSU Marysvale 90.61 51 P **P 13 24 27.7 -1.2**
SYO Syowa Base 91.16 197⇑ *i*P **P 13 24 28.8 -1.7**
SYO Syowa Base 91.16 197⇑ *i*PcP **P 13 24 29.8 -0.7**
SYO Syowa Base 91.16 197⇑ *i*pP pP 13 25 04.4 -0.7
HYB Hyderabad 91.67 287 *i*P **P 13 24 33.5 -0.5**
DGZ Jazzator, Alta 92.12 320*d i*P **P 13 24 35.7 +0.2**
DGZ pmax pmax
comp=Z,13nm,0.8s
BOZ Bozeman (W) 92.78 44 pP 13 25 12.4 -1.6
MK31 Makanchi Array 94.74 317 P **P 13 24 47.3 -0.2**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 94.74 317 P **P 13 24 47.3 -0.2**
MKAR Makanchi Array 94.74 317 P **P 13 24 47.8 +0.3**
comp=Z,16nm,0.7s,baz=95,slow=6.3,SNR=101
MKAR PKKP **PKKPdf 13 41 43.0 -2.5**
comp=Z,0.8nm,0.6s,baz=251,slow=4.8,SNR=4.8
MKAR Makanchi Array 94.74 317 P **P 13 24 47.2 -0.3**
MKAR Makanchi Array 94.74 317 P **P 13 24 47.2 -0.3**
ZAA0 Zalesovo Array 94.77 324 P **P 13 24 46.7 -0.7**
ZAA0 IAmb IAmb 13 24 47.5
comp=Z,7.8nm,1.0s
ZALV Zalesovo Beam 94.77 324 P **P 13 24 47.0 -0.4**
comp=Z,3.6nm,0.7s,baz=108,slow=4.8,SNR=16
ZALV Zalesovo Beam 94.77 324 *i*P **P 13 24 47.2 -0.2**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 94.77 324 P **P 13 24 46.4 -1.0**
MAKZ Makanchi 94.96 317 P **P 13 24 48.2 -0.3**
MAKZ pmax pmax
comp=Z,21nm,1.1s
MAKZ Makanchi 94.96 317 P **P 13 24 48.2 -0.3**
TXAR Lajitas Array 95.54 61 PKKP **PKKPbc 13 41 43.2 +0.1**
comp=Z,0.3nm,0.9s,baz=113,slow=3.3,SNR=3.4
TXAR LR LR 14 04 59.3
comp=Z,18nm,18.0s,baz=0.0,slow=34
SNAA Sanae 96.26 183 P **P 13 24 53.0 -1.1**
SNAA Sanae 96.26 183⇓ *i*P **P 13 24 53.0 -1.1**
SNAA pmax pmax
comp=Z,12nm,1.4s
SNAA Sanae 96.26 183 P **P 13 24 52.8 -1.2**
SNAA IAmb IAmb 13 24 54.1
comp=Z,11nm,1.2s
VNA3 Neumayer Olymp 96.96 181 P **P 13 24 56.2 -0.9**
NRIK Noril'sk 97.26 339 LR LR 14 10 16.1
comp=Z,24nm,18.9s,baz=23,slow=36
KURK Kurchatov 97.86 320⇑ *e*P Pdif 13 25 01.5 0.0
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 97.86 320 P **P 13 25 00.8 -0.6**
KURK Kurchatov 97.86 320 IAmb IAmb 13 25 02.6
comp=Z,5.2nm,1.2s
KURBB Kurchatov Arra 97.90 320 P **P 13 25 00.8 -0.8**
comp=Z,0.7nm,0.6s,baz=101,slow=3.5,SNR=14
AKTO Aktyubinsk 110.95 320 PKiKP **PKiKP 13 29 58.7 +0.2**
comp=Z,1.0nm,0.6s,baz=124,slow=3.1,SNR=3.7
ARCES ARCESS Array B 117.42 346 PKP **PKPdf 13 30 10.0 -0.4**
comp=Z,1.5nm,0.3s,baz=80,slow=1.9,SNR=54
OBN Obninsk 122.00 329 *e*PKiKP **PKPdf 13 30 18.4 -1.1**
OBN *e* 13 31 55.1
OBN *e*PPP PPP 13 34 32.4
OBN pmax pmax
comp=Z,6.0nm,1.0s
CPUP Villa Florida 122.81 132 PKP **PKPdf 13 30 20.9 -1.1**
comp=Z,0.7nm,0.5s,baz=309,slow=6.5,SNR=4.4
CPUP Villa Florida 122.81 132 PKiKP **PKPdf 13 30 21.0 -1.1**
FINES FINESS Array B 122.91 339 PKP **PKPdf 13 30 20.9 -0.2**
comp=Z,2.7nm,0.7s,baz=113,slow=3.5,SNR=12
SDV Santo Domingo 123.72 87 PKPdf **PKPdf 13 30 23.0 -1.4**
BOSA Boshof 125.00 222 PKP **PKiKP 13 30 26.9 +0.1**
comp=Z,2.2nm,0.6s,baz=137,slow=4.2,SNR=4.8
NB2 NORSAR Subarra 127.79 345 PKPdf **PKiKP 13 30 31.1 0.0**
comp=Z,0.9nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 127.79 345 PKP **PKPdf 13 30 30.6 +0.1**
comp=Z,2.2nm,0.9s,baz=38,slow=2.0,SNR=4.0
AKASG Malin Array Be 128.07 327 PKhKP PKPpre 13 30 25.6
comp=Z,1.1nm,0.5s,baz=53,slow=3.9,SNR=2.5
AKASG PKP **PKiKP 13 30 31.8 -0.1**
comp=Z,1.7nm,0.6s,baz=59,slow=1.5,SNR=5.4
AKASG Malin Array Be 128.07 327 PKPdf **PKPdf 13 30 30.7 -0.6**
HUMP Col San Antoni 129.13 76 PKPdf **PKPdf 13 30 33.2 -1.1**
ASF Jabal al Asfar 129.72 302 PKP **PKiKP 13 30 36.6 +0.6**
comp=Z,0.8nm,0.3s,baz=117,slow=2.3,SNR=3.4
BRTR Keskin Array B 130.18 312 PKP **PKPdf 13 30 36.2 +0.3**
comp=Z,1.7nm,0.7s,baz=165,slow=6.4,SNR=5.8
MMAI Mount Meron Ar 130.76 303 PKP **PKPdf 13 30 37.2 +0.1**
comp=Z,3.0nm,0.7s,baz=59,slow=5.2,SNR=3.9
EIL Elat 131.85 299 PKP **PKiKP 13 30 40.4 +0.1**
comp=Z,3.9nm,0.7s,baz=354,slow=6.8,SNR=4.5
BUR08 Bucovina Ar. S 131.96 325 PKPdf **PKiKP 13 30 41.1 +1.1**
BURAR Bucovina Array 131.97 325 PKPdf **PKiKP 13 30 41.0 +0.9**
KOLS Kolonicke sedl 132.75 328 *e*PKiKP **PKPdf 13 30 40.8 +0.5**
KOLS Kolonicke sedl 132.75 328 *e*PKP **PKPdf 13 30 40.8 +0.5**
CLL Collm 135.26 337 *e*PKPdf **PKiKP 13 30 47.0 +0.6**
CLL Collm 135.26 337 *e*PKiKP **PKiKP 13 30 47.0 +0.6**
CONA Conrad Observa 136.58 331 *e*P **PKiKP 13 30 48.6 -0.8**
comp=Z,6.8nm,1.0s
KHC Kasperske Hory 136.71 334 *e*PKPDF **PKiKP 13 30 50.3 +0.8**
KHC Kasperske Hory 136.71 334 *e*PKiKP **PKiKP 13 30 50.3 +0.8**
GERES GERESS Array B 136.88 334 PKP **PKiKP 13 30 49.0 -0.9**
comp=Z,2.4nm,0.8s,baz=48,slow=2.0,SNR=11
GERES SKPbc **SKiKP 13 34 12.5 -0.9**
comp=Z,1.1nm,0.8s,baz=47,slow=5.9,SNR=6.5
GERES GERESS Array B 136.88 334 PKPdf **PKPdf 13 30 47.6 -0.5**
DIVS Divibare 136.99 324 PKPdf **PKPdf 13 30 48.1 -0.4**
IDI Anoyia 138.29 310 PKP **PKPdf 13 30 52.0 +0.9**
comp=Z,15nm,0.9s,baz=0.0,slow=5.1,SNR=3.3
WATA Walderalm 138.95 334 *i*P **PKPdf 13 30 52.7 +0.6**
comp=Z,5.0nm,0.6s
WTTA Wattenberg 138.98 334 *e*P **PKPdf 13 30 52.9 +0.7**
comp=Z,14nm,1.1s
MOTA Moosalm 139.15 334 *e*P **PKiKP 13 30 54.0 -0.7**
comp=Z,3.4nm,0.6s
SQTA Sankt Quirin 139.20 334 *e*P **PKiKP 13 30 54.5 -0.3**
comp=Z,6.4nm,1.0s
FETA Feichten 139.56 334 *e*P **PKPdf 13 30 54.2 +1.0**
comp=Z,10nm,1.2s
DAVOX Davos/Dischmat 140.10 335 PKP **PKPdf 13 30 55.1 +0.9**
comp=Z,5.8nm,0.7s,baz=122,slow=4.0,SNR=7.2
CLTB Caltabellotta 145.08 322 **PKPbc 13 31 02.6 -0.3**
KEST Kesra 148.63 323 PKPbc **PKiKP 13 31 13.8 -0.7**
comp=Z,22nm,0.8s,baz=268,slow=2.2,SNR=9.2
KEST Kesra 148.63 323 PKPdf **PKPdf 13 31 08.7 -0.5**
KEST **PKPbc 13 31 12.8 -0.3**
PBRG Braganca 149.70 350 *e*PKPdf **PKPab 13 31 21.3 +0.3**
POLO Lamas de Olo 150.28 351 *e*PKPdf **PKiKP 13 31 17.8 +0.1**
PVRL Vila Real 150.37 351 *e*PKPdf **PKiKP 13 31 18.3 +0.5**
MVO Moncorvo 150.37 350 *e*PKPdf **PKiKP 13 31 17.9 0.0**
PVIS Viseu 150.94 351 *e*PKPdf **PKiKP 13 31 19.4 +0.4**
ESBB Sonseca Array 151.15 345 **PKPbc 13 31 18.3 -0.7**
ESDC Sonseca Array 151.15 345 PKP **PKPdf 13 31 14.2 +1.1**
comp=Z,2.3nm,1.0s,baz=349,slow=3.8,SNR=4.1
ESDC PKPbc **PKiKP 13 31 19.6 +0.1**
comp=Z,5.1nm,0.9s,baz=9.7,slow=2.4,SNR=23
ESDC Sonseca Array 151.15 345 PKPbc **PKPbc 13 31 18.4 -0.6**
MTE Manteigas 151.20 351 *e*PKPdf **PKiKP 13 31 19.8 +0.2**
MTE Manteigas 151.20 351 **PKPbc 13 31 18.9 -0.2**
PAB San Pablo 151.37 345 PKiKP **PKPbc 13 31 19.3 -0.2**
PAB San Pablo 151.37 345 **PKPbc 13 31 19.3 -0.2**
PCAS Casmilo, Conde 151.68 352 *e*PKPdf **PKiKP 13 31 20.5 0.0**
PCBR Castelo Branco 151.73 350 *e*PKPdf **PKiKP 13 31 20.9 +0.3**
PMRV Marv??o 152.12 350 *e*PKPdf **PKiKP 13 31 21.8 +0.3**
PCVE Castro Verde 153.98 350 *e*PKPdf **PKiKP 13 31 26.0 +0.7**
MDT Midelt 157.72 340 PKP **PKPdf 13 31 23.8 +1.4**
comp=Z,2.4nm,0.9s,baz=8.8,slow=2.7,SNR=4.5
TOA0 Torodi Ar. Sit 165.20 276 **PKPdf 13 31 29.6 -0.9**
TOA0 PKPab **PKPab 13 32 28.8 +0.2**
TORD Torodi Ar. Bea 165.20 276 PKP **PKPdf 13 31 30.1 -0.4**
comp=Z,8.0nm,1.0s,baz=20,slow=1.3,SNR=33
TORD PKPab **PKPab 13 32 29.1 +0.5**
comp=Z,3.7nm,0.9s,baz=76,slow=4.5,SNR=9.5
TORD Torodi Ar. Bea 165.20 276 **PKPdf 13 31 29.7 -0.8**
TORD PKPab **PKPab 13 32 28.0 -0.6**
KIC Kosan Boka 169.79 238 *e*PKIKP **PKPdf 13 31 33.1 -0.8**
comp=Z,27nm,1.1s
KIC Kosan Boka 169.79 238 *e*P **PKPab 13 32 48.8 0.0**
comp=Z,40nm,0.9s
LIC Lamto 169.95 236 *e*PKIKP **PKPdf 13 31 33.4 -0.6**
comp=Z,41nm,1.3s
LIC Lamto 169.95 236 *e*P **PKPab 13 32 49.6 +0.1**
comp=Z,80nm,1.3s
DBIC Dimbokro 170.05 239 PKP **PKPdf 13 31 33.4 -0.6**
comp=Z,7.2nm,1.0s,baz=101,slow=4.3,SNR=5.3
DBIC PKPab **PKPab 13 32 50.7 +0.7**
comp=Z,10nm,0.8s,baz=124,slow=5.7,SNR=11
DBIC Dimbokro 170.05 239 **PKPdf 13 31 33.0 -1.0**
DBIC PKPab **PKPab 13 32 49.6 -0.4**
TIC Toumodi 170.18 238 *e*PKIKP **PKPdf 13 31 33.2 -0.9**
TIC Toumodi 170.18 238 *e*P **PKPab 13 32 50.5 -0.1**
KOWA Kowa 170.50 286 **PKPdf 13 31 33.5 -0.7**
KOWA PKPab **PKPab 13 32 50.6 -1.4**

IDC 27 13:26:10.9±2.1, 1.59N×125.38E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/34, mbtmp3.1/3, Error ellipse: s-maj=180.1km s-min=28.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.13**	**158**	P	P	13 31 18.8	-0.1
	0.2nm,0.5s,baz=336,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**26.44**	**162**	P	P	13 31 49.8	+0.1
	0.2nm,0.8s,baz=340,slow=7.1,SNR=4.3						
MKAR	**Makanchi Array**	**58.56**	**327**	P	P	13 36 09.4	-0.1
	0.1nm,0.3s,baz=116,slow=6.9,SNR=1.3						

ROM 27 13:28:00.1±0.1, 42.812N±0.003×13.155E±0.005, h9km, ML1.5/6, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.0km az=247.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**306**	⇑P	Pg	13 28 02.4	+0.3
NRCA				S	Sg	13 28 03.5	0.0
NRCA				AML	AML		
	comp=N,4345μm,0.9s						
NRCA				AML	AML		
	comp=E,2565μm,1.1s						
NRCA				AML	AML		
	comp=N,4930μm,0.9s						
NRCA				AML	AML		
	comp=N,4350μm,0.9s						
NRCA				AML	AML		
	comp=E,2370μm,0.5s						
FEMA	**Monte Fema**	**0.17**	**333**	P	Pg	13 28 04.4	+0.6
FEMA				S	Sg	13 28 07.4	+1.0
SMA1	**SAN MARTINO**	**0.22**	**144**	P	Pg	13 28 05.6	+0.8
SMA1				S	Sg	13 28 09.6	+1.7
LNSS	**Leonessa**	**0.23**	**202**	P	Pg	13 28 05.6	+0.8
LNSS				S	Sg	13 28 09.6	+1.6
FDMO	**Fiordimonte**	**0.23**	**348**	⇓P	Pg	13 28 05.5	+0.6
FDMO				S	Sg	13 28 09.4	+1.3
FDMO				AML	AML		
	comp=N,127μm,0.7s						
FDMO				AML	AML		
	comp=E,95μm,1.0s						
CESI	**CESI - Serrava**	**0.27**	**316**	P	Pg	13 28 06.2	+0.6
CESI				S	Sb	13 28 10.6	-1.2
CESI				AML	AML		
	comp=N,48μm,1.0s						
CESI				AML	AML		
	comp=E,35μm,0.2s						
CESI				AML	AML		
	comp=N,48μm,1.0s						
CSP1	**Cessapalombo**	**0.28**	**7**	P	Pg	13 28 06.5	+0.6
CSP1				S	Sb	13 28 11.2	-1.1
RM33	**Pellescritta (**	**0.30**	**172**	P	Pg	13 28 06.9	+0.6
RM33				S	Sb	13 28 12.0	-0.9
CAMP	**Campotosto**	**0.33**	**146**	P	Pg	13 28 07.4	+0.6
CAMP				S	Sb	13 28 12.6	-1.2
TERO	**Teramo**	**0.38**	**120**	P	Pg	13 28 08.2	+0.6
TERO				S	Sb	13 28 14.1	-0.9
MOMA	**Monte Martano**	**0.43**	**269**	P	Pb	13 28 09.4	-0.6
MOMA				S	Sb	13 28 16.1	-0.4
MOMA				AML	AML		
	comp=E,63μm,1.5s						
MOMA				AML	AML		
	comp=N,52μm,1.0s						
ASSB	**Assisi San Ben**	**0.43**	**303**	P	Pg	13 28 09.2	+0.6
ASSB				S	Sb	13 28 15.7	-0.9
SNTG	**Esanatoglia**	**0.47**	**341**	P	Pg	13 28 09.8	+0.5
SNTG				S	Sb	13 28 17.2	-0.4
SNTG				AML	AML		
	comp=E,52μm,0.2s						
SNTG				AML	AML		
	comp=N,37μm,1.5s						
GUMA	**Gualdo di Mace**	**0.62**	**66**	P	Pg	13 28 06.8	-5.4
GUMA				S	Sg	13 28 11.9	-8.5
GUMA				AML	AML		
	comp=N,343μm,0.5s						
GUMA				AML	AML		
	comp=E,388μm,0.4s						
CERT	**Cerreto**	**0.87**	**189**	P	Pg	13 28 16.1	-0.9

*NEIC **27** 14:06:41.7±0.9, 7.37N±0.10×94.43E±0.08, h10km±1km, mb4.4/31, Error ellipse: s-maj=17.6km s-min=12.5km az=32.0*
*NDI **27** 14:06:42.5±3.0, 7.31N×93.99E, h10km, mb4.1, mb4.4(NEIC)*
*DJA **27** 14:06:47.2±2.0, 7.1N±4.9×9.5E±1.3, h23km±23km, M4.5/7, mB4.8/4, mb4.6/6, MLv4.5/7, Mw(mB)4.1/4*
*IDC **27** 14:06:48.0±2.8, 7.33N×94.41E, h58km±26km, mb3.8/18, mb1 3.9/21, mb1mx3.8/43, mbtmp4.1/21, ML4.1/3, MS3.4/16, Ms1 3.4/16, ms1mx3.2/50, Error ellipse: s-maj=22.6km s-min=13.0km az=56.0*
*KLM **27** 14:06:50.0, 7.40N×94.78E, h75km, mb4.6*

ISC 27 14:06:44.3±0.4, 7.38N±0.05×94.41E±0.05, h24km, n110, σ1§47/103, mb4.3/34, MS3.4/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.30**	**130**	P	**Pn**	**14 07 34.9**	**+0.4**
LHMI				S	**Sn**	**14 08 09.6**	**-3.5**
LHMI	**Lhok Sumawe**	**3.30**	**130**		**Pn**	**14 07 34.5**	**0.0**
MLSI	**Meulaboh, Aceh**	**3.67**	**147**	P	**Pn**	**14 07 38.7**	**-0.9**
PKDT	**Phuket**	**3.92**	**82**	P	**Pn**	**14 07 43.7**	**+0.6**
PKDT				S	**Sn**	**14 08 26.9**	**-1.4**
SURT	**Suratani**	**4.61**	**70**	P	**Pn**	**14 07 53.7**	**+1.2**
SURT				S	**Sn**	**14 08 43.1**	**-2.3**
KRAB	**Krabi**	**4.81**	**80**	P	**Pn**	**14 07 55.9**	**+0.6**
TPTI		**4.93**	**146**	P	**Pn**	**14 07 58.1**	**+1.1**
TRTT	**Trang**	**5.25**	**85**	P	**Pn**	**14 08 01.7**	**+0.3**
TRTT				S	**Sn**	**14 08 58.3**	**-2.9**
SRIT	**Nakonsritamara**	**5.28**	**76**	P	**Pn**	**14 08 01.9**	**+0.1**
SRIT				S	**Sn**	**14 08 58.9**	**-3.0**
PSI	**Prapat**	**6.39**	**135**	P	**Pn**	**14 08 21.3**	**+4.1**
	3.0nm,0.3s,baz=226,slow=16,SNR=7.5						
RPSI	**Rantau Prapat**	**6.47**	**136**	Pn	**Pn**	**14 08 16.5**	**-1.5**
RPSI	**Rantau Prapat**	**6.47**	**136**		**Pn**	**14 08 21.3**	**+3.2**
KULM	**Kulim**	**6.54**	**108**	Pn	**Pn**	**14 08 17.9**	**-1.1**
KULM	**Kulim**	**6.54**	**108**	P	**Pn**	**14 08 18.0**	**-1.1**
GSI	**Gunungsitoli**	**6.81**	**152**	P	**Pn**	**14 08 21.7**	**-1.1**
	0.2nm33nm,0.9s						
GSI	**Gunungsitoli**	**6.81**	**152**	Pn	**Pn**	**14 08 20.9**	**-1.9**
IPM	**Ipoh**	**7.18**	**113**	Pn	**Pn**	**14 08 25.6**	**-2.3**
IPM	**Ipoh**	**7.18**	**113**	P	**Pn**	**14 08 26.0**	**-1.9**
PHET	**Kaeng Krachan**	**7.52**	**43**	P	**Pn**	**14 08 33.0**	**+0.5**
MNSI	**Mandailing Nat**	**8.32**	**142**	P	**Pn**	**14 08 46.5**	**+2.9**
MYKOM	**Kota Tinggi**	**10.92**	**120**	Pn	**Pn**	**14 09 18.7**	**-0.5**
MYKOM	**Kota Tinggi**	**10.92**	**120**	P	**Pn**	**14 09 20.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**11.86**	**21**	P	**Pn**	**14 09 35.0**	**+2.9**
	0.7nm,0.3s,baz=216,slow=14,SNR=8.4						
CMAR				LR	LR	14 14 07.7	
	comp=Z,112nm,19.1s,baz=225,slow=37						

PALK **Pallekele** 13.60 270 P Pn 14 09 57.5 +1.6
0.5nm,0.3s,baz=196,slow=13,SNR=5.4
PALK S Sn 14 12 13.3 -13
0.2nm,0.3s,baz=276,slow=18,SNR=1.4
PALK LR LR 14 14 43.2
comp=Z,209nm,20.9s,baz=195,slow=35
PALK Pallekele 13.60 270 Pn **Pn 14 09 58.2 +2.3**
BWNR Bhubaneshwar 15.31 328 *eP* **Pn 14 10 15.6 -3.4**
SLVN Son La 16.63 32 P **P 14 10 37.7 -0.6**
KSM Kuching 16.89 110 P **P 14 10 40.6 -0.6**
KSM IAmb IAmb 14 10 45.9
comp=Z,19nm,1.1s
KSM Kuching 16.89 110 P **P 14 10 44.0 +2.8**
KOHI KOHIMA 18.24 359 *eP* **Pn 14 10 56.0 -0.1**
KOHI IAmb IAmb 14 11 03.6
comp=Z,14nm,1.1s
SHL Shillong 18.25 353 *eP* **P 14 10 56.9 +0.6**
SHL IAmb IAmb 14 11 02.7
comp=Z,3.0nm,0.5s
BOK Bokaro 18.26 334 *eP* **Pn 14 10 55.7 -0.5**
BOK IAmb IAmb 14 10 59.6
comp=Z,16nm,0.8s
SBUM Sibu 18.40 105 P **P 14 10 56.2 -1.7**
SBUM Sibu 18.40 105 P **Pn 14 11 01.0 +3.0**
QIZ Qiongzhong 18.95 51 P **P 14 11 02.3 -1.5**
QIZ S **Sn 14 14 36.3 +0.1**
QIZ LR LR
comp=N,690nm,13.2s
QIZ LR LR
comp=E,260nm,15.7s
QIZ LR LR
comp=Z,210nm,11.4s
LEM Lembang 19.30 137 LR LR 14 20 02.9
comp=Z,184nm,19.8s,baz=296,slow=41
ODAN Odare 20.49 342 *eP* **P 14 11 21.7 +0.8**
RAMN Ramite 20.83 340 *eP* **P 14 11 24.8 +0.2**
TAPN Taplejung 20.86 343 *eP* **P 14 11 25.4 +0.5**
PKI Pulchoki 21.82 338 *eP* **P 14 11 35.1 -0.2**
comp=Z,23nm,0.9s
PKIN Phulchoki 21.83 338 *eP* **P 14 11 35.1 -0.3**
comp=Z,21nm,0.8s
GUN Gumba 21.96 339 *eP* **P 14 11 36.5 -0.3**
comp=Z,35nm,0.7s
MTKI Muara Teweh, K 22.04 111 P **P 14 11 40.2 +2.7**
LSA Lhasa 22.42 353 P **P 14 11 42.1 +0.3**
LSA IAmb IAmb 14 11 58.1
comp=Z,17nm,1.2s
GKN Gorkha 22.50 337 *eP* **P 14 11 41.8 -0.7**
comp=Z,21nm,0.8s
BHPL Bhopal 22.70 316 *eP* **P 14 11 41.9 -2.6**
BHPL IAmb IAmb 14 11 49.2
comp=Z,7.0nm,0.6s
KOLN Koldanda 22.72 335 *eP* **P 14 11 45.3 +0.5**
comp=Z,53nm,1.1s
DANN Dangsing 23.16 336 *eP* **P 14 11 49.0 -0.5**
comp=Z,30nm,0.9s
PYUN Piuthan 23.27 334 *eP* **P 14 11 50.7 +0.2**
comp=Z,52nm,0.9s
MYLDM Lahad Datu 24.04 94 P **P 14 11 57.4 -0.4**
MPSI Mapaga 26.36 104 P **P 14 12 22.8 +3.9**
H08S3 Diego Garcia H 26.46 236 T T 14 38 54.0
baz=54,slow=74,SNR=110
H08S2 Diego Garcia H 26.47 236 T T 14 38 55.2
baz=54,slow=74,SNR=4.1
H08S1 Diego Carcia H 26.48 236 T T 14 38 59.1
baz=54
KAPI Kappang 28.12 115 LR LR 14 23 33.2
comp=Z,64nm,19.3s,baz=294,slow=36
WHN Wuhan 29.67 36 P P 14 12 54.8 +6.5
LZH Lanzhou 29.85 15 *eP* **P 14 12 52.3 +2.3**
LZH pP pwP 14 12 59.8 +0.2
LZH sP sP 14 13 02.5 +3.4
LZH pmax pmax
comp=Z,13nm,1.2s
YULB Yu-li 30.33 55 P **P 14 12 53.6 -0.6**
GTA Gaotai 32.26 8 *eP* P 14 13 17.5 +6.3
GTA pP pwP 14 13 25.5 +4.7
GTA sP sP 14 13 29.0 +8.7
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=N,95nm,14.9s
GTA LR LR
comp=E,110nm,14.2s
GTA LR LR
comp=Z,70nm,14.5s
NIL Nilore 32.66 326 P **P 14 13 14.2 -0.5**
HHC Hu-ho-hao-te 36.67 22 *eP* **P 14 13 51.0 +1.6**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.5s
WMQ Urumqi 36.77 352 *eP* **P 14 13 51.5 +1.4**
WMQ pP sP 14 13 59.0 -0.4
WMQ sP pwP 14 14 01.0 +1.4
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,71nm,4.5s
WSAR Wadi Sarin 37.80 299 P **P 14 14 00.7 +1.7**
comp=Z,4.1nm,0.8s,baz=139,slow=9.3,SNR=2.1
FITZ Fitzroy Crossi 39.89 130 P **P 14 14 18.5 +1.9**
FITZ IAmb IAmb 14 14 28.4
comp=Z,7.2nm,1.3s
SOCY Socotra 40.09 280 P **P 14 14 18.7 +0.2**
MK31 Makanchi Array 40.63 347 P **P 14 14 21.6 -0.7**
MK31 IAmb IAmb 14 14 24.8
comp=Z,5.5nm,1.1s
MKAR Makanchi Array 40.63 347 P **P 14 14 22.4 0.0**
comp=Z,3.7nm,0.8s,baz=165,slow=7.2,SNR=21
MKAR LR LR 14 33 40.7
comp=Z,35nm,18.9s,baz=97,slow=40
MKAR Makanchi Array 40.63 347 P **P 14 14 21.6 -0.8**
MAKZ Makanchi 40.71 347 P **P 14 14 22.6 -0.5**
SONM Songino Array 41.59 12 P **P 14 14 30.5 +0.1**
comp=Z,0.4nm,0.3s,baz=195,slow=9.0,SNR=1.5
SONM LR LR 14 32 30.5
comp=Z,45nm,19.8s,baz=92,slow=37
SONM Songino Array 41.59 12 P **P 14 14 29.8 -0.6**
KSRS Korea Array 42.66 40 LR LR 14 33 20.2
comp=Z,34nm,21.8s,baz=227,slow=37
GEYT Alibeck 44.75 318 P **P 14 14 56.4 +0.4**
comp=Z,6.0nm,0.6s,baz=142,slow=7.5,SNR=15
GEYT Alibeck 44.75 318 P **P 14 14 56.0 0.0**
GYA0B ALIBECK ARRAY 44.75 318 P **P 14 14 55.4 -0.6**
KURBB Kurchatov Arra 45.09 346 P **P 14 14 58.3 -0.1**
comp=Z,5.1nm,0.9s,baz=172,slow=7.2,SNR=27
KURK Kurchatov 45.15 346 P **P 14 14 58.6 -0.4**
KURK IAmb IAmb 14 15 02.5
comp=Z,7.4nm,0.9s
ZALV Zalesovo Beam 47.08 352 P **P 14 15 14.8 +0.8**
comp=Z,1.3nm,0.4s,baz=185,slow=8.2,SNR=5.5
ZALV LR LR 14 36 46.2
comp=Z,26nm,18.5s,baz=68,slow=38
WB0 Warramunga Arr 47.71 125 P **P 14 15 18.7 -0.8**
WB0 IAmb IAmb 14 15 38.2
comp=Z,3.7nm,1.0s
WRA Warramunga Arr 47.76 125 P **P 14 15 19.1 -0.7**
comp=Z,0.8nm,0.6s,baz=306,slow=8.8,SNR=14
WRA LR LR 14 36 50.2
comp=Z,74nm,18.2s,baz=310,slow=38
WRAB Tennant Creek 47.76 125 P **P 14 15 19.5 -0.4**
WRAB IAmb IAmb 14 15 29.4
comp=Z,4.6nm,1.0s
WB2 Warramunga Arr 47.77 125 P **P 14 15 19.0 -1.0**
WB2 IAmb IAmb 14 15 25.1
comp=Z,7.9nm,1.4s
WR0 Warramunga Arr 47.93 125 P **P 14 15 20.3 -0.9**
WR0 IAmb IAmb 14 15 33.0
comp=Z,7.2nm,1.1s
ASAR Alice Springs 49.39 130 P **P 14 15 31.8 -0.7**
comp=Z,0.9nm,0.6s,baz=300,slow=7.7,SNR=18
ASAR PcP **PcP 14 16 54.2 -0.5**
comp=Z,0.8nm,0.8s,baz=310,slow=3.0,SNR=5.5
ASAR LR LR 14 39 13.1
comp=Z,36nm,18.8s,baz=312,slow=39
AS31 Alice Springs 49.39 130 P **P 14 15 31.6 -0.9**
BRVK Borovoye 49.60 341 P **P 14 15 33.2 -0.4**
BRVK IAmb IAmb 14 15 39.4
comp=Z,3.5nm,0.8s
FORT Forrest 49.78 141 P **P 14 15 34.4 -0.8**
ABKAR Akbulak array 50.79 331 P **P 14 15 42.6 -0.1**
ABKAR IAmb IAmb 14 15 51.1
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 50.79 331 P **P 14 15 42.5 -0.1**

KBZ Khabaz 57.63 318 P **P 14 16 31.8 -0.8**
comp=Z,0.8nm,0.4s,baz=122,slow=9.5,SNR=1.8
STKA Stephens Creek 59.57 134 LR LR 14 45 00.2
comp=Z,21nm,19.9s,baz=18,slow=38
BRTR Keskin Array B 62.95 311 P **P 14 17 07.2 -2.1**
comp=Z,1.0nm,0.7s,baz=133,slow=10.0,SNR=3.1
TIXI Tiksi 67.66 11 P **P 14 17 38.2 -0.8**
AKASG Malin Array Be 68.71 328 LR LR 14 49 58.6
comp=Z,17nm,22.0s,baz=5.0,slow=38
SEY Seymchan 69.26 24 LR LR 14 52 23.7
comp=Z,42nm,18.2s,baz=146,slow=40
BURAR Bucovina Array 70.59 318 P **P 14 17 56.6 -1.2**
FINES FINESS Array B 73.27 332 P **P 14 18 13.1 -0.3**
comp=Z,4.1nm,0.7s,baz=122,slow=9.3,SNR=6.2
BOSA Boshof 75.55 238 P **P 14 18 26.5 -1.0**
comp=Z,2.2nm,0.7s,baz=72,slow=7.2,SNR=4.4
BOSA LR LR 14 47 04.3
comp=Z,34nm,21.4s,baz=33,slow=32
BOSA Boshof 75.55 238 IAmb IAmb 14 18 35.5
comp=Z,7.8nm,1.1s
ARCES ARCESS Array B 75.82 340 P **P 14 18 28.1 -0.1**
comp=Z,2.2nm,0.9s,baz=98,slow=6.5,SNR=1.9
MORC Moravsky Berou 75.92 319 P **P 14 18 28.9 -0.3**
MORC IAmb IAmb 14 18 29.5
comp=Z,1.8nm,0.7s
MAW Mawson 78.11 192 P **P 14 18 40.3 -0.5**
comp=Z,0.5nm,0.6s,baz=233,slow=5.1,SNR=1.6
GERES GERESS Array B 78.37 318 P **P 14 18 42.9 -0.2**
comp=Z,0.9nm,0.6s,baz=77,slow=6.0,SNR=6.4
GERES GERESS Array B 78.37 318 P **P 14 18 41.4 -1.7**
NOA NORSAR Array B 80.29 331 LR LR 14 56 15.8
comp=Z,15nm,18.2s,baz=270,slow=37
TORD Torodi Ar. Bea 90.97 283 P **P 14 19 47.4 +0.2**
comp=Z,0.5nm,0.7s,baz=86,slow=3.9,SNR=4.2
TORD LR LR 14 58 11.3
comp=Z,19nm,20.4s,baz=105,slow=34
ESDC Sonseca Array 91.74 310 P **P 14 19 50.3 -0.1**
comp=Z,0.5nm,0.7s,baz=56,slow=3.9,SNR=4.3
ESDC Sonseca Array 91.74 310 IAmb IAmb 14 19 57.7
comp=Z,5.6nm,1.3s
ILAR Eielson Array 95.10 22 P **P 14 20 04.9 -0.3**
comp=Z,0.3nm,0.7s,baz=305,slow=5.2,SNR=3.0
TXAR Lajitas Array 139.56 25 PKP **PKPdf 14 26 10.9 +0.2**
comp=Z,0.2nm,0.6s,baz=224,slow=3.8,SNR=2.3

*IDC **27** 14:30:24.7±1.6,5.77S×152.67E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/43,mbtmp3.8/5,ML1.6/1,Error ellipse: s-maj=39.8km s-min=19.2km az=104.0*
ISC 27 14:30:29.8±1.6,5.75S±0.09×152.7E±0.2,h35km,n7, σ0s97/8,mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.57**	**336**	Pn	**Pn**	**14 30 54.9**	**-0.3**
	103nm,0.3s,baz=240,slow=1.9,SNR=56						
KRVT				Sn	**Sn**	**14 31 15.2**	**+0.8**
	111nm,0.3s,baz=354,slow=18,SNR=12						
PMG	**Port Moresby**	**6.55**	**236**	Pn	**Pn**	**14 32 04.4**	**+0.7**
	0.8nm,0.3s,baz=48,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**22.72**	**230**	P	**P**	**14 35 29.2**	**+0.3**
	1.2nm,0.7s,baz=54,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**25.36**	**223**	P	**P**	**14 35 53.3**	**-0.6**
	1.3nm,0.8s,baz=59,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**29.09**	**243**	P	**P**	**14 36 25.9**	**-1.5**
	1.2nm,0.7s,baz=66,slow=11,SNR=2.0						
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**14 42 52.4**	**+0.7**
	0.6nm,0.8s,baz=246,slow=5.2,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.46**	**287**	PKPbc	**PKPbc**	**14 50 19.0**	**+0.2**
	0.6nm,0.7s,baz=82,slow=3.3,SNR=3.7						

*IDC **27** 14:33:41.6±1.6,17.49N×94.17E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.5/61,mbtmp3.7/5,ML4.2/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/44,Error ellipse: s-maj=56.9km s-min=22.5km az=59.0*
*NEIC **27** 14:33:47.5±0.7,17.57N±0.10×94.32E±0.09,h38km±8km, mb4.4/13,Error ellipse: s-maj=16.4km s-min=13.7km az=86.0*
ISC 27 14:33:46.9±0.9,17.57N±0.10×94.32E±0.09,h35km,n35, σ0s96/37,mb4.3/9,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHMT	**Maesarieng**	**3.49**	**80**	P	**Pn**	**14 34 39.3**	**+0.5**
MHMT				S	**Sn**	**14 35 20.8**	**+1.8**
CM05	**Chiang Mai Arr**	**4.48**	**79**	P	**Pn**	**14 34 53.0**	**+0.5**
CM31	**Chiang Mai Arr**	**4.49**	**78**	Pn	**Pn**	**14 34 52.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**4.49**	**78**	Pn	**Pn**	**14 34 53.2**	**+0.7**
	2.5nm,0.3s,baz=262,slow=15,SNR=51						
CMAR				Sn	**Sn**	**14 35 43.4**	**-0.2**
	2.1nm,0.3s,baz=259,slow=27,SNR=7.2						
CMAR				LR	LR	14 37 23.5	
	comp=Z,57nm,18.3s,baz=242,slow=48						
CMAR	**Chiang Mai Arr**	**4.49**	**78**		**Pn**	**14 34 52.9**	**+0.4**
CM01	**Chiang Mai Arr**	**4.50**	**78**	P	**Pn**	**14 34 53.2**	**+0.6**
CM04	**Chiang Mai Arr**	**4.51**	**79**	P	**Pn**	**14 34 53.7**	**+0.9**
CM09	**Chiang Mai Arr**	**4.53**	**79**	P	**Pn**	**14 34 53.9**	**+0.8**
CHTO	**Chiang Mai**	**4.57**	**74**	Pn	**Pn**	**14 34 54.1**	**+0.5**
CMMT	**Chiang Mai**	**4.57**	**74**	P	**Pn**	**14 34 54.3**	**+0.6**
CMMT				S	**Sn**	**14 35 47.5**	**+1.9**
SUKH	**Sukhothai**	**5.07**	**90**	P	**Pn**	**14 35 00.9**	**+0.4**
PAYA	**Payao**	**5.56**	**70**	P	**Pn**	**14 35 08.3**	**+1.0**
PAYA				S	**Sn**	**14 36 10.1**	**+0.1**
PHIT	**Phitsanulok**	**5.84**	**93**	P	**Pn**	**14 35 10.7**	**-0.3**
UTTA	**Uttaradit**	**5.95**	**87**	P	**Pn**	**14 35 13.0**	**+0.5**
CRAI	**Chiangrai**	**6.31**	**64**	P	**Pn**	**14 35 18.4**	**+0.8**
CRAI				S	**Sn**	**14 36 25.2**	**-3.3**
RPSI	**Rantau Prapat**	**15.46**	**162**	P	**P**	**14 37 26.6**	**0.0**
BKNI	**Bangkinang**	**18.37**	**158**	P	**Pn**	**14 37 59.0**	**0.0**
MKAR	**Makanchi Array**	**30.79**	**344**	P	**P**	**14 39 58.8**	**-0.5**
	0.4nm,0.7s,baz=148,slow=8.4,SNR=2.4						
TLY	**Talaya**	**34.83**	**10**	LR	LR	14 55 25.4	
	comp=Z,31nm,19.1s,baz=3.5,slow=37						
KURBB	**Kurchatov Arra**	**35.31**	**343**	P	**P**	**14 40 39.2**	**+0.6**
	0.3nm,0.6s,baz=155,slow=8.7,SNR=3.2						
KURK	**Kurchatov**	**35.37**	**343**	P	**P**	**14 40 39.2**	**+0.1**
KURK	**Kurchatov**	**35.37**	**343**	IAmb	IAmb	14 40 43.6	
	comp=Z,6.3nm,1.4s						
JGF	**Kuroka**	**42.09**	**56**	P	**P**	**14 41 34.4**	**-1.4**
JGF				IAmb	IAmb	14 42 02.2	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**46.97**	**137**	P	**P**	**14 42 14.1**	**-0.6**
FITZ				IAmb	IAmb	14 42 23.6	
	comp=Z,7.5nm,1.4s						
JEW	**Eniwo**	**47.11**	**47**	P	**P**	**14 42 14.6**	**-1.0**
MTN	**Manton Dam**	**47.27**	**127**	P	**P**	**14 42 15.8**	**-1.4**
WB0	**Warramunga Arr**	**54.09**	**132**	P	**P**	**14 43 08.5**	**0.0**
WB0				IAmb	IAmb	14 43 35.6	
	comp=Z,3.5nm,1.2s						
WRA	**Warramunga Arr**	**54.16**	**132**	P	**P**	**14 43 09.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=317,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**54.16**	**132**	IAmb	IAmb	14 43 16.3	
	comp=Z,0.2nm,1.2s						
WB2	**Warramunga Arr**	**54.17**	**132**	P	**P**	**14 43 09.3**	**+0.1**
WR0	**Warramunga Arr**	**54.31**	**132**	P	**P**	**14 43 10.2**	**0.0**
WR0				IAmb	IAmb	14 43 28.1	
	comp=Z,4.3nm,1.4s						
AS31	**Alice Springs**	**56.34**	**135**	P	**P**	**14 43 25.0**	**+0.2**
ASAR	**Alice Springs**	**56.34**	**135**	P	**P**	**14 43 25.2**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=313,slow=6.8,SNR=28						
ARD3	**ARCESS Array S**	**66.27**	**339**	P	**P**	**14 44 31.9**	**+0.6**
ARC4	**ARCESS Array S**	**66.28**	**339**	P	**P**	**14 44 32.4**	**+1.1**

*AEIC **27** 14:44:55±2.5,51.99N×0.07×168.00W±0.07,h26km±5km, ML3.3,mb4.0/40(NEIC),Error ellipse: s-maj=10.8km s-min=6.2km az=173.0*
*NEIC **27** 14:44:55.2±2.1,51.98N×0.04×168.09W±0.07,h25km±5km, Error ellipse: s-maj=7.2km s-min=4.9km az=58.0*
*IDC **27** 14:44:58.9±0.8,51.98N×168.23W,h52km±8km,mb3.6/13, mb1 3.8/13,mb1mx3.6/61,mbtmp3.9/13,Error ellipse: s-maj=23.3km s-min=15.1km az=169.0*
ISC 27 14:44:55.9±0.9,51.99N±0.06×168.10W±0.06,h28km±6km, n98,σ1s26/109,mb3.9/13,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.08**	**335**		**Pn**	**14 45 14.8**	**-0.5**
NIKH					**Sb**	**14 45 29.7**	**-0.2**
OKSP	**Okmok Steeple**	**1.27**	**355**		**Pn**	**14 45 17.4**	**-0.3**
OKSP					**Sn**	**14 45 33.9**	**0.0**
OKFG	**Magazine Ridge**	**1.42**	**5**		**Pn**	**14 45 19.7**	**-0.2**
OKFG					**Sb**	**14 45 38.9**	**-0.6**
OKRE	**Okmok R'deer P**	**1.53**	**359**		**Pn**	**14 45 21.8**	**+0.4**
MAPS	**Pakushin South**	**1.95**	**21**		**Pn**	**14 45 26.7**	**-0.4**
MAPS					**Sn**	**14 45 51.7**	**+1.1**
MGOD	**Makushin Gods**	**1.95**	**22**		**Pn**	**14 45 26.7**	**-0.4**
MGOD					**Sn**	**14 45 51.0**	**+0.3**
MREP	**Makushin Rep't**	**2.00**	**24**		**Pn**	**14 45 27.8**	**0.0**
MNAT	**Makushin Natee**	**2.08**	**24**		**Pn**	**14 45 28.7**	**-0.2**
MSW	**Makushin Switc**	**2.08**	**22**		**Pn**	**14 45 28.9**	**-0.1**
MSW					**Sn**	**14 45 54.5**	**+0.6**
UNV	**Unalaska Valle**	**2.09**	**27**		**Pn**	**14 45 28.7**	**-0.3**
UNV					**Sn**	**14 45 53.1**	**-1.0**
MTBL	**Makushin Table**	**2.16**	**23**		**Pn**	**14 45 30.3**	**+0.3**
AKMO	**Akutan Morgan**	**2.45**	**30**		**Pn**	**14 45 34.2**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.47**	**29**		**Pn**	**14 45 35.0**	**+0.8**
AKRB					**Sn**	**14 46 04.4**	**+1.1**
AKBBA	**Akutan Broad B**	**2.48**	**31**		**Pn**	**14 45 35.0**	**+0.6**
AKLV	**Akutan Long Va**	**2.53**	**30**		**Pn**	**14 45 35.4**	**+0.3**
AKGG	**Akutan Green G**	**2.55**	**29**		**Pn**	**14 45 35.9**	**+0.5**
AKUT	**Akutan**	**2.56**	**32**		**Sn**	**14 46 06.0**	**+0.3**
AKUT	**Akutan**	**2.56**	**32**		**Pn**	**14 45 35.4**	**-0.1**
AKSA	**Akutan Strait**	**2.59**	**33**		**Pn**	**14 45 35.6**	**-0.3**
WEBT	**Westdahl Beart**	**3.29**	**36**		**Pn**	**14 45 45.8**	**+0.3**
ATKA	**Atka Island**	**3.77**	**276**		**Pn**	**14 45 52.3**	**+0.3**
SDPT	**Sand Point**	**5.64**	**50**		**Pn**	**14 46 17.7**	**0.0**
CNBA	**Chernabura Isl**	**5.82**	**58**		**Pn**	**14 46 19.9**	**-0.4**
CHGN	**Chignik**	**7.14**	**49**	Pn	**Pn**	**14 46 38.5**	**+0.2**
AMKA	**Amchitka**	**7.86**	**270**	Pn	**Pn**	**14 46 48.5**	**+0.3**
CHIR	**Chirikof Islan**	**8.30**	**58**	Pn	**Pn**	**14 46 53.3**	**-0.9**
SII	**Sitkinak Islan**	**9.33**	**55**	Pn	**Pn**	**14 47 07.9**	**-0.5**
OHAK	**Old Harbor**	**10.05**	**53**	Pn	**Pn**	**14 47 16.5**	**-1.7**
KDAK	**Kodiak Island**	**10.64**	**51**	Pn	**Pn**	**14 47 24.7**	**-1.5**
SEW	**Seward**	**13.17**	**45**	Pn	**Pn**	**14 47 59.1**	**-1.7**
O22K	**Cooper Landing**	**13.25**	**43**	Pn	**Pn**	**14 48 01.2**	**-0.7**
SUA	**Susitna One**	**13.40**	**38**	Pn	**Pn**	**14 48 02.5**	**-1.5**
SKT	**Skwentna**	**13.43**	**35**	Pn	**Pn**	**14 48 05.1**	**+0.7**
PMR	**Palmer**	**14.10**	**40**	Pn	**Pn**	**14 48 12.2**	**-1.3**
KNK	**Knik Glacier**	**14.27**	**41**	Pn	**Pn**	**14 48 14.4**	**-1.4**
GHO	**Glory Hole Cre**	**14.28**	**39**	Pn	**Pn**	**14 48 13.1**	**-3.0**
GLI	**Glacier Island**	**14.57**	**44**	Pn	**Pn**	**14 48 18.3**	**-1.6**
HIN	**Hinchinbrook I**	**14.61**	**46**	Pn	**Pn**	**14 48 18.4**	**-2.1**
KTH	**Kantishna Hill**	**14.70**	**31**	Pn	**Pn**	**14 48 20.0**	**-1.8**
FID	**Port Fidalgo**	**14.78**	**45**	Pn	**Pn**	**14 48 19.0**	**-3.7**
SCM	**Sheep Creek Mo**	**14.95**	**41**	Pn	**Pn**	**14 48 22.6**	**-2.6**
EYAK	**Cordova Ski Ar**	**15.01**	**47**	Pn	**Pn**	**14 48 22.9**	**-2.9**
BPAW	**Bear Paw Mtn.**	**15.07**	**30**	Pn	**Pn**	**14 48 27.1**	**+0.4**
BPAW				IAmb	IAmb	14 48 32.5	
	comp=Z,3.6nm,0.8s						
RND	**Reindeer**	**15.30**	**34**	Pn	**Pn**	**14 48 28.8**	**-0.9**
KLU	**Klutina**	**15.36**	**43**	Pn	**Pn**	**14 48 27.4**	**-3.2**
KLU				IAmb	IAmb	14 48 29.1	
	comp=Z,10nm,0.7s						
RAGM	**Ragged Mountai**	**15.44**	**48**	Pn	**Pn**	**14 48 29.6**	**-1.9**
M24K	**Tolsona, Glenn**	**15.56**	**41**	Pn	**Pn**	**14 48 30.4**	**-2.7**
HMT	**Hamilton**	**15.61**	**48**	Pn	**Pn**	**14 48 31.6**	**-2.1**
HMT				IAmb	IAmb	14 48 41.1	
	comp=Z,13nm,1.0s						
SUCK	**Suckling Hills**	**15.74**	**50**	Pn	**Pn**	**14 48 35.4**	**0.0**
IMAR	**Indian Mountai**	**15.79**	**22**	Pn	**Pn**	**14 48 35.1**	**-0.9**
N25K	**Chitina, Valde**	**15.98**	**44**	Pn	**Pn**	**14 48 36.6**	**-1.9**
WRH	**Wood River Hil**	**16.25**	**32**	Pn	**Pn**	**14 48 39.4**	**-2.4**
GLB	**Gilahina Butte**	**16.25**	**45**	Pn	**Pn**	**14 48 39.3**	**-2.6**
GLB				IAmb	IAmb	14 48 48.4	
	comp=Z,7.9nm,0.8s						
CRQM	**Cirque**	**16.28**	**48**	Pn	**Pn**	**14 48 41.4**	**-1.1**
CRQM				IAmb	IAmb	14 48 50.7	
	comp=Z,12nm,0.9s						
PAX	**Paxson**	**16.29**	**39**	Pn	**Pn**	**14 48 40.3**	**-2.2**
I23K	**Minto, Yukon-K**	**16.31**	**29**	Pn	**Pn**	**14 48 41.9**	**-0.7**
I23K				IAmb	IAmb	14 48 47.0	
	comp=Z,9.0nm,0.6s						
VRDI	**Verde Repeater**	**16.32**	**46**	Pn	**Pn**	**14 48 41.0**	**-2.0**
VRDI				IAmb	IAmb	14 48 49.2	
	comp=Z,12nm,1.4s						
TGL	**Tana Glacier**	**16.42**	**48**	Pn	**Pn**	**14 48 42.3**	**-1.8**
TGL				IAmb	IAmb	14 48 51.9	
	comp=Z,20nm,1.0s						
MCARA	**McCarthy VSAT**	**16.57**	**46**		**Pn**	**14 48 46.1**	**+0.2**
MCARA				IAmb	IAmb	14 48 59.9	
	comp=Z,7.9nm,0.8s						
HDA	**Harding Lake**	**16.59**	**33**		**Pn**	**14 48 46.5**	**+0.4**
ISLE	**Juniper Island**	**16.59**	**49**	Pn	**Pn**	**14 48 45.2**	**-1.2**
ISLE				IAmb	IAmb	14 48 57.8	
	comp=Z,12nm,0.6s						
MESA	**MESA**	**16.64**	**50**		**Pn**	**14 48 46.8**	**-0.2**
MESA				IAmb	IAmb	14 49 07.5	
	comp=Z,24nm,1.2s						
BALM	**Baldy**	**16.74**	**47**	Pn	**Pn**	**14 48 47.6**	**-0.6**
BALM				IAmb	IAmb	14 49 00.1	
	comp=Z,14nm,1.4s						
YAH	**Yahtse**	**16.79**	**50**		**Pn**	**14 48 48.4**	**-0.6**
YAH				IAmb	IAmb	14 48 56.4	
	comp=Z,16nm,0.8s						
IL31		**16.84**	**32**	Pn	**Pn**	**14 48 48.0**	**-1.2**
ILAR	**Eielson Array**	**16.84**	**32**	P	**Pn**	**14 48 47.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=231,slow=11,SNR=20						
BARN	**Barnard Glacie**	**17.06**	**48**		**Pn**	**14 48 52.1**	**-0.2**
BARN				IAmb	IAmb	14 48 58.5	
	comp=Z,6.7nm,1.0s						
TABL	**Table Mountain**	**17.10**	**50**		**Pn**	**14 48 52.2**	**-0.6**
TABL				IAmb	IAmb	14 49 01.1	
	comp=Z,8.5nm,0.8s						
CTGM	**Chitina Glacie**	**17.18**	**48**	Pn	**Pn**	**14 48 52.2**	**-1.6**
CTGM				IAmb	IAmb	14 48 59.8	
	comp=Z,8.7nm,0.6s						
DOT	**Dot Lake**	**17.19**	**38**		**Pn**	**14 48 53.2**	**-0.5**
BCAR	**Beaver Creek A**	**17.80**	**41**	Pn	**Pn**	**14 48 58.7**	**-2.7**
K27K	**Chicken**	**18.14**	**38**		**Pn**	**14 49 04.2**	**-1.3**
FYU	**Fort Yukon**	**18.52**	**29**	P	**P**	**14 49 09.4**	**-0.3**
FYU				IAmb	IAmb	14 49 13.4	
	comp=Z,8.3nm,0.7s						
EGAK	**Eagle**	**18.86**	**37**	P	**P**	**14 49 13.5**	**+0.1**
TOLK	**Toolik Lake Re**	**18.90**	**21**	P	**P**	**14 49 14.3**	**+0.3**
TOLK				IAmb	IAmb	14 49 22.7	
	comp=Z,3.4nm,0.6s						
DAWY	**Dawson**	**19.21**	**40**	P	**P**	**14 49 17.1**	**-0.2**
DAWY				IAmb	IAmb	14 49 21.3	
	comp=Z,3.3nm,0.6s						
BMAR	**Burnt Mountain**	**19.29**	**28**	P	**P**	**14 49 17.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**20.72**	**287**	P	**P**	**14 49 33.8**	**0.0**
PETK	**Petropavlovsk-**	**20.72**	**287**	P	**P**	**14 49 34.2**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=87,slow=13,SNR=7.2						
EPYK	**Eagle Plains**	**21.25**	**35**	P	**P**	**14 49 38.3**	**-1.1**
INK	**Inuvik**	**23.24**	**32**	P	**P**	**14 49 59.8**	**-0.6**
	comp=Z,6.3nm,0.5s,baz=210,slow=9.0,SNR=13						
INK	**Inuvik**	**23.24**	**32**		**P**	**14 49 59.6**	**-0

NEIC ***27*** *14:49:06.8±2.1, 15°.26N±0°.06×94°.69W±0°.06, h10km±1km, mb4.6/169, Md4.5/38(MEX), Error ellipse: s-maj=10.6km s-min=8.5km az=218.0*

MEX ***27*** *14:49:07.5±0.7, 14°.99N×94°.89W, h16km±11km, MD4.5*

IDC ***27*** *14:49:11.3±2.2, 15°.27N×94°.61W, h45km±18km, mb4.0/20, mb1 4.2/22, mb1mx4.1/40, mbtmp4.3/22, ML3.8/2, MS3.7/22, Ms1 3.8/22, ms1mx3.6/38, Error ellipse: s-maj=27.9km s-min=9.8km az=55.0*

ISC 27 14:49:06.0±2.1, 15°.20N±0°.05×94°.79W±0°.04, h12km±12km, n267, σ1°63/266, mb4.6/77, MS3.8/22, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.39**	**294**	*eP*		**Pn**	**14 49 28.8**	**-2.5**
HUIG				*eS*		**Sn**	**14 49 44.9**	**-4.7**
HUIG	**Huatulco**	**1.39**	**294**			**Pn**	**14 49 28.8**	**-2.5**
HUIG						**Sn**	**14 49 44.9**	**-4.7**
PCIG		**1.59**	**72**	*eP*		**Pn**	**14 49 33.7**	**-0.3**
PCIG				*i S*		**Sg**	**14 49 55.0**	**-2.3**
PCIG		**1.59**	**72**			**Pn**	**14 49 33.7**	**-0.3**
PCIG						**Sg**	**14 49 55.0**	**-2.3**
CMIG	**Matias Romero**	**1.88**	**357**	P		**Pn**	**14 49 38.5**	**+0.5**
	92nm,0.3s,baz=169,slow=12,SNR=669							
CMIG				S		**Sb**	**14 50 02.7**	**-1.0**
	153nm,0.3s,baz=170,slow=12,SNR=11							
CMIG				LR		LR	14 50 09.3	
	comp=Z,862nm,19.7s,baz=176,slow=32							
CMIG	**Matias Romero**	**1.88**	**357**	*eP*		**Pn**	**14 49 38.5**	**+0.5**
CMIG				*eS*		**Sb**	**14 50 03.0**	**-0.7**
TGIG		**2.24**	**45**	*eP*		**Pn**	**14 49 44.5**	**-1.9**
TGIG				*i S*		**Sb**	**14 50 12.6**	**-1.6**
TGIG		**2.24**	**45**			**Pb**	**14 49 44.5**	**-1.9**
TGIG						**Sb**	**14 50 12.6**	**-1.6**
TGBT	**Tuxtla Gutierr**	**2.26**	**46**	*i* P		**Pn**	**14 49 43.8**	**+0.6**
TGBT	**Tuxtla Gutierr**	**2.26**	**46**			**Pn**	**14 49 43.8**	**+0.6**
PEIG	**Puerto Escondi**	**2.41**	**289**	*eP*		**Pn**	**14 49 43.4**	**-1.8**
PEIG				*i S*		**Sn**	**14 50 10.5**	**-4.2**
THIG		**2.45**	**97**	*i* P		**Pn**	**14 49 45.6**	**-0.2**
THIG				*i S*		**Sn**	**14 50 14.5**	**-1.2**
THIG		**2.45**	**97**			**Pn**	**14 49 45.6**	**-0.2**
THIG						**Sn**	**14 50 14.5**	**-1.2**
VHO	**Vista Hermosa**	**2.64**	**315**	*i* P		**Pn**	**14 49 49.6**	**+1.1**
VHO				*i S*		**Sn**	**14 50 20.0**	**-0.6**
CCIG	**Comitan**	**2.77**	**67**	*eP*		**Pb**	**14 49 53.3**	**-2.2**
CCIG				*i S*		**Sb**	**14 50 25.4**	**-4.0**
CCIG	**Comitan**	**2.77**	**67**			**Pb**	**14 49 52.5**	**-3.0**
CCIG	**Comitan**	**2.77**	**67**			**Sb**	**14 50 25.4**	**-4.0**
TUIG	**Tuzandepetl**	**2.84**	**7**	*eP*		**Pn**	**14 49 52.8**	**+1.7**
TUIG	**Tuzandepetl**	**2.84**	**7**			**Pn**	**14 49 52.8**	**+1.7**
RTAL	**Retalhuleu**	**3.06**	**102**	Pn		**Pn**	**14 49 56.5**	**+2.3**
HUEH	**Huehuetenango**	**3.17**	**87**			**Pn**	**14 49 58.0**	**+2.1**
PNIG	**Pinotepa**	**3.43**	**291**	*eP*		**Pn**	**14 49 58.4**	**-0.9**
PNIG				*i S*		Sn	14 50 33.1	-6.7
PNIG	**Pinotepa**	**3.43**	**291**			**Pn**	**14 49 58.4**	**-0.9**
PNIG						Sn	14 50 33.1	-6.7
APG	**El Apazote**	**4.18**	**92**	P		**Pn**	**14 50 11.2**	**+1.4**
	5.3nm,0.3s,baz=302,slow=10,SNR=22							
APG				S		**Sn**	**14 51 02.6**	**+3.9**
	14nm,0.3s,baz=78,slow=17,SNR=5.8							
FTIG	**Fresnillo de T**	**4.19**	**310**	*eP*		**Pn**	**14 50 08.9**	**-0.9**
FTIG				*i S*		**Sn**	**14 50 57.5**	**-1.2**
PETF	**Flores**	**5.03**	**70**	Pn		**Pn**	**14 50 22.3**	**+1.1**
ESQI	**Esquipulas**	**5.30**	**96**	Pn		**Pn**	**14 50 26.2**	**+1.0**
MTO3	**Montecristo**	**5.31**	**98**	Pn		**Pn**	**14 50 26.1**	**+0.8**
PPM	**Popocatepetl**	**5.32**	**317**	*eP*		**Pn**	**14 50 30.1**	**+4.4**
PPM				*i S*		**Sn**	**14 51 26.4**	**-0.6**
MAVM	**Malinalco, Edo**	**5.85**	**310**	*i* P		**Pn**	**14 50 35.8**	**+3.1**
MAVM				*eS*		**Sn**	**14 51 36.7**	**-3.1**
MAVM	**Malinalco, Edo**	**5.85**	**310**			**Pn**	**14 50 35.8**	**+3.1**
MAVM						**Sn**	**14 51 36.7**	**-3.1**
MOIG	**Morelia**	**7.56**	**307**	Pn		**Pn**	**14 51 00.7**	**+4.5**
CRIN	**San Cristobal**	**7.91**	**107**	Pn		**Pn**	**14 51 04.0**	**+3.0**
TEIG	**Tepich**	**7.96**	**50**	Pn		**Pn**	**14 51 00.9**	**-0.7**
MATN	**Matagalpa**	**8.89**	**104**	Pn		**Pn**	**14 51 16.3**	**+1.9**
ZAIG	**Zacatecas**	**10.52**	**317**			**Pn**	**14 51 40.2**	**+3.2**
JTS	**Las Juntas de**	**10.76**	**116**	P		Pn	14 51 46.4	+6.4
	0.6nm,0.3s,baz=351,slow=19,SNR=1.1							
833A	**Chaparral WMA,**	**13.74**	**343**	Pn		**Pn**	**14 52 23.5**	**+2.9**
441A	**DeRidder**	**15.54**	**5**	P		**P**	**14 52 49.3**	**0.0**
441A				IAmb		IAmb	14 53 25.0	
	comp=Z,29nm,0.7s							
435B	**Jarrell**	**15.72**	**351**	P		**P**	**14 52 52.7**	**+1.4**
435B				IAmb		IAmb	14 53 15.3	
	comp=Z,37nm,0.7s							
JCT	**Junction City**	**15.89**	**344**	Pn		**Pn**	**14 52 51.4**	**+1.8**
TXAR	**Lajitas Array**	**16.28**	**331**	P		**P**	**14 52 57.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=47							
TXAR				LR		LR	14 59 31.8	
	comp=Z,227nm,18.3s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**16.28**	**331**	Pn		**Pn**	**14 52 56.5**	**+2.0**
TX31	**Lajitas Ar. Si**	**16.28**	**331**	Pn		**Pn**	**14 52 56.5**	**+1.9**
TX31				IAmb		IAmb	14 53 10.0	
	comp=Z,34nm,1.1s							
TX32	**Lajitas Array**	**16.28**	**331**			**Pn**	**14 52 56.5**	**+1.9**
PAYG	**Puerto Ayora**	**16.39**	**164**	P		**P**	**14 53 00.1**	**+1.3**
PAYG				IAmb		IAmb	14 53 53.9	
	comp=Z,86nm,1.1s							
344A	**Westbrook Farm**	**16.60**	**12**	Pn		**Pn**	**14 52 59.3**	**+0.8**
WHTX	**Lake Whitney,**	**16.89**	**352**	P		**P**	**14 53 06.2**	**+1.9**
LPIG	**La Paz**	**17.08**	**304**	LR		LR	15 00 09.2	
	comp=Z,183nm,18.6s,baz=122,slow=38							
060A	**Indiantown**	**17.86**	**46**			**P**	**14 53 14.9**	**-0.2**
ABTX	**Abilene, Hawle**	**17.90**	**347**			**P**	**14 53 16.4**	**+1.0**
ABTX				IAmb		IAmb	14 53 26.3	
	comp=Z,44nm,1.1s							
656A	**Willston**	**18.07**	**37**	P		**Pn**	**14 53 16.8**	**-0.1**
656A				IAmb		IAmb	14 53 23.2	
	comp=Z,26nm,0.9s							
352A	**Blakely**	**18.54**	**27**	P		**P**	**14 53 22.3**	**-0.2**
352A				IAmb		IAmb	14 53 29.3	
	comp=Z,33nm,0.8s							
Z47A	**Carrollton**	**18.93**	**18**	P		**P**	**14 53 26.2**	**-0.5**
GDL2	**Guadalupe Moun**	**19.04**	**334**	P		**Pn**	**14 53 30.6**	**+1.7**
MNTX	**Cornudas Mount**	**19.06**	**331**	P		**P**	**14 53 29.8**	**+1.5**
LRAL	**Lakeview Retre**	**19.11**	**20**			**P**	**14 53 28.8**	**+0.1**
MIAR	**Mount Ida**	**19.29**	**3**	P		**P**	**14 53 31.2**	**+0.5**
X37A	**Clayton**	**19.31**	**359**	P		**P**	**14 53 31.7**	**+0.8**
UALR	**University of**	**19.61**	**6**	P		**P**	**14 53 34.7**	**+0.4**
152A	**Waverly Hall**	**19.65**	**26**	P		**P**	**14 53 35.3**	**+0.6**
WMOK	**Wichita Mounta**	**19.78**	**350**	P		**P**	**14 53 37.3**	**+1.2**
W39A	**Magazine**	**19.93**	**2**	P		**P**	**14 53 38.3**	**+0.6**
W39A				IAmb		IAmb	14 53 59.4	
	comp=Z,42nm,1.5s							
MSTX	**Muleshoe**	**20.03**	**340**	P		Pn	14 53 41.0	+0.2
Y49A	**Blount Mountai**	**20.06**	**21**	P		**P**	**14 53 39.0**	**-0.1**
FNO	**Franklin**	**20.11**	**354**	P		Pn	14 53 41.4	-0.1
WHAR	**Wooly Hollow**	**20.13**	**6**	P		**P**	**14 53 40.8**	**+1.0**
MET	**Memphis--Engin**	**20.31**	**12**	P		**P**	**14 53 42.9**	**+1.1**
X48A	**Hartselle**	**20.40**	**19**	P		**P**	**14 53 43.1**	**+0.3**
BCOK	**Bluff Creek, N**	**20.53**	**353**	P		**P**	**14 53 45.4**	**+1.2**
AMTX	**Amarillo**	**20.56**	**344**	P		**P**	**14 53 45.6**	**+1.0**
AMTX				IAmb		IAmb	14 53 57.3	
	comp=Z,21nm,0.8s							
CBOC	**Ciudad Bolivar**	**20.64**	**115**	*eP*		Pn	14 53 48.2	+0.2
TUL1	**Leonard**	**20.64**	**358**	P		**P**	**14 53 46.7**	**+1.2**
TUL1				IAmb		IAmb	14 53 51.6	
	comp=Z,20nm,1.2s							
FCAR	**Ozark Folk Cen**	**20.74**	**6**	P		**P**	**14 53 46.2**	**-0.3**
319A	**Douglas**	**20.85**	**323**	P		**P**	**14 53 50.3**	**+2.4**
319A				IAmb		IAmb	14 54 00.0	
	comp=Z,19nm,1.1s							
121A	**Cookes Peak, D**	**20.92**	**328**	P		**P**	**14 53 50.8**	**+2.2**
121A				IAmb		IAmb	14 53 53.9	
	comp=Z,19nm,0.9s							
QUOK	**Quay**	**20.95**	**356**	P		**P**	**14 53 49.9**	**+1.0**
QUOK				IAmb		IAmb	14 53 53.7	
	comp=Z,20nm,0.7s							
FPAL	**Fort Paine**	**20.95**	**22**	P		**P**	**14 53 48.3**	**-0.6**
Y52A	**Lilburn**	**20.96**	**26**	P		**P**	**14 53 48.7**	**-0.2**
Y52A				IAmb		IAmb	14 54 04.3	
	comp=Z,25nm,1.1s							
U40A	**Yellville**	**21.14**	**4**	P		**P**	**14 53 50.6**	**-0.2**
SWET	**Sewanee**	**21.46**	**20**	P		**P**	**14 53 53.7**	**-0.6**
GUY2C	**Guyana, Caldas**	**21.51**	**115**	*eP*		**P**	**14 53 57.7**	**+2.2**
T35A	**Sooner Cattle**	**21.68**	**356**	P		**P**	**14 53 57.6**	**+1.0**
T35A				IAmb		IAmb	14 53 59.6	
	comp=Z,52nm,1.4s							
RREF	**El Recreo**	**21.68**	**116**	*eP*		**P**	**14 53 56.0**	**-1.4**
BNM	**Barren Site**	**21.68**	**333**	P		**P**	**14 53 58.9**	**+1.9**
BBAC	**Balboa, Cauca**	**21.70**	**125**	*eP*		**P**	**14 53 58.2**	**+1.0**
PTBC	**PUERTO BERRIO,**	**21.72**	**111**	*eP*		**P**	**14 53 56.3**	**-1.0**
WVT	**Waverly**	**21.75**	**15**	P		**P**	**14 53 58.0**	**+0.7**
POPC	**Popayan, Colom**	**21.84**	**123**	*eP*		**P**	**14 54 00.2**	**+1.4**
LENM	**Lemitar**	**21.85**	**332**	P		**P**	**14 54 00.6**	**+1.9**
KAN13	**South Haven SW**	**21.86**	**354**	P		**P**	**14 53 59.6**	**+1.2**
TOLC	**Tolima**	**21.86**	**117**	*eP*		**P**	**14 54 03.9**	**+4.8**
T42A	**Van Buren**	**21.99**	**8**	P		**P**	**14 53 59.9**	**0.0**
KAN05	**Bluff City Nor**	**21.99**	**353**	P		**P**	**14 54 01.6**	**+1.7**
W52A	**Murphy**	**22.08**	**24**	P		**P**	**14 54 00.4**	**-0.6**
KAN08	**Anthony NE Sta**	**22.12**	**353**	P		**P**	**14 54 03.1**	**+1.8**
CPCT	**Cooper Cave**	**22.16**	**23**	P		**P**	**14 54 02.3**	**+0.5**
CPCT				IAmb		IAmb	14 54 09.7	
	comp=Z,29nm,1.9s							
KAN12	**Harper NE Stat**	**22.19**	**353**	P		**P**	**14 54 04.0**	**+1.8**
ANMO	**Albuquerque**	**22.29**	**334**	P		**P**	**14 54 03.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=135,slow=13,SNR=2.0							
ANMO				LR		LR	15 04 07.3	
	comp=Z,133nm,19.4s,baz=158,slow=40							
ANMO	**Albuquerque**	**22.29**	**334**	P		**P**	**14 54 05.0**	**+1.7**
BG3	**Lake Jocassee**	**22.40**	**26**	P		**P**	**14 54 04.0**	**-0.5**
TUC	**Tucson**	**22.41**	**322**	P		**P**	**14 54 06.8**	**+2.2**
S39A	**Bolivar**	**22.44**	**3**	P		**P**	**14 54 05.1**	**+0.3**
ROSC	**El Rosal**	**22.61**	**115**	P		**P**	**14 54 08.8**	**+1.6**
	comp=Z,7.7nm,0.5s,baz=359,slow=7.2,SNR=6.0							
ROSC	**El Rosal**	**22.61**	**115**	IAmb		IAmb	14 54 22.0	
	comp=Z,41nm,1.4s							
TKL	**Tuckaleechee C**	**22.63**	**24**	P		**P**	**14 54 05.8**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=197,slow=14,SNR=2.7							
TKL				LR		LR	15 05 27.6	
	comp=Z,148nm,19.3s,baz=198,slow=43							
TKL	**Tuckaleechee C**	**22.63**	**24**	IAmb		IAmb	14 54 19.2	
	comp=Z,15nm,1.1s							
U49A	**Red Boiling Sp**	**22.69**	**19**	P		**P**	**14 54 06.9**	**-0.6**
U49A				IAmb		IAmb	14 54 23.8	
	comp=Z,16nm,1.4s							
T47A	**Sharon Grove**	**22.75**	**16**	P		**P**	**14 54 07.9**	**-0.1**
T47A				IAmb		IAmb	14 54 09.5	
	comp=Z,15nm,0.8s							
V52A	**Sevierville**	**22.86**	**24**	P		**P**	**14 54 08.4**	**-0.9**
V52A				IAmb		IAmb	14 54 27.5	
	comp=Z,30nm,1.6s							
CCM	**Cathedral Cave**	**22.98**	**7**	P		**P**	**14 54 10.3**	**-0.1**
CCM				IAmb		IAmb	14 54 27.8	
	comp=Z,30nm,1.7s							
PAMC	**Pamplona, Colo**	**23.01**	**107**	*eP*		**P**	**14 54 11.7**	**+0.2**
R40A	**Maddies Statio**	**23.11**	**5**	P		**P**	**14 54 11.8**	**+0.1**
R40A				IAmb		IAmb	14 54 13.2	
	comp=Z,15nm,1.1s							
CHIC	**Chingaza**	**23.22**	**115**	*eP*		**P**	**14 54 13.6**	**0.0**
RUSC	**La Rusia**	**23.23**	**111**	*eP*		**P**	**14 54 15.0**	**+1.2**
R32A	**Long Quarter,**	**23.39**	**352**	P		**P**	**14 54 15.6**	**+0.9**
R32A				IAmb		IAmb	14 54 16.9	
	comp=Z,28nm,1.0s							
214A	**Organ Pipe Nat**	**23.41**	**319**	P		**P**	**14 54 17.1**	**+2.1**
T50A	**Nancy**	**23.46**	**20**	P		**P**	**14 54 14.5**	**-0.8**
T50A				IAmb		IAmb	14 54 54.3	
	comp=Z,16nm,1.4s							
T25A	**Trinidad**	**23.46**	**340**	P		**P**	**14 54 18.0**	**+2.3**
KSU1	**Kansas State U**	**23.86**	**356**	P		**P**	**14 54 19.6**	**+0.4**
KSU1				IAmb		IAmb	14 54 23.6	
	comp=Z,8.8nm,0.6s							
V55A	**Taylorsville**	**23.88**	**28**	P		**P**	**14 54 18.8**	**-0.7**
V55A				IAmb		IAmb	14 54 19.9	
	comp=Z,13nm,0.9s							
CBKS	**Cedar Bluff**	**23.92**	**350**	P		**P**	**14 54 20.2**	**+0.4**
WCI	**Wyandotte Cave**	**24.13**	**17**	P		**P**	**14 54 21.0**	**-0.8**
WCI				IAmb		IAmb	14 54 22.7	
	comp=Z,20nm,0.9s							
P40A	**Paris**	**24.36**	**5**	P		**P**	**14 54 22.8**	**-1.0**
P38A	**Dawn**	**24.36**	**2**	P		**P**	**14 54 23.7**	**-0.1**
P38A				IAmb		IAmb	14 54 24.6	
	comp=Z,16nm,1.0s							
SDCO	**Great Sand Dun**	**24.38**	**339**	P		**P**	**14 54 25.0**	**+0.6**
SDV	**Santo Domingo**	**24.43**	**102**	P		**P**	**14 54 25.1**	**+0.1**
	comp=Z,8.4nm,0.9s,baz=316,slow=5.4,SNR=11							
SDV				LR		LR	15 06 12.1	
	comp=Z,258nm,18.8s,baz=317,slow=42							
SDV	**Santo Domingo**	**24.43**	**102**	P		**P**	**14 54 24.2**	**-0.7**
SDV				IAmb		IAmb	14 54 27.2	
	comp=Z,9.2nm,0.9s							
R49A	**Shelbyville**	**24.52**	**18**	P		**P**	**14 54 24.2**	**-1.1**
R49A				IAmb		IAmb	14 54 32.0	
	comp=Z,26nm,1.6s							
DR12	**Loma Pena Alta**	**24.55**	**78**	P		**P**	**14 54 23.9**	**-1.9**
113A	**Mohawk Valley,**	**24.56**	**319**	P		**P**	**14 54 27.0**	**+1.3**
MVCO	**Mesa Verde**	**25.08**	**333**	P		**P**	**14 54 31.6**	**+0.9**
MVCO				IAmb		IAmb	14 54 53.0	
	comp=Z,8.0nm,1.0s							
WUAZ	**Wupatki**	**25.10**	**327**	P		**P**	**14 54 33.6**	**+2.7**
P46A	**Rosedale**	**25.21**	**14**	P		**P**	**14 54 31.2**	**-0.4**
P46A				IAmb		IAmb	14 55 22.4	
	comp=Z,13nm,0.8s							
S54A	**Dingess, Beckl**	**25.48**	**25**	P		**P**	**14 54 32.9**	**-1.1**
N38A	**Joes South For**	**25.53**	**3**	P		**P**	**14 54 34.5**	**0.0**
R53A	**Hurricane**	**25.68**	**24**	P		**P**	**14 54 34.8**	**-1.0**
R53A				IAmb		IAmb	14 54 35.8	
	comp=Z,18nm,0.9s							
Q51A	**Peebles**	**25.78**	**21**	P		**P**	**14 54 35.4**	**-1.3**
Q51A				IAmb		IAmb	14 54 36.9	
	comp=Z,9.0nm,0.8s							
PV01	**Paradox Valley**	**25.89**	**335**	P		**P**	**14 54 40.2**	**+2.2**
PV01				IAmb		IAmb	14 54 43.2	
	comp=Z,8.3nm,1.0s							
PV13	**Radium Mtn., P**	**26.01**	**334**	P		**P**	**14 54 41.0**	**+1.8**
PV12	**Saucer Basin,**	**26.14**	**334**	P		**P**	**14 54 40.3**	**0.0**
PV12				IAmb		IAmb	14 54 54.8	
	comp=Z,21nm,1.4s							
PV11	**David Mesa, Pa**	**26.15**	**334**	P		**P**	**14 54 40.7**	**+0.3**
PV11				IAmb		IAmb	14 55 04.4	
	comp=Z,9.8nm,1.0s							
PV17	**East Wray Mesa**	**26.17**	**334**	P		**P**	**14 54 41.8**	**+1.2**
PV16	**Nyswonger Mesa**	**26.18**	**334**	P		**P**	**14 54 41.4**	**+0.7**
PV16				IAmb		IAmb	14 55 04.6	
	comp=Z,26nm,1.7s							
PV19	**Morning Glory**	**26.21**	**334**	P		**P**	**14 54 42.6**	**+1.7**
PV19				IAmb		IAmb	14 54 59.7	
	comp=Z,14nm,1.6s							
PV04	**Paradox Valley**	**26.25**	**334**	P		**P**	**14 54 42.4**	**+1.2**
PV04				IAmb		IAmb	14 54 44.7	
	comp=Z,27nm,1.6s							
PV14	**Lion Creek, Pa**	**26.28**	**334**	P		**P**	**14 54 42.6**	**+1.0**
PV22	**Blue Mesa, Par**	**26.32**	**335**	P		**P**	**14 54 43.5**	**+1.6**
PV22				IAmb		IAmb	14 54 45.5	
	comp=Z,8.7nm,1.0s							
R55A	**Marlinton**	**26.39**	**27**	P		**P**	**14 54 41.4**	**-0.9**
R55A				IAmb		IAmb	14 55 18.0	
	comp=Z,13nm,1.0s							
O49A	**Covington**	**26.51**	**18**	P		**P**	**14 54 41.8**	**-1.6**
O49A				IAmb		IAmb	14 54 50.6	
	comp=Z,16nm,0.9s							
SCIA	**State Center**	**26.64**	**3**	P		**P**	**14 54 44.6**	**+0.1**
Q54A	**Coxs Mills**	**26.68**	**25**	P		**P**	**14 54 44.1**	**-0.8**
Q54A				IAmb		IAmb	14 54 44.5	
	comp=Z,7.8nm,0.7s							
P52A	**Corning**	**26.75**	**22**	P		**P**	**14 54 43.9**	**-1.6**
P52A				IAmb		IAmb	14 54 44.8	
	comp=Z,13nm,0.8s							
L40A	**Anamosa**	**26.94**	**6**	P		**P**	**14 54 46.9**	**-0.3**
L40A				IAmb		IAmb	14 54 47.6	
	comp=Z,20nm,1.1s							
JSRW	**J. Sargeant Re**	**26.95**	**31**	P		**P**	**14 54 45.5**	**-1.8**
KNB	**Kanab**	**27.00**	**327**	P		**P**	**14 54 50.1**	**+2.1**
LCMT	**Little Creek M**	**27.22**	**326**	P		**P**	**14 54 50.0**	**0.0**
O52A	**Adamsville**	**27.28**	**22**	P		**P**	**14 54 48.5**	**-1.7**
O52A				IAmb		IAmb	14 54 50.1	
	comp=Z,18nm,0.8s							
MTPU	**Mount Pierson**	**27.46**	**329**	P		**P**	**14 54 53.7**	**+1.4**
ATAH	**Atahualpa**	**27.50**	**143**	P		**P**	**14 54 55.5**	**+2.5**
	comp=Z,5.0nm,0.7s,baz=321,slow=5.8,SNR=3.6							
ATAH				LR		LR	15 03 26.2	
	comp=Z,129nm,19.5s,baz=259,slow=31							
SJG	**San Juan**	**27.57**	**80**	LR		LR	15 06 38.0	
	comp=Z,84nm,19.2s,baz=252,slow=38							
JFWS	**Jewell Farm**	**27.89**	**7**	P		**P**	**14 54 54.9**	**-0.8**
MTP	**Monte Pirata**	**28.14**	**80**	P		**P**	**14 54 56.8**	**-1.5**
MTP				IAmb		IAmb	14 55 43.2	
	comp=Z,15nm,1.1s							
ECSD	**EROS Data Cent**	**28.48**	**357**	P		**P**	**14 55 01.3**	**+0.4**
ECSD				IAmb		IAmb	14 55 47.8	
	comp=Z,17nm,1.4s							
K22A	**Casper**	**29.16**	**342**	P		**P**	**14 55 08.3**	**+1.1**
K22A				IAmb		IAmb	14 55 10.2	
	comp=Z,7.7nm,1.1s							
SPMN	**Marine on St.**	**29.97**	**3**	P		**P**	**14 55 13.3**	**-0.9**
BW06	**Boulder Array**	**30.26**	**338**	P		**P**	**14 55 16.7**	**-0.3**
PDAR	**Pinedale Array**	**30.26**	**338**	P		**P**	**14 55 18.9**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=145,slow=8.1,SNR=8.2							
PDAR				PcP		**PcP**	**14 58 17.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=142,slow=4.6,SNR=3.3							
PDAR	**Pinedale Array**	**30.26**	**338**	P		**P**	**14 55 16.8**	**-0.3**
F36A	**Milaca**	**30.58**	**2**	P		**P**	**14 55 18.7**	**-0.9**
F36A				IAmb		IAmb	14 56 02.0	
	comp=Z,23nm,1.6s							
AHID	**Auburn Hatcher**	**30.84**	**336**	P		**P**	**14 55 23.0**	**+0.9**
AHID				IAmb		IAmb	14 55 40.3	
	comp=Z,14nm,1.5s							
NV11	**Mina Array Sit**	**30.98**	**323**	P		**P**	**14 55 25.4**	**+2.0**
NV11				IAmb		IAmb	14 55 27.6	
	comp=Z,6.3nm,1.1s							
MDPB	**Devils Postpil**	**31.01**	**321**	P		**P**	**14 55 25.7**	**+1.9**
ELK	**Elko**	**31.05**	**329**	P		**P**	**14 55 25.9**	**+1.9**
NVAR	**Mina Array Bea**	**31.07**	**323**	P		**P**	**14 55 27.4**	**+3.2**
	comp=Z,2.3nm,0.8s,baz=140,slow=8.9,SNR=15							
NVAR				LR		LR	15 08 30.6	
	comp=Z,210nm,19.2s,baz=137,slow=37							
NVAR	**Mina Array Bea**	**31.07**	**323**	P		**P**	**14 55 27.2**	**+3.0**
REDW	**Red Top Meadow**	**31.25**	**337**	P		**P**	**14 55 27.6**	**+1.8**
REDW				IAmb		IAmb	14 55 29.0	
	comp=Z,9.6nm,0.9s							
SNOW	**Snow King Moun**	**31.30**	**337**	P		**P**	**14 55 27.9**	**+1.7**
KVN	**Kaiserville**	**31.36**	**324**	P		**P**	**14 55 28.8**	**+2.0**
KVN				IAmb		IAmb	14 55 36.3	
	comp=Z,11nm,1.8s							
LOHW	**Long Hollow**	**31.37**	**338**	P		**P**	**14 55 28.6**	**+1.7**
LOHW				IAmb		IAmb	14 55 30.0	
	comp=Z,6.9nm,0.9s							
TPAW	**Teton Pass**	**31.40**	**337**	P		**P**	**14 55 29.2**	**+2.1**
TPAW				IAmb		IAmb	14 55 30.5	
	comp=Z,11nm,1.1s							
MOOW	**Moose Ponds**	**31.54**	**338**	P		**P**	**14 55 30.2**	**+1.8**
IMW	**Indian Meadow**	**31.74**	**338**	P		**P**	**14 55 31.7**	**+1.5**
IMW				IAmb		IAmb	14 55 33.0	
	comp=Z,20nm,1.9s							
RLMT	**Red Lodge**	**32.24**	**341**	P		**P**	**14 55 35.4**	**+1.0**
RLMT				IAmb		IAmb	14 55 37.3	
	comp=Z,9.3nm,1.0s							
J57A	**Williamstown**	**32.38**	**26**	P		**P**	**14 55 35.5**	**+0.1**
YMR	**Madison River**	**32.42**	**338**	P		**P**	**14 55 38.0**	**+2.0**
YHH	**Holmes Hill**	**32.48**	**338**	P		**P**	**14 55 38.5**	**+1.8**
QLMT	**Earthquake Lak**	**32.72**	**338**	P		**P**	**14 55 39.5**	**+0.8**
HLID	**Hailey**	**32.86**	**333**	P		**P**	**14 55 40.5**	**+0.6**
AGMN	**Agassiz Nation**	**33.01**	**359**	P		**P**	**14 55 40.4**	**-0.6**
B35A	**Bob, Littlefor**	**33.08**	**1**	P		**P**	**14 55 40.3**	**-1.2**
B35A				IAmb		IAmb	14 55 41.3	
	comp=Z,12nm,0.9s							
MCMT	**McKenzie Canyo**	**33.26**	**336**	P		**P**	**14 55 46.0**	**+2.6**
BOZ	**Bozeman (W)**	**33.45**	**338**	P		**P**	**14 55 46.5**	**+1.5**
DLMT	**Dillon**	**33.61**	**337**	P		**P**	**14 55 48.1**	**+1.8**
LRM

NOA	**NORSAR Array B**	**84.37**	**28**	P	**P**	**15 01 38.7**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=299,slow=5.2,SNR=4.0						
NOA				LR	LR	15 37 24.2	
	comp=Z,56nm,21.8s,baz=295,slow=34						
ARCES	**ARCESS Array B**	**85.83**	**18**	P	**P**	**15 01 45.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=316,slow=5.0,SNR=3.5						
HFS	**Hagfors**	**85.85**	**28**	LR	LR	15 37 44.3	
	comp=Z,85nm,21.0s,baz=319,slow=34						
DBIC	**Dimbokro**	**88.21**	**84**	P	**P**	**15 01 57.5**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=252,slow=6.4,SNR=3.7						
DBIC				LR	LR	15 39 21.3	
	comp=Z,26nm,20.0s,baz=283,slow=34						
DBIC	**Dimbokro**	**88.21**	**84**	P	**P**	**15 01 57.4**	**-0.4**
DAVOX	**Davos/Dischmat**	**88.78**	**42**	LR	LR	15 37 49.2	
	comp=Z,69nm,20.5s,baz=264,slow=33						
FINES	**FINESS Array B**	**90.54**	**24**	LR	LR	15 44 00.4	
	comp=Z,22nm,18.2s,baz=280,slow=36						
TORD	**Torodi Ar. Bea**	**92.71**	**76**	P	**P**	**15 02 17.0**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=271,slow=7.1,SNR=1.8						
TORD				LR	LR	15 45 03.9	
	comp=Z,39nm,18.1s,baz=150,slow=36						
URZ	**Urewera**	**97.79**	**233**	LR	LR	15 36 40.0	
	comp=Z,92nm,20.7s,baz=200,slow=29						
AKASG	**Malin Array Be**	**98.18**	**32**	LR	LR	15 48 02.3	
	comp=Z,31nm,18.7s,baz=305,slow=36						
LZH	**Lanzhou**	**126.03**	**341**	*e*PKP	**PKPdf**	**15 08 03.0**	**-5.8**
LZH				sPKP		15 08 39.8	
WRA	**Warramunga Array**	**133.06**	**257**	PKP	**PKPdf**	**15 08 22.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=83,slow=2.5,SNR=6.1						
ASAR	**Alice Springs**	**133.50**	**252**	PKhKP	PKPpre	15 08 18.1	
	comp=Z,0.3nm,0.9s,baz=72,slow=3.0,SNR=2.7						
ASAR				PKP	**PKPdf**	**15 08 23.0**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=113,slow=1.6,SNR=5.4						
ASAR	**Alice Springs**	**133.50**	**252**	PKPdf	**PKPdf**	**15 08 22.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**143.92**	**338**	PKP	PKPab	15 08 39.8	+0.4
	comp=Z,1.6nm,0.9s,baz=342,slow=4.3,SNR=11						
HYB	**Hyderabad**	**146.93**	**12**	*i* PKP	**PKPdf**	**15 08 49.0**	**+1.5**

*TEH **27** 15:08:33.8,32.°70N×47.°78E,h8km,ML3.6*
*ISN **27** 15:08:33.5±1.0,32.°72N×47.°76E, h14km±6km, ML3.5*
*THR **27** 15:08:36.6±0.3,32.°68N×47.°91E, h14km±4km, ML3.3*

ISC 27 15:08:34.1±1.4, 32.°67N±0.°03×47.°73E±0.°04, h3km±12km, n54, σ0°88/60, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**7**	*e*Pg		**Pg**	**15 08 50.1**	**-0.5**
IKFM				*e*			15 09 08.9	
IKMR	**Kamar-syah**	**1.01**	**33**	*e*Pg		**Pg**	**15 08 52.2**	**-1.2**
IKMR				*e*			15 09 14.0	
SHGR	**Shooshtar-Gavs**	**1.07**	**121**	*e*Pg		**Pg**	**15 08 54.4**	**-0.2**
SHGR				IAML			15 09 14.8	
	comp=N,947nm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.07**	**121**	*e*Pg		**Pg**	**15 08 54.4**	**-0.2**
IDOB	**Doab**	**1.18**	**19**	*e*Pg		**Pg**	**15 08 55.4**	**-1.3**
IKOM	**Komasi**	**1.51**	**353**	*e*			15 09 05.1	
IKOM				*e*Pg		**Pn**	**15 09 02.7**	**+0.5**
IKOM				*e*Sg		**Sg**	**15 09 23.2**	**+0.5**
AHWZ	**Ahwaz**	**1.55**	**149**	*e*Sg		**Sg**	**15 09 25.6**	**+1.8**
AHWZ				*e*Pg		**Pg**	**15 09 03.8**	**0.0**
IBDR	**Badra**	**1.57**	**287**	*e*Pg		**Pn**	**15 09 02.0**	**-0.9**
IBDR				*e*Sg		**Sn**	**15 09 24.0**	**+0.3**
IBDR				AML		AML	15 09 31.1	
	comp=E,486nm,0.5s							
IBDR				AML		AML	15 09 32.7	
	comp=N,502nm,0.8s							
KCHF	**Cheshme Sefid,**	**1.70**	**341**	*e*			15 09 34.6	
KCHF				*e*Pg		**Pb**	**15 09 06.4**	**+0.3**
HSAM	**Samen**	**1.70**	**25**	*e*			15 09 07.7	
HSAM				*e*Pg		**Pn**	**15 09 04.8**	**-0.1**
IBZA	**Bozab**	**1.80**	**4**	*e*			15 09 40.0	
IBZA				*e*Pg		**Pb**	**15 09 07.7**	**-0.1**
IGHG	**Ghaleghazi**	**1.92**	**330**	*e*			15 09 54.1	
IGHG				*e*Pn		**Pb**	**15 09 09.6**	**-0.2**
IVIS	**Veis**	**1.99**	**339**	*e*Pn		**Pn**	**15 09 10.0**	**+1.3**
IVIS				*e*			15 09 42.7	
NSR	**Nassriya**	**2.13**	**220**	*e*Pn		**Pn**	**15 09 11.0**	**+0.4**
NSR				*e*Sn		**Sn**	**15 09 37.0**	**-0.6**
NSR				AML		AML	15 09 58.2	
	comp=E,576nm,0.7s							
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn		**Pn**	**15 09 12.4**	**+1.3**
KHMZ				*e*Sg		**Sb**	**15 09 40.4**	**-0.6**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn		**Pn**	**15 09 12.4**	**+1.3**
IALM	**Almabolaq**	**2.21**	**9**	*e*Pn		**Pn**	**15 09 11.6**	**-0.4**
IDHR	**Dehrash**	**2.31**	**331**	*e*Pn		**Pn**	**15 09 14.6**	**+1.4**
IDHR				*e*			15 09 54.6	
ILIN	**Lien**	**2.33**	**344**	*e*Pn		**Pn**	**15 09 14.7**	**+1.2**
ILIN				*e*			15 09 55.5	
SNGE	**Sanandaj**	**2.44**	**353**	*e*Pn		**Pb**	**15 09 18.2**	**-0.5**
SNGE	**Sanandaj**	**2.44**	**353**	*e*Pn		**Pb**	**15 09 18.2**	**-0.5**
HAGD	**Aghdareh**	**2.45**	**28**	*e*Pn		**Pn**	**15 09 15.6**	**+0.5**
HAGD				*e*			15 09 57.4	
HSRG	**Sareghieh**	**2.61**	**10**	*e*Pn		**Pn**	**15 09 19.5**	**+2.1**
HSRG				*e*			15 10 04.7	
IPIR	**Pirpir**	**2.67**	**89**	*e*Pn		**Pn**	**15 09 18.7**	**+0.4**
IPIR				*e*			15 10 02.2	
ASAO	**Ashtian**	**2.68**	**45**	*e*Pn		**Pn**	**15 09 19.9**	**+1.6**
ASAO	**Ashtian**	**2.68**	**45**	*e*Pn		**Pn**	**15 09 19.9**	**+1.6**
BHD	**Baghdad**	**2.88**	**283**	*e*Pn		**Pn**	**15 09 21.0**	**+0.2**
BHD				*e*Sn		**Sn**	**15 09 56.0**	**+0.2**
BHD				AML		AML	15 10 15.7	
	comp=E,380nm,0.3s							
IRAZ	**Razeghan**	**3.28**	**33**	*e*Pn		**Pn**	**15 09 27.1**	**+0.5**
QAM	**Ghamsar**	**3.30**	**70**	*e*Pn		**Pn**	**15 09 28.3**	**+1.5**
IKLH	**Kolahrood**	**3.30**	**78**	*e*Pn		**Pn**	**15 09 27.6**	**+0.7**
IKLH				*e*			15 10 25.3	
QABG	**Abgarm-Qazvin**	**3.40**	**26**	*e*Pn		**Pn**	**15 09 28.8**	**+0.6**
GHVR	**GHOM**	**3.48**	**58**	*e*Pn		**Pn**	**15 09 30.2**	**+1.0**
GHVR	**GHOM**	**3.48**	**58**	*e*Pn		**Pn**	**15 09 30.2**	**+1.0**
IQOM	**Qom**	**3.53**	**51**	*e*Pn		**Pn**	**15 09 30.2**	**+0.2**
IGAR	**Gharneh**	**3.66**	**93**	*e*Pn		**Pn**	**15 09 31.9**	**+0.2**
KLNJ	**Kolanjah**	**3.68**	**116**	*e*Pn		**Pn**	**15 09 32.0**	**-0.2**
KLNJ				*e*			15 09 46.3	
IZEF	**Zefreh**	**3.88**	**85**	*e*Pn		**Pn**	**15 09 35.3**	**+0.4**
KRSH	**Karshahi**	**3.91**	**69**	*e*Pn		**Pn**	**15 09 35.7**	**+0.5**
QSDN	**Sirdan**	**4.01**	**17**	*e*Pn		**Pn**	**15 09 37.6**	**+1.0**
IRAM	**Ramesheh**	**4.04**	**101**	*e*Pn		**Pn**	**15 09 36.3**	**-0.7**
IVRN	**Varamin**	**4.06**	**54**	*e*Pn		**Pn**	**15 09 37.6**	**+0.5**
IGZV	**Ghazvin**	**4.24**	**28**	*e*Pn		**Pn**	**15 09 40.7**	**+0.9**
QALM	**Alamut, Qazvin**	**4.46**	**32**	*e*Pn		**Pn**	**15 09 43.2**	**+0.4**
IDMV	**Damavand**	**4.60**	**50**	*e*Pn		**Pn**	**15 09 45.0**	**+0.2**
ANAR	**Anarak**	**5.08**	**83**	*e*Pn		**Pn**	**15 09 51.3**	**+0.1**
ISAD	**Sadrabad**	**5.10**	**97**	*e*Pn		**Pn**	**15 09 51.4**	**-0.3**
IFIR	**Firoozkooh**	**5.11**	**53**	*e*Pn		**Pn**	**15 09 52.7**	**+0.9**
ILAS	**Lasjerd**	**5.12**	**57**	*e*Pn		**Pn**	**15 09 52.0**	**+0.1**
ISRB	**Sarab**	**5.14**	**359**	*e*Pn		**Pn**	**15 09 52.9**	**+0.7**
IALA	**Alasht**	**5.41**	**50**	*e*Pn		**Pn**	**15 09 57.1**	**+1.2**
ISHM	**Shahmirzad**	**5.57**	**54**	*e*Pn		**Pn**	**15 09 58.2**	**+0.1**
ICHK	**Chekchek**	**5.66**	**93**	*e*Pn		**Pn**	**15 09 58.0**	**-1.3**
IANJ	**Anjilo**	**5.84**	**60**	*e*Pn		**Pn**	**15 10 02.5**	**+0.7**
IMEH	**Mehriz**	**5.99**	**100**	*e*Pn		**Pn**	**15 10 02.6**	**-1.2**

*IDC **27** 15:30:15.0±1.0, 15.°15N×123.°00E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/45, mbtmp4.0/9, ML4.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.5/49, Error ellipse: s-maj=26.8km s-min=16.6km az=66.0*
*MAN **27** 15:30:17.4, 15.°23N×122.°59E, h1km, mb4.9, ML3.8, MS3.8*
*NEIC **27** 15:30:20.2±1.9, 15.°19N±0.°08×123.°0E±0.°1, h41km±8km, mb4.3/21, Error ellipse: s-maj=15.5km s-min=10.4km az=110.0*

ISC 27 15:30:16.6±1.7, 15.°20N±0.°04×122.°80E±0.°05, h9km±11km, n58, σ1°54/61, mb4.2/17, MS3.0/3, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
POLP	**Polilio Island**	**0.95**	**241**	*e*P		**Pb**	**15 30 33.1**	**-2.1**
POLP				*e*S		**Sb**	**15 30 45.8**	**-2.1**
BALP	**Baler**	**1.30**	**295**	*e*P		**Pn**	**15 30 39.0**	**-1.9**
BALP				*e*S		**Sn**	**15 30 55.3**	**-3.0**
GQP	**Guinayangan**	**1.33**	**195**	⇓*e*P		**Pn**	**15 30 41.7**	**+0.5**
GQP				*i* S		**Sn**	**15 30 58.7**	**-0.3**
LQP	**Lukban**	**1.63**	**229**	⇑*e*P		**Pn**	**15 30 46.2**	**+0.7**
LQP				*e*S		**Sn**	**15 31 06.8**	**+0.1**
BOAC	**Boac**	**1.96**	**208**	*e*P		**Pn**	**15 30 51.4**	**+1.5**
BOAC				*e*S		**Sb**	**15 31 18.1**	**+1.2**
CAUP	**Cauayan**	**1.98**	**332**	*e*P		**Pn**	**15 30 50.2**	**+0.1**
CAUP				*e*S		**Sn**	**15 31 16.7**	**+1.7**
PVCP	**Virac**	**2.06**	**140**	*e*P		**Pg**	**15 30 55.8**	**-0.3**
PVCP				*e*S		**Sg**	**15 31 24.4**	**+1.6**
TGY	**Tagaytay City**	**2.10**	**239**	Pn		**Pn**	**15 30 54.7**	**+2.7**
	262nm,0.3s,baz=120,slow=2.3,SNR=14							
TGY				Sn		**Sn**	**15 31 22.3**	**+4.0**
	116nm,0.3s,baz=50,slow=11,SNR=3.9							
TGY	**Tagaytay City**	**2.10**	**239**	*e*P		**Pn**	**15 30 54.8**	**+2.8**
TGY				*i* S		**Sn**	**15 31 21.1**	**+2.8**
PGP	**Puerto Galera**	**2.46**	**227**	⇑*e*P		**Pn**	**15 30 58.6**	**+1.8**
CVP	**Callao Caves**	**2.66**	**340**	⇓*i*P		**Pn**	**15 31 01.4**	**+1.8**
CVP				*i* S		**Sn**	**15 31 32.5**	**+0.5**
OTRP	**Odiongan**	**2.92**	**195**	*e*P		**Pn**	**15 31 05.0**	**+1.8**
CNP	**Catarman**	**3.23**	**146**	*e*P		**Pb**	**15 31 13.0**	**-1.0**
CNP				*e*S		**Sn**	**15 31 45.8**	**-0.1**
CNOP	**Candoni, Negro**	**5.34**	**182**	*e*P		**Pn**	**15 31 39.7**	**+3.3**
YHNB	**Yeheng**	**9.52**	**352**	Pn		**Pn**	**15 32 35.2**	**+1.3**
TATO	**Taipei**	**9.81**	**353**	Pn		**Pn**	**15 32 37.8**	**+0.1**
SBUM	**Sibu**	**16.41**	**220**	Pn		**Pn**	**15 34 08.6**	**+1.4**
SBUM				IAmb		IAmb	15 34 13.6	
	comp=Z,30nm,1.4s							
BKB	**Balikpapan**	**17.36**	**200**	Pn		**Pn**	**15 34 17.4**	**-1.8**
XAN	**Xi'an**	**22.56**	**329**	P		**P**	**15 35 17.1**	**-0.1**
XAN				IAmb		IAmb	15 35 19.9	
	comp=Z,10nm,0.9s							
KSRS	**Korea Array**	**22.63**	**11**	LR		LR	15 44 28.1	
	comp=Z,23nm,19.1s,baz=195,slow=38							
CM31	**Chiang Mai Arr**	**23.06**	**281**	P		**P**	**15 35 23.6**	**+1.1**
CM31				IAmb		IAmb	15 35 25.2	
	comp=Z,17nm,1.2s							
CMAR	**Chiang Mai Arr**	**23.06**	**281**	P		**P**	**15 35 23.9**	**+1.4**
	comp=Z,6.1nm,0.9s,baz=93,slow=7.2,SNR=49							
CMAR				LR		LR	15 44 44.5	
	comp=Z,49nm,18.0s,baz=153,slow=37							
CMAR	**Chiang Mai Arr**	**23.06**	**281**	P		**P**	**15 35 22.9**	**+0.4**
CHTO	**Chiang Mai**	**23.09**	**282**	P		**P**	**15 35 22.9**	**+0.1**
IPM	**Ipoh**	**23.92**	**246**	P		**P**	**15 35 29.4**	**-1.6**
IPM				IAmb		IAmb	15 35 31.3	
	comp=Z,9.3nm,1.0s							
FITZ	**Fitzroy Crossi**	**33.20**	**175**	P		**P**	**15 36 53.1**	**-0.7**
KLR	**Kul'dur**	**34.72**	**10**	LR		LR	15 52 05.4	
	comp=Z,37nm,19.5s,baz=190,slow=38							
SONM	**Songino Array**	**35.27**	**341**	P		**P**	**15 37 13.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=140,slow=7.5,SNR=3.1							
SONM	**Songino Array**	**35.27**	**341**	P		**P**	**15 37 12.8**	**+1.1**
WRA	**Warramunga Arr**	**36.72**	**162**	P		**P**	**15 37 22.6**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=336,slow=9.9,SNR=7.2							
WRA	**Warramunga Arr**	**36.72**	**162**	P		**P**	**15 37 21.8**	**-2.4**
WB2	**Warramunga Arr**	**36.72**	**162**	P		**P**	**15 37 22.6**	**-1.6**
WB2				IAmb		IAmb	15 37 24.3	
	comp=Z,3.9nm,1.0s							
WR0	**Warramunga Arr**	**36.79**	**161**	P		**P**	**15 37 23.1**	**-1.8**
WR0				IAmb		IAmb	15 37 45.1	
	comp=Z,4.7nm,1.2s							
AS31	**Alice Springs**	**40.12**	**164**	P		**P**	**15 37 52.1**	**-0.7**
ASAR	**Alice Springs**	**40.12**	**164**	P		**P**	**15 37 52.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=342,slow=7.1,SNR=15							
H11S3	**WAKE ISLAND Hy**	**42.06**	**79**	T		T	16 23 26.2	
	baz=271,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**42.07**	**79**	T		T	16 23 24.2	
	baz=271,slow=75,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**42.08**	**79**	T		T	16 23 27.0	
	baz=271,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**42.22**	**77**	T		T	16 23 33.1	
	baz=270,slow=75,SNR=9.5							
H11N2	**WAKE ISLAND Hy**	**42.22**	**77**	T		T	16 23 34.5	
	baz=270,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**42.23**	**77**	T		T	16 23 35.4	
	baz=270,slow=75,SNR=9.9							
MK31	**Makanchi Array**	**46.08**	**322**	P		**P**	**15 38 42.0**	**+1.1**
MK31				IAmb		IAmb	15 38 43.5	
	comp=Z,3.2nm,1.1s							
MKAR	**Makanchi Array**	**46.08**	**322**	P		**P**	**15 38 41.4**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=128,slow=9.3,SNR=9.5							
MKAR	**Makanchi Array**	**46.08**	**322**	P		**P**	**15 38 41.7**	**+0.8**
MAKZ	**Makanchi**	**46.28**	**322**	P		**P**	**15 38 43.0**	**+0.6**
MAKZ				IAmb		IAmb	15 38 45.8	
	comp=Z,6.3nm,1.3s							
ZALV	**Zalesovo Beam**	**48.70**	**331**	P		**P**	**15 39 02.1**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=134,slow=11,SNR=4.7							
ZALV	**Zalesovo Beam**	**48.70**	**331**	P		**P**	**15 39 01.9**	**+0.8**
KURK	**Kurchatov**	**50.12**	**325**	P		**P**	**15 39 13.2**	**+1.3**
STKA	**Stephens Creek**	**50.16**	**159**	P		**P**	**15 39 11.4**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=3.8,slow=4.4,SNR=3.3							
STKA	**Stephens Creek**	**50.16**	**159**	P		**P**	**15 39 12.3**	**-0.2**
KK31	**Karatay Array**	**52.42**	**313**	P		**P**	**15 39 29.9**	**+0.4**
KK31				IAmb		IAmb	15 39 52.2	
	comp=Z,5.1nm,1.4s							
KKAR	**Karatay Array**	**52.42**	**313**	P		**P**	**15 39 30.2**	**+0.7**
KKAR	**Karatay Array**	**52.42**	**313**	P		**P**	**15 39 29.5**	**+0.4**
KKAR				IAmb		IAmb	15 39 52.2	
	comp=Z,5.1nm,1.4s							
NRIK	**Noril'sk**	**58.44**	**346**	P		**P**	**15 40 12.8**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=118,slow=8.0,SNR=3.9							
ABKAR	**Akbulak array**	**60.96**	**318**	P		**P**	**15 40 30.4**	**+0.3**
ABKAR	**Akbulak array**	**60.96**	**318**	P		**P**	**15 40 30.5**	**+0.5**
ABKAR				IAmb		IAmb	15 40 31.6	
	comp=Z,1.2nm,0.8s							
NIKH	**Nikolski High**	**64.98**	**38**	P		**P**	**15 40 55.0**	**-1.6**
RER	**Riviere de l'E**	**75.06**	**243**	P		**P**	**15 41 58.2**	**-1.0**

WEL 27 15:40:08.4,38.°5S±4.°×17.°6E±.°, h208km±8km, M3.0/60, MLv3.0/60, Error ellipse: s-maj=0.0km s-min=0.0km az=121.1, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPRZ	**Ohinepanea**	**0.14**	**78**	P		Pn	15 40 32.9	-2.7
TGRZ	**Tauranga**	**0.17**	**326**	P		Pn	15 40 34.8	-0.9
OMRZ	**Omania**	**0.23**	**182**	P		Pn	15 40 34.6	-1.1
MARZ	**Manawahe**	**0.26**	**116**	P		Pn	15 40 34.2	-1.2
MYRZ	**Mayor Island**	**0.60**	**349**	P		Pn	15 40 36.8	-0.1
MUGZ	**Murupara**	**0.68**	**153**	P		Pn	15 40 35.8	-1.4
URZ	**Urewera**	**0.69**	**124**	P		Pn	15 40 35.6	-1.6
TOZ	**Tahuroa Road**	**0.71**	**281**	P		Pn	15 40 37.8	+0.5
TLZ	**Tolley Road**	**0.81**	**235**	P		Pn	15 40 38.0	+0.1
RTZ	**Ruatahuna**	**0.88**	**148**	P		Pn	15 40 37.3	-1.0
MRHZ	**Matea Rd**	**0.96**	**178**	P		Pn	15 40 38.2	-0.6
MWZ	**Matawai**	**1.01**	**117**	P		Pn	15 40 38.2	-0.9
RAGZ	**Rawiri**	**1.02**	**128**	P		Pn	15 40 38.6	-0.6
RUGZ	**Raukumara Rang**	**1.03**	**96**	P		Pn	15 40 37.9	-1.4
MTHZ	**Maungataniwha**	**1.04**	**160**	P		Pn	15 40 38.7	-0.6
HAZ	**Te Kaha**	**1.11**	**84**	P		Pn	15 40 39.3	-0.4
RAHZ	**Arahi**	**1.18**	**152**	P		Pn	15 40 40.2	0.0
SNGZ	**Shannon Statio**	**1.18**	**141**	P		Pn	15 40 40.0	-0.2
TKGZ	**Te Karaka**	**1.29**	**117**	P		Pn	15 40 41.1	+0.1
BKZ	**Black Stump Fm**	**1.29**	**176**	P		Pn	15 40 40.7	-0.4
TWGZ	**Tauwhareparae**	**1.30**	**104**	P		Pn	15 40 41.3	+0.1
TMVZ	**Te Maari**	**1.35**	**203**	P		Pn	15 40 42.4	+0.7
HIZ	**Hauiti**	**1.36**	**242**	P		Pn	15 40 43.1	+1.5
RIGZ	**Rimuhau**	**1.37**	**128**	P		Pn	15 40 41.8	+0.1
ETVZ	**East Tongariro**	**1.37**	**203**	P		Pn	15 40 40.6	-1.3
OTVZ	**Oturere**	**1.41**	**203**	P		Pn	15 40 42.9	+0.7
NGZ	**Ngauruhoe**	**1.44**	**205**	P		Pn	15 40 43.2	+0.8
ARHZ	**Aropaoanui**	**1.47**	**161**	P		Pn	15 40 42.9	+0.4
PUZ	**Puketiti**	**1.49**	**98**	P		Pn	15 40 42.8	0.0
TUVZ	**Tukino**	**1.51**	**202**	P		Pn	15 40 43.7	+0.7
FWVZ	**Far West T-bar**	**1.53**	**205**	P		Pn	15 40 44.2	+0.9
KNZ	**Kokohu**	**1.53**	**139**	P		Pn	15 40 43.1	+0.1
WHVZ	**Whangaehu Hut**	**1.54**	**204**	P		Pn	15 40 44.1	+0.7
KWHZ	**Kaweka Forest**	**1.55**	**179**	P		Pn	15 40 43.7	+0.4
MXZ	**Matakaoa Point**	**1.56**	**79**	P		Pn	15 40 44.5	+1.2
CNGZ	**Carnagh Statio**	**1.56**	**114**	P		Pn	15 40 44.3	+1.0
TRVZ	**Turoa**	**1.57**	**204**	P		Pn	15 40 44.4	+0.8
PRGZ	**Paritu Road**	**1.58**	**132**	P		Pn	15 40 43.7	+0.3
WNVZ	**Wahianoa**	**1.58**	**203**	P		Pn	15 40 44.3	+0.6
MCHZ	**McNeill Hill**	**1.59**	**171**	P		Pn	15 40 44.2	+0.7
WMGZ	**Waimatatini S**	**1.61**	**89**	P		Pn	15 40 44.6	+0.8
MOVZ	**Moawhango**	**1.61**	**198**	P		Pn	15 40 44.0	+0.1
BHHZ	**Black Hill Sta**	**1.63**	**189**	P		Pn	15 40 44.2	+0.1
MTVZ	**Mangateitei**	**1.67**	**205**	P		Pn	15 40 45.3	+0.9
MHGZ	**Mahia Peninsul**	**1.75**	**137**	P		Pn	15 40 45.8	+0.7
KRHZ	**Kereru**	**1.77**	**180**	P		Pn	15 40 45.8	+0.6
CKHZ	**Cape Kidnapper**	**1.86**	**163**	P		Pn	15 40 47.0	+0.9
KAHZ	**Kahuranaki**	**1.96**	**169**	P		Pn	15 40 48.0	+0.9
PNHZ	**Pukenui**	**2.04**	**184**	P		Pn	15 40 48.5	+0.6
WAZ	**Wanganui**	**2.17**	**210**	P		Pn	15 40 50.8	+1.5
PXZ	**Pawanui**	**2.19**	**170**	P		Pn	15 40 50.1	+0.8
WPHZ	**Waipukurau**	**2.19**	**179**	P		Pn	15 40 50.0	+0.6
TSZ	**Takapari Road**	**2.21**	**188**	P		Pn	15 40 50.2	+0.6
PRHZ	**Porangahau**	**2.40**	**175**	P		Pn	15 40 52.3	+0.6
DVHZ	**Dannevirke**	**2.43**	**184**	P		Pn	15 40 52.3	+0.3
POWZ	**Post Office Ro**	**2.56**	**191**	P		Pn	15 40 53.9	+0.5
ANWZ	**Angora Road**	**2.58**	**178**	P		Pn	15 40 54.6	+1.0
PRWZ	**Pori Road**	**2.70**	**187**	P		Pn	15 40 55.8	+0.9
BFZ	**Birch Farm**	**2.81**	**182**	P		Pn	15 40 56.8	+0.6
MRZ	**Mangatainoka R**	**2.85**	**192**	P		Pn	15 40 57.1	+0.4
TIWZ	**Tintock**	**2.93**	**187**	P		Pn	15 40 58.1	+0.5
OGWZ	**Otaki Gorge**	**3.09**	**197**	P		Pn	15 40 59.9	+0.5
HOWZ	**Holdsworth Sta**	**3.10**	**192**	P		Pn	15 40 59.7	+0.2
KIW	**Kapiti Island**	**3.20**	**200**	P		Pn	15 41 00.9	+0.2
TMWZ	**Te Maipa**	**3.25**	**187**	P		Pn	15 41 01.8	+0.4
MTW	**Mount Morrison**	**3.35**	**191**	P		Pn	15 41 02.6	0.0
CAW	**Cannon Point**	**3.39**	**197**	P		Pn	15 41 03.2	+0.2
DUWZ	**D'Urville Isla**	**3.49**	**212**	P		Pn	15 41 05.5	+1.2
TRWZ	**Traveller**	**3.56**	**188**	P		Pn	15 41 05.4	+0.3
PAWZ	**Paruwai Farm**	**3.58**	**192**	P		Pn	15 41 05.3	-0.1
WEL	**Wellington**	**3.63**	**200**	P		Pn	15 41 06.4	+0.6
MSWZ	**Moikau Station**	**3.65**	**194**	P		Pn	15 41 06.0	-0.1
TCW	**Tory Channel**	**3.71**	**205**	P		Pn	15 41 07.5	+0.6
PLWZ	**Palliser**	**3.79**	**193**	P		Pn	15 41 07.8	-0.1
QRZ	**Quartz Range**	**4.20**	**224**	P		Pn	15 41 13.9	+1.0
BSWZ	**Blackbirch Sta**	**4.30**	**206**	P		Pn	15 41 14.6	+0.5
KHZ	**Kahutara**	**5.04**	**205**	P		Pn	15 41 24.0	+0.7
GVZ	**Greta Valley S**	**5.70**	**206**	P		Pn	15 41 32.3	+0.5
LTZ	**Lake Taylor**	**5.82**	**211**	P		Pn	15 41 33.6	+0.2
OKCZ	**Okains Bay**	**6.37**	**202**	P		Pn	15 41 40.8	+0.4
MQZ	**McQueen's Vall**	**6.48**	**205**	P		Pn	15 41 41.2	-0.6

IDC 27 15:43:10.8±36.0, 33.°01S×177.°85W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/46, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=650.8km s-min=59.2km az=91.0, South of Kermadec Islands

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

comp=Z,26nm,21.1s,baz=130,slow=33
KRVT Keravat (AS076 26.36 165 LR LR 16 03 53.2
comp=Z,38nm,19.9s,baz=103,slow=32
SONM Songino Array 40.91 320 P **P** **15 57 14.8 0.0**
0.4nm,0.4s,baz=103,slow=12,SNR=2.6
WB0 Warramunga Arr 42.33 196 P **P** **15 57 25.4 -1.1**
WR0 Warramunga Arr 42.48 195 P **P** **15 57 26.5 -1.2**
WR0 IAmb IAmb 15 57 37.2
comp=Z,7.3nm,1.4s
WRAB Tennant Creek 42.50 196 P **P** **15 57 26.9 -0.9**
WRAB IAmb IAmb 15 57 42.5
comp=Z,2.9nm,0.8s
WB2 Warramunga Arr 42.51 196 P **P** **15 57 26.7 -1.2**
WRA Warramunga Arr 42.51 196 P **P** **15 57 26.6 -1.3**
comp=Z,0.4nm,0.4s,baz=11,slow=8.4,SNR=11
FITZ Fitzroy Crossi 43.80 208 P **P** **15 57 37.6 -0.7**
comp=Z,1.9nm,0.9s,baz=31,slow=12,SNR=1.1
AS31 Alice Springs 46.19 195 P **P** **15 57 55.2 -2.1**
ASAR Alice Springs 46.19 195 P **P** **15 57 55.5 -1.8**
comp=Z,0.2nm,0.6s,baz=16,slow=6.5,SNR=6.6
RPSI Rantau Prapat 48.90 254 P **P** **15 58 16.5 -2.1**
STKA Stephens Creek 53.11 184 P **P** **15 58 50.9 +1.1**
comp=Z,2.5nm,1.0s,baz=0.0,slow=5.1,SNR=2.1
STKA Stephens Creek 53.11 184 IAmb IAmb 15 59 06.8
comp=Z,2.3nm,1.4s
MKAR Makanchi Array 56.45 313 P **P** **15 59 14.6 +0.6**
comp=Z,0.3nm,0.5s,baz=91,slow=7.0,SNR=3.5
NRIK Noril'sk 59.00 339 P **P** **15 59 32.0 +0.5**
comp=Z,0.9nm,0.5s,baz=76,slow=8.3,SNR=1.7
BPAW Bear Paw Mtn. 59.45 27 P **P** **15 59 34.6 -0.1**
BPAW IAmb IAmb 15 59 43.6
comp=Z,2.9nm,1.5s
ABKAR Akbulak array 71.22 316 P **P** **16 00 50.8 -0.3**
FINES FINESS Array B 84.34 335 P **P** **16 02 02.7 -1.1**
comp=Z,2.7nm,0.7s,baz=79,slow=7.5,SNR=2.0

IDC 27 15:51:03.1±2.0, 2°26'N×125°49'E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/37, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=120.6km s-min=26.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**19.99**	**243**	LR	LR	16 05 36.3	
	comp=Z,40nm,18.8s,baz=352,slow=44						
FITZ	**Fitzroy Crossi**	**20.23**	**180**	P	P	15 55 40.5	+0.7
	0.8nm,0.7s,baz=9.6,slow=9.3,SNR=6.5						
WRA	**Warramunga Arr**	**23.71**	**159**	P	P	15 56 17.2	+0.3
	0.5nm,0.3s,baz=337,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**27.04**	**163**	P	P	15 56 46.2	-1.1
	0.1nm,0.3s,baz=336,slow=8.1,SNR=2.0						
MKAR	**Makanchi Array**	**58.07**	**326**	P	P	16 00 58.3	+0.1
	0.5nm,0.9s,baz=111,slow=8.3,SNR=1.3						

IDC 27 16:21:04.4±0.9, 8°.73S×157°.78E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.7/38, mbtmp3.9/8, ML3.8/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/25, Error ellipse: s-maj=26.4km s-min=15.0km az=1.0
NEIC 27 16:21:04.8±1.3, 8°.75S±0°.10×157°.9E±0°.1, h10km±1km, mb4.0/11, Error ellipse: s-maj=20.8km s-min=12.6km az=229.0

ISC 27 16:21:05.5±0.6, 8°.7S±0°.1×157°.91E±0°.09, h10km, n22, σ1s27/21, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.14**	**110**	Pn	**Pn**	**16 21 41.0**	**-0.3**
	22nm,0.3s,baz=245,slow=2.8,SNR=23						
HNR				LR	LR	16 22 11.5	
	comp=Z,88nm,18.8s,baz=218,slow=30						
HNR				Lg	Lg	16 22 16.1	
	161nm,0.3s,baz=324,slow=22,SNR=18						
HNR	**Honiara**	**2.14**	**110**		**Pn**	**16 21 40.5**	**-0.8**
SANVU	**Saraoutou**	**11.29**	**127**	Pn	**Pn**	**16 23 47.9**	**+0.9**
PATS	**Pohnpei**	**15.45**	**2**	P	**P**	**16 24 47.4**	**-0.8**
CTA	**Charters Tower**	**15.97**	**224**	Pn	**Pn**	**16 24 50.5**	**+0.2**
	0.2nm,0.3s,baz=54,slow=16,SNR=2.1						
CTAO	**Charters Tower**	**15.97**	**224**	P	**Pn**	**16 24 52.3**	**+1.9**
CTAO				IAmb	IAmb	16 25 01.1	
	comp=Z,11nm,1.5s						
FUNA	**Funafuti**	**21.05**	**91**	P	**P**	**16 25 49.1**	**-0.7**
WR0	**Warramunga Arr**	**25.21**	**241**	P	**P**	**16 26 30.5**	**-1.2**
WR0				IAmb	IAmb	16 26 30.9	
	comp=Z,6.7nm,1.4s						
WB0	**Warramunga Arr**	**25.27**	**242**	P	**P**	**16 26 30.9**	**-1.2**
WB0				IAmb	IAmb	16 26 50.0	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**25.37**	**241**	P	**P**	**16 26 32.0**	**-1.1**
WRAB				IAmb	IAmb	16 26 51.5	
	comp=Z,3.8nm,1.0s						
WB2	**Warramunga Arr**	**25.37**	**241**	P	**P**	**16 26 32.0**	**-1.1**
WB2				IAmb	IAmb	16 26 49.4	
	comp=Z,2.9nm,1.1s						
WRA	**Warramunga Arr**	**25.38**	**241**	P	**P**	**16 26 32.0**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=66,slow=9.4,SNR=13						
WRA				PcP	**PcP**	**16 30 06.0**	**+0.2**
	comp=Z,0.9nm,1.3s,baz=74,slow=2.8,SNR=1.7						
WRA				LR	LR	16 35 55.1	
	comp=Z,33nm,21.8s,baz=155,slow=35						
WRA	**Warramunga Arr**	**25.38**	**241**	IAmb	IAmb	16 26 32.7	
	comp=Z,0.1nm,0.9s						
ASAR	**Alice Springs**	**27.36**	**234**	P	**P**	**16 26 49.4**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=64,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**27.59**	**211**	P	**P**	**16 26 54.1**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=29,slow=13,SNR=6.5						
STKA	**Stephens Creek**	**27.59**	**211**	IAmb	IAmb	16 27 01.4	
	comp=Z,0.9nm,0.9s						
KNTN	**Kanton**	**30.78**	**81**	P	**P**	**16 27 20.7**	**-0.8**
MSWZ	**Moikau Station**	**36.01**	**158**	P	**P**	**16 28 05.6**	**-1.2**
INU	**Inuyama**	**48.05**	**337**	P	**P**	**16 29 44.9**	**-0.2**
ILAR	**Eielson Array**	**83.92**	**21**	P	**P**	**16 33 36.0**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=253,slow=4.7,SNR=6.8						
MKAR	**Makanchi Array**	**86.59**	**318**	P	**P**	**16 33 48.7**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=97,slow=6.3,SNR=2.0						
NVAR	**Mina Array Bea**	**90.52**	**51**	P	**P**	**16 34 11.2**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=251,slow=5.6,SNR=4.4						

IDC 27 16:53:27.1±1.3, 5°.83S×152°.58E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.8/31, mbtmp4.1/6, ML2.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/38, Error ellipse: s-maj=27.6km s-min=12.6km az=95.0
NEIC 27 16:53:31.1±0.9, 5°.8S±0°.1×152°.5E±0°.2, h26km±8km, mb4.1/9, Error ellipse: s-maj=28.5km s-min=10.5km az=115.0

ISC 27 16:53:32.5±1.2, 5°.8S±0°.1×152°.5E±0°.2, h35km, n19, σ0s65/19, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.52**	**341**	Pg	**Pn**	**16 53 57.1**	**-0.1**
	128nm,0.3s,baz=193,slow=14,SNR=69						
KRVT				Lg	Lg	16 54 17.8	
	154nm,0.3s,baz=15,slow=23,SNR=19						
KRVT				LR	LR	16 54 34.9	
	comp=Z,166nm,18.9s,baz=104,slow=42						
RABL	**Rabaul**	**1.59**	**347**	Pn	**Pn**	**16 53 58.0**	**-0.2**
PMG	**Port Moresby**	**6.43**	**235**	Pn	**Pn**	**16 55 04.8**	**+0.1**
	1.9nm,0.3s,baz=36,slow=7.2,SNR=6.3						
PMG				Sn	**Sn**	**16 56 17.7**	**+0.7**
	2.6nm,0.3s,baz=202,slow=19,SNR=3.0						
MTN	**Manton Dam**	**22.23**	**250**	P	**P**	**16 58 25.9**	**-0.5**
MTN				IAmb	IAmb	16 58 51.9	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**22.46**	**230**	P	**P**	**16 58 28.1**	**-0.7**
WB0				IAmb	IAmb	16 58 43.9	
	comp=Z,6.1nm,1.0s						
WR0	**Warramunga Arr**	**22.46**	**229**	P	**P**	**16 58 28.4**	**-0.4**
WR0				IAmb	IAmb	16 58 46.8	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**22.59**	**230**	P	**P**	**16 58 29.3**	**-1.0**
WRAB				IAmb	IAmb	16 58 32.0	
	comp=Z,3.4nm,0.6s						
WB2	**Warramunga Arr**	**22.60**	**230**	P	**P**	**16 58 29.2**	**-1.1**
WRA	**Warramunga Arr**	**22.61**	**230**	P	**P**	**16 58 29.4**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=54,slow=10,SNR=38						
AS31	**Alice Springs**	**25.26**	**223**	P	**P**	**16 58 55.2**	**-0.5**
ASAR	**Alice Springs**	**25.26**	**223**	P	**P**	**16 58 55.5**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=60,slow=9.0,SNR=51						
KNRA	**Kununurra**	**25.30**	**245**	P	**P**	**16 58 55.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**28.96**	**243**	P	**P**	**16 59 28.1**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=66,slow=7.7,SNR=11						
JHJ	**Hachijo jima 2**	**40.51**	**343**	LR	LR	17 17 14.7	
	comp=Z,28nm,19.9s,baz=57,slow=35						
PETK	**Petropavlovsk-**	**58.81**	**4**	P	**P**	**17 03 27.9**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=165,slow=8.0,SNR=5.3						
UNV	**Unalaska Valle**	**68.60**	**25**	P	**P**	**17 04 31.9**	**+0.1**
ILAR	**Eielson Array**	**83.15**	**22**	P	**P**	**17 05 54.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=247,slow=5.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**150.32**	**286**	PKPbc	**PKPbc**	**17 13 21.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=74,slow=2.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.32**	**286**		**PKPbc**	**17 13 20.5**	**-0.7**

KLM 27 17:19:03.0, 8°.34S×104°.62E, h10km, mb4.5
IDC 27 17:19:05.6±0.9, 8°.06S×104°.87E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/45, mbtmp4.1/15, ML4.2/2, MS3.3/11, Ms1 3.3/11, ms1mx3.0/44, Error ellipse: s-maj=29.2km s-min=13.8km az=49.0
DJA 27 17:19:06.0±1.4, 8°.S±4°×10°.5E±°, h21km±15km, M4.4/18, mB5.3/1, mb4.6/12, MLv4.3/18, Mw(mB)4.7/1
NEIC 27 17:19:08.1±1.8, 8°.26S±0°.07×104°.81E±0°.09, h28km±5km, mb4.6/21, Error ellipse: s-maj=13.5km s-min=10.0km az=103.0

ISC 27 17:19:10.0±0.6, 8°.12S±0°.08×104°.83E±0°.06, h35km, n90, σ1s64/84, mb4.4/27, MS3.2/11, 1C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.72**	**30**	P	**Pn**	**17 19 34.9**	**-2.5**
SKJI	**Sukabumi**	**2.04**	**57**	P	**Pn**	**17 19 40.8**	**-1.0**
SKJI				S	**Sn**	**17 20 07.3**	**+1.2**
CNJI	**Cibinong**	**2.42**	**71**	P	**Pn**	**17 19 44.7**	**-2.3**
DBJI	**Dramaga**	**2.46**	**51**	P	**Pn**	**17 19 46.3**	**-1.3**
DBJI				S	**Sn**	**17 20 17.6**	**+1.1**
XMIS	**Christmas Isla**	**2.49**	**161**		Pn	17 19 43.4	-4.7
CBJI	**Citeko**	**2.62**	**50**	P	**Pn**	**17 19 47.2**	**-2.6**
BLSI	**Bandar Lampung**	**2.76**	**9**	P	**Pn**	**17 19 50.6**	**-1.2**
CISI	**Cisompet, Garu**	**3.01**	**80**	P	**Pn**	**17 19 53.0**	**-2.3**
CISI	**Cisompet, Garu**	**3.01**	**80**	Pn	**Pn**	**17 19 52.9**	**-2.3**
LEM	**Lembang**	**3.05**	**65**	Pn	**Pn**	**17 19 54.7**	**-1.2**
	12nm,0.3s,baz=237,slow=5.9,SNR=39						
LEM				Sn	**Sn**	**17 20 31.4**	**+0.1**
	27nm,0.3s,baz=234,slow=19,SNR=7.4						
LEM				LR	LR	17 21 23.9	
	comp=Z,529nm,18.4s,baz=140,slow=46						
LEM	**Lembang**	**3.05**	**65**	P	**Pn**	**17 19 55.4**	**-0.5**
LWLI	**Liwa**	**3.17**	**346**	P	**Pn**	**17 19 57.4**	**-0.1**
KLSI		**3.40**	**358**	P	**Pn**	**17 19 59.6**	**-1.0**
CMJI	**Cimerak**	**3.60**	**85**	P	**Pn**	**17 20 00.9**	**-2.4**
MDSI	**Maura Dua**	**3.66**	**350**	P	**Pn**	**17 20 02.9**	**-1.3**
KPJI	**Karang Pucung**	**4.14**	**79**	P	**Pn**	**17 20 10.0**	**-0.7**
MNAI	**Manna**	**4.17**	**333**	P	**Pn**	**17 20 09.3**	**-1.8**
MNAI	**Manna**	**4.17**	**333**	Pn	**Pn**	**17 20 09.1**	**-2.1**
KSI	**Kapahiang**	**4.96**	**333**	P	**Pn**	**17 20 20.4**	**-1.7**
	0.4nm3μm75nm,1.1s						
UGM	**Wanagama**	**5.64**	**88**	P	**Pn**	**17 20 30.0**	**-1.5**
	1.0nm196nm,1.0s						
UGM	**Wanagama**	**5.64**	**88**	Pn	**Pn**	**17 20 30.2**	**-1.2**
TPI	**Tanjungpandan**	**6.02**	**28**	P	**Pn**	**17 20 34.4**	**-2.2**
	0.1nm29nm,0.9s						
WOJI	**Wonogiri, Jawa**	**6.04**	**88**	P	**Pn**	**17 20 36.2**	**-0.7**
	0.2nm60nm,0.9s						
PPBI	**Pangkal Pinang**	**6.06**	**13**	P	**Pn**	**17 20 35.7**	**-1.4**
	0.1nm6.8nm,0.7s						
PWJI	**Pagerwojo**	**6.91**	**90**	P	**Pn**	**17 20 47.1**	**-1.7**
	0.3nm72nm,0.6s						
GMJI	**Gumukmas**	**8.53**	**92**	P	**Pn**	**17 21 10.0**	**-1.1**
	27nm,1.3s						
SISI	**Saibi**	**8.84**	**319**	P	**Pn**	**17 21 14.0**	**-1.3**
	30nm,1.6s						
JAGI	**Jajag, Banyuwa**	**9.24**	**93**	P	**Pn**	**17 21 18.9**	**-1.9**
	43nm,0.8s						
JAGI	**Jajag, Banyuwa**	**9.24**	**93**	Pn	**Pn**	**17 21 19.6**	**-1.2**
GSI	**Gunungsitoli**	**11.82**	**322**	P	**Pn**	**17 21 53.3**	**-2.9**
	22nm,0.9s						
TWSI	**Taliwang, Sumb**	**11.94**	**94**	P	**Pn**	**17 21 55.6**	**-2.3**
	18nm,1.0s						
SBUM	**Sibu**	**12.83**	**35**	P	**P**	**17 22 21.0**	**+0.6**
PLAI	**Plampang**	**12.83**	**94**	P	**Pn**	**17 22 05.7**	**-4.3**
KAPI	**Kappang**	**15.14**	**79**	LR	LR	17 29 22.0	
	comp=Z,209nm,18.5s,baz=266,slow=41						
EDFI	**Ende, Flores**	**16.70**	**93**	P	**P**	**17 23 07.7**	**+4.2**
MPSI	**Mapaga**	**17.21**	**61**	P	**P**	**17 23 07.7**	**-1.4**
MMRI	**Maumere**	**17.23**	**93**	P	**P**	**17 23 10.3**	**+0.9**
MMRI	**Maumere**	**17.23**	**93**	Pn	**Pn**	**17 23 03.2**	**-4.9**
SRIT	**Nakonsritamara**	**17.40**	**342**		**P**	**17 23 10.7**	**-0.5**
BATI	**Baumata**	**18.71**	**98**	P	**Pn**	**17 23 25.4**	**-0.9**
	2.0nm,0.3s,baz=312,slow=3.9,SNR=4.4						
BATI	**Baumata**	**18.71**	**98**	P	Pn	17 23 39.9	+14
MYLDM	**Lahad Datu**	**18.98**	**46**		**Pn**	**17 23 28.8**	**-0.8**
SOEI	**Soe**	**19.27**	**96**	P	**Pn**	**17 23 37.8**	**+4.6**
SOEI	**Soe**	**19.27**	**96**		**P**	**17 23 30.3**	**-1.7**
SOEI				IAmb	IAmb	17 23 55.9	
	comp=Z,35nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.55**	**118**	P	**P**	**17 24 06.8**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=296,slow=7.0,SNR=5.3						
FITZ				LR	LR	17 31 24.9	
	comp=Z,71nm,21.1s,baz=320,slow=33						
FITZ	**Fitzroy Crossi**	**22.55**	**118**	P	**P**	**17 24 05.5**	**-1.7**
KNRA	**Kununurra**	**24.58**	**110**	P	**P**	**17 24 24.7**	**-2.3**
KNRA				IAmb	IAmb	17 24 52.0	
	comp=Z,29nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.03**	**348**	P	**P**	**17 24 49.2**	**+0.1**
	comp=Z,7.3nm,1.0s,baz=183,slow=8.3,SNR=43						
CMAR				LR	LR	17 37 14.9	
	comp=Z,43nm,18.1s,baz=185,slow=40						
NWAO	**Narrogin (SRO)**	**27.24**	**157**	LR	LR	17 37 10.0	
	comp=Z,111nm,18.2s,baz=274,slow=40						
CHTO	**Chiang Mai**	**27.38**	**348**	P	**P**	**17 24 51.6**	**-0.6**
CHTO				IAmb	IAmb	17 24 53.5	
	comp=Z,12nm,1.1s						
H01W3	**Cape Leeuwin H**	**27.98**	**164**	T	T	17 54 31.9	
	baz=342						
H01W2	**Cape Leeuwin H**	**27.99**	**164**	T	T	17 54 29.8	
	baz=342						
H01W1	**Cape Leeuwin H**	**28.00**	**164**	T	T	17 54 32.0	
	baz=342						
WB0	**Warramunga Arr**	**30.88**	**115**	P	**P**	**17 25 22.9**	**-0.5**
WB0				IAmb	IAmb	17 25 34.2	
	comp=Z,9.6nm,1.3s						
WRA	**Warramunga Arr**	**30.89**	**115**	P	**P**	**17 25 23.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=284,slow=12,SNR=11						
WRA				LR	LR	17 40 20.8	
	comp=Z,47nm,18.1s,baz=180,slow=41						
WRA	**Warramunga Arr**	**30.89**	**115**	P	**P**	**17 25 22.9**	**-0.5**
WB2	**Warramunga Arr**	**30.90**	**115**	P	**P**	**17 25 23.2**	**-0.4**
WB2				IAmb	IAmb	17 25 37.6	
	comp=Z,16nm,1.6s						
WR0	**Warramunga Arr**	**31.08**	**115**	P	**P**	**17 25 25.4**	**+0.3**
WR0				IAmb	IAmb	17 25 35.7	
	comp=Z,9.3nm,1.2s						
ASAR	**Alice Springs**	**31.86**	**122**	P	**P**	**17 25 32.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=299,slow=7.7,SNR=7.8						
ASAR				LR	LR	17 40 06.6	
	comp=Z,50nm,19.0s,baz=304,slow=40						
ASAR	**Alice Springs**	**31.86**	**122**	P	**P**	**17 25 31.6**	**-0.4**
GYA	**Guiyang**	**34.41**	**3**	⇑P	**P**	**17 25 55.3**	**+1.0**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ENH	**Enshi**	**38.43**	**6**	P	**P**	**17 26 27.7**	**-0.7**
ENH				IAmb	IAmb	17 26 39.5	
	comp=Z,9.1nm,0.9s						
LSA	**Lhasa**	**39.83**	**341**	P	**P**	**17 26 41.0**	**+0.4**
LSA				IAmb	IAmb	17 26 53.0	
	comp=Z,9.6nm,1.1s						
STKA	**Stephens Creek**	**41.54**	**130**	P	**P**	**17 26 55.5**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=299,slow=7.5,SNR=5.3						
STKA				LR	LR	17 46 40.1	
	comp=Z,28nm,18.2s,baz=28,slow=40						
STKA	**Stephens Creek**	**41.54**	**130**	P	**P**	**17 26 52.7**	**-1.6**
CTA	**Charters Tower**	**41.78**	**111**	P	**P**	**17 26 57.8**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=260,slow=12,SNR=3.1						
XAN	**Xi'an**	**42.10**	**5**	P	**P**	**17 26 58.4**	**-0.4**
XAN				IAmb	IAmb	17 27 09.8	
	comp=Z,14nm,1.0s						
LZH	**Lanzhou**	**43.97**	**359**	*e*P	P	17 27 16.3	+2.2
LZH				pP	pwP	17 27 26.0	-3.5
LZH				sP	sP	17 27 30.0	+3.6
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
GTA	**Gaotai**	**47.51**	**355**	⇓P	**P**	**17 27 43.0**	**+1.1**
GTA				pP	sP	17 27 52.8	-1.6
GTA				sP	pwP	17 27 56.8	-0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,68nm,5.5s						
GTA				LR	LR		
	comp=N,76nm,16.0s						
GTA				LR	LR		
	comp=E,71nm,17.1s						
GTA				LR	LR		
	comp=Z,88nm,17.8s						
KSRS	**Korea Array**	**50.22**	**24**	P	**P**	**17 28 02.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=212,slow=8.7,SNR=2.8						
KSRS				LR	LR	17 51 47.3	
	comp=Z,11nm,19.2s,baz=100,slow=39						
WMQ	**Urumqi**	**53.98**	**345**	*e*P	**P**	**17 28 32.5**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,72nm,4.7s						
WMQ				LR	LR		
	comp=N,340nm,29.0s						
WMQ				LR	LR		
	comp=E,520nm,29.3s						
WMQ				LR	LR		
	comp=Z,53nm,28.9s						
WMQ	**Urumqi**	**53.98**	**345**	P	**P**	**17 28 31.0**	**+0.5**
SONM	**Songino Array**	**55.72**	**1**	P	**P**	**17 28 44.4**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=179,slow=9.8,SNR=4.5						
SONM	**Songino Array**	**55.72**	**1**	P	**P**	**17 28 43.1**	**0.0**
MKAR	**Makanchi Array**	**58.23**	**342**	P	**P**	**17 29 00.8**	**0.0**
	comp=Z,1.8nm,0.8s,baz=157,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**58.23**	**342**	P	**P**	**17 29 00.9**	**+0.1**
KURK	**Kurchatov**	**62.84**	**342**	P	**P**	**17 29 32.1**	**0.0**
KURK				IAmb	IAmb	17 29 33.5	
	comp=Z,3.2nm,0.9s						
GEYT	**Alibeck**	**63.19**	**320**	P	**P**	**17 29 36.2**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=128,slow=9.3,SNR=2.2						
ZAA0	**Zalesovo Array**	**64.10**	**347**	P	**P**	**17 29 40.1**	**-0.2**
ZALV	**Zalesovo Beam**	**64.10**	**347**	P	**P**	**17 29 40.6**	**+0.3**
	comp=Z,2.5nm,0.3s,baz=132,slow=4.2,SNR=19						
ZALV				LR	LR	18 00 34.6	
	comp=Z,33nm,18.6s,baz=57,slow=39						
ZALV	**Zalesovo Beam**	**64.10**	**347**	P	**P**	**17 29 40.3**	**0.0**
MAW	**Mawson**	**65.69**	**196**	LR	LR	17 59 11.8	
	comp=Z,27nm,18.1s,baz=246,slow=37						
BRVK	**Borovoye**	**67.64**	**338**	P	**P**	**17 30 03.5**	**+0.3**
ABKAR	**Akbulak array**	**69.28**	**330**	P	**P**	**17 30 14.1**	**+0.5**
ABKAR				IAmb	IAmb	17 30 15.0	
	comp=Z,4.6nm,0.9s						
ABKAR	**Akbulak array**	**69.28**	**330**	P	**P**	**17 30 14.0**	**+0.5**
VNDA	**Vanda**	**75.28**	**169**	P	**P**	**17 30 50.5**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=323,slow=5.4,SNR=3.0						
NRIK	**Noril'sk**	**78.20**	**354**	P	**P**	**17 31 05.8**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=148,slow=7.0,SNR=3.5						
TIXI	**Tiksi**	**81.18**	**8**	P	**P**	**17 31 20.6**	**-0.9**
TXAR	**Lajitas Array**	**145.91**	**48**	PKPbc	**PKiKP**	**17 38 47.9**	**-2.3**
	comp=Z,3.4nm,0.9s,baz=298,slow=1.9,SNR=15						
TXAR	**Lajitas Array**	**145.91**	**48**		**PKPab**	**17 38 46.5**	**-0.6**

NEIC 27 17:21:03.9±1.5, 14°.5S±0°.1×73°.6W±0°.1, h81km±4km, mb4.4/1, Error ellipse: s-maj=19.7km s-min=10.5km az=46.0
IDC 27 17:21:04.4±2.2, 14°.53S×73°.54W, h77km±20km, mb3.8/3, mb1 4.0/7, mb1mx3.7/34, mbtmp4.2/7, MS2.3/1, Ms1 2.5/1, ms1mx2.3/25, Error ellipse: s-maj=43.1km s-min=20.1km az=36.0
VAO 27 17:21:19.4±0.9, 13°.69S×72°.41W, h78km, mb4.3
ISC 27 17:21:04.0±0.7, 14°.56S±0°.07×73°.63W±0°.07, h87km, n38, σ2s42/41, mb4.0/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.04**	**309**	P	**Pn**	**17 22 03.7**	**0.0**
	31nm,0.3s,baz=131,slow=12,SNR=17						
NNA				S	**Sn**	**17 22 48.9**	**-0.9**
	78nm,0.3s,baz=216,slow=17,SNR=12						
PB12	**IPOC Station P**	**5.12**	**142**	Pn	**Pn**	**17 22 18.4**	**0.0**
PB16	**IPOC Station P**	**5.45**	**134**	Pn	**Pn**	**17 22 24.4**	**+1.1**
LPAZ	**La Paz**	**5.58**	**109**	P	**Pn**	**17 22 28.3**	**+3.3**
	5.1nm,0.3s,baz=286,slow=9.4,SNR=23						
LPAZ				LR	LR	17 24 51.8	
	comp=Z,33nm,21.1s,baz=222,slow=41						
LPAZ	**La Paz**	**5.58**	**109**	Pn	**Pn**	**17 22 28.5**	**+3.4**
PSGCX	**Pisagua**	**6.03**	**147**		**Pn**	**17 22 30.4**	**-0.3**
GO01	**Chusmiza**	**6.62**	**141**	Pn	**Pn**	**17 22 38.8**	**-0.3**
TA01	**Diego Aracena**	**6.82**	**152**	Pn	**Pn**	**17 22 42.0**	**+0.6**
CZSB	**Cruzeiro do Su**	**6.85**	**8**	*e*P	**Pn**	**17 22 45.2**	**+3.3**
PB08	**IPOC Station P**	**7.00**	**143**	Pn	**Pn**	**17 22 43.8**	**-0.5**
ATAH	**Atahualpa**	**8.74**	**327**	P	**Pn**	**17 23 09.6**	**+1.6**
	0.4nm,0.3s,baz=139,slow=19,SNR=2.2						
ATAH				S	**Sn**	**17 24 43.3**	**-1.8**
	0.5nm,0.3s,baz=175,slow=17,SNR=1.7						
LVC	**Limon Verde**	**9.17**

	baz=73								
PRZ				⇓*i*S		**Sg**	**17 34 33.1**	**+4.3**	
	baz=73								
SATY	**Saty**	**1.63**	**296**	*e*P		**Pg**	**17 34 12.7**	**+0.4**	
	22nm,0.3s								
SATY				*e*S		**Sg**	**17 34 37.1**	**+3.7**	
	63nm,0.3s								
ZHN	**Zhinishke**	**1.66**	**300**	*e*P		**Pb**	**17 34 12.9**	**+0.4**	
	15nm,0.3s								
ZHN				*e*S		**Sg**	**17 34 37.1**	**+2.8**	
	17nm,0.2s								
KPKS	**Kokpek**	**1.68**	**312**	*e*P		**Pb**	**17 34 12.8**	**0.0**	
	55nm,0.2s								
KPKS				*e*S		**Sg**	**17 34 37.0**	**+2.0**	
	133nm,0.2s								
DJR	**Jarkent**	**2.02**	**348**	*e*P		**Pb**	**17 34 19.0**	**+0.3**	
	7.0nm,0.3s								
DJR				*e*S		**Sg**	**17 34 47.6**	**+1.5**	
	71nm,0.3s								
ANVS	**Anan'yevo**	**2.06**	**283**	⇑*e*P		**Pb**	**17 34 19.7**	**+0.3**	
	baz=80								
ANVS				⇑*i*S		**Sg**	**17 34 48.7**	**+1.3**	
	baz=80								
MNBS	**Baschi**	**2.26**	**320**	*e*P		**Pb**	**17 34 23.0**	**+0.3**	
	11nm,0.3s								
MNBS				*e*S		**Sg**	**17 34 54.9**	**+1.3**	
	181nm,0.5s								
KDJ	**Kajisay**	**2.40**	**266**	⇓*e*P		**Pb**	**17 34 24.5**	**-0.7**	
	baz=64								
KDJ				⇓*i*S		**Sg**	**17 34 57.2**	**-1.0**	
	baz=64								
KOTS	**Kotyrbulak**	**2.57**	**291**	*e*P		**Pb**	**17 34 28.2**	**+0.1**	
	30nm,0.2s								
KOTS				*e*S		**Sg**	**17 35 03.4**	**-0.4**	
	102nm,0.3s								
MDOK	**Medeo**	**2.59**	**289**	*e*P		**Pb**	**17 34 28.8**	**+0.3**	
	15nm,0.2s								
MDOK				*e*S		**Sg**	**17 35 04.5**	**0.0**	
	25nm,0.4s								
TNSS	**Tian-Shan**	**2.63**	**286**	*e*P		**Pb**	**17 34 29.7**	**+0.4**	
	5.4nm,0.2s								
TNSS				*e*S		**Sg**	**17 35 06.1**	**+0.3**	
	10nm,0.3s								
ARXS	**Arharly**	**2.64**	**316**	*e*P		**Pb**	**17 34 29.8**	**+0.6**	
	18nm,0.3s								
ARXS				*e*S		**Sg**	**17 35 06.2**	**+0.3**	
	28nm,0.5s								
IZV	**Izvestkoviy**	**2.87**	**285**	*e*P		**Pb**	**17 34 32.4**	**-0.8**	
	5.7nm,0.3s								
IZV				*e*S		**Sb**	**17 35 10.6**	**+1.7**	
	22nm,0.4s								
MTBS	**Maitube**	**3.02**	**286**	*e*P		**Pb**	**17 34 36.3**	**+0.6**	
	3.4nm,0.2s								
MTBS				*e*S		**Sg**	**17 35 17.6**	**-0.7**	
	13nm,0.3s								
KTBS	**Karatobe**	**3.04**	**298**	*e*P		**Pb**	**17 34 36.8**	**+0.8**	
	2.8nm,0.4s								
KTBS				*e*S		**Sg**	**17 35 18.3**	**-0.6**	
	12nm,0.5s								
ULHL	**Ulahol**	**3.09**	**269**	⇑*e*P		**Pb**	**17 34 34.1**	**-2.8**	
	baz=68								
ULHL				⇑*i*S		**Sb**	**17 35 13.9**	**-1.2**	
	baz=68								
BOOM	**Boomskoye usch**	**3.30**	**274**	⇑*i*P		**Pb**	**17 34 36.8**	**-3.8**	
	baz=73								
BOOM				⇑*i*S		**Sb**	**17 35 19.1**	**-2.2**	
	baz=73								
KST	**Kastek**	**3.34**	**283**	*e*P		**Pb**	**17 34 41.4**	**+0.2**	
	9.1nm,0.4s								
KST				*e*S		**Sg**	**17 35 26.1**	**-2.4**	
	17nm,0.5s								
KUU	**Kurty**	**3.34**	**299**	*e*P		**Pb**	**17 34 41.9**	**+0.7**	
	1.3nm,0.5s								
KUU				*e*S		**Sg**	**17 35 26.9**	**-1.7**	
	9.7nm,0.2s								
TKM2	**Tokmak 2**	**3.59**	**281**	⇑*i*P		**Pn**	**17 34 40.9**	**+2.9**	
	baz=79								
TKM2				⇑*i*S		**Sb**	**17 35 26.3**	**-3.2**	
	baz=79								
TKM2	**Tokmak 2**	**3.59**	**281**	⇓Pg		**Pb**	**17 34 45.3**	**-0.2**	
	2.7nm,0.6s								
TKM2				⇑Lg		Lg	17 35 36.5		
	7.8nm,0.5s								
KBK	**Karagaybulak**	**4.04**	**276**	⇑*i*P		**Pn**	**17 34 47.7**	**+3.5**	
	baz=75								
KBK				⇑*i*S		**Sb**	**17 35 37.7**	**-4.9**	
	baz=75								
UCH	**Uchtor**	**4.37**	**270**	⇑*i*P		**Pn**	**17 34 52.4**	**+3.4**	
	baz=70								
UCH				⇑*i*S		**Sb**	**17 35 46.1**	**-6.1**	
	baz=70								
AAK	**Ala-Archa**	**4.38**	**276**	⇑*i*P		**Pn**	**17 34 52.2**	**+3.4**	
	baz=75								
AAK				⇑*i*S		**Sb**	**17 35 45.6**	**-6.5**	
	baz=75								
AAK	**Ala-Archa**	**4.38**	**276**	⇑Pg		**Pg**	**17 35 02.6**	**-2.3**	
	0.6nm,0.3s								
AAK				⇑Lg		Lg	17 35 59.8		
	7.4nm,0.8s								
MK31	**Makanchi Array**	**4.64**	**16**	⇑Pn		**Pn**	**17 34 54.0**	**+1.7**	
	0.3nm,0.3s,baz=200,slow=14,SNR=9.1								
MK31				⇑Lg		Lg	17 36 03.8		
	1.2nm,0.5s								
EKS2	**Erkin-Say**	**4.90**	**276**	⇑*e*P		**Pn**	**17 34 59.6**	**+3.6**	
	baz=75								
EKS2				⇑*i*S		**Sn**	**17 35 58.3**	**+4.8**	
	baz=75								
KK31	**Karatay Array**	**7.32**	**279**	⇓Lg		Lg	17 37 31.6		
	0.5nm,0.5s								

*REY **27** 17:36:04.6,64.˚68N×17.˚47W,h5km*
*IDC **27** 17:36:05.3±0.6,64.˚55N×17.˚81W,h0km,mb3.9/18, mb1 4.0/22,mb1mx3.9/46,mbtmp3.9/22,ML2.7/3,MS3.2/9, Ms1 3.2/9,ms1mx2.9/46,Error ellipse: s-maj=18.7km s-min=10.9km az=19.0*
*NEIC **27** 17:36:06.6±1.7,64.˚6N±0.˚1×17.˚8W±0.˚2,h10km±1km, mb4.6/25,Error ellipse: s-maj=18.9km s-min=11.3km az=202.0*
*BGR **27** 17:36:12.8±0.0,64.˚44N×17.˚59W,h33km,mb4.4,Ms2.9*

ISC 27 17:36:06.5±0.4,64.˚61N±0.˚03×17.˚65W±0.˚03,h10km,n135, σ1§66/111,mb4.2/36,MS3.2/7,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.08**	**325**	P	**Pg**	**17 36 07.2**	**-1.7**
	baz=269						
IDYN	**Dyngjuhals**	**0.22**	**34**	P	Pg	17 36 07.4	-3.7
	baz=20						
IGRF	**Grimsfjall**	**0.26**	**141**	P	**Pg**	**17 36 10.4**	**-1.5**
	baz=162						
IURH	**Urdarhals**	**0.30**	**46**	P	Pg	17 36 08.7	-3.9
	baz=43						
IURH				S	**Sg**	**17 36 11.9**	**-4.7**
	baz=43						
ISKR	**Skrokkalda**	**0.32**	**261**	P	**Pg**	**17 36 12.1**	**-0.8**
	baz=254						
IJOK	**Jokulheimar**	**0.39**	**220**	P	**Pb**	**17 36 13.5**	**-1.9**
	baz=222						
IVOT	**Vottur**	**0.40**	**149**	P	**Pg**	**17 36 12.4**	**-1.9**
	baz=163						
IVOT				S	**Sg**	**17 36 18.8**	**-0.8**
	baz=163						
IKVE	**Kverkfjoll**	**0.43**	**80**	P	Pg	17 36 11.1	-3.7
	baz=89						
IKVE				S	**Sg**	**17 36 16.2**	**-4.3**
	baz=89						
THOR	**Thorvaldshraun**	**0.53**	**52**	P	Pg	17 36 12.4	-4.4
	baz=52						
IIEY	**Innrieyrar**	**0.56**	**202**	P	**Pb**	**17 36 16.2**	**-2.1**
	baz=206						
IKRE	**Kreppuhraun**	**0.57**	**72**	P	Pg	17 36 13.1	-4.5
	baz=76						
IASK	**Askja**	**0.62**	**44**	P	Pg	17 36 13.8	-4.6
	baz=42						
IASK				S	Sg	17 36 21.0	-5.5
	baz=42						
IKAL	**Kalfafell**	**0.67**	**181**	P	**Pg**	**17 36 17.6**	**-1.7**
	baz=188						
IMKO	**Mokollar**	**0.67**	**56**	P	Pg	17 36 14.8	-4.6
	baz=57						
IKSK	**Karasker**	**0.68**	**131**	P	**Pg**	**17 36 16.0**	**-3.7**
	baz=140						
IVAT	**Vatnsfell**	**0.69**	**233**	P	**Pb**	**17 36 18.9**	**-1.7**
	baz=233						
IVAT				S	**Sn**	**17 36 29.2**	**-4.0**
	baz=233						
ISVA	**Svartarkot**	**0.75**	**13**	P	Pg	17 36 16.6	-4.3
	baz=7.6						
IVSH	**V-Sauoahnukur**	**0.85**	**76**	P	Pg	17 36 17.7	-5.1
	baz=79						
IHVE	**Hveravellir**	**0.86**	**288**	P	**Pg**	**17 36 20.4**	**-2.6**
	baz=283						
ISNB	**Snabyli**	**0.98**	**206**	P	**Pb**	**17 36 23.3**	**-2.1**
	baz=209						
IADA	**Aoalbol**	**0.98**	**64**	P	Pg	17 36 19.7	-5.6
	baz=66						
IADA				S	Sg	17 36 31.2	-6.8
	baz=66						
ISLY	**Slysaalda**	**1.02**	**220**	P	**Pb**	**17 36 24.1**	**-2.0**
	baz=221						
IMEL	**Melhnausar**	**1.05**	**23**	P	Pb	17 36 21.3	-5.4
	baz=20						
IFED	**Fedgar**	**1.06**	**237**	P	**Pb**	**17 36 25.3**	**-1.6**
	baz=237						
IREN	**Reynihlio**	**1.09**	**17**	P	Pb	17 36 22.1	-5.3
	baz=13						
IRJU	**Rjupnafell**	**1.09**	**205**	P	**Pg**	**17 36 25.4**	**-2.1**
	baz=207						
IMJO	**Mjoaskard**	**1.11**	**233**	P	**Pb**	**17 36 26.1**	**-1.7**
	baz=233						
IGYG	**Gygjarholskot**	**1.16**	**255**	P	**Pg**	**17 36 26.2**	**-2.5**
	baz=253						
IHAU	**Haukadalur**	**1.20**	**238**	P	**Pn**	**17 36 27.5**	**-1.7**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.21**	**206**	P	**Pb**	**17 36 27.3**	**-2.1**
	baz=208						
IGRS	**Grimsstaoir**	**1.22**	**31**	P	Pn	17 36 24.0	-5.5
	baz=30						
ISKI	**Skildingahlsh**	**1.29**	**11**	P	Pn	17 36 25.5	-5.0
	baz=8.6						
IGHA	**Grjothals**	**1.31**	**18**	P	Pn	17 36 25.5	-5.2
	baz=16						
IALF	**Alftagrof**	**1.31**	**212**	P	**Pb**	**17 36 28.8**	**-2.3**
	baz=213						
IGRA	**Granastaoir**	**1.31**	**1**	P	Pn	17 36 26.0	-4.8
	baz=358						
IESK	**Eystri-Skogar**	**1.35**	**217**	P	**Pn**	**17 36 29.4**	**-1.8**
	baz=218						
ISAU	**Saurbar**	**1.36**	**244**	P	**Pn**	**17 36 29.2**	**-2.2**
	baz=243						
IMID	**Miomork**	**1.37**	**227**	P	**Pb**	**17 36 30.1**	**-2.0**
	baz=227						
IHLA	**Hella**	**1.37**	**347**	P	Pn	17 36 27.5	-4.2
	baz=344						
IDIM	**Dimmadalss**	**1.39**	**12**	P	Pn	17 36 26.9	-5.0
	baz=9.6						
IHED	**Heoinshofoi**	**1.48**	**5**	P	Pn	17 36 28.6	-4.5
	baz=2.6						
IASM	**Asmuli**	**1.51**	**240**	P	**Pn**	**17 36 32.1**	**-1.4**
	baz=240						
IBRE	**Brettingsstaoi**	**1.52**	**356**	P	Pn	17 36 29.5	-4.2
	baz=353						
BORG	**Borgarnes**	**1.58**	**277**	Pn	**Pn**	**17 36 32.0**	**-2.5**
	33nm,0.3s,baz=94,slow=7.3,SNR=56						
BORG				Sn	**Sg**	**17 36 56.8**	**-0.5**
	26nm,0.3s,baz=31,slow=19,SNR=12						
ISOL	**Solvholt**	**1.59**	**246**	P	**Pn**	**17 36 33.0**	**-1.6**
	baz=245						
IKRO	**Krokur**	**1.59**	**253**	P	**Pn**	**17 36 33.1**	**-1.6**
	baz=252						
IHEI	**Heioarbar**	**1.61**	**257**	P	**Pn**	**17 36 33.1**	**-1.8**
	baz=255						
ISIG	**Siglufjorour**	**1.62**	**341**	P	**Pn**	**17 36 31.3**	**-3.7**
	baz=338						
IVME	**Vestmannaeyjar**	**1.66**	**226**	P	**Pb**	**17 36 34.7**	**-2.4**
	baz=226						
EKA	**Eskdalemuir Ar**	**11.77**	**135**	Pn	**Pn**	**17 38 54.3**	**+0.2**
	baz=325,slow=13,SNR=9.0						
NOA	**NORSAR Array B**	**13.60**	**92**	Pn	**Pn**	**17 39 19.9**	**+0.8**
	0.0nm,0.3s,baz=301,slow=13,SNR=3.3						
NOA				LR	LR	17 44 53.7	
	comp=Z,40nm,18.6s,baz=290,slow=39						
ARCES	**ARCESS Array B**	**17.20**	**54**	P	**Pn**	**17 40 08.5**	**+2.0**
	baz=274,slow=13,SNR=1.8						
ARCES				LR	LR	17 45 06.9	
	comp=Z,58nm,21.5s,baz=260,slow=31						
BSEG	**Bad Segeberg**	**17.67**	**114**	*e*L	L	17 49 35.0	
	86nm,18.4s						
CLZ	**Clausthal**	**19.31**	**118**	*e*P	**Pn**	**17 40 33.3**	**+0.9**
	38nm,1.6s,baz=324,slow=11						
FINES	**FINESS Array B**	**19.78**	**79**	P	**Pn**	**17 40 38.6**	**+0.8**
	0.1nm,0.3s,baz=289,slow=13,SNR=2.0						
TNS	**Taunus Mts**	**19.91**	**124**	*e*L	L	17 50 16.8	
	68nm,19.2s						
MOX	**Moxa**	**20.73**	**118**	*e*P	**P**	**17 40 47.6**	**+0.7**
	22nm,1.5s,baz=324,slow=11						
MOX				*e*L	L	17 48 51.8	
	57nm,21.2s						
CLL	**Collm**	**20.74**	**115**	*i* P	**P**	**17 40 46.4**	**-0.5**
	comp=Z,19nm,1.3s						
CLL				*i*		17 40 55.7	
CLL	**Collm**	**20.74**	**115**	*e*L	L	17 48 35.9	
	comp=Z,87nm,18.4s						
CLL	**Collm**	**20.74**	**115**	P	**P**	**17 40 46.5**	**-0.3**
ECH	**Echery**	**21.17**	**129**	P	**P**	**17 40 51.4**	**-0.2**
FBE	**Freiberg**	**21.18**	**116**	*e*P	**P**	**17 40 52.5**	**+0.9**
	comp=Z,47nm,1.8s,baz=324,slow=11						
GUNZ	**Gunzen**	**21.23**	**118**	*e*P	**P**	**17 40 53.0**	**+0.8**
	comp=Z,20nm,1.4s,baz=324,slow=11						
WERN	**Wernitzgruen**	**21.31**	**118**	*e*P	**P**	**17 40 55.0**	**+1.9**
	comp=Z,21nm,1.3s,baz=324,slow=11						
GRA3	**Grafenberg Arr**	**21.34**	**120**	*e*P	**P**	**17 40 55.6**	**+2.2**
	comp=Z,49nm,1.6s,baz=324,slow=11						
GRF	**Grafenberg Arr**	**21.36**	**121**	*e*L	L	17 47 28.7	
	comp=Z,35nm,19.9s						
BRG	**Berggiesshuebel**	**21.45**	**115**	*e*P	**P**	**17 40 55.5**	**+1.0**
	comp=Z,20nm,1.3s						
BFO	**Black Forest**	**21.47**	**127**	*e*L	L	17 47 59.7	
	comp=Z,41nm,21.6s						
FRB	**Frobisher Bay**	**21.71**	**291**	LR	LR	17 49 16.3	
	comp=Z,45nm,18.7s,baz=272,slow=36						
WET	**Wettzell**	**22.43**	**119**	*e*L	L	17 49 51.5	
	comp=Z,61nm,21.6s						
CHVC	**Chvalec**	**22.51**	**112**	*e*P	**P**	**17 41 08.5**	**+2.6**
FUR	**Furstenfeldbru**	**22.65**	**123**	*e*L	L	17 55 17.4	
	comp=Z,46nm,19.8s						
KHC	**Kasperske Hory**	**22.71**	**118**	*e*P	**P**	**17 41 08.8**	**+0.8**
DPC	**Dobruska-Polom**	**22.80**	**113**	*e*P	**P**	**17 41 09.2**	**+0.2**
GEC2	**GERESS Array S**	**22.99**	**118**	P	**P**	**17 41 11.9**	**+0.8**
GEC2				IAmb	IAmb	17 41 27.9	
	comp=Z,35nm,1.8s						
GERES	**GERESS Array B**	**22.99**	**118**	P	**P**	**17 41 11.8**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=323,slow=8.5,SNR=8.2						
GERES				LR	LR	17 50 18.5	
	comp=Z,78nm,19.6s,baz=281,slow=37						
GERES	**GERESS Array B**	**22.99**	**118**	P	**P**	**17 41 11.5**	**+0.5**
MOTA	**Moosalm**	**23.28**	**124**	*e*P	**P**	**17 41 16.0**	**+1.8**
	comp=Z,12nm,1.6s						
DAVOX	**Davos/Dischmat**	**23.34**	**127**	P	**P**	**17 41 16.4**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=302,slow=14,SNR=2.8						
DAVOX				LR	LR	17 49 42.0	
	comp=Z,65nm,20.0s,baz=7.0,slow=35						
WTTA	**Wattenberg**	**23.54**	**123**	*e*P	**P**	**17 41 18.6**	**+1.9**
	comp=Z,6.2nm,1.1s						
EUNU	**Eureka**	**23.69**	**336**	P	**P**	**17 41 18.9**	**+1.1**
EUNU				IAmb	IAmb	17 41 27.8	
	comp=Z,22nm,1.4s						
OKC	**Ostrava-Krasne**	**23.93**	**111**	*e*P	**P**	**17 41 20.3**	**0.0**
ABTA	**Abfaltersbach**	**24.30**	**123**	*e*P	**P**	**17 41 27.5**	**+3.7**
	comp=Z,7.4nm,1.1s						
CONA	**Conrad Observa**	**24.57**	**117**	*e*P	**P**	**17 41 27.7**	**+1.4**
	comp=Z,5.2nm,1.0s						
SCHQ	**Schefferville**	**25.97**	**271**	P	**P**	**17 41 39.1**	**+0.3**
	comp=Z,6.2nm,0.8s,baz=18,slow=7.8,SNR=3.2						
SCHQ				LR	LR	17 50 36.6	
	comp=Z,84nm,20.2s,baz=32,slow=34						
SCHQ	**Schefferville**	**25.97**	**271**	P	**P**	**17 41 40.0**	**+1.1**
SCHQ				IAmb	IAmb	17 41 52.8	
	comp=Z,28nm,1.4s						
ESDC	**Sonseca Array**	**26.23**	**156**	P	**P**	**17 41 41.8**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=350,slow=9.2,SNR=8.4						
ESDC	**Sonseca Array**	**26.23**	**156**	P	**P**	**17 41 41.1**	**-0.2**
AKASG	**Malin Array Be**	**27.90**	**97**	P	**P**	**17 41 56.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=324,slow=9.2,SNR=2.2						
AKASG	**Malin Array Be**	**27.90**	**97**	P	**P**	**17 41 56.4**	**+0.2**
BRTR	**Keskin Array B**	**38.53**	**105**	P	**P**	**17 43 32.9**	**+4.0**
	comp=Z,2.4nm,0.8s,baz=330,slow=4.7,SNR=6.4						
BRTR	**Keskin Array B**	**38.53**	**105**	P	**P**	**17 43 32.1**	**+3.2**
KBZ	**Khabaz**	**39.18**	**92**	P	**P**	**17 43 36.5**	**+2.5**
	comp=Z,3.6nm,0.9s,baz=306,slow=13,SNR=5.9						
INK	**Inuvik**	**39.85**	**329**	P	**P**	**17 43 40.4**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=37,slow=5.9,SNR=3.9						
INK	**Inuvik**	**39.85**	**329**	P	**P**	**17 43 39.8**	**+0.4**
ABKAR	**Akbulak array**	**42.07**	**73**	P	**P**	**17 43 57.7**	**-0.2**
TIXI	**Tiksi**	**42.10**	**15**	P	**P**	**17 43 58.8**	**+0.9**
TOLK	**Toolik Lake Re**	**42.77**	**336**	P	**P**	**17 44 05.5**	**+2.0**
TOLK				IAmb	IAmb	17 44 09.3	
	comp=Z,17nm,1.4s						
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**17 44 28.7**	**+1.8**
	comp=Z,1.6nm,1.0s,baz=30,slow=6.2,SNR=9.2						
ILAR				PcP	**PcP**	**17 46 05.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=1.7,slow=3.1,SNR=5.5						
ILAR				LR	LR	18 05 47.1	
	comp=Z,25nm,19.0s,baz=236,slow=39						
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**17 44 28.4**	**+1.5**
MDM	**Murphy Dome**	**45.80**	**333**	P	**P**	**17 44 27.9**	**+0.2**
MDM				IAmb	IAmb	17 44 31.9	
	comp=Z,7.0nm,1.2s						
IMAR	**Indian Mountai**	**45.88**	**337**	P	**P**	**17 44 28.3**	**0.0**
BCAR	**Beaver Creek A**	**46.12**	**328**	P	**P**	**17 44 31.3**	**+1.0**
ZALV	**Zalesovo Beam**	**47.72**	**51**	P	**P**	**17 44 42.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=311,slow=9.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**47.72**	**51**	P	**P**	**17 44 42.9**	**0.0**
KURK	**Kurchatov**	**48.20**	**58**	P	**P**	**17 44 46.8**	**+0.2**
KURK				IAmb	IAmb	17 44 51.0	
	comp=Z,5.0nm,1.0s						
W50A	**Signal Mountai**	**49.31**	**267**	P	**P**	**17 44 55.0**	**-0.3**
GEYT	**Alibeck**	**50.50**	**83**	P	**P**	**17 45 05.8**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=302,slow=8.4,SNR=3.6						
GEYT	**Alibeck**	**50.50**	**83**	P	**P**	**17 45 03.9**	**-0.4**
KKAR	**Karatay Array**	**51.36**	**70**	P	**P**	**17 45 11.3**	**+0.6**
MKAR	**Makanchi Array**	**52.81**	**58**	P	**P**	**17 45 21.3**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=335,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**52.81**	**58**	P	**P**	**17 45 21.9**	**+0.4**
KAN13	**South Haven SW**	**53.00**	**279**	P	**P**	**17 45 23.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**53.12**	**156**	P	**P**	**17 45 23.4**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=346,slow=7.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**53.12**	**156**	P	**P**	**17 45 22.7**	**-1.3**
BW06	**Boulder Array**	**53.14**	**293**	P	**P**	**17 45 25.6**	**+1.4**
BW06				IAmb	IAmb	17 45 29.2	
	comp=Z,3.6nm,0.7s						
PD31	**Pinedale Array**	**53.14**	**293**	P	**P**	**17 45 23.7**	**-0.5**
PD31				IAmb	IAmb	17 45 31.5	
	comp=Z,11nm,1.6s						
PDAR	**Pinedale Array**	**53.14**	**293**	P	**P**	**17 45 24.3**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=53,slow=6.9,SNR=14						
PDAR	**Pinedale Array**	**53.14**	**293**	P	**P**	**17 45 23.7**	**-0.5**
HWUT	**Hardware Ranch**	**54.91**	**294**	P	**P**	**17 45 37.7**	**+0.6**
HWUT				IAmb	IAmb	17 45 45.0	
	comp=Z,14nm,1.5s						
SDCO	**Great Sand Dun**	**55.75**	**287**	P	**P**	**17 45 42.7**	**-0.6**
SDCO				IAmb	IAmb	17 45 44.0	
	comp=Z,4.1nm,0.9s						
PV13	**Radium Mtn., P**	**56.75**	**290**	P	**P**	**17 45 49.1**	**-1.3**
MVU	**Marysvale**	**57.82**	**292**	P	**P**	**17 45 58.5**	**+0.5**
DBIC	**Dimbokro**	**58.55**	**165**	P	**P**	**17 46 03.0**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=64,slow=3.5,SNR=3.6						
DBIC	**Dimbokro**	**58.55**	**165**	P	**P**	**17 46 03.8**	**+0.9**
YBH	**Yreka Blue Hor**	**59.03**	**303**	LR	LR	18 11 12.7	
	comp=Z,37nm,21.8s,baz=20,slow=36						
SONM	**Songino Array**	**59.73**	**40**	P	**P**	**17 46 11.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=325,slow=6.7,SNR=2.5						
SONM	**Songino Array**	**59.73**	**40**	IAmb	IAmb	17 46 12.6	
	comp=Z,1.0nm,1.0s						
NVAR	**Mina Array Bea**	**60.27**	**297**	P	**P**	**17 46 15.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=42,slow=5.6,SNR=2.7						
TXAR	**Lajitas Array**	**62.23**	**280**	P	**P**	**17 46 28.3**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=41,slow=5.4,SNR=3.9						
TXAR				LR	LR	18 13 09.2	
	comp=Z,27nm,18.1s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**62.23**	**280**	P	**P**	**17 46 28.6**	**+0.5**
GTA	**Gaotai**	**65.39**	**49**	*e*P	**P**	**17 46 49.3**	**+0.4**
GTA				pP	sP	17 46 54.3	+0.4
GTA				sP	pP	17 46 57.3	+4.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**84.22**	**59**	P	**P**	**17 48 37.9**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=313,slow=7.1,SNR=7.8						
CMAR	**Chiang Mai Arr**	**84.22**	**59**	P	**P**	**17 48 38.0**	**+0.1**
ASAR	**Alice Springs**	**135.05**	**38**	PKP	**PKiKP**	**17 55 26.6**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=342,slow=2.2,SNR=4.1						

IDC 27 17:39:39.6±4.3,22.˚84S×176.˚74W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/30,mbtmp3.6/2,Error ellipse: s-maj=208.5km s-min=61.1km az=152.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.17**	**259**	P	P	17 47 58.8	+0.3
	0.5nm,0.7s,baz=89,slow=7.9,SNR=6.7						
ASAR				PcP	PcP	17 49 38.3	-0.7
	0.3nm,0.9s,baz=107,slow=3.8,SNR=1.6						
WRA	**Warramunga Arr**	**45.48**	**264**	P	P	17 48 00.7	-0.4
	0.5nm,0.3s,baz=103,slow=8.1,SNR=24						
AKASG	**Malin Array Be**	**145.62**	**330**	PKPbc	PKPdf	17 59 19.4	-0.3
	0.2nm,0.3s,baz=43,slow=4.0,SNR=1.8						

*IDC **27** 17:41:44.5±1.4,1.˚95N×126.˚83E,h0km,mb3.5/4, mb1 3.7/

ISC 27 17:58:26.5±1.1, 23°98N±0°06×123°58E±0°04, h33km±4km, n28, σ0ᵍ62/34, mb3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.22**	**70**	P	**Pb**	**17 58 33.3**	**0.0**
HATJ				S	**Sb**	**17 58 38.1**	**+0.1**
IRIF	**Iriomote-Funau**	**0.38**	**21**	P	**Pb**	**17 58 35.5**	**+0.2**
IRIF				S	**Sb**	**17 58 41.6**	**+0.3**
JKRS	**Kuro-shima**	**0.47**	**57**	P	**Pb**	**17 58 37.0**	**+0.4**
JKRS				S	**Sb**	**17 58 44.1**	**+0.5**
JIJ	**Ishigaki jima**	**0.64**	**53**	P	**Pb**	**17 58 39.1**	**-0.3**
JIJ				S	**Sb**	**17 58 47.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.71**	**313**	P	**Pn**	**17 58 40.6**	**+0.4**
YOJ				eS	**Sb**	**17 58 49.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.71**	**313**		**Pn**	**17 58 40.6**	**+0.4**
JYNG	**Yonagunijimaku**	**0.74**	**309**	P	**Pn**	**17 58 41.2**	**+0.5**
JYNG				eS	**Sb**	**17 58 51.2**	**+0.2**
JISG	**Ishigakijimahi**	**0.90**	**48**	P	**Pn**	**17 58 43.1**	**+0.3**
JISG				S	**Sn**	**17 58 55.3**	**+0.6**
JTJ	**Tarama**	**1.22**	**57**	P	**Pb**	**17 58 48.9**	**-0.1**
JTJ				S	**Sb**	**17 59 04.4**	**0.0**
NACB	**Ninganchiao**	**1.82**	**276**		**Pn**	**17 58 55.9**	**+0.3**
YHNB	**Yeheng**	**2.12**	**289**		**Pn**	**17 59 01.3**	**+1.5**
TATO	**Taipei**	**2.15**	**298**		**Pn**	**17 59 00.3**	**+0.3**
YULB	**Yu-li**	**2.17**	**255**		**Pn**	**17 58 59.9**	**-0.4**
SSLB	**Suanglung**	**2.41**	**266**		**Pn**	**17 59 03.8**	**+0.1**
TWG	**Pinlang**	**2.58**	**244**		**Pn**	**17 59 05.5**	**-0.4**
TPUB	**Ta-pu**	**2.79**	**257**		**Pn**	**17 59 10.3**	**+1.5**
KSRS	**Korea Array**	**13.94**	**14**	Pn	**Pn**	**18 01 41.0**	**-0.6**
	0.1nm,0.3s,baz=194,slow=14,SNR=1.9						
KSRS				LR	LR	18 06 58.0	
	comp=Z,25nm,21.6s,baz=170,slow=37						
CMAR	**Chiang Mai Arr**	**23.60**	**261**	LR	LR	18 13 42.4	
	comp=Z,10nm,20.6s,baz=300,slow=39						
KLR	**Kul'dur**	**26.01**	**12**	LR	LR	18 15 23.6	
	comp=Z,22nm,21.1s,baz=139,slow=39						
MK31	**Makanchi Array**	**40.02**	**315**	P	**P**	**18 05 58.1**	**-0.2**
MK31				IAmb	IAmb	18 06 13.7	
	comp=Z,3.1nm,1.0s						
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**18 05 58.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=99,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**18 05 58.2**	**-0.1**
ZALV	**Zalesovo Beam**	**41.62**	**326**	P	**P**	**18 06 09.7**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.3,SNR=3.5						
ZALV				LR	LR	18 25 40.8	
	comp=Z,22nm,18.9s,baz=43,slow=40						
WRA	**Warramunga Arr**	**44.90**	**166**	P	**P**	**18 06 38.6**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=350,slow=9.2,SNR=2.3						
ASAR	**Alice Springs**	**48.41**	**167**	P	**P**	**18 07 06.8**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=6.5,SNR=4.7						
ABKAR	**Akbulak array**	**55.15**	**314**	P	**P**	**18 07 55.3**	**-0.3**
FINES	**FINESS Array B**	**72.72**	**330**	P	**P**	**18 09 50.9**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=72,slow=4.5,SNR=3.4						
NOA	**NORSAR Array B**	**79.42**	**333**	P	**P**	**18 10 28.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=56,slow=5.7,SNR=2.0						

IDC 27 18:09:51.8±13.0, 15°24S×177°92W, h438km±144km, mb2.8/5, mb1 3.2/5, mb1mx2.9/36, mbtmp3.6/5, Error ellipse: s-maj=119.2km s-min=32.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.63**	**257**	P	P	18 17 31.4	-0.4
	0.2nm,0.3s,baz=90,slow=7.8,SNR=17						
ASAR	**Alice Springs**	**46.01**	**252**	P	P	18 17 34.8	+0.1
	1.7nm,0.6s,baz=85,slow=8.4,SNR=49						
ASAR				PcP	PcP	18 19 02.3	-0.4
	0.3nm,0.9s,baz=92,slow=4.8,SNR=1.4						
NVAR	**Mina Array Bea**	**77.19**	**44**	P	P	18 20 59.9	+0.2
	0.3nm,0.5s,baz=229,slow=8.2,SNR=2.6						
ILAR	**Eielson Array**	**83.20**	**13**	P	P	18 21 30.6	+0.2
	0.4nm,0.5s,baz=224,slow=5.3,SNR=2.9						
TXAR	**Lajitas Array**	**84.18**	**58**	P	P	18 21 35.8	-0.4
	0.2nm,0.6s,baz=224,slow=6.3,SNR=2.7						

IDC 27 18:12:02.1±1.6, 35.75N×141.29E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.5/44, mbtmp3.7/6, ML3.1/3, MS1.7/1, Ms1 1.7/1, ms1mx1.7/35, Error ellipse: s-maj=33.5km s-min=19.8km az=77.0

JMA 27 18:12:06.8±0.2, 35.81N×141.08E, h36km±1km, M3.0

ISC 27 18:12:06.7±1.6, 35°83N±0°05×141°12E±0°09, h33km±8km, n22, σ0ᵍ67/23, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.24**	**240**	P	**Pb**	**18 12 13.6**	**-0.1**
CHOJ				S	**Sn**	**18 12 18.4**	**-0.1**
JIHU	**Itakohorinouch**	**0.50**	**287**	P	**Pn**	**18 12 17.6**	**0.0**
JIHU				S	**Sn**	**18 12 25.4**	**+0.3**
JSMT	**Sammumatsuo**	**0.57**	**252**	P	**Pn**	**18 12 18.3**	**-0.3**
JSMT				S	**Sn**	**18 12 26.6**	**-0.3**
JHYU	**Hitachinakayam**	**0.67**	**320**	P	**Pn**	**18 12 20.0**	**+0.1**
JHYU				S	**Sn**	**18 12 29.6**	**+0.3**
JYT	**Yasato**	**0.85**	**299**	P	**Pn**	**18 12 21.6**	**-0.8**
JYT				eS	**Sn**	**18 12 32.7**	**-1.0**
JHO	**Hitachi**	**0.90**	**331**	P	**Pn**	**18 12 23.0**	**-0.1**
BSO4	**Boso 4**	**1.05**	**218**	P	**Pn**	**18 12 26.2**	**+1.2**
BSO3	**Boso 3**	**1.14**	**206**	P	**Pn**	**18 12 26.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.46**	**288**	Pn	**Pn**	**18 12 45.5**	**+0.9**
	0.8nm,0.3s,baz=100,slow=9.2,SNR=30						
MJAR				Sn	**Sb**	**18 13 20.3**	**+0.2**
	0.4nm,0.3s,baz=108,slow=30,SNR=2.0						
MAT	**Matsushiro**	**2.46**	**288**	P	**Pn**	**18 12 45.6**	**+1.0**
MAT				eS	**Sn**	**18 13 11.9**	**-1.6**
JHJ	**Hachijo jima 2**	**2.92**	**203**	Pn	**Pn**	**18 12 51.0**	**+0.2**
	8.8nm,0.3s,baz=360,slow=19,SNR=9.0						
JHJ				Sn	**Sn**	**18 13 24.7**	**0.0**
	40nm,0.3s,baz=296,slow=22,SNR=11						
ASAJ	**Asahikawa**	**8.36**	**7**	Pn	**Pn**	**18 14 06.1**	**+0.6**
	0.5nm,0.3s,baz=186,slow=18,SNR=1.8						
KSRS	**Korea Array**	**10.73**	**283**	LR	LR	18 17 34.2	
	comp=Z,4.0nm,21.2s,baz=110,slow=30						
H11N2	**WAKE ISLAND Hy**	**27.76**	**118**	T	T	18 46 56.2	
	baz=311,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**27.77**	**118**	T	T	18 46 50.6	
	baz=311,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**27.78**	**118**	T	T	18 46 56.9	
	baz=311,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.43**	**121**	T	T	18 47 50.3	
	baz=312,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.43**	**121**	T	T	18 47 49.3	
	baz=312,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.44**	**121**	T	T	18 47 52.6	
	baz=312,slow=75,SNR=23						
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**18 20 15.9**	**+0.4**
	0.8nm,0.7s,baz=80,slow=8.9,SNR=6.2						
WRA	**Warramunga Arr**	**55.83**	**188**	P	**P**	**18 21 40.8**	**-0.2**
	0.3nm,0.3s,baz=5.3,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**59.56**	**188**	P	**P**	**18 22 06.9**	**-0.2**
	0.4nm,0.8s,baz=3.0,slow=7.1,SNR=5.2						

IDC 27 18:47:28.6±0.7, 7.09S×154.94E, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.2/41, mbtmp4.2/17, ML2.5/2, MS3.2/11, Ms1 3.2/11, ms1mx3.0/30, Error ellipse: s-maj=23.0km s-min=15.5km az=111.0

NEIC 27 18:47:34.1±1.8, 7.10S±0.08×154.86E±0.07, h33km±5km, mb4.7/24, Error ellipse: s-maj=11.7km s-min=10.4km az=167.0

ISC 27 18:47:34.3±0.5, 7.09S±0°06×154.90E±0.07, h35km, n58, σ1ᵍ40/57, mb4.5/29, MS3.4/10, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.96**	**316**	Pn	**Pn**	**18 48 32.8**	**+0.2**
KRVT	**Keravat (AS076**	**3.98**	**314**	Pn	**Pn**	**18 48 31.1**	**-1.6**
	8.9nm,0.3s,baz=192,slow=23,SNR=5.4						
KRVT				Sn	**Sn**	**18 49 20.5**	**+2.3**
	12nm,0.3s,baz=121,slow=17,SNR=4.1						
KRVT				LR	LR	18 49 40.7	
	comp=Z,80nm,18.7s,baz=102,slow=33						
HNR	**Honiara**	**5.51**	**115**	LR	LR	18 51 05.9	
	comp=Z,253nm,18.9s,baz=244,slow=40						
HNR	**Honiara**	**5.51**	**115**		**Pn**	**18 48 54.4**	**+0.4**
PMG	**Port Moresby**	**8.00**	**253**	Pn	**Pn**	**18 49 26.7**	**-1.5**
	0.6nm,0.3s,baz=56,slow=11,SNR=2.3						
PMG				Sn	**Sn**	**18 50 59.7**	**+2.2**
	0.6nm,0.3s,baz=65,slow=17,SNR=6.8						
PMG				LR	LR	18 52 17.0	
	comp=Z,139nm,21.3s,baz=60,slow=36						
PMG	**Port Moresby**	**8.00**	**253**		**Pn**	**18 49 28.2**	**0.0**
PMG				Sn	**Sn**	**18 50 56.5**	**-1.0**
CTA	**Charters Tower**	**15.41**	**212**	Pn	**Pn**	**18 51 08.1**	**-1.1**
	0.1nm,0.3s,baz=39,slow=14,SNR=2.4						
CTAO	**Charters Tower**	**15.41**	**212**	P	**P**	**18 51 13.8**	**+0.4**
KWAJ	**Kwajalein Atol**	**20.24**	**39**	Pn	Pn	18 52 09.2	+0.4
WR0	**Warramunga Arr**	**23.53**	**235**	P	**P**	**18 52 40.2**	**-1.4**
WR0				IAmb	IAmb	18 53 04.4	
	comp=Z,8.6nm,0.8s						
WB0	**Warramunga Arr**	**23.56**	**236**	P	**P**	**18 52 40.5**	**-1.3**
WB0				IAmb	IAmb	18 53 03.9	
	comp=Z,7.5nm,0.8s						
WB2	**Warramunga Arr**	**23.68**	**235**	P	**P**	**18 52 41.7**	**-1.3**
WRA	**Warramunga Arr**	**23.69**	**235**	P	**P**	**18 52 41.4**	**-1.7**
	comp=Z,5.8nm,0.9s,baz=61,slow=9.8,SNR=20						
WRA				PcP	**PcP**	**18 56 27.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=65,slow=2.5,SNR=8.9						
WRA				ScP	**ScP**	**19 00 07.1**	**+4.3**
	comp=Z,0.6nm,1.0s,baz=56,slow=2.1,SNR=2.8						
WRA				LR	LR	19 02 17.8	
	comp=Z,88nm,19.4s,baz=60,slow=38						
WRA	**Warramunga Arr**	**23.69**	**235**	P	**P**	**18 52 40.6**	**-2.4**
ASAR	**Alice Springs**	**26.04**	**228**	P	**P**	**18 53 03.2**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=62,slow=8.7,SNR=34						
ASAR				ScP	**ScP**	**19 00 13.6**	**+4.2**
	comp=Z,0.7nm,1.0s,baz=67,slow=3.1,SNR=4.5						
ASAR				LR	LR	19 02 31.1	
	comp=Z,63nm,19.0s,baz=64,slow=35						
ASAR	**Alice Springs**	**26.04**	**228**	P	**P**	**18 53 02.8**	**-1.7**
STKA	**Stephens Creek**	**27.61**	**205**	P	**P**	**18 53 19.6**	**+1.0**
	comp=Z,9.3nm,0.8s,baz=18,slow=11,SNR=11						
STKA				LR	LR	19 04 08.5	
	comp=Z,78nm,19.1s,baz=25,slow=36						
STKA	**Stephens Creek**	**27.61**	**205**	P	**P**	**18 53 19.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**30.53**	**246**	P	**P**	**18 53 43.0**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=98,slow=5.5,SNR=5.3						
FITZ	**Fitzroy Crossi**	**30.53**	**246**	P	**P**	**18 53 43.3**	**-1.4**
PPT	**Papeete**	**55.06**	**106**	LR	LR	19 15 58.9	
	comp=Z,16nm,20.7s,baz=190,slow=31						
ENH	**Enshi**	**57.23**	**313**	P	**P**	**18 57 17.9**	**-0.5**
ENH				IAmb	IAmb	18 57 36.0	
	comp=Z,7.6nm,0.9s						
GYA	**Guiyang**	**57.43**	**307**	*e*P	P	18 57 25.8	+5.7
GYA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KMI	**Kunming**	**59.99**	**304**	||*e*P	P	18 57 43.3	+5.3
KMI				pP	pP	18 57 47.3	+0.6
KMI				sP	pwP	18 57 55.3	+0.6
KMI				pmax	pmax		
	comp=Z,17nm,1.0s						
KMI				pmax	pmax		
	comp=Z,120nm,4.2s						
PETK	**Petropavlovsk-**	**60.01**	**2**	P	**P**	**18 57 36.6**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=176,slow=5.8,SNR=1.4						
PETK				LR	LR	19 21 48.7	
	comp=Z,7.1nm,20.6s,baz=150,slow=34						
CMAR	**Chiang Mai Arr**	**60.74**	**296**	P	**P**	**18 57 43.8**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=121,slow=5.0,SNR=28						
CMAR	**Chiang Mai Arr**	**60.74**	**296**	P	**P**	**18 57 43.6**	**+0.7**
GTA	**Gaotai**	**68.74**	**317**	*e*P	**P**	**18 58 35.8**	**+0.9**
GTA				pP	pwP	18 58 52.0	+0.8
GTA				sP	PcP	18 59 02.5	+3.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,93nm,6.9s						
GTA				LR	LR		
	comp=N,82nm,16.0s						
GTA				LR	LR		
	comp=E,78nm,16.0s						
GTA				LR	LR		
	comp=Z,130nm,14.9s						
SONM	**Songino Array**	**69.36**	**327**	P	**P**	**18 58 38.4**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=135,slow=6.3,SNR=9.0						
SONM	**Songino Array**	**69.36**	**327**	P	**P**	**18 58 38.0**	**-0.6**
VNDA	**Vanda**	**70.50**	**178**	P	**P**	**18 58 44.2**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=334,slow=6.9,SNR=5.9						
VNDA	**Vanda**	**70.50**	**178**	P	**P**	**18 58 47.1**	**+2.2**
VNDA				IAmb	IAmb	18 58 47.3	
	comp=Z,3.2nm,1.2s						
WMQ	**Urumqi**	**78.83**	**317**	*e*P	**P**	**18 59 34.0**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,39nm,4.5s						
WMQ				LR	LR		
	comp=N,230nm,28.9s						
WMQ				LR	LR		
	comp=E,500nm,29.1s						
WMQ				LR	LR		
	comp=Z,30nm,28.9s						
M24K	**Tolsona, Glenn**	**82.37**	**24**	P	**P**	**18 59 53.2**	**+0.8**
M24K				IAmb	IAmb	19 00 07.4	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**18 59 56.0**	**+0.7**
QSPA				IAmb	IAmb	18 59 59.2	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**83.01**	**25**	P	**P**	**18 59 55.9**	**0.0**
GLB				IAmb	IAmb	18 59 57.3	
	comp=Z,6.7nm,0.9s						
MKAR	**Makanchi Array**	**83.41**	**319**	P	**P**	**18 59 58.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=102,slow=5.1,SNR=6.5						
ILAR	**Eielson Array**	**83.49**	**22**	P	**P**	**18 59 56.1**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=254,slow=5.3,SNR=6.2						
ILAR				LR	LR	19 35 55.6	
	comp=Z,22nm,18.6s,baz=228,slow=35						
ILAR	**Eielson Array**	**83.49**	**22**	P	**P**	**18 59 56.2**	**-1.9**
TABL	**Table Mountain**	**83.70**	**27**	P	**P**	**18 59 59.7**	**+0.1**
TABL				IAmb	IAmb	19 00 02.9	
	comp=Z,8.9nm,0.8s						
BARN	**Barnard Glacie**	**83.75**	**26**	P	**P**	**19 00 00.0**	**+0.2**
BARN				IAmb	IAmb	19 00 10.8	
	comp=Z,8.1nm,0.8s						
CTGM	**Chitina Glacie**	**83.85**	**26**	P	**P**	**19 00 00.7**	**+0.4**
PCA	**Pinnacle**	**83.95**	**27**	P	**P**	**19 00 00.9**	**+0.3**
ZALV	**Zalesovo Beam**	**84.20**	**326**	P	**P**	**19 00 02.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=106,slow=4.7,SNR=2.0						
MAW	**Mawson**	**84.28**	**203**	P	**P**	**19 00 02.4**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=65,slow=9.2,SNR=4.1						
MAW	**Mawson**	**84.28**	**203**	P	**P**	**19 00 02.6**	**+0.4**
K27K	**Chicken**	**84.94**	**23**	P	**P**	**19 00 07.0**	**+1.5**
K27K				IAmb	IAmb	19 00 07.8	
	comp=Z,5.0nm,1.1s						
SKAG	**Skagway**	**85.99**	**29**	P	**P**	**19 00 10.6**	**-0.2**
SKAG				IAmb	IAmb	19 00 23.2	
	comp=Z,9.1nm,1.2s						
EPYK	**Eagle Plains**	**87.98**	**22**	P	**P**	**19 00 20.7**	**+0.3**
DLBC	**Dease Lake**	**88.27**	**31**	P	**P**	**19 00 22.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=269,slow=9.1,SNR=3.9						
NVAR	**Mina Array Bea**	**91.85**	**52**	LR	LR	19 32 38.1	
	comp=Z,20nm,21.9s,baz=83,slow=30						
PFO	**Pinyon Flats O**	**92.74**	**57**	LR	LR	19 36 04.2	
	comp=Z,19nm,18.2s,baz=52,slow=31						
YKA	**Yellowknife Ar**	**96.46**	**28**	P	**P**	**19 00 59.4**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=279,slow=4.9,SNR=4.6						
MVU	**Marysvale**	**96.61**	**52**	P	**P**	**19 01 00.8**	**-0.5**
X16A	**Lo Mia Camp, P**	**96.97**	**56**	P	**P**	**19 01 01.0**	**-1.9**
X16A				IAmb	IAmb	19 01 02.8	
	comp=Z,2.6nm,0.7s						
AKASG	**Malin Array Be**	**117.56**	**324**	PKP	**PKPdf**	**19 06 16.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=50,slow=2.9,SNR=1.3						
TORD	**Torodi Ar. Bea**	**152.96**	**285**	PKPbc	**PKPbc**	**19 07 28.7**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=48,slow=2.4,SNR=9.2						
TORD	**Torodi Ar. Bea**	**152.96**	**285**		**PKPdf**	**19 07 21.2**	**-0.5**

BJI 27 19:28:30.2±0.0, 27.68N×119.97E, h2km, ML3.6/7, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**2.99**	**205**	Pg	Pn	19 29 18.5	-0.2
QZH				Sg	Sn	19 29 54.3	-0.8
QZH				smax	smax		
	comp=N,110nm,0.5s						
QZH				smax	smax		
	comp=E,130nm,0.5s						
NJ2	**Nanjing**	**4.46**	**348**	*e*Pg	Pg	19 29 56.8	+1.0
NJ2				smax	smax		
	comp=N,78nm,0.7s						
NJ2				smax	smax		
	comp=E,30nm,0.4s						
LZH	**Lanzhou**	**16.04**	**306**	*e*P	Pn	19 32 16.8	-0.3
LZH				pP	P	19 32 20.0	-0.7
LZH				sP	sP	19 32 23.5	+1.8
WMQ	**Urumqi**	**30.51**	**310**	*e*P	P	19 34 46.5	+1.7

NEIC 27 19:39:01.7±1.2, 18.09S±0.08×174.57W±0.09, h89km±5km, mb4.8/57, Error ellipse: s-maj=13.3km s-min=10.6km az=110.0

IDC 27 19:39:02.0±4.1, 18.01S×174.58W, h85km±37km, mb4.2/12, mb1 4.3/13, mb1mx4.0/25, mbtmp4.5/13, MS3.0/2, Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=21.4km s-min=15.4km az=141.0

ISC 27 19:39:02.7±0.4, 18°15S±0°06×174°54W±0°06, h100km, n126, σ1ᵍ34/118, mb4.6/44, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.47**	**103**		**Pn**	**19 40 08.1**	**-0.2**
AFI	**Afiamalu**	**4.98**	**33**		**Pn**	**19 40 13.7**	**-1.6**
RAO	**Raoul Island**	**11.48**	**195**	P	**Pn**	**19 41 43.7**	**+0.2**
	23nm,0.3s,baz=18,slow=20,SNR=1.5						
RAO				S	**Sn**	**19 43 46.9**	**-2.7**
	48nm,0.3s,baz=111,slow=23,SNR=6.2						
RAR	**Rarotonga**	**14.24**	**105**	P	**Pn**	**19 42 21.0**	**+1.3**
	2.1nm,0.3s,baz=353,slow=16,SNR=1.3						
RAR				LR	LR	19 46 36.3	
	comp=Z,69nm,18.2s,baz=319,slow=32						
RAR	**Rarotonga**	**14.24**	**105**		**Pn**	**19 42 20.3**	**+0.5**
KNTN	**Kanton**	**15.53**	**11**	P	**P**	**19 42 37.4**	**-1.0**
KNTN				IAmb	IAmb	19 42 41.0	
	comp=Z,52nm,0.7s						
DZM	**Mont Dzumac**	**18.28**	**255**	P	**Pn**	**19 43 14.1**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=93,slow=14,SNR=5.0						
DZM	**Mont Dzumac**	**18.28**	**255**	*e*P	**Pn**	**19 43 16.8**	**+6.8**
	comp=Z,26nm,1.1s						
DZM	**Mont Dzumac**	**18.28**	**255**	P	**P**	**19 43 07.2**	**-1.7**
OUZ	**Omahuta**	**20.01**	**209**	P	**P**	**19 43 27.9**	**+0.5**
OUZ				IAmb	IAmb	19 43 44.1	
	comp=Z,51nm,1.3s						
MXZ	**Matakaoa Point**	**20.34**	**197**	P	**P**	**19 43 31.3**	**+0.4**
URZ	**Urewera**	**21.33**	**198**	P	**P**	**19 43 43.4**	**+1.8**
	comp=Z,34nm,0.5s,baz=2.1,slow=1.2,SNR=34						
URZ				S	**S**	**19 47 28.1**	**-4.6**
	comp=Z,12nm,0.9s,baz=73,slow=17,SNR=2.3						
URZ	**Urewera**	**21.33**	**198**	P	**P**	**19 43 42.2**	**+0.6**
URZ				IAmb	IAmb	19 43 47.8	
	comp=Z,37nm,0.7s						
HIZ	**Hauiti**	**22.30**	**202**	P	**P**	**19 43 55.3**	**+3.3**
BKZ	**Black Stump Fm**	**22.35**	**199**	P	**P**	**19 43 53.7**	**+1.2**
PAE	**Paea**	**23.75**	**93**	*e*P	**P**	**19 44 04.8**	**-1.3**
	comp=Z,3.2nm,0.8s						
PAE	**Paea**	**23.75**	**93**	*e*T	T	20 08 16.6	
	comp=Z,5.4nm,0.3s						
PPT2	**Papeete2**	**23.76**	**93**	*e*P	**P**	**19 44 05.3**	**-1.0**
	comp=Z,21nm,1.1s						
PPT2				*e*LR	LR	19 49 37.1	
	comp=Z,44nm,26.5s						
PPT2	**Papeete2**	**23.76**	**93**	*e*T	T	20 08 18.5	
	comp=Z,11nm,0.4s						
PPT	**Papeete**	**23.77**	**92**	P	**P**	**19 44 06.9**	**+0.6**
	comp=Z,7.9nm,0.3s,baz=259,slow=16,SNR=3.7						
PPT				LR	LR	19 51 47.1	
	comp=Z,31nm,19.0s,baz=180,slow=32						
BFZ	**Birch Farm**	**23.82**	**198**	P	**P**	**19 44 07.4**	**+1.0**
BFZ				IAmb	IAmb	19 44 14.4	
	comp=Z,28nm,1.1s						
TIAR	**Tiarei**	**23.99**	**93**	*e*P	**P**	**19 44 07.2**	**-1.0**
	comp=Z,5.1nm,0.9s						
TBI	**Tubuai**	**24.00**	**107**	*e*T	T	20 08 27.5	
	comp=Z,9.9nm,0.3s						
TVO	**Taravao**	**24.05**	**93**	*e*P	**P**	**19 44 08.0**	**-0.9**
	comp=Z,7.1nm,0.8s						
PLWZ	**Palliser**	**24.93**	**198**	P	**P**	**19 44 15.6**	**-1.0**
MEH	**Mehetia**	**25.17**	**94**	*e*T	T	20 10 02.2	
	comp=Z,6.9nm,0.2s						
QRZ	**Quartz Range**	**25.19**	**204**	P	**P**	**19 44 18.5**	**-0.4**
QRZ				IAmb	IAmb	19 44 28.3	
	comp=Z,51nm,1.0s						
TUWZ	**Tuamarina**	**25.22**	**201**	P	**P**	**19 44 19.5**	**+0.3**
PMOR	**Pomariorio Ree**	**25.72**	**87**	*e*T	T	20 10 47.1	
	comp=Z,1.8nm,0.3s						
THZ	**Tophouse**	**25.87**	**202**	P	**P**	**19 44 25.7**	**+0.6**
THZ				IAmb	IAmb	19 44 37.3	
	comp=Z,41nm,1.2s						
VAH	**Vaihoa**	**25.93**	**88**	*e*P	**P**	**19 44 24.5**	**-1.4**
	comp=Z,18nm,1.1s						
KHZ	**Kahutara**	**26.23**	**200**	P	**P**	**19 44 28.7**	**+0.4**
KHZ				IAmb	IAmb	19 44 40.5	
	comp=Z,17nm,0.7s						
LTZ	**Lake Taylor**	**26.99**	**202**	P	**P**	**19 44 34.7**	**-0.5**
RPZ	**Rata Peaks**	**28.24**	**202**	P	**P**	**19 44 48.0**	**+1.8**
	comp=Z,12nm,

PPLA	**Purkeypile**	**82.67**	**10**	P	**P**	**19 51 14.6**	**-0.3**
PPLA				IAmb	IAmb	19 51 23.5	
	comp=Z,22nm,1.5s						
N25K	**Chitina, Valde**	**83.00**	**14**	P	**P**	**19 51 16.8**	**+0.2**
GLB	**Gilahina Butte**	**83.03**	**14**	P	**P**	**19 51 16.8**	**+0.1**
TXAR	**Lajitas Array**	**83.04**	**56**	P	**P**	**19 51 19.1**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=230,slow=7.0,SNR=1.9						
M24K	**Tolsona, Glenn**	**83.09**	**13**	P	**P**	**19 51 16.9**	**-0.1**
M24K				IAmb	IAmb	19 51 18.5	
	comp=Z,9.4nm,0.9s						
TRF	**Thorofare Moun**	**83.51**	**11**	P	**P**	**19 51 19.0**	**-0.2**
TRF				IAmb	IAmb	19 51 19.4	
	comp=Z,5.6nm,0.7s						
RND	**Reindeer**	**83.73**	**11**	P	**P**	**19 51 20.4**	**+0.1**
RND				IAmb	IAmb	19 51 26.2	
	comp=Z,7.2nm,1.2s						
H03S2	**Juan Fernandez**	**84.60**	**124**	T	T	21 24 33.9	
	baz=250,slow=75,SNR=92						
H03S1	**Juan Fernandez**	**84.61**	**124**	T	T	21 24 34.8	
	baz=250,slow=75,SNR=86						
H03S3	**Juan Fernandez**	**84.61**	**124**	T	T	21 24 33.6	
	baz=250,slow=75,SNR=94						
H03N2	**Juan Fernandez**	**84.72**	**123**	T	T	21 24 40.2	
	baz=257,slow=72,SNR=26						
H03N3	**Juan Fernandez**	**84.72**	**123**	T	T	21 24 36.5	
	baz=257,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**84.73**	**123**	T	T	21 24 36.6	
	baz=257,slow=72,SNR=14						
WRH	**Wood River Hil**	**84.84**	**11**	P	**P**	**19 51 25.4**	**-0.4**
WRH				IAmb	IAmb	19 51 26.5	
	comp=Z,8.7nm,0.9s						
MAW	**Mawson**	**84.85**	**199**	P	**P**	**19 51 27.2**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=142,slow=8.3,SNR=13						
MAW	**Mawson**	**84.85**	**199**	P	**P**	**19 51 27.1**	**+1.2**
BCAR	**Beaver Creek A**	**84.92**	**14**	P	**P**	**19 51 25.7**	**-0.5**
HDA	**Harding Lake**	**85.00**	**12**	P	**P**	**19 51 26.6**	**0.0**
HDA				IAmb	IAmb	19 51 27.1	
	comp=Z,7.1nm,0.6s						
CCB	**Clear Creek Bu**	**85.05**	**11**	P	**P**	**19 51 26.3**	**-0.5**
CCB				IAmb	IAmb	19 51 27.2	
	comp=Z,10nm,0.6s						
TCOL	**CIGO, UAF Yank**	**85.25**	**11**	P	**P**	**19 51 27.4**	**-0.3**
COLA	**College**	**85.25**	**11**	P	**P**	**19 51 27.4**	**-0.3**
COLA				IAmb	IAmb	19 51 28.6	
	comp=Z,15nm,0.8s						
IMAR	**Indian Mountai**	**85.33**	**8**	P	**P**	**19 51 27.9**	**-0.2**
IL31		**85.34**	**12**	P	**P**	**19 51 27.8**	**-0.3**
ILAR	**Eielson Array**	**85.34**	**12**	P	**P**	**19 51 27.7**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=227,slow=6.1,SNR=58						
ILAR	**Eielson Array**	**85.34**	**12**	P	**P**	**19 51 27.6**	**-0.7**
IL18	**Eielson Array**	**85.35**	**12**	P	**P**	**19 51 28.3**	**0.0**
POKR	**Poker Plat Res**	**85.55**	**11**	P	**P**	**19 51 29.0**	**-0.2**
POKR				IAmb	IAmb	19 51 29.8	
	comp=Z,6.9nm,0.7s						
EGAK	**Eagle**	**86.53**	**14**	P	**P**	**19 51 33.9**	**-0.2**
BMAR	**Burnt Mountain**	**88.14**	**11**	P	**P**	**19 51 42.7**	**+0.9**
TOLK	**Toolik Lake Re**	**88.41**	**9**	P	**P**	**19 51 43.6**	**+0.5**
TOLK				IAmb	IAmb	19 51 46.6	
	comp=Z,7.9nm,1.1s						
SNAA	**Sanae**	**90.23**	**177**	P	**P**	**19 51 51.8**	**0.0**
MKAR	**Makanchi Array**	**111.95**	**314**	PKiKP	**PKiKP**	**19 57 25.6**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=90,slow=2.9,SNR=1.7						
ARCES	**ARCESS Array B**	**127.15**	**351**	PKP	**PKPdf**	**19 57 54.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=337,slow=1.8,SNR=7.6						
FINES	**FINESS Array B**	**134.36**	**346**	PKP	**PKPdf**	**19 58 09.0**	**+0.5**
	comp=Z,11nm,1.2s,baz=113,slow=2.1,SNR=5.9						
FINES	**FINESS Array B**	**134.36**	**346**	PKPdf	**PKiKP**	**19 58 09.2**	**-0.7**
BRTR	**Keskin Array B**	**147.51**	**317**	PKPbc	**PKPbc**	**19 58 35.2**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=65,slow=3.3,SNR=4.3						
GERES	**GERESS Array B**	**148.66**	**350**	PKPbc	**PKPbc**	**19 58 38.8**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=26,slow=3.4,SNR=13						
GERES	**GERESS Array B**	**148.66**	**350**		**PKPbc**	**19 58 38.5**	**+0.2**
CONA	**Conrad Observa**	**149.10**	**346**	*i* P	**PKiKP**	**19 58 40.1**	**-0.6**
	comp=Z,1.5nm,0.5s						
KBA	**Koelnbreinspor**	**150.43**	**349**	*e*P	**PKPbc**	**19 58 42.3**	**-0.5**
	comp=Z,2.3nm,0.6s						
WATA	**Walderalm**	**150.46**	**352**	*i* P	**PKPbc**	**19 58 43.0**	**+0.2**
	comp=Z,3.4nm,0.5s						
WTTA	**Wattenberg**	**150.52**	**351**	*i* P	**PKiKP**	**19 58 43.5**	**-0.3**
	comp=Z,6.4nm,0.4s						
SQTA	**Sankt Quirin**	**150.62**	**352**	*i* P	**PKiKP**	**19 58 43.7**	**-0.2**
	comp=Z,1.2nm,0.4s						
DAVA	**Damuels**	**150.71**	**354**	*i* P	**PKiKP**	**19 58 43.9**	**-0.3**
	comp=Z,6.9nm,1.0s						
OBKA	**Obir**	**150.74**	**347**	*e*P	**PKPbc**	**19 58 43.3**	**-0.2**
	comp=Z,1.7nm,0.5s						
MYKA	**Terra Mystica**	**150.80**	**348**	*i* P	**PKPbc**	**19 58 43.6**	**0.0**
	comp=Z,2.5nm,0.5s						
FETA	**Feichten**	**150.88**	**353**	*e*P	**PKiKP**	**19 58 44.2**	**-0.3**
	comp=Z,1.4nm,0.4s						
ABTA	**Abfaltersbach**	**150.89**	**350**	*i* P	**PKPbc**	**19 58 43.7**	**-0.2**
	comp=Z,6.1nm,0.5s						
ESDC	**Sonseca Array**	**157.05**	**19**	PKPab	**PKPab**	**19 59 18.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=344,slow=4.1,SNR=4.3						
ESDC	**Sonseca Array**	**157.05**	**19**	PKPab	**PKPab**	**19 59 18.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**173.85**	**143**	PKPab	**PKPab**	**20 00 32.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=207,slow=4.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**173.85**	**143**		**PKPab**	**20 00 32.3**	**+0.3**

*PRE **27** 19:43:47.7±1.0,23°.14S×24°.04E, h5km, ML2.0*
*EAF **27** 19:43:52.6±0.4, 22°.94S×25°.96E, h10km, MD3.6*
ISC 27 19:43:52.4±1.2,**23°.5S**±0°.2×**26°.9E**±0°.4,**h10**km,**n9,**
σ0**s84**/12,**Botswana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**1.94**	**218**	*i* P	**Pb**	**19 44 27.6**	**-0.5**
LBTB	**Lobatse**	**1.94**	**218**	*e*P	**Pb**	**19 44 27.1**	**-0.9**
LBTB				*e*S	**Sg**	**19 44 55.9**	**+0.9**
LBTB				AML	AML	19 45 10.4	
	comp=Z,3.7nm,0.3s						
LBTB	**Lobatse**	**1.94**	**218**	*i* P	**Pb**	**19 44 27.6**	**-0.5**
KSR	**Koster**	**2.37**	**180**	*e*P	Pg	19 44 47.6	+10
KSR				*e*S	Sg	19 45 30.7	+22
KSR				AML	AML	19 45 46.2	
	comp=Z,38nm,0.3s						
MATP	**Matopo**	**3.37**	**26**	*i* P	**Pn**	**19 44 46.3**	**+0.9**
MATP				*i* S	**Sn**	**19 45 24.9**	**-0.6**
MATP	**Matopo**	**3.37**	**26**	*i* P	**Pn**	**19 44 46.3**	**+0.9**
MATP				*i* S	**Sn**	**19 45 24.9**	**-0.6**
BLWY	**Bulawayo**	**3.67**	**26**	*i* P	**Pn**	**19 44 49.6**	**+0.1**
BLWY	**Bulawayo**	**3.67**	**26**	*i* P	**Pn**	**19 44 49.6**	**+0.1**
SWZ	**Schweizer**	**3.96**	**201**	*e*P	**Pn**	**19 44 52.8**	**-0.6**
SWZ				*e*S	**Sn**	**19 45 41.1**	**+1.2**
SWZ				AML	AML	19 46 05.0	
	comp=Z,3.3nm,0.6s						

*IDC **27** 20:09:26.0±14.0, 36°.18N×71°.12E, h211km±179km, mb3.3/4, mb1 3.2/5, mb1mx2.9/40, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=112.0km s-min=57.2km az=103.0*
ISC 27 20:09:22.3±1.8,**36°.3N**±0°.2×**70°.8E**±0°.2,**h150**km,**n7,**
σ2**s37**/9,**mb3.8**/3,**2C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.82**	**359**	⇑Pn	**Pn**	**20 11 03.4**	**+3.5**
	0.5nm,0.4s,baz=172,slow=12,SNR=8.0						
KK31				⇓Sn	**Sn**	**20 12 14.4**	**-1.9**
	1.1nm,0.3s,baz=178,slow=23,SNR=7.5						
AAK	**Ala-Archa**	**6.98**	**23**	⇓Pn	**Pn**	**20 11 05.4**	**+3.3**
	1.2nm,0.3s						
AAK				⇑Sn	**Sn**	**20 12 18.2**	**-2.3**
	3.6nm,0.5s						
MKAR	**Makanchi Array**	**13.59**	**36**	P	**Pn**	**20 12 29.1**	**+0.2**
	0.1nm,0.3s,baz=216,slow=12,SNR=6.2						
ZALV	**Zalesovo Beam**	**20.20**	**25**	P	**P**	**20 13 44.1**	**-1.0**
	0.4nm,0.3s,baz=203,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**20 16 21.4**	**-0.2**
	2.0nm,0.9s,baz=129,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**41.27**	**338**	P	**P**	**20 16 51.8**	**-0.6**
	4.3nm,1.1s,baz=97,slow=7.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**65.51**	**269**	P	**P**	**20 19 49.0**	**-0.8**
	0.4nm,0.6s,baz=61,slow=5.4,SNR=4.1						

*DJA **27** 20:10:19.7±0.7, 3°.N±6°×12°.8E±°, h10km, M4.1/13, mB4.6/1, mb4.3/6, MLv4.0/13, Mw(mB)3.8/1*
*IDC **27** 20:10:23.3±3.8, 2°.91N×128°.18E, h55km±40km, mb3.2/5, mb1 3.5/6, mb1mx3.2/30, mbtmp3.5/6, ML3.4/1, MS2.8/3, Ms1 2.8/3, ms1mx2.4/17, Error ellipse: s-maj=71.6km s-min=19.8km az=58.0*
ISC 27 20:10:16.4±0.9,**3°.21N**±0°.07×**128°.25E**±0°.09,**h10**km,**n18,**
σ2**s20**/18,**mb3.5/5,1D,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.58**	**200**	P	**Pb**	**20 10 59.9**	**-2.9**
SGSI	**Sangihe**	**2.76**	**280**	P	**Pb**	**20 11 03.6**	**-2.3**
KCP	**Kidapawan**	**4.92**	**320**	⇓*e*P	**Pb**	**20 11 40.0**	**-2.6**
KCP				*i* S	**Sb**	**20 12 38.7**	**-3.2**
KMSI	**Cibinong**	**5.01**	**239**	P	**Pn**	**20 11 33.3**	**+1.6**
SIJI	**Sorong**	**5.05**	**143**	P	**Pn**	**20 11 34.6**	**+2.3**
	1.6nm,0.3s,baz=324,slow=19,SNR=16						
SIJI				S	**Sn**	**20 12 29.2**	**-1.5**
	2.8nm,0.3s,baz=199,slow=23,SNR=12						
SANI	**Sanana**	**5.70**	**203**	P	**Pn**	**20 11 41.7**	**+0.6**
	0.1nm10nm,0.6s						
GTOI	**Gorontalo**	**5.83**	**244**	P	**Pn**	**20 11 45.7**	**+2.7**
	0.0nm11nm,0.6s						
LUWI	**Luwuk**	**6.92**	**232**	P	**Pn**	**20 11 58.8**	**+0.9**
	0.2nm76nm,1.0s						
FAKI	**Fak Fak**	**7.28**	**147**	P	**Pn**	**20 12 04.8**	**+1.8**
	0.1nm22nm,1.2s						
APSI	**Ampana**	**7.77**	**238**	P	**Pn**	**20 12 11.8**	**+2.2**
BATI	**Baumata**	**14.09**	**199**	LR	LR	20 19 52.2	
	comp=Z,49nm,18.1s,baz=60,slow=41						
GUMO	**Guam**	**19.39**	**57**	LR	LR	20 21 14.9	
	comp=Z,19nm,21.6s,baz=225,slow=33						
PMG	**Port Moresby**	**22.63**	**124**	LR	LR	20 24 41.7	
	comp=Z,24nm,18.9s,baz=266,slow=38						
WRA	**Warramunga Arr**	**23.77**	**166**	P	**P**	**20 15 28.3**	**-1.0**
	1.2nm,0.8s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.28**	**169**	P	**P**	**20 16 00.2**	**-1.0**
	0.3nm,0.9s,baz=352,slow=8.2,SNR=4.8						
ASAR				PcP	**PcP**	**20 19 20.6**	**-0.4**
	0.3nm,0.8s,baz=350,slow=2.3,SNR=2.3						
CMAR	**Chiang Mai Arr**	**32.44**	**300**	P	**P**	**20 16 50.3**	**+3.2**
	0.4nm,0.7s,baz=134,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	**58.85**	**325**	P	**P**	**20 20 16.9**	**+1.5**
	0.4nm,0.5s,baz=112,slow=7.8,SNR=8.2						
VNDA	**Vanda**	**82.73**	**173**	P	**P**	**20 22 39.7**	**-0.3**
	0.3nm,0.7s,baz=306,slow=5.9,SNR=1.7						

*TEH **27** 20:11:20.8, 30°.07N×51°.75E, h8km, ML3.2*
*THR **27** 20:11:21.0±0.4, 30°.02N×51°.63E, h15km, ML3.5*
*OMAN **27** 20:11:28.4±1.5, 29°.59N×51°.69E, h20km±34km, mb4.9/3, ml5.0/2, Error ellipse: s-maj=35.7km s-min=31.1km az=256.0*
ISC 27 20:11:22.4±0.9,**29°.97N**±0°.04×**51°.72E**±0°.06,**h15**km,**n42,**
σ1**s19**/51,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAZ1	**Kazerun**	**0.35**	**191**	*e*Pg	**Pg**	**20 11 29.9**	**+0.2**
KAZ1				*e*		20 11 31.0	
KAZ1				*e*Sg	**Sb**	**20 11 36.7**	**+0.9**
SHI	**Shiraz**	**0.77**	**115**	*e*Pg	**Pg**	**20 11 36.5**	**-0.9**
SHI				*e*		20 12 00.5	
KLNJ	**Kolanjah**	**1.04**	**354**	*e*Pg	**Pb**	**20 11 39.8**	**-2.6**
KLNJ				*e*		20 11 57.7	
AHBU	**AHRAM**	**1.16**	**199**	*e*Pn	**Pg**	**20 11 45.0**	**+0.1**
IRAM	**Ramesheh**	**1.92**	**17**	*e*Pg	**Pn**	**20 11 55.0**	**+0.2**
IRAM				*e*		20 11 58.5	
JHRM	**Jahrom**	**2.18**	**131**	*e*Pn	**Pn**	**20 11 58.4**	**+0.1**
IGAR	**Gharneh**	**2.44**	**6**	*e*Pn	**Pn**	**20 12 03.6**	**+1.6**
ISAD	**Sadrabad**	**2.57**	**41**	*e*	**Pg**	**20 12 12.3**	**+0.6**
IPIR	**Pirpir**	**2.80**	**346**	*e*Pn	**Pn**	**20 12 07.2**	**+0.3**
IMEH	**Mehriz**	**2.87**	**60**	*e*Pn	**Pn**	**20 12 10.7**	**+2.8**
IZEF	**Zefreh**	**2.96**	**10**	*e*Pn	**Pn**	**20 12 10.2**	**+1.0**
NASN	**Na'in**	**2.97**	**18**	*e*Pn	**Pn**	**20 12 09.4**	**+0.1**
NASN	**Na'in**	**2.97**	**18**	*e*Pn	**Pn**	**20 12 09.4**	**+0.1**
ICHK	**Chekchek**	**3.23**	**45**	*e*Pn	**Pn**	**20 12 12.8**	**-0.1**
IKLH	**Kolahrood**	**3.34**	**358**	*e*Pn	**Pn**	**20 12 14.9**	**+0.5**
YZKH	**Yazd**	**3.45**	**45**	*e*Pn	**Pn**	**20 12 17.0**	**+1.3**
YZKH	**Yazd**	**3.45**	**45**	*e*Pn	**Pn**	**20 12 17.0**	**+1.3**
ANAR	**Anarak**	**3.64**	**28**	*e*Pn	**Pn**	**20 12 19.0**	**+0.6**
KRSH	**Karshahi**	**4.00**	**5**	*e*Pn	**Pn**	**20 12 23.6**	**+0.2**
NGRK	**Negar Kerman**	**4.37**	**93**	*e*Pn	**Pn**	**20 12 30.5**	**+1.9**
NGRK				*e*		20 13 25.9	
KRBR	**Kerman**	**4.38**	**89**	*e*Pn	**Pn**	**20 12 30.2**	**+1.6**
KRBR	**Kerman**	**4.38**	**89**	*e*Pn	**Pn**	**20 12 30.2**	**+1.6**
BNDS	**Bandar-Abbas**	**4.68**	**122**	*e*Pn	**Pn**	**20 12 34.5**	**+1.8**
BNDS				IAML		20 13 30.2	
	comp=N,29nm,0.4s						
BNDS	**Bandar-Abbas**	**4.68**	**122**	*e*Pn	**Pn**	**20 12 34.5**	**+1.8**
GENO	**Geno**	**4.68**	**122**	*e*Pn	**Pn**	**20 12 33.5**	**+0.8**
IDOB	**Doab**	**4.85**	**323**	*e*Pn	**Pn**	**20 12 35.6**	**+0.5**
HSAM	**Samen**	**4.99**	**329**	*e*Pn	**Pn**	**20 12 37.4**	**+0.4**
IVRN	**Varamin**	**5.01**	**0**	*e*Pn	**Pn**	**20 12 38.2**	**+1.0**
HAGD	**Aghdareh**	**5.31**	**336**	*e*Pn	**Pn**	**20 12 42.2**	**+0.8**
BANOM	**Banah**	**5.72**	**134**	P	**Pn**	**20 12 47.4**	**+0.6**
	SNR=19						
BANOM				S	**Sn**	**20 13 52.9**	**+0.7**
TKDS	**Koohdasht(Taba**	**5.86**	**50**	*e*Pn	**Pn**	**20 12 50.4**	**+1.5**
ISHM	**Shahmirzad**	**5.97**	**12**	*e*Pn	**Pn**	**20 12 51.7**	**+1.2**
NAZ	**Nazwa, Dubai**	**6.07**	**144**	P	**Pn**	**20 12 53.2**	**+1.5**
NAZ				S	**Sn**	**20 14 01.3**	**+0.3**
MDH	**Madha**	**6.18**	**138**	P	**Pn**	**20 12 53.9**	**+0.8**
	SNR=5.7						
MDH				S	**Sn**	**20 14 01.9**	**-1.6**
ASUD	**Al Ashush, Dub**	**6.22**	**148**	P	**Pn**	**20 12 55.1**	**+1.4**
	SNR=11						
ASUD				S	**Sn**	**20 14 05.5**	**+0.9**
FAQ	**Al Faqa, Dubai**	**6.24**	**146**	P	**Pn**	**20 12 55.2**	**+1.2**
UOSS	**Minazif**	**6.40**	**140**	P	**Pn**	**20 12 57.7**	**+1.5**
UOSS				S	**Sn**	**20 14 08.6**	**-0.4**
IDHR	**Dehrash**	**6.53**	**318**	*e*Pn	**Pn**	**20 12 58.9**	**+0.8**
SOHO	**SOHO**	**7.22**	**142**	P	**Pn**	**20 13 07.6**	**0.0**
SOHO				S	**Sn**	**20 14 28.0**	**-1.4**
ARQ	**Araqi**	**7.88**	**146**	P	**Pn**	**20 13 18.1**	**+1.6**
BSY	**Bisya**	**8.71**	**144**	P	**Pn**	**20 13 28.5**	**+0.5**
BSY				S	**Sn**	**20 15 05.5**	**-0.5**
SMDO	**Samad**	**8.92**	**139**	P	**Pn**	**20 13 32.1**	**+1.3**
SMDO				S	**Sn**	**20 15 10.0**	**-1.1**

*TEH **27** 20:58:48.4, 38°.37N×44°.42E, h6km, ML2.6*
*ISK **27** 20:58:48.6, 38°.39N×44°.45E, h5km, ML2.7/9*
*DDA **27** 20:58:49.3, 38°.39N×44°.37E, h4km±2km, ML2.6*
ISC 27 20:58:49.3±1.1,**38°.41N**±0°.02×**44°.40E**±0°.02,**h6**km±11km,
n36,σ1**s12**/49,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASK	**Baskale_VAN**	**0.47**	**221**	*i* P	**Pb**	**20 58 59.0**	**-1.2**
BASK				*i* S	**Sg**	**20 59 05.2**	**+0.6**
BASK				IAML		20 59 10.0	
	comp=E,611nm,0.2s						
BASK				IAML		20 59 10.0	
	comp=N,722nm,0.4s						
TVAN	**Van**	**0.79**	**279**	*i* P	**Pg**	**20 59 04.5**	**0.0**
TVAN				*i* S	**Sb**	**20 59 15.9**	**-0.8**
TVAN				IAML		20 59 21.0	
	comp=E,181nm,0.3s						
VANB	**Van**	**0.81**	**284**	PG	**Pg**	**20 59 04.9**	**-0.1**
VANB				SG	**Sn**	**20 59 18.4**	**-1.6**
YOVA	**Hakkari_Yksek**	**0.82**	**186**	*i* P	**Pg**	**20 59 05.2**	**+0.1**
YOVA				*i* S	**Sb**	**20 59 17.1**	**-0.5**
CLDR	**Caldiran**	**0.83**	**333**	PG	**Pg**	**20 59 05.1**	**-0.2**
CLDR	**Caldiran**	**0.83**	**333**	*i* P	**Pg**	**20 59 05.0**	**-0.2**
CLDR				*i* S	**Sg**	**20 59 16.9**	**+0.9**
CLDR				IAML		20 59 19.0	
	comp=E,341nm,0.6s						
CLDR				IAML		20 59 20.0	
	comp=N,269nm,0.4s						
VMUR	**Van-Muradiye**	**0.87**	**312**	*i* P	**Pb**	**20 59 07.1**	**+0.1**
VMUR				*i* S	**Sn**	**20 59 20.9**	**-0.6**
VMUR				IAML		20 59 25.0	
	comp=E,328nm,0.5s						
VMUR				IAML		20 59 26.0	
	comp=N,195nm,0.4s						
HAKT	**HAKKARI**	**1.01**	**213**	*i* P	**Pg**	**20 59 08.2**	**-0.5**
HAKT				*i* S	**Sg**	**20 59 21.4**	**-0.4**
GEVA	**Gevas**	**1.06**	**265**	*i* P	**Pg**	**20 59 09.2**	**-0.5**
GEVA				IAML		20 59 32.0	
	comp=E,115nm,0.6s						
IMRD	**Marand**	**1.07**	**73**	*e*Sg	**Sg**	**20 59 23.5**	**-0.2**
IMRD				*e*Pg	**Pg**	**20 59 08.6**	**-1.2**
IMRD				*e*		20 59 29.6	
DYDN	**Diyadin**	**1.26**	**334**	*i* P	**Pg**	**20 59 12.3**	**-1.3**
DYDN				*i* S	**Sg**	**20 59 29.3**	**-0.7**
DYDN				IAML		20 59 37.0	
	comp=E,115nm,1.0s						
DYDN				IAML		20 59 37.0	

*NNC **27** 21:00:34.6±5.3, 37°.68N×56°.07E, h0km, mb4.5, Error ellipse: s-maj=53.9km s-min=23.0km az=19.0*
*TEH **27** 21:00:35.1, 37°.52N×56°.22E, h8km, ML4.5*
*IDC **27** 21:00:35.6±0.8, 37°.44N×56°.19E, h0km, mb4.0/17, mb1 4.2/25, mb1mx4.1/46, mbtmp4.1/25, ML3.6/8, MS3.4/20, Ms1 3.4/20, ms1mx3.2/44, Error ellipse: s-maj=15.5km s-min=8.5km az=174.0*
*THR **27** 21:00:36.4±0.4, 37°.67N×56°.31E, h38km±8km, ML4.6*
*NEIC **27** 21:00:37.0±2.1, 37°.57N±0°.06×56°.24E±0°.05, h7km±4km, Error ellipse: s-maj=8.9km s-min=5.9km az=168.0*
*MOS **27** 21:00:40.1±1.2, 37°.59N×56°.32E, h36km, mb4.7/10, Error ellipse: s-maj=7.5km s-min=6.6km az=112.3*
ISC 27 21:00:37.2±0.4,**37°.58N**±0°.04×**56°.25E**±0°.03,**h10**km,**n335,**
σ1**s70**/338,**mb4.4**/41,**MS3.4**/14,**29C-16D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**0.74**	**245**	*e*Pg	**Pg**	**21 00 49.6**	**-2.0**
IMND	**Minoodasht**	**0.74**	**245**	Pg	**Pg**	**21 00 49.5**	**-2.0**
BJRD	**Bojnurd**	**0.93**	**82**	*e*Pg	**Pg**	**21 00 53.3**	**-1.8**
BJRD	**Bojnurd**	**0.93**	**82**	*e*Pn	**Pg**	**21 00 53.3**	**-1.8**
BJRD	**Bojnurd**	**0.93**	**82**		**Pg**	**21 00 53.3**	**-1.8**
ISFR	**Sfrayin**	**1.49**	**110**	*e*Pg	**Pn**	**21 01 03.3**	**-1.1**
ISFR				*e*		21 01 34.1	
ISFR	**Sfrayin**	**1.49**	**110**		**Pn**	**21 01 03.2**	**-1.1**
GYB4	**ALIBECK ARRAY**	**1.51**	**76**	Pn	**Pn**	**21 01 04.5**	**+0.1**
GEYT	**Alibeck**	**1.52**	**76**	Pg	**Pn**	**21 01 04.5**	**0.0**
	549nm,0.3s,baz=252,slow=18,SNR=1794						
GEYT				Lg	Lg	21 01 27.3	
	498nm,0.3s,baz=245,slow=33,SNR=10.0						
GEYT				LR	LR	21 01 33.3	
	comp=Z,460nm,20.8s,baz=345,slow=36						
GEYT	**Alibeck**	**1.52**	**76**	*e*Pn	**Pn**	**21 01 04.2**	**-0.4**
GEYT	**Alibeck**	**1.52**	**76**		**Pn**	**21 01 04.7**	**+0.1**
GEYT	**Alibeck**	**1.52**	**76**	Pn	**Pn**	**21 01 04.2**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**1.52**	**76**	⇓P	**Pn**	**21 01 04.4**	**-0.2**
GYA0B				⇓S	**Sb**	**21 01 27.1**	**+2.1**
GYA0B	**ALIBECK ARRAY**	**1.52**	**76**	Pn	**Pn**	**21 01 04.9**	**+0.3**
SBZV	**Sabzevar**	**1.61**	**137**	*e*Pn	**Pn**	**21 01 03.5**	**-2.5**
SBZV	**Sabzevar**	**1.61**	**137**	Pn	**Pn**	**21 01 03.4**	**-2.5**
ASHT	**Ashkhabad**	**1.73**	**77**	P	**Pn**	**21 01 09.1**	**+1.7**
ASHT	**Ashkhabad**	**1.73**	**77**	*e*Pn	**Pn**	**21 01 09.1**	**+1.7**
ASHT	**Ashkhabad**	**1.73**	**77**	Pn	**Pn**	**21 01 09.1**	**+1.7**
ASHT	**Ashkhabad**	**1.73**	**77**	Pn	**Pn**	**21 01 09.1**	**+1.7**
IEMG	**Emamgholi**	**1.92**	**94**	*e*Pn	**Pn**	**21 01 10.5**	**+0.2**
IEMG				*e*		21 01 44.0	
IEMG	**Emamgholi**	**1.92**	**94**	Pn	**Pn**	**21 01 10.5**	**+0.2**
IKRD	**Kardeh**	**1.98**	**113**	*e*Pn	Pg	21 01 21.8	+6.6
IKRD				*e*		21 02 17.7	
IGLO	**Ghaloghah**	**2.21**	**242**	*e*Pn	**Pn**	**21 01 13.6**	**-0.7**
IGLO				*e*		21 01 59.1	
IGLO	**Ghaloghah**	**2.21**	**242**	Pn	**Pn**	**21 01 13.5**	**-0.7**
IAKL	**Akhelmad**	**2.23**	**115**	*e*Pn	**Pn**	**21 01 14.7**	**+0.2**
IAKL				*e*		21 02 00.5	
IAKL	**Akhelmad**	**2.23**	**115**	Pn	**Pn**	**21 01 14.6**	**+0.1**
IKIA	**Kiasar**	**2.47**	**237**	*e*Pn	**Pn**	**21 01 17.3**	**-0.5**
IKIA				*e*		21 02 11.5	
IKIA	**Kiasar**	**2.47**	**237**	Pn	**Pn**	**21 01 17.2**	**-0.5**
IANJ	**Anjilo**	**2.82**	**222**	*e*Pn	**Pn**	**21 01 22.6**	**-0.1**
IANJ	**Anjilo**	**2.82**	**222**	Pn

KRSH	Karshahi	4.91	224	*e*Pn	Pn	21 01 51.0	-0.3		
KRSH	Karshahi	4.91	224	Pn	Pn	21 01 51.0	-0.3		
IGZV	Ghazvin	4.97	258	*e*Pn	Pn	21 01 53.1	+0.9		
IGZV	Ghazvin	4.97	258	Pn	Pn	21 01 53.1	+0.9		
IQOM	Qom	5.00	238	*e*Pn	Pn	21 01 51.9	-0.7		
IQOM	Qom	5.00	238	Pn	Pn	21 01 51.9	-0.7		
GHVR	GHOM	5.07	234	*e*Pn	Pn	21 01 53.8	+0.5		
GHVR				IAML		21 03 34.6			
	comp=N,229nm,0.9s								
GHVR	GHOM	5.07	234	*e*Pn	Pn	21 01 53.8	+0.5		
GHVR	GHOM	5.07	234	Pn	Pn	21 01 53.8	+0.5		
ITEG	Tejag	5.10	156	*e*Pn	Pn	21 01 53.8	-0.2		
ITEG	Tejag	5.10	156	Pn	Pn	21 01 53.7	-0.2		
SHRT	Shahrakht	5.12	139	*e*Pn	Pn	21 01 53.3	-0.8		
SHRT	Shahrakht	5.12	139	*e*Pn	Pn	21 01 53.3	-0.8		
SHRT	Shahrakht	5.12	139	Pn	Pn	21 01 53.3	-0.8		
IMON	Monand	5.19	146	*e*Pn	Pn	21 01 54.8	-0.4		
IMON	Monand	5.19	146	Pn	Pn	21 01 54.8	-0.4		
YZKH	Yazd	5.35	195	*e*Pn	Pn	21 01 57.2	-0.1		
YZKH	Yazd	5.35	195	*e*Pn	Pn	21 01 57.2	-0.1		
YZKH	Yazd	5.35	195	Pn	Pn	21 01 57.2	-0.1		
QAM	Ghamsar	5.46	227	*e*Pn	Pn	21 01 58.8	-0.1		
ICHK	Chekchek	5.53	196	*e*Pn	Pn	21 01 59.3	-0.6		
ICHK	Chekchek	5.53	196	Pn	Pn	21 01 59.3	-0.6		
IRAZ	Razeghan	5.53	249	*e*Pn	Pn	21 01 59.9	0.0		
IRAZ	Razeghan	5.53	249	Pn	Pn	21 01 59.9	0.0		
IKOO	Kooshah	5.62	155	*e*Pn	Pn	21 02 00.3	-0.8		
IKOO	Kooshah	5.62	155	Pn	Pn	21 02 00.3	-0.8		
IDAH	Dahanechah	5.67	147	*e*Pn	Pn	21 02 01.0	-0.8		
IDAH	Dahanechah	5.67	147	Pn	Pn	21 02 01.0	-0.8		
IZEF	Zefreh	5.67	216	*e*Pn	Pn	21 02 02.3	+0.5		
IZEF	Zefreh	5.67	216	Pn	Pn	21 02 02.2	+0.5		
QABG	Abgarm-Qazvin	5.67	253	*e*Pn	Pn	21 02 02.2	+0.4		
QABG	Abgarm-Qazvin	5.67	253	Pn	Pn	21 02 02.1	+0.3		
IKLH	Kolahrood	5.71	223	*e*Pn	Pn	21 02 02.8	+0.5		
IKLH	Kolahrood	5.71	223	Pn	Pn	21 02 02.8	+0.5		
QSDN	Sirdan	5.76	261	*e*Pn	Pn	21 02 03.0	0.0		
HRA	Herat	5.81	121	Pn	Pn	21 02 03.2	-0.5		
IBAF	Bafgh	6.00	186	*e*Pn	Pn	21 02 05.7	-0.6		
IBAF	Bafgh	6.00	186	Pn	Pn	21 02 05.7	-0.6		
ISAD	Sadrabad	6.03	201	*e*Pn	Pn	21 02 06.0	-0.8		
ISAD	Sadrabad	6.03	201	Pn	Pn	21 02 06.0	-0.8		
BSRN	Basiran	6.08	156	*e*Pn	Pn	21 02 06.8	-0.6		
BSRN	Basiran	6.08	156	*e*Pn	Pn	21 02 06.8	-0.6		
BSRN	Basiran	6.08	156	Pn	Pn	21 02 06.7	-0.6		
IGAR	Gharneh	6.21	215	*e*Pn	Pn	21 02 09.1	-0.1		
IGAR	Gharneh	6.21	215	Pn	Pn	21 02 09.1	-0.1		
IMEH	Mehriz	6.32	193	*e*Pn	Pn	21 02 10.2	-0.5		
IMEH	Mehriz	6.32	193	Pn	Pn	21 02 10.2	-0.5		
HAGD	Aghdareh	6.37	247	*e*Pn	Pn	21 02 12.7	+1.3		
HAGD	Aghdareh	6.37	247	Pn	Pn	21 02 12.7	+1.3		
IPIR	Pirpir	6.56	224	*e*Pn	Pn	21 02 15.9	+1.8		
IPIR	Pirpir	6.56	224	Pn	Pn	21 02 15.9	+1.8		
IRAM	Ramesheh	6.58	210	*e*Pn	Pn	21 02 13.8	-0.4		
IRAM	Ramesheh	6.58	210	Pn	Pn	21 02 13.8	-0.4		
GRMI	Germi	6.69	283	*e*Pn	Pn	21 02 14.7	-1.0		
GRMI	Germi	6.69	283	*e*Pn	Pn	21 02 14.7	-1.0		
GRMI	Germi	6.69	283	Pn	Pn	21 02 14.7	-1.0		
ISRB	Sarab	6.81	275	*e*Pn	Pn	21 02 17.1	-0.3		
ISRB	Sarab	6.81	275	Pn	Pn	21 02 17.1	-0.3		
HSRG	Sareghieh	6.84	252	*e*Pn	Pn	21 02 18.0	+0.1		
HSRG	Sareghieh	6.84	252	Pn	Pn	21 02 17.9	+0.1		
NHDN	Nehbandan	6.92	152	*e*Pn	Pn	21 02 18.8	-0.1		
NHDN	Nehbandan	6.92	152	Pn	Pn	21 02 18.8	-0.1		
HSAM	Samen	7.06	244	*e*Pn	Pn	21 02 22.1	+1.3		
HSAM	Samen	7.06	244	Pn	Pn	21 02 22.1	+1.3		
IHSH	Hashtrud	7.14	279	*e*Pn	Pn	21 02 21.7	-0.3		
IHSH	Hashtrud	7.14	279	Pn	Pn	21 02 21.7	-0.3		
KHGB	Koh Gabri	7.19	178	*e*Pn	Pn	21 02 22.7	+0.1		
KHGB	Koh Gabri	7.19	178	Pn	Pn	21 02 22.7	+0.1		
IHRS	Heris	7.31	279	*e*Pn	Pn	21 02 24.3	0.0		
IHRS	Heris	7.31	279	Pn	Pn	21 02 24.3	0.0		
KLNJ	Kolanjah	7.60	212	*e*Pn	Pn	21 02 29.9	+1.5		
KLNJ	Kolanjah	7.60	212	Pn	Pn	21 02 29.8	+1.4		
CHMN	Cheshme madani	7.77	172	*e*Pn	Pn	21 02 31.0	+0.2		
CHMN	Cheshme madani	7.77	172	Pn	Pn	21 02 31.0	+0.2		
IKOM	Komasi	7.86	247	*e*Pn	Pn	21 02 33.4	+1.6		
IKOM	Komasi	7.86	247	Pn	Pn	21 02 33.4	+1.6		
NGRK	Negar Kerman	7.92	177	*e*Pn	Pn	21 02 32.6	-0.3		
NGRK	Negar Kerman	7.92	177	Pn	Pn	21 02 32.5	-0.3		
ITBZ	Tabriz	8.01	278	*e*Pn	Pn	21 02 34.0	+0.1		
ITBZ	Tabriz	8.01	278	Pn	Pn	21 02 33.9	+0.1		
MAK	Makhachkala	8.57	312	*e*P	Pn	21 02 38.5	-2.9		
MAK				*e*S	Sn	21 04 13.8	-4.3		
MAK				pmax	pmax				
	comp=Z,367nm,1.2s								
MAK				MLR	MLR				
	comp=Z,153nm,14.0s								
DDFL	Dedoflistskaro	8.73	299	P	Pn	21 02 45.2	+1.6		
DDFL				S	Sn	21 04 22.6	+0.6		
LGD	Lagodekhi	8.80	302	P	Pn	21 02 44.1	-0.5		
LGD				S	Sn	21 04 21.2	-2.6		
BTNK	Botanikuri	9.73	298	P	Pn	21 02 57.4	+0.1		
CHGR	Chuyangaron	10.23	80	Pn	Pn	21 03 02.0	-2.2		
GEVA	Gevas	10.44	278	Pn	Pn	21 03 09.5	+2.3		
BGD	Bogdanovka	10.45	295	P	Pn	21 03 08.0	+0.7		
BGD				S	Sn	21 05 03.1	-1.6		
ZEI	Tsey	10.78	303	*e*P	Pn	21 03 11.0	-0.8		
ZEI				pmax	pmax				
	comp=Z,8.0nm,0.6s								
KBL	Kabul	10.79	102	P	Pn	21 03 13.2	+1.2		
KBL	Kabul	10.79	102	Pn	Pn	21 03 13.2	+1.2		
ONI	Oni	11.00	301	P	Pn	21 03 15.4	+0.7		
ONI				S	Sn	21 05 14.8	-3.1		
GAR	Garm	11.15	78	Pn	Pn	21 03 14.9	-1.9		
TKB	Tkibuli	11.23	299	P	Pn	21 03 17.5	-0.3		
KBZ	Khabaz	11.85	305	Pn	Pn	21 03 25.1	-1.1		
	comp=Z,0.7nm,0.3s,baz=92,slow=4.6,SNR=21								
KBZ				Sn	Sn	21 05 33.7	-4.7		
	comp=Z,0.6nm,0.3s,baz=292,slow=20,SNR=1.4								
AB03	Akbulak array	11.97	12	Pn	Pn	21 03 26.5	-1.3		
AB31	Akbulak array	11.97	12	Pn	Pn	21 03 26.6	-1.4		
	comp=Z,2.6nm,0.5s,baz=205,slow=14,SNR=51								
AB31				Sn	Sn	21 05 37.5	-4.0		
	comp=Z,9.4nm,0.6s,baz=262,slow=18,SNR=13								
ABKAR	Akbulak array	11.97	12	Pn	Pn	21 03 26.7	-1.2		
ABKAR	Akbulak array	11.97	12	Pn	Pn	21 03 27.3	-0.6		
KVAR	Kislovodsk Arr	12.08	306	Pn	Pn	21 03 28.8	-0.8		
	baz=197,slow=19,SNR=2.9								
KVAR				Sn	Sn	21 05 37.0	-7.4		
	baz=180,slow=16,SNR=4.0								
KIV	Kislovodsk	12.09	306	*e*P	Pn	21 03 28.3	-1.3		
KIV				pmax	pmax				
	comp=Z,36nm,1.0s								
KIV				MLR	MLR				
	comp=Z,77nm,11.0s								
KIV	Kislovodsk	12.09	306	Pn	Pn	21 03 28.3	-1.3		
KK03	Karatay Array	12.19	59	Pn	Pn	21 03 27.3	-3.6		
KK31	Karatay Array	12.20	59	Pn	Pn	21 03 28.7	-2.3		
	comp=Z,2.8nm,0.5s,baz=244,slow=15,SNR=37								
KK31				⇑Sn	Sn	21 05 44.9	-2.1		
	comp=Z,11nm,0.8s,baz=240,slow=26,SNR=3.7								
KK31	Karatay Array	12.20	59	P	Pn	21 03 28.3	-2.7		
KK31	Karatay Array	12.20	59	Pn	Pn	21 03 28.3	-2.7		
KKAR	Karatay Array	12.20	59	P	Pn	21 03 28.4	-2.6		
KKAR	Karatay Array	12.20	59	Pn	Pn	21 03 28.4	-2.6		
KKAR	Karatay Array	12.20	59		Pn	21 03 28.0	-3.0		
GOF	Gofitskoye	12.41	311	⇑*e*P	Pn	21 03 30.8	-3.1		
GOF				pmax	pmax				
	comp=Z,47nm,1.4s								
AKTO	Aktyubinsk	12.91	5	Pn	Pn	21 03 40.2	-0.5		
	comp=Z,1.2nm,0.3s,baz=176,slow=14,SNR=33								
AKTO				Sn	Sn	21 05 59.1	-5.4		
	comp=Z,0.7nm,0.3s,baz=68,slow=23,SNR=3.3								
AKTO				LR	LR	21 10 02.9			
	comp=Z,227nm,19.1s,baz=171,slow=44								
AKTO	Aktyubinsk	12.91	5	⇑Pn	Pn	21 03 39.4	-1.4		
	comp=Z,22nm,0.9s								
AKTO				⇑Sn	Sn	21 06 01.0	-3.4		
	comp=Z,20nm,0.7s								
NIL	Nilore	14.38	101	P	Pn	21 04 01.3	+0.4		
NIL	Nilore	14.38	101	Pn	Pn	21 04 01.3	+0.4		
WSAR	Wadi Sarin	14.44	171	LR	LR	21 10 41.6			
	comp=Z,140nm,19.3s,baz=336,slow=42								
AAK	Ala-Archa	14.84	64	⇑*e*P	Pn	21 04 04.5	-2.8		
KSH	Kashi	15.56	77	P	Pn	21 04 07.5	-9.2		
TOKA	Tokat	15.62	286	P	P	21 04 24.2	+2.5		
ASF	Jabal al Asfar	16.76	257	Pn	Pn	21 04 31.1	-1.1		
	comp=Z,0.1nm,0.3s,baz=63,slow=4.5,SNR=14								
ASF				LR	LR	21 12 41.7			
	comp=Z,85nm,19.2s,baz=99,slow=44								
VRH	Novokhopyorsk	17.08	328	*e*P	Pn	21 04 37.7	+1.7		
VRH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MMAI	Mount Meron Ar	17.61	261	P	P	21 04 43.5	-0.3		
	comp=Z,0.1nm,0.3s,baz=72,slow=18,SNR=2.1								
MMAI				LR	LR	21 12 20.1			
	comp=Z,52nm,18.6s,baz=65,slow=40								
BRTR	Keskin Array B	17.78	284	P	P	21 04 47.1	+1.4		
	comp=Z,0.1nm,0.3s,baz=78,slow=15,SNR=8.9								
BRTR				LR	LR	21 13 00.2			
	comp=Z,40nm,20.3s,baz=98,slow=42								
BRTR	Keskin Array B	17.78	284	P	P	21 04 47.3	+1.5		
BRTR	Keskin Array B	17.78	284	P	P	21 04 47.3	+1.5		
VSR	Storozhevoye	18.24	324	*e*P	Pn	21 04 49.6	-0.7		
VSR				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BRVK	Borovoye	18.30	28	⇑Pn	Pn	21 04 51.3	+0.2		
	comp=Z,12nm,0.7s								
BRVK	Borovoye	18.30	28	*d*eP	Pn	21 04 51.7	+0.6		
BRVK				pmax	pmax				
	comp=Z,29nm,2.5s								
BRVK	Borovoye	18.30	28	P	Pn	21 04 50.9	-0.2		
BVAR	Borovoye Array	18.32	28	P	Pn	21 04 51.7	+0.4		
	comp=Z,0.7nm,0.3s,baz=151,slow=6.4,SNR=6.4								
BVAR				S	Sn	21 08 10.8	-5.0		
	comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=4.2								
ARU	Arti	18.92	4	P	P	21 04 58.7	+0.7		
	comp=Z,0.0nm,0.3s,baz=170,slow=7.7,SNR=18								
ARU				S	Sn	21 08 19.1	-11		
	comp=Z,0.0nm,0.3s,baz=335,slow=22,SNR=1.4								
ARU				LR	LR	21 13 21.2			
	comp=Z,156nm,20.8s,baz=204,slow=40								
ARU	Arti	18.92	4	*c i*P	Pn	21 04 59.8	+1.2		
ARU				S	Sn	21 08 33.5	+3.2		
ARU				pmax	pmax				
	comp=Z,17nm,0.9s								
ARU	Arti	18.92	4	P	P	21 04 59.4	+1.4		
ARU				IAmb	IAmb	21 05 13.2			
	comp=Z,22nm,1.0s								
LPSR	Galich'ya Gora	19.29	327	*e*P	P	21 05 03.6	+1.6		
LPSR				pmax	pmax				
	comp=Z,20nm,0.9s								
EIL	Elat	19.38	252	P	P	21 05 03.6	+0.3		
	comp=Z,0.2nm,0.3s,baz=7.3,slow=7.9,SNR=4.5								
EIL				LR	LR	21 13 18.1			
	comp=Z,47nm,21.0s,baz=82,slow=40								
SVE	Sverdlovsk	19.48	7	*e*P	P	21 05 05.0	+0.9		
ISP	Isparta	20.34	279	P	Pn	21 05 15.4	-0.4		
ISP				pmax	pmax				
	comp=Z,27nm,0.8s								
ISP	Isparta	20.34	279	P	Pn	21 05 15.4	-0.4		
KURBB	Kurchatov Arra	20.54	43	P	P	21 05 17.2	+1.5		
	comp=Z,3.1nm,0.7s,baz=245,slow=12,SNR=14								
KURK	Kurchatov	20.64	43	⇑*e*P	P	21 05 18.6	+1.9		
KURK				pmax	pmax				
	comp=Z,25nm,1.7s								
KURK	Kurchatov	20.64	43	P	P	21 05 18.6	+1.9		
ELL	Elmali	20.99	276	P	P	21 05 22.2	+1.4		
ELL				pmax	pmax				
	comp=Z,63nm,0.7s								
ELL	Elmali	20.99	276	P	P	21 05 22.2	+1.4		
MAKZ	Makanchi	21.10	56	P	P	21 05 22.6	+0.8		
MAKZ				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MAKZ	Makanchi	21.10	56	P	P	21 05 22.6	+0.8		
MK31	Makanchi Array	21.30	56	*c i*P	P	21 05 24.8	+0.8		
MK31	Makanchi Array	21.30	56	P	P	21 05 24.7	+0.8		
MK31				IAmb	IAmb	21 05 26.3			
	comp=Z,8.7nm,0.6s								
MKAR	Makanchi Array	21.30	56	P	P	21 05 25.1	+1.1		
	comp=Z,9.8nm,0.6s,baz=244,slow=10,SNR=73								
MKAR				LR	LR	21 13 10.3			
	comp=Z,40nm,21.6s,baz=258,slow=35								
MKAR	Makanchi Array	21.30	56	P	P	21 05 24.7	+0.7		
AKAS	Kas	21.33	275	P	P	21 05 24.6	+0.2		
AKAS				IAmb	IAmb	21 05 34.5			
	comp=Z,22nm,1.2s								
KIRV	Kirov	21.49	350	P	P	21 05 28.2	+2.4		
	comp=Z,8.9nm,0.7s,baz=48,slow=3.5,SNR=5.3								
KIRV				LR	LR	21 16 00.1			
	comp=Z,102nm,18.5s,baz=173,slow=43								
KIRV	Kirov	21.49	350	⇑*e*P	P	21 05 28.0	+2.2		
OBN	Obninsk	22.05	329	P	P	21 05 33.5	+1.7		
	comp=Z,3.0nm,0.4s,baz=232,slow=7.2,SNR=1.9								
OBN	Obninsk	22.05	329	*e*P	P	21 05 33.2	+1.3		
OBN				*e*		21 05 49.8			
OBN				*e*PPP	PPP	21 06 04.2			
OBN				*e*		21 09 29.1			
OBN				pmax	pmax				
	comp=Z,47nm,2.5s								
OBN	Obninsk	22.05	329	P	P	21 05 33.5	+1.7		
OBN				IAmb	IAmb	21 05 50.8			
	comp=Z,25nm,1.1s								
SORM	Soroca	22.89	306	⇓P	P	21 05 42.1	+1.2		
SORM	Soroca	22.89	306	⇓P	P	21 05 42.1	+1.2		
AKASG	Malin Array Be	23.26	313	P	P	21 05 44.7	+0.1		
	comp=Z,1.0nm,0.4s,baz=116,slow=8.0,SNR=13								
AKASG	Malin Array Be	23.26	313	P	P	21 05 45.8	+1.1		
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AKASG	Malin Array Be	23.26	313	P	P	21 05 45.8	+1.1		
AKBB	Malin Array Si	23.26	313	⇓*i*P	P	21 05 46.0	+1.3		
AKBB	Malin Array Si	23.26	313	P	P	21 05 45.0	+0.4		
AKBB				IAmb	IAmb	21 06 04.1			
	comp=Z,14nm,0.8s								
VRI	Vrincioaia	23.44	300	⇑P	P	21 05 52.5	+5.9		
VRI	Vrincioaia	23.44	300	⇑P	P	21 05 52.5	+5.9		
PLOR	Plostina	23.49	300	⇓P	P	21 05 50.3	+3.2		
PLOR	Plostina	23.49	300	⇓P	P	21 05 50.3	+3.2		
MLR	Muntele Rosu	23.92	299	P	P	21 05 53.4	+2.1		
	comp=Z,7.2nm,0.8s,baz=184,slow=3.5,SNR=8.1								
MLR	Muntele Rosu	23.92	299	⇑P	P	21 05 54.4	+3.0		
MLR	Muntele Rosu	23.92	299	⇑P	P	21 05 54.4	+3.0		
MLR	Muntele Rosu	23.92	299	P	P	21 05 52.6	+1.2		
BIZ	Bicaz	24.07	302	⇓P	P	21 05 54.7	+2.1		
PYUN	Piuthan	24.31	105	*e*P	P	21 05 54.9	-0.3		
	comp=Z,92nm,1.3s								
DOPR	Dopca	24.37	300	⇑P	P	21 05 57.7	+2.2		
VOIR		24.53	299	⇓P	P	21 05 58.8	+1.8		
VOIR		24.53	299	⇓P	P	21 05 58.8	+1.8		
WMQ	Urumqi	24.55	65	*e*P	P	21 05 58.8	+1.7		
WMQ				pP	sP	21 06 04.5	+2.8		
WMQ				sP	pP	21 06 09.8	+9.4		
WMQ				pmax	pmax				
	comp=Z,11nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,48nm,3.9s								
WMQ	Urumqi	24.55	65	P	P	21 05 58.3	+1.1		
WMQ				pmax	pmax				
	comp=Z,9.0nm,0.9s								
WMQ	Urumqi	24.55	65	P	P	21 05 58.3	+1.1		
WMQ				IAmb	IAmb	21 05 59.4			
	comp=Z,9.4nm,0.9s								
DANN	Dangsing	24.78	104	*e*P	P	21 05 59.7	+0.1		
	comp=Z,16nm,0.6s								
BURAR	Bucovina Array	24.80	304	⇑P	P	21 06 01.4	+2.0		
BURAR	Bucovina Array	24.80	304	⇑P	P	21 06 01.4	+2.0		
BURAR	Bucovina Array	24.80	304	P	P	21 06 00.4	+1.0		
ARR	Arges	24.81	298	⇑P	P	21 06 01.3	+1.8		
BUR08	Bucovina Ar. S	24.82	304	P	P	21 06 00.5	+1.0		
KOLN	Koldanda	24.94	105	*e*P	P	21 06 00.7	-0.3		
	comp=Z,74nm,1.6s								
ARCR	ARCALIA	25.27	302	⇑P	P	21 06 06.5	+3.0		
IDI	Anoyia	25.27	274	P	P	21 06 04.6	+0.9		
	comp=Z,9.8nm,0.7s,baz=86,slow=17,SNR=9.3								
IDI	Anoyia	25.27	274	⇓P	P	21 06 06.7	+2.9		
IDI	Anoyia	25.27	274	P	P	21 06 04.8	+1.1		
DGZ	Jazzator, Alta	25.42	52	⇑*e*P	P	21 06 06.9	+1.8		
DGZ				pmax	pmax				
	comp=Z,24nm,1.9s								
LOT	Lotru	25.43	298	⇓P	P	21 06 06.7	+1.6		
ZAA0	Zalesovo Array	25.54	41	P	P	21 06 06.8	+0.9		
ZALV	Zalesovo Beam	25.54	41	P	P	21 06 07.0	+1.0		
	comp=Z,1.5nm,0.4s,baz=263,slow=12,SNR=9.0								
ZALV				LR	LR	21 17 31.2			
	comp=Z,101nm,18.7s,baz=335,slow=40								
ZALV	Zalesovo Beam	25.54	41	*i* P	P	21 06 07.4	+1.5		
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ZALV	Zalesovo Beam	25.54	41	P	P	21 06 06.1	+0.2		
KLMR	Klimovskoe	25.58	341	P	P	21 06 11.6	+5.5		
KLMR				pmax	pmax				
	comp=Z,21nm,1.1s								
KLMR	Klimovskoe	25.58	341	P	P	21 06 11.6	+5.5		
KLMR				AMP		21 06 27.3			
	comp=Z,21nm,1.1s								
GKN	Gorkha	25.62	104	*e*P	P	21 06 07.5	+0.4		
	comp=Z,22nm,0.9s								
GZR	Gura Zlata	26.12	298	⇑P	P	21 06 17.3	+6.0		
GZR	Gura Zlata	26.12	298	⇑P	P	21 06 17.3	+6.0		
DMN	Daman	26.18	104	*e*P	P	21 06 12.9	+0.7		
	comp=Z,27nm,1.1s								
KKN	Kakani	26.22	103	*e*P	P	21 06 14.0	+1.4		
	comp=Z,24nm,1.1s								
PKIN	Phulchoki	26.42	104	*e*P	P	21 06 16.3	+1.9		
	comp=Z,43nm,1.1s								
PKI	Pulchoki	26.43	104	*e*P	P	21 06 16.5	+1.9		
	comp=Z,31nm,0.9s								
GUN	Gumba	26.63	103	*e*P	P	21 06 18.6	+2.2		
	comp=Z,29nm,0.8s								
MDVR	Moldovita	26.82	297	⇑P	P	21 06 19.0	+1.3		
UZH	Uzhgorod	26.93	305	*e*P	P	21 06 22.0	+3.5		
UZH				*e*		21 06 40.3			
BZS	Buzias	26.95	298	⇑P	P	21 06 19.5	+0.8		
BZS	Buzias	26.95	298	⇑P	P	21 06 19.5	+0.8		
KOLS	Kolonicke sedl	27.00	306	*e*P	P	21 06 24.5	+5.3		
KOLS	Kolonicke sedl	27.00	306	*e*P	P	21 06 24.5	+5.3		
DIVS	Divibare	28.03	295	P	P	21 06 29.9	+1.3		
DIVS				IAmb	IAmb	21 06 32.9			
	comp=Z,14nm,1.5s								
ATD	Arta Tunnel	28.59	208	LR	LR	21 19 09.4			
	comp=Z,134nm,18.4s,baz=34,slow=39								
VYHS	Vyhne	29.17	304	*e*P	P	21 06 40.8	+2.3		
VYHS	Vyhne	29.17	304	*e*P	P	21 06 40.8	+2.3		
GERES	GERESS Array B	32.59	304	P	P	21 07 10.8	+2.0		
	comp=Z,0.3nm,0.5s,baz=124,slow=6.6,SNR=4.6								
CLL	Collm	33.28	308	*e*P	P	21 07 14.0	-0.7		
CLL	Collm	33.28	308	*e*P	P	21 07 14.0	-0.7		
GTA	Gaotai	33.90	73	⇑P	P	21 07 22.3	+1.8		
GTA				pP	sP	21 07 27.3	+2.2		
GTA				sP	pP	21 07 30.8	+7.1		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,70nm,5.1s								
GTA				LR	LR				
	comp=N,120nm,15.3s								
GTA				LR	LR				
	comp=E,170nm,16.0s								
GTA				LR	LR				
	comp=Z,120nm,16.4s								
WTTA	Wattenberg	33.91	301	*e*P	P	21 07 20.9	+0.3		
	comp=Z,5.2nm,0.8s								
WATA	Walderalm	33.96	301	*e*P	P	21 07 21.9	+1.0		
	comp=Z,5.9nm,1.2s								
SQTA	Sankt Quirin	34.21	301	*e*P	P	21 07 23.9	+0.9		
	comp=Z,4.5nm,0.8s								
FETA	Feichten	34.54	301	*e*P	P	21 07 26.9	+1.0		
	comp=Z,7.3nm,1.1s								
DAVA	Damuels	35.11	301	*e*P	P	21 07 30.6	-0.2		
	comp=Z,5.3nm,0.8s								
MSSA	Maissana	35.54	296	P	P	21 07 35.5	+1.1		
NRIK	Noril'sk	36.03	18	LR	LR	21 25 24.0	

BASK				IAML			21 08 21.0	
	comp=N,838nm,0.4s							
TVAN	**Van**	**0.83 279**	*i*	P	**Pb**	**21 08 14.2**	**-0.1**	
TVAN			*i*	S	**Sb**	**21 08 25.6**	**-0.1**	
TVAN				IAML		21 08 33.0		
	comp=E,304nm,0.4s							
TVAN				IAML		21 08 42.0		
	comp=N,285nm,0.6s							
YOVA	**Hakkari_Yksek**	**0.83 189**	*i*	P	**Pb**	**21 08 14.8**	**+0.5**	
YOVA			*i*	S	**Sg**	**21 08 22.3**	**-2.0**	
CLDR	**Caldiran**	**0.84 331**		PG	**Pn**	**21 08 14.8**	**-1.1**	
CLDR				SG	**Sn**	**21 08 26.9**	**-1.7**	
CLDR	**Caldiran**	**0.84 331**	*i*	P	**Pn**	**21 08 14.5**	**-1.4**	
CLDR			*i*	S	**Sb**	**21 08 25.9**	**-0.3**	
CLDR				IAML		21 08 28.0		
	comp=E,577nm,0.5s							
CLDR				IAML		21 08 28.0		
	comp=N,361nm,0.4s							
VANB	**Van**	**0.85 283**		PG	**Pb**	**21 08 14.6**	**-0.1**	
VMUR	**Van-Muradiye**	**0.90 311**	*i*	P	**Pn**	**21 08 16.9**	**+0.3**	
VMUR			*i*	S	**Sn**	**21 08 30.7**	**+0.8**	
VMUR				IAML		21 08 35.0		
	comp=E,437nm,0.4s							
VMUR				IAML		21 08 35.0		
	comp=N,339nm,0.6s							
IMRD	**Marand**	**1.03 72**	*e*	Pg	**Pn**	**21 08 18.4**	**0.0**	
IMRD			*e*	Sg	**Sn**	**21 08 33.5**	**+0.4**	
IMRD			*e*			21 08 36.2		
HAKT	**HAKKARI**	**1.03 215**	*i*	P	**Pb**	**21 08 17.9**	**+0.2**	
HAKT			*i*	S	**Sg**	**21 08 31.6**	**+0.8**	
GEVA	**Gevas**	**1.10 266**	*i*	P	**Pn**	**21 08 19.0**	**-0.4**	
GEVA			*i*	S	**Sb**	**21 08 34.1**	**+0.7**	
GEVA				IAML		21 08 41.0		
	comp=N,166nm,0.6s							
GEVA				IAML		21 08 42.0		
	comp=E,198nm,0.6s							
AKDM	**Akdamar-Van**	**1.16 267**		PG	**Pn**	**21 08 20.6**	**+0.4**	
DYDN	**Diyadin**	**1.28 333**	*i*	P	**Pb**	**21 08 20.8**	**-1.2**	
DYDN			*i*	S	**Sn**	**21 08 39.6**	**+0.3**	
DYDN				IAML		21 08 47.0		
	comp=E,163nm,1.0s							
DYDN				IAML		21 08 47.0		
	comp=N,141nm,0.3s							
CUKT	**Cukurca**	**1.34 210**	*i*	P	**Pn**	**21 08 22.7**	**+0.1**	
CUKT			*i*	S	**Sn**	**21 08 42.0**	**+1.4**	
CUKT				IAML		21 08 47.0		
	comp=E,361nm,0.5s							
CUKT				IAML		21 08 50.0		
	comp=N,259nm,1.0s							
ITBZ	**Tabriz**	**1.35 97**	*e*	Pg	**Pb**	**21 08 23.1**	**0.0**	
ITBZ			*e*			21 08 25.6		
TASB	**TASBURUN-IGDIR**	**1.58 354**		PN	**Pg**	**21 08 30.0**	**+2.0**	
AGRB	**Hanur-Agry**	**1.63 316**		PN	**Pg**	**21 08 29.6**	**+0.8**	
MLAZ	**Malazgirt-MUS**	**1.66 297**		PN	**Pg**	**21 08 29.8**	**+0.4**	
SIRT	**Sirnak**	**1.83 241**		PN	**Pg**	**21 08 33.2**	**+0.6**	
BLIS	**Bitlis-Merkez**	**1.83 271**	*i*	P	**Pb**	**21 08 31.3**	**-0.1**	
SIRN	**Sırnak**	**1.85 241**	*i*	P	**Pb**	**21 08 31.0**	**-0.6**	
SIRN				IAML		21 09 09.0		
	comp=E,137nm,0.8s							
SIRN				IAML		21 09 09.0		
	comp=N,130nm,0.9s							
GURO	**Guroymak-BITLI**	**1.90 275**		PN	**Pg**	**21 08 33.4**	**-0.7**	
MAHB	**Mahabad**	**1.92 148**	*e*	Pg	**Pg**	**21 08 33.9**	**-0.4**	
SRTM	**Siirt_Merkez**	**2.03 259**	*i*	P	**Pg**	**21 08 36.5**	**0.0**	
SRTM			*i*	S	**Sb**	**21 09 00.6**	**+0.3**	
SRTM				IAML		21 09 14.0		
	comp=N,110nm,0.8s							
SRTM				IAML		21 09 15.0		
	comp=E,102nm,0.7s							
IHRS	**Heris**	**2.04 92**	*e*	Pn	**Pg**	**21 08 35.9**	**-0.8**	
IHRS			*e*			21 08 39.4		
EATA	**Eleskirt**	**2.10 314**	*i*	P	**Pg**	**21 08 37.9**	**0.0**	
EATA			*i*	S	**Sg**	**21 09 08.9**	**+3.7**	
MUSM	**Mu-Merkez**	**2.32 279**	*i*	P	**Pg**	**21 08 40.5**	**-1.7**	
MUSM			*i*	S	**Sb**	**21 09 09.4**	**+0.7**	
EAK	**Akyaka**	**2.37 344**	*i*	P	**Pg**	**21 08 44.0**	**+1.0**	
VRTB	**Varto-Mus**	**2.46 289**		PN	**Pb**	**21 08 41.4**	**-0.7**	
HOMI	**Horasan**	**2.56 310**	*i*	P	**Pg**	**21 08 45.5**	**-1.3**	
SVAN	**Silvan-Diyarba**	**2.57 265**		PN	**Pb**	**21 08 43.1**	**-0.8**	
SVAN	**Silvan-Diyarba**	**2.57 265**	*i*	P	**Pb**	**21 08 43.7**	**-0.2**	
ISRB	**Sarab**	**2.60 102**	*e*		Pg	21 08 51.9	+4.4	
SENK	**Senkaya-Erzuru**	**2.70 324**		PN	**Pb**	**21 08 45.5**	**-0.7**	
ERZM	**Erzurum**	**2.83 303**	*i*	P	**Pg**	**21 08 50.8**	**-1.0**	
MARD	**Mardin**	**3.10 251**	*i*	P	**Pn**	**21 08 48.1**	**+1.2**	
MARD				IAML		21 09 49.0		
	comp=E,41nm,0.5s							
MARD				IAML		21 09 50.0		
	comp=N,62nm,0.8s							
YEDI	**Yedisu-Bingol**	**3.21 290**		PN	**Pb**	**21 08 51.9**	**-3.1**	
MAZI	**Mazidag**	**3.30 255**		PN	**Pb**	**21 08 53.9**	**-2.5**	

IDC 27 *21:32:15.8±2.2,* **3˚44N×127˚73E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, Error ellipse: s-maj=154.1km s-min=27.3km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.13 165**		P	P	21 37 33.5	-0.1
	0.3nm,0.4s,baz=344,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**27.61 168**		P	P	21 38 05.3	+0.2
	0.1nm,0.4s,baz=356,slow=8.7,SNR=1.5						
MKAR	**Makanchi Array**	**58.36 325**		P	P	21 42 12.8	-0.1
	0.2nm,0.4s,baz=114,slow=8.8,SNR=4.8						

IDC ***27*** *22:05:25.9±1.1,27˚90N×93˚77E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/52, mbtmp3.5/6, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/43, Error ellipse: s-maj=87.7km s-min=21.7km az=56.0*

ISC 27 22:05:27.6±1.0, 27˚9N±0˚3×93˚8E±0˚4, h10km, n7, σ0s51/6, mb3.8/4, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.56 152**		Pn	**Pn**	**22 07 59.5**	**+0.4**
	0.2nm,0.3s,baz=330,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**20.88 337**		P	**P**	**22 10 09.9**	**0.0**
	0.5nm,0.5s,baz=151,slow=12,SNR=5.3						
USRK	**Usuriysk Ar.**	**34.55 52**		LR	LR	22 25 20.2	
	comp=Z,48nm,21.1s,baz=288,slow=35						
ARCES	**ARCESS Array B**	**56.54 337**		P	**P**	**22 15 10.2**	**+0.4**
	1.8nm,0.8s,baz=104,slow=6.7,SNR=1.1						
WRA	**Warramunga Arr**	**61.69 136**		P	**P**	**22 15 45.6**	**-0.5**
	0.4nm,0.6s,baz=324,slow=7.2,SNR=7.7						
ASAR	**Alice Springs**	**64.26 139**		P	**P**	**22 16 02.9**	**-0.3**
	0.8nm,1.2s,baz=325,slow=7.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**85.75 283**		P	**P**	**22 18 07.4**	**-0.2**
	0.2nm,0.6s,baz=74,slow=4.7,SNR=1.3						

IDC ***27*** *22:07:28.7±17.0, 30˚98S×179˚99W, h430km±215km, mb2.8/2, mb1 3.2/3, mb1mx3.0/43, mbtmp3.9/3, Error ellipse: s-maj=253.0km s-min=41.2km az=6.0*

WEL ***27*** *22:07:32.1±1.0, 31˚S±16˚×18˚0E±4˚9, h457km±22km, M4.9/6, mB4.2/1, MLv4.9/6, Mw(mB)3.3/1, Error ellipse: s-maj=0.1km s-min=0.0km az=106.6*

ISC 27 22:07:31.4±2.1, 31˚3S±0˚1×179˚7E±0˚3, h450km, n25, σ1s57/43, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.36 190**		P	**P**	**22 09 10.5**	**+1.2**
MXZ				S	**S**	**22 10 30.8**	**+1.3**
HAZ	**Te Kaha**	**6.64 193**		P	**P**	**22 09 13.8**	**+1.6**
HAZ				S	**S**	**22 10 34.7**	**0.0**
RUGZ	**Raukumara Rang**	**6.87 194**		P	**P**	**22 09 13.3**	**-1.4**
RUGZ				S	**S**	**22 10 36.9**	**-2.5**
PUZ	**Puketiti**	**6.87 190**		P	**P**	**22 09 14.3**	**-0.3**
PUZ				S	**S**	**22 10 37.0**	**-2.2**
TWGZ	**Tauwhareparae**	**7.02 191**		P	**P**	**22 09 16.7**	**+0.5**
TWGZ				S	**S**	**22 10 41.1**	**-1.0**
MWZ	**Matawai**	**7.25 194**		P	**P**	**22 09 20.3**	**+1.6**
MWZ				S	**S**	**22 10 46.5**	**-0.2**
URZ	**Urewera**	**7.27 196**		P	**P**	**22 09 19.7**	**+0.9**
	5.2nm,0.3s,baz=349,slow=3.7,SNR=16						
URZ				S	**S**	**22 10 45.8**	**-1.2**
	4.6nm,0.3s,baz=87,slow=22,SNR=21						
URZ	**Urewera**	**7.27 196**		P	**P**	**22 09 19.8**	**+0.9**
URZ				S	**S**	**22 10 46.2**	**-0.8**
CNGZ	**Carnagh Statio**	**7.28 189**		P	**P**	**22 09 20.3**	**+1.3**
CNGZ				S	**S**	**22 10 50.0**	**+2.9**
SNGZ	**Shannon Statio**	**7.72 194**		S	**S**	**22 10 56.5**	**+0.6**
MCHZ	**McNeill Hill**	**8.50 196**		P	**P**	**22 09 34.6**	**+2.5**
MCHZ				S	**S**	**22 11 08.7**	**-2.5**
KWHZ	**Kaweka Forest**	**8.55 197**		P	**P**	**22 09 30.7**	**-1.9**
KWHZ				P	**S**	**22 11 14.9**	**+2.6**
CKHZ	**Cape Kidnapper**	**8.62 194**		P	**P**	**22 09 29.8**	**-3.6**
CKHZ				S	**S**	**22 11 13.8**	**+0.2**
BHHZ	**Black Hill Sta**	**8.70 199**		P	**P**	**22 09 33.1**	**-1.3**
BHHZ				S	**S**	**22 11 16.9**	**+1.5**
KRHZ	**Kereru**	**8.77 197**		P	**P**	**22 09 34.6**	**-0.4**
KRHZ				S	**S**	**22 11 15.2**	**-1.4**
KAHZ	**Kahuranaki**	**8.79 194**		P	**P**	**22 09 36.1**	**+0.8**
KAHZ				S	**S**	**22 11 18.4**	**+1.2**
PXZ	**Pawanui**	**9.02 194**		P	**P**	**22 09 38.4**	**+0.7**
PXZ				S	**S**	**22 11 21.6**	**0.0**
PNHZ	**Pukenui**	**9.06 197**		P	**P**	**22 09 37.7**	**-0.6**
PNHZ				S	**S**	**22 11 23.5**	**+0.9**
WPHZ	**Waipukurau**	**9.15 196**		S	**S**	**22 11 26.3**	**+2.1**
DVHZ	**Dannevirke**	**9.44 197**		S	**S**	**22 11 28.6**	**-1.4**
PRWZ	**Pori Road**	**9.73 197**		S	**S**	**22 11 36.1**	**+0.4**
BFZ	**Birch Farm**	**9.78 196**		P	**P**	**22 09 45.7**	**-0.3**
BFZ				S	**S**	**22 11 34.1**	**-2.7**
ASAR	**Alice Springs**	**41.10 269**		P	**P**	**22 14 35.4**	**+0.6**
	0.3nm,0.3s,baz=101,slow=8.2,SNR=4.3						
WRA	**Warramunga Arr**	**42.18 274**		P	**P**	**22 14 44.0**	**+0.6**
	0.6nm,0.4s,baz=113,slow=7.5,SNR=11						
FINES	**FINESS Array B**	**145.26 338**		PKPbc	**PKPdf**	**22 26 14.9**	**-1.3**
	1.3nm,0.8s,baz=51,slow=5.5,SNR=9.8						

IDC ***27*** *22:18:09.5±1.6, 9˚78S×149˚20E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/31, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=31.7km s-min=19.4km az=8.0*

ISC 27 22:18:11.3±1.5, 9˚8S±0˚1×149˚1E±0˚2, h10km, n7, σ0s76/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.98 282**		Pn	**Pn**	**22 18 44.9**	**0.0**
	21nm,0.3s,baz=105,slow=11,SNR=21						
PMG				Lg	Lg	22 19 15.3	
	65nm,0.3s,baz=142,slow=19,SNR=16						
CTA	**Charters Tower**	**10.59 195**		Pn	**Pn**	**22 20 43.2**	**0.0**
	0.3nm,0.3s,baz=23,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**17.47 233**		P	**Pn**	**22 22 14.7**	**-0.5**
	0.1nm,0.3s,baz=54,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**20.03 225**		P	**P**	**22 22 45.0**	**+0.4**
	2.2nm,0.8s,baz=60,slow=10.0,SNR=18						
FITZ	**Fitzroy Crossi**	**24.21 248**		P	**P**	**22 23 29.0**	**+0.7**
	1.2nm,0.6s,baz=67,slow=9.9,SNR=2.1						
ILAR	**Eielson Array**	**88.15 23**		P	**P**	**22 31 02.4**	**+0.3**
	0.3nm,0.5s,baz=245,slow=5.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**147.92 279**		PKPbc	**PKPbc**	**22 37 56.7**	**-1.2**
	0.4nm,0.7s,baz=76,slow=2.8,SNR=3.0						

CRAAG ***27*** *22:23:41.8, 36˚35N×1˚69E, Ml3.5*

IDC ***27*** *22:23:42.1±2.2, 36˚65N×1˚51E, h0km, mb2.9/1, mb1 3.4/4, mb1mx3.2/45, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=30.1km s-min=24.0km az=179.0*

LDG ***27*** *22:23:42.6±0.3, 36˚47N×1˚58E, h30km, Ml2.7/9, Error ellipse: s-maj=6.5km s-min=2.8km az=159.0*

MDD ***27*** *22:23:43.4±0.8, 36˚36N×1˚64E, h21km±10km, mb4.0/28, Error ellipse: s-maj=8.1km s-min=4.9km az=143.0, PRXIMO*

ISC 27 22:23:41.9±1.4, 36˚44N±0˚05×1˚58E±0˚05, h9km±11km, n110, σ1s83/142, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.15 197**		P	**Pg**	**22 23 45.4**	**+0.2**
ECHA	**Ech Chlef**	**0.34 212**		P	**Pg**	**22 23 45.6**	**-2.9**
ECHF	**Ech Chlef**	**0.34 215**		P	**Pg**	**22 23 45.6**	**-3.0**
EANR	**'Ain N'Sour**	**0.62 219**		P	**Pg**	**22 23 54.4**	**+0.5**
EANR	**'Ain N'Sour**	**0.62 219**		P	**Pg**	**22 23 54.4**	**+0.5**
OKGL	**Djebel Kef Gue**	**0.86 243**		P	**Pb**	**22 24 00.0**	**+1.0**
OKGL	**Djebel Kef Gue**	**0.86 243**		P	**Pb**	**22 24 00.0**	**+1.0**
ETRT	**Tiaret**	**1.07 193**		P	**Pg**	**22 24 01.0**	**-1.4**
ETRT	**Tiaret**	**1.07 193**		P	**Pg**	**22 24 01.0**	**-1.4**
OJGS	**Djebel Guires**	**1.15 216**		P	**Pb**	**22 24 02.0**	**-2.0**
OJGS	**Djebel Guires**	**1.15 216**		P	**Pb**	**22 24 02.0**	**-2.0**
ABA	**Alger-Bouzarea**	**1.22 72**		P	**Pn**	**22 24 04.0**	**-1.2**
ABA	**Alger-Bouzarea**	**1.22 72**		P	**Pn**	**22 24 04.0**	**-1.2**
OJBR	**Djebel Berber**	**1.32 230**		P	Pn	22 23 59.0	-7.5
OJBR	**Djebel Berber**	**1.32 230**		P	Pn	22 23 59.0	-7.5
CART	**Cartagena**	**2.37 300**		P	**Pn**	**22 24 19.3**	**-1.6**
CART				S	**Sn**	**22 24 46.0**	**-4.0**
CART	**Cartagena**	**2.37 300**	*eP*	P	**Pn**	**22 24 19.3**	**-1.6**
CART				eS	**Sn**	**22 24 46.0**	**-4.0**
CART				eCod		22 26 08.4	
ETRV	**Los Montesinos**	**2.45 311**		S	**Sn**	**22 24 51.4**	**-0.7**
	113nm,0.8s,SNR=7.9						
EIBI	**Ibiza**	**2.59 356**		P	**Pn**	**22 24 24.0**	**-0.1**
	11nm,0.2s,SNR=49						
EIBI				S	**Sn**	**22 24 53.2**	**-2.5**
	15nm,0.2s						
EBEN2	**Beniarda presa**	**2.64 328**		P	**Pn**	**22 24 24.9**	**+0.1**
	15nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**22 24 55.2**	**-1.8**
	4.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.66 303**		P	**Pn**	**22 24 24.1**	**-0.9**
	5.3nm,0.4s,SNR=15						
EMUR				S	**Sn**	**22 24 56.0**	**-1.4**
	12nm,0.3s,SNR=4.6						
AFON	**Font Roja**	**2.79 323**		P	**Pn**	**22 24 27.4**	**+0.5**
	5.6nm,0.2s,SNR=7.6						
AFON				S	**Sn**	**22 24 59.2**	**-1.5**
	12nm,0.4s						
ENIJ	**Nijar**	**3.09 281**		P	**Pn**	**22 24 30.1**	**-0.8**
	7.2nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**22 25 04.7**	**-3.3**
	22nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.33 312**		P	**Pn**	**22 24 34.2**	**0.0**
	1.5nm,0.1s,SNR=30						
ETOB				S	**Sn**	**22 25 13.5**	**-0.4**
	3.0nm,0.2s						
ETOS	**Mallorca**	**3.46 16**		P	**Pn**	**22 24 34.8**	**-1.3**
	12nm,0.7s,SNR=7.9						
ETOS				S	**Sn**	**22 25 14.8**	**-2.4**
	4.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.63 279**		P	**Pn**	**22 24 38.1**	**-0.3**
	5.3nm,0.2s,SNR=32						
EBER				S	**Sn**	**22 25 19.7**	**-1.7**
	19nm,0.4s						
TAF	**Taforalt**	**3.64 245**		P	**Pn**	**22 24 38.9**	**+0.4**
SESP	**Santiago Espad**	**3.70 298**		P	**Pn**	**22 24 40.3**	**+0.9**
	4.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**22 25 22.9**	**-0.2**
	65nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**3.70 298**		P	**Pn**	**22 24 40.5**	**+1.1**
SESP				S	**Sn**	**22 25 23.3**	**+0.2**
ECHE	**Chera**	**3.74 328**		P	**Pn**	**22 24 40.8**	**+1.0**
	2.8nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**22 25 23.7**	**-0.3**
	2.5nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**3.85 287**		P	**Pn**	**22 24 41.8**	**+0.5**
	12nm,0.4s,SNR=4.0						
GORA				S	**Sn**	**22 25 26.8**	**+0.1**
	6.9nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**3.91 253**		P	**Pn**	**22 24 41.0**	**-1.2**
GOG				S	**Sn**	**22 25 25.6**	**-2.8**
EQES	**Quesada**	**3.96 292**		P	**Pn**	**22 24 43.6**	**+0.7**
	6.0nm,0.4s,SNR=30						
EQES				S	**Sn**	**22 25 28.9**	**-0.7**
	8.6nm,0.3s						
JBK	**JBK**	**3.99 239**		P	**Pn**	**22 24 43.9**	**+0.5**
JBK				S	**Sn**	**22 25 29.0**	**-1.3**
EQUE	**Quentar**	**4.10 282**		P	**Pn**	**22 24 45.2**	**+0.4**
	3.6nm,0.4s,SNR=13						
EQUE				S	**Sn**	**22 25 30.2**	**-2.9**
	4.1nm,0.4s						
ELGU	**Los Guajares,**	**4.21 277**		P	**Pn**	**22 24 46.1**	**-0.3**
	4.6nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**22 25 32.9**	**-2.8**
	17nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**4.24 338**		P	**Pn**	**22 24 47.4**	**+0.5**
	4.8nm,0.1s,SNR=72						
EMOS				S	**Sn**	**22 25 33.9**	**-2.7**
	8.5nm,0.4s						
TDRA	**Tendrara**	**4.51 222**		P	**Pn**	**22 24 50.5**	**-0.1**
ERTA	**Horta de San J**	**4.62 348**		P	**Pn**	**22 24 51.6**	**-0.3**
	2.0nm,0.3s,SNR=7.9						
ERTA				S	**Sn**	**22 25 42.2**	**-3.5**
	4.0nm,0.5s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.62 280**		P	**Pn**	**22 24 54.1**	**+2.1**
	3.6nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**22 25 47.5**	**+1.6**
	3.4nm,0.3s,SNR=7.9						
PALE	**Palemas**	**4.65 256**		P	**Pn**	**22 24 51.1**	**-1.2**
PALE				S	**Sn**	**22 25 42.4**	**-4.0**
FIGM	**Figuig**	**4.90 210**		P	**Pn**	**22 24 55.7**	**-0.1**
EPOB	**Poblet**	**4.92 356**		P	**Pn**	**22 24 56.7**	**+0.6**
	3.6nm,0.4s,SNR=8.0						
EPOB				S	**Sn**	**22 25 48.3**	**-5.0**
	1.5nm,0.5s						
EADA	**Adamuz**	**5.21 291**		P	**Pn**	**22 24 59.9**	**-0.1**
	1.4nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**22 25 58.0**	**-2.1**
	4.1nm,0.4s,SNR=7.9						
ETOR	**Torete**	**5.22 328**		P	**Pn**	**22 25 03.5**	**+3.2**
	2.1nm,0.3s,SNR=7.9						
ETOR				S	**Sn**	**22 26 00.7**	**0.0**
	1.5nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**5.36 7**		P	**Pn**	**22 25 01.8**	**-0.3**
	9.7nm,0.3s,SNR=7.0						
CFON				S	**Sn**	**22 25 59.9**	**-4.1**
	1.2nm,0.2s						
ESDC	**Sonseca Array**	**5.44 308**		Pn	**Pn**	**22 25 02.8**	**-0.4**
	0.4nm,0.3s,baz=123,slow=13,SNR=28						
ESDC				Sn	**Sn**	**22 26 04.5**	**-1.5**
	0.2nm,0.3s,baz=124,slow=24,SNR=4.4						
ESDC				Lg	Lg	22 26 15.8	
	0.2nm,0.3s,baz=127,slow=30,SNR=3.6						
ESDC	**Sonseca Array**	**5.44 308**		P	**Pn**	**22 25 02.8**	**-0.4**
	1.5nm,0.3s,baz=122,slow=13,SNR=18						
ESDC				S	**Sn**	**22 26 03.1**	**-2.9**
	0.9nm,0.2s,baz=124,slow=24,SNR=5.8						
PAB	**San Pablo**	**5.62 305**		P	**Pn**	**22 25 05.5**	**-0.2**
	2.1nm,0.5s,SNR=7.9						
PAB				S	**Sn**	**22 26 07.0**	**-3.5**
	0.3nm,0.1s,SNR=7.9						
HORN	**Hornachuelos**	**5.64 286**		P	**Pn**	**22 25 05.5**	**-0.4**
ECAB	**El Cabril**	**5.82 288**		P	**Pn**	**22 25 08.1**	**-0.3**
	0.6nm,0.4s,SNR=9.2						
ECAB				S	**Sn**	**22 26 10.2**	**-5.1**
	1.8nm,0.4s						
CSOR	**Sort**	**5.94 357**		P	**Pn**	**22 25 10.0**	**-0.2**
	2.4nm,0.3s,SNR=9.0						
CLLI	**Llivia**	**6.04 3**		P	**Pn**	**22 25 12.4**	**+0.8**
	1.7nm,0.4s,SNR=8.0						
GUD	**Guadarrama**	**6.15 315**		P	**Pn**	**22 25 14.2**	**+1.1**
	1.7nm,0.4s,SNR=7.9						
MDT	**Midelt**	**6.25 236**		Pn	**Pn**	**22 25 14.6**	**+0.1**
	0.6nm,0.3s,baz=55,slow=16,SNR=22						
MDT				Lg	Lg	22 27 03.8	
	0.2nm,0.3s,baz=130,slow=22,SNR=1.6						
MDT	**Midelt**	**6.25 236**		P	**Pn**	**22 25 14.7**	**+0.3**
MD31	**MD31**	**6.32 238**		P	**Pn**	**22 25 15.6**	**+0.2**
KEST	**Kesra**	**6.33 94**		Pn	**Pn**	**22 25 17.1**	**+1.7**
	0.8nm,0.3s,baz=199,slow=4.9,SNR=18						
EPF	**Esparros**	**6.66 352**		P	**Pn**	**22 25 20.8**	**+0.9**
EPF				S	Sn	22 26 25.8	-10
	0.3nm,0.3s						
EPF	**Esparros**	**6.66 352**	*eP*	P	**Pn**	**22 25 20.8**	**+0.9**
EPF			*e*	Sn	Sn	22 26 25.8	-10
	0.7nm,0.3s						
ETSF	**Etsaut**	**6.66 346**		P	**Pn**	**22 25 20.7**	**+0.7**
ETSF				S	Sn	22 26 25.8	-10
	0.2nm,0.4s						
ETSF	**Etsaut**	**6.66 346**	*eP*	P	**Pn**	**22 25 20.7**	**+0.7**
ETSF			*e*	Sn	Sn	22 26 25.8	-10
	0.3nm,0.4s						
EMIN	**Mina Concepcio**	**6.73 284**		P	**Pn**	**22 25 19.7**	**-1.1**
	1.0nm,0.4s,SNR=7.9						
EMIN				S	**Sn**	**22 26 32.9**	**-4.8**
	0.8nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**7.01 343**		P	**Pn**	**22 25 25.5**	**+0.8**
SJPF				S	Sn	22 26 34.2	-10
	0.2nm,0.3s						
SJPF	**Ste Jean**	**7.01 343**	*eP*	P	**Pn**	**22 25 25.5**	**+0.8**
SJPF			*e*	Sn	Sn	22 26 34.2	-10
	0.3nm,0.3s						
EALK	**Alkurruntz**	**7.18 342**		P	**Pn**	**22 25 29.2**	**+2.0**
	4.3nm,0.5s,SNR=7.9						
PVAQ	**Vaqueiros**	**7.51 280**		P	**Pn**	**22 25 31.3**	**-0.3**
PVAQ				S	**Sn**	**22 26 52.5**	**-4.4**
PVAQ	**Vaqueiros**	**7.51 280**	*eP*	Pn	**Pn**	**22 25 31.3**	**-0.3**
PVAQ			*e*	Sn	**Sn**	**22 26 52.5**	**-4.4**
PBDV	**Barranco-do-Ve**	**7.67 279**		P	**Pn**	**22 25 35.3**	**+1.5**
PBDV	**Barranco-do-Ve**	**7.67 279**	*eP*	Pn	**Pn**	**22 25 35.3**	**+1.5**
PMRV	**Marv??o**	**7.70 296**		P	**Pn**	**22 25 35.2**	**+1.0**
PMRV				S	**Sn**

JIO				S	Sn	22 30 18.8	-1.5	
JKMT	**Kesennumamotoy**	**0.67**	**342**	P	Pn	22 30 15.1	-0.6	
JKMT				S	Sn	22 30 24.3	-1.2	
JOFO	**Osakifurukawao**	**0.79**	**304**	P	Pn	22 30 16.6	-0.5	
JOFO				eS	Sn	22 30 27.7	-0.3	
JMM	**Marumori**	**0.81**	**248**	P	Pn	22 30 16.1	-1.4	
JMM				S	Sn	22 30 26.5	-2.1	
JOU	**Okura**	**0.87**	**283**	P	Pn	22 30 17.5	-0.8	
JOU				S	Sn	22 30 28.8	-1.4	
JMK	**Ichinoseki**	**0.88**	**332**	P	Pn	22 30 18.0	-0.4	
JMK				S	Sn	22 30 29.2	-1.1	
JFK	**Kawauchi**	**1.06**	**221**	P	Pn	22 30 19.9	-0.9	
JFK				S	Sn	22 30 32.4	-2.2	
JFT	**Otama**	**1.29**	**240**	P	Pn	22 30 23.4	-0.5	
JFT				S	Sn	22 30 38.9	-1.2	
JYK	**Kaneyama**	**1.32**	**305**	P	Pn	22 30 23.6	-0.7	
JYK				eS	Sn	22 30 39.4	-1.4	
JYS	**Shirataka**	**1.32**	**273**	P	Pn	22 30 23.8	-0.6	
JYS				eS	Sn	22 30 40.3	-0.6	
JOM	**Ohasama**	**1.35**	**345**	P	Pn	22 30 24.5	-0.2	
JOM				S	Sn	22 30 41.0	-0.5	
JRG	**Rokugo**	**1.50**	**325**	P	Pn	22 30 26.8	0.0	
JYA	**Atsumi**	**1.65**	**285**	P	Pn	22 30 28.3	-0.5	
MJAR	**Matsushiro Arr**	**3.25**	**241**	P	Pn	22 30 50.9	+0.2	
	0.2nm,0.3s,baz=46,slow=10,SNR=4.3							
MJAR				LR	LR	22 31 57.5		
	comp=Z,25nm,18.5s,baz=335,slow=37							
MAT	**Matsushiro**	**3.25**	**241**	P	Pn	22 30 51.5	+0.7	
MAT				eS	Sn	22 31 31.6	+3.3	
USRK	**Ussuriysk Ar.**	**9.50**	**312**	P	Pn	22 32 16.9	+0.6	
	baz=128,slow=14,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	23 06 07.1		
	baz=316,slow=75,SNR=38							
H11N1	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	23 06 06.2		
	baz=316,slow=75,SNR=45							
H11N3	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	23 06 08.5		
	baz=316,slow=75,SNR=44							
H11S1	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	23 07 02.4		
	baz=318,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	23 07 03.0		
	baz=318,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy**	**29.29**	**125**	T	T	23 07 03.4		
	baz=318,slow=76,SNR=34							
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**22 37 42.0**	**-0.7**	
	0.5nm,0.4s,baz=100,slow=8.1,SNR=2.3							
ZALV				pP	**pP**	**22 37 59.8**	**+3.4**	
	0.5nm,0.4s,baz=79,slow=9.7,SNR=2.3							
MKAR	**Makanchi Array**	**43.75**	**301**	P	**P**	**22 38 01.6**	**-0.8**	
	0.3nm,0.6s,baz=81,slow=9.8,SNR=2.2							
MKAR				pP	**pP**	**22 38 19.6**	**+3.4**	
	0.8nm,0.7s,baz=90,slow=8.7,SNR=5.2							
WRA	**Warramunga Arr**	**58.22**	**188**	P	**P**	**22 39 50.5**	**-0.7**	
	0.2nm,0.4s,baz=6.2,slow=7.5,SNR=6.0							
WRA				LR	LR	23 03 36.8		
	comp=Z,10nm,20.5s,baz=350,slow=35							

NEIC ***27*** *22:36:16.5±1.0,51.°64N±0.°08×178.°1E±0.°2,h124km±5km, Error ellipse: s-maj=16.7km s-min=6.0km az=128.0*

AEIC 27 22:36:17±1.3,51.°7N±0.°3×178.°2E±0.°2,h124km±4km,ML3.2, mb3.8/25(NEIC),Error ellipse: s-maj=41.3km s-min=14.7km az=169.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.31**	**38**		Pn	22 36 34.1	-0.4
LSSA					Sn	22 36 47.8	+0.1
LSSE	**Little Sitkin**	**0.32**	**44**		Pn	22 36 34.1	-0.4
LSSE					Sn	22 36 48.2	+0.5
LSNW	**Little Sitkin**	**0.33**	**36**		Pn	22 36 34.7	+0.2
LSPA	**Little Sitkin**	**0.34**	**42**		Pn	22 36 34.4	-0.1
LSPA					Sn	22 36 48.8	+1.0
AMKA	**Amchitka**	**0.76**	**115**		Pn	22 36 37.0	-0.1
AMKA					Sn	22 36 51.8	-0.6
CESW	**Semis' Southwe**	**0.86**	**76**		Pn	22 36 38.1	0.0
CESW					Sn	22 36 53.7	-0.3
CEAP	**Semis' Anvil P**	**0.90**	**70**		Pn	22 36 38.4	0.0
CERAA	**Semis' Rag'd T**	**0.94**	**77**		Pn	22 36 38.9	+0.1
ADK	**Adak**	**3.18**	**85**	Pn	Pn	22 37 06.1	+0.5
OHAK	**Old Harbor**	**17.39**	**60**	P	P	22 40 10.1	-1.0
KDAK	**Kodiak Island**	**17.83**	**59**	P	P	22 40 15.4	-0.5
CNPM	**China Poot**	**18.81**	**53**	P	P	22 40 27.1	+0.5
BRLK	**Bradley Lake**	**19.03**	**53**	P	P	22 40 29.0	0.0
SKT	**Skwentna**	**19.29**	**46**	P	Pn	22 40 33.6	-0.6
SKT				IAmb	IAmb	22 40 39.0	
	comp=Z,5.7nm,1.2s						
KTH	**Kantishna Hill**	**20.10**	**42**	P	Pn	22 40 42.5	-1.1
KTH				IAmb	IAmb	22 40 44.6	
	comp=Z,4.4nm,1.0s						
IMAR	**Indian Mountai**	**20.11**	**34**	P	P	22 40 41.3	+0.7
BPAW	**Bear Paw Mtn.**	**20.28**	**40**	P	P	22 40 41.3	-1.2
BPAW				IAmb	IAmb	22 40 59.3	
	comp=Z,8.9nm,1.4s						
TRF	**Thorofare Moun**	**20.32**	**43**	P	P	22 40 43.8	+0.6
TRF				IAmb	IAmb	22 40 55.2	
	comp=Z,4.9nm,1.3s						
RND	**Reindeer**	**20.92**	**43**	P	P	22 40 48.9	-0.5
RND				IAmb	IAmb	22 40 59.5	
	comp=Z,5.9nm,1.4s						
SCM	**Sheep Creek Mo**	**21.17**	**48**	P	P	22 40 51.7	-0.4
SCM				IAmb	IAmb	22 40 59.7	
	comp=Z,8.1nm,1.3s						
FID	**Port Fidalgo**	**21.36**	**51**	P	P	22 40 53.3	-0.8
DHY	**Denali Highway**	**21.46**	**45**	P	P	22 40 54.8	-0.5
DHY				IAmb	IAmb	22 40 57.1	
	comp=Z,2.3nm,0.8s						
MDM	**Murphy Dome**	**21.71**	**39**	P	P	22 40 58.2	+0.4
MDM				IAmb	IAmb	22 41 10.4	
	comp=Z,6.3nm,1.2s						
KLU	**Klutina**	**21.76**	**49**	P	P	22 40 58.2	-0.2
KLU				IAmb	IAmb	22 41 16.4	
	comp=Z,5.6nm,1.3s						
CCB	**Clear Creek Bu**	**21.77**	**40**	P	P	22 40 59.7	+1.4
N25K	**Chitina, Valde**	**22.40**	**49**	P	P	22 41 04.8	-0.2
GLB	**Gilahina Butte**	**22.75**	**50**	P	P	22 41 08.2	-0.2
TOLK	**Toolik Lake Re**	**22.89**	**30**	P	P	22 41 10.5	+0.9
VRDI	**Verde Repeater**	**22.89**	**50**	P	P	22 41 09.9	0.0
CRQM	**Cirque**	**22.99**	**52**	P	P	22 41 11.2	+0.3
MENT	**Mentasta**	**23.05**	**46**	P	P	22 41 12.7	+1.5
MENT				IAmb	IAmb	22 41 24.3	
	comp=Z,2.6nm,0.9s						
BALM	**Baldy**	**23.41**	**51**	P	P	22 41 15.1	+0.5
BALM				IAmb	IAmb	22 41 29.6	
	comp=Z,6.1nm,1.3s						
BARN	**Barnard Glacie**	**23.74**	**51**	P	P	22 41 19.5	+1.8
K27K	**Chicken**	**23.99**	**44**	P	P	22 41 20.1	+0.4
K27K				IAmb	IAmb	22 41 39.9	
	comp=Z,3.6nm,1.2s						
EGAK	**Eagle**	**24.54**	**42**	P	P	22 41 24.8	+0.2
EGAK				IAmb	IAmb	22 41 25.4	
	comp=Z,3.1nm,1.0s						

IDC ***27*** *22:55:55.1±2.0,12.°30N×144.°69E,h70km±19km,mb3.4/8, mb1 3.6/8,mb1mx3.3/48,mbtmp3.7/8,MS2.9/1,Ms1 2.9/1, ms1mx2.3/23,Error ellipse: s-maj=53.3km s-min=18.9km az=91.0*

ISC 27 22:55:52.2±1.2,12.°2N±0.°1×144.°4E±0.°3,h35km,n13, σ1§11/11,mb3.7/8,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**19**	P	**Pn**	**22 56 17.1**	**+1.3**
	43nm,0.3s,baz=171,slow=9.2,SNR=18						
GUMO				S	**Sn**	**22 56 34.1**	**+0.6**
	42nm,0.3s,baz=152,slow=19,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**22.87**	**68**	T	T	23 24 36.5	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**22.88**	**68**	T	T	23 24 39.2	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**22.89**	**68**	T	T	23 24 33.0	
	baz=255						
MJAR	**Matsushiro Arr**	**24.85**	**348**	LR	LR	23 08 49.6	
	comp=Z,30nm,21.5s,baz=225,slow=31						
WRA	**Warramunga Arr**	**33.45**	**197**	P	**P**	**23 02 29.1**	**+1.0**
	0.6nm,0.9s,baz=21,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**37.11**	**196**	P	**P**	**23 03 00.3**	**+0.8**
	0.4nm,0.7s,baz=19,slow=10,SNR=3.3						
SONM	**Songino Array**	**47.58**	**326**	P	**P**	**23 04 24.9**	**+0.3**
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**62.15**	**317**	P	**P**	**23 06 10.3**	**+0.3**
	0.7nm,0.8s,baz=93,slow=8.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**65.36**	**320**	P	**P**	**23 06 30.8**	**-0.2**
	1.2nm,0.7s,baz=102,slow=6.3,SNR=11						
KURBB				pP	**pwP**	**23 06 48.7**	**+0.4**
	1.0nm,0.7s,baz=104,slow=6.6,SNR=5.1						
ILAR	**Eielson Array**	**70.00**	**25**	P	**P**	**23 06 58.0**	**-2.0**
	0.4nm,0.6s,baz=250,slow=5.7,SNR=2.7						
BVAR	**Borovoye Array**	**70.70**	**322**	P	**P**	**23 07 04.7**	**+0.2**
	0.4nm,0.3s,baz=89,slow=8.4,SNR=2.5						
FINES	**FINESS Array B**	**92.19**	**335**	P	**P**	**23 08 56.7**	**-1.4**
	1.6nm,0.7s,baz=99,slow=6.3,SNR=3.6						

IDC ***27*** *23:44:44.0±1.2,40.°55S×175.°76E,h0km,mb4.2/3, mb1 4.3/5,mb1mx3.9/26,mbtmp4.0/5,ML3.2/2,MS3.2/6, Ms1 3.2/6,ms1mx2.9/25,Error ellipse: s-maj=31.8km s-min=17.1km az=124.0*

NEIC ***27*** *23:44:47.8±1.4,40.°72S±0.°06×176.°0E±0.°1,h37km±11km, Error ellipse: s-maj=13.2km s-min=6.5km az=124.0*

WEL ***27*** *23:44:48.0,40.°7S±0.°9×175.°8E±1.°0,h24km±1km,M4.4/17, ML4.8/17,MLv4.4/17,Error ellipse: s-maj=0.0km s-min=0.0km az=123.2*

ISC 27 23:44:47.7±0.7,40.°70S±0.°02×175.°89E±0.°03,h31km±4km, n177,σ1§13/184,mb4.4/8,MS3.4/5,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	**Tintock**	**0.08**	**183**	P	**Pb**	**23 44 53.1**	**-0.1**
TIWZ				S	**Sb**	**23 44 56.9**	**0.0**
PRWZ	**Pori Road**	**0.15**	**23**	P	**Pb**	**23 44 53.4**	**-0.3**
PRWZ				S	**Sb**	**23 44 57.3**	**-0.3**
MRZ	**Mangatainoka R**	**0.24**	**278**	P	**Pb**	**23 44 54.0**	**-0.6**
MRZ				S	**Sb**	**23 44 58.4**	**-0.8**
BFZ	**Birch Farm**	**0.27**	**87**	P	**Pb**	**23 44 55.5**	**+0.6**
CPWZ	**Castlepoint**	**0.32**	**132**	P	**Pb**	**23 44 57.4**	**+1.2**
POWZ	**Post Office Ro**	**0.32**	**343**	P	**Pb**	**23 44 55.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**0.35**	**235**	P	**Pb**	**23 44 56.1**	**+0.1**
HOWZ				S	**Sb**	**23 45 01.8**	**+0.2**
TMWZ	**Te Maipa**	**0.41**	**180**	P	**Pn**	**23 44 58.2**	**+0.7**
DVHZ	**Dannevirke**	**0.45**	**28**	P	**Pb**	**23 44 57.4**	**0.0**
DVHZ				S	**Sb**	**23 45 03.9**	**-0.2**
ANWZ	**Angora Road**	**0.50**	**62**	P	**Pn**	**23 44 59.2**	**+0.5**
OGWZ	**Otaki Gorge**	**0.56**	**257**	P	**Pn**	**23 44 59.4**	**-0.1**
TSZ	**Takapari Road**	**0.64**	**5**	P	**Pb**	**23 45 00.2**	**-0.3**
OHWZ	**Ohakea**	**0.66**	**318**	P	**Pn**	**23 45 01.3**	**+0.4**
PRHZ	**Porangahau**	**0.71**	**53**	P	**Pb**	**23 45 02.1**	**+0.5**
CAW	**Cannon Point**	**0.75**	**236**	P	**Pn**	**23 45 02.8**	**+0.6**
WPHZ	**Waipukurau**	**0.76**	**34**	P	**Pn**	**23 45 03.1**	**+0.8**
WPHZ				S	**Sn**	**23 45 14.7**	**+2.0**
KIW	**Kapiti Island**	**0.76**	**257**	P	**Pn**	**23 45 03.0**	**+0.6**
PNHZ	**Pukenui**	**0.82**	**17**	P	**Pn**	**23 45 03.5**	**+0.4**
PNHZ				S	**Sn**	**23 45 15.3**	**+1.1**
MSNZ	**Moikau Station**	**0.87**	**214**	P	**Pb**	**23 45 03.9**	**-0.4**
PLWZ	**Palliser**	**1.00**	**209**	P	**Pn**	**23 45 05.6**	**0.0**
PLWZ	**Palliser**	**1.00**	**209**		**Pn**	**23 45 05.6**	**0.0**
PXZ	**Pawanui**	**1.00**	**48**	P	**Pn**	**23 45 05.8**	**+0.3**
WEL	**Wellington**	**1.03**	**235**	P	**Pb**	**23 45 06.8**	**-0.3**
BHW	**Baring Head**	**1.05**	**227**	P	**Pn**	**23 45 06.6**	**+0.3**
BHW	**Baring Head**	**1.05**	**227**		**Pn**	**23 45 06.4**	**+0.1**
SNZO	**South Karori**	**1.09**	**235**		**Pn**	**23 45 07.3**	**+0.5**
KRHZ	**Kereru**	**1.11**	**19**	P	**Pn**	**23 45 07.9**	**+0.7**
WAZ	**Wanganui**	**1.17**	**323**	P	**Pn**	**23 45 09.9**	**+0.6**
KAHZ	**Kahuranaki**	**1.18**	**40**	P	**Pn**	**23 45 08.6**	**+0.5**
BHHZ	**Black Hill Sta**	**1.21**	**6**	P	**Pb**	**23 45 09.6**	**-0.5**
MOVZ	**Moawhango**	**1.29**	**355**	P	**Pb**	**23 45 10.7**	**-0.8**
TCW	**Tory Channel**	**1.33**	**247**	P	**Pn**	**23 45 10.6**	**+0.5**
KWHZ	**Kaweka Forest**	**1.33**	**18**	P	**Pn**	**23 45 11.0**	**+0.7**
MTVZ	**Mangateitei**	**1.35**	**346**	P	**Pb**	**23 45 12.2**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.38**	**42**	P	**Pn**	**23 45 10.7**	**-0.1**
WNVZ	**Wahianoa**	**1.39**	**351**	P	**Pb**	**23 45 12.3**	**-0.8**
MCHZ	**McNeill Hill**	**1.40**	**27**	P	**Pn**	**23 45 11.9**	**+0.8**
TRVZ	**Turoa**	**1.42**	**349**	P	**Pb**	**23 45 13.3**	**-0.4**
WHVZ	**Whangaehu Hut**	**1.43**	**351**	P	**Pb**	**23 45 13.1**	**-0.8**
TUVZ	**Tukino**	**1.44**	**353**	P	**Pb**	**23 45 13.7**	**-0.3**
DRZ	**Dome Shelter**	**1.44**	**350**	P	**Pb**	**23 45 13.7**	**-0.5**
FWVZ	**Far West T-bar**	**1.46**	**350**	P	**Pb**	**23 45 13.4**	**-1.0**
PKVZ	**Pokaka**	**1.47**	**343**	P	**Pb**	**23 45 14.0**	**-0.4**
DUWZ	**D'Urville Isla**	**1.50**	**265**	P	**Pn**	**23 45 13.3**	**+0.8**
NGZ	**Ngauruhoe**	**1.54**	**352**	P	**Pb**	**23 45 14.9**	**-0.7**
OTVZ	**Oturere**	**1.54**	**353**	P	**Pb**	**23 45 14.8**	**-1.0**
ETVZ	**East Tongariro**	**1.56**	**355**	P	**Pb**	**23 45 14.9**	**-1.2**
TMVZ	**Te Maari**	**1.58**	**355**	P	**Pb**	**23 45 15.2**	**-1.3**
WTVZ	**West Tongariro**	**1.60**	**352**	P	**Pb**	**23 45 15.5**	**-1.2**
BKZ	**Black Stump Fm**	**1.60**	**17**	P	**Pn**	**23 45 14.3**	**+0.3**
BKZ	**Black Stump Fm**	**1.60**	**17**		**Pn**	**23 45 14.2**	**+0.3**
KRVZ	**Karewarewa**	**1.61**	**353**	P	**Pb**	**23 45 15.7**	**-1.2**
TUWZ	**Tuamarina**	**1.65**	**243**	P	**Pn**	**23 45 14.5**	**0.0**
TUWZ	**Tuamarina**	**1.65**	**243**		**Pn**	**23 45 14.3**	**0.0**
CMWZ	**Cape Campbell**	**1.65**	**230**	P	**Pb**	**23 45 16.0**	**+1.6**
CMWZ	**Cape Campbell**	**1.65**	**230**		**Pb**	**23 45 16.7**	**-0.7**
TWVZ	**Taurewa**	**1.66**	**348**	P	**Pb**	**23 45 16.3**	**-1.5**
ARHZ	**Aropaoanui**	**1.66**	**31**	P	**Pn**	**23 45 15.3**	**+0.6**
LREZ	**Lake Rotokare**	**1.68**	**317**	P	**Pb**	**23 45 18.2**	**+0.2**
RITZ	**Rihia Road**	**1.72**	**359**	P	**Pn**	**23 45 16.9**	**+1.4**
KATZ	**Kakaramea**	**1.73**	**355**	P	**Pb**	**23 45 17.2**	**-1.7**
NMHZ	**Naumai**	**1.75**	**24**	P	**Pn**	**23 45 16.9**	**+0.9**
VRZ	**Vera Road**	**1.79**	**331**	P	**Pb**	**23 45 18.7**	**-1.2**
HATZ	**Hinemaiaia**	**1.81**	**5**	P	**Pn**	**23 45 17.6**	**+0.8**
RATZ	**Rangitukua**	**1.83**	**357**	P	**Pn**	**23 45 18.2**	**+1.2**
BSWZ	**Blackbirch Sta**	**1.83**	**236**	P	**Pn**	**23 45 17.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.83**	**236**		**Pn**	**23 45 17.4**	**+0.3**
MRHZ	**Matea Rd**	**1.90**	**12**	P	**Pn**	**23 45 18.5**	**+0.4**
WHHZ	**Waihua**	**1.92**	**33**	P	**Pn**	**23 45 18.6**	**+0.3**
NNZ	**Nelson**	**1.97**	**254**	P	**Pn**	**23 45 19.7**	**+0.7**
NNZ	**Nelson**	**1.97**	**254**		**Pn**	**23 45 21.1**	**-1.9**
MTHZ	**Maungataniwha**	**1.98**	**22**	P	**Pn**	**23 45 19.9**	**+0.6**
NEZ	**North Egmont**	**1.98**	**315**	P	**Pb**	**23 45 22.7**	**-0.5**
DREZ	**Durham Road**	**1.99**	**319**	P	**Pb**	**23 45 23.1**	**-0.1**
WATZ	**Wairara**	**1.99**	**356**	P	**Pn**	**23 45 20.1**	**+0.8**
RAHZ	**Arahi**	**2.00**	**28**	P	**Pn**	**23 45 19.6**	**+0.2**
NMEZ	**Namu Road**	**2.01**	**309**	P	**Pb**	**23 45 23.2**	**-0.4**
KHEZ	**Kahui Hut**	**2.01**	**314**	P	**Pb**	**23 45 23.2**	**-0.4**
MHEZ	**Mangahewa**	**2.02**	**323**	P	**Pb**	**23 45 23.9**	**+0.2**
WHTZ	**Whakaora**	**2.03**	**1**	P	**Pn**	**23 45 20.9**	**+1.1**
PKE	**Pukeiti**	**2.10**	**315**	P	**Pb**	**23 45 24.3**	**-0.8**
NBEZ	**Newall Road No**	**2.11**	**312**	P	**Pb**	**23 45 24.6**	**-0.7**
ALRZ	**Allen Road**	**2.16**	**9**	P	**Pn**	**23 45 21.8**	**+0.3**
KNZ	**Kokohu**	**2.16**	**40**	P	**Pn**	**23 45 20.8**	**-0.8**
MHGZ	**Mahia Peninsul**	**2.19**	**46**	P	**Pn**	**23 45 21.4**	**-0.5**
KUTZ	**Kaahu Road**	**2.20**	**359**	P	**Pb**	**23 45 25.4**	**-1.6**
SNGZ	**Shannon Statio**	**2.21**	**31**	P	**Pn**	**23 45 22.2**	**-0.2**
PRRZ	**Plateau Road**	**2.23**	**10**	P	**Pb**	**23 45 29.4**	**+2.0**
RTZ	**Ruatahuna**	**2.24**	**22**	P	**Pn**	**23 45 23.5**	**-0.2**
MUGZ	**Murupara**	**2.32**	**17**	P	**Pn**	**23 45 23.8**	**+0.1**
HIZ	**Hauiti**	**2.32**	**340**	P	**Pn**	**23 45 25.4**	**+1.6**
HIZ	**Hauiti**	**2.32**	**340**		**Pn**	**23 45 25.2**	**+1.4**
HRRZ	**Handcock Road**	**2.32**	**8**	P	**Pn**	**23 45 24.4**	**+0.6**
HRRZ				P	**Pn**	**23 45 24.5**	**+0.6**
PRGZ	**Paritu Road**	**2.34**	**42**	P	**Pn**	**23 45 23.2**	**-0.9**
GRRZ	**Galatos Road**	**2.35**	**4**	P	**Pb**	**23 45 27.8**	**-1.6**
TLZ	**Tolley Road**	**2.38**	**353**	P	**Pn**	**23 45 25.1**	**+0.4**
HSRZ	**Hossack Road**	**2.40**	**7**	P	**Pn**	**23 45 25.3**	**+0.5**
RRRZ	**Republican Roa**	**2.40**	**12**	P	**Pn**	**23 45 25.0**	**+0.1**
RRRZ				P	Pb	23 45 25.4	-5.0
RIGZ	**Rimuhau**	**2.46**	**37**	P	**Pn**	**23 45 25.1**	**-0.6**
KHZ	**Kahutara**	**2.46**	**225**	P	**Pn**	**23 45 24.6**	**-1.1**
KHZ	**Kahutara**	**2.46**	**225**	Pn	**Pn**	**23 45 25.1**	**-0.7**
THZ	**Tophouse**	**2.49**	**244**	P	**Pn**	**23 45 25.9**	**-0.3**
THZ	**Tophouse**	**2.49**	**244**	Pn	**Pn**	**23 45 26.8**	**+0.6**
TARZ	**Mount Tarawera**	**2.50**	**11**	P	**Pn**	**23 45 26.5**	**+0.1**
UTU	**Utuhina**	**2.53**	**5**	P	**Pn**	**23 45 30.2**	**-2.2**
QRZ	**Quartz Range**	**2.56**	**266**	P	**Pn**	**23 45 27.5**	**+0.5**
QRZ	**Quartz Range**	**2.56**	**266**		**Pn**	**23 45 28.1**	**+1.0**
URZ	**Urewera**	**2.61**	**22**	Pn	**Pn**	**23 45 26.7**	**-1.0**
	7.7nm,0.3s,baz=233,slow=5.4,SNR=20						
URZ				Sn	**Sn**	**23 45 57.2**	**-1.2**
	39nm,0.3s,baz=42,slow=17,SNR=4.5						
URZ				LR	LR	23 46 09.7	
	comp=Z,58nm,20.4s,baz=213,slow=34						
URZ	**Urewera**	**2.61**	**22**	P	**Pn**	**23 45 26.7**	**-1.0**
URZ	**Urewera**	**2.61**	**22**		**Pn**	**23 45 28.4**	**+0.6**
MWZ	**Matawai**	**2.68**	**29**	P	**Pn**	**23 45 27.8**	**-1.0**
TKGZ	**Te Karaka**	**2.71**	**35**	P	**Pn**	**23 45 28.5**	**-0.7**
CNGZ	**Carnagh Statio**	**2.84**	**40**	P	**Pn**	**23 45 30.7**	**-0.3**
OPRZ	**Ohinepanea**	**2.89**	**10**	P	**Pb**	**23 45 36.0**	**-2.7**
TOZ	**Tahuroa Road**	**2.98**	**354**	P	**Pn**	**23 45 33.8**	**+1.0**
TWGZ	**Tauwhareparae**	**2.99**	**33**	P	**Pn**	**23 45 32.8**	**-0.2**
RUGZ	**Raukumara Rang**	**3.06**	**28**	P	**Pn**	**23 45 33.3**	**-0.8**
GVZ	**Greta Valley S**	**3.12**	**222**	P	**Pn**	**23 45 35.3**	**+0.6**
PUZ	**Puketiti**	**3.20**	**36**	P	**Pn**	**23 45 34.4**	**-1.5**
PKGZ	**Pakihiroa**	**3.28**	**32**	P	**Pn**	**23 45 43.1**	**-2.1**
HAZ	**Te Kaha**	**3.28**	**27**	P	**Pn**	**23 45 36.6**	**-0.4**
LTZ	**Lake Taylor**	**3.42**	**231**	P	**Pn**	**23 45 38.2**	**-0.7**
LTZ	**Lake Taylor**	**3.42**	**231**	Pn	**Pn**	**23 45 38.1**	**-0.8**
WMGZ	**Waiomatatini S**	**3.48**	**35**	P	**Pn**	**23 45 38.7**	**-1.0**
MXZ	**Matakaoa Point**	**3.65**	**32**	P	**Pn**	**23 45 41.4**	**-0.7**
MXZ	**Matakaoa Point**	**3.65**	**32**	Pn	**Pn**	**23 45 40.8**	**-1.2**
OKCZ	**Okains Bay**	**3.68**	**214**	P	**Pn**	**23 45 41.7**	**-0.8**
AWAZ	**Awhitu Peninsu**	**3.75**	**345**	P	**Pn**	**23 45 45.3**	**+1.8**
ETAZ	**East Tamaki Re**	**3.81**	**348**	P	**Pn**	**23 45 48.7**	**+4.4**
MQZ	**McQueen's Vall**	**3.85**	**218**	P	**Pn**	**23 45 43.6**	**-1.2**
WTAZ	**Waiatarua**	**3.90**	**344**	P	**Pn**	**23 45 47.7**	**+2.2**
INZ	**Inchbonnie**	**3.90**	**237**	P	**Pn**	**23 45 44.7**	**-0.8**
KUZ	**Kuaotunu**	**3.95**	**358**	P	**Pn**	**23 45 46.6**	**+0.5**
MBAZ	**Motutapu North**	**4.00**	**348**	P	**Pn**	**23 45 48.3**	**+1.5**
MHCZ	**Mount Hutt**	**4.29**	**227**	P	**Pn**	**23 45 49.8**	**-1.0**
WACZ	**Wakanui South**	**4.42**	**221**	P	**Pn**	**23 45 56.7**	**+4.1**
GRZ	**Great Barrier**	**4.45**	**355**	P	**Pn**	**23 45 53.7**	**+0.7**
WVZ	**Waitaha Valley**	**4.52**	**237**	P	Pn	23 45 60.0	+5.9
RPZ	**Rata Peaks**	**4.69**	**228**	Pn	**Pn**	**23 45 55.4**	**-1.0**
	0.8nm,0.3s,baz=28,slow=20,SNR=1.6						
RPZ				Pg	**Pb**	**23 46 10.6**	**+1.4**
	6.7nm,0.3s,baz=20,slow=4.4,SNR=44						
RPZ				Sn	**Sn**	**23 46 44.8**	**-4.9**
	7.2nm,0.3s,baz=287,slow=17,SNR=8.5						
RPZ				Lg	Lg	23 47 13.7	
	9.6nm,0.3s,baz=280,slow=18,SNR=5.8						
RPZ	**Rata Peaks**	**4.69**	**228**	P	**Pn**	**23 45 55.6**	**-0.8**
RPZ	**Rata Peaks**	**4.69**	**228**	Pn	**Pn**	**23 45 58.2**	**+1.9**
ARCZ	**Arundel**	**4.77**	**226**	P	**Pn**	**23 45 56.9**	**-0.6**
WCZ	**Waipu Caves**	**4.90**	**345**	P	**Pn**	**23 46 00.4**	**+1.2**
FOZ	**Fox Glacier**	**5.33**	**236**	P	**Pn**	**23 46 06.6**	**+1.5**
FOZ	**Fox Glacier**	**5.33**	**236**	Pn	**Pn**	**23 46 06.0**	**+0.9**
LBZ	**Lake Benmore**	**5.60**	**227**	Pn	**Pn**	**23 46 09.0**	**+0.2**
OUZ	**Omahuta**	**5.76**	**341**	P	**Pn**	**23 46 14.5**	**+3.4**
OUZ	**Omahuta**	**5.76**	**341**	Pn	**Pn**	**23 46 12.3**	**+1.3**
ODZ	**Otahua Downs**	**5.81**	**220**	Pn	**Pn**	**23 46 12.9**	**+1.3**
CTZ	**Chatham Island**	**6.34**	**121**	P	**Pn**	**23 46 19.0**	**0.0**
WKZ	**Wanaka**	**6

	comp=Z,12nm,1.1s							
KHZ	Kahutara	18.76	195	P		P	00 15 05.5	+1.2
RAR	Rarotonga	18.94	84	P		P	00 15 06.3	+0.1
LTZ	Lake Taylor	19.42	197	P		P	00 15 09.3	-1.1
LTZ				IAmb		IAmb	00 15 24.7	
	comp=Z,8.0nm,1.0s							
EIDS	Eidsvold	26.21	262	P		P	00 16 11.5	-0.1
EIDS				IAmb		IAmb	00 16 14.5	
	comp=Z,4.2nm,0.8s							
CTA	Charters Tower	31.46	271	P		P	00 16 58.0	+0.7
	comp=Z,7.6nm,0.4s,baz=92,slow=11,SNR=23							
CTAO	Charters Tower	31.46	271	P		P	00 16 57.7	+0.4
STKA	Stephens Creek	34.52	249	P		P	00 17 23.3	+0.1
	comp=Z,0.8nm,0.4s,baz=72,slow=8.5,SNR=3.7							
PATS	Pohnpei	37.54	323	P		P	00 17 46.4	-1.9
BBOO	Buckleboo	39.23	247	P		P	00 18 01.1	-0.9
BBOO				IAmb		IAmb	00 18 19.9	
	comp=Z,8.4nm,1.1s							
AS31	Alice Springs	41.93	261	P		P	00 18 23.2	-0.6
ASAR	Alice Springs	41.93	261	P		P	00 18 23.6	-0.2
	comp=Z,1.3nm,0.5s,baz=92,slow=7.4,SNR=24							
ASAR				ScP		ScP	00 23 09.7	-0.7
	comp=Z,0.5nm,0.9s,baz=130,slow=3.7,SNR=2.6							
WR0	Warramunga Arr	42.16	267	P		P	00 18 24.6	-1.0
WB2	Warramunga Arr	42.34	267	P		P	00 18 26.3	-0.7
WB2				IAmb		IAmb	00 18 26.6	
	comp=Z,4.8nm,0.5s							
WB0	Warramunga Arr	42.35	267	P		P	00 18 26.4	-0.6
WB0				IAmb		IAmb	00 18 26.9	
	comp=Z,4.9nm,0.7s							
WRA	Warramunga Arr	42.35	267	P		P	00 18 26.3	-0.8
	comp=Z,3.5nm,0.4s,baz=102,slow=8.1,SNR=55							
WRA				ScP		ScP	00 23 11.4	-0.7
	comp=Z,1.4nm,0.9s,baz=100,slow=3.7,SNR=7.3							
WRA	Warramunga Arr	42.35	267	P		P	00 18 26.1	-1.0
FORT	Forrest	46.12	250	P		P	00 18 55.0	-1.1
FORT				IAmb		IAmb	00 19 01.5	
	comp=Z,9.4nm,0.9s							
MTN	Manton Dam	47.47	275	P		P	00 19 05.8	-0.8
MTN				IAmb		IAmb	00 19 07.8	
	comp=Z,10nm,1.1s							
KNRA	Kununurra	48.66	270	P		P	00 19 15.4	-0.1
KNRA				IAmb		IAmb	00 19 21.5	
	comp=Z,11nm,1.1s							
MIDW	Midway	52.36	3	P		P	00 19 43.5	+1.4
QSPA	South Pole Qui	65.70	180	P		P	00 21 12.5	+0.9
MAW	Mawson	77.29	200	P		P	00 22 19.2	0.0
	comp=Z,0.7nm,0.6s,baz=141,slow=6.7,SNR=2.7							
OHAK	Old Harbor	84.35	14	P		P	00 22 55.0	-0.8
GLA	Glamis	84.36	50	P		P	00 22 55.2	-1.2
NVAR	Mina Array Bea	85.12	44	P		P	00 22 60.0	-0.3
	comp=Z,0.6nm,0.8s,baz=243,slow=6.0,SNR=3.1							
KVN	Kaiserville	85.61	44	P		P	00 23 01.9	-0.7
PINE	Pine Mountain	86.78	38	P		P	00 23 08.3	+0.2
PINE				IAmb		IAmb	00 23 10.2	
	comp=Z,4.5nm,0.9s							
I07A	Izee	87.78	39	P		P	00 23 12.1	-0.5
GHO	Glory Hole Cre	89.43	14	P		P	00 23 19.1	-0.7
GHO				IAmb		IAmb	00 23 31.6	
	comp=Z,2.6nm,1.0s							
TXAR	Lajitas Array	90.71	58	P		P	00 23 26.6	0.0
	comp=Z,1.1nm,0.8s,baz=214,slow=6.8,SNR=13							
ARCES	ARCESS Array B	132.35	348	PKP		PKPdf	00 29 31.8	-1.6
	comp=Z,2.1nm,0.8s,baz=20,slow=2.9,SNR=1.5							
FINES	FINESS Array B	138.90	341	SKPbc		SKPbc	00 32 30.6	-2.8
	comp=Z,1.9nm,0.8s,baz=114,slow=4.6,SNR=4.0							
TORD	Torodi Ar. Bea	168.70	189	PKPab		PKPab	00 31 39.7	-0.8
	comp=Z,0.2nm,0.7s,baz=180,slow=3.6,SNR=4.4							

WEL 28 00:22:31.1±1.0,**38°S**±7°×**18°0W**±°,**h33**km,**M3.3**/12, **ML3.5**/12,**MLv3.3**/12,**Error ellipse: s-maj=0.0km s-min=0.0km az=22.0,East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WMGZ	Waiomatatini S	1.60	264	P	Pn	00	22 57.3	+0.3
WMGZ				S	Sn	00	23 17.1	+0.6
MXZ	Matakaoa Point	1.69	273	P	Pn	00	22 57.8	-0.4
MXZ				S	Sn	00	23 17.6	-1.0
PUZ	Puketiti	1.76	256	P	Pn	00	22 59.3	0.0
PUZ				S	Sn	00	23 20.8	+0.2
CNGZ	Carnagh Statio	1.93	244	P	Pn	00	23 02.4	+0.8
TWGZ	Tauwhareparae	2.00	255	P	Pn	00	23 02.9	+0.4
TWGZ				S	Sn	00	23 27.4	+1.0
HAZ	Te Kaha	2.10	267	P	Pn	00	23 03.5	-0.4
TKGZ	Te Karaka	2.17	249	P	Pn	00	23 05.2	+0.3
RUGZ	Raukumara Rang	2.20	262	P	Pn	00	23 05.3	0.0
RIGZ	Rimuhau	2.34	243	S	Sn	00	23 35.7	+0.9
PRGZ	Paritu Road	2.36	237	P	Pn	00	23 08.1	+0.6
MWZ	Matawai	2.38	253	P	Pn	00	23 07.6	-0.2
MWZ				S	Sn	00	23 35.3	-0.6
MHGZ	Mahia Peninsul	2.47	232	P	Pn	00	23 09.1	+0.1
MHGZ				S	Sn	00	23 40.4	+2.4
KNZ	Kokohu	2.55	237	P	Pn	00	23 10.2	+0.1
KNZ				S	Sn	00	23 40.9	+1.0
URZ	Urewera	2.69	256	P	Pn	00	23 12.7	+0.7
URZ				S	Sn	00	23 43.2	-0.1
MTHZ	Maungataniwha	3.06	246	P	Pn	00	23 17.4	+0.3
MTHZ				S	Sn	00	23 53.5	+0.9
ARHZ	Aropaoanui	3.13	238	P	Pn	00	23 18.7	+0.7
CTZ	Chatham Island	6.46	161	P	Pn	00	24 05.4	+1.6
CTZ				S	Sn	00	25 14.5	-1.8

*NEIC **28** 00:44:03.1±2.1, 15°.53S±0°.09×174°.37W±0°.07, h10km±1km, mb4.6/8, Error ellipse: s-maj=14.9km s-min=11.2km az=161.0*

*IDC **28** 00:44:10.1±4.4, 16°.56S×174°.38W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/44, mbtmp3.8/5, ML3.2/1, MS3.8/19, Ms1 3.8/19, ms1mx3.7/26, Error ellipse: s-maj=318.5km s-min=23.8km az=151.0*

*GCMT **28** 00:44:16.1±0.4, 15°.18S±0°.03×174°.58W±0°.02, h17km±2km, MW4.8/75, Moment Tensor Solution. s13,c13; s75,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.10; $M_{\theta\theta}$-1.26±.09; $M_{\phi\phi}$ 1.51±.09; $M_{r\theta}$ 0.30±.22; $M_{\theta\phi}$ 0.64±.07; $M_{r\phi}$ 0.95±.27; Best double couple: $M_0$1.74300×10^{16} NP1:ϕ_s324.00000°, δ59.00000°, λ.167.00000°. NP2: ϕ_s59.00000°, δ78.00000°, λ21.00000°. Principal axes: T 2.0750, Plg23.0000°, Azm283.0000°; N -0.6600, Plg66.0000°, Azm87.0000°; P -1.4120, Plg6.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 00:44:03.5±0.6,**15°.54S**±0°.07×**174°.37W**±0°.07,**h10**km,**n48,** σ1§**29**/19,**mb4.2**/8,**MS4.0**/20,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	Afiamalu	2.99	57	Pn	Pn	00	44 50.5	-0.6
AFI				Sn	Sn	00	45 28.8	+1.7
NIUE	Niue	5.51	130	Pn	Pn	00	45 24.6	-1.0
MSVF	Nonsavu	7.58	252	Pn	Pn	00	45 53.9	-0.3
FUNA	Funafuti	9.39	317	Pn	Pn	00	46 17.8	-1.1
KNTN	Kanton	12.96	12	Pn	Pn	00	47 07.2	-0.6
RAO	Raoul Island	14.03	193	Pn	Pn	00	47 21.6	-0.8
RAR	Rarotonga	14.96	114	LR	LR	00	51 00.5	
	comp=Z,46nm,21.7s,baz=272,slow=28							
RAR	Rarotonga	14.96	114	Pn	Pn	00	47 35.6	+0.5
SANVU	Saraoutou	17.76	268		P	00	48 11.8	0.0
SANVU				IAmb	IAmb	00	48 20.5	
	comp=Z,36nm,1.1s							
DZM	Mont Dzumac	19.27	247	P	Pn	00	48 32.7	+3.2
	comp=Z,0.1nm,0.3s,baz=122,slow=22,SNR=1.7							
DZM				LR	LR	00	54 55.8	
	comp=Z,327nm,18.2s,baz=65,slow=34							
DZM	Mont Dzumac	19.27	247	*eP*	Pn	00	48 42.8	+13
	comp=Z,50nm,1.1s							
DZM				*eLR*	LR	00	53 28.4	
	comp=Z,448nm,23.5s							
PAE	Paea	23.85	99	*eT*	T	01	14 14.2	
	comp=Z,3.3nm,0.3s							
PPT	Papeete	23.85	98	LR	LR	00	56 32.9	
	comp=Z,139nm,20.7s,baz=259,slow=31							
PPT2	Papeete2	23.85	98	*eLQ*	LQ	00	54 14.7	
	comp=Z,191nm,24.2s							
PPT2				*eLR*	LR	00	55 16.4	
	comp=Z,595nm,26.5s,baz=262							
TIAR	Tiarei	24.07	98	*eT*	T	01	14 30.0	
	comp=Z,2.1nm,0.3s							
TVO	Taravao	24.16	99	*eT*	T	01	14 38.0	
	comp=Z,1.3nm,0.3s							
TBI	Tubuai	24.71	112	*eLR*	LR	00	55 48.7	
	comp=Z,680nm,26.8s,baz=279							
TBI	Tubuai	24.71	112	*eT*	T	01	15 30.5	
	comp=Z,9.7nm,0.2s							
BKZ	Black Stump Fm	24.86	197	P	P	00	49 24.7	-1.6
BKZ				IAmb	IAmb	00	49 25.5	
	comp=Z,8.5nm,0.9s							
PMOR	Pomariorio Ree	25.55	92	*eT*	T	01	16 14.7	
	comp=Z,4.0nm,0.3s							
VAH	Vaihoa	25.79	93	*eT*	T	01	16 33.9	
	comp=Z,7.8nm,0.2s							
MSWZ	Moikau Station	27.30	197	P	P	00	49 47.5	-0.8
NNZ	Nelson	27.70	200	P	P	00	49 53.2	+1.4
NNZ				IAmb	IAmb	00	50 12.2	
	comp=Z,18nm,1.0s							
TAOE	Nuku Hiva Isla	34.07	83	*eLR*	LR	00	59 45.4	
	comp=Z,374nm,27.5s							
TAOE	Nuku Hiva Isla	34.07	83	*eT*	T	01	26 45.8	
	comp=Z,19nm,0.2s							
CTAO	Charters Tower	37.70	257	P	P	00	51 20.0	+0.6
CTAO				IAmb	IAmb	00	51 21.2	
	comp=Z,4.6nm,1.1s							
STKA	Stephens Creek	43.15	240	LR	LR	01	09 17.5	
	comp=Z,101nm,18.6s,baz=46,slow=35							
BBOO	Buckleboo	47.93	240	P	P	00	52 42.9	+0.5
BBOO				IAmb	IAmb	00	52 54.7	
	comp=Z,12nm,1.1s							
WRAB	Tennant Creek	48.89	257	P	P	00	52 50.2	+0.3
WRA	Warramunga Arr	48.90	257	P	P	00	52 55.1	+5.1
	comp=Z,0.5nm,0.8s,baz=86,slow=6.2,SNR=6.4							
WRA				LR	LR	01	12 06.1	
	comp=Z,244nm,18.4s,baz=80,slow=34							
WRA	Warramunga Arr	48.90	257	P	P	00	52 49.0	-1.0
AS31	Alice Springs	49.17	252	P	P	00	52 50.6	-1.5
ASAR	Alice Springs	49.17	252	P	P	00	52 58.3	+6.1
	comp=Z,2.6nm,0.8s,baz=85,slow=8.3,SNR=28							
ASAR				LR	LR	01	11 57.4	
	comp=Z,235nm,19.8s,baz=98,slow=34							
ASAR	Alice Springs	49.17	252	P	P	00	52 53.0	+0.9
SIJI	Sorong	55.56	280	LR	LR	01	15 49.2	
	comp=Z,134nm,21.9s,baz=102,slow=34							
BATI	Baumata	60.47	267	LR	LR	01	18 34.3	
	comp=Z,151nm,21.4s,baz=120,slow=34							
VNDA	Vanda	63.14	186	LR	LR	01	21 09.4	
	comp=Z,32nm,18.1s,baz=4.0,slow=36							
DAV	Davao City (W)	63.57	286	LR	LR	01	18 52.2	
	comp=Z,43nm,21.6s,baz=129,slow=33							
NVAR	Mina Array Bea	75.06	42	P	P	00	55 59.2	+13
	comp=Z,1.1nm,0.9s,baz=216,slow=7.8,SNR=5.8							
NVAR				LR	LR	01	22 18.4	
	comp=Z,70nm,19.5s,baz=235,slow=30							
USRK	Ussuriysk Ar.	76.94	324	LR	LR	01	24 31.7	
	comp=Z,58nm,19.6s,baz=152,slow=31							
ILAR	Eielson Array	82.77	12	LR	LR	01	24 40.4	
	comp=Z,57nm,21.8s,baz=198,slow=29							
PDAR	Pinedale Array	83.00	42	P	P	00	56 39.9	+11
	comp=Z,0.2nm,0.4s,baz=238,slow=5.0,SNR=3.7							
PDAR				LR	LR	01	28 54.7	
	comp=Z,37nm,20.3s,baz=309,slow=32							
MAW	Mawson	87.36	199	LR	LR	01	34 11.4	
	comp=Z,84nm,18.8s,baz=67,slow=35							
PLCA	Paso Flores	90.11	132	LR	LR	01	28 42.7	
	comp=Z,57nm,20.7s,baz=230,slow=30							
YKA	Yellowknife Ar	90.60	24	LR	LR	01	34 44.9	
	comp=Z,56nm,18.1s,baz=0.0,slow=33							
CMAR	Chiang Mai Arr	91.77	289	LR	LR	01	34 26.3	
	comp=Z,12nm,21.1s,baz=147,slow=33							
ULM	Lac du Bonnet	94.64	30	LR	LR	01	34 16.9	
	comp=Z,68nm,18.7s,baz=268,slow=32							
GERES	GERESS Array B	146.14	350	PKPbc	PKiKP	01	03 55.8	+8.4
	comp=Z,1.0nm,0.9s,baz=44,slow=3.0,SNR=4.5							

*IDC **28** 00:54:16.9±4.0, 36°.16N×70°.93E, h110km±36km, mb3.5/7, mb1 3.5/11, mb1mx3.2/44, mbtmp3.8/11, Error ellipse: s-maj=25.6km s-min=19.9km az=171.0*

*NEIC **28** 00:54:22.5±1.8, 36°.54N±0°.01×70°.96E±0°.09, h157km±5km, mb4.1/26, Error ellipse: s-maj=11.0km s-min=1.4km az=98.0*

*NNC **28** 00:54:26.6±2.9, 36°.88N×70°.74E, h167km±44km, mb3.4, mpv4.4, Error ellipse: s-maj=27.6km s-min=15.7km az=153.0*

ISC 28 00:54:21.4±0.5,**36°.54N**±0°.04×**70°.95E**±0°.05,**h150**km,**n79,** σ1§**91**/89,**mb4.0**/16,**4C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GAR	Garm	2.51	349	Pn	Pn	00	55 04.8	+2.1
GAR				Sn	Sn	00	55 35.7	+1.1
KBL	Kabul	2.53	219	Pn	Pn	00	55 04.7	+1.6
KBL				Sn	Sn	00	55 36.6	+1.3
CHGR	Chuyangaron	2.55	327	Pn	Pn	00	55 05.1	+1.9
CHGR				Sn	Sn	00	55 36.2	+0.7
NIL	Nilore	3.44	146	Pn	Pn	00	55 15.6	+1.1
TAS	Tashkent	4.95	345	Pn	Pn	00	55 35.8	+1.7
AML	Almayashu	5.97	20	P	Pn	00	55 48.8	+0.8
	SNR=74							
DHRM	DHARAMSHALA	6.15	133	*eP*	Pn	00	55 49.4	-0.9
DHRM				*eS*	Sn	00	56 56.1	-3.8
DHRM				IAML		00	56 59.2	
	comp=E,127nm,0.5s							
DHRM				IAML		00	56 60.0	
	comp=N,84nm,0.5s							
DHRM				IAML		00	56 60.0	
	comp=Z,53nm,0.6s							
UCH	Uchtor	6.31	25	P	Pn	00	55 53.7	+1.1
	SNR=28							
EKS2	Erkin-Say	6.49	19	P	Pn	00	55 56.2	+1.5
	SNR=24							
KK31	Karatay Array	6.56	357	⇓P	Pn	00	55 57.1	+1.5
	comp=Z,25nm,0.3s,baz=182,slow=12,SNR=637							
KK31				⇑S	Sn	00	57 08.3	-1.1
	comp=Z,12nm,0.5s,baz=182,slow=18,SNR=11							
KK31	Karatay Array	6.56	357	Pn	Pn	00	55 57.2	+1.5
KKAR	Karatay Array	6.56	357	Pn	Pn	00	55 57.2	+1.6
KKAR	Karatay Array	6.56	357	Pn	Pn	00	55 56.8	+1.2
AAK	Ala-Archa	6.67	23	P	Pn	00	55 58.0	+0.8
	SNR=11							
AAK	Ala-Archa	6.67	23	⇓P	Pn	00	55 57.7	+0.5
	comp=Z,5.1nm,0.4s							
AAK				⇓S	Sn	00	57 12.1	-0.2
	comp=Z,18nm,0.6s							
AAK	Ala-Archa	6.67	23	Pn	Pn	00	55 58.5	+1.3
KBK	Karagaybulak	6.84	26	P	Pn	00	56 02.6	+3.2
	SNR=5.8							
FRU1	Bishkek	6.87	23	Pn	Pn	00	55 59.9	+0.2
BOOM	Boomskoye usch	7.08	31	Pn	Pn	00	56 04.1	+1.4
CHMS	Chumysh	7.08	23	P	Pn	00	56 03.1	+0.6
	SNR=11							
USP	Ospenovka	7.25	21	P	Pn	00	56 06.5	+1.7
	SNR=7.9							
TKM2	Tokmak 2	7.31	28	P	Pn	00	56 07.9	+2.2
	SNR=7.4							
TKM2	Tokmak 2	7.31	28	⇓P	Pn	00	56 07.0	+1.4
	comp=Z,23nm,0.7s							
TKM2				⇓S	Sn	00	57 28.7	+1.2
	comp=Z,7.4nm,0.8s							
SMLA	Simla	7.47	134	*eP*	Pn	00	56 07.9	+0.2
SMLA				*eS*	Sn	00	57 25.4	-5.7
SMLA				IAML		00	57 29.8	
	comp=E,35nm,0.3s							
PRZ	Przheval'sk	8.27	42	Pn	Pn	00	56 18.7	+0.3
KUDL	Kundal	9.59	149	*eP*	Pn	00	56 36.9	+0.9
GEYT	Alibeck	10.33	282	P	Pn	00	56 43.6	-2.2
	comp=E,0.7nm,0.3s,baz=89,slow=11,SNR=8.1							
GEYT				S	Sn	00	58 36.7	-3.4
	comp=E,1.4nm,0.3s,baz=113,slow=26,SNR=7.8							
GEYT	Alibeck	10.33	282		Pn	00	56 46.3	+0.6
GYA0B	ALIBECK ARRAY	10.33	282	⇓P	Pn	00	56 50.2	+4.4
GYA0B				⇓S	Sn	00	58 37.5	-2.6
GYA0B	ALIBECK ARRAY	10.33	282	Pn	Pn	00	56 46.3	+0.6
MAKZ	Makanchi	13.14	35	Pn	Pn	00	57 23.5	+1.2
MK31	Makanchi Array	13.28	36	Pn	Pn	00	57 24.9	+0.8
MKAR	Makanchi Array	13.28	36	P	Pn	00	57 24.8	+0.8
	comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=5.0							
MKAR	Makanchi Array	13.28	36	P	Pn	00	57 24.4	+0.4
AB31	Akbulak array	15.03	331	⇓P	Pn	00	57 45.9	-0.1
	comp=E,1.1nm,0.3s,baz=146,slow=12,SNR=84							
AB31				⇑S	Sn	01	00 26.6	-6.3
	comp=E,1.3nm,0.5s,baz=153,slow=24,SNR=6.4							
ABKAR	Akbulak array	15.03	331		Pn	00	57 46.9	+0.8
ABKAR	Akbulak array	15.03	331	Pn	Pn	00	57 46.2	+0.1
KURBB	Kurchatov Arra	15.10	19	P	Pn	00	57 45.2	-1.7
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=4.8							
KURK	Kurchatov	15.21	19	P	Pn	00	57 45.2	-3.0
KURK	Kurchatov	15.21	19	IAmb	IAmb	00	57 54.6	
	comp=Z,2.0nm,1.1s							
BVAR	Borovoye Array	16.49	359	P	Pn	00	58 05.5	+1.6
	comp=Z,0.8nm,0.3s,baz=137,slow=18,SNR=8.7							
BRVK	Borovoye	16.52	359	P	P	00	58 04.7	+0.5
BRVK				IAmb	IAmb	00	58 10.0	
	comp=Z,3.1nm,0.5s							
AKTO	Aktyubinsk	16.73	330	P	Pn	00	58 08.5	+1.7
	comp=Z,0.4nm,0.3s,baz=119,slow=12,SNR=9.3							
AKTO	Aktyubinsk	16.73	330	⇑P	Pn	00	58 08.6	+1.7
	comp=Z,4.0nm,0.9s							
AKTO				⇑S	S	01	01 06.8	-5.8
	comp=Z,1.7nm,0.7s							
UOSS	Minazif	17.13	232	P	P	00	58 08.8	-2.4
UOSS				IAmb	IAmb	00	58 13.4	
	comp=Z,8.9nm,1.1s							
ZAA0	Zalesovo Array	19.89	25	P	P	00	58 42.1	+1.1
ZALV	Zalesovo Beam	19.89	25	P	P	00	58 43.4	+2.4
	comp=Z,1.6nm,0.4s,baz=216,slow=10,SNR=9.2							
ZALV	Zalesovo Beam	19.89	25	P	P	00	58 42.5	+1.6
CHTO	Chiang Mai	30.27	118	P	P	01	00 17.9	-0.5
CHTO				IAmb	IAmb	01	00 25.4	
	comp=Z,3.1nm,1.1s							
PALK	Pallekele	30.46	161	P	P	01	00 21.7	+1.6
PALK				IAmb	IAmb	01	00 37.9	
	comp=Z,2.9nm,0.8s							
IDI	Anoyia	37.05	282	P	P	01	01 16.0	-1.0
IDI				IAmb	IAmb	01	01 17.0	
	comp=Z,12nm,1.1s							
LVZ	Lovozero	37.41	338	P	P	01	01 18.7	-0.8
LVZ				IAmb	IAmb	01	01 29.6	
	comp=Z,6.5nm,1.0s							
FIA1	FINESS Array S	37.43	326	P	P	01	01 23.0	+3.4
FIA1				IAmb	IAmb	01	01 35.3	
	comp=Z,5.5nm,0.9s							
FINES	FINESS Array B	37.43	326	P	P	01	01 19.8	+0.2
ARCES	ARCESS Array B	41.09	338	P	P	01	01 52.8	+2.8
	comp=Z,4.1nm,1.0s,baz=111,slow=8.9,SNR=4.3							
PRED	Cave del Predi	43.25	302	P	P	01	02 08.2	+0.4
PRED				IAmb	IAmb	01	02 21.1	
	comp=Z,3.4nm,1.1s							
DGAR	Diego Garcia	43.74	178	P	P	01	02 13.7	+1.8
NC405	NORSAR Array S	44.09	323	P	P	01	02 15.2	+0.9
NC405				IAmb	IAmb	01	02 20.6	
	comp=Z,16nm,1.1s							
NC602	NORSAR Array S	44.14	323	P	P	01	02 15.4	+0.8
NC602				IAmb	IAmb	01	02 18.9	
	comp=Z,5.3nm,1.0s							
NC303	NORSAR Array S	44.27	323	P	P	01	02 16.4	+0.8
NB201	NORSAR Array S	44.29	323	P	P	01	02 16.9	+1.0
NB201				IAmb	IAmb	01	02 30.8	
	comp=Z,9.1nm,1.0s							
NB2	NORSAR Subarra	44.33	323	P	P	01	02 18.1	+1.9
	comp=Z,1.3nm,0.4s,baz=100,slow=7.9							
NOA	NORSAR Array B	44.33	323	P	P	01	02 18.1	+1.9
	comp=Z,0.4nm,0.4s,baz=97,slow=7.7,SNR=2.4							
NBO00	NORSAR Array S	44.54	323	P	P	01	02 18.7	+0.9
NC204	NORSAR Array S	44.57	323	P	P	01	02 19.5	+1.4
FOMA	Nahampoana Res	65.23	204	P	P	01	04 48.2	+1.4
TOA0	Torodi Ar. Sit	65.68	269	P	P	01	04 49.5	-0.5
TORD	Torodi Ar. Bea	65.68	269	P	P	01	04 49.6	-0.4
	comp=Z,0.5nm,0.5s,baz=52,slow=6.0,SNR=9.4							
TORD	Torodi Ar. Bea	65.68	269	IAmb	IAmb	01	04 51.2	
	comp=Z,0.8nm,0.5s							
ILULI	Ilulissat	66.35	341	P	P	01	04 52.7	-0.7
INK	Inuvik	73.87	9	P	P	01	05 41.1	+1.9
	comp=Z,1.6nm,1.0s,baz=63,slow=2.9,SNR=4.2							
INK	Inuvik	73.87	9	P	P	01	05 39.8	+0.6
INK				IAmb	IAmb	01	05 56.0	
	comp=Z,3.4nm,1.1s							
COLA	College	74.45	16	P	P	01	05 41.9	-0.7
KTH	Kantishna Hill	74.84	18	P	P	01	05 45.1	+0.1
HYT	Haines Junctio	80.22	14	P	P	01	06 16.5	+1.5
WRA	Warramunga Arr	82.04	122	P	P	01	06 24.3	-0.7
	comp=Z,0.8nm,0.9s,baz=325,slow=4.9,SNR=9.2							
WB2	Warramunga Arr	82.05	122	P	P	01	06 23.9	-1.2
WB2				IAmb	IAmb	01	06 39.2	
	comp=Z,3.0nm,1.1s							
WC3	Warramunga Arr	82.08	122	P	P	01	06 24.8	-0.4
ASAR	Alice Springs	84.31	125	P	P	01	06 35.8	-0.9
	comp=Z,0.6nm,0.6s,baz=316,slow=5.0,SNR=8.3							

*IDC **28** 00:58:14.9±2.2, 31°.

AAGR IAML 00 59 29.0
comp=Z,2µm,2.5s
ACDV Cuesta del Vie 1.69 23 *eP* **Pn 00 58 47.7 +1.1**
ACDV *eS* **Sn 00 59 10.3 +1.3**
ACDV IAML 00 59 11.6
comp=Z,6µm,0.4s
GO04 Tololo Observa 1.74 333 *eP* **Pn 00 58 46.9 -0.2**
GO04 *eS* **Sn 00 59 09.9 -0.2**
GO04 IAML 00 59 17.9
comp=N,29µm,0.6s
GO04 Tololo Observa 1.74 333 Pn **Pn 00 58 47.2 0.0**
GO04 Tololo Observa 1.74 333 *eP* **Pn 00 58 47.0 -0.2**
GO04 *eS* **Sn 00 59 11.7 +1.5**
CO01 Juntas del Tor 1.76 354 ⇑*iP* **Pn 00 58 48.8 +1.3**
CO01 *eS* **Sn 00 59 12.2 +1.6**
CO01 Juntas del Tor 1.76 354 Pn **Pn 00 58 48.7 +1.3**
MT05 Renca 1.80 203 ⇓*iP* **Pn 00 58 47.5 -0.3**
MT05 *eS* **Sn 00 59 10.9 -0.3**
MT05 IAML 00 59 12.6
comp=N,26µm,0.3s
MT05 Renca 1.80 203 Pn **Pn 00 58 47.5 -0.3**
MT05 Sn **Sn 00 59 10.6 -0.6**
FSR Penalolen 1.82 197 *eP* **Pn 00 58 49.5 +1.5**
FSR *eS* **Sn 00 59 11.6 -0.1**
MT03 Universidad Ad 1.83 196 ⇑*iP* **Pn 00 58 48.3 +0.1**
MT03 *eS* **Sn 00 59 12.2 +0.2**
MT03 IAML 00 59 14.0
comp=N,25µm,0.5s
MT02 Curacav 1.85 214 Pn 00 58 47.0 -1.4
VA01 Torpederas 1.96 229 *eP* **Pn 00 58 48.1 -1.6**
VA01 *eS* **Sn 00 59 12.1 -2.6**
VA01 Torpederas 1.96 229 Pn **Pn 00 58 48.1 -1.6**
AVIZ Vizcacheras 2.09 147 *eP* **Pn 00 58 52.0 +0.6**
LMEL Las Melosas 2.13 187 ⇑*iP* **Pn 00 58 52.3 +0.3**
LMEL *i* S **Sn 00 59 19.6 +0.9**
LMEL IAML 00 59 23.9
comp=N,9µm,0.5s
AVFE Valle Fertil 2.35 64 *eP* **Pn 00 58 55.0 +0.3**
AVFE *eS* **Sn 00 59 24.2 +0.5**
AVFE IAML 00 59 26.9
comp=Z,89nm,0.4s
AGUA GUANDACOL 2.54 29 *eP* **Pn 00 58 58.3 +1.0**
AGUA *eS* **Sn 00 59 31.2 +3.0**
AGUA IAML 00 59 38.1
comp=Z,4µm,0.5s
LCO Las Campanas 2.80 345 Pn **Pn 00 59 00.5 -0.3**
ACHE Chepes 2.82 79 *eP* **Pn 00 59 01.0 0.0**
AC05 El Transito 2.90 353 ⇑*iP* **Pn 00 59 02.5 +0.5**
AC05 *eS* **Sn 00 59 37.0 +0.3**
AC05 IAML 00 59 39.2
comp=E,5µm,0.2s
AC05 El Transito 2.90 353 Pn 00 59 02.5 +0.5
BO02 Sierra Bellavi 3.14 193 Pn **Pn 00 59 04.0 -1.1**
VCA Vinchina 3.32 27 *eP* **Pn 00 59 08.3 +0.7**
VCA *eS* **Sn 00 59 47.3 +0.7**
VCA IAML 00 59 52.6
comp=Z,5µm,0.4s
ACLC CERRO LA CRUZ 3.42 49 *eP* **Pn 00 59 08.3 -0.6**
ACLC *eS* **Sn 00 59 48.2 -0.8**
ACLC IAML 00 59 50.1
comp=Z,2µm,0.4s
MRA San Martin 3.61 102 *eP* Pn 00 59 15.9 +4.6
MRA *eS* **Sn 00 59 51.2 -2.2**
AC04 Llanos de Chal 3.66 344 Pn **Pn 00 59 11.0 -0.9**
GO05 Huala 3.69 207 *eP* Pn 00 59 09.1 -3.1
GO05 Huala 3.69 207 Pn 00 59 09.2 -3.0
EDS3 Malargue 4.05 174 *eP* **Pn 00 59 17.2 0.0**
GO03 Copiap 4.13 356 Pn 00 59 17.6 -0.7
GO03 Copiap 4.13 356 *eP* **Pn 00 59 17.6 -0.7**
GO03 *eS* **Sn 01 00 03.4 -2.4**
TCA Tanti 4.54 86 *eP* **Pn 00 59 22.6 -1.3**
TCA *eS* **Sn 01 00 13.0 -2.7**
TCA IAML 01 00 15.1
comp=Z,1µm,0.6s
CYA Choya 4.83 48 *eP* **Pn 00 59 25.9 -1.8**
CYA *eS* **Sn 01 00 19.9 -2.7**
CYA IAML 01 00 21.5
comp=Z,414nm,0.4s
AC02 Maricunga 4.92 8 ⇑*iP* **Pn 00 59 29.1 -0.3**
AC02 Maricunga 4.92 8 Pn **Pn 00 59 29.0 -0.3**
BI02 San Fabin de 5.05 193 Pn **Pn 00 59 28.4 -2.2**
AHML Horco Molle 6.34 40 *eP* **Pn 00 59 45.5 -2.6**
AHML *eS* **Sn 01 00 55.3 -3.8**
GO02 Mina Guanaco 6.55 2 Pn **Pn 00 59 48.8 -2.4**
FSA Cafayete 6.57 32 *eP* **Pn 00 59 50.8 -0.5**
PB14 IPOC Station P 7.09 356 *eP* **Pn 00 59 54.8 -3.7**
PB14 *eS* **Sn 01 01 10.3 -7.5**
LC01 Cunco 7.33 192 Pn Pn 00 59 57.9 -3.5
VA04 Juan Fernndez 7.77 253 Pn **Pn 01 00 06.0 -1.3**
PLCA Paso Flores 9.00 183 P **Pn 01 00 22.1 -2.0**
comp=Z,0.6nm,0.3s,baz=3.7,slow=12,SNR=21
PLCA LR LR 01 03 44.8
comp=Z,140nm,20.3s,baz=350,slow=36
PLCA Paso Flores 9.00 183 Pn **Pn 01 00 22.0 -2.0**
LVC Limon Verde 9.13 6 P **Pn 01 00 22.4 -3.8**
comp=Z,2.0nm,0.3s,baz=152,slow=9.3,SNR=28
LVC S Sn 01 01 57.9 -9.4
comp=Z,3.9nm,0.3s,baz=119,slow=7.2,SNR=3.2
LVC LR LR 01 03 46.0
comp=Z,88nm,19.9s,baz=204,slow=36
PB09 IPOC Station P 9.91 4 Pn 01 00 35.0 -1.6
LL01 San Ignacio de 10.82 190 Pn Pn 01 00 44.7 -3.8
PB08 IPOC Station P 11.56 3 Pn 01 00 57.9 -1.1
ITQB Itaqui 11.61 83 *eP* **Pn 01 00 56.2 -3.0**
GO01 Chusmiza 12.03 3 Pn **Pn 01 01 02.6 -2.7**
CPUP Villa Florida 12.24 67 P **Pn 01 01 03.1 -4.4**
comp=Z,1.9nm,0.3s,baz=240,slow=12,SNR=54
CPUP LR LR 01 06 24.7
comp=Z,55nm,18.7s,baz=234,slow=40
CPUP Villa Florida 12.24 67 Pn **Pn 01 01 03.6 -4.0**
MNMC Minye Minye 12.55 1 Pn **Pn 01 01 10.5 -1.4**
PB16 IPOC Station P 13.34 2 Pn 01 01 23.2 +0.7
CPSB Cacapava Do Su 14.17 89 *eP* **Pn 01 01 29.3 -3.3**
LPAZ La Paz 15.46 6 P **Pn 01 01 48.1 -1.4**
comp=Z,1.0nm,0.3s,baz=162,slow=8.7,SNR=16
LPAZ La Paz 15.46 6 Pn 01 01 48.0 -1.5
LPAZ La Paz 15.46 6 *eP* **Pn 01 01 48.5 -1.0**
ITAB Concordia 16.10 78 *eP* **Pn 01 01 55.0 -1.9**
CNLB Canela 16.59 87 *eP* **Pn 01 02 01.1 -1.7**
AQDB Aquidauana 16.96 52 *eP* **Pn 01 02 05.7 -1.7**
PTGB Pitanga 17.19 70 *eP* **P 01 02 09.5 -0.6**
SIV San Ignacio 17.61 29 P **P 01 02 13.6 -1.1**
comp=Z,3.1nm,0.3s,baz=220,slow=13,SNR=121
TRCB Terra Rica 17.72 64 *eP* **P 01 02 14.8 -1.2**
PTLB Pontes e Lacer 18.95 34 *eP* **P 01 02 29.2 -0.1**
TIJ01 Guaruva-PR 19.42 76 *eP* **P 01 02 31.6 -2.9**
PCMB Pacaembu 19.44 63 *eP* **P 01 02 34.8 +0.1**
GO09 Cerro Castillo 19.61 185 P **P 01 02 36.8 +0.6**
GO09 IAmb IAmb 01 02 42.2
comp=Z,55nm,0.9s
FRTB Fartura 19.85 70 *eP* **P 01 02 38.7 -0.4**
VILB Vilhena 20.71 28 *eP* **P 01 02 48.0 -0.4**
ITRB Iturama 21.25 60 *eP* **P 01 02 53.5 -0.6**
PET01 Itanhaem-SP 21.28 75 *eP* **P 01 02 53.6 -0.8**
SPB Sao Paulo 21.46 73 P **P 01 02 55.8 -0.5**
SPB IAmb IAmb 01 02 59.2
comp=Z,45nm,0.8s
SPB Sao Paulo 21.46 73 *eP* **P 01 02 56.0 -0.4**
EFI East Falkland 21.75 160 P **P 01 02 57.7 -1.4**
BB19B Bebedouro 21.85 66 *eP* **P 01 02 59.1 -1.4**
RCLB Rio Claro- Sao 21.93 70 *eP* **P 01 03 00.4 -1.0**
ETMB Extrema 22.07 10 *eP* **P 01 03 03.3 +0.5**
VAO Valinhos 22.11 73 *eP* **P 01 03 01.9 -1.4**
ARAG Araguaiana, MT 22.94 50 *eP* **P 01 03 10.2 -1.3**
USHA Ushuaia 23.11 178 P **P 01 03 13.7 +0.9**
comp=Z,52nm,0.8s,baz=312,slow=16,SNR=8.0
SAML Samuel 23.51 17 P **P 01 03 16.5 -0.3**
IPMB Ipameri, GO 23.91 60 *eP* **P 01 03 19.7 -0.8**
CZSB Cruzeiro do Su 24.02 353 *eP* **P 01 03 22.3 +0.9**
CLDB Colider 24.51 35 *eP* **P 01 03 24.4 -1.5**
BSCB Bom Sucesso 24.86 71 *eP* **P 01 03 28.5 -0.7**
BDFB Brasilia 25.57 56 P **P 01 03 35.1 -0.6**
comp=Z,24nm,0.5s,baz=230,slow=7.9,SNR=48
BDFB LR LR 01 15 13.9
comp=Z,112nm,20.7s,baz=91,slow=40
BDFB Brasilia 25.57 56 P **P 01 03 35.0 -0.7**
BDFB IAmb IAmb 01 03 36.9
comp=Z,28nm,0.6s
SNDB Serra Nova Dou 26.09 45 *eP* **P 01 03 39.9 -0.3**
PEXB Peixe 27.88 50 *eP* **P 01 03 55.8 -0.4**
NPGB Novo Progresso 28.06 32 *eP* **P 01 03 56.8 -1.1**
JANB Januaria 28.64 60 *eP* **P 01 04 02.5 -0.6**

SJMB Sao Joao De Ma 28.93 70 *eP* **P 01 04 04.9 -0.6**
BSFB Barra de Sao F 29.14 71 *eP* **P 01 04 06.7 -0.7**
MACA Manacapuru-AM 29.71 19 *eP* **P 01 04 11.9 -0.5**
SDBA SAO DESIDERIO 29.98 56 *eP* **P 01 04 14.5 -0.4**
NAN01 Guarapari, ES 30.24 70 *eP* **P 01 04 16.2 -0.9**
ITTB Itaituba 30.30 29 *eP* **P 01 04 16.2 -1.4**
SMTB Santa Maria do 30.78 47 *eP* **P 01 04 21.4 -0.5**
PRPB Parauapebas 31.61 41 *eP* **P 01 04 28.9 -0.4**
PTLC Puerto Leguiza 32.07 351 *eP* **P 01 04 32.3 -0.8**
GDU01 Guandu, BA 33.05 64 *eP* **P 01 04 40.7 -1.1**
MALB Monte Alegre 33.18 29 *eP* **P 01 04 42.0 -0.8**
PMSA Palmer Station 33.27 175 P **P 01 04 44.2 +1.1**
comp=Z,16nm,0.8s,baz=0.5,slow=5.5,SNR=3.7
PMSA Palmer Station 33.27 175 P **P 01 04 43.9 +0.8**
PMSA IAmb IAmb 01 04 45.3
comp=Z,18nm,0.8s
MACC Macarena, Meta 33.90 353 *eP* **P 01 04 49.7 +0.5**
BBAC Balboa, Cauca 34.28 347 *eP* **P 01 04 54.8 +2.1**
PCON Cinco Dias 34.43 348 *eP* **P 01 04 57.8 +3.5**
MCPB Macapa, AP 35.47 32 *eP* **P 01 05 02.5 -0.1**
PRAC Prado 35.57 351 *eP* **P 01 05 05.7 +2.2**
TMAB Tom-Au,PA,Br 35.71 39 *eP* **P 01 05 03.7 -1.0**
YOTC Yotoco, Valle 36.04 349 *eP* **P 01 05 08.7 +1.0**
CHIC Chingaza 36.34 354 *eP* **P 01 05 11.9 +1.4**
TOLC Tolima 36.48 351 *eP* **P 01 05 14.5 +2.8**
ROSC El Rosal 36.61 353 P **P 01 05 13.3 +0.6**
comp=Z,11nm,0.4s,baz=178,slow=13,SNR=5.2
ROSC El Rosal 36.61 353 P **P 01 05 12.8 0.0**
ROSC IAmb IAmb 01 05 29.3
comp=Z,13nm,0.5s
RREF El Recreo 36.80 351 *eP* **P 01 05 13.0 -1.6**
GUY2C Guyana, Caldas 37.12 351 *eP* P 01 05 09.1 -8.1
RUSC La Rusia 37.54 355 *eP* **P 01 05 21.7 +1.0**
CBOC Ciudad Bolivar 37.84 350 *eP* **P 01 05 23.6 +0.7**
HELC Santa Helena 38.09 351 *eP* **P 01 05 26.4 +1.2**
PTBC PUERTO BERRIO, 38.30 353 *eP* **P 01 05 25.7 -1.0**
DBBC Dabeiba 39.00 350 *eP* **P 01 05 34.5 +2.0**
UREC San Jos de Ur 39.63 351 *eP* **P 01 05 35.5 -2.1**
MOTC Monteria, Cord 40.66 351 *eP* **P 01 05 47.3 +1.2**
RCBR Riachuelo 40.92 58 P **P 01 05 46.2 -2.2**
RCBR IAmb IAmb 01 05 59.5
comp=Z,31nm,1.3s
SJCC San Jacinto, C 41.70 352 *eP* **P 01 05 54.7 0.0**
SMRC Santa Marta, M 42.85 354 *eP* **P 01 06 02.7 -1.2**
TOSP Speyside 43.72 13 P **P 01 06 11.0 +0.1**
GRGR Grenville 44.32 12 P **P 01 06 15.4 -0.4**
SVB Belmont 45.51 12 P **P 01 06 24.5 -0.7**
FDF Fort de France 46.95 12 P **P 01 06 35.1 -1.4**
MLPR Magueyes Islan 49.49 4 P **P 01 06 55.5 -0.4**
CRPR Cabo Rojo, PR 49.52 3 P **P 01 06 55.7 -0.5**
OBIP Obispado Ponce 49.59 4 P **P 01 06 56.3 -0.4**
PDPR Patillas Dam, 49.60 5 P **P 01 06 55.8 -0.9**
SJG San Juan 49.69 5 P **P 01 06 56.7 -0.7**
BANI BANI 49.84 359 P **P 01 06 59.3 +0.6**
CBYP Canovanas 49.87 5 P **P 01 06 58.0 -0.8**
AOPR Arecibo Observ 49.88 4 P **P 01 06 58.2 -0.7**
AGPR Aguadilla, PR 49.98 3 P **P 01 06 59.0 -0.7**
VNA3 Neumayer Olymp 50.79 159 P **P 01 07 05.9 +0.6**
VNA1 Neumayer--Stat 51.07 158 P **P 01 07 08.4 +1.2**
VNA2 Neumayer--Watz 51.42 158 P **P 01 07 10.6 +0.8**
baz=286,slow=8.3
GTBY Guantanamo Bay 51.61 354 P **P 01 07 12.1 +0.3**
SNAA Sanae 53.02 159 P **P 01 07 22.3 +0.6**
SNAA Sanae 53.02 159 P **P 01 07 22.0 +0.2**
SNAA IAmb IAmb 01 07 23.3
comp=Z,17nm,1.0s
TEIG Tepich 54.59 339 P **P 01 07 33.9 +0.2**
TEIG IAmb IAmb 01 07 35.7
comp=Z,20nm,1.2s
QSPA South Pole Qui 58.50 180 P **P 01 08 01.6 +0.6**
QSPA IAmb IAmb 01 08 03.0
comp=Z,10nm,0.9s
553A Crawfordville 63.11 346 P **P 01 08 33.0 +0.7**
BRAL Brewton 64.64 344 P **P 01 08 43.9 +1.6**
baz=164
157A Early Branch 64.92 350 P **P 01 08 44.9 +0.8**
baz=170
NHSC New Hope 65.22 351 P **P 01 08 46.8 +0.7**
baz=170
Z58A St. Stephen 65.39 351 P **P 01 08 47.9 +0.7**
baz=171
Z57A Bowman 65.48 350 P **P 01 08 48.1 +0.4**
baz=170
Z56A Williston 65.61 349 P **P 01 08 49.3 +0.7**
baz=169
Y60A Bolivia 65.85 352 P **P 01 08 51.0 +0.9**
baz=172
833A Chaparral WMA, 66.00 332 P **P 01 08 52.4 +1.2**
baz=153
GOGA Godfrey 66.05 348 P **P 01 08 51.6 +0.2**
baz=167
GOGA Godfrey 66.05 348 P **P 01 08 51.4 -0.1**
X60A Albert Glenn T 66.39 353 P **P 01 08 54.7 +1.1**
baz=172
LRAL Lakeview Retre 66.41 344 P **P 01 08 54.5 +0.7**
baz=164
X59A McDuffie Farm, 66.46 352 P **P 01 08 54.9 +0.9**
baz=172
X58A Rowland 66.53 352 P **P 01 08 55.3 +0.9**
baz=171
X56A White Oak 66.70 350 P **P 01 08 55.9 +0.4**
baz=170
X55A Gracelyn & Ava 66.77 349 P **P 01 08 56.4 +0.4**
baz=169
W60A Pink Hill 66.84 353 P **P 01 08 57.4 +1.0**
baz=173
W61A Ground Anchor 66.89 354 P **P 01 09 00.1 +3.4**
baz=174
X54A Belton 66.97 349 P **P 01 08 57.8 +0.6**
baz=168
W57A Gilead 67.20 351 P **P 01 08 59.1 +0.4**
baz=171
W56A Indian Trail 67.27 351 P **P 01 08 59.3 +0.1**
baz=170
KMSC Kings Mountain 67.38 350 P **P 01 09 00.6 +0.7**
baz=170
X51A Calhoun 67.43 347 P **P 01 09 00.8 +0.5**
X51A IAmb IAmb 01 09 01.7
comp=Z,18nm,0.8s
W54A Cherokee Point 67.46 349 P **P 01 09 00.8 +0.5**
baz=169,SNR=5.1
V59A Middlesex 67.60 353 P **P 01 09 02.1 +0.9**
baz=172
V58A Windy Hill, Pi 67.73 352 P **P 01 09 02.4 +0.4**
baz=172,SNR=6.6
V58A Windy Hill, Pi 67.73 352 P **P 01 09 02.4 +0.4**
V58A IAmb IAmb 01 09 03.3
comp=Z,9.3nm,0.6s
X48A Hartselle 67.78 345 P **P 01 09 02.8 +0.4**
X48A IAmb IAmb 01 09 03.8
comp=Z,9.0nm,0.8s
V57A Coltrane Farms 67.90 351 P **P 01 09 03.1 -0.1**
baz=171
V56A Mocksville 67.92 351 P **P 01 09 03.7 +0.5**
baz=170
V55A Taylorsville 68.06 350 P **P 01 09 04.7 +0.6**
baz=170
V55A Taylorsville 68.06 350 P **P 01 09 04.8 +0.6**
V55A IAmb IAmb 01 09 05.2
comp=Z,6.7nm,0.7s
JCT Junction City 68.07 332 P **P 01 09 05.2 +0.8**
baz=153
JCT Junction City 68.07 332 P **P 01 09 05.2 +0.8**
JCT IAmb IAmb 01 09 06.1
comp=Z,7.0nm,0.7s
V54A Nebo 68.10 349 P **P 01 09 04.8 +0.3**
baz=169,SNR=6.6
U59A Littleton 68.13 353 P **P 01 09 05.7 +1.1**
baz=173
V53A Saluda 68.13 349 P **P 01 09 04.8 +0.1**
V53A IAmb IAmb 01 09 05.8
comp=Z,14nm,1.2s
CPCT Cooper Cave 68.22 347 P **P 01 09 05.5 +0.3**
CPCT IAmb IAmb 01 09 06.3
comp=Z,8.7nm,0.7s
U58A Oxford 68.25 352 P **P 01 09 06.3 +1.0**
baz=172
SWET Sewanee 68.28 346 P **P 01 09 06.2 +0.6**
SWET IAmb IAmb 01 09 06.8
comp=Z,16nm,0.7s
TKL Tuckaleechee C 68.29 348 P **P 01 09 05.6 0.0**
TKL IAmb IAmb 01 09 06.4
comp=Z,6.5nm,0.7s
U57A Blanch 68.38 352 P **P 01 09 06.9 +0.8**
baz=171

OXF Oxford 68.40 343 P **P 01 09 06.5 +0.3**
baz=162
OXF Oxford 68.40 343 P **P 01 09 06.6 +0.3**
OXF IAmb IAmb 01 09 07.3
comp=Z,16nm,0.8s
U56A King 68.43 351 P **P 01 09 06.9 +0.5**
baz=170
V52A Sevierville 68.44 348 P **P 01 09 06.4 -0.1**
V52A IAmb IAmb 01 09 07.3
comp=Z,9.5nm,0.8s
V51A Loudon 68.54 347 P **P 01 09 07.3 +0.2**
V51A IAmb IAmb 01 09 08.5
comp=Z,14nm,1.2s
U55A TA2, Sparta 68.68 350 P **P 01 09 08.6 +0.5**
baz=170
TXAR Lajitas Array 68.69 329 P **P 01 09 09.6 +1.3**
comp=Z,1.6nm,0.6s,baz=154,slow=8.5,SNR=24
TXAR Lajitas Array 68.69 329 P **P 01 09 09.4 +1.0**
TX31 Lajitas Ar. Si 68.69 329 P **P 01 09 09.3 +1.0**
TX32 Lajitas Array 68.69 329 P **P 01 09 09.2 +0.8**
T59A Double "B" Far 68.72 353 P **P 01 09 08.9 +0.7**
baz=173
T58A Grand View Acr 68.80 353 P **P 01 09 09.4 +0.7**
baz=172,SNR=5.6
U54A Nelsons Funny 68.81 350 P **P 01 09 09.1 +0.3**
baz=169,SNR=5.3
U54A Nelsons Funny 68.81 350 P **P 01 09 08.9 0.0**
U54A IAmb IAmb 01 09 09.9
comp=Z,12nm,0.8s
T60A Surry 68.81 354 P **P 01 09 09.7 +0.9**
baz=174
T57A Hurt 68.93 352 P **P 01 09 09.9 +0.4**
baz=172
V48A Smith Brothers 68.97 345 P **P 01 09 10.2 +0.4**
V48A IAmb IAmb 01 09 10.7
comp=Z,14nm,0.6s
T56A Rocky Mt 69.06 351 P **P 01 09 11.3 +0.9**
baz=171
TZTN Tazewell 69.11 348 P **P 01 09 10.5 -0.1**
baz=168
TZTN Tazewell 69.11 348 P **P 01 09 10.1 -0.5**
CLTN Cedars of Leba 69.21 346 P **P 01 09 11.7 +0.5**
CLTN IAmb IAmb 01 09 12.4
comp=Z,11nm,0.6s
T55A Pulaski 69.24 351 P **P 01 09 11.8 +0.3**
baz=170
BLA Blacksburg 69.29 351 P **P 01 09 12.7 +0.9**
baz=170
T54A Tazewell 69.30 350 P **P 01 09 12.0 +0.1**
baz=169
T53A Wise 69.37 349 P **P 01 09 12.5 +0.2**
baz=169
S58A Poland Farm, P 69.41 353 P **P 01 09 13.2 +0.8**
baz=173
S58A Poland Farm, P 69.41 353 P **P 01 09 13.3 +0.8**
S58A IAmb IAmb 01 09 14.5
comp=Z,12nm,0.9s
JSRW J. Sargeant Re 69.47 353 P **P 01 09 13.6 +0.8**
S59A Mechanicsville 69.48 354 P **P 01 09 14.0 +1.2**
baz=173
WVT Waverly 69.57 345 P **P 01 09 13.7 +0.3**
baz=164
WVT Waverly 69.57 345 P **P 01 09 13.8 +0.3**
MIAR Mount Ida 69.59 339 P **P 01 09 14.6 +0.9**
baz=159
S56A Natural Bridge 69.64 352 P **P 01 09 14.5 +0.6**
baz=171
S57A Dark Hollow, R 69.65 352 P **P 01 09 15.0 +1.1**
baz=172
R58B Mineral 69.73 353 P **P 01 09 15.7 +1.3**
baz=173
R58B Mineral 69.73 353 P **P 01 09 15.8 +1.4**
R58B IAmb IAmb 01 09 17.3
comp=Z,10nm,1.0s
W41B Gary Mavity, V 69.79 341 P **P 01 09 15.6 +0.8**
baz=160
S55A Lewisburg 69.85 351 P **P 01 09 15.9 +0.7**
baz=170
R59A King George, V 69.90 354 P **P 01 09 17.0 +1.6**
baz=174
ABTX Abilene, Hawle 69.91 334 P **P 01 09 16.5 +0.8**
baz=153
R60A Leonardtown, M 69.92 354 P **P 01 09 17.0 +1.5**
baz=174
R58A Rapidan 70.08 353 P **P 01 09 17.4 +0.9**
baz=173
R57A Stanardsville 70.13 353 P **P 01 09 18.1 +1.2**
baz=172,SNR=5.7
S51A Beattyville 70.19 348 P **P 01 09 17.6 +0.3**
S51A IAmb IAmb 01 09 18.2
comp=Z,8.3nm,0.8s
W39A Magazine 70.26 339 P **P 01 09 19.0 +1.3**
baz=159,SNR=5.5
W39A Magazine 70.26 339 P **P 01 09 18.6 +0.9**
W39A IAmb IAmb 01 09 19.8
comp=Z,12nm,0.9s
R55A Marlinton 70.30 351 P **P 01 09 19.1 +1.1**
baz=171,SNR=5.7
R54A Victor 70.32 351 P **P 01 09 18.4 +0.3**
baz=170
LCAR Lake Charles 70.33 342 P **P 01 09 18.5 +0.4**
LCAR IAmb IAmb 01 09 19.3
comp=Z,10nm,0.8s
R56A Bull Pasture M 70.34 352 P **P 01 09 19.5 +1.2**
baz=172
Q58A Fox Den Farm, 70.68 354 P **P 01 09 21.1 +0.9**
baz=173
PBMO Poplar Bluff 70.81 343 P **P 01 09 21.4 +0.3**
Q57A Strasburg 70.85 353 P **P 01 09 22.5 +1.2**
baz=172,SNR=6.6
Q56A Snyder Ridge, 70.94 352 P **P 01 09 23.0 +1.2**
baz=172
R50A Paris 70.94 348 P **P 01 09 22.0 +0.2**
Q55A Buckhannon 71.00 352 P **P 01 09 23.0 +0.8**
baz=171
Q53A Leroy 71.06 350 P **P 01 09 23.0 +0.5**
baz=170
U40A Yellville 71.07 341 P **P 01 09 23.1 +0.5**
baz=160
U40A Yellville 71.07 341 P **P 01 09 23.0 +0.4**
Q54A Coxs Mills 71.09 351 P **P 01 09 23.2 +0.5**
baz=170
R49A Shelbyville 71.10 347 P **P 01 09 22.9 +0.1**
R49A IAmb IAmb 01 09 23.4
comp=Z,8.4nm,0.7s
P58A Pank, Wackersv 71.19 354 P **P 01 09 24.5 +1.3**
baz=173
P59A Jarrettsville 71.24 355 P **P 01 09 24.7 +1.2**
baz=174
P57A Homestead Farm 71.25 353 P **P 01 09 25.1 +1.4**
baz=173,SNR=5.0
P57A Homestead Farm 71.25 353 P **P 01 09 25.0 +1.4**
P57A IAmb IAmb 01 09 26.1
comp=Z,14nm,0.8s
WCI Wyandotte Cave 71.26 346 P **P 01 09 23.7 0.0**
baz=165
WCI Wyandotte Cave 71.26 346 P **P 01 09 23.5 -0.2**
WCI IAmb IAmb 01 09 24.2
comp=Z,10nm,0.9s
Q52A Bidwell 71.27 350 P **P 01 09 24.1 +0.4**
baz=169
P56A Dayton Farm, R 71.36 353 P **P 01 09 25.2 +0.9**
baz=172
MNTX Cornudas Mount 71.47 329 P **P 01 09 25.2 +0.1**
baz=149,SNR=5.3
MNTX Cornudas Mount 71.47 329 P **P 01 09 25.5 +0.3**
P55A Reedsville 71.48 352 P **P 01 09 26.0 +1.0**
baz=171
TUL1 Leonard 71.54 338 P **P 01 09 26.1 +0.7**
baz=157
P54A Burton 71.65 351 P **P 01 09 26.5 +0.4**
baz=171,SNR=5.0
P53A Whipple 71.66 351 P **P 01 09 26.6 +0.5**
baz=170
O58A Lewisberry 71.79 354 P **P 01 09 27.8 +0.9**
baz=174
O60A Telford 71.87 356 P **P 01 09 28.2 +1.0**
baz=175
P51A Williamsport 71.90 349 P **P 01 09 27.5 -0.1**
baz=168
P52A Corning 71.91 350 P **P 01 09 27.5 -0.1**
baz=169
O59A Robesonia 71.92 355 P **P 01 09 28.9 +1.3**
baz=174
O57A Amberson 71.94 354 P **P 01 09 28.5 +0.8**
baz=173
FVM French Village 71.95 343 P **P 01 09 28.2 +0.3**

FVM				IAmb	IAmb	01 09 29.3
	comp=Z,16nm,0.9s					
O56A	**Blue Knob Stat**	**72.09**	**353**	P	**P**	**01 09 29.9 +1.2**
	baz=172					
O55A	**Ligonier**	**72.11**	**352**	P	**P**	**01 09 29.9 +1.1**
	baz=172					
O54A	**Avella**	**72.21**	**352**	P	**P**	**01 09 29.3 0.0**
	baz=171					
CCM	**Cathedral Cave**	**72.23**	**342**	P	**P**	**01 09 30.2 +0.7**
	baz=161					
CCM	**Cathedral Cave**	**72.23**	**342**	P	**P**	**01 09 29.9 +0.4**
CCM				IAmb	IAmb	01 09 31.0
	comp=Z,13nm,0.9s					
P49A	**Miami Univ. Ec**	**72.23**	**348**	P	**P**	**01 09 29.2 -0.3**
	baz=167					
P49A	**Miami Univ. Ec**	**72.23**	**348**	P	**P**	**01 09 29.5 0.0**
P49A				IAmb	IAmb	01 09 29.7
	comp=Z,12nm,0.6s					
N61A	**South Mountain**	**72.23**	**356**	P	**P**	**01 09 29.6 +0.2**
	baz=176					
P48A	**Milroy**	**72.28**	**347**	P	**P**	**01 09 29.6 -0.2**
P48A				IAmb	IAmb	01 09 30.3
	comp=Z,14nm,0.6s					
MSTX	**Muleshoe**	**72.32**	**332**	P	**P**	**01 09 31.0 +0.7**
	baz=151,SNR=6.3					
O52A	**Adamsville**	**72.34**	**350**	P	**P**	**01 09 30.4 +0.3**
	baz=169					
LIC	**Lamto**	**72.34**	**71**	*e*P	**P**	**01 09 30.0 -0.8**
	comp=Z,24nm,0.7s					
SSPA	**Standing Stone**	**72.38**	**354**	P	**P**	**01 09 31.5 +1.1**
	baz=173					
SSPA	**Standing Stone**	**72.38**	**354**	P	**P**	**01 09 30.8 +0.5**
N60A	**Cedar Hill Far**	**72.40**	**356**	P	**P**	**01 09 31.5 +1.1**
	baz=175					
PAL	**Palisades**	**72.47**	**357**	P	**P**	**01 09 33.0 +2.1**
	baz=176					
N57A	**Milroy**	**72.47**	**354**	P	**P**	**01 09 31.6 +0.7**
	baz=173					
O51A	**Pataskala**	**72.48**	**350**	P	**P**	**01 09 31.3 +0.3**
	baz=169					
N58A	**Sunbury**	**72.48**	**355**	P	**P**	**01 09 32.2 +1.3**
	baz=174					
N59A	**State Game Lan**	**72.49**	**355**	P	**P**	**01 09 32.6 +1.6**
	baz=175					
TIC	**Toumodi**	**72.59**	**70**	*e*P	**P**	**01 09 32.0 -0.3**
ACSO	**Alum Creek Sta**	**72.62**	**350**	P	**P**	**01 09 31.7 -0.1**
	baz=168					
N55A	**Marion Center**	**72.64**	**353**	P	**P**	**01 09 32.8 +0.9**
	baz=172					
KIC	**Kosan Boka**	**72.65**	**71**	*e*P	**P**	**01 09 32.4 -0.2**
	comp=Z,34nm,0.7s					
R40A	**Maddies Statio**	**72.72**	**342**	P	**P**	**01 09 33.0 +0.6**
R40A				IAmb	IAmb	01 09 33.8
	comp=Z,19nm,0.8s					
DBIC	**Dimbokro**	**72.74**	**71**	P	**P**	**01 09 33.1 0.0**
	comp=Z,14nm,0.7s,baz=209,slow=6.4,SNR=29					
DBIC				LR	LR	01 39 44.0
	comp=Z,18nm,19.3s,baz=182,slow=34					
DBIC	**Dimbokro**	**72.74**	**71**	P	**P**	**01 09 33.1 0.0**
DBIC				IAmb	IAmb	01 09 33.9
	comp=Z,16nm,0.8s					
P46A	**Rosedale**	**72.78**	**346**	P	**P**	**01 09 32.5 -0.3**
P46A				IAmb	IAmb	01 09 33.2
	comp=Z,20nm,1.0s					
M60A	**Port Jervis**	**72.83**	**356**	P	**P**	**01 09 34.5 +1.5**
	baz=176					
M62A	**Hamden**	**72.86**	**358**	P	**P**	**01 09 34.5 +1.3**
	baz=177					
N54A	**Moraine State**	**72.93**	**352**	P	**P**	**01 09 34.6 +1.0**
	baz=171					
M58A	**Price's Panora**	**72.99**	**355**	P	**P**	**01 09 35.7 +1.7**
	baz=174					
M59A	**Waymart**	**73.09**	**356**	P	**P**	**01 09 35.6 +1.0**
	baz=175					
N51A	**Ashland**	**73.20**	**350**	P	**P**	**01 09 35.3 +0.1**
	baz=169					
M56A	**Emporium**	**73.25**	**354**	P	**P**	**01 09 36.5 +1.0**
	baz=173					
121A	**Cookes Peak, D**	**73.27**	**327**	P	**P**	**01 09 37.6 +1.5**
	baz=147,SNR=5.6					
M54A	**Oil Creek Stat**	**73.43**	**352**	P	**P**	**01 09 37.2 +0.6**
	baz=171					
N49A	**Columbus Grove**	**73.49**	**349**	P	**P**	**01 09 36.8 0.0**
N49A				IAmb	IAmb	01 09 37.9
	comp=Z,17nm,0.8s					
SFIN	**Lafayette**	**73.50**	**346**	P	**P**	**01 09 36.5 -0.4**
	baz=165					
M51A	**Elyria**	**73.58**	**350**	P	**P**	**01 09 37.2 -0.3**
	baz=169					
L58A	**Harry Jones Me**	**73.62**	**355**	P	**P**	**01 09 38.6 +0.9**
	baz=175					
L57A	**Andrews Acres**	**73.65**	**355**	P	**P**	**01 09 38.8 +1.0**
	baz=174					
L59A	**Walton**	**73.71**	**356**	P	**P**	**01 09 39.6 +1.3**
	baz=176					
N47A	**Urbana**	**73.71**	**348**	P	**P**	**01 09 37.8 -0.4**
L56A	**Greenwood**	**73.84**	**354**	P	**P**	**01 09 39.6 +0.6**
	baz=173					
L61B	**Northampton**	**73.86**	**358**	P	**P**	**01 09 40.0 +1.0**
	baz=178					
K61A	**Williamstown**	**74.10**	**357**	P	**P**	**01 09 42.2 +1.7**
	baz=177					
HDIL	**Hopedale**	**74.13**	**345**	P	**P**	**01 09 40.7 +0.1**
	baz=163					
K59A	**Cooperstown**	**74.28**	**356**	P	**P**	**01 09 42.5 +1.0**
	baz=176					
K58A	**Earlville**	**74.32**	**356**	P	**P**	**01 09 42.7 +1.0**
	baz=175					
SUR	**Sutherland**	**74.33**	**119**	P	**P**	**01 09 42.6 0.0**
SUR				IAmb	IAmb	01 09 51.6
	comp=Z,25nm,1.4s					
K57A	**Scipio Center**	**74.35**	**355**	P	**P**	**01 09 42.9 +1.0**
	baz=174					
K56A	**Middlesex**	**74.38**	**354**	P	**P**	**01 09 42.7 +0.7**
	baz=174					
K54A	**Basiliko Farm,**	**74.42**	**353**	P	**P**	**01 09 43.2 +0.9**
	baz=172					
J62A	**Henniker**	**74.61**	**359**	P	**P**	**01 09 45.3 +1.9**
	baz=178					
ANMO	**Albuquerque**	**74.70**	**330**	P	**P**	**01 09 46.2 +1.8**
	baz=148					
ANMO	**Albuquerque**	**74.70**	**330**	P	**P**	**01 09 45.5 +1.2**
J61A	**Chester**	**74.75**	**358**	P	**P**	**01 09 45.7 +1.5**
	baz=178					
MAW	**Mawson**	**74.83**	**163**	P	**P**	**01 09 45.3 +0.8**
	comp=Z,1.1nm,0.8s,baz=274,slow=7.8,SNR=4.9					
MAW	**Mawson**	**74.83**	**163**	P	**P**	**01 09 45.0 +0.6**
J58A	**Remsen**	**74.89**	**356**	P	**P**	**01 09 46.1 +1.1**
	baz=175					
J56A	**Wolcott**	**74.92**	**355**	P	**P**	**01 09 45.7 +0.6**
	baz=174					
J59A	**Piesco**	**74.95**	**357**	P	**P**	**01 09 46.2 +0.8**
	baz=176					
J57A	**Williamstown**	**74.98**	**355**	P	**P**	**01 09 47.0 +1.5**
	baz=175					
I58A	**Old Forge**	**75.20**	**356**	P	**P**	**01 09 48.0 +1.2**
	baz=176					
214A	**Organ Pipe Nat**	**75.24**	**323**	P	**P**	**01 09 48.5 +1.2**
	baz=143					
I59A	**Olmsteadville**	**75.25**	**357**	P	**P**	**01 09 47.9 +0.8**
	baz=176					
I60A	**Shoreham**	**75.28**	**357**	P	**P**	**01 09 48.5 +1.3**
	baz=177					
CBKS	**Cedar Bluff**	**75.48**	**336**	P	**P**	**01 09 49.6 +1.0**
	baz=154					
I57A	**Carthage**	**75.49**	**356**	P	**P**	**01 09 49.3 +0.9**
	baz=175					
LBNH	**Lisbon**	**75.63**	**358**	P	**P**	**01 09 51.1 +1.9**
	baz=178					
T25A	**Trinidad**	**75.73**	**332**	P	**P**	**01 09 51.7 +1.5**
	baz=150					
H58A	**Gabriels**	**75.89**	**357**	P	**P**	**01 09 51.5 +0.8**
	baz=176					
H61A	**Lyndonville**	**75.92**	**359**	P	**P**	**01 09 52.4 +1.5**
	baz=178					
H65A	**Eastbrook**	**76.08**	**1**	P	**P**	**01 09 53.5 +1.8**
	baz=182					
H59A	**Cadyville**	**76.09**	**357**	P	**P**	**01 09 52.8 +0.9**
	baz=177					
LONY	**Lake Ozonia**	**76.11**	**357**	P	**P**	**01 09 52.9 +1.0**
	baz=176					
EMMW	**East Machias**	**76.11**	**2**	P	**P**	**01 09 53.6 +1.7**
EMMW				IAmb	IAmb	01 09 54.1
	comp=Z,19nm,0.8s					
H66A	**Whiting**	**76.19**	**2**	P	**P**	**01 09 53.7 +1.4**
	baz=182					
HAL	**Halifax**	**76.22**	**5**	P	**P**	**01 09 54.1 +1.6**
H53A	**Bobcaygeon**	**76.35**	**354**	P	**P**	**01 09 54.0 +0.7**
	baz=172					
G62A	**West of Eustis**	**76.59**	**360**	P	**P**	**01 09 56.2 +1.6**
	baz=180					
JFWS	**Jewell Farm**	**76.59**	**345**	P	**P**	**01 09 55.5 +0.8**
	baz=162					
G58A	**Ormstown**	**76.61**	**357**	P	**P**	**01 09 55.8 +1.1**
	baz=176					
G57A	**Newington**	**76.61**	**356**	P	**P**	**01 09 55.8 +1.1**
	baz=176					
G64A	**Maxfield**	**76.63**	**1**	P	**P**	**01 09 56.6 +1.8**
	baz=181					
G61A	**St-Isidore-de-**	**76.66**	**359**	P	**P**	**01 09 56.9 +1.9**
	baz=179					
SDCO	**Great Sand Dun**	**76.69**	**332**	P	**P**	**01 09 57.2 +1.5**
	baz=150					
SDCO	**Great Sand Dun**	**76.69**	**332**	P	**P**	**01 09 56.3 +0.5**
G54A	**Lake Saint Pet**	**77.12**	**354**	P	**P**	**01 09 58.2 +0.6**
	baz=173					
S22A	**4UR Ranch, Cre**	**77.24**	**331**	P	**P**	**01 10 00.3 +1.5**
	baz=148,SNR=5.3					
F64A	**Sherman**	**77.24**	**1**	P	**P**	**01 10 00.0 +1.8**
	baz=181					
F60A	**Warwick**	**77.36**	**359**	P	**P**	**01 09 59.7 +0.9**
	baz=178					
WUAZ	**Wupatki**	**77.40**	**326**	P	**P**	**01 10 01.4 +1.8**
	baz=145					
MVCO	**Mesa Verde**	**77.50**	**329**	P	**P**	**01 10 01.6 +1.4**
	baz=147					
MVCO	**Mesa Verde**	**77.50**	**329**	P	**P**	**01 10 01.2 +1.0**
SWSC	**Sam W. Stewart**	**77.57**	**322**	P	**P**	**01 10 01.5 +1.1**
	baz=141					
Q24A	**Divide**	**77.60**	**333**	P	**P**	**01 10 02.3 +1.5**
	baz=150					
ALGO	**Algonquin Park**	**77.67**	**354**	P	**P**	**01 10 01.0 +0.4**
	baz=173					
E60A	**Ste Agathe de**	**77.75**	**359**	P	**P**	**01 10 02.0 +1.0**
	baz=179					
E58A	**La Victoria**	**77.80**	**358**	P	**P**	**01 10 02.4 +1.1**
	baz=177					
E63A	**Oxbow**	**77.80**	**1**	P	**P**	**01 10 02.8 +1.4**
	baz=181					
E57A	**Chemin Saint G**	**77.87**	**357**	P	**P**	**01 10 02.2 +0.4**
	baz=176					
BC3	**Big Chuckawall**	**77.94**	**322**	P	**P**	**01 10 04.4 +1.8**
	baz=142					
E62A	**Clayton Lake**	**77.99**	**0**	P	**P**	**01 10 03.6 +1.2**
	baz=180					
E56A	**St. Veronique**	**78.05**	**356**	P	**P**	**01 10 03.1 +0.4**
	baz=176					
KOWA	**Kowa**	**78.05**	**65**	P	**P**	**01 10 03.6 +0.2**
IRM	**Iron Mountain**	**78.17**	**323**	P	**P**	**01 10 05.4 +1.7**
	baz=142					
PFO	**Pinyon Flats O**	**78.43**	**322**	P	**P**	**01 10 07.4 +2.1**
	baz=141					
D62A	**Allapoint, All**	**78.45**	**1**	P	**P**	**01 10 06.4 +1.5**
	baz=181					
BELC	**Belle Mtn. Jos**	**78.49**	**322**	P	**P**	**01 10 07.3 +1.6**
	baz=141					
ISCO	**Idaho Springs**	**78.50**	**333**	P	**P**	**01 10 07.0 +1.2**
	baz=150					
D58A	**Chemin du LacG**	**78.51**	**358**	P	**P**	**01 10 06.3 +1.0**
	baz=177					
D56A	**ZEC Mazanza, M**	**78.54**	**357**	P	**P**	**01 10 05.6 +0.2**
	baz=176					
D55A	**Sainte-Anne-du**	**78.55**	**356**	P	**P**	**01 10 06.1 +0.7**
	baz=175					
LATQ	**La Tuque**	**78.79**	**358**	P	**P**	**01 10 07.7 +1.0**
	baz=178					
GMRC	**Granite Mounta**	**78.93**	**323**	P	**P**	**01 10 09.7 +1.7**
	baz=142					
ECSD	**EROS Data Cent**	**78.98**	**341**	P	**P**	**01 10 08.5 +0.6**
	baz=157					
ECSD	**EROS Data Cent**	**78.98**	**341**	P	**P**	**01 10 08.5 +0.6**
ECSD				IAmb	IAmb	01 10 09.3
	comp=Z,12nm,0.8s					
HEC	**Hector,Ludlow**	**79.31**	**323**	P	**P**	**01 10 11.3 +1.3**
	baz=141					
BOSA	**Boshof**	**79.51**	**117**	P	**P**	**01 10 11.6 +0.1**
	comp=Z,3.2nm,0.7s,baz=267,slow=4.0,SNR=7.4					
BOSA	**Boshof**	**79.51**	**117**	P	**P**	**01 10 11.8 +0.2**
BFSC	**Mount Baldy Ra**	**79.55**	**321**	P	**P**	**01 10 12.9 +1.5**
	baz=140					
N23A	**Red Feather La**	**79.57**	**333**	P	**P**	**01 10 13.1 +1.5**
	baz=150					
GSC	**Goldstone, Bar**	**79.92**	**323**	P	**P**	**01 10 14.8 +1.5**
	baz=141					
SRU	**San Rafael Swe**	**79.96**	**329**	P	**P**	**01 10 14.5 +0.9**
EDW2	**Edwards Air Fo**	**80.22**	**322**	P	**P**	**01 10 16.5 +1.6**
	baz=140					
LRMC	**Laurel Mtn Rad**	**80.51**	**322**	P	**P**	**01 10 17.5 +0.9**
	baz=140					
LSQQ	**Lebel-sur-Quev**	**80.67**	**355**	P	**P**	**01 10 17.6 +0.7**
	baz=174					
MPMC	**Manual Prospec**	**80.86**	**323**	P	**P**	**01 10 19.8 +1.3**
	baz=141					
TPNV	**Topopah Spring**	**80.91**	**324**	P	**P**	**01 10 20.6 +1.9**
	baz=142					
ISA	**Isabella, Lake**	**81.07**	**322**	P	**P**	**01 10 21.4 +2.0**
	baz=140					
PKM	**Mcpherson Peak**	**81.20**	**320**	P	**P**	**01 10 21.6 +1.4**
	baz=139					
K22A	**Casper**	**81.30**	**334**	P	**P**	**01 10 21.9 +1.3**
	baz=149					
DRLN	**Deer Lake**	**81.38**	**8**	P	**P**	**01 10 21.1 +0.5**
MATQ	**Matagami**	**81.42**	**355**	P	**P**	**01 10 21.3 +0.4**
	baz=173					
CWC	**Cottonwood Cre**	**81.45**	**323**	P	**P**	**01 10 22.9 +1.4**
	baz=140					
LBTB	**Lobatse**	**81.60**	**114**	P	**P**	**01 10 22.6 -0.1**
LBTB				IAmb	IAmb	01 10 23.5
	comp=Z,9.9nm,0.6s					
RSSD	**Black Hills**	**81.67**	**336**	P	**P**	**01 10 23.5 +0.9**
	baz=151					
RSSD	**Black Hills**	**81.67**	**336**	P	**P**	**01 10 23.6 +1.0**
R11A	**Troy Canyon, C**	**81.68**	**325**	P	**P**	**01 10 24.7 +1.9**
	baz=142					
TOA0	**Torodi Ar. Sit**	**81.73**	**69**	P	**P**	**01 10 23.1 -0.2**
TORD	**Torodi Ar. Bea**	**81.73**	**69**	P	**P**	**01 10 23.1 -0.1**
	comp=Z,16nm,0.7s,baz=282,slow=6.7,SNR=180					
TORD	**Torodi Ar. Bea**	**81.73**	**69**	P	**P**	**01 10 23.2 -0.1**
DUG	**Dugway, Tooele**	**81.86**	**328**	P	**P**	**01 10 24.9 +1.3**
	baz=144					
HWUT	**Hardware Ranch**	**82.47**	**330**	P	**P**	**01 10 27.5 +0.7**
BW06	**Boulder Array**	**82.59**	**332**	P	**P**	**01 10 28.1 +0.7**
	baz=147					
PD31	**Pinedale Array**	**82.59**	**332**	P	**P**	**01 10 27.7 +0.3**
PDAR	**Pinedale Array**	**82.59**	**332**	P	**P**	**01 10 27.8 +0.3**
	comp=Z,1.3nm,0.8s,baz=137,slow=7.1,SNR=9.2					
SPUT	**South Promonto**	**82.61**	**329**	P	**P**	**01 10 28.1 +0.6**
AGMN	**Agassiz Nation**	**83.00**	**343**	P	**P**	**01 10 29.8 +0.8**
	baz=158					
NVAR	**Mina Array Bea**	**83.09**	**324**	P	**P**	**01 10 31.6 +1.4**
	comp=Z,1.8nm,0.8s,baz=162,slow=6.2,SNR=11					
NVAR	**Mina Array Bea**	**83.09**	**324**	P	**P**	**01 10 31.2 +1.1**
RLMT	**Red Lodge**	**84.45**	**333**	P	**P**	**01 10 37.8 +1.0**
	baz=147					
ULM	**Lac du Bonnet**	**84.81**	**344**	P	**P**	**01 10 37.9 -0.3**
	comp=Z,4.5nm,0.8s,baz=157,slow=5.4,SNR=6.4					
ULM	**Lac du Bonnet**	**84.81**	**344**	P	**P**	**01 10 38.3 0.0**
HLID	**Hailey**	**85.28**	**329**	P	**P**	**01 10 42.3 +1.3**
	baz=143					
DGMT	**Dagmar**	**85.54**	**338**	P	**P**	**01 10 43.1 +1.1**
	baz=151					
MCMT	**McKenzie Canyo**	**85.64**	**331**	P	**P**	**01 10 44.2 +1.3**
BOZ	**Bozeman (W)**	**85.77**	**332**	P	**P**	**01 10 44.1 +0.8**
	baz=145					
SCHQ	**Schefferville**	**86.25**	**2**	P	**P**	**01 10 45.7 +0.4**
	comp=Z,6.2nm,0.8s,baz=192,slow=4.3,SNR=4.0					
SCHQ	**Schefferville**	**86.25**	**2**	P	**P**	**01 10 45.4 +0.1**
EGMT	**Eagleton**	**87.07**	**334**	P	**P**	**01 10 50.5 +1.0**
	baz=147					
M04C	**Macdoel**	**87.40**	**324**	P	**P**	**01 10 52.8 +1.5**
	baz=138					
M02C	**Callahan**	**87.62**	**323**	P	**P**	**01 10 54.0 +1.6**
	baz=137					
I07A	**Izee**	**87.99**	**327**	P	**P**	**01 10 55.5 +1.4**
J05D	**Fort Rock, OR**	**88.21**	**325**	P	**P**	**01 10 56.7 +1.5**
	baz=138					
LSZ	**Lusaka**	**88.78**	**107**	P	**P**	**01 11 00.1 +1.5**
LSZ				IAmb	IAmb	01 11 01.0
	comp=Z,7.2nm,0.9s					
K02D	**Willamette Mer**	**88.99**	**324**	P	**P**	**01 11 00.5 +1.7**
	baz=137					
I05D	**Terrebonne, OR**	**89.05**	**326**	P	**P**	**01 11 01.0 +2.0**
	baz=138					
H04D	**Lebanon**	**89.86**	**325**	P	**P**	**01 11 04.4 +1.7**
	baz=137					
ESDC	**Sonseca Array**	**93.70**	**45**	P	**P**	**01 11 19.9 -0.8**
	comp=Z,0.6nm,0.9s,baz=254,slow=4.7,SNR=3.4					
SCRK	**Sand Creek**	**111.51**	**333**	P	**PKiKP**	**01 16 37.1 -0.1**
	baz=118					
CAPN	**Captain Cook N**	**113.11**	**328**	P	**PKiKP**	**01 16 41.2 +1.1**
	baz=114					
POKR	**Poker Flat Res**	**113.35**	**333**	P	**PKiKP**	**01 16 42.7 +2.2**
	baz=115					
TOLK	**Toolik Lake Re**	**115.53**	**336**	P	**PKiKP**	**01 16 45.6 +1.0**
	baz=112					
BRTR	**Keskin Array B**	**119.14**	**59**	PKP	**PKPdf**	**01 16 52.9 +0.3**
	comp=Z,1.8nm,0.7s,baz=178,slow=3.7,SNR=4.8					
AKASG	**Malin Array Be**	**119.33**	**46**	PKP	**PKPdf**	**01 16 51.2 -1.2**
	comp=Z,0.7nm,0.5s,baz=262,slow=2.6,SNR=6.1					
FINES	**FINESS Array B**	**120.11**	**34**	PKP	**PKPdf**	**01 16 53.3 -0.3**
	comp=Z,4.0nm,0.9s,baz=156,slow=5.2,SNR=7.1					
FINES	**FINESS Array B**	**120.11**	**34**		**PKPdf**	**01 16 53.8 +0.3**
ASAR	**Alice Springs**	**120.39**	**205**	PKP	**PKPdf**	**01 16 54.7 -0.8**
	comp=Z,0.3nm,0.4s,baz=144,slow=1.7,SNR=2.6					
ASAR				PKKPbc	**PKKPbc**	**01 27 02.2 +0.5**
	comp=Z,0.7nm,0.6s,baz=339,slow=3.2,SNR=8.4					
ASAR	**Alice Springs**	**120.39**	**205**		**PKPdf**	**01 16 54.4 -1.1**
ARCES	**ARCESS Array B**	**121.21**	**24**	PKP	**PKPdf**	**01 16 55.0 -0.5**
	comp=Z,1.3nm,0.7s,baz=251,slow=2.8,SNR=5.7					
ARCES	**ARCESS Array B**	**121.21**	**24**		**PKPdf**	**01 16 55.0 -0.5**
WRA	**Warramunga Arr**	**123.61**	**208**	PKP	**PKPdf**	**01 17 01.2 -0.5**
	comp=Z,0.9nm,0.4s,baz=168,slow=1.5,SNR=24					
WRA				PKKPbc	**PKKPbc**	**01 26 50.0 +0.6**
	comp=Z,0.9nm,0.7s,baz=339,slow=4.4,SNR=6.6					
KLMR	**Klimovskoe**	**126.52**	**35**	*e*PKPdf	**PKPdf**	**01 17 03.4 -2.5**
KLMR				AMP		01 17 16.4
	comp=Z,15nm,1.5s					
KSH	**Kashi**	**151.32**	**65**	PKPbc	**PKPbc**	**01 17 55.8 -1.5**
KSH				PP	**PP**	**01 21 41.8 +4.3**
KSH				AMB	AMB	
	comp=Z,220nm,6.6s					
KSH				LR	LR	
	comp=N,160nm,5.5s					
KSH				LR	LR	
	comp=E,120nm,5.1s					
ZALV	**Zalesovo Beam**	**151.35**	**32**	PKPbc	**PKPbc**	**01 17 57.5 +0.8**
	comp=E,20nm,0.4s,baz=270,slow=0.7,SNR=81					
ZALV	**Zalesovo Beam**	**151.35**	**32**	PKPdf	**PKPdf**	**01 17 51.2 +0.6**
ZALV					**PKPbc**	**01 17 57.2 +0.5**
ZALV				PKPab	**PKPab**	**01 18 05.9 +0.6**
MKAR	**Makanchi Array**	**153.91**	**47**	PKP	**PKPdf**	**01 17 55.3 +0.6**
	comp=E,0.4nm,0.6s,baz=338,slow=2.6,SNR=3.8					
MKAR				PKPbc	**PKPbc**	**01 18 03.0 +0.2**
	comp=E,4.0nm,0.7s,baz=297,slow=1.7,SNR=27					
MKAR				PKPab	**PKPab**	**01 18 16.8 +0.3**
	comp=E,3.7nm,0.7s,baz=287,slow=3.2,SNR=8.4					
MKAR	**Makanchi Array**	**153.91**	**47**	PKPdf	**PKPdf**	**01 17 54.5 -0.1**
MKAR					**PKPbc**	**01 18 02.9 +0.2**
MKAR					**PKPab**	**01 18 16.5 +0.1**
SONM	**Songino Array**	**163.67**	**9**	PKPab	**PKPab**	**01 18 59.7 +1.0**
	comp=E,1.9nm,0.7s,baz=320,slow=4.4,SNR=10					
SONM	**Songino Array**	**163.67**	**9**		**PKPab**	**01 18 58.9 +0.2**
CD2	**Chengdu**	**174.51**	**97**	PKP	**PKPdf**	**01 18 12.0 -1.5**

IDC ***28*** *01:13:33.1±3.4,5.2°12S×152.2°28E,h64km±27km,mb3.6/4, mb1 3.9/4,mb1mx3.4/27,mbtmp3.9/4,Error ellipse: s-maj=60.1km s-min=19.2km az=123.0*

ISC 28 01:13:31.7±1.6,5.2°2S±0.1°1×152.4°E±0.2,h55km,n6,σ0s36/7, mb3.7/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.98**	**336**	P	**Pn**	**01 13 49.4**	**0.0**
	176nm,0.3s,baz=12,slow=24,SNR=131						
KRVT				S	**Sn**	**01 14 02.4**	**+0.1**
	318nm,0.3s,baz=194,slow=23,SNR=11						
WRA	**Warramunga Arr**	**22.90**	**229**	P	**P**	**01 18 31.0**	**-0.2**
	0.9nm,0.3s,baz=53,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.61**	**222**	P	**P**	**01 18 56.8**	**+0.6**
	0.8nm,0.5s,baz=59,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**29.14**	**242**	P	**P**	**01 19 27.7**	**-0.2**
	2.2nm,0.6s,baz=59,slow=8.3,SNR=14						
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**	**01 25 49.0**	**0.0**
	0.6nm,0.7s,baz=241,slow=5.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.08**	**287**	PKPbc	**PKPbc**	**01 33 17.3**	**-0.1**
	0.8nm,1.1s,baz=63,slow=3.2,SNR=2.7						

AEIC ***28*** *01:30:24.2±2.0,51.19N±0.08×178.37W±0.05,h26km±4km, ML4.3,mb4.7/140(NEIC),Error ellipse: s-maj=11.4km s-min=4.4km az=170.0*

NEIC ***28*** *01:30:24.6±1.6,51.37N±0.08×178.41W±0.05,h35km±1km, Error ellipse: s-maj=13.8km s-min=4.9km az=170.0*

IDC ***28*** *01:30:26.9±2.9,51.55N×178.45W,h57km±24km,mb3.9/26, mb1 4.1/27,mb1mx4.0/37,mbtmp4.2/27,ML4.4/1,MS3.3/11, Ms1 3.3/11,ms1mx3.1/37,Error ellipse: s-maj=17.8km s-min=10.9km az=164.0*

ISC 28 01:30:25.7±1.2,51.35N±0.10×178.41W±0.03,h49km±9km, n247,σ0s85/247,mb4.6/88,MS3.3/10,2C-2D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.47**	**331**		**Pn**	**01 30 36.9**	**+0.3**
TASE	**Tanaga Southea**	**0.54**	**25**		**Pn**	**01 30 37.1**	**-0.3**
TAFP	**Tanaga Falls P**	**0.61**	**26**		**Pn**	**01 30 37.9**	**-0.4**
KIMD	**Kanaga Island**	**0.84**	**60**		**Pn**	**01 30 40.4**	**-0.8**
KIKV	**Kanaga Island**	**0.93**	**55**		**Pn**	**01 30 42.0**	**-0.5**
ADK	**Adak**	**1.20**	**63**		**Pn**	**01 30 45.4**	**-0.7**
ADK					Sn	**Sn**	**01 31 00.8**	**-0.4**
ADAG	**Mount Adagdak**	**1.29**	**60**		**Pn**	**01 30 47.6**	**+0.3**
CERAA	**Semis' Rag'd T**	**1.31**	**296**		**Pn**	**01 30 48.1**	**+0.5**
CESW	**Semis' Southwe**	**1.38**	**294**		**Pn**	**01 30 48.8**	**+0.3**
CEAP	**Semis' Anvil P**	**1.41**	**298**		**Pn**	**01 30 49.8**	**+0.8**
AMKA	**Amchitka**	**1.44**	**272**	Pn	**Pn**	**01 30 48.2**	**-1.1**
AMKA	**Amchitka**	**1.44**	**272**		**Sn**	**01 31 07.4**	**+0.5**
GSTD	**Great Sitkin T**	**1.57**	**63**		**Pn**	**01 30 51.4**	**+0.2**
GSMY	**Great Sitkin M**	**1.62**	**64**		**Pn**	**01 30 51.8**	**0.0**
GSTR	**Great Sitkin T**	**1.64**	**62**		**Pn**	**01 30 52.7**

MDM	**Murphy Dome**	**20.68**	**37**	P	**P**	**01 35 01.6**	**+0.4**
MDM				IAmb	IAmb	01 35 15.7	
	comp=Z,15nm,0.9s						
CCB	**Clear Creek Bu**	**20.70**	**38**	P	**P**	**01 35 02.0**	**+0.6**
PAX	**Paxson**	**21.04**	**44**	P	**P**	**01 35 05.6**	**+0.4**
N25K	**Chitina, Valde**	**21.05**	**48**	P	**P**	**01 35 06.4**	**+1.1**
IL31		**21.11**	**38**	P	**P**	**01 35 07.3**	**+1.5**
ILAR	**Eielson Array**	**21.11**	**38**	P	**P**	**01 35 05.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=238,slow=9.1,SNR=22						
ILAR				PcP	**PcP**	**01 39 09.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=281,slow=3.5,SNR=11						
ILAR				ScP	**ScP**	**01 42 42.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=278,slow=2.9,SNR=5.8						
ILAR	**Eielson Array**	**21.11**	**38**	P	**P**	**01 35 07.4**	**+1.6**
ILAR					**ScP**	**01 42 42.7**	**+0.2**
COLD	**Coldfoot**	**21.15**	**31**	P	**P**	**01 35 05.9**	**-0.3**
GLB	**Gilahina Butte**	**21.38**	**48**	P	**P**	**01 35 10.3**	**+1.5**
GLB				IAmb	IAmb	01 35 16.8	
	comp=Z,7.9nm,0.6s						
VRDI	**Verde Repeater**	**21.51**	**49**	P	**P**	**01 35 11.8**	**+1.6**
MENT	**Mentasta**	**21.79**	**45**	P	**P**	**01 35 14.9**	**+1.7**
MENT				IAmb	IAmb	01 35 29.6	
	comp=Z,7.7nm,0.5s						
TOLK	**Toolik Lake Re**	**22.17**	**28**	P	**P**	**01 35 17.3**	**+0.1**
BCAR	**Beaver Creek A**	**22.68**	**45**	P	**P**	**01 35 21.3**	**-1.3**
K27K	**Chicken**	**22.81**	**42**	P	**P**	**01 35 23.8**	**-0.2**
BMAR	**Burnt Mountain**	**23.12**	**33**	P	**P**	**01 35 27.6**	**+0.4**
EGAK	**Eagle**	**23.41**	**41**	P	**P**	**01 35 30.4**	**+0.5**
JKA	**Kamikawa-asahi**	**26.95**	**270**	P	**P**	**01 36 02.8**	**+0.5**
JKA				IAmb	IAmb	01 36 05.8	
	comp=Z,27nm,1.0s						
ASAJ	**Asahikawa**	**26.95**	**270**	P	**P**	**01 36 03.2**	**+0.9**
	comp=Z,8.6nm,0.6s,baz=22,slow=11,SNR=4.8						
INK	**Inuvik**	**27.34**	**35**	P	**P**	**01 36 04.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=255,slow=7.4,SNR=9.7						
INK				PcP	**PcP**	**01 39 23.5**	**+0.1**
	comp=Z,3.6nm,1.1s,baz=303,slow=3.5,SNR=8.2						
INK	**Inuvik**	**27.34**	**35**	P	**P**	**01 36 04.5**	**-1.0**
YAK	**Yakutsk**	**29.62**	**311**	LR	LR	01 48 13.1	
	comp=Z,74nm,20.1s,baz=103,slow=36						
USRK	**Ussuriysk Ar.**	**33.54**	**278**	P	**P**	**01 37 00.3**	**-0.2**
	comp=Z,9.0nm,0.7s,baz=68,slow=8.3,SNR=17						
USRK	**Ussuriysk Ar.**	**33.54**	**278**	P	**P**	**01 37 00.7**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**33.61**	**206**	T	T	02 12 52.1	
	baz=17,slow=76,SNR=509						
H11N3	**WAKE ISLAND Hy**	**33.62**	**206**	T	T	02 12 51.5	
	baz=17,slow=76,SNR=501						
H11N1	**WAKE ISLAND Hy**	**33.63**	**206**	T	T	02 12 49.0	
	baz=17,slow=76,SNR=386						
MJAR	**Matsushiro Arr**	**34.02**	**261**	P	**P**	**01 37 05.4**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=50,slow=6.8,SNR=7.6						
MJAR				LR	LR	01 49 23.9	
	comp=Z,52nm,21.9s,baz=100,slow=33						
MJAR	**Matsushiro Arr**	**34.02**	**261**	P	**P**	**01 37 05.5**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**34.83**	**205**	T	T	02 14 24.5	
	baz=16,slow=76,SNR=340						
H11S2	**WAKE ISLAND Hy**	**34.85**	**205**	T	T	02 14 19.8	
	baz=16,slow=76,SNR=315						
H11S3	**WAKE ISLAND Hy**	**34.85**	**205**	T	T	02 14 19.8	
	baz=16,slow=76,SNR=231						
YKA	**Yellowknife Ar**	**35.07**	**46**	P	**P**	**01 37 13.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=294,slow=9.1,SNR=5.7						
YKA				LR	LR	01 51 16.8	
	comp=Z,56nm,20.8s,baz=0.0,slow=36						
B08A	**Colville Reser**	**37.31**	**71**	P	**P**	**01 37 33.8**	**+0.9**
B08A				IAmb	IAmb	01 37 34.6	
	comp=Z,7.6nm,0.8s						
HAWA	**Hanford**	**38.13**	**74**	P	**P**	**01 37 40.9**	**+1.1**
HAWA				IAmb	IAmb	01 37 46.2	
	comp=Z,5.1nm,0.7s						
NEW	**Newport**	**38.66**	**70**	P	**P**	**01 37 45.0**	**+0.7**
NEW				IAmb	IAmb	01 37 45.5	
	comp=Z,6.8nm,0.7s						
KSRS	**Korea Array**	**39.88**	**271**	P	**P**	**01 37 55.6**	**+1.1**
	comp=Z,5.1nm,0.8s,baz=59,slow=7.9,SNR=4.1						
KSRS				LR	LR	01 53 42.8	
	comp=Z,11nm,21.4s,baz=175,slow=35						
MOD	**Modoc Plateau**	**40.04**	**80**	P	**P**	**01 37 56.1**	**+0.2**
MSO	**Missoula**	**41.24**	**70**	P	**P**	**01 38 05.8**	**+0.1**
PNTR	**Pine Nut**	**42.10**	**83**	P	**P**	**01 38 14.0**	**+1.0**
PNTR				IAmb	IAmb	01 38 25.8	
	comp=Z,5.4nm,0.8s						
HLID	**Hailey**	**42.71**	**74**	P	**P**	**01 38 18.3**	**+0.5**
BCYI	**Bear Canyon**	**42.90**	**73**	P	**P**	**01 38 20.2**	**+0.8**
MCMT	**McKenzie Canyo**	**42.95**	**72**	P	**P**	**01 38 20.4**	**+0.6**
BOZ	**Bozeman (W)**	**43.26**	**70**	P	**P**	**01 38 22.6**	**+0.3**
BOZ				IAmb	IAmb	01 38 23.2	
	comp=Z,7.5nm,0.7s						
NVAR	**Mina Array Bea**	**43.31**	**83**	P	**P**	**01 38 23.8**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=291,slow=8.7,SNR=6.8						
NVAR				PcP	**PcP**	**01 40 11.8**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=285,slow=4.3,SNR=2.1						
NVAR	**Mina Array Bea**	**43.31**	**83**	P	**P**	**01 38 22.9**	**+0.1**
NVAR					**PcP**	**01 40 11.3**	**+0.4**
ELK	**Elko**	**43.82**	**78**	P	**P**	**01 38 27.8**	**+0.9**
YMR	**Madison River**	**44.16**	**71**	P	**P**	**01 38 30.1**	**+0.5**
YHH	**Holmes Hill**	**44.16**	**71**	P	**P**	**01 38 30.3**	**+0.7**
YNE	**Yellowstone No**	**44.54**	**70**	P	**P**	**01 38 32.7**	**+0.1**
NRIK	**Noril'sk**	**44.56**	**330**	LR	LR	01 57 33.8	
	comp=Z,40nm,19.3s,baz=21,slow=37						
IMW	**Indian Meadow**	**44.61**	**72**	P	**P**	**01 38 34.1**	**+0.9**
FLWY	**Flagg Ranch**	**44.65**	**72**	P	**P**	**01 38 34.6**	**+1.1**
FLWY				IAmb	IAmb	01 38 39.2	
	comp=Z,5.4nm,0.9s						
RLMT	**Red Lodge**	**44.91**	**70**	P	**P**	**01 38 36.2**	**+0.7**
RLMT				IAmb	IAmb	01 38 37.6	
	comp=Z,6.4nm,0.7s						
R11A	**Troy Canyon, C**	**45.05**	**81**	P	**P**	**01 38 37.3**	**+0.6**
TPNV	**Topopah Spring**	**45.51**	**83**	P	**P**	**01 38 40.3**	**0.0**
TPNV				IAmb	IAmb	01 38 44.9	
	comp=Z,3.3nm,0.7s						
DUG	**Dugway, Tooele**	**45.63**	**77**	P	**P**	**01 38 42.1**	**+0.9**
DUG				IAmb	IAmb	01 38 44.1	
	comp=Z,6.7nm,1.1s						
PRN	**Pahroc Range**	**45.96**	**82**	P	**P**	**01 38 44.0**	**+0.1**
PRN				IAmb	IAmb	01 38 55.0	
	comp=Z,7.1nm,1.0s						
PSUT	**Pine Spring**	**46.01**	**80**	P	**P**	**01 38 45.0**	**+0.7**
BW06	**Boulder Array**	**46.08**	**72**	P	**P**	**01 38 45.2**	**+0.3**
BW06				IAmb	IAmb	01 38 49.6	
	comp=Z,4.0nm,0.7s						
PD31	**Pinedale Array**	**46.08**	**72**	P	**P**	**01 38 45.3**	**+0.5**
PD31				IAmb	IAmb	01 38 49.6	
	comp=Z,3.6nm,0.7s						
PDAR	**Pinedale Array**	**46.08**	**72**	P	**P**	**01 38 45.0**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=322,slow=3.4,SNR=32						
PDAR				LR	LR	01 56 06.0	
	comp=Z,32nm,21.0s,baz=342,slow=33						
PDAR	**Pinedale Array**	**46.08**	**72**	P	**P**	**01 38 45.2**	**+0.3**
SONM	**Songino Array**	**46.88**	**297**	P	**P**	**01 38 50.9**	**0.0**
	comp=Z,1.2nm,0.5s,baz=54,slow=6.7,SNR=7.4						
SONM				PcP	**PcP**	**01 40 22.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=48,slow=2.2,SNR=4.7						
SONM	**Songino Array**	**46.88**	**297**	P	**P**	**01 38 51.2**	**+0.3**
SONM					**PcP**	**01 40 23.8**	**+0.8**
CCUT	**Cedar City**	**46.92**	**81**	P	**P**	**01 38 52.3**	**+0.8**
MSU	**Marysvale**	**47.05**	**79**	P	**P**	**01 38 53.3**	**+0.8**
TMUT	**Trail Mountain**	**47.16**	**77**	P	**P**	**01 38 54.2**	**+0.7**
LCMT	**Little Creek M**	**47.33**	**81**	P	**P**	**01 38 55.1**	**+0.6**
RDMU	**Red Mountain**	**47.38**	**75**	P	**P**	**01 38 55.7**	**+0.7**
Q16A	**Castle Valley**	**47.42**	**78**	P	**P**	**01 38 56.2**	**+0.9**
SRU	**San Rafael Swe**	**47.70**	**77**	P	**P**	**01 38 55.8**	**-1.6**
HHC	**Hu-ho-hao-te**	**47.93**	**286**	*eP*	**P**	**01 39 01.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,7.6s						
O20A	**White River Ci**	**48.45**	**74**	P	**P**	**01 39 03.5**	**+0.3**
O20A				IAmb	IAmb	01 39 04.2	
	comp=Z,6.8nm,0.8s						
PV23	**Carpenter Ridg**	**49.03**	**77**	P	**P**	**01 39 08.3**	**+0.5**
PV23				IAmb	IAmb	01 39 17.2	
	comp=Z,4.6nm,0.6s						
PV14	**Lion Creek, Pa**	**49.07**	**77**	P	**P**	**01 39 08.8**	**+0.7**
PV14				IAmb	IAmb	01 39 08.9	
	comp=Z,5.1nm,0.9s						
PV22	**Blue Mesa, Par**	**49.11**	**77**	P	**P**	**01 39 08.5**	**+0.1**
PV22				IAmb	IAmb	01 39 11.3	
	comp=Z,6.7nm,0.8s						
PV20	**West Nyswonger**	**49.13**	**77**	P	**P**	**01 39 09.2**	**+0.7**
PV20				IAmb	IAmb	01 39 18.9	
	comp=Z,5.0nm,0.6s						
PV04	**Paradox Valley**	**49.13**	**77**	P	**P**	**01 39 09.0**	**+0.5**
PV04				IAmb	IAmb	01 39 09.5	
	comp=Z,7.6nm,0.8s						
PV19	**Morning Glory**	**49.14**	**77**	P	**P**	**01 39 09.2**	**+0.6**
PV19				IAmb	IAmb	01 39 09.5	
	comp=Z,5.9nm,0.7s						
PV17	**East Wray Mesa**	**49.17**	**77**	P	**P**	**01 39 09.4**	**+0.6**
PV16	**Nyswonger Mesa**	**49.18**	**77**	P	**P**	**01 39 09.3**	**+0.4**
PV16				IAmb	IAmb	01 39 09.8	
	comp=Z,5.4nm,0.7s						
PV11	**David Mesa, Pa**	**49.21**	**77**	P	**P**	**01 39 09.7**	**+0.6**
PV18	**Skein Mesa, Pa**	**49.22**	**77**	P	**P**	**01 39 09.9**	**+0.7**
PV18				IAmb	IAmb	01 39 11.2	
	comp=Z,7.5nm,0.8s						
PV03	**Paradox Valley**	**49.25**	**77**	P	**P**	**01 39 09.8**	**+0.4**
PV03				IAmb	IAmb	01 39 10.9	
	comp=Z,5.9nm,0.8s						
PV13	**Radium Mtn., P**	**49.33**	**77**	P	**P**	**01 39 10.8**	**+0.8**
PV02	**Paradox Valley**	**49.35**	**77**	P	**P**	**01 39 10.3**	**0.0**
PV02				IAmb	IAmb	01 39 11.7	
	comp=Z,12nm,0.9s						
PV15	**Paradox Valley**	**49.42**	**77**	P	**P**	**01 39 11.4**	**+0.6**
PV15				IAmb	IAmb	01 39 11.7	
	comp=Z,5.7nm,0.8s						
WUAZ	**Wupatki**	**49.45**	**81**	P	**P**	**01 39 11.7**	**+0.7**
WUAZ				IAmb	IAmb	01 39 12.6	
	comp=Z,3.2nm,0.8s						
ULM	**Lac du Bonnet**	**49.49**	**57**	P	**P**	**01 39 10.1**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=310,slow=11,SNR=1.8						
ULM				LR	LR	02 01 47.1	
	comp=Z,20nm,18.8s,baz=24,slow=38						
PV01	**Paradox Valley**	**49.50**	**77**	P	**P**	**01 39 11.9**	**+0.6**
PV01				IAmb	IAmb	01 39 12.3	
	comp=Z,6.6nm,0.7s						
S22A	**4UR Ranch, Cre**	**50.81**	**76**	P	**P**	**01 39 22.0**	**+0.7**
SDCO	**Great Sand Dun**	**51.61**	**75**	P	**P**	**01 39 28.1**	**+0.8**
T25A	**Trinidad**	**52.67**	**75**	P	**P**	**01 39 36.1**	**+1.0**
T25A				IAmb	IAmb	01 39 38.7	
	comp=Z,9.8nm,1.1s						
ZALV	**Zalesovo Beam**	**54.23**	**314**	P	**P**	**01 39 45.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=41,slow=6.2,SNR=2.3						
ZALV				PcP	**PcP**	**01 40 49.3**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=40,slow=4.3,SNR=9.8						
ZALV	**Zalesovo Beam**	**54.23**	**314**	P	**P**	**01 39 48.4**	**+2.4**
ZALV					**PcP**	**01 40 49.7**	**0.0**
LZH	**Lanzhou**	**55.63**	**286**	*eP*	**P**	**01 39 57.8**	**+1.2**
LZH				pP	pP	01 40 08.0	-1.8
LZH				sP	sP	01 40 11.5	-3.8
LZH				pmax	pmax		
	comp=Z,23nm,1.5s						
MNTX	**Cornudas Mount**	**55.71**	**81**	P	**P**	**01 39 57.8**	**+0.8**
MNTX				IAmb	IAmb	01 40 01.9	
	comp=Z,4.1nm,1.1s						
GTA	**Gaotai**	**55.80**	**292**	P	**P**	**01 39 58.3**	**+0.5**
GTA				pP	pP	01 40 02.3	-8.9
GTA				sP	sP	01 40 05.5	-11
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,62nm,5.5s						
GTA				LR	LR		
	comp=N,77nm,17.8s						
GTA				LR	LR		
	comp=E,210nm,18.2s						
GTA				LR	LR		
	comp=Z,90nm,18.2s						
KAN13	**South Haven SW**	**56.90**	**71**	P	**P**	**01 40 05.1**	**-0.4**
P38A	**Dawn**	**57.45**	**66**	P	**P**	**01 40 08.7**	**-0.5**
ARCES	**ARCESS Array B**	**58.16**	**350**	P	**P**	**01 40 12.3**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=20,slow=7.2,SNR=18						
P40A	**Paris**	**58.36**	**65**	P	**P**	**01 40 15.2**	**-0.5**
TX31	**Lajitas Ar. Si**	**58.41**	**81**	P	**P**	**01 40 16.7**	**+0.4**
TX31				IAmb	IAmb	01 40 26.8	
	comp=Z,6.8nm,1.0s						
TX32	**Lajitas Array**	**58.41**	**81**	P	**P**	**01 40 16.3**	**0.0**
TXAR	**Lajitas Array**	**58.41**	**81**	P	**P**	**01 40 16.4**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=303,slow=4.9,SNR=6.7						
W35A	**Tecumseh**	**58.52**	**72**	P	**P**	**01 40 17.1**	**+0.2**
TUL1	**Leonard**	**58.65**	**71**	P	**P**	**01 40 17.5**	**-0.2**
TUL1				IAmb	IAmb	01 40 27.8	
	comp=Z,9.4nm,0.8s						
R40A	**Maddies Statio**	**59.08**	**66**	P	**P**	**01 40 19.4**	**-1.2**
U38A	**Gravette**	**59.11**	**69**	P	**P**	**01 40 20.0**	**-0.9**
U38A				IAmb	IAmb	01 40 21.4	
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**59.22**	**314**	P	**P**	**01 40 21.1**	**-0.3**
KURK				IAmb	IAmb	01 40 24.2	
	comp=Z,3.3nm,0.9s						
WMQ	**Urumqi**	**59.56**	**303**	*eP*	**P**	**01 40 27.8**	**+3.8**
CCM	**Cathedral Cave**	**59.82**	**66**	P	**P**	**01 40 24.5**	**-1.3**
CCM				IAmb	IAmb	01 40 25.3	
	comp=Z,3.6nm,0.7s						
MGMO	**Mountain Grove**	**59.85**	**67**	P	**P**	**01 40 24.9**	**-1.2**
MGMO				IAmb	IAmb	01 40 25.2	
	comp=Z,7.3nm,0.8s						
U40A	**Yellville**	**60.07**	**68**	P	**P**	**01 40 26.5**	**-1.0**
U40A				IAmb	IAmb	01 40 27.6	
	comp=Z,8.1nm,1.0s						
MKAR	**Makanchi Array**	**60.24**	**309**	P	**P**	**01 40 27.4**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=47,slow=6.4,SNR=16						
MKAR				PcP	**PcP**	**01 41 13.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=45,slow=3.5,SNR=4.1						
SFIN	**Lafayette**	**60.55**	**61**	P	**P**	**01 40 31.0**	**+0.3**
FCAR	**Ozark Folk Cen**	**60.81**	**68**	P	**P**	**01 40 31.6**	**-1.0**
FCAR				IAmb	IAmb	01 40 32.9	
	comp=Z,9.4nm,0.8s						
MIAR	**Mount Ida**	**60.90**	**70**	P	**P**	**01 40 33.6**	**+0.4**
MIAR				IAmb	IAmb	01 40 46.8	
	comp=Z,6.0nm,1.1s						
OLIL	**Olney**	**61.13**	**63**	P	**P**	**01 40 34.8**	**+0.1**
PBMO	**Poplar Bluff**	**61.17**	**66**	P	**P**	**01 40 34.3**	**-0.8**
PBMO				IAmb	IAmb	01 40 34.9	
	comp=Z,7.8nm,0.9s						
W41B	**Gary Mavity, V**	**61.24**	**69**	P	**P**	**01 40 35.1**	**-0.4**
W41B				IAmb	IAmb	01 40 35.7	
	comp=Z,5.8nm,0.8s						
USIN	**University of**	**61.91**	**64**	P	**P**	**01 40 39.7**	**-0.3**
P48A	**Milroy**	**62.11**	**61**	P	**P**	**01 40 40.8**	**-0.5**
WCI	**Wyandotte Cave**	**62.50**	**63**	P	**P**	**01 40 43.9**	**0.0**
T47A	**Sharon Grove**	**62.92**	**64**	P	**P**	**01 40 46.6**	**-0.1**
WVT	**Waverly**	**63.12**	**65**	P	**P**	**01 40 48.2**	**+0.2**
WVT				IAmb	IAmb	01 40 48.6	
	comp=Z,5.5nm,0.8s						
R50A	**Paris**	**63.55**	**61**	P	**P**	**01 40 51.2**	**+0.4**
R50A				IAmb	IAmb	01 40 51.7	
	comp=Z,6.6nm,0.7s						
PLAL	**Pickwick Lake**	**63.79**	**66**	P	**P**	**01 40 52.4**	**-0.1**
V48A	**Smith Brothers**	**63.97**	**65**	P	**P**	**01 40 53.8**	**+0.1**
V48A				IAmb	IAmb	01 40 54.1	
	comp=Z,7.2nm,0.7s						
CLTN	**Cedars of Leba**	**63.99**	**64**	P	**P**	**01 40 54.2**	**+0.4**
U49A	**Red Boiling Sp**	**64.00**	**64**	P	**P**	**01 40 54.2**	**+0.3**
U49A				IAmb	IAmb	01 40 54.5	
	comp=Z,7.4nm,0.6s						
T50A	**Nancy**	**64.17**	**63**	P	**P**	**01 40 55.2**	**+0.2**
X48A	**Hartselle**	**64.77**	**66**	P	**P**	**01 40 58.4**	**-0.5**
X48A				IAmb	IAmb	01 40 58.5	
	comp=Z,4.6nm,0.8s						
SWET	**Sewanee**	**64.85**	**65**	P	**P**	**01 40 59.2**	**-0.3**
Z47A	**Carrollton**	**65.08**	**68**	P	**P**	**01 41 00.7**	**-0.2**
W50A	**Signal Mountai**	**65.21**	**64**	P	**P**	**01 41 02.0**	**+0.2**
V51A	**Loudon**	**65.32**	**63**	P	**P**	**01 41 02.2**	**-0.2**
CPCT	**Cooper Cave**	**65.48**	**64**	P	**P**	**01 41 03.5**	**0.0**
FPAL	**Fort Paine**	**65.52**	**65**	P	**P**	**01 41 03.8**	**-0.1**
Y49A	**Blount Mountai**	**65.56**	**66**	P	**P**	**01 41 03.7**	**-0.3**
Y49A				IAmb	IAmb	01 41 07.6	
	comp=Z,8.3nm,1.1s						
V52A	**Sevierville**	**65.71**	**63**	P	**P**	**01 41 05.4**	**+0.3**
V52A				IAmb	IAmb	01 41 05.8	
	comp=Z,8.9nm,0.8s						
TKL	**Tuckaleechee C**	**65.74**	**63**	P	**P**	**01 41 05.1**	**-0.1**
TKL				IAmb	IAmb	01 41 06.3	
	comp=Z,9.0nm,0.8s						
LRAL	**Lakeview Retre**	**65.81**	**67**	P	**P**	**01 41 05.1**	**-0.6**
LRAL				IAmb	IAmb	01 41 06.1	
	comp=Z,5.3nm,0.9s						
FINES	**FINESS Array B**	**65.86**	**347**	P	**P**	**01 41 03.6**	**-2.0**
	comp=Z,3.3nm,0.8s,baz=25,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**65.86**	**347**	P	**P**	**01 41 04.1**	**-1.4**
W52A	**Murphy**	**66.07**	**63**	P	**P**	**01 41 07.2**	**-0.1**
V53A	**Saluda**	**66.27**	**62**	P	**P**	**01 41 08.8**	**+0.2**
V53A				IAmb	IAmb	01 41 09.6	
	comp=Z,4.9nm,0.7s						
Z51A	**Franklin**	**66.66**	**66**	P	**P**	**01 41 10.6**	**-0.6**
Z51A				IAmb	IAmb	01 41 10.7	
	comp=Z,7.7nm,0.7s						
BG3	**Lake Jocassee**	**66.70**	**63**	P	**P**	**01 41 11.7**	**+0.3**
Y52A	**Lilburn**	**66.89**	**64**	P	**P**	**01 41 12.8**	**+0.2**
250A	**Grady**	**67.01**	**67**	P	**P**	**01 41 13.2**	**-0.1**
152A	**Waverly Hall**	**67.39**	**66**	P	**P**	**01 41 15.2**	**-0.6**
152A				IAmb	IAmb	01 41 15.6	
	comp=Z,8.4nm,1.0s						
KMSC	**Kings Mountain**	**67.48**	**62**	P	**P**	**01 41 16.7**	**+0.4**
KMSC				IAmb	IAmb	01 41 17.5	
	comp=Z,12nm,0.9s						
GOGA	**Godfrey**	**67.56**	**64**	P	**P**	**01 41 16.6**	**-0.2**
GOGA				IAmb	IAmb	01 41 17.5	
	comp=Z,9.1nm,0.8s						
HODGE	**Hodges**	**67.63**	**63**	P	**P**	**01 41 17.5**	**+0.2**
LSA	**Lhasa**	**67.68**	**290**	P	**P**	**01 41 19.3**	**+1.1**
NOA	**NORSAR Array B**	**67.69**	**355**	P	**P**	**01 41 16.1**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=6.6,slow=6.4,SNR=3.6						
NOA				PcP	**PcP**	**01 41 41.9**	**-2.0**
	comp=Z,1.1nm,0.9s,baz=351,slow=3.1,SNR=3.4						
ABKAR	**Akbulak array**	**68.11**	**323**	P	**P**	**01 41 18.9**	**-1.1**
154A	**Montrose**	**68.35**	**65**	P	**P**	**01 41 21.6**	**-0.2**
KKAR	**Karatay Array**	**68.58**	**313**	P	**P**	**01 41 22.8**	**-0.3**
255A	**Hazlehurst**	**69.22**	**65**	P	**P**	**01 41 27.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**71.26**	**276**	P	**P**	**01 41 40.0**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=28,slow=7.0,SNR=10						
CMAR	**Chiang Mai Arr**	**71.26**	**276**	P	**P**	**01 41 40.4**	**+0.5**
TAPN	**Taplejung**	**71.45**	**291**	*eP*	**P**	**01 41 42.1**	**+0.8**
	comp=Z,93nm,0.8s						
GUN	**Gumba**	**72.09**	**292**	*eP*	**P**	**01 41 46.2**	**+1.0**
	comp=Z,183nm,0.5s						
RAMN	**Ramite**	**72.40**	**291**	*eP*	**P**	**01 41 47.7**	**+0.8**
	comp=Z,114nm,0.5s						
KKN	**Kakani**	**72.53**	**293**	*eP*	**P**	**01 41 48.4**	**+0.7**
	comp=Z,64nm,0.6s						
PKI	**Pulchoki**	**72.62**	**292**	*eP*	**P**	**01 41 48.9**	**+0.6**
	comp=Z,49nm,0.6s						
PKIN	**Phulchoki**	**72.62**	**292**	*eP*	**P**	**01 41 48.8**	**+0.5**
	comp=Z,45nm,0.6s						
GKN	**Gorkha**	**72.74**	**293**	*eP*	**P**	**01 41 49.3**	**+0.5**
	comp=Z,51nm,0.6s						
DANN	**Dangsing**	**72.98**	**294**	*eP*	**P**	**01 41 51.2**	**+0.8**
	comp=Z,65nm,0.8s						
KOLN	**Koldanda**	**73.52**	**294**	*eP*	**P**	**01 41 54.2**	**+0.7**
	comp=Z,35nm,0.9s						
PYUN	**Piuthan**	**73.61**	**294**	*eP*	**P**	**01 41 54.9**	**+0.9**
	comp=Z,56nm,0.8s						
AKASG	**Malin Array Be**	**75.65**	**342**	P	**P**	**01 42 03.8**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=22,slow=6.9,SNR=4.5						
GEYT	**Alibeck**	**78.27**	**318**	LR	LR	02 19 22.3	
	comp=Z,56nm,20.1s,baz=125,slow=38						
SORM	**Soroca**	**78.27**	**342**	⇑P	**P**	**01 42 19.0**	**-0.9**
KBZ	**Khabaz**	**78.75**	**331**	P	**P**	**01 42 22.4**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=18,slow=0.5,SNR=5.0						
KBZ				LR	LR	02 22 19.5	
	comp=Z,35nm,18.5s,baz=14,slow=40						
BUR08	**Bucovina Ar. S**	**79.32**	**344**	P	**P**	**01 42 25.9**	**0.0**
BUR08				IAmb	IAmb	01 42 38.1	
	comp=Z,4.6nm,1.1s						
BURAR	**Bucovina Array**	**79.35**	**344**	⇓P	**P**	**01 42 25.5**	**-0.5**
BURAR	**Bucovina Array**	**79.35**	**344**	P	**P**	**01 42 26.0**	**0.0**
GERES	**GERESS Array B**	**79.64**	**352**	P	**P**	**01 42 27.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.3,SNR=7.1						
BIZ	**Bicaz**	**79.84**	**343**	⇑P	**P**	**01 42 28.5**	**-0.1**
MLR	**Muntele Rosu**	**81.27**	**343**	⇓P	**P**	**01 42 37.9**	**+1.4**
WTTA	**Wattenberg**	**81.39**	**353**	*eP*	**P**	**01 42 37.3**	**+0.2**
	comp=Z,3.2nm,0.7s						
KBA	**Koelnbreinsper**	**81.43**	**352**	*eP*	**P**	**01 42 37.8**	**+0.5**
	comp=Z,5.2nm,0.5s						
SQTA	**Sankt Quirin**	**81.46**	**353**	*i P*	**P**	**01 42 37.

IMKO	**Mokollar**	**0.57**	**58**	P		**Pg**	**02 12 39.2**	**-1.3**
	baz=56							
IMKO				S		**Sb**	**02 12 48.3**	**-1.3**
	baz=56							
IIEY	**Innrieyrar**	**0.66**	**206**	P		**Pg**	**02 12 40.7**	**-1.4**
	baz=208							
IIEY				S		**Sb**	**02 12 50.5**	**-1.7**
	baz=208							
ISVA	**Svartarkot**	**0.66**	**8**	P		**Pg**	**02 12 41.0**	**-1.2**
	baz=5.9							
IKSK	**Karasker**	**0.68**	**140**	P		**Pg**	**02 12 40.3**	**-2.4**
	baz=141							
IKAL	**Kalfafell**	**0.75**	**187**	P		**Pg**	**02 12 42.2**	**-1.7**
	baz=189							
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P		**Pg**	**02 12 42.0**	**-2.1**
	baz=78							
IVSH				S		**Sg**	**02 12 52.6**	**-1.4**
	baz=78							
IVAT	**Vatnsfell**	**0.80**	**232**	P		**Pb**	**02 12 43.7**	**-1.8**
	baz=234							
IADA	**Aoalbol**	**0.88**	**67**	P		**Pg**	**02 12 44.0**	**-2.3**
	baz=65							
IHVE	**Hveravellir**	**0.92**	**283**	P		**Pb**	**02 12 45.4**	**-2.0**
	baz=283							
IMEL	**Melhnausar**	**0.95**	**21**	P		**Pg**	**02 12 45.7**	**-2.1**
	baz=19							
IREN	**Reynihlio**	**0.99**	**14**	P		**Pg**	**02 12 46.5**	**-2.1**
	baz=12							
ISNB	**Snabyli**	**1.08**	**209**	P		**Pg**	**02 12 48.0**	**-2.2**
	baz=210							
IGRS	**Grimsstaoir**	**1.11**	**30**	P		**Pb**	**02 12 48.4**	**-2.4**
	baz=29							
ISLY	**Slysaalda**	**1.12**	**220**	P		**Pb**	**02 12 48.9**	**-2.1**
	baz=222							
IFED	**Fedgar**	**1.17**	**237**	P		**Pb**	**02 12 50.0**	**-1.8**
	baz=238							
IRJU	**Rjupnafell**	**1.19**	**207**	P		**Pb**	**02 12 50.0**	**-2.1**
	baz=208							
ISKI	**Skildingahlsh**	**1.20**	**9**	P		**Pn**	**02 12 49.9**	**-2.4**
	baz=7.7							
IGHA	**Grjothals**	**1.21**	**16**	P		**Pn**	**02 12 50.0**	**-2.4**
	baz=15							
IMJO	**Mjoaskard**	**1.22**	**233**	P		**Pb**	**02 12 50.8**	**-1.9**
	baz=234							
IGRA	**Gramastaoir**	**1.24**	**358**	P		**Pn**	**02 12 50.3**	**-2.4**
	baz=357							
IGYG	**Gygjarholskot**	**1.25**	**252**	P		**Pb**	**02 12 51.4**	**-1.7**
	baz=253							
IDIM	**Dimmadalss**	**1.30**	**10**	P		**Pn**	**02 12 51.4**	**-2.3**
	baz=8.8							
IHAU	**Haukadalur**	**1.30**	**238**	P		**Pb**	**02 12 52.3**	**-1.7**
	baz=239							
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P		**Pn**	**02 12 52.2**	**-1.6**
	baz=209							
IHLA	**Hella**	**1.32**	**344**	P		**Pn**	**02 12 52.1**	**-1.9**
	baz=343							
IHED	**Heoinshofoi**	**1.40**	**3**	P		**Pn**	**02 12 53.4**	**-1.6**
	baz=1.8							
IALF	**Alftagrof**	**1.42**	**213**	P		**Pb**	**02 12 54.1**	**-1.8**
	baz=214							
IBRE	**Brettingsstaoi**	**1.46**	**353**	P		**Pn**	**02 12 54.2**	**-1.6**
	baz=352							
ISAU	**Saurbar**	**1.46**	**243**	P		**Pn**	**02 12 54.1**	**-1.7**
	baz=244							
IGIL	**Gilhagi**	**1.47**	**18**	P		**Pn**	**02 12 54.1**	**-1.9**
	baz=17							
ISIG	**Siglufjorour**	**1.57**	**338**	P		**Pn**	**02 12 55.9**	**-1.5**
	baz=338							
IASM	**Asmuli**	**1.62**	**239**	P		**Pb**	**02 12 57.1**	**-2.2**
	baz=240							
BORG	**Borgarnes**	**1.66**	**274**	Pg		**Pn**	**02 12 57.1**	**-1.4**
	13nm,0.3s,baz=88,slow=6.5,SNR=55							
BORG				Lg		Lg	02 13 21.1	
	12nm,0.3s,baz=260,slow=21,SNR=9.9							
BORG	**Borgarnes**	**1.66**	**274**			**Pb**	**02 12 57.6**	**-2.4**
BORG				Sg		**Sb**	**02 13 18.7**	**-2.2**
IKRO	**Krokur**	**1.69**	**251**	P		**Pn**	**02 12 57.9**	**-1.1**
	baz=252							
ISOL	**Solvholt**	**1.69**	**245**	P		**Pn**	**02 12 57.9**	**-1.1**
	baz=246							
ISAN	**Sandskeio**	**1.89**	**252**	P		**Pb**	**02 13 01.5**	**-2.5**
	baz=253							
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn		**Pn**	**02 15 17.2**	**+0.1**
	baz=326,slow=13,SNR=6.7							
ESK	**Eskdalemuir**	**11.77**	**136**	Pn		**Pn**	**02 15 18.0**	**+0.9**
CLL	**Collm**	**20.70**	**116**	*i* P		Pn	02 17 11.4	-0.4
	comp=Z,13nm,1.3s							
CLL	**Collm**	**20.70**	**116**	P		Pn	02 17 11.2	-0.6
CLL				IAmb		IAmb	02 17 14.1	
	comp=Z,12nm,1.3s							
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**	**02 17 19.1**	**+2.0**
	comp=Z,7.4nm,1.3s							
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**02 17 35.0**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=310,slow=6.8,SNR=6.4							
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**02 17 35.2**	**+1.5**
EUNU	**Eureka**	**23.66**	**336**	P		**P**	**02 17 41.4**	**+0.9**
EUNU				IAmb		IAmb	02 17 59.6	
	comp=Z,22nm,1.8s							
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**	**02 17 52.0**	**+2.0**
VYHS	**Vyhne**	**25.23**	**112**	*e*P		**P**	**02 17 56.8**	**+1.7**
ESDC	**Sonseca Array**	**26.27**	**156**	P		**P**	**02 18 03.9**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=352,slow=9.5,SNR=6.9							
ESDC	**Sonseca Array**	**26.27**	**156**	P		**P**	**02 18 03.8**	**-0.9**
KOLS	**Kolonicke sedl**	**26.27**	**108**	*e*P		**P**	**02 18 07.7**	**+3.1**
AKASG	**Malin Array Be**	**27.83**	**98**	P		**P**	**02 18 20.2**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=322,slow=9.8,SNR=1.4							
AKASG	**Malin Array Be**	**27.83**	**98**	P		**P**	**02 18 20.5**	**+1.9**
ABKAR	**Akbulak array**	**41.97**	**73**	P		**P**	**02 20 22.5**	**+2.4**
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**02 20 51.0**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=22,slow=6.7,SNR=9.3							
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**02 20 51.8**	**+2.2**
ZALV	**Zalesovo Beam**	**47.61**	**51**	P		**P**	**02 21 05.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=322,slow=11,SNR=1.8							
ZALV	**Zalesovo Beam**	**47.61**	**51**	P		**P**	**02 21 06.2**	**+1.2**
MKAR	**Makanchi Array**	**52.70**	**58**	P		**P**	**02 21 45.9**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=303,slow=7.1,SNR=3.9							
MKAR	**Makanchi Array**	**52.70**	**58**	P		**P**	**02 21 46.1**	**+2.4**
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P		**P**	**02 21 47.5**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=335,slow=7.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P		**P**	**02 21 46.6**	**-0.6**
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**02 21 48.8**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=46,slow=6.4,SNR=8.5							
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**02 21 47.4**	**-0.1**
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**02 22 52.4**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=270,slow=1.1,SNR=4.1							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**02 22 51.5**	**-0.1**

WEL 28 02:15:57.8, 43°S±281°×17°2E±9°7, h5km±207km, M2.4/5, ML2.5/5, MLv2.4/5, Error ellipse: s-maj=0.4km s-min=0.1km az=175.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHCZ	**Mount Hutt**	**0.40**	**187**	P	Pb	02 16 07.5	+0.2
INZ	**Inchbonnie**	**0.44**	**341**	P	Pb	02 16 07.9	-0.1
LTZ	**Lake Taylor**	**0.59**	**53**	P	Pb	02 16 11.0	+0.5
WVZ	**Waitaha Valley**	**0.66**	**275**	P	Pg	02 16 10.5	0.0
ARCZ	**Arundel**	**0.87**	**202**	P	Pn	02 16 16.4	-0.4
MQZ	**McQueen's Vall**	**0.93**	**128**	P	Pn	02 16 17.1	-0.4
GVZ	**Greta Valley S**	**1.04**	**81**	P	Pn	02 16 19.3	+0.3
DSZ	**Denniston Nort**	**1.40**	**5**	P	Pg	02 16 25.7	+1.1
THZ	**Tophouse**	**1.67**	**35**	P	Pg	02 16 29.8	+0.1

*ISN **28** 02:26:29.1±0.8, 32.°55N×47.°93E, h14km±6km, ML3.1*
*TEH **28** 02:26:29.6, 32.°51N×47.°94E, h8km, ML3.3*
*THR **28** 02:26:32.1±0.5, 32.°35N×47.°98E, h33km±5km, ML3.1*

ISC 28 02:26:30.5±0.9, 32°45N±0°04×47°91E±0°03, h10km, n42, σ1§22/47, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.83**	**114**	*e*Pg	**Pg**	**02 26 46.5**	**0.0**
SHGR	**Shooshtar-Gavs**	**0.83**	**114**	*e*Pg	**Pg**	**02 26 46.5**	**0.0**
IKFM	**Kafar-mosalman**	**1.07**	**357**	*e*Pg	**Pb**	**02 26 49.0**	**-2.1**
IKFM				*e*		02 27 10.9	
IKMR	**Kamar-syah**	**1.13**	**20**	*e*Pg	**Pb**	**02 26 49.9**	**-2.3**
IKMR				*e*		02 27 12.3	
AHWZ	**Ahwaz**	**1.28**	**151**	*e*Pg	**Pg**	**02 26 55.6**	**+0.5**
AHWZ				*e*Sg	**Sn**	**02 27 13.4**	**+1.8**
IDOB	**Doab**	**1.35**	**9**	*e*Pg	**Pn**	**02 26 54.8**	**-0.8**
IDOB				*e*		02 27 19.6	
IKOM	**Komasi**	**1.75**	**349**	*e*Pg	**Pn**	**02 27 02.1**	**+1.0**
IKOM				*e*		02 27 31.3	
IBDR	**Badra**	**1.79**	**292**	*e*Pg	**Pn**	**02 27 01.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**02 27 25.0**	**+0.7**
IBDR				AML	AML	02 27 44.1	
	comp=E,110nm,0.7s						
IBDR				AML	AML	02 27 44.8	
	comp=N,120nm,0.5s						
HSAM	**Samen**	**1.85**	**18**	*e*Pg	**Pn**	**02 27 03.5**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.96**	**338**	*e*Pn	**Pn**	**02 27 04.2**	**+0.2**
KCHF				*e*		02 27 41.2	
IBZA	**Bozab**	**2.01**	**359**	*e*		02 27 42.6	
IBZA				*e*Pg	**Pn**	**02 27 06.2**	**+1.4**
KER	**Kermanshah**	**2.04**	**342**	*e*Pn	**Pn**	**02 27 05.7**	**+0.7**
NSR	**Nassriya**	**2.08**	**227**	*e*Pn	**Pn**	**02 27 06.0**	**+0.5**
NSR				*e*Sn	**Sn**	**02 27 32.0**	**+0.5**
NSR				AML	AML	02 27 38.3	
	comp=E,386nm,0.3s						
KHMZ	**Khomeyn**	**2.15**	**53**	*e*Pn	**Pn**	**02 27 08.3**	**+1.7**
KHMZ				*e*Sg	**Sg**	**02 27 39.1**	**-0.4**
KHMZ	**Khomeyn**	**2.15**	**53**	*e*Pn	**Pn**	**02 27 08.3**	**+1.7**
IGHG	**Ghaleghazi**	**2.18**	**329**	*e*		02 27 58.8	
IGHG				*e*Pn	**Pn**	**02 27 08.3**	**+1.2**
IVIS	**Veis**	**2.25**	**337**	*e*	**Sg**	**02 27 44.8**	**+1.9**
IALM	**Almabolaq**	**2.41**	**5**	*e*Pn	**Pn**	**02 27 11.0**	**+0.7**
IPIR	**Pirpir**	**2.53**	**84**	*e*Pn	**Pn**	**02 27 12.8**	**+0.9**
IPIR				*e*		02 28 05.4	
HAGD	**Aghdareh**	**2.58**	**23**	*e*Pn	**Pn**	**02 27 11.7**	**-0.8**
IDHR	**Dehrash**	**2.58**	**331**	*e*Pn	**Pn**	**02 27 13.2**	**+0.7**
IDHR				*e*		02 27 55.3	
ILIN	**Lien**	**2.58**	**342**	*e*Pn	**Pn**	**02 27 13.5**	**+0.9**
ILIN				*e*		02 28 00.7	
SNGE	**Sanandaj**	**2.67**	**350**	*e*Pn	**Pn**	**02 27 16.7**	**+2.9**
SNGE				IAML		02 28 04.0	
	comp=N,63nm,0.5s						
SNGE	**Sanandaj**	**2.67**	**350**	*e*Pn	**Pn**	**02 27 16.7**	**+2.9**
ASAO	**Ashtian**	**2.74**	**40**	*e*Pn	**Pn**	**02 27 16.3**	**+1.6**
ASAO	**Ashtian**	**2.74**	**40**	*e*Pn	**Pn**	**02 27 16.3**	**+1.6**
HSRG	**Sareghieh**	**2.80**	**6**	*e*Pn	**Pn**	**02 27 16.7**	**+1.1**
HSRG				*e*		02 28 10.2	
BHD	**Baghdad**	**3.08**	**286**	*e*Pn	**Pn**	**02 27 19.0**	**-0.2**
BHD				*e*Sn	**Sn**	**02 27 56.0**	**-0.1**
BHD				AML	AML	02 28 04.4	
	comp=E,251nm,0.3s						
IKLH	**Kolahrood**	**3.20**	**73**	*e*Pn	**Pn**	**02 27 22.1**	**+0.9**
IKLH				*e*		02 28 25.9	
IRAZ	**Razeghan**	**3.39**	**29**	*e*Pn	**Pn**	**02 27 23.1**	**-0.6**
KLNJ	**Kolanjah**	**3.45**	**114**	*e*Pn	**Pn**	**02 27 24.9**	**+0.3**
KLNJ				*e*		02 28 56.8	
GHVR	**GHOM**	**3.48**	**54**	*e*Pn	**Pn**	**02 27 26.1**	**+1.3**
GHVR	**GHOM**	**3.48**	**54**	*e*Pn	**Pn**	**02 27 26.1**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.53**	**23**	*e*Pn	**Pn**	**02 27 25.7**	**+0.1**
IZEF	**Zefreh**	**3.75**	**82**	*e*Pn	**Pn**	**02 27 29.1**	**+0.4**
IRAM	**Ramesheh**	**3.85**	**98**	*e*Pn	**Pn**	**02 27 29.7**	**-0.3**
KRSH	**Karshahi**	**3.85**	**66**	*e*Pn	**Pn**	**02 27 29.0**	**-1.0**
QSDN	**Sirdan**	**4.17**	**14**	*e*Pn	**Pn**	**02 27 35.7**	**+1.2**
IDMV	**Damavand**	**4.63**	**47**	*e*Pn	**Pn**	**02 27 41.1**	**+0.3**
ANAR	**Anarak**	**4.95**	**80**	*e*Pn	**Pn**	**02 27 45.4**	**+0.3**
ILAS	**Lasjerd**	**5.11**	**54**	*e*Pn	**Pn**	**02 27 48.0**	**+0.6**
ISHM	**Shahmirzad**	**5.58**	**52**	*e*Pn	**Pn**	**02 27 54.1**	**+0.3**

MAN 28 02:27:15.1, 9°80N×124°35E, h32km, mb3.8, ML2.6, MS2.1, Mindanao

*TIR **28** 02:33:31.5, 41°.86N×19°.71E, h29km±2km, Md3.1*
*ATH **28** 02:33:31.6, 41°.81N×19°.60E, h28km±2km, ML2.4/1, Error ellipse: s-maj=5.2km s-min=1.5km az=178.0*
*SKO **28** 02:33:31.4, 41°.81N×19°.63E, h38km*
*PDG **28** 02:33:32.7±0.1, 41°.87N×19°.74E, h7km, ML2.5/13, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*RHSSO **28** 02:33:32.4±0.8, 41°.89N×19°.86E, h10km±4km, ML2.4/6*
*BEO **28** 02:33:32.4±0.3, 41°.86N×19°.86E, h0km, ML2.4/11*

ISC 28 02:33:32.1±1.0, 41°84N±0°02×19°74E±0°02, h16km±8km, n58, σ1§01/98, 9C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.24**	**29**	P	**Pb**	**02 33 38.0**	**-0.1**
	baz=36						
PUK				S	**Sb**	**02 33 42.8**	**+0.7**
	baz=36						
ULC	**Ulcinj**	**0.39**	**289**	⇑*i* Pg	**Pg**	**02 33 39.9**	**-0.2**
ULC				*i* Sg	**Sb**	**02 33 45.9**	**-0.5**
TIR	**Tirane**	**0.49**	**169**	*e*Pg	**Pb**	**02 33 42.0**	**-0.4**
TIR				*e*Sg	**Sb**	**02 33 48.9**	**-0.5**
TIR	**Tirane**	**0.49**	**169**	P	**Pb**	**02 33 42.2**	**-0.2**
TIR				S	**Sb**	**02 33 49.9**	**+0.6**
TIR				AML	AML	02 33 54.5	
	comp=N,843μm,0.4s						
TIR				AML	AML	02 33 54.6	
	comp=E,900μm,0.4s						
TIR	**Tirane**	**0.49**	**169**	P	**Pb**	**02 33 42.3**	**-0.1**
	baz=167						
TIR				S	**Sn**	**02 33 51.6**	**-1.2**
	baz=167						
DRME	**Dracevica, Mon**	**0.54**	**311**	⇑*i* Pg	**Pg**	**02 33 42.4**	**-0.4**
DRME				*i* Sg	**Sb**	**02 33 50.4**	**-0.4**
DRME	**Dracevica, Mon**	**0.54**	**311**	*e*Pg	**Pg**	**02 33 42.4**	**-0.4**
DRME				*e*Sg	**Sn**	**02 33 52.5**	**-1.4**
PHP	**Peshkopia**	**0.55**	**106**	P	**Pb**	**02 33 43.0**	**-0.3**
	baz=107						
PHP				S	**Sn**	**02 33 52.5**	**-1.5**
	baz=107						
BCI	**Bajram Curri**	**0.58**	**25**	P	**Pb**	**02 33 43.5**	**-0.5**
	baz=27						
BCI				S	**Sb**	**02 33 52.8**	**+0.8**
	baz=27						
PDG	**Podgorica**	**0.70**	**329**	*e*Pg	**Pg**	**02 33 44.9**	**-0.7**
PDG				*e*Sg	**Sb**	**02 33 55.5**	**+0.3**
PDG	**Podgorica**	**0.70**	**329**	*e*Pg	**Pg**	**02 33 44.7**	**-1.0**
PDG				*e*Sg	**Sb**	**02 33 55.0**	**-0.2**
TTG	**Podgorica**	**0.70**	**329**	⇑*i* Pg	**Pg**	**02 33 45.0**	**-0.7**
TTG				*i* Sg	**Sb**	**02 33 55.2**	**0.0**
PVY	**Plav**	**0.78**	**12**	*e*Pg	**Pg**	**02 33 46.4**	**-0.8**
PVY				*i* Sg	**Sb**	**02 33 57.8**	**+0.1**
BUM	**Brajici-Budva**	**0.78**	**307**	⇑*i* Pg	**Pg**	**02 33 46.8**	**-0.5**
BUM				*i* Sg	**Sb**	**02 33 58.6**	**+0.8**
CEME	**Cevo**	**0.94**	**320**	⇓*i* Pg	**Pb**	**02 33 49.5**	**-0.5**
CEME				*i* Sg	**Sn**	**02 34 03.6**	**-0.2**
KOME	**Kolasin**	**1.03**	**351**	⇑*i* Pg	**Pb**	**02 33 50.9**	**-0.7**
KOME				*i* Sg	**Sn**	**02 34 06.3**	**+0.2**
IVA	**Berane**	**1.04**	**6**	⇓*i* Pg	**Pb**	**02 33 51.2**	**-0.6**
IVA				*i* Sg	**Sn**	**02 34 06.8**	**+0.4**
OHR	**Ohrid**	**1.07**	**132**	*i* Pg	**Pg**	**02 33 53.8**	**+1.0**
OHR				*i* Sg	**Sn**	**02 34 09.7**	**+2.5**
OHR				*e*Lg	Lg	02 34 13.7	
	comp=N,34nm,0.5s						
NKME	**Niksic**	**1.10**	**328**	⇑*i* Pg	**Pb**	**02 33 52.4**	**-0.3**
NKME				*i* Sg	**Sn**	**02 34 08.9**	**+1.2**
HCY	**Herceg Novi**	**1.11**	**304**	*e*Pg	**Pg**	**02 33 52.9**	**-0.6**
HCY				*i* Sg	**Sn**	**02 34 09.9**	**+2.0**
HCY	**Herceg Novi**	**1.11**	**304**	*e*Pg	**Pg**	**02 33 53.3**	**-0.2**
HCY				*e*Sg	**Sn**	**02 34 09.4**	**+1.5**
NKY	**Niksic**	**1.12**	**331**	⇑*i* Pg	**Pb**	**02 33 52.8**	**-0.4**
NKY				*i* Sg	**Sn**	**02 34 09.7**	**+1.3**
TREB	**Trebinje**	**1.36**	**311**	*e*Pg	**Pg**	**02 33 57.5**	**-0.7**
TREB				*e*Sg	**Sg**	**02 34 16.7**	**+0.8**
TREB	**Trebinje**	**1.36**	**311**	⇓*i* Pg	**Pb**	**02 33 57.1**	**0.0**
TREB				*e*Sg	**Sg**	**02 34 16.3**	**+0.4**
BRY	**Bratogost**	**1.39**	**321**	⇓*i* Pg	**Pg**	**02 33 57.8**	**+0.1**
BRY				*i* Sg	**Sg**	**02 34 19.0**	**+2.1**
BRY	**Bratogost**	**1.39**	**321**	*e*Pg	**Pb**	**02 33 57.6**	**-0.1**
BRY				*e*Sg	**Sg**	**02 34 17.4**	**+0.5**
SJES	**Sjenica**	**1.44**	**7**	*e*Pg	**Pb**	**02 33 58.5**	**0.0**
SJES				*e*Sg	**Sg**	**02 34 17.8**	**-0.6**
DBRK	**Dubrovnik**	**1.45**	**306**	*i* Pg	**Pb**	**02 33 58.3**	**-0.3**
DBRK				Sg	**Sg**	**02 34 18.1**	**-0.6**
UPM	**Unac-Piva**	**1.50**	**336**	⇑*i* Pg	**Pb**	**02 33 59.7**	**0.0**
UPM				*i* Sg	**Sg**	**02 34 22.5**	**+2.0**
UPM	**Unac-Piva**	**1.50**	**336**	*e*Pg	**Pb**	**02 33 59.9**	**+0.2**
UPM				*e*Sg	**Sg**	**02 34 19.8**	**-0.7**
PLE	**Pljevlja**	**1.52**	**350**	⇑*i* Pg	**Pb**	**02 33 59.9**	**0.0**
PLE				*i* Sg	**Sg**	**02 34 23.0**	**+2.0**
SELS	**Selova**	**1.72**	**36**	*e*Pg	**Pb**	**02 34 03.0**	**-0.3**
NEST	**Nestorio**	**1.73**	**145**	P	**Pb**	**02 34 02.5**	**-1.0**
RUDO	**Rudo**	**1.80**	**351**	*e*Pn	**Pn**	**02 34 02.8**	**+0.3**
RUDO				*e*Sn	**Sb**	**02 34 26.2**	**-0.9**
BARS	**Barje**	**1.82**	**57**	*e*Pn	Pg	02 34 16.9	+10
STON	**Ston**	**1.83**	**305**	*e*Pn	**Pn**	**02 34 03.1**	**+0.2**
STON				*e*Sn	**Sb**	**02 34 28.6**	**+0.8**
STIP	**Stip**	**1.83**	**94**	*i* Pn	**Pg**	**02 34 07.3**	**0.0**
STIP				*i* Sn	**Sg**	**02 34 33.1**	**+1.9**
STIP				*e*Lg	Lg	02 34 35.7	
	comp=E,2.7nm,0.5s						
PENT	**Pentalofos**	**1.95**	**147**	P	**Pb**	**02 34 05.7**	**-1.5**
SCTE	**Santa Cesarea**	**2.01**	**209**	P	**Pn**	**02 34 04.2**	**-1.0**
BBLS	**Lazići**	**2.04**	**353**	*e*Pg	**Pb**	**02 34 08.6**	**-0.3**
BBLS				*e*Sn	**Sb**	**02 34 34.8**	**+0.7**
BBLS	**Lazići**	**2.04**	**353**	*e*Pn	**Pn**	**02 34 06.5**	**+0.6**
BBLS				*e*Sn	**Sn**	**02 34 31.2**	**+0.1**
KEK	**Kerkira**	**2.12**	**179**	P	**Pn**	**02 34 07.2**	**+0.4**
BOSS	**Bosilegrad**	**2.14**	**71**	*e*Pg	**Pn**	**02 34 08.0**	**+0.9**
BOSS				*e*Sg	**Sb**	**02 34 36.7**	**-0.1**
KZN	**Kozani**	**2.17**	**134**	P	**Pn**	**02 34 08.6**	**+1.1**
GRUS	**Gruza**	**2.17**	**19**	*e*Pn	**Pb**	**02 34 09.2**	**-1.8**
DIVS	**Divibare**	**2.27**	**5**	*e*Pn	**Pn**	**02 34 10.1**	**+1.1**
DIVS				*e*Sn	**Sb**	**02 34 39.0**	**-1.6**
DIVS	**Divibare**	**2.27**	**5**	*e*Pn	**Pn**	**02 34 09.1**	**+0.1**
DIVS				*e*Sn	**Sn**	**02 34 35.8**	**-0.9**
NOCI	**Noci**	**2.27**	**243**	P	**Pn**	**02 34 08.1**	**-0.8**
BOVS	**Bovan**	**2.31**	**38**	*e*Pn	**Pb**	**02 34 11.3**	**-2.0**
BOVS				*e*Sn	**Sb**	**02 34 39.5**	**-2.1**
LSTV	**Lastovo**	**2.31**	**295**	Sn	**Sn**	**02 34 37.5**	**0.0**
HAPS	**Han Pijesak,Bl**	**2.32**	**346**	*e*Pn	**Pn**	**02 34 10.5**	**+0.8**
HAPS	**Han Pijesak,Bl**	**2.32**	**346**	*e*Pn	**Pn**	**02 34 10.2**	**+0.5**
HAPS				*e*Sn	**Sn**	**02 34 37.8**	**-0.2**
IGT	**Igoumenitsa**	**2.34**	**169**	P	**Pn**	**02 34 10.7**	**+0.8**
KNT	**Kendrikon**	**2.47**	**105**	P	**Pb**	**02 34 13.6**	**-2.4**
RICI	**Ricice**	**2.54**	**312**	Sn	**Sb**	**02 34 46.2**	**-2.1**
ZAPS	**Zavoj**	**2.58**	**55**	*e*Pg	**Pb**	**02 34 16.0**	**-1.9**
ZAGS	**Zajecar**	**2.70**	**42**	*e*Pn	**Pn**	**02 34 16.2**	**+1.5**
BLY	**Banja Luka**	**3.46**	**328**	*e*Pn	**Pn**	**02 34 26.7**	**+1.5**

*SOME **28** 02:53:59.7, 40°.77N×72°.95E, h5km*
*KRNET **28** 02:54:00.8±0.1, 40°.75N×72°.98E, h13km, mb3.3*
*ISU **28** 02:54:00.0, 40°.80N×73°.10E, h0km*
*NNC **28** 02:54:01.0±1.4, 40°.81N×72°.99E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=12.1km s-min=4.9km az=175.0*

ISC 28 02:53:59.6±1.1, 40.°77N±0.°03×72.°98E±0.°02, h5km±11km, n53, σ1§66/84, 23C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.29**	**212**	⇑*i* P	**Pb**	**02 54 06.2**	**-1.1**
	baz=13						
OHH				⇑*i* S	**Sg**	**02 54 09.9**	**+0.9**
	baz=13						
OHH	**Osh**	**0.29**	**212**	*e*P	**Pg**	**02 54 05.7**	**+0.5**
OHH				*i* S	**Sg**	**02 54 09.8**	**+0.8**
ANR	**Andizhan**	**0.47**	**269**	*i* P	**Pb**	**02 54 10.5**	**+0.1**
ANR				*i* S	**Sb**	**02 54 18.5**	**+0.8**
FRG	**Fergana**	**0.91**	**268**	*i* P	**Pn**	**02 54 21.3**	**+2.2**
FRG				*i* S	**Sn**	**02 54 32.7**	**+0.1**
NAM	**Namangan**	**1.03**	**283**	*i* P	**Pn**	**02 54 21.5**	**+0.8**
NAM				*i* S	**Sn**	**02 54 36.9**	**+1.4**
AML	**Almayashu**	**1.46**	**21**	⇓*i* P	**Pg**	**02 54 28.4**	**+0.7**
	baz=21						
AML				⇓*i* S	**Sg**	**02 54 48.5**	**+1.9**
	baz=21						
AML	**Almayashu**	**1.46**	**21**	P	**Pg**	**02 54 28.5**	**+0.9**
	SNR=68						
ARLS	**Aral**	**1.49**	**42**	⇓*i* P	**Pg**	**02 54 28.9**	**+0.8**
	baz=42						
ARLS				⇓*i* S	**Sg**	**02 54 49.5**	**+2.1**
	baz=42						
MNAS	**Manas**	**1.75**	**

	30nm,0.2s								
BRLS	**Borolday**	**3.26**	**315**		Pg		**Pb**	**02 54 58.6**	**+0.6**
	26nm,0.3s								
BRLS					Lg		Lg	02 55 40.6	
	30nm,0.2s								
MTBS	**Maitube**	**3.49**	**46**	*eP*			**Pb**	**02 55 04.3**	**+2.4**
	3.4nm,0.1s								
MTBS				*eS*			**Sg**	**02 55 50.4**	**-1.3**
	13nm,0.4s								
MTBS	**Maitube**	**3.49**	**46**	Pg			**Pb**	**02 55 04.3**	**+2.4**
	3.4nm,0.1s								
MTBS					Lg		Lg	02 55 50.4	
	13nm,0.4s								
IZV	**Izvestkoviy**	**3.53**	**49**	*eP*			**Pb**	**02 55 04.9**	**+2.3**
	2.7nm,0.5s								
IZV				*eS*			**Sg**	**02 55 51.6**	**-1.4**
	11nm,0.5s								
IZV	**Izvestkoviy**	**3.53**	**49**	Pg			**Pb**	**02 55 04.9**	**+2.3**
	2.7nm,0.5s								
IZV					Lg		Lg	02 55 51.6	
	11nm,0.5s								
KRBS	**Karabastau**	**3.54**	**33**	*eP*			**Pb**	**02 55 04.5**	**+1.7**
	2.8nm,0.5s								
KRBS				*eS*			**Sg**	**02 55 51.1**	**-2.3**
	12nm,0.3s								
KRBS	**Karabastau**	**3.54**	**33**	Pg			**Pb**	**02 55 04.5**	**+1.7**
	2.8nm,0.5s								
KRBS					Lg		Lg	02 55 51.3	
	12nm,0.3s								
TNSS	**Tian-Shan**	**3.73**	**51**	*eP*			**Pb**	**02 55 08.7**	**+2.5**
	2.0nm,0.4s								
TNSS				*eS*			**Sg**	**02 55 58.3**	**-1.1**
	5.9nm,0.6s								
TNSS	**Tian-Shan**	**3.73**	**51**	Pg			**Pb**	**02 55 08.7**	**+2.5**
	1.8nm,0.4s								
TNSS					Lg		Lg	02 55 58.5	
	4.4nm,0.4s								
MDOK	**Medeo**	**3.86**	**50**	*eP*			**Pg**	**02 55 12.0**	**-1.6**
	0.9nm,0.3s								
MDOK				*eS*			**Sg**	**02 56 03.9**	**+0.3**
	5.1nm,0.5s								
MDOK	**Medeo**	**3.86**	**50**	Pg			**Pg**	**02 55 12.0**	**-1.6**
	2.0nm,0.5s								
MDOK					Lg		Lg	02 56 04.0	
	6.5nm,0.6s								
KOTS	**Kotyrbulak**	**3.94**	**50**	*eP*			**Pb**	**02 55 12.4**	**+2.8**
	7.6nm,0.5s								
KOTS				*eS*			**Sg**	**02 56 04.4**	**-1.8**
	14nm,0.8s								
KOTS	**Kotyrbulak**	**3.94**	**50**	Pg			**Pb**	**02 55 12.4**	**+2.8**
	7.6nm,0.5s								
KOTS					Lg		Lg	02 56 04.4	
	14nm,0.8s								
KUU	**Kurty**	**3.99**	**37**	*eP*			**Pb**	**02 55 13.3**	**+2.9**
	1.3nm,0.1s								
KUU				*eS*			**Sg**	**02 56 06.1**	**-1.7**
	11nm,0.3s								
KUU	**Kurty**	**3.99**	**37**	Pg			**Pb**	**02 55 13.3**	**+2.9**
	1.6nm,0.2s								
KUU					Lg		Lg	02 56 06.1	
	12nm,0.4s								
KTBS	**Karatobe**	**4.02**	**42**	*eP*			**Pb**	**02 55 14.0**	**+3.0**
	2.4nm,0.5s								
KTBS				*eS*			**Sg**	**02 56 07.3**	**-1.5**
	14nm,0.6s								
MNBS	**Baschi**	**5.20**	**49**	Pg			**Pg**	**02 55 36.2**	**-3.0**
	1.9nm,0.5s								
MNBS					Lg		Lg	02 56 45.4	
	6.9nm,0.7s								

NEIC ***28*** *03:15:38.0±1.1, 15°.30S×0°.09×174°.68W±0°.04, h8km±1km, mb5.6/268,Ms_20 6.0/903,Mwb6.0/57,Mww6.0, Error ellipse: s-maj=14.8km s-min=6.7km az=185.0*

IDC ***28*** *03:15:37.4±0.3, 15°.31S×174°.76W, h0km, mb5.2/27, mb1 5.3/28,mb1mx5.3/29,mbtmp5.2/28,ML4.0/1,MS5.7/34, Ms1 5.7/34,ms1mx5.7/37,Error ellipse: s-maj=12.4km s-min=8.8km az=145.0*

BJI ***28*** *03:15:39.5±0.0, 15°.30S×174°.60W, h6km, mB5.9/62, mb5.3/59,Ms5.9/77,Ms7 5.7/71*

BGR ***28*** *03:15:40.8±0.0, 16°.32S×174°.54W, h33km,Ms6.1*

MOS ***28*** *03:15:42.5±2.2, 15°.30S×174°.51W, h33km, mb5.8/63, MS5.8/39,Error ellipse: s-maj=7.9km s-min=7.0km az=63.4*

NEIC ***28*** *03:15:43.3, 15°.20S×174°.67W, h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.04; Mθθ=0.98; Mφφ 1.02; Mθφ0.29; Mφr0.13; Mrr0.26; Fault plane solution: M₀1.08000×10¹⁸ NP1:φs318.80000°, δ68.76000°,λ-178.92000°. NP2:φs228.41000°, δ88.99000°,λ-21.24000°. Principal axes: T 1.1024, Plg14.0000°, Azm276.0000°; N -0.0360, Plg69.0000°, Azm46.0000°; P -1.0664, Plg16.0000°, Azm182.0000°;*

GCMT ***28*** *03:15:44.0±0.1, 15°.12S×174°.58W, h14km, MW6.0/167, Moment Tensor Solution. s152,c343; s167,c602; Duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr0.01±.01; Mθθ-1.20±.01; Mφφ 1.19±.01; Mrθ-0.09±.01; Mθφ0.52±.01; Mφr0.17±.01; Best double couple: M₀1.31700×10¹⁸ NP1:φs57.00000°, δ81.00000°, λ1.00000°. NP2:φs327.00000°, δ89.00000°, λ171.00000°. Principal axes: T 1.3150, Plg7.0000°, Azm281.0000°; N 0.0000, Plg81.0000°, Azm141.0000°; P -1.3190, Plg5.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***28*** *03:15:45,15°.09S×174°.56W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.04; Mθθ-1.00; Mφφ 0.96; Mθφ0.18; Mφr0.68; Mrr0.12; Fault plane solution: M₀1.21000×10¹⁸ NP1:φs332.00000°, δ80.00000°,λ178.00000°. NP2:φs63.00000°,δ88.00000°, λ10.00000°. Principal axes: T 1.1983, Plg8.0000°, Azm288.0000°; N 0.0303, Plg80.0000°, Azm71.0000°; P -1.2286, Plg6.0000°, Azm197.0000°;*

ISC 28 03:15:38.0±0.6, 15°.41S±0°.04×174°.68W±0°.03, h2km±3km, n1452,σ2s08/1164,mb5.6/250,MS6.0/532,83C-27D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.82**	**129**	P	**Pn**	**03 17 04.6**	**-0.9**
	baz=5.8,SNR=38						
NIUE	**Niue**	**5.82**	**129**	Pn	**Pn**	**03 17 04.8**	**-0.7**
MSVF	**Nonsavu**	**7.35**	**251**	*ce*P	**Pn**	**03 17 29.7**	**+3.2**
MSVF	**Nonsavu**	**7.35**	**251**	Pn	**Pn**	**03 17 27.4**	**+0.9**
RAO	**Raoul Island**	**14.10**	**192**	LR	LR	03 23 51.0	
	comp=Z,112μm,18.6s,baz=46,slow=35						
RAR	**Rarotonga**	**15.28**	**114**	Pn	**Pn**	**03 19 11.8**	**-3.1**
	3.3nm,0.3s,baz=277,slow=6.7,SNR=12						
RAR				Sn	**Sn**	**03 22 11.4**	**+6.6**
	0.8nm,0.3s,baz=97,slow=16,SNR=1.4						
RAR				LR	LR	03 23 49.0	
	comp=Z,38μm,21.4s,baz=284,slow=32						
RAR	**Rarotonga**	**15.28**	**114**	P	**Pn**	**03 19 13.3**	**-1.6**
RAR						03 22 06.8	
RAR				pmax	pmax		
	comp=Z,168nm,1.0s						
RAR	**Rarotonga**	**15.28**	**114**		**Pn**	**03 19 13.3**	**-1.6**
RAR				IAmb	IAmb	03 19 16.9	
	comp=Z,168nm,0.9s						
RAR					**Sn**	**03 22 06.8**	**+2.0**
SANVU	**Saraoutou**	**17.47**	**267**		**Pn**	**03 19 42.4**	**-0.7**
DZM	**Mont Dzumac**	**19.06**	**247**	P	**Pn**	**03 20 02.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=82,slow=16,SNR=29						
DZM				S	**S**	**03 23 38.2**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=289,slow=17,SNR=0.9						
DZM				LR	LR	03 26 22.7	
	comp=Z,26μm,19.0s,baz=78,slow=34						
DZM	**Mont Dzumac**	**19.06**	**247**	*e*Pn	**Pn**	**03 20 03.2**	**+0.6**
DZM				*e*LR	LR	03 24 28.8	
	comp=Z,37μm,23.1s						
DZM	**Mont Dzumac**	**19.06**	**247**	P	**Pn**	**03 20 02.9**	**+0.3**
DZM					**Sn**	**03 23 36.5**	**-0.2**
TARA	**Tarawa**	**20.69**	**323**	P	**P**	**03 20 17.5**	**-2.1**
TARA				IAmb	IAmb	03 20 24.8	
	comp=Z,514nm,1.1s						
OUZ	**Omahuta**	**22.36**	**206**	P	**P**	**03 20 39.9**	**+2.5**
OUZ				IAMs_20	IAMs_20	03 27 36.6	
	comp=Z,53μm,20.0s						
MXZ	**Matakaoa Point**	**22.92**	**194**	IAMs_20	IAMs_20	03 29 49.9	
	comp=Z,46μm,21.0s						
URZ	**Urewera**	**23.89**	**196**	P	**P**	**03 20 51.6**	**-1.5**
	comp=Z,99nm,1.0s,baz=60,slow=5.3,SNR=9.3						
URZ				LR	LR	03 29 30.8	
	comp=Z,20μm,19.9s,baz=34,slow=35						
URZ	**Urewera**	**23.89**	**196**	P	**P**	**03 20 52.6**	**-0.5**
URZ				IAmb	IAmb	03 21 02.9	
	comp=Z,246nm,1.2s						
PAE	**Paea**	**24.16**	**99**	*e*P	**P**	**03 20 53.5**	**-2.4**
	comp=Z,84nm,1.3s						
PAE	**Paea**	**24.16**	**99**	*e*T	T	03 45 49.8	
	comp=Z,38nm,0.3s						
PPT	**Papeete**	**24.16**	**99**	P	**P**	**03 20 56.7**	**+0.8**
	comp=Z,156nm,1.1s,baz=290,slow=4.0,SNR=12						
PPT				LR	LR	03 28 10.5	
	comp=Z,16μm,20.0s,baz=270,slow=31						
PPT2	**Papeete2**	**24.16**	**99**	*e*P	**P**	**03 20 54.0**	**-2.0**
	comp=Z,427nm,1.4s						
PPT2				*e*S	**S**	**03 25 08.0**	**-7.0**
	comp=Z,4μm,25.5s						
PPT2				*e*LQ	LQ	03 25 49.0	
	comp=Z,27μm,24.0s						
PPT2				*e*LR	LR	03 26 45.2	
	comp=Z,69μm,26.8s,baz=265						
PPT2	**Papeete2**	**24.16**	**99**	*e*T	T	03 45 51.0	
	comp=Z,30nm,0.2s						
PPTF	**Pamatai, Papee**	**24.17**	**99**	P	**P**	**03 20 55.4**	**-0.7**
PPTF				IAmb	IAmb	03 21 10.1	
	comp=Z,188nm,1.0s						
XMAS	**Kiritimati**	**24.32**	**46**	P	**P**	**03 20 56.3**	**-1.0**
XMAS				IAmb	IAmb	03 21 02.7	
	comp=Z,350nm,1.1s						
TIAR	**Tiarei**	**24.38**	**99**	*e*P	**P**	**03 20 55.9**	**-2.1**
	comp=Z,92nm,1.4s						
TIAR	**Tiarei**	**24.38**	**99**	*e*T	T	03 46 06.4	
	comp=Z,16nm,0.2s						
TVO	**Taravao**	**24.47**	**99**	*e*P	**P**	**03 20 56.8**	**-2.1**
	comp=Z,138nm,1.4s						
TVO	**Taravao**	**24.47**	**99**	*e*T	T	03 46 11.6	
	comp=Z,12nm,0.3s						
HIZ	**Hauiti**	**24.79**	**200**	P	**P**	**03 21 03.0**	**+1.6**
HIZ				IAmb	IAmb	03 21 16.7	
	comp=Z,178nm,1.2s						
BKZ	**Black Stump Fm**	**24.90**	**196**	P	**P**	**03 21 03.6**	**+1.1**
BKZ				IAMs_20	IAMs_20	03 29 54.3	
	comp=Z,36μm,21.0s						
TBI	**Tubuai**	**25.03**	**112**	*e*P	**P**	**03 21 02.9**	**-0.9**
	comp=Z,2μm,1.3s						
TBI				*e*S	**S**	**03 25 23.8**	**-5.1**
	comp=Z,2μm,23.0s						
TBI				*e*LR	LR	03 27 15.9	
	comp=Z,79μm,27.0s,baz=283						
TBI	**Tubuai**	**25.03**	**112**	*e*T	T	03 47 00.8	
	comp=Z,2μm,0.2s						
HNR	**Honiara**	**25.47**	**281**	P	**P**	**03 21 06.0**	**-1.8**
	comp=Z,51nm,0.5s,baz=204,slow=4.3,SNR=5.1						
HNR				LR	LR	03 29 51.7	
	comp=Z,32μm,19.1s,baz=124,slow=34						
HNR	**Honiara**	**25.47**	**281**	P	**P**	**03 21 05.6**	**-2.2**
HNR				pmax	pmax		
	comp=Z,187nm,0.9s						
HNR				MLR	MLR		
	comp=Z,30μm,18.0s						
HNR	**Honiara**	**25.47**	**281**	P	**P**	**03 21 05.6**	**-2.2**
HNR				IAmb	IAmb	03 21 20.3	
	comp=Z,187nm,0.9s						
HNR	**Honiara**	**25.47**	**281**	IAMs_20	IAMs_20	03 29 41.1	
	comp=Z,30μm,18.0s						
MEH	**Mehetia**	**25.61**	**99**	*e*P	**P**	**03 21 07.4**	**-1.7**
	comp=Z,80nm,1.3s						
MEH	**Mehetia**	**25.61**	**99**	*e*T	T	03 47 38.7	
	comp=Z,65nm,0.3s						
PMOR	**Pomariorio Ree**	**25.84**	**93**	*e*P	**P**	**03 21 09.5**	**-1.7**
PMOR	**Pomariorio Ree**	**25.84**	**93**	*e*T	T	03 47 53.6	
	comp=Z,50nm,0.3s						
VAH	**Vaihoa**	**26.08**	**93**	*e*P	**P**	**03 21 11.8**	**-1.6**
VAH	**Vaihoa**	**26.08**	**93**	*e*T	T	03 48 11.6	
	comp=Z,122nm,0.2s						
BFZ	**Birch Farm**	**26.39**	**196**	P	**P**	**03 21 16.4**	**+0.5**
BFZ				IAmb	IAmb	03 21 21.4	
	comp=Z,167nm,1.0s						
SNZO	**South Karori**	**27.40**	**198**	IAMs_20	IAMs_20	03 31 24.3	
	comp=Z,30μm,19.0s						
QRZ	**Quartz Range**	**27.66**	**201**	P	**P**	**03 21 27.6**	**+0.3**
QRZ				IAmb	IAmb	03 21 38.7	
	comp=Z,123nm,1.2s						
QRZ				IAMs_20	IAMs_20	03 30 48.0	
	comp=Z,43μm,22.0s						
NNZ	**Nelson**	**27.72**	**200**	IAMs_20	IAMs_20	03 31 25.8	
	comp=Z,34μm,20.0s						
THZ	**Tophouse**	**28.37**	**200**	IAMs_20	IAMs_20	03 31 45.9	
	comp=Z,39μm,21.0s						
KHZ	**Kahutara**	**28.76**	**198**	P	**P**	**03 21 38.6**	**+1.5**
KHZ				IAmb	IAmb	03 21 52.5	
	comp=Z,69nm,1.1s						
KHZ				IAMs_20	IAMs_20	03 31 50.3	
	comp=Z,30μm,20.0s						
LHI	**Lord Howe Isla**	**28.83**	**232**	P	**P**	**03 21 38.8**	**+0.9**
	baz=29,SNR=4.3						
LTZ	**Lake Taylor**	**29.49**	**200**	IAMs_20	IAMs_20	03 32 18.5	
	comp=Z,45μm,21.0s						
MQZ	**McQueen's Vall**	**30.20**	**198**	IAMs_20	IAMs_20	03 32 53.4	
	comp=Z,36μm,20.0s						
FOZ	**Fox Glacier**	**31.00**	**202**	IAMs_20	IAMs_20	03 33 20.4	
	comp=Z,36μm,21.0s						
LBZ	**Lake Benmore**	**31.61**	**201**	IAMs_20	IAMs_20	03 34 13.7	
	comp=Z,41μm,19.0s						
ODZ	**Otahua Downs**	**32.04**	**200**	IAMs_20	IAMs_20	03 34 47.0	
	comp=Z,33μm,18.0s						
JOHN	**Johnston Islan**	**32.34**	**9**	IAMs_20	IAMs_20	03 31 26.7	
	comp=Z,27μm,21.0s						
WKZ	**Wanaka**	**32.41**	**202**	IAMs_20	IAMs_20	03 35 21.7	
	comp=Z,25μm,21.0s						
MLZ	**Mavora Lakes**	**33.20**	**202**	IAMs_20	IAMs_20	03 37 25.6	
	comp=Z,20μm,18.0s						
EIDS	**Eidsvold**	**33.51**	**247**	P	**P**	**03 22 19.8**	**+0.6**
	baz=34,SNR=13						
EIDS	**Eidsvold**	**33.51**	**247**	P	**P**	**03 22 18.9**	**-0.4**
EIDS				IAmb	IAmb	03 22 24.4	
	comp=Z,95nm,1.1s						
WHZ	**Wether Hill Ro**	**33.71**	**202**	IAmb	IAmb	03 22 28.6	
	comp=Z,120nm,1.2s						
WHZ				IAMs_20	IAMs_20	03 36 11.1	
	comp=Z,20μm,20.0s						
ARMA	**Armidale**	**34.29**	**238**	P	**P**	**03 22 25.8**	**-0.3**
	baz=34,SNR=4.7						
ARMA	**Armidale**	**34.29**	**238**	P	**P**	**03 22 24.4**	**-1.7**
TAOE	**Nuku Hiva Isla**	**34.35**	**83**	*e*P	**P**	**03 22 25.0**	**-1.7**
	comp=Z,545nm,1.4s						
TAOE				*e*S	**S**	**03 27 50.2**	**-5.3**
	comp=Z,3μm,27.6s						
TAOE				*e*LQ	LQ	03 30 06.1	
	comp=Z,14μm,27.2s						
TAOE				*e*LR	LR	03 31 19.7	
	comp=Z,38μm,27.9s,baz=257						
TAOE	**Nuku Hiva Isla**	**34.35**	**83**	*e*T	T	03 58 27.0	
	comp=Z,196nm,0.2s						
PYZ	**Puysegur Point**	**34.41**	**203**	IAMs_20	IAMs_20	03 34 50.9	
	comp=Z,30μm,21.0s						
PATS	**Pohnpei**	**34.71**	**308**	IAMs_20	IAMs_20	03 32 07.4	
	comp=Z,24μm,22.0s						
MGCD	**Mangrove Creek**	**35.65**	**234**	P	**P**	**03 22 37.0**	**-0.7**
	baz=36,SNR=5.6						
RMQ	**Roma**	**35.77**	**246**	P	**P**	**03 22 40.1**	**+1.4**
	baz=36,SNR=29						
CTAO	**Charters Tower**	**37.44**	**257**	P	**P**	**03 22 52.3**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,62nm,1.2s						
CTAO	**Charters Tower**	**37.44**	**257**	P	**P**	**03 22 52.3**	**-0.8**
CTAO				IAMs_20	IAMs_20	03 35 20.7	
	comp=Z,19μm,22.0s						
PMG	**Port Moresby**	**37.71**	**275**	*c i*P	**P**	**03 22 54.6**	**-0.8**
PMG				pmax	pmax		
	comp=Z,325nm,1.7s						
PMG				MLR	MLR		
	comp=Z,11μm,15.0s						
PMG	**Port Moresby**	**37.71**	**275**	P	**P**	**03 22 54.4**	**-1.0**
PMG				IAmb	IAmb	03 23 03.3	
	comp=Z,81nm,1.1s						
PMG	**Port Moresby**	**37.71**	**275**	IAMs_20	IAMs_20	03 36 47.1	
	comp=Z,20μm,18.0s						
CNB	**Canberra Magne**	**37.77**	**232**	P	**P**	**03 22 55.6**	**-0.3**
	baz=38,SNR=17						
CAN	**Canberra**	**38.05**	**232**	P	**P**	**03 22 58.1**	**-0.1**
CAN				pmax	pmax		
	comp=Z,41nm,1.0s						
CAN				MLR	MLR		
	comp=Z,7μm,18.0s						
CAN	**Canberra**	**38.05**	**232**	P	**P**	**03 22 58.1**	**-0.1**
YNG	**Young**	**38.15**	**234**	P	**P**	**03 22 59.3**	**+0.3**
	baz=38,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**38.36**	**331**	T	T	04 03 29.2	
	baz=149,slow=76,SNR=1883						
H11S3	**WAKE ISLAND Hy**	**38.37**	**331**	T	T	04 03 29.2	
	baz=149,slow=76,SNR=227						
H11S1	**WAKE ISLAND Hy**	**38.37**	**331**	T	T	04 03 26.5	
	baz=149,slow=76,SNR=187						
MTSU	**Mount Surprise**	**39.30**	**260**	P	**P**	**03 23 07.8**	**-1.1**
	baz=39,SNR=21						
H11N3	**WAKE ISLAND Hy**	**39.33**	**332**	T	T	04 04 43.2	
	baz=151,slow=76,SNR=718						
H11N1	**WAKE ISLAND Hy**	**39.33**	**332**	T	T	04 04 37.8	
	baz=151,slow=76,SNR=1254						
H11N2	**WAKE ISLAND Hy**	**39.34**	**332**	T	T	04 04 37.2	
	baz=151,slow=76,SNR=691						
CMSA	**Cobar Meteorol**	**39.49**	**239**	P	**P**	**03 23 09.8**	**-0.5**
	baz=40,SNR=33						
POHA	**Pohakuloa**	**39.70**	**29**	IAMs_20	IAMs_20	03 34 50.3	
	comp=Z,15μm,20.0s						
QLP	**Quilpie**	**39.78**	**247**	P	**P**	**03 23 13.2**	**+0.5**
	baz=40,SNR=6.5						
HON	**Honolulu**	**40.01**	**25**	IAMs_20	IAMs_20	03 34 48.2	
	comp=Z,17μm,22.0s						
KIP	**Kipapa**	**40.09**	**25**	*e*P	**P**	**03 23 17.3**	**+2.1**
KIP				pmax	pmax		
	comp=Z,487nm,1.3s						
KIP				MLR	MLR		
	comp=Z,6μm,17.0s						
KIP	**Kipapa**	**40.09**	**25**	IAMs_20	IAMs_20	03 35 33.5	
	comp=Z,18μm,21.0s						
HLK	**Haleakala**	**40.24**	**27**	P	**P**	**03 23 14.1**	**-2.7**
OPA	**Opana**	**40.33**	**24**	IAMs_20	IAMs_20	03 35 40.9	
	comp=Z,16μm,19.0s						
TOO	**Toolangi**	**41.51**	**230**	P	**P**	**03 23 26.9**	**-0.1**
	baz=42,SNR=15						
TOO	**Toolangi**	**41.51**	**230**	P	**P**	**03 23 26.1**	**-0.8**
TOO				pmax	pmax		
	comp=Z,74nm,1.0s						
TOO				MLR	MLR		
	comp=Z,13μm,18.0s						
TOO	**Toolangi**	**41.51**	**230**	P	**P**	**03 23 26.1**	**-0.8**
TOO				IAmb	IAmb	03 23 34.1	
	comp=Z,74nm,0.9s						
TOO				IAMs_20	IAMs_20	03 40 47.5	
	comp=Z,13μm,18.0s						
TAU	**Tasmania Unive**	**42.48**	**222**	IAMs_20	IAMs_20	03 39 22.5	
	comp=Z,15μm,18.0s						
STKA	**Stephens Creek**	**42.97**	**240**	P	**P**	**03 23 37.5**	**-1.4**
	comp=Z,35nm,1.1s,baz=66,slow=9.3,SNR=15						
STKA				PcP	**PcP**	**03 25 28.1**	**-1.5**
	comp=Z,14nm,1.1s,baz=90,slow=5.1,SNR=1.7						
STKA				LR	LR	03 40 44.6	
	comp=Z,9μm,18.8s,baz=73,slow=35						
STKA	**Stephens Creek**	**42.97**	**240**	P	**P**	**03 23 40.0**	**+1.1**
	baz=43,SNR=24						
STKA	**Stephens Creek**	**42.97**	**240**	P	**P**	**03 23 37.9**	**-1.0**
STKA						03 25 28.0	
STKA				pmax	pmax		
	comp=Z,14nm,1.2s						
STKA				MLR	MLR		
	comp=Z,3μm,18.0s						
STKA	**Stephens Creek**	**42.97**	**240**	P	**P**	**03 23 37.9**	**-1.0**
STKA					**PcP**	**03 25 28.0**	**-1.5**
MCQ	**Macquarie Isla**	**44.06**	**202**	IAMs_20	IAMs_20	03 39 56.0	
	comp=Z,17μm,22.0s						
HTT	**Hallett**	**45.49**	**238**	P	**P**	**03 23 58.7**	**-0.5**
	baz=46,SNR=13						
JAY	**Jayapura**	**45.78**	**282**	P	**P**	**03 24 03.7**	**+2.0**
	comp=Z,1μmcomp=Z,28nm,1.4s						
GENI	**Genyem**	**46.27**	**281**	P	**P**	**03 24 00.8**	**-4.6**
BBOO	**Buckleboo**	**47.74**	**240**	P	**P**	**03 24 16.3**	**-0.5**
	baz=48,SNR=12						
BBOO	**Buckleboo**	**47.74**	**240**	P	**P**	**03 24 15.8**	**-1.0**
WR0	**Warramunga Arr**	**48.45**	**257**	P	**P**	**03 24 20.1**	**-2.3**
WB0	**Warramunga Arr**	**48.60**	**257**	P	**P**	**03 24 21.0**	**-2.6**
WB0				IAmb	IAmb	03 24 29.1	
	comp=Z,81nm,1.1s						
WB2	**Warramunga Arr**	**48.63**	**257**	P	**P**	**03 24 21.3**	**-2.5**
WRAB	**Tennant Creek**	**48.63**	**257**	*c i*P	**P**	**03 24 21.2**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,135nm,1.7s						
WRAB				MLR	MLR		
	comp=Z,14μm,16.0s						
WRAB	**Tennant Creek**	**48.63**	**257**	P	**P**	**03 24 21.2**	**-2.6**
WRA	**Warramunga Arr**	**48.64**	**257**	P	**P**	**03 24 21.1**	**-2.8**
	comp=Z,8.4nm,0.9s,baz=89,slow=6.9,SNR=45						
WRA				PcP	**PcP**	**03 25 50.1**	**+0.6**
	comp=Z,23nm,1.1s,baz=88,slow=4.2,SNR=3.0						
WRA				PKiKP	**PKiKP**	**03 32 39.1**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=96,slow=0.4,SNR=7.1						
WRA				LR	LR	03 43 42.4	
	comp=Z,26μm,18.2s,baz=95,slow=35						
WRA	**Warramunga Arr**	**48.64**	**257**	P	**P**	**03 24 21.0**	**-3.0**
WRA						03 25 48.5	
WRA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
WRA	**Warramunga Arr**	**48.64**	**257**	P	**P**	**03 24 21.0**	**-3.0**
WRA					**PcP**	**03 25 48.5**	**-1.1**
AS31	**Alice Springs**	**48.94**	**252**	P	**P**	**03 24 24.4**	**-1.8**
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**03 24 23.9**	**-2.2**
	comp=Z,27nm,0.8s,baz=85,slow=8.1,SNR=112						
ASAR				PcP	**PcP**	**03 25 50.9**	**+0.4**
	comp=Z,12nm,1.0s,baz=87,slow=5.7,SNR=0.8						
ASAR				S	**S**	**03 31 30.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=272,slow=37,SNR=1.4						
ASAR				PKiKP	**PKiKP**	**03 32 39.1**	**-0.5**
	comp=Z,1.2nm,1.1s,baz=45,slow=1.4,SNR=4.1						
ASAR				LR	LR	03 43 24.0	
	comp=Z,25μm,19.9s,baz=97,slow=34						
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**03 24 23.7**	**-2.5**
ASAR						03 25 49.9	
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**03 24 23.7**	**-2.5**
ASAR					**PcP**	**03 25 49.9**	**-0.7**
KDU	**Kakadu**	**51.24**	**266**	P	**P**	**03 24 42.2**	**-1.5**
	baz=51,SNR=9.8						
MTN	**Manton Dam**	**52.50**	**265**	P	**P**	**03 24 51.5**	**-1.6**
	baz=53,SNR=5.1						
MTN	**Manton Dam**	**52.50**	**265**	P	**P**	**03 24 50.5**	**-2.6**
MTN				IAmb	IAmb	03 25 00.3	
	comp=Z,141nm,1.1s						

SANI	Sanana	59.94	277	P		P		03 25 45.1	-1.2	
	comp=Z,4µmcomp=Z,2µmcomp=Z,117nm,1.5s									
BATI	Baumata	60.19	267	LR		LR		03 50 01.0		
	comp=Z,14µm,21.8s,baz=136,slow=34									
BATI	Baumata	60.19	267	P		P		03 25 52.1	+4.0	
	comp=Z,2µmcomp=Z,47nm,0.9s									
RPN	Rapa Nui	61.42	113	LR		LR		03 45 40.0		
	comp=Z,5µm,21.1s,baz=269,slow=29									
RPN	Rapa Nui	61.42	113	P		P		03 25 55.2	-1.1	
RPN				pmax		pmax				
	comp=Z,132nm,1.1s									
RPN	Rapa Nui	61.42	113	P		P		03 25 55.2	-1.1	
MMRI	Maumere	61.90	268	P		P		03 26 05.4	+5.7	
	comp=Z,3µmcomp=Z,80nm,1.1s									
PSA00	Pilbara Seismi	62.02	254	P		P		03 25 58.8	-1.6	
MBWA	Marble Bar	62.17	254	IAMs_20		IAMs_20		03 51 46.2		
	comp=Z,11µm,19.0s									
EDFI	Ende, Flores	62.40	268	P		P		03 26 00.7	-2.5	
	comp=Z,1µmcomp=Z,1µmcomp=Z,102nm,0.9s									
KMSI	Cibinong	62.62	279	P		P		03 26 05.6	+1.1	
KDI	Kendari	62.65	274	P		P		03 26 10.2	+5.4	
	comp=Z,101µmcomp=Z,136nm,1.0s									
MEEK	Meekatharra	62.67	248	P		P		03 26 03.6	-1.1	
	baz=63,SNR=8.2									
KLBR	Kellerberrin	63.15	242	P		P		03 26 07.2	-0.6	
	baz=63,SNR=10									
BASI	Baing, Sumba	63.16	266	P		P		03 26 14.1	+6.0	
	comp=Z,4µmcomp=Z,245nm,1.7s									
VNDA	Vanda	63.24	186	P		P		03 26 07.1	-0.5	
	comp=Z,4.7nm,1.0s,baz=19,slow=8.5,SNR=10									
VNDA				S		S		03 34 43.5	+3.5	
	comp=Z,0.4nm,0.5s,baz=334,slow=12,SNR=1.8									
VNDA				LR		LR		03 52 18.7		
	comp=Z,4µm,18.3s,baz=15,slow=35									
VNDA				PKPPKP		P'P'df		03 55 05.5	-4.8	
	comp=Z,0.6nm,0.9s,baz=120,slow=5.0,SNR=3.7									
VNDA				PKP2bc				03 55 13.1		
	comp=Z,2.2nm,1.1s,baz=228,slow=5.5,SNR=4.2									
VNDA	Vanda	63.24	186	P		P		03 26 08.1	+0.5	
VNDA				pmax		pmax				
	comp=Z,20nm,1.1s									
VNDA	Vanda	63.24	186	P		P		03 26 08.1	+0.5	
DAV	Davao City (W)	63.26	286	LR		LR		03 52 14.8		
	comp=Z,4µm,18.1s,baz=106,slow=35									
NWAO	Narrogin (SRO)	63.54	241	P		P		03 26 11.3	+0.9	
	baz=64,SNR=3.8									
NWAO	Narrogin (SRO)	63.54	241	P		P		03 26 09.4	-1.0	
NWAO				pmax		pmax				
	comp=Z,26nm,1.1s									
NWAO				MLR		MLR				
	comp=Z,10µm,19.0s									
NWAO	Narrogin (SRO)	63.54	241	P		P		03 26 09.1	-1.3	
NWAO				IAMs_20		IAMs_20		03 53 39.4		
	comp=Z,10µm,19.0s									
NWAO	Narrogin (SRO)	63.54	241	P		P		03 26 09.4	-1.0	
NWAO				IAmb		IAmb		03 26 19.4		
	comp=Z,26nm,1.1s									
GTOI	Gorontalo	63.56	279	P		P		03 26 13.8	+3.0	
	comp=Z,896nmcomp=Z,48nm,1.7s									
BLDU	Ballidu	64.09	243	P		P		03 26 14.9	+0.9	
	baz=64,SNR=4.7									
BSSI	Bau Bau, Buton	64.16	271	P		P		03 26 19.9	+5.2	
	comp=Z,1µmcomp=Z,85nm,1.7s									
APSI	Ampana	64.42	276	P		P		03 26 20.0	+3.6	
	comp=Z,3µmcomp=Z,224nm,1.6s									
BKSI	Bulukumba	64.71	271	P		P		03 26 19.9	+1.5	
	comp=Z,1µmcomp=Z,58nm,1.9s									
BNSI	Bone	64.96	272	P		P		03 26 23.3	+3.3	
	comp=Z,2µmcomp=Z,119nm,1.6s									
KAPI	Kappang	65.15	272	P		P		03 26 19.5	-1.7	
KAPI				pmax		pmax				
	comp=Z,17nm,1.0s									
KAPI	Kappang	65.15	272	P		P		03 26 19.5	-1.7	
SPSI	Sidrap Palu	65.40	273	P		P		03 26 26.8	+4.0	
	comp=Z,1µmcomp=Z,28nm,1.4s									
TTSI	Tana Toraja	65.59	274	P		P		03 26 28.3	+4.2	
	comp=Z,1µmcomp=Z,61nm,1.8s									
PLAI	Plampang	66.15	267	P		P		03 26 26.6	-1.1	
	comp=Z,2µmcomp=Z,137nm,1.5s									
MPSI	Mapaga	66.45	277	P		P		03 26 28.3	-1.3	
	comp=Z,2µmcomp=Z,95nm,1.9s									
ADK	Adak	67.03	359	P		P		03 26 31.9	-0.6	
ADK				pmax		pmax				
	comp=Z,66nm,1.1s									
ADK	Adak	67.03	359	P		P		03 26 31.9	-0.6	
ADK				IAmb		IAmb		03 26 36.5		
	comp=Z,66nm,1.1s									
ADK	Adak	67.03	359	IAMs_20		IAMs_20		03 49 17.0		
	comp=Z,11µm,20.0s									
TWSI	Taliwang, Sumb	67.03	267	P		P		03 26 31.8	-1.5	
	comp=Z,1µmcomp=Z,97nm,1.0s									
GIRL	Giralia	67.05	252	IAMs_20		IAMs_20		03 55 09.7		
	comp=Z,11µm,20.0s									
ATKA	Atka Island	67.33	0	IAMs_20		IAMs_20		03 48 06.9		
	comp=Z,10µm,21.0s									
JGF	Kuroka	68.08	319	P		P		03 26 37.3	-2.2	
MJAR	Matsushiro Arr	68.16	321	P		P		03 26 37.2	-2.8	
	comp=Z,18nm,1.3s,baz=142,slow=5.7,SNR=6.7									
MJAR				LR		LR		03 51 45.9		
	comp=Z,2µm,21.9s,baz=125,slow=32									
MJAR	Matsushiro Arr	68.16	321	P		P		03 26 38.2	-1.8	
MJAR				pmax		pmax				
	comp=Z,7.0nm,1.0s									
MJAR	Matsushiro Arr	68.16	321	P		P		03 26 38.2	-1.8	
MAJO	Matsushiro	68.16	321	eP		P		03 26 42.4	+2.4	
MAJO				pmax		pmax				
	comp=Z,114nm,1.8s									
MAJO				MLR		MLR				
	comp=Z,2µm,17.0s									
MAJO	Matsushiro	68.16	321	P		P		03 26 37.7	-2.3	
MAT	Matsushiro	68.16	321	P		P		03 26 37.0	-3.0	
MAT				S		S		03 35 39.8	-1.3	
NIKH	Nikolski High	68.28	4	IAMs_20		IAMs_20		03 49 18.2		
	comp=Z,8µm,21.0s									
SMKI	Samarinda	68.81	276	P		P		03 26 55.4	+11	
KBKI	Kotabaru	69.04	272	P		P		03 26 49.7	+3.7	
	comp=Z,743nmcomp=Z,37nm,1.3s									
ERM	Erimo	69.11	328	eP		P		03 26 45.7	0.0	
ERM				pmax		pmax				
	comp=Z,82nm,1.1s									
ERM				MLR		MLR				
	comp=Z,2µm,16.0s									
ERM	Erimo	69.11	328	IAMs_20		IAMs_20		03 49 12.7		
	comp=Z,7µm,22.0s									
JEM	Erimo	69.11	328	IAMs_20		IAMs_20		03 49 37.1		
	comp=Z,7µm,21.0s									
JMN	Monobe	69.20	316	P		P		03 26 44.3	-2.3	
JMN				IAmb		IAmb		03 26 58.3		
	comp=Z,66nm,1.1s									
MYLDM	Lahad Datu	69.25	282	P		P		03 26 45.8	-1.4	
MYLDM				IAmb		IAmb		03 27 04.4		
	comp=Z,52nm,1.1s									
KUR	Kuril'sk	69.26	333	P		P		03 26 49.2	+2.6	
KUR				e				03 27 12.3		
KUR				e				03 29 19.8		
KUR				eS		S		03 35 58.0	+4.3	
KUR								03 36 49.4		
KUR				eSS		SS		03 40 24.4	+3.6	
KUR				pmax		pmax				
	comp=Z,2234µm,4.9s									
YUK	Yuzh-Kuril'sk	69.26	331	eP		P		03 26 40.4	-6.2	
YUK				i S		S		03 35 42.4	-11	
YUK				pmax		pmax				
	comp=Z,498nm,1.8s									
YUK				pmax		pmax				
	comp=N,502nm,1.3s									
YUK				pmax		pmax				
	comp=E,336nm,1.3s									
UNV	Unalaska Valle	69.33	5	IAMs_20		IAMs_20		03 49 13.9		
	comp=Z,7µm,22.0s									
JAGI	Jajag, Banyuwa	69.72	267	P		P		03 26 51.2	+1.0	
	comp=Z,1µmcomp=Z,67nm,1.1s									
JAGI	Jajag, Banyuwa	69.72	267	P		P		03 26 47.6	-2.6	
CASY	Casey	69.89	205	IAMs_20		IAMs_20		03 52 30.7		
	comp=Z,9µm,22.0s									
TGY	Tagaytay City	70.09	291	LR		LR		03 52 20.0		
	comp=Z,9µm,21.9s,baz=111,slow=32									
BBKI	Banjar Baru	70.28	272	P		P		03 26 57.1	+3.5	
	comp=Z,4µmcomp=Z,123nm,1.8s									
BLJI	Banyuglugur	70.43	267	P		P		03 26 57.3	+2.8	
	comp=Z,2µmcomp=Z,111nm,1.5s									
JHS	Saijyo	70.46	316	P		P		03 26 52.6	-1.7	
JHS				IAmb		IAmb		03 27 04.5		
	comp=Z,55nm,1.1s									
JEW	Eniwo	70.58	327	P		P		03 26 52.6	-2.2	
SKR	Severo-Kuril's	70.62	341	eP		P		03 26 58.9	+4.1	
SKR				i S		S		03 36 10.1	+0.6	
SKR				pmax		pmax				
	comp=Z,2µm,4.3s									
SKR				pmax		pmax				
	comp=Z,700nm,4.3s									
SKR				MLR		MLR				
	comp=Z,3µm,16.0s									
FALS	False Pass	70.64	7	IAMs_20		IAMs_20		03 55 28.6		
	comp=Z,6µm,19.0s									
MTKI	Muara Teweh, K	70.89	274	P		P		03 26 59.4	+2.0	
	comp=Z,1µmcomp=Z,8µmcomp=Z,56nm,1.1s									
JKA	Kamikawa-asahi	70.90	329	P		P		03 26 55.1	-1.6	
ASAJ	Asahikawa	70.91	329	P		P		03 26 55.3	-1.4	
	comp=Z,20nm,0.9s,baz=161,slow=13,SNR=3.9									
ASAJ				S		S		03 36 13.6	+0.5	
	comp=Z,16nm,1.1s,baz=259,slow=23,SNR=2.1									
ASAJ				LR		LR		03 56 31.9		
	comp=Z,2µm,18.0s,baz=176,slow=35									
ASAJ	Asahikawa	70.91	329	P		P		03 26 55.1	-1.7	
ASAJ				pmax		pmax				
	comp=Z,130nm,1.1s									
JNU	Nakatsue	70.91	314	P		P		03 26 54.9	-2.2	
	comp=Z,7.1nm,1.0s									
JNU				LR		LR		03 52 52.3		
	comp=Z,2µm,20.6s,baz=131,slow=32									
SPMM	Sapulut	71.02	281	P		P		03 27 02.0	+3.8	
CNBA	Chernabura Isl	71.12	9	IAMs_20		IAMs_20		03 50 36.6		
	comp=Z,12µm,21.0s									
SNCC	San Nicolas Is	71.47	46	P		P		03 26 59.0	-1.5	
	baz=237									
SNCC	San Nicolas Is	71.47	46	IAMs_20		IAMs_20		03 50 13.5		
	comp=Z,8µm,21.0s									
KKM	Kota Kinabalu	71.67	282	P		P		03 26 59.1	-3.1	
KKM				IAmb		IAmb		03 27 16.1		
	comp=Z,38nm,1.1s									
SCZ2	Santa Cruz Isl	71.81	46	P		P		03 27 01.4	-1.1	
	baz=236									
PET	Petropavlovsk	71.93	343	eP		P		03 27 04.4	+1.7	
PET				eS		S		03 36 21.9	-2.7	
PET				pmax		pmax				
	comp=Z,200nm,11.5s									
SCI2	San Clemente I	72.02	47	P		P		03 27 02.5	-1.3	
	baz=237									
SCI2				S		S		03 36 24.9	-1.5	
	baz=237									
MCCM	Marconi Confer	72.07	41	P		P		03 27 02.3	-1.6	
MCCM				IAmb		IAmb		03 27 20.8		
	comp=Z,51nm,1.0s									
PWJI	Pagerwojo	72.09	266	P		P		03 27 06.9	+2.3	
	comp=Z,52nm,1.7s									
SAO	San Andreas Ge	72.17	43	P		P		03 27 03.2	-1.3	
SAO				pmax		pmax				
	comp=Z,92nm,1.2s									
SAO	San Andreas Ge	72.17	43	P		P		03 27 03.2	-1.3	
SAO				IAmb		IAmb		03 27 16.6		
	comp=Z,92nm,1.1s									
SAO				IAMs_20		IAMs_20		03 51 43.4		
	comp=Z,7µm,20.0s									
PKM	Mcpherson Peak	72.18	45	P		P		03 27 04.9	0.0	
	baz=236,SNR=19									
PEA0B	Petropavlovsk-	72.27	343	P		P		03 27 02.8	-2.0	
PEA0B				pmax		pmax				
	comp=Z,139nm,1.1s									
PEA0B	Petropavlovsk-	72.27	343	P		P		03 27 02.8	-2.0	
PEA0B				IAMs_20		IAMs_20		03 50 50.7		
	comp=Z,7µm,22.0s									
PETK	Petropavlovsk-	72.27	343	P		P		03 27 03.5	-1.3	
	comp=Z,65nm,0.9s,baz=106,slow=9.2,SNR=6.7									
PETK				LR		LR		03 52 11.5		
	comp=Z,5µm,21.7s,baz=151,slow=30									
PETK	Petropavlovsk-	72.27	343	P		P		03 27 03.3	-1.5	
PETK	Petropavlovsk-	72.27	343	P		P		03 27 03.3	-1.5	
PMPB	Monarch Peak	72.27	43	P		P		03 27 03.7	-1.6	
PMPB				IAmb		IAmb		03 27 10.3		
	comp=Z,88nm,1.1s									
PMPB				IAMs_20		IAMs_20		03 55 17.3		
	comp=Z,10µm,18.0s									
SMMC	Simmler	72.30	44	P		P		03 27 05.2	-0.2	
	baz=236,SNR=22									
CIS	Catalina Islan	72.34	47	P		P		03 27 05.5	-0.2	
	baz=237,SNR=6.1									
PAGB	Antelope Grade	72.36	44	IAMs_20		IAMs_20		03 52 29.8		
	comp=Z,7µm,20.0s									
SPIA	Saint Paul Isl	72.41	3	IAMs_20		IAMs_20		03 52 39.2		
	comp=Z,10µm,20.0s									
HOPS	Hopland Field	72.46	40	IAMs_20		IAMs_20		03 50 47.9		
	comp=Z,6µm,21.0s									
GDXM	Geysers	72.52	40	IAMs_20		IAMs_20		03 50 37.5		
	comp=Z,6µm,21.0s									
KCPM	Cahto Peak	72.58	39	IAMs_20		IAMs_20		03 53 15.8		
	comp=Z,9µm,20.0s									
FMP	Fort Macarthur	72.59	47	P		P		03 27 07.4	+0.2	
	baz=237									
CHGN	Chignik	72.73	9	P		P		03 27 05.7	-1.7	
CHGN				IAMs_20		IAMs_20		03 53 10.0		
	comp=Z,8µm,20.0s									
OSI	Osito Audit: C	72.78	46	P		P		03 27 08.2	-0.2	
	baz=237									
OSI	Osito Audit: C	72.78	46	IAMs_20		IAMs_20		03 54 13.0		
	comp=Z,8µm,19.0s									
CCX	Cicese	72.78	49	IAMs_20		IAMs_20		03 52 10.5		
	comp=Z,7µm,20.0s									
KMRM	Mail Ridge	72.83	38	P		P		03 27 06.9	-1.6	
KMRM				IAMs_20		IAMs_20		03 53 33.2		
	comp=Z,10µm,19.0s									
TJX	Tijuana	72.83	48	IAMs_20		IAMs_20		03 52 20.7		
	comp=Z,8µm,19.0s									
DECC	Green Verdugo	72.85	46	P		P		03 27 08.1	-0.6	
	baz=237,SNR=7.8									
YSS	Yuzh-Sakhalins	72.89	331	eP		P		03 27 13.0	+4.4	
YSS				e				03 27 20.0		
YSS				eS		SKiKP		03 36 38.7	-4.7	
YSS				pmax		pmax				
	comp=Z,220nm,1.1s									
YSS				smax		smax				
	comp=N,2µm,7.4s									
YSS				smax		smax				
	comp=E,2µm,10.7s									
YSS	Yuzh-Sakhalins	72.89	331	P		P		03 27 07.1	-1.5	
PASC	Pasadena Art C	72.91	46	IAMs_20		IAMs_20		03 56 25.6		
	comp=Z,8µm,18.0s									
WOJI	Wonogiri, Jawa	72.98	266	P		P		03 27 12.7	+2.8	
	comp=Z,126nm,1.7s									
ARVC	Arvin	72.99	45	P		P		03 27 09.6	+0.1	
	baz=237,SNR=20									
ARVC				S		SKiKP		03 36 39.9	-4.1	
	baz=237									
109C	Camp Elliot, M	73.00	48	P		P		03 27 09.4	-0.1	
	baz=238,SNR=8.3									
109C				S		SKiKP		03 36 42.0	-2.0	
	baz=238									
109C	Camp Elliot, M	73.00	48	IAMs_20		IAMs_20		03 51 39.9		
	comp=Z,8µm,20.0s									
JCC	Jacoby Creek,	73.01	38	IAMs_20		IAMs_20		03 52 05.1		
	comp=Z,8µm,20.0s									
MWC	Mount Wilson	73.03	46	P		P		03 27 07.5	-2.5	
MWC				pmax		pmax				
	comp=Z,58nm,1.1s									
MWC	Mount Wilson	73.03	46	P		P		03 27 07.5	-2.5	
MWC				IAmb		IAmb		03 27 14.3		
	comp=Z,58nm,1.1s									
MWC				IAMs_20		IAMs_20		03 50 50.7		
	comp=Z,8µm,21.0s									
TKX	Tecate	73.19	48	IAMs_20		IAMs_20		03 56 47.1		
	comp=Z,7µm,19.0s									
BAR	Barrett	73.20	48	P		P		03 27 08.6	-2.2	
BAR				IAMs_20		IAMs_20		03 51 35.3		
	comp=Z,8µm,20.0s									
VES	Vestal, Richgr	73.21	44	P		P		03 27 10.6	-0.2	
	baz=236,SNR=99									
VES				S		SKiKP		03 36 42.6	-1.6	
	baz=236									
KHMM	Horse Mountain	73.22	38	P		P		03 27 08.4	-2.5	
KHMM				IAMs_20		IAMs_20		03 52 11.7		
	comp=Z,8µm,19.0s									
SPX	San Pedro Mart	73.24	50	P		P		03 27 09.9	-1.6	
SPX				IAMs_20		IAMs_20		03 51 25.9		
	comp=Z,8µm,20.0s									
VOG	Valley Oaks Go	73.28	44	P		P		03 27 11.0	-0.1	
	baz=236									
MURC	Murrieta	73.30	47	P		P		03 27 11.4	-0.1	
	baz=238,SNR=23									
MURC				S		SKiKP		03 36 45.9	+1.4	
	baz=238									
BFSC	Mount Baldy Ra	73.32	47	P		P		03 27 11.5	-0.2	
	baz=238,SNR=25									
BFSC				S		SKiKP		03 36 43.9	-0.8	
	baz=238									
UGM	Wanagama	73.34	266	P		P		03 27 20.4	+8.3	
UGM	Wanagama	73.34	266	P		P		03 27 09.9	-2.2	
UGM				IAmb		IAmb		03 27 19.1		
	comp=Z,63nm,0.9s									
O02D	Mt. Diablo Mer	73.36	39	P		P		03 27 12.2	+0.5	
	baz=232,SNR=66									
O02D				S		SKiKP		03 36 45.6	+1.2	
	baz=232									
ESJX	Sierra Juarez	73.38	49	IAMs_20		IAMs_20		03 52 20.2		
	comp=Z,8µm,20.0s									
EDW2	Edwards Air Fo	73.43	46	P		P		03 27 12.4	+0.2	
	baz=237,SNR=99									
EDW2				S		SKiKP		03 36 47.4	+2.7	
	baz=237									
MONP2	Monument Peak	73.49	48	P		P		03 27 13.1	+0.4	
	baz=239,SNR=37									
MONP2				S		SKiKP		03 36 48.4	+3.3	
	baz=239									
KRMB	Red Mountain	73.52	37	IAMs_20		IAMs_20		03 53 27.6		
	comp=Z,8µm,19.0s									
ISA	Isabella, Lake	73.52	45	P		P		03 27 13.3	+0.5	
	baz=237,SNR=97									
ISA				S		SKiKP		03 36 47.2	+2.4	
	baz=237									
ISA	Isabella, Lake	73.52	45	P		P		03 27 10.9	-1.9	
ISA				pmax		pmax				
	comp=Z,11nm,1.1s									
ISA	Isabella, Lake	73.52	45	P		P		03 27 10.9	-1.9	
ISA				IAMs_20		IAMs_20		03 51 27.6		
	comp=Z,8µm,21.0s									
PBKI	Pangkalan Bun	73.53	272	P		P		03 27 22.6	+9.4	
RMX	La Rumorosa	73.59	49	IAMs_20		IAMs_20		03 52 45.0		
	comp=Z,10µm,20.0s									
IKP	In-Ko-Pah, Jac	73.59	49	P		P		03 27 14.5	+1.3	
	baz=239,SNR=28									
IKP				S		SKiKP		03 36 46.2	+1.1	
	baz=239									
CMB	Columbia Colle	73.59	42	P		P		03 27 10.9	-2.1	
CMB				pmax		pmax				
	comp=Z,65nm,1.1s									
CMB	Columbia Colle	73.59	42	P		P		03 27 10.9	-2.1	
CMB				IAmb		IAmb		03 27 17.5		
	comp=Z,65nm,1.1s									
CMB				IAMs_20		IAMs_20		03 52 48.0		
	comp=Z,6µm,20.0s									
SFX	San Felipe	73.70	51	P		P		03 27 12.0	-1.8	
SFX				IAmb		IAmb		03 27 18.6		
	comp=Z,74nm,1.2s									
SFX				IAMs_20		IAMs_20		03 51 50.0		
	comp=Z,7µm,20.0s									
AFDM	Forest Hills D	73.75	41	P		P		03 27 12.0	-1.9	
AFDM				IAmb		IAmb		03 27 18.3		
	comp=Z,69nm,1.2s									
AFDM				IAMs_20		IAMs_20		03 53 59.1		
	comp=Z,6µm,19.0s									
WDC	Whiskeytown Da	73.75	39	P		P		03 27 11.9	-2.0	
WDC				pmax		pmax				
	comp=Z,46nm,1.2s									
WDC	Whiskeytown Da	73.75	39	P		P		03 27 11.8	-2.0	
WDC				IAmb		IAmb		03 27 31.1		
	comp=Z,46nm,1.1s									
WDC				IAMs_20		IAMs_20		03 54 24.0		
	comp=Z,8µm,19.0s									
KBO	Bosley Butte	73.77	37	P		P		03 27 12.0	-2.0	
KBO				IAMs_20		IAMs_20		03 53 15.2		
	comp=Z,9µm,20.0s									
ORV	Oroville	73.77	40	P		P		03 27 12.6	-1.4	
ORV				pmax		pmax				
	comp=Z,20nm,1.1s									
ORV	Oroville	73.77	40	P		P		03 27 12.6	-1.4	
PFO	Pinyon Flats O	73.83	48	P		P		03 27 14.6	0.0	
	baz=239,SNR=27									
PFO				S		S		03 36 51.1	+3.7	
	baz=239									
PFO	Pinyon Flats O	73.83	48	deP		P		03 27 16.1	+1.4	
PFO				pmax		pmax				
	comp=Z,224nm,1.5s									
PFO				MLR		MLR				
	comp=Z,8µm,16.0s									
PFO	Pinyon Flats O	73.83	48	P		P		03 27 13.2	-1.4	
PFO	Pinyon Flats O	73.83	48	IAMs_20		IAMs_20		03 52 23.2		
	comp=Z,9µm,20.0s									
TPFO	Pinon Flats	73.83	48	P		P		03 27 14.5	-0.2	
	baz=239,SNR=26									
XPFO	Pion Flat	73.83	48	IAMs_20		IAMs_20		03 52 23.2		
	comp=Z,9µm,20.0s									
BBRC	Big Bear Solar	73.85	47	P		P		03 27 14.8	-0.1	
	baz=238,SNR=6.4									
BBRC				S		S		03 36 49.8	+2.0	
	baz=238									
N02D	Trinity Center	73.89	38	P		P		03 27 15.5	+0.7	
	baz=232,SNR=51									
N02D				S		S		03 36 50.9	+3.2	
	baz=232									
SWSC	Sam W. Stewart	73.96	48	P		P		03 27 16.7	+1.5	
	baz=239,SNR=35									
SWSC				S		S		03 36 54.0	+5.4	
	baz=239									
LRMC	Laurel Mtn Rad	73.97	45	P		P		03 27 15.5	+0.1	
	baz=237,SNR=86									
YHNB	Yeheng	73.99	302	IAMs_20		IAMs_20		03 56 29.6		
	comp=Z,7µm,20.0s									
O03E	Paynes Creek	74.03	39	P		P		03 27 15.8	+0.2	
	baz=233,SNR=145

TIN Tinemaha, Big 74.45 44 P **P** **03 27 18.1 -0.1**
baz=236,SNR=43
TIN S **S** **03 36 57.6 +3.4**
baz=236
WAKR Walker 74.47 42 IAMs_20 IAMs_20 03 53 35.3
comp=Z,7µm,20.0s
GSC Goldstone, Bar 74.48 46 P **P** **03 27 18.0 -0.3**
baz=238,SNR=84
GSC Goldstone, Bar 74.48 46 P **P** **03 27 16.2 -2.1**
GSC pmax pmax
comp=Z,49nm,1.1s
GSC Goldstone, Bar 74.48 46 P **P** **03 27 16.2 -2.1**
GSC IAmb IAmb 03 27 22.7
comp=Z,49nm,1.1s
GSC IAMs_20 IAMs_20 03 57 52.9
comp=Z,8µm,18.0s
OHAK Old Harbor 74.52 12 P **P** **03 27 16.1 -1.8**
OHAK IAmb IAmb 03 27 22.0
comp=Z,61nm,1.1s
J01E Myrtle Point 74.54 36 P **P** **03 27 17.9 -0.5**
baz=231,SNR=8.2
J01E S S 03 37 01.0 +6.4
baz=231
HEC Hector,Ludlow 74.56 47 P **P** **03 27 18.1 -0.8**
baz=238,SNR=109
HEC S **S** **03 37 00.3 +4.8**
baz=238
BC3 Big Chuckawall 74.57 48 P **P** **03 27 18.6 -0.4**
baz=239,SNR=76
BC3 S **S** **03 36 58.2 +2.5**
baz=239
QSPA South Pole Qui 74.63 180 P **P** **03 27 18.9 0.0**
QSPA IAmb IAmb 03 27 26.8
comp=Z,123nm,1.1s
TEY Ternei 74.64 326 ⇓*e*P **P** **03 27 15.9 -3.0**
TEY *e*S **S** **03 36 50.1 -5.5**
TEY pmax pmax
comp=E,30nm,2.4s
TEY pmax pmax
comp=Z,30nm,2.7s
TEY pmax pmax
comp=Z,500nm,3.0s
PNTR Pine Nut 74.70 41 IAMs_20 IAMs_20 03 58 01.3
comp=Z,7µm,18.0s
GLA Glamis 74.72 49 P **P** **03 27 19.7 -0.1**
baz=240,SNR=30
GLA S **S** **03 37 01.9 +4.6**
baz=240
GLA Glamis 74.72 49 IAMs_20 IAMs_20 03 53 20.8
comp=Z,8µm,20.0s
HUMO Hull Mountain 74.75 37 P **P** **03 27 17.8 -1.9**
HUMO IAmb IAmb 03 27 30.7
comp=Z,63nm,1.1s
HUMO IAMs_20 IAMs_20 03 54 07.1
comp=Z,8µm,20.0s
VCNR Virginia City 74.79 41 IAMs_20 IAMs_20 03 54 42.6
comp=Z,7µm,19.0s
YERR Yerington 74.87 42 IAMs_20 IAMs_20 03 57 50.9
comp=Z,8µm,18.0s
L04D Klamath Falls 74.89 38 P **P** **03 27 20.6 0.0**
baz=232,SNR=55
L04D S S 03 37 06.5 +7.5
baz=232
M04C Macdoel 74.90 38 P **P** **03 27 20.2 -0.5**
baz=233,SNR=86
M04C S **S** **03 37 02.4 +3.3**
baz=233
LHV Little Huntoon 74.94 43 IAMs_20 IAMs_20 03 53 23.7
comp=Z,6µm,20.0s
PIX Pinacate 75.00 51 P **P** **03 27 19.2 -2.1**
PIX IAMs_20 IAMs_20 03 52 41.3
comp=Z,5µm,20.0s
GMRC Granite Mounta 75.01 47 P **P** **03 27 21.1 -0.4**
baz=239,SNR=110
GMRC S **S** **03 37 03.6 +3.0**
baz=239
KPJI Karang Pucung 75.02 266 P **P** **03 27 24.7 +2.9**
comp=Z,2µmcomp=Z,117nm,1.7s
IRM Iron Mountain 75.05 48 P **P** **03 27 21.7 +0.1**
baz=239,SNR=127
IRM S **S** **03 37 03.8 +2.9**
baz=239
FURC Furnace Creek, 75.06 45 P **P** **03 27 21.8 +0.3**
baz=238,SNR=71
FURC S **S** **03 37 03.9 +3.2**
baz=238
RYN Ryan 75.13 42 IAMs_20 IAMs_20 03 53 48.9
comp=Z,5µm,19.0s
SHOC Shoshone, Teco 75.16 46 P **P** **03 27 22.2 0.0**
baz=238,SNR=61
SHOC S **S** **03 37 04.5 +2.5**
baz=238
TUQ Turquoise Moun 75.16 46 P **P** **03 27 22.5 +0.1**
baz=238,SNR=56
TUQ S **S** **03 37 03.7 +1.5**
baz=238
NVAR Mina Array Bea 75.17 43 P **P** **03 27 22.2 -0.2**
comp=Z,113nm,1.1s,baz=228,slow=9.9,SNR=65
NVAR PP **PP** **03 30 13.1 +2.2**
comp=Z,12nm,1.1s,baz=231,slow=9.6,SNR=5.5
NVAR LR LR 03 53 55.9
comp=Z,7µm,20.2s,baz=238,slow=30
NVAR PKPPKP **P'P'df** **03 54 47.4 +2.8**
comp=Z,0.2nm,0.3s,baz=88,slow=3.5,SNR=5.0
NVAR Mina Array Bea 75.17 43 P **P** **03 27 20.9 -1.5**
KDAK Kodiak Island 75.18 12 P **P** **03 27 20.1 -1.6**
KDAK pmax pmax
comp=Z,108nm,1.1s
KDAK Kodiak Island 75.18 12 P **P** **03 27 20.1 -1.6**
KDAK IAmb IAmb 03 27 26.3
comp=Z,108nm,1.1s
I02D Swisshome 75.19 35 P **P** **03 27 21.2 -0.9**
baz=231
PAHR Pah Rah Range 75.19 41 P **P** **03 27 20.9 -1.6**
PAHR IAmb IAmb 03 27 27.1
comp=Z,108nm,1.2s
PAHR IAMs_20 IAMs_20 03 54 55.3
comp=Z,6µm,19.0s
I03D Drain, OR 75.21 36 P **P** **03 27 21.9 -0.3**
baz=231,SNR=18
I03D S **S** **03 37 07.0 +4.9**
baz=231
NV11 Mina Array Sit 75.26 43 IAMs_20 IAMs_20 03 53 53.4
comp=Z,7µm,20.0s
KSRS Korea Array 75.31 316 P **P** **03 27 22.2 -0.8**
comp=Z,2.2nm,0.8s,baz=200,slow=38,SNR=4.7
KSRS PP **PP** **03 30 15.2 +3.3**
comp=Z,1.9nm,1.0s,baz=113,slow=9.4,SNR=2.6
KSRS LR LR 03 57 35.7
comp=Z,3µm,19.2s,baz=118,slow=34
113A Mohawk Valley, 75.36 50 P **P** **03 27 21.5 -1.8**
113A IAMs_20 IAMs_20 03 53 30.6
comp=Z,9µm,19.0s
CMJI Cimerak 75.37 266 P P 03 27 35.4 +12
K04D Chiloquin, OR 75.46 37 P **P** **03 27 23.3 -0.7**
baz=233
K04D S **S** **03 37 08.4 +3.1**
baz=233
J04D Umpqua Nationa 75.63 37 P **P** **03 27 23.9 -1.1**
baz=232,SNR=18
J04D S **S** **03 37 12.2 +4.9**
baz=232
KVN Kaiserville 75.64 42 P **P** **03 27 22.9 -2.2**
KVN pmax pmax
comp=Z,123nm,1.2s
KVN Kaiserville 75.64 42 P **P** **03 27 22.9 -2.2**
KVN IAmb IAmb 03 27 32.2
comp=Z,123nm,1.2s
KVN IAMs_20 IAMs_20 03 53 06.3
comp=Z,5µm,20.0s
214A Organ Pipe Nat 75.67 51 P **P** **03 27 25.6 +0.4**
baz=241,SNR=55
214A S **S** **03 37 12.2 +4.4**
baz=241
214A Organ Pipe Nat 75.67 51 P **P** **03 27 23.1 -2.1**
214A IAMs_20 IAMs_20 03 52 50.1
comp=Z,7µm,20.0s
TPNV Topopah Spring 75.73 45 P **P** **03 27 25.3 -0.3**
baz=238,SNR=122
TPNV Topopah Spring 75.73 45 P **P** **03 27 24.2 -1.4**
TPNV pmax pmax
comp=Z,28nm,1.0s
TPNV Topopah Spring 75.73 45 P **P** **03 27 24.2 -1.4**
TPNV IAMs_20 IAMs_20 03 56 10.0
comp=Z,9µm,18.0s
HSIG 75.73 54 P **P** **03 27 24.3 -1.3**
NEE2 Needles Airpor 75.73 47 P **P** **03 27 24.6 -0.9**
baz=240,SNR=8.2
NEE2 S **S** **03 37 09.8 +1.5**
baz=240
COR Corvallis 75.79 35 IAMs_20 IAMs_20 03 54 16.5
comp=Z,8µm,20.0s
I04A Tendick Farm, 75.80 36 P **P** **03 27 25.1 -0.7**
baz=232,SNR=28
I04A S **S** **03 37 11.8 +3.0**
baz=232
PDMCI Parker Dam,Lak 75.84 48 P **P** **03 27 25.5 -0.6**
baz=240,SNR=45
PDMCI S **S** **03 37 13.2 +3.7**
baz=240
MOD Modoc Plateau 75.89 39 P **P** **03 27 24.4 -2.1**
MOD IAmb IAmb 03 27 33.1
comp=Z,99nm,1.1s
MOD IAMs_20 IAMs_20 03 55 44.7
comp=Z,7µm,19.0s
KSM Kuching 75.96 275 P **P** **03 27 25.1 -2.2**
KSM IAmb IAmb 03 27 35.0
comp=Z,65nm,1.1s
KSM Kuching 75.96 275 P **P** **03 27 27.0 -0.3**
K05A Summer Lake 76.03 38 P **P** **03 27 25.7 -1.6**
K05A IAMs_20 IAMs_20 03 54 05.0
comp=Z,8µm,20.0s
CISI Cisompet, Garu 76.04 266 P P 03 27 36.4 +8.6
CISI Cisompet, Garu 76.04 266 IAmb IAmb 03 27 31.7
comp=Z,32nm,0.6s
H04D Lebanon 76.07 35 P **P** **03 27 27.1 -0.1**
baz=231,SNR=8.2
H04D S **S** **03 37 16.8 +5.2**
baz=231
J05D Fort Rock, OR 76.17 37 P **P** **03 27 27.6 -0.4**
baz=233,SNR=96
J05D S **S** **03 37 15.9 +2.8**
baz=233
G03D McMinnville, O 76.21 35 P **P** **03 27 26.9 -1.0**
baz=231,SNR=12
SHPR Sheep Range 76.24 46 P **P** **03 27 26.5 -2.1**
SHPR IAMs_20 IAMs_20 03 56 50.7
comp=Z,7µm,18.0s
QZH Quanzhou 76.40 301 ⇓*i*P **P** **03 27 31.5 +2.0**
QZH S **S** **03 37 17.8 +1.8**
QZH LR LR
comp=Z,2µm,18.1s
QZH LR LR
comp=Z,2µm,17.3s
QZH LR LR
comp=Z,3µm,22.8s
H04A Detroit Lake 76.47 36 P **P** **03 27 27.8 -1.7**
H04A IAmb IAmb 03 27 45.5
comp=Z,76nm,1.1s
H04A IAMs_20 IAMs_20 03 54 48.7
comp=Z,8µm,20.0s
CHJN Chongjin 76.54 321 P **P** **03 27 29.0 -0.9**
PINE Pine Mountain 76.64 37 P **P** **03 27 28.7 -2.0**
PINE IAMs_20 IAMs_20 03 56 06.2
comp=Z,7µm,19.0s
USA0B Ussuriysk Arra 76.66 324 P **P** **03 27 28.5 -2.0**
USA0B pmax pmax
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 76.66 324 P **P** **03 27 28.5 -2.0**
USRK Ussuriysk Ar. 76.66 324 P **P** **03 27 29.8 -0.8**
comp=Z,30nm,1.2s,baz=123,slow=5.2,SNR=12
USRK PP **PP** **03 30 20.3 -2.8**
comp=Z,1.6nm,0.8s,baz=116,slow=16,SNR=1.7
USRK LR LR 03 55 39.0
comp=Z,4µm,20.7s,baz=119,slow=31
USRK Ussuriysk Ar. 76.66 324 P **P** **03 27 29.0 -1.5**
USRK 03 30 20.6
USRK Ussuriysk Ar. 76.66 324 P **P** **03 27 29.0 -1.5**
USRK **PP** **03 30 20.6 -2.4**
I05D Terrebonne, OR 76.74 36 P **P** **03 27 30.6 -0.5**
baz=233,SNR=20
I05D S **S** **03 37 22.0 +2.8**
baz=233
PRN Pahroc Range 76.78 45 IAMs_20 IAMs_20 03 53 11.9
comp=Z,9µm,21.0s
E03A Lebam 76.89 33 P **P** **03 27 30.0 -1.8**
E03A IAMs_20 IAMs_20 03 54 44.5
comp=Z,8µm,20.0s
F04D Rainier, OR 76.89 34 P **P** **03 27 32.1 +0.3**
baz=231,SNR=5.5
HHU Hamhung 76.91 318 P **P** **03 27 30.7 -1.3**
HHU S **S** **03 37 21.6 +0.6**
R11A Troy Canyon, C 76.92 44 P **P** **03 27 31.9 -0.4**
baz=238,SNR=187
R11A S **S** **03 37 22.2 +0.6**
baz=238
R11A Troy Canyon, C 76.92 44 IAMs_20 IAMs_20 03 54 20.3
comp=Z,6µm,20.0s
SSE Sheshan 76.99 308 P **P** **03 27 32.3 -0.4**
SSE S **S** **03 37 20.5 -1.7**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,210nm,8.7s
SSE LR LR
comp=Z,1µm,21.3s
SSE LR LR
comp=Z,470nm,17.6s
HJU Haeju 77.10 316 P P 03 27 40.5 +7.4
HOM Homer 77.11 12 P **P** **03 27 33.4 +0.8**
baz=203
F04A Amboy 77.12 34 P **P** **03 27 31.9 -1.2**
F04A IAmb IAmb 03 27 37.3
comp=Z,79nm,1.1s
CBJI Citeko 77.24 267 P P 03 27 44.4 +10
NLWA Neilton Lookou 77.27 33 P **P** **03 27 32.9 -1.1**
NLWA IAmb IAmb 03 27 49.4
comp=Z,47nm,1.1s
NLWA IAMs_20 IAMs_20 03 55 15.6
comp=Z,8µm,20.0s
G05D Wamic, OR 77.31 36 P **P** **03 27 35.4 +1.2**
baz=232,SNR=18
G05D S **S** **03 37 29.4 +4.2**
baz=232
TUC Tucson 77.35 51 P **P** **03 27 34.7 -0.1**
baz=243
TUC Tucson 77.35 51 P **P** **03 27 33.5 -1.3**
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC Tucson 77.35 51 P **P** **03 27 33.5 -1.3**
TUC Tucson 77.35 51 IAMs_20 IAMs_20 03 54 02.7
comp=Z,9µm,20.0s
BRLK Bradley Lake 77.36 12 P **P** **03 27 32.3 -1.8**
BRLK IAmb IAmb 03 27 37.9
comp=Z,92nm,1.1s
DIB Dawson Inlet, 77.36 24 P **P** **03 27 32.5 -1.7**
DIB IAMs_20 IAMs_20 03 54 17.0
comp=Z,6µm,20.0s
TPI Tanjungpandan 77.39 271 P **P** **03 27 38.5 +3.2**
comp=Z,1µmcomp=Z,56nm,1.4s
E04D Cinebar 77.43 34 P **P** **03 27 33.9 -0.9**
baz=231,SNR=30
E04D S **S** **03 37 30.1 +3.7**
baz=231
PYAG Pyongyang 77.60 317 P **P** **03 27 35.3 -0.6**
PYAG pP **pwP** **03 27 41.6 +3.2**
F05D White Salmon 77.62 35 P **P** **03 27 35.1 -0.8**
baz=232,SNR=28
F05D S S 03 37 35.3 +6.8
baz=232
PYS Pyongsong 77.64 317 P **P** **03 27 38.4 +2.2**
I07A Izee 77.65 37 P **P** **03 27 34.6 -1.7**
I07A IAmb IAmb 03 27 41.5
comp=Z,109nm,1.1s
I07A IAMs_20 IAMs_20 03 56 50.8
comp=Z,7µm,19.0s
D04E Lakebay 77.71 33 P **P** **03 27 38.0 +1.6**
baz=231,SNR=6.1
SVW2 Sparrevohn 77.76 9 P **P** **03 27 34.7 -1.6**
SVW2 IAmb IAmb 03 27 40.9
comp=Z,91nm,1.2s
SVW2 IAMs_20 IAMs_20 03 53 49.1
comp=Z,7µm,22.0s
D03D Eldon 77.77 33 P **P** **03 27 36.7 0.0**
baz=231,SNR=9.1
D03D S **S** **03 37 32.0 +1.9**
baz=231
J08A Circle Bar Ran 77.84 38 P **P** **03 27 35.3 -2.0**
J08A IAMs_20 IAMs_20 03 55 05.9
comp=Z,6µm,20.0s
X16A Lo Mia Camp, P 77.85 49 P **P** **03 27 35.4 -2.3**
X16A IAmb IAmb 03 27 42.8
comp=Z,50nm,1.1s
X16A IAMs_20 IAMs_20 03 54 29.6
comp=Z,8µm,20.0s
LON Longmire 77.96 34 IAMs_20 IAMs_20 03 55 19.9
comp=Z,5µm,20.0s
SEW Seward 77.96 13 P **P** **03 27 35.7 -1.8**
SEW IAMs_20 IAMs_20 03 56 54.4
comp=Z,8µm,20.0s
CCUT Cedar City 78.01 45 P **P** **03 27 36.2 -2.4**
Q23K Middleton Isla 78.06 14 P **P** **03 27 38.9 +1.0**
baz=208
Q23K S **S** **03 37 35.8 +3.3**
baz=208
Q23K Middleton Isla 78.06 14 IAMs_20 IAMs_20 03 55 34.9
comp=Z,8µm,20.0s
319A Douglas 78.07 53 P **P** **03 27 36.7 -2.2**
319A IAmb IAmb 03 27 49.2
comp=Z,95nm,1.1s
319A IAMs_20 IAMs_20 03 54 18.0
comp=Z,8µm,19.0s
KNB Kanab 78.12 46 P **P** **03 27 37.1 -2.0**
KNB pmax pmax
comp=Z,82nm,1.1s
KNB Kanab 78.12 46 P **P** **03 27 37.1 -2.0**
D05A Enumclaw 78.13 34 P **P** **03 27 36.8 -1.9**
D05A IAMs_20 IAMs_20 03 55 25.5
comp=Z,7µm,20.0s
O22K Cooper Landing 78.25 12 P **P** **03 27 39.4 +0.4**
baz=205,SNR=5.4
O22K Cooper Landing 78.25 12 P **P** **03 27 37.5 -1.5**
O22K IAMs_20 IAMs_20 03 54 43.0
comp=Z,9µm,21.0s
MDJ Mudanjiang 78.29 323 P **P** **03 27 37.8 -1.8**
MDJ pP PcP 03 27 48.8 -0.2
MDJ sP pwP 03 27 53.3 +11
MDJ Mudanjiang 78.29 323 S **S** **03 37 38.5 +2.7**
MDJ Mudanjiang 78.29 323 SS SS 03 42 49.3 +11
MDJ pmax pmax
comp=Z,25nm,1.5s
MDJ LR LR
comp=N,4µm,36.0s
MDJ LR LR
comp=E,3µm,24.1s
MDJ LR LR
comp=Z,2µm,23.9s
CGJI Cibinong 78.31 266 P **P** **03 27 44.0 +3.5**
comp=Z,2µmcomp=Z,85nm,1.4s
ELK Elko 78.41 42 P **P** **03 27 39.9 -0.8**
comp=Z,66nm,1.1s,baz=229,slow=5.5,SNR=38
ELK PP **PP** **03 30 39.5 +1.4**
comp=Z,3.8nm,1.1s,baz=235,slow=11,SNR=2.6
ELK Elko 78.41 42 P **P** **03 27 38.4 -2.3**
ELK pmax pmax
comp=Z,48nm,1.1s
ELK Elko 78.41 42 P **P** **03 27 38.4 -2.3**
ELK IAmb IAmb 03 27 45.0
comp=Z,48nm,1.1s
ELK IAMs_20 IAMs_20 04 00 46.6
comp=Z,5µm,18.0s
WUAZ Wupatki 78.42 48 P **P** **03 27 40.9 +0.1**
baz=242,SNR=181
WUAZ Wupatki 78.42 48 P **P** **03 27 38.3 -2.5**
WUAZ IAmb IAmb 03 27 50.7
comp=Z,83nm,1.1s
WUAZ IAMs_20 IAMs_20 03 56 59.5
comp=Z,6µm,18.0s
BBB Bella Bella 78.45 27 P **P** **03 27 39.5 -0.8**
comp=Z,71nm,1.1s,baz=158,slow=2.9,SNR=3.2
BBB Bella Bella 78.45 27 P **P** **03 27 39.2 -1.2**
BBB IAMs_20 IAMs_20 03 54 40.2
comp=Z,7µm,20.0s
F07A Phinny Hill Vi 78.48 36 IAMs_20 IAMs_20 03 55 32.6
comp=Z,9µm,19.0s
G08A Pilot Rock 78.67 37 P **P** **03 27 39.8 -2.1**
G08A IAMs_20 IAMs_20 03 56 12.8
comp=Z,6µm,20.0s
PKCU Pink Cliffs 78.69 46 P **P** **03 27 40.0 -2.5**
A04D Lummi Island 78.72 32 P **P** **03 27 41.4 -0.5**
baz=231,SNR=5.7
B05A Bryant 78.75 33 P **P** **03 27 40.5 -1.6**
baz=231,SNR=28
B05A S **S** **03 37 43.7 +3.2**
baz=231
RC01 Rabbit Creek A 78.80 12 P **P** **03 27 39.1 -3.0**
baz=204,SNR=11
RC01 S **S** **03 37 40.0 -0.7**
baz=204
CRAG Craig 78.82 23 P **P** **03 27 40.4 -1.9**
CRAG IAMs_20 IAMs_20 03 54 39.6
comp=Z,6µm,20.0s
HIN Hinchinbrook I 78.88 14 P **P** **03 27 40.7 -1.9**
E07A Sunnyside 78.91 35 IAMs_20 IAMs_20 03 55 56.1
comp=Z,7µm,20.0s
KAIM Kayak Island 78.96 15 P **P** **03 27 41.2 -1.8**
GAMB Gambell 78.97 1 IAMs_20 IAMs_20 03 57 31.7
comp=Z,6µm,20.0s
SUJ Sinuiju 78.98 317 P P 03 27 49.2 +5.7
SUJ pP **PcP** **03 27 55.5 +3.4**
SUJ S **S** **03 37 45.6 +2.3**
HAWA Hanford 78.99 35 P **P** **03 27 41.5 -2.0**
HAWA IAMs_20 IAMs_20 03 55 59.3
comp=Z,9µm,20.0s
PPBI Pangkal Pinang 79.01 271 P **P** **03 27 47.3 +3.0**
comp=Z,9µmcomp=Z,97nm,1.5s
MTPU Mount Pierson 79.07 46 P **P** **03 27 42.0 -2.6**
EYAK Cordova Ski Ar 79.19 14 P **P** **03 27 42.2 -1.9**
EYAK IAmb IAmb 03 27 48.3
comp=Z,80nm,1.2s
NJ2 Nanjing 79.19 308 *e*P **P** **03 27 47.5 +2.6**
NJ2 S **S** **03 37 48.3 +2.3**
NJ2 sS **SKSac** **03 37 54.8 -7.5**
NJ2 SS **SS** **03 42 52.0 -0.6**
NJ2 pmax pmax
comp=Z,39nm,1.6s
NJ2 pmax pmax
comp=Z,530nm,4.6s
NJ2 LR LR
comp=Z,2µm,20.4s
NJ2 LR LR
comp=Z,2µm,20.4s
NJ2 LR LR
comp=Z,3µm,21.3s
B06A Marblemount 79.22 33 IAMs_20 IAMs_20 03 56 39.3
comp=Z,7µm,20.0s
SIT Sitka 79.26 21 P **P** **03 27 42.9 -1.8**
SIT pmax pmax
comp=Z,71nm,1.1s
SIT Sitka 79.26 21 P **P** **03 27 42.9 -1.8**
SIT IAmb IAmb 03 27 49.5
comp=Z,71nm,1.1s
E08A Dider Farm, El 79.32 35 P **P** **03 27 43.3 -1.9**
E08A IAmb IAmb 03 27 49.6
comp=Z,86nm,1.1s
E08A IAMs_20 IAMs_20 03 55 58.7
comp=Z,9µm,20.0s
KNK Knik Glacier 79.36 12 IAMs_20 IAMs_20 03 55 27.3
comp=Z,9µm,21.0s
BMO Blue Mountains 79.38 38 IAMs_20 IAMs_20 03 57 27.6
comp=Z,8µm,19.0s
PMR Palmer 79.38 12 IAMs_20 IAMs_20 03 56 53.0
comp=Z,5µm,21.0s
W18A Petrified Fore 79.42 49 P **P** **03 27 43.9 -2.4**
baz=243,SNR=72
W18A S **S** **03 37 52.8 +4.1**
baz=243
W18A Petrified Fore 79.42 49 IAMs_20 IAMs_20 03 56 07.1
comp=Z,7µm,20.0s
TTA Tatalina 79.44 9 P **P** **03 27 43.9 -1.8**
TTA pmax pmax
comp=Z,110nm,1.1s
TTA Tatalina 79.44 9 P **P** **03 27 43.9 -1.8**
TTA IAmb IAmb 03 27 50.8
comp=Z,110nm,1.1s
TTA IAMs_20 IAMs_20 03 56 52.3
comp=Z,8µm,20.0s
MFID Camas Ranch 79.47 39 P **P** **03 27 44.3 -2.0**
MFID IAmb IAmb 03 27 51.2
comp=Z,105nm,1.1s
GHO Glory Hole Cre 79.59 12 IAMs_20 IAMs_20 03 58 57.3
comp=Z,5µm,20.0s
DUG Dugway, Tooele 79.71 43 P **P** **03 27 44.6 -3.1**
baz=240,SNR=117
DUG Dugway, Tooele 79.71 43 P **P** **03 27 45.6 -2.2**
DUG pmax pmax
comp=Z,60nm,1.1s
DUG Dugway, Tooele 79.71 43 P **P** **03 27 45.6 -2.2**
DUG IAmb IAmb 03 27 52.1

	comp=Z,60nm,1.1s								
DUG					IAMs_20	IAMs_20	03 59 59.2		
	comp=Z,6µm,18.0s								
121A	**Cookes Peak, D**	**79.72**	**52**		P	**P**	**03 27 46.9**	**-1.1**	
	baz=244,SNR=54								
121A					S	**S**	**03 37 53.7**	**+1.7**	
	baz=244								
121A	**Cookes Peak, D**	**79.72**	**52**		P	**P**	**03 27 45.9**	**-2.2**	
121A					IAMs_20	IAMs_20	03 55 39.6		
	comp=Z,8µm,20.0s								
D08A	**Wollman Farm,**	**79.72**	**35**		P	**P**	**03 27 45.5**	**-2.0**	
D08A					IAMs_20	IAMs_20	03 56 30.6		
	comp=Z,7µm,20.0s								
SML	**Sawmill**	**79.74**	**12**		IAMs_20	IAMs_20	03 56 00.4		
	comp=Z,7µm,21.0s								
MA2	**Magadan**	**79.81**	**343**	⇓	*e*P	**P**	**03 27 49.3**	**+1.7**	
MA2					pmax	pmax			
	comp=Z,155nm,1.6s								
MA2					MLR	MLR			
	comp=Z,2µm,17.0s								
MA2	**Magadan**	**79.81**	**343**		P	**P**	**03 27 45.6**	**-2.0**	
WRAK	**Wrangell Islan**	**79.82**	**22**		IAMs_20	IAMs_20	03 54 07.1		
	comp=Z,8µm,22.0s								
E09A	**Wood Farm, Sta**	**79.84**	**36**		IAMs_20	IAMs_20	03 56 34.8		
	comp=Z,7µm,20.0s								
CUT	**Chulitna**	**79.90**	**11**		P	**P**	**03 27 45.2**	**-2.9**	
	baz=204,SNR=38								
CUT					S	**S**	**03 37 53.0**	**+0.7**	
	baz=204								
BGU	**Big Grassy Mou**	**79.94**	**43**		P	**P**	**03 27 46.8**	**-2.2**	
SCM	**Sheep Creek Mo**	**79.98**	**13**		IAMs_20	IAMs_20	03 55 11.6		
	comp=Z,9µm,22.0s								
PPLA	**Purkeypile**	**80.01**	**10**		P	**P**	**03 27 47.0**	**-1.9**	
PPLA					IAmb	IAmb	03 27 54.1		
	comp=Z,48nm,1.1s								
PPLA					IAMs_20	IAMs_20	03 57 31.5		
	comp=Z,9µm,20.0s								
ANM	**Nome**	**80.05**	**4**		IAMs_20	IAMs_20	03 58 08.2		
	comp=Z,6µm,20.0s								
F10A	**Beach Ranch, E**	**80.06**	**37**		IAMs_20	IAMs_20	03 57 06.5		
	comp=Z,5µm,20.0s								
ZAIG	**Zacatecas**	**80.10**	**63**		P	**P**	**03 27 48.0**	**-2.4**	
GZH	**Guangzhou**	**80.11**	**297**		P	**P**	**03 27 50.5**	**+0.4**	
GZH					S	**S**	**03 37 55.3**	**-0.7**	
GZH					SS	**SS**	**03 43 08.0**	**+1.3**	
GZH					LR	LR			
	comp=Z,2µm,18.1s								
GZH					LR	LR			
	comp=Z,2µm,21.9s								
PMBI	**Palembang**	**80.12**	**270**		IAMs_20	IAMs_20	04 01 35.7		
	comp=Z,6µm,22.0s								
B08A	**Colville Reser**	**80.27**	**34**		P	**P**	**03 27 48.5**	**-2.0**	
B08A					IAmb	IAmb	03 27 54.7		
	comp=Z,114nm,1.1s								
CN2	**Changchun**	**80.31**	**321**		*e*P	**P**	**03 27 49.3**	**-1.4**	
CN2					*e*S	**S**	**03 37 57.5**	**+0.2**	
CN2					pmax	pmax			
	comp=Z,50nm,1.7s								
CN2					pmax	pmax			
	comp=Z,1µm,6.1s								
DL2	**Dalian**	**80.31**	**315**	⇓	P	**P**	**03 27 53.3**	**+2.5**	
DL2					PP	**PP**	**03 30 54.8**	**+1.0**	
DL2					S	**S**	**03 37 59.8**	**+2.3**	
DL2					pmax	pmax			
	comp=Z,74nm,1.5s								
DL2					pmax	pmax			
	comp=Z,1µm,5.3s								
DL2					LR	LR			
	comp=Z,3µm,16.6s								
DL2					LR	LR			
	comp=Z,2µm,23.8s								
DL2					LR	LR			
	comp=Z,3µm,20.7s								
VRDI	**Verde Repeater**	**80.33**	**15**		P	**P**	**03 27 48.7**	**-2.0**	
VRDI					IAMs_20	IAMs_20	03 56 40.1		
	comp=Z,7µm,20.0s								
EPT	**El Paso**	**80.38**	**53**		IAMs_20	IAMs_20	03 55 40.2		
	comp=Z,6µm,20.0s								
N25K	**Chitina, Valde**	**80.39**	**14**		P	**P**	**03 27 47.3**	**-3.6**	
	baz=209,SNR=73								
N25K					S	**S**	**03 37 56.9**	**-0.7**	
	baz=209								
N25K	**Chitina, Valde**	**80.39**	**14**		IAMs_20	IAMs_20	03 56 03.5		
	comp=Z,7µm,21.0s								
HLID	**Hailey**	**80.42**	**40**		P	**P**	**03 27 50.3**	**-1.3**	
	baz=238,SNR=223								
HLID	**Hailey**	**80.42**	**40**		P	**P**	**03 27 49.4**	**-2.2**	
GLB	**Gilahina Butte**	**80.43**	**14**		P	**P**	**03 27 49.1**	**-1.9**	
GLB					IAmb	IAmb	03 27 55.3		
	comp=Z,125nm,1.1s								
GLB					IAMs_20	IAMs_20	03 55 09.7		
	comp=Z,7µm,22.0s								
SNY	**Shenyang**	**80.46**	**318**	⇑	P	**P**	**03 27 51.0**	**-0.5**	
SNY					S	**S**	**03 38 03.3**	**+4.4**	
SNY					pmax	pmax			
	comp=Z,27nm,2.1s								
SNY					pmax	pmax			
	comp=Z,560nm,3.5s								
SNY					LR	LR			
	comp=Z,1µm,17.6s								
SNY					LR	LR			
	comp=Z,2µm,21.2s								
SNY					LR	LR			
	comp=Z,2µm,18.5s								
M24K	**Tolsona, Glenn**	**80.47**	**13**		P	**P**	**03 27 48.2**	**-3.1**	
	baz=208,SNR=59								
M24K					S	**S**	**03 37 59.5**	**+1.1**	
	baz=208								
M24K	**Tolsona, Glenn**	**80.47**	**13**		P	**P**	**03 27 49.2**	**-2.0**	
M24K					IAMs_20	IAMs_20	03 57 58.7		
	comp=Z,7µm,20.0s								
C09A	**Chrisman Ranch**	**80.52**	**35**		P	**P**	**03 27 49.8**	**-2.0**	
C09A					IAmb	IAmb	03 27 55.8		
	comp=Z,53nm,1.0s								
C09A					IAMs_20	IAMs_20	03 55 12.5		
	comp=Z,6µm,22.0s								
MCARA	**McCarthy VSAT**	**80.57**	**15**		IAMs_20	IAMs_20	03 59 58.5		
	comp=Z,7µm,19.0s								
CTU	**Camp Tracy**	**80.66**	**43**		P	**P**	**03 27 50.5**	**-2.4**	
SRU	**San Rafael Swe**	**80.72**	**45**		P	**P**	**03 27 51.1**	**-2.2**	
SRU					pmax	pmax			
	comp=Z,84nm,1.2s								
SRU	**San Rafael Swe**	**80.72**	**45**		P	**P**	**03 27 51.1**	**-2.2**	
KTH	**Kantishna Hill**	**80.84**	**11**		P	**P**	**03 27 51.4**	**-1.9**	
TNA	**Tin City**	**80.89**	**3**		P	**P**	**03 27 51.4**	**-1.9**	
	baz=187								
TNA	**Tin City**	**80.89**	**3**		IAMs_20	IAMs_20	03 58 13.3		
	comp=Z,9µm,20.0s								
DSRI	**Dabo**	**80.95**	**272**		P	**P**	**03 27 58.2**	**+3.3**	
	comp=Z,1µmcomp=Z,61nm,1.8s								
Y22D	**IRIS PASSCAL I**	**81.04**	**51**		P	**P**	**03 27 54.9**	**-0.2**	
	baz=245								
Y22D	**IRIS PASSCAL I**	**81.04**	**51**		IAMs_20	IAMs_20	03 56 21.2		
	comp=Z,6µm,20.0s								
RND	**Reindeer**	**81.09**	**11**		P	**P**	**03 27 52.6**	**-1.9**	
RND					pmax	pmax			
	comp=Z,142nm,1.2s								
RND	**Reindeer**	**81.09**	**11**		P	**P**	**03 27 52.6**	**-1.9**	
MNTX	**Cornudas Mount**	**81.22**	**54**		P	**P**	**03 27 55.6**	**-0.3**	
	baz=246,SNR=99								
MNTX	**Cornudas Mount**	**81.22**	**54**		P	**P**	**03 27 53.7**	**-2.2**	
MNTX					IAMs_20	IAMs_20	03 56 46.5		
	comp=Z,5µm,20.0s								
HWUT	**Hardware Ranch**	**81.23**	**43**		P	**P**	**03 27 53.6**	**-2.3**	
HWUT					IAMs_20	IAMs_20	04 02 39.4		
	comp=Z,6µm,18.0s								
MVCO	**Mesa Verde**	**81.26**	**48**		P	**P**	**03 27 56.3**	**0.0**	
	baz=243,SNR=31								
MVCO	**Mesa Verde**	**81.26**	**48**		IAmb	IAmb	03 28 09.4		
	comp=Z,38nm,1.1s								
MVCO					IAMs_20	IAMs_20	03 56 10.7		
	comp=Z,6µm,20.0s								
BPAW	**Bear Paw Mtn.**	**81.34**	**10**		P	**P**	**03 27 54.1**	**-1.7**	
BPAW					IAmb	IAmb	03 27 58.8		
	comp=Z,36nm,1.1s								
BPAW					IAMs_20	IAMs_20	03 56 49.5		
	comp=Z,6µm,21.0s								
MCK	**McKinley**	**81.37**	**11**		P	**P**	**03 27 53.9**	**-2.1**	
	baz=205,SNR=100								
PAX	**Paxson**	**81.39**	**13**		IAMs_20	IAMs_20	03 57 31.0		
	comp=Z,9µm,20.0s								
NEW	**Newport**	**81.41**	**35**		P	**P**	**03 27 55.4**	**-1.2**	
	comp=Z,42nm,1.2s,baz=231,slow=3.7,SNR=19								
NEW	**Newport**	**81.41**	**35**		P	**P**	**03 27 54.8**	**-1.8**	
	baz=235,SNR=22								
NEW	**Newport**	**81.41**	**35**		IAmb	IAmb	03 28 00.2		
	comp=Z,32nm,1.1s								
NEW	**Newport**	**81.41**	**35**		IAMs_20	IAMs_20	03 57 11.3		
	comp=Z,6µm,20.0s								
PV19	**Morning Glory**	**81.41**	**46**		IAMs_20	IAMs_20	03 57 17.7		
	comp=Z,6µm,20.0s								
PV14	**Lion Creek, Pa**	**81.42**	**46**		IAMs_20	IAMs_20	04 02 18.7		
	comp=Z,8µm,18.0s								
PV18	**Skein Mesa, Pa**	**81.44**	**47**		IAMs_20	IAMs_20	04 01 44.3		
	comp=Z,7µm,18.0s								
PV20	**West Nyswonger**	**81.44**	**46**		IAmb	IAmb	03 28 06.1		
	comp=Z,69nm,1.1s								
PV20					IAMs_20	IAMs_20	04 00 10.3		
	comp=Z,6µm,18.0s								
PV23	**Carpenter Ridg**	**81.46**	**46**		IAMs_20	IAMs_20	03 59 01.8		
	comp=Z,8µm,19.0s								
PV16	**Nyswonger Mesa**	**81.46**	**46**		IAMs_20	IAMs_20	03 57 18.9		
	comp=Z,6µm,20.0s								
PV03	**Paradox Valley**	**81.48**	**47**		IAMs_20	IAMs_20	03 59 27.5		
	comp=Z,7µm,18.0s								
PV11	**David Mesa, Pa**	**81.49**	**47**		IAMs_20	IAMs_20	03 59 54.6		
	comp=Z,8µm,20.0s								
PV04	**Paradox Valley**	**81.51**	**46**		IAMs_20	IAMs_20	04 00 31.1		
	comp=Z,8µm,18.0s								
MNAI	**Manna**	**81.51**	**268**		P	P	03 28 01.9	+4.1	
	comp=Z,661nm,1.4s								
MNAI	**Manna**	**81.51**	**268**		P	**P**	**03 27 56.8**	**-1.1**	
PV01	**Paradox Valley**	**81.62**	**47**		IAMs_20	IAMs_20	04 02 15.3		
	comp=Z,8µm,19.0s								
TX31	**Lajitas Ar. Si**	**81.64**	**57**		IAmb	IAmb	03 28 09.6		
	comp=Z,110nm,1.1s								
TXAR	**Lajitas Array**	**81.64**	**57**		P	**P**	**03 27 58.1**	**-0.2**	
	comp=Z,59nm,1.1s,baz=225,slow=5.1,SNR=46								
TXAR					PP	**PP**	**03 31 03.9**	**-1.3**	
	comp=Z,7.5nm,1.3s,baz=221,slow=9.1,SNR=4.2								
TXAR					PKPPKP	P'P'df	03 54 41.9	+7.5	
	comp=Z,0.8nm,1.1s,baz=64,slow=2.9,SNR=4.3								
TXAR					LR	LR	03 56 34.0		
	comp=Z,3µm,21.0s,baz=0.0,slow=30								
TXAR	**Lajitas Array**	**81.64**	**57**		P	**P**	**03 27 56.9**	**-1.4**	
TXAR	**Lajitas Array**	**81.64**	**57**		P	**P**	**03 27 56.9**	**-1.4**	
PV22	**Blue Mesa, Par**	**81.65**	**46**		IAMs_20	IAMs_20	03 57 25.0		
	comp=Z,6µm,20.0s								
PV07	**Paradox Valley**	**81.71**	**46**		IAMs_20	IAMs_20	03 57 27.5		
	comp=Z,6µm,20.0s								
ANMO	**Albuquerque**	**81.75**	**50**		P	**P**	**03 27 58.1**	**-0.9**	
	baz=229,slow=5.6								
ANMO	**Albuquerque**	**81.75**	**50**		P	**P**	**03 27 58.7**	**-0.2**	
	baz=245								
ANMO	**Albuquerque**	**81.75**	**50**	*ce*	P	**P**	**03 27 58.0**	**-0.9**	
ANMO					pmax	pmax			
	comp=Z,54nm,1.5s								
ANMO					MLR	MLR			
	comp=Z,3µm,16.0s								
ANMO	**Albuquerque**	**81.75**	**50**		P	**P**	**03 27 57.5**	**-1.4**	
ANMO					IAmb	IAmb	03 28 10.7		
	comp=Z,57nm,1.1s								
ANMO	**Albuquerque**	**81.75**	**50**		IAMs_20	IAMs_20	03 57 25.2		
	comp=Z,7µm,20.0s								
QIZ	**Qiongzhong**	**81.77**	**292**		P	**P**	**03 27 59.3**	**+0.2**	
QIZ					pP	**PcP**	**03 28 07.3**	**+2.5**	
QIZ					S	**S**	**03 38 11.0**	**-2.5**	
QIZ					pmax	pmax			
	comp=Z,28nm,2.8s								
QIZ					pmax	pmax			
	comp=Z,490nm,8.8s								
QIZ					LR	LR			
	comp=Z,2µm,27.0s								
QIZ					LR	LR			
	comp=Z,2µm,23.5s								
QIZ					LR	LR			
	comp=Z,3µm,26.5s								
L26K	**Log Cabin Wild**	**81.91**	**14**		P	**P**	**03 27 57.1**	**-1.7**	
	baz=210,SNR=97								
KSI	**Kapahiang**	**82.04**	**268**		P	P	03 28 09.5	+8.8	
WHN	**Wuhan**	**82.08**	**305**	⇑	P	**P**	**03 27 59.8**	**-0.6**	
WHN					S	**SKSac**	**03 38 24.5**	**+2.2**	
WHN					LR	LR			
	comp=Z,2µm,11.2s								
WHN					LR	LR			
	comp=Z,2µm,13.0s								
WHN					LR	LR			
	comp=Z,9µm,28.0s								
AHID	**Auburn Hatcher**	**82.10**	**42**		IAMs_20	IAMs_20	04 00 39.3		
	comp=Z,5µm,18.0s								
NEA2	**Nenana**	**82.13**	**11**		P	**P**	**03 27 58.3**	**-1.6**	
	baz=205,SNR=18								
DLBC	**Dease Lake**	**82.17**	**22**		P	**P**	**03 27 58.2**	**-2.1**	
	comp=Z,14nm,0.9s,baz=304,slow=0.6,SNR=9.8								
RIDG	**Independent Ri**	**82.20**	**13**		P	**P**	**03 27 59.3**	**-1.1**	
SEY	**Seymchan**	**82.22**	**345**		P	**P**	**03 27 59.0**	**-1.4**	
	comp=Z,64nm,1.1s,baz=126,slow=5.2,SNR=14								
SEY					LR	LR	04 00 43.7		
	comp=Z,5µm,19.8s,baz=138,slow=33								
SEY	**Seymchan**	**82.22**	**345**	⇑	*e*P	**P**	**03 28 01.3**	**+0.9**	
WHY	**Whitehorse**	**82.23**	**19**		IAmb	IAmb	03 28 05.0		
	comp=Z,65nm,1.1s								
MLY	**Manley**	**82.24**	**10**		P	**P**	**03 27 58.0**	**-2.6**	
	baz=203,SNR=38								
MYKOM	**Kola Tinggi**	**82.26**	**274**		P	**P**	**03 28 01.0**	**-0.8**	
TIA	**Tai'an**	**82.28**	**311**		P	**P**	**03 27 59.8**	**-1.6**	
TIA					S	**S**	**03 38 20.0**	**+1.9**	
TIA					pmax	pmax			
	comp=Z,10.0nm,2.6s								
TIA					pmax	pmax			
	comp=Z,630nm,5.9s								
TIA					LR	LR			
	comp=Z,2µm,15.1s								
TIA					LR	LR			
	comp=Z,3µm,19.6s								
TIA					LR	LR			
	comp=Z,3µm,21.2s								
DOT	**Dot Lake**	**82.29**	**13**		IAMs_20	IAMs_20	03 56 33.8		
	comp=Z,10µm,22.0s								
HDA	**Harding Lake**	**82.36**	**12**		IAMs_20	IAMs_20	03 57 06.7		
	comp=Z,6µm,21.0s								
MSO	**Missoula**	**82.43**	**37**		P	**P**	**03 27 59.2**	**-2.9**	
	baz=238,SNR=80								
MSO	**Missoula**	**82.43**	**37**		IAmb	IAmb	03 28 05.6		
	comp=Z,44nm,1.1s								
MSO					IAMs_20	IAMs_20	03 58 42.3		
	comp=Z,7µm,20.0s								
DLMT	**Dillon**	**82.47**	**39**		IAMs_20	IAMs_20	03 58 23.6		
	comp=Z,6µm,20.0s								
TPAW	**Teton Pass**	**82.55**	**41**		IAmb	IAmb	03 28 07.6		
	comp=Z,105nm,1.1s								
I23K	**Minto, Yukon-K**	**82.58**	**10**		P	**P**	**03 27 59.8**	**-2.4**	
	baz=205,SNR=44								
SCRK	**Sand Creek**	**82.60**	**13**		P	**P**	**03 27 58.5**	**-4.1**	
	baz=210,SNR=80								
TCOL	**CIGO, UAF Yank**	**82.60**	**11**		P	**P**	**03 28 00.8**	**-1.6**	
	baz=206,SNR=28								
COLA	**College**	**82.61**	**11**	*ce*	P	**P**	**03 28 00.6**	**-1.8**	
COLA					pmax	pmax			
	comp=Z,122nm,2.0s								
COLA					MLR	MLR			
	comp=Z,5µm,17.0s								
S22A	**4UR Ranch, Cre**	**82.69**	**48**		P	**P**	**03 28 03.1**	**-0.7**	
	baz=244,SNR=314								
S22A	**4UR Ranch, Cre**	**82.69**	**48**		P	**P**	**03 28 02.2**	**-1.6**	
S22A					IAmb	IAmb	03 28 13.9		
	comp=Z,55nm,1.1s								
S22A					IAMs_20	IAMs_20	03 57 08.5		
	comp=Z,8µm,20.0s								
ILAR	**Eielson Array**	**82.70**	**12**		P	**P**	**03 28 00.3**	**-2.6**	
	comp=Z,37nm,1.1s,baz=198,slow=3.0,SNR=41								
ILAR					PP	**PP**	**03 31 14.4**	**+1.5**	
	comp=Z,2.2nm,0.9s,baz=221,slow=7.4,SNR=4.0								
ILAR					PKKPbc	**PKKPbc**	**03 46 30.5**	**-0.4**	
	comp=Z,0.9nm,1.0s,baz=320,slow=3.5,SNR=4.6								
ILAR					PKPPKP	P'P'df	03 54 36.8	+8.2	
	comp=Z,1.0nm,1.0s,baz=353,slow=3.7,SNR=5.2								
ILAR					LR	LR	03 57 51.7		
	comp=Z,6µm,21.9s,baz=218,slow=31								
JTMT	**Jette**	**82.72**	**36**		IAmb	IAmb	03 28 07.4		
	comp=Z,56nm,1.2s								
JTMT					IAMs_20	IAMs_20	03 58 55.0		
	comp=Z,4µm,20.0s								
O20A	**White River Ci**	**82.76**	**45**		P	**P**	**03 28 03.5**	**-0.6**	
	baz=243,SNR=73								
O20A	**White River Ci**	**82.76**	**45**		P	**P**	**03 28 02.7**	**-1.4**	
O20A					IAmb	IAmb	03 28 13.2		
	comp=Z,69nm,1.1s								
O20A					IAMs_20	IAMs_20	03 57 58.0		
	comp=Z,7µm,20.0s								
IMW	**Indian Meadow**	**82.76**	**41**		IAMs_20	IAMs_20	04 02 25.5		
	comp=Z,4µm,18.0s								
POKR	**Poker Plat Res**	**82.90**	**11**		P	**P**	**03 28 01.0**	**-3.0**	
	baz=206,SNR=89								
K27K	**Chicken**	**83.07**	**14**		P	**P**	**03 28 04.8**	**0.0**	
	baz=212								
K27K	**Chicken**	**83.07**	**14**		IAMs_20	IAMs_20	03 58 42.5		
	comp=Z,9µm,20.0s								
BW06	**Boulder Array**	**83.10**	**42**		P	**P**	**03 28 05.7**	**-0.1**	
	baz=242,SNR=45								
BW06	**Boulder Array**	**83.10**	**42**		IAMs_20	IAMs_20	03 59 52.7		
	comp=Z,5µm,19.0s								
PDAR	**Pinedale Array**	**83.10**	**42**		P	**P**	**03 28 05.1**	**-0.7**	
	comp=Z,103nm,1.1s,baz=221,slow=3.0,SNR=49								
PDAR					PP	**PP**	**03 31 18.6**	**+1.5**	
	comp=Z,5.6nm,1.1s,baz=256,slow=6.0,SNR=6.6								
PDAR					PKKPbc	**PKKPbc**	**03 46 29.1**	**-0.1**	
	comp=Z,1.7nm,1.0s,baz=90,slow=3.0,SNR=9.5								
PDAR					PKPPKP	P'P'df	03 54 38.1	+7.7	
	comp=Z,1.4nm,1.0s,baz=90,slow=3.0,SNR=6.1								
PDAR					LR	LR	04 00 23.0		
	comp=Z,4µm,18.9s,baz=248,slow=32								
PDAR	**Pinedale Array**	**83.10**	**42**		P	**P**	**03 28 04.4**	**-1.4**	
BOZ	**Bozeman (W)**	**83.17**	**39**		P	**P**	**03 28 04.8**	**-1.2**	
	baz=240,SNR=117								
BOZ	**Bozeman (W)**	**83.17**	**39**		IAMs_20	IAMs_20	03 57 45.3		
	comp=Z,6µm,21.0s								
H17A	**Grant Village**	**83.23**	**40**		P	**P**	**03 28 07.3**	**+0.8**	
	baz=241,SNR=32								
WALA	**Waterton Lakes**	**83.63**	**35**		IAmb	IAmb	03 28 15.8		
	comp=Z,53nm,1.1s								
WALA					IAMs_20	IAMs_20	03 57 51.9		
	comp=Z,7µm,21.0s								
SDCO	**Great Sand Dun**	**83.64**	**48**		P	**P**	**03 28 07.2**	**-1.6**	
	baz=245,SNR=131								
SDCO	**Great Sand Dun**	**83.64**	**48**		IAMs_20	IAMs_20	03 58 17.7		
	comp=Z,5µm,20.0s								
RDOG	**Red Dog Mine**	**83.67**	**4**		IAmb	IAmb	03 28 27.6		
	comp=Z,53nm,1.2s								
RDOG					IAMs_20	IAMs_20	03 58 05.0		
	comp=Z,7µm,22.0s								
EGAK	**Eagle**	**83.92**	**14**		P	**P**	**03 28 08.1**	**-1.1**	
MSTX	**Muleshoe**	**84.14**	**53**		P	**P**	**03 28 11.1**	**-0.1**	
	baz=247,SNR=58								
MSTX	**Muleshoe**	**84.14**	**53**		IAMs_20	IAMs_20	03 58 11.6		
	comp=Z,8µm,21.0s								
T25A	**Trinidad**	**84.17**	**49**		P	**P**	**03 28 11.2**	**-0.2**	
	baz=246,SNR=48								
T25A	**Trinidad**	**84.17**	**49**		P	**P**	**03 28 10.0**	**-1.4**	
COLD	**Coldfoot**	**84.35**	**9**		P	**P**	**03 28 10.7**	**-0.6**	
	baz=204,SNR=93								
COLD	**Coldfoot**	**84.35**	**9**		IAMs_20	IAMs_20	04 02 02.0		
	comp=Z,5µm,19.0s								
BILL	**Bilibino**	**84.36**	**353**	⇓	*e*P	**P**	**03 28 11.8**	**+0.4**	
BILL					*e*		03 31 24.6		
BILL					*e*PPP	PPP	03 33 17.6		
BILL					*i* S	**SKSac**	**03 38 33.8**	**-1.9**	
BILL					*e*SS	**SS**	**03 44 03.6**	**-4.6**	
BILL					pmax	pmax			
	comp=Z,96nm,1.0s								
RLMT	**Red Lodge**	**84.40**	**40**		P	**P**	**03 28 12.4**	**0.0**	
	baz=242,SNR=106								
RLMT	**Red Lodge**	**84.40**	**40**		P	**P**	**03 28 10.9**	**-1.5**	
RLMT					IAMs_20	IAMs_20	04 03 31.8		
	comp=Z,4µm,18.0s								
Q24A	**Divide**	**84.40**	**47**		P	**P**	**03 28 12.4**	**-0.3**	
	baz=245,SNR=59								
Q24A	**Divide**	**84.40**	**47**		IAMs_20	IAMs_20	03 58 57.7		
	comp=Z,7µm,20.0s								
ISCO	**Idaho Springs**	**84.42**	**46**		P	**P**	**03 28 12.7**	**0.0**	
	baz=245,SNR=75								
ISCO	**Idaho Springs**	**84.42**	**46**		P	**P**	**03 28 11.2**	**-1.6**	
ISCO					pmax	pmax			
	comp=Z,42nm,1.2s								
ISCO	**Idaho Springs**	**84.42**	**46**		P	**P**	**03 28 11.2**	**-1.6**	
ISCO					IAmb	IAmb	03 28 30.7		
	comp=Z,42nm,1.1s								
ISCO					IAMs_20	IAMs_20	04 00 40.3		
	comp=Z,6µm,18.0s								
UBPT	**Khong Chiam**	**84.56**	**287**		IAmb	IAmb	03 28 18.4		
	comp=Z,30nm,1.1s								
BKNI	**Bangkinang**	**84.57**	**272**		P	P	03 28 19.7	+6.0	
	comp=Z,60µmcomp=Z,159nm,2.5s								
BJI	**Beijing**	**84.59**	**314**		P	**P**	**03 28 12.5**	**-0.6**	
BJI					S	**S**	**03 38 44.0**	**+2.7**	
BJI					SS	**SS**	**03 44 12.0**	**-0.6**	
BJI					pmax	pmax			
	comp=Z,24nm,1.5s								
BJI					pmax	pmax			
	comp=Z,510nm,4.4s								
BJI					LR	LR			
	comp=Z,1µm,13.1s								
BJI					LR	LR			
	comp=Z,2µm,22.0s								
BJI					LR	LR			
	comp=Z,2µm,22.2s								
N23A	**Red Feather La**	**84.66**	**45**		P	**P**	**03 28 12.8**	**-1.1**	
	baz=244,SNR=80								
N23A	**Red Feather La**	**84.66**	**45**		IAMs_20	IAMs_20	03 57 36.5		
	comp=Z,7µm,22.0s								
PMSA	**Palmer Station**	**84.66**	**156**	*e*	P	P	03 28 18.9	+5.8	
833A	**Chaparral WMA,**	**84.76**	**59**		P	**P**	**03 28 12.8**	**-1.5**	
	baz=250,SNR=12							

comp=Z,5µm,20.0s
MNSI Mandailing Nat 86.11 272 P **P** **03 28 23.7 +2.3**
KSCO Kaye Shedlock' 86.21 48 P **P** **03 28 18.8 -2.7**
baz=247,SNR=11
KSCO S **S** **03 38 58.1 +0.4**
baz=247
KSCO Kaye Shedlock' 86.21 48 IAMs_20 IAMs_20 03 59 03.9
comp=Z,5µm,21.0s
H03S2 Juan Fernandez 86.22 124 T T 05 03 45.9
baz=252,slow=75,SNR=172
H03S1 Juan Fernandez 86.23 124 T T 05 03 47.0
H03S3 Juan Fernandez 86.23 124 T T 05 03 47.0
baz=252,slow=75,SNR=118
KULM Kulm 86.28 276 P **P** **03 28 20.8 -1.4**
KULM IAmb IAmb 03 28 27.7
comp=Z,33nm,1.1s
KULM Kulm 86.28 276 P **P** **03 28 22.0 -0.2**
TIY Taiyuan 86.32 311 *e*P P 03 28 26.5 +4.5
TIY S S 03 39 07.3 +8.6
TIY SS **SS** **03 44 44.8 +6.3**
TIY pmax pmax
comp=Z,65nm,1.2s
TIY pmax pmax
comp=Z,560nm,3.9s
TIY LR LR
comp=Z,1µm,13.9s
TIY LR LR
comp=Z,1µm,12.9s
TIY LR LR
comp=Z,3µm,18.6s
GYA Guiyang 86.96 298 ⇑P **P** **03 28 26.8 +1.4**
GYA pP pwP 03 28 37.8 +10
GYA PP **PP** **03 31 54.5 +5.8**
GYA S **S** **03 39 10.3 +4.8**
GYA pmax pmax
comp=Z,30nm,1.5s
GYA pmax pmax
comp=Z,610nm,3.5s
GYA LR LR
comp=Z,1µm,19.2s
GYA LR LR
comp=Z,1µm,18.2s
GYA LR LR
comp=Z,3µm,20.6s
LAO LASA Array 87.00 40 P **P** **03 28 25.8 +0.6**
baz=244,SNR=67
LAO LASA Array 87.00 40 IAmb IAmb 03 28 39.2
comp=Z,54nm,1.1s
435B Jarrell 87.08 57 P **P** **03 28 24.9 -0.9**
baz=250,SNR=6.0
435B S **S** **03 39 06.5 +0.3**
baz=250
RPSI Rantau Prapat 87.24 274 IAmb IAmb 03 28 32.1
comp=Z,27nm,1.1s
RSSD Black Hills 87.30 43 P **P** **03 28 23.4 -3.4**
baz=246
RSSD Black Hills 87.30 43 P **P** **03 28 25.6 -1.3**
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD Black Hills 87.30 43 P **P** **03 28 25.6 -1.3**
RSSD IAmb IAmb 03 28 40.9
comp=Z,26nm,1.1s
RSSD Black Hills 87.30 43 IAMs_20 IAMs_20 04 01 30.0
comp=Z,5µm,20.0s
MAW Mawson 87.39 199 P **P** **03 28 26.7 +0.2**
comp=Z,9.8nm,0.8s,baz=114,slow=6.1,SNR=40
MAW LR LR 04 06 06.7
comp=Z,10µm,18.2s,baz=112,slow=35
MAW Mawson 87.39 199 P **P** **03 28 27.1 +0.6**
baz=87,SNR=37
A21K Barrow 87.40 6 P **P** **03 28 25.4 -1.0**
baz=197
A21K S **S** **03 39 05.4 -2.0**
baz=197
A21K Barrow 87.40 6 IAMs_20 IAMs_20 04 03 15.5
comp=Z,4µm,20.0s
WMOK Wichita Mounta 87.49 53 P **P** **03 28 27.9 +0.2**
baz=249,SNR=5.5
WMOK Wichita Mounta 87.49 53 IAMs_20 IAMs_20 04 00 08.4
comp=Z,6µm,20.0s
WHTX Lake Whitney, 87.59 56 P **P** **03 28 27.8 -0.4**
baz=250,SNR=21
WHTX S **S** **03 39 11.8 +0.7**
baz=250
WHTX Lake Whitney, 87.59 56 IAmb IAmb 03 28 37.0
comp=Z,55nm,1.1s
WHTX IAMs_20 IAMs_20 04 00 10.4
comp=Z,5µm,20.0s
XAN Xi'an 87.64 306 P **P** **03 28 30.5 +2.0**
XAN pP pwP 03 28 40.8 +10
XAN S **SKSac** **03 39 00.5 +2.6**
XAN pmax pmax
comp=Z,82nm,1.1s
XAN pmax pmax
comp=Z,870nm,3.9s
XAN LR LR
comp=Z,2µm,15.2s
XAN LR LR
comp=Z,2µm,20.2s
XAN LR LR
comp=Z,3µm,18.9s
SLVN Son La 87.78 293 IAmb IAmb 03 28 34.2
comp=Z,42nm,1.1s
U32A Winter Ranch, 87.90 51 IAMs_20 IAMs_20 04 01 14.0
comp=Z,6µm,20.0s
HHC Hu-ho-hao-te 88.14 313 *e*P **P** **03 28 31.0 +0.3**
HHC PP **PP** **03 32 00.0 +2.2**
HHC S **SKKSac** **03 39 10.3 -0.6**
HHC SS **SS** **03 45 02.0 -3.0**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,580nm,6.2s
HHC LR LR
comp=Z,2µm,16.9s
HHC LR LR
comp=Z,2µm,15.4s
HHC LR LR
comp=Z,2µm,19.6s
GSI Gunungsitoli 88.17 272 P P 03 28 35.2 +3.8
comp=Z,8µmcomp=Z,132nm,1.6s
GSI Gunungsitoli 88.17 272 IAMs_20 IAMs_20 04 06 30.8
comp=Z,6µm,21.0s
X34A Smith Ranch, M 88.18 53 IAmb IAmb 03 28 38.2
comp=Z,30nm,1.2s
X34A IAMs_20 IAMs_20 04 01 56.6
comp=Z,4µm,20.0s
Z35A Perchaven, San 88.20 55 P **P** **03 28 29.9 -1.2**
Z35A IAmb IAmb 03 28 41.6
comp=Z,32nm,0.9s
Z35A IAMs_20 IAMs_20 04 00 31.4
comp=Z,5µm,21.0s
CBKS Cedar Bluff 88.23 49 P **P** **03 28 29.9 -1.3**
baz=249,SNR=11
CBKS Cedar Bluff 88.23 49 P **P** **03 28 30.2 -0.9**
CBKS pmax pmax
comp=Z,72nm,1.2s
CBKS Cedar Bluff 88.23 49 P **P** **03 28 30.2 -0.9**
CBKS IAMs_20 IAMs_20 04 01 42.3
comp=Z,5µm,20.0s
HKT Hockley 88.23 58 *de*P **P** **03 28 32.8 +1.6**
HKT pmax pmax
comp=Z,199nm,1.7s
HKT MLR MLR
comp=Z,2µm,17.0s
HKT Hockley 88.23 58 P **P** **03 28 30.2 -1.0**
INK Inuvik 88.58 14 P **P** **03 28 30.9 -1.1**
comp=Z,38nm,1.0s,baz=188,slow=5.4,SNR=23
INK LR LR 04 00 39.5
comp=Z,5µm,22.0s,baz=213,slow=30
INK Inuvik 88.58 14 IAMs_20 IAMs_20 03 59 57.0
comp=Z,7µm,22.0s
YAK Yakutsk 88.64 337 P **P** **03 28 31.8 -0.6**
comp=Z,13nm,0.4s,baz=48,slow=3.6,SNR=8.9
YAK LR LR 04 02 31.1
comp=Z,877nm,21.8s,baz=127,slow=32
YAK Yakutsk 88.64 337 *e*P **P** **03 28 33.0 +0.6**
YAK *e**PP pwP 03 28 44.2 +9.3
YAK *e* 03 31 57.3
YAK *e*S **SKSac** **03 39 01.4 -1.0**
YAK pmax pmax
comp=Z,96nm,1.3s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,33nm,1.5s
YAK pmax pmax
comp=Z,507nm,5.4s
YAK pmax pmax
comp=N,381nm,4.9s
YAK pmax pmax
comp=E,319nm,4.1s
YAK smax smax
comp=E,626nm,5.9s
YAK smax smax
comp=N,1µm,6.6s
YAK Yakutsk 88.64 337 P **P** **03 28 31.5 -1.0**
OKCFA Oklahoma City 88.75 53 IAMs_20 IAMs_20 04 01 08.6
comp=Z,6µm,21.0s
R32A Long Quarter, 88.84 50 P **P** **03 28 32.9 -1.1**
R32A IAMs_20 IAMs_20 04 01 32.6
comp=Z,7µm,20.0s
OK029 Liberty Lake 88.87 52 IAMs_20 IAMs_20 04 01 12.7
comp=Z,7µm,21.0s
OK025 Westminster Rd 88.89 53 IAMs_20 IAMs_20 04 01 24.4
comp=Z,6µm,20.0s
237A Washetta, Mont 88.91 56 P **P** **03 28 33.3 -1.2**
DGMT Dagmar 89.00 39 P **P** **03 28 34.5 -0.1**
baz=245,SNR=64
TPTI 89.07 274 P P 03 28 40.5 +4.9
comp=Z,897nmcomp=Z,42nm,1.8s
BTO Baotou 89.14 313 *e*P **P** **03 28 32.5 -3.0**
SNET Serv Nac Est T 89.29 76 IAMs_20 IAMs_20 04 02 20.0
comp=Z,4µm,18.0s
OK031 S. Brethren Rd 89.40 52 IAMs_20 IAMs_20 04 01 40.8
comp=Z,7µm,20.0s
OK030 Cody Creek RV 89.43 53 IAMs_20 IAMs_20 04 01 50.7
comp=Z,7µm,20.0s
QUOK Quay 89.57 52 IAmb IAmb 03 28 44.2
comp=Z,24nm,1.0s
QUOK IAMs_20 IAMs_20 04 03 36.3
comp=Z,6µm,19.0s
NATX Nacogdoches 89.76 57 P **P** **03 28 38.4 -0.1**
baz=252,SNR=6.5
KMI Kunming 89.92 296 ⇑*i*P P 03 28 43.5 +3.8
KMI pP pwP 03 28 49.0 +6.9
KMI sP sP 03 28 53.3 +14
KMI PP **PP** **03 32 15.3 +2.7**
KMI S **S** **03 39 37.0 +3.2**
KMI sS ScS 03 39 42.3 +4.2
KMI SS **SS** **03 45 34.3 +2.5**
KMI pmax pmax
comp=Z,73nm,1.4s
KMI pmax pmax
comp=Z,520nm,4.0s
KMI LR LR
comp=Z,1µm,16.1s
KMI LR LR
comp=Z,2µm,19.4s
KMI LR LR
comp=Z,3µm,19.0s
T35A Sooner Cattle 89.97 52 IAmb IAmb 03 28 52.0
comp=Z,29nm,1.1s
Z38A Mt. Pleasant 89.97 56 IAMs_20 IAMs_20 04 02 26.4
comp=Z,6µm,20.0s
MLSI Meulaboh, Aceh 90.08 274 P **P** **03 28 43.7 +3.3**
comp=Z,13µmcomp=Z,95nm,1.7s
X37A Clayton 90.09 54 IAMs_20 IAMs_20 04 01 01.3
comp=Z,6µm,21.0s
LC01 Cunco 90.09 130 P **P** **03 28 43.6 +3.6**
LC01 IAmb IAmb 03 28 46.9
comp=Z,60nm,1.1s
LC01 IAMs_20 IAMs_20 04 00 21.0
comp=Z,4µm,20.0s
TUL1 Leonard 90.19 53 P **P** **03 28 39.5 -0.8**
baz=251,SNR=6.9
TUL1 S **S** **03 39 35.2 -0.2**
baz=251
TUL1 Leonard 90.19 53 IAMs_20 IAMs_20 04 02 03.7
comp=Z,6µm,21.0s
BGNE Belgrade 90.28 47 P **P** **03 28 39.9 -0.8**
baz=250
BGNE Belgrade 90.28 47 IAmb IAmb 03 29 00.7
comp=Z,51nm,1.1s
K31A O'Neill 90.29 46 IAMs_20 IAMs_20 04 02 24.4
comp=Z,5µm,20.0s
PLCA Paso Flores 90.41 133 P **P** **03 28 43.1 +1.6**
comp=Z,12nm,1.1s,baz=250,slow=3.4,SNR=13
PLCA LR LR 04 00 21.7
comp=Z,6µm,21.4s,baz=253,slow=30
PLCA Paso Flores 90.41 133 P **P** **03 28 41.6 0.0**
PLCA Paso Flores 90.41 133 P **P** **03 28 41.6 0.0**
PLCA Paso Flores 90.41 133 *e*P **P** **03 28 45.5 +4.0**
E28A Huff 90.44 42 IAMs_20 IAMs_20 04 08 01.4
comp=Z,4µm,18.0s
N33A J Bar K, Exete 90.55 48 IAMs_20 IAMs_20 04 02 32.7
comp=Z,6µm,20.0s
YKA Yellowknife Ar 90.60 24 P **P** **03 28 41.2 -0.5**
comp=Z,54nm,1.1s,baz=243,slow=4.0,SNR=29
YKA PP **PP** **03 32 16.5 -0.3**
comp=Z,4.8nm,1.1s,baz=232,slow=8.0,SNR=5.9
YKA LR LR 04 06 22.0
comp=Z,7µm,18.0s,baz=0.0,slow=34
KSU1 Kansas State U 90.61 50 P **P** **03 28 41.4 -0.9**
baz=251
KSU1 Kansas State U 90.61 50 IAmb IAmb 03 28 48.1
comp=Z,42nm,1.1s
KSU1 Kansas State U 90.61 50 IAMs_20 IAMs_20 04 02 36.6
comp=Z,7µm,20.0s
CD2 Chengdu 90.77 302 P **P** **03 28 42.3 -1.0**
CD2 S **SKKSac** **03 39 36.3 +5.3**
CD2 SS **SS** **03 45 40.5 -3.0**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,270nm,7.2s
CD2 LR LR
comp=Z,2µm,18.1s
CD2 LR LR
comp=Z,3µm,20.2s
CD2 LR LR
comp=Z,4µm,21.0s
SUSD Miller 90.80 44 P **P** **03 28 41.0 -2.0**
baz=249
CIT Chita 91.22 324 *e*P **P** **03 28 44.3 -0.5**
CIT *e* 03 32 24.0
CIT pmax pmax
comp=Z,227nm,1.9s
TGUH Tegucigalpa,Un 91.22 76 IAmb IAmb 03 29 06.0
comp=Z,43nm,1.1s
BI02 San Fabin de 91.30 129 IAmb IAmb 03 28 52.2
comp=Z,64nm,1.1s
BI02 IAMs_20 IAMs_20 04 00 31.8
comp=Z,7µm,20.0s
GO05 Huala 91.37 127 IAMs_20 IAMs_20 04 01 19.5
comp=Z,4µm,20.0s
U38A Gravette 91.43 53 IAMs_20 IAMs_20 04 04 36.7
comp=Z,5µm,19.0s
CMAR Chiang Mai Arr 91.45 289 P **P** **03 28 45.5 -1.1**
comp=Z,19nm,1.0s,baz=91,slow=2.7,SNR=20
CMAR LR LR 04 04 48.3
comp=Z,2µm,21.3s,baz=148,slow=32
CMAR Chiang Mai Arr 91.45 289 *ce*P **P** **03 28 49.2 +2.6**
CMAR pmax pmax
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 91.45 289 P **P** **03 28 45.2 -1.4**
MIAR Mount Ida 91.48 55 P **P** **03 28 46.5 0.0**
baz=252,SNR=10.0
W39A Magazine 91.52 54 P **P** **03 28 46.5 -0.1**
baz=252
W39A S **S** **03 39 52.6 +5.0**
baz=252
W39A Magazine 91.52 54 IAMs_20 IAMs_20 04 01 56.1
comp=Z,6µm,21.0s
CHTO Chiang Mai 91.55 289 P **P** **03 28 45.6 -1.5**
CHTO pmax pmax
comp=Z,31nm,1.0s
CHTO Chiang Mai 91.55 289 P **P** **03 28 45.5 -1.5**
CHTO IAmb IAmb 03 28 52.8
comp=Z,31nm,1.0s
342A Flagon Creek P 91.55 58 IAmb IAmb 03 29 08.1
comp=Z,29nm,1.1s
MDND Maddock 91.60 41 P **P** **03 28 45.5 -1.2**
baz=249
MDND S **S** **03 39 53.0 +5.2**
baz=249
MDND Maddock 91.60 41 IAMs_20 IAMs_20 04 05 45.3
comp=Z,7µm,19.0s
C36M Paulatuk 91.70 16 P **P** **03 28 45.8 -0.7**
baz=228,SNR=11
C36M S **S** **03 39 50.7 +3.0**
baz=228
Z41A Richland Creek 91.71 56 P **P** **03 28 46.2 -1.3**
baz=253,SNR=13
Z41A S **S** **03 39 55.6 +6.2**
baz=253
Z41A Richland Creek 91.71 56 IAMs_20 IAMs_20 04 02 52.6
comp=Z,5µm,20.0s
L34A Svendsen Farm, 91.72 47 IAmb IAmb 03 28 57.1
comp=Z,27nm,1.1s
N35A Tabor 91.89 48 IAMs_20 IAMs_20 04 03 24.1
comp=Z,7µm,21.0s
TEIG Tepich 91.94 70 P **P** **03 28 47.7 -1.2**
X40A Basin Creek Fa 92.05 55 P **P** **03 28 48.5 -0.6**
baz=253,SNR=6.9
X40A S **S** **03 39 54.3 +1.9**
baz=253
ECSD EROS Data Cent 92.14 45 P **P** **03 28 48.5 -0.7**
baz=251,SNR=22
ECSD EROS Data Cent 92.14 45 P **P** **03 28 48.2 -1.0**
MATN Matagalpa 92.19 77 P **P** **03 28 49.0 -1.2**
MATN IAmb IAmb 03 29 00.6
comp=Z,49nm,1.1s
LZH Lanzhou 92.24 307 *e*P **P** **03 28 51.0 +0.9**
LZH pP pwP 03 29 01.5 +8.9
LZH SKS **SKSac** **03 39 21.0 -3.9**
LZH S **S** **03 39 48.5 -5.9**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,430nm,4.6s
LZH LR LR
comp=Z,2µm,19.9s
LZH LR LR
comp=Z,2µm,20.1s
LZH LR LR
comp=Z,2µm,20.2s
VA01 Torpederas 92.26 125 IAMs_20 IAMs_20 03 59 42.5
comp=Z,7µm,22.0s
BO02 Sierra Bellavi 92.33 127 IAMs_20 IAMs_20 04 00 29.0
comp=Z,5µm,21.0s
SYO Syowa Base 92.34 192 ⇑*e*P **P** **03 28 48.0 -1.8**
SYO Syowa Base 92.34 192 ⇓*e*pP pP 03 28 50.6 +0.9
SYO Syowa Base 92.34 192 ⇓*i*sP sP 03 28 51.6 +1.9
JTS Las Juntas de 92.42 80 *d*/P **P** **03 28 53.6 +2.4**
JTS pmax pmax
comp=Z,210nm,1.7s
UALR University of 92.52 55 P **P** **03 28 50.0 -1.2**
MT02 Curacav 92.58 125 IAMs_20 IAMs_20 03 59 52.6
comp=Z,7µm,22.0s
U40A Yellville 92.59 53 P **P** **03 28 51.5 0.0**
baz=253,SNR=32
U40A S **S** **03 39 58.9 +1.7**
baz=253
U40A Yellville 92.59 53 P **P** **03 28 50.3 -1.2**
U40A IAmb IAmb 03 29 08.6
comp=Z,18nm,1.1s
S39A Bolivar 92.62 52 IAmb IAmb 03 28 59.0
comp=Z,44nm,1.1s
ACON Acoyapa 92.65 78 IAmb IAmb 03 29 02.8
comp=Z,18nm,1.1s
545A Edgard 92.69 60 IAMs_20 IAMs_20 04 07 20.8
comp=Z,4µm,19.0s
W41B Gary Mavity, V 92.71 54 P **P** **03 28 52.6 +0.5**
baz=253,SNR=30
W41B S **S** **03 39 59.5 +1.2**
baz=253
W41B Gary Mavity, V 92.71 54 IAMs_20 IAMs_20 04 04 23.8
comp=Z,6µm,19.0s
FFC Flin Flon 92.79 34 P **P** **03 28 51.0 -1.0**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC Flin Flon 92.79 34 P **P** **03 28 51.0 -1.0**
FFC Flin Flon 92.79 34 IAMs_20 IAMs_20 04 03 25.2
comp=Z,7µm,21.0s
MT05 Renca 92.85 126 IAMs_20 IAMs_20 04 00 09.8
comp=Z,5µm,21.0s
VNA3 Neumayer Olymp 92.95 175 P **P** **03 28 54.6 +2.0**
SNAA Sanae 92.95 177 P **P** **03 28 53.4 +0.8**
SNAA Sanae 92.95 177 *c*/P **P** **03 28 55.2 +2.5**
SNAA pmax pmax
comp=Z,92nm,1.3s
SNAA MLR MLR
comp=Z,2µm,17.0s
SNAA Sanae 92.95 177 P **P** **03 28 53.6 +1.0**
SNAA IAmb IAmb 03 29 02.2
comp=Z,27nm,1.1s
SNAA IAMs_20 IAMs_20 04 10 01.7
comp=Z,3µm,18.0s
PEL Peldehue 92.98 125 IAMs_20 IAMs_20 04 00 15.4
comp=Z,6µm,21.0s
D32A Dogwood Acres, 92.99 42 IAMs_20 IAMs_20 04 09 06.5
comp=Z,5µm,18.0s
F33A 5 Mile Ranch, 93.04 43 IAMs_20 IAMs_20 04 08 49.0
comp=Z,5µm,18.0s
P38A Dawn 93.04 50 P **P** **03 28 52.6 -0.9**
P38A IAmb IAmb 03 29 02.9
comp=Z,9.7nm,0.8s
P38A IAMs_20 IAMs_20 04 04 31.9
comp=Z,5µm,20.0s
VA03 San Esteban 93.22 125 IAmb IAmb 03 29 03.1
comp=Z,20nm,1.0s
VA03 IAMs_20 IAMs_20 04 00 11.6
comp=Z,8µm,22.0s
VBMS Vicksburg 93.26 58 P **P** **03 28 54.0 -0.7**
baz=254
MGMO Mountain Grove 93.27 52 IAmb IAmb 03 29 11.4
comp=Z,42nm,1.1s
MGMO IAMs_20 IAMs_20 04 04 10.1
comp=Z,7µm,20.0s
VNA2 Neumayer--Watz 93.44 176 P **P** **03 28 58.2 +3.3**
R40A Maddies Statio 93.59 51 IAMs_20 IAMs_20 04 03 39.7
comp=Z,5µm,21.0s
N38A Joes South For 93.61 49 IAMs_20 IAMs_20 04 07 44.7
comp=Z,5µm,18.0s
X43A Marvell 93.61 55 P **P** **03 28 56.2 0.0**
baz=254,SNR=6.4
ULN Ulaanbaatar 93.62 319 ⇑*e*P **P** **03 28 58.0 +1.8**
ULN pmax pmax
comp=Z,56nm,1.8s
ULN Ulaanbaatar 93.62 319 P **P** **03 28 54.9 -1.3**
VNA1 Neumayer--Stat 93.64 176 P **P** **03 28 59.2 +3.5**
CO03 El Pedregal 93.77 123 IAmb IAmb 03 29 03.3
comp=Z,27nm,1.1s
NVL N'lazarevskaya 93.92 182 ⇓*i*P **P** **03 29 00.6 +3.6**
NVL *e*PPP PPP 03 34 48.6
NVL *e*S **SKSac** **03 39 34.6 +1.9**
NVL pmax pmax
comp=Z,70nm,1.2s
SCIA State Center 93.95 48 P **P** **03 28 56.0 -1.6**
baz=253
SCIA State Center 93.95 48 IAMs_20 IAMs_20 04 04 18.5
comp=Z,7µm,21.0s
SONM Songino Array 94.03 318 P **P** **03 28 55.4 -2.7**
comp=Z,0.7nm,0.5s,baz=116,slow=2.2,SNR=3.9
SONM PP **PP** **03 32 46.0 +1.6**
comp=Z,2.9nm,1.1s,baz=101,slow=7.7,SNR=3.9
SONM LR LR 04 10 52.6
comp=Z,711nm,18.7s,baz=108,slow=35
SONM Songino Array 94.03 318 P **P** **03 28 56.8 -1.3**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 94.03 318 P **P** **03 28 56.8 -1.3**
AGMN Agassiz Nation 94.11 41 P **P** **03 28 56.6 -1.6**
baz=252,SNR=32
P40A Paris 94.11 50 IAMs_20 IAMs_20 04 04 37.3
comp=Z,5µm,20.0s
T42A Van Buren 94.14 53 IAMs_20 IAMs_20 04 03 46.1
comp=Z,4µm,20.0s
CCM Cathedral Cave 94.30 52 P **P** **03 28 58.7 -0.7**
baz=254
CCM Cathedral Cave 94.30 52 P **P** **03 28 58.2 -1.1**
CCM 03 32 45.1
CCM pmax pmax
comp=Z,54nm,1.2s
CCM Cathedral Cave 94.30 52 P **P** **03 28 58.2 -1.1**
CCM IAmb IAmb 03 29 02.8
comp=Z,54nm,1.1s
CCM PP **PP** **03 32 45.1 -1.5**
CCM Cathedral Cave 94.30 52 IAMs_20 IAMs_20 04 04 31.5
comp=Z,6µm,20.0s
AC04 Llanos de Chal 94.36 121 P **P** **03 28 59.7 -0.3**
AC04 IAMs_20 IAMs_20 04 00 21.1
comp=Z,6µm,22.0s
LCO Las Campanas 94.39 122 P **P** **03 28 59.9 -0.5**
LCO pmax pmax
comp=Z,15nm,1.2s
LCO Las Campanas 94.39 122 P **P** **03 28 59.9 -0.5**
LCO Las Campanas 94.39 122 IAMs_20 IAMs_20 04 02 18.9

comp=Z,4µm,19.0s
I37A Lemond, Waseca 94.43 46 IAmb IAmb 03 29 07.7
comp=Z,44nm,1.1s
I37A IAMs_20 IAMs_20 04 04 07.1
comp=Z,6µm,21.0s
K38A Parkersburg 94.48 47 IAMs_20 IAMs_20 04 05 44.5
comp=Z,6µm,20.0s
Y45A Yeager Farm, C 94.50 56 IAMs_20 IAMs_20 04 04 28.3
comp=Z,4µm,20.0s
CO01 Juntas del Tor 94.55 123 IAMs_20 IAMs_20 04 00 55.1
comp=Z,4µm,20.0s
TIXI Tiksi 94.69 345||*eP* **P 03 29 01.0 +0.7**
TIXI pmax pmax
comp=Z,77nm,1.0s
TIXI Tiksi 94.69 345 P **P 03 28 59.5 -0.8**
TIXI IAmb IAmb 03 29 05.9
comp=Z,35nm,1.1s
TIXI IAMs_20 IAMs_20 04 06 19.9
comp=Z,4µm,21.0s
ULM Lac du Bonnet 94.72 39 P **P 03 29 00.5 -0.5**
comp=Z,87nm,1.3s,baz=251,slow=5.0,SNR=19
ULM PP **PP 03 32 49.5 +0.1**
comp=Z,23nm,1.3s,baz=249,slow=8.4,SNR=6.7
ULM LR LR 04 06 52.5
comp=Z,9µm,19.0s,baz=256,slow=32
ULM Lac du Bonnet 94.72 39*deP* **P 03 29 00.9 0.0**
OXF Oxford 94.77 56 P **P 03 29 00.7 -0.9**
baz=255,SNR=25
AC05 El Transito 94.81 121 IAMs_20 IAMs_20 04 01 33.8
comp=Z,5µm,21.0s
F36A Milaca 94.89 44 IAmb IAmb 03 29 05.2
comp=Z,28nm,1.1s
F36A IAMs_20 IAMs_20 04 05 49.9
comp=Z,7µm,20.0s
FVM French Village 94.90 52 IAMs_20 IAMs_20 04 05 10.5
comp=Z,7µm,20.0s
PVMO Portageville 95.05 54 IAMs_20 IAMs_20 04 06 31.5
comp=Z,4µm,20.0s
W45A Hickory Valley 95.12 55 IAMs_20 IAMs_20 04 06 07.7
comp=Z,4µm,20.0s
ZON Zonda 95.13 125 P **P 03 29 03.3 -0.2**
ZON Zonda 95.13 125 P **P 03 29 03.3 -0.2**
SPMN Marine on St. 95.19 45 P **P 03 29 02.9 -0.3**
baz=254
SPMN Marine on St. 95.19 45 IAmb IAmb 03 29 22.3
comp=Z,18nm,1.1s
SPMN IAMs_20 IAMs_20 04 07 18.0
comp=Z,7µm,19.0s
SLM Saint Louis 95.22 52 IAMs_20 IAMs_20 04 05 01.8
comp=Z,6µm,20.0s
GO03 Copiap 95.27 120 IAMs_20 IAMs_20 04 01 24.1
comp=Z,7µm,22.0s
N41A Harden Midland 95.32 49 IAMs_20 IAMs_20 04 06 10.0
comp=Z,6µm,20.0s
L40A Anamosa 95.42 48 IAMs_20 IAMs_20 04 04 53.5
comp=Z,6µm,20.0s
B35A Bob, Littlefor 95.48 41 IAmb IAmb 03 29 11.9
comp=Z,22nm,1.1s
S44A Carbondale 95.72 53 IAMs_20 IAMs_20 04 05 25.2
comp=Z,5µm,20.0s
BRAL Brewton 95.84 59 P **P 03 29 05.3 -1.3**
baz=256
P43A Skaggs, Pawnee 96.02 51 P **P 03 29 06.1 -1.1**
T45A Paducah 96.02 53 IAMs_20 IAMs_20 04 04 33.2
comp=Z,5µm,22.0s
PB14 IPOC Station P 96.14 117 P **P 03 29 07.9 -0.7**
Q44A Meyer Farm, Va 96.21 52 IAMs_20 IAMs_20 04 05 32.0
comp=Z,7µm,21.0s
GTA Gaotai 96.23 309⇑P **P 03 29 10.5 +2.2**
GTA pP pwP 03 29 17.5 +6.8
GTA sP sP 03 29 22.5 +14
GTA PP **PP 03 33 05.0 +3.3**
GTA S **S 03 40 31.8 +2.6**
GTA SS **SS 03 47 04.5 +3.0**
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA pmax pmax
comp=Z,140nm,5.1s
GTA LR LR
comp=Z,1µm,19.3s
GTA LR LR
comp=Z,2µm,19.6s
GTA LR LR
comp=Z,3µm,20.0s
I40A Norwalk 96.33 46 IAMs_20 IAMs_20 04 07 00.4
comp=Z,4µm,20.0s
JFWS Jewell Farm 96.34 47 P **P 03 29 07.3 -1.3**
baz=255,SNR=19
LRAL Lakeview Retre 96.34 58 P **P 03 29 06.8 -2.0**
baz=256
E38A The Farm, Brul 96.41 44 IAMs_20 IAMs_20 04 06 56.1
comp=Z,6µm,20.0s
HDIL Hopedale 96.42 50 P **P 03 29 08.6 -0.4**
baz=255,SNR=7.8
HDIL Hopedale 96.42 50 IAMs_20 IAMs_20 04 06 45.4
comp=Z,5µm,20.0s
WVT Waverly 96.43 54 P **P 03 29 08.8 -0.3**
baz=256
WVT Waverly 96.43 54 P **P 03 29 08.1 -1.1**
WVT pmax pmax
comp=Z,6.0nm,1.1s
WVT Waverly 96.43 54 P **P 03 29 08.1 -1.1**
WVT Waverly 96.43 54 IAMs_20 IAMs_20 04 06 17.4
comp=Z,5µm,20.0s
AC02 Maricunga 96.45 120 P **P 03 29 09.3 -0.8**
L42A Oliver, Polo 96.52 48 IAMs_20 IAMs_20 04 04 54.7
comp=Z,4µm,21.0s
X48A Hartselle 96.65 56 P **P 03 29 09.1 -1.1**
X48A IAmb IAmb 03 29 14.0
comp=Z,19nm,1.1s
GO02 Mina Guanaco 96.65 118 IAMs_20 IAMs_20 04 02 07.8
comp=Z,6µm,20.0s
ZAK Zakamensk 96.74 320*eP* **P 03 29 12.0 +1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.6s
ZAK pmax pmax
comp=Z,10.0nm,1.5s
EYMN Ely 96.81 42 P **P 03 29 09.4 -1.1**
baz=255
EYMN Ely 96.81 42 P **P 03 29 09.5 -1.1**
EYMN IAmb IAmb 03 29 22.6
comp=Z,16nm,1.1s
EYMN Ely 96.81 42 IAMs_20 IAMs_20 04 13 23.4
comp=Z,5µm,18.0s
OLIL Olney 96.86 52 IAMs_20 IAMs_20 04 06 02.4
comp=Z,6µm,20.0s
TLY Talaya 96.88 322*eP* P 03 29 14.5 +3.7
TLY *eP*S **PS 03 41 52.7 -2.5**
TLY pmax pmax
comp=Z,30nm,0.9s
TLY MLR MLR
comp=Z,3µm,14.0s
USIN University of 97.01 53 IAMs_20 IAMs_20 04 06 15.3
comp=Z,4µm,20.0s
Y49A Blount Mountai 97.02 57 IAMs_20 IAMs_20 04 05 47.1
comp=Z,5µm,21.0s
V48A Smith Branch 97.13 55 IAMs_20 IAMs_20 04 06 20.0
comp=Z,4µm,20.0s
PB04 IPOC Station P 97.14 115 IAMs_20 IAMs_20 04 01 45.8
comp=Z,3µm,19.0s
T47A Sharon Grove 97.21 54 IAMs_20 IAMs_20 04 05 08.7
comp=Z,4µm,22.0s
PB15 IPOC Station P 97.43 116 IAMs_20 IAMs_20 04 02 47.5
comp=Z,7µm,21.0s
PB06 IPOC Station P 97.51 116 IAMs_20 IAMs_20 04 01 57.7
comp=Z,4µm,21.0s
I42A Draeger Farm, 97.52 47 IAMs_20 IAMs_20 04 07 56.0
comp=Z,6µm,19.0s
M44A Midewin, Midew 97.55 49 IAmb IAmb 03 29 22.1
comp=Z,22nm,1.1s
M44A IAMs_20 IAMs_20 04 10 04.0
comp=Z,5µm,18.0s
PB07 IPOC Station P 97.57 115 IAMs_20 IAMs_20 04 02 35.3
comp=Z,6µm,21.0s
CLTN Cedars of Leba 97.60 55 IAmb IAmb 03 29 18.5
comp=Z,18nm,1.2s
PATCX Punta Patache 97.64 114 IAMs_20 IAMs_20 04 02 02.2
comp=Z,4µm,20.0s
K43A Burlington 97.65 48 IAMs_20 IAMs_20 04 06 11.6
comp=Z,6µm,22.0s
TA01 Diego Aracena 97.70 114 IAMs_20 IAMs_20 04 02 23.8
comp=Z,5µm,22.0s
HQIL Hanson Quary C 97.78 49 IAMs_20 IAMs_20 04 11 18.2
comp=Z,6µm,18.0s
L44A Lake County Fo 97.83 49 P Pdif 03 29 14.3 -1.0
baz=256
L44A Lake County Fo 97.83 49 IAMs_20 IAMs_20 04 12 09.4
comp=Z,5µm,18.0s
SFIN Lafayette 98.01 50 P Pdif 03 29 15.3 -0.9
baz=257,SNR=5.8
PSGCX Pisagua 98.07 113 IAMs_20 IAMs_20 04 03 51.7
comp=Z,6µm,20.0s
PB09 IPOC Station P 98.11 115 IAMs_20 IAMs_20 04 02 50.6
comp=Z,6µm,21.0s
LVC Limon Verde 98.12 116 P Pdif 03 29 16.7 -0.9
LVC pmax pmax
comp=Z,3.0nm,1.0s
LVC Limon Verde 98.12 116 P Pdif 03 29 16.7 -0.9
LVC Limon Verde 98.12 116 IAMs_20 IAMs_20 04 02 49.8
comp=Z,5µm,20.0s
LVC Limon Verde 98.12 116*eP* P Pdif 03 29 20.8 +3.2
U49A Red Boiling Sp 98.13 54 IAMs_20 IAMs_20 04 07 49.3
comp=Z,4µm,20.0s
PB01 IPOC Station P 98.15 114 IAMs_20 IAMs_20 04 02 27.7
comp=Z,6µm,22.0s
W50A Signal Mountai 98.21 56 IAmb IAmb 03 29 21.1
comp=Z,14nm,1.1s
FCC Fort Churchill 98.23 31 IAMs_20 IAMs_20 04 07 40.9
comp=Z,6µm,20.0s
AP01 Chacalluta 98.28 112 IAMs_20 IAMs_20 04 04 42.3
comp=Z,5µm,19.0s
PB11 IPOC Station P 98.43 113 IAMs_20 IAMs_20 04 03 53.3
comp=Z,5µm,20.0s
H43A Windswept, Lux 98.46 46 IAMs_20 IAMs_20 04 09 36.7
comp=Z,5µm,19.0s
D41A Chassel 98.51 44 IAMs_20 IAMs_20 04 11 31.7
comp=Z,4µm,19.0s
MNMC Minye Minye 98.70 113 IAMs_20 IAMs_20 04 04 11.3
comp=Z,6µm,19.0s
PB08 IPOC Station P 98.75 114 IAMs_20 IAMs_20 04 03 57.6
comp=Z,4µm,21.0s
GO01 Chusmiza 98.87 113 IAMs_20 IAMs_20 04 04 16.9
comp=Z,5µm,20.0s
CPCT Copave 98.89 56 IAmb IAmb 03 29 23.8
comp=Z,12nm,1.2s
Y52A Lilburn 98.92 57 IAMs_20 IAMs_20 04 06 56.6
comp=Z,4µm,21.0s
L46A Eue Claire 98.96 49 IAMs_20 IAMs_20 04 12 45.4
comp=Z,4µm,18.0s
T50A Nancy 98.98 54 IAMs_20 IAMs_20 04 06 26.8
comp=Z,4µm,22.0s
R49A Shelbyville 99.00 53 IAMs_20 IAMs_20 04 06 48.0
comp=Z,5µm,22.0s
PB16 IPOC Station P 99.04 112 IAMs_20 IAMs_20 04 03 43.4
comp=Z,5µm,21.0s
V51A Loudon 99.11 55 IAMs_20 IAMs_20 04 08 01.2
comp=Z,4µm,20.0s
GOGA Godfrey 99.31 58 P **Pdif 03 29 21.2 -0.9**
baz=258
CZSB Cruzeiro do Su 99.38 101*eP* **Pdif 03 29 28.4 +5.5**
E43A Lone Tree Farm 99.41 45 IAmb IAmb 03 29 35.6
comp=Z,24nm,1.1s
SHL Shillong 99.53 294 IAmb IAmb 03 29 30.6
comp=Z,19nm,1.1s
TKL Tuckaleechee C 99.53 56 IAMs_20 IAMs_20 04 07 35.6
comp=Z,3µm,20.0s
P49A Miami Univ. Ec 99.61 52 IAMs_20 IAMs_20 04 07 36.3
comp=Z,6µm,20.0s
R50A Paris 99.64 53 IAMs_20 IAMs_20 04 09 33.1
comp=Z,5µm,20.0s
V52A Sevierville 99.71 56 IAMs_20 IAMs_20 04 07 30.3
comp=Z,4µm,21.0s
TZTN Tazewell 99.89 55 IAMs_20 IAMs_20 04 08 53.0
comp=Z,4µm,20.0s
S51A Beattyville 100.08 54 IAMs_20 IAMs_20 04 08 23.8
comp=Z,5µm,20.0s
J47A Sunmer 100.28 48 IAMs_20 IAMs_20 04 08 32.2
comp=Z,5µm,20.0s
N49A Columbus Grove 100.29 50 IAMs_20 IAMs_20 04 10 02.8
comp=Z,5µm,19.0s
L48A N Adams 100.31 49 IAMs_20 IAMs_20 04 11 47.1
comp=Z,4µm,18.0s
X54A Belton 100.43 57 P **Pdif 03 29 25.5 -1.6**
baz=258
Q51A Peebles 100.55 52 Pdif **Pdif 03 29 26.4 -1.2**
Q51A IAMs_20 IAMs_20 04 07 36.9
comp=Z,5µm,21.0s
W54A Cherokee Point 100.69 56 P **Pdif 03 29 26.6 -1.7**
baz=259
UREC San Jos de Ur 100.79 85*eP* **PP 03 33 39.4 +2.4**
P51A Williamsport 100.85 52 IAMs_20 IAMs_20 04 08 06.0
comp=Z,6µm,21.0s
AAM Ann Arbor 100.94 49 IAMs_20 IAMs_20 04 07 51.9
comp=Z,4µm,22.0s
LPAZ La Paz 100.96 110 P **Pdif 03 29 31.9 +1.3**
comp=Z,1.5nm,1.1s,baz=81,slow=19,SNR=2.0
LPAZ PP **PP 03 33 41.6 +3.0**
comp=Z,5.3nm,1.2s,baz=244,slow=6.0,SNR=6.6
LPAZ La Paz 100.96 110 P **Pdif 03 29 29.3 -1.4**
LPAZ La Paz 100.96 110 Pdif **Pdif 03 29 29.3 -1.4**
LPAZ La Paz 100.96 110*eP* **Pdif 03 29 35.6 +4.9**
V54A Nebo 101.01 56 P **Pdif 03 29 26.8 -2.9**
baz=259
M50A Fremont 101.23 50 IAMs_20 IAMs_20 04 11 42.5
comp=Z,5µm,18.0s
E46A Sault Ste Mari 101.23 45 Pdif **Pdif 03 29 29.3 -1.1**
U54A Nelsons Funny 101.26 55 IAMs_20 IAMs_20 04 09 27.1
comp=Z,4µm,20.0s
R53A Hurricane 101.49 53 IAMs_20 IAMs_20 04 09 37.0
comp=Z,5µm,20.0s
P52A Corning 101.59 52 IAMs_20 IAMs_20 04 08 48.3
comp=Z,6µm,20.0s
V55A Taylorsville 101.61 56 IAMs_20 IAMs_20 04 09 10.7
comp=Z,3µm,20.0s
SPBC San Pablo de B 101.68 87*eP* **PP 03 33 48.6 +4.8**
CHIC Chingaza 101.75 88*eP* **PP 03 33 44.9 +0.2**
K50A Casco 101.78 49 IAMs_20 IAMs_20 04 08 37.0
comp=Z,4µm,22.0s
S54A Dingess, Beckl 101.89 54 IAMs_20 IAMs_20 04 09 29.7
comp=Z,5µm,21.0s
O52A Adamsville 101.90 52 IAMs_20 IAMs_20 04 09 06.5
comp=Z,7µm,21.0s
Y57A Sumter 101.94 58 IAMs_20 IAMs_20 04 08 59.7
comp=Z,4µm,21.0s
RES Resolute Bay 102.07 16 P **Pdif 03 29 33.8 +0.3**
comp=Z,17nm,1.1s,baz=254,slow=5.4,SNR=12
RES Resolute Bay 102.07 16 P **Pdif 03 29 32.8 -0.7**
RES MLR MLR
comp=Z,6µm,20.0s
RES Resolute Bay 102.07 16 Pdif **Pdif 03 29 32.8 -0.7**
RES IAMs_20 IAMs_20 04 13 31.7
comp=Z,6µm,20.0s
P53A Whipple 102.12 52 Pdif **Pdif 03 29 33.4 -1.1**
P53A IAMs_20 IAMs_20 04 08 44.7
comp=Z,6µm,21.0s
GUVC San Jose del G 102.28 91*eP* **PP 03 33 45.8 -2.5**
U56A King 102.36 56 IAMs_20 IAMs_20 04 10 02.5
comp=Z,4µm,20.0s
BRRC Barranca, Sant 102.39 86*eP* **PP 03 33 48.6 -0.4**
O53A New Philadelph 102.39 51 IAMs_20 IAMs_20 04 09 32.5
comp=Z,6µm,20.0s
Q54A Coxs Mills 102.46 53 IAMs_20 IAMs_20 04 08 46.7
comp=Z,5µm,22.0s
BLA Blacksburg 102.48 55 IAMs_20 IAMs_20 04 09 37.5
comp=Z,3µm,20.0s
M52A Chesterland 102.50 50 IAMs_20 IAMs_20 04 09 37.2
comp=Z,5µm,20.0s
RUSC La Rusia 102.69 87*eP* **PP 03 33 54.3 +2.4**
BARC Barichara 102.77 87*eP* **PP 03 33 51.5 -0.7**
R55A Marlinton 102.90 54 IAMs_20 IAMs_20 04 10 01.4
comp=Z,5µm,20.0s
V58A Windy Hill, Pi 103.28 56 IAMs_20 IAMs_20 04 10 21.9
comp=Z,4µm,21.0s
ERPA Erie 103.60 50 IAMs_20 IAMs_20 04 13 32.2
comp=Z,5µm,19.0s
S57A Dark Hollow, R 103.72 54 IAMs_20 IAMs_20 04 10 17.3
comp=Z,4µm,20.0s
Q56A Snyder Ridge, 103.74 53 IAMs_20 IAMs_20 04 09 47.5
comp=Z,5µm,21.0s
O56A Blue Knob Stat 104.39 52 IAMs_20 IAMs_20 04 11 06.6
comp=Z,5µm,20.0s
S58A Pond Farm, P 104.41 55 IAMs_20 IAMs_20 04 10 16.5
comp=Z,4µm,21.0s
U59A Littleton 104.43 56 IAMs_20 IAMs_20 04 11 16.2
comp=Z,4µm,20.0s
SADO Sadowa 104.57 47 IAMs_20 IAMs_20 04 12 18.6
comp=Z,6µm,19.0s
R58B Mineral 104.60 54 IAMs_20 IAMs_20 04 10 43.4
comp=Z,5µm,20.0s
P57A Homestead Farm 104.71 53 IAMs_20 IAMs_20 04 10 58.0
comp=Z,6µm,21.0s
J54A Appleton 104.74 49 IAMs_20 IAMs_20 04 09 57.4
comp=Z,4µm,22.0s
EUNU Eureka 104.77 10 IAMs_20 IAMs_20 04 17 03.7
comp=Z,4µm,20.0s
ETMB Extrema 104.85 105*eP* **Pdif 03 29 51.5 +4.3**
MEDO Medina 104.86 49 IAMs_20 IAMs_20 04 12 28.6
comp=Z,3µm,20.0s
CBN Corbin Frederi 105.03 54 IAMs_20 IAMs_20 04 11 16.7
comp=Z,4µm,20.0s
URIC Uribia, Colomb 105.11 82*eP* **PP 03 34 12.0 +2.7**
J55A Hilton 105.34 49 IAMs_20 IAMs_20 04 10 26.1
comp=Z,4µm,21.0s
T60A Surry 105.38 55 IAMs_20 IAMs_20 04 10 45.3
comp=Z,3µm,21.0s
L56A Greenwood 105.39 50 IAMs_20 IAMs_20 04 12 16.7
comp=Z,5µm,20.0s
U61A Possum Corner 105.50 56 IAMs_20 IAMs_20 04 12 17.6
comp=Z,4µm,21.0s
DELO Deloro Mine 105.62 47 IAMs_20 IAMs_20 04 14 58.5
comp=Z,5µm,18.0s
SDV Santo Domingo 105.77 85*eP* **PP 03 34 11.3 -3.2**
PAGS Pennsylvania G 105.79 52 IAMs_20 IAMs_20 04 12 29.6
comp=Z,6µm,20.0s
PALK Pallekele 105.95 273 IAMs_20 IAMs_20 04 22 27.8
comp=Z,3µm,19.0s
WMQ Urumqi 105.96 312 Pdif **Pdif 03 29 52.8 +1.2**
WMQ PP **PP 03 34 17.5 +2.5**
WMQ AMB AMB
comp=Z,220nm,5.7s
WMQ LR LR
comp=Z,800nm,17.7s
WMQ LR LR
comp=Z,760nm,19.1s
WMQ LR LR
comp=Z,810nm,20.1s
J56A Wolcott 106.03 49 IAMs_20 IAMs_20 04 11 20.6
comp=Z,5µm,22.0s
PLVO Plevna 106.06 47 IAMs_20 IAMs_20 04 13 04.0
comp=Z,5µm,20.0s
S61A Accomac 106.29 55 IAMs_20 IAMs_20 04 11 55.3
comp=Z,4µm,20.0s
Q60A Greensboro 106.31 53 IAMs_20 IAMs_20 04 11 57.8
comp=Z,6µm,20.0s
CPUP Villa Florida 106.33 124 PP **PP 03 34 22.5 +4.9**
comp=Z,1.2nm,0.9s,baz=215,slow=10,SNR=4.1
BINY Binghamton 106.56 50 IAMs_20 IAMs_20 04 13 00.7
comp=Z,5µm,20.0s
R61A Willards 106.63 54 IAMs_20 IAMs_20 04 11 26.2
comp=Z,5µm,21.0s
J57A Williamstown 106.67 49 IAMs_20 IAMs_20 04 11 38.5
comp=Z,5µm,22.0s
PSUB Penn St. - Bra 106.72 52 IAMs_20 IAMs_20 04 11 18.4
comp=Z,6µm,21.0s
K58A Earlville 106.86 49 IAMs_20 IAMs_20 04 11 35.7
comp=Z,4µm,22.0s
NRIK Noril'sk 107.05 338 Pdiff **Pdif 03 29 56.4 +0.7**
comp=Z,1.1nm,0.3s,baz=105,slow=6.4,SNR=1.5
NRIK PP **PP 03 34 21.4 -0.7**
comp=Z,2.5nm,0.6s,baz=54,slow=7.1,SNR=4.1
J58A Remsen 107.19 49 IAMs_20 IAMs_20 04 12 37.0
comp=Z,5µm,21.0s
P61A Hammonton 107.20 53 IAMs_20 IAMs_20 04 12 33.1
comp=Z,5µm,20.0s
SDDR Presa de Saban 107.26 75 IAMs_20 IAMs_20 04 08 42.0
comp=Z,3µm,22.0s
SIV San Ignacio 107.41 113 PKKPbc PKKPbc 03 45 22.3 -0.1
comp=Z,3.3nm,1.1s,baz=122,slow=6.5,SNR=5.8
J59A Pesco 107.76 49 IAMs_20 IAMs_20 04 13 34.3
comp=Z,5µm,20.0s
LONY Lake Ozonia 107.79 48 IAMs_20 IAMs_20 04 13 08.9
comp=Z,6µm,21.0s
ALE Alert 108.05 7 IAMs_20 IAMs_20 04 16 12.3
comp=Z,3µm,20.0s
TRY Troy 108.32 50 IAMs_20 IAMs_20 04 12 50.1
comp=Z,4µm,21.0s
ZALV Zalesovo Beam 108.48 322 Pdiff **Pdif 03 30 03.4 +1.0**
comp=Z,0.7nm,0.5s,baz=39,slow=5.7,SNR=3.5
ZALV PKIKP **PKiKP 03 34 08.2 0.0**
comp=Z,3.5nm,0.9s,baz=90,slow=1.5,SNR=7.1
ZALV PP **PP 03 34 33.5 +0.4**
comp=Z,3.3nm,0.9s,baz=101,slow=7.7,SNR=5.5
ZALV Zalesovo Beam 108.48 322 P **Pdif 03 30 01.4 -1.0**
ZALV Zalesovo Beam 108.48 322 Pdif **Pdif 03 30 01.4 -1.0**
VT1 Waterbury 109.08 48 IAMs_20 IAMs_20 04 13 49.1
comp=Z,5µm,20.0s
LATQ La Tuque 109.20 45 IAMs_20 IAMs_20 04 14 18.6
comp=Z,4µm,20.0s
K62A Royalston 109.36 50 IAMs_20 IAMs_20 04 12 28.9
comp=Z,5µm,22.0s
HNH Hanover 109.39 49 IAMs_20 IAMs_20 04 13 20.2
comp=Z,5µm,21.0s
DGAR Diego Garcia 109.75 256 IAMs_20 IAMs_20 04 16 42.8
comp=Z,5µm,20.0s
HRV Adam Dziewonsk 109.86 50 IAMs_20 IAMs_20 04 17 06.9
comp=Z,4µm,18.0s
MKAR Makanchi Array 109.96 315 Pdiff **Pdif 03 30 10.0 +0.8**
comp=Z,0.1nm,0.5s,baz=253,slow=42,SNR=3.6
MKAR PKIKP **PKiKP 03 34 09.9 -1.3**
comp=Z,5.0nm,0.9s,baz=64,slow=1.1,SNR=16
MKAR PP **PP 03 34 47.0 +2.9**
comp=Z,4.2nm,1.1s,baz=90,slow=5.8,SNR=3.9
MKAR PKKPbc **PKKPbc 03 45 15.4 +0.3**
comp=Z,0.6nm,0.9s,baz=260,slow=8.6,SNR=4.1
MKAR PKKPab **PKKPab 03 45 25.3 +1.1**
comp=Z,1.9nm,1.0s,baz=265,slow=6.1,SNR=6.1
I62A Tamworth 110.08 49 IAMs_20 IAMs_20 04 14 11.6
comp=Z,6µm,22.0s
I63A Otisfield 110.63 48 IAMs_20 IAMs_20 04 14 46.1
comp=Z,5µm,20.0s
F63A Nahmakanta, Br 111.71 47 IAMs_20 IAMs_20 04 13 54.3
comp=Z,4µm,22.0s
F64A Sherman 112.23 46 IAMs_20 IAMs_20 04 14 31.2
comp=Z,6µm,22.0s
KURK Kurchatov 112.34 319||*i*PKIKP **PKiKP 03 34 17.2 +1.6**
KURK pmax pmax
comp=Z,28nm,1.7s
KURK MLR MLR
comp=Z,2µm,18.0s
KURBB Kurchatov Arra 112.40 319 PKKPbc PKKPbc 03 45 06.9 -0.2
comp=Z,0.4nm,0.4s,baz=275,slow=4.4,SNR=6.4
SCHQ Schefferville 112.73 37 IAMs_20 IAMs_20 04 18 03.7
comp=Z,5µm,20.0s
G65A Princeton 112.79 47 IAMs_20 IAMs_20 04 16 31.2
comp=Z,4µm,20.0s
GGN Saint George 113.31 47 IAMs_20 IAMs_20 04 16 46.1
comp=Z,5µm,21.0s
SPB Sao Paulo 115.49 126 IAMs_20 IAMs_20 04 14 11.6
comp=Z,3µm,21.0s
AAK Ala-Archa 115.55 310||*eP*KIKP **PKiKP 03 34 23.0 +0.7**
AAK MLR MLR
comp=Z,4µm,21.0s
HAL Halifax 115.63 48 IAMs_20 IAMs_20 04 22 13.4
comp=Z,3µm,19.0s
SPITS Spitsbergen Ar 116.97 357 PKP **PKiKP 03 34 24.4 +0.6**
comp=Z,36nm,1.1s,baz=103,slow=3.7,SNR=3.6
SPITS PP **PP 03 35 33.5 +0.6**
comp=Z,36nm,1.2s,baz=40,slow=16,SNR=1.9
SFJD Kangerlussuaq 117.07 21 PP **PP** 03 35 36.0 +2.2
comp=Z,12nm,1.1s,baz=303,slow=7.0,SNR=5.9
BRVK Borovoye 117.19 322||*i*PKIKP **PKiKP 03 34 26.5 +1.6**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK MLR MLR
comp=Z,2µm,19.0s
BRVK Borovoye 117.19 322 PKPdf **PKiKP 03 34 24.8 -0.1**
BBGH Gun Hill 117.29 83 IAMs_20 IAMs_20 04 17 49.9
comp=Z,3µm,20.0s
SUMG Summit 117.49 14 PKIKP **PKiKP 03 34 24.5 -0.9**
SUMG Summit 117.49 14 PKPdf **PKiKP 03 34 24.5 -0.9**
SUMG IAMs_20 IAMs_20 04 19 29.0
comp=Z,5µm,22.0s
IPMB Ipameri, GO 117.68 120*eP* **PKiKP 03 34 30.1 +3.1**
KKAR Karatay Array 118.44 311 PKIKP **PKiKP 03 34 26.7 -0.9**
KKAR Karatay Array 118.44 311 PKPdf **PKiKP 03 34 26.7 -0.9**
KKAR Karatay Array 118.44 311 PKPdf **PKiKP 03 34 26.5 -1.2**
GAR Garm 118.90 306 IAMs_20 IAMs_20 04 25 43.1
comp=Z,5µm,21.0s
BDFB Brasilia 118.95 118 PKP **PKiKP 03 34 28.7 -0.8**
comp=Z,7.9nm,1.1s,baz=136,slow=2.2,SNR=6.3
BDFB Brasilia 118.95 118 IAMs_20 IAMs_20 04 16 21.7
comp=Z,3µm,22.0s
CHGR Chuyangaron 119.82 306 PKPdf **PKiKP 03 34 29.4 -1.2**
CHGR IAMs_20 IAMs_20 04 26 04.6
comp=Z,4µm,22.0s
KBL Kabul 120.11 301 PKIKP **PKiKP 03 34 30.2 -1.2**
KBL MLR MLR
comp=Z,1µm,21.0s
KBL Kabul 120.11 301 PKPdf **PKiKP 03 34 30.1 -1.2**
MCPB Macapa, AP 121.22 100*eP* **PKiKP 03 34 37.6 +3.6**
PRPB Parauapebas 121.33 107*eP* **PKiKP 03 34 35.9 +1.7**

SVE	**Sverdlovsk**	121.49	328	*e*PKIKP		**PKiKP**	03 34 36.9	+3.8	
SVE				pmax		pmax			
	comp=Z,36nm,1.1s								
SMTB	**Santa Maria do**	122.30	111	*e*P		**PKiKP**	03 34 37.9	+1.8	
JANB	**Januaria**	122.36	119	*e*P		**PKiKP**	03 34 39.5	+3.3	
ARU	**Arti**	122.70	328	PKP		**PKiKP**	03 34 35.0	-0.6	
	comp=Z,5.8nm,0.8s,baz=78,slow=0.8,SNR=22								
ARU				PP		**PP**	03 36 14.5	+1.8	
	comp=Z,0.9nm,0.2s,baz=86,slow=6.9,SNR=4.0								
ARU	**Arti**	122.70	328	*i* PKIKP		**PKiKP**	03 34 37.5	+2.0	
ARU							03 36 14.9		
ARU							03 41 49.2		
ARU	**Arti**	122.70	328	PKPdf		**PKiKP**	03 34 35.2	-0.3	
ARU				IAMs_20	IAMs_20		04 23 55.1		
	comp=Z,3μm,21.0s								
FOMA	**Nahampoana Res**	122.90	226	IAMs_20	IAMs_20		04 25 48.8		
	comp=Z,3μm,20.0s								
SJMB	**Sao Joao De Ma**	123.03	125	*e*P		**PKiKP**	03 34 39.5	+2.1	
SDBA	**SAO DESIDERIO**	123.12	116	*e*P		**PKiKP**	03 34 39.9	+2.2	
BSFB	**Barra de Sao F**	123.22	125	*e*P		**PKiKP**	03 34 42.0	+4.3	
RIB01	**Linhares ES**	123.31	126	*e*P		**PKiKP**	03 34 41.5	+3.6	
LVZ	**Lovozero**	124.24	347	⇓*i* PKIKP		**PKiKP**	03 34 40.4	+2.1	
LVZ				MLR		MLR			
	comp=Z,1μm,18.0s								
NAN01	**Guarapari, ES**	124.34	125	*e*P		**PKiKP**	03 34 42.2	+2.3	
ABKAR	**Akbulak array**	124.43	320	PKPdf		**PKiKP**	03 34 38.4	-0.8	
ARCES	**ARCESS Array B**	124.44	352	PKP		**PKiKP**	03 34 37.6	-1.1	
	comp=Z,23nm,0.9s,baz=17,slow=1.3,SNR=15								
APA	**Apatity**	124.78	347	⇑*i* PKIKP		**PKiKP**	03 34 41.3	+2.0	
APA				pmax		pmax			
	comp=Z,19nm,1.0s								
APA				MLR		MLR			
	comp=Z,5μm,20.0s								
KIRV	**Kirov**	126.00	333	⇓*e*PKIKP		**PKiKP**	03 34 43.6	+1.6	
TMCR	**Tamitsa**	126.37	343	*e*PKIKP		**PKiKP**	03 34 44.9	+2.4	
TMCR				pmax		pmax			
	comp=Z,47nm,1.3s								
GDU01	**Guandu, BA**	126.99	121	*e*P		**PKiKP**	03 34 48.1	+2.8	
ROSB	**Rosrio**	127.81	106	*e*P		**PKiKP**	03 34 50.4	+3.4	
KLMR	**Klimovskoe**	128.38	339	*e*PKIKP		**PKiKP**	03 34 48.4	+1.7	
KLMR				*e*			03 36 50.5		
KLMR				pmax		pmax			
	comp=Z,103nm,1.3s								
KLMR	**Klimovskoe**	128.38	339	*e*PKPdf		**PKiKP**	03 34 48.4	+1.7	
KLMR				AMP			03 34 51.2		
	comp=Z,103nm,1.3s								
KLMR				*e*PP		**PP**	03 36 50.6	+0.4	
KLMR				LQ		LQ	04 19 25.5		
KLMR				LQ		LQ	04 19 25.5		
KLMR				LR		LR	04 20 51.8		
GEYT	**Alibeck**	128.53	306	PKP		**PKiKP**	03 34 47.8	0.0	
	comp=Z,13nm,1.1s,baz=100,slow=1.8,SNR=18								
GEYT	**Alibeck**	128.53	306			**PKiKP**	03 34 46.2	-1.5	
GYA0B	**ALIBECK ARRAY**	128.53	306	PKPdf		**PKPdf**	03 34 46.1	-1.1	
SUR	**Sutherland**	130.22	197	PKPdf		**PKPdf**	03 34 49.9	-0.9	
NBMO	**Morrinhos-CE**	131.41	109	*e*P		**PKiKP**	03 34 55.3	+1.1	
UOSS	**Minazif**	131.54	290	PKPdf		**PKPdf**	03 34 51.8	-1.4	
FINES	**FINESS Array B**	131.68	347	PKP		**PKiKP**	03 34 52.9	-0.4	
	comp=Z,13nm,1.1s,baz=59,slow=7.4,SNR=11								
FINES				PP		**PP**	03 37 14.7	+3.2	
	comp=Z,9.3nm,1.1s,baz=156,slow=6.1,SNR=4.2								
FINES				SKPbc		**SKPab**	03 38 18.8	-0.8	
	comp=Z,8.5nm,1.0s,baz=126,slow=2.6,SNR=5.4								
FINES	**FINESS Array B**	131.68	347	PKIKP		**PKiKP**	03 34 51.9	-1.4	
FINES	**FINESS Array B**	131.68	347	PKPdf		**PKiKP**	03 34 51.9	-1.4	
BOSA	**Boshof**	132.17	204	PKP		**PKiKP**	03 34 55.5	-0.1	
	comp=Z,15nm,1.0s,baz=152,slow=4.4,SNR=9.1								
BOSA	**Boshof**	132.17	204	PKIKP		**PKPdf**	03 34 53.4	-1.1	
BOSA	**Boshof**	132.17	204			**PKPdf**	03 34 53.4	-1.1	
SOCY	**Socotra**	132.71	272	PKPdf		**PKPdf**	03 34 54.4	-1.4	
MOS	**Moscow**	132.75	336	*e*PKIKP		**PKiKP**	03 34 55.9	+0.3	
MOS				*e*			03 37 16.5		
MOS				pmax		pmax			
	comp=Z,83nm,1.6s								
OBN	**Obninsk**	133.62	336	⇑*e*PKIKP		**PKiKP**	03 34 57.3	-0.1	
OBN				*e*			03 37 25.5		
OBN				pmax		pmax			
	comp=Z,76nm,1.4s								
OBN				MLR		MLR			
	comp=Z,2μm,20.0s								
OBN	**Obninsk**	133.62	336	IAMs_20	IAMs_20		04 36 03.0		
	comp=Z,3μm,19.0s								
VRH	**Novokhopyorsk**	133.92	329	*e*PKIKP		**PKiKP**	03 34 59.1	+1.0	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
RCBR	**Riachuelo**	134.03	114	IAMs_20	IAMs_20		04 27 16.6		
	comp=Z,3μm,21.0s								
VSU	**Vasula**	134.16	344	⇓*i* PKIKP		**PKiKP**	03 35 00.7	+2.3	
VSU				MLR		MLR			
	comp=Z,6μm,19.0s								
NB2	**NORSAR Subarra**	134.24	356	PKP		**PKiKP**	03 34 59.6	+1.0	
	comp=Z,34nm,1.4s,baz=13,slow=4.0								
NOA	**NORSAR Array B**	134.24	356	PKP		**PKiKP**	03 34 57.1	-1.5	
	comp=Z,7.4nm,1.0s,baz=14,slow=4.1,SNR=7.7								
LPSR	**Galich'ya Gora**	134.37	332	*e*PKIKP		**PKiKP**	03 35 01.2	+2.2	
LPSR				pmax		pmax			
	comp=Z,40nm,1.6s								
MAK	**Makhachkala**	134.75	316	*e*P		**Pdif**	03 31 57.6	-1.9	
MAK				*i*			03 34 55.1		
MAK				*e*SS		SS	03 55 20.0	-5.5	
MAK				pmax		pmax			
	comp=Z,327nm,1.4s								
VSR	**Storozhevoye**	135.17	330	*e*PKIKP		**PKiKP**	03 35 02.5	+1.8	
VSR				pmax		pmax			
	comp=Z,40nm,1.8s								
VORD	**Divnogorie**	135.27	330	*e*PKIKP		**PKiKP**	03 35 02.9	+2.0	
VORD				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KONO	**Kongsberg**	135.72	357	IAMs_20	IAMs_20		04 30 41.1		
	comp=Z,2μm,20.0s								
ZEI	**Tsey**	137.21	317	*i* PKIKP		**PKPdf**	03 35 03.1	-0.5	
ZEI				pmax		pmax			
	comp=Z,15nm,1.3s								
NACGM	**Naroch**	137.22	342	*e*		**PKiKP**	03 35 04.0	-0.7	
MICGM	**Minsk**	137.22	341	*e*		**PKPdf**	03 35 02.0	-0.9	
MICGM				*e*LQ		LQ	04 18 12.0		
MICGM				*e*LR		LR	04 26 15.0		
MICGM				LRM		MLR	04 30 18.0		
	comp=Z,4.3nm,20.0s								
MNK	**Minsk**	137.22	341	*e*PKIKP		**PKPdf**	03 35 02.0	-0.9	
KBZ	**Khabaz**	137.40	319	PKP		**PKPdf**	03 35 01.0	-2.5	
	comp=Z,3.7nm,1.1s,baz=65,slow=4.9,SNR=3.5								
KBZ	**Khabaz**	137.40	319	⇑*e*PKIKP		**PKiKP**	03 35 05.7	+0.3	
KIV	**Kislovodsk**	137.42	320	*i* PKIKP		**PKiKP**	03 35 05.9	+0.3	
KIV				*e*			03 37 48.8		
KIV				*e*PS		**PS**	03 48 14.6	-2.0	
KIV				*e*SS		SS	03 55 56.8	-0.6	
KIV				*e*SSS		SSS	04 01 03.3		
KIV				pmax		pmax			
	comp=Z,36nm,1.0s								
KIV	**Kislovodsk**	137.42	320	IAMs_20	IAMs_20		04 39 15.4		
	comp=Z,2μm,20.0s								
SUW	**Suwalki**	139.03	344	*e*PKP		**PKPdf**	03 35 01.8	-4.4	
SOC	**Sochi**	139.44	321	*e*PKHKP		PKPpre	03 34 59.5		
SOC				*i*			03 35 08.2		
SOC				*e*			03 38 07.4		
SOC				*e*SS		SS	03 56 18.9	-2.1	
SOC				*e*SSS		SSS	04 01 25.5		
EKA	**Eskdalemuir Ar**	139.62	7	PKP		**PKPdf**	03 35 06.2	-1.1	
	comp=Z,0.2nm,0.3s,baz=292,slow=3.8,SNR=2.2								
AKASG	**Malin Array Be**	139.87	336	PKhKP		PKPpre	03 35 00.8		
	comp=Z,6.0nm,0.9s,baz=25,slow=3.1,SNR=9.9								
AKASG				PP		**PP**	03 38 08.8	+5.4	
	comp=Z,0.8nm,0.6s,baz=36,slow=6.3,SNR=4.2								
ANN	**Anapa**	140.09	324	*i* PKIKP		**PKiKP**	03 35 09.4	-1.5	
ANN				*e*			03 38 08.0		
ANN				*e*PPP		PPP	03 41 07.9		
ANN				*e*			03 42 11.3		
ANN				pmax		pmax			
	comp=Z,98nm,1.7s								
ANN				MLR		MLR			
	comp=Z,2μm,17.0s								
H07S1	**FLORES T-PHASE**	140.13	46	*e*PKP		**PKiKP**	03 35 15.8	+4.5	
BSEG	**Bad Segeberg**	141.36	355	*e*L		L	04 36 15.3		
	comp=Z,3μm,21.4s								
SORM	**Soroca**	142.25	335	⇑P		**PKPdf**	03 35 09.6	-2.6	
SORM	**Soroca**	142.25	335	⇑PKIKP		**PKPdf**	03 35 09.6	-2.6	
DAMY	**Dhamar**	142.29	274	IAMs_20	IAMs_20		04 39 14.7		
	comp=Z,2μm,20.0s								
LVV	**L'vov**	142.46	340	*e*PKIKP		**PKPdf**	03 35 11.3	-1.3	
LVV				MLR		MLR			
	comp=Z,3μm,23.0s								
ROSA	**Rosais**	142.49	45	*e*PKP		**PKiKP**	03 35 18.6	+2.5	
PGRA	**Graciosa**	142.51	45	*e*PKP		**PKiKP**	03 35 20.3	+4.2	
KWP	**Kalwaria Pacla**	143.05	341	*e*PKP		**PKiKP**	03 35 14.0	-2.8	
ADH	**Angra Heroismo**	143.20	45	*e*PKP		**PKiKP**	03 35 20.6	+3.1	
PSCM	**Serra do Cume**	143.26	45	*e*PKP		**PKiKP**	03 35 22.3	+4.6	
ATD	**Arta Tunnel**	143.34	269	PKP		**PKPdf**	03 35 15.3	+0.1	
	comp=Z,9.3nm,0.7s,baz=136,slow=22,SNR=2.7								
OJC	**Ojcow**	143.35	344	*e*PKP		**PKPdf**	03 35 13.0	-1.2	
TSUM	**Tsumeb**	143.55	200	PKPdf		**PKPdf**	03 35 14.5	-1.1	
KSP	**Ksiaz**	143.57	348	*e*PKP		**PKPdf**	03 35 14.6	+0.1	
CLL	**Collm**	143.66	352	*i* PKPdf		**PKPdf**	03 35 14.4	-0.3	
	comp=Z,62nm,1.1s								
CLL				*i* PKiKP		**PKiKP**	03 35 18.7	+0.6	
CLL				*e*			03 37 25.0		
CLL				*e*PP		**PP**	03 38 26.0	-0.1	
CLL				*i*			03 38 43.1		
CLL				*i* SKPdf		**SKPdf**	03 38 48.3	-2.0	
CLL				*i* PKSbc		**PKSbc**	03 38 53.5	-0.8	
CLL				*e*PPP		PPP	03 41 54.0		
CLL				*e*PSKS			03 48 30.0		
CLL				*e*PPS		PPS	03 51 00.0		
CLL				*e*SS		**SS**	03 57 00.0	-8.5	
CLL				*e*PSPS			03 58 00.0		
CLL				*e*			03 59 12.0		
CLL				*e*			04 01 48.0		
CLL				*e*SSS		SSS	04 02 36.0		
CLL				*e*SSSS			04 06 06.0		
CLL				LmV			04 38 00.0		
	comp=Z,3μm,21.7s								
CLL	**Collm**	143.66	352	*i* PKIKP		**PKPdf**	03 35 14.4	-0.3	
CLL				*i*			03 35 18.7		
CLL				pmax		pmax			
	comp=Z,62nm,1.1s								
CLL				MLR		MLR			
	comp=Z,3μm,21.7s								
CLL	**Collm**	143.66	352	*e*L		L	04 34 52.2		
	comp=Z,3μm,22.0s								
CLL	**Collm**	143.66	352	PKPdf		**PKPdf**	03 35 13.2	-1.4	
CLL				IAMs_20	IAMs_20		04 34 52.3		
	comp=Z,3μm,22.0s								
KOLS	**Kolonicke sedl**	143.80	341	*e*PKIKP		**PKPdf**	03 35 15.1	+0.1	
KOLS	**Kolonicke sedl**	143.80	341	*e*PKP		**PKPdf**	03 35 15.1	+0.1	
OSTC	**Ostas**	143.85	348	*e*PKP		**PKPdf**	03 35 13.8	-1.3	
OSTC				AMS		AMS	04 43 40.0		
	comp=Z,3μm,18.8s								
CHVC	**Chvalec**	143.86	348	*e*PKP		**PKPdf**	03 35 14.8	-0.3	
CHVC				AMS		AMS	04 41 40.0		
	comp=Z,3μm,18.7s								
BURAR	**Bucovina Array**	143.91	337	⇑P		**PKiKP**	03 35 16.3	-2.6	
BURAR	**Bucovina Array**	143.91	337	⇑PKIKP		**PKiKP**	03 35 16.3	-2.6	
BURAR	**Bucovina Array**	143.91	337	PKPdf		**PKPdf**	03 35 13.3	-2.1	
UPC	**Upice**	143.94	348	AMS		AMS	04 41 40.0		
	comp=Z,3μm,19.5s								
NIE	**Niedzica**	143.95	343	*e*PKP		**PKiKP**	03 35 15.8	-3.0	
BRG	**Berggiesshubel**	143.95	351	*e*PKP		**PKPdf**	03 35 14.5	-0.7	
	comp=Z,47nm,1.1s								
BRG				*i*			03 35 16.8		
	comp=Z,58nm,1.1s								
BRG				*e*PKS		PKSbc	03 38 43.3	-12	
	comp=Z,14nm,1.3s								
	comp=N,3μm,21.7s								
	comp=E,1μm,18.6s								
	comp=Z,2μm,16.2s								
BRG	**Berggiesshubel**	143.95	351	*e*PKIKP		**PKPdf**	03 35 14.5	-0.7	
BRG				pmax		pmax			
	comp=Z,47nm,1.1s								
BRG				pmax		pmax			
	comp=Z,58nm,1.1s								
BRG				pmax		pmax			
	comp=Z,14nm,1.3s								
BRG				MLR		MLR			
	comp=N,3μm,21.7s								
BRG				MLR		MLR			
	comp=E,1μm,18.6s								
BRG				MLR		MLR			
	comp=Z,2μm,16.2s								
DPC	**Dobruska-Polom**	144.03	348	*e*PKP		**PKPdf**	03 35 15.3	-0.1	
DPC				AMS		AMS	04 37 10.0		
	comp=Z,3μm,22.5s								
DPC	**Dobruska-Polom**	144.03	348	*e*PKIKP		**PKPdf**	03 35 15.3	-0.1	
DPC				MLR		MLR			
	comp=Z,3μm,22.5s								
UZH	**Uzhgorod**	144.06	341	*i* PKHKP		PKPab	03 35 11.9	-0.9	
UZH				*e*			03 35 17.3		
UZH				*e*			03 35 34.1		
UZH				MLR		MLR			
	comp=N,880nm,19.0s								
UZH				MLR		MLR			
	comp=E,360nm,19.0s								
UZH				MLR		MLR			
	comp=Z,460nm,19.0s								
CRVS	**Cervenica-Dubn**	144.07	342	*e*PKIKP		**PKPdf**	03 35 15.5	0.0	
CRVS	**Cervenica-Dubn**	144.07	342	*e*PKP		**PKPdf**	03 35 15.5	0.0	
OKC	**Ostrava-Krasne**	144.11	346	*e*PKP		**PKiKP**	03 35 16.0	-3.0	
OKC				AMS		AMS	04 34 50.0		
	comp=Z,4μm,19.8s								
OKC	**Ostrava-Krasne**	144.11	346	*e*PKIKP		**PKiKP**	03 35 16.0	-3.0	
OKC				MLR		MLR			
	comp=Z,4μm,19.8s								
BIZ	**Bicaz**	144.12	335	⇑P		**PKiKP**	03 35 17.9	-1.2	
PVCC	**Panska Ves**	144.18	350	*e*PKP		**PKiKP**	03 35 16.0	-3.2	
PVCC				AMS		AMS	04 34 40.0		
	comp=Z,3μm,24.5s								
PVCC	**Panska Ves**	144.18	350	*e*PKIKP		**PKiKP**	03 35 16.0	-3.2	
PVCC				MLR		MLR			
	comp=Z,3μm,24.5s								
KRLC	**Kraliky**	144.20	347	*e*PKP		**PKiKP**	03 35 16.5	-2.8	
KRLC				AMS		AMS	04 37 20.0		
	comp=Z,4μm,20.9s								
KRLC	**Kraliky**	144.20	347	*e*PKIKP		**PKiKP**	03 35 16.5	-2.8	
KRLC				MLR		MLR			
	comp=Z,4μm,20.9s								
MORC	**Moravsky Berou**	144.31	346	⇑P		**PKiKP**	03 35 17.1	-2.4	
MORC	**Moravsky Berou**	144.31	346	*e*PKP		**PKPab**	03 35 12.4	-1.4	
MORC	**Moravsky Berou**	144.31	346	⇑PKIKP		**PKiKP**	03 35 17.1	-2.4	
KMBO	**Kilima Mbogo**	144.42	245	PKP		**PKPdf**	03 35 16.8	-0.7	
	comp=Z,29nm,1.0s,baz=76,slow=4.4,SNR=33								
MOX	**Moxa**	144.49	353	*e*L		L	04 38 23.8		
	comp=Z,2μm,21.0s								
ILGA	**Ilgaz**	144.53	322	IAMs_20	IAMs_20		04 45 46.5		
	comp=Z,2μm,20.0s								
CFR	**Carcaliu**	144.64	332	⇑P		**PKiKP**	03 35 18.5	-1.7	
CFR	**Carcaliu**	144.64	332	⇑PKIKP		**PKiKP**	03 35 18.5	-1.7	
PRA	**Prague**	144.65	350	*e*PKP		**PKiKP**	03 35 17.1	-3.0	
PRA				AMS		AMS	04 34 10.0		
	comp=Z,2μm,22.4s								
PRA	**Prague**	144.65	350	*e*PKIKP		**PKiKP**	03 35 17.1	-3.0	
PRA				MLR		MLR			
	comp=Z,2μm,22.4s								
PSET	**Sete Cidades**	144.65	45	*e*PKP		**PKiKP**	03 35 21.0	+0.4	
ARCR	**ARCALIA**	144.68	337	⇑P		**PKiKP**	03 35 17.6	-2.7	
UCC	**Uccle**	144.69	1	PKPdf		PKPbc	03 35 14.0	-1.2	
BEBN	**Eben Emael**	144.70	360	PKPdf		**PKPdf**	03 35 15.7	-0.8	
BEBN				PKiKP		**PKiKP**	03 35 18.9	-1.3	
PRU	**Pruhonice**	144.71	350	*e*PKP		PKPbc	03 35 14.3	-1.0	
PRU				*ex*		x	03 35 17.7		
PRU				*ex*		x	03 57 14.7		
PRU				AMS		AMS	04 34 30.0		
	comp=Z,3μm,21.4s								
PRU	**Pruhonice**	144.71	350	*e*PKIKP		PKPbc	03 35 14.3	-1.0	
PRU				*e*			03 57 14.7		
PRU				MLR		MLR			
	comp=Z,3μm,21.4s								
VRI	**Vrincioaia**	144.72	334	⇓P		**PKiKP**	03 35 19.0	-1.4	
VRI	**Vrincioaia**	144.72	334	⇓PKIKP		**PKiKP**	03 35 19.0	-1.4	
PDA	**Ponta Delgada**	144.73	45	*e*PKP		**PKiKP**	03 35 23.0	+2.3	
KECS	**Kecovo**	144.74	342	*e*PKIKP		**PKPdf**	03 35 15.5	-1.1	
KECS	**Kecovo**	144.74	342	*e*PKP		**PKPdf**	03 35 15.5	-1.1	
NKC	**Novy Kostel**	144.79	352	*e*PKP		**PKiKP**	03 35 17.8	-2.7	
NKC				AMS		AMS	04 36 40.0		
	comp=Z,3μm,21.3s								
NKC	**Novy Kostel**	144.79	352	*e*PKIKP		**PKiKP**	03 35 17.8	-2.7	
NKC				MLR		MLR			
	comp=Z,3μm,21.3s								
GRON	**Grota Negra**	144.81	45	*e*PKP		**PKiKP**	03 35 22.5	+1.6	
CMLA	**Cha da Macela**	144.81	45	*e*PKP		**PKiKP**	03 35 20.7	-0.2	
PCALD	**Caldeiras da R**	144.82	45	*e*PKP		**PKiKP**	03 35 20.2	-0.7	
MEM	**Membach**	144.89	359	PKiKP		**PKiKP**	03 35 18.9	-1.7	
MEM	**Membach**	144.89	359	PKPdf		**PKPdf**	03 35 15.7	-1.1	
BTNL	**Ternell**	144.91	359	PKiKP		**PKiKP**	03 35 19.4	-1.3	
BTNL	**Ternell**	144.91	359	PKPdf		**PKPdf**	03 35 15.7	-1.2	
BSTI	**Sart Tilman**	144.92	360	PKPdf		**PKPdf**	03 35 15.8	-1.1	
BSTI				PKiKP		**PKiKP**	03 35 19.3	-1.3	
OZUR		144.93	335	⇑P		**PKiKP**	03 35 18.7	-2.2	
VRAC	**Vranov**	144.96	347	⇑P		**PKiKP**	03 35 19.5	-1.3	
VRAC	**Vranov**	144.96	347	*e*PKP		PKPbc	03 35 14.9	-1.3	
VRAC	**Vranov**	144.96	347	⇑PKIKP		**PKiKP**	03 35 19.5	-1.3	
SNF	**Seneffe**	144.98	1	PKPdf		**PKPdf**	03 35 16.3	-0.7	
SNF				PKiKP		**PKiKP**	03 35 19.6	-1.2	
BART	**Pico Bartolome**	145.05	45	*e*PKP		**PKiKP**	03 35 20.2	-1.3	
TIRR	**Tirgusor**	145.05	331	⇑P		**PKiKP**	03 35 19.5	-1.6	
TIRR	**Tirgusor**	145.05	331	⇑PKIKP		**PKiKP**	03 35 19.5	-1.6	
TIRR	**Tirgusor**	145.05	331	*e*P		**PKiKP**	03 35 20.5	-0.6	
BCLA	**Clavier**	145.08	0	PKPdf		**PKPdf**	03 35 16.6	-0.6	
BCLA				PKiKP		**PKiKP**	03 35 19.8	-1.2	
PBCC	**Pribram**	145.09	350	*e*PKP		**PKPab**	03 35 14.1	-2.6	
HARR	**Harsova**	145.10	331	⇑P		**PKiKP**	03 35 18.9	-2.3	
HARR	**Harsova**	145.10	331	⇑PKIKP		**PKiKP**	03 35 18.9	-2.3	
BGES	**Gesves**	145.12	0	PKPdf		**PKPdf**	03 35 16.2	-1.1	
BGES				PKiKP		**PKiKP**	03 35 19.8	-1.3	
JAVC	**Velka Javorina**	145.14	346	*e*PKP		**PKPdf**	03 35 16.8	-0.6	
BHOU	**Houvegnez**	145.14	359	PKiKP		**PKiKP**	03 35 20.2	-1.0	
BHOU	**Houvegnez**	145.14	359	PKPdf		**PKPdf**	03 35 16.2	-1.1	
TEND	**Ethiopian Broa**	145.16	269	*e*P		**PKPdf**	03 35 19.1	+0.7	
TLBR	**Topalu**	145.16	331	⇑P		**PKiKP**	03 35 19.5	-1.8	
VYHS	**Vyhne**	145.19	344	*e*PKP2		**PKPdf**	03 35 16.1	-1.3	
VYHS	**Vyhne**	145.19	344	*e*PKP		**PKPdf**	03 35 16.1	-1.3	
TNS	**Taunus Mts**	145.19	356	*e*L		L	04 39 09.5		
	comp=Z,2μm,21.1s								
BMRD	**Maredsous**	145.20	1	PKPdf		**PKPdf**	03 35 16.9	-0.5	
BMRD				PKiKP		**PKiKP**	03 35 19.9	-1.3	
TREC	**Trest**	145.20	348	AMS		AMS	04 39 00.0		
	comp=Z,4μm,19.0s								
KRUC	**Moravsky**	145.24	347	*e*PKP		**PKPab**	03 35 15.6	-1.6	
CJR	**Cluj-Napoca**	145.27	338	⇑P		**PKiKP**	03 35 20.4	-1.2	
CJR	**Cluj-Napoca**	145.27	338	⇑PKIKP		**PKiKP**	03 35 20.4	-1.2	
CVDA	**Cernavoda**	145.32	331	⇑P		**PKiKP**	03 35 20.7	-0.9	
RCHB	**Rochefort**	145.35	0	PKPdf		**PKPdf**	03 35 17.1	-0.6	
RCHB				PKiKP		**PKiKP**	03 35 20.2	-1.3	
MLR	**Muntele Rosu**	145.35	334	⇑P		**PKiKP**	03 35 20.8	-1.1	
MLR	**Muntele Rosu**	145.35	334	⇑PKIKP		**PKiKP**	03 35 20.8	-1.1	
BRTR	**Keskin Array B**	145.38	320	PKPbc		**PKPdf**	03 35 17.2	-1.0	
	comp=Z,131nm,1.0s,baz=106,slow=2.6,SNR=32								
BRTR	**Keskin Array B**	145.38	320	PKP2		**PKPdf**	03 35 16.9	-1.3	
BRTR	**Keskin Array B**	145.38	320	PKPbc		**PKPdf**	03 35 16.9	-1.3	
ISR	**Istrita**	145.39	333	⇑P		**PKiKP**	03 35 20.1	-1.8	
ISR	**Istrita**	145.39	333	⇑PKIKP		**PKiKP**	03 35 20.1	-1.8	
DOU	**Dourbes**	145.40	1	PKPdf		**PKPdf**	03 35 17.6	-0.2	
DOU				PKiKP		**PKiKP**	03 35 20.6	-1.0	
PSZ	**Piszkesteto**	145.42	343	⇑P		**PKiKP**	03 35 20.2	-1.7	
PSZ	**Piszkesteto**	145.42	343	⇑PKIKP		**PKiKP**	03 35 20.2	-1.7	
MANR	**Mangalia**	145.45	330	⇓P		**PKiKP**	03 35 21.7	-0.2

DIVS	Divibare	148.80	339		*e*P		**PKPbc**	03 35 24.7	-2.9
DIVS	Divibare	148.80	339		IAMs_20	IAMs_20		04 44 46.0	
	comp=Z,2μm,20.0s								
CEY	Cerknica	148.81	348		*e*P		**PKPbc**	03 35 26.3	-1.2
VTS	Vitosha	148.83	334		*e*P		**PKPab**	03 35 30.6	-0.9
RDO	Rodhopi	148.94	330		P		**PKiKP**	03 35 28.3	-0.9
BLY	Banja Luka	149.08	343		*e*P		**PKPdf**	03 35 23.8	-0.2
HAPS	Han Pijesak,BI	149.16	341		*e*P		**PKiKP**	03 35 28.9	-0.9
RIY	Rijeka	149.19	347		*e*P		**PKPab**	03 35 35.4	+2.7
BBLS	Lazići	149.21	340		*e*P		**PKPbc**	03 35 25.8	-2.8
MGRS	Mrkonjic Grad	149.41	343		*e*P		PKPab	03 35 48.1	+14
MMB	Musomiste	149.44	332		*e*P		**PKiKP**	03 35 28.7	-1.6
KKB	Krupnik	149.50	333		*e*P		**PKiKP**	03 35 28.7	-1.7
KAVA	Kavala	149.55	331		P		**PKiKP**	03 35 30.2	-0.3
NVR	Nevrokopi	149.57	332		P		**PKPbc**	03 35 27.7	-1.8
PLE	Pljevlja	149.69	339	⇑	*i*PKP		**PKPab**	03 35 33.3	-1.6
SRS	Serrai	149.88	332		P		**PKiKP**	03 35 30.7	-0.5
IVA	Berane	149.91	338	⇓	*i*PKP		**PKPab**	03 35 32.8	-3.1
UPM	Unac-Piva	149.96	340	⇑	*i*PKP		**PKiKP**	03 35 31.6	0.0
UPM	Unac-Piva	149.96	340		*e*P		**PKiKP**	03 35 30.4	-1.2
STIP	Stip	150.03	334		*i*P		**PKPbc**	03 35 28.6	-2.0
KOME	Kolasin	150.07	339	⇑	*i*PKP		**PKPab**	03 35 34.8	-1.7
KSL	Kastellorizon	150.09	318		P		**PKiKP**	03 35 31.7	-0.1
SKO	Skopje	150.10	335		*i*P		**PKPbc**	03 35 28.0	-2.7
PVY	Plav	150.13	338	⇓	*i*PKP		**PKPab**	03 35 34.6	-2.2
KNT	Kendrikon	150.16	333		P		**PKiKP**	03 35 31.2	-0.6
VAY	Valandovo	150.17	333		*i*P		**PKPdf**	03 35 24.1	-1.8
MBAR	Mbarara	150.27	240		PKIKP		**PKPdf**	03 35 25.6	-1.5
MBAR	Mbarara	150.27	240		PKPdf		**PKPdf**	03 35 25.6	-1.5
NKY	Niksic	150.28	339	⇓	*i*PKP		**PKPbc**	03 35 29.8	-1.5
YER	Yerkesik	150.28	321		P		**PKiKP**	03 35 31.7	-0.5
NKME	Niksic	150.33	339	⇑	*i*PKP		**PKPbc**	03 35 27.9	-3.5
BRY	Bratogost	150.35	340	⇑	*i*PKP		**PKPbc**	03 35 29.0	-2.5
BRY	Bratogost	150.35	340		*e*P		**PKiKP**	03 35 32.2	-0.1
BNI	Bardonecchia	150.43	358		PKIKP		**PKiKP**	03 35 31.0	-1.4
BNI	Bardonecchia	150.43	358		PKPbc		**PKiKP**	03 35 31.0	-1.4
PDG	Podgorica	150.53	339		*e*P		**PKPbc**	03 35 29.2	-2.5
PDG	Podgorica	150.53	339		IAMs_20	IAMs_20		04 46 11.7	
	comp=Z,3μm,21.0s								
TTG	Podgorica	150.53	339	⇑	*i*PKP		**PKiKP**	03 35 33.4	+0.9
CEME	Cevo	150.54	339	⇑	*i*PKP		**PKiKP**	03 35 32.2	-0.4
PLG	Polygyros	150.54	331		P		**PKiKP**	03 35 32.2	-0.4
TREB	Trebinje	150.58	340		*e*P		**PKPab**	03 35 34.4	-4.1
SMG	Samos	150.75	323		P		**PKiKP**	03 35 33.2	+0.1
DRME	Dracevica, Mon	150.77	339	⇑	*i*PKP		**PKiKP**	03 35 33.4	+0.4
DRME	Dracevica, Mon	150.77	339		*e*P		**PKiKP**	03 35 33.2	+0.2
BUM	Brajici-Budva	150.77	339	⇑	*i*PKP		**PKPab**	03 35 34.8	-4.5
HCY	Herceg Novi	150.77	340	⇑	*i*PKP		**PKPab**	03 35 34.9	-4.4
HCY	Herceg Novi	150.77	340		*e*P		**PKiKP**	03 35 31.5	-1.5
BODT	Bodrum	150.91	322		P		**PKiKP**	03 35 33.8	+0.3
ULC	Ulcinj	150.94	338	⇑	*i*PKP		**PKiKP**	03 35 34.8	+1.4
ARG	Arkhangelos	150.97	320		P		**PKiKP**	03 35 34.8	+1.2
PGAV	Gavieira, Arco	151.06	21		*e*PKPdf		**PKPbc**	03 35 31.6	-1.6
PGAV	Gavieira, Arco	151.06	21		*e*PKPab		**PKPab**	03 35 37.2	-3.4
PGAV	Gavieira, Arco	151.06	21		*e*SS		SS	03 58 40.4	+7.7
PGAV	Gavieira, Arco	151.06	21		*e*LR		LR	04 25 55.9	
	comp=Z,4μm,18.0s								
TIR	Tirane	151.25	337		IAMs_20	IAMs_20		04 40 47.2	
	comp=Z,3μm,22.0s								
KZN	Kozani	151.35	333		P		**PKiKP**	03 35 33.8	-0.6
PCAB	Cabril	151.37	21		*e*PKPdf		**PKPbc**	03 35 32.6	-1.2
PCAB	Cabril	151.37	21		*e*PKPab		**PKPab**	03 35 38.0	-3.8
NEST	Nestorio	151.57	334		P		**PKiKP**	03 35 35.8	+1.0
PBRG	Braganca	151.71	19		*e*PKPdf		**PKiKP**	03 35 34.7	-0.3
PBRG	Braganca	151.71	19		*e*PKPab		**PKPab**	03 35 47.1	+3.9
PENT	Pentalofos	151.71	334		P		**PKiKP**	03 35 35.3	+0.1
POLO	Lamas de Olo	151.74	21		*e*PKPdf		**PKPbc**	03 35 33.1	-1.7
POLO	Lamas de Olo	151.74	21		*e*PKPab		**PKPab**	03 35 39.0	-4.5
THL	Klokotos Trika	151.85	332		P		**PKiKP**	03 35 35.3	0.0
PVRL	Vila Real	151.86	21		*e*PKPdf		**PKPbc**	03 35 33.2	-1.8
PVRL	Vila Real	151.86	21		*e*PKPab		**PKPab**	03 35 39.2	-4.7
PVRL					*i*LQ	LQ		03 35 48.1	
KARP	Karpathos	152.00	320		IAMs_20	IAMs_20		04 53 31.4	
	comp=Z,2μm,21.0s								
SACV	Santiago Islan	152.08	87		IAMs_20	IAMs_20		04 54 03.1	
	comp=Z,2μm,19.0s								
LKR	Lokris	152.11	329		P		**PKPbc**	03 35 32.2	-3.3
PTL	Penteli	152.13	328		P		**PKiKP**	03 35 34.8	-1.2
AGG	Agios Georgios	152.14	331		P		**PKiKP**	03 35 35.8	-0.2
MVO	Moncorvo	152.19	20		*e*PKPdf		**PKPbc**	03 35 33.0	-2.8
MVO	Moncorvo	152.19	20		*e*PKPab		**PKPab**	03 35 40.0	-5.3
MVO	Moncorvo	152.19	20		*e*LR		LR	04 26 40.3	
	comp=Z,4μm,18.0s								
AQU	L'Aquila	152.26	347		*e*P		**PKiKP**	03 35 35.0	-1.2
AQU	L'Aquila	152.26	347		IAMs_20	IAMs_20		04 48 15.0	
	comp=Z,3μm,20.0s								
JAN	Janina	152.28	334		P		**PKiKP**	03 35 37.4	+1.1
PVIS	Viseu	152.29	22		*e*PKPdf		**PKPbc**	03 35 31.8	-4.2
PVIS	Viseu	152.29	22		*e*PKPab		**PKPab**	03 35 40.0	-5.7
PVIS					*i*LQ	LQ		03 35 49.8	
VLY	Voula,Athens	152.32	327		P		**PKiKP**	03 35 36.3	0.0
EVR	Evrytania	152.46	331		P		**PKiKP**	03 35 37.4	+0.7
SANT	Santorini	152.47	323		IAMs_20	IAMs_20		04 50 56.2	
	comp=Z,2μm,21.0s								
COI	Coimbra	152.54	23		*e*PKPab		**PKiKP**	03 35 38.5	+1.8
PCAS	Casmilo, Conde	152.64	24		*e*PKPdf		**PKPbc**	03 35 34.2	-2.5
PCAS	Casmilo, Conde	152.64	24		*e*PKPab		**PKPab**	03 35 40.7	-6.5
PCAS					*i*LQ	LQ		03 35 51.0	
KEK	Kerkira	152.68	335		P		**PKiKP**	03 35 37.4	+0.4
MTE	Manteigas	152.69	22		*e*PKPdf		**PKPbc**	03 35 34.1	-2.8
MTE	Manteigas	152.69	22		*e*PKPab		**PKPab**	03 35 40.9	-6.5
MTE					*i*LQ	LQ		03 35 55.5	
MTE	Manteigas	152.69	22		*e*SS		SS	03 59 04.6	+14
MTE	Manteigas	152.69	22		*e*LR		LR	04 26 51.9	
	comp=Z,3μm,22.0s								
SCTE	Santa Cesarea	152.88	337		IAMs_20	IAMs_20		04 41 29.3	
	comp=Z,2μm,22.0s								
PSBE	So Bento	152.99	25		*e*PKPab		**PKiKP**	03 35 41.4	+3.7
PSBE					*i*LQ	LQ		03 35 52.7	
PMOZ	Porto Moniz, M	153.21	46		*e*LR		LR	04 28 07.6	
	comp=Z,2μm,20.0s								
PCBR	Castelo Branco	153.21	22		*e*PKPdf		**PKPbc**	03 35 35.0	-2.9
PCBR	Castelo Branco	153.21	22		*e*PKPab		**PKiKP**	03 35 42.0	+3.9
PCBR					*i*LQ	LQ		03 35 51.1	
IDI	Anoyia	153.55	322	⇑	P		**PKPbc**	03 35 36.3	-2.7
PMRV	Marv??o	153.60	23		*e*PKPdf		**PKPbc**	03 35 35.6	-3.3
PMRV	Marv??o	153.60	23		*e*PKPab		**PKiKP**	03 35 42.9	+3.9
PMRV					*i*LQ	LQ		03 35 53.4	
PMRV	Marv??o	153.60	23		*e*SS		SS	03 59 07.2	+6.5
PMRV	Marv??o	153.60	23		*e*LR		LR	04 26 55.8	
	comp=Z,3μm,22.0s								
UCM	Universidad Co	154.09	15		PKP		**PKiKP**	03 35 42.7	+2.7
EVO	Evora	154.14	25		PP		PP	03 39 31.3	+3.9
EVO	Evora	154.14	25		*e*PKPdf		**PKPbc**	03 35 36.6	-3.4
EVO					*i*LQ	LQ		03 35 57.4	
TIP	Timpagrande	154.28	339		IAMs_20	IAMs_20		04 47 18.0	
	comp=Z,3μm,20.0s								
PNCL	Nicolau / Gran	154.29	26		*e*PKPdf		**PKPbc**	03 35 36.3	-4.0
PNCL					*i*LQ	LQ		03 35 58.0	
ES16	SONSECA Array	154.48	17		IAMs_20	IAMs_20		04 42 33.3	
	comp=Z,3μm,20.0s								
ES07	SONSECA Array	154.49	17		IAMs_20	IAMs_20		04 42 52.6	
	comp=Z,3μm,20.0s								
ES15	SONSECA Array	154.50	17		IAMs_20	IAMs_20		04 42 33.8	
	comp=Z,3μm,20.0s								
ESBB	Sonseca Array	154.50	17		IAMs_20	IAMs_20		04 42 26.8	
	comp=Z,3μm,20.0s								
ESDC	Sonseca Array	154.50	17		PKP		**PKPdf**	03 35 32.9	+0.4
	comp=Z,6.0nm,1.1s,baz=344,slow=2.7,SNR=23								
ESDC					PKPab		**pPKPab**	03 35 55.1	+0.1
	comp=Z,20nm,1.0s,baz=329,slow=3.1,SNR=10								
ESDC					PP		**PP**	03 39 34.8	+5.5
	comp=Z,4.2nm,1.1s,baz=326,slow=6.0,SNR=7.5								
ESDC	Sonseca Array	154.50	17		PKPdf		**PKPdf**	03 35 31.4	-1.0
ESDC							**PKPab**	03 35 53.8	-1.2
ES06	SONSECA Array	154.50	17		IAMs_20	IAMs_20		04 42 33.9	
	comp=Z,3μm,20.0s								
ES02	SONSECA Array	154.50	17		IAMs_20	IAMs_20		04 42 51.9	
	comp=Z,3μm,20.0s								
ES01	SONSECA Array	154.50	17		IAMs_20	IAMs_20		04 42 53.0	
	comp=Z,3μm,20.0s								
PAB	San Pablo	154.51	18		PKIKP		**PKPdf**	03 35 32.9	+0.4
PAB	San Pablo	154.51	18		PKPdf		**PKPdf**	03 35 32.9	+0.4
PAB	San Pablo	154.51	18		IAMs_20	IAMs_20		04 40 53.2	
	comp=Z,3μm,20.0s								
ES14	SONSECA Array	154.51	17		IAMs_20	IAMs_20		04 42 34.2	
	comp=Z,3μm,20.0s								
PBEJ	Beja	154.64	25		*e*PKPdf		**PKPbc**	03 35 35.5	-5.6
PBEJ	Beja	154.64	25		*e*PKPab		**PKiKP**	03 35 45.8	+4.7
PBEJ					*i*LQ	LQ		03 36 00.6	
PTEO	Sao Teotonio	154.68	27		*i*LQ	LQ		03 35 59.8	
PCVE	Castro Verde	154.90	26		*e*PKPdf		**PKPdf**	03 35 34.5	+1.5
PCVE	Castro Verde	154.90	26		*e*PKPab		**PKiKP**	03 35 45.4	+3.7
PCVE					*i*LQ	LQ		03 36 00.7	
MORF	Marmelete	154.91	27		*i*LQ	LQ		03 35 58.7	
PVAQ	Vaqueiros	155.23	25		*e*PKPdf		**PKPdf**	03 35 35.6	+2.2
PVAQ	Vaqueiros	155.23	25		*e*PKPab		PKPab	03 35 46.6	-12
PVAQ					*i*LQ	LQ		03 36 02.3	
PVAQ	Vaqueiros	155.23	25		*e*SS		SS	03 59 34.3	+16
PVAQ	Vaqueiros	155.23	25		*e*LR		LR	04 27 40.0	
	comp=Z,3μm,20.0s								
CEL	Celeste	155.40	340		IAMs_20	IAMs_20		04 56 00.6	
	comp=Z,2μm,20.0s								
SFS	San Fernando	156.65	24		PKP		**PKPdf**	03 35 39.6	+4.3
SFS	San Fernando	156.65	24		PP		PP	03 39 44.4	+3.1
SFS	San Fernando	156.65	24		IAMs_20	IAMs_20		04 45 04.6	
	comp=Z,2μm,21.0s								
CART	Cartagena	157.21	13		PKP		PKPdf	03 35 47.3	+11
CART	Cartagena	157.21	13		IAMs_20	IAMs_20		04 48 47.3	
	comp=Z,2μm,19.0s								
CEU	Ceuta	157.47	23		PKP		PKPdf	03 35 44.2	+7.8
CEU	Ceuta	157.47	23		PP		PP	03 39 50.6	+4.8
RSA	Sarsar	158.18	25		P		**PKPab**	03 36 15.3	+4.3
	SNR=11								
AVE	Averroes	158.78	31		PKP		**PKPdf**	03 35 40.0	+1.9
AVE	Averroes	158.78	31		PP		PP	03 39 54.3	+1.0
CMAH	Djebel Manchou	158.79	355		P		**PKPab**	03 36 13.1	-0.4
MELI	Melilla	158.86	19		PKP		PKPdf	03 35 46.0	+7.9
DFRA	Djebel Bou Aff	158.95	359		P		**PKPab**	03 36 14.8	+0.5
CKFL	Kef-Lekhel	159.06	357		P		**PKPab**	03 36 16.3	+1.5
CASM	Ain Smara	159.21	357		P		**PKPab**	03 36 16.8	+1.4
CTEI	Djebel Teioual	159.41	358		P		**PKPab**	03 36 17.2	+0.9
KEST	Kesra	159.44	351		PKP		**PKPdf**	03 35 37.8	-1.1
	comp=Z,2.0nm,0.7s,baz=175,slow=5.3,SNR=2.1								
KEST					PKPab		**pPKPab**	03 36 16.8	+0.4
	comp=Z,52nm,1.0s,baz=284,slow=3.2,SNR=18								
KEST					PP		PP	03 40 02.7	+6.2
	comp=Z,4.6nm,1.1s,baz=88,slow=3.5,SNR=3.6								
KEST	Kesra	159.44	351				**PKPdf**	03 35 37.6	-1.3
CKHR	Kef el Ahmar	159.48	360		P		**PKPab**	03 36 17.6	+1.0
IFR	Ifrane	159.64	26		PKP		**PKPdf**	03 35 43.7	+4.4
IFR	Ifrane	159.64	26		PP		PP	03 40 00.1	+2.0
CZD	Col de Zad	160.10	26		P		**PKPab**	03 36 25.0	+5.4
	SNR=5.8								
OUK	Oukaimeden	160.18	35		P		**PKPab**	03 36 25.0	+4.8
	SNR=8.5								
MDT	Midelt	160.47	26		PKP		**PKPdf**	03 35 39.8	-0.4
	comp=Z,5.5nm,1.1s,baz=318,slow=5.8,SNR=3.2								
MDT					PKPab		**sPKPab**	03 36 22.2	+1.3
	comp=Z,15nm,1.0s,baz=345,slow=5.7,SNR=9.2								
MDT					PP		**PP**	03 40 08.1	+5.7
	comp=Z,7.2nm,1.2s,baz=319,slow=4.0,SNR=5.0								
MDT	Midelt	160.47	26		P		**PKPab**	03 36 26.0	+5.0
	SNR=5.5								
OUZM	OUZ	161.01	34		P		**PKPab**	03 36 29.0	+5.4
	SNR=7.3								
TDRA	Tendrara	161.22	20		P		**PKPab**	03 36 30.0	+5.6
	SNR=6.2								
GOLM	Goulmima	161.26	28		P		**PKPab**	03 36 30.0	+5.4
	SNR=8.5								
ZGR	Zagora	162.24	33		P		**PKPab**	03 36 35.0	+6.1
	SNR=6.3								
FIGM	Figuig	162.31	19		P		**PKPab**	03 36 34.2	+5.2
	SNR=6.2								
LIC	Lamto	166.34	131		*e*PKP1		**PKPdf**	03 35 47.2	+1.1
	comp=Z,190nm,1.4s								
TIC	Toumodi	166.63	130		*e*PKP1		**PKPdf**	03 35 48.6	+2.2
KIC	Kosan Boka	166.64	131		*e*PKP1		**PKPdf**	03 35 47.4	+1.0
	comp=Z,206nm,1.5s								
DBIC	Dimbokro	166.77	130		PKP		**PKPdf**	03 35 45.7	-0.7
	comp=Z,38nm,1.2s,baz=191,slow=0.5,SNR=18								
DBIC					PKPab		**PKPab**	03 36 47.8	-1.4
	comp=Z,19nm,1.0s,baz=202,slow=8.9,SNR=7.2								
DBIC					PP		**PP**	03 40 40.2	+3.8
	comp=Z,12nm,1.4s,baz=216,slow=7.3,SNR=5.6								
KOWA	Kowa	170.93	95		PKP		**PKPdf**	03 35 47.1	-1.9
	comp=Z,9.2nm,1.1s								
KOWA					PKPab		**PKPab**	03 37 06.2	-1.5
	comp=Z,16nm,1.1s,baz=264,slow=3.0,SNR=7.2								
KOWA					PP		**PP**	03 41 01.3	+2.7
	comp=Z,13nm,1.3s,baz=250,slow=3.3,SNR=5.2								
KOWA	Kowa	170.93	95				**PKPdf**	03 35 47.3	-1.7
KOWA					PKPab		**PKPab**	03 37 06.6	-1.1
TORD	Torodi Ar. Bea	175.82	122		PKP		**PKPdf**	03 35 50.0	-0.9
	comp=Z,25nm,1.1s,baz=341,slow=0.4,SNR=47								
TORD					PKPab		**PKPab**	03 37 27.6	-1.8
	comp=Z,23nm,1.1s,baz=255,slow=3.6,SNR=17								
TORD					PP		**PP**	03 41 22.7	+0.8
	comp=Z,6.0nm,1.2s,baz=256,slow=3.8,SNR=10								
TORD	Torodi Ar. Bea	175.82	122				**PKPdf**	03 35 49.6	-1.3
TORD					PKPab		**PKPab**	03 37 28.4	-0.9

*ATH **28** 03:32:11.3,34°.29N×26°.50E,h26km±2km,ML2.3/3,Error ellipse: s-maj=4.3km s-min=2.3km az=18.0*
*NIC **28** 03:32:13.8±0.0,34°.18N×26°.69E,h33km±22km,Ml3.5/3*
*THE **28** 03:32:13.2,34°.38N×26°.49E,h2km±2km,ML2.3/5,Error ellipse: s-maj=2.5km s-min=1.1km az=150.0*
*DDA **28** 03:32:18.8,34°.97N×27°.07E,h8km±3km,ML2.0*

ISC 28 03:32:13.2±1.7,34°.35N±0'.07×26°.59E±0'.03,h33km±6km, n32,σ1°47/47,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.83**	**338**	P	**Pb**	**03 32 27.9**	**-1.2**
ZKR				S	**Sb**	**03 32 40.1**	**+0.1**
	225nm,0.5s						
ZKR	**Zakros**	**0.83**	**338**	P	**Pb**	**03 32 27.9**	**-1.2**
ZKR				S	**Sb**	**03 32 40.1**	**+0.1**
ZKR				AML	AML	03 32 48.0	
	comp=E,560μm,0.5s						
ZKR				AML	AML	03 32 50.6	
	comp=N,327μm,0.4s						
NPS	**Neapolis**	**1.22**	**319**	P	**Pn**	**03 32 34.3**	**+0.4**
NPS				S	**Sb**	**03 32 51.2**	**+0.1**
	comp=N,145nm,0.6s						
NPS	**Neapolis**	**1.22**	**319**	P	**Pn**	**03 32 34.3**	**+0.4**
NPS				S	**Sb**	**03 32 51.2**	**+0.1**
NPS				AML	AML	03 32 53.2	
	comp=E,358μm,0.6s						
NPS				AML	AML	03 32 02.6	
	comp=N,222μm,0.7s						
LAST	**Lasithi**	**1.22**	**312**	P	**Pn**	**03 32 34.1**	**+0.1**
LAST				S	**Sn**	**03 32 50.3**	**+0.8**
	comp=N,138nm,0.6s						
LAST	**Lasithi**	**1.22**	**312**	P	**Pn**	**03 32 34.1**	**+0.1**
LAST				S	**Sn**	**03 32 50.3**	**+0.8**
LAST				AML	AML	03 33 00.1	
	comp=N,336μm,0.6s						
LAST				AML	AML	03 33 08.0	
	comp=E,202μm,0.9s						
KARP	**Karpathos**	**1.29**	**21**	P	**Pb**	**03 32 37.0**	**+0.1**
KARP				S	**Sb**	**03 32 54.5**	**+1.4**
	comp=E,120nm,0.7s						
KARP	**Karpathos**	**1.29**	**21**	P	**Pb**	**03 32 37.0**	**+0.1**
KARP	**Karpathos**	**1.29**	**21**	P	**Pb**	**03 32 36.9**	**+0.1**
KARP				S	**Sb**	**03 32 55.5**	**+2.5**
KARP				AML	AML	03 33 08.3	
	comp=E,0.2nm,0.7s						
KARP				AML	AML	03 33 08.3	
	comp=E,0.2nm,0.7s						
KARP				AML	AML	03 33 18.9	
	comp=E,0.3nm,0.7s						
KARP				AML	AML	03 33 18.9	
	comp=E,0.3nm,0.7s						
SIVA	**Sivas**	**1.61**	**295**	P	**Pn**	**03 32 40.0**	**+0.7**
SIVA	**Sivas**	**1.61**	**295**	P	**Pn**	**03 32 40.0**	**+0.7**
IDI	**Anoyia**	**1.69**	**304**	P	**Pn**	**03 32 40.6**	**+0.2**
IDI				S	**Sn**	**03 33 02.4**	**+1.5**
	comp=E,38nm,0.6s						
IDI	**Anoyia**	**1.69**	**304**	P	**Pn**	**03 32 40.6**	**+0.2**
ARG	**Arkhangelos**	**2.25**	**34**	P	**Pb**	**03 32 50.7**	**-2.4**
IMMV	**Iera Moni Meta**	**2.42**	**298**	P	**Pn**	**03 32 51.1**	**+0.7**
IMMV	**Iera Moni Meta**	**2.42**	**298**	P	**Pn**	**03 32 51.1**	**+0.7**
DAT	**Datca**	**2.51**	**18**	*i*P	**Pn**	**03 32 52.8**	**+1.0**
TURN	**Turunc**	**2.77**	**29**	*i*P	**Pn**	**03 32 55.5**	**+0.3**
TURN				*i*S	**Sn**	**03 33 24.6**	**-3.0**
TURN				IAML		03 33 30.0	
	comp=N,42nm,1.4s						
TURN				IAML		03 33 31.0	
	comp=E,11nm,1.6s						
DALY	**Dalyan (Mula)**	**2.98**	**34**	*i*P	**Pn**	**03 32 59.9**	**+1.7**
DALY				*i*S	**Sn**	**03 33 28.1**	**-4.7**
DALY				IAML		03 33 39.0	
	comp=E,10nm,1.4s						
DALY				IAML		03 33 40.0	
	comp=N,18nm,1.8s						
KSL	**Kastellorizon**	**3.04**	**53**	P	**Pn**	**03 33 00.7**	**+1.7**
KSL	**Kastellorizon**	**3.04**	**53**	P	**Pn**	**03 33 00.7**	**+1.7**
KSL				S	**Sn**	**03 33 37.1**	**+2.9**
FETY	**Fethiye**	**3.06**	**41**	*i*P	**Pn**	**03 32 59.4**	**+0.2**
FETY				*i*S	Sn	03 33 26.2	-8.5
AKAS	**Kas**	**3.10**	**52**	*i*P	**Pn**	**03 33 01.2**	**+1.3**
AKAS				*i*S	**Sn**	**03 33 34.0**	**-1.9**
AKAS				IAML		03 33 43.0	
	comp=E,7.6nm,0.7s						
AYDN	**Tasoluk**	**3.47**	**17**	*i*P	**Pn**	**03 33 05.8**	**+0.9**
ELL	**Elmali**	**3.61**	**48**	P	**Pn**	**03 33 09.5**	**+2.6**
TAVA	**DENIZLI_Tavas**	**3.64**	**31**	*i*P	**Pn**	**03 33 08.5**	**+1.2**
TAVA				*i*S	**Sn**	**03 33 48.0**	**-1.1**
TAVA				IAML		03 33 56.0	
	comp=E,3.8nm,0.8s						
GOLH	**Golhisar**	**3.76**	**39**	*i*P	**Pn**	**03 33 10.1**	**+1.1**
GOLH				IAML		03 33 58.0	
	comp=N,6.7nm,1.0s						
OSC1	**CSNet OBS 1**	**3.99**	**101**	P	**Pn**	**03 33 12.0**	**0.0**
OSC1				S	**Sn**	**03 33 56.6**	**-0.9**
AKMS	**Akamas**	**4.78**	**80**	P	**Pn**	**03 33 23.6**	**+0.7**
AKMS				AML	AML	03 34 17.5	
	comp=N,0.1nm,0.2s						
AKMS				AML	AML	03 34 19.4	
	comp=N,0.1nm,0.3s						
ALFC	**Alefka**	**5.01**	**79**	P	**Pn**	**03 33 26.6**	**+0.5**
ALFC				AML	AML	03 34 22.0	
	comp=N,0.1nm,0.2s						
ALFC				AML	AML	03 34 22.1	
	comp=N,0.1nm,0.2s						
SZAC	**Souni**	**5.21**	**84**	P	**Pn**	**03 33 29.5**	**+0.8**
MVOU	**Mavrovouni**	**5.84**	**81**	P	**Pn**	**03 33 38.5**	**+1.1**

*VIE **28** 03:32:50.9±0.7,45°.48N×16°.01E,h6km±2km,mb2.1/3, ml2.4/6,Error ellipse: s-maj=4.2km s-min=3.2km az=106.0*
35 km S of Zagreb
*LJU **28** 03:32:50.6,45°.48N×15°.97E,h18km,ML2.2*
*RHSSO **28** 03:32:51.3±0.2,45°.41N×15°.99E,h3km±2km,ML2.5/10*

ISC 28 03:32:50.6±1.0,45°.46N±0'.02×16°.01E±0'.02,h6km±9km, n35,σ0°69/65,4C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAG	**Zagreb**	**0.37**	**358**	*i*Pg	**Pg**	**03 32 58.2**	**+0.3**
ZAG				Sg	**Sb**	**03 33 04.1**	**-1.6**
**

ROM 28 03:34:31.1±0.1, 43°.586N×0°.002×12°.339E±0°.005, h10km, ML1.1/4, Error ellipse: s-maj=0.3km s-min=0.3km az=260.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.10**	**311**	P	Pg	03 34 34.0	+0.3
PARC				S	Sg	03 34 36.1	+0.6
PARC				AML	AML		
	comp=E,76μm,1.2s						
PARC				AML	AML		
	comp=N,79μm,1.3s						
BADI	**Badiali**	**0.10**	**222**	P	Pg	03 34 34.1	+0.3
BADI				S	Sg	03 34 36.3	+0.7
ATPI	**Pietralunga -**	**0.14**	**161**	P	Pg	03 34 35.0	+0.6
ATPI				S	Sg	03 34 37.5	+0.9
ATPI				AML	AML		
	comp=N,118μm,1.6s						
ATPI				AML	AML		
	comp=E,168μm,1.1s						
PIEI	**Pieia**	**0.15**	**109**	P	Pg	03 34 34.8	+0.3
PE3	**Peglio**	**0.16**	**46**	P	Pg	03 34 35.2	+0.6
NARO	**Abbazia di Nar**	**0.18**	**82**	P	Pg	03 34 35.3	+0.4
NARO				AML	AML		
	comp=N,72μm,1.2s						
NARO				AML	AML		
	comp=E,108μm,1.2s						
ATVO	**AVT- Monte Val**	**0.21**	**166**	P	Pg	03 34 36.1	+0.6
ATVO				S	Sg	03 34 40.0	+1.5
ATVO				AML	AML		
	comp=E,120μm,1.1s						
ATVO				AML	AML		
	comp=N,80μm,1.0s						

*IDC **28** 03:37:54.8±2.5, 31°.49S×68°.95W, h87km±22km, mb3.5/4, mb1 3.7/9, mb1mx3.5/39, mbtmp3.9/9, Error ellipse: s-maj=34.6km s-min=21.2km az=92.0*

*GUC **28** 03:37:57.5±0.7, 31°.50S×69°.41W, h168km±8km, ML4.2*

ISC 28 03:37:56.3±0.8, 31°.46S±0°.04×68°.81W±0°.07, h107km±10km, n26, σ2s34/43, mb3.9/4, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**1.73**	**290**	*e*P	**Pn**	**03 38 27.6**	**+1.8**
CO03				*i* S	**Sn**	**03 38 49.6**	**+1.3**
CO03				IAML		03 38 51.8	
	comp=E,4μm,0.6s						
CO01	**Juntas del Tor**	**1.85**	**323**	*e*P	**Pn**	**03 38 30.8**	**+3.3**
CO01				*i* S	**Sn**	**03 38 55.9**	**+4.8**
CO02	**Combarbal**	**1.89**	**277** ↑	*i*P	**Pn**	**03 38 28.9**	**+1.0**
CO02				*i* S	**Sn**	**03 38 51.7**	**-0.3**
GO04	**Tololo Observa**	**2.14**	**306**	*e*P	**Pn**	**03 38 32.5**	**+1.3**
GO04				*i* S	**Sn**	**03 38 59.1**	**+1.2**
GO04				IAML		03 39 01.3	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**2.31**	**223**	*e*P	**Pn**	**03 38 33.5**	**+0.2**
PEL				*i* S	**Sn**	**03 39 01.4**	**-0.1**
PEL				IAML		03 39 03.8	
	comp=E,527nm,0.5s						
ROCH	**El Roble**	**2.40**	**230**	*e*P	**Pn**	**03 38 34.3**	**-0.2**
ROCH				*i* S	**Sn**	**03 39 03.1**	**-0.7**
FSR	**Penalolen**	**2.48**	**215**	*e*P	**Pn**	**03 38 37.2**	**+1.8**
FSR				*e*S	**Sn**	**03 39 06.3**	**+0.8**
MT03	**Universidad Ad**	**2.49**	**215**	*e*P	**Pn**	**03 38 36.4**	**+0.9**
MT03				*i* S	**Sn**	**03 39 06.5**	**+0.8**
MT03				IAML		03 39 12.0	
	comp=E,1μm,0.2s						
MT05	**Renca**	**2.53**	**220**	*e*P	**Pn**	**03 38 36.5**	**+0.5**
MT05				*i* S	**Sn**	**03 39 06.3**	**-0.1**
MT05				IAML		03 39 08.1	
	comp=E,2μm,0.4s						
LMEL	**Las Melosas**	**2.66**	**206**	*e*P	**Pn**	**03 38 39.0**	**+1.1**
LMEL				*e*S	**Sn**	**03 39 14.0**	**+4.3**
LMEL				IAML		03 39 19.6	
	comp=N,462nm,0.1s						
VA01	**Torpederas**	**2.87**	**236**	*e*P	**Pn**	**03 38 38.9**	**-1.5**
VA01				*i* S	**Sn**	**03 39 10.3**	**-4.1**
VA01				IAML		03 39 16.5	
	comp=N,423nm,0.2s						
AC05	**El Transito**	**2.91**	**334** ↑	*i*P	**Pn**	**03 38 44.2**	**+3.1**
AC05				*i* S	**Sn**	**03 39 18.5**	**+2.9**
AC05				IAML		03 39 20.7	
	comp=N,806nm,0.3s						
BO02	**Sierra Bellavi**	**3.71**	**206**	*e*P	**Pn**	**03 38 51.9**	**0.0**
BO02				*e*S	**Sn**	**03 39 34.1**	**-0.7**
GO03	**Copiap**	**4.05**	**342** ↑	*i*P	**Pn**	**03 38 57.9**	**+1.6**
GO03				*e*S	**Sn**	**03 39 42.3**	**-0.5**
GO05	**Huala**	**4.40**	**216** ↑	*i*P	**Pn**	**03 38 58.0**	**-3.0**
GO05				*e*S	**Sn**	**03 39 46.9**	**-4.4**
LVC	**Limon Verde**	**8.81**	**359**	P	**Pn**	**03 40 00.8**	**-0.4**
	comp=N,1.7nm,0.3s,baz=187,slow=8.2,SNR=14						
LVC				S	**Sn**	**03 41 32.5**	**-6.5**
	comp=N,0.4nm,0.3s,baz=258,slow=20,SNR=1.5						
PLCA	**Paso Flores**	**9.36**	**188**	P	**Pn**	**03 40 06.2**	**-2.1**
	comp=N,0.1nm,0.3s,baz=13,slow=12,SNR=5.6						
CPUP	**Villa Florida**	**11.28**	**66**	P	**Pn**	**03 40 34.1**	**-0.1**
	comp=N,0.2nm,0.3s,baz=249,slow=9.8,SNR=4.8						
CPUP				S	**Sn**	**03 42 33.6**	**-4.7**
	comp=N,0.1nm,0.3s,baz=269,slow=17,SNR=1.3						
LPAZ	**La Paz**	**15.12**	**2**	P	**Pn**	**03 41 25.8**	**+0.9**
	comp=N,0.1nm,0.3s,baz=212,slow=10,SNR=6.1						
SIV	**San Ignacio**	**16.94**	**26**	P	**Pn**	**03 41 46.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=210,slow=15,SNR=9.2						
SNAA	**Sanae**	**52.93**	**159**	P	**P**	**03 47 01.6**	**+0.5**
	comp=N,1.9nm,1.1s,baz=252,slow=6.4,SNR=2.6						
TXAR	**Lajitas Array**	**68.95**	**328**	P	**P**	**03 48 50.0**	**-0.1**
	comp=N,0.2nm,0.5s,baz=166,slow=4.6,SNR=2.4						
KOWA	**Kowa**	**77.09**	**64**	P	**P**	**03 49 39.8**	**+1.6**
	comp=N,1.2nm,0.6s,baz=232,slow=3.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**80.77**	**68**	P	**P**	**03 49 59.8**	**+1.5**
	comp=N,1.1nm,0.6s,baz=266,slow=5.9,SNR=16						
ZALV	**Zalesovo Beam**	**150.63**	**32**	PKPbc	**PKPbc**	**03 57 36.1**	**+0.8**
	comp=N,0.5nm,0.3s,baz=325,slow=4.0,SNR=5.1						
MKAR	**Makanchi Array**	**153.04**	**47**	PKPab	**PKPab**	**03 57 54.2**	**+1.3**
	comp=N,0.4nm,0.5s,baz=286,slow=4.5,SNR=3.5						

*NEIC **28** 03:47:31.5±1.0, 5°.63S±0°.06×152°.3E±0°.1, h49km±8km, mb4.3/18, Error ellipse: s-maj=16.2km s-min=7.9km az=109.0*

*IDC **28** 03:47:32.1±1.9, 5°.71S×152°.27E, h52km±15km, mb3.9/15, mb1 4.2/16, mb1mx4.0/42, mbtmp4.2/16, ML2.4/1, Error ellipse: s-maj=21.9km s-min=9.4km az=107.0*

*DJA **28** 03:47:34.4±0.8, 5°.5S±9°.1×15°.2E±1°.8, h96km±13km, M4.4/8, mb4.5/8, mB5.4/2, MLv4.3/1, Mw(mB)4.8/2*

ISC 28 03:47:30.6±0.5, 5°.66S±0°.05×152°.29E±0°.09, h40km, n50, σ0s85/56, mb4.2/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.37**	**349**	P	**Pn**	**03 47 54.0**	**+0.7**
	495nm,0.3s,baz=192,slow=24,SNR=53						
KRVT				S	**Sn**	**03 48 13.4**	**+3.1**
	357nm,0.3s,baz=191,slow=24,SNR=6.5						
RABL	**Rabaul**	**1.47**	**355**	Pn	**Pn**	**03 47 55.2**	**+0.6**
RABL				Sn	**Sn**	**03 48 12.5**	**-0.1**
PMG	**Port Moresby**	**6.30**	**234**	P	**Pn**	**03 49 02.6**	**+1.5**
	5.2nm,0.3s,baz=24,slow=6.9,SNR=20						
PMG				S	**Sn**	**03 50 13.6**	**+1.7**
	4.0nm,0.3s,baz=163,slow=23,SNR=2.4						
PMG	**Port Moresby**	**6.30**	**234**	Pn	**Pn**	**03 49 01.8**	**+0.7**
PMG				Sn	**Sn**	**03 50 12.0**	**+0.1**
CTA	**Charters Tower**	**15.50**	**202**	P	**P**	**03 51 11.0**	**+0.7**
	0.2nm,0.3s,baz=22,slow=12,SNR=10						
CTAO	**Charters Tower**	**15.50**	**202**	Pn	**Pn**	**03 51 06.3**	**-0.1**
EIDS	**Eidsvold**	**19.63**	**183**	P	**P**	**03 51 56.4**	**+0.5**
DZM	**Mont Dzumac**	**21.30**	**141**	P	**P**	**03 52 14.6**	**+0.5**
	6.4nm,0.8s,baz=322,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**21.30**	**141**	P	**P**	**03 52 14.3**	**+0.2**
DZM				IAmb	IAmb	03 52 17.5	
	comp=Z,8.9nm,0.9s						
MTN	**Manton Dam**	**22.05**	**250**	P	**P**	**03 52 21.3**	**-0.9**
MTN				IAmb	IAmb	03 52 27.0	
	comp=Z,8.9nm,0.8s						
WB0	**Warramunga Arr**	**22.35**	**230**	P	**P**	**03 52 26.0**	**+0.6**
WB0				IAmb	IAmb	03 52 27.5	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**22.36**	**229**	P	**P**	**03 52 26.0**	**+0.5**
WR0				IAmb	IAmb	03 52 27.5	
	comp=Z,7.4nm,0.8s						
WB2	**Warramunga Arr**	**22.49**	**229**	P	**P**	**03 52 27.2**	**+0.3**
WB2				IAmb	IAmb	03 52 28.9	
	comp=Z,7.5nm,0.7s						
WRA	**Warramunga Arr**	**22.50**	**229**	P	**P**	**03 52 25.9**	**-1.0**
	comp=Z,7.5nm,0.7s,baz=54,slow=10.0,SNR=86						
WRA				PcP	**PcP**	**03 56 21.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=42,slow=2.4,SNR=3.3						
WRA	**Warramunga Arr**	**22.50**	**229**	P	**P**	**03 52 27.0**	**0.0**
WRA					**PcP**	**03 56 19.4**	**-0.8**
KNRA	**Kununurra**	**25.14**	**245**	P	**P**	**03 52 51.1**	**-1.1**
AS31	**Alice Springs**	**25.18**	**223**	P	**P**	**03 52 52.7**	**+0.1**
ASAR	**Alice Springs**	**25.18**	**223**	P	**P**	**03 52 52.1**	**-0.4**
	comp=Z,8.1nm,0.8s,baz=57,slow=9.3,SNR=57						
ASAR	**Alice Springs**	**25.18**	**223**	P	**P**	**03 52 52.0**	**-0.6**
FUNA	**Funafuti**	**26.85**	**98**	P	**P**	**03 53 07.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.81**	**242**	P	**P**	**03 53 24.6**	**-0.5**
	comp=Z,6.1nm,0.7s,baz=48,slow=8.5,SNR=28						
FITZ	**Fitzroy Crossi**	**28.81**	**242**	P	**P**	**03 53 24.7**	**-0.5**
FITZ				IAmb	IAmb	03 53 43.6	
	comp=Z,7.6nm,0.7s						
EDFI	**Ende, Flores**	**30.51**	**262**	P	**P**	**03 53 39.5**	**-1.0**
FORT	**Forrest**	**33.80**	**219**	P	**P**	**03 54 08.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**57.79**	**296**	P	**P**	**03 57 19.1**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**57.79**	**296**	P	**P**	**03 57 16.9**	**-1.4**
PETK	**Petropavlovsk-**	**58.73**	**4**	P	**P**	**03 57 23.6**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=157,slow=7.5,SNR=6.7						
PETK	**Petropavlovsk-**	**58.73**	**4**	P	**P**	**03 57 24.2**	**0.0**
HHC	**Hu-ho-hao-te**	**59.45**	**325**	*e*P	**P**	**03 57 28.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,6.7s						
LZH	**Lanzhou**	**61.49**	**316**	*e*P	**P**	**03 57 43.5**	**-0.3**
LZH				pP	sP	03 58 03.0	+4.5
LZH				sP	PcP	03 58 13.0	-12
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
SONM	**Songino Array**	**66.78**	**328**	P	**P**	**03 58 19.0**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=121,slow=3.1,SNR=5.7						
SONM	**Songino Array**	**66.78**	**328**	P	**P**	**03 58 17.5**	**-0.7**
VNDA	**Vanda**	**71.99**	**178**	P	**P**	**03 58 50.2**	**+0.4**
	comp=Z,1.6nm,1.1s,baz=322,slow=5.7,SNR=3.9						
WMQ	**Urumqi**	**76.03**	**318**	*e*P	**P**	**03 59 12.0**	**-2.0**
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**03 59 39.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=117,slow=4.2,SNR=5.9						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**03 59 39.0**	**-0.4**
ZALV	**Zalesovo Beam**	**81.58**	**326**	P	**P**	**03 59 44.3**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=103,slow=6.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**81.58**	**326**	P	**P**	**03 59 43.5**	**-0.7**
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**03 59 52.1**	**0.0**
	comp=Z,2.5nm,0.6s,baz=249,slow=5.3,SNR=38						
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**03 59 51.8**	**-0.3**
KURK	**Kurchatov**	**84.13**	**322**	P	**P**	**03 59 57.0**	**-0.5**
KURK				IAmb	IAmb	03 59 59.4	
	comp=Z,6.5nm,1.1s						
KURBB	**Kurchatov Arra**	**84.16**	**322**	P	**P**	**03 59 57.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=113,slow=4.0,SNR=6.3						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**03 59 58.2**	**-0.1**
BCAR	**Beaver Creek A**	**84.40**	**25**	P	**P**	**03 59 58.7**	**+0.1**
MAW	**Mawson**	**84.58**	**203**	P	**P**	**03 59 59.5**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=93,slow=7.0,SNR=4.4						
K27K	**Chicken**	**84.67**	**24**	P	**P**	**04 00 00.9**	**+0.9**
K27K				IAmb	IAmb	04 00 09.7	
	comp=Z,1.5nm,0.8s						
INK	**Inuvik**	**89.43**	**21**	P	**P**	**04 00 23.0**	**+0.1**
	comp=Z,3.7nm,1.1s,baz=273,slow=1.5,SNR=4.5						
INK	**Inuvik**	**89.43**	**21**	P	**P**	**04 00 22.6**	**-0.3**
INK				IAmb	IAmb	04 00 26.2	
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**93.01**	**52**	P	**P**	**04 00 41.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=250,slow=8.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.08**	**287**	PKPbc	**PKPbc**	**04 07 18.1**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=80,slow=2.0,SNR=19						

*CNRM **28** 03:49:39.7, 33°.47N×4°.96W, h8km*

*INMG **28** 03:49:40.4±1.4, 33°.52N×4°.85W, h31km±11km, ML2.6, Error ellipse: s-maj=9.1km s-min=2.8km az=76.0*

*MDD **28** 03:49:40.9±1.4, 33°.64N×5°.11W, h0km, mb4.2/9, Error ellipse: s-maj=12.9km s-min=9.2km az=175.0, PRXIMO*

*IGIL **28** 03:49:41.8, 33°.52N×4°.81W, h31km*

*SFS **28** 03:49:41.0, 33°.66N×5°.15W, ML4.1, AZROU (MARRUECOS)*

ISC 28 03:49:38.5±0.8, 33°.54N±0°.02×4°.99W±0°.03, h10km, n93, σ2s56/164, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IFR	**Ifrane**	**0.12**	**257**	*e*P	**Pg**	**03 49 42.9**	**+1.4**
IFR				*i* S	**Sg**	**03 49 45.6**	**+1.9**
CZD	**Col de Zad**	**0.51**	**185**	P	**Pg**	**03 49 49.4**	**+0.8**
CZD				S	**Sg**	**03 49 55.8**	**+0.5**
MD31	**MD31**	**0.70**	**164**	P	**Pg**	**03 49 52.1**	**0.0**
MD31				S	**Sg**	**03 50 00.4**	**-0.9**
MDT	**Midelt**	**0.80**	**156**	P	**Pg**	**03 49 53.6**	**-0.3**
	SNR=106						
MDT				S	**Sg**	**03 50 02.7**	**-1.5**
RSA	**Sarsar**	**1.50**	**333**	P	**Pg**	**03 50 07.6**	**+0.2**
RSA				S	**Sg**	**03 50 30.6**	**+3.6**
RTC	**Rabat Centre**	**1.62**	**286**	S	**Sg**	**03 50 31.3**	**+0.7**
PVLZ	**Peæn de**	**1.72**	**19**	P	**Pb**	**03 50 10.2**	**-0.1**
PVLZ				S	**Sb**	**03 50 32.3**	**+0.3**
PVLZ	**Peæn de**	**1.72**	**19**	*e*Pn	**Pb**	**03 50 10.2**	**-0.1**
PVLZ	**Peæn de**	**1.72**	**19**	*i* Pg	**Pg**	**03 50 14.7**	**+3.2**
PVLZ				*e*S	**Sb**	**03 50 32.3**	**+0.3**
GOLM	**Goulmima**	**1.83**	**179**	P	**Pn**	**03 50 12.7**	**+2.5**
GOLM				S	**Sn**	**03 50 36.3**	**+2.7**
PALE	**Palemas**	**1.88**	**27**	P	**Pb**	**03 50 13.6**	**+0.6**
PALE				S	**Sg**	**03 50 38.9**	**-0.2**
AVE	**Averroes**	**2.04**	**264**	P	**Pn**	**03 50 14.0**	**+1.0**
AVE	**Averroes**	**2.04**	**264**	*e*P	**Pn**	**03 50 14.1**	**+1.2**
AVE				*e*S	**Sn**	**03 50 40.1**	**+1.5**
SMIR	**Smir Dam**	**2.16**	**351**	P	**Pn**	**03 50 16.3**	**+1.7**
JBK	**JBK**	**2.16**	**68**	P	**Pn**	**03 50 14.1**	**-0.7**
GOG	**Mont Gurugu**	**2.35**	**44**	P	**Pn**	**03 50 18.3**	**+1.0**
CEU	**Ceuta**	**2.37**	**352**	P	**Pn**	**03 50 18.1**	**+0.7**
CEU				S	**Sn**	**03 50 48.3**	**+1.7**
CEU	**Ceuta**	**2.37**	**352**	*e*P	**Pn**	**03 50 18.1**	**+0.7**
CEU				*e*S	**Sn**	**03 50 48.3**	**+1.7**
TAF	**Taforalt**	**2.48**	**59**	P	**Pn**	**03 50 19.2**	**+0.1**
TDRA	**Tendrara**	**2.53**	**101**	P	**Pn**	**03 50 21.5**	**+1.6**
TZRR	**Tazzarine**	**2.79**	**190**	P	**Pn**	**03 50 24.8**	**+1.4**
OUZM	**OUZ**	**3.03**	**210**	P	**Pn**	**03 50 28.0**	**+1.4**
EMAL	**Malaga-Limoner**	**3.24**	**8**	P	**Pn**	**03 50 31.2**	**+1.7**
EMAL				S	**Sn**	**03 51 06.4**	**-1.8**
EMAL	**Malaga-Limoner**	**3.24**	**8**	*e*P	**Pn**	**03 50 31.2**	**+1.7**
EMAL				*e*S	**Sn**	**03 51 06.4**	**-1.8**
OUK	**Oukaimeden**	**3.37**	**227**	P	**Pn**	**03 50 31.5**	**0.0**
ESPR	**Espera**	**3.39**	**348**	P	**Pn**	**03 50 32.7**	**+1.1**
	2.3nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**03 51 09.6**	**-2.3**
	3.6nm,0.3s,SNR=7.9						
ZGR	**Zagora**	**3.46**	**189**	P	**Pn**	**03 50 34.9**	**+2.4**
ELGU	**Los Guajares,**	**3.50**	**18**	P	**Pn**	**03 50 33.4**	**+0.3**
	1.1nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**03 51 14.5**	**-0.1**
	5.7nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.63**	**11**	P	**Pn**	**03 50 36.5**	**+1.5**
	0.9nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**03 51 17.9**	**0.0**
	1.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.76**	**27**	P	**Pn**	**03 50 38.6**	**+1.8**
	1.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**03 51 20.7**	**-0.6**
	5.8nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**3.87**	**19**	P	**Pn**	**03 50 40.3**	**+2.1**
	1.0nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**03 51 23.8**	**+0.1**
	1.3nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**4.11**	**33**	S	**Sn**	**03 51 30.2**	**+0.7**
	3.2nm,0.5s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.41**	**328**	P	**Pn**	**03 50 45.3**	**-0.2**
PBDV				S	**Sn**	**03 51 34.3**	**-2.6**
	3.7nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.41**	**328**	*e*Pn	**Pn**	**03 50 45.3**	**-0.2**
PBDV				*e*Sn	**Sn**	**03 51 34.3**	**-2.6**
PBDV				A	A	03 51 48.4	
	3.7nm,0.7s						
EMIN	**Mina Concepcio**	**4.43**	**342**	P	**Pn**	**03 50 45.7**	**-0.1**
	1.2nm,0.1s,SNR=68						
EMIN				S	**Sn**	**03 51 34.4**	**-3.1**
	2.2nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.45**	**331**	P	**Pn**	**03 50 45.9**	**-0.2**
PVAQ				S	**Sn**	**03 51 34.9**	**-3.0**
	7.4nm,0.1s						
PVAQ	**Vaqueiros**	**4.45**	**331**	*e*Pn	**Pn**	**03 50 45.9**	**-0.2**
PVAQ				*e*Sn	**Sn**	**03 51 34.9**	**-3.0**
PVAQ				A	A	03 51 37.9	
	7.4nm,0.1s						
EGRO	**El Granado**	**4.47**	**334**	P	**Pn**	**03 50 46.6**	**+0.2**
	11nm,0.1s,SNR=60						
EGRO				S	**Sn**	**03 51 35.0**	**-3.5**
	7.9nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.53**	**20**	P	**Pn**	**03 50 50.0**	**+2.8**
	0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**03 51 39.5**	**-0.6**
	3.0nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.54**	**356**	P	**Pn**	**03 50 48.1**	**+0.8**
	1.1nm,0.2s,SNR=24						
ECAB				S	**Sn**	**03 51 36.4**	**-3.7**
	8.7nm,0.2s,SNR=13						
EADA	**Adamuz**	**4.63**	**4**	P	**Pn**	**03 50 49.0**	**+0.5**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**03 51 39.6**	**-2.8**
	6.6nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.76**	**320**	P	**Pn**	**03 50 51.0**	**+0.6**
	5.1nm,0.1s,SNR=6.3						
PFVI				S	**Sn**	**03 51 43.6**	**-2.0**
	4.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.76**	**320**	*e*Pn	**Pn**	**03 50 51.1**	**+0.8**
PFVI				*e*Sn	**Sn**	**03 51 44.2**	**-1.4**
PFVI				A	A	03 51 58.8	
	10.0nm,0.6s						
PCVE	**Castro Verde**	**4.78**	**330**	P	**Pn**	**03 50 51.1**	**+0.5**
PCVE				S	**Sn**	**03 51 43.7**	**-2.3**
	3.7nm,0.1s						
PCVE	**Castro Verde**	**4.78**	**330**	*e*Pn	**Pn**	**03 50 51.1**	**+0.5**
PCVE				*e*Sn	**Sn**	**03 51 43.7**	**-2.3**
PCVE				A	A	03 51 47.5	
	3.7nm,0.1s						
MORF	**Marmelete**	**4.80**	**322**	*e*P	**Pn**	**03 50 51.0**	**+0.1**
MORF	**Marmelete**	**4.80**	**322**	P	**Pn**	**03 50 51.9**	**+1.0**
MORF				S	**Sn**	**03 51 44.9**	**-1.7**
	9.1nm,0.5s						
MORF	**Marmelete**	**4.80**	**322**	*e*Pn	**Pn**	**03 50 51.9**	**+1.0**
MORF				*e*Sn	**Sn**	**03 51 44.9**	**-1.7**
MORF				A	A	03 51 48.9	
	9.1nm,0.5s						
PBAR	**Barrancos**	**4.91**	**341**	P	**Pn**	**03 50 53.2**	**+0.8**
PBAR				S	**Sn**	**03 51 45.6**	**-3.7**
PBAR	**Barrancos**	**4.91**	**341**	*e*Pn	**Pn**	**03 50 53.2**	**+0.8**
PBAR				*e*Sn	**Sn**	**03 51 45.6**	**-3.7**
SESP	**Santiago Espad**	**4.98**	**23**	P	**Pn**	**03 50 56.8**	**+3.3**
	0.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**03 51 53.6**	**+2.4**
	5.0nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.02**	**324**	P	**Pn**	**03 50 55.3**	**+1.4**
PTEO				S	**Sn**	**03 51 49.5**	**-2.5**
	3.2nm,0.9s						
PTEO	**Sao Teotonio**	**5.02**	**324**	*e*Pn	**Pn**	**03 50 55.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**03 51 49.5**	**-2.5**
PTEO				A	A	03 51 52.4	
	6.4nm,0.9s						
PBEJ	**Beja**	**5.05**	**333**	P	**Pn**	**03 50 54.9**	**+0.6**
PBEJ				S	**Sn**	**03 51 50.1**	**-2.6**
	1.7nm,0.1s						
PBEJ	**Beja**	**5.05**	**333**	*e*Pn	**Pn**	**03 50 54.9**	**+0.6**
PBEJ				*e*Sn	**Sn**	**03 51 50.1**	**-2.6**
PBEJ				A	A	03 51 53.1	
	3.4nm,0.1s						
PNCL	**Nicolau / Gran**	**5.39**	**329**	P	**Pn**	**03 51 00.0**	**+1.0**
PNCL				S	**Sn**	**03 51 59.1**	**-2.0**
	2.3nm,0.3s						
PNCL	**Nicolau / Gran**	**5.39**	**329**	*e*Pn	**Pn**	**03 51 00.0**	**+1.0**
PNCL				*e*Sn	**Sn**	**03 51 59.1**	**-2.0**
PNCL				A	A	03 52 00.0	
	2.3nm,0.3s						
EVO	**Evora**	**5.55**	**335**	P	**Pn**	**03 51 01.8**	**+0.6**
EVO				S	**Sn**	**03 52 01.4**	**-3.6**
	5.5nm,0.1s						
EVO	**Evora**	**5.55**	**335**	*e*P	**Pn**	**03 51 01.3**	**+0.1**
EVO				*e*S	**Sn**	**03 52 01.1**	**-3.9**
EVO	**Evora**	**5.55**	**335**	*e*Pn	**Pn**	**03 51 01.8**	**+0.6**
EVO				*e*Sn	**Sn**	**03 52 01.4**	**-3.6**
EVO				A	A	03 52 06.7	
	5.5nm,0.1s						
ETOB	**Tobarra**	**5.80**	**28**	P	**Pn**	**03 51 08.1**	**+3.3**
	0.4nm,0.2s,SNR=7.9						
**

NNC 28 04:17:08.0±6.1, 36°96N×71°07E, h181km±108km, mb2.6, mpv3.6, 3C-5D, Error ellipse: s-maj=58.2km s-min=35.0km az=25.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.15**	**356**	⇓P	Pn	04 18 37.9	+1.1
	3.0nm,0.4s,baz=181,slow=14,SNR=28						
KK31				⇑S	Sn	04 19 47.2	+0.1
	3.1nm,0.5s,baz=183,slow=24,SNR=12						
AAK	**Ala-Archa**	**6.25**	**24**	⇑P	Pn	04 18 38.9	+0.6
	1.8nm,0.5s						
AAK				⇓S	Sn	04 19 50.1	+0.5
	5.2nm,0.6s						
TKM2	**Tokmak 2**	**6.89**	**29**	⇓P	Pn	04 18 43.9	-2.9
	4.7nm,1.1s						
TKM2				⇑S	Sn	04 20 06.2	+1.3
	5.7nm,1.1s						
AB31	**Akbulak array**	**14.71**	**330**	⇓P	P	04 20 30.2	+1.6
	0.3nm,0.3s,baz=147,slow=13,SNR=27						
AB31				⇓S	Sn	04 23 08.2	-3.0
	0.8nm,0.6s,baz=151,slow=23,SNR=4.0						

*IDC **28** 04:29:26.4±7.0, 6°35S×146°58E±1.4, h106km±70km, mb3.2/3, mb1 3.5/6, mb1mx3.3/35, mbtmp3.8/6, ML2.8/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/14, Error ellipse: s-maj=69.4km s-min=29.2km az=142.0*

ISC 28 04:29:26.1±1.4, 6°3S±0°1×146°5E±0°2, h100km, n8, σ0s81/8, mb3.3/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.16**	**169**	P	**Pn**	**04 30 13.8**	**-0.1**
	26nm,0.3s,baz=6.3,slow=9.2,SNR=30						
PMG				S	**Sn**	**04 30 50.1**	**-0.8**
	22nm,0.3s,baz=121,slow=23,SNR=9.2						
CTA	**Charters Tower**	**13.72**	**181**	P	**Pn**	**04 32 37.5**	**+1.1**
	1.6nm,0.3s,baz=8.9,slow=13,SNR=15						
WRA	**Warramunga Arr**	**18.01**	**220**	P	**P**	**04 33 28.2**	**-1.0**
	0.1nm,0.3s,baz=39,slow=11,SNR=6.9						
GUMO	**Guam**	**19.82**	**355**	LR	LR	04 40 35.7	
	comp=Z,225nm,18.8s,baz=54,slow=34						
ASAR	**Alice Springs**	**21.11**	**214**	P	**P**	**04 34 02.7**	**-0.2**
	0.4nm,0.4s,baz=52,slow=8.6,SNR=9.5						
FITZ	**Fitzroy Crossi**	**23.51**	**238**	P	**P**	**04 34 27.1**	**-0.2**
	1.2nm,0.9s,baz=63,slow=11,SNR=2.0						
ILAR	**Eielson Array**	**85.93**	**23**	P	**P**	**04 41 54.4**	**-0.3**
	0.8nm,0.7s,baz=254,slow=4.7,SNR=9.0						
TORD	**Torodi Ar. Bea**	**144.70**	**284**	PKP	**PKPab**	**04 48 51.6**	**+0.5**
	0.6nm,0.8s,baz=59,slow=1.4,SNR=3.0						

*MOS **28** 04:54:50.5±0.8, 64°48N×17°65W, h9km, mb4.7/32, Error ellipse: s-maj=14.1km s-min=8.6km az=108.3*
*REY **28** 04:54:50.1, 64°67N×17°37W, h9km*
*IDC **28** 04:54:51.2±0.6, 64°45N×17°64W, h0km, mb3.9/15, mb1 4.2/17, mb1mx4.0/41, mbtmp4.0/17, ML3.6/2, Error ellipse: s-maj=20.7km s-min=9.4km az=20.0*
*NEIC **28** 04:54:52.3±0.3, 64°6N±0°1×17°6W±0°2, h8km±4km, mb4.8/74, Error ellipse: s-maj=17.6km s-min=8.7km az=196.0*

ISC 28 04:54:52.8±0.3, 64°56N±0°03×17°56W±0°03, h10km, n238, σ1s56/229, mb4.7/77, 10C, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.14**	**323**	P	**Pg**	**04 54 53.9**	**-2.2**
	baz=271						
IGRF	**Grimsfjall**	**0.20**	**141**	P	**Pg**	**04 54 55.4**	**-1.7**
	baz=171						
IDYN	**Dyngjuhals**	**0.24**	**19**	P	Pg	04 54 52.8	-5.1
	baz=0.2						
IHUS	**Husbondi**	**0.27**	**189**	P	**Pg**	**04 54 57.8**	**-0.6**
	baz=198						
IURH	**Urdarhals**	**0.31**	**34**	P	Pg	04 54 53.9	-5.3
	baz=32						
IVOT	**Vottur**	**0.33**	**151**	P	**Pg**	**04 54 57.7**	**-1.8**
	baz=169						
IVOT				S	**Sg**	**04 55 04.1**	**+0.2**
	baz=169						
ISKR	**Skrokkalda**	**0.36**	**270**	P	**Pg**	**04 54 58.6**	**-1.3**
	baz=256						
ISKR				S	**Sb**	**04 55 05.0**	**-2.0**
	baz=256						
IJOK	**Jokulheimar**	**0.38**	**230**	P	**Pb**	**04 54 59.4**	**-2.3**
	baz=227						
IKVE	**Kverkfjoll**	**0.40**	**72**	P	Pg	04 54 56.6	-4.1
	baz=88						
IKVE				S	**Sg**	**04 55 00.5**	**-5.5**
	baz=88						
IIEY	**Innrieyrar**	**0.53**	**208**	P	**Pg**	**04 55 01.6**	**-1.5**
	baz=210						
IIEY				S	**Sb**	**04 55 11.2**	**-0.7**
	baz=210						
THOR	**Thorvaldshraun**	**0.53**	**45**	P	Pg	04 54 57.5	-5.7
	baz=48						
IKRE	**Kreppuhraun**	**0.55**	**66**	P	Pg	04 54 58.2	-5.4
	baz=74						
IKRE				S	**Sg**	**04 55 04.8**	**-6.0**
	baz=74						
IKAL	**Kalfafell**	**0.62**	**185**	P	**Pg**	**04 55 03.2**	**-1.5**
	baz=191						
IKAL				S	**Sb**	**04 55 13.2**	**-1.1**
	baz=191						
IKSK	**Karasker**	**0.62**	**130**	P	**Pg**	**04 55 01.1**	**-3.7**
	baz=142						
IKSK				S	**Sg**	**04 55 10.7**	**-2.2**
	baz=142						
IASK	**Askja**	**0.63**	**38**	P	Pg	04 54 59.2	-5.8
	baz=38						
IASK				S	Sg	04 55 06.6	-6.6
	baz=38						
IMKO	**Mokollar**	**0.67**	**51**	P	Pg	04 54 60.0	-5.8
	baz=54						
IVAT	**Vatnsfell**	**0.70**	**238**	P	**Pg**	**04 55 05.0**	**-1.3**
	baz=235						
ISVA	**Svartarkot**	**0.79**	**9**	P	Pg	04 55 01.8	-6.2
	baz=4.0						
IVSH	**V-Sauoahnukur**	**0.82**	**72**	P	Pg	04 55 02.9	-5.8
	baz=78						
IHVE	**Hveravellir**	**0.92**	**291**	P	**Pg**	**04 55 07.6**	**-2.8**
	baz=283						
ISNB	**Snabyli**	**0.95**	**210**	P	**Pg**	**04 55 09.1**	**-2.1**
	baz=211						
IADA	**Aoalbol**	**0.96**	**61**	P	Pg	04 55 04.9	-6.4
	baz=65						
ISLY	**Slysaalda**	**1.01**	**223**	P	**Pg**	**04 55 10.1**	**-2.1**
	baz=223						
IRJU	**Rjupnafell**	**1.07**	**208**	P	**Pg**	**04 55 11.2**	**-2.1**
	baz=209						
IFED	**Fedgar**	**1.08**	**241**	P	**Pg**	**04 55 11.2**	**-2.2**
	baz=238						
IMEL	**Melhnausar**	**1.08**	**20**	P	Pb	04 55 06.9	-6.7
	baz=18						
IMJO	**Mjoaskard**	**1.12**	**237**	P	**Pg**	**04 55 11.9**	**-2.4**
	baz=235						
IREN	**Reynihlio**	**1.12**	**14**	P	Pn	04 55 07.5	-7.1
	baz=11						
IHVO	**Lagu-Hvolar**	**1.19**	**209**	P	**Pb**	**04 55 13.1**	**-2.2**
	baz=210						
IGYG	**Gygjarholskot**	**1.19**	**258**	P	**Pb**	**04 55 12.4**	**-3.0**
	baz=254						
IHAU	**Haukadalur**	**1.21**	**242**	P	**Pb**	**04 55 13.2**	**-2.5**
	baz=239						
IGRS	**Grimsstaoir**	**1.24**	**29**	P	Pn	04 55 09.5	-6.7
	baz=28						
IALF	**Alftagrof**	**1.29**	**214**	P	**Pb**	**04 55 14.5**	**-2.6**
	baz=215						
IESK	**Eystri-Skogar**	**1.33**	**220**	P	**Pn**	**04 55 15.1**	**-2.3**
	baz=220						
ISKI	**Skildingahlsh**	**1.33**	**9**	P	Pn	04 55 10.9	-6.6
	baz=6.6						
IGHA	**Grjothals**	**1.34**	**16**	P	Pn	04 55 11.4	-6.2
	baz=14						
IGRA	**Granastaoir**	**1.36**	**360**	P	Pn	04 55 11.9	-6.0
	baz=356						
IGRA				S	**Sn**	**04 55 30.1**	**-5.8**
	baz=356						
IMID	**Miomork**	**1.37**	**230**	P	**Pn**	**04 55 16.1**	**-1.8**
	baz=228						
ISAU	**Saurbar**	**1.37**	**247**	P	**Pn**	**04 55 14.9**	**-3.1**
	baz=244						
IDIM	**Dimmadalss**	**1.43**	**10**	P	Pn	04 55 12.4	-6.4
	baz=7.8						
IHLA	**Hella**	**1.43**	**346**	P	Pn	04 55 13.9	-4.9
	baz=342						
IASM	**Asmuli**	**1.52**	**243**	P	**Pn**	**04 55 18.1**	**-1.9**
	baz=241						
IBRE	**Brettingsstaoi**	**1.58**	**355**	P	Pn	04 55 15.5	-5.2
	baz=351						
IGIL	**Gilhagi**	**1.60**	**18**	P	Pn	04 55 15.6	-5.5
	baz=16						
ISOL	**Solvholt**	**1.61**	**248**	P	**Pn**	**04 55 18.9**	**-2.4**
	baz=246						
IKRO	**Krokur**	**1.62**	**255**	P	**Pn**	**04 55 18.9**	**-2.5**
	baz=252						
BORG	**Borgarnes**	**1.63**	**278**	Pg	**Pn**	**04 55 19.3**	**-2.2**
	34nm,0.3s,baz=103,slow=9.6,SNR=42						
BORG				Lg	Lg	04 55 40.9	
	26nm,0.3s,baz=42,slow=20,SNR=6.0						
BORG	**Borgarnes**	**1.63**	**278**	P	**Pn**	**04 55 19.5**	**-2.1**
BORG						04 55 41.0	
BORG	**Borgarnes**	**1.63**	**278**	Pn	**Pn**	**04 55 19.5**	**-2.1**
BORG				Sn	**Sn**	**04 55 41.0**	**-1.6**
IHEI	**Heioarbar**	**1.64**	**259**	P	**Pn**	**04 55 19.4**	**-2.3**
	baz=256						
ISIG	**Siglufjorour**	**1.68**	**341**	P	Pn	04 55 16.9	-5.2
	baz=337						
ISAN	**Sandskeio**	**1.82**	**256**	P	**Pn**	**04 55 22.7**	**-1.4**
	baz=253						
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**	**04 57 37.4**	**-2.2**
	baz=324,slow=13,SNR=6.4						
ESK	**Eskdalemuir**	**11.70**	**136**	P	**Pn**	**04 57 39.8**	**+0.2**
ESK	**Eskdalemuir**	**11.70**	**136**	Pn	**Pn**	**04 57 39.8**	**+0.2**
DAG	**Danmarks Havn**	**12.28**	**359**	*i* P	**Pn**	**04 57 50.4**	**+3.0**
DAG	**Danmarks Havn**	**12.28**	**359**	*i* P	**Pn**	**04 57 50.4**	**+3.0**
DAG	**Danmarks Havn**	**12.28**	**359**	*i* P	**Pn**	**04 57 50.4**	**+3.0**
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	Pn	04 58 00.9	-4.0
	0.0nm,0.3s,baz=300,slow=13,SNR=2.9						
NOR	**Nord**	**17.13**	**0**	*i* P	**P**	**04 58 58.0**	**+4.4**
NOR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NOR	**Nord**	**17.13**	**0**	*i* P	**P**		
	comp=Z,8.6nm,0.9s						
NOR	**Nord**	**17.13**	**0**	*i* P	**P**	**04 58 58.0**	**+4.4**
NOR				IAmb	IAmb	04 58 59.9	
	comp=Z,8.6nm,0.9s						
BGES	**Gesves**	**18.55**	**129**	P	**P**	**04 59 09.3**	**0.0**
BGES				pPn	**pP**	**04 59 12.1**	**-0.5**
FINES	**FINESS Array B**	**19.75**	**79**	P	**P**	**04 59 23.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=266,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**19.75**	**79**	P	**P**	**04 59 22.6**	**+0.2**
CLL	**Collm**	**20.68**	**115**	*e*P	**P**	**04 59 32.0**	**-0.6**
	comp=Z,66nm,2.0s						
CLL				*e*PP	**PnPn**	**04 59 51.0**	**+0.8**
CLL	**Collm**	**20.68**	**115**	P	**P**	**04 59 32.9**	**+0.3**
CLL				pmax	pmax		
	comp=Z,38nm,1.7s						
CLL	**Collm**	**20.68**	**115**	P	**P**	**04 59 32.9**	**+0.3**
ECH	**Echery**	**21.11**	**129**	P	**P**	**04 59 37.3**	**+0.1**
ECH				pmax	pmax		
	comp=Z,20nm,1.5s						
ECH	**Echery**	**21.11**	**129**	P	**P**	**04 59 37.3**	**+0.1**
NKC	**Novy Kostel**	**21.32**	**118**	*e*P	**P**	**04 59 42.2**	**+2.7**
NKC	**Novy Kostel**	**21.32**	**118**	*e*P	**P**	**04 59 42.2**	**+2.7**
BRG	**Berggiesshubel**	**21.39**	**115**	*e*P	**P**	**04 59 39.4**	**-0.8**
	comp=Z,69nm,1.9s						
BRG	**Berggiesshubel**	**21.39**	**115**	*e*P	**P**	**04 59 39.4**	**-0.8**
BRG				pmax	pmax		
	comp=Z,69nm,1.9s						
BFO	**Black Forest**	**21.41**	**127**	P	**P**	**04 59 40.5**	**+0.1**
BFO				pmax	pmax		
	comp=Z,33nm,1.4s						
BFO	**Black Forest**	**21.41**	**127**	P	**P**	**04 59 40.5**	**+0.1**
VSU	**Vasula**	**21.60**	**86**	*i* P	**P**	**04 59 42.7**	**+0.3**
VSU				pmax	pmax		
	comp=Z,53nm,0.8s						
CHVC	**Chvalec**	**22.45**	**112**	*e*P	**P**	**04 59 50.6**	**-1.0**
OSTC	**Ostas**	**22.54**	**112**	*e*P	**P**	**04 59 52.8**	**+0.2**
KHC	**Kasperske Hory**	**22.65**	**118**	*e*P	**P**	**04 59 53.6**	**-0.2**
KHC	**Kasperske Hory**	**22.65**	**118**	*e*P	**P**	**04 59 53.6**	**-0.2**
GEC2	**GERESS Array S**	**22.93**	**118**	P	**P**	**04 59 56.4**	**-0.5**
GEC2				IAmb	IAmb	05 00 05.7	
	comp=Z,32nm,1.6s						
GERES	**GERESS Array B**	**22.93**	**118**	P	**P**	**04 59 56.3**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=327,slow=6.8,SNR=9.7						
GERES	**GERESS Array B**	**22.93**	**118**	P	**P**	**04 59 56.1**	**-0.7**
RETA	**Reutte**	**22.98**	**124**	*e*P	**P**	**04 59 57.3**	**0.0**
	comp=Z,19nm,1.5s						
MOTA	**Moosalm**	**23.22**	**124**	*e*P	**P**	**04 59 60.0**	**+0.1**
	comp=Z,19nm,1.4s						
DAVOX	**Davos/Dischmat**	**23.27**	**127**	P	**P**	**04 59 59.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=333,slow=8.1,SNR=4.2						
FETA	**Feichten**	**23.36**	**125**	*e*P	**P**	**05 00 00.9**	**-0.4**
	comp=Z,16nm,1.6s						
SQTA	**Sankt Quirin**	**23.36**	**124**	*e*P	**P**	**05 00 02.6**	**+1.3**
	comp=Z,3.8nm,0.7s						
WATA	**Walderalm**	**23.40**	**124**	*e*P	**P**	**05 00 03.0**	**+1.3**
	comp=Z,8.7nm,1.0s						
TMCR	**Tamitsa**	**23.41**	**65**	*e*P	**P**	**05 00 00.0**	**-1.4**
TMCR				pmax	pmax		
	comp=Z,16nm,0.6s						
WTTA	**Wattenberg**	**23.48**	**124**	*e*P	**P**	**05 00 02.5**	**0.0**
	comp=Z,11nm,1.3s						
VRAC	**Vranov**	**23.67**	**114**	*e*P	**P**	**05 00 06.5**	**+2.3**
MORC	**Moravsky Berou**	**23.68**	**112**	*e*P	**P**	**05 00 06.1**	**+1.8**
MORC	**Moravsky Berou**	**23.68**	**112**	P	**P**	**05 00 04.3**	**0.0**
MORC				pmax	pmax		
	comp=Z,20nm,1.5s						
MORC	**Moravsky Berou**	**23.68**	**112**	P	**P**	**05 00 04.3**	**0.0**
EUNU	**Eureka**	**23.76**	**336**	P	**P**	**05 00 04.6**	**-0.2**
KRUC	**Moravsky**	**23.79**	**114**	*e*P	**P**	**05 00 06.7**	**+1.4**
JAVC	**Velka Javorina**	**24.46**	**113**	*e*P	**P**	**05 00 14.8**	**+3.2**
CONA	**Conrad Observa**	**24.50**	**117**	*e*P	**P**	**05 00 15.1**	**+3.1**
	comp=Z,8.1nm,1.1s						
ZOU	**Zoufplan**	**24.57**	**123**	P	**P**	**05 00 11.1**	**-1.6**
SMOL	**Smolenice**	**24.64**	**114**	*e*P	**P**	**05 00 13.2**	**0.0**
SMOL	**Smolenice**	**24.64**	**114**	*e*P	**P**	**05 00 13.2**	**0.0**
MYKA	**Terra Mystica**	**24.75**	**121**	*e*P	**P**	**05 00 18.3**	**+4.1**
	comp=Z,7.8nm,1.0s						
VYHS	**Vyhne**	**25.22**	**112**	*e*P	**P**	**05 00 17.8**	**-0.6**
VYHS	**Vyhne**	**25.22**	**112**	*e*P	**P**	**05 00 17.8**	**-0.6**
KLMR	**Klimovskoe**	**25.66**	**72**	*e*P	**P**	**05 00 19.6**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s						
KLMR	**Klimovskoe**	**25.66**	**72**	*e*P	**P**	**05 00 19.7**	**-2.5**
KLMR				AMP		05 00 34.3	
	comp=Z,30nm,1.5s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**05 00 23.3**	**-1.3**
KWP				pmax	pmax		
	comp=Z,36nm,1.2s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**05 00 23.3**	**-1.3**
SCHQ	**Schefferville**	**26.02**	**272**	P	**P**	**05 00 24.8**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=39,slow=11,SNR=2.7						
SCHQ	**Schefferville**	**26.02**	**272**	P	**P**	**05 00 25.2**	**-0.4**
PSZ	**Piszkesteto**	**26.10**	**112**	P	**P**	**05 00 25.0**	**-1.5**
PSZ				pmax	pmax		
	comp=Z,45nm,1.6s						
PSZ	**Piszkesteto**	**26.10**	**112**	P	**P**	**05 00 25.0**	**-1.5**
PSZ				IAmb	IAmb	05 00 32.5	
	comp=Z,45nm,1.6s						
ESDC	**Sonseca Array**	**26.17**	**156**	P	**P**	**05 00 26.5**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=349,slow=8.3,SNR=12						
ESDC	**Sonseca Array**	**26.17**	**156**	P	**P**	**05 00 27.3**	**+0.2**
KOLS	**Kolonicke sedl**	**26.27**	**107**	*e*P	**P**	**05 00 28.1**	**+0.2**
KOLS	**Kolonicke sedl**	**26.27**	**107**	*e*P	**P**	**05 00 28.1**	**+0.2**
UZH	**Uzhgorod**	**26.51**	**108**	*e*P	**P**	**05 00 29.7**	**-0.4**
UZH				*e*		05 01 23.3	
AKASG	**Malin Array Be**	**27.85**	**97**	P	**P**	**05 00 40.9**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=322,slow=9.5,SNR=6.4						
AKASG	**Malin Array Be**	**27.85**	**97**	*ce*P	**P**	**05 00 41.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**27.85**	**97**	P	**P**	**05 00 40.2**	**-1.9**
OBN	**Obninsk**	**27.92**	**84**	*e*P	**P**	**05 00 43.8**	**+1.2**
OBN				*e*		05 01 25.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,428nm,19.0s						
ARU	**Arti**	**36.15**	**66**	*i* P	**P**	**05 01 57.2**	**+2.5**
ARU				pmax	pmax		
	comp=Z,27nm,5.4s						
NRIK	**Noril'sk**	**36.56**	**35**	*ce*P	**P**	**05 01 58.3**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KIV	**Kislovodsk**	**38.86**	**92**	*e*P	**P**	**05 02 18.6**	**+0.7**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KBZ	**Khabaz**	**39.13**	**92**	P	**P**	**05 02 21.7**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=319,slow=9.5,SNR=4.4						
KBZ	**Khabaz**	**39.13**	**92**	*i* P	**P**	**05 02 21.8**	**+1.7**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**39.27**	**313**	P	**P**	**05 02 22.6**	**+1.7**
	comp=Z,3.5nm,1.0s,baz=40,slow=8.9,SNR=5.0						
YKA	**Yellowknife Ar**	**39.27**	**313**	*ce*P	**P**	**05 02 25.1**	**+4.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**39.92**	**329**	P	**P**	**05 02 25.9**	**-0.4**
INK				pmax	pmax		
	comp=Z,11nm,1.3s						
INK	**Inuvik**	**39.92**	**329**	P	**P**	**05 02 25.9**	**-0.4**
TIXI	**Tiksi**	**42.14**	**15**	*ce*P	**P**	**05 02 45.2**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,34nm,1.0s						
TOLK	**Toolik Lake Re**	**42.84**	**336**	P	**P**	**05 02 49.3**	**-1.0**
BRVK	**Borovoye**	**43.20**	**62**	*i* P	**P**	**05 02 52.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,18nm,4.2s						
FYU	**Fort Yukon**	**43.86**	**333**	P	**P**	**05 02 58.6**	**0.0**
FYU				IAmb	IAmb	05 03 04.8	
	comp=Z,26nm,1.4s						
IL31		**45.77**	**332**	P	**P**	**05 03 13.8**	**+0.1**
IL31				IAmb	IAmb	05 03 17.3	
	comp=Z,9.8nm,1.3s						
ILAR	**Eielson Array**	**45.77**	**332**	P	**P**	**05 03 15.1**	**+1.3**
	comp=Z,4.3nm,1.1s,baz=23,slow=5.5,SNR=17						
ILAR				PcP	**PcP**	**05 04 51.4**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=353,slow=3.5,SNR=7.8						
ILAR	**Eielson Array**	**45.77**	**332**	P	**P**	**05 03 13.8**	**0.0**
ILAR					**PcP**	**05 04 51.5**	**+0.4**
MDM	**Murphy Dome**	**45.87**	**333**	P	**P**	**05 03 14.7**	**+0.1**
MDM				IAmb	IAmb	05 03 19.6	
	comp=Z,16nm,1.3s						
COLA	**College**	**45.87**	**333**	P	**P**	**05 03 14.7**	**+0.2**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
COLA	**College**	**45.87**	**333**	P	**P**	**05 03 14.7**	**+0.2**
COLA				IAmb	IAmb	05 03 18.1	
	comp=Z,9.8nm,0.9s						
TCOL	**CIGO, UAF Yank**	**45.87**	**333**	P	**P**	**05 03 14.4**	**-0.1**
TCOL				IAmb	IAmb	05 03 18.1	
	comp=Z,9.8nm,0.9s						
BILL	**Bilibino**	**47.66**	**358**	*i* P	**P**	**05 03 29.1**	**+0.6**
BILL				*e*		05 04 54.9	
BILL				*e*		05 05 23.7	
BILL				*e*PPP	PPP	05 06 08.9	
BILL				pmax	pmax		
	comp=Z,61nm,2.1s						
KURK	**Kurchatov**	**48.19**	**58**	*ce*P	**P**	**05 03 32.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
T47A	**Sharon Grove**	**48.61**	**270**	P	**P**	**05 03 36.0**	**-0.3**
EGMT	**Eagleton**	**48.90**	**297**	P	**P**	**05 03 38.3**	**-0.2**
W50A	**Signal Mountai**	**49.35**	**268**	P	**P**	**05 03 41.8**	**-0.2**
W50A				IAmb	IAmb	05 03 47.1	
	comp=Z,14nm,1.2s						
T42A	**Van Buren**	**50.30**	**274**	P	**P**	**05 03 49.1**	**0.0**
GCMT	**Greycliff**	**50.71**	**295**	P	**P**	**05 03 51.9**	**-0.4**
X48A	**Hartselle**	**50.73**	**269**	P	**P**	**05 03 52.3**	**-0.1**
X48A				IAmb	IAmb	05 03 56.4	
	comp=Z,13nm,1.3s						
Z51A	**Franklin**	**50.89**	**266**	P	**P**	**05 03 53.5**	**-0.1**
RLMT	**Red Lodge**	**51.11**	**295**	P	**P**	**05 03 55.1**	**-0.3**
RLMT				IAmb	IAmb	05 04 00.4	
	comp=Z,24nm,1.6s						
KKAR	**Karatay Array**	**51.34**	**70**	P	**P**	**05 03 56.9**	**0.0**
KKAR	**Karatay Array**	**51.34**	**70**	P	**P**	**05 03 56.9**	**0.0**
YNE	**Yellowstone No**	**51.49**	**295**	P	**P**	**05 03 58.1**	**-0.3**
BOZ	**Bozeman (W)**	**51.63**	**297**	P	**P**	**05 03 59.0**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,12nm,1.3s						
BOZ	**Bozeman (W)**	**51.63**	**297**	P	**P**	**05 03 59.0**	**-0.3**
BOZ				IAmb	IAmb	05 04 03.3	
	comp=Z,12nm,1.3s						
DGZ	**Jazzator, Alta**	**52.16**	**53**	*i* P	**P**	**05 04 04.8**	**+1.6**
DGZ				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MCMT	**McKenzie Canyo**	**52.75**	**297**	P	**P**	**05 04 07.3**	**-0.4**
IMW	**Indian Meadow**	**52.79**	**295**	P	**P**	**05 04 07.9**	**-0.2**
MK31	**Makanchi Array**	**52.80**	**58**	*ce*P	**P**	**05 04 07.6**	**-0.2**
MKAR	**Makanchi Array**	**52.80**	**58**	P	**P**	**05 04 06.5**	**-1.3**
	comp=Z,1.7nm,1.0s,baz=303,slow=7.1,SNR=6.2						
MKAR	**Makanchi Array**	**52.80**	**58**	*ce*P	**P**	**05 04 07.3**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LOHW	**Long Hollow**	**52.90**	**295**	P	**P**	**05 04 08.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**53.05**	**156**	P	**P**	**05 04 08.7**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=334,slow=8.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**53.05**	**156**	P	**P**	**05 04 10.1**	**+0.2**
BW06	**Boulder Array**	**53.20**	**293**	P	**P**	**05 04 10.9**	**-0.1**
BW06				IAmb	IAmb	05 04 14.8	
	comp=Z,13nm,1.3s						
PD31	**Pinedale Array**	**53.20**	**293**	P	**P**	**05 04 10.7**	**-0.4**
PD31				IAmb	IAmb	05 04 14.8	
	comp=Z,11nm,1.2s						
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	**05 04 11.4**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=56,slow=5.9,SNR=20						
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	**05 04 10.7**	**-0.4**
N23A	**Red Feather La**	**53.32**	**289**	P	**P**	**05 04 11.6**	**-0.4**
N23A				IAmb	IAmb	05 04 16.8	
	comp=Z,12nm,1.1s						
OK030	**Cody Creek RV**	**53.67**	**278**	P	**P**	**

	comp=Z,18nm,4.2s							
KIC	Kosan Boka	58.81	165	*e*P		P	05 04 52.7	+1.6
	comp=Z,18nm,1.1s							
PKCU	Pink Cliffs	58.83	292	P		P	05 04 51.0	-0.5
LIC	Lamto	58.91	165	*e*P		P	05 04 51.8	0.0
	comp=Z,2.9nm,0.3s							
SZCU	Shurtz Canyon	59.01	293	P		P	05 04 52.2	-0.4
CCUT	Cedar City	59.16	293	P		P	05 04 53.1	-0.6
R11A	Troy Canyon, C	59.35	295	P		P	05 04 54.6	-0.3
R11A				IAmb		IAmb	05 04 59.8	
	comp=Z,10nm,1.6s							
BNM	Barren Site	59.35	285	P		P	05 04 54.6	-0.4
KNB	Kanab	59.41	292	P		P	05 04 55.0	-0.3
KNB				pmax		pmax		
	comp=Z,13nm,1.6s							
KNB	Kanab	59.41	292	P		P	05 04 55.0	-0.3
LCMT	Little Creek M	59.58	293	P		P	05 04 56.1	-0.4
PAHR	Pah Rah Range	59.63	299	P		P	05 04 56.6	-0.1
PAHR				IAmb		IAmb	05 05 00.8	
	comp=Z,9.5nm,1.5s							
JCT	Junction City	59.64	278	P		P	05 04 56.6	-0.2
JCT				pmax		pmax		
	comp=Z,13nm,1.2s							
JCT	Junction City	59.64	278	P		P	05 04 56.6	-0.2
KVN	Kaiserville	59.71	298	P		P	05 04 57.1	-0.3
KVN				pmax		pmax		
	comp=Z,5.0nm,1.2s							
KVN	Kaiserville	59.71	298	P		P	05 04 57.1	-0.3
KVN				IAmb		IAmb	05 05 00.9	
	comp=Z,5.3nm,1.2s							
SONM	Songino Array	59.74	40	P		P	05 04 56.9	-0.5
	comp=Z,0.9nm,0.9s,baz=342,slow=8.2,SNR=2.6							
SONM	Songino Array	59.74	40	P		P	05 04 57.3	-0.1
SONM				pmax		pmax		
	comp=Z,5.0nm,1.8s							
SONM	Songino Array	59.74	40	P		P	05 04 57.3	-0.1
ULN	Ulaanbaatar	59.89	40	*ce*P		P	05 04 58.1	-0.4
ULN				pmax		pmax		
	comp=Z,4.0nm,1.3s							
WUAZ	Wupatki	60.12	290	P		P	05 05 00.0	-0.2
YERR	Yerington	60.20	298	P		P	05 05 00.5	-0.3
NVAR	Mina Array Bea	60.33	297	P		P	05 05 02.8	+1.1
	comp=Z,0.7nm,0.9s,baz=23,slow=2.3,SNR=4.2							
NVAR	Mina Array Bea	60.33	297	P		P	05 05 01.3	-0.4
SHPR	Sheep Range	60.78	294	P		P	05 05 04.3	-0.4
SHPR				IAmb		IAmb	05 05 08.5	
	comp=Z,6.0nm,1.3s							
MNTX	Cornudas Mount	60.95	283	P		P	05 05 05.8	0.0
X16A	Lo Mia Camp, P	61.10	290	P		P	05 05 06.6	-0.3
X16A				IAmb		IAmb	05 05 12.0	
	comp=Z,13nm,1.6s							
TX31	Lajitas Ar. Si	62.28	280	P		P	05 05 14.7	-0.2
TX32	Lajitas Array	62.28	280	P		P	05 05 14.6	-0.2
TX32				IAmb		IAmb	05 05 18.3	
	comp=Z,8.8nm,1.7s							
TXAR	Lajitas Array	62.28	280	P		P	05 05 14.9	+0.1
	comp=Z,0.9nm,0.9s,baz=45,slow=5.5,SNR=9.4							
TXAR	Lajitas Array	62.28	280	P		P	05 05 14.7	-0.2
TUC	Tucson	62.67	288	P		P	05 05 17.1	-0.3
TUC				pmax		pmax		
	comp=Z,12nm,1.7s							
TUC	Tucson	62.67	288	P		P	05 05 17.1	-0.3
TUC				IAmb		IAmb	05 05 22.1	
	comp=Z,12nm,1.6s							
GTA	Gaotai	65.39	49	*e*P		P	05 05 37.5	+2.3
GTA				pP		sP	05 05 44.5	+4.1
GTA				sP		pP	05 05 48.0	+9.0
GTA				pmax		pmax		
	comp=Z,3.0nm,1.3s							
GTA				pmax		pmax		
	comp=Z,100nm,6.5s							
GTA				LR		LR		
	comp=N,240nm,19.6s							
GTA				LR		LR		
	comp=E,250nm,18.9s							
GTA				LR		LR		
	comp=Z,300nm,19.6s							
HHC	Hu-ho-hao-te	67.61	40	*e*P		P	05 05 51.5	+2.1
HHC				pmax		pmax		
	comp=Z,16nm,0.5s							
HHC				pmax		pmax		
	comp=Z,130nm,7.6s							
LZH	Lanzhou	69.72	47	*e*P		P	05 06 03.3	+0.6
LZH				pP		sP	05 06 08.0	+0.1
LZH				sP		pP	05 06 10.3	+3.8
LZH				pmax		pmax		
	comp=Z,13nm,1.6s							
LZH				pmax		pmax		
	comp=Z,65nm,5.2s							
LZH				LR		LR		
	comp=N,340nm,16.9s							
LZH				LR		LR		
	comp=E,280nm,16.8s							
LZH				LR		LR		
	comp=Z,470nm,17.8s							
NJ2	Nanjing	77.84	37	*e*P		P	05 06 51.0	+0.9
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							

IDC 28 04:56:12.3±2.2,7°21S×154°89E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.6/30,mbtmp3.6/4,Error ellipse: s-maj=98.8km s-min=27.8km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.61	236	P		P	05 01 24.6	-0.6
	0.9nm,0.6s,baz=58,slow=9.4,SNR=15							
ASAR	Alice Springs	25.95	229	P		P	05 01 46.6	-0.2
	0.5nm,0.7s,baz=64,slow=8.8,SNR=5.5							
MKAR	Makanchi Array	83.50	319	P		P	05 08 42.5	+0.3
	0.6nm,0.7s,baz=93,slow=5.8,SNR=3.0							
ILAR	Eielson Array	83.61	22	P		P	05 08 42.1	-0.3
	0.3nm,0.4s,baz=240,slow=4.6,SNR=7.1							
TORD	Torodi Ar. Bea	152.98	285	PKPbc		PKiKP	05 16 13.2	+0.1
	0.3nm,0.6s,baz=27,slow=1.8,SNR=1.7							
TORD				PKPab		PKPab	05 16 24.3	+0.2
	0.5nm,0.7s,baz=62,slow=2.8,SNR=5.3							

*IDC **28** 05:34:06.6±2.3,12°80S×166°82E,h159km±20km, mb3.9/13,mb1 4.0/14,mb1mx3.9/34,mbtmp4.4/14,Error ellipse: s-maj=18.5km s-min=14.7km az=103.0*
*NEIC **28** 05:34:07.5±1.7,12°78S±0°09×166°77E±0°05,h167km±7km, mb4.6/27,Error ellipse: s-maj=13.7km s-min=7.1km az=187.0*
ISC 28 05:34:05.4±0.5,12°73S±0°07×166°8E±0°1,h150km,n82, σ1§12/84,mb4.3/21,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.72	172			Pn	05 34 51.5	+2.2
DZM	Mont Dzumac	9.29	182	P		Pn	05 36 18.1	+2.0
	5.9nm,0.3s,baz=338,slow=11,SNR=58							
DZM				S		Sn	05 37 57.6	-1.7
	0.7nm,0.3s,baz=307,slow=18,SNR=1.9							
DZM	Mont Dzumac	9.29	182			Pn	05 36 17.4	+1.3
EIDS	Eidsvold	19.45	227	P		P	05 38 22.2	+1.7
LHI	Lord Howe Isla	20.02	200	P		P	05 38 25.8	-0.7
CTA	Charters Tower	21.02	247	P		P	05 38 37.6	+0.2
	7.9nm,0.7s,baz=81,slow=12,SNR=16							
CTAO	Charters Tower	21.02	247	P		P	05 38 37.6	+0.2
CTAO				IAmb		IAmb	05 38 41.4	
	comp=Z,9.3nm,0.8s							
ARMA	Armidale	22.52	216	P		P	05 38 53.0	+0.1
ARMA				IAmb		IAmb	05 38 56.0	
	comp=Z,9.8nm,0.7s							
OUZ	Omahuta	23.21	166	P		P	05 39 00.3	+1.2
OUZ				IAmb		IAmb	05 39 01.7	
	comp=Z,22nm,1.0s							
KUZ	Kuaotunu	25.21	163	P		P	05 39 29.2	+12
HIZ	Hauiti	26.65	166	P		P	05 39 31.6	+1.5
HAZ	Te Kaha	26.77	160	P		P	05 39 32.8	+1.6
RUGZ	Raukumara Rang	26.93	161	P		P	05 39 32.7	-0.1
URZ	Urewera	27.02	162	P		P	05 39 33.2	-0.3
	comp=Z,7.7nm,0.6s,baz=15,slow=12,SNR=3.5							
URZ	Urewera	27.02	162	P		P	05 39 33.5	0.0
URZ	Urewera	27.02	162	IAmb		IAmb	05 39 35.3	
	comp=Z,29nm,1.2s							
PUZ	Puketiti	27.22	160	P		P	05 39 35.3	+0.1
MWZ	Matawai	27.22	161	P		P	05 39 35.4	+0.1
WTVZ	West Tongariro	27.40	165	P		P	05 39 39.1	+2.1
OTVZ	Oturere	27.47	165	P		P	05 39 40.0	+2.3
FWVZ	Far West T-bar	27.52	165	P		P	05 39 41.0	+2.8
FWVZ				S		pP	05 40 21.4	+12
WNVZ	Wahianoa	27.61	165	P		P	05 39 41.7	+2.9
BKZ	Black Stump Fm	27.69	164	P		P	05 39 39.8	+0.3
BKZ	Black Stump Fm	27.69	164	P		P	05 39 40.2	+0.7
BKZ				IAmb		IAmb	05 39 41.7	
	comp=Z,12nm,0.6s							
MOVZ	Moawhango	27.72	165	P		P	05 39 40.8	+1.0
BHHZ	Black Hill Sta	27.88	165	P		P	05 39 41.8	+0.6
KRHZ	Kereru	28.10	164	P		P	05 39 43.0	-0.1
PNHZ	Pukenui	28.31	165	P		P	05 39 44.9	-0.1
KAHZ	Kahuranaki	28.38	164	P		P	05 39 45.7	+0.1
TSZ	Takapari Road	28.39	165	P		P	05 39 46.2	+0.5
QRZ	Quartz Range	28.43	171	P		P	05 39 46.4	+0.4
QRZ	Quartz Range	28.43	171	P		P	05 39 47.0	+1.0
PXZ	Pawanui	28.60	164	P		P	05 39 46.6	-0.8
MRZ	Mangatainoka R	28.86	166	P		P	05 39 49.4	-0.4
NNZ	Nelson	28.95	170	P		P	05 39 52.0	+1.5
NNZ	Nelson	28.95	170	P		P	05 39 52.1	+1.5
BFZ	Birch Farm	29.05	165	P		P	05 39 50.2	-1.3
BFZ	Birch Farm	29.05	165	P		P	05 39 50.5	-0.9
TCW	Tory Channel	29.11	168	P		P	05 39 52.4	+0.4
TUWZ	Tuamarina	29.26	169	P		P	05 39 53.0	-0.3
SNZO	South Karori	29.29	168	P		P	05 39 53.6	0.0
MTW	Mount Morrison	29.32	167	P		P	05 39 52.7	-1.2
THZ	Tophouse	29.40	171	P		P	05 39 54.3	-0.3
THZ	Tophouse	29.40	171	P		P	05 39 55.4	+0.7
BHW	Baring Head	29.42	168	P		P	05 39 53.9	-0.9
MSWZ	Moikau Station	29.51	167	P		P	05 39 54.5	-1.1
PAWZ	Parurai Farm	29.52	167	P		P	05 39 54.9	-0.7
BSWZ	Blackbirch Sta	29.52	169	P		P	05 39 58.6	+3.0
PLWZ	Palliser	29.66	167	P		P	05 39 56.6	-0.3
STKA	Stephens Creek	30.00	226	P		P	05 40 00.5	+0.5
	comp=Z,5.7nm,0.7s,baz=54,slow=10,SNR=10							
STKA	Stephens Creek	30.00	226	P		P	05 40 01.1	+1.1
KHZ	Kahutara	30.14	170	P		P	05 40 00.4	-0.7
MQZ	McQueen's Vall	31.27	172	P		P	05 40 11.5	+0.5
LBZ	Lake Benmore	31.67	175	P		P	05 40 15.2	+0.6
WB0	Warramunga Arr	31.87	253	P		P	05 40 16.7	+0.1
WB2	Warramunga Arr	31.93	253	P		P	05 40 16.6	-0.6
WRA	Warramunga Arr	31.94	253	P		P	05 40 16.9	-0.4
	comp=Z,0.8nm,0.5s,baz=86,slow=9.1,SNR=16							
WRA				ScP		ScP	05 46 32.5	-1.2
	comp=Z,0.5nm,0.9s,baz=81,slow=3.6,SNR=3.0							
ASAR	Alice Springs	33.02	246	P		P	05 40 25.9	-0.8
	comp=Z,1.3nm,0.5s,baz=75,slow=9.0,SNR=18							
ASAR				PcP		PcP	05 43 05.9	-1.2
	comp=Z,0.6nm,0.6s,baz=94,slow=2.3,SNR=4.3							
ASAR				ScP		ScP	05 46 37.2	-0.2
	comp=Z,0.5nm,0.9s,baz=106,slow=3.1,SNR=2.9							
FORT	Forrest	39.97	237	P		P	05 41 25.6	+0.1
FORT				IAmb		IAmb	05 41 26.3	
	comp=Z,14nm,0.7s							
VNDA	Vanda	64.83	181	P		P	05 44 28.1	+0.3
	comp=Z,4.6nm,0.7s,baz=354,slow=7.7,SNR=26							
VNDA	Vanda	64.83	181	P		P	05 44 26.4	-1.4
VNDA				IAmb		IAmb	05 44 29.8	
	comp=Z,7.0nm,0.8s							
CMAR	Chiang Mai Arr	73.75	294	P		P	05 45 25.1	+1.5
	comp=Z,2.0nm,0.7s,baz=133,slow=4.5,SNR=9.9							
CMAR	Chiang Mai Arr	73.75	294	P		P	05 45 22.1	-1.5
SEY	Seymchan	76.26	353	P		P	05 45 37.8	+0.7
	comp=Z,6.2nm,0.5s,baz=124,slow=3.6,SNR=6.9							
QSPA	South Pole Qui	77.28	180	P		P	05 45 43.1	0.0
QSPA				IAmb		IAmb	05 45 44.1	
	comp=Z,19nm,1.2s							
SONM	Songino Array	80.64	324	P		P	05 46 02.3	+0.7
	comp=Z,0.7nm,0.6s,baz=133,slow=6.6,SNR=3.5							
SONM	Songino Array	80.64	324	IAmb		IAmb	05 46 03.4	
	comp=Z,1.3nm,1.0s							
MAW	Mawson	83.56	202	P		P	05 46 15.0	-1.3
	comp=Z,2.7nm,0.8s,baz=95,slow=7.9,SNR=4.2							
HDA	Harding Lake	84.50	18	P		P	05 46 21.5	+0.5
HDA				IAmb		IAmb	05 46 22.2	
	comp=Z,20nm,1.1s							
MDM	Murphy Dome	84.51	18	P		P	05 46 20.5	-0.7
MDM				IAmb		IAmb	05 46 21.9	
	comp=Z,6.7nm,1.1s							
IL31		84.78	18	IAmb		IAmb	05 46 23.1	
	comp=Z,3.5nm,0.7s							
ILAR	Eielson Array	84.78	18	P		P	05 46 22.1	-0.3
	comp=Z,2.7nm,0.7s,baz=245,slow=4.9,SNR=37							
NVAR	Mina Array Bea	86.31	49	P		P	05 46 31.1	+0.2
	comp=Z,0.4nm,0.7s,baz=237,slow=6.3,SNR=3.1							
MKAR	Makanchi Array	95.46	317	P		P	05 47 13.6	+0.4
	comp=Z,2.1nm,0.8s,baz=99,slow=6.3,SNR=12							
MKAR	Makanchi Array	95.46	317	P		P	05 47 12.4	-0.8
SNAA	Sanae	95.50	183	P		P	05 47 11.7	-1.3
VNA3	Neumayer Olymp	96.19	181	P		P	05 47 14.8	-1.3
ARCES	ARCESS Array B	118.22	346	PKP		PKPdf	05 52 33.3	-1.0
	comp=Z,5.1nm,0.9s,baz=80,slow=1.5,SNR=25							
FINES	FINESS Array B	123.72	339	PKP		PKPdf	05 52 44.3	-0.6
	comp=Z,2.6nm,0.9s,baz=113,slow=1.8,SNR=1.6							
KEST	Kesra	149.39	322	PKPbc		PKPbc	05 53 37.6	+0.4
	comp=Z,5.3nm,0.7s,baz=119,slow=2.3,SNR=6.3							
ESDC	Sonseca Array	151.96	345	PKPbc		PKiKP	05 53 43.5	0.0
	comp=Z,0.6nm,0.6s,baz=36,slow=1.6,SNR=4.6							
ESDC				PKPab		PKPab	05 53 53.9	+1.1
	comp=Z,1.3nm,0.6s,baz=11,slow=4.1,SNR=8.2							
TORD	Torodi Ar. Bea	165.49	273	PKP		PKPdf	05 53 52.4	-0.7
	comp=Z,0.4nm,0.8s,baz=45,slow=1.5,SNR=2.0							
TORD				PKPab		sPKPdf	05 54 49.6	+1.9
	comp=Z,1.1nm,1.1s,baz=83,slow=3.3,SNR=4.0							

IDC 28 05:43:06.2±2.9,25°94S×179°72W,h529km±31km, mb3.2/2,mb1 3.4/3,mb1mx2.9/25,mbtmp4.1/3,Error ellipse: s-maj=84.0km s-min=33.4km az=11.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.66	155	P		P	05 44 25.0	+1.0
	86nm,0.3s,baz=84,slow=7.7,SNR=15							
RAO				S		S	05 45 27.1	-0.4
	25nm,0.3s,baz=308,slow=22,SNR=1.2							
DZM	Mont Dzumac	13.22	284	P		P	05 45 59.5	+1.9
	0.4nm,0.3s,baz=98,slow=12,SNR=2.1							
ASAR	Alice Springs	41.99	263	P		P	05 50 11.2	-0.1
	1.7nm,0.4s,baz=90,slow=7.3,SNR=38							
WRA	Warramunga Arr	42.56	268	P		P	05 50 15.2	-0.5
	1.8nm,0.6s,baz=104,slow=8.0,SNR=26							
WRA				PcP		pwP	05 51 55.5	-0.4
	0.3nm,0.7s,baz=100,slow=3.1,SNR=1.9							
NOA	NORSAR Array B	144.13	351	PKP		PKPdf	06 01 41.1	0.0
	1.2nm,0.6s,baz=7.7,slow=3.6,SNR=3.5							

*REY **28** 06:04:59.0,64°67N×17°49W,h8km*
*IDC **28** 06:04:59.3±0.6,64°54N×17°65W,h0km,mb3.9/15, mb1 4.0/18,mb1mx3.9/46,mbtmp3.9/18,ML2.6/2,MS3.4/9, Ms1 3.5/9,ms1mx3.1/53,Error ellipse: s-maj=18.6km s-min=9.8km az=14.0*
*MOS **28** 06:04:59.4±1.2,64°46N×17°74W,h10km,mb4.6/19,Error ellipse: s-maj=14.4km s-min=10.0km az=111.9*
*NEIC **28** 06:05:01±2.2,64°6N±0°1×17°6W±0°2,h8km±4km, mb4.7/58,Error ellipse: s-maj=16.3km s-min=10.0km az=203.0*
ISC 28 06:05:01.2±0.3,64°59N±0°03×17°68W±0°03,h10km,n191, σ1§72/165,mb4.5/64,MS3.4/6,2C,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.09	339	P		Pg	06 05 01.6	-2.2
	baz=271							
IDYN	Dyngjuhals	0.24	34	P		Pg	06 05 02.1	-4.2
	baz=23							
IGRF	Grimsfjall	0.26	135	P		Pg	06 05 04.4	-2.1
	baz=160							
IHUS	Husbondi	0.29	178	P		Pg	06 05 06.4	-0.7
	baz=191							
ISKR	Skrokkalda	0.31	265	P		Pg	06 05 06.5	-0.8
	baz=254							
IURH	Urdarhals	0.33	44	P		Pg	06 05 03.4	-4.4
	baz=44							
IJOK	Jokulheimar	0.36	221	P		Pb	06 05 07.8	-2.0
	baz=222							
IJOK				S		Sb	06 05 14.8	-0.7
	baz=222							
IVOT	Vottur	0.39	146	P		Pg	06 05 07.1	-1.7
	baz=162							
IKVE	Kverkfjoll	0.44	78	P		Pg	06 05 05.7	-4.1
	baz=88							
IKVE				S		Sg	06 05 10.8	-4.9
IIEY	Innrieyrar	0.53	201	P		Pb	06 05 10.4	-2.2
	baz=206							
THOR	Thorvaldshraun	0.55	51	P		Pg	06 05 07.1	-4.8
	baz=52							
IKRE	Kreppuhraun	0.59	70	P		Pg	06 05 07.7	-4.9
	baz=76							
IASK	Askja	0.64	43	P		Pg	06 05 08.5	-5.1
	baz=43							
IKAL	Kalfafell	0.64	180	P		Pg	06 05 11.9	-1.7
	baz=187							
IVAT	Vatnsfell	0.67	234	P		Pb	06 05 13.2	-1.8
	baz=233							
IKSK	Karasker	0.68	129	P		Pg	06 05 10.6	-3.6
	baz=139							
IMKO	Mokollar	0.69	55	P		Pg	06 05 09.5	-5.1
	baz=57							
ISVA	Svartarkot	0.77	13	P		Pg	06 05 11.2	-4.9
	baz=8.3							
IHVE	Hveravellir	0.86	290	P		Pg	06 05 14.7	-3.0
	baz=284							
IVSH	V-Sauoahnukur	0.87	74	P		Pg	06 05 12.4	-5.5
	baz=79							
ISNB	Snabyli	0.95	206	P		Pb	06 05 17.6	-2.1
	baz=209							
ISNB				S		Sn	06 05 32.3	-1.9
	baz=209							
ISLY	Slysaalda	0.99	220	P		Pb	06 05 18.6	-1.9
	baz=221							
IADA	Aoalbol	1.00	63	P		Pg	06 05 14.4	-6.0
	baz=66							
IFED	Fedgar	1.04	238	P		Pb	06 05 19.6	-1.7
	baz=237							
IRJU	Rjupnafell	1.07	204	P		Pb	06 05 19.8	-1.9
	baz=207							
IMEL	Melhnausar	1.08	23	P		Pb	06 05 15.9	-6.0
	baz=21							
IMJO	Mjoaskard	1.09	234	P		Pb	06 05 20.6	-1.6
	baz=233							
IREN	Reynihlio	1.11	17	P		Pn	06 05 16.6	-6.1
	baz=14							
IGYG	Gygjarholskot	1.14	255	P		Pg	06 05 20.2	-2.8
	baz=253							
IHAU	Haukadalur	1.18	239	P		Pb	06 05 21.5	-2.0
	baz=238							
IHVO	Lagu-Hvolar	1.18	206	P		Pb	06 05 21.6	-2.1
	baz=208							
IGRS	Grimsstaoir	1.24	31	P		Pn	06 05 18.6	-5.9
	baz=30							
IALF	Alftagrof	1.29	212	P		Pb	06 05 23.4	-2.0
	baz=213							
ISKI	Skildingahlsh	1.31	12	P		Pn	06 05 20.1	-5.5
	baz=8.9							
IESK	Eystri-Skogar	1.32	217	P		Pn	06 05 23.9	-1.7
	baz=218							
IGHA	Grjothals	1.33	18	P		Pn	06 05 20.0	-5.8
	baz=16							
IGRA	Granastaoir	1.33	2	P		Pn	06 05 20.5	-5.3
	baz=358							
IGRA				S		Sn	06 05 37.9	-5.7
	baz=358							
ISAU	Saurbar	1.33	244	P		Pn	06 05 23.3	-2.5
	baz=243							
IMID	Miomork	1.34	227	P		Pb	06 05 24.5	-1.9
	baz=227							
IHLA	Hella	1.39	348	P		Pn	06 05 22.1	-4.5
	baz=344							
IDIM	Dimmadalss	1.41	13	P		Pn	06 05 21.6	-5.3
	baz=10.0							
IASM	Asmuli	1.49	241	P		Pn	06 05 26.1	-1.8
	baz=240							
IHED	Heoinshofoi	1.51	6	P		Pn	06 05 23.3	-4.9
	baz=2.9							
IBRE	Brettingsstaoi	1.54	357	P		Pn	06 05 24.0	-4.7
	baz=353							
ISOL	Solvholt	1.57	247	P		Pn	06 05 27.1	-2.0
	baz=245							
BORG	Borgarnes	1.58	277	Pg		Pn	06 05 26.7	-2.4
	67nm,0.3s,baz=114,slow=17,SNR=91							
BORG				Lg		Lg	06 05 51.1	
	30nm,0.3s,baz=114,slow=23,SNR=4.4							
BORG	Borgarnes	1.58	277	P		Pn	06 05 26.8	-2.3
IKRO	Krokur	1.58	253	P		Pn	06 05 27.2	-1.9
	baz=252							
IHEI	Heioarbar	1.59	257	P		Pn	06 05 27.5	-1.9
	baz=256							
IGIL	Gilhagi	1.59	20	P		Pn	06 05 24.2	-5.2
	baz=18							
ISIG	Siglufjorour	1.63	342	P		Pn	06 05 25.8	-4.1
	baz=338							
IBJA	Bjarnastaoir	1.71	249	P		Pn	06 05 29.4	-1.5
	baz=248							
ISAN	Sandskeio	1.78	254	P		Pn	06 05 30.3	-1.6
	baz=253							
IHRN	Hraun	1.84	327	P		Pn	06 05 29.6	-3.1
	baz=324							
IKAS	Kald??rsel	1.91	255	P		Pn	06 05 33.1	-0.6
	baz=253							
EKA	Eskdalemuir Ar	11.76	135	Pn		Pn	06 07 47.6	-1.1
	baz=325,slow=13,SNR=4.9							
NOA	NORSAR Array B	13.61	92	Pn		Pn	06 08 12.2	-1.9
	0.0nm,0.3s,baz=297,slow=14,SNR=3.4							
NOA				LR		LR	06 13 47.8	
	comp=Z,64nm,18.6s,baz=300,slow=39							
SFJD	Kangerlussuaq	13.63	295	LR		LR	06 13 01.7	
	comp=Z,249nm,18.0s,baz=88,slow=35							
HFS	Hagfors	15.12	93	LR		LR	06 13 45.6	
	comp=Z,129nm,18.2s,baz=314,slow=35							
ARCES	ARCESS Array B	17.23	54	LR		LR	06 14 09.1	
	comp=Z,72nm,19.0s,baz=10.0,slow=32							
FINES	FINESS Array B	19.80	79	P		P	06 09 30.8	-0.4
	0.1nm,0.3s,baz=276,slow=14,SNR=2.2							
CLL	Collm	20.74	115	*e*P		P	06 09 41.0	-0.6
	comp=Z,14nm,1.3s							
CLL				*e*			06 09 50.0	
CLL				LmV			06 17 00.0	
	comp=Z,100nm,19.3s							
CLL	Collm	20.74	115	P		P	06 09 41.4	-0.2
CLL				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CLL	Collm	20.74	115	P		P	06 09 41.4	-0.2
ECH	Echery	21.16	129	P		P	06 09 46.9	+0.7
ECH				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ECH	Echery	21.16	129	P

comp=Z,21nm,1.5s
KLMR Klimovskoe 25.70 72 *e*P **P 06 10 25.3 -5.7**
KLMR AMP 06 10 31.3
comp=Z,21nm,1.5s
PSZ Piszkesteto 26.16 112 P **P 06 10 32.8 -2.6**
PSZ pmax pmax
comp=Z,13nm,1.2s
PSZ Piszkesteto 26.16 112 P **P 06 10 32.8 -2.6**
PSZ IAmb IAmb 06 10 50.1
comp=Z,12nm,1.2s
ESDC Sonseca Array 26.21 156 P **P 06 10 35.7 -0.2**
comp=Z,1.9nm,0.8s,baz=342,slow=8.6,SNR=11
ESDC LR LR 06 20 14.1
comp=Z,87nm,18.7s,baz=15,slow=35
ESDC Sonseca Array 26.21 156 P **P 06 10 37.4 +1.5**
KOLS Kolonicke sedl 26.33 107 *e*P **P 06 10 37.0 +0.2**
KOLS Kolonicke sedl 26.33 107 *e*P **P 06 10 37.0 +0.2**
AKASG Malin Array Be 27.91 97 P **P 06 10 50.0 -1.0**
comp=Z,0.2nm,0.2s,baz=323,slow=9.8,SNR=4.1
AKASG LR LR 06 21 40.8
comp=Z,76nm,20.5s,baz=325,slow=36
AKASG Malin Array Be 27.91 97 *i*P **P 06 10 53.7 +2.7**
OBN Obninsk 27.97 84 *e*P **P 06 10 53.5 +2.1**
OBN *e* 06 11 37.5
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,117nm,16.0s
ARU Arti 36.19 66 *c i*P **P 06 12 04.2 +0.8**
ARU 06 13 22.4
ARU S **S 06 17 45.6 +2.7**
ARU SS **SnSn 06 20 05.5 -2.7**
ARU pmax pmax
comp=Z,12nm,1.4s
NRIK Noril'sk 36.57 35 P **P 06 12 08.3 +1.8**
comp=Z,2.7nm,0.5s,baz=288,slow=6.4,SNR=4.0
BRTR Keskin Array B 38.53 105 P **P 06 12 24.9 +1.3**
comp=Z,1.1nm,0.7s,baz=309,slow=9.1,SNR=2.9
SHA1 Shidzhatmaz 39.08 92 *i*P **P 06 12 29.5 +1.2**
KBZ Khabaz 39.19 92 *i*P **P 06 12 29.4 +0.5**
KBZ pmax pmax
comp=Z,9.0nm,1.6s
YKA Yellowknife Ar 39.21 313 LR LR 06 28 53.3
comp=Z,98nm,18.7s,baz=0.0,slow=36
AKTO Aktyubinsk 40.38 73 P **P 06 12 38.0 -0.8**
comp=Z,0.6nm,0.3s,baz=302,slow=9.5,SNR=2.1
AKTO Aktyubinsk 40.38 73 P **P 06 12 38.0 -0.8**
TIXI Tiksi 42.13 15 *i*P **P 06 12 55.5 +2.7**
TIXI Tiksi 42.13 15 P **P 06 12 53.0 +0.1**
BMAR Burnt Mountain 42.93 333 P **P 06 12 58.4 -1.0**
BRVK Borovoye 43.24 62 *i*P **P 06 13 02.6 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
P53A Whipple 44.01 267 P **P 06 13 10.0 +1.5**
ILAR Eielson Array 45.72 332 P **P 06 13 22.3 +0.5**
comp=Z,2.4nm,1.1s,baz=22,slow=5.4,SNR=11
ILAR PcP **PcP 06 14 59.1 -0.1**
comp=Z,1.3nm,1.1s,baz=349,slow=1.8,SNR=5.1
ILAR Eielson Array 45.72 332 P **P 06 13 21.3 -0.4**
ILAR **PcP 06 14 58.6 -0.7**
MDM Murphy Dome 45.82 333 P **P 06 13 24.0 +1.5**
MDM IAmb IAmb 06 13 24.8
comp=Z,15nm,1.4s
IMAR Indian Mountai 45.90 337 P **P 06 13 23.2 +0.1**
BCAR Beaver Creek A 46.13 328 P **P 06 13 24.3 -0.8**
ZALV Zalesovo Beam 47.74 51 P **P 06 13 37.0 -0.7**
comp=Z,0.6nm,0.5s,baz=312,slow=7.0,SNR=2.2
ZALV Zalesovo Beam 47.74 51 P **P 06 13 37.0 -0.7**
ZALV Zalesovo Beam 47.74 51 P **P 06 13 36.8 -0.9**
Q44A Meyer Farm, Va 47.78 273 P **P 06 13 37.9 -0.3**
PAULI Pauline 48.11 264 P **P 06 13 41.0 +0.3**
PAULI IAmb IAmb 06 13 43.2
comp=Z,9.9nm,1.1s
KURK Kurchatov 48.22 58 *i*P **P 06 13 42.6 +1.2**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 48.22 58 P **P 06 13 39.6 -1.8**
KURK IAmb IAmb 06 13 45.7
comp=Z,4.7nm,1.1s
KURBB Kurchatov Arra 48.26 58 P **P 06 13 40.6 -1.2**
comp=Z,2.2nm,0.9s,baz=325,slow=7.3,SNR=7.9
T47A Sharon Grove 48.56 270 P **P 06 13 44.8 +0.5**
HODGE Hodges 48.81 264 P **P 06 13 46.2 +0.1**
HODGE IAmb IAmb 06 13 49.3
comp=Z,12nm,1.4s
EGMT Eagleton 48.84 297 P **P 06 13 47.1 +0.8**
CLTN Cedars of Leba 48.98 269 P **P 06 13 47.3 -0.2**
CLTN IAmb IAmb 06 13 52.2
comp=Z,11nm,1.3s
W50A Signal Mountai 49.30 267 P **P 06 13 50.5 +0.6**
W50A IAmb IAmb 06 13 53.1
comp=Z,12nm,1.1s
V48A Smith Brothers 49.49 269 P **P 06 13 52.3 +0.9**
V48A IAmb IAmb 06 13 56.8
comp=Z,12nm,1.4s
FPAL Fort Paine 49.98 267 P **P 06 13 55.8 +0.6**
MBO M'Bour 50.14 179 P **P 06 13 56.5 +0.1**
S39A Bolivar 50.65 276 P **P 06 13 59.1 -1.0**
S39A IAmb IAmb 06 14 00.7
comp=Z,10nm,1.3s
HRY Holter Researc 50.72 298 P **P 06 14 00.5 -0.3**
YAK Yakutsk 51.37 19 *i*P **P 06 14 07.0 +1.8**
YAK pmax pmax
comp=Z,8.0nm,0.4s
YNE Yellowstone No 51.43 295 P **P 06 14 06.9 +0.7**
BOZ Bozeman (W) 51.57 297 P **P 06 14 07.7 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ Bozeman (W) 51.57 297 P **P 06 14 07.7 +0.5**
BOZ IAmb IAmb 06 14 09.8
comp=Z,6.0nm,1.1s
DGZ Jazzator, Alta 52.19 53 *i*P **P 06 14 12.2 +0.5**
DGZ pmax pmax
comp=Z,6.0nm,1.7s
SEY Seymchan 52.57 6 *i*P **P 06 14 16.0 +1.9**
MKAR Makanchi Array 52.83 58 P **P 06 14 14.3 -2.0**
comp=Z,0.6nm,0.7s,baz=342,slow=6.6,SNR=2.5
MKAR Makanchi Array 52.83 58 *i*P **P 06 14 20.2 +3.8**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
SNOW Snow King Moun 53.02 294 P **P 06 14 19.4 +1.3**
TORD Torodi Ar. Bea 53.10 156 P **P 06 14 17.2 -1.4**
comp=Z,1.6nm,0.7s,baz=345,slow=8.8,SNR=6.8
TORD Torodi Ar. Bea 53.10 156 P **P 06 14 17.4 -1.2**
BW06 Boulder Array 53.13 293 IAmb IAmb 06 14 20.0
comp=Z,6.4nm,1.1s
PD31 Pinedale Array 53.13 293 IAmb IAmb 06 14 20.0
comp=Z,5.6nm,1.1s
PDAR Pinedale Array 53.13 293 P **P 06 14 18.4 -0.5**
comp=Z,2.6nm,0.9s,baz=56,slow=5.8,SNR=20
PDAR Pinedale Array 53.13 293 P **P 06 14 18.2 -0.7**
REDW Red Top Meadow 53.14 294 IAmb IAmb 06 14 36.9
comp=Z,9.8nm,1.4s
N23A Red Feather La 53.26 289 IAmb IAmb 06 14 23.7
comp=Z,20nm,1.5s
AAK Ala-Archa 53.36 67 *i*P **P 06 14 19.6 -0.9**
AAK pmax pmax
comp=Z,6.0nm,1.1s
O20A White River Ci 54.83 290 IAmb IAmb 06 14 35.8
comp=Z,16nm,1.5s
HWUT Hardware Ranch 54.91 294 P **P 06 14 31.6 -0.2**
HWUT IAmb IAmb 06 14 36.2
comp=Z,9.9nm,1.4s
X34A Smith Ranch, M 55.19 278 P **P 06 14 36.7 +3.0**
AMTX Amarillo 56.59 282 P **P 06 14 46.0 +2.2**
KSH Kashi 56.60 68 P **P 06 14 46.0 +2.1**
KSH S **S 06 22 37.8 +2.2**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH pmax pmax
comp=Z,160nm,6.2s
KSH LR LR
comp=N,140nm,5.0s
KSH LR LR
comp=E,190nm,6.7s
KSH LR LR
comp=Z,110nm,4.7s
DUG Dugway, Tooele 56.61 294 P **P 06 14 45.2 +1.2**
DUG pmax pmax
comp=Z,6.0nm,1.4s
DUG Dugway, Tooele 56.61 294 P **P 06 14 45.2 +1.2**
SRU San Rafael Swe 56.62 291 P **P 06 14 43.5 -0.6**
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 56.62 291 P **P 06 14 43.5 -0.6**
PV01 Paradox Valley 56.67 289 IAmb IAmb 06 14 46.3
comp=Z,9.4nm,1.2s
PV03 Paradox Valley 56.68 290 IAmb IAmb 06 14 46.2
comp=Z,6.2nm,1.1s
TMUT Trail Mountain 56.74 292 P **P 06 14 45.5 +0.4**
PV13 Radium Mtn., P 56.75 290 P **P 06 14 45.0 -0.1**
PV13 IAmb IAmb 06 14 47.3
comp=Z,8.9nm,0.9s
WMQ Urumqi 57.34 56 *e*P **P 06 14 53.3 +4.3**
MTPU Mount Pierson 58.21 292 P **P 06 14 56.3 +0.8**
SPR3 Spring Creek 3 58.23 294 P **P 06 14 56.6 +0.9**
SPR3 IAmb IAmb 06 15 02.8
comp=Z,8.8nm,1.4s
DBIC Dimbokro 58.53 165 P **P 06 14 56.5 -1.0**
comp=Z,2.4nm,0.8s,baz=304,slow=3.6,SNR=2.2
DBIC Dimbokro 58.53 165 P **P 06 14 56.5 -1.0**
DBIC pmax pmax
comp=Z,17nm,1.5s
DBIC Dimbokro 58.53 165 IAmb IAmb 06 15 05.2
comp=Z,17nm,1.5s
TIC Toumodi 58.54 165 *e*P **P 06 14 56.9 -0.7**
KIC Kosan Boka 58.85 165 *e*P **P 06 14 59.9 +0.1**
comp=Z,5.4nm,0.8s
LIC Lamto 58.96 165 *e*P **P 06 14 59.9 -0.6**
comp=Z,15nm,1.0s
CCUT Cedar City 59.10 293 P **P 06 15 02.9 +1.3**
KNB Kanab 59.35 292 P **P 06 15 05.2 +1.9**
KNB pmax pmax
comp=Z,8.0nm,1.5s
KNB Kanab 59.35 292 P **P 06 15 05.2 +1.9**
JCT Junction City 59.58 277 P **P 06 15 04.8 0.0**
JCT pmax pmax
comp=Z,17nm,1.5s
JCT Junction City 59.58 277 P **P 06 15 04.8 0.0**
ULN Ulaanbaatar 59.91 40 *i*P **P 06 15 08.7 +1.8**
ULN pmax pmax
comp=Z,1.0nm,0.8s
WUAZ Wupatki 60.06 290 P **P 06 15 09.3 +1.2**
WUAZ IAmb IAmb 06 15 09.5
comp=Z,5.7nm,1.0s
X16A Lo Mia Camp, P 61.04 289 P **P 06 15 14.7 -0.2**
X16A IAmb IAmb 06 15 19.8
comp=Z,10nm,1.5s
TX31 Lajitas Ar. Si 62.22 280 P **P 06 15 22.7 -0.1**
TX31 IAmb IAmb 06 15 29.5
comp=Z,8.5nm,1.2s
TXAR Lajitas Array 62.22 280 P **P 06 15 23.1 +0.3**
comp=Z,1.1nm,0.9s,baz=60,slow=3.0,SNR=8.8
TXAR Lajitas Array 62.22 280 *e*P **P 06 15 22.5 -0.3**
TX32 Lajitas Array 62.22 280 P **P 06 15 23.2 +0.4**
GTA Gaotai 65.41 49 *e*P **P 06 15 44.3 +0.6**
GTA pP pP 06 15 48.5 +1.1
GTA sP sP 06 15 51.5 +2.7
GTA pmax pmax
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 67.62 39 *e*P **P 06 16 01.5 +3.7**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,89nm,5.9s
LZH Lanzhou 69.74 47 *e*P **P 06 16 12.0 +0.8**
LZH pP sP 06 16 16.8 +0.5
LZH sP pP 06 16 19.3 +4.4
LZH pmax pmax
comp=Z,18nm,1.5s
NJ2 Nanjing 77.85 37 *e*P **P 06 16 59.8 +1.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s

*IDC **28** 06:16:01.4±1.3,63.2°20S×169.2°93E,h0km,mb3.9/4, mb1 4.2/5,mb1mx3.9/21,mbtmp3.9/5,ML3.5/1,MS4.1/2, Ms1 4.0/2,ms1mx3.3/24,Error ellipse: s-maj=60.6km s-min=25.8km az=62.0*
ISC 28 06:16:02.7±1.1,63.2°S±0.2°×169.8°E±0.3°,h10km,n16, σ0.5°55/8,mb3.9/4,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.61**	**187**	Pn	**Pn**	**06 19 29.4**	**+0.3**
	0.2nm,0.3s,baz=24,slow=12,SNR=18						
QSPA	**South Pole Qui**	**26.89**	**180**	P	**P**	**06 21 42.9**	**-0.6**
	1.6nm,1.0s,baz=36,slow=5.6,SNR=2.5						
MAW	**Mawson**	**39.41**	**215**	LR	LR	06 39 40.5	
	comp=Z,229nm,19.9s,baz=76,slow=36						
H01W1	**Cape Leeuwin H**	**44.14**	**283**	T	T	07 11 44.2	
	baz=147,slow=76,SNR=107						
H01W2	**Cape Leeuwin H**	**44.14**	**283**	T	T	07 11 44.5	
	baz=147,slow=76,SNR=96						
H01W3	**Cape Leeuwin H**	**44.16**	**283**	T	T	07 11 45.4	
	baz=147,slow=76,SNR=84						
ASAR	**Alice Springs**	**46.19**	**312**	P	**P**	**06 24 28.0**	**+0.6**
	1.7nm,1.0s,baz=153,slow=8.6,SNR=7.1						
WRA	**Warramunga Arr**	**49.50**	**314**	P	**P**	**06 24 52.7**	**-0.5**
	1.0nm,1.0s,baz=168,slow=7.4,SNR=4.4						
PPT	**Papeete**	**53.43**	**51**	LR	LR	06 43 47.1	
	comp=Z,154nm,18.4s,baz=219,slow=31						
H03S2	**Juan Fernandez**	**69.06**	**124**	T	T	07 43 01.9	
	baz=205,slow=74,SNR=41						
H03S1	**Juan Fernandez**	**69.06**	**124**	T	T	07 43 03.2	
	baz=205,slow=74,SNR=47						
H03S3	**Juan Fernandez**	**69.08**	**124**	T	T	07 42 58.8	
	baz=205,slow=74,SNR=34						
LPAZ	**La Paz**	**88.99**	**125**	P	**P**	**06 28 58.5**	**+0.2**
	1.9nm,1.1s,baz=239,slow=5.9,SNR=4.4						
ILAR	**Eielson Array**	**131.59**	**23**	PKP	**PKPdf**	**06 35 13.9**	**+0.2**
	0.5nm,0.8s,baz=251,slow=2.8,SNR=3.0						
KBZ	**Khabaz**	**144.24**	**263**	PKP	**PKPdf**	**06 35 36.9**	**-0.7**
	3.2nm,0.9s,baz=355,slow=1.3,SNR=4.7						
BRTR	**Keskin Array B**	**145.06**	**249**	PKPbc	**PKPdf**	**06 35 39.6**	**+0.2**
	2.5nm,0.8s,baz=160,slow=7.6,SNR=7.7						

*IDC **28** 06:37:07.2±0.8,47.17°S×32.26°E,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.8/40,mbtmp4.0/12,ML4.2/2,MS3.5/5, Ms1 3.4/5,ms1mx3.1/27,Error ellipse: s-maj=38.5km s-min=15.0km az=72.0*
*NEIC **28** 06:37:09.1±0.9,47.08°S±0.10°×32.1°E±0.2°,h15km±5km, mb4.2/10,Error ellipse: s-maj=34.6km s-min=10.9km az=73.0*
ISC 28 06:37:08.3±0.7,47.1°S±0.1°×32.2°E±0.2°,h10km,n22, σ1.2°22/20,mb3.9/10,MS3.3/3,2D,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.05**	**325**	P	**Pn**	**06 41 06.8**	**-0.2**
	1.1nm,0.3s,baz=139,slow=14,SNR=33						
SUR				S	Sn	06 44 05.9	-11
	0.2nm,0.3s,baz=228,slow=21,SNR=1.4						
SUR				LR	LR	06 46 23.0	
	comp=Z,197nm,20.1s,baz=154,slow=32						
SUR	**Sutherland**	**17.05**	**325**	IAmb	IAmb	06 41 12.5	
	comp=Z,39nm,1.4s						
BOSA	**Boshof**	**19.20**	**341**	P	**P**	**06 41 33.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=171,slow=10,SNR=7.0						
BOSA				S	Sn	06 44 54.9	-14
	comp=Z,0.1nm,0.3s,baz=147,slow=20,SNR=1.5						
BOSA				LR	LR	06 47 38.8	
	comp=Z,155nm,20.4s,baz=214,slow=33						
BOSA	**Boshof**	**19.20**	**341**	IAmb	IAmb	06 41 39.0	
	comp=Z,28nm,1.4s						
SYO	**Syowa Base**	**22.33**	**173**	*e*P	**P**	**06 42 07.4**	**+1.6**
SYO	**Syowa Base**	**22.33**	**173**	*e*P	P	06 42 15.4	+10
LBTB	**Lobatse**	**22.62**	**344**	P	**P**	**06 42 10.7**	**+1.4**
	comp=Z,3.6nm,0.7s,baz=156,slow=12,SNR=4.4						
LBTB				S	**S**	**06 46 14.1**	**-3.0**
	comp=Z,1.0nm,0.5s,baz=101,slow=22,SNR=1.3						
LBTB				LR	LR	06 49 53.5	
	comp=Z,108nm,19.8s,baz=173,slow=34						
LBTB	**Lobatse**	**22.62**	**344**	P	**P**	**06 42 09.7**	**+0.3**
MAW	**Mawson**	**25.92**	**153**	P	**P**	**06 42 39.9**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=307,slow=11,SNR=10.0						
MAW				LR	LR	06 51 38.9	
	comp=Z,46nm,19.4s,baz=61,slow=34						
MAW	**Mawson**	**25.92**	**153**	P	**P**	**06 42 40.3**	**+0.1**
MATP	**Matopo**	**26.73**	**352**	P	**P**	**06 42 50.4**	**+2.2**
	comp=Z,1.8nm,0.5s,baz=185,slow=8.4,SNR=7.3						
MATP				LR	LR	06 51 43.6	
	comp=Z,116nm,18.9s,baz=171,slow=33						
SNAA	**Sanae**	**29.62**	**202**	P	**P**	**06 43 13.3**	**-0.1**
	comp=Z,2.4nm,1.2s,baz=53,slow=10,SNR=3.1						
SNAA	**Sanae**	**29.62**	**202**	P	**P**	**06 43 13.0**	**-0.4**
QSPA	**South Pole Qui**	**43.16**	**180**	P	**P**	**06 45 07.8**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=249,slow=2.5,SNR=11						
QSPA	**South Pole Qui**	**43.16**	**180**	P	**P**	**06 45 08.8**	**-0.2**
QSPA				IAmb	IAmb	06 45 17.8	
	comp=Z,5.4nm,1.3s						
VNDA	**Vanda**	**51.88**	**168**	P	**P**	**06 46 15.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=259,slow=5.9,SNR=4.2						
VNDA	**Vanda**	**51.88**	**168**	P	**P**	**06 46 16.0**	**-0.3**
VNDA				IAmb	IAmb	06 46 30.4	
	comp=Z,2.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**65.87**	**327**	P	**P**	**06 47 56.0**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=153,slow=5.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.87**	**327**	P	**P**	**06 47 53.6**	**-0.5**
STKA	**Stephens Creek**	**79.02**	**125**	P	**P**	**06 49 12.4**	**-0.1**
	comp=Z,4.1nm,1.1s,baz=223,slow=4.9,SNR=3.1						
ASAR	**Alice Springs**	**80.55**	**114**	P	**P**	**06 49 21.2**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=199,slow=4.5,SNR=7.5						
WRA	**Warramunga Arr**	**83.56**	**112**	P	**P**	**06 49 36.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=215,slow=4.2,SNR=2.4						

*IDC **28** 06:59:45.4±2.1,8.11°N×103.38°W,h0km,mb3.9/12, mb1 4.2/13,mb1mx4.0/40,mbtmp3.9/13,ML3.8/1,MS3.8/13, Ms1 3.8/13,ms1mx3.6/33,Error ellipse: s-maj=45.3km s-min=36.3km az=125.0*
*NEIC **28** 06:59:48.5±2.9,8.2°N±0.1°×103.6°W±0.2°,h10km±1km, mb4.4/37,Error ellipse: s-maj=26.2km s-min=18.7km az=255.0*
ISC 28 06:59:48.4±1.1,8.3°N±0.1°×103.7°W±0.1°,h10km,n82, σ1.9°27/59,mb4.3/23,MS3.9/14,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**10.48**	**28**	Pn	**Pn**	**07 02 15.9**	**-3.0**
MOIG	**Morelia**	**11.59**	**12**		**Pn**	**07 02 35.5**	**+1.3**
CMIG	**Matias Romero**	**12.25**	**43**	Pn	Pn	07 02 38.6	-4.4
	0.6nm,0.3s,baz=204,slow=11,SNR=8.9						
CMIG				LR	LR	07 06 16.6	
	comp=Z,857nm,21.1s,baz=188,slow=32						
CCIG	**Comitan**	**13.78**	**54**		**Pn**	**07 03 04.3**	**+0.1**
HUEH	**Huehuetenango**	**13.80**	**58**		**Pn**	**07 03 03.5**	**-0.9**
MTO3	**Montecristo**	**15.28**	**65**	Pn	**Pn**	**07 03 24.8**	**+0.2**
MTO3				IAmb	IAmb	07 03 32.4	
	comp=Z,22nm,1.3s						
LPIG	**La Paz**	**16.98**	**339**	LR	LR	07 08 48.0	
	comp=Z,349nm,19.0s,baz=175,slow=32						
TX31	**Lajitas Ar. Si**	**20.96**	**360**	P	**P**	**07 04 33.0**	**+1.3**
TX31				IAmb	IAmb	07 04 43.2	
	comp=Z,18nm,1.1s						
TXAR	**Lajitas Array**	**20.96**	**360**	P	**P**	**07 04 31.9**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=179,slow=13,SNR=13						
TXAR				LR	LR	07 12 04.8	
	comp=Z,509nm,18.5s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**20.96**	**360**		**P**	**07 04 33.1**	**+1.3**
JCT	**Junction City**	**22.39**	**9**	P	**P**	**07 04 47.3**	**+0.2**
435B	**Jarrell**	**23.11**	**13**	P	**P**	**07 04 55.1**	**+0.5**
435B				IAmb	IAmb	07 05 02.8	
	comp=Z,24nm,1.4s						
MNTX	**Cornudas Mount**	**23.37**	**356**	P	**P**	**07 04 58.2**	**+0.9**
319A	**Douglas**	**23.58**	**348**	P	**P**	**07 05 00.1**	**+0.6**
319A				IAmb	IAmb	07 05 08.1	
	comp=Z,8.3nm,0.8s						
ABTX	**Abilene, Hawle**	**24.52**	**8**	P	**P**	**07 05 08.0**	**-0.3**
ABTX				IAmb	IAmb	07 05 14.9	
	comp=Z,9.1nm,0.8s						
TUC	**Tucson**	**24.82**	**346**	P	**P**	**07 05 11.3**	**+0.3**
TUC				IAmb	IAmb	07 05 20.2	
	comp=Z,8.9nm,1.1s						
BNM	**Barren Site**	**25.90**	**354**	P	**P**	**07 05 22.3**	**+1.4**
ANMO	**Albuquerque**	**26.68**	**355**	P	**P**	**07 05 28.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=161,slow=18,SNR=2.2						
POPC	**Popayan, Colom**	**27.44**	**100**	*e*P	**P**	**07 05 35.5**	**+0.5**
MOTC	**Monteria, Cord**	**27.68**	**87**	*e*P	**P**	**07 05 38.4**	**+1.4**
PFO	**Pinyon Flats O**	**27.86**	**337**	P	**P**	**07 05 39.5**	**+1.1**
	comp=Z,3.0nm,1.0s,baz=177,slow=8.1,SNR=3.6						
WUAZ	**Wupatki**	**28.03**	**347**	P	**P**	**07 05 41.9**	**+1.9**
GUY2C	**Guyana, Caldas**	**28.25**	**94**	*e*P	**P**	**07 05 44.8**	**+2.2**
ORTC	**Ortega, Tolima**	**28.57**	**97**	*e*P	**P**	**07 05 46.8**	**+1.8**
WHAR	**Wooly Hollow**	**28.84**	**20**	P	**P**	**07 05 47.2**	**+0.2**
WHAR				IAmb	IAmb	07 05 47.8	
	comp=Z,6.8nm,1.1s						
PRAC	**Prado**	**28.96**	**97**	*e*P	**P**	**07 05 46.1**	**-2.3**
PTBC	**PUERTO BERRIO,**	**29.00**	**91**	*e*P	**P**	**07 05 49.2**	**+0.5**
ROSC	**El Rosal**	**29.34**	**95**	LR	LR	07 15 16.4	
	comp=Z,43nm,19.6s,baz=266,slow=32						
ATAH	**Atahualpa**	**29.47**	**121**	LR	LR	07 15 20.3	
	comp=Z,329nm,21.6s,baz=297,slow=32						
PV11	**David Mesa, Pa**	**30.27**	**352**	P	**P**	**07 06 01.5**	**+1.6**
PV11				IAmb	IAmb	07 06 09.3	
	comp=Z,7.0nm,1.0s						
PV12	**Saucer Basin,**	**30.28**	**352**	P	**P**	**07 06 01.1**	**+1.1**
PV12				IAmb	IAmb	07 06 07.8	
	comp=Z,7.0nm,1.1s						
PV16	**Nyswonger Mesa**	**30.29**	**352**	P	**P**	**07 06 02.6**	**+2.5**
PV16				IAmb	IAmb	07 06 04.0	
	comp=Z,12nm,1.4s						
RUSC	**La Rusia**	**30.43**	**92**	*e*P	**P**	**07 06 03.2**	**+1.3**
ISA	**Isabella, Lake**	**30.45**	**336**	P	**P**	**07 06 02.1**	**+0.7**
ISA				IAmb	IAmb	07 06 09.5	
	comp=Z,8.0nm,1.2s						
P17A	**Butcher Ranch,**	**31.71**	**350**	P	**P**	**07 06 11.2**	**-1.4**
O20A	**White River Ci**	**32.00**	**353**	P	**P**	**07 06 13.4**	**-1.8**
CPCT	**Cooper Cave**	**32.23**	**30**	P	**P**	**07 06 16.6**	**-0.4**
CPCT				IAmb	IAmb	07 06 18.1	
	comp=Z,4.3nm,0.8s						
TKL	**Tuckaleechee C**	**32.77**	**31**	P	**P**	**07 06 21.2**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=184,slow=9.4,SNR=4.5						
NVAR	**Mina Array Bea**	**32.81**	**338**	P	**P**	**07 06 23.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=166,slow=8.4,SNR=2.7						
NVAR				LR	LR	07 17 16.0	
	comp=Z,187nm,21.2s,baz=154,slow=32						
TCUT	**Toone Canyon**	**33.43**	**349**	P	**P**	**07 06 30.7**	**+3.0**
ELK	**Elko**	**33.95**	**344**	P	**P**	**07 06 34.1**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=158,slow=11,SNR=2.0						
ELK				LR	LR	07 18 50.8	
	comp=Z,182nm,21.1s,baz=284,slow=34						
ELK	**Elko**	**33.95**	**344**	IAmb	IAmb	07 06 43.4	
	comp=Z,3.3nm,1.4s						
V55A	**Taylorsville**	**34.26**	**33**	P	**P**	**07 06 35.3**	**+0.5**
HDIL	**Hopedale**	**34.61**	**19**	P	**P**	**07 06 37.7**	**+0.1**
BW06	**Boulder Array**	**34.75**	**352**	P	**P**	**07 06 37.4**	**-1.8**
BW06				IAmb	IAmb	07 06 46.2	
	comp=Z,6.7nm,1.1s						
PD31	**Pinedale Array**	**34.75**	**352**	P	**P**	**07 06 38.1**	**-1.1**
PD31				IAmb	IAmb	07 06 46.2	
	comp=Z,6.0nm,1.1s						
PDAR	**Pinedale Array**	**34.75**	**352**	P	**P**	**07 06 39.9**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=167,slow=9.1,SNR=10						
PDAR				LR	LR	07 20 24.6	
	comp=Z,89nm,18.0s,baz=184,slow=36						
PDAR	**Pinedale Array**	**34.75**	**352**	P	**P**	**07 06 38.6**	**-0.5**
LOHW	**Long Hollow**	**35.73**	**351**	P	**P**	**07 06 49.3**	**+1.7**
LOHW				IAmb	IAmb	07 06 55.1	
	comp=Z,9.3nm,1.4s						
YBH	**Yreka Blue Hor**	**37.35**	**336**	P	**P**	**07 07 01.1**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=145,slow=6.6,SNR=4.0						
TAOE	**Nuku Hiva Isla**	**40.14**	**246**	*e*LQ	LQ	07 16 09.2	
	comp=Z,289nm,27.7s						
TAOE				*e*LR	LR	07 17 52.2	
	comp=Z,146nm,26.0s						
TAOE	**Nuku Hiva Isla**	**40.14**	**246**	*e*T	T	07 49 47.0	
	comp=Z,61nm,0.2s						
AGMN	**Agassiz Nation**	**40.44**	**8**	P	**P**	**07 07 26.6**	**-0.4**
NEW	**Newport**	**41.46**	**346**	P	**P**	**07 07 35.1**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=167,slow=3.7,SNR=4.4						
NEW	**Newport**	**41.46**	**346**	IAmb	IAmb	07 07 43.2	
	comp=Z,7.1nm,1.1s						
ULM	**Lac du Bonnet**	**42.35**	**7**	P	**P**	**07 07 41.8**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=117,slow=16,SNR=3.0						
ULM	**Lac du Bonnet**	**42.35**	**7**	IAmb	IAmb	07 07 48.5	
	comp=Z,14nm,1.4s						
LPAZ	**La Paz**	**42.80**	**125**	P	**P**	**07 07 48.7**	**+1.3**
SAML	**Samuel**	**43.80**	**112**	P	**P**	**07 07 53.2**	**-1.6**
H03N2	**Juan Fernandez**	**47.67**	**152**	T	T	07 59 45.6	
	baz=329,slow

comp=Z,76nm,19.2s,baz=76,slow=30
PPT2 Papeete2 52.13 240 *e*LR LR 07 23 26.5
comp=Z,182nm,24.8s
TBI Tubuai 54.70 234 *e*LR LR 07 24 40.6
comp=Z,172nm,27.5s
YKA Yellowknife Ar 54.71 354 LR LR 07 30 49.7
comp=Z,104nm,19.4s,baz=0,slow=34
SCHQ Schefferville 54.91 25 LR LR 07 34 45.5
comp=Z,104nm,18.3s,baz=357,slow=38
N25K Chitina, Valde 61.13 339 P **P** **07 10 03.3 +0.4**
K27K Chicken 61.99 342 P **P** **07 10 09.2 +0.7**
INK Inuvik 63.15 348 P **P** **07 10 15.1 -1.0**
comp=Z,2.2nm,0.9s,baz=152,slow=7.1,SNR=3.3
INK Inuvik 63.15 348 IAmb IAmb 07 10 21.4
comp=Z,4.3nm,1.1s
RND Reindeer 63.80 339 P **P** **07 10 21.2 +0.6**
IL31 64.02 341 P **P** **07 10 21.3 -0.6**
ILAR Eielson Array 64.02 341 P **P** **07 10 21.1 -0.9**
comp=Z,2.4nm,0.9s,baz=152,slow=6.2,SNR=18
ILAR Eielson Array 64.02 341 P **P** **07 10 21.2 -0.8**
ESDC Sonseca Array 92.16 50 LR LR 07 48 28.1
comp=Z,55nm,21.7s,baz=15,slow=32
NOA NORSAR Array B 94.46 26 LR LR 07 54 59.3
comp=Z,32nm,20.3s,baz=275,slow=35
WRA Warramunga Arr 122.82 252 PKP **PKPdf** **07 18 44.7 -1.0**
comp=Z,0.3nm,0.8s,baz=88,slow=2.6,SNR=1.5
CMAR Chiang Mai Arr 145.32 320 PKPbc **PKPbc** **07 19 27.1 -0.2**
comp=Z,0.8nm,0.4s,baz=354,slow=1.8,SNR=2.4

*IDC **28** 07:09:05.9±0.5,56°.23S×26°.66W,h0km,mb4.5/16, mb1 4.5/17,mb1mx4.4/23,mbtmp4.4/17,ML4.1/1,MS3.6/6, Ms1 3.6/6,ms1mx3.4/15,Error ellipse: s-maj=21.0km s-min=13.7km az=66.0*
*NEIC **28** 07:09:15.3±1.3,56°.32S±0°.10×26°.7W±0°.2,h69km±5km, mb4.8/55,Error ellipse: s-maj=14.8km s-min=13.8km az=52.0*
ISC 28 07:09:15.8±2.0,56°.32S±0°.08×26°.8W±0°.1,h75km±17km, n156,σ0§91/177,mb4.8/36,1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.92**	**286**		**Pn**	**07 10 40.2**	**-0.6**
VNA1	**Neumayer--Stat**	**16.46**	**158**	P	**P**	**07 13 03.8**	**+0.8**
VNA3	**Neumayer Olymp**	**16.66**	**161**	P	**Pn**	**07 13 05.1**	**+1.0**
VNA2	**Neumayer--Watz**	**16.85**	**158**	P	**Pn**	**07 13 06.1**	**-0.4**
baz=320,slow=13							
SNAA	**Sanae**	**18.40**	**156**	P	**P**	**07 13 24.0**	**-0.6**
SNAA	**Sanae**	**18.40**	**156**	P	**P**	**07 13 22.8**	**-1.7**
0.7nm,0.3s,baz=299,slow=9.1,SNR=25							
SNAA				PcP	**PcP**	**07 17 52.0**	**+0.1**
0.2nm,0.3s,baz=223,slow=3.5,SNR=5.0							
SNAA	**Sanae**	**18.40**	**156**		**P**	**07 13 23.8**	**-0.7**
SNAA				PcP	**PcP**	**07 17 52.8**	**+0.9**
EFI	**East Falkland**	**18.88**	**271**		**P**	**07 13 30.1**	**+0.3**
EFI				IAmb	IAmb	07 13 37.8	
comp=Z,61nm,1.4s							
PMSA	**Palmer Station**	**19.91**	**230**	P	**P**	**07 13 41.0**	**+0.1**
comp=Z,14nm,0.8s,baz=72,slow=8.9,SNR=3.9							
PMSA	**Palmer Station**	**19.91**	**230**	Pn	**Pn**	**07 13 43.0**	**-0.2**
GO09	**Cerro Castillo**	**26.99**	**261**	P	**P**	**07 14 48.7**	**-1.6**
PLTB	**Pedras Altas**	**30.86**	**311**	*e*P	**P**	**07 15 25.4**	**+0.7**
SYO	**Syowa Base**	**31.22**	**140**	‖*e*X	P	07 15 36.9	+9.4
CNLB	**Canela**	**31.93**	**318**	*e*P	**P**	**07 15 35.1**	**+0.9**
CPSB	**Cacapava Do Su**	**31.97**	**313**	*e*P	**P**	**07 15 35.1**	**+0.6**
PLCA	**Paso Flores**	**32.28**	**280**	P	**P**	**07 15 35.4**	**-1.8**
comp=Z,1.3nm,0.8s,baz=153,slow=4.5,SNR=5.0							
PLCA				PcP	**PcP**	**07 18 23.9**	**+0.3**
comp=Z,1.7nm,0.8s,baz=135,slow=4.3,SNR=5.4							
PLCA				LR	LR	07 28 40.1	
comp=Z,123nm,19.6s,baz=178,slow=36							
PLCA	**Paso Flores**	**32.28**	**280**	P	**P**	**07 15 37.0**	**-0.2**
PLCA				PcP	**PcP**	**07 18 23.8**	**+0.3**
PLCA	**Paso Flores**	**32.28**	**280**	*e*P	**P**	**07 15 37.0**	**-0.2**
QSPA	**South Pole Qui**	**33.93**	**180**	P	**P**	**07 15 51.2**	**-0.3**
comp=Z,14nm,0.6s,baz=204,slow=1.1,SNR=88							
QSPA				PcP	**PcP**	**07 18 29.0**	**+1.2**
comp=Z,2.1nm,0.5s,baz=246,slow=4.4,SNR=6.7							
QSPA	**South Pole Qui**	**33.93**	**180**	P	**P**	**07 15 51.8**	**+0.3**
QSPA				PcP	**PcP**	**07 18 30.0**	**+2.1**
ITQB	**Itaqui**	**33.95**	**309**	*e*P	**P**	**07 15 52.8**	**+1.1**
ITAB	**Concordia**	**34.28**	**317**	*e*P	**P**	**07 15 55.6**	**+1.0**
SPB	**Sao Paulo**	**36.03**	**327**	*e*P	**P**	**07 16 10.5**	**+0.8**
VAO	**Valinhos**	**36.44**	**328**	*e*P	**P**	**07 16 14.3**	**+1.0**
PTGB	**Pitanga**	**36.55**	**319**	*e*P	**P**	**07 16 14.5**	**+0.4**
BO02	**Sierra Bellavi**	**36.73**	**287**	P	**P**	**07 16 13.9**	**-1.8**
BO02				PcP	**PcP**	**07 18 36.9**	**+0.3**
CPUP	**Villa Florida**	**37.17**	**311**	P	**P**	**07 16 18.5**	**-0.8**
comp=Z,2.8nm,0.8s,baz=158,slow=6.2,SNR=7.8							
CPUP				PcP	**PcP**	**07 18 38.2**	**+0.4**
comp=Z,1.4nm,0.5s,baz=126,slow=1.9,SNR=5.9							
CPUP	**Villa Florida**	**37.17**	**311**	P	**P**	**07 16 19.8**	**+0.5**
CPUP				PcP	**PcP**	**07 18 38.3**	**+0.4**
CPUP	**Villa Florida**	**37.17**	**311**	*e*P	**P**	**07 16 19.1**	**-0.2**
GO05	**Huala**	**37.18**	**286**	P	**P**	**07 16 17.9**	**-1.6**
GO05				PcP	**PcP**	**07 18 37.8**	**0.0**
PEL	**Peldehue**	**37.95**	**289**	P	**P**	**07 16 24.7**	**-1.2**
PEL				IAmb	IAmb	07 16 26.9	
comp=Z,12nm,0.7s							
PEL				PcP	**PcP**	**07 18 41.9**	**+1.7**
MT02	**Curacav**	**38.10**	**288**	P	**P**	**07 16 25.3**	**-1.9**
MT02				IAmb	IAmb	07 16 27.8	
comp=Z,9.3nm,0.6s							
ZON	**Zonda**	**38.16**	**293**	P	**P**	**07 16 28.1**	**+0.4**
ZON				IAmb	IAmb	07 16 28.8	
comp=Z,9.1nm,0.6s							
VA03	**San Esteban**	**38.17**	**289**	P	**P**	**07 16 27.3**	**-0.6**
VA03				IAmb	IAmb	07 16 30.5	
comp=Z,8.3nm,0.5s							
ROC1	**El Roble**	**38.25**	**289**	P	**P**	**07 16 27.7**	**-1.0**
ROC1				PcP	**PcP**	**07 18 41.9**	**+0.4**
CO02	**Combarbal**	**39.63**	**290**	P	**P**	**07 16 39.0**	**-1.1**
CO02				IAmb	IAmb	07 16 44.7	
comp=Z,11nm,1.1s							
CO02				PcP	**PcP**	**07 18 46.3**	**+0.6**
CO03	**El Pedregal**	**39.76**	**291**	P	**P**	**07 16 40.2**	**-1.0**
CO03				PcP	**PcP**	**07 18 46.2**	**+0.2**
MAW	**Mawson**	**39.79**	**143**	P	**P**	**07 16 40.8**	**+0.1**
comp=Z,0.7nm,0.3s,baz=218,slow=6.7,SNR=7.3							
MAW				LR	LR	07 30 14.4	
comp=Z,102nm,21.8s,baz=235,slow=32							
MAW	**Mawson**	**39.79**	**143**	P	**P**	**07 16 40.9**	**+0.1**
CO01	**Juntas del Tor**	**40.14**	**293**	P	**P**	**07 16 44.4**	**-0.1**
CO01				IAmb	IAmb	07 16 47.2	
comp=Z,8.9nm,0.6s							
CO01				PcP	**PcP**	**07 18 48.4**	**+1.0**
GO04	**Tololo Observa**	**40.35**	**292**	P	**P**	**07 16 45.1**	**-1.1**
GO04				IAmb	IAmb	07 16 48.0	
comp=Z,9.0nm,0.7s							
AC05	**El Transito**	**41.15**	**293**	P	**P**	**07 16 52.0**	**-0.7**
AC05				IAmb	IAmb	07 16 54.5	
comp=Z,10nm,0.6s							
AC05				PcP	**PcP**	**07 18 50.8**	**+0.2**
LCO	**Las Campanas**	**41.23**	**293**	P	**P**	**07 16 52.4**	**-1.0**
IPMB	**Ipameri, GO**	**41.55**	**328**	*e*P	**P**	**07 16 57.1**	**+1.2**
AC04	**Llanos de Chal**	**42.08**	**293**	P	**P**	**07 16 59.3**	**-0.8**
AC04				PcP	**PcP**	**07 18 53.8**	**+0.3**
AC02	**Maricunga**	**42.21**	**296**	P	**P**	**07 17 01.2**	**-0.5**
AC02				IAmb	IAmb	07 17 04.5	
comp=Z,8.3nm,0.7s							
AC02				PcP	**PcP**	**07 18 56.1**	**+1.5**
JANB	**Januaria**	**43.31**	**335**	*e*P	**P**	**07 17 10.9**	**+0.7**
GDU01	**Guandu, BA**	**43.64**	**342**	*e*P	**P**	**07 17 13.2**	**+0.4**
BDFB	**Brasilia**	**43.72**	**330**	P	**P**	**07 17 13.6**	**+0.1**
comp=Z,5.5nm,0.6s,baz=137,slow=6.0,SNR=9.4							
BDFB	**Brasilia**	**43.72**	**330**	P	**P**	**07 17 14.1**	**+0.6**
GO02	**Mina Guanaco**	**43.83**	**297**	P	**P**	**07 17 13.8**	**-0.8**
GO02				PcP	**PcP**	**07 19 00.2**	**+0.4**
PB14	**IPOC Station P**	**44.68**	**297**	P	**P**	**07 17 19.8**	**-1.6**
ARAG	**Araguaiana, MT**	**44.80**	**325**	*e*P	**P**	**07 17 23.3**	**+1.3**
LVC	**Limon Verde**	**45.64**	**300**	P	**P**	**07 17 29.6**	**+0.5**
LVC				IAmb	IAmb	07 17 31.9	
comp=Z,11nm,0.6s							
LVC				PcP	**PcP**	**07 19 07.3**	**+1.2**
LVC	**Limon Verde**	**45.64**	**300**	*e*P	**P**	**07 17 29.6**	**+0.5**
BOSA	**Boshof**	**45.80**	**75**	LR	LR	07 32 52.6	
comp=Z,132nm,19.1s,baz=190,slow=31							
PB06	**IPOC Station P**	**45.88**	**299**	P	**P**	**07 17 30.9**	**+0.2**
PB06				IAmb	IAmb	07 17 32.6	
comp=Z,8.1nm,0.6s							
PB06				PcP	**PcP**	**07 19 06.7**	**0.0**
SDBA	**SAO DESIDERIO**	**46.01**	**335**	*e*P	**P**	**07 17 31.8**	**+0.2**
VNDA	**Vanda**	**46.32**	**183**	P	**P**	**07 17 34.0**	**+0.7**
comp=Z,5.4nm,0.6s,baz=182,slow=8.5,SNR=39							
VNDA	**Vanda**	**46.32**	**183**	P	**P**	**07 17 34.2**	**+0.9**
VNDA				IAmb	IAmb	07 17 36.5	
comp=Z,6.0nm,0.7s							
PB09	**IPOC Station P**	**46.49**	**300**	P	**P**	**07 17 36.2**	**+0.7**
PB09				IAmb	IAmb	07 17 39.9	
comp=Z,7.3nm,0.6s							
PB07	**IPOC Station P**	**46.87**	**299**	P	**P**	**07 17 38.7**	**+0.2**
PB07				IAmb	IAmb	07 17 39.6	
comp=Z,11nm,0.6s							
PB07				PcP	**PcP**	**07 19 10.9**	**+0.7**
PB01	**IPOC Station P**	**47.25**	**300**	P	**P**	**07 17 41.2**	**-0.2**
PB01				PcP	**PcP**	**07 19 12.0**	**+0.5**
PTLB	**Pontes e Lacer**	**47.66**	**316**	*e*P	**P**	**07 17 43.9**	**-0.5**
PB08	**IPOC Station P**	**47.87**	**301**	P	**P**	**07 17 47.0**	**+0.5**
PB08				IAmb	IAmb	07 17 47.9	
comp=Z,9.1nm,0.5s							
PB08				PcP	**PcP**	**07 19 15.5**	**+1.5**
SNDB	**Serra Nova Dou**	**48.15**	**327**	*e*P	**P**	**07 17 49.5**	**+1.2**
GO01	**Chusmiza**	**48.29**	**302**	P	**P**	**07 17 50.1**	**+0.2**
PB11	**IPOC Station P**	**48.43**	**301**	P	**P**	**07 17 50.3**	**-0.3**
PB11				IAmb	IAmb	07 17 55.4	
comp=Z,12nm,0.9s							
PSGCX	**Pisagua**	**48.80**	**301**	P	**P**	**07 17 53.1**	**-0.2**
PSGCX				PcP	**PcP**	**07 19 17.2**	**+0.2**
MNMC	**Minye Minye**	**48.94**	**302**	P	**P**	**07 17 55.1**	**+0.5**
MNMC				PcP	**PcP**	**07 19 18.5**	**+0.7**
H10N1	**ASCENSION HYDR**	**49.31**	**16**	T	T	08 11 47.7	
baz=188,slow=75,SNR=21							
H10N3	**ASCENSION HYDR**	**49.31**	**16**	T	T	08 11 53.8	
baz=188,slow=75,SNR=113							
H10N2	**ASCENSION HYDR**	**49.32**	**16**	T	T	08 11 55.3	
baz=188,slow=75,SNR=114							
PB16	**IPOC Station P**	**49.59**	**302**	P	**P**	**07 18 00.3**	**+0.4**
PB16				IAmb	IAmb	07 18 02.7	
comp=Z,4.8nm,0.6s							
PB16				PcP	**PcP**	**07 19 21.3**	**+0.8**
SMTB	**Santa Maria do**	**50.08**	**333**	*e*P	**P**	**07 18 04.2**	**+1.2**
VILB	**Vilhena**	**50.34**	**316**	*e*P	**P**	**07 18 05.0**	**0.0**
CLDB	**Colider**	**50.64**	**322**	*e*P	**P**	**07 18 06.6**	**-0.6**
LPAZ	**La Paz**	**50.73**	**305**	P	**P**	**07 18 08.6**	**+0.1**
comp=Z,7.0nm,0.5s,baz=101,slow=4.9,SNR=91							
LPAZ				PcP	**PcP**	**07 19 25.4**	**+0.7**
comp=Z,3.0nm,0.6s,baz=167,slow=2.7,SNR=6.5							
LPAZ				LR	LR	07 42 16.1	
comp=Z,25nm,18.0s,baz=171,slow=39							
LPAZ	**La Paz**	**50.73**	**305**	P	**P**	**07 18 09.1**	**+0.5**
LPAZ				IAmb	IAmb	07 18 12.4	
comp=Z,8.9nm,0.6s							
LPAZ				PcP	**PcP**	**07 19 25.6**	**+0.9**
LPAZ	**La Paz**	**50.73**	**305**	*e*P	**P**	**07 18 09.0**	**+0.5**
RCBR	**Riachuelo**	**50.87**	**348**	*e*P	**P**	**07 18 08.7**	**-0.2**
PRPB	**Parauapebas**	**53.24**	**331**	*e*P	**P**	**07 18 27.0**	**+0.5**
NPGB	**Novo Progresso**	**54.07**	**324**	*e*P	**P**	**07 18 32.6**	**-0.1**
SAML	**Samuel**	**55.16**	**314**	P	**P**	**07 18 40.3**	**-0.2**
SAML				IAmb	IAmb	07 18 41.0	
comp=Z,7.9nm,0.9s							
SAML	**Samuel**	**55.16**	**314**	*e*P	**P**	**07 18 40.2**	**-0.3**
ETMB	**Extrema**	**55.62**	**311**	*e*P	**P**	**07 18 43.5**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**56.45**	**334**	*e*P	**P**	**07 18 50.4**	**+0.8**
ITTB	**Itaituba**	**56.71**	**325**	*e*P	**P**	**07 18 51.7**	**+0.2**
MALB	**Monte Alegre**	**58.63**	**327**	*e*P	**P**	**07 19 05.4**	**+0.5**
MCPB	**Macapa, AP**	**59.41**	**330**	*e*P	**P**	**07 19 11.1**	**+0.8**
CZSB	**Cruzeiro do Su**	**60.34**	**305**	*e*P	**P**	**07 19 16.5**	**-0.3**
ATAH	**Atahualpa**	**63.54**	**300**	P	**P**	**07 19 39.6**	**+0.9**
comp=Z,3.9nm,0.6s,baz=221,slow=9.3,SNR=2.7							
DBIC	**Dimbokro**	**65.31**	**24**	P	**P**	**07 19 49.7**	**+0.1**
comp=Z,2.1nm,0.6s,baz=205,slow=4.8,SNR=5.7							
DBIC	**Dimbokro**	**65.31**	**24**	P	**P**	**07 19 49.8**	**+0.2**
DBIC				IAmb	IAmb	07 19 52.8	
comp=Z,12nm,1.4s							
GCUF	**Volcan Galeras**	**70.36**	**305**	*e*P	**P**	**07 20 25.6**	**+3.6**
GARC	**Garzon, Huila**	**70.38**	**307**	*e*P	**P**	**07 20 21.5**	**-0.4**
PCON	**Cinco Dias**	**70.91**	**306**	*e*P	**P**	**07 20 27.5**	**+2.0**
POPC	**Popayan, Colom**	**71.22**	**306**	*e*P	**P**	**07 20 27.3**	**+0.3**
PRAC	**Prado**	**71.48**	**308**	*e*P	**P**	**07 20 28.3**	**0.0**
CHIC	**Chingaza**	**71.80**	**310**	*e*P	**P**	**07 20 29.7**	**-0.9**
ORTC	**Ortega, Tolima**	**71.81**	**308**	*e*P	**P**	**07 20 30.0**	**-0.3**
ROSC	**El Rosal**	**72.24**	**309**	P	**P**	**07 20 32.8**	**-0.4**
comp=Z,3.9nm,0.5s,baz=142,slow=19,SNR=2.8							
ROSC				LR	LR	07 54 38.3	
comp=Z,22nm,18.9s,baz=154,slow=38							
ROSC	**El Rosal**	**72.24**	**309**	P	**P**	**07 20 33.5**	**+0.3**
YOTC	**Yotoco, Valle**	**72.36**	**307**	*e*P	**P**	**07 20 32.4**	**-1.2**
RUSC	**La Rusia**	**72.66**	**311**	*e*P	**P**	**07 20 34.8**	**-1.1**
SPBC	**San Pablo de B**	**72.86**	**310**	*e*P	**P**	**07 20 34.5**	**-2.1**
GUY2C	**Guyana, Caldas**	**73.03**	**309**	*e*P	**P**	**07 20 36.8**	**-1.2**
TOA0	**Torodi Ar. Sit**	**73.17**	**29**	P	**P**	**07 20 38.3**	**+0.1**
TOA0				IAmb	IAmb	07 20 39.4	
comp=Z,14nm,1.4s							
TORD	**Torodi Ar. Bea**	**73.17**	**29**	P	**P**	**07 20 38.3**	**+0.1**
comp=Z,2.4nm,0.4s,baz=202,slow=6.5,SNR=40							
TORD	**Torodi Ar. Bea**	**73.17**	**29**	P	**P**	**07 20 38.0**	**-0.2**
PTBC	**PUERTO BERRIO,**	**73.82**	**310**	*e*P	**P**	**07 20 39.8**	**-2.3**
CBOC	**Ciudad Bolivar**	**73.89**	**308**	*e*P	**P**	**07 20 41.1**	**-1.5**
SDV	**Santo Domingo**	**74.37**	**315**	P	**P**	**07 20 45.2**	**-0.3**
SDV				IAmb	IAmb	07 20 46.4	
comp=Z,11nm,0.8s							
SDV	**Santo Domingo**	**74.37**	**315**	*e*P	**P**	**07 20 45.3**	**-0.3**
UREC	**San Jos de Ur**	**75.37**	**310**	*e*P	**P**	**07 20 49.9**	**-1.2**
MOTC	**Monteria, Cord**	**76.34**	**310**	*e*P	**P**	**07 20 56.5**	**-0.1**
SJCC	**San Jacinto, C**	**77.14**	**311**	*e*P	**P**	**07 21 01.3**	**+0.1**
SMRC	**Santa Marta, M**	**77.88**	**312**	*e*P	**P**	**07 21 05.5**	**+0.3**
MLZ	**Mavora Lakes**	**77.92**	**191**	P	**P**	**07 21 06.2**	**+1.1**
PDPR	**Patillas Dam,**	**81.07**	**322**	P	**P**	**07 21 22.0**	**-0.4**
PDPR				IAmb	IAmb	07 21 22.6	
comp=Z,6.4nm,0.6s							
CUPR	**Culebra, Puert**	**81.09**	**323**	P	**P**	**07 21 23.1**	**+0.7**
CUPR				IAmb	IAmb	07 21 36.3	
comp=Z,19nm,1.1s							
CBYP	**Canovanas**	**81.25**	**323**	P	**P**	**07 21 23.6**	**+0.2**
NNZ	**Nelson**	**81.35**	**195**	P	**P**	**07 21 23.9**	**+0.1**
JTS	**Las Juntas de**	**81.86**	**302**	P	**P**	**07 21 26.9**	**+0.2**
comp=Z,3.1nm,0.8s,baz=52,slow=16,SNR=1.9							
JTS	**Las Juntas de**	**81.86**	**302**	P	**P**	**07 21 26.8**	**+0.1**
JTS				IAmb	IAmb	07 21 28.9	
comp=Z,13nm,1.5s							
ESPN	**Las Esperanzas**	**83.22**	**304**	P	**P**	**07 21 33.9**	**+0.2**
ESPN				IAmb	IAmb	07 21 34.5	
comp=Z,9.8nm,0.8s							
ACON	**Acoyapa**	**83.43**	**303**	P	**P**	**07 21 34.7**	**-0.1**
LGNH	**Lagunie**	**83.90**	**317**	P	**P**	**07 21 38.1**	**+1.1**
STKA	**Stephens Creek**	**91.60**	**170**	P	**P**	**07 22 16.1**	**+1.9**
comp=Z,2.1nm,0.6s,baz=165,slow=6.1,SNR=5.1							
STKA	**Stephens Creek**	**91.60**	**170**	P	**P**	**07 22 13.1**	**-1.1**
PPT	**Papeete**	**92.23**	**233**	LR	LR	07 58 09.9	
comp=Z,31nm,18.1s,baz=142,slow=32							
ESDC	**Sonseca Array**	**97.56**	**18**	P	Pdif	07 22 41.1	+0.1
comp=Z,0.3nm,0.7s,baz=350,slow=37,SNR=1.2							
ESDC	**Sonseca Array**	**97.56**	**18**	P	Pdif	07 22 41.5	+0.4
ASAR	**Alice Springs**	**98.66**	**162**	P	**P**	**07 22 46.0**	**-0.6**
comp=Z,1.2nm,0.8s,baz=189,slow=4.0,SNR=9.1							
ASAR	**Alice Springs**	**98.66**	**162**	P	Pdif	07 22 46.2	-0.4
WRA	**Warramunga Arr**	**102.38**	**162**	P	**Pdif**	**07 23 02.6**	**-0.6**
comp=Z,0.5nm,0.9s,baz=194,slow=4.6,SNR=2.8							
WRA				PKKPbc	**PKKPbc**	**07 39 03.4**	**+1.9**
comp=Z,0.3nm,0.5s,baz=357,slow=2.8,SNR=7.8							
SCHQ	**Schefferville**	**115.51**	**336**	PKP	**PKPdf**	**07 27 46.0**	**-1.7**
comp=Z,1.8nm,0.5s,baz=104,slow=8.2,SNR=1.5							
SCHQ	**Schefferville**	**115.51**	**336**		**PKPdf**	**07 27 46.1**	**-1.6**
ULM	**Lac du Bonnet**	**120.61**	**316**	PKP	**PKPdf**	**07 27 55.9**	**-1.8**
comp=Z,2.7nm,1.0s,baz=209,slow=3.8,SNR=4.8							
ULM	**Lac du Bonnet**	**120.61**	**316**	PKPdf	**PKPdf**	**07 27 56.2**	**-1.5**
PDAR	**Pinedale Array**	**120.69**	**302**	PKP	**PKPdf**	**07 27 57.0**	**-1.4**
comp=Z,0.3nm,0.4s,baz=132,slow=4.6,SNR=6.8							
PDAR	**Pinedale Array**	**120.69**	**302**	PKPdf	**PKPdf**	**07 27 57.4**	**-1.0**
NVAR	**Mina Array Bea**	**121.72**	**293**	PKP	**PKiKP**	**07 28 00.9**	**+0.2**
comp=Z,0.3nm,0.6s,baz=118,slow=2.6,SNR=4.6							
NVAR	**Mina Array Bea**	**121.72**	**293**	PKPdf	**PKiKP**	**07 28 01.2**	**+0.6**
FINES	**FINESS Array B**	**124.51**	**28**	PKP	**PKiKP**	**07 28 04.1**	**-0.9**
comp=Z,2.3nm,0.5s,baz=172,slow=0.7,SNR=14							
FINES	**FINESS Array B**	**124.51**	**28**	PKPdf	**PKiKP**	**07 28 04.5**	**-0.5**
ARCES	**ARCESS Array B**	**131.10**	**22**	PKP	**PKiKP**	**07 28 17.0**	**-1.0**
comp=Z,1.1nm,0.6s,baz=207,slow=0.8,SNR=8.0							
YKA	**Yellowknife Ar**	**136.53**	**318**	PKP	**PKPdf**	**07 28 27.2**	**-0.3**
comp=Z,1.7nm,0.6s,baz=123,slow=2.6,SNR=6.6							
RES	**Resolute Bay**	**138.19**	**338**	PKP	**PKPdf**	**07 28 29.9**	**-0.3**
comp=Z,1.2nm,0.8s,baz=114,slow=2.5,SNR=1.9							
RES	**Resolute Bay**	**138.19**	**338**	PKPdf	**PKiKP**	**07 28 31.8**	**-0.5**
INK	**Inuvik**	**146.16**	**320**	PKPbc	**PKPab**	**07 28 45.8**	**-0.7**
comp=Z,10nm,0.7s,baz=68,slow=2.2,SNR=36							
NRIK	**Noril'sk**	**149.06**	**39**	PKPbc	**PKiKP**	**07 28 53.5**	**-1.3**
comp=Z,1.2nm,0.3s,baz=354,slow=5.7,SNR=1.9							
ILAR	**Eielson Array**	**150.47**	**311**	PKPbc	**PKiKP**	**07 28 57.0**	**-0.8**
comp=Z,5.0nm,0.7s,baz=136,slow=2.2,SNR=88							
ILAR	**Eielson Array**	**150.47**	**311**	PKPbc	**PKiKP**	**07 28 57.2**	**-0.6**
SONM	**Songino Array**	**150.50**	**87**	PKPbc	**PKiKP**	**07 28 57.7**	**-0.9**
comp=Z,3.3nm,0.7s,baz=220,slow=3.3,SNR=11							
SONM	**Songino Array**	**150.50**	**87**	PKPbc	**PKiKP**	**07 28 57.9**	**-0.7**

*NNC **28** 07:17:41.0±0.8,49°.97N×78°.53E,h0km,mb3.3,mpv3.1, Error ellipse: s-maj=11.9km s-min=4.3km az=86.0, Suspected Mining explosion.*
*IDC **28** 07:17:43.6±0.9,50°.05N×78°.79E,h0km,mb1 3.1/3, mb1mx3.0/48,mbtmp3.1/3,ML2.9/3,Error ellipse: s-maj=10.9km s-min=6.4km az=56.0*
ISC 28 07:17:42.7±0.9,50°.00N±0°.05×78°.57E±0°.06,h0km,n13, σ1§32/16,7C-7D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**358**	Pg	**Pg**	**07 17 54.3**	**-0.3**
6.2nm,0.3s,baz=166,slow=18,SNR=102							
KURBB				Lg	Lg	07 18 04.3	
4.9nm,0.3s,baz=161,slow=33,SNR=14							
KURBB	**Kurchatov Arra**	**0.62**	**358**	⇓P	**Pg**	**07 17 54.3**	**-0.3**
43nm,0.3s							
KURBB				⇓S	**Sg**	**07 18 03.4**	**+0.7**
129nm,0.6s							
KURK	**Kurchatov**	**0.72**	**3**	⇑P	**Pg**	**07 17 55.7**	**-0.7**
21nm,0.4s							
KURK				⇓S	**Sg**	**07 18 06.2**	**+0.5**
75nm,0.9s							
MAKZ	**Makanchi**	**3.92**	**143**	⇑Pg	**Pb**	**07 18 50.3**	**-2.3**
1.8nm,0.5s							
MAKZ				⇓Lg	Lg	07 19 41.4	
8.6nm,0.4s							
MK31	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**07 18 46.6**	**+0.6**
0.2nm,0.2s,baz=85,slow=4.7,SNR=39							
MK31				⇑Pg	**Pb**	**07 18 55.3**	**+0.4**
1.1nm,0.3s,baz=325,slow=14,SNR=11							
MK31				⇑Lg	Lg	07 19 48.3	
8.2nm,0.4s,baz=333,slow=26,SNR=5.0							
MKAR	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**07 18 46.5**	**+0.5**
0.9nm,0.3s,baz=322,slow=10,SNR=19							
MKAR				Sn	**Sn**	**07 19 35.4**	**+1.2**
1.5nm,0.3s,baz=324,slow=23,SNR=5.2							
MKAR				Lg	Lg	07 19 49.1	
5.9nm,0.3s,baz=330,slow=25,SNR=14							
I46RU	**ZALESOVO INFRA**	**5.53**	**42**	*i*		07 51 06.9	
baz=226,slow=324,SNR=0.9							
ZALV	**Zalesovo Beam**	**5.53**	**42**	Pn	**Pn**	**07 19 07.0**	**+0.9**
1.9nm,0.3s,baz=228,slow=14,SNR=12							
ZALV				Sn	**Sn**	**07 20 09.5**	**-0.8**
0.4nm,0.3s,baz=233,slow=22,SNR=2.6							
ZALV				Lg	Lg	07 20 35.5	
0.4nm,0.3s,baz=232,slow=26,SNR=1.7							
BVAR	**Borovoye Array**	**5.94**	**304**	Pn	**Pn**	**07 19 13.

PSA00				IAmb	IAmb	08 01 28.4	
	comp=Z,9.8nm,1.2s						
QSPA	**South Pole Qui**	**68.35**	**180**	P	**P**	**08 02 16.4**	**+1.4**
QSPA				IAmb	IAmb	08 02 21.4	
	comp=Z,7.2nm,1.5s						
PMSA	**Palmer Station**	**79.39**	**156**	P	**P**	**08 03 19.4**	**+0.2**
MAW	**Mawson**	**81.08**	**199**	P	**P**	**08 03 29.2**	**+1.0**
AKASG	**Malin Array Be**	**145.02**	**332**	PKPbc	**PKPdf**	**08 10 50.4**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=44,slow=4.4,SNR=5.8						
AKASG	**Malin Array Be**	**145.02**	**332**		**PKPbc**	**08 10 49.6**	**+0.2**

WEL 28 08:05:57.9±0.8, 45°S±3°×16°7E±°, h6km±4km, M2.9/5, ML3.4/11, MLv2.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLZ	**Mavora Lakes**	**0.84**	**94**	P	Pg	08 06 14.4	+0.3
MLZ				S	Sb	08 06 27.3	+0.7
PYZ	**Puysegur Point**	**0.87**	**191**	P	Pg	08 06 14.2	-0.5
PYZ				S	Sb	08 06 27.1	-0.4
WHZ	**Wether Hill Ro**	**0.92**	**129**	P	Pg	08 06 15.7	+0.1
WHZ				S	Sb	08 06 28.6	-0.3
MSZ	**Milford Sound**	**0.95**	**48**	P	Pg	08 06 14.9	-1.4
MSZ				S	Sg	08 06 29.1	+0.5
WKZ	**Wanaka**	**1.56**	**73**	P	Pn	08 06 26.3	0.0
WKZ				S	Sn	08 06 46.1	-0.7
APZ	**The Paps**	**1.69**	**154**	P	Pn	08 06 28.6	+0.6
APZ				S	Sb	08 06 51.1	+0.1
JCZ	**Jackson Bay**	**1.81**	**48**	P	Pn	08 06 29.7	-0.1
JCZ				S	Sg	08 06 55.9	-0.2
SYZ	**Scrubby Hill**	**1.97**	**129**	P	Pn	08 06 31.6	-0.2
SYZ				S	Sn	08 06 56.3	-0.6
TUZ	**Tuapeka**	**2.00**	**110**	P	Pn	08 06 31.6	-0.7
TUZ				S	Sb	08 06 59.7	-0.2
LBZ	**Lake Benmore**	**2.50**	**69**	P	Pn	08 06 38.0	-1.1
HHSZ	**Highcliff Hill**	**2.64**	**104**	P	Pn	08 06 41.8	+0.7
ODZ	**Otahua Downs**	**2.64**	**86**	P	Pn	08 06 39.8	-1.3
ODZ				S	Sn	08 07 12.5	-0.9
FOZ	**Fox Glacier**	**2.73**	**50**	P	Pn	08 06 43.9	+1.6
FOZ				S	Sn	08 07 16.0	+0.5

*TEH **28** 08:19:01.8, 28°.54N×53°.02E, h8km, ML4.9*
*THR **28** 08:19:01.8±0.3, 28°.41N×53°.09E, h18km±11km, ML5.0*
*MOS **28** 08:19:01.8±1.1, 28°.51N×52°.97E, h12km, mb5.1/49, MS4.3/11, Error ellipse: s-maj=5.3km s-min=3.6km az=98.5*
*NEIC **28** 08:19:02.7±2.0, 28°.43N±0°.04×52°.91E±0°.06, h10km±1km, mb4.9/102, mb_Lg4.9(TEH), ML4.9(THR), Error ellipse: s-maj=10.0km s-min=5.6km az=235.0*
*BJI **28** 08:19:02.3±0.0, 28°.36N×52°.62E, h32km, mB5.0/42, mb4.8/50, Ms4.9/40, Ms7 4.6/39*
*GII **28** 08:19:03.5±0.0, 28°.55N×52°.99E, h8km*
*IDC **28** 08:19:03.8±2.3, 28°.50N×52°.92E, h16km±14km, mb4.6/41, mb1 4.6/50, mb1mx4.5/63, mbtmp4.6/50, ML4.2/9, MS4.4/37, Ms1 4.4/37, ms1mx4.2/53, Error ellipse: s-maj=10.6km s-min=9.6km az=161.0*
*GCMT **28** 08:19:03.7±0.2, 28°.32N±0°.01×52°.91E±0°.02, h19km, MW5.0/97, Moment Tensor Solution. s33,c38; s97,c141; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.64±.18; Mθθ -3.60±.14; Mφφ 0.95±.12; Mrθ 0.45±.25; Mrφ 2.76±.09; Mθφ 0.35±.26; Best double couple: Mo 3.95200×10^16 NP1: φs 325.00000°, δ53.00000°, λ135.00000°. NP2: φs 86.00000°, δ56.00000°, λ47.00000°. Principal axes: T 2.9960, Plg56.0000°, Azm298.0000°; N 1.9110, Plg34.0000°, Azm114.0000°; P -4.9090, Plg2.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **28** 08:19:05.7±1.5, 28°.02N×52°.63E, h10km, ML4.9/8 Error ellipse: s-maj=26.9km s-min=11.2km az=30.0*
*OMAN **28** 08:19:07.0±1.1, 28°.48N×53°.04E, h34km±27km, mb5.8/9, ml4.8/8, ms3.8/3, Error ellipse: s-maj=33.0km s-min=24.4km az=36.0*
*BGR **28** 08:19:09.1±0.0, 28°.84N×52°.92E, h33km, mb5.0, Ms4.2*

ISC 28 08:19:03.2±0.2, 28°.48N±0°.03×52°.94E±0°.03, h10km, n701, σ1§41/719, mb4.9/154, MS4.5/52, 35C-18D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.20**	**169**	*e*Pg	**Pg**	**08 19 06.3**	**-1.3**
GHIR				*e*Sg	**Sg**	**08 19 09.5**	**-1.0**
GHIR	**Ghir-Karzin**	**0.20**	**169**	*e*Pg	**Pg**	**08 19 06.3**	**-1.3**
GHIR	**Ghir-Karzin**	**0.20**	**169**	Pg	**Pg**	**08 19 06.2**	**-1.3**
JHRM	**Jahrom**	**0.56**	**88**	*e*Pg	**Pg**	**08 19 11.2**	**-2.9**
JHRM	**Jahrom**	**0.56**	**88**	Pg	**Pg**	**08 19 11.1**	**-3.0**
LMD1	**Lamerd**	**1.16**	**170**	*e*Pg	**Pn**	**08 19 25.8**	**+0.2**
LMD1				*e*		08 19 56.7	
LMD1	**Lamerd**	**1.16**	**170**	Pg	**Pn**	**08 19 25.7**	**+0.2**
SHI	**Shiraz**	**1.21**	**342**	*e*Pg	**Pn**	**08 19 25.2**	**-1.3**
AHBU	**AHRAM**	**1.50**	**285**	*e*Pg	**Pg**	**08 19 31.7**	**-0.3**
LAR1	**LAR**	**1.50**	**122**	*e*Pg	**Pn**	**08 19 30.7**	**+0.4**
LAR1				*e*		08 20 09.8	
LAR1	**LAR**	**1.50**	**122**		**Pn**	**08 19 30.6**	**+0.3**
KAZ1	**Kazerun**	**1.61**	**315**	*e*Pg	**Pn**	**08 19 32.6**	**+0.8**
KAZ1	**Kazerun**	**1.61**	**315**		**Pn**	**08 19 32.6**	**+0.8**
KLNJ	**Kolanjah**	**2.78**	**335**	*e*Pn	**Pn**	**08 19 48.2**	**+0.1**
KLNJ				*e*		08 20 52.6	
KLNJ	**Kolanjah**	**2.78**	**335**	Pn	**Pn**	**08 19 48.1**	**0.0**
GENO	**Geno**	**3.06**	**110**	*e*Pn	**Pn**	**08 19 50.4**	**-1.4**
GENO	**Geno**	**3.06**	**110**	Pn	**Pn**	**08 19 50.3**	**-1.5**
IMEH	**Mehriz**	**3.24**	**26**	*e*Pn	**Pn**	**08 19 55.5**	**+1.1**
IMEH	**Mehriz**	**3.24**	**26**	Pn	**Pn**	**08 19 55.4**	**+1.1**
IBND	**Bandar-abas**	**3.34**	**107**	*e*Pn	**Pn**	**08 19 56.0**	**+0.4**
IRAM	**Ramesheh**	**3.35**	**352**	*e*Pn	**Pn**	**08 19 56.3**	**+0.4**
IRAM				*e*		08 21 06.2	
IRAM	**Ramesheh**	**3.35**	**352**	Pn	**Pn**	**08 19 56.2**	**+0.4**
ISAD	**Sadrabad**	**3.48**	**10**	*e*Pn	**Pn**	**08 19 59.3**	**+1.5**
ISAD	**Sadrabad**	**3.48**	**10**	Pn	**Pn**	**08 19 59.2**	**+1.5**
NGRK	**Negar Kerman**	**3.51**	**70**	*e*Pn	**Pn**	**08 19 57.8**	**-0.5**
NGRK				*e*		08 21 05.2	
NGRK	**Negar Kerman**	**3.51**	**70**	Pn	**Pn**	**08 19 57.7**	**-0.5**
KHGB	**Koh Gabri**	**3.61**	**58**	*e*Pn	**Pn**	**08 19 59.8**	**+0.3**
KHGB	**Koh Gabri**	**3.61**	**58**	Pn	**Pn**	**08 19 59.8**	**+0.3**
TVBK	**TV Kerman**	**3.66**	**65**	*e*Pn	**Pn**	**08 20 00.6**	**+0.4**
TVBK				*e*		08 21 13.6	
TVBK	**TV Kerman**	**3.66**	**65**	Pn	**Pn**	**08 20 00.6**	**+0.4**
IBAF	**Bafgh**	**3.84**	**36**	*e*Pn	**Pn**	**08 20 02.7**	**+0.1**
IBAF	**Bafgh**	**3.84**	**36**	Pn	**Pn**	**08 20 02.6**	**0.0**
BANOM	**Banah**	**3.93**	**130**	*i* P	**Pn**	**08 20 03.9**	**+0.2**
	SNR=52						
BANOM				S	**Sn**	**08 20 52.9**	**+3.0**
BANOM	**Banah**	**3.93**	**130**	P	**Pn**	**08 20 04.0**	**+0.2**
	SNR=52						
BANOM				S	**Sn**	**08 20 51.9**	**+2.0**
ICHK	**Chekchek**	**3.96**	**18**	*e*Pn	**Pn**	**08 20 04.9**	**+0.7**
ICHK	**Chekchek**	**3.96**	**18**	Pn	**Pn**	**08 20 04.9**	**+0.7**
IGAR	**Gharneh**	**3.98**	**349**	*e*Pn	**Pn**	**08 20 05.5**	**+0.9**
IGAR	**Gharneh**	**3.98**	**349**	Pn	**Pn**	**08 20 05.4**	**+0.9**
ROKH	**ROKH**	**4.19**	**337**	*e*Pn	**Pn**	**08 20 09.6**	**+2.2**
ROKH	**ROKH**	**4.19**	**337**	Pn	**Pn**	**08 20 09.6**	**+2.2**
NAZ	**Nazwa, Dubai**	**4.25**	**144**	*i* P	**Pn**	**08 20 08.5**	**+0.5**
	SNR=53						
NAZ	**Nazwa, Dubai**	**4.25**	**144**	P	**Pn**	**08 20 09.1**	**+1.1**
	SNR=9.3						
NAZ				S	**Sn**	**08 20 57.7**	**0.0**
CHMN	**Cheshme madani**	**4.25**	**70**	*e*Pn	**Pn**	**08 20 09.1**	**+0.8**
CHMN				*e*		08 21 21.0	
CHMN	**Cheshme madani**	**4.25**	**70**	Pn	**Pn**	**08 20 09.1**	**+0.8**
NASN	**Na'in**	**4.30**	**358**	*e*Pn	**Pn**	**08 20 10.0**	**+0.9**
NASN	**Na'in**	**4.30**	**358**	*e*Pn	**Pn**	**08 20 10.0**	**+0.9**
NASN	**Na'in**	**4.30**	**358**	Pn	**Pn**	**08 20 09.9**	**+0.9**
MDH	**Madha**	**4.36**	**136**	*i* P	**Pn**	**08 20 09.9**	**+0.3**
	SNR=20						
MDH	**Madha**	**4.36**	**136**	P	**Pn**	**08 20 10.2**	**+0.6**
	SNR=20						
MDH				S	**Sn**	**08 21 02.4**	**+1.9**
ASUD	**Al Ashush, Dub**	**4.40**	**150**	*i* P	**Pn**	**08 20 10.7**	**+0.6**
	SNR=42						
ASUD	**Al Ashush, Dub**	**4.40**	**150**	P	**Pn**	**08 20 10.9**	**+0.8**
	SNR=14						
ASUD				S	**Sn**	**08 21 02.3**	**+0.9**
FAQ	**Al Faqa, Dubai**	**4.42**	**147**	*i* P	**Pn**	**08 20 10.9**	**+0.6**
	SNR=22						
FAQ	**Al Faqa, Dubai**	**4.42**	**147**	P	**Pn**	**08 20 11.6**	**+1.3**
	SNR=14						
FAQ				S	**Sn**	**08 21 01.0**	**-0.8**
IZEF	**Zefreh**	**4.43**	**353**	*e*Pn	**Pn**	**08 20 11.0**	**+0.2**
IZEF	**Zefreh**	**4.43**	**353**	Pn	**Pn**	**08 20 10.9**	**+0.2**
IPIR	**Pirpir**	**4.54**	**338**	*e*Pn	**Pn**	**08 20 11.6**	**-0.8**
IPIR	**Pirpir**	**4.54**	**338**	Pn	**Pn**	**08 20 11.6**	**-0.8**
UOSS	**Minazif**	**4.58**	**140**	*i* P	**Pn**	**08 20 12.5**	**-0.1**
	SNR=27						
UOSS	**Minazif**	**4.58**	**140**	P	**Pn**	**08 20 12.8**	**+0.3**
UOSS				S	**Sn**	**08 21 05.9**	**+0.1**
UOSS	**Minazif**	**4.58**	**140**		**Pn**	**08 20 12.4**	**-0.1**
HATD	**Hatta, Dubai**	**4.63**	**141**	*i* P	**Pn**	**08 20 13.8**	**+0.5**
	SNR=46						
HATD	**Hatta, Dubai**	**4.63**	**141**	P	**Pn**	**08 20 14.6**	**+1.3**
	SNR=46						
HATD				S	**Sn**	**08 21 06.3**	**-0.8**
ASHO	**Ashiyiah**	**4.70**	**143**	*i* P	**Pn**	**08 20 14.4**	**+0.1**
	SNR=27						
ASHO				S	**Sn**	**08 21 07.4**	**-1.6**
ASHO	**Ashiyiah**	**4.70**	**143**	P	**Pn**	**08 20 15.0**	**+0.7**
	SNR=27						
ASHO				S	**Sn**	**08 21 07.9**	**-1.0**
ANAR	**Anarak**	**4.74**	**8**	*e*Pn	**Pn**	**08 20 15.8**	**+0.9**
ANAR	**Anarak**	**4.74**	**8**	Pn	**Pn**	**08 20 15.8**	**+0.9**
KBAM	**BAM**	**4.88**	**81**	*e*Pn	**Pn**	**08 20 18.5**	**+1.7**
IKLH	**Kolahrood**	**4.96**	**347**	*e*Pn	**Pn**	**08 20 19.2**	**+1.2**
IKLH	**Kolahrood**	**4.96**	**347**	Pn	**Pn**	**08 20 19.1**	**+1.1**
SOHO	**SOHO**	**5.40**	**143**	*i* P	**Pn**	**08 20 23.2**	**-0.6**
	SNR=30						
SOHO	**SOHO**	**5.40**	**143**	P	**Pn**	**08 20 23.9**	**+0.1**
SOHO				S	**Sn**	**08 21 24.1**	**-2.0**
QAM	**Ghamsar**	**5.42**	**347**	*e*Pn	**Pn**	**08 20 24.6**	**+0.3**
KRSH	**Karshahi**	**5.51**	**353**	*e*Pn	**Pn**	**08 20 25.6**	**0.0**
KRSH	**Karshahi**	**5.51**	**353**	Pn	**Pn**	**08 20 25.5**	**0.0**
TPRV	**Parvadeh(Tabas**	**5.56**	**34**	*e*Pn	**Pn**	**08 20 25.8**	**-0.3**
TPRV	**Parvadeh(Tabas**	**5.56**	**34**	Pn	**Pn**	**08 20 25.8**	**-0.3**
ARQ	**Araqi**	**6.05**	**147**	P	**Pn**	**08 20 32.8**	**-0.1**
	SNR=7.6						
ARQ				S	**Sn**	**08 21 41.2**	**-1.1**
TKDS	**Koohdasht(Taba**	**6.25**	**34**	*e*Pn	**Pn**	**08 20 35.4**	**-0.2**
TKDS	**Koohdasht(Taba**	**6.25**	**34**	Pn	**Pn**	**08 20 35.4**	**-0.2**
HOQ	**Hoqain**	**6.26**	**140**	P	**Pn**	**08 20 37.0**	**+1.2**
	SNR=19						
TABS	**Tabas**	**6.27**	**34**	*e*Pn	**Pn**	**08 20 35.8**	**-0.1**
TABS	**Tabas**	**6.27**	**34**	*e*Pn	**Pn**	**08 20 35.8**	**-0.1**
TABS	**Tabas**	**6.27**	**34**	Pn	**Pn**	**08 20 35.8**	**-0.1**
TNSJ	**Nastanj**	**6.30**	**29**	*e*Pn	**Pn**	**08 20 36.9**	**+0.6**
TNSJ	**Nastanj**	**6.30**	**29**	Pn	**Pn**	**08 20 36.9**	**+0.6**
IKMR	**Kamar-syah**	**6.36**	**323**	*e*Pn	**Pn**	**08 20 37.2**	**+0.1**
IKMR	**Kamar-syah**	**6.36**	**323**	Pn	**Pn**	**08 20 37.2**	**+0.1**
BSRN	**Basiran**	**6.38**	**56**	*e*P	**Pn**	**08 20 36.2**	**-1.2**
BSRN	**Basiran**	**6.38**	**56**	*e*Pn	**Pn**	**08 20 36.2**	**-1.2**
BSRN	**Basiran**	**6.38**	**56**	Pn	**Pn**	**08 20 36.2**	**-1.2**
IQOM	**Qom**	**6.54**	**346**	*e*Pn	**Pn**	**08 20 39.5**	**-0.2**
IQOM	**Qom**	**6.54**	**346**	Pn	**Pn**	**08 20 39.5**	**-0.2**
IVRN	**Varamin**	**6.57**	**351**	*e*Pn	**Pn**	**08 20 40.4**	**+0.4**
IVRN	**Varamin**	**6.57**	**351**	Pn	**Pn**	**08 20 40.3**	**+0.3**
ITEG	**Tejag**	**6.66**	**47**	*e*Pn	**Pn**	**08 20 41.9**	**+0.6**
ITEG	**Tejag**	**6.66**	**47**	Pn	**Pn**	**08 20 41.8**	**+0.5**
IKFM	**Kafar-mosalman**	**6.66**	**320**	*e*Pn	**Pn**	**08 20 40.3**	**-0.8**
IKFM	**Kafar-mosalman**	**6.66**	**320**	Pn	**Pn**	**08 20 40.3**	**-0.8**
IDOB	**Doab**	**6.68**	**324**	*e*Pn	**Pn**	**08 20 42.1**	**+0.4**
IDOB	**Doab**	**6.68**	**324**	Pn	**Pn**	**08 20 42.0**	**+0.4**
BIDO	**Bidbid**	**6.79**	**135**	P	**Pn**	**08 20 43.4**	**+0.4**
BIDO				S	**Sn**	**08 21 58.1**	**-2.4**
HSAM	**Samen**	**6.81**	**328**	*e*Pn	**Pn**	**08 20 42.9**	**-0.6**
HSAM	**Samen**	**6.81**	**328**	Pn	**Pn**	**08 20 42.9**	**-0.6**
NHDN	**Nehbandan**	**6.81**	**63**	*e*Pn	**Pn**	**08 20 43.2**	**-0.2**
NHDN	**Nehbandan**	**6.81**	**63**	Pn	**Pn**	**08 20 43.1**	**-0.3**
BSY	**Bisya**	**6.89**	**145**	P	**Pn**	**08 20 44.5**	**+0.2**
	SNR=8.5						
BSY				S	**Sn**	**08 22 01.4**	**-1.4**
ZHSF	**Zahedan**	**6.95**	**79**	*e*Pn	**Pn**	**08 20 43.5**	**-1.7**
ZHSF	**Zahedan**	**6.95**	**79**	*e*Pn	**Pn**	**08 20 43.6**	**-1.7**
ZHSF	**Zahedan**	**6.95**	**79**	Pn	**Pn**	**08 20 43.5**	**-1.7**
IANJ	**Anjilo**	**7.01**	**7**	*e*Pn	**Pn**	**08 20 47.8**	**+1.5**
IANJ	**Anjilo**	**7.01**	**7**	Pn	**Pn**	**08 20 47.7**	**+1.5**
IHSB	**Hasanabad**	**7.08**	**349**	*e*Pn	**Pn**	**08 20 47.0**	**0.0**
IHSB	**Hasanabad**	**7.08**	**349**	Pn	**Pn**	**08 20 46.9**	**0.0**
SMDO	**Samad**	**7.10**	**138**	P	**Pn**	**08 20 47.6**	**+0.3**
	SNR=13						
SMDO				P	**Pn**	**08 20 47.6**	**+0.3**
	SNR=13						
HAGD	**Aghdareh**	**7.10**	**334**	*e*Pn	**Pn**	**08 20 48.0**	**+0.5**
HAGD	**Aghdareh**	**7.10**	**334**	Pn	**Pn**	**08 20 47.9**	**+0.5**
IDMV	**Damavand**	**7.12**	**354**	*e*Pn	**Pn**	**08 20 47.7**	**0.0**
IDMV	**Damavand**	**7.12**	**354**	Pn	**Pn**	**08 20 47.6**	**-0.1**
AFRZ	**Afriz**	**7.17**	**45**	*e*Pn	**Pn**	**08 20 48.9**	**+0.6**
AFRZ	**Afriz**	**7.17**	**45**	Pn	**Pn**	**08 20 48.8**	**+0.5**
ISHM	**Shahmirzad**	**7.31**	**2**	*e*Pn	**Pn**	**08 20 51.3**	**+1.0**
ISHM	**Shahmirzad**	**7.31**	**2**	Pn	**Pn**	**08 20 51.3**	**+1.0**
WSAR	**Wadi Sarin**	**7.32**	**134**	Pn	**Pn**	**08 20 50.0**	**-0.2**
	17nm,0.3s,baz=319,slow=10,SNR=68						
WSAR					Sn	**Sn**	**08 22 11.7**	**-1.7**
	6.4nm,0.3s,baz=18,slow=16,SNR=2.3						
WSAR					LR	LR	08 24 34.5	
	comp=Z,2μm,18.4s,baz=342,slow=45						
WSAR	**Wadi Sarin**	**7.32**	**134**	P	**Pn**	**08 20 50.3**	**+0.1**
	SNR=19						
WSAR				S	**Sn**	**08 22 10.9**	**-2.4**
IKOM	**Komasi**	**7.33**	**322**	*e*Pn	**Pn**	**08 20 50.3**	**-0.3**
IKOM	**Komasi**	**7.33**	**322**	Pn	**Pn**	**08 20 50.2**	**-0.3**
IRAZ	**Razeghan**	**7.36**	**340**	*e*Pn	**Pn**	**08 20 50.5**	**-0.5**
IRAZ	**Razeghan**	**7.36**	**340**	Pn	**Pn**	**08 20 50.4**	**-0.5**
IBZA	**Bozab**	**7.38**	**325**	*e*Pn	**Pn**	**08 20 50.4**	**-0.9**
IBZA	**Bozab**	**7.38**	**325**	Pn	**Pn**	**08 20 50.4**	**-0.9**
IMHD	**Mahdasht**	**7.43**	**346**	*e*Pn	**Pn**	**08 20 52.5**	**+0.6**
IMHD	**Mahdasht**	**7.43**	**346**	Pn	**Pn**	**08 20 52.5**	**+0.6**
IMON	**Monand**	**7.45**	**49**	*e*Pn	**Pn**	**08 20 52.9**	**+0.7**
IMON	**Monand**	**7.45**	**49**	Pn	**Pn**	**08 20 52.8**	**+0.6**
IALA	**Alasht**	**7.58**	**359**	*e*Pn	**Pn**	**08 20 55.7**	**+1.6**
IALA	**Alasht**	**7.58**	**359**	Pn	**Pn**	**08 20 55.6**	**+1.6**
KCHF	**Cheshme Sefid,**	**7.67**	**320**	*e*Pn	**Pn**	**08 20 54.4**	**-0.7**
KCHF	**Cheshme Sefid,**	**7.67**	**320**	Pn	**Pn**	**08 20 54.3**	**-0.8**
JMDO	**Jabal Madar**	**7.67**	**141**	P	**Pn**	**08 20 55.8**	**+0.7**
KER	**Kermanshah**	**7.70**	**321**	*e*Pn	**Pn**	**08 20 54.6**	**-0.9**
IKIA	**Kiasar**	**7.73**	**4**	*e*Pn	**Pn**	**08 20 56.9**	**+0.9**
IKIA	**Kiasar**	**7.73**	**4**	Pn	**Pn**	**08 20 56.8**	**+0.8**
QABG	**Abgarm-Qazvin**	**7.75**	**339**	*e*Pn	**Pn**	**08 20 55.3**	**-1.0**
QABG	**Abgarm-Qazvin**	**7.75**	**339**	Pn	**Pn**	**08 20 55.2**	**-1.0**
IPRN	**Peran**	**7.75**	**356**	*e*Pn	**Pn**	**08 20 56.6**	**+0.3**
IPRN	**Peran**	**7.75**	**356**	Pn	**Pn**	**08 20 56.6**	**+0.3**
HSRG	**Sareghieh**	**7.82**	**331**	*e*Pn	**Pn**	**08 20 56.7**	**-0.6**
HSRG	**Sareghieh**	**7.82**	**331**	Pn	**Pn**	**08 20 56.6**	**-0.7**
IVIS	**Veis**	**7.96**	**321**	*e*Pn	**Pn**	**08 20 58.6**	**-0.5**
IVIS	**Veis**	**7.96**	**321**	Pn	**Pn**	**08 20 58.5**	**-0.5**
IGHG	**Ghaleghazi**	**7.97**	**319**	*e*Pn	**Pn**	**08 20 59.2**	**-0.2**
IGHG	**Ghaleghazi**	**7.97**	**319**	Pn	**Pn**	**08 20 59.1**	**-0.3**
WBK	**Wadi Bani Khal**	**7.99**	**136**	P	**Pn**	**08 20 58.7**	**-0.7**
	SNR=11						
WBK				P	**Pn**	**08 20 58.7**	**-0.7**
	SNR=11						
IGLO	**Ghaloghah**	**8.03**	**5**	*e*Pn	**Pn**	**08 21 02.0**	**+1.8**
IGLO	**Ghaloghah**	**8.03**	**5**	Pn	**Pn**	**08 21 02.0**	**+1.8**
QALM	**Alamut, Qazvin**	**8.16**	**347**	*e*Pn	**Pn**	**08 21 02.2**	**+0.2**
QALM	**Alamut, Qazvin**	**8.16**	**347**	Pn	**Pn**	**08 21 02.1**	**+0.1**
ILIN	**Lien**	**8.19**	**323**	*e*Pn	**Pn**	**08 21 02.3**	**-0.1**
ILIN	**Lien**	**8.19**	**323**	Pn	**Pn**	**08 21 02.3**	**-0.1**
IDHR	**Dehrash**	**8.34**	**320**	*e*Pn	**Pn**	**08 21 03.6**	**-0.9**
IDHR	**Dehrash**	**8.34**	**320**	Pn	**Pn**	**08 21 03.6**	**-0.9**
JLN	**Jalan Bani Buh**	**8.60**	**136**	P	**Pn**	**08 21 07.2**	**-0.6**
JLN				P	**Pn**	**08 21 07.2**	**-0.6**
QSDN	**Sirdan**	**8.61**	**339**	*e*Pn	**Pn**	**08 21 08.4**	**+0.3**
MHTO	**MHTO**	**8.75**	**147**	P	**Pn**	**08 21 09.4**	**-0.5**
	SNR=5.5						
SBZV	**Sabzevar**	**8.81**	**25**	*e*Pn	**Pn**	**08 21 11.5**	**+0.6**
SBZV	**Sabzevar**	**8.81**	**25**	Pn	**Pn**	**08 21 11.5**	**+0.6**
IAKL	**Akhelmad**	**9.46**	**30**	*e*Pn	**Pn**	**08 21 21.1**	**+1.2**
IAKL	**Akhelmad**	**9.46**	**30**	Pn	**Pn**	**08 21 21.0**	**+1.2**
IKRD	**Kardeh**	**9.51**	**28**	*e*Pn	Pn	08 21 28.0	+7.5
ISFR	**Sfrayin**	**9.55**	**25**	*e*Pn	**Pn**	**08 21 22.4**	**+1.4**
ISFR	**Sfrayin**	**9.55**	**25**	Pn	**Pn**	**08 21 22.4**	**+1.4**
JRKH	**Jarkhoshk**	**9.70**	**38**	*e*Pn	**Pn**	**08 21 23.6**	**+0.6**
JRKH	**Jarkhoshk**	**9.70**	**38**	Pn	**Pn**	**08 21 23.6**	**+0.6**
HRA	**Herat**	**9.88**	**51**	Pn	**Pn**	**08 21 26.5**	**+0.9**
IEMG	**Emamgholi**	**10.11**	**27**	*e*Pn	**Pn**	**08 21 30.4**	**+1.6**
IEMG	**Emamgholi**	**10.11**	**27**	Pn	**Pn**	**08 21 30.3**	**+1.5**
MAHB	**Mahabad**	**10.26**	**325**	*e*Pn	**Pn**	**08 21 30.6**	**-0.1**
MAHB	**Mahabad**	**10.26**	**325**	Pn	**Pn**	**08 21 30.6**	**-0.1**
GYB5	**ALIBECK ARRAY**	**10.36**	**23**	Pn	**Pn**	**08 21 33.4**	**+1.5**
GYA1	**ALIBECK ARRAY**	**10.36**	**23**	Pn	**Pn**	**08 21 33.3**	**+1.4**
GYB1	**ALIBECK ARRAY**	**10.36**	**23**	Pn	**Pn**	**08 21 33.4**	**+1.4**
GYB4	**ALIBECK ARRAY**	**10.36**	**23**	Pn	**Pn**	**08 21 33.5**	**+1.5**
GEYT	**Alibeck**	**10.37**	**23**	Pn	**Pn**	**08 21 32.2**	**+0.1**
	1.3nm,0.3s,baz=207,slow=13,SNR=31						
GEYT				LR	LR	08 26 38.6	
	comp=Z,3μm,18.3s,baz=215,slow=44						
GEYT	**Alibeck**	**10.37**	**23**	Pn	**Pn**	**08 21 33.0**	**+1.0**
GYA0	**ALIBECK ARRAY**	**10.37**	**23**	P	**Pn**	**08 21 33.6**	**+1.6**
GYA0	**ALIBECK ARRAY**	**10.37**	**23**	Pn	**Pn**	**08 21 33.6**	**+1.6**
GYA0B	**ALIBECK ARRAY**	**10.37**	**23**	Pn	**Pn**	**08 21 33.2**	**+1.2**
CUKT	**Cukurca**	**11.74**	**320**	*e*P	**Pn**	**08 21 48.8**	**-2.1**
GEVA	**Gevas**	**12.81**	**322**	Pn	**Pn**	**08 22 04.3**	**-1.2**
VANB	**Van**	**12.84**	**324**	*e*P	**Pn**	**08 22 05.8**	**-0.2**
AKDM	**Akdamar-Van**	**12.86**	**322**	*e*P	**Pn**	**08 22 05.4**	**-0.9**
MARD	**Mardin**	**13.48**	**314**	Pn	**Pn**	**08 22 11.5**	**-3.1**
AKT	**Akhty**	**13.65**	**343**	*i* P	**Pn**	**08 22 15.9**	**-1.0**
ASF	**Jabal al Asfar**	**14.34**	**289**	Pn	**Pn**	**08 22 23.9**	**-2.5**
	1.3nm,0.3s,baz=41,slow=11,SNR=3.4						
ASF				Sn	**Sn**	**08 25 01.0**	**-4.6**
	1.3nm,0.3s,baz=224,slow=17,SNR=6.1						
ASF				LR	LR	08 29 22.8	
	comp=Z,912nm,18.7s,baz=59,slow=43						
BNGB	**Bingl**	**14.61**	**319**	*e*P	**Pn**	**08 22 27.6**	**-2.5**
URFA	**Urfa**	**14.83**	**311**	*e*P	**P**	**08 22 40.2**	**+1.2**
YEDI	**Yedisu-Bingol**	**14.99**	**320**	*e*P	**Pn**	**08 22 34.8**	**-0.5**
KBL	**Kabul**	**14.99**	**62**	P	**Pn**	**08 22 38.1**	**+2.6**
KBL				pmax	pmax		
	comp=Z,87nm,1.3s						
KBL	**Kabul**	**14.99**	**62**	P	**Pn**	**08 22 38.1**	**+2.6**
KBL				IAmb	IAmb	08 22 41.4	
	comp=Z,87nm,1.2s						
SVRC	**Sivrice-ELAZID**	**15.05**	**314**	*e*P	**Pn**	**08 22 32.3**	**-3.8**
MAK	**Makhachkala**	**15.10**	**345**	*e*P	**Pn**	**08

BRLS	**Borolday**	**19.91**	**39**	*e*S		**S**	**08 27 10.6**	**-8.5**
ILGA	**Ilgaz**	**20.11**	**314**	lAmb		lAmb	08 23 55.4	
	comp=Z,55nm,1.0s							
BR231	**Keskin MP Arra**	**20.12**	**310**	lAmb		lAmb	08 23 44.7	
	comp=Z,64nm,1.1s							
ANTO	**Ankara**	**20.12**	**310**	P		**P**	**08 23 35.6**	**-1.8**
ANTO	**Ankara**	**20.12**	**310**	P		**P**	**08 23 35.6**	**-1.8**
LOD	**Lodumlu**	**20.15**	**310**	*e*P		Pn	08 23 39.9	+0.3
KIZT	**Kizilcal**	**20.32**	**306**	*e*P		**P**	**08 23 40.3**	**+0.7**
KK03	**Karatay Array**	**20.33**	**39**	P		**P**	**08 23 39.1**	**-0.4**
KK31	**Karatay Array**	**20.33**	**40**	*i* P		**P**	**08 23 39.3**	**-0.3**
KK31	**Karatay Array**	**20.33**	**40**	lAmb		lAmb	08 23 44.7	
	comp=Z,45nm,0.8s							
KKAR	**Karatay Array**	**20.33**	**40**	P		**P**	**08 23 39.2**	**-0.4**
KKAR	**Karatay Array**	**20.33**	**40**	P		**P**	**08 23 39.2**	**-0.4**
KKAR	**Karatay Array**	**20.33**	**40**	lAmb		lAmb	08 23 44.7	
	comp=Z,45nm,0.8s							
ANN	**Anapa**	**20.44**	**327**	*e*P		**P**	**08 23 37.1**	**-3.5**
ANN				*e*PPP		PPP	08 24 00.1	
ANN				*e*S		**S**	**08 27 26.6**	**-2.8**
ANN				*e*SS		**SnSn**	**08 27 47.7**	**0.0**
ANN				*e*SSS		SSS	08 28 00.6	
ANN				pmax		pmax		
	comp=Z,41nm,0.9s							
ANN				MLR		MLR		
	comp=Z,886nm,12.0s							
BZK	**Bozkurt**	**20.44**	**316**	*e*P		Pn	08 23 43.2	+0.4
BHK	**Bhakra**	**20.54**	**76**	*e*P		**P**	**08 23 42.0**	**0.0**
DZA	**Taraz**	**20.67**	**41**	*e*P		**P**	**08 23 42.4**	**-0.8**
DZA				*e*S		**S**	**08 27 35.1**	**+1.0**
DZA				*e*LR		LR	08 32 56.6	
DZA	**Taraz**	**20.67**	**41**	*e*P		**P**	**08 23 42.3**	**-0.9**
DZA				*e*S		**S**	**08 27 35.1**	**+1.0**
KORT	**Korkueli**	**20.78**	**300**	*e*P		**P**	**08 23 44.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**20.81**	**307**	*e*P		**P**	**08 23 45.3**	**+0.4**
ELL	**Elmali**	**21.04**	**299**	*e*P		**P**	**08 23 49.3**	**+1.8**
ELL	**Elmali**	**21.04**	**299**	P		**P**	**08 23 48.3**	**+0.8**
ELL				pmax		pmax		
	comp=Z,137nm,0.7s							
ELL	**Elmali**	**21.04**	**299**	P		**P**	**08 23 48.3**	**+0.8**
CIFT	**Cifteler, Eski**	**21.10**	**307**	*e*P		**P**	**08 23 51.0**	**+3.0**
YUVA	**Yuva-Kibriscik**	**21.12**	**310**	*e*P		**P**	**08 23 48.6**	**+0.4**
KSL	**Kastellorizon**	**21.14**	**297**	P		**P**	**08 23 49.0**	**+0.7**
AKAS	**Kas**	**21.14**	**297**	*e*P		**P**	**08 23 48.6**	**+0.1**
AKAS	**Kas**	**21.14**	**297**	P		**P**	**08 23 49.3**	**+0.8**
SHUT	**Suhut-Afyon**	**21.15**	**304**	*e*P		**P**	**08 23 50.4**	**+1.8**
AB03	**Akbulak array**	**21.42**	**13**	P		**P**	**08 23 51.6**	**+0.4**
AB31	**Akbulak array**	**21.43**	**13**	*e*P		**P**	**08 23 51.8**	**+0.5**
ABKAR	**Akbulak array**	**21.43**	**13**	P		**P**	**08 23 51.4**	**+0.1**
ABKAR	**Akbulak array**	**21.43**	**13**	lAmb		lAmb	08 23 57.7	
	comp=Z,38nm,1.1s							
MDUB	**Mudurnu**	**21.48**	**309**	*e*P		**P**	**08 23 55.0**	**+2.9**
MDUB	**Mudurnu**	**21.48**	**309**	P		**P**	**08 23 53.2**	**+1.0**
POO	**Poona**	**21.55**	**113**	*e*P		**P**	**08 23 54.0**	**+1.1**
FETY	**Fethiye**	**21.65**	**298**	P		**P**	**08 23 56.8**	**+2.9**
FETY	**Fethiye**	**21.65**	**298**	*e*P		**P**	**08 23 53.6**	**-0.3**
AML	**Almayashu**	**21.66**	**46**	P		**P**	**08 23 54.4**	**+0.1**
	SNR=28							
SRCK	**Saricakaya, Es**	**21.69**	**308**	*e*P		**P**	**08 23 57.2**	**+3.0**
KSH	**Kashi**	**21.98**	**54**	P		P	08 23 50.5	-7.0
KSH				S		S	08 27 47.5	-13
KSH				pmax		pmax		
	comp=Z,19nm,1.1s							
KSH				pmax		pmax		
	comp=Z,150nm,7.0s							
KSH				LR		LR		
	comp=Z,2µm,10.3s							
KSH				LR		LR		
	comp=Z,800nm,12.5s							
KSH				LR		LR		
	comp=Z,2µm,13.6s							
EKS2	**Erkin-Say**	**22.00**	**44**	P		**P**	**08 24 00.4**	**+2.8**
	SNR=12							
DALY	**Dalyan (Mula)**	**22.03**	**298**	*e*P		**P**	**08 23 58.9**	**+1.0**
UCH	**Uchtor**	**22.23**	**46**	P		**P**	**08 24 01.0**	**+0.5**
	SNR=23							
AKTO	**Aktyubinsk**	**22.26**	**9**	P		**P**	**08 24 00.6**	**+0.3**
	comp=Z,21nm,0.8s,baz=171,slow=12,SNR=34							
AKTO				S		**S**	**08 27 57.8**	**-7.3**
	comp=Z,0.8nm,0.6s,baz=208,slow=21,SNR=0.8							
AKTO				LR		LR	08 34 45.1	
	comp=Z,3µm,19.5s,baz=190,slow=42							
TVSB	**Tavsanli**	**22.27**	**306**	*e*P		**P**	**08 24 01.2**	**+0.6**
TURN	**Turunc**	**22.34**	**298**	*e*P		**P**	**08 24 01.5**	**+0.3**
AAK	**Ala-Archa**	**22.43**	**45**	P		**P**	**08 24 04.7**	**+2.3**
	SNR=9.2							
AAK	**Ala-Archa**	**22.43**	**45**	*ce*P		**P**	**08 24 02.2**	**-0.1**
AAK				pmax		pmax		
	comp=Z,47nm,1.0s							
KULA	**Kula-Manisa**	**22.53**	**303**	*e*P		**P**	**08 24 04.0**	**+0.7**
KBK	**Karagaybulak**	**22.72**	**46**	P		**P**	**08 24 06.7**	**+1.2**
	SNR=10							
USP	**Ospenovka**	**22.77**	**44**	P		**P**	**08 24 06.1**	**+0.3**
	SNR=19							
KARP	**Karpathos**	**22.93**	**294**	P		**P**	**08 24 09.2**	**+1.7**
KARP	**Karpathos**	**22.93**	**294**	P		**P**	**08 24 07.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**22.93**	**301**	*e*P		**P**	**08 24 10.2**	**+2.6**
SGDS	**Sogindy**	**22.95**	**44**	*e*P		**P**	**08 24 06.5**	**-1.3**
SGDS	**Sogindy**	**22.95**	**44**	*e*P		**P**	**08 24 06.5**	**-1.3**
ARMT	**Armutlu**	**23.13**	**308**	*e*P		**P**	**08 24 11.7**	**+2.1**
BODT	**Bodrum**	**23.14**	**298**	*e*P		**P**	**08 24 03.7**	**-5.9**
TKM2	**Tokmak 2**	**23.27**	**46**	P		**P**	**08 24 11.3**	**+0.1**
	SNR=11							
BOOM	**Boomskoye usch**	**23.27**	**47**	lAmb		lAmb	08 24 14.8	
	comp=Z,56nm,1.2s							
ULHL	**Ulahol**	**23.35**	**48**	P		**P**	**08 24 13.1**	**+1.1**
	SNR=5.7							
GCAM	**G?zelcaml?**	**23.36**	**300**	*e*P		**P**	**08 24 13.4**	**+1.6**
BTLS	**Baital**	**23.53**	**40**	*e*P		**P**	**08 24 12.2**	**-1.3**
	comp=Z,25nm,1.4s							
BTLS				*e*S		**S**	**08 28 34.1**	**+6.7**
BTLS				*e*LR		LR	08 34 56.2	
BTLS	**Baital**	**23.53**	**40**	*e*P		**P**	**08 24 12.2**	**-1.3**
BTLS				pmax		pmax		
	comp=Z,25nm,1.4s							
ZKR	**Zakros**	**23.61**	**293**	*e*P		**P**	**08 24 17.6**	**+3.1**
URLA	**Izmir**	**24.02**	**301**	*e*P		**P**	**08 24 18.1**	**-0.3**
MRMT	**Marmara Adasi**	**24.04**	**307**	*e*P		**P**	**08 24 18.8**	**+0.3**
TNSS	**Tian-Shan**	**24.18**	**47**	*e*P		**P**	**08 24 19.9**	**-0.4**
TNSS	**Tian-Shan**	**24.18**	**47**	*e*P		**P**	**08 24 19.8**	**-0.4**
VRH	**Novokhopyorsk**	**24.22**	**343**	*e*P		**P**	**08 24 20.2**	**+0.3**
VRH				*e*S		**S**	**08 28 35.2**	**-3.0**
VRH				pmax		pmax		
	comp=Z,110nm,0.8s							
VRH				smax		smax		
	comp=N,1µm,3.6s							
LAST	**Lasithi**	**24.22**	**293**	P		**P**	**08 24 21.7**	**+1.4**
KUU	**Kurty**	**24.23**	**44**	*e*P		**P**	**08 24 19.9**	**-0.4**
	comp=N,22nm,1.1s							
KUU				*e*LR		LR	08 34 50.2	
KUU	**Kurty**	**24.23**	**44**	*e*P		**P**	**08 24 19.9**	**-0.4**
KUU				pmax		pmax		
	comp=Z,22nm,1.1s							
MDOK	**Medeo**	**24.31**	**47**	*e*P		**P**	**08 24 21.5**	**+0.3**
MDOK				*e*S		**S**	**08 28 38.4**	**-1.8**
MDOK				*e*LR		LR	08 34 53.2	
	comp=Z,965nm,15.0s							
MDOK	**Medeo**	**24.31**	**47**	*e*P		**P**	**08 24 21.4**	**+0.3**
MDOK				*e*S		**S**	**08 28 38.4**	**-1.8**
MDOK				MLR		MLR		
	comp=Z,965nm,15.0s							
SANT	**Santorini**	**24.44**	**296**	P		**P**	**08 24 21.5**	**-0.7**
EZN	**Ezine**	**24.67**	**304**	*e*P		**P**	**08 24 24.2**	**0.0**
VORD	**Divnogorie**	**24.71**	**339**	*e*P		**P**	**08 24 23.7**	**-0.7**
VORD				*e*S		**S**	**08 28 46.4**	**+0.3**
VORD				pmax		pmax		
	comp=Z,110nm,1.6s							
VORD				smax		smax		
	comp=N,10.0nm,2.2s							
IDI	**Anoyia**	**24.72**	**293**	P		**P**	**08 24 25.3**	**+0.6**
	comp=N,30nm,0.6s,baz=81,slow=8.7,SNR=24							
IDI				LR		LR	08 37 55.5	
	comp=N,498nm,18.2s,baz=89,slow=46							
IDI	**Anoyia**	**24.72**	**293**	P		**P**	**08 24 23.2**	**-1.6**
VSR	**Storozhevoye**	**24.96**	**339**	*e*P		**P**	**08 24 26.1**	**-0.6**
VSR				*e*S		**S**	**08 28 48.7**	**-1.6**
VSR				pmax		pmax		
	comp=Z,90nm,1.2s							
VSR				smax		smax		
	comp=N,300nm,2.0s							
MFTR	**Murfatlar**	**25.08**	**315**	⇓P		**P**	**08 24 31.4**	**+3.6**
SATY	**Saty**	**25.14**	**48**	*e*P		**P**	**08 24 27.9**	**-0.7**
SATY				*e*S		**S**	**08 29 00.4**	**+6.8**
SATY				*e*LR		LR	08 35 29.8	
SATY	**Saty**	**25.14**	**48**	*e*P		**P**	**08 24 27.9**	**-0.7**
TIRR	**Tirgusor**	**25.23**	**316**	⇑P		**P**	**08 24 30.8**	**+1.6**
TIRR	**Tirgusor**	**25.23**	**316**	⇑P		**P**	**08 24 30.8**	**+1.6**
ALN	**Alexandroupoli**	**25.24**	**306**	P		**P**	**08 24 30.2**	**+0.9**
ALN				pmax		pmax		
	comp=Z,84nm,1.4s							
ALN	**Alexandroupoli**	**25.24**	**306**	P		**P**	**08 24 30.2**	**+0.9**
VORR	**Voronezh**	**25.35**	**340**	*e*P		**P**	**08 24 30.0**	**-0.2**
VORR				pmax		pmax		
	comp=Z,350nm,1.0s							
TLCR		**25.37**	**318**	⇓P		**P**	**08 24 32.5**	**+2.1**
TLCR		**25.37**	**318**	⇓P		**P**	**08 24 32.5**	**+2.1**
TPGR	**Topolog**	**25.43**	**317**	⇑P		**P**	**08 24 32.8**	**+1.8**
KPKS	**Kokpek**	**25.51**	**47**	*e*P		**P**	**08 24 31.8**	**-0.2**
	comp=Z,19nm,0.9s							
KPKS	**Kokpek**	**25.51**	**47**	*e*P		**P**	**08 24 31.7**	**-0.2**
KPKS				pmax		pmax		
	comp=Z,19nm,0.9s							
UZB	**Uzynbulak**	**25.58**	**48**	*e*P		**P**	**08 24 32.5**	**-0.1**
	comp=Z,9.9nm,1.0s							
UZB	**Uzynbulak**	**25.58**	**48**	*e*P		**P**	**08 24 32.5**	**-0.1**
UZB				pmax		pmax		
	comp=Z,10.0nm,1.0s							
HARR	**Harsova**	**25.64**	**316**	⇓P		**P**	**08 24 33.9**	**+1.0**
HARR	**Harsova**	**25.64**	**316**	⇓P		**P**	**08 24 33.9**	**+1.0**
RDO	**Rodhopi**	**25.69**	**307**	*e*P		**P**	**08 24 34.9**	**+1.5**
CFR	**Carcaliu**	**25.77**	**317**	⇓P		**P**	**08 24 35.1**	**+1.0**
CFR	**Carcaliu**	**25.77**	**317**	⇓P		**P**	**08 24 35.1**	**+1.0**
SHLS	**Shalkode**	**25.88**	**48**	*e*P		**P**	**08 24 37.2**	**+1.8**
SHLS	**Shalkode**	**25.88**	**48**	*e*P		**P**	**08 24 37.1**	**+1.8**
HYB	**Hyderabad**	**25.97**	**110**	*i* P		**P**	**08 24 38.0**	**+1.7**
RAZG	**Razgrad**	**26.00**	**312**	⇑P		**P**	**08 24 37.5**	**+1.2**
TDK	**Taldyqorghan**	**26.07**	**44**	*e*LR		LR	08 35 33.8	
	comp=Z,1µm,13.7s							
BRZS	**Berezniki**	**26.20**	**30**	*e*P		**P**	**08 24 37.7**	**-0.3**
	comp=Z,17nm,1.1s							
BRZS				*e*S		S	08 29 22.3	+12
BRZS				*e*LR		LR	08 35 56.5	
BRZS	**Berezniki**	**26.20**	**30**	*e*P		**P**	**08 24 37.7**	**-0.3**
BRZS				pmax		pmax		
	comp=Z,17nm,1.1s							
LPSR	**Galich'ya Gora**	**26.25**	**340**	*e*P		**P**	**08 24 38.1**	**-0.2**
LPSR				*e*S		**S**	**08 29 06.9**	**-3.6**
LPSR				pmax		pmax		
	comp=Z,130nm,0.9s							
LPSR				smax		smax		
	comp=E,1µm,5.0s							
OUR	**Ouranopolis**	**26.54**	**304**	*e*P		**P**	**08 24 41.5**	**+0.4**
ISR	**Istrita**	**26.71**	**316**	⇑P		**P**	**08 24 45.6**	**+2.9**
ISR	**Istrita**	**26.71**	**316**	⇑P		**P**	**08 24 45.6**	**+2.9**
BISRR	**Bisoca**	**26.82**	**316**	⇑P		**P**	**08 24 45.2**	**+1.5**
VRI	**Vrincioaia**	**26.97**	**317**	⇓P		**P**	**08 24 47.0**	**+2.0**
VRI	**Vrincioaia**	**26.97**	**317**	⇓P		**P**	**08 24 47.0**	**+2.0**
PLOR	**Plostina**	**27.01**	**317**	⇑P		**P**	**08 24 47.8**	**+2.4**
PLOR	**Plostina**	**27.01**	**317**	⇑P		**P**	**08 24 47.8**	**+2.4**
NEHR	**Nehoiu**	**27.01**	**316**	⇑P		**P**	**08 24 48.6**	**+3.2**
KOLN	**Koldanda**	**27.01**	**84**	*e*P		**P**	**08 24 44.9**	**-0.9**
DANN	**Dangsing**	**27.07**	**83**	*e*P		**P**	**08 24 46.1**	**-0.3**
	comp=E,150nm,0.7s							
MLR	**Muntele Rosu**	**27.26**	**316**	P		**P**	**08 24 49.5**	**+1.8**
	comp=E,9.0nm,0.5s,baz=74,slow=18,SNR=12							
MLR				LR		LR	08 37 10.8	
	comp=E,702nm,18.8s,baz=126,slow=40							
MLR	**Muntele Rosu**	**27.26**	**316**	⇑P		**P**	**08 24 49.9**	**+2.2**
MLR	**Muntele Rosu**	**27.26**	**316**	⇑P		**P**	**08 24 49.9**	**+2.2**
SORM	**Soroca**	**27.32**	**323**	⇓P		**P**	**08 24 50.4**	**+2.3**
SORM	**Soroca**	**27.32**	**323**	⇓P		**P**	**08 24 50.4**	**+2.3**
ITM	**Ithomi**	**27.37**	**296**	P		**P**	**08 24 48.6**	**-0.2**
ITM				lAmb		lAmb	08 25 07.2	
	comp=Z,49nm,1.3s							
AGG	**Agios Georgios**	**27.42**	**301**	P		**P**	**08 24 49.1**	**-0.1**
AGG				pmax		pmax		
	comp=Z,39nm,1.4s							
AGG	**Agios Georgios**	**27.42**	**301**	P		**P**	**08 24 49.1**	**-0.1**
AGG				lAmb		lAmb	08 24 58.9	
	comp=Z,39nm,1.4s							
BRVK	**Borovoye**	**27.69**	**23**	P		**P**	**08 24 51.8**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,11nm,1.0s							
BRVK	**Borovoye**	**27.69**	**23**	P		**P**	**08 24 51.8**	**+0.4**
BVAR	**Borovoye Array**	**27.70**	**23**	P		**P**	**08 24 51.3**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=24,slow=15,SNR=14							
VOIR		**27.79**	**315**	⇓P		**P**	**08 24 53.5**	**+1.1**
VOIR		**27.79**	**315**	⇓P		**P**	**08 24 53.5**	**+1.1**
DOPR	**Dopca**	**27.83**	**316**	*i* P		**P**	**08 24 54.1**	**+1.4**
VAY	**Valandovo**	**27.86**	**305**	*i* P		P	08 25 02.3	+9.3
BIZ	**Bicaz**	**27.90**	**319**	⇓P		**P**	**08 24 54.5**	**+1.2**
ARR	**Arges**	**28.01**	**315**	⇑P		**P**	**08 24 53.0**	**-1.4**
ARU	**Arti**	**28.21**	**7**	P		**P**	**08 24 56.7**	**+0.7**
	comp=Z,2.0nm,0.2s,baz=285,slow=9.2,SNR=1.3							
ARU				LR		LR	08 38 03.0	
	comp=Z,2µm,19.6s,baz=184,slow=40							
ARU	**Arti**	**28.21**	**7**	P		**P**	**08 24 57.6**	**+1.6**
ARU				S		**S**	**08 29 45.1**	**+3.6**
ARU				SS		**SnSn**	**08 30 55.9**	**-1.9**
ARU				MLR		MLR		
	comp=Z,2µm,17.0s							
ARU	**Arti**	**28.21**	**7**	P		**P**	**08 24 55.9**	**-0.1**
STIP	**Stip**	**28.25**	**306**	*i* P		**P**	**08 24 56.2**	**-0.3**
DMN	**Daman**	**28.36**	**84**	*e*P		**P**	**08 24 58.0**	**+0.1**
	comp=Z,20nm,0.7s							
AKASG	**Malin Array Be**	**28.52**	**328**	P		**P**	**08 24 57.0**	**-1.8**
	comp=Z,1.9nm,0.5s,baz=134,slow=8.4,SNR=12							
AKASG				PcP		**PcP**	**08 28 11.3**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=103,slow=2.0,SNR=3.5							
AKASG				LR		LR	08 37 54.6	
	comp=Z,505nm,20.7s,baz=145,slow=40							
AKASG	**Malin Array Be**	**28.52**	**328**	P		**P**	**08 24 57.4**	**-1.4**
AKBB	**Malin Array Si**	**28.52**	**328**	*ce*P		**P**	**08 24 58.3**	**-0.5**
AKBB	**Malin Array Si**	**28.52**	**328**	P		**P**	**08 24 57.2**	**-1.6**
AKBB				lAmb		lAmb	08 25 03.7	
	comp=Z,18nm,0.8s							
LOT	**Lotru**	**28.59**	**314**	⇑P		**P**	**08 24 59.2**	**-0.4**
PKIN	**Phulchoki**	**28.62**	**84**	*e*P		**P**	**08 25 00.5**	**+0.3**
	comp=Z,27nm,0.8s							
PKI	**Pulchoki**	**28.63**	**84**	*e*P		**P**	**08 25 00.6**	**+0.2**
	comp=Z,32nm,0.9s							
BURAR	**Bucovina Array**	**28.77**	**319**	⇑P		**P**	**08 25 02.3**	**+1.1**
BURAR	**Bucovina Array**	**28.77**	**319**	⇑P		**P**	**08 25 02.3**	**+1.1**
BURAR	**Bucovina Array**	**28.77**	**319**	P		**P**	**08 25 00.6**	**-0.5**
SKO	**Skopje**	**28.86**	**306**	*i* P		**P**	**08 25 03.6**	**+1.6**
GUN	**Gumba**	**28.99**	**83**	*e*P		**P**	**08 25 05.0**	**+1.4**
	comp=Z,25nm,0.6s							
OHR	**Ohrid**	**29.08**	**304**	*i* P		**P**	**08 25 05.6**	**+1.6**
OBN	**Obninsk**	**29.12**	**341**	P		**P**	**08 25 03.0**	**-1.1**
	comp=Z,7.7nm,0.3s,baz=205,slow=19,SNR=3.6							
OBN				LR		LR	08 37 28.0	
	comp=Z,144nm,20.1s,baz=160,slow=38							
OBN	**Obninsk**	**29.12**	**341**	⇓*e*P		**P**	**08 25 03.2**	**-0.9**
OBN				*e*			08 25 59.3	
OBN				pmax		pmax		
	comp=Z,53nm,1.7s							
OBN				MLR		MLR		
	comp=Z,684nm,19.0s							
OBN	**Obninsk**	**29.12**	**341**	P		**P**	**08 25 04.4**	**+0.3**
MAKZ	**Makanchi**	**29.14**	**43**	P		**P**	**08 25 04.7**	**+0.3**
MAKZ				pmax		pmax		
	comp=Z,15nm,0.7s							
MAKZ	**Makanchi**	**29.14**	**43**	P		**P**	**08 25 04.7**	**+0.3**
MAKZ				lAmb		lAmb	08 25 14.4	
	comp=Z,14nm,0.7s							
GZR	**Gura Zlata**	**29.20**	**313**	⇑P		**P**	**08 25 06.2**	**+1.2**
HERR	**Herculane**	**29.22**	**312**	⇓P		**P**	**08 25 06.5**	**+1.4**
MK31	**Makanchi Array**	**29.32**	**43**	*ce*P		**P**	**08 25 06.7**	**+0.7**
MK31	**Makanchi Array**	**29.32**	**43**	P		**P**	**08 25 05.8**	**-0.1**
MKAR	**Makanchi Array**	**29.32**	**43**	P		**P**	**08 25 05.2**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=226,slow=8.1,SNR=21							
MKAR				PcP		**PcP**	**08 28 12.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=242,slow=2.2,SNR=2.9							
MKAR				ScP		**ScP**	**08 31 51.7**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=294,slow=1.4,SNR=2.6							
MKAR				LR		LR	08 38 30.4	
	comp=Z,909nm,19.1s,baz=237,slow=40							
MKAR	**Makanchi Array**	**29.32**	**43**	P		**P**	**08 25 06.1**	**+0.2**
KURBB	**Kurchatov Arra**	**29.37**	**34**	P		**P**	**08 25 05.6**	**-0.8**
	comp=Z,6.8nm,0.9s,baz=234,slow=8.9,SNR=29							
KURBB				ScP		**ScP**	**08 31 53.0**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=228,slow=3.8,SNR=4.7							
KURBB	**Kurchatov Arra**	**29.37**	**34**	P		**P**	**08 25 05.2**	**-1.1**
MOS	**Moscow**	**29.37**	**342**	*e*P		**P**	**08 25 04.9**	**-1.4**
MOS				*e*			08 26 08.3	
KURK	**Kurchatov**	**29.47**	**34**	P		**P**	**08 25 05.6**	**-1.6**
KURK							08 31 53.0	
KURK	**Kurchatov**	**29.47**	**34**	P		**P**	**08 25 07.0**	**-0.3**
MDVR	**Moldovita**	**29.64**	**312**	⇑P		**P**	**08 25 09.7**	**+0.8**
RAMN	**Ramite**	**29.78**	**85**	*e*P		**P**	**08 25 10.7**	**+0.1**
	comp=Z,15nm,0.6s							
BZS	**Buzias**	**30.04**	**313**	⇑P		**P**	**08 25 12.2**	**-0.1**
BZS	**Buzias**	**30.04**	**313**	⇑P		**P**	**08 25 12.2**	**-0.1**
KIRV	**Kirov**	**30.19**	**356**	P		**P**	**08 25 12.7**	**-0.8**
	comp=Z,21nm,0.5s,baz=180,slow=7.0,SNR=5.9							
KIRV	**Kirov**	**30.19**	**356**	*ce*P		**P**	**08 25 13.9**	**+0.4**
SIRR	**Siria**	**30.28**	**314**	⇑P		**P**	**08 25 16.1**	**+1.7**
UZH	**Uzhgorod**	**30.97**	**319**	*e*P		**P**	**08 25 19.9**	**-0.6**
KOLS	**Kolonicke sedl**	**31.13**	**319**	*e*P		**P**	**08 25 22.7**	**+0.7**
KOLS				pmax		pmax		
	comp=Z,19nm,1.0s							
KOLS	**Kolonicke sedl**	**31.13**	**319**	*e*P		**P**	**08 25 22.7**	**+0.7**
ZSN	**Zaisan**	**31.18**	**44**	*e*P		**P**	**08 25 21.8**	**-0.7**
ZSN	**Zaisan**	**31.18**	**44**	*e*P		**P**	**08 25 21.8**	**-0.7**
KWP	**Kalwaria Pacla**	**31.24**	**321**	P		**P**	**08 25 21.7**	**-1.2**
KWP				pmax		pmax		
	comp=Z,20nm,0.7s							
KWP	**Kalwaria Pacla**	**31.24**	**321**	P		**P**	**08 25 21.7**	**-1.2**
KWP				lAmb		lAmb	08 25 28.9	
	comp=Z,20nm,0.7s							
CRVS	**Cervenica-Dubn**	**31.59**	**319**	*e*P		**P**	**08 25 26.2**	**+0.2**
CRVS	**Cervenica-Dubn**	**31.59**	**319**	*e*P		**P**	**08 25 26.2**	**+0.2**
WMQ	**Urumqi**	**31.69**	**52**	*e*P		**P**	**08 25 31.0**	**+3.9**
WMQ				pP		sP	08 25 34.8	+2.8
WMQ				sP		pP	08 25 37.5	+7.0
WMQ				pmax		pmax		
	comp=Z,12nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,99nm,4.5s							
WMQ				LR		LR		
	comp=Z,820nm,18.9s							
WMQ				LR		LR		
	comp=Z,470nm,22.7s							
WMQ				LR		LR		
	comp=Z,510nm,23.9s							
KECS	**Kecovo**	**31.96**	**318**	*e*P		**P**	**08 25 31.0**	**+1.7**
KECS				pmax		pmax		
	comp=Z,10.0nm,0.7s							
KECS	**Kecovo**	**31.96**	**318**	*e*P		**P**	**08 25 31.0**	**+1.7**
NACGM	**Naroch**	**32.47**	**332**	*e*		**P**	**08 25 34.0**	**+0.4**
IDID	**Didziasalis**	**32.78**	**332**	*e*P		**P**	**08 25 34.9**	**-1.4**
VYHS	**Vyhne**	**32.95**	**317**	*e*P		**P**	**08 25 38.3**	**+0.3**
VYHS	**Vyhne**	**32.95**	**317**	*e*P		**P**	**08 25 38.3**	**+0.3**
IIGN	**Ignalina**	**33.02**	**332**	*e*P		**P**	**08 25 38.6**	**+0.2**
KMBO	**Kilima Mbogo**	**33.06**	**210**	P		**P**	**08 25 39.5**	**0.0**
	comp=Z,4.1nm,0.7s,baz=35,slow=13,SNR=5.4							
KMBO				LR		LR	08 40 32.9	
	comp=Z,2µm,18.2s,baz=38,slow=39							
OJC	**Ojcow**	**33.17**	**320**	lAmb		lAmb	08 25 46.1	
	comp=Z,16nm,0.9s							
ISAL	**Salakas**	**33.21**	**332**	*e*P		**P**	**08 25 40.3**	**+0.3**
IZAR	**Zarasai**	**33.28**	**332**	*e*P		**P**	**08 25 40.9**	**+0.2**
KLMR	**Klimovskoe**	**33.61**	**348**	*e*P		**P**	**08 25 40.9**	**-2.5**
KLMR				pmax		pmax		
	comp=Z,22nm,0.7s							
KLMR	**Klimovskoe**	**33.61**	**348**	*e*P		**P**	**08 25 41.0**	**-2.5**
KLMR				AMP			08 25 50.3	
	comp=Z,22nm,0.7s							
KLMR				LQ		LQ	08

comp=E,616nm,16.4s
comp=Z,650nm,17.4s
BRG Berggiesshubel 36.82 318 *e*P **P** **08 26 11.6 +0.3**
BRG pmax pmax
comp=Z,11nm,0.9s
BRG MLR MLR
comp=N,586nm,20.5s
BRG MLR MLR
comp=E,616nm,16.4s
BRG MLR MLR
comp=Z,650nm,17.4s
WET Wettzell 36.85 315 *e*L L 08 42 51.0
comp=Z,333nm,18.1s
WTTA Wattenberg 37.08 312 *e*P **P** **08 26 13.7 -0.1**
comp=Z,34nm,0.6s,SNR=13
WATA Walderalm 37.14 312 *e*P **P** **08 26 13.9 -0.3**
comp=Z,19nm,0.5s
SQTA Sankt Quirin 37.35 312 *e*P **P** **08 26 15.7 -0.3**
comp=Z,41nm,0.7s,SNR=17
KEST Kesra 37.39 292 P **P** **08 26 16.9 +0.4**
comp=Z,9.1nm,0.9s,baz=329,slow=3.3,SNR=7.0
KEST Kesra 37.39 292 IAmb IAmb 08 26 31.0
comp=Z,15nm,0.9s
VSL Villasalto 37.43 299 P **P** **08 26 18.4 +1.8**
VSL IAmb IAmb 08 26 33.2
comp=Z,23nm,0.8s
MOTA Moosalm 37.45 312 *e*P **P** **08 26 16.3 -0.6**
comp=Z,26nm,0.9s,SNR=9.6
NKC Novy Kostel 37.48 317 *e*P **P** **08 26 17.7 +0.8**
NKC Novy Kostel 37.48 317 *e*P **P** **08 26 17.7 +0.8**
FIA1 FINESS Array S 37.49 339 P **P** **08 26 16.5 -0.3**
FIA1 IAmb IAmb 08 26 24.9
comp=Z,26nm,0.7s
FINES FINESS Array B 37.49 339 P **P** **08 26 16.4 -0.5**
comp=Z,12nm,0.5s,baz=149,slow=11,SNR=53
FINES LR LR 08 43 59.4
comp=Z,539nm,18.4s,baz=140,slow=40
CLL Collm 37.53 319 *e*P **P** **08 26 17.0 -0.3**
comp=Z,12nm,0.7s
CLL *i* pP **pP** **08 26 21.4 +0.5**
comp=Z,24nm,1.0s
CLL *e* 08 26 38.0
CLL *e*PPP PPP 08 27 56.0
CLL *e*S **S** **08 32 06.0 -0.3**
CLL Lm MLR 08 45 00.0
comp=N,400nm,21.7s
CLL Lm MLR 08 45 00.0
comp=E,300nm,18.0s
CLL Lm MLR 08 45 00.0
comp=Z,400nm,18.0s
CLL Collm 37.53 319 *e*P **P** **08 26 17.0 -0.3**
CLL *i* 08 26 21.4
CLL *e*S **S** **08 32 06.0 -0.3**
CLL pmax pmax
comp=Z,12nm,0.7s
CLL MLR MLR
comp=Z,400nm,18.0s
CLL Collm 37.53 319 *e*L L 08 45 12.6
comp=Z,394nm,18.0s
CLL Collm 37.53 319 IAmb IAmb 08 26 22.9
comp=Z,19nm,0.8s
FUR Furstenfeldbru 37.56 313 *e*L L 08 45 15.1
comp=Z,256nm,20.2s
FETA Feichten 37.62 311 *e*P **P** **08 26 17.7 -0.7**
comp=Z,19nm,0.7s,SNR=12
RETA Reutte 37.72 312 *e*P **P** **08 26 18.9 -0.2**
comp=Z,16nm,0.5s,SNR=5.9
GRF Grafenberg Arr 38.05 315 *e*P **P** **08 26 22.0 +0.3**
comp=Z,30nm,0.6s,baz=111,slow=9.3
GRF *e*L L 08 49 21.5
comp=Z,198nm,18.2s
MOX Moxa 38.12 317 *e*L L 08 46 01.4
comp=Z,328nm,19.2s
BSD Bornholm Skovb 38.12 325 *i* P **P** **08 26 21.0 -1.2**
BSD pmax pmax
comp=Z,44nm,0.9s
BSD Bornholm Skovb 38.12 325 *i* P **P** **08 26 21.0 -1.2**
comp=Z,44nm,0.9s
BSD Bornholm Skovb 38.12 325 *i* P **P** **08 26 21.0 -1.2**
BSD IAmb IAmb 08 26 22.5
comp=Z,44nm,0.9s
DAVOX Davos/Dischmat 38.13 311 P **P** **08 26 22.8 +0.1**
comp=Z,12nm,0.5s,baz=114,slow=9.8,SNR=15
DAVA Damuels 38.24 311 *e*P **P** **08 26 23.3 -0.3**
comp=Z,36nm,0.5s,SNR=14
TUE Stuetta 38.42 310 IAmb IAmb 08 26 42.0
comp=Z,14nm,0.7s
CLZ Clausthal 39.26 318 *e*P **P** **08 26 32.8 +0.8**
comp=Z,20nm,0.9s,baz=111,slow=9.3
BFO Black Forest 39.51 313 *e*L L 08 44 55.9
comp=Z,333nm,20.5s
NRDL Niedersach Rie 39.64 319 *e*P **P** **08 26 36.4 +1.5**
comp=Z,56nm,1.1s,baz=111,slow=9.3
SENIN Lac Senin/Sane 39.78 309 IAmb IAmb 08 26 42.3
comp=Z,18nm,0.5s
TNS Taunus Mts 39.92 315 *e*L L 08 47 37.2
comp=Z,402nm,18.5s
GTA Gaotai 39.98 62 ⇑P **P** **08 26 39.3 +1.0**
GTA pP sP 08 26 45.0 +1.8
GTA sP pP 08 26 48.0 +6.2
GTA S **S** **08 32 44.3 +0.4**
GTA SS **SS** **08 35 42.3 +1.7**
GTA pmax pmax
comp=Z,19nm,1.3s
GTA pmax pmax
comp=Z,57nm,5.1s
GTA LR LR
comp=Z,830nm,18.9s
GTA LR LR
comp=Z,560nm,17.8s
GTA LR LR
comp=Z,780nm,19.6s
BNI Bardonecchia 40.00 307 P **P** **08 26 36.6 -1.7**
BNI pmax pmax
comp=Z,20nm,0.8s
BNI Bardonecchia 40.00 307 P **P** **08 26 36.6 -1.7**
BNI IAmb IAmb 08 26 50.4
comp=Z,20nm,0.8s
BSEG Bad Segeberg 40.04 322 *e*L L 08 47 20.7
comp=Z,365nm,20.6s
ECH Echery 40.24 312 P **P** **08 26 38.2 -2.0**
ECH pmax pmax
comp=Z,12nm,0.7s
ECH Echery 40.24 312 P **P** **08 26 38.2 -2.0**
APA Apatity 40.84 349 ⇓ *i* P P 08 26 35.4 -9.4
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,3μm,16.0s
HFS Hagfors 41.24 331 P **P** **08 26 47.5 -0.7**
comp=Z,10nm,0.4s,baz=130,slow=8.7,SNR=17
MUD Monsted U'grnd 41.62 325 *i* P **P** **08 26 52.2 +0.9**
MUD pmax pmax
comp=Z,40nm,0.9s
MUD Monsted U'grnd 41.62 325 *i* P **P** **08 26 52.2 +0.9**
comp=Z,40nm,0.9s
MUD Monsted U'grnd 41.62 325 *i* P **P** **08 26 52.2 +0.9**
MUD IAmb IAmb 08 26 53.7
comp=Z,40nm,0.9s
NC405 NORSAR Array S 42.59 332 P **P** **08 26 57.8 -1.4**
NB201 NORSAR Array S 42.73 332 P **P** **08 26 59.1 -1.3**
NB2 NORSAR Subarra 42.76 332 P **P** **08 26 59.2 -1.4**
comp=Z,4.6nm,0.7s,baz=120,slow=8.6
NOA NORSAR Array B 42.76 332 P **P** **08 26 59.5 -1.2**
comp=Z,5.6nm,0.7s,baz=120,slow=8.1,SNR=14
NOA PP **PP** **08 28 43.4 +3.8**
comp=Z,4.4nm,0.9s,baz=130,slow=11,SNR=4.2
NOA LR LR 08 47 09.2
comp=Z,272nm,18.7s,baz=135,slow=39
TAM Tamanrasset 42.91 274 P **P** **08 27 02.4 -0.1**
TAM pmax pmax
comp=Z,12nm,0.7s
TAM Tamanrasset 42.91 274 P **P** **08 27 02.4 -0.1**
TAM IAmb IAmb 08 27 04.7
comp=Z,12nm,0.7s
CHTO Chiang Mai 43.01 93 P **P** **08 27 02.8 -0.3**
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 43.01 93 P **P** **08 27 02.8 -0.3**
CHTO IAmb IAmb 08 27 07.4
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 43.14 93 P **P** **08 27 04.2 0.0**
comp=Z,2.4nm,0.3s,baz=290,slow=8.6,SNR=19
CMAR LR LR 08 49 20.7
comp=Z,233nm,19.2s,baz=318,slow=42
CMAR Chiang Mai Arr 43.14 93 *i* P **P** **08 27 06.0 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 43.14 93 P **P** **08 27 02.3 -1.9**
LZH Lanzhou 43.29 66 *e*P **P** **08 27 07.0 +1.6**
LZH pP sP 08 27 11.5 +1.1
LZH SS SS 08 36 41.0 -5.1
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,230nm,4.9s
LZH LR LR
comp=Z,870nm,14.6s
LZH LR LR
comp=Z,600nm,14.1s
LZH LR LR
comp=Z,550nm,15.8s
ZAK Zakamensk 43.60 46 *e*P **P** **08 27 07.4 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
CD2 Chengdu 43.90 74 *e*P **P** **08 27 09.3 -1.0**
ARCES ARCESS Array B 44.04 347 P **P** **08 27 10.5 -0.2**
comp=Z,5.1nm,0.7s,baz=134,slow=7.8,SNR=16
ARCES PP **PP** **08 28 53.4 +0.2**
comp=Z,2.7nm,0.7s,baz=153,slow=11,SNR=1.4
ARCES LR LR 08 46 34.9
comp=Z,344nm,18.2s,baz=110,slow=38
TLY Talaya 44.08 44 P **P** **08 27 12.9 +1.6**
comp=Z,2.4nm,0.5s,baz=254,slow=15,SNR=4.1
TLY Talaya 44.08 44 *e*P **P** **08 27 14.0 +2.6**
TLY *e*S **S** **08 33 42.9 -0.9**
TLY *e*SS **SS** **08 37 02.8 +2.0**
TLY pmax pmax
comp=Z,33nm,1.4s
TLY MLR MLR
comp=Z,2μm,14.0s
TLY Talaya 44.08 44 P **P** **08 27 12.2 +0.9**
KMI Kunming 44.32 82 ⇑ *e*P **P** **08 27 16.3 +2.4**
KMI pP sP 08 27 23.0 +4.3
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,110nm,3.8s
SONM Songino Array 45.27 50 P **P** **08 27 20.5 -0.6**
comp=Z,5.0nm,1.0s,baz=258,slow=7.1,SNR=10.0
SONM LR LR 08 48 04.4
comp=Z,543nm,18.9s,baz=252,slow=38
SONM Songino Array 45.27 50 P **P** **08 27 20.6 -0.5**
SONM pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 45.27 50 P **P** **08 27 20.6 -0.5**
NRIK Noril'sk 45.52 16 P **P** **08 27 22.6 0.0**
comp=Z,7.9nm,0.8s,baz=235,slow=6.2,SNR=6.3
NRIK LR LR 08 49 55.5
comp=Z,1μm,19.1s,baz=210,slow=41
NRIK Noril'sk 45.52 16 *ce*P **P** **08 27 23.0 +0.4**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 45.71 50 *ce*P **P** **08 27 25.4 +0.8**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 45.71 50 P **P** **08 27 24.7 +0.1**
ULN IAmb IAmb 08 27 34.2
comp=Z,11nm,0.9s
OPO Ambohidratompo 47.11 187 P **P** **08 27 36.3 +0.5**
comp=Z,7.2nm,0.9s,baz=9.4,slow=9.2,SNR=4.2
GYA Guiyang 47.38 79 *e*P **P** **08 27 38.0 +0.1**
GYA pmax pmax
comp=Z,7.0nm,1.1s
XAN Xi'an 47.67 69 P **P** **08 27 39.0 -1.1**
XAN pmax pmax
comp=Z,14nm,1.1s
XAN Xi'an 47.67 69 P **P** **08 27 39.0 -1.1**
XAN IAmb IAmb 08 27 42.9
comp=Z,14nm,1.1s
ESDC Sonseca Array 47.73 299 P **P** **08 27 39.0 -1.4**
comp=Z,0.7nm,0.4s,baz=78,slow=7.5,SNR=7.0
ESDC PcP **PcP** **08 29 08.9 -0.7**
comp=Z,0.4nm,0.5s,baz=36,slow=4.8,SNR=2.0
ESDC LR LR 08 50 24.1
comp=Z,214nm,20.7s,baz=65,slow=39
ESDC Sonseca Array 47.73 299 P **P** **08 27 37.2 -3.2**
EKA Eskdalemuir Ar 47.94 320 P **P** **08 27 39.8 -2.0**
comp=Z,1.4nm,0.3s,baz=104,slow=7.8,SNR=5.1
HHC Hu-ho-hao-te 48.94 59 *e*P **P** **08 27 51.0 +1.2**
HHC PP **PP** **08 29 44.8 +1.7**
HHC S **S** **08 34 53.5 -0.5**
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,180nm,6.6s
HHC LR LR
comp=Z,530nm,19.6s
HHC LR LR
comp=Z,380nm,19.4s
HHC LR LR
comp=Z,500nm,14.0s
MDT Midelt 49.18 290 P **P** **08 27 50.2 -1.6**
comp=Z,4.6nm,0.8s,baz=95,slow=9.2,SNR=13
LSZ Lusaka 49.66 212 P **P** **08 27 55.7 +0.2**
LSZ pmax pmax
comp=Z,15nm,1.2s
LSZ Lusaka 49.66 212 P **P** **08 27 55.7 +0.2**
LSZ IAmb IAmb 08 27 58.7
comp=Z,15nm,1.2s
PBRG Braganca 49.66 302 *e*P **P** **08 27 57.0 +1.8**
comp=Z,19nm,1.2s
TORD Torodi Ar. Bea 49.91 263 P **P** **08 27 56.4 -1.0**
comp=Z,22nm,0.7s,baz=55,slow=7.5,SNR=153
TORD ScP **ScP** **08 33 13.1 -0.5**
comp=Z,1.4nm,0.7s,baz=53,slow=4.1,SNR=3.7
TORD Torodi Ar. Bea 49.91 263 P **P** **08 27 55.5 -1.9**
MVO Moncorvo 49.93 301 *e*P **P** **08 27 59.5 +2.2**
comp=Z,21nm,1.4s
PMRV Marv??o 50.39 299 *e*P **P** **08 28 01.3 +0.5**
comp=Z,23nm,1.5s
PCBR Castelo Branco 50.41 300 *e*P **P** **08 28 00.9 0.0**
comp=Z,23nm,1.2s
GSI Gunungsitoli 50.43 114 P **P** **08 28 03.7 +2.4**
comp=Z,24nm,0.8s
PVRL Vila Real 50.44 302 *e*P **P** **08 28 03.6 +2.5**
comp=Z,25nm,1.1s
POLO Lamas de Olo 50.49 302 *e*P **P** **08 28 03.5 +1.9**
comp=Z,17nm,1.9s
PVIS Viseu 50.63 301 *e*P **P** **08 28 05.1 +2.5**
comp=Z,28nm,1.4s
PSI Prapat 50.65 112 LR LR 08 49 32.7
comp=Z,74nm,21.6s,baz=12,slow=36
PGAV Gavieira, Arco 50.79 302 *e*P **P** **08 28 07.1 +3.3**
comp=Z,49nm,1.5s
BOD Bodaibo 51.04 37 *e*P **P** **08 28 04.3 -1.1**
BOD pmax pmax
comp=Z,27nm,1.1s
SPITS Spitsbergen Ar 52.41 351 P **P** **08 28 15.2 -0.1**
comp=Z,21nm,1.0s,baz=130,slow=10,SNR=8.5
QIZ Qiongzhong 52.52 87 P **P** **08 28 15.0 -1.9**
QIZ S **S** **08 35 43.0 -0.9**
QIZ pmax pmax
comp=Z,36nm,1.6s
QIZ LR LR
comp=Z,390nm,18.1s
QIZ LR LR
comp=Z,350nm,19.6s
QIZ LR LR
comp=Z,350nm,16.7s
TIA Tai'an 53.91 64 P **P** **08 28 27.0 0.0**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA LR LR
comp=Z,710nm,17.5s
TIA LR LR
comp=Z,360nm,19.6s
TIA LR LR
comp=Z,340nm,25.1s
KOWA Kowa 54.34 268 P **P** **08 28 29.7 -0.7**
comp=Z,21nm,0.7s,baz=64,slow=7.7,SNR=44
KOWA Kowa 54.34 268 P **P** **08 28 29.6 -0.8**
NJ2 Nanjing 56.24 69 *e*P **P** **08 28 44.5 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,600nm,16.6s
NJ2 LR LR
comp=Z,500nm,16.6s
NJ2 LR LR
comp=Z,760nm,11.8s
DAG Danmarks Havn 58.29 345 *i* P **P** **08 28 56.0 -1.6**
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 58.29 345 *i* P **P** **08 28 56.0 -1.6**
comp=Z,5.6nm,0.7s
DAG Danmarks Havn 58.29 345 *i* P **P** **08 28 56.1 -1.6**
DAG IAmb IAmb 08 29 00.7
comp=Z,5.6nm,0.7s
TSUM Tsumeb 58.44 220 P **P** **08 28 59.7 +0.1**
TSUM IAmb IAmb 08 29 01.8
comp=Z,10nm,0.9s
ZEA Zeya 58.46 42 *e*P **P** **08 29 02.8 +3.6**
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
DBIC Dimbokro 58.62 260 P **P** **08 29 00.0 -0.9**
comp=Z,17nm,0.8s,baz=45,slow=8.2,SNR=26
DBIC LR LR 08 54 05.3
comp=Z,326nm,19.0s,baz=36,slow=36
DBIC Dimbokro 58.62 260 P **P** **08 28 59.8 -1.0**
KIC Kosan Boka 58.67 260 *e*P **P** **08 28 59.7 -1.6**
comp=Z,30nm,0.8s
TIC Toumodi 58.77 260 *e*P **P** **08 29 01.5 -0.5**
TIXI Tiksi 58.81 21 *ce*P **P** **08 29 01.5 +0.1**
TIXI pmax pmax
comp=Z,34nm,1.3s
TIXI Tiksi 58.81 21 P **P** **08 29 00.7 -0.6**
LIC Lamto 58.98 260 *e*P **P** **08 29 03.0 -0.4**
comp=Z,69nm,0.9s
YAK Yakutsk 59.10 32 *ce*P **P** **08 29 03.8 +0.3**
YAK pmax pmax
comp=Z,18nm,0.7s
SBUM Sibu 62.00 103 P **P** **08 29 24.2 +0.1**
SBUM IAmb IAmb 08 29 26.9
comp=Z,11nm,0.9s
KSAR Wonju Array Be 62.02 61 P **P** **08 29 21.9 -2.0**
KSAR Wonju Array Be 62.02 61 P **P** **08 29 21.9 -2.0**
KSRS Korea Array 62.04 60 P **P** **08 29 23.2 -0.7**
comp=Z,3.6nm,0.8s,baz=279,slow=6.7,SNR=10.0
KSRS LR LR 08 59 18.2
comp=Z,384nm,19.4s,baz=291,slow=39
BOSA Boshof 62.66 207 P **P** **08 29 28.3 +0.1**
comp=Z,3.6nm,0.5s,baz=18,slow=3.8,SNR=10
BOSA LR LR 08 57 57.6
comp=Z,866nm,20.3s,baz=26,slow=37
BOSA Boshof 62.66 207 P **P** **08 29 27.5 -0.7**
BOSA IAmb IAmb 08 29 32.0
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 63.26 52 P **P** **08 29 32.9 +0.8**
comp=Z,3.6nm,0.7s,baz=255,slow=10,SNR=5.0
USRK LR LR 08 59 13.4
comp=Z,387nm,19.4s,baz=270,slow=38
USRK Ussuriysk Ar. 63.26 52 P **P** **08 29 32.3 +0.3**
SUMG Summit 63.52 340 *i* P **P** **08 29 34.8 +1.1**
SUMG pmax pmax
comp=Z,42nm,0.8s
SUMG Summit 63.52 340 P **P** **08 29 33.0 -0.7**
SUMG Summit 63.52 340 *i* P **P** **08 29 34.8 +1.1**
comp=Z,42nm,0.8s
SUMG Summit 63.52 340 *i* P **P** **08 29 34.9 +1.1**
SUMG IAmb IAmb 08 29 43.9
comp=Z,42nm,0.8s
ICESG Greenland Ices 64.63 337 *i* P **P** **08 29 43.9 +2.9**
ICESG IAmb IAmb 08 29 49.7
comp=Z,18nm,0.9s
SEY Seymchan 69.16 29 *i* P **P** **08 30 10.7 +1.2**
SFJD Kangerlussuaq 69.20 336 P **P** **08 30 09.6 -0.1**
comp=Z,2.4nm,0.4s,baz=76,slow=4.2,SNR=1.5
SFJD Kangerlussuaq 69.20 336 P **P** **08 30 10.1 +0.4**
SFJD pmax pmax
comp=Z,16nm,1.1s
SFJD Kangerlussuaq 69.20 336 P **P** **08 30 10.1 +0.4**
EUNU Eureka 69.45 353 P **P** **08 30 13.3 +2.1**
EUNU IAmb IAmb 08 30 23.7
comp=Z,5.4nm,0.8s
MA2 Magadan 69.67 33 *i* P **P** **08 30 13.6 +0.8**
MA2 pmax pmax
comp=Z,21nm,1.1s
MJAR Matsushiro Arr 70.14 59 LR LR 09 03 39.8
comp=Z,205nm,20.6s,baz=290,slow=38
BILL Bilibino 72.03 21 ⇑ *e*P **P** **08 30 30.4 +3.4**
BILL *e* 08 30 51.6
BILL *e* 08 33 04.4
BILL pmax pmax
comp=Z,17nm,1.0s
BILL MLR MLR
comp=Z,713nm,14.0s
PETK Petropavlovsk- 75.92 37 P **P** **08 30 50.9 +0.9**
comp=Z,5.3nm,0.9s,baz=320,slow=6.2,SNR=2.8
PETK LR LR 09 07 56.0
comp=Z,610nm,18.7s,baz=291,slow=39
PETK Petropavlovsk- 75.92 37 P **P** **08 30 51.4 +1.4**
PETK Petropavlovsk- 75.92 37 P **P** **08 30 51.4 +1.4**
PET Petropavlovsk 76.46 37 *i* P **P** **08 30 54.4 +1.3**
BATI Baumata 78.31 108 LR LR 09 09 24.0
comp=Z,110nm,18.0s,baz=298,slow=39
TOLK Toolik Lake Re 81.75 8 IAmb IAmb 08 31 29.0
comp=Z,10nm,0.8s
SCHQ Schefferville 82.30 330 P **P** **08 31 23.1 -1.8**
comp=Z,9.4nm,0.8s,baz=56,slow=2.8,SNR=6.8
SCHQ LR LR 09 10 28.6
comp=Z,82nm,18.6s,baz=1.5,slow=38
C36M Paulatuk 82.43 359 P **P** **08 31 24.2 -1.1**
C36M IAmb IAmb 08 31 28.3
comp=Z,12nm,0.8s
INK Inuvik 83.38 2 P **P** **08 31 28.9 -1.4**
comp=Z,4.5nm,0.9s,baz=8.4,slow=6.4,SNR=10.0
INK Inuvik 83.38 2 P **P** **08 31 30.2 -0.1**
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 83.38 2 P **P** **08 31 30.2 -0.1**
INK IAmb IAmb 08 31 33.4
comp=Z,6.3nm,1.0s
IMAR Indian Mountai 83.63 11 P **P** **08 31 30.7 -0.9**
FITZ Fitzroy Crossi 84.11 114 P **P** **08 31 35.2 +0.4**
FITZ IAmb IAmb 08 31 38.2
comp=Z,6.3nm,0.8s
EPYK Eagle Plains 85.16 4 IAmb IAmb 08 31 42.3
comp=Z,11nm,1.1s
COLA College 85.55 9 *i* P **P** **08 31 42.8 +1.6**
COLA pmax pmax
comp=Z,6.0nm,0.8s
IL31 85.77 8 IAmb IAmb 08 31 48.6
comp=Z,5.5nm,0.8s
ILAR Eielson Array 85.77 8 P **P** **08 31 41.5 -0.9**
comp=Z,4.1nm,0.8s,baz=325,slow=4.1,SNR=38
ILAR PP **PP** **08 35 01.4 +0.6**
comp=Z,0.7nm,0.9s,baz=1.0,slow=9.0,SNR=4.3
ILAR Eielson Array 85.77 8 P **P** **08 31 41.0 -1.5**
HDA Harding Lake 86.11 9 IAmb IAmb 08 31 46.9
comp=Z,8.1nm,0.8s
KTH Kantishna Hill 86.34 10 IAmb IAmb 08 31 56.1
comp=Z,12nm,1.1s
EGAK Eagle 86.40 6 IAmb IAmb 08 31 49.3
comp=Z,11nm,0.8s
TRF Thorofare Moun 86.54 10 IAmb IAmb 08 31 59.7
comp=Z,9.2nm,0.9s
RND Reindeer 86.80 10 IAmb IAmb 08 31 55.6
comp=Z,7.4nm,1.0s
BCAR Beaver Creek A 88.01 7 P **P** **08 31 54.0 +0.5**
YKA Yellowknife Ar 88.79 354 P **P** **08 31 56.6 -0.4**
comp=Z,8.0nm,0.8s,baz=7.5,slow=5.6,SNR=12
YKA LR LR 09 18 27.5
comp=Z,172nm,19.4s,baz=0.0,slow=40
WRA Warramunga Arr 92.12 111 P **P** **08 32 11.4 -1.8**
comp=Z,1.5nm,0.8s,baz=309,slow=4.0,SNR=14
WRA PKKP **PKKPbc** **08 49 29.2 +0.3**
comp=Z,0.3nm,0.7s,baz=115,slow=2.5,SNR=6.0
WRA LR LR 09 18 21.4
comp=Z,61nm,18.8s,baz=170,slow=39
WRA Warramunga Arr 92.12 111 *i* P **P** **08 32 15.0 +1.7**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 92.12 111 P **P** **08 32 10.6 -2.7**
AS31 Alice Springs 93.59 115 P **P** **08 32 19.9 -0.2**
ASAR Alice Springs 93.59 115 P **P** **08 32 18.2 -1.8**
comp=Z,1.9nm,0.8s,baz=301,slow=4.5,SNR=19
ASAR LR LR 09 16 30.5
comp=Z,39nm,19.3s,baz=168,slow=37
ASAR Alice Springs 93.59 115 P **P** **08 32 18.7 -1.3**
ASAR Alice Springs 93.59 115 P **P** **08 32 18.7 -1.3**
NBMO Morrinhos-CE 94.18 269 *e*P **P** **08 32 23.1 +0.1**
MAW Mawson 96.08 176 LR LR 09 09 05.1
comp=Z,257nm,21.4s,baz=50,slow=31

ROSB	Rosrio	97.58	271	*e*P		Pdif	08 32 40.4	+1.9
TMAB	Tom-Au,PA,Br	100.83	273	*e*P		**Pdif**	**08 32 53.8**	**+0.9**
JANB	Januaria	103.29	260	*e*P		**Pdif**	**08 33 05.0**	**+1.2**
SMTB	Santa Maria do	103.39	267	*e*P		**Pdif**	**08 33 05.4**	**+1.1**
CLDB	Colider	111.51	269	*e*P		**Pdif**	**08 33 41.1**	**+0.7**
TXAR	Lajitas Array	118.31	337	PKP		**PKPdf**	**08 37 50.6**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=124,slow=1.3,SNR=3.5							
TXAR	Lajitas Array	118.31	337			**PKPdf**	**08 37 50.1**	**-1.3**
DZM	Mont Dzumac	120.19	100	*e*LR		LR	09 14 45.6	
	comp=Z,161nm,24.6s							
PPT2	Papeete2	156.65	67	*e*LR		LR	09 31 37.4	
	comp=Z,202nm,25.5s							
TAOE	Nuku Hiva Isla	156.91	35	*e*LR		LR	09 31 51.0	
	comp=Z,143nm,25.8s							
TBI	Tubuai	159.22	81	*e*LR		LR	09 32 47.5	
	comp=Z,170nm,29.8s							

TEH ***28*** *08:23:34.9,28°.51N×53°.06E,h8km,ML3.6*
IDC ***28*** *08:23:34.3±1.1,28°.52N×52°.87E,h0km,mb4.0/13, mb1 4.0/15,mb1mx3.8/63,mbtmp4.0/15,ML3.8/2,Error ellipse: s-maj=25.9km s-min=20.7km az=2.0*
NEIC ***28*** *08:23:35.9±2.8,28°.43N±0°.06×52°.98E±0°.07,h10km±1km, Error ellipse: s-maj=12.9km s-min=6.5km az=226.0*
THR ***28*** *08:23:35.7±0.7,28°.38N×53°.07E,h14km±9km,ML3.7*

ISC 28 08:23:35.4±0.5,28°.45N±0°.04×53°.02E±0°.04,h10km,n61, σ1s21/62,mb4.1/16,1C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.16**	**190**	*e*Pg	**Pg**	**08 23 38.9**	**-0.1**
GHIR	**Ghir-Karzin**	**0.16**	**190**	*e*Pg	**Pg**	**08 23 38.9**	**-0.1**
GHIR	**Ghir-Karzin**	**0.16**	**190**	Pg	**Pg**	**08 23 38.0**	**-1.0**
JHRM	**Jahrom**	**0.49**	**83**	*e*Pg	**Pg**	**08 23 44.1**	**-1.0**
JHRM	**Jahrom**	**0.49**	**83**	Pg	**Pg**	**08 23 44.1**	**-1.0**
LMD1	**Lamerd**	**1.11**	**173**	*e*Pg	**Pn**	**08 23 58.8**	**+1.7**
LMD1				*e*		08 24 31.3	
LMD1	**Lamerd**	**1.11**	**173**	Pg	**Pn**	**08 23 58.7**	**+1.7**
SHI	**Shiraz**	**1.27**	**340**	*e*Pg	**Pn**	**08 23 58.6**	**-0.8**
SHI				*e*		08 24 28.7	
LAR1	**LAR**	**1.43**	**123**	*e*Pg	**Pn**	**08 24 02.1**	**+0.7**
LAR1	**LAR**	**1.43**	**123**		**Pn**	**08 24 02.1**	**+0.7**
AHBU	**AHRAM**	**1.57**	**286**	*e*Pg	**Pg**	**08 24 05.9**	**+0.3**
KAZ1	**Kazerun**	**1.69**	**315**	*e*Pg	**Pb**	**08 24 05.9**	**-0.7**
KAZ1	**Kazerun**	**1.69**	**315**		**Pb**	**08 24 05.9**	**-0.7**
BNDS	**Bandar-Abbas**	**2.98**	**110**	*e*Pn	**Pn**	**08 24 24.1**	**+1.2**
BNDS	**Bandar-Abbas**	**2.98**	**110**	*e*Pn	**Pn**	**08 24 24.1**	**+1.2**
BNDS	**Bandar-Abbas**	**2.98**	**110**	Pn	**Pn**	**08 24 24.0**	**+1.1**
IMEH	**Mehriz**	**3.24**	**25**	*e*Pn	**Pn**	**08 24 28.1**	**+1.5**
IMEH				*e*		08 25 33.2	
IMEH	**Mehriz**	**3.24**	**25**	Pn	**Pn**	**08 24 28.1**	**+1.5**
KRBR	**Kerman**	**3.61**	**64**	*e*Pn	**Pn**	**08 24 33.2**	**+1.5**
KRBR	**Kerman**	**3.61**	**64**	*e*Pn	**Pn**	**08 24 33.2**	**+1.5**
KRBR	**Kerman**	**3.61**	**64**	Pn	**Pn**	**08 24 33.0**	**+1.3**
IBAF	**Bafgh**	**3.83**	**35**	*e*Pn	**Pn**	**08 24 36.3**	**+1.6**
IBAF				*e*		08 25 42.3	
YZKH	**Yazd**	**4.16**	**19**	*e*Pn	**Pn**	**08 24 41.6**	**+2.5**
YZKH	**Yazd**	**4.16**	**19**	*e*Pn	**Pn**	**08 24 41.6**	**+2.5**
YZKH	**Yazd**	**4.16**	**19**	Pn	**Pn**	**08 24 41.0**	**+1.9**
UOSS	**Minazif**	**4.50**	**140**	Pn	**Pn**	**08 24 44.9**	**+1.2**
WSAR	**Wadi Sarin**	**7.24**	**134**	Pn	**Pn**	**08 25 22.4**	**+1.0**
	3.2nm,0.3s,baz=357,slow=9.6,SNR=2.0						
WSAR				Sn	**Sn**	**08 26 42.7**	**-1.0**
	0.7nm,0.3s,baz=232,slow=21,SNR=2.0						
GEVA	**Gevas**	**12.88**	**322**	Pn	**Pn**	**08 26 40.8**	**+2.1**
KBL	**Kabul**	**14.95**	**62**	P	**P**	**08 27 11.9**	**-0.8**
KIV	**Kislovodsk**	**17.56**	**335**	P	**P**	**08 27 42.6**	**+1.2**
KIV				IAmb	IAmb	08 27 51.7	
	comp=Z,21nm,1.3s						
CSS	**Mathiatis**	**17.96**	**296**	P	**P**	**08 27 46.9**	**+1.2**
CSS				IAmb	IAmb	08 27 55.9	
	comp=Z,11nm,0.9s						
BRTR	**Keskin Array B**	**19.56**	**310**	P	**Pn**	**08 28 03.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=2.6						
BRTR	**Keskin Array B**	**19.56**	**310**	P	**Pn**	**08 28 04.6**	**-0.2**
KK31	**Karatay Array**	**20.32**	**39**	P	**P**	**08 28 11.7**	**+0.1**
KKAR	**Karatay Array**	**20.32**	**39**	P	**P**	**08 28 13.2**	**+1.6**
ABKAR	**Akbulak array**	**21.45**	**12**	P	**P**	**08 28 24.5**	**+0.8**
IDI	**Anoyia**	**24.79**	**293**	P	**P**	**08 28 57.8**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=93,slow=19,SNR=2.3						
AKASG	**Malin Array Be**	**28.59**	**328**	P	**P**	**08 29 30.1**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=147,slow=8.8,SNR=1.6						
AKASG	**Malin Array Be**	**28.59**	**328**	P	**P**	**08 29 31.9**	**+0.4**
MAKZ	**Makanchi**	**29.12**	**43**	P	**P**	**08 29 38.1**	**+1.8**
MAKZ				IAmb	IAmb	08 29 40.6	
	comp=Z,9.1nm,1.5s						
MKAR	**Makanchi Array**	**29.30**	**43**	P	**P**	**08 29 39.6**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=237,slow=4.0,SNR=1.9						
MKAR	**Makanchi Array**	**29.30**	**43**	P	**P**	**08 29 39.7**	**+1.7**
ZAA0	**Zalesovo Array**	**34.45**	**33**	P	**P**	**08 30 23.3**	**+0.2**
ZAA0				IAmb	IAmb	08 30 25.1	
	comp=Z,7.4nm,1.4s						
ZALV	**Zalesovo Beam**	**34.45**	**33**	P	**P**	**08 30 23.8**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=248,slow=8.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**34.45**	**33**	P	**P**	**08 30 23.4**	**+0.4**
GERES	**GERESS Array B**	**36.31**	**315**	P	**P**	**08 30 38.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=125,slow=6.3,SNR=1.8						
FINES	**FINESS Array B**	**37.55**	**339**	P	**P**	**08 30 48.4**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=139,slow=15,SNR=4.3						
FINES	**FINESS Array B**	**37.55**	**339**	P	**P**	**08 30 48.7**	**-0.8**
CLL	**Collm**	**37.61**	**319**	⇑*i*P	**P**	**08 30 49.9**	**-0.2**
	comp=Z,5.0nm,0.9s						
HFS	**Hagfors**	**41.31**	**331**	P	**P**	**08 31 19.4**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=180,slow=0.6,SNR=1.8						
EKA	**Eskdalemuir Ar**	**48.01**	**320**	P	**P**	**08 32 13.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=58,slow=13,SNR=4.4						
TORD	**Torodi Ar. Bea**	**49.97**	**263**	P	**P**	**08 32 29.1**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=56,slow=7.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**49.97**	**263**	P	**P**	**08 32 28.7**	**-1.4**
KOWA	**Kowa**	**54.41**	**268**	P	**P**	**08 33 02.7**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=19,slow=3.5,SNR=3.0						
KOWA	**Kowa**	**54.41**	**268**	P	**P**	**08 33 02.6**	**-0.5**
DBIC	**Dimbokro**	**58.68**	**260**	P	**P**	**08 33 33.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=99,slow=7.2,SNR=2.3						
IMAR	**Indian Mountai**	**83.65**	**11**	P	**P**	**08 36 03.5**	**-0.3**
ILAR	**Eielson Array**	**85.80**	**8**	P	**P**	**08 36 14.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=327,slow=4.8,SNR=2.1						
ILAR	**Eielson Array**	**85.80**	**8**	P	**P**	**08 36 13.9**	**-0.8**
WRA	**Warramunga Arr**	**92.04**	**111**	P	**P**	**08 36 46.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=316,slow=4.2,SNR=1.7						
WRA	**Warramunga Arr**	**92.04**	**111**	P	**P**	**08 36 44.3**	**-0.8**

IDC 28 08:46:21.8±28.0,7°.43N×102°.14W,h0km,mb3.3/3, mb1 3.8/3,mb1mx3.5/30,mbtmp3.3/3,MS3.3/2,Ms1 3.3/2, ms1mx2.9/13,Error ellipse: s-maj=1014.0km s-min=114.0km az=108.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.93**	**36**	LR	LR	08 52 59.5	
	comp=Z,111nm,21.1s,baz=200,slow=33						
TXAR	**Lajitas Array**	**21.84**	**356**	P	P	08 51 15.6	-0.4
	0.5nm,1.0s,baz=175,slow=14,SNR=2.8						
TXAR				LR	LR	08 58 47.9	
	comp=Z,93nm,18.1s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**35.80**	**351**	P	P	08 53 23.6	+0.5
	0.6nm,0.8s,baz=169,slow=9.7,SNR=2.8						
ILAR	**Eielson Array**	**65.29**	**341**	P	P	08 57 05.2	-0.2
	0.3nm,0.6s,baz=148,slow=4.5,SNR=7.6						

KRNET ***28*** *08:52:02.5±0.1,41°.14N×73°.61E,h14km,mb2.8*
SOME ***28*** *08:52:02.3,41°.12N×73°.63E,h10km*
NNC ***28*** *08:52:04.4±1.6,41°.19N×73°.61E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=12.8km s-min=6.0km az=167.0*
KNET ***28*** *08:52:04.0±0.2,41°.20N×73°.72E,h4km±1km,ml2.2,Error ellipse: s-maj=2.0km s-min=1.5km az=92.0*

ISC 28 08:52:03.2±1.4,41°.17N±0°.05×73°.63E±0°.02,h2km±11km, n50,σ1s10/80,33C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.86**	**37**	⇑*i*P	**Pg**	**08 52 19.8**	**+0.1**
	baz=36						
ARLS				⇑*i*S	**Sb**	**08 52 32.3**	**-0.7**
	baz=36						
AML	**Almayashu**	**0.96**	**3**	⇑*i*P	**Pg**	**08 52 21.4**	**-0.1**
	baz=4.0						
AML				⇑*i*S	**Sb**	**08 52 35.2**	**-0.8**
	baz=4.0						
AML	**Almayashu**	**0.96**	**3**	⇑P	**Pg**	**08 52 22.0**	**+0.4**
	16nm,0.1s,SNR=39						
AML				⇑S	**Sn**	**08 52 36.6**	**-1.8**
	57nm,0.2s						
UCH	**Uchtor**	**1.24**	**32**	⇑*i*P	**Pb**	**08 52 26.8**	**-0.8**
	baz=32						
UCH				⇑*i*S	**Sn**	**08 52 44.6**	**-0.9**
	baz=32						
UCH	**Uchtor**	**1.24**	**32**	⇑P	**Pb**	**08 52 27.0**	**-0.6**
	6.5nm,0.2s,SNR=13						
UCH				⇓S	**Sn**	**08 52 45.4**	**-0.1**
	19nm,0.2s						
EKS2	**Erkin-Say**	**1.49**	**4**	⇑*i*P	**Pn**	**08 52 31.0**	**-0.1**
	baz=5.0						
EKS2				⇑*i*S	**Sg**	**08 52 52.0**	**+0.9**
	baz=5.0						
EKS2	**Erkin-Say**	**1.49**	**4**	⇑P	**Pg**	**08 52 32.0**	**+0.3**
	4.8nm,0.1s,SNR=17						
MNAS	**Manas**	**1.56**	**328**	⇑*i*P	**Pn**	**08 52 32.1**	**0.0**
	baz=29						
MNAS				⇑*i*S	**Sg**	**08 52 53.7**	**+0.4**
	baz=29						
AAK	**Ala-Archa**	**1.60**	**23**	⇑*i*P	**Pb**	**08 52 33.2**	**-0.3**
	baz=24						
AAK				⇑*i*S	**Sg**	**08 52 55.2**	**+0.7**
	baz=24						
AAK	**Ala-Archa**	**1.60**	**23**	⇓P	**Pb**	**08 52 33.6**	**+0.1**
	7.2nm,0.2s,SNR=10						
AAK				⇑S	**Sg**	**08 52 56.2**	**+1.7**
	36nm,0.2s						
AAK	**Ala-Archa**	**1.60**	**23**	⇓Pn	**Pg**	**08 52 33.9**	**+0.1**
	2.1nm,0.3s						
AAK				Sn	**Sg**	**08 52 56.1**	**+1.6**
	6.5nm,0.6s						
MRKS	**Merke**	**1.60**	**349**	⇓*e*P	**Pb**	**08 52 33.6**	**+0.2**
	49nm,0.2s						
MRKS				*e*S	**Sg**	**08 52 55.3**	**+0.7**
	75nm,0.3s						
MRKS	**Merke**	**1.60**	**349**	P	**Pb**	**08 52 33.7**	**+0.2**
	49nm,0.2s						
MRKS				S	**Sg**	**08 52 56.0**	**+1.5**
	75nm,0.3s						
KBK	**Karagaybulak**	**1.78**	**33**	⇑*i*P	**Pb**	**08 52 36.3**	**-0.3**
	baz=33						
KBK				⇑*i*S	**Sg**	**08 53 00.9**	**+0.6**
	baz=33						
CHMS	**Chumysh**	**2.00**	**24**	⇓*i*P	**Pb**	**08 52 40.0**	**-0.3**
	baz=24						
CHMS				⇓*i*S	**Sg**	**08 53 07.1**	**-0.5**
	baz=24						
CHMS	**Chumysh**	**2.00**	**24**	⇑P	**Pb**	**08 52 40.8**	**+0.4**
	13nm,0.3s						
BOOM	**Boomskoye usch**	**2.17**	**52**	⇓*i*P	**Pb**	**08 52 42.2**	**-1.0**
	baz=51						
BOOM				⇓*i*S	**Sb**	**08 53 11.1**	**+0.5**
	baz=51						
USP	**Ospenovka**	**2.19**	**17**	⇑*i*P	**Pb**	**08 52 42.4**	**-1.1**
	baz=17						
USP				⇑*i*S	**Sb**	**08 53 11.5**	**+0.4**
	baz=17						
USP	**Ospenovka**	**2.19**	**17**	⇑P	**Pb**	**08 52 43.5**	**0.0**
	4.7nm,0.2s,SNR=6.8						
ULHL	**Ulahol**	**2.23**	**60**	⇑*i*P	**Pb**	**08 52 43.0**	**-1.2**
	baz=60						
ULHL				⇑*i*S	**Sb**	**08 53 12.5**	**+0.2**
	baz=60						
TKM2	**Tokmak 2**	**2.28**	**39**	⇑*i*P	**Pb**	**08 52 43.8**	**-1.3**
	baz=39						
TKM2				⇑*i*S	**Sb**	**08 53 13.7**	**-0.1**
	baz=39						
TKM2	**Tokmak 2**	**2.28**	**39**	⇓P	**Pb**	**08 52 44.8**	**-0.3**
	2.4nm,0.2s,SNR=6.7						
TKM2	**Tokmak 2**	**2.28**	**39**	⇑Pg	**Pb**	**08 52 45.2**	**+0.1**
	3.9nm,0.5s						
TKM2				⇓Lg	Lg	08 53 15.7	
	8.7nm,0.5s						
SGDS	**Sogindy**	**2.39**	**18**	Pg	**Pg**	**08 52 48.6**	**-0.4**
	7.2nm,0.3s						
SGDS				Lg	Lg	08 53 21.0	
	8.7nm,0.3s						
BTK	**Batken**	**2.42**	**243**	⇑*i*P	**Pn**	**08 52 44.6**	**+0.8**
	baz=44						
BTK				⇑*i*S	**Sn**	**08 53 15.2**	**+1.3**
	baz=44						
DZA	**Taraz**	**2.43**	**316**	*e*P	**Pb**	**08 52 48.7**	**+1.1**
	84nm,0.1s						
DZA				*e*S	**Sg**	**08 53 20.9**	**-0.3**
	203nm,0.4s						
DZA	**Taraz**	**2.43**	**316**	Pg	**Pb**	**08 52 48.7**	**+1.1**
	84nm,0.1s						
DZA				Lg	Lg	08 53 21.9	
	203nm,0.4s						
KST	**Kastek**	**2.55**	**42**	*e*P	**Pg**	**08 52 51.4**	**-0.6**
	6.7nm,0.2s						
KST				*e*S	**Sg**	**08 53 25.8**	**+0.8**
	14nm,0.5s						
KST	**Kastek**	**2.55**	**42**	Pg	**Pg**	**08 52 51.4**	**-0.6**
	6.6nm,0.2s						
KST				Lg	Lg	08 53 25.9	
	7.2nm,0.6s						
KDJ	**Kajisay**	**2.82**	**69**	⇑*i*P	**Pb**	**08 52 51.2**	**+1.7**
	baz=69						
KDJ				⇑*i*S	**Sb**	**08 53 27.2**	**-2.3**
	baz=69						
MTBS	**Maitube**	**2.85**	**46**	*e*P	**Pg**	**08 52 56.7**	**-1.2**
	3.9nm,0.2s						
MTBS				*e*S	**Sg**	**08 53 34.9**	**0.0**
	10nm,0.5s						
MTBS	**Maitube**	**2.85**	**46**	Pg	**Pg**	**08 52 56.7**	**-1.2**
	3.9nm,0.2s						
MTBS				Lg	Lg	08 53 34.8	
	10nm,0.5s						
IUG	**luzhnay**	**2.87**	**291**	*e*P	**Pb**	**08 52 55.5**	**+0.3**
	9.7nm,0.3s						
IUG				*e*S	**Sg**	**08 53 33.2**	**-2.2**
	137nm,0.3s						
IUG	**luzhnay**	**2.87**	**291**	Pg	**Pb**	**08 52 55.5**	**+0.3**
	9.7nm,0.3s						
IUG				Lg	Lg	08 53 33.2	
	137nm,0.3s						
IZV	**Izvestkoviy**	**2.89**	**49**	*e*P	**Pg**	**08 52 57.6**	**-1.0**
	6.0nm,0.5s						
IZV				*e*S	**Sg**	**08 53 36.7**	**+0.6**
	13nm,0.5s						
IZV	**Izvestkoviy**	**2.89**	**49**	Pg	**Pg**	**08 52 57.6**	**-1.0**
	6.0nm,0.5s						
IZV				Lg	Lg	08 53 36.7	
	13nm,0.5s						
KRBS	**Karabastau**	**2.94**	**30**	*e*P	**Pb**	**08 52 57.6**	**+1.4**
	1.2nm,0.3s						
KRBS				*e*S	**Sg**	**08 53 36.7**	**-0.9**
	8.4nm,0.5s						
KRBS	**Karabastau**	**2.94**	**30**	Pg	**Pb**	**08 52 57.7**	**+1.4**
	1.2nm,0.3s						
KRBS				Lg	Lg	08 53 36.7	
	8.4nm,0.5s						
KK31	**Karatay Array**	**3.02**	**311**	⇓Pn	**Pb**	**08 52 57.5**	**-0.1**
	0.7nm,0.2s,baz=142,slow=17,SNR=25						
KK31				⇑Lg	Lg	08 53 40.6	
	12nm,0.3s,baz=138,slow=30,SNR=25						
TNSS	**Tian-Shan**	**3.09**	**52**	*e*P	**Pg**	**08 53 01.5**	**-0.8**
	3.4nm,0.3s						
TNSS				*e*S	**Sg**	**08 53 43.1**	**+0.7**
	6.2nm,0.5s						
TNSS	**Tian-Shan**	**3.09**	**52**	Pg	**Pg**	**08 53 01.5**	**-0.8**
	3.4nm,0.3s						
TNSS				Lg	Lg	08 53 43.1	
	6.2nm,0.5s						
MDOK	**Medeo**	**3.22**	**51**	Pg	Pg	08 53 21.7	+17
MDOK				Lg	Lg	08 54 17.7	
KOTS	**Kotyrbulak**	**3.30**	**50**	*e*P	**Pb**	**08 53 04.4**	**+1.8**
	7.8nm,0.3s						
KOTS				*e*S	**Sg**	**08 53 48.2**	**-1.1**
	33nm,0.6s						
KOTS	**Kotyrbulak**	**3.30**	**50**	Pg	**Pb**	**08 53 04.3**	**+1.8**
	7.8nm,0.3s						
KOTS				Lg	Lg	08 53 48.2	
	33nm,0.6s						
KUU	**Kurty**	**3.37**	**35**	*e*P	**Pb**	**08 53 05.2**	**+1.6**
	1.0nm,0.3s						
KUU				*e*S	**Sg**	**08 53 49.6**	**-1.9**
	5.6nm,0.4s						
KUU	**Kurty**	**3.37**	**35**	Pg	**Pb**	**08 53 05.2**	**+1.6**
	1.0nm,0.3s						
KUU				Lg	Lg	08 53 49.6	
	5.6nm,0.4s						
BRLS	**Borolday**	**3.38**	**305**	*e*P	**Pb**	**08 53 04.5**	**+0.7**
	13nm,0.2s						
BRLS				*e*S	**Sg**	**08 53 48.7**	**-3.1**
	37nm,0.5s						
BRLS	**Borolday**	**3.38**	**305**	Pg	**Pb**	**08 53 04.5**	**+0.7**
	13nm,0.2s						
BRLS				Lg	Lg	08 53 48.7	
	37nm,0.5s						
KTBS	**Karatobe**	**3.39**	**41**	*e*P	**Pb**	**08 53 06.3**	**+2.2**
	1.6nm,0.5s						
KTBS				*e*S	**Sg**	**08 53 51.4**	**-0.8**
	8.7nm,0.5s						
KTBS	**Karatobe**	**3.39**	**41**	Pg	**Pb**	**08 53 06.3**	**+2.2**
	1.6nm,0.5s						
KTBS				Lg	Lg	08 53 51.4	
	8.7nm,0.5s						

IDC 28 08:59:03.8±1.8,1°.85N×126°.24E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/41,mbtmp3.5/4,Error ellipse: s-maj=177.9km s-min=22.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**160**	P	P	09 04 11.2	+0.1
	1.0nm,0.5s,baz=339,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.44**	**164**	P	P	09 04 42.4	-0.2
	0.2nm,0.4s,baz=344,slow=9.6,SNR=2.4						
MKAR	**Makanchi Array**	**58.82**	**326**	P	P	09 09 04.3	+0.1
	0.3nm,0.4s,baz=127,slow=6.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**63.06**	**328**	P	P	09 09 32.7	-0.2
	0.2nm,0.5s,baz=126,slow=6.3,SNR=1.9						

IDC 28 08:59:27.4±13.0,15°.31S×165°.55E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.6/35,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=227.1km s-min=36.7km az=54.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.78**	**173**	Pn	Pn	09 01 08.1	-0.2
	0.7nm,0.3s,baz=308,slow=8.8,SNR=14						
DZM				Sn	Sn	09 02 26.7	+0.3
	0.2nm,0.3s,baz=153,slow=22,SNR=1.1						
STKA	**Stephens Creek**	**27.36**	**229**	P	P	09 05 14.8	+0.4
	5.7nm,1.1s,baz=48,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**30.08**	**257**	P	P	09 05 38.4	-0.3
	0.3nm,0.9s,baz=87,slow=9.8,SNR=1.1						
ASAR	**Alice Springs**	**30.92**	**249**	P	P	09 05 46.1	0.0
	0.4nm,0.8s,baz=79,slow=9.0,SNR=4.8						

IDC ***28*** *09:04:06.5±1.8,28°.24N×53°.03E,h0km,mb3.8/5, mb1 3.8/7,mb1mx3.6/38,mbtmp3.7/7,ML3.3/2,MS3.4/3, Ms1 3.4/3,ms1mx2.7/53,Error ellipse: s-maj=37.3km s-min=31.5km az=124.0*
NEIC ***28*** *09:04:08.3±3.7,28°.58N±0°.05×52°.91E±0°.05,h10km±1km, Error ellipse: s-maj=11.6km s-min=3.6km az=39.0*
THR ***28*** *09:04:10.3±0.3,28°.41N×52°.89E,h16km±6km,ML3.4*
TEH ***28*** *09:04:10.5,28°.54N×52°.88E,h14km,ML3.5*

ISC 28 09:04:08.6±0.6,28°.52N±0°.04×52°.87E±0°.04,h10km,n69, σ2s24/66,mb4.0/9,MS3.4/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.26**	**156**	*e*Pg	**Pg**	**09 04 14.5**	**+0.6**
GHIR	**Ghir-Karzin**	**0.26**	**156**	*e*Pg	**Pg**	**09 04 14.5**	**+0.6**
GHIR	**Ghir-Karzin**	**0.26**	**156**	Pg	**Pg**	**09 04 14.0**	**+0.1**
JHRM	**Jahrom**	**0.62**	**92**	*e*Pg	**Pg**	**09 04 22.2**	**+1.5**
JHRM				*e*		09 04 40.3	
JHRM	**Jahrom**	**0.62**	**92**	Pg	**Pg**	**09 04 22.2**	**+1.5**
SHI	**Shiraz**	**1.16**	**345**	*e*Pg	**Pn**	**09 04 31.8**	**+0.8**
SHI				*e*		09 04 58.1	
SHI	**Shiraz**	**1.16**	**345**		**Pn**	**09 04 31.8**	**+0.8**
LMD1	**Lamerd**	**1.21**	**167**	*e*Pg	**Pn**	**09 04 34.7**	**+3.1**
LMD1				*e*		09 05 11.1	
LMD1	**Lamerd**	**1.21**	**167**		**Pn**	**09 04 34.6**	**+3.0**
AHBU	**AHRAM**	**1.42**	**284**	*e*Pg	**Pg**	**09 04 37.3**	**+1.4**
KAZ1	**Kazerun**	**1.54**	**316**	*e*Pg	**Pg**	**09 04 39.5**	**+1.3**
KAZ1				*e*		09 05 17.6	
KAZ1	**Kazerun**	**1.54**	**316**	Pg	**Pg**	**09 04 39.4**	**+1.3**
LAR1	**LAR**	**1.58**	**122**	*e*Pg	**Pg**	**09 04 40.8**	**+1.9**
LAR1				*e*		09 05 31.8	
LAR1	**LAR**	**1.58**	**122**	Pg	**Pg**	**09 04 40.8**	**+1.9**
KLNJ	**Kolanjah**	**2.71**	**336**	*e*Pn	**Pn**	**09 04 54.7**	**+2.1**
IMEH	**Mehriz**	**3.23**	**28**	*e*Pn	**Pn**	**09 05 02.7**	**+3.0**
IRAM	**Ramesheh**	**3.30**	**353**	*e*Pn	**Pn**	**09 05 03.5**	**+2.9**
KHGB	**Koh Gabri**	**3.65**	**59**	*e*Pn	**Pn**	**09 05 08.7**	**+3.3**
KHGB				*e*		09 06 20.3	
KRBR	**Kerman**	**3.70**	**66**	*e*Pn	**Pn**	**09 05 09.8**	**+3.7**
KRBR	**Kerman**	**3.70**	**66**	*e*Pn	**Pn**	**09 05 09.8**	**+3.7**
KRBR	**Kerman**	**3.70**	**66**	Pn	**Pn**	**09 05 09.0**	**+2.9**
IBAF	**Bafgh**	**3.85**	**37**	*e*Pn	**Pn**	**09 05 10.5**	**+2.4**
YZKH	**Yazd**	**4.13**	**21**	*e*Pn	**Pn**	**09 05 16.5**	**+4.6**
**YZKH

WRA	**Warramunga Arr**	**92.19 111**	P		**P**	**09 17 17.2**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=310,slow=4.1,SNR=1.1						
WRA	**Warramunga Arr**	**92.19 111**	P		**P**	**09 17 17.3**	**-1.7**
WRAB	**Tennant Creek**	**92.20 111**	P		**P**	**09 17 15.8**	**-3.2**

*TAP **28** 09:05:57.6, 24.°62N× 122.°16E, h5km, ML3.2, C*
*JMA **28** 09:05:58.5±0.2, 24.°58N× 122.°13E, h7km±5km, M2.6*
ISC 28 09:05:58.4±1.0, **24.°61N**±0.°02× **122.°15E**±0.°02, **h9**km±8km, **n77**, σ0°82/139, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.27**	**271**	*i*	P		**Pg**	**09 06 03.4**	**-0.5**
	baz=260								
TWC					S		**Sg**	**09 06 08.0**	**+0.4**
	baz=260								
EGS		**0.31**	**320**	*i*	P		**Pg**	**09 06 04.4**	**-0.2**
	baz=317								
EGS					S		**Sg**	**09 06 09.5**	**+0.8**
	baz=317								
ENAH	**Nanao**	**0.35**	**243**	*i*	P		**Pg**	**09 06 05.1**	**-0.1**
	baz=252								
ENAH				*e*	S		**Sb**	**09 06 10.9**	**-1.4**
	baz=252								
NTC	**Toucheng**	**0.38**	**311**	*i*	P		**Pg**	**09 06 05.6**	**-0.3**
	baz=306								
NTC				*i*	S		**Sb**	**09 06 12.8**	**-0.6**
	baz=306								
ILA	**Ilan**	**0.40**	**294**	*i*	P		**Pb**	**09 06 06.8**	**-0.9**
	baz=291								
ILA					S		**Sg**	**09 06 12.3**	**+0.8**
	baz=291								
TWB1	**Santiao Chiao**	**0.43**	**340**		P		**Pg**	**09 06 06.6**	**-0.1**
	baz=336								
TWE	**Neicheng**	**0.45**	**285**	*i*	P		**Pg**	**09 06 06.9**	**-0.3**
	baz=283								
TWE					S		**Sb**	**09 06 14.4**	**-1.1**
	baz=283								
TIPB	**Shuangxi**	**0.47**	**321**	*i*	P		**Pg**	**09 06 07.5**	**-0.1**
	baz=317								
TIPB				*i*	S		**Sg**	**09 06 13.2**	**-0.6**
	baz=317								
ENTT	**Nioudou**	**0.53**	**274**	*i*	P		**Pg**	**09 06 08.6**	**-0.1**
	baz=272								
ENTT				*e*	S		**Sb**	**09 06 17.0**	**-0.8**
	baz=272								
NWF	**Wu-fen Shan**	**0.57**	**324**	*i*	P		**Pb**	**09 06 10.0**	**-0.7**
	baz=310								
NWF				*e*	S		**Sb**	**09 06 18.0**	**-1.0**
	baz=310								
WFSB	**Wu-fen Shan**	**0.57**	**324**		P		**Pb**	**09 06 09.9**	**-0.8**
	baz=310								
WFSB					S		**Sb**	**09 06 18.0**	**-1.0**
	baz=310								
NDT	**Datong Townshi**	**0.58**	**270**	*i*	P		**Pg**	**09 06 09.4**	**-0.2**
	baz=269								
NDT				*i*	S		**Sb**	**09 06 18.6**	**-0.5**
	baz=269								
NWLT	**Wulai**	**0.61**	**286**	*i*	P		**Pg**	**09 06 10.5**	**+0.2**
	baz=284								
NWLT					S		**Sb**	**09 06 19.2**	**-0.9**
	baz=284								
TWA	**Mucha**	**0.64**	**306**		P		**Pb**	**09 06 11.0**	**-0.7**
	baz=303								
TWA				*i*	S		**Sb**	**09 06 20.1**	**-0.6**
	baz=303								
NACB	**Ninganchiao**	**0.66**	**230**		P		**Pg**	**09 06 10.9**	**-0.3**
	baz=231								
NACB					S		**Sg**	**09 06 19.6**	**-0.2**
	baz=231								
TATO	**Taipei**	**0.71**	**302**		P		**Pb**	**09 06 12.8**	**-0.1**
	baz=299								
TATO					S		**Sg**	**09 06 21.7**	**+0.5**
	baz=299								
YHNB	**Yeheng**	**0.71**	**275**		P		**Pg**	**09 06 12.0**	**-0.1**
	baz=283								
YHNB					S		**Sb**	**09 06 22.4**	**-0.5**
	baz=283								
NNSB	**Datong**	**0.72**	**256**		P		**Pg**	**09 06 11.8**	**-0.5**
	baz=256								
NNSB					S		**Sb**	**09 06 22.8**	**-0.5**
	baz=256								
NNSH	**Datong**	**0.72**	**256**	*e*	P		**Pg**	**09 06 12.1**	**-0.2**
	baz=256								
NNSH					S		**Sb**	**09 06 22.4**	**-0.9**
	baz=256								
NSK	**Sanguang**	**0.72**	**276**	*i*	P		**Pg**	**09 06 12.2**	**-0.1**
	baz=283								
NSK				*i*	S		**Sg**	**09 06 22.2**	**+0.4**
	baz=283								
ETLH	**Xiulin Townshi**	**0.73**	**237**		P		**Pg**	**09 06 11.9**	**-0.5**
	baz=248								
ETLH				*e*	S		**Sg**	**09 06 22.0**	**+0.1**
	baz=248								
NNS	**Nan Shan**	**0.73**	**257**	*i*	P		**Pb**	**09 06 12.6**	**-0.7**
	baz=257								
NNS					S		**Sb**	**09 06 22.5**	**-0.9**
	baz=257								
JYNG	**Yonagunijimaku**	**0.74**	**102**		P		**Pb**	**09 06 13.2**	**-0.3**
JYNG				*e*	S		**Sb**	**09 06 23.2**	**-0.5**
YM01	**YM01**	**0.75**	**316**		P		**Pb**	**09 06 13.4**	**-0.4**
	baz=312								
YM01				*e*	S		**Sg**	**09 06 22.8**	**0.0**
	baz=312								
YM11	**YM11**	**0.77**	**317**		P		**Pb**	**09 06 13.9**	**-0.1**
	baz=313								
YM11				*e*	S		**Sb**	**09 06 24.9**	**+0.4**
	baz=313								
YM10	**YM10**	**0.77**	**316**		P		**Pb**	**09 06 13.9**	**-0.1**
	baz=312								
YM05	**YM05**	**0.77**	**316**		P		**Pb**	**09 06 13.7**	**-0.3**
	baz=313								
YM08	**YM08**	**0.77**	**319**		P		**Pb**	**09 06 14.4**	**+0.3**
	baz=306								
YM04	**YM04**	**0.78**	**315**		P		**Pb**	**09 06 13.8**	**-0.4**
	baz=311								
YM04					S		**Sn**	**09 06 26.4**	**-1.1**
	baz=311								
YM03	**YM03**	**0.80**	**316**		P		**Pb**	**09 06 14.8**	**+0.3**
	baz=312								
YM03				*e*	S		**Sb**	**09 06 25.6**	**+0.2**
	baz=312								
YOJ	**Yonaguni jima**	**0.80**	**100**		P		**Pg**	**09 06 13.8**	**0.0**
	baz=102								
YOJ					S		**Sb**	**09 06 25.0**	**-0.3**
	baz=102								
YOJ	**Yonaguni jima**	**0.80**	**100**		P		**Pg**	**09 06 13.6**	**-0.1**
YOJ					S		**Sb**	**09 06 24.9**	**-0.5**
ANP	**Anpu**	**0.81**	**315**	*i*	P		**Pg**	**09 06 13.9**	**-0.2**
	baz=312								
TWS1	**Kuangyinshan**	**0.83**	**307**		P		**Pb**	**09 06 15.6**	**+0.6**
	baz=304								
TWS1					S		**Sb**	**09 06 27.5**	**+1.2**
	baz=304								
TWY	**Chenhua**	**0.83**	**323**		P		**Pb**	**09 06 15.5**	**+0.4**
	baz=319								
TWY				*e*	S		**Sb**	**09 06 26.9**	**+0.5**
	baz=319								
NTST	**Danshui**	**0.85**	**311**		P		**Pb**	**09 06 15.4**	**+0.2**
	baz=308								
NTST					S		**Sn**	**09 06 28.2**	**-0.9**
	baz=308								
FUSS	**Fushou**	**0.90**	**247**		P		**Pb**	**09 06 15.8**	**-0.6**
	baz=248								
FUSS				*e*	S		**Sb**	**09 06 28.2**	**-0.4**
	baz=248								
WHF	**Hehuan Shan**	**0.93**	**241**	*i*	P		**Pg**	**09 06 15.7**	**-0.6**
	baz=242								
WHF					S		**Sb**	**09 06 29.0**	**-0.5**
	baz=242								
NCU	**National Centr**	**0.95**	**293**	*e*	S		**Sn**	**09 06 31.2**	**-0.5**
	baz=300								
NCUH	**Zhongli**	**0.95**	**293**		P		**Pn**	**09 06 18.5**	**+0.5**
	baz=300								
NCUH					S		**Sn**	**09 06 31.3**	**-0.3**
	baz=300								
TWT	**Tachien**	**0.95**	**249**	*i*	P		**Pb**	**09 06 17.4**	**+0.2**
	baz=249								
TDCB	**Techi**	**0.97**	**249**		P		**Pb**	**09 06 17.1**	**-0.3**
	baz=250								
TDCB				*e*	S		**Sb**	**09 06 30.2**	**-0.3**
	baz=250								
PCYT	**Pengchaiyu**	**1.02**	**356**	*i*	P		**Pg**	**09 06 17.3**	**-0.7**
	baz=350								
ESL	**Shilin**	**1.02**	**220**		P		**Pb**	**09 06 18.2**	**-0.1**
	baz=240								
ESL				*e*	S		**Sn**	**09 06 34.3**	**+0.8**
	baz=240								
LIOB	**Emei**	**1.03**	**272**	*i*	P		**Pn**	**09 06 19.4**	**+0.3**
	baz=260								
LIOB					S		**Sn**	**09 06 33.4**	**-0.4**
	baz=260								
CHGB	**Renai**	**1.04**	**239**		P		**Pg**	**09 06 18.1**	**-0.3**
	baz=240								
CHGB					S		**Sn**	**09 06 33.5**	**-0.8**
	baz=240								
NSTT	**Nanjuang**	**1.05**	**272**	*i*	P		**Pn**	**09 06 19.1**	**-0.1**
	baz=260								
NSTT					S		**Sn**	**09 06 33.9**	**-0.1**
	baz=260								
SBCB	**Hsinchu**	**1.08**	**280**	*e*	P		**Pn**	**09 06 19.7**	**0.0**
	baz=279								
SBCB					S		**Sn**	**09 06 36.1**	**+1.3**
	baz=279								
EGFH	**Guangfu**	**1.14**	**215**	*e*	S		**Sn**	**09 06 36.8**	**+0.3**
	baz=198								
WHP	**Taichung City**	**1.15**	**254**	*i*	P		**Pn**	**09 06 20.6**	**-0.1**
	baz=254								
WHP					S		**Sb**	**09 06 35.9**	**+0.5**
	baz=254								
NMLH	**Miaoli**	**1.24**	**267**	*e*	P		**Pn**	**09 06 23.4**	**+1.5**
	baz=257								
NMLH				*e*	S		**Sn**	**09 06 40.2**	**+1.4**
	baz=257								
VWDT	**VWDT**	**1.25**	**228**		P		**Pn**	**09 06 22.5**	**+0.4**
	baz=231								
VWDT				*e*	S		**Sn**	**09 06 41.6**	**+2.5**
	baz=231								
DPDB	**Guoxing**	**1.25**	**243**		P		**Pn**	**09 06 22.1**	**-0.1**
	baz=245								
DPDB				*e*	S		**Sn**	**09 06 39.5**	**+0.2**
	baz=245								
HGSD	**Ruisui**	**1.29**	**211**		P		**Pn**	**09 06 22.4**	**-0.3**
	baz=197								
HGSD					S		**Sn**	**09 06 41.4**	**+1.3**
	baz=197								
SMLT	**Sun Moon Lake**	**1.35**	**238**	*i*	P		**Pg**	**09 06 24.8**	**+0.5**
	baz=240								
SMLT				*e*	S		**Sn**	**09 06 42.3**	**+0.6**
	baz=240								
SSLB	**Suanglung**	**1.36**	**234**		P		**Pb**	**09 06 23.9**	**-0.2**
	baz=244								
SSLB					S		**Sn**	**09 06 42.0**	**0.0**
	baz=244								
TYC	**Yuchr**	**1.37**	**240**	*i*	P		**Pg**	**09 06 24.6**	**-0.1**
	baz=241								
TYC				*e*	S		**Sn**	**09 06 42.3**	**+0.2**
	baz=241								
YULB	**Yu-li**	**1.44**	**213**		P		**Pn**	**09 06 24.4**	**-0.3**
	baz=219								
EYUL	**Yuli**	**1.47**	**211**	*e*	P		**Pb**	**09 06 25.4**	**-0.5**
	baz=202								
IRIF	**Iriomote-Funau**	**1.47**	**100**		S		**Sg**	**09 06 45.4**	**-0.1**
TWF1	**Yuli**	**1.47**	**212**	*i*	P		**Pn**	**09 06 25.1**	**0.0**
	baz=234								
TWF1				*e*	S		**Sg**	**09 06 45.0**	**-0.7**
	baz=234								
WHYT	**Xinyi Township**	**1.49**	**233**	*e*	P		**Pb**	**09 06 26.2**	**-0.1**
	baz=247								
WHYT				*e*	S		**Sg**	**09 06 47.6**	**+1.2**
	baz=247								
WJS	**Zhushan**	**1.52**	**239**	*e*	P		**Pg**	**09 06 28.8**	**+1.3**
	baz=242								
WJS					S		**Sg**	**09 06 51.3**	**+4.2**
	baz=242								
FULB	**Fuli**	**1.60**	**209**	*i*	P		**Pn**	**09 06 25.8**	**-1.2**
	baz=196								
FULB				*e*	S		**Sg**	**09 06 50.2**	**+0.2**
	baz=196								
HATJ	**Hateruma jima**	**1.60**	**110**	*e*	S		**Sn**	**09 06 47.4**	**-0.4**
ALS	**Alishan**	**1.64**	**229**	*i*	P		**Pg**	**09 06 30.1**	**+0.2**
	baz=215								
ALS				*e*	S		**Sg**	**09 06 53.6**	**+2.4**
	baz=215								
CHN5	**Tsauling**	**1.68**	**234**	*i*	P		**Pg**	**09 06 30.7**	**+0.1**
	baz=237								
CHN5				*i*	S		**Sg**	**09 06 55.5**	**+3.1**
	baz=237								
JKRS	**Kuro-shima**	**1.73**	**102**		P		**Pn**	**09 06 29.4**	**+0.7**
JKRS				*e*	S		**Sb**	**09 06 52.9**	**+0.6**
EDH	**Donghe**	**1.80**	**206**	*e*	P		**Pn**	**09 06 28.8**	**-0.9**
	baz=194								
EDH					S		**Sn**	**09 06 51.0**	**-1.7**
	baz=194								
JIJ	**Ishigaki jima**	**1.83**	**97**		P		**Pb**	**09 06 32.1**	**0.0**
CHN4	**Tsaushan**	**1.89**	**229**	*i*	P		**Pg**	**09 06 34.2**	**-0.5**
	baz=233								
CHN4					S		**Sg**	**09 07 00.0**	**+0.7**
	baz=233								
TPUB	**Ta-pu**	**1.90**	**227**	*e*	P		**Pg**	**09 06 33.9**	**-1.0**
	baz=231								
TPUB					S		**Sg**	**09 07 00.4**	**+0.8**
	baz=231								
WTP	**Ta-pu**	**1.95**	**226**		P		**Pb**	**09 06 34.2**	**+0.1**
	baz=228								
WTP				*e*	S		**Sg**	**09 07 00.6**	**-0.5**
	baz=228								
JISG	**Ishigakijimahi**	**1.97**	**90**		P		**Pn**	**09 06 32.9**	**+1.0**
TWK	**Hsinying**	**2.02**	**229**		P		**Pb**	**09 06 34.8**	**-0.6**
	baz=233								
TWK					S		**Sg**	**09 07 03.3**	**-0.1**
	baz=233								
CHN1	**Nanshi**	**2.05**	**227**		P		**Pb**	**09 06 36.3**	**+0.4**
	baz=231								
CHN1					S		**Sg**	**09 07 04.8**	**+0.5**
	baz=231								
SLGT	**Liugui**	**2.11**	**221**		P		**Pb**	**09 06 35.8**	**-1.1**
	baz=225								
SLGT					S		**Sg**	**09 07 05.7**	**-0.7**
	baz=225								

*IDC **28** 09:20:48.8±1.6, 2.°42N× 126.°98E, h0km, mb3.7/7,*
mb1 4.0/7, mb1mx3.7/40, mbtmp3.8/7, Error ellipse:
s-maj=89.4km s-min=19.3km az=61.0
*DJA **28** 09:20:54.9±0.9, 2.°1N±2.°× 12.°7E±.°, h12km±8km, M4.0/9,*
mb4.3/3, MLv3.9/9
ISC 28 09:20:50.0±1.1, **2.°50N**±0.°09× **127.°1E**±0.°1, **h10**km, **n13**, σ0°93/16, **mb3.8/6, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.73**	**171**		P		**Pb**	**09 21 22.0**	**0.0**
TNTI					S		**Sg**	**09 21 45.0**	**-0.8**
SGSI	**Sangihe**	**1.97**	**307**		P		**Pg**	**09 21 27.4**	**-0.5**
SGSI					S		**Sb**	**09 21 50.8**	**+0.1**
KMSI	**Cibinong**	**3.66**	**239**		P		**Pn**	**09 21 45.5**	**-1.3**
GTOI	**Gorontalo**	**4.50**	**246**		P		**Pn**	**09 22 00.0**	**+1.7**
APSI	**Ampana**	**6.42**	**238**		P		**Pn**	**09 22 26.7**	**+1.9**
	0.1nm36nm,1.1s								
MPSI	**Mapaga**	**7.52**	**254**		P		**Pn**	**09 22 39.5**	**-0.4**
	0.1nm14nm,1.2s								
FITZ	**Fitzroy Crossi**	**20.52**	**184**		P		**P**	**09 25 28.1**	**-0.5**
	1.5nm,0.6s,baz=3.5,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**23.40**	**163**		P		**P**	**09 25 58.6**	**-0.8**
	1.3nm,0.5s,baz=342,slow=11,SNR=20								
ASAR	**Alice Springs**	**26.83**	**166**		P		**P**	**09 26 30.8**	**-0.1**
	0.1nm,0.3s,baz=342,slow=11,SNR=2.7								
ASAR					PcP		**PcP**	**09 29 54.4**	**+0.7**
	0.2nm,0.6s,baz=353,slow=2.4,SNR=1.6								
CMAR	**Chiang Mai Arr**	**31.83**	**302**		P		**P**	**09 27 15.1**	**-0.2**
	1.6nm,0.3s,baz=128,slow=7.0,SNR=7.8								
STKA	**Stephens Creek**	**36.85**	**159**		P		**P**	**09 27 59.3**	**+0.6**
	1.7nm,0.6s,baz=331,slow=7.1,SNR=3.8								
MKAR	**Makanchi Array**	**58.78**	**326**		P		**P**	**09 30 48.5**	**0.0**
	0.4nm,0.5s,baz=120,slow=7.1,SNR=6.1								
VNDA	**Vanda**	**82.16**	**173**		P		**P**	**09 33 10.6**	**-0.1**
	0.3nm,0.7s,baz=334,slow=5.3,SNR=2.1								

*NEIC **28** 09:28:46.7±2.5, 51.°8N±0.°2× 178.°5E±0.°2, h130km±6km,*
Error ellipse: s-maj=34.1km s-min=13.3km az=196.0
AEIC 28 09:28:46±1.6, **51.°9N**±0.°2× **178.°5E**±0.°2, **h122**km±5km, **mb3.8**/9(NEIC), **Error ellipse: s-maj=32.7km s-min=13.1km az=199.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.06**	**41**				Pn	09 29 03.7	+1.0
LSNW	**Little Sitkin**	**0.08**	**32**				Pn	09 29 03.6	+1.0
LSPA	**Little Sitkin**	**0.10**	**55**				Pn	09 29 03.7	+1.0
LSPA							Sn	09 29 18.1	+2.7
CESW	**Semis' Southwe**	**0.69**	**90**				Pn	09 29 06.6	+1.1
AMKA	**Amchitka**	**0.75**	**134**				Pn	09 29 07.3	+1.4
AMKA							Sn	09 29 21.7	+0.7
CERAA	**Semis' Rag'd T**	**0.77**	**89**				Pn	09 29 07.3	+1.2
ADK	**Adak**	**3.02**	**88**				Pn	09 29 32.9	+0.4
CNPM	**China Poot**	**18.57**	**54**		P		Pn	09 32 54.6	-0.2
BRLK	**Bradley Lake**	**18.79**	**53**		P		P	09 32 56.4	+0.8
IMAR	**Indian Mountai**	**19.87**	**34**		P		Pn	09 33 09.3	-0.6
TRF	**Thorofare Moun**	**20.08**	**43**		P		P	09 33 07.1	-2.5
GHO	**Glory Hole Cre**	**20.18**	**48**		P		Pn	09 33 13.2	-0.4
GHO							IAmb	09 33 21.5	
	comp=Z,8.2nm,1.1s								
SCM	**Sheep Creek Mo**	**20.93**	**48**		P		P	09 33 17.4	-1.3
SCM							IAmb	09 33 35.7	
	comp=Z,3.2nm,0.9s								
DHY	**Denali Highway**	**21.21**	**45**		P		P	09 33 20.4	-1.4
DHY							IAmb	09 33 25.8	
	comp=Z,2.0nm,0.7s								
KLU	**Klutina**	**21.52**	**50**		P		P	09 33 27.7	+2.7
KLU							IAmb	09 33 28.8	
	comp=Z,5.1nm,1.1s								
M24K	**Tolsona, Glenn**	**21.52**	**48**		P		P	09 33 27.0	+2.0
M24K							IAmb	09 33 35.3	
	comp=Z,7.7nm,1.1s								
TOLK	**Toolik Lake Re**	**22.65**	**30**		P		P	09 33 37.4	+0.9

*PDG **28** 09:32:57.9±0.5, 39.°14N× 22.°31E, h84km±1km, ML4.3/14,*
Error ellipse: s-maj=0.6km s-min=0.8km az=0.0
*IDC **28** 09:32:57.6±2.2, 39.°21N× 22.°14E, h87km±24km, mb3.6/7,*
mb1 3.6/11, mb1mx3.4/48, mbtmp3.8/11, Error ellipse:
s-maj=23.0km s-min=18.8km az=75.0
*ATH **28** 09:32:57.5, 39.°10N× 22.°37E, h88km±1km, ML3.8/37, Error*
ellipse: s-maj=1.3km s-min=0.7km az=220.0
*NEIC **28** 09:32:58.1±2.1, 39.°12N±0.°04× 22.°24E±0.°09, h86km±13km,*
Error ellipse: s-maj=10.6km s-min=5.5km az=69.0
*THE **28** 09:32:58.8, 39.°11N× 22.°39E, h80km±1km, ML3.9/21, Error*
ellipse: s-maj=1.0km s-min=0.5km az=91.0
*BEO **28** 09:32:59.9±0.6, 39.°29N× 22.°25E, h25km±8km, ML3.6/16*
ISC 28 09:32:57.6±0.7, **39.°12N**±0.°02× **22.°32E**±0.°02, **h91**km±5km, **n291**, σ1°39/385, **16C-20D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.10**	**176**		P		**Pn**	**09 33 10.4**	**-0.2**
AGG					S		**Sn**	**09 33 18.8**	**-1.4**
	6µm,0.4s								
AGG	**Agios Georgios**	**0.10**	**176**		P		**Pn**	**09 33 10.4**	**-0.2**
AGG					S		**Sn**	**09 33 18.9**	**-1.2**
AGG					AML		AML	09 33 19.7	
	comp=N,9367µm,0.4s								
AGG					AML		AML	09 33 19.7	
	comp=E,13486µm,0.4s								
AGG	**Agios Georgios**	**0.10**	**176**		Pn		**Pn**	**09 33 10.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.18**	**235**		P		**Pn**	**09 33 11.0**	**+0.2**
MAKR					S		**Sn**	**09 33 20.4**	**-0.2**
	comp=E,22µm,0.3s								
MAKR	**Makrakomi, Fth**	**0.18**	**235**		P		**Pn**	**09 33 10.9**	**+0.2**
MAKR					S		**Sn**	**09 33 20.5**	**0.0**
MAKR					AML		AML	09 33 21.1	
	comp=E,47572µm,0.4s								
MAKR					AML		AML	09 33 22.6	
	comp=N,39494µm,0.2s								
AXAR	**Agios Charalam**	**0.44**	**143**		P		**Pn**	**09 33 12.2**	**+0.1**
AXAR					S		**Sn**	**09 33 22.4**	**-0.5**
AXAR	**Agios Charalam**	**0.44**	**143**		P		**Pn**	**09 33 12.2**	**+0.1**
AXAR					S		**Sn**	**09 33 22.7**	**-0.2**
AXAR					AML		AML	09 33 23.4	
	comp=N,29698µm,0.3s								
AXAR					AML		AML	09 33 24.8	
	comp=E,16592µm,0.3s								
EVR	**Evrytania**	**0.45**	**243**		P		**Pn**	**09 33 12.8**	**+0.5**
EVR					S		**Sn**	**09 33 23.5**	**+0.4**
	comp=E,17µm,0.3s								
EVR	**Evrytania**	**0.45**	**243**		P		**Pn**	**09 33 12.9**	**+0.7**
EVR					S		**Sn**	**09 33 22.6**	**-0.6**
EVR					AML		AML	09 33 23.9	
	comp=E,29986µm,0.3s								
EVR					AML		AML	09 33 23.9	
	comp=N,39770µm,0.2s								
THL	**Klokotos Trika**	**0.51**	**332**		P		**Pn**	**09 33 12.8**	**+0.2**
THL					S		**Sn**	**09 33 23.3**	**-0.4**
	comp=N,6µm,0.4s								
THL	**Klokotos Trika**	**0.51**	**332**		P		**Pn**	**09 33 12.8**	**+0.2**
THL					S		**Sn**	**09 33 23.5**	**-0.1**
THL					AML		AML	09 33 23.9	
	comp=E,8969µm,0.4s								
THL					AML		AML	09 33 24.1	
	comp=N,16616µm,0.4s								
VOL2	**Volos**	**0.55**	**63**		P		**Pn**	**09 33 12.9**	**+0.1**
LRSO	**Larissa Observ**	**0.56**	**6**		P		**Pn**	**09 33 13.4**	**+0.4**
DLFA	**Delphi**	**0.65**	**168**		P		**Pn**	**09 33 13.7**	**-0.2**
DLFA					S		**Sn**	**09 33 25.4**	**-0.6**
DLFA					AML		AML	09 33 27.0	
	comp=E,7528µm,0.4s								
DLFA					AML		AML	09 33 28.9	
	comp=N,5495µm,0.2s								
ATAL	**Atalanti**	**0.69**	**128**		P		**Pn**	**09 33 14.2**	**0.0**
ATAL					S		**Sn**	**09 33 25.5**	**-1.1**
	comp=N,5µm,0.4s								
ATAL	**Atalanti**	**0.69**	**128**		P		**Pn**	**09 33 14.3**	**+0.1**
ATAL					S		**Sn**	**09 33 25.6**	**-0.9**
ATAL					AML		AML	09 33 26.1	
	comp=N,10209µm,0.4s								
ATAL					AML		AML	09 33 26.4	
	comp=E,7780µm,0.3s								
LKR	**Lokris**	**0.71**	**131**		P		**Pn**	**09 33 14.3**	**0.0**
LKR					S		**Sn**	**09 33 26.1**	**-0.7**
	comp=E,5µm,0.2s								
LKR	**Lokris**	**0.71**	**131**		P		**Pn**	**09 33 14.3**	**0.0**
LKR					S		**Sn**	**09 33 25.7**	**-1.1**
LKR					AML		AML	09 33 26.8	
	comp=E,12639µm,0.2s								
LKR					AML		AML	09 33 27.6	
	comp=N,7526µm,0.2s								
XOR	**Xorichti**	**0.72**	**70**		P		**Pn**	**09 33 14.5**	**0.0**
XOR					S		**Sn**	**09 33 26.1**	**-1.0**
	comp=N,5µm,0.6s								
XOR	**Xorichti**	**0.72**	**70**		P		**Pn**	**09 33 14.5**	**0.0**
XOR					S		**Sn**	**09 33 26.2**	**-0.9**
XOR					AML		AML	09 33 26.7	
	comp=E,7238µm,0.4s								
XOR					AML		AML	09 33 26.9	
	comp=N,10295µm,0.5s								
NEO	**Neokhori**	**0.73**	**75**		P		**Pn**	**09 33 14.7**	**+0.1**
NEO					S		**Sn**	**09 33 25.9**	**-1.3**
	comp=N,5µm,0.4s								
NEO	**Neokhori**	**0.73**	**75**		P		**Pn**	**09

PDO				S	Sn	09 33 34.2	+1.4	
PDO				AML	AML	09 33 39.0		
	comp=E,20818µm,0.3s							
PDO				AML	AML	09 33 40.6		
	comp=N,30779µm,0.3s							
KLV	**Kalavryta, Ach**	**1.08**	**187**	P	Pn	**09 33 18.8**	**+0.3**	
KLV				S	Sn	**09 33 34.7**	**+0.7**	
KLV	**Kalavryta, Ach**	**1.08**	**187**	P	Pn	**09 33 18.8**	**+0.3**	
KLV				S	Sn	**09 33 33.4**	**-0.6**	
KLV				AML	AML	09 33 34.8		
	comp=E,4356µm,0.3s							
KLV				AML	AML	09 33 35.2		
	comp=N,4064µm,0.6s							
THAL	**Thalero**	**1.11**	**166**	P	Pn	**09 33 19.0**	**+0.3**	
THAL				S	Sn	**09 33 34.2**	**-0.3**	
THAL	**Thalero**	**1.11**	**166**	P	Pn	**09 33 19.0**	**+0.3**	
THAL				S	Sn	**09 33 33.8**	**-0.7**	
THAL				AML	AML	09 33 35.2		
	comp=N,21086µm,0.2s							
THAL				AML	AML	09 33 36.5		
	comp=E,16832µm,0.2s							
AST1	**Astakos**	**1.12**	**239**	P	Pn	**09 33 20.1**	**+1.3**	
VIL2	**Platees**	**1.17**	**140**	P	Pn	**09 33 20.5**	**+1.1**	
VIL2				S	Sn	**09 33 36.2**	**+0.4**	
VIL2				AML	AML	09 33 36.9		
	comp=N,12748µm,0.3s							
VIL2				AML	AML	09 33 37.0		
	comp=E,11435µm,0.4s							
GUR	**Goura**	**1.18**	**179**	P	Pn	**09 33 19.8**	**+0.1**	
GUR				S	Sn	**09 33 36.1**	**-0.1**	
GUR	**Goura**	**1.18**	**179**	P	Pn	**09 33 19.8**	**+0.1**	
GUR				S	Sn	**09 33 36.1**	**-0.1**	
GUR				AML	AML	09 33 37.5		
	comp=E,12336µm,0.3s							
GUR				AML	AML	09 33 39.4		
	comp=N,14117µm,0.4s							
ALNA	**Alonissos**	**1.20**	**88**	P	Pn	**09 33 20.0**	**+0.3**	
LTK	**Loutraki**	**1.21**	**155**	P	Pn	**09 33 20.1**	**+0.2**	
LTK	**Loutraki**	**1.21**	**155**	P	Pn	**09 33 20.0**	**+0.2**	
LTK				S	Sn	**09 33 35.7**	**-0.9**	
LTK				AML	AML	09 33 37.0		
	comp=N,14210µm,0.4s							
LTK				AML	AML	09 33 37.5		
	comp=E,9186µm,0.4s							
AOS	**Alonnisos**	**1.21**	**87**	P	Pn	**09 33 20.0**	**+0.1**	
AOS				S	Sn	**09 33 35.4**	**-1.3**	
	comp=E,3µm,0.3s							
AOS	**Alonnisos**	**1.21**	**87**	P	Pn	**09 33 20.0**	**+0.1**	
AOS				AML	AML	09 33 35.9		
	comp=E,4543µm,0.3s							
AOS				AML	AML	09 33 36.6		
	comp=N,7987µm,0.5s							
VILL	**Villia**	**1.23**	**141**	P	Pn	**09 33 20.5**	**+0.3**	
VILL				S	Sn	**09 33 36.1**	**-1.0**	
LOUT	**Loutraki**	**1.24**	**155**	P	Pn	**09 33 20.5**	**+0.3**	
LOUT				S	Sn	**09 33 36.6**	**-0.7**	
	comp=N,6µm,0.2s							
LOUT	**Loutraki**	**1.24**	**155**	P	Pn	**09 33 20.5**	**+0.3**	
LOUT				S	Sn	**09 33 36.4**	**-0.8**	
LOUT				AML	AML	09 33 38.4		
	comp=N,2300µm,0.2s							
LOUT				AML	AML	09 33 39.0		
	comp=E,2209µm,0.2s							
RLS	**Riolos of Patr**	**1.25**	**213**	P	Pn	**09 33 21.6**	**+1.2**	
RLS	**Riolos of Patr**	**1.25**	**213**	P	Pn	**09 33 21.6**	**+1.2**	
RLS				AML	AML	09 33 45.8		
	comp=E,6379µm,0.5s							
RLS				AML	AML	09 33 48.2		
	comp=N,4060µm,0.4s							
DRO	**Drossia**	**1.26**	**203**	P	Pn	**09 33 21.6**	**+1.1**	
JAN	**Janina**	**1.26**	**296**	P	Pn	**09 33 22.7**	**+2.2**	
JAN	**Janina**	**1.26**	**296**	P	Pn	**09 33 22.6**	**+2.2**	
KZN	**Kozani**	**1.26**	**340**	P	Pn	**09 33 21.9**	**+1.3**	
KZN				S	Sn	**09 33 39.3**	**+1.5**	
KZN	**Kozani**	**1.26**	**340**	P	Pn	**09 33 21.9**	**+1.3**	
KZN				S	Sn	**09 33 38.2**	**+0.4**	
KZN				AML	AML	09 33 39.8		
	comp=N,4057µm,0.3s							
KZN				AML	AML	09 33 39.9		
	comp=E,8649µm,0.4s							
MGNA	**Meganis**	**1.28**	**249**	P	Pn	**09 33 21.5**	**+0.9**	
MGNA				AML	AML	09 33 39.0		
	comp=N,5278µm,0.3s							
MGNA				AML	AML	09 33 39.3		
	comp=E,4782µm,0.1s							
KTI	**Kastanea**	**1.28**	**353**	P	Pn	**09 33 22.0**	**+1.1**	
PAIG	**Paliouri**	**1.32**	**52**	P	Pn	**09 33 21.4**	**+0.1**	
PAIG				S	Sn	**09 33 38.2**	**-0.9**	
	comp=E,2µm,0.4s							
PAIG	**Paliouri**	**1.32**	**52**	P	Pn	**09 33 21.4**	**+0.1**	
NYDR	**Nydri-Lefkada**	**1.33**	**253**	P	Pn	**09 33 22.2**	**+0.9**	
NYDR				S	Sn	**09 33 39.9**	**+0.8**	
	comp=E,1µm,0.5s							
TSLK	**Tsoukalades, L**	**1.33**	**258**	P	Pn	**09 33 22.4**	**+1.1**	
TSLK	**Tsoukalades, L**	**1.33**	**258**	P	Pn	**09 33 22.4**	**+1.1**	
LKD2	**Lefkada island**	**1.34**	**256**	P	Pn	**09 33 22.5**	**+1.1**	
LKD2	**Lefkada island**	**1.34**	**256**	P	Pn	**09 33 22.5**	**+1.1**	
LKD2				S	Sn	**09 33 40.0**	**+0.5**	
EVGI	**Lefkada island**	**1.39**	**250**	P	Pn	**09 33 23.1**	**+1.0**	
EVGI				S	Sn	**09 33 41.5**	**+0.9**	
	comp=E,2µm,0.1s							
EVGI	**Lefkada island**	**1.39**	**250**	P	Pn	**09 33 23.1**	**+1.0**	
EVGI				S	Sn	**09 33 41.0**	**+0.4**	
PENT	**Pentalofos**	**1.41**	**320**	P	Pn	**09 33 24.1**	**+1.7**	
PENT	**Pentalofos**	**1.41**	**320**	P	Pn	**09 33 24.1**	**+1.7**	
PENT				S	Sn	**09 33 42.6**	**+1.5**	
PENT				AML	AML	09 33 45.4		
	comp=E,3712µm,0.5s							
PENT				AML	AML	09 33 47.9		
	comp=N,4714µm,0.3s							
KYMI	**Kymi, Euboea I**	**1.47**	**109**	P	Pn	**09 33 23.5**	**+0.4**	
KYMI				S	Sn	**09 33 41.6**	**-0.7**	
KYMI	**Kymi, Euboea I**	**1.47**	**109**	P	Pn	**09 33 23.5**	**+0.4**	
KYMI				S	Sn	**09 33 41.4**	**-1.0**	
KYMI				AML	AML	09 33 41.8		
	comp=N,1400µm,0.4s							
KYMI				AML	AML	09 33 43.2		
	comp=E,2335µm,0.6s							
PLG	**Polygyros**	**1.52**	**34**	P	Pn	**09 33 23.9**	**+0.1**	
ATH	**Athens Observa**	**1.58**	**136**	P	Pn	**09 33 25.2**	**+0.7**	
ATH				S	Sn	**09 33 44.0**	**-0.8**	
	comp=E,6µm,0.5s							
ATH	**Athens Observa**	**1.58**	**136**	P	Pn	**09 33 25.1**	**+0.7**	
ATH				AML	AML	09 33 44.7		
	comp=N,7908µm,0.8s							
ATH				AML	AML	09 33 45.0		
	comp=E,15143µm,0.3s							
TRIP	**Tripoli**	**1.59**	**181**	P	Pn	**09 33 25.3**	**+0.6**	
TRIP	**Tripoli**	**1.59**	**181**	P	Pn	**09 33 25.4**	**+0.8**	
TRIP				S	Sn	**09 33 45.4**	**+0.3**	
TRIP				AML	AML	09 33 50.5		
	comp=N,3472µm,0.5s							
TRIP				AML	AML	09 33 53.4		
	comp=E,2712µm,0.7s							
THE	**Thessaloniki**	**1.59**	**18**	P	Pn	**09 33 24.6**	**0.0**	
THE	**Thessaloniki**	**1.59**	**18**	P	Pn	**09 33 24.6**	**0.0**	
THE				AML	AML	09 33 44.0		
	comp=E,656µm,0.3s							
THE				AML	AML	09 33 45.5		
	comp=N,936µm,0.3s							
HORT	**Hortiatis**	**1.59**	**22**	P	Pn	**09 33 24.7**	**0.0**	
HORT	**Hortiatis**	**1.59**	**22**	P	Pn	**09 33 24.7**	**0.0**	
IGT	**Igoumenitsa**	**1.60**	**286**	P	Pn	**09 33 25.6**	**+0.9**	
IGT	**Igoumenitsa**	**1.60**	**286**	*e*Pg	Pn	**09 33 25.4**	**+0.7**	
IGT				*e*Sn	Sn	**09 33 45.5**	**+0.3**	
IGT	**Igoumenitsa**	**1.60**	**286**	P	Pn	**09 33 25.5**	**+0.9**	
IGT				AML	AML	09 33 58.0		
	comp=N,1822µm,0.3s							
IGT				AML	AML	09 34 00.5		
	comp=E,2260µm,0.3s							
PTL	**Penteli**	**1.61**	**131**	P	Pn	**09 33 25.6**	**+0.7**	
PTL				S	Sn	**09 33 44.7**	**-0.9**	
	comp=E,2µm,0.6s							
PTL	**Penteli**	**1.61**	**131**	P	Pn	**09 33 25.6**	**+0.7**	
PTL				S	Sn	**09 33 44.7**	**-0.9**	
PTL				AML	AML	09 33 44.9		
	comp=E,2838µm,0.6s							
PTL				AML	AML	09 33 45.5		
	comp=N,4013µm,0.7s							
NEST	**Nestorio**	**1.62**	**323**	P	Pn	**09 33 27.0**	**+1.9**	
NEST	**Nestorio**	**1.62**	**323**	P	Pn	**09 33 27.2**	**+2.1**	
NEST				S	Sn	**09 33 47.4**	**+1.5**	
NEST				AML	AML	09 33 51.0		
	comp=E,4529µm,0.4s							
NEST				AML	AML	09 33 53.2		
	comp=N,5260µm,0.3s							
ATHU	**Athens Univers**	**1.62**	**135**	P	Pn	**09 33 25.6**	**+0.6**	
ATHU				S	Sn	**09 33 45.3**	**-0.5**	
ATHU	**Athens Univers**	**1.62**	**135**	P	Pn	**09 33 25.6**	**+0.6**	
ATHU				S	Sn	**09 33 44.7**	**-1.2**	
ATHU				AML	AML	09 33 45.2		
	comp=E,944µm,0.8s							
ATHU				AML	AML	09 33 45.4		
	comp=N,1465µm,0.5s							
EPID	**Epidavros**	**1.63**	**157**	P	Pn	**09 33 25.5**	**+0.4**	
EPID	**Epidavros**	**1.63**	**157**	P	Pn	**09 33 25.5**	**+0.4**	
DION	**Dionisos Attik**	**1.64**	**129**	P	Pn	**09 33 25.9**	**+0.7**	
DION				S	Sn	**09 33 45.2**	**-0.9**	
DION	**Dionisos Attik**	**1.64**	**129**	P	Pn	**09 33 25.9**	**+0.7**	
DION				S	Sn	**09 33 45.3**	**-0.9**	
DION				AML	AML	09 33 45.7		
	comp=N,6926µm,0.5s							
DION				AML	AML	09 33 46.8		
	comp=E,5435µm,0.3s							
VLS	**Valsamata**	**1.65**	**236**	P	Pn	**09 33 25.6**	**+0.2**	
VLS	**Valsamata**	**1.65**	**236**	P	Pn	**09 33 25.6**	**+0.2**	
VLS				AML	AML	09 33 50.6		
	comp=N,4253µm,0.3s							
VLS				AML	AML	09 33 57.3		
	comp=E,3826µm,0.3s							
AMT	**Artemida-Makis**	**1.66**	**197**	P	Pn	**09 33 27.0**	**+1.5**	
KEF5	**Kardakata, Kep**	**1.68**	**241**	P	Pn	**09 33 26.0**	**+0.3**	
LSK	**Leskovik**	**1.68**	**308**	P	Pn	**09 33 27.8**	**+2.0**	
PSDA	**Pessada-Kefalo**	**1.69**	**234**	P	Pn	**09 33 26.3**	**+0.5**	
PSDA	**Pessada-Kefalo**	**1.69**	**234**	P	Pn	**09 33 26.3**	**+0.5**	
VLY	**Voula,Athens**	**1.71**	**137**	P	Pn	**09 33 26.8**	**+0.7**	
VLY				S	Sn	**09 33 47.1**	**-0.7**	
	comp=E,3µm,0.5s							
VLY	**Voula,Athens**	**1.71**	**137**	P	Pn	**09 33 26.8**	**+0.7**	
VLY				AML	AML	09 33 47.2		
	comp=N,7885µm,0.5s							
VLY				AML	AML	09 33 48.5		
	comp=E,5748µm,0.5s							
VLX	**Vlachokerasia**	**1.75**	**178**	P	Pn	**09 33 27.3**	**+0.6**	
SKY	**Skiros Island**	**1.75**	**97**	P	Pn	**09 33 27.2**	**+0.5**	
SKY	**Skiros Island**	**1.75**	**97**	P	Pn	**09 33 27.2**	**+0.5**	
DMLN	**Damoulianata-K**	**1.76**	**241**	P	Pn	**09 33 27.1**	**+0.3**	
OUR	**Ouranopolis**	**1.77**	**46**	P	Pn	**09 33 27.2**	**+0.4**	
OUR				S	Sn	**09 33 48.8**	**-0.2**	
OUR	**Ouranopolis**	**1.77**	**46**	P	Pn	**09 33 27.2**	**+0.4**	
VLMS	**Volimes, Zakyn**	**1.80**	**227**	P	Pn	**09 33 27.9**	**+0.6**	
VLMS				AML	AML	09 33 51.1		
	comp=E,5282µm,0.2s							
VLMS				AML	AML	09 33 53.3		
	comp=N,5100µm,0.2s							
KRND	**KRANIDI**	**1.85**	**159**	P	Pn	**09 33 28.5**	**+0.5**	
KRND				S	Sn	**09 33 51.2**	**+0.2**	
	comp=N,4µm,0.8s							
KRND	**KRANIDI**	**1.85**	**159**	P	Pn	**09 33 28.4**	**+0.5**	
SOH	**Sokhos**	**1.88**	**25**	P	Pn	**09 33 29.3**	**+1.0**	
SOH	**Sokhos**	**1.88**	**25**	P	Pn	**09 33 29.2**	**+0.8**	
SRN	**Sarande**	**1.95**	**294**	P	Pn	**09 33 30.1**	**+0.9**	
KASA	**Kassiopi**	**1.95**	**290**	P	Pn	**09 33 30.3**	**+1.1**	
ITM	**Ithomi**	**1.96**	**189**	P	Pn	**09 33 30.6**	**+1.2**	
ITM	**Ithomi**	**1.96**	**189**	P	Pn	**09 33 30.6**	**+1.2**	
ITM	**Ithomi**	**1.96**	**189**	Pn	Pn	**09 33 30.6**	**+1.2**	
KARY	**Karystos**	**1.98**	**123**	P	Pn	**09 33 30.4**	**+0.8**	
KARY	**Karystos**	**1.98**	**123**	P	Pn	**09 33 30.4**	**+0.8**	
KEK	**Kerkira**	**2.04**	**288**	P	Pn	**09 33 31.2**	**+0.8**	
KEK	**Kerkira**	**2.04**	**288**	P	Pn	**09 33 31.2**	**+0.8**	
KNT	**Kendrikon**	**2.09**	**12**	P	Pn	**09 33 32.1**	**+1.1**	
KNT	**Kendrikon**	**2.09**	**12**	P	Pn	**09 33 32.2**	**+1.1**	
VAY	**Valandovo**	**2.21**	**5**	*e*Pn	Pn	**09 33 33.6**	**+1.0**	
VAY				*e*Sn	Sn	**09 33 57.1**	**-2.2**	
VAY	**Valandovo**	**2.21**	**5**	⇓*i*Pn	Pn	**09 33 33.7**	**+1.1**	
SRS	**Serrai**	**2.22**	**26**	P	Pn	**09 33 33.4**	**+0.6**	
SRS	**Serrai**	**2.22**	**26**	P	Pn	**09 33 33.3**	**+0.6**	
PYL	**PYLOS**	**2.27**	**192**	P	Pn	**09 33 33.6**	**+0.2**	
PYL	**PYLOS**	**2.27**	**192**	P	Pn	**09 33 33.6**	**+0.2**	
OHR	**Ohrid**	**2.31**	**330**	⇓*i*Pn	Pn	**09 33 35.7**	**+1.7**	
LIA	**Limnos Island**	**2.35**	**70**	P	Pn	**09 33 34.9**	**+0.5**	
THAS	**Thassos island**	**2.37**	**50**	P	Pn	**09 33 34.9**	**+0.2**	
THAS	**Thassos island**	**2.37**	**50**	P	Pn	**09 33 34.9**	**+0.2**	
VLI	**Veliai**	**2.44**	**168**	P	Pn	**09 33 36.1**	**+0.3**	
VLI	**Veliai**	**2.44**	**168**	P	Pn	**09 33 35.9**	**+0.2**	
MNVA	**Monemvasia**	**2.49**	**167**	P	Pn	**09 33 37.3**	**+0.9**	
KAVA	**Kavala**	**2.52**	**41**	P	Pn	**09 33 37.0**	**+0.3**	
KAVA	**Kavala**	**2.52**	**41**	P	Pn	**09 33 37.0**	**+0.3**	
NVR	**Nevrokopi**	**2.52**	**27**	P	Pn	**09 33 37.6**	**+0.8**	
NVR	**Nevrokopi**	**2.52**	**27**	P	Pn	**09 33 37.5**	**+0.7**	
STIP	**Stip**	**2.58**	**358**	⇓*i*Pn	Pn	**09 33 39.2**	**+1.8**	
SERI	**Serifos**	**2.59**	**138**	P	Pn	**09 33 38.3**	**+0.5**	
SERI	**Serifos**	**2.59**	**138**	P	Pn	**09 33 38.3**	**+0.5**	
SERI				AML	AML	09 34 07.6		
	comp=E,369µm,0.4s							
SERI				AML	AML	09 34 08.8		
	comp=N,452µm,0.4s							
TNSA	**Tinos**	**2.73**	**124**	P	Pn	**09 33 40.5**	**+1.0**	
SIGR	**SIGRI**	**2.75**	**87**	P	Pn	**09 33 40.7**	**+0.9**	
SMTH	**Samothraki Isl**	**2.82**	**60**	P	Pn	**09 33 40.6**	**-0.1**	
MHLA	**Plaka, Milos I**	**2.89**	**144**	P	Pn	**09 33 42.2**	**+0.5**	
KTHR	**Kythira**	**2.90**	**169**	P	Pn	**09 33 43.2**	**+1.3**	
TIR	**Tirane**	**2.91**	**321**	*e*Pn	Pn	**09 33 43.3**	**+1.3**	
TIR				*e*Sn	Sn	**09 34 14.5**	**-1.7**	
TIR	**Tirane**	**2.91**	**321**	⇑P	Pn	**09 33 41.4**	**-0.6**	
TIR	**Tirane**	**2.91**	**321**	⇓S	Sn	**09 34 16.2**	**0.0**	
KTHA	**Kythira Island**	**2.92**	**168**	P	Pn	**09 33 43.9**	**+1.8**	
KTHA	**Kythira Island**	**2.92**	**168**	P	Pn	**09 33 43.5**	**+1.4**	
SKO	**Skopje**	**2.93**	**347**	*e*Pn	Pn	**09 33 43.7**	**+1.5**	
SKO				*e*Sn	Sn	**09 34 14.2**	**-2.3**	
SKO	**Skopje**	**2.93**	**347**	*i* Pn	Pn	**09 33 44.0**	**+1.8**	
MHLO	**Agia Marina, M**	**2.93**	**145**	P	Pn	**09 33 43.4**	**+1.2**	
SCTE	**Santa Cesarea**	**3.13**	**289**	Pn	Pn	**09 33 44.9**	**+0.1**	
RDO	**Rodhopi**	**3.19**	**50**	P	Pn	**09 33 46.2**	**+0.5**	
RDO	**Rodhopi**	**3.19**	**50**	P	Pn	**09 33 46.2**	**+0.5**	
APE	**Apeiranthos**	**3.25**	**128**	P	Pn	**09 33 47.8**	**+1.1**	
APE	**Apeiranthos**	**3.25**	**128**	P	Pn	**09 33 47.7**	**+1.1**	
APE	**Apeiranthos**	**3.25**	**128**	⇑P	Pn	**09 33 47.8**	**+1.1**	
ANKY	**Antikythira Is**	**3.34**	**166**	P	Pn	**09 33 48.6**	**+0.8**	
ANKY	**Antikythira Is**	**3.34**	**166**	P	Pn	**09 33 48.5**	**+0.8**	
ALN	**Alexandroupoli**	**3.37**	**57**	P	Pn	**09 33 48.8**	**+0.7**	
ALN	**Alexandroupoli**	**3.37**	**57**	Pn	Pn	**09 33 49.0**	**+0.9**	
BOSS	**Bosilegrad**	**3.38**	**2**	*e*Pn	Pn	**09 33 48.8**	**+0.6**	
BOSS				*e*Sn	Sn	**09 34 26.6**	**-0.7**	
PLD	**Plovdiv**	**3.49**	**31**	*e*Pn	Pn	**09 33 47.2**	**-2.6**	
AMGA	**Amorgos Island**	**3.63**	**128**	P	Pn	**09 33 53.0**	**+1.3**	
ULC	**Ulcinj**	**3.68**	**321**	⇓*i*Pn	Pn	**09 33 52.5**	**+0.1**	
ULC				*i* Sn	Sn	**09 34 34.0**	**-0.8**	
SANT	**Santorini**	**3.70**	**137**	Pn	Pn	**09 33 54.7**	**+2.0**	
SMG	**Samos**	**3.82**	**110**	P	Pn	**09 33 55.6**	**+1.4**	
DRME	**Dracevica, Mon**	**3.88**	**323**	*e*Pn	Pn	**09 33 55.7**	**+0.6**	
DRME				*i* Sn	Sn	**09 34 38.6**	**-1.0**	
DRME	**Dracevica, Mon**	**3.88**	**323**	⇓*i*Pn	Pn	**09 33 55.3**	**+0.2**	
PVY	**Plav**	**3.91**	**333**	⇓*i*Pn	Pn	**09 33 56.5**	**+1.0**	
PVY				*i* Sn	Sn	**09 34 39.2**	**-1.1**	
CGL1	**Ceglie Messapi**	**4.03**	**294**	⇓*i*Pn	Pn	**09 33 56.7**	**-0.4**	
CGL1				Sn	Sn	**09 34 39.3**	**-3.9**	
PDG	**Podgorica**	**4.04**	**326**	*e*Pn	Pn	**09 33 57.7**	**+0.5**	
PDG				*e*Sn	Sn	**09 34 40.1**	**-3.4**	
PDG	**Podgorica**	**4.04**	**326**	⇓P	Pn	**09 33 57.8**	**+0.6**	
PDG	**Podgorica**	**4.04**	**326**	⇑S	Sn	**09 34 43.4**	**-0.1**	
PDG	**Podgorica**	**4.04**	**326**	⇓*i*Pn	Pn	**09 33 57.6**	**+0.4**	
PDG	**Podgorica**	**4.04**	**326**	Pn	Pn	**09 33 57.9**	**+0.6**	
TTG	**Podgorica**	**4.04**	**326**	⇓*i*Pn	Pn	**09 33 57.7**	**+0.5**	
TTG				*i* Sn	Sn	**09 34 42.4**	**-1.1**	
BUM	**Brajici-Budva**	**4.11**	**322**	⇑*i*Pn	Pn	**09 33 58.3**	**+0.1**	
BUM				*i* Sn	Sn	**09 34 43.8**	**-1.4**	
TAR1	**Taranto**	**4.12**	**292**	⇑*i*Pn	Pn	**09 33 57.9**	**-0.4**	
TAR1				Sn	Sn	**09 34 40.9**	**-4.5**	
ZAPS	**Zavoj**	**4.16**	**3**	*e*Pn	Pn	**09 34 00.8**	**+2.0**	
ZAPS				*e*Sn	Sn	**09 34 45.2**	**-1.1**	
IVA	**Berane**	**4.18**	**335**	*e*Pn	Pn	**09 34 00.1**	**+1.0**	
IVA				*i* Sn	Sn	**09 34 45.5**	**-1.3**	
SELS	**Selova**	**4.20**	**348**	*e*Pn	Pn	**09 34 00.0**	**+0.7**	
CEME	**Cevo**	**4.29**	**324**	⇓*i*Pn	Pn	**09 34 00.6**	**0.0**	
CEME				*i* Sn	Sn	**09 34 48.0**	**-1.5**	
KOME	**Kolasin**	**4.29**	**331**	⇓*i*Pn	Pn	**09 34 01.6**	**+0.9**	
KOME				*i* Sn	Sn	**09 34 48.1**	**-1.5**	
TIP	**Timpagrande**	**4.33**	**273**	⇑P	Pn	**09 34 01.2**	**+0.1**	
TIP	**Timpagrande**	**4.33**	**273**	⇑S	Sn	**09 34 48.2**	**-2.3**	
TIP	**Timpagrande**	**4.33**	**273**	Pn	Pn	**09 34 01.3**	**+0.1**	
IDI	**Anoyia**	**4.34**	**151**	P	Pn	**09 34 01.8**	**+0.5**	
	comp=N,2.3nm,0.3s,baz=285,slow=7.2,SNR=10							
IDI				S	Sn	**09 34 47.6**	**-3.2**	
	comp=N,8.3nm,0.3s,baz=329,slow=16,SNR=4.2							
IDI	**Anoyia**	**4.34**	**151**	⇑P	Pn	**09 34 02.2**	**+0.9**	
IDI	**Anoyia**	**4.34**	**151**	⇑S	Sn	**09 34 52.6**	**+1.8**	
IDI	**Anoyia**	**4.34**	**151**		Pn	**09 34 01.3**	**0.0**	
HCY	**Herceg Novi**	**4.42**	**320**	*e*Pn	Pn	**09 34 01.6**	**-0.7**	
HCY				*i* Sn	Sn	**09 34 50.4**	**-2.1**	
HCY	**Herceg Novi**	**4.42**	**320**	*e*Pn	Pn	**09 33 59.8**	**-2.5**	
NKME	**Niksic**	**4.45**	**326**	⇓*i*Pn	Pn	**09 34 03.0**	**+0.2**	
NKME				*i* Sn	Sn	**09 34 51.9**	**-1.5**	
NKY	**Niksic**	**4.47**	**327**	⇓*i*Pn	Pn	**09 34 03.7**	**+0.6**	
NKY				*i* Sn	Sn	**09 34 52.3**	**-1.6**	
SJES	**Sjenica**	**4.50**	**338**	*e*Pn	Pn	**09 34 04.7**	**+1.1**	
SJES				*e*Sn	Sn	**09 34 50.5**	**-4.2**	
SJES	**Sjenica**	**4.50**	**338**	*e*Pn	Pn	**09 34 03.8**	**+0.2**	
MATE	**Matera**	**4.58**	**291**	⇑P	Pn	**09 34 03.8**	**-0.7**	
BAI	**Bari**	**4.62**	**297**	*e*Pn	Pn	**09 34 04.5**	**-0.5**	
SG1	**Sgolgore (BA)**	**4.66**	**293**	⇓*i*Pn	Pn	**09 34 05.5**	**-0.2**	
SG1				Sn	Sn	**09 34 53.9**	**-4.7**	
TREB	**Trebinje**	**4.69**	**321**	*e*Pn	Pn	**09 34 06.4**	**+0.4**	
TREB				*e*Sn	Sn	**09 34 55.6**	**-3.5**	
TREB	**Trebinje**	**4.69**	**321**	*e*Pn	Pn	**09 34 04.7**	**-1.3**	
ZAGS	**Zajecar**	**4.69**	**359**	*e*Pn	Pn	**09 34 07.1**	**+1.1**	
BRY	**Bratogost**	**4.74**	**324**	*e*Pn	Pn	**09 34 06.5**	**-0.4**	
BRY				*i* Sn	Sn	**09 34 58.8**	**-1.8**	
BRY	**Bratogost**	**4.74**	**324**	*e*Pn	Pn	**09 34 06.4**	**-0.4**	
PLE	**Pljevlja**	**4.75**	**333**	*e*Pn	Pn	**09 34 07.8**	**+0.8**	
PLE				*i* Sn	Sn	**09 34 59.1**	**-1.8**	
UPM	**Unac-Piva**	**4.83**	**329**	⇑*i*Pn	Pn	**09 34 08.8**	**+0.8**	
UPM				*i* Sn	Sn	**09 35 00.9**	**-1.9**	
UPM	**Unac-Piva**	**4.83**	**329**	*e*Pn	Pn	**09 34 09.0**	**+1.0**	
MANT	**Manisa**	**4.91**	**95**	Pn	Pn	**09 34 11.4**	**+2.2**	
GRUS	**Gruza**	**4.92**	**346**	*e*Pn	Pn	**09 34 09.3**	**+0.2**	
GRUS				*e*Sn	Sn	**09 35 02.4**	**-2.2**	
RUDO	**Rudo**	**5.01**	**335**	*e*Pn	Pn	**09 34 06.8**	**-3.6**	
CEL	**Celeste**	**5.10**	**262**	Pn	Pn	**09 34 11.9**	**+0.2**	
BBLS	**Lazići**	**5.22**	**336**	*e*Pn	Pn	**09 34 13.3**	**0.0**	
BBLS				*e*Sn	Sn	**09 35 09.2**	**-3.1**	
BBLS	**Lazići**	**5.22**	**336**	*e*Pn	Pn	**09 34 13.0**	**-0.3**	
KARP	**Karpathos**	**5.25**	**131**	Pn	Pn	**09 34 14.8**	**+1.1**	
DIVS	**Divibare**	**5.27**	**341**	*e*Pn	Pn	**09 34 14.6**	**+0.6**	
DIVS				*e*Sn	Sn	**09 35 11.0**	**-2.5**	
DIVS	**Divibare**	**5.27**	**341**	*e*Pn	Pn	**09 34 13.5**	**-0.5**	
DIVS	**Divibare**	**5.27**	**341**	Pn	Pn	**09 34 14.6**	**+0.6**	
TRUS	**Trudelj**	**5.30**	**345**	*e*Pn	Pn	**09 34 14.8**	**+0.5**	
TRUS				*e*Sn	Sn	**09 35 10.8**	**-3.2**	
HAPS	**Han Pijesak,BI**	**5.57**	**334**	*e*Pn	Pn	**09 34 19.5**	**+1.4**	
HAPS				*e*Sn	Sn	**09 35 16.7**	**-4.0**	
HAPS	**Han Pijesak,BI**	**5.57**	**334**	*e*Pn	Pn	**09 34 16.9**	**-1.2**	
SGRT	**San Giovanni R**	**5.67**	**300**	Pn	Pn	**09 34 18.5**	**-0.8**	
MDVR	**Moldovita**	**5.68**	**356**	⇓P	Pn	**09 34 20.6**	**+1.1**	
PAOL	**Paolisi**	**6.25**	**290**	Pn	Pn	**09 34 28.0**	**+0.8**	
GZR	**Gura Zlata**	**6.28**	**3**	⇑P	Pn	**09 34 29.7**	**+2.0**	
FRGS	**Fruska Gora**	**6.32**	**344**	*e*Pn	Pn	**09 34 29.3**	**+1.2**	
LOT	**Lotru**	**6.42**	**9**	⇑P	Pn	**09 34 31.3**	**+1.7**	
ELL	**Elmali**	**6.45**	**109**	Pn

IHUS	Husbondi	0.39	192	P		Pb	09 37 38.3 -2.2
	baz=194						
ISKR	Skrokkalda	0.41	255	P		Pg	09 37 38.6 -1.1
	baz=255						
ISKR				S		Sb	09 37 45.6 -1.7
	baz=255						
IVOT	Vottur	0.42	163	P		Pg	09 37 38.7 -1.1
	baz=165						
THOR	Thorvaldshraun	0.43	52	P		Pg	09 37 38.6 -1.4
	baz=51						
IKRE	Kreppuhraun	0.48	76	P		Pg	09 37 39.3 -1.6
	baz=76						
IJOK	Jokulheimar	0.48	223	P		Pb	09 37 40.2 -2.0
	baz=224						
IJOK				S		Sb	09 37 47.1 -2.3
	baz=224						
IASK	Askja	0.52	42	P		Pg	09 37 40.1 -1.6
	baz=41						
IASK				S		Sg	09 37 47.3 -1.2
	baz=41						
IMKO	Mokollar	0.57	57	P		Pg	09 37 41.0 -1.7
	baz=56						
IMKO				S		Sg	09 37 49.0 -1.2
	baz=56						
IIEY	Innrieyrar	0.64	207	P		Pg	09 37 42.6 -1.5
	baz=208						
IIEY				S		Sb	09 37 51.6 -2.4
	baz=208						
IKSK	Karasker	0.67	139	P		Pg	09 37 42.0 -2.6
	baz=140						
ISVA	Svartarkot	0.68	8	P		Pg	09 37 42.7 -2.0
	baz=6.5						
IKAL	Kalfafell	0.73	188	P		Pg	09 37 43.8 -1.9
	baz=189						
IVSH	V-Sauoahnukur	0.76	79	P		Pg	09 37 43.9 -2.3
	baz=79						
IVAT	Vatnsfell	0.80	233	P		Pg	09 37 45.4 -1.4
	baz=234						
IADA	Aoalbol	0.88	66	P		Pg	09 37 45.9 -2.7
	baz=66						
IHVE	Hveravellir	0.92	284	P		Pg	09 37 46.9 -2.4
	baz=283						
IMEL	Melhnausar	0.97	20	P		Pg	09 37 47.5 -2.7
	baz=20						
IREN	Reynihlio	1.01	13	P		Pg	09 37 48.2 -2.8
	baz=13						
ISNB	Snabyli	1.07	209	P		Pg	09 37 49.7 -2.3
	baz=210						
ISNB				S		Sg	09 38 03.4 -2.5
	baz=210						
ISLY	Slysaalda	1.11	221	P		Pg	09 37 50.6 -2.4
	baz=222						
IGRS	Grimsstaoir	1.13	30	P		Pb	09 37 50.2 -2.9
	baz=29						
IFED	Fedgar	1.16	237	P		Pb	09 37 51.9 -1.8
	baz=238						
IRJU	Rjupnafell	1.18	207	P		Pb	09 37 51.9 -2.2
	baz=208						
IMJO	Mjoaskard	1.21	233	P		Pb	09 37 52.7 -2.0
	baz=234						
ISKI	Skildingahlsh	1.22	9	P		Pn	09 37 51.5 -3.2
	baz=7.9						
IGHA	Grjothals	1.23	16	P		Pn	09 37 51.7 -3.1
	baz=15						
IGYG	Gyngjarholskot	1.25	253	P		Pn	09 37 52.7 -2.4
	baz=253						
IGRA	Granastaoir	1.25	358	P		Pn	09 37 52.3 -2.8
	baz=357						
IHAU	Haukadalur	1.30	238	P		Pn	09 37 53.7 -2.0
	baz=238						
IHVO	Lagu-Hvolar	1.30	208	P		Pn	09 37 54.0 -1.7
	baz=209						
IDIM	Dimmadalss	1.32	10	P		Pn	09 37 53.3 -2.7
	baz=9.0						
IHLA	Hella	1.34	344	P		Pn	09 37 54.0 -2.2
	baz=343						
IALF	Alftagrof	1.40	213	P		Pn	09 37 55.5 -1.7
	baz=214						
IHED	Heoinshofoi	1.42	3	P		Pn	09 37 55.0 -2.4
	baz=2.1						
IESK	Eystri-Skogar	1.44	218	P		Pn	09 37 55.8 -1.9
	baz=218						
ISAU	Saurbar	1.45	243	P		Pn	09 37 55.9 -1.9
	baz=244						
IBRE	Brettingsstaoi	1.47	353	P		Pn	09 37 55.8 -2.3
	baz=352						
IGIL	Gilhagi	1.49	18	P		Pn	09 37 55.8 -2.5
	baz=17						
ISIG	Siglufjorour	1.59	338	P		Pn	09 37 57.7 -2.0
	baz=338						
IASM	Asmuli	1.61	240	P		Pn	09 37 58.5 -1.5
	baz=240						
BORG	Borgarnes	1.66	274	Pg		Pn	09 37 59.0 -1.7
	32nm,0.3s,baz=88,slow=7.4,SNR=72						
BORG				Lg		Lg	09 38 21.1
	19nm,0.3s,baz=262,slow=22,SNR=10						
BORG				LR		LR	09 38 30.2
	comp=Z,87nm,21.9s,baz=177,slow=37						
BORG	Borgarnes	1.66	274	Pn		Pn	09 37 59.0 -1.7
BORG				Sn		Sb	09 38 21.6 -1.5
IKRO	Krokur	1.69	252	P		Pn	09 37 59.3 -1.8
	baz=252						
ISOL	Solvholt	1.69	245	P		Pn	09 37 59.8 -1.3
	baz=246						
IHEI	Heioarbar	1.70	256	P		Pn	09 37 59.9 -1.3
	baz=256						
IVME	Vestmannaeyjar	1.76	226	P		Pn	09 38 01.4 -0.7
	baz=226						
IVME				S		Sn	09 38 22.3 -2.2
	baz=226						
IHRN	Hraun	1.82	324	P		Pn	09 38 01.4 -1.5
	baz=323						
ISAN	Sandskeio	1.89	253	P		Pn	09 38 02.7 -1.2
	baz=253						
IKAS	Kald??rsel	2.02	253	P		Pn	09 38 05.3 -0.3
	baz=253						
SUMG	Summit	10.95	325	Pn		Pn	09 40 11.5 +3.1
EKA	Eskdalemuir Ar	11.75	136	Pn		Pn	09 40 18.6 -0.5
	baz=325,slow=13,SNR=2.8						
ESK	Eskdalemuir	11.75	136	Pn		Pn	09 40 19.9 +0.8
NC303	NORSAR Array S	13.50	92	Pn		Pn	09 40 44.1 +1.2
FINES	FINESS Array B	19.69	79	P		Pn	09 42 01.3 -0.7
	0.1nm,0.3s,baz=298,slow=9.3,SNR=1.9						
FINES	FINESS Array B	19.69	79	P		Pn	09 42 01.6 -0.4
ECH	Echery	21.14	129	P		P	09 42 14.3 -2.1
ECH				IAmb		IAmb	09 42 20.9
	comp=Z,12nm,1.3s						
BRG	Berggiesshubel	21.40	115	eP		P	09 42 20.5 +1.4
	comp=Z,14nm,1.2s						
BFO	Black Forest	21.44	127	P		P	09 42 18.5 -1.1
KHC	Kasperske Hory	22.66	118	eP		P	09 42 35.5 +2.8
GERES	GERESS Array B	22.95	119	P		P	09 42 36.7 +0.9
	comp=Z,0.3nm,0.3s,baz=345,slow=7.1,SNR=5.3						
GERES	GERESS Array B	22.95	119	P		P	09 42 34.3 -1.5
EUNU	Eureka	23.67	336	P		P	09 42 42.4 -0.3
EUNU				IAmb		IAmb	09 42 52.2
	comp=Z,7.3nm,1.1s						
ESDC	Sonseca Array	26.25	156	P		P	09 43 06.4 -0.3
	comp=Z,1.1nm,0.8s,baz=351,slow=8.7,SNR=6.6						
ESDC	Sonseca Array	26.25	156	P		P	09 43 05.5 -1.1
RES	Resolute Bay	26.47	324	P		P	09 43 08.3 +0.1
AKASG	Malin Array Be	27.83	98	P		P	09 43 21.6 +1.0
	comp=Z,0.3nm,0.3s,baz=332,slow=9.7,SNR=1.9						
AKASG	Malin Array Be	27.83	98	P		P	09 43 21.3 +0.6
BURAR	Bucovina Array	28.51	106	P		P	09 43 27.9 +0.9
CLTB	Caltabellotta	32.63	131	P		P	09 44 02.8 -0.6
MDT	Midelt	32.85	160	P		P	09 44 06.0 +0.7
	comp=Z,4.9nm,1.2s,baz=356,slow=12,SNR=3.8						
AGG	Agios Georgios	34.56	118	P		P	09 44 20.2 +0.2
MOQ	Mont Orford	35.44	264	P		P	09 44 28.0 +0.3
BRTR	Keskin Array B	38.47	105	P		P	09 44 56.1 +2.6
	comp=Z,1.3nm,0.8s,baz=333,slow=8.6,SNR=2.6						
BRTR	Keskin Array B	38.47	105	P		P	09 44 53.6 +0.1
KBZ	Khabaz	39.10	92	P		P	09 45 01.4 +2.9
	comp=Z,3.0nm,0.8s,baz=324,slow=14,SNR=5.1						
BMAR	Burnt Mountain	42.90	333	P		P	09 45 31.0 +1.4
G40A	Rib Lake	43.17	280	P		P	09 45 31.5 -0.6
G40A				IAmb		IAmb	09 45 52.2
	comp=Z,11nm,1.1s						
ILAR	Eielson Array	45.69	332	P		P	09 45 54.4 +2.5
	comp=Z,1.5nm,1.0s,baz=31,slow=5.7,SNR=11						
ILAR				PcP		PcP	09 47 30.9 +1.3
	comp=Z,1.0nm,1.1s,baz=354,slow=3.6,SNR=4.1						
ILAR				LR		LR	10 06 34.4
	comp=Z,30nm,19.0s,baz=232,slow=38						
ILAR	Eielson Array	45.69	332	P		P	09 45 52.6 +0.7
COLA	College	45.79	333	P		P	09 45 53.2 +0.5
COLA				IAmb		IAmb	09 45 57.1
	comp=Z,11nm,1.2s						
ZALV	Zalesovo Beam	47.62	51	P		P	09 46 09.2 +2.1
	comp=Z,0.4nm,0.4s,baz=311,slow=9.4,SNR=1.6						
ZALV	Zalesovo Beam	47.62	51	P		P	09 46 08.8 +1.7
MKAR	Makanchi Array	52.71	58	P		P	09 46 47.3 +1.4
	comp=Z,1.1nm,1.1s,baz=354,slow=3.7,SNR=5.1						
TORD	Torodi Ar. Bea	53.14	156	P		P	09 46 49.8 +0.5
	comp=Z,2.1nm,1.1s,baz=345,slow=6.5,SNR=6.3						
PDAR	Pinedale Array	53.19	293	P		P	09 46 51.0 +1.3
	comp=Z,1.8nm,0.9s,baz=56,slow=5.8,SNR=9.7						
TXAR	Lajitas Array	62.30	280	P		P	09 47 54.3 +0.6
	comp=Z,0.9nm,1.0s,baz=29,slow=2.9,SNR=6.0						
TXAR	Lajitas Array	62.30	280	P		P	09 47 53.6 -0.1
CMAR	Chiang Mai Arr	84.12	59	P		P	09 50 04.0 +1.4
	comp=Z,0.7nm,0.3s,baz=327,slow=6.5,SNR=4.4						
CMAR	Chiang Mai Arr	84.12	59	P		P	09 50 03.6 +1.1

WEL 28 10:10:00.9, 44°S±159°×17°2E±7°8, h196km±115km, M2.4/6, ML2.5/6, MLv2.4/6, Error ellipse: s-maj=0.2km s-min=0.1km az=2.1, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WACZ	Wakanui South	0.27	310	P		Pn	10 10 27.9	+1.0
RACZ	Rakaia	0.39	1	P		Pn	10 10 22.1	-5.1
MQZ	McQueen's Vall	0.56	43	P		Pn	10 10 23.4	-4.4
AKCZ	Akaroa Harbour	0.61	67	P		Pn	10 10 28.1	0.0
ARCZ	Arundel	0.71	284	P		Pn	10 10 34.9	+6.4
MHCZ	Mount Hutt	0.71	325	P		Pn	10 10 28.2	-0.4
OKCZ	Okains Bay	0.78	60	P		Pn	10 10 28.8	-0.1
AMCZ	Amberley	1.01	22	P		Pn	10 10 27.4	-3.0
GVZ	Greta Valley S	1.33	30	P		Pn	10 10 33.3	+0.5
LTZ	Lake Taylor	1.34	4	P		Pn	10 10 32.8	-0.2
ODZ	Otahua Downs	1.41	228	P		Sn	10 10 53.1	-5.6
HHSZ	Highcliff Hill	2.07	211	P		Sn	10 11 03.2	-7.1

*IDC **28** 10:16:56.4±0.8, 8°.38N×103°.66W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.2/35, mbtmp4.1/15, ML3.2/1, MS4.0/24, Ms1 4.0/24, ms1mx3.9/31, Error ellipse: s-maj=33.3km s-min=14.8km az=62.0*

*NEIC **28** 10:16:59.1.8, 8°.5N±0°.1×103°.5W±0°.1, h10km±2km, mb4.6/120, Error ellipse: s-maj=22.2km s-min=16.5km az=245.0*

*GCMT **28** 10:17:01.0±0.3, 8°.42N±0°.02×103°.68W±0°.02, h12km±2km, MW4.9/93, Moment Tensor Solution. s18,c21; s93,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.05±.09; $M_{\theta\theta}$=0.84±.09; $M_{\phi\phi}$=-0.79±.09; $M_{r\theta}$=-1.20±.32; $M_{r\phi}$=1.93±.08; $M_{\theta\phi}$=0.63±.25; Best double couple: M_o=2.42600×10^{16} NP1:ϕ_s=352.00000°, δ=69.00000°, λ=15.00000°. NP2: ϕ_s=256.00000°, δ=76.00000°, λ=158.00000°. Principal axes: T 2.7670, Plg=26.0000°, Azm=213.0000°; N -0.6840, Plg=64.0000°, Azm=45.0000°; P -2.0840, Plg=5.0000°, Azm=305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 10:16:58.3±0.6, 8°.39N±0°.08×103°.60W±0°.09, h10km, n302, σ1=9.11/279, mb4.6/59, MS4.0/24, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	10.35	28	Pn		Pn	10 19 27.9	+0.9
MOIG	Morelia	11.46	11	Pn		Pn	10 19 41.7	-0.7
CMIG	Matias Romero	12.12	44	Pn		Pn	10 19 51.2	0.0
	0.1nm,0.3s,baz=238,slow=11,SNR=6.4							
CMIG				LR		LR	10 23 24.4	
	comp=Z,2μm,21.1s,baz=186,slow=32							
CCIG	Comitan	13.67	54	Pn		Pn	10 20 13.3	+0.8
HUEH	Huehuetenango	13.69	59	Pn		Pn	10 20 10.8	-2.0
ZAIG	Zacatecas	14.34	4			Pn	10 20 22.0	+0.3
SNET	Serv Nac Est T	15.05	68	Pn		Pn	10 20 29.4	-1.9
MTO3	Montecristo	15.18	66	Pn		Pn	10 20 32.0	-1.1
MTO3				IAmb		IAmb	10 20 51.4	
	comp=Z,44nm,1.7s							
ESQI	Esquipulas	15.25	65	Pn		Pn	10 20 34.3	+0.3
ESQI				IAmb		IAmb	10 20 48.0	
	comp=Z,42nm,1.1s							
LPIG	La Paz	16.89	338	LR		LR	10 25 49.3	
	comp=Z,711nm,19.6s,baz=162,slow=32							
JTS	Las Juntas de	18.49	83	LR		LR	10 25 26.8	
	comp=Z,152nm,19.4s,baz=322,slow=28							
HPIG		18.55	354	P		Pn	10 21 17.9	+2.3
ESPN	Las Esperanzas	19.36	77	P		Pn	10 21 26.3	+1.0
833A	Chaparral WMA,	20.22	11	P		P	10 21 33.1	-0.5
	baz=192							
833A	Chaparral WMA,	20.22	11			P	10 21 34.1	+0.6
TXAR	Lajitas Array	20.84	360	P		P	10 21 41.0	+0.7
	comp=Z,2.7nm,1.0s,baz=174,slow=13,SNR=20							
TXAR				LR		LR	10 29 13.1	
	comp=Z,1μm,18.4s,baz=0.0,slow=35							
TXAR	Lajitas Array	20.84	360	P		P	10 21 38.4	-1.9
TX31	Lajitas Ar. Si	20.84	360	P		P	10 21 39.5	-0.9
TX31				IAmb		IAmb	10 21 56.3	
	comp=Z,48nm,1.1s							
TX32	Lajitas Array	20.84	360	P		P	10 21 39.7	-0.6
JCT	Junction City	22.27	9	P		P	10 21 56.2	+0.6
	baz=190							
JCT	Junction City	22.27	9	P		P	10 21 55.8	+0.2
JCT				IAmb		IAmb	10 22 08.6	
	comp=Z,34nm,1.4s							
HKT	Hockley	22.65	18	P		P	10 21 58.6	-1.1
HKT				IAmb		IAmb	10 22 12.7	
	comp=Z,30nm,1.5s							
435B	Jarrell	22.98	13	P		P	10 22 02.6	-0.5
435B				IAmb		IAmb	10 22 15.8	
	comp=Z,29nm,1.2s							
MNTX	Cornudas Mount	23.25	356	P		P	10 22 06.2	+0.2
	baz=175,SNR=26							
MNTX	Cornudas Mount	23.25	356	P		P	10 22 05.6	-0.4
319A	Douglas	23.48	348	P		P	10 22 06.8	-1.5
319A				IAmb		IAmb	10 22 23.6	
	comp=Z,18nm,1.1s							
GDL2	Guadalupe Moun	23.71	358	P		P	10 22 08.6	-2.0
WHTX	Lake Whitney,	24.17	13	P		P	10 22 14.7	-0.2
	baz=195							
WHTX	Lake Whitney,	24.17	13	P		P	10 22 14.0	-0.8
WHTX				IAmb		IAmb	10 22 26.5	
	comp=Z,27nm,1.4s							
121A	Cookes Peak, D	24.34	351	P		P	10 22 17.1	+0.5
	baz=170							
121A	Cookes Peak, D	24.34	351	P		P	10 22 15.1	-1.5
121A				IAmb		IAmb	10 22 25.2	
	comp=Z,24nm,1.4s							
ABTX	Abilene, Hawle	24.39	8	P		P	10 22 16.6	-0.3
	baz=189,SNR=5.9							
ABTX	Abilene, Hawle	24.39	8	P		P	10 22 16.0	-1.0
ABTX				IAmb		IAmb	10 22 17.8	
	comp=Z,15nm,0.9s							
NATX	Nacogdoches	24.70	18	P		P	10 22 19.2	-0.4
NATX				IAmb		IAmb	10 22 20.5	
	comp=Z,12nm,0.7s							
TUC	Tucson	24.72	345	P		P	10 22 21.2	+1.2
	baz=162							
TUC	Tucson	24.72	345	P		P	10 22 21.0	+1.0
TUC				IAmb		IAmb	10 22 27.3	
	comp=Z,20nm,1.2s							
214A	Organ Pipe Nat	24.97	341	P		P	10 22 24.6	+2.5
	baz=158,SNR=5.4							
214A	Organ Pipe Nat	24.97	341	P		P	10 22 19.5	-2.7
214A				IAmb		IAmb	10 22 28.8	
	comp=Z,22nm,1.5s							
SPX	San Pedro Mart	25.11	335	P		P	10 22 26.3	+2.5
SPX				IAmb		IAmb	10 22 29.8	
	comp=Z,21nm,1.3s							
MSTX	Muleshoe	25.47	2	P		P	10 22 27.6	+0.9
	baz=182							
MSTX	Muleshoe	25.47	2	P		P	10 22 27.3	+0.6
Z35A	Perchaven, San	25.51	12	P		P	10 22 26.0	-0.9
Z35A				IAmb		IAmb	10 22 37.9	
	comp=Z,12nm,0.8s							
BNM	Barren Site	25.79	354	P		P	10 22 29.0	-0.8
LENM	Lemitar	25.84	354	P		P	10 22 28.9	-1.4
113A	Mohawk Valley,	26.03	340	P		P	10 22 32.0	+0.3
113A				IAmb		IAmb	10 22 45.4	
	comp=Z,16nm,1.0s							
AMTX	Amarillo	26.43	4	P		P	10 22 35.8	+0.4
	baz=184							
AMTX	Amarillo	26.43	4	P		P	10 22 34.3	-1.1
AMTX				IAmb		IAmb	10 22 51.8	
	comp=Z,16nm,1.1s							
ANMO	Albuquerque	26.56	355	P		P	10 22 37.0	+0.2
	comp=Z,0.4nm,0.6s,baz=178,slow=16,SNR=2.5							
ANMO				LR		LR	10 31 40.1	
	comp=Z,254nm,20.4s,baz=178,slow=33							
ANMO	Albuquerque	26.56	355	P		P	10 22 37.5	+0.7
	baz=173							
ANMO	Albuquerque	26.56	355	P		P	10 22 36.7	-0.1
GLA	Glamis	26.65	339	P		P	10 22 35.5	-2.0
GLA				IAmb		IAmb	10 22 43.9	
	comp=Z,13nm,0.9s							
IKP	In-Ko-Pah, Jac	26.79	336	P		P	10 22 39.4	+0.7
	baz=151							
X16A	Lo Mia Camp, P	26.89	346	P		P	10 22 38.8	-1.0
SWSC	Sam W. Stewart	26.92	337	P		P	10 22 40.5	+0.7
	baz=152							
BAR	Barrett	27.04	335	P		P	10 22 43.0	+2.1
BAR				IAmb		IAmb	10 22 47.9	
	comp=Z,20nm,1.2s							
MONP2	Monument Peak	27.12	336	P		P	10 22 42.7	+0.9
	baz=151,SNR=5.3							
BC3	Big Chuckawall	27.43	338	P		P	10 22 44.8	+0.4
	baz=154							
YOTC	Yotoco, Valle	27.44	98	eP		P	10 22 41.5	-3.3
PDMCI	Parker Dam,Lak	27.56	341	P		P	10 22 46.5	+1.0
	baz=157							
MIAR	Mount Ida	27.62	18	P		P	10 22 45.3	-0.7
	baz=202,SNR=5.2							
MIAR	Mount Ida	27.62	18	P		P	10 22 45.2	-0.8
MIAR				IAmb		IAmb	10 22 57.0	
	comp=Z,15nm,1.2s							
MOTC	Monteria, Cord	27.62	87	eP		P	10 22 45.2	-1.1
TPFO	Pinon Flats	27.76	337	P		P	10 22 47.9	+0.4
	baz=152							
IRM	Iron Mountain	27.77	339	P		P	10 22 47.9	+0.5
	baz=154,SNR=6.6							
PFO	Pinyon Flats O	27.77	337	P		P	10 22 47.8	+0.3
	comp=Z,3.7nm,1.1s,baz=115,slow=4.5,SNR=3.0							
PFO				LR		LR	10 32 22.0	
	comp=Z,274nm,18.3s,baz=145,slow=33							
PFO	Pinyon Flats O	27.77	337	P		P	10 22 48.5	+1.0
	baz=152,SNR=6.7							
PFO	Pinyon Flats O	27.77	337	P		P	10 22 47.0	-0.6
PFO				IAmb		IAmb	10 22 54.1	
	comp=Z,16nm,1.1s							
WUAZ	Wupatki	27.93	346	P		P	10 22 49.6	+0.6
	baz=163,SNR=6.6							
WUAZ	Wupatki	27.93	346	P		P	10 22 48.8	-0.2
BELC	Belle Mtn. Jos	27.94	338	P		P	10 22 49.8	+0.7
	baz=153							
MARP	Paez Belalcaza	28.04	100	eP		P	10 22 51.6	+1.2
SJCC	San Jacinto, C	28.09	85	eP		P	10 22 50.2	-0.4
W39A	Magazine	28.16	17	P		P	10 22 51.2	+0.3
GMRC	Granite Mounta	28.51	339	P		P	10 22 55.2	+1.1
	baz=154							
BBRC	Big Bear Solar	28.52	336	P		P	10 22 55.5	+1.1
	baz=151							
W41B	Gary Mavity, V	28.62	20	P		P	10 22 54.9	0.0
	baz=204							
W41B	Gary Mavity, V	28.62	20	P		P	10 22 53.8	-1.1
W41B				IAmb		IAmb	10 23 07.4	
	comp=Z,18nm,1.5s							
T25A	Trinidad	28.63	359	P		P	10 22 56.0	+0.7
	baz=178,SNR=5.2							
T25A	Trinidad	28.63	359	P		P	10 22 54.7	-0.6
T25A				IAmb		IAmb	10 23 02.5	
	comp=Z,15nm,1.2s							
WHAR	Wooly Hollow	28.71	20	P		P	10 22 55.2	-0.6
HEC	Hector,Ludlow	28.80	338	P		P	10 22 58.6	+2.0
	baz=153							
PRAC	Prado	28.92	98	eP		P	10 22 55.5	-2.4
LRAL	Lakeview Retre	28.94	30	P		P	10 22 57.6	-0.2
	baz=216							
MWC	Mount Wilson	28.95	335	P		P	10 22 58.1	0.0
MWC				IAmb		IAmb	10 23 05.1	
	comp=Z,16nm,1.1s							
MVCO	Mesa Verde	29.04	352	P		P	10 22 59.2	+0.3
	baz=170,SNR=7.8							
MVCO	Mesa Verde	29.04	352	P		P	10 22 56.9	-2.1
MVCO				IAmb		IAmb	10 23 05.3	
	comp=Z,11nm,1.0s							
T35A	Sooner Cattle	29.12	12	P		P	10 22 58.8	-0.6
T35A				IAmb		IAmb	10 23 10.4	
	comp=Z,19nm,1.3s							
TUQ	Turquoise Moun	29.19	339	P		P	10 23 01.3	+1.1
	baz=154							
SDCO	Great Sand Dun	29.28	357	P		P	10 23 02.0	+0.8
	baz=176							
SDCO	Great Sand Dun	29.28	357	P		P	10 23 02.2	+1.1
ROSC	El Rosal	29.29	95	LR		LR	10 32 22.2	
	comp=Z,113nm,19.6s,baz=279,slow=32							
S22A	4UR Ranch, Cre	29.38	355	P		P	10 23 03.1	+1.1
	baz=173,SNR=7.4							
S22A	4UR Ranch, Cre	29.38	355	P		P	10 23 02.1	+0.1
S22A				IAmb		IAmb	10 23 17.3	
	comp=Z,13nm,1.2s							
GSC	Goldstone, Bar	29.39	338	P		P	10 23 03.3	+1.4
	baz=152							
GSC	Goldstone, Bar	29.39	338	P		P	10 23 02.4	+0.4
ATAH	Atahualpa	29.48	121	LR		LR	10 32 28.3	
	comp=Z,627nm,20.8s,baz=296,slow=32							
EDW2	Edwards Air Fo	29.49	335	P		P	10 23 03.8	+1.0
	baz=150							
U40A	Yellville	29.51	18	P		P	10 23 02.8	-0.1
	baz=202							
KNB	Kanab	29.71	345	P		P	10 23 05.9	+1.1
SHOC	Shoshone, Teco	29.73	339	P		P	10 23 05.8	+0.9
	baz=154							
LRMC	Laurel Mtn Rad	29.89	337	P		P	10 23 07.0	+0.7
	baz=151							
PV05	Paradox Valley	29.98	351	P		P	10 23 07.5	+0.2
PV13	Radium Mtn., P	30.01	352	P		P	10 23 07.7	+0.1
PV13				IAmb		IAmb	10 23 14.5	
	comp=Z,9.5nm,1.0s							
PV02	Paradox Valley	30.05	352	P		P	10 23 08.1	+0.2
PV02				IAmb		IAmb	10 23 25.0	
	comp=Z,9.4nm,1.0s							
PV03	Paradox Valley	30.11	352	P		P	10 23 08.2	-0.2
PV18	Skein Mesa, Pa	30.11	352	P		P	10 23 07.2	-1.2
PV18				IAmb		IAmb	10 23 20.2	
	comp=Z,13nm,1.2s							
PV15	Paradox Valley	30.15	352	P		P	10 23 08.6	-0.1
R32A	Long Quarter,	30.23	8	P		P	10 23 08.8	-0.5
R32A				IAmb		IAmb	10 23 20.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
N23A	Red Feather La	32.44	357	P	P	10 23 29.9	+0.9
	baz=175						
N23A	Red Feather La	32.44	357	P	P	10 23 29.0	0.0
N23A				IAmb	IAmb	10 23 41.6	
	comp=Z,12nm,1.3s						
RDMU	Red Mountain	32.49	352	P	P	10 23 27.9	-1.5
X54A	Belton	32.53	34	P	P	10 23 29.6	+0.1
	baz=222						
SDV	Santo Domingo	32.59	87	*e*P	P	10 23 35.5	+5.0
SDV	Santo Domingo	32.59	87	P	P	10 23 31.2	+0.7
TKL	Tuckaleechee C	32.64	31	P	P	10 23 29.8	-0.7
	comp=Z,2.7nm,0.9s,baz=216,slow=11,SNR=3.8						
TKL	Tuckaleechee C	32.64	31	P	P	10 23 29.6	-0.9
TKL				IAmb	IAmb	10 23 36.9	
	comp=Z,11nm,1.4s						
NVAR	Mina Array Bea	32.72	338	P	P	10 23 30.4	-1.0
	comp=Z,0.5nm,0.7s,baz=163,slow=9.4,SNR=2.5						
NVAR				LR	LR	10 34 46.9	
	comp=Z,154nm,21.1s,baz=148,slow=33						
NVAR	Mina Array Bea	32.72	338	P	P	10 23 30.6	-0.8
DUG	Dugway, Tooele	32.73	347	P	P	10 23 32.9	+1.6
	baz=163						
DUG	Dugway, Tooele	32.73	347	P	P	10 23 31.8	+0.5
DUG				IAmb	IAmb	10 23 44.9	
	comp=Z,9.6nm,1.1s						
CTU	Camp Tracy	32.98	349	P	P	10 23 32.2	-1.4
W54A	Cherokee Point	33.03	33	P	P	10 23 34.2	+0.2
	baz=221						
Z58A	St. Stephen	33.15	38	P	P	10 23 35.0	0.0
	baz=227						
TCUT	Toone Canyon	33.33	349	P	P	10 23 36.3	-0.4
BGU	Big Grassy Mou	33.47	347	P	P	10 23 37.1	-0.8
KMSC	Kings Mountain	33.54	34	P	P	10 23 38.5	+0.1
	baz=222						
V54A	Nebo	33.68	33	P	P	10 23 39.6	0.0
	baz=221						
X57A	Johnson Farm,	33.77	36	P	P	10 23 40.4	0.0
	baz=225						
HWUT	Hardware Ranch	33.83	349	P	P	10 23 41.2	+0.2
HWUT				IAmb	IAmb	10 23 48.5	
	comp=Z,12nm,1.1s						
W56A	Indian Trail	33.96	35	P	P	10 23 41.9	-0.1
	baz=224						
V55A	Taylorsville	34.13	33	P	P	10 23 43.2	-0.3
	baz=222,SNR=6.0						
V55A	Taylorsville	34.13	33	P	P	10 23 42.2	-1.3
PAHR	Pah Rah Range	34.24	338	P	P	10 23 42.5	-2.0
T53A	Wise	34.29	31	P	P	10 23 45.1	+0.1
	baz=219						
U54A	Nelsons Funny	34.31	32	P	P	10 23 45.0	-0.1
	baz=220						
W57A	Gilead	34.31	36	P	P	10 23 45.1	+0.1
	baz=224						
HDIL	Hopedale	34.48	19	P	P	10 23 46.8	+0.4
	baz=205						
HDIL	Hopedale	34.48	19	P	P	10 23 45.5	-0.9
V56A	Mocksville	34.50	34	P	P	10 23 46.4	-0.2
	baz=223						
Y60A	Bolivia	34.59	39	P	P	10 23 47.0	-0.4
	baz=228						
BW06	Boulder Array	34.64	352	P	P	10 23 48.2	+0.1
	baz=169,SNR=7.9						
BW06	Boulder Array	34.64	352	P	P	10 23 46.8	-1.3
BW06				IAmb	IAmb	10 23 55.0	
	comp=Z,12nm,0.9s						
PD31	Pinedale Array	34.64	352	P	P	10 23 47.5	-0.6
PD31				IAmb	IAmb	10 23 55.0	
	comp=Z,10nm,0.9s						
PDAR	Pinedale Array	34.64	352	P	P	10 23 48.2	+0.1
	comp=Z,2.3nm,0.8s,baz=166,slow=8.2,SNR=17						
PDAR				LR	LR	10 38 23.3	
	comp=Z,170nm,20.2s,baz=187,slow=37						
PDAR	Pinedale Array	34.64	352	P	P	10 23 47.3	-0.8
U55A	TA2, Sparta	34.70	33	P	P	10 23 48.6	0.0
	baz=222,SNR=5.3						
T54A	Tazewell	34.84	32	P	P	10 23 49.6	-0.1
	baz=220						
ORV	Oroville	34.93	335	P	P	10 23 50.1	-0.3
ORV				IAmb	IAmb	10 23 58.2	
	comp=Z,12nm,1.1s						
U56A	King	34.95	34	P	P	10 23 50.7	+0.1
	baz=223						
U56A	King	34.95	34	P	P	10 23 50.4	-0.2
V57A	Coltrane Farms	34.96	35	P	P	10 23 50.3	-0.4
	baz=224						
ECR	Eagle Creek	35.20	350	P	P	10 23 53.4	+0.5
V58A	Windy Hill, Pi	35.27	36	P	P	10 23 53.0	-0.3
	baz=225						
V58A	Windy Hill, Pi	35.27	36	P	P	10 23 53.5	+0.2
V58A				IAmb	IAmb	10 23 59.5	
	comp=Z,9.0nm,1.1s						
T55A	Pulaski	35.30	32	P	P	10 23 53.4	-0.2
	baz=221						
REDW	Red Top Meadow	35.41	351	P	P	10 23 53.6	-1.1
SNOW	Snow King Moun	35.50	351	P	P	10 23 56.2	+0.7
SNOW				IAmb	IAmb	10 24 02.7	
	comp=Z,10nm,1.0s						
TPAW	Teton Pass	35.55	351	P	P	10 23 57.2	+1.2
BLA	Blacksburg	35.57	33	P	P	10 23 55.7	-0.3
	baz=222						
U57A	Blanch	35.59	35	P	P	10 23 56.1	0.0
	baz=224,SNR=5.1						
LOHW	Long Hollow	35.62	351	P	P	10 23 57.2	+0.7
LOHW				IAmb	IAmb	10 24 03.4	
	comp=Z,8.2nm,0.9s						
T56A	Rocky Mt	35.64	33	P	P	10 23 56.4	-0.1
	baz=223						
ECSD	EROS Data Cent	35.73	9	P	P	10 23 57.5	+0.2
	baz=192						
V59A	Middlesex	35.76	37	P	P	10 23 57.2	-0.3
	baz=226						
MOOW	Moose Ponds	35.77	351	P	P	10 23 55.8	-2.0
S55A	Lewisburg	35.94	32	P	P	10 23 58.8	-0.3
	baz=221						
IMW	Indian Meadow	35.95	351	P	P	10 23 58.2	-1.3
IMW				IAmb	IAmb	10 24 06.2	
	comp=Z,17nm,1.6s						
Q52A	Bidwell	35.97	29	P	P	10 23 59.2	-0.2
	baz=218						
R54A	Victor	36.00	31	P	P	10 23 59.7	+0.1
	baz=220						
U58A	Oxford	36.02	36	P	P	10 23 59.6	-0.2
	baz=225						
T57A	Hurt	36.05	34	P	P	10 23 59.9	-0.1
	baz=224						
FLWY	Flagg Ranch	36.09	351	P	P	10 24 00.0	-0.6
FLWY				IAmb	IAmb	10 24 07.2	
	comp=Z,12nm,0.9s						
YPP	Pitchstone Pla	36.29	351	P	P	10 24 00.4	-1.9
HLID	Hailey	36.30	347	P	P	10 24 03.4	+1.2
	baz=162,SNR=7.1						
HLID	Hailey	36.30	347	P	P	10 24 02.5	+0.3
L44A	Lake County Fo	36.39	20	P	P	10 24 03.1	+0.3
	baz=207						
R55A	Marlinton	36.52	32	P	P	10 24 04.1	0.0
	baz=221						
N02D	Trinity Center	36.62	335	P	P	10 24 07.3	+2.4
	baz=147						
Q54A	Coxs Mills	36.69	30	P	P	10 24 05.6	+0.1
	baz=220						
YMR	Madison River	36.71	351	P	P	10 24 05.5	-0.3
S57A	Dark Hollow, R	36.76	34	P	P	10 24 05.8	-0.3
	baz=223						
YNE	Yellowstone No	36.91	352	P	P	10 24 06.0	-1.5
YHL	Hebgen Lake	36.92	351	P	P	10 24 08.8	+1.1
RLMT	Red Lodge	36.93	353	P	P	10 24 08.7	+1.0
	baz=170						
RLMT	Red Lodge	36.93	353	P	P	10 24 08.6	+1.0
QLMT	Earthquake Lak	36.94	351	P	P	10 24 08.1	+0.4
M04C	Macdoel	36.97	337	P	P	10 24 08.9	+1.0
	baz=149,SNR=6.9						
T59A	Double "B" Far	36.99	36	P	P	10 24 08.0	0.0
	baz=226						
R56A	Bull Pasture M	36.99	32	P	P	10 24 08.1	-0.1
	baz=222						
M02C	Callahan	37.04	336	P	P	10 24 09.3	+0.8
	baz=147						
MCMT	McKenzie Canyo	37.18	349	P	P	10 24 10.7	+0.8
YBH	Yreka Blue Hor	37.27	336	P	P	10 24 10.2	-0.3
	comp=Z,1.1nm,0.7s,baz=309,slow=1.8,SNR=6.0						
YBH	Yreka Blue Hor	37.27	336	P	P	10 24 11.6	+1.1
YBH				IAmb	IAmb	10 24 24.1	
	comp=Z,19nm,1.6s						
P54A	Burton	37.34	30	P	P	10 24 11.0	0.0
	baz=220						
R57A	Stanardsville	37.38	33	P	P	10 24 11.6	+0.2
	baz=224						
L04D	Klamath Falls	37.52	337	P	P	10 24 12.5	-0.1
	baz=148						
GCMT	Greycliff	37.63	353	P	P	10 24 12.4	-1.2
DLMT	Dillon	37.65	350	P	P	10 24 12.9	-0.8
DLMT				IAmb	IAmb	10 24 24.6	
	comp=Z,13nm,1.1s						
R58A	Rapidan	37.67	34	P	P	10 24 13.9	+0.1
	baz=224						
BOZ	Bozeman (W)	37.72	351	P	P	10 24 16.0	+1.7
	baz=167						
L02E	Cave Junction	37.98	336	P	P	10 24 17.5	+1.1
	baz=146						
LRM	Limekiln Ridge	38.07	350	P	P	10 24 17.7	+0.4
BMO	Blue Mountains	38.23	344	P	P	10 24 21.4	+2.9
J01E	Myrtle Point	38.95	336	P	P	10 24 24.6	+0.1
	baz=147						
MSO	Missoula	39.31	349	P	P	10 24 29.4	+1.8
	baz=164						
EGMT	Eagleton	39.84	354	P	P	10 24 32.5	+0.5
	baz=170						
F07A	Phinny Hill Vi	39.93	342	P	P	10 24 34.3	+1.7
F07A				IAmb	IAmb	10 24 40.4	
	comp=Z,21nm,1.2s						
DGMT	Dagmar	39.95	359	P	P	10 24 33.0	+0.2
	baz=179						
DGMT	Dagmar	39.95	359	P	P	10 24 33.0	+0.2
DGMT				IAmb	IAmb	10 24 39.1	
	comp=Z,19nm,1.0s						
TAOE	Nuku Hiva Isla	40.24	246	*e*LQ	LQ	10 33 47.8	
	comp=Z,582nm,27.5s						
TAOE				*e*LR	LR	10 35 16.3	
	comp=Z,301nm,25.0s						
TAOE	Nuku Hiva Isla	40.24	246	*e*T	T	11 06 57.0	
	comp=Z,28nm,0.2s						
AGMN	Agassiz Nation	40.31	8	P	P	10 24 35.1	-0.6
	baz=192						
AGMN	Agassiz Nation	40.31	8	P	P	10 24 34.7	-1.1
AGMN				IAmb	IAmb	10 24 45.9	
	comp=Z,30nm,1.4s						
E07A	Sunnyside	40.51	343	P	P	10 24 38.1	+0.7
NEW	Newport	41.36	346	P	P	10 24 45.4	+1.0
	baz=159,SNR=5.9						
NEW	Newport	41.36	346	P	P	10 24 45.9	+1.4
NEW				IAmb	IAmb	10 24 50.9	
	comp=Z,12nm,1.0s						
E04D	Cinebar	41.36	340	P	P	10 24 45.2	+0.8
	baz=151						
ULM	Lac du Bonnet	42.22	7	LR	LR	10 42 16.6	
	comp=Z,255nm,20.6s,baz=144,slow=36						
LPAZ	La Paz	42.82	125	P	P	10 24 56.6	-0.8
	comp=Z,2.6nm,0.9s,baz=326,slow=11,SNR=9.8						
LPAZ				LR	LR	10 41 43.1	
	comp=Z,94nm,21.8s,baz=309,slow=35						
LPAZ	La Paz	42.82	125	P	P	10 24 58.1	+0.6
SAML	Samuel	43.79	112	P	P	10 25 03.8	-0.9
H03N2	Juan Fernandez	47.75	152	T	T	11 16 49.5	
	baz=329,slow=77,SNR=14						
H03N1	Juan Fernandez	47.76	152	T	T	11 16 54.0	
	baz=329,slow=77,SNR=18						
H03N3	Juan Fernandez	47.77	152	T	T	11 16 52.5	
	baz=329,slow=77,SNR=18						
AC02	Maricunga	48.41	137	P	P	10 25 42.9	+1.5
AC02				IAmb	IAmb	10 25 48.9	
	comp=Z,5.5nm,1.1s						
PMOR	Pomariorio Ree	49.68	242	*e*T	T	11 18 53.5	
	comp=Z,1.5nm,0.3s						
CO03	El Pedregal	50.16	143	P	P	10 25 58.6	+4.2
CO03				IAmb	IAmb	10 26 04.7	
	comp=Z,8.0nm,1.2s						
PPT	Papeete	52.23	240	LR	LR	10 42 17.9	
	comp=Z,148nm,19.8s,baz=52,slow=29						
PPT2	Papeete2	52.24	240	*e*S	S	10 33 33.0	-2.5
	comp=Z,69nm,25.8s						
PPT2				*e*LR	LR	10 40 54.2	
	comp=Z,355nm,25.0s,baz=55						
DLBC	Dease Lake	53.90	343	P	P	10 26 22.4	+0.7
	comp=Z,6.3nm,1.0s,baz=169,slow=5.2,SNR=3.1						
DLBC	Dease Lake	53.90	343	P	P	10 26 21.3	-0.5
YKA	Yellowknife Ar	54.60	354	LR	LR	10 50 16.3	
	comp=Z,201nm,19.8s,baz=0.0,slow=37						
SCHQ	Schefferville	54.77	25	LR	LR	10 51 23.4	
	comp=Z,173nm,19.8s,baz=82,slow=38						
CPUP	Villa Florida	56.64	129	P	P	10 26 42.4	+0.5
	comp=Z,4.2nm,1.0s,baz=316,slow=7.5,SNR=3.1						
CPUP	Villa Florida	56.64	129	P	P	10 26 42.7	+0.8
CPUP				IAmb	IAmb	10 26 52.7	
	comp=Z,10nm,1.1s						
PLCA	Paso Flores	57.58	151	P	P	10 26 49.5	+1.0
	comp=Z,2.7nm,1.1s,baz=292,slow=9.3,SNR=3.0						
PLCA				LR	LR	10 46 00.9	
	comp=Z,164nm,22.0s,baz=316,slow=30						
BDFB	Brasilia	60.00	113	P	P	10 27 05.7	-0.1
	comp=Z,1.2nm,0.3s,baz=52,slow=18,SNR=1.8						
N25K	Chitina, Valde	61.04	339	P	P	10 27 13.3	+1.2
	baz=132,SNR=5.5						
N25K	Chitina, Valde	61.04	339	P	P	10 27 12.4	+0.3
K27K	Chicken	61.89	342	P	P	10 27 20.3	+2.6
	baz=136						
K27K	Chicken	61.89	342	P	P	10 27 18.2	+0.5
EGAK	Eagle	62.16	343	P	P	10 27 19.6	+0.2
DOT	Dot Lake	62.25	341	P	P	10 27 20.0	-0.2
SCRK	Sand Creek	62.45	341	P	P	10 27 24.1	+2.5
	baz=134						
SML	Sawmill	62.53	338	P	P	10 27 22.3	+0.3
DHY	Denali Highway	62.98	339	P	P	10 27 25.1	-0.1
INK	Inuvik	63.04	348	P	P	10 27 23.9	-1.4
	comp=Z,6.2nm,1.0s,baz=168,slow=9.3,SNR=4.2						
INK				LR	LR	10 53 26.7	
	comp=Z,715nm,21.9s,baz=162,slow=35						
INK	Inuvik	63.04	348	P	P	10 27 24.2	-1.0
RND	Reindeer	63.71	339	P	P	10 27 30.8	+0.8
SKT	Skwentna	63.85	337	P	P	10 27 31.6	+0.8
IL31		63.92	341	P	P	10 27 30.6	-0.5
ILAR	Eielson Array	63.92	341	P	P	10 27 29.8	-1.5
	comp=Z,8.8nm,1.0s,baz=150,slow=5.0,SNR=18						
ILAR	Eielson Array	63.92	341	P	P	10 27 30.8	-0.4
MCK	McKinley	63.95	339	P	P	10 27 31.2	-0.2
	baz=128						
NEA2	Nenana	64.53	340	P	P	10 27 36.6	+1.4
	baz=128						
I23K	Minto, Yukon-K	64.97	340	P	P	10 27 38.2	+0.1
	baz=128,SNR=6.8						
I23K	Minto, Yukon-K	64.97	340	P	P	10 27 40.7	+2.7
BMAR	Burnt Mountain	65.04	344	P	P	10 27 38.1	-0.4
MLY	Manley	65.36	340	P	P	10 27 40.5	-0.2
	baz=127						
COLD	Coldfoot	66.54	342	P	P	10 27 49.9	+1.8
	baz=128						
COLD	Coldfoot	66.54	342	P	P	10 27 49.4	+1.3
TOLK	Toolik Lake Re	67.25	343	P	P	10 27 52.4	-0.3
	baz=129						
TOLK	Toolik Lake Re	67.25	343	P	P	10 27 55.7	+3.0
SEY	Seymchan	88.90	334	LR	LR	11 02 57.8	
	comp=Z,60nm,20.1s,baz=123,slow=31						
ESDC	Sonseca Array	92.04	50	LR	LR	11 09 39.9	
	comp=Z,45nm,18.1s,baz=285,slow=34						
DZM	Mont Dzumac	93.07	248	*e*LR	LR	11 00 04.8	
	comp=Z,80nm,26.4s						
NOA	NORSAR Array B	94.33	26	LR	LR	11 11 37.5	
	comp=Z,48nm,21.1s,baz=275,slow=35						
ARCES	ARCESS Array B	94.81	16	LR	LR	11 12 23.0	
	comp=Z,60nm,21.7s,baz=335,slow=35						
HFS	Hagfors	95.83	27	LR	LR	11 11 57.7	
	comp=Z,78nm,20.3s,baz=310,slow=34						
DBIC	Dimbokro	97.62	82	LR	LR	11 12 37.4	
	comp=Z,33nm,19.2s,baz=262,slow=34						
VNDA	Vanda	99.12	193	LR	LR	11 05 58.3	
	comp=Z,50nm,19.4s,baz=26,slow=30						
WRA	Warramunga Arr	122.91	252	PKhKP	PKPpre	10 35 50.1	
	comp=Z,0.2nm,0.8s,baz=93,slow=2.0,SNR=1.4						
WRA				PKP	PKPdf	10 35 55.8	0.0
	comp=Z,0.6nm,0.7s,baz=94,slow=2.3,SNR=8.0						
ASAR	Alice Springs	123.04	247	PKP	PKPdf	10 35 53.7	-2.2
	comp=Z,0.3nm,0.7s,baz=84,slow=1.7,SNR=2.3						
MKAR	Makanchi Array	124.82	355	PKP	PKPdf	10 35 59.3	+0.5
	comp=Z,0.2nm,0.3s,baz=35,slow=3.5,SNR=2.0						
LZH	Lanzhou	128.78	331	*e*PKP	PKPdf	10 36 02.0	-4.8
LZH				sPKP		10 36 16.5	
CMAR	Chiang Mai Arr	145.27	320	PKPbc	PKPbc	10 36 35.8	-1.2
	comp=Z,1.0nm,0.4s,baz=19,slow=3.1,SNR=1.3						

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*DJA **28** 10:25:59.7±0.5, 2°S±2°×12°2E±°, h12km±4km, M4.4/16, mB4.7/2, mb4.7/5, MLv4.2/16, Mw(mB)4.0/2*
*IDC **28** 10:26:00.5±1.4, 2°.16S×122°.69E, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.6/39, mbtmp4.0/5, ML4.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.5/43, Error ellipse: s-maj=28.7km s-min=25.6km az=60.0*
ISC 28 10:25:58.3±0.9, **1°.74S**±0°.04×**122°.55E**±0°.05, **h10km, n22, σ1s22**/25, **mb3.8**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.73	18	P	Pn	10 26 15.4	+0.7
LUWI				S	Sn	10 26 26.1	+0.2
APSI	Ampana	1.22	313	P	Pg	10 26 21.9	+0.1
APSI				S	Sn	10 26 38.3	+0.2
KDI	Kendari	2.20	178	P	Pn	10 26 32.2	-2.7
GTOI	Gorontalo	2.41	11	P	Pb	10 26 40.4	-1.4
KMSI	Cibinong	2.71	32	P	Pn	10 26 44.8	+2.9
KMSI				S	Sb	10 27 20.2	0.0
TTSI	Tana Toraja	3.02	245	P	Pn	10 26 46.2	0.0
MPSI	Mapaga	3.36	308	P	Pn	10 26 51.5	+0.6
MPSI				S	Sn	10 27 29.9	-1.0
SANI	Sanana	3.45	95	P	Pn	10 26 52.2	+0.1
SPSI	Sidrap Palu	3.55	231	P	Pn	10 26 54.4	+0.9
SPSI				S	Sn	10 27 35.0	-0.5
BNSI	Bone	3.59	223	P	Pn	10 26 54.7	+0.6
KAPI	Kappang	4.29	221	Pn	Pn	10 27 04.6	+1.0
	19nm,0.3s,baz=41,slow=2.9,SNR=34						
KAPI				Sn	Sn	10 27 53.3	-0.4
	15nm,0.3s,baz=114,slow=15,SNR=4.6						
KAPI				LR	LR	10 28 55.0	
	comp=Z,81nm,19.6s,baz=73,slow=43						
BKSI	Bulukumba	4.30	214	P	Pn	10 27 04.3	+0.4
NLAI	Namlea	4.78	108	P	Pn	10 27 12.4	+2.0
BSSI	Bau Bau, Buton	4.83	205	P	Pn	10 27 12.1	+1.0
EDFI	Ende, Flores	7.01	187	P	Pn	10 27 41.6	+0.4
	0.1nm324nm18nm,0.6s						
SOEI	Soe	8.14	168	P	Pn	10 27 58.2	+1.5
	47nm,0.8s						
SIJI	Sorong	8.76	84	Pn	Pn	10 28 06.8	+1.6
	2.6nm,0.3s,baz=39,slow=23,SNR=10.0						
JAY	Jayapura	18.16	93	LR	LR	10 38 23.9	
	comp=Z,69nm,18.1s,baz=194,slow=41						
WRA	Warramunga Arr	21.45	148	P	P	10 30 46.1	-0.9
	2.2nm,0.8s,baz=329,slow=7.9,SNR=33						
ASAR	Alice Springs	24.41	154	P	P	10 31 17.0	-0.2
	1.5nm,0.7s,baz=334,slow=9.3,SNR=19						
MKAR	Makanchi Array	59.86	329	P	P	10 36 10.9	+6.7
	0.4nm,0.5s,baz=134,slow=7.9,SNR=5.2						
BRTR	Keskin Array B	90.26	310	LR	LR	11 23 45.2	
	comp=Z,17nm,21.8s,baz=308,slow=38						

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*IDC **28** 10:49:24.8±3.5, 36°.53N×141°.79E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/55, mbtmp3.5/4, ML2.9/2, MS3.8/1, Ms1 3.8/1, ms1mx2.3/32, Error ellipse: s-maj=58.1km s-min=41.8km az=34.0*
*JMA **28** 10:49:26.7±0.3, 36°.67N×141°.69E, h55km±5km, M3.2*
ISC 28 10:49:27.9±1.3, **36°.70N**±0°.05×**141°.77E**±0°.09, **h35km, n22, σ1s59**/20, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.87	298	P	Pn	10 49 42.5	-1.3
JHO	Hitachi	0.97	265	P	Pn	10 49 43.1	-1.9
JFK	Kawauchi	0.98	313	P	Pn	10 49 43.7	-1.4
JHYU	Hitachinakayam	1.02	250	P	Pn	10 49 44.1	-1.5
JHYU				*e*S	Sn	10 49 56.8	-1.9
JFFD	Fukushimafurud	1.04	292	P	Pn	10 49 44.7	-1.3
JMM	Marumori	1.40	327	P	Pn	10 49 50.1	-0.8
JFT	Otama	1.41	306	P	Pn	10 49 51.3	+0.3
JIO	Ouri	1.78	349	P	Pn	10 49 55.4	-0.8
JIO				*e*S	Sn	10 50 16.2	-1.4
JOU	Okura	1.88	333	P	Pn	10 49 58.3	+0.7
JAG	Ashikaga	1.88	262	P	Pn	10 49 56.9	-0.7
MJAR	Matsushiro Arr	2.87	268	Pn	Pn	10 50 11.6	+0.5
	0.5nm,0.3s,baz=62,slow=11,SNR=26						
MJAR				Sn	Sn	10 50 43.1	-1.3
	0.3nm,0.3s,baz=122,slow=15,SNR=4.3						
MAT	Matsushiro	2.87	268	P	Pn	10 50 12.1	+1.0
MAT				*e*S	Sn	10 50 48.7	+4.3
JHJ	Hachijo jima 2	3.93	205	Pn	Pn	10 50 25.5	-0.2
	8.5nm,0.3s,baz=51,slow=23,SNR=1.4						
JHJ				Sn	Sn	10 51 09.5	-1.0
	4.1nm,0.3s,baz=70,slow=22,SNR=1.4						
H11N2	WAKE ISLAND Hy	27.73	121	T	T	11 24 16.1	
	baz=313,slow=75,SNR=25						
H11N1	WAKE ISLAND Hy	27.74	121	T	T	11 24 28.0	
	baz=313,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	27.75	121	T	T	11 24 28.9	
	baz=313,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy	28.44	123	T	T	11 25 29.5	
	baz=315,slow=76,SNR=7.8						
H11S3	WAKE ISLAND Hy	28.44	123	T	T	11 25 05.7	
	baz=315,slow=76,SNR=7.9						
H11S2	WAKE ISLAND Hy	28.46	123	T	T	11 25 10.3	
	baz=315,slow=76,SNR=8.1						
NRIK	Noril'sk	43.69	335	LR	LR	11 16 58.9	
	comp=Z,109nm,21.0s,baz=19,slow=38						
WRA	Warramunga Arr	56.77	188	P	P	10 59 09.3	+0.8
	0.7nm,0.9s,baz=5.5,slow=7.8,SNR=4.2						
ASAR	Alice Springs	60.50	188	P	P	10 59 35.4	+1.1
	0.2nm,0.7s,baz=8.6,slow=6.8,SNR=4.2						

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*KRNET **28** 11:22:33.2±0.1, 42°.63N×68°.94E, mb3.0*
*NNC **28** 11:22:34.9±1.4, 43°.64N×69°.77E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=8.0km s-min=4.8km az=134.0, Suspected Mining explosion.*
ISC 28 11:22:34.8±1.9, **43°.66N**±0°.07×**69°.83E**±0°.08, **h0km, n19, σ1s76**/29, **10C-10D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.63	179	P	Pn	11 22 50.3	-0.7
	24nm,0.3s						
BRLS				S	Sn	11 23 02.0	+0.2
	24nm,0.3s						
KK31	Karatay Array	0.75	138	⇑P	Pg	11 22 49.3	+0.2
	1.1nm,0.4s,baz=315,slow=17,SNR=40						
KK31				⇓S	Sg	11 23 00.6	+1.8
	8.3nm,0.3s,baz=320,slow=29,SNR=85						
IUG	Iuzhnay	1.52	174	P	Pn	11 23 03.3	0.0
	15nm,0.3s						
IUG				S	Sb	11 23 25.0	+1.3
	39nm,0.5s						
MNAS	Manas	2.29	120	⇑*e*P	Pb	11 23 16.4	-0.6
	baz=92						
MNAS				⇑*i*S	Sg	11 23 48.1	-0.1
	baz=92						
MRKS	Merke	2.65	109	Pg	Pg	11 23 25.6	0.0
	2.3nm,0.3s						
MRKS				Lg	Lg	11 24 02.2	
	12nm,0.4s						
EKS2	Erkin-Say	3.06	108	⇑*i*P	Pb	11 23 29.5	-0.7
	baz=88						
EKS2				⇑*i*S	Sb	11 24 10.5	+2.4
	baz=88						
AML	Almayashu	3.23	117	⇓*i*P	Pn	11 23 29.3	+2.2
	baz=96						
AML				⇓*i*S	Sb	11 24 10.4	-2.8
	baz=96						
BTLS	Baital	3.33	64	Pg	Pg	11 23 39.4	+0.8
	8.1nm,0.4s						
BTLS				Lg	Lg	11 24 25.7	
	1.3nm,0.5s						
USP	Ospenovka	3.43	95	⇓*i*P	Pb	11 23 37.5	+1.1
	baz=79						
USP				⇓*i*S	Sg	11 24 24.6	-0.2
	baz=79						
SGDS	Sogindy	3.50	92	Pg	Pg	11 23 40.6	-1.2
	1.9nm,0.4s						
SGDS				Lg	Lg	11 24 28.3	
	5.8nm,0.4s						
AAK	Ala-Archa	3.57	105	⇓*i*P	Pb	11 23 37.0	-1.8
	baz=88						
AAK				⇓*i*S	Sb	11 24 23.4	+0.7
	baz=88						
AAK	Ala-Archa	3.57	105	⇓Pg	Pb	11 23 39.4	+0.5
	2.1nm,0.5s						
AAK				⇑Lg	Lg	11 24 28.9	
	2.8nm,0.5s						
UCH	Uchtor	3.73	111	⇓*e*P	Pn	11 23 37.3	+3.3
	baz=94						
UCH				⇓*i*S	Sb	11 24 24.7	-3.0
	baz=94						
KRBS	Karabastau	4.24	87	Pg	Pg	11 23 54.4	-1.8
	2.6nm,0.5s						

KRBS				Lg	Lg	11 24 52.5	
	5.4nm,0.4s						
TKM2	**Tokmak 2**	**4.28**	**98**	⇑*i*P	**Pb**	**11 23 48.1**	**-2.9**
	baz=84						
TKM2				⇑*i*S	**Sb**	**11 24 43.1**	**-0.2**
	baz=84						
TKM2	**Tokmak 2**	**4.28**	**98**	⇑Pg	**Pb**	**11 23 52.5**	**+1.5**
	2.5nm,0.8s						
TKM2				⇑Lg	Lg	11 24 51.0	
	3.7nm,0.7s						
KST	**Kastek**	**4.52**	**96**	Pg	**Pg**	**11 23 59.5**	**-1.8**
	3.5nm,0.5s						
KST				Lg	Lg	11 25 00.6	
	5.5nm,0.5s						
KUU	**Kurty**	**4.72**	**85**	Pg	**Pg**	**11 24 02.8**	**-2.5**
	1.1nm,0.5s						
KUU				Lg	Lg	11 25 06.0	
	6.6nm,0.5s						
KTBS	**Karatobe**	**4.97**	**87**	Pg	**Pg**	**11 24 08.0**	**-2.1**
	1.4nm,0.5s						
KTBS				Lg	Lg	11 25 15.0	
	7.9nm,0.7s						

BJI 28 11:33:26.0±0.0, 31°.51N×115°.51E, h5km, ML3.7/16, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.39**	**226**	Pn	Pb	11 33 52.3	-0.1
WHN				Pg	Pg	11 33 53.5	+0.9
WHN				Sg	Sn	11 34 11.0	+0.3
WHN				smax	smax		
	comp=N,2μm,0.8s						
WHN				smax	smax		
	comp=E,1μm,0.7s						
NJ2	**Nanjing**	**2.90**	**78**	*e*Pg	Pb	11 34 18.3	+0.1
NJ2				Sg	Sb	11 34 55.0	+1.1
NJ2				smax	smax		
	comp=N,210nm,0.6s						
NJ2				smax	smax		
	comp=E,170nm,0.4s						
TIA	**Tai'an**	**4.88**	**16**	Pg	Pb	11 34 47.8	-4.1
TIA				Sg	Sb	11 35 54.0	+3.1
TIA				smax	smax		
	comp=N,39nm,0.8s						
TIA				smax	smax		
	comp=E,53nm,0.7s						
LZH	**Lanzhou**	**10.72**	**298**	*e*P	Pn	11 36 02.3	+1.9
LZH				pP		11 36 05.8	
LZH				sP		11 36 08.5	
WMQ	**Urumqi**	**25.09**	**307**	*e*P	P	11 38 52.8	+1.2

IDC 28 11:44:59.0±9.1, 49°.41S×109°.06E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/29, mbtmp3.5/2, Error ellipse: s-maj=852.6km s-min=75.8km az=125.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.98**	**16**	T	T	12 04 20.5	
	baz=201,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**14.99**	**16**	T	T	12 04 18.1	
	baz=201,slow=74,SNR=24						
H01W3	**Cape Leeuwin H**	**14.99**	**16**	T	T	12 04 22.4	
	baz=201,slow=74,SNR=18						
ASAR	**Alice Springs**	**32.26**	**46**	P	P	11 51 29.2	0.0
	0.5nm,0.9s,baz=207,slow=9.0,SNR=2.7						
WRA	**Warramunga Arr**	**35.68**	**44**	P	P	11 51 58.8	-0.1
	1.0nm,1.2s,baz=208,slow=7.8,SNR=4.7						
NVAR	**Mina Array Bea**	**144.71**	**90**	PKP	PKPbc	12 04 36.8	+0.5
	0.5nm,0.7s,baz=233,slow=5.4,SNR=6.4						

*NEIC **28** 11:49:49.5±2.3,24°.74S±0°.09×179°.8E±0°.1,h497km±6km, mb4.8/36, Error ellipse: s-maj=16.4km s-min=13.3km az=93.0*

*IDC **28** 11:49:52.7±1.5,24°.67S×179°.53E,h514km±16km, mb3.6/17,mb1 3.8/18,mb1mx3.7/31,mbtmp4.5/18, Error ellipse: s-maj=14.3km s-min=13.0km az=72.0*

ISC 28 11:49:50.8±0.4, 24°.77S±0°.05×179°.55E±0°.07, h500km, n139, σ1892/151, mb4.4/27, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.99**	**154**	P	**P**	**11 51 21.5**	**+4.0**
RAO	**Raoul Island**	**5.00**	**154**	P	**P**	**11 51 21.3**	**+3.6**
	69nm,0.3s,baz=43,slow=16,SNR=5.9						
RAO				S	**S**	**11 52 30.8**	**+2.1**
	22nm,0.3s,baz=287,slow=23,SNR=1.6						
RAO	**Raoul Island**	**5.00**	**154**	P	**P**	**11 51 18.9**	**+1.2**
GLKZ	**Green Lake**	**5.01**	**154**	P	**P**	**11 51 21.0**	**+3.3**
GLKZ				S	**S**	**11 52 33.1**	**+4.3**
MSVF	**Nonsavu**	**7.14**	**348**	P	**P**	**11 51 40.4**	**+1.7**
MSVF				S	**S**	**11 53 05.0**	**-1.9**
NIUE	**Niue**	**11.29**	**62**	P	P	11 52 15.3	-6.6
OUZ	**Omahuta**	**11.61**	**205**	P	**P**	**11 52 29.5**	**+4.4**
OUZ	**Omahuta**	**11.61**	**205**	P	**P**	**11 52 29.2**	**+4.1**
GRZ	**Great Barrier**	**11.97**	**196**	P	**P**	**11 52 30.8**	**+2.0**
WCZ	**Waipu Caves**	**12.00**	**201**	P	**P**	**11 52 32.7**	**+3.6**
DZM	**Mont Dzumac**	**12.33**	**280**	P	**P**	**11 52 33.8**	**+0.8**
KUZ	**Kuaotunu**	**12.38**	**194**	P	**P**	**11 52 35.4**	**+2.3**
ETAZ	**East Tamaki Re**	**12.77**	**197**	P	**P**	**11 52 40.4**	**+3.0**
MXZ	**Matakaoa Point**	**12.79**	**184**	P	**P**	**11 52 36.3**	**-1.3**
MXZ	**Matakaoa Point**	**12.79**	**184**	P	**P**	**11 52 36.8**	**-0.8**
HAZ	**Te Kaha**	**13.03**	**186**	P	**P**	**11 52 39.0**	**-1.1**
AFI	**Afiamalu**	**13.55**	**39**	P	**P**	**11 52 43.7**	**-2.3**
URZ	**Urewera**	**13.60**	**188**	P	**P**	**11 52 44.4**	**-1.7**
	4.9nm,0.3s,baz=256,slow=3.4,SNR=17						
URZ				S	**S**	**11 55 02.8**	**-7.9**
	0.6nm,0.3s,baz=142,slow=19,SNR=2.1						
URZ	**Urewera**	**13.60**	**188**	P	**P**	**11 52 43.9**	**-2.3**
MTHZ	**Maungataniwha**	**14.22**	**189**	P	**P**	**11 52 51.5**	**-1.2**
HIZ	**Hauiti**	**14.26**	**195**	P	**P**	**11 52 55.5**	**+2.4**
HIZ	**Hauiti**	**14.26**	**195**	P	**P**	**11 52 54.0**	**+0.9**
RATZ	**Rangitukua**	**14.41**	**192**	P	**P**	**11 52 56.6**	**+1.9**
NMHZ	**Naumai**	**14.47**	**189**	P	**P**	**11 52 57.2**	**+1.9**
NMHZ				S	**S**	**11 55 23.9**	**-3.6**
BKZ	**Black Stump Fm**	**14.58**	**189**	P	**P**	**11 52 59.2**	**+2.7**
BKZ				S	**S**	**11 55 24.1**	**-5.4**
BKZ	**Black Stump Fm**	**14.58**	**189**	P	**P**	**11 52 54.8**	**-1.7**
TMVZ	**Te Maari**	**14.66**	**192**	P	**P**	**11 52 59.2**	**+1.8**
TWVZ	**Taurewa**	**14.67**	**193**	P	**P**	**11 52 59.9**	**+2.4**
OTVZ	**Oturere**	**14.72**	**192**	P	**P**	**11 52 56.7**	**-1.3**
SANVU	**Saraoutou**	**14.84**	**306**	P	**P**	**11 53 00.7**	**+1.2**
SANVU				IAmb	IAmb	11 53 26.8	
	comp=Z,36nm,1.2s						
KWHZ	**Kaweka Forest**	**14.84**	**189**	P	**P**	**11 53 00.4**	**+1.2**
KWHZ				S	**S**	**11 55 32.6**	**-2.0**
VRZ	**Vera Road**	**14.87**	**195**	P	P	11 53 04.5	+5.1
WNVZ	**Wahianoa**	**14.89**	**192**	P	**P**	**11 52 58.6**	**-1.2**
MOVZ	**Moawhango**	**14.94**	**191**	P	**P**	**11 53 01.4**	**+1.2**
BHHZ	**Black Hill Sta**	**14.96**	**190**	P	**P**	**11 52 57.4**	**-3.1**
BHHZ				S	**S**	**11 55 32.6**	**-4.4**
KRHZ	**Kereru**	**15.07**	**189**	P	**P**	**11 53 02.0**	**+0.5**
KRHZ				S	**S**	**11 55 31.5**	**-7.4**
KAHZ	**Kahuranaki**	**15.14**	**188**	P	**P**	**11 53 03.4**	**+1.1**
NMEZ	**Namu Road**	**15.36**	**197**	P	**P**	**11 53 09.5**	**+5.0**
PXZ	**Pawanui**	**15.38**	**188**	P	**P**	**11 53 05.6**	**+0.8**
TSZ	**Takapari Road**	**15.54**	**190**	P	**P**	**11 53 06.4**	**0.0**
PRHZ	**Porangahau**	**15.64**	**188**	P	**P**	**11 53 07.6**	**+0.1**
DVHZ	**Dannevirke**	**15.74**	**190**	P	**P**	**11 53 08.4**	**-0.2**
BFZ	**Birch Farm**	**16.10**	**189**	P	**P**	**11 53 12.3**	**0.0**
BFZ	**Birch Farm**	**16.10**	**189**	P	**P**	**11 53 11.8**	**-0.5**
FUNA	**Funafuti**	**16.16**	**359**	P	**P**	**11 53 14.1**	**+0.9**
FUNA				IAmb	IAmb	11 53 26.3	
	comp=Z,51nm,1.1s						
MRZ	**Mangatainoka R**	**16.19**	**191**	P	**P**	**11 53 10.7**	**-2.5**
OGWZ	**Otaki Gorge**	**16.41**	**192**	P	**P**	**11 53 14.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**16.43**	**191**	P	**P**	**11 53 16.1**	**+0.4**
KIW	**Kapiti Island**	**16.50**	**192**	P	**P**	**11 53 15.4**	**-1.1**
TMWZ	**Te Maipa**	**16.57**	**190**	P	**P**	**11 53 17.0**	**-0.2**
DUWZ	**D'Urville Isla**	**16.66**	**195**	P	**P**	**11 53 18.0**	**-0.2**
MTW	**Mount Morrison**	**16.68**	**191**	P	**P**	**11 53 17.7**	**-0.6**
CAW	**Cannon Point**	**16.71**	**192**	P	**P**	**11 53 17.6**	**-1.1**
TRWZ	**Traveller**	**16.89**	**190**	P	**P**	**11 53 20.0**	**-0.5**
TCW	**Tory Channel**	**16.97**	**194**	P	**P**	**11 53 20.3**	**-0.9**
MSWZ	**Moikau Station**	**16.98**	**191**	P	**P**	**11 53 20.7**	**-0.7**
SNZO	**South Karori**	**16.98**	**193**	P	**P**	**11 53 20.6**	**-0.7**
BHW	**Baring Head**	**17.04**	**192**	P	**P**	**11 53 21.9**	**-0.1**
BHW	**Baring Head**	**17.04**	**192**	P	**P**	**11 53 21.6**	**-0.4**
QRZ	**Quartz Range**	**17.05**	**198**	P	**P**	**11 53 22.2**	**+0.2**
QRZ	**Quartz Range**	**17.05**	**198**	P	**P**	**11 53 22.3**	**+0.2**
PLWZ	**Palliser**	**17.13**	**191**	P	**P**	**11 53 22.2**	**-0.7**
PLWZ	**Palliser**	**17.13**	**191**	P	**P**	**11 53 21.8**	**-1.1**
NNZ	**Nelson**	**17.19**	**196**	P	**P**	**11 53 22.8**	**-0.5**
TUWZ	**Tuamarina**	**17.25**	**194**	P	**P**	**11 53 22.7**	**-1.3**
TUWZ	**Tuamarina**	**17.25**	**194**	P	**P**	**11 53 22.3**	**-1.7**
CMWZ	**Cape Campbell**	**17.50**	**193**	P	**P**	**11 53 25.8**	**-0.6**
BSWZ	**Blackbirch Sta**	**17.54**	**194**	P	**P**	**11 53 27.0**	**+0.3**
THZ	**Tophouse**	**17.82**	**196**	P	**P**	**11 53 29.0**	**-0.4**
KHZ	**Kahutara**	**18.28**	**194**	P	**P**	**11 53 32.1**	**-1.4**
KHZ				IAmb	IAmb	11 53 38.4	
	comp=Z,66nm,1.3s						
MQZ	**McQueen's Vall**	**19.71**	**195**	P	**P**	**11 53 45.5**	**-1.0**
RPZ	**Rata Peaks**	**20.13**	**198**	P	**P**	**11 53 52.6**	**+2.1**
	comp=Z,16nm,0.5s,baz=211,slow=13,SNR=3.6						
RPZ	**Rata Peaks**	**20.13**	**198**	P	**P**	**11 53 50.8**	**+0.4**
RPZ				IAmb	IAmb	11 53 55.5	
	comp=Z,23nm,0.7s						
FOZ	**Fox Glacier**	**20.34**	**201**	P	**P**	**11 53 52.5**	**+0.2**
LBZ	**Lake Benmore**	**21.00**	**199**	P	**P**	**11 53 56.6**	**-1.7**
LBZ				IAmb	IAmb	11 54 11.9	
	comp=Z,37nm,1.5s						
ODZ	**Otahua Downs**	**21.47**	**197**	P	**P**	**11 54 00.6**	**-2.0**
ODZ				IAmb	IAmb	11 54 27.3	
	comp=Z,36nm,1.3s						
WKZ	**Wanaka**	**21.76**	**201**	P	**P**	**11 54 02.6**	**-2.5**
WKZ				IAmb	IAmb	11 54 03.5	
	comp=Z,72nm,1.2s						
MLZ	**Mavora Lakes**	**22.53**	**201**	P	**P**	**11 54 13.7**	**+1.5**
MLZ				IAmb	IAmb	11 54 34.8	
	comp=Z,79nm,1.5s						
WHZ	**Wether Hill Ro**	**23.05**	**201**	P	**P**	**11 54 15.8**	**-0.9**
WHZ				IAmb	IAmb	11 54 19.2	
	comp=Z,40nm,0.8s						
HNR	**Honiara**	**24.11**	**306**	P	**P**	**11 54 23.3**	**-3.3**
EIDS	**Eisvold**	**25.77**	**263**	P	**P**	**11 54 42.9**	**+1.7**
CTA	**Charters Tower**	**31.08**	**272**	P	**P**	**11 55 29.1**	**+1.5**
	comp=Z,21nm,0.4s,baz=97,slow=10,SNR=37						
CTAO	**Charters Tower**	**31.08**	**272**	P	**P**	**11 55 29.3**	**+1.7**
CTAO				IAmb	IAmb	11 55 30.0	
	comp=Z,26nm,0.5s						
STKA	**Stephens Creek**	**34.02**	**249**	P	**P**	**11 55 53.5**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=90,slow=9.6,SNR=7.2						
STKA	**Stephens Creek**	**34.02**	**249**	P	**P**	**11 55 53.6**	**+1.1**
PMG	**Port Moresby**	**34.40**	**291**	P	**P**	**11 55 56.3**	**+0.4**
	comp=Z,17nm,0.7s,baz=238,slow=1.3,SNR=5.5						
PMG	**Port Moresby**	**34.40**	**291**	P	**P**	**11 55 56.1**	**+0.2**
PMG				IAmb	IAmb	11 55 57.7	
	comp=Z,19nm,0.8s						
BBOO	**Buckleboo**	**38.73**	**248**	P	**P**	**11 56 31.9**	**+0.4**
BBOO				IAmb	IAmb	11 56 38.9	
	comp=Z,34nm,1.5s						
AS31	**Alice Springs**	**41.49**	**262**	P	**P**	**11 56 54.5**	**+0.7**
ASAR	**Alice Springs**	**41.49**	**262**	P	**P**	**11 56 54.5**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=91,slow=7.1,SNR=56						
ASAR				ScP	**ScP**	**12 01 40.8**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=108,slow=3.8,SNR=1.4						
ASAR				S	**S**	**12 02 31.1**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=102,slow=17,SNR=6.1						
ASAR	**Alice Springs**	**41.49**	**262**	P	**P**	**11 56 54.0**	**+0.2**
WR0	**Warramunga Arr**	**41.76**	**267**	P	**P**	**11 56 55.7**	**-0.2**
WB2	**Warramunga Arr**	**41.93**	**267**	P	**P**	**11 56 57.2**	**-0.1**
WB2				IAmb	IAmb	11 56 58.3	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**41.94**	**267**	P	**P**	**11 56 57.6**	**+0.3**
WRAB				IAmb	IAmb	11 56 58.2	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**41.94**	**268**	P	**P**	**11 56 57.2**	**-0.2**
WB0				IAmb	IAmb	11 56 58.4	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**41.94**	**267**	P	**P**	**11 56 57.5**	**+0.1**
	comp=Z,6.5nm,0.4s,baz=100,slow=6.9,SNR=164						
WRA				ScP	**ScP**	**12 01 43.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=98,slow=3.9,SNR=6.2						
WRA				S	**S**	**12 02 35.7**	**-3.8**
	comp=Z,0.8nm,0.9s,baz=101,slow=14,SNR=5.0						
WRA	**Warramunga Arr**	**41.94**	**267**	P	**P**	**11 56 56.9**	**-0.5**
KNRA	**Kununurra**	**48.28**	**271**	P	**P**	**11 57 46.9**	**+0.8**
KNRA				IAmb	IAmb	11 57 47.5	
	comp=Z,16nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.36**	**266**	P	**P**	**11 58 02.4**	**+0.9**
	comp=Z,3.8nm,0.6s,baz=111,slow=6.7,SNR=20						
FITZ	**Fitzroy Crossi**	**50.36**	**266**	P	**P**	**11 58 02.4**	**+0.9**
SIJI	**Sorong**	**52.33**	**289**	P	**P**	**11 58 15.9**	**0.0**
	comp=Z,7.0nm,0.4s,baz=211,slow=19,SNR=2.4						
VNDA	**Vanda**	**53.48**	**185**	P	**P**	**11 58 24.6**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=347,slow=7.2,SNR=12						
VNDA	**Vanda**	**53.48**	**185**	P	**P**	**11 58 24.6**	**+1.5**
QSPA	**South Pole Qui**	**65.31**	**180**	P	**P**	**11 59 44.2**	**+1.5**
QSPA				IAmb	IAmb	11 59 44.7	
	comp=Z,8.5nm,0.6s						
MJAR	**Matsushiro Arr**	**72.39**	**326**	P	**P**	**12 00 25.7**	**0.0**
	comp=Z,6.0nm,0.7s,baz=163,slow=5.9,SNR=12						
MJAR	**Matsushiro Arr**	**72.39**	**326**	P	**P**	**12 00 24.6**	**-1.1**
BELA	**Belgrano 2**	**75.62**	**173**	P	**P**	**12 00 43.9**	**+0.4**
MAW	**Mawson**	**76.79**	**201**	P	**P**	**12 00 51.1**	**+1.1**
	comp=Z,4.0nm,0.5s,baz=141,slow=6.1,SNR=18						
MAW	**Mawson**	**76.79**	**201**	P	**P**	**12 00 51.2**	**+1.2**
KSRS	**Korea Array**	**78.65**	**320**	P	**P**	**12 01 00.6**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=135,slow=5.5,SNR=12						
KSAR	**Wonju Array Be**	**78.67**	**320**	P	**P**	**12 01 01.4**	**+0.8**
PETK	**Petropavlovsk**	**79.85**	**347**	P	**P**	**12 01 07.3**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=118,slow=6.8,SNR=12						
PETK	**Petropavlovsk**	**79.85**	**347**	P	**P**	**12 01 07.1**	**+0.6**
IPM	**Ipoh**	**81.49**	**279**	P	**P**	**12 01 15.2**	**-0.8**
SYO	**Syowa Base**	**82.07**	**194**	‖*e*P	**P**	**12 01 16.6**	**-1.3**
SYO	**Syowa Base**	**82.07**	**194**	‖*e*pP	pP	12 03 07.0	+1.5
SNAA	**Sanae**	**83.80**	**179**	P	**P**	**12 01 26.6**	**-0.1**
VNA3	**Neumayer Olymp**	**84.03**	**177**	P	**P**	**12 01 28.0**	**+0.2**
VNA2	**Neumayer--Watz**	**84.44**	**178**	P	**P**	**12 01 30.4**	**+0.6**
	baz=179,slow=4.1						
NVAR	**Mina Array Bea**	**85.67**	**44**	P	**P**	**12 01 37.1**	**+0.6**
	comp=Z,6.9nm,0.9s,baz=224,slow=9.1,SNR=5.6						
NVAR	**Mina Array Bea**	**85.67**	**44**	P	**P**	**12 01 35.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**89.44**	**291**	P	**P**	**12 01 53.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=139,slow=2.5,SNR=6.2						
TXAR	**Lajitas Array**	**91.24**	**58**	P	**P**	**12 02 03.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=210,slow=6.2,SNR=5.6						
TXAR	**Lajitas Array**	**91.24**	**58**	P	**P**	**12 02 02.2**	**-0.4**
ILAR	**Eielson Array**	**92.97**	**14**	P	**P**	**12 02 08.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.3,SNR=6.5						
ILAR	**Eielson Array**	**92.97**	**14**	P	**P**	**12 02 10.2**	**+0.6**
ARCES	**ARCESS Array B**	**132.65**	**348**	PKP	**PKPdf**	**12 08 07.4**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=31,slow=2.4,SNR=5.6						
NB2	**NORSAR Subarra**	**142.88**	**351**	PKP	**PKPdf**	**12 08 23.8**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=16,slow=3.1						
NOA	**NORSAR Array B**	**142.88**	**351**	PKP	**PKPdf**	**12 08 24.0**	**-2.5**
	comp=Z,2.9nm,0.7s,baz=16,slow=4.8,SNR=4.2						
AKASG	**Malin Array Be**	**145.47**	**326**	PKPbc	**PKPdf**	**12 08 31.7**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=44,slow=4.4,SNR=11						
AKASG	**Malin Array Be**	**145.47**	**326**		**PKPbc**	**12 08 32.4**	**-0.1**
BR131	**Keskin Array S**	**147.76**	**306**		**PKPab**	**12 08 44.3**	**+0.9**
BRTR	**Keskin Array B**	**147.76**	**306**	PKPbc	**PKPbc**	**12 08 39.8**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=86,slow=1.7,SNR=2.3						
BRTR	**Keskin Array B**	**147.76**	**306**	PKPbc	**PKPbc**	**12 08 38.9**	**-0.3**
CLL	**Collm**	**151.56**	**342**	*i* PKPbc	**PKiKP**	**12 08 48.5**	**+0.5**
	comp=Z,7.0nm,1.0s						
ESDC	**Sonseca Array**	**164.85**	**10**	PKPab	**PKPab**	**12 09 56.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=352,slow=3.1,SNR=4.4						
ESDC	**Sonseca Array**	**164.85**	**10**	PKPdf	**PKPdf**	**12 08 55.2**	**-2.1**
ESDC					**PKPab**	**12 09 56.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**168.26**	**190**	PKPab	**PKPab**	**12 10 12.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=177,slow=3.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**168.26**	**190**	PKPdf	**PKPdf**	**12 08 59.2**	**-1.2**
TORD					**PKPab**	**12 10 11.7**	**-0.4**

*TAP **28** 11:51:48.1,24°.56N×122°.46E,h63km±1km,ML2.8,D*
*JMA **28** 11:51:48.2±0.1,24°.52N×122°.30E,h89km±2km,M1.9*

ISC 28 11:51:50.1±1.3, 24°.56N±0°.03×122°.35E±0°.02, h68km±8km, n86, σ0988/151, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.46**	**277**	*i* P	**Pn**	**11 52 01.9**	**-0.4**
	baz=275						
TWC				*i* S	**Sn**	**11 52 11.6**	**+0.4**
	baz=275						
ENAH	**Nanao**	**0.50**	**258**	*e*P	**Pn**	**11 52 03.5**	**+0.8**
	baz=259						
ENAH				*e*S	**Sn**	**11 52 11.3**	**-0.7**
	baz=259						
JYNG	**Yonagunijimaku**	**0.55**	**101**	P	**Pn**	**11 52 03.8**	**+0.6**
JYNG				*e*S	**Sn**	**11 52 15.2**	**+2.4**
TWB1	**Santiao Chiao**	**0.56**	**324**	*i* P	**Pn**	**11 52 02.2**	**-1.1**
	baz=316						
TWB1				*i* S	**Sn**	**11 52 12.3**	**-0.6**
	baz=316						
ILA	**Ilan**	**0.59**	**291**	S	**Sn**	**11 52 14.7**	**+1.2**
	baz=287						
YOJ	**Yonaguni jima**	**0.61**	**99**	P	**Pn**	**11 52 00.0**	**-3.8**
	baz=100						
YOJ	**Yonaguni jima**	**0.61**	**99**	P	**Pn**	**11 52 04.2**	**+0.4**
YOJ				*e*S	**Sn**	**11 52 16.1**	**+2.2**
TIPB	**Shuangxi**	**0.63**	**311**	*i* P	**Pn**	**11 52 03.1**	**-1.0**
	baz=305						
TIPB				S	**Sn**	**11 52 13.8**	**-0.6**
	baz=305						
TWE	**Neicheng**	**0.64**	**285**	*e*P	**Pn**	**11 52 03.0**	**-1.2**
	baz=282						
TWE				S	**Sn**	**11 52 14.3**	**-0.2**
	baz=282						
ENTT	**Nioudou**	**0.72**	**277**	*i* P	**Pn**	**11 52 05.4**	**+0.3**
	baz=275						
ENTT				S	**Sn**	**11 52 16.1**	**0.0**
	baz=275						
NDT	**Datong Townshi**	**0.76**	**274**	*e*P	**Pn**	**11 52 05.6**	**0.0**
	baz=272						
NDT				S	**Sn**	**11 52 17.6**	**+0.6**
	baz=272						
NACB	**Ninganchiao**	**0.79**	**241**	*e*P	**Pn**	**11 52 05.6**	**-0.2**
	baz=244						
NACB				S	**Sn**	**11 52 17.7**	**+0.2**
	baz=244						
NWLT	**Wulai**	**0.80**	**286**	*e*P	**Pn**	**11 52 04.8**	**-1.3**
	baz=284						
NWLT				*e*S	**Sn**	**11 52 18.6**	**+0.7**
	baz=284						
TWD	**Chiawan**	**0.83**	**236**	S	**Sn**	**11 52 19.4**	**+0.9**
	baz=238						
ETLH	**Xiulin Townshi**	**0.86**	**246**	S	**Sn**	**11 52 19.7**	**+0.4**
	baz=248						
NNSB	**Datong**	**0.89**	**262**	P	**Pn**	**11 52 06.7**	**-0.6**
	baz=262						
NNSB				S	**Sn**	**11 52 20.3**	**+0.4**
	baz=262						
NNSH	**Datong**	**0.89**	**262**	*e*P	**Pn**	**11 52 06.3**	**-1.0**
	baz=262						
NNSH				*e*S	**Sn**	**11 52 20.9**	**+1.0**
	baz=262						
HWA	**Hwalien**	**0.89**	**230**	S	**Sn**	**11 52 20.6**	**+0.9**
	baz=233						
YHNB	**Yeheng**	**0.89**	**277**	P	**Pn**	**11 52 06.5**	**-0.7**
	baz=276						
YHNB				S	**Sn**	**11 52 21.2**	**+1.2**
	baz=276						
NNS	**Nan Shan**	**0.90**	**263**	P	**Pn**	**11 52 07.3**	**0.0**
	baz=263						
NNS				*i* S	**Sn**	**11 52 20.1**	**0.0**
	baz=263						
TAP	**Taipei**	**0.91**	**302**	*e*P	**Pn**	**11 52 06.8**	**-0.5**
	baz=299						
TAP				S	**Sn**	**11 52 19.8**	**-0.2**
	baz=299						
NSK	**Sanguang**	**0.91**	**278**	P	**Pn**	**11 52 06.4**	**-1.0**
	baz=276						
NSK				*i* S	**Sn**	**11 52 20.1**	**-0.2**
	baz=276						
YM01	**YM01**	**0.92**	**310**	*e*P	**Pn**	**11 52 06.7**	**-0.9**
	baz=306						
YM11	**YM11**	**0.93**	**311**	*e*P	**Pn**	**11 52 07.1**	**-0.6**
	baz=307						
YM11				*e*S	**Sn**	**11 52 21.7**	**+1.0**
	baz=307						
YM10	**YM10**	**0.93**	**310**	*e*P	**Pn**	**11 52 08.4**	**+0.7**
	baz=306						
YM05	**YM05**	**0.94**	**311**	*e*P	**Pn**	**11 52 07.5**	**-0.3**
	baz=306						
YM04	**YM04**	**0.95**	**309**	*e*S	**Sn**	**11 52 22.5**	**+1.5**
	baz=305						
YM03	**YM03**	**0.96**	**310**	*e*S	**Sn**	**11 52 21.8**	**+0.4**
	baz=306						
TWY	**Chenhua**	**0.99**	**317**	P	**Pn**	**11 52 06.3**	**-2.1**
	baz=312						
TWY				S	**Sn**	**11 52 22.5**	**+0.7**
	baz=312						
TWS1	**Kuangyinshan**	**1.01**	**303**	*e*S	**Sn**	**11 52 22.5**	**+0.3**
	baz=299						
FUSS	**Fushou**	**1.05**	**253**	*e*P	**Pn**	**11 52 08.9**	**-0.5**
	baz=254						
FUSS				S	**Sn**	**11 52 24.1

EYUL	**Yuli** baz=220	**1.53**	**218**	*e*S		**Sn**	**11 52 34.3**	**-0.1**
TWF1	**Yuli** baz=221	**1.54**	**219**	P		**Pn**	**11 52 14.2**	**-1.3**
TWF1				S		**Sn**	**11 52 33.4**	**-1.3**
JKRS	**Kuro-shima** baz=221	**1.55**	**102**	P		**Pn**	**11 52 15.6**	**0.0**
JKRS				*e*S		**Sn**	**11 52 36.2**	**+1.4**
TCU	**Taichung** baz=255	**1.58**	**255**	*e*S		**Sn**	**11 52 37.0**	**+1.4**
WHYT	**Xinyi Township** baz=239	**1.61**	**238**	*e*P		**Pn**	**11 52 17.2**	**+0.7**
WHYT				S		**Sn**	**11 52 37.7**	**+1.2**
JIJ	**Ishigaki jima**	**1.65**	**96**	P		**Pn**	**11 52 16.4**	**-0.5**
JIJ				S		**Sn**	**11 52 37.2**	**0.0**
WJS	**Zhushan** baz=245	**1.65**	**244**	*e*P		**Pn**	**11 52 17.4**	**+0.4**
WJS				*e*S		**Sn**	**11 52 38.8**	**+1.4**
FULB	**Fuli** baz=218	**1.66**	**216**	*e*P		**Pn**	**11 52 16.1**	**-1.0**
FULB				S		**Sn**	**11 52 38.1**	**+0.4**
WNT	**Mingjian** baz=247	**1.66**	**246**	P		**Pn**	**11 52 17.5**	**+0.3**
WNT				*e*S		**Sn**	**11 52 38.9**	**+1.2**
CHKT	**Chengkung** baz=214	**1.71**	**212**	*e*S		**Sn**	**11 52 38.6**	**-0.1**
ALS	**Alishan** baz=235	**1.75**	**234**	*i* P		**Pn**	**11 52 19.0**	**+0.3**
ALS				*i* S		**Sn**	**11 52 40.9**	**+0.7**
JISG	**Ishigakijimahi** baz=235	**1.79**	**89**	P		**Pn**	**11 52 18.2**	**-0.6**
JISG				S		**Sn**	**11 52 40.9**	**+0.3**
CHN5	**Tsauling** baz=239	**1.80**	**238**	P		**Pn**	**11 52 18.9**	**-0.2**
CHN5				*i* S		**Sn**	**11 52 42.6**	**+1.5**
ELDTW	**Lidau** baz=223	**1.83**	**222**	S		**Sn**	**11 52 41.9**	**+0.1**
EDH	**Donghe** baz=213	**1.84**	**212**	*e*P		**Pn**	**11 52 19.1**	**-0.5**
EDH				*e*S		**Sn**	**11 52 40.4**	**-1.6**
WGK	**Gukeng** baz=243	**1.85**	**242**	P		**Pn**	**11 52 19.7**	**0.0**
WGK				*e*S		**Sn**	**11 52 43.2**	**+1.2**
CHN4	**Tsaushan** baz=234	**2.01**	**234**	P		**Pn**	**11 52 21.4**	**-0.3**
CHN4				S		**Sn**	**11 52 47.2**	**+1.3**
TPUB	**Ta-pu** baz=233	**2.01**	**232**	*e*P		**Pn**	**11 52 22.1**	**+0.3**
TPUB				*e*S		**Sn**	**11 52 47.3**	**+1.3**
WTP	**Ta-pu** baz=232	**2.06**	**231**	P		**Pn**	**11 52 22.8**	**+0.3**
WTP				S		**Sn**	**11 52 48.3**	**+1.1**
TWGBT	**Beinan** baz=216	**2.09**	**214**	*e*P		**Pn**	**11 52 22.0**	**-0.9**
TWGBT				*e*S		**Sn**	**11 52 46.4**	**-1.5**
TWG	**Pinlang** baz=216	**2.09**	**214**	*e*P		**Pn**	**11 52 22.1**	**-0.8**
TWG				*e*S		**Sn**	**11 52 46.6**	**-1.2**
TTN	**Taitung** baz=213	**2.11**	**212**	*e*P		**Pn**	**11 52 23.2**	**+0.1**
TTN				*e*S		**Sn**	**11 52 48.7**	**+0.4**
JTJ	**Tarama**	**2.14**	**87**	*e*S		**Sn**	**11 52 48.6**	**-0.6**
CHN1	**Nanshi** baz=232	**2.15**	**231**	P		**Pn**	**11 52 23.6**	**-0.2**
CHN1				S		**Sn**	**11 52 50.8**	**+1.3**
SGST	**Jiashian** baz=229	**2.18**	**228**	P		**Pn**	**11 52 24.7**	**+0.5**
SGST				S		**Sn**	**11 52 51.1**	**+0.9**
SLGT	**Liugui** baz=226	**2.20**	**225**	*e*P		**Pn**	**11 52 24.8**	**+0.4**
SLGT				*e*S		**Sn**	**11 52 52.2**	**+1.5**
ECL	**Taimali** baz=215	**2.33**	**214**	*e*P		**Pn**	**11 52 25.8**	**-0.4**
ECL				*e*S		**Sn**	**11 52 53.0**	**-0.8**
SSD	**Sandimen** baz=222	**2.39**	**222**	*e*P		**Pn**	**11 52 27.5**	**+0.5**
SSD				*e*S		**Sn**	**11 52 55.2**	**-0.1**
TSMG	**Majia** baz=222	**2.42**	**221**	*e*P		**Pn**	**11 52 27.7**	**+0.3**
TSMG				*e*S		**Sn**	**11 52 56.9**	**+1.1**
TWM1	**Shoushan** baz=227	**2.47**	**226**	*e*P		**Pn**	**11 52 27.8**	**-0.3**
MASBT	**Mashibuluo** baz=220	**2.50**	**219**	*e*P		**Pn**	**11 52 28.1**	**-0.3**
MASBT				*e*S		**Sn**	**11 52 57.7**	**0.0**
EAST	**Anshuo** baz=214	**2.56**	**213**	*e*P		**Pn**	**11 52 29.1**	**-0.3**
SCZT	**Fangliau** baz=217	**2.69**	**216**	*e*P		**Pn**	**11 52 30.9**	**-0.2**

*NNC **28** 11:56:13.1±4.4, 40.°37N×70.°51E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=33.4km s-min=17.1km az=25.0*
*SOME **28** 11:56:27.7, 40.°90N×70.°73E, h0km*
*KRNET **28** 11:56:28.4±0.1, 40.°66N×70.°96E, mb2.5*
ISC 28 11:56:25.1±1.3**, 40.°81N**±0.°03×**70.°73E**±0.°04**, h2**km±12km**, n17**, σ2**°04**/30**, 13C-11D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=90	**0.75**	**175**	⇓*i*P		**Pg**		**11 56 40.3**	**+0.8**
BTK				⇓*i*S		**Sg**		**11 56 49.1**	**-0.1**
IUG	**luzhnay** 17nm,0.1s	**1.44**	**339**	*e*P		**Pg**		**11 56 53.8**	**+1.1**
IUG				*e*S		**Sg**		**11 57 12.8**	**+1.5**
DZA	**Taraz** 35nm,0.2s	**2.13**	**12**	*e*P		**Pg**		**11 57 06.1**	**+0.1**
DZA				*e*S		**Sg**		**11 57 33.7**	**+0.1**
MNAS	**Manas** baz=32	**2.14**	**38**	⇑*i*P		**Pg**		**11 57 07.7**	**+1.5**
MNAS				⇑*i*S		**Sg**		**11 57 36.2**	**+2.2**
KK31	**Karatay Array** 1.4nm,0.4s,baz=182,slow=12,SNR=11	**2.30**	**356**	⇑Pg		**Pn**		**11 57 03.4**	**-0.6**
KK31				⇓Lg		Lg		11 57 39.1	
BRLS	**Borolday** 21nm,0.3s	**2.32**	**344**	*e*P		**Pb**		**11 57 06.5**	**-1.2**
BRLS				*e*S		**Sb**		**11 57 34.6**	**-2.1**
AML	**Almayashu** baz=54	**2.59**	**58**	⇑*i*P		**Pb**		**11 57 13.0**	**+0.5**
AML				⇑*i*S		**Sb**		**11 57 44.8**	**-0.2**
MRKS	**Merke** 1.7nm,0.2s	**2.69**	**43**	*e*P		**Pg**		**11 57 17.1**	**+0.4**
MRKS				*e*S		**Sg**		**11 57 52.8**	**+1.3**
ARLS	**Aral** baz=63	**2.91**	**68**	⇑*i*P		**Pb**		**11 57 16.9**	**-0.8**
ARLS				⇑*i*S		**Sb**		**11 57 51.5**	**-2.3**
EKS2	**Erkin-Say** baz=46	**2.94**	**50**	⇓*i*P		**Pb**		**11 57 17.8**	**-0.5**
EKS2				⇓*i*S		**Sb**		**11 57 53.5**	**-1.2**
UCH	**Uchtor** baz=58	**3.18**	**62**	⇑*i*P		**Pb**		**11 57 21.1**	**-1.4**
UCH				⇑*i*S		**Sn**		**11 57 58.6**	**+3.4**
AAK	**Ala-Archa** baz=52	**3.36**	**56**	⇓*i*P		**Pb**		**11 57 23.8**	**-1.7**
AAK				⇓*i*S		**Sb**		**11 58 03.0**	**-3.9**
AAK	**Ala-Archa** 2.1nm,0.8s	**3.36**	**56**	⇑Pg		**Pn**		**11 57 20.3**	**+1.5**
AAK				⇓Lg		Lg		11 58 14.3	
USP	**Ospenovka** baz=44 1.5nm,0.5s	**3.73**	**48**	⇑*i*P		**Pb**		**11 57 28.7**	**-3.1**
USP				⇑*i*S		**Sb**		**11 58 13.0**	**-4.5**
TKM2	**Tokmak 2** baz=55	**4.21**	**58**	⇓*i*P		Pn		11 57 35.8	+5.4
TKM2				⇓*i*S		**Sn**		**11 58 23.6**	**+3.4**
TKM2	**Tokmak 2** 1.1nm,0.8s	**4.21**	**58**	⇑Pg		**Pb**		**11 57 37.7**	**-2.2**
TKM2				⇓Lg		Lg		11 58 39.3	
KST	**Kastek** 1.8nm,0.8s	**4.50**	**59**	*e*P		**Pg**		**11 57 50.3**	**-1.1**
KST				*e*S		**Sg**		**11 58 50.2**	**+0.6**

*IDC **28** 12:03:54.2±2.1, 22.°75S×172.°87E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.8/38, mbtmp4.0/7, ML3.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/27, Error ellipse: s-maj=98.4km s-min=25.4km az=163.0*
*NEIC **28** 12:03:55.3±1.5, 22.°92S±0.°05×172.°98E±0.°09, h10km±2km, mb4.4/9, Error ellipse: s-maj=15.7km s-min=5.1km az=120.0*
ISC 28 12:03:55.5±0.7**, 22.°9S**±0.°1×**172.°94E**±0.°07**, h10**km**, n29, σ0°93/25, mb4.2/9, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=138,slow=14,SNR=18	**6.06**	**276**	Pn		**Pn**		**12 05 24.8**	**-0.5**
DZM				Sn		**Sn**		**12 06 33.2**	**-1.5**
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=294,slow=20,SNR=1.7	**6.06**	**276**			**Pn**		**12 05 26.2**	**+0.9**
MSVF	**Nonsavu**	**7.00**	**44**	Pn		**Pn**		**12 05 38.2**	**0.0**
RAO	**Raoul Island** comp=Z,117nm,18.8s,baz=272,slow=33	**10.40**	**130**	LR		LR		12 09 37.1	
RAO	**Raoul Island**	**10.40**	**130**	Pn		**Pn**		**12 06 23.6**	**-1.2**
URZ	**Urewera** comp=Z,130nm,21.6s,baz=31,slow=33	**15.76**	**168**	LR		LR		12 12 35.1	
BKZ	**Black Stump Fm** comp=Z,40nm,1.3s	**16.54**	**170**	P		**P**		**12 07 51.0**	**+0.8**
BKZ				IAmb		IAmb		12 08 03.0	
HNR	**Honiara** comp=Z,99nm,19.7s,baz=202,slow=34	**18.25**	**315**	LR		LR		12 14 07.2	
TUWZ	**Tuamarina**	**18.54**	**178**	P		**Pn**		**12 08 13.4**	**+1.0**
CTA	**Charters Tower** comp=Z,2.0nm,0.2s,baz=80,slow=9.7,SNR=4.4	**24.97**	**271**	P		**P**		**12 09 19.7**	**+0.2**
AS31	**Alice Springs**	**35.79**	**261**	P		**P**		**12 10 55.5**	**+0.2**
ASAR	**Alice Springs** comp=Z,1.7nm,0.8s,baz=85,slow=9.3,SNR=25	**35.80**	**261**	P		**P**		**12 10 54.9**	**-0.4**
ASAR	**Alice Springs**	**35.80**	**261**	P		**P**		**12 10 55.1**	**-0.2**
WR0	**Warramunga Arr**	**35.80**	**267**	P		**P**		**12 10 53.3**	**-2.0**
WB0	**Warramunga Arr** comp=Z,5.3nm,1.4s	**35.97**	**268**	P		**P**		**12 10 56.4**	**-0.4**
WB0				IAmb		IAmb		12 11 16.6	
WB2	**Warramunga Arr** comp=Z,5.7nm,1.3s	**35.98**	**267**	P		**P**		**12 10 56.1**	**-0.8**
WB2				IAmb		IAmb		12 11 18.2	
WRA	**Warramunga Arr** comp=Z,0.9nm,0.7s,baz=103,slow=8.1,SNR=14	**35.99**	**267**	P		**P**		**12 10 55.8**	**-1.2**
WRA	**Warramunga Arr**	**35.99**	**267**	P		**P**		**12 10 55.9**	**-1.0**
FORT	**Forrest**	**40.60**	**249**	P		**P**		**12 11 37.2**	**+1.5**
KNRA	**Kununurra**	**42.19**	**272**	P		**P**		**12 11 48.6**	**-0.2**
FITZ	**Fitzroy Crossi** comp=Z,5.2nm,0.8s,baz=169,slow=8.4,SNR=12	**44.42**	**267**	P		**P**		**12 12 06.8**	**0.0**
FITZ	**Fitzroy Crossi**	**44.42**	**267**	P		**P**		**12 12 06.7**	**-0.2**
VNDA	**Vanda** comp=Z,69nm,20.1s,baz=3.5,slow=32	**54.98**	**183**	LR		LR		12 33 17.2	
QSPA	**South Pole Qui** comp=Z,7.2nm,1.4s	**67.22**	**180**	P		**P**		**12 14 48.6**	**-1.3**
QSPA				IAmb		IAmb		12 15 17.9	
PETK	**Petropavlovsk-** comp=Z,19nm,21.2s,baz=140,slow=31	**76.80**	**351**	LR		LR		12 43 34.0	
ILAR	**Eielson Array** comp=Z,0.7nm,1.1s,baz=231,slow=5.3,SNR=5.2	**92.69**	**16**	P		**P**		**12 17 07.2**	**-0.1**
ILAR	**Eielson Array**	**92.69**	**16**	P		**P**		**12 17 07.8**	**+0.5**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=243,slow=10.0,SNR=2.4	**96.57**	**46**	P		**P**		**12 17 25.9**	**0.0**
CLL	**Collm**	**147.62**	**336**	*e*PKPbc		**PKPbc**		**12 23 41.0**	**+1.0**

*TAP **28** 12:20:03.7, 24.°70N×122.°40E, h7km±1km, ML2.5, C*
*JMA **28** 12:20:05.1±0.1, 24.°62N×122.°39E, h8km±4km, M2.0*
ISC 28 12:20:04.5±1.0**, 24.°68N**±0.°03×**122.°40E**±0.°02**, h9**km±9km**, n55, σ0°49/100, 2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS	baz=288	**0.46**	**291**	P		**Pg**		**12 20 12.3**	**-1.1**
EGS				S		**Sg**		**12 20 20.2**	**+0.8**
TWB1	**Santiao Chiao** baz=309	**0.50**	**311**	*i* P		**Pg**		**12 20 14.3**	**+0.2**
TWB1				*i* S		**Sg**		**12 20 20.4**	**-0.4**
TWC	**Suao** baz=259	**0.51**	**262**	*i* P		**Pg**		**12 20 14.1**	**-0.2**
TWC				S		**Sb**		**12 20 22.7**	**-0.3**
JYNG	**Yonagunijimaku**	**0.55**	**114**	P		**Pg**		**12 20 15.4**	**+0.3**
JYNG				S		**Sg**		**12 20 22.7**	**+0.5**
ENAH	**Nanao** baz=245	**0.58**	**247**	*i* P		**Pg**		**12 20 15.8**	**0.0**
ENAH				S		**Sb**		**12 20 25.8**	**+0.5**
YOJ	**Yonaguni jima** baz=112	**0.60**	**111**	P		**Pg**		**12 20 16.2**	**+0.2**
YOJ				S		**Sg**		**12 20 24.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.60**	**111**	P		**Pb**		**12 20 16.8**	**-0.3**
YOJ				*e*S		**Sg**		**12 20 24.0**	**+0.2**
TIPB	**Shuangxi** baz=297	**0.60**	**299**	P		**Pg**		**12 20 16.4**	**+0.3**
TIPB				S		**Sb**		**12 20 26.1**	**+0.3**
TWE	**Neicheng** baz=271	**0.67**	**274**	⇓*i*P		**Pg**		**12 20 17.1**	**-0.3**
TWE				S		**Sb**		**12 20 28.1**	**+0.4**
NWF	**Wu-fen Shan** baz=303	**0.69**	**305**	*i* P		**Pb**		**12 20 18.4**	**-0.3**
NWF				*i* S		**Sb**		**12 20 28.4**	**+0.1**
WFSB	**Wu-fen Shan** baz=303	**0.69**	**305**	P		**Pb**		**12 20 18.4**	**-0.2**
WFSB				S		**Sb**		**12 20 28.8**	**+0.6**
ENTT	**Nioudou** baz=265	**0.76**	**267**	*i* P		**Pg**		**12 20 19.1**	**0.0**
ENTT				S		**Sb**		**12 20 30.6**	**+0.2**
TWA	**Mucha** baz=290	**0.80**	**292**	P		**Pb**		**12 20 20.6**	**0.0**
TWA				S		**Sb**		**12 20 32.1**	**+0.5**
NDT	**Datong Townshi** baz=263	**0.81**	**265**	P		**Pb**		**12 20 20.4**	**-0.4**
NDT				S		**Sb**		**12 20 32.7**	**+0.9**
NWLT	**Wulai** baz=275	**0.82**	**277**	*e*P		**Pg**		**12 20 19.7**	**-0.6**
NWLT				*e*S		**Sb**		**12 20 31.9**	**-0.3**
TATO	**Taipei** baz=288	**0.88**	**290**	*e*P		**Pg**		**12 20 20.8**	**-0.6**
TATO				S		**Sb**		**12 20 33.8**	**0.0**
YM01	**YM01** baz=300	**0.89**	**302**	*e*P		**Pg**		**12 20 20.9**	**-0.7**
YM01				S		**Sg**		**12 20 33.5**	**+0.4**
NACB	**Ninganchiao** baz=234	**0.89**	**236**	P		**Pg**		**12 20 21.5**	**-0.1**
NACB				S		**Sb**		**12 20 34.7**	**+0.6**
YM08	**YM08** baz=303	**0.89**	**305**	P		**Pb**		**12 20 22.4**	**+0.2**
YM08				S		**Sg**		**12 20 34.0**	**+0.7**
YM11	**YM11** baz=301	**0.89**	**303**	P		**Pb**		**12 20 22.3**	**+0.1**
YM11				S		**Sg**		**12 20 33.9**	**+0.6**
YM10	**YM10** baz=300	**0.90**	**302**	*e*P		**Pg**		**12 20 21.0**	**-0.8**
YM10				S		**Sg**		**12 20 33.1**	**-0.4**
YM05	**YM05** baz=301	**0.90**	**303**	P		**Pg**		**12 20 21.6**	**-0.2**
YM05				*e*S		**Sg**		**12 20 33.4**	**-0.1**
YM04	**YM04** baz=299	**0.92**	**301**	P		**Pg**		**12 20 22.3**	**+0.2**
YM04				S		**Sb**		**12 20 34.7**	**-0.2**
YM03	**YM03** baz=301	**0.93**	**303**	*e*P		**Pg**		**12 20 22.2**	**-0.1**
YM03				*e*S		**Sb**		**12 20 35.3**	**+0.1**
YHNB	**Yeheng** baz=268	**0.93**	**270**	P		**Pg**		**12 20 22.3**	**-0.1**
YHNB				S		**Sb**		**12 20 36.0**	**+0.6**
TWD	**Chiawan** baz=229	**0.94**	**231**	P		**Pg**		**12 20 21.8**	**-0.8**
TWD				S		**Sn**		**12 20 36.4**	**-1.2**
NSK	**Sanguang** baz=268	**0.95**	**270**	⇓*i*P		**Pg**		**12 20 22.8**	**+0.1**
NSK				S		**Sb**		**12 20 36.1**	**+0.2**
ETLH	**Xiulin Townshi** baz=239	**0.96**	**241**	P		**Pb**		**12 20 23.0**	**-0.4**
ETLH				*e*S		**Sn**		**12 20 37.1**	**-1.0**
NNSB	**Datong** baz=253	**0.96**	**255**	P		**Pg**		**12 20 22.3**	**-0.6**
NNSB				S		**Sb**		**12 20 36.4**	**+0.2**
NNSH	**Datong** baz=253	**0.96**	**255**	*e*P		**Pg**		**12 20 22.8**	**-0.2**
NNSH				*e*S		**Sn**		**12 20 37.2**	**-0.9**
NNS	**Nan Shan** baz=254	**0.96**	**256**	*i* P		**Pg**		**12 20 22.7**	**-0.4**
NNS				S		**Sb**		**12 20 36.6**	**+0.2**
FUSS	**Fushou** baz=246	**1.14**	**248**	P		**Pn**		**12 20 26.7**	**-0.2**
FUSS				S		**Sn**		**12 20 42.7**	**0.0**
WHF	**Hehuan Shan** baz=241	**1.16**	**243**	*i* P		**Pg**		**12 20 26.7**	**-0.2**
WHF				S		**Sb**		**12 20 42.7**	**+0.3**
TWT	**Tachien** baz=248	**1.19**	**250**	P		**Pn**		**12 20 28.0**	**+0.4**
TWT				S		**Sn**		**12 20 44.1**	**+0.2**
TDCB	**Techi** baz=248	**1.21**	**250**	*e*P		**Pn**		**12 20 28.0**	**+0.2**
TDCB				S		**Sn**		**12 20 44.6**	**+0.3**
ESL	**Shilin** baz=224	**1.23**	**226**	*e*P		**Pg**		**12 20 28.4**	**+0.3**
ESL				*e*S		**Sn**		**12 20 45.3**	**+0.6**
IRIF	**Iriomote-Funau**	**1.26**	**105**	P		**Pn**		**12 20 28.3**	**0.0**
IRIF				*e*S		**Sb**		**12 20 44.3**	**-0.4**
LIOB	**Emei** baz=267	**1.26**	**269**	P		**Pg**		**12 20 28.9**	**+0.2**
NSTT	**Nanjuang** baz=266	**1.27**	**268**	P		**Pn**		**12 20 28.3**	**-0.2**
NSTT				S		**Sn**		**12 20 46.0**	**+0.3**
CHGB	**Renai** baz=240	**1.28**	**241**	P		**Pn**		**12 20 28.2**	**-0.5**
CHGB				*e*S		**Sn**		**12 20 46.8**	**+0.7**
WHP	**Taichung City** baz=252	**1.38**	**254**	P		**Pg**		**12 20 31.6**	**+0.6**
WHP				*e*S		**Sg**		**12 20 49.4**	**+0.4**
HATJ	**Hateruma jima**	**1.42**	**115**	S		**Sn**		**12 20 49.5**	**+0.1**
VWDT	**VWDT** baz=230	**1.47**	**232**	P		**Pg**		**12 20 32.7**	**0.0**
VWDT				*e*S		**Sg**		**12 20 52.9**	**+1.1**
HGSD	**Ruisui** baz=216	**1.48**	**217**	P		**Pb**		**12 20 31.6**	**-0.5**
JKRS	**Kuro-shima**	**1.53**	**106**	P		**Pb**		**12 20 32.8**	**-0.2**
JKRS				*e*S		**Sg**		**12 20 53.1**	**-0.6**
SMLT	**Sun Moon Lake** baz=239	**1.58**	**240**	*e*P		**Pn**		**12 20 32.3**	**-0.5**
SSLB	**Suanglung** baz=235	**1.59**	**236**	P		**Pb**		**12 20 33.4**	**-0.7**
SSLB				*e*S		**Sb**		**12 20 54.4**	**+0.1**
JIJ	**Ishigaki jima**	**1.62**	**101**	*e*S		**Sb**		**12 20 54.9**	**-0.2**
YULB	**Yu-li** baz=217	**1.63**	**218**	P		**Pn**		**12 20 33.2**	**-0.2**
YULB				S		**Sn**		**12 20 54.6**	**+0.1**
JISG	**Ishigakijimahi**	**1.74**	**93**	*e*S		**Sb**		**12 20 58.5**	**-0.1**
CHN5	**Tsauling** baz=235	**1.91**	**236**	*e*P		**Pn**		**12 20 38.0**	**+0.8**
CHN4	**Tsaushan** baz=230	**2.12**	**232**	*e*P		**Pn**		**12 20 40.5**	**+0.5**
TPUB	**Ta-pu** baz=229	**2.12**	**230**	*e*P		**Pb**		**12 20 41.6**	**-1.5**
TPUB				*e*S		**Sn**		**12 21 07.4**	**+0.7**
CHN1	**Nanshi** baz=228	**2.27**	**229**	*e*P		**Pn**		**12 20 42.6**	**+0.5**
SLGT	**Liugui** baz=223	**2.32**	**224**	*e*P		**Pn**		**12 20 43.3**	**+0.4**

*REY **28** 13:01:50.4, 64.°61N×17.°44W, h1km*
*IDC **28** 13:01:51.0±0.6, 64.°51N×17.°52W, h0km, mb3.9/16, mb1 4.2/18, mb1mx3.9/59, mbtmp4.0/18, ML3.5/2, MS3.4/19, Ms1 3.4/19, ms1mx3.2/52, Error ellipse: s-maj=19.4km s-min=9.3km az=14.0*
*NEIC **28** 13:01:53.6±2.1, 64.°48N±0.°10×17.°4W±0.°2, h8km±4km, mb4.4/64, Error ellipse: s-maj=14.6km s-min=9.4km az=202.0*
ISC 28 13:01:53.3±0.3**, 64.°51N**±0.°03×**17.°53W**±0.°03**, h10**km**, n179, σ1°84/151, mb4.4/41, MS3.4/13, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGRF	**Grimsfjall** baz=161	**0.15**	**132**	P		**Pg**		**13 01 55.2**	**-1.6**
IVON	**Vonarskard** baz=294	**0.19**	**329**	P		Pg		13 01 53.8	-3.6
IHUS	**Husbondi** baz=197	**0.22**	**194**	P		**Pg**		**13 01 57.3**	**-0.6**
IDYN	**Dyngjuhals** baz=9.3	**0.29**	**14**	P		Pg		13 01 54.4	-4.8
IURH	**Urdarhals** baz=30	**0.35**	**28**	P		Pg		13 01 55.7	-4.6
IJOK	**Jokulheimar** baz=229	**0.36**	**237**	P		**Pg**		**13 01 59.0**	**-1.4**
IJOK				S		**Sb**		**13 02 05.5**	**-2.0**
ISKR	**Skrokkalda** baz=263	**0.37**	**278**	P		**Pg**		**13 01 58.4**	**-2.4**
IKVE	**Kverkfjoll** baz=78	**0.41**	**65**	P		Pg		13 01 57.3	-4.1
IIEY	**Innrieyrar** baz=210	**0.49**	**212**	P		**Pb**		**13 02 01.6**	**-2.5**
THOR	**Thorvaldshraun** baz=45	**0.56**	**40**	P		Pg		13 01 59.3	-4.9
IKRE	**Kreppuhraun** baz=69	**0.56**	**60**	P		Pg		13 01 59.5	-4.8
IKRE				S		**Sg**		**13 02 07.0**	**-4.8**
IKAL	**Kalfafell** baz=190	**0.57**	**187**	P		**Pg**		**13 02 03.0**	**-1.4**
IKSK	**Karasker** baz=137	**0.58**	**127**	P		**Pg**		**13 02 01.4**	**-3.1**
IKSK				S		**Sg**		**13 02 10.7**	**-1.5**
IASK	**Askja** baz=37	**0.66**	**34**	P		Pg		13 02 00.8	-5.3
IVAT	**Vatnsfell** baz=237	**0.69**	**242**	P		**Pg**		**13 02 04.5**	**-2.1**
IMKO	**Mokollar** baz=52	**0.69**	**47**	P		Pg		13 02 01.5	-5.2

IMKO S Sg 13 02 10.2 -5.6
baz=52
IVSH V-Sauoahnukur 0.83 68 P Pg 13 02 04.0 -5.3
baz=74
IVSH S **Sg 13 02 14.9 -5.2**
baz=74
ISVA Svartarkot 0.84 8 P Pg 13 02 03.6 -5.9
baz=5.9
ISVA S Sg 13 02 13.9 -6.5
baz=5.9
ISNB Snabyli 0.92 212 P **Pg 13 02 08.7 -2.2**
baz=211
IHVE Hveravellir 0.95 293 P **Pg 13 02 07.8 -3.7**
baz=287
ISLY Slysaalda 0.98 226 P **Pg 13 02 09.5 -2.6**
baz=224
IADA Aoalbol 0.98 58 P Pg 13 02 06.4 -5.8
baz=62
IADA S Sg 13 02 19.1 -5.8
baz=62
IRJU Rjupnafell 1.03 210 P **Pg 13 02 10.8 -2.2**
baz=209
IRJU S **Sb 13 02 24.4 -2.3**
baz=209
IFED Fedgar 1.06 244 P **Pg 13 02 11.2 -2.5**
baz=240
IMJO Mjoaskard 1.10 239 P **Pg 13 02 11.8 -2.7**
baz=236
IMEL Melhnausar 1.13 19 P Pn 13 02 08.6 -6.5
baz=19
IMEL S Sb 13 02 22.2 -7.4
baz=19
IHVO Lagu-Hvolar 1.15 211 P **Pg 13 02 13.0 -2.3**
baz=210
IREN Reynihlio 1.17 13 P Pn 13 02 09.1 -6.7
baz=12
IGYG Gygjarholskot 1.19 260 P **Pb 13 02 12.3 -3.6**
baz=256
IHAU Haukadalur 1.20 244 P **Pb 13 02 13.1 -2.9**
baz=241
IALF Alftagrof 1.26 216 P **Pb 13 02 14.4 -2.7**
baz=215
IGRS Grimsstaoir 1.28 27 P Pn 13 02 11.4 -5.8
baz=28
IESK Eystri-Skogar 1.30 221 P **Pb 13 02 14.8 -3.0**
baz=220
IMID Miomork 1.34 231 P **Pn 13 02 15.7 -2.4**
baz=229
ISAU Saurbar 1.36 249 P **Pn 13 02 15.8 -2.5**
baz=246
ISKI Skildingahlsh 1.38 9 P Pn 13 02 12.8 -5.8
baz=7.6
IGHA Grjothals 1.39 15 P Pn 13 02 12.9 -5.8
baz=14
IGRA Granastaoir 1.41 359 P Pn 13 02 13.5 -5.5
baz=357
IDIM Dimmadalss 1.48 10 P Pn 13 02 14.7 -5.3
baz=8.6
IHLA Hella 1.48 346 P Pn 13 02 14.8 -5.2
baz=344
IASM Asmuli 1.51 245 P **Pn 13 02 18.1 -2.3**
baz=242
IHED Heoinshofoi 1.58 3 P Pn 13 02 16.2 -5.1
baz=2.0
ISOL Solvholt 1.60 250 P **Pn 13 02 19.1 -2.6**
baz=247
IKRO Krokur 1.62 257 P **Pn 13 02 19.1 -2.7**
baz=254
IBRE Brettingsstaoi 1.63 355 P Pn 13 02 16.7 -5.3
baz=353
IHEI Heioarbar 1.64 261 P **Pn 13 02 19.4 -2.7**
baz=258
IGIL Gilhagi 1.65 17 P Pn 13 02 17.1 -5.2
baz=17
BORG Borgarnes 1.65 280 Pg **Pn 13 02 19.5 -2.9**
36nm,0.3s,baz=100,slow=7.3,SNR=85
BORG Lg Lg 13 02 43.4
16nm,0.3s,baz=241,slow=19,SNR=8.3
BORG Borgarnes 1.65 280 Pn **Pn 13 02 18.9 -3.4**
ISIG Siglufjorour 1.73 341 P Pn 13 02 18.8 -4.6
baz=338
ISAN Sandskeio 1.82 257 P **Pn 13 02 22.8 -1.9**
baz=255
IKUD Kuludalsa 1.90 266 P **Pn 13 02 23.5 -2.1**
baz=263
IHRN Hraun 1.94 327 P **Pn 13 02 22.9 -3.4**
baz=324
ICESG Greenland Ices 9.82 308 *i* P Pn 13 04 21.2 +6.5
SUMG Summit 11.06 326 *i* P **Pn 13 04 33.0 +1.3**
SUMG Summit 11.06 326 *i* P **Pn 13 04 33.0 +1.3**
EKA Eskdalemuir Ar 11.66 135 Pn **Pn 13 04 36.9 -2.6**
baz=329,slow=14,SNR=8.1
ESK Eskdalemuir 11.66 136 Pn **Pn 13 04 38.5 -1.0**
DSB Dublin 12.66 148 Pn **Pn 13 04 54.4 +1.2**
NOA NORSAR Array B 13.54 92 LR LR 13 10 19.1
comp=Z,84nm,19.4s,baz=295,slow=38
SFJD Kangerlussuaq 13.72 295 LR LR 13 10 24.7
comp=Z,264nm,18.1s,baz=94,slow=37
HFS Hagfors 15.05 92 LR LR 13 11 16.8
comp=Z,92nm,21.1s,baz=332,slow=38
KBS Kingsbay 16.79 19 **Pn 13 05 49.9 +1.8**
KBS IAmb IAmb 13 06 00.0
comp=Z,37nm,1.1s
SPA0 Spitsbergen Ar 17.02 23 P **P 13 05 54.5 +1.6**
SPITS Spitsbergen Ar 17.02 23 LR LR 13 10 44.6
comp=Z,106nm,18.4s,baz=200,slow=31
NOR Nord 17.18 0 *i* P **P 13 05 55.2 +0.6**
comp=Z,88nm,2.1s
NOR Nord 17.18 0 *i* P **P 13 05 55.2 +0.6**
NOR IAmb IAmb 13 05 57.4
comp=Z,88nm,2.1s
ARCES ARCESS Array B 17.22 54 LR LR 13 11 03.7
comp=Z,116nm,21.0s,baz=285,slow=32
FINES FINESS Array B 19.75 79 P **P 13 06 22.5 -0.3**
comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=2.9
FINES LR LR 13 13 34.8
comp=Z,120nm,18.1s,baz=258,slow=36
FINES FINESS Array B 19.75 79 P **P 13 06 23.0 +0.1**
CLL Collm 20.65 115 *e*P **P 13 06 34.0 +1.2**
comp=Z,64nm,2.0s
CLL *e*PPP PPP 13 06 59.0
CLL *e*S **S 13 10 24.0 +0.8**
CLL Collm 20.65 115 P **P 13 06 33.4 +0.7**
ECH Echery 21.07 129 P **P 13 06 38.0 +0.7**
BRG Berggiesshubel 21.36 115 *e*P **P 13 06 40.9 +0.5**
comp=Z,13nm,1.0s
BRG *e* 13 06 50.3
comp=Z,62nm,1.7s
BFO Black Forest 21.37 127 P **P 13 06 40.5 -0.1**
FRB Frobisher Bay 21.79 291 LR LR 13 15 17.9
comp=Z,127nm,18.0s,baz=334,slow=37
SENIN Lac Senin/Sane 22.73 131 P **P 13 06 55.9 +0.5**
GEC2 GERESS Array S 22.89 118 P **P 13 06 56.7 -0.2**
GERES GERESS Array B 22.89 118 P **P 13 06 57.4 +0.5**
comp=Z,1.6nm,0.8s,baz=330,slow=7.7,SNR=7.3
GERES LR LR 13 16 30.7
comp=Z,79nm,20.5s,baz=338,slow=38
GERES GERESS Array B 22.89 118 P **P 13 06 56.2 -0.7**
DAVOX Davos/Dischmat 23.24 127 LR LR 13 17 15.0
comp=Z,150nm,18.2s,baz=261,slow=40
VRAC Vranov 23.64 114 *e*P **P 13 07 04.7 +0.3**
MORC Moravsky Berou 23.65 112 *e*P **P 13 07 04.6 +0.1**
KRUC Moravsky 23.76 114 *e*P **P 13 07 05.1 -0.4**
EUNU Eureka 23.81 336 P **P 13 07 04.4 -1.4**
SMOL Smolenice 24.61 114 *e*P **P 13 07 15.3 +1.9**
SCHQ Schefferville 26.03 272 P **P 13 07 25.8 -0.4**
comp=Z,5.5nm,1.0s,baz=21,slow=8.6,SNR=3.8
SCHQ Schefferville 26.03 272 P **P 13 07 28.3 +2.1**
SCHQ IAmb IAmb 13 07 55.7
comp=Z,10nm,1.2s
DRLN Deer Lake 26.06 253 P **P 13 07 27.7 +1.2**
ESDC Sonseca Array 26.12 156 P **P 13 07 27.3 +0.1**
comp=Z,2.2nm,0.9s,baz=346,slow=9.0,SNR=13
ESDC LR LR 13 17 56.7
comp=Z,22nm,18.2s,baz=295,slow=37
ESDC Sonseca Array 26.12 156 P **P 13 07 26.7 -0.5**
PAB San Pablo 26.17 156 P **P 13 07 28.4 +0.7**
ROSA Rosais 26.59 199 P **P 13 07 32.5 +1.1**
AKASG Malin Array Be 27.84 97 P **P 13 07 40.1 -2.3**
comp=Z,0.3nm,0.3s,baz=321,slow=9.1,SNR=2.0
AKASG LR LR 13 18 51.4
comp=Z,43nm,18.8s,baz=325,slow=37
KIRV Kirov 31.05 69 LR LR 13 20 06.9
comp=Z,86nm,20.1s,baz=319,slow=35
CEL Celeste 32.84 127 P **P 13 08 26.9 +0.1**
ARU Arti 36.16 66 LR LR 13 22 55.4
comp=Z,58nm,21.3s,baz=282,slow=35

NRIK Noril'sk 36.59 35 LR LR 13 25 21.4
comp=Z,38nm,18.1s,baz=18,slow=38
C36M Paulatuk 36.95 326 P **P 13 09 03.2 +1.3**
C36M IAmb IAmb 13 09 05.2
comp=Z,7.2nm,1.1s
BRTR Keskin Array B 38.45 105 P **P 13 09 15.8 +0.7**
comp=Z,1.4nm,0.8s,baz=330,slow=5.5,SNR=4.9
BRTR Keskin Array B 38.45 105 P **P 13 09 16.0 +0.9**
J57A Williamstown 38.53 266 P **P 13 09 18.6 +3.1**
J57A IAmb IAmb 13 09 19.8
comp=Z,8.7nm,0.8s
KBZ Khabaz 39.12 92 P **P 13 09 20.1 -0.4**
comp=Z,2.9nm,0.8s,baz=323,slow=13,SNR=5.8
YKA Yellowknife Ar 39.31 313 LR LR 13 23 34.6
comp=Z,47nm,18.6s,baz=0.0,slow=33
AKTO Aktyubinsk 40.34 73 LR LR 13 26 06.4
comp=Z,51nm,18.9s,baz=331,slow=36
ULM Lac du Bonnet 41.64 289 LR LR 13 26 05.2
comp=Z,75nm,18.3s,baz=33,slow=35
ABKAR Akulak array 42.05 73 P **P 13 09 46.0 +1.4**
TIXI Tiksi 42.19 15 P **P 13 09 45.8 +0.4**
CSS Mathiatis 42.39 109 P **P 13 09 48.6 +1.1**
CSS IAmb IAmb 13 09 59.0
comp=Z,7.1nm,1.0s
TOLK Toolik Lake Re 42.89 336 P **P 13 09 52.1 +0.9**
TOLK IAmb IAmb 13 09 59.2
comp=Z,12nm,1.2s
ILAR Eielson Array 45.82 332 P **P 13 10 14.3 -0.3**
comp=Z,0.8nm,0.7s,baz=29,slow=6.6,SNR=9.0
ILAR PcP **PcP 13 11 50.1 -1.6**
comp=Z,1.0nm,0.9s,baz=358,slow=3.2,SNR=6.2
ILAR LR LR 13 30 45.3
comp=Z,27nm,19.6s,baz=17,slow=38
ILAR Eielson Array 45.82 332 P **P 13 10 15.4 +0.8**
ILAR **PcP 13 11 52.5 +0.7**
ZALV Zalesovo Beam 47.74 51 P **P 13 10 28.2 -1.7**
comp=Z,0.6nm,0.5s,baz=338,slow=11,SNR=2.4
KURK Kurchatov 48.21 58 P **P 13 10 31.9 -1.6**
KURBB Kurchatov Arra 48.25 58 P **P 13 10 32.4 -1.5**
comp=Z,7.7nm,0.8s,baz=323,slow=7.5,SNR=25
T47A Sharon Grove 48.62 271 P **P 13 10 40.2 +3.3**
HODGE Hodges 48.86 264 P **P 13 10 42.1 +3.3**
KK31 Karatay Array 51.34 70 P **P 13 10 58.8 +1.3**
KK31 IAmb IAmb 13 11 03.0
comp=Z,5.3nm,1.1s
KKAR Karatay Array 51.34 70 P **P 13 10 58.7 +1.2**
KKAR IAmb IAmb 13 11 03.0
comp=Z,5.3nm,1.1s
KKAR Karatay Array 51.34 70 P **P 13 10 58.5 +1.0**
CNPM China Poot 51.45 332 P **P 13 11 01.2 +3.2**
YNE Yellowstone No 51.53 295 P **P 13 10 59.8 +0.7**
BOZ Bozeman (W) 51.66 297 P **P 13 11 02.0 +2.0**
BOZ IAmb IAmb 13 11 06.5
comp=Z,4.3nm,0.9s
H17A Grant Village 52.26 295 P **P 13 11 07.1 +2.5**
H17A IAmb IAmb 13 11 11.7
comp=Z,6.6nm,1.1s
FLWY Flagg Ranch 52.57 295 P **P 13 11 07.9 +1.0**
FLWY IAmb IAmb 13 11 08.9
comp=Z,5.8nm,1.1s
MAKZ Makanchi 52.69 58 P **P 13 11 07.7 +0.2**
MCMT McKenzie Canyo 52.78 297 P **P 13 11 10.7 +2.3**
MK31 Makanchi Array 52.82 58 P **P 13 11 06.6 -1.9**
MKAR Makanchi Array 52.82 58 P **P 13 11 06.2 -2.2**
comp=Z,1.0nm,0.8s,baz=322,slow=6.9,SNR=7.5
MKAR Makanchi Array 52.82 58 P **P 13 11 05.6 -2.9**
IMW Indian Meadow 52.82 295 P **P 13 11 10.0 +1.2**
TORD Torodi Ar. Bea 53.00 156 P **P 13 11 07.6 -2.4**
comp=Z,2.0nm,1.0s,baz=340,slow=7.8,SNR=7.8
TORD Torodi Ar. Bea 53.00 156 P **P 13 11 09.9 -0.2**
BW06 Boulder Array 53.23 293 P **P 13 11 10.9 -0.8**
BW06 IAmb IAmb 13 11 15.1
comp=Z,6.7nm,1.1s
PD31 Pinedale Array 53.23 293 P **P 13 11 10.8 -0.9**
PD31 IAmb IAmb 13 11 15.1
comp=Z,6.6nm,1.2s
PDAR Pinedale Array 53.23 293 P **P 13 11 10.8 -0.9**
comp=Z,1.7nm,0.7s,baz=55,slow=5.7,SNR=20
PDAR LR LR 13 32 49.9
comp=Z,48nm,18.3s,baz=12,slow=35
PDAR Pinedale Array 53.23 293 P **P 13 11 10.7 -1.0**
553A Crawfordville 53.27 264 P **P 13 11 13.6 +1.8**
GAR Garm 54.71 73 P **P 13 11 22.9 +0.4**
SII Sitkinak Islan 54.79 332 P **P 13 11 26.1 +3.4**
O20A White River Ci 54.92 290 P **P 13 11 25.9 +1.8**
O20A IAmb IAmb 13 11 30.0
comp=Z,5.3nm,1.1s
RDMU Red Mountain 55.09 292 P **P 13 11 26.7 +1.4**
P17A Butcher Ranch, 56.49 292 P **P 13 11 36.3 +1.0**
PV22 Blue Mesa, Par 56.50 290 P **P 13 11 35.8 +0.3**
KSH Kashi 56.57 68 P **P 13 11 39.3 +3.4**
KSH S **S 13 19 29.8 +2.5**
KSH pmax pmax
comp=Z,160nm,2.5s
KSH pmax pmax
comp=Z,85nm,6.3s
KSH LR LR
comp=N,180nm,6.1s
KSH LR LR
comp=E,130nm,4.7s
SRU San Rafael Swe 56.71 292 P **P 13 11 37.1 +0.1**
PV14 Lion Creek, Pa 56.74 290 P **P 13 11 37.0 -0.2**
PV11 David Mesa, Pa 56.74 290 P **P 13 11 37.2 0.0**
PV11 IAmb IAmb 13 11 41.2
comp=Z,4.8nm,0.9s
PV16 Nyswonger Mesa 56.75 290 P **P 13 11 37.6 +0.4**
PV16 IAmb IAmb 13 11 42.7
comp=Z,4.0nm,1.0s
PV01 Paradox Valley 56.76 289 P **P 13 11 37.6 +0.3**
PV01 IAmb IAmb 13 11 42.0
comp=Z,6.1nm,1.1s
PV03 Paradox Valley 56.77 290 P **P 13 11 37.7 +0.4**
PV03 IAmb IAmb 13 11 43.3
comp=Z,5.0nm,1.1s
TMUT Trail Mountain 56.83 292 P **P 13 11 38.5 +0.6**
WMQ Urumqi 57.33 56 *e*P **P 13 11 44.8 +3.7**
MSU Marysvale 57.89 293 P **P 13 11 45.9 +0.6**
MVU Marysvale 57.91 293 P **P 13 11 45.6 +0.1**
MTPU Mount Pierson 58.30 292 P **P 13 11 49.2 +0.9**
DBIC Dimbokro 58.44 165 P **P 13 11 47.9 -1.2**
comp=Z,3.0nm,0.8s,baz=1.0,slow=18,SNR=4.2
DBIC Dimbokro 58.44 165 P **P 13 11 48.3 -0.8**
DBIC IAmb IAmb 13 11 49.9
comp=Z,5.4nm,1.0s
PSUT Pine Spring 58.54 294 P **P 13 11 51.0 +1.2**
R11A Troy Canyon, C 59.38 295 P **P 13 11 56.4 +0.8**
R11A IAmb IAmb 13 12 00.2
comp=Z,4.3nm,1.3s
LENM Lemitar 59.51 286 P **P 13 11 59.4 +2.9**
LCMT Little Creek M 59.61 293 P **P 13 11 58.7 +1.5**
PAHR Pah Rah Range 59.66 299 P **P 13 11 59.2 +1.7**
KVN Kaiserville 59.74 298 P **P 13 11 59.1 +1.0**
KVN IAmb IAmb 13 12 03.5
comp=Z,5.1nm,1.2s
PRN Pahroc Range 59.98 294 P **P 13 12 00.2 +0.5**
PRN IAmb IAmb 13 12 10.5
comp=Z,4.4nm,1.5s
YERR Yerington 60.24 298 P **P 13 12 04.5 +3.0**
NVAR Mina Array Bea 60.36 297 P **P 13 12 03.4 +0.9**
comp=Z,1.0nm,0.9s,baz=64,slow=2.4,SNR=5.1
X16A Lo Mia Camp, P 61.13 290 P **P 13 12 08.6 +0.9**
X16A IAmb IAmb 13 12 12.9
comp=Z,3.2nm,1.1s
121A Cookes Peak, D 61.26 286 P **P 13 12 08.9 +0.3**
121A IAmb IAmb 13 12 14.2
comp=Z,3.0nm,0.9s
TX31 Lajitas Ar. Si 62.30 280 P **P 13 12 15.8 +0.3**
TX32 Lajitas Array 62.30 280 P **P 13 12 15.9 +0.4**
TXAR Lajitas Array 62.30 280 P **P 13 12 15.1 -0.4**
comp=Z,1.4nm,1.0s,baz=46,slow=3.6,SNR=8.0
TXAR Lajitas Array 62.30 280 P **P 13 12 15.8 +0.3**
GTA Gaotai 65.41 49 *e*P **P 13 12 37.3 +1.4**
GTA pP sP 13 12 42.5 +1.4
GTA sP pP 13 12 45.5 +5.8
GTA pmax pmax
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 67.64 40 *e*P **P 13 12 51.3 +1.2**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,94nm,5.7s
LZH Lanzhou 69.74 47 *e*P **P 13 13 02.3 -1.1**
LZH pP pP 13 13 07.0 -0.2
LZH sP sP 13 13 09.3 +0.7
LZH pmax pmax
comp=Z,16nm,1.5s
KSAR Wonju Array Be 74.80 28 P **P 13 13 34.0 +0.7**
CMAR Chiang Mai Arr 84.22 59 P **P 13 14 24.9 +0.1**
comp=Z,1.0nm,0.8s,baz=313,slow=6.3,SNR=7.5
ASAR Alice Springs 135.10 38 PKP **PKPdf 13 21 11.0 -1.4**
comp=Z,0.6nm,0.8s,baz=343,slow=2.2,SNR=2.9

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*NEIC **28** 13:07:30.4±2.2, 8.°39S±0.°07×118.°76E±0.°06, h168km±8km, mb4.3/21, Error ellipse: s-maj=10.2km s-min=9.0km az=201.0*
*IDC **28** 13:07:32.1±1.6, 8.°30S×118.°91E, h177km±14km, mb3.7/12, mb1 3.9/16, mb1mx3.6/54, mbtmp4.3/16, MS3.2/1, Ms1 3.2/1, ms1mx2.4/37, Error ellipse: s-maj=22.8km s-min=7.6km az=54.0*
*DJA **28** 13:07:32.1±0.2, 9.°3S±2.°×11.°9E±.°, h132km±3km, M4.8/22, mB5.3/11, mb4.9/18, MLv4.7/22, Mw(mB)4.8/11, Mwp5.9/1*
ISC 28 13:07:29.6±0.4, 8.°50S±0.°04×118.°85E±0.°04, h150km, n100, σ1§92/105, mb4.1/20, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.11**	**253**	P	**Pn**	**13 07 57.4**	**+2.0**
PLAI				S	**Sn**	**13 08 15.9**	**+0.9**
WSI	**Waingapu**	**1.85**	**129**	P	**Pn**	**13 08 04.9**	**+1.9**
TWSI	**Taliwang, Sumb**	**1.96**	**263**	P	**Pn**	**13 08 05.8**	**+1.5**
BASI	**Baing, Sumba**	**2.42**	**135**	P	**Pn**	**13 08 12.2**	**+2.4**
BASI				S	**Sn**	**13 08 43.3**	**+2.6**
EDFI	**Ende, Flores**	**2.82**	**95**	P	**Pn**	**13 08 16.6**	**+1.7**
EDFI				S	**Sn**	**13 08 51.6**	**+1.8**
BSSI	**Bau Bau, Buton**	**2.85**	**35**	P	**Pn**	**13 08 16.7**	**+1.6**
MMRI	**Maumere**	**3.36**	**93**	P	**Pn**	**13 08 23.1**	**+1.5**
MMRI	**Maumere**	**3.36**	**93**	Pn	**Pn**	**13 08 23.4**	**+1.8**
BKSI	**Bulukumba**	**3.40**	**22**	P	**Pn**	**13 08 23.5**	**+1.4**
KAPI	**Kappang**	**3.57**	**15**	P	**Pn**	**13 08 25.3**	**+0.9**
	8.0nm,0.3s,baz=191,slow=7.9,SNR=21						
KAPI				S	**Sn**	**13 09 06.9**	**0.0**
	1.3nm,0.3s,baz=166,slow=18,SNR=1.0						
KAPI	**Kappang**	**3.57**	**15**	Pn	**Pn**	**13 08 25.5**	**+1.1**
BNSI	**Bone**	**4.26**	**17**	P	**Pn**	**13 08 35.5**	**+2.2**
SPSI	**Sidrap Palu**	**4.59**	**12**	P	**Pn**	**13 08 38.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**4.64**	**270**	P	**Pn**	**13 08 39.9**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.64**	**270**	Pn	**Pn**	**13 08 37.6**	**-0.8**
KMMI	**Kalianget**	**5.04**	**286**	P	**Pn**	**13 08 46.1**	**+2.4**
	0.5nm119nm,0.9s						
BATI	**Baumata**	**5.05**	**110**	P	**Pn**	**13 08 46.1**	**+2.4**
	145nm,0.3s,baz=355,slow=0.6,SNR=104						
BATI				S	**Sn**	**13 09 40.6**	**-1.0**
	107nm,0.3s,baz=347,slow=20,SNR=7.6						
BATI	**Baumata**	**5.05**	**110**	P	**Pn**	**13 08 46.1**	**+2.4**
	1.9nm7µm397nm,0.6s						
BLJI	**Banyuglugur**	**5.25**	**278**	P	**Pn**	**13 08 50.3**	**+3.9**
	1.4nm4µm391nm,0.7s						
GMJI	**Gumukmas**	**5.35**	**272**	P	**Pn**	**13 08 48.4**	**+0.7**
	0.9nm2µm72nm,0.5s						
SOEI	**Soe**	**5.50**	**104**	P	**Pn**	**13 08 51.6**	**+1.8**
	2.4nm8µm644nm,0.6s						
SOEI	**Soe**	**5.50**	**104**	Pn	**Pn**	**13 08 51.3**	**+1.5**
TTSI	**Tana Toraja**	**5.50**	**10**	P	**Pn**	**13 08 52.9**	**+3.2**
	0.5nm1µm130nm,0.7s						
BBKI	**Banjar Baru**	**6.39**	**321**	P	**Pn**	**13 09 05.0**	**+3.4**
	0.4nm32nm,0.9s						
GRJI	**Gresik**	**6.50**	**284**	P	Pn	13 09 07.8	+4.7
	0.6nm1µm185nm,0.7s						
PWJI	**Pagerwojo**	**6.99**	**273**	P	**Pn**	**13 09 13.1**	**+3.5**
	0.8nm74nm,0.6s						
WOJI	**Wonogiri, Jawa**	**7.87**	**274**	P	**Pn**	**13 09 25.9**	**+4.5**
	0.5nm30nm,0.6s						
UGM	**Wanagama**	**8.26**	**273**	Pn	**Pn**	**13 09 27.2**	**+0.6**
SMRI	**Semarang**	**8.45**	**279**	Pn	**Pn**	**13 09 29.8**	**+0.6**
SANI	**Sanana**	**9.57**	**48**	P	**Pn**	**13 09 47.1**	**+3.1**
	544nm41nm,1.2s						
KPJI	**Karang Pucung**	**9.89**	**276**	P	**Pn**	**13 09 50.6**	**+2.3**
	43nm,0.7s						
GTOI	**Gorontalo**	**9.97**	**25**	P	Pn	13 09 54.3	+4.9
	11nm,0.9s						
CISI	**Cisompet, Garu**	**10.96**	**274**		**Pn**	**13 10 00.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**11.61**	**146**	P	**Pn**	**13 10 12.7**	**+1.8**
	9.1nm,0.3s,baz=334,slow=7.1,SNR=276						
FITZ				S	**Sn**	**13 12 15.9**	**-3.3**
	7.8nm,0.3s,baz=169,slow=18,SNR=9.7						
FITZ	**Fitzroy Crossi**	**11.61**	**146**	Pn	**Pn**	**13 10 12.4**	**+1.6**
KNRA	**Kununurra**	**12.04**	**127**	Pn	**Pn**	**13 10 16.9**	**+0.4**
CBJI	**Citeko**	**12.07**	**279**	P	**P**	**13 10 25.2**	**+1.8**
SAUI	**Saumlaki**	**12.34**	**89**	Pn	**Pn**	**13 10 20.2**	**-0.2**
MTN	**Manton Dam**	**12.82**	**111**	Pn	**Pn**	**13 10 26.8**	**+0.2**
PSA00	**Pilbara Seismi**	**13.04**	**176**	Pn	**Pn**	**13 10 30.7**	**+1.4**
PSA00	**Pilbara Seismi**	**13.04**	**176**	Pn	**Pn**	**13 10 30.5**	**+1.1**
PPBI	**Pangkal Pinang**	**14.13**	**296**	P	**P**	**13 10 47.0**	**+0.7**
	6µm17nm,0.9s						
FAKI	**Fak Fak**	**14.44**	**68**	Pn	**Pn**	**13 10 46.1**	**-1.0**
SIJI	**Sorong**	**14.50**	**59**	P	**Pn**	**13 10 47.4**	**-0.6**
	1.6nm,0.3s,baz=243,slow=6.8,SNR=4.4						
GIRL	**Giralia**	**14.75**	**197**	Pn	**Pn**	**13 10 49.9**	**-1.1**
LWLI	**Liwa**	**15.09**	**282**	P	**P**	**13 11 00.8**	**+3.8**
	104nm,0.7s						
LHSI	**Lahat**	**15.92**	**286**	P	**P**	**13 11 10.0**	**+3.8**
	2µm63nm,0.7s						
DSRI	**Dabo**	**16.29**	**299**	P	**P**	**13 11 13.4**	**+3.1**
MNAI	**Manna**	**16.32**	**284**	P	**Pn**	**13 11 10.6**	**+0.2**
KSI	**Kapahiang**	**16.86**	**286**	P	**Pn**	**13 11 19.7**	**+2.7**
	4µm70nm,0.7s						
WB0	**Warramunga Arr**	**18.76**	**128**	P	**P**	**13 11 38.6**	**+1.3**
WB0				IAmb	IAmb	13 11 41.5	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Ar**	**18.82**	**129**	P	**P**	**13 11 39.0**	**+1.0**
	comp=Z,2.5nm,0.3s,baz=302,slow=12,SNR=194						
WRA				S	**S**	**13 15 05.4**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=307,slow=24,SNR=5.9						
WRA	**Warramunga Arr**	**18.82**	**129**	P	**P**	**13 11 38.6**	**+0.6**
WRAB	**Tennant Creek**	**18.82**	**129**	P	**P**	**13 11 39.0**	**+1.0**
WB2	**Warramunga Arr**	**18.83**	**129**		**P**	**13 11 39.5**	**+1.4**
WR0	**Warramunga Ar**	**18.99**	**129**		**P**	**13 11 41.2**	**+1.4**
MORW	**Morawa**	**20.64**	**187**	P	Pn	13 12 01.6	+0.1
MORW				IAmb	IAmb	13 12 20.9	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**20.87**	**138**		**P**	**13 12 01.5**	**+1.5**
ASAR	**Alice Springs**	**20.87**	**138**	P	**P**	**13 12 01.9**	**+1.8**
	comp=Z,4.0nm,0.3s,baz=314,slow=9.1,SNR=112						
ASAR				S	**S**	**13 15 45.3**	**+0.8**
	comp=Z,2.4nm,1.0s,baz=322,slow=25,SNR=5.2						
ASAR				LR	LR	13 21 30.8	
	comp=Z,69nm,21.4s,baz=157,slow=40						
ASAR	**Alice Springs**	**20.87**	**138**	P	**P**	**13 12 01.7**	**+1.7**
COCO	**West Island**	**21.96**	**259**	P	**P**	**13 12 08.7**	**-2.9**
KULM	**Kulim**	**22.73**	**306**	P	**P**	**13 12 15.7**	**-3.4**
RPSI	**Rantau Prapat**	**22.77**	**298**	P	**P**	**13 12 15.6**	**-3.8**
RPSI				IAmb	IAmb	13 12 36.2	
	comp=Z,6.1nm,1.0s						
RPSI	**Rantau Prapat**	**22.77**	**298**	P	**P**	**13 12 18.9**	**-0.5**
PSI	**Prapat**	**22.82**	**299**	P	**P**	**13 12 18.9**	**-1.1**
	comp=Z,2.7nm,0.4s,baz=178,slow=7.5,SNR=6.6						
FORT	**Forrest**	**23.78**	**160**	P	**P**	**13 12 30.8**	**+2.3**
FORT				IAmb	IAmb	13 12 48.4	
	comp=Z,10nm,0.8s						
CTA	**Charters Tower**	**28.90**	**116**	P	**P**	**13 13 16.0**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=283,slow=5.6,SNR=1.6						
BBOO	**Buckleboo**	**28.97**	**149**	P	**P**	**13 13 16.9**	**+1.8**
STKA	**Stephens Creek**	**31.44**	**141**	P	**P**	**13 13 39.1**	**+2.3**
	comp=Z,1.7nm,0.3s,baz=327,slow=8.8,SNR=16						
STKA	**Stephens Creek**	**31.44**	**141**	P	**P**	**13 13 38.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**33.21**	**324**	P	**P**	**13 13 53.1**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=154,slow=6.8,SNR=12						
CMAR	**Chiang Mai Arr**	**33.21**	**324**	P	**P**	**13 13 52.5**	**0.0**
LSA	**Lhasa**	**46.40**	**326**	P	**P**	**13 15 39.8**	**-2.0**
LSA				IAmb	IAmb	13 15 45.5	
	comp=Z,6.1nm,0.4s						
KSRS	**Korea Array**	**46.49**	**10**	P	**P**	**13 15 40.6**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=186,slow=8.5,SNR=5.2						
LZH	**Lanzhou**	**46.54**	**343**	*e*P	**P**	**13 15 43.8**	**+1.4**
LZH				pP	pwP	13 16 20.5	+2.0
LZH				sP	sP	13 16 37.8	+5.9
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
ODAN	**Odare**	**46.54**	**320**	*e*P	**P**	**13 15 42.6**	**-0.1**
TAPN	**Taplejung**	**46.69**	**321**	*e*P	**P**	**13 15 43.3**	**-0.6**
	comp=Z,15nm,0.5s						
GUN	**Gumba**	**48.23**	**320**	*e*P	**P**	**13 15 54.8**	**-1.1**
	comp=Z,26nm,0.8s						
PKI	**Pulchoki**	**48.30**	**319**	*e*P	**P**	**13 15 55.4**	**-1.0**
	comp=Z,5.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.56**	**353**	*e*P	**P**	**13 16 06.5**	**+1.1**
HHC				pmax	pmax		

comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,93nm,5.4s
KOLN Koldanda 49.62 318 *e*P **P 13 16 05.2 -1.1**
comp=Z,13nm,0.8s
DANN Dangsing 49.90 319 *e*P **P 13 16 06.9 -1.6**
comp=Z,26nm,0.6s
PYUN Piuthan 50.25 318 *e*P **P 13 16 10.2 -0.8**
comp=Z,12nm,0.4s
GTA Gaotai 50.83 341 *e*P **P 13 16 16.0 +0.9**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=N,250nm,14.9s
GTA LR LR
comp=E,180nm,14.9s
GTA LR LR
comp=Z,110nm,16.4s
USRK Ussuriysk Ar. 53.78 12 P **P 13 16 35.2 -1.3**
comp=Z,1.2nm,0.5s,baz=206,slow=7.2,SNR=2.2
JEW Eniwo 55.09 20 P **P 13 16 43.7 -2.3**
PYZ Puysegur Point 55.46 141 P **P 13 16 47.0 -1.7**
WMQ Urumqi 59.24 334 *e*P **P 13 17 15.0 -0.3**
MK31 Makanchi Array 63.94 333 P **P 13 17 45.3 -1.4**
MKAR Makanchi Array 63.94 333 P **P 13 17 44.7 -2.0**
comp=Z,1.2nm,0.5s,baz=150,slow=7.0,SNR=15
MKAR Makanchi Array 63.94 333 P **P 13 17 45.1 -1.6**
BOOM Boomskoye usch 64.08 326 P **P 13 17 46.3 -1.6**
BOOM IAmb IAmb 13 17 51.4
comp=Z,5.4nm,1.0s
KURBB Kurchatov Arra 68.45 334 P **P 13 18 13.5 -1.8**
comp=Z,0.5nm,0.4s,baz=139,slow=5.3,SNR=2.5
KURK Kurchatov 68.48 334 P **P 13 18 13.8 -1.7**
KURK IAmb IAmb 13 18 27.9
comp=Z,5.0nm,1.5s
ZAA0 Zalesovo Array 68.52 339 P **P 13 18 13.8 -1.9**
ZAA0 IAmb IAmb 13 18 14.8
comp=Z,2.2nm,0.8s
ZALV Zalesovo Beam 68.52 339 P **P 13 18 13.5 -2.1**
comp=Z,3.2nm,0.3s,baz=137,slow=5.4,SNR=11
ZALV Zalesovo Beam 68.52 339 P **P 13 18 13.1 -2.5**
PETK Petropavlovsk- 69.68 24 P **P 13 18 20.6 -2.2**
comp=Z,4.3nm,0.9s,baz=347,slow=4.0,SNR=5.3
BVAR Borovoye Array 73.78 332 P **P 13 18 45.6 -1.8**
comp=Z,0.4nm,0.5s,baz=142,slow=14,SNR=2.3
ABKAR Akbulak array 77.06 325 P **P 13 19 04.3 -1.8**

IDC 28 13:10:59.0±2.4, 13°69N×145°36E, h113km±25km, mb3.4/4, mb1 3.7/4, mb1mx3.1/56, mbtmp3.7/4, Error ellipse: s-maj=123.7km s-min=24.1km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.49**	**259**	P	Pn	13 11 18.2	+2.1
	390nm,0.3s,baz=135,slow=4.3,SNR=589						
GUMO				S	Sn	13 11 30.1	+1.2
	baz=49,slow=19						
WRA	**Warramunga Arr**	**35.13**	**198**	P	P	13 17 42.8	+0.8
	1.4nm,0.7s,baz=25,slow=9.3,SNR=2.3						
FITZ	**Fitzroy Crossi**	**37.09**	**212**	P	P	13 17 59.0	+0.4
	1.7nm,0.8s,baz=22,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**38.78**	**197**	P	P	13 18 11.1	-1.7
	0.6nm,0.6s,baz=352,slow=10,SNR=4.2						
ILAR	**Eielson Array**	**68.28**	**25**	P	P	13 21 47.0	-0.6
	0.2nm,0.4s,baz=247,slow=6.2,SNR=4.4						

*MOS **28** 13:13:08.4±1.2,36°.01S×53°.49E, h10km, mb5.3/21, Error ellipse: s-maj=14.0km s-min=8.0km az=97.6*
*NEIC **28** 13:13:08.9±1.8,36°.01S±0°.02×53°.5E±0°.1, h10km±1km, mb5.0/60, Mwb5.4/19, Mwc5.4(GCMT), Error ellipse: s-maj=16.5km s-min=3.6km az=90.0*
*IDC **28** 13:13:08.2±0.4,36°.04S×53°.50E, h0km, mb4.5/33, mb1 4.6/34, mb1mx4.6/48, mbtmp4.6/34, ML5.4/1, MS4.6/28, Ms1 4.6/28, ms1mx4.5/39, Error ellipse: s-maj=14.0km s-min=10.8km az=35.0*
*BJI **28** 13:13:08.3±0.0,36°.10S×53°.40E, h5km, mB5.3/23, mb4.9/27, Ms5.2/21, Ms7 4.8/20*
*NEIC **28** 13:13:09.3,36°.04S×53°.46E, h7km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.11; Mθθ=0.28; Mφφ=0.18; Mrθ=-0.22; Mrφ=1.52; Mθφ=0.20; Fault plane solution: M0 1.57000×10^17 NP1:φs184.88000°, δ80.80000°, λ-172.48000°. NP2:φs93.67000°, δ82.58000°, λ-9.28000°. Principal axes: T 1.5945, Plg1.0000°, Azm139.0000°; N -0.0443, Plg78.0000°, Azm235.0000°; P -1.5502, Plg12.0000°, Azm49.0000°;*
*GCMT **28** 13:13:12.9±0.1,36°.03S±0°.01×53°.43E±0°.01, h16km, MW5.4/141, Moment Tensor Solution. s111,c193; s141,c269; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr-0.25±.02; Mθθ0.28±.02; Mφφ-0.03±.02; Mrθ0.33±.06; Mθφ1.77±.02; Mφr-0.05±.06; Best double couple: M0 1.81000×10^17 NP1:φs3.00000°, δ79.00000°, λ-177.00000°. NP2:φs272.00000°, δ87.00000°, λ-11.00000°. Principal axes: T 1.9200, Plg5.0000°, Azm318.0000°; N -0.2190, Plg78.0000°, Azm76.0000°; P -1.7000, Plg10.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 13:13:15,35°.99S×53°.43E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-0.18; Mθθ0.23; Mφφ-0.05; Mrθ-0.03; Mθφ1.87; Mφr-0.15; Fault plane solution: M0 1.89000×10^17 NP1:φs272.00000°, δ85.00000°, λ0.00000°. NP2:φs2.00000°, δ90.00000°, λ-175.00000°. Principal axes: T 1.9713, Plg3.0000°, Azm137.0000°; N -0.1797, Plg85.0000°, Azm2.0000°; P -1.7916, Plg3.0000°, Azm227.0000°;*

ISC 28 13:13:09.4±0.3, 36°.00S±0°.05×53°.49E±0°.06, h10km, n255, σ1§46/232, mb4.9/78, MS4.8/42, 26C-13D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**10.49**	**186**	Pn	**Pn**	**13 15 39.2**	**-0.6**
FOMA	**Nahampoana Res**	**12.33**	**331**	Pn	**Pn**	**13 16 04.9**	**-0.1**
RER	**Riviere de l'E**	**14.92**	**8**	Pn	**Pn**	**13 16 39.0**	**-1.4**
ABPO	**Ambohimpanom**	**17.80**	**340**	P	**Pn**	**13 17 15.5**	**-1.9**
ABPO				pmax	pmax		
	comp=Z,163nm,1.1s						
ABPO	**Ambohimpanom**	**17.80**	**340**	Pn	**Pn**	**13 17 15.5**	**-1.9**
ABPO				IAmb	IAmb	13 17 24.3	
	comp=Z,163nm,1.1s						
OPO	**Ambohidratompo**	**18.23**	**341**	P	**P**	**13 17 25.0**	**+2.1**
	comp=Z,12nm,0.3s,baz=159,slow=12,SNR=46						
OPO				S	**Sn**	**13 20 38.0**	**-8.4**
	comp=Z,1.4nm,0.3s,baz=107,slow=7.3,SNR=1.7						
BOSA	**Boshof**	**24.92**	**279**	P	**P**	**13 18 33.5**	**+0.7**
	comp=Z,14nm,1.0s,baz=106,slow=9.8,SNR=8.9						
BOSA				LR	LR	13 25 50.7	
	comp=Z,2μm,20.8s,baz=117,slow=31						
BOSA	**Boshof**	**24.92**	**279**	P	**P**	**13 18 31.9**	**-0.8**
BOSA				IAmb	IAmb	13 18 43.0	
	comp=Z,43nm,1.0s						
LBTB	**Lobatse**	**26.32**	**287**	P	**P**	**13 18 44.9**	**-0.5**
	comp=Z,19nm,0.9s,baz=119,slow=8.5,SNR=6.5						
LBTB				LR	LR	13 27 30.4	
	comp=Z,3μm,18.5s,baz=120,slow=33						
LBTB	**Lobatse**	**26.32**	**287**	P	**P**	**13 18 45.0**	**-0.5**
LBTB				pmax	pmax		
	comp=Z,31nm,1.1s						
LBTB	**Lobatse**	**26.32**	**287**	P	**P**	**13 18 45.0**	**-0.5**
LBTB				IAmb	IAmb	13 19 10.9	
	comp=Z,31nm,1.1s						
MATP	**Matopo**	**26.83**	**299**	P	**P**	**13 18 49.6**	**-0.5**
	comp=Z,6.3nm,0.8s,baz=124,slow=7.6,SNR=6.5						
MATP				LR	LR	13 27 44.2	
	comp=Z,3μm,21.8s,baz=131,slow=33						
SUR	**Sutherland**	**27.20**	**268**	P	**P**	**13 18 54.0**	**+0.5**
	comp=Z,14nm,1.1s,baz=84,slow=9.2,SNR=3.1						
SUR				LR	LR	13 27 32.6	
	comp=Z,1μm,20.4s,baz=116,slow=32						
SUR	**Sutherland**	**27.20**	**268**	P	**P**	**13 18 53.8**	**+0.3**
LSZ	**Lusaka**	**30.60**	**306**	P	**P**	**13 19 22.7**	**-1.0**
LSZ				pmax	pmax		
	comp=Z,18nm,1.3s						
LSZ	**Lusaka**	**30.60**	**306**	P	**P**	**13 19 22.7**	**-1.0**
MAW	**Mawson**	**32.10**	**173**	P	**P**	**13 19 36.3**	**0.0**
	comp=Z,7.0nm,0.9s,baz=344,slow=9.8,SNR=11						
MAW				LR	LR	13 29 12.6	
	comp=Z,2μm,20.8s,baz=340,slow=30						
MAW	**Mawson**	**32.10**	**173**	P	**P**	**13 19 36.2**	**-0.1**
H08S1	**Diego Garcia H**	**33.13**	**36**	T	T	13 54 37.2	
	baz=208,slow=76						
H08S2	**Diego Garcia H**	**33.14**	**36**	T	T	13 54 37.7	
	baz=208,slow=76						
H08S3	**Diego Garcia H**	**33.15**	**36**	T	T	13 54 38.8	
	baz=208,slow=76						
DGAR	**Diego Garcia**	**33.33**	**36**	*ce*P	**P**	**13 19 49.0**	**+1.5**
DGAR				pmax	pmax		
	comp=Z,197nm,1.7s						
SYO	**Syowa Base**	**33.95**	**189**	‖*e*P	**P**	**13 19 51.4**	**-1.0**
SYO	**Syowa Base**	**33.95**	**189**	‖*e*pP	pP	13 19 54.6	+0.5
SYO	**Syowa Base**	**33.95**	**189**	‖*e*PnPn	PnPn	13 21 04.6	-0.6
SYO	**Syowa Base**	**33.95**	**189**	‖*e*PnPn	PnPn	13 21 06.5	+1.3
SYO	**Syowa Base**	**33.95**	**189**	‖*e*PnPn	PnPn	13 21 08.0	+2.8
TSUM	**Tsumeb**	**35.70**	**288**	P	**P**	**13 20 09.9**	**+1.6**
	comp=Z,4.5nm,0.8s,baz=112,slow=6.6,SNR=5.3						
TSUM	**Tsumeb**	**35.70**	**288**	P	**P**	**13 20 07.6**	**-0.7**
KMBO	**Kilima Mbogo**	**37.83**	**333**	P	**P**	**13 20 26.6**	**+0.1**
	comp=Z,6.1nm,1.0s,baz=165,slow=12,SNR=5.8						
KMBO				LR	LR	13 34 12.2	
	comp=Z,966nm,21.2s,baz=110,slow=33						
SNAA	**Sanae**	**45.78**	**202**	P	**P**	**13 21 31.7**	**+0.9**
SNAA	**Sanae**	**45.78**	**202**	P	**P**	**13 21 31.3**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=66,slow=9.3,SNR=13						
SNAA	**Sanae**	**45.78**	**202**	*ce*P	**P**	**13 21 32.2**	**+1.4**
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.7s						
SNAA	**Sanae**	**45.78**	**202**	P	**P**	**13 21 28.4**	**-2.4**
SNAA				IAmb	IAmb	13 21 50.6	
	comp=Z,30nm,1.4s						
VNA3	**Neumayer Olymp**	**47.77**	**203**	P	**P**	**13 21 47.0**	**+0.8**
H01W2	**Cape Leeuwin H**	**48.70**	**108**	T	T	14 14 14.0	
	baz=250,slow=75						
H01W3	**Cape Leeuwin H**	**48.70**	**107**	T	T	14 13 54.6	
	baz=250,slow=75						
H01W1	**Cape Leeuwin H**	**48.71**	**108**	T	T	14 14 14.9	
	baz=250,slow=75						
PALK	**Pallekele**	**50.07**	**36**	P	**P**	**13 22 04.3**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=247,slow=7.7,SNR=3.1						
PALK	**Pallekele**	**50.07**	**36**	P	**P**	**13 22 05.7**	**+1.1**
PALK				pmax	pmax		
	comp=Z,22nm,1.4s						
PALK	**Pallekele**	**50.07**	**36**	P	**P**	**13 22 05.7**	**+1.1**
PALK				IAmb	IAmb	13 22 10.5	
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**51.81**	**106**	P	**P**	**13 22 17.7**	**+0.1**
	comp=Z,15nm,0.8s,baz=241,slow=7.2,SNR=7.0						
NWAO	**Narrogin (SRO)**	**51.81**	**106**	P	**P**	**13 22 17.4**	**-0.2**
NWAO				IAmb	IAmb	13 22 32.7	
	comp=Z,35nm,1.4s						
MORW	**Morawa**	**52.40**	**101**	P	**P**	**13 22 20.1**	**-2.0**
MORW				IAmb	IAmb	13 22 43.5	
	comp=Z,22nm,1.2s						
QSPA	**South Pole Qui**	**54.19**	**180**	P	**P**	**13 22 34.5**	**-0.3**
	comp=Z,14nm,0.9s,baz=264,slow=2.7,SNR=34						
QSPA	**South Pole Qui**	**54.19**	**180**	P	**P**	**13 22 34.0**	**-0.8**
QSPA				IAmb	IAmb	13 22 53.5	
	comp=Z,18nm,1.0s						
BKNI	**Bangkinang**	**57.04**	**62**	P	**P**	**13 22 54.2**	**-1.6**
HYB	**Hyderabad**	**58.18**	**28**	*i* P	**P**	**13 23 04.0**	**+0.3**
PSA00	**Pilbara Seismi**	**58.89**	**95**	P	**P**	**13 23 07.5**	**-1.3**
PSA00	**Pilbara Seismi**	**58.89**	**95**	P	**P**	**13 23 07.8**	**-0.9**
PSA00				IAmb	IAmb	13 23 33.1	
	comp=Z,27nm,1.4s						
VNDA	**Vanda**	**58.96**	**166**	P	**P**	**13 23 08.8**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=256,slow=7.4,SNR=9.5						
VNDA				LR	LR	13 46 43.0	
	comp=Z,786nm,18.4s,baz=246,slow=34						
VNDA	**Vanda**	**58.96**	**166**	P	**P**	**13 23 08.1**	**-0.3**
UOSS	**Minazif**	**60.67**	**3**	P	**P**	**13 23 21.3**	**+0.7**
UOSS				IAmb	IAmb	13 23 37.6	
	comp=Z,19nm,1.3s						
FORT	**Forrest**	**61.08**	**109**	P	**P**	**13 23 24.3**	**+0.7**
FORT				IAmb	IAmb	13 23 34.0	
	comp=Z,14nm,0.9s						
JAGI	**Jajag, Banyuwa**	**61.40**	**79**	P	**P**	**13 23 25.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**65.35**	**95**	P	**P**	**13 23 52.2**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=211,slow=7.3,SNR=12						
FITZ				LR	LR	13 48 18.3	
	comp=Z,362nm,19.7s,baz=258,slow=32						
FITZ	**Fitzroy Crossi**	**65.35**	**95**	P	**P**	**13 23 50.4**	**-1.7**
FITZ				IAmb	IAmb	13 24 10.7	
	comp=Z,9.4nm,0.9s						
BBOO	**Buckleboo**	**66.18**	**114**	P	**P**	**13 23 55.7**	**-1.6**
BATI	**Baumata**	**68.05**	**87**	LR	LR	13 48 05.5	
	comp=Z,172nm,21.6s,baz=252,slow=31						
PMSA	**Palmer Station**	**68.40**	**204**	LR	LR	13 47 04.2	
	comp=Z,651nm,21.5s,baz=110,slow=30						
KIC	**Kosan Boka**	**68.90**	**295**	*e*P	**P**	**13 24 15.7**	**+1.0**
	comp=Z,5.0nm,0.8s						
LIC	**Lamto**	**69.02**	**295**	*e*P	**P**	**13 24 14.1**	**-1.3**
	comp=Z,16nm,1.0s						
ASAR	**Alice Springs**	**69.06**	**105**	P	**P**	**13 24 16.2**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=234,slow=5.8,SNR=36						
ASAR				LR	LR	13 49 28.9	
	comp=Z,589nm,21.4s,baz=240,slow=32						
AS31	**Alice Springs**	**69.06**	**105**	P	**P**	**13 24 15.6**	**-0.1**
TOA0	**Torodi Ar. Sta**	**69.13**	**305**	P	**P**	**13 24 16.4**	**+0.4**
TOA0				IAmb	IAmb	13 24 31.8	
	comp=Z,17nm,1.1s						
TORD	**Torodi Ar. Bea**	**69.13**	**305**	P	**P**	**13 24 17.5**	**+1.5**
	comp=Z,3.7nm,0.8s,baz=123,slow=4.4,SNR=18						
TORD				LR	LR	13 53 39.4	
	comp=Z,1μm,20.2s,baz=135,slow=35						
TORD	**Torodi Ar. Bea**	**69.13**	**305**	P	**P**	**13 24 15.7**	**-0.3**
CM31	**Chiang Mai Arr**	**69.16**	**46**	P	**P**	**13 24 15.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**69.16**	**46**	P	**P**	**13 24 17.4**	**+1.3**
	comp=Z,8.2nm,0.9s,baz=232,slow=6.8,SNR=46						
CMAR				LR	LR	13 48 46.7	
	comp=Z,505nm,21.8s,baz=262,slow=31						
CMAR	**Chiang Mai Arr**	**69.16**	**46**	P	**P**	**13 24 15.6**	**-0.5**
KNRA	**Kununurra**	**69.16**	**95**	P	**P**	**13 24 15.9**	**-0.4**
DBIC	**Dimbokro**	**69.19**	**295**	P	**P**	**13 24 18.1**	**+1.6**
	comp=Z,3.7nm,1.1s,baz=141,slow=13,SNR=2.4						
DBIC				LR	LR	13 51 42.5	
	comp=Z,665nm,21.0s,baz=114,slow=33						
DBIC	**Dimbokro**	**69.19**	**295**	IAmb	IAmb	13 24 32.0	
	comp=Z,14nm,1.2s						
TIC	**Toumodi**	**69.30**	**295**	*e*P	**P**	**13 24 16.7**	**-0.5**
CHTO	**Chiang Mai**	**69.44**	**46**	P	**P**	**13 24 17.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,14nm,1.2s						
CHTO	**Chiang Mai**	**69.44**	**46**	P	**P**	**13 24 17.1**	**-0.7**
CHTO				IAmb	IAmb	13 24 34.8	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**70.71**	**116**	P	**P**	**13 24 26.0**	**+0.3**
	comp=Z,6.0nm,0.9s,baz=346,slow=4.2,SNR=7.4						
STKA				LR	LR	13 48 49.3	
	comp=Z,931nm,18.6s,baz=227,slow=30						
STKA	**Stephens Creek**	**70.71**	**116**	P	**P**	**13 24 26.0**	**+0.3**
STKA	**Stephens Creek**	**70.71**	**116**	P	**P**	**13 24 25.4**	**-0.3**
UBPT	**Khong Chiam**	**70.81**	**54**	P	**P**	**13 24 25.0**	**-1.3**
SHL	**Shillong**	**71.16**	**36**	P	**P**	**13 24 27.2**	**-1.3**
SHL				pmax	pmax		
	comp=Z,28nm,0.4s						
SHL	**Shillong**	**71.16**	**36**	P	**P**	**13 24 27.2**	**-1.3**
WRA	**Warramunga Arr**	**71.35**	**101**	P	**P**	**13 24 30.2**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=233,slow=5.8,SNR=60						
WRA				LR	LR	13 51 52.8	
	comp=Z,283nm,20.0s,baz=240,slow=33						
WRA	**Warramunga Arr**	**71.35**	**101**	P	**P**	**13 24 28.0**	**-1.8**
WB2	**Warramunga Arr**	**71.36**	**101**	P	**P**	**13 24 29.7**	**-0.1**
WB2				IAmb	IAmb	13 24 48.7	
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**71.37**	**101**	*ce*P	**P**	**13 24 30.9**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,15nm,1.3s						
WRAB	**Tennant Creek**	**71.37**	**101**	P	**P**	**13 24 29.1**	**-0.8**
WB0	**Warramunga Arr**	**71.49**	**101**	P	**P**	**13 24 30.7**	**+0.1**
WB0				IAmb	IAmb	13 24 49.8	
	comp=Z,18nm,1.0s						
WR0	**Warramunga Arr**	**71.50**	**102**	P	**P**	**13 24 30.5**	**-0.1**
WR0				IAmb	IAmb	13 24 58.2	
	comp=Z,13nm,1.1s						
CSS	**Mathiatis**	**73.06**	**343**	P	**P**	**13 24 39.7**	**+0.3**
GEYT	**Alibeck**	**73.68**	**4**	P	**P**	**13 24 44.4**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=108,slow=9.3,SNR=2.7						
GEYT	**Alibeck**	**73.68**	**4**	P	**P**	**13 24 42.5**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**73.68**	**4**	P	**P**	**13 24 42.2**	**-0.9**
SLVN	**Son La**	**74.33**	**48**	P	**P**	**13 24 47.2**	**0.0**
SLVN				IAmb	IAmb	13 25 05.0	
	comp=Z,20nm,1.1s						
AKAS	**Kas**	**75.22**	**340**	P	**P**	**13 24 51.3**	**-0.9**
AKAS				IAmb	IAmb	13 25 07.5	
	comp=Z,15nm,1.1s						
CHGR	**Chuyangaron**	**75.69**	**13**	P	**P**	**13 24 55.7**	**+0.9**
GAR	**Garm**	**76.23**	**13**	P	**P**	**13 24 57.1**	**-0.8**
GAR				IAmb	IAmb	13 25 20.1	
	comp=Z,29nm,1.5s						
QIZ	**Qiongzhong**	**76.39**	**54**	P	**P**	**13 24 57.8**	**-1.3**
QIZ				S	**S**	**13 34 45.0**	**+0.6**
QIZ				SS	**SS**	**13 39 38.5**	**-0.8**
QIZ				LR	LR		
	comp=Z,340nm,20.6s						
QIZ				LR	LR		
	comp=Z,330nm,23.5s						
QIZ				LR	LR		
	comp=Z,440nm,20.6s						
KMI	**Kunming**	**76.54**	**45**	⇑*e*P	P	13 25 11.3	+11
KMI				pP	PcP	13 25 13.0	+1.3
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
KMI				pmax	pmax		
	comp=Z,120nm,4.3s						
KMI				LR	LR		
	comp=N,620nm,20.3s						
KMI				LR	LR		
	comp=E,290nm,21.7s						
KMI				LR	LR		
	comp=Z,680nm,21.5s						
BRTR	**Keskin Array B**	**77.54**	**344**	P	**P**	**13 25 05.8**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=161,slow=7.9,SNR=7.1						
BRTR				LR	LR	13 55 46.7	
	comp=Z,78nm,21.9s,baz=165,slow=33						
BRTR	**Keskin Array B**	**77.54**	**344**	*i* P	**P**	**13 25 06.1**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**77.54**	**344**	P	**P**	**13 25 04.0**	**-1.3**
KSH	**Kashi**	**77.95**	**18**	P	P	13 25 02.5	-5.1
KSH				S	**S**	**13 34 57.8**	**-3.1**
KSH				pmax	pmax		
	comp=Z,11nm,0.7s						
KSH				pmax	pmax		
	comp=Z,280nm,5.8s						
KSH				LR	LR		
	comp=N,210nm,5.9s						
KSH				LR	LR		
	comp=E,170nm,6.5s						
ZEI	**Tsey**	**78.90**	**353**	*e*P	**P**	**13 25 14.5**	**+1.7**
ZEI				pmax	pmax		
	comp=Z,21nm,1.2s						
CHVG	**Ch'k'valeri**	**79.03**	**351**	⇓P	**P**	**13 25 15.4**	**+2.1**
CHVG	**Ch'k'valeri**	**79.03**	**351**	⇓P	**P**	**13 25 15.4**	**+2.1**
GROC	**Groznyy**	**79.14**	**354**	*e*P	**P**	**13 25 13.7**	**-0.1**
GROC				*e*		13 25 22.8	
GROC				pmax	pmax		
	comp=Z,26nm,0.5s						
SIJI	**Sorong**	**79.60**	**83**	P	**P**	**13 25 17.0**	**-0.1**
	comp=Z,12nm,0.7s,baz=253,slow=19,SNR=2.9						
GYA	**Guiyang**	**79.84**	**47**	*e*P	**P**	**13 25 20.0**	**+1.8**
GYA				pP	pwP	13 25 24.5	+0.8
GYA				LR	LR		
	comp=Z,480nm,28.1s						
KBZ	**Khabaz**	**79.94**	**352**	P	**P**	**13 25 18.9**	**+0.8**
	comp=Z,4.6nm,0.9s,baz=239,slow=5.6,SNR=2.8						
KBZ				LR	LR	14 00 10.6	
	comp=Z,149nm,19.6s,baz=172,slow=35						
KBZ	**Khabaz**	**79.94**	**352**	*ce*P	**P**	**13 25 20.3**	**+2.2**
KBZ				pmax	pmax		
	comp=Z,17nm,1.2s						
SHA1	**Shidzhatmaz**	**79.97**	**352**	*i* P	**P**	**13 25 21.2**	**+2.5**
KIV	**Kislovodsk**	**80.18**	**352**	⇑P	**P**	**13 25 21.0**	**+1.4**
KIV	**Kislovodsk**	**80.18**	**352**	*e*P	**P**	**13 25 22.3**	**+2.7**
KIV				*e*S	**S**	**13 35 28.1**	**+3.7**
KIV				*e*SS	**SS**	**13 40 40.1**	**+4.1**
KIV				pmax	pmax		
	comp=Z,83nm,1.1s						
KIV				pmax	pmax		
	comp=Z,67nm,4.8s						
KIV				MLR	MLR		
	comp=Z,492nm,19.0s						
KIV	**Kislovodsk**	**80.18**	**352**	P	**P**	**13 25 18.9**	**-0.8**
KIV				IAmb	IAmb	13 25 30.4	
	comp=Z,30nm,1.1s						
KK31	**Karatay Array**	**80.24**	**13**	P	**P**	**13 25 18.5**	**-1.4**
KK31				pmax	pmax		
	comp=Z,14nm,1.0s						
KK31	**Karatay Array**	**80.24**	**13**	P	**P**	**13 25 18.5**	**-1.4**
KK31				IAmb	IAmb	13 25 34.5	
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**80.24**	**13**	P	**P**	**13 25 17.6**	**-2.3**
KKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**80.24**	**13**	P	**P**	**13 25 17.6**	**-2.3**
KKAR				IAmb	IAmb	13 25 34.5	
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**80.24**	**13**	P	**P**	**13 25 17.2**	**-2.6**
AAK	**Ala-Archa**	**80.58**	**16**	*ce*P	**P**	**13 25 23.8**	**+1.9**
AAK				pmax	pmax		
	comp=Z,61nm,1.3s						
CTA	**Charters Tower**	**80.62**	**108**	P	**P**	**13 25 23.5**	**+0.9**
	comp=Z,5.9nm,0.7s,baz=228,slow=6.2,SNR=17						
CTAO	**Charters Tower**	**80.62**	**108**	P	**P**	**13 25 22.8**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**80.62**	**108**	P	**P**	**13 25 22.8**	**+0.2**
KDJ	**Kajisay**	**80.72**	**18**	P	**P**	**13 25 22.9**	**+0.2**
KDJ				pmax	pmax		
	comp=Z,27nm,1.1s						
KDJ	**Kajisay**	**80.72**	**18**	P	**P**	**13 25 22.9**	**+0.2**
KDJ				IAmb	IAmb	13 25 37.3	
	comp=Z,27nm,1.1s						
BOOM	**Boomskoye usch**	**80.76**	**17**	P	**P**	**13 25 22.9**	**0.0**
BOOM				pmax	pmax		
	comp=Z,27nm,1.4s						
BOOM	**Boomskoye usch**	**80.76**	**17**	P	**P**	**13 25 22.9**	**0.0**
BOOM				IAmb	IAmb	13 25 28.8	
	comp=Z,27nm,1.4s						
CD2	**Chengdu**	**81.58**	**42**	*e*P	**P**	**13 25 26.5**	**-0.9**
TIP	**Timpagrande**	**82.13**	**332**	⇑P	P	13 25 44.1	+14
KEST	**Kesra**	**82.34**	**325**	P	**P**	**13 25 31.9**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=127,slow=5.1,SNR=2.6						
KEST				LR	LR	14 01 29.8	
	comp=Z,683nm,21.4s,baz=142,slow=35						
BSFB	**Barra de Sao F**	**82.55

GTA	**Gaotai**	**86.34**	**34**	⇑P		**P**	**13 25 53.0**	**+1.4**
GTA				pP		pwP	13 25 58.5	+1.6
GTA				sP		sP	13 26 02.5	+7.3
GTA				S		**S**	**13 36 29.8**	**+2.6**
GTA				sS		ScS	13 36 40.0	+4.3
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,84nm,6.2s							
GTA				LR		LR		
	comp=Z,340nm,20.4s							
GTA				LR		LR		
	comp=Z,290nm,19.6s							
GTA				LR		LR		
	comp=Z,520nm,21.8s							
MK31	**Makanchi Array**	**86.39**	**19**	*ce*P		**P**	**13 25 53.2**	**+1.7**
MK31	**Makanchi Array**	**86.39**	**19**	P		**P**	**13 25 49.8**	**-1.7**
MKAR	**Makanchi Array**	**86.39**	**19**	P		**P**	**13 25 52.8**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=216,slow=5.8,SNR=11							
MKAR				LR		LR	14 02 09.1	
	comp=Z,105nm,19.9s,baz=192,slow=34							
MKAR	**Makanchi Array**	**86.39**	**19**	*ce*P		**P**	**13 25 55.4**	**+3.9**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**86.39**	**19**	P		**P**	**13 25 50.8**	**-0.7**
SIRR	**Siria**	**86.76**	**339**	⇑P		**P**	**13 25 52.0**	**-1.3**
XAN	**Xi'an**	**86.79**	**43**	S		**S**	**13 36 35.3**	**+3.7**
XAN				pmax		pmax		
	comp=Z,11nm,0.7s							
XAN				pmax		pmax		
	comp=Z,210nm,5.0s							
XAN				LR		LR		
	comp=N,420nm,16.2s							
XAN				LR		LR		
	comp=E,410nm,18.1s							
XAN				LR		LR		
	comp=Z,630nm,15.7s							
DRGR		**86.93**	**339**	⇓P		sP	13 26 07.6	+11
BURAR	**Bucovina Array**	**87.00**	**341**	P		**P**	**13 25 53.2**	**-1.4**
VRH	**Novokhopyorsk**	**87.45**	**353**	*e*P		**P**	**13 25 57.8**	**+1.4**
VRH				pmax		pmax		
	comp=Z,30nm,1.0s							
VORD	**Divnogorie**	**87.49**	**351**	*e*P		**P**	**13 25 57.6**	**+0.9**
VORD				pmax		pmax		
	comp=Z,7.0nm,0.6s							
VSR	**Storozhevoye**	**87.75**	**351**	*e*P		**P**	**13 25 59.1**	**+1.2**
VSR				pmax		pmax		
	comp=Z,30nm,1.8s							
PLCA	**Paso Flores**	**87.97**	**219**	P		**P**	**13 25 59.8**	**0.0**
	comp=Z,2.1nm,1.0s,baz=0.0,slow=1.0,SNR=2.9							
PLCA				LR		LR	13 58 22.7	
	comp=Z,337nm,21.9s,baz=145,slow=31							
PLCA	**Paso Flores**	**87.97**	**219**	IAmb		IAmb	13 26 22.5	
	comp=Z,7.2nm,1.1s							
AKASG	**Malin Array Be**	**88.94**	**345**	P		**P**	**13 26 03.6**	**0.0**
	comp=Z,2.3nm,0.6s,baz=163,slow=4.8,SNR=7.9							
AKASG				LR		LR	14 03 53.2	
	comp=Z,43nm,21.3s,baz=120,slow=34							
AKASG	**Malin Array Be**	**88.94**	**345**	*i* P		**P**	**13 26 03.9**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AKBB	**Malin Array Si**	**88.94**	**345**	P		**P**	**13 26 02.4**	**-1.1**
AKBB				pmax		pmax		
	comp=Z,18nm,1.3s							
AKBB	**Malin Array Si**	**88.94**	**345**	P		**P**	**13 26 02.4**	**-1.1**
KURK	**Kurchatov**	**89.14**	**16**	*i* P		**P**	**13 26 05.8**	**+1.3**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
LPSR	**Galich'ya Gora**	**89.14**	**351**	*e*P		**P**	**13 26 05.7**	**+1.2**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CRVS	**Cervenica-Dubn**	**89.20**	**340**	*e*P		sP	13 26 09.8	+2.3
CRVS	**Cervenica-Dubn**	**89.20**	**340**	*e*P		sP	13 26 09.8	+2.3
SDBA	**SAO DESIDERIO**	**89.47**	**255**	*e*P		sP	13 26 13.7	+4.0
BDFB	**Brasilia**	**89.94**	**251**	LR		LR	13 59 39.4	
	comp=Z,113nm,18.6s,baz=131,slow=31							
CPUP	**Villa Florida**	**90.03**	**237**	P		**P**	**13 26 10.2**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=144,slow=4.8,SNR=4.4							
CPUP				LR		LR	13 59 48.7	
	comp=Z,206nm,20.8s,baz=148,slow=31							
DGZ	**Jazzator, Alta**	**90.47**	**21**	*i* P		**P**	**13 26 13.4**	**+2.4**
DGZ				pmax		pmax		
	comp=Z,1.0nm,0.8s							
NJ2	**Nanjing**	**91.26**	**51**	*e*P		**P**	**13 26 14.5**	**-0.4**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
OBN	**Obninsk**	**91.91**	**350**	⇑*e*P		**P**	**13 26 18.6**	**+1.4**
OBN				*e*			13 29 54.7	
OBN				pmax		pmax		
	comp=Z,5.0nm,1.1s							
OBN				MLR		MLR		
	comp=Z,139nm,20.0s							
ESDC	**Sonseca Array**	**92.03**	**319**	P		**P**	**13 26 18.8**	**+0.4**
	comp=Z,2.0nm,1.1s,baz=150,slow=5.5,SNR=6.8							
ESDC				LR		LR	14 08 16.9	
	comp=Z,418nm,20.3s,baz=130,slow=36							
ESDC	**Sonseca Array**	**92.03**	**319**	P		**P**	**13 26 16.9**	**-1.5**
ARU	**Arti**	**92.17**	**3**	P		**P**	**13 26 18.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=192,slow=5.0,SNR=4.0							
ARU	**Arti**	**92.17**	**3**	*d i* P		**P**	**13 26 19.5**	**+1.0**
ARU							13 29 59.2	
ARU				S		**SKSac**	**13 36 52.5**	**+1.4**
ARU				pmax		pmax		
	comp=Z,17nm,2.2s							
ARU	**Arti**	**92.17**	**3**	IAmb		IAmb	13 26 29.3	
	comp=Z,4.8nm,0.8s							
AQDB	**Aquidauana**	**92.66**	**242**	*e*P		P	13 26 30.8	+9.0
HHC	**Hu-ho-hao-te**	**93.21**	**40**	*e*P		**P**	**13 26 23.0**	**-0.9**
HHC				PP		**PP**	**13 30 10.3**	**+2.4**
HHC				S		**S**	**13 37 27.0**	**-3.9**
HHC				SS		**SS**	**13 43 46.3**	**-0.9**
HHC				pmax		pmax		
	comp=Z,16nm,0.9s							
HHC				pmax		pmax		
	comp=Z,150nm,6.3s							
HHC				LR		LR		
	comp=Z,250nm,18.0s							
HHC				LR		LR		
	comp=Z,310nm,11.0s							
ZALV	**Zalesovo Beam**	**93.59**	**18**	P		**P**	**13 26 24.9**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=230,slow=3.7,SNR=6.6							
ZALV				LR		LR	14 06 42.7	
	comp=Z,142nm,18.3s,baz=180,slow=34							
ZALV	**Zalesovo Beam**	**93.59**	**18**	*i* P		**P**	**13 26 27.7**	**+2.6**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
CLL	**Collm**	**93.92**	**336**	*e*P		**P**	**13 26 29.0**	**+2.3**
CLL				*e*S		**S**	**13 37 39.0**	**+2.6**
CLL				*e*PS		**PS**	**13 38 49.0**	**-3.2**
CLL				*e*(PPS)			13 39 43.0	
CLL				*e*SS		**SS**	**13 44 00.0**	**+3.3**
CLL				*e*			13 45 09.0	
CLL				*e*SSS		SSS	13 47 48.0	
CLL				LmV			14 11 00.0	
	comp=Z,200nm,20.6s							
CLL	**Collm**	**93.92**	**336**	*e*P		**P**	**13 26 29.0**	**+2.3**
CLL				*e*S		**S**	**13 37 39.0**	**+2.6**
DZM	**Mont Dzumac**	**94.29**	**121**	*e*PP		PP	13 30 07.6	-8.3
	comp=Z,147nm,29.6s							
DZM	**Mont Dzumac**	**94.29**	**121**	*e*LQ		LQ	13 52 51.8	
	comp=Z,634nm,28.9s							
DZM				*e*LR		LR	13 56 50.1	
	comp=Z,2µm,30.6s							
BJI	**Beijing**	**95.12**	**43**	P		**P**	**13 26 34.3**	**+1.8**
BJI				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BJI				pmax		pmax		
	comp=Z,82nm,3.9s							
BJI				LR		LR		
	comp=Z,400nm,25.5s							
BJI				LR		LR		
	comp=Z,420nm,21.0s							
BJI				LR		LR		
	comp=Z,410nm,25.5s							
SONM	**Songino Array**	**95.91**	**33**	LR		LR	14 08 05.0	
	comp=Z,700nm,18.3s,baz=216,slow=34							
KLMR	**Klimovskoe**	**97.18**	**353**	*e*P		**P**	**13 26 36.9**	**-4.4**
KLMR				pmax		pmax		
	comp=Z,14nm,1.2s							
KLMR	**Klimovskoe**	**97.18**	**353**	*e*P		**P**	**13 26 37.0**	**-4.4**
KLMR				AMP			13 26 54.8	
	comp=Z,14nm,1.2s							
FINES	**FINESS Array B**	**99.63**	**347**	LR		LR	14 13 24.4	
	comp=Z,58nm,18.5s,baz=223,slow=36							
TBI	**Tubuai**	**117.11**	**156**	*e*SS		SS	13 49 15.7	+4.2
	comp=Z,644nm,28.0s							
TBI	**Tubuai**	**117.11**	**156**	*e*LR		LR	14 07 20.0	
	comp=Z,420nm,24.2s							
PPT2	**Papeete2**	**122.40**	**154**	*e*SS		SS	13 50 23.8	+3.7
	comp=Z,598nm,31.5s							
PPT2	**Papeete2**	**122.40**	**154**	*e*LR		LR	14 09 52.0	
	comp=Z,580nm,32.5s							
TAOE	**Nuku Hiva Isla**	**133.57**	**161**	*e*PP		PP	13 34 49.9	-3.7
	comp=Z,68nm,25.0s							
TAOE	**Nuku Hiva Isla**	**133.57**	**161**	*e*SS		SS	13 52 39.1	+0.5
	comp=Z,278nm,28.8s							
TAOE	**Nuku Hiva Isla**	**133.57**	**161**	*e*LR		LR	14 15 02.5	
	comp=Z,285nm,22.2s							
U54A	**Nelsons Funny**	**144.21**	**284**			**PKPdf**	**13 32 44.8**	**-0.7**
BG3	**Lake Jocassee**	**144.72**	**281**			**PKPab**	**13 32 45.2**	**0.0**
GOGA	**Godfrey**	**144.73**	**279**	PKIKP		**PKPab**	**13 32 45.0**	**-0.2**
GOGA	**Godfrey**	**144.73**	**279**			**PKPab**	**13 32 45.0**	**-0.2**
V53A	**Saluda**	**144.79**	**283**			**PKPab**	**13 32 45.5**	**0.0**
TOLK	**Toolik Lake Re**	**144.87**	**14**			**PKPdf**	**13 32 46.5**	**+0.9**
P52A	**Corning**	**145.02**	**290**			**PKPbc**	**13 32 46.1**	**0.0**
V51A	**Loudon**	**146.04**	**282**	PKPdf		**PKPdf**	**13 32 47.5**	**-1.1**
C36M	**Paulatuk**	**146.57**	**358**	PKPdf		**PKPdf**	**13 32 48.9**	**+0.5**
C36M				PKPbc		**pPKPdf**	**13 32 50.5**	**+0.2**
W50A	**Signal Mountai**	**146.67**	**281**	PKPdf		**PKPdf**	**13 32 49.2**	**-0.5**
T50A	**Nancy**	**146.68**	**284**	PKPdf		**PKPdf**	**13 32 49.9**	**+0.2**
FPAL	**Fort Paine**	**146.75**	**280**			**PKPdf**	**13 32 49.5**	**-0.4**
R49A	**Shelbyville**	**147.16**	**287**	PKPdf		**PKPdf**	**13 32 50.4**	**0.0**
Y49A	**Blount Mountai**	**147.21**	**278**	PKPdf		**PKPdf**	**13 32 50.3**	**-0.4**
U49A	**Red Boiling Sp**	**147.32**	**283**	PKPdf		**PKPdf**	**13 32 50.6**	**-0.2**
INK	**Inuvik**	**147.40**	**5**	PKP2		**PKPab**	**13 32 53.3**	**-1.0**
INK	**Inuvik**	**147.40**	**5**	PKPbc		**PKPab**	**13 32 53.3**	**-1.0**
CLTN	**Cedars of Leba**	**147.67**	**282**			**PKPbc**	**13 32 53.8**	**-0.3**
I23K	**Minto, Yukon-K**	**147.80**	**18**	PKPbc		**PKiKP**	**13 32 55.1**	**-0.3**
X48A	**Hartselle**	**147.87**	**279**			**PKPbc**	**13 32 54.9**	**+0.2**
WCI	**Wyandotte Cave**	**148.03**	**286**	PKP2		**PKPbc**	**13 32 54.9**	**-0.1**
WCI	**Wyandotte Cave**	**148.03**	**286**			**PKPbc**	**13 32 54.9**	**-0.1**
MDM	**Murphy Dome**	**148.23**	**17**	PKPbc		**PKiKP**	**13 32 55.9**	**-0.5**
IL31		**148.71**	**17**			**PKPbc**	**13 32 56.1**	**+0.3**
ILAR	**Eielson Array**	**149.71**	**17**	PKPbc		**PKPbc**	**13 32 55.8**	**-0.1**
	comp=Z,5.9nm,1.0s,baz=320,slow=3.3,SNR=29							
PLAL	**Pickwick Lake**	**148.82**	**280**			**PKPbc**	**13 32 56.2**	**-1.0**
WVT	**Waverly**	**148.87**	**282**	PKP2		**PKPbc**	**13 32 56.7**	**-0.5**
WVT	**Waverly**	**148.87**	**282**			**PKPbc**	**13 32 56.7**	**-0.5**
HDA	**Harding Lake**	**149.00**	**17**	PKPdf		**PKPdf**	**13 32 52.1**	**-0.5**
Y45A	**Yeager Farm, C**	**149.73**	**277**	PKPbc		**PKPbc**	**13 32 58.5**	**-1.0**
DOT	**Dot Lake**	**150.31**	**16**	PKPbc		**PKiKP**	**13 33 01.3**	**+0.5**
GHO	**Glory Hole Cre**	**150.60**	**22**	PKPbc		**PKPbc**	**13 32 59.7**	**-1.1**
MENT	**Mentasta**	**151.01**	**16**			**PKPbc**	**13 33 01.5**	**-0.1**
KLU	**Klutina**	**151.69**	**20**	PKPdf		**PKPdf**	**13 32 57.6**	**+0.6**
CCM	**Cathedral Cave**	**151.87**	**285**	PKIKP		**PKPbc**	**13 33 04.4**	**0.0**
CCM	**Cathedral Cave**	**151.87**	**285**			**PKPbc**	**13 33 04.4**	**0.0**
W41B	**Gary Mavity, V**	**152.21**	**278**			**PKPbc**	**13 33 05.1**	**-0.1**
FCAR	**Ozark Folk Cen**	**152.24**	**280**			**PKPbc**	**13 33 05.0**	**-0.3**
YKA	**Yellowknife Ar**	**152.46**	**348**	PKPbc		**PKiKP**	**13 33 05.0**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=25,slow=2.7,SNR=3.4							
TXAR	**Lajitas Array**	**159.68**	**257**	PKP		**PKPdf**	**13 33 09.6**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=77,slow=1.7,SNR=6.5							
TXAR				PKPab		**PKPab**	**13 33 45.9**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=104,slow=2.9,SNR=1.9							
TXAR	**Lajitas Array**	**159.68**	**257**			**PKPdf**	**13 33 07.7**	**-1.0**
PDAR	**Pinedale Array**	**165.26**	**302**	PKP		**PKPdf**	**13 33 13.9**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=147,slow=3.0,SNR=4.6							
NVAR	**Mina Array Bea**	**173.02**	**293**	PKP		**PKPdf**	**13 33 19.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=264,slow=0.9,SNR=2.0							
NVAR				PKPab		**PKPab**	**13 34 47.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=95,slow=3.8,SNR=2.1							

*NEIC **28** 13:36:21.4±1.6,4.3S±0.1×153.5E±0.1,h191km±4km, mb4.5/21, Error ellipse: s-maj=15.9km s-min=14.3km az=212.0*
*IDC **28** 13:36:27.4±4.5,4.3S±153.4E, h246km±37km, mb3.4/9, mb1 3.5/11, mb1mx3.4/36, mbtmp4.0/11, Error ellipse: s-maj=41.2km s-min=19.0km az=96.0*
ISC 28 13:36:22.0±0.6,**4.2S**±0.1×**153.5E**±0.1,**h200km**,**n39**, σ1**s27**/40,**mb4.3**/18,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.34**	**271**			Pn	**Pn**	**13 36 52.5**	**-2.0**
RABL						Sn	**Sn**	**13 37 16.2**	**-3.2**
PMG	**Port Moresby**	**8.14**	**230**	P		P	**Pn**	**13 38 20.7**	**+3.5**
	1.8nm,0.3s,baz=111,slow=19,SNR=2.5								
PMG				S			**Sn**	**13 39 51.5**	**+2.5**
	3.1nm,0.3s,baz=309,slow=14,SNR=5.5								
CTA	**Charters Tower**	**17.29**	**204**	P		P	**Pn**	**13 40 11.5**	**-0.3**
	0.5nm,0.3s,baz=33,slow=12,SNR=9.7								
CTAO	**Charters Tower**	**17.29**	**204**	P		P	**Pn**	**13 40 11.3**	**-0.5**
CTAO				IAmb		IAmb	IAmb	13 40 18.0	
	comp=Z,5.2nm,0.9s								
GUMO	**Guam**	**19.66**	**334**	P		P	**P**	**13 40 37.8**	**+1.8**
EIDS	**Eidsvold**	**21.16**	**186**	P		P	**P**	**13 40 51.1**	**-0.7**
EIDS				IAmb		IAmb	IAmb	13 41 00.3	
	comp=Z,24nm,1.4s								
DZM	**Mont Dzumac**	**21.73**	**146**	P		P	**P**	**13 40 58.5**	**+0.7**
WB0	**Warramunga Arr**	**24.21**	**229**	P		P	**P**	**13 41 20.8**	**+0.2**
WB0				IAmb		IAmb	IAmb	13 41 23.4	
	comp=Z,7.3nm,0.5s								
WR0	**Warramunga Arr**	**24.22**	**228**	P		P	**P**	**13 41 20.9**	**+0.2**
WR0				IAmb		IAmb	IAmb	13 41 23.5	
	comp=Z,6.2nm,0.9s								
WRAB	**Tennant Creek**	**24.34**	**229**	P		P	**P**	**13 41 21.9**	**+0.1**
WRAB				IAmb		IAmb	IAmb	13 41 24.7	
	comp=Z,7.5nm,0.5s								
WB2	**Warramunga Arr**	**24.35**	**228**	P		P	**P**	**13 41 21.9**	**+0.1**
WB2				IAmb		IAmb	IAmb	13 41 24.8	
	comp=Z,9.1nm,0.5s								
WRA	**Warramunga Arr**	**24.36**	**229**	P		P	**P**	**13 41 22.3**	**+0.4**
	comp=Z,6.8nm,0.4s,baz=53,slow=10,SNR=75								
WRA				PcP		**PcP**	**PcP**	**13 44 55.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=59,slow=2.8,SNR=2.3								
WRA	**Warramunga Arr**	**24.36**	**229**	P		P	**P**	**13 41 21.6**	**-0.3**
ARMA	**Armidale**	**26.12**	**184**	P		P	**P**	**13 41 37.4**	**-0.4**
ARMA				IAmb		IAmb	IAmb	13 41 38.5	
	comp=Z,6.2nm,0.7s								
AS31	**Alice Springs**	**27.05**	**223**	P		P	**P**	**13 41 45.9**	**-0.3**
ASAR	**Alice Springs**	**27.05**	**223**	P		P	**P**	**13 41 46.1**	**0.0**
	comp=Z,1.0nm,0.4s,baz=55,slow=9.1,SNR=83								
ASAR	**Alice Springs**	**27.05**	**223**	P		P	**P**	**13 41 45.5**	**-0.7**
STKA	**Stephens Creek**	**29.70**	**201**	P		P	**P**	**13 42 08.8**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=42,slow=12,SNR=9.8								
STKA	**Stephens Creek**	**29.70**	**201**	P		P	**P**	**13 42 08.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.56**	**241**	P		P	**P**	**13 42 16.5**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=52,slow=7.9,SNR=8.6								
FITZ	**Fitzroy Crossi**	**30.56**	**241**	IAmb		IAmb	IAmb	13 42 17.9	
	comp=Z,2.0nm,0.9s								
CAN	**Canberra**	**31.23**	**187**	P		P	**P**	**13 42 22.4**	**-0.5**
BBOO	**Buckleboo**	**32.80**	**208**	P		P	**P**	**13 42 35.5**	**-1.0**
BBOO				IAmb		IAmb	IAmb	13 42 37.1	
	comp=Z,32nm,1.4s								
KNTN	**Kanton**	**34.73**	**89**	P		P	**P**	**13 42 55.3**	**+1.8**
FORT	**Forrest**	**35.68**	**219**	P		P	**P**	**13 43 00.7**	**-0.7**
FORT				IAmb		IAmb	IAmb	13 43 01.8	
	comp=Z,13nm,0.7s								
MBWA	**Marble Bar**	**36.87**	**240**	P		P	**P**	**13 43 09.9**	**-1.7**
BFZ	**Birch Farm**	**41.67**	**154**	P		P	**P**	**13 43 49.3**	**-1.7**
JWT	**Wachi**	**42.82**	**338**	P		P	**P**	**13 44 00.5**	**+0.3**
KSRS	**Korea Array**	**47.81**	**332**	P		P	**P**	**13 44 40.9**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=153,slow=7.4,SNR=3.3								
KSAR	**Wonju Array Be**	**47.82**	**332**	P		P	**P**	**13 44 41.1**	**+1.6**
USA0B	**Ussuriysk Arra**	**51.93**	**340**	P		P	**P**	**13 45 10.9**	**+0.5**
USA0B				IAmb		IAmb	IAmb	13 45 34.7	
	comp=Z,13nm,1.5s								
USRK	**Ussuriysk Ar.**	**51.93**	**340**	P		P	**P**	**13 45 10.8**	**+0.4**
VNDA	**Vanda**	**73.38**	**178**	P		P	**P**	**13 47 30.8**	**-0.8**
MKAR	**Makanchi Array**	**80.36**	**319**	P		P	**P**	**13 48 12.1**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=92,slow=8.5,SNR=2.8								
ZALV	**Zalesovo Beam**	**81.06**	**326**	P			**P**	**13 48 14.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=236,slow=40,SNR=2.2								
ILAR	**Eielson Array**	**81.36**	**22**	P		P	**P**	**13 48 16.8**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=232,slow=4.4,SNR=1.9								
MAW	**Mawson**	**86.38**	**203**	P		P	**P**	**13 48 40.7**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=62,slow=4.5,SNR=7.5								
MAW	**Mawson**	**86.38**	**203**	IAmb		IAmb	IAmb	13 48 41.3	
	comp=Z,0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**150.79**	**289**	PKPbc		**PKPbc**	**PKPbc**	**13 55 51.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=65,slow=2.4,SNR=5.4								

*INET **28** 13:47:32.9, 12.79N×88.72W, h15km, ML3.4*
*UCR **28** 13:47:34.1±0.8, 12.85N×88.73W, h34km±3km, ML3.7*
*SNET **28** 13:47:34.1±0.7, 12.86N×88.73W, h43km±22km, ML3.6*
ISC 28 13:47:34.4±2.3,**12.85N**±0.1×**88.73W**±0.05,**h34**km±3km, **n32**, σ0**s42**/44,**2C-12D**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**0.62**	**50**	⇓*i* P			**Pn**	**13 47 46.4**	**-0.4**
JUCU				*e*S			**Sb**	**13 47 56.3**	**+0.7**
JUCU				IAML				13 47 57.9	
	comp=Z,5µm,0.2s								
JUCU	**Jucuarın**	**0.62**	**50**	⇓*i* P			**Pn**	**13 47 46.4**	**-0.4**
JUCU				*e*S			**Sb**	**13 47 56.3**	**+0.7**
JUCU				IAML				13 47 57.9	
	comp=Z,5µm,0.2s								
COEB	**Comit de Eme**	**0.67**	**17**	⇓*e*P			**Pb**	**13 47 47.5**	**-0.4**
COEB				IAML				13 47 47.9	
	comp=Z,4µm,0.2s								
COEB				*e*S			**Sb**	**13 47 58.1**	**+0.9**
COEB	**Comit de Eme**	**0.67**	**17**	⇓*e*P			**Pb**	**13 47 47.5**	**-0.4**
COEB				IAML				13 47 47.9	
	comp=Z,4µm,0.2s								
COEB				*e*S			**Sb**	**13 47 58.1**	**+0.9**
TECA	**Tecapa**	**0.68**	**19**	⇓*i* P			**Pb**	**13 47 47.7**	**-0.4**
TECA	**Tecapa**	**0.68**	**19**	⇓*i* P			**Pb**	**13 47 47.7**	**-0.4**
LCY	**Lacayo**	**0.71**	**37**	*e*P			**Pn**	**13 47 47.9**	**-0.3**
LCY	**Lacayo**	**0.71**	**37**	*e*P			**Pn**	**13 47 47.9**	**-0.3**
VSM	**San Miguel**	**0.73**	**38**	⇓*i* P			**Pn**	**13 47 48.4**	**-0.2**
VSM	**San Miguel**	**0.73**	**38**	⇓*i* P			**Pn**	**13 47 48.4**	**-0.2**
BLLM	**Bellamira**	**0.76**	**39**	⇑*i* P			**Pn**	**13 47 48.4**	**-0.4**
BLLM	**Bellamira**	**0.76**	**39**	⇑*i* P			**Pn**	**13 47 48.4**	**-0.4**
COEG	**Centro de Oper**	**0.78**	**349**	*e*P			**Pn**	**13 47 48.8**	**-0.3**
COEG				IAML				13 48 01.6	
	comp=Z,1µm,0.3s								
COEG	**Centro de Oper**	**0.78**	**349**	*e*P			**Pn**	**13 47 48.8**	**-0.3**
COEG				IAML				13 48 01.6	
	comp=Z,1µm,0.3s								
LFRS	**El Faro**	**0.83**	**337**	⇓*i* P			**Pn**	**13 47 49.6**	**-0.2**
LFRS	**El Faro**	**0.83**	**337**	⇓*i* P			**Pn**	**13 47 49.6**	**-0.2**
PAVA	**Las Pavas**	**0.88**	**347**	*e*P			**Pn**	**13 47 50.4**	**-0.1**
PAVA				*e*S			**Sb**	**13 48 03.5**	**+0.5**
PAVA				IAML				13 48 07.2	
	comp=Z,1µm,0.2s								
PAVA	**Las Pavas**	**0.88**	**347**	*e*P			**Pn**	**13 47 50.4**	**-0.1**
PAVA				*e*S			**Sb**	**13 48 03.5**	**+0.5**
PAVA				IAML				13 48 07.2	
	comp=Z,1µm,0.2s								
LBRS	**Las Brisas**	**0.93**	**341**	*e*P			**Pn**	**13 47 51.3**	**+0.1**
LBRS	**Las Brisas**	**0.93**	**341**	*e*P			**Pn**	**13 47 51.3**	**+0.1**
LCND	**La Caada**	**0.94**	**61**	*e*P			**Pn**	**13 47 50.5**	**-0.7**
LCND				*e*S			**Sn**	**13 48 03.4**	**0.0**
LCND				IAML				13 48 06.1	
	comp=Z,2µm,0.4s								
LCND	**La Caada**	**0.94**	**61**	*e*P			**Pn**	**13 47 50.5**	**-0.7**
LCND				*e*S			**Sn**	**13 48 03.4**	**0.0**
LCND				IAML				13 48 06.1	
	comp=Z,2µm,0.4s								
LFU	**La Fuente**	**0.97**	**337**	*e*P			**Pn**	**13 47 51.7**	**0.0**
LFU	**La Fuente**	**0.97**	**337**	*e*P			**Pn**	**13 47 51.7**	**0.0**
BOQS	**Boqueron**	**1.03**	**329**	*e*P			**Pn**	**13 47 52.6**	**0.0**
BOQS				*e*S			**Sb**	**13 48 07.1**	**-0.2**
BOQS	**Boqueron**	**1.03**	**329**	*e*P			**Pn**	**13 47 52.6**	**0.0**
BOQS				*e*S			**Sb**	**13 48 07.1**	**-0.2**
TACO	**Tacachico**	**1.27**	**332**	⇓*e*P			**Pn**	**13 47 55.5**	**-0.3**
TACO				*e*S			**Sn**	**13 48 12.1**	**+0.4**
**TACO

SUR	**Sutherland**	**7.50**	**222**			**Pn**	13 57 29.5	**+1.6**
KOMG	**Komaggas**	**8.66**	**249**	*e*P		**Pn**	13 57 45.2	**+1.6**
KOMG				*e*S		**Sn**	13 59 18.9	**-2.4**
KOMG				AML		AML	13 59 48.8	
	comp=Z,8.0nm,0.3s							
TSUM	**Tsumeb**	**11.43**	**310**	Pn		**Pn**	13 58 22.9	**+1.2**
	comp=Z,1.0nm,0.3s,baz=144,slow=12,SNR=8.3							
TSUM				Sn		**Sn**	14 00 25.3	**-4.1**
	comp=Z,0.4nm,0.3s,baz=229,slow=18,SNR=4.2							
TSUM				Lg		Lg	14 01 35.5	
	comp=Z,0.7nm,0.3s,baz=287,slow=19,SNR=4.1							
TSUM	**Tsumeb**	**11.43**	**310**			**Pn**	13 58 23.2	**+1.5**
LSZ	**Lusaka**	**11.68**	**7**	Pn		**Pn**	13 58 25.4	**+0.4**
	comp=Z,1.6nm,0.3s,baz=170,slow=20,SNR=6.2							
LSZ				Sn		**Sn**	14 00 30.9	**-4.7**
	comp=Z,0.4nm,0.3s,baz=184,slow=18,SNR=1.3							
LSZ				Lg		Lg	14 01 40.4	
	comp=Z,0.4nm,0.3s,baz=85,slow=23,SNR=5.7							
LSZ	**Lusaka**	**11.68**	**7**			**Pn**	13 58 25.2	**+0.2**
TOA0	**Torodi Ar. Sit**	**46.70**	**325**	P		**P**	14 04 08.8	**+1.5**
TOA0				IAmb		IAmb	14 04 10.4	
	comp=Z,5.3nm,1.3s							
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P		**P**	14 04 08.5	**+1.1**
	comp=Z,0.8nm,0.6s,baz=162,slow=7.9,SNR=5.0							
TORD	**Torodi Ar. Bea**	**46.70**	**325**	IAmb		IAmb	14 04 09.7	
	comp=Z,0.9nm,0.8s							
SNAA	**Sanae**	**47.70**	**192**	P		**P**	**14 04 16.9**	**+2.3**
	comp=Z,1.6nm,0.9s,baz=5.9,slow=4.8,SNR=4.6							
SNAA	**Sanae**	**47.70**	**192**	P		**P**	14 04 15.7	**+1.1**
SNAA				IAmb		IAmb	14 04 18.6	
	comp=Z,3.2nm,1.1s							
QSPA	**South Pole Qui**	**63.25**	**180**	P		**P**	14 06 08.2	**+1.5**
QSPA				IAmb		IAmb	14 06 08.3	
	comp=Z,5.4nm,1.5s							
NVAR	**Mina Array Bea**	**148.62**	**300**	PKPbc		**PKPab**	14 15 29.6	**+0.1**
	comp=Z,0.4nm,0.5s,baz=76,slow=3.8,SNR=6.1							

IDC ***28*** *13:56:52.6±2.0, 1°.27N×125°.99E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=180.3km s-min=24.7km az=65.0*

DJA ***28*** *13:56:58.6±0.8, 1°.5N±3°×12°.6E±°, h11km±6km, M3.6/12, mB4.5/1, mb3.8/2, MLv3.5/12, Mw(mB)3.7/1*

ISC 28 13:56:56.2±0.9, 1°.29N±0°.09×126°.12E±0°.06, h10km, n11, σ1§74/13, mb3.2/3, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.35**	**112**	P		**Pg**	13 57 23.6	**+1.4**
TNTI				S		**Sg**	13 57 41.4	**+1.6**
KMSI	**Cibinong**	**2.25**	**252**	P		**Pn**	13 57 35.3	**+1.8**
KMSI				S		**Sn**	13 58 02.3	**+1.0**
SGSI	**Sangihe**	**2.45**	**346**	P		**Pb**	13 57 40.6	**+0.2**
GTOI	**Gorontalo**	**3.17**	**258**	P		**Pn**	13 57 48.8	**+2.6**
SANI	**Sanana**	**3.32**	**182**	P		**Pn**	13 57 48.4	**+0.2**
LUWI	**Luwuk**	**4.07**	**235**	P		**Pn**	13 57 59.0	**+0.5**
APSI	**Ampana**	**4.97**	**244**	P		**Pn**	13 58 10.9	**-0.1**
MPSI	**Mapaga**	**6.29**	**261**	P		**Pn**	13 58 29.9	**+0.8**
WRA	**Warramunga Arr**	**22.59**	**159**	P		**P**	14 01 55.0	**-2.1**
	0.4nm,0.6s,baz=338,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**25.94**	**163**	P		**P**	14 02 27.1	**-1.8**
	0.3nm,0.5s,baz=344,slow=11,SNR=10							
MKAR	**Makanchi Array**	**59.22**	**326**	P		**P**	14 06 55.3	**-2.4**
	0.2nm,0.3s,baz=118,slow=6.8,SNR=7.6							

KRSC ***28*** *14:11:26.8±2.0, 50°.26N×157°.13E, h50km±23km, ML5.1, FELT [III] at lighthouse Kurbatova, Paujetka; [II-III] at RNS Podgornay.*

MOS ***28*** *14:11:28.8±0.9, 50°.45N×156°.43E, h84km, mb4.2/10, Error ellipse: s-maj=10.4km s-min=3.3km az=72.0*

IDC ***28*** *14:11:30.0±0.6, 50°.56N×156°.40E, h76km±5km, mb3.8/16, mb1 4.1/21, mb1mx3.8/67, mbtmp4.2/21, MS3.3/3, Ms1 3.3/3, ms1mx2.9/36, Error ellipse: s-maj=14.6km s-min=8.0km az=128.0*

NEIC ***28*** *14:11:31.0±1.7, 50°.58N±0°.09×156°.4E±0°.1, h88km±6km, mb4.3/48, Error ellipse: s-maj=14.9km s-min=10.4km az=134.0*

ISC 28 14:11:29.6±0.5, 50°.47N±0°.05×156°.55E±0°.05, h79km±4km, n205, σ1§59/229, mb4.2/44, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.35**	**309**	*e*P		**Pn**	14 11 42.6	**+0.5**
SKR				*e*S		**Sn**	14 11 52.2	**+0.9**
SKR	**Severo-Kuril's**	**0.35**	**309**	↑*i*PN		**Pn**	14 11 42.7	**+0.6**
SKR				*i* S		**Sn**	14 11 52.2	**+0.9**
SKR				pmax	pmax			
	comp=Z,3μm,0.6s							
SKR				smax	smax			
	comp=N,14μm,0.4s							
SKR				smax	smax			
	comp=E,26μm,0.4s							
PAU	**Pauzhetka**	**1.02**	**9**	*e*P		**Pn**	14 11 49.3	**+0.5**
PAU				*e*S		**Sn**	14 12 03.9	**+0.8**
PAU	**Pauzhetka**	**1.02**	**9**	PN		**Pn**	14 11 49.3	**+0.5**
PAU				S		**Sn**	14 12 03.9	**+0.8**
KDTR	**Khodutka, Kamc**	**1.66**	**35**	*e*P		**Pn**	14 11 56.1	**-0.8**
KDTR				*e*S		**Sn**	14 12 15.7	**-1.8**
KDTR	**Khodutka, Kamc**	**1.66**	**35**	PN		**Pn**	14 11 56.1	**-0.8**
KDTR				S		**Sn**	14 12 15.7	**-1.8**
ASAK	**Asacha**	**2.10**	**23**	*e*P		**Pn**	14 12 03.6	**+0.7**
ASAK				*e*S		**Sn**	14 12 29.4	**+1.2**
ASAK	**Asacha**	**2.10**	**23**	PN		**Pn**	14 12 03.6	**+0.7**
ASAK				S		**Sn**	14 12 29.4	**+1.2**
GRL	**Gorelyy**	**2.30**	**24**	*e*P		**Pn**	14 12 06.5	**+1.0**
GRL				*e*S		**Sn**	14 12 34.1	**+1.1**
GRL	**Gorelyy**	**2.30**	**24**	PN		**Pn**	14 12 06.5	**+1.0**
GRL				S		**Sn**	14 12 34.1	**+1.1**
RUS	**Russkaya**	**2.32**	**31**	*e*P		**Pn**	14 12 05.2	**-0.5**
RUS				*e*S		**Sn**	14 12 31.6	**-1.8**
RUS	**Russkaya**	**2.32**	**31**	PN		**Pn**	14 12 05.2	**-0.5**
RUS				S		**Sn**	14 12 31.6	**-1.8**
APC	**Apacha**	**2.49**	**9**	*e*P		**Pn**	14 12 09.3	**+1.3**
APC	**Apacha**	**2.49**	**9**	PN		**Pn**	14 12 09.3	**+1.3**
KRMR	**Karymshinskiy**	**2.57**	**22**	*e*P		**Pn**	14 12 11.0	**+2.0**
KRMR	**Karymshinskiy**	**2.57**	**22**	PN		**Pn**	14 12 11.0	**+2.0**
PEA0B	**Petropavlovsk-**	**2.74**	**15**	*c i*PN		**Pn**	14 12 12.8	**+1.4**
PEA0B	**Petropavlovsk-**	**2.74**	**15**	Pn		**Pn**	14 12 12.9	**+1.5**
PETK	**Petropavlovsk-**	**2.74**	**15**	P		**Pn**	14 12 12.5	**+1.0**
	comp=E,33nm,0.3s,baz=171,slow=12,SNR=758							
PETK				S		**Sn**	14 12 43.2	**-0.4**
	comp=E,14nm,0.3s,baz=176,slow=21,SNR=5.2							
PETK	**Petropavlovsk-**	**2.74**	**15**	Pn		**Pn**	14 12 12.9	**+1.4**
PET	**Petropavlovsk**	**2.88**	**26**	*e*P		**Pn**	14 12 13.9	**+0.7**
PET				*e*S		**Sn**	14 12 47.4	**+0.6**
PET	**Petropavlovsk**	**2.88**	**26**	↑*i*PN		**Pn**	14 12 14.0	**+0.7**
PET				*e*S		**Sn**	14 12 47.8	**+1.0**
PET				pmax	pmax			
	comp=Z,645nm,0.4s							
PET				smax	smax			
	comp=E,2μm,0.6s							
PET				smax	smax			
	comp=N,2μm,0.4s							
PET	**Petropavlovsk**	**2.88**	**26**			**Pn**	14 12 13.7	**+0.5**
DALK	**Dalny**	**2.91**	**27**	*e*P		**Pn**	14 12 14.4	**+0.7**
DALK				*e*S		**Sn**	14 12 48.6	**+1.0**
DALK	**Dalny**	**2.91**	**27**	PN		**Pn**	14 12 14.4	**+0.7**
DALK				S		**Sn**	14 12 48.6	**+1.0**
UGLR	**Uglovaya**	**3.09**	**26**	*e*P		**Pn**	14 12 17.6	**+1.4**
UGLR				*e*S		**Sn**	14 12 54.5	**+2.4**
UGLR	**Uglovaya**	**3.09**	**26**	PN		**Pn**	14 12 17.6	**+1.4**
UGLR				S		**Sn**	14 12 54.5	**+2.4**
KOK	**Koryaka**	**3.11**	**24**	*e*P		**Pn**	14 12 18.7	**+2.2**
KOK				*e*S		**Sn**	14 12 58.2	**+5.5**
KOK	**Koryaka**	**3.11**	**24**	PN		**Pn**	14 12 18.7	**+2.2**
AVH	**Avacha**	**3.12**	**25**	*e*P		**Pn**	14 12 18.6	**+2.1**
AVH				*e*S		**Sn**	14 12 57.2	**+4.5**
AVH	**Avacha**	**3.12**	**25**	PN		**Pn**	14 12 18.6	**+2.1**
AVH				S		**Sn**	14 12 57.2	**+4.5**
SMAR	**Somma**	**3.13**	**26**	*e*P		**Pn**	14 12 18.5	**+1.6**
SMAR				*e*S		**Sn**	14 12 55.1	**+1.8**
SMAR	**Somma**	**3.13**	**26**	PN		**Pn**	14 12 18.5	**+1.6**
SMAR				S		**Sn**	14 12 55.1	**+1.8**
KRER	**Koryakskii**	**3.15**	**25**	*e*P		**Pn**	14 12 18.9	**+1.7**
KRER				*e*S		**Sn**	14 12 57.0	**+3.2**
KRER	**Koryakskii**	**3.15**	**25**	PN		**Pn**	14 12 18.9	**+1.7**
KRER				S		**Sn**	14 12 57.0	**+3.2**
SDLR	**Sedlovina**	**3.17**	**26**	*e*P		**Pn**	14 12 18.1	**+0.8**
SDLR	**Sedlovina**	**3.17**	**26**	PN		**Pn**	14 12 18.1	**+0.8**
KRX	**Arik**	**3.18**	**23**	*e*P		**Pn**	14 12 19.2	**+1.8**
KRX	**Arik**	**3.18**	**23**	PN		**Pn**	14 12 19.2	**+1.8**
NLC	**Nalytchevo**	**3.22**	**32**	*e*P		**Pn**	14 12 17.0	**-0.8**
NLC	**Nalytchevo**	**3.22**	**32**	PN		**Pn**	14 12 17.0	**-0.8**
GNL	**Ganaly**	**3.35**	**14**	*e*P		**Pn**	14 12 21.8	**+2.1**
GNL	**Ganaly**	**3.35**	**14**	PN		**Pn**	14 12 21.8	**+2.1**
SPN	**Mys Shipunski**	**3.41**	**38**	*e*P		**Pn**	14 12 20.0	**-0.4**
SPN				*e*S		**Sn**	14 12 57.9	**-1.7**
SPN	**Mys Shipunski**	**3.41**	**38**	PN		**Pn**	14 12 20.0	**-0.4**
SPN				S		**Sn**	14 12 57.9	**-1.7**
KII	**Karymskiy**	**4.00**	**25**	*e*P		**Pn**	14 12 30.5	**+2.0**
KII	**Karymskiy**	**4.00**	**25**	PN		**Pn**	14 12 30.5	**+2.0**
KZV	**Kizimen**	**5.18**	**25**	*e*P		**Pn**	14 12 45.8	**+1.1**
KZV	**Kizimen**	**5.18**	**25**	PN		**Pn**	14 12 45.8	**+1.1**
TUMD	**Tumrok D**	**5.29**	**25**	*e*P		**Pn**	14 12 46.8	**+0.8**
TUMR	**Tumrok**	**5.29**	**23**	*e*P		**Pn**	14 12 48.1	**+1.9**
TUMR	**Tumrok**	**5.29**	**23**	PN		**Pn**	14 12 48.1	**+1.9**
ESO	**Esso**	**5.62**	**12**	*e*P		**Pn**	14 12 52.9	**+2.4**
ESO	**Esso**	**5.62**	**12**	PN		**Pn**	14 12 52.9	**+2.4**
KOZ	**Kozyrevsk**	**5.95**	**18**	*e*P		**Pn**	14 12 58.4	**+3.4**
KOZ	**Kozyrevsk**	**5.95**	**18**	PN		**Pn**	14 12 58.4	**+3.4**
KIRR	**Kirishev**	**5.95**	**21**	*e*P		**Pn**	14 12 58.1	**+2.9**
KIRR	**Kirishev**	**5.95**	**21**	PN		**Pn**	14 12 58.1	**+2.9**
BZMR	**Bezymyannaya**	**5.97**	**22**	*e*P		**Pn**	14 12 57.8	**+2.4**
BZMR	**Bezymyannaya**	**5.97**	**22**	PN		**Pn**	14 12 57.8	**+2.4**
BZWR	**Bezymyannyi-We**	**6.00**	**22**	*e*P		**Pn**	14 12 57.3	**+1.5**
BZWR	**Bezymyannyi-We**	**6.00**	**22**	PN		**Pn**	14 12 57.3	**+1.5**
BZGR	**Bezymyannyi-Gr**	**6.02**	**23**	*e*P		**Pn**	14 12 58.2	**+2.1**
BZGR	**Bezymyannyi-Gr**	**6.02**	**23**	PN		**Pn**	14 12 58.2	**+2.1**
ZLN	**Zelenaya**	**6.12**	**23**	*e*P		**Pn**	14 12 59.6	**+2.2**
ZLN	**Zelenaya**	**6.12**	**23**	PN		**Pn**	14 12 59.6	**+2.2**
LGNR	**Loginova**	**6.15**	**22**	*e*P		**Pn**	14 13 00.8	**+2.8**
LGNR	**Loginova**	**6.15**	**22**	PN		**Pn**	14 13 00.8	**+2.8**
SRDR	**Sredinnyy**	**6.16**	**17**	*e*P		**Pn**	14 13 01.3	**+3.3**
SRDR	**Sredinnyy**	**6.16**	**17**	PN		**Pn**	14 13 01.3	**+3.3**
KRSR	**Krestovskiy**	**6.24**	**21**	*e*P		**Pn**	14 13 00.3	**+1.2**
KRSR	**Krestovskiy**	**6.24**	**21**	PN		**Pn**	14 13 00.3	**+1.2**
KLY	**Klyuchi**	**6.35**	**21**	*e*P		**Pn**	14 13 02.5	**+2.0**
KLY	**Klyuchi**	**6.35**	**21**	PN		**Pn**	14 13 02.5	**+2.0**
SRKR	**Sorokina**	**6.78**	**22**	*e*P		**Pn**	14 13 07.2	**+0.8**
SRKR	**Sorokina**	**6.78**	**22**	PN		**Pn**	14 13 07.2	**+0.8**
SMKR	**Semkarok**	**6.79**	**24**	*e*P		**Pn**	14 13 10.4	**+3.8**
SMKR	**Semkarok**	**6.79**	**24**	PN		**Pn**	14 13 10.4	**+3.8**
KBTR	**Krutoberegovo**	**6.87**	**31**	*e*P		**Pn**	14 13 07.0	**-0.5**
KBTR	**Krutoberegovo**	**6.87**	**31**	PN		**Pn**	14 13 07.0	**-0.5**
KBG	**Krutoberegovo**	**6.87**	**30**	*e*P		**Pn**	14 13 08.6	**+1.1**
KBG	**Krutoberegovo**	**6.87**	**30**	PN		**Pn**	14 13 08.6	**+1.1**
BKI	**Bering**	**7.42**	**47**	*e*P		**Pn**	14 13 16.2	**+1.2**
BKI	**Bering**	**7.42**	**47**	PN		**Pn**	14 13 16.2	**+1.2**
KUR	**Kuril'sk**	**7.84**	**231**	*i* PN		**Pn**	14 13 19.9	**-0.9**
YUK	**Yuzh-Kuril'sk**	**9.70**	**233**	PN		**Pn**	14 13 48.2	**+2.0**
YUK				pmax	pmax			
	comp=Z,166nm,0.5s							
GRPR	**Tuman**	**9.77**	**233**	*e*PN		**Pn**	14 13 48.3	**+1.1**
GRPR				pmax	pmax			
	comp=Z,87nm,0.4s							
NMR	**Nemuro--Hokkai**	**10.25**	**230**	*e*PN		**Pn**	14 13 51.5	**-2.2**
JKA	**Kamikawa-asahi**	**11.39**	**241**			**Pn**	14 14 10.1	**+0.8**
ASAJ	**Asahikawa**	**11.40**	**242**	P		**Pn**	14 14 10.1	**+0.8**
	comp=Z,2.4nm,0.3s,baz=70,slow=18,SNR=21							
ERM	**Erimo**	**12.53**	**233**	PN		**Pn**	14 14 23.8	**-0.9**
ERM	**Erimo**	**12.53**	**233**	Pn		**Pn**	14 14 23.8	**-0.9**
AMKA	**Amchitka**	**14.37**	**78**	Pn		**Pn**	14 14 51.3	**+2.4**
USRK	**Ussuriysk Ar.**	**17.74**	**259**	P		**Pn**	14 15 31.9	**+0.7**
	baz=60,slow=13,SNR=7.3							
ZEA	**Zeya**	**18.23**	**292**	*e*P		**Pn**	14 15 40.2	**+3.2**
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ZEA				pmax	pmax			
	comp=Z,28nm,1.4s							
BILL	**Bilibino**	**18.27**	**12**	↑*e*P		**P**	14 15 35.3	**-1.3**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BILL	**Bilibino**	**18.27**	**12**	P		**Pn**	14 15 37.4	**0.0**
BILL				IAmb	IAmb	14 15 50.1		
	comp=Z,24nm,1.2s							
YAK	**Yakutsk**	**18.73**	**318**	P		**Pn**	14 15 41.1	**-1.7**
	comp=Z,0.1nm,0.3s,baz=144,slow=5.1,SNR=17							
YAK	**Yakutsk**	**18.73**	**318**	*e*P		**Pn**	14 15 41.0	**-1.9**
YAK				*e*S		**Sn**	14 19 08.1	**-3.6**
YAK				pmax	pmax			
	comp=Z,39nm,1.4s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,7.0nm,0.8s							
YAK				smax	smax			
	comp=E,387nm,4.1s							
YAK				smax	smax			
	comp=N,825nm,5.1s							
YAK	**Yakutsk**	**18.73**	**318**	P		**P**	14 15 40.6	**-1.0**
MDJ	**Mudanjiang**	**19.06**	**263**	P		**P**	14 15 44.8	**-0.6**
MDJ				IAmb	IAmb	14 15 50.7		
	comp=Z,16nm,1.2s							
MJAR	**Matsushiro Arr**	**19.18**	**230**	P		**P**	14 15 46.8	**0.0**
	comp=Z,0.2nm,0.3s,baz=27,slow=7.3,SNR=17							
MJAR	**Matsushiro Arr**	**19.18**	**230**	P		**P**	14 15 47.5	**+0.7**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MJAR	**Matsushiro Arr**	**19.18**	**230**	P		**P**	14 15 47.5	**+0.7**
MAJO	**Matsushiro**	**19.18**	**230**	P		**P**	14 15 47.7	**+0.9**
MAJO				pmax	pmax			
	comp=Z,19nm,0.6s							
MAJO	**Matsushiro**	**19.18**	**230**	P		**P**	14 15 47.7	**+0.9**
MAT	**Matsushiro**	**19.18**	**230**	P		**P**	14 15 47.9	**+1.1**
KSRS	**Korea Array**	**24.18**	**248**	P		**P**	14 16 38.9	**+0.4**
	comp=Z,2.5nm,0.7s,baz=49,slow=9.7,SNR=11							
KSRS				LR		LR	14 24 51.7	
	comp=Z,34nm,20.7s,baz=295,slow=33							
TIXI	**Tiksi**	**24.66**	**339**	*i* P		**P**	14 16 41.5	**-0.9**
TIXI	**Tiksi**	**24.66**	**339**	P		**P**	14 16 39.7	**-2.7**
TIXI				IAmb	IAmb	14 17 04.0		
	comp=Z,14nm,0.8s							
JNU	**Nakatsue**	**25.62**	**237**	P		**P**	14 16 51.8	**+0.2**
	comp=Z,10nm,0.9s,baz=43,slow=1.7,SNR=6.5							
CHGN	**Chignik**	**27.09**	**60**	P		**P**	14 17 05.1	**+0.6**
TTA	**Tatalina**	**28.16**	**46**	P		**P**	14 17 13.9	**-0.1**
TTA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
TTA	**Tatalina**	**28.16**	**46**	P		**P**	14 17 13.9	**-0.1**
SVW2	**Sparrevohn**	**28.29**	**49**	P		**P**	14 17 16.9	**+1.6**
SVW2				IAmb	IAmb	14 17 40.4		
	comp=Z,12nm,1.2s							
SUA	**Susitna One**	**30.62**	**49**	P		**P**	14 17 35.5	**-0.4**
COLD	**Coldfoot**	**30.98**	**37**	P		**P**	14 17 38.8	**-0.1**
COLD				IAmb	IAmb	14 18 02.4		
	comp=Z,7.1nm,1.5s							
SEW	**Seward**	**31.37**	**51**	P		**P**	14 17 41.6	**-0.7**
H11N2	**WAKE ISLAND Hy**	**31.75**	**161**	T		T	14 51 29.2	
	baz=348,slow=76,SNR=246							
H11N1	**WAKE ISLAND Hy**	**31.77**	**161**	T		T	14 51 24.2	
	baz=348,slow=76,SNR=355							
H11N3	**WAKE ISLAND Hy**	**31.77**	**161**	T		T	14 51 31.1	
	baz=348,slow=76,SNR=99							
IL31		**32.24**	**42**	P		**P**	14 17 49.3	**-0.6**
ILAR	**Eielson Array**	**32.24**	**42**	P		**P**	14 17 49.5	**-0.5**
	comp=Z,1.0nm,0.7s,baz=260,slow=5.9,SNR=14							
ILAR	**Eielson Array**	**32.24**	**42**	P		**P**	14 17 49.8	**-0.2**
ILAR	**Eielson Array**	**32.24**	**42**	P		**P**	14 17 49.8	**-0.2**
HHC	**Hu-ho-hao-te**	**32.43**	**270**	*e*P		**P**	14 17 52.5	**+0.4**
HHC				pmax	pmax			
	comp=Z,15nm,0.8s							
HHC				pmax	pmax			
	comp=Z,55nm,7.2s							
TLY	**Talaya**	**32.66**	**293**	*i* P		**P**	14 17 52.8	**-1.1**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**32.90**	**162**	T		T	14 52 51.3	
	baz=348,slow=76,SNR=1156							
H11S3	**WAKE ISLAND Hy**	**32.91**	**162**	T		T	14 52 53.3	
	baz=348,slow=76,SNR=1201							
H11S2	**WAKE ISLAND Hy**	**32.92**	**162**	T		T	14 52 52.7	
	baz=348,slow=76,SNR=866							
EYAK	**Cordova Ski Ar**	**33.13**	**50**	P		**P**	14 17 57.6	**-0.2**
ZAK	**Zakamensk**	**33.33**	**291**	*e*P		**P**	14 17 59.9	**+0.1**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.5s							
DOT	**Dot Lake**	**33.54**	**44**	P		**P**	14 18 00.5	**-0.8**
DOT				IAmb	IAmb	14 18 13.0		
	comp=Z,4.5nm,1.2s							
MENT	**Mentasta**	**33.77**	**45**	P		**P**	14 18 03.6	**+0.2**
K27K	**Chicken**	**34.37**	**43**	P		**P**	14 18 08.6	**0.0**
K27K				IAmb	IAmb	14 18 35.6		
	comp=Z,5.5nm,1.2s							
EGAK	**Eagle**	**34.69**	**42**	P		**P**	14 18 10.8	**-0.4**
EGAK				IAmb	IAmb	14 18 16.4		
	comp=Z,3.2nm,0.8s							
HYT	**Haines Junctio**	**37.05**	**48**	P		**P**	14 18 32.4	**+0.8**
INK	**Inuvik**	**37.29**	**35**	P		**P**	14 18 34.1	**+0.7**
	comp=Z,1.1nm,0.5s,baz=300,slow=5.1,SNR=9.5							
INK	**Inuvik**	**37.29**	**35**	P		**P**	14 18 33.7	**+0.4**
INK				IAmb	IAmb	14 18 55.3		
	comp=Z,6.1nm,1.4s							
LZH	**Lanzhou**	**40.12**	**270**	*e*P		**P**	14 18 56.3	**-1.3**
LZH				pP	pP	14 19 19.0	+2.4	
LZH				sP	sP	14 19 30.5	+4.8	
LZH				pmax	pmax			
	comp=Z,17nm,1.4s							
ZALV	**Zalesovo Beam**	**42.37**	**304**	P		**P**	14 19 15.1	**-0.5**
	comp=Z,0.7nm,0.5s,baz=64,slow=6.8,SNR=2.6							
ZALV				PcP		**PcP**	14 21 07.6	**+0.1**
	comp=Z,0.4nm,0.3s,baz=62,slow=4.1,SNR=3.7							
DGZ	**Jazzator, Alta**	**42.87**	**297**	*i* P		**P**	14 19 19.3	**-0.7**
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
EUNU	**Eureka**	**45.02**	**13**	P		**P**	14 19 35.5	**-1.1**
EUNU				IAmb	IAmb	14 20 03.6		
	comp=Z,7.0nm,1.2s							
WMQ	**Urumqi**	**45.77**	**290**	*e*P		**P**	14 19 44.3	**+1.3**
KURK	**Kurchatov**	**47.26**	**302**	*i* P		**P**	14 19 53.4	**-1.1**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KURK	**Kurchatov**	**47.26**	**302**	P		**P**	14 19 53.4	**-1.1**
MK31	**Makanchi Array**	**47.31**	**296**	P		**P**	14 19 54.0	**-1.0**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MK31	**Makanchi Array**	**47.31**	**296**	P		**P**	14 19 54.0	**-1.0**
MKAR	**Makanchi Array**	**47.31**	**296**	P		**P**	14 19 53.9	**-1.1**
	comp=Z,0.5nm,0.3s,baz=58,slow=6.3,SNR=16							
MKAR				pP		**pP**	14 20 12.4	**-2.2**
	comp=Z,0.3nm,0.4s,baz=56,slow=5.4,SNR=2.0							
MKAR	**Makanchi Array**	**47.31**	**296**	P		**P**	14 19 53.8	**-1.2**
MAKZ	**Makanchi**	**47.49**	**296**	P		**P**	14 19 55.5	**-0.8**
MAKZ				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MAKZ	**Makanchi**	**47.49**	**296**	P		**P**	14 19 55.5	**-0.8**
SBLHI	**Steaming Bluff**	**48.97**	**111**	P		**P**	14 20 09.7	**+1.6**
BRVK	**Borovoye**	**50.33**	**309**	*i* P		**P**	14 20 17.5	**-0.5**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CHTO	**Chiang Mai**	**55.19**	**257**	P		**P**	14 20 55.5	**+1.3**
CHTO				pmax	pmax			
	comp=Z,13nm,0.7s							
CHTO	**Chiang Mai**	**55.19**	**257**	P		**P**	14 20 55.5	**+1.3**
CM31	**Chiang Mai Arr**	**55.46**	**257**	P		**P**	14 20 57.3	**+1.2**
CMAR	**Chiang Mai Arr**	**55.46**	**257**	P		**P**	14 20 57.4	**+1.3**
	comp=Z,8.3nm,0.7s,baz=32,slow=7.0,SNR=70							
CMAR				PcP		**PcP**	14

ISC 28 14:18:14.4±0.3, 25°41'S±0'05×179°68E±0'05, h500km, n278, σ1°50/307, mb4.6/76, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.37**	**151**	P	**P**	**14 19 38.3**	**+2.5**
RIZ				S	**S**	**14 20 48.0**	**+5.7**
RAO	**Raoul Island**	**4.38**	**151**	P	**P**	**14 19 37.4**	**+1.6**
	372nm,0.3s,baz=340,slow=4.9,SNR=28						
RAO				S	**S**	**14 20 45.9**	**+3.5**
	110nm,0.3s,baz=93,slow=22,SNR=1.7						
RAO	**Raoul Island**	**4.38**	**151**	P	**P**	**14 19 36.8**	**+0.9**
GLKZ	**Green Lake**	**4.39**	**151**	P	**P**	**14 19 37.2**	**+1.3**
GLKZ				S	**S**	**14 20 42.4**	**-0.1**
MSVF	**Nonsavu**	**7.79**	**348**	P	**P**	**14 20 07.8**	**-1.0**
OUZ	**Omahuta**	**11.10**	**207**	P	**P**	**14 20 46.9**	**+3.7**
OUZ	**Omahuta**	**11.10**	**207**	P	**P**	**14 20 42.2**	**-1.0**
GRZ	**Great Barrier**	**11.40**	**198**	P	**P**	**14 20 46.9**	**+0.5**
WCZ	**Waipu Caves**	**11.45**	**202**	P	**P**	**14 20 50.2**	**+3.2**
NIUE	**Niue**	**11.50**	**59**	P	**P**	**14 20 47.2**	**-0.5**
KUZ	**Kuaotunu**	**11.80**	**196**	P	**P**	**14 20 52.4**	**+1.8**
MXZ	**Matakaoa Point**	**12.17**	**185**	P	**P**	**14 20 53.9**	**-0.6**
AWAZ	**Awhitu Peninsu**	**12.39**	**199**	P	**P**	**14 20 58.5**	**+1.6**
DZM	**Mont Dzumac**	**12.57**	**283**	P	**P**	**14 21 00.2**	**+1.1**
	1.2nm,0.3s,baz=98,slow=14,SNR=19						
DZM				S	**S**	**14 23 18.4**	**+3.5**
	0.1nm,0.3s,baz=198,slow=22,SNR=4.6						
DZM	**Mont Dzumac**	**12.57**	**283**	*e*P	**P**	**14 21 00.7**	**+1.6**
	114nm,0.9s						
TOZ	**Tahuroa Road**	**12.79**	**195**	P	**P**	**14 21 03.4**	**+2.4**
URZ	**Urewera**	**12.99**	**189**	P	**P**	**14 21 02.1**	**-1.2**
	9.0nm,0.3s,baz=10,slow=2.1,SNR=40						
URZ				S	**S**	**14 23 20.0**	**-2.6**
	5.5nm,0.3s,baz=293,slow=19,SNR=9.4						
URZ	**Urewera**	**12.99**	**189**	P	**P**	**14 21 01.1**	**-2.2**
URZ				S	**S**	**14 23 20.8**	**-1.7**
HIZ	**Hauiti**	**13.69**	**196**	P	P	14 21 14.8	+4.2
BKZ	**Black Stump Fm**	**13.98**	**190**	P	**P**	**14 21 14.2**	**+0.5**
BKZ				S	**S**	**14 23 39.0**	**-2.6**
BKZ	**Black Stump Fm**	**13.98**	**190**	P	**P**	**14 21 12.7**	**-1.0**
AFI	**Afiamalu**	**13.98**	**37**	P	P	14 21 09.0	-5.1
KWHZ	**Kaweka Forest**	**14.24**	**190**	P	**P**	**14 21 16.3**	**-0.2**
KWHZ				S	**S**	**14 23 43.9**	**-2.8**
BHHZ	**Black Hill Sta**	**14.37**	**191**	P	**P**	**14 21 16.9**	**-0.9**
KAHZ	**Kahuranaki**	**14.54**	**189**	P	**P**	**14 21 19.3**	**-0.2**
KAHZ				S	**S**	**14 23 53.0**	**+0.7**
TSZ	**Takapari Road**	**14.94**	**191**	P	**P**	**14 21 23.2**	**-0.5**
DVHZ	**Dannevirke**	**15.14**	**190**	P	**P**	**14 21 25.3**	**-0.5**
DVHZ				S	**S**	**14 23 56.8**	**-7.0**
PRWZ	**Pori Road**	**15.42**	**191**	P	**P**	**14 21 28.7**	**0.0**
BFZ	**Birch Farm**	**15.50**	**190**	P	**P**	**14 21 26.6**	**-3.0**
MRZ	**Mangatainoka R**	**15.59**	**192**	P	**P**	**14 21 29.0**	**-1.5**
MRZ				S	**S**	**14 24 06.0**	**-6.4**
OGWZ	**Otaki Gorge**	**15.82**	**193**	P	**P**	**14 21 32.2**	**-0.7**
OGWZ				S	**S**	**14 24 12.5**	**-4.2**
HOWZ	**Holdsworth Sta**	**15.83**	**192**	P	**P**	**14 21 32.0**	**-1.0**
TMWZ	**Te Maipa**	**15.97**	**190**	P	**P**	**14 21 34.4**	**-0.1**
TMWZ				S	**S**	**14 24 16.9**	**-2.6**
CAW	**Cannon Point**	**16.12**	**193**	P	**P**	**14 21 35.5**	**-0.6**
CAW				S	**S**	**14 24 19.1**	**-3.2**
MSWZ	**Moikau Station**	**16.38**	**192**	P	**P**	**14 21 35.4**	**-3.4**
TCW	**Tory Channel**	**16.39**	**195**	P	**P**	**14 21 38.1**	**-0.7**
TCW				S	**S**	**14 24 25.1**	**-2.0**
SNZO	**South Karori**	**16.39**	**193**	P	**P**	**14 21 35.1**	**-3.8**
BHW	**Baring Head**	**16.45**	**193**	P	**P**	**14 21 39.0**	**-0.4**
BHW				S	**S**	**14 24 24.9**	**-3.3**
BHW	**Baring Head**	**16.45**	**193**	P	**P**	**14 21 35.1**	**-4.4**
QRZ	**Quartz Range**	**16.49**	**199**	P	**P**	**14 21 39.6**	**-0.3**
QRZ	**Quartz Range**	**16.49**	**199**	P	**P**	**14 21 39.0**	**-0.9**
PLWZ	**Palliser**	**16.53**	**192**	P	**P**	**14 21 39.2**	**-1.2**
PLWZ	**Palliser**	**16.53**	**192**	P	**P**	**14 21 38.4**	**-2.0**
NNZ	**Nelson**	**16.61**	**197**	P	**P**	**14 21 39.9**	**-1.2**
NNZ				S	**S**	**14 24 28.5**	**-2.5**
NNZ	**Nelson**	**16.61**	**197**	P	**P**	**14 21 39.2**	**-2.0**
TUWZ	**Tuamarina**	**16.67**	**195**	P	**P**	**14 21 41.3**	**-0.5**
TUWZ				S	**S**	**14 24 29.9**	**-2.2**
TUWZ	**Tuamarina**	**16.67**	**195**	P	**P**	**14 21 39.4**	**-2.4**
FUNA	**Funafuti**	**16.80**	**358**	P	**P**	**14 21 41.4**	**-2.1**
CMWZ	**Cape Campbell**	**16.91**	**194**	P	**P**	**14 21 43.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**16.96**	**195**	P	**P**	**14 21 44.8**	**+0.1**
BSWZ				S	**S**	**14 24 32.3**	**-4.8**
BSWZ	**Blackbirch Sta**	**16.96**	**195**	P	**P**	**14 21 41.1**	**-3.6**
THZ	**Tophouse**	**17.25**	**197**	P	**P**	**14 21 46.8**	**-0.9**
KHZ	**Kahutara**	**17.70**	**195**	P	**P**	**14 21 50.0**	**-1.7**
LTZ	**Lake Taylor**	**18.37**	**198**	P	**P**	**14 21 56.0**	**-1.9**
MQZ	**McQueen's Vall**	**19.13**	**196**	P	**P**	**14 22 03.4**	**-1.5**
RAR	**Rarotonga**	**19.33**	**82**	P	**P**	**14 22 06.9**	**-0.1**
	1.5nm,0.3s,baz=261,slow=8.7,SNR=4.3						
RAR	**Rarotonga**	**19.33**	**82**	P	**P**	**14 22 05.3**	**-1.6**
FOZ	**Fox Glacier**	**19.80**	**202**	P	**P**	**14 22 09.6**	**-1.3**
LBZ	**Lake Benmore**	**20.44**	**200**	P	**P**	**14 22 14.9**	**-1.9**
MLZ	**Mavora Lakes**	**21.99**	**202**	P	**P**	**14 22 30.2**	**-0.6**
MLZ				IAmb	IAmb	14 22 32.8	
	comp=Z,20nm,1.0s						
WHZ	**Wether Hill Ro**	**22.50**	**202**	P	**P**	**14 22 34.8**	**-0.6**
WHZ				IAmb	IAmb	14 23 02.9	
	comp=Z,39nm,1.3s						
HNR	**Honiara**	**24.58**	**307**	P	**P**	**14 22 53.6**	**-0.7**
	comp=Z,114nm,0.7s,baz=157,slow=4.0,SNR=8.8						
HNR	**Honiara**	**24.58**	**307**	P	**P**	**14 22 52.9**	**-1.4**
ARMA	**Armidale**	**25.25**	**252**	P	**P**	**14 23 01.5**	**+1.3**
ARMA				IAmb	IAmb	14 23 02.8	
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**25.82**	**264**	P	**P**	**14 23 04.0**	**-1.2**
TARA	**Tarawa**	**27.40**	**345**	P	**P**	**14 23 19.0**	**-0.2**
PAE	**Paea**	**29.57**	**81**	*e*P	**P**	**14 23 37.5**	**-0.6**
	comp=Z,6.4nm,1.0s						
PPT2	**Papeete2**	**29.60**	**81**	*e*P	**P**	**14 23 38.2**	**-0.3**
	comp=Z,41nm,1.1s						
PPT	**Papeete**	**29.60**	**81**	P	**P**	**14 23 39.1**	**+0.7**
	comp=Z,32nm,0.8s,baz=27,slow=7.4,SNR=6.3						
TIAR	**Tiarei**	**29.81**	**81**	*e*P	**P**	**14 23 40.0**	**-0.3**
	comp=Z,19nm,1.0s						
TVO	**Taravao**	**29.82**	**81**	*e*P	**P**	**14 23 39.8**	**-0.6**
	comp=Z,11nm,0.8s						
MEH	**Mehetia**	**30.85**	**82**	*e*P	**P**	**14 23 48.7**	**-0.5**
	comp=Z,19nm,1.3s						
CTA	**Charters Tower**	**31.22**	**273**	P	**P**	**14 23 53.6**	**+1.2**
	comp=Z,41nm,0.8s,baz=96,slow=11,SNR=70						
CTA				ScP	**ScP**	**14 29 29.6**	**+2.1**
	comp=Z,2.6nm,0.9s,baz=109,slow=2.3,SNR=3.2						
CTAO	**Charters Tower**	**31.22**	**273**	P	**P**	**14 23 53.0**	**+0.6**
PMOR	**Pomariorio Ree**	**32.07**	**77**	*e*P	**P**	**14 23 59.2**	**-0.5**
	comp=Z,67nm,1.0s						
VAH	**Vaihoa**	**32.21**	**78**	*e*P	**P**	**14 24 00.3**	**-0.6**
	comp=Z,56nm,1.1s						
STKA	**Stephens Creek**	**33.91**	**250**	P	**P**	**14 24 15.1**	**0.0**
	comp=Z,6.7nm,1.1s,baz=98,slow=11,SNR=4.9						
STKA				PcP	**PcP**	**14 26 40.8**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=112,slow=5.4,SNR=2.2						
STKA	**Stephens Creek**	**33.91**	**250**	P	**P**	**14 24 15.2**	**0.0**
PMG	**Port Moresby**	**34.74**	**291**	P	**P**	**14 24 22.6**	**+0.3**
	comp=Z,44nm,0.8s,baz=92,slow=4.7,SNR=13						
PMG	**Port Moresby**	**34.74**	**291**	P	**P**	**14 24 21.4**	**-0.9**
XMAS	**Kiritimati**	**35.16**	**42**	P	**P**	**14 24 25.4**	**-0.3**
BBOO	**Buckleboo**	**38.60**	**249**	P	**P**	**14 24 52.7**	**-1.3**
BBOO				IAmb	IAmb	14 24 53.2	
	comp=Z,26nm,1.4s						
AS31	**Alice Springs**	**41.52**	**262**	P	**P**	**14 25 17.3**	**-0.3**
ASAR	**Alice Springs**	**41.52**	**262**	P	**P**	**14 25 17.8**	**+0.1**
	comp=Z,22nm,1.0s,baz=90,slow=6.7,SNR=94						
ASAR				pP	**pP**	**14 26 46.8**	**-0.5**
	comp=Z,4.8nm,0.9s,baz=97,slow=8.1,SNR=6.5						
ASAR				ScP	**ScP**	**14 30 07.4**	**+1.5**
	comp=Z,1.3nm,1.1s,baz=94,slow=4.0,SNR=4.2						
ASAR				S	**S**	**14 30 55.4**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=100,slow=16,SNR=9.2						
ASAR	**Alice Springs**	**41.52**	**262**	P	**P**	**14 25 17.0**	**-0.6**
TAOE	**Nuku Hiva Isla**	**41.57**	**74**	*e*P	**P**	**14 25 17.2**	**-1.0**
	comp=Z,196nm,1.0s						
WR0	**Warramunga Arr**	**41.85**	**268**	P	**P**	**14 25 19.5**	**-0.7**
WR0				IAmb	IAmb	14 25 20.4	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**42.02**	**268**	P	**P**	**14 25 21.1**	**-0.5**
WB2				IAmb	IAmb	14 25 22.4	
	comp=Z,54nm,1.4s						
WRAB	**Tennant Creek**	**42.03**	**268**	P	**P**	**14 25 20.9**	**-0.7**
WRAB				IAmb	IAmb	14 25 22.3	
	comp=Z,46nm,1.3s						
WB0	**Warramunga Arr**	**42.03**	**268**	P	**P**	**14 25 21.1**	**-0.6**
WB0				IAmb	IAmb	14 25 22.3	
	comp=Z,32nm,1.1s						
WRA	**Warramunga Arr**	**42.03**	**268**	P	**P**	**14 25 21.4**	**-0.3**
	comp=Z,17nm,0.9s,baz=103,slow=8.0,SNR=101						
WRA				pP	**pP**	**14 26 52.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=105,slow=7.1,SNR=1.7						
WRA				ScP	**ScP**	**14 30 10.2**	**+2.4**
	comp=Z,3.9nm,1.1s,baz=107,slow=3.8,SNR=7.0						
WRA				S	**S**	**14 31 02.8**	**-1.6**
	comp=Z,3.5nm,0.9s,baz=98,slow=14,SNR=17						
WRA	**Warramunga Arr**	**42.03**	**268**	P	**P**	**14 25 20.4**	**-1.3**
WRA	**Warramunga Arr**	**42.03**	**268**		**ScP**	**14 30 10.3**	**+2.4**
WRA					**S**	**14 31 02.3**	**-2.1**
JAY	**Jayapura**	**43.86**	**295**	P	**P**	**14 25 36.0**	**-0.1**
	comp=Z,19nm,0.7s,baz=300,slow=12,SNR=6.5						
FORT	**Forrest**	**45.53**	**251**	P	**P**	**14 25 47.7**	**-1.0**
FORT				IAmb	IAmb	14 25 48.4	
	comp=Z,40nm,1.4s						
KNRA	**Kununurra**	**48.41**	**271**	P	**P**	**14 26 10.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.44**	**267**		**P**	**14 26 25.7**	**+0.1**
FITZ				IAmb	IAmb	14 26 27.0	
	comp=Z,16nm,0.8s						
KHLU	**Kahalu`u**	**50.65**	**30**	P	**P**	**14 26 27.7**	**+0.5**
HLP	**Hilina Pali**	**50.66**	**31**	P	**P**	**14 26 25.2**	**-2.1**
FAKI	**Fak Fak**	**50.76**	**288**	P	**P**	**14 26 26.4**	**-1.7**
FAKI				IAmb	IAmb	14 26 26.7	
	comp=Z,36nm,1.2s						
HUH	**Hualalai**	**50.76**	**30**	P	**P**	**14 26 26.8**	**-1.4**
HMH	**Humu`ula Sheep**	**50.85**	**31**	P	**P**	**14 26 29.0**	**+0.1**
VNDA	**Vanda**	**52.86**	**185**	P	**P**	**14 26 43.9**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=351,slow=2.0,SNR=5.9						
VNDA				ScP	**ScP**	**14 30 53.5**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=271,slow=7.6,SNR=2.9						
VNDA	**Vanda**	**52.86**	**185**	P	**P**	**14 26 43.5**	**+1.2**
MORW	**Morawa**	**56.09**	**251**	P	**P**	**14 27 05.3**	**-0.5**
JAGI	**Jajag, Banyuwa**	**64.33**	**273**	P	**P**	**14 27 59.7**	**-1.1**
QSPA	**South Pole Qui**	**64.68**	**180**	P	**P**	**14 28 03.7**	**+1.5**
	comp=Z,6.4nm,0.6s,baz=324,slow=0.7,SNR=76						
QSPA	**South Pole Qui**	**64.68**	**180**	P	**P**	**14 28 03.1**	**+0.8**
CISI	**Cisompet, Garu**	**70.43**	**271**	P	**P**	**14 28 37.5**	**-0.9**
MJAR	**Matsushiro Arr**	**72.97**	**326**	P	**P**	**14 28 52.6**	**0.0**
	comp=Z,16nm,0.9s,baz=159,slow=6.0,SNR=24						
MJAR	**Matsushiro Arr**	**72.97**	**326**	P	**P**	**14 28 51.7**	**-0.9**
MAJO	**Matsushiro**	**72.98**	**326**	P	**P**	**14 28 51.6**	**-1.0**
MAJO				IAmb	IAmb	14 28 53.5	
	comp=Z,25nm,1.0s						
MAT	**Matsushiro**	**72.98**	**326**	P	**P**	**14 28 52.4**	**-0.2**
MAW	**Mawson**	**76.24**	**201**	P	**P**	**14 29 11.7**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=131,slow=12,SNR=8.6						
MAW	**Mawson**	**76.24**	**201**	P	**P**	**14 29 11.0**	**+0.5**
ADK	**Adak**	**77.02**	**2**	P	**P**	**14 29 14.2**	**-0.7**
KSRS	**Korea Array**	**79.22**	**320**	P	**P**	**14 29 28.1**	**+1.0**
	comp=Z,6.6nm,0.7s,baz=135,slow=5.6,SNR=34						
KSAR	**Wonju Array Be**	**79.23**	**320**	P	**P**	**14 29 27.3**	**+0.2**
YSS	**Yuzh-Sakhalins**	**79.37**	**335**	P	**P**	**14 29 28.6**	**+0.9**
YSS				IAmb	IAmb	14 29 29.6	
	comp=Z,50nm,1.3s						
PETK	**Petropavlovsk-**	**80.49**	**347**	P	**P**	**14 29 34.0**	**+0.5**
	comp=Z,10nm,0.8s,baz=116,slow=7.9,SNR=16						
NJ2	**Nanjing**	**81.43**	**311**	*e*P	**P**	**14 29 40.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,230nm,0.5s						
USRK	**Ussuriysk Ar.**	**81.87**	**328**	P	**P**	**14 29 41.9**	**+1.2**
	comp=Z,3.3nm,0.7s,baz=126,slow=2.6,SNR=5.0						
USRK	**Ussuriysk Ar.**	**81.87**	**328**	P	**P**	**14 29 40.1**	**-0.6**
SCI2	**San Clemente I**	**82.63**	**48**	P	**P**	**14 29 46.3**	**+1.4**
	baz=233						
CIS	**Catalina Islan**	**82.97**	**48**	P	**P**	**14 29 47.9**	**+1.2**
	baz=233						
SNAA	**Sanae**	**83.17**	**179**	P	**P**	**14 29 46.8**	**-0.4**
VNA3	**Neumayer Olymp**	**83.39**	**177**	P	**P**	**14 29 48.2**	**+0.1**
KCPM	**Cahto Peak**	**83.61**	**40**	P	**P**	**14 29 49.5**	**-0.3**
KCPM				IAmb	IAmb	14 29 52.5	
	comp=Z,21nm,1.0s						
ARVC	**Arvin**	**83.72**	**46**	P	**P**	**14 29 51.4**	**+1.1**
	baz=233						
VNA2	**Neumayer--Watz**	**83.80**	**178**	P	**P**	**14 29 48.7**	**-1.5**
	baz=184,slow=5.2						
ESJX	**Sierra Juarez**	**83.84**	**50**	P	**P**	**14 29 51.3**	**0.0**
ESJX				IAmb	IAmb	14 29 54.2	
	comp=Z,13nm,1.1s						
KMRM	**Mail Ridge**	**83.88**	**40**	P	**P**	**14 29 52.7**	**+1.6**
KMRM				IAmb	IAmb	14 29 54.0	
	comp=Z,25nm,1.0s						
MURC	**Murrieta**	**83.91**	**48**	P	**P**	**14 29 52.5**	**+1.2**
	baz=234						
BFSC	**Mount Baldy Ra**	**83.97**	**48**	P	**P**	**14 29 52.7**	**+0.9**
	baz=234						
VES	**Vestal, Richgr**	**83.98**	**46**	P	**P**	**14 29 52.6**	**+1.0**
	baz=233						
MONP2	**Monument Peak**	**84.03**	**49**	P	**P**	**14 29 53.5**	**+1.4**
	baz=235,SNR=12						
RMX	**La Rumorosa**	**84.10**	**50**	P	**P**	**14 29 51.2**	**-1.2**
RMX				IAmb	IAmb	14 29 55.1	
	comp=Z,14nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**84.10**	**50**	P	**P**	**14 29 54.1**	**+1.7**
	baz=235,SNR=7.8						
EDW2	**Edwards Air Fo**	**84.13**	**47**	P	**P**	**14 29 53.6**	**+1.2**
	baz=234,SNR=9.2						
ISA	**Isabella, Lake**	**84.28**	**46**	P	**P**	**14 29 54.4**	**+1.2**
	baz=233,SNR=11						
ISA	**Isabella, Lake**	**84.28**	**46**	P	**P**	**14 29 53.2**	**+0.1**
ISA				IAmb	IAmb	14 29 55.5	
	comp=Z,19nm,0.9s						
O02D	**Mt. Diablo Mer**	**84.39**	**41**	P	**P**	**14 29 55.6**	**+1.9**
	baz=230,SNR=24						
PFO	**Pinyon Flats O**	**84.42**	**49**	P	**P**	**14 29 55.1**	**+1.2**
	comp=Z,8.4nm,1.1s,baz=235,slow=3.6,SNR=5.1						
PFO	**Pinyon Flats O**	**84.42**	**49**	P	**P**	**14 29 55.1**	**+1.2**
	baz=235						
PFO	**Pinyon Flats O**	**84.42**	**49**	P	**P**	**14 29 52.3**	**-1.6**
SWSC	**Sam W. Stewart**	**84.48**	**50**	P	**P**	**14 29 55.4**	**+1.3**
	baz=235						
CMB	**Columbia Colle**	**84.50**	**43**	P	**P**	**14 29 52.3**	**-1.9**
CMB				IAmb	IAmb	14 29 56.2	
	comp=Z,13nm,1.1s						
LRMC	**Laurel Mtn Rad**	**84.69**	**47**	P	**P**	**14 29 56.2**	**+1.0**
	baz=234,SNR=9.5						
AFDM	**Forest Hills D**	**84.70**	**42**	P	**P**	**14 29 53.5**	**-1.6**
ORV	**Oroville**	**84.76**	**42**	P	**P**	**14 29 53.9**	**-1.5**
WDC	**Whiskeytown Da**	**84.80**	**40**	P	**P**	**14 29 53.7**	**-1.8**
WDC				IAmb	IAmb	14 29 58.0	
	comp=Z,13nm,1.0s						
BELC	**Belle Mtn. Jos**	**84.95**	**49**	P	**P**	**14 29 58.1**	**+1.5**
	baz=235,SNR=13						
N02D	**Trinity Center**	**84.95**	**40**	P	**P**	**14 29 58.1**	**+1.8**
	baz=230,SNR=5.8						
CWC	**Cottonwood Cre**	**84.99**	**46**	P	**P**	**14 29 57.7**	**+0.9**
	baz=233						
O03E	**Paynes Creek**	**85.05**	**41**	P	**P**	**14 29 57.9**	**+1.1**
	baz=231						
MDPB	**Devils Postpil**	**85.07**	**44**	P	**P**	**14 29 55.3**	**-2.0**
BC3	**Big Chuckawall**	**85.13**	**49**	P	**P**	**14 29 58.9**	**+1.5**
	baz=235,SNR=6.1						
M02C	**Callahan**	**85.13**	**40**	P	**P**	**14 29 59.2**	**+2.0**
	baz=230,SNR=5.5						
MPMC	**Manual Prospec**	**85.15**	**46**	P	**P**	**14 29 58.4**	**+0.8**
	baz=234,SNR=8.4						
GSC	**Goldstone, Bar**	**85.16**	**47**	P	**P**	**14 29 58.6**	**+1.1**
	baz=234,SNR=9.1						
GSC	**Goldstone, Bar**	**85.16**	**47**	P	**P**	**14 29 56.4**	**-1.1**
GSC				IAmb	IAmb	14 29 59.7	
	comp=Z,19nm,1.2s						
HEC	**Hector,Ludlow**	**85.20**	**48**	P	**P**	**14 29 58.9**	**+1.2**
	baz=235,SNR=15						
GLA	**Glamis**	**85.22**	**50**	P	**P**	**14 29 59.6**	**+1.8**
	baz=236,SNR=5.9						
GLA	**Glamis**	**85.22**	**50**	P	**P**	**14 29 56.6**	**-1.2**
GLA				IAmb	IAmb	14 30 00.8	
	comp=Z,27nm,1.1s						
PIX	**Pinacate**	**85.35**	**52**	P	**P**	**14 29 57.2**	**-1.2**
PIX				IAmb	IAmb	14 30 00.9	
	comp=Z,12nm,1.0s						
WAKR	**Walker**	**85.37**	**43**	P	**P**	**14 29 57.9**	**-0.7**
WAKR				IAmb	IAmb	14 30 01.0	
	comp=Z,13nm,1.2s						
YBH	**Yreka Blue Hor**	**85.44**	**39**	P	**P**	**14 30 00.5**	**+1.8**
	comp=Z,4.3nm,0.9s,baz=196,slow=4.3,SNR=9.7						
YBH	**Yreka Blue Hor**	**85.44**	**39**	P	**P**	**14 29 58.0**	**-0.7**
IRM	**Iron Mountain**	**85.62**	**49**	P	**P**	**14 30 01.1**	**+1.4**
	baz=235,SNR=12						
GMRC	**Granite Mounta**	**85.63**	**48**	P	**P**	**14 30 00.9**	**+1.1**
	baz=235,SNR=5.9						
PNTR	**Pine Nut**	**85.63**	**43**	P	**P**	**14 30 00.7**	**+0.8**
PNTR				IAmb	IAmb	14 30 02.0	
	comp=Z,14nm,0.9s						
BEKR	**Beckworth**	**85.64**	**42**	P	**P**	**14 30 00.5**	**+0.6**
J01E	**Myrtle Point**	**85.67**	**38**	P	**P**	**14 30 01.1**	**+1.4**
	baz=229						
FURC	**Furnace Creek,**	**85.80**	**46**	P	**P**	**14 30 01.5**	**+1.1**
	baz=234						
LHV	**Little Huntoon**	**85.81**	**44**	P	**P**	**14 30 01.0**	**+0.6**
HSIG		**85.81**	**55**	P	**P**	**14 30 01.2**	**+0.5**
HSIG				IAmb	IAmb	14 30 03.0	
	comp=Z,27nm,1.2s						
TUQ	**Turquoise Moun**	**85.83**	**48**	P	**P**	**14 30 01.7**	**+0.9**
	baz=235,SNR=6.2						
SHOC	**Shoshone, Teco**	**85.86**	**47**	P	**P**	**14 30 01.8**	**+1.0**
	baz=235,SNR=5.4						
M04C	**Macdoel**	**85.97**	**40**	P	**P**	**14 30 02.5**	**+1.2**
	baz=231						
L04D	**Klamath Falls**	**85.98**	**39**	P	**P**	**14 30 02.7**	**+1.4**
	baz=230						
214A	**Organ Pipe Nat**	**86.03**	**52**	P	**P**	**14 30 03.5**	**+1.8**
	baz=237,SNR=5.6						
NVAR	**Mina Array Bea**	**86.04**	**44**	P	**P**	**14 30 03.0**	**+1.2**
	comp=Z,6.7nm,0.8s,baz=222,slow=8.7,SNR=44						
NVAR	**Mina Array Bea**	**86.04**	**44**	P	**P**	**14 30 02.1**	**+0.2**
NV11	**Mina Array Sit**	**86.13**	**44**	P	**P**	**14 30 02.4**	**+0.2**
PAHR	**Pah Rah Range**	**86.14**	**43**	P	**P**	**14 30 00.6**	**-1.6**
PAHR				IAmb	IAmb	14 30 04.1	
	comp=Z,8.1nm,0.8s						
PDMCI	**Parker Dam,Lak**	**86.39**	**49**	P	**P**	**14 30 04.8**	**+1.5**
	baz=236						
TPNV	**Topopah Spring**	**86.48**	**46**	P	**P**	**14 30 04.9**	**+1.0**
	baz=234						
TPNV	**Topopah Spring**	**86.48**	**46**	P	**P**	**14 30 03.5**	**-0.4**
TPNV				IAmb	IAmb	14 30 06.0	
	comp=Z,11nm,0.8s						
TPH	**Tonopah**	**86.51**	**45**	P	**P**	**14 30 03.5**	**-0.5**
KVN	**Kaiserville**	**86.54**	**44**	P	**P**	**14 30 04.2**	**0.0**
KVN				IAmb	IAmb	14 30 05.9	
	comp=Z,7.5nm,0.8s						
K04D	**Chiloquin, OR**	**86.55**	**39**	P	**P**	**14 30 05.6**	**+1.5**
	baz=231						
I04A	**Tendick Farm,**	**86.93**	**38**	P	**P**	**14 30 07.4**	**+1.7**
	baz=230						
MOD	**Modoc Plateau**	**86.94**	**40**	P	**P**	**14 30 06.4**	**+0.4**
MOD				IAmb	IAmb	14 30 08.1	
	comp=Z,12nm,1.0s						
SHPR	**Sheep Range**	**86.94**	**47**	P	**P**	**14 30 06.5**	**+0.4**
ENH	**Enshi**	**87.07**	**305**	P	**P**	**14 30 06.9**	**+0.2**
ENH				IAmb	IAmb	14 30 08.2	
	comp=Z,12nm,0.8s						
J05D	**Fort Rock, OR**	**87.26**	**39**	P	**P**	**14 30 09.1**	**+1.7**
	baz=231						
PLCA	**Paso Flores**	**87.43**	**134**	P	**P**	**14 30 09.9**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=248,slow=4.5,SNR=3.8						
PLCA	**Paso Flores**	**87.43**	**134**	IAmb	IAmb	14 30 10.3	
	comp=Z,4.4nm,0.9s						
PRN	**Pahroc Range**	**87.53**	**46**	P	**P**	**14 30 09.3**	**+0.5**
PRN				IAmb	IAmb	14 30 11.4	
	comp=Z,15nm,1.1s						
TUC	**Tucson**	**87.67**	**53**	P	**P**	**14 30 11.4**	**+1.9**
	baz=238						
TUC	**Tucson**	**87.67**	**53**	P	**P**	**14 30 10.3**	**+0.8**
TUC				IAmb	IAmb	14 30 12.7	
	comp=Z,17nm,1.0s						
R11A	**Troy Canyon, C**	**87.72**	**45**	P	**P**	**14 30 10.4**	**+0.7**
	baz=235						
I05D	**Terrebonne, OR**	**87.87**	**38**	P	**P**	**14 30 11.5**

baz=264
KKAR **Karatay Array** 120.53 307 PKHkP **PKPdf** 14 36 07.9 -0.8
ARCES **ARCESS Array B** 133.30 348 PKHkP PKPpre 14 36 25.4
comp=Z,6.8nm,1.1s,baz=43,slow=5.5,SNR=3.8
ARCES PKP **PKPdf** **14 36 32.7 +0.4**
comp=Z,2.1nm,0.7s,baz=11,slow=2.5,SNR=5.6
ARCES SKPbc **SKPbc** **14 39 14.2 +0.7**
comp=Z,3.4nm,0.6s,baz=32,slow=2.9,SNR=3.0
FINES **FINESS Array B** 139.77 341 PKHkP PKPpre 14 36 36.0
comp=Z,3.3nm,0.9s,baz=41,slow=6.1,SNR=6.3
FINES PKP **PKPdf** **14 36 45.9 +1.5**
comp=Z,4.4nm,0.9s,baz=54,slow=2.4,SNR=5.4
FINES SKPbc **SKPbc** **14 39 32.7 -0.1**
comp=Z,7.3nm,0.8s,baz=11,slow=3.9,SNR=9.2
MARD **Mardin** 143.22 299 PKPbc 14 36 49.9 +0.2
NC303 **NORSAR Array S** 143.32 351 PKPab 14 36 48.5 -0.2
NB201 **NORSAR Array S** 143.50 351 PKPab 14 36 49.2 -0.2
NB2 **NORSAR Subarra** 143.52 351 PKP PKPab 14 36 49.0 -0.6
comp=Z,3.7nm,0.5s,baz=16,slow=3.3
NOA **NORSAR Array B** 143.52 351 PKHkP PKPab 14 36 48.8 -0.7
comp=Z,8.2nm,0.8s,baz=21,slow=3.8,SNR=22
AKASG **Malin Array Be** 146.06 326 PKPbc **PKPbc** **14 36 57.0 -0.6**
AKASG **Malin Array Be** 146.06 326 **PKPbc** **14 36 56.9 -0.7**
BR131 **Keskin Array S** 148.23 305 **PKPab** **14 37 08.2 -0.7**
BRTR **Keskin Array B** 148.23 305 PKPbc **PKPbc** **14 37 03.9 -0.1**
comp=Z,1.4nm,0.5s,baz=135,slow=5.1,SNR=4.5
BRTR PKPab **PKPab** **14 37 09.3 +0.4**
comp=Z,5.5nm,0.7s,baz=118,slow=2.8,SNR=14
BRTR **Keskin Array B** 148.23 305 **PKPbc** **14 37 03.5 -0.5**
BRTR PKPab **PKPab** **14 37 08.8 -0.1**
CSS **Mathiatis** 149.51 296 **PKPbc** **14 37 06.3 -0.9**
CSS **PKPab** **14 37 13.4 -0.8**
BUR08 **Bucovina Ar. S** 150.02 324 **PKiKP** **14 37 08.8 +0.1**
BURAR **Bucovina Array** 150.03 324 **PKPbc** **14 37 08.2 +0.1**
CLL **Collm** 152.20 342 *i* PKPbc **PKiKP** **14 37 13.7 +0.8**
CLL *i* PKPab **PKPab** **14 37 25.0 +0.2**
comp=Z,7.0nm,0.9s
GERES **GERESS Array B** 154.16 338 PKPab **PKPab** **14 37 33.6 +0.2**
comp=Z,0.3nm,0.4s,baz=45,slow=3.3,SNR=3.5
ESDC **Sonseca Array** 165.45 11 PKPab **PKPab** **14 38 22.8 0.0**
comp=Z,1.6nm,1.0s,baz=328,slow=4.7,SNR=5.6
TORD **Torodi Ar. Bea** 167.66 189 PKP **PKPdf** **14 37 23.4 -0.2**
comp=Z,0.9nm,1.0s,baz=228,slow=1.8,SNR=3.6
TORD PKPab **PKPab** **14 38 33.0 0.0**
comp=Z,1.0nm,0.6s,baz=165,slow=2.7,SNR=6.4
TORD **Torodi Ar. Bea** 167.66 189 **PKPab** **14 38 32.6 -0.4**

MAN 28 14:39:19.6, 6.07N×124.60E, h4km, mb4.6, ML3.4, MS3.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.45**	**352**		*e*	P	Pg	14 39 29.2	+0.8
SKMP					*e*	S	Sb	14 39 36.5	-0.8
KCP	**Kidapawan**	**1.05**	**27**	⇓	*e*	P	Pb	14 39 40.7	+0.2
DDMP	**Don Marcelino,**	**1.10**	**88**		*e*	P	Pg	14 39 40.0	-0.7
DDMP					*e*	S	Sn	14 39 58.2	+0.7
BUKP	**Musuan**	**1.86**	**14**		*e*	P	Pn	14 39 51.7	-0.6
BUKP					*e*	S	Sn	14 40 16.4	+0.1
CGP	**Cagayan de Oro**	**2.37**	**2**	⇑	*e*	P	Pg	14 40 07.5	+2.3
CGP					*e*	S	Sb	14 40 31.8	-0.9

*NNC **28** 14:54:34.8±0.9, 41.12N×73.60E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=6.9km s-min=3.8km az=164.0*
*KRNET **28** 14:54:34.2±0.1, 41.12N×73.61E, h16km, mb2.3*
*SOME **28** 14:54:34.2, 41.13N×73.58E, h5km*
ISC 28 14:54:31.1±1.4, 41.01N±0.04×73.62E±0.03, h6km±14km, n36, σ971/60, 21C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.00**	**32**	⇑	*i*	P	**Pn**	**14 54 51.5**	**-0.4**
ARLS	baz=35			⇑	*i*	S	**Sb**	**14 55 04.4**	**-0.1**
AML	**Almayashu**	**1.12**	**3**	⇑	*i*	P	**Pn**	**14 54 53.6**	**-0.1**
AML	baz=4.0			⇑	*i*	S	**Sg**	**14 55 07.7**	**+0.4**
UCH	**Uchtor**	**1.39**	**28**	⇑	*i*	P	**Pg**	**14 54 58.6**	**+0.8**
UCH	baz=31			⇑	*i*	S	**Sg**	**14 55 16.7**	**+0.9**
EKS2	**Erkin-Say**	**1.66**	**4**	⇓	*i*	P	**Pg**	**14 55 03.0**	**+0.2**
EKS2	baz=5.0			⇓	*i*	S	**Sg**	**14 55 24.0**	**-0.3**
MNAS	**Manas**	**1.70**	**331**	⇑	*i*	P	**Pg**	**14 55 03.7**	**+0.1**
MNAS	baz=29			⇑	*i*	S	**Sg**	**14 55 25.7**	**0.0**
AAK	**Ala-Archa**	**1.75**	**22**	⇑	*e*	P	**Pg**	**14 55 05.0**	**+0.3**
AAK	baz=23			⇑	*i*	S	**Sg**	**14 55 27.4**	**0.0**
AAK	**Ala-Archa**	**1.75**	**22**			P	**Pg**	**14 55 05.2**	**+0.5**
AAK	1.2nm,0.3s					S	**Sg**	**14 55 27.5**	**0.0**
MRKS	**Merke**	**1.76**	**350**	⇑	*e*	P	**Pg**	**14 55 05.2**	**+0.3**
MRKS	4.1nm,0.1s				*e*	S	**Sb**	**14 55 26.8**	**+0.5**
MRKS	**Merke**	**1.76**	**350**			P	**Pg**	**14 55 05.2**	**+0.3**
MRKS	4.1nm,0.1s					S	**Sg**	**14 55 27.6**	**-0.1**
KBK	**Karagaybulak**	**1.92**	**31**	⇓	*i*	P	**Pg**	**14 55 08.2**	**+0.3**
KBK	baz=33			⇓	*i*	S	**Sg**	**14 55 32.9**	**+0.1**
CHMS	**Chumysh**	**2.16**	**23**	⇓	*i*	P	**Pg**	**14 55 11.5**	**-1.0**
CHMS	baz=24			⇓	*i*	S	**Sb**	**14 55 38.9**	**+1.3**
BOOM	**Boomskoye usch**	**2.28**	**49**	⇓	*i*	P	**Pg**	**14 55 13.9**	**-0.9**
BOOM	baz=51			⇓	*i*	S	**Sg**	**14 55 42.9**	**-1.4**
BTK	**Batken**	**2.34**	**247**	⇑	*i*	P	**Pg**	**14 55 16.0**	**+0.1**
BTK	baz=44			⇑	*i*	S	**Sg**	**14 55 46.5**	**+0.3**
USP	**Ospenovka**	**2.35**	**16**	⇑	*i*	P	**Pb**	**14 55 14.0**	**+0.1**
USP	baz=17			⇑	*i*	S	**Sb**	**14 55 43.5**	**+0.4**
TKM2	**Tokmak 2**	**2.41**	**37**	⇑	*e*	P	**Pb**	**14 55 15.5**	**+0.5**
TKM2	baz=39			⇑	*i*	S	**Sb**	**14 55 45.7**	**+0.6**
TKM2	**Tokmak 2**	**2.41**	**37**	⇓		Pg	**Pg**	**14 55 16.9**	**-0.4**
TKM2	1.7nm,0.6s			⇑		Lg	Lg	14 55 47.3	
SGDS	**Sogindy**	**2.55**	**17**			Pg	**Pg**	**14 55 19.3**	**-0.8**
SGDS	1.9nm,0.5s					Lg	Lg	14 55 51.4	
KST	**Kastek**	**2.68**	**40**		*e*	P	**Pg**	**14 55 22.5**	**+0.1**
KST	1.4nm,0.3s				*e*	S	**Sg**	**14 55 57.0**	**-0.1**
KST	**Kastek**	**2.68**	**40**			Pg	**Pg**	**14 55 22.5**	**+0.1**
KST	1.4nm,0.3s					Lg	Lg	14 55 57.6	
KDJ	**Kajisay**	**2.90**	**66**	⇑	*i*	P	**Pb**	**14 55 23.4**	**+0.2**
KDJ	baz=68			⇑	*i*	S	**Sb**	**14 55 58.1**	**-0.9**
IUG	**Iuzhnay**	**2.92**	**294**		*e*	P	**Pg**	**14 55 27.6**	**+0.4**
IUG	2.9nm,0.4s				*e*	S	**Sg**	**14 56 05.5**	**+0.5**
IUG	**Iuzhnay**	**2.92**	**294**			Pg	**Pg**	**14 55 27.6**	**+0.4**
IUG	2.9nm,0.4s					Lg	Lg	14 56 05.5	
KRBS	**Karabastau**	**3.09**	**29**		*e*	P	**Pg**	**14 55 29.6**	**-0.6**
KRBS	0.6nm,0.4s				*e*	S	**Sg**	**14 56 09.1**	**-1.1**
KRBS	**Karabastau**	**3.09**	**29**			Pg	**Pg**	**14 55 29.6**	**-0.6**
KRBS	0.6nm,0.4s					Lg	Lg	14 56 09.1	
KK31	**Karatay Array**	**3.12**	**313**	⇑		Pg	**Pg**	**14 55 29.5**	**-1.4**
KK31	0.9nm,0.6s,baz=136,slow=17,SNR=7.8					Lg	Lg	14 56 10.0	
TNSS	**Tian-Shan**	**3.20**	**50**		*e*	P	**Pg**	**14 55 32.9**	**+0.5**
TNSS	1.0nm,0.2s				*e*	S	**Sg**	**14 56 15.3**	**+1.4**
TNSS	**Tian-Shan**	**3.20**	**50**			Pg	**Pg**	**14 55 32.9**	**+0.5**
TNSS	1.0nm,0.2s					Lg	Lg	14 56 15.3	
MDOK	**Medeo**	**3.34**	**49**		*e*	P	**Pg**	**14 55 35.6**	**+0.6**
MDOK	0.5nm,0.3s				*e*	S	**Sg**	**14 56 19.7**	**+1.4**
MDOK	**Medeo**	**3.34**	**49**			Pg	**Pg**	**14 55 35.6**	**+0.6**
MDOK	0.5nm,0.3s					Lg	Lg	14 56 19.7	
KOTS	**Kotyrbulak**	**3.42**	**48**		*e*	P	**Pg**	**14 55 36.8**	**+0.2**
KOTS	2.3nm,0.4s				*e*	S	**Sg**	**14 56 21.5**	**+0.6**
KOTS	**Kotyrbulak**	**3.42**	**48**			Pg	**Pg**	**14 55 36.8**	**+0.2**
KOTS	2.3nm,0.4s					Lg	Lg	14 56 21.5	
BRLS	**Borolday**	**3.47**	**307**		*e*	P	**Pg**	**14 55 36.8**	**-0.8**
BRLS	25nm,0.4s				*e*	S	**Sg**	**14 56 21.3**	**-1.1**
BRLS	**Borolday**	**3.47**	**307**			Pg	**Pg**	**14 55 36.8**	**-0.8**
BRLS	25nm,0.4s					Lg	Lg	14 56 21.3	
KTBS	**Karatobe**	**3.53**	**39**		*e*	P	**Pg**	**14 55 37.8**	**-0.9**
KTBS	2.1nm,1.2s				*e*	S	**Sg**	**14 56 23.4**	**-1.0**
KTBS	**Karatobe**	**3.53**	**39**			Pg	**Pg**	**14 55 37.8**	**-0.9**
KTBS	2.1nm,1.2s					Lg	Lg	14 56 23.4	
UZB	**Uzynbulak**	**4.55**	**60**			Pg	**Pg**	**14 55 56.8**	**-1.4**
UZB	4.1nm,1.4s					Lg	Lg	14 56 55.9	
SKR	2.2nm,0.8s								
SKR	**Severo-Kuril's**	**8.69**	**257**		*e*	PN	**Pn**	**15 10 17.2**	**-1.1**
SKR	comp=Z,60nm,0.7s					pmax	pmax		
SKR	comp=Z,200nm,12.0s					MLR	MLR		
GSTR	**Great Sitkin T**	**8.86**	**93**			Pn	**Pn**	**15 10 18.4**	**-2.4**
ATKA	**Atka Island**	**9.95**	**91**			Pn	**Pn**	**15 10 33.3**	**-2.3**
SEY	**Seymchan**	**13.08**	**323**			Pn	**Pn**	**15 11 18.9**	**+0.7**
SEY	comp=Z,0.2nm,0.3s,baz=121,slow=10,SNR=6.4					LR	LR	15 16 06.3	
BILL	**Bilibino**	**14.74**	**355**		*de*	P	**Pn**	**15 11 42.3**	**+1.4**
BILL						*e*S	**Sn**	**15 14 24.0**	**+1.3**
BILL	comp=Z,16nm,0.6s					pmax	pmax		
BILL	comp=Z,370nm,16.0s					MLR	MLR		
BILL	**Bilibino**	**14.74**	**355**			P	**P**	**15 11 44.0**	**-2.5**
SVW2	**Sparrevohn**	**20.17**	**54**			P	**P**	**15 12 46.0**	**-0.3**
TTA	**Tatalina**	**20.27**	**48**			P	**P**	**15 12 47.4**	**-0.1**
TTA	comp=Z,15nm,1.0s					pmax	pmax		
TTA	**Tatalina**	**20.27**	**48**			P	**P**	**15 12 47.4**	**-0.1**
OHAK	**Old Harbor**	**21.33**	**65**			P	**P**	**15 12 58.9**	**+0.1**
OHAK	comp=Z,33nm,1.1s					IAmb	IAmb	15 13 23.7	
PPLA	**Purkeypile**	**21.99**	**49**			P	**P**	**15 13 07.6**	**+1.6**
PPLA	comp=Z,48nm,1.4s					IAmb	IAmb	15 13 17.9	
YAK	**Yakutsk**	**22.59**	**308**			P	**P**	**15 13 11.4**	**-0.9**
YAK	comp=Z,59nm,0.8s,baz=288,slow=0.7,SNR=35					LR	LR	15 22 21.2	
YAK	**Yakutsk**	**22.59**	**308**		*e*	P	**P**	**15 13 11.2**	**-1.1**
YAK					*e*	*P	**pP**	**15 13 17.5**	**-3.3**
YAK	comp=Z,285nm,18.2s,baz=91,slow=38				*e*			15 13 28.6	
YAK					*e*	S	**S**	**15 17 16.8**	**-0.5**
YAK					*e*	*SS	Sn	15 17 52.0	+20
YAK	comp=Z,143nm,1.0s					pmax	pmax		
YAK	comp=N,12nm,1.0s					pmax	pmax		
YAK	comp=E,66nm,1.4s					pmax	pmax		
YAK	comp=Z,933nm,6.4s					pmax	pmax		
YAK	comp=N,730nm,5.3s					pmax	pmax		
YAK	comp=E,277nm,4.4s					smax	smax		
YAK	comp=N,309nm,4.3s					smax	smax		
YAK	comp=E,198nm,4.4s					MLR	MLR		
YAK	comp=Z,438nm,24.0s					MLR	MLR		
YAK	comp=E,193nm,16.0s								
YAK	**Yakutsk**	**22.59**	**308**			P	**P**	**15 13 10.9**	**-1.4**
COLD	**Coldfoot**	**23.70**	**39**			P	**P**	**15 13 22.3**	**-1.1**
COLA	**College**	**24.16**	**45**			P	**P**	**15 13 27.8**	**+0.1**
COLA	comp=Z,17nm,0.8s					pmax	pmax		
COLA	**College**	**24.16**	**45**			P	**P**	**15 13 27.8**	**+0.1**
COLA	comp=Z,17nm,0.8s					IAmb	IAmb	15 13 30.0	
IL31		**24.56**	**45**			P	**P**	**15 13 28.9**	**-2.3**
IL31	comp=Z,20nm,1.4s					IAmb	IAmb	15 13 43.1	
ILAR	**Eielson Array**	**24.56**	**45**			P	**P**	**15 13 29.5**	**-1.8**
ILAR	comp=Z,2.0nm,0.7s,baz=251,slow=7.1,SNR=22					S	**S**	**15 17 44.4**	**-5.1**
ILAR	comp=Z,0.2nm,0.5s,baz=258,slow=28,SNR=1.8					LR	LR	15 24 26.5	
ILAR	**Eielson Array**	**24.56**	**45**			P	**P**	**15 13 29.2**	**-2.1**
IL18	**Eielson Array**	**24.60**	**45**			P	**P**	**15 13 29.6**	**-2.1**
EYAK	**Cordova Ski Ar**	**24.97**	**56**			P	**P**	**15 13 32.5**	**-2.5**
EYAK	comp=Z,21nm,1.3s					IAmb	IAmb	15 14 01.5	
TIXI	**Tiksi**	**25.34**	**331**		*ce*	P	**P**	**15 13 39.0**	**+0.7**
TIXI	comp=Z,135nm,0.8s					pmax	pmax		
TIXI	**Tiksi**	**25.34**	**331**			P	**P**	**15 13 38.8**	**+0.5**
DOT	**Dot Lake**	**25.71**	**48**			P	**P**	**15 13 41.3**	**-0.6**
DOT	comp=Z,15nm,0.8s					IAmb	IAmb	15 13 53.2	
USRK	**Ussuriysk Ar.**	**26.09**	**265**			P	**P**	**15 13 45.5**	**+0.1**
USRK	comp=Z,5.9nm,0.8s,baz=56,slow=8.8,SNR=11					LR	LR	15 24 26.5	
USRK	comp=Z,51nm,21.5s,baz=43,slow=37 **Ussuriysk Ar.**	**26.09**	**265**			P	**P**	**15 13 45.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**26.09**	**265**			P	**P**	**15 13 45.9**	**+0.5**
K27K	**Chicken**	**26.60**	**47**			P	**P**	**15 13 47.8**	**-2.0**
EGAK	**Eagle**	**27.01**	**46**			P	**P**	**15 13 51.4**	**-2.0**
MDJ	**Mudanjiang**	**27.30**	**267**			P	**P**	**15 13 56.8**	**+0.6**
MDJ	comp=Z,14nm,1.2s					IAmb	IAmb	15 14 00.8	
MJAR	**Matsushiro Arr**	**27.52**	**245**			P	**P**	**15 14 00.6**	**+2.2**
EPYK	comp=Z,1.3nm,1.0s,baz=284,slow=24,SNR=2.9 **Eagle Plains**	**28.87**	**42**			P	**P**	**15 14 09.1**	**-1.0**
EPYK	comp=Z,8.3nm,0.7s					IAmb	IAmb	15 14 12.6	
HYT	**Haines Junctio**	**28.97**	**54**			P	**P**	**15 14 10.3**	**-0.8**
INK	**Inuvik**	**30.12**	**38**			P	**P**	**15 14 20.2**	**-0.9**
INK	comp=Z,2.8nm,0.7s,baz=279,slow=7.2,SNR=12 **Inuvik**	**30.12**	**38**			P	**P**	**15 14 20.2**	**-0.9**
CN2	**Changchun**	**30.23**	**270**		*e*	P	**P**	**15 14 22.5**	**+0.2**
CN2	comp=Z,20nm,0.7s					pmax	pmax		
BOD	**Bodaibo**	**30.88**	**301**		*e*	P	**P**	**15 14 28.0**	**+0.1**
BOD	comp=Z,15nm,1.0s					pmax	pmax		
KSRS	**Korea Array**	**32.71**	**258**			P	**P**	**15 14 46.3**	**+2.1**
KSRS	comp=Z,3.1nm,1.0s,baz=46,slow=8.9,SNR=8.3					LR	LR	15 29 21.7	
H11N2	comp=Z,42nm,18.0s,baz=38,slow=39 **WAKE ISLAND Hy**	**33.69**	**184**			T	T	15 50 54.6	
H11N3	baz=3.4,slow=76,SNR=233 **WAKE ISLAND Hy**	**33.71**	**184**			T	T	15 50 55.1	
H11N1	baz=3.4,slow=76,SNR=255 **WAKE ISLAND Hy**	**33.71**	**184**			T	T	15 50 57.3	
H11S1	baz=3.4,slow=76,SNR=235 **WAKE ISLAND Hy**	**34.92**	**185**			T	T	15 52 26.7	
H11S3	baz=3.2,slow=76,SNR=354 **WAKE ISLAND Hy**	**34.93**	**185**			T	T	15 52 32.8	
H11S2	baz=3.2,slow=76,SNR=154 **WAKE ISLAND Hy**	**34.94**	**185**			T	T	15 52 28.7	
TLY	baz=3.2,slow=76,SNR=298 **Talaya**	**38.80**	**295**		*i*	P	**P**	**15 15 37.3**	**+1.1**
TLY	comp=Z,7.0nm,1.2s					pmax	pmax		
NRIK	**Noril'sk**	**38.85**	**326**			P	**P**	**15 15 36.7**	**+0.3**
NRIK	comp=Z,3.6nm,0.7s,baz=84,slow=11,SNR=7.0					LR	LR	15 32 36.1	
NRIK	comp=Z,220nm,19.1s,baz=20,slow=38 **Noril'sk**	**38.85**	**326**		*ce*	P	**P**	**15 15 37.0**	**+0.6**
NRIK	comp=Z,8.0nm,1.2s					pmax	pmax		
YKA	**Yellowknife Ar**	**38.99**	**46**			P	**P**	**15 15 37.1**	**-0.6**
YKA	comp=Z,0.9nm,0.4s,baz=294,slow=6.5,SNR=5.1 **Yellowknife Ar**	**38.99**	**46**		*ce*	P	**P**	**15 15 36.7**	**-0.9**
YKA	comp=Z,1.0nm,0.4s					pmax	pmax		
SONM	**Songino Array**	**39.24**	**288**			P	**P**	**15 15 41.3**	**+1.2**
SONM	comp=Z,4.6nm,0.7s,baz=61,slow=8.6,SNR=11					LR	LR	15 33 11.9	
SONM	comp=Z,107nm,18.1s,baz=47,slow=38 **Songino Array**	**39.24**	**288**			P	**P**	**15 15 40.8**	**+0.7**
ZAK	**Zakamensk**	**39.65**	**293**		*e*	P	**P**	**15 15 44.5**	**+1.1**
ZAK	comp=Z,4.0nm,1.3s					pmax	pmax		
EUNU	**Eureka**	**40.21**	**15**			P	**P**	**15 15 48.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**40.27**	**276**		*e*	P	**P**	**15 15 50.8**	**+2.1**
HHC	comp=Z,9.0nm,0.8s					pmax	pmax		
HHC	comp=Z,150nm,6.7s					pmax	pmax		
RES	**Resolute Bay**	**40.81**	**24**			P	**P**	**15 15 52.0**	**-0.6**
RES	comp=Z,5.0nm,1.0s					pmax	pmax		
RES	**Resolute Bay**	**40.81**	**24**			P	**P**	**15 15 52.0**	**-0.6**
NJ2	**Nanjing**	**41.81**	**260**		*e*	P	**P**	**15 16 03.5**	**+2.2**
NJ2	comp=Z,9.0nm,0.5s					pmax	pmax		
JCC	**Jacoby Creek,**	**45.34**	**78**			P	**P**	**15 16 31.4**	**+1.8**
MOD	**Modoc Plateau**	**46.81**	**74**			P	**P**	**15 16 41.8**	**+0.3**
MOD						IAmb	IAmb	15 16 52.3	

*IDC **28** 15:08:10.6±0.6, 53.54N×169.61E, h0km, mb4.3/28, mb1 4.5/29, mb1mx4.4/45, mbtmp4.3/29, ML3.8/1, MS3.8/18, Ms1 3.8/18, ms1mx3.6/36, Error ellipse: s-maj=16.2km s-min=11.5km az=157.0*
*BJI **28** 15:08:11.0±0.0, 53.73N×169.60E, h18km, mB5.1/34, mb4.7/46, Ms4.7/12, Ms7 4.4/11*
*MOS **28** 15:08:13.8±0.9, 53.42N×169.48E, h39km, mb4.9/33, MS3.9/4, Error ellipse: s-maj=6.6km s-min=4.4km az=132.6*
*NEIC **28** 15:08:15.3±1.4, 53.6N±0.1×169.6E±0.1, h30km±4km, mb4.7/110, Error ellipse: s-maj=15.1km s-min=9.2km az=177.0*
*KRSC **28** 15:08:16.7±2.3, 53.38N×168.91E, h66km±27km, ML4.9*
ISC 28 15:08:15.2±0.4, 53.43N±0.06×169.50E±0.04, h35km, n355, σ1836/361, mb4.7/101, MS3.9/22, 14C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.73**	**312**		*e*	P	**Pn**	**15 08 59.1**	**+2.7**
BKI	**Bering**	**2.73**	**312**			PN	**Pn**	**15 08 59.1**	**+2.7**
KBTR	**Krutoberegovo**	**4.76**	**308**		*e*	P	**Pn**	**15 09 24.4**	**0.0**
KBTR	**Krutoberegovo**	**4.76**	**308**			PN	**Pn**	**15 09 24.4**	**0.0**
SMKR	**Semkarok**	**5.60**	**308**		*e*	P	**Pn**	**15 09 37.5**	**+1.5**
SMKR	**Semkarok**	**5.60**	**308**			PN	**Pn**	**15 09 37.5**	**+1.5**
KZV	**Kizimen**	**5.65**	**291**		*e*	P	**Pn**	**15 09 36.7**	**-0.1**
KZV					*e*	S	**Sn**	**15 10 36.3**	**-4.1**
KZV	**Kizimen**	**5.65**	**291**			PN	**Pn**	**15 09 36.7**	**-0.1**
ZLN	**Zelenaya**	**5.67**	**301**		*e*	P	**Pn**	**15 09 38.1**	**+1.2**
ZLN	**Zelenaya**	**5.67**	**301**			PN	**Pn**	**15 09 38.1**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**5.69**	**300**		*e*	P	**Pn**	**15 09 38.3**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**5.69**	**300**			PN	**Pn**	**15 09 38.3**	**+1.0**
SPN	**Mys Shipunski**	**5.70**	**270**		*e*	P	**Pn**	**15 09 36.8**	**-0.4**
SPN					*e*	S	**Sn**	**15 10 35.5**	**-5.8**
SPN	**Mys Shipunski**	**5.70**	**270**			PN	**Pn**	**15 09 36.8**	**-0.4**
LGNR	**Loginova**	**5.75**	**301**		*e*	P	**Pn**	**15 09 39.8**	**+1.5**
LGNR	**Loginova**	**5.75**	**301**			PN	**Pn**	**15 09 39.8**	**+1.5**
TUMR	**Tumrok**	**5.78**	**293**		*e*	P	**Pn**	**15 09 39.1**	**+0.7**
TUMR	**Tumrok**	**5.78**	**293**			PN	**Pn**	**15 09 39.1**	**+0.7**
SRKR	**Sorokina**	**5.78**	**307**		*e*	P	**Pn**	**15 09 40.1**	**+1.7**
SRKR	**Sorokina**	**5.78**	**307**			PN	**Pn**	**15 09 40.1**	**+1.7**
BZMR	**Bezymyannaya**	**5.80**	**299**		*e*	P	**Pn**	**15 09 39.9**	**+1.1**
BZMR	**Bezymyannaya**	**5.80**	**299**			PN	**Pn**	**15 09 39.9**	**+1.1**
BZWR	**Bezymyannyi-We**	**5.80**	**300**		*e*	P	**Pn**	**15 09 40.1**	**+1.2**
BZWR	**Bezymyannyi-We**	**5.80**	**300**			PN	**Pn**	**15 09 40.1**	**+1.2**
KMNR	**Kamenistaya**	**5.87**	**297**		*e*	P	**Pn**	**15 09 40.5**	**+0.8**
KMNR	**Kamenistaya**	**5.87**	**297**			PN	**Pn**	**15 09 40.5**	**+0.8**
KLY	**Klyuchi**	**5.87**	**303**		*e*	P	**Pn**	**15 09 39.2**	**-0.4**
KLY	**Klyuchi**	**5.87**	**303**			PN	**Pn**	**15 09 39.2**	**-0.4**
KII	**Karymskiy**	**6.00**	**280**		*e*	P	**Pn**	**15 09 41.6**	**+0.2**
KII	**Karymskiy**	**6.00**	**280**			PN	**Pn**	**15 09 41.6**	**+0.2**
NLC	**Nalytchevo**	**6.09**	**272**		*e*	S	**Sn**	**15 10 47.9**	**-3.2**
AMKA	**Amchitka**	**6.34**	**105**			Pn	**Pn**	**15 09 46.6**	**+0.4**
SRDR	**Sredinnyy**	**6.34**	**301**		*e*	P	**Pn**	**15 09 47.9**	**+1.7**
SRDR	**Sredinnyy**	**6.34**	**301**			PN	**Pn**	**15 09 47.9**	**+1.7**
SDLR	**Sedlovina**	**6.36**	**273**		*e*	P	**Pn**	**15 09 46.4**	**0.0**
SDLR	**Sedlovina**	**6.36**	**273**			PN	**Pn**	**15 09 46.4**	**0.0**
UGLR	**Uglovaya**	**6.40**	**272**		*e*	P	**Pn**	**15 09 47.4**	**+0.4**
UGLR	**Uglovaya**	**6.40**	**272**			PN	**Pn**	**15 09 47.4**	**+0.4**
SMAR	**Somma**	**6.41**	**273**		*e*	P	**Pn**	**15 09 47.3**	**+0.1**
SMAR	**Somma**	**6.41**	**273**			PN	**Pn**	**15 09 47.3**	**+0.1**
KRER	**Koryakskii**	**6.43**	**273**		*e*	P	**Pn**	**15 09 47.8**	**+0.2**
KRER	**Koryakskii**	**6.43**	**273**			PN	**Pn**	**15 09 47.8**	**+0.2**
DALK	**Dalny**	**6.46**	**271**		*e*	P	**Pn**	**15 09 48.0**	**+0.2**
DALK					*e*	S	**Sn**	**15 10 55.5**	**-4.7**
DALK	**Dalny**	**6.46**	**271**			PN	**Pn**	**15 09 48.0**	**+0.2**
KRX	**Arik**	**6.49**	**274**		*e*	P	**Pn**	**15 09 48.5**	**+0.2**
KRX	**Arik**	**6.49**	**274**			PN	**Pn**	**15 09 48.5**	**+0.2**
KOK	**Koryaka**	**6.50**	**273**		*e*	P	**Pn**	**15 09 48.7**	**+0.3**
KOK	**Koryaka**	**6.50**	**273**			PN	**Pn**	**15 09 48.7**	**+0.3**
PET	**Petropavlovsk**	**6.53**	**271**		*e*	P	**Pn**	**15 09 48.9**	**+0.3**
PET					*e*	S	**Sn**	**15 10 57.6**	**-4.1**
PET	**Petropavlovsk**	**6.53**	**271**		*e*	PN	**Pn**	**15 09 49.2**	**+0.6**
PET	**Petropavlovsk**	**6.53**	**271**				**Pn**	**15 09 49.0**	**+0.3**
RUS	**Russkaya**	**6.72**	**266**		*e*	P	**Pn**	**15 09 51.4**	**+0.2**
RUS					*e*	S	**Sn**	**15 11 00.7**	**-5.7**
RUS	**Russkaya**	**6.72**	**266**			PN	**Pn**	**15 09 51.4**	**+0.2**
ESO	**Esso**	**6.74**	**296**		*e*	P	**Pn**	**15 09 51.9**	**+0.3**
ESO	**Esso**	**6.74**	**296**			PN	**Pn**	**15 09 51.9**	**+0.3**
OSSR	**Ossora**	**6.84**	**331**		*e*	P	**Pn**	**15 09 55.9**	**+3.0**
OSSR	**Ossora**	**6.84**	**331**

comp=Z,5.8nm,0.9s
ZALV Zalesovo Beam 47.23 307 P **P** **15 16 43.9 -0.4**
comp=Z,0.9nm,0.5s,baz=75,slow=6.3,SNR=6.8
ZALV PcP **PcP** **15 18 15.8 +0.8**
comp=Z,1.3nm,0.7s,baz=64,slow=3.4,SNR=3.5
ZALV LR LR 15 37 18.7
comp=Z,96nm,21.0s,baz=70,slow=37
ZALV Zalesovo Beam 47.23 307 *i* P **P** **15 16 44.2 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 47.23 307 P **P** **15 16 43.8 -0.6**
SPA0 Spitsbergen Ar 47.63 353 P **P** **15 16 47.2 +0.1**
LZH Lanzhou 47.96 276 *e*P **P** **15 16 52.0 +1.6**
LZH pP pP 15 17 02.0 +2.1
LZH sP sP 15 17 05.8 +2.1
LZH pmax pmax
comp=Z,26nm,1.1s
GTA Gaotai 48.12 283 ⇑P **P** **15 16 53.0 +1.4**
GTA pP pP 15 17 03.3 +2.2
GTA sP sP 15 17 07.0 +2.1
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,90nm,7.3s
GTA LR LR
comp=Z,180nm,14.5s
GTA LR LR
comp=Z,190nm,14.9s
GTA LR LR
comp=Z,350nm,16.7s
MFID Camas Ranch 48.40 70 P **P** **15 16 53.8 +0.1**
DGZ Jazzator, Alta 48.47 301 *i* P **P** **15 16 55.0 +0.8**
DGZ pmax pmax
comp=Z,7.0nm,1.5s
ENH Enshi 48.65 266 P **P** **15 16 56.3 +0.7**
PNTR Pine Nut 49.05 77 P **P** **15 16 58.2 -0.6**
PNTR lAmb lAmb 15 17 16.9
comp=Z,7.5nm,0.7s
HLID Hailey 49.10 69 P **P** **15 16 59.0 -0.1**
WAKR Walker 49.53 77 P **P** **15 17 03.0 +0.5**
WAKR lAmb lAmb 15 17 28.1
comp=Z,6.8nm,1.3s
FCC Fort Churchill 49.54 43 P **P** **15 17 01.9 -0.1**
FCC pmax pmax
comp=Z,40nm,1.2s
FCC Fort Churchill 49.54 43 P **P** **15 17 01.9 -0.1**
YHL Hebgen Lake 50.06 66 P **P** **15 17 06.5 -0.1**
YHB Horse Butte 50.12 66 P **P** **15 17 07.1 +0.2**
NVAR Mina Array Bea 50.24 77 P **P** **15 17 08.2 +0.3**
comp=Z,1.0nm,0.7s,baz=292,slow=7.9,SNR=7.1
NVAR Mina Array Bea 50.24 77 P **P** **15 17 08.0 +0.1**
YHH Holmes Hill 50.28 66 P **P** **15 17 07.4 -0.8**
ELK Elko 50.47 72 P **P** **15 17 09.2 -0.4**
ELK pmax pmax
comp=Z,7.0nm,1.5s
ELK Elko 50.47 72 P **P** **15 17 09.2 -0.4**
YNE Yellowstone No 50.60 65 P **P** **15 17 10.4 -0.2**
FLWY Flagg Ranch 50.82 66 P **P** **15 17 12.6 +0.4**
FLWY lAmb lAmb 15 17 25.5
comp=Z,6.7nm,0.8s
RLMT Red Lodge 50.92 64 P **P** **15 17 13.3 +0.3**
RLMT lAmb lAmb 15 17 26.3
comp=Z,9.3nm,1.2s
ZSN Zaisan 51.21 300 *e*P **P** **15 17 14.2 -0.7**
ZSN Zaisan 51.21 300 *e*P **P** **15 17 14.2 -0.7**
CD2 Chengdu 51.62 272 P **P** **15 17 19.8 +1.6**
CD2 pP pwP 15 17 30.0 -1.2
CD2 pmax pmax
comp=Z,200nm,4.7s
WMQ Urumqi 52.08 295 *e*P **P** **15 17 23.8 +2.4**
WMQ pmax pmax
comp=Z,23nm,4.1s
KURK Kurchatov 52.22 306 *ce*P **P** **15 17 22.4 +0.1**
KURK pmax pmax
comp=Z,24nm,1.3s
KURK Kurchatov 52.22 306 P **P** **15 17 21.3 -1.0**
KURK lAmb lAmb 15 17 23.8
comp=Z,17nm,1.0s
BW06 Boulder Array 52.31 67 P **P** **15 17 22.7 -0.7**
PD31 Pinedale Array 52.31 67 P **P** **15 17 22.2 -1.2**
PDAR Pinedale Array 52.31 67 P **P** **15 17 23.3 -0.1**
comp=Z,3.0nm,0.9s,baz=310,slow=3.5,SNR=16
PDAR Pinedale Array 52.31 67 P **P** **15 17 22.6 -0.8**
TPNV Topopah Spring 52.44 77 P **P** **15 17 23.7 -0.7**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 52.44 77 P **P** **15 17 23.7 -0.7**
TPNV lAmb lAmb 15 17 50.7
comp=Z,7.2nm,0.9s
PSUT Pine Spring 52.74 73 P **P** **15 17 26.9 +0.3**
SUMG Summit 52.79 10 P **P** **15 17 26.2 -0.5**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 52.79 10 P **P** **15 17 26.2 -0.5**
SUMG lAmb lAmb 15 17 38.3
comp=Z,6.3nm,0.8s
SUMG Summit 52.79 10 *i* P **P** **15 17 25.0 -1.7**
SUMG Summit 52.79 10 *i* P **P** **15 17 25.0 -1.7**
MK31 Makanchi Array 52.97 301 *ce*P **P** **15 17 27.9 -0.1**
MK31 Makanchi Array 52.97 301 P **P** **15 17 27.0 -1.0**
MKAR Makanchi Array 52.97 301 P **P** **15 17 27.5 -0.5**
comp=Z,1.1nm,0.4s,baz=53,slow=6.2,SNR=29
MKAR LR LR 15 41 00.1
comp=Z,187nm,20.2s,baz=34,slow=37
MKAR Makanchi Array 52.97 301 P **P** **15 17 27.2 -0.8**
MAKZ Makanchi 53.12 301 P **P** **15 17 28.2 -0.9**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
MAKZ Makanchi 53.12 301 P **P** **15 17 28.2 -0.9**
GYA Guiyang 53.13 266 *e*P **P** **15 17 31.0 +1.5**
GYA pP pP 15 17 40.5 +1.5
GYA pmax pmax
comp=Z,6.0nm,1.3s
MSU Marysvale 53.71 72 P **P** **15 17 33.5 -0.3**
MSU Marysvale 53.71 72 P **P** **15 17 33.5 -0.3**
TMUT Trail Mountain 53.73 71 P **P** **15 17 34.5 +0.6**
MTPU Mount Pierson 54.03 73 P **P** **15 17 36.8 +0.5**
KEV Kevo 54.14 345 P **P** **15 17 36.7 +0.6**
KEV pmax pmax
comp=Z,12nm,1.2s
KEV Kevo 54.14 345 P **P** **15 17 36.7 +0.6**
KEV lAmb lAmb 15 17 50.5
comp=Z,12nm,1.2s
SRU San Rafael Swe 54.24 71 P **P** **15 17 38.6 +1.0**
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael Swe 54.24 71 P **P** **15 17 38.6 +1.0**
LVZ Lovozero 54.42 341 *i* P **P** **15 17 38.4 +0.2**
LVZ pmax pmax
comp=Z,37nm,1.1s
BRVK Borovoye 54.48 313 P **P** **15 17 39.4 +0.5**
BRVK pmax pmax
comp=Z,19nm,0.7s
BRVK Borovoye 54.48 313 P **P** **15 17 39.4 +0.5**
ARCES ARCESS Array B 54.57 345 P **P** **15 17 39.4 +0.1**
comp=Z,4.4nm,0.8s,baz=8.9,slow=6.4,SNR=2.9
ARCES LR LR 15 43 36.8
comp=Z,71nm,18.1s,baz=345,slow=39
BRZS Berezniki 55.53 309 *e*P **P** **15 17 44.8 -1.7**
BRZS Berezniki 55.53 309 *e*P **P** **15 17 44.7 -1.7**
PV23 Carpenter Ridg 55.55 70 P **P** **15 17 47.8 +0.7**
PV23 lAmb lAmb 15 17 59.2
comp=Z,7.9nm,0.7s
PV10 Paradox Valley 55.59 70 P **P** **15 17 48.8 +1.4**
PV14 Lion Creek, Pa 55.60 70 P **P** **15 17 47.9 +0.4**
PV14 lAmb lAmb 15 17 59.7
comp=Z,7.1nm,0.8s
PV22 Blue Mesa, Par 55.62 70 P **P** **15 17 48.4 +0.8**
PV22 lAmb lAmb 15 17 49.5
comp=Z,9.0nm,0.6s
PV04 Paradox Valley 55.65 70 P **P** **15 17 48.1 +0.3**
PV04 lAmb lAmb 15 18 00.4
comp=Z,8.3nm,0.8s
PV20 West Nyswonger 55.65 70 P **P** **15 17 47.9 +0.1**
PV20 lAmb lAmb 15 18 03.9
comp=Z,6.8nm,0.7s
PV19 Morning Glory 55.67 70 P **P** **15 17 48.6 +0.7**
PV19 lAmb lAmb 15 18 04.7
comp=Z,11nm,1.2s
PV17 East Wray Mesa 55.70 70 P **P** **15 17 48.5 +0.4**
PV16 Nyswonger Mesa 55.70 70 P **P** **15 17 48.6 +0.4**
PV16 lAmb lAmb 15 18 09.6
comp=Z,7.5nm,0.8s
PV11 David Mesa, Pa 55.74 70 P **P** **15 17 48.8 +0.4**
PV18 Skein Mesa, Pa 55.75 70 P **P** **15 17 48.9 +0.3**
PV12 Saucer Basin, 55.76 70 P **P** **15 17 49.3 +0.7**
PV07 Paradox Valley 55.77 70 P **P** **15 17 49.6 +1.0**
PV07 lAmb lAmb 15 17 51.7
comp=Z,6.4nm,0.6s
PV03 Paradox Valley 55.78 70 P **P** **15 17 49.2 +0.4**
PV03 lAmb lAmb 15 18 00.1
comp=Z,10nm,0.7s
PV13 Radium Mtn., P 55.86 70 P **P** **15 17 49.8 +0.5**
PV02 Paradox Valley 55.88 70 P **P** **15 17 49.0 -0.5**
PV02 lAmb lAmb 15 18 02.2
comp=Z,9.1nm,1.0s
ICESG Greenland Ices 55.93 12 *e*P **P** **15 17 47.4 -2.1**
PV01 Paradox Valley 56.02 70 P **P** **15 17 51.7 +1.2**
PV01 lAmb lAmb 15 17 52.6
comp=Z,14nm,1.5s
SFJD Kangerlussuaq 56.16 18 P **P** **15 17 49.8 -0.9**
SFJD pmax pmax
comp=Z,14nm,1.2s
SFJD Kangerlussuaq 56.16 18 P **P** **15 17 49.8 -0.9**
SFJD lAmb lAmb 15 17 55.8
comp=Z,14nm,1.1s
ISCO Idaho Springs 56.51 67 P **P** **15 17 54.8 +0.8**
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 56.51 67 P **P** **15 17 54.8 +0.8**
MVCO Mesa Verde 56.71 71 P **P** **15 17 55.6 +0.2**
MVCO lAmb lAmb 15 18 11.7
comp=Z,6.2nm,1.0s
ARU Arti 56.81 322 LR LR 15 45 26.7
comp=Z,206nm,18.1s,baz=28,slow=39
ARU Arti 56.81 322 *c* *i* P **P** **15 17 56.0 +0.5**
ARU 15 18 50.9
ARU 15 19 58.9
ARU S **S** **15 25 46.5 +0.6**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 56.81 322 P **P** **15 17 55.5 -0.1**
TMCR Tamitsa 56.87 337 *e*P **P** **15 17 55.8 0.0**
TMCR pmax pmax
comp=Z,20nm,0.9s
SHLS Shalkode 56.92 299 *e*P **P** **15 17 53.4 -3.3**
SHLS Shalkode 56.92 299 *e*P **P** **15 17 53.4 -3.3**
SPX San Pedro Mart 57.07 81 P **P** **15 17 57.9 -0.2**
KPKS Kokpek 57.11 300 *e*P **P** **15 17 57.1 -0.9**
KPKS Kokpek 57.11 300 *e*P **P** **15 17 57.1 -0.9**
UZB Uzynbulak 57.16 299 *e*P **P** **15 17 57.5 -1.0**
UZB Uzynbulak 57.16 299 *e*P **P** **15 17 57.4 -1.0**
SATY Saty 57.54 300 *e*P **P** **15 18 00.7 -0.4**
SATY Saty 57.54 300 *e*P **P** **15 18 00.6 -0.4**
EYMN Ely 57.99 52 P **P** **15 18 03.7 -0.3**
KUU Kurty 58.01 302 *e*P **P** **15 18 02.7 -1.6**
KUU Kurty 58.01 302 *e*P **P** **15 18 02.6 -1.6**
SDCO Great Sand Dun 58.02 69 P **P** **15 18 05.6 +1.0**
MDOK Medeo 58.17 301 *e*P **P** **15 18 04.7 -0.8**
MDOK Medeo 58.17 301 *e*P **P** **15 18 04.7 -0.8**
KIRV Kirov 58.31 328 LR LR 15 44 36.4
comp=Z,89nm,19.9s,baz=31,slow=38
KIRV Kirov 58.31 328 *ce*P **P** **15 18 07.3 +1.3**
BTLS Baital 58.35 304 *e*P **P** **15 18 05.7 -0.9**
BTLS Baital 58.35 304 *e*P **P** **15 18 05.6 -0.9**
SGDS Sogindy 59.20 302 *e*P **P** **15 18 12.3 -0.2**
SGDS Sogindy 59.20 302 *e*P **P** **15 18 12.3 -0.2**
KLMR Klimovskoe 59.31 334 *e*P **P** **15 18 12.3 -0.6**
KLMR pmax pmax
comp=Z,25nm,1.2s
KLMR Klimovskoe 59.31 334 *e*P **P** **15 18 12.4 -0.5**
KLMR AMP 15 18 14.6
comp=Z,25nm,1.2s
AAK Ala-Archa 59.85 302 *ce*P **P** **15 18 17.8 +0.6**
AAK pmax pmax
comp=Z,21nm,1.3s
LSA Lhasa 59.99 280 P **P** **15 18 20.2 +1.5**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 59.99 280 P **P** **15 18 20.2 +1.5**
HSIG 61.20 79 P **P** **15 18 26.9 +0.5**
HSIG lAmb lAmb 15 18 30.4
comp=Z,4.0nm,0.5s
KK31 Karatay Array 61.51 305 P **P** **15 18 28.0 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 61.51 305 P **P** **15 18 28.0 -0.3**
KK31 lAmb lAmb 15 18 29.3
comp=Z,4.7nm,0.9s
KKAR Karatay Array 61.51 305 P **P** **15 18 27.9 -0.3**
KKAR Karatay Array 61.51 305 P **P** **15 18 27.9 -0.3**
ABKAR Akbulak array 61.70 315 P **P** **15 18 29.3 -0.1**
FIA1 FINESS Array S 61.85 341 P **P** **15 18 30.0 -0.2**
FINES FINESS Array B 61.85 341 P **P** **15 18 30.4 +0.2**
comp=Z,7.7nm,0.6s,baz=28,slow=8.8,SNR=20
FINES LR LR 15 49 03.6
comp=Z,72nm,18.6s,baz=46,slow=40
FINES FINESS Array B 61.85 341 *ce*P **P** **15 18 30.3 +0.1**
FINES pmax pmax
comp=Z,8.0nm,0.6s
IUG Iuzhnay 62.45 304 *e*P **P** **15 18 34.8 +0.1**
IUG Iuzhnay 62.45 304 *e*P **P** **15 18 34.8 +0.1**
MNTX Cornudas Mount 62.46 73 P **P** **15 18 35.6 +0.7**
MNTX lAmb lAmb 15 18 38.0
comp=Z,5.1nm,0.9s
SCHQ Schefferville 62.52 33 P **P** **15 18 34.1 -0.7**
CHTO Chiang Mai 63.54 266 P **P** **15 18 42.5 +0.4**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 63.54 266 P **P** **15 18 42.5 +0.4**
CHTO lAmb lAmb 15 18 54.8
comp=Z,8.4nm,0.9s
TAPN Taplejung 63.76 281 *e*P **P** **15 18 44.7 +0.9**
comp=Z,7.7nm,0.9s
CM31 Chiang Mai Arr 63.82 266 P **P** **15 18 45.2 +1.3**
CM31 lAmb lAmb 15 18 46.6
comp=Z,5.7nm,0.9s
CMAR Chiang Mai Arr 63.82 266 P **P** **15 18 45.9 +1.9**
comp=Z,4.0nm,0.9s,baz=22,slow=7.7,SNR=29
CMAR LR LR 15 48 31.2
comp=Z,37nm,19.8s,baz=85,slow=38
CMAR Chiang Mai Arr 63.82 266 P **P** **15 18 45.2 +1.3**
WMOK Wichita Mounta 63.92 66 P **P** **15 18 44.0 -0.5**
WMOK pmax pmax
comp=Z,4.0nm,0.9s
WMOK Wichita Mounta 63.92 66 P **P** **15 18 44.0 -0.5**
WMOK lAmb lAmb 15 18 56.6
comp=Z,4.2nm,0.8s
NC204 NORSAR Array S 64.40 349 P **P** **15 18 47.0 -0.2**
GUN Gumba 64.41 283 *e*P **P** **15 18 48.7 +0.6**
comp=Z,83nm,1.0s
NC405 NORSAR Array S 64.44 348 P **P** **15 18 47.5 +0.1**
NB201 NORSAR Array S 64.56 348 P **P** **15 18 48.4 +0.1**
NB2 NORSAR Subarra 64.58 348 P **P** **15 18 48.5 +0.1**
comp=Z,2.9nm,0.6s,baz=15,slow=6.9
NOA NORSAR Array B 64.58 348 P **P** **15 18 48.5 +0.1**
comp=Z,3.8nm,0.6s,baz=16,slow=6.7,SNR=14
NBO00 NORSAR Array S 64.64 349 P **P** **15 18 49.0 +0.2**
RAMN Ramite 64.71 282 *e*P **P** **15 18 50.6 +0.6**
comp=Z,45nm,0.6s
KKN Kakani 64.85 283 *e*P **P** **15 18 51.7 +0.8**
comp=Z,28nm,0.9s
PKI Pulchoki 64.94 283 *e*P **P** **15 18 52.2 +0.6**
comp=Z,45nm,1.0s
GKN Gorkha 65.06 284 *e*P **P** **15 18 52.7 +0.5**
comp=Z,40nm,1.0s
OBN Obninsk 65.06 332 ⇓*e*P **P** **15 18 52.1 +0.6**
OBN *e* 15 21 14.5
OBN *e*S S 15 27 52.6 +22
OBN *e*SS **SS** **15 31 41.3 -1.0**
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,105nm,16.0s
DMN Daman 65.09 283 *e*P **P** **15 18 53.2 +0.7**
TX31 Lajitas Ar. Si 65.21 74 P **P** **15 18 53.3 +0.3**
TX32 Lajitas Array 65.21 74 P **P** **15 18 53.4 +0.4**
TX32 lAmb lAmb 15 18 55.9
comp=Z,5.4nm,1.0s
TXAR Lajitas Array 65.21 74 P **P** **15 18 53.4 +0.3**
comp=Z,3.1nm,0.8s,baz=305,slow=5.2,SNR=22
TXAR Lajitas Array 65.21 74 P **P** **15 18 53.2 +0.2**
DANN Dangsing 65.31 285 *e*P **P** **15 18 54.6 +0.7**
comp=Z,29nm,0.9s
KOLN Koldanda 65.84 284 *e*P **P** **15 18 57.6 +0.3**
comp=Z,17nm,0.9s
PYUN Piuthan 65.94 285 *e*P **P** **15 18 58.5 +0.6**
LPSR Galich'ya Gora 66.58 330 *e*P **P** **15 19 01.8 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
FCAR Ozark Folk Cen 66.62 61 P **P** **15 19 00.8 -1.1**
FCAR lAmb lAmb 15 19 12.0
comp=Z,12nm,1.1s
VRH Novokhopyorsk 66.91 327 *e*P **P** **15 19 00.9 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
NIL Nilore 67.19 296 P **P** **15 19 06.2 +0.6**
NIL pmax pmax
comp=Z,13nm,1.0s
NIL Nilore 67.19 296 P **P** **15 19 06.2 +0.6**
VSR Storozhevoye 67.71 329 *e*P **P** **15 19 08.7 +0.2**
VSR pmax pmax
comp=Z,20nm,1.3s
MOQ Mont Orford 68.42 42 P **P** **15 19 12.1 -1.1**
GGN Saint George 70.67 39 P **P** **15 19 25.9 -1.0**
LMN Caledonia Moun 70.80 37 P **P** **15 19 26.7 -1.0**
AKASG Malin Array Be 71.00 335 P **P** **15 19 28.9 0.0**
comp=Z,4.7nm,0.7s,baz=28,slow=6.3,SNR=12
AKASG LR LR 15 53 50.9
comp=Z,76nm,19.4s,baz=25,slow=39
AKASG Malin Array Be 71.00 335 *ce*P **P** **15 19 29.1 +0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 71.00 335 *ce*P **P** **15 19 29.4 +0.6**
BLA Blacksburg 71.43 52 P **P** **15 19 32.9 +1.1**
BLA pmax pmax
comp=Z,9.0nm,0.7s
BLA Blacksburg 71.43 52 P **P** **15 19 32.9 +1.1**
BLA lAmb lAmb 15 19 43.2
comp=Z,8.7nm,0.7s
GEYT Alibeck 71.46 309 P **P** **15 19 32.6 +0.7**
comp=Z,3.4nm,0.9s,baz=34,slow=5.6,SNR=5.5
GEYT LR LR 15 54 24.1
comp=Z,262nm,18.2s,baz=265,slow=39
GEYT Alibeck 71.46 309 P **P** **15 19 32.2 +0.3**
KIV Kislovodsk 72.83 323 *e*P **P** **15 19 39.4 -0.7**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,145nm,18.0s
HODGE Hodges 72.94 55 P **P** **15 19 40.7 -0.1**
HODGE lAmb lAmb 15 19 51.4
comp=Z,16nm,1.4s
KBZ Khabaz 72.95 322 P **P** **15 19 41.7 +1.0**
comp=Z,7.0nm,0.9s,baz=277,slow=1.4,SNR=12
KBZ LR LR 15 56 28.8
comp=Z,100nm,19.2s,baz=14,slow=40
DSB Dublin 73.64 357 P **P** **15 19 43.6 -1.0**
CLL Collm 73.79 345 *e*P **P** **15 19 46.0 +0.5**
CLL Collm 73.79 345 *e*P **P** **15 19 46.0 +0.5**
KOLS Kolonicke sedl 74.31 338 *e*P **P** **15 19 48.6 0.0**
KOLS Kolonicke sedl 74.31 338 *e*P **P** **15 19 48.6 0.0**
BUR08 Bucovina Ar. S 74.83 336 P **P** **15 19 52.5 +0.7**
BUR08 lAmb lAmb 15 20 04.6
comp=Z,5.9nm,1.0s
BURAR Bucovina Array 74.86 336 P **P** **15 19 52.9 +1.0**
TAOE Nuku Hiva Isla 75.24 128 *e*LR LR 15 42 59.4
comp=Z,104nm,28.0s
VYHS Vyhne 75.45 340 *e*P **P** **15 19 54.1 -1.1**
VYHS Vyhne 75.45 340 *e*P **P** **15 19 54.1 -1.1**
KHC Kasperske Hory 75.80 344 *e*P **P** **15 19 57.5 +0.2**
KHC Kasperske Hory 75.80 344 *e*P **P** **15 19 57.5 +0.2**
CTA Charters Tower 75.92 202 P **P** **15 19 59.3 +1.2**
comp=Z,2.6nm,0.9s,baz=346,slow=4.2,SNR=2.6
CTAO Charters Tower 75.92 202 P **P** **15 19 59.3 +1.2**
CTAO pmax pmax
comp=Z,12nm,1.0s
CTAO Charters Tower 75.92 202 P **P** **15 19 59.3 +1.2**
CTAO lAmb lAmb 15 20 10.6
comp=Z,12nm,1.0s
GERES GERESS Array B 76.06 344 P **P** **15 19 59.2 +0.4**
comp=Z,1.8nm,0.8s,baz=35,slow=4.9,SNR=11
GERES GERESS Array B 76.06 344 P **P** **15 19 59.5 +0.7**
GERES GERESS Array B 76.06 344 P **P** **15 19 59.5 +0.7**
WLF Walferdange 76.32 349 P **P** **15 20 00.7 +0.6**
WLF pmax pmax
comp=Z,17nm,1.2s
WLF Walferdange 76.32 349 P **P** **15 20 00.7 +0.6**
WLF lAmb lAmb 15 20 27.2
comp=Z,17nm,1.2s
HYB Hyderabad 76.76 281 *i* P **P** **15 20 04.0 +0.8**
PMOR Pomariorio Ree 77.32 138 *e*T T 16 44 58.8
comp=Z,1.1nm,0.2s
GSI Gunungsitoli 78.24 256 P **P** **15 20 12.6 +1.2**
ILGA Ilgaz 78.47 327 P **P** **15 20 12.6 -0.1**
PPT Papeete 78.99 140 LR LR 15 45 47.6
comp=Z,60nm,21.4s,baz=328,slow=28
PPT2 Papeete2 79.01 140 *e*LR LR 15 44 52.8
comp=Z,116nm,23.5s,baz=328
WRAB Tennant Creek 79.11 213 *ce*P **P** **15 20 17.3 +1.4**
WRAB pmax pmax
comp=Z,13nm,2.5s
WB2 Warramunga Arr 79.12 213 P **P** **15 20 17.7 +1.8**
WRA Warramunga Arr 79.13 213 P **P** **15 20 16.8 +0.8**
comp=Z,2.6nm,1.0s,baz=29,slow=5.5,SNR=13
WRA Warramunga Arr 79.13 213 P **P** **15 20 17.8 +1.8**
BR131 Keskin Array S 79.70 327 P **P** **15 20 19.7 +0.5**
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BR131 Keskin Array S 79.70 327 P **P** **15 20 19.7 +0.5**
BRTR Keskin Array B 79.70 327 P **P** **15 20 20.1 +0.8**
comp=Z,3.2nm,0.8s,baz=50,slow=4.3,SNR=9.1
BRTR LR LR 15 57 52.7
comp=Z,20nm,21.0s,baz=30,slow=37
BRTR Keskin Array B 79.70 327 P **P** **15 20 19.7 +0.4**
BRTR Keskin Array B 79.70 327 P **P** **15 20 19.7 +0.4**
ANTO Ankara 79.84 328 P **P** **15 20 19.9 0.0**
ANTO Ankara 79.84 328 P **P** **15 20 19.9 0.0**
FITZ Fitzroy Crossi 80.62 222 P **P** **15 20 25.5 +1.4**
comp=Z,2.4nm,0.8s,baz=40,slow=6.7,SNR=7.1
FITZ Fitzroy Crossi 80.62 222 lAmb lAmb 15 20 35.9
comp=Z,9.4nm,0.8s
ASAR Alice Springs 82.74 213 P **P** **15 20 36.7 +1.5**
comp=Z,2.4nm,1.0s,baz=20,slow=3.7,SNR=13
ASAR Alice Springs 82.74 213 P **P** **15 20 36.2 +1.0**
ASAR Alice Springs 82.74 213 P **P** **15 20 36.2 +1.0**
CSS Mathiatis 84.12 325 P **P** **15 20 43.0 +0.6**
CSS lAmb lAmb 15 20 58.5
comp=Z,9.8nm,1.1s
ESDC Sonseca Array 87.10 355 P **P** **15 20 56.2 -1.0**
comp=Z,0.4nm,0.4s,baz=346,slow=5.3,SNR=4.0
ESDC Sonseca Array 87.10 355 P **P** **15 20 57.3 +0.1**

IDC 28 15:17:49.0±2.2,2.14N×127.24E,h0km,mb3.4/3,
mb1 3.6/3,mb1mx3.3/35,mbtmp3.4/3,MS3.0/1,Ms1 3.0/1,
ms1mx2.2/25,Error ellipse: s-maj=179.7km
s-min=24.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	3.61	244	P		15 18 41.5	-4.8
GTOI	Gorontalo	4.48	251	P		Pn 15 18 56.4	-1.9
	7.0nm,0.5s						
BATI	Baumata	12.77	196	LR		LR 15 26 38.2	
	comp=Z,61nm,18.4s,baz=190,slow=41						
WRA	Warramunga Arr	23.03	163	P		P 15 22 56.0	0.0
	0.4nm,0.5s,baz=342,slow=12,SNR=14						
ASAR	Alice Springs	26.46	166	P		P 15 23 28.3	+0.2
	0.2nm,0.4s,baz=349,slow=12,SNR=5.3						
MKAR	Makanchi Array	59.14	326	P		P 15 27 51.4	-0.2
	0.3nm,0.4s,baz=119,slow=7.4,SNR=7.7						

*JMA **28** 15:44:37.8±0.4,38.50N×133.87E,h474km,M3.3*
*IDC **28** 15:44:40.6±0.8,38.39N×133.76E,h436km±11km,mb2.9/7,*
mb1 3.2/13,mb1mx3.0/46,mbtmp3.9/13,Error ellipse:
s-maj=14.9km s-min=12.3km az=83.0

ISC 28 15:44:40.6±0.7,38.46N±0.08×133.84E±0.07,h450km,n24,
σ1.976/28,mb3.2/7,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKSM	Kasumi	2.94	167	P		P 15 45 46.8	-0.5
JSZ	Suzu	2.96	109	P		P 15 45 47.1	-0.2
JTT	Ttatey	3.33	123	P		P 15 45 50.1	-0.2
JWT	Wachi	3.41	158	P		P 15 45 50.8	-0.1
JHS	Saijyo	3.50	190	P		P 15 45 50.7	-1.0
JSD	Sado	3.50	96	P		P 15 45 51.1	-0.4
MAT	Matsushiro	3.96	118	P		P 15 45 54.6	-0.9
MAT				*e*S		S 15 46 57.7	+1.3
MJAR	Matsushiro Arr	3.96	118	P		P 15 45 55.2	-0.3

0.4nm,0.3s,baz=306,slow=9.8,SNR=19
JHK Hiroka 4.27 105 P P 15 45 57.2 -1.0
JRY Ryogami san 4.72 120 P P 15 46 01.9 -0.4
KSRS Korea Array 4.79 260 P P 15 46 03.3 +0.4
0.9nm,0.3s,baz=76,slow=9.3,SNR=29
JOD2 Odawara 2 5.28 126 P P 15 46 07.6 -0.2
JNU Nakatsue 5.84 205 P P 15 46 13.2 -0.2
3.3nm,0.3s,baz=48,slow=3.2,SNR=38
JNU S **S 15 47 23.8 -5.4**
baz=110,slow=16,SNR=1.9
USRK Ussuriysk Ar. 5.90 347 P P 15 46 14.3 +0.5
baz=164,slow=9.7,SNR=84
BSO1 Boso 1 6.88 121 P P 15 46 22.0 -1.5
JHJ Hachijo jima 2 7.19 136 P P 15 46 27.3 -0.1
6.5nm,0.3s,baz=342,slow=5.9,SNR=1.8
JHJ S **S 15 47 55.6 +0.8**
8.9nm,0.3s,baz=44,slow=21,SNR=1.9
ASAJ Asahikawa 8.68 47 P P 15 46 43.1 -0.1
1.0nm,0.3s,baz=222,slow=11,SNR=16
ASAJ S **S 15 48 18.3 -5.6**
1.0nm,0.3s,baz=25,slow=32,SNR=7.6
SONM Songino Array 22.01 304 P P 15 49 01.1 +0.9
1.1nm,0.5s,baz=110,slow=10,SNR=2.9
CMAR Chiang Mai Arr 36.28 247 P P 15 51 05.3 +0.7
0.8nm,0.7s,baz=44,slow=7.4,SNR=4.4
MKAR Makanchi Array 38.24 300 P P 15 51 20.4 -0.1
0.4nm,0.6s,baz=89,slow=9.6,SNR=6.0
ILAR Eielson Array 51.53 33 P P 15 53 04.8 +2.0
0.5nm,0.5s,baz=289,slow=8.6,SNR=6.9
WRA Warramunga Arr 58.09 179 P P 15 53 50.2 +0.5
1.0nm,0.5s,baz=356,slow=7.6,SNR=24
ASAR Alice Springs 61.80 180 P P 15 54 15.4 +1.0
0.4nm,0.8s,baz=16,slow=13,SNR=3.2
FINES FINESS Array B 64.65 330 P P 15 54 33.0 +0.6
2.3nm,1.0s,baz=62,slow=8.9,SNR=1.0

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*IDC **28** 15:56:25.0±2.1, 16°.31S×172°.94W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/26, mbtmp3.8/7, MS3.2/2, Ms1 3.2/2, ms1mx2.7/35, Error ellipse: s-maj=120.7km s-min=22.5km az=146.0*
*NEIC **28** 15:56:27.2±0.9, 15°.8S±0°.1×173°.3W±0°.2, h10km±1km, mb4.0/5, Error ellipse: s-maj=38.5km s-min=11.1km az=123.0*
ISC 28 15:56:26.6±0.8, 16°.3S±0°.1×173°.0W±0°.1, h10km, n25, σ1s37/15, mb4.0/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**26**	Pn	Pn	15 57 03.3	-5.8
NIUE	**Niue**	**4.01**	**134**		**Pn**	**15 57 27.1**	**-1.1**
RAR	**Rarotonga**	**13.41**	**113**	LR	LR	16 03 43.9	
	baz=199,slow=33,SNR=4.6						
MSWZ	**Moikau Station**	**27.04**	**200**	P	**P**	**16 02 07.9**	**-1.2**
HNR	**Honiara**	**27.26**	**281**	LR	LR	16 11 28.7	
	comp=Z,91nm,18.9s,baz=311,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.93**	**329**	T	T	16 46 19.7	
	baz=149,slow=75,SNR=3.1						
H11S3	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	16 46 19.2	
	baz=149,slow=75,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	16 46 18.7	
	baz=149,slow=75,SNR=2.6						
H11N3	**WAKE ISLAND Hy**	**40.88**	**330**	T	T	16 47 30.2	
	baz=159						
H11N1	**WAKE ISLAND Hy**	**40.89**	**330**	T	T	16 47 32.6	
	baz=159						
H11N2	**WAKE ISLAND Hy**	**40.90**	**330**	T	T	16 47 32.3	
	baz=159						
STKA	**Stephens Creek**	**43.98**	**241**	P	**P**	**16 04 34.2**	**-0.1**
	2.5nm,1.1s,baz=53,slow=3.8,SNR=3.3						
STKA	**Stephens Creek**	**43.98**	**241**	IAmb	IAmb	16 05 00.1	
	comp=Z,2.1nm,1.4s						
WB0	**Warramunga Arr**	**50.03**	**258**	P	**P**	**16 05 21.1**	**-0.7**
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**16 05 21.2**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=93,slow=7.0,SNR=7.7						
AS31	**Alice Springs**	**50.25**	**253**	P	**P**	**16 05 22.6**	**-0.8**
ASAR	**Alice Springs**	**50.25**	**253**	P	**P**	**16 05 22.9**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=90,slow=7.9,SNR=19						
QSPA	**South Pole Qui**	**73.77**	**180**	P	**P**	**16 08 04.1**	**+3.1**
QSPA				IAmb	IAmb	16 08 04.9	
	comp=Z,2.5nm,1.0s						
NVAR	**Mina Array Bea**	**74.69**	**42**	P	**P**	**16 08 07.8**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=235,slow=9.5,SNR=3.5						
PDAR	**Pinedale Array**	**82.63**	**42**	P	**P**	**16 08 49.6**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=242,slow=3.9,SNR=4.3						
ILAR	**Eielson Array**	**83.22**	**11**	P	**P**	**16 08 52.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=224,slow=5.0,SNR=9.3						
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**16 09 44.0**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=89,slow=2.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**16 09 40.8**	**-1.5**
ARCES	**ARCESS Array B**	**125.53**	**352**	PKP	**PKiKP**	**16 15 28.6**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=3.4,slow=3.1,SNR=2.6						
BRTR	**Keskin Array B**	**147.10**	**321**	PKPbc	**PKPbc**	**16 16 10.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=164,slow=1.8,SNR=4.2						

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*IDC **28** 16:10:28.9±0.9, 49°.50N×28°.69W, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/53, mbtmp3.8/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=29.9km s-min=18.2km az=19.0*
*NEIC **28** 16:10:31.9±1.1, 49°.5N±0°.2×28°.5W±0°.1, h16km±4km, mb4.6/28, Error ellipse: s-maj=25.6km s-min=9.1km az=188.0*
ISC 28 16:10:30.8±0.7, 49°.6N±0°.2×28°.52W±0°.09, h10km, n42, σ0s85/41, mb4.4/20, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.01**	**110**	P	**P**	**16 15 03.5**	**-0.1**
	1.0nm,0.9s,baz=309,slow=11,SNR=5.9						
MDT	**Midelt**	**24.43**	**124**	P	**P**	**16 15 50.9**	**+1.2**
	0.6nm,0.4s,baz=348,slow=12,SNR=2.4						
NC303	**NORSAR Array S**	**25.04**	**47**	P	**P**	**16 15 52.7**	**-2.0**
GERES	**GERESS Array B**	**27.33**	**75**	P	**P**	**16 16 16.3**	**+0.5**
	0.3nm,0.5s,baz=355,slow=6.7,SNR=4.6						
ARCES	**ARCESS Array B**	**32.31**	**32**	P	**P**	**16 16 59.0**	**-0.5**
	1.6nm,0.7s,baz=262,slow=3.7,SNR=5.2						
BURAR	**Bucovina Array**	**34.96**	**72**	P	**P**	**16 17 23.4**	**+0.4**
BG3	**Lake Jocassee**	**41.89**	**271**	P	**P**	**16 18 21.6**	**+0.4**
BG3				IAmb	IAmb	16 18 34.2	
	comp=Z,7.3nm,0.9s						
HODGE	**Hodges**	**41.92**	**269**	P	**P**	**16 18 21.8**	**+0.4**
TKL	**Tuckaleechee C**	**42.04**	**272**	P	**P**	**16 18 19.4**	**-3.0**
	comp=Z,4.2nm,0.6s,baz=226,slow=1.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**43.99**	**135**	P	**P**	**16 18 38.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=344,slow=8.0,SNR=4.8						
CCM	**Cathedral Cave**	**45.45**	**280**	P	**P**	**16 18 49.5**	**-0.3**
CCM				IAmb	IAmb	16 18 51.7	
	comp=Z,4.9nm,0.9s						
KIV	**Kislovodsk**	**47.43**	**68**	P	**P**	**16 19 06.1**	**+0.8**
KIV				IAmb	IAmb	16 19 11.1	
	comp=Z,6.7nm,1.0s						
ASF	**Jabal al Asfar**	**50.81**	**84**	LR	LR	16 44 30.6	
	comp=Z,37nm,19.7s,baz=289,slow=40						
WALA	**Waterton Lakes**	**52.68**	**304**	P	**P**	**16 19 45.7**	**+0.5**
WALA				IAmb	IAmb	16 19 47.8	
	comp=Z,11nm,1.2s						
YNE	**Yellowstone No**	**52.88**	**298**	P	**P**	**16 19 47.5**	**+0.6**
BW06	**Boulder Array**	**53.96**	**296**	P	**P**	**16 19 54.7**	**-0.2**
PD31	**Pinedale Array**	**53.96**	**296**	P	**P**	**16 19 54.7**	**-0.2**
PD31				IAmb	IAmb	16 19 58.9	
	comp=Z,6.3nm,1.5s						
PDAR	**Pinedale Array**	**53.96**	**296**	P	**P**	**16 19 54.7**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=64,slow=8.4,SNR=11						
NEW	**Newport**	**54.87**	**305**	P	**P**	**16 20 01.4**	**+0.3**
HWUT	**Hardware Ranch**	**55.85**	**296**	P	**P**	**16 20 08.8**	**+0.3**
HWUT				IAmb	IAmb	16 20 10.5	
	comp=Z,4.1nm,0.9s						
PV22	**Blue Mesa, Par**	**56.13**	**291**	P	**P**	**16 20 10.9**	**+0.4**
PV22				IAmb	IAmb	16 20 14.5	
	comp=Z,4.7nm,1.1s						
PV12	**Saucer Basin,**	**56.27**	**291**	P	**P**	**16 20 12.1**	**+0.5**
PV12				IAmb	IAmb	16 20 14.0	
	comp=Z,7.1nm,0.9s						
PV04	**Paradox Valley**	**56.29**	**291**	P	**P**	**16 20 12.1**	**+0.4**
PV04				IAmb	IAmb	16 20 14.2	
	comp=Z,6.1nm,1.0s						
PV02	**Paradox Valley**	**56.30**	**291**	P	**P**	**16 20 12.0**	**+0.2**
PV02				IAmb	IAmb	16 20 14.2	
	comp=Z,10nm,1.5s						
PV23	**Carpenter Ridg**	**56.31**	**291**	P	**P**	**16 20 12.0**	**0.0**
PV23				IAmb	IAmb	16 20 14.4	
	comp=Z,8.0nm,1.1s						
PV14	**Lion Creek, Pa**	**56.37**	**291**	P	**P**	**16 20 12.8**	**+0.5**
PV18	**Skein Mesa, Pa**	**56.38**	**291**	P	**P**	**16 20 13.2**	**+0.8**
PV18				IAmb	IAmb	16 20 15.8	
	comp=Z,5.8nm,1.0s						
ILAR	**Eielson Array**	**56.40**	**333**	P	**P**	**16 20 13.2**	**+1.4**
	comp=Z,1.0nm,1.1s,baz=53,slow=4.3,SNR=5.9						
MSU	**Marysvale**	**58.18**	**293**	P	**P**	**16 20 25.7**	**+0.6**
MVU	**Marysvale**	**58.21**	**293**	P	**P**	**16 20 26.0**	**+0.7**
MTPU	**Mount Pierson**	**58.49**	**293**	P	**P**	**16 20 28.3**	**+0.9**
ELK	**Elko**	**58.54**	**297**	P	**P**	**16 20 28.4**	**+0.8**
TXAR	**Lajitas Array**	**58.95**	**280**	P	**P**	**16 20 30.0**	**-0.4**
CCUT	**Cedar City**	**59.52**	**299**	P	**P**	**16 20 34.3**	**-0.1**
KVN	**Kaiserville**	**61.31**	**297**	P	**P**	**16 20 45.7**	**-0.9**
GSC	**Goldstone, Bar**	**63.08**	**294**	P	**P**	**16 20 59.6**	**+1.2**
GSC				IAmb	IAmb	16 21 01.7	
	comp=Z,4.5nm,0.8s						
GLA	**Glamis**	**63.42**	**290**	P	**P**	**16 20 59.8**	**-0.8**
MK31	**Makanchi Array**	**66.87**	**44**	P	**P**	**16 21 23.1**	**+0.3**
MKAR	**Makanchi Array**	**66.87**	**44**	P	**P**	**16 21 23.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=337,slow=5.9,SNR=7.7						
UOSS	**Minazif**	**68.12**	**77**	P	**P**	**16 21 30.6**	**-0.3**
WRA	**Warramunga Arr**	**147.41**	**31**	PKPbc	**PKPbc**	**16 30 14.3**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=334,slow=3.0,SNR=5.5						
ASAR	**Alice Springs**	**150.68**	**34**	PKPbc	**PKPbc**	**16 30 22.5**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=344,slow=2.1,SNR=14						

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*BJI **28** 16:11:25.9±0.0, 49°.36N×28°.20W, h6km, mB5.2/12, mb4.6/21, Ms4.9/2*
*IDC **28** 16:11:27.5±0.6, 49°.54N×28°.54W, h0km, mb4.2/26, mb1 4.4/27, mb1mx4.2/55, mbtmp4.2/27, ML4.4/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/23, Error ellipse: s-maj=17.1km s-min=10.8km az=25.0*
*NEIC **28** 16:11:29.7±1.3, 49°.5N±0°.1×28°.5W±0°.1, h16km±4km, mb4.7/150, Error ellipse: s-maj=16.3km s-min=12.0km az=188.0*
ISC 28 16:11:29.1±0.4, 49°.56N±0°.09×28°.49W±0°.05, h10km, n450, σ0s86/432, mb4.7/99, MS3.3/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSB	**Dublin**	**14.27**	**67**	Pn	**Pn**	**16 14 50.5**	**-0.6**
BORG	**Borgarnes**	**15.70**	**11**	LR	LR	16 19 27.8	
	comp=Z,212nm,18.1s,baz=194,slow=30						
PGAV	**Gavieira, Arco**	**15.99**	**111**	*e*LR	LR	16 18 47.9	
	220nm,18.0s						
EKA	**Eskdalemuir Ar**	**16.44**	**60**	Pn	**Pn**	**16 15 21.4**	**+1.7**
	baz=260,slow=13,SNR=7.9						
POLO	**Lamas de Olo**	**16.63**	**112**	*e*P	**P**	**16 15 26.9**	**+2.2**
	18nm,1.4s						
PBRG	**Braganca**	**17.02**	**109**	*e*P	**P**	**16 15 28.9**	**-0.1**
	39nm,1.7s						
MVO	**Moncorvo**	**17.22**	**111**	*e*P	**P**	**16 15 31.3**	**+0.1**
	23nm,2.3s						
MVO				*e*LR	LR	16 19 38.5	
	257nm,18.0s						
MTE	**Manteigas**	**17.37**	**114**	*e*LR	LR	16 19 44.7	
	282nm,20.0s						
MTE	**Manteigas**	**17.37**	**114**	Pn	**Pn**	**16 15 30.2**	**-1.4**
PMRV	**Marv??o**	**18.09**	**116**	*e*P	**P**	**16 15 46.3**	**+5.5**
	21nm,1.7s						
PMRV				*e*LR	LR	16 20 07.4	
	295nm,20.0s						
PNCL	**Nicolau / Gran**	**18.33**	**121**	*e*P	**P**	**16 15 49.3**	**+5.9**
	31nm,1.7s						
PCVE	**Castro Verde**	**18.95**	**121**	*e*P	**Pn**	**16 15 52.6**	**+1.8**
	31nm,2.4s						
NUUK	**Nuuk**	**19.21**	**328**	*i* P	Pn	16 16 01.5	+7.7
NUUK				IAmb	IAmb	16 16 02.0	
	comp=Z,68nm,1.5s						
PVAQ	**Vaqueiros**	**19.29**	**121**	*e*LR	LR	16 20 38.1	
	comp=Z,162nm,20.0s						
PAB	**San Pablo**	**19.83**	**111**	P	**P**	**16 16 00.0**	**+0.1**
ESBB	**Sonseca Array**	**19.98**	**110**	P	**P**	**16 16 01.7**	**+0.1**
ESDC	**Sonseca Array**	**19.98**	**110**	P	**P**	**16 16 01.9**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=309,slow=9.9,SNR=13						
ESDC				LR	LR	16 22 22.1	
	comp=Z,268nm,19.0s,baz=305,slow=33						
ICESG	**Greenland Ices**	**20.33**	**348**	*i* P	**P**	**16 16 06.4**	**+0.9**
ICESG				IAmb	IAmb	16 16 11.2	
	comp=Z,13nm,0.8s						
SFJD	**Kangerlussuaq**	**20.78**	**335**	P	**P**	**16 16 10.4**	**+0.4**
	comp=Z,15nm,0.8s,baz=147,slow=11,SNR=7.5						
SFJD	**Kangerlussuaq**	**20.78**	**335**	P	**P**	**16 16 10.6**	**+0.6**
SNF	**Seneffe**	**20.99**	**75**	P	**P**	**16 16 09.9**	**-2.4**
DOU	**Dourbes**	**21.26**	**76**	P	**P**	**16 16 15.3**	**0.0**
BMRD	**Maredsous**	**21.33**	**75**	P	**P**	**16 16 15.4**	**-0.6**
BGES	**Gesves**	**21.51**	**75**	P	**P**	**16 16 18.1**	**+0.1**
BSTI	**Sart Tilman**	**21.78**	**74**	P	**P**	**16 16 22.5**	**+1.7**
MEM	**Membach**	**22.05**	**74**	P	**P**	**16 16 22.5**	**-1.2**
SUMG	**Summit**	**23.52**	**352**	P	**P**	**16 16 41.1**	**+1.6**
SUMG				IAmb	IAmb	16 16 41.9	
	comp=Z,18nm,1.0s						
SUMG	**Summit**	**23.52**	**352**	*i* P	**P**	**16 16 41.0**	**+1.6**
	comp=Z,43nm,1.0s						
SUMG	**Summit**	**23.52**	**352**	*i* P	**P**	**16 16 41.0**	**+1.6**
SUMG				IAmb	IAmb	16 16 41.6	
	comp=Z,43nm,1.0s						
SCHQ	**Schefferville**	**23.86**	**297**	P	**P**	**16 16 40.9**	**-1.5**
	comp=Z,14nm,1.1s,baz=92,slow=8.0,SNR=4.6						
SCHQ				LR	LR	16 24 42.2	
	comp=Z,96nm,19.3s,baz=74,slow=33						
SCHQ	**Schefferville**	**23.86**	**297**	IAmb	IAmb	16 16 43.5	
	comp=Z,18nm,1.1s						
MDT	**Midelt**	**24.40**	**124**	P	**P**	**16 16 48.5**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=340,slow=9.7,SNR=7.0						
MDT				LR	LR	16 24 33.2	
	comp=Z,78nm,21.1s,baz=349,slow=32						
NBO00	**NORSAR Array S**	**24.72**	**47**	P	**P**	**16 16 51.3**	**+1.0**
NAO01	**NORSAR Array S**	**24.74**	**48**	P	**P**	**16 16 51.4**	**+0.9**
NAO01				IAmb	IAmb	16 17 00.9	
	comp=Z,37nm,1.4s						
BATG	**Bathurst New B**	**24.87**	**279**	P	**P**	**16 16 50.8**	**-0.9**
BATG				IAmb	IAmb	16 17 12.1	
	comp=Z,37nm,1.4s						
NB2	**NORSAR Subarra**	**24.93**	**48**	P	**P**	**16 16 53.1**	**+0.9**
	comp=Z,1.1nm,1.4s,baz=271,slow=6.2						
NOA	**NORSAR Array B**	**24.93**	**48**	P	**P**	**16 16 52.8**	**+0.6**
	comp=Z,4.8nm,1.1s,baz=38,slow=24,SNR=5.0						
NC405	**NORSAR Array S**	**25.19**	**47**	P	**P**	**16 16 53.6**	**-0.9**
NC405				IAmb	IAmb	16 17 10.9	
	comp=Z,34nm,1.3s						
TUE	**Stuetta**	**25.32**	**82**	P	**P**	**16 16 55.5**	**-0.5**
TUE				IAmb	IAmb	16 17 00.2	
	comp=Z,18nm,1.0s						
DAVA	**Damuels**	**25.38**	**80**	*e*P	**P**	**16 16 57.3**	**+0.8**
	comp=Z,9.5nm,0.9s						
DAVOX	**Davos/Dischmat**	**25.56**	**81**	P	**P**	**16 16 59.0**	**+0.9**
	comp=Z,11nm,1.1s,baz=323,slow=8.9,SNR=5.2						
RETA	**Reutte**	**25.88**	**79**	*e*P	**P**	**16 17 02.4**	**+1.4**
	comp=Z,6.8nm,1.0s						
FETA	**Feichten**	**26.02**	**80**	*e*P	**P**	**16 17 03.5**	**+1.2**
	comp=Z,7.6nm,1.0s						
MOTA	**Moosalm**	**26.15**	**80**	*e*P	**P**	**16 17 04.3**	**+0.8**
	comp=Z,9.5nm,1.0s						
CLL	**Collm**	**26.24**	**70**	*i* P	**P**	**16 17 03.4**	**-0.7**
	comp=Z,18nm,1.6s						
CLL				*e*		16 17 18.0	
SQTA	**Sankt Quirin**	**26.26**	**80**	*e*P	**P**	**16 17 05.7**	**+1.3**
	comp=Z,11nm,0.9s						
D63A	**Stockholm**	**26.27**	**280**	P	**P**	**16 17 02.4**	**-1.9**
	baz=70						
MSSA	**Maissana**	**26.28**	**87**	P	**P**	**16 17 04.0**	**-0.6**
MSSA				IAmb	IAmb	16 17 09.3	
	comp=Z,21nm,1.0s						
E64A	**Bridgewater**	**26.31**	**278**	P	**P**	**16 17 03.1**	**-1.6**
	baz=69						
WATA	**Walderalm**	**26.45**	**79**	*e*P	**P**	**16 17 06.8**	**+0.6**
	comp=Z,12nm,1.1s						
WTTA	**Wattenberg**	**26.52**	**79**	*e*P	**P**	**16 17 06.0**	**-0.8**
	comp=Z,17nm,1.4s						
D62A	**Allapoint, All**	**26.86**	**280**	P	**P**	**16 17 09.3**	**-0.3**
	baz=70						
CTI	**Castel Tesino**	**26.96**	**82**	P	**P**	**16 17 10.4**	**-0.3**
KHC	**Kasperske Hory**	**27.16**	**75**	*e*P	**P**	**16 17 11.5**	**-0.9**
ABTA	**Abfaltersbach**	**27.26**	**80**	*e*P	**P**	**16 17 12.9**	**-0.6**
	comp=Z,1.6nm,0.4s						
GEC2	**GERESS Array S**	**27.32**	**75**	P	**P**	**16 17 14.1**	**+0.1**
GERES	**GERESS Array B**	**27.32**	**75**	P	**P**	**16 17 14.0**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=290,slow=8.4,SNR=8.9						
KBA	**Koelnbreinsper**	**27.68**	**79**	*e*P	**P**	**16 17 16.0**	**-1.3**
	comp=Z,5.4nm,1.1s						
MYKA	**Terra Mystica**	**28.03**	**80**	*e*P	**P**	**16 17 20.8**	**+0.5**
	comp=Z,9.5nm,0.9s						
H63A	**New Sharon**	**28.42**	**276**	P	**P**	**16 17 23.6**	**-0.1**
	baz=65						
I64A	**Boothbay**	**28.48**	**274**	P	**P**	**16 17 23.8**	**-0.4**
	baz=64						
G62A	**West of Eustis**	**28.51**	**277**	P	**P**	**16 17 23.9**	**-0.6**
	baz=66						
E60A	**Ste Agathe de**	**28.65**	**280**	P	**P**	**16 17 24.7**	**-1.0**
	baz=68						
OBKA	**Obir**	**28.65**	**79**	*e*P	**P**	**16 17 25.3**	**-0.5**
	comp=Z,9.1nm,0.9s						
H62A	**Milan**	**29.19**	**277**	P	**P**	**16 17 29.6**	**-0.9**
	baz=65						
D58A	**Chemin du LacG**	**29.30**	**282**	P	**P**	**16 17 29.9**	**-1.6**
	baz=69						
CHGQ	**Chibougamau**	**29.30**	**288**	P	**P**	**16 17 30.6**	**-0.9**
	baz=73						
MORC	**Moravsky Berou**	**29.44**	**72**	P	**P**	**16 17 31.9**	**-0.8**
F59A	**Saint Guillaume**	**29.71**	**280**	P	**P**	**16 17 33.7**	**-1.4**
	baz=67						
E58A	**La Victoria**	**29.82**	**281**	P	**P**	**16 17 35.3**	**-0.8**
	baz=68						
E57A	**Chemin Saint G**	**30.36**	**282**	P	**P**	**16 17 40.9**	**0.0**
	baz=67						
VYHS	**Vyhne**	**30.65**	**74**	*e*P	**P**	**16 17 43.7**	**+0.2**
KEST	**Kesra**	**30.72**	**102**	P	**P**	**16 17 43.8**	**-0.5**
	comp=Z,11nm,1.0s,baz=270,slow=1.7,SNR=7.4						
KEST				LR	LR	16 28 48.0	
	comp=Z,100nm,19.0s,baz=346,slow=34						
KEST	**Kesra**	**30.72**	**102**	P	**P**	**16 17 43.8**	**-0.5**
KEST				IAmb	IAmb	16 17 45.5	
	comp=Z,13nm,0.9s						
K62A	**Royalston**	**30.74**	**274**	P	**P**	**16 17 44.3**	**0.0**
	baz=62						
E56A	**St. Veronique**	**30.87**	**282**	P	**P**	**16 17 44.0**	**-1.4**
	baz=67						
I60A	**Shoreham**	**30.89**	**277**	P	**P**	**16 17 44.7**	**-0.8**
	baz=64						
D55A	**Sainte-Anne-du**	**30.97**	**284**	P	**P**	**16 17 44.3**	**-2.0**
	baz=68						
L61B	**Northampton**	**31.14**	**274**	P	**P**	**16 17 47.5**	**-0.2**
	baz=62						
H58A	**Gabriels**	**31.20**	**278**	P	**P**	**16 17 47.8**	**-0.6**
	baz=64						
M63A	**Gales Ferry**	**31.24**	**272**	P	**P**	**16 17 49.1**	**+0.5**
	baz=60						
J60A	**Lant Hill Farm**	**31.24**	**276**	P	**P**	**16 17 48.7**	**0.0**
	baz=63						
I59A	**Olmsteadville**	**31.28**	**277**	P	**P**	**16 17 48.9**	**-0.2**
	baz=63						
LONY	**Lake Ozonia**	**31.38**	**279**	P	**P**	**16 17 49.6**	**-0.3**
	baz=64						
LONY	**Lake Ozonia**	**31.38**	**279**	P	**P**	**16 17 49.9**	**0.0**
LONY				IAmb	IAmb	16 17 51.3	
	comp=Z,15nm,1.1s						
K61A	**Williamstown**	**31.41**	**275**	P	**P**	**16 17 49.9**	**-0.4**
	baz=62						
G57A	**Newington**	**31.43**	**280**	P	**P**	**16 17 49.3**	**-1.0**
	baz=65						
PSZ	**Piszkesteto**	**31.52**	**74**	P	**P**	**16 17 51.5**	**+0.3**
PSZ				IAmb	IAmb	16 17 53.2	
	comp=Z,8.4nm,1.1s						
M62A	**Hamden**	**31.77**	**272**	P	**P**	**16 17 53.3**	**0.0**
	baz=60,SNR=5.0						
J59A	**Piesco**	**31.84**	**277**	P	**P**	**16 17 53.0**	**-1.0**
	baz=63						
H57A	**Richville**	**31.96**	**279**	P	**P**	**16 17 54.0**	**-1.0**
	baz=64						
I58A	**Old Forge**	**32.04**	**277**	P	**P**	**16 17 54.9**	**-0.9**
	baz=63						
FINES	**FINESS Array B**	**32.12**	**47**	P	**P**	**16 17 55.9**	**-0.3**
	comp=Z,4.5nm,0.9s,baz=4.3,slow=7.6,SNR=5.8						
ARCES	**ARCESS Array B**	**32.32**	**32**	P	**P**	**16 17 57.5**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=164,slow=0.9,SNR=8.2						
L60A	**Shokan**	**32.36**	**274**	P	**P**	**16 17 58.3**	**-0.3**
	baz=61						
I57A	**Carthage**	**32.37**	**278**	P	**P**	**16 17 57.9**	**-0.7**
	baz=63						
NOR	**Nord**	**32.39**	**3**	*i* P	**P**	**16 17 58.7**	**+0.3**
NOR	**Nord**	**32.39**	**3**	*i* P	**P**	**16 17 58.7**	**+0.3**
J58A	**Remsen**	**32.40**	**277**	P	**P**	**16 17 58.2**	**-0.7**
	baz=62						
KOLS	**Kolonicke sedl**	**32.63**	**71**	*e*P	**P**	**16 18 00.4**	**-0.5**
PAL	**Palisades**	**32.65**	**272**	P	**P**	**16 18 01.6**	**+0.6**
	baz=59						
L59A	**Walton**	**32.80**	**275**	P	**P**	**16 18 02.7**	**+0.3**
	baz=61						
J57A	**Williamstown**	**32.83**	**278**	P	**P**	**16 18 02.7**	**+0.1**
	baz=62						
M60A	**Port Jervis**	**32.95**	**273**	P	**P**	**16 18 04.0**	**+0.3**
	baz=60						
ALGO	**Algonquin Park**	**33.03**	**283**	P	**P**	**16 18 03.8**	**-0.5**
	baz=66						
N61A	**South Mountain**	**33.03**	**272**	P	**P**	**16 18 04.3**	**-0.1**
	baz=59						
G54A	**Lake Saint Pet**	**33.29**	**282**	P	**P**	**16 18 05.1**	**-1.6**
	baz=65						
M59A	**Waymart**	**33.37**	**274**	P	**P**	**16 18 07.2**	**-0.2**
	baz=60						
L58A	**Harry Jones Me**	**33.39**	**275**	P	**P**	**16 18 07.6**	**0.0**
	baz

O55A	Ligonier	36.57 275	P	P	16 18 34.8	-0.2	
	baz=58						
N54A	Moraine State	36.62 276	P	P	16 18 35.0	-0.4	
	baz=59						
Q57A	Strasburg	36.62 273	P	P	16 18 35.5	0.0	
	baz=57						
P56A	Dayton Farm, R	36.65 274	P	P	16 18 35.8	+0.1	
	baz=57						
R58A	Rapidan	36.77 271	P	P	16 18 37.3	+0.6	
	baz=56						
RES	Resolute Bay	36.78 336	P	P	16 18 37.4	+1.1	
	comp=Z,4.6nm,1.0s,baz=132,slow=7.0,SNR=5.6						
RES	Resolute Bay	36.78 336	P	P	16 18 37.5	+1.1	
M53A	WI Miller and	36.81 278	P	P	16 18 36.7	-0.4	
	baz=59						
R58B	Mineral	36.88 271	P	P	16 18 38.3	+0.7	
	baz=56						
JSRW	J. Sargeant Re	37.03 270	P	P	16 18 39.1	+0.2	
R57A	Stanardsville	37.11 272	P	P	16 18 39.9	+0.3	
	baz=56						
Q56A	Snyder Ridge,	37.12 273	P	P	16 18 39.6	-0.2	
	baz=57						
S58A	Poland Farm, P	37.19 270	P	P	16 18 40.4	+0.2	
	baz=55						
T59A	Double "B" Far	37.23 269	P	P	16 18 41.6	+1.0	
	baz=54						
O54A	Avella	37.28 276	P	P	16 18 41.2	+0.1	
	baz=58						
P55A	Reedsville	37.28 274	P	P	16 18 41.6	+0.5	
	baz=57						
R56A	Bull Pasture M	37.62 273	P	P	16 18 43.7	-0.3	
	baz=56,SNR=5.5						
P54A	Burton	37.66 275	P	P	16 18 44.3	0.0	
	baz=57						
S57A	Dark Hollow, R	37.69 271	P	P	16 18 45.1	+0.5	
	baz=55						
Q55A	Buckhannon	37.73 274	P	P	16 18 45.0	+0.1	
	baz=57						
U59A	Littleton	37.75 269	P	P	16 18 45.0	0.0	
	baz=54,SNR=5.1						
V60A	Jim Taylor Roa	37.76 267	P	P	16 18 46.4	+1.3	
	baz=53						
O53A	New Philadelph	37.78 276	P	P	16 18 45.6	+0.3	
	baz=58						
S56A	Natural Bridge	38.14 272	P	P	16 18 49.3	+0.9	
	baz=55						
R55A	Marlinton	38.15 273	P	P	16 18 49.0	+0.5	
	baz=56						
N51A	Ashland	38.18 278	P	P	16 18 48.9	+0.2	
	baz=58						
U58A	Oxford	38.22 269	P	P	16 18 50.2	+1.2	
	baz=54						
Q54A	Coxs Mills	38.23 274	P	P	16 18 49.6	+0.6	
	baz=56						
O52A	Adamsville	38.26 277	P	P	16 18 49.7	+0.4	
	baz=58						
P53A	Whipple	38.31 275	P	P	16 18 50.3	+0.6	
	baz=57						
T57A	Hurt	38.32 271	P	P	16 18 50.9	+1.0	
	baz=54						
V59A	Middlesex	38.39 268	P	P	16 18 51.5	+1.1	
	baz=53						
KLMR	Klimovskoe	38.64 47	eP	P	16 18 51.5	-0.7	
KLMR			AMP		16 19 02.9		
	comp=Z,10.0nm,1.2s						
S55A	Lewisburg	38.69 272	P	P	16 18 53.7	+0.7	
	baz=55						
U57A	Blanch	38.71 270	P	P	16 18 53.9	+0.8	
	baz=54						
P52A	Corning	38.71 276	P	P	16 18 53.4	+0.3	
	baz=57						
O51A	Pataskala	38.74 277	P	P	16 18 53.9	+0.5	
	baz=58						
R54A	Victor	38.78 273	P	P	16 18 54.3	+0.6	
	baz=56						
T56A	Rocky Mt	38.81 271	P	P	16 18 54.2	+0.2	
	baz=54,SNR=7.0						
OBN	Obninsk	38.84 56	LR	LR	16 33 37.6		
	comp=Z,41nm,18.3s,baz=5.5,slow=34						
ACSO	Alum Creek Sta	38.94 277	P	P	16 18 54.7	-0.3	
	baz=58						
ACSO	Alum Creek Sta	38.94 277	P	P	16 18 55.4	+0.4	
V58A	Windy Hill, Pi	38.94 269	P	P	16 18 56.2	+1.1	
	baz=53						
Q52A	Bidwell	39.17 275	P	P	16 18 57.5	+0.5	
	baz=56						
S54A	Dingess, Beckl	39.20 273	P	P	16 18 58.0	+0.7	
	baz=55						
R53A	Hurricane	39.32 274	P	P	16 18 58.8	+0.6	
	baz=56						
V57A	Coltrane Farms	39.32 270	P	P	16 18 59.4	+1.2	
	baz=53						
P51A	Williamsport	39.40 277	P	P	16 18 59.1	+0.3	
	baz=57						
U56A	King	39.44 271	P	P	16 18 59.9	+0.7	
	baz=54						
U55A	TA2, Sparta	39.78 271	P	P	16 19 02.0	-0.2	
	baz=54,SNR=6.4						
T54A	Tazewell	39.80 272	P	P	16 19 02.8	+0.5	
	baz=54						
V56A	Mocksville	39.83 270	P	P	16 19 02.9	+0.3	
	baz=53,SNR=6.6						
W57A	Gilead	39.90 269	P	P	16 19 04.3	+1.2	
	baz=53						
U54A	Nelsons Funny	40.27 272	P	P	16 19 06.6	+0.3	
	baz=54						
V55A	Taylorsville	40.28 271	P	P	16 19 07.5	+1.3	
	baz=53						
KOWA	Kowa	40.29 142	P	P	16 19 06.5	+0.1	
	comp=Z,0.8nm,0.4s,baz=316,slow=5.6,SNR=4.1						
KOWA	Kowa	40.29 142	IAmb	IAmb	16 19 07.2		
	comp=Z,5.2nm,1.1s						
W56A	Indian Trail	40.30 269	P	P	16 19 07.2	+0.8	
	baz=53						
X57A	Johnson Farm,	40.39 268	P	P	16 19 08.7	+1.6	
	baz=52						
P49A	Miami Univ. Ec	40.44 278	P	P	16 19 07.4	-0.1	
	baz=57						
T53A	Wise	40.47 273	P	P	16 19 08.6	+0.8	
	baz=54						
EYMN	Ely	40.49 293	P	P	16 19 07.6	-0.2	
	baz=63						
BIRD	Birdtown, Kers	40.51 269	P	P	16 19 08.4	+0.3	
BIRD			IAmb	IAmb	16 19 10.1		
	comp=Z,14nm,0.9s						
V54A	Nebo	40.80 271	P	P	16 19 11.7	+1.1	
	baz=53						
X56A	White Oak	40.98 269	P	P	16 19 13.3	+1.3	
	baz=52						
JSC	Jenkinsville	41.26 269	P	P	16 19 12.9	-1.4	
W54A	Cherokee Point	41.37 270	P	P	16 19 15.7	+0.5	
	baz=53,SNR=5.2						
TZTN	Tazewell	41.38 273	P	P	16 19 15.5	+0.1	
	baz=54						
X55A	Gracelyn & Ava	41.38 269	P	P	16 19 16.4	+1.1	
	baz=52						
SFIN	Lafayette	41.51 280	P	P	16 19 16.4	+0.2	
	baz=57						
Z57A	Bowman	41.51 267	P	P	16 19 17.4	+1.0	
	baz=51						
X54A	Belton	41.82 270	P	P	16 19 20.1	+1.2	
	baz=52						
HODGE	Hodges	41.94 269	P	P	16 19 18.6	-1.3	
HODGE			IAmb	IAmb	16 19 21.7		
	comp=Z,15nm,1.3s						
ULM	Lac du Bonnet	42.04 298	P	P	16 19 20.0	-0.5	
	comp=Z,8.9nm,0.8s,baz=57,slow=4.2,SNR=6.5						
ULM	Lac du Bonnet	42.04 298	P	P	16 19 19.6	-0.9	
JFWS	Jewell Farm	42.16 285	P	P	16 19 21.4	-0.2	
	baz=59						
WCI	Wyandotte Cave	42.19 277	P	P	16 19 22.1	+0.3	
	baz=55						
WCI	Wyandotte Cave	42.19 277	P	P	16 19 20.6	-1.3	
WCI			IAmb	IAmb	16 19 23.5		
	comp=Z,11nm,0.8s						
V51A	Loudon	42.35 273	P	P	16 19 22.8	-0.4	
V51A			IAmb	IAmb	16 19 25.0		
	comp=Z,13nm,0.9s						
H05N1	Guadeloupe/Mar	42.36 230	T	T	17 04 22.4		
	SNR=7.7						
CPCT	Cooper Cave	42.67 273	P	P	16 19 25.5	-0.3	
CPCT			IAmb	IAmb	16 19 27.7		
	comp=Z,15nm,0.9s						
GOGA	Godfrey	43.23 269	P	P	16 19 30.4	-0.1	
	baz=51						
CLTN	Cedars of Leba	43.46 275	P	P	16 19 32.6	+0.4	
FFC	Flin Flon	43.48 306	P	P	16 19 32.2	0.0	
SWET	Sewanee	43.73 273	P	P	16 19 34.1	-0.4	
FPAL	Fort Paine	43.93 272	P	P	16 19 35.9	-0.2	
FPAL			IAmb	IAmb	16 19 44.7		
	comp=Z,18nm,1.3s						
TOA0	Torodi Ar. Sit	43.96 135	P	P	16 19 35.6	-0.8	
TORD	Torodi Ar. Bea	43.96 135	P	P	16 19 35.5	-0.8	
	comp=Z,2.6nm,0.8s,baz=332,slow=7.5,SNR=10						
TORD	Torodi Ar. Bea	43.96 135	P	P	16 19 36.2	-0.1	
BRTR	Keskin Array B	44.12 78	P	P	16 19 37.9	+0.2	
WVT	Waverly	44.41 276	P	P	16 19 40.0	+0.1	
	baz=53						
WVT	Waverly	44.41 276	P	P	16 19 39.6	-0.2	
PLAL	Pickwick Lake	45.26 275	P	P	16 19 46.5	-0.2	
PLAL			IAmb	IAmb	16 19 47.9		
	comp=Z,10nm,1.1s						
CCM	Cathedral Cave	45.48 280	P	P	16 19 48.5	+0.2	
	baz=54						
CCM	Cathedral Cave	45.48 280	P	P	16 19 47.9	-0.4	
CCM			IAmb	IAmb	16 19 49.4		
	comp=Z,14nm,0.9s						
ECSD	EROS Data Cent	45.68 290	P	P	16 19 50.4	+0.6	
	baz=58						
ECSD	EROS Data Cent	45.68 290	P	P	16 19 50.1	+0.2	
ECSD			IAmb	IAmb	16 19 51.9		
	comp=Z,11nm,1.1s						
PBMO	Poplar Bluff	45.70 278	P	P	16 19 50.3	+0.2	
PBMO			IAmb	IAmb	16 19 52.6		
	comp=Z,16nm,1.3s						
LRAL	Lakeview Retre	45.77 272	P	P	16 19 51.0	+0.3	
	baz=51						
YKA	Yellowknife Ar	46.16 320	P	P	16 19 53.0	-0.3	
	comp=Z,4.8nm,1.0s,baz=59,slow=8.0,SNR=6.3						
LCAR	Lake Charles	46.59 278	P	P	16 19 55.9	-1.2	
LCAR			IAmb	IAmb	16 19 57.6		
	comp=Z,8.4nm,1.1s						
MGMO	Mountain Grove	46.66 280	P	P	16 19 56.6	-1.1	
MGMO			IAmb	IAmb	16 19 58.8		
	comp=Z,10nm,1.0s						
DBIC	Dimbokro	47.15 147	P	P	16 20 01.1	-0.5	
	comp=Z,4.1nm,1.0s,baz=315,slow=4.6,SNR=3.1						
DBIC	Dimbokro	47.15 147	IAmb	IAmb	16 20 10.6		
	comp=Z,8.2nm,1.0s						
FCAR	Ozark Folk Cen	47.33 278	P	P	16 20 01.1	-1.8	
FCAR			IAmb	IAmb	16 20 03.4		
	comp=Z,8.5nm,1.1s						
U40A	Yellville	47.52 279	P	P	16 20 04.1	-0.3	
	baz=53						
WHAR	Wooly Hollow	47.80 278	P	P	16 20 05.7	-0.9	
WHAR			IAmb	IAmb	16 20 07.1		
	comp=Z,10.0nm,0.9s						
W41B	Gary Mavity, V	47.85 278	P	P	16 20 06.8	-0.2	
	baz=52,SNR=5.5						
X40A	Basin Creek Fa	48.65 277	P	P	16 20 12.7	-0.5	
	baz=52						
W39A	Magazine	48.82 279	P	P	16 20 14.4	-0.1	
	baz=52,SNR=5.4						
MIAR	Mount Ida	49.09 278	P	P	16 20 16.3	-0.2	
	baz=51						
MIAR	Mount Ida	49.09 278	P	P	16 20 15.9	-0.7	
ARU	Arti	49.49 47	P	P	16 20 19.0	-0.2	
ARU			IAmb	IAmb	16 20 25.7		
	comp=Z,6.9nm,0.9s						
LAO	LASA Array	49.78 298	P	P	16 20 22.0	+0.3	
	baz=56						
LAO	LASA Array	49.78 298	P	P	16 20 22.1	+0.4	
INK	Inuvik	50.08 332	P	P	16 20 23.6	+0.1	
	comp=Z,1.9nm,0.7s,baz=43,slow=10,SNR=5.9						
KAN14	Manchester OK	50.41 283	P	P	16 20 25.4	-1.2	
CROK	Carrier	50.70 283	P	P	16 20 28.4	-0.4	
OK029	Liberty Lake	50.80 282	P	P	16 20 29.4	-0.1	
W35A	Tecumseh	50.83 281	P	P	16 20 28.5	-1.2	
EGMT	Eagleton	51.03 301	P	P	16 20 31.2	0.0	
	baz=56						
EGMT	Eagleton	51.03 301	P	P	16 20 31.4	+0.2	
EGMT			IAmb	IAmb	16 20 33.6		
	comp=Z,14nm,1.1s						
KSCO	Kaye Shedlock'	52.09 288	P	P	16 20 38.8	-0.5	
	baz=53						
EPYK	Eagle Plains	52.23 331	P	P	16 20 40.1	+0.3	
	baz=52						
EPYK	Eagle Plains	52.23 331	P	P	16 20 40.1	+0.3	
EPYK			IAmb	IAmb	16 20 42.2		
	comp=Z,15nm,1.2s						
K22A	Casper	52.27 294	P	P	16 20 40.2	-0.4	
	baz=54,SNR=8.6						
WMOK	Wichita Mounta	52.31 282	P	P	16 20 40.4	-0.6	
	baz=51						
WMOK	Wichita Mounta	52.31 282	P	P	16 20 40.3	-0.6	
RLMT	Red Lodge	52.42 298	P	P	16 20 42.0	+0.3	
	baz=54						
RLMT	Red Lodge	52.42 298	P	P	16 20 42.1	+0.3	
NRIK	Noril'sk	52.55 24	P	P	16 20 42.5	+0.4	
	comp=Z,1.5nm,0.6s,baz=323,slow=15,SNR=3.1						
WALA	Waterton Lakes	52.71 304	P	P	16 20 43.3	-0.4	
N23A	Red Feather La	52.97 292	P	P	16 20 46.6	+0.6	
	baz=53,SNR=24						
YMP	Mirror Lake Pl	53.15 298	P	P	16 20 46.6	-0.7	
RWWY	Rawlins	53.25 294	P	P	16 20 48.3	+0.3	
ISCO	Idaho Springs	53.44 291	P	P	16 20 49.7	+0.3	
	baz=52						
ISCO	Idaho Springs	53.44 291	P	P	16 20 50.0	+0.5	
BOZ	Bozeman (W)	53.48 300	P	P	16 20 49.7	+0.1	
	baz=54						
BOZ	Bozeman (W)	53.48 300	P	P	16 20 49.7	+0.1	
BOZ			IAmb	IAmb	16 20 51.5		
	comp=Z,18nm,1.5s						
HKT	Hockley	53.51 275	P	P	16 20 50.4	+0.8	
HKT			IAmb	IAmb	16 20 51.6		
	comp=Z,8.5nm,1.0s						
H17A	Grant Village	53.60 298	P	P	16 20 51.9	+1.3	
	baz=53						
Q24A	Divide	53.67 290	P	P	16 20 51.8	+0.6	
	baz=52						
BW06	Boulder Array	53.99 296	P	P	16 20 53.0	-0.3	
	baz=53						
BW06	Boulder Array	53.99 296	P	P	16 20 52.1	-1.3	
BW06			IAmb	IAmb	16 20 55.1		
	comp=Z,9.9nm,1.0s						
PD31	Pinedale Array	53.99 296	P	P	16 20 51.9	-1.4	
PD31			IAmb	IAmb	16 20 55.1		
	comp=Z,9.0nm,1.0s						
PDAR	Pinedale Array	53.99 296	P	P	16 20 52.9	-0.5	
	comp=Z,5.1nm,0.8s,baz=65,slow=8.4,SNR=23						
PDAR	Pinedale Array	53.99 296	P	P	16 20 52.0	-1.4	
AMTX	Amarillo	54.06 284	P	P	16 20 54.3	+0.4	
	baz=50						
AMTX	Amarillo	54.06 284	P	P	16 20 53.4	-0.4	
MOOW	Moose Ponds	54.09 298	P	P	16 20 53.6	-0.4	
LOHW	Long Hollow	54.09 297	P	P	16 20 53.8	-0.2	
IMW	Indian Meadow	54.11 298	P	P	16 20 54.0	-0.3	
DLMT	Dillon	54.17 300	P	P	16 20 54.9	+0.4	
DLMT			IAmb	IAmb	16 20 57.7		
	comp=Z,8.0nm,1.2s						
ABKAR	Akbulak array	54.20 54	P	P	16 20 54.8	+0.3	
TOLK	Toolik Lake Re	54.34 337	P	P	16 20 57.0	+1.7	
	baz=43						
T25A	Trinidad	54.35 287	P	P	16 20 56.4	+0.3	
	baz=51,SNR=8.3						
TPAW	Teton Pass	54.36 297	P	P	16 20 56.2	+0.1	
TPAW			IAmb	IAmb	16 20 57.7		
	comp=Z,6.3nm,0.9s						
REDW	Red Top Meadow	54.38 297	P	P	16 20 56.4	+0.2	
REDW			IAmb	IAmb	16 20 59.8		
	comp=Z,9.2nm,1.1s						
SDCO	Great Sand Dun	54.64 289	P	P	16 20 58.7	+0.4	
	baz=51						
O20A	White River Ci	54.82 293	P	P	16 20 59.9	+0.5	
	baz=52						
AHID	Auburn Hatcher	54.89 297	P	P	16 20 59.9	0.0	
AHID			IAmb	IAmb	16 21 07.0		
	comp=Z,7.2nm,0.9s						
MSTX	Muleshoe	55.34 283	P	P	16 21 03.4	+0.3	
	baz=50						
MSTX	Muleshoe	55.34 283	P	P	16 21 02.4	-0.8	
RDMU	Red Mountain	55.35 294	P	P	16 21 03.1	-0.1	
S22A	4UR Ranch, Cre	55.46 290	P	P	16 21 05.0	+0.9	
	baz=51						
K27K	Chicken	55.48 331	P	P	16 21 04.8	+1.3	
	baz=46						
K27K	Chicken	55.48 331	P	P	16 21 04.9	+1.3	
K27K			IAmb	IAmb	16 21 06.7		
	comp=Z,7.2nm,1.1s						
JCT	Junction City	55.72 278	P	P	16 21 05.5	-0.4	
JCT			IAmb	IAmb	16 21 06.5		
	comp=Z,7.6nm,1.0s						
HWUT	Hardware Ranch	55.88 296	P	P	16 21 07.0	-0.1	
TCUT	Toone Canyon	56.09 295	P	P	16 21 08.5	-0.1	
SCRK	Sand Creek	56.12 331	P	P	16 21 09.5	+1.2	
	baz=45,SNR=8.5						
PV07	Paradox Valley	56.13 291	P	P	16 21 08.9	0.0	
PV07			IAmb	IAmb	16 21 12.1		
	comp=Z,11nm,1.1s						
PV22	Blue Mesa, Par	56.16 291	P	P	16 21 09.1	+0.1	
PV22			IAmb	IAmb	16 21 12.2		
	comp=Z,14nm,1.2s						
SKAG	Skagway	56.21 324	P	P	16 21 09.5	+0.7	
SKAG			IAmb	IAmb	16 21 34.3		
	comp=Z,14nm,1.1s						
HLID	Hailey	56.30 299	P	P	16 21 10.1	+0.1	
HLID			IAmb	IAmb	16 21 12.9		
	comp=Z,10nm,1.4s						
PV12	Saucer Basin,	56.30 291	P	P	16 21 10.1	-0.1	
PV04	Paradox Valley	56.32 291	P	P	16 21 10.3	+0.1	
PV02	Paradox Valley	56.33 291	P	P	16 21 10.9	+0.6	
PV02			IAmb	IAmb	16 21 23.0		
	comp=Z,20nm,1.4s						
POKR	Poker Plat Res	56.34 334	P	P	16 21 11.4	+1.7	
	baz=43						
PV23	Carpenter Ridg	56.34 292	P	P	16 21 10.8	+0.3	
PV11	David Mesa, Pa	56.36 291	P	P	16 21 10.6	+0.1	
PV03	Paradox Valley	56.37 291	P	P	16 21 11.2	+0.6	
PV16	Nyswonger Mesa	56.38 291	P	P	16 21 10.9	+0.2	
DOT	Dot Lake	56.38 331	P	P	16 21 10.3	+0.3	
PV20	West Nyswonger	56.39 291	P	P	16 21 10.1	-0.6	
PV14	Lion Creek, Pa	56.40 291	P	P	16 21 10.8	0.0	
PV10	Paradox Valley	56.41 291	P	P	16 21 11.6	+0.7	
PV18	Skein Mesa, Pa	56.41 291	P	P	16 21 11.3	+0.4	
PV13	Radium Mtn., P	56.41 291	P	P	16 21 11.4	+0.4	
PV13			IAmb	IAmb	16 21 14.9		
	comp=Z,12nm,1.0s						
PV19	Morning Glory	56.42 291	P	P	16 21 11.1	+0.2	
PV17	East Wray Mesa	56.42 291	P	P	16 21 11.4	+0.4	
IL31		56.43 333	P	P	16 21 11.2	+1.0	
IL31			IAmb	IAmb	16 21 13.0		
	comp=Z,7.4nm,1.1s						
ILAR	Eielson Array	56.43 333	P	P	16 21 10.7	+0.4	
	comp=Z,3.4nm,1.0s,baz=41,slow=5.2,SNR=17						
L26K	Log Cabin Wild	56.59 330	P	P	16 21 12.9	+1.3	
	baz=45						
PV05	Paradox Valley	56.63 291	P	P	16 21 10.7	-1.8	
P17A	Butcher Ranch,	56.73 293	P	P	16 21 12.9	-0.2	
MENT	Mentasta	56.77 330	P	P	16 21 13.0	+0.1	
MENT			IAmb	IAmb	16 21 15.8		
	comp=Z,7.3nm,1.0s						
MVCO	Mesa Verde	56.82 290	P	P	16 21 14.1	+0.2	
	baz=50						
SRU	San Rafael Swe	56.84 293	P	P	16 21 13.2	-0.7	
I23K	Minto, Yukon-K	56.86 334	P	P	16 21 15.0	+1.6	
	baz=42						
833A	Chaparral WMA,	56.91 276	P	P	16 21 14.2	0.0	
	baz=47						
ANMO	Albuquerque	57.02 287	P	P	16 21 15.6	+0.3	
	baz=49						
ANMO	Albuquerque	57.02 287	P	P	16 21 15.2	-0.1	
BMO	Blue Mountains	57.11 302	P	P	16 21 15.8	+0.2	
TMUT	Trail Mountain	57.13 294	P	P	16 21 16.2	+0.1	
BGU	Big Grassy Mou	57.16 296	P	P	16 21 15.9	-0.3	
NEA2	Nenana	57.20 334	P	P	16 21 17.2	+1.4	
	baz=42						
PAX	Paxson	57.31 331	P	P	16 21 17.8	+1.1	
PAX			IAmb	IAmb	16 21 19.6		
	comp=Z,6.4nm,1.0s						
MLY	Manley	57.34 335	P	P	16 21 18.0	+1.1	
	baz=41						
Q16A	Castle Valley	57.35 293	P	P	16 21 16.6	-0.9	
DUG	Dugway, Tooele	57.50 295	P	P	16 21 19.0	+0.5	
	baz=50						
DUG	Dugway, Tooele	57.50 295	P	P	16 21 18.7	+0.2	
DUG			IAmb	IAmb	16 21 21.5		
	comp=Z,14nm,1.1s						
MCK	McKinley	57.80 333	P	P	16 21 20.8	+0.7	
	baz=42						
MSU	Marysvale	58.21 293	P	P	16 21 23.8	+0.2	
MVU	Marysvale	58.24 293	P	P	16 21 23.8	0.0	
H10N2	ASCENSION HYDR	58.44 164	T	T	17 24 18.0		
	baz=349,slow=75,SNR=9.7						
H10N3	ASCENSION HYDR	58.45 164	T	T	17 24 18.6		
	baz=349,slow=75,SNR=9.8						
H10N1	ASCENSION HYDR	58.46 164	T	T	17 24 19.6		
	baz=349,slow=75,SNR=9.7						
MNTX	Cornudas Mount	58.48 283	P	P	16 21 24.9	-0.5	
	baz=48						
MTPU	Mount Pierson	58.52 293	P	P	16 21 26.5	+0.5	
ELK	Elko	58.57 297	P	P	16 21 26.2	+0.1	
ELK			IAmb	IAmb	16 21 28.9		
	comp=Z,7.9nm,1.1s						
W18A	Petrified Fore	58.94 289	P	P	16 21 28.8	+0.1	
	baz=49						
TX31	Lajitas Ar. Si	58.98 280	P	P	16 21 28.4	-0.5	
TX31			IAmb	IAmb	16 21 30.8		
	comp=Z,11nm,1.2s						
TX32	Lajitas Array	58.98 280	P	P	16 21 28.6	-0.3	
TXAR	Lajitas Array	58.98 280	P	P	16 21 28.7	-0.2	
	comp=Z,2.0nm,0.9s,baz=60,slow=7.5,SNR=8.5						
TXAR	Lajitas Array	58.98 280	P	P	16 21 28.2	-0.7	
PKCU	Pink Cliffs	58.98 293	P	P	16 21 29.2	0.0	
PSUT	Pine Spring	59.19 294	P	P	16 21 30.7	+0.2	
SZCU	Shurtz Canyon	59.35 293	P	P	16 21 30.2	-1.4	
121A	Cookes Peak, D	59.44 285	P	P	16 21 32.8	+0.6	
	baz=48						
H10S3	ASCENSION HYDR	59.51 164	T	T	17 25 39.0		
	SNR=8.4						
H10S2	ASCENSION HYDR	59.52 164	T	T	17 25 39.1		
CCUT	Cedar City	59.55 293	P	P	16 21 33.4	+0.5	
KNB	Kanab	59.57 293	P	P	16 21 32.7	-0.3	
WUAZ	Wupatki	59.69 290	P	P	16 21 34.3	+0.4	
	baz=48						
WUAZ	Wupatki	59.69 290	P	P	16 21 33.3	-0.5	
SKT	Skwentna	59.91 333	P	P	16 21 35.3	+0.5	
J05D	Fort Rock, OR	60.28 303	P	P	16 21 38.2	+0.5	
	baz=48						
R11A	Troy Canyon, C	60.34 295	P	P	16 21 38.0	-0.2	
	baz=48,SNR=9.1						
PRN	Pahroc Range	60.65 294	P	P	16 21 40.0	-0.3	
PRN			IAmb	IAmb	16 21 43.2		
	comp=Z,5.7nm,0.9s						
SHPR	Sheep Range	61.31 294	P	P	16 21 44.2	-0.8	
KVN	Kaiserville	61.34 297	P	P	16 21 44.1	-0.9	
KVN			IAmb	IAmb	16 21 47.8		
	comp=Z,9.5nm,1.0s						
TUC	Tucson	61.47 287	P	P	16 21 46.5	+0.6	
	baz=47						
TUC	Tucson	61.47 287	P	P	16 21 44.9	-1.0	
TUC			IAmb	IAmb	16 21 49.0		
	comp=Z,8.0nm,1.4s						
M04C	Macdoel	61.62 302	P	P	16 21 47.0	+0.1	
	baz=48						
TPNV	Topopah Spring	61.66 295	P	P	16 21 47.5	+0.2	
	baz=48						
TPNV	Topopah Spring	61.66 295	P	P	16 21 46.4	-0.9	
TPNV			IAmb	IAmb	16 22 08.6		
	comp=Z,9.7nm,1.4s						
HOM	Homer	61.77 331	P	P	16 21 49.2	+1.9	
	baz=38						
NV11	Mina Array Sit	61.78 297	P	P	16 21 47.9	-0.1	
NV11			IAmb	IAmb	16 21 50.5		
	comp=Z,4.0nm,0.9s						
RYN	Ryan	61.87 297	P	P	16 21 48.5	-0.1	
RYN			IAmb	IAmb	16 21 50.8		
	comp=Z,7.9nm,1.0s						
NVAR	Mina Array Bea	61.87 297	P	P	16 21 48.3	-0.4	
	comp=Z,0.7nm,0.7s,baz=59,sl

GMRC	**Granite Mounta**	**62.77**	**292**	P		**P**	**16 21 55.7**	**+1.0**
	baz=47,SNR=11								
OMMB	**Old Mammoth Mi**	**62.83**	**297**	P		**P**	**16 21 54.0**	**-1.2**
OMMB				IAmb		IAmb	16 21 58.9		
	comp=Z,5.2nm,1.2s								
IRM	**Iron Mountain**	**62.89**	**292**	P		**P**	**16 21 56.2**	**+0.8**
	baz=47,SNR=7.4								
214A	**Organ Pipe Nat**	**62.97**	**288**	P		**P**	**16 21 57.1**	**+1.2**
	baz=47								
MPMC	**Manual Prospec**	**63.00**	**295**	P		**P**	**16 21 56.8**	**+0.5**
	baz=47,SNR=10								
CWC	**Cottonwood Cre**	**63.09**	**295**	P		**P**	**16 21 57.7**	**+0.9**
	baz=47								
GSC	**Goldstone, Bar**	**63.11**	**294**	P		**P**	**16 21 58.0**	**+1.1**
	baz=47,SNR=18								
GSC	**Goldstone, Bar**	**63.11**	**294**	P		**P**	**16 21 56.9**	**0.0**
HEC	**Hector,Ludlow**	**63.15**	**293**	P		**P**	**16 21 58.1**	**+0.9**
	baz=47,SNR=9.3								
CMB	**Columbia Colle**	**63.34**	**298**	P		**P**	**16 21 58.1**	**-0.2**
CMB				IAmb		IAmb	16 22 00.4		
	comp=Z,5.0nm,1.1s								
BC3	**Big Chuckawall**	**63.42**	**291**	P		**P**	**16 22 00.2**	**+1.2**
	baz=47								
GLA	**Glamis**	**63.45**	**290**	P		**P**	**16 21 59.1**	**0.0**
	baz=47								
LRMC	**Laurel Mtn Rad**	**63.51**	**294**	P		**P**	**16 22 00.8**	**+1.2**
	baz=47,SNR=8.3								
BELC	**Belle Mtn. Jos**	**63.51**	**292**	P		**P**	**16 22 00.7**	**+1.0**
	baz=47								
KMRM	**Mail Ridge**	**63.72**	**302**	P		**P**	**16 22 00.7**	**-0.1**
KKAR	**Karatay Array**	**63.76**	**54**	P		**P**	**16 22 00.3**	**-0.7**
ISA	**Isabella, Lake**	**63.85**	**295**	P		**P**	**16 22 03.0**	**+1.3**
	baz=46,SNR=5.9								
ISA	**Isabella, Lake**	**63.85**	**295**	P		**P**	**16 22 02.3**	**+0.5**
PFO	**Pinyon Flats O**	**64.06**	**292**	P		**P**	**16 22 04.7**	**+1.5**
	baz=46								
TPFO	**Pinon Flats**	**64.06**	**292**	P		**P**	**16 22 04.9**	**+1.7**
	baz=46								
EDW2	**Edwards Air Fo**	**64.11**	**294**	P		**P**	**16 22 05.2**	**+1.8**
	baz=46								
SWSC	**Sam W. Stewart**	**64.12**	**291**	P		**P**	**16 22 05.2**	**+1.7**
	baz=46								
BFSC	**Mount Baldy Ra**	**64.35**	**293**	P		**P**	**16 22 06.7**	**+1.6**
	baz=46								
IKP	**In-Ko-Pah, Jac**	**64.51**	**291**	P		**P**	**16 22 07.5**	**+1.3**
	baz=46								
MURC	**Murrieta**	**64.51**	**292**	P		**P**	**16 22 07.5**	**+1.4**
	baz=46								
MONP2	**Monument Peak**	**64.53**	**291**	P		**P**	**16 22 07.1**	**+0.7**
	baz=46								
MAKZ	**Makanchi**	**66.72**	**44**	P		**P**	**16 22 19.9**	**-0.3**
MAKZ				IAmb		IAmb	16 22 21.4		
	comp=Z,6.5nm,1.4s								
MK31	**Makanchi Array**	**66.88**	**44**	P		**P**	**16 22 20.5**	**-0.7**
MKAR	**Makanchi Array**	**66.88**	**44**	P		**P**	**16 22 21.3**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=330,slow=5.8,SNR=19								
MKAR	**Makanchi Array**	**66.88**	**44**	P		**P**	**16 22 20.7**	**-0.5**
UOSS	**Minazif**	**68.10**	**77**	P		**P**	**16 22 27.1**	**-2.1**
WMQ	**Urumqi**	**71.60**	**43**	*eP*		**P**	**16 22 52.3**	**+1.8**
SONM	**Songino Array**	**75.45**	**30**	P		**P**	**16 23 13.5**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=312,slow=5.6,SNR=5.0								
SONM	**Songino Array**	**75.45**	**30**	P		**P**	**16 23 12.8**	**-0.3**
GTA	**Gaotai**	**80.38**	**38**	*eP*		**P**	**16 23 41.3**	**+0.6**
GTA				pP		pwP	16 23 47.5	+0.2
GTA				sP		PcP	16 23 50.8	+3.0
GTA				pmax		pmax			
	comp=Z,3.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,160nm,6.2s								
GTA				LR		LR			
	comp=Z,83nm,15.3s								
GTA				LR		LR			
	comp=Z,96nm,16.0s								
HHC	**Hu-ho-hao-te**	**83.35**	**29**	*eP*		**P**	**16 23 57.5**	**+1.2**
HHC				pmax		pmax			
	comp=Z,20nm,0.9s								
HHC				pmax		pmax			
	comp=Z,120nm,6.1s								
LZH	**Lanzhou**	**84.85**	**37**	*eP*		**P**	**16 24 03.0**	**-1.1**
LZH				pP		PcP	16 24 08.0	+0.5
LZH				sP		pwP	16 24 10.0	-0.7
LZH				pmax		pmax			
	comp=Z,27nm,1.3s								
KSRS	**Korea Array**	**90.88**	**19**	LR		LR	17 07 49.8		
	comp=Z,8.7nm,19.2s,baz=140,slow=37								
PLCA	**Paso Flores**	**97.23**	**211**	LR		LR	17 06 36.3		
	comp=Z,30nm,18.1s,baz=156,slow=34								
QSPA	**South Pole Qui**	**139.44**	**180**	PKP		**PKiKP**	**16 30 56.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=227,slow=5.5,SNR=2.3								
WRA	**Warramunga Arr**	**147.42**	**31**	PKPbc		**PKPbc**	**16 31 12.6**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=336,slow=3.0,SNR=12								
ASAR	**Alice Springs**	**150.69**	**35**	PKPbc		**PKPbc**	**16 31 20.8**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=350,slow=2.1,SNR=23								
VNDA	**Vanda**	**151.66**	**185**	PKPbc		**PKiKP**	**16 31 22.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=270,slow=2.5,SNR=5.9								

*IDC **28** 16:15:17.4±0.6, 49.57N×28.54W, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.1/56, mbtmp4.2/23, Error ellipse: s-maj=19.9km s-min=11.4km az=17.0*
*NEIC **28** 16:15:20.0±1.4, 49.6N±0.1×28.5W±0.1, h15km±4km, mb4.7/127, Error ellipse: s-maj=18.0km s-min=13.2km az=181.0*

ISC 28 16:15:19.2±0.4, **49.61N**±0.1×**28.50W**±0.06, **h10**km, **n201, s078**/195, **mb4.7**/88, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.42**	**60**	Pn		**Pn**		**16 19 10.3**	**+0.8**
	baz=254,slow=8.6,SNR=5.6								
POLO	**Lamas de Olo**	**16.65**	**112**	*eP*		**P**		**16 19 15.7**	**+0.7**
	17nm,1.3s								
PBRG	**Braganca**	**17.04**	**109**	*eP*		**Pn**		**16 19 17.4**	**-0.1**
	23nm,1.6s								
PCAS	**Casmilo, Conde**	**17.06**	**116**	*eP*		**P**		**16 19 18.0**	**-1.4**
	56nm,1.9s								
MTE	**Manteigas**	**17.40**	**114**	*eP*		**P**		**16 19 24.8**	**+1.5**
	35nm,1.8s								
PCBR	**Castelo Branco**	**17.79**	**115**	*eP*		**P**		**16 19 30.3**	**+2.8**
	21nm,2.1s								
PMRV	**Marv??o**	**18.11**	**116**	*eP*		**Pn**		**16 19 29.9**	**-0.8**
	17nm,1.2s								
PCVE	**Castro Verde**	**18.97**	**121**	*eP*		**Pn**		**16 19 42.6**	**+1.4**
	41nm,1.2s								
PBDV	**Barranco-do-Ve**	**19.31**	**122**	*eP*		**Pn**		**16 19 46.2**	**+0.9**
	65nm,1.5s								
PVAQ	**Vaqueiros**	**19.32**	**121**	*eP*		**Pn**		**16 19 45.3**	**0.0**
	33nm,1.4s								
PAB	**San Pablo**	**19.85**	**111**	P		**P**		**16 19 48.5**	**-1.7**
ESBB	**Sonseca Array**	**20.00**	**110**	P		**P**		**16 19 50.7**	**-1.1**
ESDC	**Sonseca Array**	**20.00**	**110**	P		**P**		**16 19 51.6**	**-0.3**
	5.1nm,0.9s,baz=307,slow=10,SNR=18								
ESDC	**Sonseca Array**	**20.00**	**110**	P		**P**		**16 19 51.0**	**-0.8**
DOU	**Dourbes**	**21.25**	**76**	P		**P**		**16 20 05.4**	**+0.2**
DOU				pP		**sP**		**16 20 08.5**	**+0.4**
BMRD	**Maredsous**	**21.32**	**75**	P		**P**		**16 20 05.4**	**-0.6**
BMRD				pP		**pP**		**16 20 08.3**	**+0.3**
BGES	**Gesves**	**21.51**	**75**	P		**P**		**16 20 07.8**	**-0.1**
BGES				pP		**sP**		**16 20 11.9**	**+1.1**
BSTI	**Sart Tilman**	**21.77**	**74**	P		**P**		**16 20 10.8**	**0.0**
MEM	**Membach**	**22.04**	**74**	P		**P**		**16 20 13.4**	**-0.3**
BTNL	**Ternell**	**22.12**	**74**	P		**P**		**16 20 14.7**	**+0.1**
SCHQ	**Schefferville**	**23.84**	**297**	P		**P**		**16 20 32.4**	**+0.1**
	5.3nm,0.6s,baz=96,slow=14,SNR=4.0								
SCHQ	**Schefferville**	**23.84**	**297**	IAmb		IAmb		16 21 09.1	
	comp=Z,58nm,1.7s								
HAL	**Halifax**	**24.24**	**272**	P		**P**		**16 20 36.6**	**+0.6**
MDT	**Midelt**	**24.43**	**124**	P		**P**		**16 20 37.5**	**-0.5**
	comp=Z,7.1nm,0.9s,baz=339,slow=9.9,SNR=16								
NOA	**NORSAR Array B**	**24.91**	**48**	P		**P**		**16 20 42.6**	**+0.6**
	comp=Z,3.7nm,1.0s,baz=260,slow=9.8,SNR=3.4								
NC405	**NORSAR Array S**	**25.16**	**48**	P		**P**		**16 20 42.7**	**-1.6**
TUE	**Stuetta**	**25.32**	**83**	P		**P**		**16 20 47.1**	**+1.0**
TUE				IAmb		IAmb		16 20 50.3	
	comp=Z,28nm,1.0s								
DAVA	**Damuels**	**25.38**	**80**	*eP*		**P**		**16 20 47.1**	**+0.5**
	comp=Z,6.1nm,0.8s								
GRA1	**Grafenberg Arr**	**25.52**	**74**	P		**P**		**16 20 48.0**	**+0.4**
GRA1				IAmb		IAmb		16 20 51.8	
	comp=Z,23nm,1.1s								
DAVOX	**Davos/Dischmat**	**25.56**	**82**	P		**P**		**16 20 50.0**	**+1.8**
	comp=Z,5.5nm,0.9s,baz=302,slow=5.5,SNR=8.1								
RETA	**Reutte**	**25.88**	**80**	*eP*		**P**		**16 20 51.7**	**+0.7**
	comp=Z,13nm,1.2s								
FETA	**Feichten**	**26.02**	**81**	*eP*		**P**		**16 20 52.7**	**+0.4**
	comp=Z,12nm,1.1s								
MOTA	**Moosalm**	**26.15**	**80**	*eP*		**P**		**16 20 54.2**	**+0.7**
	comp=Z,27nm,1.6s								
CLL	**Collm**	**26.23**	**70**	*i* P		**P**		**16 20 54.0**	**0.0**
	comp=Z,6.0nm,1.0s								
CLL	**Collm**	**26.23**	**70**	P		**P**		**16 20 53.9**	**-0.1**
SQTA	**Sankt Quirin**	**26.26**	**80**	*eP*		**P**		**16 20 54.9**	**+0.4**
	comp=Z,21nm,1.3s								
WATA	**Walderalm**	**26.45**	**79**	*eP*		**P**		**16 20 56.9**	**+0.6**
	comp=Z,12nm,1.0s								
WTTA	**Wattenberg**	**26.52**	**80**	*eP*		**P**		**16 20 56.8**	**-0.1**
	comp=Z,19nm,1.2s								
BRG	**Berggiesshubel**	**26.91**	**71**	*eP*		**P**		**16 21 00.5**	**+0.3**
	comp=Z,10.0nm,1.3s								
CTI	**Castel Tesino**	**26.96**	**82**	P		**P**		**16 21 01.2**	**+0.3**
KHC	**Kasperske Hory**	**27.15**	**75**	*eP*		**P**		**16 21 01.5**	**-0.9**
ABTA	**Abfaltersbach**	**27.26**	**80**	*eP*		**P**		**16 21 02.3**	**-1.1**
	comp=Z,1.6nm,0.6s								
GEC2	**GERESS Array S**	**27.32**	**75**	P		**P**		**16 21 04.3**	**+0.3**
GERES	**GERESS Array B**	**27.32**	**75**	P		**P**		**16 21 04.4**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=290,slow=8.4,SNR=11								
KBA	**Koelnbreinsper**	**27.67**	**79**	*eP*		**P**		**16 21 06.8**	**-0.5**
	comp=Z,5.7nm,1.3s								
MYKA	**Terra Mystica**	**28.03**	**80**	*eP*		**P**		**16 21 10.5**	**+0.2**
	comp=Z,13nm,0.8s								
OBKA	**Obir**	**28.65**	**80**	*eP*		**P**		**16 21 15.8**	**-0.1**
	comp=Z,8.3nm,0.9s								
CONA	**Conrad Observa**	**28.98**	**76**	*eP*		**P**		**16 21 19.2**	**+0.4**
	comp=Z,5.3nm,1.6s								
MORC	**Moravsky Berou**	**29.43**	**72**	P		**P**		**16 21 23.0**	**+0.3**
KEST	**Kesra**	**30.74**	**102**	P		**P**		**16 21 34.1**	**-0.3**
	comp=Z,11nm,0.9s,baz=295,slow=1.7,SNR=11								
KEST	**Kesra**	**30.74**	**102**	P		**P**		**16 21 34.6**	**+0.1**
KEST				IAmb		IAmb		16 21 35.5	
	comp=Z,19nm,1.1s								
PSZ	**Piszkesteto**	**31.51**	**74**	P		**P**		**16 21 41.7**	**+0.5**
PSZ				IAmb		IAmb		16 21 43.3	
	comp=Z,12nm,1.1s								
FINES	**FINESS Array B**	**32.09**	**47**	P		**P**		**16 21 46.5**	**+0.6**
	comp=Z,9.0nm,0.9s,baz=305,slow=13,SNR=3.8								
ARCES	**ARCESS Array B**	**32.29**	**32**	P		**P**		**16 21 47.0**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=288,slow=1.2,SNR=8.4								
WUPA	**West Chester U**	**34.30**	**272**	P		**P**		**16 22 04.6**	**-0.9**
WUPA				IAmb		IAmb		16 22 06.7	
	comp=Z,10nm,1.1s								
MVL	**Millersville**	**34.75**	**273**	P		**P**		**16 22 09.8**	**+0.5**
MVL				IAmb		IAmb		16 22 11.2	
	comp=Z,12nm,1.2s								
BUR08	**Bucovina Ar. S**	**34.92**	**72**	P		**P**		**16 22 11.4**	**+0.5**
BUR08				IAmb		IAmb		16 22 13.4	
	comp=Z,11nm,1.1s								
BURAR	**Bucovina Array**	**34.95**	**72**	P		**P**		**16 22 12.0**	**+0.9**
AKASG	**Malin Array Be**	**36.20**	**66**	P		**P**		**16 22 21.1**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=283,slow=8.6,SNR=8.7								
ACSO	**Alum Creek Sta**	**38.93**	**277**	P		**P**		**16 22 44.9**	**0.0**
ACSO				IAmb		IAmb		16 22 47.0	
	comp=Z,15nm,0.7s								
BLA	**Blacksburg**	**38.95**	**272**	P		**P**		**16 22 45.3**	**0.0**
BLA				IAmb		IAmb		16 22 51.7	
	comp=Z,53nm,1.9s								
BIRD	**Birdtown, Kers**	**40.51**	**268**	P		**P**		**16 22 58.4**	**+0.2**
BIRD				IAmb		IAmb		16 23 00.1	
	comp=Z,44nm,1.7s								
SANT	**Santorini**	**40.77**	**88**	P		**P**		**16 22 59.6**	**-0.8**
JSC	**Jenkinsville**	**41.25**	**269**	P		**P**		**16 23 03.8**	**-0.5**
TZTN	**Tazewell**	**41.38**	**273**	P		**P**		**16 23 06.1**	**+0.8**
BG3	**Lake Jocassee**	**41.90**	**271**	P		**P**		**16 23 10.3**	**+0.6**
ULM	**Lac du Bonnet**	**42.02**	**298**	P		**P**		**16 23 11.1**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=53,slow=9.1,SNR=4.5								
ULM	**Lac du Bonnet**	**42.02**	**298**	P		**P**		**16 23 10.6**	**+0.2**
H05N1	**Guadeloupe/Mar**	**42.39**	**230**	T		T		17 08 03.3	
	SNR=8.3								
CPCT	**Cooper Cave**	**42.66**	**272**	P		**P**		**16 23 15.2**	**-0.6**
CPCT				IAmb		IAmb		16 23 17.8	
	comp=Z,13nm,0.9s								
USIN	**University of**	**43.21**	**278**	P		**P**		**16 23 21.5**	**+1.2**
H05S1	**Guadeloupe/Mar**	**43.90**	**228**	T		T		17 08 10.0	
	SNR=7.5								
FPAL	**Fort Paine**	**43.92**	**272**	P		**P**		**16 23 25.8**	**-0.2**
FPAL				IAmb		IAmb		16 23 27.2	
	comp=Z,11nm,1.0s								
TOA0	**Torodi Ar. Sit**	**44.00**	**135**	P		**P**		**16 23 26.1**	**-0.6**
TOA0				IAmb		IAmb		16 23 27.4	
	comp=Z,37nm,1.8s								
TORD	**Torodi Ar. Bea**	**44.00**	**135**	P		**P**		**16 23 25.7**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=333,slow=7.9,SNR=12								
TORD	**Torodi Ar. Bea**	**44.00**	**135**	P		**P**		**16 23 25.7**	**-1.0**
BRTR	**Keskin Array B**	**44.12**	**78**	P		**P**		**16 23 27.8**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=340,slow=6.7,SNR=3.6								
WVT	**Waverly**	**44.40**	**276**	P		**P**		**16 23 29.3**	**-0.4**
PLAL	**Pickwick Lake**	**45.25**	**274**	P		**P**		**16 23 37.0**	**+0.4**
PLAL				IAmb		IAmb		16 23 38.1	
	comp=Z,5.4nm,0.8s								
GLAT	**Glass**	**45.26**	**277**	P		**P**		**16 23 37.0**	**+0.4**
CCM	**Cathedral Cave**	**45.46**	**280**	P		**P**		**16 23 38.5**	**+0.3**
CCM				IAmb		IAmb		16 23 39.5	
	comp=Z,12nm,0.8s								
ECSD	**EROS Data Cent**	**45.66**	**290**	P		**P**		**16 23 39.7**	**0.0**
PBMO	**Poplar Bluff**	**45.69**	**278**	P		**P**		**16 23 39.9**	**-0.1**
PBMO				IAmb		IAmb		16 23 40.7	
	comp=Z,13nm,1.3s								
LRAL	**Lakeview Retre**	**45.76**	**272**	P		**P**		**16 23 41.1**	**+0.4**
LRAL				IAmb		IAmb		16 23 41.9	
	comp=Z,10nm,1.1s								
MGMO	**Mountain Grove**	**46.65**	**280**	P		**P**		**16 23 47.6**	**0.0**
MGMO				IAmb		IAmb		16 23 48.9	
	comp=Z,6.3nm,0.8s								
DBIC	**Dimbokro**	**47.19**	**147**	P		**P**		**16 23 51.7**	**-0.2**
	comp=Z,5.0nm,1.0s,baz=304,slow=8.2,SNR=3.8								
DBIC	**Dimbokro**	**47.19**	**147**	IAmb		IAmb		16 23 59.2	
	comp=Z,6.9nm,1.0s								
DGMT	**Dagmar**	**47.64**	**299**	P		**P**		**16 23 56.0**	**+0.8**
WHAR	**Wooly Hollow**	**47.79**	**278**	P		**P**		**16 23 56.2**	**-0.3**
WHAR				IAmb		IAmb		16 23 57.3	
	comp=Z,8.4nm,0.8s								
HHAR	**Hobbs**	**48.24**	**280**	P		**P**		**16 23 59.9**	**-0.2**
HHAR				IAmb		IAmb		16 24 01.1	
	comp=Z,3.9nm,0.6s								
KSU1	**Kansas State U**	**48.26**	**285**	P		**P**		**16 23 59.8**	**-0.3**
CCAR	**Cane Creek**	**48.31**	**276**	P		**P**		**16 23 59.3**	**-1.2**
MIAR	**Mount Ida**	**49.08**	**278**	P		**P**		**16 24 05.8**	**-0.6**
LAO	**LASA Array**	**49.75**	**298**	P		**P**		**16 24 13.1**	**+1.6**
LAO				IAmb		IAmb		16 24 13.9	
	comp=Z,11nm,0.9s								
INK	**Inuvik**	**50.04**	**332**	P		**P**		**16 24 12.8**	**-0.5**
INK	**Inuvik**	**50.04**	**332**	P		**P**		**16 24 12.6**	**-0.7**
OK031	**S. Brethren Rd**	**50.30**	**281**	P		**P**		**16 24 15.0**	**-0.7**
W35A	**Tecumseh**	**50.82**	**281**	P		**P**		**16 24 19.2**	**-0.5**
GEVA	**Gevas**	**50.90**	**74**	P		**P**		**16 24 21.3**	**+0.9**
GEVA				IAmb		IAmb		16 24 23.3	
	comp=Z,18nm,1.6s								
EGMT	**Eagleton**	**51.00**	**301**	P		**P**		**16 24 21.5**	**+0.6**
EGMT				IAmb		IAmb		16 24 22.7	
	comp=Z,9.5nm,0.9s								
WMOK	**Wichita Mounta**	**52.30**	**282**	P		**P**		**16 24 30.4**	**-0.4**
RLMT	**Red Lodge**	**52.39**	**298**	P		**P**		**16 24 32.2**	**+0.6**
RLMT				IAmb		IAmb		16 24 43.7	
	comp=Z,8.8nm,1.2s								
WALA	**Waterton Lakes**	**52.68**	**304**	P		**P**		**16 24 33.3**	**-0.3**
WALA				IAmb		IAmb		16 24 34.9	
	comp=Z,10nm,0.9s								
YNE	**Yellowstone No**	**52.88**	**298**	P		**P**		**16 24 35.4**	**+0.1**
YMP	**Mirror Lake Pl**	**53.13**	**298**	P		**P**		**16 24 37.5**	**+0.3**
BOZ	**Bozeman (W)**	**53.46**	**300**	P		**P**		**16 24 39.6**	**+0.3**
BOZ				IAmb		IAmb		16 24 40.8	
	comp=Z,6.1nm,0.8s								
BW06	**Boulder Array**	**53.96**	**296**	P		**P**		**16 24 41.8**	**-1.4**
BW06				IAmb		IAmb		16 24 43.7	
	comp=Z,6.2nm,0.9s								
PD31	**Pinedale Array**	**53.96**	**296**	P		**P**		**16 24 42.5**	**-0.7**
PD31				IAmb		IAmb		16 24 43.7	
	comp=Z,5.6nm,0.9s								
PDAR	**Pinedale Array**	**53.96**	**296**	P		**P**		**16 24 42.9**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=65,slow=8.0,SNR=30								
PDAR	**Pinedale Array**	**53.96**	**296**	P		**P**		**16 24 42.0**	**-1.3**
AMTX	**Amarillo**	**54.05**	**284**	P		**P**		**16 24 43.6**	**-0.2**
AMTX				IAmb		IAmb		16 24 45.5	
	comp=Z,10nm,0.8s								
MOOW	**Moose Ponds**	**54.06**	**298**	P		**P**		**16 24 44.2**	**+0.3**
LOHW	**Long Hollow**	**54.06**	**297**	P		**P**		**16 24 44.0**	**+0.1**
LOHW				IAmb		IAmb		16 25 02.1	
	comp=Z,22nm,2.0s								
IMW	**Indian Meadow**	**54.08**	**298**	P		**P**		**16 24 44.5**	**+0.4**
ABKAR	**Akbulak array**	**54.18**	**54**	P		**P**		**16 24 44.3**	**0.0**
TPAW	**Teton Pass**	**54.34**	**297**	P		**P**		**16 24 46.0**	**+0.1**
REDW	**Red Top Meadow**	**54.35**	**297**	P		**P**		**16 24 45.9**	**-0.1**
REDW				IAmb		IAmb		16 24 50.1	
	comp=Z,20nm,1.6s								
SDCO	**Great Sand Dun**	**54.62**	**289**	P		**P**		**16 24 47.8**	**-0.3**
SDCO				IAmb		IAmb		16 24 51.3	
	comp=Z,8.8nm,1.6s								
AHID	**Auburn Hatcher**	**54.86**	**297**	P		**P**		**16 24 48.8**	**-0.9**
MSTX	**Muleshoe**	**55.32**	**283**	P		**P**		**16 24 53.1**	**+0.1**
RDMU	**Red Mountain**	**55.32**	**294**	P		**P**		**16 24 53.2**	**+0.1**
JCT	**Junction City**	**55.71**	**278**	P		**P**		**16 24 54.5**	**-1.3**
JCT				IAmb		IAmb		16 24 55.7	
	comp=Z,5.8nm,0.8s								
HWUT	**Hardware Ranch**	**55.85**	**296**	P		**P**		**16 24 56.2**	**-0.7**
HWUT				IAmb		IAmb		16 24 58.7	
	comp=Z,9.4nm,0.8s								
BCAR	**Beaver Creek A**	**56.01**	**330**	P		**P**		**16 24 58.3**	**+0.8**
HLID	**Hailey**	**56.27**	**299**	P		**P**		**16 25 00.4**	**+0.6**
HLID				IAmb		IAmb		16 25 03.2	
	comp=Z,11nm,1.6s								
PV12	**Saucer Basin,**	**56.28**	**291**	P		**P**		**16 25 00.8**	**+0.8**
PV12				IAmb		IAmb		16 25 01.9	
	comp=Z,11nm,0.9s								
PV04	**Paradox Valley**	**56.29**	**291**	P		**P**		**16 25 00.5**	**+0.5**
PV02	**Paradox Valley**	**56.31**	**291**	P		**P**		**16 25 00.1**	**-0.1**
PV02				IAmb		IAmb		16 25 02.3	
	comp=Z,7.0nm,1.1s								
PV23	**Carpenter Ridg**	**56.32**	**291**	P		**P**		**16 24 59.9**	**-0.4**
PV23				IAmb		IAmb		16 25 02.2	
	comp=Z,13nm,1.0s								
DOT	**Dot Lake**	**56.33**	**331**	P		**P**		**16 24 58.8**	**-1.0**
PV11	**David Mesa, Pa**	**56.33**	**291**	P		**P**		**16 25 00.5**	**+0.2**
PV03	**Paradox Valley**	**56.35**	**291**	P		**P**		**16 25 01.2**	**+0.7**
PV03				IAmb		IAmb		16 25 02.4	
	comp=Z,11nm,1.1s								
PV16	**Nyswonger Mesa**	**56.35**	**291**	P		**P**		**16 25 00.5**	**0.0**
PV20	**West Nyswonger**	**56.36**	**291**	P		**P**		**16 24 59.7**	**-0.9**
PV20				IAmb		IAmb		16 25 02.4	
	comp=Z,12nm,0.9s								
PV14	**Lion Creek, Pa**	**56.38**	**291**	P		**P**		**16 25 01.4**	**+0.7**
ILAR	**Eielson Array**	**56.38**	**333**	P		**P**		**16 25 00.8**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=40,slow=5.7,SNR=10.0								
ILAR	**Eielson Array**	**56.38**	**333**	P		**P**		**16 25 00.2**	**+0.2**
PV10	**Paradox Valley**	**56.38**	**291**	P		**P**		**16 25 01.9**	**+1.1**
PV18	**Skein Mesa, Pa**	**56.39**	**291**	P		**P**		**16 25 01.6**	**+0.9**
PV13	**Radium Mtn., P**	**56.39**	**291**	P		**P**		**16 25 01.8**	**+1.0**
PV13				IAmb		IAmb		16 25 04.8	
	comp=Z,12nm,1.3s								
PV19	**Morning Glory**	**56.39**	**291**	P		**P**		**16 25 00.4**	**-0.4**
PV17	**East Wray Mesa**	**56.40**	**291**	P		**P**		**16 25 01.7**	**+0.9**
PV05	**Paradox Valley**	**56.61**	**291**	P		**P**		**16 24 59.4**	**-2.9**
PV05				IAmb		IAmb		16 25 14.9	
	comp=Z,6.9nm,0.9s								
SRU	**San Rafael Swe**	**56.81**	**293**	P		**P**		**16 25 03.8**	**+0.1**
BRVK	**Borovoye**	**56.94**	**45**	P		**P**		**16 25 03.5**	**-0.7**
ANMO	**Albuquerque**	**57.00**	**287**	P		**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.41**	**25**	P	Pn	16 17 45.4	+0.7
THZ				S	Sn	16 17 53.2	+0.7
KHZ	**Kahutara**	**0.70**	**114**	P	Pn	16 17 48.4	+0.4
KHZ				S	Sn	16 17 59.8	+1.6
LTZ	**Lake Taylor**	**0.71**	**205**	P	Pn	16 17 49.1	+0.9
LTZ				S	Sn	16 17 59.4	+0.8
DSZ	**Denniston Nort**	**0.76**	**301**	P	Pn	16 17 49.4	+0.6
DSZ				S	Sn	16 18 00.5	+0.9
BSWZ	**Blackbirch Sta**	**0.99**	**65**	P	Pn	16 17 52.7	+1.0
BSWZ				S	Sn	16 18 07.4	+2.6
NNZ	**Nelson**	**1.06**	**30**	P	Pn	16 17 53.6	+1.0
NNZ				S	Sn	16 18 08.1	+1.6
INZ	**Inchbonnie**	**1.08**	**237**	P	Pn	16 17 53.9	+0.9
INZ				S	Sn	16 18 08.6	+1.5
TUWZ	**Tuamarina**	**1.18**	**54**	P	Pn	16 17 55.3	+1.0
TUWZ				S	Sn	16 18 11.1	+1.7
QRZ	**Quartz Range**	**1.31**	**355**	P	Pn	16 17 56.0	0.0
QRZ				S	Sn	16 18 11.0	-1.5
TCW	**Tory Channel**	**1.51**	**53**	P	Pn	16 18 00.3	+1.5
TCW				S	Sn	16 18 19.7	+2.3
MQZ	**McQueen's Vall**	**1.57**	**181**	P	Pn	16 17 58.6	-0.9
MQZ				S	Sn	16 18 16.4	-2.4
OKCZ	**Okains Bay**	**1.61**	**170**	P	Pn	16 17 59.9	-0.2
OKCZ				S	Sn	16 18 18.5	-1.4
DUWZ	**D'Urville Isla**	**1.63**	**36**	P	Pn	16 18 02.0	+1.6
DUWZ				S	Sn	16 18 23.3	+3.1
WVZ	**Waitaha Valley**	**1.71**	**236**	P	Pn	16 18 03.1	+1.6
WVZ				S	Sn	16 18 23.0	+0.8
AKCZ	**Akaroa Harbour**	**1.75**	**174**	P	Pn	16 18 01.6	-0.4
AKCZ				S	Sn	16 18 21.5	-1.5
RPZ	**Rata Peaks**	**1.98**	**216**	P	Pn	16 18 06.3	+1.2
RPZ				S	Sn	16 18 27.7	-1.1
KIW	**Kapiti Island**	**2.11**	**54**	P	Pn	16 18 08.5	+1.6
OGWZ	**Otaki Gorge**	**2.29**	**56**	P	Pn	16 18 09.5	+0.1
FOZ	**Fox Glacier**	**2.52**	**235**	P	Pn	16 18 14.3	+1.8
LREZ	**Lake Rotokare**	**2.98**	**27**	P	Pn	16 18 21.2	+2.5
NBEZ	**Newall Road No**	**3.00**	**18**	P	Pn	16 18 21.0	+1.9
PREZ	**Palmer Road**	**3.01**	**22**	P	Pn	16 18 21.2	+2.0
KHEZ	**Kahui Hut**	**3.02**	**20**	P	Pn	16 18 21.3	+2.0
PKE	**Pukeiti**	**3.10**	**19**	P	Pn	16 18 22.6	+2.0
ODZ	**Otahua Downs**	**3.26**	**206**	P	Pn	16 18 22.5	-0.1
VRZ	**Vera Road**	**3.40**	**28**	P	Pn	16 18 26.6	+2.1
HIZ	**Hauiti**	**3.98**	**25**	P	Pn	16 18 33.8	+1.2
TLZ	**Tolley Road**	**4.39**	**31**	P	Pn	16 18 39.7	+1.6
TOZ	**Tahuroa Road**	**4.91**	**27**	P	Pn	16 18 46.6	+1.4

*IDC **28** 16:18:30.0±0.9, 52°.68S×20°.09E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/36, mbtmp3.8/7, MS3.4/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=38.7km s-min=20.9km az=85.0*

*NEIC **28** 16:18:32.1±0.8, 52°.6S±0°.1×20°.1E±0°.4, h14km±3km, mb4.3/9, Error ellipse: s-maj=32.7km s-min=17.4km az=88.0*

ISC 28 16:18:31.4±0.8, **52°.7S**±0°.1×**20°.1E**±0°.2, **h10**km, **n19, σ0s51/17, mb4.0/9, MS3.4/3, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.27**	**2**	P	**P**	**16 23 07.4**	**+0.2**
SUR				IAmb	IAmb	16 23 14.9	
	comp=Z,17nm,1.2s						
SNAA	**Sanae**	**21.59**	**200**	P	**P**	**16 23 20.2**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=43,slow=11,SNR=17						
SNAA	**Sanae**	**21.59**	**200**	P	**P**	**16 23 21.3**	**+0.4**
BOSA	**Boshof**	**24.33**	**11**	P	**P**	**16 23 48.4**	**-1.0**
	comp=Z,3.6nm,1.0s,baz=6.8,slow=19,SNR=3.1						
LBTB	**Lobatse**	**27.92**	**11**	LR	LR	16 32 26.7	
	comp=Z,2μm,21.6s,baz=63,slow=30						
TSUM	**Tsumeb**	**33.44**	**356**	P	P	16 25 15.6	+5.1
	comp=Z,0.7nm,0.3s,baz=205,slow=12,SNR=3.4						
TSUM				LR	LR	16 35 56.4	
	comp=Z,72nm,21.6s,baz=147,slow=31						
TSUM	**Tsumeb**	**33.44**	**356**	P	**P**	**16 25 10.4**	**-0.2**
TSUM				IAmb	IAmb	16 25 20.2	
	comp=Z,4.9nm,1.1s						
QSPA	**South Pole Qui**	**37.57**	**180**	P	**P**	**16 25 45.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=247,slow=3.6,SNR=22						
QSPA	**South Pole Qui**	**37.57**	**180**	P	**P**	**16 25 45.7**	**0.0**
QSPA				IAmb	IAmb	16 25 59.1	
	comp=Z,4.5nm,0.9s						
VNDA	**Vanda**	**47.94**	**170**	P	**P**	**16 27 09.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=239,slow=7.4,SNR=10.0						
VNDA				LR	LR	16 45 55.9	
	comp=Z,46nm,21.8s,baz=188,slow=34						
VNDA	**Vanda**	**47.94**	**170**	P	**P**	**16 27 09.9**	**+0.5**
CPUP	**Villa Florida**	**62.01**	**263**	P	**P**	**16 28 51.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=116,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**67.42**	**341**	P	**P**	**16 29 27.4**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=178,slow=5.3,SNR=1.7						
SAML	**Samuel**	**78.84**	**270**	P	**P**	**16 30 35.0**	**+0.3**
SAML				IAmb	IAmb	16 30 35.9	
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**84.80**	**123**	P	**P**	**16 31 06.1**	**0.0**
	comp=Z,0.3nm,0.8s,baz=204,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**145.34**	**274**	PKPbc	**PKPab**	**16 38 09.4**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=126,slow=5.2,SNR=18						
PDAR	**Pinedale Array**	**145.34**	**274**		**PKPbc**	**16 38 08.9**	**0.0**
NVAR	**Mina Array Bea**	**148.04**	**260**	PKPbc	**PKPbc**	**16 38 17.4**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=144,slow=3.3,SNR=5.4						
NVAR	**Mina Array Bea**	**148.04**	**260**		**PKPbc**	**16 38 17.3**	**+0.4**

*IDC **28** 16:22:39.6±0.9, 7°.68N×93°.81E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/50, mbtmp3.9/13, ML4.0/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=29.7km s-min=20.0km az=59.0*

*NEIC **28** 16:22:40.7±1.4, 7°.26N±0°.10×94°.1E±0°.2, h39km±8km, mb4.5/12, Error ellipse: s-maj=22.0km s-min=13.1km az=74.0*

*DJA **28** 16:22:43.1±0.6, 7°.1N±7°.9×94°.4E±°, h131km±16km, M4.2/6, mB4.5/4, mb4.2/6, MLv4.3/6, Mw(mB)3.6/4*

ISC 28 16:22:41.5±0.5, **7°.27N**±0°.07×**94°.13E**±0°.10, **h35**km, **n48, σ1s77/41, mb4.2/16, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.46**	**126**	P	**Pn**	**16 23 33.5**	**+0.6**
LHMI				S	**Sn**	**16 24 14.8**	**+2.0**
LHMI	**Lhok Sumawe**	**3.46**	**126**	Pn	**Pn**	**16 23 33.3**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.75**	**143**	P	**Pn**	**16 23 39.8**	**+2.9**
PBA	**Port Blair**	**4.56**	**343**	*eP*	Pn	16 23 52.4	+4.3
PBA				*eS*	Sn	16 24 44.5	+4.6
TPTI		**5.01**	**143**	P	**Pn**	**16 23 56.9**	**+2.6**
DGPR	**DIGLIPUR**	**5.98**	**349**	*eP*	**Pn**	**16 24 09.6**	**+2.0**
DGPR				*eS*	**Sn**	**16 25 18.2**	**+3.3**
GSI	**Gunungsitoli**	**6.86**	**150**	P	**Pn**	**16 24 19.2**	**-0.4**
	0.1nm14nm,0.8s						
GSI	**Gunungsitoli**	**6.86**	**150**	Pn	**Pn**	**16 24 20.0**	**+0.4**
MNSI	**Mandailing Nat**	**8.43**	**140**	P	**Pn**	**16 24 44.1**	**+2.9**
	16nm,0.5s						
CM31	**Chiang Mai Arr**	**12.07**	**22**	Pn	**Pn**	**16 25 30.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**12.07**	**22**	Pn	**Pn**	**16 25 29.4**	**-1.7**
	0.3nm,0.3s,baz=210,slow=14,SNR=7.6						
CMAR				LR	LR	16 30 02.4	
	comp=Z,87nm,18.8s,baz=261,slow=37						
CMAR	**Chiang Mai Arr**	**12.07**	**22**		**Pn**	**16 25 29.6**	**-1.5**
CHTO	**Chiang Mai**	**12.39**	**22**	Pn	**Pn**	**16 25 34.1**	**-1.4**
PALK	**Pallekele**	**13.32**	**271**	LR	LR	16 30 15.8	
	comp=Z,159nm,20.1s,baz=208,slow=35						
BOK	**Bokaro**	**18.23**	**335**	*eP*	**P**	**16 26 53.0**	**+1.2**
BOK				IAmb	IAmb	16 26 57.2	
	comp=Z,11nm,0.6s						
KOHI	**KOHIMA**	**18.34**	**360**	*eP*	**P**	**16 26 51.7**	**-1.5**
KOHI				*ex*	x	16 30 23.4	
H08S3	**Diego Garcia H**	**26.17**	**236**	T	T	16 54 59.1	
	baz=54,slow=75,SNR=474						
H08S2	**Diego Garcia H**	**26.17**	**236**	T	T	16 55 02.2	
	baz=54,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**26.19**	**236**	T	T	16 55 00.4	
	baz=54,slow=75,SNR=11						
THW	**Thamme Wali**	**32.81**	**324**	P	**P**	**16 29 14.9**	**+3.1**
FITZ	**Fitzroy Crossi**	**40.04**	**129**	P	P	16 30 20.2	+6.6
	comp=Z,0.9nm,0.6s,baz=291,slow=10,SNR=1.7						
MK31	**Makanchi Array**	**40.67**	**348**		**P**	**16 30 16.9**	**-1.5**
MKAR	**Makanchi Array**	**40.67**	**348**	P	**P**	**16 30 17.6**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=164,slow=6.6,SNR=14						
MKAR	**Makanchi Array**	**40.67**	**348**	P	**P**	**16 30 16.9**	**-1.5**
MAKZ	**Makanchi**	**40.75**	**347**	P	**P**	**16 30 18.1**	**-1.0**
SONM	**Songino Array**	**41.75**	**12**	P	**P**	**16 30 29.1**	**+1.7**

	comp=Z,0.5nm,0.6s,baz=199,slow=4.0,SNR=2.2						
GEYT	**Alibeck**	**44.64**	**319**	P	**P**	**16 30 49.7**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=142,slow=12,SNR=7.0						
GEYT	**Alibeck**	**44.64**	**319**	IAmb	IAmb	16 30 52.8	
	comp=Z,2.9nm,0.6s						
KURBB	**Kurchatov Arra**	**45.12**	**346**	P	**P**	**16 30 54.2**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=169,slow=7.2,SNR=20						
KURBB				PcP	**PP**	**16 32 38.7**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=157,slow=2.7,SNR=4.6						
KURK	**Kurchatov**	**45.19**	**346**		PP	16 32 38.7	-2.2
KURK	**Kurchatov**	**45.19**	**346**	P	**P**	**16 30 53.9**	**-1.0**
KURK				IAmb	IAmb	16 31 01.5	
	comp=Z,10nm,1.4s						
ZALV	**Zalesovo Beam**	**47.15**	**353**	P	**P**	**16 31 10.2**	**0.0**
	comp=Z,1.8nm,0.4s,baz=161,slow=6.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**47.15**	**353**	P	**P**	**16 31 09.5**	**-0.7**
WRA	**Warramunga Arr**	**47.93**	**125**	P	P	16 31 23.6	+6.7
	comp=Z,0.7nm,0.5s,baz=304,slow=8.4,SNR=5.0						
WRA	**Warramunga Arr**	**47.93**	**125**	P	**P**	**16 31 14.9**	**-2.0**
WRA				IAmb	IAmb	16 31 14.9	
	comp=Z,0.2nm,1.1s						
WB2	**Warramunga Arr**	**47.94**	**125**	P	**P**	**16 31 14.0**	**-3.0**
WB2				IAmb	IAmb	16 31 14.9	
	comp=Z,6.4nm,1.1s						
FORT	**Forrest**	**49.88**	**141**	P	**P**	**16 31 30.9**	**-0.7**
BRTR	**Keskin Array B**	**62.81**	**311**	P	**P**	**16 33 03.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=134,slow=8.3,SNR=1.9						
TIXI	**Tiksi**	**67.82**	**11**	P	**P**	**16 33 35.3**	**-0.3**
TIXI				IAmb	IAmb	16 33 41.5	
	comp=Z,5.1nm,1.2s						
LSZ	**Lusaka**	**69.06**	**251**	P	**P**	**16 33 48.4**	**+3.9**
	comp=Z,0.7nm,0.3s,baz=55,slow=18,SNR=1.3						
LSZ	**Lusaka**	**69.06**	**251**	P	**P**	**16 33 43.9**	**-0.6**
LSZ				IAmb	IAmb	16 33 55.3	
	comp=Z,3.7nm,0.9s						
FINES	**FINESS Array B**	**73.23**	**332**	P	**P**	**16 34 08.1**	**-0.7**
	comp=Z,7.1nm,1.1s,baz=239,slow=33,SNR=4.0						
FINES	**FINESS Array B**	**73.23**	**332**	P	**P**	**16 34 07.4**	**-1.4**
LBTB	**Lobatse**	**73.94**	**241**	LR	LR	17 02 22.9	
	comp=Z,33nm,18.3s,baz=328,slow=32						
BOSA	**Boshof**	**75.25**	**238**	P	**P**	**16 34 20.0**	**-1.4**
BOSA				IAmb	IAmb	16 34 44.1	
	comp=Z,3.8nm,1.1s						
KEV	**Kevo**	**75.39**	**341**	P	**P**	**16 34 19.6**	**-1.6**
GERES	**GERESS Array B**	**78.26**	**318**	P	**P**	**16 34 37.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=90,slow=2.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**90.72**	**283**	P	**P**	**16 35 43.3**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=94,slow=3.6,SNR=1.2						

*IDC **28** 16:26:20.3±1.1, 52°.71S×20°.19E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/37, mbtmp3.9/6, MS3.4/3, Ms1 3.4/3, ms1mx3.0/24, Error ellipse: s-maj=43.3km s-min=24.2km az=73.0*

*NEIC **28** 16:26:21.4±1.2, 52°.70S±0°.07×20°.3E±0°.3, h10km±1km, mb4.6/8, Error ellipse: s-maj=34.0km s-min=8.4km az=106.0*

ISC 28 16:26:21.3±1.0, **52°.7S**±0°.2×**20°.3E**±0°.2, **h10**km, **n19, σ0s58/14, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**21.60**	**200**	P	**P**	**16 31 11.0**	**0.0**
	3.3nm,0.8s,baz=49,slow=10,SNR=17						
SNAA	**Sanae**	**21.60**	**200**	P	**P**	**16 31 11.1**	**+0.2**
BOSA	**Boshof**	**24.34**	**11**	LR	LR	16 39 36.7	
	comp=Z,72nm,19.5s,baz=210,slow=33						
LBTB	**Lobatse**	**27.33**	**10**	LR	LR	16 42 03.5	
	comp=Z,101nm,19.1s,baz=74,slow=34						
BELA	**Belgrano 2**	**31.84**	**199**	P	**P**	**16 32 45.4**	**-0.3**
QSPA	**South Pole Qui**	**37.54**	**180**	P	**P**	**16 33 35.6**	**+0.4**
	2.7nm,0.7s,baz=240,slow=2.6,SNR=22						
QSPA	**South Pole Qui**	**37.54**	**180**	IAmb	IAmb	16 33 47.2	
	comp=Z,7.4nm,1.3s						
VNDA	**Vanda**	**47.88**	**170**	P	**P**	**16 34 59.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=233,slow=8.4,SNR=11						
VNDA	**Vanda**	**47.88**	**170**	P	**P**	**16 34 58.9**	**+0.1**
VNDA				IAmb	IAmb	16 35 15.9	
	comp=Z,5.4nm,1.2s						
CPUP	**Villa Florida**	**62.13**	**262**	P	**P**	**16 36 41.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=53,slow=3.8,SNR=3.2						
CPUP	**Villa Florida**	**62.13**	**262**	IAmb	IAmb	16 36 54.8	
	comp=Z,9.1nm,1.4s						
CO01	**Juntas del Tor**	**66.97**	**251**	P	**P**	**16 37 14.9**	**+0.6**
CO01				IAmb	IAmb	16 37 15.3	
	comp=Z,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**67.49**	**340**	P	**P**	**16 37 17.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=173,slow=8.5,SNR=3.5						
AC04	**Llanos de Chal**	**68.87**	**251**	P	**P**	**16 37 25.9**	**-0.1**
ASAR	**Alice Springs**	**84.67**	**122**	P	**P**	**16 38 55.5**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=219,slow=4.1,SNR=4.5						
ASAR	**Alice Springs**	**84.67**	**122**	P	**P**	**16 38 54.2**	**-1.1**
PSI	**Prapat**	**85.36**	**79**	LR	LR	17 13 10.5	
	comp=Z,18nm,18.0s,baz=95,slow=33						
PDAR	**Pinedale Array**	**145.47**	**274**	PKPbc	**PKPbc**	**16 45 59.1**	**0.0**
	comp=Z,2.5nm,0.7s,baz=126,slow=5.4,SNR=24						
NVAR	**Mina Array Bea**	**148.16**	**260**	PKPbc	**PKiKP**	**16 46 07.9**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=136,slow=3.9,SNR=7.4						

*NNC **28** 16:28:14.2±6.0, 37°.12N×71°.35E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=46.6km s-min=43.6km az=143.0*

ISC 28 16:28:16.1±1.3, **36°.93N**±0°.06×**71°.3E**±0°.2, **h100**km, **n4, σ1s47/8, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.14**	**171**	P	**Pn**	**16 29 04.0**	**+0.1**
CEP				S	**Sn**	**16 29 41.0**	**+0.3**
KK31	**Karatay Array**	**6.19**	**355**	⇓P	**Pn**	**16 29 44.3**	**-0.7**
	0.5nm,0.3s,baz=180,slow=15,SNR=10						
KK31				⇑S	**Sn**	**16 30 54.8**	**+0.5**
	2.1nm,0.5s,baz=187,slow=21,SNR=7.0						
AAK	**Ala-Archa**	**6.21**	**22**	⇓P	**Pn**	**16 29 45.4**	**+0.1**
	2.1nm,0.6s						
AAK				⇑S	**Sn**	**16 30 57.5**	**+2.6**
	3.2nm,0.5s						
TKM2	**Tokmak 2**	**6.83**	**28**	⇑P	**Pn**	**16 29 52.7**	**-1.1**
	2.7nm,0.7s						
TKM2				⇑S	**Sn**	**16 31 08.9**	**-1.3**
	0.7nm,0.5s						

*NEIC **28** 16:49:27.0±0.9, 20°.48N±0°.03×64°.21W±0°.09, h24km±12km, ML4.3/6, Error ellipse: s-maj=12.7km s-min=4.3km az=84.0*

ISC 28 16:49:35.7±0.7, **19°.56N**±0°.05×**64°.45W**±0°.04, **h10**km, **n161, σ2s73/143, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.48**	**212**	Pn	**Pg**	**16 50 04.4**	**+0.4**
CUPR				Sn	**Sg**	**16 50 27.8**	**+4.7**
CUPR				IAML		16 50 31.3	
	comp=N,826nm,0.3s						
MTP	**Monte Pirata**	**1.79**	**216**	Pn	**Pb**	**16 50 08.7**	**+0.2**
MTP				IAML		16 50 38.9	
	comp=N,1μm,0.3s						
MTP				IAML		16 50 40.0	
	comp=E,1μm,0.2s						
CDVI	**St. Croix**	**1.82**	**189**	Pn	**Pg**	**16 50 10.8**	**+0.1**
CBYP	**Canovanas**	**1.85**	**226**		**Pn**	**16 50 08.3**	**+0.8**
CBYP				IAML		16 50 43.0	
	comp=E,4μm,0.2s						
HUMP	**Col San Antoni**	**1.94**	**223**	Pn	**Pn**	**16 50 09.9**	**+1.3**
GCPR	**Guaynabo City**	**1.98**	**231**		**Pn**	**16 50 09.8**	**+0.5**
PDPR	**Patillas Dam,**	**2.14**	**224**		**Pn**	**16 50 12.7**	**+1.2**
SJG	**San Juan**	**2.16**	**228**		**Pn**	**16 50 12.8**	**+1.1**
IGPR	**InterUniversit**	**2.23**	**225**		**Pn**	**16 50 13.9**	**+1.2**
EMPR	**Esperanza - Ma**	**2.24**	**242**		**Pn**	**16 50 12.7**	**-0.2**
SEUS	**St. Eustatius**	**2.49**	**146**	*eP*	**Pn**	**16 50 13.8**	**-2.4**
SEUS				*eS*	**Sn**	**16 50 47.9**	**+1.3**
AOPR	**Arecibo Observ**	**2.49**	**241**	*eP*	**Pn**	**16 50 15.3**	**-1.0**
AOPR	**Arecibo Observ**	**2.49**	**241**		**Pn**	**16 50 15.6**	**-0.7**
OBIP	**Obispado Ponce**	**2.54**	**234**		**Pn**	**16 50 17.4**	**+0.4**
ICMP	**Isla Caja de M**	**2.58**	**230**	Pn	**Pn**	**16 50 17.6**	**+0.1**
AGPR	**Aguadilla, PR**	**2.74**	**247**	Pn	**Pn**	**16 50 17.9**	**-1.9**
SKI	**Saint Kitts**	**2.75**	**143**	*eP*	**Pn**	**16 50 19.3**	**-0.5**
SKI				*eS*	**Sn**	**16 50 54.6**	**+1.4**
SKI	**Saint Kitts**	**2.75**	**143**	Pn	**Pn**	**16 50 19.6**	**-0.2**
MPR	**Mayaguez**	**2.88**	**243**	Pn	**Pn**	**16 50 20.8**	**-0.8**
MLPR	**Magueyes Islan**	**2.92**	**238**	Pn	**Pn**	**16 50 22.1**	**-0.1**
NVRH	**Round Hill, Ne**	**2.95**	**143**	*eP*	**Pn**	**16 50 23.0**	**+0.4**
NVRH				*eS*	**Sn**	**16 50 60.0**	**+1.9**

CRPR	**Cabo Rojo, PR**	**2.96**	**239**		**Pn**	**16 50 22.4**	**-0.2**
NVBH	**Bath Hotel, Ne**	**2.99**	**144**	*eP*	**Pn**	**16 50 24.0**	**+0.8**
NVBH				*eS*	**Sn**	**16 51 01.3**	**+2.2**
BPA	**Boggy Peak**	**3.51**	**135**	*eP*	**Pn**	**16 50 27.8**	**-2.5**
BPA				*eS*	**Sn**	**16 51 09.5**	**-2.5**
MLYT	**Lee's Yard**	**3.55**	**142**	*eP*	**Pn**	**16 50 30.8**	**-0.1**
MLYT				*eS*	**Sn**	**16 51 14.9**	**+1.9**
ANBD	**Bethesda, Anti**	**3.57**	**134**	*eP*	**Pn**	**16 50 28.5**	**-2.7**
ANBD				*eS*	**Sn**	**16 51 11.3**	**-2.2**
ABD	**La Joyeuse, An**	**4.17**	**137**	*eP*	**Pn**	**16 50 36.9**	**-2.5**
ABD	**La Joyeuse, An**	**4.17**	**137**	*eS*	**Sn**	**16 51 24.4**	**-3.8**
CBE	**Ff, Capester**	**4.41**	**142**	*eP*	**Pn**	**16 50 42.0**	**-0.7**
CBE	**Ff, Capester**	**4.41**	**142**	*eS*	**Sn**	**16 51 35.0**	**+0.9**
TBG	**Guadaloupe-3**	**4.56**	**144**	*eP*	**Pn**	**16 50 43.9**	**-0.8**
TBG	**Guadaloupe-3**	**4.56**	**144**	*eS*	**Sn**	**16 51 39.7**	**+2.0**
TDBA	**Terre de Bas,**	**4.56**	**144**	*eP*	**Pn**	**16 50 44.1**	**-0.7**
TDBA	**Terre de Bas,**	**4.56**	**144**	*eS*	**Sn**	**16 51 39.8**	**+1.8**
MAGL	**Barre de l'ile**	**4.69**	**139**	*eP*	**Pn**	**16 50 44.7**	**-1.9**
MAGL	**Barre de l'ile**	**4.69**	**139**	*eS*	**Sn**	**16 51 40.1**	**-1.0**
DR12	**Loma Pena Alta**	**4.72**	**261**	Pn	**Pn**	**16 50 42.9**	**-4.2**
DSLB	**Salisbury**	**5.02**	**144**	*eP*	**Pn**	**16 50 49.4**	**-1.6**
DSLB	**Salisbury**	**5.02**	**144**	*eS*	**Sn**	**16 51 48.6**	**-0.5**
DLPL	**La Plaine**	**5.20**	**143**	*eS*	**Sn**	**16 51 48.5**	**-5.2**
SDD	**Santo Domingo**	**5.28**	**259**	Pn	**Pn**	**16 50 53.2**	**-1.5**
BANI	**BANI**	**5.71**	**259**	Pn	**Pn**	**16 50 58.8**	**-1.9**
ILAM	**Ilet Lapin Mar**	**5.86**	**144**	*eP*	**Pn**	**16 51 01.0**	**-1.6**
ILAM	**Ilet Lapin Mar**	**5.86**	**144**	*eS*	**Sn**	**16 52 08.4**	**-1.5**
BIM	**Bigot**	**5.97**	**147**	*eP*	**Pn**	**16 51 03.6**	**-0.6**
BIM	**Bigot**	**5.97**	**147**	*eS*	**Sn**	**16 52 13.9**	**+1.3**
MPOM	**Morne Pois Mar**	**6.14**	**145**	*eP*	**Pn**	**16 51 04.9**	**-1.5**
MPOM	**Morne Pois Mar**	**6.14**	**145**	*eS*	**Sn**	**16 52 16.3**	**-0.6**
SLBI	**Saint Lucia, B**	**6.44**	**148**	*eP*	**Pn**	**16 51 10.0**	**-0.6**
SLBI	**Saint Lucia, B**	**6.44**	**148**	*eS*	**Sn**	**16 52 25.9**	**-1.9**
SDDR	**Presa de Saban**	**6.48**	**266**		**Pn**	**16 51 07.5**	**-3.7**
GRTK	**Grand Turk**	**6.55**	**288**	Pn	Pn	16 51 01.1	-11
SLB	**Belfond**	**6.57**	**150**	*eP*	**Pn**	**16 51 13.1**	**+0.6**
SLAC	**Saint Lucia, A**	**6.58**	**148**	*eP*	**Pn**	**16 51 12.3**	**-0.3**
MCLT	**Moule a Chique**	**6.72**	**149**	*eP*	**Pn**	**16 51 14.3**	**-0.1**
SVV	**Soufriere Volc**	**6.94**	**153**	*eP*	**Pn**	**16 51 18.5**	**+1.0**
SVB	**Belmont**	**6.97**	**153**	*eP*	**Pn**	**16 51 17.9**	**+0.1**
SVB	**Belmont**	**6.97**	**153**	*eS*	**Sn**	**16 52 43.7**	**+6.4**
SVB	**Belmont**	**6.97**	**153**	Pn	**Pn**	**16 51 18.2**	**+0.4**
SVCV	**St. Vincent, C**	**7.01**	**153**	*eP*	**Pn**	**16 51 18.6**	**+0.2**
SVCV	**St. Vincent, C**	**7.01**	**153**	*eS*	**Sn**	**16 52 44.7**	**+6.4**
LGNH	**Logne**	**7.78**	**264**	Pn	**Pn**	**16 51 24.5**	**-4.6**
TOSP	**Speyside**	**9.04**	**155**	Pn	**Pn**	**16 51 46.6**	**+0.3**
GTBY	**Guantanamo Bay**	**10.04**	**274**	Pn	Pn	16 51 52.1	-7.9
MTDJ	**Mount Denham**	**12.46**	**266**	Pn	Pn	16 52 26.4	-6.8
BBSR	**BB Station**	**12.76**	**359**	Pn	Pn	16 52 14.6	-23
X60A	**Albert Glenn T**	**19.17**	**324**	P	P	16 53 48.8	-11
	baz=136						
W60A	**Pink Hill**	**19.38**	**325**	P	P	16 53 49.9	-12
	baz=138						

baz=151
P56A **Dayton Farm, R** 23.43 331 P P 16 54 44.7 -0.3
baz=143
R54A **Victor** 23.47 326 P P 16 54 46.3 +0.8
baz=136,SNR=10
T53A **Wise** 23.48 321 P P 16 54 49.9 +4.2
baz=131
O57A **Amberson** 23.49 334 P P 16 54 46.5 +0.9
baz=146
Q55A **Buckhannon** 23.62 328 P P 16 54 48.1 +1.2
baz=139,SNR=9.1
N58A **Sunbury** 23.66 336 P P 16 54 50.1 +2.9
baz=149
M59A **Waymart** 23.82 339 P P 16 54 52.0 +3.1
baz=153
L61A **Hillsdale 1, H** 23.84 343 P P 16 54 53.4 +4.3
baz=157
L60A **Shokan** 23.85 342 P P 16 54 52.9 +3.9
baz=156
L61B **Northampton** 23.86 345 P P 16 54 53.3 +4.1
baz=160
P55A **Reedsville** 23.89 330 P P 16 54 51.7 +2.2
baz=141
N57A **Milroy** 23.91 335 P P 16 54 51.5 +1.8
baz=147
O56A **Blue Knob Stat** 23.93 333 P P 16 54 52.0 +2.1
baz=144
SSPA **Standing Stone** 23.95 334 P P 16 54 52.5 +2.5
baz=146
K62A **Royalston** 23.95 346 P P 16 54 55.2 +5.1
baz=161
M58A **Price's Panora** 24.03 337 P P 16 54 52.5 +1.6
baz=150
R53A **Hurricane** 24.09 325 P P 16 54 54.4 +3.0
baz=135,SNR=5.5
M57A **Sunshine Farm,** 24.25 336 P P 16 54 55.2 +2.4
baz=149
Q53A **Leroy** 24.25 326 P P 16 54 56.0 +3.1
baz=136,SNR=8.0
P54A **Burton** 24.28 329 P P 16 54 56.3 +3.1
baz=140,SNR=9.6
J61A **Chester** 24.67 346 P P 16 55 04.5 +7.9
baz=161
O54A **Avella** 24.68 330 P P 16 55 00.8 +3.9
baz=141
Q52A **Bidwell** 24.72 325 P P 16 55 01.4 +4.2
baz=135
K59A **Cooperstown** 24.75 341 P P 16 55 03.9 +6.5
baz=155
M56A **Emporium** 24.78 335 P P 16 55 02.4 +4.7
baz=147
K58A **Earlville** 24.99 340 P P 16 55 05.9 +6.3
baz=153
L56A **Greenwood** 25.10 337 P P 16 55 07.0 +6.4
baz=149
N54A **Moraine State** 25.12 331 P P 16 55 06.1 +5.4
baz=142
P52A **Corning** 25.14 326 P P 16 55 07.5 +6.5
baz=136,SNR=5.7
P52A **Corning** 25.14 326 P P 16 54 46.4 -15
J59A **Piesco** 25.29 343 P P 16 55 10.3 +8.1
baz=156
I60A **Shoreham** 25.32 345 P P 16 55 12.8 +10
baz=159
LBNH **Lisbon** 25.39 347 P P 16 55 13.6 +11
baz=163
J58A **Remsen** 25.42 341 P P 16 55 12.0 +8.6
baz=155
M54A **Oil Creek Stat** 25.42 333 P P 16 55 09.8 +6.3
baz=144
I58A **Old Forge** 25.63 342 P P 16 55 15.2 +10
baz=156

IDC 28 16:56:33.3±1.7, 2°.86N×126°.89E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/37, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=72.8km s-min=23.3km az=59.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.73**	**130**	Pn	Pn	16 58 00.1	+0.4
	1.5nm,0.3s,baz=321,slow=23,SNR=4.1						
SIJI				Sn	Sn	16 59 09.0	+2.8
	baz=206,slow=23,SNR=1.0						
WRA	**Warramunga Arr**	**23.81**	**162**	P	P	17 01 47.2	-0.9
	0.3nm,0.3s,baz=343,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**27.23**	**166**	P	P	17 02 18.9	-0.3
	0.2nm,0.4s,baz=343,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**58.36**	**325**	P	P	17 06 31.4	+1.0
	0.1nm,0.4s,baz=123,slow=7.4,SNR=1.9						

*IDC **28** 16:58:22.1±1.7, 52°.74S×20°.34E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/36, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=54.2km s-min=38.8km az=79.0*

*NEIC **28** 16:58:23.3±0.5, 52°.7S±0°.2×20°.2E±0°.3, h10km±2km, mb4.0/4, Error ellipse: s-maj=36.4km s-min=24.8km az=345.0*

ISC 28 16:58:22.6±1.7, 52°.6S±0°.3×20°.0E±0°.4, h10km, n10, σ0$26/8, mb3.8/4, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**21.63**	**199**	P	**P**	**17 03 12.6**	**0.0**
	1.5nm,0.7s,baz=39,slow=13,SNR=4.9						
SNAA				LR	LR	17 08 56.1	
	comp=Z,55nm,19.6s,baz=5.0,slow=29						
SNAA	**Sanae**	**21.63**	**199**	IAmb	IAmb	17 03 26.8	
	comp=Z,8.3nm,1.4s						
BELA	**Belgrano 2**	**31.88**	**199**	P	**P**	**17 04 47.3**	**0.0**
QSPA	**South Pole Qui**	**37.62**	**180**	P	**P**	**17 05 37.2**	**0.0**
	comp=Z,1.2nm,0.6s,baz=243,slow=1.7,SNR=7.4						
QSPA	**South Pole Qui**	**37.62**	**180**	IAmb	IAmb	17 06 04.0	
	comp=Z,4.8nm,1.4s						
VNDA	**Vanda**	**47.98**	**170**	P	**P**	**17 07 00.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=239,slow=8.0,SNR=9.3						
VNDA	**Vanda**	**47.98**	**170**	P	**P**	**17 07 01.1**	**+0.3**
VNDA				IAmb	IAmb	17 07 04.2	
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**84.83**	**123**	P	**P**	**17 10 57.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=214,slow=4.3,SNR=5.5						
PDAR	**Pinedale Array**	**145.33**	**274**	PKPbc	**PKPdf**	**17 17 59.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=117,slow=8.5,SNR=4.3						
NVAR	**Mina Array Bea**	**148.04**	**260**	PKPbc	**PKiKP**	**17 18 10.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=145,slow=5.4,SNR=4.5						

NNC 28 17:15:19.5±5.5, 37°.27N×71°.35E, h0km, mb3.9, mpv3.5, 2C-2D, Error ellipse: s-maj=42.8km s-min=35.5km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.86**	**354**	⇑P	Pn	17 16 48.1	+0.5
	2.5nm,0.5s,baz=170,slow=12,SNR=61						
KK31				⇓S	Sn	17 17 56.6	+1.1
	24nm,0.8s,baz=176,slow=21,SNR=25						
AAK	**Ala-Archa**	**5.88**	**23**	P	Pn	17 16 48.7	+0.6
	1.5nm,0.4s						
AAK				S	Sn	17 17 58.6	+2.4
	7.9nm,0.7s						
TKM2	**Tokmak 2**	**6.51**	**29**	⇓P	Pn	17 16 55.9	-0.9
	4.0nm,0.7s						
TKM2				⇑S	Sn	17 18 11.4	-0.5
	3.0nm,0.8s						

*TAP **28** 17:36:02.5, 24°.42N×122°.92E, h67km, ML3.0, C*

*JMA **28** 17:36:02.6±0.1, 24°.46N×122°.90E, h67km±1km, M2.2*

ISC 28 17:36:03.4±1.2, 24°.36N±0°.04×122°.90E±0°.02, h60km±7km, n85, σ1$02/159, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.10**	**24**	P	**Pn**	**17 36 12.4**	**-0.1**
JYNG				S	**Sn**	**17 36 19.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.14**	**45**	P	**Pn**	**17 36 12.6**	**0.0**
	baz=56						
YOJ				S	**Sn**	**17 36 19.8**	**+0.5**
	baz=56						
YOJ	**Yonaguni jima**	**0.14**	**45**	P	**Pn**	**17 36 12.6**	**0.0**
YOJ				S	**Sn**	**17 36 19.6**	**+0.3**
IRIF	**Iriomote-Funau**	**0.76**	**92**	P	**Pn**	**17 36 18.1**	**-0.2**
IRIF				S	**Sn**	**17 36 29.5**	**+0.2**
HATJ	**Hateruma jima**	**0.88**	**110**	P	**Pn**	**17 36 20.6**	**+0.7**
HATJ				eS	**Sn**	**17 36 33.0**	**+1.0**
TWC	**Suao**	**0.99**	**285**	*i* P	**Pn**	**17 36 20.7**	**-0.6**
	baz=281						
TWC				*e*S	**Sn**	**17 36 33.1**	**-1.4**
	baz=281						
ENAH	**Nanao**	**1.00**	**275**	P	**Pn**	**17 36 21.5**	**+0.1**
	baz=279						
ENAH				*e*S	**Sn**	**17 36 34.7**	**-0.1**
	baz=279						
JKRS	**Kuro-shima**	**1.02**	**97**	P	**Pn**	**17 36 21.8**	**+0.1**
JKRS				S	**Sn**	**17 36 36.1**	**+0.9**
NTC	**Toucheng**	**1.09**	**297**	P	**Pn**	**17 36 21.8**	**-0.8**
	baz=294						
NTC				*e*S	**Sn**	**17 36 36.0**	**-1.0**
	baz=294						
JIJ	**Ishigaki jima**	**1.13**	**90**	P	**Pn**	**17 36 22.7**	**-0.5**
JIJ				S	**Sn**	**17 36 37.3**	**-0.6**
TIPB	**Shuangxi**	**1.15**	**302**	P	**Pn**	**17 36 22.9**	**-0.6**
	baz=299						
TIPB				*e*S	**Sn**	**17 36 37.2**	**-1.2**
	baz=299						
TWE	**Neicheng**	**1.18**	**288**	*i* P	**Pn**	**17 36 23.4**	**-0.4**
	baz=290						
TWE				*e*S	**Sn**	**17 36 38.5**	**-0.5**
	baz=290						
NACB	**Ninganchiao**	**1.21**	**261**	P	**Pn**	**17 36 23.6**	**-0.5**
	baz=259						
NACB				*e*S	**Sn**	**17 36 38.7**	**-1.0**
	baz=259						
TWD	**Chiawan**	**1.22**	**257**	*e*P	**Pn**	**17 36 24.4**	**0.0**
	baz=255						
TWD				*e*S	**Sn**	**17 36 39.3**	**-0.7**
	baz=255						
ENTT	**Nioudou**	**1.25**	**283**	*i* P	**Pn**	**17 36 25.4**	**+0.6**
	baz=288						
ENTT				*e*S	**Sn**	**17 36 41.3**	**+0.7**
	baz=288						
NDT	**Datong Townshi**	**1.29**	**281**	*i* P	**Pn**	**17 36 25.8**	**+0.5**
	baz=285						
NDT				*e*S	**Sn**	**17 36 41.9**	**+0.3**
	baz=285						
ETLH	**Xiulin Townshi**	**1.30**	**264**	P	**Pn**	**17 36 25.1**	**-0.4**
	baz=262						
ETLH				*e*S	**Sn**	**17 36 41.0**	**-1.1**
	baz=262						
JISG	**Ishigakijimahi**	**1.30**	**80**	P	**Pn**	**17 36 24.8**	**-0.6**
JISG				S	**Sn**	**17 36 41.3**	**-0.6**
NWLT	**Wulai**	**1.34**	**288**	P	**Pn**	**17 36 25.4**	**-0.5**
	baz=286						
NWLT				*e*S	**Sn**	**17 36 42.2**	**-0.7**
	baz=286						
TWA	**Mucha**	**1.35**	**297**	*e*P	**Pn**	**17 36 26.0**	**-0.1**
	baz=295						
TWA				*e*S	**Sn**	**17 36 43.0**	**-0.1**
	baz=295						
NNSB	**Datong**	**1.39**	**273**	*e*P	**Pn**	**17 36 26.7**	**+0.1**
	baz=271						
NNSB				*e*S	**Sn**	**17 36 43.1**	**-1.0**
	baz=271						
NNSH	**Datong**	**1.39**	**273**	*e*P	**Pn**	**17 36 26.7**	**+0.1**
	baz=271						
NNS	**Nan Shan**	**1.40**	**274**	P	**Pn**	**17 36 26.5**	**-0.3**
	baz=271						
NNS				*e*S	**Sn**	**17 36 44.0**	**-0.3**
	baz=271						
YHNB	**Yeheng**	**1.42**	**283**	P	**Pn**	**17 36 27.6**	**+0.5**
	baz=286						
YHNB				*e*S	**Sn**	**17 36 45.1**	**+0.1**
	baz=286						
NSK	**Sanguang**	**1.44**	**283**	P	**Pn**	**17 36 27.6**	**+0.3**
	baz=281						
NSK				*e*S	**Sn**	**17 36 45.6**	**+0.3**
	baz=281						
YM01	**YM01**	**1.44**	**303**	*e*P	**Pn**	**17 36 27.5**	**+0.2**
	baz=301						
YM01				*e*S	**Sn**	**17 36 44.8**	**-0.5**
	baz=301						
ESL	**Shilin**	**1.45**	**248**	P	**Pn**	**17 36 26.7**	**-0.7**
	baz=239						
ESL				*e*S	**Sn**	**17 36 45.1**	**-0.4**
	baz=239						
YM08	**YM08**	**1.45**	**305**	*e*P	**Pn**	**17 36 27.1**	**-0.3**
	baz=303						
YM10	**YM10**	**1.45**	**303**	*e*P	**Pn**	**17 36 27.4**	**-0.1**
	baz=293						
YM10				*e*S	**Sn**	**17 36 45.4**	**-0.2**
	baz=293						
YM05	**YM05**	**1.45**	**304**	*e*P	**Pn**	**17 36 27.3**	**-0.2**
	baz=301						
YM04	**YM04**	**1.47**	**303**	*e*P	**Pn**	**17 36 27.4**	**-0.4**
	baz=301						
YM04				*e*S	**Sn**	**17 36 45.5**	**-0.5**
	baz=301						
WHF	**Hehuan Shan**	**1.51**	**262**	P	**Pn**	**17 36 28.2**	**-0.4**
	baz=261						
WHF				*e*S	**Sn**	**17 36 46.9**	**-0.6**
	baz=261						
EGFH	**Guangfu**	**1.51**	**243**	*e*P	**Pn**	**17 36 27.9**	**-0.4**
	baz=242						
EGFH				*e*S	**Sn**	**17 36 46.3**	**-0.7**
	baz=242						
FUSS	**Fushou**	**1.52**	**266**	P	**Pn**	**17 36 28.7**	**+0.2**
	baz=264						
FUSS				*e*S	**Sn**	**17 36 47.0**	**-0.4**
	baz=264						
TDCB	**Techi**	**1.59**	**266**	*e*P	**Pn**	**17 36 29.7**	**+0.2**
	baz=265						
TDCB				*e*S	**Sn**	**17 36 48.5**	**-0.6**
	baz=265						
CHGB	**Renai**	**1.60**	**260**	P	**Pn**	**17 36 29.8**	**0.0**
	baz=249						
CHGB				*e*S	**Sn**	**17 36 49.1**	**-0.4**
	baz=249						
HGSD	**Ruisui**	**1.60**	**238**	*e*P	**Pn**	**17 36 29.4**	**-0.1**
	baz=237						
HGSD				*e*S	**Sn**	**17 36 48.3**	**-0.9**
	baz=237						
JTJ	**Tarama**	**1.66**	**80**	P	**Pn**	**17 36 30.1**	**-0.2**
JTJ				S	**Sn**	**17 36 50.3**	**-0.3**
EHY	**Hungye**	**1.68**	**240**	*e*P	**Pn**	**17 36 30.4**	**-0.1**
	baz=249						
EHY				*e*S	**Sn**	**17 36 49.8**	**-1.2**
	baz=249						
VWDT	**VWDT**	**1.72**	**250**	P	**Pn**	**17 36 31.4**	**+0.4**
	baz=249						
VWDT				*e*S	**Sn**	**17 36 51.2**	**-0.7**
	baz=249						
LIOB	**Emei**	**1.74**	**280**	P	**Pn**	**17 36 31.7**	**+0.3**
	baz=278						
LIOB				*e*S	**Sn**	**17 36 53.0**	**+0.4**
	baz=278						
NSTT	**Nanjuang**	**1.75**	**279**	*e*P	**Pn**	**17 36 31.9**	**+0.4**
	baz=278						
NSTT				*e*S	**Sn**	**17 36 53.0**	**+0.2**
	baz=278						
YULB	**Yu-li**	**1.76**	**237**	P	**Pn**	**17 36 31.3**	**-0.3**
	baz=248						
YULB				*e*S	**Sn**	**17 36 51.0**	**-1.9**
	baz=248						
EYUL	**Yuli**	**1.77**	**235**	*e*S	**Sn**	**17 36 52.5**	**-0.6**
	baz=235						
TWF1	**Yuli**	**1.78**	**236**	P	**Pn**	**17 36 31.6**	**-0.3**
	baz=235						
TWF1				*e*S	**Sn**	**17 36 51.7**	**-1.7**
	baz=235						
WHP	**Taichung City**	**1.79**	**268**	P	**Pn**	**17 36 33.2**	**+1.2**
	baz=259						
WHP				*e*S	**Sn**	**17 36 54.6**	**+0.8**
	baz=259						
DPDB	**Guoxing**	**1.83**	**260**	P	**Pn**	**17 36 33.2**	**+0.6**
	baz=253						
DPDB				*e*S	**Sn**	**17 36 55.5**	**+0.7**
	baz=253						
SSLB	**Suanglung**	**1.87**	**253**	*e*P	**Pn**	**17 36 33.5**	**+0.4**
	baz=258						
SSLB				*e*S	**Sn**	**17 36 55.3**	**-0.3**
	baz=258						
FULB	**Fuli**	**1.87**	**232**	*e*S	**Sn**	**17 36 55.1**	**-0.7**
	baz=232						
CHKT	**Chengkung**	**1.89**	**229**	*e*S	**Sn**	**17 36 54.2**	**-1.8**
	baz=221						
SMLT	**Sun Moon Lake**	**1.89**	**256**	*e*P	**Pn**	**17 36 34.7**	**+1.2**
	baz=255						
SMLT				*e*S	**Sn**	**17 36 56.9**	**+0.6**
	baz=255						
TWQ1	**Liyutan**	**1.94**	**270**	*e*P	**Pn**	**17 36 34.8**	**+0.8**
	baz=269						
TWQ1				*e*S	**Sn**	**17 36 58.5**	**+1.1**
	baz=269						
WHYT	**Xinyi Township**	**1.99**	**251**	*e*S	**Sn**	**17 36 59.7**	**+1.2**
	baz=244						
EDH	**Donghe**	**2.01**	**227**	*e*P	**Pn**	**17 36 34.3**	**-0.8**
	baz=221						
EDH				*e*S	**Sn**	**17 36 56.9**	**-2.2**
	baz=221						
WJS	**Zhushan**	**2.06**	**255**	P	**Pn**	**17 36 37.2**	**+1.6**
	baz=250						
WJS				*e*S	**Sn**	**17 37 02.0**	**+1.8**
	baz=250						
WNT	**Mingjian**	**2.08**	**257**	*e*P	**Pn**	**17 36 37.8**	**+1.9**
	baz=256						
WNT				*e*S	**Sn**	**17 37 03.0**	**+2.2**
	baz=256						
ELDTW	**Lidau**	**2.08**	**236**	P	**Pn**	**17 36 35.7**	**-0.4**
	baz=236						
ELDTW				*e*S	**Sn**	**17 36 59.5**	**-1.6**
	baz=236						
ALS	**Alishan**	**2.10**	**247**	*e*P	**Pn**	**17 36 37.2**	**+0.8**
	baz=246						
ALS				*e*S	**Sn**	**17 37 02.2**	**+0.6**
	baz=246						
JIRB	**Irabujima**	**2.12**	**77**	P	**Pn**	**17 36 36.3**	**-0.2**
JIRB				S	**Sn**	**17 37 01.6**	**-0.1**
LDUT	**Ludao**	**2.13**	**218**	*e*P	**Pn**	**17 36 35.5**	**-1.1**
	baz=212						
LDUT				*e*S	**Sn**	**17 36 59.4**	**-2.7**
	baz=212						
CHN5	**Tsauling**	**2.17**	**250**	*e*P	**Pn**	**17 36 38.8**	**+1.5**
	baz=250						
CHN5				*e*S	**Sn**	**17 37 04.5**	**+1.4**
	baz=250						
LONT	**Longtian**	**2.18**	**229**	*e*P	**Pn**	**17 36 37.4**	**+0.1**
	baz=239						
LONT				*e*S	**Sn**	**17 37 01.8**	**-1.3**
	baz=239						
JMJ	**Miyako jima 2**	**2.22**	**78**	*e*P	**Pn**	**17 36 38.3**	**+0.4**
	baz=79						
JMJ				*e*S	**Sn**	**17 37 03.6**	**-0.6**
	baz=79						
JMJ2	**Miyako jima3**	**2.24**	**80**	P	**Pn**	**17 36 38.7**	**+0.6**
WGK	**Gukeng**	**2.24**	**253**	*e*S	**Sn**	**17 37 07.3**	**+2.6**
	baz=244						
WDLH	**Douliu**	**2.26**	**253**	*e*P	**Pn**	**17 36 39.6**	**+1.2**
	baz=244						
WDLH				*e*S	**Sn**	**17 37 06.5**	**+1.3**
	baz=244						
TWGBT	**Beinan**	**2.27**	**228**	*e*P	**Pn**	**17 36 37.9**	**-0.6**
	baz=238						
TWGBT				*e*S	**Sn**	**17 37 04.1**	**-1.3**
	baz=238						
STYT	**Tauyuan**	**2.30**	**239**	*e*P	**Pn**	**17 36 40.0**	**+1.0**
	baz=239						
STYT				*e*S	**Sn**	**17 37 06.9**	**+0.7**
	baz=239						
TPUB	**Ta-pu**	**2.33**	**244**	P	**Pn**	**17 36 41.1**	**+1.7**
	baz=243						
TPUB				*e*S	**Sn**	**17 37 08.4**	**+1.4**
	baz=243						
RLNB	**Erlin**	**2.37**	**259**	*e*P	**Pn**	**17 36 40.8**	**+0.9**
	baz=259						
RLNB				*e*S	**Sn**	**17 37 08.6**	**+0.9**
	baz=259						
WTP	**Ta-pu**	**2.37**	**243**	*e*P	**Pn**	**17 36 41.8**	**+1.8**
	baz=242						
WTP				*e*S	**Sn**	**17 37 09.9**	**+1.9**
	baz=242						
WTK	**Tuku**	**2.39**	**254**	*e*S	**Sn**	**17 37 10.1**	**+1.7**
	baz=267						
CHY	**Chiayi**	**2.42**	**250**	*e*P	**Pn**	**17 36 41.7**	**+1.1**
	baz=249						
CHY				*e*S	**Sn**	**17 37 10.2**	**+1.0**
	baz=249						
TWK	**Hsinying**	**2.46**	**244**	*e*P	**Pn**	**17 36 42.8**	**+1.6**
	baz=244						
TWK				*e*S	**Sn**	**17 37 11.2**	**+1.0**
	baz=244						
CHN1	**Nanshi**	**2.47**	**242**	*e*P	**Pn**	**17 36 43.2**	**+1.9**
	baz=243						
CHN1				*e*S	**Sn**	**17 37 11.7**	**+1.4**
	baz=243						
SLGT	**Liugui**	**2.48**	**237**	*e*P	**Pn**	**17 36 42.8**	**+1.5**
	baz=233						
SLGT				*e*S	**Sn**	**17 37 11.9**	**+1.4**
	baz=233						
SGST	**Jiashian**	**2.48**	**240**	*e*P	**Pn**	**17 36 42.3**	**+0.9**
	baz=247						
SGST				*e*S	**Sn**	**17 37 11.5**	**+1.0**
	baz=247						
ECL	**Taimali**	**2.51**	**226**	*e*P	**Pn**	**17 36 42.7**	**+1.0**
	baz=235						
ECL				*e*S	**Sn**	**17 37 08.9**	**-2.3**
	baz=235						
SSD	**Sandimen**	**2.63**	**233**	*e*P	**Pn**	**17 36 45.4**	**+2.0**
	baz=231						
SSD				*e*S	**Sn**	**17 37 15.0**	**+0.7**
	baz=231						
TSMG	**Majia**	**2.65**	**232**	*e*P	**Pn**	**17 36 44.4**	**+0.7**
	baz=230						
TSMG				*e*S	**Sn**	**17 37 13.7**	**-0.9**
	baz=230						
SCST	**Cishan**	**2.65**	**237**	*e*S	**Sn**	**17 36 16.5**	**+1.8**
	baz=248						
MASBT	**Mashibuluo**	**2.71**	**231**	*e*P	**Pn**	**17 36 45.3**	**+0.7**
	baz=230						
MASBT				*e*S	**Sn**	**17 37 16.8**	**+0.5**
	baz=230						
EAST	**Anshuo**	**2.73**	**224**	*e*P	**Pn**	**17 36 45.5**	**+0.7**
	baz=231						
EAST				*e*S	**Sn**	**17 37 15.1**	**-1.6**
	baz=231						
SLIU	**Shizi**	**2.88**	**223**	*e*P	**Pn**	**17 36 47.0**	**+0.1**
	baz=217						
SLIU				*e*S	**Sn**	**17 37 18.9**	**-1.4**
	baz=217						
VWUC	**VWUC**	**3.20**	**282**	*e*P	**Pn**	**17 36 50.2**	**-1.1**
	baz=273						
VWUC				*e*S	**Sn**	**17 37 25.1**	**-3.1**
	baz=273						

*IDC **28** 17:37:24.5±0.7, 36°.07N×141°.10E, h0km, mb3.9/14, mb1 4.1/18, mb1mx3.9/47, mbtmp3.9/18, ML3.4/4, MS2.7/5, Ms1 2.7/5, ms1mx2.5/53, Error ellipse: s-maj=17.5km s-min=15.0km az=116.0*

*NEIC **28** 17:37:27.5±2.2, 36°.12N±0°.03×141°.15E±0°.05, h17km±4km, mb4.5/27, Error ellipse: s-maj=7.8km s-min=1.4km az=125.0*

*JMA **28** 17:37:28.0±0.1, 36°.12N×141°.11E, h41km±2km, M3.9 JMA Felt II J1.*

*NIED **28** 17:37:28.0, 36°.12N×141°.11E, h41km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}-6.44; $M_{\theta\theta}$-0.62; $M_{\phi\phi}$7.05; $M_{r\theta}$-3.56; $M_{\theta\phi}$1.21; $M_{\phi r}$-0.56; Fault plane solution: $M_0$7.73000×10¹⁴ NP1:φs32.00000°, δ55.00000°, λ-59.00000°. NP2:φs166.00000°, δ45.00000°, λ-126.00000°.*

ISC 28 17:37:27.2±2.8, 36°.16N±0°.03×141°.11E±0°.05, h15km±18km, n93, σ1$05/90, mb4.3/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.46**	**294**	P	**Pn**	**17 37 38.5**	**-0.8**
JHYU				eS	**Sn**	**17 37 46.0**	**-1.3**
CHOJ	**Chosi**	**0.50**	**205**	P	**Pb**	**17 37 38.1**	**+0.5**
CHOJ				S	**Sb**	**17 37 44.9**	**+0.2**
JIHU	**Itakohorinouch**	**0.51**	**249**	P	**Pn**	**17 37 39.2**	**-0.8**
JIHU				S	**Sn**	**17 37 47.3**	**-1.2**
JHO	**Hitachi**	**0.63**	**316**	P	**Pb**	**17 37 40.6**	**+0.6**
JSMT	**Sammumatsuo**	**0.74**	**227**	P	**Pn**	**17 37 42.2**	**-1.0**
JYT	**Yasato**	**0.75**	**276**	P	**Pb**	**17 37 42.1**	**+0.1**
JYT				eS	**Sb**	**17 37 52.0**	**+0.1**
JYT	**Yasato**	**0.75**	**276**		**Pb**	**17 37 42.0**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.98**	**345**	P	**Pb**	**17 37 45.4**	**-0.5**
ONAJ				eS	**Sb**	**17 37 57.6**	**-1.1**
JFK	**Kawauchi**	**1.22**	**351**	P	**Pn**	**17 37 48.7**	**-1.1**
JAG	**Ashikaga**	**1.37**	**282**	P	**Pn**	**17 37 51.1**	**-0.7**
JMM	**Marumori**	**1.73**	**352**		**Pn**	**17 37 56.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.38**	**280**	Pn	**Pn**	**17 38 04.7**	**-1.0**
	5.8nm,0.3s,baz=282,slow=4.9,SNR=215						
MJAR				Sn	**Sn**	**17 38 33.9**	**-0.7**
	2.8nm,0.3s,baz=74,slow=16,SNR=2.5						
MJAR				LR	LR	17 38 35.8	
	comp=Z,61nm,21.0s,baz=100,slow=30						

MJAR	**Matsushiro Arr**	**2.38**	**280**			**Pn**	**17 38 05.1**	**-0.5**
MAJO	**Matsushiro**	**2.38**	**280**			**Pn**	**17 38 06.2**	**+0.5**
MAT	**Matsushiro**	**2.38**	**280**	P		**Pn**	**17 38 06.1**	**+0.4**
MAT				S		**Sn**	**17 38 34.6**	**0.0**
MJB9	**Matsu-Tunnel**	**2.38**	**280**			**Pn**	**17 38 06.6**	**+0.9**
JSG	**Sagara**	**2.81**	**239**	Pn		**Pn**	**17 38 12.0**	**+0.4**
JSD	**Sado**	**2.96**	**310**			**Pn**	**17 38 14.2**	**+0.6**
JGF	**Kuroka**	**3.10**	**261**			**Pn**	**17 38 17.7**	**+2.0**
JHJ2	**Mitsune**	**3.22**	**200**	Pn		**Pn**	**17 38 17.3**	**+0.1**
JHJ	**Hachijo jima 2**	**3.22**	**200**	Pn		**Pn**	**17 38 16.2**	**-1.1**
	15nm,0.3s,baz=359,slow=22,SNR=14							
JHJ					Sn	**Sn**	**17 38 54.6**	**-0.7**
	21nm,0.3s,baz=64,slow=23,SNR=1.8							
JHJ					LR	LR	17 39 12.3	
	comp=Z,70nm,19.3s,baz=80,slow=34							
INU	**Inuyama**	**3.43**	**258**			**Pn**	**17 38 22.4**	**+2.3**
JTM	**Tenmabayashi**	**4.62**	**360**	Pn		**Pn**	**17 38 38.5**	**+1.9**
JWT	**Wachi**	**4.73**	**261**	Pn		**Pn**	**17 38 39.6**	**+1.7**
ERM	**Erimo**	**6.06**	**15**	Pn		**Pn**	**17 38 56.1**	**-0.2**
JMN	**Monobe**	**6.42**	**250**	Pn		**Pn**	**17 39 01.1**	**-0.1**
JHS	**Saijyo**	**6.62**	**262**	Pn		**Pn**	**17 39 03.3**	**-0.6**
JEW	**Eniwo**	**6.68**	**2**	Pn		**Pn**	**17 39 05.0**	**+0.2**
JKA	**Kamikawa-asahi**	**8.03**	**8**			**Pn**	**17 39 22.1**	**-1.2**
ASAJ	**Asahikawa**	**8.03**	**8**	Pn		**Pn**	**17 39 22.4**	**-1.0**
	1.4nm,0.3s,baz=211,slow=18,SNR=10							
JNU	**Nakatsue**	**8.96**	**253**	LR		LR	17 43 36.0	
	comp=Z,129nm,20.1s,baz=54,slow=42							
JCJ	**Chichijima**	**9.08**	**174**	Pn		**Pn**	**17 39 35.1**	**-2.6**
USRK	**Ussuriysk Ar.**	**10.64**	**322**	Pn		**Pn**	**17 40 01.8**	**+2.8**
	baz=138,slow=13,SNR=2.3							
USRK				LR		LR	17 43 59.3	
	comp=Z,90nm,19.7s,baz=98,slow=37							
KSRS	**Korea Array**	**10.66**	**281**	Pn		**Pn**	**17 40 00.8**	**+1.5**
	0.1nm,0.3s,baz=102,slow=14,SNR=1.7							
KSRS				LR		LR	17 43 54.0	
	comp=Z,44nm,21.0s,baz=95,slow=36							
KSAR	**Wonju Array Be**	**10.69**	**281**	Pn		**Pn**	**17 39 58.4**	**-1.3**
YSS	**Yuzh-Sakhalins**	**10.86**	**6**	Pn		**Pn**	**17 40 02.2**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**27.92**	**119**	T		T	18 12 21.4	
	baz=311,slow=75,SNR=95							
H11N1	**WAKE ISLAND Hy**	**27.93**	**119**	T		T	18 12 18.2	
	baz=311,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**27.94**	**119**	T		T	18 12 23.3	
	baz=311,slow=75,SNR=90							
SONM	**Songino Array**	**28.09**	**305**	P		**P**	**17 43 17.9**	**-0.4**
	0.6nm,0.6s,baz=103,slow=11,SNR=2.4							
H11S1	**WAKE ISLAND Hy**	**28.60**	**121**	T		T	18 13 15.2	
	baz=314,slow=75,SNR=229							
H11S3	**WAKE ISLAND Hy**	**28.60**	**121**	T		T	18 13 14.3	
	baz=314,slow=75,SNR=244							
H11S2	**WAKE ISLAND Hy**	**28.61**	**121**	T		T	18 13 13.3	
	baz=314,slow=75,SNR=157							
ZALV	**Zalesovo Beam**	**42.33**	**313**	P		**P**	**17 45 20.4**	**+0.1**
	0.9nm,0.5s,baz=118,slow=8.6,SNR=3.2							
ZALV	**Zalesovo Beam**	**42.33**	**313**	P		**P**	**17 45 18.5**	**-1.8**
MK31	**Makanchi Array**	**44.39**	**303**	P		**P**	**17 45 37.7**	**+0.6**
MKAR	**Makanchi Array**	**44.39**	**303**	P		**P**	**17 45 37.9**	**+0.8**
	0.4nm,0.7s,baz=80,slow=8.6,SNR=2.8							
MAKZ	**Makanchi**	**44.60**	**303**	P		**P**	**17 45 40.7**	**+1.9**
KURK	**Kurchatov**	**46.29**	**309**	P		**P**	**17 45 51.8**	**-0.2**
KURK				IAmb		IAmb	17 46 02.0	
	comp=Z,2.8nm,0.6s							
IMAR	**Indian Mountai**	**47.53**	**30**	P		**P**	**17 46 02.3**	**+0.8**
IMAR				PcP		**PcP**	**17 47 32.2**	**+0.8**
SUA	**Susitna One**	**48.70**	**36**	P		**P**	**17 46 11.1**	**+0.3**
I23K	**Minto, Yukon-K**	**49.31**	**31**	P		**P**	**17 46 15.5**	**+0.3**
I23K				IAmb		IAmb	17 46 27.0	
	comp=Z,4.3nm,0.8s							
TOLK	**Toolik Lake Re**	**49.36**	**27**	P		**P**	**17 46 15.5**	**-0.2**
TOLK				IAmb		IAmb	17 46 48.0	
	comp=Z,8.9nm,1.5s							
MDM	**Murphy Dome**	**49.79**	**32**	P		**P**	**17 46 20.8**	**+1.9**
MDM				IAmb		IAmb	17 46 21.3	
	comp=Z,7.0nm,0.9s							
DHY	**Denali Highway**	**50.22**	**34**	P		**P**	**17 46 23.8**	**+1.4**
DHY				IAmb		IAmb	17 46 39.2	
	comp=Z,10nm,1.6s							
IL31		**50.37**	**32**	P		**P**	**17 46 24.6**	**+1.4**
ILAR	**Eielson Array**	**50.37**	**32**	P		**P**	**17 46 23.9**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=264,slow=6.4,SNR=21							
ILAR	**Eielson Array**	**50.37**	**32**	P		**P**	**17 46 23.1**	**-0.2**
GLI	**Glacier Island**	**50.50**	**37**	P		**P**	**17 46 23.2**	**-1.2**
FID	**Port Fidalgo**	**50.82**	**37**	P		**P**	**17 46 25.0**	**-1.8**
KLU	**Klutina**	**51.01**	**36**	P		**P**	**17 46 29.5**	**+1.2**
BRVK	**Borovoye**	**51.04**	**313**	P		**P**	**17 46 29.4**	**+0.9**
BMAR	**Burnt Mountain**	**51.22**	**28**	P		**P**	**17 46 31.5**	**+1.7**
N25K	**Chitina, Valde**	**51.63**	**36**	P		**P**	**17 46 33.9**	**+0.9**
N25K				IAmb		IAmb	17 47 04.1	
	comp=Z,10nm,1.6s							
DOT	**Dot Lake**	**51.67**	**33**	P		**P**	**17 46 34.3**	**+1.1**
DOT				IAmb		IAmb	17 46 53.0	
	comp=Z,9.7nm,1.5s							
BCAR	**Beaver Creek A**	**52.76**	**34**	P		**P**	**17 46 43.2**	**+1.9**
GSI	**Gunungsitoli**	**53.14**	**239**	P		**P**	**17 46 45.4**	**+0.7**
INK	**Inuvik**	**55.28**	**27**	P		**P**	**17 47 00.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=296,slow=6.6,SNR=4.5							
INK	**Inuvik**	**55.28**	**27**	IAmb		IAmb	17 47 16.0	
	comp=Z,5.8nm,1.4s							
WB0	**Warramunga Arr**	**55.98**	**188**	P		**P**	**17 47 04.2**	**-0.9**
WB0				IAmb		IAmb	17 47 14.6	
	comp=Z,3.1nm,1.1s							
WR0	**Warramunga Arr**	**56.15**	**187**	P		**P**	**17 47 05.5**	**-0.8**
WR0				IAmb		IAmb	17 47 25.7	
	comp=Z,8.4nm,1.5s							
WB2	**Warramunga Arr**	**56.16**	**188**	P		**P**	**17 47 05.4**	**-0.9**
WB2				IAmb		IAmb	17 47 40.4	
	comp=Z,5.5nm,1.3s							
WRA	**Warramunga Arr**	**56.16**	**188**	P		**P**	**17 47 05.0**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=5.2,slow=7.3,SNR=16							
WRA	**Warramunga Arr**	**56.16**	**188**	P		**P**	**17 47 05.0**	**-1.3**
ABKAR	**Akbulak array**	**58.32**	**310**	P		**P**	**17 47 21.0**	**-0.4**
ABKAR	**Akbulak array**	**58.32**	**310**	P		**P**	**17 47 21.3**	**-0.1**
ABKAR				IAmb		IAmb	17 47 22.0	
	comp=Z,2.1nm,0.9s							
C36M	**Paulatuk**	**58.33**	**25**	P		**P**	**17 47 21.9**	**+0.8**
C36M				IAmb		IAmb	17 47 22.6	
	comp=Z,4.2nm,0.8s							
ASAR	**Alice Springs**	**59.89**	**188**	P		**P**	**17 47 31.1**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=12,slow=7.3,SNR=11							
EUNU	**Eureka**	**61.09**	**8**	P		**P**	**17 47 40.2**	**+0.2**
EUNU				IAmb		IAmb	17 47 41.1	
	comp=Z,2.7nm,0.8s							
RES	**Resolute Bay**	**63.51**	**14**	P		**P**	**17 47 56.3**	**+0.1**
FINES	**FINESS Array B**	**69.48**	**332**	P		**P**	**17 48 34.1**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=355,slow=8.0,SNR=4.8							
AKASG	**Malin Array Be**	**74.84**	**322**	P		**P**	**17 49 06.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=47,slow=5.7,SNR=4.0							
AKASG	**Malin Array Be**	**74.84**	**322**	IAmb		IAmb	17 49 09.7	
	comp=Z,0.6nm,0.8s							
NB2	**NORSAR Subarra**	**74.90**	**337**	P		**P**	**17 49 06.7**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**74.90**	**337**	P		**P**	**17 49 07.2**	**0.0**
	comp=Z,1.7nm,0.8s,baz=39,slow=5.8,SNR=4.3							
NVAR	**Mina Array Bea**	**75.71**	**53**	P		**P**	**17 49 13.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=281,slow=6.4,SNR=6.5							
ELK	**Elko**	**76.30**	**49**	P		**P**	**17 49 16.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=315,slow=11,SNR=3.8							
PDAR	**Pinedale Array**	**78.45**	**45**	P		**P**	**17 49 27.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=264,slow=2.0,SNR=9.4							
CLL	**Collm**	**81.74**	**330**	*eP*		**P**	**17 49 45.0**	**0.0**
TXAR	**Lajitas Array**	**90.85**	**52**	P		**P**	**17 50 30.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=284,slow=3.6,SNR=2.0							
H03N2	**Juan Fernandez**	**147.16**	**97**	T		T	20 41 33.1	
	baz=290,slow=76,SNR=32							
H03N3	**Juan Fernandez**	**147.17**	**97**	T		T	20 41 41.6	
	baz=290,slow=76,SNR=40							
H03N1	**Juan Fernandez**	**147.18**	**97**	T		T	20 41 34.4	
	baz=290,slow=76,SNR=37							

JMA 28 17:40:29.2±0.2, 24.77N×122.89E, h122km±3km, M2.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.32**	**171**	P		Pn	17 40 46.6	+0.1
JYNG				*eS*		Sn	17 40 59.4	-0.1
YOJ	**Yonaguni jima**	**0.33**	**160**	P		Pn	17 40 46.7	+0.2
IRIF	**Iriomote-Funau**	**0.88**	**119**	P		Pn	17 40 50.3	+0.1
IRIF				S		Sn	17 41 06.1	0.0
HATJ	**Hateruma jima**	**1.09**	**130**	P		Pn	17 40 52.8	+0.5
HATJ				*eS*		Sn	17 41 10.3	+0.5
JKRS	**Kuro-shima**	**1.15**	**117**	P		Pn	17 40 53.4	+0.5
JKRS				S		Sn	17 41 11.0	+0.2
JJJ	**Ishigaki jima**	**1.21**	**109**	P		Pn	17 40 53.6	+0.1
JIJ				S		Sn	17 41 11.1	-0.9
JISG	**Ishigakijimahi**	**1.30**	**98**	P		Pn	17 40 54.5	0.0
JISG				S		Sn	17 41 13.3	-0.5
JTJ	**Tarama**	**1.65**	**94**	P		Pn	17 40 58.8	+0.3
JTJ				S		Sn	17 41 20.3	-0.6

TAP 28 17:41:01.9, 24.52N×121.59E, h34km±1km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NDT	**Datong Townshi**	**0.10**	**320**	*eS*		Sb	17 41 12.7	+0.8
	baz=319							
ENTT	**Nioudou**	**0.12**	**351**	*eP*		Pb	17 41 08.0	+0.1
	baz=353							
ENTT				*eS*		Sb	17 41 12.1	0.0
	baz=353							
NNSB	**Datong**	**0.21**	**243**	*eS*		Sb	17 41 14.2	+0.8
	baz=243							
NNS	**Nan Shan**	**0.21**	**247**	*eS*		Sb	17 41 14.4	+0.8
	baz=245							
YHNB	**Yeheng**	**0.24**	**307**	*eP*		Pb	17 41 09.1	0.0
	baz=307							
YHNB				*eS*		Sb	17 41 14.9	+0.9
	baz=307							
ETLH	**Xiulin Townshi**	**0.33**	**197**	*eP*		Pn	17 41 10.7	+0.4
	baz=196							
ETLH				*eS*		Sn	17 41 14.1	-1.3
	baz=196							
NACB	**Ninganchiao**	**0.35**	**179**	*eP*		Pn	17 41 10.5	-0.1
	baz=178							
FUSS	**Fushou**	**0.42**	**229**	*eS*		Sn	17 41 18.6	+0.4
	baz=228							
TDCB	**Techi**	**0.47**	**236**	*eS*		Sn	17 41 20.2	+0.6
	baz=235							
WHF	**Hehuan Shan**	**0.48**	**218**	*eP*		Pn	17 41 13.9	+1.2
	baz=217							
WHF				*eS*		Sb	17 41 19.1	-0.7
	baz=217							
LIOB	**Emei**	**0.53**	**283**	*eS*		Sn	17 41 21.6	+0.6
	baz=283							
CHGB	**Renai**	**0.59**	**219**	*eP*		Pb	17 41 14.9	+0.8
	baz=219							
CHGB				*eS*		Sb	17 41 21.4	-1.2
	baz=219							
WHP	**Taichung City**	**0.63**	**247**	*eS*		Sb	17 41 24.2	+0.7
	baz=247							

*IDC **28** 17:53:19.1±0.9, 27.74N×66.05E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.7/64, mbtmp3.8/15, ML3.8/1, MS3.2/8, Ms1 3.1/8, ms1mx2.8/53, Error ellipse: s-maj=20.4km s-min=18.6km az=39.0*

*NEIC **28** 17:53:22.2±2.0, 27.81N±0.08×66.05E±0.08, h19km±5km, mb4.0/21, Error ellipse: s-maj=14.6km s-min=3.6km az=140.0*

ISC 28 17:53:25.0±0.6, 27.88N±0.06×66.13E±0.06, h35km, n60, σ1s68/59, mb3.9/24, MS3.1/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BHUJ	**Bhuj**	**5.59**	**145**	*eP*		**Pn**	**17 54 46.6**	**+0.9**
BHUJ				*eS*		**Sn**	**17 55 48.9**	**+0.1**
BHUJ				IAML			17 55 55.6	
	comp=E,64nm,0.5s							
BHUJ				IAML			17 55 56.8	
	comp=N,49nm,0.6s							
THW	**Thamme Wali**	**6.89**	**43**	P		**Pn**	**17 55 03.1**	**-0.4**
KBL	**Kabul**	**7.09**	**20**			**Pn**	**17 55 06.2**	**-0.3**
HRA	**Herat**	**7.29**	**334**			**Pn**	**17 55 09.1**	**-0.1**
CEP	**Cherat**	**7.73**	**39**	P		**Pn**	**17 55 14.1**	**-1.0**
CEP				S		**Sn**	**17 56 41.0**	**-0.5**
WSAR	**Wadi Sarin**	**8.20**	**237**	Pn		**Pn**	**17 55 18.8**	**-2.7**
	comp=N,1.3nm,0.3s,baz=86,slow=12,SNR=15							
WSAR				Sn		Sn	17 56 41.4	-12
	comp=N,2.3nm,0.3s,baz=310,slow=20,SNR=7.9							
WSAR				LR		LR	17 59 08.4	
	comp=N,50nm,20.8s,baz=95,slow=43							
NIL	**Nilore**	**8.40**	**45**	Pn		**Pn**	**17 55 24.1**	**-0.2**
KUDL	**Kundal**	**9.16**	**86**	*eP*		**Pn**	**17 55 34.6**	**0.0**
KUDL				*eS*		**Sn**	**17 57 11.5**	**-4.9**
UOSS	**Minazif**	**9.37**	**254**			**Pn**	**17 55 34.7**	**-2.9**
DHRM	**DHARAMSHALA**	**9.82**	**61**	*eP*		**Pn**	**17 55 42.4**	**-1.6**
DHRM				*eS*		**Sn**	**17 57 27.4**	**-5.8**
DHRM				IAML			17 57 44.1	
	comp=N,165nm,0.9s							
CHGR	**Chuyangaron**	**11.04**	**12**	Pn		**Pn**	**17 55 59.2**	**-1.2**
BHPL	**Bhopal**	**11.19**	**112**	*eP*		**Pn**	**17 56 01.0**	**-1.5**
GAR	**Garm**	**11.63**	**16**	Pn		**Pn**	**17 56 08.6**	**+0.1**
KK31	**Karatay Array**	**15.60**	**12**			**Pn**	**17 57 01.8**	**-0.4**
KKAR	**Karatay Array**	**15.60**	**12**			**Pn**	**17 57 01.2**	**-1.0**
KKAR	**Karatay Array**	**15.60**	**12**			**Pn**	**17 57 01.4**	**-0.8**
BOOM	**Boomskoye usch**	**16.62**	**26**			**P**	**17 57 17.8**	**+0.3**
BOOM				IAmb		IAmb	17 57 28.6	
	comp=Z,14nm,1.3s							
KDJ	**Kajisay**	**16.83**	**29**			**P**	**17 57 22.1**	**+2.2**
KDJ				IAmb		IAmb	17 57 55.6	
	comp=Z,10nm,0.8s							
PRZ	**Przheval'sk**	**17.66**	**31**	P		**P**	**17 57 29.9**	**+0.9**
PRZ				IAmb		IAmb	17 57 35.7	
	comp=Z,11nm,0.9s							
ABKAR	**Akbulak array**	**21.87**	**349**	P		**P**	**17 58 14.6**	**0.0**
ABKAR				IAmb		IAmb	17 58 21.4	
	comp=Z,8.1nm,1.1s							
ABKAR	**Akbulak array**	**21.87**	**349**	P		**P**	**17 58 14.7**	**0.0**
GEVA	**Gevas**	**21.90**	**304**	P		**P**	**17 58 15.4**	**+0.2**
LSA	**Lhasa**	**21.99**	**79**	P		**P**	**17 58 19.3**	**+2.7**
LSA				pmax		pmax		
	comp=Z,22nm,0.8s							
LSA	**Lhasa**	**21.99**	**79**	P		**P**	**17 58 17.5**	**+0.9**
LSA				IAmb		IAmb	17 58 22.9	
	comp=Z,9.3nm,0.9s							
MAKZ	**Makanchi**	**22.63**	**29**	P		**P**	**17 58 22.7**	**-0.1**
MAKZ				IAmb		IAmb	17 58 27.0	
	comp=Z,5.1nm,0.8s							
MK31	**Makanchi Array**	**22.75**	**30**	P		**P**	**17 58 23.5**	**-0.6**
MKAR	**Makanchi Array**	**22.75**	**30**	P		**P**	**17 58 24.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=215,slow=12,SNR=13							
MKAR				LR		LR	18 08 05.4	
	comp=Z,84nm,19.2s,baz=214,slow=39							
MKAR	**Makanchi Array**	**22.75**	**30**	P		**P**	**17 58 24.1**	**0.0**
SHL	**Shillong**	**23.10**	**90**	P		**P**	**17 58 30.0**	**+1.9**
MARD	**Mardin**	**23.28**	**300**	P		**P**	**17 58 28.2**	**-1.6**
MARD				IAmb		IAmb	17 58 39.4	
	comp=Z,5.3nm,0.8s							
AKTO	**Aktyubinsk**	**23.36**	**347**	P		**P**	**17 58 31.5**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=155,slow=11,SNR=7.5							
AKTO				LR		LR	18 09 50.4	
	comp=Z,44nm,18.2s,baz=158,slow=42							
WMQ	**Urumqi**	**23.53**	**42**	*eP*		**P**	**17 58 34.3**	**+2.3**
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,91nm,4.9s							
KBZ	**Khabaz**	**24.48**	**316**	P		**P**	**17 58 39.6**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=121,slow=9.0,SNR=4.5							
KURBB	**Kurchatov Arra**	**24.59**	**19**	P		**P**	**17 58 41.6**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=212,slow=8.6,SNR=12							
KURK	**Kurchatov**	**24.70**	**19**	P		**P**	**17 58 43.8**	**+1.1**
KURK				IAmb		IAmb	17 58 48.3	
	comp=Z,2.5nm,0.8s							
PALK	**Pallekele**	**24.70**	**143**	LR		LR	18 07 20.5	
	comp=Z,54nm,19.6s,baz=92,slow=34							
BVAR	**Borovoye Array**	**25.32**	**6**	P		**P**	**17 58 49.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=59,slow=17,SNR=5.4							
BRVK	**Borovoye**	**25.34**	**6**	P		**P**	**17 58 49.8**	**+1.3**
BRVK				IAmb		IAmb	17 58 56.7	
	comp=Z,11nm,1.6s							
MMAI	**Mount Meron Ar**	**26.93**	**289**	LR		LR	18 13 04.6	
	comp=Z,50nm,18.4s,baz=110,slow=44							
EIL	**Elat**	**27.35**	**281**	LR		LR	18 12 31.1	
	comp=Z,44nm,18.9s,baz=98,slow=42							
ARU	**Arti**	**29.04**	**351**	P		**P**	**17 59 23.0**	**+1.4**
ARU				IAmb		IAmb	17 59 47.4	
	comp=Z,1.3nm,0.5s							
ZALV	**Zalesovo Beam**	**29.44**	**23**	P		**P**	**17 59 26.2**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=233,slow=9.9,SNR=5.0							
ZALV				LR		LR	18 13 18.7	
	comp=Z,40nm,18.0s,baz=236,slow=40							
LZH	**Lanzhou**	**32.86**	**66**	*eP*		**P**	**17 59 59.8**	**+4.1**
LZH				pP		pP	18 00 05.8	-0.5
LZH				sP		sP	18 00 08.5	-2.2
LZH				pmax		pmax		
	comp=Z,23nm,1.4s							
SANT	**Santorini**	**35.27**	**294**	P		P	18 00 20.8	+4.4
AKASG	**Malin Array Be**	**35.99**	**319**	P		**P**	**18 00 21.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=117,slow=7.3,SNR=3.0							
BURAR	**Bucovina Array**	**37.34**	**313**	P		**P**	**18 00 33.2**	**-0.8**
BUR08	**Bucovina Ar. S**	**37.35**	**313**	P		**P**	**18 00 34.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**39.26**	**59**	*eP*		**P**	**18 00 52.5**	**+2.2**
HHC				pmax		pmax		
	comp=Z,13nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,7.8s							
FINES	**FINESS Array B**	**42.82**	**333**	P		**P**	**18 01 18.9**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=126,slow=9.7,SNR=5.4							
GEC2	**GERESS Array S**	**45.11**	**312**	P		**P**	**18 01 38.3**	**+0.4**
GEC2B	**GERESS ARRAY S**	**45.11**	**312**	P		**P**	**18 01 39.7**	**+1.8**
GERES	**GERESS Array B**	**45.11**	**312**	P		**P**	**18 01 37.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=97,slow=8.1,SNR=2.2							
CLL	**Collm**	**45.94**	**316**	*eP*		**P**	**18 01 44.0**	**-0.2**
ARCES	**ARCESS Array B**	**47.80**	**342**	P		**P**	**18 01 58.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=132,slow=8.7,SNR=9.0							
KSRS	**Korea Array**	**52.07**	**63**	P		**P**	**18 02 31.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=46,slow=43,SNR=2.8							
TORD	**Torodi Ar. Bea**	**61.50**	**270**	P		**P**	**18 03 37.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=54,slow=6.2,SNR=5.9							
TORD	**Torodi Ar. Bea**	**61.50**	**270**	P		**P**	**18 03 41.6**	**+3.0**
BOSA	**Boshof**	**68.48**	**218**	LR		LR	18 32 51.3	
	comp=Z,20nm,20.2s,baz=83,slow=35							
WRA	**Warramunga Arr**	**81.29**	**118**	P		**P**	**18 05 37.2**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=314,slow=4.1,SNR=11							
ASAR	**Alice Springs**	**83.03**	**121**	P		**P**	**18 05 46.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=305,slow=5.1,SNR=28							

*HEL **28** 18:04:49.8±0.1, 67.08N×20.91E, h0km, ML2.3, ML2.1(UPP), Explosion*

*UPP **28** 18:04:49.1±0.1, 67.06N×20.90E, h1km, ML2.1, Explosion*

*NAO **28** 18:04:50.0±1.2, 67.08N×21.25E, ML2.5*

*BER **28** 18:04:52.9±3.2, 67.07N×21.11E, h0km, ML1.4, ML2.5(NAO), Suspected explosion*

ISC 28 18:04:48.6±0.8, 67.08N±0.02×20.95E±0.02, h0km, n36, σ0s72/54, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.56**	**47**	P		**Pb**	**18 05 00.2**	**-0.9**
MASU	**Masugnsbyn**	**0.56**	**47**	*i* P		**Pb**	**18 05 00.2**	**-0.9**
ERTU	**Ertsjaerv**	**0.72**	**137**	P		**Pg**	**18 05 02.6**	**+0.2**
ERTU				S		**Sg**	**18 05 12.5**	**+0.7**
ERTU	**Ertsjaerv**	**0.72**	**137**	*i* P		**Pg**	**18 05 02.6**	**+0.2**
ERTU				*i* S		**Sg**	**18 05 12.5**	**+0.7**
PAJU	**Pajala**	**0.85**	**93**	P		**Pg**	**18 05 05.0**	**+0.2**
PAJU	**Pajala**	**0.85**	**93**	*i* P		**Pg**	**18 05 05.0**	**+0.2**
KUA	**Kurravaara**	**0.91**	**345**	P		**Pg**	**18 05 06.0**	**+0.1**
KUA	**Kurravaara**	**0.91**	**345**	*eP*		**Pg**	**18 05 06.0**	**+0.1**
HARU	**Harads**	**0.92**	**179**	P		**Pg**	**18 05 06.1**	**-0.1**
HARU	**Harads**	**0.92**	**179**	*eP*		**Pg**	**18 05 06.1**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**289**	P		**Pg**	**18 05 07.5**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**289**	*eP*		**Pg**	**18 05 07.5**	**-0.1**
LANU	**Lannavaara**	**1.05**	**22**	P		**Pg**	**18 05 08.4**	**-0.2**
LANU	**Lannavaara**	**1.05**	**22**	*eP*		**Pg**	**18 05 08.4**	**-0.2**
KALU	**Kalix**	**1.56**	**141**	P		**Pn**	**18 05 17.8**	**+0.2**
KALU	**Kalix**	**1.56**	**141**	*eP*		**Pn**	**18 05 17.5**	**0.0**
KALU				*eS*		**Sg**	**18 05 39.6**	**+0.9**
SJUU	**Sjulsmark**	**1.60**	**170**	P		**Pn**	**18 05 18.2**	**+0.1**
SJUU	**Sjulsmark**	**1.60**	**170**	*eP*		**Pn**	**18 05 18.2**	**+0.1**
**TOF

mb1 4.0/13,mb1mx3.7/49,mbtmp3.8/13,ML3.1/1,MS3.4/14, Ms1 3.4/14,ms1mx3.1/43,Error ellipse: s-maj=32.2km s-min=15.9km az=15.0

NEIC ***28*** *18:16:15.7±1.1,55.4N±0.1×35.2W±0.2,h19km±4km, mb4.4/19,Error ellipse: s-maj=20.1km s-min=13.1km az=197.0*

ISC 28 18:16:14.1±0.7,55.3N±0.1×35.32W±0.08,h10km,n39, σ0.90/30,mb4.0/19,MS3.4/12,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.90**	**322**	Pn	**Pn**	**18 18 07.8**	**-1.0**
BORG	**Borgarnes**	**11.71**	**31**	LR	LR	18 22 20.0	
	comp=Z,171nm,19.0s,baz=261,slow=31						
SUMG	**Summit**	**17.36**	**357**	Pn	**Pn**	**18 20 15.7**	**-0.8**
SCHQ	**Schefferville**	**17.97**	**281**	P	**P**	**18 20 22.0**	**-1.9**
	0.7nm,0.3s,baz=262,slow=11,SNR=6.6						
SCHQ				LR	LR	18 25 60.0	
	comp=Z,147nm,18.6s,baz=38,slow=33						
SCHQ	**Schefferville**	**17.97**	**281**	IAmb	IAmb	18 20 28.9	
	comp=Z,20nm,1.3s						
E63A	**Oxbow**	**22.52**	**261**	P	**P**	**18 21 13.8**	**+0.1**
NOA	**NORSAR Array B**	**24.73**	**58**	LR	LR	18 29 14.2	
	comp=Z,43nm,19.9s,baz=255,slow=32						
ESDC	**Sonseca Array**	**26.05**	**114**	P	**P**	**18 21 47.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=308,slow=8.7,SNR=4.4						
ARCES	**ARCESS Array B**	**29.97**	**38**	P	**P**	**18 22 22.3**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=348,slow=4.2,SNR=4.3						
ARCES				LR	LR	18 32 08.4	
	comp=Z,26nm,20.6s,baz=325,slow=32						
GERES	**GERESS Array B**	**30.27**	**82**	P	**P**	**18 22 25.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=302,slow=7.7,SNR=3.7						
GERES				LR	LR	18 33 01.8	
	comp=Z,57nm,18.7s,baz=298,slow=33						
ULM	**Lac du Bonnet**	**35.95**	**288**	LR	LR	18 36 49.7	
	comp=Z,97nm,18.9s,baz=74,slow=34						
AKASG	**Malin Array Be**	**37.85**	**69**	P	**P**	**18 23 30.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=2.8						
AKASG				LR	LR	18 40 35.0	
	comp=Z,46nm,18.1s,baz=320,slow=39						
AKASG	**Malin Array Be**	**37.85**	**69**	IAmb	IAmb	18 23 32.9	
	comp=Z,0.8nm,0.8s						
AKBB	**Malin Array Si**	**37.85**	**69**	P	**P**	**18 23 30.0**	**-0.7**
AKBB				IAmb	IAmb	18 23 31.0	
	comp=Z,4.5nm,0.8s						
YKA	**Yellowknife Ar**	**39.09**	**314**	P	**P**	**18 23 40.5**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=64,slow=9.7,SNR=3.4						
YKA				LR	LR	18 38 36.4	
	comp=Z,54nm,18.7s,baz=0.0,slow=34						
INK	**Inuvik**	**42.98**	**327**	P	**P**	**18 24 13.1**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=32,slow=12,SNR=4.1						
INK	**Inuvik**	**42.98**	**327**	IAmb	IAmb	18 24 15.8	
	comp=Z,3.9nm,1.1s						
BRTR	**Keskin Array B**	**47.10**	**79**	P	**P**	**18 24 45.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=260,slow=2.3,SNR=4.6						
BRTR				LR	LR	18 46 08.4	
	comp=Z,12nm,18.2s,baz=314,slow=38						
PDAR	**Pinedale Array**	**47.97**	**287**	P	**P**	**18 24 53.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=283,slow=22,SNR=2.3						
PDAR				LR	LR	18 43 47.4	
	comp=Z,83nm,20.1s,baz=100,slow=34						
IL31		**49.34**	**328**	P	**P**	**18 25 03.6**	**+0.7**
IL31				IAmb	IAmb	18 25 05.9	
	comp=Z,4.4nm,1.1s						
ILAR	**Eielson Array**	**49.34**	**328**	P	**P**	**18 25 04.0**	**+1.0**
	comp=Z,1.9nm,1.1s,baz=42,slow=5.5,SNR=7.7						
ILAR				LR	LR	18 45 13.3	
	comp=Z,79nm,18.5s,baz=90,slow=35						
ILAR	**Eielson Array**	**49.34**	**328**	P	**P**	**18 25 04.1**	**+1.1**
MDM	**Murphy Dome**	**49.61**	**329**	P	**P**	**18 25 06.5**	**+1.5**
MDM				IAmb	IAmb	18 25 16.0	
	comp=Z,7.6nm,1.4s						
IMAR	**Indian Mountai**	**50.39**	**332**	P	**P**	**18 25 11.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**50.96**	**131**	P	**P**	**18 25 14.7**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=317,slow=9.2,SNR=3.0						
JCT	**Junction City**	**51.20**	**269**	P	**P**	**18 25 16.9**	**-0.5**
JCT				IAmb	IAmb	18 25 19.7	
	comp=Z,5.1nm,0.9s						
PGC	**Sidney**	**51.20**	**302**	P	**P**	**18 25 17.8**	**+0.6**
NLU	**North Lily Min**	**51.27**	**286**	P	**P**	**18 25 18.8**	**+0.6**
J08A	**Circle Bar Ran**	**52.33**	**294**	P	**P**	**18 25 27.0**	**+1.1**
J08A				IAmb	IAmb	18 25 29.9	
	comp=Z,6.0nm,1.0s						
KNB	**Kanab**	**53.78**	**284**	P	**P**	**18 25 37.7**	**+0.9**
ABKAR	**Akbulak array**	**54.15**	**54**	P	**P**	**18 25 39.1**	**+0.1**
ABKAR				IAmb	IAmb	18 25 40.0	
	comp=Z,2.2nm,1.1s						
TXAR	**Lajitas Array**	**54.26**	**271**	P	**P**	**18 25 41.2**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=67,slow=6.9,SNR=2.9						
TXAR				LR	LR	18 47 55.4	
	comp=Z,28nm,19.3s,baz=0.0,slow=35						
DBIC	**Dimbokro**	**54.28**	**142**	LR	LR	18 46 37.6	
	comp=Z,41nm,18.5s,baz=338,slow=34						
KVN	**Kaiserville**	**55.19**	**290**	P	**P**	**18 25 48.5**	**+1.5**
KVN				IAmb	IAmb	18 25 51.5	
	comp=Z,5.5nm,1.4s						
NVAR	**Mina Array Bea**	**55.75**	**289**	LR	LR	18 48 27.4	
	comp=Z,72nm,20.8s,baz=72,slow=35						
MKAR	**Makanchi Array**	**65.52**	**42**	P	**P**	**18 26 57.1**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=339,slow=6.5,SNR=4.3						
GAR	**Garm**	**66.77**	**55**	P	**P**	**18 27 06.9**	**+1.4**
WRA	**Warramunga Arr**	**143.81**	**17**	PKP	PKPbc	18 35 47.5	+0.6
	comp=Z,8.9nm,1.0s,baz=334,slow=1.7,SNR=5.3						
ASAR	**Alice Springs**	**147.37**	**19**	PKPbc	**PKPdf**	**18 35 56.5**	**+1.0**
	comp=Z,3.2nm,0.5s,baz=350,slow=2.5,SNR=83						

VAO ***28*** *18:22:44.7±0.4,24.29S×67.23W,h198km±5km, mb4.5*

SJA ***28*** *18:22:44.8±0.7,24.31S×67.17W,h184km±7km, ML4.2, MW4.1*

NEIC ***28*** *18:22:44.1±1.8,24.30S±0.06×67.06W±0.08,h170km±5km, mb4.3/23,Md3.8(SJA),Error ellipse: s-maj=11.2km s-min=8.3km az=88.0*

IDC ***28*** *18:22:45.0±1.1,24.18S×67.00W,h175km±10km,mb3.6/9, mb1 3.8/15,mb1mx3.8/24,mbtmp4.2/15,Error ellipse: s-maj=15.5km s-min=13.0km az=28.0*

GUC ***28*** *18:22:46.1±1.0,24.21S×67.50W,h223km±14km,ML4.4*

ISC 28 18:22:44.7±0.6,24.28S±0.04×67.20W±0.04,h181km±6km, n153,σ1.9/189,mb4.2/19,14C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.96**	**57**	*e*P	**Pn**	**18 23 22.9**	**+1.1**
HJA				*e*S	**Sn**	**18 23 51.3**	**+0.8**
FSA	**Cafayete**	**2.13**	**149**	*e*P	**Pn**	**18 23 24.2**	**+0.8**
LVC	**Limon Verde**	**2.29**	**316**	P	**Pn**	**18 23 27.1**	**+1.7**
	64nm,0.3s,baz=144,slow=5.2,SNR=310						
LVC				S	**Sn**	**18 23 57.8**	**+0.9**
	85nm,0.3s,baz=302,slow=23,SNR=45						
LVC	**Limon Verde**	**2.29**	**316**	*e*P	**Pn**	**18 23 27.1**	**+1.7**
LVC				*i* S	**Sn**	**18 23 57.9**	**+0.9**
LVC	**Limon Verde**	**2.29**	**316**		**Pn**	**18 23 26.9**	**+1.5**
LVC				Sn	**Sn**	**18 23 57.6**	**+0.6**
LVC	**Limon Verde**	**2.29**	**316**	*e*P	**Pn**	**18 23 27.1**	**+1.7**
LVC				*e*S	**Sn**	**18 23 58.0**	**+1.0**
LVC	**Limon Verde**	**2.29**	**316**	*e*P	**Pn**	**18 23 27.1**	**+1.7**
LVC				*e*S	**Sn**	**18 23 58.0**	**+1.0**
PB15	**IPOC Station P**	**2.34**	**297**	⇑*i*P	**Pn**	**18 23 27.5**	**+1.7**
PB15				*i* S	**Sn**	**18 23 57.8**	**+0.1**
PB15	**IPOC Station P**	**2.34**	**297**		**Pn**	**18 23 27.5**	**+1.7**
PB15				Sn	**Sn**	**18 23 58.4**	**+0.7**
PB15	**IPOC Station P**	**2.34**	**297**	*e*P	**Pn**	**18 23 27.7**	**+1.9**
PB15				*e*S	**Sn**	**18 23 58.9**	**+1.1**
GO02	**Mina Guanaco**	**2.35**	**248**	⇑*i*P	**Pn**	**18 23 27.3**	**+1.3**
GO02				*i* S	**Sn**	**18 23 58.3**	**+0.2**
GO02				IAML		18 24 00.3	
	comp=N,2μm,0.2s						
GO02	**Mina Guanaco**	**2.35**	**248**		**Pn**	**18 23 27.2**	**+1.3**
GO02				Sn	**Sn**	**18 23 58.5**	**+0.5**
YJA	**Yavi**	**2.61**	**37**	*e*P	**Pn**	**18 23 30.8**	**+1.6**
YJA				*e*S	**Sn**	**18 24 05.8**	**+2.1**
PB06	**IPOC Station P**	**2.68**	**305**	⇑*i*P	**Pn**	**18 23 31.2**	**+1.4**
PB06				*i* S	**Sn**	**18 24 04.8**	**-0.1**
PB06				IAML		18 24 06.8	
	comp=N,1μm,0.6s						
PB06	**IPOC Station P**	**2.68**	**305**		**Pn**	**18 23 30.8**	**+1.0**
PB06				Sn	**Sn**	**18 24 04.5**	**-0.3**
PB06	**IPOC Station P**	**2.68**	**305**	*e*P	**Pn**	**18 23 31.2**	**+1.4**
PB06				*e*S	**Sn**	**18 24 05.4**	**+0.6**
PB06				IAML		18 24 10.4	
	comp=Z,771nm,0.9s						
PB14	**IPOC Station P**	**2.94**	**263**	⇑*i*P	**Pn**	**18 23 33.6**	**+0.6**
PB14				*i* S	**Sn**	**18 24 10.0**	**-0.5**
PB14				IAML		18 24 16.6	
	comp=N,277nm,0.5s						
PB14	**IPOC Station P**	**2.94**	**263**		**Pn**	**18 23 33.4**	**+0.5**
PB14				Sn	**Sn**	**18 24 09.6**	**-0.9**
PB14	**IPOC Station P**	**2.94**	**263**	*e*P	**Pn**	**18 23 34.0**	**+1.0**
PB14				*e*S	**Sn**	**18 24 10.6**	**+0.1**
PB14				IAML		18 24 17.1	
	comp=Z,308nm,0.6s						
AHML	**Horco Molle**	**3.01**	**146**	*e*P	**Pn**	**18 23 34.2**	**+0.7**
AHML				*e*S	**Sn**	**18 24 13.0**	**+1.3**
AC02	**Maricunga**	**3.08**	**214**		**Pn**	**18 23 35.9**	**+1.0**
PB05	**IPOC Station P**	**3.10**	**297**	⇑*i*P	**Pn**	**18 23 35.7**	**+0.9**
PB05				*i* S	**Sn**	**18 24 12.5**	**-1.3**
PB05				IAML		18 24 16.6	
	comp=N,416nm,0.2s						
PB05	**IPOC Station P**	**3.10**	**297**	*e*P	**Pn**	**18 23 35.8**	**+0.9**
PB05				*e*S	**Sn**	**18 24 12.5**	**-1.3**
PB05				IAML		18 24 21.4	
	comp=Z,362nm,0.6s						
PB09	**IPOC Station P**	**3.11**	**322**	⇑*i*P	**Pn**	**18 23 36.5**	**+1.6**
PB09				*i* S	**Sn**	**18 24 14.1**	**+0.1**
PB09				IAML		18 24 16.0	
	comp=N,723nm,0.4s						
PB09	**IPOC Station P**	**3.11**	**322**		**Pn**	**18 23 36.6**	**+1.6**
PB09				Sn	**Sn**	**18 24 14.2**	**+0.1**
PB09	**IPOC Station P**	**3.11**	**322**	*e*P	**Pn**	**18 23 36.5**	**+1.6**
PB09				*e*S	**Sn**	**18 24 14.9**	**+0.9**
PB09				IAML		18 24 15.8	
	comp=Z,660nm,0.5s						
PB10	**IPOC Station P**	**3.17**	**283**	⇑*i*P	**Pn**	**18 23 36.5**	**+1.1**
PB10				*i* S	**Sn**	**18 24 13.8**	**-1.2**
PB10				IAML		18 24 21.5	
	comp=E,404nm,0.3s						
PB10	**IPOC Station P**	**3.17**	**283**		**Pn**	**18 23 36.5**	**+1.1**
PB10	**IPOC Station P**	**3.17**	**283**	*e*P	**Pn**	**18 23 36.6**	**+1.1**
PB10				*e*S	**Sn**	**18 24 15.4**	**+0.4**
PB10				IAML		18 24 21.3	
	comp=Z,334nm,0.5s						
PB03	**IPOC Station P**	**3.23**	**313**	⇑*i*P	**Pn**	**18 23 37.4**	**+0.9**
PB03				*i* S	**Sn**	**18 24 15.6**	**-1.2**
PB03				IAML		18 24 16.9	
	comp=N,800nm,0.2s						
PB03	**IPOC Station P**	**3.23**	**313**	*e*P	**Pn**	**18 23 37.4**	**+0.9**
PB03				*e*S	**Sn**	**18 24 16.2**	**-0.6**
PB03				IAML		18 24 19.9	
	comp=Z,579nm,0.3s						
PB04	**IPOC Station P**	**3.33**	**305**	⇑*i*P	**Pn**	**18 23 38.4**	**+0.7**
PB04				*i* S	**Sn**	**18 24 17.7**	**-1.3**
PB04				IAML		18 24 20.2	
	comp=E,696nm,0.3s						
PB04	**IPOC Station P**	**3.33**	**305**		**Pn**	**18 23 38.4**	**+0.7**
PB07	**IPOC Station P**	**3.55**	**315**	⇑*i*P	**Pn**	**18 23 41.1**	**+0.8**
PB07				*i* S	**Sn**	**18 24 22.1**	**-1.7**
PB07	**IPOC Station P**	**3.55**	**315**		**Pn**	**18 23 41.0**	**+0.6**
PB07				Sn	**Sn**	**18 24 21.8**	**-2.0**
AC01	**Pan de Azucar**	**3.60**	**238**		**Pn**	**18 23 40.5**	**-0.3**
AC01				Sn	**Sn**	**18 24 22.0**	**-2.6**
PB01	**IPOC Station P**	**3.85**	**326**	⇑*i*P	**Pn**	**18 23 44.4**	**+0.3**
PB01				*i* S	**Sn**	**18 24 28.9**	**-1.7**
PB01	**IPOC Station P**	**3.85**	**326**		**Pn**	**18 23 44.3**	**+0.2**
PB02	**IPOC Station P**	**3.86**	**319**	⇑*i*P	**Pn**	**18 23 44.5**	**+0.3**
PB02				*i* S	**Sn**	**18 24 28.4**	**-2.3**
GO03	**Copiap**	**4.28**	**219**	⇑*i*P	**Pn**	**18 23 48.6**	**-0.9**
GO03				*i* S	**Sn**	**18 24 37.6**	**-2.8**
GO03	**Copiap**	**4.28**	**219**	Pn	**Pn**	**18 23 48.7**	**-0.9**
CYA	**Choya**	**4.33**	**163**	*e*P	**Pn**	**18 23 50.7**	**+0.7**
PATCX	**Punta Patache**	**4.39**	**321**	⇓*i*P	**Pn**	**18 23 50.9**	**-0.1**
PATCX				*i* S	**Sn**	**18 24 35.2**	**-7.7**
PATCX	**Punta Patache**	**4.39**	**321**		**Pn**	**18 23 50.8**	**-0.2**
PB08	**IPOC Station P**	**4.50**	**336**	⇑*i*P	**Pn**	**18 23 53.5**	**+0.8**
PB08				*i* S	**Sn**	**18 24 45.1**	**-0.7**
PB08	**IPOC Station P**	**4.50**	**336**		**Pn**	**18 23 53.4**	**+0.8**
TA01	**Diego Aracena**	**4.61**	**323**		**Pn**	**18 23 53.8**	**0.0**
GO01	**Chusmiza**	**4.95**	**338**		**Pn**	**18 23 59.1**	**+0.5**
PB11	**IPOC Station P**	**5.04**	**333**	Pn	**Pn**	**18 23 58.8**	**-0.6**
ACLC	**CERRO LA CRUZ**	**5.13**	**178**	*e*P	**Pn**	**18 24 00.2**	**-0.3**
AC04	**Llanos de Chal**	**5.23**	**221**	Pn	**Pn**	**18 23 60.0**	**-1.7**
AC05	**El Transito**	**5.31**	**211**		**Pn**	**18 24 01.8**	**-1.0**
PSGCX	**Pisagua**	**5.39**	**329**	Pn	**Pn**	**18 24 02.7**	**-1.2**
MNMC	**Minye Minye**	**5.59**	**336**		**Pn**	**18 24 06.5**	**-0.2**
LCO	**Las Campanas**	**5.66**	**213**	Pn	**Pn**	**18 24 05.9**	**-1.6**
APLL	**PUNTA DE LOS L**	**6.12**	**175**	*e*P	**Pn**	**18 24 12.8**	**-0.5**
APLL				IAML		18 25 22.9	
	comp=Z,151nm,4.8s						
CO01	**Juntas del Tor**	**6.23**	**204**		**Pn**	**18 24 14.9**	**-0.1**
PB16	**IPOC Station P**	**6.30**	**340**		**Pn**	**18 24 16.4**	**+0.2**
CO03	**El Pedregal**	**7.23**	**205**	Pn	**Pn**	**18 24 26.6**	**-1.4**
TCA	**Tanti**	**7.40**	**162**	*e*P	**Pn**	**18 24 28.8**	**-1.4**
TCA				*e*S	**Sn**	**18 25 48.8**	**-4.7**
CO02	**Combarbal**	**7.67**	**205**	Pn	**Pn**	**18 24 32.0**	**-1.8**
LPAZ	**La Paz**	**8.00**	**354**	P	**Pn**	**18 24 39.2**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=148,slow=7.8,SNR=20						
LPAZ				S	**Sn**	**18 26 05.2**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=200,slow=18,SNR=1.6						
LPAZ	**La Paz**	**8.00**	**354**	*e*P	**Pn**	**18 24 38.6**	**0.0**
CPUP	**Villa Florida**	**9.16**	**105**	P	**Pn**	**18 24 50.8**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=12						
CPUP	**Villa Florida**	**9.16**	**105**	Pn	**Pn**	**18 24 50.5**	**-2.8**
ROC1	**El Roble**	**9.29**	**200**	Pn	**Pn**	**18 24 54.2**	**-0.9**
MT02	**Curacav**	**9.59**	**200**	Pn	**Pn**	**18 24 55.4**	**-3.5**
SIV	**San Ignacio**	**10.05**	**36**	P	**Pn**	**18 25 03.1**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=228,slow=13,SNR=21						
SIV				S	Sn	18 26 45.2	-12
	comp=Z,0.1nm,0.3s,baz=237,slow=14,SNR=4.1						
BO02	**Sierra Bellavi**	**10.93**	**196**		**Pn**	**18 25 17.8**	**+1.5**
PTLB	**Pontes e Lacer**	**11.60**	**42**	*e*P	**Pn**	**18 25 24.1**	**-1.0**
TRCB	**Terra Rica**	**13.44**	**87**	*e*P	**Pn**	**18 25 48.5**	**0.0**
CPSB	**Cacapava Do Su**	**13.66**	**120**	*e*P	**Pn**	**18 25 50.5**	**-0.6**
PTGB	**Pitanga**	**13.79**	**95**	*e*P	**P**	**18 25 56.1**	**+0.6**
ITAB	**Concordia**	**13.89**	**105**	*e*P	**Pn**	**18 25 53.1**	**-0.9**
PLTB	**Pedras Altas**	**14.12**	**125**	*e*P	**Pn**	**18 25 54.8**	**-2.2**
PCMB	**Pacaembu**	**14.92**	**83**	*e*P	**Pn**	**18 26 04.9**	**-2.0**
LC01	**Cunco**	**15.10**	**194**		**Pn**	**18 26 08.5**	**-0.4**
NNA	**Nana**	**15.27**	**322**		**P**	**18 26 12.3**	**+0.3**
NNA				IAmb	IAmb	18 26 15.7	
	comp=Z,24nm,1.3s						
CNLB	**Canela**	**15.43**	**113**	*e*P	**Pn**	**18 26 11.0**	**-2.1**
SAML	**Samuel**	**15.72**	**15**		**Pn**	**18 26 15.4**	**-1.3**
SAML	**Samuel**	**15.72**	**15**	*e*P	**Pn**	**18 26 16.1**	**-0.5**
FRTB	**Fartura**	**16.17**	**90**	*e*P	**P**	**18 26 20.9**	**-1.0**
ITRB	**Iturama**	**16.27**	**77**	*e*P	**Pn**	**18 26 24.0**	**+0.7**
PLCA	**Paso Flores**	**16.64**	**189**	P	**Pn**	**18 26 28.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=345,slow=9.9,SNR=4.6						
PLCA	**Paso Flores**	**16.64**	**189**	P	**P**	**18 26 26.7**	**-0.3**
PLCA				IAmb	IAmb	18 26 36.2	
	comp=Z,8.3nm,0.6s						
PLCA	**Paso Flores**	**16.64**	**189**	*e*P	**P**	**18 26 25.6**	**-1.4**
ARAG	**Araguaiana, MT**	**16.78**	**62**	*e*P	**Pn**	**18 26 28.7**	**-0.8**
CLDB	**Colider**	**17.19**	**41**	*e*P	**P**	**18 26 31.2**	**-1.9**
BB19B	**Bebedouro**	**17.52**	**83**	*e*P	**P**	**18 26 36.4**	**-0.4**
SPB	**Sao Paulo**	**18.08**	**92**	P	**P**	**18 26 41.9**	**-0.9**
SPB				IAmb	IAmb	18 26 45.7	
	comp=Z,19nm,1.0s						
SPB	**Sao Paulo**	**18.08**	**92**	*e*P	**P**	**18 26 42.4**	**-0.5**
RCLB	**Rio Claro- Sao**	**18.16**	**88**	*e*P	**P**	**18 26 42.9**	**-0.8**
PET01	**Itanhaem-SP**	**18.16**	**94**	*e*P	**P**	**18 26 43.3**	**-0.4**
LL01	**San Ignacio de**	**18.56**	**192**	P	**P**	**18 26 48.7**	**+0.9**
VAO	**Valinhos**	**18.58**	**90**	*e*P	**P**	**18 26 47.4**	**-1.0**
IPMB	**Ipameri, GO**	**18.78**	**74**	*e*P	**P**	**18 26 49.8**	**-0.7**
SNDB	**Serra Nova Dou**	**19.42**	**54**	*e*P	**P**	**18 26 55.8**	**-1.6**
PARB	**Paraibuna**	**19.77**	**92**	*e*P	**P**	**18 26 59.8**	**-1.3**
BDFB	**Brasilia**	**19.96**	**68**	P	**P**	**18 27 02.4**	**-0.8**
	comp=Z,6.7nm,0.3s,baz=244,slow=11,SNR=34						
BDFB	**Brasilia**	**19.96**	**68**	P	**P**	**18 27 01.9**	**-1.4**
NPGB	**Novo Progresso**	**20.56**	**35**	*e*P	**P**	**18 27 06.9**	**-2.6**
ESAR	**Angra dos Reis**	**20.88**	**91**	*e*P	**P**	**18 27 11.9**	**-1.0**
BSCB	**Bom Sucesso**	**20.95**	**85**	*e*P	**P**	**18 27 12.4**	**-1.4**
PEXB	**Peixe**	**21.62**	**59**	*e*P	**P**	**18 27 19.1**	**-1.7**
VAS01	**Vassouras-RJ**	**21.91**	**90**	*e*P	**P**	**18 27 23.1**	**-0.6**
ITTB	**Itatiuba**	**22.67**	**31**	*e*P	**P**	**18 27 29.4**	**-1.5**
JANB	**Januaria**	**23.39**	**71**	*e*P	**P**	**18 27 36.2**	**-1.3**
SDBA	**SAO DESIDERIO**	**24.19**	**65**	*e*P	**P**	**18 27 43.4**	**-1.4**
SMTB	**Santa Maria do**	**24.20**	**54**	*e*P	**P**	**18 27 44.0**	**-0.8**
PRPB	**Parauapebas**	**24.55**	**46**	*e*P	**P**	**18 27 46.6**	**-1.4**
SJMB	**Sao Joao De Ma**	**24.81**	**82**	*e*P	**P**	**18 27 49.1**	**-1.3**
BSFB	**Barra de Sao F**	**25.08**	**83**	*e*P	**P**	**18 27 51.0**	**-1.8**
RIB01	**Linhares ES**	**25.35**	**84**	*e*P	**P**	**18 27 54.0**	**-1.2**
MALB	**Monte Alegre**	**25.57**	**31**	*e*P	**P**	**18 27 55.8**	**-1.3**
GDU01	**Guandu, BA**	**28.10**	**73**	*e*P	**P**	**18 28 18.1**	**-1.8**
ROSC	**El Rosal**	**29.77**	**346**	P	**P**	**18 28 35.9**	**+0.9**
	comp=Z,36nm,0.5s,baz=120,slow=20,SNR=3.6						
ROSC	**El Rosal**	**29.77**	**346**	P	**P**	**18 28 36.1**	**+1.2**
RCBR	**Riachuelo**	**35.21**	**64**	P	**P**	**18 29 21.3**	**-0.7**
TOSP	**Speyside**	**35.96**	**11**	P	**P**	**18 29 29.0**	**+0.9**
SNAA	**Sanae**	**59.15**	**161**	P	**P**	**18 32 27.0**	**+0.9**
TXAR	**Lajitas Array**	**63.80**	**325**	P	**P**	**18 32 58.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=152,slow=8.6,SNR=4.2						
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**18 33 12.8**	**+1.7**
QSPA				IAmb	IAmb	18 33 15.1	
	comp=Z,6.5nm,1.2s						
LIC	**Lamto**	**67.70**	**72**	*e*P	**P**	**18 33 22.2**	**-0.8**
	comp=Z,4.8nm,0.3s						
TIC	**Toumodi**	**67.91**	**71**	*e*P	**P**	**18 33 21.2**	**-3.1**
KIC	**Kosan Boka**	**68.01**	**72**	*e*P	**P**	**18 33 23.6**	**-1.3**
	comp=Z,9.8nm,0.7s						
DBIC	**Dimbokro**	**68.06**	**72**	P	**P**	**18 33 24.1**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=215,slow=7.5,SNR=7.4						
KOWA	**Kowa**	**72.72**	**65**	P	**P**	**18 33 53.8**	**+0.4**
KOWA				IAmb	IAmb	18 33 54.3	
	comp=Z,6.2nm,0.6s						
VNDA	**Vanda**	**74.39**	**190**	P	**P**	**18 34 04.4**	**+2.2**
	comp=Z,1.1nm,0.9s,baz=107,slow=3.1,SNR=6.7						
TOA0	**Torodi Ar. Sit**	**76.84**	**69**	P	**P**	**18 34 16.9**	**-0.2**
TOA0				IAmb	IAmb	18 34 17.7	
	comp=Z,8.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.84**	**69**	P	**P**	**18 34 16.9**	**-0.1**
	comp=Z,2.9nm,0.4s,baz=260,slow=5.0,SNR=39						
TORD	**Torodi Ar. Bea**	**76.84**	**69**	P	**P**	**18 34 16.8**	**-0.3**
ISA	**Isabella, Lake**	**76.85**	**319**	P	**P**	**18 34 17.8**	**+1.0**
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**18 34 20.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=135,slow=7.3,SNR=4.4						
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**18 34 21.1**	**+1.7**
HWUT	**Hardware Ranch**	**77.37**	**327**	P	**P**	**18 34 21.4**	**+1.7**
HWUT				IAmb	IAmb	18 34 47.1	
	comp=Z,6.7nm,1.6s						
OMMB	**Old Mammoth Mi**	**78.48**	**320**	P	**P**	**18 34 28.1**	**+2.0**
OMMB				IAmb	IAmb	18 34 29.5	
	comp=Z,3.8nm,0.9s						
NVAR	**Mina Array Bea**	**78.64**	**321**	P	**P**	**18 34 27.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=145,slow=5.4,SNR=4.7						
KVN	**Kaiserville**	**78.96**	**322**	P	**P**	**18 34 30.5**	**+2.0**
HLID	**Hailey**	**80.22**	**327**	P	**P**	**18 34 36.1**	**+0.9**
HLID				IAmb	IAmb	18 34 39.0	
	comp=Z,4.3nm,0.9s						
BOSA	**Boshof**	**80.77**	**117**	P	**P**	**18 34 38.7**	**+0.1**
BOSA	**Boshof**	**80.77**	**117**	IAmb	IAmb	18 34 53.7	
	comp=Z,16nm,1.4s						
MAW	**Mawson**	**81.22**	**163**	P	**P**	**18 34 40.9**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=172,slow=8.0,SNR=4.5						
MAW	**Mawson**	**81.22**	**163**	IAmb	IAmb

mb4.6/11, Error ellipse: s-maj=18.0km s-min=9.1km az=204.0

ISC 28 18:48:14.6±0.9, **64°65N**±0°02×**17°44W**±0°02, **h8**km±6km, **n78**, σ1§**66**/81, **mb4.3**/11, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.14**	**278**	P	**Pg**	**18 48 18.1**	**+0.5**
	baz=271						
IDYN	**Dyngjuhals**	**0.14**	**12**	P	**Pg**	**18 48 18.1**	**+0.3**
	baz=13						
IDYN				S	**Sg**	**18 48 20.1**	**+0.2**
	baz=13						
IURH	**Urdarhals**	**0.21**	**37**	P	**Pg**	**18 48 19.4**	**+0.5**
	baz=39						
IGRF	**Grimsfjall**	**0.26**	**163**	P	**Pg**	**18 48 20.6**	**+0.8**
	baz=165						
IKVE	**Kverkfjoll**	**0.33**	**85**	P	**Pb**	**18 48 21.6**	**-1.2**
	baz=88						
IKVE				S	**Sb**	**18 48 26.3**	**-2.0**
	baz=88						
IHUS	**Husbondi**	**0.37**	**195**	P	**Pb**	**18 48 22.8**	**-0.7**
	baz=195						
IHUS				S	**Sb**	**18 48 28.5**	**-0.9**
	baz=195						
IVOT	**Vottur**	**0.40**	**164**	P	**Pb**	**18 48 23.1**	**-0.8**
	baz=165						
ISKR	**Skrokkalda**	**0.42**	**257**	P	**Pb**	**18 48 23.1**	**-1.1**
	baz=255						
IKRE	**Kreppuhraun**	**0.47**	**73**	P	**Pb**	**18 48 23.7**	**-1.4**
	baz=75						
IKRE				S	**Sb**	**18 48 30.1**	**-2.1**
	baz=75						
IJOK	**Jokulheimar**	**0.48**	**225**	P	**Pb**	**18 48 24.4**	**-0.9**
	baz=224						
IJOK				S	**Sb**	**18 48 31.4**	**-1.1**
	baz=224						
IASK	**Askja**	**0.52**	**40**	P	**Pg**	**18 48 24.5**	**-0.3**
	baz=41						
IMKO	**Mokollar**	**0.57**	**55**	P	**Pg**	**18 48 25.5**	**-0.2**
	baz=56						
IMKO				S	**Sg**	**18 48 33.3**	**+0.2**
	baz=56						
IIEY	**Innrieyrar**	**0.64**	**208**	P	**Pg**	**18 48 27.0**	**+0.1**
	baz=208						
IIEY				S	**Sn**	**18 48 36.2**	**-3.9**
	baz=208						
IKSK	**Karasker**	**0.65**	**139**	P	**Pg**	**18 48 26.5**	**-0.6**
	baz=140						
IKSK				S	**Sg**	**18 48 35.9**	**+0.3**
	baz=140						
ISVA	**Svartarkot**	**0.69**	**6**	P	**Pb**	**18 48 27.3**	**-1.6**
	baz=6.3						
ISVA				S	**Sb**	**18 48 36.3**	**-2.2**
	baz=6.3						
IKAL	**Kalfafell**	**0.72**	**189**	P	**Pn**	**18 48 28.4**	**-2.5**
	baz=189						
IKAL				S	**Sn**	**18 48 38.5**	**-3.5**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.75**	**77**	P	**Pg**	**18 48 28.4**	**-0.7**
	baz=79						
IVSH				S	**Sg**	**18 48 38.4**	**-0.4**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**235**	P	**Pn**	**18 48 29.9**	**-2.2**
	baz=234						
IADA	**Aoalbol**	**0.88**	**64**	P	**Pb**	**18 48 30.3**	**-1.7**
	baz=65						
IADA				S	**Sn**	**18 48 42.8**	**-3.3**
	baz=65						
IHVE	**Hveravellir**	**0.94**	**284**	P	**Pb**	**18 48 31.3**	**-1.8**
	baz=283						
IMEL	**Melhnausar**	**0.98**	**19**	P	**Pb**	**18 48 32.0**	**-1.8**
	baz=20						
IREN	**Reynihlio**	**1.02**	**12**	P	**Pb**	**18 48 32.7**	**-1.8**
	baz=12						
ISNB	**Snabyli**	**1.06**	**210**	P	**Pg**	**18 48 34.4**	**-0.5**
	baz=210						
IKVO	**Krokottuvotn**	**1.09**	**12**	P	**Pn**	**18 48 33.9**	**-2.3**
	baz=12						
ISLY	**Slysaalda**	**1.11**	**222**	P	**Pg**	**18 48 35.0**	**-0.9**
	baz=222						
IGRS	**Grimsstaoir**	**1.13**	**29**	P	**Pn**	**18 48 34.7**	**-2.0**
	baz=29						
IFED	**Fedgar**	**1.17**	**238**	P	**Pb**	**18 48 36.0**	**-1.0**
	baz=238						
IRJU	**Rjupnafell**	**1.17**	**208**	P	**Pg**	**18 48 36.3**	**-0.8**
	baz=208						
IMJO	**Mjoaskard**	**1.21**	**234**	P	**Pb**	**18 48 36.9**	**-0.9**
	baz=234						
ISKI	**Skildingahlsh**	**1.23**	**8**	P	**Pn**	**18 48 36.2**	**-1.9**
	baz=7.8						
IGHA	**Grjothals**	**1.24**	**15**	P	**Pn**	**18 48 36.2**	**-1.9**
	baz=15						
IGYG	**Gygjarholskot**	**1.26**	**254**	P	**Pb**	**18 48 37.3**	**-1.2**
	baz=253						
IGRA	**Granastaoir**	**1.27**	**357**	P	**Pn**	**18 48 36.8**	**-1.7**
	baz=357						
IHVO	**Lagu-Hvolar**	**1.29**	**209**	P	**Pg**	**18 48 38.1**	**-1.2**
	baz=209						
IHAU	**Haukadalur**	**1.30**	**239**	P	**Pb**	**18 48 38.1**	**-1.1**
	baz=239						
IDIM	**Dimmadalss**	**1.33**	**9**	P	**Pn**	**18 48 37.8**	**-1.7**
	baz=9.0						
IHLA	**Hella**	**1.36**	**343**	P	**Pb**	**18 48 38.5**	**-1.7**
	baz=343						
IHED	**Heoinshofoi**	**1.44**	**2**	P	**Pb**	**18 48 39.7**	**-1.8**
	baz=2.0						
IESK	**Eystri-Skogar**	**1.44**	**219**	P	**Pg**	**18 48 40.9**	**-1.3**
	baz=218						
ISAU	**Saurbar**	**1.46**	**244**	P	**Pb**	**18 48 40.2**	**-1.7**
	baz=244						
IBRE	**Brettingsstaoi**	**1.49**	**353**	P	**Pn**	**18 48 40.2**	**-1.3**
	baz=352						
IGIL	**Gilhagi**	**1.50**	**17**	P	**Pn**	**18 48 40.2**	**-1.5**
	baz=17						
ISIG	**Siglufjorour**	**1.61**	**338**	P	**Pb**	**18 48 42.3**	**-2.1**
	baz=338						
IASM	**Asmuli**	**1.61**	**241**	P	**Pb**	**18 48 43.1**	**-1.4**
	baz=240						
BORG	**Borgarnes**	**1.67**	**275**	Pg	**Pn**	**18 48 42.7**	**-1.4**
	28nm,0.3s,baz=99,slow=7.8,SNR=76						
BORG				Lg	Lg	18 49 06.9	
	17nm,0.3s,baz=264,slow=23,SNR=8.9						
BORG	**Borgarnes**	**1.67**	**275**		**Pn**	**18 48 43.3**	**-0.8**
BORG				Sn	**Sg**	**18 49 07.0**	**-1.3**
ISOL	**Solvholt**	**1.69**	**246**	P	**Pb**	**18 48 44.0**	**-1.9**
	baz=246						
IKRO	**Krokur**	**1.69**	**252**	P	**Pb**	**18 48 43.9**	**-2.0**
	baz=252						
IHEI	**Heioarbar**	**1.71**	**256**	P	**Pb**	**18 48 44.1**	**-2.1**
	baz=256						
IHRN	**Hraun**	**1.84**	**324**	P	**Pn**	**18 48 45.9**	**-0.5**
	baz=323						
ISAN	**Sandskeio**	**1.90**	**253**	P	**Pb**	**18 48 47.1**	**-2.2**
	baz=253						
SUMG	**Summit**	**10.97**	**325**	Pn	Pn	18 50 58.4	+6.5
EKB10	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**	**18 51 01.7**	**+0.1**
EKR1	**Eskdalemuir Ar**	**11.72**	**136**	Pn	**Pn**	**18 51 02.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**18 51 03.9**	**+1.9**
	baz=322,slow=14,SNR=5.0						
ESK	**Eskdalemuir**	**11.73**	**136**	Pn	Pn	18 51 04.8	+2.8
CLL	**Collm**	**20.68**	**116**	*e*P	Pn	18 52 57.0	+0.2
BRG	**Berggiesshubel**	**21.38**	**115**	*e*P	**P**	**18 53 03.6**	**+1.4**
	12nm,1.2s						
GEC2	**GERESS Array S**	**22.93**	**119**	P	**P**	**18 53 20.6**	**+1.9**
GERES	**GERESS Array B**	**22.93**	**119**	P	**P**	**18 53 20.5**	**+1.8**
	1.6nm,0.9s,baz=327,slow=9.5,SNR=7.7						
GERES	**GERESS Array B**	**22.93**	**119**	P	**P**	**18 53 21.3**	**+2.6**
EUNU	**Eureka**	**23.69**	**336**	P	**P**	**18 53 29.1**	**+2.9**
EUNU				IAmb	IAmb	18 53 45.6	
	comp=Z,16nm,1.6s						
ANTO	**Ankara**	**37.98**	**106**	P	P	18 55 34.8	+2.2
TRY	**Troy**	**38.13**	**263**	P	**P**	**18 55 34.4**	**+0.6**
TIXI	**Tiksi**	**42.04**	**15**	P	P	18 56 09.4	+3.6
TIXI				IAmb	IAmb	18 56 13.5	
	comp=Z,15nm,1.5s						
BMAR	**Burnt Mountain**	**42.92**	**333**	P	P	18 56 15.8	+2.8
FYU	**Fort Yukon**	**43.80**	**333**	P	**P**	**18 56 22.4**	**+2.3**
FYU				IAmb	IAmb	18 57 56.7	
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**45.71**	**332**	P	P	18 56 38.4	+3.0
	comp=Z,3.2nm,1.2s,baz=25,slow=7.1,SNR=10						
ILAR	**Eielson Array**	**45.71**	**332**	P	P	18 56 38.0	+2.7
BCAR	**Beaver Creek A**	**46.13**	**329**	P	P	18 56 42.1	+3.4
R49A	**Shelbyville**	**46.74**	**270**	P	**P**	**18 56 42.2**	**-1.5**
T50A	**Nancy**	**47.66**	**268**	P	**P**	**18 56 52.7**	**+1.7**
T50A				IAmb	IAmb	18 56 55.8	
	comp=Z,11nm,1.1s						

KNK	**Knik Glacier**	**49.04**	**331**	P	P	18 57 05.0	+3.7
KNK				IAmb	IAmb	18 57 13.6	
	comp=Z,8.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.12**	**156**	P	**P**	**18 57 32.5**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=340,slow=8.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**53.12**	**156**	P	**P**	**18 57 33.6**	**+1.2**
PDAR	**Pinedale Array**	**53.21**	**293**	P	**P**	**18 57 34.3**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=46,slow=6.4,SNR=8.1						
PDAR	**Pinedale Array**	**53.21**	**293**	P	**P**	**18 57 35.3**	**+2.2**
PV13	**Radium Mtn., P**	**56.83**	**290**	P	**P**	**18 58 01.7**	**+2.4**
PV13				IAmb	IAmb	18 58 03.2	
	comp=Z,5.5nm,1.0s						

*IDC **28** 18:52:04.8±3.0, 36°.21N×71°.30E, h43km±28km, mb3.7/16, mb1 3.9/21, mb1mx3.7/63, mbtmp4.1/21, ML4.1/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/47, Error ellipse: s-maj=21.0km s-min=14.0km az=18.0*

*BJI **28** 18:52:11.0±0.0, 36°.52N×71°.51E, h89km, mB4.8/21, mb4.5/27, Ms4.1/7, Ms7 4.0/5*

*NEIC **28** 18:52:11.6±2.2, 36°.52N±0°.05×71°.38E±0°.06, h95km±6km, mb4.5/37, Error ellipse: s-maj=8.2km s-min=6.1km az=225.0*

*NNC **28** 18:52:12.4±3.9, 36°.71N×70°.82E, h122km±47km, mb4.2, mpv5.0, Error ellipse: s-maj=34.6km s-min=19.0km az=164.0*

ISC 28 18:52:11.2±0.4, **36°43N**±0°04×**71°44E**±0°04, **h100**km, **n142**, σ1§**88**/152, **mb4.4**/32, **13C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.63**	**172**	P	**Pn**	**18 52 53.8**	**+1.6**
CEP				S	**Sn**	**18 53 25.0**	**+1.3**
GAR	**Garm**	**2.71**	**341**		**Pn**	**18 52 52.7**	**-0.5**
KBL	**Kabul**	**2.72**	**227**	Pn	**Pn**	**18 52 53.3**	**-0.2**
KBL				Sn	**Sn**	**18 53 28.2**	**+2.3**
CHGR	**Chuyangaron**	**2.87**	**321**		**Pn**	**18 52 53.4**	**-1.8**
CHGR				Sn	**Sn**	**18 53 24.6**	**-4.5**
NIL	**Nilore**	**3.15**	**151**	Pn	**Pn**	**18 53 01.2**	**+2.2**
NIL				Sn	**Sn**	**18 53 38.5**	**+2.6**
THW	**Thamme Wali**	**3.64**	**176**	P	**Pn**	**18 53 06.5**	**+0.9**
BTK	**Batken**	**3.65**	**352**	Pn	**Pn**	**18 53 06.7**	**+1.0**
BTK				Sn	**Sn**	**18 53 46.5**	**-1.4**
KSH	**Kashi**	**4.72**	**48**	P	**Pn**	**18 53 17.0**	**-3.2**
TAS	**Tashkent**	**5.16**	**342**	Pn	**Pn**	**18 53 23.1**	**-2.9**
DHRM	**DHARAMSHALA**	**5.79**	**135**	*e*P	**Pn**	**18 53 35.9**	**+1.0**
DHRM				*e*S	**Sn**	**18 54 39.8**	**-0.3**
DHRM				IAML		18 54 42.5	
	comp=E,1μm,0.7s						
DHRM				IAML		18 54 43.2	
	comp=N,878nm,0.7s						
AML	**Almayashu**	**5.95**	**16**	P	**Pn**	**18 53 37.8**	**+0.7**
	SNR=516						
UCH	**Uchtor**	**6.25**	**21**	P	**Pn**	**18 53 41.9**	**+0.6**
	SNR=166						
EKS2	**Erkin-Say**	**6.47**	**15**	P	**Pn**	**18 53 44.8**	**+0.9**
	SNR=134						
AAK	**Ala-Archa**	**6.63**	**20**	P	**Pn**	**18 53 47.2**	**+1.2**
	SNR=230						
AAK	**Ala-Archa**	**6.63**	**20**	⇑P	**Pn**	**18 53 46.9**	**+0.8**
	comp=N,91nm,0.5s						
AAK				⇑S	**Sn**	**18 55 01.5**	**+1.3**
	comp=N,162nm,1.1s						
KK31	**Karatay Array**	**6.70**	**354**	⇑P	**Pn**	**18 53 46.5**	**-0.5**
	comp=N,16nm,0.3s,baz=179,slow=13,SNR=881						
KK31				⇓S	**Sn**	**18 54 56.2**	**-5.5**
	comp=N,34nm,0.4s,baz=186,slow=25,SNR=9.4						
KK31	**Karatay Array**	**6.70**	**354**	Pn	**Pn**	**18 53 46.4**	**-0.5**
KKAR	**Karatay Array**	**6.70**	**354**		**Pn**	**18 53 46.4**	**-0.6**
KBK	**Karagaybulak**	**6.78**	**22**	P	**Pn**	**18 53 49.5**	**+1.3**
	SNR=56						
FRU1	**Bishkek**	**6.83**	**20**		**Pn**	**18 53 50.4**	**+1.7**
ULHL	**Ulahol**	**6.89**	**31**	P	**Pn**	**18 53 51.1**	**+1.4**
	SNR=12						
BOOM	**Boomskoye usch**	**6.97**	**29**	Pn	**Pn**	**18 53 51.9**	**+1.1**
CHMS	**Chumysh**	**7.03**	**20**	P	**Pn**	**18 53 52.5**	**+1.0**
	SNR=25						
SMLA	**Simla**	**7.12**	**136**	*e*P	**Pn**	**18 53 52.1**	**-0.5**
SMLA				*e*S	**Sn**	**18 55 10.0**	**-2.0**
SMLA				IAML		18 55 19.8	
	comp=E,239nm,0.3s						
USP	**Ospenovka**	**7.22**	**18**	P	**Pn**	**18 53 54.6**	**+0.6**
	SNR=31						
KDJ	**Kajisay**	**7.22**	**36**	Pn	**Pn**	**18 53 55.6**	**+1.5**
TKM2	**Tokmak 2**	**7.22**	**25**	P	**Pn**	**18 53 55.3**	**+1.0**
	SNR=192						
TKM2	**Tokmak 2**	**7.22**	**25**	⇓P	**Pn**	**18 53 55.2**	**+1.0**
	comp=E,149nm,1.1s						
TKM2				⇑S	**Sn**	**18 55 16.6**	**+1.8**
	comp=E,38nm,0.9s						
HRA	**Herat**	**7.78**	**257**	Pn	**Pn**	**18 54 02.3**	**+0.4**
KNDC	**Almaty**	**7.99**	**30**	⇑P	**Pn**	**18 54 05.7**	**+1.1**
	comp=E,134nm,0.9s						
PRZ	**Przheval'sk**	**8.09**	**40**		**Pn**	**18 54 07.8**	**+1.8**
DDI	**Dehra Dun**	**8.23**	**136**	*e*P	**Pn**	**18 54 06.7**	**-1.1**
DDI				*e*S	**Sn**	**18 55 35.6**	**-3.5**
PDGK	**Podgornoye**	**9.25**	**39**	⇓P	**Pn**	**18 54 20.8**	**-0.9**
	comp=E,79nm,1.0s						
KUDL	**Kundal**	**9.30**	**151**	*e*P	**Pn**	**18 54 20.0**	**-2.4**
SONA	**Sohna**	**9.45**	**148**	*e*P	**Pn**	**18 54 22.9**	**-1.4**
GEYT	**Alibeck**	**10.74**	**282**	P	Pn	18 54 36.0	-5.9
	comp=E,4.8nm,0.3s,baz=109,slow=13,SNR=47						
GEYT				S	Sn	18 56 31.8	-8.3
	comp=E,9.5nm,0.3s,baz=126,slow=30,SNR=11						
GEYT	**Alibeck**	**10.74**	**282**	Pn	Pn	18 54 36.3	-5.6
GYA0B	**ALIBECK ARRAY**	**10.74**	**282**	⇑P	Pn	18 54 36.1	-5.7
GYA0B				⇓S	Sn	18 56 29.2	-11
GYA0B	**ALIBECK ARRAY**	**10.74**	**282**	Pn	Pn	18 54 36.2	-5.7
PYUN	**Piuthan**	**12.82**	**127**	*e*P	**Pn**	**18 55 06.2**	**-3.7**
	comp=E,277nm,0.5s						
PYUN				*e*S	Sn	18 57 20.7	-10
MAKZ	**Makanchi**	**13.01**	**34**	⇓P	**Pn**	**18 55 10.7**	**-1.3**
	comp=E,40nm,1.0s						
MAKZ	**Makanchi**	**13.01**	**34**	Pn	**Pn**	**18 55 11.1**	**-0.9**
MK31	**Makanchi Array**	**13.14**	**35**	⇑P	**Pn**	**18 55 12.4**	**-1.4**
	comp=E,29nm,1.1s,baz=198,slow=9.5,SNR=70						
MK31	**Makanchi Array**	**13.14**	**35**	Pn	**Pn**	**18 55 13.1**	**-0.6**
MKAR	**Makanchi Array**	**13.14**	**35**	P	**Pn**	**18 55 12.5**	**-1.2**
	comp=E,0.3nm,0.3s,baz=220,slow=11,SNR=58						
MKAR				S	**Sn**	**18 57 38.4**	**+0.2**
	comp=E,0.0nm,0.3s,baz=229,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**13.14**	**35**	Pn	**Pn**	**18 55 11.8**	**-1.9**
DANN	**Dangsing**	**13.15**	**124**	*e*P	**Pn**	**18 55 11.1**	**-3.3**
	comp=E,102nm,0.5s						
KOLN	**Koldanda**	**13.44**	**127**	*e*P	**Pn**	**18 55 14.3**	**-3.7**
	comp=E,47nm,0.5s						
GKN	**Gorkha**	**13.97**	**123**	*e*P	**Pn**	**18 55 21.6**	**-3.2**
	comp=E,78nm,0.4s						
WMQ	**Urumqi**	**14.44**	**54**	*e*P	**Pn**	**18 55 30.0**	**-0.7**
WMQ				pP	P	18 55 42.5	+7.8
WMQ				sP		18 55 57.5	
WMQ				pmax	pmax		
	comp=E,13nm,0.7s						
WMQ				pmax	pmax		
	comp=E,100nm,5.7s						
WMQ	**Urumqi**	**14.44**	**54**	Pn	**Pn**	**18 55 30.2**	**-0.6**
DMN	**Daman**	**14.54**	**123**	*e*P	**Pn**	**18 55 29.0**	**-3.3**
	comp=E,45nm,0.4s						
KKN	**Kakani**	**14.54**	**122**	*e*P	**Pn**	**18 55 28.7**	**-3.5**
	comp=E,54nm,0.5s						
PKI	**Pulchoki**	**14.77**	**123**	*e*P	**Pn**	**18 55 31.7**	**-3.6**
	comp=E,44nm,0.4s						
GUN	**Gumba**	**14.88**	**121**	*e*P	**Pn**	**18 55 32.7**	**-4.0**
	comp=E,33nm,0.4s						
KURBB	**Kurchatov Arra**	**15.07**	**18**	P	**Pn**	**18 55 36.4**	**-2.2**
	comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=15						
KURBB	**Kurchatov Arra**	**15.07**	**18**	⇑P	**Pn**	**18 55 35.7**	**-2.9**
	comp=E,18nm,0.7s						
KURK	**Kurchatov**	**15.18**	**18**	⇑P	**Pn**	**18 55 38.6**	**-1.3**
	comp=E,15nm,0.7s						
KURK	**Kurchatov**	**15.18**	**18**	Pn	**Pn**	**18 55 38.8**	**-1.2**
KURK				IAmb	IAmb	18 55 45.1	
	comp=Z,18nm,0.8s						
AB31	**Akbulak array**	**15.32**	**330**	⇑P	**Pn**	**18 55 38.2**	**-3.5**
	comp=Z,3.7nm,0.3s,baz=138,slow=12,SNR=263						
AB31				⇓S	Sn	18 58 19.0	-12
	comp=Z,27nm,0.8s,baz=146,slow=23,SNR=14						
ABKAR	**Akbulak array**	**15.32**	**330**		**Pn**	**18 55 37.8**	**-3.9**
ABKAR				IAmb	IAmb	18 55 47.7	
	comp=Z,8.9nm,0.5s						
ABKAR	**Akbulak array**	**15.32**	**330**	Pn	**Pn**	**18 55 37.5**	**-4.1**
AB04	**Akbulak array**	**15.32**	**330**	Pn	**Pn**	**18 55 37.2**	**-4.5**

RAMN	**Ramite**	**15.98**	**122**	*e*P	**Pn**	**18 55 47.2**	**-3.2**
	comp=Z,86nm,0.6s						
TAPN	**Taplejung**	**16.50**	**119**	*e*P	**Pn**	**18 55 54.5**	**-2.4**
	comp=Z,45nm,0.4s						
ODAN	**Odare**	**16.58**	**121**	*e*P	**Pn**	**18 55 54.7**	**-3.1**
	comp=Z,71nm,0.6s						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**Pn**	**18 55 56.1**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=122,slow=16,SNR=9.6						
BVAR				S	Sn	18 58 51.3	-11
	comp=Z,0.6nm,0.3s,baz=131,slow=22,SNR=4.8						
BRVK	**Borovoye**	**16.64**	**358**	⇑P	**Pn**	**18 55 57.2**	**-0.9**
	comp=Z,2.6nm,0.6s						
BRVK	**Borovoye**	**16.64**	**358**	Pn	**Pn**	**18 55 56.2**	**-1.9**
AKTO	**Aktyubinsk**	**17.02**	**330**	P	**Pn**	**18 56 00.5**	**-2.3**
	comp=Z,2.3nm,0.3s,baz=139,slow=10,SNR=28						
AKTO				S	Sn	18 58 56.0	-16
	comp=Z,0.3nm,0.3s,baz=358,slow=20,SNR=2.3						
AKTO	**Aktyubinsk**	**17.02**	**330**	⇑P	**Pn**	**18 56 00.9**	**-1.9**
	comp=Z,9.4nm,0.6s						
AKTO				⇓S	Sn	18 58 58.1	-14
	comp=Z,9.6nm,0.6s						
GTK	**Tadong**	**17.16**	**117**	*e*P	**Pn**	**18 56 01.7**	**-3.1**
UOSS	**Minazif**	**17.38**	**233**	P	**Pn**	**18 56 08.0**	**+0.6**
LSA	**Lhasa**	**17.82**	**106**	P	**Pn**	**18 56 13.0**	**-0.1**
LSA				pmax	pmax		
	comp=Z,39nm,0.9s						
LSA	**Lhasa**	**17.82**	**106**	P	**P**	**18 56 12.3**	**-0.2**
ZAA0	**Zalesovo Array**	**19.83**	**24**	⇑P	**P**	**18 56 33.2**	**-0.5**
	comp=Z,3.2nm,0.6s						
ZAA0	**Zalesovo Array**	**19.83**	**24**	P	**P**	**18 56 34.1**	**+0.4**
ZAA0				IAmb	IAmb	18 56 35.4	
	comp=Z,27nm,0.7s						
ZALV	**Zalesovo Beam**	**19.83**	**24**	P	**P**	**18 56 34.1**	**+0.4**
	comp=Z,28nm,0.5s,baz=221,slow=11,SNR=129						
ZALV	**Zalesovo Beam**	**19.83**	**24**	P	**P**	**18 56 34.2**	**+0.5**
HYB	**Hyderabad**	**19.96**	**160**	*i* P	**P**	**18 56 36.0**	**+0.5**
HYB				*e*S	**S**	**19 00 10.0**	**-4.7**
SHL	**Shillong**	**20.56**	**116**	*e*P	**P**	**18 56 41.5**	**-0.5**
SHL	**Shillong**	**20.56**	**116**	P	**P**	**18 56 43.1**	**+1.0**
SHL				IAmb	IAmb	18 56 43.8	
	comp=Z,23nm,0.8s						
TEZP	**TEZPUR**	**20.63**	**112**	*e*P	**P**	**18 56 42.1**	**-0.5**
ZIRO	**ZIRO**	**20.94**	**109**	*e*P	**P**	**18 56 46.9**	**+0.7**
ARU	**Arti**	**21.81**	**341**	P	**P**	**18 56 54.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=169,slow=0.4,SNR=8.1						
ARU				LR	LR	19 06 00.7	
	comp=Z,44nm,20.1s,baz=279,slow=38						
ARU	**Arti**	**21.81**	**341**	P	**P**	**18 56 54.8**	**-0.2**
MOKO	**MOKOCHONG**	**22.08**	**111**	*e*P	**P**	**18 56 59.5**	**+1.2**
KOHI	**KOHIMA**	**22.11**	**113**	*e*P	**P**	**18 56 58.4**	**-0.1**
GTA	**Gaotai**	**22.54**	**74**	*e*P	**P**	**18 57 06.5**	**+3.6**
GTA				pP	pP	18 57 26.0	+2.4
GTA				sP	sP	18 57 39.0	+2.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GEVA	**Gevas**	**22.60**	**283**	P	**P**	**18 57 05.3**	**+1.7**
KBZ	**Khabaz**	**22.95**	**297**	P	**P**	**18 57 04.0**	**-2.8**
	comp=Z,3.7nm,0.9s,baz=342,slow=12,SNR=5.8						
KIV	**Kislovodsk**	**23.13**	**298**	P	**P**	**18 57 09.0**	**+0.3**
KIV				IAmb	IAmb	18 57 33.8	
	comp=Z,15nm,1.0s						
SAIH	**SAIHA**	**23.27**	**121**	*e*P	**P**	**18 57 09.4**	**-0.8**
MARD	**Mardin**	**24.50**	**281**	P	**P**	**18 57 23.5**	**+2.3**
KOPT	**Kop Dagi**	**24.51**	**288**	P	**P**	**18 57 21.2**	**-0.3**
LZH	**Lanzhou**	**26.07**	**81**	*e*P	**P**	**18 57 37.0**	**+1.5**
LZH				pP	pP	18 57 58.3	-0.6
LZH				sP	sP	18 58 10.3	-0.8
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
GAZ	**Gaziantep**	**27.34**	**282**	P	**P**	**18 57 48.5**	**+1.7**
GAZ				IAmb	IAmb	18 58 14.6	
	comp=Z,6.0nm,0.5s						
SONM	**Songino Array**	**28.08**	**55**	P	**P**	**18 57 53.3**	**0.0**
CMAR	**Chiang Mai Arr**	**30.11**	**119**	P	**P**	**18 58 11.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=303,slow=8.2,SNR=9.3						
CMAR	**Chiang Mai Arr**	**30.11**	**119**	P	**P**	**18 58 12.4**	**+1.0**
HHC	**Hu-ho-hao-te**	**31.45**	**70**	*e*P	**P**	**18 58 25.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,7.0s						
AKASG	**Malin Array Be**	**33.27**	**309**	P	**P**	**18 58 39.0**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=81,slow=7.0,SNR=14						
AKASG	**Malin Array Be**	**33.27**	**309**	P	**P**	**18 58 37.4**	**-1.4**
AKBB	**Malin Array Si**	**33.27**	**309**	P	**P**	**18 58 38.7**	**0.0**
AKBB				IAmb	IAmb	18 58 41.0	
	comp=Z,4.4nm,0.7s						
MLR	**Muntele Rosu**	**35.12**	**299**	P	**P**	**18 58 57.5**	**+2.5**
MLR				IAmb	IAmb	18 58 59.2	
	comp=Z,12nm,1.0s						
BURAR	**Bucovina Array**	**35.62**	**303

*NIC **28** 18:56:28.9±0.0,36°.19N×30°.91E,h48km±7km,MI2.7/2*
*ISK **28** 18:56:28.3,36°.30N×30°.89E,h22km,ML2.6/23*
ISC 28 18:56:29.3±1.2,36°22N±0°.03×30°89E±0°.02,h42km±18km, n53,σ1s36/75,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.46**	**283**	*i* P	**Pn**	**18 56 40.2**	**+0.7**
AKUM				*i* S	**Sn**	**18 56 49.5**	**+2.7**
KEMT	**Kemer-ANTALYA**	**0.47**	**324**	PG	**Pn**	**18 56 37.3**	**-2.4**
KEPZ	**Antalya-Kepez**	**0.89**	**40**	*i* P	**Pn**	**18 56 44.7**	**-0.6**
KEPZ				*i* S	**Sn**	**18 56 56.0**	**-1.0**
KEPZ				IAML		18 56 57.0	
	comp=N,180nm,0.3s						
KEPZ				IAML		18 56 57.0	
	comp=E,151nm,0.2s						
KORT	**Korkueli**	**0.89**	**331**	PG	**Pn**	**18 56 44.9**	**-0.6**
KORT				SG	**Sn**	**18 56 56.8**	**-0.5**
KORT	**Korkueli**	**0.89**	**331**	*i* P	**Pn**	**18 56 46.0**	**+0.5**
KORT				*i* S	**Sn**	**18 56 57.3**	**0.0**
ELL	**Elmali**	**0.95**	**304**	PG	**Pn**	**18 56 46.3**	**0.0**
ELL	**Elmali**	**0.95**	**304**	P	**Pn**	**18 56 46.8**	**+0.5**
ELL				S	**Sn**	**18 57 00.2**	**+1.5**
AKAS	**Kas**	**1.04**	**271**	PG	**Pn**	**18 56 47.8**	**+0.2**
AKAS	**Kas**	**1.04**	**271**	*i* P	**Pn**	**18 56 47.7**	**+0.2**
AKAS				*i* S	**Sn**	**18 56 59.4**	**-1.6**
KSL	**Kastellorizon**	**1.06**	**266**	P	**Pn**	**18 56 48.0**	**+0.3**
KSL				S	**Sn**	**18 57 02.2**	**+0.9**
GAZI	**Gazipasa**	**1.15**	**89**	PN	**Pn**	**18 56 49.3**	**+0.4**
GAZI	**Gazipasa**	**1.15**	**89**	*i* P	**Pn**	**18 56 48.3**	**-0.7**
GAZI				*i* S	**Sn**	**18 57 00.5**	**-2.9**
SEYD	**Seydisehir-KON**	**1.40**	**32**	PN	**Pn**	**18 56 52.6**	**+0.1**
CAME	**Cameli-Denizli**	**1.47**	**300**	PN	**Pn**	**18 56 53.7**	**+0.3**
GOLH	**Golhisar**	**1.47**	**314**	*i* P	**Pn**	**18 56 54.9**	**+1.5**
GOLH				*i* S	**Sn**	**18 57 14.4**	**+2.9**
FETY	**Fethiye**	**1.52**	**286**	PN	**Pn**	**18 56 54.4**	**+0.5**
FETY	**Fethiye**	**1.52**	**286**	*i* P	**Pn**	**18 56 54.9**	**+0.3**
FETY				*i* S	**Sn**	**18 57 11.0**	**-1.5**
BRDR	**BURDUR-Merkez**	**1.61**	**336**	*i* P	**Pn**	**18 56 57.1**	**+1.7**
BRDR				*i* S	**Sn**	**18 57 13.9**	**-1.1**
ISP	**Isparta**	**1.62**	**350**	PN	**Pn**	**18 56 55.4**	**-0.1**
AKMS	**Akamas**	**1.68**	**135**	P	**Pn**	**18 56 56.5**	**+0.3**
AKMS				AML	AML	18 57 24.0	
	comp=E,0.2nm,0.2s						
AKMS				AML	AML	18 57 27.6	
	comp=E,0.2nm,0.4s						
ERMK	**Ermenek**	**1.68**	**75**	*i* P	Pn	18 57 00.0	+3.7
ERMK				*i* S	**Sn**	**18 57 21.7**	**+4.9**
ERMK				IAML		18 57 25.0	
	comp=E,98nm,0.3s						
ERMK				IAML		18 57 26.0	
	comp=N,88nm,0.5s						
ALFC	**Alefka**	**1.75**	**127**	P	**Pn**	**18 56 56.7**	**-0.4**
ALFC				S	**Sn**	**18 57 17.8**	**-0.5**
ALFC				AML	AML	18 57 25.9	
	comp=N,0.2nm,0.2s						
ALFC				AML	AML	18 57 25.9	
	comp=N,0.2nm,0.2s						
ALFC				AML	AML	18 57 28.4	
	comp=N,0.2nm,0.4s						
ALFC				AML	AML	18 57 28.4	
	comp=N,0.2nm,0.4s						
BAGO	**Egridir - ISPA**	**1.77**	**357**	*i* P	**Pn**	**18 56 57.6**	**+0.2**
BAGO				*i* S	**Sn**	**18 57 18.5**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.80**	**92**	PN	**Pn**	**18 56 59.0**	**+1.2**
BASM	**Basmaki-Afyon**	**1.82**	**339**	PN	**Pn**	**18 56 58.1**	**-0.1**
BERE	**Bereket-Mersin**	**1.89**	**86**	PN	**Pn**	**18 57 00.2**	**+1.1**
DALY	**Dalyan (Mula)**	**1.90**	**289**	PN	**Pn**	**18 56 59.4**	**+0.3**
DALY	**Dalyan (Mula)**	**1.90**	**289**	*i* P	**Pn**	**18 56 59.1**	**-0.1**
DALY				*i* S	**Sn**	**18 57 19.1**	**-2.7**
KMER	**Konya-Meram**	**1.94**	**37**	*i* P	**Pn**	**18 57 00.7**	**+0.8**
KMER				*i* S	**Sn**	**18 57 22.4**	**-0.7**
KMER				IAML		18 57 26.0	
	comp=N,49nm,0.6s						
LEF	**Lefka**	**1.96**	**124**	*i* P	**Pn**	**18 56 59.3**	**-0.8**
LEF				*i* S	**Sn**	**18 57 19.1**	**-4.3**
DOGA	**KONYA_Doganhis**	**1.98**	**18**	*i* P	**Pn**	**18 57 01.0**	**+0.6**
DOGA				*i* S	**Sn**	**18 57 23.5**	**-0.6**
TAVA	**DENIZLI_Tavas**	**2.02**	**309**	*i* P	**Pn**	**18 57 01.4**	**+0.5**
TAVA				*i* S	**Sn**	**18 57 24.2**	**-0.7**
TEVE	**Tevekalti-Mers**	**2.07**	**83**	PN	**Pn**	**18 57 02.7**	**+1.1**
KZIL	**AFYON_Kizioren**	**2.12**	**344**	*i* P	**Pn**	**18 57 02.5**	**+0.2**
KZIL				*i* S	**Sn**	**18 57 26.9**	**-0.6**
KRMN	**Karaman**	**2.13**	**63**	PN	**Pn**	**18 57 02.9**	**+0.5**
AKKU	**Akkuyu-Mersin**	**2.15**	**91**	PN	**Pn**	**18 57 04.1**	**+1.5**
TURN	**Turunc**	**2.20**	**285**	*i* P	**Pn**	**18 57 03.5**	**+0.2**
TURN				*i* S	**Sn**	**18 57 27.1**	**-2.2**
ARG	**Arkhangelos**	**2.24**	**271**	P	**Pn**	**18 57 03.7**	**-0.1**
ARG				S	**Sn**	**18 57 30.3**	**0.0**
IKL	**Isikli**	**2.26**	**89**	PN	**Pn**	**18 57 05.5**	**+1.4**
KEBE	**Keben-Mersin**	**2.29**	**84**	PN	**Pn**	**18 57 05.3**	**+1.3**
LADK	**Ladik-KONYA**	**2.30**	**30**	PN	**Pn**	**18 57 04.7**	**0.0**
SHUT	**Suhut-Afyon**	**2.34**	**353**	PN	**Pn**	**18 57 05.4**	**0.0**
CSS	**Mathiatis**	**2.35**	**122**	P	**Pn**	**18 57 05.3**	**-0.1**
CSS				S	**Sn**	**18 57 33.0**	**-0.1**
KDHN	**Kadinhani**	**2.49**	**23**	*i* P	**Pn**	**18 57 04.9**	**-2.5**
MVOU	**Mavrovouni**	**2.54**	**118**	P	**Pn**	**18 57 07.6**	**-0.3**
OSC1	**CSNet OBS 1**	**2.74**	**173**	S	**Sn**	**18 57 43.0**	**+0.5**
EREN	**Erenkoy**	**2.75**	**104**	PN	**Pn**	**18 57 12.8**	**+2.0**
KIZT	**Kizilcal**	**2.77**	**16**	PN	**Pn**	**18 57 10.8**	**-0.4**
CHBY	**Cihanbeyli**	**2.84**	**33**	PN	**Pn**	**18 57 12.8**	**+0.6**
KARP	**Karpathos**	**3.10**	**259**	P	**Pn**	**18 57 15.9**	**+0.1**
OSC2	**CSNet OBS 4**	**3.34**	**160**	S	**Sn**	**18 57 57.3**	**0.0**
CMRD	**Camardi-Nigde**	**3.58**	**65**	PN	**Pn**	**18 57 23.9**	**+1.5**
AFSR	**Afar-Bala (An**	**3.65**	**28**	PN	**Pn**	**18 57 23.3**	**0.0**

*IDC **28** 18:59:39.5±9.0,15°.92S×176°.11W,h329km±87km,mb3.6/6, mb1 3.8/7,mb1mx3.3/29,mbtmp4.3/7,Error ellipse: s-maj=39.0km s-min=28.5km az=56.0*
*NEIC **28** 18:59:43.8±2.1,16°.1S±0°.1×176°.1W±0°.1,h375km±9km, mb4.4/23,Error ellipse: s-maj=21.3km s-min=13.4km az=153.0*
ISC 28 18:59:43.6±0.7,16°.1S±0°.1×176°.09W±0°.09,h360km,n38, σ1s89/32,mb4.5/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.70**	**63**		**Pn**	**19 01 02.1**	**+1.4**
MSVF	**Nonsavu**	**5.84**	**253**		**Pn**	**19 01 16.3**	**+3.2**
NIUE	**Niue**	**6.57**	**118**	Pn	**P**	**19 01 21.8**	**-0.7**
DZM	**Mont Dzumac**	**17.54**	**248**	P	**P**	**19 03 24.4**	**-0.9**
	0.4nm,0.3s,baz=64,slow=18,SNR=5.8						
DZM	**Mont Dzumac**	**17.54**	**248**	P	**P**	**19 03 26.1**	**+0.8**
DZM				IAmb	IAmb	19 03 28.9	
	comp=Z,9.4nm,0.9s						
OUZ	**Omahuta**	**21.15**	**204**	P	**P**	**19 04 02.0**	**+0.8**
OUZ				IAmb	IAmb	19 04 25.6	
	comp=Z,47nm,1.4s						
URZ	**Urewera**	**22.86**	**194**	P	**P**	**19 04 14.8**	**-2.0**
	comp=Z,5.0nm,0.4s,baz=111,slow=12,SNR=1.9						
BFZ	**Birch Farm**	**25.37**	**194**	P	**P**	**19 04 33.5**	**-5.9**
KHZ	**Kahutara**	**27.69**	**197**	P	**P**	**19 04 57.0**	**-2.8**
MLZ	**Mavora Lakes**	**32.05**	**201**	P	**P**	**19 05 37.6**	**-0.3**
TOO	**Toolangi**	**40.02**	**230**	P	**P**	**19 06 46.8**	**+1.7**
TOO				IAmb	IAmb	19 06 49.2	
	comp=Z,54nm,1.6s						
STKA	**Stephens Creek**	**41.44**	**240**	P	**P**	**19 06 55.8**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=54,slow=11,SNR=5.4						
BBOO	**Buckleboo**	**46.22**	**240**	P	**P**	**19 07 32.6**	**-1.6**
BBOO				IAmb	IAmb	19 07 44.6	
	comp=Z,62nm,1.6s						
WR0	**Warramunga Arr**	**46.98**	**258**	P	**P**	**19 07 38.7**	**-1.5**
WB0	**Warramunga Arr**	**47.13**	**258**	P	**P**	**19 07 39.8**	**-1.6**
WB2	**Warramunga Arr**	**47.15**	**258**	P	**P**	**19 07 40.0**	**-1.6**
WB2				IAmb	IAmb	19 07 40.8	
	comp=Z,6.8nm,0.7s						
WRA	**Warramunga Arr**	**47.17**	**258**	P	**P**	**19 07 39.9**	**-1.7**
	comp=Z,5.3nm,0.8s,baz=91,slow=7.0,SNR=91						
WRA	**Warramunga Arr**	**47.17**	**258**	P	**P**	**19 07 39.7**	**-2.0**
AS31	**Alice Springs**	**47.43**	**253**	P	**P**	**19 07 42.6**	**-1.1**
ASAR	**Alice Springs**	**47.43**	**253**	P	**P**	**19 07 42.5**	**-1.2**
	comp=Z,12nm,0.4s,baz=89,slow=7.7,SNR=596						
ASAR	**Alice Springs**	**47.43**	**253**	P	**P**	**19 07 42.2**	**-1.5**
FORT	**Forrest**	**52.79**	**243**	P	**P**	**19 08 21.9**	**-1.4**
FORT				IAmb	IAmb	19 08 22.4	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**52.91**	**262**	P	**P**	**19 08 23.3**	**-1.0**
KNRA				IAmb	IAmb	19 08 32.2	
	comp=Z,48nm,1.6s						
FITZ	**Fitzroy Crossi**	**55.53**	**259**	P	**P**	**19 08 42.4**	**-0.7**
PSA00	**Pilbara Seismi**	**60.52**	**254**	P	**P**	**19 09 16.2**	**-1.2**
PSA00				IAmb	IAmb	19 09 31.1	
	comp=Z,22nm,1.3s						
VNDA	**Vanda**	**62.42**	**185**	P	**P**	**19 09 29.9**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=26,slow=5.7,SNR=5.5						
VNDA	**Vanda**	**62.42**	**185**	P	**P**	**19 09 30.6**	**+1.7**
MORW	**Morawa**	**63.24**	**245**	P	**P**	**19 09 34.3**	**-0.9**
MORW				IAmb	IAmb	19 09 52.8	
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**73.93**	**180**	P	**P**	**19 10 41.0**	**+0.9**
QSPA				IAmb	IAmb	19 10 44.1	
	comp=Z,4.7nm,1.2s						
PV16	**Nyswonger Mesa**	**82.93**	**47**	P	**P**	**19 11 29.8**	**+0.4**
PV16				IAmb	IAmb	19 11 30.3	
	comp=Z,2.9nm,0.5s						
PV11	**David Mesa, Pa**	**82.95**	**47**	P	**P**	**19 11 30.9**	**+1.4**
MCMT	**McKenzie Canyo**	**83.44**	**40**		pP	19 12 54.1	0.0
ILAR	**Eielson Array**	**83.66**	**12**	P	**P**	**19 11 30.3**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=221,slow=5.4,SNR=5.9						
MSO	**Missoula**	**83.81**	**38**		pP	19 12 56.1	+0.2
BW06	**Boulder Array**	**84.53**	**43**	P	P	19 11 43.7	+6.4
BW06				IAmb	IAmb	19 11 48.9	
	comp=Z,8.3nm,0.7s						
YMR	**Madison River**	**84.53**	**41**		pwP	19 13 03.9	+1.4
YHH	**Holmes Hill**	**84.66**	**40**		pP	19 13 02.8	+2.3
USIN	**University of**	**98.51**	**53**		pP	19 14 07.8	+1.8

*OSPL **28** 19:15:36.5±0.6,19°.68N×74°.90W,h91km±7km,ML3.3*
*SSNC **28** 19:15:37.5±3.5,19°.83N×74°.47W,h5km±11km,MD3.4, ML3.1,MW3.2*
ISC 28 19:15:37.5±1.1,19°89N±0°.05×74°51W±0°.02,h24km±12km, n18,σ2s21/35,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.39**	**43**	*eP*	**Pb**	**19 15 44.7**	**-1.1**
MASC				*eS*	**Sb**	**19 15 51.0**	**-0.4**
GTBY	**Guantanamo Bay**	**0.57**	**274**	*eP*	**Pb**	**19 15 49.1**	**+0.3**
GTBY				*eS*	**Sn**	**19 15 58.6**	**-0.1**
GTBY	**Guantanamo Bay**	**0.57**	**274**	*i* P	**Pb**	**19 15 49.2**	**+0.3**
GTBY				*eS*	**Sn**	**19 15 59.0**	**+0.3**
GTBY				IAML		19 15 59.5	
	comp=Z,1μm,0.5s						
GTMO	**Guantanamo**	**0.62**	**288**	*eP*	**Pb**	**19 15 48.6**	**-1.2**
GTMO				*eS*	**Sb**	**19 15 57.6**	**-0.4**
GTMO				IAML		19 15 59.0	
	comp=N,6μm,0.3s						
GTMO				IAML		19 15 59.0	
	comp=E,4μm,0.5s						
MOAC	**Moa**	**0.87**	**331**	*eP*	**Pb**	**19 15 53.1**	**-1.0**
MOAC				*eS*	**Sn**	**19 16 05.8**	**-0.5**
MOAC				IAML		19 16 13.4	
	comp=N,268nm,0.6s						
MOAC				IAML		19 16 14.2	
	comp=E,150nm,0.5s						
RCC	**Rio Carpintero**	**1.12**	**275**	*eP*	**Pn**	**19 15 56.9**	**-0.8**
RCC				*eS*	**Sb**	**19 16 12.0**	**-0.3**
RCC				IAML		19 16 17.4	
	comp=E,763nm,0.4s						
RCC				IAML		19 16 17.7	
	comp=N,559nm,0.5s						
HLGC	**Holguin**	**1.76**	**305**	*eP*	**Pb**	**19 16 09.3**	**+0.2**
HLGC				*eS*	**Sb**	**19 16 37.9**	**+7.0**
LGNH	**Logne**	**2.26**	**127**	*i* P	**Pn**	**19 16 13.3**	**-0.2**
LGNH				*eS*	**Sn**	**19 16 40.9**	**+0.2**
LGNH				IAML		19 16 42.7	
	comp=Z,44nm,0.6s						
LGNH	**Logne**	**2.26**	**127**	*i* P	**Pn**	**19 16 13.6**	**+0.2**
LGNH				*eS*	**Sn**	**19 16 41.8**	**+1.1**
LGNH				IAML		19 16 42.7	
	comp=Z,44nm,0.6s						
LMGC	**Las Mercedes**	**2.35**	**275**	*eP*	**Pn**	**19 16 15.5**	**+0.8**
LMGC				*eS*	**Sn**	**19 16 44.0**	**+1.1**
LMGC				IAML		19 16 46.9	
	comp=E,114nm,0.3s						
LMGC				IAML		19 16 47.7	
	comp=N,134nm,0.2s						
SDDR	**Presa de Saban**	**3.17**	**106**	*eP*	**Pn**	**19 16 26.9**	**+0.9**
SDDR				*eS*	**Sn**	**19 17 02.0**	**-1.2**
SDDR	**Presa de Saban**	**3.17**	**106**	*i* P	**Pn**	**19 16 27.1**	**+1.1**
SDDR				*eS*	**Sn**	**19 17 03.8**	**+0.6**
SDDR				IAML		19 17 04.9	
	comp=Z,59nm,0.7s						
SDDR	**Presa de Saban**	**3.17**	**106**	*i* P	**Pn**	**19 16 27.4**	**+1.4**
SDDR				*eS*	**Sn**	**19 17 04.0**	**+0.8**
SDDR				IAML		19 17 05.0	
	comp=Z,59nm,0.7s						
SJM1	**San Juan de la**	**3.29**	**109**	*eS*	**Sn**	**19 16 58.8**	**-7.3**
MTDJ	**Mount Denham**	**3.31**	**240**	*eP*	**Pn**	**19 16 27.6**	**-0.4**
MTDJ				*eS*	**Sn**	**19 17 05.4**	**-1.2**
CCCC	**Cccc**	**3.32**	**294**	*eP*	**Pn**	**19 16 25.7**	**-2.3**
CCCC				*eS*	**Sn**	**19 17 02.1**	**-4.6**
CCCC				IAML		19 17 09.1	
	comp=E,26nm,0.5s						
CCCC				IAML		19 17 11.8	
	comp=N,31nm,0.5s						
GRTK	**Grand Turk**	**3.55**	**62**	*eP*	**Pn**	**19 16 33.5**	**+2.3**
GRTK				*eS*	**Sn**	**19 17 11.9**	**-0.5**
MGV	**Manicaragua**	**5.57**	**294**	*eP*	**Pn**	**19 16 59.0**	**+0.1**
MGV				*eS*	**Sn**	**19 18 01.7**	**-0.5**
MGV				IAML		19 18 06.2	
	comp=N,14nm,0.7s						
MGV				IAML		19 18 06.6	
	comp=E,12nm,0.7s						

*BGS **28** 19:16:54.6±0.3,53°.06N×1°.19W,h7km±4km,ML2.6*
*LDG **28** 19:16:54.6±0.1,53°.07N×1°.20W,h7km,MI3.2/52,Error ellipse: s-maj=2.1km s-min=1.8km az=32.0*
*NEIC **28** 19:16:55.2±1.7,53°.02N±0°.09×1°.2W±0°.1,h13km±3km, Error ellipse: s-maj=15.0km s-min=8.7km az=220.0*
ISC 28 19:16:52.8±0.7,52°98N±0°.03×1°11W±0°.02,h10km,n83, σ2s18/139,4C,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CWF	**Charnwood Fore**	**0.27**	**207**	*i* P	**Pb**	**19 17 01.1**	**+1.4**
CWF				*eS*	**Sb**	**19 17 05.9**	**+1.6**
CWF				IAML		19 17 06.2	
	comp=N,142nm,0.1s						
CWF				IAML		19 17 06.3	
	comp=E,328nm,0.2s						
CWF	**Charnwood Fore**	**0.27**	**207**	*i* P	**Pb**	**19 17 01.1**	**+1.4**
CWF				*eS*	**Sb**	**19 17 05.9**	**+1.6**
CWF				IAML		19 17 06.2	
	comp=N,142nm,0.1s						
CWF				IAML		19 17 06.3	
	comp=E,328nm,0.2s						
STNC	**Stoke**	**0.67**	**280**	*eP*	**Pg**	**19 17 06.0**	**+0.2**
STNC				*eS*	**Sg**	**19 17 14.4**	**-0.2**
STNC				IAML		19 17 15.8	
	comp=N,615nm,0.2s						
STNC				IAML		19 17 17.6	
	comp=E,846nm,0.5s						
STNC	**Stoke**	**0.67**	**280**	*eP*	**Pg**	**19 17 06.0**	**+0.2**
STNC				*eS*	**Sg**	**19 17 14.4**	**-0.2**
STNC				IAML		19 17 15.8	
	comp=N,615nm,0.2s						
STNC				IAML		19 17 17.6	
	comp=E,846nm,0.5s						
LMK	**Market Rasen**	**0.67**	**44**	*i* P	**Pb**	**19 17 07.0**	**+0.3**
LMK				*eS*	**Sb**	**19 17 15.6**	**-0.5**
LMK				IAML		19 17 17.0	
	comp=E,642nm,0.4s						
LMK				IAML		19 17 21.1	
	comp=N,605nm,0.3s						
LMK	**Market Rasen**	**0.67**	**44**	*i* P	**Pb**	**19 17 07.0**	**+0.3**
LMK				*eS*	**Sb**	**19 17 15.6**	**-0.5**
LMK				IAML		19 17 17.0	
	comp=E,642nm,0.4s						
LMK				IAML		19 17 21.1	
	comp=N,605nm,0.3s						
HLM1	**Long Mynd**	**1.17**	**248**	*eP*	**Pb**	**19 17 15.4**	**+0.3**
HLM1				*eS*	**Sb**	**19 17 31.0**	**+0.6**
HLM1				IAML		19 17 34.2	
	comp=E,116nm,0.3s						
HLM1				IAML		19 17 34.9	
	comp=N,109nm,0.4s						
HLM1	**Long Mynd**	**1.17**	**248**	*eP*	**Pb**	**19 17 15.4**	**+0.3**
HLM1				*eS*	**Sb**	**19 17 31.0**	**+0.6**
HLM1				IAML		19 17 34.2	
	comp=E,116nm,0.3s						
HLM1				IAML		19 17 34.9	
	comp=N,109nm,0.4s						

FOEL	**Foel Wylfa**	**1.27**	**267**	*eP*	**Pn**	**19 17 16.9**	**+0.2**
FOEL	**Foel Wylfa**	**1.27**	**267**	*eP*	**Pn**	**19 17 16.9**	**+0.2**
STRD	**Stroud**	**1.36**	**209**	*eP*	**Pg**	**19 17 20.6**	**+1.6**
STRD	**Stroud**	**1.36**	**209**	*eP*	**Pg**	**19 17 20.6**	**+1.6**
GDLE	**Glaisdale, N Y**	**1.46**	**7**	*eP*	**Pn**	**19 17 19.5**	**+0.2**
GDLE	**Glaisdale, N Y**	**1.46**	**7**	*eP*	**Pn**	**19 17 19.5**	**+0.2**
MCH1	**Michaelchurch**	**1.51**	**230**	*eP*	**Pb**	**19 17 22.1**	**+1.2**
MCH1				IAML		19 17 44.7	
	comp=E,86nm,0.2s						
MCH1				IAML		19 17 44.9	
	comp=N,88nm,0.2s						
MCH1	**Michaelchurch**	**1.51**	**230**	*eP*	**Pb**	**19 17 22.1**	**+1.2**
MCH1				IAML		19 17 44.7	
	comp=E,86nm,0.2s						
MCH1				IAML		19 17 44.9	
	comp=N,88nm,0.2s						
SWN1	**Swindon**	**1.52**	**196**	*eP*	**Pg**	**19 17 24.1**	**+2.0**
SWN1	**Swindon**	**1.52**	**196**	*eP*	**Pg**	**19 17 24.1**	**+2.0**
MONM	**Monmouth**	**1.54**	**223**	*eP*	**Pb**	**19 17 22.9**	**+1.5**
MONM	**Monmouth**	**1.54**	**223**	*eP*	**Pb**	**19 17 22.9**	**+1.5**
OLDB	**Oldbury-Upon-S**	**1.59**	**214**	*eP*	**Pb**	**19 17 24.1**	**+1.9**
OLDB	**Oldbury-Upon-S**	**1.59**	**214**	*eP*	**Pb**	**19 17 24.1**	**+1.9**
IOMK	**Kirk Michael**	**2.43**	**303**	*eP*	**Pn**	**19 17 32.0**	**-0.5**
IOMK	**Kirk Michael**	**2.43**	**303**	*eP*	**Pn**	**19 17 32.0**	**-0.5**
ESK	**Eskdalemuir**	**2.65**	**333**	Pn	**Pn**	**19 17 36.6**	**+1.0**
NEWG	**New Galloway**	**2.83**	**321**	*eP*	**Pn**	**19 17 37.7**	**-0.3**
NEWG	**New Galloway**	**2.83**	**321**	*eP*	**Pn**	**19 17 37.7**	**-0.3**
DSB	**Dublin**	**3.19**	**277**	Pn	**Pn**	**19 17 44.5**	**+1.5**
DSB				Sn	**Sn**	**19 18 20.0**	**-1.0**
FLN	**La Foliniere**	**4.24**	**174**	*e*Pn	**Pn**	**19 17 59.7**	**+2.3**
	baz=350						
FLN				*e*Sn	**Sn**	**19 18 46.8**	**-0.1**
	comp=N,11nm,0.4s,baz=352						
FLN				*e*Sg	**Sg**	**19 19 10.1**	**+1.3**
	comp=N,4.6nm,0.2s						
BAIF	**Baives**	**4.42**	**129**	*e*Pn	**Pn**	**19 18 01.1**	**+1.2**
BAIF	**Baives**	**4.42**	**129**	*e*P	**Pn**	**19 18 04.6**	**+4.7**
BAIF				*e*Sn	**Sn**	**19 18 50.0**	**-1.4**
	comp=N,3.6nm,0.3s						
BAIF				*e*Sg	**Sg**	**19 19 15.1**	**+0.4**
	comp=N,11nm,0.4s						
LDF	**La Druitiere**	**4.43**	**171**	*e*Pn	**Pn**	**19 18 01.0**	**+0.9**
LDF	**La Druitiere**	**4.43**	**171**	*e*Pg	**Pg**	**19 18 18.0**	**+0.3**
LDF				*e*Sn	**Sn**	**19 18 50.9**	**-0.8**
	comp=N,4.4nm,0.2s						
LDF				*e*Sg	**Sg**	**19 19 16.3**	**+1.3**
	comp=N,4.6nm,0.3s						
BMRD	**Maredsous**	**4.53**	**124**	Pn	**Pn**	**19 18 05.0**	**+3.5**
BMRD				Sn	**Sn**	**19 18 58.2**	**+4.0**
DOU	**Dourbes**	**4.58**	**127**	Pn	**Pn**	**19 18 05.1**	**+3.0**
DOU				PnPn	**Pb**	**19 18 12.1**	**-1.2**
DOU				Sn	**Sn**	**19 18 59.2**	**+3.8**
GRR	**Gorron**	**4.59**	**178**	*e*Pn	**Pn**	**19 18 04.3**	**+2.0**
GRR	**Gorron**	**4.59**	**178**	*e*Pg	**Pg**	**19 18 21.0**	**+0.2**
GRR				*e*Sn	**Sn**	**19 18 54.4**	**-1.3**
	comp=N,12nm,0.3s						
GRR				*e*Sg	**Sg**	**19 19 20.9**	**+0.6**
	comp=N,2.7nm,0.2s						
GIVF	**Givet**	**4.69**	**125**	*e*Pn	**Pn**	**19 18 04.6**	**+1.0**
GIVF	**Givet**	**4.69**	**125**	*e*P	Pn	19 18 08.8	+5.2
GIVF				*e*Sn	**Sn**	**19 18 56.7**	**-1.3**
	comp=N,5.6nm,0.3s						
GIVF				*e*Sg	**Sg**	**19 19 24.8**	**+1.5**
	comp=N,21nm,0.5s						
SGMF	**Saint Gilles**	**4.82**	**192**	*e*Pn	**Pn**	**19 18 07.2**	**+1.9**
SGMF	**Saint Gilles**	**4.82**	**192**	*e*P	Pn	19 18 10.4	+5.1
SGMF	**Saint Gilles**	**4.82**	**192**	*e*Pg	**Pg**	**19 18 25.0**	**0.0**
SGMF				*e*Sn	**Sn**	**19 18 59.7**	**-1.4**
	comp=N,3.4nm,0.2s						
SGMF				*e*Sg	**Sg**	**19 19 28.0**	**+0.6**
	comp=N,2.6nm,0.4s						
ROSF	**Rostrenen**	**4.84**	**197**	*e*Pn	**Pn**	**19 18 07.5**	**+1.8**
ROSF	**Rostrenen**	**4.84**	**197**	*e*Pg	**Pg**	**19 18 25.3**	**-0.3**
ROSF				*e*Sn	**Sn**	**19 19 00.3**	**-1.5**
	comp=N,6.5nm,0.3s						
ROSF				*e*Sg	**Sg**	**19 19 28.2**	**-0.1**
	comp=N,4.5nm,0.5s						
MEM	**Membach**	**5.01**	**115**	Sn	**Sn**	**19 19 09.7**	**+3.7**
MEM				SnSn	**Sb**	**19 19 21.1**	**+0.2**
QUIF	**Quistinic**	**5.23**	**195**	*e*Pn	**Pn**	**19 18 12.6**	**+1.6**
QUIF				*e*Sn	**Sn**	**19 19 08.7**	**-2.7**
	comp=N,6.3nm,0.3s						
QUIF				*e*Sg	**Sg**	**19 19 36.8**	**-3.9**
	comp=N,1.8nm,0.3s						
MEZF	**Maizieres J'vi**	**5.95**	**136**	*e*Pn	**Pn**	**19 18

VIVF	**Saint-Julien-l**	**8.97**	**153**	*e*Pn	**Pn**	**19 19 04.9**	**+2.5**
VIVF				*e*Sn	**Sn**	**19 20 39.7**	**-3.7**
	comp=N,1.2nm,0.3s						
LPL	**La Plagne**	**9.05**	**142**	*e*Pn	**Pn**	**19 19 06.5**	**+2.8**
LPL				*e*Sn	**Sn**	**19 20 42.6**	**-3.1**
	comp=N,0.8nm,0.3s						
LPG	**La Plagne**	**9.07**	**142**	*e*Pn	**Pn**	**19 19 07.0**	**+2.9**
LPG				*e*Sn	**Sn**	**19 20 43.2**	**-3.2**
	comp=N,1.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**9.28**	**148**	*e*Pn	**Pn**	**19 19 09.5**	**+2.8**
ORIF				*e*Sn	**Sn**	**19 20 47.4**	**-3.7**
	comp=N,1.1nm,0.3s						
LASF	**Ste Croix**	**9.49**	**158**	*e*Pn	**Pn**	**19 19 11.8**	**+2.3**
MBDF	**Montbardon**	**9.75**	**145**	*e*Pn	**Pn**	**19 19 15.9**	**+2.8**
SJPF	**Ste Jean**	**9.87**	**180**	*e*Pn	**Pn**	**19 19 15.9**	**+1.2**
SJPF				*e*Sn	**Sn**	**19 20 59.6**	**-5.9**
	comp=N,0.5nm,0.2s						
MTLF	**Montolieu**	**9.89**	**166**	*e*Pn	**Pn**	**19 19 16.9**	**+1.9**
MTLF				*e*Sn	**Sn**	**19 21 00.7**	**-5.3**
	comp=N,1.0nm,0.3s						
EPF	**Esparros**	**10.00**	**174**	*e*Pn	**Pn**	**19 19 18.0**	**+1.5**
EPF				*e*Sn	**Sn**	**19 21 03.1**	**-5.6**
	comp=N,1.2nm,0.2s						
ETSF	**Etsaut**	**10.09**	**178**	*e*Pn	**Pn**	**19 19 18.2**	**+0.4**
ETSF				*e*Sn	**Sn**	**19 21 05.1**	**-5.9**
	comp=N,0.9nm,0.3s						

DRS ***28*** *19:30:27.5±0.0,43.°65N×44.°33E,h8km*
NORS ***28*** *19:30:36.0±0.0,43.°54N×44.°21E,h11km,MPVA4.0*
MOS ***28*** *19:30:37.1±1.2,43.°54N×44.°19E,h10km,mb3.7/1,Error ellipse: s-maj=6.7km s-min=4.8km az=117.6*

ISC 28 19:30:38.0±0.8,**43.°55N**±0.°02×**44.°21E**±0.°02,**h16**km±5km, **n62,**σ**1**ᵗ**17**/112,**3C-5D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STDR	**Stavd-Durt**	**0.21**	**211**	*e*Pg	**Pg**	**19 30 41.8**	**-1.0**
STDR				*e*Sg	**Sg**	**19 30 47.5**	**+1.4**
STDR	**Stavd-Durt**	**0.21**	**211**	*e*PG	**Pg**	**19 30 41.8**	**-1.0**
STDR				*e*S	**Sg**	**19 30 47.5**	**+1.4**
PRTR	**Priterechnaya**	**0.21**	**15**	*e*Pg	**Pg**	**19 30 41.6**	**-1.3**
PRTR				*e*Sg	**Sg**	**19 30 47.4**	**+1.1**
PRTR	**Priterechnaya**	**0.21**	**15**	*e*PG	**Pg**	**19 30 41.7**	**-1.3**
PRTR				*e*S	**Sg**	**19 30 47.4**	**+1.1**
BTKR	**Batakoyurt**	**0.30**	**125**	*e*Pg	**Pg**	**19 30 42.4**	**-2.0**
BTKR				*e*Sg	**Sb**	**19 30 48.5**	**-1.2**
BTKR	**Batakoyurt**	**0.30**	**125**	*e*PG	**Pg**	**19 30 42.4**	**-2.0**
BTKR				*e*S	**Sb**	**19 30 48.5**	**-1.2**
ARNR	**Ardon**	**0.37**	**171**	*e*Pg	**Pg**	**19 30 44.8**	**-0.8**
ARNR				*e*Sg	**Sb**	**19 30 52.6**	**+0.9**
ARNR	**Ardon**	**0.37**	**171**	*e*PG	**Pg**	**19 30 44.8**	**-0.8**
ARNR				*e*S	**Sb**	**19 30 52.6**	**+0.9**
LSNR	**Lesken**	**0.39**	**226**	*e*Pg	**Pb**	**19 30 45.6**	**-0.8**
LSNR				*e*Sg	**Sb**	**19 30 54.5**	**+2.3**
LSNR	**Lesken**	**0.39**	**226**	*e*PG	**Pb**	**19 30 45.7**	**-0.8**
LSNR				*e*S	**Sb**	**19 30 54.6**	**+2.4**
TRKR	**Terskaya**	**0.42**	**65**	*e*Pg	**Pg**	**19 30 45.2**	**-1.2**
TRKR				*e*Sg	**Sb**	**19 30 53.7**	**+0.5**
TRKR	**Terskaya**	**0.42**	**65**	*e*PG	**Pg**	**19 30 45.3**	**-1.2**
TRKR				*e*S	**Sb**	**19 30 53.0**	**-0.1**
KORR	**Kora**	**0.47**	**192**	*e*Pg	**Pb**	**19 30 46.7**	**-1.2**
KORR				*e*Sg	**Sb**	**19 30 55.3**	**+0.7**
KORR	**Kora**	**0.47**	**192**	*e*PG	**Pb**	**19 30 46.7**	**-1.2**
KORR				pmax	pmax		
	comp=Z,261nm,0.5s						
VLKR	**Vladikavkaz**	**0.61**	**145**	*e*Pg	**Pb**	**19 30 49.9**	**-0.3**
VLKR				*e*Sg	**Sn**	**19 31 01.2**	**-0.2**
VLKR	**Vladikavkaz**	**0.61**	**145**	*e*PG	**Pb**	**19 30 49.9**	**-0.3**
VLKR				*e*S	**Sn**	**19 31 01.2**	**-0.2**
KMGR	**Komgaron**	**0.69**	**135**	*e*Pg	**Pb**	**19 30 51.3**	**-0.3**
KMGR				*e*Sg	**Sn**	**19 31 02.3**	**-1.1**
KMGR	**Komgaron**	**0.69**	**135**	*e*PG	**Pb**	**19 30 51.3**	**-0.3**
KMGR				*e*S	**Sn**	**19 31 02.3**	**-1.1**
LACR	**Lac**	**0.72**	**175**	*e*Pg	**Pb**	**19 30 51.3**	**-0.9**
LACR				*e*Sg	**Sb**	**19 31 02.9**	**+1.0**
LACR	**Lac**	**0.72**	**175**	*e*PG	**Pg**	**19 30 50.8**	**-1.3**
LACR				*e*S	**Sn**	**19 31 04.6**	**+0.2**
ZEI	**Tsey**	**0.79**	**197**	*e*Pg	**Pg**	**19 30 52.3**	**-1.1**
ZEI				*e*Sg	**Sn**	**19 31 05.2**	**-1.0**
ZEI	**Tsey**	**0.79**	**197**	*e*PG	**Pg**	**19 30 52.2**	**-1.2**
ZEI				*e*S	**Sn**	**19 31 05.5**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.79**	**216**	*i* Pg	**Pg**	**19 30 52.5**	**-1.0**
DIGR				*e*Sg	**Sn**	**19 31 05.4**	**-0.9**
DIGR	**Digorskoe uzhe**	**0.79**	**216**	*e*PG	**Pg**	**19 30 52.3**	**-1.1**
DIGR				*e*S	**Sn**	**19 31 05.3**	**-0.9**
KBZ	**Khabaz**	**0.97**	**281**	*i* PG	**Pb**	**19 30 55.8**	**-0.5**
KBZ				*e*S	**Sn**	**19 31 09.9**	**-0.3**
ONI	**Oni**	**1.10**	**210**	*e*PG	**Pb**	**19 30 58.2**	**-0.5**
ONI				*e*S	**Sn**	**19 31 15.1**	**+1.4**
ONI	**Oni**	**1.10**	**210**	P	**Pb**	**19 30 58.2**	**-0.5**
ONI				S	**Sn**	**19 31 15.1**	**+1.4**
BEYR	**Belyy Ugol+**	**1.11**	**295**	⇓ *i* PG	**Pb**	**19 30 58.0**	**-0.8**
BEYR				*i* S	**Sn**	**19 31 14.0**	**+0.2**
SHA1	**Shidzhatmaz**	**1.14**	**280**	*e*Pg	**Pg**	**19 30 58.7**	**-1.4**
SHA1				*e*Sg	**Sn**	**19 31 15.8**	**+0.9**
SHA1	**Shidzhatmaz**	**1.14**	**280**	*e*PG	**Pg**	**19 30 58.7**	**-1.4**
SHA1				*e*S	**Sn**	**19 31 15.8**	**+0.9**
KIV	**Kislovodsk**	**1.18**	**291**	⇓ *i* PG	**Pb**	**19 30 59.0**	**-0.9**
KIV				*i* S	**Sn**	**19 31 16.2**	**+0.7**
GROC	**Groznyy**	**1.21**	**106**	*e*Pg	**Pg**	**19 31 00.7**	**-0.6**
GROC				*e*Sg	**Sn**	**19 31 18.9**	**+2.7**
GROC	**Groznyy**	**1.21**	**106**	*e*PG	**Pg**	**19 31 00.7**	**-0.6**
GROC				*e*S	**Sn**	**19 31 18.9**	**+2.7**
TKB	**Tkibuli**	**1.49**	**217**	P	**Pb**	**19 31 05.0**	**-0.2**
ALER	**Alexandrovskoy**	**1.53**	**323**	⇓ *i* PG	**Pn**	**19 31 04.8**	**+0.1**
ALER				*e*S	**Sg**	**19 31 26.7**	**-0.7**
BTLR	**Botlikh**	**1.72**	**120**	*i* Pg	**Pn**	**19 31 07.1**	**-0.1**
	comp=Z,41nm,0.3s						
BTLR				*e*Pg	**Pn**	**19 31 07.2**	**-0.1**
BTLR				*e*Sg	**Sb**	**19 31 30.9**	**+0.3**
	comp=Z,299nm,0.6s						
BTLR				*e*Sg	**Sg**	**19 31 31.0**	**-2.4**
BTLR	**Botlikh**	**1.72**	**120**	⇓ *e*PN	**Pn**	**19 31 07.1**	**-0.1**
BTLR				*e*		19 31 30.8	
BTLR				pmax	pmax		
	comp=Z,41nm,0.7s						
BTLR				smax	smax		
	comp=N,203nm,1.2s						
GOF	**Gofitskoye**	**1.73**	**331**	⇑ *e*PN	**Pn**	**19 31 07.1**	**-0.2**
GOF				*e*S	**Sg**	**19 31 33.7**	**+0.1**
GOF				pmax	pmax		
	comp=Z,27nm,0.6s						
GOF				smax	smax		
	comp=E,330nm,0.7s						
GOF				smax	smax		
	comp=N,300nm,0.6s						
CHVG	**Ch'k'valeri**	**1.76**	**243**	P	**Pg**	**19 31 10.0**	**-1.8**
DLMR	**Dylym**	**1.83**	**104**	*e*PN	**Pb**	**19 31 10.0**	**-1.1**
DLMR				*e*S	**Sg**	**19 31 36.0**	**-0.9**
DLMR				pmax	pmax		
	comp=Z,64nm,0.2s						
BTNK	**Botanikuri**	**1.91**	**167**	P	**Pn**	**19 31 10.1**	**+0.2**
NVNR	**Nevinnomyssk**	**1.94**	**304**	*e*PN	**Pb**	**19 31 12.1**	**-0.8**
NVNR				*e*S	**Sg**	**19 31 38.6**	**-1.7**
DBC	**Dubki**	**1.99**	**104**	*e*Pg	**Pn**	**19 31 12.1**	**+1.1**
	comp=Z,32nm,0.5s						
DBC				*e*Sg	**Sb**	**19 31 39.4**	**+1.1**
	comp=Z,156nm,0.7s						
DBC	**Dubki**	**1.99**	**104**	⇓ *e*PN	**Pn**	**19 31 12.1**	**+1.1**
DBC				*e*		19 31 39.8	
DBC				pmax	pmax		
	comp=Z,32nm,0.5s						
DBC				smax	smax		
	comp=N,139nm,1.2s						
UNCR	**Uncukul**	**2.07**	**113**	*e*Pg	**Pb**	**19 31 14.0**	**-1.1**
UNCR				*e*Sg	**Sb**	**19 31 41.0**	**+0.4**
	comp=N,315nm,0.5s						
UNCR	**Uncukul**	**2.07**	**113**	*e*PN	**Pb**	**19 31 14.0**	**-1.1**
UNCR				*e*S	**Sb**	**19 31 41.0**	**+0.4**
XNZR	**Khunzakh**	**2.09**	**118**	*e*Pg	**Pn**	**19 31 13.6**	**+1.1**
XNZR				*e*Sg	**Sb**	**19 31 41.5**	**+0.2**
XNZR	**Khunzakh**	**2.09**	**118**	⇑ *e*PN	**Pn**	**19 31 13.6**	**+1.1**
XNZR				*e*		19 31 41.3	
XNZR				pmax	pmax		
	comp=Z,15nm,0.3s						
XNZR				smax	smax		
	comp=E,75nm,0.6s						
KRNR	**Karanay**	**2.10**	**109**	*e*Pg	**Pb**	**19 31 14.0**	**-1.7**
KRNR				*e*Sg	**Sb**	**19 31 42.5**	**+0.9**
	comp=E,98nm,0.4s						
KRNR	**Karanay**	**2.10**	**109**	*e*PN	**Pb**	**19 31 14.0**	**-1.7**
KRNR				*e*S	**Sb**	**19 31 42.5**	**+0.9**
ARKR	**Arkhyz**	**2.13**	**271**	*e*PN	**Pb**	**19 31 16.7**	**+0.4**
ARKR				*e*S	**Sb**	**19 31 41.6**	**-0.9**
BUJR	**Buynaksk**	**2.24**	**108**	*e*Pg	**Pb**	**19 31 17.7**	**-0.4**
	comp=E,51nm,0.5s						
BUJR				*e*Sg	**Sg**	**19 31 47.9**	**-2.2**
	comp=E,398nm,0.6s						
BUJR	**Buynaksk**	**2.24**	**108**	⇑ *e*PN	**Pb**	**19 31 17.8**	**-0.3**
BUJR				*e*		19 31 48.1	
BUJR				pmax	pmax		
	comp=Z,51nm,0.5s						
BUJR				smax	smax		
	comp=N,286nm,1.2s						
ARKR	**Arakani**	**2.25**	**114**	*e*Pg	**Pb**	**19 31 19.0**	**+0.8**
ARKR				*e*Sg	**Pb**	**19 31 19.0**	**+0.8**
ARKR	**Arakani**	**2.25**	**114**	*e*PN	**Pb**	**19 31 19.0**	**+0.8**
LGD	**Lagodekhi**	**2.27**	**138**	*e*PN	**Pn**	**19 31 15.9**	**+1.0**
LGD				*e*S	**Sb**	**19 31 46.6**	**+0.1**
LGD	**Lagodekhi**	**2.27**	**138**	P	**Pn**	**19 31 15.9**	**+1.0**
BGD	**Bogdanovka**	**2.32**	**191**	P	**Pb**	**19 31 17.4**	**-2.2**
MAK	**Makhachkala**	**2.48**	**103**	*e*PN	**Pn**	**19 31 18.1**	**+0.5**
MAK				*e*		19 31 23.0	
MAK				*e*		19 31 50.6	
MAK				*e*		19 31 59.4	
MAK				pmax	pmax		
	comp=Z,66nm,1.0s						
MAK				smax	smax		
	comp=E,260nm,0.5s						
MAK				smax	smax		
	comp=E,301nm,0.6s						
MAK				MLR	MLR		
	comp=Z,698nm,2.0s						
DDFL	**Dedoflistskaro**	**2.53**	**145**	P	**Pb**	**19 31 22.7**	**-0.3**
AKT	**Akhty**	**3.32**	**127**	*e*PN	**Pn**	**19 31 32.2**	**+2.8**
AKT				*e*S	**Sn**	**19 32 11.0**	**+2.4**
ARU	**Arti**	**15.81**	**30**	*i* P	**Pn**	**19 34 21.2**	**+1.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.5s						

TAP ***28*** *19:34:14.0,24.°62N×121.°79E,h71km,ML3.0,A*
JMA ***28*** *19:34:13.9±0.1,24.°59N×121.°85E,h66km±2km,M2.3*

ISC 28 19:34:13.5±1.2,**24.°65N**±0.°03×**121.°83E**±0.°03,**h76**km±5km, **n80,**σ**0**ˢ**90**/150,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.04**	**156**	*i* P	**Pn**	**19 34 24.4**	**0.0**
	baz=100						
TWC				S	**Sn**	**19 34 32.2**	**-0.1**
	baz=100						
TWE	**Neicheng**	**0.17**	**297**	*i* P	**Pn**	**19 34 24.9**	**+0.2**
	baz=315						
TWE				S	**Sn**	**19 34 33.5**	**+0.6**
	baz=315						
ENAH	**Nanao**	**0.20**	**186**	P	**Pn**	**19 34 24.7**	**-0.1**
	baz=173						
ENAH				S	**Sn**	**19 34 33.0**	**0.0**
	baz=173						
NTC	**Toucheng**	**0.21**	**360**	P	**Pn**	**19 34 25.2**	**+0.3**
	baz=9.0						
NTC				S	**Sn**	**19 34 33.9**	**+0.7**
	baz=9.0						
EGS		**0.22**	**25**	P	**Pn**	**19 34 25.5**	**+0.6**
	baz=32						
EGS				*e*S	**Sn**	**19 34 34.5**	**+1.2**
	baz=32						
ENTT	**Nioudou**	**0.24**	**269**	*i* P	**Pn**	**19 34 25.1**	**0.0**
	baz=275						
ENTT				S	**Sn**	**19 34 33.2**	**-0.3**
	baz=275						
NDT	**Datong Townshi**	**0.29**	**261**	*i* P	**Pn**	**19 34 25.5**	**+0.2**
	baz=265						
NDT				S	**Sn**	**19 34 33.4**	**-0.7**
	baz=265						
TIPB	**Shuangxi**	**0.32**	**359**	*i* P	**Pn**	**19 34 26.0**	**+0.4**
	baz=5.0						
TIPB				S	**Sn**	**19 34 34.7**	**+0.3**
	baz=5.0						
NWLT	**Wulai**	**0.33**	**294**	P	**Pn**	**19 34 25.5**	**0.0**
	baz=301						
NWLT				*i* S	**Sn**	**19 34 34.1**	**-0.4**
	baz=301						
TWB1	**Santiao Chiao**	**0.39**	**22**	*i* P	**Pn**	**19 34 26.3**	**+0.3**
	baz=26						
TWB1				*e*S	**Sn**	**19 34 35.0**	**-0.1**
	baz=26						
TWA	**Mucha**	**0.40**	**326**	*i* P	**Pn**	**19 34 26.4**	**+0.3**
	baz=333						
TWA				*i* S	**Sn**	**19 34 35.5**	**+0.2**
	baz=333						
YHNB	**Yeheng**	**0.41**	**273**	*e*P	**Pn**	**19 34 26.0**	**-0.2**
	baz=277						
YHNB				*e*S	**Sn**	**19 34 34.6**	**-1.0**
	baz=277						
NWF	**Wu-fen Shan**	**0.42**	**354**	*i* P	**Pn**	**19 34 27.1**	**+0.7**
	baz=359						
NWF				S	**Sn**	**19 34 36.7**	**+0.9**
	baz=359						
WFSB	**Wu-fen Shan**	**0.42**	**354**	*e*P	**Pn**	**19 34 27.0**	**+0.8**
	baz=359						
WFSB				*e*S	**Sn**	**19 34 36.7**	**+1.1**
	baz=359						
NSK	**Sanguang**	**0.43**	**274**	*i* P	**Pn**	**19 34 26.1**	**-0.3**
	baz=277						
NSK				*e*S	**Sn**	**19 34 34.8**	**-1.1**
	baz=277						
NNSB	**Datong**	**0.46**	**242**	P	**Pn**	**19 34 26.7**	**0.0**
	baz=242						
NNSB				S	**Sn**	**19 34 35.6**	**-0.8**
	baz=242						
NNSH	**Datong**	**0.46**	**242**	*i* P	**Pn**	**19 34 26.6**	**-0.1**
	baz=242						
NNSH				S	**Sn**	**19 34 35.6**	**-0.8**
	baz=242						
NNS	**Nan Shan**	**0.47**	**244**	*i* P	**Pn**	**19 34 26.7**	**0.0**
	baz=243						
NNS				S	**Sn**	**19 34 35.7**	**-0.8**
	baz=243						
TAP1	**Taipei**	**0.48**	**324**	*e*P	**Pn**	**19 34 27.7**	**+1.0**
	baz=329						
TAP1				*e*S	**Sn**	**19 34 36.7**	**+0.3**
	baz=329						
TAP	**Taipei**	**0.49**	**323**	*e*P	**Pn**	**19 34 27.3**	**+0.5**
	baz=329						
TAP				*e*S	**Sn**	**19 34 37.3**	**+0.7**
	baz=329						
NACB	**Ninganchiao**	**0.52**	**205**	*e*P	**Pn**	**19 34 26.2**	**-0.8**
	baz=201						
NACB				*e*S	**Sn**	**19 34 35.2**	**-1.8**
	baz=201						
ETLH	**Xiulin Townshi**	**0.54**	**216**	*e*P	**Pn**	**19 34 25.7**	**-1.7**
	baz=214						
ETLH				*e*S	**Sn**	**19 34 36.2**	**-1.3**
	baz=214						
YM01	**YM01**	**0.55**	**335**	P	**Pn**	**19 34 27.8**	**+0.4**
	baz=339						
YM01				S	**Sn**	**19 34 38.1**	**+0.4**
	baz=339						
YM10	**YM10**	**0.56**	**334**	P	**Pn**	**19 34 27.9**	**+0.3**
	baz=338						
YM10				S	**Sn**	**19 34 38.5**	**+0.6**
	baz=338						
YM11	**YM11**	**0.57**	**336**	P	**Pn**	**19 34 28.3**	**+0.7**
	baz=340						
YM11				*e*S	**Sn**	**19 34 38.5**	**+0.5**
	baz=340						
YM05	**YM05**	**0.57**	**335**	P	**Pn**	**19 34 28.1**	**+0.4**
	baz=339						
YM05				S	**Sn**	**19 34 38.3**	**+0.2**
	baz=339						
YM04	**YM04**	**0.57**	**332**	P	**Pn**	**19 34 27.9**	**+0.2**
	baz=336						
YM04				S	**Sn**	**19 34 38.3**	**+0.3**
	baz=336						
NWRT	**Kuosheng**	**0.57**	**344**	*e*S	**Sn**	**19 34 38.6**	**+0.6**
	baz=348						
YM08	**YM08**	**0.58**	**338**	*e*P	**Pn**	**19 34 28.1**	**+0.4**
	baz=342						
YM08				*e*S	**Sn**	**19 34 37.8**	**-0.4**
	baz=342						
TWS1	**Kuangyinshan**	**0.59**	**320**	*i* P	**Pn**	**19 34 28.3**	**+0.5**
	baz=325						
TWS1				S	**Sn**	**19 34 39.0**	**+0.8**
	baz=325						
YM03	**YM03**	**0.59**	**334**	*e*P	**Pn**	**19 34 28.3**	**+0.5**
	baz=337						
YM03				*e*S	**Sn**	**19 34 38.1**	**-0.3**
	baz=337						
TWD	**Chiawan**	**0.60**	**201**	*e*P	**Pn**	**19 34 26.9**	**-1.0**
	baz=197						
TWD				S	**Sn**	**19 34 36.5**	**-2.0**
	baz=197						
NTST	**Danshui**	**0.62**	**326**	*e*P	**Pn**	**19 34 28.9**	**+0.9**
	baz=330						
NTST				*e*S	**Sn**	**19 34 39.3**	**+0.5**
	baz=330						
TWY	**Chenhua**	**0.66**	**342**	*e*S	**Sn**	**19 34 41.2**	**+1.7**
	baz=345						
FUSS	**Fushou**	**0.67**	**234**	P	**Pn**	**19 34 28.8**	**0.0**
	baz=233						
FUSS				*e*S	**Sn**	**19 34 39.2**	**-0.9**
	baz=233						
NCU	**National Centr**	**0.67**	**299**	*e*S	**Sn**	**19 34 40.0**	**+0.4**
	baz=302						
NCUH	**Zhongli**	**0.67**	**299**	S	**Sn**	**19 34 39.9**	**+0.3**
	baz=302						
TWT	**Tachien**	**0.71**	**237**	*e*P	**Pn**	**19 34 29.4**	**+0.2**
	baz=237						
TWT				*e*S	**Sn**	**19 34 40.8**	**-0.1**
	baz=237						
WHF	**Hehuan Shan**	**0.72**	**226**	*e*P	**Pn**	**19 34 29.5**	**0.0**
	baz=224						
WHF				*e*S	**Sn**	**19 34 40.2**	**-1.1**
	baz=224						
TDCB	**Techi**	**0.73**	**238**	*e*P	**Pn**	**19 34 29.2**	**-0.2**
	baz=237						
TDCB				*e*S	**Sn**	**19 34 40.4**	**-0.6**
	baz=237						
LIOB	**Emei**	**0.74**	**270**	*i* P	**Pn**	**19 34 29.4**	**0.0**
	baz=272						
LIOB				S	**Sn**	**19 34 40.8**	**-0.3**
	baz=272						
NSTT	**Nanjuang**	**0.76**	**269**	*i* P	**Pn**	**19 34 29.5**	**0.0**
	baz=270						
NSTT				S	**Sn**	**19 34 40.8**	**-0.6**
	baz=270						
SBCB	**Hsinchu**	**0.78**	**281**	*e*S	**Sn**	**19 34 41.7**	**-0.2**
	baz=283						
NHW	**Xinwu Township**	**0.80**	**297**	*e*P	**Pn**	**19 34 29.9**	**-0.1**
	baz=299						
NHW				S	**Sn**	**19 34 43.0**	**+0.8**
	baz=299						
CHGB	**Renai**	**0.84**	**226**	P	**Pn**	**19 34 30.9**	**+0.3**
	baz=225						
CHGB				S	**Sn**	**19 34 42.5**	**-0.8**
	baz=225						
WHP	**Taichung City**	**0.89**	**246**	P	**Pn**	**19 34 31.9**	**+0.8**
	baz=246						
WHP				S	**Sn**	**19 34 44.1**	**-0.1**
	baz=246						
ESL	**Shilin**	**0.91**	**204**	*e*P	**Pn**	**19 34 29.3**	**-2.0**
	baz=201						
NMLH	**Miaoli**	**0.95**	**264**	*e*P	**Pn**	**19 34 32.0**	**+0.2**
	baz=264						
NMLH				*e*S	**Sn**	**19 34 45.2**	**-0.1**
	baz=264						
TWQ1	**Liyutan**	**1.01**	**253**	*e*P	**Pn**	**19 34 32.6**	**+0.1**
	baz=253						
TWQ1				*e*S	**Sn**	**19 34 47.2**	**+0.7**
	baz=253						
DPDB	**Guoxing**	**1.03**	**234**	*e*P	**Pn**	**19 34 33.5**	**+0.8**
	baz=233						
DPDB				*e*S	**Sn**	**19 34 49.0**	**+2.0**
	baz=233						
JYNG	**Yonagunijimaku**	**1.03**	**101**	P	**Pn**	**19 34 32.6**	**-0.1**
VWDT	**VWDT**	**1.09**	**215**	*e*P	**Pn**	**19 34 32.9**	**-0.5**
	baz=214						
VWDT				*e*S	**Sn**	**19 34 49.5**	**+1.2**
	baz=214						
SMLT	**Sun Moon Lake**	**1.14**	**228**	P	**Pn**	**19 34 35.0**	**+0.8**
	baz=227						
SMLT				S	**Sn**	**19 34 50.6**	**+0.9**
	baz=227						
TYC	**Yuchr**	**1.16**	**230**	P	**Pn**	**19 34 34.6**	**+0.3**
	baz=229						
TYC				S	**Sn**	**19 34 50.3**	**+0.5**
	baz=229						
SSLB	**Suanglung**	**1.17**	**223**	P	**Pn**	**19 34 35.3**	**+0.8**
	baz=222						
SSLB				S	**Sn**	**19 34 50.9**	**+0.7**
	baz=222						
HGSD	**Ruisui**	**1.21**	**198**	*e*P	**Pn**	**19 34 35.5**	**+0.6**
	baz=196						
HGSD				*e*S	**Sn**	**19 34 51.2**	**+0.2**
	baz=196						
WNT	**Mingjian**	**1.30**	**234**	*e*S	**Sn**	**19 34 53.2**	**+0.2**
	baz=233						
YULB	**Yu-li**	**1.34**	**201**	*e*P	**Pn**	**19 34 36.1**	**-0.5**
	baz=200						
YULB				*e*S	**Sn**	**19 34 52.8**	**-1.2**
	baz=200						
ALS	**Alishan**	**1.47**	**220**	*e*P	**Pn**	**19 34 39.4**	**+0.8**
	baz=218						
ALS				*e*S	**Sn**	**19 34 58.4**	**+0.9**
	baz=218						
CHN5	**Tsauling**	**1.48**	**225**	*e*P	**Pn**	**19 34 39.0**	**+0.4**
	baz=224						
CHN5				*e*S	**Sn**	**19 34 58.0**	**+0.6**
	baz=224						
WDLH	**Douliu**	**1.52**	**231**	*e*P	**Pn**	**19 34 39.2**	**+0.3**
	baz=230						
WDLH				*e*S	**Sn**	**19 34 58.1**	**0.0**
	baz=230						
ELDTW	**Lidau**	**1.63**	**207**	*e*P	**Pn**	**19 34 41.0**	**+0.4**
	baz=206						
ELDTW				*e*S	**Sn**	**19 35 00.9**	**-0.1**
	baz=206						
CHN4	**Tsaushan**	**1.72**	**222**	*e*P	**Pn**	**19 34 42.2**	**+0.6**
	baz=220						
CHN4				*e*S	**Sn**	**19 35 06.4**	**+3.6**
	baz=220						
TPUB	**Ta-pu**	**1.73**	**220**	*e*P	**Pn**	**19 34 41.9**	**+0.1**
	baz=218						
TPUB				*e*S	**Sn**	**19 35 05.2**	**+2.0**
	baz=218						
IRIF	**Iriomote-Funau**	**1.76**	**100**	P	**Pn**	**19 34 41.8**	**-0.3**
IRIF				S	**Sn**	**19 35 03.0**	**-0.7**
STYT	**Tauyuan**	**1.77**	**214**	*e*P	**Pn**	**19 34 43.9**	**+1.6**
	baz=212						
STYT				*e*S	**Sn**	**19 35 07.1**	**+2.9**
	baz=212						
WSF	**Szhu**	**1.78**	**236**	*e*S	**Sn**	**19 35 04.0**	**-0.2**
	baz=235						
WTP	**Ta-pu**	**1.78**	**219**	*e*P	**Pn**	**19 34 44.9**	**+2.4**
	baz=217						
WTP				*e*S	**Sn**	**19 35 05.9**	**+1.5**
	baz=217						
CHN1

	baz=327						
XPSS			*e*S		**Sn**	**19 35 26.5**	**-0.2**
	baz=327						

VAO ***28*** *19:37:30.8±0.9, 14°.75S×72°.10W, h140km±7km, mb4.2*
NEIC ***28*** *19:37:31.5±2.9, 15°.0S±0°.1×71°.8W±0°.1, h129km±8km, mb4.3/5, Error ellipse: s-maj=21.1km s-min=11.4km az=46.0*
IDC ***28*** *19:37:34.5±1.8, 14°.64S×71°.65W, h136km±15km, mb3.4/6, mb1 3.6/10, mb1mx3.5/40, mbtmp3.9/10, MS2.5/1, Ms1 2.5/1, ms1mx2.3/21, Error ellipse: s-maj=34.1km s-min=15.1km az=27.0*

ISC 28 19:37:32.8±0.6, 15°.15S±0°.06×72°.06W±0°.07, h150km, n62, σ1§58/64, mb3.5/6, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**3.60**	**153**	Pn	**Pn**	**19 38 28.9**	**+1.1**
AP01					**Sn**	**19 39 09.7**	**-0.9**
LPAZ	**La Paz**	**3.95**	**107**	P	**Pn**	**19 38 32.6**	**-0.4**
	2.6nm,0.3s,baz=305,slow=8.0,SNR=14						
LPAZ				S	**Sn**	**19 39 17.8**	**-1.8**
	1.4nm,0.3s,baz=174,slow=23,SNR=4.3						
LPAZ	**La Paz**	**3.95**	**107**		**Pn**	**19 38 32.7**	**-0.3**
LPAZ	**La Paz**	**3.95**	**107**	*eP*	**Pn**	**19 38 33.0**	**0.0**
PB16	**IPOC Station P**	**4.00**	**143**		**Pn**	**19 38 35.2**	**+1.6**
MNMC	**Minye Minye**	**4.61**	**150**		**Pn**	**19 38 41.1**	**-0.2**
PSGCX	**Pisagua**	**4.79**	**158**		**Pn**	**19 38 43.0**	**-0.6**
PB11	**IPOC Station P**	**5.12**	**154**		**Pn**	**19 38 47.3**	**-0.7**
GO01	**Chusmiza**	**5.26**	**149**		**Pn**	**19 38 50.2**	**+0.1**
NNA	**Nana**	**5.61**	**304**	P	**Pn**	**19 38 55.9**	**+1.4**
	3.7nm,0.3s,baz=177,slow=11,SNR=7.6						
NNA				S	**Sn**	**19 39 52.3**	**-6.0**
	3.2nm,0.3s,baz=178,slow=8.2,SNR=3.8						
NNA				LR	LR	19 41 43.9	
	comp=Z,44nm,21.2s,baz=200,slow=44						
NNA	**Nana**	**5.61**	**304**		**Pn**	**19 38 56.0**	**+1.5**
TA01	**Diego Aracena**	**5.67**	**162**	Pn	**Pn**	**19 38 54.3**	**-0.8**
TA01					**Sn**	**19 39 57.8**	**-1.7**
PB08	**IPOC Station P**	**5.68**	**151**		**Pn**	**19 38 55.7**	**+0.1**
PATCX	**Punta Patache**	**5.92**	**162**	Pn	**Pn**	**19 38 58.2**	**-0.3**
PB01	**IPOC Station P**	**6.35**	**158**		**Pn**	**19 39 03.4**	**-0.9**
PB07	**IPOC Station P**	**6.86**	**163**		**Pn**	**19 39 10.9**	**-0.2**
PB09	**IPOC Station P**	**7.13**	**158**	Pn	**Pn**	**19 39 14.9**	**+0.1**
PB09					**Sn**	**19 40 34.1**	**-0.5**
PB04	**IPOC Station P**	**7.37**	**166**	Pn	**Pn**	**19 39 16.3**	**-1.6**
CZSB	**Cruzeiro do Su**	**7.40**	**355**	*e*P	Pn	19 39 11.0	-7.4
ETMB	**Extrema**	**7.79**	**48**	*e*P	Pn	19 39 17.2	-6.3
PB06	**IPOC Station P**	**7.87**	**163**	Pn	**Pn**	**19 39 23.6**	**-1.1**
LVC	**Limon Verde**	**7.99**	**159**	P	**Pn**	**19 39 26.6**	**+0.1**
	1.5nm,0.3s,baz=359,slow=9.1,SNR=10						
LVC				S	**Sn**	**19 40 52.8**	**-3.0**
	11nm,0.3s,baz=147,slow=20,SNR=22						
LVC	**Limon Verde**	**7.99**	**159**		**Pn**	**19 39 26.4**	**-0.1**
LVC					**Sn**	**19 40 53.5**	**-2.2**
PB15	**IPOC Station P**	**8.38**	**163**	Pn	**Pn**	**19 39 29.4**	**-2.0**
PB15					**Sn**	**19 41 02.3**	**-2.5**
PB10	**IPOC Station P**	**8.44**	**171**	Pn	**Pn**	**19 39 31.4**	**-0.7**
PB14	**IPOC Station P**	**9.55**	**171**	Pn	**Pn**	**19 39 45.8**	**-1.4**
GO02	**Mina Guanaco**	**10.22**	**167**	Pn	**Pn**	**19 39 57.8**	**+1.7**
SIV	**San Ignacio**	**10.62**	**96**	P	**Pn**	**19 39 57.3**	**-3.8**
	0.9nm,0.3s,baz=287,slow=14,SNR=12						
SIV				S	Sn	19 41 47.0	-12
	0.3nm,0.3s,baz=252,slow=12,SNR=4.8						
SAML	**Samuel**	**10.65**	**56**		Pn	19 39 53.2	-8.3
AC01	**Pan de Azucar**	**11.03**	**173**	Pn	**Pn**	**19 40 06.7**	**+0.4**
CLDB	**Colider**	**16.41**	**77**	*e*P	**Pn**	**19 41 13.3**	**-1.3**
CPUP	**Villa Florida**	**17.69**	**131**	P	**Pn**	**19 41 30.0**	**+0.1**
	0.4nm,0.3s,baz=312,slow=11,SNR=10						
CPUP	**Villa Florida**	**17.69**	**131**		**Pn**	**19 41 29.7**	**-0.2**
CPUP				IAmb	IAmb	19 41 31.7	
	comp=Z,6.3nm,0.8s						
ITTB	**Itaituba**	**19.31**	**58**	*e*P	**P**	**19 41 43.9**	**-2.6**
ARAG	**Araguaiana, MT**	**19.53**	**94**	*e*P	**P**	**19 41 48.1**	**-0.7**
ITQB	**Itaqui**	**20.27**	**138**	*e*P	Pn	19 41 59.2	-1.2
SNDB	**Serra Nova Dou**	**20.43**	**84**	*e*P	**P**	**19 41 57.9**	**-0.6**
PCMB	**Pacaembu**	**20.75**	**111**	*e*P	**P**	**19 42 02.7**	**+0.8**
PTGB	**Pitanga**	**21.04**	**120**	*e*P	**P**	**19 42 05.5**	**+0.4**
ITRB	**Iturama**	**21.19**	**105**	*e*P	**P**	**19 42 06.3**	**-0.4**
ITAB	**Concordia**	**22.09**	**126**	*e*P	**P**	**19 42 16.5**	**+0.5**
FRTB	**Fartura**	**22.73**	**114**	*e*P	**P**	**19 42 21.9**	**-0.2**
CPSB	**Cacapava Do Su**	**22.86**	**135**	*e*P	**P**	**19 42 25.7**	**+2.4**
IPMB	**Ipameri, GO**	**23.03**	**100**	*e*P	**P**	**19 42 23.9**	**-1.2**
BDFB	**Brasilia**	**23.19**	**94**	P	**P**	**19 42 25.8**	**-0.8**
	comp=Z,3.7nm,0.4s,baz=237,slow=11,SNR=6.2						
BDFB	**Brasilia**	**23.19**	**94**	IAmb	IAmb	19 42 26.4	
	comp=Z,11nm,1.1s						
PEXB	**Peixe**	**23.29**	**85**	*e*P	**P**	**19 42 27.0**	**-0.4**
PLTB	**Pedras Altas**	**23.60**	**138**	*e*P	**P**	**19 42 32.7**	**+2.6**
SDBA	**SAO DESIDERIO**	**26.51**	**87**	*e*P	**P**	**19 42 55.6**	**-1.0**
JANB	**Januaria**	**26.79**	**93**	*e*P	**P**	**19 42 58.1**	**-1.0**
VAS01	**Vassouras-RJ**	**27.98**	**109**	*e*P	**P**	**19 43 10.1**	**+0.5**
GDU01	**Guandu, BA**	**31.48**	**92**	*e*P	**P**	**19 43 40.0**	**-0.6**
TXAR	**Lajitas Array**	**53.73**	**325**	P	**P**	**19 46 41.3**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=146,slow=9.8,SNR=2.3						
TCUT	**Toone Canyon**	**66.79**	**329**	P	**P**	**19 48 08.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**78.20**	**73**	P	**P**	**19 49 15.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=246,slow=4.3,SNR=6.5						
VNDA	**Vanda**	**82.54**	**190**	P	P	19 49 44.6	+6.2
	comp=Z,0.5nm,0.8s,baz=132,slow=2.5,SNR=4.6						
ESDC	**Sonseca Array**	**83.52**	**46**	P	**P**	**19 49 45.1**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=234,slow=33,SNR=4.0						
BOSA	**Boshof**	**89.10**	**119**	P	**P**	**19 50 14.3**	**+2.5**
	comp=Z,1.3nm,0.7s,baz=353,slow=19,SNR=1.5						
BOSA	**Boshof**	**89.10**	**119**	IAmb	IAmb	19 52 41.9	
	comp=Z,35nm,1.8s						
SONM	**Songino Array**	**147.39**	**2**	PKPbc	**PKiKP**	**19 57 01.7**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=322,slow=2.9,SNR=5.9						
SONM	**Songino Array**	**147.39**	**2**	PKPdf	**PKPdf**	**19 56 56.8**	**+0.3**
SONM					**PKPab**	**19 57 02.0**	**+0.7**
KSRS	**Korea Array**	**151.58**	**325**	PKPbc	**PKiKP**	**19 57 13.3**	**+3.3**
	comp=Z,2.2nm,0.7s,baz=6.3,slow=1.7,SNR=9.4						

AEIC ***28*** *20:05:32.9±1.4, 62°.31N±0°.02×149°.23W±0°.05, h44km±6km, ML2.8/79, Error ellipse: s-maj=3.7km s-min=3.1km az=71.0*
NEIC ***28*** *20:05:32.1±1.4, 62°.30N±0°.02×149°.31W±0°.05, h48km±7km, Error ellipse: s-maj=3.7km s-min=3.3km az=87.0*
ANF ***28*** *20:05:32.3±0.4, 62°.37N×149°.31W, h55km±8km, ML3.0/12, Error ellipse: s-maj=5.6km s-min=2.7km az=81.0*

ISC 28 20:05:32.4±1.1, 62°.33N±0°.02×149°.24W±0°.03, h45km±11km, n120, σ0§81/142, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUT	**Chulitna**	**0.49**	**280**	P	**Pn**	**20 05 43.3**	**0.0**
	baz=101,SNR=59						
CUT				S	**Sn**	**20 05 51.8**	**+0.9**
	baz=101						
CUT	**Chulitna**	**0.49**	**280**		**Pn**	**20 05 43.2**	**0.0**
CUT					**Sn**	**20 05 52.2**	**+1.4**
WAT7	**Susitna Watana**	**0.54**	**20**		**Pn**	**20 05 43.9**	**-0.1**
WAT7					**Sn**	**20 05 53.1**	**+0.8**
GHO	**Glory Hole Cre**	**0.58**	**165**		**Pn**	**20 05 43.8**	**-0.6**
GHO				Sn	**Sn**	**20 05 52.7**	**-0.3**
WAT1	**Susitna Watana**	**0.60**	**32**		**Pn**	**20 05 44.4**	**-0.3**
WAT1					**Sn**	**20 05 54.2**	**+0.7**
SML	**Sawmill**	**0.67**	**140**		**Pn**	**20 05 44.8**	**-0.9**
SML				Sn	**Sn**	**20 05 54.8**	**-0.4**
HUR	**Hurricane**	**0.68**	**345**		**Pn**	**20 05 46.0**	**+0.2**
WAT2	**Susitna Watana**	**0.71**	**25**		**Pn**	**20 05 46.0**	**-0.2**
PMR	**Palmer**	**0.74**	**176**		**Pn**	**20 05 45.4**	**-1.1**
PMR				Sn	**Sn**	**20 05 56.2**	**-0.4**
WAT6	**Susitna Watana**	**0.74**	**69**		**Pn**	**20 05 46.1**	**-0.6**
WAT6					**Sn**	**20 05 56.9**	**-0.1**
KNK	**Knik Glacier**	**0.99**	**158**		**Pn**	**20 05 49.2**	**-0.7**
KNK				Sn	**Sn**	**20 06 02.9**	**+0.1**
SCM	**Sheep Creek Mo**	**1.03**	**118**		**Pn**	**20 05 49.6**	**-0.8**
RND	**Reindeer**	**1.10**	**9**		**Pn**	**20 05 51.5**	**0.0**
RND				Sn	**Sn**	**20 06 05.6**	**+0.1**
SUA	**Susitna One**	**1.12**	**220**		**Pn**	**20 05 51.2**	**-0.4**
SKT	**Skwentna**	**1.13**	**253**		**Pn**	**20 05 51.2**	**-0.6**
DHY	**Denali Highway**	**1.14**	**48**		**Pn**	**20 05 51.6**	**-0.5**
TRF	**Thorofare Moun**	**1.23**	**337**		**Pn**	**20 05 53.5**	**+0.2**
TRF				Sn	**Sn**	**20 06 09.4**	**+0.7**
RC01	**Rabbit Creek A**	**1.26**	**191**	P	**Pn**	**20 05 53.2**	**-0.4**
	baz=11,SNR=16						
RC01				S	**Sn**	**20 06 10.4**	**+1.0**
	baz=11						
RC01	**Rabbit Creek A**	**1.26**	**191**		**Pn**	**20 05 53.2**	**-0.4**

MCK	**McKinley**	**1.42**	**6**	P	**Pn**	**20 05 56.0**	**+0.2**
	baz=185,SNR=11						
MCK				S	**Sn**	**20 06 14.2**	**+0.9**
	baz=185						
MCK	**McKinley**	**1.42**	**6**		**Pn**	**20 05 56.2**	**+0.4**
KTH	**Kantishna Hill**	**1.45**	**329**		**Pn**	**20 05 56.6**	**+0.3**
KTH				Sn	**Sn**	**20 06 14.8**	**+0.7**
M24K	**Tolsona, Glenn**	**1.45**	**97**	P	**Pn**	**20 05 56.9**	**+0.6**
	baz=279,SNR=12						
M24K				S	**Sn**	**20 06 16.5**	**+2.4**
	baz=279						
M24K	**Tolsona, Glenn**	**1.45**	**97**		**Pn**	**20 05 56.8**	**+0.6**
M24K				Sn	**Sn**	**20 06 17.2**	**+3.1**
PPLA	**Purkeypile**	**1.48**	**294**		**Pn**	**20 05 56.6**	**-0.1**
STLK	**Strandline Lak**	**1.48**	**237**		**Pn**	**20 05 56.2**	**-0.5**
PWL	**Port Wells**	**1.54**	**163**		**Pn**	**20 05 56.9**	**-0.5**
GLI	**Glacier Island**	**1.78**	**144**		**Pn**	**20 06 00.1**	**-0.6**
KLU	**Klutina**	**1.78**	**117**		**Pn**	**20 06 00.6**	**-0.2**
PS11	**TAPS Pump St11**	**1.78**	**96**		**Pn**	**20 06 01.9**	**+1.1**
SPCN	**Chakachatna No**	**1.78**	**233**		**Pn**	**20 06 01.7**	**+0.9**
SPCR	**Spurr Chakacha**	**1.81**	**233**		**Pn**	**20 06 01.8**	**+0.7**
BWN	**Browne**	**1.86**	**357**		**Pn**	**20 06 02.8**	**+1.1**
PAX	**Paxson**	**1.86**	**68**		**Pn**	**20 06 02.7**	**+0.8**
O22K	**Cooper Landing**	**1.87**	**187**	S	**Sn**	**20 06 26.6**	**+2.5**
	baz=7.4						
O22K	**Cooper Landing**	**1.87**	**187**	Pn	**Pn**	**20 06 03.1**	**+1.3**
SLKM	**Skilak Lake**	**1.89**	**195**		**Pn**	**20 06 01.8**	**-0.4**
BPAW	**Bear Paw Mtn.**	**1.95**	**337**		**Pn**	**20 06 02.7**	**-0.3**
DIV	**Divide**	**2.04**	**124**		**Pn**	**20 06 03.7**	**-0.7**
FID	**Port Fidalgo**	**2.06**	**139**		**Pn**	**20 06 03.6**	**-1.0**
WRH	**Wood River Hil**	**2.21**	**13**		**Pn**	**20 06 06.7**	**0.0**
SEW	**Seward**	**2.23**	**183**		**Pn**	**20 06 07.3**	**+0.4**
NEA2	**Nenana**	**2.28**	**2**	P	**Pn**	**20 06 07.2**	**-0.3**
	baz=182						
NEA2				S	**Sn**	**20 06 32.7**	**-1.6**
	baz=182						
N25K	**Chitina, Valde**	**2.31**	**106**	P	**Pn**	**20 06 08.0**	**-0.1**
	baz=290,SNR=6.5						
N25K				S	**Sn**	**20 06 36.2**	**+1.0**
	baz=290						
N25K	**Chitina, Valde**	**2.31**	**106**		**Pn**	**20 06 07.8**	**-0.2**
HDA	**Harding Lake**	**2.33**	**25**		**Pn**	**20 06 07.5**	**-0.8**
HIN	**Hinchinbrook I**	**2.34**	**145**		**Pn**	**20 06 07.7**	**-0.7**
DFR	**Drift River**	**2.40**	**225**		**Pn**	**20 06 09.2**	**-0.1**
CCB	**Clear Creek Bu**	**2.42**	**15**		**Pn**	**20 06 09.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**2.45**	**135**		**Pn**	**20 06 09.7**	**-0.1**
RIDG	**Independent Ri**	**2.45**	**53**	Pn	**Pn**	**20 06 11.8**	**+1.8**
RSO	**Redoubt South**	**2.52**	**224**		**Pn**	**20 06 10.9**	**-0.1**
RDWB	**Redoubt West**	**2.53**	**225**		**Pn**	**20 06 11.1**	**0.0**
BMRM	**Bremner River**	**2.60**	**120**		**Pn**	**20 06 11.6**	**-0.4**
MENT	**Mentasta**	**2.62**	**74**		**Pn**	**20 06 11.3**	**-1.0**
TCOL	**CIGO, UAF Yank**	**2.63**	**13**	P	**Pn**	**20 06 12.2**	**-0.1**
	baz=194,SNR=14						
TCOL				S	**Sn**	**20 06 42.3**	**-0.7**
	baz=194						
TCOL	**CIGO, UAF Yank**	**2.63**	**13**		**Pn**	**20 06 12.4**	**+0.1**
COLA	**College**	**2.63**	**13**		**Pn**	**20 06 12.5**	**+0.2**
IL31		**2.67**	**22**		**Pn**	**20 06 12.8**	**-0.1**
ILAR	**Eielson Array**	**2.67**	**22**		**Pn**	**20 06 12.5**	**-0.4**
MDM	**Murphy Dome**	**2.68**	**9**		**Pn**	**20 06 13.2**	**+0.1**
BRLK	**Bradley Lake**	**2.69**	**198**	Pn	**Pn**	**20 06 13.5**	**+0.3**
DOT	**Dot Lake**	**2.71**	**58**		**Pn**	**20 06 14.1**	**+0.6**
GLB	**Gilahina Butte**	**2.72**	**107**		**Pn**	**20 06 13.5**	**-0.1**
MLY	**Manley**	**2.80**	**347**	P	**Pn**	**20 06 14.7**	**0.0**
	baz=165,SNR=8.9						
MLY				S	**Sn**	**20 06 46.0**	**-1.1**
	baz=165						
MLY	**Manley**	**2.80**	**347**		**Pn**	**20 06 14.7**	**0.0**
I23K	**Minto, Yukon-K**	**2.83**	**359**	P	**Pn**	**20 06 15.3**	**+0.3**
	baz=179,SNR=9.6						
I23K				S	**Sn**	**20 06 46.6**	**-1.3**
	baz=179						
I23K	**Minto, Yukon-K**	**2.83**	**359**		**Pn**	**20 06 15.4**	**+0.3**
SCRK	**Sand Creek**	**2.90**	**53**	P	**Pn**	**20 06 16.6**	**+0.4**
	baz=237,SNR=9.2						
POKR	**Poker Plat Res**	**2.92**	**15**	P	**Pn**	**20 06 16.4**	**+0.2**
	baz=196,SNR=6.7						
POKR				S	**Sn**	**20 06 49.0**	**-1.0**
	baz=196						
POKR	**Poker Plat Res**	**2.92**	**15**		**Pn**	**20 06 16.5**	**+0.2**
RAGM	**Ragged Mountai**	**2.94**	**129**		**Pn**	**20 06 16.5**	**0.0**
VRDI	**Verde Repeater**	**2.96**	**109**		**Pn**	**20 06 16.7**	**-0.4**
CNPM	**China Poot**	**2.97**	**200**	Pn	**Pn**	**20 06 17.6**	**+0.5**
MCARA	**McCarthy VSAT**	**3.09**	**105**		**Pn**	**20 06 19.5**	**+0.8**
HMT	**Hamilton**	**3.12**	**128**		**Pn**	**20 06 18.3**	**-0.8**
TTA	**Tatalina**	**3.19**	**284**		**Pn**	**20 06 19.6**	**-0.5**
TT01	**Tatalina**	**3.19**	**284**		**Pn**	**20 06 19.7**	**-0.3**
Q23K	**Middleton Isla**	**3.23**	**153**	Pn	**Pn**	**20 06 20.7**	**+0.2**
MID	**Middleton Isla**	**3.24**	**153**	Pn	**Pn**	**20 06 21.4**	**+0.8**
SVW2	**Sparrevohn**	**3.26**	**251**	Pn	**Pn**	**20 06 20.9**	**-0.1**
BERG	**Berg Lake**	**3.30**	**124**		**Pn**	**20 06 20.9**	**-0.6**
NICHA	**Nichawak Mount**	**3.30**	**127**		**Pn**	**20 06 20.8**	**-0.7**
CRQM	**Cirque**	**3.32**	**116**		**Pn**	**20 06 21.6**	**-0.3**
KAIM	**Kayak Island**	**3.36**	**134**	Pn	**Pn**	**20 06 20.8**	**-1.5**
KHIT	**Khitrov Hills**	**3.45**	**121**		**Pn**	**20 06 22.8**	**-0.8**
TGL	**Tana Glacier**	**3.45**	**114**		**Pn**	**20 06 22.6**	**-1.1**
SUCK	**Suckling Hills**	**3.48**	**128**	Pn	**Pn**	**20 06 23.2**	**-0.8**
BC03		**3.52**	**75**		**Pn**	**20 06 24.8**	**+0.4**
BCAR	**Beaver Creek A**	**3.52**	**75**		**Pn**	**20 06 24.2**	**-0.3**
BALM	**Baldy**	**3.53**	**108**		**Pn**	**20 06 24.3**	**-0.5**
KIAG	**Kiagna River**	**3.57**	**110**		**Pn**	**20 06 24.8**	**-0.6**
K27K	**Chicken**	**3.67**	**59**		**Pn**	**20 06 27.5**	**+0.9**
ISLE	**Juniper Island**	**3.74**	**115**	Pn	**Pn**	**20 06 26.6**	**-1.0**
BARK	**Barkley Ridge**	**3.78**	**118**		**Pn**	**20 06 27.6**	**-0.5**
BARN	**Barnard Glacie**	**3.83**	**106**		**Pn**	**20 06 29.1**	**+0.2**
GRNC	**Granite Creek**	**3.92**	**111**		**Pn**	**20 06 29.8**	**-0.5**
CTGM	**Chitina Glacie**	**4.01**	**106**	Pn	**Pn**	**20 06 31.6**	**+0.2**
YAH	**Yahtse**	**4.11**	**115**	Pn	**Pn**	**20 06 32.4**	**-0.5**
MESA	**MESA**	**4.13**	**118**	Pn	**Pn**	**20 06 32.2**	**-0.8**
IM03		**4.17**	**334**		**Pn**	**20 06 33.5**	**+0.2**
IMAR	**Indian Mountai**	**4.17**	**334**		**Pn**	**20 06 33.7**	**+0.3**
TABL	**Table Mountain**	**4.33**	**112**	Pn	**Pn**	**20 06 35.9**	**0.0**
EGAK	**Eagle**	**4.37**	**52**		**Pn**	**20 06 36.8**	**+0.6**
FYU	**Fort Yukon**	**4.60**	**20**		**Pn**	**20 06 40.5**	**+1.3**
KDAK	**Kodiak Island**	**4.86**	**202**	Pn	**Pn**	**20 06 41.0**	**-1.8**
PCA	**Pinnacle**	**4.88**	**113**	Pn	**Pn**	**20 06 43.8**	**+0.5**
COLD	**Coldfoot**	**4.94**	**356**	S	**Sn**	**20 07 38.5**	**-1.3**
	baz=175						
COLD	**Coldfoot**	**4.94**	**356**		**Pn**	**20 06 45.2**	**+1.2**
BM03	**Burnt Mountain**	**5.48**	**19**		**Pn**	**20 06 52.4**	**+1.0**
BMAR	**Burnt Mountain**	**5.49**	**19**		**Pn**	**20 06 51.8**	**+0.1**
OHAK	**Old Harbor**	**5.51**	**204**	Pn	**Pn**	**20 06 50.3**	**-1.5**
HYT	**Haines Junctio**	**5.80**	**100**	Pn	**Pn**	**20 06 56.6**	**+0.6**
TOLK	**Toolik Lake Re**	**6.34**	**359**	S	**Sn**	**20 08 13.1**	**-1.2**
	baz=178						
TOLK	**Toolik Lake Re**	**6.34**	**359**	Pn	**Pn**	**20 07 03.0**	**-0.3**
EPYK	**Eagle Plains**	**6.78**	**48**	Pn	**Pn**	**20 07 10.0**	**+0.8**
WHY	**Whitehorse**	**7.07**	**97**	Pn	**Pn**	**20 07 12.3**	**-1.0**
SKAG	**Skagway**	**7.37**	**107**	Pn	**Pn**	**20 07 15.7**	**-1.6**
SIT	**Sitka**	**8.79**	**121**	Pn	**Pn**	**20 07 35.8**	**-0.9**
TNA	**Tin City**	**8.83**	**300**	Pn	**Pn**	**20 07 36.0**	**-1.2**

IDC ***28*** *20:05:54.1±2.7, 1°.13N×97°.24E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.4/35, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=80.3km s-min=28.4km az=57.0*
NEIC ***28*** *20:05:58.8±1.7, 1°.15N±0°.09×97°.07E±0°.07, h33km±8km, mb4.1/5, Error ellipse: s-maj=13.5km s-min=9.6km az=204.0*

ISC 28 20:05:58.6±1.1, 1°.2N±0°.1×97°.07E±0°.10, h35km, n30, σ1§18/25, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.53**	**73**		**Pn**	**20 06 07.9**	**-1.8**
GSI					**Sn**	**20 06 17.8**	**+0.4**
RPSI	**Rantau Prapat**	**2.41**	**50**		**Pn**	**20 06 36.2**	**+0.7**
RPSI	**Rantau Prapat**	**2.41**	**50**		**Pn**	**20 06 36.0**	**+0.5**
PSI	**Prapat**	**2.47**	**48**	Pn	**Pn**	**20 06 36.0**	**-0.6**
	1.7nm,0.3s,baz=180,slow=22,SNR=7.2						
LHMI	**Lhok Sumawe**	**4.05**	**358**	Pn	**Pn**	**20 06 55.2**	**-3.0**
IPM	**Ipoh**	**5.15**	**50**		**Pn**	**20 07 13.9**	**+0.6**
KULM	**Kulim**	**5.45**	**41**		**Pn**	**20 07 16.9**	**-0.4**
MNAI	**Manna**	**8.03**	**133**	Pn	**Pn**	**20 07 52.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.30**	**6**	P	**Pn**	**20 09 55.4**	**-2.1**
	0.1nm,0.3s,baz=201,slow=11,SNR=5.8						
SHL	**Shillong**	**24.79**	**349**	*e*P	**P**	**20 11 18.1**	**+0.5**
SHL	**Shillong**	**24.79**	**349**	P	**P**	**20 11 17.6**	**+0.1**
H08S2	**Diego Garcia H**	**26.02**	**250**	T	T	20 38 16.3	
	baz=71,slow=75,SNR=185						
H08S3	**Diego Garcia H**	**26.03**	**250**	T	T	20 38 28.8	
	baz=71,slow=75,SNR=918						
H08S1	**Diego Carcia H**	**26.04**	**250**	T	T	20 38 28.1	
	baz=71,slow=75,SNR=81						
LKP	**Lekhapani**	**26.06**	**358**	*e*P	**P**	**20 11 29.7**	**+0.8**
H01W3	**Cape Leeuwin H**	**39.25**	**158**	T	T	20 54 54.7	
	baz=333,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**39.26**	**158**	T	T	20 54 58.4	
	baz=333,slow=76,SNR=23						
H01W1	**Cape Leeuwin H**	**39.26**	**158**	T	T	20 54 57.8	
	baz=333,slow=76,SNR=23						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**20 13 46.8**	**-1.0**
	0.4nm,0.6s,baz=301,slow=9.0,SNR=5.5						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**20 13 46.5**	**-1.4**
BTK	**Batken**	**45.49**	**332**	P	**P**	**20 14 15.4**	**+0.7**
BTK				IAmb	IAmb	20 14 31.0	
	comp=Z,3.7nm,1.4s						
KSAR	**Wonju Array Be**	**45.93**	**35**	P	**P**	**20 14 18.5**	**+0.3**
KSRS	**Korea Array**	**45.96**	**35**	P	**P**	**20 14 18.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=212,slow=6.9,SNR=6.1						
MK31	**Makanchi Array**	**47.26**	**346**	P	**P**	**20 14 27.3**	**-1.1**
MK31				IAmb	IAmb	20 14 36.6	
	comp=Z,3.3nm,1.3s						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**20 14 29.6**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=162,slow=9.7,SNR=9.3						
KKAR	**Karatay Array**	**48.04**	**334**	P	**P**	**20 14 35.2**	**+0.6**
ZALV	**Zalesovo Beam**	**53.59**	**351**	P	**P**	**20 15 17.2**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=164,slow=6.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**53.59**	**351**	P	**P**	**20 15 17.1**	**+1.0**
ABKAR	**Akbulak array**	**57.50**	**332**	P	**P**	**20 15 45.3**	**+1.0**
ABKAR	**Akbulak array**	**57.50**	**332**	P	**P**	**20 15 45.2**	**+0.9**
ABKAR				IAmb	IAmb	20 15 46.2	
	comp=Z,1.5nm,0.9s						

IDC ***28*** *20:20:34.5±1.2, 13°.40N×87°.10W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/32, mbtmp3.5/5, ML3.3/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/25, Error ellipse: s-maj=60.2km s-min=15.8km az=48.0*
INET ***28*** *20:20:43.2, 12°.81N×88°.06W, h15km, ML4.0*
SNET ***28*** *20:20:43.1±0.8, 12°.70N×88°.16W, h43km±17km, ML4.0*
NEIC ***28*** *20:20:44.3±1.6, 12°.92N±0°.07×88°.02W±0°.03, h59km±7km, mb4.1/8, Md4.0(SNET), Error ellipse: s-maj=10.8km s-min=4.3km az=193.0*
UCR ***28*** *20:20:44.1±1.5, 12°.81N×88°.14W, h54km±15km, MD3.5, ML3.9, mb4.1(NEIC)*

ISC 28 20:20:44.0±0.9, 12°.85N±0°.06×88°.08W±0°.04, h59km±7km, n68, σ1§40/82, mb4.0/8, 8D, Off coast of central America

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S39A				IAmb	IAmb	20 26 03.0		
	comp=Z,4.2nm,0.8s							
PDAR	**Pinedale Array**	**35.13**	**332**	P	**P**	**20 27 30.4**	**-1.8**	
	comp=Z,0.3nm,0.6s,baz=129,slow=8.2,SNR=3.9							
PDAR	**Pinedale Array**	**35.13**	**332**	P	**P**	**20 27 30.0**	**-2.2**	
HWUT	**Hardware Ranch**	**35.22**	**329**	P	**P**	**20 27 33.0**	**+0.1**	
HWUT				IAmb	IAmb	20 27 33.0		
	comp=Z,2.1nm,0.6s							
NVAR	**Mina Array Bea**	**37.00**	**319**	P	**P**	**20 27 48.0**	**-0.2**	
	comp=Z,0.3nm,0.6s,baz=132,slow=6.6,SNR=2.7							
NVAR				PcP	**PcP**	**20 30 06.6**	**-1.7**	
	comp=Z,0.3nm,0.6s,baz=142,slow=3.1,SNR=3.8							
MCMT	**McKenzie Canyo**	**38.24**	**331**	P	**P**	**20 27 58.7**	**0.0**	
WRA	**Warramunga Arr**	**138.79**	**254**	PKP	**PKiKP**	**20 40 05.3**	**-1.3**	
	comp=Z,0.3nm,0.7s,baz=97,slow=2.1,SNR=7.1							
CMAR	**Chiang Mai Arr**	**148.13**	**347**	PKPbc	**PKPdf**	**20 40 21.0**	**+0.2**	
	comp=Z,0.3nm,0.6s,baz=357,slow=3.6,SNR=2.0							

*SNET **28** 20:40:03.1±1.4, 12.51N×87.97W, h46km±36km, ML3.3*
*INET **28** 20:40:04.8, 12.51N×87.80W, h15km, ML3.8*
*UCR **28** 20:40:04.2±1.6, 12.58N×87.97W, h48km±29km, ML3.3, MW3.6*

ISC 28 20:40:04.3±1.6, 12.57N±0.10×87.93W±0.07, h51km±24km, n22, σ0.69/30, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.54**	**42**	*e*P	**Pn**	**20 40 15.6**	**-0.6**
CSGN				*e*S	**Sn**	**20 40 26.3**	**+1.5**
CSGN	**Cosiguina Volc**	**0.54**	**42**	*e*P	**Pn**	**20 40 15.6**	**-0.6**
CSGN				*e*S	**Sn**	**20 40 26.3**	**+1.5**
CNCH	**Conchagua**	**0.70**	**8**	*e*P	**Pn**	**20 40 18.0**	**-0.3**
CNCH	**Conchagua**	**0.70**	**8**	*e*P	**Pn**	**20 40 18.0**	**-0.3**
LCND	**La Caada**	**0.73**	**3**	*e*P	**Pn**	**20 40 18.4**	**-0.2**
LCND				*e*S	**Sn**	**20 40 29.6**	**+0.7**
JUCU	**Jucuarn**	**0.74**	**335**	*e*P	**Pn**	**20 40 17.8**	**-0.9**
JUCU				*e*S	**Sn**	**20 40 28.6**	**-0.7**
JUCU				IAML		20 40 32.2	
	comp=Z,2μm,0.3s						
JUCU	**Jucuarn**	**0.74**	**335**	*e*P	**Pn**	**20 40 17.8**	**-0.9**
JUCU				*e*S	**Sn**	**20 40 28.6**	**-0.7**
JUCU				IAML		20 40 32.2	
	comp=Z,2μm,0.3s						
VSM	**San Miguel**	**0.91**	**339**	*e*P	**Pn**	**20 40 21.2**	**+0.1**
VSM	**San Miguel**	**0.91**	**339**	*e*P	**Pn**	**20 40 21.2**	**+0.1**
BLLM	**Bellamira**	**0.91**	**341**	*e*P	**Pn**	**20 40 20.6**	**-0.4**
BLLM	**Bellamira**	**0.91**	**341**	*e*P	**Pn**	**20 40 20.6**	**-0.4**
PACA	**Pacayal**	**0.97**	**337**	*e*P	**Pn**	**20 40 21.6**	**-0.1**
PACA				*e*S	**Sn**	**20 40 34.9**	**+0.2**
PACA				IAML		20 40 42.3	
	comp=Z,339nm,0.1s						
PACA	**Pacayal**	**0.97**	**337**	*e*P	**Pn**	**20 40 21.6**	**-0.1**
PACA				*e*S	**Sn**	**20 40 34.9**	**+0.2**
PACA				IAML		20 40 42.3	
	comp=Z,339nm,0.1s						
TECA	**Tecapa**	**1.07**	**329**	*e*P	**Pn**	**20 40 23.3**	**+0.1**
TECA	**Tecapa**	**1.07**	**329**	*e*P	**Pn**	**20 40 23.3**	**+0.1**
CNGN	**Cerro Negro**	**1.21**	**93**	*e*P	**Pn**	**20 40 23.9**	**-1.0**
CNGN	**Cerro Negro**	**1.21**	**93**	*e*P	**Pn**	**20 40 23.9**	**-1.0**
CNGN				*e*S	**Sn**	**20 40 39.5**	**-0.7**
LFRS	**El Faro**	**1.52**	**314**	*e*P	**Pn**	**20 40 28.9**	**-0.2**
LFRS	**El Faro**	**1.52**	**314**	*e*P	**Pn**	**20 40 28.9**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.61**	**23**	*i*P	**Pn**	**20 40 30.3**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.61**	**23**	*i*P	**Pn**	**20 40 30.3**	**-0.1**
GUAI	**GUAI**	**3.30**	**134**	*i* P	**Pn**	**20 40 54.3**	**+0.9**

*SOME **28** 20:57:09.2, 48.75N×83.55E, h0km*
*NNC **28** 20:57:10.7±4.0, 48.58N×84.55E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=38.6km s-min=17.1km az=71.0*

ISC 28 20:57:07.1±1.7, 48.84N±0.09×83.8E±0.1, h10km, n5, σ0.42/8, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.57**	**152**	*e*P	**Pb**	**20 57 36.1**	**0.0**
	13nm,0.3s						
ZSN				*e*S	**Sg**	**20 57 57.9**	**+0.4**
	54nm,0.6s						
MK31	**Makanchi Array**	**2.28**	**207**	Pn	**Pg**	**20 57 50.5**	**-0.2**
	0.6nm,0.3s,baz=35,slow=17,SNR=37						
MK31				Lg	Lg	20 58 26.8	
	1.9nm,0.3s,baz=46,slow=24,SNR=8.2						
MAKZ	**Makanchi**	**2.37**	**212**	Pn	**Pg**	**20 57 52.2**	**-0.2**
	1.9nm,0.7s						
MAKZ				Lg	Lg	20 58 28.8	
	2.0nm,0.3s						
KURK	**Kurchatov**	**3.84**	**301**	Pn	**Pg**	**20 58 20.0**	**-0.5**
	1.0nm,0.6s						
KURK				Sn	**Sg**	**20 59 10.6**	**+0.4**
	4.8nm,0.6s						
KURBB	**Kurchatov Arra**	**3.85**	**300**	Pn	**Pg**	**20 58 20.7**	**0.0**
	1.0nm,0.4s						
KURBB				Sn	**Sg**	**20 59 10.9**	**+0.4**
	18nm,0.7s						

IDC 28 20:57:08.2±4.0, 5.32S×152.27E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/33, mbtmp3.3/2, Error ellipse: s-maj=182.4km s-min=48.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.70**	**229**	P	P	21 02 11.4	-0.4
	0.4nm,0.6s,baz=52,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**25.41**	**222**	P	P	21 02 37.8	0.0
	0.6nm,0.7s,baz=58,slow=8.7,SNR=8.2						
TORD	**Torodi Ar. Bea**	**149.96**	**287**	PKPbc	PKPbc	21 17 01.6	-0.2
	0.2nm,0.3s,baz=77,slow=2.7,SNR=6.6						

SKO 28 21:23:58.6, 41.14N×22.52E, h14km, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.18**	**12**	*i*Pg	Pg	21 24 02.6	-0.3
VAY				*i* Sg	Sb	21 24 08.0	+0.8
VAY				*e*Lg	Lg	21 24 08.3	
	comp=E,11nm,0.6s						
VAY	**Valandovo**	**0.18**	**12**	*i*Pg	Pg	21 24 02.6	-0.3
VAY				*i* Sg	Sb	21 24 08.0	+0.8
VAY				*e*Lg	Lg	21 24 08.3	
	comp=N,8.6nm,0.3s						
STIP	**Stip**	**0.61**	**336**	*i* Pg	Pg	21 24 10.7	+0.1
STIP				*i* Sg	Sb	21 24 20.5	+1.1
STIP				*e*Lg	Lg	21 24 20.6	
	comp=E,1.2nm,0.3s						
STIP	**Stip**	**0.61**	**336**	*i* Pg	Pg	21 24 10.7	+0.2
STIP				*i* Sg	Sb	21 24 19.9	+0.5
STIP				*e*Lg	Lg	21 24 20.8	
	comp=N,0.8nm,0.2s						

IDC 28 21:24:40.7±2.3, 2.77S×141.66E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=37.3km s-min=15.8km az=29.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.98**	**285**	Pg	Pg	21 24 59.0	-0.6
	15nm,0.3s,baz=123,slow=5.5,SNR=68						
JAY				Lg	Lg	21 25 13.8	
	17nm,0.3s,baz=250,slow=21,SNR=8.9						
WRA	**Warramunga Arr**	**18.51**	**202**	P	P	21 28 58.7	0.0
	0.1nm,0.3s,baz=20,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**22.09**	**199**	P	P	21 29 37.7	+0.1
	0.4nm,0.8s,baz=29,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**71.65**	**321**	P	P	21 36 04.5	+0.2
	0.4nm,0.7s,baz=107,slow=7.7,SNR=2.6						

NNC 28 21:49:25.3±3.8, 37.02N×70.53E, h215km±62km, mb2.5, mpv3.6, 4C-4D, Error ellipse: s-maj=37.3km s-min=23.5km az=27.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.08**	**360**	P	Pn	21 50 53.6	-0.1
	7.2nm,0.6s,baz=193,slow=18,SNR=53						
KK31				S	S	21 52 04.4	+0.5
	2.8nm,0.7s,baz=185,slow=24,SNR=8.1						
AAK	**Ala-Archa**	**6.39**	**27**	P	Pn	21 50 57.9	0.0
	1.9nm,0.6s						
AAK				S	S	21 52 13.0	+1.7
	4.9nm,0.6s						
TKM2	**Tokmak 2**	**7.07**	**32**	P	Pn	21 51 06.0	-0.7
	2.5nm,1.0s						
TKM2				S	S	21 52 26.9	-0.3
	2.7nm,0.8s						
AB31	**Akbulak array**	**14.45**	**331**	P	P	21 52 41.8	+0.9
	0.5nm,0.5s,baz=167,slow=12,SNR=24						
AB31				S	S	21 55 19.6	-0.2
	0.7nm,0.7s						

TAP 28 21:56:07.8, 24.13N×121.67E, h8km, ML1.9, 2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.08**	**304**	P	Pg	21 56 10.6	+0.7
	baz=303						
NACB				S	Sg	21 56 12.4	+1.0
	baz=303						
TWD	**Chiawan**	**0.08**	**231**	*i*P	Pg	21 56 10.4	+0.5
	baz=227						
TWD				*i* S	Sg	21 56 12.1	+0.7
	baz=227						
HWA	**Hwalien**	**0.16**	**200**	*e*P	Pg	21 56 11.6	+0.3
	baz=196						
HWA				*e*S	Sg	21 56 15.2	+1.7
	baz=196						
ETLH	**Xiulin Townshi**	**0.18**	**294**	P	Pg	21 56 12.6	+0.9
	baz=294						
ETLH				S	Sg	21 56 15.9	+1.6
	baz=294						
ENAH	**Nanao**	**0.34**	**23**	P	Pb	21 56 15.8	-0.3
	baz=22						
ENAH				S	Sg	21 56 20.5	+1.3
	baz=22						
WHF	**Hehuan Shan**	**0.37**	**272**	P	Pg	21 56 16.0	+0.8
	baz=271						
WHF				S	Sb	21 56 21.9	-0.9
	baz=271						
ESL	**Shilin**	**0.38**	**214**	*i* S	Sb	21 56 21.9	-0.9
	baz=212						
NNSB	**Datong**	**0.39**	**319**	P	Pb	21 56 16.6	-0.5
	baz=319						
NNSB				S	Sb	21 56 22.4	-0.9
	baz=319						
NNSH	**Datong**	**0.39**	**319**	*e*P	Pb	21 56 16.6	-0.5
	baz=319						
NNSH				*e*S	Sb	21 56 22.4	-0.9
	baz=319						
FUSS	**Fushou**	**0.40**	**287**	P	Pb	21 56 16.9	-0.4
	baz=286						
FUSS				*e*S	Sb	21 56 23.3	-0.4
	baz=286						
NNS	**Nan Shan**	**0.41**	**319**	*i* P	Pb	21 56 16.9	-0.4
	baz=319						
NNS				*i* S	Sb	21 56 22.9	-0.8
	baz=319						
CHGB	**Renai**	**0.45**	**261**	P	Pb	21 56 17.6	-0.6
	baz=261						
CHGB				S	Sb	21 56 25.0	-0.2
	baz=261						
TWT	**Tachien**	**0.46**	**285**	P	Pb	21 56 18.3	0.0
	baz=284						
TWT				*e*S	Sb	21 56 25.6	+0.2
	baz=284						
TDCB	**Techi**	**0.48**	**285**	*e*P	Pb	21 56 18.9	+0.3
	baz=284						
TDCB				*e*S	Sb	21 56 26.0	+0.1
	baz=284						
NDT	**Datong Townshi**	**0.49**	**344**	*i* P	Pb	21 56 18.3	-0.4
	baz=343						
NDT				*i* S	Sb	21 56 25.6	-0.4
	baz=343						
TWC	**Suao**	**0.51**	**19**	P	Pb	21 56 19.1	+0.2
	baz=20						
TWC				S	Sb	21 56 26.8	+0.4
	baz=20						
EGFH	**Guangfu**	**0.51**	**205**	*e*P	Pg	21 56 17.9	+0.2
	baz=205						
EGFH				*e*S	Sb	21 56 26.8	+0.3
	baz=205						
ENTT	**Nioudou**	**0.52**	**350**	*i* P	Pb	21 56 18.8	-0.4
	baz=350						
ENTT				*i* S	Sb	21 56 26.9	+0.2
	baz=350						
TWE	**Neicheng**	**0.59**	**0**	*i* P	Pb	21 56 20.1	-0.2
	baz=1.0						
TWE				*i* S	Sb	21 56 29.1	+0.3
	baz=1.0						
YHNB	**Yeheng**	**0.60**	**334**	P	Pb	21 56 20.7	+0.1
	baz=333						
YHNB				*e*S	Sb	21 56 30.1	+0.9
	baz=333						
VWDT	**VWDT**	**0.61**	**232**	P	Pb	21 56 21.0	+0.3
	baz=231						
VWDT				S	Sb	21 56 30.0	+0.6
	baz=231						
NSK	**Sanguang**	**0.61**	**333**	*i* P	Pb	21 56 20.6	-0.2
	baz=333						
ILA	**Ilan**	**0.64**	**7**	P	Pb	21 56 21.1	-0.1
	baz=7.0						
ILA				S	Sb	21 56 30.6	+0.4
	baz=7.0						
NWLT	**Wulai**	**0.66**	**347**	*e*P	Pb	21 56 21.9	+0.3
	baz=347						
NWLT				*e*S	Sb	21 56 30.7	-0.3
	baz=347						
HGSD	**Ruisui**	**0.67**	**199**	*e*P	Pb	21 56 22.2	+0.4
	baz=199						
HGSD				*e*S	Sb	21 56 32.2	+0.9
	baz=199						
WHP	**Taichung City**	**0.67**	**283**	*e*P	Pb	21 56 22.4	+0.6
	baz=282						
WHP				S	Sb	21 56 32.4	+1.1
	baz=282						
DPDB	**Guoxing**	**0.68**	**262**	*e*P	Pb	21 56 22.3	+0.3
	baz=261						
DPDB				*e*S	Sb	21 56 32.3	+0.7
	baz=261						
SSLB	**Suanglung**	**0.73**	**242**	P	Pb	21 56 22.7	-0.2
	baz=242						
SSLB				S	Sb	21 56 33.8	+0.7
	baz=242						
NTC	**Toucheng**	**0.74**	**12**	P	Pb	21 56 23.1	+0.2
	baz=11						
NTC				*e*S	Sb	21 56 33.5	+0.4
	baz=11						
SMLT	**Sun Moon Lake**	**0.74**	**251**	P	Pb	21 56 22.7	-0.4
	baz=250						
SMLT				S	Sb	21 56 33.2	-0.2
	baz=250						
TYC	**Yuchr**	**0.77**	**253**	*e*P	Pb	21 56 23.4	-0.1
	baz=252						
TYC				*e*S	Sb	21 56 34.9	+0.7
	baz=252						
NSTT	**Nanjuang**	**0.78**	**310**	P	Pg	21 56 23.1	+0.1
	baz=309						
NSTT				*e*S	Sb	21 56 34.4	-0.1
	baz=309						
YULB	**Yu-li**	**0.81**	**205**	*e*P	Pb	21 56 24.1	0.0
	baz=204						
YULB				*e*S	Sb	21 56 36.1	+0.9
	baz=204						
EYUL	**Yuli**	**0.84**	**202**	*e*S	Sb	21 56 37.1	+0.9
	baz=202						
TWQ1	**Liyutan**	**0.84**	**285**	*e*S	Sb	21 56 37.2	+1.0
	baz=284						
TWF1	**Yuli**	**0.84**	**204**	*e*P	Pb	21 56 24.8	0.0
	baz=202						
TWF1				S	Sb	21 56 36.8	+0.6
	baz=202						
TIPB	**Shuangxi**	**0.85**	**10**	P	Pb	21 56 24.9	0.0
	baz=9.0						
TIPB				*e*S	Sb	21 56 36.0	-0.5
	baz=9.0						
NSY	**Sanyi**	**0.87**	**289**	*e*S	Sb	21 56 37.4	+0.4
	baz=289						
TWS1	**Kuangyinshan**	**0.99**	**347**	*e*P	Pb	21 56 27.6	+0.3
	baz=347						
TWS1				*e*S	Sn	21 56 41.6	-0.6
	baz=347						
ALS	**Alishan**	**1.00**	**232**	P	Pn	21 56 28.2	-0.2
	baz=231						
ALS				*e*S	Sn	21 56 42.0	-0.9
	baz=231						
ANP	**Anpu**	**1.06**	**353**	*e*P	Pn	21 56 29.1	+0.1
	baz=353						

TAP 28 21:56:17.3, 24.14N×121.68E, h8km, ML1.9, 2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.08**	**292**	P	Pg	21 56 20.3	+0.9
	baz=291						
NACB				S	Sg	21 56 22.1	+1.2
	baz=291						
TWD	**Chiawan**	**0.10**	**231**	*i*P	Pg	21 56 20.1	+0.5
	baz=227						
TWD				*i* S	Sg	21 56 21.8	+0.6
	baz=227						
HWA	**Hwalien**	**0.18**	**203**	P	Pg	21 56 22.1	+1.2
	baz=199						
HWA				S	Sg	21 56 25.1	+1.7
	baz=199						
ETLH	**Xiulin Townshi**	**0.19**	**289**	*e*P	Pg	21 56 21.9	+0.7
	baz=289						
ETLH				S	Sg	21 56 25.7	+1.8
	baz=289						
ENAH	**Nanao**	**0.33**	**21**	P	Pg	21 56 24.5	+0.8
	baz=21						
ENAH				S	Sb	21 56 30.2	-0.6
	baz=21						
WHF	**Hehuan Shan**	**0.38**	**270**	S	Sb	21 56 31.6	-1.2
	baz=270						
NNSB	**Datong**	**0.39**	**316**	P	Pb	21 56 26.3	-0.3
	baz=316						
NNSB				S	Sb	21 56 32.2	-0.7
	baz=316						
NNSH	**Datong**	**0.39**	**316**	P	Pb	21 56 26.3	-0.3
	baz=316						
NNSH				*e*S	Sb	21 56 32.5	-0.3
	baz=316						
NNS	**Nan Shan**	**0.41**	**317**	*i* P	Pb	21 56 26.3	-0.5
	baz=317						
NNS				*i* S	Sb	21 56 32.7	-0.6
	baz=317						
FUSS	**Fushou**	**0.41**	**285**	P	Pb	21 56 26.8	-0.2
	baz=284						
FUSS				*e*S	Sb	21 56 33.2	-0.4
	baz=284						
CHGB	**Renai**	**0.47**	**260**	*e*S	Sb	21 56 34.6	-0.5
	baz=259						
NDT	**Datong Townshi**	**0.48**	**342**	*e*P	Pb	21 56 27.7	-0.4
	baz=341						
NDT				S	Sb	21 56 34.6	-0.7
	baz=341						
TDCB	**Techi**	**0.49**	**283**	*e*S	Sb	21 56 35.4	-0.3
	baz=282						
TWC	**Suao**	**0.49**	**18**	*e*P	Pb	21 56 28.0	-0.1
	baz=19						
TWC				S	Sb	21 56 35.0	-0.5
	baz=19						
ENTT	**Nioudou**	**0.51**	**348**	S	Sb	21 56 36.2	+0.2
	baz=348						
EGFH	**Guangfu**	**0.53**	**206**	*e*P	Pb	21 56 28.9	+0.1
	baz=206						
EGFH				*e*S	Sb	21 56 37.1	+0.5
	baz=206						
TWE	**Neicheng**	**0.58**	**359**	S	Sb	21 56 38.5	+0.5
NSK	**Sanguang**	**0.61**	**331**	*e*P	Pb	21 56 29.9	-0.4
	baz=331						
NSK				S	Sb	21 56 39.0	0.0
	baz=331						
NSK	**Sanguang**	**0.61**	**331**	S	Pg	21 56 29.9	+0.9
	baz=333						
VWDT	**VWDT**	**0.63**	**232**	*e*S	Sb	21 56 40.2	+0.8
	baz=231						
NWLT	**Wulai**	**0.65**	**346**	*e*S	Sb	21 56 41.2	+1.0
	baz=345						
WHP	**Taichung City**	**0.68**	**281**	*e*S	Sb	21 56 42.2	+1.0
	baz=281						
DPDB	**Guoxing**	**0.70**	**261**	*e*S	Sb	21 56 41.8	+0.2
	baz=260						
NTC	**Toucheng**	**0.72**	**11**	*e*P	Pb	21 56 32.2	+0.1
	baz=10.0						
NTC				*e*S	Sb	21 56 42.9	+0.7
	baz=10.0						
SSLB	**Suanglung**	**0.75**	**242**	*e*S	Sb	21 56 43.4	+0.3
	baz=241						
SMLT	**Sun Moon Lake**	**0.76**	**250**	*e*S	Sn	21 56 45.4	-0.8
	baz=249						

*IDC **28** 21:57:31.6±2.2, 5.07N×126.69E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=164.2km s-min=27.2km az=66.0*
*DJA **28** 21:57:35.6±1.9, 6.1N±17.2E±, h10km, M4.0/5, mb4.1/2, MLv4.0/5*

ISC 28 21:57:32.0±1.4, 5.20N±0.05×127.24E±0.10, h10km, n9, σ1.41/12, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.77**	**301**	*e*P	**Pg**	**21 58 06.7**	**+0.7**
DDMP				*e*S	**Sg**	**21 58 28.5**	**-0.4**
SGSI	**Sangihe**	**2.27**	**229**	P	**Pg**	**21 58 15.3**	**-0.3**
SGSI				S	**Sg**	**21 58 44.9**	**-0.3**
KCP	**Kidapawan**	**2.79**	**310**	*e*P	**Pg**	**21 58 24.2**	**-1.4**
KCP				*i* S	**Sg**	**21 59 00.5**	**-1.4**
SKMP	**Bagumbayan, Su**	**2.99**	**296**	*e*P	**Pb**	**21 58 26.1**	**+0.7**
SKMP				*e*S	**Sn**	**21 58 57.8**	**+2.4**
GTOI	**Gorontalo**	**6.20**	**223**	P	Pn	21 59 08.4	+4.8
	0.0nm13nm,0.5s						
APSI	**Ampana**	**8.25**	**223**	P	**Pn**	**21 59 30.2**	**-1.6**
WRA	**Warramunga Arr**	**25.94**	**165**	P	**P**	**22 03 06.8**	**+2.0**
	2.1nm,0.5s,baz=343,slow=10,SNR=24						
ASAR	**Alice Springs**	**29.42**	**167**	P	**P**	**22 03 36.2**	**+0.3**
	0.1nm,0.6s,baz=353,slow=6.5,SNR=1.9						
MKAR	**Makanchi Array**	**56.66**	**324**	P	**P**	**22 07 15.2**	**-0.3**
	0.2nm,0.4s,baz=109,slow=7.4,SNR=5.0						

*IDC **28** 22:22:44.6±6.8, 23.36S×179.99E, h472km±72km, mb3.5/6, mb1 3.7/7, mb1mx3.3/32, mbtmp4.4/7, Error ellipse: s-maj=46.0km s-min=29.3km az=39.0*
*NEIC **28** 22:22:49.2±1.2, 23.75S±0.2×179.9E±0.1, h529km±15km, mb4.1/18, Error ellipse: s-maj=26.7km s-min=11.1km az=199.0*

ISC 28 22:22:49.4±0.9, 23.68S±0.09×179.9E±0.1, h535km, n32, σ1.13/33, mb4.1/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.17**	**343**	P	**P**	**22 24 28.5**	**-0.7**
DZM	**Mont Dzumac**	**12.54**	**275**	P	**P**	**22 25 33.2**	**-0.6**
URZ	**Urewera**	**14.73**	**189**	P	**P**	**22 25 56.7**	**+0.6**
	1.0nm,0.3s,baz=90,slow=13,SNR=1.7						
URZ				S	**S**	**22 28 26.8**	**-3.4**
	0.3nm,0.3s,baz=315,slow=5.7,SNR=1.4						
URZ	**Urewera**	**14.73**	**189**	P	**P**	**22 25 55.9**	**-0.3**
BKZ	**Black Stump Fm**	**15.71**	**190**	P	**P**	**22 26 04.9**	**-1.5**
LTZ	**Lake Taylor**	**20.08**	**197**	P	**P**	**22 26 46.3**	**-0.6**
WHZ	**Wether Hill Ro**	**24.20**	**201**	P	**P**	**22 27 25.0**	**+1.4**
EIDS	**Eidsvold**	**26.29**	**260**	P	**P**	**22 27 43.5**	**+1.1**
EIDS				IAmb	IAmb	22 27 46.0	
	comp=Z,6.4nm,1.1s						
CTAO	**Charters Tower**	**31.42**	**270**	P	**P**	**22 28 27.7**	**+0.6**
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**22 28 55.7**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=85,slow=9.9,SNR=8.5						
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**22 28 55.7**	**+0.6**
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**22 29 33.5**	**-0.4**
BBOO				IAmb	IAmb	22 29 34.2	
	comp=Z,3.5nm,0.8s						
AS31	**Alice Springs**	**42.02**	**260**	P	**P**	**22 29 53.9**	**-0.3**
ASAR	**Alice Springs**	**42.02**	**260**	P	**P**	**22 29 54.3**	**0.0**
	comp=Z,6.4nm,0.8s,baz=95,slow=8.0,SNR=53						
WR0	**Warramunga Arr**	**42.18**	**266**	P	**P**	**22 29 54.9**	**-0.6**
WR0				IAmb	IAmb	22 29 55.5	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**22 29 56.4**	**-0.7**
	comp=Z,6.6nm,0.5s,baz=92,slow=8.4,SNR=74						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**22 29 56.0**	**-1.1**

	comp=Z,4.5nm,0.8s							
VNDA	**Vanda**	54.59	185	P		P	22 31 28.6	+1.7
	comp=Z,0.5nm,0.9s,baz=6.1,slow=6.0,SNR=3.0							
VNDA	**Vanda**	54.59	185	P		P	22 31 28.6	+1.7
PSA00	**Pilbara Seismi**	55.15	259	P		P	22 31 31.1	-0.7
MORW	**Morawa**	56.90	250	P		P	22 31 43.6	-0.2
MORW				IAmb		IAmb	22 31 53.3	
	comp=Z,9.1nm,1.1s							
QSPA	**South Pole Qui**	66.40	180	P		P	22 32 46.4	+1.2
QSPA				IAmb		IAmb	22 32 47.1	
	comp=Z,2.9nm,0.8s							
BELA	**Belgrano 2**	76.66	173	P		P	22 33 44.8	0.0
PETK	**Petropavlovsk-**	78.87	347	P		P	22 33 55.7	-1.2
	comp=Z,4.0nm,1.0s,baz=134,slow=8.3,SNR=1.8							
GSI	**Gunungsitoli**	83.53	274	P		P	22 34 22.2	+0.4
GSI				IAmb		IAmb	22 34 28.9	
	comp=Z,5.5nm,0.8s							
SNAA	**Sanae**	84.89	179	P		P	22 34 26.6	-0.9
CMAR	**Chiang Mai Arr**	89.40	290	P		P	22 34 51.0	+1.4
	comp=Z,1.4nm,0.3s,baz=149,slow=3.0,SNR=5.8							
AKASG	**Malin Array Be**	144.76	327	PKP		PKPdf	22 41 23.2	-1.9
	comp=Z,1.7nm,0.5s,baz=43,slow=4.0,SNR=7.8							
BRTR	**Keskin Array B**	147.40	307	PKPbc		PKiKP	22 41 36.1	+1.0
	comp=Z,0.9nm,0.6s,baz=89,slow=2.1,SNR=3.3							

IDC ***28*** *22:32:00.3±1.1,53.°92S×133.°50W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/23, mbtmp3.9/5, MS3.9/4, Ms1 3.9/4, ms1mx3.2/28, Error ellipse: s-maj=36.9km s-min=32.0km az=0.0*

ISC 28 22:32:01.9±1.1, 53.°9S±0.°2×133.°5W±0.°2, h10km, n24, σ1§19/8, mb4.0/5, MS3.8/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
QSPA	**South Pole Qui**	36.30	180	P		P	22 39 06.6	+1.3
	0.3nm,0.3s,baz=103,slow=5.3,SNR=1.9							
RPZ	**Rata Peaks**	37.05	263	LR		LR	22 50 22.7	
	comp=Z,62nm,19.2s,baz=122,slow=30							
H03S2	**Juan Fernandez**	42.89	85	T		T	23 26 10.6	
	baz=222,slow=74,SNR=33							
H03S1	**Juan Fernandez**	42.90	85	T		T	23 26 11.9	
	baz=222,slow=74,SNR=29							
H03S3	**Juan Fernandez**	42.91	85	T		T	23 26 11.0	
	baz=222,slow=74,SNR=24							
H03N3	**Juan Fernandez**	43.16	84	T		T	23 26 27.7	
	baz=226,slow=72,SNR=120							
H03N2	**Juan Fernandez**	43.16	84	T		T	23 26 25.5	
	baz=226,slow=72,SNR=184							
H03N1	**Juan Fernandez**	43.18	84	T		T	23 26 27.1	
	baz=226,slow=72,SNR=92							
MAW	**Mawson**	58.23	187	P		P	22 41 54.3	-1.3
	1.6nm,0.7s,baz=217,slow=5.1,SNR=6.2							
LPAZ	**La Paz**	62.48	80	P		P	22 42 25.7	-0.4
	0.7nm,0.5s,baz=224,slow=12,SNR=2.3							
HNR	**Honiara**	68.70	284	LR		LR	23 07 51.1	
	comp=Z,804nm,19.6s,baz=253,slow=31							
ASAR	**Alice Springs**	72.75	254	P		P	22 43 29.4	-0.9
	1.2nm,0.8s,baz=139,slow=5.8,SNR=9.7							
H01W1	**Cape Leeuwin H**	74.13	232	T		T	00 05 11.4	
	baz=145,slow=75,SNR=72							
H01W2	**Cape Leeuwin H**	74.14	232	T		T	00 05 11.0	
	baz=145,slow=75,SNR=82							
H01W3	**Cape Leeuwin H**	74.15	232	T		T	00 05 12.3	
	baz=145,slow=75,SNR=70							
WRA	**Warramunga Arr**	75.42	256	P		P	22 43 45.3	-0.6
	1.3nm,0.8s,baz=140,slow=5.4,SNR=11							
JTS	**Las Juntas de**	75.93	49	LR		LR	23 08 51.2	
	comp=Z,36nm,20.9s,baz=212,slow=29							
FITZ	**Fitzroy Crossi**	81.83	251	LR		LR	23 17 43.8	
	comp=Z,49nm,18.5s,baz=354,slow=34							
H11S2	**WAKE ISLAND Hy**	88.38	305	T		T	00 22 43.4	
	baz=148,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	88.39	305	T		T	00 22 42.0	
	baz=148,slow=76,SNR=8.1							
H11S1	**WAKE ISLAND Hy**	88.39	305	T		T	00 22 53.5	
	baz=148,slow=76,SNR=5.1							
ILAR	**Eielson Array**	118.76	353	PKP		PKiKP	22 50 49.6	+0.9
	0.3nm,0.6s,baz=200,slow=1.8,SNR=2.3							
MKAR	**Makanchi Array**	156.31	267	PKPab		PKPab	22 52 25.3	+1.1
	0.6nm,0.9s,baz=130,slow=4.8,SNR=2.9							
ZALV	**Zalesovo Beam**	157.63	286	PKPab		PKPab	22 52 30.1	+0.6
	0.4nm,0.3s,baz=120,slow=5.2,SNR=3.5							

BJI ***28*** *22:50:31.9±0.0,27.°06N×140.°44E, h474km, mB4.9/42, mb5.0/63*

JMA ***28*** *22:50:34.1±0.3,27.°39N×140.°86E, h485km±4km, M5.0*

IDC ***28*** *22:50:34.9±0.5,27.°21N×140.°27E, h471km±5km, mb4.2/41, mb1 4.3/48, mb1mx4.2/59, mbtmp5.1/48, Error ellipse: s-maj=7.8km s-min=5.7km az=89.0*

NIED ***28*** *22:50:34.1,27.°39N×140.°86E, h485km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr=1.95; Mθθ1.90; Mφφ0.05; Mrθ-0.94; Mrφ-1.04; Mθφ-1.26; Fault plane solution: M₀2.65000×10¹⁶ NP1:φs86.00000°, δ58.00000°, λ-128.00000°. NP2:φs321.00000°, δ48.00000°, λ-46.00000°.*

NEIC ***28*** *22:50:35.4±1.2,27.°21N±0.°08×140.°2E±0.°1, h477km±5km, mb4.6/176 Error ellipse: s-maj=13.6km s-min=11.7km az=89.0*

KEA ***28*** *22:50:35.1±0.0,28.°40N×138.°20E, h11km, mB5.3/2, MS4.4/2*

ISC 28 22:50:34.5±0.4, 27.°24N±0.°04×140.°33E±0.°05, h470km±3km, h471km:pP-P, n541, σ1§19/595, mb4.7/176, 19C-19D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	1.66	95	P		P	22 51 34.6	-0.7
CBIJ				S		S	22 52 22.2	-2.3
JCJ	**Chichijima**	1.66	95	P		P	22 51 35.0	-0.2
JCJ				S		S	22 52 22.1	-2.5
JHH2	**Haha-jima-NKT2**	1.76	110	P		P	22 51 36.1	+0.4
JHH2				S		S	22 52 24.6	-0.7
JAOM	**Aogashimamukai**	5.23	355	P		P	22 52 02.8	+0.8
JHCJ	**Hachijojimakas**	5.83	356	P		P	22 52 07.7	-0.1
JHJ2	**Mitsune**	5.87	356	P		P	22 52 08.3	+0.1
JHJ2	**Mitsune**	5.87	356			P	22 52 08.5	+0.3
JHJ	**Hachijo jima 2**	5.88	356	P		P	22 52 08.4	+0.1
	116nm,0.3s,baz=74,slow=22,SNR=51							
JHJ				S		S	22 53 20.4	-4.6
	81nm,0.3s,baz=252,slow=19,SNR=3.8							
TTO1	**TONANKAI O.B.S**	7.05	335	P		P	22 52 22.7	+2.8
BSO1	**Boso 1**	7.41	4	P		P	22 52 24.4	+1.1
BSO3	**Boso 3**	7.54	1	P		P	22 52 25.4	+0.5
JTNC	**Tanabenakahech**	7.71	329	P		P	22 52 30.0	+2.9
BSO4	**Boso 4**	7.72	0	P		P	22 52 27.4	+0.3
JIE	**Ise**	7.78	337	P		P	22 52 29.4	+1.7
JIE				S		S	22 54 00.2	-0.5
JKN2	**Miekihoku**	7.80	334	P		P	22 52 30.1	+2.1
JKN2				S		S	22 54 04.0	+2.9
JKUC	**kamogawauchiur**	7.89	359	P		P	22 52 29.0	0.0
HMMJ	**Hamamatsu 2**	7.91	344	P		P	22 52 30.0	+0.8
JMZ	**Minamidaito 2**	8.28	262	P		P	22 52 33.4	+0.2
JMN	**Monobe**	8.53	321	P		P	22 52 38.5	+2.7
INU	**Inuyama**	8.56	342	P		P	22 52 37.6	+1.5
JGF	**Kuroka**	8.71	344	P		P	22 52 38.5	+0.8
JRY	**Ryogami san**	8.83	352	P		P	22 52 38.9	-0.1
JNKG	**Nichinankitago**	8.96	302	P		P	22 52 44.2	+3.8
JYT	**Yasato**	8.96	359	P		P	22 52 40.4	+0.1
JWT	**Wachi**	9.05	333	P		P	22 52 43.6	+2.3
JHHC	**Hyugahichiya**	9.15	307	P		P	22 52 45.7	+3.2
JNG	**Nsakai**	9.33	349	P		P	22 52 44.5	+0.1
MJAR	**Matsushiro Arr**	9.44	350	P		P	22 52 45.0	-0.6
	3.5nm,0.3s,baz=170,slow=11,SNR=75							
MJAR				S		S	22 54 33.0	-0.4
	0.5nm,0.3s,baz=174,slow=15,SNR=6.5							
MJAR	**Matsushiro Arr**	9.44	350	P		P	22 52 44.4	-1.1
MAJO	**Matsushiro**	9.45	350	P		P	22 52 45.2	-0.4
MAT	**Matsushiro**	9.45	350	P		P	22 52 45.1	-0.5
MAT				eS		S	22 54 29.2	-4.2
JSU	**Suzuyama**	9.60	299	P		P	22 52 50.2	+2.9
JSU	**Suzuyama**	9.60	299	P		P	22 52 49.7	+2.4
JHS	**Saijyo**	9.89	323	P		P	22 52 53.0	+2.5
JNU	**Nakatsue**	10.05	308	P		P	22 52 54.3	+2.0
	14nm,0.3s,baz=104,slow=3.9,SNR=72							
JNU				S		S	22 54 47.1	+1.5
	baz=211,slow=11,SNR=1.6							
JNU	**Nakatsue**	10.05	308	P		P	22 52 55.0	+2.8
JMM	**Marumori**	10.60	2	P		P	22 52 59.2	+1.2
JSD	**Sado**	10.90	351	P		P	22 53 01.6	+0.4
JTU	**Tsushima**	11.86	310	P		P	22 53 13.3	+1.7
JTM	**Tenmabayashi**	13.53	2	P		P	22 53 30.6	+1.2
GUMO	**Guam**	14.23	162	P		P	22 53 36.4	-0.9
	28nm,0.3s,baz=294,slow=18,SNR=11							
GUMO				S		S	22 56 14.5	+6.4
	2.5nm,0.3s,baz=61,slow=19,SNR=1.6							
GUMO	**Guam**	14.23	162	P		P	22 53 36.6	-0.6
KSRS	**Korea Array**	14.60	317	P		P	22 53 41.0	+0.1
	2.1nm,0.3s,baz=129,slow=11,SNR=43							
KSRS				S		S	22 56 24.6	+10
	baz=144,slow=15,SNR=6.5							
KSAR	**Wonju Array Be**	14.61	317	P		P	22 53 41.5	+0.5
KS19	**Wonju Array Si**	14.66	317	P		P	22 53 41.2	-0.3
ERM	**Erimo**	14.92	8	P		P	22 53 45.3	+1.1
INCN	**Inchon**	15.41	315	P		P	22 53 52.0	+2.4
JEW	**Eniwo**	15.59	3	P		P	22 53 51.3	0.0
YOJ	**Yonaguni jima**	15.83	264	P		P	22 53 53.6	-0.5
HJU	**Haeju**	16.32	315	P		P	22 53 58.0	-1.1
HHU	**Hamhung**	16.52	323	P		P	22 54 01.0	-0.1
HHU				pP			22 54 03.4	
CHJN	**Chongjin**	16.90	332	P		P	22 54 03.5	-1.6
PYAG	**Pyongyang**	16.93	318	P		P	22 54 05.5	+0.1
PYAG				pP			22 54 07.6	
PYAG				S		S	22 57 03.9	+4.8
ASAJ	**Asahikawa**	16.94	6	P		P	22 54 06.5	+1.0
	3.5nm,0.3s,baz=147,slow=14,SNR=12							
JKA	**Kamikawa-asahi**	16.94	6	P		P	22 54 06.2	+0.7
JKA				IAmb		IAmb	22 54 08.8	
	comp=Z,21nm,0.7s							
PYS	**Pyongsong**	17.00	318	P		P	22 54 06.6	+0.4
YHNB	**Yeheng**	17.23	266	P		P	22 54 07.6	-1.3
YULB	**Yu-li**	17.62	262	P		P	22 54 11.7	-1.1
SSLB	**Suanglung**	17.82	263	P		P	22 54 14.5	-0.2
TWG	**Pinlang**	17.99	260	P		P	22 54 14.6	-1.8
USRK	**Ussuriysk Ar.**	18.21	341	P		P	22 54 19.8	+1.7
	baz=162,slow=9.2,SNR=78							
USRK	**Ussuriysk Ar.**	18.21	341	P		P	22 54 19.4	+1.3
USA0B	**Ussuriysk Arra**	18.21	341	P		P	22 54 19.6	+1.5
SUJ	**Sinuiju**	18.35	318	P		P	22 54 20.0	+0.5
MDJ	**Mudanjiang**	19.36	336	P		P	22 54 30.2	+1.5
MDJ				IAmb		IAmb	22 54 34.4	
	comp=Z,25nm,0.7s							
DL2	**Dalian**	19.47	311	P		P	22 54 30.0	+0.2
DL2				sP		sP	22 56 32.0	-0.8
DL2				S		S	22 57 40.5	-1.0
DL2				pmax		pmax		
	comp=Z,100nm,0.6s							
DL2				pmax		pmax		
	comp=Z,160nm,3.6s							
CN2	**Changchun**	20.43	328	*e*P		P	22 54 38.8	+0.3
CN2				pP			22 54 41.0	
CN2				eS		S	22 58 03.8	+6.8
CN2				pmax		pmax		
	comp=Z,20nm,0.7s							
CN2				pmax		pmax		
	comp=Z,220nm,4.1s							
TGY	**Tagaytay City**	22.32	238	P		P	22 54 55.8	-0.2
	comp=Z,138nm,0.4s,baz=121,slow=18,SNR=2.0							
WHN	**Wuhan**	22.96	284	||P	P	22 55 02.0	+0.4
WHN				S		S	22 58 39.8	+2.4
WHN				pmax		pmax		
	comp=Z,110nm,0.8s							
BJT	**Baijiatuan**	23.72	309	P		P	22 55 07.7	-0.6
BJT				IAmb		IAmb	22 55 08.8	
	comp=Z,20nm,0.6s							
BJI	**Beijing**	23.73	309	P		P	22 55 08.0	-0.3
BJI				pmax		pmax		
	comp=Z,25nm,0.6s							
PATS	**Pohnpei**	26.53	137	P		P	22 55 34.0	+0.6
PATS				IAmb		IAmb	22 55 43.1	
	comp=Z,28nm,0.9s							
HIA	**Hailar**	27.12	330	P		P	22 55 38.7	+0.4
HIA				IAmb		IAmb	22 55 40.1	
	comp=Z,20nm,0.8s							
ENH	**Enshi**	27.16	284	P		P	22 55 38.6	-0.3
ENH				IAmb		IAmb	22 55 40.0	
	comp=Z,26nm,0.9s							
HHC	**Hu-ho-hao-te**	27.28	307	*e*P		P	22 55 40.5	+0.5
HHC				pmax		pmax		
	comp=Z,31nm,0.9s							
HHC				pmax		pmax		
	comp=Z,190nm,6.8s							
XAN	**Xi'an**	27.78	292	P		P	22 55 44.3	-0.1
XAN				pmax		pmax		
	comp=Z,24nm,0.6s							
XAN	**Xi'an**	27.78	292	P		P	22 55 43.9	-0.4
PEA0B	**Petropavlovsk-**	28.89	22	P		P	22 55 54.1	+0.4
PETK	**Petropavlovsk-**	28.89	22	P		P	22 55 54.9	+1.1
	comp=Z,4.1nm,0.9s,baz=201,slow=3.9,SNR=5.0							
PETK				PcP		PcP	22 58 48.4	-0.1
	comp=Z,2.3nm,0.8s,baz=157,slow=1.1,SNR=1.7							
TNTI	**Ternate**	29.11	207	P		P	22 55 56.0	-0.1
TNTI				IAmb		IAmb	22 55 59.5	
	comp=Z,24nm,0.9s							
QIZ	**Qiongzhong**	29.14	260	P		P	22 55 57.5	+1.1
QIZ				IAmb		IAmb	22 56 00.8	
	comp=Z,26nm,1.1s							
SIJI	**Sorong**	29.28	199	P		P	22 55 57.2	-0.4
	comp=Z,28nm,0.6s,baz=16,slow=9.3,SNR=12							
GYA	**Guiyang**	29.99	276	||P	P	22 56 03.8	-0.1
GYA				pmax		pmax		
	comp=Z,25nm,0.8s							
FAKI	**Fak Fak**	30.98	196	P		P	22 56 12.0	-0.3
FAKI				IAmb		IAmb	22 56 13.8	
	comp=Z,28nm,0.7s							
GTOI	**Gorontalo**	31.25	215	P		P	22 56 14.7	+0.1
	comp=Z,328nmcomp=Z,35nm,0.8s							
CD2	**Chengdu**	32.08	285	P		P	22 56 21.5	-0.2
CD2				pP		pP	22 57 45.8	+3.0
CD2				pmax		pmax		
	comp=Z,100nm,0.4s							
CD2				pmax		pmax		
	comp=Z,280nm,10.0s							
LZH	**Lanzhou**	32.13	295	*e*P		P	22 56 22.0	-0.2
LZH				pP		pP	22 57 46.3	+2.9
LZH				sP		sP	22 58 41.3	+3.9
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
SANI	**Sanana**	32.23	208	P		P	22 56 21.9	-1.2
	comp=Z,1µmcomp=Z,132nm,0.7s							
MSAI	**Masohi**	32.34	202	P		P	22 56 26.8	+2.8
	comp=Z,35nm,0.5s							
LUWI	**Luwuk**	32.81	214	P		P	22 56 27.5	-0.5
	comp=Z,6µmcomp=Z,73nm,0.6s							
ULN	**Ulaanbaatar**	33.09	317	P		P	22 56 30.4	+0.3
ULN				IAmb		IAmb	22 56 32.2	
	comp=Z,25nm,0.8s							
MPSI	**Mapaga**	33.18	220	P		P	22 56 31.2	+0.1
	comp=Z,974nmcomp=Z,15nm,0.9s							
APSI	**Ampana**	33.26	216	P		P	22 56 32.8	+0.9
	comp=Z,442nmcomp=Z,40nm,0.6s							
SONM	**Songino Array**	33.47	317	P		P	22 56 33.4	+0.1
	comp=Z,17nm,0.5s,baz=123,slow=8.0,SNR=96							
SONM				PcP		PcP	22 59 01.0	-0.2
	comp=Z,3.5nm,0.4s,baz=135,slow=3.0,SNR=9.1							
SONM				ScP		ScP	23 01 59.9	-0.8
	comp=Z,1.2nm,0.6s,baz=92,slow=4.5,SNR=5.2							
SONM	**Songino Array**	33.47	317	P		P	22 56 33.5	+0.1
SLVN	**Son La**	33.63	268	P		P	22 56 34.7	-0.3
SLVN				IAmb		IAmb	22 56 36.2	
	comp=Z,8.9nm,0.8s							
KMI	**Kunming**	33.71	275	P		P	22 56 36.3	+0.4
KMI				IAmb		IAmb	22 56 38.4	
	comp=Z,21nm,0.8s							
UBPT	**Khong Chiam**	34.48	257	P		P	22 56 42.9	+0.8
UBPT				IAmb		IAmb	22 56 44.2	
	comp=Z,13nm,0.6s							
YAK	**Yakutsk**	35.51	351	P		P	22 56 50.3	+0.2
	comp=Z,6.0nm,0.3s,baz=9.9,slow=5.2,SNR=5.5							
YAK	**Yakutsk**	35.51	351	P		P	22 56 50.2	+0.2
YAK				IAmb		IAmb	22 56 51.2	
	comp=Z,32nm,0.9s							
GTA	**Gaotai**	35.68	300	*e*P		P	22 56 51.3	-0.8
GTA				pP		pP	22 58 17.3	+2.4
GTA				PcP		sP	22 59 08.5	0.0
GTA				sP		PcP	22 59 12.8	+4.9
GTA				ScP		ScP	23 02 09.3	+0.5
GTA				pmax		pmax		
	comp=Z,16nm,0.7s							
SBUM	**Sibu**	36.49	232	P		P	22 56 58.5	-0.5
SBUM				IAmb		IAmb	22 57 00.2	
	comp=Z,14nm,1.1s							
SBUM	**Sibu**	36.49	232	P		P	22 57 00.0	+1.0
SEY	**Seymchan**	36.56	9	P		P	22 56 59.8	+0.8
	comp=Z,6.4nm,0.6s,baz=180,slow=8.4,SNR=16							
SEY				PcP		PcP	22 59 09.8	-0.1
	comp=Z,2.8nm,0.7s,baz=260,slow=17,SNR=2.2							
TLY	**Talaya**	36.79	322	P		P	22 57 01.5	+0.5
	comp=Z,16nm,0.6s,baz=227,slow=1.3,SNR=17							
TLY	**Talaya**	36.79	322	P		P	22 57 01.6	+0.6
TLY				IAmb		IAmb	22 57 03.4	
	comp=Z,18nm,0.8s							
SPSI	**Sidrap Palu**	36.83	216	P		P	22 57 02.1	+0.3
	comp=Z,598nmcomp=Z,61nm,0.7s							
BNSI	**Bone**	37.03	215	P		P	22 57 05.1	+1.7
	comp=Z,1µmcomp=Z,38nm,0.7s							
MTKI	**Muara Teweh, K**	37.20	225	P		P	22 57 05.2	+0.3
	comp=Z,76nm,0.8s							
KAPI	**Kappang**	37.73	215	P		P	22 57 09.6	+0.4
	comp=Z,11nm,0.6s,baz=4.3,slow=0.8,SNR=3.7							
KSM	**Kuching**	38.53	233	P		P	22 57 15.6	-0.2
KSM				IAmb		IAmb	22 57 16.7	
	comp=Z,13nm,0.9s							
KSM	**Kuching**	38.53	233	P		P	22 57 16.0	+0.2
CHTO	**Chiang Mai**	38.85	267			P	22 57 18.6	+0.2
CHTO				IAmb		IAmb	22 57 19.5	
	comp=Z,14nm,0.6s							
CM31	**Chiang Mai Arr**	38.98	266	P		P	22 57 19.2	-0.2
CM31				IAmb		IAmb	22 57 21.5	
	comp=Z,13nm,0.6s							
CMAR	**Chiang Mai Arr**	38.98	266	P		P	22 57 19.9	+0.5
	comp=Z,7.1nm,0.5s,baz=70,slow=5.8,SNR=29							
CMAR				PcP		PcP	22 59 19.4	+1.1
	comp=Z,2.5nm,0.6s,baz=65,slow=2.0,SNR=10							
CMAR				ScP		ScP	23 02 21.5	0.0
	comp=Z,1.5nm,0.7s,baz=58,slow=2.8,SNR=10.0							
CMAR	**Chiang Mai Arr**	38.98	266	P		P	22 57 19.1	-0.3
CMAR				ScP		ScP	23 02 21.8	+0.3
MMRI	**Maumere**	39.74	209	P		P	22 57 26.1	+0.6
	comp=Z,6µmcomp=Z,96nm,0.8s							
MMRI	**Maumere**	39.74	209	P		P	22 57 25.1	-0.5
SOEI	**Soe**	39.94	205	P		P	22 57 27.4	+0.1
	comp=Z,51nm,0.6s							
SOEI	**Soe**	39.94	205	P		P	22 57 27.1	-0.2
EDFI	**Ende, Flores**	40.08	209	P		P	22 57 28.2	-0.2
	comp=Z,336nmcomp=Z,47nm,0.8s							
ADK	**Adak**	40.45	41	P		P	22 57 31.6	+0.8
ADK				IAmb		IAmb	22 57 40.5	
	comp=Z,54nm,1.1s							
BATI	**Baumata**	40.58	206	P		P	22 57 31.9	-0.4
	comp=Z,71nm,0.5s,baz=292,slow=1.7,SNR=18							
MTN	**Manton Dam**	40.83	194	P		P	22 57 33.8	-0.5
TWSI	**Taliwang, Sumb**	42.37	216	P		P	22 57 46.5	-0.1
	comp=Z,32nm,0.8s							
LSA	**Lhasa**	43.04	285	P		P	22 57 53.3	+1.0
LSA				pmax		pmax		
	comp=Z,100nm,0.4s							
LSA	**Lhasa**	43.04	285	*i* P		P	22 57 53.6	+1.3
	SNR=14							
LSA	**Lhasa**	43.04	285	P		P	22 57 53.4	+1.0
LSA				IAmb		IAmb	22 57 55.1	
	comp=Z,21nm,0.5s							
MYKOM	**Kota Tinggi**	43.14	240	P		P	22 57 53.0	+0.3
SHL	**Shillong**	43.21	279	P		P	22 57 53.2	-0.1
SHL				IAmb		IAmb	22 57 53.8	
	comp=Z,22nm,0.7s							
KULM	**Kulim**	43.61	247	P		P	22 57 56.5	+0.2
KULM				IAmb		IAmb	22 57 57.5	
	comp=Z,20nm,0.6s							
KULM	**Kulim**	43.61	247	P		P	22 57 57.0	+0.7
JAGI	**Jajag, Banyuwa**	43.63	219	P		P	22 57 56.3	-0.2
	comp=Z,44nm,0.9s							
JAGI	**Jajag, Banyuwa**	43.63	219	P		P	22 57 55.3	-1.1
JAGI				IAmb		IAmb	22 57 56.7	
	comp=Z,29nm,0.8s							
IPM	**Ipoh**	43.76	246	P		P	22 57 57.6	0.0
IPM				IAmb		IAmb	22 57 58.1	
	comp=Z,18nm,0.7s							
IPM	**Ipoh**	43.76	246	P		P	22 57 58.0	+0.4
PPBI	**Pangkal Pinang**	44.04	234	P		P	22 58 00.7	+1.0
	comp=Z,15µmcomp=Z,33nm,1.0s							
KNRA	**Kununurra**	44.11	196	P		P	22 58 00.2	+0.1
PWJI	**Pagerwojo**	44.63	222	P		P	22 58 03.6	-0.7
	comp=Z,36nm,0.9s							
TIXI	**Tiksi**	44.91	355	P		P	22 58 05.8	+0.2
TIXI				IAmb		IAmb	22 58 07.5	
	comp=Z,6.3nm,0.6s							
WMQ	**Urumqi**	45.15	306	P		P	22 58 09.5	+1.5
WMQ				pP		PcP	22 59 39.3	+0.5
WMQ				pmax		pmax		
	comp=Z,81nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,160nm,4.7s							
WMQ	**Urumqi**	45.15	306	P		P	22 58 09.2	+1.2
UGM	**Wanagama**	45.33	224	P		P	22 58 08.7	-1.0
UGM				IAmb		IAmb	22 58 14.6	
	comp=Z,45nm,1.1s							
KPJI	**Karang Pucung**	45.88	226	P		P	22 58 13.5	-0.4
	comp=Z,91nm,0.8s							
PSI	**Prapat**	46.44	246	P		P	22 58 18.5	+0.1
	comp=Z,19nm,0.4s,baz=0.3,sl

comp=Z,22nm,0.4s,baz=88,slow=9.9,SNR=362
MKAR PcP **PcP** **22 59 52.8 -0.1**
comp=Z,6.1nm,0.6s,baz=78,slow=7.0,SNR=4.6
MKAR ScP **ScP** **23 03 01.8 -0.8**
comp=Z,3.3nm,0.4s,baz=80,slow=5.0,SNR=10
MKAR S **S** **23 05 05.1 -2.0**
comp=Z,2.0nm,1.0s,baz=97,slow=15,SNR=4.9
MKAR Makanchi Array 49.10 310 P P **22 58 37.7 -0.2**
MKAR PcP **22 59 52.8 -0.1**
MKAR ScP **23 03 01.9 -0.7**
MAKZ Makanchi 49.32 310 P P **22 58 39.7 +0.2**
MAKZ IAmb IAmb 22 58 42.7
comp=Z,26nm,0.6s
DANN Dangsing 49.65 285 *e*P P **22 58 42.7 +0.2**
comp=Z,102nm,0.4s
KOLN Koldanda 49.92 284 *e*P P **22 58 44.8 +0.4**
comp=Z,60nm,0.7s
PYUN Piuthan 50.37 285 *e*P P **22 58 47.9 +0.2**
comp=Z,254nm,0.4s
AS31 Alice Springs 50.99 188 P P **22 58 51.6 -0.4**
AS31 IAmb IAmb 22 58 53.7
comp=Z,11nm,0.5s
ASAR Alice Springs 50.99 188 P P **22 58 51.4 -0.5**
comp=Z,13nm,0.5s,baz=358,slow=4.9,SNR=158
ASAR PcP **PcP** **23 00 00.8 +0.6**
comp=Z,2.7nm,0.8s,baz=10,slow=4.0,SNR=8.3
ASAR ScP **ScP** **23 03 09.9 -1.0**
comp=Z,1.7nm,0.5s,baz=358,slow=3.7,SNR=9.1
ASAR S **S** **23 05 32.8 -0.4**
comp=Z,1.0nm,0.9s,baz=2.0,slow=14,SNR=6.9
ASAR Alice Springs 50.99 188 P P **22 58 51.2 -0.7**
ASAR PcP **23 00 00.5 +0.3**
ASAR ScP **ScP** **23 03 09.7 -1.2**
SHLS Shalkode 51.13 305 *e*P P **22 58 51.1 -1.9**
comp=Z,31nm,0.5s
UZB Uzynbulak 51.45 305 *e*P P **22 58 55.0 -0.3**
comp=Z,17nm,0.5s
KPKS Kokpek 51.68 305 *e*P P **22 58 56.5 -0.4**
comp=Z,25nm,0.5s
KURK Kurchatov 51.70 314 P P **22 58 56.9 +0.1**
KURBB Kurchatov Arra 51.75 314 P P **22 58 57.2 +0.1**
comp=Z,74nm,0.5s,baz=92,slow=8.1,SNR=289
KURBB S **S** **23 05 41.9 -1.0**
comp=Z,1.6nm,0.6s,baz=89,slow=11,SNR=12
TDK Taldyqorghan 51.81 307 *e*P P **22 58 58.2 +0.4**
comp=Z,34nm,0.5s
SATY Saty 51.91 305 *e*P P **22 58 59.2 +0.6**
comp=Z,16nm,0.6s
NRIK Noril'sk 51.91 339 P P **22 58 58.4 +0.4**
comp=Z,25nm,0.4s,baz=109,slow=8.8,SNR=49
NRIK S **S** **23 05 43.1 -1.3**
comp=Z,2.4nm,0.6s,baz=214,slow=21,SNR=15
CHGN Chignik 51.93 38 P P **22 58 58.3 0.0**
CHGN IAmb IAmb 22 59 16.1
comp=Z,38nm,1.1s
PRZ Przheval'sk 51.95 304 P P **22 59 00.1 +1.1**
PSA00 Pilbara Seismi 52.42 204 P P **22 59 02.2 -0.1**
PSA00 IAmb IAmb 22 59 03.1
comp=Z,19nm,0.5s
KDJ Kajisay 52.88 304 P P **22 59 06.7 +1.0**
KDJ IAmb IAmb 22 59 08.0
comp=Z,25nm,0.8s
MDOK Medeo 52.89 305 *e*P P **22 59 06.1 +0.4**
TNSS Tian-Shan 52.98 305 *e*P P **22 59 07.4 +0.8**
EIDS Eidsvold 53.32 168 P P **22 59 08.8 +0.1**
EIDS IAmb IAmb 22 59 10.0
comp=Z,9.5nm,0.7s
MTBS Maitube 53.35 305 *e*P P **22 59 09.4 +0.5**
KUU Kurty 53.35 306 *e*P P **22 59 08.5 -0.4**
comp=Z,61nm,0.6s
CHIR Chirikof Islan 53.44 39 P P **22 59 09.9 +0.8**
ULHL Ulahol 53.56 304 P P **22 59 11.6 +1.0**
SNR=9.9
BOOM Boomskoye usch 53.76 304 P P **22 59 12.7 +0.7**
TKM2 Tokmak 2 53.97 305 P P **22 59 14.0 +0.5**
SNR=56
SVW2 Sparrevohn 54.06 33 P P **22 59 14.9 +1.4**
KSH Kashi 54.08 301 P P **22 59 16.8 +2.6**
KSH S **S** **23 06 18.5 +4.0**
KSH pmax pmax
comp=Z,55nm,0.6s
KSH pmax pmax
comp=Z,160nm,4.9s
KBK Karagaybulak 54.48 305 P P **22 59 17.4 +0.4**
SNR=45
CHMS Chumysh 54.58 305 P P **22 59 17.8 +0.2**
SNR=16
SGDS Sogindy 54.63 306 *e*P P **22 59 17.7 -0.3**
FRU1 Bishkek 54.69 305 P P **22 59 19.0 +0.6**
FRU1 IAmb IAmb 22 59 19.8
comp=Z,29nm,0.6s
USP Ospenovka 54.74 305 P P **22 59 19.0 +0.3**
SNR=27
AAK Ala-Archa 54.81 305 P P **22 59 19.8 +0.4**
SNR=31
AAK Ala-Archa 54.81 305 *i* P P **22 59 19.8 +0.4**
SNR=37
UCH Uchtor 54.84 304 P P **22 59 20.6 +0.6**
SNR=79
BTLS Baital 54.90 307 *e*P P **22 59 19.5 -0.2**
DZM Mont Dzumac 55.15 150 P P **22 59 22.6 +0.8**
EKS2 Erkin-Say 55.33 305 P P **22 59 23.2 +0.2**
SNR=16
RSO Redoubt South 55.36 34 P P **22 59 22.5 -0.5**
AML Almayashu 55.46 304 P P **22 59 25.1 +0.9**
SNR=62
BRZS Berezniki 55.51 314 *e*P P **22 59 23.9 0.0**
BPAW Bear Paw Mtn. 56.55 29 P P **22 59 32.3 +1.3**
TRF Thorofare Moun 56.80 30 P P **22 59 33.6 +0.8**
BVAR Borovoye Array 56.81 317 P P **22 59 33.3 +0.4**
comp=Z,51nm,0.5s,baz=57,slow=20,SNR=411
BVAR PcP **PcP** **23 00 22.2 -0.1**
comp=Z,7.4nm,0.5s,baz=68,slow=13,SNR=4.1
BVAR S **S** **23 06 48.9 -0.5**
comp=Z,1.7nm,0.7s,baz=195,slow=11,SNR=7.1
BRVK Borovoye 56.88 317 P P **22 59 33.4 +0.1**
DZA Taraz 57.09 305 *e*P P **22 59 35.2 +0.1**
NIL Nilore 57.29 294 P P **22 59 37.1 +0.5**
RND Reindeer 57.44 30 P P **22 59 37.1 0.0**
RND IAmb IAmb 22 59 38.5
comp=Z,13nm,0.6s
KNK Knik Glacier 57.52 33 P P **22 59 38.1 +0.4**
KNK IAmb IAmb 22 59 39.3
comp=Z,15nm,0.7s
KK31 Karatay Array 57.65 306 P P **22 59 38.8 -0.2**
KKAR Karatay Array 57.65 306 P P **22 59 38.5 -0.5**
TOLK Toolik Lake Re 57.68 24 P P **22 59 39.7 +1.0**
MDM Murphy Dome 57.82 28 P P **22 59 40.3 +0.7**
MDM IAmb IAmb 22 59 41.6
comp=Z,6.1nm,0.5s
BTK Batken 57.92 302 P P **22 59 40.9 +0.1**
BTK IAmb IAmb 22 59 43.1
comp=Z,32nm,0.6s
CCB Clear Creek Bu 57.98 29 P P **22 59 40.7 0.0**
IUG Iuzhnay 58.15 304 *e*P P **22 59 42.2 -0.2**
comp=Z,30nm,1.0s
HDA Harding Lake 58.34 29 P P **22 59 43.0 -0.2**
HDA IAmb IAmb 22 59 43.8
comp=Z,8.9nm,0.5s
ARMA Armidale 58.35 169 P P **22 59 44.4 +0.6**
IL31 58.38 29 P P **22 59 43.3 -0.1**
ILAR Eielson Array 58.38 29 P P **22 59 43.2 -0.2**
comp=Z,3.3nm,0.5s,baz=248,slow=5.8,SNR=46
ILAR pP **pP** **23 01 18.2 +1.2**
comp=Z,1.0nm,0.7s,baz=264,slow=6.3,SNR=3.1
GAR Garm 58.50 301 P P **22 59 45.0 +0.1**
KLU Klutina 58.73 33 P P **22 59 46.7 +0.7**
KLU IAmb IAmb 22 59 47.7
comp=Z,9.4nm,0.6s
STKA Stephens Creek 58.80 179 P P **22 59 45.9 -0.8**
comp=Z,7.6nm,0.5s,baz=348,slow=7.0,SNR=22
STKA Stephens Creek 58.80 179 P P **22 59 46.5 -0.2**
FORT Forrest 58.87 192 P P **22 59 47.1 0.0**
PAX Paxson 58.95 31 P P **22 59 48.4 +0.9**
FYU Fort Yukon 59.15 27 P P **22 59 50.0 +1.5**
FYU IAmb IAmb 22 59 51.8
comp=Z,14nm,1.2s
BMAR Burnt Mountain 59.44 26 P P **22 59 51.8 +1.2**
CHGR Chuyangaron 59.45 301 P P **22 59 51.5 +0.2**
DOT Dot Lake 59.59 30 P P **22 59 52.1 +0.4**
DOT IAmb IAmb 22 59 53.3
comp=Z,9.0nm,0.7s
GLB Gilahina Butte 59.75 33 P P **22 59 53.6 +0.8**
BBOO Buckleboo 59.86 184 P P **22 59 53.8 +0.1**
BBOO IAmb IAmb 22 59 57.0

comp=Z,11nm,0.9s
VRDI Verde Repeater 59.93 33 P P **22 59 54.4 +0.3**
CRQM Cirque 60.10 33 P P **22 59 56.2 +0.8**
K27K Chicken 60.46 30 P P **22 59 58.3 +0.9**
KBL Kabul 60.47 296 P P **22 59 58.4 +0.1**
BALM Baldy 60.48 33 P P **22 59 58.2 +0.5**
BCAR Beaver Creek A 60.63 31 P P **22 59 59.4 +0.8**
EGAK Eagle 60.83 29 P P **23 00 00.1 +0.3**
HYT Haines Junctio 62.85 33 P P **23 00 14.6 +1.4**
ARU Arti 63.29 322 P P **23 00 15.9 -0.1**
INK Inuvik 63.58 24 P P **23 00 17.7 0.0**
comp=Z,3.9nm,0.4s,baz=292,slow=6.4,SNR=28
INK Inuvik 63.58 24 P P **23 00 18.0 +0.3**
NWAO Narrogin (SRO) 63.74 202 P P **23 00 19.2 0.0**
NWAO IAmb IAmb 23 00 20.3
comp=Z,20nm,0.8s
ABKAR Akbulak array 63.80 314 P P **23 00 19.2 -0.3**
ABKAR Akbulak array 63.80 314 P P **23 00 18.9 -0.5**
WHY Whitehorse 64.15 33 P P **23 00 22.8 +1.1**
TOO Toolangi 64.65 175 P P **23 00 25.5 +0.5**
TOO IAmb IAmb 23 00 26.9
comp=Z,32nm,1.1s
HRA Herat 65.92 298 P P **23 00 33.5 +0.1**
HRA IAmb IAmb 23 00 36.1
comp=Z,27nm,0.8s
C36M Paulatuk 66.74 23 P P **23 00 38.0 +0.4**
C36M IAmb IAmb 23 00 39.0
comp=Z,15nm,1.1s
DLBC Dease Lake 67.04 35 P P **23 00 41.2 +1.5**
comp=Z,2.4nm,0.5s,baz=12,slow=1.0,SNR=4.5
DIB Dawson Inlet, 67.05 41 P P **23 00 40.5 +0.6**
DIB IAmb IAmb 23 00 45.6
comp=Z,20nm,1.2s
KIRV Kirov 67.64 326 P P **23 00 43.6 +0.3**
comp=Z,76nm,0.5s,baz=78,slow=2.1,SNR=60
GEYT Alibeck 68.03 302 P P **23 00 46.9 +0.7**
comp=Z,9.5nm,0.5s,baz=58,slow=5.4,SNR=24
GEYT Alibeck 68.03 302 P P **23 00 46.9 +0.7**
GYA0B ALIBECK ARRAY 68.03 302 P P **23 00 46.8 +0.6**
GYA0B IAmb IAmb 23 00 52.8
comp=Z,11nm,0.6s
SPA0 Spitsbergen Ar 69.94 350 *e*P P **23 00 57.7 +0.7**
SPITS Spitsbergen Ar 69.94 350 P P **23 00 57.7 +0.7**
comp=Z,7.1nm,0.5s,baz=101,slow=8.6,SNR=32
EUNU Eureka 69.98 8 P P **23 00 57.9 +0.6**
EUNU IAmb IAmb 23 00 59.2
comp=Z,7.2nm,0.6s
KBS Kingsbay 70.13 351 P P **23 00 58.8 +0.7**
KBS IAmb IAmb 23 01 00.3
comp=Z,18nm,0.9s
KBS Kingsbay 70.13 351 *e*P P **23 00 58.8 +0.7**
HSPB Hornsund (broa 70.82 349 *e*P P **23 01 02.6 +0.4**
KLMR Klimovskoe 71.62 330 *e*P P **23 01 05.9 -1.3**
KLMR AMP 23 01 08.2
comp=Z,20nm,0.6s
KLMR *e*PP **PP** **23 03 51.9 -1.7**
KEV Kevo 72.29 340 P P **23 01 11.3 +0.3**
KEV IAmb IAmb 23 01 22.7
comp=Z,8.6nm,0.8s
RES Resolute Bay 72.30 13 P P **23 01 11.4 +0.5**
HAMF Hammerfest 72.77 342 *e*P P **23 01 14.2 +0.5**
YKA Yellowknife Ar 72.80 28 P P **23 01 14.1 +0.1**
comp=Z,5.4nm,0.4s,baz=300,slow=5.1,SNR=34
ARA0 ARCESS Array S 72.86 340 P P **23 01 14.6 +0.4**
ARCES ARCESS Array B 72.86 340 P P **23 01 14.7 +0.5**
comp=Z,11nm,0.5s,baz=71,slow=8.2,SNR=150
BANOM Banah 73.65 291 P P **23 01 20.0 +0.3**
SHME Shamm 73.74 291 *i* P P **23 01 20.5 +0.4**
SNR=29
KTK1 Kautokeino 73.82 340 *e*P P **23 01 20.0 +0.2**
MSFE Esma-Masafi 73.99 291 *i* P P **23 01 21.8 +0.2**
SNR=7.2
UOSS Minazif 74.11 290 *i* P P **23 01 22.3 0.0**
SNR=9.0
UOSS Minazif 74.11 290 P P **23 01 22.3 0.0**
UOSS IAmb IAmb 23 01 25.0
comp=Z,9.8nm,0.6s
SOHO SOHO 74.15 289 *i* P P **23 01 22.3 -0.2**
SNR=18
HATD Hatta, Dubai 74.22 290 *i* P P **23 01 22.9 0.0**
SNR=9.9
ASHO Ashiyiah 74.33 290 *i* P P **23 01 23.4 -0.2**
SNR=8.1
NAZ Nazwa, Dubai 74.55 290 P P **23 01 24.4 -0.3**
TRO Tromso 74.69 342 *e*P P **23 01 24.9 +0.2**
NNZ Nelson 74.69 155 P P **23 01 24.9 -0.1**
FAQ Al Faqa, Dubai 74.70 290 *i* P P **23 01 25.5 -0.1**
SNR=12
ALNE Al Ain 74.84 289 *i* P P **23 01 26.5 +0.1**
SNR=6.9
TULEG Thule 74.90 7 P P **23 01 26.1 +0.3**
TULEG IAmb IAmb 23 01 27.5
comp=Z,11nm,0.8s
ASUD Al Ashush, Dub 74.97 290 *i* P P **23 01 27.5 +0.4**
SNR=11
LGD Lagodekhi 75.22 310 P P **23 01 28.1 -0.1**
DAG Danmarks Havn 75.42 355 *i* P P **23 01 28.0 -0.7**
DAG Danmarks Havn 75.42 355 *i* P P **23 01 28.0 -0.7**
DDFL Dedoflistskaro 75.45 309 P P **23 01 31.6 +2.0**
BTNK Botanikuri 76.27 310 P P **23 01 34.4 +0.3**
B08A Colville Reser 76.55 42 P P **23 01 36.3 +0.8**
KBZ Khabaz 76.69 312 P P **23 01 37.0 +0.7**
comp=Z,24nm,0.5s,baz=108,slow=2.9,SNR=150
KIV Kislovodsk 76.73 313 ⇑P P **23 01 37.2 +0.5**
KIV Kislovodsk 76.73 313 *i* P P **23 01 37.5 +0.8**
SNR=11
KIV Kislovodsk 76.73 313 P P **23 01 37.3 +0.6**
KIV IAmb IAmb 23 01 40.2
comp=Z,21nm,0.7s
ONI Oni 76.80 311 P P **23 01 38.1 +1.0**
STEI Steigen 76.81 341 *e*P P **23 01 36.8 +0.3**
FIA1 FINESS Array S 77.08 333 P P **23 01 37.5 -0.6**
FINES FINESS Array B 77.08 333 P P **23 01 38.1 0.0**
comp=Z,77nm,0.4s,baz=72,slow=5.0,SNR=854
FINES FINESS Array B 77.08 333 P P **23 01 37.6 -0.5**
N2TV TVrnvik 77.09 341 *e*P P **23 01 38.4 +0.4**
LOF Lofoten 77.15 342 *e*P P **23 01 38.5 +0.1**
FAUS Fauske 77.16 341 *e*P P **23 01 38.7 +0.2**
TKB Tkibuli 77.21 311 P P **23 01 40.0 +0.7**
YBH Yreka Blue Hor 77.22 50 P P **23 01 41.1 +1.6**
comp=Z,2.2nm,0.4s,baz=12,slow=9.7,SNR=8.3
BGD Bogdanovka 77.26 310 P P **23 01 41.0 +1.2**
NBB08 Skaug oppvekst 77.35 341 *e*P P **23 01 39.5 +0.1**
C09A Chrisman Ranch 77.43 43 P P **23 01 41.1 +0.7**
C09A IAmb IAmb 23 01 42.2
comp=Z,8.5nm,0.6s
N2SV S rvWgen 77.46 342 *e*P P **23 01 40.6 +0.5**
PINE Pine Mountain 77.52 47 P P **23 01 42.9 +1.7**
CHVG Ch'k'valeri 77.66 312 ⇑P P **23 01 42.2 +0.6**
CHVG Ch'k'valeri 77.66 312 P P **23 01 42.1 +0.4**
N2VA Vr_y 77.70 342 *e*P P **23 01 41.5 +0.1**
NBB05 Inndyr 77.76 341 *e*P P **23 01 41.7 0.0**
NBB30 Finnes 77.89 341 *e*P P **23 01 42.4 0.0**
NEW Newport 77.91 42 P P **23 01 43.7 +0.7**
comp=Z,3.4nm,0.5s,baz=306,slow=6.3,SNR=9.2
NEW Newport 77.91 42 P P **23 01 43.9 +0.9**
NBB17 Glomfjord BWr 77.93 341 *e*P P **23 01 42.5 -0.1**
MOR8 Moi Rana 78.23 340 *e*P P **23 01 43.2 -1.1**
NBB40 Tonnes 78.41 341 *e*P P **23 01 45.4 +0.2**
BCA Borcka 78.52 311 ⇑P P **23 01 46.8 +0.4**
GEVA Gevas 78.90 307 P P **23 01 49.1 +0.5**
GEVA IAmb IAmb 23 01 50.4
comp=Z,14nm,0.6s
F10A Beach Ranch, E 78.90 44 P P **23 01 49.9 +1.4**
J08A Circle Bar Ran 79.32 47 P P **23 01 52.0 +1.3**
J08A IAmb IAmb 23 01 52.9
comp=Z,6.7nm,0.5s
BMO Blue Mountains 79.38 45 P P **23 01 52.0 +1.0**
BMO IAmb IAmb 23 01 52.9
comp=Z,5.6nm,0.5s
JTMT Jette 79.83 41 P P **23 01 54.3 +0.9**
KOPT Kop Dagi 79.93 310 P P **23 01 55.2 +1.0**
KOPT IAmb IAmb 23 01 57.4
comp=Z,14nm,0.5s
NSS Namsos 80.12 340 *e*P P **23 01 53.9 -0.4**
NACGM Naroch 80.43 328 *e* P **23 01 55.0 -1.1**
SUMG Summit 80.44 360 P P **23 01 57.0 +0.5**
SUMG Summit 80.44 360 *i* P P **23 01 56.0 -0.4**
comp=Z,19nm,0.4s
SUMG Summit 80.44 360 *i* P P **23 01 56.0 -0.4**
SUMG IAmb IAmb 23 01 57.8
comp=Z,19nm,0.4s
PNTR Pine Nut 80.52 51 P P **23 01 58.1 +0.8**
PNTR IAmb IAmb 23 02 00.1

comp=Z,5.3nm,0.6s
WAKR Walker 80.90 51 P P **23 02 00.4 +1.2**
MARD Mardin 80.96 307 P P **23 02 00.2 +0.7**
MFID Camas Ranch 80.99 46 P P **23 02 00.5 +0.9**
MFID IAmb IAmb 23 02 01.7
comp=Z,4.8nm,0.6s
SOCY Socotra 81.31 279 P P **23 02 00.1 -1.5**
SOCY IAmb IAmb 23 02 00.6
comp=Z,20nm,0.7s
AKASG Malin Array Be 81.51 323 P P **23 02 01.4 -0.5**
comp=Z,23nm,0.5s,baz=52,slow=5.2,SNR=111
AKASG Malin Array Be 81.51 323 P P **23 02 01.4 -0.5**
AKBB Malin Array Si 81.51 323 P P **23 02 01.3 -0.5**
TBLU Trondheim 81.56 340 *e*P P **23 02 01.1 -0.8**
KVN Kaiserville 81.57 50 P P **23 02 03.5 +0.8**
NVAR Mina Array Bea 81.72 51 P P **23 02 04.8 +1.3**
comp=Z,3.7nm,0.6s,baz=297,slow=5.8,SNR=17
NVAR pP **pP** **23 03 46.1 -0.3**
comp=Z,0.6nm,0.6s,baz=291,slow=5.3,SNR=4.0
NVAR Mina Array Bea 81.72 51 P P **23 02 04.3 +0.8**
HRY Holter Researc 81.80 41 P P **23 02 04.7 +1.0**
HLID Hailey 81.82 45 P P **23 02 05.1 +1.2**
NV11 Mina Array Sit 81.82 51 P P **23 02 04.8 +0.9**
BCYI Bear Canyon 82.07 44 P P **23 02 06.4 +1.1**
BOZ Bozeman (W) 82.50 42 P P **23 02 07.9 +0.6**
NC405 NORSAR Array S 82.63 338 P P **23 02 06.7 -0.7**
TPH Tonopah 82.64 51 P P **23 02 09.3 +1.1**
SUW Suwalki 82.66 328 *e*P P **23 02 06.9 -0.7**
SUW Suwalki 82.66 328 P P **23 02 07.2 -0.5**
ELK Elko 82.68 48 P P **23 02 09.2 +0.8**
comp=Z,1.6nm,0.5s,baz=300,slow=4.9,SNR=10
ELK Elko 82.68 48 P P **23 02 09.3 +0.9**
DOMB Dombas 82.83 339 *e*P P **23 02 08.3 -0.1**
NB2 NORSAR Subarra 82.85 338 P P **23 02 07.9 -0.7**
comp=Z,10nm,0.5s,baz=53,slow=5.1
NB2 NORSAR Subarra 82.85 338 P P **23 02 07.9 -0.7**
baz=53,slow=5.1
NOA NORSAR Array B 82.85 338 P P **23 02 07.7 -0.8**
comp=Z,15nm,0.4s,baz=54,slow=6.5,SNR=74
MOL Molde 82.90 340 *e*P P **23 02 08.8 +0.1**
NC602 NORSAR Array S 82.96 337 *e*P P **23 02 08.1 -0.9**
AKN Aaknes 83.37 340 *e*P P **23 02 11.4 +0.3**
SORM Soroca 83.40 321 ⇓P P **23 02 10.9 -0.6**
GAZ Gaziantep 83.53 308 P P **23 02 12.8 +0.3**
GAZ IAmb IAmb 23 02 14.2
comp=Z,16nm,0.7s
R11A Troy Canyon, C 83.63 50 P P **23 02 13.7 +0.6**
IMW Indian Meadow 83.81 44 P P **23 02 15.3 +1.3**
MILM Milestii Mici 83.82 320 ⇓P P **23 02 12.9 -0.7**
OSL Oslo 83.82 337 *e*P P **23 02 13.0 -0.3**
FLWY Flagg Ranch 83.86 43 P P **23 02 15.9 +1.7**
TPNV Topopah Spring 83.86 52 P P **23 02 14.8 +0.5**
ICESG Greenland Ices 83.95 360 *i* P P **23 02 13.7 -0.6**
ICESG IAmb IAmb 23 02 15.1
comp=Z,7.1nm,0.7s
SKAR Skarslia 84.09 338 *e*P P **23 02 15.1 +0.4**
RLMT Red Lodge 84.16 42 P P **23 02 16.7 +1.1**
RLMT IAmb IAmb 23 02 18.3
comp=Z,7.3nm,0.7s
IAS Iasi 84.37 321 ⇑P P **23 02 16.0 -0.4**
HYA Hayanger 84.39 340 *e*P P **23 02 16.1 0.0**
FOO Floro 84.41 340 *e*P P **23 02 16.4 +0.2**
KONO Kongsberg 84.42 337 *e*P P **23 02 15.5 -0.8**
VASR Vaslui 84.55 320 ⇑P P **23 02 16.7 -0.6**
DUG Dugway, Tooele 84.56 47 P P **23 02 18.5 +0.9**
BR131 Keskin Array S 84.68 312 P P **23 02 17.6 -0.7**
BR131 IAmb IAmb 23 02 18.8
comp=Z,5.4nm,0.6s
BRTR Keskin Array B 84.68 312 P P **23 02 17.4 -0.8**
comp=Z,8.1nm,0.5s,baz=83,slow=3.0,SNR=28
BRTR pP **pwP** **23 04 04.1 -2.1**
comp=Z,1.6nm,0.8s,baz=69,slow=4.5,SNR=2.5
BRTR Keskin Array B 84.68 312 P P **23 02 17.1 -1.1**
PSUT Pine Spring 84.71 49 P P **23 02 19.2 +0.6**
TLCR 84.78 319 ⇓P P **23 02 18.1 -0.3**
BIR Birlad 84.86 320 ⇓P P **23 02 19.1 +0.3**
PRAR RASCA 85.02 321 ⇑P P **23 02 19.0 -0.6**
CFR Carcaliu 85.18 319 ⇓P P **23 02 19.6 -0.7**
TPGR Topolog 85.19 319 ⇑P P **23 02 20.5 0.0**
ASK Askoy 85.23 339 *e*P P **23 02 20.5 +0.2**
PD31 Pinedale Array 85.27 44 P P **23 02 22.0 +0.8**
PDAR Pinedale Array 85.27 44 P P **23 02 21.7 +0.5**
comp=Z,1.2nm,0.4s,baz=225,slow=0.6,SNR=19
PDAR pP **pP** **23 04 04.7 -0.4**
comp=Z,0.2nm,0.4s,baz=293,slow=1.4,SNR=2.4
BER Bergen 85.27 339 *e*P P **23 02 20.5 +0.1**
TESR Tescani 85.28 321 ⇓P P **23 02 21.3 +0.4**
BIZ Bicaz 85.33 321 ⇑P P **23 02 21.2 +0.1**
PFO Pinyon Flats O 85.35 55 P P **23 02 22.4 +0.7**
comp=Z,3.8nm,0.6s,baz=293,slow=2.0,SNR=7.9
PFO Pinyon Flats O 85.35 55 P P **23 02 22.3 +0.7**
BUR08 Bucovina Ar. S 85.42 322 P P **23 02 21.4 -0.2**
BUR08 IAmb IAmb 23 02 22.8
comp=Z,7.9nm,0.6s
BURAR Bucovina Array 85.43 322 ⇓P P **23 02 21.5 -0.2**
BURAR Bucovina Array 85.43 322 P P **23 02 21.3 -0.4**
ODBI Odobesti 85.47 320 ⇓P P **23 02 23.1 +1.3**
KWP Kalwaria Pacla 85.55 325 *e*P P **23 02 21.6 -0.5**
KWP Kalwaria Pacla 85.55 325 P P **23 02 21.9 -0.2**
KWP IAmb IAmb 23 02 22.5
comp=Z,12nm,0.7s
HARR Harsova 85.57 319 ⇓P P **23 02 21.9 -0.4**
TLBR Topalu 85.59 318 ⇓P P **23 02 22.1 -0.2**
VRI Vrincioaia 85.60 320 ⇑P P **23 02 22.0 -0.4**
BSD Bornholm Skovb 85.62 332 *i* P P **23 02 20.7 -1.6**
BSD Bornholm Skovb 85.62 332 *i* P P **23 02 20.8 -1.6**
PLOR Plostina 85.66 320 ⇑P P **23 02 22.5 -0.2**
GKP Gorka Klasztor 85.86 330 *e*P P **23 02 23.0 -0.5**
PGOR Pogoanele 86.00 319 ⇑P P **23 02 24.8 +0.4**
NEHR Nehoiu 86.10 320 ⇓P P **23 02 24.5 -0.4**
KOLS Kolonicke sedl 86.20 324 *e*P P **23 02 23.7 -1.6**
ARCR ARCALIA 86.22 322 ⇑P P **23 02 26.6 +1.3**
MLR Muntele Rosu 86.27 320 ⇓P P **23 02 25.4 -0.3**
MLR Muntele Rosu 86.27 320 P P **23 02 25.2 -0.6**
MLR IAmb IAmb 23 02 26.4
comp=Z,5.2nm,0.6s
DOPR Dopca 86.30 321 ⇓P P **23 02 26.0 +0.2**
SULR 86.56 319 ⇑P P **23 02 27.2 +0.3**
CRVS Cervenica-Dubn 86.64 325 *e*P P **23 02 27.5 +0.2**
OJC Ojcow 86.65 326 *e*P P **23 02 27.9 +0.6**
VOIR 86.81 320 ⇓P P **23 02 28.2 -0.1**
NIE Niedzica 86.91 326 *e*P P **23 02 28.7 +0.1**
ARR Arges 87.08 320 ⇑P P **23 02 29.5 0.0**
CSS Mathiatis 87.36 308 P P **23 02 30.1 -0.9**
CSS IAmb IAmb 23 02 31.2
comp=Z,12nm,0.7s
HUMR Humele 87.39 320 ⇑P P **23 02 30.1 -0.8**
COPA Copaceanca 87.48 319 ⇑P P **23 02 30.6 -0.8**
LOT Lotru 87.52 321 ⇑P P **23 02 31.2 -0.5**
KSP Ksiaz 87.92 328 *e*P P **23 02 33.1 -0.2**
PV14 Lion Creek, Pa 88.01 47 P P **23 02 35.3 +1.0**
PV14 IAmb IAmb 23 02 36.2
comp=Z,6.1nm,0.6s
MORC Moravsky Berou 88.04 327 *e*P P **23 02 33.1 -0.8**
PSZ Piszkesteto 88.08 325 ⇓P P **23 02 33.9 -0.2**
PSZ Piszkesteto 88.08 325 P P **23 02 34.0 -0.2**
PSZ IAmb IAmb 23 02 35.7
comp=Z,13nm,1.0s
SIRR Siria 88.19 322 ⇓P P **23 02 33.7 -0.9**
ULM Lac du Bonnet 88.22 32 P P **23 02 34.5 -0.2**
comp=Z,2.6nm,0.5s,baz=304,slow=4.0,SNR=5.0
ULM Lac du Bonnet 88.22 32 P P **23 02 34.4 -0.3**
VYHS Vyhne 88.25 325 *e*P P **23 02 34.6 -0.3**
JAVC Velka Javorina 88.59 326 *e*P P **23 02 37.5 +1.0**
BZS Buzias 88.61 322 ⇑P P **23 02 35.0 -1.6**
HERR Herculane 88.63 321 ⇑P P **23 02 35.5 -1.2**
ELL Elmali 88.75 311 P P **23 02 37.2 -0.4**
VRAC Vranov 88.82 327 *e*P P **23 02 37.4 -0.1**
SMOL Smolenice 88.94 326 *e*P P **23 02 38.0 -0.1**
BRG Berggiesshubel 88.99 329 *e*P P **23 02 37.3 -0.9**
comp=Z,4.3nm,0.6s
KRUC Moravsky 89.08 327 *e*P P **23 02 38.6 -0.1**
CLL Collm 89.11 330 *e*SSSS 23 25 48.0
CLL Collm 89.11 330 P P **23 02 37.9 -0.9**
CLL IAmb IAmb 23 02 39.1
comp=Z,6.4nm,0.7s
CLL Collm 89.11 330 *i* P P **23 02 37.8 -1.0**
comp=Z,8.0nm,0.8s
CLL Collm 89.11 330 *e*PP PP 23 06 15.0 -1.3
CLL Collm 89.11 330 *e*PPP PPP 23 08 15.0
MODS Modra-Piesok 89.11 326 *e*P P **23 02 38.3 -0.6**
AKAS Kas 89.24 311 P P **23 02 38.1 -1.8**

AKAS				IAmb	IAmb	23 02 38.7	
	comp=Z,5.2nm,0.8s						
PRU	**Pruhonice**	**89.33**	**328**	*eP*	**P**	**23 02 39.2**	**-0.6**
ISCO	**Idaho Springs**	**89.39**	**45**	P	**P**	**23 02 41.1**	**+0.4**
CONA	**Conrad Observa**	**90.11**	**326**	*eP*	**P**	**23 02 43.5**	**-0.1**
	comp=Z,3.8nm,0.5s						
KHC	**Kasperske Hory**	**90.38**	**328**	*eP*	**P**	**23 02 43.6**	**-1.2**
GEC2	**GERESS Array S**	**90.52**	**328**	P	**P**	**23 02 44.4**	**-1.1**
GEC2				IAmb	IAmb	23 02 45.1	
	comp=Z,3.6nm,0.6s						
GERES	**GERESS Array B**	**90.52**	**328**	P	**P**	**23 02 44.5**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=38,slow=5.8,SNR=23						
ARSA	**Arzberg**	**90.74**	**326**	*eP*	**P**	**23 02 45.5**	**-1.0**
	comp=Z,7.0nm,1.1s						
MOA	**Molln**	**90.94**	**327**	*eP*	**P**	**23 02 46.9**	**-0.5**
	comp=Z,3.6nm,0.6s						
KARP	**Karpathos**	**91.26**	**311**	P	**P**	**23 02 48.0**	**-1.1**
PERS	**Pernice**	**91.36**	**326**	*i P*	**P**	**23 02 48.7**	**-0.7**
ANMO	**Albuquerque**	**91.64**	**49**	P	**P**	**23 02 52.4**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=299,slow=6.3,SNR=9.1						
ANMO	**Albuquerque**	**91.64**	**49**	P	**P**	**23 02 52.5**	**+1.4**
LEGS	**Legarje**	**91.73**	**325**	*i P*	**P**	**23 02 50.1**	**-1.0**
OBKA	**Obir**	**91.73**	**326**	*eP*	**P**	**23 02 49.5**	**-1.6**
	comp=Z,3.8nm,0.6s						
KBA	**Koelnbreinsper**	**91.93**	**327**	*eP*	**P**	**23 02 51.1**	**-1.0**
	comp=Z,3.1nm,0.5s						
PDG	**Podgorica**	**91.95**	**321**	⇓P	**P**	**23 02 51.3**	**-0.8**
LJU	**Ljubljana**	**92.06**	**326**	*i P*	**P**	**23 02 51.5**	**-1.1**
MYKA	**Terra Mystica**	**92.10**	**326**	P	**P**	**23 02 51.3**	**-1.6**
	comp=Z,4.4nm,0.5s,SNR=5.9						
ZOU	**Zoufplan**	**92.48**	**327**	P	**P**	**23 02 52.9**	**-1.9**
ZOU				IAmb	IAmb	23 02 54.0	
	comp=Z,8.7nm,0.6s						
ABTA	**Abfaltersbach**	**92.57**	**327**	*i P*	**P**	**23 02 53.5**	**-1.5**
	comp=Z,4.5nm,0.6s,SNR=8.7						
WATA	**Walderalm**	**92.59**	**328**	*eP*	**P**	**23 02 53.9**	**-1.3**
	comp=Z,3.2nm,0.7s						
WTTA	**Wattenberg**	**92.62**	**328**	*eP*	**P**	**23 02 54.0**	**-1.3**
	comp=Z,4.8nm,0.5s						
MOTA	**Moosalm**	**92.81**	**328**	*eP*	**P**	**23 02 54.7**	**-1.5**
	comp=Z,3.5nm,0.7s						
SQTA	**Sankt Quirin**	**92.85**	**328**	*eP*	**P**	**23 02 55.0**	**-1.3**
	comp=Z,2.0nm,0.6s						
RETA	**Reutte**	**92.87**	**328**	*eP*	**P**	**23 02 56.1**	**-0.3**
	comp=Z,3.5nm,0.6s						
FETA	**Feichten**	**93.22**	**328**	*eP*	**P**	**23 02 56.1**	**-2.0**
	comp=Z,2.9nm,0.9s						
BFO	**Black Forest**	**93.35**	**330**	P	**P**	**23 02 57.7**	**-0.8**
BFO				IAmb	IAmb	23 02 58.0	
	comp=Z,3.0nm,0.5s						
DAVA	**Damuels**	**93.42**	**329**	*eP*	**P**	**23 02 58.6**	**-0.4**
	comp=Z,10.0nm,1.3s						
FUORN	**Ofenpass-Fuorn**	**93.73**	**328**	P	**P**	**23 02 59.9**	**-0.6**
FUORN				IAmb	IAmb	23 03 00.4	
	comp=Z,7.1nm,0.6s						
CEL	**Celeste**	**96.63**	**319**	P	**P**	**23 03 12.9**	**-0.7**
TXAR	**Lajitas Array**	**96.83**	**52**	P	**P**	**23 03 15.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=328,slow=1.2,SNR=2.1						
TXAR				pP	**pwP**	**23 05 02.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=307,slow=3.3,SNR=2.3						
KEST	**Kesra**	**102.14**	**321**	P	**Pdif**	**23 03 38.6**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=85,slow=5.2,SNR=4.8						
ESDC	**Sonseca Array**	**105.57**	**332**	PP	**PP**	**23 08 14.9**	**-6.1**
	comp=Z,0.5nm,0.6s,baz=26,slow=7.4,SNR=5.1						
LSZ	**Lusaka**	**116.30**	**266**	*i P*	**PKPdf**	**23 08 24.0**	**-0.7**
LSZ	**Lusaka**	**116.30**	**266**		**PKiKP**	**23 08 24.9**	**+0.2**
LSZ	**Lusaka**	**116.30**	**266**	*i P*	**PKPdf**	**23 08 24.0**	**-0.7**
BLWY	**Bulawayo**	**117.73**	**260**	*i P*	**PKPdf**	**23 08 26.1**	**-1.3**
BLWY	**Bulawayo**	**117.73**	**260**	*i P*	**PKPdf**	**23 08 26.1**	**-1.3**
MATP	**Matopo**	**117.93**	**260**	*i P*	**PKPdf**	**23 08 27.7**	**-0.1**
MATP	**Matopo**	**117.93**	**260**	*i P*	**PKPdf**	**23 08 27.7**	**-0.1**
LBTB	**Lobatse**	**121.96**	**256**	*i P*	**PKPdf**	**23 08 33.4**	**-2.0**
LBTB	**Lobatse**	**121.96**	**256**	*i P*	**PKPdf**	**23 08 33.4**	**-2.0**
TORD	**Torodi Ar. Bea**	**123.23**	**310**	PKP	**PKPdf**	**23 08 37.2**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=32,slow=1.1,SNR=54						
TORD				PP	**PP**	**23 10 21.8**	**-3.1**
	comp=Z,1.0nm,0.7s,baz=39,slow=5.6,SNR=4.1						
TORD				PKKPbc	**PKKPbc**	**23 18 29.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=228,slow=2.6,SNR=5.2						
BOSA	**Boshof**	**123.27**	**252**	PKP	**PKPdf**	**23 08 36.5**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=106,slow=1.1,SNR=18						
BOSA	**Boshof**	**123.27**	**252**		**PKPdf**	**23 08 37.6**	**-0.2**
KOWA	**Kowa**	**125.97**	**316**		**PKPdf**	**23 08 43.3**	**+0.1**
TSUM	**Tsumeb**	**127.15**	**266**	*i P*	**PKPdf**	**23 08 41.7**	**-3.8**
TSUM	**Tsumeb**	**127.15**	**266**	*i P*	**PKPdf**	**23 08 41.7**	**-3.8**
SNAA	**Sanae**	**131.10**	**195**	PKPdf	**PKPdf**	**23 08 50.8**	**-0.6**
SNAA	**Sanae**	**131.10**	**195**		**PKPdf**	**23 08 50.8**	**-0.6**
DBIC	**Dimbokro**	**132.34**	**310**	PKP	**PKiKP**	**23 08 56.0**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=24,slow=6.1,SNR=6.2						
DBIC				SKPbc	**SKPbc**	**23 11 37.9**	**+0.2**
	comp=Z,3.1nm,0.4s,baz=34,slow=4.3,SNR=14						
VNA2	**Neumayer--Watz**	**132.65**	**194**	PKPdf	**PKiKP**	**23 08 55.3**	**-0.1**
	baz=116,slow=1.5						
VNA3	**Neumayer Olymp**	**132.86**	**193**	PKPdf	**PKiKP**	**23 08 55.4**	**-0.5**
MACA	**Manacapuru-AM**	**148.74**	**44**	*eP*	**PKPbc**	**23 09 27.6**	**-1.4**
ETMB	**Extrema**	**149.56**	**60**	*eP*	**PKPbc**	**23 09 28.6**	**-2.3**
MCPB	**Macapa, AP**	**150.74**	**26**	*eP*	**PKPbc**	**23 09 31.2**	**+2.5**
MALB	**Monte Alegre**	**151.14**	**31**	*eP*	**PKPbc**	**23 09 31.5**	**-3.1**
PLCA	**Paso Flores**	**151.24**	**126**	PKPbc	**PKiKP**	**23 09 34.8**	**+0.2**
	comp=Z,4.6nm,0.5s,baz=238,slow=2.8,SNR=16						
PLCA	**Paso Flores**	**151.24**	**126**	*eP*	**PKPbc**	**23 09 31.1**	**-3.1**
SAML	**Samuel**	**151.28**	**55**		**PKPbc**	**23 09 34.8**	**-0.1**
SAML	**Samuel**	**151.28**	**55**	*eP*	**PKPbc**	**23 09 31.9**	**-3.0**
LPAZ	**La Paz**	**151.48**	**73**	PKPbc	**PKiKP**	**23 09 36.7**	**+0.3**
	comp=Z,4.2nm,0.4s,baz=357,slow=4.2,SNR=14						
LPAZ				pPKPbc	**pPKPbc**	**23 11 27.9**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=291,slow=12,SNR=5.0						
LPAZ	**La Paz**	**151.48**	**73**	*eP*	**PKPdf**	**23 09 32.5**	**+3.0**
PB11	**IPOC Station P**	**151.57**	**81**		**PKiKP**	**23 09 36.0**	**+0.1**
MT02	**Curacav**	**152.23**	**110**	PKPbc	**PKPbc**	**23 09 36.2**	**-0.3**
ROC1	**El Roble**	**152.35**	**110**		**PKPbc**	**23 09 37.2**	**0.0**
BO02	**Sierra Bellavi**	**152.38**	**113**		**PKiKP**	**23 09 37.0**	**0.0**
VA03	**San Esteban**	**152.76**	**109**		**PKPbc**	**23 09 37.9**	**0.0**
PB15	**IPOC Station P**	**152.78**	**88**		**PKiKP**	**23 09 38.6**	**+0.2**
LVC	**Limon Verde**	**153.12**	**87**	*eP*	**PKPdf**	**23 09 34.8**	**+3.4**
CPUP	**Villa Florida**	**164.21**	**91**	*eP*	**PKPdf**	**23 09 48.5**	**+4.7**
ITQB	**Itaqui**	**164.90**	**103**	*eP*	**PKPdf**	**23 09 50.1**	**+5.9**

WEL 28 22:57:14.4±0.7,37°S±5°×17°8E±°,h5km,M3.2/23,mB5.3/1, ML3.4/22,MLv3.2/23,Mw(mB)4.7/1, Error ellipse: s-maj=0.0km s-min=0.0km az=42.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.55**	**214**	P	Pb	22 57 26.5	0.0
WIZ				S	Sg	22 57 33.3	+1.2
HAZ	**Te Kaha**	**0.70**	**167**	P	Pg	22 57 28.1	+0.1
MXZ	**Matakaoa Point**	**0.76**	**130**	P	Pg	22 57 29.4	+0.4
MXZ				S	Sb	22 57 39.9	-0.9
RUGZ	**Raukumara Rang**	**0.90**	**175**	P	Pg	22 57 31.3	-0.4
WMGZ	**Waiomatatini S**	**1.00**	**138**	P	Pb	22 57 34.4	+0.2
OPRZ	**Ohinepanea**	**1.12**	**226**	P	Pg	22 57 34.9	-1.0
MARZ	**Manawahe**	**1.16**	**218**	P	Pg	22 57 35.7	-1.0
URZ	**Urewera**	**1.24**	**197**	P	Pg	22 57 36.9	-1.4
MWZ	**Matawai**	**1.26**	**182**	P	Pg	22 57 37.3	-1.4
TARZ	**Mount Tarawera**	**1.41**	**216**	P	Pn	22 57 41.4	+0.1
CNGZ	**Carnagh Statio**	**1.50**	**161**	P	Pb	22 57 42.7	0.0
KUZ	**Kuaotunu**	**1.52**	**282**	P	Pn	22 57 41.1	-1.2
MUGZ	**Murupara**	**1.54**	**204**	P	Pn	22 57 42.2	-0.4
SNGZ	**Shannon Statio**	**1.72**	**186**	P	Pn	22 57 44.9	-0.1
TOZ	**Tahuroa Road**	**1.78**	**248**	P	Pn	22 57 44.8	-1.0
PRGZ	**Paritu Road**	**1.86**	**173**	P	Pn	22 57 46.3	-0.8
MTHZ	**Maungataniwha**	**1.87**	**198**	P	Pn	22 57 46.7	-0.5
KNZ	**Kokohu**	**1.95**	**178**	P	Pn	22 57 47.6	-0.6
ETAZ	**East Tamaki Re**	**2.12**	**272**	P	Pn	22 57 50.7	+0.1
ETAZ				S	Sn	22 58 14.8	-2.5
MBAZ	**Motutapu North**	**2.17**	**277**	P	Pn	22 57 51.3	+0.2
ARHZ	**Aropaoanui**	**2.24**	**192**	P	Pn	22 57 50.4	-1.7
BKZ	**Black Stump Fm**	**2.26**	**202**	P	Pn	22 57 52.5	0.0
AWAZ	**Awhitu Peninsu**	**2.35**	**269**	P	Pn	22 57 53.6	0.0
RVAZ	**Riverhead Bore**	**2.42**	**276**	P	Pn	22 57 54.9	+0.3
HIZ	**Hauiti**	**2.59**	**235**	P	Pn	22 57 57.4	+0.4
BHHZ	**Black Hill Sta**	**2.69**	**206**	P	Pn	22 57 59.0	+0.6
MOVZ	**Moawhango**	**2.74**	**211**	P	Pn	22 58 00.4	+1.3
WCZ	**Waipu Caves**	**2.84**	**292**	P	Pn	22 58 00.5	+0.1
PNHZ	**Pukenui**	**3.04**	**200**	P	Pn	22 58 03.7	+0.5
OUZ	**Omahuta**	**3.71**	**299**	P	Pn	22 58 13.1	+0.7
CMWZ	**Cape Campbell**	**5.35**	**208**	P	Pn	22 58 34.8	-0.1

*IPEC **28** 23:01:40.6±0.2,49°.86N×18°.52E,h0km,ML1.2/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*

PRU 28 23:01:41.4±0.0,49°.87N×18°.45E,h0km,1D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**261**	*e*PG	Pg	23 01 45.7	+0.5
OKC				*e*SG	Sg	23 01 49.1	+1.3
	comp=Z,29nm,0.6s						
MORC	**Moravsky Berou**	**0.59**	**261**	⇓P	Pn	23 02 00.6	+3.4
MORC	**Moravsky Berou**	**0.59**	**261**	*e*PG	Pg	23 01 53.0	+0.2
MORC				*e*SG	Sg	23 02 00.5	0.0
MORC	**Moravsky Berou**	**0.59**	**261**	*e*Pg	Pg	23 01 52.9	+0.1
	baz=83						
MORC				*e*Sg	Sg	23 02 00.4	-0.1
	3.1nm,0.2s,baz=83						
LANS	**Liptovska Anna**	**0.98**	**137**	*e*PG	Pg	23 01 59.0	-1.1
LANS				*e*SG	Sb	23 02 14.5	-0.2
LANS				*e*LG	Lg	23 02 17.1	
KRLC	**Kraliky**	**1.10**	**281**	*e*PG	Pg	23 02 01.8	-0.6
KRLC				*e*SG	Sg	23 02 16.7	+0.1
VRAC	**Vranov**	**1.33**	**246**	*e*PG	Pg	23 02 06.0	-0.9
VRAC				*e*SG	Sg	23 02 23.5	-0.7
VRAC	**Vranov**	**1.33**	**246**	*e*Pg	Pg	23 02 06.0	-0.9
	baz=66						
VRAC				*e*Sg	Sg	23 02 23.4	-0.8
	3.6nm,0.3s,baz=66						
VYHS	**Vyhne**	**1.40**	**169**	*e*PG	Pn	23 02 06.5	-1.7
VYHS				*e*SG	Sg	23 02 25.5	-0.8
DPC	**Dobruska-Polom**	**1.45**	**290**	*e*PG	Pn	23 02 08.1	-0.9
DPC				*e*SG	Sg	23 02 27.8	-0.2
KRUC	**Moravsky**	**1.57**	**240**	*e*PG	Pn	23 02 09.9	-0.6
KRUC				*e*SG	Sn	23 02 30.7	-0.7
KRUC	**Moravsky**	**1.57**	**240**	*e*Pg	Pn	23 02 09.8	-0.7
	baz=59						
KRUC				*e*Sg	Sn	23 02 30.6	-0.8
	3.9nm,0.3s,baz=59						
OSTC	**Ostas**	**1.59**	**296**	*e*PG	Pn	23 02 10.3	-0.6
OSTC				*e*SG	Sn	23 02 32.1	0.0
UPC	**Upice**	**1.69**	**293**	*e*SG	Sn	23 02 33.7	-0.9
KHC	**Kasperske Hory**	**3.26**	**259**	*e*SG	Sg	23 03 25.5	-0.6

*IDC **28** 23:06:43.2±1.8,2°.81N×125°.21E,h144km±15km,mb3.7/13, mb1 3.9/15,mb1mx3.6/36,mbtmp4.2/15,MS3.0/4, Ms1 3.0/4,ms1mx2.6/40,Error ellipse: s-maj=29.9km s-min=9.3km az=74.0*

*KLM **28** 23:06:44.0,2°.75N×125°.85E,h180km,mb4.8*

*NEIC **28** 23:06:44.7±3.0,2°.76N±0°.07×125°.56E±0°.08,h157km±8km, mb4.4/26,Error ellipse: s-maj=11.9km s-min=9.9km az=87.0*

*DJA **28** 23:06:44.2±0.3,3°N±2°×12°6E±°,h124km±3km,M4.4/17, mB4.9/7,mb4.6/11,MLv4.5/17,Mw(mB)4.2/7*

*MAN **28** 23:06:50.3,3°.26N×124°.77E,h32km,mb5.3,ML4.2,MS4.4*

ISC 28 23:06:44.2±0.4,2°.80N±0°.04×125°.54E±0°.06,h150km,n104, σ1°61/108,mb4.3/21,3C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.88**	**359**	P	**Pn**	**23 07 06.2**	**-1.9**
SGSI				S	**Sn**	**23 07 23.3**	**-3.0**
KMSI	**Cibinong**	**2.70**	**215**	P	**Pn**	**23 07 27.5**	**-0.4**
TNTI	**Ternate**	**2.72**	**138**	P	**Pn**	**23 07 27.0**	**-1.1**
TNTI				S	**Sn**	**23 07 58.3**	**-3.7**
TNTI	**Ternate**	**2.72**	**138**	Pn	**Pn**	**23 07 26.4**	**-1.8**
DDMP	**Don Marcelino,**	**3.29**	**3**	*e*P	**Pn**	**23 07 35.2**	**-0.1**
DDMP				*e*S	**Sn**	**23 08 11.2**	**-3.6**
GTOI	**Gorontalo**	**3.32**	**230**	P	**Pn**	**23 07 34.5**	**-1.2**
SKMP	**Bagumbayan, Su**	**3.82**	**345**	*e*P	**Pn**	**23 07 39.9**	**-2.3**
SKMP				*e*S	Sn	23 08 17.8	-10
LBMI	**Labuha**	**3.94**	**150**	P	**Pn**	**23 07 42.4**	**-1.4**
MATI	**Mati**	**4.18**	**110**	P	**Pn**	**23 07 50.6**	**+3.7**
KCP	**Kidapawan**	**4.20**	**354**	⇑*i*P	**Pn**	**23 07 47.9**	**+0.6**
DAV	**Davao City (W)**	**4.24**	**1**	P	**Pn**	**23 07 48.0**	**+0.3**
	40nm,0.3s,baz=237,slow=20,SNR=1.5						
DAV				S	**Sn**	**23 08 39.1**	**+2.0**
	83nm,0.3s,baz=170,slow=21,SNR=2.8						
DAV	**Davao City (W)**	**4.24**	**1**	Pn	**Pn**	**23 07 49.8**	**+2.1**
LUWI	**Luwuk**	**4.71**	**216**	P	**Pn**	**23 07 54.9**	**+1.0**
LUWI	**Luwuk**	**4.71**	**216**	Pn	**Pn**	**23 07 55.9**	**+2.0**
SANI	**Sanana**	**4.84**	**175**	P	**Pn**	**23 07 52.7**	**-2.9**
BUKP	**Musuan**	**5.07**	**355**	*e*P	**Pn**	**23 07 58.7**	**0.0**
BUKP				*e*S	**Sn**	**23 08 56.2**	**-0.5**
APSI	**Ampana**	**5.36**	**227**	P	**Pn**	**23 08 02.7**	**+0.3**
	0.3nm696nm60nm,0.8s						
PAGZ	**Papadian**	**5.45**	**337**	*e*P	**Pn**	**23 08 01.8**	**-2.0**
MPSI	**Mapaga**	**6.14**	**247**	P	**Pn**	**23 08 12.5**	**-0.4**
	0.1nm18nm,0.8s						
NLAI	**Namlea**	**6.20**	**165**	P	**Pn**	**23 08 12.2**	**-1.5**
	1.7nm9µm83nm,0.7s						
SIJI	**Sorong**	**6.79**	**122**	P	**Pn**	**23 08 22.3**	**+0.8**
	1.0nm,0.3s,baz=345,slow=8.6,SNR=5.3						
SIJI				S	Sn	23 09 48.3	+10
	1.4nm,0.3s,baz=173,slow=22,SNR=1.9						
AAI	**Ambon**	**6.97**	**158**	P	**Pn**	**23 08 23.1**	**-0.9**
	0.4nm2µm86nm,1.2s						
MSAI	**Masohi**	**6.98**	**151**	P	**Pn**	**23 08 23.5**	**-0.6**
	0.2nm672nm50nm,0.8s						
TBP	**Tagbilaran**	**7.04**	**346**	⇑*i*P	Pn	23 08 34.6	+10
MYLDM	**Lahad Datu**	**7.41**	**289**	Pn	**Pn**	**23 08 30.3**	**+0.5**
LLP	**Lapu-Lapu**	**7.63**	**348**	⇑*i*P	Pn	23 08 40.1	+7.3
KAPI	**Kappang**	**9.68**	**217**	LR	LR	23 12 48.4	
	comp=Z,98nm,20.1s,baz=58,slow=38						
SBUM	**Sibu**	**13.31**	**269**	Pn	**Pn**	**23 09 47.8**	**+0.3**
SBUM	**Sibu**	**13.31**	**269**	P	**P**	**23 09 54.0**	**+2.2**
KSM	**Kuching**	**15.28**	**265**	Pn	**Pn**	**23 10 10.6**	**-1.6**
KSM	**Kuching**	**15.28**	**265**	P	**P**	**23 10 16.0**	**+2.4**
KNRA	**Kununurra**	**18.64**	**170**	P	**P**	**23 10 49.5**	**-1.0**
KNRA				IAmb	IAmb	23 10 52.7	
	comp=Z,15nm,0.8s						
KPJI	**Karang Pucung**	**19.39**	**239**	P	**P**	**23 10 58.1**	**-0.7**
LEM	**Lembang**	**20.28**	**242**	P	**P**	**23 11 09.4**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=19,slow=15,SNR=9.2						
FITZ	**Fitzroy Crossi**	**20.77**	**180**	P	**P**	**23 11 13.2**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=325,slow=7.9,SNR=7.0						
FITZ	**Fitzroy Crossi**	**20.77**	**180**	P	**P**	**23 11 13.0**	**-0.5**
CBJI	**Citeko**	**20.79**	**244**	P	**P**	**23 11 15.6**	**+1.8**
MYKOM	**Kota Tinggi**	**21.69**	**268**	P	**P**	**23 11 22.2**	**-0.3**
MYKOM	**Kota Tinggi**	**21.69**	**268**	P	**P**	**23 11 27.0**	**+3.5**
KLSI		**22.08**	**250**	P	**P**	**23 11 28.6**	**+1.1**
MDSI	**Maura Dua**	**22.54**	**251**	P	**P**	**23 11 33.8**	**+1.9**
UBPT	**Khong Chiam**	**23.34**	**303**	P	**P**	**23 11 38.8**	**-0.5**
WB0	**Warramunga Arr**	**24.06**	**159**	P	**P**	**23 11 45.5**	**-0.3**
WRAB	**Tennant Creek**	**24.19**	**159**	P	**P**	**23 11 46.5**	**-0.5**
WRA	**Warramunga Arr**	**24.20**	**159**	P	**P**	**23 11 47.4**	**+0.3**
	comp=Z,18nm,0.8s,baz=338,slow=10,SNR=83						
WRA				S	**S**	**23 15 57.9**	**+3.3**
	comp=Z,4.2nm,1.1s,baz=343,slow=18,SNR=7.2						
WRA				ScP	**ScP**	**23 18 47.6**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=336,slow=3.4,SNR=7.1						
WRA				LR	LR	23 21 25.6	
	comp=Z,44nm,19.1s,baz=180,slow=36						
WRA	**Warramunga Arr**	**24.20**	**159**	P	**P**	**23 11 46.6**	**-0.4**
WB2	**Warramunga Arr**	**24.20**	**159**	P	**P**	**23 11 46.5**	**-0.6**
WR0	**Warramunga Arr**	**24.29**	**159**	P	**P**	**23 11 47.6**	**-0.3**
WR0				IAmb	IAmb	23 11 50.7	
	comp=Z,12nm,0.8s						
IPM	**Ipoh**	**24.52**	**275**	P	**P**	**23 11 51.7**	**+1.6**
IPM	**Ipoh**	**24.52**	**275**	P	**P**	**23 11 52.0**	**+1.9**
KULM	**Kulim**	**24.95**	**276**	P	**P**	**23 11 54.4**	**+0.4**
KULM				IAmb	IAmb	23 11 57.9	
	comp=Z,7.9nm,0.8s						
KULM	**Kulim**	**24.95**	**276**	P	**P**	**23 11 56.0**	**+2.1**
MNSI	**Mandailing Nat**	**26.02**	**266**	P	**P**	**23 12 07.1**	**+3.5**
ASAR	**Alice Springs**	**27.54**	**163**	P	**P**	**23 12 17.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=338,slow=7.0,SNR=8.5						
ASAR				PcP	**PcP**	**23 15 32.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=359,slow=3.7,SNR=1.9						
ASAR	**Alice Springs**	**27.54**	**163**	P	**P**	**23 12 16.5**	**-0.6**
CTA	**Charters Tower**	**30.51**	**139**	P	**P**	**23 12 45.6**	**+2.1**
	comp=Z,2.0nm,0.5s,baz=312,slow=12,SNR=3.8						
JWT	**Wachi**	**33.59**	**15**	P	**P**	**23 13 11.1**	**+0.9**
JGF	**Kuroka**	**34.43**	**17**	P	**P**	**23 13 18.8**	**+1.4**
KSRS	**Korea Array**	**34.56**	**3**	LR	LR	23 26 39.3	
	comp=Z,25nm,21.2s,baz=195,slow=35						
MJAR	**Matsushiro Arr**	**35.55**	**18**	P	**P**	**23 13 26.7**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=194,slow=8.8,SNR=12						
BBOO	**Buckleboo**	**36.79**	**165**	P	**P**	**23 13 38.1**	**+0.5**
BBOO				IAmb	IAmb	23 13 50.8	
	comp=Z,17nm,1.4s						
JMM	**Marumori**	**37.60**	**20**	P	**P**	**23 13 46.1**	**+1.8**
STKA	**Stephens Creek**	**37.71**	**157**	P	**P**	**23 13 46.0**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=322,slow=8.9,SNR=5.3						
STKA	**Stephens Creek**	**37.71**	**157**	P	**P**	**23 13 45.7**	**+0.3**
LZH	**Lanzhou**	**38.72**	**331**	*e*P	**P**	**23 13 57.0**	**+3.0**
LZH				pP	pwP	23 14 32.0	+0.6
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
SHL	**Shillong**	**39.49**	**308**	P	**P**	**23 14 00.9**	**+0.3**
SHL				IAmb	IAmb	23 14 01.2	
	comp=Z,5.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.92**	**343**	*e*P	**P**	**23 14 06.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,7.0s						
JTM	**Tenmabayashi**	**40.33**	**18**	P	**P**	**23 14 08.9**	**+1.8**
USRK	**Ussuriysk Ar.**	**41.62**	**7**	P	**P**	**23 14 18.4**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=152,slow=6.6,SNR=5.3						
USRK				LR	LR	23 31 03.6	
	comp=Z,17nm,20.4s,baz=194,slow=35						
USRK	**Ussuriysk Ar.**	**41.62**	**7**	P	**P**	**23 14 19.3**	**+1.8**
H11S3	**WAKE ISLAND Hy**	**43.19**	**66**	T	T	00 01 27.5	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**43.21**	**66**	T	T	00 01 27.9	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**43.21**	**66**	T	T	00 01 28.7	
	baz=254						
GUN	**Gumba**	**45.32**	**307**	*e*P	**P**	**23 14 47.0**	**-0.9**
	comp=Z,15nm,0.5s						
PKI	**Pulchoki**	**45.55**	**307**	*e*P	**P**	**23 14 48.3**	**-1.4**
	comp=Z,3.2nm,0.5s						
KKN	**Kakani**	**45.75**	**307**	*e*P	**P**	**23 14 50.2**	**-0.9**
DMN	**Daman**	**45.81**	**307**	*e*P	**P**	**23 14 50.5**	**-1.1**
	comp=Z,4.8nm,0.5s						
GKN	**Gorkha**	**46.35**	**307**	*e*P	**P**	**23 14 54.2**	**-1.6**
	comp=Z,4.2nm,0.6s						
KOLN	**Koldanda**	**47.09**	**306**	*e*P	**P**	**23 15 00.6**	**-0.9**
	comp=Z,15nm,0.6s						
DANN	**Dangsing**	**47.20**	**307**	*e*P	**P**	**23 15 01.3**	**-1.2**
	comp=Z,20nm,0.6s						
PYUN	**Puthan**	**47.71**	**306**	*e*P	**P**	**23 15 05.5**	**-0.9**
	comp=Z,16nm,0.6s						
SONM	**Songino Array**	**47.81**	**343**	P	**P**	**23 15 04.7**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=167,slow=9.8,SNR=2.5						
SONM				PcP	**PcP**	**23 16 34.0**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=147,slow=2.9,SNR=2.2						
SONM	**Songino Array**	**47.81**	**343**	P	**P**	**23 15 05.0**	**-1.6**
**

CHN2 Minshiung 0.30 38 iP Pg 23 16 59.9 +0.1
baz=30
CHN2 iS Sb 23 17 05.4 -0.2
baz=30
CHN4 Tsaushan 0.30 80⇓iP Pg 23 16 59.0 -0.7
baz=74
CHN4 eS Sg 23 17 04.4 +0.5
baz=74
WTP Ta-pu 0.32 99⇓iP Pg 23 16 59.3 -0.8
baz=97
WTP S Sg 23 17 04.4 -0.1
baz=97
TPUB Ta-pu 0.33 89⇓iP Pg 23 16 59.3 -1.0
baz=86
TPUB iS Sg 23 17 04.5 -0.2
baz=86
WSF Szhu 0.34 352 P Pg 23 17 00.8 +0.3
baz=348
WSF iS Sb 23 17 07.5 +0.6
baz=348
SGST Jiashian 0.35 127 iP Pg 23 16 59.3 -1.5
baz=116
SGST iS Sg 23 17 05.4 -0.2
baz=116
WTK Tuku 0.40 15 iP Pg 23 17 02.0 +0.4
baz=354
WTK S Sb 23 17 09.6 +1.0
baz=354
SCST Cishan 0.46 154 P Pb 23 17 03.5 0.0
baz=141
SCST eS Sb 23 17 12.5 +2.4
baz=141
SLGT Liugui 0.46 131 iP Pg 23 17 02.4 -0.2
baz=117
SLGT eS Sb 23 17 09.9 -0.2
baz=117
WDLH Douliu 0.46 32 P Pg 23 17 02.9 +0.2
baz=26
WDLH S Sb 23 17 11.3 +1.0
baz=26
STYT Tauyuan 0.46 107 iP Pg 23 17 01.9 -0.8
baz=105
STYT S Sg 23 17 09.2 +0.2
baz=105
WGK Gukeng 0.47 34 eP Pg 23 17 02.9 +0.1
baz=30
WGK eS Sb 23 17 12.1 +1.6
baz=30
CHN5 Tsauling 0.47 51 iP Pg 23 17 02.6 -0.4
baz=46
CHN5 S Sb 23 17 11.2 +0.4
baz=46
TWM1 Shoushan 0.49 164 P Pb 23 17 04.5 +0.4
baz=167
WMLT Mailiao 0.51 355 eP Pg 23 17 03.5 -0.1
baz=351
ALS Alishan 0.53 66 P Pg 23 17 03.5 -0.6
baz=62
ALS eS Sg 23 17 12.2 +0.9
baz=62
SNJT Kaohsiung City 0.54 174 eP Pb 23 17 04.7 -0.3
baz=178
SNJT eS Sn 23 17 15.3 -0.6
baz=178
WTCT Ta-ch'eng 0.56 1 eP Pg 23 17 04.6 0.0
baz=358
WDGT Dungji 0.57 266 eP Pg 23 17 04.4 -0.2
baz=268
WDGT eS Sb 23 17 12.7 -0.6
baz=268
RLNB Erlin 0.60 7 P Pg 23 17 05.1 -0.1
baz=4.0
RLNB eS Sb 23 17 14.9 +0.7
baz=4.0
SGLT Jiouru 0.60 161 eP Pb 23 17 06.6 +0.6
baz=163
SSD Sandimen 0.64 149 P Pg 23 17 05.7 -0.3
baz=136
SSD eS Sb 23 17 15.5 +0.1
baz=136
WHYT Xinyi Township 0.66 53 P Pg 23 17 06.2 -0.4
baz=50
WHYT S Sb 23 17 16.4 +0.2
baz=50
WJS Zhushan 0.67 38 eP Pg 23 17 06.3 -0.3
baz=35
WJS eS Sb 23 17 16.8 +0.5
baz=35
TSMG Majia 0.68 150 eP Pg 23 17 06.3 -0.5
baz=138
TSMG eS Sb 23 17 16.8 +0.2
baz=138
PHUB P'eng-hu 0.68 289 eP Pg 23 17 06.0 -0.8
baz=290
PHUB eS Sb 23 17 15.9 -0.7
baz=290
WNT Mingjian 0.69 33 eP Pg 23 17 06.7 -0.3
baz=30
WNT eS Sg 23 17 16.5 +0.4
baz=30
ELDTW Lidau 0.69 99 iP Pg 23 17 06.1 -1.0
baz=97
ELDTW eS Sg 23 17 16.2 0.0
baz=97
PNG Penghu 0.71 292⇓iP Pg 23 17 06.8 -0.7
baz=294
PNG eS Sb 23 17 17.6 0.0
baz=294
KAU Kaohsiung 0.73 178 eP Pb 23 17 07.9 -0.2
baz=180
KAU eS Sn 23 17 19.3 -1.1
baz=180
MASBT Mashibuluo 0.76 154 eP Pg 23 17 07.7 -0.6
baz=138
MASBT eS Sb 23 17 19.1 +0.2
baz=138
VCHM Qimei 0.78 264 eP Pg 23 17 07.9 -0.9
baz=266
VCHM eS Sb 23 17 19.5 0.0
baz=266
SSLB Suanglung 0.79 52⇓iP Pg 23 17 07.8 -1.1
baz=49
SSLB eS Sg 23 17 20.1 +0.8
baz=49
TYC Yuchr 0.81 41 iP Pg 23 17 08.8 -0.4
baz=39
TYC eS Sb 23 17 20.9 +0.7
baz=39
SMLT Sun Moon Lake 0.82 44 eP Pg 23 17 09.0 -0.5
baz=42
SMLT eS Sb 23 17 21.5 +0.8
baz=42
WCHH Zhanghua 0.82 18 eP Pg 23 17 09.2 -0.3
baz=30
WCHH eS Sn 23 17 22.4 -0.4
baz=30
SSPT Xinbi 0.85 161 eP Pb 23 17 10.7 +0.4
baz=145
SSPT eS Sn 23 17 25.7 +2.1
baz=145
TWG Pinlang 0.87 123 eP Pg 23 17 09.8 -0.7
baz=108
TWG eS Sg 23 17 22.2 +0.3
baz=108
LONT Longtian 0.88 116 eP Pg 23 17 09.8 -0.8
baz=115
LONT eS Sg 23 17 22.3 +0.2
baz=115
TWGBT Beinan 0.88 123 eP Pg 23 17 09.8 -0.8
baz=108
TWGBT eS Sg 23 17 22.1 -0.1
baz=108
VWDT VWDT 0.92 60⇓iP Pg 23 17 10.5 -0.8
baz=57
VWDT eS Sg 23 17 23.2 -0.1
baz=57
TCU Taichung 0.92 23 eP Pg 23 17 10.9 -0.6
baz=22
ECL Taimali 0.94 138 eP Pg 23 17 10.9 -0.8
baz=138
ECL eS Sg 23 17 24.1 +0.2
baz=138
TWF1 Yuli 0.94 86⇓iP Pg 23 17 10.3 -1.4
baz=84
TWF1 eS Sg 23 17 23.7 -0.4
baz=84
FULB Fuli 0.94 96⇓iP Pg 23 17 11.0 -0.8
baz=85
FULB eS Sb 23 17 24.8 +0.7
baz=85
YULB Yu-li 0.94 84⇓iP Pg 23 17 10.2 -1.6
baz=82
YULB eS Sg 23 17 22.8 -1.4
baz=82
DPDB Guoxing 0.94 39 P Pg 23 17 10.8 -1.0
baz=36
DPDB eS Sg 23 17 23.9 -0.4
baz=36
WLCH Liuqiu 0.95 174 eP Pn 23 17 12.9 +0.3
baz=191
WLCH eS Sn 23 17 29.0 +3.1
baz=191
TWP Hsiaoliuchiu 0.95 175 eP Pn 23 17 13.1 +0.5
baz=192
TWP eS Sn 23 17 28.3 +2.3
baz=192
EYUL Yuli 0.96 87 eP Pb 23 17 11.1 -1.0
baz=84
EYUL eS Sg 23 17 24.6 -0.1
baz=84
TTN Taitung 0.97 124 eP Pb 23 17 12.3 +0.2
baz=111
TTN eS Sn 23 17 27.4 +1.0
baz=111
SCZT Fangliau 0.97 161⇑iP Pb 23 17 11.7 -0.6
baz=147
SCZT eS Sb 23 17 25.7 +0.6
baz=147
EHY Hungye 0.98 78 iP Pb 23 17 11.3 -1.1
baz=75
EHY eS Sb 23 17 25.0 -0.4
baz=75
EDH Donghe 1.00 109 P Pb 23 17 12.1 -0.7
baz=107
EDH eS Sg 23 17 26.6 +0.6
baz=107
CHKT Chengkung 1.02 101 eP Pb 23 17 12.5 -0.6
baz=99
CHKT eS Sg 23 17 27.2 +0.6
baz=99
EAST Anshuo 1.05 150 P Pb 23 17 13.0 -0.7
baz=141
EAST eS Sn 23 17 28.6 0.0
baz=141
HGSD Ruisui 1.07 79 eP Pb 23 17 13.7 -0.3
baz=77
HGSD eS Sb 23 17 27.5 -0.4
baz=77
TAW Tawu 1.10 148 eP Pb 23 17 13.4 -0.9
baz=148
TAW eS Sg 23 17 29.3 +0.3
baz=148
WDJ Dajia District 1.10 18 eP Pb 23 17 14.0 -0.4
baz=26
CHGB Renai 1.12 47 eP Pb 23 17 13.8 -1.2
baz=45
CHGB eS Sg 23 17 30.6 +0.7
baz=45
EGFH Guangfu 1.12 70 eP Pb 23 17 13.7 -1.1
baz=68
EGFH eS Sb 23 17 28.9 -0.4
baz=68
TWQ1 Liyutan 1.14 23 eP Pb 23 17 14.5 -0.7
baz=21
TWQ1 eS Sn 23 17 32.8 +2.0
baz=21
WHP Taichung City 1.15 32 eP Pb 23 17 14.4 -1.0
baz=30
WHP eS Sg 23 17 31.1 +0.2
baz=30
SLIU Shizi 1.18 156 eP Pn 23 17 14.4 -1.4
baz=156
SLIU eS Sn 23 17 32.3 +0.6
baz=156
ESL Shilin 1.18 64 eP Pn 23 17 15.1 -0.7
baz=50
ESL eS Sb 23 17 31.8 +0.8
baz=50
NSY Sanyi 1.20 22 eP Pn 23 17 15.8 -0.2
baz=20
WHF Hehuan Shan 1.24 47 eP Pn 23 17 16.6 -0.4
baz=45
WHF eS Sn 23 17 35.0 +1.3
baz=45
TDCB Techi 1.25 40 eP Pn 23 17 16.2 -0.6
baz=38
TDCB eS Sg 23 17 34.3 +0.4
baz=38
TWT Tachien 1.26 41 P Pn 23 17 17.0 -0.1
baz=39
LDUT Ludao 1.26 119 eP Pn 23 17 16.0 -0.9
baz=118
LDUT eS Sg 23 17 34.7 +0.3
baz=118
FUSS Fushou 1.30 43 eP Pn 23 17 17.0 -0.6
baz=41
FUSS eS Sn 23 17 35.6 +0.6
baz=41
NMLH Miaoli 1.32 21 eP Pn 23 17 17.1 -0.7
baz=19
HEN Hengchun 1.35 162 eP Pn 23 17 18.6 -0.1
baz=163
HWA Hwalien 1.40 61 eP Pb 23 17 19.7 +0.3
baz=59
ETLH Xiulin Townshi 1.43 50 eP Pn 23 17 19.5 +0.3
baz=39
TWK1 Hengchun 1.43 160 eP Pn 23 17 18.2 -1.1
baz=161
TWKBT Hengchun 1.44 160 eP Pn 23 17 17.9 -1.4
baz=161
TWD Chiawan 1.44 57 eP Pn 23 17 19.2 -0.1
baz=55
TWD eS Sn 23 17 38.7 +0.6
baz=55
NSTT Nanjuang 1.48 26 eP Pn 23 17 19.5 -0.5
baz=25
NACB Ninganchiao 1.49 54 eP Pn 23 17 19.7 -0.3
baz=52
LIOB Emei 1.50 27 eP Pn 23 17 20.0 -0.3
baz=25
TSEB Hengchuen, Pin 1.51 157 eP Pn 23 17 20.9 +0.7
baz=160
NNSB Datong 1.52 42 eP Pn 23 17 20.1 -0.4
baz=41
NNSH Datong 1.52 42 eP Pn 23 17 20.1 -0.4
baz=40
NNS Nan Shan 1.52 41 eP Pn 23 17 20.6 +0.1
baz=41
SBCB Hsinchu 1.62 23 eP Pn 23 17 21.4 -0.5
baz=22
NSK Sanguang 1.69 36 eP Pn 23 17 22.8 -0.1
baz=22
NSK eS Sn 23 17 44.8 +0.3
baz=22
YHNB Yeheng 1.70 36 eP Pn 23 17 22.9 -0.1
baz=20
LAY Lan-yu 1.72 136 eP Pn 23 17 21.8 -1.5
baz=134
LAY eS Sn 23 17 45.0 -0.1
baz=134
NDT Datong Townshi 1.72 41 eP Pn 23 17 23.7 +0.4
baz=23
ENTT Nioudou 1.78 41 eP Pn 23 17 25.2 +1.1
baz=31
ENAH Nanao 1.81 50 eP Pn 23 17 25.3 +0.8
baz=67
VWUC VWUC 1.85 336 eP Pn 23 17 23.9 -1.1
baz=335
NWLT Wulai 1.85 37 eP Pn 23 17 25.1 +0.1
baz=19
TWE Neicheng 1.91 42 eP Pn 23 17 27.3 -0.9
baz=22
TATO Taipei 2.00 33 eP Pn 23 17 27.2 +0.1
baz=32
KNM Kinmen 2.02 304 eP Pn 23 17 27.3 0.0
baz=301
PTMZ Houxiangcun 2.03 329 eP Pn 23 17 26.4 -1.0
baz=328
TWA Mucha 2.06 35 eP Pn 23 17 28.0 +0.1
baz=18
KNMB Chin-men Tao 2.08 304 eP Pn 23 17 26.6 -1.6
baz=304
NTC Toucheng 2.10 42 eP Pb 23 17 31.4 -0.1
baz=25
EGS 2.16 44 eP Pn 23 17 30.9 +1.6
baz=30
YM04 YM04 2.18 32 eP Pn 23 17 28.9 -0.7
baz=15
TIPB Shuangxi 2.19 40 eP Pn 23 17 30.3 +0.6
baz=23
YM01 YM01 2.19 32 eP Pn 23 17 28.7 -1.0
baz=32
ANP Anpu 2.20 31 eP Pn 23 17 29.2 -0.6
baz=30
YM05 YM05 2.20 32 eP Pn 23 17 29.1 -0.8
baz=15
YM03 YM03 2.20 31 eP Pn 23 17 29.1 -0.8
baz=15
YM11 YM11 2.21 32 eP Pn 23 17 30.1 +0.2
baz=16
YM08 YM08 2.23 32 eP Pn 23 17 30.9 +0.6
baz=15
NWF Wu-fen Shan 2.24 38 eP Pb 23 17 32.7 -1.2
baz=19
WFSB Wu-fen Shan 2.24 38 eP Pn 23 17 31.0 +0.7
baz=19
PTTC Pingtan 2.24 348 eP Pn 23 17 31.8 +1.4
baz=347
QZH Quanzhou 2.25 317 Pn Pb 23 17 32.8 -1.2
QZH Sn Sb 23 18 03.0 +1.3
QZH smax smax
comp=N,180nm,0.5s
QZH smax smax
comp=E,260nm,0.6s
QZH LR LR
comp=N,860nm,3.5s
QZH LR LR
comp=E,1μm,7.5s
QZH LR LR
comp=Z,300nm,4.4s
AXDP Jialang 2.64 308 eP Pn 23 17 34.6 -1.3
baz=307
JYNG Yonagunijimaku 2.70 64 P Pn 23 17 37.1 +0.4
JYNG eS Sn 23 18 11.1 +1.9
YOJ Yonaguni jima 2.76 65 eP Pn 23 17 38.7 +1.2
baz=64
YOJ Yonaguni jima 2.76 65 P Pn 23 17 38.8 +1.3
YOJ eS Sn 23 18 13.4 +2.7
MATB Ma-tsu 2.86 354 eP Pn 23 17 37.6 -1.2
baz=352
MHZQ Yeshan 3.01 338 eP Pn 23 17 39.6 -1.4
baz=338
LYJJ Jianjiangzhen 3.27 352 eP Pn 23 17 43.0 -1.5
baz=351
HATJ Hateruma jima 3.32 76 P Pn 23 17 45.4 +0.2
HATJ eS Sn 23 18 25.4 +0.8
IRIF Iriomote-Funau 3.33 71 P Pn 23 17 45.4 +0.1
IRIF S Sn 23 18 27.2 +2.5
JKRS Kuro-shima 3.55 74 P Pn 23 17 49.2 +0.9
JKRS S Sn 23 18 31.9 +1.8
JIJ Ishigaki jima 3.70 73 P Pn 23 17 49.7 -0.7
JIJ eS Sn 23 18 34.7 +0.9
JISG Ishigakijimahi 3.91 70 P Pn 23 17 53.3 0.0
JISG eS Sn 23 18 38.6 -0.5
JTJ Tarama 4.26 71 P Pn 23 17 58.8 +0.6
JTJ S Sn 23 18 49.4 +1.6

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*IDC **28** 23:30:03.7±1.3, 15°.05S×71°.92W, h144km±16km, mb3.0/1, mb1 3.1/6, mb1mx3.0/35, mbtmp3.5/6, Error ellipse: s-maj=28.2km s-min=11.6km az=30.0*

ISC 28 23:30:03.8±0.9, **15°.1S**±0°.1×**71°.93W**±0°.09, **h150km, n6,** σ1s39/9, **Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.6nm,0.3s,baz=290,slow=7.7,SNR=12	**3.85**	**109**	P	**Pn**	**23 31 03.9**	**+1.1**
LPAZ	0.5nm,0.3s,baz=246,slow=24,SNR=7.8			S	**Sn**	**23 31 48.2**	**0.0**
NNA	**Nana** 4.0nm,0.3s,baz=131,slow=11,SNR=3.3	**5.69**	**302**	P	**Pn**	**23 31 27.4**	**+0.9**
NNA	3.7nm,0.3s,baz=227,slow=19,SNR=2.4			S	**Sn**	**23 32 29.6**	**-1.4**
LVC	**Limon Verde** 0.6nm,0.3s,baz=326,slow=9.2,SNR=8.8	**8.01**	**160**	P	**Pn**	**23 31 58.8**	**+1.1**
LVC	1.6nm,0.3s,baz=266,slow=19,SNR=13			S	**Sn**	**23 33 26.2**	**-1.0**
SIV	**San Ignacio** 0.1nm,0.3s,baz=313,slow=12,SNR=2.6	**10.50**	**96**	P	**Pn**	**23 32 28.6**	**-2.0**
CPUP	**Villa Florida** 0.1nm,0.3s,baz=310,slow=9.4,SNR=3.8	**17.64**	**132**	P	**Pn**	**23 34 01.3**	**+1.0**
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=260,slow=4.5,SNR=5.3	**78.06**	**73**	P	**P**	**23 41 46.9**	**+0.3**

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*IDC **28** 23:31:05.3±1.3, 42°.46N×85°.59E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.2/49, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=42.7km s-min=14.4km az=64.0*
*BJI **28** 23:31:10.0±0.0, 42°.53N×85°.76E, h7km, ML3.3/7*
*NNC **28** 23:31:14.7±1.8, 42°.77N×85°.33E, h4km±7km, mb3.9, mpv3.6, Error ellipse: s-maj=12.4km s-min=9.8km az=119.0*

ISC 28 23:31:09.9±1.2, **42°.70N**±0°.08×**85°.87E**±0°.06, **h10km, n20,** σ2s09/29, **12C-9D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.74**	**49**	Pg	**Pg**	**23 31 43.3**	**0.0**
WMQ				Sg	**Sg**	**23 32 07.8**	**+2.0**
KTMS	**Ketmen** 12nm,0.2s	**4.11**	**282**	Pg	**Pb**	**23 32 23.8**	**+1.4**
KTMS	46nm,0.5s			Lg	Lg	23 33 13.4	
DJR	**Jarkent** 3.0nm,0.3s	**4.71**	**292**	Pg	**Pb**	**23 32 31.9**	**-0.7**
DJR	9.3nm,0.7s			Lg	Lg	23 33 27.7	
PDGK	**Podgornoye** 2.2nm,0.4s	**4.72**	**280**	Pg	**Pb**	**23 32 34.0**	**+1.2**
PDGK	13nm,0.6s			Lg	Lg	23 33 30.9	
PDGK	**Podgornoye** 1.2nm,0.6s	**4.72**	**280**	⇑Pn	**Pn**	**23 32 20.1**	**-1.1**
PDGK	9.0nm,0.9s			⇓Pg	**Pb**	**23 32 33.6**	**+0.8**
PDGK	28nm,0.5s			⇓Lg	Lg	23 33 33.7	
SHLS	**Shalkode** 8.0nm,0.1s	**4.73**	**278**	Pg	Pb	23 32 28.9	-4.0
SHLS	72nm,0.6s			Lg	Lg	23 33 22.3	
MK31	**Makanchi Array** 1.5nm,0.3s,baz=143,slow=14,SNR=44	**4.82**	**329**	⇑Pn	**Pn**	**23 32 24.0**	**+1.4**
MK31	4.1nm,0.6s,baz=140,slow=17,SNR=6.5			⇑Pg	**Pg**	**23 32 39.6**	**-2.6**
MK31	6.9nm,0.5s			⇓Sn	**Sn**	**23 33 19.0**	**+0.6**
MK31	5.1nm,0.3s,baz=140,slow=30,SNR=8.8			⇑Lg	Lg	23 33 38.1	
MKAR	**Makanchi Array** 0.7nm,0.3s,baz=149,slow=14,SNR=54	**4.82**	**329**	Pn	**Pn**	**23 32 23.4**	**+0.9**
MKAR	3.1nm,0.3s,baz=148,slow=25,SNR=5.6			Sn	**Sn**	**23 33 19.8**	**+1.4**
MKAR	9.2nm,0.3s,baz=148,slow=28,SNR=13			Lg	Lg	23 33 37.9	
MAKZ	**Makanchi** 1.6nm,0.6s	**4.95**	**327**	⇓Pn	**Pn**	**23 32 24.9**	**+0.6**
MAKZ	3.6nm,0.6s			⇑Pg	**Pb**	**23 32 38.1**	**+1.4**
MAKZ	3.8nm,0.5s			⇑Sn	**Sn**	**23 33 22.5**	**+0.9**
MAKZ	14nm,0.6s			⇑Lg	Lg	23 33 42.5	
UZB	**Uzynbulak** 3.0nm,0.2s	**5.05**	**277**	Pg	**Pb**	**23 32 39.9**	**+1.5**
UZB	16nm,0.5s			Lg	Lg	23 33 41.2	
ZHN	**Zhinishke** 43nm,0.5s	**5.48**	**277**	Pg	**Pb**	**23 32 47.0**	**+1.3**
ZHN	4.9nm,0.2s			Lg	Lg	23 33 53.3	
SATY	**Saty** 1.0nm,0.1s	**5.50**	**276**	Pg	**Pb**	**23 32 47.8**	**+1.8**
SATY	7.0nm,0.2s			Lg	Lg	23 33 54.6	
TKM2	**Tokmak 2** 0.7nm,0.4s	**7.56**	**275**	⇑Pn	**Pn**	**23 32 59.5**	**-0.8**
TKM2	4.8nm,1.1s			⇑Lg	Lg	23 35 01.6	
AAK	**Ala-Archa** 2.0nm,0.8s	**8.38**	**273**	⇑Pg	**Pb**	**23 33 38.5**	**+3.3**

AAK				⇓Lg		Lg		23 35 32.3	
	5.3nm,1.0s								
KURBB	**Kurchatov Arra**	**9.39**	**330**	Pn		**Pn**		**23 33 23.6**	**-1.5**
	0.1nm,0.3s,baz=147,slow=12,SNR=2.2								
KURBB				Sn		**Sn**		**23 35 07.9**	**-2.7**
	0.1nm,0.3s,baz=144,slow=23,SNR=5.8								
KURBB				Lg		Lg		23 36 04.7	
	0.1nm,0.3s,baz=143,slow=30,SNR=6.6								
KURBB	**Kurchatov Arra**	**9.39**	**330**	⇓Pn		**Pn**		**23 33 28.6**	**+3.5**
	1.3nm,0.6s								
KURBB				⇓Sn		**Sn**		**23 35 11.5**	**+0.8**
	4.0nm,0.6s								
KURBB				⇑Lg		Lg		23 36 06.2	
	16nm,0.7s								
KURK	**Kurchatov**	**9.43**	**331**	⇓Pn		**Pn**		**23 33 30.1**	**+4.4**
	1.3nm,0.8s								
KURK				⇓Sn		**Sn**		**23 35 13.4**	**+1.7**
	2.4nm,0.6s								
KURK				⇑Lg		Lg		23 36 07.3	
	4.6nm,0.6s								
ZALV	**Zalesovo Beam**	**11.27**	**357**	Pn		**Pn**		**23 33 50.2**	**-0.7**
	0.5nm,0.3s,baz=173,slow=13,SNR=4.9								
ZALV				Sn		**Sn**		**23 35 53.1**	**-3.8**
	0.5nm,0.3s,baz=184,slow=20,SNR=3.3								
ZALV				Lg		Lg		23 37 12.8	
	0.1nm,0.3s,baz=182,slow=23,SNR=1.9								
WRA	**Warramunga Arr**	**76.66**	**134**	P		**P**		**23 42 57.9**	**-3.2**
	0.4nm,0.5s,baz=331,slow=5.4,SNR=8.9								
TORD	**Torodi Ar. Bea**	**76.96**	**276**	P		P		23 42 58.4	-4.5
	0.1nm,0.4s,baz=45,slow=5.9,SNR=4.3								

IDC ***29*** *00:02:50.8±2.6,6.79N×93.38E,h0km,mb3.5/4,mb1 3.7/5, mb1mx3.4/42,mbtmp3.6/5,ML4.2/1,MS2.9/3,Ms1 3.0/3, ms1mx2.5/37,Error ellipse: s-maj=93.0km s-min=28.8km az=60.0*
NEIC ***29*** *00:02:59.9±1.7,7.48N±0.05×94.4E±0.1,h35km±2km, mb4.3/8,Error ellipse: s-maj=25.2km s-min=7.4km az=257.0*

ISC 29 00:02:58.5±1.0,7.42N±0.10×94.42E±0.09,h24km,n30, σ0s12/28,mb4.0/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.32**	**131**		**Pn**	**00 03 50.2**	**+1.2**
PKDT	**Phuket**	**3.91**	**83**	P	**Pn**	**00 03 58.3**	**+1.3**
PKDT				S	**Sn**	**00 04 41.3**	**-0.8**
SURT	**Suratani**	**4.59**	**70**	P	**Pn**	**00 04 08.0**	**+1.6**
SURT				S	**Sn**	**00 04 59.6**	**+0.6**
TRTT	**Trang**	**5.24**	**85**	P	**Pn**	**00 04 16.4**	**+1.1**
TRTT				S	**Sn**	**00 05 12.9**	**-2.1**
SRIT	**Nakonsritamara**	**5.26**	**77**	P	**Pn**	**00 04 16.6**	**+1.0**
SRIT				S	**Sn**	**00 05 14.1**	**-1.5**
KULM	**Kulim**	**6.54**	**108**	Pn	**Pn**	**00 04 33.2**	**0.0**
IPM	**Ipoh**	**7.18**	**114**		**Pn**	**00 04 41.8**	**-0.4**
MYKOM	**Kota Tinggi**	**10.93**	**120**		**Pn**	**00 05 35.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**11.82**	**21**	Pn	Pn	00 05 54.8	+9.1
	0.4nm,0.3s,baz=222,slow=15,SNR=2.1						
CMAR				LR	LR	00 10 20.9	
	comp=Z,25nm,19.5s,baz=175,slow=35						
LEM	**Lembang**	**19.32**	**137**	LR	LR	00 15 35.1	
	comp=Z,53nm,18.1s,baz=264,slow=39						
H08S3	**Diego Garcia H**	**26.49**	**236**	T	T	00 35 15.5	
	baz=54,SNR=33						
H08S2	**Diego Garcia H**	**26.50**	**236**	T	T	00 35 14.6	
	baz=54						
H08S1	**Diego Garcia H**	**26.51**	**236**	T	T	00 35 12.5	
	baz=54						
BJT	**Baijiatuan**	**37.86**	**28**	P	**P**	**00 10 13.3**	**-0.1**
GAR	**Garm**	**38.21**	**329**	P	**P**	**00 10 15.6**	**-1.0**
GAR				IAmb	IAmb	00 10 22.5	
	comp=Z,9.2nm,1.5s						
BOOM	**Boomskoye usch**	**38.56**	**338**	P	**P**	**00 10 20.5**	**+1.0**
BOOM				IAmb	IAmb	00 10 33.9	
	comp=Z,6.5nm,1.0s						
MK31	**Makanchi Array**	**40.59**	**347**		**P**	**00 10 35.9**	**-0.4**
MKAR	**Makanchi Array**	**40.59**	**347**	P	**P**	**00 10 34.5**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=161,slow=7.7,SNR=5.5						
MKAR	**Makanchi Array**	**40.59**	**347**	P	**P**	**00 10 34.8**	**-1.4**
MAKZ	**Makanchi**	**40.68**	**347**	P	**P**	**00 10 35.9**	**-1.1**
MAKZ				IAmb	IAmb	00 10 55.5	
	comp=Z,4.0nm,1.3s						
KSAR	**Wonju Array Be**	**42.59**	**40**	P	**P**	**00 10 53.7**	**+0.9**
KURBB	**Kurchatov Arra**	**45.06**	**346**	P	**P**	**00 11 11.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=165,slow=7.4,SNR=5.3						
KURK	**Kurchatov**	**45.12**	**346**	P	**P**	**00 11 11.4**	**-1.5**
KURK				IAmb	IAmb	00 11 23.6	
	comp=Z,4.8nm,1.4s						
ZALV	**Zalesovo Beam**	**47.04**	**352**	P	**P**	**00 11 28.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=152,slow=6.4,SNR=2.0						
ZALV	**Zalesovo Beam**	**47.04**	**352**	P	**P**	**00 11 27.4**	**-0.6**
WB0	**Warramunga Arr**	**47.72**	**125**	P	**P**	**00 11 33.8**	**0.0**
WB0				IAmb	IAmb	00 11 35.0	
	comp=Z,8.6nm,1.5s						
WRA	**Warramunga Arr**	**47.77**	**125**	P	**P**	**00 11 33.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=307,slow=8.4,SNR=5.0						
WRA	**Warramunga Arr**	**47.77**	**125**	P	**P**	**00 11 34.3**	**+0.2**
WC3	**Warramunga Arr**	**47.80**	**125**	P	**P**	**00 11 34.9**	**+0.4**
ASAR	**Alice Springs**	**49.41**	**130**	LR	LR	00 34 26.3	
	comp=Z,19nm,19.2s,baz=169,slow=38						

IDC 29 00:07:47.8±11.0,18.00S×178.79W,h635km±154km, mb3.0/4,mb1 3.2/5,mb1mx2.9/33,mbtmp4.0/5,Error ellipse: s-maj=133.1km s-min=53.8km az=164.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.45**	**251**	P	P	00 10 50.4	+0.7
	0.2nm,0.3s,baz=57,slow=17,SNR=1.9						
STKA	**Stephens Creek**	**38.26**	**241**	P	P	00 14 16.1	-0.2
	1.6nm,0.5s,baz=94,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**44.25**	**260**	P	P	00 15 03.2	-0.3
	0.4nm,0.4s,baz=95,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**44.41**	**254**	P	P	00 15 05.1	+0.4
	6.8nm,0.6s,baz=88,slow=8.4,SNR=96						
TXAR	**Lajitas Array**	**86.36**	**58**	P	P	00 19 24.8	+0.1
	0.4nm,0.7s,baz=224,slow=7.3,SNR=2.5						

TUL ***29*** *00:29:08.9±1.0,36.11N±0.02×97.43W±0.05,h3km±7km, ML3.1,Error ellipse: s-maj=6.4km s-min=2.3km az=70.0*
NEIC ***29*** *00:29:09.4±1.1,36.12N±0.02×97.44W±0.05,h5km±2km, Error ellipse: s-maj=7.4km s-min=3.0km az=248.0*
ANF ***29*** *00:29:09.1±0.7,36.11N×97.41W,h5km,ML3.8/8,Error ellipse: s-maj=9.9km s-min=6.9km az=172.0*

ISC 29 00:29:09.5±0.7,36.11N±0.02×97.45W±0.03,h10km,n81, σ0s75/88,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.32**	**181**		**Pg**	**00 29 15.6**	**-0.3**
OK029				Sg	**Sg**	**00 29 20.0**	**0.0**
BCOK	**Bluff Creek, N**	**0.47**	**196**	Pg	**Pg**	**00 29 18.4**	**-0.3**
BCOK				Sg	**Sg**	**00 29 25.1**	**+0.1**
OK031	**S. Brethren Rd**	**0.52**	**108**		**Pg**	**00 29 19.2**	**-0.4**
OK025	**Westminster Rd**	**0.54**	**170**	Pg	**Pg**	**00 29 19.6**	**-0.3**
OK030	**Cody Creek RV**	**0.57**	**109**	Pg	**Pg**	**00 29 20.1**	**-0.4**
CROK	**Carrier**	**0.58**	**312**		**Pg**	**00 29 20.5**	**-0.3**
QUOK	**Quay**	**0.60**	**84**	Pg	**Pg**	**00 29 20.6**	**-0.5**
OKCFA	**Oklahoma City**	**0.70**	**180**	Pg	**Pg**	**00 29 22.4**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**0.71**	**179**	Pg	**Pg**	**00 29 22.4**	**-0.7**
FNO	**Franklin**	**0.86**	**177**		**Pg**	**00 29 25.5**	**-0.4**
KAN13	**South Haven SW**	**0.90**	**359**		**Pg**	**00 29 26.3**	**-0.5**
KAN14	**Manchester OK**	**0.94**	**334**		**Pg**	**00 29 26.9**	**-0.7**
KAN09	**Caldwell North**	**1.03**	**352**	Pg	**Pg**	**00 29 28.7**	**-0.6**
KAN05	**Bluff City Nor**	**1.05**	**341**	Pg	**Pg**	**00 29 28.9**	**-0.8**
W35A	**Tecumseh**	**1.07**	**154**		**Pg**	**00 29 28.6**	**-1.4**
T35A	**Sooner Cattle**	**1.10**	**43**	Pg	**Pg**	**00 29 29.9**	**-0.8**
KAN10	**Anthony SW Sta**	**1.13**	**333**		**Pb**	**00 29 30.4**	**-0.8**
KAN08	**Anthony NE Sta**	**1.19**	**339**		**Pb**	**00 29 31.5**	**-0.6**
KAN12	**Harper NE Stat**	**1.26**	**340**		**Pn**	**00 29 32.8**	**-0.4**
U32A	**Winter Ranch,**	**1.28**	**282**		**Pn**	**00 29 32.9**	**-0.6**
TUL1	**Leonard**	**1.36**	**98**	P	**Pn**	**00 29 33.9**	**-0.6**
	baz=279						
TUL1				S	**Sb**	**00 29 52.1**	**-0.3**
	baz=279						
TUL1	**Leonard**	**1.36**	**98**	Pn	**Pn**	**00 29 33.8**	**-0.7**
X34A	**Smith Ranch, M**	**1.54**	**192**	Pn	**Pn**	**00 29 37.8**	**+0.7**
WMOK	**Wichita Mounta**	**1.75**	**219**	P	**Pn**	**00 29 40.5**	**+0.6**
	baz=38						
WMOK				S	**Sb**	**00 30 03.8**	**0.0**
	baz=38						
WMOK	**Wichita Mounta**	**1.75**	**219**		**Pn**	**00 29 40.5**	**+0.6**
X37A	**Clayton**	**2.28**	**131**		**Pn**	**00 29 48.0**	**+0.8**
U38A	**Gravette**	**2.50**	**82**		**Pn**	**00 29 51.6**	**+1.4**
R32A	**Long Quarter,**	**2.52**	**337**		**Pn**	**00 29 52.6**	**+2.1**
Z35A	**Perchaven, San**	**2.78**	**177**		**Pn**	**00 29 54.9**	**+0.8**
HHAR	**Hobbs**	**2.84**	**86**		**Pn**	**00 29 55.6**	**+0.7**
KSU1	**Kansas State U**	**3.06**	**12**	P	**Pn**	**00 29 58.7**	**+0.8**
	baz=193						
KSU1	**Kansas State U**	**3.06**	**12**	Pn	**Pn**	**00 29 58.7**	**+0.8**
W39A	**Magazine**	**3.12**	**106**	P	**Pn**	**00 29 58.6**	**-0.1**
	baz=288						
W39A				S	**Sn**	**00 30 37.1**	**+1.0**
	baz=288						
W39A	**Magazine**	**3.12**	**106**		**Pn**	**00 29 59.7**	**+1.0**
CBKS	**Cedar Bluff**	**3.25**	**327**	P	**Pn**	**00 30 01.1**	**+0.5**
	baz=145						
CBKS				S	**Sn**	**00 30 40.8**	**+1.4**
	baz=145						
CBKS	**Cedar Bluff**	**3.25**	**327**	Pn	**Pn**	**00 30 01.3**	**+0.7**
Z38A	**Mt. Pleasant**	**3.50**	**144**	Pn	**Pn**	**00 30 05.1**	**+1.2**
MIAR	**Mount Ida**	**3.53**	**115**	P	**Pn**	**00 30 05.0**	**+0.6**
	baz=298						
MIAR				S	**Sn**	**00 30 47.2**	**+1.0**
	baz=298						
MIAR	**Mount Ida**	**3.53**	**115**	Pn	**Pn**	**00 30 05.4**	**+1.0**
S39A	**Bolivar**	**3.66**	**63**	Pn	**Pn**	**00 30 06.9**	**+0.7**
AMTX	**Amarillo**	**3.67**	**252**	P	**Pn**	**00 30 07.2**	**+0.8**
	baz=69						
AMTX	**Amarillo**	**3.67**	**252**	Pn	**Pn**	**00 30 07.5**	**+1.1**
U40A	**Yellville**	**3.72**	**85**	P	**Pn**	**00 30 07.1**	**+0.1**
	baz=268						
U40A	**Yellville**	**3.72**	**85**		**Pn**	**00 30 07.5**	**+0.4**
ABTX	**Abilene, Hawle**	**3.93**	**208**	Pn	**Pn**	**00 30 10.8**	**+1.0**
X40A	**Basin Creek Fa**	**4.11**	**112**	Pn	**Pn**	**00 30 13.4**	**+1.1**
WHTX	**Lake Whitney,**	**4.11**	**180**	Pn	**Pn**	**00 30 13.1**	**+0.7**
WHAR	**Wooly Hollow**	**4.28**	**100**		**Pn**	**00 30 15.1**	**+0.5**
MGMO	**Mountain Grove**	**4.29**	**74**	Pn	**Pn**	**00 30 15.8**	**+0.9**
237A	**Washetta, Mont**	**4.32**	**161**	Pn	**Pn**	**00 30 15.9**	**+0.7**
FCAR	**Ozark Folk Cen**	**4.32**	**91**	Pn	**Pn**	**00 30 16.1**	**+0.8**
W41B	**Gary Mavity, V**	**4.34**	**101**		**Pn**	**00 30 15.9**	**+0.5**
UALR	**University of**	**4.38**	**106**	Pn	**Pn**	**00 30 16.3**	**+0.3**
R40A	**Maddies Statio**	**4.67**	**61**	Pn	**Pn**	**00 30 20.2**	**+0.1**
P38A	**Dawn**	**4.68**	**40**	Pn	**Pn**	**00 30 20.6**	**+0.4**
MSTX	**Muleshoe**	**4.86**	**245**	Pn	**Pn**	**00 30 22.8**	**0.0**
N35A	**Tabor**	**4.95**	**16**	Pn	**Pn**	**00 30 24.6**	**+0.8**
LCAR	**Lake Charles**	**5.10**	**89**	Pn	**Pn**	**00 30 26.6**	**+0.7**
CCAR	**Cane Creek**	**5.15**	**114**	Pn	**Pn**	**00 30 27.0**	**+0.4**
T42A	**Van Buren**	**5.20**	**78**	Pn	**Pn**	**00 30 27.5**	**+0.2**
BGNE	**Belgrade**	**5.32**	**354**	Pn	**Pn**	**00 30 28.4**	**-0.6**
CCM	**Cathedral Cave**	**5.33**	**67**	Pn	**Pn**	**00 30 29.9**	**+0.8**
P40A	**Paris**	**5.47**	**50**	Pn	**Pn**	**00 30 32.4**	**+1.4**
T25A	**Trinidad**	**5.69**	**282**	Pn	**Pn**	**00 30 34.7**	**+0.4**
L34A	**Svendsen Farm,**	**5.90**	**8**	Pn	**Pn**	**00 30 37.4**	**+0.4**
JCT	**Junction City**	**5.95**	**200**	Pn	**Pn**	**00 30 37.9**	**+0.2**
SDCO	**Great Sand Dun**	**6.65**	**287**	Pn	**Pn**	**00 30 48.5**	**+1.0**
OXF	**Oxford**	**6.76**	**101**	Pn	**Pn**	**00 30 48.7**	**-0.1**
N41A	**Harden Midland**	**6.92**	**46**	Pn	**Pn**	**00 30 51.2**	**+0.4**
P43A	**Skaggs, Pawnee**	**7.19**	**58**	Pn	**Pn**	**00 30 54.6**	**-0.1**
Q44A	**Meyer Farm, Va**	**7.26**	**65**	Pn	**Pn**	**00 30 56.3**	**+0.7**
ISCO	**Idaho Springs**	**7.42**	**302**	Pn	**Pn**	**00 30 58.5**	**+0.3**
ECSD	**EROS Data Cent**	**7.64**	**5**	Pn	**Pn**	**00 30 59.6**	**-1.2**
L40A	**Anamosa**	**7.66**	**37**	Pn	**Pn**	**00 31 00.5**	**-0.6**
HDIL	**Hopedale**	**7.79**	**53**	Pn	**Pn**	**00 31 03.9**	**+1.0**
MNTX	**Cornudas Mount**	**7.93**	**239**	Pn	**Pn**	**00 31 04.7**	**-0.1**
PHWY	**Pilot Hill**	**8.12**	**312**	Pn	**Pn**	**00 31 08.3**	**+0.6**
N23A	**Red Feather La**	**8.19**	**308**	Pn	**Pn**	**00 31 10.0**	**+1.3**
TX31	**Lajitas Ar. Si**	**8.55**	**220**	Pn	**Pn**	**00 31 13.3**	**-0.1**
TXAR	**Lajitas Array**	**8.55**	**220**	Pn	**Pn**	**00 31 13.0**	**-0.4**
JFWS	**Jewell Farm**	**8.78**	**37**	Pn	**Pn**	**00 31 16.8**	**+0.4**

DSN ***29*** *00:34:39.2±1.3,27.53N×57.46E,h10km,ML3.7/11,Error ellipse: s-maj=25.6km s-min=11.1km az=133.0*
TEH ***29*** *00:34:41.3,27.89N×56.82E,h8km,ML3.7*
THR ***29*** *00:34:42.0±0.3,27.71N×56.93E,h29km±7km,ML3.8*
OMAN ***29*** *00:34:44.5±1.9,27.57N×56.97E,h36km,ml3.7/12,Error ellipse: s-maj=100.8km s-min=94.9km az=340.0*

ISC 29 00:34:40.6±0.9,27.62N±0.04×57.00E±0.04,h10km,n49, σ0s98/58,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.44**	**247**	*e*Pg	**Pb**	**00 34 51.6**	**+1.1**
IBND				*e*		00 35 09.8	
KHNJ	**Kahnooj**	**0.71**	**62**	*e*Pg	**Pb**	**00 34 55.6**	**+0.5**
GENO	**Geno**	**0.77**	**254**	*e*Pg	**Pb**	**00 34 56.4**	**+0.2**
GENO				*e*Sg	**Sb**	**00 35 07.6**	**+0.9**
GENO				*e*		00 35 09.0	
BNDS	**Bandar-Abbas**	**0.77**	**253**	*e*Pg	**Pb**	**00 34 56.4**	**+0.3**
BNDS				*e*Sg	**Sb**	**00 35 07.0**	**+0.3**
BNDS				IAML		00 35 09.5	
	comp=N,4μm,0.7s						
BNDS	**Bandar-Abbas**	**0.77**	**253**	*e*Pg	**Pb**	**00 34 56.4**	**+0.3**
SHME	**Shamm**	**1.74**	**206**	*e*P	**Pn**	**00 35 10.8**	**-0.2**
	SNR=17						
BANOM	**Banah**	**1.80**	**200**	*e*P	**Pn**	**00 35 11.7**	**-0.1**
	SNR=56						
BANOM				S	**Sb**	**00 35 36.9**	**+0.4**
BANOM	**Banah**	**1.80**	**200**	P	**Pn**	**00 35 12.0**	**+0.2**
	SNR=56						
BANOM				S	**Sg**	**00 35 39.0**	**+0.5**
KBAM	**BAM**	**1.98**	**40**	*e*Pn	**Pb**	**00 35 16.1**	**-0.7**
NGRK	**Negar Kerman**	**2.03**	**353**	*e*Pg	**Pn**	**00 35 14.9**	**-0.4**
NGRK				*e*		00 35 51.6	
CHMN	**Cheshme madani**	**2.28**	**12**	*e*Pn	**Pn**	**00 35 19.5**	**+0.8**
CHMN				*e*		00 35 56.1	
LAR1	**LAR**	**2.33**	**272**	*e*Pn	**Pn**	**00 35 19.6**	**+0.5**
LAR1				*e*		00 36 03.9	
KRBR	**Kerman**	**2.36**	**355**	*e*Pn	**Pn**	**00 35 20.0**	**+0.2**
KRBR	**Kerman**	**2.36**	**355**	*e*Pn	**Pn**	**00 35 20.0**	**+0.2**
TVBK	**TV Kerman**	**2.37**	**355**	*e*Pn	**Pn**	**00 35 20.6**	**+0.7**
TVBK				*e*		00 35 54.8	
MSFE	**Esma-Masafi**	**2.37**	**199**	P	**Pn**	**00 35 19.6**	**-0.1**
MDH	**Madha**	**2.40**	**195**	P	**Pn**	**00 35 18.1**	**-1.8**
UOSS	**Minazif**	**2.76**	**195**	P	**Pn**	**00 35 24.5**	**-0.4**
UOSS	**Minazif**	**2.76**	**195**	P	**Pn**	**00 35 25.4**	**-0.4**
KHGB	**Koh Gabri**	**2.78**	**351**	*e*Pn	**Pn**	**00 35 25.4**	**-0.1**
KHGB				*e*		00 36 14.6	
NAZ	**Nazwa, Dubai**	**2.88**	**205**	P	**Pn**	**00 35 27.4**	**+0.8**
HATD	**Hatta, Dubai**	**2.89**	**196**	P	**Pn**	**00 35 27.1**	**+0.3**
ASHO	**Ashiyiah**	**3.04**	**196**	*i* P	**Pn**	**00 35 29.3**	**+0.4**
	SNR=17						
ASHO	**Ashiyiah**	**3.04**	**196**	P	**Pn**	**00 35 29.6**	**+0.7**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**3.13**	**204**	*i* P	**Pn**	**00 35 30.3**	**+0.3**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**3.13**	**204**	P	**Pn**	**00 35 30.4**	**+0.4**
	SNR=17						
FAQ				S	**Sn**	**00 36 06.7**	**-0.8**
JHRM	**Jahrom**	**3.15**	**287**	*e*Pn	**Pn**	**00 35 29.2**	**-1.2**
JHRM				*e*		00 36 44.0	
ASUD	**Al Ashush, Dub**	**3.34**	**207**	*i* P	**Pn**	**00 35 33.7**	**+0.8**
	SNR=89						
ASUD	**Al Ashush, Dub**	**3.34**	**207**	P	**Pn**	**00 35 34.0**	**+1.1**
	SNR=89						
SOHO	**SOHO**	**3.50**	**187**	P	**Pn**	**00 35 33.1**	**-1.9**
SOHO	**SOHO**	**3.50**	**187**	P	**Pn**	**00 35 33.4**	**-1.7**
AJN	**Ajban**	**3.54**	**211**	*i* P	**Pn**	**00 35 36.1**	**+0.4**
	SNR=52						
AJN	**Ajban**	**3.54**	**211**	P	**Pn**	**00 35 36.1**	**+0.4**
	SNR=52						
AJN				S	**Sn**	**00 36 16.8**	**-0.8**
GHIR	**Ghir-Karzin**	**3.61**	**282**	*e*Pn	**Pn**	**00 35 37.2**	**+0.5**
GHIR	**Ghir-Karzin**	**3.61**	**282**	*e*Pn	**Pn**	**00 35 37.2**	**+0.5**
ALNE	**Al Ain**	**3.72**	**198**	P	**Pn**	**00 35 37.9**	**-0.3**
HOQ	**Hoqain**	**4.03**	**176**	P	**Pn**	**00 35 42.5**	**+0.1**
	SNR=37						
HOQ				S	**Sn**	**00 36 28.6**	**-1.1**
IBAF	**Bafgh**	**4.15**	**343**	*e*Pn	**Pn**	**00 35 43.4**	**-0.8**
BIDO	**Bidbid**	**4.21**	**166**	P	**Pn**	**00 35 44.8**	**-0.1**
	SNR=9.4						
BIDO				S	**Sn**	**00 36 34.0**	**-0.1**
	SNR=6.8						
ARQ	**Araqi**	**4.29**	**186**	P	**Pn**	**00 35 47.0**	**+1.0**
	SNR=19						
IMEH	**Mehriz**	**4.29**	**332**	*e*Pn	**Pn**	**00 35 44.9**	**-1.4**
SMDO	**Samad**	**4.64**	**168**	P	**Pn**	**00 35 51.8**	**+0.8**
	SNR=9.2						
SMDO				S	**Sn**	**00 36 45.5**	**+0.6**
IKOO	**Kooshah**	**5.09**	**19**	*e*Pn	**Pn**	**00 36 00.3**	**+3.0**
WBK	**Wadi Bani Khal**	**5.30**	**160**	P	**Pn**	**00 35 60.0**	**+0.1**
	SNR=42						
TPRV	**Parvadeh(Tabas**	**5.40**	**357**	*e*Pn	**Pn**	**00 36 01.0**	**-0.3**
IRAM	**Ramesheh**	**5.79**	**317**	*e*Pn	**Pn**	**00 36 04.9**	**-1.9**
KLNJ	**Kolanjah**	**5.80**	**307**	*e*Pn	**Pn**	**00 36 05.2**	**-1.9**
IPIR	**Pirpir**	**7.31**	**315**	*e*Pn	**Pn**	**00 36 25.2**	**-2.5**
IKLH	**Kolahrood**	**7.36**	**322**	*e*Pn	**Pn**	**00 36 27.2**	**-1.2**

HEL ***29*** *00:41:41.7,67.99N×20.06E,h0km,ML2.0,Explosion*

UPP 29 00:41:41.7±0.0,67.85N×20.19E,h0km,ML1.8, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**27**	P	Pg	00 41 44.1	+0.2
KUA				S	Sg	00 41 45.8	+0.3
KUA	**Kurravaara**	**0.12**	**27**	*i* P	Pg	00 41 44.1	+0.2
KUA				*i* S	Sg	00 41 45.8	+0.3
RATU	**Laukkuluspa**	**0.23**	**264**	P	Pg	00 41 46.3	+0.2
RATU	**Laukkuluspa**	**0.23**	**264**	*i* P	Pg	00 41 46.3	+0.2
KOVU	**Salmi**	**0.38**	**358**	P	Pg	00 41 48.9	0.0
KOVU	**Salmi**	**0.38**	**358**	*i* P	Pg	00 41 48.9	0.0
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	00 41 55.0	-0.2
LANU	**Lannavaara**	**0.71**	**73**	*e*P	Pg	00 41 55.0	-0.2
	baz=274						
LANU				*e*S	Sg	00 42 04.5	+0.2
DUNU	**Dundret**	**0.75**	**169**	P	Pg	00 41 55.6	-0.4
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	00 41 55.6	-0.4
MASU	**Masugnsbyn**	**0.80**	**119**	P	Pg	00 41 56.7	-0.2
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 41 56.7	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	00 41 56.7	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 41 56.7	-0.2
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*PB	Pg	00 42 04.3	0.0
KIF				MSG		00 42 15.2	
	comp=Z,11nm,0.2s						
KIF				*e*SB	Sb	00 42 20.2	-0.5
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pb	00 42 04.9	-0.1
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 42 07.2	-1.3
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 42 07.2	-1.3
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	00 42 09.4	-0.7
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	00 42 09.4	-0.7
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	00 42 11.1	-0.4
KALU	**Kalix**	**2.36**	**147**	*e*P	Pn	00 42 22.6	+1.1
	baz=329						
KALU				*e*SB	Sb	00 42 53.2	-1.4
TOF	**Tornio**	**2.41**	**136**	*e*P	Pn	00 42 23.7	+1.4
TOF				*e*SG	Sb	00 42 55.9	-0.1
TOF				MSG		00 42 56.9	
	comp=Z,6.9nm,0.2s						
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 42 26.6	+1.9
RNF				*e*SB	Sb	00 42 59.9	-1.2
BURU	**Burvik**	**3.32**	**171**	*e*P	Pn	00 42 36.8	+2.1
	baz=359						
KU6	**Riekki**	**4.23**	**111**	*e*PG	Pb	00 42 57.9	+1.0

UPP 29 00:41:46.3±0.1,67.84N×20.28E,h0km,ML2.9, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**11**	P	Pg	00 41 48.6	+0.2
KUA				S	Sg	00 41 50.3	+0.3
KOVU	**Salmi**	**0.38**	**353**	P	Pg	00 41 53.7	+0.1
LANU	**Lannavaara**	**0.68**	**71**	P	Pg	00 41 59.2	-0.1
SALU	**Saltoluokta**	**0.82**	**236**	P	Pg	00 42 01.8	-0.3
PAJU	**Pajala**	**1.37**	**126**	P

1.2nm,0.3s,baz=218,slow=22,SNR=1.2
FITZ Fitzroy Crossi 11.99 197 P Pn 01 16 28.5 -0.2
0.1nm,0.3s,baz=26,slow=11,SNR=11
FITZ S Sn 01 18 34.4 -6.6
0.1nm,0.3s,baz=138,slow=12,SNR=1.7
WRA Warramunga Arr 14.10 161 P Pn 01 16 57.1 +1.2
0.1nm,0.3s,baz=334,slow=12,SNR=6.2
WRA S Sn 01 19 18.6 -13
0.1nm,0.3s,baz=318,slow=30,SNR=5.6
DAV Davao City (W) 14.11 344 LR LR 01 23 42.0
comp=Z,14nm,19.6s,baz=148,slow=42
ASAR Alice Springs 17.50 166 P P 01 17 35.6 -1.4
0.1nm,0.3s,baz=341,slow=9.0,SNR=5.5
MKAR Makanchi Array 67.57 327 P P 01 24 24.0 +0.1
0.2nm,0.4s,baz=113,slow=7.8,SNR=5.3

IDC 29 01:44:51.8±29.0, 27°.27N×139°.51E, h582km±337km, mb2.8/4, mb1 3.0/4, mb1mx2.6/25, mbtmp3.8/4, Error ellipse: s-maj=257.4km s-min=27.0km az=70.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.20**	**187**	P	P	01 52 32.9	-0.2
	0.1nm,0.3s,baz=3.3,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**47.80**	**319**	P	P	01 52 36.3	-0.9
	0.7nm,0.3s,baz=112,slow=8.1,SNR=2.4						
MKAR	**Makanchi Array**	**48.53**	**310**	P	P	01 52 43.1	+0.4
	0.3nm,0.3s,baz=88,slow=10,SNR=7.0						
FINES	**FINESS Array B**	**76.73**	**333**	P	P	01 55 43.6	0.0
	2.4nm,0.7s,baz=74,slow=5.5,SNR=7.7						

IDC 29 01:49:39.2±5.3, 30°.05S×177°.93W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/22, mbtmp3.6/2, Error ellipse: s-maj=306.1km s-min=75.3km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.19**	**267**	P	P	01 57 41.7	-0.3
	0.4nm,0.8s,baz=108,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**44.15**	**272**	P	P	01 57 49.8	0.0
	0.4nm,0.3s,baz=111,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**144.83**	**340**	PKP	PKPbc	02 09 16.9	+0.4
	5.7nm,1.0s,baz=20,slow=4.4,SNR=1.8						

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*SKHL **29** 02:00:51.6±0.1, 47°.52N×147°.83E, h339km±9km, mb5.0/2, msh4.7/2*
*MOS **29** 02:00:53.3±1.3, 47°.08N×147°.31E, h349km, mb3.6/8, Error ellipse: s-maj=21.9km s-min=13.3km az=108.8*
*IDC **29** 02:00:58.9±11.0, 47°.10N×147°.21E, h387km±128km, mb3.1/6, mb1 3.3/6, mb1mx2.9/33, mbtmp3.8/6, Error ellipse: s-maj=24.8km s-min=22.3km az=131.0*
ISC 29 02:00:54.0±0.7, 47°.22N±0°.08×147°.5E±0°.1, h338km, n29, σ1§59/34, mb3.4/13, 5C-1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.01**	**172**	*e*P	**Pn**	**02 01 43.5**	**-0.8**
KUR				AMB	AMB	02 01 44.0	
	240nm,0.4s						
KUR				AMB	AMB	02 01 46.9	
	1μm,2.5s						
KUR				*e*S	**S**	**02 02 24.0**	**-0.6**
KUR				A	A	02 02 33.0	
	6μm,4.0s						
KUR				A	A	02 02 33.0	
	3μm,4.0s						
KUR				A	A	02 02 33.0	
	1μm,4.0s						
KUR	**Kuril'sk**	**2.01**	**172**	*i* PN	**Pn**	**02 01 43.5**	**-0.8**
YSS	**Yuzh-Sakhalins**	**3.23**	**267**	*e*P	**Pn**	**02 01 54.8**	**+0.2**
YSS				AMB	AMB	02 01 55.3	
	80nm,0.5s						
YSS				AMB	AMB	02 01 59.4	
	550nm,3.0s						
YSS				*e*S	**S**	**02 02 44.1**	**+0.9**
YSS				A	A	02 02 50.3	
	275nm,3.0s						
YSS				A	A	02 02 50.3	
	378nm,3.0s						
YSS	**Yuzh-Sakhalins**	**3.23**	**267**	↓*e*PN	**Pn**	**02 01 55.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,90nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.38**	**200**	*e*P	**Pn**	**02 01 56.9**	**+0.8**
YUK				AMB	AMB	02 01 57.7	
	comp=Z,190nm,0.3s						
TYV	**Tymovskoe**	**4.83**	**321**	*e*P	**Pn**	**02 02 07.2**	**-3.8**
TYV				AMB	AMB	02 02 13.8	
	comp=Z,7.0nm,0.5s						
ERM	**Erimo**	**6.05**	**212**	*i* PN	**Pn**	**02 02 22.4**	**-2.6**
YAK	**Yakutsk**	**17.96**	**332**	*e*P	**P**	**02 04 41.9**	**+1.2**
YAK	**Yakutsk**	**17.96**	**332**	*i* P	**P**	**02 04 41.9**	**+1.2**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**27.07**	**286**	*i* P	**P**	**02 06 08.3**	**+1.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NRIK	**Noril'sk**	**36.35**	**329**	*i* P	**P**	**02 07 24.0**	**-2.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**38.60**	**39**	P	**P**	**02 07 47.5**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=263,slow=7.1,SNR=5.2						
DGZ	**Jazzator, Alta**	**38.96**	**297**	*i* P	**P**	**02 07 49.2**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MK31	**Makanchi Array**	**43.26**	**295**	*ce*P	**P**	**02 08 22.9**	**-0.1**
MKAR	**Makanchi Array**	**43.26**	**295**	P	**P**	**02 08 23.0**	**0.0**
	comp=Z,1.4nm,0.5s,baz=68,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**43.26**	**295**	*e*P	**P**	**02 08 23.0**	**0.0**
MKAR	**Makanchi Array**	**43.26**	**295**	*ce*P	**P**	**02 08 23.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**43.32**	**32**	P	**P**	**02 08 25.3**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=299,slow=11,SNR=9.7						
KURK	**Kurchatov**	**43.85**	**301**	*e*P	**P**	**02 08 27.5**	**0.0**
KURK	**Kurchatov**	**43.85**	**301**	*ce*P	**P**	**02 08 27.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**52.00**	**315**	*e*P	**P**	**02 09 29.3**	**0.0**
ARU	**Arti**	**52.00**	**315**	*c i*P	**P**	**02 09 29.3**	**0.0**
ARU				*PP	**pP**	**02 10 41.1**	**+1.5**
ARU						02 11 27.8	
ARU				S	**S**	**02 16 29.3**	**+3.6**
ARU				SS	**SKiKP**	**02 20 12.4**	**-2.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**61.89**	**332**	P	**P**	**02 10 38.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=35,slow=7.0,SNR=10						
OBN	**Obninsk**	**62.66**	**323**	*e*P	**P**	**02 10 43.1**	**0.0**
OBN	**Obninsk**	**62.66**	**323**	*i* P	**P**	**02 10 43.1**	**0.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA	**NORSAR Array B**	**66.45**	**338**	P	**P**	**02 11 07.7**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=30,slow=6.7,SNR=5.3						
KBZ	**Khabaz**	**67.68**	**311**	*e*P	**P**	**02 11 13.0**	**-2.3**
KBZ	**Khabaz**	**67.68**	**311**	*ce*P	**P**	**02 11 13.0**	**-2.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WRA	**Warramunga Arr**	**67.89**	**193**	P	**P**	**02 11 15.9**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=8.7,slow=6.7,SNR=7.3						

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*REY **29** 02:29:20.8, 64°.67N×17°.36W, h7km*
*IDC **29** 02:29:22.7±0.6, 64°.63N×17°.68W, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.9/54, mbtmp3.9/18, ML2.7/1, MS3.5/29, Ms1 3.5/29, ms1mx3.4/43, Error ellipse: s-maj=17.2km s-min=9.9km az=15.0*
*MOS **29** 02:29:23.3±1.1, 64°.75N×17°.24W, h8km, mb4.6/26, Error ellipse: s-maj=12.8km s-min=8.8km az=113.6*
*NEIC **29** 02:29:25.1±1.6, 64°.70N±0°.04×17°.2W±0°.2, h8km±4km, mb4.5/69, Error ellipse: s-maj=12.1km s-min=5.8km az=81.0*
*BGR **29** 02:29:26.2±0.0, 64°.60N×17°.38W, h10km, mb4.8, Ms3.3*
ISC 29 02:29:24.6±0.4, 64°.63N±0°.03×17°.26W±0°.04, h10km, n262, σ1§46/208, mb4.4/85, MS3.5/26, 7C-1D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.17**	**345**	P	Pg	02 29 23.6	-4.7
	baz=360						
IURH	**Urdarhals**	**0.20**	**14**	P	**Pg**	**02 29 24.7**	**-4.1**
	baz=31						
IVON	**Vonarskard**	**0.22**	**282**	P	Pg	02 29 24.6	-4.5
	baz=273						
IGRF	**Grimsfjall**	**0.22**	**181**	P	**Pg**	**02 29 25.9**	**-3.3**
	baz=171						
IKVE	**Kverkfjoll**	**0.26**	**79**	P	**Pg**	**02 29 27.0**	**-2.9**
	baz=87						
IVOT	**Vottur**	**0.36**	**175**	P	**Pg**	**02 29 28.6**	**-3.1**
IVOT					**Sg**	**02 29 34.2**	**-2.3**
	baz=169						
IHUS	**Husbondi**	**0.38**	**207**	P	Pg	02 29 28.1	-3.9
	baz=199						
THOR	**Thorvaldshraun**	**0.40**	**39**	P	**Pg**	**02 29 28.3**	**-4.0**
	baz=47						
IKRE	**Kreppuhraun**	**0.41**	**67**	P	**Pg**	**02 29 29.0**	**-3.6**
	baz=74						
IKRE				S	**Sg**	**02 29 35.5**	**-2.4**
	baz=74						
ISKR	**Skrokkalda**	**0.49**	**262**	P	Pg	02 29 29.3	-4.8
	baz=257						
IASK	**Askja**	**0.50**	**31**	P	Pg	02 29 29.8	-4.5
	baz=38						
IJOK	**Jokulheimar**	**0.52**	**233**	S	**Sg**	**02 29 38.4**	**-3.2**
	baz=227						
IJOK				P	Pg	02 29 30.1	-4.6
	baz=227						
IMKO	**Mokollar**	**0.53**	**48**	P	**Pg**	**02 29 30.8**	**-4.0**
	baz=54						
IKSK	**Karasker**	**0.58**	**144**	P	Pg	02 29 32.2	-3.6
	baz=142						
IKSK				S	**Sg**	**02 29 41.8**	**-1.7**
	baz=142						
IIEY	**Innrieyrar**	**0.65**	**215**	P	Pg	02 29 32.4	-4.8
	baz=210						
IVSH	**V-Sauoahnukur**	**0.68**	**74**	P	Pg	02 29 33.6	-4.1
	baz=78						
IKAL	**Kalfafell**	**0.71**	**195**	P	Pg	02 29 33.7	-4.5
	baz=191						
ISVA	**Svartarkot**	**0.71**	**0**	P	Pg	02 29 32.8	-5.5
	baz=3.9						
IADA	**Aoalbol**	**0.82**	**61**	P	Pg	02 29 35.6	-4.7
	baz=64						
IVAT	**Vatnsfell**	**0.84**	**239**	P	Pg	02 29 35.8	-5.0
	baz=235						
IMEL	**Melhnausar**	**0.98**	**15**	P	Pg	02 29 37.3	-6.1
	baz=18						
IHVE	**Hveravellir**	**1.02**	**285**	P	Pg	02 29 38.5	-5.6
	baz=283						
IREN	**Reynihlio**	**1.03**	**8**	P	Pg	02 29 38.1	-6.3
	baz=11						
ISNB	**Snabyli**	**1.08**	**214**	P	Pb	02 29 40.1	-5.1
	baz=211						
IGRS	**Grimsstaoir**	**1.12**	**25**	P	Pb	02 29 40.2	-5.8
	baz=28						
ISLY	**Slysaalda**	**1.15**	**226**	P	Pb	02 29 40.8	-5.6
	baz=223						
IRJU	**Rjupnafell**	**1.19**	**212**	P	Pn	02 29 41.8	-5.4
	baz=209						
IFED	**Fedgar**	**1.22**	**241**	P	Pn	02 29 42.1	-5.5
	baz=239						
IGHA	**Grjothals**	**1.25**	**11**	P	Pn	02 29 42.8	-5.2
	baz=14						
ISKI	**Skildingahlsh**	**1.25**	**4**	P	Pn	02 29 41.8	-6.2
	baz=6.5						
IMJO	**Mjoaskard**	**1.26**	**237**	P	Pn	02 29 42.8	-5.5
	baz=235						
IGRA	**Granastaoir**	**1.30**	**354**	P	Pn	02 29 42.7	-6.1
	baz=356						
IHVO	**Lagu-Hvolar**	**1.31**	**213**	P	Pn	02 29 44.1	-4.7
	baz=210						
IGYG	**Gygjarholskot**	**1.33**	**256**	P	Pn	02 29 43.7	-5.4
	baz=254						
IHAU	**Haukadalur**	**1.35**	**242**	P	Pn	02 29 44.5	-5.0
	baz=240						
IHLA	**Hella**	**1.40**	**341**	P	Pn	02 29 44.7	-5.5
	baz=342						
IALF	**Alftagrof**	**1.42**	**217**	P	Pn	02 29 45.9	-4.5
	baz=215						
IHED	**Heoinshofoi**	**1.46**	**359**	P	Pn	02 29 45.4	-5.5
	baz=0.9						
IESK	**Eystri-Skogar**	**1.47**	**222**	P	Pn	02 29 46.5	-4.6
	baz=220						
IGIL	**Gilhagi**	**1.50**	**14**	P	Pn	02 29 46.9	-4.6
	baz=16						
IMID	**Miomork**	**1.51**	**231**	P	Pn	02 29 47.3	-4.3
	baz=229						
ISAU	**Saurbar**	**1.52**	**246**	P	Pn	02 29 46.7	-5.0
	baz=244						
IBRE	**Brettingsstaoi**	**1.52**	**350**	P	Pn	02 29 47.1	-4.7
	baz=351						
ISIG	**Siglufjorour**	**1.66**	**336**	P	Pn	02 29 48.0	-5.6
	baz=337						
IASM	**Asmuli**	**1.67**	**243**	P	Pn	02 29 49.9	-3.9
	baz=241						
BORG	**Borgarnes**	**1.75**	**276**	Pg	Pn	02 29 49.9	-5.0
	30nm,0.3s,baz=94,slow=9.2,SNR=72						
BORG				Lg	Lg	02 30 12.4	
	19nm,0.3s,baz=17,slow=21,SNR=4.0						
ISOL	**Solvholt**	**1.75**	**248**	P	Pn	02 29 50.3	-4.6
	baz=246						
IKRO	**Krokur**	**1.76**	**254**	P	Pn	02 29 50.1	-4.9
	baz=252						
IHEI	**Heioarbar**	**1.78**	**258**	P	Pn	02 29 50.8	-4.5
	baz=256						
IHRN	**Hraun**	**1.91**	**322**	P	Pn	02 29 52.8	-4.3
	baz=323						
ISAN	**Sandskeio**	**1.96**	**255**	P	Pn	02 29 53.8	-4.0
	baz=253						
IKAS	**Kald??rsel**	**2.09**	**255**	P	**Pn**	**02 29 55.7**	**-3.9**
	baz=254						
JMIC	**Jan Mayen**	**7.19**	**24**	LR	LR	02 32 49.2	
	comp=Z,187nm,18.9s,baz=254,slow=28						
EKA	**Eskdalemuir Ar**	**11.66**	**136**	Pn	**Pn**	**02 32 09.2**	**-1.6**
	baz=322,slow=13,SNR=18						
NC204	**NORSAR Array S**	**13.13**	**92**	Pn	**Pn**	**02 32 28.4**	**-2.5**
NRS	**Narsarsuaq**	**13.24**	**268**	P	**Pn**	**02 32 31.7**	**-0.5**
NRS	**Narsarsuaq**	**13.24**	**268**	Pn	**Pn**	**02 32 31.7**	**-0.5**
NBO00	**NORSAR Array S**	**13.25**	**93**	Pn	**Pn**	**02 32 30.4**	**-2.0**
NOA	**NORSAR Array B**	**13.43**	**92**	Pn	**Pn**	**02 32 32.2**	**-2.8**
	0.0nm,0.3s,baz=299,slow=13,SNR=4.6						
NOA				LR	LR	02 38 39.0	
	comp=Z,79nm,18.3s,baz=300,slow=41						
NOA	**NORSAR Array B**	**13.43**	**92**	*e*P	**Pn**	**02 32 34.8**	**-0.1**
HFS	**Hagfors**	**14.94**	**93**	Pn	**P**	**02 33 00.6**	**-0.6**
	0.2nm,0.3s,baz=300,slow=6.3,SNR=6.5						
HFS				LR	LR	02 38 20.1	
	comp=Z,200nm,22.0s,baz=328,slow=36						
SPITS	**Spitsbergen Ar**	**16.86**	**23**	LR	LR	02 37 50.2	
	comp=Z,95nm,21.5s,baz=205,slow=30						
ARCES	**ARCESS Array B**	**17.06**	**55**	LR	LR	02 38 54.9	
	comp=Z,205nm,20.0s,baz=275,slow=33						
BSEG	**Bad Segeberg**	**17.53**	**115**	*e*L	L	02 39 42.9	
	182nm,21.8s						
FINES	**FINESS Array B**	**19.61**	**79**	P	**P**	**02 33 52.8**	**+0.2**
	0.1nm,0.3s,baz=282,slow=20,SNR=2.0						
FINES	**FINESS Array B**	**19.61**	**79**	P	**P**	**02 33 53.3**	**+0.7**
FINES	**FINESS Array B**	**19.61**	**79**	P	**P**	**02 33 53.3**	**+0.7**
TNS	**Taunus Mts**	**19.78**	**125**	*e*L	L	02 40 24.0	
	108nm,18.1s						
TULEG	**Thule**	**19.94**	**327**	P	**P**	**02 33 56.4**	**+0.3**
TULEG					IAmb	IAmb	02 34 03.5
	comp=Z,42nm,1.4s						
MOX	**Moxa**	**20.59**	**119**	*e*P	**P**	**02 34 02.9**	**-0.5**
	comp=Z,124nm,2.2s,baz=324,slow=10						
MOX				*e*L	L	02 42 27.9	
	comp=Z,185nm,21.4s						
CLL	**Collm**	**20.60**	**116**	↑*i*P	**P**	**02 34 03.8**	**+0.4**
	comp=Z,73nm,2.0s						
CLL				*i*		02 34 13.1	
CLL				*i* (PP)		02 34 25.5	
CLL	**Collm**	**20.60**	**116**	↑*i*P	**P**	**02 34 03.8**	**+0.4**
CLL				pmax	pmax		
	comp=Z,73nm,2.0s						
CLL	**Collm**	**20.60**	**116**	*e*P	**P**	**02 34 03.8**	**+0.4**
	comp=Z,75nm,2.0s,baz=324,slow=10						
CLL				*e*L	L	02 42 01.8	
	comp=Z,154nm,20.6s						
CLL	**Collm**	**20.60**	**116**	P	**P**	**02 34 03.1**	**-0.2**
CLL					IAmb	IAmb	02 34 06.2
	comp=Z,25nm,1.3s						
PLN	**Plauen**	**20.93**	**119**	*e*P	**P**	**02 34 07.4**	**+0.4**
	comp=Z,206nm,2.5s,baz=324,slow=10						
FBE	**Freiberg**	**21.04**	**116**	*e*P	**P**	**02 34 09.4**	**+1.2**
	comp=Z,220nm,2.5s,baz=324,slow=10						
ECH	**Echery**	**21.05**	**130**	P	**P**	**02 34 09.3**	**+0.9**
ECH				pmax	pmax		
	comp=Z,12nm,1.2s						
ECH	**Echery**	**21.05**	**130**	P	**P**	**02 34 09.2**	**+0.9**
GUNZ	**Gunzen**	**21.09**	**118**	*e*P	**P**	**02 34 09.4**	**+0.5**
	comp=Z,141nm,2.4s,baz=324,slow=10						
TANN	**Tannenbergstha**	**21.10**	**118**	*e*P	**P**	**02 34 09.8**	**+0.9**
	comp=Z,220nm,2.3s,baz=324,slow=10						
GRF	**Grafenberg Arr**	**21.23**	**121**	*e*P	**P**	**02 34 11.9**	**+1.6**
	comp=Z,240nm,2.9s,baz=324,slow=10						
GRF				*e*L	L	02 42 14.5	
	comp=Z,135nm,21.4s						
NKC	**Novy Kostel**	**21.24**	**119**	*e*P	**P**	**02 34 12.2**	**+1.8**
NKC	**Novy Kostel**	**21.24**	**119**	*e*P	**P**	**02 34 12.2**	**+1.8**
STU	**Stuttgart**	**21.27**	**126**	P	**P**	**02 34 13.0**	**+2.3**
STU				pmax	pmax		
	comp=Z,22nm,0.9s						
STU	**Stuttgart**	**21.27**	**126**	P	**P**	**02 34 13.0**	**+2.3**
STU				IAmb	IAmb	02 34 13.4	
	comp=Z,22nm,0.9s						
BRG	**Berggiesshubel**	**21.30**	**115**	*e*P	**P**	**02 34 11.5**	**+0.5**
	comp=Z,197nm,2.4s						
BRG	**Berggiesshubel**	**21.30**	**115**	*e*P	**P**	**02 34 11.5**	**+0.5**
BRG				pmax	pmax		
	comp=Z,197nm,2.4s						
MANZ	**Manzenberg**	**21.32**	**119**	*e*P	**P**	**02 34 11.4**	**+0.2**
	comp=Z,43nm,1.9s,baz=324,slow=10						
BFO	**Black Forest**	**21.35**	**128**	P	**P**	**02 34 13.0**	**+1.4**
BFO				pmax	pmax		
	comp=Z,12nm,1.1s						
BFO	**Black Forest**	**21.35**	**128**	*e*P	**P**	**02 34 13.2**	**+1.6**
	comp=Z,72nm,2.0s,baz=324,slow=10						
BFO				*e*L	L	02 42 22.4	
	comp=Z,84nm,21.5s						
BFO	**Black Forest**	**21.35**	**128**	P	**P**	**02 34 12.9**	**+1.4**
ROTZ	**Rotzenmuhle**	**21.53**	**120**	*e*P	**P**	**02 34 14.3**	**+0.8**
	comp=Z,89nm,2.2s,baz=324,slow=10						
FRB	**Frobisher Bay**	**21.86**	**291**	LR	LR	02 42 20.8	
	comp=Z,175nm,21.0s,baz=37,slow=36						
PRU	**Pruhonice**	**22.24**	**116**	*e*P	**P**	**02 34 22.8**	**+1.7**
PRU	**Pruhonice**	**22.24**	**116**	*e*P	**P**	**02 34 22.8**	**+1.7**
WET	**Wettzell**	**22.29**	**120**	*e*L	L	02 43 08.6	
	comp=Z,205nm,21.4s						
KHC	**Kasperske Hory**	**22.57**	**119**	*e*P	**P**	**02 34 26.6**	**+2.0**
KHC	**Kasperske Hory**	**22.57**	**119**	*e*P	**P**	**02 34 26.6**	**+2.0**
SENIN	**Lac Senin/Sane**	**22.72**	**132**	P	**P**	**02 34 27.6**	**+1.1**
SENIN				IAmb	IAmb	02 34 36.3	
	comp=Z,21nm,1.5s						
DAVA	**Damuels**	**22.78**	**127**	*e*P	**P**	**02 34 26.9**	**-0.1**
	comp=Z,7.1nm,1.3s						
GEC2	**GERESS Array S**	**22.85**	**119**	P	**P**	**02 34 29.8**	**+2.1**
GEC2				IAmb	IAmb	02 34 42.8	
	comp=Z,18nm,1.5s						
GERES	**GERESS Array B**	**22.85**	**119**	P	**P**	**02 34 29.2**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=332,slow=8.3,SNR=7.8						
GERES				LR	LR	02 43 46.1	
	comp=Z,221nm,21.2s,baz=327,slow=38						
GERES	**GERESS Array B**	**22.85**	**119**	*e*P	**P**	**02 34 30.4**	**+2.7**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**22.85**	**119**	P	**P**	**02 34 28.8**	**+1.1**
RETA	**Reutte**	**22.91**	**125**	*e*P	**P**	**02 34 30.4**	**+2.0**
	comp=Z,11nm,1.4s						
MOTA	**Moosalm**	**23.16**	**125**	*e*P	**P**	**02 34 32.3**	**+1.3**
	comp=Z,18nm,2.1s						
DAVOX	**Davos/Dischmat**	**23.21**	**127**	P	**P**	**02 34 33.4**	**+1.8**
	comp=Z,2.6nm,0.8s,baz=331,slow=17,SNR=4.7						
DAVOX				LR	LR	02 44 33.4	
	comp=Z,118nm,18.9s,baz=328,slow=39						
SQTA	**Sankt Quirin**	**23.30**	**125**	*e*P	**P**	**02 34 34.0**	**+1.7**
	comp=Z,17nm,1.9s						
FETA	**Feichten**	**23.30**	**126**	*e*P	**P**	**02 34 34.0**	**+1.6**
	comp=Z,12nm,1.4s						
WATA	**Walderalm**	**23.33**	**124**	*e*P	**P**	**02 34 34.1**	**+1.4**
	comp=Z,5.0nm,0.8s						
WTTA	**Wattenberg**	**23.41**	**124**	*e*P	**P**	**02 34 35.0**	**+1.5**
	comp=Z,18nm,1.7s						
MORC	**Moravsky Berou**	**23.59**	**112**	*e*P	**P**	**02 34 36.7**	**+1.6**
MORC	**Moravsky Berou**	**23.59**	**112**	P	**P**	**02 34 35.6**	**+0.5**
MORC				pmax	pmax		
	comp=Z,11nm,1.3s						
MORC	**Moravsky Berou**	**23.59**	**112**	P	**P**	**02 34 35.6**	**+0.5**
MORC				IAmb	IAmb	02 34 44.2	
	comp=Z,11nm,1.3s						
EUNU	**Eureka**	**23.75**	**336**	P	**P**	**02 34 35.7**	**-0.7**
MOA	**Molln**	**23.88**	**120**	*e*P	**P**	**02 34 39.4**	**+1.5**
	comp=Z,12nm,1.9s						
OJC	**Ojcow**	**24.15**	**109**	P	**P**	**02 34 41.3**	**+0.8**
OJC				pmax	pmax		
	comp=Z,31nm,1.5s						
OJC	**Ojcow**	**24.15**	**109**	P	**P**	**02 34 41.3**	**+0.8**
ABTA	**Abfaltersbach**	**24.17**	**123**	*e*P	**P**	**02 34 42.8**	**+2.1**
	comp=Z,14nm,2.0s						
KBA	**Koelnbrunsper**	**24.19**	**122**	*e*P	**P**	**02 34 42.5**	**+1.5**
	comp=Z,2.9nm,0.8s						
JAVC	**Velka Javorina**	**24.37**	**114**	*e*P	**P**	**02 34 43.2**	**+0.7**
CONA	**Conrad Observa**	**24.42**	**117**	*e*P	**P**	**02 34 44.7**	**+1.7**
	comp=Z,9.4nm,2.0s						
CTI	**Castel Tesino**	**24.46**	**126**	P	**P**	**02 34 46.3**	**+2.9**
CTI				pmax	pmax		
	comp=Z,16nm,1.4s						
CTI	**Castel Tesino**	**24.46**	**126**	P	**P**	**02 34 46.3**	**+2.9**
CTI				IAmb	IAmb	02 34 46.9	
	comp=Z,16nm,1.4s						
SMOL	**Smolenice**	**24.55**	**114**	*e*P	**P**	**02 34 46.3**	**+2.2**
SMOL	**Smolenice**	**24.55**	**114**	*e*P	**P**	**02 34 46.3**	**+2.2**
STAL	**STALIGIAL**	**24.66**	**124**	P	**P**	**02 34 48.7**	**+3.6**
MYKA	**Terra Mystica**	**24.68**	**122**	*e*P	**P**	**02 34 46.6**	**+1.3**
	comp=Z,6.9nm,1.3s						
ARSA	**Arzberg**	**24.85**	**119**	*e*P	**P**	**02 34 48.7**	**+1.8**
	comp=Z,4.4nm,1.0s						
KLMR	**Klimovskoe**	**25.52**	**72**	*e*P	**P**	**02 34 52.3**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,21nm,1.5s						
KLMR	**Klimovskoe**	**25.52**	**72**	*e*P	**P**	**02 34 52.3**	**-0.4**
KLMR				AMP		02 35 01.0	
	comp=Z,21nm,1.5s						
KWP	**Kalwaria Pacla**	**25.80**	**106**	P	**P**	**02 34 56.4**	**+1.0**
KWP				pmax	pmax		
	comp=Z,50nm,1.3s						
KWP	**Kalwaria Pacla**	**25.80**	**106**	P	**P**	**02 34 56.4**	**+1.0**
PSZ	**Piszkesteto**	**26.01**	**

comp=Z,35nm,21.7s,baz=3.5,slow=36
NRIK Noril'sk 36.43 35 *e*P **P 02 36 29.6 +0.9**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
GOF Gofitskoye 38.01 91 *e*P **P 02 36 43.1 +0.7**
GOF pmax pmax
comp=Z,58nm,1.8s
BR131 Keskin Array S 38.37 105 P **P 02 36 48.3 +2.6**
BR131 pmax pmax
comp=Z,4.0nm,1.1s
BR131 Keskin Array S 38.37 105 P **P 02 36 48.2 +2.6**
BRTR Keskin Array B 38.37 105 P **P 02 36 48.0 +2.3**
comp=Z,1.3nm,0.7s,baz=292,slow=7.6,SNR=3.7
BRTR Keskin Array B 38.37 105 P **P 02 36 48.0 +2.3**
BRTR Keskin Array B 38.37 105 P **P 02 36 46.4 +0.8**
KIV Kislovodsk 38.74 93 *e*P **P 02 36 49.2 +0.6**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,145nm,16.0s
KBZ Khabaz 39.01 93 P **P 02 36 53.2 +2.5**
comp=Z,4.0nm,0.9s,baz=312,slow=13,SNR=6.9
KBZ LR LR 02 53 31.5
comp=Z,78nm,20.6s,baz=338,slow=37
YKA Yellowknife Ar 39.31 313 LR LR 02 52 49.3
comp=Z,122nm,18.4s,baz=0.0,slow=36
ULM Lac du Bonnet 41.71 289 LR LR 02 53 02.2
comp=Z,77nm,18.7s,baz=46,slow=34
ABKAR Akbulak array 41.90 73 P **P 02 37 14.3 -0.3**
ABKAR Akbulak array 41.90 73 P **P 02 37 13.0 -1.6**
TIXI Tiksi 42.04 15*ce*P **P 02 37 16.2 +0.7**
TIXI pmax pmax
comp=Z,131nm,2.5s
TIXI Tiksi 42.04 15 P **P 02 37 15.5 0.0**
TOLK Toolik Lake Re 42.82 337 P **P 02 37 22.5 +0.5**
BMAR Burnt Mountain 42.98 333 P **P 02 37 24.2 +1.0**
BRVK Borovoye 43.06 62*ce*P **P 02 37 24.3 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 43.06 62 P **P 02 37 24.1 +0.1**
TAM Tamanrasset 44.43 149 P **P 02 37 36.0 +0.5**
TAM pmax pmax
comp=Z,4.0nm,1.4s
TAM Tamanrasset 44.43 149 P **P 02 37 36.0 +0.5**
ILAR Eielson Array 45.77 333 P **P 02 37 44.7 -0.8**
comp=Z,1.0nm,0.9s,baz=23,slow=6.8,SNR=8.6
ILAR PcP **PcP 02 39 21.4 -1.4**
comp=Z,0.9nm,0.9s,baz=347,slow=2.1,SNR=6.1
ILAR LR LR 02 58 52.7
comp=Z,66nm,18.4s,baz=86,slow=39
ILAR Eielson Array 45.77 333 P **P 02 37 45.2 -0.3**
MDM Murphy Dome 45.86 333 P **P 02 37 46.8 +0.5**
MDM IAmb IAmb 02 38 01.3
comp=Z,6.9nm,1.4s
BCAR Beaver Creek A 46.19 329 P **P 02 37 49.9 +0.9**
PAX Paxson 47.08 331 P **P 02 37 57.1 +1.1**
PAX pmax pmax
comp=Z,11nm,1.4s
PAX Paxson 47.08 331 P **P 02 37 57.1 +1.1**
WCI Wyandotte Cave 47.35 271 P **P 02 37 59.7 +1.5**
WCI pmax pmax
comp=Z,7.0nm,0.7s
WCI Wyandotte Cave 47.35 271 P **P 02 37 59.7 +1.5**
ZALV Zalesovo Beam 47.58 52 P **P 02 37 59.5 -0.2**
comp=Z,0.6nm,0.4s,baz=339,slow=6.3,SNR=1.8
ZALV LR LR 03 00 29.9
comp=Z,27nm,19.8s,baz=334,slow=39
ZALV Zalesovo Beam 47.58 52 P **P 02 37 59.0 -0.8**
KURK Kurchatov 48.05 58*ce*P **P 02 38 03.2 -0.2**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 48.05 58 P **P 02 38 02.6 -0.8**
KURK IAmb IAmb 02 38 05.4
comp=Z,6.1nm,0.9s
T47A Sharon Grove 48.74 271 P **P 02 38 09.7 +0.7**
EGMT Eagleton 48.98 297 P **P 02 38 12.1 +1.3**
W50A Signal Mountai 49.48 268 P **P 02 38 16.4 +1.7**
W50A IAmb IAmb 02 38 18.4
comp=Z,5.7nm,0.9s
GEYT Alibeck 50.33 84 P **P 02 38 22.5 +1.3**
comp=Z,1.9nm,0.7s,baz=293,slow=7.4,SNR=2.5
GEYT LR LR 03 00 53.7
comp=Z,61nm,20.4s,baz=25,slow=37
GEYT Alibeck 50.33 84 P **P 02 38 22.0 +0.9**
GYA0B ALIBECK ARRAY 50.33 84 P **P 02 38 22.7 +1.6**
GYA0B IAmb IAmb 02 38 23.4
comp=Z,10nm,1.2s
KK31 Karatay Array 51.19 70 P **P 02 38 28.0 +0.4**
KK31 pmax pmax
comp=Z,4.0nm,1.4s
KK31 Karatay Array 51.19 70 P **P 02 38 28.0 +0.4**
KKAR Karatay Array 51.19 70 P **P 02 38 28.2 +0.6**
KKAR Karatay Array 51.19 70 P **P 02 38 28.2 +0.6**
RLMT Red Lodge 51.20 295 P **P 02 38 28.8 +1.0**
RLMT IAmb IAmb 02 38 33.1
comp=Z,12nm,1.4s
BOZ Bozeman (W) 51.72 297 P **P 02 38 32.7 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 51.72 297 P **P 02 38 32.6 +1.0**
BOZ IAmb IAmb 02 38 49.7
comp=Z,4.2nm,0.9s
DGZ Jazzator, Alta 52.02 53 *i*P **P 02 38 34.9 +1.0**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
YPP Pitchstone Pla 52.51 295 P **P 02 38 38.1 +0.4**
SEY Seymchan 52.51 6 *i*P **P 02 38 37.5 +0.4**
MK31 Makanchi Array 52.66 58 P **P 02 38 39.4 +0.9**
MK31 pmax pmax
comp=Z,6.0nm,1.3s
MK31 Makanchi Array 52.66 58 P **P 02 38 39.4 +0.9**
MK31 IAmb IAmb 02 38 39.8
comp=Z,5.7nm,1.2s
MKAR Makanchi Array 52.66 58 P **P 02 38 38.7 +0.3**
comp=Z,1.7nm,0.9s,baz=316,slow=6.9,SNR=7.6
MKAR LR LR 03 00 11.1
comp=Z,34nm,19.1s,baz=322,slow=35
MKAR Makanchi Array 52.66 58 *e*P **P 02 38 39.6 +1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.66 58 P **P 02 38 38.1 -0.3**
IMW Indian Meadow 52.88 295 P **P 02 38 41.9 +1.4**
TORD Torodi Ar. Bea 53.07 157 P **P 02 38 40.4 -1.3**
comp=Z,1.1nm,0.8s,baz=342,slow=9.0,SNR=8.1
TORD Torodi Ar. Bea 53.07 157 P **P 02 38 41.4 -0.3**
AAK Ala-Archa 53.18 67*ce*P **P 02 38 42.1 -0.4**
AAK pmax pmax
comp=Z,27nm,1.7s
BW06 Boulder Array 53.28 293 P **P 02 38 42.8 -0.6**
BW06 IAmb IAmb 02 38 46.7
comp=Z,8.3nm,1.4s
PD31 Pinedale Array 53.28 293 P **P 02 38 43.4 0.0**
PD31 IAmb IAmb 02 38 46.1
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 53.28 293 P **P 02 38 41.9 -1.5**
comp=Z,1.9nm,0.8s,baz=46,slow=5.8,SNR=17
PDAR LR LR 03 00 58.1
comp=Z,113nm,20.2s,baz=41,slow=36
PDAR Pinedale Array 53.28 293 P **P 02 38 42.4 -1.0**
CHGR Chuyangaron 54.38 74 P **P 02 38 51.4 +0.1**
CHGR IAmb IAmb 02 38 52.1
comp=Z,9.3nm,1.2s
GAR Garm 54.56 73 P **P 02 38 53.3 +0.6**
HWUT Hardware Ranch 55.06 294 P **P 02 38 55.7 -0.6**
HWUT IAmb IAmb 02 38 59.9
comp=Z,4.9nm,1.1s
HRA Herat 55.09 83 P **P 02 38 58.2 +1.6**
RDMU Red Mountain 55.15 292 P **P 02 38 57.1 +0.1**
WMOK Wichita Mounta 55.65 279 P **P 02 39 01.0 +0.5**
WMOK pmax pmax
comp=Z,10.0nm,1.5s
WMOK Wichita Mounta 55.65 279 P **P 02 39 00.9 +0.5**
WMOK IAmb IAmb 02 39 02.1
comp=Z,10nm,1.5s
SPUT South Promonto 55.66 295 P **P 02 39 01.4 +0.9**
ZAK Zakamensk 56.42 41 *e*P **P 02 39 05.2 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.8s
P17A Butcher Ranch, 56.55 292 P **P 02 39 07.8 +0.7**
DUG Dugway, Tooele 56.76 294 P **P 02 39 10.3 +1.9**
DUG pmax pmax
comp=Z,3.0nm,1.2s
DUG Dugway, Tooele 56.76 294 P **P 02 39 10.3 +1.9**
PV14 Lion Creek, Pa 56.80 290 P **P 02 39 09.2 +0.3**
PV14 IAmb IAmb 02 39 10.5
comp=Z,5.7nm,1.0s
PV01 Paradox Valley 56.83 290 P **P 02 39 10.0 +1.0**
PV01 IAmb IAmb 02 39 13.2
comp=Z,4.7nm,1.2s
PV03 Paradox Valley 56.84 290 P **P 02 39 10.2 +1.1**
PV03 IAmb IAmb 02 39 10.8
comp=Z,5.3nm,1.1s
TMUT Trail Mountain 56.89 292 P **P 02 39 10.4 +0.8**
PV13 Radium Mtn., P 56.91 290 P **P 02 39 10.7 +1.1**
WMQ Urumqi 57.17 56 P **P 02 39 11.0 -0.2**
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ Urumqi 57.17 56 P **P 02 39 11.0 -0.2**
MSU Marysvale 57.95 293 P **P 02 39 18.7 +1.8**
MSU Marysvale 57.95 293 P **P 02 39 18.7 +1.8**
MVU Marysvale 57.97 293 P **P 02 39 19.2 +2.0**
MTPU Mount Pierson 58.36 292 P **P 02 39 20.6 +0.6**
R11A Troy Canyon, C 59.43 295 P **P 02 39 28.7 +1.5**
R11A IAmb IAmb 02 39 29.4
comp=Z,4.2nm,1.2s
KNB Kanab 59.50 292 P **P 02 39 28.0 +0.3**
KNB pmax pmax
comp=Z,5.0nm,1.4s
KNB Kanab 59.50 292 P **P 02 39 28.0 +0.3**
SONM Songino Array 59.60 41 P **P 02 39 28.1 -0.1**
comp=Z,0.6nm,0.7s,baz=334,slow=5.3,SNR=5.4
SONM LR LR 03 07 53.1
comp=Z,48nm,18.5s,baz=14,slow=39
SONM Songino Array 59.60 41 *e*P **P 02 39 29.5 +1.3**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 59.60 41 P **P 02 39 29.2 +1.1**
LCMT Little Creek M 59.67 293 P **P 02 39 29.9 +1.0**
JCT Junction City 59.75 278 P **P 02 39 30.4 +1.1**
JCT pmax pmax
comp=Z,6.0nm,1.0s
JCT Junction City 59.75 278 P **P 02 39 30.4 +1.1**
JCT IAmb IAmb 02 39 32.4
comp=Z,5.6nm,1.0s
ULN Ulaanbaatar 59.76 40*ce*P **P 02 39 29.6 +0.3**
ULN pmax pmax
comp=Z,13nm,2.5s
KVN Kaiserville 59.79 298 P **P 02 39 31.2 +1.5**
KVN pmax pmax
comp=Z,2.0nm,1.2s
KVN Kaiserville 59.79 298 P **P 02 39 31.2 +1.5**
WUAZ Wupatki 60.22 290 P **P 02 39 33.4 +0.7**
WUAZ IAmb IAmb 02 39 34.6
comp=Z,5.7nm,1.1s
NIL Nilore 60.36 74 P **P 02 39 33.0 -0.5**
NIL pmax pmax
comp=Z,9.0nm,1.0s
NIL Nilore 60.36 74 P **P 02 39 33.0 -0.5**
NVAR Mina Array Bea 60.41 298 LR LR 03 05 19.9
comp=Z,156nm,20.0s,baz=26,slow=36
SHPR Sheep Range 60.87 294 P **P 02 39 39.0 +2.0**
SHPR IAmb IAmb 02 39 42.9
comp=Z,2.4nm,1.2s
X16A Lo Mia Camp, P 61.20 290 P **P 02 39 40.5 +1.1**
X16A IAmb IAmb 02 39 43.4
comp=Z,3.8nm,1.1s
TXAR Lajitas Array 62.39 280 P **P 02 39 47.6 +0.3**
comp=Z,1.2nm,1.0s,baz=77,slow=2.7,SNR=4.3
TXAR LR LR 03 06 24.0
comp=Z,89nm,18.1s,baz=0.0,slow=36
PETK Petropavlovsk- 62.53 3 P **P 02 39 48.5 +0.7**
PETK Petropavlovsk- 62.53 3 P **P 02 39 48.5 +0.7**
GTA Gaotai 65.25 49 ||P **P 02 40 07.5 +1.4**
GTA pP sP 02 40 14.0 +2.8
GTA sP pP 02 40 17.3 +7.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,57nm,6.2s
GTA LR LR
comp=N,71nm,15.6s
GTA LR LR
comp=E,110nm,14.5s
GTA LR LR
comp=Z,68nm,15.3s
KSRS Korea Array 74.63 28 LR LR 03 16 54.0
comp=Z,13nm,18.0s,baz=320,slow=38
BOSA Boshof 98.67 143 LR LR 03 31 47.4
comp=Z,27nm,21.2s,baz=328,slow=38
WRA Warramunga Arr 131.49 37 PKP **PKiKP 02 48 38.2 +0.4**
comp=Z,0.4nm,0.9s,baz=1.4,slow=3.3,SNR=3.4
ASAR Alice Springs 134.93 39 PKP **PKPdf 02 48 43.1 -0.2**
comp=Z,0.6nm,0.9s,baz=4.9,slow=3.3,SNR=4.8

*JMA **29** 02:29:49.6±0.2, 37.30N×135.23E, h377km, M3.0*
*IDC **29** 02:29:50.1±1.4, 37.25N×135.21E, h372km±22km, mb2.8/1, mb1 2.9/4, mb1mx2.6/51, mbtmp3.4/4, Error ellipse: s-maj=46.0km s-min=26.8km az=38.0*
ISC 29 02:29:49.4±1.1, 37.4N±0.1×135.3E±0.1, h400km, n10, σ1§75/10, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**1.73**	**184**	P		**Pn**	**02 30 41.6**	**-2.3**
JWT	**Wachi**	**2.08**	**177**	P		**Pn**	**02 30 43.8**	**-2.1**
MAT	**Matsushiro**	**2.49**	**108**	P		**Pn**	**02 30 47.4**	**-1.2**
MAT	**Matsushiro**	**2.49**	**108**	P		**Pn**	**02 30 47.3**	**-1.4**
MJAR	**Matsushiro Arr**	**2.49**	**108**	P		**Pn**	**02 30 47.5**	**-1.2**
	0.3nm,0.3s,baz=283,slow=10.0,SNR=16						
JOD2	**Odawara 2**	**3.73**	**123**	P		**Pn**	**02 30 58.0**	**-0.9**
JFK	**Kawauchi**	**4.46**	**88**	P		**Pn**	**02 31 05.1**	**-0.8**
KSRS	**Korea Array**	**5.85**	**273**	P		**Pn**	**02 31 20.1**	**-0.2**
	baz=93,slow=12,SNR=7.5						
USRK	**Ussuriysk Ar.**	**7.27**	**341**	P		**P**	**02 31 36.6**	**+0.2**
	baz=159,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	**57.00**	**181**	P		**P**	**02 38 57.5**	**+2.3**
	0.4nm,0.4s,baz=356,slow=7.7,SNR=8.5						

PRU 29 02:34:06.6±0.0, 50.07N×118.44E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.30**	**219**	*e*PG	Pg	02 34 12.6	+0.3
OKC				*e*SG	Sg	02 34 17.3	+1.1
	comp=Z,38nm,0.7s						
MORC	**Moravsky Berou**	**0.65**	**244**	*e*PG	Pg	02 34 19.1	+0.1
MORC				*e*SG	Sg	02 34 27.5	+0.1
OJC	**Ojcow**	**0.89**	**80**	*e*Pg	Pg	02 34 22.6	-1.0
OJC				*e*Sg	Sg	02 34 34.6	-0.5
KRLC	**Kraliky**	**1.07**	**271**	*e*PG	Pg	02 34 26.2	-0.9
KRLC				*e*SG	Sg	02 34 39.9	-1.0
	comp=Z,8.4nm,0.5s						
LANS	**Liptovska Anna**	**1.14**	**144**	*e*PG	Pg	02 34 28.4	0.0
LANS				*e*SG	Sb	02 34 44.8	+0.3
LANS				*e*LG	Lg	02 34 47.4	
JAVC	**Velka Javorina**	**1.31**	**203**	*e*PG	Pg	02 34 31.3	-0.4
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*PG	Pg	02 34 32.5	-0.7
DPC				*e*SG	Sg	02 34 51.3	+0.1
	comp=Z,12nm,0.6s						
VRAC	**Vranov**	**1.42**	**238**	*e*SG	Sg	02 34 51.6	-0.6
VRAC	**Vranov**	**1.42**	**238**	*e*P	Pb	02 34 36.8	+2.8
OSTC	**Ostas**	**1.51**	**290**	*e*PG	Pn	02 34 34.1	-0.8
OSTC				*e*SG	Sg	02 34 54.3	-0.7
VYHS	**Vyhne**	**1.60**	**171**	*e*PG	Pn	02 34 34.7	-1.4
VYHS				*e*SG	Sn	02 34 57.5	0.0
CHVC	**Chvalec**	**1.61**	**290**	*e*PG	Pn	02 34 35.9	-0.5
CHVC				*e*SG	Sn	02 34 57.8	-0.1
UPC	**Upice**	**1.62**	**287**	*e*SG	Sb	02 34 58.2	-0.1
KRUC	**Moravsky**	**1.67**	**234**	*e*PG	Pn	02 34 37.2	+0.1
KRUC				*e*SG	Sn	02 34 59.4	+0.2
KRUC	**Moravsky**	**1.67**	**234**	*e*P	Pb	02 34 37.7	-0.5
PRU	**Pruhonice**	**2.52**	**270**	*e*SG	Sg	02 35 26.3	-1.1
KOLS	**Kolonicke sedl**	**2.75**	**113**	*e*P	Pg	02 35 00.1	+0.9
KHC	**Kasperske Hory**	**3.30**	**255**	*e*SG	Sg	02 35 50.7	-1.8

*IDC **29** 02:37:19.8±1.1, 0.04S×16.73W, h0km, mb3.9/5, mb1 4.2/8, mb1mx3.7/44, mbtmp4.1/8, ML4.2/3, MS3.3/8, Ms1 3.3/8, ms1mx2.9/37, Error ellipse: s-maj=30.8km s-min=23.4km az=150.0*
*NEIC **29** 02:37:20.4±0.8, 0.0N±0.2×16.8W±0.1, h10km±2km, mb4.4/6, Error ellipse: s-maj=34.6km s-min=12.7km az=330.0*
ISC 29 02:37:20.8±0.8, 0.1S±0.2×16.8W±0.1, h10km, n34, σ1§06/22, mb4.2/6, MS3.3/6, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.03**	**164**	T	T	02 48 42.6	
	baz=342,slow=74,SNR=140						
H10N3	**ASCENSION HYDR**	**8.03**	**164**	T	T	02 48 51.1	
	baz=342,slow=74,SNR=2.5						
H10N1	**ASCENSION HYDR**	**8.04**	**164**	T	T	02 48 49.1	
	baz=342,slow=74,SNR=1.9						
H10S3	**ASCENSION HYDR**	**9.06**	**167**	T	T	02 50 03.3	
	baz=345,slow=74,SNR=34						
H10S2	**ASCENSION HYDR**	**9.07**	**167**	T	T	02 50 08.0	
	baz=235,slow=74,SNR=7.9						
LIC	**Lamto**	**13.29**	**62**	*e*P	**Pn**	**02 40 30.9**	**+1.2**
	8.6nm,0.6s						
TIC	**Toumodi**	**13.49**	**60**	*e*P	**Pn**	**02 40 32.5**	**0.0**
KIC	**Kosan Boka**	**13.60**	**62**	*e*P	**Pn**	**02 40 33.5**	**-0.5**
	6.4nm,0.5s						
DBIC	**Dimbokro**	**13.65**	**60**	Pn	**Pn**	**02 40 33.2**	**-1.4**
	1.5nm,0.3s,baz=230,slow=13,SNR=14						
DBIC				Sn	Sn	02 42 57.1	-9.3
	0.4nm,0.3s,baz=338,slow=21,SNR=1.6						
DBIC				LR	LR	02 44 51.5	
	comp=Z,111nm,21.2s,baz=240,slow=33						
KOWA	**Kowa**	**19.21**	**41**	P	**P**	**02 41 44.2**	**-0.9**
	0.4nm,0.3s,baz=232,slow=12,SNR=26						
KOWA	**Kowa**	**19.21**	**41**	P	**P**	**02 41 44.4**	**-0.7**
RCBR	**Riachuelo**	**19.93**	**253**	P	**P**	**02 41 52.2**	**-0.9**
	1.0nm,0.3s,baz=74,slow=12,SNR=8.4						
RCBR				LR	LR	02 47 11.4	
	comp=Z,56nm,18.7s,baz=92,slow=30						
RCBR	**Riachuelo**	**19.93**	**253**	P	**P**	**02 41 52.1**	**-0.9**
RCBR				IAmb	IAmb	02 42 34.8	
	comp=Z,22nm,1.2s						
TOA0	**Torodi Ar. Sit**	**22.53**	**54**	P	**P**	**02 42 20.8**	**-0.3**
TOA0				IAmb	IAmb	02 42 25.6	
	comp=Z,9.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**22.53**	**54**	P	**P**	**02 42 20.5**	**-0.6**
	comp=Z,6.6nm,0.8s,baz=236,slow=11,SNR=20						
TORD				LR	LR	02 50 09.9	
	comp=Z,79nm,20.7s,baz=275,slow=34						
TORD	**Torodi Ar. Bea**	**22.53**	**54**	P	**P**	**02 42 20.9**	**-0.2**
ESDC	**Sonseca Array**	**41.26**	**15**	LR	LR	03 02 20.8	
	comp=Z,34nm,18.8s,baz=165,slow=36						
LSZ	**Lusaka**	**46.90**	**111**	LR	LR	03 02 02.1	
	comp=Z,45nm,19.2s,baz=141,slow=32						
CPUP	**Villa Florida**	**46.97**	**233**	LR	LR	03 03 49.2	
	comp=Z,30nm,18.8s,baz=56,slow=34						
LBTB	**Lobatse**	**47.86**	**124**	P	**P**	**02 46 00.7**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=300,slow=8.2,SNR=2.6						
LBTB	**Lobatse**	**47.86**	**124**	P	**P**	**02 46 00.6**	**+1.3**
MATP	**Matopo**	**48.66**	**117**	LR	LR	03 02 42.6	
	comp=Z,37nm,20.8s,baz=284,slow=31						
BOSA	**Boshof**	**49.17**	**129**	P	**P**	**02 46 09.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=296,slow=9.4,SNR=3.7						
BOSA	**Boshof**	**49.17**	**129**	P	**P**	**02 46 09.9**	**+0.5**
BOSA				IAmb	IAmb	02 47 44.4	
	comp=Z,12nm,1.4s						
GERES	**GERESS Array B**	**55.37**	**24**	P	**P**	**02 46 55.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=229,slow=7.5,SNR=4.0						
NOA	**NORSAR Array B**	**64.62**	**15**	LR	LR	03 18 20.7	
	comp=Z,14nm,18.1s,baz=270,slow=38						
TXAR	**Lajitas Array**	**87.33**	**299**	P	**P**	**02 50 11.0**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=133,slow=8.8,SNR=3.6						
TXAR	**Lajitas Array**	**87.33**	**299**	P	**P**	**02 50 09.6**	**+1.0**
STKA	**Stephens Creek**	**142.19**	**149**	PKPdf	**PKPdf**	**02 56 52.3**	**-1.9**
ASAR	**Alice Springs**	**143.02**	**132**	PKhKP	PKPab	02 56 51.4	+0.3
	comp=Z,0.9nm,0.8s,baz=225,slow=2.2,SNR=7.4						
ASAR	**Alice Springs**	**143.02**	**132**	PKPab		02 56 51.7	+0.6
WRA	**Warramunga Arr**	**145.41**	**127**	PKPbc	**PKPbc**	**02 56 59.5**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=247,slow=2.5,SNR=14						
WRA	**Warramunga Arr**	**145.41**	**127**		**PKPdf**	**02 56 59.8**	**-0.4**
WB2	**Warramunga Arr**	**145.42**	**127**	PKPdf	**PKPab**	**02 56 59.9**	**-0.3**

*SNET **29** 03:19:57.6±1.1, 14.37N×91.42W, h26km±655km, ML3.0*
*GCG **29** 03:19:59.2±0.8, 14.70N×91.48W, h0km±27km, MD3.4*
ISC 29 03:19:53.3±3.9, 14.1N±0.2×91.9W±0.2, h52km±18km, n9, σ1§75/13, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.47**	**28**	||*i*P	**Pn**	**03 20 04.7**	**+0.3**
RTAL				*e*S	**Sn**	**03 20 10.0**	**-2.4**
ERG	**Entre ros, C**	**0.48**	**46**	||*e*P	**Pn**	**03 20 05.8**	**+1.3**
ERG				*e*S	**Sn**	**03 20 13.6**	**+1.0**
FUG	**Fuego 3**	**1.10**	**72**	*e*P	**Pn**	**03 20 13.4**	**+0.7**
FUG				*e*S	**Sn**	**03 20 24.8**	**-2.2**
HUEH	**Huehuetenango**	**1.27**	**19**	*e*P	**Pn**	**03 20 16.1**	**+1.1**
HUEH				*e*S	**Sn**	**03 20 29.3**	**-1.8**
PCG	**Pacaya**	**1.31**	**77**	*e*P	**Pn**	**03 20 17.3**	**+1.8**
PCG				*e*S	**Sn**	**03 20 32.3**	**+0.3**
NBG	**Las Nubes**	**1.60**	**72**	*e*P	**Pn**	**03 20 21.7**	**+2.1**
SBLS	**San Blas**	**2.25**	**97**	*e*P	**Pn**	**03 20 28.6**	**+0.2**
TACO	**Tacachico**	**2.50**	**93**	*e*P	**Pn**	**03 20 30.5**	**-1.0**
COEG	**Centro de Oper**	**3.00**	**99**	IAML		03 21 26.4	
	comp=Z,63nm,0.3s						

IDC 29 03:22:34.6±2.1, 4.75S×146.75E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=146.1km s-min=29.2km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.34**	**218**	P	P	03 27 01.2	-0.7
	0.1nm,0.3s,baz=36,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**22.52**	**212**	P	P	03 27 36.9	+0.6
	0.3nm,0.5s,baz=50,slow=8.0,SNR=5.8						
FITZ	**Fitzroy Crossi**	**24.54**	**236**	P	P	03 27 56.1	-0.1
	1.6nm,0.8s,baz=52,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**84.44**	**23**	P	P	03 35 08.9	+0.1
	0.3nm,0.7s,baz=249,slow=4.8,SNR=4.7						

*IDC **29** 03:46:34.8±7.0, 51.50N×160.57E, h62km±44km, mb3.6/3, mb1 3.7/4, mb1mx3.1/48, mbtmp3.8/4, ML2.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/47, Error ellipse: s-maj=66.0km s-min=34.9km az=83.0*
*KRSC **29** 03:46:35.3±1.4, 51.27N×159.49E, h58km±23km, ML3.8*
ISC 29 03:46:37.5±1.7, 51.26N±0.10×159.49E±0.10, h35km, n30, σ1§33/27, mb3.9/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.04**	**303**	*i*P	**Pn**	**03 46 54.7**	**-0.9**
KDTR				*e*S	**Sn**	**03 47 08.5**	**-0.4**
RUS	**Russkaya**	**1.32**	**333**	*e*P	**Pn**	**03 46 58.2**	**-1.3**
RUS				S	**Sn**	**03 47 15.0**	**-0.8**
ASAK	**Asacha**	**1.50**	**319**	*e*P	**Pn**	**03 47 01.6**	**-0.4**
GRL	**Gorelyy**	**1.56**	**326**	*e*P	**Pn**	**03 47 02.5**	**-0.4**
PAU	**Pauzhetka**	**1.69**	**278**	*e*P	**Pn**	**03 47 04.9**	**+0.4**
KRMR	**Karymshinskiy**	**1.78**	**332**	*e*P	**Pn**	**03 47 06.3**	**+0.5**
DALK	**Dalny**	**1.83**	**346**	*e*P	**Pn**	**03 47 05.4**	**-1.1**
PET	**Petropavlovsk**	**1.84**	**344**	*e*P	**Pn**	**03 47 06.5**	**-0.1**
PET				*e*S	**Sn**	**03 47 29.1**	**+0.5**
SPN	**Mys Shipunski**	**1.87**	**10**	*e*P	**Pn**	**03 47 06.8**	**-0.2**
SMAR	**Somma**	**2.05**	**348**	*e*P	**Pn**	**03 47 09.8**	**+0.1**
SDLR	**Sedlovina**	**2.06**	**350**	*e*P	**Pn**	**03 47 10.5**	**+0.8**
AVH	**Avacha**	**2.06**	**347**	*e*P	**Pn**	**03 47 09.8**	**+0.1**
KRER	**Koryakskii**	**2.10**	**348**	*e*P	**Pn**	**03 47 10.8**	**+0.5**
KOK	**Koryaka**	**2.10**	**346**	P	**Pn**	**03 47 11.0**	**+0.7**
PETK	**Petropavlovsk-**	**2.15**	**330**	P	**Pn**	**03 47 11.2**	**+0.3**
	9.1nm,0.3s,baz=133,slow=16,SNR=47						
PETK				S	**Sn**	**03 47 40.5**	**+4.0**
	7.1nm,0.3s,baz=134,slow=17,SNR=6.2						
KRX	**Arik**	**2.17**	**347**	*e*P	**Pn**	**03 47 10.3**	**-0.9**
GNL	**Ganaly**	**2.62**	**339**	*e*P	**Pn**	**03 47 18.4**	**+1.0**
KZV	**Kizimen**	**3.89**	**7**	*e*P	**Pn**	**03 47 34.6**	**-0.3**
TUMD	**Tumrok D**	**3.99**	**8**	*e*P	**Pn**	**03 47 36.3**	**+0.2**
TUMR	**Tumrok**	**4.05**	**5**	*e*P	**Pn**	**03 47 37.5**	**+0.4**
YAK	**Yakutsk**	**19.42**	**315**	LR	LR	04 00 41.4	
	comp=Z,39nm,18.1s,baz=282,slow=43						
MJAR	**Matsushiro Arr**	**21.14**	**234**	P	**P**	**03 51 22.1**	**+2.9**
	0.8nm,0.4s,baz=40,slow=8.2,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**32.00**	**167**	T	T	04 27 14.9	
	baz=350,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**32.02**	**167

H11S3 WAKE ISLAND Hy 33.19 167 T T 04 28 40.7
baz=352,SNR=4.1
H11S2 WAKE ISLAND Hy 33.19 167 T T 04 28 46.2
baz=352
KURBB Kurchatov Arra 48.50 303 P **P** **03 55 14.5 -2.0**
1.0nm,0.2s,baz=62,slow=7.5,SNR=2.5
MKAR Makanchi Array 48.63 297 P **P** **03 55 15.3 -2.3**
0.5nm,0.5s,baz=60,slow=8.2,SNR=6.3

IDC 29 04:02:52.2±4.5, 18°27S×175°01W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/35, mbtmp3.9/3, Error ellipse: s-maj=311.8km s-min=33.8km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.74**	**259**	P	P	04 11 31.6	+0.2
	0.4nm,0.4s,baz=97,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**47.80**	**254**	P	P	04 11 31.4	-0.4
	4.4nm,0.4s,baz=84,slow=9.1,SNR=7.8						
NVAR	**Mina Array Bea**	**77.48**	**42**	P	P	04 14 50.0	0.0
	0.1nm,0.5s,baz=224,slow=5.0,SNR=1.9						
H03S2	**Juan Fernandez**	**84.90**	**124**	T	T	05 47 49.8	
	baz=250,slow=74						
H03S1	**Juan Fernandez**	**84.91**	**124**	T	T	05 47 51.1	
	baz=250,slow=74						
H03S3	**Juan Fernandez**	**84.92**	**124**	T	T	05 47 52.2	
	baz=250						

*JMA **29** 04:05:05.9, 39°.76N×141°.85E, h58km±1km, M3.3*
JMA Felt I J1.
*IDC **29** 04:05:05.3±2.8, 39°.89N×142°.26E, h73km±26km, mb3.4/4, mb1 3.4/6, mb1mx3.2/54, mbtmp3.6/6, Error ellipse: s-maj=48.3km s-min=18.6km az=97.0*
ISC 29 04:05:05.0±1.0, 39°.79N±0°.04×141°.95E±0°.07, h62km±6km, n24, σ1°02/31, mb3.7/4, 3C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.17**	**337**	↑P	**Pn**	**04 05 15.2**	**+0.6**
JTH				S	**Sn**	**04 05 21.6**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.23**	**206**	↑P	**Pn**	**04 05 15.2**	**+0.3**
MIYJ				S	**Sn**	**04 05 21.5**	**-0.6**
JKEN	**Kujiedanarisaw**	**0.46**	**336**	↓P	**Pn**	**04 05 17.3**	**+0.6**
JKEN				S	**Sn**	**04 05 25.4**	**+0.2**
JKZ	**Kuzumaki**	**0.52**	**293**	↓P	**Pn**	**04 05 17.5**	**+0.1**
JKZ				S	**Sn**	**04 05 25.5**	**-0.9**
JOM	**Ohasama**	**0.60**	**239**	↓P	**Pn**	**04 05 17.8**	**-0.4**
JOM				S	**Sn**	**04 05 26.3**	**-1.5**
JANG	**Nango**	**0.67**	**331**	↓P	**Pn**	**04 05 19.4**	**+0.3**
JANG				S	**Sn**	**04 05 29.4**	**0.0**
JMK	**Ichinoseki**	**1.01**	**214**	↓P	**Pn**	**04 05 23.0**	**-0.2**
JMK				S	**Sn**	**04 05 35.7**	**-1.0**
JAH	**Hinai**	**1.09**	**292**	↓P	**Pn**	**04 05 24.2**	**0.0**
JAH				S	**Sn**	**04 05 38.3**	**-0.3**
JRG	**Rokugo**	**1.09**	**249**	↓P	**Pn**	**04 05 23.9**	**-0.4**
JRG				S	**Sn**	**04 05 37.8**	**-0.8**
JTM	**Tenmabayashi**	**1.21**	**326**	P	**Pn**	**04 05 26.2**	**+0.4**
JTM				S	**Sn**	**04 05 41.3**	**0.0**
JIO	**Ouri**	**1.41**	**200**	↑P	**Pn**	**04 05 28.6**	**+0.1**
JIO				S	**Sn**	**04 05 44.9**	**-1.3**
JYK	**Kaneyama**	**1.51**	**235**	↓P	**Pn**	**04 05 29.5**	**-0.3**
JYK				S	**Sn**	**04 05 47.5**	**-1.0**
ASAJ	**Asahikawa**	**4.35**	**6**	P	**Pn**	**04 06 08.3**	**-0.3**
	0.6nm,0.3s,baz=225,slow=31,SNR=1.6						
ASAJ				S	**Sn**	**04 06 55.6**	**-2.4**
	0.7nm,0.3s,baz=127,slow=8.5,SNR=1.9						
MJAR	**Matsushiro Arr**	**4.38**	**223**	P	**Pn**	**04 06 12.5**	**+3.5**
	0.2nm,0.3s,baz=41,slow=12,SNR=4.1						
H11N2	**WAKE ISLAND Hy 29.30**	**126**		T	T	04 41 40.7	
	baz=318,slow=75,SNR=70						
H11N1	**WAKE ISLAND Hy 29.31**	**126**		T	T	04 41 36.5	
	baz=318,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy 29.32**	**126**		T	T	04 41 38.5	
	baz=318,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy 30.10**	**128**		T	T	04 42 43.3	
	baz=319,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy 30.11**	**128**		T	T	04 42 41.2	
	baz=319,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy 30.12**	**128**		T	T	04 42 44.5	
	baz=319,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**40.42**	**310**	P	**P**	**04 12 37.4**	**+0.5**
	0.7nm,0.4s,baz=85,slow=9.0,SNR=2.0						
MKAR	**Makanchi Array**	**43.07**	**300**	P	**P**	**04 12 59.0**	**+0.4**
	0.6nm,0.6s,baz=90,slow=10,SNR=4.6						
KURBB	**Kurchatov Arra**	**44.69**	**306**	P	**P**	**04 13 11.5**	**0.0**
	0.8nm,0.4s,baz=80,slow=8.8,SNR=6.9						
WRA	**Warramunga Arr**	**59.84**	**188**	P	**P**	**04 15 03.9**	**-0.1**
	0.5nm,1.0s,baz=4.4,slow=7.7,SNR=2.6						

*IDC **29** 04:07:46.8±2.9, 34°.97S×178°.82W, h0km, mb4.3/3, mb1 4.5/5, mb1mx4.0/38, mbtmp4.4/5, ML4.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=61.7km s-min=37.3km az=119.0*
*WEL **29** 04:07:54.5±1.1, 36°.S±16°×17°.8W±1°.9, h137km±30km, M4.4/30, mB4.7/6, ML4.9/25, MLv4.7/30, Mw(mB)3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=127.5*
ISC 29 04:07:55.2±1.8, 35°.6S±0°.1×178°.4W±0°.2, h100km, n58, σ1°62/67, mb4.1/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.26**	**233**	P	**Pn**	**04 08 43.9**	**-0.5**
MXZ				S	**Sn**	**04 09 21.2**	**-1.1**
WMGZ	**Waiomatatini S**	**3.34**	**228**	P	Pn	04 08 40.7	-4.9
WMGZ				S	**Sn**	**04 09 23.2**	**-1.2**
PKGZ	**Pakihiroa**	**3.60**	**230**	P	Pn	04 08 55.6	+6.6
PKGZ				S	**Sn**	**04 09 37.9**	**+7.3**
PUZ	**Puketiti**	**3.60**	**227**	P	**Pn**	**04 08 49.3**	**+0.2**
PUZ				S	**Sn**	**04 09 32.0**	**+1.3**
HAZ	**Te Kaha**	**3.71**	**234**	P	**Pn**	**04 08 51.7**	**+1.2**
TWGZ	**Tauwhareparae**	**3.84**	**228**	P	**Pn**	**04 08 52.8**	**+0.5**
TWGZ				S	**Sn**	**04 09 38.9**	**+2.5**
RUGZ	**Raukumara Rang**	**3.90**	**232**	P	**Pn**	**04 08 53.6**	**+0.5**
RUGZ				S	**Sn**	**04 09 39.0**	**+1.1**
CNGZ	**Carnagh Statio**	**3.91**	**222**	P	**Pn**	**04 08 54.5**	**+1.2**
CNGZ				S	**Sn**	**04 09 39.7**	**+1.5**
TKGZ	**Te Karaka**	**4.09**	**226**	P	**Pn**	**04 08 56.0**	**+0.5**
TKGZ				S	**Sn**	**04 09 43.8**	**+1.5**
MWZ	**Matawai**	**4.21**	**229**	P	**Pn**	**04 08 57.0**	**-0.3**
MWZ				S	**Sn**	**04 09 45.9**	**+0.5**
RIGZ	**Rimuhau**	**4.32**	**224**	P	**Pn**	**04 08 58.1**	**-0.6**
RIGZ				S	**Sn**	**04 09 49.4**	**+1.4**
PRGZ	**Paritu Road**	**4.41**	**221**	P	**Pn**	**04 09 00.4**	**+0.5**
PRGZ				S	**Sn**	**04 09 49.3**	**-0.9**
URZ	**Urewera**	**4.43**	**232**	Pn	**Pn**	**04 08 59.5**	**-0.6**
	8.4nm,0.3s,baz=259,slow=6.4,SNR=23						
URZ				Sn	**Sn**	**04 09 49.0**	**-1.6**
	36nm,0.3s,baz=144,slow=20,SNR=21						
URZ	**Urewera**	**4.43**	**232**	P	**Pn**	**04 09 00.2**	**+0.1**
URZ				S	**Sn**	**04 09 49.2**	**-1.4**
MHGZ	**Mahia Peninsul**	**4.56**	**219**	P	**Pn**	**04 09 02.6**	**+0.6**
KNZ	**Kokohu**	**4.59**	**221**	P	**Pn**	**04 09 02.2**	**-0.1**
SNGZ	**Shannon Statio**	**4.61**	**226**	P	**Pn**	**04 09 01.7**	**-1.0**
RTZ	**Ruatahuna**	**4.72**	**230**	P	**Pn**	**04 09 04.6**	**+0.4**
MUGZ	**Murupara**	**4.77**	**232**	P	**Pn**	**04 09 04.3**	**-0.6**
WHHZ	**Waihua**	**4.87**	**224**	P	**Pn**	**04 09 06.2**	**0.0**
MTHZ	**Maungataniwha**	**4.96**	**228**	P	Pn	04 09 02.9	-4.4
ARHZ	**Aropaoanui**	**5.13**	**224**	P	**Pn**	**04 09 10.0**	**+0.3**
BKZ	**Black Stump Fm**	**5.36**	**227**	P	**Pn**	**04 09 12.1**	**-0.7**
CKHZ	**Cape Kidnapper**	**5.37**	**220**	P	**Pn**	**04 09 12.3**	**-0.6**
MCHZ	**McNeill Hill**	**5.43**	**224**	P	**Pn**	**04 09 13.3**	**-0.4**
KAHZ	**Kahuranaki**	**5.58**	**221**	P	**Pn**	**04 09 15.0**	**-0.8**
KRHZ	**Kereru**	**5.75**	**224**	P	**Pn**	**04 09 17.7**	**-0.3**
TMVZ	**Te Maari**	**5.82**	**232**	P	**Pn**	**04 09 18.6**	**-0.6**
ETVZ	**East Tongariro**	**5.83**	**231**	P	**Pn**	**04 09 18.6**	**-0.7**
OTVZ	**Oturere**	**5.87**	**231**	P	**Pn**	**04 09 19.2**	**-0.8**
WTVZ	**West Tongariro**	**5.89**	**232**	P	**Pn**	**04 09 20.6**	**+0.4**
MOVZ	**Moawhango**	**5.96**	**229**	P	**Pn**	**04 09 20.8**	**-0.3**
WNVZ	**Wahianoa**	**6.01**	**230**	P	**Pn**	**04 09 21.0**	**-0.8**
PNHZ	**Pukenui**	**6.03**	**223**	P	**Pn**	**04 09 20.2**	**-1.6**
PRHZ	**Porangahau**	**6.05**	**219**	P	**Pn**	**04 09 25.5**	**+3.4**
TSZ	**Takapari Road**	**6.26**	**224**	P	**Pn**	**04 09 23.4**	**-1.7**
DVHZ	**Dannevirke**	**6.32**	**221**	P	**Pn**	**04 09 24.2**	**-1.6**
BFZ	**Birch Farm**	**6.55**	**218**	P	**Pn**	**04 09 26.9**	**-2.1**
PRWZ	**Pori Road**	**6.60**	**220**	P	**Pn**	**04 09 28.4**	**-1.2**
WAZ	**Wanganui**	**6.65**	**230**	P	**Pn**	**04 09 30.3**	**0.0**
MRZ	**Mangatainoka R**	**6.89**	**221**	P	**Pn**	**04 09 31.5**	**-2.0**
TMWZ	**Te Maipa**	**7.05**	**218**	P	**Pn**	**04 09 33.6**	**-2.2**
KIW	**Kapiti Island**	**7.39**	**223**	P	**Pn**	**04 09 38.2**	**-2.2**
TCW	**Tory Channel**	**7.98**	**224**	P	**Pn**	**04 09 45.6**	**-2.8**
TUWZ	**Tuamarina**	**8.32**	**224**	P	**Pn**	**04 09 51.1**	**-1.9**
QRZ	**Quartz Range**	**8.80**	**231**	P	**Pn**	**04 09 57.6**	**-2.0**
THZ	**Tophouse**	**9.12**	**225**	P	**Pn**	**04 10 01.8**	**-2.2**
KHZ	**Kahutara**	**9.21**	**220**	P	**Pn**	**04 10 03.3**	**-1.8**
MQZ	**McQueen's Vall**	**10.59**	**218**	P	**Pn**	**04 10 21.7**	**-2.1**
WACZ	**Wakanui South**	**11.17**	**219**	P	**Pn**	**04 10 30.9**	**-0.7**
RPZ	**Rata Peaks**	**11.43**	**222**	Pn	**Pn**	**04 10 33.5**	**-1.6**
	2.0nm,0.3s,baz=52,slow=10,SNR=8.0						
RPZ				Sn	Sn	04 12 31.9	-8.9
	2.0nm,0.3s,baz=311,slow=23,SNR=14						
RPZ	**Rata Peaks**	**11.43**	**222**	P	**Pn**	**04 10 34.0**	**-1.2**
ODZ	**Otahua Downs**	**12.55**	**218**	P	**Pn**	**04 10 48.9**	**-1.2**
DZM	**Mont Dzumac**	**18.90**	**312**	LR	LR	04 17 33.5	
	comp=Z,60nm,19.9s,baz=206,slow=32						
CTA	**Charters Tower**	**34.64**	**287**	P	**P**	**04 14 35.0**	**-0.1**
	1.1nm,0.4s,baz=131,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	**42.74**	**273**	P	**P**	**04 15 42.5**	**-0.3**
	8.3nm,0.8s,baz=112,slow=7.7,SNR=22						
WRA	**Warramunga Arr**	**44.19**	**278**	P	**P**	**04 15 53.5**	**-0.9**
	1.4nm,0.5s,baz=119,slow=7.5,SNR=30						
FINES	**FINESS Array B**	**149.87**	**337**	PKPbc	**PKiKP**	**04 27 35.8**	**+2.1**
	5.1nm,0.8s,baz=64,slow=3.2,SNR=7.6						

*JMA **29** 04:20:30.8, 29°.11N×130°.62E, h60km±2km, M3.4*
*NEIC **29** 04:20:33.0±0.6, 29°.16N±0°.09×130°.71E±0°.07, h51km±10km, mb4.3/7, Error ellipse: s-maj=15.2km s-min=4.2km az=212.0*
*IDC **29** 04:20:33.0±3.0, 29°.16N×130°.61E, h45km±31km, mb3.6/9, mb1 3.9/12, mb1mx3.5/66, mbtmp3.9/12, ML3.4/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/32, Error ellipse: s-maj=35.5km s-min=17.3km az=66.0*
ISC 29 04:20:31.8±0.9, 29°.10N±0°.05×130°.63E±0°.07, h36km±2km, n44, σ0°66/51, mb4.0/12, MS3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.97**	**217**	P	**Pn**	**04 20 48.8**	**-0.1**
JZK				eS	**Sn**	**04 21 01.9**	**+0.4**
JNN	**Nakanoshima**	**0.99**	**319**	P	**Pn**	**04 20 48.7**	**-0.5**
JNN				eS	**Sn**	**04 21 02.2**	**+0.3**
JAM	**Amami Oshima**	**1.13**	**233**	P	**Pn**	**04 20 50.5**	**-0.6**
JAM				eS	**Sn**	**04 21 05.2**	**-0.1**
JYAK	**Yakushimahirau**	**1.14**	**355**	P	**Pn**	**04 20 50.8**	**-0.4**
JYAK				eS	**Sn**	**04 21 05.7**	**+0.1**
JTAJ	**Takarajima**	**1.25**	**273**	P	**Pn**	**04 20 52.6**	**-0.1**
JMTN	**Minamitane**	**1.31**	**10**	P	**Pn**	**04 20 53.1**	**-0.5**
JMTN				eS	**Sn**	**04 21 10.2**	**+0.3**
JKC	**Kuchinoerabu**	**1.41**	**345**	P	**Pn**	**04 20 54.6**	**-0.3**
JKC				eS	**Sn**	**04 21 11.7**	**-0.5**
JAMN	**Amaminishikomi**	**1.54**	**237**	P	**Pn**	**04 20 56.6**	**-0.1**
JTN	**Tanegashima 3**	**1.58**	**11**	P	**Pn**	**04 20 56.9**	**-0.4**
JTN				eS	**Sn**	**04 21 15.9**	**-0.6**
JTK	**Tokunoshima**	**1.97**	**229**	P	**Pn**	**04 21 02.5**	**-0.2**
JTSR	**Tashiro 2**	**2.08**	**7**	eS	**Sn**	**04 21 28.3**	**-0.5**
JSU	**Suzuyama**	**2.40**	**356**	Pn	**Pn**	**04 21 09.1**	**+0.5**
JNAR	**Kushima--Naru**	**2.48**	**13**	P	**Pn**	**04 21 10.3**	**+0.6**
JNAR				eS	**Sn**	**04 21 38.9**	**+0.2**
JOKE	**Okinoerabujima**	**2.51**	**227**	P	**Pn**	**04 21 10.1**	**0.0**
JNU	**Nakatsue**	**4.02**	**3**	P	**Pn**	**04 21 31.2**	**+0.4**
	1.5nm,0.3s,baz=302,slow=5.2,SNR=6.5						
JNU				S	**Sn**	**04 22 16.7**	**0.0**
	3.0nm,0.3s,baz=245,slow=20,SNR=1.7						
JNU	**Nakatsue**	**4.02**	**3**		**Pn**	**04 21 31.8**	**+1.0**
JNU					**Sn**	**04 22 15.4**	**-1.2**
JMN	**Monobe**	**5.39**	**30**	Pn	**Pn**	**04 21 49.4**	**-0.2**
JHS	**Saijyo**	**6.25**	**19**	Pn	**Pn**	**04 22 01.3**	**-0.1**
JWT	**Wachi**	**7.37**	**32**		**Pn**	**04 22 16.6**	**-0.2**
KSRS	**Korea Array**	**8.63**	**346**	P	**Pn**	**04 22 36.1**	**+1.9**
	baz=179,slow=17,SNR=1.7						
KSRS				LR	LR	04 26 13.3	
	comp=Z,189nm,19.7s,baz=162,slow=40						
JHJ	**Hachijo jima 2**	**8.81**	**61**	P	**Pn**	**04 22 36.8**	**+0.2**
	9.5nm,0.3s,baz=62,slow=23,SNR=2.1						
JHJ				LR	LR	04 25 27.8	
	comp=Z,83nm,19.4s,baz=250,slow=33						
SONM	**Songino Array**	**26.46**	**322**	P	**P**	**04 26 07.0**	**+1.5**
	0.4nm,0.5s,baz=140,slow=7.5,SNR=2.4						
SONM				LR	LR	04 37 57.5	
	comp=Z,145nm,19.1s,baz=99,slow=40						
SONM	**Songino Array**	**26.46**	**322**	P	**P**	**04 26 04.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.78**	**257**	LR	LR	04 40 24.2	
	comp=Z,53nm,19.0s,baz=119,slow=39						
MKAR	**Makanchi Array**	**41.30**	**309**	P	**P**	**04 28 13.1**	**-0.7**
	0.3nm,0.5s,baz=89,slow=9.1,SNR=1.9						
MKAR	**Makanchi Array**	**41.30**	**309**	P	**P**	**04 28 13.7**	**-0.1**
MTN	**Manton Dam**	**41.70**	**179**	P	**P**	**04 28 17.0**	**-0.2**
KURK	**Kurchatov**	**44.28**	**314**	P	**P**	**04 28 37.3**	**-0.5**
KURBB	**Kurchatov Arra**	**44.32**	**314**	P	**P**	**04 28 36.8**	**-1.3**
	0.7nm,0.2s,baz=97,slow=8.6,SNR=5.6						
NRIK	**Norilʹsk**	**47.22**	**341**	LR	LR	04 50 53.1	
	comp=Z,29nm,18.2s,baz=17,slow=39						
WB0	**Warramunga Arr**	**48.72**	**175**	P	**P**	**04 29 12.9**	**0.0**
WB0				IAmb	IAmb	04 29 17.1	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**48.89**	**175**	P	**P**	**04 29 14.0**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=353,slow=8.8,SNR=6.2						
WRA	**Warramunga Arr**	**48.89**	**175**	P	**P**	**04 29 14.3**	**+0.2**
WB2	**Warramunga Arr**	**48.89**	**175**	P	**P**	**04 29 14.3**	**+0.2**
WB2				IAmb	IAmb	04 29 28.1	
	comp=Z,2.6nm,1.1s						
ASAR	**Alice Springs**	**52.56**	**176**	P	**P**	**04 29 43.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=10,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**52.56**	**176**	P	**P**	**04 29 41.5**	**-0.3**
ABKAR	**Akbulak array**	**56.28**	**312**	P	**P**	**04 30 08.4**	**-0.2**
ABKAR	**Akbulak array**	**56.28**	**312**	P	**P**	**04 30 08.3**	**-0.2**
ABKAR				IAmb	IAmb	04 30 19.6	
	comp=Z,2.7nm,0.6s						
ARCES	**ARCESS Array B**	**68.12**	**339**	LR	LR	05 05 33.7	
	comp=Z,41nm,18.8s,baz=330,slow=40						
KBZ	**Khabaz**	**69.00**	**309**	P	**P**	**04 31 34.4**	**+0.9**
	comp=Z,4.0nm,1.1s,baz=117,slow=3.8,SNR=4.5						
FINES	**FINESS Array B**	**71.42**	**331**	P	**P**	**04 31 46.7**	**-1.3**
	comp=Z,6.3nm,1.0s,baz=72,slow=6.2,SNR=4.0						
FINES	**FINESS Array B**	**71.42**	**331**	P	**P**	**04 31 47.5**	**-0.5**
AKASG	**Malin Array Be**	**74.73**	**320**	P	**P**	**04 32 07.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=59,slow=6.3,SNR=4.4						
NVAR	**Mina Array Bea**	**87.00**	**47**	P	**P**	**04 33 14.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=312,slow=4.4,SNR=4.8						

*SNET **29** 04:32:13.2±1.1, 13°.24N×91°.14W, h32km±24km, ML3.2*
*IDC **29** 04:32:14.9±2.2, 13°.26N×91°.18W, h48km±20km, mb3.3/2, mb1 3.6/5, mb1mx3.3/39, mbtmp3.4/5, ML3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/17, Error ellipse: s-maj=19.7km s-min=13.6km az=40.0*
*GCG **29** 04:32:20.8±0.3, 14°.19N×91°.15W, h89km, MD4.0*
ISC 29 04:32:11.9±2.5, 13°.19N±0°.08×91°.18W±0°.06, h24km±17km, n28, σ1°06/33, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.30**	**15**	eP	**Pb**	**04 32 35.3**	**-0.4**
ERG	**Entre ros, C**	**1.30**	**343**	eP	**Pn**	**04 32 35.4**	**+0.8**
RTAL	**Retalhuleu**	**1.42**	**340**	eP	**Pn**	**04 32 35.5**	**-0.7**
RTAL				eS	**Sn**	**04 32 54.5**	**+0.4**
NBG	**Las Nubes**	**1.61**	**30**	eP	**Pn**	**04 32 40.1**	**+1.0**
SBLS	**San Blas**	**1.65**	**67**	eP	**Pn**	**04 32 39.6**	**0.0**
RTR	**El Retiro**	**1.65**	**65**	eP	**Pn**	**04 32 39.7**	**+0.1**
SNJE	**San Jose**	**1.68**	**66**	eP	**Pn**	**04 32 40.0**	**0.0**
CEDA	**San Andres**	**1.84**	**70**	eP	**Pn**	**04 32 42.2**	**+0.1**
CEDA				eS	**Sn**	**04 33 04.2**	**-0.5**
CEDA				IAML		04 33 20.2	
	comp=Z,652nm,0.4s						
BOQS	**Boqueron**	**1.93**	**73**	eP	**Pn**	**04 32 44.1**	**+0.7**
APG	**El Apazote**	**1.94**	**21**	P	**Pn**	**04 32 44.8**	**+1.3**
	comp=Z,26nm,0.3s,baz=200,slow=18,SNR=104						
APG				S	**Sn**	**04 33 07.8**	**+0.6**
	comp=Z,11nm,0.3s,baz=197,slow=23,SNR=5.9						
APG				LR	LR	04 33 40.3	
	comp=Z,277nm,20.4s,baz=163,slow=46						
TACO	**Tacachico**	**1.94**	**66**	eP	**Pn**	**04 32 43.6**	**+0.3**
TACO				eS	**Sn**	**04 33 06.0**	**-1.0**
TACO				IAML		04 33 20.7	
	comp=Z,91nm,0.7s						
LFRS	**El Faro**	**2.11**	**78**	eP	**Pn**	**04 32 46.0**	**+0.2**
HUEH	**Huehuetenango**	**2.14**	**352**	eP	**Pn**	**04 32 46.7**	**+0.4**
HUEH				eS	**Sn**	**04 33 13.4**	**+1.2**
HUEH				IAML		04 33 27.8	
	comp=Z,305nm,0.6s						
PAVA	**Las Pavas**	**2.25**	**76**	eP	**Pn**	**04 32 48.8**	**+1.1**
PAVA				IAML		04 33 26.7	
	comp=Z,212nm,0.5s						
ESQI	**Esquipulas**	**2.25**	**52**	eP	**Pn**	**04 32 48.1**	**+0.4**
COEG	**Centro de Oper**	**2.28**	**79**	eP	**Pn**	**04 32 48.0**	**-0.1**
COEG				IAML		04 33 30.1	
	comp=Z,196nm,0.5s						
MRL	**Marmol**	**2.38**	**38**	eP	**Pn**	**04 32 51.8**	**+2.2**
COEB	**Comit de Eme**	**2.60**	**83**	eP	**Pn**	**04 32 52.6**	**0.0**
LCND	**La Caada**	**3.21**	**87**	eP	**Pn**	**04 33 01.1**	**+0.3**
CMIG	**Matias Romero**	**5.28**	**318**	P	**Pn**	**04 33 30.6**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=144,slow=14,SNR=6.7						
CMIG				S	**Sn**	**04 34 29.4**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=132,slow=17,SNR=4.1						
JTS	**Las Juntas de**	**6.75**	**115**	P	**Pn**	**04 33 51.7**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=332,slow=17,SNR=1.5						
JTS				S	**Sn**	**04 35 08.1**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=302,slow=21,SNR=0.9						
H06E1	**SOCORRO T-PHASE**	**9.77**	**289**	T	T	04 56 59.2	
	SNR=7.0						
TXAR	**Lajitas Array**	**19.81**	**326**	P	**P**	**04 36 41.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=7.7						
TKL	**Tuckaleechee C**	**23.35**	**15**	P	**P**	**04 37 16.6**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=197,slow=14,SNR=2.5						
TKL				LR	LR	04 47 08.9	
	comp=Z,75nm,19.3s,baz=194,slow=38						
SJG	**San Juan**	**24.59**	**75**	LR	LR	04 48 10.9	
	comp=Z,21nm,18.2s,baz=275,slow=39						
ILAR	**Eielson Array**	**63.90**	**337**	P	**P**	**04 42 41.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=170,slow=4.6,SNR=6.2						
WRA	**Warramunga Arr**	**135.96**	**255**	PKP	**PKPdf**	**04 51 31.6**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=85,slow=1.9,SNR=1.8						
CMAR	**Chiang Mai Arr**	**147.01**	**342**	PKPbc	**PKPbc**	**04 51 53.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=12,slow=4.9,SNR=1.6						

*IDC **29** 04:36:32.0±1.4, 38°.63N×122°.91W, h0km, mb1 3.3/6, mb1mx3.2/40, mbtmp2.9/6, ML3.7/4, Error ellipse: s-maj=18.1km s-min=11.0km az=63.0*
*NEIC **29** 04:36:35.3, 38°.80N×122°.77W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.07; Mθθ=0.11; Mθφ=0.18; Mrθ=-1.22; Mθφ=2.75; Mφr=0.52; Fault plane solution: Mo=3.06000×10^14^ NP1:φ=269.28000°, δ=84.25000°, λ=23.18000°. NP2:φ=176.83000°, δ=66.94000°, λ=173.75000°. Principal axes: T 3.2397, Plg20.0000°, Azm135.0000°; N -0.4093, Plg66.0000°, Azm282.0000°; P -2.8304, Plg12.0000°, Azm41.0000°;*
*NCEDC **29** 04:36:35.3±1.8, 38°.80N±0°.02×122°.77W±0°.03, h2km±7km, Mwr3.6/4 Error ellipse: s-maj=4.4km s-min=2.8km az=56.0*
ISC 29 04:36:35.2±1.4, 38°.76N±0°.03×122°.77W±0°.03, h4km±13km, n76, σ0°88/76, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSGM	**Seigler Mounta**	**0.12**	**23**		**Pg**	**04 36 37.5**	**0.0**
GPMM	**Pine Mountain**	**0.16**	**302**		**Pg**	**04 36 38.7**	**+0.2**
MNRC	**McLaughlin Min**	**0.28**	**65**		**Pg**	**04 36 41.4**	**+0.8**
HOPS	**Hopland Field**	**0.33**	**315**		**Pg**	**04 36 41.9**	**+0.3**
FTR	**Fort Ross**	**0.39**	**233**		**Pg**	**04 36 44.1**	**-0.5**
CVS	**Carmenet Viney**	**0.48**	**149**		**Pb**	**04 36 45.5**	**-0.6**
MCCM	**Marconi Confer**	**0.62**	**188**		**Pb**	**04 36 49.0**	**+0.4**
GNAM	**Navarro Ridge**	**0.80**	**303**		**Pg**	**04 36 51.0**	**+0.4**
HERB	**Hercules**	**0.85**	**152**		**Pb**	**04 36 52.4**	**0.0**
GASB	**Alder Springs**	**0.90**	**3**		**Pg**	**04 36 52.9**	**+0.5**
SUTB	**Sutter Butte**	**0.90**	**58**

TWGZ				S	Sn	04 38 24.5	+0.1
KNZ	**Kokohu**	**0.99**	**257**	P	Pn	04 38 12.5	+0.4
WMGZ	**Waiomatatini S**	**1.06**	**338**	P	Pb	04 38 13.8	-0.6
PKGZ	**Pakihiroa**	**1.13**	**324**	P	Pb	04 38 20.6	+5.0
MWZ	**Matawai**	**1.19**	**293**	P	Pn	04 38 14.4	-0.4
MWZ				S	Sn	04 38 29.1	-0.7
RAGZ	**Rawiri**	**1.21**	**284**	P	Pn	04 38 15.2	0.0
RAGZ				S	Sn	04 38 30.4	-0.2
SNGZ	**Shannon Statio**	**1.23**	**271**	P	Pn	04 38 15.6	+0.2
SNGZ				S	Sn	04 38 29.5	-1.4
RUGZ	**Raukumara Rang**	**1.28**	**310**	P	Pn	04 38 15.7	-0.5
MXZ	**Matakaoa Point**	**1.33**	**339**	P	Pb	04 38 18.0	-0.9
WHHZ	**Waihua**	**1.34**	**258**	P	Pb	04 38 18.5	-0.6
HAZ	**Te Kaha**	**1.38**	**319**	P	Pn	04 38 19.3	-0.1
HAZ				S	Sn	04 38 33.7	-0.7
URZ	**Urewera**	**1.52**	**290**	P	Pn	04 38 19.6	+0.3
ARHZ	**Aropaoanui**	**1.56**	**252**	P	Pb	04 38 21.6	-1.3
MTHZ	**Maungataniwha**	**1.62**	**268**	P	Pn	04 38 21.1	+0.3
CKHZ	**Cape Kidnapper**	**1.66**	**239**	P	Pn	04 38 22.2	+0.9
NMHZ	**Naumai**	**1.67**	**259**	P	Pb	04 38 23.5	-1.2
NMHZ				S	Sn	04 38 43.0	+1.2
MUGZ	**Murupara**	**1.71**	**280**	P	Pn	04 38 22.6	+0.6
MCHZ	**McNeill Hill**	**1.84**	**249**	P	Pn	04 38 25.3	+1.5
BKZ	**Black Stump Fm**	**1.92**	**258**	P	Pn	04 38 25.5	+0.6
TARZ	**Mount Tarawera**	**1.97**	**286**	P	Pn	04 38 27.1	+1.4
OPRZ	**Ohinepanea**	**2.09**	**297**	P	Pn	04 38 27.1	0.0
BHHZ	**Black Hill Sta**	**2.32**	**252**	P	Pn	04 38 31.5	+1.1
PNHZ	**Pukenui**	**2.38**	**241**	P	Pn	04 38 31.9	+0.7
ETVZ	**East Tongariro**	**2.52**	**261**	P	Pn	04 38 34.2	+1.0
TMVZ	**Te Maari**	**2.52**	**262**	P	Pn	04 38 34.3	+1.0
MOVZ	**Moawhango**	**2.53**	**255**	P	Pn	04 38 35.0	+1.6
OTVZ	**Oturere**	**2.56**	**261**	P	Pn	04 38 34.8	+1.0
DVHZ	**Dannevirke**	**2.60**	**234**	P	Pn	04 38 34.6	+0.4
TSZ	**Takapari Road**	**2.61**	**240**	P	Pn	04 38 34.7	+0.3
WNVZ	**Wahianoa**	**2.63**	**258**	P	Pn	04 38 35.8	+1.0
BFZ	**Birch Farm**	**2.78**	**227**	P	Pn	04 38 36.6	-0.2
PRWZ	**Pori Road**	**2.87**	**232**	P	Pn	04 38 38.9	+1.0
POWZ	**Post Office Ro**	**2.90**	**236**	P	Pn	04 38 39.5	+1.1
MRZ	**Mangatainoka R**	**3.17**	**233**	P	Pn	04 38 42.1	0.0
KUZ	**Kuaotunu**	**3.26**	**308**	P	Pn	04 38 43.1	-0.2
CTZ	**Chatham Island**	**5.96**	**147**	P	Pn	04 39 26.1	+5.7

*IPEC **29** 04:51:18.6±0.3,51°.61N×16°.19E,h0km,ML2.5/3, Error ellipse: s-maj=3.1km s-min=1.8km az=63.0*
*PRU **29** 04:51:19.7±0.0,51°.56N×16°.07E,h0km*
*VIE **29** 04:51:21.5±0.3,51°.40N×15°.91E,h0km,mb2.5/5,ml2.8/5, Error ellipse: s-maj=1.8km s-min=1.1km az=11.0 84 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 04:51:17.8±0.9,51°.64N±0°.03×16°.09E±0°.02,h0km,n33, σ0s74/75,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**171**	*i* Pg	**Pg**	**04 51 33.6**	**+0.4**
KSP				*e*Sg	**Sg**	**04 51 43.6**	**-0.2**
CHVC	**Chvalec**	**1.05**	**181**	*e*PG	**Pg**	**04 51 38.3**	**+0.3**
CHVC				*e*SG	**Sg**	**04 51 51.4**	**-0.2**
OSTC	**Ostas**	**1.09**	**176**	*e*PG	**Pg**	**04 51 38.9**	**+0.3**
OSTC				*e*SG	**Sg**	**04 51 52.6**	**-0.1**
	comp=Z,71nm,0.7s						
UPC	**Upice**	**1.14**	**182**	*e*PG	**Pg**	**04 51 39.7**	**+0.2**
UPC				*e*SG	**Sg**	**04 51 53.5**	**-0.7**
	comp=Z,94nm,0.4s						
DPC	**Dobruska-Polom**	**1.30**	**173**	*e*PG	**Pg**	**04 51 42.4**	**-0.3**
DPC				*e*SG	**Sg**	**04 51 58.2**	**-1.3**
	comp=Z,82nm,0.8s						
PVCC	**Panska Ves**	**1.47**	**221**	*e*PG	**Pg**	**04 51 45.7**	**-0.2**
PVCC				*e*SG	**Sn**	**04 52 05.4**	**0.0**
	comp=Z,159nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**241**	PN	**Pn**	**04 51 46.5**	**-0.2**
BRG				PG	**Pg**	**04 51 48.2**	**+0.7**
BRG				SG	**Sg**	**04 52 08.6**	**+1.0**
	102nm,0.4s						
KRLC	**Kraliky**	**1.63**	**164**	*e*PG	**Pn**	**04 51 47.5**	**-0.3**
KRLC				*e*SG	**Sn**	**04 52 08.7**	**-0.7**
	comp=Z,51nm,0.7s						
PRA	**Prague**	**1.89**	**214**	*e*PN	**Pn**	**04 51 51.7**	**+0.4**
PRA				*e*PG	**Pg**	**04 51 53.6**	**-0.4**
PRA				*e*SG	**Sb**	**04 52 17.3**	**0.0**
	comp=Z,29nm,0.6s						
PRU	**Pruhonice**	**1.92**	**211**	*e*PG	**Pb**	**04 51 53.6**	**-0.1**
PRU				*e*SG	**Sb**	**04 52 18.2**	**0.0**
	comp=Z,44nm,0.7s						
CLL	**Collm**	**1.96**	**261**	*i* Pn	**Pn**	**04 51 52.3**	**+0.1**
	comp=Z,13nm,0.5s						
CLL				*i* Pg	**Pg**	**04 51 55.4**	**+0.1**
CLL				*i*		04 51 59.3	
CLL				*e*Sg	**Sg**	**04 52 21.0**	**+0.3**
	comp=Z,21nm,0.6s						
MORC	**Moravsky Berou**	**2.08**	**153**	*e*PN	**Pn**	**04 51 53.7**	**-0.3**
MORC				*e*SG	**Sb**	**04 52 22.1**	**-0.8**
MORC	**Moravsky Berou**	**2.08**	**153**	*e*Pn	**Pn**	**04 51 53.7**	**-0.3**
	baz=335						
MORC				*e*Sg	**Sb**	**04 52 22.0**	**-0.8**
	comp=Z,29nm,0.6s,baz=335						
OKC	**Ostrava-Krasne**	**2.23**	**143**	*e*PG	**Pb**	**04 51 59.6**	**+0.7**
OKC				*e*SG	**Sb**	**04 52 27.8**	**+0.8**
	comp=Z,60nm,1.0s						
VRAC	**Vranov**	**2.36**	**172**	*e*PN	**Pn**	**04 51 58.0**	**+0.3**
VRAC				*e*SG	**Sb**	**04 52 31.1**	**+0.3**
VRAC	**Vranov**	**2.36**	**172**	*e*Pn	**Pn**	**04 51 58.0**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**04 52 31.0**	**+0.3**
	comp=Z,20nm,0.4s,baz=354						
PBCC	**Pribram**	**2.37**	**215**	*e*PG	**Pb**	**04 52 02.0**	**+0.7**
PBCC				*e*SG	**Sg**	**04 52 32.7**	**-1.1**
TREC	**Trest**	**2.38**	**190**	*e*PN	**Pn**	**04 51 58.2**	**+0.1**
TREC				*e*PG	**Pb**	**04 52 02.1**	**+0.6**
TREC				*e*SG	**Sb**	**04 52 31.9**	**+0.5**
	comp=Z,21nm,0.6s						
KRUC	**Moravsky**	**2.59**	**176**	*e*PN	**Pn**	**04 52 01.3**	**+0.3**
KRUC				*e*SG	**Sb**	**04 52 38.5**	**+1.1**
KRUC	**Moravsky**	**2.59**	**176**	*e*Pn	**Pn**	**04 52 01.2**	**+0.3**
	baz=357						
KRUC				*e*Sg	**Sb**	**04 52 38.4**	**+1.1**
	comp=Z,20nm,0.6s,baz=357						
NKC	**Novy Kostel**	**2.70**	**240**	*e*PN	**Pn**	**04 52 03.6**	**+1.1**
NKC				*e*PG	**Pg**	**04 52 09.1**	**-0.4**
NKC				*e*SG	**Sg**	**04 52 44.5**	**0.0**
	comp=Z,48nm,0.4s						
OJC	**Ojcow**	**2.75**	**120**	Pn	**Pn**	**04 52 03.0**	**-0.1**
OJC				*e*Pg	**Sg**	**04 52 11.5**	**+1.1**
OJC				*e*SG	**Sg**	**04 52 45.0**	**-1.0**
JAVC	**Velka Javorina**	**2.96**	**159**	*e*PN	**Pn**	**04 52 06.3**	**+0.2**
JAVC	**Velka Javorina**	**2.96**	**159**	*e*Pn	**Pn**	**04 52 06.3**	**+0.2**
	baz=342						
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN	**Pn**	**04 52 06.7**	**+0.3**
KHC				*e*PG	**Pb**	**04 52 12.6**	**+0.8**
KHC				*e*SG	**Sg**	**04 52 52.8**	**-0.7**
	comp=Z,11nm,0.4s						
LANS	**Liptovska Anna**	**3.30**	**138**	*e*PN	**Pn**	**04 52 10.8**	**+0.1**
LANS				*e*SG	**Sg**	**04 53 02.6**	**-1.1**
MODS	**Modra-Piesok**	**3.36**	**166**	*e*PN	**Pn**	**04 52 11.9**	**+0.4**
MODS				*e*PG	**Pg**	**04 52 21.8**	**-0.3**
MODS				*e*SG	**Sg**	**04 53 04.5**	**-1.1**
MODS				eLg	Lg	04 53 11.1	
BSD	**Bornholm Skovb**	**3.55**	**349**	*e*	**Pn**	**04 52 13.5**	**-0.6**
	baz=172,slow=12						
BSD				*i* P	**Pn**	**04 52 14.8**	**+0.7**
BSD				*i* S	**Sn**	**04 52 54.2**	**-2.5**
BSD				IAML		04 52 58.3	
	comp=Z,2.0nm,0.4s						
VYHS	**Vyhne**	**3.61**	**150**	*e*PN	**Pn**	**04 52 14.8**	**-0.2**
VYHS				*e*PG	**Pg**	**04 52 28.3**	**+1.3**
CONA	**Conrad Observa**	**3.72**	**182**	*e*Pn	**Pn**	**04 52 17.1**	**+0.5**
	comp=Z,1.4nm,0.3s,SNR=6.5						
CONA				Pg	**Pg**	**04 52 28.2**	**-0.8**
	comp=Z,6.6nm,0.5s						
CONA				Sg	**Sg**	**04 53 17.5**	**+0.3**
	comp=Z,8.8nm,0.3s						
MOA	**Molln**	**3.97**	**198**	*e*Pn	**Pn**	**04 52 20.5**	**+0.5**
	comp=Z,5.8nm,0.3s,SNR=6.8						
MOA				*e*Sg	**Sg**	**04 53 24.8**	**-0.6**
	comp=Z,8.0nm,0.4s						
ARSA	**Arzberg**	**4.41**	**185**	*e*Pn	**Pn**	**04 52 26.0**	**0.0**
	comp=Z,2.0nm,0.3s						
ARSA				*e*Pg	**Pg**	**04 52 40.3**	**-1.9**
	comp=Z,2.2nm,0.3s						
ARSA				Sg	**Sg**	**04 53 40.2**	**+0.8**
	comp=Z,9.4nm,0.6s						
KOLS	**Kolonicke sedl**	**4.80**	**122**	*e*PN	**Pn**	**04 52 30.8**	**-0.5**
KOLS				*e*PG	**Pg**	**04 52 51.6**	**+1.8**

WEL 29 05:05:27.0,46°S±2°×16°7E±°,h75km±4km,M3.3/10, ML3.3/10,MLv3.3/10,Error ellipse: s-maj=0.0km s-min=0.0km az=66.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.61**	**205**	P	Pn	05 05 41.7	+0.4
PYZ				S	Sn	05 05 51.9	0.0
WHZ	**Wether Hill Ro**	**0.69**	**114**	P	Pn	05 05 43.0	+0.9
WHZ				S	Sn	05 05 54.7	+1.5
MLZ	**Mavora Lakes**	**0.79**	**72**	P	Pn	05 05 43.7	+0.5
MLZ				S	Sn	05 05 55.4	+0.1
MSZ	**Milford Sound**	**1.13**	**34**	P	Pn	05 05 47.4	+0.1
MSZ				S	Sn	05 06 01.9	-0.6
APZ	**The Paps**	**1.38**	**152**	P	Pn	05 05 51.7	+1.1
APZ				S	Sn	05 06 10.1	+1.8
WKZ	**Wanaka**	**1.60**	**61**	P	Pn	05 05 53.8	+0.5
WKZ				S	Sn	05 06 13.0	-0.4
SYZ	**Scrubby Hill**	**1.72**	**123**	P	Pn	05 05 56.0	+1.1
SYZ				S	Sn	05 06 18.0	+1.7
TUZ	**Tuapeka**	**1.84**	**102**	P	Pn	05 05 57.4	+0.9
TUZ				S	Sn	05 06 19.0	+0.1
JCZ	**Jackson Bay**	**1.98**	**39**	P	Pn	05 05 57.7	-0.8
HHSZ	**Highcliff Hill**	**2.50**	**97**	P	Pn	05 06 06.2	+0.8
HHSZ				S	Sn	05 06 33.4	-1.5
LBZ	**Lake Benmore**	**2.54**	**62**	P	Pn	05 06 05.3	-0.7
LBZ				S	Sn	05 06 33.9	-2.1
ODZ	**Otahua Downs**	**2.60**	**79**	P	Pn	05 06 06.3	-0.4
ARCZ	**Arundel**	**3.38**	**62**	P	Pn	05 06 15.8	-1.5

*ARE **29** 05:14:21±3.5, 16°.86S±0°.05×70°.56W±0°.05,h25km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=219.0*
*NEIC **29** 05:14:25.1±2.8, 16°.92S±0°.05×70°.59W±0°.07,h23km±4km, mb4.6/28,ML4.2(ARE),Error ellipse: s-maj=9.4km s-min=7.2km az=90.0*
*VAO **29** 05:14:26.1±0.3, 16°.66S×70°.30W,h10km,mb4.2*
*IDC **29** 05:14:30.2±2.3, 16°.79S×70°.30W,h68km±21km,mb3.8/14, mb1 4.0/17,mb1mx3.8/51,mbtmp4.1/17,MS3.3/5, Ms1 3.3/5,ms1mx3.1/24,Error ellipse: s-maj=20.4km s-min=16.2km az=60.0*

ISC 29 05:14:22.9±0.4,16°.79S±0°.05×70°.54W±0°.06,h10km,n119, σ1s40/118,mb4.4/23,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.58**	**173**	Pn	**Pn**	**05 14 49.2**	**-1.8**
AP01				Sn	**Sn**	**05 15 10.7**	**-0.8**
PB16	**IPOC Station P**	**1.82**	**148**		**Pn**	**05 14 53.9**	**-1.0**
PB16				Sn	**Sn**	**05 15 19.0**	**+0.7**
LPAZ	**La Paz**	**2.36**	**78**	P	**Pb**	**05 15 06.4**	**+0.4**
	36nm,0.3s,baz=259,slow=13,SNR=1092						
LPAZ	**La Paz**	**2.36**	**78**	Pn	**Pb**	**05 15 06.2**	**+0.3**
MNMC	**Minye Minye**	**2.49**	**159**		**Pn**	**05 15 04.1**	**+0.3**
MNMC					**Sb**	**05 15 38.3**	**-0.5**
PSGCX	**Pisagua**	**2.82**	**172**		**Pn**	**05 15 08.5**	**+0.3**
PB11	**IPOC Station P**	**3.07**	**164**		**Pn**	**05 15 12.9**	**+1.2**
GO01	**Chusmiza**	**3.13**	**156**		**Pn**	**05 15 15.2**	**+2.4**
PB08	**IPOC Station P**	**3.58**	**159**	Pn	**Pn**	**05 15 21.1**	**+2.2**
TA01	**Diego Aracena**	**3.77**	**175**		**Pn**	**05 15 20.9**	**-0.2**
PATCX	**Punta Patache**	**4.03**	**175**		**Pn**	**05 15 24.5**	**-0.2**
PB01	**IPOC Station P**	**4.34**	**167**		**Pn**	**05 15 30.2**	**+1.0**
PB07	**IPOC Station P**	**4.95**	**173**		**Pn**	**05 15 38.2**	**+0.7**
PB09	**IPOC Station P**	**5.13**	**166**		**Pn**	**05 15 41.5**	**+1.5**
PB04	**IPOC Station P**	**5.53**	**176**		**Pn**	**05 15 45.1**	**-0.3**
PB06	**IPOC Station P**	**5.95**	**171**	Pn	**Pn**	**05 15 51.3**	**0.0**
LVC	**Limon Verde**	**5.99**	**165**	P	**Pn**	**05 15 54.3**	**+2.4**
	2.5nm,0.3s,baz=309,slow=4.9,SNR=23						
LVC				S	**Sn**	**05 17 01.3**	**+0.5**
	2.4nm,0.3s,baz=55,slow=14,SNR=1.7						
LVC	**Limon Verde**	**5.99**	**165**	Pn	**Pn**	**05 15 54.0**	**+2.1**
LVC	**Limon Verde**	**5.99**	**165**	*e*P	**Pn**	**05 15 55.7**	**+3.7**
PB10	**IPOC Station P**	**6.69**	**180**	Pn	**Pn**	**05 15 59.3**	**-1.9**
NNA	**Nana**	**7.75**	**307**	P	**Pn**	**05 16 18.2**	**+2.2**
	0.6nm,0.3s,baz=125,slow=11,SNR=2.0						
NNA				LR	LR	05 19 22.3	
	comp=Z,587nm,19.8s,baz=145,slow=37						
PB14	**IPOC Station P**	**7.80**	**179**	Pn	**Pn**	**05 16 15.7**	**-1.1**
ETMB	**Extrema**	**8.11**	**32**	*e*P	**Pn**	**05 16 21.9**	**+1.1**
GO02	**Mina Guanaco**	**8.38**	**174**	Pn	**Pn**	**05 16 22.5**	**-2.2**
SIV	**San Ignacio**	**9.12**	**86**	P	**Pn**	**05 16 35.2**	**+0.5**
	1.0nm,0.3s,baz=286,slow=9.2,SNR=36						
SIV				LR	LR	05 20 29.6	
	comp=Z,272nm,18.0s,baz=288,slow=40						
CZSB	**Cruzeiro do Su**	**9.25**	**347**	*e*P	**Pn**	**05 16 38.9**	**+2.4**
AC01	**Pan de Azucar**	**9.31**	**180**	Pn	**Pn**	**05 16 34.4**	**-2.9**
AC02	**Maricunga**	**10.08**	**173**	Pn	**Pn**	**05 16 47.7**	**-0.5**
SAML	**Samuel**	**10.59**	**43**	Pn	**Pn**	**05 16 54.0**	**-0.4**
SAML	**Samuel**	**10.59**	**43**	*e*P	**Pn**	**05 16 54.4**	**-0.4**
VILB	**Vilhena**	**10.70**	**70**	*e*P	**Pn**	**05 16 55.5**	**-0.8**
VILB				*e*S	**Sn**	**05 18 54.2**	**-2.1**
PTLB	**Pontes e Lacer**	**11.04**	**85**	*e*P	**Pn**	**05 17 01.0**	**+0.1**
AC05	**El Transito**	**11.99**	**179**	Pn	**Pn**	**05 17 12.0**	**-2.1**
CO01	**Juntas del Tor**	**13.13**	**178**		**Pn**	**05 17 30.8**	**+1.0**
AQDB	**Aquidauana**	**14.53**	**107**	*e*P	**Pn**	**05 17 49.5**	**+0.7**
CLDB	**Colider**	**15.47**	**70**	*e*P	**Pn**	**05 18 00.5**	**-0.9**
CPUP	**Villa Florida**	**15.51**	**130**	LR	LR	05 25 37.3	
	comp=Z,111nm,20.4s,baz=308,slow=44						
CPUP	**Villa Florida**	**15.51**	**130**	*e*P	**P**	**05 18 04.4**	**-1.9**
VA03	**San Esteban**	**15.90**	**180**	Pn	**Pn**	**05 18 06.6**	**-0.4**
MACA	**Manacapuru-AM**	**16.65**	**37**	*e*P	**Pn**	**05 18 16.7**	**+0.2**
NPGB	**Novo Progresso**	**17.72**	**59**	*e*P	**Pn**	**05 18 30.4**	**+0.4**
TRCB	**Terra Rica**	**17.87**	**112**	*e*P	**P**	**05 18 34.0**	**+1.5**
ARAG	**Araguaiana, MT**	**18.01**	**89**	*e*P	**Pn**	**05 18 33.8**	**+0.2**
ITQB	**Itaqui**	**18.08**	**138**	*e*P	**P**	**05 18 37.2**	**+2.5**
PCMB	**Pacaembu**	**18.82**	**108**	*e*P	**Pn**	**05 18 43.3**	**-0.2**
PTGB	**Pitanga**	**18.98**	**118**	*e*P	**Pn**	**05 18 47.8**	**+2.4**
ITTB	**Itaituba**	**19.06**	**51**	*e*P	**P**	**05 18 45.6**	**+0.1**
SNDB	**Serra Nova Dou**	**19.24**	**78**	*e*P	**Pn**	**05 18 48.7**	**+0.1**
ITRB	**Iturama**	**19.38**	**102**	*e*P	**Pn**	**05 18 49.7**	**-0.5**
ITAB	**Concordia**	**19.95**	**125**	*e*P	**Pn**	**05 18 56.9**	**-0.1**
FRTB	**Fartura**	**20.74**	**112**	*e*P	Pn	05 19 06.6	+0.3
IPMB	**Ipameri, GO**	**21.34**	**96**	*e*P	**P**	**05 19 09.6**	**-0.8**
PLTB	**Pedras Altas**	**21.41**	**137**	*e*P	**P**	**05 19 12.4**	**+1.4**
BDFB	**Brasilia**	**21.66**	**90**	P	**P**	**05 19 14.1**	**+0.1**
	3.5nm,0.9s,baz=242,slow=11,SNR=4.9						
BDFB				LR	LR	05 27 37.8	
	comp=Z,82nm,20.1s,baz=232,slow=37						
TIJ01	**Guaruva-PR**	**21.79**	**117**	*e*P	**P**	**05 19 15.9**	**+0.6**
MALB	**Monte Alegre**	**21.83**	**49**	*e*P	**P**	**05 19 17.2**	**+1.5**
RCLB	**Rio Claro- Sao**	**22.37**	**108**	*e*P	**P**	**05 19 22.7**	**+1.2**
TRQA	**Tornquist**	**22.48**	**162**	*e*P	**P**	**05 19 26.1**	**+3.6**
SPB	**Sao Paulo**	**22.70**	**111**	*e*P	**P**	**05 19 25.9**	**+1.0**
PRPB	**Parauapebas**	**22.86**	**65**	*e*P	**P**	**05 19 26.6**	**-0.1**
VAO	**Valinhos**	**23.00**	**109**	*e*P	**P**	**05 19 30.4**	**+2.3**
PET01	**Itanhaem-SP**	**23.00**	**113**	*e*P	**P**	**05 19 30.0**	**+1.9**
SMTB	**Santa Maria do**	**23.70**	**73**	*e*P	**P**	**05 19 35.9**	**+0.7**
PLCA	**Paso Flores**	**23.86**	**180**	P	**P**	**05 19 37.2**	**+0.7**
	10.0nm,0.9s,baz=351,slow=12,SNR=10						
PLCA				LR	LR	05 27 04.4	
	comp=Z,29nm,21.0s,baz=332,slow=32						
PLCA	**Paso Flores**	**23.86**	**180**	P	**P**	**05 19 36.2**	**-0.3**
PLCA				IAmb	IAmb	05 19 40.9	
	comp=Z,11nm,0.9s						
MCPB	**Macapa, AP**	**24.46**	**50**	*e*P	**P**	**05 19 42.4**	**+0.2**
BSCB	**Bom Sucesso**	**24.72**	**104**	*e*P	**P**	**05 19 47.0**	**+2.3**
SDV	**Santo Domingo**	**25.51**	**360**	*e*P	**P**	**05 19 53.4**	**+1.4**
APG	**El Apazote**	**37.22**	**327**	P	**P**	**05 21 36.6**	**+1.7**
	comp=Z,5.7nm,0.9s,baz=152,slow=7.7,SNR=7.2						
TXAR	**Lajitas Array**	**55.91**	**325**	P	**P**	**05 24 02.0**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=141,slow=8.1,SNR=7.3						
TXAR	**Lajitas Array**	**55.91**	**325**	P	**P**	**05 24 01.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**55.91**	**325**	P	**P**	**05 24 01.0**	**-0.3**
TX31				IAmb	IAmb	05 24 11.1	
	comp=Z,4.2nm,1.1s						
X37A	**Clayton**	**56.29**	**335**	P	**P**	**05 24 04.8**	**+1.0**
X37A				IAmb	IAmb	05 24 05.4	
	comp=Z,7.0nm,1.0s						
T42A	**Van Buren**	**56.94**	**340**	P	**P**	**05 24 07.2**	**-1.1**
T42A				IAmb	IAmb	05 24 07.5	
	comp=Z,5.2nm,0.8s						
S44A	**Carbondale**	**56.98**	**342**	P	**P**	**05 24 08.4**	**-0.3**
FVM	**French Village**	**57.60**	**341**	P	**P**	**05 24 11.6**	**-1.4**
FVM				IAmb	IAmb	05 24 14.1	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**58.47**	**340**	P	**P**	**05 24 18.1**	**-1.0**
R40A				IAmb	IAmb	05 24 18.6	
	comp=Z,6.3nm,0.8s						

P43A	**Skaggs, Pawnee**	**58.87**	**343**	P	**P**	**05 24 20.4**	**-1.5**
ANMO	**Albuquerque**	**61.73**	**327**	P	**P**	**05 24 42.2**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=116,slow=7.5,SNR=3.6						
ANMO	**Albuquerque**	**61.73**	**327**	IAmb	IAmb	05 24 43.2	
	comp=Z,2.4nm,1.1s						
SDCO	**Great Sand Dun**	**63.43**	**329**	P	**P**	**05 24 53.2**	**-0.1**
SDCO				IAmb	IAmb	05 24 55.3	
	comp=Z,7.3nm,1.1s						
K31A	**O'Neill**	**64.58**	**337**	P	**P**	**05 24 59.3**	**-1.1**
VNA3	**Neumayer Olymp**	**65.01**	**162**	P	**P**	**05 25 03.2**	**+0.3**
ISCO	**Idaho Springs**	**65.11**	**331**	P	**P**	**05 25 05.3**	**+1.0**
VNA2	**Neumayer--Watz**	**65.58**	**161**	P	**P**	**05 25 06.5**	**0.0**
KNB	**Kanab**	**66.73**	**324**	P	**P**	**05 25 16.1**	**+1.5**
MTPU	**Mount Pierson**	**67.11**	**325**	P	**P**	**05 25 18.0**	**+0.8**
SNAA	**Sanae**	**67.21**	**161**	P	**P**	**05 25 18.0**	**+0.9**
SNAA	**Sanae**	**67.21**	**161**	P	**P**	**05 25 17.0**	**0.0**
SNAA				IAmb	IAmb	05 25 19.4	
	comp=Z,4.0nm,0.9s						
MSU	**Marysvale**	**67.44**	**326**	P	**P**	**05 25 18.8**	**-0.4**
MVU	**Marysvale**	**67.46**	**326**	P	**P**	**05 25 20.4**	**+1.2**
TPNV	**Topopah Spring**	**68.65**	**322**	P	**P**	**05 25 28.7**	**+2.0**
TPNV				IAmb	IAmb	05 25 30.0	
	comp=Z,3.1nm,0.9s						
E28A	**Huff**	**68.68**	**338**	P	**P**	**05 25 27.2**	**+0.6**
DBIC	**Dimbokro**	**68.98**	**76**	P	**P**	**05 25 26.5**	**-2.5**
	comp=Z,6.9nm,1.1s,baz=219,slow=6.5,SNR=3.0						
DBIC	**Dimbokro**	**68.98**	**76**	IAmb	IAmb	05 25 44.1	
	comp=Z,8.3nm,1.1s						
PDAR	**Pinedale Array**	**69.28**	**330**	P	**P**	**05 25 30.6**	**0.0**
	comp=Z,1.3nm,0.9s,baz=154,slow=8.2,SNR=8.7						
PDAR	**Pinedale Array**	**69.28**	**330**	P	**P**	**05 25 29.9**	**-0.6**
ULM	**Lac du Bonnet**	**70.39**	**343**	P	**P**	**05 25 36.2**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=133,slow=3.4,SNR=4.8						
ULM	**Lac du Bonnet**	**70.39**	**343**	IAmb	IAmb	05 25 36.5	
	comp=Z,15nm,1.1s						
ELK	**Elko**	**70.69**	**326**	P	**P**	**05 25 39.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=74,slow=2.8,SNR=4.9						
NVAR	**Mina Array Bea**	**70.85**	**322**	P	**P**	**05 25 41.4**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=151,slow=6.8,SNR=7.4						
YHL	**Hebgen Lake**	**71.63**	**331**	P	**P**	**05 25 45.7**	**+0.7**
PAHR	**Pah Rah Range**	**72.33**	**322**	P	**P**	**05 25 50.6**	**+1.5**
PAHR				IAmb	IAmb	05 25 52.2	
	comp=Z,4.4nm,0.9s						
TOA0	**Torodi Ar. Sit**	**77.30**	**72**	P	**P**	**05 26 16.0**	**-2.2**
TORD	**Torodi Ar. Bea**	**77.30**	**72**	P	**P**	**05 26 15.8**	**-2.4**
	comp=Z,2.2nm,0.7s,baz=254,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**77.30**	**72**	P	**P**	**05 26 15.2**	**-3.0**
VNDA	**Vanda**	**81.19**	**190**	P	**P**	**05 26 38.4**	**0.0**
	comp=Z,1.1nm,0.9s,baz=134,slow=3.3,SNR=6.8						
ESDC	**Sonseca Array**	**83.61**	**45**	P	**P**	**05 26 50.4**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=244,slow=5.7,SNR=4.4						
ESDC	**Sonseca Array**	**83.61**	**45**	IAmb	IAmb	05 26 54.1	
	comp=Z,1.1nm

Ms1 4.0/35, ms1mx3.9/48, Error ellipse: s-maj=16.7km s-min=10.4km az=14.0

NEIC **29** *05:23:39.6±2.3, 64°.57N±0°.09×17°.6W±0°.2, h10km±1km, mb4.7/74, Error ellipse: s-maj=16.6km s-min=10.7km az=200.0*

MOS **29** *05:23:39.5±1.9, 64°.50N×17°.50W, h10km, mb4.7/38, MS4.2/10, Error ellipse: s-maj=10.4km s-min=6.7km az=110.6*

GCMT **29** *05:23:47.5±0.2, 64°.51N±0°.02×17°.52W±0°.05, h12km, MW4.8/101, Moment Tensor Solution. s18,c21; s101,c135; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.73±.05; Mθθ 0.97±.05; Mφφ 0.76±.05; Mrθ-0.68±.21; Mθφ 0.63±.04; Mφr-0.38±.21; Best double couple: M₀1.79100×10¹⁶ NP1:φs226.00000°, δ32.00000°, λ-96.00000°. NP2:φs54.00000°, δ58.00000°, λ-86.00000°. Principal axes: T 1.6720, Plg13.0000°, Azm141.0000°; N 0.2410, Plg3.0000°, Azm232.0000°; P -1.9110, Plg77.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR **29** *05:23:50.2±0.0, 64°.68N×17°.31W, h10km, mb4.6, Ms4.0*

ISC 29 05:23:39.8±0.7, **64°.67N**±0°.02×**17°.50W**±0°.02, **h7**km±4km, **n324**, σ**2**S**11**/253, **mb4.6**/105, **MS4.2**/52, **8C-1D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h m s	ISC	Res
IVON	**Vonarskard**	**0.11**	**271**	P		**Pg**		**05 23 41.0**		**-1.3**
	baz=272									
IDYN	**Dyngjuhals**	**0.13**	**25**	P		**Pg**		**05 23 41.1**		**-1.6**
	baz=17									
IURH	**Urdarhals**	**0.21**	**45**	P		**Pg**		**05 23 42.4**		**-1.7**
	baz=41									
IGRF	**Grimsfjall**	**0.28**	**159**	P		**Pg**		**05 23 43.6**		**-1.8**
	baz=163									
IKVE	**Kverkfjoll**	**0.35**	**88**	P		**Pg**		**05 23 44.7**		**-2.0**
	baz=88									
IHUS	**Husbondi**	**0.38**	**191**	P		**Pg**		**05 23 45.8**		**-1.5**
	baz=193									
ISKR	**Skrokkalda**	**0.40**	**254**	P		**Pg**		**05 23 45.9**		**-1.6**
	baz=255									
ISKR				S		**Sg**		**05 23 53.2**		**+0.3**
	baz=255									
IVOT	**Vottur**	**0.42**	**161**	P		**Pg**		**05 23 46.1**		**-1.9**
	baz=164									
THOR	**Thorvaldshraun**	**0.44**	**53**	P		**Pg**		**05 23 46.1**		**-2.2**
	baz=51									
THOR				S		**Sg**		**05 23 52.4**		**-1.6**
	baz=51									
IJOK	**Jokulheimar**	**0.48**	**222**	P		**Pg**		**05 23 47.2**		**-1.8**
	baz=224									
IKRE	**Kreppuhraun**	**0.49**	**76**	P		**Pg**		**05 23 46.8**		**-2.5**
	baz=76									
IASK	**Askja**	**0.53**	**43**	P		**Pg**		**05 23 47.5**		**-2.4**
	baz=42									
IASK				S		**Sg**		**05 23 54.9**		**-1.9**
	baz=42									
IMKO	**Mokollar**	**0.58**	**58**	P		**Pg**		**05 23 48.5**		**-2.5**
	baz=56									
IIEY	**Innrieyrar**	**0.64**	**206**	P		**Pg**		**05 23 49.9**		**-2.2**
	baz=207									
IKSK	**Karasker**	**0.68**	**139**	P		**Pg**		**05 23 49.5**		**-3.3**
	baz=140									
IKSK				S		**Sg**		**05 23 58.8**		**-2.8**
	baz=140									
ISVA	**Svartarkot**	**0.68**	**9**	P		**Pg**		**05 23 50.3**		**-2.5**
	baz=7.1									
IKAL	**Kalfafell**	**0.73**	**187**	P		**Pg**		**05 23 51.5**		**-2.3**
	baz=188									
IVSH	**V-Sauoahnukur**	**0.77**	**79**	P		**Pg**		**05 23 51.4**		**-3.2**
	baz=79									
IVAT	**Vatnsfell**	**0.79**	**232**	P		**Pg**		**05 23 52.5**		**-2.3**
	baz=233									
IADA	**Aoalbol**	**0.89**	**66**	P		**Pg**		**05 23 53.4**		**-3.5**
	baz=66									
IHVE	**Hveravellir**	**0.91**	**284**	P		**Pg**		**05 23 54.2**		**-3.1**
	baz=283									
IMEL	**Melhnausar**	**0.97**	**21**	P		**Pg**		**05 23 55.0**		**-3.4**
	baz=20									
IREN	**Reynihlio**	**1.01**	**14**	P		**Pg**		**05 23 55.8**		**-3.4**
	baz=13									
ISNB	**Snabyli**	**1.06**	**208**	P		**Pg**		**05 23 57.1**		**-3.0**
	baz=209									
IKVO	**Krokottuvotn**	**1.08**	**14**	P		**Pg**		**05 23 56.8**		**-3.6**
	baz=13									
ISLY	**Slysaalda**	**1.11**	**221**	P		**Pg**		**05 23 58.1**		**-2.9**
	baz=221									
IGRS	**Grimsstaoir**	**1.13**	**30**	P		**Pg**		**05 23 57.8**		**-3.7**
	baz=29									
IFED	**Fedgar**	**1.16**	**237**	P		**Pg**		**05 23 59.2**		**-2.7**
	baz=237									
IMJO	**Mjoaskard**	**1.20**	**233**	P		**Pg**		**05 24 00.1**		**-2.7**
	baz=234									
ISKI	**Skildingahlsh**	**1.22**	**9**	P		**Pn**		**05 23 59.2**		**-4.0**
	baz=8.2									
IGHA	**Grjothals**	**1.23**	**16**	P		Pn		05 23 59.1		-4.3
	baz=15									
IGYG	**Gygjarholskot**	**1.24**	**253**	P		**Pg**		**05 24 00.0**		**-3.6**
	baz=253									
IGRA	**Granastaoir**	**1.25**	**358**	P		**Pn**		**05 23 59.6**		**-4.0**
	baz=358									
IHAU	**Haukadalur**	**1.29**	**238**	P		**Pn**		**05 24 01.2**		**-2.9**
	baz=238									
IHVO	**Lagu-Hvolar**	**1.29**	**208**	P		**Pg**		**05 24 01.1**		**-3.4**
	baz=209									
IDIM	**Dimmadalss**	**1.32**	**10**	P		**Pn**		**05 24 00.7**		**-3.9**
	baz=9.3									
IHLA	**Hella**	**1.33**	**344**	P		**Pn**		**05 24 01.3**		**-3.5**
	baz=343									
IALF	**Alftagrof**	**1.40**	**213**	P		**Pn**		**05 24 02.9**		**-2.8**
	baz=214									
IHED	**Heoinshofoi**	**1.42**	**3**	P		**Pn**		**05 24 02.2**		**-3.8**
	baz=2.3									
IESK	**Eystri-Skogar**	**1.44**	**218**	P		**Pn**		**05 24 03.3**		**-2.9**
	baz=218									
ISAU	**Saurbar**	**1.44**	**243**	P		**Pn**		**05 24 03.1**		**-3.2**
	baz=243									
IMID	**Miomork**	**1.46**	**227**	P		**Pn**		**05 24 04.0**		**-2.5**
	baz=228									
IBRE	**Brettingsstaoi**	**1.47**	**353**	P		**Pn**		**05 24 03.1**		**-3.5**
	baz=353									
IGIL	**Gilhagi**	**1.49**	**18**	P		**Pn**		**05 24 03.0**		**-3.9**
	baz=18									
ISIG	**Siglufjorour**	**1.58**	**339**	P		**Pn**		**05 24 05.0**		**-3.2**
	baz=338									
BORG	**Borgarnes**	**1.65**	**274**	Pg		**Pn**		**05 24 06.1**		**-3.0**
	24nm,0.3s,baz=99,slow=10,SNR=84									
BORG				Lg		Lg		05 24 29.4		
	55nm,0.3s,baz=91,slow=14,SNR=7.4									
JMIC	**Jan Mayen**	**7.19**	**24**	LR		LR		05 27 39.2		
	comp=Z,872nm,19.3s,baz=236,slow=33									
SUMG	**Summit**	**10.94**	**325**	*i* P		Pn		05 26 21.9		+5.1
SUMG				pmax		pmax				
	comp=Z,17nm,1.1s									
SUMG	**Summit**	**10.94**	**325**	Pn		**Pn**		**05 26 17.2**		**+0.4**
SUMG	**Summit**	**10.94**	**325**	*i* P		Pn		05 26 21.9		+5.1
	comp=Z,17nm,1.1s									
SUMG	**Summit**	**10.94**	**325**	*i* P		Pn		05 26 22.0		+5.1
SUMG				IAmb		IAmb		05 26 24.7		
	comp=Z,17nm,1.1s									
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**		**05 26 27.1**		**-0.6**
	baz=323,slow=13,SNR=7.7									
ESK	**Eskdalemuir**	**11.76**	**136**	P		**Pn**		**05 26 26.4**		**-1.4**
ESK	**Eskdalemuir**	**11.76**	**136**			**Pn**		**05 26 26.4**		**-1.4**
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P		**Pn**		**05 26 37.6**		**+4.4**
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P		**Pn**		**05 26 37.6**		**+4.4**
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P		**Pn**		**05 26 37.6**		**+4.4**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn		**Pn**		**05 26 49.6**		**-2.4**
	comp=Z,0.0nm,0.3s,baz=216,slow=14,SNR=3.6									
NOA				LR		LR		05 32 26.2		
	comp=Z,504nm,18.2s,baz=300,slow=39									
SFJD	**Kangerlussuaq**	**13.67**	**295**	Lg		Lg		05 30 39.6		
	comp=Z,0.2nm,0.3s,baz=307,slow=11,SNR=4.3									
HFS	**Hagfors**	**15.04**	**93**	Pn		**Pn**		**05 27 12.2**		**-0.3**
	comp=Z,0.1nm,0.3s,baz=174,slow=16,SNR=1.4									
HFS				LR		LR		05 33 23.1		
	comp=Z,523nm,18.5s,baz=289,slow=39									
SPITS	**Spitsbergen Ar**	**16.86**	**23**	LR		LR		05 32 25.6		
	comp=Z,287nm,22.0s,baz=240,slow=31									
NOR	**Nord**	**17.02**	**0**	*i* P		**P**		**05 27 40.1**		**+0.4**
NOR				pmax		pmax				
	comp=Z,40nm,1.5s									
NOR	**Nord**	**17.02**	**0**	*i* P		**P**		**05 27 40.1**		**+0.4**
	comp=Z,40nm,1.5s									
NOR	**Nord**	**17.02**	**0**	*i* P		**P**		**05 27 40.1**		**+0.4**
NOR				IAmb		IAmb		05 27 46.0		
	comp=Z,40nm,1.5s									
ARCES	**ARCESS Array B**	**17.11**	**55**	P		**Pn**		**05 27 40.0**		**+0.9**
	baz=57,slow=8.8,SNR=2.6									
BSEG	**Bad Segeberg**	**17.64**	**114**	*e*L		L		05 35 08.6		
	comp=Z,1µm,19.0s									
BGES	**Gesves**	**18.60**	**130**	Pn		**Pn**		**05 27 58.2**		**+0.7**
BGES	**Gesves**	**18.60**	**130**	P		Pn		05 28 05.1		+7.7
BGES				PnPn		**PnPn**		**05 28 08.7**		**-0.3**
BCLA	**Clavier**	**18.64**	**129**	P		Pn		05 28 05.3		+7.3
DOU	**Dourbes**	**18.68**	**131**	PnPn		**PnPn**		**05 28 10.0**		**-0.2**
FINES	**FINESS Array B**	**19.70**	**79**	P		**P**		**05 28 10.0**		**+0.7**
	comp=Z,0.1nm,0.3s,baz=320,slow=5.0,SNR=2.8									
FINES				LR		LR		05 35 14.1		
	comp=Z,217nm,19.3s,baz=270,slow=35									
TNS	**Taunus Mts**	**19.89**	**124**	*e*L		L		05 38 23.7		
	comp=Z,181nm,19.1s									
MOX	**Moxa**	**20.70**	**119**	*e*L		L		05 37 10.1		
	comp=Z,942nm,20.1s									
CLL	**Collm**	**20.70**	**116**	*i* P		**P**		**05 28 20.5**		**+0.2**
	comp=Z,14nm,1.2s									
CLL				*i*				05 28 29.0		
	comp=Z,71nm,1.5s									
CLL				*e*S		**S**		**05 32 12.0**		**+0.6**
CLL	**Collm**	**20.70**	**116**	*i* P		**P**		**05 28 20.5**		**+0.2**
CLL				*i*				05 28 29.0		
CLL				*e*S		**S**		**05 32 12.0**		**+0.6**
CLL				pmax		pmax				
	comp=Z,14nm,1.2s									
CLL	**Collm**	**20.70**	**116**	*e*L		L		05 37 23.1		
	comp=Z,735nm,18.6s									
CLL	**Collm**	**20.70**	**116**	P		**P**		**05 28 20.2**		**-0.1**
CLL				IAmb		IAmb		05 28 32.2		
	comp=Z,59nm,1.4s									
ECH	**Echery**	**21.16**	**129**	P		**P**		**05 28 25.3**		**+0.1**
ECH				pmax		pmax				
	comp=Z,25nm,1.2s									
ECH	**Echery**	**21.16**	**129**	P		**P**		**05 28 25.3**		**+0.1**
GRA1	**Grafenberg Arr**	**21.33**	**121**	P		**P**		**05 28 25.3**		**-1.8**
GRA1				IAmb		IAmb		05 28 39.5		
	comp=Z,34nm,1.1s									
GRF	**Grafenberg Arr**	**21.33**	**121**	P		**P**		**05 28 25.3**		**-1.8**
GRF				pmax		pmax				
	comp=Z,34nm,1.1s									
GRF	**Grafenberg Arr**	**21.33**	**121**	*e*P		P		05 28 36.1		+9.0
	comp=Z,36nm,1.1s,baz=324,slow=10									
GRF				*e*L		L		05 36 58.5		
	comp=Z,480nm,21.7s									
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**		**05 28 30.0**		**+2.7**
NKC				*e*S		Sn		05 32 39.0		+7.3
NKC				AMS		AMS		05 37 40.0		
	comp=Z,1µm,18.3s									
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**		**05 28 30.0**		**+2.7**
NKC				*e*S		Sn		05 32 39.0		+7.3
NKC				MLR		MLR				
	comp=Z,1µm,18.3s									
STU	**Stuttgart**	**21.37**	**125**	P		**P**		**05 28 25.0**		**-2.5**
STU				pmax		pmax				
	comp=Z,83nm,1.4s									
STU	**Stuttgart**	**21.37**	**125**	P		**P**		**05 28 25.0**		**-2.5**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**		**05 28 28.2**		**+0.3**
	comp=Z,14nm,1.2s									
BRG				*i*				05 28 38.1		
	comp=Z,53nm,1.4s									
BRG				S		Sn		05 32 45.0		+12
	comp=Z,1µm,16.8s									
	comp=N,660nm,16.8s									
	comp=E,580nm,16.8s									
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**		**05 28 28.2**		**+0.3**
BRG				pmax		pmax				
	comp=Z,14nm,1.2s									
BRG				pmax		pmax				
	comp=Z,53nm,1.4s									
BRG				MLR		MLR				
	comp=N,660nm,16.8s									
BRG				MLR		MLR				
	comp=E,580nm,16.8s									
BRG				MLR		MLR				
	comp=Z,1µm,16.8s									
BFO	**Black Forest**	**21.45**	**127**	P		**P**		**05 28 27.1**		**-1.3**
BFO				pmax		pmax				
	comp=Z,58nm,1.4s									
BFO	**Black Forest**	**21.45**	**127**	*e*L		L		05 37 25.8		
	comp=Z,740nm,19.1s									
BFO	**Black Forest**	**21.45**	**127**	P		**P**		**05 28 27.1**		**-1.3**
BFO				IAmb		IAmb		05 28 40.9		
	comp=Z,58nm,1.4s									
VSU	**Vasula**	**21.57**	**86**	*i* P		**P**		**05 28 34.3**		**+4.9**
VSU				pmax		pmax				
	comp=Z,88nm,1.0s									
FRB	**Frobisher Bay**	**21.75**	**291**	LR		LR		05 36 38.1		
	comp=Z,623nm,19.5s,baz=59,slow=36									
PVCC	**Panska Ves**	**21.93**	**115**	AMS		AMS		05 38 30.0		
	comp=Z,1µm,16.4s									
PRA	**Prague**	**22.24**	**116**	*e*S		Sn		05 32 54.7		+1.7
PRA				AMS		AMS		05 38 30.0		
	comp=Z,500nm,17.8s									
PRU	**Pruhonice**	**22.35**	**116**	*e*P		P		05 28 48.8		+11
PRU				*e*S		Sn		05 32 52.3		-3.3
PRU				AMS		AMS		05 39 00.0		
	comp=Z,1µm,17.0s									
PRU	**Pruhonice**	**22.35**	**116**	*e*P		P		05 28 48.8		+11
PRU				MLR		MLR				
	comp=Z,1µm,17.0s									
WET	**Wettzell**	**22.40**	**119**	*e*L		L		05 38 01.9		
	comp=Z,791nm,20.4s									
CHVC	**Chvalec**	**22.47**	**113**	*e*P		**P**		**05 28 40.5**		**+1.3**
CHVC				*ex*		x		05 28 54.0		
CHVC				AMS		AMS		05 38 20.0		
	comp=Z,900nm,18.3s									
UPC	**Upice**	**22.51**	**113**	*e*P		P		05 28 50.4		+11
UPC				*e*S		Sn		05 32 58.9		-0.6
UPC				AMS		AMS		05 38 20.0		
	comp=Z,800nm,19.7s									
UPC	**Upice**	**22.51**	**113**	*e*P		P		05 28 50.4		+11
UPC				MLR		MLR				
	comp=Z,800nm,19.7s									
OSTC	**Ostas**	**22.56**	**113**	*e*P		P		05 28 51.2		+11
OSTC				AMS		AMS		05 37 50.0		
	comp=Z,1µm,15.9s									
FUR	**Furstenfeldbru**	**22.63**	**123**	*e*L		L		05 37 15.3		
	comp=Z,246nm,21.8s									
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P		**P**		**05 28 41.7**		**+0.2**
KHC				*ex*		x		05 28 49.9		
KHC				*e*S		Sn		05 32 59.2		-4.2
KHC				AMS		AMS		05 38 40.0		
	comp=Z,1µm,17.2s									
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P		**P**		**05 28 41.7**		**+0.2**
KHC				*e*				05 28 49.9		
KHC				MLR		MLR				
	comp=Z,1µm,17.2s									
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**		**05 28 43.0**		**+0.6**
DPC				*ep*P		**sP**		**05 28 50.6**		**+4.6**
DPC				*e*S		Sn		05 33 07.1		+1.6
DPC				AMS		AMS		05 38 30.0		
	comp=Z,800nm,14.1s									
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P		**P**		**05 28 43.0**		**+0.6**
DPC				*e*				05 28 50.6		
DPC				MLR		MLR				
	comp=Z,800nm,14.1s									
SENIN	**Lac Senin/Sane**	**22.83**	**132**	P		**P**		**05 28 40.1**		**-3.1**
DAVA	**Damuels**	**22.88**	**126**	*e*P		**P**		**05 28 45.0**		**+1.2**
	comp=Z,14nm,1.1s									
SUW	**Suwalki**	**22.88**	**98**	P		**P**		**05 28 43.1**		**-0.4**
SUW				pmax		pmax				
	comp=Z,38nm,1.0s									
SUW	**Suwalki**	**22.88**	**98**	P		**P**		**05 28 43.1**		**-0.4**
SUW				IAmb		IAmb		05 29 02.0		
	comp=Z,38nm,1.0s									
SSB	**Saint Sauveur**	**22.95**	**137**	P		**P**		**05 28 41.7**		**-2.7**
SSB				pmax		pmax				
	comp=Z,16nm,1.1s									
SSB	**Saint Sauveur**	**22.95**	**137**	P		**P**		**05 28 41.7**		**-2.7**
GEC2	**GERESS Array S**	**22.96**	**119**	*e*L		L		05 38 17.8		
	comp=Z,782nm,20.1s									
GEC2	**GERESS Array S**	**22.96**	**119**			**P**		**05 28 45.0**		**+0.6**
GEC2				IAmb		IAmb		05 29 03.1		
	comp=Z,36nm,1.4s									
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**		**05 28 44.8**		**+0.3**
	comp=Z,1.5nm,0.9s,baz=309,slow=8.4,SNR=9.9									
GERES				LR		LR		05 38 38.4		
	comp=Z,814nm,19.7s,baz=329,slow=39									
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**		**05 28 44.0**		**-0.5**
RETA	**Reutte**	**23.02**	**125**	*e*P		**P**		**05 28 45.9**		**+0.8**
	comp=Z,13nm,1.5s									
KRLC	**Kraliky**	**23.16**	**113**	AMS		AMS		05 38 40.0		
	comp=Z,1µm,17.7s									
MOTA	**Moosalm**	**23.26**	**124**	*e*P		**P**		**05 28 49.9**		**+2.2**
	comp=Z,28nm,1.5s									
TREC	**Trest**	**23.27**	**116**	AMS		AMS		05 39 50.0		
	comp=Z,1µm,14.9s									
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P		**P**		**05 28 49.4**		**+1.1**
	comp=Z,1.6nm,0.7s,baz=328,slow=10,SNR=2.8									
DAVOX				LR		LR		05 38 55.8		
	comp=Z,885nm,18.5s,baz=328,slow=39									
PGAV	**Gavieira, Arco**	**23.36**	**162**	*i* LQ		LQ		05 33 14.3		
PGAV				*e*LR		LR		05 35 05.9		
	comp=Z,517nm,20.0s									
SQTA	**Sankt Quirin**	**23.41**	**124**	*e*P		**P**		**05 28 49.6**		**+0.5**
	comp=Z,6.2nm,0.7s									
TUE	**Stuetta**	**23.41**	**128**	P		**P**		**05 28 46.1**		**-3.1**
FETA	**Feichten**	**23.41**	**125**	*e*P		**P**		**05 28 50.8**		**+1.6**
	comp=Z,22nm,1.5s									
WATA	**Walderalm**	**23.44**	**124**	*e*P		**P**		**05 28 50.1**		**+0.7**
	comp=Z,16nm,1.2s									
WTTA	**Wattenberg**	**23.52**	**124**	*e*P		**P**		**05 28 51.2**		**+0.9**
	comp=Z,27nm,1.6s									
FUORN	**Ofenpass-Fuorn**	**23.59**	**127**	P		**P**		**05 28 45.2**		**-5.9**
EUNU	**Eureka**	**23.67**	**336**	P		**P**		**05 28 52.3**		**+1.0**
EUNU				IAmb		IAmb		05 29 10.8		
	comp=Z,27nm,1.4s									
VRAC	**Vranov**	**23.70**	**114**	*e*P		P		05 29 00.1		+8.3
MORC	**Moravsky Berou**	**23.70**	**112**	*e*P		P		05 28 59.9		+8.0
MORC	**Moravsky Berou**	**23.70**	**112**	P		**P**		**05 28 50.4**		**-1.5**
MORC				pmax		pmax				
	comp=Z,16nm,1.4s									
MORC	**Moravsky Berou**	**23.70**	**112**	P		**P**		**05 28 50.4**		**-1.5**
PBRG	**Braganca**	**23.73**	**160**	*e*P		P		05 29 09.3		+17
	comp=Z,26nm,1.6s									
BNI	**Bardonecchia**	**23.80**	**134**	P		**P**		**05 28 50.3**		**-2.7**
BNI				pmax		pmax				
	comp=Z,17nm,1.3s									
BNI	**Bardonecchia**	**23.80**	**134**	P		**P**		**05 28 50.3**		**-2.7**
KRUC	**Moravsky**	**23.82**	**115**	*e*P		P		05 29 00.7		+7.7
NACGM	**Naroch**	**23.82**	**93**	*e*		P		05 29 01.0		+8.1
OKC	**Ostrava-Krasne**	**23.89**	**111**	*e*S		Sn		05 33 26.8		-5.6
MOA	**Molln**	**23.99**	**119**	*e*P		**P**		**05 28 55.5**		**+0.8**
	comp=Z,8.4nm,1.7s									
POLO	**Lamas de Olo**	**24.00**	**162**	*e*P		P		05 29 05.2		+10
	comp=Z,15nm,1.9s									
PVRL	**Vila Real**	**24.11**	**162**	*e*P		P		05 29 06.2		+10
	comp=Z,38nm,1.7s									
ABTA	**Abfaltersbach**	**24.27**	**123**	*e*P		**P**		**05 28 58.4**		**+0.9**
	comp=Z,12nm,1.6s									
KBA	**Koelnbreinsper**	**24.30**	**122**	*e*P		**P**		**05 28 58.5**		**+0.8**
	comp=Z,8.1nm,0.8s									
MVO	**Moncorvo**	**24.31**	**161**	*e*P		P		05 29 07.5		+10
	comp=Z,32nm,1.5s									
MVO				*i* LQ		LQ		05 33 38.0		
MVO				*e*LR		LR		05 35 56.4		
	comp=Z,368nm,20.0s									
JAVC	**Velka Javorina**	**24.48**	**113**	*e*P		P		05 29 08.0		+8.8
CONA	**Conrad Observa**	**24.53**	**117**	*e*P		**P**		**05 29 00.5**		**+0.8**
	comp=Z,11nm,1.1s									
MICGM	**Minsk**	**24.56**	**93**	*e*		P		05 29 08.0		+8.2
MNK	**Minsk**	**24.56**	**93**	*e*P		P		05 29 08.0		+8.2
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**		**05 28 57.1**		**-3.0**
CTI				pmax		pmax				
	comp=Z,8.0nm,0.7s									
CTI	**Castel Tesino**	**24.57**	**125**	P		**P**		**05 28 57.1**		**-3.0**
CTI				IAmb		IAmb		05 29 13.6		
	comp=Z,8.4nm,0.7s									
CIMO	**Cimolais**	**24.62**	**124**			**P**		**05 28 59.5**		**-1.0**
PVIS	**Viseu**	**24.63**	**162**	*e*P		**P**		**05 29 04.1**		**+3.4**
	comp=Z,22nm,1.4s									
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**		**05 29 01.6**		**+0.8**
SMOL				pmax		pmax				
	comp=Z,8.0nm,1.0s									
SMOL	**Smolenice**	**24.66**	**114**	*e*P		**P**		**05 29 01.6**		**+0.8**
MODS	**Modra-Piesok**	**24.72**	**115**	*e*P		**P**		**05 29 02.8**		**+1.5**
MODS				pmax		pmax				
	comp=Z,21nm,1.2s									
MODS	**Modra-Piesok**	**24.72**	**115**	*e*P		**P**		**05 29 02.8**		**+1.5**
MYKA	**Terra Mystica**	**24.78**	**122**	*e*P		**P**		**05 29 01.6**		**-0.4**
	comp=Z,9.8nm,1.3s									
PRED	**Cave del Predi**	**24.91**	**122**	P		**P**		**05 29 03.1**		**-0.1**
PRED				IAmb		IAmb		05 29 16.5		
	comp=Z,41nm,1.5s									
ARSA	**Arzberg**	**24.96**	**118**	*e*P		**P**		**05 29 05.1**		**+1.5**
	comp=Z,6.3nm,0.9s									
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P		**P**		**05 29 05.6**		**+2.0**
LANS				pmax		pmax				
	comp=Z,8.0nm,1.0s									
LANS	**Liptovska Anna**	**24.96**	**111**	*e*P		**P**		**05 29 05.6**		**+2.0

VSR	**Storozhevoye**	**31.73**	**88**	*e*P	**P**		**05 30 06.3**	**+2.5**
VSR				pmax	pmax			
	comp=Z,20nm,1.4s							
VORD	**Divnogorie**	**31.97**	**88**	*e*P	**P**		**05 30 05.0**	**-0.9**
VORD				pmax	pmax			
	comp=Z,10.0nm,1.2s							
VRH	**Novokhopyorsk**	**32.84**	**85**	*e*P	**P**		**05 30 11.6**	**-1.9**
VRH				pmax	pmax			
	comp=Z,20nm,1.2s							
KEST	**Kesra**	**33.16**	**138**	LR	LR		05 43 33.3	
	comp=Z,434nm,19.2s,baz=300,slow=36							
ANN	**Anapa**	**35.91**	**97**	*e*P	P		05 30 45.6	+5.4
ANN				MLR	MLR			
	comp=Z,596nm,17.0s							
ARU	**Arti**	**36.08**	**66**	P	**P**		**05 30 40.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=100,slow=22,SNR=0.9							
ARU	**Arti**	**36.08**	**66***d*	*i*P	**P**		**05 30 44.9**	**+3.3**
ARU							05 32 04.4	
ARU				S	S		05 36 30.4	+10
ARU				pmax	pmax			
	comp=Z,8.0nm,1.2s							
ARU	**Arti**	**36.08**	**66**	IAmb	IAmb		05 30 53.0	
	comp=Z,12nm,1.3s							
NRIK	**Noril'sk**	**36.45**	**35**	P	**P**		**05 30 43.9**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=156,slow=6.2,SNR=3.8							
NRIK				LR	LR		05 47 33.4	
	comp=Z,140nm,18.1s,baz=18,slow=39							
NRIK	**Noril'sk**	**36.45**	**35***ce*	P	**P**		**05 30 44.2**	**-0.4**
NRIK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
SOC	**Sochi**	**37.87**	**96**	*e*P	**P**		**05 30 56.4**	**-0.5**
SOC				*e*S	**S**		**05 36 52.6**	**+4.5**
SOC				pmax	pmax			
	comp=Z,9.0nm,0.4s							
SOC				MLR	MLR			
	comp=Z,178nm,15.0s							
GOF	**Gofitskoye**	**38.11**	**91**⇑	*e*P	P		05 31 07.4	+8.4
GOF				pmax	pmax			
	comp=Z,25nm,0.6s							
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**		**05 31 02.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=330,slow=5.5,SNR=4.4							
BRTR				LR	LR		05 48 39.5	
	comp=Z,53nm,18.5s,baz=313,slow=39							
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**		**05 31 01.9**	**-0.4**
IDI	**Anoyia**	**38.82**	**118**	P	**P**		**05 31 03.8**	**-1.2**
	comp=Z,6.5nm,0.8s,baz=43,slow=18,SNR=2.0							
IDI	**Anoyia**	**38.82**	**118**	IAmb	IAmb		05 31 07.4	
	comp=Z,42nm,1.5s							
KIV	**Kislovodsk**	**38.84**	**92**	*e*P	**P**		**05 31 05.7**	**+0.5**
KIV				pmax	pmax			
	comp=Z,20nm,1.0s							
KIV				MLR	MLR			
	comp=Z,493nm,16.0s							
KVAR	**Kislovodsk Arr**	**38.84**	**92**	LR	LR		05 47 17.0	
	comp=Z,261nm,19.4s,baz=280,slow=36							
SHA1	**Shidzhatmaz**	**39.00**	**93**	*i*P	**P**		**05 31 06.4**	**-0.3**
KBZ	**Khabaz**	**39.11**	**92**	P	**P**		**05 31 07.2**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=326,slow=12,SNR=6.9							
KBZ				LR	LR		05 47 31.7	
	comp=Z,312nm,21.1s,baz=324,slow=37							
YKA	**Yellowknife Ar**	**39.21**	**313**	LR	LR		05 47 25.1	
	comp=Z,352nm,18.6s,baz=0.0,slow=36							
AKTO	**Aktyubinsk**	**40.28**	**73**	P	**P**		**05 31 16.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=345,slow=13,SNR=3.8							
AKTO				LR	LR		05 47 47.0	
	comp=Z,154nm,18.8s,baz=313,slow=36							
ZEI	**Tsey**	**40.30**	**92**	*e*P	**P**		**05 31 20.0**	**+2.5**
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ULM	**Lac du Bonnet**	**41.60**	**289**	LR	LR		05 47 57.0	
	comp=Z,175nm,18.7s,baz=39,slow=35							
MAK	**Makhachkala**	**41.72**	**89**	*e*P	**P**		**05 31 25.8**	**-3.1**
MAK				*e*			05 33 02.9	
MAK				*e*S	**S**		**05 37 43.6**	**-2.1**
MAK				*e*SS	**SS**		**05 40 53.0**	**+2.3**
MAK				pmax	pmax			
	comp=Z,336nm,1.3s							
MAK				MLR	MLR			
	comp=Z,250nm,18.0s							
AB05	**Akbulak array**	**41.97**	**73**	P	**P**		**05 31 30.1**	**-0.8**
ABKAR	**Akbulak array**	**41.99**	**73**	P	**P**		**05 31 30.2**	**-0.8**
ABKAR	**Akbulak array**	**41.99**	**73**	P	**P**		**05 31 30.8**	**-0.3**
TIXI	**Tiksi**	**42.03**	**15***ce*	P	**P**		**05 31 31.8**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,48nm,1.3s							
TIXI	**Tiksi**	**42.03**	**15**	P	**P**		**05 31 31.8**	**+0.7**
TIXI				IAmb	IAmb		05 31 44.3	
	comp=Z,11nm,0.9s							
TOLK	**Toolik Lake Re**	**42.74**	**336**		**P**		**05 31 38.0**	**+1.0**
TOLK				IAmb	IAmb		05 31 47.7	
	comp=Z,31nm,1.4s							
BMAR	**Burnt Mountain**	**42.89**	**333**	P	**P**		**05 31 40.1**	**+1.9**
BRVK	**Borovoye**	**43.13**	**62***ce*	P	**P**		**05 31 41.9**	**+1.6**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
BRVK	**Borovoye**	**43.13**	**62**	P	**P**		**05 31 40.5**	**+0.3**
BRVK				IAmb	IAmb		05 31 52.2	
	comp=Z,11nm,1.1s							
MARD	**Mardin**	**43.51**	**100**	P	**P**		**05 31 45.0**	**+1.4**
MARD				IAmb	IAmb		05 31 56.4	
	comp=Z,17nm,1.1s							
FYU	**Fort Yukon**	**43.77**	**333**	P	**P**		**05 31 46.7**	**+1.4**
FYU				IAmb	IAmb		05 32 02.6	
	comp=Z,20nm,1.2s							
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**		**05 32 00.8**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=19,slow=5.6,SNR=17							
ILAR				PcP	**PcP**		**05 33 38.2**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=320,slow=2.3,SNR=5.3							
ILAR				LR	LR		05 53 43.9	
	comp=Z,223nm,18.8s,baz=38,slow=40							
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**		**05 32 00.8**	**+0.2**
ILAR							05 33 37.7	
MDM	**Murphy Dome**	**45.78**	**333**	P	**P**		**05 32 03.6**	**+2.2**
MDM				IAmb	IAmb		05 32 20.1	
	comp=Z,10nm,1.2s							
IMAR	**Indian Mountai**	**45.85**	**337**	P	**P**		**05 32 03.0**	**+1.1**
BCAR	**Beaver Creek A**	**46.10**	**329**	P	**P**		**05 32 05.8**	**+1.8**
BILL	**Bilibino**	**47.55**	**358**	*i*P	**P**		**05 32 16.0**	**+0.9**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.2s							
ZALV	**Zalesovo Beam**	**47.63**	**51**	P	**P**		**05 32 16.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=317,slow=6.1,SNR=1.2							
ZALV				LR	LR		05 52 13.3	
	comp=Z,27nm,20.2s,baz=36,slow=36							
KURK	**Kurchatov**	**48.11**	**58***ce*	P	**P**		**05 32 19.7**	**0.0**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**48.11**	**58**	P	**P**		**05 32 19.0**	**-0.7**
T47A	**Sharon Grove**	**48.64**	**270**	P	**P**		**05 32 24.7**	**+0.8**
EGMT	**Eagleton**	**48.87**	**297**	P	**P**		**05 32 27.5**	**+1.8**
W50A	**Signal Mountai**	**49.38**	**268**	P	**P**		**05 32 28.2**	**-1.5**
GEYT	**Alibeck**	**50.42**	**84**	P	**P**		**05 32 36.7**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=289,slow=10,SNR=1.8							
GEYT				LR	LR		05 54 40.3	
	comp=Z,85nm,21.8s,baz=215,slow=37							
YAK	**Yakutsk**	**51.27**	**19**	LR	LR		05 53 28.9	
	comp=Z,74nm,21.3s,baz=342,slow=35							
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**		**05 32 44.2**	**+0.3**
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**		**05 32 44.2**	**+0.3**
BOZ	**Bozeman (W)**	**51.61**	**297**	IAmb	IAmb		05 33 03.5	
	comp=Z,14nm,1.4s							
DGZ	**Jazzator, Alta**	**52.08**	**53**	*i*P	**P**		**05 32 50.6**	**+0.6**
DGZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
H17A	**Grant Village**	**52.21**	**295**	P	**P**		**05 32 50.4**	**-0.7**
MK31	**Makanchi Array**	**52.72**	**58***ce*	P	**P**		**05 32 57.6**	**+2.9**
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**		**05 32 53.6**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=344,slow=3.9,SNR=6.2							
MKAR	**Makanchi Array**	**52.72**	**58***ce*	P	**P**		**05 32 55.2**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
SNOW	**Snow King Moun**	**53.06**	**295**	IAmb	IAmb		05 33 13.8	
	comp=Z,14nm,1.5s							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**		**05 32 57.1**	**-0.9**
	comp=Z,2.7nm,1.1s,baz=345,slow=8.2,SNR=8.3							
TORD				LR	LR		05 57 34.4	
	comp=Z,157nm,18.9s,baz=300,slow=38							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**		**05 32 56.6**	**-1.4**
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**		**05 32 57.2**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=56,slow=6.8,SNR=15							
PDAR				LR	LR		05 55 33.3	
	comp=Z,464nm,18.3s,baz=30,slow=36							
PDAR	**Pinedale Array**	**53.18**	**293**		**P**		**05 32 56.1**	**-2.3**
BW06	**Boulder Array**	**53.18**	**293**	P	**P**		**05 32 58.0**	**-0.4**
AAK	**Ala-Archa**	**53.26**	**67***ce*	P	**P**		**05 33 00.1**	**+1.3**
AAK				pmax	pmax			
	comp=Z,14nm,1.1s							
AAK	**Ala-Archa**	**53.26**	**67**	P	**P**		**05 32 59.5**	**+0.6**
AAK				IAmb	IAmb		05 33 11.5	
	comp=Z,7.0nm,1.0s							
N23A	**Red Feather La**	**53.30**	**289**	P	**P**		**05 32 57.6**	**-1.7**
N23A				IAmb	IAmb		05 33 13.0	
	comp=Z,7.9nm,1.1s							
GAR	**Garm**	**54.65**	**73**	P	**P**		**05 33 08.6**	**-0.4**
MOY	**Mondy**	**54.65**	**42**	*e*P	P		05 33 18.2	+9.3
MOY				pmax	pmax			
	comp=Z,44nm,2.8s							
O20A	**White River Ci**	**54.88**	**290**	IAmb	IAmb		05 33 24.0	
	comp=Z,16nm,1.4s							
HWUT	**Hardware Ranch**	**54.95**	**294**	IAmb	IAmb		05 33 23.9	
	comp=Z,9.2nm,1.1s							
RDMU	**Red Mountain**	**55.04**	**292**	P	**P**		**05 33 12.0**	**+0.1**
TCUT	**Toone Canyon**	**55.30**	**294**	P	**P**		**05 33 12.0**	**-1.8**
ZAK	**Zakamensk**	**56.46**	**41**	*e*P	**P**		**05 33 21.0**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KSH	**Kashi**	**56.50**	**68**	P	P		05 33 30.8	+8.5
KSH				S	S		05 41 27.5	+14
KSH				pmax	pmax			
	comp=Z,13nm,0.8s							
KSH				LR	LR			
	comp=N,210nm,5.3s							
KSH				LR	LR			
	comp=E,210nm,5.6s							
KSH				LR	LR			
	comp=Z,120nm,5.0s							
PV14	**Lion Creek, Pa**	**56.70**	**290**	IAmb	IAmb		05 33 32.5	
	comp=Z,5.1nm,0.7s							
PV16	**Nyswonger Mesa**	**56.71**	**290**	P	**P**		**05 33 23.7**	**-0.2**
PV01	**Paradox Valley**	**56.72**	**289**	P	**P**		**05 33 24.3**	**+0.3**
PV01				IAmb	IAmb		05 33 26.1	
	comp=Z,5.8nm,1.0s							
PV03	**Paradox Valley**	**56.73**	**290**	IAmb	IAmb		05 33 34.9	
	comp=Z,5.2nm,1.0s							
WMQ	**Urumqi**	**57.23**	**56**	*e*P	P		05 33 36.5	+9.2
WMQ				pP	sP		05 33 41.8	+11
MVU	**Marysvale**	**57.86**	**293**	P	**P**		**05 33 33.0**	**+0.9**
TCRU	**Three Creeks R**	**57.87**	**293**	P	**P**		**05 33 30.2**	**-1.9**
DBIC	**Dimbokro**	**58.59**	**165**	P	**P**		**05 33 35.7**	**-1.3**
	comp=Z,5.8nm,1.1s,baz=269,slow=2.1,SNR=2.7							
DBIC				LR	LR		06 00 38.4	
	comp=Z,100nm,18.3s,baz=334,slow=38							
DBIC	**Dimbokro**	**58.59**	**165**	P	**P**		**05 33 35.7**	**-1.3**
DBIC				pmax	pmax			
	comp=Z,14nm,1.4s							
DBIC	**Dimbokro**	**58.59**	**165**	IAmb	IAmb		05 33 46.8	
	comp=Z,14nm,1.4s							
TIC	**Toumodi**	**58.60**	**165**	*e*PKP1	**P**		**05 33 37.0**	**-0.1**
KIC	**Kosan Boka**	**58.91**	**165**	*e*PKP1	**P**		**05 33 38.4**	**-0.9**
	comp=Z,22nm,1.2s							
LIC	**Lamto**	**59.02**	**166**	*e*PKP1	**P**		**05 33 37.8**	**-2.2**
	comp=Z,15nm,0.6s							
R11A	**Troy Canyon, C**	**59.32**	**295**	IAmb	IAmb		05 33 56.0	
	comp=Z,6.6nm,1.2s							
SONM	**Songino Array**	**59.64**	**40**	P	**P**		**05 33 44.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=335,slow=6.6,SNR=3.8							
SONM	**Songino Array**	**59.64**	**40**	P	**P**		**05 33 44.2**	**0.0**
SONM				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**		**05 33 49.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=22,slow=4.8,SNR=4.2							
NVAR				LR	LR		06 00 06.5	
	comp=Z,606nm,20.0s,baz=30,slow=36							
NIL	**Nilore**	**60.45**	**74**	P	**P**		**05 33 49.8**	**0.0**
NIL				pmax	pmax			
	comp=Z,17nm,1.0s							
NIL	**Nilore**	**60.45**	**74**	P	**P**		**05 33 49.8**	**0.0**
SHPR	**Sheep Range**	**60.76**	**294**	IAmb	IAmb		05 34 08.7	
	comp=Z,7.2nm,1.3s							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**		**05 34 02.2**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=38,slow=4.7,SNR=4.8							
TXAR				LR	LR		06 00 40.3	
	comp=Z,383nm,18.3s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**		**05 34 01.6**	**-0.7**
TUC	**Tucson**	**62.66**	**288**	P	**P**		**05 34 06.8**	**+2.0**
TUC				pmax	pmax			
	comp=Z,3.0nm,1.1s							
TUC	**Tucson**	**62.66**	**288**		**P**		**05 34 06.8**	**+2.0**
319A	**Douglas**	**62.85**	**286**	IAmb	IAmb		05 34 17.0	
	comp=Z,7.2nm,1.0s							
GTA	**Gaotai**	**65.30**	**49**	P	P		05 34 31.3	+9.2
GTA				pP	sP		05 34 34.5	+8.7
GTA				sP	pP		05 34 37.3	+12
HHC	**Hu-ho-hao-te**	**67.51**	**40**	*e*P	P		05 34 45.0	+8.8
HHC				pmax	pmax			
	comp=Z,24nm,1.1s							
HHC				pmax	pmax			
	comp=Z,200nm,6.9s							
HHC				LR	LR			
	comp=N,180nm,17.4s							
HHC				LR	LR			
	comp=E,260nm,17.6s							
HHC				LR	LR			
	comp=Z,170nm,17.0s							
USRK	**Ussuriysk Ar.**	**68.86**	**23**	LR	LR		06 07 20.7	
	comp=Z,39nm,18.9s,baz=353,slow=38							
PAMC	**Pamplona, Colo**	**69.02**	**241**	*e*P	**P**		**05 34 50.3**	**+3.9**
TAMC	**Tame, Arauca**	**69.51**	**239**	*e*P	**P**		**05 34 48.6**	**-0.3**
LZH	**Lanzhou**	**69.62**	**48**	*e*P	P		05 34 57.5	+7.9
LZH				pP	sP		05 35 01.8	+8.5
LZH				sP	PcP		05 35 04.5	-8.0
LZH				PP	**PP**		**05 37 26.0**	**+3.1**
LZH				pmax	pmax			
	comp=Z,12nm,1.1s							
LZH				pmax	pmax			
	comp=Z,110nm,5.4s							
LZH				LR	LR			
	comp=N,170nm,15.7s							
LZH				LR	LR			
	comp=E,180nm,16.0s							
LZH				LR	LR			
	comp=Z,230nm,18.1s							
BARC	**Barichara**	**69.89**	**241**	*e*P	P		05 35 03.5	+12
DBBC	**Dabeiba**	**70.65**	**244**	*e*P	P		05 35 04.6	+8.6
SPBC	**San Pablo de B**	**71.09**	**241**	*e*P	**P**		**05 34 57.4**	**-1.2**
HELC	**Santa Helena**	**71.15**	**243**	*e*P	P		05 35 04.3	+5.0
CBOC	**Ciudad Bolivar**	**71.63**	**243**	*e*P	P		05 35 09.3	+7.2
CHIC	**Chingaza**	**71.90**	**241**	*e*P	P		05 35 11.2	+7.3
ROSC	**El Rosal**	**71.93**	**241**	LR	LR		06 02 53.7	
	comp=Z,51nm,21.3s,baz=242,slow=33							
GUY2C	**Guyana, Caldas**	**71.97**	**242**	*e*P	**P**		**05 35 03.5**	**-1.0**
RREF	**El Recreo**	**72.26**	**242**	*e*P	**P**		**05 35 03.5**	**-2.9**
TOLC	**Tolima**	**72.54**	**242**	*e*P	**P**		**05 35 10.1**	**+2.4**
ORTC	**Ortega, Tolima**	**73.13**	**242**	*e*P	**P**		**05 35 09.0**	**-1.9**
KSRS	**Korea Array**	**74.64**	**28**	LR	LR		06 09 18.7	
	comp=Z,23nm,18.1s,baz=355,slow=37							
NJ2	**Nanjing**	**77.73**	**37**	*e*P	**P**		**05 35 41.3**	**+4.3**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P	**P**		**05 36 10.7**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=316,slow=6.7,SNR=5.1							
CMAR	**Chiang Mai Ar**	**84.13**	**59**	*i*P	**P**		**05 36 12.0**	**+0.7**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PSI	**Prapat**	**98.47**	**65**	LR	LR		06 25 51.3	
	comp=Z,35nm,19.4s,baz=66,slow=38							
BOSA	**Boshof**	**98.76**	**143**	LR	LR		06 25 04.2	
	comp=Z,150nm,18.5s,baz=358,slow=37							
TAOE	**Nuku Hiva Isla**	**111.56**	**297**	*e*LR	LR		06 15 06.3	
	comp=Z,89nm,25.9s							
PPT2	**Papeete2**	**123.10**	**302**	*e*LR	LR		06 20 22.2	
	comp=Z,85nm,21.5s							
TBI	**Tubuai**	**128.33**	**299**	*e*LR	LR		06 22 45.3	
	comp=Z,109nm,22.8s							
WRA	**Warramunga Arr**	**131.52**	**36**	PKP	**PKPdf**		**05 42 49.7**	**-3.0**
	comp=Z,0.3nm,1.0s,baz=328,slow=3.7,SNR=2.5							
ASAR	**Alice Springs**	**134.96**	**38**	PKP	**PKPdf**		**05 42 56.4**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=350,slow=3.9,SNR=3.0							
DZM	**Mont Dzumac**	**137.34**	**355**	*e*LR	LR		06 27 48.8	
	comp=Z,100nm,24.6s							
STKA	**Stephens Creek**	**144.72**	**32**	PKP	**PKPab**		**05 43 14.1**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=69,slow=15,SNR=1.9							
QSPA	**South Pole Qui**	**154.59**	**180**	PKPbc	**PKPbc**		**05 43 38.9**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=282,slow=1.9,SNR=3.0							

*THR **29** 05:51:33.0±0.3,39°.15N×51°.55E,h14km±9km, ML3.6*
*TEH **29** 05:51:38.4,39°.56N×51°.64E,h10km, ML3.6*
*AZER **29** 05:51:41.9,39°.45N×51°.57E,h48km, ML3.3*
ISC 29 05:51:31.1±0.7,**39°.36N**±0°.03×**51°.81E**±0°.04,**h10**km,**n40,**
σ2°**21**/56,**3C-1D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NDR	**Nardaran**	**1.86**	**312**	Sg	**Sg**		**05 52 36.3**	**+5.5**
ASTR	**Astara**	**2.48**	**252**	Pn	**Pg**		**05 52 19.4**	**+0.6**
ASTR				Sn	**Sb**		**05 52 47.3**	**+0.9**
GLBA	**Clilabad**	**2.65**	**269**	Pn	**Pg**		**05 52 21.7**	**-0.3**
GLBA				Sn	**Sb**		**05 52 51.3**	**0.0**
GLBA	**Clilabad**	**2.65**	**269**	*e*Pn	**Pg**		**05 52 21.6**	**-0.3**
ATGJ	**Altiaghaj**	**2.66**	**305**	Pn	**Pg**		**05 52 21.7**	**-0.4**
ATGJ				Sn	**Sb**		**05 52 50.8**	**-0.9**
ATGJ	**Altiaghaj**	**2.66**	**305**	*e*Pn	**Pg**		**05 52 21.7**	**-0.4**
LRK	**Lerik**	**2.79**	**256**	Pn	**Pg**		**05 52 23.6**	**-1.2**
	SNR=4.0							
LRK				Sn	**Sb**		**05 52 54.5**	**-1.1**
LRK	**Lerik**	**2.79**	**256**	*e*Pn	**Pg**		**05 52 23.5**	**-1.2**
YRD	**Yardimli**	**2.81**	**262**	Pn	**Pg**		**05 52 23.1**	**-1.9**
	SNR=7.5							
YRD				Sn	**Sb**		**05 52 54.0**	**-2.1**
YRD	**Yardimli**	**2.81**	**262**	*e*Pn	**Pg**		**05 52 23.1**	**-1.9**
SIZA	**Siyzn**	**2.81**	**309**	Pn	**Pg**		**05 52 24.0**	**-1.0**
SIZA				Sn	**Sb**		**05 52 54.3**	**-1.6**
SIZA	**Siyzn**	**2.81**	**309**	*e*Pn	**Pg**		**05 52 23.9**	**-1.0**
PQL	**Pirkuli**	**2.85**	**301**	Sn	**Sb**		**05 52 55.3**	**-1.9**
GRMI	**Germi**	**3.10**	**261**	*e*Pn	**Pn**		**05 52 20.5**	**+0.3**
GRMI				*e*Sg	**Sb**		**05 53 02.6**	**-1.6**
IML	**Ismayilli**	**3.13**	**298**	Sn	**Sb**		**05 53 02.1**	**-2.9**
XNQ	**Khinaliq**	**3.34**	**304**	Pn	**Pb**		**05 52 30.5**	**-0.1**
	SNR=5.1							
XNQ				Sn	**Sb**		**05 53 06.5**	**-4.8**
XNQ	**Khinaliq**	**3.34**	**304**	*e*Pn	**Pb**		**05 52 30.4**	**-0.1**
QBL	**Gabala**	**3.43**	**299**	Pn	**Pb**		**05 52 31.1**	**-0.9**
QBL				Sn	**Sn**		**05 53 08.0**	**+2.6**
QSAR	**Qusar**	**3.46**	**310**	Pn	**Pb**		**05 52 32.1**	**-0.4**
QSAR				Sn	**Sb**		**05 53 09.9**	**-4.6**
CHTH	**Charan**	**3.49**	**189**	*e*Pn	**Pn**		**05 52 25.9**	**+0.2**
CHTH				*e*Sg	**Sb**		**05 53 14.7**	**-1.0**
THKV	**Tehran--Karaj**	**3.52**	**192**	*e*Sg	**Sb**		**05 53 15.0**	**-1.4**
ISRB	**Sarab**	**3.59**	**246**	*e*Pn	**Pg**		**05 52 36.7**	**-3.2**
ISRB				*e*			05 53 19.6	
ZNJK	**Zanjan**	**3.65**	**224**	*e*Pn	**Pn**		**05 52 27.3**	**-0.6**
ZNJK				IAML			05 53 21.5	
	comp=E,386nm,1.6s							
AGDM	**Agdam**	**3.70**	**283**	Pn	**Pb**		**05 52 35.0**	**-1.5**
AGDM				Sn	**Sb**		**05 53 17.0**	**-4.5**
IHSH	**Hashtrud**	**3.70**	**255**	*e*	**Sg**		**05 53 33.1**	**+3.1**
DAMV	**Damavand**	**3.73**	**178**	*e*Pn	**Pn**		**05 52 29.7**	**+0.7**
DAMV				IAML			05 53 13.3	
	comp=E,29nm,0.5s							
IDMV	**Damavand**	**3.78**	**177**	*e*Pn	**Pg**		**05 52 42.5**	**-1.1**
IFIR	**Firoozkooh**	**3.79**	**168**	*e*Pn	**Pg**		**05 52 43.2**	**-0.5**
IHRS	**Heris**	**3.86**	**256**	*e*Pn	**Pb**		**05 52 39.1**	**-0.4**
IHRS				*e*			05 53 27.5	
ILAS	**Lasjerd**	**4.08**	**167**	*e*	**Sg**		**05 53 42.2**	**+0.1**
GANJ	**Ganja**	**4.40**	**289**	Pn	**Pb**		**05 52 44.2**	**-4.4**
GANJ				Sn	**Sn**		**05 53 30.2**	**+0.8**
ORD	**Ordubad**	**4.54**	**266**	Pn	**Pb**		**05 52 47.7**	**-3.3**
ORD				Sn	**Sn**		**05 53 37.1**	**+4.2**
ZKTA	**Zakatala**	**4.56**	**302**	Sn	**Sn**		**05 53 35.2**	**+1.9**
GDB	**GEDABAY**	**4.84**	**288**	Pn	Pb		05 52 50.1	-6.1
	SNR=7.3							
GDB				Sn	**Sn**		**05 53 41.2**	**+0.8**
NAX	**Nakhchivan**	**4.90**	**270**	Pn	Pb		05 52 51.7	-5.4
ASAO	**Ashtian**	**5.01**	**197**	*e*Pn	**Pn**		**05 52 46.6**	**0.0**
ASAO				*e*Sg	**Sb**		**05 54 00.5**	**+1.0**
QZX	**Qazax, Azerbai**	**5.21**	**291**	Pn	Pn		05 52 55.0	+5.8
QZX				Sn	**Sn**		**05 53 50.9**	**+1.6**
IEMG	**Emamgholi**	**5.72**	**108**	*e*Pn	**Pb**		**05 53 07.9**	**-3.2**
AB31	**Akbulak array**	**11.47**	**28**	⇑P	**Pn**		**05 54 18.3**	**+3.3**
	comp=E,0.6nm,0.6s,baz=217,slow=13,SNR=12							
AB31				⇑S	**Sn**		**05 56 23.1**	**0.0**
	comp=E,0.5nm,0.5s,baz=221,slow=27,SNR=5.2							
AKTO	**Aktyubinsk**	**11.91**	**20**	⇓P	**Pn**	

comp=E,8585μm,0.3s
GUR Goura 0.29 230 P **Pg** 06 48 18.7 -0.1
GUR S **Sg** 06 48 22.6 -0.4
comp=E,13μm,0.3s
GUR Goura 0.29 230 P **Pg** 06 48 18.8 -0.1
GUR S **Sg** 06 48 22.9 -0.1
LOUT Loutraki 0.31 117 P **Pg** 06 48 18.9 -0.1
LOUT S **Sg** 06 48 23.2 -0.1
comp=E,4μm,0.3s
LOUT Loutraki 0.31 117 P **Pg** 06 48 18.9 -0.1
LOUT S **Sg** 06 48 23.0 -0.4
LOUT AML AML 06 48 26.2
comp=E,1714μm,0.4s
LOUT AML AML 06 48 33.0
comp=N,1739μm,0.5s
DLFA Delphi 0.36 344 P **Pg** 06 48 19.5 -0.5
DLFA S **Sg** 06 48 25.2 +0.1
DLFA AML AML 06 48 26.0
comp=N,7964μm,0.5s
DLFA AML AML 06 48 26.6
comp=E,8289μm,0.4s
KLV Kalavryta, Ach 0.39 257 P **Pg** 06 48 20.1 -0.3
KLV S **Sg** 06 48 25.4 -0.3
KLV Kalavryta, Ach 0.39 257 P **Pg** 06 48 20.2 -0.3
KLV S **Sg** 06 48 25.6 -0.1
KLV AML AML 06 48 30.4
comp=E,1670μm,0.3s
KLV AML AML 06 48 32.6
comp=N,1484μm,0.4s
ALIK Aliki, Aigiali 0.43 288 P **Pb** 06 48 21.8 -0.1
KALE Kalithea 0.46 305 P **Pg** 06 48 21.5 -0.3
KALE S **Sg** 06 48 28.3 +0.2
comp=N,3μm,0.7s
KALE Kalithea 0.46 305 P **Pg** 06 48 21.6 -0.3
KALE S **Sg** 06 48 28.0 -0.1
KALE AML AML 06 48 33.3
comp=N,6127μm,0.6s
KALE AML AML 06 48 36.4
comp=E,4705μm,0.8s
TRIZ Trizonia 0.50 299 P **Pg** 06 48 22.4 0.0
TRIZ S **Sg** 06 48 29.4 +0.3
comp=E,3μm,0.4s
TRIZ Trizonia 0.50 299 P **Pg** 06 48 22.2 -0.2
TRIZ S **Sg** 06 48 29.6 +0.5
VIL2 Platees 0.51 80 P **Pg** 06 48 23.1 +0.3
VIL2 S **Sb** 06 48 30.7 0.0
VIL2 AML AML 06 48 39.1
comp=N,5472μm,0.4s
VIL2 AML AML 06 48 41.6
comp=E,4504μm,0.9s
VILL Villia 0.54 86 P **Pg** 06 48 23.1 -0.2
LKR Lokris 0.60 29 P **Pg** 06 48 23.3 -1.1
LKR Lokris 0.60 29 P **Pg** 06 48 23.2 -1.1
LKR S **Sb** 06 48 32.8 -0.3
LKR AML AML 06 48 34.9
comp=E,5372μm,0.2s
LKR AML AML 06 48 35.9
comp=N,5661μm,0.2s
AXAR Agios Charalam 0.64 2 P **Pg** 06 48 24.2 -0.9
AXAR S **Sb** 06 48 34.7 +0.4
comp=N,10μm,0.4s
AXAR Agios Charalam 0.64 2 P **Pg** 06 48 24.5 -0.6
AXAR S **Sb** 06 48 34.2 -0.2
AXAR AML AML 06 48 36.9
comp=N,24016μm,0.5s
AXAR AML AML 06 48 39.9
comp=E,14982μm,0.4s
EFP Efpalio 0.64 298 P **Pg** 06 48 24.8 -0.3
ATAL Atalanti 0.64 29 P **Pg** 06 48 24.1 -1.1
ATAL S **Sb** 06 48 35.0 +0.6
comp=E,2μm,0.4s
ATAL Atalanti 0.64 29 P **Pg** 06 48 24.1 -1.1
ATAL S **Sg** 06 48 33.7 0.0
ATAL AML AML 06 48 37.5
comp=N,3384μm,0.6s
ATAL AML AML 06 48 38.7
comp=E,2840μm,0.2s
EPID Epidavros 0.64 143 P **Pg** 06 48 24.9 -0.3
EPID S **Sb** 06 48 35.2 +0.7
comp=E,2μm,0.3s
EPID Epidavros 0.64 143 P **Pg** 06 48 25.0 -0.2
EPID S **Sb** 06 48 34.5 0.0
TRIP Tripoli 0.66 205 P **Pg** 06 48 25.4 -0.1
TRIP Tripoli 0.66 205 P **Pg** 06 48 25.4 -0.1
TRIP AML AML 06 48 40.4
comp=E,4282μm,0.4s
TRIP AML AML 06 48 40.7
comp=N,4796μm,0.4s
DRO Drossia 0.74 257 P **Pb** 06 48 27.0 -0.3
VLX Vlachokerasia 0.78 195 P **Pb** 06 48 27.5 -0.5
VLX Vlachokerasia 0.78 195 P **Pb** 06 48 27.5 -0.5
VLX S **Sb** 06 48 38.0 -0.5
KRND KRANIDI 0.85 151 P **Pb** 06 48 28.7 -0.4
KRND S **Sn** 06 48 41.5 -0.9
comp=N,4μm,0.6s
KRND KRANIDI 0.85 151 P **Pb** 06 48 28.7 -0.4
KRND AML AML 06 48 44.7
comp=N,8626μm,0.6s
KRND AML AML 06 48 45.4
comp=E,6810μm,0.5s
ATH Athens Observa 0.88 100 P **Pb** 06 48 29.5 0.0
ATH Athens Observa 0.88 100 P **Pb** 06 48 29.4 -0.1
ATH AML AML 06 48 47.6
comp=E,2763μm,0.5s
ATH AML AML 06 48 48.8
comp=N,3368μm,0.5s
RLS Riolos of Patr 0.92 266 P **Pb** 06 48 29.9 -0.4
RLS Riolos of Patr 0.92 266 P **Pb** 06 48 29.8 -0.4
RLS AML AML 06 48 48.6
comp=N,996μm,0.9s
RLS AML AML 06 48 49.5
comp=E,968μm,0.4s
AGG Agios Georgios 0.92 346 P **Pb** 06 48 29.3 -1.1
AGG S **Sg** 06 48 42.6 0.0
comp=E,1μm,0.6s
AGG Agios Georgios 0.92 346 P **Pb** 06 48 29.8 -0.6
AGG S **Sg** 06 48 42.9 +0.3
AGG AML AML 06 48 47.1
comp=N,2414μm,0.8s
AGG AML AML 06 48 48.3
comp=E,2269μm,0.4s
ATHU Athens Univers 0.93 100 P **Pb** 06 48 30.6 +0.2
ATHU Athens Univers 0.93 100 P **Pb** 06 48 30.6 +0.2
ATHU S **Sg** 06 48 43.0 +0.3
ATHU AML AML 06 48 50.0
comp=N,1201μm,0.7s
ATHU AML AML 06 48 51.5
comp=E,700μm,0.5s
AMT Artemida-Makis 0.94 231 P **Pb** 06 48 30.6 -0.1
VLY Voula,Athens 0.96 106 P **Pn** 06 48 31.6 -0.1
VLY S **Sg** 06 48 44.5 +0.7
comp=E,1μm,0.3s
VLY Voula,Athens 0.96 106 P **Pb** 06 48 30.9 -0.1
VLY AML AML 06 48 46.3
comp=E,2528μm,0.3s
VLY AML AML 06 48 46.7
comp=N,2779μm,0.3s
MAKR Makrakomi, Fth 0.96 336 P **Pb** 06 48 30.6 -0.5
MAKR S **Sg** 06 48 44.5 +0.6
comp=N,2μm,0.8s
MAKR Makrakomi, Fth 0.96 336 P **Pb** 06 48 30.8 -0.3
MAKR S **Sg** 06 48 44.5 +0.6
MAKR AML AML 06 48 51.3
comp=E,4788μm,0.8s
MAKR AML AML 06 48 54.8
comp=N,4070μm,0.8s
PTL Penteli 0.98 94 P **Pb** 06 48 31.4 0.0
PTL AML AML 06 48 51.5
comp=N,4662μm,0.7s
PTL AML AML 06 48 52.1
comp=E,3342μm,0.5s
EVR Evrytania 1.01 321 P **Pn** 06 48 32.3 -0.2
EVR S **Sn** 06 48 47.2 +0.6
comp=E,1μm,0.6s
EVR Evrytania 1.01 321 P **Pb** 06 48 31.9 -0.1
EVR AML AML 06 48 55.9
comp=E,2616μm,0.6s
EVR AML AML 06 48 56.5
comp=N,2668μm,0.6s
DION Dionisos Attik 1.03 92 P **Pb** 06 48 32.3 +0.1
DION S **Sg** 06 48 46.3 +0.3
comp=N,5μm,0.6s
DION Dionisos Attik 1.03 92 P **Pg** 06 48 32.7 +0.2
DION AML AML 06 48 52.8
comp=N,8360μm,0.6s
DION AML AML 06 48 54.5
comp=E,9149μm,0.6s
ITM Ithomi 1.10 211 P **Pb** 06 48 33.2 -0.2
ITM Ithomi 1.10 211 P **Pb** 06 48 33.0 -0.3
ITM AML AML 06 48 53.0
comp=N,1209μm,0.6s
ITM AML AML 06 48 56.3
comp=E,1028μm,0.3s
KYMI Kymi, Euboea I 1.26 66 P **Pb** 06 48 36.0 -0.2
KYMI S **Sg** 06 48 53.3 -0.1
comp=E,1μm,0.6s
KYMI Kymi, Euboea I 1.26 66 P **Pb** 06 48 35.9 -0.2
KYMI AML AML 06 49 01.0
comp=E,1836μm,0.5s
KYMI AML AML 06 49 01.8
comp=N,2207μm,0.8s
NEO Neokhori 1.27 21 P **Pb** 06 48 36.1 -0.1
NEO S **Sg** 06 48 54.3 +0.8
comp=N,655nm,0.4s
NEO Neokhori 1.27 21 P **Pn** 06 48 35.6 -0.3
XOR Xorichti 1.31 20 P **Pb** 06 48 36.8 -0.3
XOR Xorichti 1.31 20 P **Pb** 06 48 36.7 -0.3
XOR AML AML 06 49 02.6
comp=N,1051μm,0.6s
XOR AML AML 06 49 04.3
comp=E,904μm,0.5s
VLI Veliai 1.43 170 P **Pb** 06 48 38.7 -0.3
VLI Veliai 1.43 170 P **Pb** 06 48 38.7 -0.3
VLI AML AML 06 48 59.8
comp=E,1367μm,0.6s
VLI AML AML 06 49 02.4
comp=N,2533μm,0.5s
AOS Alonnisos 1.43 43 P **Pn** 06 48 37.5 -0.6
AOS S **Sb** 06 48 57.4 +0.3
comp=N,715nm,0.7s
AOS Alonnisos 1.43 43 P **Pn** 06 48 37.9 -0.2
AOS AML AML 06 49 02.2
comp=E,1286μm,0.6s
AOS AML AML 06 49 07.4
comp=N,1493μm,0.7s
KARY Karystos 1.43 93 P **Pb** 06 48 38.8 -0.3
KARY AML AML 06 49 05.0
comp=N,1468μm,0.4s
KARY AML AML 06 49 05.5
comp=E,861μm,0.4s
THL Klokotos Trika 1.51 342 P **Pb** 06 48 40.3 -0.1
THL S **Sg** 06 49 00.7 -0.6
comp=E,228nm,0.9s
THL Klokotos Trika 1.51 342 P **Pb** 06 48 40.0 -0.4
THL AML AML 06 49 05.9
comp=N,414μm,0.9s
THL AML AML 06 49 08.8
comp=E,511μm,0.9s
VLMS Volimes, Zakyn 1.57 261 P **Pb** 06 48 42.2 +0.8
VLS Valsamata 1.61 272 P **Pb** 06 48 42.0 0.0
NYDR Nydri-Lefkada 1.62 292 P **Pg** 06 48 43.4 -0.4
LKD2 Lefkada island 1.68 294 P **Pg** 06 48 44.2 -0.7
SERI Serifos 1.76 123 P **Pn** 06 48 42.9 +0.2
KTHA Kythira Island 1.90 169 P **Pb** 06 48 45.9 -1.2
KTHA Kythira Island 1.90 169 P **Pb** 06 48 45.8 -1.2
LIT Litokhoron 1.97 357 P **Pn** 06 48 46.5 +0.9
ANKY Antikythira Is 2.32 166 P **Pn** 06 48 51.4 +1.0
IDI Anoyia 3.37 147 P **Pn** 06 49 06.0 +1.2
comp=E,1.9nm,0.3s,baz=322,slow=16,SNR=9.8
IDI S **Sn** 06 49 42.9 -1.7
comp=E,3.4nm,0.3s,baz=94,slow=23,SNR=4.0
STIP Stip 3.58 355 *i* Pn **Pn** 06 49 09.4 +1.8
MLR Muntele Rosu 7.76 18 P **Pn** 06 50 07.6 +2.4
comp=E,0.3nm,0.3s,baz=270,slow=13,SNR=2.3
TORD Torodi Ar. Bea 31.07 222 P **P** 06 54 31.0 +0.6
comp=E,0.3nm,0.8s,baz=44,slow=8.4,SNR=1.7
KURBB Kurchatov Arra 40.92 54 P **P** 06 55 54.1 -0.1
comp=E,0.5nm,0.4s,baz=279,slow=8.7,SNR=4.4
MKAR Makanchi Array 43.91 59 P **P** 06 56 18.3 -0.4
comp=E,0.7nm,0.5s,baz=275,slow=8.1,SNR=9.0
ZALV Zalesovo Beam 44.49 48 P **P** 06 56 22.8 -0.3
comp=E,0.8nm,0.3s,baz=291,slow=9.1,SNR=3.9

IDC 29 06:55:16.3±1.5, 2°.40S×139°.55E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/27, mbtmp3.6/4, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/25, Error ellipse: s-maj=28.7km s-min=13.0km az=176.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.16**	**96**	Pg	Pg	06 55 38.1	-0.5
	9.1nm,0.3s,baz=237,slow=12,SNR=25						
JAY				Lg	Lg	06 55 54.7	
	24nm,0.3s,baz=116,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**18.16**	**196**	P	Pn	06 59 29.3	-0.8
	0.3nm,0.3s,baz=17,slow=12,SNR=24						
WRA				LR	LR	07 07 49.9	
	comp=Z,23nm,18.1s,baz=110,slow=42						
FITZ	**Fitzroy Crossi**	**20.72**	**220**	P	P	06 59 58.7	+0.2
	1.4nm,0.8s,baz=46,slow=8.1,SNR=2.0						
ASAR	**Alice Springs**	**21.83**	**194**	P	P	07 00 10.4	-0.1
	1.0nm,0.6s,baz=24,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**70.06**	**322**	P	P	07 06 30.6	+0.3
	0.5nm,0.7s,baz=110,slow=7.8,SNR=3.8						

JMA 29 07:11:32.9±0.1, 24°.33N×122°.97E, h48km±2km, M1.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.12**	**349**	P	Pn	07 11 40.5	-0.1
JYNG				S	Sn	07 11 45.9	-0.1
YOJ	**Yonaguni jima**	**0.14**	**16**	P	Pn	07 11 40.7	0.0
YOJ				S	Sn	07 11 46.0	-0.1
IRIF	**Iriomote-Funau**	**0.69**	**89**	P	Pn	07 11 46.2	-0.3
IRIF				S	Sn	07 11 56.7	+0.4
HATJ	**Hateruma jima**	**0.81**	**109**	P	Pn	07 11 48.1	+0.1
HATJ				S	Sn	07 11 59.2	+0.2
JKRS	**Kuro-shima**	**0.95**	**95**	P	Pn	07 11 50.5	+0.6
JKRS				S	Sn	07 12 03.4	+1.0
JIJ	**Ishigaki jima**	**1.07**	**88**	P	Pn	07 11 51.5	0.0
JIJ				S	Sn	07 12 04.5	-0.8
JISG	**Ishigakijimahi**	**1.25**	**78**	P	Pn	07 11 54.0	+0.1
JISG				*e*S	Sn	07 12 09.5	-0.1
JTJ	**Tarama**	**1.61**	**79**	P	Pn	07 11 59.5	+0.7
JTJ				*e*S	Sn	07 12 19.2	+0.8

TAP 29 07:11:59.9, 24°.50N×121°.86E, h18km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.07**	**222**	*e*P	Pg	07 12 04.4	+1.1
	baz=227						
TWC	**Suao**	**0.11**	**355**	*e*P	Pg	07 12 04.1	+0.4
	baz=360						
TWC				*i* S	Sg	07 12 06.3	0.0
	baz=360						
ILA	**Ilan**	**0.28**	**339**	*e*S	Sb	07 12 11.2	+0.4
	baz=335						
NDT	**Datong Townshi**	**0.33**	**288**	*e*P	Pg	07 12 07.1	+0.1
	baz=288						
NDT				*e*S	Sb	07 12 12.2	-0.1
	baz=288						
NACB	**Ninganchiao**	**0.41**	**217**	*e*P	Pg	07 12 07.8	-0.4
	baz=209						
NACB				*e*S	Sg	07 12 11.8	-2.1
	baz=209						
NWLT	**Wulai**	**0.43**	**310**	*e*P	Pb	07 12 08.8	-0.1
	baz=310						
TIPB	**Shuangxi**	**0.47**	**356**	*e*P	Pb	07 12 09.8	+0.1
	baz=2.0						
YHNB	**Yeheng**	**0.47**	**291**	*e*P	Pb	07 12 09.8	+0.1
	baz=291						
YHNB				*e*S	Sb	07 12 16.3	-0.1
	baz=291						

*IDC **29** 07:14:16.8±7.7, 32°.25S×179°.39E, h467km±99km, mb2.5/2, mb1 2.7/2, mb1mx2.6/24, mbtmp3.3/2, Error ellipse: s-maj=119.7km s-min=38.6km az=8.0*
*WEL **29** 07:14:23.7±1.1, 33°.5±17°×18°.0E±2°.9, h474km±25km, M4.2/17, mB4.5/7, ML4.7/17, MLv4.6/17, Mw(mB)3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=106.7*
ISC 29 07:14:20.0±2.0, 32°.6S±0°.1×179°.4E±0°.3, h500km, n26, σ1s56/37, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.01**	**190**	P	**P**	07 15 47.0	+0.2
MXZ				S	**S**	07 16 57.7	-0.2
KUZ	**Kuaotunu**	**5.10**	**215**	P	**P**	07 15 50.3	+2.6
WMGZ	**Waiomatatini S**	**5.25**	**188**	P	**P**	07 15 50.0	+1.0
WMGZ				S	**S**	07 17 00.7	-1.2
HAZ	**Te Kaha**	**5.29**	**194**	P	**P**	07 15 49.3	-0.1
HAZ				S	**S**	07 17 01.2	-1.3
PKGZ	**Pakihiroa**	**5.36**	**191**	P	P	07 15 57.4	+7.2
PKGZ				S	**S**	07 17 03.0	-1.0
RUGZ	**Raukumara Rang**	**5.51**	**194**	P	**P**	07 15 52.0	+0.4
RUGZ				S	**S**	07 17 05.3	-1.3
PUZ	**Puketiti**	**5.52**	**189**	P	**P**	07 15 51.8	+0.3
PUZ				S	**S**	07 17 05.3	-1.2
OPRZ	**Ohinepanea**	**5.70**	**203**	P	**P**	07 15 55.3	+2.0
MWZ	**Matawai**	**5.90**	**194**	P	**P**	07 15 56.5	+1.3
URZ	**Urewera**	**5.92**	**198**	P	**P**	07 15 55.5	+0.1
	12nm,0.3s,baz=265,slow=4.5,SNR=59						
URZ				S	**S**	07 17 13.0	-0.5
	2.2nm,0.3s,baz=5.6,slow=5.7,SNR=2.3						
URZ	**Urewera**	**5.92**	**198**	P	P	07 15 54.4	-0.9
URZ				S	**S**	07 17 12.0	-1.5
TKGZ	**Te Karaka**	**5.94**	**192**	P	**P**	07 15 56.5	+1.0
RIGZ	**Rimuhau**	**6.21**	**192**	P	**P**	07 15 59.4	+1.2
RIGZ				S	**S**	07 17 19.7	+1.0
MUGZ	**Murupara**	**6.22**	**199**	P	**P**	07 15 59.3	+1.0
MUGZ				S	**S**	07 17 20.5	+1.7
SNGZ	**Shannon Statio**	**6.37**	**195**	P	**P**	07 16 02.1	+2.4
SNGZ				S	**S**	07 17 18.2	-3.3
PRGZ	**Paritu Road**	**6.41**	**191**	P	**P**	07 16 02.6	+2.5
PRGZ				S	**S**	07 17 21.0	-1.2
KNZ	**Kokohu**	**6.54**	**192**	P	**P**	07 16 03.0	+1.7
RAHZ	**Arahi**	**6.55**	**196**	P	**P**	07 16 03.8	+2.3
MHGZ	**Mahia Peninsul**	**6.63**	**190**	P	**P**	07 16 05.1	+2.8
NMHZ	**Naumai**	**6.79**	**197**	P	**P**	07 16 05.8	+1.8
ARHZ	**Aropaoanui**	**6.90**	**196**	P	**P**	07 16 06.4	+1.4
BKZ	**Black Stump Fm**	**6.94**	**199**	P	**P**	07 16 05.4	0.0
OTVZ	**Oturere**	**7.19**	**204**	P	**P**	07 16 09.5	+1.5
ASAR	**Alice Springs**	**40.82**	**271**	P	**P**	07 21 17.1	-0.5
	0.2nm,0.5s,baz=106,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**42.02**	**276**	P	**P**	07 21 25.6	-1.5
	0.4nm,0.4s,baz=113,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**146.38**	**337**	PKPbc	**PKPdf**	07 33 01.9	+0.5
	5.1nm,1.0s,baz=57,slow=3.5,SNR=12						

*IDC **29** 07:18:09.1±1.0, 30°.73N×51°.50E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.8/52, mbtmp3.9/18, ML3.6/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/41, Error ellipse: s-maj=24.8km s-min=15.1km az=180.0*
*TEH **29** 07:18:10.2, 30°.86N×51°.50E, h7km, ML3.8*
*THR **29** 07:18:12.3±0.6, 30°.85N×51°.52E, h17km±9km, ML3.8*
*NEIC **29** 07:18:12.3±2.4, 30°.72N±0°.04×51°.43E±0°.07, h22km±7km, mb4.1/14, mb_Lg3.8(TEH), Error ellipse: s-maj=8.6km s-min=5.6km az=86.0*
*OMAN **29** 07:18:15.7±0.5, 30°.86N×51°.91E, h162km, mb4.8/12, Error ellipse: s-maj=23.7km s-min=7.2km az=326.0*
*DSN **29** 07:18:15.9±2.2, 30°.68N×52°.04E, h10km, ML4.3/9, Error ellipse: s-maj=74.6km s-min=15.9km az=43.0*
ISC 29 07:18:10.3±1.5, 30°.80N±0°.04×51°.46E±0°.04, h8km±9km, n118, σ1s70/124, mb4.1/24, MS3.3/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLNJ	**Kolanjah**	**0.24**	**28**	*e*Pg	**Pg**	07 18 13.3	-1.9
KLNJ	**Kolanjah**	**0.24**	**28**		**Pg**	07 18 15.8	+0.6
KAZ1	**Kazerun**	**1.18**	**172**	*e*Pg	**Pn**	07 18 33.0	-0.1
KAZ1				*e*		07 19 14.8	
KAZ1	**Kazerun**	**1.18**	**172**		**Pn**	07 18 33.2	+0.1
IRAM	**Ramesheh**	**1.28**	**38**	*e*Pg	**Pn**	07 18 31.4	-3.3
IRAM				*e*		07 18 51.6	
SHI	**Shiraz**	**1.47**	**141**	*e*Pg	**Pb**	07 18 39.1	+1.2
SHI				*e*		07 19 14.1	
SHI	**Shiraz**	**1.47**	**141**	Pn	**Pn**	07 19 38.1	+0.9
ROKH	**ROKH**	**1.59**	**347**		**Pn**	07 18 38.4	-0.5
IGAR	**Gharneh**	**1.68**	**17**	*e*Pn	**Pn**	07 18 39.5	-0.6
IGAR				*e*		07 19 21.6	
IPIR	**Pirpir**	**1.94**	**346**	*e*Pn	**Pn**	07 18 44.8	+0.9
IPIR				*e*		07 19 24.5	
ISAD	**Sadrabad**	**2.20**	**59**	*e*Pn	**Pn**	07 18 48.3	+0.9
ISAD				*e*		07 18 50.8	
IZEF	**Zefreh**	**2.22**	**19**	*e*Pn	**Pn**	07 18 49.1	+1.5
IZEF				*e*		07 18 56.1	
NASN	**Na'in**	**2.30**	**30**	*e*Pn	**Pb**	07 18 51.1	-1.2
NASN	**Na'in**	**2.30**	**30**	*e*Pn	**Pb**	07 18 51.1	-1.2
AHWZ	**Ahwaz**	**2.48**	**283**	*e*Pn	**Pn**	07 18 53.4	+2.5
IKLH	**Kolahrood**	**2.52**	**2**	*e*Pn	**Pn**	07 18 53.6	+1.9
IMEH	**Mehriz**	**2.77**	**77**	*e*Pn	**Pn**	07 18 57.3	+2.2
GHIR	**Ghir-Karzin**	**2.83**	**152**	*e*Pn	**Pn**	07 18 59.0	+3.0
GHIR				IAML		07 19 54.2	
	comp=E,352nm,0.6s						
GHIR	**Ghir-Karzin**	**2.83**	**152**	*e*Pn	**Pn**	07 18 59.0	+3.0
ICHK	**Chekchek**	**2.90**	**59**	*e*Pn	**Pn**	07 18 58.9	+1.9
ICHK				*e*		07 19 16.3	
JHRM	**Jahrom**	**2.93**	**141**	*e*Pn	**Pn**	07 18 59.9	+2.6
ANAR	**Anarak**	**3.07**	**38**	*e*Pn	**Pn**	07 19 01.1	+1.9
YZKH	**Yazd**	**3.11**	**58**	*e*Pn	**Pn**	07 19 02.0	+2.3
YZKH	**Yazd**	**3.11**	**58**	*e*Pn	**Pn**	07 19 02.0	+2.3
KHMZ	**Khomeyn**	**3.20**	**337**	*e*Pn	**Pn**	07 19 03.9	+2.8
KHMZ	**Khomeyn**	**3.20**	**337**	*e*Pn	**Pn**	07 19 03.9	+2.8
KRSH	**Karshahi**	**3.21**	**10**	*e*Pn	**Pn**	07 19 02.9	+1.7
IBAF	**Bafgh**	**3.61**	**76**	*e*		07 19 27.8	
IBAF				*e*Pn	**Pn**	07 19 08.5	+1.9
GHVR	**GHOM**	**3.68**	**358**	*e*Pn	**Pn**	07 19 09.6	+2.1
GHVR	**GHOM**	**3.68**	**358**	*e*Pn	**Pn**	07 19 09.6	+2.1
IKMR	**Kamar-syah**	**3.77**	**317**	*e*Pn	**Pn**	07 19 11.0	+2.4
ASAO	**Ashtian**	**3.93**	**342**	*e*Pn	**Pn**	07 19 13.6	+2.4
ASAO	**Ashtian**	**3.93**	**342**	*e*Pn	**Pn**	07 19 13.6	+2.4
IQOM	**Qom**	**4.05**	**355**	*e*Pn	**Pn**	07 19 14.5	+1.7
HSAM	**Samen**	**4.17**	**325**	*e*Pn	**Pn**	07 19 16.4	+1.9
IVRN	**Varamin**	**4.19**	**3**	*e*Pn	**Pn**	07 19 16.3	+1.7
KHGB	**Koh Gabri**	**4.34**	**94**	*e*Pn	**Pn**	07 19 18.5	+1.7
TVBK	**TV Kerman**	**4.65**	**99**	*e*Pn	**Pn**	07 19 23.2	+2.1
IKOM	**Komasi**	**4.74**	**316**	*e*Pn	**Pn**	07 19 23.0	+0.8
IDMV	**Damavand**	**4.79**	**6**	*e*Pn	**Pn**	07 19 24.9	+1.9
TPRV	**Parvadeh(Tabas**	**4.97**	**62**	*e*Pn	**Pn**	07 19 27.1	+1.8
IANJ	**Anjilo**	**5.09**	**23**	*e*Pn	**Pn**	07 19 29.0	+1.9
HSRG	**Sareghieh**	**5.18**	**330**	*e*Pn	**Pn**	07 19 29.8	+1.5
CHMN	**Cheshme madani**	**5.34**	**99**	*e*Pn	**Pn**	07 19 32.6	+2.0
TNSJ	**Nastanj**	**5.38**	**53**	*e*Pn	**Pn**	07 19 32.5	+1.6
TKDS	**Koohdasht(Taba**	**5.56**	**58**	*e*Pn	**Pn**	07 19 34.6	+1.2
SHME	**Shamm**	**6.27**	**138**	P	**Pn**	07 19 43.2	0.0
KBAM	**BAM**	**6.29**	**104**	*e*Pn	**Pn**	07 19 45.2	+1.8
BANOM	**Banah**	**6.46**	**138**	*i* P	**Pn**	07 19 45.7	0.0
	SNR=10						
BANOM				S	**Sn**	07 20 56.1	-3.6
BANOM	**Banah**	**6.46**	**138**	P	**Pn**	07 19 46.4	+0.7
	SNR=11						
BANOM				S	**Sn**	07 20 57.0	-2.7
MSFE	**Esma-Masafi**	**6.82**	**141**	*i* P	**Pn**	07 19 51.0	+0.3
	SNR=11						
NAZ	**Nazwa, Dubai**	**6.88**	**146**	P	**Pn**	07 19 52.7	+1.3
NAZ	**Nazwa, Dubai**	**6.88**	**146**	P	**Pn**	07 19 53.4	+2.0
NAZ				S	**Sn**	07 21 09.1	-0.8
AFRZ	**Afriz**	**6.92**	**66**	*e*Pn	**Pn**	07 19 53.6	+1.4
MDH	**Madha**	**6.95**	**141**	P	**Pn**	07 19 52.6	+0.2
MDH	**Madha**	**6.95**	**141**	P	**Pn**	07 19 52.6	+0.2
MDH				S	**Sn**	07 21 09.1	-2.5
ASUD	**Al Ashush, Dub**	**7.04**	**150**	*i* P	**Pn**	07 19 54.4	+0.8
	SNR=11						
ASUD	**Al Ashush, Dub**	**7.04**	**150**	P	**Pn**	07 19 54.8	+1.2
	SNR=12						
ASUD				S	**Sn**	07 21 14.4	+0.6
UOSS	**Minazif**	**7.18**	**143**	P	**Pn**	07 19 54.4	-1.2
UOSS	**Minazif**	**7.18**	**143**	P	**Pn**	07 19 55.4	-0.3
UOSS				S	**Sn**	07 21 13.6	-3.9
UOSS	**Minazif**	**7.18**	**143**		**Pn**	07 19 54.2	-1.4
UOSS					**Sn**	07 21 15.8	-1.6
HATD	**Hatta, Dubai**	**7.24**	**144**	P	**Pn**	07 19 58.5	+2.1
HATD	**Hatta, Dubai**	**7.24**	**144**	P	**Pn**	07 19 58.9	+2.4
HATD				S	**Sn**	07 21 15.8	-3.2
ASHO	**Ashiyiah**	**7.32**	**145**	*i* P	**Pn**	07 19 57.4	-0.3
	SNR=6.9						
ASHO	**Ashiyiah**	**7.32**	**145**	P	**Pn**	07 19 57.8	+0.2
ASHO				S	**Sn**	07 21 19.2	-1.8
SOHO	**SOHO**	**8.02**	**145**	P	**Pn**	07 20 06.8	-0.3
SOHO	**SOHO**	**8.02**	**145**	P	**Pn**	07 20 07.3	+0.2
SOHO				S	**Sn**	07 21 34.6	-3.5
ARQ	**Araqi**	**8.69**	**148**	P	**Pn**	07 20 16.0	-0.4
	SNR=7.1						

HOQ	**Hoqain**	**8.87**	**143**	P	**Pn**	**07 20 18.1**	**-0.8**
HOQ				S	**Sn**	**07 21 55.3**	**-3.8**
GEYT	**Alibeck**	**8.99**	**36**	Pn	**Pn**	**07 20 23.3**	**+2.9**
	comp=E,0.3nm,0.3s,baz=225,slow=15,SNR=6.7						
WSAR	**Wadi Sarin**	**9.87**	**138**	Pn	**Pn**	**07 20 32.0**	**-0.5**
	comp=E,1.1nm,0.3s,baz=321,slow=6.8,SNR=8.4						
WSAR				Sn	**Sn**	**07 22 19.0**	**-4.6**
	comp=E,1.1nm,0.3s,baz=7.6,slow=11,SNR=3.8						
WSAR	**Wadi Sarin**	**9.87**	**138**	P	**Pn**	**07 20 32.3**	**-0.2**
	SNR=8.3						
ASF	**Jabal al Asfar**	**12.51**	**280**	Pn	**Pn**	**07 21 07.7**	**-0.9**
	comp=E,0.8nm,0.3s,baz=35,slow=8.0,SNR=6.1						
ASF				Sn	**Sn**	**07 23 27.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=57,slow=23,SNR=2.1						
WHFO	**Wadi Hawf**	**12.99**	**170**	P	**Pn**	**07 21 13.7**	**-1.5**
	SNR=11						
DMTO	**DMTO**	**13.40**	**166**	P	**Pn**	**07 21 20.0**	**-0.8**
	SNR=7.3						
DMTO				S	Sn	07 23 40.5	-10
CHGR	**Chuyangaron**	**16.51**	**57**	P	**P**	**07 22 05.5**	**+0.5**
CHGR				IAmb	IAmb	07 22 09.1	
	comp=Z,14nm,0.9s						
BRTR	**Keskin Array B**	**17.04**	**306**	Pn	**P**	**07 22 11.6**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=97,slow=12,SNR=2.5						
BRTR				LR	LR	07 31 12.3	
	comp=Z,5.3nm,20.6s,baz=114,slow=46						
GAR	**Garm**	**17.48**	**57**	P	**Pn**	**07 22 14.1**	**-0.4**
GAR				IAmb	IAmb	07 22 21.3	
	comp=Z,19nm,1.0s						
KK31	**Karatay Array**	**19.51**	**46**		**Pn**	**07 22 38.8**	**-0.3**
KKAR	**Karatay Array**	**19.51**	**46**		**Pn**	**07 22 38.6**	**-0.5**
KKAR				IAmb	IAmb	07 22 44.7	
	comp=Z,9.0nm,1.2s						
ABKAR	**Akbulak array**	**19.52**	**17**	P	**Pn**	**07 22 39.0**	**-0.2**
AKTO	**Aktyubinsk**	**20.22**	**12**	P	Pn	07 22 47.1	-0.4
	comp=Z,3.5nm,0.7s,baz=200,slow=14,SNR=4.1						
IDI	**Anoyia**	**22.69**	**288**	P	**P**	**07 23 14.1**	**+1.6**
	comp=Z,5.5nm,0.6s,baz=98,slow=14,SNR=1.5						
IDI	**Anoyia**	**22.69**	**288**	P	**P**	**07 23 12.9**	**+0.5**
BOOM	**Boomskoye usch**	**22.76**	**52**	P	**P**	**07 23 15.6**	**+2.3**
MLR	**Muntele Rosu**	**24.72**	**314**	P	**P**	**07 23 34.5**	**+2.4**
	comp=Z,2.6nm,0.8s,baz=149,slow=12,SNR=1.6						
MLR	**Muntele Rosu**	**24.72**	**314**	IAmb	IAmb	07 23 53.4	
	comp=Z,5.5nm,1.0s						
AKASG	**Malin Array Be**	**25.88**	**327**	P	**P**	**07 23 42.0**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=135,slow=9.2,SNR=8.9						
AKASG	**Malin Array Be**	**25.88**	**327**	P	**P**	**07 23 43.8**	**+1.3**
AKBB	**Malin Array Si**	**25.88**	**327**	P	**P**	**07 23 43.5**	**+1.0**
AKBB				IAmb	IAmb	07 23 49.0	
	comp=Z,5.6nm,0.8s						
BVAR	**Borovoye Array**	**26.14**	**26**	P	**P**	**07 23 44.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=247,slow=27,SNR=5.4						
KURBB	**Kurchatov Arra**	**28.26**	**38**	P	**P**	**07 24 04.0**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=239,slow=9.0,SNR=4.6						
KURK	**Kurchatov**	**28.36**	**38**	P	**P**	**07 24 04.0**	**-0.7**
KURK	**Kurchatov**	**28.36**	**38**	IAmb	IAmb	07 24 11.0	
	comp=Z,4.8nm,1.1s						
MKAR	**Makanchi Array**	**28.62**	**47**	P	**P**	**07 24 07.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=245,slow=7.9,SNR=8.3						
MKAR				LR	LR	07 36 24.0	
	comp=Z,31nm,18.6s,baz=286,slow=38						
MKAR	**Makanchi Array**	**28.62**	**47**	P	**P**	**07 24 06.8**	**-0.2**
ZAA0	**Zalesovo Array**	**33.30**	**36**	P	**P**	**07 24 49.7**	**+1.5**
ZALV	**Zalesovo Beam**	**33.30**	**36**	P	**P**	**07 24 48.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=221,slow=11,SNR=4.3						
ABTA	**Abfaltersbach**	**33.89**	**309**	*eP*	**P**	**07 24 53.0**	**-0.6**
	comp=Z,4.8nm,0.9s						
KMBO	**Kilima Mbogo**	**34.51**	**206**	LR	LR	07 39 26.2	
	comp=Z,55nm,18.1s,baz=90,slow=37						
WTTA	**Wattenberg**	**34.60**	**310**	*eP*	**P**	**07 24 58.8**	**-1.1**
	comp=Z,3.0nm,0.4s						
SQTA	**Sankt Quirin**	**34.87**	**310**	*eP*	**P**	**07 25 01.8**	**-0.4**
	comp=Z,4.4nm,0.4s						
FINES	**FINESS Array B**	**34.88**	**339**	P	**P**	**07 25 02.0**	**+0.2**
	comp=Z,6.9nm,1.0s,baz=142,slow=12,SNR=2.4						
MOTA	**Moosalm**	**34.97**	**310**	*eP*	**P**	**07 25 03.7**	**+0.6**
	comp=Z,4.3nm,0.8s						
FETA	**Feichten**	**35.15**	**309**	*eP*	**P**	**07 25 04.4**	**-0.2**
	comp=Z,0.7nm,0.3s						
DAVA	**Damuels**	**35.77**	**309**	*eP*	**P**	**07 25 09.3**	**-0.6**
	comp=Z,6.5nm,0.4s						
NOA	**NORSAR Array B**	**40.12**	**331**	LR	LR	07 43 19.2	
	comp=Z,12nm,18.6s,baz=310,slow=38						
ARCES	**ARCESS Array B**	**41.49**	**347**	P	**P**	**07 25 57.8**	**+0.4**
	comp=Z,3.8nm,1.1s,baz=135,slow=9.0,SNR=1.3						
CMAR	**Chiang Mai Arr**	**44.58**	**95**	P	**P**	**07 26 22.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=290,slow=9.7,SNR=5.3						
SONM	**Songino Array**	**44.80**	**51**	P	**P**	**07 26 25.3**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=251,slow=7.5,SNR=5.3						
ESDC	**Sonseca Array**	**45.51**	**297**	P	**P**	**07 26 30.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=79,slow=7.5,SNR=2.3						
TOA0	**Torodi Ar. Sit**	**48.96**	**260**	P	**P**	**07 26 55.9**	**-1.6**
TOA0				IAmb	IAmb	07 27 04.7	
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**48.96**	**260**	P	**P**	**07 26 57.5**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=51,slow=8.0,SNR=14						
KOWA	**Kowa**	**53.20**	**265**	P	**P**	**07 27 29.4**	**0.0**
DBIC	**Dimbokro**	**57.80**	**258**	LR	LR	07 54 05.2	
	comp=Z,39nm,19.6s,baz=148,slow=37						
KSRS	**Korea Array**	**62.04**	**61**	P	**P**	**07 28 30.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=282,slow=6.0,SNR=1.9						
LEM	**Lembang**	**65.43**	**115**	LR	LR	07 58 27.9	
	comp=Z,67nm,20.1s,baz=160,slow=37						
ILAR	**Eielson Array**	**83.67**	**8**	P	**P**	**07 30 41.3**	**+2.1**
	comp=Z,0.3nm,0.9s,baz=340,slow=4.9,SNR=1.8						

SJA ***29*** *07:23:08.2±0.7,24°.17S×67°.26W,h186km±6km, ML4.2, MW3.9*

NEIC ***29*** *07:23:08.8±1.1,24°.21S±0°.07×67°.5W±0°.1,h214km±18km, Error ellipse: s-maj=17.3km s-min=9.9km az=108.0*

IDC ***29*** *07:23:10.6±1.3,23°.93S×67°.54W,h233km±19km,mb3.5/3, mb1 3.5/7,mb1mx3.2/25,mbtmp4.0/7, Error ellipse: s-maj=28.7km s-min=20.6km az=126.0*

GUC ***29*** *07:23:10.1±0.7,24°.14S×67°.73W,h211km±7km, ML4.4*

VAO ***29*** *07:23:12.5±0.8,24°.00S×67°.38W,h240km±9km,mb3.9*

ISC 29 07:23:08.3±0.6,24°.18S±0°.04×67°.33W±0°.04,h194km±8km, n97,σ1°29/126,1C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**2.01**	**62**	*eP*	**Pn**	**07 23 46.5**	**-0.4**
HJA				*eS*	**Sn**	**07 24 15.1**	**-1.7**
LVC	**Limon Verde**	**2.13**	**317**	P	**Pn**	**07 23 49.4**	**+1.2**
	20nm,0.3s,baz=128,slow=5.4,SNR=459						
LVC				S	**Sn**	**07 24 18.4**	**-0.7**
	118nm,0.3s,baz=186,slow=3.6,SNR=19						
LVC	**Limon Verde**	**2.13**	**317**	*eP*	**Pn**	**07 23 49.7**	**+1.5**
LVC				*i* S	**Sn**	**07 24 19.8**	**+0.7**
LVC	**Limon Verde**	**2.13**	**317**	*eP*	**Pn**	**07 23 49.4**	**+1.2**
LVC				*eS*	**Sn**	**07 24 18.4**	**-0.7**
PB15	**IPOC Station P**	**2.19**	**296**	*eP*	**Pn**	**07 23 49.9**	**+1.3**
PB15				*i* S	**Sn**	**07 24 19.7**	**-0.2**
PB15	**IPOC Station P**	**2.19**	**296**		**Pn**	**07 23 49.9**	**+1.3**
PB15	**IPOC Station P**	**2.19**	**296**	*eP*	**Pn**	**07 23 50.0**	**+1.3**
PB15				*eS*	**Sn**	**07 24 20.0**	**+0.2**
GO02	**Mina Guanaco**	**2.28**	**244**	*eP*	**Pn**	**07 23 50.8**	**+1.1**
GO02				*i* S	**Sn**	**07 24 22.3**	**+0.4**
GO02				IAML		07 24 23.7	
	comp=E,1μm,0.1s						
GO02	**Mina Guanaco**	**2.28**	**244**		**Pn**	**07 23 50.8**	**+1.1**
FSA	**Cafayete**	**2.28**	**148**	*eP*	**Pn**	**07 23 49.8**	**+0.2**
PB06	**IPOC Station P**	**2.52**	**305**	*eP*	**Pn**	**07 23 53.6**	**+1.3**
PB06				*i* S	**Sn**	**07 24 26.0**	**-0.5**
PB06				IAML		07 24 28.6	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**2.52**	**305**		**Pn**	**07 23 53.4**	**+1.1**
PB06	**IPOC Station P**	**2.52**	**305**	*eP*	**Pn**	**07 23 53.4**	**+1.1**
PB06				*eS*	**Sn**	**07 24 26.2**	**-0.3**
PB06				IAML		07 24 28.1	
	comp=Z,800nm,0.1s						
YJA	**Yavi**	**2.60**	**40**	*eP*	**Pn**	**07 23 53.5**	**0.0**
YJA				*eS*	**Sn**	**07 24 28.2**	**-0.4**
PB14	**IPOC Station P**	**2.84**	**260**	*eP*	**Pn**	**07 23 56.8**	**+0.8**
PB14				*eS*	**Sn**	**07 24 31.7**	**-1.5**
PB14	**IPOC Station P**	**2.84**	**260**	Pn	**Pn**	**07 23 56.8**	**+0.8**
PB14	**IPOC Station P**	**2.84**	**260**	*eP*	**Pn**	**07 23 56.8**	**+0.8**
PB14				*eS*	**Sn**	**07 24 33.2**	**0.0**
PB05	**IPOC Station P**	**2.95**	**296**	*iP*	**Pn**	**07 23 57.9**	**+0.8**
PB05				*i* S	**Sn**	**07 24 33.7**	**-1.5**
PB05				IAML		07 24 36.1	
	comp=E,530nm,0.7s						
PB05	**IPOC Station P**	**2.95**	**296**	*eP*	**Pn**	**07 23 58.0**	**+0.9**
PB05				*eS*	**Sn**	**07 24 34.5**	**-0.7**
PB05				IAML		07 24 39.2	
	comp=Z,231nm,0.2s						
PB09	**IPOC Station P**	**2.95**	**323**	*eP*	**Pn**	**07 23 59.0**	**+1.7**
PB09				*i* S	**Sn**	**07 24 35.7**	**+0.2**
PB09				IAML		07 24 37.7	
	comp=E,500nm,0.4s						
PB09	**IPOC Station P**	**2.95**	**323**		**Pn**	**07 23 58.9**	**+1.6**
PB09	**IPOC Station P**	**2.95**	**323**	*eP*	**Pn**	**07 23 58.6**	**+1.3**
PB09				*eS*	**Sn**	**07 24 35.8**	**+0.3**
PB09				IAML		07 24 36.9	
	comp=Z,371nm,0.2s						
PB10	**IPOC Station P**	**3.02**	**282**		**Pn**	**07 23 59.0**	**+1.1**
PB03	**IPOC Station P**	**3.08**	**313**	*eP*	**Pn**	**07 23 59.7**	**+1.0**
PB03				*i* S	**Sn**	**07 24 36.8**	**-1.3**
PB03				IAML		07 24 38.5	
	comp=N,804nm,0.3s						
PB03	**IPOC Station P**	**3.08**	**313**	*eP*	Pn	07 23 48.8	-10
PB03				*eS*	**Sn**	**07 24 37.2**	**-0.8**
PB03				IAML		07 24 40.0	
	comp=Z,800nm,0.3s						
AC02	**Maricunga**	**3.11**	**211**	Pn	**Pn**	**07 24 00.3**	**+1.0**
AHML	**Horco Molle**	**3.16**	**146**	*eP*	**Pn**	**07 23 59.6**	**0.0**
AHML				*eS*	**Sn**	**07 24 37.6**	**-2.3**
PB04	**IPOC Station P**	**3.17**	**305**	*eP*	**Pn**	**07 24 01.2**	**+1.2**
PB04				*i* S	**Sn**	**07 24 39.3**	**-0.9**
PB04				IAML		07 24 42.9	
	comp=N,767nm,0.2s						
PB04	**IPOC Station P**	**3.17**	**305**		**Pn**	**07 24 00.7**	**+0.8**
PB04	**IPOC Station P**	**3.17**	**305**	*eP*	**Pn**	**07 24 01.1**	**+1.2**
PB04				*eS*	**Sn**	**07 24 39.5**	**-0.7**
PB04				IAML		07 24 42.1	
	comp=Z,651nm,0.2s						
PB07	**IPOC Station P**	**3.39**	**315**	*eP*	**Pn**	**07 24 03.4**	**+0.8**
PB07				*i* S	**Sn**	**07 24 43.3**	**-1.6**
PB07	**IPOC Station P**	**3.39**	**315**		**Pn**	**07 24 03.3**	**+0.8**
PB07	**IPOC Station P**	**3.39**	**315**	*eP*	Pn	07 23 48.3	-14
PB07				*eS*	**Sn**	**07 24 43.3**	**-1.6**
PB07				IAML		07 24 45.5	
	comp=Z,410nm,0.2s						
AC01	**Pan de Azucar**	**3.55**	**236**	*eP*	**Pn**	**07 24 04.2**	**-0.1**
AC01				*i* S	**Sn**	**07 24 46.0**	**-2.2**
AC01				IAML		07 24 47.3	
	comp=E,491nm,0.3s						
AC01	**Pan de Azucar**	**3.55**	**236**		**Pn**	**07 24 04.2**	**-0.1**
PB01	**IPOC Station P**	**3.70**	**327**	*eP*	**Pn**	**07 24 06.7**	**+0.4**
PB01				*eS*	**Sn**	**07 24 50.3**	**-1.4**
PB01				IAML		07 24 52.8	
	comp=N,372nm,0.5s						
PB01	**IPOC Station P**	**3.70**	**327**		**Pn**	**07 24 06.7**	**+0.4**
PATCX	**Punta Patache**	**4.24**	**321**	*eP*	**Pn**	**07 24 14.0**	**+1.0**
PATCX				*eS*	**Sn**	**07 25 01.8**	**-2.0**
PATCX				IAML		07 25 10.7	
	comp=E,266nm,0.6s						
PATCX	**Punta Patache**	**4.24**	**321**		**Pn**	**07 24 13.7**	**+0.7**
GO03	**Copiap**	**4.29**	**217**	Pn	**Pn**	**07 24 13.2**	**-0.3**
GO03	**Copiap**	**4.29**	**217**	*eP*	**Pn**	**07 24 13.7**	**+0.1**
GO03				*eS*	**Sn**	**07 25 03.2**	**-1.7**
PB08	**IPOC Station P**	**4.36**	**337**	*eP*	**Pn**	**07 24 16.0**	**+1.2**
PB08				*i* S	**Sn**	**07 25 05.9**	**-1.0**
PB08				IAML		07 25 08.9	
	comp=E,98nm,0.3s						
PB08	**IPOC Station P**	**4.36**	**337**		**Pn**	**07 24 15.9**	**+1.2**
TA01	**Diego Aracena**	**4.46**	**323**	Pn	**Pn**	**07 24 16.2**	**+0.5**
CYA	**Choya**	**4.46**	**162**	*eP*	**Pn**	**07 24 16.0**	**+0.3**
CYA				*eS*	**Sn**	**07 25 07.2**	**-1.6**
VCA	**Vinchina**	**4.61**	**190**	*eP*	Pn	07 24 08.1	-10
VCA				*eS*	**Sn**	**07 25 14.4**	**+2.0**
GO01	**Chusmiza**	**4.81**	**339**		**Pn**	**07 24 21.2**	**+0.6**
PB11	**IPOC Station P**	**4.89**	**333**	Pn	**Pn**	**07 24 21.4**	**-0.1**
AC04	**Llanos de Chal**	**5.23**	**219**	Pn	**Pn**	**07 24 24.6**	**-0.9**
PSGCX	**Pisagua**	**5.24**	**330**	Pn	**Pn**	**07 24 26.3**	**+0.4**
AC05	**El Transito**	**5.34**	**209**		**Pn**	**07 24 27.1**	**+0.1**
LCO	**Las Campanas**	**5.68**	**211**		**Pn**	**07 24 30.7**	**-0.9**
PB16	**IPOC Station P**	**6.16**	**340**		**Pn**	**07 24 38.6**	**+0.4**
CO01	**Juntas del Tor**	**6.28**	**202**	Pn	**Pn**	**07 24 40.5**	**+1.1**
ACCO	**Cerro Coronel**	**6.57**	**193**	*eP*	**Pn**	**07 24 44.2**	**+1.0**
ACCO				*eS*	**Sn**	**07 25 57.0**	**-1.3**
GO04	**Tololo Observa**	**6.72**	**207**	Pn	**Pn**	**07 24 44.2**	**-0.9**
CO03	**El Pedregal**	**7.28**	**203**	Pn	**Pn**	**07 24 51.3**	**-0.8**
TCA	**Tanti**	**7.53**	**162**	*eP*	**Pn**	**07 24 54.6**	**-0.9**
TCA				*eS*	**Sn**	**07 26 15.4**	**-5.3**
CO02	**Combarbal**	**7.72**	**204**	Pn	**Pn**	**07 24 57.0**	**-0.9**
RTLS	**Leoncito**	**7.79**	**192**	*eS*	**Sn**	**07 26 23.6**	**-3.4**
RTLS				IAML		07 26 28.8	
	comp=Z,11nm,0.5s						
LPAZ	**La Paz**	**7.88**	**354**	P	**Pn**	**07 25 01.5**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=160,slow=7.0,SNR=130						
LPAZ				S	**Sn**	**07 26 23.9**	**-6.0**
	baz=354,slow=5.2,SNR=1.3						
LPAZ	**La Paz**	**7.88**	**354**	*eP*	**Pn**	**07 25 01.8**	**+1.1**
CPUP	**Villa Florida**	**9.30**	**105**	P	Pn	07 25 25.5	+6.9
	comp=Z,2.2nm,0.3s,baz=296,slow=10,SNR=3.9						
SIV	**San Ignacio**	**10.04**	**37**	P	**Pn**	**07 25 29.2**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=233,slow=13,SNR=19						
PTLB	**Pontes e Lacer**	**11.61**	**43**	*eP*	**Pn**	**07 25 50.3**	**+1.9**
VILB	**Vilhena**	**13.05**	**32**	*eP*	**Pn**	**07 26 08.1**	**+1.3**
TRCB	**Terra Rica**	**13.56**	**87**	*eP*	**P**	**07 26 16.9**	**+1.1**
PTGB	**Pitanga**	**13.92**	**95**	*eP*	**P**	**07 26 21.5**	**+1.8**
ETMB	**Extrema**	**14.32**	**4**	*eP*	**Pn**	**07 26 22.0**	**-0.6**
SAML	**Samuel**	**15.65**	**15**		**P**	**07 26 39.1**	**+0.2**
SAML				IAmb	IAmb	07 26 54.5	
	comp=Z,2.7nm,1.4s						
SAML	**Samuel**	**15.65**	**15**	*eP*	**P**	**07 26 39.3**	**+0.4**
FRTB	**Fartura**	**16.29**	**91**	*eP*	**Pn**	**07 26 47.4**	**+0.9**
ITRB	**Itarama**	**16.36**	**78**	*eP*	**Pn**	**07 26 48.7**	**+1.3**
PLCA	**Paso Flores**	**16.73**	**189**	P	**Pn**	**07 26 53.3**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=2.7,slow=12,SNR=4.1						
PLCA	**Paso Flores**	**16.73**	**189**	Pn	**Pn**	**07 26 52.8**	**+1.1**
PLCA				IAmb	IAmb	07 27 01.8	
	comp=Z,7.1nm,1.0s						
PLCA	**Paso Flores**	**16.73**	**189**	*eP*	**Pn**	**07 26 53.8**	**+2.1**
ARAG	**Araguaiana, MT**	**16.84**	**63**	*eP*	**Pn**	**07 26 53.4**	**+0.3**
CLDB	**Colider**	**17.19**	**42**	*eP*	**P**	**07 26 55.2**	**-0.6**
BB19B	**Bebedouro**	**17.63**	**84**	*eP*	**Pn**	**07 27 02.1**	**-0.4**
SPB	**Sao Paulo**	**18.21**	**92**	*eP*	**Pn**	**07 27 08.9**	**-0.2**
VAO	**Valinhos**	**18.70**	**91**	*eP*	**P**	**07 27 12.6**	**+0.2**
IPMB	**Ipameri, GO**	**18.87**	**75**	*eP*	**P**	**07 27 14.9**	**+0.7**
SNDB	**Serra Nova Dou**	**19.46**	**54**	*eP*	**P**	**07 27 20.6**	**+0.1**
BDFB	**Brasilia**	**20.03**	**68**	P	**P**	**07 27 26.6**	**-0.1**
	comp=Z,13nm,0.7s,baz=246,slow=9.6,SNR=20						
BDFB	**Brasilia**	**20.03**	**68**	P	**P**	**07 27 27.2**	**+0.5**
BDFB				IAmb	IAmb	07 27 28.4	
	comp=Z,14nm,0.9s						
NPGB	**Novo Progresso**	**20.54**	**36**	*eP*	**P**	**07 27 30.9**	**-1.2**
MACA	**Manacapuru-AM**	**21.86**	**18**	*eP*	**P**	**07 27 44.8**	**-1.0**
ITTB	**Itaituba**	**22.64**	**31**	*eP*	**P**	**07 27 52.1**	**-1.1**
JANB	**Januaria**	**23.48**	**72**	*eP*	**P**	**07 28 00.9**	**+0.2**
SMTB	**Santa Maria do**	**24.24**	**54**	*eP*	**P**	**07 28 08.0**	**+0.3**
SDBA	**SAO DESIDERIO**	**24.26**	**65**	*eP*	**P**	**07 28 08.0**	**+0.2**
RIB01	**Linhares ES**	**25.46**	**84**	*eP*	**P**	**07 28 18.7**	**0.0**
MALB	**Monte Alegre**	**25.54**	**32**	*eP*	**P**	**07 28 19.6**	**+0.3**
NAN01	**Guarapari, ES**	**26.14**	**81**	*eP*	**P**	**07 28 24.0**	**-0.5**
GDU01	**Guandu, BA**	**28.18**	**73**	*eP*	**P**	**07 28 42.6**	**-0.4**
SNAA	**Sanae**	**59.28**	**161**	P	**P**	**07 32 49.3**	**0.0**
	comp=Z,0.7nm,0.9s,baz=262,slow=7.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**07 34 38.4**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=255,slow=4.9,SNR=7.3						

MOS ***29*** *07:29:49.4±1.1,41°.45N×142°.17E,h68km,mb4.4/9, Error ellipse: s-maj=10.0km s-min=7.2km az=82.5*

NIED ***29*** *07:29:50.9,41°.58N×142°.05E,h65km,MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.66; Mθθ-0.03; Mφφ-0.63; Mrθ0.29; Mθφ-0.22; Mφr0.79; Fault plane solution: M₀1.08000×10¹⁵ NP1:φ₁20.00000°, δ70.00000°, λ.91.00000°. NP2:φ₂197.00000°,δ20.00000°, λ.87.00000°.*

JMA ***29*** *07:29:50.9±0.1,41°.58N×142°.05E,h65km±2km,M3.8*

JMA Felt I J1.

NEIC ***29*** *07:29:51.5±2.0,41°.51N±0°.04×142°.04E±0°.08,h69km±5km, mb4.3/10, Error ellipse: s-maj=8.5km s-min=5.2km az=106.0*

IDC ***29*** *07:29:51.7±0.6,41°.54N×142°.01E,h70km±5km,mb3.7/14, mb1 3.8/19,mb1mx3.7/53,mbtmp3.9/19,MS2.8/5, Ms1 2.8/5,ms1mx2.5/42, Error ellipse: s-maj=14.6km s-min=9.5km az=102.0*

ISC 29 07:29:51.7±0.5,41°.55N±0°.03×142°.10E±0°.03,h66km±4km, h66km:pP-P,n94,σ1°35/108,mb4.1/23,10C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.64**	**244**	*ǁP*	**Pn**	**07 30 05.0**	**-0.6**
JAHD				*eS*	**Sn**	**07 30 15.0**	**-0.8**
JARK	**Aomorirokkasho**	**0.77**	**226**	P	**Pn**	**07 30 06.1**	**-1.1**
JARK				*eS*	**Sn**	**07 30 17.1**	**-1.5**
JOT	**Ohata**	**0.81**	**258**	*ǁP*	**Pn**	**07 30 06.4**	**-1.2**
JOT				*eS*	**Sn**	**07 30 18.3**	**-1.0**
JKB	**Kayabe**	**0.86**	**293**	P	**Pn**	**07 30 06.6**	**-1.7**
JKB				*eS*	**Sn**	**07 30 18.8**	**-1.7**
JNBK	**Urakawa-nobuka**	**0.88**	**34**	P	**Pn**	**07 30 07.1**	**-1.3**
JNBK				*eS*	**Sn**	**07 30 19.5**	**-1.3**
ERM	**Erimo**	**0.92**	**59**	P	**Pn**	**07 30 08.4**	**-0.5**
ERM	**Erimo**	**0.92**	**59**	Pn	**Pn**	**07 30 08.4**	**-0.5**
JEM	**Erimo**	**0.92**	**59**	*ǁP*	**Pn**	**07 30 08.3**	**-0.6**
JEM				*eS*	**Sn**	**07 30 21.0**	**-0.7**
JIAM	**Iburiatsuma**	**1.08**	**353**	P	**Pn**	**07 30 10.9**	**-0.1**
JTM	**Tenmabayashi**	**1.09**	**226**	*ǁP*	**Pn**	**07 30 10.6**	**-0.5**
JTM				*eS*	**Sn**	**07 30 24.6**	**-1.0**
JTM	**Tenmabayashi**	**1.09**	**226**	Pn	**Pn**	**07 30 10.7**	**-0.5**
JNB	**Noboribetsu**	**1.21**	**320**	*ǁP*	**Pn**	**07 30 11.1**	**-1.6**
JNB				*eS*	**Sn**	**07 30 25.6**	**-2.7**
JBT2	**Biratori 2**	**1.24**	**9**	*ǁP*	**Pn**	**07 30 12.5**	**-0.6**
JANG	**Nango**	**1.26**	**201**	P	**Pn**	**07 30 12.6**	**-0.7**
JANG				*eS*	**Sn**	**07 30 28.3**	**-1.2**
JEW	**Eniwo**	**1.37**	**340**	*ǁP*	**Pn**	**07 30 14.2**	**-0.7**
JEW				*eS*	**Sn**	**07 30 30.9**	**-1.3**
JEW	**Eniwo**	**1.37**	**340**	Pn	**Pn**	**07 30 14.4**	**-0.4**
JYM2	**Yakumo 2**	**1.41**	**294**	*ǁP*	**Pn**	**07 30 14.7**	**-0.6**
JCH	**Churui**	**1.42**	**41**	*ǁP*	**Pn**	**07 30 15.6**	**+0.2**
JOMM	**Oshimamatsumae**	**1.57**	**270**	P	**Pn**	**07 30 16.6**	**-0.8**
JOSM	**Okushiri--Mats**	**2.03**	**286**	P	**Pn**	**07 30 22.3**	**-1.3**
JOSM				*eS*	**Sn**	**07 30 46.0**	**-2.0**
JSK	**Shakotan**	**2.16**	**327**	P	**Pn**	**07 30 25.0**	**-0.4**
ASAJ	**Asahikawa**	**2.59**	**8**	P	**Pn**	**07 30 31.6**	**+0.3**
	15nm,0.3s,baz=210,slow=10.0,SNR=20						
ASAJ				S	**Sn**	**07 31 02.2**	**+0.6**
	9.3nm,0.3s,baz=267,slow=1.7,SNR=4.5						
JKA	**Kamikawa-asahi**	**2.59**	**8**	Pn	**Pn**	**07 30 32.1**	**+0.9**
NMR	**Nemuro--Hokkai**	**3.24**	**55**	*ǁiP*	**Pn**	**07 30 38.3**	**-1.8**
NMR				*i* S	**Sn**	**07 31 13.2**	**-4.3**
GLVR	**Golovnino**	**3.34**	**48**	*eP*	**Pn**	**07 30 41.0**	**-0.4**
GLVR				*eS*	**Sn**	**07 31 17.2**	**-2.7**
GLVR				smax	smax		
	comp=E,650nm,0.5s						
GLVR				smax	smax		
	comp=N,605nm,0.2s						
GRPR	**Tuman**	**3.64**	**47**	*eP*	**Pn**	**07 30 44.5**	**-1.1**
GRPR				*eS*	**Sn**	**07 31 24.3**	**-3.0**
GRPR				pmax	pmax		
	comp=Z,165nm,0.4s						
GRPR				pmax	pmax

INK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ARU	**Arti**	**53.39**	**317**	*c iP*	**P**	**07 39 03.8**	**-0.4**
ARU				*PP	**pP**	**07 39 20.2**	**-0.7**
ARU						07 41 04.3	
ARU				S	**S**	**07 46 33.2**	**+2.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s							
ABKAR	**Akbulak array**	**55.50**	**308**	P	**P**	**07 39 19.1**	**-0.5**
ABKAR	**Akbulak array**	**55.50**	**308**	P	**P**	**07 39 19.5**	**-0.2**
ABKAR				IAmb	IAmb	07 39 20.3	
	comp=Z,2.6nm,0.8s							
EUNU	**Eureka**	**55.65**	**9**	P	**P**	**07 39 19.7**	**-0.6**
EUNU				IAmb	IAmb	07 39 27.9	
	comp=Z,1.8nm,1.1s							
AKTO	**Aktyubinsk**	**56.12**	**310**	LR	LR	08 04 42.2	
	comp=Z,24nm,18.4s,baz=48,slow=37							
WRA	**Warramunga Arr**	**61.60**	**188**	P	**P**	**07 40 01.8**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=7.6,slow=7.1,SNR=14							
WRA				pP	**pP**	**07 40 18.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=7.8,slow=7.7,SNR=2.9							
WRA	**Warramunga Arr**	**61.60**	**188**	IAmb	IAmb	07 40 02.5		
	comp=Z,0.1nm,0.8s							
FINES	**FINESS Array B**	**65.08**	**332**	P	**P**	**07 40 23.9**	**-0.9**
	comp=Z,4.2nm,0.6s,baz=42,slow=9.8,SNR=9.5							
FINES				pP	**pP**	**07 40 43.7**	**+1.7**
	comp=Z,3.0nm,0.6s,baz=56,slow=7.1,SNR=2.2							
FINES	**FINESS Array B**	**65.08**	**332**	pP	pP	07 40 42.7	+0.7
ASAR	**Alice Springs**	**65.33**	**188**	P	**P**	**07 40 26.2**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=7.1,slow=5.5,SNR=8.1							
ASAR				pP	**pP**	**07 40 44.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=359,slow=7.1,SNR=3.9							
ASAR	**Alice Springs**	**65.33**	**188**	P	**P**	**07 40 26.0**	**-0.8**
KIV	**Kislovodsk**	**68.38**	**310**	*eP*	**P**	**07 40 44.9**	**-1.3**
KIV				pmax	pmax			
	comp=Z,22nm,1.1s							
KBZ	**Khabaz**	**68.40**	**310**	P	**P**	**07 40 46.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=14,slow=4.2,SNR=3.8							
KBZ	**Khabaz**	**68.40**	**310**	*eP*	**P**	**07 40 48.0**	**+1.8**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**70.23**	**337**	P	**P**	**07 40 56.7**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=38,slow=5.8,SNR=1.9							
AKASG	**Malin Array Be**	**71.07**	**322**	P	**P**	**07 41 01.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=44,slow=6.0,SNR=6.2							
AKASG	**Malin Array Be**	**71.07**	**322**	*eP*	**P**	**07 41 03.2**	**+0.7**
AKASG	**Malin Array Be**	**71.07**	**322**	IAmb	IAmb	07 41 01.9		
	comp=Z,1.4nm,1.2s							
NVAR	**Mina Array Bea**	**71.90**	**55**	P	**P**	**07 41 08.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=291,slow=5.7,SNR=2.9							
NVAR				pP	**PcP**	**07 41 27.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=291,slow=7.3,SNR=4.8							
PDAR	**Pinedale Array**	**74.15**	**47**	P	**P**	**07 41 20.7**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=330,slow=3.4,SNR=2.0							
PDAR				pP	**pP**	**07 41 40.9**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=260,slow=2.2,SNR=3.3							

*KRSC **29** 07:35:35.0±1.2,54.°65N×160.°01E,h176km±12km, ML3.9*
*IDC **29** 07:35:37.5±2.6,54.°56N×159.°82E,h188km±13km,mb3.1/6, mb1 3.5/6,mb1mx3.1/50,mbtmp3.6/6,MS2.3/1,Ms1 2.3/1, ms1mx2.1/17,Error ellipse: s-maj=155.6km s-min=17.9km az=140.0*

ISC 29 07:35:36.1±0.8,54.°66N±0.°04×159.°95E±0.°06,h174km±6km, n44,σ0°95/66,mb3.4/6,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.50**	**23**	*eP*			**Pn**	**07 36 00.2**	**-0.2**
KZV				*eS*			**Sn**	**07 36 18.9**	**-0.2**
TUMD	**Tumrok D**	**0.60**	**25**	*eP*			**Pn**	**07 36 00.4**	**-0.3**
TUMD				*eS*			**Sn**	**07 36 19.2**	**-0.5**
TUMR	**Tumrok**	**0.64**	**10**	*eP*			**Pn**	**07 36 01.3**	**+0.3**
TUMR				*eS*			**Sn**	**07 36 20.6**	**+0.4**
KII	**Karymskiy**	**0.69**	**206**	*eP*			**Pn**	**07 36 01.8**	**+0.5**
KMNR	**Kamenistaya**	**1.11**	**8**	*eP*			**Pn**	**07 36 04.2**	**0.0**
KMNR				*eS*			**Sn**	**07 36 25.6**	**-0.4**
KIRR	**Kirishev**	**1.32**	**10**	*eP*			**Pn**	**07 36 05.5**	**-0.5**
KOZ	**Kozyrevsk**	**1.41**	**358**	*eP*			**Pn**	**07 36 06.4**	**-0.2**
KOZ				*eS*			**Sn**	**07 36 29.8**	**-0.5**
ZLN	**Zelenaya**	**1.45**	**19**	*eP*			**Pn**	**07 36 07.8**	**+0.7**
ZLN				*eS*			**Sn**	**07 36 32.0**	**+0.8**
ESO	**Esso**	**1.46**	**331**	*eP*			**Pn**	**07 36 06.7**	**-0.4**
ESO				*eS*			**Sn**	**07 36 30.7**	**-0.5**
LGNR	**Loginova**	**1.49**	**16**	*eP*			**Pn**	**07 36 08.1**	**+0.4**
KRX	**Arik**	**1.51**	**211**	*eP*			**Pn**	**07 36 08.6**	**+0.7**
KRX				*eS*			**Sn**	**07 36 34.0**	**+1.7**
GNL	**Ganaly**	**1.52**	**232**	*eP*			**Pn**	**07 36 08.2**	**+0.3**
GNL				*eS*			**Sn**	**07 36 32.6**	**+0.1**
KRER	**Koryakskii**	**1.53**	**208**	*eP*			**Pn**	**07 36 08.9**	**+0.8**
NLC	**Nalytchevo**	**1.53**	**194**	*eP*			**Pn**	**07 36 08.0**	**+0.1**
NLC				*eS*			**Sn**	**07 36 32.4**	**+0.1**
SMAR	**Somma**	**1.55**	**206**	*eP*			**Pn**	**07 36 08.8**	**+0.4**
SMAR				*eS*			**Sn**	**07 36 33.4**	**+0.2**
SPN	**Mys Shipunski**	**1.56**	**178**	*eP*			**Pn**	**07 36 07.3**	**-0.9**
SPN				*eS*			**Sn**	**07 36 31.2**	**-1.7**
AVH	**Avacha**	**1.57**	**208**	*eP*			**Pn**	**07 36 09.0**	**+0.7**
KOK	**Koryaka**	**1.57**	**210**	*eP*			**Pn**	**07 36 09.2**	**+0.8**
UGLR	**Uglovaya**	**1.60**	**205**	*eP*			**Pn**	**07 36 09.5**	**+0.8**
UGLR				*eS*			**Sn**	**07 36 34.8**	**+1.1**
KRSR	**Krestovskiy**	**1.60**	**12**	*eP*			**Pn**	**07 36 08.4**	**-0.2**
KRSR				*eS*			**Sn**	**07 36 33.5**	**-0.4**
SRDR	**Sredinnyy**	**1.67**	**355**	*eP*			**Pn**	**07 36 08.9**	**-0.4**
KLY	**Klyuchi**	**1.71**	**13**	*eS*			**Sn**	**07 36 36.2**	**+0.6**
DALK	**Dalny**	**1.78**	**204**	*eP*			**Pn**	**07 36 10.1**	**-0.3**
DALK				*eS*			**Sn**	**07 36 36.4**	**-0.4**
PET	**Petropavlovsk**	**1.81**	**206**	*eP*			**Pn**	**07 36 11.1**	**+0.4**
PET				*eS*			**Sn**	**07 36 36.9**	**-0.5**
BDR	**Baidarnaya**	**2.04**	**20**	*eP*			**Pn**	**07 36 13.5**	**+0.2**
PETK	**Petropavlovsk-**	**2.05**	**222**	P			**Pn**	**07 36 13.6**	**+0.3**
	2.1nm,0.3s,baz=76,slow=18,SNR=26								
PETK				S			**Sn**	**07 36 43.4**	**+1.4**
	0.7nm,0.3s,baz=82,slow=14,SNR=1.8								
SMKR	**Semkarok**	**2.11**	**23**	*eP*			**Pn**	**07 36 15.4**	**+1.4**
SRKR	**Sorokina**	**2.12**	**18**	*eP*			**Pn**	**07 36 14.3**	**+0.2**
KRMR	**Karymshinskiy**	**2.13**	**211**	*eP*			**Pn**	**07 36 15.1**	**+0.9**
KRMR				*eS*			**Sn**	**07 36 44.8**	**+1.2**
KBG	**Krutoberegovo**	**2.24**	**43**	*eP*			**Pn**	**07 36 14.9**	**-0.4**
KBG				*eS*			**Sn**	**07 36 43.8**	**-2.1**
KBTR	**Krutoberegovo**	**2.25**	**45**	*eP*			**Pn**	**07 36 15.0**	**-0.5**
KBTR				*eS*			**Sn**	**07 36 44.0**	**-2.2**
GRL	**Gorelyy**	**2.39**	**209**	*eP*			**Pn**	**07 36 17.8**	**+0.5**
RUS	**Russkaya**	**2.39**	**202**	*eP*			**Pn**	**07 36 16.1**	**-1.0**
RUS				*eS*			**Sn**	**07 36 47.4**	**-1.5**
APC	**Apacha**	**2.40**	**225**	*eP*			**Pn**	**07 36 17.4**	**+0.1**
ASAK	**Asacha**	**2.59**	**209**	*eP*			**Pn**	**07 36 19.9**	**+0.3**
KDTR	**Khodutka, Kamc**	**3.07**	**202**	*eP*			**Pn**	**07 36 24.6**	**-0.7**
KDTR				*eS*			**Sn**	**07 37 00.4**	**-3.1**
BKI	**Bering**	**3.52**	**79**	*eP*			**Pn**	**07 36 33.3**	**+2.5**
BKI				*eS*			**Sn**	**07 37 13.0**	**-0.4**
MA2	**Magadan**	**7.02**	**318**	LR			LR	07 40 34.2	
	comp=Z,25nm,19.6s,baz=110,slow=42								
MJAR	**Matsushiro Arr**	**23.49**	**228**	P			**P**	**07 40 29.1**	**-0.9**
	1.1nm,0.4s,baz=16,slow=10,SNR=2.2								
NVAR	**Mina Array Bea**	**55.30**	**71**	P			**P**	**07 44 51.8**	**+0.3**
	0.3nm,0.5s,baz=314,slow=8.3,SNR=3.7								
PDAR	**Pinedale Array**	**56.84**	**62**	P			**P**	**07 45 03.4**	**+0.9**
	0.4nm,0.6s,baz=305,slow=3.2,SNR=5.5								
TXAR	**Lajitas Array**	**70.11**	**67**	P			**P**	**07 46 30.2**	**+0.8**
	0.5nm,0.5s,baz=295,slow=5.2,SNR=11								
WRA	**Warramunga Arr**	**77.47**	**205**	P			**P**	**07 47 10.8**	**-1.3**
	0.2nm,0.5s,baz=19,slow=6.2,SNR=6.3								
ASAR	**Alice Springs**	**81.15**	**204**	P			**P**	**07 47 32.0**	**+0.1**
	0.2nm,0.4s,baz=15,slow=5.0,SNR=2.0								

*NEIC **29** 07:42:57.9±1.8, 17.°45S±0.°10×174.°34W±0.°05, h118km±9km,mb4.5/19,Error ellipse: s-maj=15.1km s-min=6.2km az=161.0*
*IDC **29** 07:43:13.9±10.0, 18.°04S×174.°27W,h272km±104km, mb3.8/5,mb1 3.9/6,mb1mx3.4/41,mbtmp4.3/6,Error ellipse: s-maj=42.8km s-min=30.5km az=10.0*

ISC 29 07:42:56.7±0.8,17.°5S±0.°1×174.°33W±0.°09,h100km,n29, σ1°17/28,mb4.5/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.32**	**35**	Pn			**Pn**	**07 44 01.5**	**+1.1**
NIUE	**Niue**	**4.48**	**111**	Pn			**Pn**	**07 44 03.7**	**+1.3**
MSVF	**Nonsavu**	**7.27**	**267**	Pn			**Pn**	**07 44 41.2**	**+0.8**
DZM	**Mont Dzumac**	**18.65**	**253**	P			**Pn**	**07 47 11.1**	**+2.6**
	0.3nm,0.3s,baz=91,slow=14,SNR=3.5								
DZM	**Mont Dzumac**	**18.65**	**253**	P			**P**	**07 47 06.6**	**-0.4**
URZ	**Urewera**	**22.02**	**198**	P			**P**	**07 47 41.8**	**-1.1**
	7.3nm,0.3s,baz=42,slow=12,SNR=11								
URZ	**Urewera**	**22.02**	**198**	P			**P**	**07 47 41.6**	**-1.4**
BKZ	**Black Stump Fm**	**23.04**	**198**	P			**P**	**07 47 51.9**	**-1.5**
BKZ				IAmb			IAmb	07 48 07.2	
	comp=Z,50nm,1.5s								
QRZ	**Quartz Range**	**25.88**	**203**	P			**P**	**07 48 19.5**	**+0.3**
NNZ	**Nelson**	**25.91**	**202**	P			**P**	**07 48 21.2**	**+1.8**
THZ	**Tophouse**	**26.56**	**202**	P			**P**	**07 48 25.6**	**+0.3**
LTZ	**Lake Taylor**	**27.68**	**202**	P			**P**	**07 48 35.9**	**+0.6**
LTZ				IAmb			IAmb	07 48 47.1	
	comp=Z,20nm,1.1s								
ARMA	**Armidale**	**33.53**	**241**	P			**P**	**07 49 27.4**	**+0.2**
ARMA				IAmb			IAmb	07 49 34.6	
	comp=Z,15nm,1.2s								
STKA	**Stephens Creek**	**42.24**	**242**	P			**P**	**07 50 38.6**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=79,slow=10,SNR=5.9								
STKA	**Stephens Creek**	**42.24**	**242**	IAmb			IAmb	07 50 41.8	
	comp=Z,1.0nm,1.1s								
BBOO	**Buckleboo**	**47.01**	**241**	P			**P**	**07 51 17.0**	**-1.2**
BBOO				IAmb			IAmb	07 51 18.1	
	comp=Z,14nm,1.4s								
WR0	**Warramunga Arr**	**48.34**	**259**	P			**P**	**07 51 27.0**	**-1.6**
WB0	**Warramunga Arr**	**48.49**	**259**	P			**P**	**07 51 29.1**	**-0.7**
WB0				IAmb			IAmb	07 51 32.8	
	comp=Z,2.2nm,0.3s								
WB2	**Warramunga Arr**	**48.52**	**259**	P			**P**	**07 51 29.5**	**-0.5**
WB2				IAmb			IAmb	07 51 29.9	
	comp=Z,2.8nm,0.6s								
WRAB	**Tennant Creek**	**48.52**	**259**	P			**P**	**07 51 29.1**	**-0.9**
WRAB				IAmb			IAmb	07 51 29.9	
	comp=Z,2.5nm,0.6s								
WRA	**Warramunga Arr**	**48.53**	**259**	P			**P**	**07 51 29.6**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=99,slow=6.6,SNR=98								
WRA	**Warramunga Arr**	**48.53**	**259**	P			**P**	**07 51 29.5**	**-0.5**
AS31	**Alice Springs**	**48.64**	**254**	P			**P**	**07 51 30.8**	**-0.2**
AS31				IAmb			IAmb	07 51 31.7	
	comp=Z,4.8nm,0.7s								
ASAR	**Alice Springs**	**48.64**	**254**	P			**P**	**07 51 30.8**	**-0.2**
	comp=Z,19nm,0.6s,baz=85,slow=8.3,SNR=373								
FORT	**Forrest**	**53.70**	**244**	P			**P**	**07 52 07.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**56.93**	**259**	P			**P**	**07 52 31.8**	**-0.2**
QSPA	**South Pole Qui**	**72.58**	**180**	P			**P**	**07 54 13.4**	**+0.4**
QSPA				IAmb			IAmb	07 54 29.9	
	comp=Z,5.5nm,1.4s								
TMUT	**Trail Mountain**	**81.58**	**44**	P			**P**	**07 55 01.8**	**-2.2**
PDAR	**Pinedale Array**	**84.40**	**42**	P			**P**	**07 55 18.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=182,slow=2.7,SNR=6.8								

*UCR **29** 08:05:21.4±1.9, 7.°10N×81.°92W,h36km±999km, MW3.8*
*UPA **29** 08:05:22.1±1.7, 7.°29N×82.°01W,h4km±7km, MW3.9*

ISC 29 08:05:21.2±1.5, 7.°30N±0.°06×82.°03W±0.°03,h8km±11km, n42,σ1°30/63,10C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NANC3	**Nancito, Chiri**	**0.98**	**17**	*⇑iP*			**Pn**	**08 05 40.4**	**-0.9**
MARI3	**Mariato, Verag**	**1.09**	**71**	*⇑eP*			**Pn**	**08 05 42.5**	**-0.2**
MARI3				*eS*			**Sn**	**08 05 59.5**	**+1.6**
PEDE3	**Pedregal, Chir**	**1.15**	**340**	*eP*			**Pb**	**08 05 39.8**	**-3.5**
PEDE3				*eS*			**Sb**	**08 05 56.5**	**-1.9**
CACAO	**El Cacao, Vera**	**1.16**	**88**	*eP*			**Pg**	**08 05 43.3**	**-0.2**
CACAO				*i S*			**Sn**	**08 05 58.8**	**-0.9**
DVD	**David**	**1.21**	**340**	*eP*			**Pg**	**08 05 44.5**	**+0.1**
DVD				*eS*			**Sn**	**08 06 02.7**	**+1.8**
BAGA3	**Bagala, Chiriq**	**1.26**	**337**	*eP*			**Pg**	**08 05 46.3**	**+0.8**
STIA3	**Santiago, Vera**	**1.31**	**53**	*⇑iP*			**Pb**	**08 05 45.5**	**-0.6**
STIA3				*eS*			**Sb**	**08 06 02.5**	**-0.7**
CNAZ3	**Canazas, Verag**	**1.32**	**38**	*⇑iP*			**Pn**	**08 05 45.2**	**-0.8**
CNAZ3				*eS*			**Sb**	**08 06 02.9**	**-0.5**
LESP3	**La Esperanza,**	**1.33**	**326**	*eP*			**Pg**	**08 05 46.8**	**-0.1**
OCU3	**Ocu, Herrera**	**1.40**	**63**	*⇑iP*			**Pb**	**08 05 47.1**	**-0.4**
OCU3				*eS*			**Sg**	**08 06 06.8**	**+0.5**
PTAR3	**Potrerillos Ar**	**1.46**	**342**	*eP*			**Pb**	**08 05 48.6**	**-0.1**
BCO2	**Palmira**	**1.50**	**341**	*⇑iP*			**Pb**	**08 05 49.0**	**-0.4**
CDITO	**Canoas**	**1.52**	**327**	*eP*			**Pb**	**08 05 49.0**	**-0.7**
CDITO				*eS*			**Sg**	**08 06 10.3**	**+0.1**
CDITO	**Canoas**	**1.52**	**327**	*eP*			**Pb**	**08 05 48.6**	**-1.0**
CDITO				*eS*			**Sg**	**08 06 12.0**	**+1.9**
TOSI3	**Tonosi**	**1.58**	**86**	*eP*			**Pb**	**08 05 49.6**	**-1.0**
TOSI3				*eS*			**Sb**	**08 06 10.0**	**-0.8**
BC3P	**Paso Ancho**	**1.61**	**339**	*⇑eP*			**Pb**	**08 05 50.4**	**-1.0**
CHGR2	**Aguacate**	**1.63**	**356**	*eP*			**Pb**	**08 05 50.6**	**-1.0**
CHGR2				*eS*			**Sn**	**08 06 10.7**	**-0.8**
CRIS3	**El Cristo, Coc**	**1.69**	**56**	*⇓iP*			**Pb**	**08 05 51.8**	**-0.8**
CRIS3				*eS*			**Sb**	**08 06 13.2**	**-0.8**
CHIT3	**Chitre**	**1.73**	**68**	*⇑iP*			**Pb**	**08 05 52.2**	**-0.9**
CHIT3				*eS*			**Sb**	**08 06 14.4**	**-0.6**
PTJ1	**Puerto Jimnez**	**1.76**	**314**	*eP*			**Pb**	**08 05 52.5**	**-1.3**
PTJ1				*eS*			**Sb**	**08 06 15.6**	**-0.4**
EDSV	**San Vito**	**1.78**	**328**	*eP*			**Pb**	**08 05 53.6**	**-0.5**
AZU	**Azuero**	**1.81**	**74**	*⇑eP*			**Pb**	**08 05 53.0**	**-1.6**
AZU				*eS*			**Sn**	**08 06 15.3**	**-0.4**
AZU				*i*				08 06 20.7	
	comp=Z,395nm,0.5s								
AZU	**Azuero**	**1.81**	**74**	*eP*			**Pb**	**08 05 53.2**	**-1.4**
AZU				*i S*			**Sb**	**08 06 17.1**	**-0.2**
PNME	**Penonome**	**2.06**	**55**	*eP*			**Pb**	**08 05 57.1**	**-1.7**
PNME				*eS*			**Sb**	**08 06 23.5**	**-1.0**
PNME				*i*				08 06 32.4	
	comp=Z,210nm,0.2s								
PNME	**Penonome**	**2.06**	**55**	*⇑iP*			**Pb**	**08 05 57.3**	**-1.5**
EDPN	**Palmar Norte**	**2.18**	**320**	*eP*			**Pb**	**08 05 57.8**	**0.0**
DRK0	**Durika**	**2.29**	**328**	*eP*			**Pb**	**08 06 01.1**	**-1.9**
DRK0	**Durika**	**2.29**	**328**	*eP*			**Pn**	**08 06 00.3**	**+0.8**
DRK0				*eS*			**Sb**	**08 06 29.4**	**-2.1**
VTON	**El Valle, Cocl**	**2.30**	**55**	*eP*			**Pb**	**08 06 01.8**	**-1.3**
VTON				*eS*			**Sb**	**08 06 30.9**	**-0.8**
EDLM	**Las Mercedes**	**2.50**	**322**	*eP*			**Pn**	**08 06 03.3**	**+1.0**
PEZE	**Perez Zeledon,**	**2.64**	**322**	*eP*			**Pn**	**08 06 05.5**	**+1.3**
UPA	**Univ. de Panam**	**2.98**	**56**	*eP*			**Pn**	**08 06 09.8**	**+0.9**
UPA				*i*				08 06 12.6	
	comp=Z,30nm,0.3s								
UPA				*eS*			**Sn**	**08 06 46.9**	**+2.1**
UPA	**Univ. de Panam**	**2.98**	**56**	*eP*			**Pn**	**08 06 09.7**	**+0.9**
UPA				*eS*			**Sn**	**08 06 46.0**	**+1.3**
BATAN	**Batan**	**3.08**	**334**	*eP*			**Pb**	**08 06 15.0**	**-1.3**
LCR2	**La Lucha 2**	**3.12**	**321**	*eP*			**Pn**	**08 06 11.4**	**+0.5**
CVTR	**Volcan Turrial**	**3.20**	**328**	*eP*			**Pn**	**08 06 14.6**	**+2.3**
SOLC	**Bahia Solano**	**4.71**	**103**	*eP*			**Pn**	**08 06 32.2**	**-0.4**
CAPC	**Capurgana**	**4.82**	**74**	*eP*			**Pn**	**08 06 37.5**	**+3.4**
CAPC				*i*				08 06 47.1	
	comp=Z,63nm,1.1s								
DBBC	**Dabeiba**	**5.78**	**92**	*eP*			**Pn**	**08 06 47.7**	**+0.3**
CBOC	**Ciudad Bolivar**	**6.14**	**103**	*eP*			**Pn**	**08 06 52.8**	**+0.3**
MOTC	**Monteria, Cord**	**6.47**	**76**	*eP*			**Pn**	**08 06 58.2**	**+1.4**
HELC	**Santa Helena**	**6.55**	**99**	*eP*			**Pn**	**08 07 00.4**	**+2.2**

*IDC **29** 08:18:10.7±2.5, 23.°20S×179.°59W,h525km±22km, mb3.7/7, mb1 3.8/9,mb1mx3.4/28,mbtmp4.6/9,Error ellipse: s-maj=27.6km s-min=25.1km az=96.0*
*NEIC **29** 08:18:12.9±1.4, 23.°2S±0.°1×179.°6W±0.°2,h563km±11km, mb4.5/27,Error ellipse: s-maj=20.9km s-min=18.4km az=98.0*

ISC 29 08:18:13.0±0.7, 23.°31S±0.°09×179.°7W±0.°1,h550km,n44, σ1°20/46,mb4.4/18,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.95**	**339**	P			**P**	**08 19 52.6**	**+1.2**
AFI	**Afiamalu**	**11.97**	**40**	P			**P**	**08 20 50.5**	**-1.0**
DZM	**Mont Dzumac**	**12.88**	**273**	P			**P**	**08 21 01.3**	**+0.5**
	0.6nm,0.3s,baz=92,slow=18,SNR=11								
DZM	**Mont Dzumac**	**12.88**	**273**	P			**P**	**08 21 01.0**	**+0.2**
URZ	**Urewera**	**15.15**	**190**	P			**P**	**08 21 23.0**	**-0.8**
	2.0nm,0.3s,baz=300,slow=4.8,SNR=9.3								
URZ				S			**S**	**08 23 57.7**	**-3.1**
	0.3nm,0.3s,baz=229,slow=19,SNR=1.2								
URZ	**Urewera**	**15.15**	**190**	P			**P**	**08 21 22.6**	**-1.3**
URZ				IAmb			IAmb	08 21 41.1	
	comp=Z,50nm,1.4s								
TUWZ	**Tuamarina**	**18.84**	**195**	P			**P**	**08 21 59.1**	**+0.8**
THZ	**Tophouse**	**19.42**	**197**	P			**P**	**08 22 04.8**	**+1.1**
KHZ	**Kahutara**	**19.87**	**195**	P			**P**	**08 22 08.9**	**+1.2**
LTZ	**Lake Taylor**	**20.54**	**197**	P			**P**	**08 22 14.1**	**+0.3**
RPZ	**Rata Peaks**	**21.74**	**198**	P			**P**	**08 22 23.9**	**-0.7**
	comp=Z,20nm,1.0s,baz=349,slow=5.2,SNR=3.0								
RPZ	**Rata Peaks**	**21.74**	**198**	IAmb			IAmb	08 22 24.5	
	comp=Z,34nm,1.1s								
ARMA	**Armidale**	**26.52**	**248**	P			**P**	**08 23 07.4**	**+0.1**
ARMA				IAmb			IAmb	08 23 23.8	
	comp=Z,12nm,1.2s								
EIDS	**Eidsvold**	**26.70**	**260**	P			**P**	**08 23 09.0**	**+0.1**
EIDS				IAmb			IAmb	08 23 15.5	
	comp=Z,21nm,1.3s								
CAN	**Canberra**	**29.70**	**239**	P			**P**	**08 23 35.6**	**+0.7**
CAN				IAmb			IAmb	08 23 40.6	
	comp=Z,35nm,1.4s								
CTAO	**Charters Tower**	**31.78**	**269**	P			**P**	**08 23 53.4**	**+0.5**
TOO	**Toolangi**	**33.02**	**236**	P			**P**	**08 24 03.8**	**+0.6**
TOO				IAmb			IAmb	08 24 04.7	
	comp=Z,5.4nm,0.8s								
PMG	**Port Moresby**	**34.59**	**288**	P			**P**	**08 24 15.4**	**-1.2**
STKA	**Stephens Creek**	**35.22**	**247**	P			**P**	**08 24 22.4**	**+0.7**
	comp=Z,3.8nm,0.6s,baz=88,slow=11,SNR=20								
STKA	**Stephens Creek**	**35.22**	**247**	P			**P**	**08 24 22.1**	**+0.4**
BBOO	**Buckleboo**	**39.95**	**246**	P			**P**	**08 24 59.8**	**-0.5**
BBOO				IAmb			IAmb	08 25 00.5	
	comp=Z,22nm,1.4s								
AS31	**Alice Springs**	**42.43**	**260**	P			**P**	**08 25 19.9**	**-0.1**
ASAR	**Alice Springs**	**42.43**	**260**	P			**P**	**08 25 20.0**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=101,slow=7.1,SNR=74								
ASAR				PcP			**PcP**	**08 27 00.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=104,slow=1.9,SNR=4.3								
ASAR				ScP			**ScP**	**08 30 01.2**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=95,slow=5.5,SNR=3.4								
ASAR	**Alice Springs**	**42.43**	**260**	P			**P**	**08 25 19.3**	**-0.8**
WR0	**Warramunga Arr**	**42.56**	**265**	P			**P**	**08 25 20.3**	**-0.8**
WB2	**Warramunga Arr**	**42.74**	**265**	P			**P**	**08 25 21.4**	**-1.1**
WB2				IAmb			IAmb	08 25 22.6	
	comp=Z,11nm,0.9s								
WB0	**Warramunga Arr**	**42.74**	**266**	P			**P**	**08 25 21.7**	**-0.8**
WB0				IAmb			IAmb	08 25 22.5	
	comp=Z,11nm,0.8s								
WRAB	**Tennant Creek**	**42.74**	**265**	P			**P**	**08 25 21.3**	**-1.3**
WRAB				IAmb			IAmb	08 25 22.5	
	comp=Z,8.6nm,0.9s								
WRA	**Warramunga Arr**	**42.75**	**265**	P			**P**	**08 25 21.5**	**-1.1**
	comp=Z,3.9nm,0.5s,baz=92,slow=8.4,SNR=115								
WRA				ScP			**ScP**	**08 30 02.7**

*NNC **29** 09:17:40.1±0.3,43.°34N×70.°22E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=2.0km s-min=1.3km az=25.0, Suspected Mining explosion.*
*SOME **29** 09:17:40.3,43.°30N×70.°25E,h5km*
ISC 29 09:17:43.2±1.0,43°28N±0.°04×70°40E±0.°03,h0km,n33, σ1§27/60,26C-12D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.17**	**153**	⇑P	**Pg**	**09 17 46.1**	**-0.4**
KK09				⇑S	**Sg**	**09 17 50.1**	**+1.4**
KK08	**Karatay Array**	**0.18**	**158**	⇑P	**Pg**	**09 17 46.1**	**-0.6**
KK08				⇑S	**Sg**	**09 17 50.1**	**+1.0**
KK04	**Karatay Array**	**0.18**	**154**	⇑P	**Pg**	**09 17 46.2**	**-0.6**
KK04				⇑S	**Sg**	**09 17 50.5**	**+1.3**
KK05	**Karatay Array**	**0.18**	**149**	⇑P	**Pg**	**09 17 46.2**	**-0.5**
KK05				⇑S	**Sg**	**09 17 50.7**	**+1.6**
KK01	**Karatay Array**	**0.19**	**154**	⇑P	**Pg**	**09 17 46.3**	**-0.5**
KK01				⇓S	**Sg**	**09 17 50.8**	**+1.5**
KK03	**Karatay Array**	**0.19**	**156**	⇑P	**Pg**	**09 17 46.4**	**-0.5**
KK03				⇑S	**Sg**	**09 17 50.8**	**+1.5**
KK02	**Karatay Array**	**0.19**	**154**	⇑P	**Pg**	**09 17 46.3**	**-0.5**
KK02				⇑S	**Sg**	**09 17 50.8**	**+1.4**
KK31	**Karatay Array** 8.5nm,0.4s,baz=320,slow=17,SNR=602	**0.19**	**154**	⇓P	**Pg**	**09 17 46.4**	**-0.5**
KK31				⇓S 116nm,0.6s,baz=316,slow=38,SNR=6.3	**Sg**	**09 17 50.8**	**+1.4**
KK07	**Karatay Array**	**0.20**	**157**	⇑P	**Pg**	**09 17 46.4**	**-0.6**
KK07				⇑S	**Sg**	**09 17 50.9**	**+1.2**
KK06	**Karatay Array**	**0.20**	**152**	⇑P	**Pg**	**09 17 46.6**	**-0.6**
KK06				⇑S	**Sg**	**09 17 51.1**	**+1.3**
BRLS	**Boroldaу** 15nm,0.1s	**0.48**	**239**	*e*P	**Pg**	**09 17 52.9**	**+0.5**
BRLS				*e*S 20nm,0.3s	**Sb**	**09 18 02.2**	**+0.1**
BRLS	**Boroldaу** 15nm,0.1s	**0.48**	**239**	P	**Pg**	**09 17 52.7**	**+0.3**
BRLS				S 20nm,0.3s	**Sb**	**09 18 02.2**	**+0.1**
DZA	**Taraz** 84nm,0.1s	**0.79**	**119**	*e*P	**Pg**	**09 17 57.7**	**-0.6**
DZA				*e*S 152nm,0.1s	**Sb**	**09 18 09.9**	**-1.1**
IUG	**luzhnay** 2.7nm,0.1s	**1.16**	**194**	*e*P	**Pg**	**09 18 02.6**	**-2.8**
IUG				*e*S 10nm,0.4s	**Sg**	**09 18 18.5**	**-1.9**
IUG	**luzhnay** 2.7nm,0.1s	**1.16**	**194**	P	**Pg**	**09 18 03.2**	**-2.2**
IUG				S 9.5nm,0.2s	**Sg**	**09 18 20.3**	**-0.2**
MNAS	**Manas** baz=82	**1.74**	**116**	⇑*i*P	**Pn**	**09 18 14.7**	**-0.1**
MNAS				⇑*i*S baz=82	**Sg**	**09 18 40.5**	**+1.4**
MRKS	**Merke** 4.7nm,0.3s	**2.14**	**103**	*e*P	**Pb**	**09 18 21.9**	**-1.1**
MRKS				*e*S 11nm,0.5s	**Sg**	**09 18 52.1**	**+0.1**
MRKS	**Merke** 4.7nm,0.3s	**2.14**	**103**	Pg	**Pb**	**09 18 21.9**	**-1.1**
MRKS				Lg 11nm,0.5s	Lg	09 18 52.9	
EKS2	**Erkin-Say** baz=81	**2.56**	**103**	⇓*i*P	**Pb**	**09 18 28.5**	**-1.6**
EKS2				⇓*i*S baz=81	**Sb**	**09 19 03.4**	**+1.3**
AML	**Almayashu** baz=91	**2.69**	**114**	⇓*e*P	**Pn**	**09 18 27.5**	**-0.6**
AML				⇓*i*S baz=91	**Sn**	**09 19 01.9**	**+0.4**
USP	**Ospenovka** baz=72	**3.00**	**89**	⇓*i*P	**Pb**	**09 18 36.6**	**-0.9**
USP				⇓*i*S baz=72	**Sb**	**09 19 17.1**	**+2.4**
AAK	**Ala-Archa** baz=82	**3.08**	**101**	⇑*i*P	**Pn**	**09 18 35.9**	**+2.7**
AAK				⇑*i*S baz=82	**Sb**	**09 19 15.9**	**-1.2**
AAK	**Ala-Archa** 2.0nm,0.5s	**3.08**	**101**	⇑Pg	**Pb**	**09 18 39.3**	**+0.4**
AAK				⇑Lg 1.3nm,0.4s	Lg	09 19 19.9	
SGDS	**Sogindy** 9.1nm,0.5s	**3.09**	**85**	Pg	**Pb**	**09 18 38.6**	**-0.6**
SGDS				Lg 5.1nm,0.5s	Lg	09 19 21.0	
BTLS	**Baital** 2.3nm,0.4s	**3.17**	**55**	*e*P	**Pb**	**09 18 40.6**	**+0.3**
BTLS				*e*S 1.2nm,0.2s	**Sg**	**09 19 23.9**	**-1.1**
UCH	**Uchtor** baz=89	**3.21**	**108**	⇑*i*P	**Pn**	**09 18 36.1**	**+0.8**
UCH				⇑*i*S baz=89	**Sn**	**09 19 16.2**	**+1.7**
ARLS	**Aral** baz=95	**3.23**	**115**	⇓*i*P	**Pn**	**09 18 34.0**	**-1.3**
ARLS				⇓*i*S baz=95	**Sn**	**09 19 13.2**	**-1.3**
TKM2	**Tokmak 2** 2.2nm,0.6s	**3.83**	**94**	⇓Pg	**Pb**	**09 18 53.3**	**+1.6**
TKM2				⇑Lg 2.4nm,0.5s	Lg	09 19 44.6	
KRBS	**Karabastau** 1.8nm,0.4s	**3.87**	**82**	*e*P	**Pb**	**09 18 53.1**	**+0.8**
KRBS				*e*S 5.4nm,0.5s	**Sg**	**09 19 46.0**	**-1.4**
KRBS	**Karabastau** 1.8nm,0.4s	**3.87**	**82**	Pg	**Pb**	**09 18 53.1**	**+0.8**
KRBS				Lg 5.4nm,0.5s	Lg	09 19 46.0	
KST	**Kastek** 5.9nm,0.8s	**4.08**	**91**	*e*P	**Pb**	**09 18 56.6**	**+0.6**
KST				*e*S 4.3nm,0.6s	**Sg**	**09 19 51.9**	**-2.4**
KST	**Kastek** 5.9nm,0.8s	**4.08**	**91**	Pg	**Pb**	**09 18 56.6**	**+0.6**
KST				Lg 4.3nm,0.6s	Lg	09 19 52.2	
TNSS	**Tian-Shan** 1.1nm,0.2s	**4.80**	**91**	*e*P	**Pb**	**09 19 10.5**	**+2.1**
TNSS				*e*S 2.1nm,0.5s	**Sg**	**09 20 16.1**	**-1.3**

*IDC **29** 09:21:40.3±1.4,37.°83N×21.°33E,h0km,mb3.7/5, mb1 3.7/6,mb1mx3.5/38,mbtmp3.6/6,MS2.2/1,Ms1 2.2/1, ms1mx2.0/31,Error ellipse: s-maj=38.8km s-min=24.7km az=139.0*
*ATH **29** 09:21:42.6,37.°80N×21.°18E,h14km±2km,ML3.5/15,Error ellipse: s-maj=2.3km s-min=0.7km az=327.0*
*THE **29** 09:21:43.0,37.°78N×21.°17E,h0km±1km,ML3.6/21,Error ellipse: s-maj=1.9km s-min=0.5km az=206.0*
ISC 29 09:21:43.4±0.9,37°80N±0.°02×21°17E±0.°02,h14km±6km, n82,σ1§25/109,mb3.7/5,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK2	**Zakynthos**	**0.21**	**266**	P	**Pg**	**09 21 47.5**	**-0.7**
ZAK2				S 18μm,0.2s	**Sg**	**09 21 51.6**	**+0.2**
KRI1	**kERI**	**0.31**	**244**	P	**Pg**	**09 21 49.5**	**-0.4**
KRI1				S 25μm,0.3s	**Sg**	**09 21 54.6**	**+0.3**
RLS	**Riolos of Patr** 9μm,0.3s	**0.35**	**42**	P	**Pg**	**09 21 50.2**	**-0.3**
RLS				S	**Sb**	**09 21 55.9**	**-0.8**
RLS	**Riolos of Patr**	**0.35**	**42**	P	**Pg**	**09 21 49.9**	**-0.5**
RLS				S	**Sg**	**09 21 55.4**	**+0.1**
RLS				AML comp=E,21951μm,0.4s	AML	09 21 56.6	
RLS				AML comp=N,14400μm,0.2s	AML	09 21 58.5	
VLMS	**Volimes, Zakyn**	**0.41**	**281**	P	**Pg**	**09 21 51.0**	**-0.6**
VLMS				S	**Sg**	**09 21 57.5**	**+0.3**
VLMS				AML comp=N,23133μm,0.2s	AML	09 22 00.6	
VLMS				AML comp=E,12323μm,0.3s	AML	09 22 01.8	
DRO	**Drossia**	**0.45**	**71**	P	**Pg**	**09 21 51.7**	**-0.7**
DRO				S comp=E,23μm,0.4s	**Sg**	**09 21 58.9**	**+0.4**
AMT	**Artemida-Makis**	**0.51**	**122**	P	**Pg**	**09 21 53.0**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.56**	**304**	P	**Pg**	**09 21 53.6**	**-0.8**
PSDA				S	**Sg**	**09 22 01.6**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.56**	**304**	P	**Pg**	**09 21 53.6**	**-0.8**
PSDA				S	**Sg**	**09 22 01.6**	**-0.3**
VLS	**Valsamata**	**0.59**	**309**	P	**Pg**	**09 21 54.2**	**-0.8**
VLS				S comp=E,3μm,0.4s	**Sg**	**09 22 04.0**	**+0.2**
VLS	**Valsamata**	**0.59**	**309**	P	**Pg**	**09 21 54.2**	**-0.8**
VLS				S	**Sg**	**09 22 03.2**	**+0.2**
VLS				AML comp=N,5817μm,0.4s	AML	09 22 04.7	
VLS				AML comp=E,6481μm,0.3s	AML	09 22 05.8	
KEF5	**Kardakata, Kep**	**0.73**	**311**	P	**Pg**	**09 21 56.4**	**-1.2**
AST1	**Astakos**	**0.74**	**355**	P	**Pg**	**09 21 57.4**	**-0.4**
AST1				S comp=E,7μm,0.3s	**Sb**	**09 22 09.5**	**+1.4**
KEF4	**Livadi, Kephal**	**0.74**	**308**	P	**Pg**	**09 21 56.9**	**-1.0**
DMLN	**Damoulianata-K**	**0.77**	**305**	P	**Pg**	**09 21 56.9**	**-1.4**
DMLN	**Damoulianata-K**	**0.77**	**305**	P	**Pg**	**09 21 57.2**	**-1.1**
VSK1	**VASILIKIADES**	**0.77**	**322**	P	**Pg**	**09 21 57.7**	**-0.7**
PDO	**Prodromos**	**0.80**	**1**	P	**Pg**	**09 21 58.1**	**-0.8**
PDO				S comp=E,10μm,0.4s	**Sb**	**09 22 11.5**	**+1.8**
PDO	**Prodromos**	**0.80**	**1**	P	**Pg**	**09 21 58.2**	**-0.6**
KLV	**Kalavryta, Ach**	**0.81**	**72**	P	**Pg**	**09 21 57.9**	**-1.2**
KLV				S comp=E,3μm,0.5s	**Sb**	**09 22 11.3**	**+1.1**
KLV	**Kalavryta, Ach**	**0.81**	**72**	P	**Pg**	**09 21 58.0**	**-1.2**
KLV				AML comp=N,4970μm,0.3s	AML	09 22 14.4	
KLV				AML comp=E,5406μm,0.6s	AML	09 22 14.4	
FSK	**Fiskardo**	**0.81**	**324**	P	**Pg**	**09 21 58.0**	**-1.2**
FSK	**Fiskardo**	**0.81**	**324**	P	**Pg**	**09 21 58.0**	**-1.2**
FSK				AML comp=E,3928μm,0.7s	AML	09 22 17.2	
FSK				AML comp=N,3720μm,0.7s	AML	09 22 22.3	
EFP	**Efpalio**	**0.85**	**43**	P	**Pg**	**09 21 58.8**	**-1.1**
EFP				S comp=N,3μm,0.5s	**Sb**	**09 22 12.3**	**+1.0**
ITM	**Ithomi**	**0.86**	**136**	P	**Pg**	**09 21 58.7**	**-1.4**
ITM				S comp=N,3μm,0.5s	**Sb**	**09 22 12.3**	**+0.7**
ITM	**Ithomi**	**0.86**	**136**	P	**Pg**	**09 21 58.8**	**-1.4**
ITM				AML comp=E,5216μm,0.5s	AML	09 22 15.8	
ITM				AML comp=N,7062μm,0.6s	AML	09 22 16.6	
ALIK	**Aliki, Aigiali**	**0.87**	**58**	P	**Pg**	**09 21 59.4**	**-0.9**
MGNA	**Meganis**	**0.90**	**341**	P	**Pg**	**09 21 59.7**	**-1.2**
MGNA				AML comp=E,4685μm,0.4s	AML	09 22 18.7	
MGNA				AML comp=N,3351μm,0.4s	AML	09 22 24.5	
TRIZ	**Trizonia**	**0.91**	**51**	P	**Pg**	**09 21 59.7**	**-1.2**
TRIZ				S comp=N,4μm,0.4s	**Sb**	**09 22 13.7**	**+0.9**
TRIZ	**Trizonia**	**0.91**	**51**	P	**Pg**	**09 21 59.8**	**-1.2**
EVGI	**Lefkada island**	**0.91**	**334**	P	**Pg**	**09 21 59.8**	**-1.3**
EVGI				S comp=N,680nm,0.3s	**Sb**	**09 22 14.8**	**+1.8**
EVGI	**Lefkada island**	**0.91**	**334**	P	**Pg**	**09 21 59.8**	**-1.3**
TRIP	**Tripoli**	**0.92**	**107**	P	**Pg**	**09 22 00.2**	**-0.9**
TRIP	**Tripoli**	**0.92**	**107**	P	**Pg**	**09 22 00.1**	**-1.1**
TRIP				AML comp=E,3754μm,1.0s	AML	09 22 21.5	
TRIP				AML comp=N,3293μm,1.1s	AML	09 22 32.6	
GUR	**Goura**	**0.94**	**81**	P	**Pg**	**09 22 00.1**	**-1.4**
GUR				S comp=N,8μm,0.4s	**Sb**	**09 22 14.2**	**+0.4**
GUR	**Goura**	**0.94**	**81**	P	**Pg**	**09 21 59.9**	**-1.6**
KALE	**Kalithea**	**0.96**	**52**	P	**Pg**	**09 22 00.6**	**-1.5**
KALE				S comp=N,3μm,0.4s	**Sb**	**09 22 16.6**	**+2.0**
KALE	**Kalithea**	**0.96**	**52**	P	**Pg**	**09 22 00.8**	**-1.3**
KALE				S	**Sb**	**09 22 14.9**	**+0.4**
KALE				AML comp=E,6805μm,0.5s	AML	09 22 18.4	
KALE				AML comp=N,7008μm,0.6s	AML	09 22 26.7	
NYDR	**Nydri-Lefkada**	**0.98**	**338**	P	**Pg**	**09 22 00.9**	**-1.5**
NYDR				S comp=N,2μm,0.4s	**Sn**	**09 22 17.4**	**+0.9**
NYDR	**Nydri-Lefkada**	**0.98**	**338**	P	**Pg**	**09 22 01.0**	**-1.5**
ANX	**Ano Chora**	**0.99**	**37**	P	**Pg**	**09 22 01.1**	**-1.4**
ANX				S comp=N,4μm,0.6s	**Sn**	**09 22 17.8**	**+1.1**
ANX	**Ano Chora**	**0.99**	**37**	P	**Pg**	**09 22 01.1**	**-1.4**
ANX				AML comp=N,7055μm,0.6s	AML	09 22 23.2	
ANX				AML comp=E,7539μm,0.5s	AML	09 22 24.7	
PYL	**PYLOS**	**1.01**	**153**	P	**Pg**	**09 22 01.2**	**-1.8**
PYL				S	**Sb**	**09 22 17.4**	**+1.5**
PYL	**PYLOS**	**1.01**	**153**	P	**Pg**	**09 22 01.2**	**-1.8**
VLX	**Vlachokerasia**	**1.05**	**114**	P	**Pg**	**09 22 03.0**	**-0.8**
VLX	**Vlachokerasia**	**1.05**	**114**	P	**Pg**	**09 22 02.9**	**-0.8**
VLX				AML comp=N,3499μm,0.6s	AML	09 22 29.4	
VLX				AML comp=E,5319μm,0.6s	AML	09 22 33.2	
LKD2	**Lefkada island**	**1.06**	**338**	P	**Pg**	**09 22 02.7**	**-1.3**
LKD2				S comp=E,4μm,0.5s	**Sn**	**09 22 19.8**	**+1.2**
LKD2	**Lefkada island**	**1.06**	**338**	P	**Pg**	**09 22 02.5**	**-1.4**
TSLK	**Tsoukalades, L**	**1.10**	**338**	P	**Pg**	**09 22 03.4**	**-1.2**
TSLK				S comp=E,3μm,0.6s	**Sn**	**09 22 20.8**	**+1.4**
TSLK	**Tsoukalades, L**	**1.10**	**338**	P	**Pg**	**09 22 03.0**	**-1.6**
THAL	**Thalero**	**1.20**	**78**	P	**Pg**	**09 22 05.3**	**-1.3**
THAL	**Thalero**	**1.20**	**78**	P	**Pg**	**09 22 04.6**	**-2.0**
THAL				AML comp=N,10735μm,0.5s	AML	09 22 28.9	
THAL				AML comp=E,18449μm,0.6s	AML	09 22 32.8	
EVR	**Evrytania**	**1.22**	**24**	P	**Pg**	**09 22 05.3**	**-1.6**
EVR				S comp=E,1μm,0.5s	**Sn**	**09 22 24.0**	**+1.5**
EVR	**Evrytania**	**1.22**	**24**	P	**Pg**	**09 22 05.5**	**-1.4**
DLFA	**Delphi**	**1.24**	**57**	P	**Pg**	**09 22 05.2**	**-2.1**
MAKR	**Makrakomi, Fth**	**1.43**	**32**	P	**Pn**	**09 22 09.4**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.43**	**32**	P	**Pn**	**09 22 09.3**	**+0.3**
LTK	**Loutraki**	**1.44**	**81**	P	**Pn**	**09 22 09.7**	**+0.6**
LTK				S comp=E,1μm,0.6s	**Sn**	**09 22 29.3**	**+1.6**
LTK	**Loutraki**	**1.44**	**81**	P	**Pn**	**09 22 09.5**	**+0.4**
LOUT	**Loutraki**	**1.44**	**82**	P	**Pn**	**09 22 09.9**	**+0.8**
AXAR	**Agios Charalam**	**1.52**	**50**	P	**Pn**	**09 22 10.2**	**+0.1**
AXAR				S comp=E,4μm,0.6s	**Sn**	**09 22 33.4**	**+3.7**
AXAR	**Agios Charalam**	**1.52**	**50**	P	**Pn**	**09 22 10.2**	**+0.1**
AXAR				AML comp=E,6854μm,0.7s	AML	09 22 41.6	
AXAR				AML comp=N,7627μm,0.5s	AML	09 22 42.2	
AGG	**Agios Georgios**	**1.52**	**36**	P	**Pn**	**09 22 10.8**	**+0.6**
AGG	**Agios Georgios**	**1.52**	**36**	P	**Pn**	**09 22 10.5**	**+0.3**
EPID	**Epidavros**	**1.56**	**96**	P	**Pb**	**09 22 12.1**	**+0.1**
KRND	**KRANIDI**	**1.63**	**104**	P	**Pb**	**09 22 13.4**	**+0.3**
LKR	**Lokris**	**1.67**	**59**	P	**Pn**	**09 22 13.4**	**+1.1**
ATAL	**Atalanti**	**1.71**	**58**	P	**Pn**	**09 22 14.2**	**+1.5**
ATAL	**Atalanti**	**1.71**	**58**	P	**Pn**	**09 22 14.0**	**+1.3**
ATAL				AML comp=N,2377μm,1.4s	AML	09 22 42.5	
ATAL				AML comp=E,1427μm,0.6s	AML	09 22 46.2	
VIL2	**Platees**	**1.71**	**76**	P	**Pb**	**09 22 14.9**	**+0.3**
VIL2				AML comp=E,3445μm,0.7s	AML	09 22 48.5	
VIL2				AML comp=N,2338μm,0.8s	AML	09 22 49.2	
THL	**Klokotos Trika**	**1.88**	**20**	P	**Pn**	**09 22 16.5**	**+1.4**
VLY	**Voula,Athens**	**2.08**	**88**	P	**Pn**	**09 22 19.8**	**+2.0**
PTL	**Penteli**	**2.14**	**83**	P	**Pn**	**09 22 20.1**	**+1.3**
DION	**Dionisos Attik**	**2.20**	**82**	P	**Pn**	**09 22 21.8**	**+2.2**
KARY	**Karystos**	**2.59**	**84**	P	**Pn**	**09 22 27.0**	**+2.1**
BRTR	**Keskin Array B** baz=72,slow=9.7,SNR=2.0	**9.93**	**75**	LR comp=N,14nm,21.5s,baz=266,slow=44	LR	09 28 46.1	
ESDC	**Sonseca Array** comp=N,5.7nm,0.8s,baz=182,slow=9.7,SNR=6.3	**19.68**	**283**	P	**P**	**09 26 12.8**	**+0.7**
FINES	**FINESS Array B** comp=N,1.4nm,0.6s,baz=167,slow=11,SNR=3.3	**23.86**	**6**	P	**P**	**09 26 53.0**	**-3.0**
NOA	**NORSAR Array B**	**24.09**	**348**	P	**P**	**09 26 58.5**	**+0.2**
TORD	**Torodi Ar. Bea** comp=N,0.4nm,0.6s,baz=30,slow=10,SNR=4.0	**30.07**	**220**	P	**P**	**09 27 51.8**	**-0.5**
MKAR	**Makanchi Array** comp=N,0.7nm,0.7s,baz=278,slow=7.3,SNR=8.0	**45.06**	**58**	P	**P**	**09 29 57.1**	**-1.6**
ZALV	**Zalesovo Beam** comp=N,0.9nm,0.3s,baz=271,slow=8.4,SNR=2.5	**45.56**	**48**	P	**P**	**09 30 00.7**	**-1.8**

*IDC **29** 09:39:40.2±5.3,39.°29N×106.°31E,h35km±46km,mb3.5/9, mb1 3.6/12,mb1mx3.4/50,mbtmp3.6/12,ML3.2/2,Error ellipse: s-maj=33.7km s-min=15.8km az=51.0*
ISC 29 09:39:36.9±0.8,39°26N±0.°09×106°3E±0.°1,h10km,n12, σ1§22/13,mb3.8/8,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.3nm,0.3s,baz=184,slow=14,SNR=6.3	**8.57**	**1**	Pn	**Pn**	**09 41 43.0**	**+1.9**
SONM				Pg 0.4nm,0.3s,baz=188,slow=16,SNR=5.8	**Pg**	**09 42 20.4**	**-0.5**
SONM				Lg 0.5nm,0.3s,baz=182,slow=29,SNR=5.2	Lg	09 44 14.5	
KSRS	**Korea Array** baz=288,slow=6.2,SNR=1.1	**17.08**	**89**	P	**Pn**	**09 43 35.2**	**-0.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=97,slow=12,SNR=4.1	**19.03**	**301**	P	**P**	**09 43 58.2**	**-0.7**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=132,slow=9.7,SNR=3.8	**20.69**	**322**	P	**P**	**09 44 18.1**	**+1.2**
CMAR	**Chiang Mai Arr** 0.9nm,0.4s,baz=6.3,slow=9.1,SNR=4.9	**21.68**	**199**	P	**P**	**09 44 29.9**	**+2.1**
KURBB	**Kurchatov Arra** 2.2nm,0.7s,baz=108,slow=12,SNR=7.4	**22.54**	**309**	P	**P**	**09 44 37.7**	**+0.9**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=90,slow=12,SNR=2.3	**28.08**	**311**	P	**P**	**09 45 28.3**	**-0.1**
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=63,slow=8.2,SNR=2.0	**54.55**	**295**	P	**P**	**09 49 05.6**	**+0.4**
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=48,slow=8.1,SNR=1.3	**58.84**	**325**	P	**P**	**09 49 34.6**	**-0.8**
GERES	**GERESS Array B** 1.0nm,0.8s,baz=27,slow=11,SNR=8.5	**63.24**	**312**	P	**P**	**09 50 03.9**	**-1.5**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=342,slow=6.5,SNR=8.4	**64.49**	**151**	P	**P**	**09 50 13.0**	**-0.7**
ASAR	**Alice Springs** 1.1nm,0.6s,baz=338,slow=6.5,SNR=26	**67.73**	**153**	P	**P**	**09 50 34.5**	**-0.1**

*TEH **29** 09:52:44.4,31.°46N×56.°78E,h5km,ML3.5*
*THR **29** 09:52:46.5±0.3,31.°47N×56.°76E,h17km±8km,ML3.3*
ISC 29 09:52:46.5±1.2,31°45N±0.°04×56°76E±0.°04,h10km,n31, σ1§08/32,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.03**	**278**	*e*		09 53 18.9	
IBAF				*e*Pg	**Pg**	**09 53 04.3**	**-2.1**
KHGB	**Koh Gabri**	**1.10**	**193**	*e*		09 53 29.5	
KHGB				*e*Pg	**Pg**	**09 53 06.5**	**-1.1**
TVBK	**TV Kerman**	**1.46**	**180**	*e*Pg	**Pn**	**09 53 13.8**	**+0.6**
TVBK				*e*		09 53 37.8	
KRBR	**Kerman**	**1.46**	**180**	*e*Pg	**Pn**	**09 53 14.0**	**+0.8**
KRBR				*e*Sg	**Sg**	**09 53 34.2**	**+0.6**
KRBR				IAML comp=N,335nm,0.4s		09 53 35.1	
TPRV	**Parvadeh(Tabas**	**1.58**	**358**	*e*Pg	**Pn**	**09 53 14.4**	**-0.3**
TPRV				*e*		09 53 43.5	
CHMN	**Cheshme madani**	**1.72**	**157**	*e*Pn	**Pn**	**09 53 18.0**	**+1.2**
NGRK	**Negar Kerman**	**1.80**	**181**	*e*Pg	**Pn**	**09 53 19.0**	**+1.1**
NGRK				*e*		09 53 46.8	
IMEH	**Mehriz**	**1.84**	**269**	*e*Pn	**Pn**	**09 53 18.9**	**+0.5**
IMEH				*e*		09 53 45.6	
YZKH	**Yazd**	**2.07**	**298**	*e*Pn	**Pn**	**09 53 22.6**	**+1.1**
YZKH				IAML comp=E,204nm,0.6s		09 53 58.6	
YZKH	**Yazd**	**2.07**	**298**	*e*Pn	**Pn**	**09 53 22.6**	**+1.1**
BSRN	**Basiran**	**2.08**	**75**	*e*Pn	**Pn**	**09 53 22.7**	**+1.1**
BSRN				IAML comp=E,159nm,0.6s		09 54 02.8	
BSRN	**Basiran**	**2.08**	**75**	*e*Pn	**Pn**	**09 53 22.7**	**+1.1**
IKOO	**Kooshah**	**2.14**	**62**	*e*Pn	**Pn**	**09 53 23.3**	**+0.8**
IKOO				*e*		09 53 57.6	
ICHK	**Chekchek**	**2.16**	**292**	*e*Pn	**Pn**	**09 53 23.8**	**+1.0**
ICHK				*e*		09 53 57.6	
TKDS	**Koohdasht(Taba**	**2.18**	**8**	*e*Pn	**Pn**	**09 53 23.6**	**+0.6**
TKDS				*e*		09 54 11.7	
TABS	**Tabas**	**2.22**	**8**	*e*Pn	**Pn**	**09 53 24.4**	**+0.9**
TABS	**Tabas**	**2.22**	**8**	*e*Pn	**Pn**	**09 53 24.4**	**+0.9**
ITEG	**Tejag**	**2.22**	**49**	*e*Pn	**Pn**	**09 53 24.1**	**+0.5**
ITEG				*e*		09 54 04.6	
TNSJ	**Nastanj**	**2.51**	**357**	*e*Pn	**Pn**	**09 53 28.8**	**+1.3**
TNSJ				*e*		09 54 11.2	
KBAM	**BAM**	**2.73**	**147**	*e*Pn	**Pn**	**09 53 30.5**	**0.0**
AFRZ	**Afriz**	**2.74**	**43**	*e*Pn	**Pn**	**09 53 31.2**	**+0.5**
NHDN	**Nehbandan**	**2.81**	**90**	*e*Pn	**Pn**	**09 53 31.6**	**0.0**
NHDN				*e*		09 54 23.5	
ANAR	**Anarak**	**3.10**	**305**	*e*Pn	**Pn**	**09 53 36.1**	**+0.4**
NASN	**Na'in**	**3.62**	**293**	*e*Pn	**Pn**	**09 53 44.1**	**+1.2**
NASN	**Na'in**	**3.62**	**293**	*e*Pn	**Pn**	**09 53 44.1**	**+1.2**
IZEF	**Zefreh**	**4.03**	**292**	*e*Pn	**Pn**	**09 53 49.3**	**+0.8**
KLNJ	**Kolanjah**	**4.45**	**266**	*e*Pn	**Pn**	**09 53 55.8**	**+1.4**
KRSH	**Karshahi**	**4.64**	**304**	*e*Pn	**Pn**	**09 53 58.6**	**+1.7**
SBZV	**Sabzevar**	**4.98**	**8**	*e*Pn	**Pn**	**09 54 02.1**	**+0.6**
IAKL	**Akhelmad**	**5.40**	**17**	*e*Pn	**Pn**	**09 54 08.7**	**+1.3**
ISFR	**Sfrayin**	**5.69**	**10**	*e*Pn	**Pn**	**09 54 13.0**	**+1.7**

*DDA **29** 10:29:29.1,39.°76N×44.°19E,h7km±1km,ML2.5*
*ISK **29** 10:29:29.0,39.°72N×44.°07E,h1km,ML2.7/7*
ISC 29 10:29:30.0±1.0,39°75N±0.°03×44°11E±0.°06,h10km±8km, n13,σ0§95/18,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGDI	**IGDIR**	**0.12**	**350**	*i* P	**Pg**	**10 29 32.5**	**-0.4**
IGDI				*i* S	**Sg**	**10 29 35.0**	**+0.1**
IGDI				IAML comp=N,3μm,0.5s		10 29 35.0	
IGDI				IAML comp=E,5μm,0.7s		10 29 37.0	
TASB	**TASBURUN-IGDIR**	**0.25**	**24**	PG	**Pb**	**10 29 35.7**	**-1.0**
TASB				SG	**Sb**	**10 29 40.9**	**-0.3**
DYDN	**Diyadin**	**0.38**	**237**	*i* P	**Pg**	**10 29 37.1**	**-0.5**
DYDN				IAML comp=E,2μm,0.5s		10 29 44.0	
DYDN				*i* S	**Sb**	**10 29 44.8**	**-0.3**
DYDN				IAML comp=N,2μm,0.5s		10 29 45.0	
CLDR	**Caldiran**	**0.63**	**193**	PG	**Pg**	**10 29 41.8**	**-0.4**
CLDR	**Caldiran**	**0.63**	**193**	*i* P	**Pb**	**10 29 42.0**	**-1.2**
CLDR				IAML comp=E,131nm,0.7s		10 30 01.0	
CLDR				IAML comp=N,131nm,0.9s		10 30 04.0	
DIGO	**Kars**	**0.87**	**320**	*i* P	**Pg**	**10 29 45.2**	**-1.5**
AGRB	**Hanur-Agry**	**0.88**	**259**	PG	**Pg**	**10 29 46.0

CAUP	**Cauayan**	**0.63**	**153**	*eP*	**Pn**	**10 41 03.4**	**+0.6**
CAUP				*eS*	**Sn**	**10 41 17.1**	**+3.6**
SGCP	**Mt. Cagua**	**0.88**	**34**	*eP*	**Pg**	**10 41 03.5**	**-0.2**
SGCP				*eS*	**Sb**	**10 41 16.7**	**-0.5**
SIPP	**Brgy, Tapao**	**1.10**	**292**	*iP*	**Sb**	**10 41 21.5**	**-2.0**
SIPP				*eS*	**Sn**	**10 41 29.1**	**+3.9**
BCP	**Baguio City**	**1.40**	**219**	*iP*	**Pg**	**10 41 14.0**	**+0.5**
BCP				*i* S	**Sb**	**10 41 30.6**	**-1.6**
SMPP	**San Manuel, Pa**	**1.58**	**211**	*eP*	**Pg**	**10 41 17.0**	**0.0**
SMPP				*eS*	**Sg**	**10 41 40.1**	**+2.7**
BALP	**Baler**	**1.76**	**179**	*eP*	**Pg**	**10 41 19.4**	**-1.1**
BALP				*eS*	**Sg**	**10 41 42.3**	**-1.0**
BOLP	**Bolinao**	**1.91**	**234**	*eP*	**Pn**	**10 41 20.0**	**-0.5**
BOLP				*eS*	**Sb**	**10 41 46.3**	**-0.5**
LQP	**Lukban**	**3.38**	**180**	*eP*	Pg	10 41 56.8	+5.3
KSRS	**Korea Array**	**20.65**	**15**	P	**P**	**10 45 26.1**	**-1.8**
	1.0nm,0.7s,baz=193,slow=12,SNR=4.9						
SONM	**Songino Array**	**32.69**	**341**	P	**P**	**10 47 20.1**	**-0.6**
	0.8nm,0.6s,baz=163,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**43.52**	**321**	P	**P**	**10 48 50.9**	**-1.1**
	0.7nm,0.7s,baz=108,slow=9.3,SNR=5.4						

*GCMT **29** 10:59:25.0±0.3,22.50N±0.04×44.99W±0.03,h15km±1km, MW4.7/82,Moment Tensor Solution. s14,c14; s82,c98; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~1.51±.12; Mθθ0.30±.07; Mϕϕ1.21±.09; Mrθ~0.34±.17; Mθϕ0.31±.04; Mϕr~0.19±.18; Best double couple: M0 1.45600×10^16^ NP1:ϕs189.00000°,δ40.00000°,λ-103.00000°. NP2: ϕs26.00000°,δ51.00000°,λ-79.00000°. Principal axes: T 1.3350, Plg6.0000°, Azm109.0000°; N 0.2430, Plg8.0000°, Azm199.0000°; P -1.5780, Plg80.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 29 10:59:20.9±1.2,22.46N×45.02W,h0km,mb3.9/5, mb1 4.2/5,mb1mx3.7/49,mbtmp3.9/5,MS3.7/20, Ms1 3.7/20,ms1mx3.6/32 Error ellipse: s-maj=35.8km s-min=30.4km az=33.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**18.76**	**204**	LR	LR	11 09 16.2	
	comp=Z,50nm,18.3s,baz=78,slow=32						
SJG	**San Juan**	**20.29**	**262**	LR	LR	11 10 04.7	
	comp=Z,262nm,21.6s,baz=86,slow=32						
SDV	**Santo Domingo**	**28.05**	**245**	LR	LR	11 14 48.5	
	comp=Z,67nm,21.5s,baz=72,slow=33						
RCBR	**Riachuelo**	**29.49**	**161**	LR	LR	11 13 59.7	
	comp=Z,139nm,20.5s,baz=352,slow=30						
ROSC	**El Rosal**	**33.31**	**243**	LR	LR	11 20 20.9	
	comp=Z,81nm,21.3s,baz=50,slow=38						
SCHQ	**Scheffersville**	**36.23**	**339**	LR	LR	11 19 20.9	
	comp=Z,101nm,21.4s,baz=62,slow=33						
ESDC	**Sonseca Array**	**38.75**	**54**	LR	LR	11 20 14.7	
	comp=Z,88nm,19.4s,baz=265,slow=32						
DBIC	**Dimbokro**	**41.75**	**106**	LR	LR	11 21 23.2	
	comp=Z,114nm,21.6s,baz=268,slow=32						
H10N3	**ASCENSION HYDR**	**42.43**	**132**	T	T	11 52 16.8	
	baz=315,slow=74						
H10N2	**ASCENSION HYDR**	**42.43**	**132**	T	T	11 52 17.6	
	baz=315,slow=74						
H10N1	**ASCENSION HYDR**	**42.45**	**132**	T	T	11 52 19.0	
	baz=315,slow=74						
LPAZ	**La Paz**	**44.67**	**212**	P	P	11 07 36.3	-0.1
	2.9nm,1.2s,baz=26,slow=11,SNR=4.3						
LPAZ				LR	LR	11 25 27.4	
	comp=Z,71nm,19.3s,baz=20,slow=35						
TORD	**Torodi Ar. Bea**	**45.27**	**94**	P	P	11 07 40.3	-0.4
	1.3nm,0.9s,baz=293,slow=6.5,SNR=5.2						
TORD				LR	LR	11 24 43.4	
	comp=Z,178nm,19.5s,baz=265,slow=34						
ULM	**Lac du Bonnet**	**48.23**	**318**	LR	LR	11 25 29.4	
	comp=Z,156nm,21.9s,baz=122,slow=32						
KEST	**Kesra**	**48.75**	**62**	LR	LR	11 26 49.0	
	comp=Z,80nm,20.8s,baz=253,slow=34						
TXAR	**Lajitas Array**	**52.75**	**290**	P	P	11 08 37.8	-0.2
	0.6nm,0.8s,baz=108,slow=8.6,SNR=4.2						
TXAR				LR	LR	11 30 04.6	
	comp=Z,68nm,21.4s,baz=0.0,slow=35						
NOA	**NORSAR Array B**	**54.41**	**30**	LR	LR	11 28 02.8	
	comp=Z,84nm,20.1s,baz=245,slow=32						
PDAR	**Pinedale Array**	**56.65**	**307**	LR	LR	11 31 33.1	
	comp=Z,55nm,20.7s,baz=108,slow=34						
YKA	**Yellowknife Ar**	**60.91**	**330**	P	P	11 09 33.5	-1.8
	1.7nm,0.9s,baz=103,slow=8.3,SNR=4.3						
YKA				LR	LR	11 34 30.0	
	comp=Z,64nm,20.4s,baz=0.0,slow=35						
FINES	**FINESS Array B**	**61.31**		LR	LR	11 33 08.1	
	comp=Z,51nm,18.4s,baz=211,slow=33						
NVAR	**Mina Array Bea**	**63.64**	**303**	LR	LR	11 35 43.1	
	comp=Z,163nm,20.3s,baz=85,slow=34						
ILAR	**Eielson Array**	**74.83**	**334**	P	P	11 11 04.2	+1.2
	2.3nm,0.8s,baz=71,slow=5.0,SNR=16						
ILAR				LR	LR	11 43 25.7	
	comp=Z,97nm,20.2s,baz=96,slow=35						
KMBO	**Kilima Mbogo**	**83.28**	**94**	LR	LR	11 48 58.6	
	comp=Z,50nm,18.2s,baz=94,slow=36						

*NEIC **29** 11:00:52.9±1.9,5.4N±0.1×82.6W±0.1,h10km±2km, mb4.4/15,Error ellipse: s-maj=26.1km s-min=16.1km az=224.0*

*UPA **29** 11:00:52.2±1.6,5.26N×82.65W,h32km±111km,MW4.2*

*IDC **29** 11:00:55.0±3.0,5.82N×82.56W,h0km,mb3.9/6,mb1 4.2/9, mb1mx4.0/31,mbtmp4.0/9,ML2.9/2,MS3.1/2,Ms1 3.1/2, ms1mx2.7/30,Error ellipse: s-maj=65.2km s-min=25.2km az=12.0*

*UCR **29** 11:00:58.7±1.1,5.85N×82.93W,h5km,MW4.0, mb4.4(NEIC)*

ISC 29 11:00:53.7±1.0,5.51N±0.09×82.65W±0.06,h10km,n94, σ1°60/105,mb4.1/7,7C-4D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**2.55**	**44**	*iP*	**Pn**	**11 01 33.4**	**-1.7**
CACAO				*eS*	**Sn**	**11 02 05.1**	**-1.1**
MARI3	**Mariato, Verag**	**2.69**	**38**	*eP*	**Pn**	**11 01 37.2**	**+0.1**
DVD	**David**	**2.91**	**4**	*eP*	**Pn**	**11 01 39.4**	**-0.8**
DVD				*eS*	**Sn**	**11 02 15.5**	**+0.3**
AZU	**Azuero**	**3.27**	**46**	*eP*	**Pn**	**11 01 43.9**	**-1.2**
AZU				*eS*	**Sn**	**11 02 21.4**	**-2.7**
EDSV	**San Vito**	**3.30**	**355**	*eP*	**Pn**	**11 01 45.9**	**+0.3**
CHGR2	**Aguacate**	**3.44**	**8**	*eP*	**Pn**	**11 01 47.5**	**-1.0**
EDPN	**Palmar Norte**	**3.52**	**347**	*eP*	**Pn**	**11 01 47.9**	**-0.6**
EDBA	**Buenos Aires**	**3.68**	**350**	*eP*	**Pn**	**11 01 51.2**	**+0.4**
PNME	**Penonome**	**3.75**	**38**	*eP*	**Pn**	**11 01 51.5**	**-0.2**
DRK0	**Durika**	**3.77**	**351**	*eP*	**Pn**	**11 01 51.9**	**-0.3**
DRK0				*eS*	**Sn**	**11 02 37.1**	**+0.4**
EDLM	**Las Mercedes**	**3.85**	**346**	*eP*	**Pn**	**11 01 53.1**	**-0.1**
EDDO	**Dominical**	**3.91**	**342**	*eP*	**Pn**	**11 01 53.7**	**-0.1**
PEZE	**Perez Zeledon,**	**3.98**	**345**	*eP*	**Pn**	**11 01 53.9**	**-1.0**
VTON	**El Valle, Cocl**	**3.98**	**39**	*eP*	**Pn**	**11 01 57.5**	**+2.6**
VTON				*eS*	**Sn**	**11 02 44.9**	**+3.2**
RIMA	**Rio Macho**	**4.39**	**344**	*eP*	**Pn**	**11 02 00.1**	**-0.6**
LCR2	**La Lucha 2**	**4.41**	**342**	*iP*	**Pn**	**11 02 00.6**	**-0.4**
JACO	**JACO, Garabito**	**4.58**	**334**	*eP*	**Pn**	**11 02 02.4**	**-0.7**
JACO				*eS*	**Sn**	**11 02 53.4**	**-3.0**
UPA	**Univ. de Panam**	**4.63**	**42**	*eP*	**Pn**	**11 02 02.6**	**-1.2**
HDC	**Heredia**	**4.69**	**342**	*eP*	**Pn**	**11 02 05.0**	**+0.3**
HDC				*eS*	**Sn**	**11 02 58.2**	**-1.0**
HDC	**Heredia**	**4.69**	**342**	*eP*	**Pn**	**11 02 05.0**	**+0.3**
HDC				*eS*	**Sn**	**11 02 58.3**	**-1.0**
HDC	**Heredia**	**4.69**	**342**		**Pn**	**11 02 05.3**	**+0.6**
LAFE	**Finca La Fe, P**	**4.82**	**332**	*eP*	**Pn**	**11 02 06.0**	**-0.3**
JTS	**Las Juntas de**	**5.26**	**335**	Pn	**Pn**	**11 02 12.3**	**-0.2**
	26nm,0.3s,baz=179,slow=11,SNR=48						
JTS				Sn	**Sn**	**11 03 10.6**	**-2.8**
	34nm,0.3s,baz=122,slow=22,SNR=21						
JTS	**Las Juntas de**	**5.26**	**335**	*eP*	**Pn**	**11 02 12.3**	**-0.2**
JTS				*eS*	**Sn**	**11 03 12.7**	**-0.7**
JTS	**Las Juntas de**	**5.26**	**335**	*eP*	**Pn**	**11 02 12.3**	**-0.2**
JTS	**Las Juntas de**	**5.26**	**335**		**Pn**	**11 02 12.2**	**-0.4**
CASO	**Castillo**	**5.30**	**337**	*eP*	**Pn**	**11 02 13.6**	**+0.4**
ARE1	**Arenal 1**	**5.32**	**338**	*eP*	**Pn**	**11 02 13.3**	**-0.1**
DUNO	**Dulce Nombre,**	**5.34**	**328**	*eP*	**Pn**	**11 02 13.0**	**-0.5**
DUNO				*eS*	**Sn**	**11 03 11.3**	**-3.8**
CEDE	**Laguna Cedeo**	**5.34**	**338**	*eP*	**Pn**	**11 02 13.8**	**+0.1**
COVE	**Coope Vega, Sa**	**5.46**	**342**	*eP*	**Pn**	**11 02 14.4**	**-0.7**
PLVR	**Palo Verde**	**5.50**	**331**	*eP*	**Pn**	**11 02 15.0**	**-0.9**
GUAI	**GUAI**	**5.51**	**329**	*eP*	**Pn**	**11 02 15.5**	**-0.3**
ORTG	**Ortega, Santa**	**5.56**	**330**	*eP*	**Pn**	**11 02 16.3**	**-0.4**
ORTG				*eS*	**Sn**	**11 03 16.1**	**-4.6**
ACAL	**Aguas Claras**	**5.61**	**335**	*eP*	**Pn**	**11 02 18.2**	**+0.8**
COLC	**Colonia**	**5.71**	**334**	*eP*	**Pn**	**11 02 19.9**	**+1.2**
HORNC	**Hornillas**	**5.74**	**334**	*eP*	**Pn**	**11 02 19.3**	**+0.2**
GUAB	**Guayabo de Bag**	**5.76**	**334**	*eP*	**Pn**	**11 02 19.9**	**+0.6**
LIM1	**Limonal**	**5.76**	**334**	*eP*	**Pn**	**11 02 19.5**	**+0.1**
GPS2	**Hotel Rincn d**	**5.85**	**333**	*eP*	**Pn**	**11 02 21.6**	**+0.9**
GPS1	**Guardaparques**	**5.87**	**333**	*eP*	**Pn**	**11 02 22.1**	**+1.1**
LAPC	**Finca la Perla**	**5.90**	**332**	*eP*	**Pn**	**11 02 21.5**	**+0.2**
BUEV	**Buena Vista**	**5.92**	**333**	*eP*	**Pn**	**11 02 22.6**	**+1.1**
GBS3	**Finca Las Img**	**5.92**	**332**	*eP*	**Pn**	**11 02 22.2**	**+0.6**
GB1A	**Borinquen Arri**	**5.93**	**333**	*eP*	**Pn**	**11 02 22.6**	**+0.9**
CAP2	**Capurgana**	**6.11**	**59**	*eP*	**Pn**	**11 02 25.9**	**+1.8**
CAP2				*eS*	**Sn**	**11 03 39.0**	**+4.8**
DBBC	**Dabeiba**	**6.58**	**77**	*eP*	**Pn**	**11 02 32.0**	**+1.3**
ESPN	**Las Esperanzas**	**6.84**	**346**		**Pn**	**11 02 34.7**	**+0.6**
ACON	**Acoyapa**	**6.88**	**339**		**Pn**	**11 02 35.3**	**+0.6**
HELC	**Santa Helena**	**7.12**	**84**	*eP*	**Pn**	**11 02 41.1**	**+2.7**
HELC				*eS*	**Sn**	**11 04 04.9**	**+5.3**
MARP	**Paez Belalcaza**	**7.19**	**111**	*eP*	**Pn**	**11 02 39.4**	**+0.1**
GUY2C	**Guyana, Caldas**	**7.26**	**92**	*eP*	**Pn**	**11 02 41.2**	**+0.8**
GUY2C				*eS*	**Sn**	**11 04 01.8**	**-1.5**
ANIL	**Santa Ana**	**7.29**	**98**	*eP*	**Pn**	**11 02 40.7**	**0.0**
ANIL				*eS*	**Sn**	**11 03 59.8**	**-4.0**
ANIL				*i*		11 04 11.2	
	comp=Z,3.2nm,0.5s						
TOLC	**Tolima**	**7.36**	**97**	*eP*	**Pn**	**11 02 42.2**	**+0.5**
TOLC				*eS*	**Sn**	**11 04 02.6**	**-3.0**
ORTC	**Ortega, Tolima**	**7.55**	**102**	*eP*	**Pn**	**11 02 43.9**	**-0.1**
ORTC				*eS*	**Sn**	**11 04 06.7**	**-3.1**
ORTC				*i*		11 04 18.0	
	comp=Z,27nm,0.6s						
BETC	**Betania**	**7.72**	**111**	*eP*	**Pn**	**11 02 47.4**	**+0.9**
MATN	**Matagalpa**	**8.04**	**337**		**Pn**	**11 02 51.5**	**+0.7**
CRIN	**San Cristobal**	**8.36**	**329**		**Pn**	**11 02 56.1**	**+1.1**
APG	**El Apazote**	**12.16**	**321**	Pn	**Pn**	**11 03 47.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=139,slow=19,SNR=2.0						
SDV	**Santo Domingo**	**12.39**	**74**	Pn	**Pn**	**11 03 51.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=231,slow=10,SNR=7.5						
SDV				Sn	**Sn**	**11 06 08.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=310,slow=8.3,SNR=1.5						
SDV	**Santo Domingo**	**12.39**	**74**		**Pn**	**11 03 52.1**	**+1.6**
ATAH	**Atahualpa**	**13.26**	**161**	LR	LR	11 08 37.4	
	comp=Z,136nm,19.6s,baz=351,slow=34						
PETF	**Flores**	**13.35**	**329**	Pn	**Pn**	**11 04 06.2**	**+2.7**
LGNH	**Logne**	**16.22**	**36**	Pn	**Pn**	**11 04 40.3**	**-1.5**
CMIG	**Matias Romero**	**16.61**	**315**	LR	LR	11 10 26.3	
	comp=Z,38nm,19.3s,baz=136,slow=35						
MPR	**Mayaguez**	**19.72**	**49**	P	**P**	**11 05 22.2**	**-1.4**
MPR				IAmb	IAmb	11 05 22.6	
	comp=Z,18nm,0.8s						
SJG	**San Juan**	**20.41**	**51**	P	**P**	**11 05 30.9**	**-0.3**
	comp=Z,9.1nm,0.5s,baz=241,slow=8.3,SNR=5.1						
SJG	**San Juan**	**20.41**	**51**	P	**P**	**11 05 30.4**	**-0.8**
GCPR	**Guaynabo City**	**20.58**	**50**	P	**P**	**11 05 31.9**	**-1.1**
GCPR				IAmb	IAmb	11 05 35.9	
	comp=Z,17nm,0.9s						
HUMP	**Col San Antoni**	**20.66**	**51**	P	**P**	**11 05 33.7**	**-0.2**
MTP	**Monte Pirata**	**20.87**	**52**	P	**P**	**11 05 35.0**	**-1.1**
MTP				IAmb	IAmb	11 05 45.4	
	comp=Z,14nm,0.9s						
SAML	**Samuel**	**24.15**	**126**	P	**P**	**11 06 06.8**	**-3.5**
BG3	**Lake Jocassee**	**29.34**	**360**	P	**P**	**11 06 57.0**	**+0.2**
LCAR	**Lake Charles**	**31.40**	**347**	P	**P**	**11 07 15.0**	**0.0**
LCAR				IAmb	IAmb	11 07 15.7	
	comp=Z,4.3nm,0.8s						
SRU	**San Rafael Swe**	**41.88**	**327**	P	**P**	**11 08 46.1**	**+1.6**
PDAR	**Pinedale Array**	**44.09**	**331**	P	**P**	**11 09 03.6**	**+1.2**
	comp=Z,1.1nm,1.1s,baz=123,slow=11,SNR=5.2						
PDAR	**Pinedale Array**	**44.09**	**331**	P	**P**	**11 09 00.8**	**-1.6**
MOOW	**Moose Ponds**	**45.40**	**331**	P	**P**	**11 09 13.9**	**+1.1**
NVAR	**Mina Array Bea**	**46.02**	**320**	P	**P**	**11 09 19.3**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=131,slow=7.4,SNR=14						
NVAR	**Mina Array Bea**	**46.02**	**320**	P	**P**	**11 09 19.6**	**+1.7**
MDPB	**Devils Postpil**	**46.06**	**319**	P	**P**	**11 09 19.5**	**+1.3**
MDPB				IAmb	IAmb	11 09 21.2	
	comp=Z,3.7nm,1.0s						
YHH	**Holmes Hill**	**46.23**	**332**	P	**P**	**11 09 19.7**	**+0.1**
YKA	**Yellowknife Ar**	**61.53**	**344**	P	**P**	**11 11 13.6**	**+2.9**
	comp=Z,1.0nm,0.7s,baz=131,slow=6.6,SNR=3.1						
INK	**Inuvik**	**71.21**	**342**	P	**P**	**11 12 12.9**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=141,slow=6.5,SNR=6.8						
INK	**Inuvik**	**71.21**	**342**	P	**P**	**11 12 13.5**	**+0.9**
INK				IAmb	IAmb	11 12 18.8	
	comp=Z,3.7nm,1.1s						
IL31		**74.23**	**336**	P	**P**	**11 12 30.8**	**+0.2**
ILAR	**Eielson Array**	**74.23**	**336**	P	**P**	**11 12 31.8**	**+1.1**
	comp=Z,0.6nm,1.1s,baz=129,slow=7.1,SNR=2.1						
ILAR	**Eielson Array**	**74.23**	**336**	P	**P**	**11 12 31.2**	**+0.5**
H11N3	**WAKE ISLAND Hy**	**107.18**	**292**	T	T	13 15 12.9	
	baz=79						
H11N2	**WAKE ISLAND Hy**	**107.19**	**292**	T	T	13 15 08.4	
	baz=79						
H11N1	**WAKE ISLAND Hy**	**107.20**	**292**	T	T	13 15 08.3	
	baz=79						
H11S2	**WAKE ISLAND Hy**	**107.63**	**291**	T	T	13 15 39.8	
	baz=77						
H11S1	**WAKE ISLAND Hy**	**107.63**	**291**	T	T	13 15 42.4	
	baz=77						
H11S3	**WAKE ISLAND Hy**	**107.65**	**291**	T	T	13 15 46.9	
	baz=77						

*BJI **29** 11:01:35.2±0.0,12.76N×145.51E,h39km,mB5.0/22, mb4.6/31,Ms4.2/7,Ms7 4.0/7*

*IDC **29** 11:01:36.2±0.5,13.29N×145.07E,h0km,mb4.4/23, mb1 4.5/24,mb1mx4.4/41,mbtmp4.4/24,ML4.2/1,MS3.6/11, Ms1 3.6/11,ms1mx3.3/48,Error ellipse: s-maj=18.9km s-min=10.8km az=88.0*

*DJA **29** 11:01:40.1±1.0,14.N±14.×14.5E±.°, h53km±4km,M5.0/14, mb4.9/14,mB5.5/2,MLv5.0/1,Mw(mB)4.9/2*

*NEIC **29** 11:01:43.2±1.0, 13.23N±0.06×144.98E±0.09,h55km±2km, mb4.7/52,Error ellipse: s-maj=12.4km s-min=9.2km az=97.0*

ISC 29 11:01:42.7±0.9,13.20N±0.05×145.06E±0.07,h49km,8km, n131,σ1°18/113,mb4.6/51,MS3.8/17,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.43**	**334**		**Pn**	**11 01 53.4**	**+0.3**
GUMO				Sn	**Sn**	**11 02 00.8**	**+0.4**
ANA2	**Anatahan**	**3.18**	**11**		**Pn**	**11 02 32.4**	**+2.0**
PATS	**Pohnpei**	**14.50**	**115**	Pn	**Pn**	**11 05 02.6**	**-2.6**
RABL	**Rabaul**	**18.66**	**157**		**Pn**	**11 06 00.5**	**+2.8**
RABL				IAmb	IAmb	11 06 02.4	
	comp=Z,34nm,0.5s						
SIJI	**Sorong**	**19.56**	**225**	P	**Pn**	**11 06 08.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=50,slow=13,SNR=5.4						
DAV	**Davao City (W)**	**20.11**	**254**	LR	LR	11 12 32.4	
	comp=Z,164nm,21.9s,baz=108,slow=33						
FAKI	**Fak Fak**	**20.45**	**219**	P	Pn	11 06 18.7	-0.2
	comp=Z,69nm,0.9s						
FAKI	**Fak Fak**	**20.45**	**219**	P	Pn	11 06 21.3	+2.4
H11S3	**WAKE ISLAND Hy**	**21.45**	**73**	T	T	11 29 05.6	
	baz=260,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.47**	**73**	T	T	11 29 05.5	
	baz=260,slow=75						
H11S2	**WAKE ISLAND Hy**	**21.47**	**73**	T	T	11 29 04.6	
	baz=260,slow=75						
H11N1	**WAKE ISLAND Hy**	**21.90**	**70**	T	T	11 29 38.6	
	baz=257,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.91**	**70**	T	T	11 29 24.9	
	baz=257,slow=75						
H11N3	**WAKE ISLAND Hy**	**21.92**	**70**	T	T	11 29 34.6	
	baz=257,slow=75						
PMG	**Port Moresby**	**22.56**	**175**	P	**P**	**11 06 38.6**	**-0.4**
	comp=Z,7.8nm,0.5s,baz=258,slow=14,SNR=2.3						
PMG	**Port Moresby**	**22.56**	**175**	P	**P**	**11 06 39.3**	**+0.4**
JMN	**Monobe**	**22.83**	**335**	P	**P**	**11 06 41.4**	**-0.3**
JMN				IAmb	IAmb	11 06 46.2	
	comp=Z,23nm,1.0s						
JWT	**Wachi**	**23.65**	**340**	P	**P**	**11 06 50.2**	**+0.5**
JWT				IAmb	IAmb	11 07 01.3	
	comp=Z,50nm,1.5s						
JNU	**Nakatsue**	**23.68**	**329**	P	**P**	**11 06 49.5**	**-0.6**
	comp=Z,21nm,0.7s,baz=85,slow=4.2,SNR=20						
JNU	**Nakatsue**	**23.68**	**329**	P	**P**	**11 06 50.3**	**+0.2**
JNU				IAmb	IAmb	11 06 53.1	
	comp=Z,28nm,0.8s						
MJAR	**Matsushiro Arr**	**24.04**	**346**	P	**P**	**11 06 52.6**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=166,slow=6.2,SNR=2.5						
MJAR				LR	LR	11 15 28.8	
	comp=Z,90nm,21.8s,baz=200,slow=35						
MAT	**Matsushiro**	**24.04**	**346**	P	**P**	**11 06 54.0**	**+0.7**
MAT				S	**S**	**11 11 07.8**	**+0.5**
JHS	**Saijyo**	**24.24**	**336**	P	**P**	**11 06 54.9**	**-0.3**
JHS				IAmb	IAmb	11 06 58.8	
	comp=Z,24nm,0.8s						
YULB	**Yu-li**	**24.70**	**298**	P	**P**	**11 06 57.6**	**-1.8**
YULB				IAmb	IAmb	11 07 04.8	
	comp=Z,23nm,1.1s						
LUWI	**Luwuk**	**26.25**	**239**	P	P	11 07 20.8	+7.3
KSRS	**Korea Array**	**28.59**	**331**	P	**P**	**11 07 33.2**	**-1.0**
	comp=Z,4.1nm,0.8s,baz=143,slow=9.5,SNR=15						
KSRS				PcP	**PcP**	**11 10 45.9**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=131,slow=2.5,SNR=9.0						
MTN	**Manton Dam**	**29.33**	**209**	P	**P**	**11 07 41.5**	**+0.4**
MTN				IAmb	IAmb	11 07 42.1	
	comp=Z,13nm,0.8s						
BNSI	**Bone**	**30.33**	**236**	P	P	11 07 58.4	+8.4
NJ2	**Nanjing**	**30.48**	**312**	*eP*	**P**	**11 07 51.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAPI	**Kappang**	**30.97**	**236**	P	**P**	**11 07 54.8**	**-0.8**
	comp=Z,3.4nm,0.3s,baz=76,slow=15,SNR=1.5						
USRK	**Ussuriysk Ar.**	**32.86**	**343**	P	**P**	**11 08 13.0**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=111,slow=7.9,SNR=3.0						
USRK	**Ussuriysk Ar.**	**32.86**	**343**	P	**P**	**11 08 11.5**	**-0.3**
KNRA	**Kununurra**	**32.91**	**210**	P	**P**	**11 08 12.7**	**+0.1**
MTKI	**Muara Teweh, K**	**33.05**	**247**	P	P	11 08 29.6	+16
CTA	**Charters Tower**	**33.10**	**178**	P	**P**	**11 08 14.9**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=355,slow=9.7,SNR=4.9						
CTAO	**Charters Tower**	**33.10**	**178**	P	**P**	**11 08 14.4**	**+0.2**
WHN	**Wuhan**	**33.16**	**306**	P	**P**	**11 08 16.0**	**+1.3**
SBUM	**Sibu**	**34.19**	**255**	P	**P**	**11 08 23.4**	**-0.4**
SBUM				IAmb	IAmb	11 08 25.1	
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**34.40**	**198**	P	**P**	**11 08 26.0**	**+0.4**
WB0				IAmb	IAmb	11 08 27.4	
	comp=Z,5.6nm,0.8s						
WR0	**Warramunga Arr**	**34.54**	**198**	P	**P**	**11 08 27.2**	**+0.4**
WR0				IAmb	IAmb	11 08 28.3	
	comp=Z,9.2nm,0.9s						
WRAB	**Tennant Creek**	**34.57**	**198**	P	**P**	**11 08 27.2**	**+0.2**
WRAB				IAmb	IAmb	11 08 28.6	
	comp=Z,10nm,0.9s						
WB2	**Warramunga Arr**	**34.58**	**198**	P	**P**	**11 08 27.5**	**+0.4**
WRA	**Warramunga Arr**	**34.59**	**198**	P	**P**	**11 08 27.3**	**+0.2**
	comp=Z,7.8nm,0.8s,baz=19,slow=9.6,SNR=47						
WRA				PcP	**PcP**	**11 11 02.6**	**+1.5**
	comp=Z,3.8nm,0.7s,baz=11,slow=3.5,SNR=14						
WRA	**Warramunga Arr**	**34.59**	**198**	P	**P**	**11 08 26.9**	**-0.3**
CN2	**Changchun**	**34.84**	**335**	*eP*	**P**	**11 08 31.0**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SANVU	**Saransutou**	**35.92**	**142**	P	**P**	**11 08 37.9**	**-0.7**
KSM	**Kuching**	**36.32**	**254**	P	**P**	**11 08 41.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**36.53**	**212**	P	**P**	**11 08 44.1**	**+0.3**
	comp=Z,13nm,0.9s,baz=15,slow=11,SNR=20						
FITZ				PcP	**PcP**	**11 11 08.2**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=21,slow=4.7,SNR=2.8						
FITZ	**Fitzroy Crossi**	**36.53**	**212**	P	**P**	**11 08 44.8**	**+1.0**
KLR	**Kul'dur**	**37.57**	**346**	LR	LR	11 23 18.3	
	comp=Z,96nm,18.4s,baz=156,slow=35						
AS31	**Alice Springs**	**38.23**	**197**	P	**P**	**11 08 57.8**	**-0.4**
AS31				IAmb	IAmb

KURK					IAmb	IAmb	11 12 17.4		
	comp=Z,4.1nm,0.6s								
ILAR	**Eielson Array**	**68.84**	**25**	P		**P**	**11 12 40.5**	**-1.3**	
	comp=Z,1.5nm,0.6s,baz=250,slow=6.0,SNR=28								
KK31	**Karatay Array**	**69.85**	**311**	P		**P**	**11 12 47.8**	**-0.8**	
KKAR	**Karatay Array**	**69.85**	**311**	P		**P**	**11 12 47.9**	**-0.6**	
KKAR	**Karatay Array**	**69.85**	**311**	P		**P**	**11 12 47.4**	**-1.1**	
PPT	**Papeete**	**71.39**	**114**	LR		LR	11 35 44.6		
	comp=Z,102nm,20.1s,baz=291,slow=29								
PPT2	**Papeete2**	**71.39**	**114**	*e*S		**S**	**11 22 13.7**	**+0.3**	
	comp=Z,151nm,25.8s								
PPT2	**Papeete2**	**71.39**	**114**	*e*LR		LR	11 34 41.5		
	comp=Z,162nm,24.5s								
PMOR	**Pomariorio Ree**	**72.02**	**111**	*e*T		T	12 32 10.7		
	comp=Z,2.1nm,0.2s								
TBI	**Tubuai**	**73.62**	**119**	*e*LR		LR	11 35 40.4		
	comp=Z,98nm,27.5s								
INK	**Inuvik**	**74.65**	**22**	P		**P**	**11 13 16.5**	**-0.2**	
	comp=Z,2.0nm,0.8s,baz=128,slow=7.7,SNR=3.4								
INK	**Inuvik**	**74.65**	**22**	P		**P**	**11 13 16.1**	**-0.5**	
ABKAR	**Akbulak array**	**76.95**	**318**	P		**P**	**11 13 29.4**	**-0.8**	
ARU	**Arti**	**77.19**	**325**	LR		LR	11 49 15.9		
	comp=Z,33nm,18.9s,baz=140,slow=37								
AKTO	**Aktyubinsk**	**78.08**	**319**	LR		LR	11 48 41.3		
	comp=Z,44nm,19.5s,baz=70,slow=36								
YKA	**Yellowknife Ar**	**83.11**	**27**	P		**P**	**11 14 02.6**	**-0.5**	
	comp=Z,1.0nm,0.6s,baz=289,slow=4.2,SNR=5.9								
BEKR	**Beckworth**	**85.12**	**50**	P		**P**	**11 14 13.7**	**-0.4**	
BEKR					IAmb	IAmb	11 14 34.5		
	comp=Z,2.9nm,0.7s								
NEW	**Newport**	**85.39**	**42**	P		**P**	**11 14 15.3**	**+0.2**	
NEW					IAmb	IAmb	11 14 17.4		
	comp=Z,6.2nm,0.9s								
BMO	**Blue Mountains**	**86.13**	**45**	P		**P**	**11 14 18.6**	**-0.3**	
BMO					IAmb	IAmb	11 14 21.5		
	comp=Z,4.0nm,0.9s								
KVN	**Kaiserville**	**87.02**	**51**	P		**P**	**11 14 23.2**	**-0.3**	
NVAR	**Mina Array Bea**	**87.02**	**51**	P		**P**	**11 14 25.1**	**+1.5**	
	comp=Z,1.0nm,0.7s,baz=260,slow=6.0,SNR=12								
NVAR	**Mina Array Bea**	**87.02**	**51**	P		**P**	**11 14 25.7**	**+2.2**	
NV11	**Mina Array Sit**	**87.13**	**51**	P		**P**	**11 14 26.3**	**+2.3**	
NV11					IAmb	IAmb	11 14 30.3		
	comp=Z,4.9nm,1.3s								
SNCC	**San Nicolas Is**	**87.32**	**57**	P		**P**	**11 14 23.9**	**-0.9**	
ARCES	**ARCESS Array B**	**87.51**	**342**	P		**P**	**11 14 26.0**	**+1.0**	
	comp=Z,8.5nm,1.1s,baz=61,slow=7.3,SNR=4.9								
MFID	**Camas Ranch**	**87.53**	**46**	P		**P**	**11 14 27.2**	**+1.4**	
TPH	**Tonopah**	**87.93**	**51**	P		**P**	**11 14 26.3**	**-1.6**	
HLID	**Hailey**	**88.48**	**46**	P		**P**	**11 14 29.9**	**-0.5**	
ELK	**Elko**	**88.69**	**49**	P		**P**	**11 14 31.3**	**-0.2**	
ELK					IAmb	IAmb	11 15 00.6		
	comp=Z,3.5nm,0.8s								
TPNV	**Topopah Spring**	**88.97**	**52**	P		**P**	**11 14 32.6**	**-0.2**	
TPNV					IAmb	IAmb	11 14 35.8		
	comp=Z,3.2nm,0.9s								
VNDA	**Vanda**	**91.07**	**176**	P		**P**	**11 14 43.1**	**+1.7**	
	comp=Z,1.5nm,0.8s,baz=314,slow=6.2,SNR=10								
PDAR	**Pinedale Array**	**92.10**	**45**	P		**P**	**11 14 47.5**	**+0.1**	
	comp=Z,0.4nm,0.7s,baz=182,slow=2.6,SNR=2.5								
PDAR					LR	LR	11 48 18.8		
	comp=Z,37nm,21.9s,baz=312,slow=30								
PDAR	**Pinedale Array**	**92.10**	**45**	P		**P**	**11 14 45.6**	**-1.8**	
AKASG	**Malin Array Be**	**95.44**	**325**	LR		LR	12 01 16.0		
	comp=Z,42nm,18.1s,baz=65,slow=38								
NOA	**NORSAR Array B**	**97.48**	**339**	LR		LR	12 00 40.5		
	comp=Z,29nm,21.0s,baz=20,slow=36								
MAW	**Mawson**	**99.14**	**203**	P		**Pdif**	**11 15 19.6**	**+1.3**	
	comp=Z,2.7nm,0.9s,baz=75,slow=4.7,SNR=5.1								
MAW	**Mawson**	**99.14**	**203**	P		**Pdif**	**11 15 12.7**	**-5.7**	
MAW					IAmb	IAmb	11 15 22.3		
	comp=Z,3.2nm,1.5s								
SNAA	**Sanae**	**118.44**	**191**	PKPdf		**PKiKP**	**11 20 24.9**	**+0.5**	
ESDC	**Sonseca Array**	**120.01**	**333**	PKP		**PKiKP**	**11 20 29.3**	**+0.8**	
	comp=Z,0.4nm,0.5s,baz=356,slow=3.9,SNR=2.5								
ESDC	**Sonseca Array**	**120.01**	**333**			**PKiKP**	**11 20 28.1**	**-0.4**	
TORD	**Torodi Ar. Bea**	**135.24**	**304**	PKP		**PKiKP**	**11 20 58.4**	**-1.1**	
	comp=Z,3.8nm,0.6s,baz=25,slow=2.9,SNR=19								
TORD	**Torodi Ar. Bea**	**135.24**	**304**	PKPdf		**PKPdf**	**11 20 56.6**	**-1.4**	
DBIC	**Dimbokro**	**144.19**	**302**	PKP		PKPbc	11 21 12.7	+0.2	
	comp=Z,13nm,0.6s,baz=42,slow=3.9,SNR=28								
DBIC	**Dimbokro**	**144.19**	**302**	PKPdf		PKPbc	11 21 12.1	-0.4	
KIC	**Kosan Boka**	**144.26**	**301**	*e*PKP1		PKPbc	11 21 12.7	0.0	
	comp=Z,28nm,0.6s								
TIC	**Toumodi**	**144.33**	**302**	*e*PKP1		PKPbc	11 21 12.9	-0.1	
LIC	**Lamto**	**144.57**	**301**	*e*PKP1		PKPbc	11 21 13.7	0.0	
	comp=Z,104nm,0.5s								
LPAZ	**La Paz**	**147.78**	**100**	PKPbc		**PKPbc**	**11 21 23.4**	**-0.5**	
	comp=Z,2.1nm,0.4s,baz=295,slow=2.3,SNR=9.8								
LPAZ	**La Paz**	**147.78**	**100**			**PKPbc**	**11 21 23.9**	**-0.1**	

*IDC **29** 11:12:26.4±0.6, 3.˚53S×138.˚35E, h0km, mb4.3/13, mb1 4.4/19, mb1mx4.3/34, mbtmp4.4/19, ML4.1/4, MS3.8/14, Ms1 3.8/14, ms1mx3.5/29, Error ellipse: s-maj=15.9km s-min=13.6km az=53.0*
*DJA **29** 11:12:28.0±0.2, 4˚S±2˚×13˚8E±˚, h10km, M4.7/23, mb4.7/23, mB5.3/6, MLv4.7/7, Mw(mB)4.7/6*
*NEIC **29** 11:12:31.5±2.0, 3.˚63S±0.˚07×138.˚36E±0.˚05, h32km, mb4.7/41, Error ellipse: s-maj=10.4km s-min=7.4km az=162.0*

ISC 29 11:12:31.7±0.4, 3.˚67S±0.˚04×138.˚41E±0.˚04, h35km, n108, σ2s00/113, mb4.6/36, MS3.8/13, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.69**	**10**	P		**Pn**	**11 12 55.6**	**-3.2**
GENI	**Genyem**	**2.05**	**59**	P		**Pn**	**11 13 01.2**	**-2.5**
JAY	**Jayapura**	**2.56**	**63**	Pn		**Pn**	**11 13 08.2**	**-2.5**
	6.7nm,0.3s,baz=233,slow=12,SNR=22							
JAY				Sn		**Sn**	**11 13 41.4**	**+0.6**
	23nm,0.3s,baz=87,slow=18,SNR=7.4							
JAY				LR		LR	11 14 31.4	
	comp=Z,2μm,19.1s,baz=46,slow=49							
JAY	**Jayapura**	**2.56**	**63**	P		**Pn**	**11 13 09.7**	**-1.0**
JAY				S		**Sn**	**11 13 40.9**	**+0.2**
SRPI	**Serui, Papua**	**2.81**	**309**	P		**Pn**	**11 13 12.8**	**-1.4**
SRPI				S		**Sn**	**11 13 46.0**	**-0.9**
BAKI	**Biak**	**3.37**	**317**	P		**Pn**	**11 13 19.8**	**-2.1**
FAKI	**Fak Fak**	**6.20**	**277**	P		**Pn**	**11 14 00.2**	**-0.6**
	0.5nm1μm102nm,0.8s							
FAKI	**Fak Fak**	**6.20**	**277**			**Pn**	**11 14 01.0**	**+0.2**
FAKI				Sn		**Sn**	**11 15 11.1**	**+0.6**
SIJI	**Sorong**	**7.66**	**291**	Pn		**Pn**	**11 14 18.6**	**-2.3**
	11nm,0.3s,baz=86,slow=11,SNR=20							
SIJI				Sn		**Sn**	**11 15 45.3**	**-1.3**
	baz=198,slow=20,SNR=1.8							
SAUI	**Saumlaki**	**8.27**	**238**	P		**Pn**	**11 14 29.5**	**+0.2**
	212nm,0.7s							
SAUI	**Saumlaki**	**8.27**	**238**	Pn		**Pn**	**11 14 31.5**	**+2.2**
MSAI	**Masohi**	**9.47**	**272**	P		Pn	11 14 58.0	+12
PMG	**Port Moresby**	**10.39**	**124**	Pn		**Pn**	**11 14 58.9**	**+0.6**
	1.6nm,0.3s,baz=345,slow=4.3,SNR=8.7							
PMG				LR		LR	11 20 22.3	
	comp=Z,720nm,19.5s,baz=312,slow=45							
PMG	**Port Moresby**	**10.39**	**124**	Pn		**Pn**	**11 15 01.0**	**+2.7**
MTN	**Manton Dam**	**11.62**	**218**	Pn		**Pn**	**11 15 15.4**	**+0.3**
MTN				Sn		**Sn**	**11 17 23.1**	**-0.5**
RABL	**Rabaul**	**13.73**	**93**	Pn		**Pn**	**11 15 45.6**	**+1.6**
KMSI	**Cibinong**	**15.03**	**286**	P		P	11 16 16.6	+10
KNRA	**Kununurra**	**15.25**	**218**	Pn		**Pn**	**11 16 03.7**	**-0.8**
KNRA				IAmb		IAmb	11 16 15.3	
	comp=Z,36nm,0.7s							
KNRA				Sn		**Sn**	**11 18 45.4**	**-7.1**
SOEI	**Soe**	**15.29**	**246**	P		**Pn**	**11 16 05.5**	**+0.3**
SOEI	**Soe**	**15.29**	**246**			**Pn**	**11 16 04.5**	**-0.7**
SOEI				Sn		**Sn**	**11 18 51.4**	**-2.2**
LUWI	**Luwuk**	**15.84**	**279**	Pn		**Pn**	**11 16 11.4**	**-0.8**
LUWI				IAmb		IAmb	11 16 26.0	
	comp=Z,51nm,0.9s							
GTOI	**Gorontalo**	**15.98**	**285**	P		**P**	**11 16 16.1**	**-1.0**
	comp=Z,26nm,0.7s							
BATI	**Baumata**	**16.01**	**245**	Pn		**Pn**	**11 16 13.4**	**-1.0**
	comp=Z,5.4nm,0.3s,baz=28,slow=2.1,SNR=4.2							
BATI				Sn		**Sn**	**11 19 11.9**	**+0.9**
	comp=Z,9.7nm,0.3s,baz=324,slow=6.0,SNR=4.5							
WB0	**Warramunga Arr**	**16.48**	**193**	Pn		**Pn**	**11 16 18.0**	**-2.3**
WB0				IAmb		IAmb	11 16 26.4	
	comp=Z,39nm,0.9s							
WB0				Sn		**Sn**	**11 19 16.1**	**-6.1**
WR0	**Warramunga Arr**	**16.63**	**193**	Pn		**Pn**	**11 16 20.2**	**-2.0**
WR0				Sn		**Sn**	**11 19 19.7**	**-6.2**
WB2	**Warramunga Arr**	**16.66**	**193**	Pn		**Pn**	**11 16 20.8**	**-1.8**
WB2				IAmb		IAmb	11 16 28.6	
	comp=Z,50nm,1.0s							
WRA	**Warramunga Arr**	**16.66**	**193**	Pn		**Pn**	**11 16 18.7**	**-3.9**
	comp=Z,0.4nm,0.3s,baz=13,slow=13,SNR=27							
WRA				Sn		**Sn**	**11 19 20.2**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=10,slow=22,SNR=4.9							
WRA	**Warramunga Ar**	**16.66**	**193**			**Pn**	**11 16 20.7**	**-1.9**
APSI	**Ampana**	**16.97**	**279**	P		**P**	**11 16 33.9**	**+5.7**
CTA	**Charters Tower**	**18.02**	**156**	P		**P**	**11 16 40.3**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=336,slow=12,SNR=13							
CTAO	**Charters Tower**	**18.02**	**156**			**P**	**11 16 41.2**	**+1.5**
TTSI	**Tana Toraja**	**18.57**	**271**	P		**Pn**	**11 16 52.0**	**+5.7**
KAPI	**Kappang**	**18.66**	**265**	LR		LR	11 25 15.5	
	comp=Z,110nm,18.2s,baz=99,slow=41							
FITZ	**Fitzroy Crossi**	**19.03**	**220**	P		**P**	**11 16 50.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=41,slow=13,SNR=15							
FITZ				S		Sn	11 20 13.2	-11
	comp=Z,0.9nm,0.3s,baz=163,slow=8.2,SNR=4.4							
FITZ				LR		LR	11 24 52.5	
	comp=Z,376nm,20.2s,baz=43,slow=39							
FITZ	**Fitzroy Crossi**	**19.03**	**220**			**P**	**11 16 50.3**	**-0.6**
AS31	**Alice Springs**	**20.35**	**192**	P		**P**	**11 17 06.9**	**+1.6**
AS31				IAmb		IAmb	11 17 13.2	
	comp=Z,17nm,0.7s							
ASAR	**Alice Springs**	**20.36**	**192**	P		**P**	**11 17 06.5**	**+1.2**
	comp=Z,35nm,0.8s,baz=15,slow=9.5,SNR=148							
ASAR				S		**S**	**11 20 54.0**	**+2.3**
	comp=Z,4.2nm,0.7s,baz=18,slow=25,SNR=4.9							
ASAR	**Alice Springs**	**20.36**	**192**	P		**P**	**11 17 06.3**	**+1.0**
HNR	**Honiara**	**22.14**	**106**	P		**P**	**11 17 26.0**	**+1.4**
	comp=Z,18nm,0.3s,baz=336,slow=5.6,SNR=3.7							
HNR				LR		LR	11 26 13.8	
	comp=Z,201nm,21.7s,baz=280,slow=37							
HNR	**Honiara**	**22.14**	**106**	P		**P**	**11 17 24.7**	**+0.1**
EIDS	**Eidsvold**	**24.78**	**152**	P		**P**	**11 17 53.6**	**+3.2**
EIDS				IAmb		IAmb	11 17 60.0	
	comp=Z,10nm,0.8s							
PSA00	**Pilbara Seismi**	**25.34**	**224**	P		**P**	**11 17 58.8**	**+3.2**
PSA00				IAmb		IAmb	11 18 24.2	
	comp=Z,20nm,1.2s							
STKA	**Stephens Creek**	**28.22**	**174**	P		**P**	**11 18 20.6**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=108,slow=20,SNR=1.6							
STKA				LR		LR	11 31 08.8	
	comp=Z,385nm,19.2s,baz=353,slow=40							
FORT	**Forrest**	**28.68**	**199**	P		**P**	**11 18 25.1**	**-0.4**
FORT				IAmb		IAmb	11 18 46.0	
	comp=Z,14nm,0.8s							
SDSI	**Sungai Dareh**	**37.05**	**273**	P		**P**	**11 19 39.8**	**+1.1**
JNU	**Nakatsue**	**37.28**	**350**	P		**P**	**11 19 36.4**	**-4.0**
	comp=Z,8.5nm,1.0s,baz=259,slow=5.2,SNR=2.6							
JWT	**Wachi**	**38.85**	**356**	P		**P**	**11 19 53.0**	**-0.6**
JWT				IAmb		IAmb	11 20 22.2	
	comp=Z,28nm,1.4s							
MNSI	**Mandailing Nat**	**39.06**	**276**	P		P	11 20 05.4	+10
RPSI	**Rantau Prapat**	**39.97**	**279**	P		**P**	**11 20 02.6**	**-0.7**
RPSI				IAmb		IAmb	11 20 06.4	
	comp=Z,23nm,1.2s							
RPSI	**Rantau Prapat**	**39.97**	**279**	P		**P**	**11 20 02.0**	**-1.3**
PSI	**Prapat**	**39.99**	**279**	P		**P**	**11 20 02.0**	**-1.6**
	comp=Z,7.6nm,0.8s,baz=185,slow=3.3,SNR=11							
MJAR	**Matsushiro Arr**	**40.00**	**360**	LR		LR	11 35 09.9	
	comp=Z,73nm,19.8s,baz=160,slow=34							
NJ2	**Nanjing**	**40.09**	**334**	*e*P		**P**	**11 20 05.0**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
TPTI		**41.78**	**279**	P		**P**	**11 20 21.7**	**+3.5**
KSRS	**Korea Array**	**42.06**	**348**	P		**P**	**11 20 18.2**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=158,slow=7.7,SNR=3.0							
KSRS				LR		LR	11 35 21.9	
	comp=Z,95nm,21.6s,baz=168,slow=33							
GYA	**Guiyang**	**42.89**	**316**	*e*P		**P**	**11 20 28.0**	**+0.8**
GYA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
CM31	**Chiang Mai Arr**	**44.66**	**301**	P		**P**	**11 20 41.9**	**+0.4**
CM31				IAmb		IAmb	11 20 42.8	
	comp=Z,14nm,1.0s							
CMAR	**Chiang Mai Arr**	**44.66**	**301**	P		**P**	**11 20 39.9**	**-1.6**
	comp=Z,8.1nm,0.9s,baz=125,slow=6.5,SNR=42							
CMAR	**Chiang Mai Ar**	**44.66**	**301**	P		**P**	**11 20 41.9**	**+0.4**
CHTO	**Chiang Mai**	**44.81**	**301**	P		**P**	**11 20 42.5**	**-0.1**
CHTO				IAmb		IAmb	11 20 43.6	
	comp=Z,7.2nm,0.8s							
HHC	**Hu-ho-hao-te**	**50.65**	**334**	*e*P		**P**	**11 21 27.8**	**+0.1**
HHC				pmax		pmax		
	comp=Z,16nm,1.0s							
HHC				pmax		pmax		
	comp=Z,190nm,5.1s							
HHC				LR		LR		
	comp=N,200nm,15.5s							
HHC				LR		LR		
	comp=E,210nm,15.9s							
HHC				LR		LR		
	comp=Z,150nm,15.2s							
LZH	**Lanzhou**	**51.07**	**324**	⇑P		**P**	**11 21 32.8**	**+1.8**
LZH				pP		pP	11 21 44.0	+1.8
LZH				sP		sP	11 21 53.0	+6.4
LZH				PP		PcP	11 22 37.3	-9.3
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,110nm,5.4s							
LZH				LR		LR		
	comp=N,150nm,16.2s							
LZH				LR		LR		
	comp=E,160nm,16.0s							
LZH				LR		LR		
	comp=Z,200nm,18.3s							
KLR	**Kul'dur**	**53.00**	**355**	P		**P**	**11 21 44.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=90,slow=16,SNR=2.3							
SHL	**Shillong**	**53.64**	**306**	P		**P**	**11 21 50.0**	**-0.3**
GTA	**Gaotai**	**55.66**	**324**	*e*P		**P**	**11 22 05.0**	**+0.3**
GTA				pP		sP	11 22 18.3	-2.1
GTA				sP		pP	11 22 25.5	+10
GTA				pmax		pmax		
	comp=Z,4.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,88nm,5.8s							
GTA				LR		LR		
	comp=N,96nm,15.3s							
GTA				LR		LR		
	comp=E,150nm,16.4s							
GTA				LR		LR		
	comp=Z,67nm,16.7s							
ULN	**Ulaanbaatar**	**58.21**	**336**	P		**P**	**11 22 22.4**	**-0.1**
SONM	**Songino Array**	**58.46**	**335**	P		**P**	**11 22 23.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=140,slow=7.6,SNR=5.8							
SONM				LR		LR	11 47 24.6	
	comp=Z,69nm,20.8s,baz=142,slow=36							
SONM	**Songino Array**	**58.46**	**335**	P		**P**	**11 22 24.0**	**-0.2**
PETK	**Petropavlovsk-**	**58.85**	**13**	LR		LR	11 43 41.6	
	comp=Z,69nm,21.9s,baz=186,slow=32							
RAR	**Rarotonga**	**62.44**	**112**	LR		LR	11 47 38.1	
	comp=Z,64nm,21.7s,baz=240,slow=34							
TLY	**Talaya**	**62.57**	**336**	P		**P**	**11 22 52.0**	**-0.2**
TLY				IAmb		IAmb	11 22 53.0	
	comp=Z,3.5nm,0.8s							
WMQ	**Urumqi**	**65.57**	**322**	*e*P		**P**	**11 23 13.8**	**+1.7**
WMQ				pmax		pmax		
	comp=Z,11nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,95nm,4.3s							
MK31	**Makanchi Array**	**70.36**	**323**	P		**P**	**11 23 42.1**	**+0.1**
MK31				IAmb		IAmb	11 23 43.4	
	comp=Z,9.7nm,1.4s							
MKAR	**Makanchi Array**	**70.36**	**323**	P		**P**	**11 23 41.9**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=110,slow=8.0,SNR=31							
MKAR	**Makanchi Array**	**70.36**	**323**	P		**P**	**11 23 42.3**	**+0.2**
MAKZ	**Makanchi**	**70.56**	**323**	P		**P**	**11 23 43.1**	**-0.2**
MAKZ				IAmb		IAmb	11 23 44.0	
	comp=Z,5.7nm,0.8s							
KSH	**Kashi**	**71.52**	**314**	P		**P**	**11 23 49.5**	**+0.1**
KSH				pmax		pmax		
	comp=Z,7.0nm,0.5s							
PPT	**Papeete**	**71.76**	**107**	LR		LR	11 54 06.9	
	comp=Z,32nm,18.8s,baz=259,slow=35							
ZAA0	**Zalesovo Array**	**72.61**	**330**	P		**P**	**11 23 53.8**	**-1.6**
ZAA0				IAmb		IAmb	11 23 55.0	
	comp=Z,11nm,1.4s							
ZALV	**Zalesovo Beam**	**72.61**	**330**	P		**P**	**11 23 54.0**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=110,slow=5.8,SNR=8.4							
ZALV	**Zalesovo Beam**	**72.61**	**330**	P		**P**	**11 23 54.5**	**-1.0**
BOOM	**Boomskoye usch**	**72.64**	**317**	P		**P**	**11 23 55.9**	**-0.2**
BOOM				IAmb		IAmb	11 23 57.7	
	comp=Z,7.8nm,1.4s							
KURK	**Kurchatov**	**74.33**	**325**	P		**P**	**11 24 05.5**	**-0.1**
VNDA	**Vanda**	**74.86**	**175**	P		**P**	**11 24 09.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=330,slow=7.1,SNR=13							
VNDA				LR		LR	11 56 44.4	
	comp=Z,110nm,18.4s,baz=350,slow=35							
VNDA	**Vanda**	**74.86**	**175**	P		**P**	**11 24 08.2**	**0.0**
KK06	**Karatay Array**	**76.59**	**316**	P		**P**	**11 24 18.8**	**0.0**
KK05	**Karatay Array**	**76.60**	**316**	P		**P**	**11 24 18.5**	**-0.3**
KK31	**Karatay Array**	**76.60**	**316**	P		**P**	**11 24 18.7**	**-0.2**
KKAR	**Karatay Array**	**76.60**	**316**	P		**P**	**11 24 17.8**	**-1.1**
BRVK	**Borovoye**	**80.00**	**325**	P		**P**	**11 24 37.5**	**+0.1**
MAW	**Mawson**	**81.13**	**202**	P		**P**	**11 24 45.0**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=72,slow=9.6,SNR=2.8							
MAW				LR		LR	11 59 00.5	
	comp=Z,86nm,18.7s,baz=60,slow=34							
MAW	**Mawson**	**81.13**	**202**	P		**P**	**11 24 44.2**	**+1.0**
ABKAR	**Akbulak array**	**85.26**	**320**	P		**P**	**11 25 04.9**	**+0.1**
ABKAR	**Akbulak array**	**85.26**	**320**	P		**P**	**11 25 04.1**	**-0.8**
RND	**Reindeer**	**85.61**	**26**	P		**P**	**11 25 07.6**	**+1.2**
RND				IAmb		IAmb	11 25 15.6	
	comp=Z,6.9nm,0.9s							
DHY	**Denali Highway**	**86.16**	**26**	P		**P**	**11 25 11.0**	**+1.8**
DHY				IAmb		IAmb	11 25 12.2	
	comp=Z,5.6nm,0.9s							
WRH	**Wood River Hil**	**86.24**	**25**	P		**P**	**11 25 10.7**	**+1.3**
QSPA	**South Pole Qui**	**86.28**	**180**	P		**P**	**11 25 09.9**	**+0.1**
QSPA				IAmb		IAmb	11 25 16.0	
	comp=Z,5.6nm,0.8s							
CCB	**Clear Creek Bu**	**86.41**	**24**	P		**P**	**11 25 09.7**	**-0.5**
CCB				IAmb		IAmb	11 25 17.2	
	comp=Z,4.4nm,0.8s							
RAGM	**Ragged Mountai**	**86.73**	**29**	P		**P**	**11 25 10.9**	**-1.0**
ILAR	**Eielson Array**	**86.82**	**24**	P		**P**	**11 25 11.4**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=266,slow=4.7,SNR=10.0							
ILAR	**Eielson Array**	**86.82**	**24**	P		**P**	**11 25 10.8**	**-1.4**
ARU	**Arti**	**87.43**	**327**	P		**P**	**11 25 14.1**	**-1.3**
BMAR	**Burnt Mountain**	**88.39**	**22**	P		**P**	**11 25 20.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**136.23**	**285**	PKP		**PKiKP**	**11 31 51.9**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=46,slow=2.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**136.23**	**285**			**PKPdf**	**11 31 50.7**	**+0.1**
LPAZ	**La Paz**	**147.11**	**128**	PKPbc		**PKPbc**	**11 32 12.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=182,slow=2.4,SNR=6.1							
LPAZ	**La Paz**	**147.11**	**128**			**PKPab**	**11 32 14.1**	**-0.3**

*IDC **29** 11:16:28.1±0.7, 50.˚85N×175.˚88E, h0km, mb3.8/12, mb1 4.1/13, mb1mx3.9/39, mbtmp3.8/13, ML3.1/1, Error ellipse: s-maj=28.2km s-min=16.2km az=160.0*
*NEIC **29** 11:16:31.3±1.4, 50.˚81N±0.˚10×176.˚0E±0.˚1, h20km±4km, Error ellipse: s-maj=15.9km s-min=6.8km az=149.0*
*AEIC **29** 11:16:33±2.7, 50.˚75N±0.˚08×176.˚4E±0.˚1, h18km±4km, ML3.6, Error ellipse: s-maj=14.3km s-min=4.9km az=142.0*

ISC 29 11:16:31.6±0.8, 50.˚9N±0.˚1×175.˚92E±0.˚05, h25km, n53, σ1s47/55, mb3.8/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.97**	**55**			**Pn**	**11 17 02.9**	**-0.4**
LSSA						**Sn**	**11 17 26.6**	**-0.6**
LSNW	**Little Sitkin**	**1.98**	**54**			**Pn**	**11 17 03.2**	**-0.3**
LSNW						**Sn**	**11 17 26.6**	**-0.9**
LSPA	**Little Sitkin**	**2.00**	**55**			**Pn**	**11 17 03.6**	**-0.2**
LSPA						**Sn**	**11 17 27.9**	**-0.1**
AMKA	**Amchitka**	**2.20**	**75**			**Pn**	**11 17 04.6**	**-1.9**
AMKA						**Sn**	**11 17 28.3**	**-4.6**
CESW	**Semis' Southwe**	**2.52**	**64**			**Pn**	**11 17 10.9**	**0.0**
CESW						**

LEGS	**Legarje**	**0.10**	**254**	*e*Pg	Pg	11 45 10.8	-0.6
GOLS	**Golise**	**0.12**	**74**	*e*Pg	Pg	11 45 11.3	-0.4
GOLS				*i* Sg	Sg	11 45 14.6	+1.3
	comp=Z,3.0nm,0.2s						

BUC 29 11:46:28.9±0.2, 45.65N×21.62E, h17km±1km, ml1.4/3, 6C-9D, Error ellipse: s-maj=1.9km s-min=1.2km az=104.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.04**	**184**	⇓P	Pg	11 46 32.1	+0.2
BZS				⇓S	Sg	11 46 34.4	+0.4
BZS	**Buzias**	**0.04**	**184**	⇓P	Pg	11 46 32.1	+0.2
BZS				⇓S	Sg	11 46 34.4	+0.4
BANR	**Banloc**	**0.43**	**232**	⇑S	Sb	11 46 44.3	+0.1
BANR	**Banloc**	**0.43**	**232**	⇑S	Sb	11 46 44.3	+0.1
SIRR	**Siria**	**0.61**	**3**	⇓P	Pb	11 46 41.2	0.0
SIRR				⇑S	Sb	11 46 49.7	+0.1
SIRR	**Siria**	**0.61**	**3**	⇓P	Pb	11 46 41.2	0.0
GZR	**Gura Zlata**	**0.85**	**107**	⇑P	Pb	11 46 45.0	-0.2
GZR				⇑S	Sn	11 46 57.5	-0.7
GZR	**Gura Zlata**	**0.85**	**107**	⇑P	Pb	11 46 45.0	-0.2
MDVR	**Moldovita**	**0.87**	**176**	⇓P	Pb	11 46 45.5	-0.1
MDVR				⇓S	Sg	11 46 57.7	+0.3
MDVR	**Moldovita**	**0.87**	**176**	⇓P	Pb	11 46 45.5	-0.1

*SOME **29** 11:55:07.7, 43.17N×80.10E, h20km*
*NNC **29** 11:55:09.5±0.8, 43.31N×80.01E, h0km, mb3.8, mpv2.8, Error ellipse: s-maj=7.3km s-min=3.9km az=164.0*
ISC 29 11:55:08.6±1.3, 43.25N±0.05×79.98E±0.03, h2km±11km, n18, σ1°67/33, 1C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 3.7nm,0.1s	**0.33**	**54**	*e*P	**Pg**	**11 55 15.2**	**+0.2**
KTMS				*e*S	**Sg**	**11 55 20.5**	**+1.2**
	20nm,0.1s						
KTMS	**Ketmen** 3.7nm,0.1s	**0.33**	**54**	P	**Pg**	**11 55 15.2**	**+0.2**
KTMS				S	**Sg**	**11 55 20.5**	**+1.2**
	20nm,0.1s						
PDGK	**Podgornoye** 1.8nm,0.1s	**0.37**	**282**	P	**Pg**	**11 55 17.1**	**+1.4**
PDGK				S	**Sb**	**11 55 23.9**	**-0.3**
	9.9nm,0.2s						
PDGK	**Podgornoye** 0.9nm,0.3s	**0.37**	**282**	⇓P	**Pg**	**11 55 17.1**	**+1.4**
PDGK				⇑S	**Sg**	**11 55 22.5**	**+2.1**
	12nm,0.3s						
SHLS	**Shalkode** 12nm,0.1s	**0.39**	**256**	⇓*e*P	Pg	11 55 12.7	-3.4
SHLS				⇓*e*S	**Sg**	**11 55 16.3**	**-4.9**
	106nm,0.2s						
SHLS	**Shalkode** 12nm,0.1s	**0.39**	**256**	P	Pg	11 55 12.7	-3.4
SHLS				S	**Sg**	**11 55 16.3**	**-4.9**
	106nm,0.2s						
UZB	**Uzynbulak** 0.9nm,0.1s	**0.71**	**262**	*e*P	**Pg**	**11 55 22.2**	**0.0**
UZB				*e*S	**Sg**	**11 55 32.6**	**+1.2**
	9.1nm,0.2s						
UZB	**Uzynbulak** 0.9nm,0.1s	**0.71**	**262**	P	**Pg**	**11 55 22.2**	**0.0**
UZB				S	**Sg**	**11 55 32.6**	**+1.2**
	9.1nm,0.2s						
KPKS	**Kokpek** 5.4nm,0.1s	**0.97**	**283**	*e*P	**Pg**	**11 55 27.3**	**+0.1**
KPKS				*e*S	**Sb**	**11 55 41.5**	**-0.1**
	7.8nm,0.2s						
DJR	**Jarkent** 0.4nm,0.1s	**1.09**	**353**	*e*P	**Pg**	**11 55 28.9**	**-0.5**
DJR				*e*S	**Sn**	**11 55 44.4**	**-2.3**
	3.2nm,0.1s						
DJR	**Jarkent** 0.4nm,0.1s	**1.09**	**353**	P	**Pg**	**11 55 29.0**	**-0.5**
DJR				S	**Sb**	**11 55 43.9**	**-1.0**
	3.2nm,0.1s						
ZHN	**Zhinishke** 1.7nm,0.1s	**1.14**	**266**	*e*P	**Pb**	**11 55 30.0**	**-1.0**
ZHN				*e*S	**Sg**	**11 55 46.2**	**+1.2**
	5.9nm,0.2s						
ZHN	**Zhinishke** 24nm,0.2s	**1.14**	**266**	P	**Pn**	**11 55 32.0**	**+0.3**
ZHN				S	**Sn**	**11 55 49.4**	**+1.5**
	5.9nm,0.2s						
SATY	**Saty** 2.2nm,0.1s	**1.17**	**261**	*e*P	**Pb**	**11 55 30.4**	**-1.2**
SATY				*e*S	**Sb**	**11 55 46.9**	**-0.4**
	9.0nm,0.1s						
SATY	**Saty** 2.2nm,0.1s	**1.17**	**261**	P	**Pb**	**11 55 32.4**	**+0.8**
SATY				S	**Sn**	**11 55 49.9**	**+1.1**
	9.0nm,0.1s						
MNBS	**Baschi** 0.2nm,0.3s	**1.42**	**306**	*e*P	**Pn**	**11 55 35.2**	**-0.3**
MNBS				*e*S	**Sg**	**11 55 55.1**	**+1.1**
	3.6nm,0.2s						
ARXS	**Arharly** 0.9nm,0.3s	**1.83**	**302**	*e*P	**Pb**	**11 55 42.6**	**-0.3**
ARXS				*e*S	**Sg**	**11 56 07.6**	**+0.1**
	3.6nm,0.2s						
KNDC	**Almaty** 13nm,0.2s	**2.21**	**270**	⇓Pg	**Pn**	**11 55 47.7**	**+1.4**
KNDC				⇓Lg	Lg	11 56 16.5	
	24nm,0.4s						

*JMA **29** 12:06:25.3±0.1, 33.33N×140.45E, h49km±4km, M3.0*
*IDC **29** 12:06:26.2±2.5, 33.15N×140.17E, h59km±20km, mb3.0/1, mb1 3.4/2, mb1mx3.0/45, mbtmp3.3/2, ML2.3/1, MS2.7/2, Ms1 2.7/2, ms1mx2.2/41, Error ellipse: s-maj=55.8km s-min=14.4km az=84.0*
ISC 29 12:06:24.8±1.2, 33.29N±0.04×140.47E±0.07, h50km±13km, n26, σ0°79/32, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.58**	**253**	P	**Pn**	**12 06 37.6**	**+0.6**
JHJ2				*e*S	**Sn**	**12 06 45.5**	**-0.3**
JHJ	**Hachijo jima 2** 63nm,0.3s,baz=356,slon=21,SNR=95	**0.60**	**254**	P	**Pn**	**12 06 37.2**	**-0.1**
JHJ				S	**Sn**	**12 06 46.0**	**-0.3**
	580nm,0.3s,baz=73,slow=19,SNR=28						
JHCJ	**Hachijojimakas**	**0.60**	**250**	P	**Pn**	**12 06 37.8**	**+0.5**
JHCJ				*e*S	**Sn**	**12 06 45.9**	**-0.5**
JMKN	**Mikurajimanish**	**0.95**	**310**	P	**Pn**	**12 06 42.1**	**+0.2**
JMKN				*e*S	**Sn**	**12 06 53.7**	**-0.8**
JAOM	**Aogashimamukai**	**1.01**	**216**	P	**Pn**	**12 06 43.8**	**+1.1**
JAOM				*e*S	**Sn**	**12 06 56.4**	**+0.5**
BSO1	**Boso 1**	**1.43**	**17**	P	**Pn**	**12 06 47.8**	**0.0**
BSO1				*e*S	**Sn**	**12 07 05.0**	**-0.2**
JKO	**Kozu shima**	**1.43**	**309**	P	**Pn**	**12 06 49.1**	**+0.7**
JKO				*e*S	**Sn**	**12 07 06.4**	**+0.4**
BSO2	**Boso 2**	**1.48**	**9**	*e*S	**Sn**	**12 07 07.4**	**+0.6**
BSO3	**Boso 3**	**1.51**	**1**	P	**Pn**	**12 06 49.8**	**+0.6**
BSO3				*e*S	**Sn**	**12 07 07.8**	**+0.1**
JTHY	**Toshimahigashi**	**1.58**	**322**	P	**Pn**	**12 06 51.2**	**+0.8**
JTHY				*e*S	**Sn**	**12 07 09.4**	**-0.3**
JIM2	**Oshima 3**	**1.67**	**329**	P	**Pn**	**12 06 52.0**	**+0.3**
JIM2				*e*S	**Sn**	**12 07 10.7**	**-1.2**
BSO4	**Boso 4**	**1.70**	**356**	*e*S	**Sn**	**12 07 12.2**	**-0.4**
JIZS	**Izushimoda**	**1.95**	**318**	P	**Pn**	**12 06 56.5**	**+1.1**
JIZS				*e*S	**Sn**	**12 07 18.3**	**-0.4**
KTJ3	**Kamata3**	**2.01**	**325**	P	**Pn**	**12 06 57.0**	**+0.7**
KTJ3				*e*S	**Sn**	**12 07 19.7**	**-0.6**
JOD2	**Odawara 2**	**2.28**	**330**	P	**Pn**	**12 07 00.6**	**+0.6**
JOD2				*e*S	**Sn**	**12 07 25.6**	**-1.3**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=165,slow=15,SNR=12	**3.74**	**331**	P	**Pn**	**12 07 21.8**	**+1.7**
MJAR				S	**Sn**	**12 08 04.3**	**+1.4**
	0.2nm,0.3s,baz=184,slow=36,SNR=3.3						
KSRS	**Korea Array** comp=Z,42nm,18.1s,baz=20,slow=35	**11.06**	**296**	LR	LR	12 12 52.5	
H11N2	**WAKE ISLAND Hy** baz=306,slow=75	**27.14**	**113**	T	T	12 40 48.8	
H11N1	**WAKE ISLAND Hy** baz=306,slow=75	**27.14**	**113**	T	T	12 40 47.1	
H11N3	**WAKE ISLAND Hy** baz=306,slow=75	**27.15**	**113**	T	T	12 40 49.6	
H11S3	**WAKE ISLAND Hy** baz=308	**27.70**	**116**	T	T	12 41 31.1	
H11S1	**WAKE ISLAND Hy** baz=308	**27.70**	**116**	T	T	12 41 36.2	
H11S2	**WAKE ISLAND Hy** baz=308	**27.72**	**116**	T	T	12 41 33.2	
YAK	**Yakutsk** comp=Z,11nm,19.8s,baz=60,slow=38	**29.58**	**350**	LR	LR	12 25 23.4	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=6.7,slow=7.7,SNR=5.9	**53.25**	**187**	P	**P**	**12 15 37.3**	**-1.1**
ASAR	**Alice Springs** 15nm,0.4s,baz=1.6,slow=6.5,SNR=1.9	**56.98**	**187**	P	**P**	**12 16 04.9**	**-0.3**

WEL 29 12:32:10.6, 37°S±11°×177°8E±1°, h223km±9km, M3.4/24, MLv3.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=133.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.08**	**176**	P	Pn	12 32 42.5	-0.7
HAZ				S	S	12 33 05.6	-3.2
PKGZ	**Pakihiroa**	**1.25**	**166**	P	Pn	12 32 50.8	+6.3
WMGZ	**Waiomatatini S**	**1.28**	**154**	P	Pn	12 32 44.1	-0.5
WMGZ				S	S	12 33 09.7	-1.5
RUGZ	**Raukumara Rang**	**1.29**	**181**	P	Pn	12 32 43.8	-1.0
RUGZ				S	S	12 33 06.3	-5.3
PUZ	**Puketiti**	**1.46**	**162**	P	Pn	12 32 46.8	+0.7
PUZ				S	S	12 33 12.2	-1.7
URZ	**Urewera**	**1.65**	**196**	P	Pn	12 32 47.4	-0.2
URZ				S	S	12 33 15.4	-1.1
MWZ	**Matawai**	**1.66**	**185**	P	Pn	12 32 47.9	+0.2
MWZ				S	S	12 33 16.1	-0.7
RAGZ	**Rawiri**	**1.83**	**187**	P	Pn	12 32 50.6	+1.3
CNGZ	**Carnagh Statio**	**1.85**	**168**	P	Pn	12 32 50.5	+1.1
MUGZ	**Murupara**	**1.94**	**202**	P	Pn	12 32 50.9	+0.6
RTZ	**Ruatahuna**	**2.02**	**196**	P	Pn	12 32 51.7	+0.6
RIGZ	**Rimuhau**	**2.03**	**179**	P	Pn	12 32 51.7	+0.6
RIGZ				S	S	12 33 22.5	-0.4
TOZ	**Tahuroa Road**	**2.05**	**238**	P	Pn	12 32 51.9	+0.7
MTHZ	**Maungataniwha**	**2.28**	**197**	P	Pn	12 32 54.7	+1.0
MTHZ				S	S	12 33 27.8	+0.5
KNZ	**Kokohu**	**2.34**	**180**	P	Pn	12 32 54.9	+0.7
KNZ				S	S	12 33 24.1	-4.2
WHHZ	**Waihua**	**2.43**	**189**	P	Pn	12 32 48.8	-6.3
MHGZ	**Mahia Peninsul**	**2.48**	**176**	P	Pn	12 32 56.7	+1.1
NMHZ	**Naumai**	**2.52**	**196**	P	Pn	12 32 57.8	+1.6
ARHZ	**Aropaoanui**	**2.64**	**192**	P	Pn	12 32 58.4	+1.0
BKZ	**Black Stump Fm**	**2.66**	**201**	P	Pn	12 32 58.0	+0.2
MCHZ	**McNeill Hill**	**2.88**	**196**	P	Pn	12 33 01.0	+1.0
HIZ	**Hauiti**	**2.91**	**230**	P	Pn	12 33 02.5	+2.2
KWHZ	**Kaweka Forest**	**2.92**	**200**	P	Pn	12 32 57.2	-3.4
CKHZ	**Cape Kidnapper**	**3.02**	**189**	P	Pn	12 33 02.3	+0.7
FWVZ	**Far West T-bar**	**3.08**	**213**	P	Pn	12 33 03.7	+1.1
MOVZ	**Moawhango**	**3.13**	**209**	P	Pn	12 33 03.2	+0.3
KRHZ	**Kereru**	**3.14**	**199**	P	Pn	12 33 03.3	+0.3
KAHZ	**Kahuranaki**	**3.18**	**191**	P	Pn	12 33 04.4	+0.9
PKVZ	**Pokaka**	**3.20**	**215**	P	Pn	12 33 04.9	+1.0
PXZ	**Pawanui**	**3.42**	**191**	P	Pn	12 33 06.5	+0.4
TSZ	**Takapari Road**	**3.64**	**201**	P	Pn	12 33 08.8	-0.1
BFZ	**Birch Farm**	**4.16**	**195**	P	Pn	12 33 15.0	-0.1
MRZ	**Mangatainoka R**	**4.31**	**202**	P	Pn	12 33 16.5	-0.4
THZ	**Tophouse**	**6.30**	**215**	P	Pn	12 33 41.4	-0.6
KHZ	**Kahutara**	**6.57**	**208**	P	Pn	12 33 43.9	-1.5
GVZ	**Greta Valley S**	**7.24**	**208**	P	Pn	12 33 52.6	-1.3
LTZ	**Lake Taylor**	**7.39**	**213**	P	Pn	12 33 54.5	-1.5
OKCZ	**Okains Bay**	**7.88**	**205**	P	Pn	12 34 01.0	-1.2
MQZ	**McQueen's Vall**	**8.01**	**207**	P	Pn	12 34 01.4	-2.5

*IDC **29** 12:32:21.9±1.2, 6.55S×129.57E, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.8/28, mbtmp3.9/8, ML3.8/4, MS3.1/5, Ms1 3.1/5, ms1mx2.7/33, Error ellipse: s-maj=38.1km s-min=19.9km az=68.0*
*NEIC **29** 12:32:22.5±1.0, 6.24S±0.06×129.63E±0.07, h10km±2km, mb4.1/11, Error ellipse: s-maj=12.5km s-min=9.6km az=79.0*
ISC 29 12:32:22.8±0.6, 6.40S±0.05×129.75E±0.07, h10km, n35, σ2°34/37, mb3.9/5, MS2.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.20**	**136**		**Pb**	**12 33 02.0**	**-0.6**
FAKI	**Fak Fak**	**4.26**	**36**		**Pn**	**12 33 26.0**	**-1.8**
FAKI				Sn	**Sn**	**12 34 16.0**	**-1.6**
MTN	**Manton Dam**	**6.54**	**168**	Pn	**Pn**	**12 34 02.2**	**+3.0**
MTN				Sn	**Sn**	**12 35 17.4**	**+3.4**
BATI	**Baumata** 1.8nm,0.3s,baz=75,slow=20,SNR=1.7	**7.11**	**237**	Pn	**Pn**	**12 34 03.5**	**-3.5**
BATI				Sn	**Sn**	**12 35 27.4**	**-0.6**
	0.9nm,0.3s,baz=98,slow=19,SNR=1.8						
KNRA	**Kununurra**	**9.27**	**186**	Pn	**Pn**	**12 34 38.4**	**+1.8**
KNRA					**Sn**	**12 36 21.8**	**+0.8**
KAPI	**Kappang** comp=Z,196nm,19.0s,baz=80,slow=38	**10.04**	**277**	LR	LR	12 38 37.8	
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=15,slow=9.8,SNR=14	**12.30**	**199**	Pn	**Pn**	**12 35 17.5**	**-0.6**
FITZ				Sn	Sn	12 37 25.4	-10
	0.2nm,0.3s,baz=78,slow=14,SNR=1.6						
FITZ	**Fitzroy Crossi**	**12.30**	**199**		**Pn**	**12 35 19.9**	**+1.8**
WB0	**Warramunga Arr**	**14.03**	**162**		**Pn**	**12 35 39.6**	**-2.2**
WRAB	**Tennant Creek**	**14.18**	**162**		**Pn**	**12 35 43.1**	**-0.7**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=346,slow=13,SNR=25	**14.18**	**162**	Pn	**Pn**	**12 35 41.7**	**-2.1**
WRA				Sn	Sn	12 38 10.7	-11
	0.7nm,0.3s,baz=346,slow=23,SNR=8.0						
WRA				LR	LR	12 41 25.5	
	comp=Z,75nm,21.4s,baz=145,slow=39						
WRA	**Warramunga Arr**	**14.18**	**162**		**Pn**	**12 35 40.9**	**-2.9**
WB2	**Warramunga Arr**	**14.18**	**162**		**Pn**	**12 35 41.8**	**-2.1**
WR0	**Warramunga Arr**	**14.26**	**161**		**Pn**	**12 35 42.8**	**-2.1**
PMG	**Port Moresby**	**17.50**	**101**	Pn	**P**	**12 36 26.9**	**-1.3**
PMG				IAmb	IAmb	12 36 35.1	
	comp=Z,26nm,1.2s						
AS31	**Alice Springs**	**17.62**	**167**	P	**P**	**12 36 29.2**	**-0.5**
AS31					**Sn**	**12 39 37.2**	**-7.9**
ASAR	**Alice Springs** comp=Z,0.3nm,0.3s,baz=343,slow=9.9,SNR=28	**17.63**	**167**	P	**Pn**	**12 36 27.1**	**-1.6**
ASAR				S	Sn	12 39 30.5	-15
	comp=Z,0.0nm,0.3s,baz=338,slow=20,SNR=5.5						
ASAR	**Alice Springs**	**17.63**	**167**	P	**P**	**12 36 31.7**	**+2.1**
PSA00	**Pilbara Seismi**	**17.87**	**211**	P	**P**	**12 36 32.6**	**+0.3**
PSA00				IAmb	IAmb	12 36 44.9	
	comp=Z,13nm,1.1s						
PSAA3	**Pilbara Seismi**	**17.87**	**211**	P	**P**	**12 36 34.0**	**+1.6**
PSAA3				IAmb	IAmb	12 36 37.7	
	comp=Z,8.1nm,0.8s						
SBUM	**Sibu**	**19.59**	**296**	P	**P**	**12 36 49.4**	**-1.9**
CTA	**Charters Tower** comp=Z,3.3nm,0.7s,baz=308,slow=12,SNR=6.6	**21.02**	**132**	P	**P**	**12 37 08.2**	**+1.3**
CTAO	**Charters Tower**	**21.02**	**132**	P	**P**	**12 37 08.8**	**+1.9**
CTAO				IAmb	IAmb	12 37 13.0	
	comp=Z,7.5nm,0.9s						
BBOO	**Buckleboo**	**26.93**	**168**	P	**P**	**12 38 06.8**	**+2.5**
STKA	**Stephens Creek** comp=Z,0.9nm,0.7s,baz=330,slow=7.3,SNR=2.0	**27.66**	**158**	P	**P**	**12 38 10.8**	**-0.1**
STKA				LR	LR	12 51 12.2	
	comp=Z,81nm,19.6s,baz=23,slow=41						
CMAR	**Chiang Mai Arr** comp=Z,15nm,18.6s,baz=140,slow=39	**39.16**	**310**	LR	LR	12 57 40.3	
JWT	**Wachi**	**41.80**	**7**	P	**P**	**12 40 13.3**	**+0.6**
KSRS	**Korea Array** comp=Z,7.7nm,19.8s,baz=142,slow=37	**43.66**	**358**	LR	LR	12 59 17.4	
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=145,slow=5.3,SNR=2.3	**57.80**	**342**	P	**P**	**12 42 17.5**	**+3.0**
MK31	**Makanchi Array**	**67.59**	**327**	P	**P**	**12 43 18.1**	**-1.6**
MKAR	**Makanchi Array** comp=Z,1.2nm,0.6s,baz=122,slow=8.0,SNR=11	**67.59**	**327**	P	**P**	**12 43 19.6**	**-0.1**
MKAR	**Makanchi Array**	**67.59**	**327**	P	**P**	**12 43 18.5**	**-1.2**
MAKZ	**Makanchi**	**67.77**	**327**	P	**P**	**12 43 21.4**	**+0.6**
ABKAR	**Akbulak array**	**81.89**	**322**	P	**P**	**12 44 42.6**	**+0.1**
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**12 44 54.0**	**+2.8**
QSPA				IAmb	IAmb	12 45 04.4	
	comp=Z,1.8nm,1.1s						

WEL 29 12:44:32.0, 43°S±2°×177°1E±°, h5km±2km, M2.8/12, ML2.8/12, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=117.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.28**	**347**	P	Pb	12 44 39.2	-0.3
WVZ				S	Sg	12 44 41.7	+0.5
GCSZ	**Gaunt Creek Bo**	**0.36**	**275**	P	Pb	12 44 40.6	-0.3
RPZ	**Rata Peaks**	**0.40**	**155**	P	Pb	12 44 41.5	-0.1
RPZ				S	Sb	12 44 46.6	-1.5
MHCZ	**Mount Hutt**	**0.57**	**109**	P	Pb	12 44 44.7	+0.2
ARCZ	**Arundel**	**0.65**	**157**	P	Pb	12 44 46.0	+0.2
FOZ	**Fox Glacier**	**0.75**	**256**	P	Pb	12 44 47.9	+0.4
FOZ				S	Sg	12 44 57.1	+0.8
INZ	**Inchbonnie**	**0.78**	**36**	P	Pb	12 44 47.5	-0.4
INZ				S	Sg	12 44 57.4	+0.5
WACZ	**Wakanui South**	**0.95**	**129**	P	Pn	12 44 52.0	+0.1
RACZ	**Rakaia**	**1.03**	**112**	P	Pn	12 44 53.5	+0.5
LBZ	**Lake Benmore**	**1.13**	**204**	P	Pb	12 44 54.2	+0.1
LTZ	**Lake Taylor**	**1.21**	**62**	P	Pn	12 44 56.7	+1.2
LTZ				S	Sn	12 45 12.3	+0.1
AMCZ	**Amberley**	**1.35**	**83**	P	Pg	12 44 58.8	+1.0
MQZ	**McQueen's Vall**	**1.38**	**106**	P	Pg	12 44 58.4	0.0
MQZ				S	Sg	12 45 16.3	0.0
JCZ	**Jackson Bay**	**1.64**	**243**	P	Pg	12 45 03.2	-0.3
JCZ				S	Sn	12 45 23.4	+0.3
GVZ	**Greta Valley S**	**1.67**	**77**	P	Pb	12 45 03.4	+0.3
OKCZ	**Okains Bay**	**1.67**	**104**	P	Pb	12 45 02.9	-0.3
ODZ	**Otahua Downs**	**1.70**	**184**	P	Pb	12 45 03.4	-0.2
ODZ				S	Sn	12 45 24.5	+0.1
DSZ	**Denniston Nort**	**1.76**	**25**	P	Pg	12 45 06.3	+0.6
DSZ				S	Sn	12 45 26.2	+0.2
WKZ	**Wanaka**	**1.97**	**221**	P	Pn	12 45 06.9	+1.0
THZ	**Tophouse**	**2.21**	**45**	P	Pb	12 45 12.2	-0.2

*KRNET **29** 12:54:10.1±0.1, 39.07N×70.96E, h6km, mb3.2*
*NNC **29** 12:54:12.6±4.4, 38.84N×70.93E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=34.2km s-min=20.1km az=2.0*
ISC 29 12:54:05.6±1.6, 38.96N±0.09×71.31E±0.05, h10km, n18, σ2°06/30, 20C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm** baz=62	**0.78**	**273**	⇑*i*P	**Pg**	**12 54 20.1**	**-0.5**
GAR				⇑*i*S	**Sg**	**12 54 27.2**	**-3.6**
	baz=62						
BTK	**Batken** baz=54	**1.16**	**341**	⇓*i*P	**Pn**	**12 54 29.3**	**+1.2**
BTK				⇓*i*S	**Sn**	**12 54 43.4**	**-0.7**
	baz=54						
CHGR	**Chuyangaron** baz=54	**1.71**	**261**	⇑*i*P	**Pg**	**12 54 37.8**	**-0.6**
CHGR				⇑*i*S	**Sb**	**12 54 58.7**	**-0.1**
	baz=54						
MNAS	**Manas** baz=18	**3.64**	**14**	⇑*i*P	**Pb**	**12 55 09.4**	**-0.7**
MNAS				⇑*i*S	**Sb**	**12 55 53.1**	**-1.3**
	baz=18						
AML	**Almayashu** baz=33	**3.65**	**29**	⇑*i*P	**Pb**	**12 55 10.8**	**+0.3**
AML				⇑*e*S	**Sb**	**12 55 55.6**	**+0.6**
	baz=33						
AML	**Almayashu** SNR=8.1	**3.65**	**29**	P	**Pg**	**12 55 14.2**	**-1.4**
ARLS	**Aral** baz=41	**3.70**	**37**	⇑*i*P	**Pb**	**12 55 12.3**	**+1.1**
ARLS				⇑*i*S	**Sb**	**12 55 57.6**	**+1.5**
	baz=41						
UCH	**Uchtor** baz=39	**4.08**	**36**	⇑*i*P	**Pb**	**12 55 17.1**	**-0.6**
UCH				⇑*e*S	**Sb**	**12 56 05.6**	**-1.6**
	baz=39						
UCH	**Uchtor** SNR=6.2	**4.08**	**36**	P	**Pg**	**12 55 21.5**	**-2.2**
EKS2	**Erkin-Say** baz=30	**4.14**	**26**	⇓*i*P	**Pb**	**12 55 17.1**	**-1.6**
EKS2				⇓*i*S	**Sb**	**12 56 05.6**	**-3.3**
	baz=30						
KK31	**Karatay Array** 2.5nm,0.3s,baz=178,slow=13,SNR=46	**4.18**	**352**	⇑P	**Pb**	**12 55 18.9**	**-0.4**
KK31				⇑S	**Sb**	**12 56 11.4**	**+1.4**
	5.4nm,0.5s,baz=174,slow=28						
AAK	**Ala-Archa** baz=36	**4.40**	**32**	⇑*i*P	**Pb**	**12 55 21.4**	**-1.7**
AAK				⇑*i*S	**Sb**	**12 56 13.5**	**-2.7**
	baz=36						
AAK	**Ala-Archa** SNR=6.8	**4.40**	**32**	P	**Pb**	**12 55 25.0**	**+2.0**
AAK	**Ala-Archa** 2.3nm,0.5s	**4.40**	**32**	⇑P	**Pb**	**12 55 25.1**	**+2.0**
AAK				⇑S	**Sb**	**12 56 18.9**	**+2.7**
	13nm,0.8s						
KBK	**Karagaybulak** SNR=5.3	**4.61**	**36**	P	**Pb**	**12 55 29.3**	**+2.6**
USP	**Ospenovka** SNR=5.9	**4.93**	**28**	P	**Pb**	**12 55 31.3**	**-0.8**
TKM2	**Tokmak 2** 1.5nm,0.5s	**5.12**	**38**	⇓P	**Pb**	**12 55 35.2**	**-0.2**
TKM2				⇑S	**Sb**	**12 56 39.7**	**+2.7**
	3.0nm,0.7s						
AB31	**Akbulak array** 0.6nm,0.6s,baz=129,slow=13,SNR=9.8	**13.12**	**325**	⇑P	Pn	12 57 16.2	+4.2
AB31				⇓S	**Sn**	**12 59 43.2**	**+5.2**
	1.5nm,0.8s,baz=156,slow=23,SNR=3.3						

IDC 29 13:09:06.2±1.2, 2.41S×139.63E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/41, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=24.7km s-min=12.0km az=2.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 15nm,0.3s,baz=221,slow=12,SNR=59	**1.08**	**96**	Pg	Pg	13 09 27.2	+0.2
JAY				Lg	Lg	13 09 41.6	
	20nm,0.3s,baz=144,slow=19,SNR=6.4						
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=18,slow=12,SNR=32	**18.18**	**196**	P	Pn	13 13 20.1	-0.1
WRA				S	Sn	13 16 34.0	-10
	0.0nm,0.3s,baz=8.1,slow=23,SNR=2.4						
FITZ	**Fitzroy Crossi** 1.6nm,0.8s,baz=53,slow=10,SNR=2.8	**20.77**	**220**	P	P

FITZ IAmb IAmb 13 26 09.7
comp=Z,8.1nm,1.4s
PMG Port Moresby 25.00 124 LR LR 13 36 20.1
comp=Z,23nm,18.9s,baz=181,slow=37
WB0 Warramunga Arr 25.50 162 P **P 13 26 09.0 +1.9**
WB0 IAmb IAmb 13 26 24.8
comp=Z,9.5nm,1.4s
WRAB Tennant Creek 25.64 162 P **P 13 26 08.7 +0.3**
WRAB IAmb IAmb 13 26 13.5
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 25.65 162 P **P 13 26 08.9 +0.5**
comp=Z,0.8nm,0.5s,baz=339,slow=10,SNR=21
WRA PcP **PcP 13 29 38.3 +1.5**
comp=Z,0.3nm,0.6s,baz=338,slow=2.5,SNR=2.3
WRA Warramunga Arr 25.65 162 P **P 13 26 09.3 +0.8**
WB2 Warramunga Arr 25.65 162 P **P 13 26 09.7 +1.2**
WR0 Warramunga Arr 25.73 162 P **P 13 26 11.1 +1.9**
ASAR Alice Springs 29.07 166 P **P 13 26 39.3 +0.2**
comp=Z,0.3nm,0.5s,baz=340,slow=7.0,SNR=7.5
JWT Wachi 31.64 14 P **P 13 27 01.7 +0.1**
KSRS Korea Array 32.71 2 P **P 13 27 11.5 +0.6**
comp=Z,1.1nm,0.5s,baz=180,slow=10.0,SNR=8.6
BBOO Buckleboo 38.35 167 P **P 13 28 00.3 +1.0**
STKA Stephens Creek 39.10 159 P **P 13 28 06.8 +1.3**
comp=Z,0.7nm,0.3s,baz=4.5,slow=8.7,SNR=5.8
STKA Stephens Creek 39.10 159 IAmb IAmb 13 28 29.5
comp=Z,2.3nm,1.5s
USRK Ussuriysk Ar. 39.73 6 P **P 13 28 11.5 +1.0**
comp=Z,1.0nm,0.5s,baz=177,slow=5.3,SNR=2.3
PETK Petropavlovsk- 54.76 23 P **P 13 30 08.1 +1.0**
comp=Z,3.8nm,0.8s,baz=204,slow=3.2,SNR=5.0
PETK Petropavlovsk- 54.76 23 P **P 13 30 07.2 +0.1**
MKAR Makanchi Array 56.60 325 P **P 13 30 20.2 -0.2**
comp=Z,0.2nm,0.4s,baz=112,slow=7.3,SNR=3.1
MKAR PcP **PcP 13 31 16.1 +0.4**
comp=Z,0.6nm,0.7s,baz=124,slow=4.2,SNR=3.6
MKAR Makanchi Array 56.60 325 P **P 13 30 20.0 -0.4**
KURBB Kurchatov Arra 60.78 327 P **P 13 30 48.1 -1.1**
comp=Z,0.5nm,0.5s,baz=126,slow=6.3,SNR=5.9
KURK Kurchatov 60.78 327 P **P 13 30 48.9 -0.3**
ABKAR Akbulak array 71.21 321 P **P 13 31 55.6 -0.5**
VNDA Vanda 84.36 173 P **P 13 33 09.8 +1.4**
comp=Z,0.3nm,0.6s,baz=297,slow=5.5,SNR=1.9
ILAR Eielson Array 84.48 25 P **P 13 33 09.9 +0.6**
comp=Z,0.3nm,0.6s,baz=271,slow=5.0,SNR=2.4
ARCES ARCESS Array B 89.48 340 P **P 13 33 32.7 -0.7**
comp=Z,7.9nm,1.1s,baz=58,slow=5.4,SNR=3.9

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*IDC **29** 13:22:43.2±0.6, 6.̊02N×82.̊70W, h0km, mb4.4/19, mb1 4.6/26, mb1mx4.5/35, mbtmp4.4/26, ML3.3/5, MS4.0/24, Ms1 4.0/24, ms1mx3.9/36, Error ellipse: s-maj=22.0km s-min=11.3km az=55.0*

*NEIC **29** 13:22:43.9±2.3, 5.̊99N±0.̊07×82.̊67W±0.̊08, h10km±1km, mb4.9/280, Error ellipse: s-maj=13.2km s-min=10.9km az=237.0*

*UCR **29** 13:22:44.8±1.5, 5.̊99N×82.̊92W, h6km, MW4.9, mb4.9(NEIC)*

*UPA **29** 13:22:44.9±3.3, 6.̊11N×82.̊59W, h3km±16km, MW4.8*

*GCMT **29** 13:22:46.9±0.2, 5.̊90N±0.̊01×82.̊57W±0.̊01, h22km, MW5.1/130, Moment Tensor Solution. s72,c99; s130,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.01±.11; $M_{\theta\theta}$-0.17±.09; $M_{\phi\phi}$0.17±.11; $M_{r\theta}$0.79±.17; $M_{\theta\phi}$4.86±.09; $M_{\phi r}$0.06±.17; Best double couple: $M_0$4.92700×10^{16} NP1:ϕ_s359.00000°, δ81.00000°, λ179.00000°. NP2:ϕ_s89.00000°, δ89.00000°, λ9.00000°. Principal axes: T 4.9380, Plg7.0000°, Azm314.0000°; N -0.0220, Plg81.0000°, Azm92.0000°; P -4.9160, Plg6.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*INET **29** 13:22:51.1, 6.̊25N×82.̊67W, h15km, ML4.5*

ISC 29 13:22:43.7±1.9, 5.̊91N±0.̊04×82.̊62W±0.̊04, h8km±11km, n671, σ1.̊43/684, mb4.9/139, MS4.0/21, 24C-8D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**2.15**	**152**	eP	Pn	13 23 14.4	-5.4
MAPC				eS	Sn	13 23 35.8	-11
CACAO	**El Cacao, Vera**	**2.25**	**51**⇓iP		Pn	**13 23 19.4**	**-1.9**
CACAO				eS	Sn	**13 23 46.2**	**-3.1**
MARI3	**Mariato, Verag**	**2.37**	**43**⇓iP		Pn	**13 23 22.8**	**-0.1**
MARI3				eS	Sn	**13 23 52.3**	**+0.2**
PONU3	**Ponuga, Veragu**	**2.55**	**40**⇓iP		Pn	**13 23 24.6**	**-0.7**
TOSI3	**Tonosi**	**2.63**	**55**	eP	Pn	**13 23 24.8**	**-1.6**
TOSI3				eS	Sn	**13 23 54.0**	**-4.4**
CDITO	**Canoas**	**2.66**	**355**⇑iP		Pn	**13 23 25.0**	**-1.9**
CDITO				eS	Sn	**13 23 54.6**	**-4.6**
PTJ1	**Puerto Jimnez**	**2.70**	**345**	eP	Pn	**13 23 25.7**	**-1.7**
PTJ1				eS	Sn	**13 23 57.6**	**-2.6**
PTJ1	**Puerto Jimnez**	**2.70**	**345**⇑iP		Pn	**13 23 25.7**	**-1.7**
PTJ1				eS	Sn	**13 23 58.8**	**-1.4**
RIOS	**Rincon, Osa**	**2.91**	**342**⇑eP		Pn	**13 23 28.2**	**-2.2**
RIOS				eS	Sn	**13 24 03.5**	**-2.1**
EDSV	**San Vito**	**2.91**	**353**⇓eP		Pn	**13 23 29.2**	**-1.2**
EDSV				eS	Sn	**13 24 05.5**	**-0.2**
AZU	**Azuero**	**2.99**	**51**⇓iP		Pn	**13 23 30.1**	**-1.3**
AZU				eS	Sn	**13 24 01.2**	**-6.2**
PCRI3	**Pocri, Los San**	**3.03**	**55**	eP	Pn	**13 23 31.2**	**-0.8**
CHGR2	**Aguacate**	**3.04**	**9**	eP	Pn	**13 23 30.2**	**-2.0**
CHGR2				eS	Sn	**13 24 05.7**	**-3.2**
EDPN	**Palmar Norte**	**3.15**	**345**⇑eP		Pn	**13 23 32.2**	**-1.4**
EDPN				eS	Sn	**13 24 08.8**	**-2.4**
EDBA	**Buenos Aires**	**3.30**	**349**	eP	Pn	**13 23 35.1**	**-0.6**
EDBA				eS	Sn	**13 24 14.6**	**-0.5**
DRK0	**Durika**	**3.39**	**349**⇑eP		Pn	**13 23 35.8**	**-1.2**
DRK0				eS	Sn	**13 24 17.1**	**-0.5**
PNME	**Penonome**	**3.42**	**41**⇓iP		Pn	**13 23 37.4**	**0.0**
PNME				eS	Sn	**13 24 13.1**	**-5.1**
EDLM	**Las Mercedes**	**3.48**	**344**⇑eP		Pn	**13 23 37.5**	**-0.8**
EDLM				eS	Sn	**13 24 18.3**	**-1.5**
EDDO	**Dominical**	**3.54**	**340**⇑iP		Pn	**13 23 37.5**	**-1.6**
EDDO				eS	Sn	**13 24 18.9**	**-2.3**
PEZE	**Perez Zeledon,**	**3.61**	**343**⇑eP		Pn	**13 23 39.0**	**-1.0**
PEZE				eS	Sn	**13 24 21.4**	**-1.4**
VTON	**El Valle, Cocl**	**3.66**	**43**	eP	Pn	**13 23 40.7**	**0.0**
VTON				eS	Sn	**13 24 24.4**	**+0.3**
CDM	**Cerro de Muert**	**3.79**	**343**⇑eP		Pn	**13 23 41.9**	**-1.0**
CDM				eS	Sn	**13 24 24.6**	**-3.4**
RIMA	**Rio Macho**	**4.03**	**342**⇑eP		Pn	**13 23 44.9**	**-0.9**
LCR2	**La Lucha 2**	**4.05**	**340**⇑eP		Pn	**13 23 45.1**	**-1.1**
LCR2				eS	Sn	**13 24 31.6**	**-2.3**
TABO3	**Taboga, Panama**	**4.18**	**46**	eS	Sn	**13 24 39.7**	**+2.9**
BATAN	**Batan**	**4.23**	**350**	eP	Pn	**13 23 47.8**	**-0.7**
BATAN				eS	Sn	**13 24 38.7**	**+0.6**
JACO	**JACO, Garabito**	**4.24**	**332**⇑iP		Pn	**13 23 46.6**	**-2.0**
UPA	**Univ. de Panam**	**4.32**	**45**⇓iP		Pn	**13 23 48.7**	**-1.0**
UPA				eS	Sn	**13 24 39.3**	**-1.0**
HDC	**Heredia**	**4.33**	**340**⇑iP		Pn	**13 23 49.4**	**-0.5**
HDC				eS	Sn	**13 24 39.9**	**-0.7**
HDC	**Heredia**	**4.33**	**340**⇑iP		Pn	**13 23 49.5**	**-0.5**
HDC	**Heredia**	**4.33**	**340**		Pn	**13 23 49.3**	**-0.7**
LAFE	**Finca La Fe, P**	**4.49**	**330**⇑eP		Pn	**13 23 50.4**	**-1.6**
SRA1	**San Ramn**	**4.54**	**336**⇑eP		Pn	**13 23 51.4**	**-1.4**
JTS	**Las Juntas de**	**4.93**	**332**	Pn	Pn	**13 23 56.2**	**-1.9**

91nm,0.3s,baz=187,slow=18,SNR=170
JTS Sn **Sn 13 24 53.4 -1.9**
204nm,0.3s,baz=132,slow=22,SNR=18
JTS LR LR 13 25 09.6
comp=Z,518nm,21.5s,baz=224,slow=30

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**4.93**	**332**⇑iP		Pn	**13 23 56.6**	**-1.5**
PTAC	**Punta Ardita,**	**4.94**	**75**	eP	Pn	**13 23 58.8**	**+0.6**
ARE1	**Arenal 1**	**4.98**	**335**⇑iP		Pn	**13 23 58.6**	**-0.2**
CEDE	**Laguna Cedeo**	**4.99**	**336**⇑eP		Pn	**13 23 58.9**	**-0.2**
DUNO	**Dulce Nombre,**	**5.03**	**326**⇑eP		Pn	**13 23 57.7**	**-1.8**
COVE	**Coope Vega, Sa**	**5.09**	**340**⇑eP		Pn	**13 23 59.8**	**-0.6**
PLVR	**Palo Verde**	**5.17**	**329**	eP	Pn	**13 23 59.6**	**-2.0**
ORTG	**Ortega, Santa**	**5.24**	**328**⇑eP		Pn	**13 24 00.8**	**-1.7**
GR1C	**Gorgona, Isla**	**5.29**	**123**	eP	Pn	**13 24 01.3**	**-1.8**
GPS2	**Hotel Rincn d**	**5.52**	**331**	eP	Pn	**13 24 04.8**	**-1.5**
BUEV	**Buena Vista**	**5.59**	**331**	eP	Pn	**13 24 05.9**	**-1.3**
MALC	**Bahia Malaga**	**5.59**	**109**	eP	Pn	**13 24 06.0**	**-1.2**
GB1A	**Borinquen Arri**	**5.60**	**331**	eP	Pn	**13 24 07.2**	**-0.2**
CAP2	**Capurgana**	**5.88**	**62**⇓iP		Pn	**13 24 12.8**	**+1.6**
CAPC	**Capurgana**	**5.88**	**62**	eP	Pn	**13 24 13.0**	**+1.8**
ESPN	**Las Esperanzas**	**6.46**	**345**	Pn	Pn	**13 24 18.0**	**-1.2**
DBBC	**Dabeiba**	**6.46**	**80**	eP	Pn	**13 24 21.8**	**+2.6**
ACON	**Acoyapa**	**6.53**	**337**	Pn	Pn	**13 24 18.8**	**-1.3**
CBOC	**Ciudad Bolivar**	**6.57**	**90**	eP	Pn	**13 24 22.6**	**+1.7**
BBAC	**Balboa, Cauca**	**6.61**	**126**	eP	Pn	**13 24 20.7**	**-0.7**
PAC1	**Pacto, Paraso**	**6.78**	**146**	eP	Pn	**13 24 19.3**	**-4.5**
POPC	**Popayan, Colom**	**6.81**	**119**	eP	Pn	**13 24 22.3**	**-1.9**
LCBC	**Los crdobas,**	**6.86**	**64**	eP	Pn	**13 24 28.1**	**+3.5**
CCUFI	**Cufio, Nario**	**7.02**	**131**	eP	Pn	**13 24 25.8**	**-1.5**
GCUF	**Volcan Galeras**	**7.02**	**131**	eP	Pn	**13 24 28.1**	**+0.8**
HELC	**Santa Helena**	**7.06**	**87**	eP	Pn	**13 24 29.4**	**+1.7**
HELC	**Santa Helena**	**7.06**	**87**	eP	Pn	**13 24 29.4**	**+1.7**
HELC				eS	Sn	**13 25 49.0**	**+0.7**
PCON	**Cinco Dias**	**7.15**	**120**	eP	Pn	**13 24 31.6**	**+2.5**
GUY2C	**Guyana, Caldas**	**7.25**	**95**	eP	Pn	**13 24 32.3**	**+1.8**
ANIL	**Santa Ana**	**7.32**	**101**	eP	Pn	**13 24 33.5**	**+2.3**
ORTC	**Ortega, Tolima**	**7.61**	**105**	eP	Pn	13 24 40.6	+5.6
MATN	**Matagalpa**	**7.70**	**335**	Pn	Pn	**13 24 36.0**	**-0.3**
BETC	**Betania**	**7.84**	**114**	eP	Pn	**13 24 41.0**	**+2.8**
PRAC	**Prado**	**8.01**	**105**	eP	Pn	**13 24 41.5**	**+1.0**
GARC	**Garzon, Huila**	**8.01**	**117**	eP	Pn	**13 24 42.3**	**+1.6**
CRIN	**San Cristobal**	**8.04**	**327**	Pn	Pn	**13 24 40.3**	**-0.6**
ROSC	**El Rosal**	**8.33**	**97**	Pn	Pn	**13 24 48.4**	**+3.1**

1.7nm,0.3s,baz=262,slow=6.9,SNR=9.5
ROSC LR LR 13 27 20.4
comp=Z,800nm,18.3s,baz=296,slow=33

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**8.33**	**97**		Pn	**13 24 47.9**	**+2.7**
CSGN	**Cosiguina Volc**	**8.55**	**326**	Pn	Pn	**13 24 48.7**	**+0.8**
BRRC	**Barranca, Sant**	**8.93**	**82**	eP	Pn	**13 24 56.4**	**+3.3**
CHIC	**Chingaza**	**8.94**	**98**	eP	Pn	**13 24 57.2**	**+3.6**
TGUH	**Tegucigalpa,Un**	**9.30**	**331**	Pn	Pn	**13 24 58.3**	**0.0**
BARC	**Barichara**	**9.40**	**85**	eP	Pn	13 25 05.2	+5.4
MACC	**Macarena, Meta**	**9.51**	**113**	eP	Pn	**13 25 01.1**	**0.0**
COEG	**Centro de Oper**	**9.84**	**322**	eP	Pn	**13 25 07.7**	**+2.1**
COEG				IAML		13 25 19.5	

comp=Z,243nm,0.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVA	**Las Pavas**	**9.94**	**322**	eP	Pn	**13 25 09.6**	**+2.5**
PAVA				IAML		13 25 25.9	

comp=Z,225nm,0.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**9.95**	**321**	eP	Pn	**13 25 09.8**	**+2.6**
LBRS	**Las Brisas**	**10.03**	**321**	eP	Pn	**13 25 10.1**	**+1.9**
PAYG	**Puerto Ayora**	**10.07**	**230**		Pn	**13 25 10.4**	**+1.7**
SNET	**Serv Nac Est T**	**10.11**	**320**	Pn	Pn	**13 25 10.6**	**+1.3**
BOQS	**Boqueron**	**10.17**	**320**	eP	Pn	**13 25 13.3**	**+2.9**
TACO	**Tacachico**	**10.40**	**321**	eP	Pn	**13 25 15.8**	**+2.5**
TACO				eS		13 25 24.1	
MTO3	**Montecristo**	**10.73**	**322**	Pn	Pn	**13 25 17.6**	**-0.3**
ESQI	**Esquipulas**	**10.84**	**323**		Pn	**13 25 17.5**	**-1.9**
SDV	**Santo Domingo**	**12.25**	**75**	Pn	Pn	**13 25 40.4**	**+1.7**

comp=Z,0.7nm,0.3s,baz=249,slow=9.6,SNR=37
SDV Sn **Sn 13 27 51.3 -4.4**
comp=Z,1.0nm,0.3s,baz=315,slow=17,SNR=1.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**12.25**	**75**	Pn	Pn	**13 25 40.1**	**+1.3**
SDV	**Santo Domingo**	**12.25**	**75**	eP	Pn	**13 25 41.1**	**+2.4**
SDV				eS	Sn	**13 27 51.5**	**-4.2**
RTAL	**Retalhuleu**	**12.37**	**314**	Pn	Pn	**13 25 40.6**	**+0.4**
HUEH	**Huehuetenango**	**12.79**	**318**		Pn	**13 25 45.9**	**-0.2**
PETF	**Flores**	**13.04**	**328**	Pn	Pn	**13 25 48.8**	**-0.5**
MTDJ	**Mount Denham**	**13.21**	**22**	Pn	Pn	**13 25 50.6**	**-1.2**
ATAH	**Atahualpa**	**13.63**	**162**	Pn	Pn	**13 25 59.5**	**+1.7**

comp=Z,0.2nm,0.3s,baz=338,slow=20,SNR=1.4
ATAH LR LR 13 30 40.7
comp=Z,2μm,20.2s,baz=336,slow=35

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**13.90**	**319**	Pn	Pn	**13 26 01.4**	**+0.1**
CBCY	**The Bluff, Cay**	**14.03**	**11**	Pn	Pn	**13 26 02.9**	**+0.1**
GTBY	**Guantanamo Bay**	**15.73**	**27**	Pn	Pn	**13 26 26.5**	**+0.7**
LGNH	**Logne**	**15.88**	**37**	Pn	Pn	**13 26 28.1**	**+0.4**
LGNH				IAmb	IAmb	13 26 41.4	

comp=Z,48nm,0.7s
CMIG Matias Romero 16.36 314 Pn **Pn 13 26 32.1 -1.7**
comp=Z,0.2nm,0.3s,baz=134,slow=10,SNR=8.9
CMIG LR LR 13 31 59.4
comp=Z,824nm,19.7s,baz=118,slow=34

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**16.77**	**144**	eP	Pn	**13 26 37.9**	**-1.3**
BANI	**BANI**	**17.23**	**43**		Pn	**13 26 45.1**	**0.0**
SDD	**Santo Domingo**	**17.58**	**44**		P	**13 26 49.9**	**-0.4**
SDD				IAmb	IAmb	13 26 58.1	

comp=Z,137nm,1.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**17.73**	**40**	P	P	**13 26 52.5**	**+0.5**
DR12	**Loma Pena Alta**	**18.18**	**44**	P	P	**13 26 57.3**	**+0.3**
PCRV	**Puerto La Cruz**	**18.30**	**75**	P	P	**13 26 58.7**	**+0.3**

comp=Z,0.9nm,0.3s,baz=306,slow=20,SNR=6.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCV	**Puerto La Cruz**	**18.34**	**76**	P	Pn	**13 26 58.7**	**0.0**
NNA	**Nana**	**18.68**	**162**	P	Pn	**13 27 04.5**	**+1.6**

comp=Z,1.4nm,0.3s,baz=344,slow=7.9,SNR=5.9
NNA LR LR 13 33 33.2
comp=Z,396nm,19.1s,baz=317,slow=34

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**18.68**	**162**	P	Pn	**13 27 04.5**	**+1.6**
GRTK	**Grand Turk**	**19.09**	**35**	P	Pn	**13 27 07.4**	**-0.2**
GRTK				IAmb	IAmb	13 27 08.6	

comp=Z,114nm,1.2s
TLIG Tlapa 19.42 308 P **Pn 13 27 11.8 0.0**
TLIG IAmb IAmb 13 27 28.9
comp=Z,43nm,0.8s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**19.61**	**49**	P	P	**13 27 13.1**	**+0.5**
ICMP	**Isla Caja de M**	**19.71**	**51**	P	P	**13 27 14.5**	**+0.7**
AOPR	**Arecibo Observ**	**19.81**	**50**	P	P	**13 27 16.1**	**-0.3**
061Z	**Ochoppi**	**19.91**	**5**	P	P	**13 27 16.4**	**+0.6**
061Z				IAmb	IAmb	13 27 21.4	

comp=Z,74nm,0.8s
SJG San Juan 20.14 52 Pn Pn 13 27 20.1 -0.2
comp=Z,71nm,0.9s,baz=256,slow=6.8,SNR=1.1
SJG LR LR 13 34 26.1
comp=Z,383nm,21.9s,baz=238,slow=35

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.14**	**52**	P	Pn	13 27 19.4	-0.8
PDPR	**Patillas Dam,**	**20.18**	**52**	P	Pn	13 27 19.9	-0.9
PDPR				IAmb	IAmb	13 27 39.8	

comp=Z,48nm,1.0s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**20.30**	**51**	P	Pn	13 27 21.5	-0.7
HUMP	**Col San Antoni**	**20.39**	**52**	P	Pn	13 27 22.7	-0.5
CBYP	**Canovanas**	**20.46**	**52**	P	P	**13 27 22.9**	**+1.0**
CUPR	**Culebra, Puert**	**20.93**	**52**	P	P	**13 27 27.4**	**+0.5**
CDVI	**St. Croix**	**21.04**	**54**	P	P	**13 27 29.2**	**+1.1**
ETMB	**Extrema**	**22.61**	**134**	eP	P	**13 27 43.9**	**-1.2**
656A	**Willston**	**23.34**	**0**	P	P	**13 27 52.7**	**+0.2**
553A	**Crawfordville**	**24.21**	**356**	P	P	**13 27 59.2**	**-1.7**
553A				IAmb	IAmb	13 28 08.9	

comp=Z,43nm,1.1s
SAML Samuel 24.36 127 P **P 13 28 01.1 -1.3**
SAML IAmb IAmb 13 28 05.4
comp=Z,31nm,1.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	**Samuel**	**24.36**	**127**	eP	P	**13 28 01.0**	**-1.4**
451A	**Vernon**	**24.75**	**354**	P	P	**13 28 02.4**	**-3.4**
TIGA	**Tifton**	**25.41**	**358**	P	P	**13 28 11.0**	**-0.7**

baz=178
TIGA Tifton 25.41 358 P **P 13 28 11.8 0.0**
BRAL Brewton 25.47 351 P **P 13 28 12.3 0.0**
baz=170
ZAIG Zacatecas 25.52 313 P **P 13 28 13.6 +0.3**
ZAIG IAmb IAmb 13 28 18.9
comp=Z,35nm,1.1s
352A Blakely 25.53 355 P **P 13 28 13.0 +0.1**
LPAZ La Paz 26.30 147 P **P 13 28 20.9 +0.2**
comp=Z,3.1nm,0.6s,baz=313,slow=7.9,SNR=8.4
LPAZ LR LR 13 39 46.9
comp=Z,1μm,19.8s,baz=310,slow=39

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**26.30**	**147**	P	P	**13 28 19.9**	**-0.8**
LPAZ	**La Paz**	**26.30**	**147**	eP	P	**13 28 20.4**	**-0.3**
344A	**Westbrook Farm**	**26.52**	**344**	P	P	**13 28 22.0**	**+0.1**
154A	**Montrose**	**26.57**	**359**	P	P	**13 28 22.6**	**+0.3**
152A	**Waverly Hall**	**26.70**	**356**	P	P	**13 28 21.1**	**-2.3**
152A				IAmb	IAmb	13 28 30.8	

comp=Z,31nm,1.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKT	**Hockley**	**26.96**	**334**	P	P	**13 28 25.6**	**-0.2**
AP01	**Chacalluta**	**27.00**	**154**	P	P	**13 28 27.1**	**+0.8**
VBMS	**Vicksburg**	**27.20**	**345**	P	P	**13 28 27.6**	**-0.4**
146A	**Union**	**27.26**	**348**	P	P	**13 28 27.7**	**-0.8**
LRAL	**Lakeview Retre**	**27.30**	**352**	P	P	**13 28 28.2**	**-0.6**

baz=170

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRAL	**Lakeview Retre**	**27.30**	**352**	P	P	**13 28 28.6**	**-0.2**
PB16	**IPOC Station P**	**27.34**	**152**	P	P	**13 28 28.2**	**-1.8**
PB16				IAmb	IAmb	13 28 33.9	

comp=Z,35nm,1.4s
Z59A Georgetown, SC 27.37 6 P **P 13 28 28.9 -0.6**
baz=187
GOGA Godfrey 27.38 358 P **P 13 28 29.3 -0.2**
baz=178
GOGA Godfrey 27.38 358 P **P 13 28 27.0 -2.5**
GOGA IAmb IAmb 13 28 43.0
comp=Z,20nm,1.2s
833A Chaparral WMA, 27.39 326 P **P 13 28 29.4 -0.2**
baz=141
833A Chaparral WMA, 27.39 326 P **P 13 28 28.1 -1.6**
Z47A Carrollton 27.62 350 P **P 13 28 29.2 -2.5**
Z47A IAmb IAmb 13 28 41.0
comp=Z,23nm,0.9s

Y52A Lilburn 27.85 357 P **P 13 28 30.8 -3.0**
Y52A IAmb IAmb 13 28 44.2
comp=Z,21nm,1.2s
MNMC Minye Minye 28.00 153 P **P 13 28 34.7 -0.8**
MNMC IAmb IAmb 13 28 39.6
comp=Z,34nm,1.2s
Y49A Blount Mountai 28.03 353 P **P 13 28 33.6 -1.8**
NATX Nacogdoches 28.08 338 P **P 13 28 35.9 0.0**
baz=154
NATX Nacogdoches 28.08 338 P **P 13 28 34.8 -1.0**
NATX IAmb IAmb 13 28 40.8
comp=Z,33nm,1.1s
HODGE Hodges 28.18 1 P **P 13 28 36.5 -0.2**
HODGE IAmb IAmb 13 28 46.9
comp=Z,26nm,1.4s
X55A Gracelyn & Ava 28.43 2 P **P 13 28 39.4 +0.5**
baz=182
435B Jarrell 28.46 332 P **P 13 28 39.0 -0.3**
baz=147

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
435B	**Jarrell**	**28.46**	**332**	P	P	**13 28 37.7**	**-1.6**
Y45A	**Yeager Farm, C**	**28.55**	**348**	P	P	**13 28 38.2**	**-1.8**
X51A	**Calhoun**	**28.59**	**356**	P	P	**13 28 38.1**	**-2.3**
FPAL	**Fort Paine**	**28.62**	**355**	P	P	**13 28 38.2**	**-2.5**
ITTB	**Itaituba**	**28.72**	**110**	eP	P	**13 28 41.5**	**-0.3**
Z41A	**Richland Creek**	**28.81**	**342**	P	P	**13 28 41.3**	**-1.0**
Z41A				IAmb	IAmb	13 28 47.4	

comp=Z,18nm,0.6s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BG3	**Lake Jocassee**	**28.94**	**359**	P	P	**13 28 42.2**	**-1.3**
TA01	**Diego Aracena**	**29.01**	**155**	P	P	**13 28 43.7**	**-0.5**
TA01				IAmb	IAmb	13 28 47.3	

comp=Z,17nm,0.9s
W54A Cherokee Point 29.04 1 P **P 13 28 44.9 +0.6**
baz=181
VILB Vilhena 29.11 130 eP **P 13 28 45.2 0.0**
KMSC Kings Mountain 29.11 2 P **P 13 28 45.3 +0.2**
baz=183
CCAR Cane Creek 29.13 344 P **P 13 28 44.0 -1.2**
CCAR IAmb IAmb 13 28 48.0
comp=Z,24nm,1.0s
W56A Indian Trail 29.14 3 P **P 13 28 44.7 -0.6**
baz=184
OXF Oxford 29.15 348 P **P 13 28 44.7 -0.7**
baz=166
OXF Oxford 29.15 348 P **P 13 28 42.1 -3.2**
OXF IAmb IAmb 13 28 49.3
comp=Z,21nm,0.9s
W57A Gilead 29.20 4 P **P 13 28 45.6 -0.2**
baz=185

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W57A	**Gilead**	**29.20**	**4**	P	P	**13 28 44.0**	**-1.8**
W50A	**Signal Mountai**	**29.25**	**355**	P	P	**13 28 45.7**	**-0.6**
JCT	**Junction City**	**29.30**	**329**	P	P	**13 28 46.6**	**-0.2**

baz=143
JCT Junction City 29.30 329 P **P 13 28 45.8 -1.0**
JCT IAmb IAmb 13 28 50.0
comp=Z,28nm,1.4s
WLAR White Oak Lake 29.31 342 P **P 13 28 45.9 -0.8**
WLAR IAmb IAmb 13 28 53.0
comp=Z,31nm,1.1s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAL	**Pickwick Lake**	**29.37**	**351**	P	P	**13 28 45.6**	**-1.7**
WHTX	**Lake Whitney,**	**29.43**	**334**	P	P	**13 28 47.5**	**-0.3**

baz=149
WHTX Lake Whitney, 29.43 334 P **P 13 28 46.1 -1.7**
WHTX IAmb IAmb 13 28 50.2
comp=Z,13nm,0.8s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCT	**Cooper Cave**	**29.45**	**357**	P	P	**13 28 46.2**	**-1.8**
X43A	**Marvell**	**29.48**	**346**	P	P	**13 28 47.7**	**-0.5**

baz=163

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V53A	**Saluda**	**29.62**	**360**	P	P	**13 28 47.6**	**-1.9**
TKL	**Tuckaleechee C**	**29.62**	**358**	P	P	**13 28 48.0**	**-1.6**

comp=Z,4.3nm,0.9s,baz=147,slow=10,SNR=2.7
TKL LR LR 13 40 54.3
comp=Z,269nm,18.1s,baz=181,slow=37

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKL	**Tuckaleechee C**	**29.62**	**358**	P	P	**13 28 47.7**	**-1.9**
W45A	**Hickory Valley**	**29.73**	**349**	P	P	**13 28 48.5**	**-2.0**
V54A	**Nebo**	**29.73**	**1**	P	P	**13 28 50.4**	**-0.1**

baz=181
V51A Loudon 29.79 357 P **P 13 28 48.0 -3.1**
V51A IAmb IAmb 13 28 52.1
comp=Z,20nm,1.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V52A	**Sevierville**	**29.80**	**358**	P	P	**13 28 48.2**	**-2.9**
V56A	**Mocksville**	**29.82**	**3**	P	P	**13 28 51.0**	**-0.3**

baz=184
V58A Windy Hill, Pi 29.92 6 P **P 13 28 51.3 -0.8**
baz=187
V58A Windy Hill, Pi 29.92 6 P **P 13 28 50.0 -2.1**
V58A IAmb IAmb 13 28 60.0
comp=Z,15nm,1.1s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V48A	**Smith Brothers**	**29.94**	**353**	P	P	**13 28 49.3**	**-3.0**
V57A	**Coltrane Farms**	**29.95**	**5**	P	P	**13 28 52.0**	**-0.5**

baz=186
X40A Basin Creek Fa 29.97 343 P **P 13 28 52.0 -0.6**
baz=159
V59A Middlesex 29.98 7 P **P 13 28 50.8 -1.9**
baz=189

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPGB	**Novo Progresso**	**30.09**	**115**	eP	P	**13 28 52.9**	**-1.0**
UALR	**University of**	**30.10**	**344**	P	P	**13 28 51.1**	**-2.7**
UALR				IAmb	IAmb	13 28 57.8	

comp=Z,19nm,1.1s
PB07 IPOC Station P 30.17 156 P **P 13 28 53.6 -1.1**
PB07 IAmb IAmb 13 29 10.2
comp=Z,35nm,1.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLTN	**Cedars of Leba**	**30.23**	**354**	P	P	**13 28 52.4**	**-2.5**
MIAR	**Mount Ida**	**30.25**	**342**	P	P	**13 28 53.8**	**-1.2**

baz=158,SNR=5.0
MIAR Mount Ida 30.25 342 P **P 13 28 53.0 -2.1**
MIAR IAmb IAmb 13 28 55.1
comp=Z,16nm,1.2s
H06E1 SOCORRO T-PHAS30.40 297 T T 14 00 48.5
SNR=34
W41B Gary Mavity, V 30.45 344 P **P 13 28 55.6 -1.2**
baz=161,SNR=9.9
W41B Gary Mavity, V 30.45 344 P **P 13 28 55.3 -1.5**
W41B IAmb IAmb 13 28 57.4
comp=Z,34nm,1.3s
WVT Waverly 30.45 352 P **P 13 28 55.6 -1.2**
baz=170

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVT	**Waverly**	**30.45**	**352**	P	P	**13 28 55.5**	**-1.4**
U54A	**Nelsons Funny**	**30.48**	**1**	P	P	**13 28 56.1**	**-1.1**

baz=182
U55A TA2, Sparta 30.48 2 P **P 13 28 57.0 -0.2**
baz=183

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Z35A	**Perchaven, San**	**30.49**	**335**	P	P	**13 28 54.9**	**-2.3**
TZTN	**Tazewell**	**30.50**	**359**	P	P	**13 28 56.9**	**-0.5**

baz=178
TZTN Tazewell 30.50 359 P **P 13 28 55.5 -1.8**
TZTN IAmb IAmb 13 29 12.8
comp=Z,23nm,1.3s
U57A Blanch 30.53 5 P **P 13 28 57.1 -0.4**
baz=186
WHAR Wooly Hollow 30.57 344 P **P 13 28 56.5 -1.4**
WHAR IAmb IAmb 13 28 58.3
comp=Z,21nm,1.1s
U58A Oxford 30.57 6 P **P 13 28 58.1 +0.2**
baz=188
U49A Red Boiling Sp 30.60 355 P **P 13 28 57.2 -1.0**
U49A IAmb IAmb 13 29 01.0
comp=Z,20nm,1.4s
TXAR Lajitas Array 30.63 322 P **P 13 28 59.4 +0.8**
comp=Z,3.7nm,1.0s,baz=139,slow=8.4,SNR=13
TXAR LR LR 13 41 38.5
comp=Z,184nm,19.1s,baz=0.0,slow=37

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**30.63**	**322**	P	P	**13 28 57.8**	**-0.9**
TX31	**Lajitas Ar. Si**	**30.63**	**322**	P	P	**13 28 57.9**	**-0.8**
TX31				IAmb	IAmb	13 29 01.3	

comp=Z,32nm,1.4s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TX32	**Lajitas Array**	**30.63**	**322**	P	P	**13 28 57.6**	**-1.1**
W39A	**Magazine**	**30.91**	**342**	P	P	**13 29 00.5**	**-0.4**

baz=158,SNR=9.4
W39A Magazine 30.91 342 P **P 13 28 60.0 -0.9**
W39A IAmb IAmb 13 29 02.2
comp=Z,30nm,1.3s
T53A Wise 30.93 0 P **P 13 29 01.0 -0.1**
baz=180
ABTX Abilene, Hawle 30.96 331 P **P 13 29 01.6 +0.2**
baz=146
ABTX Abilene, Hawle 30.96 331 P **P 13 29 00.6 -0.9**
ABTX IAmb IAmb 13 29 04.9
comp=Z,12nm,0.9s
T54A Tazewell 31.02 2 P **P 13 29 01.6 -0.4**
baz=182

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCAR	**Lake Charles**	**31.02**	**347**	P	P	**13 29 00.3**	**-1.6**
T50A	**Nancy**	**31.03**	**357**	P	P	**13 29 00.7**	**-1.3**
T56A	**Rocky Mt**	**31.06**	**4**	P	P	**13 29 02.6**	**+0.3**

baz=185

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HICK	**Hickman**	**31.08**	**350**	P	P	**13 29 00.4**	**-2.1**
FCAR	**Ozark Folk Cen**	**31.09**	**345**	P	P	**13 29 00.8**	**-1.7**

FCAR IAmb IAmb 13 29 06.4
comp=Z,22nm,1.1s
T57A Hurt 31.10 5 P **P** 13 29 03.0 +0.5
baz=186
T55A Pulaski 31.11 3 P **P** 13 29 03.2 +0.5
baz=184
T58A Grand View Acr 31.12 6 P **P** 13 29 02.8 +0.1
baz=188
T47A Sharon Grove 31.20 353 P **P** 13 29 02.1 -1.4
T47A IAmb IAmb 13 29 05.7
comp=Z,25nm,1.3s
BLA Blacksburg 31.22 3 P **P** 13 29 03.4 -0.3
baz=184
T59A Double "B" Far 31.26 8 P **P** 13 29 03.9 -0.1
baz=190
LVC Limon Verde 31.36 155 P **P** 13 29 06.9 +1.5
comp=Z,5.1nm,0.9s,baz=348,slow=10,SNR=3.6
LVC Limon Verde 31.36 155 P **P** 13 29 05.2 -0.2
LVC IAmb IAmb 13 29 10.2
comp=Z,17nm,1.4s
PTLB Pontes e Lacer 31.49 133 *eP* **P** 13 29 05.5 -0.7
RCRC Randolf Colleg 31.52 5 P **P** 13 29 06.8 +0.5
PBMO Poplar Bluff 31.55 348 P **P** 13 29 05.5 -1.0
S51A Beattyville 31.60 359 P **P** 13 29 05.8 -1.1
S51A IAmb IAmb 13 29 12.6
comp=Z,19nm,0.9s
S53A Williamson 31.63 1 P **P** 13 29 06.9 -0.3
baz=181
U40A Yellville 31.72 344 P **P** 13 29 07.2 -1.0
baz=160,SNR=9.2
U40A Yellville 31.72 344 P **P** 13 29 06.7 -1.4
U40A IAmb IAmb 13 29 13.9
comp=Z,15nm,1.0s
S54A Dingess, Beckl 31.77 2 P **P** 13 29 08.1 -0.4
baz=182
S55A Lewisburg 31.77 3 P **P** 13 29 08.0 -0.6
baz=184
S57A Dark Hollow, R 31.88 6 P **P** 13 29 09.6 +0.1
baz=187
T42A Van Buren 31.93 347 P **P** 13 29 08.6 -1.3
T42A IAmb IAmb 13 29 14.2
comp=Z,16nm,0.9s
W35A Tecumseh 31.93 338 P **P** 13 29 09.3 -0.7
HHAR Hobbs 31.96 343 P **P** 13 29 08.4 -1.8
HHAR IAmb IAmb 13 29 18.1
comp=Z,11nm,1.1s
R54A Victor 32.16 2 P **P** 13 29 12.3 +0.4
baz=183
R58B Mineral 32.20 7 P **P** 13 29 12.7 +0.5
baz=189
S44A Carbondale 32.21 350 P **P** 13 29 11.0 -1.3
S44A IAmb IAmb 13 29 13.0
comp=Z,18nm,1.1s
TUL1 Leonard 32.22 340 P **P** 13 29 11.1 -1.4
baz=155
USIN University of 32.24 353 P **P** 13 29 11.2 -1.3
U38A Gravette 32.24 342 P **P** 13 29 11.2 -1.5
U38A IAmb IAmb 13 29 16.1
comp=Z,11nm,0.9s
R50A Paris 32.26 357 P **P** 13 29 12.5 -0.3
R50A IAmb IAmb 13 29 14.0
comp=Z,13nm,0.8s
R53A Hurricane 32.28 1 P **P** 13 29 12.4 -0.5
baz=181
R53A Hurricane 32.28 1 P **P** 13 29 11.0 -2.0
R53A IAmb IAmb 13 29 14.2
comp=Z,25nm,1.1s
R55A Marlinton 32.30 4 P **P** 13 29 13.0 -0.3
baz=185
R49A Shelbyville 32.32 356 P **P** 13 29 12.4 -0.8
MGMO Mountain Grove 32.33 345 P **P** 13 29 12.6 -0.8
WMOK Wichita Mounta 32.34 335 P **P** 13 29 12.8 -0.7
baz=149,SNR=7.1
WMOK Wichita Mounta 32.34 335 P **P** 13 29 12.7 -0.9
WCI Wyandotte Cave 32.34 355 P **P** 13 29 12.5 -1.0
baz=173
WCI Wyandotte Cave 32.34 355 P **P** 13 29 13.0 -0.6
R57A Stanardsville 32.45 6 P **P** 13 29 14.6 +0.1
baz=188
R56A Bull Pasture M 32.48 5 P **P** 13 29 14.4 -0.4
baz=186
R58A Rapidan 32.51 7 P **P** 13 29 14.3 -0.7
baz=189
OK030 Cody Creek RV 32.59 338 P **P** 13 29 14.8 -0.9
OK030 IAmb IAmb 13 29 18.7
comp=Z,26nm,1.2s
OK031 S. Brethren Rd 32.63 338 P **P** 13 29 14.7 -1.4
FVM French Village 32.71 349 P **P** 13 29 15.0 -1.7
FVM IAmb IAmb 13 29 17.9
comp=Z,14nm,0.9s
QUOK Quay 32.78 339 P **P** 13 29 16.2 -1.2
QUOK IAmb IAmb 13 29 19.9
comp=Z,18nm,1.0s
Q53A Leroy 32.82 2 P **P** 13 29 17.8 +0.1
baz=182,SNR=5.6
Q52A Bidwell 32.91 1 P **P** 13 29 18.3 -0.2
baz=181
CCM Cathedral Cave 32.95 347 P **P** 13 29 17.9 -0.9
baz=164
CCM Cathedral Cave 32.95 347 P **P** 13 29 16.7 -2.1
Q54A Coxs Mills 32.97 3 P **P** 13 29 18.6 -0.3
baz=183
Q54A Coxs Mills 32.97 3 P **P** 13 29 17.4 -1.5
Q54A IAmb IAmb 13 29 30.2
comp=Z,30nm,1.4s
Q51A Peebles 32.97 359 P **P** 13 29 18.7 -0.4
Q55A Buckhannon 33.02 4 P **P** 13 29 19.2 -0.2
baz=185,SNR=6.8
OLIL Olney 33.05 352 P **P** 13 29 18.7 -0.9
S39A Bolivar 33.10 344 P **P** 13 29 18.1 -2.1
GDL2 Guadalupe Moun 33.12 325 P **P** 13 29 20.3 -0.2
Q56A Snyder Ridge, 33.13 5 P **P** 13 29 20.0 -0.4
baz=186
Q56A Snyder Ridge, 33.13 5 P **P** 13 29 19.9 -0.5
Q56A IAmb IAmb 13 29 22.7
comp=Z,8.9nm,0.8s
Q58A Fox Den Farm, 33.19 7 P **P** 13 29 20.1 -0.8
baz=189
Q57A Strasburg 33.20 6 P **P** 13 29 20.6 -0.3
baz=188
BLO Bloomington 33.30 354 P **P** 13 29 20.5 -1.4
BLO IAmb IAmb 13 29 21.7
comp=Z,19nm,0.9s
SLM Saint Louis 33.30 349 P **P** 13 29 20.2 -1.7
MNTX Cornudas Mount 33.35 323 P **P** 13 29 23.2 +0.8
baz=136,SNR=38
MNTX Cornudas Mount 33.35 323 P **P** 13 29 21.7 -0.8
MNTX IAmb IAmb 13 29 28.3
comp=Z,20nm,1.0s
T35A Sooner Cattle 33.38 340 P **P** 13 29 21.0 -1.6
R40A Maddies Statio 33.41 346 P **P** 13 29 20.8 -2.0
R40A IAmb IAmb 13 29 23.6
comp=Z,16nm,1.1s
P51A Williamsport 33.42 359 P **P** 13 29 23.0 0.0
baz=179
P53A Whipple 33.45 2 P **P** 13 29 23.0 -0.2
baz=182
P49A Miami Univ. Ec 33.53 357 P **P** 13 29 22.8 -1.1
baz=176
P49A Miami Univ. Ec 33.53 357 P **P** 13 29 22.5 -1.3
P49A IAmb IAmb 13 29 30.1
comp=Z,14nm,0.9s
P55A Reedsville 33.54 4 P **P** 13 29 23.7 -0.4
baz=185
P52A Corning 33.58 1 P **P** 13 29 24.1 -0.2
baz=181
P52A Corning 33.58 1 P **P** 13 29 23.9 -0.4
P52A IAmb IAmb 13 29 25.4
comp=Z,8.4nm,0.7s
MSTX Muleshoe 33.59 329 P **P** 13 29 24.0 -0.7
baz=142
MSTX Muleshoe 33.59 329 P **P** 13 29 24.3 -0.4
MSTX IAmb IAmb 13 29 27.7
comp=Z,14nm,1.1s
P54A Burton 33.60 3 P **P** 13 29 23.7 -0.8
baz=184
P56A Dayton Farm, R 33.62 5 P **P** 13 29 23.9 -0.8
baz=187
P58A Pank, Wackersv 33.77 7 P **P** 13 29 25.9 -0.1
baz=190
AMTX Amarillo 33.78 331 P **P** 13 29 25.8 -0.4
baz=144
AMTX Amarillo 33.78 331 P **P** 13 29 25.4 -0.8
AMTX IAmb IAmb 13 29 34.5
comp=Z,18nm,0.8s
P59A Jarrettsville 34.01 9 P **P** 13 29 27.6 -0.4
baz=191
KAN05 Bluff City Nor 34.04 338 P **P** 13 29 26.4 -2.0
O52A Adamsville 34.06 1 P **P** 13 29 27.6 -0.9
baz=181
O51A Pataskala 34.09 0 P **P** 13 29 27.9 -0.9
baz=180
P43A Skaggs, Pawnee 34.15 350 P **P** 13 29 28.3 -1.0
ACSO Alum Creek Sta 34.17 360 P **P** 13 29 29.4 -0.1
baz=199
ACSO Alum Creek Sta 34.17 360 P **P** 13 29 28.9 -0.6
KAN08 Anthony NE Sta 34.18 338 P **P** 13 29 28.8 -0.8
O54A Avella 34.18 3 P **P** 13 29 28.9 -0.6
baz=184
O54A Avella 34.18 3 P **P** 13 29 28.4 -1.1
O54A IAmb IAmb 13 29 30.7
comp=Z,16nm,1.0s
O53A New Philadelph 34.21 2 P **P** 13 29 29.4 -0.5
baz=182
O53A New Philadelph 34.21 2 P **P** 13 29 28.4 -1.4
O53A IAmb IAmb 13 29 30.4
comp=Z,27nm,1.2s
O55A Ligonier 34.28 5 P **P** 13 29 29.1 -1.3
baz=186
P60A Greenville 34.33 10 P **P** 13 29 31.1 +0.2
baz=192
O56A Blue Knob Stat 34.40 5 P **P** 13 29 32.0 +0.4
baz=187
O57A Amberson 34.44 7 P **P** 13 29 32.4 +0.5
baz=189
O58A Lewisberry 34.45 8 P **P** 13 29 32.1 +0.2
baz=190
P40A Paris 34.54 347 P **P** 13 29 30.8 -1.8
P40A IAmb IAmb 13 29 32.7
comp=Z,27nm,1.1s
O59A Robesonia 34.74 9 P **P** 13 29 34.6 +0.3
baz=191
N52A McGinn's Farm, 34.76 1 P **P** 13 29 34.2 -0.3
baz=182
N51A Ashland 34.86 0 P **P** 13 29 34.6 -0.8
baz=180
O60A Telford 34.87 10 P **P** 13 29 35.9 +0.5
baz=193
N55A Marion Center 34.87 5 P **P** 13 29 35.5 -0.1
baz=186
N49A Columbus Grove 34.89 358 P **P** 13 29 34.5 -1.1
N49A IAmb IAmb 13 29 41.7
comp=Z,23nm,1.1s
N54A Moraine State 34.98 3 P **P** 13 29 35.9 -0.6
baz=185
P38A Dawn 34.98 345 P **P** 13 29 34.4 -2.1
P38A IAmb IAmb 13 29 44.1
comp=Z,11nm,0.8s
N57A Milroy 34.99 7 P **P** 13 29 36.9 +0.3
baz=189
HDIL Hopedale 35.01 351 P **P** 13 29 35.5 -1.2
baz=168
HDIL Hopedale 35.01 351 P **P** 13 29 35.3 -1.4
AC02 Maricunga 35.08 159 P **P** 13 29 38.0 0.0
AC02 IAmb IAmb 13 29 42.1
comp=Z,25nm,1.2s
LUPA Lehigh Univers 35.15 10 P **P** 13 29 36.3 -1.6
LUPA IAmb IAmb 13 29 43.4
comp=Z,22nm,1.4s
N58A Sunbury 35.18 8 P **P** 13 29 38.7 +0.5
baz=190
N58A Sunbury 35.18 8 P **P** 13 29 37.1 -1.0
N58A IAmb IAmb 13 29 51.3
comp=Z,25nm,1.4s
SRIG Santa Rosalia 35.31 310 P **P** 13 29 40.3 +0.8
KSU1 Kansas State U 35.38 341 P **P** 13 29 39.7 -0.3
baz=156
121A Cookes Peak, D 35.39 322 P **P** 13 29 43.0 +2.7
baz=133,SNR=29
121A Cookes Peak, D 35.39 322 P **P** 13 29 41.8 +1.5
N41A Harden Midland 35.43 349 P **P** 13 29 38.6 -1.7
R32A Long Quarter, 35.51 338 P **P** 13 29 39.9 -1.2
319A Douglas 35.58 319 P **P** 13 29 42.0 +0.1
319A IAmb IAmb 13 29 52.2
comp=Z,18nm,1.1s
M57A Sunshine Farm, 35.62 7 P **P** 13 29 41.8 -0.1
baz=189
M57A Sunshine Farm, 35.62 7 P **P** 13 29 41.9 -0.1
M57A IAmb IAmb 13 29 43.9
comp=Z,22nm,0.9s
M56A Emporium 35.64 6 P **P** 13 29 42.1 0.0
baz=188
M56A Emporium 35.64 6 P **P** 13 29 41.5 -0.6
M56A IAmb IAmb 13 29 43.5
comp=Z,15nm,0.8s
M58A Price's Panora 35.74 8 P **P** 13 29 43.7 +0.7
baz=190
BNM Barren Site 35.83 325 P **P** 13 29 43.4 -0.8
L53A Girard 35.95 3 P **P** 13 29 44.8 -0.1
baz=184
M60A Port Jervis 35.98 10 P **P** 13 29 45.6 +0.6
baz=194
N38A Joes South For 36.01 346 P **P** 13 29 44.0 -1.3
LENM Lemitar 36.04 324 P **P** 13 29 43.7 -2.2
M59A Waymart 36.05 9 P **P** 13 29 46.4 +0.7
baz=192
CBKS Cedar Bluff 36.24 337 P **P** 13 29 47.3 -0.1
baz=187
CBKS Cedar Bluff 36.24 337 P **P** 13 29 45.1 -2.2
CBKS IAmb IAmb 13 29 48.7
comp=Z,14nm,0.9s
L57A Andrews Acres 36.30 7 P **P** 13 29 47.5 -0.3
baz=190
ANMO Albuquerque 36.31 326 P **P** 13 29 50.0 +1.8
baz=137
ANMO Albuquerque 36.31 326 P **P** 13 29 49.3 +1.1
ANMO IAmb IAmb 13 29 55.2
comp=Z,20nm,1.1s
M62A Hamden 36.43 12 P **P** 13 29 49.6 +0.8
baz=196
L58A Harry Jones Me 36.48 8 P **P** 13 29 50.0 +0.6
baz=191
L42A Oliver, Polo 36.49 351 P **P** 13 29 47.2 -2.1
AC05 El Transito 36.53 162 P **P** 13 29 50.3 +0.2
AC05 IAmb IAmb 13 29 54.1
comp=Z,33nm,1.4s
M63A Gales Ferry 36.58 13 P **P** 13 29 50.1 0.0
baz=198
BINY Binghamton 36.62 8 P **P** 13 29 50.8 +0.3
baz=191
L60A Shokan 36.70 10 P **P** 13 29 51.4 +0.3
baz=194
N35A Tabor 36.70 343 P **P** 13 29 49.6 -1.6
N35A IAmb IAmb 13 30 02.4
comp=Z,34nm,1.2s
L59A Walton 36.75 9 P **P** 13 29 51.9 +0.2
baz=193
L40A Anamosa 36.81 349 P **P** 13 29 50.7 -1.3
T25A Trinidad 36.91 330 P **P** 13 29 54.4 +1.1
baz=142,SNR=13
T25A Trinidad 36.91 330 P **P** 13 29 54.3 +1.1
K56A Middlesex 36.94 6 P **P** 13 29 54.0 +0.7
baz=189
L61A Hillsdale 1, H 37.02 11 P **P** 13 29 54.1 +0.2
baz=195
K57A Scipio Center 37.07 7 P **P** 13 29 54.2 -0.1
baz=187
SCIA State Center 37.07 347 P **P** 13 29 53.7 -0.6
baz=162
N33A J Bar K, Exete 37.14 341 P **P** 13 29 54.7 -0.2
TUC Tucson 37.16 319 P **P** 13 29 56.5 +1.1
baz=129
TUC Tucson 37.16 319 P **P** 13 29 53.7 -1.6
K58A Earlville 37.22 8 P **P** 13 29 55.3 -0.3
baz=192
ARAG Araguaiana, MT 37.31 126 *eP* **P** 13 29 55.2 -1.5
K59A Cooperstown 37.35 9 P **P** 13 29 56.7 0.0
baz=193
L61B Northampton 37.44 12 P **P** 13 29 57.8 +0.3
baz=196
JFWS Jewell Farm 37.47 351 P **P** 13 29 56.7 -1.0
baz=168
JFWS Jewell Farm 37.47 351 P **P** 13 29 56.0 -1.7
JFWS IAmb IAmb 13 29 57.2
comp=Z,20nm,0.8s
K61A Williamstown 37.53 11 P **P** 13 29 59.0 +0.7
baz=195
J56A Wolcott 37.56 7 P **P** 13 29 58.6 +0.1
baz=189
KSCO Kaye Shedlock' 37.59 334 P **P** 13 29 59.6 +0.6
baz=146
KSCO Kaye Shedlock' 37.59 334 P **P** 13 29 58.3 -0.7
K38A Parkersburg 37.68 348 P **P** 13 29 57.5 -2.0
HRV Adam Dziewonsk 37.74 13 P **P** 13 30 01.0 +1.0
baz=198
I51A Listowel 37.77 2 P **P** 13 29 59.2 -1.0
baz=183
J57A Williamstown 37.80 8 P **P** 13 30 00.2 -0.3
baz=191
J58A Remsen 37.86 9 P **P** 13 30 00.9 0.0
baz=192
SMTB Santa Maria do 37.88 113 *eP* **P** 13 30 01.6 0.0
SMTB *eS* **S** 13 35 49.3 -4.2
SDCO Great Sand Dun 37.92 330 P **P** 13 30 04.1 +2.2
baz=141,SNR=67
SDCO Great Sand Dun 37.92 330 P **P** 13 30 00.1 -1.8
J60A Lant Hill Farm 38.06 11 P **P** 13 30 03.9 +1.2
baz=195
J59A Piesco 38.08 10 P **P** 13 30 02.7 -0.2
baz=193
214A Organ Pipe Nat 38.30 316 P **P** 13 30 06.5 +1.5
baz=126,SNR=6.9
214A Organ Pipe Nat 38.30 316 P **P** 13 30 05.7 +0.7
214A IAmb IAmb 13 30 19.6
comp=Z,16nm,1.0s
W18A Petrified Fore 38.33 323 P **P** 13 30 06.9 +1.6
baz=133,SNR=23
W18A Petrified Fore 38.33 323 P **P** 13 30 06.0 +0.6
I57A Carthage 38.37 8 P **P** 13 30 06.2 +0.9
baz=191
I59A Olmsteadville 38.51 10 P **P** 13 30 07.2 +0.7
baz=194
J63A Strafford 38.59 14 P **P** 13 30 08.3 +1.2
baz=199
S22A 4UR Ranch, Cre 38.60 329 P **P** 13 30 08.0 +0.3
baz=139,SNR=21
S22A 4UR Ranch, Cre 38.60 329 P **P** 13 30 05.7 -2.0
S22A IAmb IAmb 13 30 11.1
comp=Z,33nm,1.4s
H43A Windswept, Lux 38.67 354 P **P** 13 30 06.1 -1.7
Q24A Divide 38.70 331 P **P** 13 30 09.3 +0.7
baz=142,SNR=9.1
Q24A Divide 38.70 331 P **P** 13 30 07.4 -1.2
Q24A IAmb IAmb 13 30 11.4
comp=Z,32nm,1.3s
H57A Richville 38.92 8 P **P** 13 30 10.2 +0.3
baz=192
X16A Lo Mia Camp, P 38.92 321 P **P** 13 30 10.9 +0.6
I61A Oroboro, Fairl 38.96 12 P **P** 13 30 09.2 -1.0
baz=197
MVCO Mesa Verde 39.09 326 P **P** 13 30 13.1 +1.3
baz=136,SNR=18
MVCO Mesa Verde 39.09 326 P **P** 13 30 12.2 +0.4
MVCO IAmb IAmb 13 30 22.2
comp=Z,20nm,0.8s
H03N2 Juan Fernandez 39.29 175 T T 14 11 51.1
baz=354,slow=76,SNR=5.4
H03N1 Juan Fernandez 39.29 175 T T 14 11 52.5
baz=354,slow=76,SNR=5.2
H03N3 Juan Fernandez 39.31 175 T T 14 11 49.4
baz=354,slow=76,SNR=4.7
H59A Cadyville 39.37 10 P **P** 13 30 14.0 +0.3
baz=194
113A Mohawk Valley, 39.43 317 P **P** 13 30 15.0 +0.6
G54A Lake Saint Pet 39.53 5 P **P** 13 30 15.0 0.0
baz=187
ISCO Idaho Springs 39.59 332 P **P** 13 30 16.6 +0.6
baz=142
ISCO Idaho Springs 39.59 332 P **P** 13 30 16.0 0.0
WUAZ Wupatki 39.59 322 P **P** 13 30 17.7 +1.8
baz=131,SNR=13
WUAZ Wupatki 39.59 322 P **P** 13 30 16.8 +0.9
G57A Newington 39.60 8 P **P** 13 30 15.4 -0.2
baz=192
ECSD EROS Data Cent 39.63 344 P **P** 13 30 14.7 -1.3
baz=158,SNR=7.3
ECSD EROS Data Cent 39.63 344 P **P** 13 30 14.4 -1.5
SPX San Pedro Mart 39.66 313 P **P** 13 30 17.2 +0.4
G40A Rib Lake 39.76 352 P **P** 13 30 15.3 -1.6
G40A IAmb IAmb 13 30 17.1
comp=Z,21nm,1.1s
PV01 Paradox Valley 39.80 327 P **P** 13 30 17.4 -0.3
PV15 Paradox Valley 39.91 328 P **P** 13 30 18.7 +0.1
PV15 IAmb IAmb 13 30 24.6
comp=Z,28nm,1.0s
PV02 Paradox Valley 39.95 327 P **P** 13 30 19.4 +0.5
PV02 IAmb IAmb 13 30 29.5
comp=Z,24nm,0.7s
PV13 Radium Mtn., P 39.96 327 P **P** 13 30 19.6 +0.6
PV13 IAmb IAmb 13 30 25.6
comp=Z,36nm,1.0s
PV03 Paradox Valley 40.04 327 P **P** 13 30 17.6 -2.0
PV03 IAmb IAmb 13 30 29.6
comp=Z,23nm,0.7s
PV05 Paradox Valley 40.05 327 P **P** 13 30 19.7 -0.1
PV05 IAmb IAmb 13 30 29.8
comp=Z,26nm,0.8s
G60A Masonville 40.05 11 P **P** 13 30 19.3 -0.1
baz=196
PV12 Saucer Basin, 40.06 327 P **P** 13 30 19.7 -0.2
PV07 Paradox Valley 40.07 328 P **P** 13 30 20.0 +0.1
PV07 IAmb IAmb 13 30 26.1
comp=Z,20nm,1.0s
PV18 Skein Mesa, Pa 40.07 327 P **P** 13 30 19.3 -0.6
PV18 IAmb IAmb 13 30 29.8
comp=Z,25nm,0.8s
PV11 David Mesa, Pa 40.09 327 P **P** 13 30 19.7 -0.4
PV11 IAmb IAmb 13 30 33.6
comp=Z,24nm,0.8s
ALGO Algonquin Park 40.09 5 P **P** 13 30 19.2 -0.4
baz=187
PV16 Nyswonger Mesa 40.12 327 P **P** 13 30 20.4 +0.1
PV16 IAmb IAmb 13 30 26.3
comp=Z,22nm,1.0s
PV17 East Wray Mesa 40.12 327 P **P** 13 30 20.7 +0.4
PV17 IAmb IAmb 13 30 30.1
comp=Z,28nm,0.7s
VA03 San Esteban 40.13 164 P **P** 13 30 20.5 +0.2
PV19 Morning Glory 40.16 327 P **P** 13 30 21.3 +0.7
PV19 IAmb IAmb 13 30 30.4
comp=Z,14nm,0.7s
SPMN Marine on St. 40.16 349 P **P** 13 30 18.6 -1.6
baz=164,SNR=5.1
SPMN Marine on St. 40.16 349 P **P** 13 30 18.1 -2.1
SPMN IAmb IAmb 13 30 19.5
comp=Z,33nm,0.8s
PV20 West Nyswonger 40.17 327 P **P** 13 30 21.0 +0.3
PV20 IAmb IAmb 13 30 30.1
comp=Z,15nm,0.8s
PV04 Paradox Valley 40.17 327 P **P** 13 30 21.6 +0.9
PV04 IAmb IAmb 13 30 27.3
comp=Z,18nm,1.0s
PV22 Blue Mesa, Par 40.21 328 P **P** 13 30 21.4 +0.3
PV14 Lion Creek, Pa 40.22 327 P **P** 13 30 21.3 +0.1
PV10 Paradox Valley 40.23 327 P **P** 13 30 21.2 0.0
PV10 IAmb IAmb 13 30 31.0
comp=Z,22nm,0.8s
PV23 Carpenter Ridg 40.27 327 P **P** 13 30 21.0 -0.7
GLA Glamis 40.32 316 P **P** 13 30 22.9 +1.0
baz=125
GLA Glamis 40.32 316 P **P** 13 30 20.6 -1.3
CPUP Villa Florida 40.35 144 P **P** 13 30 24.7 +2.6
comp=Z,0.7nm,0.4s,baz=17,slow=5.9,SNR=2.8
CPUP LR LR 13 47 50.4
comp=Z,272nm,20.8s,baz=340,slow=37
G61A St-Isidore-de- 40.39 12 P **P** 13 30 23.1 +0.9
baz=197
BDFB Brasilia 40.41 122 P **P** 13 30 25.9 +3.1
comp=Z,1.0nm,0.3s,baz=252,slow=8.2,SNR=2.0
BDFB LR LR 13 46 60.0
comp=Z,287nm,20.6s,baz=296,slow=36
BDFB Brasilia 40.41 122 P **P** 13 30 23.0 +0.2
ESJX Sierra Juarez 40.53 314 P **P** 13 30 22.2 -1.5
PDMCI Parker Dam,Lak 40.59 318 P **P** 13 30 25.0 +1.0
baz=127
N23A Red Feather La 40.61 333 P **P** 13 30 24.8 +0.4
baz=143,SNR=7.8
N23A Red Feather La 40.61 333 P **P** 13 30 23.1 -1.2
F36A Milaca 40.91 348 P **P** 13 30 24.2 -2.2
F36A IAmb IAmb 13 30 25.7
comp=Z,14nm,0.8s
E56A St. Veronique 41.01 8 P **P** 13 30 27.7 +0.5
baz=192
E57A Chemin Saint G 41.01 9 P **P** 13 30 27.7 +0.4
baz=193
BC3 Big Chuckawall 41.10 317 P **P** 13 30 29.6 +1.3
baz=125
O20A White River Ci 41.12 330 P **P** 13 30 30.1 +1.6

baz=139,SNR=5.2
O20A White River Ci 41.12 330 P P 13 30 26.4 -2.2
IRM Iron Mountain 41.18 317 P P 13 30 30.1 +1.2
baz=126
F63A Nahmakanta, Br 41.34 14 P P 13 30 31.3 +1.2
baz=201
MONP2 Monument Peak 41.35 315 P P 13 30 31.4 +0.9
baz=123
D55A Sainte-Anne-du 41.42 7 P P 13 30 31.7 +1.1
baz=191
IPMB Ipameri, GO 41.43 126 eP P 13 30 31.1 -0.1
IPMB eS S 13 36 43.2 -3.6
PKCU Pink Cliffs 41.44 323 P P 13 30 30.6 -0.7
E60A Ste Agathe de 41.45 12 P P 13 30 32.3 +1.4
baz=197
KNB Kanab 41.46 323 P P 13 30 30.9 -0.4
F33A 5 Mile Ranch, 41.51 346 P P 13 30 29.4 -2.0
F33A IAmb IAmb 13 30 30.8
comp=Z,18nm,0.7s
D56A ZEC Mazanza, M 41.54 8 P P 13 30 31.8 +0.2
baz=192
SRU San Rafael Swe 41.57 327 P P 13 30 31.4 -0.8
BELC Belle Mtn. Jos 41.67 317 P P 13 30 34.1 +1.1
baz=125
SDBA SAO DESIDERIO 41.67 116 eP P 13 30 32.9 -0.3
F64A Sherman 41.68 15 P P 13 30 34.5 +1.7
baz=202
LCMT Little Creek M 41.71 322 P P 13 30 33.1 -0.2
TPFO Pinon Flats 41.76 316 P P 13 30 35.5 +1.7
baz=124
PFO Pinyon Flats O 41.77 316 P P 13 30 35.0 +1.1
baz=124
PFO Pinyon Flats O 41.77 316 P P 13 30 33.8 -0.1
RWWY Rawlins 41.82 332 P P 13 30 32.5 -1.9
RWWY IAmb IAmb 13 30 37.2
comp=Z,40nm,1.2s
D58A Chemin du LacG 41.88 10 P P 13 30 35.0 +0.5
baz=195
GMRC Granite Mounta 41.89 318 P P 13 30 36.2 +1.4
baz=126
P17A Butcher Ranch, 41.94 327 P P 13 30 35.2 -0.1
SZCU Shurtz Canyon 42.00 323 P P 13 30 35.3 -0.5
D60A Saint Jean D'O 42.08 12 P P 13 30 36.9 +0.9
baz=198
E62A Clayton Lake 42.10 13 P P 13 30 37.1 +0.9
baz=200
CCUT Cedar City 42.13 323 P P 13 30 36.7 -0.2
E63A Oxbow 42.19 15 P P 13 30 38.1 +1.2
baz=201
K22A Casper 42.27 334 P P 13 30 38.9 +1.0
baz=143,SNR=6.6
K22A Casper 42.27 334 P P 13 30 37.6 -0.2
K22A IAmb IAmb 13 30 40.4
comp=Z,23nm,1.1s
MURC Murrieta 42.27 315 P P 13 30 39.4 +1.5
baz=123
E64A Bridgewater 42.33 15 P P 13 30 40.2 +2.1
baz=202
HEC Hector,Ludlow 42.37 317 P P 13 30 40.2 +1.5
baz=125
TUQ Turquoise Moun 42.44 318 P P 13 30 40.7 +1.4
baz=126
RSSD Black Hills 42.45 337 P P 13 30 40.2 +0.8
baz=148
RSSD Black Hills 42.45 337 P P 13 30 39.1 -0.2
RSSD IAmb IAmb 13 30 41.8
comp=Z,16nm,1.1s
D61A St Aubert, Com 42.51 13 P P 13 30 40.6 +1.2
baz=198,SNR=6.1
PTGB Pitanga 42.56 137 eP P 13 30 40.0 -0.3
EYMN Ely 42.57 351 P P 13 30 40.6 +0.6
baz=167
EYMN Ely 42.57 351 P P 13 30 38.2 -1.8
EYMN IAmb IAmb 13 31 01.0
comp=Z,33nm,1.5s
SHPR Sheep Range 42.59 320 P P 13 30 38.9 -1.7
D62A Allapoint, All 42.65 14 P P 13 30 42.0 +1.3
baz=200
SCI2 San Clemente I 42.91 314 P P 13 30 44.0 +1.0
baz=121
BFSC Mount Baldy Ra 42.94 316 P P 13 30 45.0 +1.5
baz=123
SHOC Shoshone, Teco 42.95 319 P P 13 30 45.3 +2.0
baz=126
GSC Goldstone, Bar 42.95 318 P P 13 30 44.9 +1.4
baz=125
CIS Catalina Islan 43.03 314 P P 13 30 45.7 +1.6
baz=122
PSUT Pine Spring 43.07 323 P P 13 30 44.3 -0.2
PRN Pahroc Range 43.08 321 P P 13 30 44.6 +0.1
JLU Jordanelle 43.13 328 P P 13 30 43.6 -1.4
ITQB Itaqui 43.30 146 eP P 13 30 47.2 +1.0
JANB Januaria 43.30 119 eP P 13 30 45.2 -1.3
CTU Camp Tracy 43.35 327 P P 13 30 45.9 -0.8
E28A Huff 43.41 342 P P 13 30 46.0 -0.9
E28A IAmb IAmb 13 30 53.7
comp=Z,30nm,1.1s
TCUT Toone Canyon 43.48 328 P P 13 30 46.1 -1.6
EDW2 Edwards Air Fo 43.53 316 P P 13 30 50.2 +2.2
baz=123
TPNV Topopah Spring 43.55 320 P P 13 30 49.6 +1.3
baz=127
TPNV Topopah Spring 43.55 320 P P 13 30 48.0 -0.4
DUG Dugway, Tooele 43.59 326 P P 13 30 49.8 +1.3
baz=134
DUG Dugway, Tooele 43.59 326 P P 13 30 47.2 -1.3
LRMC Laurel Mtn Rad 43.65 317 P P 13 30 50.8 +1.7
baz=124
FURC Furnace Creek, 43.66 319 P P 13 30 50.8 +1.7
baz=126
AGMN Agassiz Nation 43.72 347 P P 13 30 48.9 -0.4
baz=161,SNR=7.9
AGMN Agassiz Nation 43.72 347 P P 13 30 47.4 -1.9
AGMN IAmb IAmb 13 30 56.8
comp=Z,25nm,1.1s
BW06 Boulder Array 43.76 331 P P 13 30 50.9 +0.8
baz=139,SNR=13
BW06 Boulder Array 43.76 331 P P 13 30 49.3 -0.7
BW06 IAmb IAmb 13 30 53.1
comp=Z,22nm,1.4s
PD31 Pinedale Array 43.76 331 P P 13 30 49.4 -0.6
PDAR Pinedale Array 43.76 331 P P 13 30 50.0 -0.1
comp=Z,3.9nm,1.0s,baz=140,slow=7.8,SNR=24
PDAR PcP PcP 13 32 37.1 +0.3
comp=Z,0.7nm,0.9s,baz=129,slow=4.8,SNR=2.0
PDAR LR LR 13 50 56.5
comp=Z,206nm,19.9s,baz=148,slow=39
PDAR Pinedale Array 43.76 331 P P 13 30 49.4 -0.6
MPMC Manual Prospec 43.84 318 P P 13 30 52.5 +1.7
baz=125
HWUT Hardware Ranch 43.91 328 P P 13 30 49.8 -1.4
HWUT IAmb IAmb 13 31 00.6
comp=Z,18nm,0.8s
R11A Troy Canyon, C 43.99 322 P P 13 30 53.4 +1.4
baz=129,SNR=8.2
SPUT South Promonto 44.16 327 P P 13 30 53.5 +0.3
BGU Big Grassy Mou 44.21 327 P P 13 30 53.9 +0.3
MDND Maddock 44.24 344 P P 13 30 52.9 -0.6
baz=155
MDND Maddock 44.24 344 P P 13 30 52.4 -1.1
AHID Auburn Hatcher 44.51 330 P P 13 30 56.1 +0.1
PKM Mcpherson Peak 44.79 315 P P 13 30 59.3 +0.9
baz=121
REDW Red Top Meadow 44.83 331 P P 13 30 58.4 -0.2
REDW IAmb IAmb 13 31 13.7
comp=Z,16nm,1.1s
SNOW Snow King Moun 44.86 331 P P 13 30 58.8 -0.1
SNOW IAmb IAmb 13 31 04.6
comp=Z,13nm,0.9s
LOHW Long Hollow 44.90 331 P P 13 30 58.8 -0.3
TPAW Teton Pass 44.98 331 P P 13 30 59.4 -0.4
TPAW IAmb IAmb 13 31 06.6
comp=Z,20nm,1.0s
MOOW Moose Ponds 45.07 331 P P 13 31 00.7 +0.3
SMMC Simmler 45.14 316 P P 13 31 02.4 +1.4
baz=122
IMW Indian Meadow 45.27 331 P P 13 31 02.0 -0.2
FLWY Flagg Ranch 45.30 331 P P 13 31 02.4 +0.1
FLWY IAmb IAmb 13 31 23.1
comp=Z,19nm,1.1s
ELK Elko 45.33 325 P P 13 31 02.4 -0.2
LAO LASA Array 45.44 337 P P 13 31 03.5 +0.3
baz=146
LAO LASA Array 45.44 337 P P 13 31 02.3 -0.8
RLMT Red Lodge 45.44 334 P P 13 31 04.0 +0.6
baz=141
RLMT Red Lodge 45.44 334 P P 13 31 02.3 -1.0
RLMT IAmb IAmb 13 31 07.6
comp=Z,13nm,0.8s
ULM Lac du Bonnet 45.57 348 P P 13 31 02.3 -1.8
comp=Z,20nm,0.8s,baz=159,slow=8.0,SNR=25
ULM Lac du Bonnet 45.57 348 P P 13 31 01.6 -2.5
NV11 Mina Array Sit 45.65 320 P P 13 31 04.9 -0.2
NV11 IAmb IAmb 13 31 11.6
comp=Z,18nm,1.5s
YNE Yellowstone No 45.68 333 P P 13 31 04.3 -1.1
OMMB Old Mammoth Mi 45.72 319 P P 13 31 05.3 -0.6
NVAR Mina Array Bea 45.74 320 P P 13 31 06.6 +0.7
comp=Z,2.8nm,0.9s,baz=141,slow=6.6,SNR=10
NVAR LR LR 13 50 38.0
comp=Z,324nm,18.0s,baz=136,slow=37
NVAR Mina Array Bea 45.74 320 P P 13 31 06.2 +0.3
LHV Little Huntoon 45.77 320 P P 13 31 03.9 -1.8
LHV IAmb IAmb 13 31 18.2
comp=Z,15nm,1.1s
MDPB Devils Postpil 45.78 319 P P 13 31 04.8 -1.5
YHH Holmes Hill 45.90 332 P P 13 31 03.9 -3.2
KVN Kaiserville 45.98 321 P P 13 31 05.9 -1.8
RYN Ryan 46.00 320 P P 13 31 06.5 -1.4
GCMT Greycliff 46.14 334 P P 13 31 07.1 -1.7
DGMT Dagmar 46.22 340 P P 13 31 09.5 +0.3
baz=150
DGMT Dagmar 46.22 340 P P 13 31 07.1 -2.1
WAKR Walker 46.51 320 P P 13 31 09.2 -2.7
HLID Hailey 46.78 328 P P 13 31 14.5 +0.6
baz=134
HLID Hailey 46.78 328 P P 13 31 11.7 -2.3
BCYI Bear Canyon 46.79 330 P P 13 31 10.0 -4.1
BOZ Bozeman (W) 46.87 332 P P 13 31 15.9 +1.3
baz=139,SNR=13
LRM Limekiln Ridge 47.42 332 P P 13 31 16.8 -2.2
MFID Camas Ranch 47.43 327 P P 13 31 17.2 -1.7
EGMT Eagleton 47.93 336 P P 13 31 23.0 +0.3
baz=142
EGMT Eagleton 47.93 336 P P 13 31 21.4 -1.3
MSO Missoula 48.87 332 P P 13 31 30.1 +0.2
baz=137
MSO Missoula 48.87 332 P P 13 31 29.1 -0.9
MSO IAmb IAmb 13 31 35.7
comp=Z,13nm,1.2s
F10A Beach Ranch, E 49.89 329 P P 13 31 37.1 -0.7
N02D Trinity Center 49.98 320 P P 13 31 38.6 +0.1
baz=123
SCHQ Schefferville 50.41 12 P P 13 31 40.5 -1.0
comp=Z,7.5nm,0.9s,baz=194,slow=8.9,SNR=6.2
SCHQ LR LR 13 52 39.2
comp=Z,98nm,22.0s,baz=112,slow=36
SCHQ Schefferville 50.41 12 P P 13 31 40.1 -1.4
SCHQ IAmb IAmb 13 31 43.1
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 50.72 329 P P 13 31 42.9 -1.1
E09A IAmb IAmb 13 31 49.3
comp=Z,10nm,0.9s
FFC Flin Flon 51.12 346 P P 13 31 46.0 -0.8
YKA Yellowknife Ar 61.16 344 P P 13 32 58.4 0.0
comp=Z,8.5nm,0.8s,baz=137,slow=6.5,SNR=34
YKA LR LR 14 01 55.5
comp=Z,92nm,18.6s,baz=0.0,slow=38
SFJD Kangerlussuaq 64.81 13 P P 13 33 21.2 -1.4
RES Resolute Bay 69.09 357 P P 13 33 49.1 -0.7
RES IAmb IAmb 13 34 00.7
comp=Z,6.1nm,1.0s
ICESG Greenland Ices 69.10 15 i P P 13 33 49.3 -1.1
ICESG IAmb IAmb 13 33 50.3
comp=Z,16nm,0.9s
PPT Papeete 70.08 249 LR LR 13 58 16.5
comp=Z,165nm,19.7s,baz=90,slow=30
EPYK Eagle Plains 70.81 340 P P 13 34 01.4 +0.8
baz=121
INK Inuvik 70.84 342 P P 13 34 01.0 +0.4
EGAK Eagle 71.65 337 P P 13 34 05.6 0.0
EGAK IAmb IAmb 13 34 08.9
comp=Z,7.9nm,1.1s
K27K Chicken 71.67 336 P P 13 34 06.5 +0.7
baz=116
N25K Chitina, Valde 71.75 334 P P 13 34 07.2 +0.9
baz=112
L26K Log Cabin Wild 71.77 335 P P 13 34 07.6 +1.1
baz=114
SUMG Summit 71.79 13 P P 13 34 06.3 -0.5
SUMG Summit 71.79 13 i P P 13 34 06.9 +0.1
comp=Z,23nm,0.9s
SUMG Summit 71.79 13 i P P 13 34 07.0 +0.1
SUMG IAmb IAmb 13 34 08.1
comp=Z,23nm,0.9s
KLU Klutina 72.29 333 P P 13 34 08.6 -1.0
KLU IAmb IAmb 13 34 15.3
comp=Z,10.0nm,1.1s
SCRK Sand Creek 72.42 336 P P 13 34 10.2 -0.2
baz=114
PAX Paxson 72.64 335 P P 13 34 11.7 0.0
PAX IAmb IAmb 13 34 13.2
comp=Z,11nm,1.3s
BORG Borgarnes 72.70 23 P P 13 34 11.6 -0.3
SCM Sheep Creek Mo 73.04 333 P P 13 34 13.5 -0.6
SCM IAmb IAmb 13 34 15.7
comp=Z,10nm,0.9s
GHO Glory Hole Cre 73.74 333 P P 13 34 17.5 -0.7
GHO IAmb IAmb 13 34 19.2
comp=Z,16nm,1.1s
PMR Palmer 73.78 333 P P 13 34 18.4 +0.1
PMR IAmb IAmb 13 34 37.0
comp=Z,11nm,1.4s
HDA Harding Lake 73.78 336 P P 13 34 18.3 -0.1
HDA IAmb IAmb 13 34 19.7
comp=Z,11nm,1.0s
IL31 73.89 336 P P 13 34 18.0 -0.8
ILAR Eielson Array 73.89 336 P P 13 34 19.1 +0.2
comp=Z,3.1nm,0.9s,baz=117,slow=4.2,SNR=24
ILAR Eielson Array 73.89 336 P P 13 34 18.6 -0.3
RND Reindeer 74.23 335 P P 13 34 21.1 0.0
RND IAmb IAmb 13 34 22.9
comp=Z,15nm,0.9s
MCK McKinley 74.37 335 P P 13 34 22.2 +0.3
baz=109
SUA Susitna One 74.47 332 P P 13 34 22.4 -0.1
SUA IAmb IAmb 13 34 24.1
comp=Z,7.7nm,0.8s
MDM Murphy Dome 74.49 336 P P 13 34 22.6 +0.1
CUT Chulitna 74.53 333 P P 13 34 23.1 +0.4
baz=107
NEA2 Nenana 74.71 336 P P 13 34 23.8 0.0
baz=109
SKT Skwentna 74.98 333 P P 13 34 23.9 -1.5
SKT IAmb IAmb 13 34 26.2
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 75.01 336 P P 13 34 26.1 +0.7
baz=109
I23K Minto, Yukon-K 75.01 336 P P 13 34 25.5 +0.1
BPAW Bear Paw Mtn. 75.35 335 P P 13 34 27.3 -0.1
BPAW IAmb IAmb 13 34 28.7
comp=Z,8.1nm,0.9s
MLY Manley 75.53 336 P P 13 34 29.1 +0.7
baz=108
PPLA Purkeypile 75.53 334 P P 13 34 28.6 -0.1
COLD Coldfoot 76.00 338 P P 13 34 31.8 +0.7
baz=109
COLD Coldfoot 76.00 338 P P 13 34 32.5 +1.4
TOLK Toolik Lake Re 76.24 340 P P 13 34 33.2 +0.7
baz=110
DBIC Dimbokro 77.22 85 P P 13 34 40.9 +1.9
comp=Z,2.4nm,0.8s,baz=302,slow=9.5,SNR=2.1
DBIC LR LR 14 05 57.6
comp=Z,47nm,20.9s,baz=260,slow=34
DBIC Dimbokro 77.22 85 IAmb IAmb 13 34 46.7
comp=Z,6.2nm,0.9s
ESDC Soseca Array 77.52 51 P P 13 34 41.4 +1.1
comp=Z,1.6nm,1.0s,baz=269,slow=3.5,SNR=5.4
ESDC LR LR 14 02 58.3
comp=Z,67nm,21.6s,baz=285,slow=31
ESDC Sonseca Array 77.52 51 P P 13 34 38.5 -1.8
TNA Tin City 82.71 335 P P 13 35 08.2 +0.6
baz=92
TORD Torodi Ar. Bea 83.16 77 P P 13 35 12.6 +1.5
comp=Z,1.6nm,0.7s,baz=280,slow=4.7,SNR=7.8
TORD LR LR 14 12 25.1
comp=Z,61nm,19.9s,baz=215,slow=36
TORD Torodi Ar. Bea 83.16 77 P P 13 35 10.3 -0.7
SPITS Spitsbergen Ar 86.10 12 LR LR 14 14 50.0
comp=Z,92nm,20.6s,baz=265,slow=36
NB2 NORSAR Subarra 86.73 29 P P 13 35 30.2 +2.0
comp=Z,10nm,1.1s,baz=278,slow=4.8
NOA NORSAR Array B 86.73 29 P P 13 35 29.5 +1.4
comp=Z,1.1nm,0.9s,baz=280,slow=4.7,SNR=3.1
CLL Collm 88.94 39 eP P 13 35 40.0 +1.1
CLL ePPP PPP 13 41 00.0
CLL eS S 13 46 30.0 +2.8
CLL e 13 47 12.0
CLL eSS SS 13 52 30.0 +11
CLL e 13 53 54.0
CLL eSSSS 13 58 54.0
GERES GERESS Array B 89.75 41 P P 13 35 44.0 +1.1
comp=Z,0.3nm,0.2s,baz=285,slow=5.0,SNR=1.6
GERES LR LR 14 09 01.4
comp=Z,92nm,20.2s,baz=280,slow=31
FINES FINESS Array B 93.64 27 LR LR 14 16 00.3
comp=Z,57nm,19.2s,baz=260,slow=34
QSPA South Pole Qui 95.92 180 P P 13 36 12.3 +1.4
comp=Z,1.9nm,1.1s,baz=198,slow=4.6,SNR=3.6
QSPA South Pole Qui 95.92 180 IAmb IAmb 13 36 28.0
comp=Z,6.9nm,1.5s
MLR Muntele Rosu 98.63 42 LR LR 14 16 42.9
comp=Z,38nm,19.0s,baz=312,slow=33
AKASG Malin Array Be 99.00 37 LR LR 14 17 30.6
comp=Z,36nm,21.1s,baz=305,slow=33
MKAR Makanchi Array 125.84 13 PKP PKPdf 13 41 45.0 -1.5
comp=Z,0.3nm,0.7s,baz=353,slow=3.6,SNR=2.2
SONM Songino Array 125.90 353 PKP PKiKP 13 41 48.1 +1.0
comp=Z,0.3nm,0.4s,baz=48,slow=2.1,SNR=2.0
KSRS Korea Array 128.31 329 PKP PKiKP 13 41 51.7 -0.3
comp=Z,0.9nm,0.8s,baz=45,slow=2.0,SNR=4.9
GTA Gaotai 134.85 357 ePKP PKiKP 13 42 08.3 +3.0
GTA LR LR
comp=N,61nm,16.0s
GTA LR LR
comp=E,74nm,17.4s
GTA LR LR
comp=Z,73nm,17.1s
LZH Lanzhou 137.79 352 ePKP PKPdf 13 42 05.8 -3.7
LZH pPKP sPKPdf 13 42 15.3 +3.3
LZH sPKP 13 42 18.5
LZH LR LR
comp=N,67nm,18.1s
LZH LR LR
comp=E,72nm,18.3s
LZH LR LR
comp=Z,93nm,20.2s
ASAR Alice Springs 140.69 239 PKhKP PKPpre 13 42 11.2
comp=Z,0.7nm,0.8s,baz=104,slow=2.3,SNR=2.3
ASAR PKP PKPdf 13 42 14.8 -0.2
comp=Z,0.7nm,0.8s,baz=106,slow=2.5,SNR=4.0
WRA Warramunga Arr 141.49 245 PKhKP PKPpre 13 42 12.7
comp=Z,0.7nm,0.8s,baz=106,slow=2.5,SNR=3.2
WRA PKP PKPdf 13 42 16.9 +0.5
comp=Z,0.8nm,0.7s,baz=106,slow=2.6,SNR=5.0
HYB Hyderabad 150.28 38 i PKP PKPdf 13 42 29.0 -2.4
CMAR Chiang Mai Arr 155.74 356 PKP PKPdf 13 42 40.1 +0.8
comp=Z,0.3nm,0.3s,baz=336,slow=2.2,SNR=1.5

RSPR ***29*** *13:24:51.2, 19°.13N×64°.29W, h29km±21km, MD3.7/8*
ISC 29 13:24:46.1±1.8, 19°.21N±0°.09×64°.19W±0°.07, h22km, n45,
σ1s34/51, 5C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.88	207	↑eP		Pn	13 25 04.1	+0.8
TBVI	Tortola	0.88	207	eS		Sn	13 25 14.4	-1.0
TBVI	Tortola	0.88	207			Pn	13 25 04.1	+0.8
TBVI						Sn	13 25 14.4	-1.0
CUPR	Culebra, Puert	1.37	229			Pb	13 25 10.7	-0.4
CDVI	St. Croix	1.55	201	↑eP		Pb	13 25 15.3	+1.2
CDVI	St. Croix	1.55	201			Pb	13 25 14.8	+0.8
MTP	Monte Pirata	1.70	230	‖eP		Pb	13 25 15.5	-1.2
MTP	Monte Pirata	1.70	230	eS		Sn	13 25 34.0	-1.6
MTP	Monte Pirata	1.70	230			Pb	13 25 15.5	-1.2
MTP						Sn	13 25 34.0	-1.6
CBYP	Canovanas	1.83	240	‖eP		Pn	13 25 17.0	+0.6
CBYP	Canovanas	1.83	240	eS		Sn	13 25 38.0	-0.9
CBYP	Canovanas	1.83	240			Pn	13 25 17.0	+0.6
CBYP						Sn	13 25 38.0	-0.9
HUMP	Col San Antoni	1.90	236			Pn	13 25 17.8	+0.6
GCPR	Guaynabo City	2.00	244	↑eP		Pn	13 25 19.7	+1.0
GCPR	Guaynabo City	2.00	244	eS		Sn	13 25 42.1	-1.0
GCPR	Guaynabo City	2.00	244			Sn	13 25 42.1	-1.0
GCPR	Guaynabo City	2.00	244			Pn	13 25 19.1	+0.4
PDPR	Patillas Dam,	2.10	236			Pn	13 25 20.9	+0.8
SJG	San Juan	2.15	240	Pn		Pn	13 25 21.6	+0.8
IGPR	InterUniversit	2.20	236			Pb	13 25 23.1	-2.1
SKI	Saint Kitts	2.32	143	Pn		Pb	13 25 26.0	-1.2
EMPR	Esperanza - Ma	2.33	252			Pn	13 25 24.6	+1.4
CELP	Cerrillos	2.53	244	‖eP		Pn	13 25 27.1	+1.2
CELP	Cerrillos	2.53	244	eS		Sn	13 25 55.4	-0.7
CELP	Cerrillos	2.53	244			Pn	13 25 27.1	+1.2
CELP						Sn	13 25 55.4	-0.7
OBIP	Obispado Ponce	2.57	244	‖eP		Pn	13 25 27.6	+1.2
OBIP	Obispado Ponce	2.57	244	eS		Sn	13 25 55.8	-1.2
OBIP	Obispado Ponce	2.57	244			Pn	13 25 27.6	+1.2
OBIP						Sn	13 25 55.8	-1.2
AOPR	Arecibo Observ	2.58	251	‖eP		Pn	13 25 28.0	+1.4
AOPR	Arecibo Observ	2.58	251			Pn	13 25 28.0	+1.4
ICMP	Isla Caja de M	2.58	240	↑eP		Pn	13 25 28.4	+1.8
ICMP	Isla Caja de M	2.58	240	eS		Sn	13 25 57.1	-0.2
ICMP	Isla Caja de M	2.58	240			Pn	13 25 28.4	+1.8
ICMP						Sn	13 25 57.1	-0.2
AGPR	Aguadilla, PR	2.86	256			Pn	13 25 31.2	+0.7
MPR	Mayaguez	2.97	251	Pn		Pn	13 25 34.0	+2.0
MLPR	Magueyes Islan	2.97	246	↑eP		Pn	13 25 33.7	+1.7
MLPR	Magueyes Islan	2.97	246	eS		Sn	13 26 06.9	-0.2
MLPR	Magueyes Islan	2.97	246			Pn	13 25 33.7	+1.7
MLPR	Magueyes Islan	2.97	246			Sn	13 26 06.9	-0.2
MLPR	Magueyes Islan	2.97	246			Pn	13 25 34.1	+2.1
CRPR	Cabo Rojo, PR	3.02	247			Pn	13 25 34.0	+1.4
DR12	Loma Pena Alta	4.93	266	Pn		Pn	13 26 00.0	+1.0
BANI	BANI	5.90	263	Pn		Pn	13 26 16.4	+4.0
SDDR	Presa de Saban	6.72	269			Pn	13 26 25.4	+1.8
GRTK	Grand Turk	6.91	291	Pn		Pn	13 26 26.3	+0.2

NEIC ***29*** *13:28:34.5±1.1, 35°.92S±0°.09×178°.6E±0°.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=19.9km s-min=14.1km az=109.0*
IDC ***29*** *13:28:35.7±1.3, 36°.08S×178°.18E, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.1/22, mbtmp4.2/7, ML4.1/2, MS3.8/14, Ms1 3.8/14, ms1mx3.6/29, Error ellipse: s-maj=28.9km s-min=22.9km az=65.0*
WEL ***29*** *13:28:36.2±0.8, 36°S±5°×17°9E±°, h33km, M4.8/66, mB5.3/4, ML5.0/67, MLv4.8/66, Mw(mB)4.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=99.0*
ISC 29 13:28:37.5±0.7, 35°.87S±0°.06×178°.67E±0°.08, h35km, n164,
σ2s44/133, mb4.4/10, MS3.9/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.72	190	P		Pn	13 29 03.1	-1.9
MXZ				S		Sn	13 29 23.2	-2.4
MXZ	Matakaoa Point	1.72	190	Pn		Pn	13 29 02.9	-2.0
WMGZ	Waiomatatini S	1.96	186	P		Pn	13 29 08.4	+0.1
WMGZ				S		Sn	13 29 37.5	+5.9
HAZ	Te Kaha	2.02	200	P		Pn	13 29 06.7	-2.3
WIZ	White Island	2.04	215	P		Pn	13 29 10.4	+1.1
PKGZ	Pakihiroa	2.07	193	P		Pn	13 29 15.3	+5.4
PKGZ				S		Sn	13 29 41.1	+6.5
PUZ	Puketiti	2.23	188	P		Pn	13 29 12.9	+1.0
RUGZ	Raukumara Rang	2.24	201	P		Pn	13 29 11.3	-0.9
RUGZ				S		Sn	13 29 39.6	+0.8
OPRZ	Ohinepanea	2.60	220	P		Pn	13 29 21.2	+4.1
MWZ	Matawai	2.63	200	P		Pn	13 29 16.7	-0.8
CNGZ	Carnagh Statio	2.64	188	P		Pn	13 29 19.8	+2.2
TKGZ	Te Karaka	2.65	194	P		Pn	13 29 19.5	+1.7
TKGZ				S		Sn	13 29 54.3	+5.6
URZ	Urewera	2.70	207	Pn		Pn	13 29 16.4	-1.9
URZ	74nm,0.3s,baz=13,slow=2.8,SNR=50			Sn		Sn	13 29 46.8	-3.0
URZ	68nm,0.3s,baz=60,slow=20,SNR=5.6			LR		LR	13 30 28.0	
URZ	comp=Z,2μm,18.4s,baz=360,slow=48							
URZ	Urewera	2.70	207	P		Pn	13 29 16.9	-1.4
URZ				S		Sn	13 29 47.4	-2.3
URZ	Urewera	2.70	207	Pn		Pn	13 29 16.6	-1.7
EDRZ	Edgecumbe	2.72	214	P		Pn	13 29 22.0	+3.2
RAGZ	Rawiri	2.81	201	P		Pn	13 29 20.0	0.0
OMRZ	Omania	2.90	219	P		Pn	13 29 25.4	+4.2

KARZ	Kaharoa	2.90 221	P		Pn	13 29 23.8	+2.7		
RIGZ	Rimuhau	2.93 194	P		Pn	13 29 22.9	+1.3		
KMRZ	Kaimai	2.95 227	P		Pn	13 29 27.3	+5.4		
RRRZ	Republican Roa	3.01 214	P		Pn	13 29 24.7	+2.0		
HLRZ	Highlands Stat	3.02 217	P		Pn	13 29 26.7	+3.9		
UTU	Utuhina	3.04 220	P		Pn	13 29 32.2	+9.1		
RTZ	Ruatahuna	3.06 206	P		Pn	13 29 24.7	+1.3		
SNGZ	Shannon Statio	3.10 200	P		Pn	13 29 24.8	+0.9		
SNGZ			S		Sn	13 30 04.5	+4.8		
PRGZ	Paritu Road	3.12 191	P		Pn	13 29 25.1	+1.0		
HSRZ	Hossack Road	3.12 218	P		Pn	13 29 28.9	+4.7		
HRRZ	Handcock Road	3.16 216	P		Pn	13 29 28.7	+3.9		
MBAZ	Motutapu North	3.18 252	P		Pn	13 29 32.9	+7.9		
PRRZ	Plateau Road	3.20 214	P		Pn	13 29 26.3	+1.1		
GRRZ	Galatos Road	3.22 219	P		Pn	13 29 28.5	+3.0		
KNZ	Kokohu	3.25 194	P		Pn	13 29 26.1	+0.1		
KNZ			S		Sn	13 30 05.4	+2.0		
ALRZ	Allen Road	3.27 214	P		Pn	13 29 27.6	+1.3		
ALRZ			S		Sn	13 30 06.7	+2.7		
RAHZ	Arahi	3.30 202	P		Pn	13 29 28.2	+1.6		
MTHZ	Maungataniwha	3.32 206	P		Pn	13 29 28.9	+1.9		
WPRZ	Whakapapatarin	3.32 216	P		Pn	13 29 33.2	+6.2		
EPAZ	Eden Park BICE	3.33 251	P		Pn	13 29 36.1	+9.1		
MHGZ	Mahia Peninsul	3.34 190	P		Pn	13 29 28.4	+1.2		
WHHZ	Waihua	3.40 199	P		Pn	13 29 29.2	+1.1		
MRHZ	Matea Rd	3.46 211	P		Pn	13 29 31.1	+2.1		
KUTZ	Kaahu Road	3.47 220	P		Pn	13 29 31.2	+2.2		
TLZ	Tolley Road	3.51 225	P		Pn	13 29 30.9	+1.3		
NMHZ	Naumai	3.55 204	P		Pn	13 29 30.6	+0.4		
ARHZ	Aropaoanui	3.64 201	P		Pn	13 29 32.1	+0.7		
ARHZ			S		Sn	13 30 16.3	+3.1		
HATZ	Hinemaiaia	3.65 213	P		Pn	13 29 35.1	+3.6		
WAIZ	Wairara	3.68 219	P		Pn	13 29 35.5	+3.5		
BKZ	Black Stump Fm	3.72 207	P		Pn	13 29 31.7	-0.8		
BKZ	Black Stump Fm	3.72 207	Pn		Pn	13 29 31.4	-1.1		
RATZ	Rangitukua	3.78 217	P		Pn	13 29 36.4	+3.0		
RITZ	Rihia Road	3.83 215	P		Pn	13 29 36.3	+2.3		
MCHZ	McNeill Hill	3.90 203	P		Pn	13 29 35.6	+0.7		
MCHZ			S		Sn	13 30 25.1	+5.6		
KATZ	Kakaramea	3.91 216	P		Pn	13 29 39.5	+4.3		
KWHZ	Kaweka Forest	3.98 206	P		Pn	13 29 37.9	+1.9		
CKHZ	Cape Kidnapper	3.99 198	P		Pn	13 29 35.9	-0.2		
TMVZ	Te Maari	4.01 215	P		Pn	13 29 38.5	+1.9		
KRVZ	Karewarewa	4.02 216	P		Pn	13 29 39.0	+2.2		
ETVZ	East Tongariro	4.03 215	P		Pn	13 29 38.1	+1.4		
HIZ	Hauiti	4.03 228			Pn	13 29 36.2	-0.6		
WTVZ	West Tongariro	4.07 216	P		Pn	13 29 38.8	+1.5		
OTVZ	Oturere	4.07 215	P		Pn	13 29 37.5	+0.2		
TWVZ	Taurewa	4.11 216	P		Pn	13 29 40.3	+2.5		
NGZ	Ngauruhoe	4.11 216	P		Pn	13 29 39.9	+1.9		
TUVZ	Tukino	4.16 214	P		Pn	13 29 40.1	+1.5		
BHHZ	Black Hill Sta	4.17 209	P		Pn	13 29 38.5	-0.2		
KAHZ	Kahuranaki	4.17 199	P		Pn	13 29 38.9	+0.2		
KRHZ	Kereru	4.19 205	P		Pn	13 29 38.8	-0.1		
FWVZ	Far West T-bar	4.19 215	P		Pn	13 29 41.1	+2.0		
WHVZ	Whangaehu Hut	4.20 215	P		Pn	13 29 40.4	+1.2		
DRZ	Dome Shelter	4.21 215	P		Pn	13 29 41.5	+2.1		
MOVZ	Moawhango	4.23 212	P		Pn	13 29 38.7	-0.8		
WNVZ	Wahianoa	4.23 214	P		Pn	13 29 40.8	+1.2		
PKVZ	Pokaka	4.32 217	P		Pn	13 29 41.5	+0.7		
PXZ	Pawanui	4.40 198	P		Pn	13 29 40.9	-0.9		
PNHZ	Pukenui	4.49 205	P		Pn	13 29 42.1	-0.9		
VRZ	Vera Road	4.50 223	P		Pn	13 29 46.8	+3.6		
WPHZ	Waipukurau	4.55 202	P		Pn	13 29 43.5	-0.3		
PRHZ	Porangahau	4.68 199	P		Pn	13 29 44.3	-1.3		
TSZ	Takapari Road	4.70 206	P		Pn	13 29 44.8	-1.2		
DVHZ	Dannevirke	4.85 203	P		Pn	13 29 47.3	-0.8		
WAZ	Wangaehu	4.86 216	P		Pn	13 29 49.2	+1.1		
DREZ	Durham Road	4.86 226	P		Pn	13 29 54.8	+6.7		
LREZ	Lake Rotokare	4.93 222	P		Pn	13 29 52.4	+3.3		
NEZ	North Egmont	4.98 226	P		Pn	13 29 58.4	+8.6		
KHEZ	Kahui Hut	5.04 226	P		Pn	13 29 56.1	+5.4		
NBEZ	Newall Road No	5.11 227	P		Pn	13 30 00.2	+8.7		
PRWZ	Pori Road	5.14 204	P		Pn	13 29 51.9	-0.1		
BFZ	Birch Farm	5.17 201	Pn		Pn	13 29 49.8	-2.6		
MRZ	Mangatainoka R	5.37 206	P		Pn	13 29 53.8	-1.3		
CPWZ	Castlepoint	5.40 200	P		Pn	13 29 55.7	+0.3		
MSWZ	Moikau Station	6.15 205			Pn	13 30 02.8	-3.1		
SNZO	South Karori	6.26 209	Pn		Pn	13 30 03.6	-3.7		
BHW	Baring Head	6.28 207	Pn		Pn	13 30 04.0	-3.7		
PLWZ	Palliser	6.29 204			Pn	13 30 05.0	-2.7		
TUWZ	Tuamarina	6.67 212			Pn	13 30 09.4	-3.6		
NNZ	Nelson	6.76 216	Pn		Pn	13 30 11.0	-3.2		
CMWZ	Cape Campbell	6.83 209	P		Pn	13 30 15.9	+0.8		
CMWZ	Cape Campbell	6.83 209	Pn		Pn	13 30 13.2	-2.0		
QRZ	Quartz Range	6.91 222	Pn		Pn	13 30 14.1	-2.2		
BSWZ	Blackbirch Sta	6.94 211	Pn		Pn	13 30 13.8	-2.9		
RAO	Raoul Island	7.20 25	LR		LR	13 32 43.6			
	comp=Z,925nm,19.2s,baz=224,slow=33								
THZ	Tophouse	7.41 216	Pn		Pn	13 30 19.8	-3.3		
KHZ	Kahutara	7.66 210	Pn		Pn	13 30 21.5	-5.0		
LTZ	Lake Taylor	8.50 214	P		Pn	13 30 37.1	-1.0		
LTZ	Lake Taylor	8.50 214	Pn		Pn	13 30 32.8	-5.3		
MQZ	McQueen's Vall	9.10 209	Pn		Pn	13 30 40.0	-6.2		
RPZ	Rata Peaks	9.78 214	Pn		Pn	13 30 51.5	-4.2		
	1.1nm,0.3s,baz=14,slow=17,SNR=1.6								
RPZ			S		Sn	13 32 36.5	-7.8		
	2.3nm,0.3s,baz=52,slow=18,SNR=2.0								
RPZ			LR		LR	13 35 13.1			
	comp=Z,523nm,19.1s,baz=58,slow=42								
RPZ	Rata Peaks	9.78 214	Pn		Pn	13 30 50.4	-5.2		
FOZ	Fox Glacier	10.25 219	Pn		Pn	13 30 59.1	-2.9		
LBZ	Lake Benmore	10.70 215	Pn		Pn	13 31 04.3	-3.9		
ODZ	Otahua Downs	11.01 211	Pn		Pn	13 31 07.5	-5.0		
WKZ	Wanaka	11.58 216	Pn		Pn	13 31 19.2	-1.1		
SYZ	Scrubby Hill	12.84 211	P		Pn	13 31 37.9	+0.5		
WHZ	Wether Hill Ro	12.88 216	Pn		Pn	13 31 34.3	-3.6		
DZM	Mont Dzumac	17.39 319	*e*P		P	13 32 39.8	+1.2		
	38nm,1.8s								
DZM			*e*LR		LR	13 36 41.7			
	comp=Z,890nm,25.0s								
DZM	Mont Dzumac	17.39 319			Pn	13 32 38.3	+0.7		
DZM			IAmb		IAmb	13 32 45.9			
	comp=Z,15nm,1.1s								
NIUE	Niue	19.52 34	P		P	13 33 01.6	-0.3		
TBI	Tubuai	30.25 74	*e*LR		LR	13 42 33.0			
	comp=Z,384nm,27.0s,baz=232								
TBI	Tubuai	30.25 74	*e*T		T	14 06 19.9			
	comp=Z,34nm,0.3s								
STKA	Stephens Creek	30.92 267	P		P	13 34 50.0	-1.0		
	comp=Z,1.4nm,0.8s,baz=99,slow=13,SNR=2.3								
STKA	Stephens Creek	30.92 267	IAmb		IAmb	13 34 55.9			
	comp=Z,0.8nm,1.0s								
HNR	Honiara	31.36 323	LR		LR	13 45 41.3			
	comp=Z,117nm,18.5s,baz=144,slow=33								
PAE	Paea	33.44 66	*e*T		T	14 10 17.6			
	comp=Z,4.4nm,0.3s								
PPT2	Papeete2	33.49 65	*e*LR		LR	13 44 05.3			
	comp=Z,423nm,26.2s,baz=233								
PPT2	Papeete2	33.49 65	*e*T		T	14 10 21.8			
	comp=Z,8.2nm,0.3s								
PPT	Papeete	33.50 65	LR		LR	13 44 59.3			
	comp=Z,224nm,21.7s,baz=216,slow=29								
TVO	Taravao	33.61 66	*e*T		T	14 10 30.0			
	comp=Z,2.1nm,0.3s								
TIAR	Tiarei	33.68 66	*e*T		T	14 10 35.3			
	comp=Z,2.4nm,0.3s								
PMOR	Pomariorio Ree	36.38 64	*e*T		T	14 13 57.2			
	comp=Z,4.1nm,0.3s								
VAH	Vaihoa	36.42 64	*e*T		T	14 14 00.6			
	comp=Z,11nm,0.3s								
AS31	Alice Springs	40.40 275	P		P	13 36 12.6	+0.2		
ASAR	Alice Springs	40.40 275	P		P	13 36 12.9	+0.5		
	comp=Z,6.0nm,0.9s,baz=114,slow=7.6,SNR=34								
ASAR			LR		LR	13 51 47.5			
	comp=Z,201nm,19.8s,baz=124,slow=35								
ASAR	Alice Springs	40.40 275	P		P	13 36 12.2	-0.1		
WR0	Warramunga Arr	41.73 280	P		P	13 36 23.6	+0.3		
WR0			IAmb		IAmb	13 36 27.4			
	comp=Z,5.1nm,0.9s								
WB2	Warramunga Arr	41.89 280	P		P	13 36 25.0	+0.4		
WB2			IAmb		IAmb	13 36 28.6			
	comp=Z,7.4nm,0.8s								
WRA	Warramunga Arr	41.90 280	P		P	13 36 24.9	+0.2		
	comp=Z,5.7nm,0.8s,baz=120,slow=7.8,SNR=22								
WRA			LR		LR	13 53 08.0			
	comp=Z,180nm,18.3s,baz=120,slow=35								
WRA	Warramunga Arr	41.90 280	P		P	13 36 25.0	+0.3		
WB0	Warramunga Arr	41.95 280	P		P	13 36 25.2	+0.1		
WB0			IAmb		IAmb	13 36 29.5			
	comp=Z,6.7nm,0.9s								
VNDA	Vanda	42.40 185	LR		LR	13 50 21.8			
	comp=Z,140nm,21.8s,baz=32,slow=31								
KNRA	Kununurra	48.66 281	P		P	13 37 18.9	+0.5		
FITZ	Fitzroy Crossi	49.86 276	P		P	13 37 28.1	+0.6		
	baz=134,slow=8.7								
FITZ	Fitzroy Crossi	49.86 276	P		P	13 37 28.3	+0.8		
QSPA	South Pole Qui	54.26 180	P		P	13 38 01.9	+2.2		
	comp=Z,3.5nm,0.8s,baz=5.5,slow=6.0,SNR=9.8								
QSPA	South Pole Qui	54.26 180	P		P	13 38 02.0	+2.2		
KAPI	Kappang	62.07 285	LR		LR	14 07 16.0			
	comp=Z,55nm,18.2s,baz=147,slow=38								
H03S2	Juan Fernandez	79.74 124	T		T	15 08 31.1			
	baz=231,slow=74,SNR=140								
H03S1	Juan Fernandez	79.75 124	T		T	15 08 40.2			
	baz=231,slow=74,SNR=112								
H03S3	Juan Fernandez	79.76 124	T		T	15 08 39.1			
	baz=231,slow=74,SNR=139								
H03N3	Juan Fernandez	79.97 124	T		T	15 08 45.5			
	baz=236,slow=72,SNR=754								
H02N2	Juan Fernandez	79.97 124	T		T	15 08 46.3			
	baz=236,slow=72,SNR=354								
H03N1	Juan Fernandez	79.98 124	T		T	15 08 44.1			
	baz=236,slow=72,SNR=694								
PLCA	Paso Flores	80.78 134	LR		LR	14 09 49.9			
	comp=Z,46nm,19.5s,baz=333,slow=31								
ASAJ	Asahikawa	86.09 335	LR		LR	14 14 23.4			
	comp=Z,45nm,19.8s,baz=166,slow=32								
CN2	Changchun	92.88 325	*e*P		P	13 41 42.0	-4.4		
CN2			pmax		pmax				
	comp=Z,10.0nm,0.5s								
NVAR	Mina Array Bea	94.11 45	P		P	13 41 58.9	+6.4		
	comp=Z,0.4nm,0.8s,baz=225,slow=3.7,SNR=3.5								
NVAR	Mina Array Bea	94.11 45	P		P	13 41 56.1	+3.6		
TXAR	Lajitas Array	97.63 59	LR		LR	14 16 59.0			
	comp=Z,28nm,20.8s,baz=0.0,slow=30								
HHC	Hu-ho-hao-te	98.07 315	*e*P		Pdif	13 42 11.0	+0.7		
HHC			pmax		pmax				
	comp=Z,22nm,1.3s								
HHC			pmax		pmax				
	comp=Z,130nm,7.1s								
LPAZ	La Paz	98.32 117	LR		LR	14 19 51.8			
	comp=Z,36nm,19.1s,baz=114,slow=31								
CPUP	Villa Florida	98.64 131	LR		LR	14 18 55.5			
	comp=Z,68nm,20.7s,baz=218,slow=31								
DBIC	Dimbokro	150.76 173	PKPbc		PKPab	13 48 30.2	-3.4		
	comp=Z,3.2nm,1.0s,baz=153,slow=4.5,SNR=3.3								
DBIC	Dimbokro	150.76 173			PKiKP	13 48 27.5	+0.2		
TORD	Torodi Ar. Bea	157.22 188	PKPab		PKPab	13 49 01.0	+0.1		
	comp=Z,0.9nm,0.9s,baz=173,slow=3.1,SNR=5.6								
TORD	Torodi Ar. Bea	157.22 188			PKPab	13 49 01.1	+0.3		

*NEIC **29** 13:40:18.6±1.1, 32°.8S±0°.1×179°.8E±0°.2, h203km±9km, mb4.1/9, Error ellipse: s-maj=30.9km s-min=12.0km az=113.0*
*IDC **29** 13:40:18.6±9.6, 32°.87S×179°.91E, h207km±68km, mb3.0/2, mb1 3.3/4, mb1mx3.1/26, mbtmp3.8/4, Error ellipse: s-maj=92.8km s-min=37.1km az=48.0*
ISC 29 13:40:18.3±0.8, 32°.8S±0°.1×179°.7E±0°.2, h200km, n20, σ1§10/21, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.07	30	S		Sn		13 42 10.3	+0.2
	41nm,0.3s,baz=233,slow=20,SNR=2.4								
URZ	Urewera	5.86	201	P		Pn		13 41 45.0	+1.4
	0.2nm,0.3s,baz=343,slow=21,SNR=1.6								
URZ				S		Sn		13 42 51.4	+0.3
	3.2nm,0.3s,baz=43,slow=20,SNR=14								
BKZ	Black Stump Fm	6.88	201	Pn		Pn		13 41 57.2	+0.3
MSWZ	Moikau Station	9.32	201	Pn		Pn		13 42 27.7	-0.9
BHW	Baring Head	9.43	203	Pn		Pn		13 42 28.0	-2.0
TUWZ	Tuamarina	9.78	207	Pn		Pn		13 42 32.8	-1.7
THZ	Tophouse	10.47	209	Pn		Pn		13 42 42.6	-0.9
RPZ	Rata Peaks	12.85	209	P		Pn		13 43 12.4	-1.4
	0.2nm,0.3s,baz=198,slow=20,SNR=1.8								
RPZ				S				13 45 26.0	-11
	0.6nm,0.3s,baz=335,slow=20,SNR=0.9								
ASAR	Alice Springs	41.12	271	P		P		13 47 44.0	+1.0
	0.5nm,0.8s,baz=111,slow=7.9,SNR=2.2								
WR0	Warramunga Arr	42.16	276	P		P		13 47 52.1	+0.8
WB2	Warramunga Arr	42.32	276	P		P		13 47 53.3	+0.6
WB2				IAmb		IAmb		13 48 15.8	
	comp=Z,7.2nm,1.4s								
WRAB	Tennant Creek	42.33	276	P		P		13 47 53.4	+0.6
WRAB				IAmb		IAmb		13 47 59.1	
	comp=Z,6.4nm,1.2s								
WRA	Warramunga Arr	42.33	276	P		P		13 47 53.5	+0.7
	comp=Z,0.5nm,0.5s,baz=114,slow=8.0,SNR=13								
WB0	Warramunga Arr	42.37	276	P		P		13 47 53.8	+0.7
CASY	Casey	52.12	209	P		P		13 49 07.2	-0.4
AIN	Ainahou	57.04	28	P		P		13 49 43.1	-0.6
QSPA	South Pole Qui	57.32	180	P		P		13 49 46.9	+1.7
QSPA				IAmb		IAmb		13 49 47.6	
	comp=Z,4.1nm,0.7s								
SNAA	Sanae	75.81	179	P		P		13 51 41.7	-0.1
SNAA				IAmb		IAmb		13 51 46.5	
	comp=Z,8.0nm,1.4s								
TORD	Torodi Ar. Bea	160.36	186	PKPab		PKPab		14 00 34.8	-1.3
	comp=Z,2.3nm,0.4s,baz=168,slow=4.6,SNR=2.5								
TORD	Torodi Ar. Bea	160.36	186			PKPab		14 00 35.0	-1.1

*NEIC **29** 13:42:57.4±1.7, 17°.68S±0°.08×179°.5E±0°.1, h592km±7km, mb4.6/56, Error ellipse: s-maj=14.3km s-min=12.2km az=84.0*
*IDC **29** 13:42:57.5±3.0, 17°.59S×179°.42E, h586km±33km, mb3.3/14, mb1 3.5/15, mb1mx3.4/28, mbtmp4.2/15, Error ellipse: s-maj=21.5km s-min=17.3km az=97.0*
ISC 29 13:42:57.9±0.4, 17°.65S±0°.07×179°.50E±0°.07, h600km, n143, σ0§96/141, mb4.4/36, 9C-5D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.39	266	P		P		13 44 11.1	+1.0
FUNA	Funafuti	9.07	358	P		P		13 45 06.4	-1.2
AFI	Afiamalu	9.18	67	P		P		13 45 06.6	-2.1
NIUE	Niue	10.14	100	P		P		13 45 15.9	-2.1
RAO	Raoul Island	11.79	169	P		P		13 45 34.0	-0.4
SANVU	Saraoutou	11.99	279	P		P		13 45 37.3	+0.7
DZM	Mont Dzumac	13.05	248	P		P		13 45 46.1	-1.2
	1.3nm,0.3s,baz=65,slow=19,SNR=17								
DZM	Mont Dzumac	13.05	248	P		P		13 45 46.3	-1.0
KNTN	Kanton	17.11	31	P		P		13 46 24.3	-1.2
OUZ	Omahuta	18.28	196	P		P		13 46 33.0	-2.8
OUZ				IAmb		IAmb		13 46 37.8	
	comp=Z,61nm,1.4s								
URZ	Urewera	20.64	185	P		P		13 46 57.0	-0.2
	comp=Z,13nm,0.8s,baz=90,slow=19,SNR=2.3								
URZ	Urewera	20.64	185	IAmb		IAmb		13 47 00.5	
	comp=Z,57nm,1.5s								
BKZ	Black Stump Fm	21.60	186	P		P		13 47 04.3	-1.6
BKZ				IAmb		IAmb		13 47 18.6	
	comp=Z,32nm,1.3s								
BFZ	Birch Farm	23.13	186	P		P		13 47 19.4	0.0
QRZ	Quartz Range	23.87	193	P		P		13 47 26.1	+0.2
SNZO	South Karori	23.94	189	P		P		13 47 26.3	-0.2
MSWZ	Moikau Station	23.97	188	P		P		13 47 26.6	-0.2
BHW	Baring Head	24.02	189	P		P		13 47 26.8	-0.4
NNZ	Nelson	24.08	191	P		P		13 47 27.4	-0.4
PLWZ	Palliser	24.12	188	P		P		13 47 27.8	-0.4
TUWZ	Tuamarina	24.18	190	P		P		13 47 27.9	-0.7
BSWZ	Blackbirch Sta	24.47	190	P		P		13 47 31.6	+0.3
KHZ	Kahutara	25.21	190	P		P		13 47 36.5	-1.2
KHZ				IAmb		IAmb		13 47 44.7	
	comp=Z,46nm,1.2s								
LTZ	Lake Taylor	25.80	192	P		P		13 47 41.9	-1.1
LTZ				IAmb		IAmb		13 47 52.6	
	comp=Z,41nm,1.1s								
MQZ	McQueen's Vall	26.62	191	P		P		13 47 49.1	-1.0
RPZ	Rata Peaks	26.95	194	P		P		13 47 50.2	-2.9
	comp=Z,4.7nm,0.6s,baz=344,slow=19,SNR=1.2								
RPZ	Rata Peaks	26.95	194	P		P		13 47 52.1	-0.9
RPZ				IAmb		IAmb		13 48 15.4	
	comp=Z,29nm,1.1s								
FOZ	Fox Glacier	27.08	196	P		P		13 47 54.3	+0.3
LBZ	Lake Benmore	27.79	194	P		P		13 47 58.9	-1.4
LBZ				IAmb		IAmb		13 48 12.2	
	comp=Z,49nm,1.4s								
ODZ	Otahua Downs	28.31	193	P		P		13 48 03.8	-1.0
ODZ				IAmb		IAmb		13 48 25.5	
	comp=Z,18nm,1.1s								
ARMA	Armidale	28.37	238	P		P		13 48 06.6	+0.9
ARMA				IAmb		IAmb		13 48 32.4	
	comp=Z,28nm,1.4s								
WKZ	Wanaka	28.49	196	P		P		13 48 05.6	-0.8
CTAO	Charters Tower	31.53	260	P		P		13 48 32.8	0.0
STKA	Stephens Creek	37.02	240	P		P		13 49 18.8	+0.4
	comp=Z,1.2nm,0.4s,baz=90,slow=8.1,SNR=9.9								
STKA	Stephens Creek	37.02	240	IAmb		IAmb		13 49 21.2	
	comp=Z,1.4nm,1.2s								
WAKE	Wake Island	38.81	340	P		P		13 49 33.3	+0.4
BBOO	Buckleboo	41.80	240	P		P		13 49 57.0	+0.4
BBOO				IAmb		IAmb		13 50 10.0	
	comp=Z,17nm,1.4s								
WR0	Warramunga Arr	42.53	260	P		P		13 50 01.5	-1.0
WB0	Warramunga Arr	42.69	260	P		P		13 50 02.7	-1.1
WB0				PcP		PcP		13 51 42.1	+0.6
WC3	Warramunga Arr	42.69	259	PcP		PcP		13 51 42.1	+0.7
WB2	Warramunga Arr	42.71	260	P		P		13 50 03.0	-1.0
WRAB	Tennant Creek	42.71	260	P		P		13 50 03.0	-0.9
WRA	Warramunga Arr	42.72	260	P		P		13 50 03.0	-1.0
	comp=Z,1.0nm,0.3s,baz=94,slow=7.9,SNR=55								
WRA				PcP		PcP		13 51 42.1	+0.5
	comp=Z,0.7nm,0.4s,baz=97,slow=3.3,SNR=6.6								
WRA	Warramunga Arr	42.72	260	IAmb		IAmb		13 50 03.9	
	comp=Z,0.2nm,1.1s								
WRA				PcP		PcP		13 51 42.5	+0.9
AS31	Alice Springs	42.95	254	P		P		13 50 05.4	-0.3
AS31				IAmb		IAmb		13 50 06.3	
	comp=Z,5.5nm,0.6s								
ASAR	Alice Springs	42.95	254	P		P		13 50 05.7	-0.1
	comp=Z,14nm,0.5s,baz=87,slow=8.3,SNR=311								
ASAR				PcP		PcP		13 51 42.9	+0.5
	comp=Z,1.4nm,0.6s,baz=101,slow=3.9,SNR=6.6								
ASAR				S		S		13 55 45.0	-3.8
	comp=Z,0.7nm,0.8s,baz=83,slow=18,SNR=10.0								
ASAR	Alice Springs	42.95	254	P		P		13 50 05.0	-0.7
ASAR						PcP		13 51 42.7	+0.4
HMH	Humu'ula Sheep	44.42	35	P		P		13 50 18.2	+0.8
HLK	Haleakala	44.97	33	P		P		13 50 22.0	+0.5
GUMO	Guam	46.17	310	P		P		13 50 30.5	+0.1
MTN	Manton Dam	46.82	269	P		P		13 50 34.9	-0.5
MTN				IAmb		IAmb		13 50 36.0	
	comp=Z,9.2nm,0.8s								
FORT	Forrest	48.33	244	P		P		13 50 46.0	-0.4
FORT				IAmb		IAmb		13 50 47.7	
	comp=Z,18nm,0.8s								
KNRA	Kununurra	48.53	264	P		P		13 50 47.8	-0.3
KNRA				IAmb		IAmb		13 50 48.2	
	comp=Z,31nm,1.4s								
FAKI	Fak Fak	48.58	282	P		P		13 50 48.5	0.0
FAKI				IAmb		IAmb		13 50 53.5	
	comp=Z,31nm,1.3s								
FITZ	Fitzroy Crossi	51.11	261	P		P		13 51 07.2	+0.4
SOEI	Soe	54.08	271	P		P		13 51 29.3	+1.1
SOEI				IAmb		IAmb		13 51 30.9	
	comp=Z,37nm,0.7s								
PSA00	Pilbara Seismi	56.05	256	P		P		13 51 41.6	0.0
NWAO	Narrogin (SRO)	57.58	242	P		P		13 51 51.9	+0.1
NWAO				IAmb		IAmb		13 52 03.7	
	comp=Z,45nm,1.5s								
MORW	Morawa	58.76	246	P		P		13 51 59.7	-0.2
VNDA	Vanda	60.55	184	P		P		13 52 12.8	+1.9
	comp=Z,0.4nm,0.6s,baz=358,slow=7.2,SNR=2.9								
VNDA	Vanda	60.55	184	P		P		13 52 12.8	+1.9
GIRL	Giralia	61.06	253	P		P		13 52 15.8	+0.6
JGF	Kuroka	66.33	323	P		P		13 52 48.8	+0.5
JGF				IAmb		I

KHC	Kasperske Hory	146.58	343	*e*PKP		PKiKP	14 01 33.7	-1.4
HERR	Herculane	146.75	330	⇓P		PKPbc	14 01 34.0	+0.4
GERES	GERESS Array B	146.81	343	PKPbc		PKiKP	14 01 34.3	-1.4
	comp=Z,3.3nm,0.5s,baz=24,slow=2.8,SNR=20							
CONA	Conrad Observa	146.96	340	*e*P		PKPbc	14 01 34.4	+0.2
	comp=Z,4.7nm,0.7s							
MDVR	Moldovita	147.16	330	⇑P		PKPdf	14 01 31.7	+0.1
DIVS	Divibare	148.48	331			PKiKP	14 01 38.4	-0.9
KBA	Koelnbreinsper	148.51	342	*e*P		PKPbc	14 01 37.9	-0.4
	comp=Z,2.5nm,0.6s							
WATA	Walderalm	148.77	344	*e*P		PKiKP	14 01 39.2	-0.6
	comp=Z,3.7nm,0.5s							
WTTA	Wattenberg	148.82	344	*e*P		PKiKP	14 01 39.0	-0.9
	comp=Z,5.2nm,0.4s							
MYKA	Terra Mystica	148.82	341	*e*P		PKPbc	14 01 38.7	-0.2
	comp=Z,4.0nm,0.6s							
MOTA	Moosalm	148.88	345	*e*P		PKiKP	14 01 39.3	-0.8
	comp=Z,1.8nm,0.3s							
SQTA	Sankt Quirin	148.97	344	*e*P		PKiKP	14 01 39.6	-0.6
	comp=Z,7.2nm,0.7s							
ABTA	Abfaltersbach	149.05	342	*e*P		PKiKP	14 01 39.4	-0.9
	comp=Z,5.0nm,0.6s							
FETA	Feichten	149.28	345	*e*P		PKiKP	14 01 40.5	-0.4
	comp=Z,8.4nm,1.1s							
CIMO	Cimolais	149.47	342			PKPbc	14 01 40.0	-0.4
DAVOX	Davos/Dischmat	149.71	346	PKPbc		PKiKP	14 01 41.6	-0.2
	comp=Z,12nm,0.5s,baz=1.5,slow=13,SNR=16							
TUE	Stuetta	150.12	346			PKiKP	14 01 42.4	-0.3
TORD	Torodi Ar. Bea	175.06	206	PKP		PKPdf	14 02 00.3	-0.4
	comp=Z,0.4nm,0.7s,baz=126,slow=1.7,SNR=2.6							

IDC ***29*** *13:57:11.7±1.5,30.˚88N×86.˚44E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.3/72,mbtmp3.8/4,MS3.2/1,Ms1 3.2/1, ms1mx2.4/47,Error ellipse: s-maj=108.3km s-min=26.8km az=52.0*

NEIC ***29*** *13:57:16.4±0.8,31.˚1N±0.˚1×86.˚5E±0.˚1,h30km±5km, mb4.3/8,Error ellipse: s-maj=22.2km s-min=8.8km az=50.0*

ISC 29 13:57:15.7±0.9,31.˚1N±0.˚2×86.˚6E±0.˚1,h26km,n17, σ0§92/13,mb4.0/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	4.20	108				Pn	13 58 19.3	+0.8
KBL	Kabul	15.13	288	Pn		Pn	Pn	14 00 47.9	+0.1
KBL						IAmb	IAmb	14 00 48.7	
	comp=Z,4.7nm,0.4s								
MKAR	Makanchi Array	16.01	349	P		P	P	14 01 03.0	+0.6
CHGR	Chuyangaron	16.14	303	P		P	P	14 01 03.6	-0.3
CHGR						IAmb	IAmb	14 01 06.1	
	comp=Z,7.2nm,0.8s								
KURBB	Kurchatov Arra	20.40	345	P		P	Pn	14 01 52.3	-0.4
	comp=Z,3.5nm,0.2s,baz=162,slow=10,SNR=5.0								
KURK	Kurchatov	20.47	345	P		P	P	14 01 52.3	+1.0
KURK	Kurchatov	20.47	345	IAmb		IAmb	IAmb	14 01 57.7	
	comp=Z,5.6nm,1.3s								
JHJ	Hachijo jima 2	44.72	73	LR		LR		14 24 28.1	
	comp=Z,29nm,18.7s,baz=80,slow=36								
AKASG	Malin Array Be	46.29	312	P		P	P	14 05 39.3	+0.3
	comp=Z,0.4nm,0.2s,baz=81,slow=7.0,SNR=4.2								
ELL	Elmali	46.77	293	P		P	P	14 05 43.3	+0.2
ARA0	ARCESS Array S	51.16	337	P		P	P	14 06 16.2	+0.1
ARA1	ARCESS Array S	51.16	337	P		P	P	14 06 16.4	+0.3
ARA1						IAmb	IAmb	14 06 29.7	
	comp=Z,8.4nm,0.9s								
WRA	Warramunga Arr	68.40	131	P		P	P	14 08 15.5	+0.1
	comp=Z,0.4nm,0.8s,baz=326,slow=6.5,SNR=3.1								
WRA	Warramunga Arr	68.40	131	IAmb		IAmb	IAmb	14 08 16.0	
	comp=Z,0.2nm,1.2s								
ASAR	Alice Springs	70.86	134	P		P	P	14 08 29.8	-0.7
	comp=Z,0.2nm,0.6s,baz=320,slow=5.6,SNR=2.1								
IL31		75.79	21	P		P	P	14 08 57.2	-1.6
IL31						IAmb	IAmb	14 09 19.5	
	comp=Z,7.5nm,1.4s								
ILAR	Eielson Array	75.79	21	P		P	P	14 08 57.3	-1.7

IDC ***29*** *13:58:58.3±1.4,59.˚34N×30.˚40W,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.5/61,mbtmp3.8/7,ML3.4/1,Error ellipse: s-maj=32.3km s-min=27.4km az=76.0*

NEIC ***29*** *13:58:59.9±1.2,59.˚4N±0.˚1×30.˚6W±0.˚1,h10km±5km, mb4.5/11,Error ellipse: s-maj=17.0km s-min=7.0km az=208.0*

ISC 29 13:58:59.9±0.8,59.˚4N±0.˚1×30.˚4W±0.˚1,h10km,n24, σ1§01/25,mb4.2/11,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.83	35	Pn		Pn	Pn	14 00 40.7	+0.6
	0.8nm,0.3s,baz=238,slow=7.8,SNR=1.6								
BORG						Sn	Sn	14 01 55.3	-2.4
	baz=100,slow=19,SNR=1.5								
CMLA	Cha da Macela	21.91	170	P		P	P	14 03 53.2	+0.2
ARA0	ARCESS Array S	25.14	43	P		P	P	14 04 25.7	+1.1
ARA2	ARCESS Array S	25.14	43	P		P	P	14 04 26.0	+1.3
ARB3	ARCESS Array S	25.14	43	P		P	P	14 04 25.8	+1.2
ESDC	Sonseca Array	25.88	128	P		P	P	14 04 31.5	-0.2
	2.0nm,0.9s,baz=328,slow=9.3,SNR=8.9								
ESDC	Sonseca Array	25.88	128	P		P	P	14 04 32.0	+0.4
FIA1	FINESS Array S	27.21	61	P		P	P	14 04 43.9	+0.5
FIA1						IAmb	IAmb	14 05 01.4	
	comp=Z,32nm,1.5s								
FINES	FINESS Array B	27.21	61	P		P	P	14 04 44.4	+1.0
AKTO	Aktyubinsk	47.96	59	P		P	P	14 07 38.9	+0.6
	comp=Z,1.8nm,0.9s,baz=293,slow=9.7,SNR=4.0								
PDAR	Pinedale Array	49.28	287	P		P	P	14 07 49.1	+0.3
	comp=Z,0.2nm,0.6s,baz=47,slow=9.2,SNR=2.3								
TPAW	Teton Pass	49.41	289	P		P	P	14 07 49.7	-0.2
ABKAR	Akbulak array	49.67	59	P		P	P	14 07 51.8	+0.3
TORD	Torodi Ar. Bea	51.97	139	P		P	P	14 08 08.0	-1.1
	comp=Z,1.1nm,0.9s,baz=347,slow=7.4,SNR=5.8								
TORD	Torodi Ar. Bea	51.97	139	P		P	P	14 08 07.0	-2.0
CCUT	Cedar City	55.14	286	P		P	P	14 08 30.8	-1.7
KURK	Kurchatov	56.12	46	P		P	P	14 08 38.5	-0.5
KURK						IAmb	IAmb	14 08 40.0	
	comp=Z,3.8nm,1.0s								
KURBB	Kurchatov Arra	56.17	46	P		P	P	14 08 39.4	+0.1
	comp=Z,1.3nm,0.7s,baz=319,slow=7.4,SNR=7.0								
MAKZ	Makanchi	60.61	47	P		P	P	14 09 10.5	+0.1
MAKZ						IAmb	IAmb	14 09 11.7	
	comp=Z,3.1nm,1.2s								
MK31	Makanchi Array	60.73	47	P		P	P	14 09 11.3	0.0
MK31						IAmb	IAmb	14 09 12.3	
	comp=Z,2.2nm,1.0s								
MKAR	Makanchi Array	60.73	47	P		P	P	14 09 11.4	+0.1
	comp=Z,2.1nm,0.9s,baz=333,slow=5.2,SNR=12								
MKAR	Makanchi Array	60.73	47	P		P	P	14 09 11.3	0.0
GAR	Garm	62.33	60	P		P	P	14 09 23.0	+0.7
GAR						IAmb	IAmb	14 09 24.4	
	comp=Z,6.8nm,1.0s								
QSPA	South Pole Qui	149.33	180	PKPdf		PKPdf	PKPdf	14 18 44.0	+1.1

SKHL ***29*** *13:59:20.8±0.5,43.˚65N×147.˚89E,h36km±3km,mb4.4/4*
JMA ***29*** *13:59:21.1±0.3,43.˚62N×147.˚61E,h6km,M3.5*

ISC 29 13:59:18.5±3.3,43.78N±0.˚10×147.7E±0.˚1,h2km±20km, n15,σ1§79/23,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.36	282	*i*P			Pn	13 59 45.0	+0.6
YUK						AMB	AMB	13 59 47.0	
	117nm,0.2s								
YUK						*e*S	Sb	14 00 03.2	+0.8
YUK						A	A	14 00 04.0	
	216nm,0.2s								
YUK						A	A	14 00 04.0	
	335nm,0.2s								
GRPR	Tuman	1.42	279	*e*P			Pn	13 59 46.0	+0.8
GRPR						AMB	AMB	13 59 47.0	
	134nm,0.3s								
GRPR						*e*S	Sb	14 00 04.5	+0.4
GRPR						A	A	14 00 09.0	
	460nm,0.3s								
GRPR						A	A	14 00 09.0	
	243nm,0.3s								
KUR	Kuril'sk	1.46	4	*e*P			Pn	13 59 46.0	+0.3
KUR						AMB	AMB	13 59 49.0	
	44nm,0.2s								
KUR						*e*S	Sn	14 00 04.5	-0.9
KUR						A	A	14 00 04.7	
	329nm,0.3s								
KUR						A	A	14 00 04.7	
	295nm,0.3s								
NEM2	Nemuro 2	1.49	255	P			Pb	13 59 46.8	0.0
NEM2						*e*S	Sn	14 00 04.8	-1.3
NMR	Nemuro--Hokkai	1.50	255	*i* P			Pn	13 59 46.0	-0.3
NMR				*i* S			Sg	14 00 05.5	-1.0
GLVR	Golovnino	1.59	269	*i* P			Pn	13 59 48.0	+0.5
GLVR						AMB	AMB	13 59 50.0	
	130nm,0.3s								
GLVR						*e*S	Sb	14 00 08.5	-0.4
GLVR						A	A	14 00 13.0	
	599nm,0.3s								
GLVR						A	A	14 00 13.0	
	95nm,0.3s								
JRA	Rausu	1.88	276	P			Pn	13 59 53.3	+1.8
JNSB	Nemuroshibetsu	1.96	271	P			Pb	13 59 54.7	-0.1
JNK	Nakash	2.18	266	P			Pn	13 59 57.5	+1.9
JNK						*e*S	Sb	14 00 24.2	-1.8
JAK	Akkeshi	2.33	251	P			Pn	13 59 59.0	+1.3
JAK						*e*S	Sb	14 00 27.0	-3.3
JTKR	Abashiri--Toko	2.76	275	P			Pn	14 00 06.9	+3.3
JAR	Ashorobuto	2.91	262	P			Pn	14 00 08.0	+2.4
JOB	Onbets	2.96	254	P			Pn	14 00 08.3	+1.9
JCH	Churui	3.38	251	P			Pn	14 00 14.7	+2.5
JNBK	Urakawa-nobuka	3.93	249	P			Pn	14 00 22.1	+2.4

IDC ***29*** *14:04:05.5±0.7,59.˚42N×30.˚32W,h0km,mb4.0/22, mb1 4.1/24,mb1mx3.9/59,mbtmp4.0/24,ML3.7/2,MS3.6/9, Ms1 3.6/9,ms1mx3.3/42,Error ellipse: s-maj=19.7km s-min=14.1km az=5.0*

NEIC ***29*** *14:04:07.8±1.3,59.˚55N±0.˚07×30.˚2W±0.˚2,h10km±4km, mb4.5/50,Error ellipse: s-maj=12.1km s-min=8.5km az=54.0*

ISC 29 14:04:07.7±0.4,59.˚55N±0.˚07×30.˚17W±0.˚05,h10km,n126, σ0§91/116,mb4.4/43,MS3.6/10,2C,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.66	35	Pn			Pn	14 05 47.2	+1.8
	4.6nm,0.3s,baz=219,slow=7.2,SNR=18								
BORG						Sn	Sn	14 07 02.4	+1.2
	2.8nm,0.3s,baz=90,slow=20,SNR=14								
ANGG	Ammassalik, Gr	6.99	334	P			Pn	14 05 49.4	-0.6
ICESG	Greenland Ices	10.41	341	*i* P			Pn	14 06 37.4	+0.3
ICESG						IAmb	IAmb	14 06 40.7	
	comp=Z,10.0nm,0.8s								
SFJD	Kangerlussuaq	11.80	318	LR		LR	LR	14 10 39.7	
	comp=Z,568nm,21.6s,baz=147,slow=33								
SFJD	Kangerlussuaq	11.80	318	Pn			Pn	14 06 55.6	-0.1
ILULI	Ilulissat	13.17	326	Pn			Pn	14 07 13.4	-1.1
SUMG	Summit	13.48	349				Pn	14 07 17.3	-1.8
SUMG	Summit	13.48	349	*i* P			Pn	14 07 17.6	-1.5
SUMG	Summit	13.48	349	*i* P			Pn	14 07 17.7	-1.5
ESK	Eskdalemuir	15.07	95	P			P	14 07 46.2	+0.5
ESK						IAmb	IAmb	14 08 03.3	
	comp=Z,25nm,1.4s								
EKA	Eskdalemuir Ar	15.09	94	Pn			Pn	14 07 40.8	+0.1
	baz=304,slow=15,SNR=3.8								
EKR6	Eskdalemuir Ar	15.12	94	P			P	14 07 47.0	+0.8
EKR6						IAmb	IAmb	14 07 48.0	
	comp=Z,19nm,1.1s								
FRB	Frobisher Bay	18.49	299	LR		LR	LR	14 14 27.2	
	comp=Z,335nm,19.5s,baz=67,slow=34								
SCHQ	Schefferville	20.23	273	LR		LR	LR	14 15 14.6	
	comp=Z,92nm,19.4s,baz=84,slow=33								
TULEG	Thule	21.59	337	P		P	P	14 08 57.4	+0.3
TULEG						IAmb	IAmb	14 09 06.5	
	comp=Z,19nm,1.0s								
HFS	Hagfors	21.75	69	P		P	P	14 09 01.1	+2.2
	comp=Z,6.2nm,0.8s,baz=211,slow=13,SNR=4.0								
BMRD	Maredsous	21.86	100	⇑P		P	P	14 08 60.0	-0.2
DOU	Dourbes	21.91	100	P		P	P	14 09 00.2	-0.5
BGES	Gesves	21.97	99	⇑P		P	P	14 09 01.0	-0.4
	comp=Z,18nm,1.1s								
MTE	Manteigas	23.85	133	P		P	P	14 09 21.5	+0.5
MTE						IAmb	IAmb	14 09 24.7	
	comp=Z,12nm,1.1s								
SPA1	Spitsbergen Ar	23.89	22	P		P	P	14 09 19.8	-1.2
SPB5	Spitsbergen Ar	23.89	22	P		P	P	14 09 19.7	-1.3
SPB1	Spitsbergen Ar	23.90	22	P		P	P	14 09 19.5	-1.6
ECH	Echery	24.41	101	P		P	P	14 09 25.9	-0.1
BFO	Black Forest	24.92	100	P		P	P	14 09 31.1	+0.5
ARCES	ARCESS Array B	24.96	43	P		P	P	14 09 30.8	-0.1
	comp=Z,8.0nm,1.1s,baz=286,slow=6.5,SNR=5.9								
CLL	Collm	25.44	90	*e*P			P	14 09 35.0	-0.2
CLL						Lm	MLR	14 19 00.0	
	comp=Z,100nm,20.6s								
CLL	Collm	25.44	90	P			P	14 09 33.8	-1.5
PAB	San Pablo	25.81	129	P			P	14 09 38.5	-0.3
PAB						IAmb	IAmb	14 09 44.6	
	comp=Z,11nm,1.2s								
ESBB	Sonseca Array	25.85	129	P			P	14 09 38.7	-0.5
ESDC	Sonseca Array	25.86	129	P			P	14 09 38.7	-0.5
	comp=Z,5.8nm,1.1s,baz=326,slow=9.4,SNR=14								
ESDC	Sonseca Array	25.86	129	P			P	14 09 39.8	+0.6
EUNU	Eureka	26.28	341	P			P	14 09 41.9	-0.8
BNI	Bardonecchia	26.37	107	P			P	14 09 44.5	+0.5
TUE	Stuetta	26.68	102	P			P	14 09 47.0	+0.2
TUE						IAmb	IAmb	14 09 54.9	
	comp=Z,9.5nm,1.1s								
DAVOX	Davos/Dischmat	26.74	101	LR		LR	LR	14 18 34.7	
	comp=Z,139nm,21.2s,baz=266,slow=32								
FUORN	Ofenpass-Fuorn	27.04	100	P			P	14 09 50.4	+0.3
FINES	FINESS Array B	27.04	61	P			P	14 09 49.7	0.0
	comp=Z,8.9nm,1.1s,baz=277,slow=7.9,SNR=3.6								
RES	Resolute Bay	27.45	329	LR		LR	LR	14 19 49.0	
	comp=Z,92nm,20.5s,baz=112,slow=34								
ZOU	Zoufplan	28.45	98	P			P	14 10 02.2	-0.4
ZOU						IAmb	IAmb	14 10 10.1	
	comp=Z,13nm,1.3s								
I62A	Tamworth	29.35	256	P			P	14 10 12.1	+1.7
OJC	Ojcow	29.55	86	P			P	14 10 12.0	-0.1
OJC						IAmb	IAmb	14 10 16.0	
	comp=Z,16nm,1.5s								
VYHS	Vyhne	30.14	89	*e*P			P	14 10 18.3	+0.9
PSZ	Piszkesteto	31.05	89	P			P	14 10 25.7	+0.1
J55A	Hilton	33.03	262	P			P	14 10 44.6	+1.8
KLMR	Klimovskoe	33.18	57	*e*P			P	14 10 42.4	-1.5
KLMR						AMP		14 10 45.3	
	comp=Z,21nm,1.3s								
BURAR	Bucovina Array	33.96	85	P			P	14 10 50.2	-0.8
AKASG	Malin Array Be	34.00	78	P			P	14 10 50.8	-0.4
	comp=Z,0.4nm,0.3s,baz=310,slow=8.7,SNR=6.3								
KEST	Kesra	34.91	115	P			P	14 10 58.4	-0.9
	comp=Z,1.4nm,0.4s,baz=311,slow=12,SNR=3.7								
KEST	Kesra	34.91	115	P			P	14 10 58.8	-0.5
KEST						IAmb	IAmb	14 11 05.3	
	comp=Z,6.3nm,0.9s								
G45A	Suttons Bay	35.76	271	P			P	14 11 07.3	+0.9
MLR	Muntele Rosu	35.77	88	LR		LR	LR	14 26 33.8	
	comp=Z,64nm,19.3s,baz=314,slow=38								
ULM	Lac du Bonnet	37.41	286	P			P	14 11 19.9	-0.5
	comp=Z,2.9nm,0.8s,baz=5.3,slow=7.9,SNR=3.3								
ULM						LR	LR	14 25 19.1	
	comp=Z,111nm,19.0s,baz=40,slow=34								
ULM	Lac du Bonnet	37.41	286	P			P	14 11 19.8	-0.6
ULM						IAmb	IAmb	14 11 34.6	
	comp=Z,13nm,1.4s								
FFC	Flin Flon	37.51	295	P			P	14 11 20.7	-0.5
FFC						IAmb	IAmb	14 11 47.8	
	comp=Z,8.7nm,1.2s								
YKA	Yellowknife Ar	38.27	312	P			P	14 11 26.7	-0.8
	comp=Z,1.7nm,0.9s,baz=53,slow=9.3,SNR=4.2								
ARU	Arti	43.80	53	P			P	14 12 13.1	0.0
	comp=Z,0.5nm,0.3s,baz=308,slow=7.6,SNR=3.6								
ARU	Arti	43.80	53	IAmb		IAmb	IAmb	14 12 19.9	
	comp=Z,6.8nm,0.9s								
S39A	Bolivar	45.05	270	P			P	14 12 23.8	+0.4
S39A						IAmb	IAmb	14 12 26.5	
	comp=Z,9.6nm,1.3s								
KBZ	Khabaz	45.55	76	P			P	14 12 27.9	+0.7
	comp=Z,2.2nm,0.8s,baz=299,slow=8.0,SNR=4.3								
WHAR	Wooly Hollow	46.38	267	P			P	14 12 35.3	+1.4
ILAR	Eielson Array	47.20	329	P			P	14 12 39.8	-0.1
	comp=Z,0.5nm,0.9s,baz=28,slow=6.5,SNR=4.1								
X40A	Basin Creek Fa	47.29	267	P			P	14 12 41.3	+0.3
AKTO	Aktyubinsk	47.79	60	P			P	14 12 45.5	+0.8
	comp=Z,3.9nm,0.8s,baz=315,slow=8.4,SNR=11								
PDAR	Pinedale Array	49.36	287	P			P	14 12 55.4	-1.8
	comp=Z,0.3nm,0.6s,baz=61,slow=7.3,SNR=3.5								
AB09	Akbulak array	49.49	60	P			P	14 12 58.3	+0.5
AB05	Akbulak array	49.49	59	P			P	14 12 58.4	+0.6
AB04	Akbulak array	49.50	60	P			P	14 12 58.3	+0.5
AB02	Akbulak array	49.50	59	P			P	14 12 58.4	+0.5
AB01	Akbulak array	49.50	60	P			P	14 12 58.0	+0.2
AB31	Akbulak array	49.50	60	P			P	14 12 58.5	+0.6
ABKAR	Akbulak array	49.50	60	P			P	14 12 58.0	+0.2
AB03	Akbulak array	49.51	60	P			P	14 12 58.3	+0.4
AB08	Akbulak array	49.51	60	P			P	14 12 58.0	+0.1
AB06	Akbulak array	49.51	59	P			P	14 12 58.1	+0.2
AB07	Akbulak array	49.52	60	P			P	14 12 58.1	+0.1
ISCO	Idaho Springs	49.66	282	P			P	14 12 59.3	-0.3
ISCO						IAmb	IAmb	14 13 03.3	
	comp=Z,5.3nm,1.2s								
SCM	Sheep Creek Mo	49.67	326	P			P	14 13 00.2	+1.1
B08A	Colville Reser	49.75	299	P			P	14 12 59.2	-0.6
B08A						IAmb	IAmb	14 13 04.4	
	comp=Z,9.0nm,1.5s								
WMOK	Wichita Mounta	50.12	272	P			P	14 13 01.8	-1.0
WMOK						IAmb	IAmb	14 13 07.9	
	comp=Z,9.3nm,1.5s								
BRVK	Borovoye	50.93	50	P			P	14 13 08.7	+0.1
BVAR	Borovoye Array	50.99	50	P			P	14 13 09.4	+0.3
	comp=Z,1.3nm,0.7s,baz=266,slow=18,SNR=6.2								
SPUT	South Promonto	51.87	288	P			P	14 13 17.9	+1.9
TORD	Torodi Ar. Bea	51.98	139	P			P	14 13 14.8	-2.1
	comp=Z,1.0nm,0.8s,baz=340,slow=7.8,SNR=4.2								
PV23	Carpenter Ridg	52.38	283	P			P	14 13 20.9	+0.9
PSUT	Pine Spring	54.70	287	P			P	14 13 38.3	+1.4
ZALV	Zalesovo Beam	55.46	41	P			P	14 13 42.3	+0.3
	comp=Z,0.5nm,0.3s,baz=328,slow=10,SNR=1.5								
ZALV	Zalesovo Beam	55.46	41	P			P	14 13 41.7	-0.3
KURK	Kurchatov	55.95	47	P			P	14 13 45.1	-0.4
KURK						IAmb	IAmb	14 13 46.4	
	comp=Z,4.8nm,0.8s								
KURBB	Kurchatov Arra	55.99	47	P			P	14 13 45.8	0.0
	comp=Z,3.8nm,0.7s,baz=326,slow=7.0,SNR=13								
DBIC	Dimbokro	56.18	149	LR		LR		14 35 15.8	
	comp=Z,84nm,19.0s,baz=328,slow=33								
TXAR	Lajitas Array	56.92	272	P			P	14 13 51.7	-1.2
	comp=Z,0.4nm,0.8s,baz=53,slow=6.2,SNR=2.5								
NVAR	Mina Array Bea	56.92	290	LR		LR		14 36 02.2	
	comp=Z,63nm,20.5s,baz=34,slow=34								
RUBR	Rubicon Trail	57.31	292	P			P	14 13 57.0	+1.4
KK09	Karatay Array	58.87	57	P			P	14 14 06.6	+0.3
KK08	Karatay Array	58.87	57	P			P	14 14 06.8	+0.5
KK04	Karatay Array	58.88	57	P			P	14 14 06.8	+0.5
KK05	Karatay Array	58.88	57	P			P	14 14 06.9	+0.6
KK01	Karatay Array	58.88	57	P			P	14 14 07.1	+0.8
KK03	Karatay Array	58.88	57	P			P	14 14 06.8	+0.5
KK02	Karatay Array	58.88	57	P			P	14 14 06.8	+0.4
KKAR	Karatay Array	58.88	57	P			P	14 14 06.5	+0.2
KK07	Karatay Array	58.89	57	P			P	14 14 07.0	+0.6
KK06	Karatay Array	58.90	57	P			P	14 14 07.0	+0.5
XPFO	Pion Flat	59.89	286	P			P	14 14 13.5	0.0
XPFO						IAmb	IAmb	14 14 24.4	
	comp=Z,4.3nm,1.1s								
PFO	Pinyon Flats O	59.89	286	P			P	14 14 13.5	0.0
PFO						IAmb	IAmb	14 14 24.4	
	comp=Z,4.0nm,1.1s								
MAKZ	Makanchi	60.43	47	P			P	14 14 16.5	-0.4
MK31	Makanchi Array	60.56	47	P			P	14 14 17.2	-0.6
MKAR	Makanchi Array	60.56	47	P			P	14 14 17.9	+0.1
	comp=Z,3.5nm,0.6s,baz=334,slow=6.0,SNR=36								
MKAR	Makanchi Array	60.56	47	P			P	14 14 17.0	-0.8
KDJ	Kajisay	62.48	53	P			P	14 14 31.8	+0.8
KDJ						IAmb	IAmb	14 14 32.6	
	comp=Z,3.7nm,0.9s								
KSH	Kashi	64.16	56	P			P	14 14 43.0	+0.8
KSH						S	S	14 23 17.0	-2.1
KSH						pmax	pmax		
	comp=Z,13nm,1.2s								
KSH						pmax	pmax		
	comp=Z,140nm,5.5s								
KSH						LR	LR		
	comp=N,170nm,5.0s								
KSH						LR	LR		
	comp=E,140nm,5.0s								
KSH						LR	LR		
	comp=Z,210nm,5.3s								
WMQ	Urumqi	65.08	45	*e*P			P	14 14 50.5	+2.5
SONM	Songino Array	67.25	30	P			P	14 15 02.2	+0.2
	comp=Z,0.7nm,0.9s,

ESK	**Eskdalemuir**	**15.15**	**94**	P	**P**	**14 16 50.8**	**0.0**
ESK				IAmb	IAmb	14 17 17.2	
	comp=Z,26nm,1.4s						
EKA	**Eskdalemuir Ar**	**15.16**	**94**	Pn	**Pn**	**14 16 46.5**	**+0.7**
	baz=288,slow=7.2,SNR=4.7						
FRB	**Frobisher Bay**	**18.46**	**300**	LR	LR	14 23 43.6	
	comp=Z,306nm,18.6s,baz=87,slow=34						
SCHQ	**Schefferville**	**20.16**	**273**	LR	LR	14 24 22.2	
	comp=Z,101nm,19.4s,baz=62,slow=33						
NOA	**NORSAR Array B**	**20.43**	**68**	LR	LR	14 24 37.2	
	comp=Z,62nm,19.8s,baz=265,slow=34						
HFS	**Hagfors**	**21.85**	**69**	LR	LR	14 24 55.8	
	comp=Z,75nm,21.1s,baz=289,slow=32						
ECH	**Echery**	**24.47**	**101**	P	**P**	**14 18 31.1**	**+0.4**
ARB4	**ARCESS Array S**	**25.07**	**43**	P	**P**	**14 18 35.5**	**-0.4**
ARB5	**ARCESS Array S**	**25.07**	**43**	P	**P**	**14 18 35.8**	**-0.2**
ARC5	**ARCESS Array S**	**25.07**	**43**	P	**P**	**14 18 35.2**	**-0.8**
ARC5				IAmb	IAmb	14 18 39.7	
	comp=Z,10nm,1.0s						
ESDC	**Sonseca Array**	**25.87**	**128**	P	**P**	**14 18 44.1**	**+0.5**
	comp=Z,4.7nm,1.0s,baz=319,slow=7.5,SNR=5.8						
ESDC				LR	LR	14 27 18.2	
	comp=Z,56nm,18.4s,baz=320,slow=33						
ESDC	**Sonseca Array**	**25.87**	**128**	IAmb	IAmb	14 18 50.7	
	comp=Z,14nm,1.1s						
DAVOX	**Davos/Dischmat**	**26.80**	**100**	LR	LR	14 28 30.5	
	comp=Z,99nm,20.1s,baz=265,slow=34						
FINES	**FINESS Array B**	**27.15**	**61**	P	**P**	**14 18 54.2**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=275,slow=8.4,SNR=1.5						
GERES	**GERESS Array B**	**27.38**	**93**	LR	LR	14 29 45.7	
	comp=Z,116nm,18.5s,baz=300,slow=36						
RES	**Resolute Bay**	**27.47**	**329**	LR	LR	14 28 35.6	
	comp=Z,103nm,21.1s,baz=91,slow=34						
BURAR	**Bucovina Array**	**34.05**	**85**	P	**P**	**14 19 56.0**	**+0.1**
AKASG	**Malin Array Be**	**34.09**	**78**	P	**P**	**14 19 55.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=304,slow=8.8,SNR=5.7						
KEST	**Kesra**	**34.95**	**115**	LR	LR	14 32 34.3	
	comp=Z,142nm,21.5s,baz=316,slow=33						
ULM	**Lac du Bonnet**	**37.35**	**286**	LR	LR	14 34 15.3	
	comp=Z,128nm,20.4s,baz=46,slow=34						
YKA	**Yellowknife Ar**	**38.26**	**312**	LR	LR	14 35 26.1	
	comp=Z,133nm,19.4s,baz=0.0,slow=35						
P43A	**Skaggs, Pawnee**	**41.56**	**269**	P	**P**	**14 20 59.6**	**+0.3**
P43A				IAmb	IAmb	14 21 24.6	
	comp=Z,8.0nm,1.1s						
AKTO	**Aktyubinsk**	**47.90**	**59**	P	**P**	**14 21 50.0**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=306,slow=7.2,SNR=7.0						
PDAR	**Pinedale Array**	**49.31**	**287**	P	**P**	**14 22 01.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=42,slow=7.2,SNR=2.8						
PDAR				LR	LR	14 42 00.8	
	comp=Z,123nm,18.6s,baz=27,slow=35						
ABKAR	**Akbulak array**	**49.61**	**59**	P	**P**	**14 22 02.2**	**-0.6**
ABKAR				IAmb	IAmb	14 22 06.6	
	comp=Z,9.0nm,1.4s						
WMOK	**Wichita Mounta**	**50.05**	**272**	P	**P**	**14 22 06.0**	**-0.4**
WMOK				IAmb	IAmb	14 22 12.4	
	comp=Z,5.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**51.98**	**139**	P	**P**	**14 22 19.7**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=340,slow=7.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**51.98**	**139**	P	**P**	**14 22 20.1**	**-1.0**
KURK	**Kurchatov**	**56.06**	**46**	P	**P**	**14 22 50.6**	**+0.1**
KURK	**Kurchatov**	**56.06**	**46**	IAmb	IAmb	14 22 59.1	
	comp=Z,3.8nm,0.8s						
KURBB	**Kurchatov Arra**	**56.10**	**47**	P	**P**	**14 22 50.6**	**-0.2**
	comp=Z,1.3nm,0.2s,baz=321,slow=7.6,SNR=6.1						
TXAR	**Lajitas Array**	**56.84**	**272**	P	**P**	**14 22 58.3**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=46,slow=7.2,SNR=3.8						
KKAR	**Karatay Array**	**58.99**	**57**	P	**P**	**14 23 10.9**	**-0.4**
MAKZ	**Makanchi**	**60.54**	**47**	P	**P**	**14 23 21.2**	**-0.7**
MK31	**Makanchi Array**	**60.67**	**47**	P	**P**	**14 23 22.3**	**-0.5**
MKAR	**Makanchi Array**	**60.67**	**47**	P	**P**	**14 23 22.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=342,slow=5.5,SNR=16						
GAR	**Garm**	**62.26**	**60**	P	**P**	**14 23 32.4**	**-1.3**
KDJ	**Kajisay**	**62.59**	**53**	P	**P**	**14 23 35.0**	**-1.0**
KDJ				IAmb	IAmb	14 23 43.8	
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**67.36**	**30**	P	**P**	**14 24 08.9**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=356,slow=5.8,SNR=3.0						
SONM	**Songino Array**	**67.36**	**30**	IAmb	IAmb	14 24 16.7	
	comp=Z,1.3nm,1.1s						
KMBO	**Kilima Mbogo**	**79.76**	**110**	LR	LR	14 59 49.9	
	comp=Z,33nm,21.8s,baz=118,slow=35						
ASAR	**Alice Springs**	**142.53**	**24**	PKP	**PKPdf**	**14 32 44.9**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=339,slow=2.4,SNR=5.6						

*ANF **29** 14:18:35.4±0.4, 61.91N×150.31W, h49km±6km, ML3.6/15, Error ellipse: s-maj=5.4km s-min=2.4km az=85.0*
*AEIC **29** 14:18:36±1.1, 61.95N±0.03×149.99W±0.05, h38km±8km, ML3.3, Error ellipse: s-maj=3.7km s-min=3.4km az=186.0*

ISC 29 14:18:34.6±4.3, 61.95N±0.02×150.02W±0.03, h40km±4km, n147, σ2s00/176, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CUT	**Chulitna**	**0.47**	**346**	P		**Pn**	**14 18 46.4**	**+1.5**
	baz=164,SNR=390							
CUT				S		**Sn**	**14 18 55.0**	**+2.8**
	baz=164							
CUT	**Chulitna**	**0.47**	**346**			**Pn**	**14 18 46.5**	**+1.5**
CUT						**Sn**	**14 18 55.0**	**+2.8**
GHO	**Glory Hole Cre**	**0.55**	**108**			**Pn**	**14 18 47.4**	**+1.3**
GHO						**Sn**	**14 18 56.3**	**+2.2**
PMR	**Palmer**	**0.56**	**130**			**Pn**	**14 18 47.1**	**+1.0**
PMR						**Sn**	**14 18 56.1**	**+2.0**
SUA	**Susitna One**	**0.60**	**216**			**Pn**	**14 18 48.1**	**+1.4**
SUA						**Sn**	**14 18 57.6**	**+2.3**
SKT	**Skwentna**	**0.71**	**273**			**Pn**	**14 18 49.2**	**+1.0**
SKT						**Sn**	**14 18 59.5**	**+1.5**
FIS	**Fire Island**	**0.81**	**187**			**Pn**	**14 18 51.0**	**+1.5**
SML	**Sawmill**	**0.81**	**99**			**Pn**	**14 18 50.5**	**+0.9**
RC01	**Rabbit Creek A**	**0.87**	**171**	P		**Pn**	**14 18 51.3**	**+1.0**
	baz=352,SNR=54							
RC01				S		**Sn**	**14 19 03.3**	**+1.4**
	baz=352							
RC01	**Rabbit Creek A**	**0.87**	**171**			**Pn**	**14 18 51.4**	**+1.0**
RC01						**Sn**	**14 19 05.0**	**+3.1**
KNIK	**Knik Glacier**	**0.92**	**125**			**Pn**	**14 18 52.2**	**+1.2**
STLK	**Strandline Lak**	**0.97**	**243**			**Pn**	**14 18 52.8**	**+1.0**
WAT7	**Susitna Watana**	**1.04**	**31**			**Pn**	**14 18 54.1**	**+1.3**
HUR	**Hurricane**	**1.05**	**10**			**Pn**	**14 18 54.5**	**+1.7**
WAT1	**Susitna Watana**	**1.12**	**37**			**Pn**	**14 18 55.0**	**+1.2**
SPCG	**Spurr Capps Gl**	**1.16**	**236**			**Pn**	**14 18 55.9**	**+1.5**
SPCG						**Sn**	**14 19 11.9**	**+2.8**
WAT2	**Susitna Watana**	**1.22**	**33**			**Pn**	**14 18 56.5**	**+1.3**
WAT2						**Sn**	**14 19 12.6**	**+2.0**
SPCP	**Crater Peak Br**	**1.23**	**237**			**Pn**	**14 18 57.2**	**+1.9**
SPCP						**Sn**	**14 19 13.0**	**+2.2**
WAT6	**Susitna Watana**	**1.24**	**58**			**Pn**	**14 18 56.7**	**+1.1**
SPCN	**Chakachatna No**	**1.26**	**236**			**Pn**	**14 18 58.3**	**+2.5**
SCM	**Sheep Creek Mo**	**1.28**	**94**			**Pn**	**14 18 57.5**	**+1.5**
SPCR	**Spurr Chakacha**	**1.29**	**235**			**Pn**	**14 18 57.7**	**+1.6**
CAPN	**Captain Cook N**	**1.30**	**205**	P		**Pn**	**14 18 59.6**	**+3.3**
	baz=25							
CAPN				S		**Sn**	**14 19 11.3**	**-1.1**
	baz=25							
CAPN	**Captain Cook N**	**1.30**	**205**			**Pn**	**14 18 59.4**	**+3.1**
SPBG	**Spurr Blockage**	**1.32**	**239**			**Pn**	**14 18 58.6**	**+2.0**
PWL	**Port Wells**	**1.36**	**143**			**Pn**	**14 18 58.5**	**+1.4**
PWL						**Sn**	**14 19 16.2**	**+2.3**
PPLA	**Purkeypile**	**1.39**	**314**			**Pn**	**14 18 58.8**	**+1.3**
PPLA						**Sn**	**14 19 16.4**	**+1.7**
SLKM	**Skilak Lake**	**1.45**	**184**			**Pn**	**14 18 59.4**	**+1.1**
O22K	**Cooper Landing**	**1.48**	**174**	P		**Pn**	**14 18 59.8**	**+1.2**
	baz=355,SNR=18							
O22K	**Cooper Landing**	**1.48**	**174**			**Pn**	**14 19 00.3**	**+1.7**
TRF	**Thorofare Moun**	**1.51**	**355**			**Pn**	**14 19 00.9**	**+1.6**
RND	**Reindeer**	**1.56**	**20**			**Pn**	**14 19 01.5**	**+1.7**
KTH	**Kantishna Hill**	**1.66**	**346**			**Pn**	**14 19 03.2**	**+1.9**
KTH						**Sn**	**14 19 23.9**	**+2.5**
DHY	**Denali Highway**	**1.67**	**46**			**Pn**	**14 19 02.7**	**+1.2**
CAST	**Castle Rocks**	**1.76**	**328**			**Pn**	**14 19 04.5**	**+2.0**
GLI	**Glacier Island**	**1.77**	**126**			**Pn**	**14 19 03.9**	**+1.2**
RDT	**Redoubt**	**1.80**	**221**			**Pn**	**14 19 04.9**	**+1.8**
M24K	**Tolsona, Glenn**	**1.82**	**83**	P		**Pn**	**14 19 05.9**	**+2.4**
	baz=267,SNR=200							
M24K				S		**Sn**	**14 19 30.3**	**+5.0**
	baz=267							
M24K	**Tolsona, Glenn**	**1.82**	**83**			**Pn**	**14 19 05.8**	**+2.4**
MCK	**McKinley**	**1.86**	**15**	P		**Pn**	**14 19 06.3**	**+2.3**
	baz=196,SNR=41							
MCK				S		**Sn**	**14 19 28.9**	**+2.7**
	baz=196							
MCK	**McKinley**	**1.86**	**15**			**Pn**	**14 19 06.2**	**+2.3**

SEW	**Seward**	**1.87**	**171**			**Pn**	**14 19 06.3**	**+2.3**
DFR	**Drift River**	**1.87**	**225**			**Pn**	**14 19 06.3**	**+2.2**
DFR	**Drift River**	**1.87**	**225**			**Pn**	**14 19 06.2**	**+2.0**
DFR						**Sn**	**14 19 30.0**	**+3.4**
JPK	**Jack Peak**	**1.87**	**117**			**Pn**	**14 19 05.9**	**+1.8**
RDN	**Redoubt North**	**1.96**	**224**			**Pn**	**14 19 07.4**	**+2.0**
NCT	**North Crescent**	**1.98**	**227**			**Pn**	**14 19 07.8**	**+2.2**
NCT						**Sn**	**14 19 32.8**	**+3.7**
RSO	**Redoubt South**	**1.99**	**223**			**Pn**	**14 19 08.2**	**+2.3**
RDSO	**Redoubt South**	**2.00**	**222**			**Pn**	**14 19 07.8**	**+1.9**
RDSO						**Sn**	**14 19 33.4**	**+3.7**
RDWB	**Redoubt West**	**2.00**	**224**			**Pn**	**14 19 08.0**	**+2.0**
RDWB						**Sn**	**14 19 33.3**	**+3.5**
KLU	**Klutina**	**2.01**	**101**			**Pn**	**14 19 07.5**	**+1.5**
KLU						**Sn**	**14 19 31.9**	**+2.0**
RED	**Redoubt Volcan**	**2.03**	**222**			**Pn**	**14 19 08.5**	**+2.1**
RED						**Sn**	**14 19 34.2**	**+3.7**
FID	**Port Fidalgo**	**2.09**	**124**			**Pn**	**14 19 07.8**	**+0.8**
PS11	**TAPS Pump St11**	**2.15**	**84**			**Pn**	**14 19 10.6**	**+2.7**
DIV	**Divide**	**2.20**	**110**			**Pn**	**14 19 10.0**	**+1.4**
BPAW	**Bear Paw Mtn.**	**2.20**	**349**			**Pn**	**14 19 10.0**	**+1.3**
CHUM	**Lake Minchumin**	**2.21**	**333**			**Pn**	**14 19 10.3**	**+1.7**
CHUM						**Sn**	**14 19 36.7**	**+2.0**
BRLK	**Bradley Lake**	**2.23**	**191**			**Pn**	**14 19 11.7**	**+2.7**
BRSE	**Bradley Lake S**	**2.24**	**189**			**Pn**	**14 19 11.3**	**+2.2**
BWN	**Browne**	**2.25**	**6**			**Pn**	**14 19 11.7**	**+2.5**
HIN	**Hinchinbrook I**	**2.31**	**131**			**Pn**	**14 19 11.2**	**+1.1**
PAX	**Paxson**	**2.35**	**62**			**Pn**	**14 19 13.1**	**+2.4**
PS12	**TAPS Pump St12**	**2.37**	**99**			**Pn**	**14 19 12.3**	**+1.4**
EYAK	**Cordova Ski Ar**	**2.50**	**122**			**Pn**	**14 19 14.8**	**+2.2**
CNPM	**China Poot**	**2.50**	**194**			**Pn**	**14 19 15.2**	**+2.5**
N25K	**Chitina, Valde**	**2.60**	**95**	P		**Pn**	**14 19 15.8**	**+1.6**
	baz=280,SNR=45							
N25K	**Chitina, Valde**	**2.60**	**95**			**Pn**	**14 19 15.7**	**+1.6**
WRH	**Wood River Hil**	**2.68**	**18**			**Pn**	**14 19 16.9**	**+1.8**
NEA2	**Nenana**	**2.69**	**9**	P		**Pn**	**14 19 16.8**	**+1.5**
	baz=189,SNR=10							
NEA2	**Nenana**	**2.69**	**9**			**Pn**	**14 19 16.9**	**+1.6**
BMRM	**Bremner River**	**2.78**	**108**			**Pn**	**14 19 17.6**	**+1.0**
SVW2	**Sparrevohn**	**2.80**	**255**			**Pn**	**14 19 18.0**	**+1.3**
HDA	**Harding Lake**	**2.84**	**28**			**Pn**	**14 19 19.2**	**+1.9**
CCB	**Clear Creek Bu**	**2.89**	**19**			**Pn**	**14 19 19.6**	**+1.6**
TT01	**Tatalina**	**2.95**	**292**			**Pn**	**14 19 19.8**	**+0.9**
TTA	**Tatalina**	**2.95**	**292**			**Pn**	**14 19 19.6**	**+0.7**
RIDG	**Independent Ri**	**2.98**	**51**			**Pn**	**14 19 23.4**	**+4.1**
PS08	**TAPS Pump Stn8**	**2.98**	**28**			**Pn**	**14 19 21.1**	**+1.8**
GLB	**Gilahina Butte**	**3.00**	**97**			**Pn**	**14 19 20.9**	**+1.2**
TCOL	**CIGO, UAF Yank**	**3.09**	**17**	P		**Pn**	**14 19 22.6**	**+1.8**
	baz=199,SNR=18							
TCOL				S		**Sn**	**14 19 59.0**	**+2.5**
	baz=199							
TCOL	**CIGO, UAF Yank**	**3.09**	**17**			**Pn**	**14 19 22.8**	**+2.0**
MENT	**Mentasta**	**3.10**	**69**			**Pn**	**14 19 22.8**	**+1.9**
COLA	**College**	**3.10**	**17**			**Pn**	**14 19 22.8**	**+2.0**
MLY	**Manley**	**3.11**	**354**	P		**Pn**	**14 19 22.3**	**+1.2**
	baz=173,SNR=20							
MLY				S		**Sn**	**14 19 57.8**	**+0.7**
	baz=173							
MLY	**Manley**	**3.11**	**354**			**Pn**	**14 19 22.5**	**+1.4**
MDM	**Murphy Dome**	**3.13**	**14**			**Pn**	**14 19 23.3**	**+1.9**
IL31		**3.17**	**25**			**Pn**	**14 19 23.6**	**+1.9**
ILAR	**Eielson Array**	**3.17**	**25**	Pn		**Pn**	**14 19 22.9**	**+1.0**
VRDI	**Verde Repeater**	**3.22**	**100**			**Pn**	**14 19 23.6**	**+0.8**
DOT	**Dot Lake**	**3.23**	**55**	Pn		**Pn**	**14 19 26.3**	**+3.6**
I23K	**Minto, Yukon-K**	**3.23**	**5**	P		**Pn**	**14 19 24.3**	**+1.7**
	baz=185,SNR=20							
I23K				S		**Sn**	**14 20 00.7**	**+0.9**
	baz=185							
I23K	**Minto, Yukon-K**	**3.23**	**5**			**Pn**	**14 19 24.3**	**+1.7**
HMT	**Hamilton**	**3.23**	**118**			**Pn**	**14 19 24.1**	**+1.4**
L26K	**Log Cabin Wild**	**3.28**	**68**	P		Pn	14 19 28.4	+5.0
	baz=254,SNR=17							
MCARA	**McCarthy VSAT**	**3.39**	**97**			**Pn**	**14 19 26.5**	**+1.7**
POKR	**Poker Plat Res**	**3.39**	**19**	P		**Pn**	**14 19 26.8**	**+1.9**
	baz=201							
POKR				S		**Sn**	**14 20 05.5**	**+1.8**
	baz=201							
POKR	**Poker Plat Res**	**3.39**	**19**			**Pn**	**14 19 27.0**	**+2.1**
SCRK	**Sand Creek**	**3.43**	**51**	P		**Pn**	**14 19 28.9**	**+3.4**
	baz=236,SNR=19							
SCRK				S		**Sn**	**14 20 10.4**	**+5.5**
	baz=236							
SCRK	**Sand Creek**	**3.43**	**51**			**Pn**	**14 19 27.6**	**+2.1**
BERG	**Berg Lake**	**3.44**	**114**			**Pn**	**14 19 28.2**	**+2.7**
CRQM	**Cirque**	**3.52**	**107**			**Pn**	**14 19 28.7**	**+1.8**
SUCK	**Suckling Hills**	**3.58**	**119**	Pn		**Pn**	**14 19 26.7**	**-0.8**
KHIT	**Khitrov Hills**	**3.61**	**112**			**Pn**	**14 19 30.0**	**+2.0**
TGL	**Tana Glacier**	**3.67**	**106**			**Pn**	**14 19 29.9**	**+1.1**
PTPK	**Patty Peak**	**3.69**	**99**			**Pn**	**14 19 30.8**	**+1.5**
BALM	**Baldy**	**3.79**	**101**			**Pn**	**14 19 31.5**	**+0.9**
KIAG	**Kiagna River**	**3.82**	**102**			**Pn**	**14 19 31.7**	**+0.7**
ISLE	**Juniper Island**	**3.95**	**107**	Pn		**Pn**	**14 19 33.3**	**+0.6**
BARK	**Barkley Ridge**	**3.96**	**110**			**Pn**	**14 19 34.8**	**+2.0**
BC03		**3.98**	**70**			**Pn**	**14 19 35.4**	**+2.4**
BCAR	**Beaver Creek A**	**3.98**	**70**			**Pn**	**14 19 34.3**	**+1.2**
PRP	**Porcupine Dome**	**4.10**	**27**			**Pn**	**14 19 37.1**	**+2.3**
BARN	**Barnard Glacie**	**4.11**	**99**			**Pn**	**14 19 36.5**	**+1.6**
GRNC	**Granite Creek**	**4.17**	**103**			**Pn**	**14 19 36.6**	**+0.9**
K27K	**Chicken**	**4.18**	**57**			**Pn**	**14 19 38.7**	**+3.0**
CTGM	**Chitina Glacie**	**4.29**	**99**			**Pn**	**14 19 38.9**	**+1.6**
MESA	**MESA**	**4.31**	**111**	Pn		**Pn**	**14 19 39.4**	**+1.7**
YAH	**Yahtse**	**4.32**	**108**	Pn		**Pn**	**14 19 39.2**	**+1.4**
YUK2	**White River**	**4.35**	**88**			**Pn**	**14 19 39.8**	**+1.6**
IM03		**4.37**	**340**			**Pn**	**14 19 40.0**	**+1.7**
IMAR	**Indian Mountai**	**4.37**	**340**			**Pn**	**14 19 39.8**	**+1.5**
KDAK	**Kodiak Island**	**4.37**	**198**	Pn		**Pn**	**14 19 38.8**	**+0.4**
LOGN	**Logan Glacier**	**4.48**	**101**			**Pn**	**14 19 41.2**	**+1.2**
KABU	**Katmai Buttres**	**4.53**	**218**			**Pn**	**14 19 42.7**	**+2.1**
YUK3	**Moose Creek**	**4.53**	**88**			**Pn**	**14 19 42.3**	**+1.5**
TABL	**Table Mountain**	**4.56**	**105**	Pn		**Pn**	**14 19 41.9**	**+0.8**
EGAK	**Eagle**	**4.90**	**51**			**Pn**	**14 19 46.8**	**+1.3**
OHAK	**Old Harbor**	**5.02**	**201**	Pn		**Pn**	**14 19 47.1**	**-0.2**
FYU	**Fort Yukon**	**5.08**	**22**			**Pn**	**14 19 50.2**	**+2.1**
PCA	**Pinnacle**	**5.10**	**107**			**Pn**	**14 19 49.8**	**+1.3**
DAWY	**Dawson**	**5.29**	**62**			**Pn**	**14 19 52.1**	**+1.1**
COLD	**Coldfoot**	**5.30**	**359**	P		**Pn**	**14 19 53.2**	**+2.1**
	baz=179,SNR=7.3							
COLD				S		**Sn**	**14 20 51.9**	**+1.0**
	baz=179							
COLD	**Coldfoot**	**5.30**	**359**			**Pn**	**14 19 52.6**	**+1.4**
BCPM	**Bancas Point**	**5.44**	**107**	Pn		**Pn**	**14 19 52.9**	**-0.2**
BM03	**Burnt Mountain**	**5.96**	**21**			**Pn**	**14 20 01.8**	**+1.5**
BMAR	**Burnt Mountain**	**5.98**	**21**			**Pn**	**14 20 02.2**	**+1.8**
HYT	**Haines Junctio**	**6.12**	**95**	Pn		**Pn**	**14 20 03.1**	**+0.6**
TOLK	**Toolik Lake Re**	**6.72**	**1**	S		**Sn**	**14 21 26.9**	**+1.0**
	baz=182							
TOLK	**Toolik Lake Re**	**6.72**	**1**			**Pn**	**14 20 12.8**	**+2.2**
EPYK	**Eagle Plains**	**7.30**	**47**	Pn		**Pn**	**14 20 20.1**	**+1.5**
ANM	**Nome**	**7.40**	**297**			**Pn**	**14 20 21.9**	**+2.0**
WHY	**Whitehorse**	**7.41**	**93**	Pn		**Pn**	**14 20 21.2**	**+1.2**
SKAG	**Skagway**	**7.63**	**103**	Pn		**Pn**	**14 20 24.3**	**+1.3**
RDOG	**Red Dog Mine**	**8.19**	**324**	Pn		**Pn**	**14 20 34.3**	**+3.6**
BESE	**Bessie Mountai**	**8.26**	**107**	Pn		**Pn**	**14 20 32.5**	**+0.8**
JIS	**Juneau Island**	**8.63**	**108**	Pn		**Pn**	**14 20 37.9**	**+1.2**
TNA	**Tin City**	**8.71**	**302**	Pn		**Pn**	**14 20 39.5**	**+1.7**

*IDC **29** 14:27:26.5±2.0, 34.74N×139.48E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/35, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=53.8km s-min=17.9km az=68.0*
*JMA **29** 14:27:28.8, 34.75N×139.31E, h5km±1km, M3.1*
JMA Felt II J1.

ISC 29 14:27:28.3±0.9, 34.76N±0.03×139.36E±0.04, h12km±6km, n23, σ0s85/26, 3C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIM2	**Oshima 3**	**0.08**	**126**	⇓P		**Pg**	**14 27 31.0**	**+0.1**
JIM2				S		**Sg**	**14 27 32.7**	**-0.1**
JTHY	**Toshimahigashi**	**0.25**	**193**	P		**Pg**	**14 27 33.9**	**+0.5**
KTJ3	**Kamata3**	**0.29**	**306**	⇓P		**Pg**	**14 27 34.2**	**0.0**
KTJ3				S		**Sg**	**14 27 38.3**	**+0.1**
JIZS	**Izushimoda**	**0.40**	**263**	⇓P		**Pg**	**14 27 36.0**	**-0.2**
JIZS				S		**Sg**	**14 27 41.4**	**0.0**
JOD2	**Odawara 2**	**0.54**	**336**	⇑P		**Pg**	**14 27 39.2**	**+0.3**
JOD2				eS		**Sg**	**14 27 47.1**	**+0.9**
JKO	**Kozu shima**	**0.60**	**197**	P		**Pg**	**14 27 40.1**	**+0.1**
JFNN	**Fujinakano**	**0.70**	**308**	P		**Pg**	**14 27 41.8**	**0.0**
JFNN				S		**Sg**	**14 27 51.4**	**+0.4**
JMKN	**Mikurajimanish**	**0.89**	**167**	⇑P		**Pb**	**14 27 45.0**	**-0.7**

BSO3	**Boso 3**	**0.95**	**87**	S		**Sn**	**14 28 01.7**	**+1.1**
JYN	**Shimob**	**0.99**	**318**	⇑P		**Pb**	**14 27 46.6**	**-0.8**
JYN				S		**Sb**	**14 27 59.8**	**-0.7**
SHZ3	**Shizuoka 3**	**0.99**	**288**	P		**Pb**	**14 27 46.9**	**-0.5**
JHJ	**Hachijo jima 2**	**1.68**	**168**	Pn		**Pn**	**14 27 57.9**	**+0.4**
	24nm,0.3s,baz=344,slow=7.4,SNR=14							
JHJ				Sn		**Sb**	**14 28 20.2**	**-0.1**
	baz=17,slow=19							
MJAR	**Matsushiro Arr**	**2.00**	**333**	Pn		**Pn**	**14 28 03.2**	**+1.1**
	2.6nm,0.3s,baz=152,slow=14,SNR=77							
MJAR				Sn		**Sn**	**14 28 28.1**	**+1.0**
	2.2nm,0.3s,baz=137,slow=22,SNR=12							
MAT	**Matsushiro**	**2.01**	**333**	P		**Pb**	**14 28 03.5**	**-1.2**
MAT				S		**Sb**	**14 28 28.5**	**-1.2**
JNU	**Nakatsue**	**7.23**	**259**	Pn		**Pn**	**14 29 15.6**	**+1.7**
	0.3nm,0.3s,baz=53,slow=20,SNR=1.4							
H11N2	**WAKE ISLAND Hy**	**28.58**	**114**	T		T	15 03 17.2	
	baz=308,slow=75,SNR=111							
H11N1	**WAKE ISLAND Hy**	**28.59**	**114**	T		T	15 03 19.3	
	baz=308,slow=75,SNR=77							
H11N3	**WAKE ISLAND Hy**	**28.60**	**114**	T		T	15 03 18.5	
	baz=308,slow=75,SNR=90							
H11S3	**WAKE ISLAND Hy**	**29.19**	**117**	T		T	15 04 02.9	
	baz=310,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**29.19**	**117**	T		T	15 04 03.0	
	baz=310,slow=76,SNR=18							
H11S2	**WAKE ISLAND Hy**	**29.20**	**117**	T		T	15 04 05.1	
	baz=310,slow=76,SNR=11							
WRA	**Warramunga Arr**	**54.61**	**186**	P		**P**	**14 36 55.0**	**-1.8**
	0.4nm,1.0s,baz=6.2,slow=8.1,SNR=2.7							
ASAR	**Alice Springs**	**58.34**	**186**	P		**P**	**14 37 23.4**	**+0.1**
	0.1nm,0.7s,baz=12,slow=13,SNR=1.6							

*UPA **29** 14:47:25.6±0.7, 9.33N×79.27W, h57km±2km, MW3.5, Fault plane solution: NP1:ϕs18.96000°, δs8.26000°, λ-9.54000°.*

ISC 29 14:47:25.0±1.4, 9.34N±0.07×79.26W±0.03, h61km±7km, n24, σ0s54/45, 8C-3D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHPO	**Chepo, Panama**	**0.22**	**141**	⇓*i*P		**Pn**	**14

MALC eS Sn 14 53 42.2 -1.7
YOTC Yotoco, Valle 3.56 27 eP Pn 14 53 10.0 +1.4
ORTC Ortega, Tolima 4.12 41⇓ eP Pn 14 53 18.2 +2.0
ORTC i 14 53 44.0
comp=Z,138nm,0.6s
PRAC Prado 4.23 47 eP Pn 14 53 20.4 +2.7
ANIL Santa Ana 4.48 35 eP Pn 14 53 23.4 +2.0
TOLC Tolima 4.61 35 eP Pn 14 53 24.6 +1.4
GUY2C Guyana, Caldas 5.12 30 eP Pn 14 53 32.5 +2.2
CBOC Ciudad Bolivar 5.41 21 eP Pn 14 53 34.5 +0.5
ROSC El Rosal 5.43 42 P Pn 14 53 37.4 +3.0
comp=Z,21nm,0.3s,baz=126,slow=1.4,SNR=29
ROSC Lg Lg 14 55 07.4
comp=Z,2.3nm,0.3s,baz=256,slow=23,SNR=2.0
ROSC LR LR 14 55 46.5
comp=Z,2µm,18.6s,baz=90,slow=39
ROSC El Rosal 5.43 42 eP Pn 14 53 37.7 +3.2
ROSC eS Sb 14 54 55.2 +1.5
ROSC El Rosal 5.43 42 Pn Pn 14 53 33.1 -1.4
HELC Santa Helena 5.89 24 eP Pn 14 53 43.7 +2.8
UREC San Jos de Ur 7.33 19 eP Pn 14 54 04.0 +3.7
UREC eS Sg 14 56 16.2 +8.6
BARC Barichara 7.48 39 eP Pn 14 54 05.6 +3.0
ATAH Atahualpa 7.88 183 P Pn 14 54 11.4 +3.2
comp=Z,7.3nm,0.3s,baz=354,slow=8.2,SNR=36
ATAH S Sn 14 55 37.8 -0.5
baz=299,slow=17,SNR=1.2
ATAH Lg Lg 14 56 28.2
comp=Z,0.1nm,0.3s,baz=129,slow=9.6,SNR=1.7
ATAH LR LR 14 56 51.1
comp=Z,56nm,21.9s,baz=340,slow=34
BCIP Isla Barro Col 8.53 347 Pn Pn 14 54 16.4 -0.4
CZSB Cruzeiro do Su 9.95 148 eP Pn 14 54 36.6 +0.3
SDV Santo Domingo 10.86 42 P Pn 14 54 50.0 +1.0
comp=Z,0.6nm,0.3s,baz=233,slow=13,SNR=15
SDV Lg Lg 14 58 01.6
comp=Z,1.0nm,0.3s,baz=266,slow=23,SNR=2.0
SDV Santo Domingo 10.86 42 Pn Pn 14 54 48.0 -0.9
SDV Santo Domingo 10.86 42 eP Pn 14 54 49.9 +0.9
JTS Las Juntas de 11.73 324 P Pn 14 55 03.2 +2.6
comp=Z,0.7nm,0.3s,baz=105,slow=20,SNR=1.8
JTS LR LR 14 59 00.1
comp=Z,327nm,19.7s,baz=220,slow=34
PAYG Puerto Ayora 12.41 263 Pn Pn 14 55 13.1 +3.1
NNA Nana 12.74 175 P Pn 14 55 16.5 +2.0
comp=Z,1.8nm,0.3s,baz=334,slow=7.6,SNR=3.9
NNA LR LR 14 59 56.5
comp=Z,119nm,21.8s,baz=2.5,slow=36
NNA Nana 12.74 175 Pn Pn 14 55 16.9 +2.4
ACON Acoyapa 13.22 327 Pn Pn 14 55 20.2 -0.7
MATN Matagalpa 14.42 327 P 14 55 44.9 +0.3
ETMB Extrema 15.74 132 eP Pn 14 55 55.0 -0.1
PCRV Puerto La Cruz 16.21 54 P Pn 14 56 03.3 +2.1
comp=Z,1.0nm,0.3s,baz=137,slow=5.2,SNR=5.1
PCRV Lg Lg 15 00 46.5
comp=Z,0.7nm,0.3s,baz=360,slow=17,SNR=1.5
PLCV Puerto La Cruz 16.24 55 P Pn 14 56 03.3 +1.7
MTO3 Montecristo 17.61 321 P P 14 56 20.5 +0.4
SAML Samuel 17.61 124 Pn Pn 14 56 16.9 -2.1
SAML Samuel 17.61 124 eP Pn 14 56 17.5 -1.5
MACA Manacapuru-AM 17.71 103 eP Pn 14 56 21.0 +0.8
GTBY Guantanamo Bay 19.23 8 P P 14 56 38.7 +0.9
GTBY IAmb IAmb 14 56 41.7
comp=Z,93nm,1.4s
SDDR Presa de Saban 19.23 20 P P 14 56 35.8 -2.0
SDDR IAmb IAmb 14 56 42.8
comp=Z,42nm,1.2s
SDD Santo Domingo 19.26 24 P P 14 56 39.0 +0.9
LPAZ La Paz 19.54 151 P Pn 14 56 43.5 +0.4
comp=Z,0.3nm,0.3s,baz=322,slow=12,SNR=14
LPAZ LR LR 15 05 10.2
comp=Z,225nm,20.1s,baz=310,slow=40
LPAZ La Paz 19.54 151 P 14 56 41.6 -0.3
LPAZ La Paz 19.54 151 eP P 14 56 43.0 +1.1
DR12 Loma Pena Alta 19.77 25 P P 14 56 42.4 -1.4
SC01 Santiago de lo 19.84 20 P P 14 56 45.0 +0.5
MLPR Magueyes Islan 20.17 32 P P 14 56 46.9 -1.2
MLPR IAmb IAmb 14 56 48.3
comp=Z,33nm,1.2s
TOSP Speyside 20.21 58 P P 14 56 46.5 -2.1
TOSP IAmb IAmb 14 57 11.8
comp=Z,47nm,1.0s
AOPR Arecibo Observ 20.63 32 P P 14 56 54.1 +1.0
AOPR IAmb IAmb 14 56 58.1
comp=Z,36nm,0.7s
PB16 IPOC Station P 20.74 157 P P 14 56 55.5 +0.7
PB16 IAmb IAmb 14 57 01.4
comp=Z,36nm,0.9s
PDPR Patillas Dam, 20.76 34 Pn P 14 56 54.8 +0.3
PDPR IAmb IAmb 14 56 58.2
comp=Z,24nm,1.0s
SJG San Juan 20.77 33 P Pn 14 56 56.5 -0.4
comp=Z,8.3nm,0.4s,baz=278,slow=7.1,SNR=2.2
SJG LR LR 15 06 51.3
comp=Z,165nm,18.1s,baz=172,slow=42
SJG San Juan 20.77 33 P P 14 56 54.8 +0.3
SJG IAmb IAmb 14 57 02.5
comp=Z,20nm,0.7s
CCIG Comitan 20.79 319 Pn Pn 14 56 56.9 -0.5
HUMP Col San Antoni 20.95 34 P P 14 56 55.0 -1.6
HUMP IAmb IAmb 14 57 04.8
comp=Z,28nm,0.7s
GCPR Guaynabo City 20.96 33 P P 14 56 56.5 -0.1
CBYP Canovanas 21.06 34 P P 14 56 58.2 +0.5
CBYP IAmb IAmb 14 57 00.0
comp=Z,39nm,0.9s
MTP Monte Pirata 21.09 35 P P 14 56 57.6 -0.4
MTP IAmb IAmb 14 57 00.8
comp=Z,60nm,1.2s
CDVI St. Croix 21.27 37 P P 14 57 00.6 +0.6
CUPR Culebra, Puert 21.41 35 P P 14 57 00.2 -1.2
MNMC Minye Minye 21.43 158 P P 14 57 02.5 +0.5
PB11 IPOC Station P 21.98 159 P P 14 57 08.5 +0.7
PB11 IAmb IAmb 14 57 13.5
comp=Z,40nm,0.9s
VILB Vilhena 22.29 128 eP P 14 57 11.2 +0.2
PB08 IPOC Station P 22.52 158 P P 14 57 15.1 +1.4
PB08 IAmb IAmb 14 57 26.9
comp=Z,20nm,0.9s
TA01 Diego Aracena 22.55 161 P P 14 57 13.6 -0.1
ITTB Itaituba 22.79 103 eP P 14 57 15.1 -1.3
PB01 IPOC Station P 23.22 160 P P 14 57 20.6 -0.2
CMIG Matias Romero 23.24 315 P P 14 57 22.4 +1.4
comp=Z,4.5nm,0.7s,baz=82,slow=5.9,SNR=6.3
SIV San Ignacio 23.58 136 P P 14 57 23.4 -1.0
comp=Z,20nm,0.9s,baz=328,slow=9.8,SNR=25
SIV LR LR 15 07 12.9
comp=Z,185nm,20.7s,baz=302,slow=38
PB07 IPOC Station P 23.72 161 P P 14 57 25.3 -0.7
MALB Monte Alegre 23.84 96 eP P 14 57 26.4 -0.6
NPGB Novo Progresso 23.86 109 eP P 14 57 25.8 -1.4
PB09 IPOC Station P 24.00 160 P P 14 57 29.0 +0.4
PB04 IPOC Station P 24.21 162 P P 14 57 30.5 -0.1
PTLB Pontes e Lacer 24.62 132 eP P 14 57 33.9 -0.3
PB06 IPOC Station P 24.74 161 P P 14 57 35.1 -0.3
LVC Limon Verde 24.87 160 P P 14 57 36.0 -0.8
comp=Z,21nm,1.1s,baz=301,slow=6.8,SNR=6.1
LVC Limon Verde 24.87 160 P P 14 57 36.3 -0.5
LVC Limon Verde 24.87 160 eP P 14 57 39.4 +2.6
CLDB Colider 24.90 118 eP P 14 57 36.5 -0.3
MDP Montagnes des 25.64 80 LR LR 15 09 49.0
comp=Z,60nm,19.9s,baz=280,slow=41
MCPB Macapa, AP 25.93 92 eP P 14 57 45.5 -0.7
GO02 Mina Guanaco 27.04 163 P P 14 57 56.1 -0.3
GO02 IAmb IAmb 14 58 22.3
comp=Z,16nm,1.0s
AC02 Maricunga 28.75 163 P P 14 58 11.5 -0.3
AC02 IAmb IAmb 14 58 16.9
comp=Z,12nm,1.2s
PRPB Parauapebas 28.94 104 eP P 14 58 11.5 -1.6
SNDB Serra Nova Dou 29.36 116 eP P 14 58 18.2 +1.3
AODB Aquidauana 30.36 135 eP P 14 58 25.7 +0.1
ARAG Araguaiana, MT 30.59 123 eP P 14 58 27.9 +0.1
152A Waverly Hall 32.35 349 P P 14 58 44.6 +1.6
152A IAmb IAmb 14 58 46.8
comp=Z,13nm,1.1s
ZAIG Zacatecas 32.40 314 P P 14 58 44.4 +0.4
ZAIG IAmb IAmb 14 58 48.2
comp=Z,8.3nm,1.2s
GOGA Godfrey 32.86 351 P P 14 58 48.4 +0.8
baz=170
GOGA Godfrey 32.86 351 P P 14 58 47.3 -0.3
GOGA IAmb IAmb 14 58 51.3
comp=Z,8.9nm,0.9s

LRAL Lakeview Retre 33.19 346 P P 14 58 51.2 +0.8
baz=163
LRAL Lakeview Retre 33.19 346 P P 14 58 50.1 -0.3
LRAL IAmb IAmb 14 58 52.0
comp=Z,6.9nm,0.8s
ZON Zonda 33.34 165 P P 14 58 53.8 +2.0
ZON IAmb IAmb 14 58 56.2
comp=Z,10.0nm,1.3s
JSC Jenkinsville 33.47 355 P P 14 58 50.3 -2.5
CPUP Villa Florida 33.51 145 P P 14 58 51.9 -1.4
comp=Z,2.4nm,0.6s,baz=353,slow=13,SNR=4.9
CPUP LR LR 15 14 05.1
comp=Z,144nm,19.1s,baz=2.0,slow=39
CPUP Villa Florida 33.51 145 P P 14 58 52.5 -0.8
CPUP IAmb IAmb 14 58 57.4
comp=Z,14nm,1.4s
CPUP Villa Florida 33.51 145 eP P 14 58 54.2 +0.9
HODGE Hodges 33.52 354 P P 14 58 52.8 -0.4
X55A Gracelyn & Ava 33.69 355 P P 14 58 55.8 +1.1
baz=173
BIRD Birdtown, Kers 33.77 356 P P 14 58 54.5 -0.9
BIRD IAmb IAmb 14 59 00.0
comp=Z,11nm,1.0s
Y49A Blount Mountai 33.84 347 P P 14 58 56.7 +0.6
ITRB Iturama 33.87 128 eP P 14 58 57.0 +0.4
ROSB Rosrio 34.02 96 eP P 14 58 58.1 +0.2
TRCB Terra Rica 34.02 135 eP P 14 58 58.3 +0.4
VA03 San Esteban 34.09 169 P P 14 58 59.4 +1.0
ROC1 El Roble 34.21 170 P P 14 58 59.9 +0.3
W61A Ground Anchor 34.23 1 P P 14 59 00.6 +1.2
baz=182
W57A Gilead 34.24 357 P P 14 59 00.5 +1.0
baz=176
W56A Indian Trail 34.26 356 P P 14 59 00.6 +0.9
baz=175
PCMB Pacaembu 34.28 132 eP P 14 59 01.3 +1.2
FPAL Fort Paine 34.34 349 P P 14 58 59.3 -1.1
FPAL IAmb IAmb 14 59 03.1
comp=Z,10nm,1.0s
BG3 Lake Jocassee 34.35 353 P P 14 59 00.0 -0.5
BG3 IAmb IAmb 14 59 04.7
comp=Z,7.9nm,0.9s
W54A Cherokee Point 34.35 354 P P 14 59 01.6 +1.1
baz=172
PEL Peldehue 34.44 169 P P 14 59 01.6 +0.3
X48A Hartselle 34.55 347 P P 14 59 02.0 -0.2
W52A Murphy 34.58 351 P P 14 59 02.1 -0.5
W52A IAmb IAmb 14 59 05.9
comp=Z,11nm,1.1s
Y45A Yeager Farm, C 34.65 343 P P 14 59 01.7 -1.4
IPMB Ipameri, GO 34.71 124 eP P 14 59 04.8 +0.9
V59A Middlesex 34.80 360 P P 14 59 05.2 +0.8
baz=179
V58A Windy Hill, Pi 34.85 358 P P 14 59 05.5 +0.8
baz=178
V58A Windy Hill, Pi 34.85 358 P P 14 59 04.7 -0.1
W50A Signal Mountai 34.92 349 P P 14 59 05.7 +0.3
W50A IAmb IAmb 14 59 09.1
comp=Z,16nm,1.1s
V56A Mocksville 34.93 356 P P 14 59 06.5 +1.0
baz=175
V57A Coltrane Farms 34.97 357 P P 14 59 06.2 +0.4
baz=177
V53A Saluda 35.00 353 P P 14 59 07.5 +1.3
V53A IAmb IAmb 14 59 08.8
comp=Z,6.6nm,0.8s
V54A Nebo 35.01 354 P P 14 59 06.9 +0.6
baz=173
V55A Taylorsville 35.02 355 P P 14 59 06.7 +0.5
baz=174
CPCT Cooper Cave 35.03 351 P P 14 59 06.4 0.0
CPCT IAmb IAmb 14 59 09.6
comp=Z,13nm,1.0s
TKL Tuckaleechee C 35.12 352 P P 14 59 07.3 +0.2
comp=Z,2.3nm,0.6s,baz=190,slow=12,SNR=3.9
TKL Tuckaleechee C 35.12 352 IAmb IAmb 14 59 11.8
comp=Z,5.8nm,1.0s
OXF Oxford 35.22 343 P P 14 59 08.5 +0.5
baz=160
V52A Sevierville 35.27 352 P P 14 59 08.2 -0.3
V52A IAmb IAmb 14 59 12.1
comp=Z,12nm,1.1s
PLAL Pickwick Lake 35.31 346 P P 14 59 09.0 +0.3
PLAL IAmb IAmb 14 59 10.1
comp=Z,7.7nm,1.0s
SDBA SAO DESIDERIO 35.33 113 eP P 14 59 09.6 +0.2
V51A Loudon 35.34 351 P P 14 59 08.6 -0.4
V51A IAmb IAmb 14 59 12.9
comp=Z,20nm,1.4s
CCAR Cane Creek 35.41 340 P P 14 59 11.1 +1.5
U58A Oxford 35.44 359 P P 14 59 10.9 +1.1
baz=179
U56A King 35.45 357 P P 14 59 11.1 +1.0
baz=176
U56A King 35.45 357 P P 14 59 09.7 -0.3
U57A Blanch 35.49 358 P P 14 59 11.2 +0.9
baz=177
U55A TA2, Sparta 35.65 356 P P 14 59 12.3 +0.5
baz=174
PTGB Pitanga 35.67 137 eP P 14 59 12.0 -0.1
WLAR White Oak Lake 35.68 338 P P 14 59 12.1 +0.1
U54A Nelsons Funny 35.74 355 P P 14 59 13.1 +0.5
baz=173
V48A Smith Brothers 35.74 348 P P 14 59 11.4 -1.1
W45A Hickory Valley 35.76 344 P P 14 59 12.0 -0.7
TZTN Tazewell 35.95 352 P P 14 59 15.0 +0.7
baz=170
TZTN Tazewell 35.95 352 P P 14 59 14.7 +0.3
TZTN IAmb IAmb 14 59 16.6
comp=Z,7.4nm,0.8s
CLTN Cedars of Leba 35.98 348 P P 14 59 14.0 -0.5
T58A Grand View Acr 35.98 359 P P 14 59 15.2 +0.7
baz=179
T59A Double "B" Far 36.01 1 P P 14 59 15.4 +0.6
baz=180
BB19B Bebedouro 36.05 129 eP P 14 59 15.2 -0.2
T57A Hurt 36.05 358 P P 14 59 15.5 +0.3
baz=178
T57A Hurt 36.05 358 P P 14 59 14.5 -0.6
T57A IAmb IAmb 14 59 17.2
comp=Z,14nm,1.1s
JCT Junction City 36.09 327 P P 14 59 16.6 +1.0
WHTX Lake Whitney, 36.09 331 P P 14 59 13.7 -1.9
WHTX IAmb IAmb 14 59 16.8
comp=Z,23nm,1.5s
T56A Rocky Mt 36.12 357 P P 14 59 16.4 +0.7
baz=176
T55A Pulaski 36.25 356 P P 14 59 17.6 +0.8
baz=175
T54A Tazewell 36.25 355 P P 14 59 17.0 +0.1
baz=174
T53A Wise 36.27 354 P P 14 59 17.1 0.0
baz=172
X40A Basin Creek Fa 36.30 339 P P 14 59 17.5 +0.2
baz=154
BLA Blacksburg 36.32 357 P P 14 59 17.6 +0.1
baz=176
WVT Waverly 36.34 346 P P 14 59 17.0 -0.6
baz=163
WVT Waverly 36.34 346 P P 14 59 17.6 0.0
UALR University of 36.39 340 P P 14 59 17.8 -0.2
LPAR Lepanto 36.49 343 P P 14 59 18.4 -0.5
T50A Nancy 36.61 351 P P 14 59 18.9 -1.1
MIAR Mount Ida 36.62 338 P P 14 59 19.9 -0.1
baz=153
MIAR Mount Ida 36.62 338 P P 14 59 19.0 -1.0
MIAR IAmb IAmb 14 59 22.8
comp=Z,17nm,1.4s
W41B Gary Mavity, V 36.72 340 P P 14 59 20.6 -0.2
baz=156,SNR=7.7
W41B Gary Mavity, V 36.72 340 P P 14 59 19.8 -1.0
W41B IAmb IAmb 14 59 22.1
comp=Z,15nm,1.1s
S57A Dark Hollow, R 36.81 359 P P 14 59 21.7 +0.1
baz=178
WHAR Wooly Hollow 36.83 340 P P 14 59 20.8 -1.0
WHAR IAmb IAmb 14 59 22.6
comp=Z,22nm,1.2s
S55A Lewisburg 36.88 357 P P 14 59 23.1 +0.8
baz=176
R58B Mineral 37.00 0 P P 14 59 24.2 +1.1
baz=180
T47A Sharon Grove 37.00 348 P P 14 59 22.0 -1.2
T47A IAmb IAmb 14 59 24.0
comp=Z,24nm,1.4s
Z35A Perchaven, San 37.10 333 P P 14 59 22.4 -1.8
Z35A IAmb IAmb 14 59 27.7
comp=Z,13nm,0.8s
LCAR Lake Charles 37.18 342 P P 14 59 22.8 -2.0
LCAR IAmb IAmb 14 59 25.9
comp=Z,17nm,1.0s
W39A Magazine 37.28 338 P P 14 59 25.4 -0.2
baz=153,SNR=7.1
W39A Magazine 37.28 338 P P 14 59 25.0 -0.6
W39A IAmb IAmb 14 59 28.4
comp=Z,12nm,0.9s
R54A Victor 37.32 356 P P 14 59 26.6 +0.7
baz=175
FCAR Ozark Folk Cen 37.33 341 P P 14 59 23.5 -2.5
FCAR IAmb IAmb 14 59 26.5
comp=Z,18nm,1.3s
ITAB Concordia 37.33 140 eP P 14 59 26.2 0.0
R58A Rapidan 37.33 360 P P 14 59 26.5 +0.5
baz=180
R57A Stanardsville 37.33 359 P P 14 59 26.3 +0.2
baz=179
X37A Clayton 37.36 336 P P 14 59 22.6 -3.7
X37A IAmb IAmb 14 59 28.9
comp=Z,11nm,1.1s
R55A Marlinton 37.37 357 P P 14 59 28.0 +1.6
baz=176
TXAR Lajitas Array 37.50 322 P P 14 59 28.1 +0.4
comp=Z,1.7nm,0.7s,baz=138,slow=8.1,SNR=18
TXAR PcP PcP 15 01 46.5 +0.3
comp=Z,1.7nm,0.8s,baz=144,slow=5.8,SNR=11
TXAR LR LR 15 15 28.3
comp=Z,42nm,18.6s,baz=0.0,slow=37
TXAR Lajitas Array 37.50 322 P P 14 59 27.6 -0.1
TXAR PcP 15 01 46.3 +0.1
TX31 Lajitas Ar. Si 37.50 322 P P 14 59 26.4 -1.3
TX31 PcP 15 01 47.6 +1.4
TX32 Lajitas Array 37.50 322 P P 14 59 25.8 -2.0
TX32 PcP 15 01 47.1 +0.9
PBMO Poplar Bluff 37.63 344 P P 14 59 27.1 -1.5
PBMO IAmb IAmb 14 59 29.1
comp=Z,20nm,1.4s
ABTX Abilene, Hawle 37.68 329 P P 14 59 30.0 +0.9
baz=143
ABTX Abilene, Hawle 37.68 329 P P 14 59 28.0 -1.1
R50A Paris 37.77 352 P P 14 59 28.7 -1.1
Q58A Fox Den Farm, 37.98 0 P P 14 59 32.4 +1.0
baz=180
U40A Yellville 37.99 340 P P 14 59 31.1 -0.6
baz=155,SNR=13
U40A Yellville 37.99 340 P P 14 59 30.1 -1.6
Q53A Leroy 38.03 355 P P 14 59 32.7 +0.8
baz=174
T42A Van Buren 38.05 343 P P 14 59 30.0 -2.2
Q57A Strasburg 38.07 359 P P 14 59 33.0 +0.8
baz=179
Q55A Buckhannon 38.08 357 P P 14 59 34.4 +2.0
baz=176
Q56A Snyder Ridge, 38.09 358 P P 14 59 32.5 0.0
baz=178
Q56A Snyder Ridge, 38.09 358 P P 14 59 33.0 +0.6
Q56A IAmb IAmb 14 59 35.3
comp=Z,16nm,1.2s
Q54A Coxs Mills 38.11 356 P P 14 59 32.7 +0.1
baz=175
S44A Carbondale 38.17 345 P P 14 59 32.4 -0.8
Q52A Bidwell 38.20 355 P P 14 59 34.0 +0.6
baz=173
HHAR Hobbs 38.30 339 P P 14 59 32.8 -1.5
HHAR IAmb IAmb 14 59 36.8
comp=Z,19nm,1.1s
P57A Homestead Farm 38.52 360 P P 14 59 37.0 +1.0
baz=180
P58A Pank, Wackersv 38.53 1 P P 14 59 37.3 +1.2
baz=181
MGMO Mountain Grove 38.53 342 P P 14 59 34.7 -1.5
MGMO IAmb IAmb 14 59 37.5
comp=Z,8.4nm,0.8s
P56A Dayton Farm, R 38.54 359 P P 14 59 37.7 +1.5
baz=178
P55A Reedsville 38.58 358 P P 14 59 37.2 +0.6
baz=177
U38A Gravette 38.61 339 P P 14 59 35.6 -1.2
U38A IAmb IAmb 14 59 38.4
comp=Z,12nm,0.9s
P53A Whipple 38.65 356 P P 14 59 37.4 +0.3
baz=174
TUL1 Leonard 38.68 337 P P 14 59 37.1 -0.3
baz=150
TUL1 Leonard 38.68 337 P P 14 59 36.9 -0.5
TUL1 IAmb IAmb 14 59 39.8
comp=Z,13nm,0.8s
P54A Burton 38.70 357 P P 14 59 37.3 -0.3
baz=176
FVM French Village 38.76 344 P P 14 59 36.6 -1.4
FVM IAmb IAmb 14 59 38.5
comp=Z,14nm,1.1s
FNO Franklin 38.79 334 P P 14 59 38.7 +0.3
CPSB Cacapava Do Su 38.82 145 eP P 14 59 38.2 -0.5
WMOK Wichita Mounta 38.97 332 P P 14 59 39.8 -0.2
baz=146,SNR=6.5
WMOK Wichita Mounta 38.97 332 P P 14 59 39.4 -0.6
CCM Cathedral Cave 39.05 343 P P 14 59 40.0 -0.5
baz=158
CCM Cathedral Cave 39.05 343 P P 14 59 38.1 -2.5
OK030 Cody Creek RV 39.09 335 P P 14 59 39.9 -1.0
OK031 S. Brethren Rd 39.14 335 P P 14 59 41.4 +0.1
O58A Lewisberry 39.16 1 P P 14 59 42.3 +0.8
baz=181
O55A Ligonier 39.26 358 P P 14 59 42.7 +0.4
baz=178
OK029 Liberty Lake 39.27 335 P P 14 59 42.5 +0.1
QUOK Quay 39.27 336 P P 14 59 42.2 -0.2
QUOK IAmb IAmb 14 59 44.8
comp=Z,16nm,0.8s
O54A Avella 39.27 357 P P 14 59 42.6 +0.2
baz=176
O56A Blue Knob Stat 39.30 359 P P 14 59 42.9 +0.2
baz=179
S39A Bolivar 39.36 341 P P 14 59 42.1 -1.0
O59A Robesonia 39.38 2 P P 14 59 44.9 +1.7
baz=183
O53A New Philadelph 39.39 356 P P 14 59 44.5 +1.1
baz=175
PARB Paraibuna 39.54 129 eP P 14 59 45.6 +0.6
LUPA Lehigh Univers 39.70 3 P P 14 59 44.6 -1.3
N55A Marion Center 39.82 359 P P 14 59 48.3 +1.3
baz=178
N61A South Mountain 39.92 4 P P 14 59 48.5 +0.8
baz=186
GDL2 Guadalupe Moun 39.96 324 P P 14 59 49.5 +1.1
N59A State Game Lan 40.00 3 P P 14 59 49.6 +1.2
baz=183
N59A State Game Lan 40.00 3 P P 14 59 48.6 +0.2
N59A IAmb IAmb 14 59 52.4
comp=Z,16nm,1.1s
N54A Moraine State 40.03 358 P P 14 59 48.8 +0.1
baz=177
CROK Carrier 40.09 335 P P 14 59 49.4 +0.1
MNTX Cornudas Mount 40.21 323 P P 14 59 50.6 +0.2
baz=134,SNR=7.7
MNTX Cornudas Mount 40.21 323 P P 14 59 50.5 +0.2
ODNJ Ogdensburg 40.23 4 P P 14 59 50.4 +0.1
KAN13 South Haven SW 40.31 336 P P 14 59 51.1 +0.1
TRNY Table Rock, Ra 40.32 4 P P 14 59 51.4 +0.4
TRNY IAmb IAmb 15 00 01.5
comp=Z,17nm,0.9s
MSTX Muleshoe 40.37 327 P P 14 59 51.7 -0.1
baz=140,SNR=12
MSTX Muleshoe 40.37 327 P P 14 59 51.1 -0.7
M57A Sunshine Farm, 40.37 1 P P 14 59 52.5 +1.0
baz=181
M57A Sunshine Farm, 40.37 1 P P 14 59 51.7 +0.2
M57A IAmb IAmb 14 59 56.1
comp=Z,17nm,1.1s
U32A Winter Ranch, 40.43 333 P P 14 59 51.8 -0.3
U32A IAmb IAmb 14 59 55.3
comp=Z,16nm,0.7s
KAN14 Manchester OK 40.47 335 P P 14 59 51.9 -0.5
KAN09 Caldwell North 40.48 336 P P 14 59 52.7 +0.3
AMTX Amarillo 40.51 329 P P 14 59 52.7 -0.1
baz=142
AMTX Amarillo 40.51 329 P P 14 59 52.1 -0.7
AMTX IAmb IAmb 14 59 54.1
comp=Z,9.1nm,0.8s
M55A Ridgway 40.51 359 P P 14 59 52.6 0.0
M55A IAmb IAmb 15 00 10.6
comp=Z,16nm,1.0s

M56A	**Emporium**		**40.51**	**360**	P		**P**	**14 59 53.1**	**+0.4**
	baz=180								
M56A	**Emporium**		**40.51**	**360**	P		**P**	**14 59 53.1**	**+0.4**
M56A					IAmb		IAmb	14 59 57.4	
	comp=Z,29nm,1.1s								
KAN05	**Bluff City Nor**		**40.56**	**335**	P		**P**	**14 59 52.7**	**-0.4**
KSPA	**Keystone Colle**		**40.63**	**3**	P		**P**	**14 59 54.0**	**+0.3**
KSPA					IAmb		IAmb	15 00 00.5	
	comp=Z,20nm,1.1s								
GDU01	**Guandu, BA**		**40.67**	**112**	*e*P		**P**	**14 59 55.2**	**+0.8**
KAN08	**Anthony NE Sta**		**40.70**	**335**	P		**P**	**14 59 53.5**	**-0.8**
KAN12	**Harper NE Stat**		**40.77**	**335**	P		**P**	**14 59 54.0**	**-0.9**
L57A	**Andrews Acres**		**41.04**	**1**	P		**P**	**14 59 58.2**	**+1.1**
	baz=182								
L58A	**Harry Jones Me**		**41.12**	**2**	P		**P**	**14 59 59.2**	**+1.6**
	baz=183								
BSFB	**Barra de Sao F**		**41.34**	**120**	*e*P		**P**	**15 00 00.8**	**+1.0**
KSU1	**Kansas State U**		**41.78**	**338**	P		**P**	**15 00 01.4**	**-1.7**
KSU1	**Kansas State U**		**41.78**	**338**	IAmb		IAmb	15 00 07.0	
	comp=Z,13nm,0.9s								
K57A	**Scipio Center**		**41.78**	**2**	P		**P**	**15 00 04.2**	**+1.1**
	baz=182								
PLCA	**Paso Flores**		**41.87**	**172**	P		**P**	**15 00 04.6**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=343,slow=13,SNR=5.5								
PLCA	**Paso Flores**		**41.87**	**172**	P		**P**	**15 00 04.8**	**+0.9**
PLCA					IAmb		IAmb	15 00 07.1	
	comp=Z,11nm,1.1s								
PLCA	**Paso Flores**		**41.87**	**172**	*e*P		**P**	**15 00 05.7**	**+1.8**
RIB01	**Linhares ES**		**41.92**	**120**	*e*P		**P**	**15 00 04.9**	**+0.3**
121A	**Cookes Peak, D**		**42.26**	**321**	P		**P**	**15 00 08.8**	**+1.4**
	baz=132,SNR=7.8								
121A	**Cookes Peak, D**		**42.26**	**321**	P		**P**	**15 00 08.9**	**+1.5**
121A					IAmb		IAmb	15 00 11.9	
	comp=Z,9.1nm,0.8s								
J58A	**Remsen**		**42.46**	**3**	P		**P**	**15 00 10.3**	**+1.7**
	baz=184								
J58A	**Remsen**		**42.46**	**3**	P		**P**	**15 00 08.6**	**0.0**
J58A					IAmb		IAmb	15 00 12.5	
	comp=Z,16nm,1.1s								
319A	**Douglas**		**42.47**	**319**	P		**P**	**15 00 09.6**	**+0.6**
319A					IAmb		IAmb	15 00 12.6	
	comp=Z,8.5nm,0.8s								
J60A	**Lant Hill Farm**		**42.47**	**5**	P		**P**	**15 00 10.2**	**+1.6**
	baz=186								
RCBR	**Riachuelo**		**42.51**	**99**	LR		LR	15 17 06.5	
	comp=Z,616nm,21.9s,baz=353,slow=35								
J59A	**Piesco**		**42.60**	**4**	P		**P**	**15 00 11.3**	**+1.5**
	baz=185								
J59A	**Piesco**		**42.60**	**4**	P		**P**	**15 00 10.1**	**+0.2**
J59A					IAmb		IAmb	15 00 14.0	
	comp=Z,17nm,1.1s								
BNM	**Barren Site**		**42.68**	**324**	P		**P**	**15 00 11.0**	**+0.1**
CBKS	**Cedar Bluff**		**42.78**	**335**	P		**P**	**15 00 12.3**	**+0.9**
	baz=147								
CBKS	**Cedar Bluff**		**42.78**	**335**	P		**P**	**15 00 11.3**	**-0.1**
CBKS					IAmb		IAmb	15 00 15.2	
	comp=Z,26nm,1.1s								
LENM	**Lemitar**		**42.89**	**324**	P		**P**	**15 00 12.0**	**-0.5**
I51A	**Listowel**		**42.92**	**357**	P		**P**	**15 00 12.8**	**+0.5**
	baz=175								
I59A	**Olmsteadville**		**42.98**	**4**	P		**P**	**15 00 14.2**	**+1.4**
	baz=186								
I60A	**Shoreham**		**43.07**	**5**	P		**P**	**15 00 14.7**	**+1.1**
	baz=187								
ANMO	**Albuquerque**		**43.14**	**325**	P		**P**	**15 00 15.7**	**+1.2**
	comp=Z,6.8nm,0.8s,baz=146,slow=7.9,SNR=11								
ANMO	**Albuquerque**		**43.14**	**325**	P		**P**	**15 00 15.3**	**+0.8**
	baz=136								
ANMO	**Albuquerque**		**43.14**	**325**	P		**P**	**15 00 15.4**	**+0.9**
ANMO					IAmb		IAmb	15 00 17.8	
	comp=Z,18nm,1.4s								
I61A	**Oroboro, Fairl**		**43.27**	**6**	P		**P**	**15 00 16.5**	**+1.4**
	baz=188								
JFWS	**Jewell Farm**		**43.37**	**347**	P		**P**	**15 00 14.5**	**-1.4**
H57A	**Richville**		**43.55**	**3**	P		**P**	**15 00 18.5**	**+1.1**
	baz=184								
H58A	**Gabriels**		**43.58**	**4**	P		**P**	**15 00 19.2**	**+1.5**
	baz=185								
H53A	**Bobcaygeon**		**43.60**	**359**	P		**P**	**15 00 18.3**	**+0.5**
	baz=179								
T25A	**Trinidad**		**43.65**	**329**	P		**P**	**15 00 20.7**	**+2.1**
	baz=140,SNR=8.5								
T25A	**Trinidad**		**43.65**	**329**	P		**P**	**15 00 21.5**	**+2.9**
T25A					IAmb		IAmb	15 00 24.3	
	comp=Z,11nm,1.0s								
LONY	**Lake Ozonia**		**43.75**	**3**	P		**P**	**15 00 20.5**	**+1.4**
	baz=185								
H59A	**Cadyville**		**43.84**	**4**	P		**P**	**15 00 20.7**	**+0.9**
	baz=186								
I42A	**Draeger Farm,**		**44.02**	**349**	P		**P**	**15 00 20.3**	**-0.9**
TUC	**Tucson**		**44.05**	**319**	P		**P**	**15 00 22.1**	**+0.3**
	baz=129								
TUC	**Tucson**		**44.05**	**319**	P		**P**	**15 00 22.5**	**+0.8**
G57A	**Newington**		**44.21**	**3**	P		**P**	**15 00 23.5**	**+0.8**
	baz=184								
KSCO	**Kaye Shedlock'**		**44.24**	**332**	P		**P**	**15 00 22.3**	**-0.9**
I40A	**Norwalk**		**44.38**	**347**	P		**P**	**15 00 22.0**	**-2.1**
SDCO	**Great Sand Dun**		**44.67**	**329**	P		**P**	**15 00 27.6**	**+0.6**
	baz=139,SNR=11								
SDCO	**Great Sand Dun**		**44.67**	**329**	P		**P**	**15 00 27.2**	**+0.3**
SDCO					IAmb		IAmb	15 00 30.1	
	comp=Z,5.1nm,0.7s								
PKME	**Peaks-Kenny Pk**		**44.95**	**9**	P		**P**	**15 00 29.0**	**+0.4**
	baz=192								
ALGO	**Algonquin Park**		**44.98**	**360**	P		**P**	**15 00 29.5**	**+0.7**
	baz=180								
W18A	**Petrified Fore**		**45.20**	**323**	P		**P**	**15 00 32.2**	**+1.2**
W18A					IAmb		IAmb	15 00 40.9	
	comp=Z,10.0nm,1.1s								
F60A	**Warwick**		**45.31**	**6**	P		**P**	**15 00 32.8**	**+1.4**
	baz=188								
S22A	**4UR Ranch, Cre**		**45.38**	**327**	P		**P**	**15 00 32.5**	**-0.1**
	baz=137								
S22A	**4UR Ranch, Cre**		**45.38**	**327**	P		**P**	**15 00 33.4**	**+0.8**
E55A	**Montcerf-Lytto**		**45.51**	**2**	P		**P**	**15 00 34.3**	**+1.2**
	baz=182								
E57A	**Chemin Saint G**		**45.56**	**4**	P		**P**	**15 00 33.8**	**+0.3**
	baz=185								
E58A	**La Victoria**		**45.59**	**5**	P		**P**	**15 00 34.7**	**+1.0**
	baz=186								
E56A	**St. Veronique**		**45.64**	**3**	P		**P**	**15 00 34.9**	**+0.8**
	baz=184								
F64A	**Sherman**		**45.68**	**9**	P		**P**	**15 00 35.8**	**+1.4**
	baz=193								
X16A	**Lo Mia Camp, P**		**45.80**	**320**	P		**P**	**15 00 34.7**	**-1.2**
ECSD	**EROS Data Cent**		**45.88**	**341**	P		**P**	**15 00 34.8**	**-1.3**
	baz=153,SNR=5.6								
ECSD	**EROS Data Cent**		**45.88**	**341**	P		**P**	**15 00 34.3**	**-1.8**
ECSD					IAmb		IAmb	15 00 35.4	
	comp=Z,6.1nm,0.6s								
D55A	**Sainte-Anne-du**		**46.10**	**2**	P		**P**	**15 00 38.0**	**+0.3**
	baz=183								
D56A	**ZEC Mazanza, M**		**46.16**	**3**	P		**P**	**15 00 38.3**	**+0.1**
	baz=184								
E63A	**Oxbow**		**46.21**	**9**	P		**P**	**15 00 40.5**	**+1.9**
	baz=193								
E62A	**Clayton Lake**		**46.24**	**8**	P		**P**	**15 00 39.4**	**+0.5**
	baz=192								
D58A	**Chemin du LacG**		**46.34**	**5**	P		**P**	**15 00 40.8**	**+1.2**
	baz=187								
D60A	**Saint Jean D'O**		**46.35**	**7**	P		**P**	**15 00 41.1**	**+1.5**
	baz=190								
WUAZ	**Wupatki**		**46.47**	**322**	P		**P**	**15 00 41.1**	**0.0**
	baz=130								
WUAZ	**Wupatki**		**46.47**	**322**	P		**P**	**15 00 40.1**	**-0.9**
WUAZ					IAmb		IAmb	15 00 49.1	
	comp=Z,5.8nm,0.8s								
SPX	**San Pedro Mart**		**46.54**	**314**	P		**P**	**15 00 40.5**	**-1.4**
D61A	**St Aubert, Com**		**46.73**	**7**	P		**P**	**15 00 44.0**	**+1.4**
	baz=190								
PV02	**Paradox Valley**		**46.75**	**326**	P		**P**	**15 00 44.2**	**+0.9**
PV13	**Radium Mtn., P**		**46.76**	**326**	P		**P**	**15 00 43.5**	**+0.1**
PV13					IAmb		IAmb	15 00 53.0	
	comp=Z,5.7nm,1.0s								
PV03	**Paradox Valley**		**46.84**	**326**	P		**P**	**15 00 44.0**	**0.0**
PV12	**Saucer Basin,**		**46.87**	**326**	P		**P**	**15 00 44.8**	**+0.7**
PV12					IAmb		IAmb	15 00 53.4	
	comp=Z,6.9nm,1.0s								
PV18	**Skein Mesa, Pa**		**46.87**	**326**	P		**P**	**15 00 43.7**	**-0.5**
PV18					IAmb		IAmb	15 00 47.4	
	comp=Z,5.9nm,0.9s								
PV16	**Nyswonger Mesa**		**46.92**	**326**	P		**P**	**15 00 45.0**	**+0.4**
F36A	**Milaca**		**46.93**	**345**	P		**P**	**15 00 42.2**	**-2.1**
F36A					IAmb		IAmb	15 00 46.8	
	comp=Z,11nm,1.2s								
N23A	**Red Feather La**		**47.29**	**331**	P		**P**	**15 00 47.6**	**0.0**
	baz=140								
IRM	**Iron Mountain**		**48.07**	**318**	P		**P**	**15 00 54.1**	**+0.7**
	baz=126								
MONP2	**Monument Peak**		**48.23**	**315**	P		**P**	**15 00 56.0**	**+1.1**
	baz=123								
KNB	**Kanab**		**48.33**	**322**	P		**P**	**15 00 54.9**	**-0.6**
SRU	**San Rafael Swe**		**48.38**	**326**	P		**P**	**15 00 56.1**	**+0.2**
EYMN	**Ely**		**48.42**	**348**	P		**P**	**15 00 54.8**	**-1.0**
LCMT	**Little Creek M**		**48.58**	**322**	P		**P**	**15 00 57.3**	**-0.2**
MTPU	**Mount Pierson**		**48.61**	**324**	P		**P**	**15 00 59.9**	**+2.0**
P17A	**Butcher Ranch,**		**48.75**	**326**	P		**P**	**15 00 57.1**	**-1.6**
SZCU	**Shurtz Canyon**		**48.86**	**323**	P		**P**	**15 00 58.2**	**-1.5**
TMUT	**Trail Mountain**		**48.89**	**326**	P		**P**	**15 00 58.5**	**-1.5**
MSU	**Marysvale**		**48.92**	**324**	P		**P**	**15 01 00.9**	**+0.8**
K22A	**Casper**		**48.92**	**332**	P		**P**	**15 01 01.1**	**+1.1**
	baz=140								
K22A	**Casper**		**48.92**	**332**	P		**P**	**15 01 00.6**	**+0.6**
K22A					IAmb		IAmb	15 01 02.8	
	comp=Z,3.9nm,0.8s								
MVU	**Marysvale**		**48.94**	**324**	P		**P**	**15 00 57.2**	**-3.1**
RSSD	**Black Hills**		**48.98**	**335**	P		**P**	**15 01 01.8**	**+1.3**
	baz=144								
RSSD	**Black Hills**		**48.98**	**335**	P		**P**	**15 00 59.6**	**-0.9**
CHGQ	**Chibougamau**		**49.04**	**3**	P		**P**	**15 01 01.7**	**+1.2**
	baz=185								
HEC	**Hector,Ludlow**		**49.26**	**318**	P		**P**	**15 01 03.5**	**+0.9**
	baz=125								
AGMN	**Agassiz Nation**		**49.80**	**344**	P		**P**	**15 01 05.4**	**-1.0**
	baz=156								
GSC	**Goldstone, Bar**		**49.85**	**318**	P		**P**	**15 01 07.4**	**+0.3**
	baz=125								
GSC	**Goldstone, Bar**		**49.85**	**318**	P		**P**	**15 01 08.6**	**+1.5**
GSC					IAmb		IAmb	15 01 13.6	
	comp=Z,8.5nm,1.5s								
CIS	**Catalina Islan**		**49.91**	**315**	P		**P**	**15 01 08.3**	**+0.7**
	baz=122								
TCUT	**Toone Canyon**		**50.26**	**327**	P		**P**	**15 01 11.2**	**+0.8**
EDW2	**Edwards Air Fo**		**50.42**	**317**	P		**P**	**15 01 12.3**	**+0.9**
	baz=123								
TPNV	**Topopah Spring**		**50.44**	**320**	P		**P**	**15 01 13.2**	**+1.5**
PDAR	**Pinedale Array**		**50.48**	**330**	P		**P**	**15 01 11.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.8,SNR=6.7								
PDAR					PcP		**PcP**	**15 02 29.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=142,slow=4.6,SNR=2.7								
PDAR					LR		LR	15 25 00.2	
	comp=Z,14nm,18.0s,baz=131,slow=39								
PDAR	**Pinedale Array**		**50.48**	**330**	P		**P**	**15 01 11.2**	**-0.8**
HWUT	**Hardware Ranch**		**50.69**	**328**	P		**P**	**15 01 13.8**	**+0.3**
MPMC	**Manual Prospec**		**50.73**	**318**	P		**P**	**15 01 13.6**	**-0.4**
	baz=125								
ISA	**Isabella, Lake**		**51.18**	**317**	P		**P**	**15 01 17.7**	**+0.6**
	baz=123								
CWC	**Cottonwood Cre**		**51.34**	**318**	P		**P**	**15 01 18.8**	**+0.3**
	baz=124								
ULM	**Lac du Bonnet**		**51.59**	**345**	P		**P**	**15 01 18.6**	**-1.3**
	comp=Z,7.3nm,0.7s,baz=157,slow=7.8,SNR=12								
ULM	**Lac du Bonnet**		**51.59**	**345**	P		**P**	**15 01 18.6**	**-1.3**
ULM					IAmb		IAmb	15 01 19.5	
	comp=Z,7.8nm,0.8s								
LOHW	**Long Hollow**		**51.62**	**330**	P		**P**	**15 01 20.4**	**-0.1**
PKM	**Mcpherson Peak**		**51.68**	**316**	P		**P**	**15 01 21.1**	**+0.1**
	baz=122								
TPAW	**T Pass**		**51.70**	**330**	P		**P**	**15 01 22.0**	**+0.8**
LAO	**LASA Array**		**51.96**	**336**	P		**P**	**15 01 22.9**	**+0.1**
	baz=143								
LAO	**LASA Array**		**51.96**	**336**	P		**P**	**15 01 22.9**	**+0.1**
LAO					IAmb		IAmb	15 01 26.9	
	comp=Z,4.9nm,0.8s								
IMW	**Indian Meadow**		**51.99**	**330**	P		**P**	**15 01 23.9**	**+0.5**
FLWY	**Flagg Ranch**		**52.01**	**330**	P		**P**	**15 01 24.1**	**+0.7**
ELK	**Elko**		**52.17**	**324**	P		**P**	**15 01 25.7**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=106,slow=3.6,SNR=9.4								
ELK					PcP		**PcP**	**15 02 36.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=63,slow=4.5,SNR=3.8								
ELK	**Elko**		**52.17**	**324**	P		**P**	**15 01 25.7**	**+1.1**
YNE	**Yellowstone No**		**52.35**	**332**	P		**P**	**15 01 26.3**	**+0.3**
NV11	**Mina Array Sit**		**52.53**	**320**	P		**P**	**15 01 27.4**	**+0.1**
YHH	**Holmes Hill**		**52.59**	**331**	P		**P**	**15 01 29.4**	**+1.6**
OMMB	**Old Mammoth Mi**		**52.61**	**319**	P		**P**	**15 01 29.1**	**+0.9**
DGMT	**Dagmar**		**52.62**	**338**	P		**P**	**15 01 28.1**	**+0.5**
DGMT					IAmb		IAmb	15 01 28.9	
	comp=Z,11nm,0.8s								
NVAR	**Mina Array Bea**		**52.63**	**320**	P		**P**	**15 01 28.8**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=116,slow=7.3,SNR=33								
NVAR					PcP		**PcP**	**15 02 38.6**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=144,slow=3.9,SNR=4.7								
LHV	**Little Huntoon**		**52.65**	**320**	P		**P**	**15 01 29.4**	**+1.5**
MDPB	**Devils Postpil**		**52.67**	**319**	P		**P**	**15 01 29.6**	**+1.1**
YHL	**Hebgen Lake**		**52.80**	**331**	P		**P**	**15 01 30.9**	**+1.5**
KVN	**Kaiserville**		**52.86**	**321**	P		**P**	**15 01 31.1**	**+1.3**
QLMT	**Earthquake Lak**		**52.91**	**331**	P		**P**	**15 01 30.4**	**+0.4**
BCYI	**Bear Canyon**		**53.54**	**329**	P		**P**	**15 01 35.7**	**+1.0**
HLID	**Hailey**		**53.56**	**328**	P		**P**	**15 01 35.1**	**+0.3**
	baz=132								
HLID	**Hailey**		**53.56**	**328**	P		**P**	**15 01 35.8**	**+1.0**
BOZ	**Bozeman (W)**		**53.56**	**331**	P		**P**	**15 01 35.5**	**+0.7**
	baz=136								
BOZ	**Bozeman (W)**		**53.56**	**331**	P		**P**	**15 01 35.7**	**+1.0**
LRM	**Limekiln Ridge**		**54.12**	**331**	P		**P**	**15 01 40.2**	**+1.2**
MFID	**Camas Ranch**		**54.23**	**327**	P		**P**	**15 01 40.0**	**+0.3**
EGMT	**Eagleton**		**54.51**	**334**	P		**P**	**15 01 42.1**	**+0.5**
	baz=140								
MSO	**Missoula**		**55.56**	**331**	P		**P**	**15 01 49.7**	**+0.4**
	baz=134								
O03E	**Paynes Creek**		**55.92**	**320**	P		**P**	**15 01 52.3**	**+0.4**
	baz=123								
O02D	**Mt. Diablo Mer**		**56.49**	**320**	P		**P**	**15 01 56.7**	**+0.7**
	baz=122								
WDC	**Whiskeytown Da**		**56.55**	**320**	P		**P**	**15 01 55.9**	**-0.4**
WDC					IAmb		IAmb	15 01 56.5	
	comp=Z,3.1nm,0.6s								
F10A	**Beach Ranch, E**		**56.66**	**328**	P		**P**	**15 01 57.2**	**+0.1**
F10A					IAmb		IAmb	15 02 01.1	
	comp=Z,6.4nm,1.1s								
M04C	**Macdoel**		**56.76**	**322**	P		**P**	**15 01 58.1**	**+0.1**
	baz=124								
N02D	**Trinity Center**		**56.86**	**320**	P		**P**	**15 01 57.8**	**-0.9**
	baz=123								
M02C	**Callahan**		**57.18**	**321**	P		**P**	**15 02 00.8**	**-0.1**
	baz=123								
J05D	**Fort Rock, OR**		**57.25**	**323**	P		**P**	**15 02 01.8**	**+0.3**
	baz=125								
YBH	**Yreka Blue Hor**		**57.28**	**321**	P		**P**	**15 02 01.6**	**0.0**
	comp=Z,3.0nm,0.7s,baz=82,slow=8.3,SNR=6.3								
YBH	**Yreka Blue Hor**		**57.28**	**321**	IAmb		IAmb	15 02 02.4	
	comp=Z,3.5nm,0.8s								
L04D	**Klamath Falls**		**57.30**	**322**	P		**P**	**15 02 01.9**	**+0.1**
	baz=124								
J04D	**Umpqua Nationa**		**57.75**	**323**	P		**P**	**15 02 05.2**	**+0.2**
	baz=124								
I05D	**Terrebonne, OR**		**57.93**	**324**	P		**P**	**15 02 06.9**	**+0.8**
	baz=126								
NEW	**Newport**		**58.12**	**330**	P		**P**	**15 02 07.6**	**+0.3**
	baz=132								
K02D	**Willamette Mer**		**58.40**	**322**	P		**P**	**15 02 10.2**	**+0.8**
	baz=123								
B05A	**Bryant**		**60.68**	**328**	P		**P**	**15 02 24.8**	**-0.2**
	baz=127								
FRB	**Frobisher Bay**		**63.20**	**5**	P		**P**	**15 02 40.9**	**-0.7**
	comp=Z,8.4nm,1.0s,baz=210,slow=6.3,SNR=3.9								
YKA	**Yellowknife Ar**		**67.38**	**343**	P		**P**	**15 03 07.6**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=133,slow=6.0,SNR=12								
YKA					LR		LR	15 34 55.1	
	comp=Z,30nm,19.6s,baz=0.0,slow=38								
DLBC	**Dease Lake**		**70.43**	**334**	P		**P**	**15 03 28.7**	**+0.8**
	comp=Z,4.1nm,0.9s,baz=115,slow=5.7,SNR=6.7								
DLBC	**Dease Lake**		**70.43**	**334**	IAmb		IAmb	15 03 29.3	
	comp=Z,5.1nm,0.9s								
PPT	**Papeete**		**72.74**	**251**	LR		LR	15 29 36.6	
	comp=Z,63nm,21.0s,baz=115,slow=31								
LIC	**Lamto**		**72.95**	**84**	*e*P		**P**	**15 03 42.9**	**-1.0**
	comp=Z,32nm,1.0s								
TIC	**Toumodi**		**72.97**	**83**	*e*P		**P**	**15 03 43.1**	**-0.9**
DBIC	**Dimbokro**		**73.13**	**83**	P		**P**	**15 03 43.8**	**-1.1**
	comp=Z,9.0nm,1.0s,baz=293,slow=7.4,SNR=8.0								
DBIC					LR		LR	15 33 22.1	
	comp=Z,59nm,19.7s,baz=232,slow=34								
DBIC	**Dimbokro**		**73.13**	**83**	P		**P**	**15 03 44.5**	**-0.4**
KIC	**Kosan Boka**		**73.24**	**84**	*e*P		**P**	**15 03 45.0**	**-0.6**
	comp=Z,25nm,0.9s								
KOWA	**Kowa**		**74.26**	**75**	P		**P**	**15 03 50.2**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=266,slow=5.8,SNR=10								
KOWA	**Kowa**		**74.26**	**75**	P		**P**	**15 03 51.0**	**-0.6**
KOWA					IAmb		IAmb	15 03 52.2	
	comp=Z,7.5nm,1.0s								
INK	**Inuvik**		**77.12**	**342**	P		**P**	**15 04 06.5**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=92,slow=8.6,SNR=5.4								
INK	**Inuvik**		**77.12**	**342**	IAmb		IAmb	15 04 08.6	
	comp=Z,3.1nm,0.8s								
ESDC	**Sonseca Array**		**77.21**	**50**	P		**P**	**15 04 06.7**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=262,slow=4.8,SNR=6.2								
ESDC	**Sonseca Array**		**77.21**	**50**	P		**P**	**15 04 07.0**	**-1.1**
BCAR	**Beaver Creek A**		**77.70**	**335**	P		**P**	**15 04 09.8**	**-0.6**
EGAK	**Eagle**		**78.14**	**337**	P		**P**	**15 04 12.4**	**-0.2**
EGAK					IAmb		IAmb	15 04 14.3	
	comp=Z,4.5nm,0.9s								
K27K	**Chicken**		**78.20**	**336**	P		**P**	**15 04 13.6**	**+0.6**
	baz=113								
L26K	**Log Cabin Wild**		**78.34**	**335**	P		**P**	**15 04 13.6**	**-0.3**
	baz=112								
SCRK	**Sand Creek**		**78.96**	**336**	P		**P**	**15 04 17.0**	**-0.4**
	baz=111								
TORD	**Torodi Ar. Bea**		**79.75**	**77**	P		**P**	**15 04 21.0**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=288,slow=4.3,SNR=5.8								
TORD					LR		LR	15 36 54.0	
	comp=Z,40nm,21.8s,baz=260,slow=34								
TORD	**Torodi Ar. Bea**		**79.75**	**77**	P		**P**	**15 04 20.6**	**-2.0**
HDA	**Harding Lake**		**80.33**	**336**	P		**P**	**15 04 24.3**	**-0.4**
HDA					IAmb		IAmb	15 04 25.9	
	comp=Z,10.0nm,1.3s								
ILAR	**Eielson Array**		**80.42**	**336**	P		**P**	**15 04 24.8**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=110,slow=4.5,SNR=17								
ILAR					PP		**PP**	**15 07 28.1**	**+0.1**
	comp=Z,1.6nm,1.1s,baz=121,slow=6.5,SNR=6.7								
ILAR	**Eielson Array**		**80.42**	**336**	P		**P**	**15 04 24.5**	**-0.7**
EKA	**Eskdalemuir Ar**		**80.74**	**34**	P		**P**	**15 04 26.3**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=260,slow=3.3,SNR=3.3								
POKR	**Poker Plat Res**		**80.75**	**336**	P		**P**	**15 04 27.0**	**+0.1**
	baz=108								
RND	**Reindeer**		**80.82**	**334**	P		**P**	**15 04 26.7**	**-0.7**
RND					IAmb		IAmb	15 04 28.8	
	comp=Z,5.4nm,0.8s								
MCK	**McKinley**		**80.95**	**335**	P		**P**	**15 04 27.8**	**-0.2**
	baz=107								
MDM	**Murphy Dome**		**81.03**	**336**	P		**P**	**15 04 27.3**	**-1.1**
MDM					IAmb		IAmb	15 04 29.5	
	comp=Z,6.1nm,1.2s								
CUT	**Chulitna**		**81.17**	**333**	P		**P**	**15 04 28.9**	**-0.2**
	baz=105								
NEA2	**Nenana**		**81.26**	**336**	P		**P**	**15 04 29.8**	**+0.1**
	baz=107								
BPAW	**Bear Paw Mtn.**		**81.93**	**335**	P		**P**	**15 04 33.0**	**-0.2**
BPAW					IAmb		IAmb	15 04 34.0	
	comp=Z,7.1nm,0.8s								
MLY	**Manley**		**82.07**	**336**	P		**P**	**15 04 34.0**	**0.0**
	baz=105								
COLD	**Coldfoot**		**82.46**	**338**	P		**P**	**15 04 35.8**	**-0.1**
	baz=106								
SNAA	**Sanae**		**86.08**	**162**	P		**P**	**15 04 54.8**	**+0.5**
SNAA	**Sanae**		**86.08**	**162**	P		**P**	**15 04 54.7**	**+0.4**
SNAA					IAmb		IAmb	15 04 55.7	
	comp=Z,5.0nm,1.0s								
QSPA	**South Pole Qui**		**90.83**	**180**	P		**P**	**15 05 18.0**	**+0.9**
TSUM	**Tsumeb**		**95.50**	**109**	LR		LR	15 45 17.2	
	comp=Z,64nm,21.0s,baz=323,slow=33								
ZALV	**Zalesovo Beam**		**123.61**	**12**	PKP		**PKiKP**	**15 11 12.0**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=270,slow=1.5,SNR=4.0								

QSPA	**South Pole Qui**	**87.28**	**180**	P		**P**	**15 22 47.9**	**-0.8**
	1.4nm,1.0s,baz=352,slow=2.8,SNR=3.0							

*IDC **29** 15:10:20.4±0.8,3.˚53S×138.˚50E, h0km, mb4.1/11, mb1 4.3/14,mb1mx4.1/32,mbtmp4.2/14,ML4.3/3,MS2.8/2, Ms1 2.8/2,ms1mx2.5/28,Error ellipse: s-maj=26.7km s-min=16.2km az=75.0*

*NEIC **29** 15:10:21.5±1.9,3.˚59S±0.˚06×138.˚51E±0.˚09, h9km±4km, mb4.4/27,Error ellipse: s-maj=13.2km s-min=7.5km az=63.0*

ISC 29 15:10:22.1±0.5,**3.˚67S**±0.˚06×**138.˚43E**±0.˚06,**h10**km,**n63,** σ1§**83**/62,**mb4.4**/17,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.54**	**63**	Sn		**Sn**		**15 11 33.3**	**-1.2**
	13nm,0.3s,baz=83,slow=10,SNR=1.7								
JAY					LR	LR		15 11 45.7	
	comp=Z,345nm,18.0s,baz=55,slow=35								
FAKI	**Fak Fak**	**6.22**	**277**	Pn		**Pn**		**15 11 55.1**	**+1.1**
SIJI	**Sorong**	**7.68**	**291**	Pn		**Pn**		**15 12 14.6**	**+0.5**
	9.6nm,0.3s,baz=61,slow=13,SNR=28								
SIJI						**Sn**		**15 13 39.7**	**-1.6**
	0.4nm,0.3s,baz=2.9,slow=24,SNR=1.0								
SAUI	**Saumlaki**	**8.29**	**239**	Pn		**Pn**		**15 12 23.1**	**+0.6**
PMG	**Port Moresby**	**10.38**	**124**	Pn		Pn		15 12 45.2	-5.9
	0.2nm,0.3s,baz=319,slow=18,SNR=2.0								
PMG	**Port Moresby**	**10.38**	**124**			**Pn**		**15 12 50.2**	**-0.9**
MTN	**Manton Dam**	**11.63**	**218**			**Pn**		**15 13 08.6**	**+0.4**
KNRA	**Kununurra**	**15.26**	**218**			**Pn**		**15 13 57.6**	**-0.2**
KNRA					IAmb	IAmb		15 14 24.9	
	comp=Z,25nm,0.9s								
BATI	**Baumata**	**16.03**	**245**	Pn		**Pn**		**15 14 07.8**	**-0.1**
	comp=Z,3.2nm,0.3s,baz=92,slow=2.4,SNR=4.4								
BATI					Sn	Sn		15 16 55.0	-11
	comp=Z,0.8nm,0.3s,baz=87,slow=21,SNR=1.7								
WB0	**Warramunga Arr**	**16.48**	**194**			**Pn**		**15 14 13.4**	**-0.2**
WR0	**Warramunga Arr**	**16.63**	**193**			**Pn**		**15 14 16.5**	**+1.0**
WR0					IAmb	IAmb		15 14 24.8	
	comp=Z,15nm,0.8s								
WRAB	**Tennant Creek**	**16.65**	**194**	P		**Pn**		**15 14 17.5**	**+1.7**
WRAB					IAmb	IAmb		15 14 25.0	
	comp=Z,19nm,0.8s								
WB2	**Warramunga Arr**	**16.66**	**194**	Pn		**Pn**		**15 14 15.6**	**-0.3**
WB2					IAmb	IAmb		15 14 25.1	
	comp=Z,19nm,0.8s								
WRA	**Warramunga Arr**	**16.66**	**194**	Sn		**Sn**		**15 17 12.5**	**-8.6**
	comp=Z,0.3nm,0.3s,baz=8.7,slow=22,SNR=6.7								
WRA	**Warramunga Arr**	**16.66**	**194**	Pn		**Pn**		**15 14 13.7**	**-2.2**
WC3	**Warramunga Arr**	**16.67**	**193**			**Pn**		**15 14 16.3**	**+0.3**
CTA	**Charters Tower**	**18.02**	**156**	Lg		Lg		15 19 56.5	
	comp=Z,0.1nm,0.3s,baz=271,slow=21,SNR=1.7								
CTAO	**Charters Tower**	**18.02**	**156**			**P**		**15 14 37.8**	**+4.5**
GUMO	**Guam**	**18.30**	**20**	LR		LR		15 22 20.5	
	comp=Z,15nm,18.9s,baz=206,slow=40								
FITZ	**Fitzroy Crossi**	**19.04**	**220**	P		**Pn**		**15 14 46.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=43,slow=14,SNR=5.0								
FITZ						Sn		15 18 08.8	-10
	comp=Z,0.3nm,0.3s,baz=114,slow=24,SNR=4.2								
FITZ					Lg	Lg		15 20 18.4	
	comp=Z,0.1nm,0.3s,baz=221,slow=15,SNR=1.6								
FITZ	**Fitzroy Crossi**	**19.04**	**220**	P		**P**		**15 14 45.6**	**+1.1**
AS31	**Alice Springs**	**20.36**	**192**	P		**P**		**15 15 00.7**	**+1.8**
AS31					IAmb	IAmb		15 15 10.6	
	comp=Z,6.5nm,0.8s								
ASAR	**Alice Springs**	**20.36**	**192**	P		**P**		**15 15 00.4**	**+1.4**
	comp=Z,5.3nm,0.7s,baz=19,slow=8.8,SNR=20								
ASAR					S	**S**		**15 18 43.1**	**-4.2**
	comp=Z,2.2nm,1.0s,baz=17,slow=26,SNR=4.7								
ASAR					Lg	Lg		15 20 58.9	
	comp=Z,1.9nm,1.0s,baz=21,slow=32,SNR=1.5								
ASAR	**Alice Springs**	**20.36**	**192**	P		**P**		**15 14 57.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**24.60**	**258**	P		**P**		**15 15 44.0**	**+1.2**
PSAD1	**Pilbara Seismi**	**25.29**	**224**	P		**P**		**15 15 50.8**	**+1.9**
PSAA2	**Pilbara Seismi**	**25.34**	**224**	P		**P**		**15 15 50.1**	**+0.6**
PSAA1	**Pilbara Seismi**	**25.36**	**224**	P		**P**		**15 15 51.0**	**+1.3**
STKA	**Stephens Creek**	**28.22**	**174**	P		**P**		**15 16 16.6**	**+1.4**
	comp=Z,2.6nm,1.1s,baz=339,slow=14,SNR=2.5								
STKA	**Stephens Creek**	**28.22**	**174**	P		**P**		**15 16 18.3**	**+3.1**
MYKOM	**Kota Tinggi**	**34.99**	**278**	P		**P**		**15 17 15.8**	**+0.9**
MYKOM					IAmb	IAmb		15 17 16.4	
	comp=Z,8.3nm,0.8s								
BKNI	**Bangkinang**	**37.58**	**275**	P		**P**		**15 17 38.0**	**+0.8**
RPSI	**Rantau Prapat**	**39.99**	**279**	P		**P**		**15 17 57.4**	**0.0**
RPSI	**Rantau Prapat**	**39.99**	**279**	P		**P**		**15 17 57.2**	**-0.2**
RPSI					IAmb	IAmb		15 17 58.4	
	comp=Z,11nm,1.0s								
PSI	**Prapat**	**40.01**	**279**	P		**P**		**15 17 57.4**	**-0.3**
	comp=Z,7.7nm,0.8s,baz=180,slow=19,SNR=7.5								
GSI	**Gunungsitoli**	**41.13**	**276**	P		**P**		**15 18 06.3**	**-0.6**
GSI					IAmb	IAmb		15 18 06.3	
	comp=Z,10.0nm,0.8s								
KSRS	**Korea Array**	**42.06**	**347**	P		**P**		**15 18 13.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=162,slow=8.3,SNR=2.3								
CMAR	**Chiang Mai Arr**	**44.68**	**301**	P		**P**		**15 18 35.4**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=122,slow=6.1,SNR=27								
CMAR	**Chiang Mai Arr**	**44.68**	**301**	P		**P**		**15 18 38.2**	**+2.6**
CM31	**Chiang Mai Arr**	**44.68**	**301**	P		**P**		**15 18 35.6**	**0.0**
CM31					IAmb	IAmb		15 18 37.1	
	comp=Z,5.9nm,1.0s								
CHTO	**Chiang Mai**	**44.83**	**301**	P		**P**		**15 18 36.4**	**-0.4**
CHTO					IAmb	IAmb		15 18 37.9	
	comp=Z,3.8nm,0.8s								
SONM	**Songino Array**	**58.46**	**335**	P		**P**		**15 20 17.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=139,slow=9.0,SNR=2.7								
SONM	**Songino Array**	**58.46**	**335**	P		**P**		**15 20 17.4**	**-1.0**
MK31	**Makanchi Array**	**70.38**	**323**	P		**P**		**15 21 36.6**	**+0.3**
MK31					IAmb	IAmb		15 21 37.6	
	comp=Z,3.8nm,1.1s								
MKAR	**Makanchi Array**	**70.38**	**323**	P		**P**		**15 21 36.5**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=112,slow=8.0,SNR=21								
MAKZ	**Makanchi**	**70.57**	**323**	P		**P**		**15 21 37.2**	**-0.3**
MAKZ					IAmb	IAmb		15 21 38.6	
	comp=Z,4.0nm,0.8s								
ZALV	**Zalesovo Beam**	**72.62**	**330**	P		**P**		**15 21 48.2**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=120,slow=5.3,SNR=4.8								
ZALV	**Zalesovo Beam**	**72.62**	**330**	P		**P**		**15 21 47.5**	**-2.2**
KURK	**Kurchatov**	**74.34**	**325**	P		**P**		**15 21 59.4**	**-0.5**
VNDA	**Vanda**	**74.86**	**175**	P		**P**		**15 22 02.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=330,slow=7.0,SNR=10								
VNDA	**Vanda**	**74.86**	**175**	P		**P**		**15 22 04.9**	**+2.5**
VNDA					IAmb	IAmb		15 22 25.6	
	comp=Z,4.5nm,1.5s								
KK31	**Karatay Array**	**76.61**	**316**	P		**P**		**15 22 13.1**	**-0.1**
KKAR	**Karatay Array**	**76.61**	**316**	P		**P**		**15 22 12.7**	**-0.5**
KKAR	**Karatay Array**	**76.61**	**316**	P		**P**		**15 22 12.3**	**-0.9**
KK04	**Karatay Array**	**76.62**	**316**	P		**P**		**15 22 12.5**	**-0.7**
KK09	**Karatay Array**	**76.63**	**316**	P		**P**		**15 22 12.8**	**-0.5**
BRVK	**Borovoye**	**80.01**	**325**	P		**P**		**15 22 32.0**	**+0.3**
ABKAR	**Akbulak array**	**85.27**	**320**	P		**P**		**15 22 59.3**	**+0.1**
QSPA	**South Pole Qui**	**86.28**	**180**	P		**P**		**15 23 04.4**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=298,slow=1.9,SNR=10								
QSPA	**South Pole Qui**	**86.28**	**180**	P		**P**		**15 23 05.6**	**+1.5**
ILAR	**Eielson Array**	**86.81**	**24**	P		**P**		**15 23 05.6**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=275,slow=4.0,SNR=8.7								
LPAZ	**La Paz**	**147.09**	**128**	PKPbc		**PKPbc**		**15 30 07.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=214,slow=7.3,SNR=3.8								
LPAZ	**La Paz**	**147.09**	**128**			**PKPdf**		**15 30 02.0**	**-3.1**

*IDC **29** 15:22:54.2±6.8,24.˚29S×177.˚68W, h190km±36km, mb3.3/5, mb1 3.5/6,mb1mx3.3/40,mbtmp4.0/6,Error ellipse: s-maj=83.9km s-min=30.5km az=46.0*

ISC 29 15:22:53.8±2.1,**24.˚3S**±0.˚2×**177.˚5W**±0.˚3,**h200**km,**n8,** σ1§**28**/9,**mb3.4**/5,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.66**	**197**	P		**Pn**		**15 26 11.0**	**-0.8**
	3.6nm,0.3s,baz=298,slow=2.6,SNR=16								
URZ					S	S		15 28 40.3	-14
	1.2nm,0.3s,baz=313,slow=22,SNR=8.3								
DZM	**Mont Dzumac**	**14.98**	**275**	P		P		15 26 22.3	+5.7
	1.2nm,0.3s,baz=77,slow=19,SNR=20								
CTA	**Charters Tower**	**33.80**	**270**	P		**P**		**15 29 17.0**	**-0.2**
	0.7nm,0.3s,baz=105,slow=11,SNR=3.9								
STKA	**Stephens Creek**	**36.74**	**249**	P		**P**		**15 29 41.9**	**-0.3**
	0.6nm,0.6s,baz=95,slow=13,SNR=3.0								
ASAR	**Alice Springs**	**44.27**	**260**	P		**P**		**15 30 43.5**	**-0.3**
	1.5nm,1.0s,baz=94,slow=6.9,SNR=19								
WRA	**Warramunga Arr**	**44.70**	**266**	P		**P**		**15 30 46.5**	**-0.8**
	1.2nm,0.8s,baz=101,slow=8.4,SNR=28								
WRA					pP	**pP**		**15 31 32.5**	**+2.3**
	0.2nm,0.5s,baz=102,slow=6.8,SNR=1.9								
WRA					ScP	**ScP**		**15 36 00.1**	**+0.6**
	0.6nm,0.7s,baz=102,slow=3.7,SNR=9.6								
VNDA	**Vanda**	**54.19**	**185**	P		**P**		**15 31 59.3**	**+1.2**
	0.3nm,0.8s,baz=8.0,slow=5.6,SNR=2.0								
HFS	**Hagfors**	**143.36**	**351**	PKP		**PKiKP**		**15 42 06.0**	**-1.2**
	2.1nm,0.6s,baz=15,slow=6.0,SNR=2.0								

*TEH **29** 15:29:47.8, 32.˚74N×47.˚49E, h10km, ML2.8*
*ISN **29** 15:29:49.6±1.5, 32.˚76N×47.˚38E, h15km, ML2.7*

ISC 29 15:29:44.7±2.9,**32.˚5N**±0.˚2×**47.˚49E**±0.˚07,**h10**km,**n8,** σ0§**57**/11,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**1.26**	**36**	*e*				15 30 11.8	
IKMR					*e*Pg	**Pn**		**15 30 08.4**	**+0.1**
IDOB	**Doab**	**1.40**	**24**	*e*Pg		**Pb**		**15 30 11.4**	**+0.3**
IDOB					*e*			15 30 13.2	
IDOB					*e*Sg	**Sb**		**15 30 28.1**	**-1.1**
IBDR	**Badra**	**1.44**	**295**	*e*Pg		**Pg**		**15 30 12.0**	**-0.4**
	baz=106								
IBDR					*e*Sg	**Sg**		**15 30 31.0**	**-0.1**
IBDR					AML	AML		15 30 38.7	
	comp=N,189nm,0.6s								
IBDR					AML	AML		15 30 41.3	
	comp=E,107nm,0.5s								
IKOM	**Komasi**	**1.66**	**1**	*e*Pg		**Pb**		**15 30 16.0**	**+0.5**
IKOM					*e*Sg	**Sn**		**15 30 36.1**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.80**	**348**	*e*Pg		**Pb**		**15 30 18.5**	**+0.6**
KCHF					*e*			15 30 42.6	
HSAM	**Samen**	**1.94**	**28**	*e*Pg		**Pb**		**15 30 20.7**	**+0.4**
HSAM					*e*			15 30 22.3	
IGHG	**Ghaleghazi**	**1.97**	**337**	*e*Pg		**Pb**		**15 30 21.3**	**+0.4**
IGHG					*e*			15 30 57.3	
IDHR	**Dehrash**	**2.37**	**338**	*e*Pg		**Pb**		**15 30 28.0**	**+0.4**
IDHR					*e*			15 30 34.2	

*IDC **29** 15:35:42.5±1.0,43.˚30S×16.˚26W, h0km, mb3.9/9, mb1 4.1/9,mb1mx3.9/36,mbtmp3.9/9,MS3.9/9,Ms1 3.9/9, ms1mx3.6/25,Error ellipse: s-maj=33.9km s-min=21.9km az=159.0*

*NEIC **29** 15:35:43.5±1.9,43.˚3S±0.˚2×16.˚14W±0.˚09, h10km±1km, mb4.5/7, Error ellipse: s-maj=26.7km s-min=11.4km az=180.0*

ISC 29 15:35:43.8±0.7,**43.˚4S**±0.˚1×**16.˚2W**±0.˚1,**h10**km,**n33,** σ0§**81**/24,**mb4.2**/10,**MS3.8**/9,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**29.14**	**171**		LR	LR		15 50 17.3	
	comp=Z,99nm,18.2s,baz=10,0,slow=30								
SUR	**Sutherland**	**30.95**	**82**		LR	LR		15 51 18.6	
	comp=Z,188nm,20.2s,baz=208,slow=30								
H10N1	**ASCENSION HYDR**	**35.39**	**3**	T		T		16 20 32.1	
	baz=185								
H10N3	**ASCENSION HYDR**	**35.39**	**3**	T		T		16 20 23.8	
	baz=185								
H10N2	**ASCENSION HYDR**	**35.41**	**3**	T		T		16 20 22.6	
	baz=185								
BOSA	**Boshof**	**36.21**	**80**	LR		LR		15 55 21.9	
	comp=Z,163nm,18.1s,baz=216,slow=32								
TSUM	**Tsumeb**	**37.17**	**60**	P		**P**		**15 42 54.9**	**-0.2**
	0.8nm,0.3s,baz=235,slow=10,SNR=2.9								
TSUM	**Tsumeb**	**37.17**	**60**	P		**P**		**15 42 54.8**	**-0.3**
TSUM					IAmb	IAmb		15 43 06.6	
	comp=Z,11nm,1.3s								
CPUP	**Villa Florida**	**37.38**	**283**	P		**P**		**15 42 56.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=104,slow=8.5,SNR=4.3								
CPUP	**Villa Florida**	**37.38**	**283**	P		**P**		**15 42 57.0**	**+0.3**
CPUP					IAmb	IAmb		15 43 09.3	
	comp=Z,11nm,1.4s								
BDFB	**Brasilia**	**38.71**	**306**	LR		LR		15 56 34.4	
	comp=Z,92nm,21.2s,baz=125,slow=32								
PLCA	**Paso Flores**	**39.88**	**254**	P		**P**		**15 43 17.5**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=122,slow=13,SNR=1.3								
PLCA						LR	LR	15 56 48.5	
	comp=Z,211nm,21.8s,baz=152,slow=32								
CO03	**El Pedregal**	**44.52**	**267**	P		**P**		**15 43 57.0**	**+1.4**
SIV	**San Ignacio**	**46.83**	**291**	P		**P**		**15 44 13.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=185,slow=5.6,SNR=4.2								
QSPA	**South Pole Qui**	**46.92**	**180**	P		**P**		**15 44 13.7**	**-0.5**
LPAZ	**La Paz**	**51.52**	**285**	P		**P**		**15 44 49.5**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=124,slow=3.6,SNR=1.5								
LPAZ						LR	LR	16 06 07.4	
	comp=Z,217nm,19.6s,baz=116,slow=36								
LPAZ	**La Paz**	**51.52**	**285**	P		**P**		**15 44 48.5**	**-2.0**
SAML	**Samuel**	**53.34**	**296**	P		**P**		**15 45 02.8**	**-0.5**
SAML					IAmb	IAmb		15 45 16.4	
	comp=Z,6.3nm,1.1s								
TORD	**Torodi Ar. Bea**	**58.55**	**20**	P		**P**		**15 45 40.2**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=207,slow=6.2,SNR=5.1								
TORD	**Torodi Ar. Bea**	**58.55**	**20**	P		**P**		**15 45 39.5**	**-0.9**
VNDA	**Vanda**	**59.41**	**179**	P		**P**		**15 45 46.2**	**+0.4**
	comp=Z,1.1nm,1.1s,baz=209,slow=3.4,SNR=3.3								
VNDA						LR	LR	16 07 52.2	
	comp=Z,33nm,20.6s,baz=252,slow=32								
ROSC	**El Rosal**	**70.96**	**296**	LR		LR		16 16 46.3	
	comp=Z,167nm,19.1s,baz=154,slow=35								
ESDC	**Sonseca Array**	**83.37**	**9**	P		**P**		**15 48 11.3**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=187,slow=5.6,SNR=5.9								
ESDC	**Sonseca Array**	**83.37**	**9**	P		**P**		**15 48 11.5**	**+0.8**
BRTR	**Keskin Array B**	**94.14**	**36**	P		**P**		**15 49 03.8**	**+1.3**
	comp=Z,1.7nm,1.1s,baz=197,slow=4.5,SNR=4.9								
BRTR	**Keskin Array B**	**94.14**	**36**	P		**P**		**15 49 03.2**	**+0.7**
URZ	**Urewera**	**97.89**	**191**	LR		LR		16 31 22.6	
	comp=Z,112nm,18.1s,baz=186,slow=34								
MKAR	**Makanchi Array**	**124.80**	**56**	PKP		**PKiKP**		**15 54 44.0**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=263,slow=2.5,SNR=2.8								
MKAR	**Makanchi Array**	**124.80**	**56**			**PKiKP**		**15 54 43.5**	**-0.1**
SONM	**Songino Array**	**140.35**	**63**	PKP		**PKPdf**		**15 55 12.1**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=270,slow=0.7,SNR=2.4								
SONM	**Songino Array**	**140.35**	**63**	PKPdf		**PKPdf**		**15 55 11.5**	**-1.0**
ILAR	**Eielson Array**	**145.28**	**325**	PKPbc		**PKPbc**		**15 55 19.9**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=96,slow=1.3,SNR=22								
ILAR	**Eielson Array**	**145.28**	**325**			**PKPbc**		**15 55 19.9**	**-0.4**

*GCMT **29** 15:50:41.9±0.3,59.˚69N±0.˚04×30.˚13W±0.˚06, h13km±1km, MW4.7/76,Moment Tensor Solution. s9,c9; s76,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=-1.36±. 13; $M_{\theta\theta}$0.57±.09; $M_{\phi\phi}$0.78±.08; $M_{r\theta}$1.09±.25; $M_{\theta\phi}$0.52±. 05; $M_{r\phi}$-0.33±.20; Best double couple: $M_0$1.63200×10^{16} NP1:ϕ_S24.00000°,δ37.00000°,λ-131.00000°. NP2: ϕ_S251.00000°,δ63.00000°,λ-64.00000°. Principal axes: T 1.3170, Plg14.0000°, Azm322.0000°; N 0.6300, Plg23.0000°, Azm58.0000°; P -1.9460, Plg63.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **29** 15:50:42.2±0.6,59.˚38N×30.˚33W, h0km, mb4.0/22, mb1 4.2/25,mb1mx4.0/53,mbtmp4.1/25,ML3.9/3,MS3.9/28, Ms1 3.9/28,ms1mx3.7/56 Error ellipse: s-maj=18.1km s-min=12.0km az=6.0*

*BGR **29** 15:50:42.2±0.0,59.˚18N×31.˚05W, h10km, mb4.5,Ms3.7*

*NEIC **29** 15:50:43.9±1.5,59.˚39N±0.˚06×30.˚3W±0.˚2, h10km±1km, mb4.5/67,Error ellipse: s-maj=14.3km s-min=8.4km az=243.0*

ISC 29 15:50:44.0±0.4,**59.˚42N**±0.˚07×**30.˚37W**±0.˚05,**h10**km,**n150,** σ1§**09**/129,**mb4.4**/51,**MS3.7**/28,**1C-7D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.82**	**35**	Pn		**Pn**		**15 52 23.9**	**0.0**
	3.6nm,0.3s,baz=187,slow=6.4,SNR=22								
BORG					Sn	**Sn**		**15 53 39.0**	**-2.4**
	1.3nm,0.3s,baz=99,slow=22,SNR=7.1								
BORG					LR	LR		15 54 18.3	
	comp=Z,481nm,18.6s,baz=242,slow=32								
BORG	**Borgarnes**	**6.82**	**35**	Pn		**Pn**		**15 52 23.7**	**-0.1**
SFJD	**Kangerlussuaq**	**11.82**	**318**	Pn		**Pn**		**15 53 32.4**	**+0.1**
	0.5nm,0.3s,baz=164,slow=10,SNR=4.2								
SFJD						LR	LR	15 57 17.4	
	comp=Z,1μm,21.0s,baz=130,slow=33								
SFJD	**Kangerlussuaq**	**11.82**	**318**			**Pn**		**15 53 34.2**	**+1.9**
EKA	**Eskdalemuir Ar**	**15.18**	**94**	Pn		**Pn**		**15 54 17.1**	**-1.0**
	baz=307,slow=8.1,SNR=4.0								
SCHQ	**Schefferville**	**20.14**	**273**	P		**P**		**15 55 18.2**	**+0.3**
	3.9nm,0.6s,baz=67,slow=10,SNR=4.0								
SCHQ						LR	LR	16 01 51.6	
	comp=Z,306nm,18.3s,baz=88,slow=33								
SCHQ	**Schefferville**	**20.14**	**273**	P		**P**		**15 55 18.0**	**+0.1**
NOA	**NORSAR Array B**	**20.46**	**68**	P		**P**		**15 55 20.9**	**-0.5**
	1.9nm,1.1s,baz=287,slow=9.2,SNR=3.0								
NOA						LR	LR	16 02 17.9	
	comp=Z,206nm,19.7s,baz=280,slow=34								
SNF	**Seneffe**	**21.57**	**99**	P		**P**		**15 55 33.0**	**-0.3**
HFS	**Hagfors**	**21.89**	**69**	P		**P**		**15 55 37.2**	**+0.5**
	3.7nm,0.8s,baz=280,slow=8.3,SNR=2.1								
HFS						LR	LR	16 03 00.6	
	comp=Z,216nm,20.0s,baz=284,slow=34								
DOU	**Dourbes**	**21.98**	**100**	P		**P**		**15 55 37.5**	**-0.2**
CLF	**Chambon-Foret**	**22.17**	**106**	P		**P**		**15 55 38.9**	**-0.9**
MEM	**Membach**	**22.38**	**97**	P		**P**		**15 55 41.6**	**-0.4**
BTNL	**Ternell**	**22.46**	**97**	P		**P**		**15 55 42.8**	**-0.1**
BSEG	**Bad Segeberg**	**22.73**	**86**	*e*L		L		16 03 08.1	
	167nm,21.9s								
MTE	**Manteigas**	**23.84**	**133**	P		**P**		**15 55 56.7**	**-0.4**
MTE						IAmb	IAmb	15 56 01.4	
	comp=Z,16nm,1.0s								
TNS	**Taunus Mts**	**23.86**	**95**	*e*L		L		16 04 06.5	
	comp=Z,270nm,21.8s								
ECH	**Echery**	**24.48**	**101**	P		**P**		**15 56 02.2**	**-0.8**
ECH						IAmb	IAmb	15 56 04.9	
	comp=Z,18nm,1.3s								
BFO	**Black Forest**	**24.99**	**99**	*e*L		L		16 04 40.8	
	comp=Z,89nm,19.2s								
ARCES	**ARCESS Array B**	**25.12**	**43**	P		**P**		**15 56 07.8**	**-0.7**
	comp=Z,13nm,1.2s,baz=285,slow=6.1,SNR=4.6								
ARCES						LR	LR	16 04 01.3	
	comp=Z,90nm,18.2s,baz=290,slow=32								
MOX	**Moxa**	**25.22**	**92**	*e*L		L		16 04 49.0	
	comp=Z,260nm,21.6s								
CLL	**Collm**	**25.54**	**89**	*e*P		**P**		**15 56 12.0**	**-0.4**
CLL						*e*S	**S**	**16 00 48.0**	**+8.4**
CLL						Lm	MLR	16 05 00.0	
	comp=Z,300nm,19.9s								
CLL	**Collm**	**25.54**	**89**	*e*L		L		16 05 53.0	
	comp=Z,251nm,19.9s								
PLN	**Plauen**	**25.59**	**92**	*e*P		**P**		**15 56 12.9**	**0.0**
	comp=Z,8.2nm,1.0s,baz=305,slow=8.9								
GRF	**Grafenberg Arr**	**25.60**	**94**	*e*P		**P**		**15 56 13.9**	**+0.9**
	comp=Z,24nm,1.2s,baz=305,slow=8.9								
GRF						*e*L	L	16 05 32.4	
	comp=Z,344nm,20.3s								
SENIN	**Lac Senin/Sane**	**25.81**	**104**	P		**P**		**15 56 15.4**	**+0.2**
PAB	**San Pablo**	**25.81**	**129**	P		**P**		**15 56 15.0**	**-0.2**
PAB						IAmb	IAmb	15 56 20.2	
	comp=Z,19nm,1.3s								
ESBB	**Sonseca Array**	**25.85**	**128**	P		**P**		**15 56 15.2**	**-0.3**
ESBB						IAmb	IAmb	15 56 20.0	
	comp=Z,12nm,1.1s								
ESDC	**Sonseca Array**	**25.86**	**128**	P		**P**		**15 56 15.1**	**-0.4**
	comp=Z,7.9nm,1.0s,baz=327,slow=8.3,SNR=18								
ESDC						LR	LR	16 04 29.5	
	comp=Z,163nm,20.9s,baz=305,slow=32								
ESDC	**Sonseca Array**	**25.86**	**128**			**P**		**15 56 16.1**	**+0.6**
EUNU	**Eureka**	**26.36**	**341**	P		**P**		**15 56 20.4**

ILAR	**Eielson Array**	**47.26**	**329**	P	**P**	**15 59 17.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=25,slow=7.2,SNR=5.4						
ILAR				LR	LR	16 18 42.6	
	comp=Z,82nm,21.5s,baz=86,slow=36						
MIAR	**Mount Ida**	**47.52**	**268**	P	**P**	**15 59 19.8**	**+0.7**
YNE	**Yellowstone No**	**47.86**	**290**	P	**P**	**15 59 20.9**	**-1.0**
AKTO	**Aktyubinsk**	**47.94**	**59**	P	**P**	**15 59 22.5**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=320,slow=7.4,SNR=20						
IMAR	**Indian Mountai**	**48.01**	**333**	P	**P**	**15 59 22.9**	**+0.4**
KSCO	**Kaye Shedlock'**	**48.69**	**279**	P	**P**	**15 59 28.1**	**-0.2**
KOWA	**Kowa**	**48.89**	**145**	P	**P**	**15 59 29.8**	**0.0**
KOWA				IAmb	IAmb	15 59 32.0	
	comp=Z,4.2nm,0.8s						
N23A	**Red Feather La**	**48.93**	**283**	P	**P**	**15 59 31.0**	**+0.8**
N23A				IAmb	IAmb	15 59 34.8	
	comp=Z,5.8nm,1.0s						
BW06	**Boulder Array**	**49.30**	**287**	P	**P**	**15 59 32.3**	**-0.8**
PD31	**Pinedale Array**	**49.30**	**287**	P	**P**	**15 59 32.0**	**-1.0**
PDAR	**Pinedale Array**	**49.30**	**287**	P	**P**	**15 59 32.8**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=64,slow=10,SNR=7.7						
PDAR				LR	LR	16 19 31.7	
	comp=Z,260nm,18.8s,baz=35,slow=35						
PDAR	**Pinedale Array**	**49.30**	**287**	P	**P**	**15 59 31.7**	**-1.3**
MCMT	**McKenzie Canyo**	**49.35**	**292**	P	**P**	**15 59 32.8**	**-0.6**
ABKAR	**Akbulak array**	**49.65**	**59**	P	**P**	**15 59 35.7**	**+0.4**
ABKAR				IAmb	IAmb	15 59 36.8	
	comp=Z,5.9nm,0.9s						
ABKAR	**Akbulak array**	**49.65**	**59**	P	**P**	**15 59 35.4**	**+0.1**
C09A	**Chrisman Ranch**	**49.66**	**298**	P	**P**	**15 59 34.9**	**-0.5**
C09A				IAmb	IAmb	15 59 49.5	
	comp=Z,3.8nm,0.8s						
RDMU	**Red Mountain**	**50.97**	**286**	P	**P**	**15 59 45.2**	**-0.5**
T25A	**Trinidad**	**51.03**	**279**	P	**P**	**15 59 46.9**	**+0.8**
T25A				IAmb	IAmb	15 59 53.8	
	comp=Z,4.9nm,0.9s						
BRVK	**Borovoye**	**51.08**	**50**	P	**P**	**15 59 45.6**	**-0.4**
AMTX	**Amarillo**	**51.40**	**275**	P	**P**	**15 59 49.5**	**+0.8**
AMTX				IAmb	IAmb	15 59 56.2	
	comp=Z,7.4nm,0.9s						
BMO	**Blue Mountains**	**51.43**	**295**	P	**P**	**15 59 49.3**	**+0.4**
TOA0	**Torodi Ar. Sit**	**51.95**	**139**	P	**P**	**15 59 51.3**	**-1.7**
TOA0				IAmb	IAmb	15 59 53.6	
	comp=Z,7.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**51.95**	**139**	P	**P**	**15 59 51.5**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=338,slow=7.9,SNR=10						
TORD				LR	LR	16 20 24.1	
	comp=Z,62nm,19.4s,baz=295,slow=34						
TORD	**Torodi Ar. Bea**	**51.95**	**139**	P	**P**	**15 59 51.6**	**-1.4**
ABTX	**Abilene, Hawle**	**52.14**	**271**	P	**P**	**15 59 54.7**	**+0.5**
HKT	**Hockley**	**52.33**	**266**	P	**P**	**15 59 55.6**	**0.0**
HKT				IAmb	IAmb	16 00 05.2	
	comp=Z,4.5nm,0.7s						
P17A	**Butcher Ranch,**	**52.39**	**286**	P	**P**	**15 59 56.3**	**+0.1**
PV18	**Skein Mesa, Pa**	**52.43**	**283**	P	**P**	**15 59 57.6**	**+1.0**
PV18				IAmb	IAmb	16 00 00.5	
	comp=Z,6.6nm,1.3s						
SRU	**San Rafael Swe**	**52.56**	**285**	P	**P**	**15 59 58.7**	**+1.2**
ELK	**Elko**	**53.59**	**290**	LR	LR	16 22 22.5	
	comp=Z,180nm,18.7s,baz=36,slow=35						
PSUT	**Pine Spring**	**54.64**	**287**	P	**P**	**16 00 13.0**	**+0.2**
ZALV	**Zalesovo Beam**	**55.62**	**40**	P	**P**	**16 00 19.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=312,slow=7.6,SNR=1.8						
ZALV				LR	LR	16 24 20.3	
	comp=Z,31nm,19.0s,baz=20,slow=36						
WUAZ	**Wupatki**	**55.79**	**283**	P	**P**	**16 00 21.3**	**+0.2**
WUAZ				IAmb	IAmb	16 00 26.0	
	comp=Z,6.2nm,1.4s						
MNTX	**Cornudas Mount**	**55.80**	**275**	P	**P**	**16 00 20.9**	**-0.1**
KURK	**Kurchatov**	**56.10**	**46**	P	**P**	**16 00 21.6**	**-1.2**
DBIC	**Dimbokro**	**56.12**	**149**	LR	LR	16 21 54.4	
	comp=Z,170nm,19.4s,baz=343,slow=33						
KVN	**Kaiserville**	**56.29**	**291**	P	**P**	**16 00 25.9**	**+1.2**
X16A	**Lo Mia Camp, P**	**56.69**	**282**	P	**P**	**16 00 25.9**	**-1.6**
X16A				IAmb	IAmb	16 00 32.9	
	comp=Z,5.7nm,1.5s						
TXAR	**Lajitas Array**	**56.83**	**272**	P	**P**	**16 00 28.8**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=164,slow=0.9,SNR=4.6						
TXAR	**Lajitas Array**	**56.83**	**272**	P	**P**	**16 00 28.2**	**-0.2**
NVAR	**Mina Array Bea**	**56.88**	**290**	LR	LR	16 24 18.1	
	comp=Z,132nm,18.7s,baz=72,slow=36						
GEYT	**Alibeck**	**57.53**	**70**	LR	LR	16 25 56.6	
	comp=Z,58nm,20.4s,baz=15,slow=37						
KK31	**Karatay Array**	**59.03**	**57**	P	**P**	**16 00 44.4**	**+0.8**
KK31				IAmb	IAmb	16 00 44.9	
	comp=Z,2.1nm,0.8s						
KKAR	**Karatay Array**	**59.03**	**57**	P	**P**	**16 00 44.2**	**+0.5**
KKAR	**Karatay Array**	**59.03**	**57**	P	**P**	**16 00 43.8**	**+0.1**
PFO	**Pinyon Flats O**	**59.83**	**286**	LR	LR	16 26 33.0	
	comp=Z,179nm,18.9s,baz=64,slow=36						
MAKZ	**Makanchi**	**60.59**	**47**	P	**P**	**16 00 54.3**	**0.0**
MAKZ				IAmb	IAmb	16 00 55.3	
	comp=Z,5.2nm,1.0s						
MK31	**Makanchi Array**	**60.71**	**47**	P	**P**	**16 00 54.9**	**-0.3**
MK31				IAmb	IAmb	16 00 56.1	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**60.71**	**47**	P	**P**	**16 00 55.0**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=335,slow=6.1,SNR=44						
MKAR	**Makanchi Array**	**60.71**	**47**	P	**P**	**16 00 54.8**	**-0.4**
BTK	**Batken**	**61.65**	**59**	P	**P**	**16 01 01.9**	**+0.2**
CHGR	**Chuyangaron**	**62.07**	**61**	P	**P**	**16 01 05.1**	**+0.6**
GAR	**Garm**	**62.30**	**60**	P	**P**	**16 01 07.1**	**+1.0**
WMQ	**Urumqi**	**65.23**	**45**	*eP*	**P**	**16 01 28.5**	**+3.2**
SONM	**Songino Array**	**67.41**	**30**	P	**P**	**16 01 39.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=319,slow=6.3,SNR=4.8						
SONM	**Songino Array**	**67.41**	**30**	P	**P**	**16 01 39.1**	**-0.2**
H10N2	**ASCENSION HYDR**	**68.23**	**163**	T	T	17 15 32.0	
	baz=353						
H10N3	**ASCENSION HYDR**	**68.24**	**163**	T	T	17 15 31.0	
	baz=353						
H10N1	**ASCENSION HYDR**	**68.25**	**163**	T	T	17 15 32.7	
	baz=353						
GTA	**Gaotai**	**73.27**	**38**	⇑P	**P**	**16 02 15.5**	**+0.3**
GTA				pP	sP	16 02 19.0	-0.1
GTA				sP	pP	16 02 22.3	+4.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,57nm,6.9s						
GTA				LR	LR		
	comp=N,68nm,16.0s						
GTA				LR	LR		
	comp=E,75nm,17.1s						
GTA				LR	LR		
	comp=Z,92nm,17.1s						
BDFB	**Brasilia**	**76.17**	**198**	P	**P**	**16 02 32.1**	**0.0**
	comp=Z,2.8nm,0.6s,baz=19,slow=2.9,SNR=3.9						
BDFB	**Brasilia**	**76.17**	**198**	P	**P**	**16 02 32.9**	**+0.8**
BDFB				IAmb	IAmb	16 02 36.9	
	comp=Z,5.1nm,1.0s						
KMBO	**Kilima Mbogo**	**79.76**	**110**	LR	LR	16 39 56.5	
	comp=Z,37nm,18.5s,baz=318,slow=37						
WRA	**Warramunga Arr**	**139.05**	**22**	PKhKP	PKPpre	16 10 00.7	
	comp=Z,0.3nm,0.9s,baz=333,slow=2.6,SNR=1.4						
WRA				PKP	**PKPdf**	**16 10 09.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=332,slow=2.6,SNR=2.3						
WRA	**Warramunga Arr**	**139.05**	**22**		**PKPdf**	**16 10 09.6**	**-1.0**
ASAR	**Alice Springs**	**142.58**	**24**	PKhKP	PKPpre	16 10 12.1	
	comp=Z,0.3nm,0.7s,baz=331,slow=2.7,SNR=2.3						
ASAR	**Alice Springs**	**142.58**	**24**		PKPpre	16 10 11.7	

*IDC **29** 15:56:14.7±0.9, 3.°28N×125.°94E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/43, mbtmp3.9/9, ML4.0/2, MS2.8/4, Ms1 2.8/4, ms1mx2.5/49, Error ellipse: s-maj=52.3km s-min=17.5km az=64.0*

*MAN **29** 15:56:19.1, 3.°44N×126.°87E, h41km, mb4.7, ML3.5, MS3.4*

*DJA **29** 15:56:21.2±0.3, 3.°N±2.°×12.°7E±.°, h10km, M4.1/13, mB4.7/5, mb4.2/7, MLv4.1/13, Mw(mB)3.9/5*

*NEIC **29** 15:56:23.5±2.3, 3.°41N±0.°04×126.°57E±0.°08, h66km±8km, mb4.2/18, Error ellipse: s-maj=12.0km s-min=5.0km az=103.0*

ISC 29 15:56:22.2±0.5, **3.°48N**±0.°04×**126.°56E**±0.°07, **h53**km, **n53,** σ1**ᵗ75/57, mb4.1**/15, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.05**	**281**	P	**Pn**	**15 56 39.4**	**-1.3**
DDMP	**Don Marcelino,**	**2.74**	**342**	*eP*	**Pn**	**15 57 03.5**	**-0.2**
DDMP				*eS*	**Sn**	**15 57 30.7**	**-4.9**
TNTI	**Ternate**	**2.81**	**163**	P	**Pn**	**15 57 06.9**	**+2.1**
TNTI	**Ternate**	**2.81**	**163**	Pn	**Pn**	**15 57 05.1**	**+0.3**
TNTI				Sn	**Sn**	**15 57 35.3**	**-2.2**
MATI	**Mati**	**3.45**	**355**	*eP*	**Pn**	**15 57 12.7**	**-0.9**
MATI				*eS*	Sn	15 58 03.6	+10
SKMP	**Bagumbayan, Su**	**3.62**	**326**	*eP*	**Pn**	**15 57 16.9**	**+1.0**
SKMP				*eS*	**Sn**	**15 57 58.3**	**+0.8**
DAV	**Davao City (W)**	**3.69**	**345**	LR	LR	15 58 49.2	
	comp=Z,151nm,19.6s,baz=108,slow=41						
KCP	**Kidapawan**	**3.79**	**337**	*i,iP*	**Pn**	**15 57 20.2**	**+1.8**
KCP				*i* S	**Sn**	**15 58 05.6**	**+3.9**
KMSI	**Cibinong**	**3.87**	**222**	P	**Pn**	**15 57 21.4**	**+2.1**
GTOI	**Gorontalo**	**4.53**	**231**	P	**Pn**	**15 57 28.7**	**+0.3**
BUKP	**Musuan**	**4.61**	**341**	*eP*	**Pn**	**15 57 29.8**	**+0.3**
BUKP				*eS*	Sn	15 58 34.1	+12
SANI	**Sanana**	**5.53**	**186**	P	**Pn**	**15 57 39.9**	**-2.1**
	0.2nm1μm11nm,0.8s						
LUWI	**Luwuk**	**5.88**	**220**	P	**Pn**	**15 57 50.6**	**+3.8**
	0.3nm2μm87nm,1.1s						
LUWI	**Luwuk**	**5.88**	**220**	Pn	**Pn**	**15 57 48.5**	**+1.7**
SIJI	**Sorong**	**6.39**	**132**	Pn	**Pn**	**15 57 54.8**	**+0.9**
	2.4nm,0.3s,baz=309,slow=24,SNR=11						
SIJI				Sn	**Sn**	**15 59 06.2**	**+0.6**
	0.8nm,0.3s,baz=349,slow=23,SNR=1.8						
SIJI				LR	LR	16 00 55.3	
	comp=Z,51nm,21.4s,baz=238,slow=42						
APSI	**Ampana**	**6.57**	**228**	P	**Pn**	**15 58 00.2**	**+3.9**
	0.1nm374nm29nm,0.6s						
MYLDM	**Lahad Datu**	**8.21**	**282**	Pn	**Pn**	**15 58 21.2**	**+2.4**
FAKI	**Fak Fak**	**8.53**	**138**	Pn	**Pn**	**15 58 23.5**	**+0.2**
KAPI	**Kappang**	**10.84**	**219**	LR	LR	16 03 20.6	
	comp=Z,94nm,18.6s,baz=66,slow=41						
JAY	**Jayapura**	**15.35**	**113**	Pn	**P**	**16 00 00.7**	**+1.3**
	0.6nm,0.3s,baz=52,slow=22,SNR=4.5						
MTN	**Manton Dam**	**16.84**	**164**	Pn	**Pn**	**16 00 11.9**	**-2.6**
KNRA	**Kununurra**	**19.16**	**174**	P	**P**	**16 00 40.6**	**-0.8**
KNRA				IAmb	IAmb	16 00 52.9	
	comp=Z,23nm,1.3s						
TPUB	**Ta-pu**	**20.52**	**344**	P	**P**	**16 00 55.0**	**-1.3**
GUMO	**Guam**	**20.69**	**60**	LR	LR	16 08 26.4	
	comp=Z,17nm,19.3s,baz=92,slow=34						
YOJ	**Yonaguni jima**	**21.14**	**351**	P	**P**	**16 01 03.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.46**	**182**	P	**P**	**16 01 03.4**	**-3.0**
	comp=Z,1.4nm,0.7s,baz=19,slow=8.7,SNR=7.2						
FITZ	**Fitzroy Crossi**	**21.46**	**182**	P	**P**	**16 01 05.8**	**-0.6**
YHNB	**Yeheng**	**21.65**	**347**	P	**P**	**16 01 08.7**	**+0.3**
YHNB				IAmb	IAmb	16 01 15.5	
	comp=Z,32nm,1.3s						
WB0	**Warramunga Arr**	**24.36**	**162**	P	**P**	**16 01 33.9**	**-1.5**
WB0				IAmb	IAmb	16 01 52.9	
	comp=Z,3.9nm,0.7s						
WRAB	**Tennant Creek**	**24.50**	**162**	P	**P**	**16 01 35.7**	**-1.1**
WRAB				IAmb	IAmb	16 01 50.6	
	comp=Z,4.5nm,0.7s						
WRA	**Warramunga Arr**	**24.50**	**162**	P	**P**	**16 01 35.2**	**-1.6**
	comp=Z,1.3nm,0.4s,baz=336,slow=11,SNR=50						
WRA	**Warramunga Arr**	**24.50**	**162**	P	**P**	**16 01 34.6**	**-2.1**
WB2	**Warramunga Arr**	**24.51**	**162**	P	**P**	**16 01 35.7**	**-1.1**
WB2				IAmb	IAmb	16 01 50.7	
	comp=Z,4.9nm,0.8s						
WR0	**Warramunga Arr**	**24.58**	**162**	P	**P**	**16 01 36.2**	**-1.3**
AS31	**Alice Springs**	**27.92**	**165**	P	**P**	**16 02 06.9**	**-0.7**
ASAR	**Alice Springs**	**27.92**	**165**	P	**P**	**16 02 06.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=342,slow=7.7,SNR=24						
ASAR				PcP	**PcP**	**16 05 22.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=0.0,slow=1.9,SNR=6.6						
ASAR	**Alice Springs**	**27.92**	**165**	P	**P**	**16 02 06.9**	**-0.7**
BBOO	**Buckleboo**	**37.20**	**167**	P	**P**	**16 03 28.3**	**-0.2**
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**16 03 34.5**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=342,slow=7.0,SNR=8.8						
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**16 03 35.6**	**+0.7**
STKA				PcP	**PcP**	**16 05 50.2**	**+0.3**
SONM	**Songino Array**	**47.48**	**342**	P	**P**	**16 04 51.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=161,slow=9.2,SNR=2.7						
MK31	**Makanchi Array**	**57.66**	**325**	P	**P**	**16 06 05.8**	**-1.5**
MK31				IAmb	IAmb	16 06 09.0	
	comp=Z,0.9nm,0.9s						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**16 06 05.8**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=126,slow=7.2,SNR=9.9						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**16 06 06.1**	**-1.2**
MAKZ	**Makanchi**	**57.84**	**325**	P	**P**	**16 06 07.4**	**-1.2**
MAKZ				IAmb	IAmb	16 06 15.3	
	comp=Z,4.3nm,1.4s						
KURK	**Kurchatov**	**61.85**	**328**	P	**P**	**16 06 36.9**	**+0.9**
KURK				IAmb	IAmb	16 06 37.1	
	comp=Z,2.6nm,0.7s						
ABKAR	**Akbulak array**	**72.23**	**321**	P	**P**	**16 07 41.3**	**-0.5**
PPLA	**Purkeypile**	**82.92**	**27**	P	**P**	**16 08 43.0**	**+1.6**
VNDA	**Vanda**	**83.20**	**173**	P	**P**	**16 08 42.1**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=288,slow=6.4,SNR=2.8						
TOLK	**Toolik Lake Re**	**84.54**	**21**	P	**P**	**16 08 51.8**	**+2.4**
TOLK				IAmb	IAmb	16 08 52.2	
	comp=Z,5.5nm,1.1s						
BMAR	**Burnt Mountain**	**86.37**	**23**	P	**P**	**16 09 00.5**	**+1.9**
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**16 15 12.6**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=33,slow=0.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**122.83**	**288**		**PKPdf**	**16 15 13.0**	**-0.5**

*IDC **29** 15:59:54.3±1.9, 4.°88S×150.°74E, h228km±17km, mb3.3/6, mb1 3.5/7, mb1mx3.1/39, mbtmp3.9/7, Error ellipse: s-maj=23.4km s-min=16.2km az=123.0*

ISC 29 15:59:50.9±1.0, **4.°7S**±0.°2×**150.°9E**±0.°2, **h200**km, **n7,** σ3**ᵗ41/10, mb3.8/6, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.97**	**218**	P	**Pn**	**16 01 20.0**	**+2.2**
	8.4nm,0.3s,baz=39,slow=5.8,SNR=21						
PMG				S	**Sn**	**16 02 28.5**	**+1.9**
	baz=265,slow=14,SNR=1.1						
WRA	**Warramunga Arr**	**22.13**	**225**	P	**P**	**16 04 29.4**	**-1.1**
	1.8nm,0.4s,baz=50,slow=10,SNR=14						
WRA				ScP	**ScP**	**16 11 32.9**	**-5.8**
	0.2nm,0.8s,baz=60,slow=2.6,SNR=1.6						
DZM	**Mont Dzumac**	**22.89**	**140**	P	**P**	**16 04 38.2**	**+0.7**
	4.3nm,0.6s,baz=315,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**24.99**	**219**	P	**P**	**16 04 54.5**	**-1.9**
	0.3nm,0.4s,baz=49,slow=9.2,SNR=2.7						
ASAR				ScP	**ScP**	**16 11 41.4**	**-5.0**
	0.5nm,1.0s,baz=54,slow=4.7,SNR=2.7						
FITZ	**Fitzroy Crossi**	**28.07**	**240**	P	**P**	**16 05 22.6**	**-1.4**
	1.0nm,0.7s,baz=78,slow=9.3,SNR=1.6						
PETK	**Petropavlovsk-**	**57.89**	**5**	P	**P**	**16 09 24.2**	**+2.5**
	1.8nm,0.7s,baz=157,slow=6.7,SNR=8.8						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**16 11 52.8**	**+0.5**
	0.4nm,0.7s,baz=253,slow=4.7,SNR=2.6						

WEL 29 16:05:19.5, 39°S±1°×**17°6E**±°, **h109**km±2km, **M3.2**/59, **MLv3.2**/59, **Error ellipse: s-maj=0.0km s-min=0.0km az=95.3, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPRZ	**Whakapapataran**	**0.11**	**6**	P	Pn	16 05 34.8	+0.1
WPRZ				S	Sn	16 05 46.3	+0.2
WHTZ	**Whakaora**	**0.15**	**257**	P	Pn	16 05 35.3	+0.4
ALRZ	**Allen Road**	**0.17**	**66**	P	Pn	16 05 34.7	-0.1
PRRZ	**Plateau Road**	**0.23**	**56**	P	Pn	16 05 35.0	0.0
PRRZ				S	Sn	16 05 46.1	-0.5
HATZ	**Hinemaiaia**	**0.26**	**189**	P	Pn	16 05 35.1	-0.1
HRRZ	**Handcock Road**	**0.26**	**24**	P	Pn	16 05 35.5	+0.3
GRRZ	**Galatos Road**	**0.28**	**354**	P	Pn	16 05 35.5	+0.3
KUTZ	**Kaahu Road**	**0.29**	**299**	P	Pn	16 05 35.4	+0.2
MRHZ	**Matea Rd**	**0.29**	**134**	P	Pn	16 05 35.2	-0.1
MRHZ				S	Sn	16 05 46.3	-0.8
HSRZ	**Hossack Road**	**0.33**	**14**	P	Pn	16 05 35.7	+0.3
HSRZ				S	Sn	16 05 48.2	+0.9
WATZ	**Wairara**	**0.33**	**257**	P	Pn	16 05 35.5	+0.1
RATZ	**Rangitukua**	**0.38**	**231**	P	Pn	16 05 35.7	0.0
RRRZ	**Republican Roa**	**0.41**	**45**	P	Pn	16 05 35.9	+0.1
HLRZ	**Highlands Stat**	**0.41**	**23**	P	Pn	16 05 36.6	+0.7
RITZ	**Rihia Road**	**0.41**	**213**	P	Pn	16 05 36.2	+0.4
UTU	**Utuhina**	**0.46**	**5**	P	Pn	16 05 36.6	+0.5
TARZ	**Mount Tarawera**	**0.48**	**36**	P	Pn	16 05 36.5	+0.2
KATZ	**Kakaramea**	**0.49**	**226**	P	Pn	16 05 36.6	+0.2
MUGZ	**Murupara**	**0.51**	**73**	P	Pn	16 05 36.2	-0.2
OMRZ	**Omania**	**0.55**	**19**	P	Pn	16 05 36.6	-0.2
TLZ	**Tolley Road**	**0.56**	**302**	P	Pn	16 05 37.1	+0.3
TLZ				S	Sn	16 05 49.6	-0.3
MTHZ	**Maungataniwha**	**0.59**	**112**	P	Pn	16 05 37.3	+0.3
MTHZ				S	Sn	16 05 50.1	0.0
TMVZ	**Te Maari**	**0.59**	**215**	P	Pn	16 05 37.3	+0.2
BKZ	**Black Stump Fm**	**0.60**	**153**	P	Pn	16 05 37.2	+0.1
BKZ				S	Sn	16 05 50.1	-0.2
ETVZ	**East Tongariro**	**0.61**	**214**	P	Pn	16 05 37.5	+0.2
KRVZ	**Karewarewa**	**0.61**	**220**	P	Pn	16 05 37.4	+0.1
KARZ	**Kaharoa**	**0.61**	**7**	P	Pn	16 05 37.5	+0.3
WTVZ	**West Tongariro**	**0.65**	**222**	P	Pn	16 05 37.8	+0.2
OTVZ	**Oturere**	**0.65**	**215**	P	Pn	16 05 38.2	+0.5
RTZ	**Ruatahuna**	**0.65**	**89**	P	Pn	16 05 37.7	+0.2
RTZ				S	Sn	16 05 51.1	0.0
LIRZ	**Lichensteins R**	**0.65**	**17**	P	Pn	16 05 37.7	+0.2
NGZ	**Ngauruhoe**	**0.69**	**218**	P	Pn	16 05 38.3	+0.4
TWVZ	**Taurewa**	**0.71**	**231**	P	Pn	16 05 38.1	+0.1
TUVZ	**Tukino**	**0.74**	**211**	P	Pn	16 05 38.8	+0.4
MARZ	**Manawahe**	**0.77**	**33**	P	Pn	16 05 38.1	-0.4
FWVZ	**Far West T-bar**	**0.78**	**216**	P	Pn	16 05 38.8	+0.1
WHVZ	**Whangaehu Hut**	**0.78**	**214**	P	Pn	16 05 38.9	+0.1
WHVZ				S	Sn	16 05 53.1	-0.3
RAHZ	**Arahi**	**0.79**	**111**	P	Pn	16 05 39.7	+1.1
RAHZ				S	Sn	16 05 54.0	+1.0
DRZ	**Dome Shelter**	**0.79**	**215**	P	Pn	16 05 39.4	+0.4
KMRZ	**Kaimai**	**0.80**	**348**	P	Pn	16 05 34.9	-3.9
WNVZ	**Wahianoa**	**0.82**	**211**	P	Pn	16 05 39.3	+0.3
WNVZ				S	Sn	16 05 53.5	-0.2
KWHZ	**Kaweka Forest**	**0.82**	**165**	P	Pn	16 05 39.6	+0.6
KWHZ				S	Sn	16 05 53.6	0.0
MOVZ	**Moawhango**	**0.83**	**202**	P	Pn	16 05 39.1	-0.1
MOVZ				S	Sn	16 05 52.9	-1.0
URZ	**Urewera**	**0.84**	**64**	P	Pn	16 05 38.9	-0.2
OPRZ	**Ohinepanea**	**0.85**	**22**	P	Pn	16 05 39.2	0.0
BHHZ	**Black Hill Sta**	**0.86**	**184**	P	Pn	16 05 39.4	+0.1
BHHZ				S	Sn	16 05 53.4	-0.9
TGRZ	**Tauranga**	**0.91**	**6**	P	Pn	16 05 40.0	+0.3
PKVZ	**Pokaka**	**0.91**	**223**	P	Pn	16 05 40.1	+0.3
ARHZ	**Aropaoanui**	**0.91**	**134**	P	Pn	16 05 40.6	+0.8
ARHZ				S	Sn	16 05 56.1	+1.0
MCHZ	**McNeill Hill**	**0.92**	**152**	P	Pn	16 05 41.0	+1.1
MCHZ				S	Sn	16 05 56.5	+1.3
MTVZ	**Mangateitei**	**0.92**	**215**	P	Pn	16 05 40.3	+0.4
MTVZ				S	Sn	16 05 55.7	+0.4
SNGZ	**Shannon Statio**	**0.94**	**100**	P	Pn	16 05 41.2	+1.0
SNGZ				S	Sn	16 05 56.5	+0.8
RAGZ	**Rawiri**	**1.00**	**83**	P	Pn	16 05 41.0	+0.3
HIZ	**Hauiti**	**1.02**	**276**	P	Pn	16 05 41.2	+0.3
HIZ				S	Sn	16 05 57.6	+0.6
KRHZ	**Kereru**	**1.02**	**170**	P	Pn	16 05 41.3	+0.3
KRHZ				S	Sn	16 05 56.6	-0.6
TOZ	**Tahuroa Road**	**1.03**	**330**	P	Pn	16 05 41.4	+0.4
MWZ	**Matawai**	**1.12**	**75**	P	Pn	16 05 41.9	-0.1
VRZ	**Vera Road**	**1.19**	**245**	P	Pn	16 05 43.1	+0.4
KNZ	**Kokohu**	**1.25**	**109**	P	Pn	16 05 43.8	+0.4
CKHZ	**Cape Kidnapper**	**1.25**	**145**	P	Pn	16 05 44.0	+0.6
RIGZ	**Rimuhau**	**1.27**	**94**	P	Pn	16 05 44.3	+0.7
PNHZ	**Pukenui**	**1.28**	**178**	P	Pn	16 05 43.7	-0.1
KAHZ	**Kahuranaki**	**1.29**	**154**	P	Pn	16 05 44.4	+0.5
TKGZ	**Te Karaka**	**1.35**	**82**	P	Pn	16 05 45.4	+0.9
RUGZ	**Raukumara Rang**	**1.38**	**62**	P	Pn	16 05 44.2	-0.7
PRGZ	**Paritu Road**	**1.39**	**103**	P	Pn	16 05 45.4	+0.5
TSZ	**Takapari Road**	**1.43**	**186**	P	Pn	16 05 45.2	-0.3
WAZ	**Wanganui**	**1.

IIEY S **Sb** **16 09 41.6 -2.1**
baz=207
IMKO **Mokollar** **0.61 57** P Pg 16 09 31.2 -3.1
baz=57
IMKO S **Sg** **16 09 39.9 -2.5**
baz=57
IKSK **Karasker** **0.67 136** P **Pg** **16 09 32.1 -3.3**
baz=140
IKSK S **Sg** **16 09 42.2 -2.1**
baz=140
IKAL **Kalfafell** **0.70 185** P **Pg** **16 09 34.0 -2.0**
baz=188
ISVA **Svartarkot** **0.70 10** P Pg 16 09 33.0 -3.1
baz=7.2
ISVA S **Sg** **16 09 42.8 -2.5**
baz=7.2
IVAT **Vatnsfell** **0.75 233** P **Pb** **16 09 35.8 -1.9**
baz=233
IVSH **V-Sauoahnukur** **0.80 77** P Pg 16 09 34.1 -3.7
baz=79
IVSH S **Sg** **16 09 44.4 -3.8**
baz=79
IHVE **Hveravellir** **0.90 285** P **Pg** **16 09 36.9 -2.8**
baz=283
IADA **Aoalbol** **0.92 65** P Pg 16 09 36.1 -4.1
baz=66
IMEL **Melhnausar** **1.00 22** P Pb 16 09 37.6 -4.2
baz=20
ISNB **Snabyli** **1.03 208** P **Pg** **16 09 39.8 -2.4**
baz=209
ISLY **Slysaalda** **1.07 221** P **Pg** **16 09 40.5 -2.6**
baz=221
IKVO **Krokottuvotn** **1.11 14** P Pn 16 09 39.5 -4.6
baz=13
IFED **Fedgar** **1.12 237** P **Pg** **16 09 41.8 -2.2**
baz=237
IRJU **Rjupnafell** **1.15 206** P **Pg** **16 09 41.8 -2.6**
baz=207
IGRS **Grimsstaoir** **1.16 30** P Pn 16 09 40.4 -4.4
baz=30
IGRS S **Sb** **16 09 56.8 -2.9**
baz=30
IMJO **Mjoaskard** **1.17 233** P **Pg** **16 09 42.5 -2.5**
baz=234
IGYG **Gygjarholskot** **1.21 254** P **Pb** **16 09 42.5 -3.0**
baz=253
ISKI **Skildingahlsh** **1.25 10** P Pn 16 09 41.9 -4.0
baz=8.3
IHAU **Haukadalur** **1.25 238** P **Pb** **16 09 43.7 -2.4**
baz=238
IGHA **Grjothals** **1.26 17** P Pn 16 09 41.8 -4.3
baz=15
IHVO **Lagu-Hvolar** **1.26 208** P **Pb** **16 09 43.8 -2.5**
baz=209
IGRA **Granastaoir** **1.28 359** P Pn 16 09 42.5 -3.8
baz=358
IDIM **Dimmadalss** **1.35 11** P Pn 16 09 43.4 -3.9
baz=9.4
IHLA **Hella** **1.35 345** P Pn 16 09 43.9 -3.5
baz=343
IALF **Alftagrof** **1.36 213** P **Pn** **16 09 45.2 -2.3**
baz=214
IESK **Eystri-Skogar** **1.40 218** P **Pn** **16 09 45.8 -2.2**
baz=218
ISAU **Saurbar** **1.41 244** P **Pn** **16 09 45.5 -2.7**
baz=243
IMID **Miomork** **1.43 227** P **Pn** **16 09 46.5 -1.9**
baz=227
IHED **Heoinshofoi** **1.45 4** P Pn 16 09 44.9 -3.7
baz=2.4
IBRE **Brettingsstaoi** **1.49 354** P Pn 16 09 46.0 -3.3
baz=353
IGIL **Gilhagi** **1.52 19** P Pn 16 09 45.7 -4.0
baz=18
IASM **Asmuli** **1.57 240** P **Pn** **16 09 48.6 -1.7**
baz=240
ISIG **Siglufjorour** **1.60 340** P **Pn** **16 09 47.8 -3.0**
baz=338
ISIG S **Sn** **16 10 08.9 -2.4**
baz=338
BORG **Borgarnes** **1.63 275** Pg **Pn** **16 09 48.9 -2.3**
20nm,0.3s,baz=99,slow=11,SNR=44
BORG Lg Lg 16 10 13.0
19nm,0.3s,baz=293,slow=20,SNR=10
BORG **Borgarnes** **1.63 275** Pn **Pn** **16 09 48.8 -2.4**
ISOL **Solvholt** **1.65 246** P **Pn** **16 09 49.5 -1.8**
baz=246
IKRO **Krokur** **1.65 252** P **Pn** **16 09 49.5 -1.9**
baz=252
IHEI **Heioarbar** **1.66 256** P **Pn** **16 09 49.6 -2.0**
baz=256
IVME **Vestmannaeyjar** **1.72 226** P **Pn** **16 09 50.9 -1.5**
baz=226
IHRN **Hraun** **1.82 325** P **Pn** **16 09 51.5 -2.3**
baz=324
EKA **Eskdalemuir Ar** **11.76 136** Pn **Pn** **16 12 08.9 -1.1**
baz=324,slow=13,SNR=13
ESK **Eskdalemuir** **11.76 136** P **Pn** **16 12 09.9 -0.1**
ESK **Eskdalemuir** **11.76 136** Pn **Pn** **16 12 09.9 -0.1**
NOA **NORSAR Array B** **13.55 92** Pn **Pn** **16 12 31.6 -2.9**
0.0nm,0.3s,baz=300,slow=13,SNR=2.9
NOA LR LR 16 17 18.6
comp=Z,36nm,19.8s,baz=305,slow=35
SFJD **Kangerlussuaq** **13.66 295** LR LR 16 17 23.7
comp=Z,107nm,18.2s,baz=132,slow=35
HFS **Hagfors** **15.06 93** Pn **P** **16 13 01.2 +0.8**
0.1nm,0.3s,baz=317,slow=10,SNR=7.9
ARCES **ARCESS Array B** **17.15 55** P **Pn** **16 13 21.5 -0.3**
baz=273,slow=7.1,SNR=2.2
MEM **Membach** **18.71 127** Pn **Pn** **16 13 42.2 +1.0**
CLZ **Clausthal** **19.28 118** *e*P **P** **16 13 48.3 +1.3**
20nm,1.2s,baz=325,slow=11
FINES **FINESS Array B** **19.73 79** P **P** **16 13 52.6 +0.8**
baz=304,slow=9.9,SNR=2.0
FINES **FINESS Array B** **19.73 79** P **P** **16 13 53.2 +1.4**
FINES **FINESS Array B** **19.73 79** P **P** **16 13 53.2 +1.4**
NEUB **Neuenburg** **20.32 117** *e*P **P** **16 13 59.6 +1.4**
30nm,1.1s,baz=325,slow=11
MOX **Moxa** **20.71 119** *e*L L 16 22 47.8
23nm,18.8s
CLL **Collm** **20.71 116** *i*P **P** **16 14 03.1 +0.5**
comp=Z,31nm,1.5s
CLL *i* 16 14 12.9
CLL **Collm** **20.71 116** *i*P **P** **16 14 03.1 +0.5**
CLL pmax pmax
comp=Z,31nm,1.5s
CLL **Collm** **20.71 116** *e*P **P** **16 14 03.2 +0.7**
comp=Z,31nm,1.5s,baz=325,slow=11
CLL **Collm** **20.71 116** P **P** **16 14 01.8 -0.7**
PLN **Plauen** **21.04 118** *e*P **P** **16 14 07.0 +0.9**
comp=Z,29nm,1.4s,baz=325,slow=11
ECH **Echery** **21.16 129** P **P** **16 14 06.5 -0.9**
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH **Echery** **21.16 129** P **P** **16 14 06.5 -0.9**
FBE **Freiberg** **21.16 116** *e*P **P** **16 14 08.2 +0.8**
comp=Z,63nm,1.9s,baz=325,slow=11
GUNZ **Gunzen** **21.21 118** *e*P **P** **16 14 08.7 +0.8**
comp=Z,18nm,1.1s,baz=325,slow=11
TANN **Tannenbergstha** **21.22 118** *e*P **P** **16 14 08.7 +0.6**
comp=Z,35nm,1.2s,baz=325,slow=11
WERN **Wernitzgruen** **21.29 118** *e*P **P** **16 14 09.6 +0.8**
comp=Z,25nm,1.2s,baz=325,slow=11
GRF **Grafenberg Arr** **21.34 121** *e*P **P** **16 14 13.1 +3.7**
comp=Z,18nm,1.1s,baz=325,slow=11
GRF *e*L L 16 23 30.8
comp=Z,25nm,19.2s
NKC **Novy Kostel** **21.36 118** *e*P **P** **16 14 12.3 +2.7**
NKC **Novy Kostel** **21.36 118** *e*P **P** **16 14 12.3 +2.7**
STU **Stuttgart** **21.38 125** P **P** **16 14 09.0 -0.7**
STU pmax pmax
comp=Z,22nm,0.4s
STU **Stuttgart** **21.38 125** P **P** **16 14 09.0 -0.7**
BRG **Berggiesshubel** **21.42 115** *i*P **P** **16 14 10.9 +0.7**
comp=Z,21nm,1.1s
BRG **Berggiesshubel** **21.42 115** *i*P **P** **16 14 10.9 +0.7**
BRG pmax pmax
comp=Z,21nm,1.2s
BRG **Berggiesshubel** **21.42 115** *e*P **P** **16 14 10.8 +0.7**
comp=Z,21nm,1.1s,baz=325,slow=11
MANZ **Manzenberg** **21.43 119** *e*P **P** **16 14 10.8 +0.4**
comp=Z,18nm,1.3s,baz=325,slow=11
BFO **Black Forest** **21.45 127** P **P** **16 14 11.8 +1.2**
BFO pmax pmax
comp=Z,10.0nm,0.9s
BFO **Black Forest** **21.45 127** *e*P **P** **16 14 12.0 +1.4**
comp=Z,14nm,1.1s,baz=325,slow=11

BFO **Black Forest** **21.45 127** P **P** **16 14 11.8 +1.2**
PABE **Paberze** **22.23 95** *e*P **P** **16 14 20.6 +1.8**
PRU **Pruhonice** **22.36 116** *e*P **P** **16 14 22.7 +2.4**
PRU **Pruhonice** **22.36 116** *e*P **P** **16 14 22.7 +2.4**
CHVC **Chvalec** **22.48 113** *e*P **P** **16 14 23.8 +2.2**
KHC **Kasperske Hory** **22.68 118** *e*P **P** **16 14 24.6 +0.8**
KHC **Kasperske Hory** **22.68 118** *e*P **P** **16 14 24.6 +0.8**
DPC **Dobruska-Polom** **22.77 113** *e*P **P** **16 14 26.0 +1.3**
DPC **Dobruska-Polom** **22.77 113** *e*P **P** **16 14 26.0 +1.3**
DAVA **Damuels** **22.88 126** *e*P **P** **16 14 28.0 +1.9**
comp=Z,5.9nm,1.1s
SUW **Suwalki** **22.90 98** P **P** **16 14 25.2 -0.8**
SUW pmax pmax
comp=Z,40nm,1.2s
SUW **Suwalki** **22.90 98** P **P** **16 14 25.2 -0.8**
SUW IAmb IAmb 16 14 28.4
comp=Z,40nm,1.2s
SSB **Saint Sauveur** **22.95 137** P **P** **16 14 25.7 -0.9**
SSB pmax pmax
comp=Z,16nm,1.5s
SSB **Saint Sauveur** **22.95 137** P **P** **16 14 25.7 -0.9**
GEC2 **GERESS Array S** **22.96 119** P **P** **16 14 25.6 -1.1**
GERES **GERESS Array B** **22.96 119** P **P** **16 14 27.0 +0.2**
comp=Z,7nm,1.0s,baz=325,slow=8.1,SNR=10.0
GERES **GERESS Array B** **22.96 119** P **P** **16 14 27.0 +0.2**
GERES **GERESS Array B** **22.96 119** P **P** **16 14 26.1 -0.7**
RETA **Reutte** **23.02 125** *e*P **P** **16 14 28.5 +1.1**
comp=Z,2.4nm,0.6s
IZAR **Zarasai** **23.05 92** *e*P **P** **16 14 27.5 0.0**
ISAL **Salakas** **23.11 92** *e*P **P** **16 14 28.4 +0.3**
KRLC **Kraliky** **23.17 113** *e*P **P** **16 14 29.7 +0.9**
KRLC **Kraliky** **23.17 113** *e*P **P** **16 14 29.7 +0.9**
MOTA **Moosalm** **23.26 124** *e*P **P** **16 14 31.9 +2.0**
comp=Z,3.2nm,0.7s
IIGN **Ignalina** **23.30 93** *e*P **P** **16 14 30.2 +0.1**
DAVOX **Davos/Dischmat** **23.32 127** P **P** **16 14 30.6 +0.1**
comp=Z,3.1nm,0.9s,baz=317,slow=19,SNR=3.0
TMCR **Tamitsa** **23.37 66** *e*P **P** **16 14 30.3 -0.4**
TMCR pmax pmax
comp=Z,27nm,0.8s
SQTA **Sankt Quirin** **23.41 124** *e*P **P** **16 14 32.2 +0.9**
comp=Z,2.0nm,0.5s
FETA **Feichten** **23.41 125** *e*P **P** **16 14 32.6 +1.2**
comp=Z,5.3nm,0.9s
WATA **Walderalm** **23.44 124** *e*P **P** **16 14 33.6 +1.9**
comp=Z,5.1nm,0.8s
WTTA **Wattenberg** **23.52 124** *e*P **P** **16 14 33.5 +0.9**
comp=Z,7.1nm,0.9s
IDID **Didziasalis** **23.54 92** *e*P **P** **16 14 31.6 -0.9**
EUNU **Eureka** **23.68 336** P **P** **16 14 35.0 +1.2**
EUNU IAmb IAmb 16 14 41.2
comp=Z,57nm,2.0s
ABTA **Abfaltersbach** **24.28 123** *e*P **P** **16 14 40.9 +1.2**
comp=Z,3.6nm,1.0s
KBA **Koelnbreinsper** **24.30 122** *e*P **P** **16 14 43.8 +3.9**
comp=Z,5.3nm,1.1s
CONA **Conrad Observa** **24.54 117** *e*P **P** **16 14 41.7 -0.3**
comp=Z,4.7nm,1.0s
CIMO **Cimolais** **24.63 124** P **P** **16 14 43.4 +0.6**
SMOL **Smolenice** **24.67 114** *e*P **P** **16 14 44.6 +1.5**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SMOL **Smolenice** **24.67 114** *e*P **P** **16 14 44.6 +1.5**
MYKA **Terra Mystica** **24.79 122** *e*P **P** **16 14 45.9 +1.6**
comp=Z,5.7nm,1.0s
PRED **Cave del Predi** **24.92 122** P **P** **16 14 46.4 +1.0**
ARSA **Arzberg** **24.97 118** *e*P **P** **16 14 47.3 +1.5**
comp=Z,5.0nm,1.1s
OBKA **Obir** **25.23 121** *e*P **P** **16 14 49.5 +1.3**
comp=Z,2.0nm,0.5s
VYHS **Vyhne** **25.24 112** *e*P **P** **16 14 48.8 +0.5**
VYHS pmax pmax
comp=Z,21nm,1.5s
VYHS **Vyhne** **25.24 112** *e*P **P** **16 14 48.8 +0.5**
KLMR **Klimovskoe** **25.63 72** *e*P **P** **16 14 50.5 -1.0**
KLMR pmax pmax
comp=Z,21nm,1.2s
KLMR **Klimovskoe** **25.63 72** *e*P **P** **16 14 50.6 -1.0**
KLMR AMP 16 14 53.5
comp=Z,21nm,1.2s
SCHQ **Schefferville** **26.02 271** P **P** **16 14 55.5 +0.2**
comp=Z,7.4nm,1.0s,baz=7.9,slow=5.1,SNR=3.7
SCHQ **Schefferville** **26.02 271** P **P** **16 14 55.0 -0.3**
PSZ **Piszkesteto** **26.13 112** P **P** **16 14 56.3 -0.1**
PSZ pmax pmax
comp=Z,18nm,1.3s
PSZ **Piszkesteto** **26.13 112** P **P** **16 14 56.2 -0.1**
PSZ IAmb IAmb 16 15 03.2
comp=Z,18nm,1.3s
ESDC **Sonseca Array** **26.24 156** P **P** **16 14 57.2 -0.2**
comp=Z,2.0nm,0.9s,baz=349,slow=9.5,SNR=13
ESDC **Sonseca Array** **26.24 156** P **P** **16 14 57.8 +0.3**
KOLS **Kolonicke sedl** **26.29 108** *e*P **P** **16 14 58.3 +0.6**
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS **Kolonicke sedl** **26.29 108** *e*P **P** **16 14 58.3 +0.6**
LVV **L'vov** **26.33 104** *e*P **P** **16 14 56.6 -1.5**
UZH **Uzhgorod** **26.53 108** *e*P **P** **16 15 01.1 +1.2**
UZH *e* 16 15 07.3
AKASG **Malin Array Be** **27.86 97** P **P** **16 15 11.1 -0.7**
comp=Z,44nm,0.4s,baz=320,slow=9.9,SNR=2.1
AKASG **Malin Array Be** **27.86 97** P **P** **16 15 10.6 -1.2**
AKBB **Malin Array Si** **27.86 97**‖ *e*P **P** **16 15 11.7 -0.1**
OBN **Obninsk** **27.90 84** *i*P **P** **16 15 10.7 -1.4**
OBN pmax pmax
comp=Z,13nm,1.0s
BURAR **Bucovina Array** **28.54 106** P **P** **16 15 18.4 +0.4**
KIRV **Kirov** **31.01 69**‖ *e*P **P** **16 15 39.6 0.0**
VSR **Storozhevoye** **31.75 87** *e*P **P** **16 15 44.1 -2.1**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VRH **Novokhopyorsk** **32.86 85** *e*P **P** **16 15 52.9 -3.0**
VRH pmax pmax
comp=Z,8.0nm,0.4s
ARU **Arti** **36.11 66** *d i*P **P** **16 16 24.8 +0.8**
ARU 16 17 43.5
ARU S **S** **16 22 07.4 +4.4**
ARU SS **SnSn** **16 24 31.0 +3.4**
ARU pmax pmax
comp=Z,3.0nm,0.9s
NRIK **Noril'sk** **36.49 35** P **P** **16 16 28.1 +1.0**
comp=Z,2.7nm,0.8s,baz=325,slow=3.7,SNR=5.4
NRIK **Noril'sk** **36.49 35**‖ *e*P **P** **16 16 28.3 +1.2**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
BR131 **Keskin Array S** **38.49 105**‖ *e*P **P** **16 16 45.9 +1.3**
BRTR **Keskin Array B** **38.49 105** P **P** **16 16 45.7 +1.1**
comp=Z,2.1nm,0.9s,baz=319,slow=6.6,SNR=6.4
BRTR **Keskin Array B** **38.49 105** *i*P **P** **16 16 46.4 +1.8**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
KBZ **Khabaz** **39.13 92** P **P** **16 16 49.7 0.0**
comp=Z,5.5nm,0.9s,baz=316,slow=5.7,SNR=8.2
KBZ **Khabaz** **39.13 92**‖ *e*P **P** **16 16 51.5 +1.8**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
YKA **Yellowknife Ar** **39.21 313** P **P** **16 16 50.2 0.0**
comp=Z,2.4nm,1.1s,baz=49,slow=8.6,SNR=2.4
ABKAR **Akbulak array** **42.02 73** P **P** **16 17 12.8 -0.7**
ABKAR **Akbulak array** **42.02 73** P **P** **16 17 13.4 -0.1**
TIXI **Tiksi** **42.06 15**‖ *e*P **P** **16 17 14.8 +1.3**
TIXI pmax pmax
comp=Z,42nm,1.0s
TIXI **Tiksi** **42.06 15** P **P** **16 17 13.2 -0.3**
TOLK **Toolik Lake Re** **42.76 336** P **P** **16 17 21.3 +1.9**
TOLK IAmb IAmb 16 17 25.2
comp=Z,25nm,1.5s
BMAR **Burnt Mountain** **42.91 333** P **P** **16 17 21.5 +1.0**
BRVK **Borovoye** **43.16 62**‖ *e*P **P** **16 17 23.6 +0.9**
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK **Borovoye** **43.16 62** P **P** **16 17 23.2 +0.5**
MARD **Mardin** **43.53 100** P **P** **16 17 26.8 +0.8**
MARD IAmb IAmb 16 17 31.9
comp=Z,8.8nm,1.0s
ILAR **Eielson Array** **45.70 332** P **P** **16 17 43.8 +1.0**
comp=Z,2.6nm,1.0s,baz=21,slow=6.0,SNR=16
ILAR PcP **PcP** **16 19 20.7 +0.2**
comp=Z,1.6nm,1.0s,baz=351,slow=2.5,SNR=6.5
ILAR **Eielson Array** **45.70 332** P **P** **16 17 43.2 +0.3**
MDM **Murphy Dome** **45.79 333** P **P** **16 17 45.0 +1.4**
MDM IAmb IAmb 16 17 46.7
comp=Z,11nm,1.3s
COLA **College** **45.79 333**‖ *e*P **P** **16 17 44.8 +1.2**

COLA pmax pmax
comp=Z,7.0nm,1.0s
COLA **College** **45.79 333** P **P** **16 17 44.8 +1.2**
COLA IAmb IAmb 16 17 46.5
comp=Z,16nm,1.3s
TCOL **CIGO, UAF Yank** **45.80 333** P **P** **16 17 44.3 +0.7**
TCOL IAmb IAmb 16 17 46.5
comp=Z,16nm,1.3s
IMAR **Indian Mountai** **45.87 337** P **P** **16 17 45.6 +1.4**
CCB **Clear Creek Bu** **45.99 333** P **P** **16 17 44.8 -0.3**
CCB IAmb IAmb 16 17 45.4
comp=Z,18nm,1.8s
BCAR **Beaver Creek A** **46.12 329** P **P** **16 17 48.0 +1.8**
BILL **Bilibino** **47.57 358** *i*P **P** **16 17 59.3 +1.8**
BILL pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 **Zalesovo Array** **47.66 51** P **P** **16 17 58.8 +0.4**
ZAA0 IAmb IAmb 16 18 01.0
comp=Z,5.4nm,1.4s
ZALV **Zalesovo Beam** **47.66 51** P **P** **16 17 57.6 -0.8**
comp=Z,0.5nm,0.3s,baz=317,slow=8.1,SNR=4.8
ZALV PcP **PcP** **16 19 27.5 0.0**
comp=Z,0.4nm,0.3s,baz=336,slow=3.2,SNR=1.5
ZALV **Zalesovo Beam** **47.66 51** P **P** **16 17 58.1 -0.3**
KURK **Kurchatov** **48.14 58** *de*P **P** **16 18 01.8 -0.3**
KURK pmax pmax
comp=Z,14nm,1.7s
KURK **Kurchatov** **48.14 58** P **P** **16 18 01.5 -0.6**
KURK IAmb IAmb 16 18 04.1
comp=Z,7.5nm,0.9s
T47A **Sharon Grove** **48.62 270** P **P** **16 18 07.0 +1.1**
EGMT **Eagleton** **48.87 297** P **P** **16 18 08.9 +1.0**
W50A **Signal Mountai** **49.36 268** P **P** **16 18 12.8 +1.2**
GEYT **Alibeck** **50.45 84** P **P** **16 18 20.7 +0.8**
comp=Z,2.3nm,0.8s,baz=348,slow=6.2,SNR=4.1
GEYT **Alibeck** **50.45 84** P **P** **16 18 20.3 +0.4**
YNE **Yellowstone No** **51.46 295** P **P** **16 18 28.3 +0.5**
BOZ **Bozeman (W)** **51.60 297** P **P** **16 18 30.1 +1.4**
BOZ pmax pmax
comp=Z,12nm,1.3s
BOZ **Bozeman (W)** **51.60 297** P **P** **16 18 30.1 +1.4**
BOZ IAmb IAmb 16 18 31.1
comp=Z,12nm,1.3s
YHL **Hebgen Lake** **52.05 296** P **P** **16 18 34.3 +2.1**
DGZ **Jazzator, Alta** **52.11 53**‖ *i*P **P** **16 18 34.0 +1.6**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ **Makanchi** **52.62 58** P **P** **16 18 36.6 +0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.4s
MAKZ **Makanchi** **52.62 58** P **P** **16 18 36.6 +0.5**
MK31 **Makanchi Array** **52.75 58** P **P** **16 18 37.1 0.0**
MK31 pmax pmax
comp=Z,4.0nm,1.3s
MK31 **Makanchi Array** **52.75 58** P **P** **16 18 37.1 0.0**
MKAR **Makanchi Array** **52.75 58** P **P** **16 18 37.0 -0.1**
comp=Z,2.4nm,0.9s,baz=318,slow=5.2,SNR=12
MKAR **Makanchi Array** **52.75 58** P **P** **16 18 37.0 -0.1**
TORD **Torodi Ar. Bea** **53.13 156** P **P** **16 18 39.8 -0.3**
comp=Z,2.7nm,1.1s,baz=341,slow=8.3,SNR=9.1
TORD **Torodi Ar. Bea** **53.13 156** P **P** **16 18 39.8 -0.3**
BW06 **Boulder Array** **53.17 293** P **P** **16 18 40.7 +0.2**
BW06 IAmb IAmb 16 18 41.8
comp=Z,5.1nm,1.1s
PD31 **Pinedale Array** **53.17 293** P **P** **16 18 40.1 -0.3**
PDAR **Pinedale Array** **53.17 293** P **P** **16 18 40.8 +0.3**
comp=Z,3.2nm,1.0s,baz=57,slow=5.5,SNR=13
PDAR **Pinedale Array** **53.17 293** P **P** **16 18 40.4 0.0**
AAK **Ala-Archa** **53.28 67** *ce*P **P** **16 18 42.9 +1.7**
AAK pmax pmax
comp=Z,18nm,1.3s
N23A **Red Feather La** **53.29 289** P **P** **16 18 43.1 +1.7**
N23A IAmb IAmb 16 18 49.5
comp=Z,9.3nm,1.1s
CHGR **Chuyangaron** **54.49 74** P **P** **16 18 50.1 +0.1**
GAR **Garm** **54.67 73** P **P** **16 18 52.6 +1.2**
HWUT **Hardware Ranch** **54.94 294** P **P** **16 18 54.0 +0.7**
HWUT IAmb IAmb 16 19 00.9
comp=Z,4.9nm,1.1s
TCUT **Toone Canyon** **55.30 294** P **P** **16 18 57.3 +1.3**
WMOK **Wichita Mounta** **55.53 279** P **P** **16 18 58.5 +1.0**
WMOK pmax pmax
comp=Z,6.0nm,1.3s
WMOK **Wichita Mounta** **55.53 279** P **P** **16 18 58.5 +1.0**
WMOK IAmb IAmb 16 19 01.1
comp=Z,6.3nm,1.3s
PV11 **David Mesa, Pa** **56.69 290** P **P** **16 19 06.8 +0.9**
PV11 IAmb IAmb 16 19 08.0
comp=Z,8.2nm,1.2s
PV02 **Paradox Valley** **56.71 290** P **P** **16 19 07.4 +1.3**
PV02 IAmb IAmb 16 19 08.1
comp=Z,7.0nm,1.0s
PV03 **Paradox Valley** **56.72 290** P **P** **16 19 07.5 +1.3**
PV03 IAmb IAmb 16 19 11.3
comp=Z,8.9nm,1.4s
PV13 **Radium Mtn., P** **56.79 290** P **P** **16 19 07.3 +0.6**
PV13 IAmb IAmb 16 19 08.7
comp=Z,8.6nm,1.0s
ELK **Elko** **57.11 296** P **P** **16 19 10.0 +1.1**
comp=Z,0.7nm,0.7s,baz=326,slow=4.7,SNR=3.1
ELK **Elko** **57.11 296** P **P** **16 19 10.4 +1.5**
ELK pmax pmax
comp=Z,4.0nm,1.4s
ELK **Elko** **57.11 296** P **P** **16 19 10.4 +1.5**
WMQ **Urumqi** **57.26 56** *e*P **P** **16 19 13.5 +3.8**
MVU **Marysvale** **57.85 293** P **P** **16 19 14.5 +0.3**
TCRU **Three Creeks R** **57.85 293** P **P** **16 19 16.2 +2.0**
MTPU **Mount Pierson** **58.24 292** P **P** **16 19 16.4 -0.6**
DBIC **Dimbokro** **58.57 165** P **P** **16 19 19.1 0.0**
comp=Z,2.8nm,0.8s,baz=341,slow=5.6,SNR=3.1
DBIC **Dimbokro** **58.57 165** P **P** **16 19 19.4 +0.3**
DBIC pmax pmax
comp=Z,40nm,1.9s
DBIC **Dimbokro** **58.57 165** P **P** **16 19 19.4 +0.3**
TIC **Toumodi** **58.58 165** *e*P **P** **16 19 18.9 -0.3**
KIC **Kosan Boka** **58.89 165** *e*P **P** **16 19 21.0 -0.3**
comp=Z,9.3nm,0.9s
LIC **Lamto** **59.00 165** *e*P **P** **16 19 18.8 -3.2**
comp=Z,4.7nm,0.4s
R11A **Troy Canyon, C** **59.31 295** P **P** **16 19 25.5 +1.2**
R11A IAmb IAmb 16 19 26.9
comp=Z,8.2nm,1.6s
JCT **Junction City** **59.63 277** P **P** **16 19 26.8 +0.4**
JCT pmax pmax
comp=Z,13nm,1.0s
JCT **Junction City** **59.63 277** P **P** **16 19 26.8 +0.4**
SONM **Songino Array** **59.67 40** P **P** **16 19 26.9 +0.3**
comp=Z,0.4nm,0.4s,baz=341,slow=3.1,SNR=2.4
SONM **Songino Array** **59.67 40** P **P** **16 19 26.4 -0.1**
KVN **Kaiserville** **59.67 298** P **P** **16 19 26.8 0.0**
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN **Kaiserville** **59.67 298** P **P** **16 19 26.8 0.0**
KVN IAmb IAmb 16 19 29.5
comp=Z,3.5nm,1.1s
ULN **Ulaanbaatar** **59.82 40**‖ *e*P **P** **16 19 28.5 +0.9**
ULN pmax pmax
comp=Z,1.0nm,0.5s
WUAZ **Wupatki** **60.10 290** P **P** **16 19 30.4 +0.7**
WUAZ IAmb IAmb 16 21 23.2
comp=Z,7.5nm,1.0s
NVAR **Mina Array Bea** **60.30 297** P **P** **16 19 32.1 +1.0**
comp=Z,0.3nm,0.6s,baz=40,slow=7.1,SNR=2.6
NIL **Nilore** **60.48 73** P **P** **16 19 32.8 +0.7**
NIL pmax pmax
comp=Z,15nm,1.2s
NIL **Nilore** **60.48 73** P **P** **16 19 32.8 +0.7**
X16A **Lo Mia Camp, P** **61.08 290** P **P** **16 19 37.9 +1.5**
X16A IAmb IAmb 16 21 10.0
comp=Z,3.6nm,0.9s
HIA **Hailar** **61.66 30**‖ *e*P **P** **16 19 40.1 +0.1**
HIA pmax pmax
comp=Z,3.0nm,1.3s
TX31 **Lajitas Ar. Si** **62.27 280** P **P** **16 19 44.7 +0.3**
TX32 **Lajitas Array** **62.27 280** P **P** **16 19 44.9 +0.4**
TX32 IAmb IAmb 16 20 08.8
comp=Z,9.0nm,1.2s
TXAR **Lajitas Array** **62.27 280** P **P** **16 19 44.9 +0.6**
comp=Z,1.1nm,0.9s,baz=90,slow=5.0,SNR=6.7
TXAR **Lajitas Array** **62.27 280** P **P** **16 19 45.0 +0.6**
ISA **Isabella, Lake** **62.78 296** P **P** **16 19 49.1 +1.3**
ISA pmax pmax
comp=Z,6.0nm,1.3s
ISA **Isabella, Lake** **62.78 296** P **P** **16 19 49.1 +1.3**
ISA IAmb IAmb 16 21 38.4

comp=Z,5.7nm,1.3s
GTA Gaotai 65.33 49 *e*P **P** 16 20 05.3 +0.8
GTA pP pP 16 20 09.0 +0.7
GTA sP sP 16 20 12.0 +2.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,31nm,8.4s
GTA LR LR
comp=N,87nm,18.2s
GTA LR LR
comp=E,120nm,18.9s
GTA LR LR
comp=Z,100nm,19.6s
KSRS Korea Array 74.68 28 LR LR 16 55 48.4
comp=Z,272nm,21.2s,baz=149,slow=37
CMAR Chiang Mai Arr 84.16 59 P **P** **16 21 53.0 -0.7**
comp=Z,1.2nm,0.9s,baz=314,slow=6.3,SNR=13
CMAR Chiang Mai Arr 84.16 59 *i*P **P** **16 21 54.5 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 84.16 59 P **P** **16 21 53.2 -0.4**
ASAR Alice Springs 134.99 38 PKP **PKPdf** **16 28 41.9 +0.5**
comp=Z,0.7nm,0.9s,baz=11,slow=1.9,SNR=5.3
ASAR Alice Springs 134.99 38 **PKPdf** **16 28 40.2 -1.1**

IDC ***29*** *16:15:18.3±1.4, 7.89N×103.58W, h0km, mb4.1/6, mb1 4.4/8, mb1mx4.0/40, mbtmp4.1/8, ML3.9/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=43.0km s-min=26.5km az=60.0*
NEIC ***29*** *16:15:20.9±1.5, 8.0N±0.1×103.5W±0.2, h10km±1km, mb4.5/69, Error ellipse: s-maj=32.2km s-min=22.6km az=257.0*
ISC 29 16:15:20.1±1.1, 7.9N±0.2×103.6W±0.1, h10km, n102, σ0s80/86, mb4.5/34, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**12.42**	**42**	Pn		**Pn**	**16 18 16.3**	**-0.8**
	0.2nm,0.3s,baz=197,slow=14,SNR=1.8							
CMIG				LR		LR	16 21 48.9	
	comp=Z,215nm,21.9s,baz=225,slow=31							
H06E1	**SOCORRO T-PHAS**	**12.94**	**327**	T		T	16 31 11.7	
	SNR=12							
APG	**El Apazote**	**14.62**	**60**	Pn		**Pn**	**16 18 47.4**	**+0.1**
	1.4nm,0.3s,baz=59,slow=7.2,SNR=19							
APG				LR		LR	16 23 09.2	
	comp=Z,261nm,20.7s,baz=273,slow=32							
LPIG	**La Paz**	**17.33**	**339**	LR		LR	16 24 15.9	
	comp=Z,515nm,19.6s,baz=164,slow=31							
JTS	**Las Juntas de**	**18.51**	**81**	LR		LR	16 24 26.2	
	comp=Z,153nm,21.9s,baz=182,slow=30							
TX32	**Lajitas Array**	**21.28**	**360**	P		**P**	**16 20 07.4**	**+0.4**
TXAR	**Lajitas Array**	**21.28**	**360**	P		**P**	**16 20 07.2**	**+0.2**
	3.2nm,0.9s,baz=182,slow=12,SNR=19							
TXAR	**Lajitas Array**	**21.28**	**360**	P		**P**	**16 20 07.0**	**+0.1**
TX31	**Lajitas Ar. Si**	**21.29**	**360**	P		**P**	**16 20 07.4**	**+0.4**
TX31				IAmb		IAmb	16 20 08.8	
	comp=Z,27nm,1.2s							
JCT	**Junction City**	**22.70**	**8**			**P**	**16 20 22.6**	**+0.5**
JCT				IAmb		IAmb	16 20 30.3	
	comp=Z,12nm,1.0s							
MNTX	**Cornudas Mount**	**23.70**	**356**	P		**P**	**16 20 31.7**	**-0.6**
MNTX				IAmb		IAmb	16 20 33.6	
	comp=Z,12nm,1.1s							
319A	**Douglas**	**23.92**	**348**	P		**P**	**16 20 34.3**	**-0.2**
319A				IAmb		IAmb	16 20 36.7	
	comp=Z,14nm,0.9s							
121A	**Cookes Peak, D**	**24.79**	**351**	P		**P**	**16 20 42.6**	**+0.1**
121A				IAmb		IAmb	16 20 50.6	
	comp=Z,8.9nm,1.0s							
ABTX	**Abilene, Hawle**	**24.83**	**8**			**P**	**16 20 42.1**	**-0.6**
TUC	**Tucson**	**25.16**	**345**	P		**P**	**16 20 46.1**	**+0.3**
TUC				IAmb		IAmb	16 20 49.0	
	comp=Z,14nm,1.1s							
214A	**Organ Pipe Nat**	**25.41**	**341**	P		**P**	**16 20 47.9**	**0.0**
SPX	**San Pedro Mart**	**25.54**	**336**	P		**P**	**16 20 48.6**	**-0.9**
BNM	**Barren Site**	**26.24**	**354**	P		**P**	**16 20 56.2**	**+0.5**
LENM	**Lemitar**	**26.29**	**354**	P		**P**	**16 20 55.9**	**-0.2**
113A	**Mohawk Valley,**	**26.46**	**340**	P		**P**	**16 20 57.1**	**-0.4**
113A				IAmb		IAmb	16 21 00.9	
	comp=Z,8.9nm,0.9s							
AMTX	**Amarillo**	**26.87**	**3**	P		**P**	**16 21 00.3**	**-0.9**
ANMO	**Albuquerque**	**27.01**	**355**	LR		LR	16 30 24.8	
	comp=Z,352nm,21.5s,baz=222,slow=34							
ANMO	**Albuquerque**	**27.01**	**355**	P		**P**	**16 21 02.9**	**+0.3**
GLA	**Glamis**	**27.09**	**339**	P		**P**	**16 21 02.9**	**-0.2**
GLA				IAmb		IAmb	16 21 08.0	
	comp=Z,8.9nm,0.9s							
X16A	**Lo Mia Camp, P**	**27.34**	**346**	P		**P**	**16 21 06.3**	**+0.7**
BAR	**Barrett**	**27.47**	**335**	P		**P**	**16 21 07.4**	**+0.8**
BAR				IAmb		IAmb	16 21 15.3	
	comp=Z,16nm,1.4s							
PFO	**Pinyon Flats O**	**28.20**	**337**	P		**P**	**16 21 13.2**	**0.0**
PFO				IAmb		IAmb	16 21 22.0	
	comp=Z,8.6nm,1.2s							
WUAZ	**Wupatki**	**28.37**	**346**	P		**P**	**16 21 15.0**	**+0.2**
T25A	**Trinidad**	**29.08**	**359**			**P**	**16 21 21.7**	**+0.6**
T25A				IAmb		IAmb	16 21 29.0	
	comp=Z,8.7nm,1.1s							
MVCO	**Mesa Verde**	**29.48**	**352**	P		**P**	**16 21 25.3**	**+0.6**
MVCO				IAmb		IAmb	16 21 26.2	
	comp=Z,7.4nm,0.9s							
SDCO	**Great Sand Dun**	**29.73**	**357**	P		**P**	**16 21 27.7**	**+0.8**
S22A	**4UR Ranch, Cre**	**29.82**	**355**	P		**P**	**16 21 28.6**	**+0.8**
S22A				IAmb		IAmb	16 21 29.8	
	comp=Z,6.2nm,1.0s							
GSC	**Goldstone, Bar**	**29.82**	**338**	P		**P**	**16 21 28.6**	**+1.0**
KNB	**Kanab**	**30.15**	**345**	P		**P**	**16 21 31.9**	**+1.3**
LCMT	**Little Creek M**	**30.25**	**344**	P		**P**	**16 21 31.1**	**-0.3**
PV01	**Paradox Valley**	**30.40**	**352**	P		**P**	**16 21 32.6**	**-0.3**
PV13	**Radium Mtn., P**	**30.46**	**352**	P		**P**	**16 21 33.8**	**+0.4**
PV13				IAmb		IAmb	16 21 34.9	
	comp=Z,5.9nm,0.9s							
PV03	**Paradox Valley**	**30.56**	**352**	P		**P**	**16 21 34.4**	**+0.1**
PV17	**East Wray Mesa**	**30.60**	**352**	P		**P**	**16 21 35.1**	**+0.5**
PV17				IAmb		IAmb	16 21 35.5	
	comp=Z,6.5nm,0.9s							
PV11	**David Mesa, Pa**	**30.61**	**352**	P		**P**	**16 21 34.6**	**0.0**
PV12	**Saucer Basin,**	**30.61**	**352**	P		**P**	**16 21 34.6**	**-0.1**
PV12				IAmb		IAmb	16 21 36.3	
	comp=Z,8.4nm,1.0s							
PV16	**Nyswonger Mesa**	**30.62**	**352**	P		**P**	**16 21 35.2**	**+0.4**
PV19	**Morning Glory**	**30.63**	**352**	P		**P**	**16 21 34.6**	**-0.3**
PV19				IAmb		IAmb	16 21 35.7	
	comp=Z,10nm,1.2s							
PV14	**Lion Creek, Pa**	**30.70**	**352**	P		**P**	**16 21 35.8**	**+0.3**
PV14				IAmb		IAmb	16 21 36.9	
	comp=Z,7.7nm,0.9s							
PV04	**Paradox Valley**	**30.70**	**352**	P		**P**	**16 21 35.5**	**+0.1**
PV04				IAmb		IAmb	16 21 36.5	
	comp=Z,6.1nm,0.9s							
PV10	**Paradox Valley**	**30.71**	**352**	P		**P**	**16 21 35.4**	**-0.1**
PV07	**Paradox Valley**	**30.71**	**352**	P		**P**	**16 21 35.8**	**+0.2**
PV07				IAmb		IAmb	16 21 36.6	
	comp=Z,4.7nm,0.8s							
KSCO	**Kaye Shedlock'**	**30.95**	**1**	P		**P**	**16 21 38.4**	**+0.8**
MTPU	**Mount Pierson**	**30.97**	**347**	P		**P**	**16 21 38.7**	**+0.7**
SRU	**San Rafael Swe**	**31.66**	**350**	P		**P**	**16 21 44.8**	**+0.9**
PSUT	**Pine Spring**	**31.85**	**345**	P		**P**	**16 21 46.6**	**+1.0**
P17A	**Butcher Ranch,**	**32.05**	**349**	P		**P**	**16 21 48.5**	**+1.2**
O20A	**White River Ci**	**32.33**	**353**	P		**P**	**16 21 50.8**	**+1.0**
TPH	**Tonopah**	**32.45**	**340**	P		**P**	**16 21 50.7**	**-0.2**
OMMB	**Old Mammoth Mi**	**32.69**	**337**	P		**P**	**16 21 54.4**	**+1.3**
OMMB				IAmb		IAmb	16 21 56.3	
	comp=Z,7.3nm,1.4s							
NVAR	**Mina Array Bea**	**33.15**	**339**	LR		LR	16 32 52.7	
	comp=Z,182nm,21.6s,baz=140,slow=32							
DUG	**Dugway, Tooele**	**33.17**	**347**	P		**P**	**16 21 58.7**	**+1.7**
TCUT	**Toone Canyon**	**33.77**	**349**	P		**P**	**16 22 07.7**	**+0.2**
BGU	**Big Grassy Mou**	**33.92**	**347**	P		**P**	**16 22 04.7**	**+1.1**
HWUT	**Hardware Ranch**	**34.27**	**349**	P		**P**	**16 22 08.1**	**+1.4**
ELK	**Elko**	**34.29**	**344**	P		**P**	**16 22 08.2**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=202,slow=4.4,SNR=4.2							
ELK	**Elko**	**34.29**	**344**	P		**P**	**16 22 08.2**	**+1.3**
PAHR	**Pah Rah Range**	**34.67**	**338**	P		**P**	**16 22 11.7**	**+1.6**
BW06	**Boulder Array**	**35.09**	**352**	P		**P**	**16 22 14.2**	**+0.4**
BW06				IAmb		IAmb	16 22 15.3	
	comp=Z,8.8nm,1.0s							
PD31	**Pinedale Array**	**35.09**	**352**	P		**P**	**16 22 14.2**	**+0.4**
PD31				IAmb		IAmb	16 22 15.3	
	comp=Z,8.0nm,1.0s							
PDAR	**Pinedale Array**	**35.09**	**352**	P		**P**	**16 22 14.1**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=163,slow=9.1,SNR=31							
PDAR				LR		LR	16 34 54.9	
	comp=Z,81nm,18.2s,baz=169,slow=34							
AHID	**Auburn Hatcher**	**35.32**	**350**	P		**P**	**16 22 15.6**	**-0.1**
AHID				IAmb		IAmb	16 22 17.1	
	comp=Z,5.1nm,0.8s							
ORV	**Oroville**	**35.36**	**336**	P		**P**	**16 22 17.4**	**+1.5**
ORV				IAmb		IAmb	16 22 18.7	
	comp=Z,6.8nm,1.1s							
REDW	**Red Top Meadow**	**35.86**	**351**	P		**P**	**16 22 20.8**	**+0.4**
FLWY	**Flagg Ranch**	**36.54**	**351**	P		**P**	**16 22 27.0**	**+0.8**
FLWY				IAmb		IAmb	16 22 27.9	
	comp=Z,9.4nm,1.1s							
HLID	**Hailey**	**36.74**	**347**	P		**P**	**16 22 29.1**	**+1.2**
YHL	**Hebgen Lake**	**37.37**	**351**	P		**P**	**16 22 34.8**	**+1.5**
QLMT	**Earthquake Lak**	**37.38**	**351**	P		**P**	**16 22 35.2**	**+1.8**
MCMT	**McKenzie Canyo**	**37.63**	**349**	P		**P**	**16 22 36.9**	**+1.4**
YBH	**Yreka Blue Hor**	**37.69**	**336**	P		**P**	**16 22 35.8**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=134,slow=5.3,SNR=4.2							
YBH	**Yreka Blue Hor**	**37.69**	**336**	P		**P**	**16 22 35.6**	**-0.2**
YBH				IAmb		IAmb	16 22 51.4	
	comp=Z,10nm,1.4s							
PINE	**Pine Mountain**	**38.82**	**340**	P		**P**	**16 22 46.7**	**+1.2**
PINE				IAmb		IAmb	16 22 47.9	
	comp=Z,14nm,1.1s							
TAOE	**Nuku Hiva Isla**	**40.10**	**246**	*e*T		T	17 05 05.7	
	comp=Z,36nm,0.2s							
AGMN	**Agassiz Nation**	**40.75**	**8**	P		**P**	**16 23 00.8**	**-0.4**
AGMN				IAmb		IAmb	16 23 02.1	
	comp=Z,11nm,0.9s							
NEW	**Newport**	**41.80**	**346**	P		**P**	**16 23 10.3**	**+0.4**
LPAZ	**La Paz**	**42.53**	**125**	P		P	16 23 21.8	+4.8
	comp=Z,3.6nm,1.0s,baz=299,slow=8.3,SNR=8.3							
LPAZ				LR		LR	16 38 51.6	
	comp=Z,47nm,18.0s,baz=306,slow=33							
ULM	**Lac du Bonnet**	**42.66**	**7**	LR		LR	16 40 59.2	
	comp=Z,53nm,19.9s,baz=13,slow=36							
H03N2	**Juan Fernandez**	**47.34**	**152**	T		T	17 15 17.6	
	baz=329,slow=78,SNR=21							
H03N1	**Juan Fernandez**	**47.35**	**152**	T		T	17 15 18.8	
	baz=329,slow=78,SNR=24							
H03N3	**Juan Fernandez**	**47.35**	**152**	T		T	17 15 17.9	
	baz=329,slow=78,SNR=20							
VAH	**Vaihoa**	**49.38**	**242**	*e*T		T	17 16 43.0	
	comp=Z,4.6nm,0.2s							
PMOR	**Pomariorio Ree**	**49.51**	**243**	*e*T		T	17 16 52.9	
	comp=Z,3.5nm,0.4s							
TIAR	**Tiarei**	**51.85**	**240**	*e*T		T	17 19 49.0	
	comp=Z,2.8nm,0.3s							
PPT2	**Papeete2**	**52.06**	**240**	*e*LR		LR	16 39 21.8	
	comp=Z,154nm,25.5s							
YKA	**Yellowknife Ar**	**55.05**	**354**	LR		LR	16 48 31.5	
	comp=Z,66nm,18.2s,baz=0.0,slow=36							
CPUP	**Villa Florida**	**56.32**	**129**	P		**P**	**16 25 01.9**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=192,slow=20,SNR=2.9							
CPUP				LR		LR	16 46 35.6	
	comp=Z,50nm,19.0s,baz=48,slow=33							
CPUP	**Villa Florida**	**56.32**	**129**	P		**P**	**16 25 02.5**	**+1.0**
K27K	**Chicken**	**62.33**	**342**	P		**P**	**16 25 43.6**	**+1.1**
RND	**Reindeer**	**64.14**	**339**	P		**P**	**16 25 54.4**	**+0.8**
IL31		**64.36**	**341**	P		**P**	**16 25 55.4**	**-0.5**
ILAR	**Eielson Array**	**64.36**	**341**	P		**P**	**16 25 55.6**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=152,slow=3.8,SNR=23							
ILAR	**Eielson Array**	**64.36**	**341**	P		**P**	**16 25 55.9**	**0.0**
PRP	**Porcupine Dome**	**64.43**	**342**	P		**P**	**16 25 57.0**	**+0.4**
MKAR	**Makanchi Array**	**125.26**	**355**	PKP		**PKPdf**	**16 34 19.7**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=5.7,slow=1.4,SNR=4.0							
MKAR	**Makanchi Array**	**125.26**	**355**			**PKPdf**	**16 34 20.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**145.64**	**320**	PKPbc		**PKPbc**	**16 34 59.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=31,slow=3.4,SNR=5.6							
CMAR	**Chiang Mai Arr**	**145.64**	**320**			**PKPab**	**16 34 59.7**	**-0.6**

DJA 29 16:16:16.2±0.2, 5.5S±2.2×12.3E±, h10km, M3.9/20, mB5.0/2, mb4.2/8, MLv3.7/20, Mw(mB)4.3/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KDI	**Kendari**	**0.85**	**322**	P		Pg	16 16 32.0	-0.7
BNSI	**Bone**	**3.04**	**274**	P		Pn	16 17 05.1	+0.7
BNSI				S		Sn	16 17 41.3	+0.4
BSSI	**Bau Bau, Buton**	**3.04**	**240**	P		Pn	16 17 05.7	-0.8
BSSI				S		Sn	16 17 41.3	+0.3
BKSI	**Bulukumba**	**3.09**	**257**	P		Pn	16 17 05.5	+0.4
BKSI				S		Sn	16 17 43.6	+1.4
SPSI	**Sidrap Palu**	**3.44**	**281**	P		Pn	16 17 10.1	+0.3
LUWI	**Luwuk**	**3.58**	**354**	P		Pn	16 17 11.9	0.0
LUWI				S		Sn	16 17 55.8	+1.5
TTSI	**Tana Toraja**	**3.68**	**295**	P		Pn	16 17 13.2	0.0
SANI	**Sanana**	**3.82**	**48**	P		Pn	16 17 15.1	0.0
APSI	**Ampana**	**3.99**	**338**	P		Pn	16 17 17.8	+0.4
MMRI	**Maumere**	**4.08**	**193**	P		Pn	16 17 19.0	+0.3
NLAI	**Namlea**	**4.18**	**71**	P		Pn	16 17 20.4	+0.4
EDFI	**Ende, Flores**	**4.34**	**199**	P		Pn	16 17 23.1	+0.7
GTOI	**Gorontalo**	**5.23**	**358**	P		Pn	16 17 35.7	+1.1
	0.0nm7.5nm,0.6s							
KMSI	**Cibinong**	**5.24**	**9**	P		Pn	16 17 34.6	0.0
	0.1nm1pm17nm,1.0s							
BATI	**Baumata**	**5.56**	**175**	P		Pn	16 17 39.3	+0.1
	0.1nm11nm,0.8s							
MSAI	**Masohi**	**5.90**	**78**	P		Pn	16 17 43.3	-0.5
BASI	**Baing, Sumba**	**6.11**	**205**	P		Pn	16 17 46.0	-0.6
	0.3nm66nm,1.4s							

IDC ***29*** *16:23:55.0±2.4, 53.54N×164.14E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.4/63, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=102.7km s-min=32.2km az=165.0*
KRSC ***29*** *16:23:56.7±1.3, 53.47N×163.89E, h61km±31km, ML4.1*
ISC 29 16:23:55.4±3.7, 53.44N±0.05×164.07E±0.08, h15km±26km, n47, σ1s47/73, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**2.09**	**31**	*e*P		**Pb**	**16 24 31.8**	**-1.1**
BKI				*e*S		**Sb**	**16 24 56.0**	**-2.6**
SPN	**Mys Shipunski**	**2.46**	**264**	*e*P		**Pn**	**16 24 35.4**	**+0.5**
SPN				*e*S		**Sn**	**16 25 02.2**	**-2.4**
KZV	**Kizimen**	**2.78**	**309**	*e*P		**Pn**	**16 24 40.2**	**+0.7**
KZV				*e*S		**Sn**	**16 25 10.9**	**-1.9**
TUMD	**Tumrok D**	**2.78**	**311**	*e*P		**Pn**	**16 24 39.9**	**+0.5**
KII	**Karymskiy**	**2.81**	**284**	*e*P		**Pn**	**16 24 40.5**	**+0.6**
KII				*e*S		**Sn**	**16 25 11.7**	**-1.8**
NLC	**Nalytchevo**	**2.85**	**266**	*e*P		**Pn**	**16 24 41.2**	**+0.9**
NLC				*e*S		**Sn**	**16 25 12.0**	**-2.3**
KBTR	**Krutoberegovo**	**2.87**	**346**	*e*P		**Pn**	**16 24 40.3**	**-0.2**
KBTR				*e*S		**Sn**	**16 25 12.7**	**-2.0**
KBG	**Krutoberegovo**	**2.93**	**345**	*e*S		**Sn**	**16 25 15.7**	**-0.5**
TUMR	**Tumrok**	**2.95**	**310**	*e*P		**Pn**	**16 24 42.9**	**+1.1**
SDLR	**Sedlovina**	**3.11**	**269**	*e*P		**Pn**	**16 24 45.3**	**+1.2**
SDLR				*e*S		**Sn**	**16 25 19.7**	**-1.3**
UGLR	**Uglovaya**	**3.16**	**268**	*e*P		**Pn**	**16 24 45.9**	**+1.2**
UGLR				*e*S		**Sn**	**16 25 20.9**	**-1.2**
SMAR	**Somma**	**3.16**	**269**	*e*P		**Pn**	**16 24 46.0**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**3.18**	**323**	*e*P		**Pn**	**16 24 46.4**	**+1.4**
BZGR				*e*S		**Sn**	**16 25 21.8**	**-0.8**
KRER	**Koryakskii**	**3.19**	**270**	*e*P		**Pn**	**16 24 46.7**	**+1.5**
KRER				*e*S		**Sn**	**16 25 21.9**	**-1.2**
ZLN	**Zelenaya**	**3.20**	**325**	*e*P		**Pn**	**16 24 46.4**	**+1.1**
AVH	**Avacha**	**3.20**	**269**	*e*P		**Pn**	**16 24 46.8**	**+1.5**
AVH				*e*S		**Sn**	**16 25 22.0**	**-1.2**
KMNR	**Kamenistaya**	**3.22**	**318**	*e*P		**Pn**	**16 24 47.9**	**+2.4**
KMNR				*e*S		**Sn**	**16 25 24.4**	**+0.8**
DALK	**Dalny**	**3.22**	**265**	*e*P		**Pn**	**16 24 46.5**	**+1.1**
DALK				*e*S		**Sn**	**16 25 22.6**	**-0.9**
KRX	**Arik**	**3.25**	**271**	*e*P		**Pn**	**16 24 47.2**	**+1.3**
KRX				*e*S		**Sn**	**16 25 22.5**	**-1.9**
KOK	**Koryaka**	**3.26**	**270**	*e*P		**Pn**	**16 24 47.4**	**+1.3**
BZWR	**Bezymyannyi-We**	**3.27**	**322**	*e*P		**Pn**	**16 24 48.3**	**+2.0**
BZWR				*e*S		**Sn**	**16 25 23.9**	**-1.0**
PET	**Petropavlovsk**	**3.28**	**265**	*e*P		**Pn**	**16 24 47.7**	**+1.4**
PET				*e*S		**Sn**	**16 25 23.6**	**-1.4**
LGNR	**Loginova**	**3.29**	**325**	*e*P		**Pn**	**16 24 48.1**	**+1.4**
CIRR	**Tsirk**	**3.30**	**326**	*e*P		**Pn**	**16 24 48.4**	**+1.8**
CIRR				*e*S		**Sn**	**16 25 25.2**	**-0.4**
KIRR	**Kirishev**	**3.32**	**321**	*e*P		**Pn**	**16 24 49.1**	**+2.2**
KIRR				*e*S		**Sn**	**16 25 27.1**	**+1.0**
KRSR	**Krestovskiy**	**3.44**	**325**	*e*P		**Pn**	**16 24 49.7**	**+1.1**
KRSR				*e*S		**Sn**	**16 25 27.4**	**-1.7**
SMKR	**Semkarok**	**3.48**	**336**	*e*P		**Pn**	**16 24 50.7**	**+1.6**
KLY	**Klyuchi**	**3.49**	**327**	*e*P		**Pn**	**16 24 50.2**	**+1.1**
KLY				*e*S		**Sn**	**16 25 28.8**	**-1.3**
RUS	**Russkaya**	**3.51**	**255**	*e*P		**Pn**	**16 24 50.0**	**+0.6**
RUS				*e*S		**Sn**	**16 25 28.5**	**-2.2**
BDR	**Baidarnaya**	**3.54**	**333**	*e*S		**Sn**	**16 25 30.6**	**-0.9**
KOZ	**Kozyrevsk**	**3.58**	**319**	*e*P		**Pn**	**16 24 51.9**	**+1.6**
KOZ				*e*S		**Sn**	**16 25 31.8**	**-0.5**
SRKR	**Sorokina**	**3.63**	**334**	*e*P		**Pn**	**16 24 52.8**	**+1.7**
KRMR	**Karymshinskiy**	**3.63**	**263**	P		**Pn**	**16 24 52.6**	**+1.5**
KRMR				*e*S		**Sn**	**16 25 31.2**	**-2.4**
GNL	**Ganaly**	**3.66**	**276**	P		**Pn**	**16 24 53.6**	**+2.0**
GNL				*e*S		**Sn**	**16 25 34.0**	**-0.6**
GRL	**Gorelyy**	**3.73**	**259**	*e*P		**Pn**	**16 24 54.4**	**+1.8**
GRL				*e*S		**Sn**	**16 25 35.3**	**-1.0**
SRDR	**Sredinnyy**	**3.82**	**321**	*e*P		**Pn**	**16 24 54.9**	**+1.1**
PETK	**Petropavlovsk-**	**3.84**	**268**	Pn		**Pn**	**16 24 56.0**	**+2.0**
	7.9nm,0.3s,baz=84,slow=18,SNR=133							
PETK				Sn		**Sn**	**16 25 38.0**	**-0.8**
	5.4nm,0.3s,baz=326,slow=32,SNR=3.0							
ASAK	**Asacha**	**3.88**	**257**	*e*P		**Pn**	**16 24 56.2**	**+1.6**
ASAK				*e*S		**Sn**	**16 25 38.8**	**-1.2**
ESO	**Esso**	**3.99**	**311**	*e*P		**Pn**	**16 24 57.6**	**+1.6**
ESO				*e*S		**Sn**	**16 25 41.4**	**-1.1**
KDTR	**Khodutka, Kamc**	**4.00**	**248**	P		**Pn**	**16 24 56.6**	**+0.4**
APC	**Apacha**	**4.19**	**266**	*e*P		**Pn**	**16 25 01.1**	**+2.3**
APC				*e*S		**Sn**	**16 25 47.1**	**-0.3**
SKR	**Severo-Kuril's**	**5.63**	**244**	*e*P		**Pn**	**16 25 19.5**	**+1.0**
ILAR	**Eielson Array**	**26.86**	**46**	P		**P**	**16 29 35.9**	**+0.8**
	1.0nm,1.0s,baz=256,slow=7.3,SNR=5.2							
H11N2	**WAKE ISLAND Hy**	**33.72**	**175**	T		T	17 05 47.6	
	baz=358,slow=74,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**33.73**	**175**	T		T	17 05 46.1	
	baz=358,slow=74,SNR=7.5							
H11N1	**WAKE ISLAND Hy**	**33.74**	**175**	T		T	17 05 48.0	
	baz=358,slow=74,SNR=6.6							
TXAR	**Lajitas Array**	**68.29**	**70**	P		**P**	**16 34 57.5**	**+1.7**
	0.4nm,0.5s,baz=307,slow=4.8,SNR=5.6							

BJI ***29*** *16:28:01.3±0.0, 6.09S×148.87E, h61km, mB5.1/45, mb4.8/51, Ms4.7/25, Ms7 4.5/25*
MOS ***29*** *16:28:03.1±1.1, 5.97S×148.74E, h65km, mb4.8/11, Error ellipse: s-maj=9.6km s-min=6.1km az=101.0*
NEIC ***29*** *16:28:05.4±1.9, 6.02S±0.06×148.77E±0.07, h73km±4km, mb5.2/109, Error ellipse: s-maj=10.0km s-min=8.2km az=105.0*
IDC ***29*** *16:28:08.0±1.4, 6.04S×148.74E, h93km±12km, mb4.4/25, mb1 4.5/30, mb1mx4.4/43, mbtmp4.8/30, MS4.2/22, Ms1 4.2/22, ms1mx4.1/26, Error ellipse: s-maj=12.2km s-min=7.9km az=101.0*
GCMT ***29*** *16:28:07.4±0.1, 6.22S±0.01×148.83E±0.01, h64km, MW5.2/129, Moment Tensor Solution. s112,c169; s129,c226; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.81±.01; Mθθ-1.02±.01; Mφφ0.21±.01; Mrθ-0.05±.01; Mrφ0.12±.01; Mθφ-0.12±.01; Best double couple: M0.93300×10^17 NP1:φs107.00000°, δ45.00000°, λ106.00000°. NP2:φs265.00000°, δ47.00000°, λ75.00000°. Principal axes: T 0.8320, Plg79.0000°, Azm101.0000°; N 0.2010, Plg11.0000°, Azm275.0000°; P -1.0330, Plg1.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***29*** *16:28:07.0±0.4, 6.7S±3.3×14.9E±, h54km±5km, M5.1/34, mb5.5/34, mB5.5/26, MLv5.7/3, Mw(mB)5.0/26, Mwp5.3/3*
ISC 29 16:28:04.3±0.2, 6.01S±0.03×148.82E±0.04, h60km, n385, σ1s68/385, mb5.1/114, MS4.3/32, 15C-8D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.75**	**206**	P		**Pn**	**16 29 01.3**	**+1.6**
	688nm,0.3s,baz=2.2,slow=5.2,SNR=555							
PMG				S		**Sn**	**16 29 44.4**	**+1.8**
	2µm,0.3s,baz=39,slow=13,SNR=20							
PM

RMQ	Roma	20.36 180	P		Pn	16 32 38.1	-0.4		
	baz=20,SNR=71								
QLP	Quilpie	20.92 192	P		Pn	16 32 43.9	-1.2		
	baz=21,SNR=42								
NLAI	Namlea	21.82 276	P		pP	16 33 04.8	-0.2		
KNRA	Kununurra	21.89 242	P		P	16 32 51.8	-0.7		
	baz=22,SNR=221								
KNRA	Kununurra	21.89 242	P		P	16 32 51.5	-1.0		
AS31	Alice Springs	22.67 218	P		P	16 33 01.1	+0.2		
AS31			IAmb		IAmb	16 33 17.6			
	comp=Z,44nm,0.8s								
ASAR	Alice Springs	22.67 218	P		P	16 33 01.8	+0.9		
	comp=Z,28nm,0.5s,baz=55,slow=8.8,SNR=1590								
ASAR			S		S	16 37 01.4	-3.6		
	comp=Z,19nm,1.1s,baz=35,slow=21,SNR=5.8								
ASAR			ScP		ScP	16 40 21.0	-3.4		
	comp=Z,1.0nm,1.0s,baz=53,slow=2.8,SNR=1.1								
ASAR			LR		LR	16 42 40.0			
	comp=Z,2µm,19.0s,baz=33,slow=39								
ASAR	Alice Springs	22.67 218	P		P	16 33 00.6	-0.3		
ASAR	Alice Springs	22.67 218	P		P	16 33 00.6	-0.3		
SANI	Sanana	23.10 279	P		P	16 33 10.7	+5.3		
	comp=Z,676nmcomp=Z,96nm,0.8s								
DZM	Mont Dzumac	23.35 135	P		P	16 33 08.7	+0.9		
	comp=Z,21nm,0.7s,baz=258,slow=11,SNR=37								
DZM	Mont Dzumac	23.35 135	*e*P		P	16 33 08.2	+0.5		
	comp=Z,131nm,1.6s								
DZM			*e*S		S	16 37 11.9	-4.3		
	comp=Z,2µm,26.1s								
DZM			*e*LQ		LQ	16 37 55.1			
	comp=Z,2µm,33.5s								
DZM			*e*LR		LR	16 38 56.8			
	comp=Z,4µm,25.1s								
DZM	Mont Dzumac	23.35 135	P		P	16 33 08.0	+0.3		
DZM			IAmb		IAmb	16 33 26.1			
	comp=Z,71nm,0.8s								
ARMA	Armidale	24.42 174	P		P	16 33 18.7	+1.2		
	baz=25,SNR=13								
ARMA	Armidale	24.42 174	P		P	16 33 18.1	+0.7		
ARMA			IAmb		IAmb	16 33 40.5			
	comp=Z,64nm,0.9s								
SOEI	Soe	24.59 260	P		P	16 33 21.7	+2.5		
	comp=Z,2µmcomp=Z,201nm,1.0s								
SOEI	Soe	24.59 260	P		P	16 33 17.7	-1.6		
SGSI	Sangihe	25.17 292	P		pP	16 33 39.6	+0.6		
BATI	Baumata	25.24 259	P		P	16 33 25.6	+0.6		
	comp=Z,95nm,0.5s,baz=204,slow=1.6,SNR=19								
BATI			LR		LR	16 46 11.7			
	comp=Z,1µm,18.8s,baz=104,slow=43								
BATI	Baumata	25.24 259	P		P	16 33 27.1	+2.1		
	comp=Z,2µmcomp=Z,137nm,0.8s								
CMSA	Cobar Meteorol	25.56 186	P		P	16 33 28.9	+1.2		
	baz=26,SNR=12								
FITZ	Fitzroy Crossi	25.61 240	P		P	16 33 28.3	0.0		
	comp=Z,76nm,0.5s,baz=59,slow=9.2,SNR=225								
FITZ			S		S	16 37 50.1	-2.2		
	comp=Z,17nm,1.2s,baz=173,slow=7.4,SNR=1.3								
FITZ			LR		LR	16 44 49.3			
	comp=Z,1µm,21.2s,baz=69,slow=39								
FITZ	Fitzroy Crossi	25.61 240	P		P	16 33 28.5	+0.2		
	baz=26,SNR=332								
FITZ	Fitzroy Crossi	25.61 240	P		P	16 33 28.2	0.0		
KMSI	Cibinong	25.64 284	P		pP	16 33 45.6	+2.4		
LUWI	Luwuk	26.45 280	P		pP	16 33 52.7	+2.1		
MMRI	Maumere	26.48 263	P		P	16 33 39.0	+2.7		
	comp=Z,3µmcomp=Z,270nm,0.7s								
MMRI	Maumere	26.48 263	P		P	16 33 34.5	-1.8		
GTOI	Gorontalo	26.59 284	P		P	16 33 42.6	+5.4		
	comp=Z,404nmcomp=Z,25nm,0.7s								
STKA	Stephens Creek	26.60 194	P		P	16 33 37.5	+0.3		
	comp=Z,18nm,0.8s,baz=12,slow=10,SNR=34								
STKA			LR		LR	16 44 57.4			
	comp=Z,851nm,18.3s,baz=15,slow=38								
STKA	Stephens Creek	26.60 194	P		P	16 33 38.1	+1.0		
	baz=27,SNR=14								
STKA	Stephens Creek	26.60 194	P		P	16 33 37.3	+0.2		
STKA			pmax		pmax				
	comp=Z,13nm,0.9s								
STKA	Stephens Creek	26.60 194	P		P	16 33 37.2	+0.2		
EDFI	Ende, Flores	27.03 263	P		P	16 33 39.8	-1.5		
WRKA	Warakurna	27.28 224	P		P	16 33 43.6	+0.2		
	baz=27,SNR=174								
APSI	Ampana	27.58 280	P		pP	16 34 06.5	+5.7		
YNG	Young	28.15 181	P		P	16 33 51.8	+0.9		
	baz=28,SNR=9.9								
BSSI	Bau Bau, Buton	28.16 268	P		P	16 33 55.5	+4.2		
	comp=Z,600nmcomp=Z,56nm,1.4s								
BASI	Baing, Sumba	28.26 260	P		P	16 34 00.3	+8.2		
	comp=Z,2µmcomp=Z,283nm,1.0s								
BKSI	Bulukumba	28.56 276	P		pP	16 34 09.6	0.0		
BNSI	Bone	28.63 272	P		pP	16 34 11.2	+1.0		
HTT	Hallett	28.79 197	P		P	16 33 57.6	+0.9		
	baz=29,SNR=5.3								
KAPI	Kappang	28.94 271	P		P	16 33 58.4	+0.1		
	comp=Z,3.1nm,0.6s,baz=53,slow=12,SNR=2.5								
KAPI			LR		LR	16 48 51.3			
	comp=Z,606nm,18.4s,baz=34,slow=43								
KAPI	Kappang	28.94 271	P		P	16 33 58.1	-0.2		
KAPI			pmax		pmax				
	comp=Z,53nm,1.4s								
KAPI	Kappang	28.94 271	P		P	16 33 58.1	-0.2		
KAPI			IAmb		IAmb	16 34 26.5			
	comp=Z,53nm,1.4s								
TTSI	Tana Toraja	29.05 275	P		pP	16 34 16.0	+2.0		
CNB	Canberra Magne	29.16 179	P		P	16 34 00.9	+0.9		
	baz=29,SNR=4.6								
CAN	Canberra	29.17 180	P		P	16 33 59.9	-0.1		
CAN			pmax		pmax				
	comp=Z,25nm,1.0s								
CAN	Canberra	29.17 180	P		P	16 33 59.9	-0.1		
BBOO	Buckleboo	29.19 202	P		P	16 34 00.8	+0.5		
	baz=29,SNR=7.7								
BBOO	Buckleboo	29.19 202	P		P	16 33 59.4	-0.8		
BBOO			IAmb		IAmb	16 34 15.9			
	comp=Z,36nm,0.9s								
MSVF	Nonsavu	30.83 115⇑	*e*P		P	16 34 16.6	+1.6		
MSVF			pmax		pmax				
	comp=Z,8.0nm,0.9s								
MSVF	Nonsavu	30.83 115	P		P	16 34 15.9	+0.8		
PLAI	Plampang	30.90 263	P		pP	16 34 28.1	-2.3		
FORT	Forrest	31.41 216	P		P	16 34 20.3	+0.4		
	baz=32,SNR=11								
FORT	Forrest	31.41 216	P		P	16 34 19.3	-0.6		
TOO	Toolangi	31.56 185	P		P	16 34 22.9	+1.8		
	baz=32,SNR=6.0								
TOO	Toolangi	31.56 185	P		P	16 34 21.0	-0.1		
TOO			pmax		pmax				
	comp=Z,19nm,0.9s								
TOO	Toolangi	31.56 185	P		P	16 34 21.0	-0.1		
PSA00	Pilbara Seismi	32.01 238	P		P	16 34 24.4	-0.8		
PSA00	Pilbara Seismi	32.01 238	P		P	16 34 23.2	-2.0		
PSA00			IAmb		IAmb	16 34 40.8			
	comp=Z,25nm,0.7s								
JCJ	Chichijima	33.53 349	P		P	16 34 36.0	-2.4		
SPMM	Sapulut	34.01 288	P		P	16 34 49.0	+6.1		
JAGI	Jajag, Banyuwa	34.47 264	P		P	16 34 50.0	+3.2		
	comp=Z,1µmcomp=Z,112nm,1.0s								
JAGI	Jajag, Banyuwa	34.47 264	P		P	16 34 43.5	-3.3		
MEEK	Meekatharra	35.34 231	P		P	16 34 54.4	+0.3		
	baz=35,SNR=25								
KMBL	Kambalda	35.67 222	P		P	16 34 57.4	+0.4		
	baz=36,SNR=7.5								
PWJI	Pagerwojo	36.78 265	P		P	16 35 10.1	+3.5		
	comp=Z,52nm,0.8s								
OUZ	Omahuta	36.96 145	P		P	16 35 07.7	-0.1		
GIRL	Giralia	37.22 240	P		P	16 35 11.5	+1.3		
	baz=37,SNR=6.2								
GIRL	Giralia	37.22 240	P		P	16 35 11.9	+1.7		
SBUM	Sibu	37.50 282	P		P	16 35 20.0	+7.3		
UGM	Wanagama	38.05 265	P		P	16 35 21.0	+3.6		
	comp=Z,153nm,0.9s								
UGM	Wanagama	38.05 265	P		P	16 35 13.8	-3.5		
MORW	Morawa	38.52 230	P		P	16 35 21.2	0.0		
	baz=38,SNR=5.8								
MORW	Morawa	38.52 230	P		P	16 35 19.1	-2.1		
KLBR	Kellerberrin	38.62 225	P		P	16 35 21.8	-0.1		
	baz=39,SNR=26								
BLDU	Ballidu	38.83 227	P		P	16 35 23.4	-0.2		
	baz=39,SNR=6.3								
KSM	Kuching	39.16 280	P		P	16 35 33.0	+6.3		
KNTN	Kanton	39.47 87	P		P	16 35 29.3	0.0		
YULB	Yu-li	39.71 318	P		P	16 35 29.1	-2.0		
YULB			IAmb		IAmb	16 35 55.5			
	comp=Z,24nm,0.8s								
NWAO	Narrogin (SRO)	39.75 224	P		P	16 35 31.4	+0.1		
	comp=Z,8.4nm,0.6s,baz=48,slow=7.3,SNR=11								
NWAO	Narrogin (SRO)	39.75 224	P		P	16 35 31.7	+0.4		
	baz=40,SNR=4.6								
NWAO	Narrogin (SRO)	39.75 224	P		P	16 35 30.6	-0.7		
NWAO			pmax		pmax				
	comp=Z,32nm,0.9s								
NWAO	Narrogin (SRO)	39.75 224	P		P	16 35 30.6	-0.7		
NWAO			IAmb		IAmb	16 35 47.7			
	comp=Z,32nm,0.9s								
NWAO	Narrogin (SRO)	39.75 224	P		P	16 35 30.3	-1.0		
NWAO			IAmb		IAmb	16 35 47.7			
	comp=Z,25nm,0.9s								
MUN	Mundaring	39.93 226	P		P	16 35 33.3	+0.5		
	baz=40,SNR=6.5								
TPUB	Ta-pu	40.09 318	P		P	16 35 32.3	-2.0		
SSLB	Suanglung	40.21 318	P		P	16 35 33.6	-1.6		
SSLB			IAmb		IAmb	16 35 53.3			
	comp=Z,22nm,0.9s								
YHNB	Yeheng	40.55 320	P		P	16 35 36.5	-1.6		
YHNB			IAmb		IAmb	16 36 03.9			
	comp=Z,49nm,0.9s								
CISI	Cisompet, Garu	40.73 265	P		P	16 35 43.2	+3.4		
	comp=Z,2µmcomp=Z,241nm,0.9s								
CISI	Cisompet, Garu	40.73 265	P		P	16 35 37.6	-2.1		
RKGY	Rocky Gully	40.91 222	P		P	16 35 41.6	+0.7		
	baz=41,SNR=5.4								
URZ	Urewera	41.10 145	P		P	16 35 43.0	+0.6		
	comp=Z,18nm,0.9s,baz=25,slow=15,SNR=2.3								
URZ	Urewera	41.10 145	P		P	16 35 43.0	+0.6		
URZ			IAmb		IAmb	16 35 49.7			
	comp=Z,70nm,1.5s								
BKZ	Black Stump Fm	41.40 147	P		P	16 35 44.8	0.0		
BKZ			IAmb		IAmb	16 36 10.9			
	comp=Z,54nm,1.3s								
BKZ			PcP		PcP	16 37 41.4	-0.7		
CNJI	Cibinong	41.41 266	P		P	16 35 48.7	+3.4		
	comp=Z,3µmcomp=Z,322nm,1.0s								
THZ	Tophouse	41.56 153	P		P	16 35 46.2	0.0		
THZ			IAmb		IAmb	16 36 02.0			
	comp=Z,39nm,0.9s								
TUWZ	Tuamarina	41.78 151	P		P	16 35 48.6	+0.7		
BSWZ	Blackbirch Sta	41.97 152	P		P	16 35 49.1	-0.3		
BSWZ			PcP		PcP	16 37 41.7	-2.1		
SNZO	South Karori	42.06 151	P		P	16 35 49.9	-0.2		
LTZ	Lake Taylor	42.09 154	P		P	16 35 51.1	+0.6		
LTZ			IAmb		IAmb	16 35 51.8			
	comp=Z,76nm,1.5s								
BHW	Baring Head	42.21 151	P		P	16 35 51.9	+0.5		
RPZ	Rata Peaks	42.34 156	P		P	16 35 52.6	+0.1		
RPZ			IAmb		IAmb	16 36 09.2			
	comp=Z,30nm,0.7s								
KHZ	Kahutara	42.36 153	P		P	16 35 52.9	+0.3		
KHZ			IAmb		IAmb	16 36 11.2			
	comp=Z,68nm,1.3s								
BFZ	Birch Farm	42.36 149	P		P	16 35 52.9	+0.3		
BFZ			IAmb		IAmb	16 35 58.7			
	comp=Z,61nm,1.2s								
MSWZ	Moikau Station	42.40 150	P		P	16 35 52.9	-0.2		
JNU	Nakatsue	42.48 338	P		P	16 35 53.7	-0.1		
	comp=Z,18nm,0.7s,baz=148,slow=1.2,SNR=17								
JNU	Nakatsue	42.48 338	P		P	16 35 52.5	-1.2		
PLWZ	Palliser	42.52 150	P		P	16 35 53.2	-0.8		
JGF	Kuroka	42.77 346	P		P	16 35 56.7	+0.7		
CGJI	Cibinong	42.85 267	P		P	16 35 59.2	+2.1		
JHS	Saijyo	43.40 341	P		P	16 36 02.4	+1.3		
JHS			IAmb		IAmb	16 36 19.8			
	comp=Z,32nm,0.9s								
MJAR	Matsushiro Arr	43.48 348	P		P	16 36 02.1	+0.3		
	comp=Z,11nm,1.0s,baz=165,slow=9.2,SNR=22								
MJAR	Matsushiro Arr	43.48 348	P		P	16 36 03.3	+1.5		
MJAR			pmax		pmax				
	comp=Z,26nm,1.0s								
MJAR	Matsushiro Arr	43.48 348	P		P	16 36 03.3	+1.5		
MAJO	Matsushiro	43.48 348	P		P	16 36 02.2	+0.4		
MAJO			pmax		pmax				
	comp=Z,105nm,1.0s								
MAJO	Matsushiro	43.48 348	P		P	16 36 02.2	+0.4		
MAT	Matsushiro	43.48 348	P		P	16 36 01.9	+0.1		
MAT			S		S	16 42 24.0	-2.2		
JMM	Marumori	44.29 351	P		P	16 36 08.7	+0.5		
JMM			IAmb		IAmb	16 36 27.3			
	comp=Z,35nm,1.0s								
MYKOM	Kota Tinggi	45.56 278	P		P	16 36 21.0	+2.3		
QIZ	Qiongzhong	45.75 304	P		P	16 36 19.3	-0.8		
QIZ			S		S	16 42 57.8	-1.8		
QIZ			pmax		pmax				
	comp=Z,30nm,2.0s								
QIZ			LR		LR				
	comp=Z,360nm,33.3s								
TJN	Taejon	46.72 336⇑	*e*P		P	16 36 26.0	-1.4		
JTM	Tenmabayashi	47.11 352	P		P	16 36 30.7	+0.3		
NJ2	Nanjing	47.41 325	*e*P		P	16 36 32.0	-0.9		
NJ2			pmax		pmax				
	comp=Z,9.0nm,0.5s								
KSRS	Korea Array	47.43 337	P		P	16 36 33.4	+0.5		
	comp=Z,7.5nm,0.7s,baz=154,slow=9.1,SNR=33								
KSAR	Wonju Array Be	47.44 337	P		P	16 36 32.2	-0.8		
KSAR	Wonju Array Be	47.44 337	P		P	16 36 32.2	-0.8		
KS19	Wonju Array Si	47.50 337	P		P	16 36 32.6	-0.9		
WHN	Wuhan	49.09 320	P		P	16 36 46.5	+0.6		
KULM	Kulim	49.38 282	P		P	16 36 53.0	+4.6		
ASAJ	Asahikawa	50.21 354	P		P	16 36 54.9	+0.7		
	comp=Z,6.9nm,0.7s,baz=234,slow=8.7,SNR=1.8								
RPSI	Rantau Prapat	50.57 278	P		P	16 36 55.8	-1.6		
PSI	Prapat	50.58 279	P		P	16 36 55.8	-1.9		
PSI			pmax		pmax				
	comp=Z,15nm,1.1s								
VLA	Vladivostok	51.26 344⇓	*e*P		P	16 37 01.0	-1.0		
VLA			pmax		pmax				
	comp=Z,8.0nm,0.9s								
DL2	Dalian	51.30 333	P		P	16 37 12.0	+10		
DL2			S		S	16 44 34.5	+17		
DL2			pmax		pmax				
	comp=Z,21nm,1.2s								
DL2			pmax		pmax				
	comp=Z,210nm,4.4s								
DL2			LR		LR				
	comp=N,280nm,17.1s								
DL2			LR		LR				
	comp=E,420nm,19.2s								
DL2			LR		LR				
	comp=Z,460nm,34.1s								
GSI	Gunungsitoli	51.67 276	P		P	16 37 03.0	-2.7		
GSI			IAmb		IAmb	16 37 26.6			
	comp=Z,16nm,0.8s								
USA0B	Ussuriysk Arra	52.23 345⇓	*e*P		P	16 37 10.0	+0.7		
USA0B	Ussuriysk Arra	52.23 345	P		P	16 37 08.1	-1.2		
USA0B			IAmb		IAmb	16 37 27.6			
	comp=Z,26nm,1.0s								
USRK	Ussuriysk Ar.	52.23 345	P		P	16 37 10.3	+1.0		
	comp=Z,4.8nm,0.6s,baz=180,slow=6.9,SNR=39								
USRK			LR		LR	16 57 05.6			
	comp=Z,192nm,21.8s,baz=132,slow=33								
USRK	Ussuriysk Ar.	52.23 345	P		P	16 37 09.6	+0.3		
USRK	Ussuriysk Ar.	52.23 345	P		P	16 37 09.6	+0.3		
YSS	Yuzh-Sakhalins	53.01 355	P		P	16 37 13.5	-1.4		
YSS			pmax		pmax				
	comp=Z,28nm,1.1s								
YSS	Yuzh-Sakhalins	53.01 355	P		P	16 37 13.5	-1.4		
YSS			IAmb		IAmb	16 37 35.3			
	comp=Z,28nm,1.1s								
MDJ	Mudanjiang	53.28 343	SS		SKiKP	16 48 23.3	-5.5		
MDJ			pmax		pmax				
	comp=Z,24nm,1.2s								
MDJ			pmax		pmax				
	comp=Z,290nm,4.3s								
CN2	Changchun	53.89 339	*e*P		P	16 37 24.0	+2.5		
CN2			*ep*P		sP	16 37 43.0	-1.5		
CN2			*e*S		S	16 44 52.5	+0.1		
CN2			pmax		pmax				
	comp=Z,10.0nm,0.5s								
CN2			pmax		pmax				
	comp=Z,100nm,6.0s								
CN2			LR		LR				
	comp=Z,200nm,13.0s								
CN2			LR		LR				
	comp=Z,200nm,13.0s								
CN2			LR		LR				
	comp=Z,300nm,14.0s								
KMI	Kunming	54.44 307	⇑P		P	16 37 28.0	+1.8		
KMI			sP		sP	16 37 50.0	+1.2		
KMI			S		S	16 44 56.0	-4.9		
KMI			pmax		pmax				
	comp=Z,7.0nm,1.4s								
KMI			pmax		pmax				
	comp=Z,39nm,4.4s								
KMI			LR		LR				
	comp=Z,200nm,23.1s								
KMI			LR		LR				
	comp=Z,150nm,20.7s								
KMI			LR		LR				
	comp=Z,310nm,35.3s								
BJI	Beijing	54.81 330	P		P	16 37 28.0	-0.2		
BJI			S		S	16 45 06.0	+1.2		
BJI			pmax		pmax				
	comp=Z,3.0nm,0.6s								
BJI			LR		LR				
	comp=Z,260nm,13.5s								
BJI			LR		LR				
	comp=Z,210nm,18.3s								
BJI			LR		LR				
	comp=Z,730nm,33.2s								
CMAR	Chiang Mai Arr	54.85 297	P		P	16 37 28.8	-0.2		
	comp=Z,0.8nm,0.8s,baz=123,slow=7.6,SNR=7.4								
CMAR			PKP2bc			17 07 48.2			
	comp=Z,0.9nm,0.9s,baz=256,slow=2.7,SNR=5.3								
XAN	Xi'an	54.85 319	P		P	16 37 42.8	+14		
XAN			pP		sP	16 37 49.8	-1.7		
XAN			pmax		pmax				
	comp=Z,31nm,1.2s								
XAN			pmax		pmax				
	comp=Z,160nm,6.5s								
XAN			LR		LR				
	comp=N,190nm,15.7s								
XAN			LR		LR				
	comp=E,280nm,23.5s								
XAN			LR		LR				
	comp=Z,320nm,16.7s								
CD2	Chengdu	56.59 313	P		P	16 37 39.8	-1.5		
CD2			pP		pP	16 37 55.5	-1.8		
CD2			sP		sP	16 38 04.8	+0.7		
CD2			PcP		PcP	16 38 35.3	-1.9		
CD2			S		S	16 45 27.5	-1.5		
CD2			pmax		pmax				
	comp=Z,10.0nm,0.5s								
CD2			pmax		pmax				
	comp=Z,240nm,11.7s								
CD2			LR		LR				
	comp=Z,320nm,20.4s								
CD2			LR		LR				
	comp=Z,400nm,34.3s								
HHC	Hu-ho-hao-te	57.81 327	*e*P		P	16 37 49.5	-0.3		
HHC			pP		pP	16 38 05.0	-0.8		
HHC			SS		SS	16 49 35.8	-0.7		
HHC			pmax		pmax				
	comp=Z,21nm,1.1s								
HHC			pmax		pmax				
	comp=Z,190nm,5.5s								
HHC			LR		LR				
	comp=Z,360nm,16.0s								
HHC			LR		LR				
	comp=Z,330nm,16.1s								
HHC			LR		LR				
	comp=Z,590nm,16.7s								
PEA0B	Petropavlovsk-	59.38 6⇓	*e*P		P	16 38 00.9	+0.6		
PEA0B	Petropavlovsk-	59.38 6	P		P	16 38 01.1	+0.8		
PETK	Petropavlovsk-	59.38 6	P		P	16 38 01.0	+0.7		
	comp=Z,14nm,0.7s,baz=152,slow=6.5,SNR=70								
PETK	Petropavlovsk-	59.38 6	P		P	16 38 00.7	+0.4		
PETK	Petropavlovsk-	59.38 6	P		P	16 38 00.7	+0.4		
PET	Petropavlovsk	59.40 7⇓	*e*P		P	16 38 00.5	+0.1		
PET			pmax		pmax				
	comp=Z,2µm,4.6s								
PET	Petropavlovsk	59.40 7	P		P	16 38 00.9	+0.5		
LZH	Lanzhou	59.41 318	⇑P		P	16 38 04.8	+3.7		
LZH			pP		pP	16 38 17.3	+0.1		
LZH			sP		sP	16 38 25.8	+1.8		
LZH			PP		PP	16 40 18.8	+5.9		
LZH			pmax		pmax				
	comp=Z,26nm,1.1s								
LZH			pmax		pmax				
	comp=Z,98nm,4.9s								
LZH			LR		LR				
	comp=Z,250nm,15.8s								
LZH			LR		LR				
	comp=Z,260nm,16.2s								
LZH			LR		LR				
	comp=Z,340nm,17.3s								
HIA	Hailar	60.61 339	*de*P		P	16 38 09.2	+0.4		
HIA			pmax		pmax				
	comp=Z,17nm,1.2s								
PPT2	Papeete2	61.16 107	*e*S		S	16 46 27.3	-1.5		
	comp=Z,151nm,28.8s								
PPT2			*e*LQ		LQ	16 53 51.4			
	comp=Z,470nm,28.8s								
PPT2			*e*LR		LR	16 56 24.6			
	comp=Z,353nm,27.0s								
TIAR	Tiarei	61.38 107	*e*P		P	16 38 15.9	+1.2		
TBI	Tubuai	61.70 113	*e*S		S	16 46 34.2	-1.2		
	comp=Z,267nm,30.5s								
TBI			*e*LQ		LQ	16 54 02.1			
	comp=Z,341nm,34.0s								
TBI			*e*LR		LR	16 56 43.2			
	comp=Z,623nm,35.8s								
ZEA	Zeya	62.24 346⇓	*e*P		P	16 38 21.2	+1.5		
ZEA			*e*			16 47 14.1			
ZEA			pmax		pmax				
	comp=N,100nm,1.2s								
ZEA			pmax		pmax				
	comp=Z,140nm,1.2s								
ZEA			pmax		pmax				
	comp=N,50nm,1.1s								
ZEA			pmax		pmax				
	comp=Z,70nm,1.1s								
ZEA			MLR		MLR				
	comp=Z,100nm,19.0s								
PMOR	Pomariorio Ree	62.69 104	*e*P		P	16 38 24.7	+1.2		
	comp=Z,58nm,1.0s								
VAH	Vaihoa	62.96 104	*e*P		P	16 38 26.0	+0.8		
	comp=Z,36nm,1.0s								
GTA	Gaotai	63.92 319	*e*P		P	16 38 32.5	+1.2		
GTA			pP		pP	16 38 45.8	-1.8		
GTA			sP		sP	16 38 50.5	-3.8		
GTA			pmax		pmax				
	comp=Z,3.0nm,1.1s								
GTA			pmax		pmax				
	comp=Z,75nm,6.9s								
GTA			LR		LR				
	comp=Z,140nm,16.0s								
GTA			LR		LR				
	comp=Z,140nm,17.8s								
GTA			LR		LR				
	comp=Z,150nm,17.4s								
ADK	Adak	64.76 23	P		P	16 38 38.2	+1.8		
ADK			pmax		pmax				
	comp=Z,117nm,1.4s								
ADK	Adak	64.76 23	P		P	16 38 38.1	+1.8		
ULN	Ulaanbaatar	65.00 330⇑	*e*P		P

TLY					pmax	pmax			
	comp=Z,8.0nm,1.1s								
TLY	**Talaya**	**69.20**	**332**		P	**P**	**16 39 04.5**	**-0.1**	
PALK	**Pallekele**	**69.22**	**280**		P	**P**	**16 39 04.9**	**-0.6**	
	comp=Z,3.5nm,0.8s,baz=207,slow=4.5,SNR=1.1								
PALK	**Pallekele**	**69.22**	**280**		P	**P**	**16 39 05.3**	**-0.3**	
PALK					pmax	pmax			
	comp=Z,11nm,1.1s								
PALK	**Pallekele**	**69.22**	**280**		P	**P**	**16 39 05.3**	**-0.3**	
GUN	**Gumba**	**69.39**	**303**	*e*P		**P**	**16 39 04.8**	**-1.9**	
	comp=Z,15nm,0.4s								
YAK	**Yakutsk**	**69.44**	**350**⇑	*e*P		**P**	**16 39 05.7**	**-0.1**	
YAK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
PKI	**Pulchoki**	**69.68**	**302**	*e*P		**P**	**16 39 09.0**	**+0.5**	
PKIN	**Phulchoki**	**69.69**	**302**	*e*P		**P**	**16 39 08.9**	**+0.4**	
KKN	**Kakani**	**69.85**	**302**	*e*P		**P**	**16 39 07.9**	**-1.5**	
UNV	**Unalaska Valle**	**70.42**	**26**	P		**P**	**16 39 12.4**	**+0.4**	
UNV					IAmb	IAmb	16 39 33.2		
	comp=Z,67nm,1.4s								
GKN	**Gorkha**	**70.46**	**302**	*e*P		**P**	**16 39 09.1**	**-4.0**	
	comp=Z,28nm,1.0s								
KOLN	**Koldanda**	**71.26**	**302**	*e*P		**P**	**16 39 15.2**	**-2.8**	
	comp=Z,4.0nm,0.3s								
DANN	**Dangsing**	**71.30**	**302**	*e*P		P	16 39 11.7	-6.6	
	comp=Z,9.4nm,0.6s								
VNDA	**Vanda**	**71.80**	**177**	P		**P**	**16 39 20.8**	**+0.8**	
	comp=Z,5.0nm,0.6s,baz=333,slow=7.3,SNR=78								
VNDA					LR	LR	17 08 48.8		
	comp=Z,142nm,19.2s,baz=336,slow=34								
VNDA	**Vanda**	**71.80**	**177**	P		**P**	**16 39 20.5**	**+0.5**	
VNDA							16 39 37.3		
VNDA					pmax	pmax			
	comp=Z,33nm,0.8s								
VNDA	**Vanda**	**71.80**	**177**	P		**P**	**16 39 20.5**	**+0.5**	
VNDA				PcP		***pP***	**16 39 37.3**	**+1.0**	
VNDA					IAmb	IAmb	16 39 37.7		
	comp=Z,32nm,0.8s								
PYUN	**Piuthan**	**71.88**	**302**	*e*P		**P**	**16 39 16.9**	**-4.8**	
	comp=Z,7.9nm,0.4s								
HYB	**Hyderabad**	**73.16**	**290**	*i* P		**P**	**16 39 31.0**	**+1.7**	
WMQ	**Urumqi**	**73.98**	**319**	*e*P		**P**	**16 39 33.5**	**-0.2**	
WMQ					pmax	pmax			
	comp=Z,11nm,1.3s								
WMQ					pmax	pmax			
	comp=Z,64nm,5.3s								
BILL	**Bilibino**	**74.90**	**7**	*i* P		**P**	**16 39 39.2**	**+0.8**	
BILL				*i*			16 39 53.1		
BILL				*i*			16 40 04.0		
BILL				*i*			16 42 26.5		
BILL					pmax	pmax			
	comp=Z,8.0nm,1.0s								
BILL					MLR	MLR			
	comp=Z,101nm,17.0s								
DGZ	**Jazzator, Alta**	**76.69**	**324**⇑	*e*P		**P**	**16 39 47.0**	**-2.2**	
DGZ					pmax	pmax			
	comp=Z,3.0nm,0.6s								
OHAK	**Old Harbor**	**78.45**	**28**	P		**P**	**16 39 59.1**	**+0.6**	
OHAK					IAmb	IAmb	16 40 10.7		
	comp=Z,39nm,1.4s								
TIXI	**Tiksi**	**78.61**	**354**⇑	*e*P		**P**	**16 39 58.5**	**-0.7**	
TIXI					pmax	pmax			
	comp=Z,5.0nm,0.8s								
MK31	**Makanchi Array**	**78.66**	**320**	P		**P**	**16 39 58.0**	**-2.1**	
MK31					pmax	pmax			
	comp=Z,9.0nm,1.3s								
MK31	**Makanchi Array**	**78.66**	**320**	P		**P**	**16 39 58.0**	**-2.1**	
MKAR	**Makanchi Array**	**78.66**	**320**	P		**P**	**16 39 58.0**	**-2.1**	
	comp=Z,1.6nm,0.5s,baz=100,slow=5.3,SNR=17								
MKAR					PKKPbc	**PKKPbc**	**16 58 54.5**	**-2.7**	
	comp=Z,0.2nm,0.6s,baz=276,slow=3.6,SNR=1.9								
MKAR					LR	LR	17 13 10.8		
	comp=Z,87nm,21.8s,baz=93,slow=34								
MKAR	**Makanchi Array**	**78.66**	**320**	P		**P**	**16 39 58.1**	**-1.9**	
MKAR	**Makanchi Array**	**78.66**	**320**	P		**P**	**16 39 58.1**	**-1.9**	
MAKZ	**Makanchi**	**78.87**	**320**	P		**P**	**16 39 59.3**	**-1.9**	
MAKZ					pmax	pmax			
	comp=Z,16nm,1.2s								
MAKZ	**Makanchi**	**78.87**	**320**	P		**P**	**16 39 59.3**	**-1.9**	
ZAA0	**Zalesovo Array**	**79.99**	**327**	P		**P**	**16 40 05.5**	**-1.6**	
ZALV	**Zalesovo Beam**	**79.99**	**327**	P		**P**	**16 40 04.0**	**-3.0**	
	comp=Z,3.2nm,0.5s,baz=109,slow=6.5,SNR=12								
ZALV					PKKPbc	**PKKPbc**	**16 58 51.9**	**-2.5**	
	comp=Z,0.5nm,0.4s,baz=338,slow=3.4,SNR=2.5								
ZALV					PKPPKP	**P'P'df**	**17 06 55.4**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=336,slow=3.2,SNR=1.2								
ZALV					LR	LR	17 14 16.0		
	comp=Z,246nm,21.6s,baz=123,slow=35								
ZALV	**Zalesovo Beam**	**79.99**	**327**	P		**P**	**16 40 05.2**	**-1.8**	
ZALV	**Zalesovo Beam**	**79.99**	**327**	P		**P**	**16 40 05.2**	**-1.8**	
HOM	**Homer**	**80.43**	**26**	P		**P**	**16 40 09.5**	**+0.2**	
	baz=240								
CNPM	**China Poot**	**80.54**	**27**	P		**P**	**16 40 10.2**	**+0.2**	
CNPM					IAmb	IAmb	16 40 28.0		
	comp=Z,36nm,0.8s								
KDJ	**Kajisay**	**80.59**	**314**	P		**P**	**16 40 08.8**	**-2.0**	
KDJ					pmax	pmax			
	comp=Z,12nm,1.1s								
KDJ	**Kajisay**	**80.59**	**314**	P		**P**	**16 40 08.8**	**-2.0**	
KSH	**Kashi**	**80.73**	**312**	P		**P**	**16 40 13.8**	**+2.2**	
KSH					pmax	pmax			
	comp=Z,100nm,4.7s								
BRLK	**Bradley Lake**	**80.81**	**26**	P		**P**	**16 40 11.4**	**0.0**	
BRLK					IAmb	IAmb	16 40 29.3		
	comp=Z,28nm,1.1s								
NIL	**Nilore**	**81.41**	**305**	P		**P**	**16 40 14.1**	**-1.1**	
NIL					pmax	pmax			
	comp=Z,33nm,1.5s								
NIL	**Nilore**	**81.41**	**305**	P		**P**	**16 40 14.1**	**-1.1**	
NIL					IAmb	IAmb	16 40 29.2		
	comp=Z,33nm,1.5s								
O22K	**Cooper Landing**	**81.67**	**26**	P		**P**	**16 40 15.7**	**-0.2**	
	baz=242								
RC01	**Rabbit Creek A**	**81.95**	**26**	P		**P**	**16 40 17.0**	**-0.4**	
	baz=242								
KURK	**Kurchatov**	**82.31**	**323**⇑	*e*P		**P**	**16 40 18.8**	**-0.6**	
KURK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
KURK	**Kurchatov**	**82.31**	**323**	P		**P**	**16 40 18.2**	**-1.2**	
KURBB	**Kurchatov Arra**	**82.33**	**323**	PKKPbc	PKKPbc		16 58 47.5	-1.5	
	comp=Z,0.2nm,0.4s,baz=306,slow=2.7,SNR=1.6								
KURBB				PKPPKP	**P'P'df**		**17 06 53.8**	**+2.7**	
	comp=Z,0.3nm,0.4s,baz=296,slow=2.8,SNR=1.9								
CUT	**Chulitna**	**82.36**	**24**	P		**P**	**16 40 18.7**	**-0.7**	
	baz=241								
GHO	**Glory Hole Cre**	**82.61**	**25**	P		**P**	**16 40 21.4**	**+0.5**	
AAK	**Ala-Archa**	**82.64**	**314**⇑	*e*P		**P**	**16 40 20.7**	**-0.9**	
AAK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KTH	**Kantishna Hill**	**82.66**	**23**	P		**P**	**16 40 20.4**	**-0.7**	
KTH					IAmb	IAmb	16 40 38.0		
	comp=Z,21nm,1.0s								
TRF	**Thorofare Moun**	**82.85**	**23**	P		**P**	**16 40 21.5**	**-0.8**	
IMAR	**Indian Mountai**	**82.87**	**20**	P		**P**	**16 40 22.3**	**+0.2**	
SML	**Sawmill**	**82.88**	**25**	P		**P**	**16 40 21.7**	**-0.6**	
SML					IAmb	IAmb	16 40 40.0		
	comp=Z,26nm,0.9s								
BPAW	**Bear Paw Mtn.**	**82.90**	**23**	P		**P**	**16 40 22.1**	**-0.1**	
MAW	**Mawson**	**82.93**	**203**	P		**P**	**16 40 22.2**	**-0.2**	
	comp=Z,2.2nm,0.5s,baz=84,slow=6.7,SNR=5.4								
MAW					LR	LR	17 15 15.1		
	comp=Z,159nm,20.9s,baz=58,slow=34								
MAW	**Mawson**	**82.93**	**203**	P		**P**	**16 40 22.1**	**-0.2**	
	baz=83,SNR=5.3								
MAW	**Mawson**	**82.93**	**203**	P		**P**	**16 40 22.1**	**-0.2**	
MAW					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MAW	**Mawson**	**82.93**	**203**	P		**P**	**16 40 22.1**	**-0.2**	
FID	**Port Fidalgo**	**83.22**	**27**	P		**P**	**16 40 24.6**	**+0.7**	
FID					IAmb	IAmb	16 40 40.6		
	comp=Z,50nm,1.4s								
RND	**Reindeer**	**83.40**	**24**	P		**P**	**16 40 24.2**	**-0.7**	
RND					pmax	pmax			
	comp=Z,26nm,0.8s								
RND	**Reindeer**	**83.40**	**24**	P		**P**	**16 40 24.2**	**-0.7**	
RND					IAmb	IAmb	16 40 41.9		
	comp=Z,26nm,0.8s								
MLY	**Manley**	**83.45**	**22**	P		**P**	**16 40 24.9**	**-0.3**	
	baz=241								
MCK	**McKinley**	**83.52**	**23**	P		**P**	**16 40 24.8**	**-0.6**	
	baz=242								
KLU	**Klutina**	**83.78**	**26**	P		**P**	**16 40 26.8**	**-0.2**	
KLU					IAmb	IAmb	16 40 45.1		
	comp=Z,18nm,0.9s								
DHY	**Denali Highway**	**83.85**	**24**	P		**P**	**16 40 27.5**	**+0.1**	
DHY					IAmb	IAmb	16 40 45.1		
	comp=Z,21nm,0.9s								
NEA2	**Nenana**	**83.87**	**23**	P		**P**	**16 40 26.9**	**-0.3**	
	baz=242								
M24K	**Tolsona, Glenn**	**83.93**	**25**	P		**P**	**16 40 28.3**	**+0.7**	
	baz=245								
M24K	**Tolsona, Glenn**	**83.93**	**25**	P		**P**	**16 40 27.6**	**-0.1**	
M24K					IAmb	IAmb	16 40 45.9		
	comp=Z,24nm,0.8s								
QSPA	**South Pole Qui**	**83.95**	**180**	P		**P**	**16 40 27.8**	**-0.1**	
	comp=Z,17nm,1.0s,baz=329,slow=0.9,SNR=57								
QSPA	**South Pole Qui**	**83.95**	**180**	P		**P**	**16 40 28.1**	**+0.3**	
QSPA	**South Pole Qui**	**83.95**	**180**	pP		pP	16 40 43.7	-0.5	
WRH	**Wood River Hil**	**84.19**	**23**	P		**P**	**16 40 28.1**	**-0.7**	
WRH					IAmb	IAmb	16 40 45.3		
	comp=Z,18nm,1.0s								
MDM	**Murphy Dome**	**84.36**	**22**	P		**P**	**16 40 29.4**	**-0.4**	
N25K	**Chitina, Valde**	**84.41**	**26**	P		**P**	**16 40 30.9**	**+0.8**	
	baz=246								
TCOL	**CIGO, UAF Yank**	**84.46**	**23**	P		**P**	**16 40 30.0**	**-0.2**	
	baz=243								
COLA	**College**	**84.46**	**23**	*c i* P		**P**	**16 40 29.6**	**-0.6**	
COLA				*i*	*PP	**pP**	**16 40 45.5**	**-1.6**	
COLA					pmax	pmax			
	comp=Z,10.0nm,1.1s								
HDA	**Harding Lake**	**84.61**	**23**	P		**P**	**16 40 30.5**	**-0.5**	
GLB	**Gilahina Butte**	**84.69**	**26**	P		**P**	**16 40 32.3**	**+0.8**	
COLD	**Coldfoot**	**84.72**	**20**	P		**P**	**16 40 32.1**	**+0.6**	
	baz=241								
IL31		**84.79**	**23**	P		**P**	**16 40 31.1**	**-0.8**	
ILAR	**Eielson Array**	**84.79**	**23**	P		**P**	**16 40 30.9**	**-1.0**	
	comp=Z,5.6nm,0.7s,baz=252,slow=4.8,SNR=32								
ILAR					LR	LR	17 12 54.3		
	comp=Z,65nm,21.6s,baz=259,slow=32								
ILAR	**Eielson Array**	**84.79**	**23**	P		**P**	**16 40 30.6**	**-1.3**	
ILAR	**Eielson Array**	**84.79**	**23**	P		**P**	**16 40 30.6**	**-1.3**	
GAR	**Garm**	**84.88**	**310**	P		**P**	**16 40 32.0**	**-1.1**	
A21K	**Barrow**	**84.99**	**15**	P		**P**	**16 40 35.0**	**+2.3**	
	baz=234								
DOT	**Dot Lake**	**85.44**	**24**	P		**P**	**16 40 34.9**	**-0.3**	
DOT					IAmb	IAmb	16 40 52.5		
	comp=Z,18nm,1.0s								
L26K	**Log Cabin Wild**	**85.50**	**25**	P		**P**	**16 40 36.1**	**+0.6**	
	baz=248								
KK31	**Karatay Array**	**85.59**	**314**	P		**P**	**16 40 34.5**	**-1.9**	
KK31					pmax	pmax			
	comp=Z,21nm,1.2s								
KK31	**Karatay Array**	**85.59**	**314**	P		**P**	**16 40 34.5**	**-1.9**	
KK31					IAmb	IAmb	16 40 51.5		
	comp=Z,21nm,1.2s								
KKAR	**Karatay Array**	**85.59**	**314**	P		**P**	**16 40 34.4**	**-2.0**	
KKAR	**Karatay Array**	**85.59**	**314**	P		**P**	**16 40 34.4**	**-2.0**	
SCRK	**Sand Creek**	**85.61**	**24**	P		**P**	**16 40 35.1**	**-1.0**	
	baz=247								
TOLK	**Toolik Lake Re**	**85.62**	**19**	P		**P**	**16 40 36.6**	**+0.6**	
	baz=241								
TOLK	**Toolik Lake Re**	**85.62**	**19**	P		**P**	**16 40 36.4**	**+0.4**	
CTGM	**Chitina Glacie**	**85.62**	**27**	P		**P**	**16 40 36.4**	**+0.1**	
CTGM					IAmb	IAmb	16 40 58.8		
	comp=Z,17nm,0.9s								
CHGR	**Chuyangaron**	**85.69**	**309**	P		**P**	**16 40 35.9**	**-1.2**	
CHGR					IAmb	IAmb	16 40 51.5		
	comp=Z,16nm,1.0s								
NRIK	**Noril'sk**	**85.85**	**342**	P		**P**	**16 40 36.1**	**-0.9**	
	comp=Z,2.0nm,0.4s,baz=137,slow=4.5,SNR=6.3								
NRIK					LR	LR	17 20 50.8		
	comp=Z,54nm,18.0s,baz=189,slow=37								
NRIK	**Noril'sk**	**85.85**	**342**⇑	*e*P		**P**	**16 40 37.4**	**+0.4**	
NRIK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
K27K	**Chicken**	**86.40**	**24**	P		**P**	**16 40 40.4**	**+0.5**	
	baz=249								
K27K	**Chicken**	**86.40**	**24**	P		**P**	**16 40 41.1**	**+1.2**	
K27K					pP	**pP**	**16 40 56.7**	**-0.2**	
K27K					IAmb	IAmb	16 40 58.3		
	comp=Z,18nm,1.1s								
EGAK	**Eagle**	**87.05**	**24**	P		**P**	**16 40 43.4**	**+0.4**	
EGAK					IAmb	IAmb	16 41 00.7		
	comp=Z,21nm,1.1s								
HYT	**Haines Junctio**	**87.35**	**28**	P		**P**	**16 40 45.9**	**+1.1**	
HYT					IAmb	IAmb	16 41 07.9		
	comp=Z,20nm,0.7s								
BRVK	**Borovoye**	**87.92**	**324**⇑	*e*P		**P**	**16 40 47.5**	**+0.1**	
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.9s								
BRVK	**Borovoye**	**87.92**	**324**	P		**P**	**16 40 46.7**	**-0.8**	
EPYK	**Eagle Plains**	**89.31**	**23**	P		**P**	**16 40 54.3**	**+0.5**	
	baz=253								
EPYK	**Eagle Plains**	**89.31**	**23**	P		**P**	**16 40 54.4**	**+0.6**	
EPYK					IAmb	IAmb	16 41 11.4		
	comp=Z,28nm,1.2s								
INK	**Inuvik**	**91.01**	**21**	P		**P**	**16 41 01.4**	**-0.2**	
	comp=Z,2.4nm,0.4s,baz=259,slow=5.6,SNR=7.7								
INK	**Inuvik**	**91.01**	**21**	P		**P**	**16 41 01.2**	**-0.3**	
INK					pP	**pP**	**16 41 17.1**	**-1.5**	
INK					IAmb	IAmb	16 41 19.0		
	comp=Z,16nm,1.1s								
SYO	**Syowa Base**	**91.20**	**200**⇑	*e*P		**P**	**16 41 00.8**	**-1.7**	
ABKAR	**Akbulak array**	**93.77**	**319**	P		**P**	**16 41 12.5**	**-2.3**	
GEYT	**Alibeck**	**94.20**	**308**	LR		LR	17 25 23.4		
	comp=Z,74nm,21.9s,baz=170,slow=36								
NVAR	**Mina Array Bea**	**95.95**	**52**	LR		LR	17 16 42.8		
	comp=Z,155nm,21.9s,baz=272,slow=30								
YKA	**Yellowknife Ar**	**98.34**	**28**	PKKPbc	PKKPbc		16 58 05.0	-3.8	
	comp=Z,0.6nm,0.6s,baz=82,slow=3.3,SNR=4.8								
YKA					LR	LR	17 23 28.0		
	comp=Z,107nm,20.4s,baz=0.0,slow=34								
APA	**Apatity**	**105.06**	**339**⇓	*i* P		**Pdif**	**16 42 05.8**	**+0.7**	
APA					pmax	pmax			
	comp=Z,11nm,1.2s								
APA					MLR	MLR			
	comp=Z,2μm,18.0s								
ARCES	**ARCESS Array B**	**106.83**	**342**	Pdiff		**Pdif**		**16 42 12.2**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=74,slow=6.8,SNR=4.1								
BRTR	**Keskin Array B**	**113.11**	**311**	PKKPbc	PKKPbc		16 57 21.4	-1.4	
	comp=Z,0.5nm,0.7s,baz=264,slow=1.4,SNR=2.4								
AKASG	**Malin Array Be**	**113.12**	**323**	PKKPbc	PKKPbc		16 57 20.9	-2.1	
	comp=Z,0.3nm,0.3s,baz=252,slow=4.1,SNR=2.4								
PLCA	**Paso Flores**	**121.11**	**146**	PKP		**PKPdf**		**16 46 49.9**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=28,slow=1.9,SNR=8.2								
PLCA	**Paso Flores**	**121.11**	**146**	PKIKP		**PKPdf**		**16 46 50.6**	**-0.2**
PLCA	**Paso Flores**	**121.11**	**146**			**PKPdf**		**16 46 50.6**	**-0.2**
CLL	**Collm**	**121.92**	**329**	*e*PP		PP		16 48 26.0	+0.2
CLL				*e*PPPP				16 52 52.0	
CLL				*e*PS		**PS**		**16 58 18.0**	**-2.6**
CLL				*e*PPS		PPS		16 59 42.0	
CLL				*e*				17 00 18.0	
CLL				*e*SS		SS		17 05 12.0	+13
CLL				*e*SSS		SSS		17 09 42.0	
CLL				*e*				17 10 42.0	
CLL					LmV			17 43 00.0	
	comp=Z,200nm,21.2s								
KHC	**Kasperske Hory**	**122.84**	**327**	*e*PKP		**PKiKP**		**16 46 57.0**	**+3.0**
KHC	**Kasperske Hory**	**122.84**	**327**	*e*PKiKP		**PKiKP**		**16 46 57.0**	**+3.0**
GERES	**GERESS Array B**	**122.93**	**326**	PKP		**PKPdf**		**16 46 53.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=95,slow=1.4,SNR=5.8								
GERES				PKKPbc		**PKKPab**		**16 56 46.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=216,slow=3.2,SNR=2.3								
GERES	**GERESS Array B**	**122.93**	**326**	PKIKP		**PKPdf**		**16 46 52.7**	**-1.4**
GERES	**GERESS Array B**	**122.93**	**326**	PKPdf		**PKPdf**		**16 46 52.7**	**-1.4**
LPAZ	**La Paz**	**137.25**	**122**	PKP		**PKPdf**		**16 47 21.9**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=48,slow=3.6,SNR=5.9								
LPAZ	**La Paz**	**137.25**	**122**	*e*P		**PKPdf**		**16 47 22.5**	**-0.2**
CPUP	**Villa Florida**	**139.05**	**143**	PKP		**PKPdf**		**16 47 24.3**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=250,slow=0.7,SNR=3.5								
CPUP	**Villa Florida**	**139.05**	**143**	PKIKP		**PKPdf**		**16 47 24.1**	**-1.0**
CPUP	**Villa Florida**	**139.05**	**143**			**PKPdf**		**16 47 24.1**	**-1.0**
SAML	**Samuel**	**144.81**	**115**	PKIKP		**PKPab**		**16 47 33.9**	**-0.8**
SAML	**Samuel**	**144.81**	**115**			**PKPab**		**16 47 33.9**	**-0.8**
SAML	**Samuel**	**144.81**	**115**	*e*P		**PKPdf**		**16 47 35.2**	**-0.4**
PTLB	**Pontes e Lacer**	**145.05**	**128**	*e*P		**PKPdf**		**16 47 36.0**	**0.0**
TOA0	**Torodi Ar. Sit**	**146.84**	**285**			**PKPdf**		**16 47 37.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**146.84**	**285**	PKPbc		**PKPdf**		**16 47 38.7**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=60,slow=2.9,SNR=25								
ITRB	**Iturama**	**148.23**	**144**	*e*P		**PKPdf**		**16 47 42.1**	**+0.9**
ESAR	**Angra dos Reis**	**148.37**	**156**	*e*P		**PKPdf**		**16 47 40.6**	**-0.7**
MACA	**Manacapuru-AM**	**149.16**	**106**	*e*P		**PKPdf**		**16 47 42.4**	**-0.6**
ARAG	**Araguaiana, MT**	**150.28**	**137**	*e*P		**PKPdf**		**16 47 43.8**	**-0.8**
CLDB	**Colider**	**150.31**	**124**	*e*P		**PKPdf**		**16 47 45.2**	**+0.5**
IPMB	**Ipameri, GO**	**150.83**	**145**	*e*P		**PKPdf**		**16 47 45.4**	**-0.2**
KOWA	**Kowa**	**152.00**	**290**			**PKPbc**		**16 47 51.5**	**-2.3**
NPGB	**Novo Progresso**	**152.61**	**118**	*e*P		**PKPdf**		**16 47 48.2**	**0.0**
BDFB	**Brasilia**	**152.78**	**142**	PKPbc		**PKPbc**		**16 47 55.6**	**-0.1**
	comp=Z,13nm,0.4s,baz=178,slow=0.8,SNR=22								
ITTB	**Itaituba**	**153.41**	**112**	*e*P		**PKPdf**		**16 47 49.3**	**-0.1**
KIC	**Kosan Boka**	**153.71**	**272**	*e*P		**PKiKP**		**16 48 02.3**	**+4.5**
	comp=Z,6.3nm,0.7s								
DBIC	**Dimbokro**	**153.82**	**273**	PKPbc		**PKPbc**		**16 47 57.8**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=84,slow=2.3,SNR=5.5								
DBIC	**Dimbokro**	**153.82**	**273**	PKIKP		**PKPbc**		**16 47 57.6**	**-0.3**
DBIC	**Dimbokro**	**153.82**	**273**			**PKPbc**		**16 47 57.6**	**-0.3**
TIC	**Toumodi**	**153.99**	**273**	*e*P		**PKiKP**		**16 48 00.6**	**+2.2**
LIC	**Lamto**	**153.99**	**272**	*e*P		**PKiKP**		**16 48 00.1**	**+1.7**
	comp=Z,8.0nm,0.5s								
MALB	**Monte Alegre**	**155.66**	**108**	*e*P		**PKPdf**		**16 47 53.2**	**+0.6**
SMTB	**Santa Maria do**	**157.96**	**132**	*e*P		**PKPdf**		**16 47 55.2**	**-0.3**
MCPB	**Macapa, AP**	**158.22**	**106**	*e*P		**PKPdf**		**16 47 56.6**	**+0.8**
ROSB	**Rosrio**	**164.34**	**124**	*e*P		**PKPdf**		**16 48 03.4**	**+1.1**
RCBR	**Riachuelo**	**167.33**	**158**	*e*P		**PKPdf**		**16 48 06.3**	**+1.6**

NEIC ***29*** *16:53:31.6±0.9, 35°.73N±0°.04×97°.56W±0°.04, h9km±7km, Error ellipse: s-maj=6.2km s-min=4.1km az=186.0*
TUL ***29*** *16:53:31.6±0.9, 35°.73N±0°.04×97°.53W±0°.05, h6km±7km, ML3.2, Mwr3.1/11(SLM), Error ellipse: s-maj=5.8km s-min=4.9km az=133.0*
ANF ***29*** *16:53:31.0±0.7, 35°.73N×97°.53W, h5km, ML3.9/8, Error ellipse: s-maj=11.2km s-min=6.0km az=163.0*
NEIC ***29*** *16:53:31.6, 35°.73N×97°.53W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^13 Nm; Mrr 0.00; Mθθ 3.99; Mϕϕ -3.99; Mrθ 0.51; Mrϕ -4.76; Mθϕ 0.19; Fault plane solution: Mo 6.24000×10^13 NP1:ϕs 160.00000°, δ 85.00000°, λ 0.00000°. NP2:ϕs 250.00000°, δ 90.00000°, λ -175.00000°. Principal axes: T 6.2348, Plg4.0000°, Azm25.0000°; N 0.0000, Plg85.0000°, Azm250.0000°; P -6.2349, Plg4.0000°, Azm115.0000°;*

ISC 29 16:53:31.7±1.2, 35.75N±0.03×97.53W±0.03, h8km±8km, n50, σ0.56/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.08**	**52**	Pg	**Pg**	**16 53 33.9**	**+0.2**
BCOK	**Bluff Creek, N**	**0.11**	**215**	Pg	**Pg**	**16 53 34.0**	**-0.1**
OK001	**Jones High Sch**	**0.27**	**134**	Pg	**Pg**	**16 53 37.0**	**0.0**
OKCFA	**Oklahoma City**	**0.34**	**169**	Pg	**Pg**	**16 53 38.1**	**-0.2**
FNO	**Franklin**	**0.50**	**168**	Pg	**Pg**	**16 53 41.4**	**0.0**
OK031	**S. Brethren Rd**	**0.60**	**70**	Pg	**Pg**	**16 53 43.2**	**0.0**
OK030	**Cody Creek RV**	**0.63**	**73**	Pg	**Pg**	**16 53 43.8**	**0.0**
QUOK	**Quay**	**0.79**	**57**	Pg	**Pg**	**16 53 46.6**	**-0.2**
W35A	**Tecumseh**	**0.80**	**138**	Pg	**Pg**	**16 53 46.4**	**-0.6**
CROK	**Carrier**	**0.84**	**334**	Pg	**Pg**	**16 53 47.9**	**+0.1**
KAN14	**Manchester OK**	**1.26**	**344**		**Pn**	**16 53 55.0**	**-0.6**
KAN13	**South Haven SW**	**1.26**	**2**		**Pn**	**16 53 55.1**	**-0.6**
U32A	**Winter Ranch,**	**1.35**	**298**		**Pn**	**16 53 56.3**	**-0.6**
KAN05	**Bluff City Nor**	**1.39**	**349**		**Pn**	**16 53 57.6**	**+0.2**
TUL1	**Leonard**	**1.42**	**83**	P	**Pn**	**16 53 57.0**	**-0.9**
	baz=263						
TUL1				S	**Sb**	**16 54 16.6**	**-0.2**
	baz=263						
**TUL

KHMZ	Khomeyn	2.17	56	ePn	Pb	17 07 22.9 -0.7
IDHR	Dehrash	2.47	332	ePn	Pn	17 07 25.4 +1.1
IDHR				e		17 08 11.9
ILIN	Lien	2.48	344	ePn	Pb	17 07 26.7 -2.2
ILIN				e		17 08 13.9
HAGD	Aghdareh	2.54	26	ePn	Pb	17 07 27.5 -2.4
HAGD				e		17 08 09.1
SNGE	Sanandaj	2.58	352	ePn	Pb	17 07 29.0 -1.6
IPIR	Pirpir	2.61	86	ePn	Pn	17 07 27.8 +1.4
IPIR				e		17 08 08.6
HSRG	Sareghieh	2.73	8	ePn	Pb	17 07 30.1 -3.1
ASAO	Ashtian	2.73	42	ePn	Pb	17 07 31.0 -2.2
ROKH	ROKH	2.73	93	ePn	Pn	17 07 29.6 +1.6
ROKH				e		17 08 22.8
BHD	Baghdad	2.98	285	ePn	Pn	17 07 32.0 +0.9
BHD				eSn	Sn	17 08 09.0 +2.4
IKLH	Kolahrood	3.27	75	ePn	Pn	17 07 37.3 +1.9
IKLH				e		17 07 42.7
IRAZ	Razeghan	3.36	31	ePn	Pn	17 07 39.6 +2.9
QABG	Abgarm-Qazvin	3.49	24	ePn	Pn	17 07 39.6 +1.1
KLNJ	Kolanjah	3.56	114	ePn	Pn	17 07 40.7 +1.2
KLNJ				e		17 08 58.7
IGAR	Gharneh	3.58	91	ePn	Pn	17 07 41.2 +1.5
IGAR				e		17 07 44.0
IZEF	Zefreh	3.83	83	ePn	Pn	17 07 44.9 +1.8
KRSH	Karshahi	3.90	67	ePn	Pn	17 07 45.8 +1.8
KRSH				e		17 08 53.6
IRAM	Ramesheh	3.94	99	ePn	Pn	17 07 45.2 +0.5
IDMV	Damavand	4.64	48	ePn	Pn	17 07 55.0 +0.7

TAP ***29*** *17:14:28.4,24.˚70N×122.˚33E,h91km,ML3.7,B*
JMA ***29*** *17:14:28.6±0.3,24.˚67N×122.˚31E,h90km±3km,M3.2*
ISC 29 17:14:27.9±1.2**,24.˚71N**±0.˚03×**122.˚32E**±0.˚02**,h98**km±5km,**
n136,σ1§13/260,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**316**	**P**		**Pn**		**17 14 43.4**	**+0.5**
	baz=315								
TWB1				S		Sn		17 14 54.0	-0.2
	baz=315								
TWC	**Suao**	**0.43**	**257**	**P**		**Pn**		**17 14 43.3**	**+0.3**
	baz=257								
TWC				S		Sn		17 14 53.7	-0.5
	baz=257								
NTC	**Toucheng**	**0.47**	**289**	**P**		**Pn**		**17 14 43.3**	**+0.1**
	baz=288								
NTC				S		Sn		17 14 53.8	-0.8
	baz=288								
TIPB	**Shuangxi**	**0.52**	**301**	**P**		**Pn**		**17 14 44.3**	**+0.7**
	baz=300								
TIPB				S		Sn		17 14 55.1	-0.3
	baz=300								
ILA	**Ilan**	**0.52**	**277**	**P**		**Pn**		**17 14 44.4**	**+0.8**
	baz=276								
ILA				eS		Sn		17 14 55.2	0.0
	baz=276								
ENAH	**Nanao**	**0.53**	**241**	**P**		**Pn**		**17 14 44.5**	**+0.9**
	baz=242								
ENAH				eS		Sn		17 14 55.7	+0.3
	baz=242								
TWE	**Neicheng**	**0.59**	**272**	**P**		**Pn**		**17 14 45.0**	**+0.8**
	baz=271								
TWE				S		Sn		17 14 56.3	0.0
	baz=271								
NWF	**Wu-fen Shan**	**0.61**	**307**	**P**		**Pn**		**17 14 45.0**	**+0.6**
	baz=306								
NWF				S		Sn		17 14 55.8	-0.9
	baz=306								
WFSB	**Wu-fen Shan**	**0.61**	**307**	**P**		**Pn**		**17 14 44.8**	**+0.5**
	baz=306								
WFSB				S		Sn		17 14 55.4	-1.1
	baz=306								
JYNG	**Yonagunijimaku**	**0.63**	**114**	**P**		**Pn**		**17 14 44.6**	**+0.2**
JYNG				S		Sn		17 14 55.2	-1.6
YOJ	**Yonaguni jima**	**0.68**	**111**	**P**		**Pn**		**17 14 44.9**	**0.0**
	baz=110								
YOJ				S		Sn		17 14 55.5	-2.1
	baz=110								
YOJ	**Yonaguni jima**	**0.68**	**111**	**P**		**Pn**		**17 14 45.1**	**+0.2**
YOJ				S		Sn		17 14 55.9	-1.7
ENTT	**Nioudou**	**0.69**	**265**	**P**		**Pn**		**17 14 46.1**	**+1.1**
	baz=264								
ENTT				eS		Sn		17 14 58.0	+0.2
	baz=264								
TWA	**Mucha**	**0.72**	**293**	**P**		**Pn**		**17 14 45.7**	**+0.4**
	baz=292								
TWA				S		Sn		17 14 58.0	-0.4
	baz=292								
NDT	**Datong Townshi**	**0.74**	**262**	**P**		**Pn**		**17 14 46.5**	**+1.1**
	baz=262								
NDT				S		Sn		17 14 59.4	+0.8
	baz=262								
NWLT	**Wulai**	**0.74**	**276**	**P**		**Pn**		**17 14 46.1**	**+0.6**
	baz=275								
NWLT				eS		Sn		17 14 58.2	-0.5
	baz=275								
TATO	**Taipei**	**0.80**	**290**	**P**		**Pn**		**17 14 46.3**	**+0.2**
	baz=289								
TATO				S		Sn		17 14 58.2	-1.4
	baz=289								
TAP	**Taipei**	**0.81**	**295**	**eP**		**Pn**		**17 14 46.6**	**+0.5**
	baz=294								
TAP				eS		Sn		17 14 59.3	-0.5
	baz=294								
YM01	**YM01**	**0.81**	**303**	**eP**		**Pn**		**17 14 46.8**	**+0.6**
	baz=302								
YM01				eS		Sn		17 14 59.9	0.0
	baz=302								
YM11	**YM11**	**0.81**	**304**	**P**		**Pn**		**17 14 47.1**	**+0.8**
	baz=304								
YM11				S		Sn		17 14 59.0	-1.1
	baz=304								
YM08	**YM08**	**0.82**	**306**	**P**		**Pn**		**17 14 46.4**	**+0.2**
	baz=305								
YM08				eS		Sn		17 14 59.0	-1.0
	baz=305								
YM10	**YM10**	**0.82**	**303**	**P**		**Pn**		**17 14 46.9**	**+0.5**
	baz=303								
YM10				eS		Sn		17 14 59.8	-0.3
	baz=303								
YM05	**YM05**	**0.82**	**304**	**P**		**Pn**		**17 14 46.9**	**+0.6**
	baz=303								
YM05				eS		Sn		17 14 59.3	-0.9
	baz=303								
YM04	**YM04**	**0.84**	**302**	**P**		**Pn**		**17 14 47.0**	**+0.5**
	baz=302								
YM04				eS		Sn		17 14 59.4	-1.0
	baz=302								
NACB	**Ninganchiao**	**0.84**	**231**	**P**		**Pn**		**17 14 46.6**	**+0.1**
	baz=231								
NACB				eS		Sn		17 14 59.5	-0.9
	baz=231								
YM03	**YM03**	**0.85**	**304**	**eP**		**Pn**		**17 14 47.0**	**+0.4**
	baz=303								
YM03				eS		Sn		17 14 59.8	-0.8
	baz=303								
YHNB	**Yeheng**	**0.86**	**268**	**P**		**Pn**		**17 14 47.6**	**+0.9**
	baz=267								
YHNB				S		Sn		17 15 01.4	+0.5
	baz=267								
TWY	**Chenhua**	**0.86**	**311**	**eP**		**Pn**		**17 14 47.4**	**+0.7**
	baz=311								
TWY				eS		Sn		17 15 01.0	+0.2
	baz=311								
ANP	**Anpu**	**0.87**	**304**	**eP**		**Pn**		**17 14 47.2**	**+0.4**
	baz=303								
ANP				eS		Sn		17 14 59.9	-1.1
	baz=303								
NSK	**Sanguang**	**0.87**	**268**	**P**		**Pn**		**17 14 47.7**	**+0.8**
	baz=268								
NSK				S		Sn		17 15 01.3	+0.2
	baz=268								
NNSB	**Datong**	**0.89**	**252**	**P**		**Pn**		**17 14 48.0**	**+0.9**
	baz=252								
NNSB				eS		Sn		17 15 01.8	+0.2
	baz=252								
NNSH	**Datong**	**0.89**	**252**	**P**		**Pn**		**17 14 47.9**	**+0.7**
	baz=252								
NNSH				eS		Sn		17 15 01.5	0.0
	baz=252								
NNS	**Nan Shan**	**0.90**	**253**	**P**		**Pn**		**17 14 48.0**	**+0.8**
	baz=253								
NNS				S		Sn		17 15 02.0	+0.3
	baz=253								
TWD	**Chiawan**	**0.90**	**227**	**P**		**Pn**		**17 14 47.2**	**+0.1**
	baz=226								
TWD				eS		Sn		17 15 01.4	-0.1
	baz=226								
TWS1	**Kuangyinshan**	**0.91**	**296**	**P**		**Pn**		**17 14 47.9**	**+0.8**
	baz=295								
TWS1				S		Sn		17 15 02.0	+0.4
	baz=295								
ETLH	**Xiulin Townshi**	**0.91**	**237**	**P**		**Pn**		**17 14 47.5**	**+0.3**
	baz=237								
ETLH				eS		Sn		17 15 01.3	-0.5
	baz=237								
NTST	**Danshui**	**0.91**	**300**	**eP**		**Pn**		**17 14 47.7**	**+0.6**
	baz=300								
NTST				eS		Sn		17 15 01.4	-0.2
	baz=300								
PCYT	**Pengchaiyu**	**0.95**	**347**	**eP**		**Pn**		**17 14 48.4**	**+0.8**
	baz=346								
HWA	**Hwalien**	**0.97**	**222**	**P**		**Pn**		**17 14 48.1**	**+0.2**
	baz=222								
HWA				eS		Sn		17 15 03.2	+0.4
	baz=222								
NCU	**National Centr**	**1.06**	**285**	**eP**		**Pn**		**17 14 49.6**	**+0.8**
	baz=284								
NCU				eS		Sn		17 15 05.7	+1.2
	baz=284								
NCUH	**Zhongli**	**1.06**	**285**	**eP**		**Pn**		**17 14 49.1**	**+0.3**
	baz=284								
NCUH				eS		Sn		17 15 04.2	-0.4
	baz=284								
FUSS	**Fushou**	**1.08**	**245**	**P**		**Pn**		**17 14 50.3**	**+1.0**
	baz=245								
FUSS				eS		Sn		17 15 05.5	+0.2
	baz=245								
WHF	**Hehuan Shan**	**1.11**	**240**	**P**		**Pn**		**17 14 50.6**	**+0.8**
	baz=240								
WHF				eS		Sn		17 15 06.0	-0.3
	baz=240								
TWT	**Tachien**	**1.13**	**247**	**P**		**Pn**		**17 14 51.2**	**+1.4**
	baz=247								
TWT				S		Sn		17 15 06.8	+0.5
	baz=247								
TDCB	**Techi**	**1.15**	**247**	**P**		**Pn**		**17 14 51.1**	**+1.2**
	baz=247								
TDCB				eS		Sn		17 15 06.5	-0.1
	baz=247								
LIOB	**Emei**	**1.18**	**267**	**eP**		**Pn**		**17 14 51.3**	**+1.0**
	baz=267								
LIOB				eS		Sn		17 15 07.4	+0.3
	baz=267								
ESL	**Shilin**	**1.20**	**222**	**eP**		**Pn**		**17 14 50.2**	**-0.2**
	baz=222								
ESL				eS		Sn		17 15 05.4	-2.0
	baz=222								
NSTT	**Nanjuang**	**1.20**	**267**	**eP**		**Pn**		**17 14 51.3**	**+0.9**
	baz=266								
NSTT				S		Sn		17 15 07.8	+0.4
	baz=266								
SBCB	**Hsinchu**	**1.21**	**274**	**eP**		**Pn**		**17 14 51.6**	**+1.0**
	baz=274								
SBCB				eS		Sn		17 15 07.2	-0.4
	baz=274								
CHGB	**Renai**	**1.22**	**239**	**P**		**Pn**		**17 14 51.8**	**+0.9**
	baz=238								
CHGB				S		Sn		17 15 07.8	-0.5
	baz=238								
HSN	**Hsinchu**	**1.23**	**275**	**eS**		**Sn**		**17 15 08.1**	**+0.2**
	baz=276								
EGFH	**Guangfu**	**1.31**	**218**	**eP**		**Pn**		**17 14 51.3**	**-0.5**
	baz=218								
EGFH				eS		Sn		17 15 08.2	-1.6
	baz=218								
WHP	**Taichung City**	**1.32**	**251**	**eP**		**Pn**		**17 14 53.5**	**+1.6**
	baz=251								
WHP				eS		Sn		17 15 10.7	+0.7
	baz=251								
IRIF	**Iriomote-Funau**	**1.34**	**106**	**P**		**Pn**		**17 14 52.0**	**-0.1**
IRIF				eS		Sn		17 15 09.6	-0.7
NMLH	**Miaoli**	**1.40**	**263**	**P**		**Pn**		**17 14 53.0**	**+0.3**
	baz=263								
NMLH				eS		Sn		17 15 12.1	+0.4
	baz=263								
VWDT	**VWDT**	**1.43**	**229**	**P**		**Pn**		**17 14 54.0**	**+0.9**
	baz=228								
VWDT				eS		Sn		17 15 12.3	0.0
	baz=228								
DPDB	**Guoxing**	**1.43**	**242**	**P**		**Pn**		**17 14 55.0**	**+1.7**
	baz=242								
DPDB				eS		Sn		17 15 13.7	+1.2
	baz=242								
NSY	**Sanyi**	**1.44**	**259**	**P**		**Pn**		**17 14 54.8**	**+1.4**
	baz=258								
NSY				eS		Sn		17 15 13.8	+1.1
	baz=258								
HGSD	**Ruisui**	**1.46**	**214**	**P**		**Pn**		**17 14 53.4**	**-0.1**
	baz=214								
HGSD				eS		Sn		17 15 12.4	-0.5
	baz=214								
EHY	**Hungye**	**1.50**	**217**	**eP**		**Pn**		**17 14 53.5**	**-0.6**
	baz=217								
HATJ	**Hateruma jima**	**1.50**	**115**	**P**		**Pn**		**17 14 55.2**	**+1.1**
HATJ				eS		Sn		17 15 15.3	+1.4
SMLT	**Sun Moon Lake**	**1.53**	**238**	**P**		**Pn**		**17 14 56.0**	**+1.4**
	baz=237								
SMLT				eS		Sn		17 15 16.6	+1.9
	baz=237								
SSLB	**Suanglung**	**1.54**	**234**	**P**		**Pn**		**17 14 55.4**	**+0.8**
	baz=234								
SSLB				eS		Sn		17 15 16.7	+1.8
	baz=234								
TYC	**Yuchr**	**1.55**	**239**	**P**		**Pn**		**17 14 56.2**	**+1.5**
	baz=239								
TYC				S		Sn		17 15 16.6	+1.6
	baz=239								
WDJ	**Dajia District**	**1.57**	**257**	**eS**		**Sn**		**17 15 15.7**	**+0.3**
	baz=257								
TCU	**Taichung**	**1.59**	**250**	**eP**		**Pn**		**17 14 56.4**	**+1.2**
	baz=249								
TCU				eS		Sn		17 15 15.9	-0.1
	baz=249								
YULB	**Yu-li**	**1.60**	**216**	**P**		**Pn**		**17 14 54.7**	**-0.7**
	baz=215								
YULB				eS		Sn		17 15 14.5	-1.8
	baz=215								
JKRS	**Kuro-shima**	**1.61**	**106**	**P**		**Pn**		**17 14 56.0**	**+0.6**
JKRS				eS		Sn		17 15 16.6	+0.3
EYUL	**Yuli**	**1.63**	**214**	**eP**		**Pn**		**17 14 55.5**	**-0.2**
	baz=214								
EYUL				eS		Sn		17 15 16.8	+0.1
	baz=214								
TWF1	**Yuli**	**1.64**	**215**	**P**		**Pn**		**17 14 55.2**	**-0.6**
	baz=214								
TWF1				eS		Sn		17 15 15.4	-1.5
	baz=214								
WHYT	**Xinyi Township**	**1.67**	**233**	**eP**		**Pn**		**17 14 58.2**	**+2.0**
	baz=233								
WHYT				eS		Sn		17 15 20.1	+2.4
	baz=233								
WJS	**Zhushan**	**1.69**	**239**	**eP**		**Pn**		**17 14 58.2**	**+1.7**
	baz=239								
WJS				eS		Sn		17 15 20.3	+2.1
	baz=239								
JIJ	**Ishigaki jima**	**1.70**	**101**	**P**		**Pn**		**17 14 56.7**	**+0.2**
JIJ				S		Sn		17 15 17.7	-0.6
WNT	**Mingjian**	**1.70**	**241**	**eP**		**Pn**		**17 14 58.0**	**+1.4**
	baz=241								
WNT				eS		Sn		17 15 19.8	+1.5
	baz=241								
WCHH	**Zhanghua**	**1.72**	**249**	**eP**		**Pn**		**17 14 57.3**	**+0.5**
	baz=249								
WCHH				eS		Sn		17 15 18.6	-0.1
	baz=249								
FULB	**Fuli**	**1.77**	**212**	**P**		**Pn**		**17 14 57.4**	**0.0**
	baz=212								
FULB				eS		Sn		17 15 19.0	-0.9
	baz=212								
JISG	**Ishigakijimahi**	**1.82**	**93**	**P**		**Pn**		**17 14 58.5**	**+0.5**
JISG				eS		Sn		17 15 21.6	+0.6
CHKT	**Chengkung**	**1.82**	**209**	**P**		**Pn**		**17 14 57.6**	**-0.5**
	baz=208								
CHKT				eS		Sn		17 15 18.7	-2.3
	baz=208								
ALS	**Alishan**	**1.82**	**230**	**P**		**Pn**		**17 14 60.0**	**+1.5**
	baz=229								
ALS				S		Sn		17 15 23.5	+1.9
	baz=229								
CHN5	**Tsauling**	**1.86**	**234**	**P**		**Pn**		**17 15 00.3**	**+1.6**
	baz=233								
CHN5				S		Sn		17 15 23.7	+1.6
	baz=233								
WGK	**Gukeng**	**1.90**	**238**	**eP**		**Pn**		**17 15 00.8**	**+1.8**
	baz=237								
WGK				eS		Sn		17 15 24.3	+1.5
	baz=237								
WDLH	**Douliu**	**1.91**	**238**	**P**		**Pn**		**17 15 00.4**	**+1.2**
	baz=238								
WDLH				eS		Sn		17 15 24.7	+1.5
	baz=238								
ELDTW	**Lidau**	**1.92**	**218**	**P**		**Pn**		**17 14 59.0**	**-0.5**
	baz=218								
ELDTW				eS		Sn		17 15 22.1	-1.4
	baz=218								
EDH	**Donghe**	**1.96**	**208**	**P**		**Pn**		**17 14 59.4**	**-0.4**
	baz=208								
EDH				S		Sn		17 15 22.4	-1.8
	baz=208								
RLNB	**Erlin**	**1.96**	**246**	**P**		**Pn**		**17 15 00.6**	**+0.8**
	baz=245								
RLNB				S		Sn		17 15 25.0	+0.8
	baz=245								
WTK	**Tuku**	**2.03**	**240**	**P**		**Pn**		**17 15 01.5**	**+0.7**
	baz=240								
WTK				S		Sn		17 15 26.5	+0.6
	baz=240								
CHN4	**Tsaushan**	**2.07**	**230**	**P**		**Pn**		**17 15 03.0**	**+1.6**
	baz=229								
CHN4				eS		Sn		17 15 28.5	+1.6
	baz=229								
TPUB	**Ta-pu**	**2.08**	**228**	**P**		**Pn**		**17 15 02.5**	**+1.0**
	baz=228								
TPUB				S		Sn		17 15 28.3	+1.2
	baz=228								
LONT	**Longtian**	**2.09**	**211**	**P**		**Pn**		**17 15 00.3**	**-1.3**
	baz=211								
LONT				eS		Sn		17 15 25.5	-1.9
	baz=211								
CHY	**Chiayi**	**2.10**	**236**	**P**		**Pn**		**17 15 02.6**	**+0.8**
	baz=235								
CHY				S		Sn		17 15 28.7	+1.1
	baz=235								
WTP	**Ta-pu**	**2.13**	**227**	**P**		**Pn**		**17 15 03.6**	**+1.4**
	baz=227								
WTP				S		Sn		17 15 29.9	+1.6
	baz=227								
LDUT	**Ludao**	**2.17**	**201**	**P**		**Pn**		**17 15 01.6**	**-1.0**
	baz=201								
LDUT				S		Sn		17 15 26.7	-2.3
	baz=201								
JTJ	**Tarama**	**2.17**	**91**	**P**		**Pn**		**17 15 03.4**	**+0.8**
JTJ				S		Sn		17 15 30.0	+0.8
WSF	**Szhu**	**2.19**	**241**	**eP**		**Pn**		**17 15 06.9**	**+4.1**
	baz=241								
WSF				eS		Sn		17 15 29.9	+0.4
	baz=241								
TWGBT	**Beinan**	**2.19**	**211**	**eP**		**Pn**		**17 15 02.2**	**-0.7**
	baz=211								
TWG	**Pinlang**	**2.19**	**212**	**eS**		**Sn**		**17 15 27.6**	**-2.1**
	baz=211								
TWK	**Hsinying**	**2.20**	**230**	**eP**		**Pn**		**17 15 04.4**	**+1.3**
	baz=229								
TWK				eS		Sn		17 15 30.8	+0.8
	baz=229								
WLGB	**Puzi**	**2.21**	**237**	**P**		**Pn**		**17 15 03.2**	**+0.1**
	baz=236								
WLGB				eS		Sn		17 15 29.8	-0.3
	baz=236								
CHN1	**Nanshi**	**2.23**	**228**	**eP**		**Pn**		**17 15 04.8**	**+1.4**
	baz=227								
CHN1				S		Sn		17 15 31.6	+1.0
	baz=227								
SGST	**Jiashian**	**2.26**	**225**	**eP**		**Pn**		**17 15 04.0**	**+0.2**
	baz=224								
SGST				eS		Sn		17 15 31.5	+0.1
	baz=224								
SLGT	**Liugui**	**2.29**	**222**	**eP**		**Pn**		**17 15 05.9**	**+1.7**
	baz=222								
SLGT				S		Sn		17 15 33.6	+1.6
	baz=222								
ICHU	**Yijhu**	**2.29**	**235**	**eP**		**Pn**		**17 15 04.9**	**+0.7**
	baz=234								
ICHU				eS		Sn		17 15 32.8	+0.7
	baz=234								
CHN8	**Yiju**	**2.35**	**235**	**eP**		**Pn**		**17 15 05.9**	**+0.9**
	baz=235								
CHN8				eS		Sn		17 15 33.5	+0.1
	baz=235								
PTTC	**Pingtan**	**2.44**	**289**	**P**		**Pn**		**17 15 06.2**	**+0.1**
	baz=288								
PTTC				eS		Sn		17 15 34.2	-1.3
	baz=288								
ECL	**Taimali**	**2.44**	**211**	**eP**		**Pn**		**17 15 05.3**	**-0.9**
	baz=210								
ECL				eS		Sn		17 15 33.1	-2.4
	baz=210								
SCST	**Cishan**	**2.46**	**223**	**P**		**Pn**		**17 15 05.9**	**-0.6**
	baz=222								
SCST				eS		Sn		17 15 36.4	+0.4
	baz=222								
SCLT	**Jiali**	**2.47**	**232**	**eS**		**Sn**		**17 15 37.4**	**+1.3**
	baz=231								
SSD	**Sandimen**	**2.49**	**219**	**P**		**Pn**		**17 15 08.3**	**+1.5**
	baz=218								
SSD				eS		Sn		17 15 38.6	+2.0
	baz=218								
TSMG	**Majia**	**2.51**	**218**	**P**		**Pn**		**17 15 08.5**	**+1.4**
	baz=217								
TSMG				eS		Sn		17 15 37.3	+0.1
	baz=217								
MATB	**Ma-tsu**	**2.58**	**304**	**eP**		**Pn**		**17 15 07.7**	**-0.3**
	baz=303								
MASBT	**Mashibuluo**	**2.59**	**217**	**eP**		**Pn**		**17 15 09.3**	**+1.1**
	baz=216								
MASBT				eS		Sn		17 15 40.0	+0.9
	baz=216								
JIRB	**Irabujima**	**2.60**	**87**	**P**		**Pn**		**17 15 09.1**	**+0.8**
JIRB				S		Sn		17 15 39.3	0.0
VWUC	**VWUC**	**2.62**	**277**	**P**		**Pn**		**17 15 08.6**	**0.0**
	baz=276								
VWUC				eS		Sn		17 15 37.6	-2.1
	baz=276								
JIKM	**Ikemajima**	**2.67**	**85**	**P**		**Pn**		**17 15 10.7**	**+1.5**
JIKM				eS		Sn		17 15 42.2	+1.2
EAST	**Anshuo**	**2.67**	**211**	**eP**		**Pn**		**17 15 08.4**	**-0.9**
	baz=210								
EAST				eS		Sn		17 15 39.6	-1.6
	baz=210								
TAW	**Tawu**	**2.67**	**209**	**eP**		**Pn**		**17 15 10.2**	**+1.0**
	baz=209								
TAW				eS		Sn		17 15 38.5	-2.6
	baz=209								
JMJ	**Miyako jima 2**	**2.71**	**87**	**eP**		**Pn**		**17 15 11.0**	**+1.3**
	baz=87								
JMJ				eS		Sn		17 15 41.6	-0.3
	baz=87								
SSPT	**Xinbi**	**2.73**	**216**	**eP**		**Pn**		**17 15 11.5**	**+1.4**
	baz=216								
JMJ2	**Miyako jima3**	**2.74**	**89**	**P**		**Pn**		**17 15 11.1**	**+1.0**
JMJ2				eS		Sn		17 15 43.0	+0.4
LAY	**Lan-yu**	**2.75**	**195**	**eP**		**Pn**		**17 15 09.5**	**-0.7**
	baz=194								
PNG	**Penghu**	**2.77**	**246**	**eS**		**Sn**		**17 15 41.0**	**-2.2**
	baz=245								
PHUB	**P'eng-hu**	**2.77**	**245**	**eP**		**Pn**		**17 15 10.5**	**-0.1**
	baz=244								
PHUB				eS		Sn		17 15 41.2	-2.2
	baz=244								
SCZT	**Fangliau**	**2.79**	**214**	**eP**		**Pn**		**17 15 11.8**	**+0.9**
	baz=213								
SCZT				eS		Sn		17 15 44.1	+0.2
	baz=213								
JOGS	**Gusukube**	**2.81**	**88**	**P**		**Pn**		**17 15 12.3**	**+1.2**
JOGS				eS		Sn		17 15 44.5	+0.2
WDGT	**Dungji**	**2.82**	**240**	**eP**		**Pn**		**17 15 11.4**	**+0.2**
	baz=239								
WDGT				S		Sn		17 15 43.5	-1.

LYJJ	**Jianjiangzhen**	**2.95**	**309**	*eP*	**Pn**	**17 15 13.0**	**+0.1**
	baz=308						
LYJJ				*eS*	**Sn**	**17 15 45.8**	**-1.8**
	baz=308						
VCHM	**Qimei**	**3.03**	**241**	*eP*	**Pn**	**17 15 14.5**	**+0.5**
	baz=240						
VCHM				*eS*	**Sn**	**17 15 47.8**	**-1.8**
	baz=240						
HEN	**Hengchun**	**3.05**	**209**	*eP*	**Pn**	**17 15 16.1**	**+1.8**
	baz=208						
HEN				*eS*	**Sn**	**17 15 50.6**	**+0.5**
	baz=208						
MHZQ	**Yeshan**	**3.28**	**296**	*eP*	**Pn**	**17 15 16.9**	**-0.5**
	baz=295						
MHZQ				*eS*	**Sn**	**17 15 57.2**	**+1.7**
	baz=295						
KNM	**Kinmen**	**3.55**	**266**	*eP*	**Pn**	**17 15 23.4**	**+2.5**
	baz=265						
KNM				*eS*	**Sn**	**17 16 02.7**	**+0.7**
	baz=265						
KNMB	**Chin-men Tao**	**3.58**	**267**	*eP*	**Pn**	**17 15 21.1**	**-0.3**
	baz=266						
KNMB				*eS*	**Sn**	**17 15 59.8**	**-3.0**
	baz=266						
AXDP	**Jialang**	**3.95**	**274**	P	**Pn**	**17 15 26.7**	**+0.3**
	baz=272						
AXDP				*eS*	**Sn**	**17 16 09.3**	**-2.5**
	baz=272						
ZPLA	**Ao Xicun**	**4.24**	**260**	P	**Pn**	**17 15 30.7**	**+0.4**
	baz=259						
ZPLA				*eS*	**Sn**	**17 16 15.8**	**-2.8**
	baz=259						

BUG **29** *17:23:54.6±0.0,49°.81N×8°.60E,h7km±2km,MD3.9/13, ML3.8/12*
LDG **29** *17:23:54.2±0.2,49°.80N×8°.59E,h5km,Md3.5/2,Ml3.7/48, Error ellipse: s-maj=3.2km s-min=3.0km az=92.0*
BGR **29** *17:23:54.6±0.1,49°.83N×8°.71E,h8km±1km,ML3.6/46, Error ellipse: s-maj=1.1km s-min=1.1km az=109.0*
STR **29** *17:23:55.2±1.1,50°.N±4°×±1°.0,h22km±7km,MLv3.6/8, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
BNS **29** *17:23:56.8±0.2,49°.90N×8°.63E,h11km±2km,ML3.2*
PRU **29** *17:23:58.2±0.0,49°.71N×9°.00E,h10km*
ISC 29 17:23:52.9±0.5,49°.82N±0°.01×8°.60E±0°.01,h15km±3km, n214,σ2ᵠ43/394,6C-10D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WBB	**Darmstadt**	**0.05**	**56**	⇓Pg		**Pg**	**17 23 55.9**	**+0.1**
WBB				Sg		**Sg**	**17 23 56.6**	**-1.1**
WBA	**Furth**	**0.21**	**139**	⇓*i*Pg		**Pg**	**17 23 58.6**	**+0.8**
WBA				Sg		**Sg**	**17 24 01.3**	**+0.1**
TOD	**Tromm**	**0.25**	**148**	⇓*i*Pg		**Pg**	**17 23 59.1**	**+0.8**
TOD				Sg		**Sg**	**17 24 02.5**	**+0.4**
SWS	**Schriesheim-Wi**	**0.34**	**169**	⇓Pg		**Pg**	**17 24 01.1**	**+1.2**
SWS				Sg		**Sg**	**17 24 05.7**	**+1.0**
TNS	**Taunus Mts**	**0.42**	**347**	⇓Pg		**Pb**	**17 24 03.1**	**+1.1**
TNS				Sg		**Sb**	**17 24 09.6**	**+1.3**
IMS	**Imsbach**	**0.51**	**244**	⇑Pg		**Pb**	**17 24 05.2**	**+1.8**
IMS				Sg		**Sb**	**17 24 12.9**	**+2.3**
IMS				SmS			17 24 15.9	
KTD	**Kalmit**	**0.60**	**214**	Pg		**Pb**	**17 24 06.9**	**+1.8**
KTD				Sg		**Sb**	**17 24 16.3**	**+3.0**
KTD	**Kalmit**	**0.60**	**214**	⇑Pg		**Pb**	**17 24 06.9**	**+1.8**
KTD				SmS			17 24 18.6	
WBG	**Bieber**	**0.60**	**53**	⇑Pg		**Pg**	**17 24 02.8**	**-1.9**
NAST	**IGS Nastaetten**	**0.61**	**309**	*e*Pg		**Pb**	**17 24 07.2**	**+2.0**
NAST				*e*Pn		**Pn**	**17 24 08.8**	**+1.8**
GWBC	**Aumenau**	**0.62**	**340**	⇓Pg		**Pb**	**17 24 07.3**	**+1.9**
GWBC				Sg		**Sb**	**17 24 15.8**	**+1.9**
FACH	**Fachingen**	**0.67**	**324**	⇓Pg		**Pb**	**17 24 08.2**	**+2.0**
FACH				PmP			17 24 09.7	
FACH				SmS			17 24 20.9	
ABH	**Alteburg**	**0.68**	**276**	Pg		**Pb**	**17 24 08.3**	**+1.8**
ABH	**Alteburg**	**0.68**	**276**	Pg		**Pb**	**17 24 08.3**	**+1.8**
ABH				SmS			17 24 22.2	
SIND	**Sindeldorf**	**0.81**	**125**	⇓Pg		**Pg**	**17 24 09.4**	**+0.8**
SIND				PmP			17 24 11.6	
SIND				Sg		**Sg**	**17 24 19.7**	**+0.6**
SIND				SmS			17 24 22.9	
BRET	**Bretten**	**0.81**	**176**	Pg		**Pb**	**17 24 10.3**	**+1.7**
BRET				PmP			17 24 12.0	
KOE	**Koeppel**	**0.83**	**318**	⇓ePg		**Pn**	**17 24 11.4**	**+1.4**
KOE				*e*Pn		**Pb**	**17 24 12.2**	**+3.2**
BGG	**Burgeitz**	**0.90**	**296**	*e*Pg		**Pn**	**17 24 13.1**	**+2.1**
BGG				*e*Sg		**Sn**	**17 24 25.2**	**+1.5**
	642nm,0.4s							
PEB	**Petersbachel**	**0.95**	**218**	⇑Pg		**Pg**	**17 24 13.0**	**+1.8**
PEB				Sg		**Sn**	**17 24 27.0**	**+2.2**
LANF	**Langenberg**	**0.98**	**212**	Pg		**Pb**	**17 24 13.4**	**+1.7**
LANF				Pn		**Pn**	**17 24 14.9**	**+2.7**
LANF				Sg		**Sn**	**17 24 27.6**	**+1.8**
LANF	**Langenberg**	**0.98**	**212**	Pg		**Pb**	**17 24 13.3**	**+1.7**
LANF				Sg		**Sn**	**17 24 27.7**	**+1.9**
SUBF	**Surbourg**	**1.03**	**209**	Pg		**Pb**	**17 24 14.1**	**+1.8**
SUBF				Sg		**Sn**	**17 24 29.5**	**+2.7**
BIW	**Bindweide**	**1.04**	**332**	Pg		**Pn**	**17 24 14.6**	**+1.7**
BIW				PmP			17 24 15.5	
LAGB	**Langenfeld Gru**	**1.11**	**300**	Pn		**Pg**	**17 24 16.2**	**+1.9**
LAGB				Pg		**Pn**	**17 24 16.9**	**+3.0**
LAGB				Sg		**Sn**	**17 24 31.9**	**+3.1**
STU	**Stuttgart**	**1.12**	**159**	Pg		**Pg**	**17 24 16.0**	**+1.5**
STU				Sg		**Sn**	**17 24 31.2**	**+2.2**
LBG	**Lerchenberg**	**1.16**	**174**	Pn		**Pn**	**17 24 15.9**	**+1.3**
LBG				Pg		**Pg**	**17 24 16.8**	**+1.5**
LBG				Sg		**Sg**	**17 24 32.3**	**+1.9**
RIVT	**Riveris**	**1.19**	**266**	Pn		**Pg**	**17 24 17.5**	**+1.6**
RIVT				Pg		**Pb**	**17 24 18.7**	**+3.5**
RIVT				Sg		**Sg**	**17 24 34.2**	**+2.8**
AHRW	**Bad Neuenahr-A**	**1.22**	**307**	Pn		**Pb**	**17 24 17.5**	**+1.8**
AHRW				Pg		**Pg**	**17 24 18.5**	**+2.1**
AHRW				*e*Sg		**Sg**	**17 24 34.5**	**+2.2**
HROE	**Hohe Rhon--Fla**	**1.23**	**54**	*e*Pn		**Pn**	**17 24 16.2**	**+0.6**
HROE				*e*Sg		**Sg**	**17 24 33.2**	**+0.4**
DUP	**Duppenweiler**	**1.25**	**252**	Pn		**Pb**	**17 24 18.0**	**+2.0**
HILG	**Hillesheim**	**1.33**	**292**	*e*Pg		**Pg**	**17 24 19.6**	**+1.2**
TUBL	**Tuebingen-Lenn**	**1.33**	**166**	Pn		**Pb**	**17 24 18.9**	**+1.4**
TUBL				Pg		**Pg**	**17 24 19.6**	**+1.0**
TUBL				Sg		**Sg**	**17 24 37.2**	**+1.3**
OPP	**Oppenau**	**1.35**	**192**	Pn		**Pn**	**17 24 18.2**	**+1.1**
OPP				Sn		**Sn**	**17 24 35.8**	**+1.0**
OPP	**Oppenau**	**1.35**	**192**	⇑Pn		**Pn**	**17 24 18.2**	**+1.1**
OPP				Sg		**Sg**	**17 24 38.9**	**+2.5**
STR	**Strasbourg**	**1.35**	**204**	Pg		**Pg**	**17 24 21.4**	**+2.5**
UBBA	**Unterbreizbach**	**1.35**	**41**	*e*Pn		**Pn**	**17 24 18.0**	**+1.0**
UBBA				*e*Sg		**Sn**	**17 24 35.2**	**+0.6**
HOBG	**Hohbusch**	**1.42**	**326**	⇓*e*Pg		**Pb**	**17 24 20.4**	**+1.3**
BUCH	**Bad Urach**	**1.46**	**160**	Pn		**Pn**	**17 24 20.2**	**+1.5**
BUCH				Pg		**Pg**	**17 24 22.0**	**+1.1**
BUCH				Sg		**Sg**	**17 24 41.1**	**+1.3**
BFO	**Black Forest**	**1.50**	**187**	Pn		**Pn**	**17 24 20.2**	**+1.0**
BFO				Pg		**Pg**	**17 24 23.2**	**+1.5**
BFO				Sg		**Sg**	**17 24 43.1**	**+1.9**
BLI	**Bleialf**	**1.55**	**287**	Pn		**Pb**	**17 24 22.7**	**+1.5**
WLF	**Walferdange**	**1.59**	**265**	Pn		**Pb**	**17 24 23.3**	**+1.2**
WLF				Pg		**Pg**	**17 24 26.0**	**+2.5**
WLF				*e*Sg		**Sg**	**17 24 47.3**	**+3.0**
HDH	**Heidenheim-Cha**	**1.62**	**139**	Pn		**Pn**	**17 24 22.9**	**+2.0**
HDH				Pg		**Pb**	**17 24 24.4**	**+1.9**
HDH				Sg		**Sg**	**17 24 45.6**	**+0.5**
WLS	**Welschbruch**	**1.62**	**211**	Pn		**Pn**	**17 24 21.6**	**+0.7**
WLS				Pg		**Pg**	**17 24 25.6**	**+1.5**
WLS	**Welschbruch**	**1.62**	**211**	Pn		**Pn**	**17 24 21.7**	**+0.7**
WLS				Pg		**Pg**	**17 24 25.8**	**+1.6**
WLS				Sg		**Sg**	**17 24 47.6**	**+2.3**
CDF	**Champ du Feu**	**1.65**	**212**	*e*Pn		**Pn**	**17 24 21.3**	**-0.1**
CDF	**Champ du Feu**	**1.65**	**212**	*e*Pg		**Pb**	**17 24 24.3**	**+1.2**
CDF				*e*Sn		**Sn**	**17 24 41.7**	**-0.7**
	485nm,0.4s							
CDF				*e*Sg		**Sb**	**17 24 45.3**	**+1.6**
KLL	**Kalltalsperre**	**1.69**	**300**	*e*Pg		**Pb**	**17 24 24.3**	**+0.7**
GRF	**Grafenberg Arr**	**1.71**	**93**	Pn		**Pn**	**17 24 22.8**	**+0.8**
GRF				Pg		**Pb**	**17 24 24.8**	**+0.8**
GRF				Sg		**Sb**	**17 24 46.8**	**+1.6**
NORI	**Noerdlinger Ri**	**1.72**	**129**	*e*Pg		**Pb**	**17 24 26.0**	**+1.7**
NORI				*e*Sg		**Sb**	**17 24 47.5**	**+1.8**
DREG	**Dreilaegerbach**	**1.74**	**300**	*e*Pg		**Pn**	**17 24 25.0**	**+2.4**
GUT	**Gutenstein**	**1.78**	**169**	Pn		**Pn**	**17 24 24.6**	**+1.5**
GUT				Sg		**Sg**	**17 24 51.4**	**+1.3**
BKLB	**Ruhr-Universit**	**1.83**	**333**	Pn		**Pb**	**17 24 26.5**	**+0.4**
BKLB				Pg		**Pg**	**17 24 29.4**	**+1.3**
BUG	**Bochum--Univer**	**1.83**	**333**	*e*Pn		**Pn**	**17 24 26.0**	**+2.2**
BUG				Pg		**Pg**	**17 24 29.5**	**+1.4**
BUG				*e*Sg		**Sg**	**17 24 53.9**	**+1.9**
BTEZ	**Ruhr-Universit**	**1.84**	**333**	Pn		**Pb**	**17 24 26.6**	**+0.4**
MEM	**Membach**	**1.84**	**296**	Pn		**Pb**	**17 24 26.9**	**+0.6**
MEM				Sg		**Sg**	**17 24 54.6**	**+2.3**
BULI	**Ruhr-Universit**	**1.85**	**333**	Pn		**Pb**	**17 24 26.7**	**+0.3**
BULI				Pg		**Pg**	**17 24 29.7**	**+1.3**
BULI				Sn		**Sb**	**17 24 51.3**	**+2.0**
ECH	**Echery**	**1.86**	**211**	Pn		**Pn**	**17 24 24.8**	**+0.6**
ECH				Pg		**Pg**	**17 24 29.8**	**+1.2**
ECH	**Echery**	**1.86**	**211**	Pn		**Pn**	**17 24 24.8**	**+0.6**
ECH				Pg		**Pg**	**17 24 29.9**	**+1.3**
ECH				*e*Sg		**Sg**	**17 24 54.7**	**+1.9**
LAUG	**Laupendahl**	**1.86**	**326**	*e*Pg		**Pn**	**17 24 26.6**	**+2.4**
FBB	**Freiburg im Br**	**1.88**	**195**	Sg		**Sg**	**17 24 55.9**	**+2.5**
KIZ	**Kirchzarten**	**1.92**	**194**	Pn		**Pn**	**17 24 25.7**	**+0.7**
KIZ				Pg		**Pg**	**17 24 30.9**	**+1.2**
KIZ	**Kirchzarten**	**1.92**	**194**	Pn		**Pn**	**17 24 25.6**	**+0.7**
KIZ				Pg		**Pg**	**17 24 30.9**	**+1.2**
KIZ				Sg		**Sg**	**17 24 56.8**	**+2.3**
EMING	**Emmingen-Lipti**	**1.93**	**175**	Pn		**Pn**	**17 24 26.6**	**+1.4**
EMING				Sg		**Sg**	**17 24 56.3**	**+1.3**
GTTG	**Gottingen**	**1.94**	**26**	*e*Sg		**Sg**	**17 24 56.2**	**+1.0**
HGN	**Heimansgroeve**	**1.96**	**300**	Pn		**Pb**	**17 24 28.7**	**+0.5**
HGN				Pg		**Pg**	**17 24 32.0**	**+1.6**
HGN				Sn		**Sb**	**17 24 53.5**	**+1.2**
HGN				Sg		**Sg**	**17 24 57.5**	**+1.7**
BERGE	**Lenzkirch (DE)**	**1.97**	**188**	Pn		**Pn**	**17 24 26.6**	**+0.9**
BERGE				*e*Sg		**Sg**	**17 24 56.6**	**+0.4**
FELD	**Feldberg im Sc**	**1.98**	**192**	Pn		**Pn**	**17 24 26.7**	**+0.7**
FELD				Pg		**Pg**	**17 24 32.2**	**+1.3**
SLE	**Schleitheim**	**2.05**	**182**	⇑Pn		**Pn**	**17 24 27.9**	**+1.0**
SLE				Sg		**Sg**	**17 25 00.6**	**+1.6**
WALHA	**Wallhausen, DE**	**2.09**	**170**	Pn		**Pn**	**17 24 29.3**	**+1.9**
WALHA				Pg		**Pg**	**17 24 34.9**	**+1.8**
WALHA				*e*Sg		**Sg**	**17 25 01.4**	**+1.2**
POSS	**Possen**	**2.10**	**43**	*e*Pn		**Pn**	**17 24 28.1**	**+0.6**
MOX	**Moxa**	**2.11**	**66**	*e*Pn		**Pn**	**17 24 27.9**	**+0.3**
MOX				*e*Sg		**Sg**	**17 24 59.1**	**-1.5**
BZER	**Hlnxe**	**2.12**	**329**	Pg		**Pg**	**17 24 34.4**	**+0.9**
METMA	**Mettma DE**	**2.12**	**186**	Pn		**Pn**	**17 24 28.8**	**+1.0**
METMA				Pg		**Pg**	**17 24 34.5**	**+1.0**
METMA				Sn		**Sn**	**17 24 54.2**	**+0.4**
METMA				Sg		**Sg**	**17 25 01.8**	**+0.8**
BAVN	**Auguste-Victor**	**2.14**	**335**	Pg		**Pg**	**17 24 34.2**	**+0.2**
BAVN				Sg		**Sg**	**17 25 04.9**	**+3.2**
SISB	**Singen-Schiene**	**2.15**	**173**	Pn		**Pn**	**17 24 29.7**	**+1.6**
SISB				Pg		**Pg**	**17 24 36.6**	**+2.5**
SISB				Sg		**Sg**	**17 25 03.9**	**+2.0**
ENDD	**Endenburg**	**2.18**	**195**	Pn		**Pn**	**17 24 29.1**	**+0.6**
ENDD				Pg		**Pg**	**17 24 36.0**	**+1.3**
MOF	**Molkenrain**	**2.19**	**207**	Pn		**Pn**	**17 24 29.3**	**+0.5**
MOF				Pg		**Pg**	**17 24 36.3**	**+1.4**
MOF	**Molkenrain**	**2.19**	**207**	Pn		**Pn**	**17 24 29.3**	**+0.5**
MOF				Pg		**Pg**	**17 24 36.5**	**+1.5**
PAGF	**Fort de Pagny**	**2.27**	**237**	*e*Pn		**Pn**	**17 24 29.5**	**-0.3**
	baz=57							
PAGF	**Fort de Pagny**	**2.27**	**237**	*e*P		**Pn**	**17 24 31.9**	**+2.1**
PAGF	**Fort de Pagny**	**2.27**	**237**	*e*Pg		**Pb**	**17 24 35.2**	**+1.7**
PAGF				*e*Sg		**Sb**	**17 25 04.8**	**+3.4**
	123nm,0.3s,baz=60							
MANZ	**Manzenberg**	**2.28**	**84**	*e*Pn		**Pn**	**17 24 29.8**	**-0.1**
MANZ				*e*Sg		**Sb**	**17 25 03.5**	**+1.9**
CHRS	**Christianenhau**	**2.28**	**37**	*e*Pn		**Pn**	**17 24 30.7**	**+0.7**
CHRS				*e*Sg		**Sg**	**17 25 05.3**	**-1.0**
HINF	**Hinteralfeld**	**2.31**	**211**	*e*Pn		**Pn**	**17 24 30.1**	**-0.3**
HINF	**Hinteralfeld**	**2.31**	**211**	*e*P		**Pn**	**17 24 32.6**	**+2.2**
HINF	**Hinteralfeld**	**2.31**	**211**	*e*Pg		**Pb**	**17 24 36.2**	**+1.9**
HINF				*e*Sn		**Sn**	**17 24 57.4**	**-1.1**
	198nm,0.3s							
HINF				*e*Sg		**Sb**	**17 25 06.2**	**+3.6**
	191nm,0.3s							
SULZ	**Cheisacher**	**2.31**	**188**	*e*Pn		**Pn**	**17 24 31.6**	**+1.2**
SULZ				*e*Sg		**Sg**	**17 25 08.3**	**+1.1**
CLZ	**Clausthal**	**2.32**	**28**	*e*Pn		**Pn**	**17 24 31.3**	**+0.8**
CLZ				Pg		**Pg**	**17 24 39.0**	**+1.6**
CLZ				Sn		**Sb**	**17 25 04.2**	**+1.3**
ROTZ	**Rotzenmuhle**	**2.34**	**90**	*e*Pg		**Pb**	**17 24 36.8**	**+2.1**
ROTZ				*e*Sg		**Sb**	**17 25 04.3**	**+0.9**
HAU	**Haudompre**	**2.34**	**220**	*e*Pn		**Pn**	**17 24 30.9**	**+0.1**
HAU	**Haudompre**	**2.34**	**220**	*e*Pg		**Pb**	**17 24 36.7**	**+1.9**
HAU				*e*Sn		**Sn**	**17 24 58.1**	**-1.2**
HAU				*e*Sg		**Sb**	**17 25 07.0**	**+3.5**
	314nm,0.4s							
UBR	**Ueberruh**	**2.36**	**154**	Pn		**Pn**	**17 24 33.6**	**+2.5**
UBR				Pg		**Pg**	**17 24 39.4**	**+1.3**
WILA	**Wila**	**2.41**	**175**	*e*Pn		**Pn**	**17 24 33.6**	**+1.8**
WILA				*e*Sg		**Sg**	**17 25 11.9**	**+1.5**
FUR	**Furstenfeldbru**	**2.42**	**132**	*e*Sg		**Sg**	**17 25 10.6**	**0.0**
GIVF	**Givet**	**2.46**	**278**	*e*Pn		**Pn**	**17 24 31.8**	**-0.6**
GIVF				*e*Sn		**Sn**	**17 25 00.4**	**-1.6**
	133nm,0.2s							
GIVF				*e*Sg		**Sb**	**17 25 10.1**	**+3.4**
	173nm,0.3s							
NEUB	**Neuenburg**	**2.46**	**54**	*e*Pg		**Pg**	**17 24 39.5**	**-0.5**
NEUB				*e*Sg		**Sg**	**17 25 10.2**	**-1.8**
NKC	**Novy Kostel**	**2.52**	**79**	*e*PN		**Pn**	**17 24 35.5**	**+2.3**
NKC				*e*SG		**Sb**	**17 25 10.9**	**+2.4**
	comp=Z,261nm,0.6s							
WIMM	**Wimmelburg**	**2.52**	**46**	*e*Pn		**Pn**	**17 24 33.8**	**+0.6**
WIMM				*e*Pg		**Pg**	**17 24 40.9**	**-0.2**
IBBE	**Ibbenbueren Ea**	**2.54**	**349**	Pg		**Pg**	**17 24 42.0**	**+0.4**
IBBE				Sg		**Sg**	**17 25 15.6**	**+1.1**
IBBN	**Ibbenburen**	**2.55**	**348**	Pn		**Pb**	**17 24 38.3**	**0.0**
IBBN				Pg		**Pg**	**17 24 42.2**	**+0.4**
IBBN				Sn		**Sb**	**17 25 09.1**	**-0.3**
IBBN				Sg		**Sg**	**17 25 15.1**	**+0.3**
BALST	**Balsthal**	**2.55**	**194**	Pn		**Pn**	**17 24 34.4**	**+0.6**
BALST				Pg		**Pg**	**17 24 43.2**	**+1.3**
BALST				Sg		**Sg**	**17 25 16.9**	**+1.9**
BE1	**Monatshausen**	**2.58**	**137**	*e*Pg		**Pg**	**17 24 43.8**	**+1.6**
BE1				*e*Sg		**Sg**	**17 25 16.1**	**+0.4**
BOURR	**Bourrignon**	**2.59**	**201**	Pn		**Pn**	**17 24 35.3**	**+1.1**
BOURR				Pg		**Pg**	**17 24 43.9**	**+1.4**
DOU	**Dourbes**	**2.60**	**278**	Pn		**Pn**	**17 24 37.3**	**+3.0**
OBER	**Oberstdorf**	**2.66**	**154**	*e*Pn		**Pn**	**17 24 37.4**	**+2.1**
OBER				*e*Sg		**Sg**	**17 25 20.7**	**+2.3**
ASSE	**Asse, Remlinge**	**2.66**	**29**	*e*Pn		**Pn**	**17 24 36.6**	**+1.4**
DAVA	**Damuels**	**2.67**	**161**	Pn		**Pn**	**17 24 37.9**	**+2.4**
DAVA				Pg		**Pg**	**17 24 46.4**	**+2.3**
DAVA				Sg		**Sg**	**17 25 20.2**	**+1.5**
DAVA	**Damuels**	**2.67**	**161**	*e*Pn		**Pn**	**17 24 37.8**	**+2.4**
	13nm,0.3s,SNR=10							
DAVA				*e*Sn		**Sb**	**17 25 16.3**	**+3.2**
	49nm,0.3s							
MEZF	**Maizieres J'vi**	**2.67**	**242**	*e*Pn		**Pn**	**17 24 34.9**	**-0.5**
	baz=61							
MEZF	**Maizieres J'vi**	**2.67**	**242**	*e*Pg		**Pb**	**17 24 43.0**	**+2.6**
MEZF				*e*Sn		**Sn**	**17 25 06.1**	**-1.3**
MEZF				*e*Sg		**Sb**	**17 25 17.3**	**+4.3**
	167nm,0.4s							
RETA	**Reutte**	**2.74**	**148**	Pn		**Pn**	**17 24 38.0**	**+1.7**
RETA	**Reutte**	**2.74**	**148**	*e*Pn		**Pn**	**17 24 37.9**	**+1.6**
	2.6nm,0.1s,SNR=6.0							
RETA				*e*Sn		**Sg**	**17 25 20.8**	**0.0**
	11nm,0.2s							
PLONS	**Plons/SG**	**2.82**	**169**	*e*Pn		**Pn**	**17 24 39.5**	**+2.0**
PLONS				*e*Sg		**Sg**	**17 25 25.3**	**+1.9**
NRDL	**Niedersach Rie**	**2.84**	**19**	*e*Pn		**Pn**	**17 24 40.3**	**+2.7**
NRDL				Pg		**Pg**	**17 24 48.8**	**+1.4**
SFTF	**Sexfontaines**	**2.84**	**237**	*e*Pn		**Pn**	**17 24 37.4**	**-0.3**
	baz=56							
SFTF	**Sexfontaines**	**2.84**	**237**	*e*P		**Pn**	**17 24 40.1**	**+2.4**
	baz=61							
SFTF	**Sexfontaines**	**2.84**	**237**	*e*Pg		**Pb**	**17 24 46.0**	**+2.7**
	baz=67							
SFTF				*e*Sn		**Sn**	**17 25 09.8**	**-1.9**
	84nm,0.3s							
SFTF				*e*Sg		**Sb**	**17 25 22.6**	**+4.7**
BAIF	**Baives**	**2.85**	**277**	*e*Pn		**Pn**	**17 24 37.2**	**-0.5**
BAIF	**Baives**	**2.85**	**277**	*e*P		**Pn**	**17 24 39.9**	**+2.2**
BAIF				*e*Sn		**Sn**	**17 25 09.6**	**-2.1**
BAIF				*e*Sg		**Sb**	**17 25 22.4**	**+4.4**
	129nm,0.3s							
PART	**Garmisch-Parte**	**2.86**	**143**	*e*Sg		**Sg**	**17 25 25.6**	**+1.0**
WET	**Wettzell**	**2.87**	**102**	*e*Pn		**Pn**	**17 24 40.3**	**+2.2**
WET				*e*Sg		**Sb**	**17 25 21.8**	**+3.1**
ZUGS	**Zugspitze, Sch**	**2.87**	**146**	*e*Sg		**Sg**	**17 25 27.1**	**+1.9**
CHMF	**Charmoille**	**2.88**	**207**	Pn		**Pn**	**17 24 38.6**	**+0.3**
CHMF				Sg		**Sg**	**17 25 27.7**	**+2.4**
MOTA	**Moosalm**	**2.98**	**145**	*e*Pn		**Pn**	**17 24 41.8**	**+2.1**
	2.4nm,0.2s							
MOTA				*e*Sn		**Sn**	**17 25 18.0**	**+2.8**
	14nm,0.3s							
SQTA	**Sankt Quirin**	**3.12**	**145**	*i* Pn		**Pn**	**17 24 43.9**	**+2.3**
	5.3nm,0.1s,SNR=7.2							
SQTA				*e*Sn		**Sn**	**17 25 22.3**	**+3.5**
	14nm,0.3s							
KW1	**Garching a.d.**	**3.13**	**121**	*e*Sg		**Sg**	**17 25 33.0**	**-0.5**
FETA	**Feichten**	**3.14**	**152**	*i* Pn		**Pn**	**17 24 44.5**	**+2.6**
	6.7nm,0.2s,SNR=12							
FETA				*e*Sn		**Sn**	**17 25 20.7**	**+1.6**
	3.5nm,0.2s							
WATA	**Walderalm**	**3.17**	**140**	*i* Pn		**Pn**	**17 24 45.2**	**+2.8**
	18nm,0.2s,SNR=11							
WATA				*e*Sn		**Sn**	**17 25 22.2**	**+2.2**
	15nm,0.3s							
CLL	**Collm**	**3.18**	**60**	*e*Pn		**Pn**	**17 24 43.0**	**+0.7**
CLL				*e*Pg		**Pb**	**17 24 52.0**	**+3.0**
CLL				*e*Sg		**Sg**	**17 25 32.0**	**-3.0**
	comp=Z,100nm,0.6s							
CLL	**Collm**	**3.18**	**60**	*e*Pn		**Pn**	**17 24 42.6**	**+0.3**
CLL				*e*Pg		**Pg**	**17 24 52.3**	**-1.5**
WTTA	**Wattenberg**	**3.25**	**141**	*i* Pn		**Pn**	**17 24 46.7**	**+3.2**
	comp=Z,15nm,0.1s,SNR=8.3							
WTTA				*e*Sn		**Sn**	**17 25 24.7**	**+2.7**
	comp=Z,12nm,0.2s							
KHC	**Kasperske Hory**	**3.32**	**100**	*e*PN		**Pn**	**17 24 46.4**	**+2.1**
KHC				*e*PG		**Pb**	**17 24 53.5**	**+2.1**
KHC				*e*SG		**Sb**	**17 25 35.0**	**+3.4**
	comp=Z,115nm,0.6s							
RJOB	**Jochberg**	**3.47**	**125**	*e*Pn		**Pn**	**17 24 48.7**	**+2.4**
RJOB				*e*Sg		**Sg**	**17 25 43.3**	**-0.9**
GEC2	**GERESS Array S**	**3.48**	**104**	*e*Pn		**Pn**	**17 24 48.8**	**+2.3**
GEC2				*e*Sg		**Sg**	**17 25 41.1**	**-3.4**
PBCC	**Pribram**	**3.50**	**90**	*e*PN		**Pn**	**17 24 48.7**	**+1.9**
PBCC				*e*SG		**Sb**	**17 25 41.3**	**+4.4**
BRG	**Berggiesshubel**	**3.58**	**71**	*e*PB		**Pn**	**17 24 50.9**	**+3.0**
	comp=Z,4.9nm,0.4s							
BRG				PG		**Pb**	**17 24 59.2**	**+3.3**
BRG				SB		**Sn**	**17 25 33.8**	**+3.9**
BRG				SG		**Sg**	**17 25 45.6**	**-2.3**
	comp=Z,59nm,0.7s							
CABF	**La Chapelle**	**3.62**	**209**	*e*Pn		**Pn**	**17 24 48.1**	**-0.4**
CABF	**La Chapelle**	**3.62**	**209**	*e*P		**Pn**	**17 24 51.3**	**+2.8**
CABF	**La Chapelle**	**3.62**	**209**	*e*Pg		**Pb**	**17 25 00.4**	**+3.8**
CABF				*e*Sn		**Sn**	**17 25 28.8**	**-2.1**
CABF				*e*Sg		**Sb**	**17 25 46.8**	**+6.5**

TCF				*e*Sn		**Sn**	17 26 14.6	-3.8
	comp=Z,29nm,0.5s							
VIVF	**Saint-Julien-I**	**5.63**	**210**	*e*Pn		**Pn**	17 25 15.2	-0.9
VIVF	**Saint-Julien-I**	**5.63**	**210**	*e*Pg		Pb	17 25 37.5	+6.6
VIVF				*e*Sn		**Sn**	17 26 16.9	-3.6
VIVF				*e*Sg		**Sg**	17 26 49.4	-4.2
	comp=Z,23nm,0.4s							
MORC	**Moravsky Berou**	**5.79**	**87**	*e*PN		**Pn**	17 25 19.6	+1.4
MORC				*e*SG		**Sg**	17 26 52.9	-5.8
LDF	**La Druitiere**	**5.85**	**261**	*e*Pn		**Pn**	17 25 18.1	-0.8
LDF	**La Druitiere**	**5.85**	**261**	*e*P		**Pn**	17 25 22.4	+3.5
LDF				*e*Sn		**Sn**	17 26 21.1	-4.5
	comp=Z,23nm,0.4s							
LDF				*e*Sg		**Sg**	17 26 56.1	-4.3
	comp=Z,19nm,0.4s							
MODS	**Modra-Piesok**	**5.88**	**101**	*e*SG		**Sg**	17 26 58.0	-3.5
MODS				*e*LG		Lg	17 27 07.7	
SMOL	**Smolenice**	**5.94**	**99**	*e*SG		**Sg**	17 27 00.5	-2.8
SMOL				*e*LG		Lg	17 27 10.4	
SBF	**Sospel**	**6.01**	**188**	*e*P		**Pn**	17 25 25.2	+4.0
SBF				*e*Sn		**Sn**	17 26 26.0	-3.8
	comp=Z,25nm,0.7s							
FLN	**La Foliniere**	**6.04**	**263**	*e*Pn		**Pn**	17 25 20.5	-1.0
	baz=84							
FLN	**La Foliniere**	**6.04**	**263**	*e*P		**Pn**	17 25 24.8	+3.3
	baz=79							
FLN				*e*Sn		**Sn**	17 26 26.3	-4.0
	comp=Z,26nm,0.5s							
OKC	**Ostrava-Krasne**	**6.18**	**86**	*e*SG		**Sg**	17 27 06.9	-4.2
	comp=Z,34nm,0.8s							
SMRF	**Simiane la Rot**	**6.20**	**201**	*e*Pn		**Pn**	17 25 22.9	-0.9
SMRF	**Simiane la Rot**	**6.20**	**201**	*e*P		**Pn**	17 25 27.7	+3.9
SMRF	**Simiane la Rot**	**6.20**	**201**	*e*Pg		Pb	17 25 47.7	+7.2
SMRF				*e*Sn		**Sn**	17 26 30.0	-4.4
	comp=Z,8.7nm,0.6s							
GRR	**Gorron**	**6.37**	**261**	*e*Pn		**Pn**	17 25 25.0	-1.2
GRR	**Gorron**	**6.37**	**261**	*e*P		**Pn**	17 25 29.8	+3.6
GRR				*e*Sn		**Sn**	17 26 33.9	-4.7
	comp=Z,17nm,0.2s							
FRF	**La Foret Royal**	**6.40**	**193**	*e*P		**Pn**	17 25 30.1	+3.5
FRF	**La Foret Royal**	**6.40**	**193**	*e*Pg		Pg	17 25 51.7	-3.7
FRF				*e*Sn		**Sn**	17 26 35.1	-4.2
	comp=Z,2.4nm,0.3s							
RJF	**Les Rejaudoux**	**6.58**	**229**	*e*Pn		**Pn**	17 25 28.5	-0.6
RJF				*e*Sg		**Sg**	17 27 18.9	-5.1
	comp=Z,19nm,0.5s							
LASF	**Ste Croix**	**6.59**	**211**	*e*Pn		**Pn**	17 25 28.5	-0.8
LASF	**Ste Croix**	**6.59**	**211**	*e*Pg		Pg	17 25 55.4	-3.7
LASF				*e*Sg		**Sg**	17 27 19.7	-4.7
	comp=Z,13nm,0.5s							
CAF	**Calviac**	**6.60**	**225**	*e*Pn		**Pn**	17 25 28.7	-0.7
CAF				*e*Sg		**Sg**	17 27 19.8	-4.9
	comp=Z,15nm,0.5s							
LMR	**La Mourre**	**6.64**	**193**	*e*P		**Pn**	17 25 33.6	+3.7
LMR				*e*Sn		**Sn**	17 26 40.7	-4.5
	comp=Z,1.5nm,0.3s							
MFF	**Saint Martin d**	**6.67**	**245**	*e*Pn		**Pn**	17 25 29.3	-0.9
MFF	**Saint Martin d**	**6.67**	**245**	*e*Pg		Pg	17 25 56.5	-4.0
MFF				*e*Sn		**Sn**	17 26 41.4	-4.5
	comp=Z,35nm,0.8s							
VYHS	**Vyhne**	**6.84**	**97**	*e*PN		**Pn**	17 25 33.7	+1.0
VYHS				*e*SN		**Sn**	17 26 44.5	-5.7
VYHS				*e*SG		**Sg**	17 27 27.2	-5.2
LANS	**Liptovska Anna**	**7.11**	**91**	*e*PN		**Pn**	17 25 39.0	+2.6
LANS				*e*LG		Lg	17 27 46.7	
LFF	**La Frestale**	**7.23**	**231**	*e*Sg		**Sg**	17 27 39.3	-5.4
	comp=Z,36nm,0.6s							
PGF	**Pioggiola**	**7.28**	**178**	*e*Pn		**Pn**	17 25 37.9	-0.8
PGF				*e*Sn		**Sn**	17 26 56.2	-4.8
	comp=Z,0.5nm,0.3s							
SGMF	**Saint Gilles**	**7.50**	**262**	*e*P		**Pn**	17 25 44.9	+3.3
SGMF				*e*Sn		**Sn**	17 27 01.0	-5.3
	comp=Z,4.8nm,0.2s							
MTLF	**Montolieu**	**7.83**	**217**	*e*Pn		**Pn**	17 25 45.2	-0.9
MTLF	**Montolieu**	**7.83**	**217**	*e*Pg			17 26 17.8	
MTLF				*e*Sg			17 27 58.1	
	comp=Z,9.2nm,0.5s							
ROSF	**Rostrenen**	**7.94**	**264**	*e*P		Pn	17 25 51.9	+4.3
ROSF				*e*Sn		**Sn**	17 27 10.8	-6.3
	comp=Z,11nm,0.3s							
QUIF	**Quistinic**	**7.99**	**261**	*e*Pn		**Pn**	17 25 47.3	-1.0
QUIF				*e*Sn		**Sn**	17 27 12.1	-6.2
	comp=Z,5.9nm,0.4s							

*IDC **29** 17:27:54.5±4.6, 11°.23S×165°.60E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=87.7km s-min=45.1km az=71.0*
*NEIC **29** 17:28:11.9±2.1, 12°.2S±0°.1×165°.7E±0°.1, h150km±2km, mb4.5/14, Error ellipse: s-maj=24.0km s-min=22.2km az=118.0*
ISC 29 17:28:01.5±0.8, 11°.5S±0°.1×165°.2E±0°.1, h35km, n21, σ2s03/20, mb4.2/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.36**	**154**	Pn	**Pn**	**17 29 06.1**	**+0.8**
DZM	**Mont Dzumac**	**10.56**	**174**	Pn	**Pn**	**17 30 32.5**	**+1.9**
	0.2nm,0.3s,baz=126,slow=11,SNR=1.8						
DZM	**Mont Dzumac**	**10.56**	**174**		**Pn**	**17 30 31.1**	**+0.5**
EIDS	**Eidsvold**	**19.20**	**222**	Pn	**Pn**	**17 32 26.0**	**+2.4**
ARMA	**Armidale**	**22.65**	**212**	P	**P**	**17 32 57.7**	**-2.1**
HIZ	**Hauiti**	**28.23**	**164**	P	P	17 33 42.4	-8.8
WAKE	**Wake Island**	**30.64**	**3**	P	**P**	**17 34 14.3**	**+1.7**
WR0	**Warramunga Arr**	**30.66**	**250**	P	**P**	**17 34 14.9**	**+2.0**
WR0				IAmb	IAmb	17 34 22.3	
	comp=Z,5.7nm,1.4s						
WB0	**Warramunga Arr**	**30.75**	**251**	P	**P**	**17 34 16.7**	**+2.9**
WB0				IAmb	IAmb	17 34 44.0	
	comp=Z,6.4nm,1.3s						
WRA	**Warramunga Arr**	**30.84**	**250**	P	**P**	**17 34 17.0**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=84,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**30.84**	**250**	P	**P**	**17 34 17.1**	**+2.5**
AS31	**Alice Springs**	**32.12**	**244**	P	**P**	**17 34 25.1**	**-0.7**
ASAR	**Alice Springs**	**32.12**	**244**	P	**P**	**17 34 26.7**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=73,slow=9.6,SNR=14						
BBOO	**Buckleboo**	**34.13**	**227**	P	**P**	**17 34 41.2**	**-2.1**
BBOO				IAmb	IAmb	17 34 46.9	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**38.76**	**255**	P	**P**	**17 35 25.9**	**+3.0**
	comp=Z,1.6nm,0.9s,baz=70,slow=6.8,SNR=2.3						
FITZ	**Fitzroy Crossi**	**38.76**	**255**	P	**P**	**17 35 24.8**	**+1.9**
FITZ				IAmb	IAmb	17 35 34.4	
	comp=Z,7.4nm,1.3s						
NWAO	**Narrogin (SRO)**	**48.77**	**236**	P	**P**	**17 36 40.7**	**-2.6**
NWAO				IAmb	IAmb	17 37 07.7	
	comp=Z,22nm,1.2s						
MLOA	**Mauna Loa Obse**	**49.43**	**52**	P	**P**	**17 36 48.1**	**-0.7**
MLOA				IAmb	IAmb	17 36 49.9	
	comp=Z,117nm,1.2s						
HMH	**Humu'ula Sheep**	**49.54**	**52**	P	**P**	**17 36 48.6**	**-1.0**
GSI	**Gunungsitoli**	**68.39**	**276**		**P**	**17 38 59.4**	**-0.9**
GSI				IAmb	IAmb	17 39 14.8	
	comp=Z,13nm,1.4s						
CMAR	**Chiang Mai Arr**	**71.83**	**294**	P	**P**	**17 39 20.6**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=101,slow=3.2,SNR=2.5						

*NEIC **29** 17:30:21.9±1.3, 12°.9S±0°.2×166°.8E±0°.2, h149km±10km, mb4.4/20, Error ellipse: s-maj=30.9km s-min=18.0km az=130.0*
*IDC **29** 17:30:25.7±7.7, 13°.08S×166°.93E, h189km±80km, mb3.4/5, mb1 3.6/6, mb1mx3.2/35, mbtmp3.9/6, Error ellipse: s-maj=74.4km s-min=24.7km az=156.0*
ISC 29 17:30:24.6±0.8, 13°.17S±0°.1×167°.0E±0°.1, h180km, n32, σ0s99/33, mb4.2/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**2.27**	**175**		**Pn**	**17 31 04.1**	**-0.6**
DZM	**Mont Dzumac**	**8.87**	**183**	P	**Pn**	**17 32 31.4**	**+1.9**
	0.5nm,0.3s,baz=113,slow=21,SNR=20						
DZM				S	**Sn**	**17 34 07.0**	**-1.6**
	baz=165,slow=16,SNR=1.5						
DZM	**Mont Dzumac**	**8.87**	**183**		**Pn**	**17 32 31.2**	**+1.7**
FUNA	**Funafuti**	**12.82**	**70**	P	**P**	**17 33 24.7**	**0.0**
STKA	**Stephens Creek**	**29.84**	**227**	P	**P**	**17 36 15.7**	**+0.6**
	1.2nm,0.5s,baz=40,slow=8.8,SNR=4.6						
STKA	**Stephens Creek**	**29.84**	**227**	P	**P**	**17 36 15.6**	**+0.6**
WR0	**Warramunga Arr**	**31.81**	**253**	P	**P**	**17 36 31.5**	**-1.1**
WB0	**Warramunga Arr**	**31.93**	**254**	P	**P**	**17 36 32.7**	**-0.9**
WB0				IAmb	IAmb	17 36 34.1	
	comp=Z,6.0nm,1.2s						
WB2	**Warramunga Arr**	**31.99**	**253**	P	**P**	**17 36 34.1**	**0.0**
WB2				IAmb	IAmb	17 37 01.9	
	comp=Z,5.4nm,1.3s						
WRAB	**Tennant Creek**	**31.99**	**253**	P	**P**	**17 36 31.0**	**-3.1**
WRAB				IAmb	IAmb	17 36 32.2	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**32.00**	**253**	P	**P**	**17 36 33.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=84,slow=9.1,SNR=8.0						
WRA	**Warramunga Arr**	**32.00**	**253**	P	**P**	**17 36 33.2**	**-1.0**
AS31	**Alice Springs**	**33.03**	**247**	P	**P**	**17 36 42.1**	**-1.0**
ASAR	**Alice Springs**	**33.03**	**247**	P	**P**	**17 36 42.5**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=75,slow=9.0,SNR=37						
ASAR	**Alice Springs**	**33.03**	**247**	P	**P**	**17 36 42.4**	**-0.8**
MTN	**Manton Dam**	**34.95**	**266**	P	**P**	**17 37 00.8**	**+1.1**
MTN				IAmb	IAmb	17 37 26.4	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**37.10**	**261**	P	**P**	**17 37 18.4**	**+0.4**
FORT	**Forrest**	**39.90**	**238**	P	**P**	**17 37 41.2**	**0.0**
FITZ	**Fitzroy Crossi**	**40.09**	**258**	P	**P**	**17 37 43.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=94,slow=12,SNR=1.8						
FITZ	**Fitzroy Crossi**	**40.09**	**258**	P	**P**	**17 37 42.1**	**-0.7**
FITZ				IAmb	IAmb	17 37 53.0	
	comp=Z,6.7nm,1.4s						
PSA00	**Pilbara Seismi**	**45.65**	**253**	P	**P**	**17 38 26.9**	**-0.7**
Q23K	**Middleton Isla**	**81.53**	**22**	P	**P**	**17 42 22.1**	**+0.4**
MID	**Middleton Isla**	**81.53**	**22**	P	**P**	**17 42 21.8**	**+0.1**
TRF	**Thorofare Moun**	**83.14**	**18**	P	**P**	**17 42 30.2**	**0.0**
TRF				IAmb	IAmb	17 42 37.4	
	comp=Z,8.6nm,1.4s						
RND	**Reindeer**	**83.54**	**18**	P	**P**	**17 42 32.1**	**0.0**
RND				IAmb	IAmb	17 42 53.1	
	comp=Z,6.6nm,1.4s						
CRQM	**Cirque**	**83.62**	**22**	P	**P**	**17 42 32.2**	**-0.5**
CRQM				IAmb	IAmb	17 43 00.4	
	comp=Z,14nm,1.2s						
BALM	**Baldy**	**84.09**	**22**	P	**P**	**17 42 35.9**	**+0.8**
BALM				IAmb	IAmb	17 43 01.5	
	comp=Z,12nm,1.5s						
IMAR	**Indian Mountai**	**84.13**	**15**	P	**P**	**17 42 35.7**	**+0.7**
WRH	**Wood River Hil**	**84.55**	**18**	P	**P**	**17 42 36.8**	**-0.3**
IL31		**85.13**	**18**	P	**P**	**17 42 40.0**	**+0.1**
IL31				IAmb	IAmb	17 43 07.7	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**85.13**	**18**	P	**P**	**17 42 39.9**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=239,slow=5.0,SNR=12						
ARCES	**ARCESS Array B**	**118.69**	**346**	PKP	**PKiKP**	**17 48 50.0**	**-0.8**
	comp=Z,4.9nm,1.0s,baz=59,slow=2.1,SNR=8.7						

IDC 29 17:44:50.5±1.7, 3°.31S×146°.10E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/29, mbtmp3.7/7, ML2.7/2, Error ellipse: s-maj=44.9km s-min=25.6km az=98.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.15**	**170**	Pn	Pn	17 46 21.8	-0.9
	2.0nm,0.3s,baz=38,slow=8.0,SNR=7.6						
CTA	**Charters Tower**	**16.68**	**179**	Pn	P	17 48 47.3	-1.1
	0.1nm,0.3s,baz=11,slow=17,SNR=1.6						
WRA	**Warramunga Arr**	**20.13**	**214**	P	P	17 49 26.6	+0.2
	2.1nm,0.7s,baz=38,slow=12,SNR=27						
ASAR	**Alice Springs**	**23.42**	**209**	P	P	17 50 01.4	-0.1
	1.2nm,0.8s,baz=39,slow=8.5,SNR=14						
FITZ	**Fitzroy Crossi**	**24.86**	**232**	P	P	17 50 15.0	0.0
	2.9nm,0.9s,baz=66,slow=12,SNR=4.0						
CMAR	**Chiang Mai Arr**	**51.22**	**297**	P	P	17 53 56.0	-0.3
	0.4nm,0.8s,baz=116,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**83.38**	**23**	P	P	17 57 19.6	+0.2
	0.2nm,0.3s,baz=250,slow=5.3,SNR=2.0						

WEL 29 17:47:32.3, 45°.5±2°×16°.8E±°, h5km±1km, M3.1/7, ML3.1/7, MLv3.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=70.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.08**	**48**	P	Pg	17 47 35.5	+1.5
MSZ				S	Sg	17 47 37.6	+2.4
MLZ	**Mavora Lakes**	**0.67**	**163**	P	Pb	17 47 46.8	+0.3
MLZ				S	Sb	17 47 57.4	+1.3
WKZ	**Wanaka**	**0.84**	**97**	P	Pb	17 47 50.1	+0.7
WKZ				S	Sb	17 48 02.3	+1.2
JCZ	**Jackson Bay**	**0.94**	**46**	P	Pb	17 47 51.4	+0.3
WHZ	**Wether Hill Ro**	**1.17**	**176**	P	Pb	17 47 54.9	-0.1
WHZ				S	Sn	17 48 11.5	-0.1
LBZ	**Lake Benmore**	**1.71**	**79**	P	Pg	17 48 04.8	-0.2
LBZ				S	Sg	17 48 27.6	+0.5
TUZ	**Tuapeka**	**1.76**	**135**	P	Pg	17 48 05.9	-0.1
TUZ				S	Sg	17 48 29.1	+0.3
ODZ	**Otahua Downs**	**2.02**	**100**	P	Pb	17 48 08.4	-1.0
ODZ				S	Sn	17 48 33.0	+0.5
SYZ	**Scrubby Hill**	**2.03**	**154**	P	Pb	17 48 08.5	-1.0
SYZ				S	Sb	17 48 35.7	+0.7
HHSZ	**Highcliff Hill**	**2.26**	**122**	P	Pb	17 48 12.1	-1.5

*IDC **29** 18:00:36.9±2.6, 6°.38S×129°.88E, h104km±38km, mb3.4/1, mb1 3.2/5, mb1mx3.0/31, mbtmp3.5/5, Error ellipse: s-maj=65.7km s-min=20.6km az=87.0*
ISC 29 18:00:37.0±0.9, 6°.31S±0°.07×130°.3E±0°.2, h146km, n6, σ3s61/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.50**	**11**	P	**Pn**	**18 01 58.5**	**+1.5**
	2.8nm,0.3s,baz=150,slow=23,SNR=31						
SIJI				S	**Sn**	**18 02 56.3**	**-3.3**
	5.1nm,0.3s,baz=295,slow=24,SNR=17						
FITZ	**Fitzroy Crossi**	**12.55**	**201**	P	**Pn**	**18 03 29.2**	**-1.3**
	0.3nm,0.3s,baz=29,slow=13,SNR=25						
FITZ				S	Sn	18 05 40.0	-9.3
	0.4nm,0.3s,baz=85,slow=22,SNR=3.8						
DAV	**Davao City (W)**	**14.09**	**341**	P	**P**	**18 03 51.1**	**-2.3**
	72nm,0.3s,baz=221,slow=20,SNR=8.1						
WRA	**Warramunga Arr**	**14.12**	**164**	P	**Pn**	**18 03 51.7**	**+1.1**
	0.2nm,0.3s,baz=346,slow=14,SNR=16						
WRA				S	Sn	18 06 17.6	-9.5
	0.5nm,0.3s,baz=332,slow=24,SNR=13						
ASAR	**Alice Springs**	**17.61**	**169**	P	**Pn**	**18 04 36.6**	**+3.1**
	0.1nm,0.3s,baz=349,slow=9.2,SNR=8.8						
ASAR				S	**S**	**18 07 43.4**	**-4.7**
	0.1nm,0.3s,baz=354,slow=27,SNR=6.1						
MKAR	**Makanchi Array**	**67.79**	**327**	P	**P**	**18 11 22.6**	**+3.5**
	1.0nm,1.1s,baz=127,slow=7.6,SNR=1.3						

*NEIC **29** 18:11:58.5±1.0, 20°.1S±0°.2×178°.0W±0°.1, h511km±7km, mb4.1/12, Error ellipse: s-maj=30.1km s-min=19.0km az=175.0*
*IDC **29** 18:12:08.5±14.0, 20°.12S×178°.61W, h583km±115km, mb3.3/4, mb1 3.4/5, mb1mx2.9/33, mbtmp4.3/5, Error ellipse: s-maj=136.8km s-min=101.0km az=78.0*
ISC 29 18:11:57.5±1.4, 20°.1S±0°.2×177°.9W±0°.2, h500km, n20, σ0s82/23, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.80**	**259**	P	**P**	**18 15 08.1**	**+2.3**
	0.3nm,0.3s,baz=94,slow=15,SNR=6.2						
DZM	**Mont Dzumac**	**14.80**	**259**	P	**P**	**18 15 05.9**	**+0.1**
CTA	**Charters Tower**	**33.68**	**264**	P	**P**	**18 17 56.9**	**+0.4**
	3.6nm,0.3s,baz=94,slow=11,SNR=16						
CTAO	**Charters Tower**	**33.68**	**264**	P	**P**	**18 17 56.7**	**+0.1**
CTAO				IAmb	IAmb	18 17 57.5	
	comp=Z,5.3nm,1.1s						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**18 18 32.9**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=92,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**18 18 32.7**	**-0.5**
BBOO	**Buckleboo**	**42.88**	**243**	P	**P**	**18 19 10.3**	**-1.1**
WR0	**Warramunga Arr**	**44.62**	**262**	P	**P**	**18 19 24.2**	**-0.9**
WR0				IAmb	IAmb	18 19 25.1	
	comp=Z,16nm,1.6s						
AS31	**Alice Springs**	**44.76**	**256**	P	**P**	**18 19 25.5**	**-0.7**
ASAR	**Alice Springs**	**44.76**	**256**	P	**P**	**18 19 25.7**	**-0.5**
	comp=Z,4.0nm,0.5s,baz=90,slow=8.2,SNR=122						
ASAR				PcP	**pP**	**18 20 58.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=103,slow=3.9,SNR=5.4						
ASAR	**Alice Springs**	**44.76**	**256**	P	**P**	**18 19 25.1**	**-1.0**
ASAR					**PcP**	**18 20 57.9**	**0.0**
WB0	**Warramunga Arr**	**44.78**	**262**	P	**P**	**18 19 25.5**	**-0.9**
WB0				IAmb	IAmb	18 19 26.2	
	comp=Z,3.5nm,0.5s						
WB2	**Warramunga Arr**	**44.80**	**262**	P	**P**	**18 19 25.5**	**-0.9**
WB2				IAmb	IAmb	18 19 46.9	
	comp=Z,5.7nm,1.2s						
WRAB	**Tennant Creek**	**44.80**	**262**	P	**P**	**18 19 25.9**	**-0.5**
WRAB				IAmb	IAmb	18 19 50.3	
	comp=Z,11nm,1.6s						
WRA	**Warramunga Arr**	**44.81**	**262**	P	**P**	**18 19 26.0**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=96,slow=7.5,SNR=85						
WRA				PcP	**PcP**	**18 20 58.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=86,slow=3.4,SNR=1.7						
WRA	**Warramunga Arr**	**44.81**	**262**	P	**P**	**18 19 25.5**	**-1.0**
KNRA	**Kununurra**	**50.84**	**266**	P	**P**	**18 20 11.3**	**-0.5**
KNRA				IAmb	IAmb	18 20 33.9	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.23**	**262**	P	**P**	**18 20 28.9**	**-0.1**
QSPA	**South Pole Qui**	**70.02**	**180**	P	**P**	**18 22 18.8**	**+0.5**
QSPA				IAmb	IAmb	18 22 42.9	
	comp=Z,6.8nm,1.7s						
CHGN	**Chignik**	**77.80**	**11**	P	**P**	**18 23 02.4**	**+0.1**

*ECX **29** 18:55:42.9±1.5, 28°.01N×112°.05W, h15km±21km, MD3.5, ML3.9*
*MEX **29** 18:55:44.2±0.7, 28°.02N×112°.10W, h10km, MD4.0*
ISC 29 18:55:42.9±1.4, 27°.95N±0°.05×112°.04W±0°.05, h29km±15km, n11, σ0s55/18, 4C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.65**	**196**	*e*P	**Pb**	**18 55 55.6**	**-0.1**
SRIG				*e*S	**Sn**	**18 56 05.9**	**+0.5**
SRIG	**Santa Rosalia**	**0.65**	**196**	*e*P	**Pb**	**18 55 55.6**	**-0.1**
SRIG				*e*S	**Sn**	**18 56 05.3**	**-0.1**
GUYB	**Guaymas**	**1.04**	**92**	*e*P	**Pn**	**18 56 01.0**	**-0.4**
GUYB				*e*S	**Sb**	**18 56 15.7**	**+0.2**
GUYB	**Guaymas**	**1.04**	**92**	⇑*e*P	**Pn**	**18 56 01.2**	**-0.3**
GUYB				*e*S	**Sn**	**18 56 15.5**	**+0.5**
HSIG		**1.44**	**42**	*e*P	**Pn**	**18 56 06.8**	**-0.2**
HSIG				*e*S	**Sn**	**18 56 23.9**	**-1.1**
HSIG		**1.44**	**42**	⇑*e*P	**Pn**	**18 56 06.8**	**-0.2**
HSIG				*e*S	**Sn**	**18 56 25.4**	**+0.5**
NZIG	**Nacozari, Sono**	**3.25**	**41**	*e*P	**Pn**	**18 56 32.4**	**+0.3**
NZIG				*i* S	**Sn**	**18 57 09.9**	**0.0**
SPX	**San Pedro Mart**	**4.29**	**317**	⇑*e*	Sg	18 58 01.8	
SPX				IAML		18 58 01.8	
	comp=N,148nm,0.9s						
SPX				⇓*e*		18 58 07.0	
SPX				IAML		18 58 07.0	
	comp=E,165nm,1.1s						
SPIG	**San Pedro Mart**	**4.29**	**317**	*i* P	**Pn**	**18 56 46.9**	**+0.3**
SPIG				*i* S	**Sn**	**18 57 34.8**	**-1.1**
TUC	**Tucson**	**4.48**	**14**	*i* P	**Pn**	**18 56 49.7**	**+0.7**
TUC				*e*S	**Sn**	**18 57 40.4**	**+0.3**
SJX	**San Joaquin**	**5.10**	**319**	IAML		18 58 44.9	
	comp=N,77nm,1.2s						
SJX				⇑*e*		18 58 44.9	
SJX				IAML		18 58 47.0	
	comp=Z,76nm,1.2s						

IDC 29 19:19:34.5±4.6, 59°.34S×151°.88E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.6/27, mbtmp3.4/3, ML2.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/15, Error ellipse: s-maj=357.9km s-min=33.5km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**18.57**	**173**	P	P	19 23 52.4	-0.1
	0.0nm,0.3s,baz=339,slow=8.5,SNR=3.1						
VNDA				LR	LR	19 30 25.2	
	comp=Z,117nm,19.8s,baz=346,slow=35						
URZ	**Urewera**	**26.56**	**49**	LR	LR	19 35 17.1	
	comp=Z,106nm,18.2s,baz=57,slow=36						
H01W1	**Cape Leeuwin H**	**34.70**	**298**	T	T	20 01 59.5	
	baz=147,slow=76,SNR=32						
H01W2	**Cape Leeuwin H**	**34.70**	**298**	T	T	20 02 01.5	
	baz=147,slow=76,SNR=34						
H01W3	**Cape Leeuwin H**	**34.71**	**298**	T	T	20 02 04.4	
	baz=147,slow=76,SNR=27						
MAW	**Mawson**	**37.20**	**219**	LR	LR	19 41 16.5	
	comp=Z,47nm,18.0s,baz=78,slow=35						
ASAR	**Alice Springs**	**37.84**	**333**	P	P	19 26 52.8	0.0
	0.5nm,0.7s,baz=162,slow=8.9,SNR=4.3						
DZM	**Mont Dzumac**	**38.66**	**22**	LR	LR	19 40 29.3	
	comp=Z,83nm,18.8s,baz=208,slow=32						
WRA	**Warramunga Arr**	**41.34**	**335**	P	P	19 27 21.6	-0.2
	1.2nm,1.0s,baz=165,slow=7.4,SNR=5.0						

4.5nm,0.4s
AB31 Akbulak array 15.44 333 ⇑P **Pn 20 26 40.5 +0.8**
3.4nm,0.3s,baz=158,slow=12,SNR=134
AB31 ⇓S **Sn 20 29 24.4 -5.9**
0.6nm,0.3s,baz=155,slow=22,SNR=13
AKTO Aktyubinsk 17.13 332 ⇑P **P 20 27 03.0 +2.3**
3.0nm,0.8s
AKTO ⇑S **Sn 20 30 05.0 -5.9**
2.1nm,0.6s
ZALV Zalesovo Beam 20.57 24 P **P 20 27 40.1 +2.0**
1.9nm,0.4s,baz=219,slow=11,SNR=9.4
BRTR Keskin Array B 29.31 289 LR LR 20 41 41.1
comp=Z,8.3nm,21.8s,baz=332,slow=38
FINES FINESS Array B 37.79 327 P **P 20 30 16.2 +2.5**
5.6nm,1.1s,baz=128,slow=9.0,SNR=1.9
ARCES ARCESS Array B 41.56 338 P **P 20 30 48.3 +3.4**
1.2nm,0.6s,baz=114,slow=9.0,SNR=1.0

NEIC ***29*** *20:24:24.0±1.1,3˚.60S±0˚.09×138˚.53E±0˚.08,h7km±6km, mb4.0/13,Error ellipse: s-maj=14.2km s-min=8.4km az=142.0*
IDC ***29*** *20:24:23.3±1.0,3˚.50S×138˚.50E,h0km,mb3.8/4, mb1 4.1/10,mb1mx3.8/33,mbtmp4.0/10,ML3.7/6,MS2.2/1, Ms1 2.2/1,ms1mx2.0/30,Error ellipse: s-maj=21.2km s-min=19.8km az=154.0*
DJA ***29*** *20:24:25.1±0.8,4˚S±6˚×13˚9E±˚,h21km±10km,M3.9/6, mb4.0/1,MLv3.8/6*
ISC 29 20:24:26.7±3.1,3˚.60S±0˚.06×138˚.51E±0˚.05,h28km±25km, n34,σ1ᵠ30/38,mb3.9/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.61**	**7**	P			**Pn**	**20 24 52.1**	**-1.1**
SMPI				S			**Sn**	**20 25 12.6**	**-0.4**
GENI	**Genyem**	**1.93**	**59**	P			**Pn**	**20 24 57.0**	**-0.7**
GENI				S			**Sn**	**20 25 19.4**	**-1.6**
JAY	**Jayapura**	**2.44**	**64**	Pn			**Pn**	**20 25 04.0**	**-0.7**
	2.6nm,0.3s,baz=247,slow=12,SNR=12								
JAY				Sn			**Sn**	**20 25 34.4**	**+0.8**
	2.7nm,0.3s,baz=244,slow=20,SNR=1.9								
JAY	**Jayapura**	**2.44**	**64**	P			**Pn**	**20 25 03.8**	**-0.9**
JAY				S			**Sn**	**20 25 32.8**	**-0.9**
SRPI	**Serui, Papua**	**2.84**	**307**	P			**Pn**	**20 25 09.9**	**-0.3**
SRPI				S			**Sn**	**20 25 44.0**	**+0.5**
BAKI	**Biak**	**3.38**	**315**	P			**Pn**	**20 25 15.6**	**-2.1**
FAKI	**Fak Fak**	**6.29**	**276**	P			**Pn**	**20 25 57.5**	**-0.1**
SIJI	**Sorong**	**7.73**	**290**	Pn			**Pn**	**20 26 16.7**	**-0.7**
	2.1nm,0.3s,baz=101,slow=16,SNR=8.3								
PMG	**Port Moresby**	**10.35**	**124**	Pn			**Pn**	**20 26 54.2**	**+0.9**
	1.1nm,0.3s,baz=297,slow=9.0,SNR=1.7								
MTN	**Manton Dam**	**11.73**	**218**	Pn			**Pn**	**20 27 13.3**	**+1.0**
KNRA	**Kununurra**	**15.37**	**218**	Pn			**Pn**	**20 28 00.5**	**-1.2**
KNRA				IAmb			IAmb	20 28 15.2	
	comp=Z,10nm,0.8s								
SOEI	**Soe**	**15.41**	**246**	Pn			**Pn**	**20 27 59.8**	**-2.6**
SOEI				IAmb			IAmb	20 28 23.4	
	comp=Z,23nm,1.1s								
BATI	**Baumata**	**16.13**	**245**	Pn			**Pn**	**20 28 12.0**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=82,slow=7.1,SNR=2.1								
WB0	**Warramunga Arr**	**16.57**	**194**				**Pn**	**20 28 16.8**	**-0.4**
WR0	**Warramunga Arr**	**16.72**	**193**	Pn			**Pn**	**20 28 19.3**	**+0.2**
WRAB	**Tennant Creek**	**16.74**	**194**				**Pn**	**20 28 16.7**	**-2.6**
WRAB				IAmb			IAmb	20 28 30.5	
	comp=Z,5.8nm,0.7s								
WB2	**Warramunga Arr**	**16.75**	**194**				**Pn**	**20 28 18.9**	**-0.5**
WB2				IAmb			IAmb	20 28 30.6	
	comp=Z,7.4nm,0.7s								
WRA	**Warramunga Arr**	**16.75**	**194**	Pn			**Pn**	**20 28 19.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=19								
WRA				Sn			Sn	20 31 15.3	-9.5
	comp=Z,0.1nm,0.3s,baz=14,slow=22,SNR=2.1								
WRA	**Warramunga Arr**	**16.75**	**194**				**Pn**	**20 28 17.1**	**-2.3**
WC3	**Warramunga Arr**	**16.76**	**194**	P			**P**	**20 28 21.3**	**-0.2**
WC3				IAmb			IAmb	20 28 25.0	
	comp=Z,7.3nm,1.1s								
CTA	**Charters Tower**	**18.05**	**156**	P			**P**	**20 28 37.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=16,SNR=1.2								
GUMO	**Guam**	**18.20**	**20**	LR			LR	20 35 52.1	
	comp=Z,6.8nm,18.1s,baz=129,slow=38								
FITZ	**Fitzroy Crossi**	**19.15**	**220**	P			**Pn**	**20 28 49.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=1.3								
FITZ				S			Sn	20 32 12.4	-10
	comp=Z,0.1nm,0.3s,baz=249,slow=18,SNR=3.1								
FITZ	**Fitzroy Crossi**	**19.15**	**220**	P			**P**	**20 28 46.7**	**-1.2**
AS31	**Alice Springs**	**20.44**	**192**	P			**P**	**20 29 02.4**	**+0.3**
AS31				IAmb			IAmb	20 29 07.3	
	comp=Z,3.5nm,0.5s								
ASAR	**Alice Springs**	**20.45**	**192**	P			Pn	20 29 03.5	-0.8
	comp=Z,6.3nm,0.7s,baz=20,slow=9.7,SNR=52								
ASAR				S			**S**	**20 32 46.3**	**-3.5**
	comp=Z,0.3nm,0.8s,baz=15,slow=22,SNR=2.1								
ASAR	**Alice Springs**	**20.45**	**192**	P			**P**	**20 29 03.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**44.71**	**301**	P			**P**	**20 32 38.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=120,slow=6.4,SNR=2.3								
MKAR	**Makanchi Array**	**70.36**	**323**	P			**P**	**20 35 38.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=114,slow=6.9,SNR=7.3								
MKAR	**Makanchi Array**	**70.36**	**323**	P			**P**	**20 35 38.8**	**+0.7**
MAKZ	**Makanchi**	**70.56**	**323**	P			**P**	**20 35 40.5**	**+1.3**
SML	**Sawmill**	**85.27**	**27**	P			**P**	**20 37 01.2**	**+0.5**
ILAR	**Eielson Array**	**86.72**	**24**	P			**P**	**20 37 08.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=260,slow=4.4,SNR=1.6								
TABL	**Table Mountain**	**88.34**	**29**	P			**P**	**20 37 16.6**	**+0.6**

BJI ***29*** *21:14:48.9±0.0,6˚.44S×148˚.80E,h67km,mB5.1/53, mb5.0/67,Ms4.7/36,Ms7 4.5/39*
MOS ***29*** *21:14:53.6±1.1,5˚.96S×148˚.56E,h72km,mb5.3/16, MS4.3/4,Error ellipse: s-maj=8.8km s-min=5.2km az=108.6*
NEIC ***29*** *21:14:54.5±1.5,6˚.00S±0˚.05×148˚.73E±0˚.06,h71km±4km, mb5.2/115,Error ellipse: s-maj=9.4km s-min=6.4km az=71.0*
IDC ***29*** *21:14:55.9±1.3,6˚.04S×148˚.73E,h83km±11km,mb4.7/26, mb1 4.8/34,mb1mx4.7/42,mbtmp5.0/34,MS4.2/25, Ms1 4.2/25,ms1mx4.2/27,Error ellipse: s-maj=11.7km s-min=7.3km az=103.0*
GCMT ***29*** *21:14:55.5±0.1,6˚.20S±0˚.01×148˚.85E±0˚.01,h66km, MW5.3/131,Moment Tensor Solution. s119,c178; s131,c231; Duration: 1ˢ1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.87±.01; Mθθ-1.08±.01; Mϕϕ0.20±.01; Mrθ-0.07±.01; Mrϕ0.19±.01; Mθϕ-0.19±.01; Best double couple: M₀1.02000×10¹⁷ NP1:ϕs114.00000°,δ46.00000°, λ112.00000°. NP2:ϕs263.00000°,δ48.00000°,λ69.00000°. Principal axes: T 0.9310, Plg74.0000°, Azm103.0000°; N 0.1750, Plg16.0000°, Azm278.0000°; P -1.1090, Plg1.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***29*** *21:14:56.2±0.4,6˚S±3˚×14˚9E±˚,h70km±5km,M5.1/31, mb5.2/31,mB5.4/19,MLv5.9/2,Mw(mB)4.8/19,Mwp5.3/2*
ISC 29 21:14:54.9±0.4,6˚.03S±0˚.03×148˚.73E±0˚.04,h75km±3km, h75km:pP-P,n442,σ1ᵠ40/461,mb5.2/117,17C-8D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**205**	P			**Pn**	**21 15 50.5**	**+0.9**
	516nm,0.3s,baz=13,slow=6.1,SNR=331								
PMG				S			**Sn**	**21 16 33.4**	**+1.4**
	620nm,0.3s,baz=14,slow=18,SNR=20								
PMG				LR			LR	21 17 14.4	
	comp=Z,5μm,19.9s,baz=42,slow=38								
PMG	**Port Moresby**	**3.69**	**205**	Pn			**Pn**	**21 15 50.5**	**+0.9**
PMG				Sn			**Sn**	**21 16 31.4**	**-0.7**
KRVT	**Keravat (AS076**	**3.70**	**63**	P			**Pn**	**21 15 49.6**	**-0.2**
	baz=102,slow=2.9								
RABL	**Rabaul**	**3.88**	**62**	Pn			**Pn**	**21 15 52.3**	**+0.1**
MANU	**Manus Island**	**4.19**	**341**	Pn			**Pn**	**21 15 56.6**	**+0.2**
JAY	**Jayapura**	**8.73**	**293**	P			**Pn**	**21 17 00.1**	**+1.6**
	6.4nm,0.3s,baz=62,slow=4.5,SNR=36								
JAY				LR			LR	21 21 07.9	
	comp=Z,1μm,18.4s,baz=98,slow=43								
JAY	**Jayapura**	**8.73**	**293**	P			**Pn**	**21 17 00.5**	**+2.0**
	677nm66nm,0.9s								
GENI	**Genyem**	**9.20**	**291**	P			**Pn**	**21 17 07.8**	**+3.0**
	3μm188nm,1.4s								
SMPI	**Sarmi**	**10.77**	**291**	P			**Pn**	**21 17 28.9**	**+2.6**
HNR	**Honiara**	**11.62**	**108**	P			**Pn**	**21 17 39.3**	**+1.5**
	5.2nm,0.3s,baz=242,slow=19,SNR=1.3								
HNR				LR			LR	21 21 32.3	
	comp=Z,1μm,21.5s,baz=272,slow=34								
HNR	**Honiara**	**11.62**	**108**	Pn			**Pn**	**21 17 38.3**	**+0.4**
MTSU	**Mount Surprise**	**12.78**	**199**	P			**Pn**	**21 17 54.1**	**+0.5**
	baz=13,SNR=100								
SRPI	**Serui, Papua**	**13.13**	**288**	P			**P**	**21 18 10.4**	**+4.7**
CTA	**Charters Tower**	**14.18**	**190**	P			**Pn**	**21 18 13.2**	**+1.0**
	4.0nm,0.3s,baz=29,slow=13,SNR=44								
CTAO	**Charters Tower**	**14.18**	**190**	P			**Pn**	**21 18 12.9**	**+0.7**
CTAO	**Charters Tower**	**14.18**	**190**	Pn			**Pn**	**21 18 12.9**	**+0.7**
PATS	**Popei**	**15.97**	**37**	P			**Pn**	**21 18 36.5**	**+1.4**
FAKI	**Fak Fak**	**16.72**	**280**	P			**Pn**	**21 18 45.4**	**+0.9**
	796nm42nm,0.7s								
FAKI	**Fak Fak**	**16.72**	**280**				**Pn**	**21 18 44.6**	**+0.1**
QIS	**Mount Isa**	**16.94**	**211**	P			**Pn**	**21 18 47.3**	**+0.1**
	baz=17,SNR=37								
KDU	**Kakadu**	**17.34**	**246**	P			**Pn**	**21 18 52.3**	**+0.1**
	baz=17,SNR=9.4								
SAUI	**Saumlaki**	**17.41**	**263**	P			P	21 19 06.9	+14
SAUI	**Saumlaki**	**17.41**	**263**	P			**Pn**	**21 18 52.5**	**-0.5**
SIJI	**Sorong**	**18.17**	**286**	P			**P**	**21 19 02.1**	**+0.4**
	1.8nm,0.3s,baz=106,slow=7.0,SNR=5.5								
MTN	**Manton Dam**	**18.62**	**247**	P			**Pn**	**21 19 07.9**	**+0.2**
	baz=19,SNR=13								
MTN	**Manton Dam**	**18.62**	**247**	P			**P**	**21 19 05.9**	**-0.7**
EIDS	**Eidsvold**	**19.36**	**174**	P			**Pn**	**21 19 16.8**	**+0.4**
	baz=20,SNR=9.0								
EIDS	**Eidsvold**	**19.36**	**174**	P			**P**	**21 19 15.2**	**+0.7**
EIDS				IAmb			IAmb	21 19 19.3	
	comp=Z,309nm,2.0s								
WB0	**Warramunga Arr**	**19.51**	**224**	P			**P**	**21 19 16.6**	**+0.3**
WB0				IAmb			IAmb	21 19 19.0	
	comp=Z,84nm,0.7s								
WRAB	**Tennant Creek**	**19.65**	**224**	*d*	*i*	P	**P**	**21 19 18.1**	**+0.3**
WRAB				pmax			pmax		
	comp=Z,114nm,0.5s								
WC3	**Warramunga Arr**	**19.65**	**224**	P			**P**	**21 19 19.0**	**+1.1**
	baz=20								
WB2	**Warramunga Arr**	**19.66**	**224**	P			**P**	**21 19 18.2**	**+0.3**
WB2				IAmb			IAmb	21 19 20.6	
	comp=Z,145nm,0.7s								
WRA	**Warramunga Arr**	**19.67**	**224**	P			**P**	**21 19 18.2**	**+0.2**
	comp=Z,12nm,0.3s,baz=49,slow=11,SNR=987								
WRA				S			**S**	**21 22 50.5**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=51,slow=24,SNR=11								
WRA				LR			LR	21 27 58.4	
	comp=Z,2μm,18.0s,baz=50,slow=40								
WRA	**Warramunga Arr**	**19.67**	**224**	*i*	P		**P**	**21 19 18.2**	**+0.2**
WRA				pmax			pmax		
	comp=Z,123nm,0.6s								
WRA	**Warramunga Arr**	**19.67**	**224**	P			**P**	**21 19 18.1**	**+0.2**
GUMO	**Guam**	**19.87**	**349**	P			**Pn**	**21 19 22.0**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=324,slow=2.4,SNR=4.1								
GUMO				LR			LR	21 25 44.6	
	comp=Z,663nm,21.9s,baz=164,slow=33								
GUMO	**Guam**	**19.87**	**349**	P			**Pn**	**21 19 22.0**	**-0.4**
GUMO	**Guam**	**19.87**	**349**				**P**	**21 19 20.6**	**+0.4**
RMQ	**Roma**	**20.34**	**180**	P			Pn	21 19 26.9	-0.9
	baz=20,SNR=10								
SANVU	**Saraoutou**	**20.40**	**119**	P			**P**	**21 19 26.4**	**+0.5**
SANVU				IAmb			IAmb	21 19 51.2	
	comp=Z,189nm,1.2s								
QLP	**Quilpie**	**20.88**	**191**	P			Pn	21 19 32.9	-1.3
	baz=21,SNR=37								
KNRA	**Kununurra**	**21.80**	**242**	P			**P**	**21 19 41.2**	**+0.2**
	baz=22,SNR=39								
KNRA	**Kununurra**	**21.80**	**242**	P			**P**	**21 19 40.9**	**-0.1**
KNRA				IAmb			IAmb	21 19 58.5	
	comp=Z,81nm,0.6s								
AS31	**Alice Springs**	**22.60**	**218**	P			**P**	**21 19 49.7**	**+0.2**
AS31				IAmb			IAmb	21 20 06.8	
	comp=Z,50nm,0.6s								
ASAR	**Alice Springs**	**22.60**	**218**	P			**P**	**21 19 50.3**	**+0.7**
	comp=Z,52nm,0.6s,baz=52,slow=9.3,SNR=556								
ASAR				PcP			**PcP**	**21 23 40.9**	**+0.6**
	comp=Z,10nm,0.9s,baz=47,slow=3.9,SNR=5.6								
ASAR				S			**S**	**21 23 52.5**	**+0.5**
	comp=Z,74nm,1.0s,baz=30,slow=23,SNR=25								
ASAR				LR			LR	21 29 38.7	
	comp=Z,2μm,18.5s,baz=34,slow=39								
ASAR	**Alice Springs**	**22.60**	**218**	P			**P**	**21 19 49.8**	**+0.2**
SANI	**Sanana**	**23.02**	**279**	P			**P**	**21 19 56.5**	**+2.6**
	comp=Z,752nmcomp=Z,54nm,0.8s								
DZM	**Mont Dzumac**	**23.39**	**135**	P			**P**	**21 19 57.5**	**+0.1**
	comp=Z,22nm,0.9s,baz=247,slow=12,SNR=40								
DZM	**Mont Dzumac**	**23.39**	**135**	*e*	P		**P**	**21 19 57.1**	**-0.4**
DZM	comp=Z,133nm,1.4s				*e*	S	**S**	**21 24 00.8**	**-4.2**
DZM	comp=Z,2μm,26.4s				*e*	LR	LR	21 25 45.0	
	comp=Z,4μm,25.1s								
DZM	**Mont Dzumac**	**23.39**	**135**	P			**P**	**21 19 57.2**	**-0.2**
DZM				IAmb			IAmb	21 19 59.1	
	comp=Z,312nm,2.0s								
ARMA	**Armidale**	**24.41**	**174**	P			**P**	**21 20 08.4**	**+1.9**
	baz=25,SNR=9.5								
ARMA	**Armidale**	**24.41**	**174**	P			**P**	**21 20 07.4**	**+0.9**
SOEI	**Soe**	**24.51**	**260**	P			**P**	**21 20 09.7**	**+2.1**
	comp=Z,3μmcomp=Z,148nm,0.9s								
SOEI	**Soe**	**24.51**	**260**	P			**P**	**21 20 07.7**	**+0.1**
BATI	**Baumata**	**25.15**	**259**	P			**P**	**21 20 14.1**	**+0.6**
	comp=Z,340nm,0.9s,baz=139,slow=1.2,SNR=59								
BATI	**Baumata**	**25.15**	**259**	P			**P**	**21 20 14.7**	**+1.3**
	comp=Z,2μmcomp=Z,212nm,0.9s								
FITZ	**Fitzroy Crossi**	**25.52**	**240**	P			**P**	**21 20 17.3**	**+0.6**
	comp=Z,155nm,0.9s,baz=70,slow=9.3,SNR=157								
FITZ	**Fitzroy Crossi**	**25.52**	**240**	P			**P**	**21 20 17.5**	**+0.8**
	baz=26,SNR=329								
FITZ	**Fitzroy Crossi**	**25.52**	**240**	P			**P**	**21 20 17.5**	**+0.8**
CMSA	**Cobar Meteorol**	**25.53**	**186**	P			**P**	**21 20 18.3**	**+1.7**
	baz=26,SNR=15								
LUWI	**Luwuk**	**26.37**	**280**	P			**P**	**21 20 24.6**	**+0.1**
LUWI				IAmb			IAmb	21 21 12.9	
	comp=Z,112nm,1.0s								
MMRI	**Maumere**	**26.40**	**263**	P			**P**	**21 20 24.1**	**-0.6**
	comp=Z,213nm,1.1s								
MMRI	**Maumere**	**26.40**	**263**	P			**P**	**21 20 23.4**	**-1.2**
STKA	**Stephens Creek**	**26.56**	**194**	P			**P**	**21 20 25.9**	**-0.1**
	comp=Z,23nm,1.0s,baz=357,slow=16,SNR=28								
STKA				LR			LR	21 32 17.0	
	comp=Z,860nm,18.1s,baz=18,slow=39								
STKA	**Stephens Creek**	**26.56**	**194**	P			**P**	**21 20 27.7**	**+1.8**
	baz=27,SNR=7.9								
STKA	**Stephens Creek**	**26.56**	**194**	P			**P**	**21 20 26.5**	**+0.6**
STKA				pmax			pmax		
	comp=Z,10.0nm,1.0s								
STKA	**Stephens Creek**	**26.56**	**194**	P			**P**	**21 20 26.5**	**+0.6**
EDFI	**Ende, Flores**	**26.95**	**263**	P			**P**	**21 20 28.3**	**-1.4**
	comp=Z,500nmcomp=Z,58nm,0.8s								
WRKA	**Warakurna**	**27.21**	**224**	P			**P**	**21 20 32.5**	**+0.7**
	baz=27,SNR=26								
BSSI	**Bau Bau, Buton**	**28.08**	**268**	P			**P**	**21 20 43.9**	**+4.2**
	comp=Z,553nmcomp=Z,34nm,0.9s								
YNG	**Young**	**28.13**	**181**	P			**P**	**21 20 41.6**	**+1.7**
	baz=28,SNR=5.6								
BASI	**Baing, Sumba**	**28.17**	**260**	P			**P**	**21 20 41.9**	**+1.4**
	comp=Z,2μmcomp=Z,211nm,1.2s								
WSI	**Waingapu**	**28.39**	**261**	P			P	21 20 54.8	+12
HTT	**Hallett**	**28.74**	**197**	P			**P**	**21 20 46.6**	**+1.1**
	baz=29,SNR=7.8								
KAPI	**Kappang**	**28.86**	**271**	P			**P**	**21 20 46.8**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=96,slow=9.2,SNR=1.5								
KAPI	**Kappang**	**28.86**	**271**	P			**P**	**21 20 46.6**	**0.0**
BBOO	**Buckleboo**	**29.14**	**202**	P			**P**	**21 20 49.5**	**+0.6**
PLAI	**Plampang**	**30.81**	**263**	P			**P**	**21 21 02.0**	**-1.9**
	comp=Z,39nm,0.8s								
MSVF	**Nonsavu**	**30.90**	**115**	*e*	P		**P**	**21 21 05.7**	**+0.9**
MSVF				pmax			pmax		
	comp=Z,12nm,1.2s								
MSVF	**Nonsavu**	**30.90**	**115**	P			**P**	**21 21 04.9**	**+0.1**
MSVF				IAmb			IAmb	21 21 13.6	
	comp=Z,29nm,0.8s								
FORT	**Forrest**	**31.35**	**216**	P			**P**	**21 21 09.4**	**+0.9**
	baz=32,SNR=8.0								
FORT	**Forrest**	**31.35**	**216**	P			**P**	**21 21 08.3**	**-0.1**
TOO	**Toolangi**	**31.53**	**185**	P			**P**	**21 21 11.6**	**+1.6**
TOO				pmax			pmax		
	comp=Z,86nm,1.8s								
TOO	**Toolangi**	**31.53**	**185**	P			**P**	**21 21 11.6**	**+1.6**
TOO				IAmb			IAmb	21 22 00.9	
	comp=Z,86nm,1.8s								
PSA00	**Pilbara Seismi**	**31.93**	**238**	P			**P**	**21 21 14.0**	**+0.4**
PSA00				IAmb			IAmb	21 21 15.4	
	comp=Z,52nm,0.9s								
SMKI	**Samarinda**	**31.94**	**279**	P			**P**	**21 21 16.9**	**+3.0**
SPMM	**Sapulut**	**33.94**	**288**	P			**P**	**21 21 30.0**	**-1.3**
JAGI	**Jajag, Banyuwa**	**34.38**	**264**	P			**P**	**21 21 33.0**	**-2.2**
MEEK	**Meekatharra**	**35.26**	**231**	P			**P**	**21 21 43.6**	**+1.0**
	baz=35,SNR=36								
KMBL	**Kambalda**	**35.60**	**222**	P			**P**	**21 21 46.3**	**+0.9**
	baz=36,SNR=26								
GIRL	**Giralia**	**37.14**	**240**	P			**P**	**21 21 59.1**	**+0.4**
	baz=37,SNR=5.6								
GIRL	**Giralia**	**37.14**	**240**	P			**P**	**21 22 00.3**	**+1.7**
SBUM	**Sibu**	**37.42**	**282**	P			**P**	**21 22 01.0**	**-0.1**
UGM	**Wanagama**	**37.96**	**265**	P			**P**	**21 22 05.1**	**-0.6**
MORW	**Morawa**	**38.44**	**230**	P			**P**	**21 22 10.4**	**+0.8**
	baz=38,SNR=17								
MORW	**Morawa**	**38.44**	**230**	P			**P**	**21 22 09.6**	**0.0**
KLBR	**Kellerberrin**	**38.55**	**225**	P			**P**	**21 22 10.9**	**+0.5**
	baz=39,SNR=19								
KSM	**Kuching**	**39.08**	**280**	P			**P**	**21 22 13.2**	**-1.9**
KSM	**Kuching**	**39.08**	**280**	P			**P**	**21 22 13.0**	**-2.1**
YULB	**Yu-li**	**39.67**	**318**	P			**P**	**21 22 18.3**	**-1.5**
YULB				IAmb			IAmb	21 22 40.1	
	comp=Z,56nm,1.2s								
NWAO	**Narrogin (SRO)**	**39.67**	**223**	P			**P**	**21 22 20.9**	**+1.1**
	baz=40,SNR=4.0								
NWAO	**Narrogin (SRO)**	**39.67**	**223**	P			**P**	**21 22 19.7**	**-0.1**
NWAO				pmax			pmax		
	comp=Z,44nm,1.3s								
NWAO	**Narrogin (SRO)**	**39.67**	**223**	P			**P**	**21 22 19.7**	**-0.1**
NWAO				IAmb			IAmb	21 22 43.9	
	comp=Z,44nm,1.2s								
MUN	**Mundaring**	**39.85**	**225**	P			**P**	**21 22 22.0**	**+0.7**
	baz=40,SNR=6.8								
TPUB	**Ta-pu**	**40.05**	**318**	P			**P**	**21 22 21.8**	**-1.3**
SSLB	**Suanglung**	**40.17**	**319**	P			**P**	**21 22 23.2**	**-0.8**
SSLB				IAmb			IAmb	21 22 44.8	
	comp=Z,20nm,0.8s								
YHNB	**Yeheng**	**40.51**	**320**	P			**P**	**21 22 26.3**	**-0.6**
CISI	**Cisompet, Garu**	**40.65**	**265**	P			**P**	**21 22 26.7**	**-1.5**
URZ	**Urewera**	**41.13**	**145**	P			**P**	**21 22 31.1**	**-0.6**
	comp=Z,3.9nm,0.4s,baz=286,slow=7.4,SNR=1.0								
URZ				LR			LR	21 37 17.4	
	comp=Z,546nm,21.4s,baz=8.5,slow=33								
URZ	**Urewera**	**41.13**	**145**	P			**P**	**21 22 31.9**	**+0.1**
URZ				IAmb			IAmb	21 22 53.2	
	comp=Z,121nm,1.7s								
JSU	**Suzuyama**	**41.21**	**336**	P			**P**	**21 22 32.6**	**+0.2**
JSU				IAmb			IAmb	21 22 34.3	
	comp=Z,75nm,1.2s								
BKZ	**Black Stump Fm**	**41.42**	**147**	P			**P**	**21 22 34.7**	**+0.5**
JMN	**Monobe**	**41.98**	**341**	P			**P**	**21 22 39.3**	**+0.6**
JMN				IAmb			IAmb	21 22 41.1	
	comp=Z,66nm,0.9s								
BSWZ	**Blackbirch Sta**	**41.99**	**152**	P			**P**	**21 22 39.3**	**+0.6**
RPZ	**Rata Peaks**	**42.35**	**156**	LR			LR	21 39 16.4	
	comp=Z,520nm,19.8s,baz=321,slow=34								
RPZ	**Rata Peaks**	**42.35**	**156**	P			**P**	**21 22 42.8**	**+1.2**
BFZ	**Birch Farm**	**42.39**	**149**	P			**P**	**21 22 42.4**	**+0.4**
BFZ				IAmb			IAmb	21 22 54.9	
	comp=Z,72nm,1.3s								
JNU	**Nakatsue**	**42.47**	**338**	P			**P**	**21 22 43.1**	**+0.4**
	comp=Z,108nm,0.9s,baz=133,slow=4.3,SNR=34								
JNU	**Nakatsue**	**42.47**	**338**	P			**P**	**21 22 43.3**	**+0.5**
INU	**Inuyama**	**42.61**	**346**	P			**P**	**21 22 44.0**	**+0.2**
INU				IAmb			IAmb	21 23 02.3	
	comp=Z,93nm,1.3s								
JGF	**Kuroka**	**42.77**	**346**	P			**P**	**21 22 45.3**	**+0.1**
JGF				IAmb			IAmb	21 22 49.9	
	comp=Z,46nm,0.8s								
JWT	**Wachi**	**42.97**	**344**	P			**P**	**21 22 47.6**	**+0.9**
JWT				IAmb			IAmb	21 22 49.1	
	comp=Z,38nm,0.9s								
JHS	**Saijyo**	**43.39**	**341**	P			**P**	**21 22 50.3**	**+0.2**
JHS				IAmb			IAmb	21 22 52.2	
	comp=Z,36nm,

comp=Z,183nm,21.9s,baz=137,slow=33
USRK Ussuriysk Ar. 52.23 345 P P 21 23 59.0 +0.7
YSS Yuzh-Sakhalins 53.02 355 *eP* **P 21 24 03.4 -0.6**
YSS *e* 21 31 32.8
YSS MLR MLR
comp=Z,500nm,17.0s
MDJ Mudanjiang 53.28 343 P **P 21 24 06.2 +0.2**
MDJ IAmb IAmb 21 24 09.0
comp=Z,28nm,0.9s
CN2 Changchun 53.88 339 *eP* **P 21 24 14.0 +3.6**
CN2 *eS* **S 21 31 42.5 +2.5**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,200nm,6.0s
KMI Kunming 54.39 307 ⇑P **P 21 24 14.3 -0.5**
KMI pP pP 21 24 29.8 -4.0
KMI sP sP 21 24 38.3 -4.0
KMI S **S 21 31 47.3 -0.7**
KMI sS sS 21 32 22.0 +2.5
KMI pmax pmax
comp=Z,14nm,1.2s
KMI pmax pmax
comp=Z,68nm,6.4s
KMI LR LR
comp=Z,140nm,23.1s
KMI LR LR
comp=Z,170nm,18.3s
KMI LR LR
comp=Z,340nm,33.0s
KMI Kunming 54.39 307 P **P 21 24 14.3 -0.5**
KMI pmax pmax
comp=Z,18nm,1.1s
KMI Kunming 54.39 307 P **P 21 24 14.3 -0.5**
KMI IAmb IAmb 21 24 46.3
comp=Z,18nm,1.1s
BJT Baijiatuau 54.77 330 P **P 21 24 16.8 -0.2**
BJT pmax pmax
comp=Z,9.0nm,0.7s
BJT Baijiatuau 54.77 330 P **P 21 24 16.8 -0.2**
BJI Beijing 54.79 330 P **P 21 24 17.0 -0.1**
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI LR LR
comp=Z,350nm,15.6s
BJI LR LR
comp=Z,160nm,13.0s
BJI LR LR
comp=Z,580nm,30.3s
CM31 Chiang Mai Arr 54.79 297 P **P 21 24 16.6 -0.9**
CMAR Chiang Mai Arr 54.79 297 P **P 21 24 16.7 -0.8**
comp=Z,2.8nm,0.9s,baz=117,slow=5.7,SNR=16
CMAR LR LR 21 48 57.7
comp=Z,46nm,20.8s,baz=158,slow=37
CMAR Chiang Mai Arr 54.79 297 P **P 21 24 16.3 -1.2**
XAN Xi'an 54.81 319 P **P 21 24 16.6 -0.9**
XAN pmax pmax
comp=Z,21nm,1.0s
XAN Xi'an 54.81 319 P **P 21 24 16.6 -0.9**
XAN IAmb IAmb 21 24 32.7
comp=Z,21nm,1.0s
CD2 Chengdu 56.54 313 P **P 21 24 29.3 -0.6**
CD2 pP pP 21 24 45.5 -3.6
CD2 sP sP 21 24 54.0 -3.5
CD2 PcP **PcP 21 25 25.5 -0.3**
CD2 S **S 21 32 15.3 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,180nm,4.5s
CD2 LR LR
comp=Z,290nm,4.7s
CD2 LR LR
comp=Z,220nm,3.9s
CD2 LR LR
comp=Z,400nm,11.4s
GRNR Gornyy 57.56 351 ⇑*iP* **P 21 24 39.0 +2.3**
GRNR pmax pmax
comp=E,4.0nm,0.7s
GRNR pmax pmax
comp=N,9.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,170nm,13.0s
GRNR MLR MLR
comp=N,330nm,18.0s
GRNR MLR MLR
comp=Z,220nm,18.0s
HHC Hu-ho-hao-te 57.78 327 *eP* **P 21 24 40.8 +2.3**
HHC pP pP 21 24 54.3 -3.5
HHC sP sP 21 25 04.5 -1.8
HHC S S 21 32 41.5 +9.3
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.1s
HHC LR LR
comp=Z,370nm,16.4s
HHC LR LR
comp=Z,380nm,16.1s
HHC LR LR
comp=Z,550nm,16.1s
BTO Baotou 58.45 326 *eP* P 21 24 57.0 +14
LZH Lanzhou 59.37 318 ⇑P **P 21 24 50.8 +1.1**
LZH pP pP 21 25 05.0 -4.0
LZH sP sP 21 25 15.0 -2.5
LZH PP **PP 21 27 05.8 +4.1**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=Z,230nm,16.5s
LZH LR LR
comp=Z,240nm,16.8s
LZH LR LR
comp=Z,350nm,18.1s
PEA0B Petropavlovsk- 59.41 6⇑ *eP* **P 21 24 49.7 +0.3**
PEA0B Petropavlovsk- 59.41 6 P **P 21 24 49.9 +0.5**
PETK Petropavlovsk- 59.41 6 P **P 21 24 50.2 +0.8**
comp=Z,62nm,0.9s,baz=160,slow=4.1,SNR=31
PETK LR LR 21 45 07.2
comp=Z,230nm,21.9s,baz=190,slow=30
PETK Petropavlovsk- 59.41 6 P **P 21 24 50.4 +1.0**
PETK Petropavlovsk- 59.41 6 P **P 21 24 50.4 +1.0**
PET Petropavlovsk 59.43 7 *eP* **P 21 24 50.8 +1.2**
PET *eS* **S 21 32 57.7 +4.8**
PET pmax pmax
comp=Z,77nm,1.1s
PET MLR MLR
comp=Z,200nm,22.0s
HIA Hailar 60.60 339 *ceP* **P 21 24 57.2 -0.5**
HIA pmax pmax
comp=Z,51nm,0.9s
HIA Hailar 60.60 339 P **P 21 24 57.2 -0.5**
PPT Papeete 61.24 107 LR LR 21 48 30.3
comp=Z,48nm,20.1s,baz=204,slow=33
PPT2 Papeete2 61.24 107 *eP* **P 21 25 04.5 +1.8**
comp=Z,61nm,1.5s
PPT2 *eS* **S 21 33 17.2 -0.3**
comp=Z,141nm,27.2s
PPT2 *eLQ* LQ 21 40 40.6
comp=Z,642nm,29.8s
PPT2 *eLR* LR 21 43 15.6
comp=Z,314nm,27.8s
TIAR Tiarei 61.46 107 *eP* **P 21 25 05.5 +1.4**
comp=Z,18nm,1.2s
TBI Tubuai 61.77 113 *eS* **S 21 33 22.9 -1.0**
comp=Z,270nm,30.0s
TBI Tubuai 61.77 113 *eLR* LR 21 43 30.3
comp=Z,702nm,36.5s
ZEA Zeya 62.24 346⇓ *eP* **P 21 25 09.9 +1.3**
ZEA *e* 21 25 26.3
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=Z,80nm,0.9s
ZEA pmax pmax
comp=E,120nm,1.0s
PMOR Pomariorio Ree 62.77 104 *eP* **P 21 25 14.5 +1.6**
comp=E,87nm,1.1s
SHL Shillong 63.48 302 P **P 21 25 15.9 -1.8**
SHL pmax pmax
comp=Z,23nm,1.2s
SHL Shillong 63.48 302 P **P 21 25 15.9 -1.8**
SHL IAmb IAmb 21 25 17.1
comp=Z,23nm,1.2s
GTA Gaotai 63.88 319 ⇓P **P 21 25 20.0 0.0**
GTA pP pP 21 25 35.3 -4.2
GTA sP sP 21 25 42.5 -5.4
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,9.5s
GTA LR LR
comp=Z,170nm,16.7s
GTA LR LR
comp=Z,130nm,17.8s
GTA LR LR
comp=Z,170nm,19.3s
ULN Ulaanbaatar 64.98 330⇓ *eP* **P 21 25 27.3 +0.3**
ULN pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 64.98 330 P **P 21 25 27.0 0.0**
CIT Chita 65.15 337 *eP* **P 21 25 28.6 +0.7**
CIT *e* 21 25 50.6
CIT *e* 21 25 52.8
CIT *e* 21 26 00.8
CIT pmax pmax
comp=Z,64nm,2.0s
SONM Songino Array 65.28 330 P **P 21 25 28.9 -0.1**
comp=Z,6.8nm,0.8s,baz=148,slow=8.0,SNR=22
SONM LR LR 21 53 07.3
comp=Z,279nm,21.8s,baz=135,slow=35
SONM PKP2bc 21 54 12.6
comp=Z,1.0nm,0.9s,baz=284,slow=1.4,SNR=5.2
SONM Songino Array 65.28 330 P **P 21 25 27.4 -1.6**
MA2 Magadan 65.42 1⇑ *eP* **P 21 25 29.6 +0.2**
MA2 pmax pmax
comp=Z,74nm,1.1s
MA2 Magadan 65.42 1 P **P 21 25 28.5 -0.9**
LSA Lhasa 65.64 306 P **P 21 25 30.5 -1.6**
LSA pmax pmax
comp=Z,50nm,1.1s
LSA Lhasa 65.64 306 P **P 21 25 30.9 -1.2**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 65.64 306 P **P 21 25 30.9 -1.2**
TAPN Taplejung 67.61 303 *eP* **P 21 25 43.4 -1.1**
comp=Z,15nm,0.6s
ODAN Odare 67.72 302 *eP* **P 21 25 43.8 -1.3**
comp=Z,33nm,0.8s
ZAK Zakamensk 68.50 331 *eP* **P 21 25 48.7 -0.6**
ZAK *e* 21 26 03.2
ZAK pmax pmax
comp=Z,17nm,0.9s
ZAK pmax pmax
comp=Z,14nm,1.0s
SEY Seymchan 68.83 2 P **P 21 25 51.3 +0.4**
comp=Z,13nm,0.9s,baz=197,slow=4.0,SNR=10.0
SEY LR LR 21 56 44.6
comp=Z,127nm,18.8s,baz=162,slow=36
SEY Seymchan 68.83 2⇑ *eP* **P 21 25 51.4 +0.5**
GUN Gumba 69.33 303 *eP* **P 21 25 53.6 -1.6**
comp=Z,45nm,0.7s
YAK Yakutsk 69.44 351 P **P 21 25 54.5 -0.2**
comp=Z,2.8nm,0.2s,baz=74,slow=4.6,SNR=6.0
YAK Yakutsk 69.44 351 *eP* **P 21 25 56.1 +1.3**
YAK *e**PP **sP 21 26 22.7 -0.4**
YAK *e* 21 28 31.8
YAK *eS* **S 21 34 56.5 +0.5**
YAK *e**SS **pS 21 35 25.5 +6.3**
YAK *eSS* **SS 21 39 18.1 -6.8**
YAK pmax pmax
comp=Z,26nm,1.3s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,327nm,3.3s
YAK pmax pmax
comp=E,371nm,3.5s
YAK smax smax
comp=N,869nm,3.9s
YAK smax smax
comp=E,552nm,3.9s
YAK Yakutsk 69.44 351 P **P 21 25 54.5 -0.2**
YAK IAmb IAmb 21 25 57.0
comp=Z,84nm,1.6s
BOD Bodaibo 69.56 341 *eP* **P 21 25 55.7 +0.1**
BOD pmax pmax
comp=Z,15nm,1.5s
PKI Pulchoki 69.62 302 *eP* **P 21 25 54.7 -2.3**
comp=Z,15nm,0.9s
PKIN Phulchoki 69.63 302 *eP* **P 21 25 54.8 -2.2**
comp=Z,7.1nm,0.6s
KKN Kakani 69.79 302 *eP* **P 21 25 56.0 -1.9**
comp=Z,16nm,0.7s
DMN Daman 69.88 302 *eP* **P 21 25 56.6 -2.0**
comp=Z,32nm,0.8s
GKN Gorkha 70.40 302 *eP* **P 21 26 00.0 -1.6**
comp=Z,26nm,0.7s
MOY Mondy 70.44 331 *eP* **P 21 26 02.9 +1.7**
KOLN Koldanda 71.20 302 *eP* **P 21 26 04.6 -1.9**
comp=Z,27nm,0.7s
DANN Dangsing 71.24 302 *eP* **P 21 26 04.9 -2.0**
comp=Z,21nm,0.7s
VNDA Vanda 71.78 177 P **P 21 26 09.3 +0.5**
comp=Z,9.2nm,0.8s,baz=330,slow=6.9,SNR=47
VNDA LR LR 21 55 38.7
comp=Z,141nm,18.7s,baz=0.0,slow=34
VNDA Vanda 71.78 177 P **P 21 26 09.7 +0.9**
VNDA pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 71.78 177 P **P 21 26 09.7 +0.9**
PYUN Piuthan 71.82 302 *eP* **P 21 26 08.4 -1.8**
comp=Z,42nm,0.8s
WMQ Urumqi 73.94 319 *eP* **P 21 26 23.0 +0.7**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,62nm,5.9s
WMQ Urumqi 73.94 319 P **P 21 26 21.9 -0.4**
WMQ pmax pmax
comp=Z,42nm,1.5s
WMQ Urumqi 73.94 319 P **P 21 26 21.9 -0.4**
WMQ IAmb IAmb 21 26 51.0
comp=Z,42nm,1.5s
BILL Bilibino 74.93 7⇓ *eP* **P 21 26 28.4 +1.0**
BILL *i* 21 26 43.5
BILL *i* 21 29 17.3
BILL pmax pmax
comp=Z,35nm,1.0s
BILL MLR MLR
comp=Z,113nm,17.0s
BILL Bilibino 74.93 7 P **P 21 26 28.1 +0.7**
BILL IAmb IAmb 21 26 31.8
comp=Z,29nm,0.9s
DGZ Jazzator, Alta 76.66 324⇑ *eP* **P 21 26 36.3 -1.6**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
ZSN Zaisan 77.25 321 *eP* **P 21 26 40.3 -0.8**
ZSN Zaisan 77.25 321 *eP* **P 21 26 40.3 -0.8**
OHAK Old Harbor 78.51 28 P **P 21 26 47.9 +0.1**
MK31 Makanchi Array 78.62 320 P **P 21 26 47.9 -0.8**
MK31 pmax pmax
comp=Z,34nm,1.8s
MK31 Makanchi Array 78.62 320 P **P 21 26 47.9 -0.8**
MK31 IAmb IAmb 21 27 17.0
comp=Z,34nm,1.8s
MKAR Makanchi Array 78.62 320 P **P 21 26 47.5 -1.2**
comp=Z,5.7nm,0.7s,baz=104,slow=6.5,SNR=26
MKAR LR LR 21 59 59.0
comp=Z,91nm,21.9s,baz=98,slow=34
MKAR Makanchi Array 78.62 320 P **P 21 26 47.2 -1.5**
TIXI Tiksi 78.62 354⇑ *eP* **P 21 26 47.8 -0.3**
TIXI pmax pmax
comp=Z,34nm,0.8s
TIXI Tiksi 78.62 354 P **P 21 26 47.7 -0.4**
TIXI IAmb IAmb 21 26 50.8
comp=Z,32nm,0.8s
MAKZ Makanchi 78.83 320 P **P 21 26 49.0 -0.8**
MAKZ pmax pmax
comp=Z,42nm,1.4s
MAKZ Makanchi 78.83 320 P **P 21 26 49.0 -0.8**
MAKZ IAmb IAmb 21 27 05.2
comp=Z,42nm,1.4s
SHLS Shalkode 79.25 316 *eP* **P 21 26 50.2 -2.2**
SHLS Shalkode 79.25 316 *eP* **P 21 26 50.1 -2.2**
UZB Uzynbulak 79.56 316 *eP* **P 21 26 51.8 -2.2**
UZB Uzynbulak 79.56 316 *eP* **P 21 26 51.8 -2.2**
SVW2 Sparrevohn 79.57 24 P **P 21 26 54.2 +0.7**
SVW2 IAmb IAmb 21 26 56.4
comp=Z,20nm,1.0s
KPKS Kokpek 79.89 316 *eP* **P 21 26 54.2 -1.6**
KPKS Kokpek 79.89 316 *eP* **P 21 26 54.1 -1.6**
SATY Saty 79.96 316 *eP* **P 21 26 53.9 -2.3**
SATY Saty 79.96 316 *eP* **P 21 26 53.8 -2.4**
ZAA0 Zalesovo Array 79.96 327 P **P 21 26 54.1 -1.6**
ZALV Zalesovo Beam 79.96 327 P **P 21 26 54.2 -1.6**
comp=Z,7.6nm,0.7s,baz=112,slow=5.5,SNR=23
ZALV LR LR 22 01 04.2
comp=Z,235nm,21.7s,baz=128,slow=35
ZALV Zalesovo Beam 79.96 327 P **P 21 26 53.5 -2.2**
CNPM China Poot 80.60 27 P **P 21 26 59.7 +0.6**
KSH Kashi 80.69 312 P **P 21 26 59.5 -0.7**
KSH S **S 21 37 01.0 -1.1**
KSH pmax pmax
comp=Z,52nm,2.4s
KSH pmax pmax
comp=Z,130nm,5.9s
KSH LR LR
comp=Z,110nm,6.5s
KSH LR LR
comp=Z,160nm,6.3s
KSH LR LR
comp=Z,230nm,5.5s
MDOK Medeo 80.94 315 *eP* **P 21 26 59.4 -2.1**
MDOK Medeo 80.94 315 *eP* **P 21 26 59.3 -2.1**
TNSS Tian-Shan 80.97 315 *eP* **P 21 27 00.3 -1.7**
TNSS Tian-Shan 80.97 315 *eP* **P 21 27 00.3 -1.7**
RDOG Red Dog Mine 81.28 17 P **P 21 27 03.0 +0.5**
NIL Nilore 81.35 305 P **P 21 27 02.9 -0.8**
NIL pmax pmax
comp=Z,16nm,0.9s
NIL Nilore 81.35 305 P **P 21 27 02.9 -0.8**
BOOM Boomskoye usch 81.53 314 P **P 21 27 04.0 -0.7**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
BOOM Boomskoye usch 81.53 314 P **P 21 27 04.0 -0.7**
KUU Kurty 81.64 316 *eP* **P 21 27 01.1 -3.9**
KUU Kurty 81.64 316 *eP* **P 21 27 01.1 -3.9**
O22K Cooper Landing 81.72 26 P **P 21 27 06.2 +1.2**
baz=242
TKM2 Tokmak 2 81.89 315 P **P 21 27 05.5 -1.1**
SNR=8.9
RC01 Rabbit Creek A 82.00 26 P **P 21 27 06.8 +0.3**
baz=242
KURK Kurchatov 82.27 323 P **P 21 27 07.5 -0.6**
KURK pmax pmax
comp=Z,11nm,1.2s
KURK Kurchatov 82.27 323 P **P 21 27 07.5 -0.6**
UCH Uchtor 82.47 314 P **P 21 27 09.1 -0.9**
SNR=11
AAK Ala-Archa 82.59 314 P **P 21 27 10.4 +0.2**
SNR=8.2
AAK Ala-Archa 82.59 314⇑ *eP* **P 21 27 07.9 -2.3**
AAK pmax pmax
comp=Z,18nm,0.8s
GHO Glory Hole Cre 82.67 25 P **P 21 27 10.2 +0.1**
GHO IAmb IAmb 21 27 11.1
comp=Z,18nm,0.9s
KNK Knik Glacier 82.70 26 P **P 21 27 10.3 +0.1**
KNK IAmb IAmb 21 28 00.4
comp=Z,36nm,1.4s
KTH Kantishna Hill 82.71 23 P **P 21 27 10.0 -0.2**
KTH IAmb IAmb 21 27 11.2
comp=Z,21nm,0.9s
SGDS Sogindy 82.71 315 *eP* **P 21 27 09.7 -1.0**
SGDS Sogindy 82.71 315 *eP* **P 21 27 09.6 -1.0**
USP Ospenovka 82.75 315 P **P 21 27 09.9 -1.0**
SNR=9.2
MAW Mawson 82.88 203 P **P 21 27 11.0 +0.1**
comp=Z,6.6nm,0.8s,baz=98,slow=6.5,SNR=15
MAW Mawson 82.88 203 P **P 21 27 11.4 +0.5**
baz=83,SNR=7.1
MAW Mawson 82.88 203 P **P 21 27 11.4 +0.5**
MAW pmax pmax
comp=Z,3.0nm,1.1s
MAW Mawson 82.88 203 P **P 21 27 11.4 +0.5**
TRF Thorofare Moun 82.91 23 P **P 21 27 10.8 -0.6**
IMAR Indian Mountai 82.92 20 P **P 21 27 11.1 0.0**
SML Sawmill 82.94 25 P **P 21 27 11.0 -0.4**
SML IAmb IAmb 21 27 13.2
comp=Z,43nm,0.9s
BPAW Bear Paw Mtn. 82.95 23 P **P 21 27 11.4 0.0**
AML Almayashu 83.04 314 P **P 21 27 12.4 -0.4**
SNR=11
EKS2 Erkin-Say 83.11 314 P **P 21 27 10.7 -2.2**
SNR=9.8
MLY Manley 83.50 22 P **P 21 27 14.4 +0.1**
baz=241
BTLS Baital 83.53 317 *eP* **P 21 27 12.5 -2.3**
BTLS Baital 83.53 317 *eP* **P 21 27 12.4 -2.3**
BWN Browne 83.57 23 P **P 21 27 14.8 +0.2**
MCK McKinley 83.57 23 P **P 21 27 14.0 -0.6**
baz=242
NEA2 Nenana 83.92 23 P **P 21 27 16.1 -0.3**
baz=242
QSPA South Pole Qui 83.93 180 P **P 21 27 16.9 +0.4**
QSPA IAmb IAmb 21 27 18.4
comp=Z,37nm,1.0s
M24K Tolsona, Glenn 83.98 25 P **P 21 27 17.7 +0.9**
baz=245
I23K Minto, Yukon-K 84.07 22 P **P 21 27 17.6 +0.5**
baz=242
WRH Wood River Hil 84.24 23 P **P 21 27 17.2 -0.7**
WRH IAmb IAmb 21 27 18.9
comp=Z,22nm,1.0s
N25K Chitina, Valde 84.46 26 P **P 21 27 19.9 +0.7**
baz=247
TCOL CIGO, UAF Yank 84.51 23 P **P 21 27 18.7 -0.6**
TCOL IAmb IAmb 21 27 20.1
comp=Z,22nm,0.9s
COLA College 84.52 23*d* *iP* **P 21 27 18.1 -1.2**
COLA *i* *PP **pP 21 27 39.4 -0.3**
COLA pmax pmax
comp=Z,20nm,0.9s
COLA College 84.52 23 P **P 21 27 18.7 -0.6**
COLA IAmb IAmb 21 27 20.1
comp=Z,20nm,0.8s
PAX Paxson 84.64 25 P **P 21 27 20.1 -0.1**
PAX pmax pmax
comp=Z,12nm,1.2s
PAX Paxson 84.64 25 P **P 21 27 20.1 -0.1**
HDA Harding Lake 84.66 23 P **P 21 27 19.6 -0.5**
BTK Batken 84.67 311 P **P 21 27 19.1 -1.7**
BTK Batken 84.67 311 P **P 21 27 19.1 -1.7**
GLB Gilahina Butte 84.74 26 P **P 21 27 20.5 -0.2**
GLB IAmb IAmb 21 27 22.1
comp=Z,25nm,1.1s
COLD Coldfoot 84.77 20 P **P 21 27 21.6 +1.0**
baz=241
COLD Coldfoot 84.77 20 P **P 21 27 20.3 -0.3**
CRQM Cirque 84.78 27 P **P 21 27 20.9 -0.1**
CRQM IAmb IAmb 21 27 23.6
comp=Z,23nm,1.0s
GAR Garm 84.83 310 P **P 21 27 20.5 -1.2**
IL31 84.84 23 P **P 21 27 19.5 -1.4**
IL31 IAmb IAmb 21 27 21.0
comp=Z,19nm,1.0s
ILAR Eielson Array 84.84 23 P **P 21 27 20.1 -0.9**
comp=Z,15nm,0.9s,baz=255,slow=4.9,SNR=74
ILAR LR LR 22 02 20.9
comp=Z,54nm,20.9s,baz=252,slow=34
ILAR Eielson Array 84.84 23 P **P 21 27 19.6 -1.4**
DZA Taraz 84.92 314 *eP* **P 21 27 20.9 -1.0**
DZA Taraz 84.92 314 *eP* **P 21 27 20.8 -1.0**
DOT Dot Lake 85.50 24 P **P 21 27 24.4 +0.1**
DOT IAmb IAmb 21 27 26.2
comp=Z,27nm,0.9s
KK31 Karatay Array 85.55 314 P **P 21 27 23.5 -1.5**
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 85.55 314 P **P 21 27 23.5 -1.5**
KKAR Karatay Array 85.55 314 P **P 21 27 23.2 -1.8**
KKAR pmax pmax
comp=Z,10.0nm,1.1s
KKAR Karatay Array 85.55 314 P **P 21 27 23.6 -1.4**
KKAR Karatay Array 85.55 314 P **P 21 27 23.2 -1.8**
L26K Log Cabin Wild 85.55 25 P **P 21 27 25.6 +1.0**
baz=248
BARN Barnard Glacie 85.57 27 P **P 21 27 25.3 +0.3**
BARN IAmb IAmb 21 27 27.3
comp=Z,20nm,1.0s

CHGR	**Chuyangaron**	**85.64**	**309**	P		**P**		**21 27 24.0**	**-1.7**
CHGR				lAmb		lAmb		21 27 27.4	
	comp=Z,17nm,0.7s								
SCRK	**Sand Creek**	**85.66**	**24**	P		**P**		**21 27 25.6**	**+0.4**
	baz=247								
TOLK	**Toolik Lake Re**	**85.67**	**19**	P		**P**		**21 27 26.3**	**+1.2**
	baz=242								
TOLK	**Toolik Lake Re**	**85.67**	**19**	P		**P**		**21 27 25.6**	**+0.5**
TOLK				lAmb		lAmb		21 27 27.6	
	comp=Z,13nm,0.8s								
CTGM	**Chitina Glacie**	**85.68**	**27**	P		**P**		**21 27 25.9**	**+0.5**
CTGM				lAmb		lAmb		21 27 27.3	
	comp=Z,24nm,1.0s								
IUG	**luzhnay**	**85.69**	**313**	*e*P		**P**		**21 27 25.2**	**-0.7**
IUG	**luzhnay**	**85.69**	**313**	*e*P		**P**		**21 27 25.1**	**-0.7**
NRIK	**Noril'sk**	**85.84**	**342**	P		**P**		**21 27 25.4**	**-0.5**
	comp=Z,8.3nm,0.8s,baz=104,slow=4.0,SNR=9.9								
NRIK				LR		LR		22 04 33.6	
	comp=Z,78nm,21.9s,baz=132,slow=35								
NRIK	**Noril'sk**	**85.84**	**342**	*c* i P		**P**		**21 27 26.0**	**+0.2**
NRIK				pmax		pmax			
	comp=Z,11nm,0.9s								
BCAR	**Beaver Creek A**	**86.23**	**25**	P		**P**		**21 27 27.8**	**-0.2**
K27K	**Chicken**	**86.46**	**24**	P		**P**		**21 27 29.8**	**+0.8**
	baz=249								
BMAR	**Burnt Mountain**	**86.81**	**21**	P		**P**		**21 27 31.1**	**+0.3**
EGAK	**Eagle**	**87.10**	**24**	P		**P**		**21 27 32.8**	**+0.7**
EGAK				lAmb		lAmb		21 27 34.3	
	comp=Z,21nm,0.9s								
HYT	**Haines Junctio**	**87.41**	**28**	P		**P**		**21 27 34.4**	**+0.5**
DAWY	**Dawson**	**87.58**	**25**	P		**P**		**21 27 35.0**	**+0.5**
DAWY				lAmb		lAmb		21 27 36.6	
	comp=Z,31nm,1.1s								
BRVK	**Borovoye**	**87.88**	**324**⇑	*e*P		**P**		**21 27 33.0**	**-3.1**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SKAG	**Skagway**	**88.08**	**30**	P		**P**		**21 27 36.8**	**-0.1**
SKAG				lAmb		lAmb		21 27 42.3	
	comp=Z,23nm,1.2s								
DLBC	**Dease Lake**	**90.53**	**31**	P		**P**		**21 27 47.6**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=252,slow=6.4,SNR=2.0								
INK	**Inuvik**	**91.06**	**21**	P		**P**		**21 27 50.0**	**-0.6**
	comp=Z,16nm,1.0s,baz=246,slow=5.3,SNR=17								
INK	**Inuvik**	**91.06**	**21**	P		**P**		**21 27 50.7**	**+0.1**
INK				pmax		pmax			
	comp=Z,17nm,1.0s								
INK	**Inuvik**	**91.06**	**21**	P		**P**		**21 27 50.7**	**+0.1**
INK				lAmb		lAmb		21 27 52.5	
	comp=Z,16nm,1.0s								
SYO	**Syowa Base**	**91.15**	**200**	⇑ *i* P		**P**		**21 27 50.0**	**-1.1**
ABKAR	**Akbulak array**	**93.73**	**319**	P		**P**		**21 28 02.1**	**-1.3**
ABKAR	**Akbulak array**	**93.73**	**319**	P		**P**		**21 28 01.5**	**-1.9**
GEYT	**Alibeck**	**94.15**	**308**	LR		LR		22 12 10.8	
	comp=Z,78nm,22.0s,baz=40,slow=36								
ARU	**Arti**	**95.08**	**326**	P		**P**		**21 28 09.3**	**-0.1**
ARU								21 31 57.6	
ARU				S		**SKSac**		**21 38 37.8**	**-0.6**
NVAR	**Mina Array Bea**	**96.03**	**52**	P		**P**		**21 28 14.8**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=261,slow=6.7,SNR=6.7								
NVAR				LR		LR		22 03 32.1	
	comp=Z,134nm,21.6s,baz=274,slow=30								
NVAR	**Mina Array Bea**	**96.03**	**52**	P		**P**		**21 28 12.3**	**-2.2**
YKA	**Yellowknife Ar**	**98.40**	**28**	P		**P**		**21 28 23.6**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=284,slow=4.6,SNR=6.2								
YKA				LR		LR		22 10 06.1	
	comp=Z,109nm,20.5s,baz=0.0,slow=34								
YKA	**Yellowknife Ar**	**98.40**	**28**	*i* P		Pdif		21 28 24.6	+0.3
YKA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
PDAR	**Pinedale Array**	**102.67**	**48**	Pdiff		**Pdif**		**21 28 44.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=262,slow=2.2,SNR=4.1								
AKASG	**Malin Array Be**	**113.08**	**323**	PKKPbc		PKKPbc		21 44 09.6	-2.3
	comp=Z,0.3nm,0.4s,baz=252,slow=4.6,SNR=4.0								
S39A	**Bolivar**	**115.68**	**51**			**PKiKP**		**21 33 29.3**	**+0.3**
KRLC	**Kraliky**	**120.54**	**326**	*e*PKPDF		**PKiKP**		**21 33 38.3**	**+0.1**
KRLC	**Kraliky**	**120.54**	**326**	*e*PKIKP		**PKiKP**		**21 33 38.3**	**+0.1**
DPC	**Dobruska-Polom**	**120.66**	**327**	*e*PKPDF		**PKiKP**		**21 33 39.2**	**+0.8**
DPC	**Dobruska-Polom**	**120.66**	**327**	*e*PKIKP		**PKiKP**		**21 33 39.2**	**+0.8**
PLCA	**Paso Flores**	**121.14**	**146**	PKP		**PKiKP**		**21 33 40.0**	**+0.2**
	comp=Z,7.2nm,0.8s,baz=231,slow=5.4,SNR=12								
PLCA	**Paso Flores**	**121.14**	**146**	PKIKP		**PKiKP**		**21 33 40.1**	**+0.4**
PLCA	**Paso Flores**	**121.14**	**146**			**PKiKP**		**21 33 40.1**	**+0.4**
DIVS	**Divibare**	**121.39**	**319**	PKPdf		**PKPdf**		**21 33 39.9**	**-0.1**
BRG	**Berggiesshubel**	**121.65**	**328**	*e*PKP		**PKiKP**		**21 33 40.8**	**+0.6**
	comp=Z,5.0nm,0.8s								
BRG	**Berggiesshubel**	**121.65**	**328**	*e*PKIKP		**PKiKP**		**21 33 40.8**	**+0.6**
BRG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PRU	**Pruhonice**	**121.82**	**327**	*e*PKPDF		**PKPdf**		**21 33 40.4**	**-0.1**
PRU	**Pruhonice**	**121.82**	**327**	*e*PKIKP		**PKPdf**		**21 33 40.4**	**-0.1**
CLL	**Collm**	**121.89**	**329**	*e*PKPdf		**PKPdf**		**21 33 40.0**	**-0.5**
	comp=Z,6.0nm,1.0s								
CLL				*e*(PP)				21 35 27.0	
CLL				*e*PS		**PS**		**21 45 06.0**	**-3.6**
CLL				*e*PPS		PPS		21 46 30.0	
CLL				*e*SS		SS		21 52 06.0	+20
CLL				*e*SSS		SSS		21 56 30.0	
CLL				*e*SSSS				22 00 00.0	
CLL				LmV				22 29 00.0	
	comp=Z,200nm,21.1s								
CLL	**Collm**	**121.89**	**329**	PKIKP		**PKPdf**		**21 33 40.5**	**0.0**
CLL	**Collm**	**121.89**	**329**	PKPdf		**PKPdf**		**21 33 40.5**	**0.0**
CONA	**Conrad Observa**	**122.16**	**324**	*e*P		**PKiKP**		**21 33 41.5**	**+0.1**
	comp=Z,2.4nm,1.0s								
PBCC	**Pribram**	**122.28**	**327**	*e*PKPDF		**PKiKP**		**21 33 41.7**	**+0.1**
NKC	**Novy Kostel**	**122.80**	**328**	*e*PKPDF		**PKPdf**		**21 33 42.3**	**-0.1**
NKC	**Novy Kostel**	**122.80**	**328**	*e*PKIKP		**PKPdf**		**21 33 42.3**	**-0.1**
KHC	**Kasperske Hory**	**122.81**	**327**	*e*PKPDF		**PKPdf**		**21 33 41.6**	**-0.9**
KHC	**Kasperske Hory**	**122.81**	**327**	*e*PKIKP		**PKPdf**		**21 33 41.6**	**-0.9**
GERES	**GERESS Array B**	**122.90**	**326**	PKP		**PKiKP**		**21 33 42.9**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=52,slow=2.2,SNR=18								
GERES				PKKPbc		**PKKPab**		**21 43 35.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=197,slow=3.1,SNR=3.7								
GERES	**GERESS Array B**	**122.90**	**326**	PKPdf		**PKPdf**		**21 33 42.6**	**-0.1**
S51A	**Beattyville**	**123.10**	**49**			**PKiKP**		**21 33 43.4**	**-0.1**
SADO	**Sadowa**	**123.26**	**39**	PKP		**PKiKP**		**21 33 43.9**	**+0.3**
	comp=Z,9.0nm,0.9s,baz=247,slow=1.4,SNR=1.9								
BI02	**San Fabin de**	**123.40**	**142**	PKPdf		**PKPdf**		**21 33 43.7**	**-0.4**
TKL	**Tuckaleechee C**	**123.61**	**51**	PKIKP		**PKiKP**		**21 33 45.1**	**+0.5**
TKL	**Tuckaleechee C**	**123.61**	**51**			**PKiKP**		**21 33 45.1**	**+0.5**
OBKA	**Obir**	**123.66**	**323**	*e*P		**PKPdf**		**21 33 42.7**	**-1.6**
	comp=Z,7.4nm,1.9s								
KBA	**Koelnbreinsper**	**124.06**	**325**	*e*P		**PKPdf**		**21 33 43.7**	**-1.4**
	comp=Z,3.3nm,0.6s								
Q54A	**Coxs Mills**	**124.62**	**46**			**PKiKP**		**21 33 47.1**	**+0.6**
ABTA	**Abfaltersbach**	**124.72**	**325**	*e*P		**PKPdf**		**21 33 45.1**	**-1.2**
	comp=Z,2.6nm,0.8s								
BO02	**Sierra Bellavi**	**124.90**	**140**	PKPdf		**PKiKP**		**21 33 47.4**	**+0.1**
WATA	**Walderalm**	**124.92**	**326**	*e*P		**PKPdf**		**21 33 45.7**	**-1.0**
	comp=Z,2.3nm,0.6s								
WTTA	**Wattenberg**	**124.93**	**326**	*e*P		**PKPdf**		**21 33 46.4**	**-0.3**
	comp=Z,4.8nm,0.8s								
MOTA	**Moosalm**	**125.18**	**326**	*e*P		**PKPdf**		**21 33 47.0**	**-0.3**
	comp=Z,5.7nm,0.7s								
SQTA	**Sankt Quirin**	**125.20**	**326**	*e*P		**PKPdf**		**21 33 47.0**	**-0.3**
	comp=Z,4.5nm,1.0s								
FETA	**Feichten**	**125.58**	**326**	*e*P		**PKPdf**		**21 33 47.6**	**-0.4**
	comp=Z,3.5nm,0.8s								
MEM	**Membach**	**125.78**	**332**	PKPdf		**PKiKP**		**21 33 48.3**	**-0.1**
DAVA	**Damuels**	**125.90**	**326**	*e*P		**PKiKP**		**21 33 48.9**	**-0.1**
	comp=Z,4.7nm,0.8s								
BMRD	**Maredsous**	**126.57**	**332**	PKPdf		**PKPdf**		**21 33 49.1**	**-0.4**
CO02	**Combarbal**	**126.98**	**137**			**PKPdf**		**21 33 51.2**	**+0.1**
ZON	**Zonda**	**128.32**	**139**	PKIKP		**PKPdf**		**21 33 53.4**	**-0.2**
ZON	**Zonda**	**128.32**	**139**	PKPdf		**PKPdf**		**21 33 53.4**	**-0.2**
CO01	**Juntas del Tor**	**128.34**	**136**			**PKiKP**		**21 33 54.8**	**+0.2**
GO02	**Mina Guanaco**	**131.52**	**131**	PKPdf		**PKiKP**		**21 34 00.7**	**-0.5**
PAC1	**Pacto, Paraso**	**132.23**	**95**	*e*P		PKiKP		21 34 10.5	+7.8
PB08	**IPOC Station P**	**134.57**	**126**			**PKPdf**		**21 34 06.0**	**-0.1**
POPC	**Popayan, Colom**	**134.60**	**92**	*e*P		**PKPdf**		**21 34 06.6**	**+0.5**
RREF	**El Recreo**	**136.12**	**89**	*e*P		**PKPdf**		**21 34 05.7**	**-3.8**
GUY2C	**Guyana, Caldas**	**136.12**	**89**	*e*P		**PKPdf**		**21 34 09.5**	**+0.2**
TOLC	**Tolima**	**136.12**	**90**	*e*P		**PKPdf**		**21 34 09.2**	**+0.1**
ORTC	**Ortega, Tolima**	**136.15**	**91**	*e*P		**PKPdf**		**21 34 08.6**	**-0.2**
PTLC	**Puerto Leguiza**	**136.17**	**96**	*e*P		**PKPdf**		**21 34 08.6**	**-0.3**
PRAC	**Prado**	**136.49**	**91**	*e*P		**PKPdf**		**21 34 08.6**	**-0.9**
LPAZ	**La Paz**	**137.31**	**122**	PKhKP		PKPpre		21 34 01.1	
	comp=Z,2.4nm,0.9s,baz=233,slow=3.7,SNR=7.9								
LPAZ				PKP		**PKiKP**		**21 34 12.6**	**-0.9**
	comp=Z,6.7nm,1.0s,baz=214,slow=3.6,SNR=9.4								
LPAZ	**La Paz**	**137.31**	**122**	*e*P		PKPdf		21 34 02.8	-8.8
LPAZ	**La Paz**	**137.31**	**122**			**PKPdf**		**21 34 11.7**	**+0.1**
SPBC	**San Pablo de B**	**137.43**	**88**	*e*P		PKPdf		21 34 02.8	-8.4
CHIC	**Chingaza**	**137.71**	**90**	*e*P		**PKPdf**		**21 34 06.4**	**-5.7**
BARC	**Barichara**	**138.35**	**87**	*e*P		**PKPdf**		**21 34 06.9**	**-6.2**
RUSC	**La Rusia**	**138.42**	**88**	*e*P		**PKPdf**		**21 34 08.6**	**-5.0**
ESDC	**Sonseca Array**	**138.46**	**328**	PKP		**PKPdf**		**21 34 12.8**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=3.3,slow=3.7,SNR=6.3								
ESDC	**Sonseca Array**	**138.46**	**328**			**PKPdf**		**21 34 13.3**	**+1.0**
PAMC	**Pamplona, Colo**	**138.84**	**86**	*e*P		**PKPdf**		**21 34 12.4**	**-1.9**
CPUP	**Villa Florida**	**139.09**	**143**	PKP		**PKPdf**		**21 34 13.9**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=225,slow=4.0,SNR=8.7								
CPUP	**Villa Florida**	**139.09**	**143**	PKIKP		**PKPdf**		**21 34 14.6**	**+0.7**
CPUP	**Villa Florida**	**139.09**	**143**	PKPdf		**PKPdf**		**21 34 14.6**	**+0.7**
URIC	**Uribia, Colomb**	**139.40**	**79**	*e*P		**PKPdf**		**21 34 14.9**	**+0.2**
SDV	**Santo Domingo**	**140.88**	**83**			**PKPdf**		**21 34 17.7**	**0.0**
SAML	**Samuel**	**144.88**	**115**	*e*P		**PKPab**		**21 34 23.2**	**-0.5**
SAML	**Samuel**	**144.88**	**115**	PKP2		**PKPab**		**21 34 22.9**	**-0.8**
SAML	**Samuel**	**144.88**	**115**			**PKPab**		**21 34 22.9**	**-0.8**
SPB	**Sao Paulo**	**146.59**	**152**	PKPdf		**PKPbc**		**21 34 28.2**	**-0.5**
TOA0	**Torodi Ar. Sit**	**146.76**	**285**	PKPdf		**PKPdf**		**21 34 28.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**146.76**	**285**	PKPbc		**PKPdf**		**21 34 28.0**	**+0.4**
	comp=Z,12nm,0.8s,baz=84,slow=2.9,SNR=32								
TORD	**Torodi Ar. Bea**	**146.76**	**285**			**PKPdf**		**21 34 27.4**	**-0.2**
KOWA	**Kowa**	**151.92**	**290**			**PKPbc**		**21 34 42.1**	**-0.3**
BDFB	**Brasilia**	**152.82**	**143**	PKP		**PKPdf**		**21 34 37.3**	**0.0**
	comp=Z,6.6nm,0.8s,baz=192,slow=1.9,SNR=6.1								
BDFB				PKPbc		**PKPbc**		**21 34 44.4**	**-0.1**
	comp=Z,17nm,0.4s,baz=154,slow=0.3,SNR=29								
BDFB				PKPab		**PKPab**		**21 34 54.6**	**-1.0**
	comp=Z,23nm,0.8s,baz=145,slow=2.8,SNR=8.9								
BDFB	**Brasilia**	**152.82**	**143**			**PKPdf**		**21 34 37.5**	**+0.1**
BDFB						**PKiKP**		**21 34 44.8**	**+0.1**
BDFB						**PKPab**		**21 34 55.9**	**+0.4**
KIC	**Kosan Boka**	**153.62**	**272**	*e*PKP2		**PKiKP**		**21 34 46.8**	**+0.5**
	comp=Z,22nm,1.2s								
DBIC	**Dimbokro**	**153.74**	**273**	PKPbc		**PKPbc**		**21 34 45.9**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=48,slow=5.3,SNR=4.2								
DBIC	**Dimbokro**	**153.74**	**273**			**PKPbc**		**21 34 46.3**	**-0.2**
LIC	**Lamto**	**153.91**	**272**	*e*P		**PKiKP**		**21 34 48.1**	**+1.2**
	comp=Z,4.8nm,0.5s								

*JMA **29** 21:20:38.5±0.2, 32.°97N×139.°40E, h192km±3km, M3.4*
*IDC **29** 21:20:38.6±0.7, 32.°95N×139.°53E, h191km±5km, mb3.5/6, mb1 3.5/11, mb1mx3.3/44, mbtmp3.9/11, Error ellipse: s-maj=28.8km s-min=18.4km az=76.0*

ISC 29 21:20:39.2±0.8, 32.°97N±0.°07×139.°41E±0.°07, h200km, n34, σ1s19/36, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.34**	**72**	P	**Pn**	**21 21 04.2**	**-1.6**
JHJ	**Hachijo jima 2**	**0.35**	**64**	P	**Pn**	**21 21 04.3**	**-1.4**
	94nm,0.3s,baz=320,slow=16,SNR=48						
JHJ				S	**Sn**	**21 21 24.6**	**-1.8**
	76nm,0.3s,baz=280,slow=22,SNR=13						
JHJ2	**Mitsune**	**0.37**	**67**	P	**Pn**	**21 21 04.3**	**-1.5**
JAOM	**Aogashimamukai**	**0.58**	**149**	P	**Pn**	**21 21 05.4**	**-1.3**
JMKN	**Mikurajimanish**	**0.94**	**9**	P	**Pn**	**21 21 07.3**	**-1.2**
TK02	**Tokai 2**	**1.69**	**306**	P	**Pn**	**21 21 13.4**	**-1.0**
TK04	**Tokai 4**	**1.91**	**318**	P	**Pn**	**21 21 15.9**	**-0.7**
BSO3	**Boso 3**	**2.04**	**26**	P	**Pn**	**21 21 16.9**	**-0.9**
BSO1	**Boso 1**	**2.13**	**37**	P	**Pn**	**21 21 17.4**	**-1.0**
BSO1				S	**Sn**	**21 21 48.2**	**-0.9**
TTO2	**TONANKAI O.B.S**	**2.14**	**292**	P	**Pn**	**21 21 17.7**	**-1.1**
TTO1	**TONANKAI O.B.S**	**2.30**	**287**	P	**Pn**	**21 21 19.2**	**-1.3**
JOD2	**Odawara 2**	**2.31**	**353**	P	**Pn**	**21 21 20.6**	**-0.3**
JYN	**Shimob**	**2.63**	**344**	P	**Pn**	**21 21 24.3**	**-0.2**
JIE	**Ise**	**2.67**	**303**	P	**Pn**	**21 21 23.7**	**-1.2**
JIE				S	**Sn**	**21 21 58.4**	**-2.3**
JRY	**Ryogami san**	**3.07**	**352**	P	**Pn**	**21 21 29.5**	**-0.2**
JRY				*e*S	**Sn**	**21 22 08.1**	**-1.2**
JTNC	**Tanabenakahech**	**3.29**	**286**	P	**Pn**	**21 21 30.8**	**-1.5**
JWY	**Kouya**	**3.42**	**292**	P	**Pn**	**21 21 33.0**	**-1.0**
JAG	**Ashikaga**	**3.45**	**1**	P	**Pn**	**21 21 32.4**	**-1.8**
MJAR	**Matsushiro Arr**	**3.70**	**345**	P	**Pn**	**21 21 36.7**	**-0.6**
	0.4nm,0.3s,baz=156,slow=12,SNR=15						
MAT	**Matsushiro**	**3.70**	**345**	P	**Pn**	**21 21 36.7**	**-0.6**
MAT				S	**Sn**	**21 22 21.6**	**-1.4**
JNU	**Nakatsue**	**7.17**	**274**	P	**Pn**	**21 22 22.3**	**+0.7**
	0.3nm,0.3s,baz=103,slow=18,SNR=1.8						
KSRS	**Korea Array**	**10.41**	**299**	P	**Pn**	**21 23 04.8**	**+1.1**
	0.1nm,0.3s,baz=119,slow=13,SNR=4.4						
ASAJ	**Asahikawa**	**11.41**	**12**	P	**Pn**	**21 23 14.9**	**-1.5**
	1.3nm,0.3s,baz=212,slow=15,SNR=9.9						
USRK	**Ussuriysk Ar.**	**12.62**	**335**	P	**Pn**	**21 23 32.1**	**+0.3**
	baz=145,slow=11,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.84**	**111**	T	T	21 55 34.9	
	baz=306,slow=74,SNR=2.3						
H11N1	**WAKE ISLAND Hy**	**27.84**	**111**	T	T	21 55 36.7	
	baz=306,slow=74,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**27.85**	**111**	T	T	21 55 39.0	
	baz=306,slow=74,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.55**	**316**	PcP	**PcP**	**21 30 07.2**	**+0.3**
	0.7nm,0.4s,baz=115,slow=3.1,SNR=2.0						
WRA	**Warramunga Arr**	**52.83**	**186**	P	**P**	**21 29 34.4**	**+0.1**
	0.4nm,0.8s,baz=0.6,slow=7.7,SNR=4.8						
ARCES	**ARCESS Array B**	**67.22**	**340**	P	**P**	**21 31 12.5**	**+1.0**
	5.8nm,1.0s,baz=52,slow=7.4,SNR=5.5						
FINES	**FINESS Array B**	**71.64**	**332**	P	**P**	**21 31 39.6**	**+1.0**
	1.0nm,0.4s,baz=75,slow=8.1,SNR=10.0						
KBZ	**Khabaz**	**72.31**	**311**	P	**P**	**21 31 43.5**	**+0.7**
	0.9nm,0.7s,baz=71,slow=7.5,SNR=4.0						
AKASG	**Malin Array Be**	**76.50**	**322**	P	**P**	**21 32 06.9**	**0.0**
	0.6nm,0.4s,baz=49,slow=5.1,SNR=2.7						
NOA	**NORSAR Array B**	**77.29**	**337**	P	**P**	**21 32 12.5**	**+1.3**
	0.6nm,0.7s,baz=47,slow=5.4,SNR=1.9						

*IDC **29** 21:29:21.5±0.8, 29.°38S×178.°91W, h338km±8km, mb3.6/10, mb1 3.8/10, mb1mx3.6/27, mbtmp4.3/10, Error ellipse: s-maj=16.9km s-min=15.0km az=117.0*
*NEIC **29** 21:29:21.0±1.8, 29.°61S±0.°10×179.°1W±0.°2, h336km±6km, mb4.0/16, Error ellipse: s-maj=21.6km s-min=13.9km az=99.0*

ISC 29 21:29:21.6±0.5, 29.°84S±0.°06×178.°87W±0.°09, h350km, n81, σ2s28/97, mb4.0/18, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.02**	**55**	P	**Pn**	**21 30 05.4**	**-2.0**
	1µm,0.3s,baz=106,slow=8.7,SNR=48						
RAO				S	**S**	**21 30 36.7**	**-7.4**
	182nm,0.3s,baz=86,slow=23,SNR=7.0						
RAO	**Raoul Island**	**1.02**	**55**		**Pn**	**21 30 05.4**	**-2.0**
RAO				S	**S**	**21 30 39.9**	**-4.3**
WMGZ	**Waiomatatini S**	**8.27**	**195**	P	**P**	**21 31 23.7**	**+2.0**
HAZ	**Te Kaha**	**8.37**	**199**	P	**P**	**21 31 22.2**	**-0.5**
PKGZ	**Pakihiroa**	**8.42**	**197**	P	**P**	21 31 29.9	+6.5
RUGZ	**Raukumara Rang**	**8.60**	**199**	P	**P**	**21 31 24.5**	**-1.0**
MWZ	**Matawai**	**8.98**	**198**	P	Pn	21 31 19.9	-7.4
URZ	**Urewera**	**9.04**	**201**	P	**Pn**	**21 31 28.5**	**+0.6**
	2.4nm,0.3s,baz=347,slow=14,SNR=26						
URZ				S	**S**	**21 33 09.6**	**-1.5**
	5.9nm,0.3s,baz=9.2,slow=23,SNR=14						
URZ	**Urewera**	**9.04**	**201**	P	**Pn**	**21 31 28.5**	**+0.6**
MUGZ	**Murupara**	**9.34**	**202**	P	**P**	**21 31 33.9**	**+0.3**
SNGZ	**Shannon Statio**	**9.45**	**198**	P	**Pn**	**21 31 30.3**	**-2.6**
SNGZ				S	**S**	**21 33 16.6**	**-3.8**
RAHZ	**Arahi**	**9.65**	**199**	P	**P**	**21 31 36.7**	**-0.3**
RAHZ				S	**S**	**21 33 22.3**	**-2.5**
MTHZ	**Maungataniwha**	**9.66**	**200**	P	**P**	**21 31 37.6**	**+0.4**
MTHZ				S	**S**	**21 33 21.7**	**-3.4**
NMHZ	**Naumai**	**9.90**	**200**	P	**P**	**21 31 39.0**	**-0.8**
NMHZ				S	**S**	**21 33 27.7**	**-2.7**
BKZ	**Black Stump Fm**	**10.06**	**201**	P	**Pn**	**21 31 38.7**	**-1.4**
BKZ				S	**S**	**21 33 30.1**	**-3.7**
BKZ	**Black Stump Fm**	**10.06**	**201**	Pn	**P**	**21 31 41.0**	**-0.6**
MCHZ	**McNeill Hill**	**10.25**	**200**	P	**P**	**21 31 44.3**	**+0.6**
MCHZ				S	**S**	**21 33 34.5**	**-3.4**
KWHZ	**Kaweka Forest**	**10.32**	**201**	P	**Pn**	**21 31 43.3**	**+0.1**
KWHZ				S	**S**	**21 33 36.3**	**-3.2**
WNVZ	**Wahianoa**	**10.50**	**204**	P	**P**	**21 31 46.0**	**-0.6**
WNVZ				S	**S**	**21 33 41.4**	**-2.4**
KRHZ	**Kereru**	**10.53**	**201**	P	**Pn**	**21 31 44.4**	**-1.4**
KRHZ				S	**S**	**21 33 38.4**	**-5.8**
PXZ	**Pawanui**	**10.75**	**198**	P	**P**	**21 31 49.6**	**+0.4**
PXZ				S	**S**	**21 33 44.5**	**-4.4**
PNHZ	**Pukenui**	**10.83**	**201**	P	**Pn**	**21 31 48.3**	**-1.0**
PNHZ				S	**S**	**21 33 44.5**	**-6.3**
DVHZ	**Dannevirke**	**11.20**	**200**	P	**Pn**	**21 31 53.2**	**-0.5**
DVHZ				S	**S**	**21 33 52.0**	**-6.9**
BFZ	**Birch Farm**	**11.53**	**199**	P	**P**	**21 31 57.6**	**-0.2**
BFZ				S	**S**	**21 33 59.3**	**-6.9**
MSVF	**Nonsavu**	**12.38**	**346**		**P**	**21 32 03.5**	**-4.1**
TUWZ	**Tuamarina**	**12.95**	**205**	P	**P**	**21 32 13.1**	**-0.4**
DZM	**Mont Dzumac**	**15.30**	**297**	P	**Pn**	**21 32 43.5**	**+1.5**
	6.9nm,0.3s,baz=137,slow=11,SNR=86						
ARMA	**Armidale**	**25.49**	**261**	P	**P**	**21 34 22.7**	**+3.3**
ARMA				lAmb	lAmb	21 34 23.4	
	comp=Z,6.1nm,0.7s						
CTA	**Charters Tower**	**32.96**	**279**	P	**P**	**21 35 25.9**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=116,slow=8.5,SNR=1.6						
CTAO	**Charters Tower**	**32.96**	**279**	P	**P**	**21 35 26.3**	**+1.4**
CTAO				lAmb	lAmb	21 35 38.7	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**33.87**	**256**	P	**P**	**21 35 34.8**	**+2.2**
	comp=Z,4.2nm,0.6s,baz=100,slow=11,SNR=12						
STKA	**Stephens Creek**	**33.87**	**256**	P	**P**	**21 35 34.1**	**+1.5**
BBOO	**Buckleboo**	**38.40**	**254**	P	**P**	**21 36 11.0**	**+0.5**
BBOO				lAmb	lAmb	21 36 13.9	
	comp=Z,5.5nm,0.7s						
AS31	**Alice Springs**	**42.38**	**267**	P	**P**	**21 36 43.2**	**+0.1**
AS31				lAmb	lAmb	21 36 44.9	
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**42.39**	**267**	P	**P**	**21 36 43.3**	**+0.2**
	comp=Z,2.9nm,0.4s,baz=102,slow=6.6,SNR=65						
ASAR				PcP	**PP**	**21 38 29.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=114,slow=4.0,SNR=7.8						
ASAR				S	**S**	**21 42 36.7

GVZ	**Greta Valley S**	**1.58**	**211**	P		**Pn**	**22 05 35.6**	**-0.3**
OHWZ	**Ohakea**	**1.67**	**33**	P		**Pg**	**22 05 41.2**	**+0.5**
CPWZ	**Castlepoint**	**1.71**	**66**	P		**Pg**	**22 05 44.4**	**+2.9**
POWZ	**Post Office Ro**	**1.74**	**46**	P		**Pg**	**22 05 41.5**	**-0.6**
PRWZ	**Pori Road**	**1.75**	**53**	P		**Pb**	**22 05 39.7**	**-0.5**
DSZ	**Denniston Nort**	**1.75**	**265**	P		**Pb**	**22 05 40.3**	**0.0**
LTZ	**Lake Taylor**	**1.81**	**229**	P		**Pn**	**22 05 39.5**	**+0.4**
BFZ	**Birch Farm**	**1.85**	**60**	P		**Pn**	**22 05 40.1**	**+0.6**
AMCZ	**Amberley**	**1.91**	**215**	P		**Pg**	**22 05 45.3**	**-0.1**
WAZ	**Wanganui**	**1.96**	**20**	P		**Pg**	**22 05 46.5**	**0.0**
DVHZ	**Dannevirke**	**2.02**	**50**	P		**Pn**	**22 05 42.7**	**+0.8**
TSZ	**Takapari Road**	**2.08**	**42**	P		**Pb**	**22 05 44.4**	**-1.5**
ANWZ	**Angora Road**	**2.11**	**58**	P		**Pg**	**22 05 50.8**	**+1.6**
LREZ	**Lake Rotokare**	**2.16**	**6**	P		**Pg**	**22 05 49.1**	**-1.0**
NMEZ	**Namu Road**	**2.20**	**355**	P		**Pg**	**22 05 52.0**	**+1.0**
OKCZ	**Okains Bay**	**2.25**	**200**	P		**Pn**	**22 05 43.9**	**-1.3**
INZ	**Inchbonnie**	**2.29**	**240**	P		**Pn**	**22 05 46.7**	**+1.1**
PNHZ	**Pukenui**	**2.31**	**43**	P		**Pn**	**22 05 47.2**	**+1.2**
KHEZ	**Kahui Hut**	**2.32**	**358**	P		**Pg**	**22 05 51.4**	**-1.7**
WPHZ	**Waipukurau**	**2.33**	**49**	P		**Pg**	**22 05 54.4**	**+0.9**
NEZ	**North Egmont**	**2.34**	**359**	P		**Pg**	**22 05 52.6**	**-0.9**
NBEZ	**Newall Road No**	**2.35**	**355**	P		**Pg**	**22 05 52.9**	**-0.8**
MQZ	**McQueen's Vall**	**2.36**	**207**	P		**Pn**	**22 05 44.7**	**-1.9**
PKE	**Pukeiti**	**2.42**	**357**	P		**Pb**	**22 05 52.6**	**+0.9**
MTVZ	**Mangateitei**	**2.45**	**25**	P		**Pg**	**22 05 55.0**	**-0.6**
PKVZ	**Pokaka**	**2.50**	**22**	P		**Pg**	**22 05 55.8**	**-0.8**
MOVZ	**Moawhango**	**2.52**	**30**	P		**Pb**	**22 05 53.7**	**+0.2**
VRZ	**Vera Road**	**2.53**	**11**	P		**Pb**	**22 05 53.9**	**+0.3**
WNVZ	**Wahianoa**	**2.54**	**27**	P		**Pb**	**22 05 53.5**	**-0.4**
DRZ	**Dome Shelter**	**2.58**	**26**	P		**Pg**	**22 05 57.1**	**-1.1**
RACZ	**Rakaia**	**2.58**	**214**	P		**Pn**	**22 05 48.4**	**-1.1**
WHVZ	**Whangaehu Hut**	**2.58**	**26**	P		**Pb**	**22 05 54.0**	**-0.6**
BHHZ	**Black Hill Sta**	**2.58**	**35**	P		**Pg**	**22 05 56.5**	**-1.7**
KRHZ	**Kereru**	**2.60**	**42**	P		**Pg**	**22 05 56.5**	**-2.0**
PXZ	**Pawanui**	**2.60**	**54**	P		**Pb**	**22 05 54.3**	**-0.6**
TUVZ	**Tukino**	**2.61**	**27**	P		**Pg**	**22 05 56.6**	**-2.2**
NGZ	**Ngauruhoe**	**2.68**	**25**	P		**Pg**	**22 05 58.9**	**-1.1**
MHCZ	**Mount Hutt**	**2.70**	**224**	P		**Pn**	**22 05 50.2**	**-1.0**
OTVZ	**Oturere**	**2.71**	**26**	P		**Pg**	**22 05 59.4**	**-1.3**
TWVZ	**Taurewa**	**2.73**	**22**	P		**Pg**	**22 05 59.6**	**-1.4**
WTVZ	**West Tongariro**	**2.73**	**25**	P		**Pg**	**22 05 59.5**	**-1.5**
ETVZ	**East Tongariro**	**2.75**	**26**	P		**Pb**	**22 05 57.6**	**+0.2**
KRVZ	**Karewarewa**	**2.77**	**25**	P		**Pg**	**22 05 59.8**	**-1.9**
TMVZ	**Te Maari**	**2.77**	**26**	P		**Pb**	**22 05 56.0**	**-1.7**
KWHZ	**Kaweka Forest**	**2.80**	**39**	P		**Pg**	**22 06 01.2**	**-1.0**
WACZ	**Wakanui South**	**2.88**	**215**	P		**Pn**	**22 05 52.8**	**-0.9**
KATZ	**Kakaramea**	**2.89**	**25**	P		**Pg**	**22 06 02.5**	**-1.6**
WVZ	**Waitaha Valley**	**2.91**	**239**	P		**Pb**	**22 05 57.8**	**-2.3**
RITZ	**Rihia Road**	**2.94**	**27**	P		**Pg**	**22 06 03.1**	**-2.0**
RATZ	**Rangitukua**	**3.02**	**25**	P		**Pg**	**22 06 05.2**	**-1.2**
BKZ	**Black Stump Fm**	**3.04**	**37**	P		**Pb**	**22 05 59.8**	**-2.5**
RPZ	**Rata Peaks**	**3.10**	**226**	P		**Pn**	**22 05 56.3**	**-0.4**
	4.9nm,0.3s,baz=53,slow=10,SNR=19							
RPZ				Pg		**Pb**	**22 06 03.6**	**+0.4**
	38nm,0.3s,baz=30,slow=6.6,SNR=32							
RPZ				Sn		**Sn**	**22 06 31.7**	**-1.6**
	14nm,0.3s,baz=209,slow=20,SNR=15							
RPZ				Lg		Lg	22 06 46.4	
	6.7nm,0.3s,baz=95,slow=23,SNR=3.3							
RPZ	**Rata Peaks**	**3.10**	**226**	P		**Pn**	**22 05 56.8**	**+0.1**
HATZ	**Hinemaiaia**	**3.10**	**30**	P		**Pg**	**22 06 06.3**	**-1.9**
HIZ	**Hauiti**	**3.14**	**10**	P		**Pb**	**22 06 02.1**	**-2.0**
WATZ	**Wairara**	**3.15**	**23**	P		**Pg**	**22 06 06.7**	**-2.3**
ARCZ	**Arundel**	**3.19**	**222**	P		**Pn**	**22 05 57.4**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**3.29**	**238**	P		**Pn**	**22 06 03.0**	**+3.7**
MTHZ	**Maungataniwha**	**3.45**	**38**	P		**Pb**	**22 06 11.0**	**+1.7**
TLZ	**Tolley Road**	**3.45**	**19**	P		**Pb**	**22 06 11.3**	**+2.0**
FOZ	**Fox Glacier**	**3.72**	**238**	P		**Pn**	**22 06 08.4**	**+3.1**
TOZ	**Tahuroa Road**	**4.02**	**16**	P		**Pb**	**22 06 17.3**	**-1.7**
URZ	**Urewera**	**4.05**	**35**	Pn		**Pn**	**22 06 09.4**	**-0.5**
	0.7nm,0.3s,baz=214,slow=11,SNR=2.6							
URZ				Pg		**Pb**	**22 06 18.6**	**-1.0**
	3.2nm,0.3s,baz=195,slow=20,SNR=10							
URZ				Lg		Lg	22 07 12.9	
	2.8nm,0.3s,baz=101,slow=16,SNR=1.6							
URZ	**Urewera**	**4.05**	**35**	P		**Pb**	**22 06 15.8**	**-3.8**
ODZ	**Otahua Downs**	**4.27**	**215**	P		**Pn**	**22 06 11.2**	**-1.7**
AWAZ	**Awhitu Peninsu**	**4.56**	**5**	P		Pn	22 06 21.6	+4.8
JCZ	**Jackson Bay**	**4.64**	**236**	P		**Pn**	**22 06 20.9**	**+2.9**
ASAR	**Alice Springs**	**37.91**	**285**	P		**P**	**22 12 25.4**	**+0.4**
	0.2nm,0.4s,baz=123,slow=7.2,SNR=7.8							
WRA	**Warramunga Arr**	**39.97**	**290**	P		**P**	**22 12 42.1**	**-0.2**
	0.3nm,0.6s,baz=127,slow=8.4,SNR=12							
TORD	**Torodi Ar. Bea**	**150.89**	**195**	PKPbc		**PKPbc**	**22 25 01.2**	**+0.6**
	0.2nm,0.5s,baz=196,slow=2.3,SNR=1.3							

*ISK **29** 22:39:36.7,38.°16N×22.°65E,h10km,ML3.4/10*
*IDC **29** 22:39:37.0±1.4,38.°47N×22.°66E,h0km,mb3.6/4,*
mb1 3.7/4,mb1mx3.4/37,mbtmp3.6/4,Error ellipse:
s-maj=63.0km s-min=23.6km az=149.0
*ATH **29** 22:39:37.3,38.°14N×22.°64E,h15km±1km,ML3.4/21,Error*
ellipse: s-maj=1.0km s-min=0.5km az=139.0
*THE **29** 22:39:37.6,38.°14N×22.°62E,h4km,ML3.4/13,Error*
ellipse: s-maj=0.7km s-min=0.3km az=200.0

ISC 29 22:39:37.6±0.8, 38.°15N±0.°01×22.°64E±0.°01, h9km±6km, n152,σ0s91/189, mb3.9/3, 10C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.12**	**172**	P	**Pg**	**22 39 40.5**		**+0.1**
THAL				S	**Sg**	**22 39 42.8**		**+0.5**
THAL				AML	AML	22 39 43.5		
THAL				AML	AML	22 39 47.7		
LTK	**Loutraki**	**0.29**	**116**	P	**Pg**	**22 39 43.6**		**+0.2**
LTK				S	**Sg**	**22 39 48.1**		**+0.8**
LTK				AML	AML	22 39 49.1		
	comp=N,17052µm,0.4s							
LTK				AML	AML	22 39 54.1		
	comp=E,10357µm,0.5s							
LOUT	**Loutraki**	**0.31**	**122**	P	**Pg**	**22 39 43.9**		**+0.1**
LOUT				S	**Sg**	**22 39 48.4**		**+0.5**
LOUT				AML	AML	22 39 51.5		
	comp=N,2074µm,0.3s							
LOUT				AML	AML	22 39 57.2		
	comp=E,2572µm,0.5s							
GUR	**Goura**	**0.32**	**228**	P	**Pg**	**22 39 43.8**		**-0.2**
GUR				S	**Sg**	**22 39 47.6**		**-0.8**
GUR				AML	AML	22 39 49.2		
	comp=N,39726µm,0.3s							
GUR				AML	AML	22 39 50.0		
	comp=E,37052µm,0.2s							
DLFA	**Delphi**	**0.35**	**341**	P	**Pg**	**22 39 44.7**		**+0.1**
DLFA				S	**Sg**	**22 39 49.5**		**+0.3**
DLFA				AML	AML	22 39 51.1		
	comp=N,19288µm,0.5s							
DLFA				AML	AML	22 39 51.6		
	comp=E,15820µm,0.4s							
KLV	**Kalavryta, Ach**	**0.40**	**255**	P	**Pg**	**22 39 45.2**		**-0.4**
KLV				S	**Sg**	**22 39 50.1**		**-0.8**
KLV	**Kalavryta, Ach**	**0.40**	**255**	P	**Pg**	**22 39 45.2**		**-0.4**
KLV				S	**Sg**	**22 39 50.4**		**-0.5**
KLV				AML	AML	22 39 56.0		
	comp=E,2939µm,0.4s							
KLV				AML	AML	22 39 56.6		
	comp=N,2614µm,0.3s							
KALE	**Kalithea**	**0.46**	**301**	P	**Pg**	**22 39 46.6**		**-0.1**
KALE				S	**Sb**	**22 39 53.8**		**-1.2**
KALE				AML	AML	22 39 58.4		
	comp=N,8598µm,0.4s							
KALE				AML	AML	22 40 02.0		
	comp=E,8549µm,0.5s							
VIL2	**Platees**	**0.50**	**83**	P	**Pb**	**22 39 48.2**		**-0.3**
VIL2				S	**Sb**	**22 39 56.0**		**+0.1**
VIL2				AML	AML	22 40 01.8		
	comp=N,5184µm,0.6s							
VIL2				AML	AML	22 40 09.9		
	comp=E,7414µm,0.5s							
TRIZ	**Trizonia**	**0.50**	**296**	P	**Pg**	**22 39 47.3**		**-0.1**
TRIZ				S	**Sg**	**22 39 54.3**		**+0.4**
LAKA	**Lakka**	**0.53**	**280**	P	**Pg**	**22 39 47.9**		**-0.1**
LKR	**Lokris**	**0.57**	**29**	P	**Pg**	**22 39 48.4**		**-0.3**
LKR				S	**Sb**	**22 39 57.8**		**-0.3**
	comp=E,4µm,0.2s							
LKR	**Lokris**	**0.57**	**29**	P	**Pg**	**22 39 48.4**		**-0.3**
LKR				AML	AML	22 40 00.3		
	comp=E,8116µm,0.2s							
LKR				AML	AML	22 40 00.6		
	comp=N,9177µm,0.3s							
AXAR	**Agios Charalam**	**0.61**	**1**	P	**Pg**	**22 39 49.5**		**-0.1**
AXAR				S	**Sb**	**22 39 58.2**		**-1.1**
AXAR				AML	AML	22 40 02.0		
	comp=N,40291µm,0.4s							
AXAR				AML	AML	22 40 04.3		
	comp=E,25526µm,0.4s							
ATAL	**Atalanti**	**0.62**	**29**	P	**Pg**	**22 39 49.1**		**-0.5**
ATAL				S	**Sb**	**22 39 58.7**		**-0.7**
ATAL				AML	AML	22 40 00.9		
	comp=E,4428µm,0.4s							
ATAL				AML	AML	22 40 03.4		
	comp=N,5421µm,0.6s							
EPID	**Epidavros**	**0.66**	**145**	P	**Pg**	**22 39 49.8**		**-0.5**
EPID				S	**Sg**	**22 39 58.7**		**-0.2**
TRIP	**Tripoli**	**0.69**	**205**	P	**Pg**	**22 39 50.3**		**-0.6**
TRIP				S	**Sg**	**22 39 59.3**		**-0.7**
TRIP				AML	AML	22 40 04.0		
	comp=E,5621µm,0.4s							
TRIP				AML	AML	22 40 05.5		
	comp=N,6615µm,0.4s							
ANX	**Ano Chora**	**0.72**	**308**	P	**Pg**	**22 39 51.5**		**0.0**
ANX				S	**Sb**	**22 40 01.8**		**-0.6**
VLX	**Vlachokerasia**	**0.81**	**195**	P	**Pg**	**22 39 52.5**		**-0.7**
VLX				S	**Sg**	**22 40 02.3**		**-1.4**
VLX				AML	AML	22 40 08.0		
	comp=N,10303µm,0.6s							
VLX				AML	AML	22 40 09.0		
	comp=E,10258µm,0.5s							
ATH	**Athens Observa**	**0.87**	**102**	P	**Pb**	**22 39 54.5**		**-0.3**
ATH				S	**Sn**	**22 40 07.2**		**-1.5**
	comp=E,2µm,0.4s							
ATH	**Athens Observa**	**0.87**	**102**	P	**Pb**	**22 39 54.2**		**-0.7**
ATH				S	**Sb**	**22 40 05.8**		**-0.6**
ATH				AML	AML	22 40 09.3		
	comp=E,5104µm,0.3s							
ATH				AML	AML	22 40 14.0		
	comp=N,4015µm,0.5s							
KRND	**KRANIDI**	**0.87**	**152**	P	**Pg**	**22 39 53.7**		**-0.6**
KRND				S	**Sb**	**22 40 06.0**		**-0.5**
	comp=N,7µm,0.4s							
KRND	**KRANIDI**	**0.87**	**152**	P	**Pg**	**22 39 53.6**		**-0.6**
KRND				AML	AML	22 40 09.7		
	comp=N,15890µm,0.6s							
KRND				AML	AML	22 40 10.3		
	comp=E,11284µm,0.3s							
AGG	**Agios Georgios**	**0.90**	**344**	P	**Pg**	**22 39 54.3**		**-0.8**
AGG				S	**Sb**	**22 40 07.8**		**+0.1**
	comp=E,2µm,0.8s							
AGG	**Agios Georgios**	**0.90**	**344**	P	**Pg**	**22 39 54.5**		**-0.6**
AGG				S	**Sg**	**22 40 06.7**		**-0.2**
AGG				AML	AML	22 40 10.2		
	comp=E,3406µm,0.7s							
AGG				AML	AML	22 40 12.2		
	comp=N,3693µm,0.7s							
AGG	**Agios Georgios**	**0.90**	**344**	PG	**Pg**	**22 39 54.5**		**-0.6**
AGG				SG	**Sb**	**22 40 07.4**		**-0.3**
ATHU	**Athens Univers**	**0.92**	**101**	P	**Pb**	**22 39 55.1**		**-0.6**
ATHU				S	**Sb**	**22 40 07.8**		**-0.3**
ATHU				AML	AML	22 40 08.9		
	comp=E,754µm,0.4s							
ATHU				AML	AML	22 40 10.8		
	comp=N,1900µm,0.2s							
RLS	**Riolos of Patr**	**0.93**	**265**	P	**Pg**	**22 39 54.7**		**-0.9**
RLS				S	**Sb**	**22 40 08.2**		**-0.2**
	comp=N,745nm,0.5s							
RLS	**Riolos of Patr**	**0.93**	**265**	P	**Pg**	**22 39 54.7**		**-0.9**
MAKR	**Makrakomi, Fth**	**0.95**	**335**	P	**Pb**	**22 39 55.8**		**-0.5**
MAKR				S	**Sb**	**22 40 08.2**		**-0.8**
MAKR				AML	AML	22 40 17.9		
	comp=E,9329µm,0.8s							
MAKR				AML	AML	22 40 20.6		
	comp=N,8000µm,0.7s							
VLY	**Voula,Athens**	**0.96**	**108**	P	**Pb**	**22 39 55.9**		**-0.5**
VLY				S	**Sn**	**22 40 09.5**		**-1.5**
	comp=N,3µm,0.3s							
VLY	**Voula,Athens**	**0.96**	**108**	P	**Pb**	**22 39 55.9**		**-0.5**
VLY				AML	AML	22 40 11.5		
	comp=N,5373µm,0.3s							
VLY				AML	AML	22 40 11.9		
	comp=E,4848µm,0.3s							
PTL	**Penteli**	**0.97**	**96**	P	**Pb**	**22 39 56.1**		**-0.5**
PTL				S	**Sn**	**22 40 10.0**		**-1.3**
	comp=E,3µm,0.7s							
PTL	**Penteli**	**0.97**	**96**	P	**Pb**	**22 39 56.2**		**-0.4**
EVR	**Evrytania**	**1.01**	**320**	P	**Pg**	**22 39 56.7**		**-0.3**
EVR				S	**Sn**	**22 40 11.7**		**-0.6**
	comp=E,2µm,0.7s							
EVR	**Evrytania**	**1.01**	**320**	P	**Pb**	**22 39 57.0**		**-0.3**
DION	**Dionisos Attik**	**1.02**	**94**	P	**Pb**	**22 39 57.0**		**-0.5**
DION				S	**Sn**	**22 40 12.0**		**-0.6**
	comp=E,6µm,0.7s							
DION	**Dionisos Attik**	**1.02**	**94**	P	**Pb**	**22 39 57.2**		**-0.3**
DION				S	**Sb**	**22 40 10.9**		**0.0**
DION				AML	AML	22 40 19.1		
	comp=N,10088µm,0.6s							
DION				AML	AML	22 40 19.5		
	comp=E,12401µm,0.5s							
YDRA	**Hydra**	**1.03**	**141**	P	**Pg**	**22 39 56.9**		**-0.5**
ITM	**Ithomi**	**1.12**	**211**	P	**Pb**	**22 39 58.0**		**-1.2**
ITM	**Ithomi**	**1.12**	**211**	P	**Pb**	**22 39 58.0**		**-1.2**
ITM	**Ithomi**	**1.12**	**211**	PN	**Pb**	**22 39 58.4**		**-0.8**
PDO	**Prodromos**	**1.23**	**292**	P	**Pg**	**22 40 01.3**		**0.0**
VOL	**Volos**	**1.24**	**11**	P	**Pg**	**22 40 00.8**		**+1.4**
NEO	**Neokhori**	**1.24**	**21**	P	**Pg**	**22 40 00.9**		**-0.6**
NEO				S	**Sn**	**22 40 18.8**		**+0.8**
	comp=E,1µm,0.5s							
NEO	**Neokhori**	**1.24**	**21**	P	**Pg**	**22 40 00.9**		**-0.6**
KYMI	**Kymi, Euboea I**	**1.24**	**67**	P	**Pg**	**22 40 00.9**		**-0.6**
KYMI				S	**Sn**	**22 40 18.7**		**+0.7**
	comp=E,1µm,0.6s							
KYMI	**Kymi, Euboea I**	**1.24**	**67**	P	**Pb**	**22 40 00.8**		**-0.5**
XOR	**Xorichti**	**1.29**	**19**	P	**Pg**	**22 40 01.8**		**-0.5**
XOR	**Xorichti**	**1.29**	**19**	P	**Pg**	**22 40 01.8**		**-0.5**
ALNA	**Alonissos**	**1.38**	**44**	P	**Pb**	**22 40 03.0**		**-0.6**
AOS	**Alonnisos**	**1.41**	**43**	P	**Pn**	**22 40 02.9**		**-0.5**
AOS	**Alonnisos**	**1.41**	**43**	P	**Pn**	**22 40 02.9**		**-0.5**
AOS	**Alonnisos**	**1.41**	**43**	PN	**Pn**	**22 40 02.7**		**-0.7**
AOS				SN	**Sb**	**22 40 21.4**		**-0.6**
KARY	**Karystos**	**1.42**	**94**	P	**Pb**	**22 40 03.6**		**-0.7**
PYL	**PYLOS**	**1.44**	**210**	P	**Pn**	**22 40 03.8**		**-0.1**
VLI	**Veliai**	**1.45**	**171**	P	**Pn**	**22 40 03.7**		**-0.3**
VLI				S	**Sb**	**22 40 23.1**		**-0.2**
	comp=E,1µm,0.5s							
VLI	**Veliai**	**1.45**	**171**	P	**Pn**	**22 40 03.7**		**-0.3**
THL	**Klokotos Trika**	**1.49**	**341**	P	**Pb**	**22 40 05.1**		**-0.4**
THL				S	**Sg**	**22 40 25.2**		**-0.5**
	comp=E,360nm,0.7s							
THL	**Klokotos Trika**	**1.49**	**341**	P	**Pb**	**22 40 05.3**		**-0.2**
MNVA	**Monemvasia**	**1.50**	**168**	P	**Pn**	**22 40 04.3**		**-0.3**
LRSO	**Larissa Observ**	**1.53**	**353**	P	**Pg**	**22 40 06.3**		**-0.7**
MGNA	**Meganis**	**1.54**	**290**	P	**Pg**	**22 40 06.8**		**-0.4**
VLMS	**Volimes, Zakyn**	**1.59**	**261**	P	**Pn**	**22 40 07.1**		**-0.1**
VLS	**Valsamata**	**1.62**	**272**	P	**Pn**	**22 40 06.6**		**+0.3**
VLS	**Valsamata**	**1.62**	**272**	P	**Pb**	**22 40 07.2**		**-0.5**
PSDA	**Pessada-Kefalo**	**1.62**	**269**	P	**Pb**	**22 40 07.3**		**-0.4**
NYDR	**Nydri-Lefkada**	**1.63**	**291**	P	**Pg**	**22 40 08.8**		**0.0**
EVGI	**Lefkada island**	**1.63**	**287**	P	**Pg**	**22 40 08.7**		**-0.2**
SKY	**Skiros Island**	**1.66**	**64**	P	**Pn**	**22 40 07.0**		**+0.1**
FSK	**Fiskardo**	**1.67**	**281**	P	**Pb**	**22 40 08.5**		**0.0**
LKD2	**Lefkada island**	**1.68**	**293**	P	**Pg**	**22 40 09.8**		**-0.1**
TSLK	**Tsoukalades, L**	**1.70**	**294**	P	**Pg**	**22 40 09.9**		**-0.4**
KEF5	**Kardakata, Kep**	**1.72**	**275**	P	**Pb**	**22 40 09.2**		**-0.2**
KEF4	**Livadi, Kephal**	**1.75**	**274**	P	**Pb**	**22 40 09.6**		**-0.3**
SERI	**Serifos**	**1.77**	**123**	P	**Pn**	**22 40 08.0**		**-0.3**
SERI	**Serifos**	**1.77**	**123**	P	**Pn**	**22 40 08.0**		**-0.3**
DMLN	**Damoulianata-K**	**1.79**	**273**	P	**Pb**	**22 40 10.7**		**+0.1**
KTHR	**Kythira**	**1.91**	**171**	P	**Pn**	**22 40 10.8**		**+0.5**
KTHA	**Kythira Island**	**1.92**	**170**	P	**Pn**	**22 40 10.7**		**+0.2**
KTHA	**Kythira Island**	**1.92**	**170**	P	**Pn**	**22 40 11.2**		**+0.7**
KTHA	**Kythira Island**	**1.92**	**170**	PN	**Pn**	**22 40 11.0**		**+0.5**
KTHA				SN	**Sn**	**22 40 34.9**		**+0.1**
PAIG	**Paliouri**	**1.95**	**24**	P	**Pn**	**22 40 10.7**		**-0.2**
LIT	**Litokhoron**	**1.95**	**357**	P	**Pn**	**22 40 11.4**		**+0.5**
LIT	**Litokhoron**	**1.95**	**357**	P	**Pn**	**22 40 11.4**		**+0.5**
MHLA	**Plaka, Milos I**	**1.99**	**134**	P	**Pn**	**22 40 12.0**		**+0.5**
MHLO	**Agia Marina, M**	**2.02**	**136**	P	**Pn**	**22 40 12.8**		**+0.9**
JAN	**Janina**	**2.05**	**318**	P	**Pb**	**22 40 14.4**		**-0.7**
KZN	**Kozani**	**2.26**	**343**	P	**Pn**	**22 40 14.9**		**-0.3**
IGT	**Igoumenitsa**	**2.27**	**308**	P	**Pb**	**22 40 17.8**		**-1.0**
PLG	**Polygyros**	**2.31**	**15**	P	**Pn**	**22 40 15.7**		**-0.1**
PLG	**Polygyros**	**2.31**	**15**	P	**Pn**	**22 40 15.4**		**-0.5**
ANKY	**Antikythira Is**	**2.34**	**167**	P	**Pn**	**22 40 16.7**		**+0.5**
ANKY	**Antikythira Is**	**2.34**	**167**	P	**Pn**	**22 40 16.5**		**+0.3**
PENT	**Pentalofos**	**2.35**	**331**	P	**Pb**	**22 40 18.9**		**-1.3**
OUR	**Ouranopolis**	**2.42**	**25**	P	**Pn**	**22 40 17.1**		**-0.2**
OUR	**Ouranopolis**	**2.42**	**25**	PN	**Pn**	**22 40 17.4**		**+0.1**
HORT	**Hortiatis**	**2.47**	**8**	P	**Pn**	**22 40 18.1**		**0.0**
HORT	**Hortiatis**	**2.47**	**8**	PN	**Pn**	**22 40 18.1**		**0.0**
APE	**Apeiranthos**	**2.54**	**114**	P	**Pn**	**22 40 18.8**		**-0.2**
APE	**Apeiranthos**	**2.54**	**114**	P	**Pn**	**22 40 19.1**		**+0.1**
APE	**Apeiranthos**	**2.54**	**114**	⇓P	**Pn**	**22 40 19.7**		**+0.7**
APE	**Apeiranthos**	**2.54**	**114**	PN	**Pn**	**22 40 19.1**		**+0.1**
KEK	**Kerkira**	**2.71**	**306**	P	**Pb**	**22 40 23.6**		**-2.7**
SOH	**Sokhos**	**2.72**	**11**	P	**Pn**	**22 40 22.2**		**+0.6**
SOH	**Sokhos**	**2.72**	**11**	P	**Pn**	**22 40 22.2**		**+0.6**
SIGR	**SIGRI**	**2.73**	**66**	PN	**Pn**	**22 40 21.8**		**+0.2**
RODP	**Rodopos**	**2.74**	**161**	PN	**Pn**	**22 40 22.1**		**+0.4**
IMMV	**Iera Moni Meta**	**2.89**	**158**	P	**Pn**	**22 40 24.2**		**+0.4**
IMMV	**Iera Moni Meta**	**2.89**	**158**	P	**Pn**	**22 40 24.1**		**+0.4**
IMMV	**Iera Moni Meta**	**2.89**	**158**	PN	**Pn**	**22 40 24.3**		**+0.4**
VAM	**Vamos**	**3.01**	**155**	P	**Pn**	**22 40 26.5**		**+1.0**
KNT	**Kendrikon**	**3.01**	**4**	PN	**Pn**	**22 40 25.7**		**+0.2**
SRS	**Serrai**	**3.05**	**14**	P	**Pn**	**22 40 26.4**		**+0.4**
SRS	**Serrai**	**3.05**	**14**	P	**Pn**	**22 40 26.3**		**+0.2**
URLA	**Izmir**	**3.12**	**85**	PN	**Pn**	**22 40 27.3**		**+0.3**
VAY	**Valandovo**	**3.17**	**359**	*i* Pn	**Pb**	**22 40 30.5**		**-3.6**
OHR	**Ohrid**	**3.28**	**335**	*i* Pn	**Pb**	**22 40 35.4**		**-0.7**
NVR	**Nevrokopi**	**3.33**	**16**	P	**Pn**	**22 40 30.1**		**+0.2**
NVR	**Nevrokopi**	**3.33**	**16**	P	**Pn**	**22 40 30.3**		**+0.4**
IDI	**Anoyia**	**3.38**	**147**	P	**Pn**	**22 40 30.8**		**+0.2**
IDI	**Anoyia**	**3.38**	**147**	P	**Pn**	**22 40 30.6**		**-0.1**
IDI	**Anoyia**	**3.38**	**147**	⇑P	**Pn**	**22 40 31.3**		**+0.7**
IDI	**Anoyia**	**3.38**	**147**	⇑S	**Sn**	**22 41 12.3**		**+1.4**
IDI	**Anoyia**	**3.38**	**147**	PN	**Pn**	**22 40 31.5**		**+0.9**
GVDS	**Gavdos**	**3.50**	**160**	PN	**Pn**	**22 40 33.2**		**+1.0**
GVD	**Gavdhos**	**3.50**	**160**	PN	**Pn**	**22 40 33.3**		**+1.0**
MMB	**Musomiste**	**3.53**	**13**	*eP*	**Pn**	**22 40 33.3**		**+0.6**
STIP	**Stip**	**3.56**	**354**	*i* Pn	**Pb**	**22 40 35.0**		**+2.0**
KKB	**Krupnik**	**3.73**	**5**	*eP*	**Pn**	**22 40 35.2**		**-0.1**
RDO	**Rodhopi**	**3.73**	**36**	PN	**Pn**	**22 40 35.2**		**-0.2**
NPS	**Neapolis**	**3.74**	**139**	P	**Pn**	**22 40 36.8**		**+1.3**
NPS	**Neapolis**	**3.74**	**139**	P	**Pn**	**22 40 36.9**		**+1.3**
LAST	**Lasithi**	**3.75**	**142**	P	**Pn**	**22 40 36.4**		**+0.6**
ALN	**Alexandroupoli**	**3.80**	**43**	PN	**Pn**	**22 40 36.9**		**+0.6**
BODT	**Bodrum**	**3.86**	**105**	PN	**Pn**	**22 40 37.9**		**+0.7**
RZN	**Rozhen**	**3.88**	**24**	*eP*	**Pn**	**22 40 38.5**		**+1.0**
SKO	**Skopje**	**3.93**	**347**	*i* Pn	**Pb**	**22 40 43.3**		**-3.7**
VTS	**Vitosha

HUEH	**Huehuetenango**	**1.85**	**335**	Pn		**Pn**	**22 44 11.8**	**0.0**
COEB	**Comit de Eme**	**2.12**	**93**	*e*P		**Pn**	**22 44 15.7**	**+0.4**
COEB	**Comit de Eme**	**2.12**	**93**	*i* P		**Pn**	**22 44 14.9**	**-0.4**
TECA	**Tecapa**	**2.15**	**93**	*e*P		**Pn**	**22 44 15.6**	**-0.2**
TECA	**Tecapa**	**2.15**	**93**	*e*P		**Pn**	**22 44 15.6**	**-0.2**
BLLM	**Bellamira**	**2.41**	**94**	*e*P		**Pn**	**22 44 19.6**	**+0.5**
BLLM	**Bellamira**	**2.41**	**94**	*e*P		**Pn**	**22 44 19.6**	**+0.5**
LCND	**La Caada**	**2.76**	**96**	*e*P		**Pn**	**22 44 23.3**	**-0.6**
LCND				IAML			22 45 06.4	
	comp=Z,1µm,0.3s							
LCND	**La Caada**	**2.76**	**96**	*e*P		**Pn**	**22 44 23.3**	**-0.6**
LCND				IAML			22 45 06.4	
	comp=Z,1µm,0.3s							
CCIG	**Comitan**	**2.98**	**332**	Pn		**Pn**	**22 44 27.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.36**	**82**	Pn		**Pn**	**22 44 31.7**	**-0.6**
PETF	**Flores**	**3.37**	**14**	Pn		**Pn**	**22 44 32.3**	**0.0**
CRIN	**San Cristobal**	**3.68**	**104**			**Pn**	**22 44 36.5**	**0.0**
MATN	**Matagalpa**	**4.70**	**98**	Pn		**Pn**	**22 44 50.1**	**-0.5**
CMIG	**Matias Romero**	**5.30**	**311**	P		**Pn**	**22 44 58.6**	**-0.1**
	comp=Z,5.6nm,0.3s,baz=143,slow=11,SNR=42							
CMIG				S		**Sn**	**22 45 58.5**	**0.0**
	comp=Z,7.3nm,0.3s,baz=63,slow=19,SNR=7.3							
CMIG				LR		LR	22 46 20.9	
	comp=Z,18nm,19.8s,baz=126,slow=30							
ACON	**Acoyapa**	**5.64**	**106**	Pn		**Pn**	**22 45 03.9**	**+0.6**
GBS3	**Finca Las Img**	**5.86**	**118**	*e*P		**Pn**	**22 45 07.5**	**+1.1**
LAPC	**Finca la Perla**	**5.88**	**118**	*e*P		**Pn**	**22 45 08.3**	**+1.5**
GB1A	**Borinquen Arri**	**5.89**	**118**	*e*P		**Pn**	**22 45 06.5**	**-0.4**
BUEV	**Buena Vista**	**5.89**	**118**	*e*P		**Pn**	**22 45 07.3**	**+0.4**
BUAI	**Buenos Aires**	**5.92**	**117**	*e*P		**Pn**	**22 45 08.1**	**+0.8**
LIM1	**Limonal**	**6.07**	**118**	*e*P		**Pn**	**22 45 10.9**	**+1.6**
GUAI	**GUAI**	**6.08**	**123**	*e*P		**Pn**	**22 45 09.9**	**+0.5**
GUAB	**Guayabo de Bag**	**6.09**	**118**	*e*P		**Pn**	**22 45 10.9**	**+1.3**
HORNC	**Hornillas**	**6.13**	**118**	*e*P		**Pn**	**22 45 11.7**	**+1.5**
COLC	**Colonia**	**6.13**	**118**	*e*P		**Pn**	**22 45 10.9**	**+0.8**
CUI	**Cuipilapa**	**6.17**	**118**	*e*P		**Pn**	**22 45 12.5**	**+1.8**
ACAL	**Aguas Claras**	**6.29**	**118**	*e*P		**Pn**	**22 45 11.6**	**-0.8**
JTS	**Las Juntas de**	**6.53**	**120**	P		**Pn**	**22 45 16.7**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=297,slow=17,SNR=10							
JTS				S		**Sn**	**22 46 31.4**	**+2.6**
	comp=Z,1.9nm,0.3s,baz=273,slow=20,SNR=1.2							
JTS	**Las Juntas de**	**6.53**	**120**			**Pn**	**22 45 16.1**	**+0.5**
CEDE	**Laguna Cedeo**	**6.65**	**117**	*e*P		**Pn**	**22 45 19.0**	**+1.7**
TLIG	**Tlapa**	**8.53**	**298**	Pn		**Pn**	**22 45 44.2**	**+1.2**
ZAIG	**Zacatecas**	**14.47**	**311**	Pn		**Pn**	**22 47 04.5**	**+0.6**
TXAR	**Lajitas Array**	**19.71**	**325**	P		**Pn**	**22 48 07.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=8.9							
TXAR				LR		LR	22 56 11.0	
	comp=Z,24nm,18.1s,baz=0.0,slow=38							
TX31	**Lajitas Ar. Si**	**19.71**	**325**	P		**P**	**22 48 07.1**	**+0.5**
152A	**Waverly Hall**	**19.73**	**15**	P		**Pn**	**22 48 07.1**	**-1.4**
152A				IAmb		IAmb	22 48 08.8	
	comp=Z,7.4nm,0.8s							
WLAR	**White Oak Lake**	**20.09**	**354**	P		Pn	22 48 12.2	-0.6
WLAR				IAmb		IAmb	22 48 28.6	
	comp=Z,6.6nm,0.8s							
Z51A	**Franklin**	**20.24**	**13**	P		Pn	22 48 13.0	-1.5
Y49A	**Blount Mountai**	**20.51**	**10**	P		**P**	**22 48 15.7**	**+0.5**
Y49A				IAmb		IAmb	22 48 17.3	
	comp=Z,9.3nm,0.8s							
X48A	**Hartselle**	**21.00**	**8**	P		**P**	**22 48 20.2**	**0.0**
LPIG	**La Paz**	**21.25**	**302**	LR		LR	22 55 47.4	
	comp=Z,40nm,18.9s,baz=277,slow=34							
FPAL	**Fort Paine**	**21.33**	**12**	P		**P**	**22 48 24.2**	**+0.4**
FPAL				IAmb		IAmb	22 48 26.3	
	comp=Z,7.7nm,0.9s							
SWET	**Sewanee**	**21.92**	**11**			**P**	**22 48 29.9**	**-0.3**
SWET				IAmb		IAmb	22 48 31.2	
	comp=Z,5.0nm,0.6s							
MNTX	**Cornudas Mount**	**22.47**	**326**	P		**P**	**22 48 35.8**	**-0.3**
TKL	**Tuckaleechee C**	**22.81**	**15**	P		**P**	**22 48 39.6**	**0.0**
	comp=Z,2.4nm,0.6s,baz=196,slow=12,SNR=5.4							
TKL				LR		LR	22 58 07.1	
	comp=Z,90nm,21.2s,baz=189,slow=38							
TKL	**Tuckaleechee C**	**22.81**	**15**	P		**P**	**22 48 39.9**	**+0.2**
U49A	**Red Boiling Sp**	**23.21**	**10**	P		**P**	**22 48 42.7**	**-0.9**
U49A				IAmb		IAmb	22 48 44.5	
	comp=Z,7.4nm,0.8s							
NVAR	**Mina Array Bea**	**34.75**	**320**	P		**P**	**22 50 27.6**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=134,slow=8.9,SNR=13							
NVAR	**Mina Array Bea**	**34.75**	**320**	P		**P**	**22 50 27.2**	**+0.6**
SAML	**Samuel**	**35.35**	**128**	P		**P**	**22 50 30.3**	**-1.4**
LPAZ	**La Paz**	**37.17**	**142**	P		**P**	**22 50 47.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=315,slow=7.1,SNR=3.7							
PLCA	**Paso Flores**	**57.22**	**162**	LR		LR	23 11 38.4	
	comp=Z,30nm,20.4s,baz=344,slow=29							
NOA	**NORSAR Array B**	**83.87**	**29**	LR		LR	23 33 32.3	
	comp=Z,6.7nm,18.4s,baz=210,slow=36							
CMAR	**Chiang Mai Arr**	**146.73**	**343**	PKPbc		**PKPdf**	**23 03 16.5**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=334,slow=3.7,SNR=6.2							

*GII **29** 23:27:50.7±0.0, 36°.82N×23°.06E, h30km*
*ISK **29** 23:27:52.2, 36°.83N×23°.14E, h25km, ML3.4/13*
*ATH **29** 23:27:52.5, 36°.79N×23°.05E, h44km±1km, ML3.4/28, Error ellipse: s-maj=1.8km s-min=0.8km az=232.0*
*IDC **29** 23:27:53.5±3.5, 36°.71N×23°.18E, h59km±42km, mb3.4/6, mb1 3.5/6, mb1mx3.2/31, mbtmp3.6/6, Error ellipse: s-maj=28.0km s-min=24.1km az=4.0*
*THE **29** 23:27:54.3, 36°.80N×23°.08E, h35km±1km, ML3.4/20, Error ellipse: s-maj=1.5km s-min=0.4km az=248.0*

ISC 29 23:27:52.7±0.7, 36°.79N±0°.02×23°.05E±0°.03, h42km±6km, n128, σ1°21/161, mb3.6/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNVA	**Monemvasia**	**0.10**	**186**	P	**Pn**	**23 28 00.3**	**+0.7**
MNVA				S	**Sn**	**23 28 05.0**	**+0.7**
MNVA				AML	AML	23 28 05.1	
	comp=E,9975µm,0.3s						
MNVA				AML	AML	23 28 05.1	
	comp=N,20495µm,0.3s						
VLI	**Velai**	**0.11**	**233**	P	**Pn**	**23 28 00.4**	**+0.7**
VLI				S	**Sn**	**23 28 05.0**	**+0.5**
	comp=N,7µm,0.3s						
VLI	**Velai**	**0.11**	**233**	P	**Pn**	**23 28 00.1**	**+0.4**
VLI				S	**Sn**	**23 28 05.2**	**+0.7**
VLI				AML	AML	23 28 05.8	
	comp=N,15450µm,0.2s						
VLI				AML	AML	23 28 06.0	
	comp=E,23249µm,0.3s						
KTHR	**Kythira**	**0.53**	**184**	P	**Pn**	**23 28 05.2**	**+1.3**
KTHR				S	**Sn**	**23 28 13.8**	**+2.0**
	comp=E,4µm,0.4s						
KTHA	**Kythira Island**	**0.53**	**179**	P	**Pn**	**23 28 04.9**	**+0.9**
KTHA				S	**Sn**	**23 28 12.8**	**+0.9**
	comp=E,3µm,0.3s						
KTHA	**Kythira Island**	**0.53**	**179**	P	**Pn**	**23 28 04.8**	**+0.9**
KTHA				S	**Sn**	**23 28 12.7**	**+0.8**
KTHA	**Kythira Island**	**0.53**	**179**	PG	**Pn**	**23 28 04.9**	**+0.9**
KTHA				SG	**Sn**	**23 28 12.6**	**+0.8**
KRND	**KRANIDI**	**0.60**	**8**	P	**Pn**	**23 28 05.9**	**+1.0**
KRND				S	**Sn**	**23 28 15.1**	**+1.5**
	comp=E,11µm,0.4s						
KRND	**KRANIDI**	**0.60**	**8**	P	**Pn**	**23 28 05.9**	**+1.0**
KRND				AML	AML	23 28 15.5	
	comp=N,21398µm,0.4s						
KRND				AML	AML	23 28 15.8	
	comp=E,21479µm,0.5s						
YDRA	**Hydra**	**0.65**	**30**	P	**Pn**	**23 28 06.6**	**+1.0**
VLX	**Vlachokerasia**	**0.79**	**318**	P	**Pn**	**23 28 08.4**	**+0.8**
VLX				AML	AML	23 28 26.6	
	comp=E,2285µm,0.5s						
VLX				AML	AML	23 28 27.4	
	comp=N,2626µm,0.4s						
EPID	**Epidavros**	**0.83**	**4**	P	**Pn**	**23 28 08.9**	**+0.8**
EPID				S	**Sn**	**23 28 21.1**	**+2.0**
ANKY	**Antikythira Is**	**0.94**	**167**	P	**Pn**	**23 28 10.6**	**+1.1**
ANKY				S	**Sn**	**23 28 22.8**	**+1.1**
	comp=N,862nm,0.4s						
ANKY	**Antikythira Is**	**0.94**	**167**	P	**Pn**	**23 28 10.5**	**+1.0**
ANKY				AML	AML	23 28 24.2	
	comp=N,1294µm,0.3s						
ANKY				AML	AML	23 28 24.3	
	comp=E,2084µm,0.4s						
TRIP	**Tripoli**	**0.97**	**320**	P	**Pn**	**23 28 10.8**	**+0.8**
TRIP				AML	AML	23 28 27.4	
	comp=N,1266µm,0.6s						
TRIP				AML	AML	23 28 28.4	
	comp=E,1292µm,0.4s						
ITM	**Ithomi**	**0.98**	**294**	P	**Pn**	**23 28 11.9**	**+1.8**
ITM	**Ithomi**	**0.98**	**294**	P	**Pn**	**23 28 11.6**	**+1.5**
ITM				AML	AML	23 28 29.6	
	comp=N,1745µm,0.5s						
ITM				AML	AML	23 28 34.5	
	comp=E,1171µm,0.6s						
ITM	**Ithomi**	**0.98**	**294**	PG	**Pn**	**23 28 11.8**	**+1.7**
MHLO	**Agia Marina, M**	**1.09**	**95**	P	**Pn**	**23 28 13.2**	**+1.7**
MHLO				S	**Sn**	**23 28 26.8**	**+1.4**
	comp=E,5µm,0.4s						
MHLO	**Agia Marina, M**	**1.09**	**95**	P	**Pn**	**23 28 12.7**	**+1.1**
MHLO				AML	AML	23 28 29.9	
	comp=E,8969µm,0.4s						
MHLO				AML	AML	23 28 32.7	
	comp=N,9394µm,0.3s						
MHLA	**Plaka, Milos I**	**1.10**	**92**	P	**Pn**	**23 28 13.3**	**+1.6**
LOUT	**Loutraki**	**1.20**	**357**	P	**Pn**	**23 28 14.1**	**+1.1**
LOUT				S	**Sn**	**23 28 29.3**	**+1.1**
SERI	**Serifos**	**1.21**	**72**	P	**Pn**	**23 28 14.4**	**+1.2**
SERI				S	**Sn**	**23 28 29.1**	**+0.7**
	comp=N,618nm,0.3s						
SERI	**Serifos**	**1.21**	**72**	P	**Pn**	**23 28 14.2**	**+1.0**
VLY	**Voula,Athens**	**1.22**	**29**	P	**Pn**	**23 28 14.1**	**+0.8**
VLY				S	**Sn**	**23 28 28.9**	**+0.3**
	comp=N,2µm,0.3s						
VLY	**Voula,Athens**	**1.22**	**29**	P	**Pn**	**23 28 13.9**	**+0.6**
VLY				AML	AML	23 28 29.2	
	comp=N,2471µm,0.3s						
VLY				AML	AML	23 28 30.8	
	comp=E,3586µm,0.3s						
LTK	**Loutraki**	**1.24**	**357**	P	**Pn**	**23 28 14.7**	**+1.1**
LTK				AML	AML	23 28 30.7	
	comp=E,2981µm,0.6s						
LTK				AML	AML	23 28 32.9	
	comp=N,2420µm,0.3s						
GUR	**Goura**	**1.28**	**334**	P	**Pn**	**23 28 14.7**	**+0.5**
GUR				AML	AML	23 28 33.7	
	comp=N,5082µm,0.3s						
GUR				AML	AML	23 28 34.3	
	comp=E,4945µm,0.4s						
THAL	**Thalero**	**1.29**	**346**	P	**Pn**	**23 28 14.8**	**+0.6**
THAL				AML	AML	23 28 35.9	
	comp=N,9104µm,0.3s						
THAL				AML	AML	23 28 38.3	
	comp=E,5797µm,0.5s						
ATH	**Athens Observa**	**1.30**	**24**	P	**Pn**	**23 28 15.6**	**+1.2**
ATH				S	**Sn**	**23 28 31.3**	**+0.8**
	comp=E,940nm,0.4s						
ATH	**Athens Observa**	**1.30**	**24**	P	**Pn**	**23 28 15.5**	**+1.2**
ATH				AML	AML	23 28 32.3	
	comp=E,2213µm,0.4s						
ATH				AML	AML	23 28 32.5	
	comp=N,1554µm,0.4s						
ATHU	**Athens Univers**	**1.31**	**26**	P	**Pn**	**23 28 15.5**	**+0.9**
ATHU				AML	AML	23 28 33.3	
	comp=E,482µm,0.4s						
ATHU				AML	AML	23 28 34.1	
	comp=N,747µm,0.3s						
RODP	**Rodopos**	**1.35**	**155**	PN	**Pn**	**23 28 16.1**	**+1.0**
PTL	**Penteli**	**1.42**	**27**	P	**Pn**	**23 28 17.2**	**+1.1**
PTL				S	**Sn**	**23 28 34.1**	**+0.6**
PTL	**Penteli**	**1.42**	**27**	P	**Pn**	**23 28 17.1**	**+1.1**
VIL2	**Platees**	**1.43**	**7**	P	**Pn**	**23 28 16.5**	**+0.2**
VIL2				AML	AML	23 28 34.5	
	comp=E,2577µm,0.6s						
VIL2				AML	AML	23 28 41.4	
	comp=N,1412µm,0.5s						
KLV	**Kalavryta, Ach**	**1.45**	**331**	P	**Pn**	**23 28 17.4**	**+0.9**
KLV				S	**Sn**	**23 28 35.4**	**+1.1**
	comp=N,715nm,0.4s						
KLV	**Kalavryta, Ach**	**1.45**	**331**	P	**Pn**	**23 28 17.4**	**+0.9**
KLV				AML	AML	23 28 36.7	
	comp=E,1453µm,0.2s						
KLV				AML	AML	23 28 39.9	
	comp=N,1377µm,0.5s						
DION	**Dionisos Attik**	**1.47**	**28**	P	**Pn**	**23 28 18.1**	**+1.3**
DION				S	**Sn**	**23 28 35.1**	**+0.3**
	comp=N,3µm,0.4s						
DION	**Dionisos Attik**	**1.47**	**28**	P	**Pn**	**23 28 17.9**	**+1.1**
DION				AML	AML	23 28 36.4	
	comp=E,5642µm,0.3s						
DION				AML	AML	23 28 38.1	
	comp=N,3990µm,0.3s						
IMMV	**Iera Moni Meta**	**1.52**	**150**	P	**Pn**	**23 28 18.5**	**+1.1**
IMMV	**Iera Moni Meta**	**1.52**	**150**	P	**Pn**	**23 28 18.4**	**+0.9**
IMMV	**Iera Moni Meta**	**1.52**	**150**	PN	**Pn**	**23 28 18.6**	**+1.1**
IMMV				SN	**Sn**	**23 28 37.6**	**+1.5**
VAM	**Vamos**	**1.66**	**146**	P	**Pn**	**23 28 20.5**	**+1.1**
VAM	**Vamos**	**1.66**	**146**	P	**Pn**	**23 28 20.4**	**+1.0**
KARY	**Karystos**	**1.66**	**41**	P	**Pn**	**23 28 20.4**	**+1.0**
DLFA	**Delphi**	**1.75**	**346**	P	**Pn**	**23 28 21.4**	**+0.8**
KALE	**Kalithea**	**1.76**	**336**	P	**Pn**	**23 28 21.4**	**+0.6**
KALE				AML	AML	23 28 47.6	
	comp=N,1111µm,0.4s						
KALE				AML	AML	23 28 50.2	
	comp=E,874µm,0.4s						
TRIZ	**Trizonia**	**1.76**	**334**	P	**Pn**	**23 28 21.5**	**+0.8**
RLS	**Riolos of Patr**	**1.79**	**316**	P	**Pn**	**23 28 23.4**	**+2.3**
RLS	**Riolos of Patr**	**1.79**	**316**	P	**Pn**	**23 28 23.1**	**+1.9**
TNSA	**Tinos**	**1.85**	**65**	P	**Pn**	**23 28 23.1**	**+1.2**
LKR	**Lokris**	**1.86**	**359**	P	**Pn**	**23 28 23.1**	**+0.9**
LKR				S	**Sn**	**23 28 45.4**	**+1.0**
	comp=E,1µm,0.6s						
LKR	**Lokris**	**1.86**	**359**	P	**Pn**	**23 28 23.0**	**+0.9**
LKR				AML	AML	23 28 45.6	
	comp=N,2434µm,0.4s						
LKR				AML	AML	23 28 50.0	
	comp=E,2364µm,0.6s						
SAP3	**Santorini-Thir**	**1.88**	**100**	P	**Pn**	**23 28 24.3**	**+1.9**
SAP3				S	**Sn**	**23 28 47.0**	**+2.1**
SAP3	**Santorini-Thir**	**1.88**	**100**	P	**Pn**	**23 28 24.2**	**+1.9**
ATAL	**Atalanti**	**1.90**	**359**	P	**Pn**	**23 28 23.6**	**+0.8**
ATAL				AML	AML	23 28 51.0	
	comp=E,836µm,0.4s						
ATAL				AML	AML	23 28 54.1	
	comp=N,774µm,0.9s						
CMBO	**Columbo, Santo**	**1.92**	**99**	P	**Pn**	**23 28 25.0**	**+2.1**
CMBO				S	**Sn**	**23 28 47.7**	**+1.8**
	comp=N,1µm,0.6s						
THR3	**Thira Island,**	**1.93**	**101**	P	**Pn**	**23 28 25.0**	**+2.0**
STAX	**Taxiarchis Har**	**1.93**	**101**	P	**Pn**	**23 28 25.2**	**+2.1**
THT2	**Imerovigli**	**1.94**	**100**	PN	**Pn**	**23 28 24.0**	**+0.8**
SNT1	**Gialos, Santor**	**1.95**	**100**	P	**Pn**	**23 28 25.3**	**+2.0**
SANT	**Santorini**	**1.98**	**101**	P	**Pn**	**23 28 25.6**	**+1.8**
SANT	**Santorini**	**1.98**	**101**	PN	**Pn**	**23 28 24.4**	**+0.6**
AXAR	**Agios Charalam**	**2.00**	**351**	P	**Pn**	**23 28 24.9**	**+0.8**
AXAR				AML	AML	23 28 53.6	
	comp=N,2796µm,0.5s						
AXAR				AML	AML	23 28 54.6	
	comp=E,3330µm,0.4s						
APE	**Apeiranthos**	**2.01**	**81**	P	**Pn**	**23 28 25.3**	**+1.1**
APE				S	**Sn**	**23 28 48.8**	**+0.7**
	comp=E,380nm,0.2s						
APE	**Apeiranthos**	**2.01**	**81**	P	**Pn**	**23 28 25.2**	**+1.0**
APE				AML	AML	23 28 50.6	
	comp=E,511µm,0.2s						
APE				AML	AML	23 28 50.7	
	comp=N,984µm,0.2s						
APE	**Apeiranthos**	**2.01**	**81**	PN	**Pn**	**23 28 24.5**	**+0.3**
ANX	**Ano Chora**	**2.01**	**334**	P	**Pn**	**23 28 25.3**	**+1.0**
ANX				AML	AML	23 28 52.3	
	comp=N,1507µm,0.4s						
ANX				AML	AML	23 28 53.0	
	comp=E,1289µm,0.5s						
KYMI	**Kymi, Euboea I**	**2.02**	**24**	P	**Pn**	**23 28 25.6**	**+1.2**
KYMI				S	**Sn**	**23 28 48.8**	**+0.4**
	comp=E,438nm,0.4s						
KYMI	**Kymi, Euboea I**	**2.02**	**24**	P	**Pn**	**23 28 25.4**	**+1.0**
KYMI				AML	AML	23 28 48.9	
	comp=E,904µm,0.4s						
KYMI				AML	AML	23 28 49.5	
	comp=N,844µm,0.4s						
IDI	**Anoyia**	**2.11**	**135**	P	**Pn**	**23 28 25.8**	**+0.2**
	comp=N,15nm,0.3s,baz=318,slow=15,SNR=169						
IDI				S	**Sn**	**23 28 49.0**	**-1.7**
	comp=N,25nm,0.3s,baz=47,slow=13,SNR=7.2						
IDI	**Anoyia**	**2.11**	**135**	P	**Pn**	**23 28 25.9**	**+0.2**
IDI	**Anoyia**	**2.11**	**135**	P	**Pn**	**23 28 25.8**	**+0.2**
IDI				AML	AML	23 28 54.6	
	comp=E,817µm,0.3s						
IDI				AML	AML	23 28 58.6	
	comp=N,488µm,0.3s						
IDI	**Anoyia**	**2.11**	**135**	PN	**Pn**	**23 28 25.9**	**+0.2**
HRKL	**Herakleio**	**2.22**	**131**	PN	**Pn**	**23 28 28.5**	**+1.4**
SIVA	**Sivas**	**2.27**	**140**	P	**Pn**	**23 28 29.8**	**+2.0**
AMGA	**Amorgos Island**	**2.28**	**88**	P	**Pn**	**23 28 29.7**	**+1.8**
AMGA				S	**Sn**	**23 28 55.7**	**+0.9**
AGG	**Agios Georgios**	**2.30**	**346**	P	**Pn**	**23 28 29.4**	**+1.2**
AGG				S	**Sn**	**23 28 56.9**	**+1.5**
AGG	**Agios Georgios**	**2.30**	**346**	P	**Pn**	**23 28 29.0**	**+0.8**
AGG	**Agios Georgios**	**2.30**	**346**	PN	**Pn**	**23 28 29.3**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.34**	**342**	P	**Pn**	**23 28 30.0**	**+1.3**
MAKR				AML	AML	23 28 58.9	
	comp=N,724µm,0.6s						
MAKR				AML	AML	23 29 03.8	
	comp=E,872µm,0.4s						
EVR	**Evrytania**	**2.34**	**336**	P	**Pn**	**23 28 30.1**	**+1.2**
EVR	**Evrytania**	**2.34**	**336**	P	**Pn**	**23 28 30.1**	**+1.2**
EVR				AML	AML	23 29 07.4	
	comp=N,382µm,1.0s						
EVR				AML	AML	23 29 10.9	
	comp=E,382µm,0.5s						
SKY	**Skiros Island**	**2.40**	**29**	P	**Pn**	**23 28 30.5**	**+0.9**
SKY				S	**Sn**	**23 28 58.3**	**+0.6**
	comp=E,512nm,0.4s						
AOS	**Alonnisos**	**2.47**	**15**	P	**Pn**	**23 28 31.1**	**+0.6**
AOS				S	**Sn**	**23 29 00.1**	**+0.7**
	comp=E,200nm,0.5s						
AOS	**Alonnisos**	**2.47**	**15**	PN	**Pn**	**23 28 31.0**	**+0.6**
NEO	**Neokhori**	**2.52**	**3**	P	**Pn**	**23 28 32.2**	**+1.0**
NEO				S	**Sn**	**23 29 01.5**	**+0.8**
	comp=E,355nm,0.3s						
LAST	**Lasithi**	**2.55**	**129**	P	**Pn**	**23 28 32.9**	**+1.2**
LAST				S	**Sn**	**23 29 03.0**	**+1.4**
	comp=E,288nm,0.4s						
LAST	**Lasithi**	**2.55**	**129**	P	**Pn**	**23 28 32.8**	**+1.2**
LAST				AML	AML	23 29 03.7	
	comp=N,693µm,0.5s						
LAST				AML	AML	23 29 04.5	
	comp=E,431µm,0.3s						
NPS	**Neapolis**	**2.57**	**125**	P	**Pn**	**23 28 33.2**	**+1.3**
NPS				S	**Sn**	**23 29 03.4**	**+1.4**
XOR	**Xorichti**	**2.58**	**2**	P	**Pn**	**23 28 33.0**	**+1.0**
THL	**Klokotos Trika**	**2.89**	**344**	P	**Pn**	**23 28 37.2**	**+0.9**
ZKR	**Zakros**	**3.06**	**122**	P	**Pn**	**23 28 40.7**	**+2.0**
SMG	**Samos**	**3.16**	**72**	P	**Pn**	**23 28 41.2**	**+1.2**
PAIG	**Paliouri**	**3.17**	**9**	P	**Pn**	**23 28 40.9**	**+0.7**
URLA	**Izmir**	**3.23**	**60**	PN	**Pn**	**23 28 41.8**	**+0.9**
LIT	**Litokhoron**	**3.34**	**353**	P	**Pn**	**23 28 43.4**	**+1.0**
BODT	**Bodrum**	**3.42**	**84**	PN	**Pn**	**23 28 45.4**	**+1.8**
PRK	**Paraskevi**	**3.54**	**45**	P	**Pn**	**23 28 47.0**	**+1.9**
KARP	**Karpathos**	**3.55**	**109**	P	**Pn**	**23 28 47.6**	**+2.2**
KARP				S	**Sn**	**23 29 27.9**	**+1.8**
	comp=E,290nm,0.5s						
OUR	**Ouranopolis**	**3.62**	**11**	P	**Pn**	**23 28 47.2**	**+1.0**
OUR	**Ouranopolis**	**3.62**	**11**	PN	**Pn**	**23 28 47.1**	**+0.9**
HORT	**Hortiatis**	**3.81**	**1**	PN	**Pn**	**23 28 49.9**	**+1.0**
DKL	**Dikili**	**3.81**	**52**	PN	**Pn**	**23 28 49.9**	**+1.1**
EZN	**Ezine**	**3.98**	**39**	PN	**Pn**	**23 28 52.0**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**4.03**	**72**	PN	**Pn**	**23 28 53.5**	**+1.5**
KNT	**Kendrikon**	**4.37**	**358**	P	**Pn**	**23 28 58.4**	**+1.8**
KNT	**Kendrikon**	**4.37**	**358**	PN	**Pn**	**23 28 58.4**	**+1.8**
GELI	**Tayfur-Gelibol**	**4.49**	**36**	PN	**Pn**	**23 28 59.3**	**+1.0**
VAY	**Valandovo**	**4.54**	**355**	*i* Pn	**Pn**	**23 29 00.0**	**+1.1**
ERIK	**Erikli-Kesan**	**4.73**	**34**	PN	**Pn**	**23 29 02.6**	**+1.1**
RDO	**Rodhopi**	**4.76**	**23**	PN	**Pn**	**23 29 02.5**	**+0.5**
STIP	**Stip**	**4.95**	**352**	*i* Pn	**Pn**	**23 29 06.7**	**+2.2**
GEM	**Giv'at Ha'Em**	**10.94**	**105**	Pn	**Pn**	**23 30 26.1**	**-0.6**
NATI	**Neve Ativ**	**10.98**	**105**	Pn	**Pn**	**23 30 25.8**	**-1.4**
HMDT	**Nahal Hemdat**	**11.24**	**110**	Pn	**Pn**	**23 30 29.6**	**-1.2**
DSI	**Dead Sea**	**11.46**	**113**	Pn	**Pn**	**23 30 32.8**	**-1.0**
GHAJ	**Ghor Haditha**	**11.73**	**114**	Pn	**Pn**	**23 30 37.1**	**-0.4**
KRMI	**Paran Flat**	**11.80**	**121**	Pn	**Pn**	**23 30 36.9**	**-1.6**
MBRI	**Mt Berech**	**12.12**	**122**	Pn	**Pn**	**23 30 41.7**	**-1.3**
GERES	**GERESS Array B**	**13.85**	**333**	P	**P**	**23 31 14.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=132,slow=11,SNR=4.1						
FINES	**FINESS Array B**	**24.75**	**3**	P	**P**	**23 33 08.6**	**-1.5**
	comp=E,5.3nm,1.1s,baz=189,slow=9.7,SNR=1.7						
NOA	**NORSAR Array B**	**25.41**	**347**	P	**P**	**23 33 16.0**	**-0.1**
	comp=E,1.1nm,1.0s,baz=152,slow=8.6,SNR=1.7						
EKA	**Eskdalemuir Ar**	**25.73**	**324**	P	**P**	**23 33 19.8**	**+0.8**
	comp=E,0.4nm,0.4s,baz=122,slow=9.8,SNR=3.9			

NNSB	**Datong**	**0.85**	**241**	*eP*	**Pb**	**23**	**29**	**55.7 -0.2**
	baz=226							
NNSB				*eS*	**Sb**	**23**	**30**	**07.7 +0.3**
	baz=226							
NNS	**Nan Shan**	**0.85**	**242**	P	**Pb**	**23**	**29**	**56.2 +0.3**
	baz=227							
NNS				*eS*	**Sb**	**23**	**30**	**07.9 +0.5**
	baz=227							
NACB	**Ninganchiao**	**0.87**	**219**	P	**Pg**	**23**	**29**	**55.8 +0.1**
	baz=206							
NACB				*eS*	**Sb**	**23**	**30**	**07.7 +0.1**
	baz=206							
ETLH	**Xiulin Townshi**	**0.91**	**226**	*eP*	**Pb**	**23**	**29**	**57.0 +0.1**
	baz=222							
ETLH				*eS*	**Sn**	**23**	**30**	**10.5 -0.4**
	baz=222							
TWD	**Chiawan**	**0.94**	**216**	*eP*	**Pb**	**23**	**29**	**57.3 0.0**
	baz=212							
TWD				*eS*	**Sb**	**23**	**30**	**10.3 +0.6**
	baz=212							
FUSS	**Fushou**	**1.06**	**236**	*eP*	**Pb**	**23**	**29**	**59.6 +0.2**
	baz=222							
FUSS				*eS*	**Sn**	**23**	**30**	**14.4 -0.3**
	baz=222							
LIOB	**Emei**	**1.09**	**260**	*eP*	**Pg**	**23**	**29**	**59.9 -0.2**
	baz=255							
LIOB				*eS*	**Sb**	**23**	**30**	**14.8 +0.6**
	baz=255							
WHF	**Hehuan Shan**	**1.10**	**231**	P	**Pb**	**23**	**30**	**00.6 +0.3**
	baz=227							
WHF				*eS*	**Sb**	**23**	**30**	**15.5 +0.7**
	baz=227							
TWT	**Tachien**	**1.10**	**238**	P	**Pn**	**23**	**30**	**01.0 +0.5**
	baz=225							
TWT				S	**Sn**	**23**	**30**	**16.0 +0.2**
	baz=225							
NSTT	**Nanjuang**	**1.11**	**259**	*eP*	**Pn**	**23**	**30**	**00.8 +0.4**
	baz=255							
NSTT				*eS*	**Sb**	**23**	**30**	**15.2 +0.6**
	baz=255							
TDCB	**Techi**	**1.12**	**238**	*eP*	**Pn**	**23**	**30**	**00.7 0.0**
	baz=225							
TDCB				*eS*	**Sb**	**23**	**30**	**15.5 +0.6**
	baz=225							
WHP	**Taichung City**	**1.27**	**244**	P	**Pg**	**23**	**30**	**03.9 +0.4**
	baz=240							
WHP				*eS*	**Sn**	**23**	**30**	**20.3 +0.4**
	baz=240							
VWDT	**VWDT**	**1.46**	**222**	*eP*	**Pg**	**23**	**30**	**06.6 -0.3**
	baz=225							
VWDT				*eS*	**Sg**	**23**	**30**	**26.5 +0.7**
	baz=225							
IRIF	**Iriomote-Funau**	**1.48**	**110**	P	**Pb**	**23**	**30**	**07.2 +0.7**
IRIF				S	**Sb**	**23**	**30**	**25.7 +0.3**
HGSD	**Ruisui**	**1.52**	**208**	*eP*	**Pn**	**23**	**30**	**06.8 +0.7**
	baz=187							
HGSD				*eS*	**Sg**	**23**	**30**	**28.0 0.0**
	baz=187							
SMLT	**Sun Moon Lake**	**1.52**	**231**	*eP*	**Pg**	**23**	**30**	**08.7 +0.4**
	baz=227							
SMLT				*eS*	**Sg**	**23**	**30**	**28.3 +0.2**
	baz=227							
TYC	**Yuchr**	**1.54**	**233**	*eP*	**Pg**	**23**	**30**	**08.2 -0.4**
	baz=229							
TYC				*eS*	**Sg**	**23**	**30**	**28.3 -0.3**
	baz=229							
SSLB	**Suanglung**	**1.55**	**227**	*eP*	**Pg**	**23**	**30**	**08.4 -0.4**
	baz=224							
SSLB				*eS*	**Sg**	**23**	**30**	**28.2 -0.7**
	baz=224							
EHY	**Hungye**	**1.56**	**211**	*eP*	**Pn**	**23**	**30**	**06.8 +0.2**
	baz=209							
EHY				*eS*	**Sb**	**23**	**30**	**27.4 -0.1**
	baz=209							
YULB	**Yu-li**	**1.67**	**210**	*eP*	**Pn**	**23**	**30**	**08.0 -0.1**
	baz=208							
YULB				*eS*	**Sn**	**23**	**30**	**29.2 -0.3**
	baz=208							
ALS	**Alishan**	**1.84**	**224**	*eP*	**Pb**	**23**	**30**	**12.5 -0.3**
	baz=208							
ALS				*eS*	**Sg**	**23**	**30**	**37.2 -1.1**
	baz=208							
CHN5	**Tsauling**	**1.86**	**228**	*eP*	**Pb**	**23**	**30**	**13.1 0.0**
	baz=226							
CHN5				*eS*	**Sg**	**23**	**30**	**38.5 -0.5**
	baz=226							
CHN4	**Tsaushan**	**2.09**	**225**	*eP*	**Pb**	**23**	**30**	**16.4 -0.5**
	baz=222							
CHN4				*eS*	**Sg**	**23**	**30**	**44.6 -1.6**
	baz=222							
TPUB	**Ta-pu**	**2.10**	**223**	*eP*	**Pb**	**23**	**30**	**16.2 -1.0**
	baz=208							
TPUB				*eS*	**Sb**	**23**	**30**	**44.4 +1.1**
	baz=208							

*IDC **29** 23:41:37.2±13.0, 36.°15N×70.°67E, h147km±128km, mb3.3/4, mb1 3.3/6, mb1mx3.0/43, mbtmp3.7/6, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/29, Error ellipse: s-maj=70.3km s-min=27.6km az=14.0*

*NNC **29** 23:41:43.0±3.0, 36.°92N×70.°39E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=23.8km s-min=18.9km az=166.0*

ISC 29 23:41:42.8±0.9, 36.°49N±0.°07×70.°74E±0.°09, h200km, n27, σ1§41/31, mb3.5/3, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.77**	**133**	*eP*		**Pn**	**23 43 06.5**	**-0.6**
THN				*eS*		**Sn**	**23 44 11.5**	**-2.1**
AML	**Almayashu**	**6.08**	**21**	P		**Pn**	**23 43 12.2**	**+0.8**
	SNR=59							
UCH	**Uchtor**	**6.43**	**26**	P		**Pn**	**23 43 16.9**	**+0.9**
	SNR=26							
EKS2	**Erkin-Say**	**6.59**	**20**	P		**Pn**	**23 43 18.6**	**+0.7**
	SNR=12							
KK31	**Karatay Array**	**6.61**	**359**	P		**Pn**	**23 43 16.0**	**-1.9**
	4.4nm,0.3s,baz=202,slow=6.4,SNR=103							
KK31				⇓S		**Sn**	**23 44 28.8**	**-4.5**
	4.6nm,0.3s,baz=190,slow=17,SNR=13							
AAK	**Ala-Archa**	**6.79**	**24**	P		**Pn**	**23 43 21.5**	**+1.1**
	SNR=13							
AAK	**Ala-Archa**	**6.79**	**24**	⇓P		**Pn**	**23 43 21.2**	**+0.8**
	3.6nm,0.3s							
AAK				⇑S		**Sn**	**23 44 36.0**	**-1.8**
	15nm,0.7s							
KBK	**Karagaybulak**	**6.96**	**27**	P		**Pn**	**23 43 24.1**	**+1.5**
	SNR=7.6							
CHMS	**Chumysh**	**7.20**	**24**	P		**Pn**	**23 43 26.0**	**+0.5**
	SNR=7.2							
USP	**Ospenovka**	**7.36**	**22**	P		**Pn**	**23 43 29.7**	**+2.1**
	SNR=6.2							
TKM2	**Tokmak 2**	**7.43**	**29**	P		**Pn**	**23 43 29.7**	**+0.9**
	SNR=20							
TKM2	**Tokmak 2**	**7.43**	**29**	⇓P		**Pn**	**23 43 29.5**	**+0.7**
	13nm,0.4s							
TKM2				⇓S		**Sn**	**23 44 53.1**	**+0.1**
	5.0nm,0.5s							
PYUN	**Piuthan**	**13.31**	**125**	*eP*		**Pn**	**23 44 43.9**	**-0.5**
	7.7nm,0.3s							
MKAR	**Makanchi Array**	**13.42**	**36**	P		**Pn**	**23 44 46.5**	**+1.0**
	0.1nm,0.3s,baz=225,slow=11,SNR=1.9							
DANN	**Dangsing**	**13.66**	**123**	*eP*		**Pn**	**23 44 48.7**	**-0.1**
	4.4nm,0.2s							
KOLN	**Koldanda**	**13.93**	**125**	*eP*		**Pn**	**23 44 51.9**	**-0.2**
	3.3nm,0.3s							
GKN	**Gorkha**	**14.47**	**122**	*eP*		**Pn**	**23 44 59.0**	**+0.2**
	5.6nm,0.3s							
AB31	**Akbulak array**	**14.99**	**332**	⇑P		**P**	**23 45 07.2**	**+1.7**
	1.1nm,0.5s,baz=149,slow=12,SNR=18							
AB31				⇓S		**S**	**23 47 49.6**	**-1.5**
	0.4nm,0.5s,baz=148,slow=24,SNR=4.4							
KKN	**Kakani**	**15.05**	**121**	*eP*		**Pn**	**23 45 06.1**	**+0.2**
	7.8nm,0.5s							
PKIN	**Phulchoki**	**15.26**	**121**	*eP*		**Pn**	**23 45 08.2**	**-0.4**
	11nm,0.6s							
PKI	**Pulchoki**	**15.28**	**121**	*eP*		**Pn**	**23 45 08.3**	**-0.5**
	8.5nm,0.6s							
AKTO	**Aktyubinsk**	**16.69**	**331**	P		**Pn**	**23 45 24.7**	**-0.4**
	0.3nm,0.3s,baz=152,slow=11,SNR=6.4							
ZALV	**Zalesovo Beam**	**20.01**	**25**	P		**P**	**23 46 01.1**	**+1.0**
	0.6nm,0.3s,baz=212,slow=11,SNR=3.8							
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**	**23 48 37.8**	**+1.9**
	4.8nm,1.1s,baz=97,slow=12,SNR=1.7							
DAV	**Davao City (W)**	**57.79**	**106**	LR		LR	00 18 59.0	
	comp=Z,50nm,19.5s,baz=246,slow=39							
TORD	**Torodi Ar. Bea**	**65.51**	**268**	P		**P**	**23 52 04.5**	**-0.5**
	0.5nm,0.6s,baz=52,slow=6.2,SNR=7.4							
WRA	**Warramunga Arr**	**82.16**	**122**	P		**P**	**23 53 41.3**	**-0.2**
	0.2nm,0.5s,baz=326,slow=5.2,SNR=5.0							

*BJI **30** 00:02:26.0±0.0, 1.°88N×97.°72E, h67km, mB4.8/28, mb4.7/42, Ms4.2/7, Ms7 4.0/7*

*IDC **30** 00:02:27.3±2.6, 2.°03N×97.°89E, h56km±22km, mb4.1/27, mb1 4.2/28, mb1mx4.0/53, mbtmp4.4/28, ML4.8/1, MS3.3/20, Ms1 3.3/20, ms1mx3.2/43, Error ellipse: s-maj=21.2km s-min=10.7km az=53.0*

*DJA **30** 00:02:27.2±0.3, 2.°N±2.°×9.°8E±.°, h47km±4km, M4.5/12, mB5.2/3, mb4.7/10, MLv4.5/12, Mw(mB)4.6/3*

*NEIC **30** 00:02:27.1±1.0, 1.°97N±0.°05×97.°89E±0.°06, h57km±6km, mb4.7/60, Error ellipse: s-maj=9.3km s-min=6.6km az=116.0*

*KLM **30** 00:02:28.0, 1.°94N×97.°75E, h73km, mb4.6*

ISC 30 00:02:27.2±0.8, 2.°02N±0.°04×97.°88E±0.°04, h55km±8km, n181, σ1§08/178, mb4.7/71, MS3.5/20, 12C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.77**	**203**	P		**Pn**	**00 02 41.3**	**-0.9**
GSI	**Gunungsitoli**	**0.77**	**203**	Pn		**Pn**	**00 02 41.2**	**-0.9**
GSI				Sn		**Sn**	**00 02 53.6**	**+0.6**
RPSI	**Rantau Prapat**	**1.25**	**57**	Pn		**Pn**	**00 02 49.4**	**+1.0**
PSI	**Prapat**	**1.30**	**53**	P		**Pn**	**00 02 49.0**	**-0.3**
	35nm,0.3s,baz=180,slow=4.1,SNR=280							
PSI				S		**Sn**	**00 02 58.2**	**-7.6**
	106nm,0.3s,baz=180,slow=8.5,SNR=18							
PSI				LR		LR	00 03 37.5	
	comp=Z,2μm,19.5s,baz=92,slow=57							
TPTI		**1.42**	**331**	P		**Pn**	**00 02 50.6**	**-0.1**
TPTI				S		**Sn**	**00 03 08.3**	**0.0**
TSI	**Tuntungan**	**1.63**	**25**	P		**Pn**	**00 02 54.7**	**+1.2**
TSI				S		**Sn**	**00 03 15.4**	**+2.0**
MNSI	**Mandailing Nat**	**2.09**	**125**	P		**Pn**	**00 03 00.9**	**+1.0**
MNSI				S		**Sn**	**00 03 26.5**	**+1.7**
MLSI	**Meulaboh, Aceh**	**2.67**	**327**	P		**Pn**	**00 03 08.9**	**+1.1**
LHMI	**Lhok Sumawe**	**3.32**	**344**	P		**Pn**	**00 03 17.0**	**+0.3**
LHMI	**Lhok Sumawe**	**3.32**	**344**			**Pn**	**00 03 18.3**	**+1.6**
SISI	**Saibi**	**3.54**	**160**	P		**Pn**	**00 03 19.3**	**-0.4**
BKNI	**Bangkinang**	**3.58**	**118**	P		Pn	00 03 31.3	+11
BKNI	**Bangkinang**	**3.58**	**118**	Pn		**Pn**	**00 03 19.6**	**-0.8**
PDSI	**Padang**	**3.89**	**138**	P		**Pn**	**00 03 26.3**	**+1.7**
IPM	**Ipoh**	**3.98**	**52**			**Pn**	**00 03 27.1**	**+1.2**
IPM	**Ipoh**	**3.98**	**52**	P		**Pn**	**00 03 28.0**	**+2.2**
KULM	**Kulim**	**4.27**	**40**			**Pn**	**00 03 30.2**	**+0.4**
KULM	**Kulim**	**4.27**	**40**	P		**Pn**	**00 03 31.0**	**+1.3**
SDSI	**Sungai Dareh**	**4.61**	**129**	P		Pn	00 03 47.8	+13
KRJI	**Kerinci**	**5.43**	**139**	P		Pn	00 03 56.8	+11
LHSI	**Lahat**	**8.10**	**136**	P		Pn	00 04 37.8	+16
MNAI	**Manna**	**8.12**	**141**	P		**Pn**	**00 04 22.7**	**+0.2**
	177nm,1.5s							
MNAI	**Manna**	**8.12**	**141**	Pn		**Pn**	**00 04 23.0**	**+0.4**
MDSI	**Maura Dua**	**9.02**	**136**	P		**Pn**	**00 04 36.1**	**+1.2**
	501nm21nm,0.7s							
LEM	**Lembang**	**13.11**	**132**	LR		LR	00 10 55.1	
	comp=Z,77nm,21.9s,baz=179,slow=39							
SBUM	**Sibu**	**14.34**	**88**	Pn		**Pn**	**00 05 48.3**	**+0.9**
SBUM	**Sibu**	**14.34**	**88**	P		**P**	**00 05 53.0**	**0.0**
CM31	**Chiang Mai Arr**	**16.37**	**4**	Pn		**Pn**	**00 06 13.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.37**	**4**	P		**Pn**	**00 06 13.4**	**-0.1**
	1.2nm,0.3s,baz=197,slow=13,SNR=18							
CMAR				LR		LR	00 13 03.0	
	comp=Z,102nm,18.4s,baz=228,slow=39							
CMAR	**Chiang Mai Arr**	**16.37**	**4**			**Pn**	**00 06 13.7**	**+0.2**
CHTO	**Chiang Mai**	**16.72**	**4**	Pn		**Pn**	**00 06 17.6**	**-0.3**
PALK	**Pallekele**	**17.89**	**288**	LR		LR	00 12 48.7	
	comp=Z,121nm,20.4s,baz=204,slow=35							
SLVN	**Son La**	**20.08**	**17**	P		**P**	**00 06 56.2**	**-0.1**
MYLDM	**Lahad Datu**	**20.82**	**81**	P		**P**	**00 07 05.5**	**+1.1**
MYLDM				IAmb		IAmb	00 07 19.3	
	comp=Z,19nm,0.9s							
KAPI	**Kappang**	**22.95**	**108**	LR		LR	00 17 24.7	
	comp=Z,67nm,20.1s,baz=276,slow=39							
KMI	**Kunming**	**23.45**	**11**	⇑P		**P**	**00 07 33.5**	**+1.5**
KMI				pP		sP	00 07 48.0	-4.0
KMI				pmax		pmax		
	comp=Z,13nm,1.1s							
KMI				LR		LR		
	comp=Z,220nm,14.8s							
KMI				LR		LR		
	comp=Z,92nm,16.5s							
KMI				LR		LR		
	comp=Z,210nm,18.4s							
KMI	**Kunming**	**23.45**	**11**	P		**P**	**00 07 32.0**	**0.0**
APSI	**Ampana**	**23.95**	**97**	P		**P**	**00 07 40.1**	**+3.5**
	comp=Z,496nmcomp=Z,35nm,0.8s							
SHL	**Shillong**	**24.11**	**347**	P		**P**	**00 07 36.1**	**-2.0**
SHL				IAmb		IAmb	00 07 38.7	
	comp=Z,26nm,1.1s							
GTOI	**Gorontalo**	**25.17**	**93**	P		**P**	**00 07 48.2**	**+0.5**
	comp=Z,16nm,0.8s							
ODAN	**Odare**	**26.67**	**339**	*eP*		**P**	**00 08 01.6**	**+0.2**
	comp=Z,7.4nm,0.5s							
TAPN	**Taplejung**	**27.00**	**340**	*eP*		**P**	**00 08 03.9**	**-0.6**
	comp=Z,32nm,0.9s							
RAMN	**Ramite**	**27.05**	**337**	*eP*		**P**	**00 08 05.9**	**+1.1**
	comp=Z,12nm,0.5s							
H08S2	**Diego Garcia H**	**27.08**	**249**	T		T	00 35 40.9	
	baz=70,slow=76,SNR=46							
H08S3	**Diego Garcia H**	**27.08**	**249**	T		T	00 35 21.4	
	baz=70,slow=76,SNR=2129							
H08S1	**Diego Carcia H**	**27.10**	**249**	T		T	00 35 23.0	
	baz=70,slow=76,SNR=18							
PKI	**Pulchoki**	**28.07**	**336**	*eP*		**P**	**00 08 14.3**	**+0.3**
	comp=Z,12nm,0.5s							
PKIN	**Phulchoki**	**28.08**	**336**	*eP*		**P**	**00 08 14.4**	**+0.3**
	comp=Z,15nm,0.6s							
GUN	**Gumba**	**28.19**	**337**	*eP*		**P**	**00 08 14.6**	**-0.5**
	comp=Z,40nm,0.7s							
KKN	**Kakani**	**28.32**	**336**	*eP*		**P**	**00 08 17.0**	**+0.9**
	comp=Z,9.3nm,0.4s							
GKN	**Gorkha**	**28.77**	**335**	*eP*		**P**	**00 08 20.2**	**+0.1**
	comp=Z,20nm,0.7s							
KOLN	**Koldanda**	**29.02**	**333**	*eP*		**P**	**00 08 22.8**	**+0.5**
	comp=Z,35nm,0.7s							
DANN	**Dangsing**	**29.45**	**334**	*eP*		**P**	**00 08 26.3**	**+0.1**
	comp=Z,16nm,0.5s							
PYUN	**Piuthan**	**29.58**	**333**	*eP*		**P**	**00 08 27.7**	**+0.4**
	comp=Z,22nm,0.7s							
ENH	**Enshi**	**30.18**	**20**	P		**P**	**00 08 31.6**	**-0.8**
ENH				IAmb		IAmb	00 08 47.5	
	comp=Z,25nm,1.4s							
XAN	**Xi'an**	**33.49**	**17**	P		**P**	**00 09 00.3**	**-1.1**
XAN				pmax		pmax		
	comp=Z,13nm,0.7s							
XAN	**Xi'an**	**33.49**	**17**	P		**P**	**00 08 59.9**	**-1.5**
XAN				IAmb		IAmb	00 09 00.5	
	comp=Z,8.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**33.87**	**127**	P		**P**	**00 09 03.0**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=336,slow=7.3,SNR=5.1							
FITZ	**Fitzroy Crossi**	**33.87**	**127**	P		**P**	**00 09 03.4**	**-1.5**
LZH	**Lanzhou**	**34.35**	**9**	*eP*		**P**	**00 09 12.3**	**+3.3**
LZH				pP		sP	00 09 25.5	-4.1
LZH				sP		pP	00 09 34.3	+11
LZH				PP		**PP**	**00 10 28.0**	**+0.3**
LZH				pmax		pmax		
	comp=Z,18nm,1.1s							
LZH				pmax		pmax		
	comp=Z,160nm,5.4s							
LZH				LR		LR		
	comp=Z,230nm,12.0s							
LZH				LR		LR		
	comp=Z,240nm,12.3s							
LZH				LR		LR		
	comp=Z,360nm,14.6s							
KNRA	**Kununurra**	**35.24**	**121**	P		**P**	**00 09 16.1**	**-0.6**
KNRA				IAmb		IAmb	00 09 32.7	
	comp=Z,17nm,1.3s							
NJ2	**Nanjing**	**35.82**	**31**	*eP*		**P**	**00 09 23.0**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.7s							
GTA	**Gaotai**	**37.26**	**2**	*eP*		**P**	**00 09 34.0**	**+0.2**
GTA				pP		sP	00 09 49.5	-5.0
GTA				sP		pP	00 09 55.5	+7.5
GTA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,79nm,6.9s							
GTA				LR		LR		
	comp=Z,52nm,13.8s							
GTA				LR		LR		
	comp=Z,130nm,16.0s							
GTA				LR		LR		
	comp=Z,62nm,16.4s							
NIL	**Nilore**	**39.00**	**326**	P		**P**	**00 09 48.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**40.59**	**16**	*eP*		**P**	**00 10 02.5**	**+0.9**
HHC				pmax		pmax		
	comp=Z,17nm,0.6s							
HHC				pmax		pmax		
	comp=Z,61nm,6.3s							
BJI	**Beijing**	**41.34**	**21**	P		**P**	**00 10 08.5**	**+0.9**
BJI				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WB0	**Warramunga Arr**	**41.87**	**123**	P		**P**	**00 10 11.3**	**-1.1**
WB0				IAmb		IAmb	00 10 20.2	
	comp=Z,12nm,1.2s							
WRA	**Warramunga Arr**	**41.90**	**123**	P		**P**	**00 10 12.0**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=302,slow=9.1,SNR=61							
WRA				PcP		**PcP**	**00 12 08.3**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=315,slow=2.6,SNR=8.8							
WRA				LR		LR	00 28 25.6	
	comp=Z,38nm,19.2s,baz=115,slow=37							
WRA	**Warramunga Arr**	**41.90**	**123**	P		**P**	**00 10 11.5**	**-1.2**
WB2	**Warramunga Arr**	**41.91**	**123**	P		**P**	**00 10 11.7**	**-1.0**
KBL	**Kabul**	**42.06**	**324**	P		**P**	**00 10 14.2**	**+0.3**
KSH	**Kashi**	**42.32**	**335**	P		**P**	**00 10 14.0**	**-1.8**
KSH				S		**S**	**00 16 33.8**	**+0.8**
KSH				pmax		pmax		
	comp=Z,10.0nm,1.2s							
KSH				pmax		pmax		
	comp=Z,68nm,4.1s							
KSH				LR		LR		
	comp=Z,140nm,5.1s							
KSH				LR		LR		
	comp=Z,95nm,5.1s							
KSH				LR		LR		
	comp=Z,190nm,8.0s							
WMQ	**Urumqi**	**42.60**	**349**	*eP*		**P**	**00 10 19.5**	**+1.5**
WMQ				pP		sP	00 10 33.3	-5.5
WMQ				sP		pP	00 10 38.8	+6.4
WMQ				pmax		pmax		
	comp=Z,15nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,49nm,4.7s							
WMQ	**Urumqi**	**42.60**	**349**	P		**P**	**00 10 18.4**	**+0.5**
WMQ				IAmb		IAmb	00 10 19.9	
	comp=Z,19nm,1.0s							
AS31	**Alice Springs**	**43.36**	**128**	P		**P**	**00 10 23.7**	**-0.7**
ASAR	**Alice Springs**	**43.36**	**128**	P		**P**	**00 10 23.6**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=303,slow=7.7,SNR=12							
ASAR				PcP		**PcP**	**00 12 13.1**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=302,slow=3.0,SNR=9.3							
ASAR	**Alice Springs**	**43.36**	**128**	P		**P**	**00 10 24.0**	**-0.4**
GAR	**Garm**	**44.58**	**329**	P		**P**	**00 10 34.1**	**+0.1**
GAR				IAmb		IAmb	00 10 36.4	
	comp=Z,22nm,1.4s							
KSAR	**Wonju Array Be**	**44.77**	**34**	P		**P**	**00 10 34.8**	**-0.6**
KSRS	**Korea Array**	**44.80**	**34**	P		**P**	**00 10 34.6**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=224,slow=8.3,SNR=13							
KSRS				LR		LR	00 32 36.6	
	comp=Z,28nm,19.8s,baz=225,slow=40							
BOOM	**Boomskoye usch**	**44.83**	**337**	P		**P**	**00 10 37.0**	**+0.9**
BOOM				IAmb		IAmb	00 10 37.8	
	comp=Z,5.7nm,0.8s							
CHGR	**Chuyangaron**	**44.93**	**328**	P		**P**	**00 10 36.6**	**-0.3**
SONM	**Songino Array**	**46.23**	**8**	P		**P**	**00 10 47.1**	**+0.1**
	comp=Z,10nm,1.1s,baz=188,slow=9.7,SNR=29							
SONM				PcP		**PcP**	**00 12 22.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=200,slow=4.0,SNR=3.5							
SONM				LR		LR	00 31 21.8	
	comp=Z,73nm,18.1s,baz=185,slow=38							
ULN	**Ulaanbaatar**	**46.35**	**9**	P		**P**	**00 10 47.9**	**-0.1**
JHS	**Saijyo**	**46.36**	**41**	P		**P**	**00 10 47.5**	**-0.6**
JHS				IAmb		IAmb	00 10 49.7	
	comp=Z,9.0nm,0.8s							
MK31	**Makanchi Array**	**46.62**	**345**	P		**P**	**00 10 50.3**	**+0.3**
MK31				IAmb		IAmb	00 10 51.7	
	comp=Z,15nm,0.9s							
MKAR	**Makanchi Array**	**46.62**	**345**	P		**P**	**00 10 50.3**	**+0.3**
	comp=Z,16nm,0.7s,baz=157,slow=8.2,SNR=80							
MAKZ	**Makanchi**	**46.71**	**345**	P		**P**	**00 10 50.9**	**+0.2**
KK31	**Karatay Array**	**47.63**	**333**	P		**P**	**00 10 58.4**	**+0.5**
KKAR	**Karatay Array**	**47.63**	**333**	P		**P**	**00 10 58.2**	**+0.4**
KKAR	**Karatay Array**	**47.63**	**333**	P		**P**	**00 10 57.9**	**0.0**
CN2	**Changchun**	**48.27**	**27**	*eP*		P	00 11 14.8	+12
TLY	**Talaya**	**49.73**	**5**	LR		LR	00 34 35.9	
	comp=Z,70nm,18.2s,baz=174,slow=39							
BBOO	**Buckleboo**	**50.01**	**137**	P		**P**	**00 11 15.8**	**-0.4**
BBOO				IAmb		IAmb	00 11 15.9	
	comp=Z,12nm,1.1s							
MJAR	**Matsushiro Arr**	**50.63**	**42**	LR		LR	00 36 26.0	
	comp=Z,12nm,19.4s,baz=220,slow=40							
GEYT	**Alibeck**	**51.03**	**319**	P		**P**	**00 11 24.4**	**+0.5**
	comp=Z,5.4nm,0.7s,baz=157,slow=8.6,SNR=9.5							
GEYT				LR		LR	00 34 57.1	
	comp=Z,18nm,21.6s,baz=25,slow=38							
GEYT	**Alibeck**	**51.03**	**319**	P		**P**	**00 11 24.2**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**51.03**	**319**	P		**P**	**00 11 24.5**	**+0.6**
GYA0B				IAmb		IAmb	00 11 29.9	
	comp=Z,6.5nm,0.6s							
KURBB	**Kurchatov Arra**	**51.13**	**344**	P		**P**	**00 11 24.2**	**-0.1**
	comp=Z,7.8nm,0.5s,baz=160,slow=7.0,SNR=50							
KURBB				PcP		**PcP**	**00 12 39.8**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=154,slow=3.5,SNR=4.8							
KURK	**Kurchatov**	**51.19**	**344**	P		**P**	**00 11 25.1**	**+0.3**
USRK	**Ussuriysk

PET	Petropavlovsk	71.18	34	P	P	00 13 40.0	-0.1
ELL	Elmali	71.22	308	P	P	00 13 41.2	+0.3
TIXI	Tiksi	72.27	10	P	P	00 13 45.6	-0.7
SEY	Seymchan	72.75	23	P	P	00 13 48.6	-0.7
	comp=Z,59nm,0.4s,baz=249,slow=4.1,SNR=13						
KARP	Karpathos	73.18	306	P	P	00 13 52.7	+0.2
KARP				IAmb	IAmb	00 13 59.6	
	comp=Z,18nm,1.0s						
MAW	Mawson	73.66	193	LR	LR	00 38 25.9	
	comp=Z,33nm,21.3s,baz=78,slow=29						
MILM	Milestii Mici	74.32	318	⇑P	P	00 13 58.5	-0.3
SORM	Soroca	74.92	319	⇑P	P	00 14 02.1	-0.3
AKASG	Malin Array Be	75.03	322	P	P	00 14 02.3	-0.6
	comp=Z,4.1nm,0.6s,baz=90,slow=4.8,SNR=13						
VRI	Vrincioaia	75.48	317	⇑P	P	00 14 06.0	+0.3
BOSA	Boshof	75.77	240	P	P	00 14 07.8	0.0
	comp=Z,2.2nm,1.1s,baz=86,slow=19,SNR=1.6						
BOSA				LR	LR	00 40 48.7	
	comp=Z,38nm,21.0s,baz=92,slow=30						
BOSA	Boshof	75.77	240	P	P	00 14 07.8	0.0
BOSA				IAmb	IAmb	00 14 23.3	
	comp=Z,12nm,1.2s						
MLR	Muntele Rosu	75.94	316	⇑P	P	00 14 08.1	-0.3
MLR	Muntele Rosu	75.94	316	P	P	00 14 09.2	+0.8
PRAR	RASCA	76.14	318	⇑P	P	00 14 09.3	-0.1
ARR	Arges	76.82	316	⇑P	P	00 14 13.6	+0.2
BURAR	Bucovina Array	76.86	318	⇑P	P	00 14 13.5	-0.1
BURAR	Bucovina Array	76.86	318	P	P	00 14 14.0	+0.4
BUR08	Bucovina Ar. S	76.88	318	P	P	00 14 14.0	+0.3
BUR08				IAmb	IAmb	00 14 22.4	
	comp=Z,8.3nm,1.4s						
AGG	Agios Georgios	77.51	309	P	P	00 14 15.2	-2.1
AGG				IAmb	IAmb	00 14 30.8	
	comp=Z,12nm,1.3s						
DEV	Deva	78.11	316	⇑P	P	00 14 19.8	-0.7
HERR	Herculane	78.29	315	⇑P	P	00 14 20.7	-0.7
LVZ	Lovozero	78.30	340	P	P	00 14 20.7	-0.4
BZS	Buzias	78.96	316	⇑P	P	00 14 24.2	-1.0
KOLS	Kolonicke sedl	79.04	319	*e*P	P	00 14 26.5	+1.0
FIA1	FINESS Array S	79.59	332	P	P	00 14 28.2	0.0
FIA1				IAmb	IAmb	00 14 39.2	
	comp=Z,16nm,1.2s						
FINES	FINESS Array B	79.59	332	P	P	00 14 28.4	+0.2
	comp=Z,3.9nm,0.6s,baz=98,slow=5.7,SNR=24						
FINES				LR	LR	00 53 49.9	
	comp=Z,33nm,18.9s,baz=74,slow=39						
PDG	Podgorica	80.24	313	⇑P	P	00 14 31.5	-0.7
PDG	Podgorica	80.24	313	P	P	00 14 31.7	-0.4
PDG				IAmb	IAmb	00 14 32.5	
	comp=Z,6.3nm,0.6s						
VYHS	Vyhne	81.23	319	*e*P	P	00 14 37.7	+0.4
TIP	Timpagrande	81.84	309	P	P	00 14 40.9	+0.1
TIP				IAmb	IAmb	00 14 42.1	
	comp=Z,6.4nm,1.1s						
ARCES	ARCESS Array B	82.00	340	P	P	00 14 41.0	0.0
	comp=Z,1.2nm,0.4s,baz=92,slow=4.1,SNR=22						
ARCES				LR	LR	00 56 02.9	
	comp=Z,35nm,18.1s,baz=115,slow=39						
BKZ	Black Stump Fm	82.45	130	P	P	00 14 43.9	-0.2
ARSA	Arzberg	83.33	317	*e*P	P	00 15 04.1	+16
	comp=Z,2.1nm,0.7s						
PRED	Cave del Predi	84.62	316	P	P	00 14 55.3	+0.3
PRED				IAmb	IAmb	00 14 56.0	
	comp=Z,3.7nm,0.7s						
GERES	GERESS Array B	84.65	319	P	P	00 14 55.6	+0.4
	comp=Z,0.5nm,0.4s,baz=101,slow=6.9,SNR=6.4						
GERES	GERESS Array B	84.65	319	P	P	00 14 55.2	+0.1
KBA	Koelnbreisper	84.80	317	*e*P	P	00 14 55.7	-0.3
	comp=Z,3.1nm,0.5s						
ABTA	Abfaltersbach	85.36	317	*e*P	P	00 14 58.3	-0.4
	comp=Z,2.1nm,0.8s						
CIMO	Cimolais	85.39	316	P	P	00 14 59.1	+0.3
CIMO				IAmb	IAmb	00 14 59.9	
	comp=Z,5.3nm,0.8s						
CTI	Castel Tesino	85.93	316	P	P	00 15 02.6	+0.9
CTI				IAmb	IAmb	00 15 03.1	
	comp=Z,5.6nm,0.9s						
WTTA	Wattenberg	85.97	317	*e*P	P	00 15 01.6	-0.3
	comp=Z,2.6nm,0.9s						
MOTA	Moosalm	86.33	317	*e*P	P	00 15 03.2	-0.4
	comp=Z,3.1nm,0.8s						
NC405	NORSAR Array S	86.38	331	P	P	00 15 03.9	+0.5
VNDA	Vanda	86.49	169	LR	LR	00 46 41.4	
	comp=Z,33nm,20.3s,baz=346,slow=31						
RETA	Reutte	86.57	317	*e*P	P	00 15 04.4	-0.3
	comp=Z,0.6nm,0.4s						
FETA	Feichten	86.58	317	*e*P	P	00 15 04.6	-0.2
	comp=Z,1.3nm,0.8s						
NB2	NORSAR Subarra	86.62	331	P	P	00 15 04.6	0.0
	comp=Z,4.8nm,0.9s,baz=93,slow=5.3						
NOA	NORSAR Array B	86.62	331	P	P	00 15 04.8	+0.2
	comp=Z,2.1nm,0.7s,baz=93,slow=4.9,SNR=10						
DAVA	Damuels	87.17	317	*e*P	P	00 15 07.5	-0.3
	comp=Z,3.2nm,0.8s						
KONO	Kongsberg	87.40	329	P	P	00 15 08.2	-0.2
SENIN	Lac Senin/Sane	88.95	316	P	P	00 15 16.9	+0.6
SENIN				IAmb	IAmb	00 15 27.0	
	comp=Z,2.7nm,0.9s						
NVAR	Mina Array Bea	127.73	36	PKP	PKPdf	00 21 27.9	+0.6
	comp=Z,0.6nm,0.8s,baz=289,slow=2.8,SNR=4.3						
TXAR	Lajitas Array	142.62	32	PKhKP	PKPdf	00 21 51.7	-3.3
	comp=Z,0.2nm,0.6s,baz=318,slow=1.7,SNR=2.8						
TXAR				PKP	PKiKP	00 21 54.0	-4.2
	comp=Z,0.4nm,0.7s,baz=262,slow=1.8,SNR=4.7						
CPUP	Villa Florida	146.06	222	PKPbc	PKPab	00 22 02.5	0.0
	comp=Z,1.3nm,0.6s,baz=28,slow=2.1,SNR=3.7						

WEL 30 00:04:16.5±0.9, 38°S±3°×17°6E±°, h154km±9km, M3.1/63, MLv3.1/63, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRRZ	Galatos Road	0.06	56	P	Pn	00 04 37.6	+0.5
WPRZ	Whakapapatarin	0.16	148	P	Pn	00 04 38.1	+0.8
HSRZ	Hossack Road	0.17	66	P	Pn	00 04 38.2	+1.0
HRRZ	Handcock Road	0.18	93	P	Pn	00 04 38.1	+0.9
KUTZ	Kaahu Road	0.21	239	P	Pn	00 04 38.2	+0.9
ALRZ	Allen Road	0.29	129	P	Pn	00 04 38.3	+0.8
PRRZ	Plateau Road	0.29	114	P	Pn	00 04 38.2	+0.7
RRRZ	Republican Roa	0.37	84	P	Pn	00 04 38.6	+0.8
TLZ	Tolley Road	0.41	277	P	Pn	00 04 38.9	+1.0
WATZ	Wairara	0.41	217	P	Pn	00 04 38.8	+0.9
RATZ	Rangitukua	0.53	204	P	Pn	00 04 39.1	+0.6
MRHZ	Matea Rd	0.54	148	P	Pn	00 04 38.8	+0.3
MUGZ	Murupara	0.57	100	P	Pn	00 04 39.0	+0.4
RITZ	Rihia Road	0.61	194	P	Pn	00 04 39.9	+0.9
OPRZ	Ohinepanea	0.67	37	P	Pn	00 04 39.6	+0.4
TGRZ	Tauranga	0.67	14	P	Pn	00 04 39.7	+0.4
RTZ	Ruatahuna	0.77	108	P	Pn	00 04 40.4	+0.5
MTHZ	Maungataniwha	0.78	128	P	Pn	00 04 40.6	+0.6
TOZ	Tahuroa Road	0.78	326	P	Pn	00 04 40.6	+0.6
KRVZ	Karewarewa	0.78	204	P	Pn	00 04 40.6	+0.4
TMVZ	Te Maari	0.78	200	P	Pn	00 04 40.6	+0.5
ETVZ	East Tongariro	0.80	199	P	Pn	00 04 40.9	+0.7
WTVZ	West Tongariro	0.82	206	P	Pn	00 04 40.9	+0.5
OTVZ	Oturere	0.84	201	P	Pn	00 04 41.3	+0.8
TWVZ	Taurewa	0.84	215	P	Pn	00 04 40.9	+0.4
URZ	Urewera	0.84	82	P	Pn	00 04 40.3	0.0
BKZ	Black Stump Fm	0.86	156	P	Pn	00 04 41.0	+0.4
NGZ	Ngauruhoe	0.87	204	P	Pn	00 04 41.4	+0.6
NMHZ	Naumai	0.93	141	P	Pn	00 04 42.5	+1.3
TUVZ	Tukino	0.94	199	P	Pn	00 04 41.8	+0.5
HIZ	Hauiti	0.95	262	P	Pn	00 04 41.7	+0.5
FWVZ	Far West T-bar	0.96	204	P	Pn	00 04 41.8	+0.2
RAHZ	Arahi	0.97	124	P	Pn	00 04 42.3	+0.9
WHVZ	Whangaehu Hut	0.97	202	P	Pn	00 04 41.8	+0.1
DRZ	Dome Shelter	0.97	203	P	Pn	00 04 42.3	+0.6
WNVZ	Wahianoa	1.01	200	P	Pn	00 04 42.2	+0.3
MOVZ	Moawhango	1.05	193	P	Pn	00 04 42.1	-0.1
PKVZ	Pokaka	1.06	215	P	Pn	00 04 42.4	+0.2
RAGZ	Rawiri	1.08	97	P	Pn	00 04 42.8	+0.4
KWHZ	Kaweka Forest	1.08	165	P	Pn	00 04 43.0	+0.6
SNGZ	Shannon Statio	1.09	112	P	Pn	00 04 43.1	+0.7
MTVZ	Mangateitei	1.10	204	P	Pn	00 04 42.9	+0.3
BHHZ	Black Hill Sta	1.11	180	P	Pn	00 04 42.7	+0.1
ARHZ	Aropaoanui	1.15	140	P	Pn	00 04 43.8	+0.9
WHHZ	Waihua	1.16	127	P	Pn	00 04 43.8	+0.8
MWZ	Matawai	1.16	88	P	Pn	00 04 43.2	+0.2
MCHZ	McNeill Hill	1.18	155	P	Pn	00 04 44.2	+1.1
VRZ	Vera Road	1.25	233	P	Pn	00 04 44.2	+0.3
KRHZ	Kereru	1.28	169	P	Pn	00 04 44.5	+0.3
RUGZ	Raukumara Rang	1.35	73	P	Pn	00 04 44.1	-0.8
RIGZ	Rimuhau	1.38	104	P	Pn	00 04 45.6	+0.4
TKGZ	Te Karaka	1.41	93	P	Pn	00 04 46.4	+0.9
KNZ	Kokohu	1.42	117	P	Pn	00 04 45.8	+0.3
MKAZ	Moumakai	1.46	331	P	Pn	00 04 46.0	+0.1
HAZ	Te Kaha	1.50	66	P	Pn	00 04 45.8	-0.6
CKHZ	Cape Kidnapper	1.50	148	P	Pn	00 04 47.0	+0.6
TWGZ	Tauwhareparae	1.53	83	P	Pn	00 04 48.0	+1.3
PRGZ	Paritu Road	1.53	111	P	Pn	00 04 47.0	+0.3
PNHZ	Pukenui	1.54	176	P	Pn	00 04 46.5	-0.2
KAHZ	Kahuranaki	1.55	156	P	Pn	00 04 47.4	+0.5
WAZ	Wanganui	1.60	211	P	Pn	00 04 47.1	-0.3
MHGZ	Mahia Peninsul	1.64	119	P	Pn	00 04 48.3	+0.5
KUZ	Kuaotunu	1.65	351	P	Pn	00 04 47.7	-0.3
TSZ	Takapari Road	1.68	182	P	Pn	00 04 47.9	-0.3
LREZ	Lake Rotokare	1.68	230	P	Pn	00 04 48.5	+0.3
ETAZ	East Tamaki Re	1.68	328	P	Pn	00 04 48.1	-0.2
CNGZ	Carnagh Statio	1.70	94	P	Pn	00 04 49.0	+0.5
WPHZ	Waipukurau	1.71	170	P	Pn	00 04 48.3	-0.2
PUZ	Puketiti	1.76	81	P	Pn	00 04 49.0	-0.2
PUZ				S	Sn	00 05 13.1	-1.2
PXZ	Pawanui	1.76	159	P	Pn	00 04 49.1	0.0
NEZ	North Egmont	1.77	239	P	Pn	00 04 49.6	+0.3
KHEZ	Kahui Hut	1.83	240	P	Pn	00 04 50.1	+0.1
MBAZ	Motutapu North	1.85	330	P	Pn	00 04 49.7	-0.5
WTAZ	Waiatarua	1.86	320	P	Pn	00 04 49.5	-0.8
OHWZ	Ohakea	1.91	197	P	Pn	00 04 50.5	-0.2
OHWZ				S	Sn	00 05 17.5	+0.3
DVHZ	Dannevirke	1.92	177	P	Pn	00 04 50.1	-0.8
DVHZ				S	Sn	00 05 16.6	-0.9
PRHZ	Porangahau	1.94	167	P	Pn	00 04 50.8	-0.3
WMGZ	Waiomatatini S	1.95	74	P	Pn	00 04 51.6	+0.4
WMGZ				S	Sn	00 05 17.2	-0.7
POWZ	Post Office Ro	2.02	186	P	Pn	00 04 51.1	-1.0
POWZ				S	Sn	00 05 18.3	-1.2
ANWZ	Angora Road	2.10	171	P	Pn	00 04 52.5	-0.5
PRWZ	Pori Road	2.17	182	P	Pn	00 04 52.9	-0.9
GRZ	Great Barrier	2.18	347	P	Pn	00 04 53.5	-0.4
BFZ	Birch Farm	2.30	176	P	Pn	00 04 54.0	-1.4
MRZ	Mangatainoka R	2.31	189	P	Pn	00 04 53.9	-1.5
MRZ				S	Sn	00 05 22.8	-2.7
TIWZ	Tintock	2.40	183	P	Pn	00 04 55.1	-1.5
TIWZ				S	Sn	00 05 25.0	-2.5
OGWZ	Otaki Gorge	2.53	195	P	Pn	00 04 56.4	-1.7
OGWZ				S	Sn	00 05 27.1	-3.2
CPWZ	Castlepoint	2.53	177	P	Pn	00 04 57.0	-1.1
CPWZ				S	Sn	00 05 28.5	-1.8
HOWZ	Holdsworth Sta	2.55	189	P	Pn	00 04 56.3	-2.0
HOWZ				S	Sn	00 05 27.6	-3.2
KIW	Kapiti Island	2.63	199	P	Pn	00 04 57.1	-2.2
KIW				S	Sn	00 05 29.6	-3.0
TMWZ	Te Maipa	2.73	183	P	Pn	00 04 58.4	-2.2
MTW	Mount Morrison	2.81	189	P	Pn	00 04 59.0	-2.5
CAW	Cannon Point	2.83	195	P	Pn	00 04 59.4	-2.4
DUWZ	D'Urville Isla	2.92	214	P	Pn	00 05 00.4	-2.7
TRWZ	Traveller	3.03	185	P	Pn	00 05 01.7	-2.6
PAWZ	Paruwai Farm	3.04	189	P	Pn	00 05 01.6	-2.8
WEL	Wellington	3.06	198	P	Pn	00 05 02.1	-2.7
MSWZ	Moikau Station	3.09	191	P	Pn	00 05 02.2	-2.9
TCW	Tory Channel	3.14	205	P	Pn	00 05 02.7	-3.0
BHW	Baring Head	3.16	196	P	Pn	00 05 03.0	-3.0
PLWZ	Palliser	3.24	191	P	Pn	00 05 03.9	-3.2
NNZ	Nelson	3.50	215	P	Pn	00 05 07.0	-3.3
CMWZ	Cape Campbell	3.65	202	P	Pn	00 05 10.0	-2.2
QRZ	Quartz Range	3.66	227	P	Pn	00 05 08.4	-3.9
BSWZ	Blackbirch Sta	3.73	206	P	Pn	00 05 10.0	-3.2
THZ	Tophouse	4.15	215	P	Pn	00 05 14.8	-4.0
KHZ	Kahutara	4.48	205	P	Pn	00 05 19.2	-3.6
DSZ	Denniston Nort	4.68	223	P	Pn	00 05 21.0	-4.7
GVZ	Greta Valley S	5.12	206	P	Pn	00 05 27.2	-4.3
LTZ	Lake Taylor	5.25	212	P	Pn	00 05 28.5	-4.8
AMCZ	Amberley	5.44	207	P	Pn	00 05 31.0	-4.7
INZ	Inchbonnie	5.58	218	P	Pn	00 05 32.1	-5.4
OKCZ	Okains Bay	5.80	202	P	Pn	00 05 35.6	-4.9
OXZ	Oxford	5.80	210	P	Pn	00 05 35.0	-5.5
MQZ	McQueen's Vall	5.91	205	P	Pn	00 05 36.2	-5.7
RACZ	Rakaia	6.11	208	P	Pn	00 05 38.8	-5.7
MHCZ	Mount Hutt	6.16	212	P	Pn	00 05 40.4	-5.0
WACZ	Wakanui South	6.40	208	P	Pn	00 05 43.0	-5.4
RPZ	Rata Peaks	6.53	214	P	Pn	00 05 45.3	-5.0
ARCZ	Arundel	6.67	212	P	Pn	00 05 46.8	-5.2
LBZ	Lake Benmore	7.45	214	P	Pn	00 05 57.0	-5.4
ODZ	Otahua Downs	7.79	210	P	Pn	00 06 01.7	-5.2
JCZ	Jackson Bay	7.89	222	P	Pn	00 06 03.2	-5.2

WEL 30 00:08:17.4±0.8, 45°S±4°×16°8E±°, h57km±8km, M3.3/11, ML3.4/11, MLv3.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=125.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	Milford Sound	0.38	24	S	Sn	00 08 38.4	+3.0
MLZ	Mavora Lakes	0.46	141	P	Pn	00 08 29.9	+1.2
MLZ				S	Sn	00 08 40.4	+3.4
DCZ	Deep Cove	0.60	221	P	Pn	00 08 29.8	-0.5
DCZ				S	Sn	00 08 40.3	+0.7
WHZ	Wether Hill Ro	0.89	169	P	Pn	00 08 34.5	+0.5
WHZ				S	Sn	00 08 48.4	+2.2
WKZ	Wanaka	0.95	79	P	Pn	00 08 35.8	+1.0
WKZ				S	Sn	00 08 50.1	+2.6
JCZ	Jackson Bay	1.22	40	P	Pn	00 08 38.7	+0.3
JCZ				S	Sn	00 08 56.3	+2.4
PYZ	Puysegur Point	1.36	212	P	Pn	00 08 39.7	-0.5
PYZ				S	Sn	00 08 59.6	+2.4
TUZ	Tuapeka	1.65	125	P	Pn	00 08 44.7	+0.7
TUZ				S	Sn	00 09 04.8	+0.7
SYZ	Scrubby Hill	1.82	147	P	Pn	00 08 46.8	+0.4
SYZ				S	Sn	00 09 08.9	+0.5
APZ	The Paps	1.83	174	P	Pn	00 08 46.4	-0.1
LBZ	Lake Benmore	1.87	71	P	Pn	00 08 46.3	-0.9
LBZ				S	Sn	00 09 09.0	-0.7
ODZ	Otahua Downs	2.08	92	P	Pn	00 08 49.5	-0.5
ODZ				S	Sn	00 09 12.8	-1.9
FOZ	Fox Glacier	2.12	46	P	Pn	00 08 49.9	-0.5
HHSZ	Highcliff Hill	2.21	114	P	Pn	00 08 52.1	+0.4
GCSZ	Gaunt Creek Bo	2.54	49	P	Pn	00 08 54.4	-1.8
ARCZ	Arundel	2.70	68	P	Pn	00 08 56.4	-2.1
RPZ	Rata Peaks	2.73	63	P	Pn	00 08 56.7	-2.1
WVZ	Waitaha Valley	2.92	49	P	Pn	00 08 59.4	-2.0
MHCZ	Mount Hutt	3.14	63	P	Pn	00 09 01.9	-2.6
WACZ	Wakanui South	3.14	72	P	Pn	00 09 02.5	-1.9
INZ	Inchbonnie	3.54	51	P	Pn	00 09 07.9	-2.0
OKCZ	Okains Bay	4.05	73	P	Pn	00 09 14.9	-2.0
DSZ	Denniston Nort	4.43	44	P	Pn	00 09 21.2	-0.9
QRZ	Quartz Range	5.48	42	P	Pn	00 09 34.7	-1.8

*HEL **30** 00:38:18.4, 67°.81N×20°.48E, h0km, ML1.4, Explosion*

UPP 30 00:38:17.5±0.1, 67°.84N×20°.20E, h0km, ML2.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.13	24	P	Pg	00 38 20.2	+0.3
KUA				S	Sg	00 38 22.0	+0.4
KUA	Kurravaara	0.13	24	*i* P	Pg	00 38 20.2	+0.3
KUA				*i* S	Sg	00 38 22.0	+0.4
RATU	Laukkuluspa	0.23	267	P	Pg	00 38 22.1	+0.2
RATU	Laukkuluspa	0.23	267	*i* P	Pg	00 38 22.1	+0.2
KOVU	Salmi	0.39	358	P	Pg	00 38 25.0	+0.1
KOVU	Salmi	0.39	358	*i* P	Pg	00 38 25.0	+0.1
LANU	Lannavaara	0.71	72	P	Pg	00 38 30.9	-0.2
LANU	Lannavaara	0.71	72	*e*P	Pg	00 38 30.8	-0.3
MASU	Masugnsbyn	0.79	118	P	Pg	00 38 32.4	-0.2
MASU	Masugnsbyn	0.79	118	*i* P	Pg	00 38 32.4	-0.2
KIF	Kilpisjarvi	1.19	11	*e*PB	Pb	00 38 40.6	-0.3
	baz=182						
KIF				MSG		00 38 56.0	
	comp=Z,3.4nm,0.2s						
KIF				*e*S	Sb	00 38 56.5	-0.4
KIF	Kilpisjarvi	1.19	11	*e*P	Pb	00 38 40.8	-0.1
PAJU	Pajala	1.39	125	P	Pg	00 38 42.9	-1.2
PAJU	Pajala	1.39	125	*e*P	Pg	00 38 42.9	-1.2
ERTU	Ertsjaerv	1.51	148	*e*P	Pn	00 38 44.8	-0.8
TOF	Tornio	2.40	135	*e*PB	Pn	00 38 59.4	+1.5
	baz=316						
TOF				MSG		00 39 26.8	
	comp=Z,1.3nm,0.2s						
TOF				*e*SG	Sb	00 39 31.8	+0.3
LOF	Lofoten	2.52	280	*e*P	Pg	00 39 07.0	+1.2
RNF	Rovaniemi	2.58	116	*e*PB	Pb	00 39 02.7	-1.8
MSF	Maaselka	3.99	115	*e*SB	Sb	00 40 14.7	-2.6

UPP 30 00:38:22.9±0.0, 67°.83N×20°.20E, h0km, ML2.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.13	24	P	Pg	00 38 25.6	+5.7
KUA				S	Sg	00 38 27.5	+5.9
RATU	Laukkuluspa	0.23	268	P	Pg	00 38 27.6	+5.7
KOVU	Salmi	0.39	358	P	Pn	00 38 30.5	+0.1
LANU	Lannavaara	0.71	71	P	Pn	00 38 36.4	+1.6
DUNU	Dundret	0.73	169	P	Pn	00 38 36.5	+1.4
MASU	Masugnsbyn	0.79	118	P	Pn	00 38 37.8	+2.0
SALU	Saltoluokta	0.79	236	P	Pn	00 38 37.8	+1.9
PAJU	Pajala	1.39	125	P	Pb	00 38 48.3	+3.9
ERTU	Ertsjaerv	1.50	148	P	Pg	00 38 50.9	+4.6

TRN 30 01:06:31.4, 10°.84N×62°.37W, h85km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	Trinidad (W)	0.97	101	*e*P	Pn	01 06 51.5	+1.1
TRN				*e*S	Sn	01 07 04.1	-0.6
TBH	Brigand Hill	1.33	105	*e*P	Pn	01 06 55.6	+0.8
TBH				*e*S	Sn	01 07 12.8	+0.3
GRGR	Grenville	1.47	29	*e*P	Pn	01 06 56.2	-0.4
GRGR				*e*S	Sn	01 07 14.6	-1.0
GRHS	Sauteurs	1.56	27	*e*P	Pn	01 06 58.2	+0.5
GRHS				*e*S	Sn	01 07 17.7	+0.1
TPR	Prospect	1.60	77	*e*P	Pn	01 06 59.3	+1.0
GRSS	Sisters	1.63	27	*e*S	Sn	01 07 18.9	-0.4
TOSP	Speyside	1.86	75	*e*P	Pn	01 07 01.2	-0.4
TOSP				*e*S	Sn	01 07 23.2	-1.5
GCMP	Grenada, Carri	1.88	29	*e*P	Pn	01 07 01.9	-0.1
GCMP				*e*S	Sn	01 07 24.0	-1.2
ORIV	Oritupano	2.03	210	*e*P	Pn	01 07 04.6	+0.7
ORIV				*e*S	Sn	01 07 28.0	-0.6
SVB	Belmont	2.66	24	*e*P	Pn	01 07 11.8	-0.5
SVB				*e*S	Sn	01 07 43.2	-0.5
SVCV	St. Vincent, C	2.70	26	*e*P	Pn	01 07 13.4	+0.5
SVCV				*e*S	Sn	01 07 44.3	-0.5
SVV	Soufriere Volc	2.71	24	*e*P	Pn	01 07 14.2	+1.2
SVV				*e*S	Sn	01 07 44.1	-0.9
SFAN	Fancy Village	2.79	25	*e*P	Pn	01 07 14.5	+0.4
SFAN				*e*S	Sn	01 07 45.7	-1.2
MCLT	Moule a Chique	3.18	26	*e*P	Pn	01 07 20.1	+0.7
MCLT				*e*S	Sn	01 07 55.4	-0.9
SLDE	Delcer	3.22	23	*e*P	Pn	01 07 20.4	+0.5
SLDE				*e*S	Sn	01 07 56.3	-0.9
SLB	Belfond	3.25	23	*e*P	Pn	01 07 19.4	-0.8
SLB				*e*S	Sn	01 07 56.4	-1.6
SLPA	Patience	3.32	25	*e*P	Pn	01 07 21.2	0.0
SLPA				*e*S	Sn	01 07 59.0	-0.6
SLAC	Saint Lucia, A	3.37	25	*e*P	Pn	01 07 22.0	+0.1
SLAC				*e*S	Sn	01 07 59.2	-1.6
SLBI	Saint Lucia, B	3.45	23	*e*P	Pn	01 07 23.4	+0.4
SLBI				*e*S	Sn	01 08 01.0	-1.8
SLW	Petit Monier	3.46	24	*e*P	Pn	01 07 22.8	-0.3
SLW				*e*S	Sn	01 08 01.6	-1.5
BBGH	Gun Hill	3.58	50	*e*P	Pn	01 07 25.3	+0.5
BBGH				*e*S	Sn	01 08 04.0	-2.0
BIM	Bigot	3.87	19	*e*P	Pn	01 07 28.6	-0.1
BIM				*e*S	Sn	01 08 11.8	-1.4
MPOM	Morne Pois Mar	3.88	22	*e*P	Pn	01 07 29.3	+0.5
MPOM				*e*S	Sn	01 08 11.5	-1.7
BAUV	El Baul	5.89	252	*e*P	Pn	01 07 55.7	-0.5
BAUV	El Baul	5.89	252

SJES	**Sjenica**	**1.43**	**359**	*e*Pg	**Pg**	**01 23 33.3**	**-0.8**
SJES				*e*Sg	**Sn**	**01 23 51.7**	**+1.3**
TREB	**Trebinje**	**1.51**	**307**	*e*Pg	**Pg**	**01 23 34.5**	**-1.0**
TREB				*e*Sg	**Sg**	**01 23 55.6**	**+0.4**
TREB	**Trebinje**	**1.51**	**307**	*e*Pn	**Pg**	**01 23 34.2**	**-1.3**
TREB				*e*Sn	**Sg**	**01 23 55.0**	**-0.2**
BRY	**Bratogost**	**1.52**	**315**	*e*Pg	**Pg**	**01 23 34.6**	**-1.2**
BRY				*i* Sg	**Sg**	**01 23 57.2**	**+1.6**
BRY	**Bratogost**	**1.52**	**315**	⇑*i*Pn	**Pg**	**01 23 34.2**	**-1.6**
BRY				*e*Sn	**Sg**	**01 23 54.8**	**-0.8**
PLE	**Pljevlja**	**1.57**	**344**	⇑*i*Pg	**Pg**	**01 23 34.9**	**-1.8**
PLE				*i* Sg	**Sg**	**01 23 57.7**	**+0.7**
UPM	**Unac-Piva**	**1.59**	**330**	⇑*i*Pg	**Pg**	**01 23 35.6**	**-1.6**
UPM				*i* Sg	**Sg**	**01 23 58.7**	**+0.8**
UPM	**Unac-Piva**	**1.59**	**330**	*e*Pn	**Pg**	**01 23 36.3**	**-0.9**
UPM				*e*Sn	**Sg**	**01 23 57.7**	**-0.2**
SELS	**Selova**	**1.62**	**31**	*e*Pg	**Pn**	**01 23 34.6**	**+0.2**
SELS				*e*Sg	**Sn**	**01 23 55.8**	**+0.9**
NEST	**Nestorio**	**1.62**	**150**	P	**Pb**	**01 23 35.5**	**-0.6**
NEST				S	**Sg**	**01 23 57.7**	**-1.1**
	comp=E,75nm,0.7s						
STIP	**Stip**	**1.65**	**94**	*i* Pn	**Pg**	**01 23 37.2**	**-1.0**
STIP				*i* Sn	**Sg**	**01 24 03.2**	**+3.7**
STIP				*e*Lg	Lg	01 24 06.6	
	comp=E,11nm,0.4s						
LSK	**Leskovik**	**1.74**	**164**	P	**Pb**	**01 23 37.5**	**-0.6**
LSK				S	**Sg**	**01 24 01.7**	**-0.8**
	comp=E,208nm,0.7s						
LSK	**Leskovik**	**1.74**	**164**	P	**Pb**	**01 23 37.8**	**-0.2**
	baz=165						
LSK				S	**Sg**	**01 24 01.1**	**-1.5**
	baz=165						
LSK				AMP			
	comp=E,0.8nm,0.7s,baz=165						
IVAS	**Ivanjica**	**1.75**	**4**	*e*Pg	**Pb**	**01 23 37.6**	**-0.7**
IVAS				*e*Sg	**Sg**	**01 24 02.4**	**-0.5**
PENT	**Pentalofos**	**1.85**	**152**	P	**Pb**	**01 23 39.5**	**-0.4**
RUDO	**Rudo**	**1.85**	**346**	⇑*i*Pn	**Pg**	**01 23 39.7**	**-2.3**
RUDO				*e*Sn	**Sb**	**01 24 02.8**	**+0.1**
SRN	**Sarande**	**1.95**	**180**	P	**Pb**	**01 23 40.5**	**-1.0**
SRN				S	**Sb**	**01 24 06.2**	**+0.7**
	comp=E,45nm,1.0s						
SRN	**Sarande**	**1.95**	**180**	P	**Pb**	**01 23 40.6**	**-1.0**
	baz=181						
SRN				S	**Sg**	**01 24 07.3**	**-1.9**
	baz=181						
SRN				AMP			
	comp=E,0.2nm,0.6s,baz=181						
BOSS	**Bosilegrad**	**1.96**	**69**	*e*Pn	**Pn**	**01 23 38.0**	**-1.1**
BOSS				*e*Sn	**Sn**	**01 24 03.1**	**-0.3**
VAY	**Valandovo**	**2.00**	**104**	*e*Pg	**Pn**	**01 23 40.9**	**+1.4**
VAY				*e*Sg	**Sb**	**01 24 07.5**	**+0.5**
VAY	**Valandovo**	**2.00**	**104**	*i* Pn	**Pb**	**01 23 41.8**	**-0.6**
VAY				*i* Sn	**Sb**	**01 24 07.5**	**+0.5**
VAY				*e*Lg	Lg	01 24 09.2	
	comp=N,78nm,0.7s						
BBLS	**Lazići**	**2.08**	**348**	*e*Pg	**Pb**	**01 23 43.3**	**-0.6**
BBLS				*e*Sg	**Sg**	**01 24 11.8**	**-1.7**
BBLS	**Lazići**	**2.08**	**348**	⇑*i*Pn	**Pb**	**01 23 41.9**	**-2.0**
BBLS				*e*Sn	**Sb**	**01 24 08.5**	**-1.0**
SCTE	**Santa Cesarea**	**2.10**	**214**	P	**Pb**	**01 23 43.1**	**-1.1**
	baz=216						
KEK	**Kerkira**	**2.12**	**184**	P	**Pn**	**01 23 42.1**	**+0.9**
DIVS	**Divibare**	**2.27**	**360**	*e*Pn	**Pb**	**01 23 45.5**	**-1.6**
DIVS				*e*Sg	**Sg**	**01 24 16.7**	**-2.8**
DIVS	**Divibare**	**2.27**	**360**	⇑*i*Pn	**Pb**	**01 23 45.1**	**-2.0**
DIVS				*e*Sn	**Sn**	**01 24 12.8**	**+1.8**
KNT	**Kendrikon**	**2.28**	**106**	P	**Pn**	**01 23 43.4**	**-0.1**
IGT	**Igoumenitsa**	**2.31**	**173**	P	**Pn**	**01 23 44.9**	**+1.1**
IGT	**Igoumenitsa**	**2.31**	**173**	P	**Pb**	**01 23 45.9**	**-1.8**
	baz=174						
IGT				S	**Sb**	**01 24 16.1**	**+0.2**
	baz=174						
HAPS	**Han Pijesak,Bl**	**2.38**	**342**	*e*Pn	**Pb**	**01 23 46.7**	**-2.4**
HAPS	**Han Pijesak,Bl**	**2.38**	**342**	*e*Pn	**Pb**	**01 23 46.5**	**-2.6**
HAPS				*e*Sn	**Sb**	**01 24 16.7**	**-1.5**
TRUS	**Trudelj**	**2.41**	**7**	*e*Pn	**Pb**	**01 23 47.2**	**-2.3**
ZAPS	**Zavoj**	**2.43**	**53**	*e*Pn	**Pn**	**01 23 45.1**	**-0.4**
LIT	**Litokhoron**	**2.56**	**132**	P	**Pn**	**01 23 47.9**	**+0.6**
ZAGS	**Zajecar**	**2.58**	**39**	*e*Pn	**Pn**	**01 23 48.5**	**+1.0**
BLKB	**Belogradchik**	**2.67**	**47**	⇓S	**Sn**	**01 24 21.3**	**+0.5**
TEKS	**Tekeris**	**2.74**	**353**	*e*Pn	**Pb**	**01 23 52.0**	**-3.1**
TEKS				*e*Sn	**Sn**	**01 24 25.2**	**+2.6**
MDVR	**Moldovita**	**3.21**	**22**	⇑⇑P	**Pn**	**01 23 56.9**	**+0.7**
MDVR	**Moldovita**	**3.21**	**22**	⇑⇑S	**Sn**	**01 24 35.0**	**+1.0**
AGG	**Agios Georgios**	**3.32**	**147**	P	**Pn**	**01 23 59.3**	**+1.5**
FRGS	**Fruska Gora**	**3.33**	**358**	*e*Pn	**Pn**	**01 23 59.3**	**+1.4**
FRGS	**Fruska Gora**	**3.33**	**358**	*e*Pn	**Pn**	**01 23 59.0**	**+1.1**
FRGS				*e*Sn	**Sn**	**01 24 39.0**	**+1.9**
HERR	**Herculane**	**3.52**	**29**	⇑⇑P	**Pn**	**01 24 01.5**	**+0.9**
HERR	**Herculane**	**3.52**	**29**	⇑⇑S	**Sn**	**01 24 43.6**	**+1.8**
BLY	**Banja Luka**	**3.57**	**326**	⇑*i*Pn	**Pn**	**01 24 03.0**	**+1.9**
BLY				*e*Sn	**Sn**	**01 24 44.9**	**+2.0**
BZS	**Buzias**	**3.96**	**17**	⇑⇑P	**Pn**	**01 24 07.6**	**+1.0**
BZS	**Buzias**	**3.96**	**17**	⇑⇑S	**Sn**	**01 24 55.3**	**+2.6**
GZR	**Gura Zlata**	**4.10**	**29**	⇑⇑P	**Pn**	**01 24 09.5**	**+1.0**
GZR	**Gura Zlata**	**4.10**	**29**	⇑⇑S	**Sn**	**01 24 58.5**	**+2.5**
BOJS	**Bojanci**	**5.03**	**318**	*i* Pn	**Pn**	**01 24 23.5**	**+2.3**
CRES	**Cresnjev**	**5.17**	**322**	⇑*i*Pn	**Pn**	**01 24 24.7**	**+1.5**
CRES				*e*Sn	**Sn**	**01 25 23.7**	**+1.3**
CEY	**Cerknica**	**5.61**	**316**	⇑*i*Pn	**Pn**	**01 24 30.7**	**+1.4**
CEY				*e*Sn	**Sn**	**01 25 33.8**	**+0.4**
MLR	**Muntele Rosu**	**5.66**	**48**	⇑⇑P	**Pn**	**01 24 29.8**	**-0.2**
VNDS	**Vrh nad Dolski**	**5.73**	**320**	*i* Pn	**Pn**	**01 24 32.8**	**+2.0**
GBAS	**Gorenja Brezov**	**5.74**	**318**	*i* Pn	**Pn**	**01 24 33.1**	**+2.1**
LJU	**Ljubljana**	**5.77**	**319**	*e*Pn	**Pn**	**01 24 32.8**	**+1.4**
OBKA	**Obir**	**6.10**	**322**	*e*Pn	**Pn**	**01 24 38.3**	**+2.3**
	comp=N,1.4nm,0.6s						
ARSA	**Arzberg**	**6.29**	**331**	*e*Pn	**Pn**	**01 24 41.4**	**+2.9**
	comp=N,1.2nm,0.3s						
VYHS	**Vyhne**	**6.71**	**353**	*e*SN	**Sn**	**01 25 59.6**	**-0.9**
CONA	**Conrad Observa**	**6.77**	**336**	*e*Pn	**Pn**	**01 24 48.2**	**+3.1**
	comp=N,0.2nm,0.2s						
KBA	**Koelnbreinsper**	**7.08**	**320**	*e*Pn	**Pn**	**01 24 51.4**	**+1.8**
	comp=N,2.3nm,0.5s						
ABTA	**Abfaltersbach**	**7.28**	**315**	*e*Pn	**Pn**	**01 24 54.3**	**+2.2**
	comp=N,1.7nm,0.4s,SNR=4.3						
WTTA	**Wattenberg**	**8.07**	**315**	*e*Pn	**Pn**	**01 25 04.7**	**+1.6**
	comp=N,0.6nm,0.2s						
WATA	**Walderalm**	**8.15**	**315**	*e*Pn	**Pn**	**01 25 06.3**	**+2.2**
	comp=N,1.4nm,0.3s						
SQTA	**Sankt Quirin**	**8.27**	**314**	*e*Pn	**Pn**	**01 25 07.8**	**+2.0**
	comp=N,1.3nm,0.3s						
MOTA	**Moosalm**	**8.40**	**314**	*e*Pn	**Pn**	**01 25 09.8**	**+2.2**
	comp=N,0.6nm,0.3s						
FETA	**Feichten**	**8.42**	**311**	*e*Pn	**Pn**	**01 25 10.4**	**+2.6**
	comp=N,0.2nm,0.4s						

IDC 30 01:49:26.1±445.0**, 62°44N**×**44°03E, h0**km**, Error ellipse: s-maj=173.7km s-min=131.7km az=42.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.70**	**214**	*i*		02 31 20.0	
	baz=27,slow=332,SNR=2.1						
I31KZ	**AKTYUBINSK INF**	**14.29**	**141**	*i*		03 16 10.0	
	baz=335,slow=325,SNR=11						
I53US	**FAIRBANKS INFR**	**52.68**	**6**	*i*		07 13 40.0	
	baz=352,slow=336,SNR=0.8						

*REY **30** 02:08:00.5, 64°68N×17°44W, h2km*
*IDC **30** 02:08:01.6±0.6, 64°54N×17°69W, h0km, mb3.9/13, mb1 4.1/18, mb1mx3.9/43, mbtmp3.9/18, ML2.6/4, MS3.1/9, Ms1 3.2/9, ms1mx2.8/41, Error ellipse: s-maj=19.7km s-min=9.6km az=15.0*
*NEIC **30** 02:08:02.7±0.8, 64°51N±0°10×17°8W±0°1, h8km±3km, mb4.3/18, Error ellipse: s-maj=14.4km s-min=8.3km az=199.0*

ISC 30 02:08:02.7±0.4**, 64°59N**±0°03×**17°62W**±0°03**, h10**km**, **n120**, **σ1°53**/108**, **mb4.0**/36**, MS3.3**/5**, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**324**	P	**Pg**	**02 08 03.5**	**-1.9**
	baz=269						
IVON				S	**Sg**	**02 08 06.2**	**-1.1**
	baz=269						
IDYN	**Dyngjuhals**	**0.23**	**29**	P	Pg	02 08 03.5	-4.0
	baz=15						
ISKR	**Skrokkalda**	**0.33**	**264**	P	**Pg**	**02 08 08.9**	**-0.5**
	baz=254						
ISKR				S	**Sg**	**02 08 15.2**	**+1.4**
	baz=254						
IVOT	**Vottur**	**0.38**	**149**	P	**Pg**	**02 08 09.0**	**-1.2**
	baz=165						
IJOK	**Jokulheimar**	**0.38**	**223**	P	**Pb**	**02 08 10.0**	**-1.6**
	baz=224						
IKVE	**Kvekfjoll**	**0.42**	**78**	P	Pg	02 08 07.2	-3.7
	baz=89						
IKVE				S	**Sg**	**02 08 12.1**	**-4.3**
	baz=89						
IIEY	**Innrieyrar**	**0.55**	**204**	P	**Pb**	**02 08 12.9**	**-1.5**
	baz=207						
IKRE	**Kreppuhraun**	**0.57**	**70**	P	Pg	02 08 09.3	-4.4
	baz=76						
IKRE				S	Sg	02 08 16.4	-4.8
	baz=76						
IASK	**Askja**	**0.62**	**42**	P	Pg	02 08 09.9	-4.9
	baz=41						
IASK				S	Sg	02 08 17.7	-5.2
	baz=41						
IKAL	**Kalfafell**	**0.65**	**183**	P	**Pg**	**02 08 13.9**	**-1.3**
	baz=189						
IKSK	**Karasker**	**0.66**	**131**	P	**Pg**	**02 08 12.2**	**-3.4**
	baz=141						
IKSK				S	**Sg**	**02 08 22.5**	**-1.7**
	baz=141						
IMKO	**Mokollar**	**0.67**	**54**	P	Pg	02 08 11.1	-4.6
	baz=57						
IMKO				S	Sg	02 08 18.9	-5.6
	baz=57						
IVAT	**Vatnsfell**	**0.70**	**235**	P	**Pb**	**02 08 15.4**	**-1.5**
	baz=233						
ISVA	**Svartarkot**	**0.76**	**12**	P	Pg	02 08 13.0	-4.5
	baz=6.6						
IVSH	**V-Sauoahnukur**	**0.84**	**74**	P	Pg	02 08 14.0	-4.9
	baz=79						
IVSH				S	Sg	02 08 24.5	-5.4
	baz=79						
IHVE	**Hveravellir**	**0.88**	**289**	P	**Pg**	**02 08 17.1**	**-2.6**
	baz=283						
IADA	**Aoalbol**	**0.97**	**63**	P	Pb	02 08 15.9	-5.8
	baz=66						
ISLY	**Slysaalda**	**1.01**	**221**	P	**Pb**	**02 08 20.8**	**-1.5**
	baz=221						
IMEL	**Melhnausar**	**1.06**	**22**	P	Pb	02 08 17.6	-5.5
	baz=20						
IFED	**Fedgar**	**1.07**	**239**	P	**Pn**	**02 08 22.1**	**-1.6**
	baz=237						
IRJU	**Rjupnafell**	**1.08**	**206**	P	**Pb**	**02 08 22.0**	**-1.6**
	baz=208						
IREN	**Reynihlio**	**1.10**	**16**	P	Pb	02 08 18.4	-5.4
	baz=13						
IMJO	**Mjoaskard**	**1.11**	**234**	P	**Pn**	**02 08 22.5**	**-1.9**
	baz=234						
IKVO	**Krokottuvotn**	**1.17**	**15**	P	Pn	02 08 19.5	-5.6
	baz=12						
IGYG	**Gygjarholskot**	**1.17**	**256**	P	**Pg**	**02 08 22.8**	**-2.3**
	baz=253						
IHVO	**Lagu-Hvolar**	**1.20**	**207**	P	**Pn**	**02 08 24.0**	**-1.6**
	baz=209						
IGRS	**Grimsstaoir**	**1.23**	**30**	P	Pn	02 08 20.4	-5.5
	baz=29						
IALF	**Alftagrof**	**1.30**	**213**	P	**Pg**	**02 08 25.5**	**-2.2**
	baz=214						
ISKI	**Skildingahlsh**	**1.30**	**11**	P	Pn	02 08 21.9	-5.1
	baz=8.0						
IGHA	**Grjothals**	**1.32**	**17**	P	Pn	02 08 21.9	-5.3
	baz=15						
IGRA	**Granastaoir**	**1.33**	**1**	P	Pn	02 08 22.6	-4.7
	baz=357						
IESK	**Eysri-Skogar**	**1.34**	**218**	P	**Pb**	**02 08 26.0**	**-1.9**
	baz=218						
ISAU	**Saurbar**	**1.36**	**245**	P	**Pn**	**02 08 25.9**	**-1.8**
	baz=243						
IMID	**Miomork**	**1.37**	**228**	P	**Pg**	**02 08 26.8**	**-2.2**
	baz=228						
IDIM	**Dimmadalss**	**1.40**	**12**	P	Pn	02 08 23.4	-4.9
	baz=9.1						
IHED	**Heoinshofoi**	**1.50**	**5**	P	Pn	02 08 25.3	-4.4
	baz=22						
IASM	**Asmuli**	**1.52**	**241**	P	**Pb**	**02 08 28.7**	**-2.1**
	baz=240						
ISOL	**Solvholt**	**1.60**	**247**	P	**Pb**	**02 08 29.7**	**-2.5**
	baz=245						
BORG	**Borgarnes**	**1.60**	**277**	Pg	**Pn**	**02 08 29.2**	**-1.9**
	53nm,0.3s,baz=92,slow=7.0,SNR=156						
BORG				Lg	Lg	02 08 52.3	
	38nm,0.3s,baz=23,slow=23,SNR=9.2						
BORG	**Borgarnes**	**1.60**	**277**	Pn	**Pn**	**02 08 29.4**	**-1.7**
BORG				Sn	**Sb**	**02 08 49.9**	**-2.7**
IKRO	**Krokur**	**1.60**	**253**	P	**Pb**	**02 08 30.1**	**-2.3**
	baz=252						
IHEI	**Heioarbar**	**1.62**	**257**	P	**Pn**	**02 08 29.9**	**-1.3**
	baz=256						
ISIG	**Siglufjorour**	**1.64**	**341**	P	**Pn**	**02 08 27.9**	**-3.6**
	baz=338						
IHRN	**Hraun**	**1.85**	**327**	P	**Pn**	**02 08 31.6**	**-2.8**
	baz=323						
SUMG	**Summit**	**10.97**	**326**	Pn	**Pn**	**02 10 40.5**	**+0.6**
EKA	**Eskdalemuir Ar**	**11.74**	**135**	Pn	**Pn**	**02 10 48.5**	**-1.6**
	baz=323,slow=14,SNR=14						
ESK	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**02 10 50.3**	**+0.2**
NOA	**NORSAR Array B**	**13.58**	**92**	Pn	**Pn**	**02 11 15.2**	**0.0**
	0.0nm,0.3s,baz=299,slow=13,SNR=2.4						
NOA				LR	LR	02 16 30.9	
	comp=Z,46nm,20.2s,baz=295,slow=37						
HFS	**Hagfors**	**15.10**	**93**	Pn	**Pn**	**02 11 36.4**	**+0.6**
	0.1nm,0.3s,baz=294,slow=12,SNR=2.6						
HFS				LR	LR	02 16 54.5	
	comp=Z,57nm,19.2s,baz=256,slow=35						
ARCES	**ARCESS Array B**	**17.20**	**54**	P	**Pn**	**02 12 04.4**	**+1.6**
	baz=284,slow=11,SNR=1.3						
ARCES				LR	LR	02 17 01.2	
	comp=Z,74nm,19.1s,baz=45,slow=31						
FINES	**FINESS Array B**	**19.77**	**79**	P	**P**	**02 12 32.0**	**-0.6**
	0.1nm,0.3s,baz=318,slow=11,SNR=4.6						
FINES				LR	LR	02 18 52.8	
	comp=Z,35nm,20.2s,baz=250,slow=33						
FINES	**FINESS Array B**	**19.77**	**79**	P	**P**	**02 12 33.4**	**+0.8**
CLL	**Collm**	**20.72**	**115**	*e*P	**P**	**02 12 44.0**	**+1.1**
	comp=Z,6.0nm,1.1s						
CLL				*i*		02 12 50.4	
	comp=Z,29nm,1.7s						
CLL				*e*S	**S**	**02 16 37.0**	**+3.0**
NKC	**Novy Kostel**	**21.36**	**118**	*e*P	**P**	**02 12 51.0**	**+1.1**
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**02 12 50.0**	**-0.6**
	comp=Z,8.0nm,1.1s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**02 12 50.9**	**+0.1**
FRB	**Frobisher Bay**	**21.73**	**291**	LR	LR	02 21 04.4	
	comp=Z,49nm,18.8s,baz=65,slow=36						
CHVC	**Chvalec**	**22.49**	**112**	*e*P	**P**	**02 13 02.8**	**+0.8**
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**	**02 13 06.2**	**+2.1**
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**	**02 13 06.0**	**+0.9**
DAVA	**Damuels**	**22.88**	**126**	*e*P	**P**	**02 13 08.6**	**+2.3**
	comp=Z,10nm,1.3s						
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**	**02 13 08.2**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=327,slow=9.5,SNR=7.5						
RETA	**Reutte**	**23.02**	**124**	*e*P	**P**	**02 13 07.5**	**-0.2**
	comp=Z,3.3nm,1.1s						
KRLC	**Kraliky**	**23.18**	**112**	*e*P	**P**	**02 13 08.7**	**-0.5**
MOTA	**Moosalm**	**23.26**	**124**	*e*P	**P**	**02 13 12.4**	**+2.2**
	comp=Z,9.6nm,1.9s						
FETA	**Feichten**	**23.41**	**125**	*e*P	**P**	**02 13 12.5**	**+0.8**
	comp=Z,4.0nm,1.2s						
SQTA	**Sankt Quirin**	**23.41**	**124**	*e*P	**P**	**02 13 13.3**	**+1.6**
	comp=Z,4.3nm,0.8s						
WATA	**Walderalm**	**23.44**	**123**	*e*P	**P**	**02 13 13.1**	**+1.1**
	comp=Z,3.0nm,1.0s						
WTTA	**Wattenberg**	**23.52**	**123**	*e*P	**P**	**02 13 12.2**	**-0.7**
	comp=Z,6.1nm,1.2s						
EUNU	**Eureka**	**23.71**	**336**	P	**P**	**02 13 15.4**	**+1.1**
MOA	**Molln**	**24.00**	**119**	*e*P	**P**	**02 13 18.3**	**+1.1**
	comp=Z,3.2nm,1.1s						
CONA	**Conrad Observa**	**24.55**	**117**	*e*P	**P**	**02 13 23.1**	**+0.8**
	comp=Z,2.6nm,1.0s						
SMOL	**Smolenice**	**24.68**	**114**	*e*P	**P**	**02 13 24.6**	**+1.1**
ARSA	**Arzberg**	**24.98**	**118**	*e*P	**P**	**02 13 26.8**	**+0.7**
	comp=Z,3.6nm,0.8s						
OBKA	**Obir**	**25.23**	**120**	*e*P	**P**	**02 13 29.3**	**+0.8**
	comp=Z,5.2nm,1.1s						
SCHQ	**Schefferville**	**25.99**	**271**	P	**P**	**02 13 35.0**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=76,slow=12,SNR=3.0						
SCHQ	**Schefferville**	**25.99**	**271**	P	**P**	**02 13 34.7**	**-0.5**
SCHQ				IAmb	IAmb	02 13 40.0	
	comp=Z,5.7nm,0.8s						
ESDC	**Sonseca Array**	**26.21**	**156**	P	**P**	**02 13 38.0**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=349,slow=9.4,SNR=12						
ESDC	**Sonseca Array**	**26.21**	**156**	P	**P**	**02 13 37.4**	**0.0**
KOLS	**Kolonicke sedl**	**26.30**	**107**	*e*P	**P**	**02 13 37.6**	**-0.5**
OSSC	**Osservatorio P**	**26.64**	**128**	P	**P**	**02 13 41.9**	**+0.7**
OSSC				IAmb	IAmb	02 13 57.0	
	comp=Z,8.8nm,1.0s						
BRTR	**Keskin Array B**	**38.51**	**105**	P	**P**	**02 15 25.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=336,slow=5.8,SNR=4.6						
KBZ	**Khabaz**	**39.17**	**92**	P	**P**	**02 15 31.8**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=315,slow=7.1,SNR=3.8						
KBZ				LR	LR	02 31 52.4	
	comp=Z,43nm,18.9s,baz=336,slow=36						
INK	**Inuvik**	**39.88**	**329**	P	**P**	**02 15 36.2**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=25,slow=21,SNR=3.5						
INK	**Inuvik**	**39.88**	**329**	P	**P**	**02 15 35.5**	**-0.3**
ABKAR	**Akbulak array**	**42.06**	**73**	P	**P**	**02 15 54.0**	**-0.2**
TIXI	**Tiksi**	**42.12**	**15**	P	**P**	**02 15 55.6**	**+1.3**
TOLK	**Toolik Lake Re**	**42.79**	**336**	P	**P**	**02 16 01.6**	**+1.7**
TOLK				IAmb	IAmb	02 16 06.7	
	comp=Z,6.5nm,0.9s						
BMAR	**Burnt Mountain**	**42.94**	**333**	P	**P**	**02 16 01.9**	**+0.8**
FYU	**Fort Yukon**	**43.81**	**333**	P	**P**	**02 16 08.2**	**+0.1**
ILAR	**Eielson Array**	**45.73**	**332**	P	**P**	**02 16 24.5**	**+1.1**
	comp=Z,2.2nm,1.1s,baz=29,slow=5.9,SNR=8.2						
ILAR				PcP	**PcP**	**02 18 01.2**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=340,slow=2.6,SNR=6.2						
ILAR	**Eielson Array**	**45.73**	**332**	P	**P**	**02 16 24.2**	**+0.8**
ILAR					**PcP**	**02 18 01.3**	**+0.4**
MDM	**Murphy Dome**	**45.82**	**333**	P	**P**	**02 16 24.9**	**+0.7**
MDM				IAmb	IAmb	02 16 30.1	
	comp=Z,5.0nm,1.1s						
IMAR	**Indian Mountai**	**45.90**	**337**	P	**P**	**02 16 25.8**	**+1.1**
BCAR	**Beaver Creek A**	**46.14**	**328**	P	**P**	**02 16 27.4**	**+0.6**
ZALV	**Zalesovo Beam**	**47.72**	**51**	P	**P**	**02 16 38.6**	**-0.5**
	comp=Z,8.8nm,0.6s,baz=319,slow=7.7,SNR=1.9						
ZALV	**Zalesovo Beam**	**47.72**	**51**	P	**P**	**02 16 40.6**	**+1.5**
BOZ	**Bozeman (W)**	**51.59**	**297**	P	**P**	**02 17 09.0**	**+0.1**
BOZ				IAmb	IAmb	02 17 11.2	
	comp=Z,4.1nm,1.1s						
MKAR	**Makanchi Array**	**52.81**	**58**	P	**P**	**02 17 18.1**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=299,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**52.81**	**58**	P	**P**	**02 17 18.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**53.10**	**156**	P	**P**	**02 17 19.4**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=340,slow=6.6,SNR=7.8						
TORD	**Torodi Ar. Bea**	**53.10**	**156**	P	**P**	**02 17 20.3**	**+0.1**
BW06	**Boulder Array**	**53.16**	**293**	P	**P**	**02 17 20.7**	**+0.1**
BW06				IAmb	IAmb	02 17 25.2	
	comp=Z,3.4nm,0.9s						
PD31	**Pinedale Array**	**53.16**	**293**	P	**P**	**02 17 20.6**	**0.0**
PD31				IAmb	IAmb	02 17 25.2	
	comp=Z,3.3nm,1.0s						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**02 17 21.1**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=66,slow=6.2,SNR=14						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**02 17 20.6**	**0.0**
PV14	**Lion Creek, Pa**	**56.67**	**290**	IAmb	IAmb	02 17 49.0	
	comp=Z,4.3nm,0.8s						
WMQ	**Urumqi**	**57.32**	**56**	*e*P	**P**	**02 17 55.0**	**+4.6**
DBIC	**Dimbokro**	**58.53**	**165**	P	**P**	**02 17 59.5**	**+0.4**
	comp=Z,4.7nm,1.0s,baz=307,slow=12,SNR=3.3						
DBIC	**Dimbokro**	**58.53**	**165**	P	**P**	**02 17 59.1**	**0.0**
TIC	**Toumodi**	**58.54**	**165**	*e*P	**P**	**02 18 01.8**	**+2.6**
KIC	**Kosan Boka**	**58.85**	**165**	*e*P	**P**	**02 18 02.0**	**+0.7**
	comp=Z,9.9nm,0.9s						
LIC	**Lamto**	**58.95**	**165**	*e*P	**P**	**02 18 03.7**	**+1.7**
	comp=Z,6.4nm,0.4s						
NVAR	**Mina Array Bea**	**60.29**	**297**	LR	LR	02 44 38.8	
	comp=Z,39nm,18.1s,baz=2.0,slow=36						
TXAR	**Lajitas Array**	**62.24**	**280**	P	**P**	**02 18 25.4**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=69,slow=4.2,SNR=3.7						
TXAR				LR	LR	02 44 51.0	
	comp=Z,23nm,18.2s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**62.

comp=Z,118nm,0.1s
PAMC Pamplona, Colo 0.62 38 eP Pn 02 57 31.3 +2.2
PAMC eS Sn 02 57 47.8 +1.5
PAMC i 02 57 50.4
comp=Z,124nm,0.5s
BRRC Barranca, Sant 0.68 293 eP Pn 02 57 30.4 +1.5
BRRC eS Sn 02 57 47.0 +1.1
BRRC i 02 57 51.3
comp=Z,108nm,0.1s
RUSC La Rusia 0.94 180 eP Pn 02 57 32.4 +1.0
RUSC eS Sn 02 57 51.0 +0.6
PTBC PUERTO BERRIO, 1.40 258 eP Pn 02 57 35.2 +0.2
PTBC eS Sn 02 57 56.3 -0.5
PTBC i 02 57 58.4
comp=Z,74nm,0.2s
OCAC Ocana 1.41 350 eP Pn 02 57 36.7 +1.4
OCAC eS Sn 02 57 58.8 +1.5
OCAC i 02 58 03.5
comp=Z,87nm,0.2s
SPBC San Pablo de B 1.54 220 eP Pn 02 57 37.3 +0.8
SPBC eS Sn 02 57 59.0 -0.6
SPBC i 02 58 00.3
comp=Z,34nm,0.2s
CHIC Chingaza 2.29 196 eP Pn 02 57 47.2 +1.7
CHIC eS Sn 02 58 15.5 0.0
CHIC i 02 58 22.4
comp=Z,18nm,0.4s
ROSC El Rosal 2.34 212 P Pn 02 57 48.6 +2.6
comp=Z,5.9nm,0.3s,baz=126,slow=20,SNR=14
ROSC S Sn 02 58 18.3 +1.8
comp=Z,6.5nm,0.3s,baz=128,slow=18,SNR=6.4
ROSC El Rosal 2.34 212 eP Pn 02 57 47.7 +1.6
ROSC eS Sn 02 58 17.5 +1.0
ROSC i 02 58 24.6
comp=Z,46nm,0.4s
HELC Santa Helena 2.52 255 eP Pn 02 57 50.0 +1.9
HELC eS Sn 02 58 23.6 +3.4
HELC i 02 58 27.7
comp=Z,28nm,0.3s
UREC San Jos de Ur 2.59 291 eP Pn 02 57 49.2 +0.5
UREC eS Sn 02 58 19.7 -1.7
UREC i 02 58 32.0
comp=Z,37nm,0.2s
GUY2C Guyana, Caldas 2.78 235 eP Pn 02 57 53.2 +1.7
GUY2C eS Sn 02 58 25.9 -0.4
GUY2C i 02 58 35.9
comp=Z,17nm,0.5s
PTGC Puerto Gaitan, 2.79 160 eP Pn 02 57 51.7 +0.5
PTGC eS Sn 02 58 24.3 -1.5
PTGC i 02 58 26.7
comp=Z,19nm,0.2s
RREF El Recreo 2.96 230 eP Pn 02 57 51.7 -2.4
RREF eS Sn 02 58 29.6 -1.1
RREF i 02 58 33.6
comp=Z,21nm,0.2s
DBBC Dabeiba 3.11 273 eP Pn 02 57 56.6 +1.3
DBBC eS Sn 02 58 33.1 0.0
DBBC i 02 58 40.4
comp=Z,65nm,0.4s
TOLC Tolima 3.16 225 eP Pn 02 57 57.8 +1.6
TOLC eS Sn 02 58 35.2 +0.5
TOLC i 02 58 40.6
comp=Z,34nm,0.4s
SDV Santo Domingo 3.16 50 eS Sn 02 58 34.0 -0.5
SDV i 02 58 38.5
comp=Z,14nm,0.3s
ANIL Santa Ana 3.28 225 eP Pn 02 57 58.6 +0.9
ANIL eS Sn 02 58 38.2 +0.8
ANIL i 02 58 44.4
comp=Z,4.9nm,0.3s
PRAC Prado 3.59 210 eP Pn 02 58 03.0 +1.6
PRAC eS Sn 02 58 43.3 -0.9
PRAC i 02 58 48.9
comp=Z,21nm,0.2s
ORTC Ortega, Tolima 3.62 217 eP Pn 02 58 03.2 +1.3
ORTC eS Sn 02 58 44.7 -0.3
ORTC i 02 58 48.6
comp=Z,11nm,0.6s
SJCC San Jacinto, C 3.68 326 eP Pn 02 58 03.0 +0.3
SJCC eS Sn 02 58 44.5 -1.7
SJCC i 02 58 48.6
comp=Z,18nm,0.4s
YOTC Yotoco, Valle 4.31 229 eP Pn 02 58 10.2 -0.8
MACC Macarena, Meta 4.73 189 eP Pn 02 58 15.9 -0.5
MACC eS Sn 02 59 07.3 -3.6
MACC i 02 59 12.2
comp=Z,3.8nm,0.5s
URIC Uribia, Colomb 4.95 12 eP Pn 02 58 18.9 -0.3
URIC eS Sn 02 59 13.2 -2.8
URIC i 02 59 17.7
comp=Z,4.1nm,0.7s
TXAR Lajitas Array 36.48 312 LR LR 03 25 58.1
comp=Z,21nm,18.1s,baz=0.0,slow=44
TORD Torodi Ar. Bea 73.70 78 P PcP 03 08 38.3 -1.3
comp=Z,0.5nm,0.9s,baz=269,slow=5.8,SNR=1.9
WRA Warramunga Arr 150.38 241 PKPbc PKPbc 03 16 40.6 -0.5
comp=Z,0.6nm,1.2s,baz=120,slow=2.9,SNR=2.6

IDC 30 03:02:40.0±437.0, 26°44'N×131°13'E, h0km, Error ellipse: s-maj=218.2km s-min=147.1km az=84.0, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**11.84**	**40**	*i*		04 16 10.0	
	baz=226,slow=318,SNR=1.2						
I45RU	**USSURIYSK INFR**	**17.73**	**2**	*i*		04 56 50.0	
	baz=180,slow=323,SNR=1.3						
I39PW	**PALAU INFRASON**	**19.08**	**170**	*i*		05 02 20.0	
	baz=350,slow=315,SNR=0.7						

*IDC **30** 03:02:46.3±1.3, 9°.01S×125°.93E, h0km, mb3.7/2, mb1 4.1/6, mb1mx3.7/33, mbtmp3.9/6, ML4.1/4, MS3.1/4, Ms1 3.2/4, ms1mx2.7/32, Error ellipse: s-maj=40.1km s-min=24.8km az=60.0*
*DJA **30** 03:02:52.3±0.9, 9°.5±4°×12°.6E±°, h15km±8km, M4.3/6, mB5.5/2, mb5.1/1, MLv4.0/6, Mw(mB)4.9/2*
ISC 30 03:02:52.1±1.0, 9°.42S±0°.09×125°.79E±0°.06, h35km, n14, σ2s33/19, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**		**1.54**	**257**	P	**Pn**	**03 03 17.6 +0.5**
SOEI					S	**Sn**	**03 03 36.0 0.0**
BATI	**Baumata**		**2.23**	**249**	Pn	**Pn**	**03 03 28.9 +2.3**
	23nm,0.3s,baz=117,slow=3.0,SNR=8.2						
BATI					Sn	**Sn**	**03 03 57.0 +3.9**
	23nm,0.3s,baz=75,slow=23,SNR=8.8						
BATI	**Baumata**		**2.23**	**249**	P	**Pn**	**03 03 26.7 0.0**
BATI					S	**Sn**	**03 03 52.9 -0.2**
MMRI	**Maumere**		**3.59**	**282**	P	**Pn**	**03 03 45.2 -0.1**
EDFI	**Ende, Flores**		**4.10**	**279**	P	**Pn**	**03 03 51.6 -0.8**
SAUI	**Saumlaki**		**5.63**	**76**	P	**Pn**	**03 04 17.3 +3.9**
	0.5nm9μm93nm,0.6s						
FITZ	**Fitzroy Crossi**		**8.62**	**181**	Pn	**Pn**	**03 04 57.1 +2.6**
	2.1nm,0.3s,baz=18,slow=11,SNR=35						
FITZ					Sn	**Sn**	**03 06 29.4 -1.2**
	3.9nm,0.3s,baz=315,slow=10.0,SNR=15						
FITZ					LR	LR	03 08 58.2
	comp=Z,83nm,18.9s,baz=40,slow=41						
WRA	**Warramunga Arr**		**13.33**	**143**	Pn	**Pn**	**03 05 58.8 -0.1**
	1.0nm,0.3s,baz=315,slow=13,SNR=47						
WRA					Sn	**Sn**	**03 08 22.8 -3.1**
	0.9nm,0.3s,baz=314,slow=23,SNR=7.4						
ASAR	**Alice Springs**		**16.15**	**152**	Pn	**Pn**	**03 06 37.5 +1.0**
	0.7nm,0.3s,baz=318,slow=11,SNR=22						
ASAR					Sn	**Sn**	**03 09 30.7 -4.0**
	0.3nm,0.3s,baz=323,slow=23,SNR=6.8						
ASAR					LR	LR	03 14 08.6
	comp=Z,75nm,18.2s,baz=234,slow=42						
STKA	**Stephens Creek**		**26.73**	**149**	P	**P**	**03 08 30.6 +2.2**
	0.5nm,0.3s,baz=328,slow=13,SNR=2.1						
STKA					LR	LR	03 21 27.8
	comp=Z,84nm,20.7s,baz=123,slow=42						
CMAR	**Chiang Mai Arr**		**38.33**	**316**	LR	LR	03 28 14.7
	comp=Z,20nm,21.1s,baz=165,slow=40						
MKAR	**Makanchi Array**		**68.06**	**329**	P	**P**	**03 13 45.1 -3.1**
	0.5nm,0.6s,baz=124,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**		**125.14**	**279**	PKP	**PKPdf**	**03 21 50.1 +0.2**
	1.0nm,0.7s,baz=63,slow=2.3,SNR=6.5						
LPAZ	**La Paz**		**150.98**	**152**	PKPbc	**PKiKP**	**03 22 44.6 +1.0**
	0.6nm,0.7s,baz=322,slow=3.9,SNR=3.7						

JMA 30 03:09:03.9±0.1, 37°.16N×141°.22E, h32km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.34**	**260**	P	Pb	03 09 11.9	-0.3
ONAJ				S	Sb	03 09 17.4	-0.4
JFK	**Kawauchi**	**0.34**	**307**	P	Pb	03 09 11.8	-0.4
JFK				eS	Sb	03 09 17.1	-0.7
JFFD	**Fukushimafurud**	**0.53**	**263**	P	Pb	03 09 14.7	-0.2
JFFD				eS	Sb	03 09 22.0	-0.5
JMST	**Minamisoumatoc**	**0.62**	**335**	P	Pb	03 09 15.7	-0.7
JMST				S	Sb	03 09 24.2	-0.8
JHO	**Hitachi**	**0.76**	**224**	S	Sb	03 09 27.0	-1.7
JMM	**Marumori**	**0.78**	**334**	P	Pn	03 09 18.2	-0.5
JMM				eS	Sn	03 09 28.6	-0.7
JFT	**Otama**	**0.79**	**297**	P	Pb	03 09 19.2	0.0
JFT				S	Sn	03 09 29.5	0.0
JFY	**Yanaizu**	**1.23**	**282**	P	Pb	03 09 26.2	-0.5
JOU	**Okura**	**1.28**	**340**	P	Pn	03 09 26.3	+0.7
JIO	**Ouri**	**1.30**	**4**	P	Pn	03 09 25.5	-0.3
MAT	**Matsushiro**	**2.49**	**257**	P	Pn	03 09 44.2	+1.9
MAT				S	Sb	03 10 16.7	-1.6

*IDC **30** 03:47:51.6±1.4, 26°.28N×90°.11E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/44, mbtmp3.5/6, Error ellipse: s-maj=47.1km s-min=24.2km az=66.0*
*NDI **30** 03:47:56.7±2.5, 26°.38N×90°.38E, h15km±13km, ML3.7*
ISC 30 03:47:57.7±0.8, 26°.33N±0°.06×90°.33E±0°.04, h35km, n14, σ1s21/20, mb3.5/6, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUWA	**GUWAHATI**	**1.23**	**96**	*eP*	**Pn**	**03 48 17.7**	**-0.7**
GUWA				eS	**Sn**	**03 48 33.5**	**-0.3**
GUWA				IAML		03 48 34.1	
	comp=N,1μm,0.3s						
GUWA				IAML		03 48 34.5	
	comp=E,956nm,0.2s						
SHL	**Shillong**	**1.59**	**118**	*eP*	**Pn**	**03 48 24.4**	**+0.9**
SHL				eS	**Sn**	**03 48 45.0**	**+1.9**
SHL				IAML		03 48 45.6	
	comp=E,1μm,0.2s						
GTK	**Tadong**	**1.83**	**303**	*eP*	**Pn**	**03 48 28.0**	**+1.2**
GTK				eS	**Sn**	**03 48 50.4**	**+1.6**
GTK				IAML		03 48 52.5	
	comp=N,506nm,0.3s						
GTK				IAML		03 48 52.7	
	comp=E,897nm,0.2s						
TAWA	**Tawang**	**1.86**	**47**	*eP*	**Pn**	**03 48 28.7**	**+1.3**
TAWA				eS	**Sn**	**03 48 51.1**	**+1.2**
TAWA				IAML		03 48 53.1	
	comp=N,2μm,0.1s						
ZIRO	**ZIRO**	**3.36**	**69**	*eP*	**Pn**	**03 48 48.2**	**+0.4**
ZIRO				IAML		03 49 47.9	
	comp=N,1μm,0.2s						
ZIRO				IAML		03 49 48.1	
	comp=E,1μm,0.0s						
KOHI	**KOHIMA**	**3.46**	**99**	*eP*	**Pn**	**03 48 50.0**	**+0.9**
KOHI				eS	**Sn**	**03 49 30.6**	**+1.7**
KOHI				IAML		03 49 51.5	
	comp=N,257nm,0.6s						
KOHI				IAML		03 49 52.6	
	comp=E,356nm,0.6s						
SAIH	**SAIHA**	**4.53**	**147**	*eP*	**Pn**	**03 49 05.3**	**+1.4**
SAIH				eS	**Sn**	**03 49 55.5**	**+0.1**
SAIH				IAML		03 50 02.1	
	comp=E,50nm,0.1s						
SAIH				IAML		03 50 02.1	
	comp=N,26nm,0.8s						
BOK	**Bokaro**	**4.75**	**239**	eS	**Sn**	**03 50 01.3**	**+0.5**
MKAR	**Makanchi Array**	**21.39**	**345**	P	**P**	**03 52 41.1**	**-1.1**
	comp=N,2.0nm,0.7s,baz=161,slow=9.7,SNR=11						
SONM	**Songino Array**	**24.90**	**26**	P	**P**	**03 53 17.3**	**0.0**
	comp=N,0.9nm,0.6s,baz=206,slow=8.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**25.89**	**343**	P	**P**	**03 53 25.6**	**-0.4**
	comp=N,0.4nm,0.5s,baz=161,slow=9.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**27.89**	**353**	P	**P**	**03 53 43.0**	**-1.0**
	comp=N,0.4nm,0.3s,baz=163,slow=5.6,SNR=1.5						
WRA	**Warramunga Arr**	**62.77**	**133**	P	**P**	**03 58 20.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=324,slow=7.0,SNR=9.2						
TORD	**Torodi Ar. Bea**	**83.08**	**281**	P	**P**	**04 00 18.2**	**-2.0**
	comp=N,0.3nm,0.9s,baz=56,slow=4.4,SNR=1.5						

*DJA **30** 04:19:17.5±1.2, 9°.5±6°×10°.9E±°, h36km±24km, M3.9/11, MLv3.9/11*
*IDC **30** 04:19:19.4±56.0, 8°.82S×110°.27E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/26, mbtmp3.9/3, Error ellipse: s-maj=944.2km s-min=192.4km az=136.0*
ISC 30 04:19:16.5±1.1, 8°.58S±0°.10×109°.26E±0°.05, h35km, n16, σ0s78/17, mb3.7/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.13**	**315**	P	**Pn**	**04 19 36.1**	**+0.2**
CMJI				S	**Sn**	**04 19 50.0**	**-0.1**
YOGI	**Yogyakarta**	**1.28**	**53**	P	**Pn**	**04 19 38.8**	**+0.9**
YOGI				S	**Sn**	**04 19 53.9**	**+0.1**
KPJI	**Karang Pucung**	**1.28**	**345**	P	**Pn**	**04 19 38.1**	**+0.1**
KPJI				S	**Sn**	**04 19 53.1**	**-0.9**
UGM	**Wanagama**	**1.42**	**62**	P	**Pn**	**04 19 41.1**	**+1.2**
UGM				S	**Sn**	**04 19 57.6**	**+0.3**
CISI	**Cisompet, Garu**	**1.76**	**305**	P	**Pn**	**04 19 45.4**	**+0.8**
WOJI	**Wonogiri, Jawa**	**1.81**	**66**	P	**Pn**	**04 19 45.4**	**+0.2**
SMRI	**Semarang**	**1.92**	**38**	P	**Pn**	**04 19 47.0**	**+0.2**
LEM	**Lembang**	**2.39**	**317**	P	**Pn**	**04 19 54.7**	**+1.6**
CNJI	**Cibinong**	**2.46**	**301**	P	**Pn**	**04 19 54.7**	**+0.5**
PWJI	**Pagerwojo**	**2.58**	**78**	P	**Pn**	**04 19 56.3**	**+0.5**
WRA	**Warramunga Arr**	**26.76**	**118**	P	**P**	**04 24 52.2**	**-1.0**
	0.8nm,0.6s,baz=290,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**27.95**	**125**	P	**P**	**04 25 03.3**	**-0.7**
	1.4nm,0.8s,baz=304,slow=8.8,SNR=15						
H08S2	**Diego Garcia H**	**36.40**	**269**	T	T	05 04 44.8	
	baz=93,slow=74						
H08S3	**Diego Garcia H**	**36.41**	**269**	T	T	05 04 45.9	
	baz=93,slow=74,SNR=44						
H08S1	**Diego Garcia H**	**36.42**	**269**	T	T	05 04 42.2	
	baz=93						
STKA	**Stephens Creek**	**37.92**	**132**	P	**P**	**04 26 30.8**	**0.0**
	1.6nm,0.6s,baz=306,slow=12,SNR=3.6						

*JMA **30** 04:40:23.5±0.1, 42°.93N×145°.49E, h45km±1km, M2.5*
*SKHL **30** 04:40:24.5±0.2, 42°.98N×145°.41E, h38km±4km, mb4.3/2*
ISC 30 04:40:23.2±2.7, 42°.9N±0°.1×145°.52E±0°.09, h45km±14km, n12, σ0s58/21, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.31**	**301**	P	**Pn**	**04 40 32.1**	**+0.2**
JKHN				eS	**Sn**	**04 40 38.2**	**+0.1**
NEM2	**Nemuro 2**	**0.47**	**20**	P	**Pn**	**04 40 34.0**	**+0.2**
NEM2				eS	**Sn**	**04 40 41.3**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.47**	**19**	*i* P	**Pn**	**04 40 34.0**	**+0.2**
NMR				eS	**Sn**	**04 40 41.0**	**-0.3**
JAK	**Akkeshi**	**0.61**	**277**	P	**Pn**	**04 40 35.5**	**0.0**
JAK				eS	**Sn**	**04 40 44.1**	**-0.3**
GLVR	**Golovnino**	**0.81**	**360**	*eP*	**Pn**	**04 40 38.0**	**-0.3**
GLVR				AMB	AMB	04 40 38.0	
	57nm,0.1s						
GLVR				eS	**Sn**	**04 40 48.0**	**-1.2**
GLVR				A	A	04 40 51.0	
	173nm,0.3s						
GLVR				A	A	04 40 51.0	
	549nm,0.3s						
JNK	**Nakash**	**0.88**	**319**	P	**Pn**	**04 40 39.1**	**-0.1**
JNK				eS	**Sn**	**04 40 49.9**	**-1.0**
JRA	**Rausu**	**1.05**	**344**	P	**Pn**	**04 40 42.3**	**+0.8**
JRA				eS	**Sn**	**04 40 55.6**	**+0.6**
GRPR	**Tuman**	**1.08**	**10**	*eP*	**Pn**	**04 40 42.0**	**+0.1**
GRPR				AMB	AMB	04 40 44.0	
	44nm,0.1s						
GRPR				eS	**Sn**	**04 40 55.0**	**-0.8**
GRPR				A	A	04 40 56.0	
	202nm,0.1s						
GRPR				A	A	04 40 56.0	
	119nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.14**	**13**	*eP*	**Pn**	**04 40 43.0**	**+0.3**
YUK				eS	**Sn**	**04 40 57.1**	**0.0**
YUK				A	A	04 40 58.0	
	86nm,0.3s						
YUK				A	A	04 40 58.0	
	86nm,0.3s						
JOB	**Onbets**	**1.24**	**270**	P	**Pn**	**04 40 44.1**	**+0.1**
JAR	**Ashorobuto**	**1.33**	**287**	P	**Pn**	**04 40 45.5**	**+0.1**
JTKR	**Abashiri--Toko**	**1.57**	**312**	P	**Pn**	**04 40 49.7**	**+1.1**

IDC 30 05:15:00.0±4.1, 30°.28S×138°.46E, h0km, mb1 2.8/3, mb1mx2.8/30, mbtmp2.6/3, ML2.3/3, Error ellipse: s-maj=110.7km s-min=16.8km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.13**	**121**	Pn	Pn	05 15 50.4	-0.2
	0.1nm,0.3s,baz=300,slow=14,SNR=1.4						
STKA				Sn	Sn	05 16 28.2	-0.5
	0.6nm,0.3s,baz=326,slow=14,SNR=3.8						
STKA				Lg	Lg	05 16 40.0	
	0.6nm,0.3s,baz=28,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**7.74**	**327**	Pn	Pn	05 16 54.5	+0.6
	0.1nm,0.3s,baz=148,slow=12,SNR=6.0						
ASAR				Sn	Sn	05 18 22.1	-0.3
	0.1nm,0.3s,baz=152,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**10.94**	**339**	Pn	Pn	05 17 38.1	+0.1
	0.0nm,0.3s,baz=155,slow=12,SNR=7.7						

*REY **30** 05:23:17.0, 64°.67N×17°.37W, h0km*
*IDC **30** 05:23:18.8±0.7, 64°.59N×17°.75W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/43, mbtmp3.8/12, ML4.3/1, MS3.4/24, Ms1 3.4/24, ms1mx3.3/51, Error ellipse: s-maj=22.5km s-min=13.2km az=25.0*
*NEIC **30** 05:23:21.3±1.0, 64°.57N±0°.09×17°.3W±0°.1, h9km±4km, mb4.5/83, Error ellipse: s-maj=13.5km s-min=7.9km az=184.0*
ISC 30 05:23:20.7±0.4, 64°.55N±0°.04×17°.57W±0°.03, h10km, n201, σ1s66/166, mb4.5/54, MS3.3/21, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.15**	**327**	P	Pg	05 23 20.9	-3.2
	baz=272						
IGRF	**Grimsfjall**	**0.19**	**137**	P	**Pg**	**05 23 22.4**	**-2.4**
	baz=170						
IDYN	**Dyngjuhals**	**0.26**	**19**	P	Pg	05 23 19.9	-6.1
	baz=0.7						
IVOT	**Vottur**	**0.32**	**149**	P	**Pg**	**05 23 25.1**	**-2.1**
	baz=168						
IVOT				S	**Sg**	**05 23 31.4**	**-0.1**
	baz=168						
IURH	**Urdarhals**	**0.33**	**33**	P	Pg	05 23 21.1	-6.2
	baz=32						
ISKR	**Skrokkalda**	**0.35**	**273**	P	**Pg**	**05 23 25.5**	**-2.2**
	baz=257						
IJOK	**Jokulheimar**	**0.37**	**231**	P	**Pg**	**05 23 27.1**	**-0.8**
	baz=227						
IJOK				S	**Sg**	**05 23 34.4**	**+1.6**
	baz=227						
IKVE	**Kverkfjoll**	**0.41**	**71**	P	Pg	05 23 23.7	-5.0
	baz=88						
IKVE				S	Sg	05 23 27.8	-6.2
	baz=88						
IIEY	**Innrieyrar**	**0.51**	**208**	P	**Pg**	**05 23 29.1**	**-1.5**
	baz=210						
THOR	**Thorvaldshraun**	**0.55**	**44**	P	Pg	05 23 25.0	-6.3
	baz=48						
THOR				S	Sg	05 23 31.2	-7.3
	baz=48						
IKRE	**Kreppuhraun**	**0.56**	**64**	P	Pg	05 23 25.4	-6.2
	baz=74						
IKRE				S	Sg	05 23 32.4	-6.6
	baz=74						
IKAL	**Kalfafell**	**0.60**	**185**	P	**Pg**	**05 23 30.6**	**-1.7**
	baz=191						
IKAL				S	**Sb**	**05 23 40.9**	**-0.9**
	baz=191						
IKSK	**Karasker**	**0.61**	**129**	P	**Pg**	**05 23 28.5**	**-4.1**
	baz=142						
IKSK				S	**Sg**	**05 23 38.2**	**-2.4**
	baz=142						
IASK	**Askja**	**0.64**	**37**	P	Pg	05 23 26.6	-6.5
	baz=38						
IASK				S	Sg	05 23 34.2	-7.3
	baz=38						
IMKO	**Mokollar**	**0.68**	**50**	P	Pg	05 23 27.2	-6.7
	baz=54						
IVAT	**Vatnsfell**	**0.69**	**239**	P	**Pg**	**05 23 32.2**	**-1.8**
	baz=235						
IVAT				S	**Sn**	**05 23 43.4**	**-3.9**
	baz=235						
ISVA	**Svartarkot**	**0.81**	**9**	P	Pg	05 23 29.1	-7.1
	baz=4.1						
ISVA				S	Sg	05 23 38.7	-7.9
	baz=4.1						
IVSH	**V-Sauoahnukur**	**0.83**	**71**	P	Pg	05 23 30.1	-6.6
	baz=78						
IVSH				S	Sg	05 23 40.5	-7.1
	baz=78						
IHVE	**Hveravellir**	**0.92**	**292**	P	**Pg**	**05 23 34.7**	**-3.6**
	baz=283						
ISNB	**Snabyli**	**0.94**	**210**	P	**Pg**	**05 23 36.5**	**-2.2**
	baz=211						
ISLY	**Slysaalda**	**0.99**	**224**	P	**Pg**	**05 23 37.8**	**-1.9**
	baz=223						
IFED	**Fedgar**	**1.06**	**242**	P	**Pg**	**05 23 38.2**	**-2.9**
	baz=238						
IMEL	**Melhnausar**	**1.10**	**20**	P	Pn	05 23 34.3	-7.8
	baz=18						
IMEL				S	Sb	05 23 47.0	-9.1
	baz=18						
IMJO	**Mjoaskard**	**1.11**	**237**	P	**Pg**	**05 23 39.5**	**-2.4**
	baz=235						
IREN	**Reynihlio**	**1.14**	**14**	P	Pn	05 23 34.9	-7.7
	baz=11						
IGYG	**Gygjarholskot**	**1.18**	**258**	P	**Pb**	**05 23 39.7**	**-3.4**
	baz=254						
IHAU	**Haukadalur**	**1.20**	**242**	P	**Pg**	**05 23 40.4**	**-3.2**
	baz=239						
IKVO	**Krokottuvotn**	**1.21**	**14**	P	Pn	05 23 36.0	-7.6
	baz=11						
IGRS	**Grimsstaoir**	**1.25**	**28**	P	Pn	05 23 36.9	-7.3
	baz=28						
IESK	**Eystri-Skogar**	**1.32**	**220**	P	**Pb**	**05 23 42.5**	**-2.9**
	baz=220						
ISKI	**Skildingahlsh**	**1.35**	**9**	P	Pn	05 23 38.4	-7.1
	baz=6.7						
IMID	**Miomork**	**1.35**	**230**	P	**Pn**	**05 23 43.8**	**-1.7**
	baz=229						
IGHA	**Grjothals**	**1.36**	**16**	P	Pn	05 23 38.8	-6.9
	baz=14						
ISAU	**Saurbar**	**1.36**	**247**	P	**Pn**	**05 23 42.6**	**-3.0**
	baz=244						
IGRA	**Granastaoir**	**1.38**	**360**	P	Pn	05 23 39.2	-6.7
	baz=356						
IDIM	**Dimmadalss**	**1.45**	**10**	P	Pn	05 23 40.2	-6.7
	baz=7.8						
IHLA	**Hella**	**1.45**	**347**	P	Pn	05 23 40.6	-6.2
	baz=342						
IASM	**Asmuli**	**1.51**	**243**	P	**Pn**	**05 23 45.4**	**-2.3**
	baz=241						
IHED	**Heoinshofoi**	**1.54**	**4**	P	Pn	05 23 41.7	-6.5
	baz=1.0						
IBRE	**Brettingsstaoi**	**1.59**	**355**	P	Pn	05 23 42.7	-6.1
	baz=352						
ISOL	**Solvholt**	**1.60**	**249**	P	**Pn**	**05 23 46.5**	**-2.4**
	baz=246						
IGIL	**Gilhagi**	**1.62**	**18**	P	Pn	05 23 42.5	-6.8
	baz=16						
BORG	**Borgarnes**	**1.63**	**279**	Pn	**Pn**	**05 23 45.9**	**-3.5**
	35nm,0.3s,baz=94,slow=7.4,SNR=91						
BORG				Sn	**Sn**	**05 24 09.1**	**-1.3**
	7.2nm,0.3s,baz=143,slow=17,SNR=7.6						
BORG	**Borgarnes**	**1.63**	**279**	Pn	**Pn**	**05 23 47.3**	**-2.1**
BORG				Sn	**Sg**	**05 24 13.3**	**+0.3**
IHEI	**Heioarbar**	**1.63**	**259**	P	**Pn**	**05 23 46.6**	**-2.8**
	baz=256						
ISIG	**Siglufjorour**	**1.69**	**341**	P	Pn	05 23 44.8	-5.4
	baz=337						
ISIG				S	**Sn**	**05 24 06.3**	**-5.5**
	baz=337						
IHRN	**Hraun**	**1.90**	**327**	P	Pn	05 23 48.7	-4.4
	baz=323						
EKB10	**Eskdalemuir Ar**	**11.66**	**135**	Pn	**Pn**	**05 26 06.9**	**0.0**
EKB9	**Eskdalemuir Ar**	**11.67**	**135**	Pn	**Pn**	**05 26 04.8**	**-2.2**
EKB8	**Eskdalemuir Ar**	**11.67**	**135**	Pn	**Pn**	**05 26 06.4**	**-0.7**
EKA	**Eskdalemuir Ar**	**11.69**	**135**	Pn	**Pn**	**05 26 05.8**	**-1.5**
	baz=325,sl

ESK	Eskdalemuir	11.69	136	Pn		Pn	05 26 06.4	-0.9
NC204	NORSAR Array S	13.26	91	Pn		Pn	05 26 23.7	-5.0
NBO00	NORSAR Array S	13.37	92	Pn		Pn	05 26 26.4	-3.9
NOA	NORSAR Array B	13.56	92	Pn		Pn	05 26 28.7	-4.1
	0.0nm,0.3s,baz=299,slow=13,SNR=3.3							
NOA				LR		LR	05 32 36.4	
	comp=Z,77nm,18.7s,baz=295,slow=41							
SFJD	Kangerlussuaq	13.69	295	LR		LR	05 31 32.9	
	comp=Z,480nm,18.9s,baz=88,slow=36							
HFS	Hagfors	15.07	93	LR		LR	05 32 40.1	
	comp=Z,131nm,21.0s,baz=272,slow=37							
SPITS	Spitsbergen Ar	16.99	23	LR		LR	05 32 11.2	
	comp=Z,91nm,18.8s,baz=40,slow=31							
ARCES	ARCESS Array B	17.21	54	LR		LR	05 32 41.2	
	comp=Z,192nm,21.3s,baz=310,slow=33							
CLF	Chambon-Foret	19.73	138	P		P	05 27 50.5	+0.4
CLF				IAmb		IAmb	05 28 05.8	
	comp=Z,35nm,1.4s							
CLL	Collm	20.68	115	*i* P		P	05 28 00.0	-0.4
	comp=Z,35nm,1.7s							
CLL				*e*(PP)			05 28 23.0	
CLL				*e*S		S	05 31 54.0	+2.9
CLL	Collm	20.68	115	P		P	05 27 59.2	-1.3
ECH	Echery	21.10	129	P		P	05 28 05.5	+0.5
GRA1	Grafenberg Arr	21.30	121	P		P	05 28 07.0	-0.1
GRA1				IAmb		IAmb	05 28 26.1	
	comp=Z,30nm,1.4s							
STU	Stuttgart	21.33	125	P		P	05 28 08.3	+0.9
STU				IAmb		IAmb	05 28 23.1	
	comp=Z,46nm,1.5s							
BRG	Berggiesshubel	21.39	115	*e*P		P	05 28 07.1	-0.9
	comp=Z,18nm,1.2s							
BFO	Black Forest	21.40	127	P		P	05 28 08.2	-0.1
BFO				IAmb		IAmb	05 28 23.9	
	comp=Z,18nm,1.4s							
FRB	Frobisher Bay	21.77	291	LR		LR	05 36 05.6	
	comp=Z,230nm,21.0s,baz=44,slow=35							
PRU	Pruhonice	22.32	115	*e*P		P	05 28 19.7	+1.6
CHVC	Chvalec	22.45	112	*e*P		P	05 28 21.3	+1.8
OSTC	Ostas	22.54	112	*e*P		P	05 28 23.7	+3.3
KHC	Kasperske Hory	22.64	118	*e*P		P	05 28 23.3	+1.7
KHC				*ex*		x	05 28 30.6	
DPC	Dobruska-Polom	22.74	112	*e*P		P	05 28 23.8	+1.2
DPC				*ex*		x	05 28 36.4	
SENIN	Lac Senin/Sane	22.77	131	P		P	05 28 25.2	+2.1
SSB	Saint Sauveur	22.88	137	P		P	05 28 23.3	-0.8
GEC2	GERESS Array S	22.92	118	P		P	05 28 24.9	+0.3
GERES	GERESS Array B	22.92	118	P		P	05 28 24.8	+0.2
	comp=Z,1.3nm,0.9s,baz=309,slow=8.4,SNR=8.3							
GERES				LR		LR	05 38 04.2	
	comp=Z,109nm,21.8s,baz=317,slow=38							
GERES	GERESS Array B	22.92	118	P		P	05 28 24.6	0.0
KRLC	Kraliky	23.14	112	*e*P		P	05 28 26.9	+0.1
DAVOX	Davos/Dischmat	23.27	127	P		P	05 28 29.5	+1.2
	comp=Z,2.3nm,0.7s,baz=316,slow=17,SNR=4.5							
DAVOX				LR		LR	05 37 30.5	
	comp=Z,102nm,20.5s,baz=330,slow=36							
TUE	Stuetta	23.35	128	P		P	05 28 29.8	+0.7
FUORN	Ofenpass-Fuorn	23.54	126	P		P	05 28 31.0	-0.1
VRAC	Vranov	23.67	114	*e*P		P	05 28 31.4	-0.6
MORC	Moravsky Berou	23.68	112	*e*P		P	05 28 31.6	-0.5
MORC	Moravsky Berou	23.68	112	P		P	05 28 32.2	+0.1
BNI	Bardonecchia	23.74	134	P		P	05 28 30.8	-2.0
EUNU	Eureka	23.77	336	P		P	05 28 33.7	+0.9
KRUC	Moravsky	23.79	114	*e*P		P	05 28 32.0	-1.2
JAVC	Velka Javorina	24.46	113	*e*P		P	05 28 39.6	+0.2
CTI	Castel Tesino	24.52	125	P		P	05 28 41.0	+0.9
CTI				IAmb		IAmb	05 28 55.8	
	comp=Z,17nm,1.4s							
ZOU	Zoufplan	24.56	122	P		P	05 28 41.4	+0.8
ZOU				IAmb		IAmb	05 29 02.4	
	comp=Z,18nm,1.4s							
CIMO	Cimolais	24.58	124	P		P	05 28 40.5	-0.1
CIMO				IAmb		IAmb	05 29 01.8	
	comp=Z,11nm,1.3s							
SMOL	Smolenice	24.64	114	*e*P		P	05 28 41.4	+0.4
MODS	Modra-Piesok	24.69	114	*e*P		P	05 28 40.5	-1.0
PRED	Cave del Predi	24.87	122	P		P	05 28 44.6	+1.4
PRED				IAmb		IAmb	05 28 47.3	
	comp=Z,10nm,1.2s							
MTE	Manteigas	24.88	162	P		P	05 28 45.3	+2.0
MTE				IAmb		IAmb	05 28 51.9	
	comp=Z,11nm,1.0s							
VYHS	Vyhne	25.21	112	*e*P		P	05 28 44.0	-2.2
KWP	Kalwaria Pacla	25.90	106	P		P	05 28 52.6	+0.1
SCHQ	Schefferville	26.01	272	LR		LR	05 37 59.6	
	comp=Z,125nm,20.4s,baz=56,slow=34							
PSZ	Piszkesteto	26.10	112	P		P	05 28 54.0	-0.3
ESDC	Sonseca Array	26.16	156	P		P	05 28 55.8	+0.9
	comp=Z,1.4nm,0.9s,baz=348,slow=8.5,SNR=9.3							
ESDC				LR		LR	05 39 05.5	
	comp=Z,43nm,19.3s,baz=355,slow=36							
ESDC	Sonseca Array	26.16	156	P		P	05 28 55.0	+0.2
KOLS	Kolonicke sedl	26.27	107	*e*P		P	05 28 55.9	+0.2
RES	Resolute Bay	26.55	325	LR		LR	05 39 45.7	
	comp=Z,53nm,19.4s,baz=90,slow=37							
AKASG	Malin Array Be	27.86	97	LR		LR	05 39 14.9	
	comp=Z,78nm,21.5s,baz=325,slow=34							
OBN	Obninsk	27.92	84	LR		LR	05 40 14.4	
	comp=Z,15nm,18.9s,baz=261,slow=36							
BURAR	Bucovina Array	28.52	106	P		P	05 29 16.1	0.0
KEST	Kesra	33.09	138	LR		LR	05 44 43.5	
	comp=Z,93nm,19.0s,baz=305,slow=39							
NRIK	Noril'sk	36.57	35	LR		LR	05 46 09.9	
	comp=Z,37nm,21.8s,baz=236,slow=38							
BR131	Keskin Array S	38.48	105	P		P	05 30 43.3	+0.7
BRTR	Keskin Array B	38.48	105	P		P	05 30 44.0	+1.4
	comp=Z,1.2nm,0.9s,baz=338,slow=11,SNR=3.0							
BRTR				LR		LR	05 49 05.6	
	comp=Z,12nm,18.7s,baz=320,slow=40							
BRTR	Keskin Array B	38.48	105	P		P	05 30 44.4	+1.8
KIV	Kislovodsk	38.87	92	P		P	05 30 46.8	+1.0
KIV				IAmb		IAmb	05 30 47.7	
	comp=Z,24nm,1.5s							
KBZ	Khabaz	39.14	92	LR		LR	05 48 11.9	
	comp=Z,34nm,18.4s,baz=326,slow=38							
E46A	Sault Ste Mari	39.76	276	P		P	05 30 55.5	+2.4
ULM	Lac du Bonnet	41.61	289	LR		LR	05 46 29.4	
	comp=Z,47nm,20.8s,baz=63,slow=34							
ABKAR	Akbulak array	42.05	73	P		P	05 31 10.5	-1.5
ABKAR	Akbulak array	42.05	73	P		P	05 31 11.0	-0.9
ABKAR				IAmb		IAmb	05 31 13.2	
	comp=Z,6.8nm,1.4s							
GAZ	Gaziantep	42.13	103	P		P	05 31 13.0	+0.2
GAZ				IAmb		IAmb	05 31 21.0	
	comp=Z,12nm,1.2s							
TIXI	Tiksi	42.16	15	P		P	05 31 13.1	+0.6
TIXI				IAmb		IAmb	05 31 14.0	
	comp=Z,6.8nm,1.1s							
TOLK	Toolik Lake Re	42.85	336	P		P	05 31 20.0	+1.7
TOLK				IAmb		IAmb	05 31 22.1	
	comp=Z,21nm,1.4s							
BRVK	Borovoye	43.21	62	P		P	05 31 21.7	+0.3
BRVK				IAmb		IAmb	05 31 22.8	
	comp=Z,6.9nm,1.1s							
MARD	Mardin	43.52	100	P		P	05 31 25.0	+0.8
MARD				IAmb		IAmb	05 31 28.0	
	comp=Z,6.4nm,0.8s							
FYU	Fort Yukon	43.87	333	P		P	05 31 27.7	+1.3
TAM	Tamanrasset	44.42	149	P		P	05 31 33.7	+2.1
DAWY	Dawson	44.79	328	P		P	05 31 35.0	+1.1
DAWY				IAmb		IAmb	05 31 35.3	
	comp=Z,9.6nm,1.4s							
PRP	Porcupine Dome	44.85	332	P		P	05 31 35.8	+1.4
PRP				IAmb		IAmb	05 31 37.5	
	comp=Z,6.9nm,1.4s							
ILAR	Eielson Array	45.78	332	P		P	05 31 41.6	-0.1
	comp=Z,3.1nm,1.2s,baz=23,slow=7.5,SNR=9.8							
ILAR				PcP		PcP	05 33 18.0	-1.0
	comp=Z,1.5nm,1.1s,baz=338,slow=2.3,SNR=4.4							
ILAR				LR		LR	05 52 47.5	
	comp=Z,77nm,18.6s,baz=34,slow=39							
ILAR	Eielson Array	45.78	332	P		P	05 31 42.6	+0.9
MDM	Murphy Dome	45.88	333	P		P	05 31 43.7	+1.2
COLA	College	45.88	333	P		P	05 31 44.5	+2.0
IMAR	Indian Mountai	45.96	337	P		P	05 31 44.0	+0.9
BCAR	Beaver Creek A	46.20	329	P		P	05 31 47.1	+2.0
DLBC	Dease Lake	47.15	318	LR		LR	05 50 37.6	
	comp=Z,82nm,21.1s,baz=76,slow=35							
ZALV	Zalesovo Beam	47.73	51	P		P	05 31 56.0	-1.1
	comp=Z,1.2nm,0.8s,baz=288,slow=5.9,SNR=3.8							
ZALV				PcP		PcP	05 33 24.8	-1.3
	comp=Z,1.1nm,0.6s,baz=291,slow=4.6,SNR=3.6							
BG3	Lake Jocassee	48.49	265	P		P	05 32 05.8	+2.6
BG3				IAmb		IAmb	05 32 10.5	
	comp=Z,7.3nm,1.4s							
T47A	Sharon Grove	48.61	270	P		P	05 32 05.7	+1.6
EGMT	Eagleton	48.90	297	P		P	05 32 07.7	+1.3
HRY	Holter Researc	50.78	298	P		P	05 32 22.2	+1.5
RLMT	Red Lodge	51.11	295	P		P	05 32 25.3	+2.0
RLMT				IAmb		IAmb	05 32 28.2	
	comp=Z,9.6nm,1.3s							
KK31	Karatay Array	51.34	70	P		P	05 32 24.6	-0.3
KK31				IAmb		IAmb	05 32 27.8	
	comp=Z,4.7nm,1.2s							
KKAR	Karatay Array	51.34	70	P		P	05 32 23.9	-1.0
YNE	Yellowstone No	51.50	295	P		P	05 32 27.6	+1.4
BOZ	Bozeman (W)	51.64	297	P		P	05 32 28.5	+1.3
BOZ				IAmb		IAmb	05 32 30.6	
	comp=Z,9.9nm,1.5s							
H17A	Grant Village	52.23	295	P		P	05 32 34.2	+2.4
H17A				IAmb		IAmb	05 32 37.0	
	comp=Z,7.9nm,1.4s							
YPP	Pitchstone Pla	52.42	295	P		P	05 32 35.9	+2.7
T35A	Sooner Cattle	52.72	279	P		P	05 32 35.7	+0.6
T35A				IAmb		IAmb	05 32 48.2	
	comp=Z,4.0nm,0.9s							
MCMT	McKenzie Canyo	52.75	297	P		P	05 32 36.6	+1.1
PHWY	Pilot Hill	52.78	289	P		P	05 32 36.4	+0.5
MK31	Makanchi Array	52.81	58	P		P	05 32 35.8	0.0
MKAR	Makanchi Array	52.81	58	P		P	05 32 34.4	-1.3
	comp=Z,0.3nm,0.5s,baz=310,slow=2.5,SNR=3.6							
MKAR	Makanchi Array	52.81	58	P		P	05 32 34.2	-1.5
TORD	Torodi Ar. Bea	53.04	156	P		P	05 32 37.4	-0.3
	comp=Z,1.2nm,0.8s,baz=341,slow=7.5,SNR=5.6							
TORD	Torodi Ar. Bea	53.04	156	P		P	05 32 38.1	+0.4
TPAW	Teton Pass	53.14	295	P		P	05 32 39.8	+1.3
TPAW				IAmb		IAmb	05 32 43.3	
	comp=Z,7.5nm,1.4s							
PD31	Pinedale Array	53.20	293	P		P	05 32 38.0	-0.8
PD31				IAmb		IAmb	05 32 43.1	
	comp=Z,8.5nm,1.4s							
PDAR	Pinedale Array	53.20	293	P		P	05 32 37.9	-1.0
	comp=Z,3.8nm,1.1s,baz=47,slow=2.6,SNR=12							
PDAR				LR		LR	05 54 43.2	
	comp=Z,103nm,21.2s,baz=26,slow=36							
PDAR	Pinedale Array	53.20	293	P		P	05 32 38.0	-0.8
BW06	Boulder Array	53.20	293	P		P	05 32 39.0	+0.1
BW06				IAmb		IAmb	05 32 43.2	
	comp=Z,9.4nm,1.4s							
N23A	Red Feather La	53.32	289	P		P	05 32 41.1	+1.3
BCYI	Bear Canyon	53.40	297	P		P	05 32 42.4	+2.0
PLID	Pearl Lake	53.73	300	P		P	05 32 43.8	+1.1
PLID				IAmb		IAmb	05 33 05.5	
	comp=Z,5.9nm,1.2s							
ISCO	Idaho Springs	54.10	288	P		P	05 32 47.2	+1.6
W35A	Tecumseh	54.37	278	P		P	05 32 48.9	+1.7
CHGR	Chuyangaron	54.52	74	P		P	05 32 47.4	-1.1
GAR	Garm	54.71	73	P		P	05 32 49.6	-0.3
HWUT	Hardware Ranch	54.97	294	IAmb		IAmb	05 32 55.7	
	comp=Z,3.9nm,1.1s							
TCUT	Toone Canyon	55.33	294	P		P	05 32 56.0	+1.6
SPUT	South Promonto	55.58	294	P		P	05 32 57.9	+1.8
Z35A	Perchaven, San	56.09	277	P		P	05 33 01.6	+1.9
Z35A				IAmb		IAmb	05 33 03.6	
	comp=Z,7.6nm,1.1s							
KSH	Kashi	56.57	68	*e*P		P	05 33 03.5	+0.3
KSH				pmax		pmax		
	comp=Z,73nm,2.3s							
DUG	Dugway, Tooele	56.67	294	P		P	05 33 06.0	+2.1
DUG				IAmb		IAmb	05 33 12.3	
	comp=Z,3.8nm,1.1s							
SRU	San Rafael Swe	56.69	292	P		P	05 33 05.1	+1.0
PV01	Paradox Valley	56.73	289	P		P	05 33 06.1	+1.6
PV01				IAmb		IAmb	05 33 09.0	
	comp=Z,7.6nm,1.3s							
PV03	Paradox Valley	56.74	290	IAmb		IAmb	05 33 08.3	
	comp=Z,3.6nm,1.0s							
WMQ	Urumqi	57.32	56	*e*P		P	05 33 09.5	+1.1
WMQ				pP		sP	05 33 16.3	+2.8
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,89nm,3.9s							
MSU	Marysvale	57.86	293	P		P	05 33 13.8	+1.3
MVU	Marysvale	57.88	293	P		P	05 33 14.1	+1.4
MTPU	Mount Pierson	58.27	292	P		P	05 33 16.9	+1.4
TIC	Toumodi	58.49	165	*e*P		P	05 33 16.7	0.0
PSUT	Pine Spring	58.51	294	P		P	05 33 18.7	+1.7
KIC	Kosan Boka	58.80	165	*e*P		P	05 33 15.6	-3.3
	comp=Z,4.4nm,0.8s							
LIC	Lamto	58.90	165	*e*P		P	05 33 19.5	-0.1
	comp=Z,9.6nm,0.6s							
R11A	Troy Canyon, C	59.35	295	IAmb		IAmb	05 33 26.4	
	comp=Z,7.2nm,1.5s							
LCMT	Little Creek M	59.58	293	P		P	05 33 25.7	+1.4
JCT	Junction City	59.63	278	P		P	05 33 25.6	+1.0
SONM	Songino Array	59.75	40	P		P	05 33 25.8	+0.5
	comp=Z,0.5nm,0.6s,baz=336,slow=7.0,SNR=4.4							
SONM	Songino Array	59.75	40	P		P	05 33 25.4	0.0
WUAZ	Wupatki	60.12	290	P		P	05 33 29.3	+1.2
NVAR	Mina Array Bea	60.33	297	LR		LR	05 59 25.2	
	comp=Z,146nm,20.1s,baz=29,slow=36							
X16A	Lo Mia Camp, P	61.10	290	P		P	05 33 36.3	+1.5
X16A				IAmb		IAmb	05 33 39.8	
	comp=Z,5.3nm,1.3s							
OMMB	Old Mammoth Mi	61.31	297	P		P	05 33 38.9	+2.5
OMMB				IAmb		IAmb	05 33 42.1	
	comp=Z,5.3nm,1.4s							
TXAR	Lajitas Array	62.28	280	P		P	05 33 42.6	0.0
	comp=Z,0.7nm,1.0s,baz=57,slow=4.6,SNR=4.6							
TXAR				LR		LR	05 59 59.1	
	comp=Z,93nm,22.0s,baz=0.0,slow=35							
TUC	Tucson	62.67	288	P		P	05 33 47.1	+1.9
TUC				IAmb		IAmb	05 33 47.4	
	comp=Z,4.4nm,1.4s							
ISA	Isabella, Lake	62.82	296	P		P	05 33 47.9	+1.7
319A	Douglas	62.86	286	P		P	05 33 48.4	+1.8
GTA	Gaotai	65.40	49	P		P	05 34 04.3	+1.1
GTA				pP		sP	05 34 09.8	+1.5
GTA				sP		pP	05 34 12.5	+5.6
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,67nm,8.0s							
GTA				LR		LR		
	comp=N,68nm,15.6s							
GTA				LR		LR		
	comp=E,140nm,16.4s							
GTA				LR		LR		
	comp=Z,43nm,15.6s							
HHC	Hu-ho-hao-te	67.62	40	*e*P		P	05 34 17.5	+0.2
HHC				pmax		pmax		
	comp=Z,18nm,0.8s							
HHC				pmax		pmax		
	comp=Z,150nm,7.5s							
LZH	Lanzhou	69.73	47	*e*P		P	05 34 31.5	+0.9
LZH				pP		pP	05 34 34.5	+0.1
LZH				sP		sP	05 34 36.8	+1.0
LZH				PP		PP	05 36 52.5	-12
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
LZH				pmax		pmax		
	comp=Z,63nm,4.9s							
LZH				LR		LR		
	comp=N,270nm,13.3s							
LZH				LR		LR		
	comp=E,180nm,14.6s							
LZH				LR		LR		
	comp=Z,270nm,17.9s							
NJ2	Nanjing	77.85	37	*e*P		P	05 35 19.3	+1.3
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.7s							
CMAR	Chiang Mai Arr	84.22	59	LR		LR	06 17 06.0	
	comp=Z,6.6nm,20.2s,baz=320,slow=38							

*NNC **30** 05:25:33.3±2.2, 37°.39N×70°.72E, h151^{km}±50^{km}, mb3.0, mpv3.9, Error ellipse: s-maj=21.6km s-min=12.9km az=12.0*

ISC 30 05:25:32.8±3.6, 37°.4N±0°.2×70°.7E±0°.1, h150^{km}, n11, σ0^{s}48/14, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.30	25	P	Pn	05 26 49.9	-0.6
	SNR=70						
UCH	Uchtor	5.68	30	P	Pn	05 26 55.8	+0.2
	SNR=9.9						
KK31	Karatay Array	5.75	358	P	Pn	05 26 56.1	0.0
	3.2nm,0.2s,baz=197,slow=15,SNR=57						
KK31				⇓S	Sn	05 28 01.2	-0.1
	3.0nm,0.3s,baz=190,slow=24,SNR=5.9						
EKS2	Erkin-Say	5.80	23	P	Pn	05 26 55.8	-1.1
	SNR=9.3						
AAK	Ala-Archa	6.02	28	P	Pn	05 26 60.0	+0.1
	SNR=6.3						
AAK	Ala-Archa	6.02	28	⇑P	Pn	05 26 59.9	+0.1
	2.7nm,0.4s						
AAK				⇓S	Sn	05 28 08.7	+0.7
	8.3nm,0.9s						
CHMS	Chumysh	6.43	27	P	Pn	05 27 05.0	-0.2
	SNR=6.2						
USP	Ospenovka	6.58	25	P	Pn	05 27 06.7	-0.5
	SNR=20						
TKM2	Tokmak 2	6.70	32	P	Pn	05 27 09.1	+0.2
	SNR=10						
TKM2	Tokmak 2	6.70	32	⇓P	Pn	05 27 08.8	-0.2
	4.6nm,0.3s						
TKM2				⇓S	Sn	05 28 24.1	-0.2
	2.1nm,0.6s						
AB31	Akbulak array	14.24	330	P	Pn	05 28 47.7	+0.2
	0.6nm,0.3s,baz=139,slow=14,SNR=39						

*NEIC **30** 05:33:58.1±1.6, 52°.67N±0°.08×173°.97W±0°.08, h184^{km}±4^{km}, mb4.8/353, ML4.4(AEIC), Error ellipse: s-maj=11.3km s-min=6.9km az=165.0*

*AEIC **30** 05:33:59±3.2, 52°.40N±0°.09×173°.87W±0°.09, h182^{km}±4^{km}, Error ellipse: s-maj=13.8km s-min=6.5km az=160.0*

*IDC **30** 05:34:01.1±0.8, 52°.83N×174°.02W, h207^{km}±5^{km}, mb4.0/24, mb1 4.2/26, mb1mx4.0/55, mbtmp4.5/26, Error ellipse: s-maj=12.5km s-min=8.9km az=172.0*

ISC 30 05:33:58.3±0.5, 52°.60N±0°.07×173°.93W±0°.04, h188^{km}±3^{km}, h187^{km}: pP-P, n650, σ1^{s}06/545, mb4.7/179, 8C-10D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	Korovin Southe	0.26	196		Pn	05 34 23.1	-0.2
KOSE					Sn	05 34 41.8	-0.7
KOWE	Korovin West	0.30	220		Pn	05 34 23.4	0.0
KOFP	Korovin Flat P	0.34	197		Pn	05 34 23.2	-0.3
ATKA	Atka Island	0.43	202	Pn	Pn	05 34 23.0	-0.7
ATKA				Sn	Sn	05 34 41.9	-1.3
GSTR	Great Sitkin T	1.40	250	Pn	Pn	05 34 29.9	-0.1
GSTR				Sn	Sn	05 34 53.8	-0.7
GSMY	Great Sitkin M	1.42	248		Pn	05 34 29.9	-0.2
GSTD	Great Sitkin T	1.46	249		Pn	05 34 30.4	-0.2
GSTD					Sn	05 34 53.7	-1.9
ADAG	Mount Adagdak	1.75	250		Pn	05 34 33.4	+0.1
ADK	Adak	1.84	248	Pn	Pn	05 34 33.9	-0.3
ADK				Sn	Sn	05 35 01.3	-0.6
KICM	Kanaga Island	2.12	253		Pn	05 34 37.2	+0.1
KIKV	Kanaga Island	2.12	251		Pn	05 34 37.1	0.0
KIMD	Kanaga Island	2.20	249		Pn	05 34 38.0	0.0
TAFP	Tanaga Falls P	2.59	256		Pn	05 34 42.5	+0.2
TAFP					Sn	05 35 14.4	-2.3
TASE	Tanaga Southea	2.64	255		Pn	05 34 43.3	+0.3
GALAA	Gareloi Lava P	3.09	256		Pn	05 34 48.8	+0.5
NIKH	Nikolski High	3.11	81		Pn	05 34 47.9	-0.6
NIKH				Sn	Sn	05 35 25.5	-2.2
OKSP	Okmok Steeple	3.48	77		Pn	05 34 53.1	0.0
OKFG	Magazine Ridge	3.73	75		Pn	05 34 56.4	+0.3
OKFG					Sn	05 35 41.2	-0.2
CERAA	Semis' Rag'd T	3.98	263		Pn	05 34 59.8	+0.4
CEAP	Semis' Anvil P	4.03	264		Pn	05 35 00.8	+0.9
CESW	Semis' Southwe	4.06	263		Pn	05 35 00.6	+0.4
AMKA	Amchitka	4.36	256	Pn	Pn	05 35 03.5	-0.6
MAPS	Makushin South	4.38	71		Pn	05 35 04.4	+0.1
MGOD	Makushin Gods	4.41	71		Pn	05 35 04.9	+0.1
MREP	Makushin Rep't	4.49	71		Pn	05 35 06.3	+0.5
MSW	Makushin Switc	4.49	70		Pn	05 35 06.0	+0.2
MNAT	Makushin Natee	4.54	71		Pn	05 35 06.8	+0.4
UNV	Unalaska Valle	4.64	71		Pn	05 35 07.5	0.0
UNV					Sn	05 36 01.1	-0.9
LSPA	Little Sitkin	4.65	265		Pn	05 35 08.8	+1.0
LSNW	Little Sitkin	4.68	265		Pn	05 35 09.0	+0.8
AKMO	Akutan Morgan	4.98	69		Pn	05 35 12.8	+0.8
AKGG	Akutan Green G	5.01	68		Pn	05 35 13.4	+0.9
AKBBA	Akutan Broad B	5.02	69		Pn	05 35 13.2	+0.6
AKLV	Akutan Long Va	5.03	69		Pn	05 35 13.2	+0.6
SPIA	Saint Paul Isl	5.06	23	Pn	Pn	05 35 14.2	+1.2
AKUT	Akutan	5.12	69	Pn	Pn	05 35 14.5	+0.6
AKUT					Sn	05 36 14.5	+1.2
WESP	Westdahl Peak	5.81	67		Pn	05 35 23.4	+0.6
WEBT	Westdahl Beart	5.82	66		Pn	05 35 23.7	+0.8
SSBA	Shishaldin	6.22	66		Pn	05 35 28.1	0.0
SSLW	Shishaldin Wes	6.22	66		Pn	05 35 28.3	+0.1
FALS	False Pass	6.64	66		Pn	05 35 33.8	+0.3
FALS					Sn	05 36 48.2	-0.6
DT1	Dutton Round H	7.34	65		Pn	05 35 42.1	-0.6
HAG	Hague Volcano	7.60	64		Pn	05 35 46.2	0.0
PS4A	Pavlof South-4	7.63	64		Pn	05

baz=240,SNR=28
TCOL CIGO, UAF Yank 18.10 37 P P 05 37 56.0 +0.4
COLA College 18.11 37 P P 05 37 55.9 +0.2
N25K Chitina, Valde 18.16 49 P P 05 37 54.9 -1.5
baz=254,SNR=23
N25K Chitina, Valde 18.16 49 P P 05 37 55.0 -1.4
N25K IAmb IAmb 05 38 00.4
comp=Z,39nm,0.7s
BILL Bilibino 18.18 336 P 05 37 57.4 +1.0
SUCK Suckling Hills 18.18 54 P P 05 37 56.4 -0.2
PAX Paxson 18.22 44 P P 05 37 57.8 +0.8
HDA Harding Lake 18.22 39 P P 05 37 56.3 -0.6
POKR Poker Plat Res 18.38 37 P P 05 37 57.9 -0.8
baz=240,SNR=17
IL31 18.41 38 P P 05 37 57.9 -1.1
ILAR Eielson Array 18.41 38 P P 05 37 57.1 -1.9
comp=Z,4.9nm,0.3s,baz=240,slow=9.9,SNR=158
ILAR ScP ScP 05 45 36.5 -1.6
comp=Z,0.2nm,0.3s,baz=281,slow=3.9,SNR=8.9
GLB Gilahina Butte 18.48 50 IAmb IAmb 05 38 03.8
comp=Z,43nm,0.9s
CRQM Cirque 18.63 52 IAmb IAmb 05 38 06.4
comp=Z,31nm,0.6s
COLD Coldfoot 18.69 29 P P 05 38 01.7 -0.2
baz=230,SNR=42
TGL Tana Glacier 18.78 52 IAmb IAmb 05 38 08.2
comp=Z,20nm,0.6s
ISLE Juniper Island 18.98 53 IAmb IAmb 05 38 27.2
comp=Z,21nm,0.6s
BALM Baldy 19.07 51 IAmb IAmb 05 38 25.5
comp=Z,14nm,0.7s
L26K Log Cabin Wild 19.14 45 P P 05 38 06.5 -0.5
baz=251,SNR=79
SCRK Sand Creek 19.21 42 P P 05 38 07.1 -0.7
baz=248,SNR=463
PRP Porcupine Dome 19.28 37 IAmb IAmb 05 38 12.8
comp=Z,33nm,0.7s
BARN Barnard Glacie 19.40 51 IAmb IAmb 05 38 24.5
comp=Z,17nm,0.6s
CTGM Chitina Glacie 19.54 52 IAmb IAmb 05 38 17.2
comp=Z,30nm,0.7s
TOLK Toolik Lake Re 19.80 26 P P 05 38 14.7 +0.7
baz=228,SNR=49
TOLK Toolik Lake Re 19.80 26 P P 05 38 14.9 +1.0
BCAR Beaver Creek A 19.84 46 P P 05 38 13.6 -0.8
FYU Fort Yukon 19.90 34 P P 05 38 15.2 +0.2
FYU IAmb IAmb 05 38 18.5
comp=Z,76nm,1.4s
PCA Pinnacle 19.93 55 P P 05 38 15.5 0.0
PCA IAmb IAmb 05 38 20.5
comp=Z,26nm,0.7s
K27K Chicken 20.02 43 P P 05 38 16.2 -0.1
baz=250
SEY Seymchan 20.47 313 P P 05 38 21.3 +0.2
comp=Z,7.1nm,0.7s,baz=181,slow=23,SNR=8.6
BMAR Burnt Mountain 20.57 33 P P 05 38 21.7 -0.5
EGAK Eagle 20.65 41 P P 05 38 23.0 -0.1
SKAG Skagway 22.37 57 P P 05 38 40.8 +0.2
SKAG IAmb IAmb 05 39 08.3
comp=Z,31nm,1.3s
INK Inuvik 24.73 35 P P 05 39 01.5 -0.3
comp=Z,13nm,0.3s,baz=232,slow=7.1,SNR=191
INK PcP PcP 05 42 33.4 +0.4
comp=Z,1.9nm,0.5s,baz=292,slow=0.7,SNR=6.1
INK ScP ScP 05 45 52.9 -1.0
comp=Z,1.0nm,0.8s,baz=64,slow=0.5,SNR=3.0
INK Inuvik 24.73 35 P P 05 39 01.5 -0.3
INK IAmb IAmb 05 39 03.4
comp=Z,17nm,0.5s
C36M Paulatuk 28.31 35 P P 05 39 33.4 -0.5
baz=260,SNR=6.4
C36M Paulatuk 28.31 35 P P 05 39 33.8 -0.1
C36M IAmb IAmb 05 39 35.6
comp=Z,13nm,0.5s
YKA Yellowknife Ar 32.19 49 P P 05 40 07.4 -0.6
comp=Z,2.0nm,0.4s,baz=276,slow=7.5,SNR=17
YKA PcP PcP 05 42 52.5 +0.7
comp=Z,2.1nm,0.6s,baz=280,slow=2.1,SNR=4.6
D03D Eldon 32.46 78 P P 05 40 12.3 +1.7
baz=298
B05A Bryant 32.71 76 P P 05 40 14.5 +1.7
baz=298,SNR=7.5
F04D Rainier, OR 33.22 81 P P 05 40 19.5 +2.3
baz=300
E04D Cinebar 33.25 79 P P 05 40 19.8 +2.4
baz=300
D05A Enumclaw 33.28 78 IAmb IAmb 05 40 21.2
comp=Z,21nm,0.9s
G03D McMinnville, O 33.51 82 P P 05 40 22.0 +2.3
baz=302
LON Longmire 33.60 79 IAmb IAmb 05 40 26.2
comp=Z,7.9nm,0.6s
F04A Amboy 33.65 80 IAmb IAmb 05 40 23.6
comp=Z,15nm,0.5s
I02D Swisshome 33.74 84 P P 05 40 24.3 +2.6
baz=303
LTY Liberty 34.04 77 IAmb IAmb 05 40 28.8
comp=Z,8.7nm,0.6s
H04D Lebanon 34.19 83 P P 05 40 28.0 +2.4
baz=302
J01E Myrtle Point 34.21 86 P P 05 40 28.2 +2.5
baz=304
I03D Drain, OR 34.27 84 P P 05 40 28.7 +2.5
baz=303
B08A Colville Reser 34.30 75 IAmb IAmb 05 40 29.7
comp=Z,18nm,0.8s
H04A Detroit Lake 34.44 82 P P 05 40 30.1 +2.3
H04A IAmb IAmb 05 40 30.6
comp=Z,22nm,0.7s
K02D Willamette Mer 34.63 86 P P 05 40 31.6 +2.1
baz=305
G05D Wamic, OR 34.67 81 P P 05 40 31.8 +2.1
baz=302
I04A Tendick Farm, 34.78 84 P P 05 40 32.9 +2.2
baz=303
E07A Sunnyside 34.87 78 IAmb IAmb 05 40 36.4
comp=Z,8.3nm,0.6s
L02E Cave Junction 34.97 87 P P 05 40 34.6 +2.3
baz=305
I05D Terrebonne, OR 35.13 82 P P 05 40 35.8 +2.1
baz=303
HAWA Hanford 35.14 78 IAmb IAmb 05 40 37.3
comp=Z,19nm,0.7s
D08A Wollman Farm, 35.17 77 IAmb IAmb 05 40 36.6
comp=Z,9.0nm,0.6s
C09A Chrisman Ranch 35.19 75 IAmb IAmb 05 40 36.5
comp=Z,14nm,0.6s
J04D Umpqua Nationa 35.27 84 P P 05 40 36.9 +1.8
baz=304
NEW Newport 35.64 74 P P 05 40 39.0 +1.0
baz=299,SNR=27
NEW Newport 35.64 74 IAmb IAmb 05 40 40.5
comp=Z,33nm,1.0s
L04D Klamath Falls 35.73 86 P P 05 40 40.9 +2.0
baz=305
YBH Yreka Blue Hor 35.76 87 P P 05 40 42.0 +2.9
J05D Fort Rock, OR 35.78 84 P P 05 40 41.8 +2.4
baz=304,SNR=15
K04D Chiloquin, OR 35.83 85 P P 05 40 41.6 +1.8
baz=305
M02C Callahan 35.88 87 P P 05 40 42.7 +2.6
baz=306
H11N2 WAKE ISLAND Hy 36.03 212 T T 06 17 25.8
baz=18,slow=76,SNR=44
H11N3 WAKE ISLAND Hy 36.04 212 T T 06 17 27.9
baz=18,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 36.05 212 T T 06 17 27.0
baz=18,slow=76,SNR=48
N02D Trinity Center 36.21 88 P P 05 40 44.8 +1.8
baz=307
M04C Macdoel 36.26 86 P P 05 40 45.4 +1.9
baz=306,SNR=5.6
K05A Summer Lake 36.30 84 P P 05 40 46.6 +2.8
K05A IAmb IAmb 05 40 47.0
comp=Z,15nm,0.6s
I07A Izee 36.38 81 IAmb IAmb 05 40 47.1
comp=Z,12nm,0.7s
WDC Whiskeytown Da 36.55 88 P P 05 40 48.2 +2.5
MJAR Matsushiro Arr 36.93 264 P P 05 40 49.6 +0.6
comp=Z,1.3nm,0.5s,baz=46,slow=9.1,SNR=4.5
MJAR Matsushiro Arr 36.93 264 IAmb IAmb 05 40 51.1
comp=Z,1.8nm,0.9s
WALA Waterton Lakes 37.12 71 IAmb IAmb 05 40 52.5
comp=Z,22nm,1.0s
MOD Modoc Plateau 37.13 85 IAmb IAmb 05 40 53.8
comp=Z,12nm,0.6s
O03E Paynes Creek 37.17 88 P P 05 40 52.7 +1.6
baz=307,SNR=11
H11S1 WAKE ISLAND Hy 37.24 211 T T 06 18 58.5
baz=17,slow=74
H11S2 WAKE ISLAND Hy 37.26 211 T T 06 19 01.6
baz=17,slow=74
H11S3 WAKE ISLAND Hy 37.26 211 T T 06 19 00.6
baz=17,SNR=36
RES Resolute Bay 37.37 25 P P 05 40 51.8 -0.4
comp=Z,2.0nm,0.7s,baz=275,slow=11,SNR=8.8
J08A Circle Bar Ran 37.41 82 IAmb IAmb 05 40 55.6
comp=Z,10.0nm,0.7s
GDXM Geysers 37.48 91 IAmb IAmb 05 40 57.3
comp=Z,14nm,1.0s
JTMT Jette 37.56 73 IAmb IAmb 05 40 56.4
comp=Z,19nm,1.0s
MSO Missoula 38.23 74 P P 05 41 00.6 +0.7
baz=302,SNR=19
MSO Missoula 38.23 74 IAmb IAmb 05 41 01.7
comp=Z,40nm,1.4s
AFDM Forest Hills D 38.50 89 P P 05 41 03.9 +1.7
RUBR Rubicon Trail 38.93 88 IAmb IAmb 05 41 16.2
comp=Z,13nm,0.7s
MFID Camas Ranch 38.97 80 P P 05 41 07.5 +1.4
PAHR Pah Rah Range 39.00 87 IAmb IAmb 05 41 09.3
comp=Z,18nm,0.8s
VCNR Virginia City 39.09 88 IAmb IAmb 05 41 10.5
comp=Z,19nm,0.8s
PNTR Pine Nut 39.25 88 P P 05 41 11.0 +2.4
YERR Yerington 39.53 88 IAmb IAmb 05 41 13.9
comp=Z,17nm,0.9s
WAKR Walker 39.71 88 IAmb IAmb 05 41 15.6
comp=Z,17nm,0.7s
HLID Hailey 39.73 79 P P 05 41 13.6 +1.1
baz=305
EGMT Eagleton 40.03 70 P P 05 41 14.9 +0.1
baz=302,SNR=10
EGMT Eaton 40.03 70 IAmb IAmb 05 41 16.4
comp=Z,18nm,0.6s
RYN Ryan 40.19 88 IAmb IAmb 05 41 19.1
comp=Z,17nm,1.0s
BOZ Bozeman (W) 40.24 74 P P 05 41 17.1 +0.5
baz=303
BOZ Bozeman (W) 40.24 74 IAmb IAmb 05 41 18.9
comp=Z,12nm,0.8s
PMPB Monarch Peak 40.35 92 IAmb IAmb 05 41 21.4
comp=Z,15nm,0.8s
NVAR Mina Array Bea 40.45 88 P P 05 41 20.4 +1.9
comp=Z,9.5nm,0.7s,baz=300,slow=7.5,SNR=14
NVAR PcP PcP 05 43 18.6 +1.2
comp=Z,1.3nm,0.7s,baz=288,slow=3.0,SNR=4.0
NVAR ScP ScP 05 46 49.5 +0.9
comp=Z,0.5nm,0.5s,baz=286,slow=4.6,SNR=4.8
NVAR Mina Array Bea 40.45 88 P P 05 41 20.3 +1.8
MDPB Devils Postpil 40.48 89 IAmb IAmb 05 41 22.1
comp=Z,20nm,0.7s
PAGB Antope Grade 41.01 92 IAmb IAmb 05 41 25.8
comp=Z,22nm,0.6s
TIN Tinemaha, Big 41.37 89 P P 05 41 27.4 +1.4
baz=310,SNR=9.7
SMMC Simmler 41.44 93 P P 05 41 28.3 +1.9
baz=312
H17A Grant Village 41.53 75 P P 05 41 29.3 +2.0
baz=305,SNR=12
VES Vestal, Richgr 41.64 91 P P 05 41 29.2 +1.2
baz=312,SNR=12
PKM Mcpherson Peak 41.83 93 P P 05 41 31.4 +1.6
baz=312,SNR=6.3
CWC Cottonwood Cre 41.86 90 P P 05 41 31.9 +1.9
baz=311
RLMT Red Lodge 41.89 73 P P 05 41 31.2 +1.1
baz=304
RLMT Red Lodge 41.89 73 IAmb IAmb 05 41 32.2
comp=Z,19nm,0.9s
ISA Isabella, Lake 42.13 91 P P 05 41 33.1 +1.1
baz=312,SNR=10
ISA Isabella, Lake 42.13 91 P P 05 41 33.3 +1.3
R11A Troy Canyon, C 42.16 86 P P 05 41 33.8 +1.5
baz=310,SNR=19
R11A Troy Canyon, C 42.16 86 IAmb IAmb 05 41 34.3
comp=Z,12nm,0.5s
AHID Auburn Hatcher 42.17 77 P P 05 41 33.0 +0.6
SPUT South Promonto 42.23 80 P P 05 41 32.8 0.0
ARVC Arvin 42.27 92 P P 05 41 34.6 +1.6
baz=312
MPMC Manual Prospec 42.48 90 P P 05 41 36.7 +1.7
baz=311,SNR=9.5
SCZ2 Santa Cruz Isl 42.54 94 P P 05 41 36.8 +1.5
baz=313
FURC Furnace Creek, 42.59 89 P P 05 41 37.5 +1.9
baz=311,SNR=12
KSRS Korea Array 42.60 273 pP pP 05 42 19.3 +4.4
comp=Z,1.0nm,0.5s,baz=58,slow=8.0,SNR=3.2
TPNV Topopah Spring 42.65 88 P P 05 41 38.2 +1.9
baz=311
TPNV Topopah Spring 42.65 88 P P 05 41 37.5 +1.2
TPNV IAmb IAmb 05 41 39.0
comp=Z,28nm,0.7s
OSI Osito Audit: C 42.68 92 P P 05 41 38.2 +1.8
baz=313
DUG Dugway, Tooele 42.69 82 P P 05 41 37.9 +1.3
baz=308
DUG Dugway, Tooele 42.69 82 P P 05 41 37.3 +0.8
LRMC Laurel Mtn Rad 42.74 91 P P 05 41 38.2 +1.2
baz=312
LAO LASA Array 42.77 70 P P 05 41 37.9 +0.8
baz=304
LAO LASA Array 42.77 70 P P 05 41 37.8 +0.7
LAO IAmb IAmb 05 41 38.8
comp=Z,24nm,0.7s
DGMT Dagmar 42.94 66 P P 05 41 38.3 0.0
baz=303
DGMT Dagmar 42.94 66 P P 05 41 38.1 -0.3
EDW2 Edwards Air Fo 42.95 91 P P 05 41 39.9 +1.3
baz=312,SNR=8.0
BW06 Boulder Array 43.08 76 P P 05 41 40.5 +0.7
baz=307
BW06 Boulder Array 43.08 76 IAmb IAmb 05 41 41.3
comp=Z,15nm,0.7s
PD31 Pinedale Array 43.08 76 P P 05 41 40.2 +0.4
PD31 IAmb IAmb 05 41 41.4
comp=Z,13nm,0.7s
PDAR Pinedale Array 43.08 76 P P 05 41 40.5 +0.7
comp=Z,13nm,0.6s,baz=306,slow=3.7,SNR=190
PDAR ScP ScP 05 46 59.1 0.0
comp=Z,1.2nm,0.9s,baz=219,slow=0.9,SNR=6.6
PDAR Pinedale Array 43.08 76 P P 05 41 40.0 +0.2
PRN Pahroc Range 43.08 86 IAmb IAmb 05 41 42.5
comp=Z,22nm,0.8s
PSUT Pine Spring 43.09 84 P P 05 41 40.7 +0.8
SNCC San Nicolas Is 43.12 94 P P 05 41 41.6 +1.6
baz=314
JLU Jordanelle 43.26 80 P P 05 41 42.0 +0.8
SHOC Shoshone, Teco 43.32 89 P P 05 41 43.1 +1.6
baz=312,SNR=11
MWC Mount Wilson 43.35 92 IAmb IAmb 05 41 44.4
comp=Z,26nm,1.2s
GSC Goldstone, Bar 43.39 90 P P 05 41 43.9 +1.7
baz=312,SNR=25
GSC Goldstone, Bar 43.39 90 IAmb IAmb 05 41 44.8
comp=Z,23nm,0.9s
BFSC Mount Baldy Ra 43.58 92 P P 05 41 45.2 +1.4
baz=313,SNR=15
CIS Catalina Islan 43.69 93 P P 05 41 45.7 +1.2
baz=314
TUQ Turquoise Moun 43.84 89 P P 05 41 47.2 +1.4
baz=312,SNR=7.4
SCI2 San Clemente I 43.90 94 P P 05 41 47.8 +1.7
baz=314
HEC Hector,Ludlow 43.99 90 P P 05 41 48.5 +1.5
baz=312
BBRC Big Bear Solar 44.02 91 P P 05 41 48.8 +1.4
baz=313
MURC Murrieta 44.30 92 P P 05 41 50.7 +1.4
baz=313
GMRC Granite Mounta 44.44 90 P P 05 41 52.0 +1.5
baz=312,SNR=11
PFO Pinyon Flats O 44.74 92 P P 05 41 54.1 +1.2
baz=313,SNR=5.9
PFO Pinyon Flats O 44.74 92 P P 05 41 54.5 +1.5
TPFO Pinon Flats 44.75 92 P P 05 41 54.1 +1.1
baz=313,SNR=5.7
BELC Belle Mtn. Jos 44.76 91 P P 05 41 54.0 +0.9
baz=313,SNR=6.2
109C Camp Elliot, M 44.84 93 P P 05 41 55.2 +1.6
baz=314
K22A Casper 44.94 75 P P 05 41 54.4 -0.1
baz=307,SNR=6.3
NEE2 Needles Airpor 45.08 89 P P 05 41 56.8 +1.3
baz=312
IRM Iron Mountain 45.17 90 P P 05 41 57.7 +1.4
baz=313,SNR=8.3
MONP2 Monument Peak 45.26 92 P P 05 41 58.2 +1.1
baz=314
BC3 Big Chuckawall 45.32 91 P P 05 41 58.5 +0.9
baz=313
O20A White River Ci 45.47 79 P P 05 41 59.4 +0.7
baz=309,SNR=12
O20A White River Ci 45.47 79 IAmb IAmb 05 42 00.1
comp=Z,24nm,1.0s
NOR Nord 45.48 5 i P P 05 41 57.9 -0.1
NOR Nord 45.48 5 i P P 05 41 57.9 -0.1
RSSD Black Hills 45.51 71 P P 05 41 58.8 -0.2
baz=307
RSSD Black Hills 45.51 71 P P 05 41 58.9 -0.2
SWSC Sam W. Stewart 45.60 92 P P 05 42 00.6 +1.0
baz=314
IKP In-Ko-Pah, Jac 45.61 92 P P 05 42 00.9 +1.2
baz=314
PDMCI Parker Dam,Lak 45.69 89 P P 05 42 01.4 +1.2
baz=313,SNR=5.9
MDND Maddock 45.84 65 P P 05 42 01.2 -0.1
baz=305
MDND Maddock 45.84 65 IAmb IAmb 05 42 02.2
comp=Z,37nm,1.1s
E28A Huff 45.97 67 IAmb IAmb 05 42 02.8
comp=Z,14nm,0.8s
GLA Glamis 46.12 91 P P 05 42 05.1 +1.4
baz=314
PV17 East Wray Mesa 46.22 81 IAmb IAmb 05 42 08.4
comp=Z,24nm,0.5s
PV18 Skein Mesa, Pa 46.27 81 P P 05 42 06.0 +1.1
PV12 Saucer Basin, 46.28 81 IAmb IAmb 05 42 09.5
comp=Z,26nm,1.3s
N23A Red Feather La 46.36 76 P P 05 42 06.4 +0.6
baz=309
PV13 Radium Mtn., P 46.38 81 IAmb IAmb 05 42 07.5
comp=Z,30nm,0.8s
PV02 Paradox Valley 46.40 81 IAmb IAmb 05 42 07.6
comp=Z,18nm,0.8s
ULM Lac du Bonnet 46.48 60 P P 05 42 05.2 -1.0
comp=Z,3.0nm,0.6s,baz=310,slow=7.7,SNR=12
ULM PcP PcP 05 43 37.3 -0.1
comp=Z,3.7nm,0.5s,baz=284,slow=2.2,SNR=7.6
WUAZ Wupatki 46.56 86 P P 05 42 08.8 +1.6
baz=312
WUAZ Wupatki 46.56 86 IAmb IAmb 05 42 09.8
comp=Z,16nm,0.8s
MVCO Mesa Verde 47.19 82 P P 05 42 12.8 +0.7
baz=311
ISCO Idaho Springs 47.25 77 P P 05 42 13.6 +0.9
baz=310,SNR=5.5
AGMN Agassiz Nation 47.62 62 P P 05 42 13.9 -1.1
baz=306
W18A Petrified Fore 47.82 85 P P 05 42 18.2 +1.2
baz=312,SNR=7.4
W18A Petrified Fore 47.82 85 IAmb IAmb 05 42 19.4
comp=Z,15nm,0.8s
S22A 4UR Ranch, Cre 47.84 80 P P 05 42 18.3 +1.0
baz=311,SNR=6.8
Q24A Divide 48.06 78 P P 05 42 19.6 +0.7
baz=310
214A Organ Pipe Nat 48.10 90 P P 05 42 20.3 +1.3
baz=314,SNR=6.2
SUSD Miller 48.23 68 P P 05 42 19.1 -0.7
baz=308
SDCO Great Sand Dun 48.64 79 P P 05 42 24.2 +0.9
baz=311,SNR=8.7
SONM Songino Array 48.76 298 P P 05 42 24.4 +0.5
comp=Z,0.5nm,0.7s,baz=46,slow=8.3,SNR=2.2
SONM pP pwP 05 43 10.9 +1.9
comp=Z,1.3nm,0.7s,baz=48,slow=8.2,SNR=4.0
SONM ScP ScP 05 47 21.0 -1.6
comp=Z,1.3nm,0.7s,baz=65,slow=2.8,SNR=5.1
TUC Tucson 49.09 88 P P 05 42 28.1 +1.4
baz=314
TUC Tucson 49.09 88 P P 05 42 28.2 +1.6
K31A O'Neill 49.47 70 IAmb IAmb 05 42 31.9
comp=Z,22nm,0.7s
KSCO Kaye Shedlock' 49.53 76 P P 05 42 30.8 +0.9
baz=311,SNR=5.4
KSCO Kaye Shedlock' 49.53 76 IAmb IAmb 05 42 31.8
comp=Z,19nm,1.1s
T25A Trinidad 49.69 79 P P 05 42 32.3 +1.0
baz=312,SNR=16
T25A Trinidad 49.69 79 IAmb IAmb 05 42 33.4
comp=Z,17nm,0.9s
ANMO Albuquerque 49.92 83 P P 05 42 33.8 +0.8
baz=313
ANMO Albuquerque 49.92 83 P P 05 42 33.3 +0.3
DAG Danmarks Havn 49.95 7 i P P 05 42 31.0 -1.3
comp=Z,4.7nm,1.0s
DAG Danmarks Havn 49.95 7 i P P 05 42 31.1 -1.3
DAG IAmb IAmb 05 42 32.5
comp=Z,4.7nm,1.0s
ECSD EROS Data Cent 49.99 67 P P 05 42 32.0 -1.2
baz=309,SNR=8.2
EYMN Ely 50.16 60 P P 05 42 33.1 -1.3
baz=308
HHC Hu-ho-hao-te 50.21 288 eP P 05 42 37.0 +2.0
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.7s
BGNE Belgrade 50.59 71 P P 05 42 37.5 -0.3
baz=310,SNR=5.2
121A Cookes Peak, D 50.77 86 P P 05 42 40.6 +1.3
baz=314,SNR=8.1
121A Cookes Peak, D 50.77 86 IAmb IAmb 05 42 41.7
comp=Z,11nm,0.8s
SPMN Marine on St. 51.16 64 P P 05 42 41.1 -0.8
baz=310
SUMG Summit 51.35 16 P P 05 42 42.5 -0.8
SUMG IAmb IAmb 05 42 43.9
comp=Z,9.2nm,0.7s
SUMG Summit 51.35 16 i P P 05 42 42.8 -0.5
comp=Z,23nm,0.7s
SUMG Summit 51.35 16 i P P 05 42 42.8 -0.5
SUMG IAmb IAmb 05 42 43.9
comp=Z,23nm,0.7s
CBKS Cedar Bluff 51.36 74 P P 05 42 44.0 +0.6
baz=312,SNR=7.6
CBKS Cedar Bluff 51.36 74 IAmb IAmb 05 42 44.8
comp=Z,35nm,1.1s
I37A Lemond, Waseca 51.60 65 IAmb IAmb 05 42 45.5
comp=Z,19nm,0.9s
NJ2 Nanjing 51.75 274 eP P 05 42 46.0 -0.4
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
DBG Daneborg 52.15 9 i P P 05 42 47.0 -1.7
R32A Long Quarter, 52.22 74 IAmb IAmb 05 42 50.1
comp=Z,11nm,0.6s
MNTX Cornudas Mount 52.81 85 P P 05 42 55.4 +1.2
baz=315,SNR=33
MNTX Cornudas Mount 52.81 85 IAmb IAmb 05 42 56.5
comp=Z,14nm,0.9s
MSTX Muleshoe 52.81 81 P P 05 42 54.8 +0.5
baz=314
AMTX Amarillo 52.84 79 P P 05 42 54.9 +0.4
baz=313
KSU1 Kansas State U 52.99 72 P P 05 42 54.7 -0.8
baz=312
KSU1 Kansas State U 52.99 72 IAmb IAmb 05 42 55.7
comp=Z,21nm,1.1s
SCIA State Center 53.08 67 P P 05 42 55.5 -0.5
baz=311
I40A Norwalk 53.22 64 IAmb IAmb 05 42 56.5
comp=Z,14nm,0.5s
SFJD Kangerlussuaq 53.34 24 i P P 05 42 56.8 -0.7
SFJD Kangerlussuaq 53.34 24 i P P 05 42 56.9 -0.7
JFWS Jewell Farm 54.06 64 P P 05 43 01.7 -1.5
baz=312
JFWS Jewell Farm 54.06 64 IAmb IAmb 05 43 02.5
comp=Z,12nm,0.8s
ICESG Greenland Ices 54.08 19 i P P 05 43 01.6 -1.7
ICESG IAmb IAmb 05 43 02.9
comp=Z,22nm,0.5s
L40A Anamosa 54.09 66 IAmb IAmb 05 43 02.9
comp=Z,7.4nm,0.6s
WMOK Wichita Mounta 54.67 77 P P 05 43 08.0 +0.3
baz=314,SNR=7.4
OK031 S. Brethren Rd 54.99 75 IAmb IAmb 05 43 10.2
comp=Z,11nm,0.7s
OK030 Cody Creek RV 55.04 75 IAmb IAmb 05 43 11.8
comp=Z,22nm,1.2s
N41A Harden Midland 55.20 67 IAmb IAmb 05 43 10.7
comp=Z,10nm,0.5s

ZALV	Zalesovo Beam	55.33	315	P		P		05 43 11.5	-0.5
	comp=Z,0.7nm,0.4s,baz=24,slow=7.9,SNR=2.5								
TX32	Lajitas Array	55.52	86	IAmb		IAmb		05 43 15.6	
	comp=Z,13nm,0.9s								
TXAR	Lajitas Array	55.52	86	P		P		05 43 14.8	+0.8
	comp=Z,9.7nm,0.7s,baz=300,slow=4.9,SNR=126								
TXAR				PcP		PcP		05 44 12.6	+1.1
	comp=Z,1.9nm,0.5s,baz=229,slow=1.3,SNR=9.1								
TXAR				ScP		ScP		05 47 52.5	+0.4
	comp=Z,0.4nm,0.6s,baz=310,slow=3.8,SNR=5.6								
TXAR	Lajitas Array	55.52	86	P		P		05 43 14.5	+0.6
ABTX	Abilene, Hawle	55.63	80	P		P		05 43 14.9	+0.3
	baz=315,SNR=5.6								
ABTX	Abilene, Hawle	55.63	80	IAmb		IAmb		05 43 16.2	
	comp=Z,18nm,1.1s								
TUL1	Leonard	55.63	74	P		P		05 43 14.2	-0.3
	baz=314								
S39A	Bolivar	55.85	71	IAmb		IAmb		05 43 14.8	
	comp=Z,7.5nm,0.8s								
U38A	Gravette	56.09	73	IAmb		IAmb		05 43 17.7	
	comp=Z,8.2nm,0.8s								
HDIL	Hopedale	56.18	66	P		P		05 43 17.2	-1.1
	baz=313,SNR=7.2								
P43A	Skaggs, Pawnee	56.67	67	IAmb		IAmb		05 43 21.6	
	comp=Z,22nm,0.9s								
LSQQ	Lebel-sur-Quev	56.75	51	P		P		05 43 20.5	-1.7
	baz=314								
CCM	Cathedral Cave	56.79	69	P		P		05 43 21.2	-1.4
	baz=314								
CCM	Cathedral Cave	56.79	69	P		P		05 43 21.1	-1.5
CCM				IAmb		IAmb		05 43 22.0	
	comp=Z,8.4nm,0.6s								
X37A	Clayton	56.80	75	IAmb		IAmb		05 43 23.9	
	comp=Z,14nm,0.6s								
MGMO	Mountain Grove	56.83	71	IAmb		IAmb		05 43 22.4	
	comp=Z,12nm,0.8s								
O44A	Mansfield	56.91	66	IAmb		IAmb		05 43 23.1	
	comp=Z,13nm,0.6s								
U40A	Yellville	57.04	72	P		P		05 43 23.1	-1.3
	baz=314,SNR=14								
U40A	Yellville	57.04	72	IAmb		IAmb		05 43 23.9	
	comp=Z,38nm,1.4s								
JCT	Junction City	57.05	82	P		P		05 43 24.3	-0.3
	baz=316,SNR=6.8								
JCT	Junction City	57.05	82	IAmb		IAmb		05 43 28.4	
	comp=Z,10nm,0.6s								
W39A	Magazine	57.31	74	P		P		05 43 25.9	-0.4
	baz=315								
W39A	Magazine	57.31	74	IAmb		IAmb		05 43 26.9	
	comp=Z,15nm,1.1s								
ARCES	ARCESS Array B	57.35	352	P		P		05 43 25.0	-1.1
	comp=Z,3.1nm,0.7s,baz=14,slow=7.2,SNR=9.5								
ARCES				PcP		PcP		05 44 17.1	-0.7
	comp=Z,13nm,1.1s,baz=338,slow=3.2,SNR=5.3								
CHGQ	Chibougamau	57.38	49	P		P		05 43 24.7	-1.9
	baz=315								
WHTX	Lake Whitney,	57.38	79	P		P		05 43 27.4	+0.5
	baz=315								
Q44A	Meyer Farm, Va	57.47	67	IAmb		IAmb		05 43 27.4	
	comp=Z,20nm,1.0s								
SFIN	Lafayette	57.52	65	P		P		05 43 27.0	-0.7
	baz=314,SNR=5.0								
SFIN	Lafayette	57.52	65	IAmb		IAmb		05 43 27.9	
	comp=Z,17nm,0.8s								
T42A	Van Buren	57.59	70	IAmb		IAmb		05 43 27.1	
	comp=Z,11nm,0.6s								
MIAR	Mount Ida	57.88	74	P		P		05 43 30.1	-0.3
	baz=315,SNR=12								
MIAR	Mount Ida	57.88	74	IAmb		IAmb		05 43 31.3	
	comp=Z,14nm,0.8s								
LZH	Lanzhou	57.89	289	*e*P		P		05 43 29.5	-1.1
LZH				pP		pP		05 44 09.5	-2.7
LZH				sP		sP		05 44 28.3	-4.0
LZH				PP		PP		05 45 50.8	+10
LZH				pmax		pmax			
	comp=Z,15nm,1.1s								
LZH				pmax		pmax			
	comp=Z,84nm,4.9s								
AAM	Ann Arbor	58.05	61	P		P		05 43 30.6	-0.8
	baz=314								
WHAR	Wooly Hollow	58.11	72	IAmb		IAmb		05 43 31.9	
	comp=Z,12nm,1.2s								
PBMO	Poplar Bluff	58.14	70	IAmb		IAmb		05 43 31.7	
	comp=Z,15nm,0.8s								
435B	Jarrell	58.17	80	P		P		05 43 32.7	+0.3
	baz=316								
S44A	Carbondale	58.17	68	IAmb		IAmb		05 43 32.1	
	comp=Z,15nm,0.7s								
W41B	Gary Mavity, V	58.22	72	P		P		05 43 31.7	-0.9
	baz=315,SNR=6.5								
W41B	Gary Mavity, V	58.22	72	IAmb		IAmb		05 43 32.2	
	comp=Z,9.4nm,0.6s								
X40A	Basin Creek Fa	58.36	73	P		P		05 43 33.1	-0.6
	baz=315								
I51A	Listowel	58.39	58	P		P		05 43 33.3	-0.4
	baz=314								
ALGO	Algonquin Park	58.39	55	P		P		05 43 32.2	-1.5
	baz=315								
G54A	Lake Saint Pet	58.76	55	P		P		05 43 35.5	-0.8
	baz=315								
833A	Chaparral WMA,	58.84	83	P		P		05 43 37.4	+0.4
	baz=317								
833A	Chaparral WMA,	58.84	83	IAmb		IAmb		05 43 38.7	
	comp=Z,12nm,0.9s								
D55A	Sainte-Anne-du	58.90	52	P		P		05 43 35.7	-1.5
	baz=315								
P48A	Milroy	59.08	64	IAmb		IAmb		05 43 38.0	
	comp=Z,19nm,0.8s								
NATX	Nacogdoches	59.22	77	P		P		05 43 39.1	-0.5
	baz=316								
D56A	ZEC Mazanza, M	59.23	52	P		P		05 43 38.4	-1.1
	baz=316								
Z41A	Richland Creek	59.25	74	P		P		05 43 39.7	0.0
	baz=316								
P49A	Miami Univ. Ec	59.41	64	P		P		05 43 39.5	-1.3
	baz=315								
P49A	Miami Univ. Ec	59.41	64	IAmb		IAmb		05 43 40.3	
	comp=Z,12nm,0.9s								
WCI	Wyandotte Cave	59.46	66	P		P		05 43 40.3	-0.9
	baz=315								
WCI	Wyandotte Cave	59.46	66	P		P		05 43 40.7	-0.4
WCI				IAmb		IAmb		05 43 41.3	
	comp=Z,15nm,0.9s								
X43A	Marvell	59.47	72	P		P		05 43 40.7	-0.6
	baz=316								
M51A	Elyria	59.51	61	P		P		05 43 40.8	-0.7
	baz=315								
N51A	Ashland	59.70	61	P		P		05 43 41.9	-0.9
	baz=315								
E57A	Chemin Saint G	59.97	52	P		P		05 43 43.1	-1.5
	baz=316								
WVT	Waverly	60.08	69	P		P		05 43 44.9	-0.5
	baz=316								
WVT	Waverly	60.08	69	P		P		05 43 45.0	-0.5
WVT				IAmb		IAmb		05 43 45.9	
	comp=Z,6.2nm,0.6s								
O51A	Pataskala	60.13	62	P		P		05 43 45.0	-0.7
	baz=316								
N52A	McGinn's Farm,	60.15	61	P		P		05 43 44.5	-1.3
	baz=316								
OXF	Oxford	60.33	71	P		P		05 43 46.7	-0.4
	baz=316,SNR=11								
OXF	Oxford	60.33	71	P		P		05 43 46.8	-0.4
E58A	La Victoria	60.42	51	P		P		05 43 45.7	-1.9
	baz=317								
G57A	Newington	60.51	53	P		P		05 43 46.5	-1.6
	baz=316								
R50A	Paris	60.52	65	IAmb		IAmb		05 43 48.4	
	comp=Z,14nm,0.6s								
Q51A	Peebles	60.52	63	IAmb		IAmb		05 43 48.8	
	comp=Z,15nm,0.8s								
O52A	Adamsville	60.56	62	P		P		05 43 47.4	-1.2
	baz=316								
O52A	Adamsville	60.56	62	IAmb		IAmb		05 43 48.4	
	comp=Z,14nm,0.7s								
Y45A	Yeager Farm, C	60.72	72	P		P		05 43 49.8	+0.1
M54A	Oil Creek Stat	60.72	59	P		P		05 43 48.9	-0.9
	baz=316								
PLAL	Pickwick Lake	60.76	70	IAmb		IAmb		05 43 50.1	
	comp=Z,14nm,0.7s								
O53A	New Philadelph	60.80	61	P		P		05 43 49.7	-0.6
	baz=316								
V48A	Smith Brothers	60.93	68	IAmb		IAmb		05 43 51.4	
	comp=Z,7.1nm,0.8s								
N54A	Moraine State	60.94	60	P		P		05 43 50.6	-0.6
	baz=316								
CLTN	Cedars of Leba	60.96	68	IAmb		IAmb		05 43 52.5	
	comp=Z,19nm,0.8s								
U49A	Red Boiling Sp	60.97	67	IAmb		IAmb		05 43 51.7	
	comp=Z,20nm,1.4s								
ZAIG	Zacatecas	61.00	90	P		P		05 43 52.9	+0.7
K56A	Middlesex	61.08	57	P		P		05 43 52.0	-0.1
	baz=316,SNR=6.2								
WMQ	Urumqi	61.15	305	*e*P		P		05 43 55.0	+2.4
Q52A	Bidwell	61.16	63	P		P		05 43 51.7	-0.9
	baz=316								
M55A	Ridgway	61.22	59	IAmb		IAmb		05 43 56.2	
	comp=Z,30nm,1.5s								
P53A	Whipple	61.25	62	P		P		05 43 52.5	-0.8
	baz=316								
P53A	Whipple	61.25	62	IAmb		IAmb		05 43 53.4	
	comp=Z,11nm,0.6s								
E60A	Ste Agathe de	61.29	50	P		P		05 43 52.2	-1.2
	baz=317								
O54A	Avella	61.30	61	P		P		05 43 53.1	-0.5
	baz=316								
VBMS	Vicksburg	61.33	74	P		P		05 43 54.0	+0.1
L56A	Greenwood	61.36	57	P		P		05 43 53.7	-0.4
	baz=316,SNR=8.3								
S51A	Beattyville	61.38	65	IAmb		IAmb		05 43 54.4	
	comp=Z,12nm,0.7s								
K57A	Scipio Center	61.46	56	P		P		05 43 54.2	-0.5
	baz=317								
H59A	Cadyville	61.48	53	P		P		05 43 54.1	-0.6
	baz=317								
M56A	Emporium	61.51	58	P		P		05 43 54.5	-0.6
	baz=316								
MKAR	Makanchi Array	61.58	311	P		P		05 43 54.3	-1.1
	comp=Z,1.2nm,0.5s,baz=48,slow=5.8,SNR=11								
N55A	Marion Center	61.60	59	P		P		05 43 54.8	-0.9
	baz=316								
Q53A	Leroy	61.63	62	P		P		05 43 55.6	-0.3
	baz=316,SNR=6.1								
P54A	Buon	61.66	61	P		P		05 43 55.5	-0.5
	baz=316,SNR=5.1								
X48A	Hartselle	61.73	70	IAmb		IAmb		05 43 56.5	
	comp=Z,14nm,1.2s								
R53A	Hurricane	61.78	63	P		P		05 43 56.5	-0.3
	baz=316								
SWET	Sewanee	61.81	68	IAmb		IAmb		05 43 56.5	
	comp=Z,7.9nm,0.7s								
L57A	Andrews Acres	61.82	57	P		P		05 43 56.5	-0.6
	baz=317								
O55A	Ligonier	61.84	60	P		P		05 43 56.6	-0.7
	baz=317								
BRVK	Borovoye	61.86	322	P		P		05 43 57.6	+0.5
BRVK				IAmb		IAmb		05 43 58.0	
	comp=Z,6.2nm,0.7s								
N56A	West Decatur	61.86	59	P		P		05 43 56.6	-0.8
	baz=317								
D62A	Allapoint, All	61.87	48	P		P		05 43 55.9	-1.4
	baz=318								
Q54A	Coxs Mills	61.91	62	P		P		05 43 57.3	-0.4
	baz=316								
Q54A	Coxs Mills	61.91	62	IAmb		IAmb		05 43 58.3	
	comp=Z,20nm,1.1s								
J59A	Piesco	61.94	54	P		P		05 43 56.6	-1.2
	baz=317								
MCWV	Mont Chateau	61.96	61	P		P		05 43 57.5	-0.5
	baz=317								
P55A	Reedsville	62.08	61	P		P		05 43 58.3	-0.5
	baz=317								
BINY	Binghamton	62.12	56	P		P		05 43 58.5	-0.6
	baz=317								
S53A	Williamson	62.15	64	P		P		05 43 58.8	-0.5
	baz=317								
M57A	Sunshine Farm,	62.16	58	P		P		05 43 58.9	-0.4
	baz=317								
W50A	Signal Mountai	62.18	68	IAmb		IAmb		05 43 59.9	
	comp=Z,19nm,1.0s								
O56A	Blue Knob Stat	62.19	59	P		P		05 43 58.6	-1.0
	baz=317								
TZTN	Tazewell	62.19	66	P		P		05 43 59.5	-0.1
	baz=317,SNR=5.4								
TZTN	Tazewell	62.19	66	IAmb		IAmb		05 44 00.3	
	comp=Z,11nm,0.8s								
K59A	Cooperstown	62.27	55	P		P		05 43 59.7	-0.4
	baz=317								
V51A	Loudon	62.28	67	IAmb		IAmb		05 44 00.3	
	comp=Z,12nm,0.5s								
L58A	Harry Jones Me	62.30	56	P		P		05 43 59.7	-0.6
	baz=317								
Q55A	Buckhannon	62.31	61	P		P		05 44 00.0	-0.4
	baz=317								
D63A	Stockholm	62.34	48	P		P		05 44 00.0	-0.4
	baz=319								
N57A	Milroy	62.37	58	P		P		05 44 00.3	-0.4
	baz=317								
R54A	Victor	62.41	63	P		P		05 44 00.8	-0.2
	baz=317,SNR=10								
T53A	Wise	62.44	65	P		P		05 44 01.3	0.0
	baz=317,SNR=6.2								
CPCT	Cooper Cave	62.44	67	IAmb		IAmb		05 44 01.2	
	comp=Z,8.1nm,0.5s								
M58A	Price's Panora	62.48	57	P		P		05 44 01.1	-0.4
	baz=317								
S54A	Dingess, Beckl	62.51	63	P		P		05 44 01.5	-0.3
	baz=317,SNR=7.6								
G62A	West of Eustis	62.57	51	P		P		05 44 00.9	-1.1
	baz=318								
P56A	Dayton Farm, R	62.60	60	P		P		05 44 01.8	-0.5
	baz=317								
E63A	Oxbow	62.65	49	P		P		05 44 01.1	-1.4
	baz=319								
V52A	Sevierville	62.67	66	IAmb		IAmb		05 44 03.3	
	comp=Z,14nm,1.1s								
TKL	Tuckaleechee C	62.71	66	IAmb		IAmb		05 44 03.4	
	comp=Z,10nm,0.8s								
O57A	Amberson	62.72	59	P		P		05 44 02.7	-0.4
	baz=317,SNR=5.9								
N58A	Sunbury	62.74	58	P		P		05 44 02.5	-0.6
	baz=317								
H62A	Milan	62.75	52	P		P		05 44 01.7	-1.5
	baz=318								
Q56A	Snyder Ridge,	62.75	61	P		P		05 44 02.6	-0.7
	baz=317								
LRAL	Lakeview Retre	62.78	71	P		P		05 44 02.2	-1.3
	baz=317								
R55A	Marlinton	62.81	62	P		P		05 44 03.2	-0.5
	baz=317								
M59A	Waymart	62.88	57	P		P		05 44 03.6	-0.6
	baz=318								
T54A	Tazewell	62.91	64	P		P		05 44 04.2	-0.2
	baz=317,SNR=15								
E64A	Bridgewater	62.93	48	P		P		05 44 03.1	-1.2
	baz=319								
S55A	Lewisburg	62.97	63	P		P		05 44 04.5	-0.3
	baz=317,SNR=5.7								
W52A	Murphy	63.03	67	IAmb		IAmb		05 44 05.1	
	comp=Z,9.6nm,0.5s								
P57A	Homestead Farm	63.05	60	P		P		05 44 04.3	-0.9
	baz=317								
ARU	Arti	63.09	330	P		P		05 44 05.3	+0.1
ARU				IAmb		IAmb		05 44 05.7	
	comp=Z,7.4nm,0.5s								
R56A	Bull Pasture M	63.10	61	P		P		05 44 04.9	-0.8
	baz=317								
O58A	Lewisberry	63.16	59	P		P		05 44 05.2	-0.7
	baz=317								
U54A	Nelsons Funny	63.16	64	P		P		05 44 06.3	+0.1
	baz=317								
N59A	State Game Lan	63.17	57	P		P		05 44 05.6	-0.4
	baz=318								
Q57A	Strasburg	63.17	60	P		P		05 44 05.5	-0.6
	baz=317								
V53A	Saluda	63.24	66	IAmb		IAmb		05 44 06.8	
	comp=Z,6.7nm,0.5s								
T55A	Pulaski	63.30	63	P		P		05 44 06.8	-0.2
	baz=317,SNR=7.2								
O59A	Robesonia	63.40	58	P		P		05 44 06.9	-0.6
	baz=318								
P58A	Pank, Wackersv	63.42	59	P		P		05 44 06.9	-0.8
	baz=318								
BLA	Blacksburg	63.43	63	P		P		05 44 07.7	-0.1
	baz=317								
BLA	Blacksburg	63.43	63	IAmb		IAmb		05 44 09.2	
	comp=Z,29nm,1.3s								
M60A	Port Jervis	63.45	56	P		P		05 44 07.2	-0.6
	baz=318								
N60A	Cedar Hill Far	63.55	57	P		P		05 44 08.0	-0.4
	baz=318								
S56A	Natural Bridge	63.55	62	P		P		05 44 08.2	-0.3
	baz=317,SNR=11								
U55A	TA2, Sparta	63.60	64	P		P		05 44 08.9	-0.1
	baz=317,SNR=9.8								
H64A	Troy	63.62	50	P		P		05 44 08.1	-0.8
	baz=319								
Z51A	Franklin	63.62	69	IAmb		IAmb		05 44 08.7	
	comp=Z,14nm,0.9s								
Q58A	Fox Den Farm,	63.62	60	P		P		05 44 08.5	-0.5
	baz=318,SNR=5.3								
V54A	Nebo	63.64	65	P		P		05 44 09.1	-0.1
	baz=317,SNR=5.9								
R57A	Stanardsville	63.65	61	P		P		05 44 08.9	-0.3
	baz=318,SNR=7.1								
BG3	Lake Jocassee	63.66	66	IAmb		IAmb		05 44 09.9	
	comp=Z,15nm,1.2s								
T56A	Rocky Mt	63.77	63	P		P		05 44 09.3	-0.7
	baz=318								
P59A	Jarrettsville	63.79	59	P		P		05 44 09.2	-0.9
	baz=318								
O60A	Telford	63.80	57	P		P		05 44 09.4	-0.7
	baz=318								
S57A	Dark Hollow, R	63.82	62	P		P		05 44 09.5	-0.8
	baz=318								
Y52A	Lilburn	63.85	68	IAmb		IAmb		05 44 11.0	
	comp=Z,9.3nm,0.8s								
R58A	Rapidan	63.93	61	P		P		05 44 10.5	-0.5
	baz=318								
V55A	Taylorsville	63.99	65	P		P		05 44 11.1	-0.3
	baz=318,SNR=5.7								
V55A	Taylorsville	63.99	65	IAmb		IAmb		05 44 12.3	
	comp=Z,14nm,0.9s								
W54A	Cherokee Point	64.01	66	P		P		05 44 11.2	-0.4
	baz=318,SNR=5.1								
U56A	King	64.08	64	P		P		05 44 11.6	-0.5
	baz=318,SNR=6.0								
BRAL	Brewton	64.12	72	P		P		05 44 11.9	-0.4
	baz=318								
T57A	Hurt	64.22	62	P		P		05 44 12.2	-0.7
	baz=318								
R58B	Mineral	64.24	61	P		P		05 44 12.5	-0.5
	baz=318								
X54A	Belton	64.30	66	P		P		05 44 13.0	-0.5
	baz=318,SNR=11								
152A	Waverly Hall	64.36	69	IAmb		IAmb		05 44 13.4	
	comp=Z,11nm,0.6s								
S58A	Poland Farm, P	64.41	61	P		P		05 44 13.4	-0.7
	baz=318								
PAULI	Pauline	64.41	66	IAmb		IAmb		05 44 14.3	
	comp=Z,8.0nm,0.6s								
V56A	Mocksville	64.41	64	P		P		05 44 13.7	-0.5
	baz=318								
KMSC	Kings Mountain	64.44	65	P		P		05 44 14.1	-0.3
	baz=318,SNR=9.4								
GOGA	Godfrey	64.52	68	P		P		05 44 14.1	-0.9
	baz=318,SNR=7.4								
GOGA	Godfrey	64.52	68	IAmb		IAmb		05 44 15.0	
	comp=Z,11nm,0.7s								
U57A	Blanch	64.59	63	P		P		05 44 14.6	-0.7
	baz=318								
T58A	Grand View Acr	64.64	62	P		P		05 44 14.9	-0.7
	baz=318								
S59A	Mechanicsville	64.70	61	P		P		05 44 15.2	-0.8
	baz=318								
V57A	Coltrane Farms	64.75	64	P		P		05 44 15.7	-0.7
	baz=318								
X55A	Gracelyn & Ava	64.77	66	P		P		05 44 15.8	-0.7
	baz=318,SNR=9.6								
W56A	Indian Trail	64.86	65	P		P		05 44 16.6	-0.5
	baz=318								
X56A	White Oak	65.09	65	P		P		05 44 18.2	-0.4
	baz=318,SNR=5.9								
JSC	Jenkinsville	65.12	66	IAmb		IAmb		05 44 19.4	
	comp=Z,8.6nm,0.6s								
T59A	Double "B" Far	65.15	61	P		P		05 44 18.5	-0.4
	baz=318								
W57A	Gilead	65.17	64	P		P		05 44 18.7	-0.4
	baz=318								
V58A	Windy Hill, Pi	65.18	63	P		P		05 44 18.8	-0.3
	baz=318								
FINES	FINESS Array B	65.19	350	P		P		05 44 17.7	-1.1
	comp=Z,3.8nm,0.9s,baz=4.2,slow=7.9,SNR=9.8								
FINES				pP		pwP		05 45 06.1	0.0
	comp=Z,4.6nm,0.7s,baz=28,slow=8.9,SNR=4.7								
BIRD	Birdtown, Kers	65.29	65	IAmb		IAmb		05 44 20.6	
	comp=Z,13nm,0.7s								
U59A	Littleton	65.48	62	P		P		05 44 20.6	-0.5
	baz=318								
X57A	Johnson Farm,	65.63	65	P		P		05 44 21.9	-0.1
	baz=318								
V59A	Middlesex	65.68	63	P		P		05 44 22.2	-0.1
	baz=318,SNR=6.6								
W58A	Raeford	65.69	64	P		P		05 44 22.0	-0.4
	baz=318,SNR=5.0								
U60A	Pendleton	65.73	61	P		P		05 44 21.7	-0.9
	baz=319								
Z56A	Williston	65.77	67	P		P		05 44 22.3	-0.6
	baz=318,SNR=8.5								
Y57A	Sumter	65.80	65	P		P		05 44 22.2	-0.9
	baz=318								
TIGA	Tifton	65.91	69	P		P		05 44 23.1	-0.8
	baz=318								
X58A	Rowland	65.98	64	P		P		05 44 24.1	-0.2
	baz=318								
Z57A	Bowman	66.16	66	P		P		05 44 25.2	-0.2
	baz=318,SNR=10								
V60A	Jim Taylor Roa	66.20	62	P		P		05 44 24.9	-0.8
	baz=319								
X59A	McDuffie Farm,	66.37	64	P		P		05 44 26.4	-0.3
	baz=319								
157A	Early Branch	66.45	67	P		P		05 44 27.4	+0.1
	baz=319								
NHSC	New Hope	66.59	66	P		P		05 44 28.1	-0.1
	baz=319								
Z58A	St. Stephen	66.63	65	P		P		05 44 28.1	-0.2
	baz=319								
NB2	NORSAR Subarra	66.64	357	P		P		05 44 27.4	-0.7
	comp=Z,0.5nm,0.4s,baz=3.3,slow=6.5								
NB2	NORSAR Subarra	66.64	357	P		pP		05 45 17.0	+6.2
	comp=Z,1.2nm,0.7s,baz=1.3,slow=6.2								
NOA	NORSAR Array B	66.64	357	P		P		05 44 27.3	-0.7
	comp=Z,1.2nm,0.8s,baz=4.2,slow=6.4,SNR=4.6								
NOA				pP		pwP		05 45 16.4	+0.7
	comp=Z,2.0nm,0.8s,baz=0.6,slow=6.3,SNR=5.5								
Y59A	Loris	66.66	64	P		P		05 44 27.7	-0.8
	baz=319								
X60A	Albert Glenn T	66.71	63	P		P		05 44 28.7	-0.2
	baz=319								
Z59A	Georgetown, SC	66.99	65	P		P		05 44 30.7	0.0
	baz=319								
ABKAR	Akbulak array	68.71	325	P		P		05 44 41.0	-0.2
ABKAR	Akbulak array	68.71	325	IAmb		IAmb		05 44 41.8	
	comp=Z,14nm,1.3s								
KK31	Karatay Array	69.71	315	P		P		05 44 47.3	-0.1
KKAR	Karatay Array	69.71	315	P		P		05 44 46.9	-0.6
KK

GRA1	**Grafenberg Arr**	**77.99**	**357**	P	**P**	**05 45 35.5**	**+0.1**
GRA1				IAmb	IAmb	05 45 36.7	
	comp=Z,18nm,0.9s						
VRAC	**Vranov**	**78.08**	**353**	⇓P	**P**	**05 45 35.3**	**-0.5**
VRAC	**Vranov**	**78.08**	**353**	*eP*	**P**	**05 45 35.7**	**-0.2**
KRUC	**Moravsky**	**78.34**	**353**	*eP*	**P**	**05 45 37.0**	**-0.3**
JAVC	**Velka Javorina**	**78.44**	**352**	*eP*	**P**	**05 45 38.8**	**+0.9**
KHC	**Kasperske Hory**	**78.45**	**355**	*eP*	**P**	**05 45 37.9**	**0.0**
VYHS	**Vyhne**	**78.70**	**351**	*eP*	**P**	**05 45 36.3**	**-3.0**
GERES	**GERESS Array B**	**78.72**	**355**	P	**P**	**05 45 39.1**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=35,slow=4.9,SNR=15						
GERES				pP	**pwP**	**05 46 29.6**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=5.1,slow=6.0,SNR=3.2						
BUR08	**Bucovina Ar. S**	**78.81**	**347**	P	**P**	**05 45 39.3**	**-0.7**
BURAR	**Bucovina Array**	**78.83**	**347**	⇑P	**P**	**05 45 40.2**	**0.0**
BURAR	**Bucovina Array**	**78.83**	**347**	P	**P**	**05 45 39.7**	**-0.4**
KBZ	**Khabaz**	**78.94**	**334**	P	**P**	**05 45 40.3**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=77,slow=7.5,SNR=6.2						
BIZ	**Bicaz**	**79.37**	**346**	⇓P	**P**	**05 45 43.1**	**+0.1**
CONA	**Conrad Observa**	**79.50**	**353**	*eP*	**P**	**05 45 42.7**	**-1.1**
	comp=Z,5.4nm,0.6s						
ARSA	**Arzberg**	**80.20**	**353**	*eP*	**P**	**05 45 46.3**	**-1.1**
	comp=Z,3.6nm,0.6s						
ESPN	**Las Esperanzas**	**80.20**	**83**	P	**P**	**05 45 47.9**	**0.0**
ESPN				IAmb	IAmb	05 45 49.9	
	comp=Z,11nm,0.7s						
RETA	**Reutte**	**80.21**	**357**	*eP*	**P**	**05 45 46.3**	**-1.3**
	comp=Z,1.5nm,0.4s						
CTA	**Charters Tower**	**80.22**	**218**	P	**P**	**05 45 48.4**	**+0.7**
	comp=Z,5.7nm,0.8s,baz=13,slow=7.5,SNR=7.0						
VRI	**Vrincioaia**	**80.32**	**346**	⇓P	**P**	**05 45 48.1**	**0.0**
WATA	**Walderalm**	**80.33**	**356**	*eP*	**P**	**05 45 47.1**	**-1.2**
	comp=Z,4.7nm,0.6s						
MOTA	**Moosalm**	**80.34**	**357**	*eP*	**P**	**05 45 47.0**	**-1.3**
	comp=Z,3.0nm,0.6s						
MTN	**Manton Dam**	**80.40**	**234**	P	**P**	**05 45 49.5**	**+0.7**
MTN				IAmb	IAmb	05 45 49.8	
	comp=Z,7.8nm,0.7s						
WTTA	**Wattenberg**	**80.40**	**356**	*eP*	**P**	**05 45 46.4**	**-2.3**
	comp=Z,4.3nm,0.6s						
DOPR	**Dopca**	**80.42**	**346**	⇑P	**P**	**05 45 48.0**	**-0.7**
SQTA	**Sankt Quirin**	**80.46**	**356**	*eP*	**P**	**05 45 48.3**	**-0.7**
	comp=Z,5.2nm,0.7s						
KBA	**Koelnbreinsper**	**80.51**	**355**	*eP*	**P**	**05 45 48.2**	**-1.1**
	comp=Z,11nm,0.5s						
HRA	**Herat**	**80.52**	**316**	P	**P**	**05 45 49.8**	**+0.2**
TLCR		**80.65**	**344**	⇓P	**P**	**05 45 50.1**	**+0.3**
FETA	**Feichten**	**80.68**	**357**	*eP*	**P**	**05 45 49.3**	**-0.9**
	comp=Z,5.1nm,0.8s						
MLR	**Muntele Rosu**	**80.81**	**346**	⇑P	**P**	**05 45 49.9**	**-1.0**
ABTA	**Abfaltersbach**	**80.88**	**356**	*eP*	**P**	**05 45 49.2**	**-1.9**
	comp=Z,1.4nm,0.5s						
VOIR		**80.99**	**347**	⇑P	**P**	**05 45 50.9**	**-0.9**
OBKA	**Obir**	**81.00**	**354**	*eP*	**P**	**05 45 50.6**	**-1.1**
	comp=Z,5.5nm,0.6s						
TPGR	**Topolog**	**81.04**	**344**	⇓P	**P**	**05 45 52.2**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**81.09**	**357**	P	**P**	**05 45 52.7**	**+0.2**
PRED	**Cave del Predi**	**81.13**	**355**	P	**P**	**05 45 51.5**	**-1.0**
BZS	**Buzias**	**81.26**	**349**	⇓P	**P**	**05 45 52.5**	**-0.5**
TUE	**Stuetta**	**81.27**	**358**	P	**P**	**05 45 53.2**	**-0.2**
TUE				IAmb	IAmb	05 45 54.5	
	comp=Z,11nm,0.9s						
HARR	**Harsova**	**81.28**	**344**	⇑P	**P**	**05 45 52.9**	**-0.2**
GZR	**Gura Zlata**	**81.34**	**348**	⇓P	**P**	**05 45 53.1**	**-0.5**
TIRR	**Tirgusor**	**81.42**	**344**	⇑P	**P**	**05 45 53.8**	**-0.1**
HERR	**Herculane**	**81.89**	**348**	⇑P	**P**	**05 45 55.3**	**-1.1**
MDVR	**Moldovita**	**82.07**	**349**	⇓P	**P**	**05 45 56.2**	**-1.1**
TEOL	**Teolo**	**82.30**	**356**	P	**P**	**05 45 58.1**	**-0.3**
TEOL				IAmb	IAmb	05 45 59.8	
	comp=Z,19nm,0.7s						
BNI	**Bardonecchia**	**82.73**	**360**	P	**P**	**05 46 01.8**	**+0.9**
BNI				IAmb	IAmb	05 46 02.9	
	comp=Z,7.8nm,0.7s						
DR12	**Loma Pena Alta**	**83.77**	**67**	P	**P**	**05 46 06.6**	**+0.1**
GEVA	**Gevas**	**83.92**	**332**	P	**P**	**05 46 07.3**	**+0.1**
GEVA				IAmb	IAmb	05 46 31.6	
	comp=Z,11nm,1.0s						
PDG	**Podgorica**	**84.66**	**350**	⇑P	**P**	**05 46 08.7**	**-1.8**
PDG	**Podgorica**	**84.66**	**350**	IAmb	IAmb	05 46 11.0	
	comp=Z,16nm,1.2s						
BRTR	**Keskin Array B**	**84.98**	**339**	P	**P**	**05 46 12.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=17,slow=1.9,SNR=8.1						
BRTR	**Keskin Array B**	**84.98**	**339**	P	**P**	**05 46 11.8**	**-0.6**
WRA	**Warramunga Arr**	**85.02**	**228**	P	**P**	**05 46 12.3**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=32,slow=5.7,SNR=22						
WRA				pP	**pP**	**05 46 56.6**	**-1.9**
	comp=Z,1.4nm,0.9s,baz=33,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**85.02**	**228**	P	**P**	**05 46 11.8**	**-0.7**
MARD	**Mardin**	**85.50**	**333**	P	**P**	**05 46 15.3**	**+0.3**
MARD				IAmb	IAmb	05 46 15.9	
	comp=Z,8.7nm,0.6s						
INTR	**Introdacqua**	**85.52**	**354**	P	**P**	**05 46 14.7**	**-0.2**
INTR				IAmb	IAmb	05 46 15.5	
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**87.61**	**236**	P	**P**	**05 46 25.6**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=28,slow=4.7,SNR=9.0						
FITZ	**Fitzroy Crossi**	**87.61**	**236**	P	**P**	**05 46 24.7**	**-0.4**
ESDC	**Sonseca Array**	**87.69**	**8**	P	**P**	**05 46 24.5**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=348,slow=4.5,SNR=8.2						
ESDC	**Sonseca Array**	**87.69**	**8**	P	**P**	**05 46 24.2**	**-1.2**
AS31	**Alice Springs**	**88.47**	**226**	P	**P**	**05 46 29.4**	**+0.3**
ASAR	**Alice Springs**	**88.47**	**226**	P	**P**	**05 46 29.9**	**+0.8**
	comp=Z,5.7nm,0.7s,baz=31,slow=4.8,SNR=55						
ASAR				pP	**pP**	**05 47 14.5**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=28,slow=4.5,SNR=4.1						
ASAR	**Alice Springs**	**88.47**	**226**	P	**P**	**05 46 29.6**	**+0.5**
STKA	**Stephens Creek**	**92.64**	**217**	P	**P**	**05 46 49.2**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=347,slow=6.4,SNR=4.0						
STKA	**Stephens Creek**	**92.64**	**217**	IAmb	IAmb	05 46 49.9	
	comp=Z,0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**114.42**	**5**	PKP	**PKiKP**	**05 52 14.7**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=352,slow=2.9,SNR=2.6						
DBIC	**Dimbokro**	**120.23**	**13**	PKP	**PKPdf**	**05 52 25.9**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=348,slow=3.6,SNR=6.8						
MAW	**Mawson**	**149.31**	**219**	PKPbc	**PKiKP**	**05 53 24.1**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=85,slow=2.6,SNR=12						
BOSA	**Boshof**	**152.13**	**322**	PKPbc	**PKPbc**	**05 53 30.9**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=24,slow=2.7,SNR=9.3						

*ANF **30** 05:38:24.0±0.2, 35.99N×116.10W, h13km±1km, ML2.9/25, Error ellipse: s-maj=1.6km s-min=1.1km az=63.0*
*PAS **30** 05:38:24.4±1.6, 35.98N±0.02×116.08W±0.02, h2km±7km, ML3.0/115, ML2.7/5(REN), Error ellipse: s-maj=2.7km s-min=1.9km az=52.0*
*REN **30** 05:38:24.2±1.3, 35.99N±0.01×116.08W±0.02, h11km±3km, Error ellipse: s-maj=2.7km s-min=1.8km az=61.0*
*SCEDC **30** 05:38:24.4, 35.98N×116.08W, h2km, ML3.0, ML3.0, ML3.0, ML2.7(REN)*
*NEIC **30** 05:38:24.3±1.7, 35.96N±0.02×116.09W±0.02, h6km±6km, Error ellipse: s-maj=2.9km s-min=0.9km az=218.0*

ISC 30 05:38:24.5±0.9, 35.96N±0.02×116.09W±0.02, h13km±6km, n64, σ0 76/91, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHOC	**Shoshone, Teco**	**0.16**	**247**	P	**Pg**	**05 38 28.3**	**0.0**
	baz=64,SNR=1000						
SHOC				S	**Sg**	**05 38 31.0**	**0.0**
	baz=64						
SHOC	**Shoshone, Teco**	**0.16**	**247**		**Pg**	**05 38 28.3**	**0.0**
SHOC					**Sg**	**05 38 31.1**	**0.0**
TUQ	**Turquoise Moun**	**0.54**	**165**	P	**Pg**	**05 38 35.0**	**-0.1**
	baz=347,SNR=135						
TUQ				S	**Sg**	**05 38 42.4**	**0.0**
	baz=347						
TUQ	**Turquoise Moun**	**0.54**	**165**		**Pg**	**05 38 35.0**	**-0.1**
TUQ					**Sg**	**05 38 42.5**	**+0.2**
QSM	**Queen of Sheba**	**0.63**	**270**		**Pg**	**05 38 36.5**	**-0.3**
MTPC	**Mountain Pass**	**0.65**	**137**		**Pg**	**05 38 36.7**	**-0.4**
MTPC					**Sg**	**05 38 45.6**	**-0.1**
FURC	**Furnace Creek,**	**0.80**	**309**	P	**Pg**	**05 38 39.5**	**-0.5**
	baz=127,SNR=386						
FURC				S	**Sg**	**05 38 50.4**	**-0.2**
	baz=127						
FURC	**Furnace Creek,**	**0.80**	**309**		**Pg**	**05 38 39.5**	**-0.5**
FURC					**Sb**	**05 38 51.1**	**+0.1**
DSCC	**Desert Studies**	**0.82**	**181**		**Pg**	**05 38 40.2**	**-0.1**
DSCC					**Sb**	**05 38 51.4**	**-0.1**
GSC	**Goldstone, Bar**	**0.88**	**222**	P	**Pg**	**05 38 41.4**	**-0.1**
	baz=41,SNR=149						
GSC				S	**Sb**	**05 38 53.8**	**+0.4**
	baz=41						
GSC	**Goldstone, Bar**	**0.88**	**222**	Pg	**Pg**	**05 38 41.4**	**-0.1**
GSC	**Goldstone, Bar**	**0.88**	**222**		**Sb**	**05 38 53.7**	**+0.4**
SHPR	**Sheep Range**	**0.93**	**54**	Pg	**Pg**	**05 38 41.0**	**-1.4**
TPNV	**Topopah Spring**	**0.99**	**353**	P	**Pg**	**05 38 42.6**	**-1.1**
	baz=172,SNR=62						
TPNV				S	**Sg**	**05 38 56.4**	**-0.2**
	baz=172						
TPNV	**Topopah Spring**	**0.99**	**353**		**Pg**	**05 38 43.3**	**-0.4**
CCCA	**Chr Cany lake**	**1.12**	**248**		**Pb**	**05 38 45.7**	**-0.1**
CCCA					**Sn**	**05 39 01.5**	**+0.2**
MPMC	**Manual Prospec**	**1.14**	**275**	P	**Pg**	**05 38 45.5**	**-0.9**
	baz=94,SNR=231						
MPMC				S	**Sb**	**05 39 00.9**	**+0.1**
	baz=94						
MPMC	**Manual Prospec**	**1.14**	**275**		**Sb**	**05 39 01.0**	**+0.1**
HEC	**Hector,Ludlow**	**1.15**	**190**	P	**Pb**	**05 38 45.6**	**-0.6**
	baz=10,SNR=26						
HEC				S	**Sn**	**05 39 01.9**	**0.0**
	baz=10						
HEC	**Hector,Ludlow**	**1.15**	**190**		**Pb**	**05 38 45.6**	**-0.6**
HEC					**Sn**	**05 39 02.0**	**+0.1**
MCA	**Marble Canyon**	**1.18**	**306**		**Pb**	**05 38 45.8**	**-1.0**
GMRC	**Granite Mounta**	**1.23**	**163**	P	**Pn**	**05 38 46.8**	**-0.7**
	baz=344,SNR=41						
GMRC				S	**Sn**	**05 39 04.4**	**+0.4**
	baz=344						
GMRC	**Granite Mounta**	**1.23**	**163**		**Pn**	**05 38 46.8**	**-0.7**
GMRC					**Sn**	**05 39 04.3**	**+0.4**
CLC	**China Lake**	**1.23**	**264**		**Pn**	**05 38 47.2**	**-0.2**
CLC					**Sb**	**05 39 03.7**	**+0.2**
RRX	**Edison Barstow**	**1.31**	**215**	Pb	**Pn**	**05 38 48.8**	**+0.3**
	baz=34						
RRX				Sb	**Sg**	**05 39 07.3**	**+0.5**
	baz=34						
TOW	**Tower One**	**1.37**	**264**		**Pn**	**05 38 49.0**	**-0.3**
SRTC	**Snort**	**1.37**	**259**		**Pn**	**05 38 49.7**	**+0.3**
LRMC	**Laurel Mtn Rad**	**1.38**	**250**	P	**Pn**	**05 38 48.9**	**-0.7**
	baz=69						
LRMC				Sb	**Sg**	**05 39 08.7**	**-0.3**
	baz=69						
JRC2	**Joshua Ridge**	**1.39**	**271**		**Pn**	**05 38 49.1**	**-0.6**
WVPM	**Volcano Peak E**	**1.40**	**270**		**Pn**	**05 38 49.5**	**-0.4**
PRN	**Pahroc Range**	**1.67**	**30**	Pn	**Pn**	**05 38 54.3**	**+0.7**
CWC	**Cottonwood Cre**	**1.68**	**287**	P	**Pn**	**05 38 53.2**	**-0.5**
	baz=105						
CWC				Sg	**Sg**	**05 39 19.3**	**+0.7**
	baz=105						
NEE2	**Needles Airpor**	**1.69**	**134**	Pb	**Pb**	**05 38 55.6**	**+0.1**
	baz=316						
WLHM	**Little Horse**	**1.81**	**277**		**Pn**	**05 38 55.2**	**-0.5**
BBRC	**Big Bear Solar**	**1.83**	**202**	Pb	**Pb**	**05 38 57.8**	**-0.1**
	baz=22						
BBRC				Sb	**Sg**	**05 39 22.5**	**-0.7**
	baz=22						
EDW2	**Edwards Air Fo**	**1.89**	**236**	P	**Pn**	**05 38 56.3**	**-0.3**
	baz=54						
EDW2				S	**Sn**	**05 39 20.7**	**+0.5**
	baz=54						
BELC	**Belle Mtn. Jos**	**1.96**	**178**	P	**Pn**	**05 38 57.5**	**-0.1**
	baz=358,SNR=46						
BELC				Sb	**Sg**	**05 39 26.9**	**-0.6**
	baz=358						
ISA	**Isabella, Lake**	**1.96**	**262**	P	**Pn**	**05 38 56.9**	**-0.5**
	baz=80,SNR=15						
ISA	**Isabella, Lake**	**1.96**	**262**		**Pn**	**05 38 57.1**	**-0.4**
IRM	**Iron Mountain**	**1.96**	**156**	P	**Pn**	**05 38 57.3**	**-0.2**
	baz=338,SNR=18						
ICU	**Indian Springs**	**2.11**	**55**		**Pn**	**05 39 00.8**	**+1.2**
BFSC	**Mount Baldy Ra**	**2.15**	**217**	Pb	**Pb**	**05 39 03.7**	**+0.4**
	baz=36						
BC3	**Big Chuckawall**	**2.36**	**167**	P	**Pn**	**05 39 02.9**	**-0.1**
	baz=348,SNR=12						
BC3				Sb	**Sg**	**05 39 39.6**	**-0.8**
	baz=348						
PFO	**Pinyon Flats O**	**2.37**	**187**	P	**Pn**	**05 39 03.2**	**+0.1**
	baz=7.5,SNR=13						
PFO				Sb	**Sg**	**05 39 39.2**	**-1.3**
	baz=7.5						
PFO	**Pinyon Flats O**	**2.37**	**187**	Pn	**Pn**	**05 39 03.1**	**+0.1**
MWC	**Mount Wilson**	**2.37**	**223**		**Pn**	**05 39 05.0**	**+1.8**
TPFO	**Pinon Flats**	**2.37**	**187**	Sb	**Sg**	**05 39 39.1**	**-1.6**
	baz=7.4						
R11A	**Troy Canyon, C**	**2.42**	**9**	Pg	**Pg**	**05 39 09.9**	**-0.9**
	baz=190						
R11A				Sb	**Sb**	**05 39 39.0**	**+1.3**
	baz=190						
R11A	**Troy Canyon, C**	**2.42**	**9**		**Pn**	**05 39 05.5**	**+1.6**
LCMT	**Little Creek M**	**2.52**	**65**		**Pb**	**05 39 07.8**	**-1.9**
MURC	**Murrieta**	**2.53**	**201**	P	**Pn**	**05 39 05.4**	**+0.2**
	baz=21						
MURC				Sb	**Sg**	**05 39 44.1**	**-1.5**
	baz=21						
OSI	**Osito Audit: C**	**2.54**	**239**	S	**Sn**	**05 39 36.8**	**+0.5**
	baz=57						
CCUT	**Cedar City**	**2.70**	**53**	Pn	**Pn**	**05 39 09.9**	**+2.0**
KNB	**Kanab**	**2.84**	**67**	Pn	**Pn**	**05 39 11.3**	**+1.7**
OMMB	**Old Mammoth Mi**	**2.86**	**306**		**Pn**	**05 39 11.0**	**+0.9**
SZCU	**Shurtz Canyon**	**2.91**	**55**		**Pn**	**05 39 11.6**	**+0.9**
MDPB	**Devils Postpil**	**2.92**	**306**		**Pn**	**05 39 11.4**	**+0.5**
NV11	**Mina Array Sit**	**2.96**	**327**		**Pn**	**05 39 11.8**	**+0.4**
LHV	**Little Huntoon**	**2.99**	**321**		**Pn**	**05 39 12.8**	**+1.2**
NVAR	**Mina Array Bea**	**3.03**	**325**		**Pn**	**05 39 13.5**	**+1.2**
MONP2	**Monument Peak**	**3.08**	**185**	Pb	**Pb**	**05 39 21.0**	**+1.8**
	baz=5.2						
GLA	**Glamis**	**3.09**	**160**	Pn	**Pn**	**05 39 13.3**	**+0.3**
PSUT	**Pine Spring**	**3.13**	**34**		**Pn**	**05 39 14.5**	**+0.8**
109C	**Camp Elliot, M**	**3.18**	**196**		**Pn**	**05 39 14.8**	**+0.6**

IDC 30 05:48:24.6±6.2, 30.71S×179.06W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/37, mbtmp3.7/2, Error ellipse: s-maj=237.8km s-min=63.0km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.19**	**268**	P	P	05 56 18.6	-0.7
	0.7nm,0.9s,baz=120,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**43.20**	**273**	P	P	05 56 28.0	+0.4
	0.8nm,0.4s,baz=113,slow=7.9,SNR=38						
FINES	**FINESS Array B**	**145.12**	**339**	PKPbc	PKPbc	06 08 01.8	-1.0
	7.4nm,1.1s,baz=56,slow=10,SNR=2.7						

*JMA **30** 05:59:49.8±0.1, 26.48N×127.06E, h9km±4km, M3.2*
JMA Felt I J1.
*IDC **30** 05:59:58.3±5.5, 26.48N×126.83E, h72km±51km, mb3.1/4, mb1 3.3/5, mb1mx3.0/59, mbtmp3.4/5, MS2.7/1, Ms1 2.7/1, ms1mx2.2/24, Error ellipse: s-maj=44.2km s-min=29.0km az=73.0*

ISC 30 05:59:50.4±1.2, 26.43N±0.06×127.10E±0.04, h5km±9km, n10, σ1 51/15, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.20**	**41**	P	**Pg**	**05 59 54.0**	**-0.4**
JAGN				S	**Sg**	**05 59 57.2**	**+0.1**
JKE	**Kume jima 2**	**0.30**	**249**	P	**Pg**	**05 59 55.7**	**-0.5**
JKE				S	**Sg**	**06 00 00.4**	**+0.3**
JJT3	**Tamagusuku3**	**0.68**	**115**	P	**Pb**	**06 00 04.7**	**-0.1**
JJT3				S	**Sb**	**06 00 15.1**	**+0.6**
JNTH	**Nagotoyohara**	**0.83**	**84**	P	**Pg**	**06 00 06.0**	**-0.4**
JNTH				S	**Sg**	**06 00 17.4**	**+0.1**
JIH	**Iheya**	**0.98**	**52**	P	**Pg**	**06 00 08.0**	**-1.2**
JIH				S	**Sg**	**06 00 21.4**	**-0.6**
KSRS	**Korea Array**	**11.01**	**3**	P	**Pn**	**06 02 32.1**	**+3.7**
	baz=174,slow=14,SNR=5.3						
KSRS				LR	LR	06 06 45.6	
	comp=Z,33nm,18.6s,baz=350,slow=37						
SONM	**Songino Array**	**26.84**	**328**	P	**P**	**06 05 31.6**	**-0.2**
	0.6nm,0.7s,baz=138,slow=8.1,SNR=4.8						
MKAR	**Makanchi Array**	**40.64**	**312**	P	**P**	**06 07 28.5**	**-2.9**
	0.3nm,0.5s,baz=110,slow=8.4,SNR=2.6						
WRA	**Warramunga Arr**	**46.63**	**171**	P	**P**	**06 08 20.3**	**+0.5**
	0.4nm,0.8s,baz=350,slow=8.5,SNR=1.8						
ILAR	**Eielson Array**	**64.74**	**28**	P	**P**	**06 10 28.9**	**-0.4**
	0.3nm,0.6s,baz=287,slow=9.8,SNR=6.8						

*ISK **30** 06:09:07.4, 38.19N×22.67E, h5km, ML3.8/12*
*UPSL **30** 06:09:08.0, 38.14N×22.63E, h15km, Mw3.7, Moment Tensor Solution. s6 Moment tensor: Mrr-4.08; Mθθ 3.92; Mϕϕ 0.16; Mrθ-1.20; Mrϕ 0.31; Mθr-0.69; Fault plane solution: NP1:ϕs 273.00000°, δ37.00000°, λ-78.00000°. NP2:ϕs 78.00000°, δ54.00000°, λ-99.00000°.*
*ATH **30** 06:09:08.9, 38.14N×22.63E, h15km±1km, ML3.7/29 Error ellipse: s-maj=1.6km s-min=0.6km az=78.0*
*THE **30** 06:09:09.4, 38.15N×22.63E, h7km, ML3.7/21, Error ellipse: s-maj=0.8km s-min=0.3km az=220.0*
*IDC **30** 06:09:13.0±2.2, 38.10N×22.67E, h40km±21km, mb3.6/9, mb1 3.8/12, mb1mx3.5/53, mbtmp3.8/12, ML3.8/3, MS2.9/5, Ms1 2.9/5, ms1mx2.5/40, Error ellipse: s-maj=18.4km s-min=17.1km az=110.0*

ISC 30 06:09:09.4±0.8, 38.14N±0.01×22.64E±0.01, h13km±5km, n152, σ1 9/02/189, mb3.7/8, MS3.0/3, 11C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.10**	**169**	P	**Pg**	**06 09 12.2**	**-0.2**
THAL				S	**Sg**	**06 09 14.6**	**+0.1**
	162μm,0.2s						
THAL	**Thalero**	**0.10**	**169**	P	**Pg**	**06 09 12.3**	**-0.2**
THAL				AML	AML	06 09 15.0	
THAL				AML	AML	06 09 17.0	
LTK	**Loutraki**	**0.28**	**114**	P	**Pg**	**06 09 15.2**	**-0.1**
LTK				S	**Sb**	**06 09 20.0**	**-1.0**
	14μm,0.5s						
LTK	**Loutraki**	**0.28**	**114**	P	**Pg**	**06 09 15.3**	**-0.1**
LTK				S	**Sg**	**06 09 19.8**	**+0.5**
DLFA	**Delphi**	**0.36**	**342**	P	**Pg**	**06 09 16.2**	**-0.5**
DLFA				S	**Sg**	**06 09 21.8**	**+0.2**
DLFA				AML	AML	06 09 22.5	
	comp=N,52604μm,0.5s						
DLFA				AML	AML	06 09 22.9	
	comp=E,54143μm,0.3s						
KLV	**Kalavryta, Ach**	**0.40**	**257**	P	**Pg**	**06 09 16.7**	**-0.6**
KLV				S	**Sg**	**06 09 22.4**	**-0.3**
KLV	**Kalavryta, Ach**	**0.40**	**257**	P	**Pg**	**06 09 16.7**	**-0.6**
KLV				S	**Sg**	**06 09 22.1**	**-0.6**
KLV				AML	AML	06 09 27.0	
	comp=E,7454μm,0.4s						
KLV				AML	AML	06 09 34.0	
	comp=N,9208μm,0.7s						
KALE	**Kalithea**	**0.47**	**303**	P	**Pg**	**06 09 18.3**	**-0.3**
KALE				S	**Sb**	**06 09 25.0**	**-1.3**
	comp=N,10μm,0.5s						
KALE	**Kalithea**	**0.47**	**303**	P	**Pg**	**06 09 18.2**	**-0.5**
KALE				AML	AML	06 09 29.8	
	comp=N,21236μm,0.4s						
KALE				AML	AML	06 09 30.8	
	comp=E,18745μm,0.4s						
TRIZ	**Trizonia**	**0.50**	**297**	P	**Pg**	**06 09 18.9**	**-0.4**
TRIZ				S	**Sb**	**06 09 26.0**	**-1.2**
	comp=E,13μm,0.4s						
TRIZ	**Trizonia**	**0.50**	**297**	P	**Pg**	**06 09 18.8**	**-0.4**
TRIZ				S	**Sb**	**06 09 25.9**	**-1.2**
VIL2	**Platees**	**0.50**	**81**	P	**Pb**	**06 09 19.6**	**-0.4**
VIL2				AML	AML	06 09 35.9	
	comp=N,20777μm,0.5s						
VIL2				AML	AML	06 09 38.5	
	comp=E,18958μm,0.8s						
LAKA	**Lakka**	**0.53**	**281**	P	**Pg**	**06 09 19.4**	**-0.4**
VILL	**Villia**	**0.53**	**87**	P	**Pg**	**06 09 19.6**	**-0.3**
LKR	**Lokris**	**0.59**	**29**	P	**Pg**	**06 09 20.0**	**-0.9**
LKR				S	**Sb**	**06 09 29.3**	**-0.4**
	comp=E,15μm,0.2s						
LKR	**Lokris**	**0.59**	**29**	P	**Pg**	**06 09 20.0**	**-0.9**
LKR				AML	AML	06 09 32.2	
	comp=E,32074μm,0.2s						
LKR				AML	AML	06 09 33.0	
	comp=N,27736μm,0.3s						
AXAR	**Agios Charalam**	**0.63**	**2**	P	**Pg**	**06 09 21.1**	**-0.6**
AXAR				S	**Sb**	**06 09 30.6**	**-0.3**
AXAR	**Agios Charalam**	**0.63**	**2**	P	**Pg**	**06 09 21.0**	**-0.7**
AXAR				S	**Sb**	**06 09 30.4**	**-0.5**
AXAR				AML	AML	06 09 33.4	
AXAR				AML	AML	06 09 35.3	
ATAL	**Atalanti**	**0.63**	**28**	P	**Pg**	**06 09 20.8**	**-0.9**
ATAL				S	**Sb**	**06 09 30.7**	**-0.3**
ATAL	**Atalanti**	**0.63**	**28**	P	**Pg**	**06 09 20.8**	**-0.9**
ATAL				S	**Sb**	**06 09 30.5**	**-0.5**
ATAL				AML	AML	06 09 34.1	
	comp=N,19346μm,0.6s						
ATAL				AML	AML	06 09 35.0	
	comp=E,17046μm,0.2s						
EFP	**Efpalio**	**0.65**	**297**	P	**Pg**	**06 09 21.4**	**-0.6**
EFP				S	**Sb**	**06 09 30.9**	**-0.4**
	comp=E,5μm,0.8s						
EPID	**Epidavros**	**0.65**	**144**	P	**Pg**	**06 09 21.6**	**-0.4**
EPID	**Epidavros**	**0.65**	**144**	P	**Pg**	**06 09 21.6**	**-0.4**
TRIP	**Tripoli**	**0.67**	**206**	P	**Pg**	**06 09 22.0**	**-0.5**
TRIP	**Tripoli**	**0.67**	**206**

comp=E,21975µm,0.9s
PTL Penteli 0.97 95 P **Pn** 06 09 28.4 -0.3
PTL S **Sn** 06 09 41.8 -0.5
comp=E,6µm,0.6s
PTL Penteli 0.97 95 P **Pb** 06 09 27.4 -0.6
PTL AML AML 06 09 48.1
comp=N,14741µm,0.7s
PTL AML AML 06 09 48.5
comp=E,9174µm,0.5s
EVR Evrytania 1.01 320 P **Pg** 06 09 28.5 -0.5
EVR S **Sn** 06 09 42.4 -1.1
comp=E,5µm,0.6s
DION Dionisos Attik 1.02 93 P **Pg** 06 09 28.8 -0.3
DION S **Sn** 06 09 43.5 -0.1
comp=E,14µm,0.5s
DION Dionisos Attik 1.02 93 P **Pg** 06 09 28.9 -0.3
DION S **Sn** 06 09 43.0 -0.6
DION AML AML 06 09 49.7
comp=N,26644µm,0.5s
DION AML AML 06 09 51.4
comp=E,26500µm,0.5s
ITM Ithomi 1.11 211 P **Pb** 06 09 29.7 -0.7
ITM Ithomi 1.11 211 P **Pb** 06 09 29.4 -1.0
ITM AML AML 06 09 49.7
comp=N,3496µm,0.4s
ITM AML AML 06 09 52.5
comp=E,3921µm,0.4s
ITM Ithomi 1.11 211 PN **Pg** 06 09 30.3 -0.5
ITM SN **Sn** 06 09 48.2 +2.5
PDO Prodromos 1.23 292 P **Pg** 06 09 32.7 -0.4
PDO Prodromos 1.23 292 P **Pg** 06 09 32.5 -0.6
KYMI Kymi, Euboea I 1.25 66 P **Pn** 06 09 32.0 -0.5
KYMI Kymi, Euboea I 1.25 66 P **Pn** 06 09 32.1 -0.4
KYMI AML AML 06 09 57.5
comp=E,5764µm,0.5s
KYMI AML AML 06 09 59.0
comp=N,8512µm,0.8s
NEO Neokhori 1.25 21 P **Pb** 06 09 32.5 -0.4
NEO S **Sg** 06 09 50.0 +0.1
comp=N,3µm,0.4s
NEO Neokhori 1.25 21 P **Pb** 06 09 32.5 -0.4
NEO AML AML 06 09 54.3
comp=E,5108µm,0.3s
NEO AML AML 06 09 57.5
comp=N,6681µm,0.4s
XOR Xorichti 1.30 19 P **Pb** 06 09 33.0 -0.7
XOR S **Sg** 06 09 51.0 -0.4
comp=N,2µm,0.4s
AOS Alonnisos 1.42 43 P **Pn** 06 09 34.5 -0.3
AOS Alonnisos 1.42 43 P **Pb** 06 09 34.9 -0.7
AOS AML AML 06 09 57.7
comp=E,3740µm,0.6s
AOS AML AML 06 10 04.2
comp=N,4768µm,0.7s
AOS Alonnisos 1.42 43 PN **Pn** 06 09 34.3 -0.5
AOS SN **Sb** 06 09 53.9 +0.3
KARY Karystos 1.42 94 P **Pb** 06 09 35.4 -0.3
KARY S **Sg** 06 09 55.1 -0.1
comp=N,1µm,0.6s
PYL PYLOS 1.43 210 P **Pb** 06 09 35.5 -0.3
PYL PYLOS 1.43 210 P **Pb** 06 09 35.5 -0.3
PYL AML AML 06 10 06.9
comp=E,3130µm,0.6s
PYL AML AML 06 10 08.8
comp=N,2324µm,0.8s
VLI Veliai 1.44 170 P **Pb** 06 09 35.2 -0.7
VLI S **Sg** 06 09 54.8 -0.8
comp=N,2µm,0.7s
VLI Veliai 1.44 170 P **Pb** 06 09 35.3 -0.7
VLI AML AML 06 09 59.2
comp=N,7151µm,0.5s
VLI AML AML 06 10 01.0
comp=E,4495µm,0.5s
MNVA Monemvasia 1.48 167 P **Pb** 06 09 36.7 0.0
THL Klokotos Trika 1.51 341 P **Pb** 06 09 36.6 -0.5
THL Klokotos Trika 1.51 341 P **Pb** 06 09 36.7 -0.5
THL AML AML 06 10 04.6
comp=N,1560µm,0.5s
THL AML AML 06 10 05.2
comp=E,2060µm,0.6s
VLMS Volimes, Zakyn 1.58 261 P **Pg** 06 09 39.3 -0.5
VLS Valsamata 1.61 272 P **Pb** 06 09 38.1 -0.9
VLS Valsamata 1.61 272 P **Pb** 06 09 38.6 -0.4
VLS AML AML 06 10 08.8
comp=E,1334µm,0.4s
VLS AML AML 06 10 12.9
comp=N,1982µm,0.5s
PSDA Pessada-Kefalo 1.62 270 P **Pb** 06 09 38.4 -0.7
NYDR Nydri-Lefkada 1.63 291 P **Pg** 06 09 39.9 -0.8
EVGl Lefkada island 1.63 288 P **Pb** 06 09 39.3 0.0
FSK Fiskardo 1.66 282 P **Pb** 06 09 39.2 -0.6
FSK Fiskardo 1.66 282 P **Pb** 06 09 39.1 -0.7
FSK AML AML 06 10 17.0
comp=N,2697µm,0.8s
FSK AML AML 06 10 20.3
comp=E,2509µm,0.8s
SKY Skiros Island 1.67 63 P **Pb** 06 09 38.9 -1.1
LKD2 Lefkada island 1.69 293 P **Pg** 06 09 40.5 -1.2
LKD2 AML AML 06 10 18.9
comp=N,3535µm,0.7s
LKD2 AML AML 06 10 21.4
comp=E,2744µm,0.9s
KEF5 Kardakata, Kep 1.71 275 P **Pb** 06 09 40.5 -0.2
KEF4 Livadi, Kephal 1.75 275 P **Pb** 06 09 41.4 +0.1
SERI Serifos 1.76 123 P **Pn** 06 09 39.5 0.0
KTHA Kythira Island 1.91 170 PN **Pb** 06 09 42.9 -1.1
KTHA SN **Sg** 06 10 09.1 -1.6
PAIG Paliouri 1.96 24 P **Pn** 06 09 42.2 -0.1
LIT Litokhoron 1.96 357 P **Pb** 06 09 43.5 -1.5
KTI Kastanea 2.29 350 P **Pn** 06 09 47.5 +0.6
PLG Polygyros 2.32 15 P **Pn** 06 09 47.3 +0.1
ANKY Antikythira Is 2.33 167 P **Pn** 06 09 48.2 +0.9
ANKY Antikythira Is 2.33 167 P **Pn** 06 09 48.2 +0.9
OUR Ouranopolis 2.43 25 P **Pb** 06 09 48.7 +0.0
OUR Ouranopolis 2.43 25 PN **Pn** 06 09 48.9 +0.2
HORT Hortiatis 2.48 8 PN **Pn** 06 09 49.7 +0.2
APE Apeiranthos 2.53 114 ⇑P **Pn** 06 09 50.3 +0.2
APE Apeiranthos 2.53 114 ⇓S **Sn** 06 10 20.4 -0.5
APE Apeiranthos 2.53 114 PN **Pn** 06 09 51.3 +1.1
RODP Rodopos 2.72 160 P **Pn** 06 09 54.0 +1.2
RODP Rodopos 2.72 160 PN **Pn** 06 09 54.5 +1.7
SIGR SIGRI 2.74 66 PN **Pn** 06 09 53.6 +0.7
SOH Sokhos 2.74 11 P **Pn** 06 09 54.0 +1.0
IMMV Iera Moni Meta 2.88 158 P **Pn** 06 09 56.1 +1.2
IMMV Iera Moni Meta 2.88 158 PN **Pn** 06 09 56.6 +1.7
URLA Izmir 3.12 85 PN **Pn** 06 09 59.3 +1.0
BOZC Bozcaada 3.16 56 PN **Pn** 06 09 59.5 +0.8
VAY Valandovo 3.18 359 *i* Pn **Pn** 06 10 01.3 +2.3
GADA Gvkgeada 3.26 50 PN **Pn** 06 10 00.6 +0.5
OHR Ohrid 3.29 335 *i* Pn **Pn** 06 09 58.4 -2.2
IDI Anoyia 3.37 147 Pn **Pn** 06 10 02.3 +0.6
comp=E,4.0nm,0.3s,baz=312,slow=16,SNR=18
IDI Sn **Sn** 06 10 40.9 -0.7
comp=E,20nm,0.3s,baz=90,slow=16,SNR=6.1
IDI LR LR 06 11 28.6
comp=E,92nm,19.2s,baz=356,slow=41
IDI Anoyia 3.37 147 ⇓P **Pn** 06 10 00.7 -1.0
IDI Anoyia 3.37 147 ⇓S **Sn** 06 10 41.4 -0.2
IDI Anoyia 3.37 147 PN **Pn** 06 10 03.7 +2.0
GVD Gavdhos 3.49 160 PN **Pn** 06 10 05.7 +2.4
STIP Stip 3.57 355 *i* Pn **Pn** 06 10 06.1 +1.7
GELI Tayfur-Gelibol 3.74 52 PN **Pn** 06 10 07.4 +0.7
LAST Lasithi 3.75 142 P **Pn** 06 10 07.8 +0.9
RDO Rodhopi 3.75 36 PN **Pn** 06 10 06.7 -0.1
ENEZ Enez 3.76 45 PN **Pn** 06 10 07.9 +0.9
TIR Tirane 3.85 327 ⇑P **Pn** 06 10 10.3 +2.0
BODT Bodrum 3.86 105 PN **Pn** 06 10 10.0 +1.6
SKO Skopje 3.94 347 *i* Pn **Pn** 06 10 11.8 +2.4
AYDB Zeytinkoy-Aydi 4.15 91 PN **Pn** 06 10 13.9 +1.4
UKOP Uzunkopru-Édir 4.29 45 PN **Pn** 06 10 15.5 +1.2
TIP Timpagrande 4.72 285 ⇓P **Pn** 06 10 22.2 +2.0
TIP Timpagrande 4.72 285 ⇑S **Sn** 06 11 15.6 +0.8
PDG Podgorica 5.01 330 ⇑P **Pn** 06 10 25.5 +1.4
PDG Podgorica 5.01 330 ⇑S **Sn** 06 11 23.3 +1.5
MATE Matera 5.24 300 ⇓P **Pn** 06 10 27.9 +0.7
MATE Matera 5.24 300 ⇑S **Sn** 06 11 30.8 +3.3
GZR Gura Zlata 7.25 1 ⇑P **Pn** 06 10 56.9 +1.9
VOIR 7.51 13 ⇑P **Pn** 06 10 59.4 +0.8
MLR Muntele Rosu 7.75 18 Pn **Pn** 06 11 04.5 +2.5
comp=E,1.4nm,0.3s,baz=210,slow=12,SNR=12
MLR LR LR 06 15 03.7
comp=E,68nm,18.7s,baz=194,slow=45
MLR Muntele Rosu 7.75 18 ⇓P **Pn** 06 11 04.0 +2.0

NEHR Nehoiu 7.78 19 ⇓P **Pn** 06 11 03.2 +0.9
DOPR Dopca 8.09 14 ⇓P **Pn** 06 11 08.1 +1.6
PLOR Plostina 8.27 20 ⇑P **Pn** 06 11 10.9 +2.0
OZUR 8.29 15 ⇑P **Pn** 06 11 11.4 +2.2
VRI Vrincioaia 8.30 20 ⇑P **Pn** 06 11 11.6 +2.3
BRTR Keskin Array B 8.72 76 Pn **Pn** 06 11 19.1 +3.8
comp=E,0.2nm,0.3s,baz=252,slow=12,SNR=3.0
ESDC Sonseca Array 20.74 283 P Pn 06 13 50.2 -1.8
comp=E,2.2nm,1.1s,baz=74,slow=9.7,SNR=6.8
HFS Hagfors 22.74 348 P **P** 06 14 12.8 +1.9
comp=E,1.1nm,0.5s,baz=145,slow=13,SNR=4.2
FINES FINESS Array B 23.43 4 P **P** 06 14 17.6 -0.3
comp=E,1.9nm,0.9s,baz=171,slow=9.8,SNR=1.6
FINES LR LR 06 23 13.3
comp=E,51nm,18.0s,baz=94,slow=36
NOA NORSAR Array B 24.02 346 LR LR 06 25 05.7
comp=E,18nm,19.1s,baz=245,slow=40
EKA Eskdalemuir Ar 24.44 323 P **P** 06 14 28.1 +0.6
comp=E,1.0nm,0.5s,baz=122,slow=9.9,SNR=5.1
TORD Torodi Ar. Bea 31.09 222 P **P** 06 15 27.6 +0.2
comp=E,0.3nm,0.5s,baz=32,slow=8.7,SNR=4.3
DBIC Dimbokro 40.02 225 LR LR 06 33 09.0
comp=E,21nm,18.6s,baz=154,slow=36
KURBB Kurchatov Arra 40.91 54 P **P** 06 16 51.3 +0.2
comp=E,2.0nm,0.5s,baz=279,slow=8.6,SNR=17
MKAR Makanchi Array 43.90 59 P **P** 06 17 15.6 +0.1
comp=E,3.4nm,0.4s,baz=279,slow=7.0,SNR=36
ZALV Zalesovo Beam 44.47 48 P **P** 06 17 19.6 -0.3
comp=E,3.7nm,0.5s,baz=274,slow=8.7,SNR=14
ILAR Eielson Array 77.10 355 P **P** 06 21 02.1 +0.2
comp=E,0.2nm,0.6s,baz=343,slow=2.7,SNR=5.2
WRA Warramunga Arr 118.87 93 PKP **PKPdf** 06 27 56.9 -0.9
comp=E,0.2nm,0.7s,baz=315,slow=1.6,SNR=6.7
ASAR Alice Springs 120.51 97 PKP **PKiKP** 06 28 00.3 -0.7
comp=E,0.3nm,0.3s,baz=314,slow=2.1,SNR=3.6

*JMA **30** 06:23:29.0±0.3,22.°89N×123.°08E,h49km,M2.7*
*TAP **30** 06:23:30.0,22.°88N×123.°00E,h92km±1km,ML3.0,D*
ISC 30 06:23:25.7±1.4,**22.°90N**±0.°04×**123.°08E**±0.°03,**h7**km±11km,
n47,σ1**s07**/83,**Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.33**	**30**	P	**Pg**	**06 23 51.7**	**+0.4**
HATJ				*e*S	**Sg**	**06 24 07.9**	**-0.6**
LDUT	**Ludao**	**1.50**	**262**	P	**Pg**	**06 23 54.8**	**+0.3**
	baz=262						
LDUT				*e*S	**Sn**	**06 24 11.0**	**-1.8**
	baz=262						
IRIF	**Iriomote-Funau**	**1.55**	**22**	P	**Pg**	**06 23 55.2**	**-0.2**
IRIF				*e*S	**Sn**	**06 24 13.6**	**-0.4**
JYNG	**Yonagunijimaku**	**1.55**	**355**	P	**Pg**	**06 23 55.3**	**-0.2**
JYNG				*e*S	**Sn**	**06 24 14.1**	**0.0**
YOJ	**Yonaguni jima**	**1.56**	**358**	P	**Pg**	**06 23 55.9**	**+0.2**
	baz=360						
YOJ				*e*S	**Sn**	**06 24 15.1**	**+0.9**
	baz=360						
YOJ	**Yonaguni jima**	**1.56**	**358**	P	**Pg**	**06 23 55.8**	**+0.2**
YOJ				S	**Sn**	**06 24 14.3**	**+0.1**
JKRS	**Kuro-shima**	**1.58**	**32**	P	**Pb**	**06 23 55.6**	**+0.3**
JKRS				*e*S	**Sn**	**06 24 14.0**	**-0.8**
HGSD	**Ruisui**	**1.64**	**292**	P	**Pb**	**06 23 56.0**	**-0.1**
	baz=288						
HGSD				*e*S	**Sn**	**06 24 14.6**	**-1.5**
	baz=288						
EDH	**Donghe**	**1.64**	**273**	P	**Pb**	**06 23 55.9**	**-0.3**
	baz=275						
EDH				*e*S	**Sn**	**06 24 13.8**	**-2.4**
	baz=275						
LAY	**Lan-yu**	**1.65**	**239**	*i* P	**Pb**	**06 23 56.0**	**-0.5**
	baz=237						
LAY				S	**Sn**	**06 24 16.2**	**-0.4**
	baz=237						
FULB	**Fuli**	**1.67**	**281**	*i* P	**Pn**	**06 23 56.1**	**+0.7**
	baz=286						
FULB				S	**Sn**	**06 24 14.8**	**-2.4**
	baz=286						
TWF1	**Yuli**	**1.70**	**286**	*e*P	**Pb**	**06 23 57.0**	**-0.4**
	baz=287						
YULB	**Yu-li**	**1.71**	**287**	P	**Pn**	**06 23 56.6**	**+0.7**
	baz=288						
YULB				S	**Sn**	**06 24 17.1**	**-1.0**
	baz=288						
EHY	**Hungye**	**1.73**	**291**	P	**Pb**	**06 23 57.3**	**-0.5**
	baz=289						
EHY				*e*S	**Sn**	**06 24 17.5**	**-1.0**
	baz=289						
JIJ	**Ishigaki jima**	**1.75**	**34**	P	**Pb**	**06 23 57.6**	**-0.6**
JIJ				S	**Sn**	**06 24 17.6**	**-1.5**
LONT	**Longtian**	**1.80**	**271**	S	**Sn**	**06 24 19.9**	**-0.3**
	baz=267						
TWD	**Chiawan**	**1.80**	**311**	*e*P	**Pb**	**06 23 58.5**	**-0.4**
	baz=308						
TWD				*e*S	**Sn**	**06 24 18.5**	**-1.7**
	baz=308						
TWGBT	**Beinan**	**1.85**	**268**	P	**Pb**	**06 23 59.5**	**-0.2**
	baz=265						
TWGBT				S	**Sn**	**06 24 20.6**	**-0.8**
	baz=265						
TWG	**Pinlang**	**1.85**	**268**	*i* P	**Pb**	**06 23 59.5**	**-0.4**
	baz=265						
TWG				*i* S	**Sn**	**06 24 20.9**	**-0.7**
	baz=265						
NACB	**Ninganchiao**	**1.86**	**313**	P	**Pn**	**06 23 58.8**	**+0.8**
	baz=311						
NACB				S	**Sn**	**06 24 20.3**	**-1.5**
	baz=311						
ETLH	**Xiulin Townshi**	**1.96**	**312**	P	**Pn**	**06 24 00.7**	**+1.2**
	baz=312						
ETLH				S	**Sn**	**06 24 23.3**	**-1.0**
	baz=312						
VWDT	**VWDT**	**1.98**	**296**	P	**Pb**	**06 24 01.2**	**-0.7**
	baz=302						
VWDT				S	**Sn**	**06 24 23.5**	**-1.0**
	baz=302						
ECL	**Taimali**	**1.99**	**262**	*e*S	**Sn**	**06 24 24.5**	**-0.3**
	baz=261						
JISG	**Ishigakijimahi**	**2.02**	**34**	P	**Pn**	**06 24 01.4**	**+1.2**
JISG				S	**Sn**	**06 24 24.2**	**-1.5**
WHF	**Hehuan Shan**	**2.08**	**307**	*i* P	**Pn**	**06 24 02.5**	**+1.1**
	baz=308						
WHF				*i* S	**Sn**	**06 24 26.8**	**-0.9**
	baz=308						
CHGB	**Renai**	**2.10**	**304**	P	**Pn**	**06 24 02.8**	**+1.3**
	baz=310						
CHGB				S	**Sn**	**06 24 26.9**	**-1.0**
	baz=310						
EAST	**Anshuo**	**2.12**	**256**	*e*P	**Pb**	**06 24 03.2**	**-1.3**
	baz=262						
EAST				S	**Sn**	**06 24 27.8**	**-0.5**
	baz=262						
FUSS	**Fushou**	**2.15**	**309**	P	**Pn**	**06 24 03.8**	**+1.6**
	baz=310						
FUSS				S	**Sn**	**06 24 28.5**	**-0.8**
	baz=310						
NNSH	**Datong**	**2.18**	**315**	*e*P	**Pn**	**06 24 04.2**	**+1.8**
	baz=312						
NNSH				S	**Sn**	**06 24 29.3**	**-0.4**
	baz=312						
ALS	**Alishan**	**2.18**	**287**	P	**Pb**	**06 24 04.7**	**-1.0**
	baz=287						
NDT	**Datong Townshi**	**2.22**	**320**	P	**Pb**	**06 24 05.3**	**-0.9**
	baz=317						
NDT				S	**Sn**	**06 24 30.4**	**-0.3**
	baz=317						
SMLT	**Sun Moon Lake**	**2.23**	**297**	*e*P	**Pn**	**06 24 05.0**	**+1.9**
	baz=300						
SLGT	**Liugui**	**2.25**	**273**	*e*P	**Pb**	**06 24 06.2**	**-0.3**
	baz=271						
TYC	**Yuchr**	**2.27**	**297**	*e*P	**Pb**	**06 24 06.4**	**-0.7**
	baz=301						
TYC				S	**Sn**	**06 24 32.5**	**+0.6**
	baz=301						
MASBT	**Mashibuluo**	**2.28**	**263**	*e*P	**Pb**	**06 24 05.9**	**-1.2**
	baz=261						
JTJ	**Tarama**	**2.28**	**40**	P	**Pn**	**06 24 05.1**	**+1.3**
JTJ				S	**Sn**	**06 24 31.4**	**-0.8**
TPUB	**Ta-pu**	**2.29**	**281**	P	**Pb**	**06 24 06.7**	**-0.7**
	baz=284						
TPUB				*e*S	**Sn**	**06 24 33.7**	**+1.3**
	baz=284						
WTP	**Ta-pu**	**2.30**	**279**	P	**Pb**	**06 24 06.9**	**-0.6**
	baz=283						
WTP				S	**Sn**	**06 24 34.3**	**+1.7**
	baz=283						
CHN5	**Tsauling**	**2.32**	**288**	*e*P	**Pb**	**06 24 07.7**	**-0.2**
	baz=287						
YHNB	**Yeheng**	**2.36**	**319**	P	**Pn**	**06 24 07.0**	**+2.2**
	baz=320						
YHNB				*e*S	**Sn**	**06 24 33.9**	**-0.1**
	baz=320						
TIPB	**Shuangxi**	**2.36**	**331**	P	**Pb**	**06 24 07.1**	**-1.5**
	baz=333						
TIPB				S	**Sn**	**06 24 33.9**	**-0.2**
	baz=333						
CHN1	**Nanshi**	**2.37**	**277**	*e*P	**Pb**	**06 24 08.4**	**-0.3**
	baz=283						
CHN1				S	**Sn**	**06 24 36.5**	**+2.2**
	baz=283						
NSK	**Sanguang**	**2.37**	**319**	*i* P	**Pb**	**06 24 07.4**	**-1.3**
	baz=320						
NSK				S	**Sn**	**06 24 33.7**	**-0.8**
	baz=320						
WHP	**Taichung City**	**2.39**	**305**	*e*P	**Pb**	**06 24 07.7**	**-1.4**
	baz=310						
LIOB	**Emei**	**2.57**	**313**	*e*P	**Pb**	**06 24 11.5**	**-0.7**
	baz=314						
LIOB				*e*S	**Sn**	**06 24 40.3**	**+1.0**
	baz=314						
JIRB	**Irabujima**	**2.71**	**44**	S	**Sn**	**06 24 41.9**	**-0.8**
JMJ2	**Miyako jima3**	**2.76**	**48**	*e*S	**Sn**	**06 24 42.8**	**-1.0**

*NNC **30** 06:38:56.2±1.1,39.°97N×67.°37E,h0km,mb4.5,mpv4.3,*
Error ellipse: s-maj=14.4km s-min=7.1km az=157.0
*SOME **30** 06:38:57.9,39.°88N×67.°75E,h0km*
*IDC **30** 06:38:57.5±0.7,39.°61N×67.°65E,h22km±4km,mb3.9/11,*
mb1 4.1/17,mb1mx3.8/43,mbtmp4.0/17,ML3.7/6,MS3.1/7,
Ms1 3.0/7,ms1mx2.8/41,Error ellipse: s-maj=14.6km
s-min=12.0km az=176.0
*BJI **30** 06:38:57.5±0.0,40.°05N×67.°82E,h23km,mb3.9/5,ML4.1/2*
*ISU **30** 06:38:58.6,39.°81N×67.°66E,h15km*
*MOS **30** 06:38:58.0±3.4,39.°87N×67.°69E,h24km,mb4.4/7,Error*
ellipse: s-maj=7.2km s-min=5.0km az=69.0
*NEIC **30** 06:38:58.3±1.8,39.°80N±0.°06×67.°65E±0.°08,h24km±5km,*
mb4.5/21,Error ellipse: s-maj=9.3km s-min=8.4km
az=134.0
ISC 30 06:38:57.6±0.5,**39.°82N**±0.°03×**67.°77E**±0.°03,**h19**km±1km,
h19km:**pP-P**,**n153**,σ1**s99**/189,**mb4.3**/23,**MS3.2**/3,**22C-12D**,
Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZI	**Dzhizak**	**0.31**	**8**	*e*P	**Pb**	**06 39 05.4**	**+0.8**
DZI				*e*S	**Sb**	**06 39 09.9**	**+0.6**
SAM	**Samarkand**	**0.61**	**257**	*e*P	**Pb**	**06 39 09.8**	**+0.1**
SAM				*e*S	**Sb**	**06 39 17.9**	**-0.1**
YNGY	**Yangiyul**	**1.62**	**37**	*e*P	**Pb**	**06 39 27.5**	**+0.6**
YNGY				*e*S	**Sg**	**06 39 52.3**	**+2.4**
TAS	**Tashkent**	**1.91**	**37**	PN	**Pb**	**06 39 31.4**	**-0.4**
TAS	**Tashkent**	**1.91**	**37**	Pn	**Pb**	**06 39 31.4**	**-0.4**
TAS	**Tashkent**	**1.91**	**37**	*e*P	**Pb**	**06 39 31.6**	**-0.2**
TAS				*e*S	**Sg**	**06 40 01.9**	**+2.8**
BTK	**Batken**	**2.36**	**83**	PN	**Pb**	**06 39 38.3**	**-1.3**
BTK	**Batken**	**2.36**	**83**	Pn	**Pb**	**06 39 38.3**	**-1.3**
CHM	**Chimkent**	**2.86**	**28**	*e*P	**Pg**	**06 39 52.8**	**+0.3**
	5.4nm,0.5s						
CHM				*e*S	**Sg**	**06 40 30.7**	**+1.1**
	4µm,0.6s						
CHM	**Chimkent**	**2.86**	**28**	*e*PN	**Pg**	**06 39 52.8**	**+0.3**
CHM				*e*S	**Sg**	**06 40 30.7**	**+1.1**
IUG	**Iuzhnay**	**2.89**	**36**	*e*P	**Pg**	**06 39 52.9**	**-0.2**
	218nm,0.5s						
IUG				*e*S	**Sg**	**06 40 31.7**	**+1.1**
	917nm,0.7s						
IUG	**Iuzhnay**	**2.89**	**36**	Pg	**Pg**	**06 39 53.4**	**+0.4**
	218nm,0.5s						
IUG				Lg	Lg	06 40 32.0	
	917nm,0.7s						
IUG	**Iuzhnay**	**2.89**	**36**	*e*PN	**Pg**	**06 39 52.9**	**-0.2**
IUG				*e*S	**Sg**	**06 40 31.7**	**+1.1**
NAM	**Namangan**	**3.20**	**67**	*e*P	**Pb**	**06 39 54.6**	**+0.8**
NAM				*e*S	**Sg**	**06 40 42.0**	**+1.7**
BRLS	**Borolday**	**3.57**	**25**	*e*P	**Pb**	**06 39 59.4**	**-0.8**
	83nm,0.6s						
BRLS				*e*S	**Sb**	**06 40 42.7**	**-0.5**
	611nm,0.6s						
BRLS	**Borolday**	**3.57**	**25**	Pg	**Pb**	**06 39 59.4**	**-0.8**
	83nm,0.6s						
BRLS				Lg	Lg	06 40 42.7	
	611nm,0.6s						
BRLS	**Borolday**	**3.57**	**25**	*e*PN	**Pb**	**06 39 59.4**	**-0.8**
BRLS				*e*S	**Sb**	**06 40 42.7**	**-0.5**
KK31	**Karatay Array**	**3.88**	**31**	⇑Pn	**Pn**	**06 39 57.2**	**+0.9**
	5.5nm,0.4s,baz=214,slow=11,SNR=119						
KK31				⇑Pg	**Pb**	**06 40 07.5**	**+2.0**
	9.7nm,0.3s,baz=216,slow=16,SNR=14						
KK31				⇓Sn	**Sn**	**06 40 42.5**	**+1.2**
	26nm,0.8s,baz=213,slow=18,SNR=5.9						
KK31				⇑Lg	Lg	06 40 57.7	
	138nm,0.5s,baz=222,slow=23,SNR=8.2						
KK31	**Karatay Array**	**3.88**	**31**	PN	**Pn**	**06 39 58.1**	**+1.8**
KK31						06 40 10.1	
KK31						06 41 00.5	
KK31	**Karatay Array**	**3.88**	**31**		**Pn**	**06 39 57.8**	**+1.5**
KKAR	**Karatay Array**	**3.88**	**31**	PN	**Pn**	**06 39 58.1**	**+1.8**
KKAR	**Karatay Array**	**3.88**	**31**		**Pn**	**06 39 58.1**	**+1.8**
KKAR	**Karatay Array**	**3.88**	**31**	Pn	**Pn**	**06 39 57.8**	**+1.5**
DZA	**Taraz**	**4.08**	**40**	*e*P	**Pg**	**06 40 14.9**	**-0.8**
	152nm,0.3s						
DZA				*e*S	**Sg**	**06 41 10.0**	**+1.4**
	601nm,0.4s						
DZA	**Taraz**	**4.08**	**40**	Pg	**Pg**	**06 40 16.8**	**+1.0**
	152nm,0.3s						
DZA				Lg	Lg	06 41 12.3	
	601nm,0.4s						
AML	**Almayashu**	**5.05**	**61**	P	**Pn**	**06 40 14.6**	**+1.9**
	SNR=170						
MRKS	**Merke**	**5.05**	**53**	*e*P	**Pg**	**06 40 31.7**	**-2.6**
	50nm,0.4s						
MRKS				*e*S	**Sg**	**06 41 38.3**	**-1.4**
	108nm,0.6s						
MRKS	**Merke**	**5.05**	**53**	Pg	**Pg**	**06 40 33.7**	**-0.6**
	50nm,0.4s						
MRKS				Lg	Lg	06 41 41.3	
	108nm,0.6s						
EKS2	**Erkin-Say**	**5.35**	**56**	P	**Pn**	**06 40 19.2**	**+2.6**
	SNR=23						
KBL	**Kabul**	**5.36**	**169**	PN	**Pn**	**06 40 21.4**	**+4.6**
KBL	**Kabul**	**5.36**	**169**	Pn	**Pn**	**06 40 21.4**	**+4.6**
UCH	**Uchtor**	**5.64**	**63**	P	**Pn**	**06 40 22.8**	**+1.8**
	SNR=49						
AAK	**Ala-Archa**	**5.80**	**59**	P	**Pn**	**06 40 25.6**	**+2.7**
	SNR=23						
AAK	**Ala-Archa**	**5.80**	**59**	⇑Pn	**Pn**	**06 40 25.1**	**+2.2**
	12nm,0.6s						
AAK				⇑Pg	**Pg**	**06 40 44.8**	**-3.9**
	32nm,0.7s						
AAK				⇓Lg	Lg	06 42 04.3	
	103nm,0.8s						
AAK	**Ala-Archa**	**5.80**	**59**	PN	**Pn**	**06 40 25.3**	**+2.4**
FRU1	**Bishkek**	**5.97**	**58**	PN	**Pn**	**06 40 27.7**	**+2.6**
FRU1	**Bishkek**	**5.97**	**58**	Pn	**Pn**	**06 40 27.7**	**+2.6**
KBK	**Karagaybulak**	**6.11**	**60**	P	**Pn**	**06 40 29.9**	**+2.8**
	SNR=36						
USP	**Ospenovka**	**6.12**	**54**	P	**Pn**	**06 40 28.4**	**+1.3**
	SNR=21						
CHMS	**Chumysh**	**6.14**	**57**	P	**Pn**	**06 40 29.4**	**+2.1**
	SNR=6.8						
SGDS	**Sogindy**	**6.30**	**53**	Pg	**Pg**	**06 40 56.5**	**-1.6**
	23nm,0.4s						
SGDS				Lg	Lg	06 42 20.0	
	62nm,0.7s						
TKM2	**Tokmak 2**	**6.66**	**60**	P	**Pn**	**06 40 36.4**	**+1.8**
	SNR=21						
TKM2	**Tokmak 2**	**6.66**	**60**	⇓Pn	**Pn**	**06 40 36.2**	**+1.5**
	15nm,0.8s						
TKM2				⇑Pg	**Pg**	**06 41 01.9**	**-3.2**
	15nm,0.6s						
TKM2				⇓Lg	Lg	06 42 31.9	
	68nm,0.7s						
TKM2	**Tokmak 2**	**6.66**	**60**	*i* PN	**Pn**	**06 40 35.0**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BOOM	**Boomskoye usch**	**6.72**	**64**	PN	**Pn**	**06 40 38.2**	**+2.7**
BOOM	**Boomskoye usch**	**6.72**	**64**	Pn	**Pn**	**06 40 38.1**	**+2.7**
KST	**Kastek**	**6.95**	**60**	*e*P	**

KST	**Kastek**	**6.95**	**60**	Pg	**Pg**	**06 41 06.4**	**-4.3**
	comp=Z,13nm,0.5s						
KST				Lg	Lg	06 42 36.7	
	comp=Z,108nm,0.8s						
HRA	**Herat**	**6.99**	**221**	Pn	**Pn**	**06 40 39.8**	**+0.6**
KDJ	**Kajisay**	**7.49**	**69**	P	**Pn**	**06 40 47.0**	**+1.0**
KDJ	**Kajisay**	**7.49**	**69**	Pn	**Pn**	**06 40 47.0**	**+1.0**
NIL	**Nilore**	**7.56**	**143**	P	**Pn**	**06 40 46.8**	**-0.1**
NIL	**Nilore**	**7.56**	**143**		**Pn**	**06 40 46.8**	**-0.1**
KUU	**Kurty**	**7.59**	**55**	*eP*	Pb	06 41 19.3	+11
	comp=Z,13nm,0.7s						
KUU				*eS*	Sb	06 42 59.0	+20
	comp=Z,40nm,0.5s						
GEYT	**Alibeck**	**7.76**	**259**	Pn	**Pn**	**06 40 48.5**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=74,slow=11,SNR=3.1						
GEYT				Sn	**Sn**	**06 42 14.8**	**-2.1**
	comp=Z,8.1nm,0.3s,baz=84,slow=16,SNR=2.2						
GEYT				LR	LR	06 44 33.8	
	comp=Z,110nm,19.6s,baz=10.0,slow=44						
GYA0B	**ALIBECK ARRAY**	**7.76**	**259**	⇑Pn	**Pn**	**06 40 47.9**	**-1.7**
GYA0B				⇓Sn	**Sn**	**06 42 12.8**	**-4.2**
GYA0B				⇑Lg	Lg	06 42 58.6	
GYA0B	**ALIBECK ARRAY**	**7.76**	**259**	Pn	**Pn**	**06 40 47.9**	**-1.7**
PDGK	**Podgornoye**	**9.46**	**64**	⇓Pn	**Pn**	**06 41 15.9**	**+2.9**
	comp=Z,5.8nm,0.8s						
PDGK				⇑Pg		06 41 51.7	
	comp=Z,9.9nm,0.9s						
PDGK				⇓Lg	Lg	06 44 02.4	
	comp=Z,45nm,1.0s						
PDGK	**Podgornoye**	**9.46**	**64**	P	**Pn**	**06 41 14.6**	**+1.6**
DHRM	**DHARAMSHALA**	**10.23**	**135**	*eP*	**Pn**	**06 41 27.2**	**+3.5**
DHRM				*eS*	**Sn**	**06 43 16.2**	**-1.8**
DHRM				IAML		06 43 22.9	
	comp=E,95nm,0.4s						
DHRM				IAML		06 43 23.1	
	comp=N,77nm,0.4s						
AB31	**Akbulak array**	**10.96**	**332**	Pn	**Pn**	**06 41 30.2**	**-3.2**
	comp=N,7.0nm,0.6s,baz=155,slow=12,SNR=126						
AB31				⇑Sn	**Sn**	**06 43 30.9**	**-4.5**
	comp=N,11nm,0.6s,baz=151,slow=23,SNR=5.0						
AB31				⇓Lg	Lg	06 44 36.7	
	comp=N,16nm,0.7s,baz=154,slow=27,SNR=4.2						
AB31	**Akbulak array**	**10.96**	**332**	*eP*	**Pn**	**06 41 31.7**	**-1.6**
AB31						06 43 29.2	
ABKAR	**Akbulak array**	**10.96**	**332**		**Pn**	**06 41 31.7**	**-1.6**
ABKAR	**Akbulak array**	**10.96**	**332**	Pn	**Pn**	**06 41 31.9**	**-1.5**
MAKZ	**Makanchi**	**12.48**	**51**	⇓Pn	**Pn**	**06 41 55.2**	**+1.0**
	comp=N,3.1nm,0.6s						
MAKZ				⇑Lg	Lg	06 45 36.0	
	comp=N,27nm,1.1s						
MAKZ	**Makanchi**	**12.48**	**51**	P	**Pn**	**06 41 55.0**	**+0.8**
MAKZ	**Makanchi**	**12.48**	**51**		**Pn**	**06 41 55.0**	**+0.8**
AKTO	**Aktyubinsk**	**12.64**	**330**	Pn	**Pn**	**06 41 55.6**	**-0.8**
	comp=N,0.6nm,0.3s,baz=141,slow=16,SNR=28						
AKTO				LR	LR	06 46 35.4	
	comp=N,16nm,18.0s,baz=120,slow=36						
AKTO	**Aktyubinsk**	**12.64**	**330**	⇑Pn	**Pn**	**06 41 54.4**	**-2.0**
	comp=N,6.0nm,0.7s						
AKTO				⇑Sn	**Sn**	**06 44 11.4**	**-5.2**
	comp=N,7.8nm,0.8s						
AKTO				⇑Lg	Lg	06 45 29.6	
	comp=N,17nm,1.0s						
MK31	**Makanchi Array**	**12.66**	**52**	⇑Pn	**Pn**	**06 41 56.8**	**+0.2**
	comp=N,2.5nm,0.5s,baz=244,slow=14,SNR=25						
MK31				⇑Lg	Lg	06 45 40.7	
	comp=N,12nm,0.8s,baz=255,slow=20,SNR=4.1						
MK31	**Makanchi Array**	**12.66**	**52**	P	**Pn**	**06 41 58.2**	**+1.5**
MK31	**Makanchi Array**	**12.66**	**52**	Pn	**Pn**	**06 41 58.2**	**+1.5**
MKAR	**Makanchi Array**	**12.66**	**52**	Pn	**Pn**	**06 41 56.8**	**+0.1**
	comp=N,0.7nm,0.3s,baz=241,slow=15,SNR=30						
MKAR				Lg	Lg	06 45 45.5	
	comp=N,0.4nm,0.3s,baz=253,slow=24,SNR=4.8						
MKAR	**Makanchi Array**	**12.66**	**52**	*i* P	**Pn**	**06 41 57.7**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**12.66**	**52**	Pn	**Pn**	**06 41 57.6**	**+1.0**
KURBB	**Kurchatov Arra**	**13.19**	**31**	Pn	**Pn**	**06 42 02.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=220,slow=13,SNR=3.4						
KURBB				Lg	Lg	06 45 56.3	
	comp=Z,0.1nm,0.3s,baz=207,slow=27,SNR=4.4						
KURBB	**Kurchatov Arra**	**13.19**	**31**	⇓Pn	**Pn**	**06 42 04.6**	**+0.8**
	comp=Z,4.9nm,0.7s						
KURBB				⇓Lg	Lg	06 45 53.1	
	comp=Z,69nm,0.9s						
KURK	**Kurchatov**	**13.30**	**31**	*i* P	**Pn**	**06 42 02.9**	**-2.4**
BVAR	**Borovoye Array**	**13.34**	**7**	Pn	**Pn**	**06 42 04.3**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=195,slow=27,SNR=17						
BRVK	**Borovoye**	**13.36**	**7**	⇑Pn	**Pn**	**06 42 05.3**	**-0.8**
	comp=Z,7.9nm,0.7s						
BRVK				⇓Sn	**Sn**	**06 44 28.7**	**-5.4**
	comp=Z,16nm,0.9s						
BRVK	**Borovoye**	**13.36**	**7**	P	**Pn**	**06 42 06.0**	**-0.1**
BRVK	**Borovoye**	**13.36**	**7**	Pn	**Pn**	**06 42 06.0**	**-0.1**
KUDL	**Kundal**	**13.70**	**146**	*i x*	**Pn**	**06 42 09.2**	**-1.7**
KUDL				*ex*	Sn	06 44 34.4	-8.1
MAK	**Makhachkala**	**15.53**	**288**	*eP*	**P**	**06 42 41.3**	**+1.6**
MAK				*eS*	**Sn**	**06 45 31.7**	**+4.9**
MAK				pmax	pmax		
	comp=Z,268nm,1.0s						
MAK				MLR	MLR		
	comp=Z,108nm,11.0s						
DGZ	**Jazzator, Alta**	**17.06**	**48**	*i* P	**Pn**	**06 42 54.9**	**-0.3**
PYUN	**Piuthan**	**17.18**	**128**	*eP*	**P**	**06 42 59.4**	**+1.0**
	comp=Z,38nm,0.5s						
DANN	**Dangsing**	**17.47**	**126**	*eP*	**P**	**06 43 01.7**	**0.0**
	comp=Z,17nm,0.5s						
ARU	**Arti**	**17.70**	**343**	P	**Pn**	**06 43 01.0**	**-1.8**
ARU				S	**Sn**	**06 46 09.0**	**-10**
KOLN	**Koldanda**	**17.79**	**128**	*eP*	**P**	**06 43 06.3**	**+1.2**
	comp=Z,15nm,0.6s						
ZAA0	**Zalesovo Array**	**18.25**	**34**	⇑Pn	**P**	**06 43 10.1**	**+0.3**
	comp=Z,1.6nm,0.8s						
ZAA0				⇑Lg	Lg	06 48 34.3	
	comp=Z,2.0nm,0.9s						
ZAA0	**Zalesovo Array**	**18.25**	**34**	P	**P**	**06 43 10.2**	**+0.4**
ZALV	**Zalesovo Beam**	**18.25**	**34**	P	**P**	**06 43 10.1**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=235,slow=10,SNR=26						
ZALV				LR	LR	06 50 41.0	
	comp=Z,52nm,18.9s,baz=56,slow=38						
ZALV	**Zalesovo Beam**	**18.25**	**34**	P	**P**	**06 43 10.2**	**+0.4**
GKN	**Gorkha**	**18.27**	**125**	*eP*	**P**	**06 43 11.4**	**+1.1**
	comp=Z,10nm,0.4s						
KBZ	**Khabaz**	**18.93**	**290**	LR	LR	06 52 26.9	
	comp=Z,75nm,18.8s,baz=70,slow=43						
KBZ	**Khabaz**	**18.93**	**290**	*i* P	**Pn**	**06 43 23.3**	**+5.3**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PKIN	**Phulchoki**	**19.04**	**125**	*eP*	**Pn**	**06 43 20.1**	**+0.3**
	comp=Z,7.5nm,0.5s						
PKI	**Pulchoki**	**19.05**	**124**	*eP*	**Pn**	**06 43 20.3**	**+0.3**
	comp=Z,13nm,0.6s						
KIV	**Kislovodsk**	**19.10**	**291**	*eP*	**Pn**	**06 43 25.2**	**+5.0**
KIV				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV				MLR	MLR		
	comp=Z,110nm,14.0s						
SHA1	**Shidzhatmaz**	**19.11**	**290**	*i* P	**Pn**	**06 43 25.4**	**+5.0**
GUN	**Gumba**	**19.12**	**123**	*eP*	**P**	**06 43 20.7**	**+0.8**
	comp=Z,7.6nm,0.4s						
RAMN	**Ramite**	**20.25**	**124**	*eP*	**P**	**06 43 33.5**	**+1.4**
	comp=Z,13nm,0.5s						
VRH	**Novokhopyorsk**	**21.39**	**311**	*eP*	**P**	**06 43 40.9**	**-3.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**22.90**	**309**	*eP*	**P**	**06 44 01.4**	**+1.3**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GTA	**Gaotai**	**24.63**	**81**	*eP*	**P**	**06 44 19.0**	**+2.0**
GTA				pP	pP	06 44 22.8	-0.2
GTA				sP	sP	06 44 25.5	+0.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**26.14**	**281**	P	**P**	**06 44 29.6**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=92,slow=5.0,SNR=2.7						
ANTO	**Ankara**	**26.75**	**281**	P	**P**	**06 44 34.1**	**-2.1**
ANTO	**Ankara**	**26.75**	**281**	P	**P**	**06 44 34.1**	**-2.1**
SONM	**Songino Array**	**28.76**	**61**	P	**P**	**06 44 55.2**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=269,slow=10,SNR=5.9						
SONM	**Songino Array**	**28.76**	**61**	P	**P**	**06 44 54.7**	**+0.6**
ULN	**Ulaanbaatar**	**29.20**	**61**	*ceP*	**P**	**06 44 59.8**	**+1.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NRIK	**Noril'sk**	**31.41**	**13**	LR	LR	07 00 01.3	
	comp=Z,45nm,18.0s,baz=5.0,slow=40						
FINES	**FINESS Array B**	**33.31**	**324**	P	**P**	**06 45 34.3**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=123,slow=9.4,SNR=6.7						
FINES				pP	**sP**	**06 45 41.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=113,slow=13,SNR=2.1						
FINES				LR	LR	06 59 44.8	
	comp=Z,66nm,20.6s,baz=84,slow=37						
FINES	**FINESS Array B**	**33.31**	**324**	*i* P	**P**	**06 45 34.4**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**34.29**	**119**	*ceP*	P	06 45 51.2	+8.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARC2	**ARCESS Array S**	**37.10**	**337**	P	**P**	**06 46 07.4**	**+1.0**
ARCES	**ARCESS Array B**	**37.11**	**337**	P	**P**	**06 46 07.1**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=71,slow=7.9,SNR=4.8						
CLL	**Collm**	**39.16**	**306**	*eP*	**P**	**06 46 24.0**	**+0.1**
CLL				*e*(sP)	**sP**	**06 46 36.0**	**+3.3**
NC303	**NORSAR Array S**	**40.15**	**321**	P	**P**	**06 46 32.4**	**+0.3**
NC303				pP	**sP**	**06 46 39.5**	**-1.5**
NB2	**NORSAR Subarra**	**40.20**	**321**	P	**P**	**06 46 32.0**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**40.20**	**321**	P	**P**	**06 46 32.4**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=96,slow=8.1,SNR=5.1						
NOA				pP	**sP**	**06 46 39.5**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=96,slow=8.2,SNR=6.7						
NBO00	**NORSAR Array S**	**40.41**	**321**	P	**P**	**06 46 34.3**	**0.0**
NBO00				pP	**sP**	**06 46 41.4**	**-1.8**
NBO00				IAmb	IAmb	06 46 53.8	
	comp=Z,16nm,1.1s						
MURB	**Monte Urbino**	**40.86**	**293**	P	**P**	**06 46 39.0**	**+0.7**
MURB				IAmb	IAmb	06 46 49.8	
	comp=Z,16nm,1.3s						
TIXI	**Tiksi**	**43.71**	**24**	*ceP*	**P**	**06 47 02.1**	**+1.1**
TIXI	**Tiksi**	**43.71**	**24**	P	**P**	**06 47 01.5**	**+0.5**
KSRS	**Korea Array**	**46.27**	**73**	LR	LR	07 08 52.9	
	comp=Z,17nm,20.5s,baz=150,slow=39						
ESDC	**Sonseca Array**	**53.71**	**295**	P	**P**	**06 48 17.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=77,slow=8.3,SNR=2.5						
ESDC				pP	**pP**	**06 48 24.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=50,slow=8.3,SNR=4.2						
JGF	**Kuroka**	**53.95**	**71**	P	**P**	**06 48 19.7**	**-0.5**
JGF				IAmb	IAmb	06 48 19.7	
	comp=Z,7.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**63.35**	**265**	P	**P**	**06 49 24.6**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=49,slow=6.4,SNR=4.7						
TORD				pP	**pP**	**06 49 31.2**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=45,slow=6.3,SNR=9.4						
TORD	**Torodi Ar. Bea**	**63.35**	**265**	P	**P**	**06 49 25.1**	**-0.8**
TORD				pP	**pP**	**06 49 32.1**	**-0.2**
TOLK	**Toolik Lake Re**	**68.34**	**14**	P	**P**	**06 49 58.2**	**+0.9**
IMAR	**Indian Mountai**	**69.77**	**17**	P	**P**	**06 50 06.4**	**+0.3**
C36M	**Paulatuk**	**70.80**	**4**	P	**P**	**06 50 12.3**	**0.0**
C36M				IAmb	IAmb	06 50 20.0	
	comp=Z,5.5nm,1.1s						
C36M				pP	**sP**	**06 50 20.4**	**-0.8**
INK	**Inuvik**	**71.02**	**8**	P	**P**	**06 50 14.1**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=10,slow=8.9,SNR=8.7						
INK	**Inuvik**	**71.02**	**8**	P	**P**	**06 50 14.1**	**+0.4**
INK				IAmb	IAmb	06 50 15.2	
	comp=Z,1.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**71.99**	**17**	P	**P**	**06 50 20.1**	**+0.4**
ILAR	**Eielson Array**	**72.26**	**15**	P	**P**	**06 50 20.8**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=317,slow=4.0,SNR=7.8						
ILAR	**Eielson Array**	**72.26**	**15**	P	**P**	**06 50 21.5**	**+0.3**
ILAR	**Eielson Array**	**72.26**	**15**	P	**P**	**06 50 21.5**	**+0.3**
PPLA	**Purkeypile**	**72.75**	**18**	P	**P**	**06 50 24.6**	**+0.2**
PMR	**Palmer**	**74.60**	**17**	P	**P**	**06 50 35.5**	**+0.5**
PMR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PMR	**Palmer**	**74.60**	**17**	P	**P**	**06 50 35.5**	**+0.5**
PMR				IAmb	IAmb	06 50 42.0	
	comp=Z,5.0nm,1.1s						
WB0	**Warramunga Arr**	**85.79**	**120**	P	**P**	**06 51 35.7**	**-0.2**
WB0				IAmb	IAmb	06 51 35.9	
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**85.88**	**120**	P	**P**	**06 51 35.5**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=321,slow=4.6,SNR=60						
WRA				pP	**pP**	**06 51 42.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=323,slow=4.7,SNR=5.5						
WRA	**Warramunga Arr**	**85.88**	**120**	P	**P**	**06 51 35.9**	**-0.5**
WRA				*PP	**pP**	**06 51 43.0**	**+0.1**
WRA	**Warramunga Arr**	**85.88**	**120**	P	**P**	**06 51 35.9**	**-0.5**
WRA					**pP**	**06 51 43.0**	**+0.1**
WRAB	**Tennant Creek**	**85.88**	**120**	P	**P**	**06 51 35.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	**85.88**	**120**	P	**P**	**06 51 35.9**	**-0.5**
WB2	**Warramunga Arr**	**85.89**	**120**	P	**P**	**06 51 35.9**	**-0.5**
WR0	**Warramunga Arr**	**86.03**	**120**	P	**P**	**06 51 36.3**	**-0.8**
WR0				IAmb	IAmb	06 51 49.2	
	comp=Z,4.0nm,1.1s						
ASAR	**Alice Springs**	**88.22**	**123**	P	**P**	**06 51 47.0**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=312,slow=4.6,SNR=23						
ASAR				pP	**pP**	**06 51 54.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=321,slow=5.7,SNR=6.8						
ASAR	**Alice Springs**	**88.22**	**123**	P	**P**	**06 51 47.3**	**-0.4**
ASAR				*PP	**pP**	**06 51 54.4**	**+0.2**
ASAR	**Alice Springs**	**88.22**	**123**	P	**P**	**06 51 47.3**	**-0.4**
ASAR					**pP**	**06 51 54.4**	**+0.2**

*NNC **30** 07:11:56.1±2.5,41°.69N×78°.10E,h0km,mb2.8,mpv2.7,*
Error ellipse: s-maj=19.8km s-min=8.7km az=162.0,
Suspected Mining explosion.
*KRNET **30** 07:11:57.8±0.1,42°.28N×78°.16E,h7km,mb2.1*
ISC 30 07:11:59.6±1.7,**42°.0N**±0°.1×**77°.99E**±0°.05,**h0**km,**n17,**
σ0**s97**/22,**14C-6D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PRZ	**Przheval'sk**	**0.61**	**30**	⇑*i*P		Pg	07 12 03.2	-8.0
	baz=44							
PRZ				⇑*i*S		Sg	07 12 07.5	-12
	baz=44							
KDJ	**Kajisay**	**0.63**	**286**	⇑*i*P		**Pg**	**07 12 11.8**	**+0.2**
	baz=58							
KDJ				⇑*i*S		**Sb**	**07 12 22.3**	**-0.7**
	baz=58							
ANVS	**Anan'yevo**	**0.86**	**344**	⇑*i*P		Pg	07 12 09.9	-6.2
	baz=24							
ANVS				⇑*i*S		Sg	07 12 18.8	-8.4
	baz=24							
SATY	**Saty**	**1.14**	**15**	P		**Pg**	**07 12 20.2**	**-1.3**
	0.8nm,0.2s							
SATY				S		**Sb**	**07 12 38.9**	**+1.1**
	3.7nm,0.2s							
ULHL	**Ulahol**	**1.33**	**283**	⇑*i*P		**Pb**	**07 12 25.9**	**+0.3**
	baz=69							
ULHL				⇑*i*S		**Sn**	**07 12 45.1**	**+0.9**
	baz=69							
UZB	**Uzynbulak**	**1.41**	**32**	P		**Pn**	**07 12 25.6**	**-1.1**
	1.0nm,0.2s							
UZB				S		**Sn**	**07 12 48.1**	**+2.0**
	1.6nm,0.1s							
BOOM	**Boomskoye usch**	**1.61**	**290**	⇑*i*P		**Pn**	**07 12 29.0**	**-0.5**
	baz=78							
BOOM				⇑*i*S		**Sg**	**07 12 51.4**	**0.0**
	baz=78							
SHLS	**Shalkode**	**1.62**	**42**	Pg		**Pg**	**07 12 32.2**	**+1.6**
	7.7nm,0.1s							
SHLS				Lg		Lg	07 12 59.2	
	4.2nm,0.1s							
PDGK	**Podgornoye**	**1.76**	**38**	Pg		**Pn**	**07 12 29.8**	**-1.7**
	0.7nm,0.3s							
PDGK				Lg		Lg	07 12 55.1	
	1.8nm,0.7s							
PDGK	**Podgornoye**	**1.76**	**38**	⇓Pg		**Pg**	**07 12 33.2**	**-0.1**
	1.6nm,0.6s							
PDGK				⇑Lg		Lg	07 13 00.2	
	6.6nm,1.1s							
KST	**Kastek**	**1.85**	**307**	Pg		**Pb**	**07 12 34.5**	**+0.1**
	1.3nm,0.2s							
KST				Lg		Lg	07 13 03.3	
	5.7nm,0.5s							
TKM2	**Tokmak 2**	**2.02**	**299**	⇑*i*P		**Pg**	**07 12 37.5**	**-0.7**
	baz=89							
TKM2				⇑*i*S		**Sg**	**07 13 04.7**	**+0.3**
	baz=89							
TKM2	**Tokmak 2**	**2.02**	**299**	⇓Pg		**Pg**	**07 12 38.4**	**+0.2**
	2.3nm,0.7s							
TKM2				⇑Lg		Lg	07 13 09.3	
	2.0nm,0.6s							
MNBS	**Baschi**	**2.14**	**8**	Pg		**Pb**	**07 12 38.9**	**-0.4**
	1.7nm,0.2s							
MNBS				Lg		Lg	07 13 11.2	
	10nm,0.3s							
KUU	**Kurty**	**2.28**	**328**	Pg		**Pg**	**07 12 43.3**	**0.0**
	2.5nm,0.4s							
KUU				Lg		Lg	07 13 18.9	
	3.8nm,0.2s							
UCH	**Uchtor**	**2.60**	**277**	⇓*i*P		**Pb**	**07 12 46.4**	**-1.0**
	baz=70							
UCH				⇓*i*S		**Sb**	**07 13 19.7**	**-0.4**
	baz=70							
AAK	**Ala-Archa**	**2.68**	**286**	⇓Pg		**Pn**	**07 12 45.1**	**+0.9**
	3.8nm,1.1s							
AAK				⇓Lg		Lg	07 13 24.9	
	2.5nm,0.8s							

*IDC **30** 07:15:58.3±3.9,2°.51N×127°.02E,h47km±40km,mb3.8/7,*
mb1 4.0/8,mb1mx3.6/40,mbtmp4.1/8,ML4.4/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.4/29,Error ellipse: s-maj=50.7km
s-min=18.3km az=70.0
*NEIC **30** 07:16:00.7±1.3,2°.55N±0°.10×127°.3E±0°.2,h78km±9km,*
mb4.2/17,Error ellipse: s-maj=24.4km s-min=13.6km
az=82.0
ISC 30 07:15:58.9±0.6,**2°.55N**±0°.06×**127°.1E**±0°.1,**h53**km,**n31,**
σ1**s04/35,mb4.2/13,1C,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TNTI	**Ternate**	**1.78**	**172**	Pn		**Pn**	**07 16 29.7**	**+2.4**
KCP	**Kidapawan**	**4.87**	**335**	⇑*e*P		**Pn**	**07 17 12.0**	**+2.2**
KCP				*i* S		**Sn**	**07 18 05.5**	**+0.5**
SIJI	**Sorong**	**5.35**	**129**	P		**Pn**	**07 17 17.2**	**+0.9**
	11nm,0.3s,baz=116,slow=18,SNR=13							
SIJI				S		**Sn**	**07 18 18.1**	**+1.5**
	1.6nm,0.3s,baz=187,slow=23,SNR=1.4							
FAKI	**Fak Fak**	**7.46**	**137**	Pn		**Pn**	**07 17 45.1**	**-0.1**
MTN	**Manton Dam**	**15.80**	**166**			**P**	**07 19 39.6**	**-1.5**
KNRA	**Kununurra**	**18.18**	**175**			**Pn**	**07 20 07.5**	**-0.2**
KNRA				IAmb		IAmb	07 20 12.6	
	comp=Z,9.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.57**	**184**	P		**P**	**07 20 33.5**	**0.0**
	comp=Z,2.6nm,0.5s,baz=17,slow=8.1,SNR=12							
FITZ	**Fitzroy Crossi**	**20.57**	**184**	P		**P**	**07 20 33.1**	**-0.4**
WB0	**Warramunga Arr**	**23.30**	**162**	P		**P**	**07 21 01.0**	**-1.4**
WB0				IAmb		IAmb	07 21 02.6	
	comp=Z,7.5nm,0.5s							
WRAB	**Tennant Creek**	**23.44**	**163**	P		**P**	**07 21 02.8**	**-0.9**
WRAB				IAmb		IAmb	07 21 03.5	
	comp=Z,13nm,1.2s							
WRA	**Warramunga Arr**	**23.45**	**163**	P		**P**	**07 21 02.9**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=338,slow=10,SNR=85							
WRA				PcP		**PcP**	**07 24 48.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=338,slow=2.3,SNR=4.5							
WB2	**Warramunga Arr**	**23.45**	**163**	P		**P**	**07 21 02.5**	**-1.3**
WB2				IAmb		IAmb	07 21 14.9	
	comp=Z,7.6nm,0.8s							
WC3	**Warramunga Arr**	**23.47**	**163**	P		**P**	**07 21 02.7**	**-1.3**
WC3				IAmb		IAmb	07 21 04.5	
	comp=Z,6.2nm,0.7s							
WR0	**Warramunga Arr**	**23.52**	**162**	P		**P**	**07 21 03.1**	**-1.4**
WR0				IAmb		IAmb	07 21 05.0	
	comp=Z,6.1nm,1.1s							
PSA00	**Pilbara Seismi**	**25.01**	**196**	P		**P**	**07 21 19.2**	**+1.1**
PSA00				IAmb		IAmb	07 21 20.9	
	comp=Z,10.0nm,0.7s							
AS31	**Alice Springs**	**26.88**	**166**	P		**P**	**07 21 34.6**	**-0.4**
ASAR	**Alice Springs**	**26.88**	**166**	P		**P**	**07 21 34.3**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=344,slow=7.2,SNR=23							
ASAR				PcP		**PcP**	**07 24 56.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=1.0,slow=2.2,SNR=5.5							
ASAR	**Alice Springs**	**26.88**	**166**	P		**P**	**07 21 34.1**	**-0.9**
JTU	**Tsushima**	**31.88**	**4**	P		**P**	**07 22 19.9**	**+0.7**
FORT	**Forrest**	**33.16**	**179**	P		**P**	**07 22 29.9**	**-0.5**
MORW	**Morawa**	**33.19**	**198**	P		**P**	**07 22 31.7**	**+1.0**
MORW				IAmb		IAmb	07 22 39.4	
	comp=Z,5.5nm,0.9s							
BBOO	**Buckleboo**	**36.17**	**167**	P		**P**	**07 22 55.2**	**-1.3**
NWAO	**Narrogin (SRO)**	**36.51**	**194**	P		**P**	**07 22 59.1**	**-0.2**
STKA	**Stephens Creek**	**36.89**	**159**	P		**P**	**07 23 02.3**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=332,slow=8.1,SNR=12							
STKA	**Stephens Creek**	**36.89**	**159**	P		**P**	**07 23 01.9**	**-0.6**
SONM	**Songino Array**	**48.53**	**341**	P		**P**	**07 24

AAK				⇓*i*S		**Sn**	07 19 00.7	+0.8	
	baz=27								
AAK	**Ala-Archa**	**2.96**	**328**	P		**Pb**	**07 18 27.9**	**-2.0**	
	SNR=10								
AAK	**Ala-Archa**	**2.96**	**328**	⇑Pn		**Pb**	**07 18 27.3**	**-2.6**	
	6.8nm,0.5s								
AAK				⇑Lg		Lg	07 19 09.3		
	59nm,0.8s								
AML	**Almayashu**	**2.97**	**313**	⇑*i*P		**Pn**	**07 18 24.8**	**+0.3**	
	baz=12								
AML				⇑*i*S		**Sn**	**07 19 01.2**	**+0.8**	
	baz=12								
AML	**Almayashu**	**2.97**	**313**	P		**Pn**	**07 18 25.0**	**+0.5**	
	SNR=12								
MDOK	**Medeo**	**3.04**	**6**	*e*P		**Pb**	**07 18 30.1**	**-1.2**	
	12nm,0.5s								
MDOK				*e*S		**Sb**	**07 19 09.5**	**+1.0**	
	30nm,0.5s								
MDOK	**Medeo**	**3.04**	**6**	Pg		**Pb**	**07 18 30.1**	**-1.2**	
	12nm,0.5s								
MDOK				Lg		Lg	07 19 09.5		
	30nm,0.5s								
KOTS	**Kotyrbulak**	**3.12**	**7**	*e*P		**Pb**	**07 18 32.1**	**-0.5**	
	24nm,0.5s								
KOTS				*e*S		**Sb**	**07 19 12.8**	**+2.0**	
	40nm,0.4s								
KOTS	**Kotyrbulak**	**3.12**	**7**	Pg		**Pb**	**07 18 32.1**	**-0.5**	
	24nm,0.5s								
KOTS				Lg		Lg	07 19 12.8		
	40nm,0.4s								
CHMS	**Chumysh**	**3.18**	**335**	⇑*i*P		**Pn**	**07 18 26.9**	**-0.2**	
	baz=34								
CHMS				⇑*i*S		**Sn**	**07 19 05.3**	**+0.2**	
	baz=34								
EKS2	**Erkin-Say**	**3.30**	**321**	⇓*i*P		**Pn**	**07 18 28.5**	**-0.3**	
	baz=20								
EKS2				⇓*i*S		**Sn**	**07 19 09.0**	**+0.8**	
	baz=20								
EKS2	**Erkin-Say**	**3.30**	**321**	P		**Pn**	**07 18 30.1**	**+1.3**	
	SNR=5.2								
USP	**Ospenovka**	**3.50**	**334**	⇑*i*P		**Pn**	**07 18 31.3**	**-0.2**	
	baz=33								
USP				⇑*i*S		**Sn**	**07 19 13.3**	**+0.2**	
	baz=33								
USP	**Ospenovka**	**3.50**	**334**	P		**Sg**	**07 19 24.2**	**-5.2**	
	SNR=6.0								
UZB	**Uzynbulak**	**3.51**	**30**	*e*P		**Pb**	**07 18 38.4**	**-0.9**	
	1.4nm,0.3s								
UZB				*e*S		**Sb**	**07 19 23.7**	**+1.7**	
	9.6nm,1.0s								
UZB	**Uzynbulak**	**3.51**	**30**	Pg		**Pb**	**07 18 38.4**	**-0.9**	
	1.4nm,0.3s								
UZB				Lg		Lg	07 19 23.7		
	9.6nm,1.0s								
KTBS	**Karatobe**	**3.58**	**1**	*e*P		**Pb**	**07 18 39.4**	**-0.9**	
	2.9nm,0.4s								
KTBS				*e*S		**Sb**	**07 19 25.2**	**+1.4**	
	14nm,0.7s								
KTBS	**Karatobe**	**3.58**	**1**	Pg		**Pb**	**07 18 39.4**	**-0.9**	
	2.9nm,0.4s								
KTBS				Lg		Lg	07 19 25.2		
	14nm,0.7s								
KRBS	**Karabastau**	**3.63**	**349**	*e*P		**Pb**	**07 18 40.1**	**-1.0**	
	6.1nm,0.3s								
KRBS				*e*S		**Sb**	**07 19 26.9**	**+1.7**	
	11nm,0.4s								
KRBS	**Karabastau**	**3.63**	**349**	Pg		**Pb**	**07 18 40.1**	**-1.0**	
	6.1nm,0.3s								
KRBS				Lg		Lg	07 19 26.9		
	11nm,0.4s								
MRKS	**Merke**	**3.64**	**317**	*e*P		**Pb**	**07 18 41.0**	**-0.4**	
	2.3nm,0.4s								
MRKS				*e*S		**Sb**	**07 19 27.8**	**+2.1**	
	6.1nm,0.5s								
MRKS	**Merke**	**3.64**	**317**	Pg		**Pb**	**07 18 41.0**	**-0.4**	
	2.3nm,0.4s								
MRKS				Lg		Lg	07 19 27.8		
	6.1nm,0.5s								
KPKS	**Kokpek**	**3.67**	**24**	*e*P		**Pb**	**07 18 40.9**	**-1.1**	
	8.9nm,0.5s								
KPKS				*e*S		**Sb**	**07 19 28.1**	**+1.5**	
	21nm,0.4s								
KUU	**Kurty**	**3.76**	**357**	*e*P		**Pb**	**07 18 42.8**	**-0.6**	
	4.2nm,0.6s								
KUU				*e*S		**Sb**	**07 19 31.0**	**+2.0**	
	5.9nm,0.6s								
KUU	**Kurty**	**3.76**	**357**	Pg		**Pb**	**07 18 42.8**	**-0.6**	
	4.2nm,0.6s								
KUU				Lg		Lg	07 19 31.0		
	5.9nm,0.6s								
PDGK	**Podgornoye**	**3.85**	**33**	Pg		**Pb**	**07 18 43.2**	**-1.8**	
	2.1nm,0.4s								
PDGK				Lg		Lg	07 19 32.1		
	9.2nm,0.9s								
PDGK	**Podgornoye**	**3.85**	**33**	⇓Pg		**Pb**	**07 18 42.5**	**-2.6**	
	2.3nm,0.5s								
PDGK				⇑Lg		Lg	07 19 34.0		
	25nm,0.8s								
ARXS	**Arharly**	**4.17**	**12**	*e*P		**Pb**	**07 18 50.9**	**+0.4**	
	9.3nm,0.8s								
ARXS				*e*S		**Sb**	**07 19 44.8**	**+3.8**	
	9.1nm,0.5s								
ARXS	**Arharly**	**4.17**	**12**	Pg		**Pb**	**07 18 50.9**	**+0.4**	
	9.3nm,0.8s								
ARXS				Lg		Lg	07 19 44.8		
	9.1nm,0.5s								
DJR	**Jarkent**	**4.81**	**28**	*e*P		**Pb**	**07 19 01.8**	**+0.4**	
	1.9nm,0.4s								
DJR				*e*S		**Sb**	**07 20 03.7**	**+4.3**	
	3.0nm,0.4s								
DJR	**Jarkent**	**4.81**	**28**	Pg		**Pb**	**07 19 01.8**	**+0.4**	
	1.9nm,0.4s								
DJR				Lg		Lg	07 20 03.7		
	3.0nm,0.4s								

*DDA **30** 07:31:52.4,37.05N×45.24E,h8km±1km,ML2.6*
*TEH **30** 07:31:54.3,36.75N×45.60E,h14km, ML2.7*
ISC 30 07:31:49.5±1.0, 36.93N±0.06×45.41E±0.05, h10km, n8, σ1s75/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MAHB	**Mahabad**	**0.29**	**124**	*e*Pg			**Pg**	**07 31 57.6**	**+2.2**
YOVA	**Hakkari_Yksek**	**1.11**	**307**	*i* P			**Pb**	**07 32 10.4**	**-0.5**
YOVA				*i* S			**Sn**	**07 32 26.4**	**-0.4**
YOVA				IAML				07 32 29.0	
	comp=N,105nm,0.5s								
CUKT	**Cukurca**	**1.47**	**283**	*i* P			**Pb**	**07 32 17.1**	**0.0**
CUKT				*i* S			**Sb**	**07 32 36.3**	**+0.3**
CUKT				IAML				07 32 38.0	
	comp=N,218nm,0.7s								
CUKT				IAML				07 32 41.0	
	comp=E,389nm,0.6s								
HAKT	**HAKKARI**	**1.49**	**295**	*i* P			**Pb**	**07 32 17.6**	**0.0**
HAKT				*i* S			**Sg**	**07 32 38.0**	**+0.3**
HAKT				IAML				07 32 40.0	
	comp=N,100nm,0.4s								
HAKT				IAML				07 32 40.0	
	comp=E,104nm,0.4s								
IHRS	**Heris**	**1.90**	**43**	*e*Pn			**Pg**	**07 32 28.7**	**+2.7**
IHRS				*e*				07 33 06.0	
ISRB	**Sarab**	**2.01**	**63**	*e*Pn			**Pg**	**07 32 29.8**	**+1.7**
ISRB				*e*				07 33 04.4	
IHSH	**Hashtrud**	**2.02**	**46**	*e*Pg			**Pn**	**07 32 21.0**	**-2.9**
IHSH				*e*				07 32 52.6	
IDHR	**Dehrash**	**2.36**	**160**	*e*Pn			**Pb**	**07 32 31.8**	**-0.5**
IDHR				*e*				07 33 08.4	

IDC 30 07:49:57.0±2.9, 5.21S×131.55E, h48km±38km, mb3.3/1, mb1 3.4/5, mb1mx3.2/29, mbtmp3.4/5, ML3.1/4, Error ellipse: s-maj=106.2km s-min=24.8km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SIJI	**Sorong**	**4.32**	**356**	P			Pn	07 51 00.5	+0.3
	0.8nm,0.3s,baz=261,slow=23,SNR=1.3								
SIJI				S			Sn	07 51 45.2	-4.2
	5.5nm,0.3s,baz=132,slow=23,SNR=13								
FITZ	**Fitzroy Crossi**	**14.06**	**204**	P			Pn	07 53 12.7	-0.9
	0.0nm,0.3s,baz=34,slow=12,SNR=1.7								
FITZ				S			Sn	07 55 35.6	-13
	0.2nm,0.3s,baz=236,slow=20,SNR=6.1								
WRA	**Warramunga Arr**	**14.90**	**170**	P			Pn	07 53 23.9	-0.9
	0.1nm,0.3s,baz=357,slow=13,SNR=2.6								
ASAR	**Alice Springs**	**18.50**	**173**	P			Pn	07 54 10.1	+0.3
	0.2nm,0.3s,baz=349,slow=9.1,SNR=9.9								
MKAR	**Makanchi Array**	**67.60**	**326**	P			P	08 00 48.6	-0.1
	0.3nm,0.5s,baz=148,slow=7.1,SNR=2.3								

*IDC **30** 07:58:42.8±1.5, 4.43S×134.80E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/31, mbtmp3.9/6, ML3.6/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/39, Error ellipse: s-maj=83.7km s-min=31.4km az=82.0*
*DJA **30** 07:58:47.5±0.4, 4.5S±7×13.4E±°, h122km±17km, M4.5/4, mb4.4/3, MLv4.5/4*
*NEIC **30** 07:58:47.8±1.7, 4.5S±0.1×134.1E±0.2, h31km±4km, mb4.0/8, Error ellipse: s-maj=23.6km s-min=13.8km az=74.0*
ISC 30 07:58:48.0±0.7, 4.54S±0.08×134.04E±0.09, h35km, n26, σ1s59/24, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FAKI	**Fak Fak**	**2.41**	**312**	P			**Pn**	**07 59 24.1**	**-0.9**
FAKI				S			**Sn**	**07 59 52.3**	**-1.0**
FAKI	**Fak Fak**	**2.41**	**312**				**Pn**	**07 59 25.0**	**0.0**
BAKI	**Biak**	**3.92**	**32**	P			**Pn**	**07 59 44.3**	**-1.4**
KNRA	**Kununurra**	**12.22**	**205**	Pn			**Pn**	**08 01 41.1**	**+1.5**
PMG	**Port Moresby**	**13.88**	**111**	LR		LR		08 08 27.2	
	comp=Z,114nm,20.9s,baz=276,slow=44								
KAPI	**Kappang**	**14.25**	**268**	LR		LR		08 08 47.2	
	comp=Z,56nm,19.1s,baz=92,slow=40								
WB0	**Warramunga Arr**	**15.13**	**179**	Pn			**Pn**	**08 02 18.5**	**-0.8**
WRAB	**Tennant Creek**	**15.30**	**179**				**Pn**	**08 02 20.7**	**-0.8**
WRAB				IAmb		IAmb		08 02 37.2	
	comp=Z,8.8nm,0.8s								
WB2	**Warramunga Arr**	**15.31**	**179**	Pn			**Pn**	**08 02 20.4**	**-1.2**
WB2				IAmb		IAmb		08 02 37.9	
	comp=Z,13nm,1.1s								
WRA	**Warramunga Arr**	**15.31**	**179**	Pn			**Pn**	**08 02 18.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=352,slow=14,SNR=10								
FITZ	**Fitzroy Crossi**	**15.78**	**211**	Pn			**Pn**	**08 02 26.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=1.9								
FITZ				LR		LR		08 09 45.3	
	comp=Z,60nm,20.7s,baz=24,slow=41								
FITZ	**Fitzroy Crossi**	**15.78**	**211**				**Pn**	**08 02 24.5**	**-3.2**
AS31	**Alice Springs**	**19.01**	**180**				**Pn**	**08 03 08.3**	**+0.4**
AS31				IAmb		IAmb		08 03 19.4	
	comp=Z,3.1nm,0.7s								
ASAR	**Alice Springs**	**19.01**	**180**	P			**P**	**08 03 08.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=3.8,slow=10,SNR=31								
ASAR				LR		LR		08 11 04.5	
	comp=Z,120nm,19.2s,baz=354,slow=39								
CTAO	**Charters Tower**	**19.50**	**143**	P			**Pn**	**08 03 14.5**	**+0.8**
CTAO				IAmb		IAmb		08 03 23.7	
	comp=Z,13nm,1.0s								
HNR	**Honiara**	**26.16**	**102**	LR		LR		08 15 23.4	
	comp=Z,79nm,20.6s,baz=204,slow=39								
SONM	**Songino Array**	**57.53**	**338**	P			**P**	**08 08 35.8**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=157,slow=4.1,SNR=4.0								
SONM				LR		LR		08 33 41.6	
	comp=Z,20nm,19.9s,baz=115,slow=36								
SONM	**Songino Array**	**57.53**	**338**	P			**P**	**08 08 32.5**	**-1.6**
MKAR	**Makanchi Array**	**68.48**	**325**	P			**P**	**08 09 48.7**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=126,slow=9.2,SNR=5.3								
MKAR	**Makanchi Array**	**68.48**	**325**	P			**P**	**08 09 47.8**	**+1.1**
ZALV	**Zalesovo Beam**	**71.25**	**332**	P			**P**	**08 10 04.8**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=107,slow=5.0,SNR=1.6								
KKAR	**Karatay Array**	**74.23**	**317**	P			**P**	**08 10 21.2**	**-0.3**
NRIK	**Noril'sk**	**80.21**	**345**	P			**P**	**08 10 56.5**	**+2.0**
	comp=Z,0.7nm,0.2s,baz=138,slow=5.1,SNR=4.4								
QSPA	**South Pole Qui**	**85.42**	**180**	P			**P**	**08 11 22.2**	**+0.4**
QSPA				IAmb		IAmb		08 11 32.4	
	comp=Z,1.3nm,1.4s								
IMAR	**Indian Mountai**	**86.97**	**23**	P			**P**	**08 11 29.2**	**0.0**
ILAR	**Eielson Array**	**89.43**	**25**	P			**P**	**08 11 38.8**	**-2.2**
	comp=Z,0.5nm,0.8s,baz=271,slow=4.8,SNR=4.1								

*NEIC **30** 08:06:56.3±0.7, 20.6S±0.2×178.56W±0.08, h555km±8km, mb4.1/15, Error ellipse: s-maj=30.1km s-min=9.5km az=167.0*
*IDC **30** 08:06:57.6±4.0, 20.56S×178.59W, h563km±44km, mb3.2/9, mb1 3.5/10, mb1mx3.3/33, mbtmp4.1/10, Error ellipse: s-maj=31.8km s-min=21.2km az=151.0*
ISC 30 08:06:56.0±0.6, 20.6S±0.2×178.5W±0.1, h550km, n39, σ0s70/40, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MSVF	**Nonsavu**	**4.32**	**311**	P			**P**	**08 08 20.7**	**+0.2**
DZM	**Mont Dzumac**	**14.10**	**261**	P			**P**	**08 09 56.4**	**+0.1**
	0.3nm,0.3s,baz=90,slow=9,SNR=2.7								
CTA	**Charters Tower**	**33.01**	**265**	P			**P**	**08 12 47.1**	**+0.9**
	2.8nm,0.6s,baz=99,slow=10,SNR=5.7								
CTAO	**Charters Tower**	**33.01**	**265**	P			**P**	**08 12 47.2**	**+0.9**
CTAO				IAmb		IAmb		08 12 47.4	
	comp=Z,3.7nm,0.7s								
STKA	**Stephens Creek**	**37.32**	**244**	P			**P**	**08 13 22.3**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=85,slow=11,SNR=7.2								
STKA	**Stephens Creek**	**37.32**	**244**	P			**P**	**08 13 21.8**	**-0.2**
BBOO	**Buckleboo**	**42.08**	**244**	P			**P**	**08 13 59.9**	**-0.2**
BBOO				IAmb		IAmb		08 14 06.2	
	comp=Z,12nm,1.2s								
AS31	**Alice Springs**	**44.03**	**257**	P			**P**	**08 14 15.6**	**0.0**
ASAR	**Alice Springs**	**44.03**	**257**	P			**P**	**08 14 15.6**	**0.0**
	comp=Z,4.7nm,0.5s,baz=95,slow=7.8,SNR=75								
ASAR				PcP			**PcP**	**08 15 49.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=106,slow=4.1,SNR=9.5								
ASAR	**Alice Springs**	**44.03**	**257**	P			**P**	**08 14 14.6**	**-1.0**
WB0	**Warramunga Arr**	**44.09**	**262**	P			**P**	**08 14 15.5**	**-0.5**
WB2	**Warramunga Arr**	**44.10**	**262**	P			**P**	**08 14 15.9**	**-0.2**
WB2				IAmb		IAmb		08 14 16.2	
	comp=Z,3.2nm,0.7s								
WRA	**Warramunga Arr**	**44.11**	**262**	P			**P**	**08 14 15.8**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=96,slow=7.2,SNR=289								
WRA	**Warramunga Arr**	**44.11**	**262**	P			**P**	**08 14 15.8**	**-0.4**
FORT	**Forrest**	**48.82**	**247**	P			**P**	**08 14 51.1**	**-0.5**
KNRA	**Kununurra**	**50.17**	**266**	P			**P**	**08 15 01.8**	**+0.1**
KNRA				IAmb		IAmb		08 15 03.1	
	comp=Z,6.3nm,0.8s								
FITZ	**Fitzroy Crossi**	**52.54**	**263**	P			**P**	**08 15 19.0**	**+0.2**
VNDA	**Vanda**	**57.78**	**185**	P			**P**	**08 15 54.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=356,slow=5.5,SNR=4.1								
QSPA	**South Pole Qui**	**69.48**	**180**	P			**P**	**08 17 09.0**	**-0.3**
QSPA				IAmb		IAmb		08 17 11.0	
	comp=Z,3.6nm,1.1s								
PNTR	**Pine Nut**	**80.97**	**42**	P			**P**	**08 18 13.8**	**0.0**
PNTR				IAmb		IAmb		08 18 15.8	
	comp=Z,3.4nm,0.9s								
NVAR	**Mina Array Bea**	**81.42**	**44**	P			**P**	**08 18 17.1**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=226,slow=9.3,SNR=6.1								
TXAR	**Lajitas Array**	**87.51**	**58**	P			**P**	**08 18 46.9**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=216,slow=7.6,SNR=5.8								
TXAR	**Lajitas Array**	**87.51**	**58**	P			**P**	**08 18 46.6**	**+0.6**
HDA	**Harding Lake**	**88.18**	**13**	P			**P**	**08 18 48.0**	**-0.1**
CCB	**Clear Creek Bu**	**88.20**	**13**	P			**P**	**08 18 47.8**	**-0.4**
CCB				IAmb		IAmb		08 18 48.5	
	comp=Z,2.2nm,0.6s								
IMAR	**Indian Mountai**	**88.32**	**10**	P			**P**	**08 18 49.2**	**+0.4**
ILAR	**Eielson Array**	**88.51**	**13**	P			**P**	**08 18 49.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=217,slow=5.3,SNR=10								
ILAR	**Eielson Array**	**88.51**	**13**	P			**P**	**08 18 48.1**	**-1.5**
PDAR	**Pinedale Array**	**89.35**	**43**	P			**P**	**08 18 54.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=211,slow=3.1,SNR=7.5								
PDAR	**Pinedale Array**	**89.35**	**43**	P			**P**	**08 18 54.3**	**-0.1**
DAWY	**Dawson**	**89.67**	**16**	P			**P**	**08 18 55.8**	**+0.7**
DAWY				IAmb		IAmb		08 18 56.6	
	comp=Z,3.3nm,1.1s								
BVAR	**Borovoye Array**	**118.84**	**320**	PKP			**PKPdf**	**08 24 41.5**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=104,slow=4.7,SNR=4.5								
ARCES	**ARCESS Array B**	**128.92**	**349**	PKP			**PKPdf**	**08 25 01.0**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=57,slow=4.5,SNR=4.8								
FINES	**FINESS Array B**	**135.72**	**343**	PKP			**PKiKP**	**08 25 14.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=100,slow=4.6,SNR=5.0								
AKASG	**Malin Array Be**	**142.86**	**331**	PKP			**PKPdf**	**08 25 24.2**	**-2.8**
	comp=Z,1.1nm,0.4s,baz=44,slow=4.2,SNR=18								
BRTR	**Keskin Array B**	**146.54**	**312**	PKPbc			**PKPbc**	**08 25 35.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=136,slow=3.8,SNR=7.1								
CLL	**Collm**	**148.04**	**346**	*i* PKPbc			**PKPbc**	**08 25 39.7**	**0.0**
	comp=Z,7.0nm,0.8s								
GERES	**GERESS Array B**	**150.15**	**344**	PKPbc			**PKPbc**	**08 25 45.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=22,slow=4.6,SNR=4.8								
GERES	**GERESS Array B**	**150.15**	**344**				**PKPbc**	**08 25 44.9**	**-0.2**

IDC 30 08:40:37.6±3.6, 27.16N×65.44E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/40, mbtmp3.6/4, ML3.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/42, Error ellipse: s-maj=93.9km s-min=29.7km az=138.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WSAR	**Wadi Sarin**	**7.30**	**239**	Pn			Pn	08 42 25.0	-0.5
	1.4nm,0.3s,baz=66,slow=10.0,SNR=9.9								
WSAR				Sn			Sn	08 43 41.4	-7.8
	1.8nm,0.3s,baz=272,slow=6.8,SNR=5.0								
MKAR	**Makanchi Array**	**23.68**	**30**	P			P	08 45 50.8	-0.1
	0.4nm,0.5s,baz=210,slow=7.9,SNR=5.8								
AKASG	**Malin Array Be**	**36.15**	**320**	P			P	08 47 41.1	-0.3
	0.3nm,0.3s,baz=125,slow=7.7,SNR=1.9								
YAK	**Yakutsk**	**54.34**	**32**	LR			LR	09 13 15.3	
	comp=Z,4.6nm,18.3s,baz=356,slow=36								
LSZ	**Lusaka**	**55.56**	**225**	LR			LR	09 13 43.2	
	comp=Z,30nm,18.3s,baz=160,slow=36								
TORD	**Torodi Ar. Bea**	**60.89**	**270**	P			P	08 50 52.9	+0.4
	0.7nm,0.8s,baz=62,slow=7.5,SNR=3.2								

*KRNET **30** 08:56:18.7±0.1, 41.62N×75.40E, h16km, mb4.0*
*SOME **30** 08:56:18.8, 41.62N×75.33E, h15km*
*KNET **30** 08:56:19.8±1.0, 41.69N×75.39E, h10km±6km, ml3.4, Error ellipse: s-maj=9.1km s-min=3.7km az=169.0*
*NNC **30** 08:56:20.0±0.5, 41.67N×75.37E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=3.7km s-min=2.0km az=7.0*
ISC 30 08:56:20.2±1.2, 41.72N±0.04×75.36E±0.02, h1km±10km, n84, σ1s32/139, 42C-28D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ARLS	**Aral**	**0.79**	**281**	⇓*i*P			**Pg**	**08 56 34.4**	**-0.8**
	baz=88								
ARLS				⇓*i*S			**Sg**	**08 56 45.9**	**+0.5**
	baz=88								
UCH	**Uchtor**	**0.81**	**309**	⇑*i*P			**Pg**	**08 56 36.0**	**+0.4**
	baz=13								
UCH				⇑*i*S			**Sb**	**08 56 48.5**	**-0.4**
	baz=13								
UCH	**Uchtor**	**0.81**	**309**	⇓P			**Pg**	**08 56 36.1**	**+0.4**
	423nm,0.2s,SNR=592								
UCH				⇑S			**Sb**	**08 56 48.5**	**-0.4**
	1μm,0.2s								
ULHL	**Ulahol**	**0.84**	**51**	⇑*i*P			**Pg**	**08 56 35.7**	**-0.6**
	baz=45								
ULHL				⇑*i*S			**Sg**	**08 56 47.7**	**+0.3**
	baz=45								
ULHL	**Ulahol**	**0.84**	**51**	P			**Pg**	**08 56 35.8**	**-0.6**
	93nm,0.1s,SNR=68								
ULHL				⇓S			**Sg**	**08 56 47.6**	**+0.3**
	890nm,0.2s								
BOOM	**Boomskoye usch**	**0.88**	**29**	⇑*i*P			**Pg**	**08 56 37.2**	**0.0**
	baz=25								
BOOM				⇑*i*S			**Sb**	**08 56 50.2**	**-0.7**
	baz=25								
KBK	**Karagaybulak**	**0.98**	**342**	⇑*i*P			**Pb**	**08 56 39.6**	**-0.6**
	baz=42								
KBK				⇑*i*S			**Sn**	**08 56 54.5**	**-1.5**
	baz=42								
KBK	**Karagaybulak**	**0.98**	**342**	⇓P			**Pb**	**08 56 40.0**	**-0.2**
	202nm,0.3s,SNR=252								
KBK				⇑S			**Sn**	**08 56 55.0**	**-1.0**
	586nm,0.2s								
AAK	**Ala-Archa**	**1.12**	**325**	⇑*i*P			**Pb**	**08 56 41.9**	**-0.6**
	baz=27								
AAK				⇑*i*S			**Sn**	**08 56 58.3**	**-1.0**
	baz=27								
AAK	**Ala-Archa**	**1.12**	**325**	⇓P			**Pb**	**08 56 42.1**	**-0.4**
	423nm,0.2s,SNR=581								
AAK				⇓S			**Sn**	**08 56 58.1**	**-1.2**
	190nm,0.3s								
AAK	**Ala-Archa**	**1.12**	**325**	⇑P			**Pb**	**08 56 42.0**	**-0.4**
	139nm,0.3s								
AAK				⇑S			**Sn**	**08 56 58.3**	**-1.0**
	121nm,0.4s								
TKM2	**Tokmak 2**	**1.21**	**8**	⇓*i*P			**Pb**	**08 56 43.4**	**-0.7**
	baz=6.0								
TKM2				⇓*i*S			**Sn**	**08 57 00.8**	**-0.9**
	baz=6.0								
TKM2	**Tokmak 2**	**1.21**	**8**	⇓P			**Pn**	**08 56 43.7**	**-0.8**
	91nm,0.2s,SNR=284								
TKM2				⇑S			**Sn**	**08 57 01.5**	**-0.3**
	183nm,0.1s								
TKM2	**Tokmak 2**	**1.21**	**8**	⇓P			**Pn**	**08 56 43.7**	**-0.8**
	43nm,0.3s								
TKM2				⇑S			**Sn**	**08 57 00.8**	**-0.9**
	190nm,0.3s								
FRU1	**Bishkek**	**1.22**	**334**	⇑*i*P			**Pn**	**08

MDOK					Lg	Lg	08 57 21.8		
	240nm,0.5s								
KNDC	**Almaty**	**1.91**	**38**	⇑Pg	**Pb**	**08 56 55.5**	**-0.4**		
	116nm,0.3s								
KNDC				⇑Lg	Lg	08 57 22.3			
	396nm,0.5s								
KRBS	**Karabastau**	**1.99**	**7**	*eP*	**Pg**	**08 56 57.8**	**-0.5**		
	238nm,0.2s								
KRBS				*eS*	**Sg**	**08 57 25.4**	**+1.3**		
	440nm,0.6s								
KRBS	**Karabastau**	**1.99**	**7**	Pg	**Pg**	**08 56 57.8**	**-0.5**		
	238nm,0.2s								
KRBS				Lg	Lg	08 57 25.4			
	440nm,0.6s								
KOTS	**Kotyrbulak**	**2.00**	**40**	*eP*	**Pb**	**08 56 57.6**	**+0.2**		
	373nm,0.2s								
KOTS				*eS*	**Sg**	**08 57 25.0**	**+0.7**		
	478nm,0.5s								
KOTS	**Kotyrbulak**	**2.00**	**40**	Pg	**Pb**	**08 56 57.6**	**+0.2**		
	373nm,0.2s								
KOTS				Lg	Lg	08 57 25.0			
	478nm,0.5s								
ANVS	**Anan'yevo**	**2.02**	**57**	⇑*iP*	**Pn**	**08 56 56.1**	**+0.5**		
	baz=55								
ANVS				⇑*iS*	**Sb**	**08 57 23.0**	**-0.5**		
	baz=55								
KTBS	**Karatobe**	**2.22**	**26**	*eP*	**Pg**	**08 57 01.7**	**-1.0**		
	364nm,0.5s								
KTBS				*eS*	**Sg**	**08 57 32.0**	**+0.5**		
	850nm,0.5s								
KTBS	**Karatobe**	**2.22**	**26**	Pg	**Pg**	**08 57 01.7**	**-1.0**		
	364nm,0.5s								
KTBS				Lg	Lg	08 57 32.0			
	850nm,0.5s								
MNAS	**Manas**	**2.26**	**291**	⇑*iP*	**Pn**	**08 56 59.8**	**+1.0**		
	baz=93								
MNAS				⇑*iS*	**Sb**	**08 57 29.2**	**-1.1**		
	baz=93								
KUU	**Kurty**	**2.29**	**18**	*eP*	**Pg**	**08 57 02.8**	**-1.3**		
	157nm,0.4s								
KUU				*eS*	**Sg**	**08 57 33.8**	**+0.1**		
	756nm,0.5s								
KUU	**Kurty**	**2.29**	**18**	Pg	**Pg**	**08 57 02.8**	**-1.3**		
	157nm,0.4s								
KUU				Lg	Lg	08 57 33.8			
	756nm,0.5s								
PRZ	**Przheval'sk**	**2.39**	**70**	⇓*iP*	**Pn**	**08 57 00.6**	**-0.1**		
	baz=68								
PRZ				⇓*iS*	**Sn**	**08 57 31.1**	**+0.4**		
	baz=68								
SATY	**Saty**	**2.63**	**58**	*eP*	**Pb**	**08 57 07.8**	**-0.3**		
	84nm,0.4s								
SATY				*eS*	**Sg**	**08 57 42.7**	**-1.9**		
	366nm,0.2s								
SATY	**Saty**	**2.63**	**58**	Pg	**Pb**	**08 57 07.8**	**-0.3**		
	84nm,0.4s								
SATY				Lg	Lg	08 57 42.7			
	366nm,0.2s								
ZHN	**Zhinishke**	**2.70**	**57**	*eP*	**Pb**	**08 57 09.2**	**-0.2**		
	71nm,0.2s								
ZHN				*eS*	**Sg**	**08 57 44.9**	**-2.1**		
	172nm,0.1s								
ZHN	**Zhinishke**	**2.70**	**57**	Pg	**Pb**	**08 57 09.2**	**-0.2**		
	71nm,0.2s								
ZHN				Lg	Lg	08 57 44.8			
	172nm,0.1s								
KURS	**Kuram**	**2.73**	**49**	*eP*	**Pb**	**08 57 09.7**	**-0.1**		
	79nm,0.6s								
KURS				*eS*	**Sg**	**08 57 46.3**	**-1.5**		
	192nm,0.4s								
KURS	**Kuram**	**2.73**	**49**	Pg	**Pb**	**08 57 09.7**	**-0.1**		
	79nm,0.6s								
KURS				Lg	Lg	08 57 46.3			
	192nm,0.4s								
KPKS	**Kokpek**	**3.01**	**54**	*eP*	**Pb**	**08 57 14.5**	**-0.3**		
	146nm,0.5s								
KPKS				*eS*	**Sg**	**08 57 54.1**	**-2.9**		
	362nm,0.7s								
UZB	**Uzynbulak**	**3.07**	**61**	*eP*	**Pb**	**08 57 15.3**	**-0.3**		
	34nm,0.3s								
UZB				*eS*	**Sb**	**08 57 55.2**	**+1.6**		
	192nm,0.2s								
UZB	**Uzynbulak**	**3.07**	**61**	Pg	**Pb**	**08 57 15.3**	**-0.3**		
	34nm,0.3s								
UZB				Lg	Lg	08 57 55.3			
	192nm,0.2s								
ARXS	**Arharly**	**3.08**	**35**	*eP*	**Pb**	**08 57 16.9**	**+1.1**		
	139nm,0.4s								
ARXS				*eS*	**Sg**	**08 57 58.3**	**-0.9**		
	451nm,0.4s								
ARXS	**Arharly**	**3.08**	**35**	Pg	**Pb**	**08 57 16.9**	**+1.1**		
	139nm,0.4s								
ARXS				Lg	Lg	08 57 58.3			
	451nm,0.4s								
DZA	**Taraz**	**3.21**	**293**	*eP*	**Pb**	**08 57 17.6**	**-0.4**		
	105nm,0.1s								
DZA				*eS*	**Sb**	**08 57 59.7**	**+2.2**		
	581nm,0.3s								
DZA	**Taraz**	**3.21**	**293**	Pg	**Pb**	**08 57 17.6**	**-0.4**		
	105nm,0.1s								
DZA				Lg	Lg	08 57 59.7			
	581nm,0.3s								
MNBS	**Baschi**	**3.25**	**42**	*eP*	**Pb**	**08 57 20.1**	**+1.3**		
	42nm,0.3s								
MNBS				*eS*	**Sg**	**08 58 03.7**	**-0.9**		
	363nm,0.5s								
MNBS	**Baschi**	**3.25**	**42**	Pg	**Pb**	**08 57 20.1**	**+1.3**		
	42nm,0.3s								
MNBS				Lg	Lg	08 58 03.7			
	363nm,0.5s								
SHLS	**Shalkode**	**3.36**	**63**	*eP*	**Pg**	**08 57 25.4**	**+0.8**		
	57nm,0.2s								
SHLS				*eS*	**Sg**	**08 58 13.0**	**+4.8**		
	234nm,0.4s								
SHLS	**Shalkode**	**3.36**	**63**	Pg	**Pg**	**08 57 25.4**	**+0.8**		
	57nm,0.2s								
SHLS				Lg	Lg	08 58 13.0			
	234nm,0.4s								
PDGK	**Podgornoye**	**3.45**	**61**	Pg	**Pb**	**08 57 22.3**	**+0.1**		
	10nm,0.6s								
PDGK				Lg	Lg	08 58 07.5			
	51nm,0.4s								
PDGK	**Podgornoye**	**3.45**	**61**	⇑Pn	**Pn**	**08 57 16.8**	**+1.5**		
	37nm,0.5s								
PDGK				⇑Lg	Lg	08 58 08.8			
	171nm,0.7s								
BTLS	**Baital**	**3.46**	**344**	*eP*	**Pg**	**08 57 24.0**	**-2.4**		
	54nm,0.3s								
BTLS				*eS*	**Sg**	**08 58 10.8**	**-0.4**		
	124nm,0.4s								
BTLS	**Baital**	**3.46**	**344**	Pg	**Pg**	**08 57 24.0**	**-2.4**		
	54nm,0.3s								
BTLS				Lg	Lg	08 58 10.8			
	124nm,0.4s								
BTK	**Batken**	**3.82**	**246**	⇑*eP*	**Pn**	**08 57 20.0**	**-0.2**		
	baz=47								
BTK				⇑*eS*	**Sn**	**08 58 05.0**	**-0.8**		
	baz=47								
KK31	**Karatay Array**	**3.84**	**293**	⇓Pg	**Pb**	**08 57 30.1**	**+1.3**		
	8.4nm,0.5s,baz=111,slow=16,SNR=52								
KK31				⇓Lg	Lg	08 58 21.6			
	62nm,0.5s,baz=122,slow=27,SNR=14								
TDK	**Taldyqorghan**	**3.96**	**33**	*eP*	**Pb**	**08 57 32.9**	**+2.1**		
	120nm,0.5s								
TDK				*eS*	**Sg**	**08 58 25.9**	**-1.6**		
	258nm,0.3s								
TDK	**Taldyqorghan**	**3.96**	**33**	Pg	**Pb**	**08 57 32.9**	**+2.1**		
	120nm,0.5s								
TDK				Lg	Lg	08 58 25.9			
	258nm,0.3s								
IUG	**Iuzhnay**	**4.00**	**278**	*eP*	**Pb**	**08 57 31.6**	**+0.2**		
	56nm,0.7s								
IUG				*eS*	**Sb**	**08 58 23.9**	**+3.6**		
	197nm,0.8s								
IUG	**Iuzhnay**	**4.00**	**278**	Pg	**Pb**	**08 57 31.6**	**+0.2**		
	56nm,0.7s								
IUG				Lg	Lg	08 58 23.9			
	197nm,0.8s								
KTMS	**Ketmen**	**4.07**	**63**	*eP*	**Pb**	**08 57 34.4**	**+1.6**		
	8.7nm,0.2s								
KTMS				*eS*	**Sg**	**08 58 27.9**	**-3.1**		
	74nm,0.4s								
KTMS	**Ketmen**	**4.07**	**63**	Pg	**Pb**	**08 57 34.4**	**+1.6**		
	8.7nm,0.2s								
KTMS				Lg	Lg	08 58 28.2			
	74nm,0.4s								
DJR	**Jarkent**	**4.17**	**50**	*eP*	**Pb**	**08 57 36.8**	**+2.4**		
	25nm,0.4s								
DJR				*eS*	**Sg**	**08 58 32.6**	**-1.5**		
	39nm,0.6s								
DJR	**Jarkent**	**4.17**	**50**	Pg	**Pb**	**08 57 36.8**	**+2.4**		
	25nm,0.4s								
DJR				Lg	Lg	08 58 32.6			
	39nm,0.6s								
BRLS	**Borolday**	**4.29**	**290**	*eP*	**Pb**	**08 57 38.9**	**+2.4**		
	28nm,0.2s								
BRLS				*eS*	**Sg**	**08 58 36.1**	**-1.9**		
	94nm,0.5s								
BRLS	**Borolday**	**4.29**	**290**	Pg	**Pb**	**08 57 38.9**	**+2.4**		
	28nm,0.2s								
BRLS				Lg	Lg	08 58 36.2			
	94nm,0.5s								
CHM	**Chimkent**	**4.33**	**280**	*eP*	**Pb**	**08 57 38.2**	**+1.2**		
	11nm,0.3s								
CHM				*eS*	**Sg**	**08 58 35.4**	**-3.8**		
	343nm,0.3s								
MAKZ	**Makanchi**	**6.96**	**41**	⇑Pn	**Pn**	**08 58 02.9**	**-0.4**		
	1.3nm,0.5s								
MAKZ				⇑Pg	Pb	08 58 26.4	+4.5		
	5.3nm,1.1s								
MAKZ				⇓Lg	Lg	09 00 01.7			
	16nm,0.9s								
MK31	**Makanchi Array**	**7.11**	**42**	Pn	**Pn**	**08 58 08.8**	**+3.5**		
	0.8nm,0.4s,baz=220,slow=14,SNR=32								
MK31				⇑Pg	Pb	08 58 29.6	+5.3		
	3.9nm,0.7s,baz=223,slow=14,SNR=3.7								
MK31				⇓Lg	Lg	09 00 05.8			
	6.0nm,0.5s,baz=226,slow=25,SNR=4.8								
KURBB	**Kurchatov Arra**	**9.17**	**13**	⇑Pn	**Pn**	**08 58 34.1**	**+0.6**		
	1.2nm,0.3s								
KURBB				⇑Lg	Lg	09 01 11.5			
	61nm,0.7s								

*IDC **30** 09:37:11.7±1.3,34˚.59N×135˚.54E,h386km±15km,mb2.6/4, mb1 2.8/6,mb1mx2.6/60,mbtmp3.3/6,Error ellipse: s-maj=27.2km s-min=20.4km az=99.0*
*JMA **30** 09:37:11.9±0.1,34˚.75N×135˚.47E,h383km±1km,M2.6*
ISC 30 09:37:11.3±0.9,34˚.6N±0˚.1×135˚.5E±0˚.1,h400km,n15, σ1s97/16,mb2.8/4,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.67**	**350**	P	**Pn**	**09 38 00.1**	**-1.3**
JWT				S	**S**	**09 38 37.9**	**-4.0**
JKN2	**Miekihoku**	**0.71**	**122**	S	**S**	**09 38 38.8**	**-3.3**
JTNC	**Tanabenakahech**	**0.81**	**176**	P	**Pn**	**09 38 01.2**	**-0.8**
JIE	**Ise**	**0.99**	**103**	S	**S**	**09 38 41.0**	**-2.6**
JAI	**Aioi**	**1.23**	**228**	P	**Pn**	**09 38 02.3**	**-1.1**
JMN	**Monobe**	**1.64**	**238**	P	**Pn**	**09 38 04.5**	**-0.9**
JHS	**Saijyo**	**2.03**	**281**	P	**Pn**	**09 38 06.3**	**-1.2**
JNY	**Yasuok**	**2.04**	**68**	P	**Pn**	**09 38 06.8**	**-0.8**
JHT	**Toyohira**	**2.58**	**272**	P	**Pn**	**09 38 10.1**	**-1.2**
MJAR	**Matsushiro Arr**	**2.90**	**48**	P	**Pn**	**09 38 13.2**	**-0.5**
	0.1nm,0.3s,baz=220,slow=7.6,SNR=8.9						
JNU	**Nakatsue**	**4.16**	**250**	P	**Pn**	**09 38 24.6**	**-0.4**
	0.9nm,0.3s,baz=78,slow=9.3,SNR=7.8						
MKAR	**Makanchi Array**	**41.41**	**304**	P	**P**	**09 44 21.8**	**+1.2**
	0.3nm,0.4s,baz=84,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**54.05**	**31**	P	**P**	**09 45 57.8**	**+1.9**
	0.4nm,0.8s,baz=267,slow=5.9,SNR=1.7						
WRA	**Warramunga Arr**	**54.27**	**181**	P	**P**	**09 45 59.1**	**+1.1**
	0.2nm,0.4s,baz=359,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**57.99**	**182**	P	**P**	**09 46 25.4**	**+1.5**
	0.2nm,0.5s,baz=1.3,slow=4.0,SNR=2.0						

*NNC **30** 09:39:12.5±0.7,43˚.54N×69˚.63E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=3.9km s-min=2.8km az=161.0, Suspected Mining explosion.*
*SOME **30** 09:39:13.0,43˚.55N×69˚.72E*
ISC 30 09:39:11.3±3.0,43˚.6N±0˚.1×69˚.8E±0˚.1,h0km,n10, σ0s57/11,4C,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.60**	**174**	P	**Pn**	**09 39 27.5**	**+0.4**
	27nm,0.2s						
BRLS				S	**Sn**	**09 39 37.6**	**+0.1**
	13nm,0.1s						
KK31	**Karatay Array**	**0.76**	**133**	⇑P	**Pb**	**09 39 27.6**	**+0.2**
	2.0nm,0.3s,baz=311,slow=18,SNR=27						
KK31				S	**Sb**	**09 39 38.5**	**+0.3**
	7.7nm,0.5s,baz=301,slow=32,SNR=19						
KK31				⇑Rg	Rg	09 39 42.4	
	33nm,0.8s,baz=322,slow=35,SNR=18						
IUG	**Iuzhnay**	**1.49**	**172**	P	**Pg**	**09 39 39.5**	**-0.4**
	11nm,0.3s						
IUG				S	**Sg**	**09 39 58.4**	**-0.8**
	16nm,0.3s						
MRKS	**Merke**	**2.69**	**108**	Pg	**Pg**	**09 40 03.1**	**+0.4**
	3.2nm,0.2s						
MRKS				Lg	Lg	09 40 38.8	
	3.8nm,0.3s						
SGDS	**Sogindy**	**3.55**	**91**	Pg	**Pg**	**09 40 19.1**	**-0.1**
	1.8nm,0.2s						
SGDS				Lg	Lg	09 41 06.3	
	2.9nm,0.3s						
AAK	**Ala-Archa**	**3.60**	**104**	⇑Lg	Lg	09 41 09.6	
	2.2nm,0.6s						
KRBS	**Karabastau**	**4.29**	**87**	Pg	**Pg**	**09 40 33.3**	**-0.2**
	1.6nm,0.5s						
KRBS				Lg	Lg	09 41 31.6	
	2.9nm,0.3s						
TKM2	**Tokmak 2**	**4.32**	**97**	⇑Lg	Lg	09 41 32.8	
	4.1nm,0.8s						
KST	**Kastek**	**4.56**	**95**	Pg	**Pg**	**09 40 37.7**	**-1.0**
	2.2nm,0.4s						
KST				Lg	Lg	09 41 38.6	
	2.8nm,0.2s						
KTBS	**Karatobe**	**5.02**	**87**	Pg	**Pg**	**09 40 47.0**	**-0.5**
	1.1nm,0.3s						
KTBS				Lg	Lg	09 41 54.8	
	5.3nm,0.3s						

*IDC **30** 09:43:59.9±0.6,64˚.64N×17˚.69W,h0km,mb4.0/19, mb1 4.2/21,mb1mx4.0/55,mbtmp4.0/21,ML3.5/2,MS3.0/5, Ms1 3.1/5,ms1mx2.6/41,Error ellipse: s-maj=16.5km s-min=11.2km az=25.0*
*MOS **30** 09:43:59.6±1.1,64˚.63N×17˚.62W,h13km,mb4.5/20,Error ellipse: s-maj=14.2km s-min=8.2km az=108.2*
*REY **30** 09:43:59.3,64.67N×17˚.45W,h4km*
*NEIC **30** 09:44:01.6±2.0,64˚.61N±0˚.05×17˚.6W±0˚.1,h10km±1km, mb4.6/41,Error ellipse: s-maj=11.7km s-min=7.1km az=60.0*
ISC 30 09:44:01.0±0.4,64˚.65N±0˚.03×17˚.51W±0˚.02,h10km,n192, σ1s72/174,mb4.3/65,5C-1D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.11**	**281**	P	**Pg**	**09 44 02.1**	**-1.6**
	baz=272						
IDYN	**Dyngjuhals**	**0.15**	**24**	P	**Pg**	**09 44 02.2**	**-2.2**
	baz=16						
IDYN				S	**Sg**	**09 44 04.3**	**-2.5**
	baz=16						
IURH	**Urdarhals**	**0.23**	**43**	P	**Pg**	**09 44 03.5**	**-2.3**
	baz=40						
IGRF	**Grimsfjall**	**0.27**	**157**	P	**Pg**	**09 44 04.8**	**-1.7**
	baz=164						
IKVE	**Kverkfjoll**	**0.36**	**86**	P	**Pg**	**09 44 05.8**	**-2.4**
	baz=88						
IHUS	**Husbondi**	**0.36**	**190**	P	**Pg**	**09 44 06.8**	**-1.4**
	baz=194						
ISKR	**Skrokkalda**	**0.39**	**256**	P	**Pg**	**09 44 07.1**	**-1.6**
	baz=255						
THOR	**Thorvaldshraun**	**0.46**	**51**	P	Pg	09 44 07.2	-2.6
	baz=51						
IJOK	**Jokulheimar**	**0.46**	**223**	P	**Pb**	**09 44 08.3**	**-2.9**
	baz=224						
IKRE	**Kreppuhraun**	**0.50**	**74**	P	Pg	09 44 07.9	-2.9
	baz=75						
IKRE				S	**Sg**	**09 44 14.2**	**-3.1**
	baz=75						
IASK	**Askja**	**0.54**	**42**	S	**Sg**	**09 44 15.6**	**-3.1**
	baz=41						
IASK				P	Pg	09 44 08.6	-3.0
	baz=41						
IMKO	**Mokollar**	**0.60**	**56**	P	Pg	09 44 09.7	-2.9
	baz=56						
IMKO				S	**Sg**	**09 44 18.4**	**-2.1**
	baz=56						

IIEY	**Innrieyrar**	**0.62**	**206**	P		**Pg**	**09 44 10.9**	**-2.1**	
	baz=207								
IKSK	**Karasker**	**0.67**	**137**	P		**Pg**	**09 44 10.7**	**-3.3**	
	baz=140								
IKSK				S		**Sg**	**09 44 20.0**	**-2.7**	
	baz=140								
ISVA	**Svartarkot**	**0.69**	**9**	P		Pg	09 44 11.4	-3.0	
	baz=6.8								
IKAL	**Kalfafell**	**0.71**	**186**	P		**Pg**	**09 44 12.6**	**-2.1**	
	baz=188								
IVAT	**Vatnsfell**	**0.77**	**233**	P		**Pg**	**09 44 13.6**	**-2.2**	
	baz=234								
IVSH	**V-Sauoahnukur**	**0.78**	**78**	P		Pg	09 44 12.5	-3.5	
	baz=78								
IVSH				S		**Sg**	**09 44 23.0**	**-3.3**	
	baz=78								
IADA	**Aoalbol**	**0.91**	**65**	P		Pg	09 44 14.5	-3.9	
	baz=65								
IADA				S		**Sg**	**09 44 26.5**	**-3.7**	
	baz=65								
IHVE	**Hveravellir**	**0.91**	**285**	P		**Pg**	**09 44 15.3**	**-3.2**	
	baz=284								
IMEL	**Melhnausar**	**0.99**	**21**	P		Pb	09 44 16.1	-4.1	
	baz=20								
IREN	**Reynihlio**	**1.03**	**14**	P		Pb	09 44 16.9	-4.0	
	baz=13								
ISNB	**Snabyli**	**1.04**	**209**	P		**Pg**	**09 44 18.1**	**-2.9**	
	baz=210								
ISLY	**Slysaalda**	**1.09**	**221**	P		**Pg**	**09 44 19.1**	**-2.8**	
	baz=222								
IKVO	**Krokottuvotn**	**1.10**	**14**	P		Pn	09 44 17.9	-4.5	
	baz=12								
IFED	**Fedgar**	**1.14**	**237**	P		**Pg**	**09 44 20.0**	**-2.8**	
	baz=238								
IGRS	**Grimsstaoir**	**1.15**	**30**	P		Pn	09 44 18.8	-4.3	
	baz=29								
IRJU	**Rjupnafell**	**1.16**	**207**	P		**Pg**	**09 44 20.2**	**-3.0**	
	baz=208								
IMJO	**Mjoaskard**	**1.19**	**233**	P		**Pg**	**09 44 21.0**	**-2.8**	
	baz=234								
IGYG	**Gygjarholskot**	**1.23**	**254**	P		**Pb**	**09 44 21.0**	**-3.3**	
	baz=253								
ISKI	**Skildingahlsh**	**1.24**	**9**	P		Pn	09 44 20.3	-4.0	
	baz=8.1								
IGHA	**Grjothals**	**1.25**	**16**	P		Pn	09 44 20.2	-4.2	
	baz=15								
IGRA	**Granastaoir**	**1.27**	**359**	P		Pn	09 44 20.8	-4.0	
	baz=358								
IHAU	**Haukadalur**	**1.27**	**238**	P		**Pb**	**09 44 22.5**	**-2.5**	
	baz=238								
IHVO	**Lagu-Hvolar**	**1.27**	**208**	P		**Pb**	**09 44 22.2**	**-2.8**	
	baz=209								
IDIM	**Dimmadalss**	**1.34**	**10**	P		Pn	09 44 21.8	-3.9	
	baz=9.2								
IHLA	**Hella**	**1.35**	**345**	P		**Pn**	**09 44 22.4**	**-3.4**	
	baz=343								
IALF	**Alftagrof**	**1.38**	**213**	P		**Pn**	**09 44 23.8**	**-2.5**	
	baz=214								
IESK	**Eystri-Skogar**	**1.42**	**218**	P		**Pn**	**09 44 24.0**	**-2.7**	
	baz=218								
ISAU	**Saurbar**	**1.43**	**244**	P		**Pn**	**09 44 24.0**	**-2.9**	
	baz=244								
IHED	**Heoinshofoi**	**1.44**	**3**	P		Pn	09 44 23.2	-3.8	
	baz=2.2								
IMID	**Miomork**	**1.44**	**227**	P		**Pn**	**09 44 24.8**	**-2.3**	
	baz=228								
IBRE	**Brettingsstaoi**	**1.49**	**354**	P		**Pn**	**09 44 24.2**	**-3.5**	
	baz=353								
IGIL	**Gilhagi**	**1.51**	**18**	P		Pn	09 44 24.2	-3.9	
	baz=18								
IASM	**Asmuli**	**1.59**	**240**	P		**Pn**	**09 44 27.0**	**-2.1**	
	baz=240								
ISIG	**Siglufjorour**	**1.60**	**339**	P		**Pn**	**09 44 26.2**	**-3.0**	
	baz=338								
BORG	**Borgarnes**	**1.64**	**275**	Pn		**Pn**	**09 44 27.3**	**-2.6**	
	34nm,0.3s,baz=99,slow=9.3,SNR=46								
BORG					LR	LR	09 44 33.6		
	comp=Z,32nm,20.2s,baz=109,slow=22								
BORG					Sn	**Sg**	**09 44 51.3**	**-2.4**	
	17nm,0.3s,baz=200,slow=22,SNR=7.9								
ISOL	**Solvholt**	**1.66**	**246**	P		**Pn**	**09 44 27.8**	**-2.4**	
	baz=246								
IKRO	**Krokur**	**1.67**	**252**	P		**Pn**	**09 44 27.6**	**-2.5**	
	baz=252								
IHEI	**Heioarbar**	**1.68**	**256**	P		**Pn**	**09 44 28.0**	**-2.3**	
	baz=256								
IVME	**Vestmannaeyjar**	**1.74**	**226**	P		**Pn**	**09 44 29.4**	**-1.8**	
	baz=226								
IBJA	**Bjarnastaoir**	**1.80**	**248**	P		**Pn**	**09 44 29.8**	**-2.2**	
	baz=248								
IHRN	**Hraun**	**1.83**	**324**	P		**Pn**	**09 44 29.7**	**-2.7**	
	baz=324								
ISAN	**Sandskeio**	**1.86**	**253**	P		**Pn**	**09 44 30.9**	**-2.0**	
	baz=253								
IKUD	**Kuludalsa**	**1.92**	**262**	P		**Pn**	**09 44 31.2**	**-2.4**	
	baz=262								
IKAS	**Kald??rsel**	**1.99**	**253**	P		**Pn**	**09 44 33.4**	**-1.2**	
	baz=253								
IVOS	**Vogsosar**	**2.00**	**248**	P		**Pn**	**09 44 33.1**	**-1.6**	
	baz=248								
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn		**Pn**	**09 46 48.1**	**-0.4**	
	baz=336,slow=12,SNR=7.7								
ESK	**Eskdalemuir**	**11.75**	**136**	P		**Pn**	**09 46 49.0**	**+0.5**	
ESK	**Eskdalemuir**	**11.75**	**136**	Pn		**Pn**	**09 46 49.0**	**+0.5**	
NOA	**NORSAR Array B**	**13.54**	**92**	LR		LR	09 52 07.8		
	comp=Z,24nm,18.6s,baz=290,slow=36								
FINES	**FINESS Array B**	**19.71**	**79**	P		**Pn**	**09 48 32.3**	**+0.7**	
	0.1nm,0.3s,baz=306,slow=16,SNR=4.5								
CLL	**Collm**	**20.70**	**116**	*i* P		**P**	**09 48 40.9**	**-0.1**	
	comp=Z,25nm,1.4s								
CLL	**Collm**	**20.70**	**116**	P		**P**	**09 48 41.9**	**+0.9**	
CLL				pmax		pmax			
	comp=Z,25nm,1.5s								
CLL	**Collm**	**20.70**	**116**	P		**P**	**09 48 41.9**	**+0.9**	
CLL				IAmb		IAmb	09 48 42.2		
	comp=Z,25nm,1.5s								
ECH	**Echery**	**21.15**	**129**	P		**P**	**09 48 46.5**	**+0.6**	
ECH				pmax		pmax			
	comp=Z,8.0nm,1.0s								
ECH	**Echery**	**21.15**	**129**	P		**P**	**09 48 46.5**	**+0.6**	
GRA1	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**09 48 47.8**	**0.0**	
GRF	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**09 48 47.8**	**0.0**	
GRF				pmax		pmax			
	comp=Z,26nm,0.5s								
STU	**Stuttgart**	**21.37**	**125**	P		**P**	**09 48 50.4**	**+2.2**	
STU				pmax		pmax			
	comp=Z,21nm,0.4s								
STU	**Stuttg

WTTA	**Wattenberg**	**23.52**	**124**	*eP*		**P**		**09 49 10.5**	**-0.5**
EUNU	**Eureka**	**23.68**	**336**	P		**P**		**09 49 14.8**	**+2.6**
EUNU				IAmb		IAmb		09 49 19.7	
	comp=Z,53nm,1.9s								
VRAC	**Vranov**	**23.69**	**114**	LR		LR		09 59 25.9	
	comp=Z,7.6nm,18.4s,baz=332,slow=39								
NACGM	**Naroch**	**23.82**	**93**	*e*		**P**		**09 49 14.0**	**+0.3**
ABTA	**Abfaltersbach**	**24.27**	**123**	*eP*		**P**		**09 49 20.4**	**+2.3**
	comp=Z,2.0nm,0.5s								
CONA	**Conrad Observa**	**24.53**	**117**	*eP*		**P**		**09 49 20.9**	**+0.4**
	comp=Z,5.5nm,1.0s								
CTI	**Castel Tesino**	**24.56**	**125**	P		**P**		**09 49 21.7**	**+0.9**
CTI				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CTI	**Castel Tesino**	**24.56**	**125**	P		**P**		**09 49 21.7**	**+0.9**
PRED	**Cave del Predi**	**24.91**	**122**	P		**P**		**09 49 26.9**	**+3.0**
PRED				IAmb		IAmb		09 49 34.4	
	comp=Z,21nm,1.5s								
ARSA	**Arzberg**	**24.96**	**118**	*eP*		**P**		**09 49 24.5**	**+0.2**
	comp=Z,6.0nm,1.0s								
MTE	**Manteigas**	**24.98**	**162**	P		**P**		**09 49 26.5**	**+2.0**
MTE				IAmb		IAmb		09 49 29.5	
	comp=Z,26nm,1.4s								
VYHS	**Vyhne**	**25.23**	**112**	*eP*		**P**		**09 49 24.0**	**-2.7**
VYHS	**Vyhne**	**25.23**	**112**	*eP*		**P**		**09 49 24.0**	**-2.7**
KLMR	**Klimovskoe**	**25.61**	**72**	*eP*		**P**		**09 49 28.9**	**-1.0**
KLMR				pmax		pmax			
	comp=Z,16nm,1.2s								
KLMR	**Klimovskoe**	**25.61**	**72**	*eP*		**P**		**09 49 29.0**	**-1.0**
KLMR				AMP				09 49 41.8	
	comp=Z,16nm,1.2s								
ESDC	**Sonseca Array**	**26.24**	**156**	P		**P**		**09 49 36.8**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=350,slow=9.2,SNR=12								
ESDC	**Sonseca Array**	**26.24**	**156**	IAmb		IAmb		09 49 38.8	
	comp=Z,5.4nm,1.1s								
KOLS	**Kolonicke sedl**	**26.27**	**108**	*eP*		**P**		**09 49 37.5**	**+1.4**
KOLS	**Kolonicke sedl**	**26.27**	**108**	*eP*		**P**		**09 49 37.5**	**+1.4**
UZH	**Uzhgorod**	**26.52**	**108**	*eP*		**P**		**09 49 37.2**	**-1.1**
UZH				*e*				09 49 40.8	
UZH				*e*				09 49 45.4	
AKASG	**Malin Array Be**	**27.85**	**98**	*i* P		**P**		**09 49 51.2**	**+1.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKBB	**Malin Array Si**	**27.85**	**98**	*i* P		**P**		**09 49 49.6**	**-0.6**
OBN	**Obninsk**	**27.89**	**84**↓	*eP*		**P**		**09 49 51.3**	**+0.8**
OBN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MDT	**Midelt**	**32.84**	**160**	P		**P**		**09 50 36.6**	**+2.0**
	comp=Z,5.0nm,1.1s,baz=0.4,slow=15,SNR=5.8								
NRIK	**Noril'sk**	**36.47**	**35**	P		**P**		**09 51 07.2**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=296,slow=8.3,SNR=3.5								
BR131	**Keskin Array S**	**38.48**	**105**	*i* P		**P**		**09 51 23.1**	**+0.1**
BRTR	**Keskin Array B**	**38.48**	**105**	P		**P**		**09 51 24.4**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=329,slow=6.2,SNR=6.2								
KBZ	**Khabaz**	**39.12**	**92**	P		**P**		**09 51 30.1**	**+2.0**
	comp=Z,3.9nm,0.9s,baz=294,slow=8.5,SNR=5.0								
INK	**Inuvik**	**39.85**	**329**	P		**P**		**09 51 34.1**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=35,slow=15,SNR=3.4								
INK	**Inuvik**	**39.85**	**329**	P		**P**		**09 51 34.1**	**+0.2**
INK				pmax		pmax			
	comp=Z,24nm,2.0s								
INK	**Inuvik**	**39.85**	**329**	IAmb		IAmb		09 51 59.0	
	comp=Z,24nm,2.0s								
AKTO	**Aktyubinsk**	**40.30**	**73**	P		**P**		**09 51 38.1**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=314,slow=9.8,SNR=4.4								
ABKAR	**Akbulak array**	**42.00**	**73**	P		**P**		**09 51 51.7**	**-0.2**
TIXI	**Tiksi**	**42.05**	**15**	P		**P**		**09 51 52.8**	**+0.8**
TIXI				pmax		pmax			
	comp=Z,9.0nm,1.1s								
TIXI	**Tiksi**	**42.05**	**15**	P		**P**		**09 51 52.8**	**+0.8**
TIXI				IAmb		IAmb		09 51 54.8	
	comp=Z,9.2nm,1.1s								
TOLK	**Toolik Lake Re**	**42.76**	**336**	P		**P**		**09 51 59.7**	**+1.8**
TOLK				IAmb		IAmb		09 52 04.3	
	comp=Z,15nm,1.3s								
BMAR	**Burnt Mountain**	**42.91**	**333**	P		**P**		**09 51 59.2**	**+0.2**
BRVK	**Borovoye**	**43.14**	**62***ce*	P		**P**		**09 52 01.1**	**0.0**
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
FYU	**Fort Yukon**	**43.78**	**333**	P		**P**		**09 52 08.2**	**+2.2**
ILAR	**Eielson Array**	**45.70**	**332**	P		**P**		**09 52 22.4**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=21,slow=6.2,SNR=12								
ILAR				PcP		**PcP**		**09 53 59.4**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=353,slow=4.1,SNR=5.7								
MDM	**Murphy Dome**	**45.79**	**333**	P		**P**		**09 52 24.6**	**+2.4**
MDM				IAmb		IAmb		09 52 26.6	
	comp=Z,7.5nm,1.2s								
COLA	**College**	**45.79**	**333**	*i* P		**P**		**09 52 23.1**	**+1.0**
COLA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
IMAR	**Indian Mountai**	**45.87**	**337**	P		**P**		**09 52 24.8**	**+2.1**
BCAR	**Beaver Creek A**	**46.12**	**329**	P		**P**		**09 52 26.5**	**+1.8**
BILL	**Bilibino**	**47.56**	**358**	*i* P		**P**		**09 52 36.8**	**+0.8**
BILL				pmax		pmax			
	comp=Z,3.0nm,1.1s								
ZALV	**Zalesovo Beam**	**47.65**	**51**	P		**P**		**09 52 37.2**	**+0.5**
	comp=Z,6.6nm,0.4s,baz=355,slow=6.6,SNR=4.7								
ZALV	**Zalesovo Beam**	**47.65**	**51**	P		**P**		**09 52 37.5**	**+0.7**
ZALV	**Zalesovo Beam**	**47.65**	**51**	P		**P**		**09 52 37.5**	**+0.7**
KURK	**Kurchatov**	**48.12**	**58***ce*	P		**P**		**09 52 40.4**	**-0.1**
KURK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KURK	**Kurchatov**	**48.12**	**58**	P		**P**		**09 52 39.7**	**-0.8**
KURK				IAmb		IAmb		09 52 42.0	
	comp=Z,6.4nm,0.9s								
T47A	**Sharon Grove**	**48.63**	**270**	P		**P**		**09 52 45.4**	**+0.8**
T47A				IAmb		IAmb		09 52 47.0	
	comp=Z,11nm,1.1s								
EGMT	**Eagleton**	**48.88**	**297**	P		**P**		**09 52 48.1**	**+1.6**
O22K	**Cooper Landing**	**50.14**	**331**	P		**P**		**09 52 56.6**	**+0.8**
KKAR	**Karatay Array**	**51.29**	**70**	P		**P**		**09 53 05.8**	**+1.1**
KKAR				pmax		pmax			
	comp=Z,5.0nm,1.2s								
KKAR	**Karatay Array**	**51.29**	**70**	P		**P**		**09 53 03.9**	**-0.8**
KKAR	**Karatay Array**	**51.29**	**70**	P		**P**		**09 53 05.8**	**+1.1**
KKAR				IAmb		IAmb		09 53 09.3	
	comp=Z,4.9nm,1.2s								
BOZ	**Bozeman (W)**	**51.61**	**297**	P		**P**		**09 53 07.5**	**+0.2**
BOZ				pmax		pmax			
	comp=Z,5.0nm,1.2s								
BOZ	**Bozeman (W)**	**51.61**	**297**	P		**P**		**09 53 07.5**	**+0.2**
BOZ				IAmb		IAmb		09 53 09.5	
	comp=Z,5.4nm,1.1s								
DGZ	**Jazzator, Alta**	**52.09**	**53**	*eP*		**P**		**09 53 11.2**	**+0.4**
DGZ				pmax		pmax			
	comp=Z,3.0nm,1.0s								
H17A	**Grant Village**	**52.21**	**295**	P		**P**		**09 53 10.8**	**-1.1**
H17A				IAmb		IAmb		09 53 16.9	
	comp=Z,4.9nm,1.1s								
MK31	**Makanchi Array**	**52.74**	**58***ce*	P		**P**		**09 53 12.1**	**-3.4**
MKAR	**Makanchi Array**	**52.74**	**58**	P		**P**		**09 53 15.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=330,slow=7.0,SNR=8.6								
MKAR	**Makanchi Array**	**52.74**	**58**	P		**P**		**09 53 16.0**	**+0.5**
MKAR	**Makanchi Array**	**52.74**	**58**	P		**P**		**09 53 16.0**	**+0.5**
LOHW	**Long Hollow**	**52.88**	**295**	P		**P**		**09 53 18.7**	**+1.9**
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P		**P**		**09 53 18.2**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=344,slow=9.4,SNR=7.2								
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P		**P**		**09 53 18.6**	**0.0**
BW06	**Boulder Array**	**53.18**	**293**	IAmb		IAmb		09 53 20.1	
	comp=Z,5.2nm,1.1s								
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**		**09 53 19.2**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=60,slow=7.0,SNR=13								
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**		**09 53 19.0**	**-0.1**
AAK	**Ala-Archa**	**53.27**	**67***ce*	P		**P**		**09 53 18.9**	**-0.7**
AAK				pmax		pmax			
	comp=Z,16nm,1.3s								
N23A	**Red Feather La**	**53.30**	**289**	P		**P**		**09 53 22.0**	**+2.0**
HWUT	**Hardware Ranch**	**54.95**	**294**	IAmb		IAmb		09 53 38.6	
	comp=Z,9.2nm,1.4s								
TCUT	**Toone Canyon**	**55.31**	**294**	P		**P**		**09 53 36.0**	**+1.4**
TLY	**Talaya**	**55.41**	**40**	*i* P		**P**		**09 53 33.5**	**-1.4**
TLY				pmax		pmax			
	comp=Z,3.0nm,1.1s								
MA2	**Magadan**	**55.77**	**7**	LR		LR		10 15 20.6	
	comp=Z,24nm,18.7s,baz=320,slow=34								
MA2	**Magadan**	**55.77**	**7**	*i* P		**P**		**09 53 37.8**	**+0.4**
MA2				pmax		pmax			
	comp=Z,33nm,1.3s								
KSH	**Kashi**	**56.51**	**68**	P		**P**		**09 53 44.3**	**+1.2**
KSH				S		**S**		**10 01 33.5**	**-0.7**
KSH				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KSH				pmax		pmax			
	comp=Z,97nm,4.1s								
KSH				LR		LR			
	comp=N,180nm,4.5s								
KSH				LR		LR			
	comp=E,190nm,5.8s								
KSH				LR		LR			
	comp=Z,230nm,5.7s								
WMQ	**Urumqi**	**57.24**	**56**	*eP*		**P**		**09 53 51.5**	**+3.4**
WMQ				pP		sP		09 53 57.8	+4.7
WMQ				pmax		pmax			
	comp=Z,12nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,63nm,4.7s								
MSU	**Marysvale**	**57.84**	**293**	P		**P**		**09 53 52.8**	**+0.2**
MSU	**Marysvale**	**57.84**	**293**	P		**P**		**09 53 52.8**	**+0.2**
MVU	**Marysvale**	**57.86**	**293**	P		**P**		**09 53 52.8**	**0.0**
DBIC	**Dimbokro**	**58.58**	**165**	P		**P**		**09 53 57.6**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=348,slow=3.4,SNR=4.2								
DBIC	**Dimbokro**	**58.58**	**165**	P		**P**		**09 53 57.6**	**-0.1**
DBIC				pmax		pmax			
	comp=Z,15nm,1.3s								
ANMO	**Albuquerque**	**58.59**	**286**	*i* P		**P**		**09 53 56.1**	**-1.8**
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.0s								
R11A	**Troy Canyon, C**	**59.33**	**295**	IAmb		IAmb		09 55 50.8	
	comp=Z,7.6nm,1.8s								
SONM	**Songino Array**	**59.65**	**40**	P		**P**		**09 54 05.2**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=339,slow=7.9,SNR=4.7								
SONM	**Songino Array**	**59.65**	**40**	P		**P**		**09 54 05.2**	**+0.2**
SONM				pmax		pmax			
	comp=Z,2.0nm,1.2s								
SONM	**Songino Array**	**59.65**	**40**	IAmb		IAmb		09 54 05.9	
	comp=Z,1.8nm,1.2s								
ULN	**Ulaanbaatar**	**59.81**	**40***ce*	P		**P**		**09 54 06.1**	**0.0**
ULN				pmax		pmax			
	comp=Z,10.0nm,2.5s								
WUAZ	**Wupatki**	**60.11**	**290**	P		**P**		**09 54 09.5**	**+1.2**
WUAZ				IAmb		IAmb		09 54 10.3	
	comp=Z,6.2nm,1.2s								
NVAR	**Mina Array Bea**	**60.30**	**297**	P		**P**		**09 54 09.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=3.8								
TXAR	**Lajitas Array**	**62.28**	**280**	P		**P**		**09 54 23.5**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=79,slow=2.7,SNR=7.3								
319A	**Douglas**	**62.85**	**286**	P		**P**		**09 54 28.1**	**+1.3**
HHC	**Hu-ho-hao-te**	**67.53**	**40**	*eP*		**P**		**09 54 57.8**	**+0.8**
HHC				pmax		pmax			
	comp=Z,34nm,0.6s								
HHC				pmax		pmax			
	comp=Z,120nm,6.1s								
LZH	**Lanzhou**	**69.64**	**48**	*eP*		**P**		**09 55 09.3**	**-1.1**
LZH				pP		pP		09 55 14.0	-0.1
LZH				sP		sP		09 55 17.5	+2.1
LZH				PP		PP		09 57 36.0	-7.8
LZH				pmax		pmax			
	comp=Z,10.0nm,1.2s								
LZH				pmax		pmax			
	comp=Z,66nm,5.4s								
LZH				LR		LR			
	comp=N,150nm,15.8s								
LZH				LR		LR			
	comp=E,160nm,16.2s								
LZH				LR		LR			
	comp=Z,260nm,18.1s								
KSRS	**Korea Array**	**74.66**	**28**	LR		LR		10 32 00.8	
	comp=Z,8.2nm,18.3s,baz=55,slow=39								
NJ2	**Nanjing**	**77.75**	**37**	*eP*		**P**		**09 55 58.0**	**+0.2**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P		**P**		**09 56 32.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=317,slow=7.1,SNR=6.8								
CPUP	**Villa Florida**	**95.83**	**215**	LR		LR		10 38 23.8	
	comp=Z,51nm,19.4s,baz=52,slow=34								

IDC 30 10:01:41.5±4.8, 47.68N×80.89E, h0km, Error ellipse: s-maj=42.5km s-min=30.6km az=133.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**1.30**	**132**	Pn	Pn	10 02 07.5	+0.5
	0.3nm,0.3s,baz=312,slow=13,SNR=11						
MKAR				Sn	Sn	10 02 26.7	+1.5
	0.1nm,0.3s,baz=313,slow=27,SNR=2.1						
I46RU	**ZALESOVO INFRA**	**6.75**	**20**	*i*		10 42 50.0	
	baz=198,slow=316,SNR=1.2						
I34MN	**SONGINO INFRAS**	**17.15**	**80**	*i*		11 42 20.0	
	baz=279,slow=326,SNR=0.6						

*DNK **30** 10:28:26.5±1.0, 59.22N×19.10E, h49km±16km, ML3.3, Explosion*
*UPP **30** 10:28:29.0±0.2, 58.99N×18.20E, h3km±3km, ML2.7, Explosion*
*HEL **30** 10:28:29.8±0.1, 59.00N×18.17E, h0km, ML1.8, ML2.7(UPP), Explosion*
*NAO **30** 10:28:30.3±1.5, 59.05N×18.06E, ML2.2*
*IDC **30** 10:28:31.7±1.9, 59.16N×18.00E, h0km, mb1 3.3/4, mb1mx3.1/43, mbtmp3.2/4, ML2.1/4, Error ellipse: s-maj=25.9km s-min=7.0km az=1.0*
*BER **30** 10:28:32.6±4.2, 59.20N×18.18E, h0km, ML1.8, ML1.8(HEL), Suspected explosion*

ISC 30 10:28:28.5±0.7, 59.00N±0.02×18.21E±0.02, h0km, n72, σ1s27/117, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.10**	**275**	P	**Pg**	**10 28 31.0**	**+0.5**
NYNU				S	**Sg**	**10 28 32.4**	**+0.5**
NYNU	**Nynaeshamn**	**0.10**	**275**	*i* P	**Pg**	**10 28 31.0**	**+0.5**
NYNU				*i* S	**Sg**	**10 28 32.4**	**+0.5**
NYNU	**Nynaeshamn**	**0.10**	**275**	P	**Pg**	**10 28 31.0**	**+0.5**
NYNU				S	**Sg**	**10 28 32.4**	**+0.5**
NRTU	**Norrtaelje**	**0.72**	**17**	P	**Pg**	**10 28 42.5**	**+0.2**
NRTU				S	**Sg**	**10 28 51.7**	**+0.1**
NRTU	**Norrtaelje**	**0.72**	**17**	*i* P	**Pg**	**10 28 42.5**	**+0.2**
NRTU				*i* S	**Sg**	**10 28 51.7**	**+0.1**
NRTU	**Norrtaelje**	**0.72**	**17**	P	**Pg**	**10 28 42.5**	**+0.2**
NRTU				S	**Sg**	**10 28 51.7**	**+0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pg**	**10 28 46.1**	**-0.2**
VIKU				S	**Sg**	**10 28 58.2**	**-0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	*eP*	**Pg**	**10 28 46.1**	**-0.2**
VIKU				*eS*	**Sg**	**10 28 58.2**	**-0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pg**	**10 28 46.1**	**-0.2**
VIKU				S	**Sg**	**10 28 58.2**	**-0.1**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**	**10 28 46.6**	**-0.3**
ESKU	**Eskilstuna**	**0.96**	**285**	*eP*	**Pg**	**10 28 46.6**	**-0.3**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**	**10 28 46.6**	**-0.3**
GOTU	**Gotland**	**1.33**	**172**	P	**Pg**	**10 28 53.0**	**-0.9**
GOTU	**Gotland**	**1.33**	**172**	*eP*	**Pg**	**10 28 53.0**	**-0.9**
GOTU	**Gotland**	**1.33**	**172**	P	**Pg**	**10 28 53.0**	**-0.9**
OSTU	**Oestervaala**	**1.35**	**337**	P	**Pg**	**10 28 53.9**	**-0.5**
OSTU	**Oestervaala**	**1.35**	**337**	*eP*	**Pg**	**10 28 53.9**	**-0.5**
OSTU	**Oestervaala**	**1.35**	**337**	P	**Pg**	**10 28 53.9**	**-0.5**
GRAU	**Graesoe**	**1.35**	**7**	P	**Pg**	**10 28 54.1**	**-0.3**
GRAU	**Graesoe**	**1.35**	**7**	*eP*	**Pg**	**10 28 54.1**	**-0.3**
GRAU	**Graesoe**	**1.35**	**7**	P	**Pg**	**10 28 54.1**	**-0.3**
FORU	**Forsmark**	**1.40**	**359**	P	**Pg**	**10 28 54.8**	**-0.4**
FORU	**Forsmark**	**1.40**	**359**	*eP*	**Pg**	**10 28 54.8**	**-0.4**
FORU	**Forsmark**	**1.40**	**359**	P	**Pg**	**10 28 54.8**	**-0.4**
AAL	**Aland**	**1.50**	**37**	P	**Pn**	**10 28 56.4**	**-0.1**
AAL	**Aland**	**1.50**	**37**	*eP*	**Pn**	**10 28 56.5**	**-0.1**
AAL				*eS*	**Sg**	**10 29 15.8**	**-0.6**
VSTU	**Vaestervik**	**1.60**	**214**	P	**Pn**	**10 28 58.2**	**+0.2**
VSTU	**Vaestervik**	**1.60**	**214**	*eP*	**Pn**	**10 28 58.2**	**+0.2**
VSTU	**Vaestervik**	**1.60**	**214**	P	**Pn**	**10 28 58.2**	**+0.2**
LNKU	**Linkoeping**	**1.61**	**242**	P	**Pn**	**10 28 58.2**	**0.0**
LNKU	**Linkoeping**	**1.61**	**242**	*eP*	**Pn**	**10 28 58.2**	**0.0**
LNKU	**Linkoeping**	**1.61**	**242**	P	**Pn**	**10 28 58.2**	**0.0**
NRAU	**Nora**	**1.72**	**291**	P	**Pn**	**10 29 00.3**	**+0.6**
NRAU	**Nora**	**1.72**	**291**	*eP*	**Pn**	**10 29 00.3**	**+0.6**
NRAU	**Nora**	**1.72**	**291**	P	**Pn**	**10 29 00.3**	**+0.6**
HFS	**Hagfors**	**2.56**	**298**	Pn	**Pn**	**10 29 12.7**	**+1.5**
	baz=115,slow=22						
HFS				Lg	Lg	10 29 47.1	
	baz=112,slow=28						
HFS				Rg	Rg	10 30 00.1	
	baz=126,slow=28						
HFS	**Hagfors**	**2.56**	**298**	Pn	**Pn**	**10 29 12.5**	**+1.3**
	0.9nm,0.3s,baz=114,slow=14,SNR=38						
HFS				Lg	Lg	10 29 45.8	
	6.3nm,0.3s,baz=115,slow=31,SNR=31						
HFS	**Hagfors**	**2.56**	**298**	Pn	**Pn**	**10 29 12.7**	**+1.5**
	baz=115,slow=22						
HFS				Sg	**Sb**	**10 29 47.1**	**-0.3**
	baz=112,slow=28						
RAF	**Rauma**	**2.71**	**40**	*eP*	**Pn**	**10 29 15.1**	**+1.9**
RAF				*eS*	**Sn**	**10 29 48.1**	**+1.5**
RAF				MSG		10 29 54.5	
	comp=Z,3.8nm,0.1s						
MTSE	**Matsula**	**2.93**	**93**	*eP*	**Pn**	**10 29 17.3**	**+1.1**
MTSE				*eS*	**Sn**	**10 29 52.7**	**+0.7**
MEF	**Metsahovi**	**3.38**	**66**	*eS*	**Sn**	**10 30 04.0**	**+0.9**
MEF				MSG		10 30 16.8	
	comp=Z,1.7nm,0.1s						
STRU	**Stroemstad**	**3.63**	**274**	*eP*	**Pn**	**10 29 27.7**	**+1.8**
STRU				*eS*	**Sn**	**10 30 09.4**	**0.0**
NC602	**NORSAR Array S**	**3.79**	**300**	*eP*	**Pn**	**10 29 28.6**	**+0.6**
NC602				*eSg*	**Sg**	**10 30 26.8**	**-3.2**
NRA0	**NORESS Array S**	**3.79**	**300**	Pn	**Pn**	**10 29 28.6**	**+0.6**
	baz=94,slow=14						
NRA0				Pg	**Pb**	**10 29 37.2**	**+1.1**
	baz=108,slow=18						
NRA0				Sn	**Sn**	**10 30 15.2**	**+2.0**
	baz=100,slow=22						
NRA0				Lg	Lg	10 30 26.9	
	baz=117,slow=28						
NRA0	**NORESS Array S**	**3.79**	**300**	Pn	**Pn**	**10 29 28.6**	**+0.6**
	baz=94,slow=14						
NRA0				Pg	**Pb**	**10 29 37.2**	**+1.1**
	baz=108,slow=18						
NRA0				Sn	**Sn**	**10 30 15.2**	**+2.0**
	baz=100,slow=22						
NRA0				Sg	**Sg**	**10 30 26.9**	**-3.1**
	baz=117,slow=28						
NB2	**NORSAR Subarra**	**4.06**	**303**	Pn	**Pn**	**10 29 31.7**	**-0.2**
	baz=125,slow=14						
NB2				Pg	**Pb**	**10 29 40.9**	**0.0**
	baz=114,slow=16						
NB2				Sn	**Sn**	**10 30 21.4**	**+1.2**
NB2				Lg	Lg	10 30 35.8	
	baz=117,slow=37						
NB2	**NORSAR Subarra**	**4.06**	**303**	Pn	**Pn**	**10 29 31.7**	**-0.2**
	baz=125,slow=14						
NB2				Pg	**Pb**	**10 29 40.9**	**0.0**
	baz=114,slow=16						
NB2				Sn	**Sn**	**10 30 21.4**	**+1.2**
NB2				Sg	**Sg**	**10 30 35.8**	**-3.1**
	baz=117,slow=37						
NOA	**NORSAR Array B**	**4.06**	**303**	Pn	**Pn**	**10 29 30.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=122,slow=12,SNR=9.1						
NOA				Pg	**Pb**	**10 29 41.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=113,slow=3.1,SNR=10						
NOA				Lg	Lg	10 30 32.7	
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=7.8						
NC303	**NORSAR Array S**	**4.09**	**306**	*eP*	**Pn**	**10 29 33.0**	**+0.9**
NC303				IAML		10 30 37.5	
	comp=Z,5.0nm,0.3s						
NAO01	**NORSAR Array S**	**4.12**	**300**	*eP*	**Pn**	**10 29 32.9**	**+0.2**
NAO01				*eSg*	**Sg**	**10 30 36.9**	**-4.0**
NAO01				IAML		10 30 39.0	
	comp=Z,4.2nm,0.4s						
NBO00	**NORSAR Array S**	**4.25**	**302**	*eP*	**Pn**	**10 29 34.6**	**+0.2**
BSD	**Bornholm Skovb**	**4.29**	**206**	*i* P	**Pn**	**10 29 35.1**	**+0.2**
BSD				*i* S	**Sn**	**10 30 25.2**	**-0.3**
BSD	**Bornholm Skovb**	**4.29**	**206**	*i* P	**Pn**	**10 29 35.1**	**+0.2**
BSD				*i* S	**Sn**	**10 30 25.3**	**-0.3**
BSD				IAML		10 30 43.2	
	comp=Z,3.1nm,0.3s						
NC204	**NORSAR Array S**	**4.37**	**305**	*eP*	**Pn**	**10 29 36.4**	**+0.3**
NC204				*eSg*	**Sb**	**10 30 42.9**	**+3.6**
KON	**Kongsberg**	**4.46**	**282**	Pn	**Pn**	**10 29 37.4**	**+0.2**
KON				Sn	**Sn**	**10 30 28.0**	**-1.8**
KON				Lg	Lg	10 30 46.8	
KONO	**Kongsberg**	**4.46**	**282**	Pn	**Pn**	**10 29 37.4**	**+0.2**
KONO				Sn	**Sn**	**10 30 28.0**	**-1.8**
KEF	**Keuruu**	**4.57**	**43**	*eP*	**Pn**	**10 29 41.1**	**+2.2**
KEF				*eS*	**Sn**	**10 30 32.9**	**+0.3**
FIA0	**FINESS Array S**	**4.63**	**55**	Pn	**Pn**	**10 29 41.6**	**+2.0**
	baz=243,slow=12						
FIA0				Pg	**Pb**	**10 29 51.8**	**+1.3**
	baz=248,slow=16						
FIA0				Sn	**Sn**	**10 30 34.5**	**+0.5**
	baz=246,slow=22						
FIA0				Lg	Lg	10 30 52.3	
	baz=239,slow=28						
FIA0	**FINESS Array S**	**

WRA	**Warramunga Arr**	**13.26**	**162**	P	**Pn**	**11 02 38.4**	**+3.2**
	0.8nm,0.3s,baz=334,slow=13,SNR=46						
WRA				S	**Sn**	**11 04 57.4**	**-3.7**
	2.1nm,0.3s,baz=332,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.72**	**168**	P	**P**	**11 03 23.9**	**+4.2**
	0.4nm,0.3s,baz=347,slow=10,SNR=38						
ASAR				S	**Sn**	**11 06 18.9**	**-5.9**
	0.2nm,0.3s,baz=347,slow=25,SNR=4.0						
NWAO	**Narrogin (SRO)**	**28.22**	**203**	LR	LR	11 17 02.4	
	comp=Z,51nm,18.4s,baz=294,slow=37						
MKAR	**Makanchi Array**	**68.51**	**327**	P	**P**	**11 10 22.1**	**-0.4**
	0.9nm,0.3s,baz=116,slow=8.1,SNR=18						
ZALV	**Zalesovo Beam**	**71.87**	**334**	P	**P**	**11 10 41.2**	**-1.6**
	0.5nm,0.3s,baz=124,slow=7.2,SNR=3.5						

*KRNET **30** 11:43:33.9±0.1, 42.6°N×69.3°E, mb2.8*
*SOME **30** 11:43:36.0, 43.3°N×69.8°E, h0km*
*NNC **30** 11:43:36.5±0.4, 43.3°N×69.6°E, h0km±3km, mb3.6, mpv3.2, Error ellipse: s-maj=3.7km s-min=2.0km az=145.0, Suspected Mining explosion.*

ISC 30 11:43:37.0±1.2, **43.35N**±0.05×**70.03E**±0.04, **h0**km, **n41, σ1§58/68, 27C-16D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.35**	**204**	*e*P	**Pn**	**11 43 48.0**	**-1.3**
	14nm,0.2s						
BRLS				*e*S	**Sb**	**11 43 56.1**	**+4.0**
	45nm,0.7s						
BRLS	**Borolday**	**0.35**	**204**	P	**Pn**	**11 43 48.0**	**-1.3**
	14nm,0.2s						
BRLS				S	**Sb**	**11 43 56.1**	**+4.0**
	84nm,0.6s						
KK09	**Karatay Array**	**0.41**	**123**	⇓P	**Pb**	**11 43 46.4**	**-0.7**
KK09				⇓S	**Sb**	**11 43 54.3**	**+0.3**
KK08	**Karatay Array**	**0.41**	**126**	⇑P	**Pb**	**11 43 46.4**	**-0.7**
KK08				⇓S	**Sb**	**11 43 54.2**	**+0.2**
KK04	**Karatay Array**	**0.42**	**124**	⇑P	**Pb**	**11 43 46.6**	**-0.7**
KK04				⇓S	**Sb**	**11 43 54.5**	**+0.2**
KK03	**Karatay Array**	**0.42**	**125**	⇑P	**Pb**	**11 43 46.6**	**-0.7**
KK03				⇓S	**Sb**	**11 43 54.3**	**0.0**
KK01	**Karatay Array**	**0.42**	**125**	⇑P	**Pb**	**11 43 46.5**	**-0.8**
KK01				⇓S	**Sb**	**11 43 54.5**	**+0.2**
KK02	**Karatay Array**	**0.43**	**125**	⇓P	**Pb**	**11 43 46.7**	**-0.7**
KK02				⇑S	**Sb**	**11 43 54.6**	**+0.1**
KK05	**Karatay Array**	**0.43**	**122**	⇓P	**Pb**	**11 43 46.6**	**-0.8**
KK05				⇓S	**Sb**	**11 43 54.4**	**0.0**
KK31	**Karatay Array**	**0.43**	**125**	⇑P	**Pb**	**11 43 46.7**	**-0.7**
	3.6nm,0.5s,baz=287,slow=18,SNR=336						
KK31				⇑S	**Sb**	**11 43 54.4**	**-0.1**
	12nm,0.3s,baz=290,slow=37,SNR=11						
KK07	**Karatay Array**	**0.43**	**127**	⇑P	**Pb**	**11 43 46.5**	**-1.0**
KK07				⇑S	**Sb**	**11 43 54.5**	**0.0**
KK06	**Karatay Array**	**0.44**	**125**	⇑P	**Pb**	**11 43 46.8**	**-0.8**
KK06				⇑S	**Sb**	**11 43 54.6**	**-0.3**
IUG	**Iuzhnay**	**1.20**	**180**	*e*P	**Pb**	**11 43 59.8**	**-0.9**
	11nm,0.1s						
IUG				*e*S	**Sb**	**11 44 16.4**	**-0.4**
	22nm,0.4s						
IUG	**Iuzhnay**	**1.20**	**180**	P	**Pg**	**11 43 59.2**	**-0.8**
	13nm,0.2s						
IUG				S	**Sg**	**11 44 15.2**	**-0.3**
	45nm,0.4s						
MNAS	**Manas**	**2.01**	**114**	⇑*i*P	**Pg**	**11 44 15.4**	**-0.1**
	baz=93						
MNAS				⇑*i*S	**Sg**	**11 44 45.3**	**+3.7**
	baz=93						
MRKS	**Merke**	**2.42**	**103**	⇓*i*P	**Pg**	**11 44 23.7**	**+0.4**
	1.4nm,0.2s						
MRKS				⇓*i*S	**Sg**	**11 44 57.4**	**+2.7**
	20nm,0.5s						
MRKS	**Merke**	**2.42**	**103**	Pg	**Pg**	**11 44 23.7**	**+0.4**
	2.6nm,0.3s						
MRKS				Lg	Lg	11 44 57.4	
	20nm,0.6s						
EKS2	**Erkin-Say**	**2.83**	**103**	⇓*e*P	**Pb**	**11 44 28.6**	**+0.1**
	baz=88						
EKS2				⇓*i*S	**Sg**	**11 45 08.6**	**+0.6**
	baz=88						
AML	**Almayashu**	**2.96**	**113**	⇓*i*P	**Pb**	**11 44 28.5**	**-2.3**
	baz=98						
AML				⇓*e*S	**Sb**	**11 45 08.5**	**+0.8**
	baz=98						
USP	**Ospenovka**	**3.26**	**90**	⇑*e*P	**Pb**	**11 44 36.5**	**+0.7**
	baz=79						
USP				⇑*i*S	**Sg**	**11 45 22.8**	**+1.0**
	baz=79						
BTK	**Batken**	**3.34**	**170**	⇓*i*P	Pn	11 44 21.7	-8.8
	baz=57						
BTK				⇓*i*S	Sn	11 44 57.3	-14
	baz=57						
BTLS	**Baital**	**3.35**	**58**	*e*P	**Pg**	**11 44 40.6**	**-0.6**
	3.2nm,0.5s						
BTLS				*e*S	**Sg**	**11 45 26.6**	**+2.0**
	3.0nm,0.5s						
BTLS	**Baital**	**3.35**	**58**	Pg	**Pg**	**11 44 40.6**	**-0.6**
	3.2nm,0.5s						
BTLS				Lg	Lg	11 45 26.6	
	3.0nm,0.5s						
AAK	**Ala-Archa**	**3.35**	**101**	⇑*i*P	**Pb**	**11 44 36.1**	**-1.3**
	baz=88						
AAK				⇑*i*S	**Sb**	**11 45 21.6**	**+2.9**
	baz=88						
AAK	**Ala-Archa**	**3.35**	**101**	⇑Pg	**Pg**	**11 44 41.8**	**+0.6**
	2.6nm,0.7s						
AAK				⇑Lg	Lg	11 45 27.0	
	5.8nm,0.5s						
SGDS	**Sogindy**	**3.35**	**87**	Pg	**Pg**	**11 44 40.5**	**-0.8**
	3.5nm,0.4s						
SGDS				Lg	Lg	11 45 26.5	
	5.1nm,0.3s						
UCH	**Uchtor**	**3.48**	**107**	⇓*e*P	**Pb**	**11 44 36.5**	**-3.3**
	baz=94						
UCH				⇓*i*S	**Sb**	**11 45 22.8**	**0.0**
	baz=94						
ARLS	**Aral**	**3.50**	**114**	⇑*i*P	**Pn**	**11 44 35.6**	**+2.8**
	baz=0.0						
ARLS				⇑*i*S	**Sb**	**11 45 20.7**	**-2.3**
	baz=0.0						
KBK	**Karagaybulak**	**3.67**	**99**	⇑*i*P	**Pb**	**11 44 40.6**	**-2.3**
	baz=88						
KBK				⇑*i*S	**Sb**	**11 45 29.4**	**+1.4**
	baz=88						
TKM2	**Tokmak 2**	**4.10**	**94**	⇑Lg	Lg	11 45 50.6	
	8.8nm,0.7s						
KRBS	**Karabastau**	**4.12**	**83**	*e*P	**Pg**	**11 44 54.9**	**-1.1**
	1.5nm,0.5s						
KRBS				*e*S	**Sg**	**11 45 51.2**	**+1.9**
	6.2nm,0.3s						
KRBS	**Karabastau**	**4.12**	**83**	Pg	**Pg**	**11 44 54.8**	**-1.1**
	1.5nm,0.5s						
KRBS				Lg	Lg	11 45 51.2	
	6.2nm,0.3s						
KST	**Kastek**	**4.35**	**92**	*e*P	**Pg**	**11 44 58.5**	**-1.8**
	6.2nm,0.8s						
KST				*e*S	**Sg**	**11 45 57.1**	**+0.5**
	18nm,0.7s						
KST	**Kastek**	**4.35**	**92**	Pg	**Pg**	**11 44 58.5**	**-1.8**
	6.2nm,0.8s						
KST				Lg	Lg	11 45 57.1	
	18nm,0.7s						
KUU	**Kurty**	**4.61**	**81**	*e*P	**Pg**	**11 45 04.0**	**-1.4**
	1.8nm,0.1s						
KUU				*e*S	**Sg**	**11 46 06.4**	**+1.3**
	8.4nm,0.3s						
KUU	**Kurty**	**4.61**	**81**	Pg	**Pg**	**11 45 04.0**	**-1.4**
	1.8nm,0.1s						
KUU				Lg	Lg	11 46 06.4	
	8.4nm,0.3s						
IZV	**Izvestkoviy**	**4.82**	**91**	*e*P	**Pg**	**11 45 07.8**	**-1.6**
	2.7nm,0.2s						
IZV				*e*S	**Sg**	**11 46 13.3**	**+1.4**
	11nm,0.5s						
IZV	**Izvestkoviy**	**4.82**	**91**	Pg	**Pg**	**11 45 07.8**	**-1.6**
	2.7nm,0.2s						
IZV				Lg	Lg	11 46 13.4	
	11nm,0.5s						
KTBS	**Karatobe**	**4.85**	**83**	*e*P	**Pg**	**11 45 07.7**	**-2.3**
	0.9nm,0.2s						
KTBS				*e*S	**Sg**	**11 46 13.6**	**+0.8**
	16nm,0.6s						
KTBS	**Karatobe**	**4.85**	**83**	Pg	**Pg**	**11 45 07.7**	**-2.3**
	0.9nm,0.2s						
KTBS				Lg	Lg	11 46 13.6	
	16nm,0.6s						
ARXS	**Arharly**	**5.71**	**79**	Pg	**Pg**	**11 45 23.9**	**-2.5**
	1.9nm,0.4s						
ARXS				Lg	Lg	11 46 40.6	
	3.5nm,0.3s						

*IDC **30** 11:49:23.4±1.4, 30.8°S×179.2°W, h352km±19km, mb2.7/2, mb1 3.1/3, mb1mx2.8/24, mbtmp3.6/3, Error ellipse: s-maj=42.6km s-min=21.7km az=116.0*

ISC 30 11:49:26.2±1.7, **31.03S**±0.10×**179.8W**±0.2, **h377**km, **n29, σ1§71/43, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.40**	**43**	P	Pn	11 50 15.8	-7.0
GLKZ				S	Sn	11 50 59.6	-9.0
RIZ	**Raoul Island**	**2.41**	**43**	P	Pn	11 50 16.5	-6.4
RAO	**Raoul Island**	**2.41**	**43**	P	Pn	11 50 16.7	-6.2
	127nm,0.3s,baz=91,slow=11,SNR=9.3						
MXZ	**Matakaoa Point**	**6.70**	**193**	S	**S**	**11 52 28.1**	**+1.3**
WMGZ	**Waiomatatini S**	**6.93**	**192**	P	**P**	**11 51 11.1**	**+1.8**
WMGZ				S	**S**	**11 52 29.2**	**-2.4**
OUZ	**Omahuta**	**6.93**	**231**	P	**P**	**11 51 11.4**	**+2.0**
HAZ	**Te Kaha**	**7.00**	**196**	P	**Pn**	**11 51 10.7**	**+1.6**
HAZ				S	**S**	**11 52 33.3**	**+0.3**
PUZ	**Puketiti**	**7.20**	**192**	P	**P**	**11 51 14.3**	**+1.8**
PUZ				S	**S**	**11 52 35.4**	**-2.0**
RUGZ	**Raukumara Rang**	**7.22**	**196**	P	**P**	**11 51 14.0**	**+1.3**
RUGZ				S	**S**	**11 52 35.2**	**-2.8**
TWGZ	**Tauwhareparae**	**7.36**	**194**	P	**P**	**11 51 16.7**	**+2.5**
TWGZ				S	**S**	**11 52 40.2**	**-0.5**
OPRZ	**Ohinepanea**	**7.43**	**203**	P	**P**	**11 51 17.9**	**+2.9**
MWZ	**Matawai**	**7.61**	**196**	P	**Pn**	**11 51 17.5**	**+1.3**
MWZ				S	**S**	**11 52 44.4**	**-1.7**
CNGZ	**Carnagh Statio**	**7.61**	**192**	P	**P**	**11 51 19.3**	**+2.3**
TKGZ	**Te Karaka**	**7.64**	**194**	P	**Pn**	**11 51 16.8**	**+0.4**
TKGZ				S	**S**	**11 52 44.8**	**-1.7**
URZ	**Urewera**	**7.64**	**199**	P	**Pn**	**11 51 16.7**	**+0.2**
	1.4nm,0.3s,baz=273,slow=3.8,SNR=25						
URZ				S	**S**	**11 52 46.0**	**-0.6**
	2.9nm,0.3s,baz=236,slow=22,SNR=14						
URZ	**Urewera**	**7.64**	**199**	P	**Pn**	**11 51 17.5**	**+1.1**
URZ				S	**S**	**11 52 46.1**	**-0.6**
MUGZ	**Murupara**	**7.94**	**200**	P	**Pn**	**11 51 19.9**	**-0.1**
SNGZ	**Shannon Statio**	**8.08**	**196**	P	**P**	**11 51 23.9**	**+0.9**
SNGZ				S	**S**	**11 52 55.3**	**-0.8**
PRGZ	**Paritu Road**	**8.10**	**193**	P	**P**	**11 51 23.6**	**+0.4**
PRGZ				S	**S**	**11 52 55.5**	**-0.9**
TLZ	**Tolley Road**	**8.23**	**206**	P	**P**	**11 51 28.1**	**+3.5**
MTHZ	**Maungataniwha**	**8.27**	**198**	P	**P**	**11 51 26.4**	**+1.2**
MTHZ				S	**S**	**11 52 59.6**	**-0.6**
NMHZ	**Naumai**	**8.51**	**198**	P	**P**	**11 51 28.9**	**+1.0**
ARHZ	**Aropaoanui**	**8.62**	**197**	P	**Pn**	**11 51 29.2**	**+1.3**
ARHZ				S	**S**	**11 53 08.6**	**+1.0**
BKZ	**Black Stump Fm**	**8.66**	**199**	P	**Pn**	**11 51 29.2**	**+0.8**
BKZ				S	**S**	**11 53 07.1**	**-1.5**
KRHZ	**Kereru**	**9.14**	**199**	P	**Pn**	**11 51 33.2**	**-0.8**
KRHZ				S	**S**	**11 53 15.6**	**-3.3**
PXZ	**Pawanui**	**9.38**	**196**	P	**Pn**	**11 51 36.8**	**+0.1**
PXZ				S	**S**	**11 53 20.0**	**-3.9**
ASAR	**Alice Springs**	**41.53**	**268**	P	**P**	**11 56 37.7**	**-0.9**
	0.2nm,0.4s,baz=105,slow=7.2,SNR=5.4						
ASAR				PcP	**PcP**	**11 58 27.3**	**-0.6**
	0.2nm,0.4s,baz=115,slow=4.3,SNR=5.8						
WRA	**Warramunga Arr**	**42.58**	**274**	P	**P**	**11 56 45.8**	**-1.1**
	0.5nm,0.4s,baz=111,slow=8.0,SNR=22						
FINES	**FINESS Array B**	**145.18**	**338**	PKP	**PKPdf**	**12 08 17.7**	**-0.9**
	2.6nm,0.7s,baz=47,slow=3.3,SNR=8.6						

*IDC **30** 12:04:04.7±3.4, 6.4°S×154.7°E, h62km±28km, mb3.7/6, mb1 4.1/9, mb1mx3.7/49, mbtmp4.1/9, ML3.1/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/38, Error ellipse: s-maj=24.7km s-min=23.6km az=58.0*
*NEIC **30** 12:04:06.1±1.4, 6.3S±0.1°×154.7°E±0.1°, h93km±20km, mb4.3/11, Error ellipse: s-maj=21.3km s-min=8.5km az=216.0*

ISC 30 12:04:07.0±0.7, **6.33S**±0.08×**154.73E**±0.08, **h100**km, **n26, σ1§47/26, mb4.3/10, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.32**	**310**	Pn	**Pn**	**12 04 56.3**	**-0.8**
KRVT	**Keravat (AS076**	**3.36**	**307**	P	**Pn**	**12 04 54.7**	**-3.0**
KRVT				LR	LR	12 06 32.8	
	comp=Z,905nm,20.8s,baz=107,slow=43						
HNR	**Honiara**	**6.02**	**121**	LR		12 07 51.2	
	comp=Z,367nm,19.7s,baz=241,slow=38						
HNR	**Honiara**	**6.02**	**121**		**Pn**	**12 05 31.6**	**-2.0**
PMG	**Port Moresby**	**8.10**	**247**	P	**Pn**	**12 06 00.6**	**-1.3**
	2.9nm,0.3s,baz=48,slow=7.3,SNR=13						
PMG				S	**Sn**	**12 07 31.1**	**-0.8**
	1.6nm,0.3s,baz=207,slow=23,SNR=2.9						
PMG				LR	LR	12 09 39.7	
	comp=Z,144nm,18.1s,baz=76,slow=42						
PMG	**Port Moresby**	**8.10**	**247**		**Pn**	**12 06 00.1**	**-1.9**
PATS	**Pohnpei**	**13.56**	**15**	Pn	**Pn**	**12 07 13.4**	**-1.9**
EIDS	**Eidsvold**	**19.25**	**190**	P	**P**	**12 08 22.9**	**-0.8**
DZM	**Mont Dzumac**	**19.31**	**145**	P	**P**	**12 08 24.2**	**-0.4**
	0.5nm,0.3s,baz=356,slow=15,SNR=6.4						
DZM	**Mont Dzumac**	**19.31**	**145**	P	**P**	**12 08 24.1**	**-0.4**
DZM				IAmb	IAmb	12 08 25.8	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**23.83**	**233**	P	**P**	**12 09 11.3**	**+0.1**
WB0	**Warramunga Arr**	**23.85**	**234**	P	**P**	**12 09 11.7**	**+0.3**
WB0				IAmb	IAmb	12 09 12.8	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**23.97**	**234**	P	**P**	**12 09 12.6**	**+0.2**
WRAB				IAmb	IAmb	12 09 13.9	
	comp=Z,17nm,1.1s						
WB2	**Warramunga Arr**	**23.98**	**234**	P	**P**	**12 09 12.8**	**+0.3**
WB2				IAmb	IAmb	12 09 14.0	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**23.99**	**234**	P	**P**	**12 09 13.3**	**+0.8**
	comp=Z,12nm,1.0s,baz=57,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**23.99**	**234**	P	**P**	**12 09 12.5**	**0.0**
MTN	**Manton Dam**	**24.14**	**253**	P	**P**	**12 09 14.4**	**+0.4**
AS31	**Alice Springs**	**26.42**	**227**	P	**P**	**12 09 35.0**	**+0.4**
ASAR	**Alice Springs**	**26.42**	**227**	P	**P**	**12 09 33.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=57,slow=8.9,SNR=12						
KNRA	**Kununurra**	**27.10**	**248**	P	**P**	**12 09 40.1**	**-0.6**
KNRA				IAmb	IAmb	12 09 44.0	
	comp=Z,8.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.69**	**245**	P	**P**	**12 10 12.3**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=112,slow=4.8,SNR=6.6						
FITZ	**Fitzroy Crossi**	**30.69**	**245**	P	**P**	**12 10 11.3**	**-1.2**
FITZ				IAmb	IAmb	12 10 12.7	
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**60.26**	**295**	P	**P**	**12 14 07.9**	**+2.5**
	comp=Z,2.3nm,0.8s,baz=113,slow=5.6,SNR=16						
VNDA	**Vanda**	**71.25**	**178**	P	**P**	**12 15 16.3**	**+1.3**
	comp=Z,0.9nm,1.0s,baz=348,slow=4.5,SNR=3.9						
NVAR	**Mina Array Bea**	**91.52**	**52**	P	**P**	**12 17 05.2**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=247,slow=6.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.59**	**286**	PKPbc	**PKiKP**	**12 23 56.3**	**+3.1**
	comp=Z,0.4nm,0.7s,baz=31,slow=2.9,SNR=1.5						

WEL 30 12:09:07.0, 42°S±2°×17°E±°, h85km±6km, M2.5/19, ML2.7/18, MLv2.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=92.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.30**	**230**	P	Pn	12 09 20.2	+0.3
NNZ	**Nelson**	**0.37**	**20**	P	Pn	12 09 20.5	+0.2
BSWZ	**Blackbirch Sta**	**0.52**	**107**	P	Pn	12 09 22.4	+1.0
TUWZ	**Tuamarina**	**0.57**	**76**	P	Pn	12 09 22.5	+0.7
TCW	**Tory Channel**	**0.88**	**66**	P	Pn	12 09 26.2	+1.3
KHZ	**Kahutara**	**0.88**	**164**	P	Pn	12 09 25.9	+1.0
QRZ	**Quartz Range**	**0.91**	**325**	P	Pn	12 09 25.8	+0.6
DUWZ	**D'Urville Isla**	**0.94**	**35**	P	Pn	12 09 27.1	+1.4
DSZ	**Denniston Nort**	**1.07**	**260**	P	Pn	12 09 27.7	+0.5
WEL	**Wellington**	**1.20**	**77**	P	Pn	12 09 29.6	+0.9
BHW	**Baring Head**	**1.26**	**83**	P	Pn	12 09 29.8	+0.4
LTZ	**Lake Taylor**	**1.40**	**210**	P	Pn	12 09 31.9	+0.6
GVZ	**Greta Valley S**	**1.40**	**185**	P	Pn	12 09 31.8	+0.5
KIW	**Kapiti Island**	**1.46**	**62**	P	Pn	12 09 33.1	+1.1
CAW	**Cannon Point**	**1.47**	**72**	P	Pn	12 09 32.7	+0.6
PLWZ	**Palliser**	**1.53**	**91**	P	Pn	12 09 32.8	-0.1
MSWZ	**Moikau Station**	**1.54**	**85**	P	Pn	12 09 33.0	0.0
OGWZ	**Otaki Gorge**	**1.66**	**64**	P	Pn	12 09 32.4	-2.1
PAWZ	**Paruwai Farm**	**1.67**	**84**	P	Pn	12 09 34.6	-0.2
INZ	**Inchbonnie**	**1.75**	**228**	P	Pn	12 09 36.9	+1.2
MTW	**Mount Morrison**	**1.77**	**77**	P	Pn	12 09 35.8	-0.2
TMWZ	**Te Maipa**	**2.07**	**78**	P	Pn	12 09 39.9	-0.1
OKCZ	**Okains Bay**	**2.16**	**183**	P	Pn	12 09 41.6	+0.5
KHEZ	**Kahui Hut**	**2.35**	**15**	P	Pn	12 09 46.1	+2.3
WACZ	**Wakanui South**	**2.58**	**203**	P	Pn	12 09 47.1	+0.4

*DJA **30** 12:11:35.8±0.1, 7°S±1°×11°E±°, h535km±1km, M5.5/97, mB6.0/97, mb6.0/97, MLv6.2/37, Mw(mB)5.6/97, Mwp5.4/39*
*BJI **30** 12:11:35.0±0.0, 6.9S×117.6°E, h540km, mB5.2/59, mb5.5/89*
*NEIC **30** 12:11:35.6±1.5, 6.9S±0.0°×117.5°E±0.0°, h535km±1km, mb5.8/82, Mwb5.8/41, Mww5.7, Mwc5.8(GCMT), Error ellipse: s-maj=14.1km s-min=12.7km az=192.0*
*MOS **30** 12:11:35.9±0.9, 6.8°S×117.5°E, h556km, mb5.6/55, MS4.3/4, Error ellipse: s-maj=7.6km s-min=4.5km az=113.2*
*IDC **30** 12:11:36.3±0.4, 6.9°S×117.5°E, h540km±4km, mb5.1/43, mb1 5.1/48, mb1mx5.1/50, mbtmp6.0/48, Error ellipse: s-maj=6.7km s-min=5.4km az=66.0*
*NEIC **30** 12:11:36.2, 6.9°S×117.5°E, h543km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=4.50; $M_{\theta\theta}$3.78; $M_{\phi\phi}$0.72; $M_{r\theta}$1.33; $M_{\theta\phi}$-1.18; $M_{\phi r}$-4.31; Fault plane solution: M_o6.27000×10^{17} NP1:ϕ_s320.94000°, δ67.97000°, λ-68.32000°. NP2:ϕ_s94.27000°, δ30.53000°, λ-132.40000°. Principal axes: T 5.1937, Plg20.0000°, Azm35.0000°; N 1.7727, Plg20.0000°, Azm132.0000°; P -6.9664, Plg61.0000°, Azm264.0000°;*
*GCMT **30** 12:11:36.7±0.1, 6.94S±0.01×117.48E±0.01, h547km, MW5.8/150, Moment Tensor Solution. s150,c300; Duration: 1§8 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.64±.05; $M_{\theta\theta}$3.79±.08; $M_{\phi\phi}$-0.14±.09; $M_{r\theta}$1.42±.09; $M_{\theta\phi}$-0.77±.08; $M_{\phi r}$-3.85±.08; Best double couple: M_o5.43800×10^{17} NP1:ϕ_s80.00000°, δ34.00000°, λ-139.00000°. NP2:ϕ_s315.00000°, δ69.00000°, λ-63.00000°. Principal axes: T 4.6930, Plg19.0000°, Azm25.0000°; N 1.4920, Plg25.0000°, Azm124.0000°; P -6.1840, Plg58.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*NEIC **30** 12:11:37, 7.08S×117.50E, h560km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.38; $M_{\theta\theta}$3.68; $M_{\phi\phi}$-0.30; $M_{r\theta}$1.15; $M_{\theta\phi}$-0.99; $M_{\phi r}$-3.40; Fault plane solution: M_o5.13000×10^{17} NP1:ϕ_s80.00000°, δ36.00000°, λ-139.00000°. NP2:ϕ_s315.00000°, δ67.00000°, λ-61.00000°. Principal axes: T 4.5050, Plg17.0000°, Azm24.0000°; N 1.0825, Plg27.0000°, Azm123.0000°; P -5.5874, Plg58.0000°, Azm265.0000°;*
*KLM **30** 12:11:37.0, 6.92S×117.55E, h559km, mb6.0*
*NEIC **30** 12:11:38, 6.95S×117.65E, h554km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.75; $M_{\theta\theta}$4.01; $M_{\phi\phi}$-0.26; $M_{r\theta}$1.41; $M_{\theta\phi}$-1.08; $M_{\phi r}$-3.96; Fault plane solution: M_o5.83000×10^{17} NP1:ϕ_s81.00000°, δ35.00000°, λ-140.00000°. NP2:ϕ_s316.00000°, δ68.00000°, λ-62.00000°. Principal axes: T 5.0637, Plg19.0000°, Azm26.0000°; N 1.3035, Plg26.0000°, Azm125.0000°; P -6.3672, Plg57.0000°, Azm264.0000°;*

ISC 30 12:11:36.2±0.2, **6.96S**±0.02×**117.52E**±0.03, **h549**km±2km, **h551**km:**pP-P, n1210, σ1§54/1430, mb5.6/159, 38C-59D, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.87**	**172**	P	**P**	**12 12 43.2**	**-2.1**
PLAI				S	**S**	**12 13 35.4**	**-6.1**
TWSI	**Taliwang, Sumb**	**1.87**	**200**	P	**P**	**12 12 43.6**	**-1.7**
TWSI				S	**S**	**12 13 35.6**	**-5.9**
DNP	**Denpasar**	**2.85**	**233**	P	**P**	**12 12 49.4**	**-0.9**
DNP				S	**S**	**12 13 45.7**	**-4.8**
KAPI	**Kappang**	**2.95**	**49**	P	**P**	**12 12 50.8**	**-0.2**
	671nm,0.3s,baz=238,slow=3.3,SNR=1563						
BKSI	**Bulukumba**	**3.06**	**58**	P	**P**	**12 12 51.8**	**+0.2**
BKSI				S	**S**	**12 13 52.6**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.07**	**75**	P	**P**	**12 12 50.8**	**-0.9**
BSSI				S	**S**	**12 13 52.9**	**-0.1**
WBSI	**Waikabubak, Su**	**3.24**	**145**	P	**P**	**12 12 51.2**	**-1.6**
WBSI				S	**S**	**12 13 49.6**	**-5.6**
ABJI	**Asem Bagus**	**3.36**	**256**	P	**P**	**12 12 53.6**	**+0.1**
KMMI	**Kalianget**	**3.52**	**268**	P	**P**	**12 12 56.0**	**+1.4**
BNSI	**Bone**	**3.62**	**46**	P	**P**	**12 12 56.3**	**+0.9**
BNSI				S	**S**	**12 14 01.7**	**+2.0**
JAGI	**Jajag, Banyuwa**	**3.65**	**246**	P	**P**	**12 12 53.6**	**-2.0**
JAGI	**Jajag, Banyuwa**	**3.65**	**246**		**P**	**12 12 53.3**	**-2.2**
SPSI	**Sidrap Palu**	**3.73**	**37**	P	**P**	**12 12 56.5**	**+0.4**
SPSI				S	**S**	**12 14 00.5**	**-0.6**
WSI	**Waingapu**	**3.85**	**135**	P	**P**	**12 12 55.5**	**-1.4**
KBKI	**Kotabaru**	**3.88**	**340**	P	**P**	**12 12 58.1**	**+0.9**
KBKI				S	**S**	**12 14 05.2**	**+2.1**
BLJI	**Banyuglugur**

GTOI Gorontalo 9.33 36 P P 12 13 48.1 +0.7
63µm4µm,1.4s
31µm3µm,0.8s
CISI Cisompet, Garu 9.64 266 P P 12 13 49.6 -1.0
6µm93µm6µm,0.9s
SANI Sanana 9.75 60 P P 12 13 51.8 +0.1
6µm49µm6µm,1.1s
LEM Lembang 9.83 270 P P 12 13 53.6 +0.9
477nm,0.3s,baz=61,slow=7.0,SNR=390
LEM Lembang 9.83 270 P P 12 13 53.3 +0.6
4µm33µm4µm,0.7s
KMSI Cibinong 9.88 41 P P 12 13 53.9 +0.8
865nm28µm3µm,0.7s
NLAI Namlea 10.24 69 P P 12 13 57.7 +1.0
258µm137µm15µm,0.8s
CNJI Cibinong 10.31 267 P P 12 13 56.1 -1.3
174µm21µm,0.8s
CBJI Citeko 10.61 272 P P 12 14 00.2 -0.3
122µm14µm,0.9s
TPI Tanjungpandan 10.68 293 P P 12 14 02.2 +1.0
14µm1µm,1.1s
DBJI Dramaga 10.70 272 P P 12 14 01.8 +0.3
62µm5µm,1.2s
SBUM Sibu 10.74 330 P P 12 14 04.3 +2.4
SBUM Sibu 10.74 330 P P 12 14 04.0 +2.1
TNG Tangerang 10.83 274 P P 12 14 02.7 -0.1
28µm3µm,1.5s
TNG P P 12 14 02.7 -0.1
42µm4µm,1.5s
SKJI Sukabumi 10.88 269 P P 12 14 02.4 -0.9
14µm156µm19µm,0.6s
KSM Kuching 11.04 319 P P 12 14 07.0 +2.0
AAI Ambon 11.12 74 P P 12 14 04.3 -1.5
5µm42µm5µm,0.9s
SPMM Sapulut 11.64 355 P P 12 14 13.0 +1.8
CGJI Cibinong 11.75 271 P P 12 14 10.3 -1.9
75µm4µm,0.6s
MSAI Masohi 11.92 73 P P 12 14 12.6 -1.5
2µm251nm,1.0s
XMIS Christmas Isla 12.24 253 P P 12 14 16.9 -0.5
BLSI Bandar Lampung 12.30 277 P P 12 14 17.5 -0.5
7µm697nm,0.6s
PPBI Pangkal Pinang 12.30 292 P P 12 14 19.3 +1.3
3µm14µm1µm,1.5s
TNTI Ternate 12.48 52 P P 12 14 19.6 -0.2
6µm22µm2µm,1.4s
TNTI Ternate 12.48 52 P P 12 14 19.6 -0.2
BNDI Bandanaira 12.56 80 P P 12 14 20.4 -0.3
6µm57µm5µm,1.2s
KLSI 12.92 279 P P 12 14 22.4 -2.0
1µm98nm,1.1s
SGSI Sangihe 13.26 37 P P 12 14 27.6 -0.3
12µm1µm,0.7s
PMBI Palembang 13.31 287 P P 12 14 29.8 +1.3
3µm23µm2µm,1.1s
PMBI Palembang 13.31 287 P P 12 14 29.4 +0.9
MDSI Maura Dua 13.50 280 P P 12 14 29.5 -0.9
4µm499nm,0.7s
LWLI Liwa 13.52 277 P P 12 14 29.9 -0.9
14µm1µm,0.7s
FITZ Fitzroy Crossi 13.61 145 P P 12 14 30.5 -0.9
43nm,0.3s,baz=332,slow=8.4,SNR=1664
FITZ S S 12 16 52.5 -3.2
7.6nm,0.3s,baz=81,slow=23,SNR=21
FITZ ScS ScS 12 25 30.7 -1.4
0.4nm,0.3s,baz=143,slow=18,SNR=1.3
FITZ Fitzroy Crossi 13.61 145 P P 12 14 30.5 -0.9
baz=14,SNR=850
SAUI Saumlaki 13.71 95 P P 12 14 29.8 -2.7
56µm7µm,1.0s
KNRA Kununurra 14.02 129 P P 12 14 34.1 -1.5
baz=14,SNR=584
LHSI Lahat 14.27 282 P P 12 14 38.4 0.0
12µm2µm,0.8s
DSRI Dabo 14.42 296 P P 12 14 42.1 +2.2
3µm6µm363nm,1.3s
MTN Manton Dam 14.63 115 P P 12 14 40.0 -2.0
baz=15,SNR=1000
MTN Manton Dam 14.63 115 P P 12 14 40.0 -2.0
MNAI Manna 14.72 279 P P 12 14 40.4 -2.6
24µm2µm,0.4s
SIJI Sorong 14.99 67 P P 12 14 43.9 -1.9
85nm,0.3s,baz=268,slow=5.9,SNR=262
SIJI ScP ScP 12 21 57.4 +0.2
4.7nm,0.3s,baz=356,slow=3.7,SNR=14
SKMP Bagumbayan, Su 15.12 28 eP P 12 14 47.2 +0.2
FAKI Fak Fak 15.22 75 P P 12 14 44.6 -3.5
3µm17µm2µm,0.8s
KSI Kapahiang 15.22 282 P P 12 14 47.2 -1.0
11µm860nm,0.7s
DDMP Don Marcelino, 15.34 32 eP P 12 14 47.3 -2.1
BATP Bataraza 15.66 1 eP P 12 14 51.8 -0.7
KDU Kakadu 15.79 112 P P 12 14 51.2 -2.6
baz=16,SNR=869
KCP Kidapawan 15.80 29⇑iP P 12 14 54.6 +0.5
KCP Kidapawan 15.80 29⇓eP S 12 17 35.5 -0.4
PAGZ Pagadian 15.83 22 eP P 12 14 55.1 +0.9
GIRL Giralia 15.91 191 P P 12 14 55.0 +0.1
baz=16,SNR=233
GIRL Giralia 15.91 191 P P 12 14 55.0 +0.1
DAV Davao City (W) 16.09 30 P P 12 14 56.5 -0.4
121nm,0.3s,baz=246,slow=0.5,SNR=26
DAV Davao City (W) 16.09 30 P P 12 14 56.8 -0.1
DAV Davao City (W) 16.09 30⇑eP P 12 14 53.4 -3.4
MYKOM Kota Tinggi 16.17 302 P P 12 14 59.0 +1.4
MATI Mati 16.34 32 eP P 12 14 56.3 -2.8
BUKP Musuan 16.55 27 eP P 12 15 01.9 +0.7
KRJI Kerinci 16.71 286 P P 12 15 03.0 +0.3
4µm35µm5µm,0.9s
CGP Cagayan de Oro 16.91 25⇓eP P 12 15 04.9 +0.7
SDSI Sungai Dareh 17.12 290 P P 12 15 07.8 +1.5
19µm1µm,1.0s
CNOP Candoni, Negro 17.44 17 eP P 12 15 10.3 +1.2
TBP Tagbilaran 17.71 21⇓eP P 12 15 13.2 +1.5
BKNI Bangkinang 17.96 293 P P 12 15 15.7 +1.7
7µm31µm4µm,1.1s
CUYO Cuyo Island 18.04 11 eP P 12 15 16.3 +1.7
ENPP El Nido 18.15 6 eP P 12 15 17.0 +1.4
GUIM Jordan 18.19 16 eP P 12 15 17.2 +1.2
LLP Lapu-Lapu 18.33 21⇑eP P 12 15 17.0 -0.3
LLP eS S 12 18 16.4 -0.7
MSLP Maasin 18.49 23 eP P 12 15 19.1 +0.3
GLSP General Luna, 18.72 27 eP P 12 15 19.4 -1.5
BUSP Coron 19.03 8 eP P 12 15 25.1 +1.5
SISI Saibi 19.20 286 P P 12 15 22.9 -2.4
4µm282nm,0.7s
OCLP Ormoc 19.24 22 eP P 12 15 26.4 +0.8
BAKI Biak 19.40 74 P P 12 15 27.2 +0.1
20µm2µm,0.9s
MNSI Mandailing Nat 19.48 293 P P 12 15 28.7 +0.8
4µm525nm,1.0s
MEEK Meekatharra 19.59 177 P P 12 15 28.6 -0.1
baz=20,SNR=335
SJMP San Jose 19.63 11 eP P 12 15 30.5 +1.4
OTRP Odiongan 19.71 13 eP P 12 15 31.5 +1.6
IPM Ipoh 20.00 304 P P 12 15 33.6 +1.0
IPM IAmb IAmb 12 15 36.1
comp=Z,448nm,1.0s
BESP Borongan 20.05 23 eP P 12 15 33.3 +0.3
PBSI Pulau Batu 20.38 289 P P 12 15 35.4 -0.6
comp=Z,6µmcomp=Z,481nm,0.9s
CNP Catarman 20.61 20 eP P 12 15 38.1 +0.1
PGP Puerto Galera 20.62 10⇑eP P 12 15 39.2 +1.1
WRKA Warakurna 20.72 151 P P 12 15 39.0 0.0
baz=21,SNR=1000
BOAC Boac 20.74 12 eP P 12 15 40.8 +1.7
WB0 Warramunga Arr 20.75 129 P P 12 15 38.7 -0.6
WB0 IAmb IAmb 12 15 39.9
comp=Z,192nm,0.8s
WRA Warramunga Arr 20.81 130 P P 12 15 39.4 -0.4
comp=Z,358nm,0.6s,baz=311,slow=9.8,SNR=2336
WRA S S 12 18 54.0 -2.8
comp=Z,60nm,0.8s,baz=292,slow=16,SNR=5.2
WRA ScP ScP 12 22 09.7 0.0
comp=Z,35nm,0.6s,baz=308,slow=2.1,SNR=6.2
WRA PKiKP PKiKP 12 27 11.2 -0.7
comp=Z,1.3nm,0.4s,baz=304,slow=1.1,SNR=6.2
WRA P3KPbc 12 49 14.5
comp=Z,0.2nm,0.5s,baz=122,slow=3.3,SNR=4.6
WRA P3KP 12 50 09.7
comp=Z,0.8nm,0.9s,baz=215,slow=2.6,SNR=4.6
WRA Warramunga Arr 20.81 130 P P 12 15 39.4 -0.4
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 20.81 130 IAmb IAmb 12 15 40.6
comp=Z,7.9nm,0.7s
WRAB Tennant Creek 20.81 130 P P 12 15 39.5 -0.3
WRAB pmax pmax
comp=Z,367nm,0.7s
WRAB Tennant Creek 20.81 130 P P 12 15 39.5 -0.3
WB2 Warramunga Arr 20.82 130 P P 12 15 39.6 -0.3
DLV T Lat 20.82 334 P P 12 15 42.1 +2.0
DLV IAmb IAmb 12 15 44.2
comp=Z,251nm,1.5s
RPSI Rantau Prapat 20.89 297 P P 12 15 41.1 +0.5
RPSI IAmb IAmb 12 15 44.0
comp=Z,208nm,0.8s
PSI Prapat 20.94 297 P P 12 15 41.2 0.0
comp=Z,162nm,0.7s,baz=180,slow=5.7,SNR=116
PSI ScP ScP 12 22 10.8 +0.6
comp=Z,30nm,0.9s,baz=179,slow=2.8,SNR=8.2
WR0 Warramunga Arr 20.97 130 P P 12 15 41.2 0.0
COCO West Island 21.04 254 P P 12 15 42.2 +0.3
COCO pmax pmax
comp=Z,354nm,0.9s
COCO West Island 21.04 254 P P 12 15 42.2 +0.3
COCO IAmb IAmb 12 15 47.1
comp=Z,354nm,0.8s
TGY Tagaytay City 21.20 9 P P 12 15 44.2 +0.8
comp=Z,3µm,0.7s,baz=222,slow=3.0,SNR=49
LQP Lukban 21.32 11⇓eP P 12 15 44.8 +0.2
PVCP Virac 21.46 18 eP P 12 15 45.6 0.0
GSI Gunungsitoli 21.53 292 P P 12 15 46.2 -0.1
comp=Z,5µmcomp=Z,222nm,0.7s
JCNP Jose Panganiba 21.73 14 eP P 12 15 47.4 -0.7
POLP Polilio Island 21.99 11 eP P 12 15 51.2 +0.8
MORW Morawa 22.03 183 P P 12 15 50.8 +0.1
baz=22,SNR=102
MORW Morawa 22.03 183 P P 12 15 50.2 -0.5
TPTI 22.70 296 P P 12 15 56.4 -0.4
comp=Z,2µmcomp=Z,121nm,0.7s
AS31 Alice Springs 22.88 138 P P 12 15 57.9 -0.5
AS31 IAmb IAmb 12 15 59.2
comp=Z,87nm,0.3s
ASAR Alice Springs 22.88 138 P P 12 15 58.2 -0.1
comp=Z,127nm,0.3s,baz=316,slow=7.9,SNR=4148
ASAR S S 12 19 26.4 -3.1
comp=Z,233nm,0.8s,baz=303,slow=14,SNR=19
ASAR ScP ScP 12 22 15.2 +0.2
comp=Z,80nm,0.6s,baz=325,slow=2.3,SNR=15
ASAR ScS ScS 12 25 58.9 -3.0
comp=Z,12nm,0.8s,baz=343,slow=4.8,SNR=4.6
ASAR P3KPbc 12 49 16.0
comp=Z,1.1nm,0.8s,baz=128,slow=3.5,SNR=10
ASAR P3KP 12 50 00.9
comp=Z,0.9nm,0.7s,baz=182,slow=1.7,SNR=6.6
ASAR Alice Springs 22.88 138 P P 12 15 57.3 -1.1
BALP Baler 22.91 10 eP P 12 15 59.5 +0.9
GENI Genyem 22.98 80 P P 12 15 59.0 -0.4
comp=Z,9µmcomp=Z,882nm,1.2s
SMPP San Manuel, Pa 23.18 8 eP P 12 16 00.1 -0.9
BOLP Bolinao 23.32 6 eP P 12 16 02.5 +0.3
BCP Baguio City 23.43 7⇓iP P 12 16 03.7 +0.3
JAY Jayapura 23.52 80 P P 12 16 02.7 -1.5
comp=Z,170nm,0.7s,baz=247,slow=8.1,SNR=120
JAY ScP ScP 12 22 16.7 -0.2
comp=Z,26nm,0.8s,baz=240,slow=7.2,SNR=8.0
JAY Jayapura 23.52 80 P P 12 16 02.7 -1.5
comp=Z,2µmcomp=Z,107nm,0.8s
BLDU Balliduq 23.54 182 P P 12 16 03.6 -0.4
baz=24,SNR=197
SRIT Nakonsritamara 23.62 311 P P 12 16 07.4 +2.4
KRAB Krabi 23.69 309 P P 12 16 08.5 +2.9
LHMI Lhok Sumawe 23.83 300 P P 12 16 08.1 +1.2
comp=Z,3µmcomp=Z,5µmcomp=Z,432nm,1.1s
LHMI Lhok Sumawe 23.83 300 P P 12 16 07.5 +0.6
LHMI IAmb IAmb 12 16 09.5
comp=Z,582nm,1.2s
MLSI Meulaboh, Aceh 23.84 297 P P 12 16 07.0 0.0
comp=Z,15µmcomp=Z,2µm,0.8s
CAUP Cauayan 24.13 10 eP P 12 16 09.4 0.0
SURT Suratani 24.46 310 P P 12 16 14.6 +2.2
KLBR Kellerberrin 24.50 180 P P 12 16 12.4 -0.2
baz=25,SNR=66
KMBL Kambalda 24.62 171 P P 12 16 13.4 -0.2
baz=25,SNR=128
MUN Mundaring 24.92 183 P P 12 16 15.9 -0.4
baz=25,SNR=46
QIS Mount Isa 25.31 124 P P 12 16 19.9 -0.1
baz=25,SNR=223
FORT Forrest 25.67 159 P P 12 16 23.2 +0.3
baz=26,SNR=270
FORT Forrest 25.67 159 P P 12 16 22.3 -0.6
PATY Pattaya 25.77 320 P P 12 16 26.0 +2.0
NWAO Narrogin (SRO) 25.84 181 P P 12 16 24.7 +0.3
comp=Z,265nm,0.5s,baz=3.8,slow=8.4,SNR=445
NWAO S S 12 20 14.7 -0.9
comp=Z,56nm,0.8s,baz=284,slow=21,SNR=11
NWAO Narrogin (SRO) 25.84 181 P P 12 16 24.7 +0.3
baz=26,SNR=302
NWAO Narrogin (SRO) 25.84 181 P P 12 16 24.8 +0.3
NWAO Narrogin (SRO) 25.84 181 P P 12 16 24.2 -0.2
NWAO IAmb IAmb 12 16 25.7
comp=Z,578nm,1.1s
SRAK Srakaew 25.89 324 P P 12 16 23.3 -1.7
PHET Kaeng Krachan 26.56 318 P P 12 16 33.0 +2.0
QIZ Qiongzhong 26.91 344 P P 12 16 35.5 +1.5
QIZ sP sP 12 19 06.5 -1.0
QIZ S S 12 20 29.5 -3.2
QIZ ScS ScS 12 26 19.5 +0.7
QIZ pmax pmax
comp=Z,130nm,1.1s
KHON Khomkaen 27.34 328 P P 12 16 39.8 +2.0
CHAI Chaiyaphum 27.43 326 P P 12 16 40.9 +2.3
SRDT SRDT 27.95 319 P P 12 16 45.5 +2.3
H01W3 Cape Leeuwin H 27.96 186 P P 12 16 44.7 +2.0
baz=16,slow=5.9,SNR=8.6
H01W1 Cape Leeuwin H 27.97 186 P P 12 16 44.8 +2.0
baz=16,slow=5.9,SNR=8.8
H01W2 Cape Leeuwin H 27.98 186 P P 12 16 44.8 +2.0
baz=16,slow=5.9,SNR=4.7
MTSU Mount Surprise 28.37 116 P P 12 16 47.4 +0.5
baz=28,SNR=962
NONG Nongkai 28.63 330 P P 12 16 50.8 +1.8
HKPS Hong Kong Po S 29.25 354 P P 12 16 55.0 +0.6
HKPS IAmb IAmb 12 16 57.2
comp=Z,141nm,0.9s
PHIT Phitsanulok 29.35 325 P P 12 16 57.0 +1.7
PMG Port Moresby 29.44 97 P P 12 16 55.7 -0.4
comp=Z,341nm,0.5s,baz=296,slow=3.8,SNR=115
PMG ScP ScP 12 22 34.7 +0.1
comp=Z,36nm,0.6s,baz=34,slow=4.1,SNR=8.4
PMG Port Moresby 29.44 97 P P 12 16 55.5 -0.6
UTTA Uttaradit 29.72 326 P P 12 17 00.2 +1.7
TWG Pinlang 29.80 7 IAmb IAmb 12 17 03.4
comp=Z,106nm,0.6s
SUKH Sukhothai 30.04 324 P P 12 17 03.3 +2.1
TPUB Ta-pu 30.23 6 P P 12 17 03.2 +0.3
TPUB IAmb IAmb 12 17 05.9
comp=Z,186nm,0.7s
YULB Yu-li 30.39 7 P P 12 17 03.3 -1.0
YULB IAmb IAmb 12 17 08.8
comp=Z,222nm,1.0s
SSLB Suanglung 30.75 6 P P 12 17 07.2 -0.1
SSLB IAmb IAmb 12 17 09.9
comp=Z,507nm,1.3s
CTA Charters Tower 30.77 118 P P 12 17 08.1 +0.5
comp=Z,346nm,0.9s,baz=296,slow=11,SNR=315
CTA S S 12 21 32.1 -0.5
comp=Z,28nm,1.0s,baz=183,slow=21,SNR=8.2
CTA ScP ScP 12 22 39.0 +0.1
comp=Z,57nm,0.7s,baz=279,slow=3.9,SNR=11
CTAO Charters Tower 30.77 118 P P 12 17 08.0 +0.5
CTAO pmax pmax
comp=Z,449nm,1.0s
CTAO Charters Tower 30.77 118 P P 12 17 08.0 +0.5
CTAO IAmb IAmb 12 17 09.2
comp=Z,449nm,0.9s
PBA Port Blair 30.81 307 eP P 12 17 06.2 -1.7
PBA eS S 12 21 31.7 -1.6
PBA Port Blair 30.81 307 P P 12 17 08.7 +0.8
SNR=14
BBOO Buckleboo 30.96 149 P P 12 17 09.0 0.0
baz=31,SNR=287
BBOO Buckleboo 30.96 149 P P 12 17 08.5 -0.4
BBOO IAmb IAmb 12 17 10.3
comp=Z,446nm,0.9s
CM04 Chiang Mai Arr 31.14 324 P P 12 17 12.9 +2.2
CM01 Chiang Mai Arr 31.17 324 P P 12 17 12.9 +2.0
CM09 Chiang Mai Arr 31.17 324 P P 12 17 13.1 +2.1
CM02 Chiang Mai Arr 31.18 324 P P 12 17 13.1 +2.0
NACB Ninganchiao 31.20 7 IAmb IAmb 12 17 17.0
comp=Z,120nm,0.6s
CM31 Chiang Mai Arr 31.20 324 P P 12 17 13.2 +2.0
SNR=71
CM31 Chiang Mai Arr 31.20 324 IAmb IAmb 12 17 14.4
comp=Z,230nm,1.4s
CMAR Chiang Mai Arr 31.20 324 P P 12 17 12.9 +1.6
comp=Z,55nm,0.9s,baz=145,slow=6.5,SNR=205
CMAR PcP PcP 12 19 50.9 +1.8
comp=Z,36nm,0.8s,baz=189,slow=2.2,SNR=13
CMAR S S 12 21 37.8 -1.4
comp=Z,3.1nm,0.9s,baz=248,slow=6.2,SNR=4.1
CMAR ScP ScP 12 22 42.3 +1.9
comp=Z,51nm,0.8s,baz=177,slow=3.0,SNR=26
CMAR PKiKP PKiKP 12 27 17.9 -0.1
comp=Z,1.4nm,0.6s,baz=269,slow=1.8,SNR=4.8
CMAR Chiang Mai Arr 31.20 324 P P 12 17 12.3 +1.0
CMAR PcP 12 19 48.9 -0.3
KNMB Chin-men Tao 31.25 2 IAmb IAmb 12 17 13.6
comp=Z,207nm,0.8s
PAYA Payao 31.41 327 P P 12 17 15.1 +2.1
CMMT Chiang Mai 31.48 325 P P 12 17 15.2 +1.5
CHTO Chiang Mai 31.49 325 P P 12 17 15.2 +1.5
CHTO pmax pmax
comp=Z,133nm,0.9s
CHTO Chiang Mai 31.49 325 P P 12 17 15.2 +1.5
CHTO IAmb IAmb 12 17 18.9
comp=Z,133nm,0.9s
DGPR DIGLIPUR 31.57 309 eP P 12 17 15.1 +0.7
DGPR eS S 12 21 43.6 -1.3
MHMT Maesarieng 31.59 323 P P 12 17 16.3 +1.8
YHNB Yeheng 31.66 7 P P 12 17 13.8 -1.3
YOJ Yonaguni jima 31.69 10 P P 12 17 15.8 +0.5
YOJ pmax pmax
comp=Z,156nm,0.8s
YOJ Yonaguni jima 31.69 10 P P 12 17 15.8 +0.5
YOJ IAmb IAmb 12 17 17.4
comp=Z,156nm,0.8s
QZH Quanzhou 31.73 2⇑iP P 12 17 17.0 +1.4
QZH pP pP 12 18 50.8 +3.7
QZH S S 12 21 45.8 -1.2
QZH ScS ScS 12 26 41.5 -0.3
QZH pmax pmax
comp=Z,130nm,0.6s
CRAI Chiangrai 31.85 328 P P 12 17 18.5 +1.8
QLP Quilpie 32.04 131 P P 12 17 17.8 -0.5
baz=32,SNR=27
HTT Hallett 32.97 146 P P 12 17 26.9 +0.8
baz=33,SNR=248
STKA Stephens Creek 33.45 141 P P 12 17 30.8 +0.6
comp=Z,114nm,0.4s,baz=321,slow=8.4,SNR=324
STKA PcP PcP 12 19 55.4 +0.2
comp=Z,22nm,0.4s,baz=339,slow=4.6,SNR=3.7
STKA S S 12 22 12.2 -0.9
comp=Z,35nm,0.7s,baz=72,slow=21,SNR=6.7
STKA Stephens Creek 33.45 141 P P 12 17 30.8 +0.6
baz=34,SNR=201
GUMO Guam 33.98 53 P P 12 17 34.6 -0.2
comp=Z,2µm,0.5s,baz=185,slow=1.9,SNR=216
GUMO S S 12 22 20.1 -1.3
comp=Z,343nm,1.0s,baz=87,slow=19,SNR=14
GUMO Guam 33.98 53 P P 12 17 34.5 -0.2
KRVT Keravat (AS076 34.44 87 P P 12 17 38.2 -0.6
comp=Z,94nm,0.6s
RABL Rabaul 34.59 87 P P 12 17 39.5 -0.5
RABL IAmb IAmb 12 17 55.0
comp=Z,343nm,1.1s
GYA Guiyang 34.85 343 ⇓P P 12 17 43.5 +1.4
GYA PcP PcP 12 20 01.3 +1.7
GYA S S 12 22 35.0 +0.4
GYA ScP ScP 12 22 55.5 +2.3
GYA ScS ScS 12 27 00.8 +2.1
GYA pmax pmax
comp=Z,71nm,0.9s
GYA pmax pmax
comp=Z,450nm,3.5s
KMI Kunming 34.99 336 ⇓P P 12 17 45.8 +2.5
KMI pP PP 12 19 21.8 -4.8
KMI S S 12 22 32.3 -4.5
KMI sS sS 12 25 29.8 +0.7
KMI pmax pmax
comp=Z,130nm,1.3s
KMI pmax pmax
comp=Z,360nm,3.5s
JMZ Minamidaito 2 35.20 22 P P 12 17 44.0 -0.9
RMQ Roma 35.50 127 P P 12 17 48.6 +1.2
baz=36,SNR=89
CMSA Cobar Meteorol 35.92 137 P P 12 17 51.7 +1.0
baz=36,SNR=126
ANA2 Anatahan 36.26 50 P P 12 17 55.3 +1.6
EIDS Eidsvold 36.90 124 P P 12 17 59.4 +0.4
baz=37,SNR=42
EIDS Eidsvold 36.90 124 P P 12 17 58.9 -0.1
ARPS Mount Arapiles 37.05 147 P P 12 18 00.6 +0.7
baz=37,SNR=122
WHN Wuhan 37.41 356 ⇑P P 12 18 04.5 +1.5
WHN S S 12 23 11.5 -0.9
WHN SS SS 12 26 22.0 -8.3
WHN pmax pmax
comp=Z,470nm,0.5s
SAIH SAIHA 37.86 321 eP P 12 18 07.7 +0.7
SAIH eS S 12 23 19.4 -0.2
NJ2 Nanjing 38.82 2⇑iP P 12 18 15.8 +1.5
NJ2 pP pP 12 19 52.8 +3.3
NJ2 PP PP 12 20 02.8 +1.7
NJ2 PcP PcP 12 20 12.0 +0.5
NJ2 ScP ScP 12 23 09.5 +1.7
NJ2 S S 12 23 31.5 -1.5
NJ2 sS sS 12 26 24.0 -4.2
NJ2 SS SS 12 26 43.8 -10
NJ2 ScS ScS 12 27 22.5 +1.6
NJ2 pmax pmax
comp=Z,550nm,0.6s
NJ2 pmax pmax
comp=Z,1µm,3.5s
IMP Imphal 39.06 325 eP P 12 18 16.3 -0.3
IMP eS S 12 23 35.2 -1.8
PALK Pallekele 39.35 290 P P 12 18 18.6 -0.4
comp=Z,46nm,0.8s,baz=208,slow=9.3,SNR=19
PALK PcP PcP 12 20 15.2 +1.5
comp=Z,41nm,0.9s,baz=156,slow=4.4,SNR=4.7
PALK ScP ScP 12 23 12.0 +1.6
comp=Z,26nm,0.7s,baz=192,slow=2.3,SNR=8.5
PALK Pallekele 39.35 290 P P 12 18 19.5 +0.4
PALK Pallekele 39.35 290 P P 12 18 19.1 +0.1
BELO BELONIA 39.38 320 eP P 12 18 20.5 +1.4
BELO eS S 12 23 39.7 -1.8
YNG Young 39.39 138 P P 12 18 20.2 +1.2
baz=39,SNR=40
KOHI KOHIMA 39.66 326 iP P 12 18 21.4 -0.1
KOHI iS S 12 23 43.3 -2.6
TOO Toolangi 39.67 144 P P 12 18 22.8 +1.5
baz=40,SNR=64
TOO Toolangi 39.67 144 P P 12 18 22.9 +1.6
TOO pmax pmax
comp=Z,80nm,0.8s
TOO Toolangi 39.67 144 P P 12 18 22.9 +1.6
CD2 Chengdu 39.90 341 P P 12 18 24.0 +0.8
CD2 pP pP 12 20 01.0 +1.3
CD2 sP sP 12 21 01.8 -0.1
CD2 S S 12 23 47.5 -1.5
CD2 pmax pmax
comp=Z,120nm,3.5s
MOKO MOKOCHONG 39.91 327 iP P 12 18 23.8 +0.3
MOKO iS S 12 23 47.5 -2.0
AGT Agartala 39.97 321 eP P 12 18 26.3 +2.5
AGT eS S 12 23 52.3 +2.2
LKP Lekhapani 40.03 329 iP P 12 18 23.3 -0.9
LKP iS S 12 23 48.6 -2.2
JSU Suzuyama 40.20 17 IAmb IAmb 12 18 27.5
comp=Z,322nm,0.7s
JORH JORHAT 40.39 327 eP P 12 18 26.1 -1.0
JORH eS S 12 23 54.3 -1.8
CAN Canberra 40.39 139 P P 12 18 27.6 +0.5
CAN pmax pmax
comp=Z,155nm,1.2s
CAN Canberra 40.39 139 P P 12 18 27.6 +0.5
CNB Canberra Magne 40.63 138 P P 12 18 29.8 +0.8
baz=41,SNR=19
MGCD Mangrove Creek 40.63 135 P P 12 18 30.9 +1.9
baz=41,SNR=48
SHL Shillong 40.83 323 iP P 12 18 30.7 -0.1
SHL eS S 12 23 59.8 -3.0
SHL Shillong 40.83 323 P P 12 18 31.5 +0.7

SNR=84
SHL Shillong 40.83 323 P P 12 18 31.2 +0.4
SHL pmax pmax
comp=Z,298nm,0.9s
SHL Shillong 40.83 323 P P 12 18 31.2 +0.4
SHL IAmb IAmb 12 18 33.0
comp=Z,298nm,0.9s
RIV Riverview 41.00 135 P P 12 18 33.6 +1.7
baz=41,SNR=6.3
TEZP TEZPUR 41.09 325 *i* P **P 12 18 31.3 -1.4**
TEZP *i* S **S 12 24 03.2 -3.1**
ZIRO ZIRO 41.23 327 *i* P **P 12 18 33.3 -0.7**
ZIRO *i* S **S 12 24 05.7 -3.0**
GUWA GUWAHATI 41.41 324 *eP* **P 12 18 35.0 -0.2**
GUWA *eS* **S 12 24 08.4 -2.5**
JCJ Chichijima 41.44 34 P P 12 18 34.1 -1.4
XAN Xi'an 41.58 349 P P 12 18 36.8 +0.3
XAN sP sP 12 21 17.8 +2.0
XAN S **S 12 24 11.0 -2.3**
XAN pmax pmax
comp=Z,520nm,0.7s
XAN pmax pmax
comp=Z,930nm,4.5s
XAN Xi'an 41.58 349 IAmb IAmb 12 18 38.7
comp=Z,331nm,0.8s
CHLP Challavanipeta 41.59 308 *eP* **P 12 18 37.8 +1.0**
CHLP IVmB_BB 12 18 39.4
comp=Z,3μm,0.5s
JNU Nakatsue 41.84 17 P P 12 18 38.5 -0.1
comp=Z,237nm,0.8s,baz=231,slow=1.8,SNR=108
JNU Nakatsue 41.84 17 IAmb IAmb 12 18 40.4
comp=Z,223nm,0.8s
HNR Honiara 42.05 96 P P 12 18 40.6 +0.1
comp=Z,2μm,0.9s,baz=217,slow=2.7,SNR=57
HNR PP **PP 12 20 30.2 -1.3**
comp=Z,202nm,0.9s,baz=162,slow=8.2,SNR=3.7
HNR Honiara 42.05 96 P P 12 18 40.8 +0.3
HNR pmax pmax
comp=Z,2μm,0.9s
HNR Honiara 42.05 96 P P 12 18 40.8 +0.3
JTU Tsushima 42.77 15 IAmb IAmb 12 18 47.9
comp=Z,236nm,0.7s
SKHT Srikalahasti 42.80 299 *eP* **P 12 18 46.7 +0.4**
SKHT IVmB_BB 12 18 48.2
comp=Z,1μm,0.9s
PVM Polavaram 42.86 305 *eP* **P 12 18 47.4 +0.6**
PVM IVmB_BB 12 18 48.8
comp=Z,1μm,0.8s
PATS Pohnpei 42.95 72 P P 12 18 48.2 +0.7
baz=43,SNR=14
PATS Pohnpei 42.95 72 P P 12 18 48.0 +0.5
PATS IAmb IAmb 12 18 49.3
comp=Z,577nm,1.2s
TIA Tai'an 42.95 360 P P 12 18 47.0 -0.1
TIA pmax pmax
comp=Z,21nm,0.6s
TRD Trivandrum 43.25 290 *eP* **P 12 18 50.4 +0.5**
TRD IAmb IAmb 12 18 51.6
comp=Z,560nm,0.0s
JMN Monobe 43.34 20 IAmb IAmb 12 18 52.7
comp=Z,202nm,0.6s
MYLAV Mylavaram 43.42 303 *eP* **P 12 18 51.8 +0.7**
MYLAV IVmB_BB 12 18 53.3
comp=Z,1μm,0.6s
BOK Bokaro 43.45 316 *eP* **P 12 18 50.9 -0.4**
BOK IAmb IAmb 12 18 55.5
comp=Z,112nm,1.0s
BOK *eS* **S 12 24 39.1 -1.2**
ADKI Addanki 43.54 302 *eP* **P 12 18 52.7 +0.6**
ADKI IVmB_BB 12 18 54.1
comp=Z,2μm,0.7s
MOO Moorlands 43.99 148 P P 12 18 57.0 +1.8
baz=44,SNR=8.9
TJN Taejon 44.09 11 *c iP* **P 12 18 56.2 +0.2**
JHS Saijyo 44.26 18 P P 12 18 57.9 +0.6
GGR Gangavaram 44.32 304 *eP* **P 12 18 58.3 +0.1**
GGR IVmB_BB 12 18 59.8
comp=Z,2μm,0.6s
TAU Tasmania Unive 44.39 149 P P 12 19 00.0 +1.8
TAU pmax pmax
comp=Z,183nm,1.4s
TAU Tasmania Unive 44.39 149 P P 12 18 60.0 +1.8
LSA Lhasa 44.40 326 P P 12 19 00.5 +1.4
LSA S **S 12 24 49.3 -5.1**
LSA pmax pmax
comp=Z,810nm,1.3s
LSA Lhasa 44.40 326 P P 12 19 00.5 +1.4
LSA Lhasa 44.40 326 IAmb IAmb 12 19 01.9
comp=Z,286nm,1.2s
NJS Nagarjunasagar 44.44 302 *eP* **P 12 18 59.0 -0.1**
NJS IVmB_BB 12 19 00.5
comp=Z,2μm,0.6s
ODAN Odare 44.53 320 *eP* **P 12 19 00.5 +0.7**
comp=Z,427nm,0.5s
ODAN Odare 44.53 320 *eP* **P 12 19 00.6 +0.7**
comp=Z,434nm,0.5s
SRLM Srisailam 44.57 301 *eP* **P 12 19 00.1 0.0**
SRLM IVmB_BB 12 19 00.6
comp=Z,1μm,2.6s
H08S2 Diego Garcia H 44.65 266 P P 12 19 01.7 +1.3
baz=52,slow=8.4,SNR=33
H08S3 Diego Garcia H 44.66 266 P P 12 19 01.6 +1.1
baz=52,slow=8.4,SNR=220
H08S1 Diego Garcia H 44.67 266 P P 12 19 01.7 +1.2
baz=52,slow=8.4,SNR=27
TAPN Taplejung 44.67 321 *eP* **P 12 19 02.1 +1.1**
comp=Z,668nm,0.6s
TAPN Taplejung 44.67 321 *eP* **P 12 19 02.1 +1.1**
comp=Z,663nm,0.6s
TIY Taiyuan 44.70 354 *eP* **P 12 19 01.3 +0.6**
TIY pP **pP 12 20 42.0 +1.8**
TIY PP **PP 12 20 52.5 -2.9**
TIY S **S 12 24 55.8 -1.8**
TIY sS **ScS 12 27 56.5 -1.0**
TIY pmax pmax
comp=Z,150nm,0.6s
DGAR Diego Garcia 44.70 267 P P 12 19 02.2 +1.1
DGAR Diego Garcia 44.70 267 P P 12 19 02.1 +1.1
DGAR pmax pmax
comp=Z,841nm,0.6s
DGAR Diego Garcia 44.70 267 P P 12 19 02.1 +1.1
LZH Lanzhou 44.71 344 ‖P **P 12 19 02.5 +1.5**
LZH PP **PP 12 20 53.5 -2.1**
LZH sP sP 12 21 40.0 -1.7
LZH S **S 12 24 57.3 -0.7**
LZH sS ScS 12 27 57.5 -0.4
LZH SS **SS 12 28 27.8 -2.4**
LZH pmax pmax
comp=Z,180nm,1.3s
LZH pmax pmax
comp=Z,390nm,5.4s
INCN Inchon 45.03 10 P P 12 19 03.7 +0.5
INCN pmax pmax
comp=Z,61nm,0.7s
INCN Inchon 45.03 10 P P 12 19 03.7 +0.5
RAMN Ramite 45.09 320 *eP* **P 12 19 04.9 +0.7**
comp=Z,660nm,0.6s
RAMN Ramite 45.09 320 *eP* **P 12 19 05.1 +0.9**
comp=Z,660nm,0.6s
CUPL Choutuppal 45.12 303 *eP* **P 12 19 04.0 -0.2**
CUPL IVmB_BB 12 19 05.6
comp=Z,2μm,0.5s
JHJ Hachijo jima 2 45.13 27 P P 12 19 03.2 -0.9
comp=Z,252nm,0.7s,baz=120,slow=5.8,SNR=7.1
JHJ2 Mitsune 45.14 27 IAmb IAmb 12 19 04.2
comp=Z,304nm,0.8s
KSAR Wonju Array Be 45.22 12 P P 12 19 04.6 0.0
KSAR Wonju Array Be 45.22 12 P P 12 19 04.6 0.0
KSRS Korea Array 45.24 12 P P 12 19 05.6 +0.8
comp=Z,177nm,0.8s,baz=190,slow=7.8,SNR=288
KSRS PcP **PcP 12 20 33.4 +0.3**
comp=Z,18nm,0.8s,baz=192,slow=7.2,SNR=4.2
KSRS ScP **ScP 12 23 35.7 +2.1**
comp=Z,6.1nm,0.7s,baz=182,slow=3.9,SNR=6.3
JWT Wachi 45.28 21 P P 12 19 05.0 -0.1
JWT IAmb IAmb 12 19 08.1
comp=Z,460nm,1.7s
KS19 Wonju Array Si 45.28 12 IAmb IAmb 12 19 08.3
comp=Z,323nm,1.2s
HJU Haeju 45.42 9 P P 12 19 07.3 +1.1
HYB Hyderabad 45.48 303 *i* P **P 12 19 06.0 -1.1**
comp=Z,286nm,0.8s
HYB *e* 12 19 29.0
HYB *epP* **pP 12 20 46.0 -1.0**
HYB *esP* **sP 12 21 48.0 -0.1**
HYB *eScP* **ScP 12 23 34.0 -1.2**
HYB *eS* **S 12 25 08.0 -1.2**
HYB *eScS* **ScS 12 28 00.0 -3.4**
HYBB Hyderabad (bro 45.48 303 *eP* **P 12 19 06.8 -0.2**
HYBB IVmBBB 12 19 08.7
comp=Z,1μm,0.6s
RPR Rampur 45.58 305 *eP* **P 12 19 07.9 +0.2**
RPR IVmB_BB 12 19 09.4
comp=Z,2μm,0.7s
DL2 Dalian 45.79 4 P P **12 19 09.0 0.0**
DL2 ScP **ScP 12 23 40.3 +4.4**
DL2 S **S 12 25 10.0 -2.7**
DL2 ScS **ScS 12 28 05.0 +0.6**
DL2 pmax pmax
comp=Z,310nm,0.8s
DL2 pmax pmax
comp=Z,260nm,4.7s
LHI Lord Howe Isla 45.80 128 P P **12 19 10.6 +1.4**
baz=46,SNR=5.5
LHI Lord Howe Isla 45.80 128 P P **12 19 10.4 +1.1**
GUN Gumba 46.22 320 *eP* **P 12 19 13.7 +0.8**
comp=Z,1μm,0.7s
GUN Gumba 46.22 320 *eP* **P 12 19 13.7 +0.8**
comp=Z,1μm,0.7s
PKI Pulchoki 46.29 319 *eP* **P 12 19 13.7 +0.3**
comp=Z,701nm,0.7s
PKI Pulchoki 46.29 319 *eP* **P 12 19 13.7 +0.3**
comp=Z,701nm,0.7s
PKIN Phulchoki 46.30 319 *eP* **P 12 19 13.7 +0.3**
comp=Z,707nm,0.7s
PKIN Phulchoki 46.30 319 *eP* **P 12 19 13.6 +0.2**
comp=Z,707nm,0.7s
PYAG Pyongyang 46.41 9 P P **12 19 14.5 +0.8**
PYAG pP **pwP 12 21 02.0 +5.4**
PYAG S **S 12 25 21.0 -0.3**
DMN Daman 46.51 319 *eP* **P 12 19 15.5 +0.5**
comp=Z,1μm,0.9s
KKN Kakani 46.52 319 *eP* **P 12 19 15.5 +0.4**
comp=Z,291nm,0.7s
KKN Kakani 46.52 319 *eP* **P 12 19 15.4 +0.4**
comp=Z,318nm,0.7s
PYS Pyongsong 46.62 9 P P **12 19 16.1 +0.8**
BJT Baijiatuau 46.76 359 IAmb IAmb 12 19 18.6
comp=Z,127nm,0.7s
BJI Beijing 46.78 359 P P **12 19 17.0 +0.6**
BJI PcP **PcP 12 20 40.0 +1.5**
BJI ScP **ScP 12 23 42.8 +2.8**
BJI S **S 12 25 24.3 -2.1**
BJI ScS **ScS 12 28 11.8 +0.9**
BJI SS **SS 12 29 07.0 +4.4**
BJI pmax pmax
comp=Z,44nm,0.5s
BJI pmax pmax
comp=Z,380nm,3.8s
NGP Nagpur 46.97 307 *i* P P **12 19 18.0 -0.3**
NGP *i* x x 12 25 26.2
GKN Gorkha 47.08 319 *eP* **P 12 19 19.6 +0.4**
comp=Z,895nm,0.7s
GKN Gorkha 47.08 319 *eP* **P 12 19 19.6 +0.4**
comp=Z,895nm,0.7s
SUJ Sinuiju 47.27 7 P P **12 19 19.8 -0.3**
SUJ pP **PcP 12 20 40.8 +0.5**
SUJ sP **ScP 12 23 39.7 -2.4**
SUJ S **S 12 25 27.5 -5.7**
MAJO Matsushiro 47.43 23 P P **12 19 20.5 -0.9**
MAJO pmax pmax
comp=Z,121nm,1.0s
MAJO Matsushiro 47.43 23 P P **12 19 20.5 -0.9**
MAT Matsushiro 47.43 23 P P **12 19 20.4 -1.0**
MAT S **S 12 25 33.5 -2.1**
MJAR Matsushiro Arr 47.43 23 P P **12 19 20.5 -0.9**
comp=Z,174nm,0.8s,baz=194,slow=7.4,SNR=235
MJAR PcP **PcP 12 20 42.4 +1.3**
comp=Z,12nm,1.0s,baz=278,slow=3.0,SNR=2.7
MJAR ScP **ScP 12 23 43.8 +0.9**
comp=Z,4.2nm,0.7s,baz=194,slow=5.4,SNR=2.2
MJAR Matsushiro Arr 47.43 23 P P **12 19 20.3 -1.2**
KLRI Killari 47.43 302 *eP* **P 12 19 21.4 -0.5**
KLRI IVmBBB 12 19 23.4
comp=Z,1μm,0.6s
AIS Amsterdam Isla 47.44 224 P P **12 19 24.7 +3.2**
AIS IAmb IAmb 12 19 24.9
comp=Z,460nm,0.9s
HHU Hamhung 47.56 10 P P **12 19 22.6 +0.3**
HHU S **S 12 25 33.4 -3.8**
KOLN Koldanda 47.61 318 *eP* **P 12 19 23.6 +0.4**
comp=Z,967nm,0.8s
KOLN Koldanda 47.61 318 *eP* **P 12 19 23.6 +0.4**
comp=Z,967nm,0.8s
BTO Baotou 47.83 352 *eP* **P 12 19 24.5 0.0**
DANN Dangsing 47.89 319 *eP* **P 12 19 25.8 +0.4**
comp=Z,1μm,0.6s
DANN Dangsing 47.89 319 *eP* **P 12 19 25.8 +0.4**
comp=Z,1μm,0.6s
HHC Hu-ho-hao-te 47.89 354 *eP* **P 12 19 26.0 +1.1**
HHC pP pP 12 21 07.8 +1.4
HHC S **S 12 25 42.0 0.0**
HHC ScS **ScS 12 28 18.8 +0.1**
HHC sS sS 12 28 42.5 -2.8
HHC pmax pmax
comp=Z,75nm,1.1s
HHC pmax pmax
comp=Z,400nm,4.2s
PYUN Piuthan 48.23 318 *eP* **P 12 19 28.2 +0.4**
comp=Z,658nm,0.6s
PYUN Piuthan 48.23 318 *eP* **P 12 19 28.2 +0.4**
comp=Z,658nm,0.6s
GOA Goa 48.69 298 *eP* **P 12 19 31.9 +0.8**
GOA IAmb IAmb 12 19 33.6
comp=Z,426nm,0.6s
GOA *eS* **S 12 25 51.7 -1.8**
GTA Gaotai 48.97 342 ‖P **P 12 19 34.5 +1.5**
GTA PcP **PcP 12 20 48.8 +2.1**
GTA pP pP 12 21 19.8 +4.7
GTA ScP **ScP 12 23 51.5 +1.9**
GTA S **S 12 25 57.3 +0.5**
GTA ScS **ScS 12 28 26.0 -0.1**
GTA pmax pmax
comp=Z,140nm,1.2s
GTA pmax pmax
comp=Z,510nm,4.2s
KAD Karad 49.14 300 ⇓ *iP* **P 12 19 34.2 -0.3**
BHPL Bhopal 49.36 309 *eP* **P 12 19 35.5 -0.6**
BHPL IAmb IAmb 12 19 37.4
comp=Z,309nm,0.8s
BHPL *eS* **S 12 25 59.6 -2.9**
DZM Mont Dzumac 49.46 113 P P **12 19 37.9 +1.0**
comp=Z,39nm,0.6s,baz=247,slow=12,SNR=56
DZM ScP **ScP 12 23 52.7 +0.6**
comp=Z,11nm,0.7s,baz=310,slow=4.4,SNR=3.5
DZM Mont Dzumac 49.46 113 *eP* **P 12 19 37.0 +0.1**
comp=Z,170nm,1.2s
DZM *eS* **S 12 26 03.4 -0.7**
comp=Z,144nm,1.4s
CHJN Chongjin 49.81 12 P P **12 19 40.7 +1.8**
POO Poona 49.96 301 ⇑ *iP* **P 12 19 37.5 -3.1**
POO *eP* P 12 19 40.3 -0.2
CN2 Changchun 51.03 7 ⇓ *iP* **P 12 19 48.0 +0.2**
CN2 *ePcP* **PcP 12 20 55.3 +1.2**
CN2 *eS* **S 12 26 20.8 -3.6**
CN2 ScS **ScS 12 28 40.0 +0.1**
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 pmax pmax
comp=Z,140nm,3.0s
VLA Vladivostok 51.53 13 *c iP* **P 12 19 51.9 +0.5**
VLA pmax pmax
comp=Z,166nm,1.0s
JTM Tenmabayashi 52.22 23 IAmb IAmb 12 19 57.4
comp=Z,241nm,1.2s
MDJ Mudanjiang 52.48 11 P P **12 19 59.0 +0.7**
MDJ PcS **PcS 12 25 02.3 +3.4**
MDJ S **S 12 26 43.5 -0.2**
MDJ ScS **ScS 12 28 50.0 -0.1**
MDJ pmax pmax
comp=Z,470nm,0.7s
MDJ pmax pmax
comp=Z,990nm,3.0s
MDJ Mudanjiang 52.48 11 IAmb IAmb 12 20 00.7
comp=Z,311nm,0.8s
USA0B Ussuriysk Arra 52.58 13 *c iP* **P 12 19 59.1 +0.2**
USA0B Ussuriysk Arra 52.58 13 IAmb IAmb 12 20 01.4
comp=Z,218nm,0.8s
USRK Ussuriysk Ar. 52.58 13 P P **12 19 59.4 +0.5**
comp=Z,156nm,0.6s,baz=189,slow=5.9,SNR=300
ERM Erimo 54.08 23 *i* P **P 12 20 07.9 -1.7**
ERM pmax pmax
comp=Z,38nm,0.9s
TEY Ternei 54.53 17 ⇑ *iP* **P 12 20 13.1 +0.4**
TEY *e* 12 27 11.3
TEY pmax pmax
comp=N,50nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=E,40nm,0.8s
TEY pmax pmax
comp=Z,300nm,1.7s
TEY pmax pmax
comp=Z,30nm,1.0s
TEY pmax pmax
comp=N,20nm,1.6s
BHK Bhakra 54.75 317 *eP* **P 12 20 13.2 -1.4**
DHRM DHARAMSHALA 55.33 317 *eP* **P 12 20 18.4 -0.6**
DHRM *eS* **S 12 27 19.2 -2.9**
H11N1 WAKE ISLAND Hy 55.35 60 P P **12 20 19.9 +1.2**
baz=352,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 55.36 60 P P **12 20 19.9 +1.1**
baz=352,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 55.37 60 P P **12 20 19.9 +1.1**
baz=352,slow=76,SNR=12
ULN Ulaanbaatar 55.37 351 P P **12 20 19.4 +0.6**
ULN pmax pmax
comp=Z,73nm,0.6s
ULN Ulaanbaatar 55.37 351 P P **12 20 19.4 +0.6**
SONM Songino Array 55.44 351 P P **12 20 19.9 +0.7**
comp=Z,119nm,0.5s,baz=169,slow=8.0,SNR=458
SONM PcP **PcP 12 21 12.0 +0.8**
comp=Z,13nm,0.4s,baz=170,slow=4.4,SNR=4.4
SONM pP **pP 12 22 06.6 +1.5**
comp=Z,19nm,0.9s,baz=171,slow=7.2,SNR=3.5
SONM PKPPKP **P'P'df 12 50 05.7 -6.4**
comp=Z,1.7nm,0.7s,baz=177,slow=3.0,SNR=3.5
ASAJ Asahikawa 55.66 22 P P **12 20 20.9 +0.2**
comp=Z,86nm,0.6s,baz=239,slow=7.9,SNR=96
THN Thein Dam 55.84 317 ⇓ *iP* P 12 20 27.0 +4.9
THN *eS* **S 12 27 25.0 -3.1**
YUK Yuzh-Kuril'sk 56.86 24 *c iP* **P 12 20 29.2 +0.3**
YUK *e* 12 21 15.5
YUK *e*PP* **pP 12 22 13.2 -2.4**
YUK *i* 12 22 43.4
YUK *eS* **S 12 27 35.1 -5.7**
YUK *e* 12 29 19.6
YUK *eSS* **SS 12 31 46.3 +5.2**
YUK pmax pmax
comp=Z,324nm,1.3s
YUK pmax pmax
comp=N,179nm,0.9s
YUK pmax pmax
comp=E,137nm,0.7s
YUK pmax pmax
comp=Z,358nm,2.1s
WMQ Urumqi 57.30 335 P P **12 20 33.3 +1.3**
WMQ PcP **PcP 12 21 20.3 +1.8**
WMQ pP pP 12 22 21.8 +2.8
WMQ S **S 12 27 47.5 +0.9**
WMQ ScS **ScS 12 29 24.5 -0.7**
WMQ sS sS 12 30 57.0 -1.2
WMQ pmax pmax
comp=Z,84nm,0.9s
WMQ pmax pmax
comp=Z,410nm,4.1s
KLR Kul'dur 57.33 11 P P **12 20 32.0 +0.1**
comp=Z,77nm,0.5s,baz=195,slow=5.5,SNR=316
YSS Yuzh-Sakhalins 58.17 20 ⇑ *iP* **P 12 20 38.0 +0.3**
YSS *eS* **S 12 27 53.0 -4.4**
YSS *e* 12 29 30.0
YSS pmax pmax
comp=Z,20nm,0.6s
YSS pmax pmax
comp=Z,500nm,3.5s
YSS smax smax
comp=N,800nm,6.7s
ZAK Zakamensk 58.43 349 *eP* **P 12 20 39.2 -0.4**
ZAK *e* 12 21 21.0
ZAK *e* 12 22 25.7
ZAK pmax pmax
comp=Z,39nm,1.3s
ZAK pmax pmax
comp=Z,34nm,1.1s
ZAK pmax pmax
comp=Z,23nm,1.7s
CIT Chita 58.85 357 *eP* **P 12 20 43.6 +1.3**
CIT *e* 12 21 25.8
CIT *e* 12 22 30.3
CIT pmax pmax
comp=Z,187nm,1.5s
RPZ Rata Peaks 59.29 137 P P **12 20 45.9 +0.5**
comp=Z,191nm,0.8s,baz=225,slow=0.8,SNR=53
RPZ pP **pP 12 22 32.4 -1.2**
comp=Z,71nm,0.9s,baz=7.8,slow=2.6,SNR=5.4
TLY Talaya 59.62 350 pP **pP 12 22 37.9 +2.4**
comp=Z,4.5nm,0.5s,baz=175,slow=7.9,SNR=2.8
TLY S **S 12 28 16.3 +0.7**
comp=Z,8.7nm,1.0s,baz=298,slow=20,SNR=7.0
TLY Talaya 59.62 350 P P **12 20 48.9 +1.5**
TLY Talaya 59.62 350 *d iP* **P 12 20 48.1 +0.7**
TLY *e* 12 22 36.2
TLY *eS* **S 12 28 15.2 -0.4**
TLY *e* 12 29 42.1
TLY *eSS* **SS 12 32 28.5 +4.4**
TLY pmax pmax
comp=Z,213nm,1.4s
GRNR Gornyy 59.78 14 ⇑ *iP* **P 12 20 50.5 +2.0**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=Z,100nm,0.8s
GRNR MLR MLR
comp=E,180nm,15.0s
GRNR MLR MLR
comp=N,200nm,16.0s
GRNR MLR MLR
comp=Z,270nm,19.0s
MSVF Nonsavu 59.88 106 *i* P **P 12 20 49.7 -0.2**
MSVF pmax pmax
comp=Z,66nm,0.9s
IRK Irkutsk 60.05 351 *eP* **P 12 20 50.8 +0.5**
IRK *e* 12 21 29.7
IRK *e* 12 22 40.7
IRK pmax pmax
comp=Z,94nm,1.9s
MOY Mondy 60.10 348 *eP* **P 12 20 51.5 +0.8**
MOY *e* 12 22 41.1
MOY pmax pmax
comp=Z,125nm,1.8s
KSH Kashi 60.10 324 P P **12 20 49.3 -1.7**
KSH S **S 12 28 21.3 -1.1**
KSH pmax pmax
comp=Z,750nm,4.6s
KSH pmax pmax
comp=Z,230nm,0.6s
SHLS Shalkode 60.66 329 ⇓ *iP* **P 12 20 54.2 -0.5**
comp=Z,153nm,1.1s
SHLS *eS* **S 12 28 26.8 -2.5**
SHLS Shalkode 60.66 329 *d iP* **P 12 20 54.2 -0.5**
SHLS *eS* **S 12 28 26.7 -2.5**
SHLS pmax pmax
comp=Z,153nm,1.1s
PDGK Podgornoye 60.77 329 P P **12 20 55.8 +0.4**
UZB Uzynbulak 60.88 329 ⇓ *iP* **P 12 20 56.9 +0.7**
comp=Z,102nm,1.2s
UZB *eS* **S 12 28 31.6 -0.4**
UZB Uzynbulak 60.88 329 *d iP* **P 12 20 56.8 +0.7**
UZB *eS* **S 12 28 31.5 -0.4**
UZB pmax pmax
comp=Z,102nm,1.2s
ZEA Zeya 61.03 7 ⇓ *eP* **P 12 20 57.8 +1.2**
ZEA *e*PP* **pP 12 22 45.5 0.0**
ZEA *eS* **S 12 28 33.7 +0.7**
ZEA *e* 12 29 52.1
ZEA *eSS* **SS 12 32 48.1 +2.2**
ZEA pmax pmax
comp=E,40nm,0.5s
ZEA pmax pmax
comp=N,90nm,1.0s
ZEA pmax pmax
comp=Z,200nm,0.7s

ZEA pmax pmax
comp=E,54nm,0.6s
ZEA pmax pmax
comp=N,110nm,0.8s
ZEA pmax pmax
comp=Z,230nm,0.8s
ZEA pmax pmax
comp=E,200nm,3.9s
ZEA pmax pmax
comp=Z,200nm,5.6s
ZEA smax smax
comp=N,900nm,9.1s
SATY Saty 61.14 328⇓ *i*P **P 12 20 58.7 +0.9**
comp=N,123nm,1.2s
SATY *e*S **S 12 28 35.6 +0.4**
SATY Saty 61.14 328 *d* *i*P **P 12 20 58.7 +0.9**
SATY *e*S **S 12 28 35.5 +0.4**
SATY pmax pmax
comp=Z,123nm,1.2s
RER Riviere de l'E 61.22 250 P **P 12 20 59.9 +1.2**
KPKS Kokpek 61.28 329⇓ *i*P **P 12 20 59.4 +0.7**
comp=Z,227nm,1.2s
KPKS *e*pP **pP 12 22 49.3 +1.5**
KPKS *e*S **S 12 28 36.2 -0.6**
KPKS Kokpek 61.28 329 *d* *i*P **P 12 20 59.4 +0.7**
KPKS *e**PP **pP 12 22 49.2 +1.5**
KPKS *e*S **S 12 28 36.2 -0.6**
KPKS pmax pmax
comp=Z,227nm,1.2s
ZSN Zaisan 61.39 335⇓ *i*P **P 12 20 59.9 +0.6**
comp=Z,60nm,1.0s
ZSN *e*pP **pP 12 22 49.7 +1.4**
ZSN *e*S **S 12 28 37.1 -0.7**
ZSN Zaisan 61.39 335 *d* *i*P **P 12 20 59.8 +0.6**
ZSN *e**PP **pP 12 22 49.7 +1.4**
ZSN *e*S **S 12 28 37.1 -0.7**
ZSN pmax pmax
comp=Z,61nm,1.0s
TYV Tymovskoe 61.55 18 *e*P **P 12 21 01.1 +1.0**
TYV *e*S **S 12 28 40.1 +0.6**
TYV pmax pmax
comp=Z,30nm,0.7s
TYV pmax pmax
comp=Z,200nm,2.4s
TYV smax smax
comp=E,8.0nm,1.2s
TYV smax smax
comp=E,2μm,3.9s
MDOK Medeo 61.93 327 *i* P **P 12 21 03.6 +0.6**
MDOK *e*pP **pP 12 22 52.8 +0.4**
MDOK *i*S **S 12 28 44.0 -0.9**
MDOK Medeo 61.93 327 *i* P **P 12 21 03.6 +0.6**
MDOK *e**PP **pP 12 22 52.7 +0.4**
MDOK *i*S **S 12 28 44.0 -0.9**
MK31 Makanchi Array 61.99 333 *i* P **P 12 21 03.6 +0.5**
MK31 pmax pmax
comp=Z,171nm,0.9s
MKAR Makanchi Array 61.99 333 P **P 12 21 03.8 +0.7**
comp=Z,84nm,0.5s,baz=139,slow=7.6,SNR=330
MKAR PcP **PcP 12 21 37.7 +0.3**
comp=Z,38nm,0.8s,baz=140,slow=6.3,SNR=5.9
MKAR pP **pP 12 22 54.5 +2.0**
comp=Z,10nm,0.7s,baz=138,slow=7.6,SNR=1.8
MKAR PKPPKP **P'P'df 12 50 00.9 -1.6**
comp=Z,1.0nm,0.8s,baz=299,slow=3.7,SNR=5.9
MKAR PKP2bc 12 50 11.7
comp=Z,4.8nm,0.9s,baz=318,slow=3.3,SNR=14
MKAR P4KPbc 12 57 58.7
comp=Z,1.3nm,0.8s,baz=149,slow=5.7,SNR=7.8
MAKZ Makanchi 62.14 333 P **P 12 21 04.5 +0.4**
MAKZ pmax pmax
comp=Z,122nm,1.2s
MAKZ Makanchi 62.14 333 P **P 12 21 04.5 +0.4**
DGZ Jazzator, Alta 62.21 338 *d* *i*P **P 12 21 05.8 +1.1**
DGZ pmax pmax
comp=Z,195nm,1.0s
MTBS Maitube 62.24 327⇓ *i*P **P 12 21 05.4 +0.4**
MTBS Maitube 62.24 327⇓ *i*P **P 12 21 05.3 +0.4**
TDK Taldyqorghan 62.51 330 *i* P **P 12 21 07.0 +0.5**
comp=Z,491nm,1.4s
TDK *e*pP **pP 12 22 54.7 -1.5**
TDK *e*S **S 12 28 51.2 -0.5**
TDK Taldyqorghan 62.51 330 *i* P **P 12 21 07.0 +0.5**
TDK *e**PP **pP 12 22 54.7 -1.5**
TDK *e*S **S 12 28 51.1 -0.5**
TDK pmax pmax
comp=Z,491nm,1.4s
TKM2 Tokmak 2 62.55 326 P **P 12 21 07.8 +0.7**
SNR=66
TKM2 Tokmak 2 62.55 326 *i* P **P 12 21 06.8 -0.3**
TKM2 pmax pmax
comp=Z,166nm,1.3s
UCH Uchtor 62.70 325 P **P 12 21 09.4 +1.0**
SNR=9.5
KBK Karagaybulak 62.74 326 P **P 12 21 09.4 +1.1**
SNR=113
KUU Kurty 62.81 328⇓ *i*P **P 12 21 08.8 +0.4**
comp=Z,305nm,1.2s
KUU *e*pP **pP 12 22 55.3 -3.0**
KUU *e*S **S 12 28 54.5 -0.8**
KUU Kurty 62.81 328 *d* *i*P **P 12 21 08.8 +0.4**
KUU *e*S **S 12 28 54.4 -0.8**
KUU pmax pmax
comp=Z,305nm,1.2s
AAK Ala-Archa 62.98 326 P **P 12 21 10.9 +1.1**
SNR=124
AAK Ala-Archa 62.98 326 *i* P **P 12 21 10.5 +0.7**
SNR=141
AAK Ala-Archa 62.98 326 P **P 12 21 10.8 +1.0**
AAK Ala-Archa 62.98 326 *i* P **P 12 21 10.3 +0.5**
AAK pmax pmax
comp=Z,499nm,1.0s
CHMS Chumysh 63.07 326 P **P 12 21 10.5 +0.3**
SNR=22
AML Almayashu 63.11 325 P **P 12 21 11.8 +0.9**
SNR=32
USP Ospenovka 63.39 326 P **P 12 21 12.8 +0.6**
SNR=76
EKS2 Erkin-Say 63.40 325 P **P 12 21 13.6 +1.1**
SNR=123
SGDS Sogindy 63.44 326⇓ *i*P **P 12 21 12.7 +0.1**
comp=Z,101nm,1.2s
SGDS *e*pP **pP 12 23 02.2 -0.4**
SGDS *e*S **S 12 29 02.6 -0.5**
SGDS Sogindy 63.44 326 *d* *i*P **P 12 21 12.7 +0.1**
SGDS *e**PP **pP 12 23 02.2 -0.4**
SGDS *e*S **S 12 29 02.6 -0.5**
SGDS pmax pmax
comp=Z,101nm,1.2s
JLN Jalan Bani Buh 63.82 299 P **P 12 21 15.7 +0.4**
WBK Wadi Bani Khal 64.36 299 P **P 12 21 19.2 +0.3**
BOD Bodaibo 64.62 358 *e*P **P 12 21 19.9 +0.2**
BOD *e* 12 29 17.2
BOD pmax pmax
comp=Z,134nm,1.2s
MHTO MHTO 64.70 297 P **P 12 21 21.0 0.0**
SNR=18
DQM DQM 64.75 296 P **P 12 21 21.4 +0.1**
SNR=6.4
BTLS Baital 64.80 327⇓ *i*P **P 12 21 21.0 -0.1**
comp=Z,26nm,0.9s
BTLS *e*S **S 12 29 16.6 -2.7**
BTLS Baital 64.80 327 *d* *i*P **P 12 21 21.0 -0.1**
BTLS *e*S **S 12 29 16.5 -2.7**
BTLS pmax pmax
comp=Z,26nm,0.9s
WSAR Wadi Sarin 64.87 300 P **P 12 21 22.6 +0.6**
SNR=16
DZA Taraz 64.95 324 *e*P **P 12 21 21.0 -1.1**
DZA *e*S S 12 29 06.9 -14
DZA Taraz 64.95 324 *e*P **P 12 21 21.0 -1.1**
JMDO Jabal Madar 65.04 298 P **P 12 21 24.0 +0.9**
SNR=6.8
IUG Iuzhnay 65.27 323⇓ *i*P **P 12 21 25.0 +0.8**
comp=Z,160nm,0.7s
IUG *e*S **S 12 29 25.0 -0.2**
IUG Iuzhnay 65.27 323 *d* *i*P **P 12 21 25.0 +0.8**
IUG *e*S **S 12 29 25.0 -0.2**
IUG pmax pmax
comp=Z,160nm,0.7s
SMDO Samad 65.31 299 P **P 12 21 26.0 +1.0**
SNR=19
SMDO P **P 12 21 26.0 +1.0**
SNR=19
BIDO Bidbid 65.41 300 P **P 12 21 26.0 +0.6**
SNR=34
KK31 Karatay Array 65.55 324 *i*P **P 12 21 25.6 -0.3**
BRLS Borolday 65.91 324⇓ *i*P **P 12 21 28.1 -0.1**
comp=Z,96nm,1.1s
BRLS *i*S **S 12 29 30.6 -2.0**
BRLS Borolday 65.91 324 *d* *i*P **P 12 21 28.0 -0.1**
BRLS *i*S **S 12 29 30.6 -2.0**
BRLS pmax pmax
comp=Z,96nm,1.1s
SHAO Shalim 65.92 293 *i* P **P 12 21 28.5 -0.2**
SNR=28
SHAO Shalim 65.92 293 P **P 12 21 30.0 +1.3**
SNR=8.6
BSY Bisya 65.95 299 P **P 12 21 29.0 +0.2**
SNR=10.0
SOCY Socotra 65.96 287 P **P 12 21 29.1 +0.1**
SNR=26
HOQ Hoqain 66.13 299 P **P 12 21 30.4 +0.5**
SNR=31
DMTO DMTO 66.45 293 P **P 12 21 32.3 +0.4**
SNR=8.0
DMTO P **P 12 21 32.3 +0.4**
SNR=8.0
KURBB Kurchatov Arra 66.50 334 PKPPKP PKPPKPdf 12 49 52.8
comp=Z,1.1nm,0.8s,baz=302,slow=3.4,SNR=6.7
KURBB PKP2bc PKPPKPbd 12 49 58.0
comp=Z,4.6nm,1.0s,baz=309,slow=3.5,SNR=11
KURBB Kurchatov Arra 66.50 334 P **P 12 21 31.8 +0.2**
KURK Kurchatov 66.53 334 P **P 12 21 32.6 +0.8**
KURK Kurchatov 66.53 334 *d* *i*P **P 12 21 32.1 +0.3**
KURK pmax pmax
comp=Z,161nm,1.0s
ZALV Zalesovo Beam 66.63 340 P **P 12 21 32.0 -0.3**
comp=Z,141nm,0.6s,baz=139,slow=5.3,SNR=283
ZALV S **S 12 29 38.0 -2.6**
comp=Z,41nm,0.9s,baz=141,slow=9.6,SNR=24
ZALV PKPPKP **P'P'df 12 49 51.1 -3.4**
comp=Z,0.7nm,0.4s,baz=325,slow=2.3,SNR=6.0
ZALV Zalesovo Beam 66.63 340 *i* P **P 12 21 32.0 -0.3**
ZALV pmax pmax
comp=Z,142nm,0.6s
ZALV Zalesovo Beam 66.63 340 P **P 12 21 31.5 -0.8**
SBV Sambava 66.67 258 P **P 12 21 34.4 +1.0**
ARQ Araqi 66.73 299 P **P 12 21 34.2 +0.6**
SNR=8.5
ARQ P **P 12 21 34.2 +0.6**
SNR=8.5
SOHO SOHO 66.98 300 *i* P **P 12 21 34.5 -0.6**
SNR=51
SOHO SOHO 66.98 300 P **P 12 21 35.6 +0.5**
SOHO P **P 12 21 35.6 +0.5**
RBK Rabkut 67.08 292 P **P 12 21 36.3 +0.4**
SNR=14
UOSS Minazif 67.54 300 *i* P **P 12 21 37.8 -0.8**
SNR=30
HATD Hatta, Dubai 67.56 300 *i* P **P 12 21 38.7 0.0**
SNR=45
HATD Hatta, Dubai 67.56 300 P **P 12 21 39.1 +0.4**
SNR=21
ASHO Ashiyiah 67.57 300 *i* P **P 12 21 38.6 -0.3**
SNR=87
ASHO Ashiyiah 67.57 300 P **P 12 21 39.1 +0.3**
SNR=28
MDH Madha 67.57 301 *i* P **P 12 21 37.5 -1.2**
SNR=23
MDH Madha 67.57 301 P **P 12 21 38.9 +0.2**
SNR=6.9
WHFO Wadi Hawf 67.59 293 P **P 12 21 39.0 0.0**
SNR=33
ALNE Al Ain 67.63 299 *i* P **P 12 21 38.9 -0.2**
SNR=14
MSFE Esma-Masafi 67.71 301 *i* P **P 12 21 39.5 -0.1**
SNR=32
BANOM Banah 67.78 302 *i* P **P 12 21 39.7 -0.3**
SNR=14
BANOM Banah 67.78 302 P **P 12 21 40.7 +0.6**
ABTO Aybut 67.87 292 P **P 12 21 41.0 +0.2**
SNR=23
ABTO P **P 12 21 41.0 +0.2**
SNR=23
SHME Shamm 67.96 302 *i* P **P 12 21 41.5 +0.5**
SNR=17
FAQ Al Faqa, Dubai 68.00 300 *i* P **P 12 21 41.2 -0.1**
SNR=131
FAQ Al Faqa, Dubai 68.00 300 P **P 12 21 42.0 +0.7**
SNR=28
FAQ P **P 12 21 42.0 +0.7**
SNR=28
NAZ Nazwa, Dubai 68.02 300 *i* P **P 12 21 40.9 -0.6**
SNR=16
NAZ Nazwa, Dubai 68.02 300 P **P 12 21 42.0 +0.5**
SNR=10
ASUD Al Ashush, Dub 68.18 300 *i* P **P 12 21 42.8 +0.3**
SNR=50
ASUD Al Ashush, Dub 68.18 300 P **P 12 21 43.2 +0.8**
SNR=10
UMQ Umm Al-Quwin 68.19 301 *i* P **P 12 21 43.2 +0.7**
SNR=6.8
AJN Ajban 68.46 300 *i* P **P 12 21 43.7 -0.4**
SNR=12
AJN Ajban 68.46 300 P **P 12 21 44.5 +0.4**
SNR=9.8
BRZS Berezniki 68.75 331⇓ *i*P **P 12 21 45.8 +0.5**
BRZS *i*S **S 12 30 04.9 -0.5**
BRZS Berezniki 68.75 331 *d* *i*P **P 12 21 45.8 +0.5**
BRZS *i*S **S 12 30 04.9 -0.5**
PEA0B Petropavlovsk- 68.83 25 *i*P **P 12 21 45.8 0.0**
PETK Petropavlovsk- 68.83 25 P **P 12 21 46.8 +1.0**
comp=Z,136nm,0.9s,baz=212,slow=1.6,SNR=175
PETK pP **pP 12 23 41.3 +3.4**
comp=Z,11nm,0.8s,baz=191,slow=5.6,SNR=4.5
PET Petropavlovsk 69.17 25 *e*P **P 12 21 48.6 +0.9**
PET *e**PP **pP 12 23 43.7 +3.7**
PET *e*SP **sP 12 24 36.7 -0.6**
PET *e*S **S 12 30 11.7 +1.7**
PET pmax pmax
comp=Z,83nm,0.7s
PET pmax pmax
comp=Z,100nm,13.4s
PET MLR MLR
comp=Z,100nm,21.0s
OPO Ambohidratompo 69.20 253 P **P 12 21 49.8 +0.8**
comp=Z,218nm,0.8s,baz=85,slow=4.6,SNR=164
YAK Yakutsk 69.43 6 P **P 12 21 49.7 +0.5**
comp=Z,110nm,0.7s,baz=179,slow=0.8,SNR=47
YAK S **S 12 30 10.5 -2.2**
comp=Z,3.3nm,0.4s,baz=225,slow=21,SNR=15
YAK ScS **SKSac 12 30 54.8 -1.2**
comp=Z,3.3nm,0.3s,baz=282,slow=3.0,SNR=1.8
YAK PKP2bc 12 49 52.0
comp=Z,2.6nm,0.3s,baz=241,slow=2.7,SNR=7.1
YAK Yakutsk 69.43 6 *e*P **P 12 21 49.4 +0.3**
YAK *e* 12 22 04.9
YAK *e**PP **pP 12 23 45.1 +3.6**
YAK *e* 12 24 29.9
YAK *e*PPP PPP 12 26 23.3
YAK *e*S **S 12 30 11.1 -1.6**
YAK *e* 12 30 53.5
YAK *e*SSS SSS 12 38 14.7
YAK pmax pmax
comp=Z,269nm,1.0s
YAK pmax pmax
comp=N,75nm,1.1s
YAK pmax pmax
comp=E,26nm,1.3s
YAK pmax pmax
comp=Z,250nm,2.5s
YAK pmax pmax
comp=N,97nm,2.3s
YAK pmax pmax
comp=E,187nm,2.5s
YAK smax smax
comp=N,500nm,2.0s
YAK smax smax
comp=E,216nm,1.8s
YAK Yakutsk 69.43 6 P **P 12 21 49.4 +0.3**
YAK IAmb IAmb 12 21 51.1
comp=Z,236nm,0.8s
FOMA Nahampoana Res 69.47 246 P **P 12 21 51.7 +1.5**
VOI Voh itsoka 69.57 249 P **P 12 21 52.1 +1.0**
SNR=14
MAW Mawson 70.65 199 P **P 12 21 57.7 +1.4**
comp=Z,206nm,0.8s,baz=68,slow=5.9,SNR=336
MAW PKPPKP **P'P'df 12 49 45.4 -3.0**
comp=Z,10nm,1.1s,baz=257,slow=3.4,SNR=8.7
MAW Mawson 70.65 199 P **P 12 21 57.8 +1.4**
baz=71,SNR=169
GEYT Alibeck 70.98 314 P **P 12 21 59.9 +0.9**
comp=Z,146nm,0.9s,baz=165,slow=6.2,SNR=127
GEYT PKPPKP **P'P'df 12 49 45.6 -3.1**
comp=Z,1.5nm,0.5s,baz=259,slow=15,SNR=6.3
GYA0 ALIBECK ARRAY 70.98 314 P **P 12 21 59.7 +0.8**
MA2 Magadan 71.41 17 P **P 12 22 02.0 +1.1**
comp=Z,107nm,0.8s,baz=191,slow=4.9,SNR=25
MA2 Magadan 71.41 17 *i* P **P 12 22 01.4 +0.5**
MA2 pmax pmax
comp=Z,106nm,0.9s
BRVK Borovoye 71.89 332 P **P 12 22 04.3 +0.4**
BRVK Borovoye 71.89 332 *i* P **P 12 22 04.0 +0.1**
BRVK pmax pmax
comp=Z,119nm,1.2s
VNDA Vanda 74.22 171 P **P 12 22 17.8 +1.0**
comp=Z,94nm,0.5s,baz=317,slow=7.7
VNDA S **S 12 31 07.8 +1.9**
comp=Z,11nm,1.1s,baz=149,slow=16,SNR=27
VNDA PKPPKP 12 49 38.3
comp=Z,0.7nm,0.9s,baz=237,slow=5.9,SNR=3.1
SEY Seymchan 74.60 16 P **P 12 22 20.5 +1.4**
comp=Z,72nm,0.7s,baz=227,slow=6.2,SNR=109
SEY Seymchan 74.60 16 *i* P **P 12 22 19.3 +0.2**
AB01 Akbulak array 75.06 325 P **P 12 22 22.0 0.0**
AB31 Akbulak array 75.06 325 *i* P **P 12 22 21.9 -0.1**
ABKAR Akbulak array 75.06 325 P **P 12 22 22.1 +0.2**
DAMY Dhamar 75.59 287 P **P 12 22 27.8 +1.8**
SNR=31
ATD Arta Tunnel 76.51 284 P **P 12 22 32.7 +1.9**
SNR=9.7
AKTO Aktyubinsk 76.72 326 P **P 12 22 31.2 0.0**
SVE Sverdlovsk 78.60 332 *c* *i*P **P 12 22 41.2 +0.1**
SVE *e*S **S 12 31 49.6 -3.5**
SVE pmax pmax
comp=Z,167nm,1.1s
TIXI Tiksi 78.81 4 *d* *i*P **P 12 22 41.4 -0.5**
NRIK Noril'sk 78.89 350 P **P 12 22 42.7 +0.3**
comp=Z,51nm,1.0s,baz=142,slow=4.9,SNR=32
NRIK PP **PP 12 25 51.3 0.0**
comp=Z,19nm,0.9s,baz=156,slow=8.6,SNR=5.7
NRIK S **S 12 31 52.5 -3.1**
comp=Z,8.4nm,0.8s,baz=7.7,slow=21,SNR=23
ANKE Ethiopia-Afar 79.21 281 *i* P **P 12 22 48.8 +3.0**
SYO Syowa Base 79.21 201⇑ *i*P **P 12 22 43.8 -0.4**
SYO Syowa Base 79.21 201⇓ *i*PcP **PcP 12 22 49.4 -0.8**
KIBK Kibwezi 79.27 269 P **P 12 22 46.7 +0.9**
SNR=42
ARU Arti 79.38 331 *d* *i*P **P 12 22 44.6 -0.7**
ARU *e**PP **pP 12 24 39.5 -2.7**
ARU S **S 12 32 01.9 +0.7**
ARU SS **SS 12 37 20.0 -4.5**
ARU pmax pmax
comp=Z,106nm,1.1s
KMBO Kilima Mbogo 80.20 270 P **P 12 22 53.4 +2.6**
comp=Z,187nm,0.8s,baz=70,slow=6.7,SNR=280
MAK Makhachkala 80.37 316 *e*P **P 12 22 49.5 -1.2**
MAK *e**PP **pP 12 24 44.3 -3.7**
MAK *e*SP **sP 12 25 40.3 -3.9**
MAK *e* 12 26 01.3
MAK *e*PPP PPP 12 27 55.4
MAK *e*S **S 12 32 08.8 -3.0**
MAK *e*SS **SS 12 37 39.7 +0.1**
MAK *e*SSS SSS 12 41 14.2
MAK pmax pmax
comp=Z,441nm,1.1s
CUKT Cukurca 81.55 309 *e*P **P 12 22 57.9 +0.7**
GROC Groznyy 81.63 315 *e*P **P 12 22 58.0 +0.7**
GROC *e**SP **sP 12 25 50.0 -1.0**
GROC *e* 12 26 16.3
GROC *e*S **S 12 32 24.7 +0.1**
GROC pmax pmax
comp=Z,195nm,0.8s
CLDR Caldiran 81.82 311 *e*P **P 12 23 00.1 +1.4**
VANB Van 82.07 310 *e*P **P 12 23 00.7 +0.9**
BILL Bilibino 82.27 17⇓ *e*P **P 12 22 59.4 -0.6**
BILL *e**PP **pwP 12 25 00.0 0.0**
BILL *e*SP **sP 12 25 56.0 +3.0**
BILL *e* 12 26 19.0
BILL *i*S **S 12 32 27.5 -2.4**
BILL *e* 12 33 26.0
BILL pmax pmax
comp=Z,9.0nm,0.8s
BILL MLR MLR
comp=Z,159nm,19.0s
AKDM Akdamar-Van 82.31 310 *e*P **P 12 23 02.8 +1.7**
SIRT Sirnak 82.51 309 *e*P **P 12 23 02.9 +0.9**
AGRB Hanur-Agry 82.63 311 *e*P **P 12 23 04.4 +1.7**
LODK Lodwar 82.64 274 P **P 12 23 04.4 +1.3**
SNR=25
ZEI Tsey 82.84 315 *e*P **P 12 23 02.1 -1.6**
ZEI pmax pmax
comp=Z,153nm,0.9s
KARS Kars 82.84 312 *e*P **P 12 23 05.6 +1.9**
MLAZ Malazgirt-MUS 82.85 311 *e*P **P 12 23 05.7 +1.9**
QSPA South Pole Qui 83.02 180 P **P 12 23 04.4 +0.4**
comp=Z,155nm,0.5s,baz=308,slow=1.0,SNR=1173
SENK Senkaya-Erzuru 83.36 312 *e*P **P 12 23 08.1 +1.8**
KOPR Koprukoy-ERZUR 83.58 311 *e*P **P 12 23 09.2 +1.8**
SVAN Silvan-Diyarba 83.62 310 *e*P **P 12 23 08.6 +1.1**
VRTB Varto-Mus 83.67 311 *e*P **P 12 23 10.1 +2.2**
KBZ Khabaz 83.80 315 P **P 12 23 09.1 +1.0**
comp=Z,114nm,0.8s,baz=107,slow=3.6,SNR=140
SHA1 Shidzhatmaz 83.97 315 *d* *i*P **P 12 23 09.9 +0.6**
KIV Kislovodsk 84.01 316 ⇓P **P 12 23 08.7 -0.6**
KIV Kislovodsk 84.01 316 *i* P **P 12 23 10.1 +0.8**
SNR=10
KIV Kislovodsk 84.01 316 *e*P **P 12 23 10.3 +1.0**
KIV Kislovodsk 84.01 316 *e*P **P 12 23 09.8 +0.5**
KIV *e**PP **pP 12 25 07.1 -0.9**
KIV *e* 12 32 40.4
KIV pmax pmax
comp=Z,164nm,1.0s
KIV pmax pmax
comp=Z,380nm,3.7s
KIV Kislovodsk 84.01 316 P **P 12 23 09.9 +0.6**
MAZI Mazidag 84.04 309 *e*P **P 12 23 11.1 +1.4**
GOF Gofitskoye 84.06 317 ⇓*i*P **P 12 23 10.3 +0.8**
GOF *e*S **S 12 32 49.9 +1.3**
GOF pmax pmax
comp=Z,376nm,1.0s
GOF smax smax
comp=E,174nm,1.1s
GOF smax smax
comp=N,270nm,1.9s
BATM Batumi 84.11 313 ⇑P **P 12 23 10.0 +0.3**
BATM Batumi 84.11 313 *e*P **P 12 23 10.7 +1.0**
CHVG Ch'k'valeri 84.11 314 ⇑P **P 12 23 10.8 +1.1**
BCA Borcka 84.12 313 ⇓P **P 12 23 09.8 0.0**
BCA Borcka 84.12 313 *e*P **P 12 23 10.9 +1.1**
BNGB Bingl 84.22 310 *e*P **P 12 23 12.1 +1.6**
YEDI Yedisu-Bingol 84.43 311 *e*P **P 12 23 13.0 +1.4**
KOPT Kop Dagi 84.60 311 P **P 12 23 13.6 +1.0**
KOPT IAmb IAmb 12 23 21.8
comp=Z,103nm,0.8s
CHOM Cayeli-Rize 84.66 312 *e*P **P 12 23 13.7 +1.2**
KIRV Kirov 84.76 331 *i* P **P 12 23 11.7 -0.8**
ERZN Erzincan 85.08 311 *e*P **P 12 23 14.8 +0.1**
SVRC Sivrice-ELAZID 85.12 309 *e*P **P 12 23 16.3 +1.3**
PTK Pertek 85.17 310 *e*P **P 12 23 16.7 +1.4**
URFA Urfa 85.30 308 *e*P **P 12 23 16.2 +0.4**
KTUT Trabzon 85.37 312 ⇓P **P 12 23 15.9 0.0**
KTUT Trabzon 85.37 312 *e*P **P 12 23 16.2 +0.3**
MALT Malatya 85.79 309 *e*P **P 12 23 19.4 +1.3**
ILIC ilic-Erzincan 85.92 310 *e*P **P 12 23 19.1 +0.3**
SOC Sochi 86.00 315 *e*P **P 12 23 16.9 -2.0**
SOC *e**PP **pP 12 25 16.2 -2.0**
SOC *e* 12 26 47.1
SOC *e*S **SKSac 12 32 50.8 -1.7**
SOC *e*SS **SS 12 38 56.5 -5.4**
SOC pmax pmax
comp=Z,79nm,0.7s
ARPR Arapgir-MALATY 86.02 310 *e*P **P 12 23 20.8 +1.5**
ESPY Espiye-Giresun 86.12 312 *e*P **P 12 23 19.8 +0.3**
GAZ Gaziantep 86.50 308 *e*P **P 12 23 22.6 +1.1**
VRH Novokhopyorsk 86.58 322 *e*P **P 12 23 21.1 -0.3**
VRH *e*S **S 12 33 07.7 -4.6**
VRH pmax pmax
comp=Z,160nm,0.6s
VRH pmax pmax
comp=Z,160nm,0.6s
VRH smax smax
comp=E,1μm,3.0s
BLWY Bulawayo 86.62 250 *i* P **P 12 23 22.1 -0.4**

BLWY Bulawayo 86.62 250 *i* P **P** **12 23 22.1 -0.4**
MATP Matopo 86.69 250 *i* P **P** **12 23 22.9 +0.1**
MATP Matopo 86.69 250 *i* P **P** **12 23 22.9 +0.1**
MBAR Mbarara 86.73 270 P **P** **12 23 24.5 +1.3**
MBAR Mbarara 86.73 270 P **P** **12 23 23.8 +0.6**
MBAR pmax pmax
comp=Z,131nm,0.6s
MBAR Mbarara 86.73 270 P **P** **12 23 23.8 +0.6**
MBAR IAmb IAmb 12 23 26.3
comp=Z,131nm,0.6s
SHBL Chebaa 86.96 304 *e*P **P** **12 23 25.5 +1.7**
HWQ Hawqa 86.96 305 *e*P **P** **12 23 24.9 +1.1**
EIL Elat 86.99 300 *e*P **P** **12 23 25.4 +1.5**
QRWL Qaraoun 87.05 304 *e*P **P** **12 23 25.6 +1.4**
RSDY Resadiye-TOKAT 87.05 311 *e*P **P** **12 23 25.2 +1.3**
MMLI Mount Malkishu 87.07 303 *e*P **P** **12 23 26.0 +1.8**
BHL Bhannes 87.13 304 *e*P **P** **12 23 25.6 +1.0**
TAHT Tahtakopru-Hat 87.15 307 *e*P **P** **12 23 25.8 +1.3**
SVSK Karacayir 87.20 311 *e*P **P** **12 23 25.8 +1.2**
SARI SarD1z-Kayseri 87.35 309 *e*P **P** **12 23 26.3 +0.7**
LSZ Lusaka 87.55 255 *i* P **P** **12 23 28.1 +1.2**
LSZ Lusaka 87.55 255 *i* P **P** **12 23 28.1 +1.2**
CEYT Ceyhan 87.62 308 *e*P **P** **12 23 27.9 +1.3**
TOKT Tokat 87.62 311 *e*P **P** **12 23 27.5 +0.8**
KOZT Kozan 87.64 308 *e*P **P** **12 23 27.3 +0.6**
ANN Anapa 87.87 315 *e*P **P** **12 23 26.7 -0.9**
ANN *e*PPP PPP 12 29 03.6
ANN *e*S **SKSac** **12 33 02.7 -0.9**
ANN *e*SSS SSS 12 43 03.0
ANN pmax pmax
comp=Z,223nm,0.7s
BNN Bunyan 87.88 309 *e*P **P** **12 23 28.4 +0.4**
VORD Divnogorie 88.00 322 *e*P **P** **12 23 27.6 -0.5**
VORD pmax pmax
comp=Z,100nm,0.7s
KVT Kavak 88.14 312 *e*P **P** **12 23 29.6 +0.6**
VSR Storozhevoye 88.14 322 *e*P **P** **12 23 28.3 -0.4**
VSR *e*S **S** **12 33 22.0 -4.9**
VSR pmax pmax
comp=Z,150nm,0.6s
VSR pmax pmax
comp=Z,160nm,0.6s
VSR smax smax
comp=N,1µm,2.6s
KARA Karaisali 88.20 308 *e*P **P** **12 23 30.3 +0.9**
YOZ Yozgat 88.42 310 *e*P **P** **12 23 30.8 +0.3**
MERS Mersin 88.56 307 *e*P **P** **12 23 31.8 +0.7**
NVL N'lazarevskaya 88.58 199⇓ *i*P **P** **12 23 30.7 +0.3**
NVL pmax pmax
comp=Z,123nm,0.8s
LPSR Galich'ya Gora 88.60 323 *e*P **P** **12 23 30.3 -0.5**
LPSR *e*S **S** **12 33 25.8 -5.2**
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR pmax pmax
comp=Z,140nm,1.1s
LPSR smax smax
comp=N,1µm,3.1s
EREN Erenkoy 88.62 306 *e*P **P** **12 23 31.8 +0.5**
BOSA Boshof 88.68 241 P **P** **12 23 32.5 +0.5**
comp=N,83nm,0.8s,baz=105,slow=4.1,SNR=96
LBTB Lobatse 88.83 245 *i* P **P** **12 23 33.3 +0.6**
LBTB Lobatse 88.83 245 *i* P **P** **12 23 33.3 +0.6**
SILI Silifke-Mersin 88.95 307 *e*P **P** **12 23 33.2 +0.4**
CORM Corum 89.04 311 *e*P **P** **12 23 34.1 +0.8**
IKL Isikli 89.12 306 *e*P **P** **12 23 33.6 0.0**
CSS Mathiatis 89.20 305 *e*P **P** **12 23 33.6 -0.5**
AKKU Akkuyu-Mersin 89.21 306 *e*P **P** **12 23 33.3 -0.8**
YESY Yesilyurt 89.32 308 *e*P **P** **12 23 35.3 +0.6**
YAYX Yaylak 89.45 309 *e*P **P** **12 23 35.1 -0.2**
SERE Sereflikochisa 89.65 309 *e*P **P** **12 23 34.5 -1.7**
BRTR Keskin Array B 89.71 310 P **P** **12 23 36.1 -0.4**
comp=N,37nm,0.8s,baz=124,slow=5.4,SNR=118
BRTR pP **pP** **12 25 36.5 -0.5**
comp=N,7.8nm,1.1s,baz=134,slow=3.6,SNR=3.4
BRTR PP **PP** **12 27 19.3 +0.5**
comp=N,8.5nm,0.9s,baz=119,slow=7.9,SNR=5.0
BRTR Keskin Array B 89.71 310 *e*P **P** **12 23 36.2 -0.3**
BZK Bozkurt 89.80 312⇑ P **P** **12 23 36.4 -0.3**
TBI Tubuai 90.04 113 *e*SKSac **SKSac** **12 33 13.5 -3.7**
comp=N,352nm,22.9s
MOS Moscow 90.04 326 *e*P **P** **12 23 34.9 -2.5**
MOS *e* 12 25 42.4
MOS *e* 12 33 13.0
MOS *e*S **S** **12 33 39.7 -4.2**
MOS *e* 12 34 58.7
MOS pmax pmax
comp=Z,86nm,0.9s
AFSR Afar-Bala (An 90.10 310 *e*P **P** **12 23 37.5 -0.8**
GAZI Gazipasa 90.21 306 *e*P **P** **12 23 38.2 -0.5**
KLMR Klimovskoe 90.23 331 *e*P **P** **12 23 35.5 -2.6**
KLMR *e**PP **pP** **12 25 36.7 -2.1**
KLMR *e*S **SKSac** **12 33 13.9 -2.6**
KLMR pmax pmax
comp=Z,93nm,1.1s
KLMR Klimovskoe 90.23 331 *e*P **P** **12 23 35.6 -2.6**
KLMR AMP 12 23 38.4
comp=Z,93nm,1.1s
KLMR *e*pP **pP** **12 25 36.7 -2.1**
KLMR *e*PP **PP** **12 27 15.8 -6.2**
KLMR *e*S **SKSac** **12 33 14.0 -2.6**
KLMR *e*S **SKSac** **12 33 14.0 -2.6**
LOD Lodumlu 90.40 310 *e*P **P** **12 23 39.6 0.0**
OBN Obninsk 90.50 325⇑ P **P** **12 23 39.8 +0.3**
OBN Obninsk 90.50 325⇑ *e*P **P** **12 23 37.6 -2.0**
OBN 12 27 23.0
OBN *e* 12 33 18.2
OBN *i*S **S** **12 33 46.4 -1.7**
OBN *e*SS **SS** **12 40 14.2 +8.3**
OBN *e*SSS SSS 12 43 55.6
OBN pmax pmax
comp=Z,73nm,1.2s
OBN MLR MLR
comp=Z,122nm,17.0s
OBN Obninsk 90.50 325 P **P** **12 23 39.1 -0.5**
OBN IAmb IAmb 12 23 40.5
comp=Z,204nm,1.5s
PPT2 Papeete2 90.68 108 *e*SKSac **SKSac** **12 33 17.5 -3.7**
comp=Z,303nm,22.4s
SEYD Seydisehir-KON 90.76 307 *e*P **P** **12 23 41.9 +0.5**
KIZT Kizilcal 90.94 309 *e*P **P** **12 23 41.9 -0.3**
YUVA Yuva-Kibriscik 91.29 310 *e*P **P** **12 23 44.3 +0.5**
CIFT Cifteler, Eski 91.63 309 *e*P **P** **12 23 45.2 -0.1**
TMCR Tamitsa 91.65 334 *e*P **P** **12 23 43.3 -1.4**
TMCR pmax pmax
comp=Z,77nm,1.4s
ISP Isparta 91.85 308 *e*P **P** **12 23 44.3 -2.1**
KORT Korkueli 91.88 307 *e*P **P** **12 23 46.1 -0.5**
SHUT Suhut-Afyon 91.92 308 *e*P **P** **12 23 46.2 -0.5**
SUR Sutherland 91.94 237 P **P** **12 23 48.7 +1.6**
SNAA Sanae 92.55 196 P **P** **12 23 49.6 +0.8**
ADVT Abdulvahap 92.78 310 *e*P **P** **12 23 49.8 -0.6**
FETY Fethiye 92.85 306 *e*P **P** **12 23 50.4 -0.5**
TVSB Tavsanli 92.87 309 *e*P **P** **12 23 50.9 -0.1**
KULA Kula-Manisa 93.39 308 *e*P **P** **12 23 53.3 -0.1**
TURN Turunc 93.53 306 *e*P **P** **12 23 52.9 -1.0**
TLCR 93.97 315⇑ P **P** **12 23 55.6 -0.1**
APA Apatity 94.14 337⇓ *i*P P 12 24 03.2 +7.2
APA *i* 12 27 48.0
APA pmax pmax
comp=Z,10.0nm,1.1s
TIRR Tirgusor 94.18 314⇓ P **P** **12 23 56.8 +0.1**
VNA2 Neumayer--Watz 94.19 196 P **P** **12 23 57.1 +0.8**
baz=119,slow=3.7
TPGR Topolog 94.22 315⇑ P **P** **12 23 56.9 -0.1**
AKASG Malin Array Be 94.25 320 P **P** **12 23 55.8 -1.1**
comp=Z,11nm,0.5s,baz=80,slow=4.6,SNR=50
AKASG pP **pP** **12 25 55.9 -1.9**
comp=Z,0.7nm,0.5s,baz=80,slow=4.2,SNR=1.5
AKASG Malin Array Be 94.25 320 P **P** **12 23 55.6 -1.3**
KARP Karpathos 94.28 305 P **P** **12 23 57.7 +0.2**
CFR Carcaliu 94.45 315⇑ P **P** **12 23 57.5 -0.4**
SORM Soroca 94.57 318⇑ P **P** **12 23 57.7 -0.7**
VNA1 Neumayer--Stat 94.58 196 P **P** **12 23 58.7 +0.7**
VNA3 Neumayer Olymp 94.60 195 P **P** **12 23 58.7 +0.5**
ODBI Odobesti 95.25 315⇑ P **P** **12 24 01.0 -0.5**
MICGM Minsk 95.40 324 *e* P **P** **12 24 01.0 -1.0**
MNK Minsk 95.40 324 *e*P **P** **12 24 01.0 -1.0**
BISRR Bisoca 95.48 315⇓ P **P** **12 24 02.2 -0.5**
VRI Vrincioaia 95.49 315⇓ P **P** **12 24 02.9 +0.2**
PLOR Plostina 95.54 315⇑ P **P** **12 24 03.1 +0.2**
LAST Lasithi 95.62 305 P **P** **12 24 03.6 0.0**

NEHR Nehoiu 95.76 315⇑ P **P** **12 24 04.3 +0.4**
BIZ Bicaz 96.00 316⇑ P **P** **12 24 04.4 -0.5**
MLR Muntele Rosu 96.01 315⇑ P **P** **12 24 05.2 +0.1**
NACGM Naroch 96.06 324 *e* **P** **12 24 04.0 -1.0**
IDI Anoyia 96.11 305 PKKP **PKKPdf** **12 40 52.1 +0.7**
comp=Z,10nm,0.7s,baz=38,slow=3.3,SNR=7.8
IDI Anoyia 96.11 305 P **P** **12 24 05.0 -0.8**
SIVA Sivas 96.16 304 P **P** **12 24 06.2 +0.3**
VSU Vasula 96.29 328 *i* P **P** **12 24 04.1 -1.8**
VSU pmax pmax
comp=Z,96nm,0.9s
DOPR Dopca 96.43 315⇑ P **P** **12 24 06.8 -0.1**
VOIR 96.64 315⇓ P **P** **12 24 07.1 -0.8**
VAM Vamos 96.68 305 P **P** **12 24 08.4 +0.2**
FINES FINESS Array B 96.75 331 P **P** **12 24 07.2 -0.7**
comp=Z,29nm,0.8s,baz=97,slow=6.1,SNR=42
FINES PKiKP **PKiKP** **12 28 41.5 +0.7**
comp=Z,1.6nm,0.4s,baz=128,slow=5.1,SNR=5.1
FINES FINESS Array B 96.75 331 *i* P **P** **12 24 07.5 -0.4**
FINES pmax pmax
comp=Z,29nm,0.8s
ARR Arges 96.93 315⇓ P **P** **12 24 08.6 -0.6**
MLY Manley 97.00 25 P Pdif 12 24 10.0 +0.9
baz=268
TSUM Tsumeb 97.03 250 *i* P Pdif 12 24 11.3 +0.9
TSUM Tsumeb 97.03 250 *i* P Pdif 12 24 11.3 +0.9
CUT Chulitna 97.15 28 P **P** **12 24 10.5 +0.8**
baz=269
ARCES ARCESS Array B 97.18 339 P Pdif 12 24 09.3 -0.4
comp=Z,7.7nm,0.6s,baz=87,slow=6.2,SNR=32
ARCES PKKPbc **PKKPbc** **12 40 48.1 -1.4**
comp=Z,3.1nm,0.9s,baz=259,slow=2.5,SNR=3.9
ARCR ARCALIA 97.20 317⇑ P Pdif 12 24 09.0 -1.3
COLD Coldfoot 97.26 23 P **P** **12 24 11.3 +1.2**
baz=269
O22K Cooper Landing 97.37 30 P **P** **12 24 11.6 +0.9**
baz=269
RC01 Rabbit Creek A 97.38 29 P **P** **12 24 11.3 +0.6**
baz=269
TOLK Toolik Lake Re 97.50 22 P **P** **12 24 12.7 +1.5**
baz=270
LVV L'vov 97.52 319 *e*P Pdif 12 24 10.7 -0.9
I23K Minto, Yukon-K 97.58 25 P **P** **12 24 12.8 +1.2**
baz=270
KTHR Kythira 97.70 306 P Pdif 12 24 10.0 -2.8
CJR Cluj-Napoca 97.70 316⇓ P Pdif 12 24 12.3 -0.3
NEA2 Nenana 97.71 26 P **P** **12 24 13.3 +1.1**
baz=270
MCK McKinley 97.77 27 P **P** **12 24 13.4 +0.9**
baz=270
TCOL CIGO, UAF Yank 98.22 25 P **P** **12 24 15.4 +1.0**
baz=271
GZR Gura Zlata 98.23 315⇓ P Pdif 12 24 14.4 -0.6
CCB Clear Creek Bu 98.25 26 pP 12 26 14.5 -1.1
LIT Litokhoron 98.28 309 P Pdif 12 24 13.4 -1.9
POKR Poker Plat Res 98.40 25 P **P** **12 24 16.4 +1.1**
baz=272
KLV Kalavryta, Ach 98.46 307 P Pdif 12 24 13.7 -2.5
HERR Herculane 98.48 314⇑ P **P** **12 24 16.0 0.0**
UZH Uzhgorod 98.63 318 *e*P **P** **12 24 19.4 +2.8**
ILAR Eielson Array 98.64 26 P Pdif 12 24 15.5 -0.8
comp=Z,1.3nm,0.5s,baz=252,slow=4.5,SNR=38
ILAR pP pP 12 26 15.4 -2.0
comp=Z,1.9nm,1.0s,baz=261,slow=5.0,SNR=3.9
ILAR PKKPbc **PKKPbc** **12 40 42.8 -2.6**
comp=Z,5.6nm,0.7s,baz=89,slow=1.1,SNR=25
ILAR Eielson Array 98.64 26 Pdif 12 24 14.9 -1.4
ILAR pP 12 26 15.0 -2.4
KOLS Kolonicke sedl 98.65 318 *e*P Pdif 12 24 16.6 -0.1
KOLS Kolonicke sedl 98.65 318 *e*PDIFF Pdif 12 24 16.6 -0.1
ANX Ano Chora 98.67 308 P Pdif 12 24 16.6 -0.5
DRO Drossia 98.81 307 P Pdif 12 24 16.4 -1.3
MDVR Moldovita 98.98 314⇑ P Pdif 12 24 18.3 0.0
SIRR Siria 99.03 316⇓ P **Pdif** **12 24 18.3 -0.2**
M24K Tolsona, Glenn 99.07 28 P **Pdif** **12 24 19.5 +1.2**
baz=272
CRVS Cervenica-Dubn 99.18 318 *e*P **Pdif** **12 24 19.1 0.0**
CRVS Cervenica-Dubn 99.18 318 *e*PDIFF **Pdif** **12 24 19.1 0.0**
PDO Prodromos 99.24 308 P **Pdif** **12 24 19.1 -0.5**
NYDR Nord-Lefkada 99.62 308 P **Pdif** **12 24 20.7 -0.5**
N25K Chitina, Valde 99.84 29 P **Pdif** **12 24 22.9 +1.1**
baz=274
SCRK Sand Creek 99.95 26 P **Pdif** **12 24 22.8 +0.5**
baz=274
L26K Log Cabin Wild 100.31 27 P **Pdif** **12 24 24.9 +1.1**
baz=275
PDG Podgorica 100.75 312⇑ P **Pdif** **12 24 25.7 -0.5**
K27K Chicken 100.78 26 P **Pdif** **12 24 27.7 +1.9**
baz=276
VYHS Vyhne 100.93 318 *e*P **Pdif** **12 24 26.9 0.0**
MORC Moravsky Berou 101.72 319⇑ P **Pdif** **12 24 29.9 -0.5**
MORC Moravsky Berou 101.72 319 *e*PP **PKiKP** **12 28 50.9 +0.6**
MODS Modra-Piesok 101.97 318 *e*P **Pdif** **12 24 32.0 +0.5**
MODS Modra-Piesok 101.97 318 *e*PDIFF **Pdif** **12 24 32.0 +0.5**
VRAC Vranov 102.37 319⇑ P **Pdif** **12 24 32.9 -0.3**
CONA Conrad Observa 102.94 317 *e*P **Pdif** **12 24 35.6 -0.4**
comp=Z,4.6nm,1.0s
CONA *e*P **PKiKP** **12 28 53.6 +1.0**
comp=Z,15nm,1.3s
ARSA Arzberg 103.22 317 *e*P **Pdif** **12 24 37.3 +0.2**
comp=Z,5.7nm,1.4s
ARSA *e*P **PP** **12 28 58.2 -2.5**
comp=Z,10nm,0.8s
INK Inuvik 103.40 21 Pdiff **Pdif** **12 24 37.9 +0.6**
comp=Z,2.9nm,0.7s,baz=295,slow=2.9,SNR=13
BRG Berggiesshubel 103.93 321 *e*PDIFF **Pdif** **12 24 40.4 +0.2**
comp=Z,8.5nm,1.3s
BRG SDIFF **Sdif** **12 35 41.0 -1.4**
BRG SS **SS** **12 43 03.0 -10**
BRG Berggiesshubel 103.93 321 *e*P **Pdif** **12 24 40.3 +0.2**
BRG S **Sdif** **12 35 41.0 -1.4**
BRG pmax pmax
comp=Z,9.0nm,1.3s
NB2 NORSAR Subarra 103.93 331 P **Pdif** **12 24 39.2 -0.8**
comp=Z,3.2nm,1.0s,baz=77,slow=4.4
NB2 NORSAR Subarra 103.93 331 PKPdf 12 31 38.5
comp=Z,5.4nm,1.0s,baz=75,slow=1.9
NB2 NORSAR Subarra 103.93 331 P **Pdif** **12 24 39.2 -0.8**
baz=77,slow=4.4
NB2 NORSAR Subarra 103.93 331 PKPdf 12 31 38.5
baz=75,slow=1.9
NOA NORSAR Array B 103.93 331 Pdiff **Pdif** **12 24 39.4 -0.6**
comp=Z,2.5nm,0.9s,baz=76,slow=4.5,SNR=5.6
OBKA Obir 103.94 316 *e*P **PKiKP** **12 28 56.3 +1.9**
comp=Z,24nm,0.9s
MOA Molln 104.02 317 *e*P **PKiKP** **12 28 54.8 +0.3**
comp=Z,12nm,0.9s
CLL Collm 104.47 321 *e*Pdif **Pdif** **12 24 42.0 -0.5**
CLL *e*PKiKP **PKiKP** **12 28 55.0 -0.2**
CLL *e*PP **PP** **12 29 13.0 +3.3**
CLL *e*PPP PPP 12 31 30.0
CLL *e*(sPP) 12 31 58.0
CLL *e* 12 34 12.0
CLL *e*(SKSac) 12 34 24.0
CLL *e*Sdif Sdif **12 35 47.0 +0.1**
CLL *e*SP **SP** **12 37 28.0 -1.4**
CLL *e*SPP SPP 12 38 29.0
CLL *e*Sdiff **sSdif** **12 39 23.0 -2.9**
CLL *e*SP 12 41 07.0
CLL *e* 12 43 00.0
CLL *e*SS 12 46 23.0
CLL *e*SSS SSS 12 47 48.0
CLL *e*SSSS 12 50 48.0
CLL *e* 12 52 30.0
CLL *e*(sSSSS) 12 53 58.0
CLL Collm 104.47 321 *e*P **Pdif** **12 24 42.0 -0.5**
CLL *e*S **Sdif** **12 35 47.0 +0.1**
MYKA Terra Mystica 104.56 316 *e*P **PKiKP** **12 28 58.0 +2.4**
comp=Z,17nm,1.3s
KBA Koelnbreinsper 104.72 317 *e*P **PKiKP** **12 28 54.8 -1.2**
comp=Z,8.3nm,1.2s
ABTA Abfaltersbach 105.32 316 *e*P **PKiKP** **12 28 56.3 -0.7**
comp=Z,12nm,1.0s
WTTA Wattenberg 105.85 317 *e*P **PKiKP** **12 28 57.7 -0.4**
comp=Z,9.7nm,0.6s
WATA Walderalm 105.89 317 *e*P **PKiKP** **12 28 58.2 +0.1**
comp=Z,5.9nm,0.5s
SQTA Sankt Quirin 106.15 317 *e*P **PKiKP** **12 28 59.0 +0.4**
comp=Z,22nm,1.0s
MOTA Moosalm 106.20 317 *e*P **PKiKP** **12 28 59.0 +0.2**
comp=Z,16nm,1.0s
RETA Reutte 106.41 317 *e*P **PKiKP** **12 28 58.3 -0.7**
comp=Z,1.6nm,0.3s
FETA Feichten 106.50 317 *e*P **PKiKP** **12 28 58.6 -0.7**
comp=Z,6.4nm,0.9s

DAVA Damuels 107.03 317 *e*P **PKiKP** **12 28 58.6 -1.7**
comp=Z,4.9nm,0.3s
DAVOX Davos/Dischmat 107.11 317 PKKPbc PKKPbc 12 40 19.8 -0.5
comp=Z,1.2nm,0.4s,baz=162,slow=4.6,SNR=4.2
KEST Kesra 108.78 305 PP **PP** **12 29 38.7 -2.8**
comp=Z,25nm,0.9s,baz=353,slow=0.4,SNR=5.6
RES Resolute Bay 109.80 9 PKiKP **PKiKP** **12 29 05.0 +0.6**
comp=Z,4.9nm,0.8s,baz=268,slow=5.5,SNR=11
RES SKP 12 31 48.9
comp=Z,5.4nm,0.8s,baz=259,slow=5.8,SNR=8.1
EKA Eskdalemuir Ar 112.84 328 PKKPbc PKKPbc 12 40 00.6 -1.4
comp=Z,1.3nm,0.4s,baz=264,slow=2.3,SNR=7.1
YKA Yellowknife Ar 112.93 23 PKiKP **PKiKP** **12 29 11.0 +0.3**
comp=Z,6.4nm,0.6s,baz=312,slow=1.1,SNR=22
YKA SKP 12 31 54.4
comp=Z,6.3nm,0.6s,baz=326,slow=1.6,SNR=13
YKA PKKPbc **PKKPbc** **12 39 58.8 -3.1**
comp=Z,4.1nm,0.8s,baz=118,slow=5.1,SNR=4.4
YKA Yellowknife Ar 112.93 23 *i* PKIKP **PKiKP** **12 29 11.0 +0.3**
D03D Eldon 114.75 41 P **PKiKP** **12 29 16.2 +1.5**
baz=288
D04E Lakebay 115.07 41 P **PKiKP** **12 29 16.4 +1.1**
baz=288
B05A Bryant 115.16 40 P **PKiKP** **12 29 16.6 +1.1**
baz=289
G03D McMinnville, O 115.32 43 P **PKiKP** **12 29 17.0 +1.1**
baz=286
E04D Cinebar 115.39 41 P **PKiKP** **12 29 17.0 +1.1**
baz=288
J01E Myrtle Point 115.42 45 P **PKiKP** **12 29 17.0 +0.9**
baz=285
I03D Drain, OR 115.69 45 P **PKiKP** **12 29 17.8 +1.2**
baz=286
K02D Willamette Mer 115.73 46 P **PKiKP** **12 29 17.5 +0.6**
baz=285
H04D Lebanon 115.88 44 P **PKiKP** **12 29 17.8 +0.8**
baz=287
L02E Cave Junction 115.92 46 P **PKiKP** **12 29 17.9 +0.7**
baz=285
I04A Tendick Farm, 116.31 44 P **PKiKP** **12 29 18.6 +0.7**
baz=287
TORD Torodi Ar. Bea 116.64 281 PKP **PKPdf** **12 29 19.2 -0.1**
comp=Z,33nm,0.5s,baz=64,slow=2.0,SNR=184
TORD PP **PP** **12 30 35.2 -1.8**
comp=Z,3.2nm,0.8s,baz=69,slow=4.7,SNR=1.4
TORD PKKPbc **PKKPbc** **12 39 48.9 +0.8**
comp=Z,0.2nm,0.3s,baz=310,slow=2.8,SNR=5.9
TORD PKKPab **PKKPab** **12 39 55.0 +1.0**
comp=Z,0.8nm,0.7s,baz=285,slow=4.1,SNR=4.3
M02C Callahan 116.65 47 P **PKiKP** **12 29 19.9 +1.2**
baz=285
J04D Umpqua Nationa 116.68 45 P **PKiKP** **12 29 19.8 +0.9**
baz=286
L04D Klamath Falls 116.83 46 P **PKiKP** **12 29 19.7 +0.6**
baz=286
N02D Trinity Center 116.87 47 P **PKiKP** **12 29 20.1 +1.0**
baz=285
I05D Terrebonne, OR 116.89 44 P **PKiKP** **12 29 19.9 +0.9**
baz=288
J05D Fort Rock, OR 117.28 45 P **PKiKP** **12 29 21.0 +1.1**
baz=287
M04C Macdoel 117.28 46 P **PKiKP** **12 29 20.7 +0.8**
baz=286
O03E Paynes Creek 117.71 48 P **PKiKP** **12 29 20.9 +0.1**
baz=285
NEW Newport 118.26 38 P **PKiKP** **12 29 22.3 +0.7**
baz=293
ESDC Sonseca Array 118.47 312 PKP **PKiKP** **12 29 22.8 +0.5**
comp=Z,3.5nm,0.7s,baz=22,slow=2.8,SNR=22
PBRG Braganca 119.85 315 *e*PKPdf **PKiKP** **12 29 25.4 +0.5**
MVO Moncorvo 120.26 314 *e*PKPdf **PKiKP** **12 29 26.8 +1.1**
PKM Mcpherson Peak 120.60 54 P **PKiKP** **12 29 28.0 +1.3**
baz=284
MLAC Mammoth, Mammt 120.66 50 P **PKiKP** **12 29 27.9 +1.1**
baz=286
PVRL Vila Real 120.72 314 *e*PKPdf **PKiKP** **12 29 27.6 +1.0**
POLO Lamas de Olo 120.74 314 *e*PKPdf **PKiKP** **12 29 27.5 +0.8**
PCAB Cabril 120.79 315 *e*PKPdf **PKPdf** **12 29 26.4 -0.1**
MSO Missoula 120.82 39 P **PKiKP** **12 29 27.0 +0.3**
baz=295
NVAR Mina Array Bea 120.83 49 PKP **PKiKP** **12 29 28.1 +1.0**
comp=Z,6.6nm,0.7s,baz=244,slow=2.0,SNR=57
NVAR SKP 12 32 11.9
comp=Z,6.6nm,0.7s,baz=232,slow=2.3,SNR=8.7
NVAR PKKPbc **PKKPbc** **12 39 33.9 -0.1**
comp=Z,12nm,0.7s,baz=135,slow=4.2,SNR=13
PGAV Gavieira, Arco 120.87 315 *e*PKPdf **PKiKP** **12 29 27.8 +0.9**
PGAV *i* LQ LQ 12 29 45.9
MTE Manteigas 120.88 313 *e*PKPdf **PKiKP** **12 29 28.1 +1.1**
SICH Sidi Chahed 120.92 306 P **PKiKP** **12 29 29.0 +1.9**
SNR=7.2
VES Vestal, Richgr 120.94 52 P **PKiKP** **12 29 27.4 +0.3**
baz=285
SCZ2 Santa Cruz Isl 120.96 54 P **PKiKP** **12 29 28.1 +0.9**
baz=283
PCBR Castelo Branco 121.01 313 *e*PKPdf **PKiKP** **12 29 28.1 +1.0**
PCBR *i* LQ LQ 12 29 46.2
PVIS Viseu 121.03 314 *e*PKPdf **PKiKP** **12 29 28.2 +1.0**
PVIS *i* LQ LQ 12 29 46.3
PMRV Marv??o 121.08 312 *e*PKPdf **PKiKP** **12 29 27.9 +0.6**
SNCC San Nicolas Is 121.22 55 P **PKiKP** **12 29 28.7 +1.0**
baz=283
ARVC Arvin 121.33 53 P **PKiKP** **12 29 29.2 +1.3**
baz=285
ISA Isabella, Lake 121.47 52 P **PKiKP** **12 29 29.0 +0.8**
baz=285
CWC Cottonwood Cre 121.57 51 P **PKiKP** **12 29 29.6 +1.0**
baz=286
PCAS Casmilo, Conde 121.68 313 *e*PKPdf **PKiKP** **12 29 29.3 +0.8**
HLID Hailey 121.85 42 P **PKiKP** **12 29 30.3 +1.3**
baz=293
TZRR Tazzarine 121.85 302 P **PKiKP** **12 29 30.0 +0.8**
SNR=14
PBEJ Beja 121.86 311 *e*PKPdf **PKiKP** **12 29 29.7 +0.8**
PVAQ Vaqueiros 121.93 310 *e*PKPdf **PKiKP** **12 29 29.9 +0.9**
ZGR Zagora 122.03 301 P **PKiKP** **12 29 30.2 +0.6**
SNR=19
EDW2 Edwards Air Fo 122.05 53 P **PKiKP** **12 29 30.6 +1.2**
baz=285
PSBE So Bento 122.08 313 *e*PKPdf **PKiKP** **12 29 30.8 +1.5**
CIS Catalina Islan 122.09 55 P **PKiKP** **12 29 30.5 +1.0**
baz=284
PCVE Castro Verde 122.11 310 *e*PKPdf **PKPdf** **12 29 28.9 -0.3**
FMP Fort Macarthur 122.11 54 P **PKiKP** **12 29 30.4 +0.9**
baz=284
MPMC Manual Prospec 122.13 52 P **PKiKP** **12 29 30.9 +1.2**
baz=286
LRMC Laurel Mtn Rad 122.14 52 P **PKiKP** **12 29 30.7 +1.0**
baz=286
PBDV Barranco-do-Ve 122.14 310 *e*PKPdf **PKiKP** **12 29 31.0 +1.5**
KOWA Kowa 122.20 283 PKPdf **PKPdf** **12 29 29.7 -0.2**
PNCL Nicolau / Gran 122.33 311 *e*PKPdf **PKiKP** **12 29 30.8 +1.0**
BFSC Mount Baldy Ra 122.49 54 P **PKiKP** **12 29 31.2 +0.8**
baz=285
FURC Furnace Creek, 122.50 51 P **PKiKP** **12 29 31.4 +1.3**
baz=287
PMAFR Mafra 122.62 312 *e*PKPdf **PKiKP** **12 29 31.6 +1.3**
PTEO Sao Teotonio 122.65 310 *e*PKPdf **PKiKP** **12 29 31.7 +1.3**
PTEO *i* LQ LQ 12 29 51.6
MORF Marmelete 122.67 310 *e*PKPdf **PKPdf** **12 29 30.3 -0.1**
MORF Marmelete 122.67 310 *e*PKPdf **PKiKP** **12 29 31.7 +1.1**
KIC Kosan Boka 122.67 273 *e*PKP1 **PKPdf** **12 29 30.3 -0.6**
comp=Z,128nm,1.0s
EGMT Eagleton 122.78 36 P **PKiKP** **12 29 31.1 +0.6**
baz=300
BOZ Bozeman (W) 122.80 39 P **PKiKP** **12 29 31.5 +0.8**
baz=297
DBIC Dimbokro 122.81 273 PKP **PKPdf** **12 29 31.2 +0.1**
comp=Z,30nm,0.6s,baz=104,slow=2.7,SNR=3.7
OUZM OUZ 122.83 302 P **PKiKP** **12 29 32.0 +0.9**
SNR=9.6
TPNV Topopah Spring 122.83 50 P **PKiKP** **12 29 32.1 +1.1**
baz=288
FFC Flin Flon 122.85 26 PKPdf **PKiKP** **12 29 30.6 +0.3**
PFVI Vila Bisbo 122.86 310 *e*PKPdf **PKPdf** **12 29 27.3 -3.3**
GSC Goldstone, Bar 122.88 52 P **PKiKP** **12 29 32.3 +1.2**
baz=286
R11A Troy Canyon, C 122.89 48 P **PKiKP** **12 29 32.2 +1.0**
baz=289
LIC Lamto 122.95 273 *e*PKP1 **PKPdf** **12 29 30.9 -0.5**
comp=Z,115nm,0.5s
TIC Toumodi 122.97 273 *e*PKP1 **PKPdf** **12 29 31.1 -0.4**
MURC Murrieta 123.02 54 P **PKiKP** **12 29 32.1 +0.8**
baz=285
BBRC Big Bear Solar 123.07 54 P **PKiKP** **12 29 32.6 +0.9**
baz=286
SHOC Shoshone, Teco 123.12 51 P **PKiKP** **12 29 32.8 +1.4**

	baz=287							
109C	**Camp Elliot, M**	123.28	55	P		PKiKP	12 29 32.9	+1.1
	baz=284							
HEC	**Hector,Ludlow**	123.38	53	P		PKiKP	12 29 33.2	+1.1
	baz=286							
TUQ	**Turquoise Moun**	123.53	52	P		PKiKP	12 29 33.7	+1.2
	baz=287							
PFO	**Pinyon Flats O**	123.61	54	P		PKiKP	12 29 33.6	+1.0
	baz=285							
PFO	**Pinyon Flats O**	123.61	54	PKIKP		PKiKP	12 29 33.7	+1.1
PFO	**Pinyon Flats O**	123.61	54	PKPdf		PKiKP	12 29 33.7	+1.1
OUK	**Oukaimeden**	123.68	303	P		PKiKP	12 29 35.0	+1.9
	SNR=8.0							
MONP2	**Monument Peak**	123.83	55	P		PKiKP	12 29 34.2	+1.0
	baz=285							
BELC	**Belle Mtn. Jos**	123.88	54	P		PKiKP	12 29 34.3	+1.2
	baz=286							
GMRC	**Granite Mounta**	123.93	53	P		PKiKP	12 29 34.8	+1.6
	baz=287							
H17A	**Grant Village**	124.01	40	P		PKiKP	12 29 35.1	+1.8
	baz=297							
IKP	**In-Ko-Pah, Jac**	124.15	55	P		PKiKP	12 29 35.0	+1.4
	baz=285							
DUG	**Dugway, Tooele**	124.25	46	P		PKiKP	12 29 34.7	+1.0
	baz=292							
SWSC	**Sam W. Stewart**	124.32	55	P		PKiKP	12 29 34.9	+1.1
	baz=285							
BC3	**Big Chuckawall**	124.41	54	P		PKiKP	12 29 35.5	+1.3
	baz=286							
RLMT	**Red Lodge**	124.49	39	P		PKiKP	12 29 35.0	+0.9
	baz=299							
IRM	**Iron Mountain**	124.51	53	P		PKiKP	12 29 35.6	+1.3
	baz=287							
GLA	**Glamis**	125.08	54	P		PKiKP	12 29 36.5	+1.1
	baz=286							
PDMCI	**Parker Dam,Lak**	125.27	53	P		PKiKP	12 29 36.8	+1.1
	baz=288							
BW06	**Boulder Array**	125.41	41	P		PKiKP	12 29 36.0	-0.1
	baz=297							
PDAR	**Pinedale Array**	125.41	41	PKP		PKPdf	12 29 35.8	+0.2
	comp=Z,2.0nm,0.5s,baz=84,slow=1.3,SNR=28							
PDAR				pPKP		pPKPdf	12 31 44.4	+0.3
	comp=Z,2.9nm,0.8s,baz=225,slow=1.3,SNR=4.9							
PDAR				PKKPab		PKKPab	12 39 15.3	-0.4
	comp=Z,5.9nm,0.5s,baz=121,slow=6.7,SNR=50							
LAO	**LASA Array**	125.53	36	P		PKiKP	12 29 37.0	+1.0
	baz=302							
DGMT	**Dagmar**	125.67	33	P		PKiKP	12 29 36.7	+0.6
	baz=306							
WUAZ	**Wupatki**	127.02	50	P		PKiKP	12 29 40.1	+0.7
	baz=290							
214A	**Organ Pipe Nat**	127.02	55	P		PKiKP	12 29 39.7	+0.4
	baz=287							
K22A	**Casper**	127.43	40	P		PKiKP	12 29 39.9	-0.1
	baz=300							
O20A	**White River Ci**	127.47	44	P		PKiKP	12 29 40.6	+0.4
	baz=296							
RSSD	**Black Hills**	128.21	37	P		PKPdf	12 29 41.1	+0.2
	baz=303							
RSSD	**Black Hills**	128.21	37	PKIKP		PKiKP	12 29 41.4	-0.2
RSSD	**Black Hills**	128.21	37	PKPdf		PKiKP	12 29 41.4	-0.2
W18A	**Petrified Fore**	128.42	50	P		PKiKP	12 29 43.0	+0.7
	baz=292							
MDND	**Maddock**	128.48	31	P		PKPdf	12 29 41.3	+0.3
	baz=310							
MVCO	**Mesa Verde**	128.53	47	P		PKiKP	12 29 43.1	+0.6
	baz=294							
TUC	**Tucson**	128.56	54	P		PKiKP	12 29 43.1	+0.6
	baz=289							
TUC	**Tucson**	128.56	54	PKIKP		PKiKP	12 29 43.4	+0.9
TUC	**Tucson**	128.56	54	PKPdf		PKiKP	12 29 43.4	+0.9
ULM	**Lac du Bonnet**	128.64	27	PKP		PKPdf	12 29 41.3	0.0
	comp=Z,11nm,1.0s,baz=331,slow=3.6,SNR=7.4							
ULM				SKPbc		SKiKP	12 32 10.4	-16
	comp=Z,12nm,0.6s,baz=311,slow=5.0,SNR=12							
N23A	**Red Feather La**	128.67	42	P		PKiKP	12 29 42.8	+0.1
	baz=299							
ISCO	**Idaho Springs**	129.41	43	P		PKiKP	12 29 44.4	+0.1
	baz=299							
S22A	**4UR Ranch, Cre**	129.51	46	P		PKiKP	12 29 45.0	+0.5
	baz=296							
AGMN	**Agassiz Nation**	130.03	29	P		PKiKP	12 29 44.9	0.0
	baz=314							
Q24A	**Divide**	130.13	44	P		PKiKP	12 29 45.7	0.0
	baz=298							
SDCO	**Great Sand Dun**	130.45	45	P		PKiKP	12 29 46.4	-0.1
	baz=297							
FUL	**Funchal**	130.59	307	*e*PKPdf		PKiKP	12 29 54.5	+8.1
121A	**Cookes Peak, D**	130.87	53	P		PKiKP	12 29 47.7	+0.4
	baz=291							
ANMO	**Albuquerque**	130.96	49	P		PKiKP	12 29 47.7	+0.2
	baz=294							
ANMO	**Albuquerque**	130.96	49	PKIKP		PKiKP	12 29 48.1	+0.7
ANMO	**Albuquerque**	130.96	49	PKPdf		PKiKP	12 29 48.1	+0.7
T25A	**Trinidad**	131.50	45	P		PKiKP	12 29 48.4	-0.1
	baz=298							
KSCO	**Kaye Shedlock'**	131.81	42	P		PKiKP	12 29 49.0	+0.1
	baz=301							
PLCA	**Paso Flores**	131.96	172	PKP		PKPdf	12 29 47.9	-0.1
	comp=Z,10nm,0.7s,baz=198,slow=0.8,SNR=15							
PLCA				PP		PP	12 32 16.6	+0.7
	comp=Z,18nm,0.9s,baz=196,slow=6.7,SNR=9.6							
PLCA	**Paso Flores**	131.96	172	PKPdf		PKPdf	12 29 46.6	-1.4
PLCA	**Paso Flores**	131.96	172	*e*P		PKiKP	12 29 48.8	-0.4
SCHQ	**Schefferville**	132.14	3	PKP		PKiKP	12 29 48.8	-0.1
	comp=Z,24nm,0.8s,baz=346,slow=2.1,SNR=14							
SCHQ				SKPbc		SKPbc	12 32 23.9	+0.7
	comp=Z,17nm,0.7s,baz=29,slow=3.2,SNR=7.4							
EYMN	**Ely**	132.28	26	P		PKiKP	12 29 48.9	-0.6
	baz=319							
ECSD	**EROS Data Cent**	132.74	34	P		PKPdf	12 29 49.7	+0.5
	baz=311							
MNTX	**Cornudas Mount**	133.07	53	P		PKiKP	12 29 51.4	-0.1
	baz=292							
BGNE	**Belgrade**	133.32	37	P		PKPdf	12 29 50.7	+0.3
	baz=307							
SPMN	**Marine on St.**	133.69	30	P		PKiKP	12 29 51.8	-0.5
	baz=316							
CBKS	**Cedar Bluff**	133.83	41	P		PKPdf	12 29 51.9	+0.4
	baz=304							
MSTX	**Muleshoe**	134.13	48	P		PKPdf	12 29 52.8	+0.6
	baz=297							
AMTX	**Amarillo**	134.51	47	P		PKPdf	12 29 53.7	+0.7
	baz=298							
TXAR	**Lajitas Array**	135.32	55	PKhKP		PKPpre	12 29 44.8	
	comp=Z,0.7nm,0.4s,baz=231,slow=1.5,SNR=21							
TXAR				PKP		sPdif	12 29 55.9	-0.2
	comp=Z,4.4nm,0.8s,baz=249,slow=1.5,SNR=14							
TXAR				SKPbc		SKPbc	12 32 34.9	+0.4
	comp=Z,7.8nm,0.6s,baz=266,slow=2.0,SNR=15							
TXAR				PKKPbc		SKKSac	12 38 39.0	+0.7
	comp=Z,1.5nm,0.7s,baz=117,slow=4.3,SNR=11							
TXAR				SKKPbc		SKKPbc	12 41 38.8	-0.2
	comp=Z,1.2nm,0.7s,baz=130,slow=5.5,SNR=5.9							
TXAR				SKKP			12 42 22.4	
	comp=Z,0.9nm,0.8s,baz=162,slow=2.6,SNR=3.5							
KSU1	**Kansas State U**	135.65	39	P		PKPdf	12 29 55.3	+0.5
	baz=307							
CHGQ	**Chibougamau**	136.05	11	P		PKiKP	12 29 56.5	-0.6
	baz=343							
JFWS	**Jewell Farm**	136.64	30	P		PKiKP	12 29 57.9	-0.5
	baz=318							
WMOK	**Wichita Mounta**	136.66	45	P		PKiKP	12 29 58.3	-0.5
	baz=301							
JCT	**Junction City**	137.93	51	P		PKPdf	12 30 00.1	+0.8
	baz=296							
D55A	**Sainte-Anne-du**	138.56	13	P		PKiKP	12 30 01.8	-0.4
	baz=340							
D56A	**ZEC Mazanza, M**	138.69	13	P		PKiKP	12 30 02.0	-0.5
	baz=341							
LATQ	**La Tuque**	138.77	11	P		PKiKP	12 30 01.5	-1.1
	baz=344							
HDIL	**Hopedale**	138.86	31	P		PKiKP	12 30 02.3	-0.7
	baz=317							
ALGO	**Algonquin Park**	138.89	17	P		PKiKP	12 30 02.5	-0.4
	baz=336							
E55A	**Montcerf-Lytto**	138.95	14	P		PKiKP	12 30 02.4	-0.6
	baz=339							
H65A	**Eastbrook**	142.08	7	P		PKPdf	12 30 03.4	-2.9
	baz=351							
H66A	**Whiting**	142.09	6	P		PKPdf	12 30 03.2	-3.1
	baz=352							
ACSO	**Alum Creek Sta**	142.12	26	P		PKPdf	12 30 03.3	-3.2
	baz=326							
J59A	**Piesco**	142.14	14	P		PKPdf	12 30 03.1	-3.4
	baz=340							
WCI	**Wyandotte Cave**	142.14	31	P		PKPdf	12 30 03.0	-3.7
	baz=319							
N52A	**McGinn's Farm,**	142.18	24	P		PKPdf	12 30 03.3	-3.4
	baz=328							
I61A	**Oroboro, Fairl**	142.20	11	P		PKPdf	12 30 04.2	-2.4
	baz=344							
K57A	**Scipio Center**	142.28	17	P		PKPdf	12 30 03.8	-3.0
	baz=337							
M54A	**Oil Creek Stat**	142.36	21	P		PKPdf	12 30 04.0	-3.0
	baz=331							
O51A	**Pataskala**	142.36	26	P		PKPdf	12 30 04.1	-2.9
	baz=326							
I63A	**Otisfield**	142.38	10	P		PKPdf	12 30 04.6	-2.3
	baz=347							
I62A	**Tamworth**	142.42	11	P		PKPdf	12 30 04.8	-2.2
	baz=345							
K58A	**Earlville**	142.50	16	P		PKPdf	12 30 04.6	-2.6
	baz=338							
L56A	**Greenwood**	142.51	19	P		PKPdf	12 30 04.6	-2.7
	baz=338							
J60A	**Lant Hill Farm**	142.60	13	P		PKPdf	12 30 04.7	-2.6
	baz=342							
I64A	**Boothbay**	142.66	9	P		PKPdf	12 30 05.1	-2.2
	baz=348							
J61A	**Chester**	142.69	12	P		PKPdf	12 30 05.9	-1.6
	baz=343							
K59A	**Cooperstown**	142.70	15	P		PKPdf	12 30 04.9	-2.6
	baz=339							
P51A	**Williamsport**	142.71	27	P		PKPdf	12 30 04.9	-2.7
	baz=325							
O52A	**Adamsville**	142.71	25	P		PKPdf	12 30 05.1	-2.5
	baz=327							
N54A	**Moraine State**	142.72	22	P		PKPdf	12 30 05.1	-2.5
	baz=330							
WVT	**Waverly**	142.84	35	P		PKPdf	12 30 05.6	-2.4
	baz=315							
O53A	**New Philadelph**	142.85	24	P		PKPdf	12 30 05.1	-2.8
	baz=328							
L57A	**Andrews Acres**	142.85	18	P		PKPdf	12 30 05.4	-2.4
	baz=336							
M56A	**Emporium**	142.90	20	P		PKPdf	12 30 05.7	-2.2
	baz=334							
BINY	**Binghamton**	142.93	17	P		PKPdf	12 30 06.2	-1.8
	baz=337							
J62A	**Henniker**	142.96	11	P		PKPdf	12 30 06.7	-1.2
	baz=344							
P52A	**Corning**	142.99	26	P		PKPdf	12 30 05.8	-2.3
	baz=326							
OXF	**Oxford**	143.02	38	P		PKPbc	12 30 06.6	+0.3
	baz=312							
J63A	**Strafford**	143.05	10	P		PKPbc	12 30 06.9	+0.7
	baz=346							
K60A	**Five Rivers En**	143.09	14	P		PKPbc	12 30 06.6	+0.3
	baz=341							
L58A	**Harry Jones Me**	143.11	17	P		PKPbc	12 30 06.8	+0.4
	baz=338							
K61A	**Williamstown**	143.18	13	P		PKPbc	12 30 07.3	+0.7
	baz=342							
L59A	**Walton**	143.19	16	P		PKPbc	12 30 07.1	+0.4
	baz=339							
N55A	**Marion Center**	143.24	21	P		PKPbc	12 30 06.8	0.0
	baz=332							
O54A	**Avella**	143.24	23	P		PKPbc	12 30 07.3	+0.4
	baz=329							
N56A	**West Decatur**	143.36	20	P		PKPbc	12 30 07.6	+0.4
	baz=333							
LCO	**Las Campanas**	143.37	168	PKIKP		PKPbc	12 30 08.1	+0.2
LCO	**Las Campanas**	143.37	168	PKPdf		PKPbc	12 30 08.1	+0.2
M57A	**Sunshine Farm,**	143.37	19	P		PKPbc	12 30 07.7	+0.5
	baz=335							
K62A	**Royalston**	143.41	12	P		PKPdf	12 30 08.4	-0.3
	baz=344							
P53A	**Whipple**	143.42	25	P		PKPbc	12 30 08.1	+0.7
	baz=327							
Q52A	**Bidwell**	143.48	26	P		PKPbc	12 30 07.7	+0.1
	baz=326							
L61B	**Northampton**	143.53	13	P		PKPbc	12 30 08.2	+0.6
	baz=343							
K63A	**Dunstable**	143.53	11	P		PKPdf	12 30 08.7	-0.2
	baz=345							
M58A	**Price's Panora**	143.54	18	P		PKPbc	12 30 08.4	+0.6
	baz=336							
L61A	**Hillsdale 1, H**	143.57	14	P		PKPbc	12 30 08.3	+0.5
	baz=341							
L60A	**Shokan**	143.60	15	P		PKPdf	12 30 08.7	-0.4
	baz=340							
O55A	**Ligonier**	143.63	22	P		PKPbc	12 30 08.5	+0.4
	baz=331							
M59A	**Waymart**	143.69	17	P		PKPdf	12 30 08.9	-0.4
	baz=338							
P54A	**Burton**	143.70	24	P		PKPdf	12 30 09.2	-0.1
	baz=329							
HRV	**Adam Dziewonsk**	143.70	11	P		PKPdf	12 30 08.9	-0.3
	baz=345							
N57A	**Milroy**	143.76	20	P		PKPdf	12 30 08.9	-0.5
	baz=334							
VBMS	**Vicksburg**	143.77	42	P		PKPdf	12 30 10.0	+0.4
	baz=308							
O56A	**Blue Knob Stat**	143.84	21	P		PKPdf	12 30 09.5	-0.2
	baz=332							
Q53A	**Leroy**	143.89	26	P		PKPdf	12 30 09.5	-0.2
	baz=327							
MCWV	**Cont Chateau**	143.90	23	P		PKPdf	12 30 09.8	+0.1
	baz=330							
L62A	**Suffield**	143.93	13	P		PKPdf	12 30 09.8	+0.2
	baz=343							
N58A	**Sunbury**	143.95	18	P		PKPab	12 30 09.4	+0.3
	baz=335							
P55A	**Reedsville**	144.04	23	P		PKPdf	12 30 09.9	0.0
	baz=330							
Q54A	**Coxs Mills**	144.08	25	P		PKPdf	12 30 10.2	+0.2
	baz=328							
M60A	**Port Jervis**	144.11	16	P		PKPdf	12 30 10.2	+0.2
	baz=339							
R53A	**Hurricane**	144.14	27	P		PKPdf	12 30 10.2	+0.1
	baz=326							
N59A	**State Game Lan**	144.17	17	P		PKPdf	12 30 10.7	+0.6
	baz=337							
O57A	**Amberson**	144.22	20	P		PKPdf	12 30 10.4	+0.2
	baz=334							
L63A	**North Scituate**	144.31	12	P		PKPab	12 30 10.9	+0.5
	baz=344							
M61A	**Granite Spring**	144.35	15	P		PKPab	12 30 10.9	+0.3
	baz=340							
Q55A	**Buckhannon**	144.38	24	P		PKPab	12 30 11.1	+0.2
	baz=329							
L64A	**Middleborough**	144.39	11	P		PKPab	12 30 11.0	+0.3
	baz=346							
N60A	**Cedar Hill Far**	144.41	17	P		PKPab	12 30 11.1	+0.2
	baz=338							
P56A	**Dayton Farm, R**	144.42	22	P		PKPab	12 30 11.3	+0.3
	baz=331							
M62A	**Hamden**	144.44	14	P		PKPbc	12 30 10.5	0.0
	baz=342							
O58A	**Lewisberry**	144.53	19	P		PKPab	12 30 11.3	-0.1
	baz=335							
ITAB	**Concordia**	144.56	196	*e*P		PKPab	12 30 12.0	+0.3
S53A	**Williamson**	144.60	27	P		PKPab	12 30 11.7	0.0
	baz=325							
O59A	**Rosconia**	144.60	18	P		PKPab	12 30 11.6	0.0
	baz=336							
PAL	**Palisades**	144.60	15	P		PKPab	12 30 11.9	+0.4
	baz=340							
M63A	**Gales Ferry**	144.66	12	P		PKPab	12 30 11.5	-0.3
	baz=343							
Q56A	**Snyder Ridge,**	144.69	23	P		PKPab	12 30 11.9	-0.1
	baz=330							
R54A	**Victor**	144.69	26	P		PKPbc	12 30 11.7	+0.3
	baz=327							
M64A	**Tiverton**	144.69	11	P		PKPab	12 30 11.9	0.0
	baz=345							
P57A	**Homestead Farm**	144.74	21	P		PKPab	12 30 12.0	-0.2
	baz=333							
N61A	**South Mountain**	144.74	16	P		PKPab	12 30 12.3	+0.3
	baz=339							
N62A	**Caumsett State**	144.78	14	P		PKPab	12 30 12.1	-0.1
	baz=341							
M65A	**Busby, Falmout**	144.79	11	P		PKPab	12 30 12.2	0.0
	baz=346							
TZTN	**Tazewell**	144.83	30	P		PKPab	12 30 12.4	-0.2
	baz=322							
O60A	**Telford**	144.83	17	P		PKPab	12 30 12.4	-0.1
	baz=337							
S54A	**Dingess, Beckl**	144.87	26	P		PKPab	12 30 12.6	-0.2
	baz=326							
N63A	**Mattituck**	144.96	13	P		PKPab	12 30 12.6	-0.3
	baz=342							
R55A	**Marlinton**	144.97	25	P		PKPab	12 30 12.8	-0.4
	baz=328							
T53A	**Wise**	144.97	29	P		PKPab	12 30 12.9	-0.4
	baz=324							
P58A	**Pank, Wackersv**	144.98	20	P		PKPab	12 30 12.8	-0.2
	baz=334							
Q57A	**Strasburg**	144.99	22	P		PKPab	12 30 12.9	-0.3
	baz=332							
R56A	**Bull Pasture M**	145.15	24	P		PKPbc	12 30 13.3	+0.4
	baz=330							
P59A	**Jarrettsville**	145.16	19	P		PKPab	12 30 13.3	-0.4
	baz=335							
P60A	**Greenville**	145.22	18	P		PKPab	12 30 13.5	-0.5
	baz=337							
S55A	**Lewisburg**	145.24	25	P		PKPbc	12 30 13.2	+0.1
	baz=327							
MAN01	**Angra dos Reis**	145.25	211	*e*P		PKPdf	12 30 13.0	+0.4
O61A	**Allentown**	145.28	16	P		PKPbc	12 30 13.5	+0.4
	baz=339							
TIJ01	**Guaruva-PR**	145.33	202	*e*P		PKPbc	12 30 13.3	-0.5
Q58A	**Fox Den Farm,**	145.33	21	P		PKPab	12 30 13.9	-0.6
	baz=333							
T54A	**Tazewell**	145.36	27	P		PKPbc	12 30 14.0	+0.4
	baz=325							
ESAR	**Angra dos Reis**	145.37	210	*e*P		PKPab	12 30 14.6	-0.4
VAS01	**Vassouras-RJ**	145.47	212	*e*P		PKPdf	12 30 13.5	+0.6
LRAL	**Lakeview Retre**	145.49	38	P		PKPbc	12 30 14.5	+0.5
	baz=313							
R57A	**Stanardsville**	145.59	23	P		PKPab	12 30 14.9	-0.5
	baz=331							
P61A	**Hammonton**	145.60	17	P		PKPbc	12 30 14.5	+0.5
	baz=338							
T55A	**Pulaski**	145.66	26	P		PKPbc	12 30 14.8	+0.4
	baz=326							
PARB	**Paraibuna**	145.67	208	*e*P		PKPbc	12 30 14.5	-0.3
U54A	**Nelsons Funny**	145.68	28	P		PKPbc	12 30 14.8	+0.3
	baz=324							
S56A	**Natural Bridge**	145.71	24	P		PKPbc	12 30 14.7	+0.2
	baz=329							
BLA	**Blacksburg**	145.75	26	P		PKPbc	12 30 14.9	+0.3
	baz=327							
Q59A	**Harwood**	145.76	20	P		PKPab	12 30 15.5	-0.6
	baz=334							
R58A	**Rapidan**	145.78	22	P		PKPbc	12 30 15.3	+0.7
	baz=332							
S57A	**Dark Hollow, R**	145.89	24	P		PKPbc	12 30 15.2	+0.3
	baz=330							
Q60A	**Greensboro**	145.90	19	P		PKPab	12 30 15.9	-0.7
	baz=336							
RIB01	**Linhares ES**	146.01	219	*e*P		PKPbc	12 30 16.4	+0.6
U55A	**TA2, Sparta**	146.06	27	P		PKPbc	12 30 16.0	+0.4
	baz=326							
T56A	**Rocky Mt**	146.07	26	P		PKPbc	12 30 15.9	+0.4
	baz=328							
CBN	**Corbin Frederi**	146.10	21	P		PKPbc	12 30 16.1	+0.7
	baz=333							
R58B	**Mineral**	146.13	22	P		PKPbc	12 30 16.0	+0.4
	baz=332							
Q61A	**Milford**	146.18	18	P		PKPbc	12 30 16.3	+0.6
	baz=337							
R59A	**King George, V**	146.19	21	P		PKPbc	12 30 16.7	+0.9
	baz=333							
V54A	**Nebo**	146.22	29	P		PKPbc	12 30 16.6	+0.6
	baz=324							
SPB	**Sao Paulo**	146.26	205	*e*P		PKPdf	12 30 15.2	+1.0
R60A	**Leonardtown, M**	146.32	20	P		PKPbc	12 30 17.0	+0.9
	baz=334							
S58A	**Poland Farm, P**	146.37	23	P		PKPbc	12 30 16.7	+0.5
	baz=331							
T57A	**Hurt**	146.42	25	P		PKPbc	12 30 16.7	+0.3
	baz=329							
U56A	**King**	146.48	27	P		PKPbc	12 30 16.9	+0.3
	baz=326							
V55A	**Taylorsville**	146.51	28	P		PKPbc	12 30 17.2	+0.5
	baz=325							
S59A	**Mechanicsville**	146.52	22	P		PKPbc	12 30 17.6	+1.0
	baz=333							
CPUP	**Villa Florida**	146.53	188	PKP		PKPdf	12 30 15.4	+0.8
	comp=Z,201nm,0.9s,baz=169,slow=1.7,SNR=118							
CPUP				PKPbc		PKPbc	12 30 18.0	+1.0
	comp=Z,143nm,0.7s,baz=161,slow=1.6,SNR=163							
CPUP				pPKPbc		pPKPdf	12 32 21.4	-1.7
	comp=Z,17nm,0.9s,baz=206,slow=4.0,SNR=2.8							
CPUP				SKPbc		SKiKP	12 33 03.6	0.0
	comp=Z,26nm,0.7s,baz=165,slow=0.7,SNR=5.4							
CPUP	**Villa Florida**	146.53	188	*e*P		PKPdf	12 30 15.4	+0.8
VAO	**Valinhos**	146.57	207	*e*P		PKPbc	12 30 16.1	-1.3
BSFB	**Barra de Sao F**	146.65	219	*e*P		PKPdf	12 30 15.8	+0.9
W54A	**Cherokee Point**	146.66	30	P		PKPbc	12 30 17.9	+0.7
	baz=322							
R61A	**Willards**	146.67	19	P		PKPbc	12 30 18.1	+1.0
	baz=336							
BRAL	**Brewton**	146.71	40	P		PKiKP	12 30 18.4	-1.0
	baz=311							
T58A	**Grand View Acr**	146.76	24	P		PKPbc	12 30 17.8	+0.5
	baz=330							
S60A	**Water View**	146.80	21	P		PKiKP	12 30 18.5	-0.9
	baz=334							
U57A	**Blanch**	146.87	25	P		PKPbc	12 30 18.0	+0.4
	baz=328							
V56A	**Mocksville**	146.88	27	P		PKPbc	12 30 18.1	+0.4
	baz=326							
PTGB	**Pitanga**	146.92	198	*e*P		PKPdf	12 30 15.8	+0.4
SJMB	**Sao Joao De Ma**	146.96	219	*e*P		PKPdf	12 30 16.1	+0.7
X54A	**Belton**	146.98	31	P		PKPbc	12 30 18.8	+0.8
	baz=322							
KMSC	**Kings Mountain**	147.03	29	P		PKPbc	12 30 18.7	+0.6
	baz=324							
T59A	**Double "B" Far**	147.12	23	P		PKPbc	12 30 19.1	+0.9
	baz=332							
V57A	**Coltrane Farms**	147.14	26	P		PKPbc	12 30 18.8	+0.4
	baz=327							
S61A	**Accomac**	147.16	19	P		PKiKP	12 30 19.4	-0.7
	baz=335							
BSCB	**Bom Sucesso**	147.22	212	*e*P		PKPbc	12 30 18.2	-0.9
U58A	**Oxford**	147.23	24	P		PKPbc	12 30 19.3	+0.7
	baz=330							
GOGA	**Godfrey**	147.28	34	P		PKiKP	12 30

BB19B	Bebedouro	148.96	206	*eP*		PKPdf	12 30 20.7	+2.0
V62A	Hyde County Ai baz=333	148.97	22	P		PKiKP	12 30 23.9	-0.1
X60A	Albert Glenn T baz=329	149.03	25	P		PKiKP	12 30 23.8	-0.3
Y59A	Loris baz=327	149.13	27	P		PKPbc	12 30 23.7	+0.3
157A	Early Branch baz=322	149.16	31	P		PKiKP	12 30 24.9	+0.5
Z58A	St. Stephen baz=325	149.23	29	P		PKiKP	12 30 24.5	0.0
NHSC	New Hope baz=324	149.24	30	P		PKiKP	12 30 24.5	0.0
GDU01	Guandu, BA	149.35	228	*eP*		PKPdf	12 30 20.9	+1.4
Y60A	Bolivia baz=328	149.41	26	P		PKiKP	12 30 24.7	-0.2
158A	Hollywood baz=323	149.52	30	P		PKPbc	12 30 24.7	+0.3
PCMB	Pacaembu	149.55	201	*eP*		PKPdf	12 30 22.1	+2.5
LVC	Limon Verde	149.94	168	PKP		PKPdf	12 30 22.6	+1.9
	comp=Z,39nm,1.2s,baz=341,slow=1.4,SNR=5.4							
LVC				PKPbc		PKiKP	12 30 28.0	+1.2
	comp=Z,177nm,0.8s,baz=249,slow=1.2,SNR=90							
LVC	Limon Verde	149.94	168	*eP*		PKPdf	12 30 22.0	+1.3
RCBR	Riachuelo	150.59	245	PKPbc		PKiKP	12 30 28.6	+0.6
RCBR				PKPab		PKPab	12 30 37.6	+0.9
	comp=Z,103nm,0.8s,baz=115,slow=5.7,SNR=6.4							
RCBR	Riachuelo	150.59	245	*eP*		PKPdf	12 30 24.2	+2.7
ITRB	Iturama	150.94	204	*eP*		PKPdf	12 30 23.6	+1.8
PAYG	Puerto Ayora	151.24	104	*eP*		PKPbc	12 30 29.1	+0.1
PAYG	Puerto Ayora	151.24	104	PKPdf		PKPdf	12 30 24.4	+1.9
PAYG						PKiKP	12 30 30.6	+1.3
IPMB	Ipameri, GO	151.49	209	*eP*		PKPdf	12 30 23.7	+1.0
JANB	Januaria	151.66	219	*eP*		PKPdf	12 30 24.9	+1.9
BDFB	Brasilia	153.36	212	PKP		PKPdf	12 30 26.1	+0.6
	comp=Z,111nm,0.7s,baz=262,slow=0.8,SNR=15							
BDFB				PKPbc		PKiKP	12 30 34.2	+0.5
	comp=Z,25nm,0.5s,baz=100,slow=2.1,SNR=24							
BDFB				PKPab		PKPab	12 30 49.6	+1.3
	comp=Z,126nm,0.8s,baz=106,slow=3.4,SNR=34							
SDBA	SAO DESIDERIO	154.00	222	*eP*		PKPdf	12 30 28.9	+2.5
ARAG	Araguaiana, MT	155.12	205	*eP*		PKPdf	12 30 28.9	+1.1
LPAZ	La Paz	156.23	166	PKP		PKPdf	12 30 31.1	+1.1
	comp=Z,14nm,1.1s,baz=73,slow=0.3,SNR=29							
LPAZ				PKPab		PKPab	12 31 02.5	+1.3
	comp=Z,43nm,0.9s,baz=171,slow=2.6,SNR=21							
LPAZ	La Paz	156.23	166	*eP*		PKPdf	12 30 32.2	+2.2
NNA	Nana	156.37	143	PKP		PKPdf	12 30 30.2	+0.7
	comp=Z,14nm,0.8s,baz=278,slow=3.9,SNR=4.0							
PEXB	Peixe	156.38	217	*eP*		PKPdf	12 30 33.1	+3.5
SIV	San Ignacio	157.15	184	PKP		PKPdf	12 30 31.3	+0.8
	comp=Z,20nm,0.9s,baz=152,slow=1.2,SNR=62							
SIV				PKPab		PKPab	12 31 05.3	+0.9
	comp=Z,40nm,0.6s,baz=189,slow=4.3,SNR=20							
SIV				PP		PP	12 34 45.2	+1.4
	comp=Z,91nm,1.3s,baz=201,slow=5.9,SNR=20							
PTLB	Pontes e Lacer	157.49	188	*eP*		PKPdf	12 30 31.3	+0.5
SNDB	Serra Nova Dou	158.14	211	*eP*		PKPdf	12 30 32.0	+0.3
SMTB	Santa Maria do	158.38	224	*eP*		PKPdf	12 30 33.0	+0.9
ATAH	Atahualpa	158.83	131	PKP		PKPdf	12 30 35.3	+2.2
	comp=Z,14nm,0.9s,baz=219,slow=1.7,SNR=12							
ATAH				PKPab		PKPab	12 31 15.3	+2.8
	comp=Z,11nm,0.9s,baz=186,slow=5.2,SNR=6.6							
VILB	Vilhena	160.09	187	*eP*		PKPdf	12 30 36.4	+2.5
PRVC	Isla de Provid	160.36	70	*eP*		PKPdf	12 30 34.5	+0.3
CLDB	Colider	161.07	201	*eP*		PKPdf	12 30 38.7	+3.7
PRPB	Parauapebas	161.83	224	*eP*		PKPdf	12 30 38.3	+2.5
PAC1	Pacto, Paraso	162.43	112	*eP*		PKPdf	12 30 36.6	0.0
CUSE	Cuicocha Este	162.80	112	*eP*		PKPdf	12 30 38.1	+0.8
TMAB	Tom-Au,PA,Br	162.91	238	*eP*		PKPdf	12 30 39.6	+2.8
TUMC	Tumaco	163.03	107	*eP*		PKPdf	12 30 40.2	+3.2
GCUF	Volcan Galeras	164.12	110	*eP*		PKPdf	12 30 39.6	+0.9
SAML	Samuel	164.18	177	PKIKP		PKPdf	12 30 38.7	+0.7
SAML	Samuel	164.18	177			PKPdf	12 30 38.7	+0.7
SAML	Samuel	164.18	177	*eP*		PKPdf	12 30 40.0	+2.0
NPGB	Novo Progresso	164.37	207	*eP*		PKPdf	12 30 39.8	+1.6
BBAC	Balboa, Cauca	164.49	108	*eP*		PKPdf	12 30 38.5	-0.1
PUAC	Puerto Asis, P	164.57	114	*eP*		PKPdf	12 30 37.1	-1.3
POPC	Popayan, Colom	165.19	107	*eP*		PKPdf	12 30 39.1	-0.1
PCON	Cinco Dias	165.39	108	*eP*		PKPdf	12 30 40.8	+1.0
YOTC	Yotoco, Valle	165.89	101	*eP*		PKPdf	12 30 39.1	-0.5
MARP	Paez Belalcaza	165.97	106	*eP*		PKPdf	12 30 40.6	+0.7
PTLC	Puerto Leguiza	165.99	118	*eP*		PKPdf	12 30 37.1	-2.5
LCBC	Los crdobas,	166.12	81	*eP*		PKPdf	12 30 38.9	-0.7
GARC	Garzon, Huila	166.19	109	*eP*		PKPdf	12 30 38.8	-1.2
BETC	Betania	166.41	108	*eP*		PKPdf	12 30 40.6	+0.7
CBOC	Ciudad Bolivar	166.51	94	*eP*		PKPdf	12 30 40.0	-0.2
ITTB	Itaituba	166.88	211	*eP*		PKPdf	12 30 41.9	+1.7
ANIL	Santa Ana	166.91	100	*eP*		PKPdf	12 30 40.6	-0.1
ORTC	Ortega, Tolima	166.94	103	*eP*		PKPdf	12 30 39.9	-0.5
TOLC	Tolima	167.01	100	*eP*		PKPdf	12 30 40.7	-0.1
HELC	Santa Helena	167.02	93	*eP*		PKPdf	12 30 40.6	-0.2
UREC	San Jos de Ur	167.03	86	*eP*		PKPdf	12 30 39.9	-0.4
SJCC	San Jacinto, C	167.11	76	*eP*		PKPdf	12 30 41.0	+0.5
PRAC	Prado	167.24	104	*eP*		PKPdf	12 30 39.0	-1.6
MCPB	Macapa, AP	167.31	235	*eP*		PKPdf	12 30 43.3	+2.7
MACA	Macarena, Meta	167.71	112	*eP*		PKPdf	12 30 40.7	-0.1
MALE	Monte Alegre	168.00	222	*eP*		PKPdf	12 30 43.0	+2.0
ARGC	Ariguani, Magd	168.01	75	*eP*		PKPdf	12 30 41.2	+0.2
ROSC	El Rosal	168.04	100	PKP		PKPdf	12 30 42.3	+0.8
	comp=Z,6.4nm,0.4s,baz=109,slow=7.8,SNR=12							
ROSC	El Rosal	168.04	100	*eP*		PKPdf	12 30 41.7	+0.2
PTBC	PUERTO BERRIO	168.10	91	*eP*		PKPdf	12 30 40.4	-0.7
SPBC	San Pablo de B	168.41	96	*eP*		PKPdf	12 30 41.0	-0.4
CHIC	Chingaza	168.57	101	*eP*		PKPdf	12 30 41.4	-0.5
BRRC	Barranca, Sant	168.85	89	*eP*		PKPdf	12 30 41.6	+0.1
OCAC	Ocana	169.19	83	*eP*		PKPdf	12 30 40.6	-1.3
BARC	Barichara	169.37	91	*eP*		PKPdf	12 30 41.3	-0.8
RUSC	La Rusia	169.41	95	*eP*		PKPdf	12 30 41.8	-0.7
URIC	Uribia, Colomb	169.50	63	*eP*		PKPdf	12 30 39.4	-2.5
MACA	Manacapuru-AM	169.78	190	*eP*		PKPdf	12 30 45.6	+3.5
PAMC	Pamplona, Colo	169.86	87	*eP*		PKPdf	12 30 42.1	-0.6
PTGC	Puerto Gaitan,	170.01	105	*eP*		PKPdf	12 30 40.6	-1.6
MDP	Montagnes des	170.04	260	PKP		PKPdf	12 30 42.6	+0.3
	comp=Z,7.5nm,0.6s,baz=121,slow=1.4,SNR=4.8							
MDP				PKPab		PKPab	12 32 02.1	+0.5
	comp=Z,25nm,0.7s,baz=89,slow=4.3,SNR=16							
MDP				PP		PP	12 35 55.0	+1.9
	comp=Z,13nm,0.9s,baz=151,slow=6.7,SNR=4.7							
SDV	Santo Domingo	171.71	76	PKP		PKPdf	12 30 42.6	-0.8
	comp=Z,3.0nm,0.3s,baz=112,slow=1.1,SNR=4.0							
SDV	Santo Domingo	171.71	76	*eP*		PKPdf	12 30 42.1	-1.2
SDV	Santo Domingo	171.71	76	*eP*		PKPdf	12 30 45.1	+1.8

*NEIC **30** 13:02:58.9±2.5, 10°.06N±0°.08×125°.5E±0°.2, h176km±10km, mb4.1/9, Error ellipse: s-maj=35.3km s-min=10.7km az=83.0*

*MAN **30** 13:03:00.8, 10°.17N×125°.36E, h180km, mb4.7, ML3.6, MS3.5*

*IDC **30** 13:03:03.4±4.4, 10°.04N×125°.27E, h217km±43km, mb3.6/13, mb1 3.7/14, mb1mx3.4/51, mbtmp4.2/14, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=26.3km s-min=10.8km az=83.0*

ISC 30 13:03:00.5±0.6, 10°.16N±0°.04×125°.39E±0°.06, h190km±6km, n47, σ1$39/56, mb4.0/16, 2C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.52	268	*eP*			Pn	13 03 27.1	+0.6
GLSP	General Luna,	0.82	117	*eP*			Pn	13 03 27.2	-0.8
GLSP				*eS*			Sn	13 03 48.5	-0.8
LLP	Lapu-Lapu	1.41	277	⇓*iP*			Pn	13 03 33.0	+0.5
LLP				*eS*			Sn	13 03 57.0	-0.2
BESP	Borongan	1.44	2	*eP*			Pn	13 03 32.7	0.0
BESP				*eS*			Sn	13 03 56.6	-1.3
CGP	Cagayan de Oro	1.82	202	⇓*eP*			Pn	13 03 37.1	+0.6
CGP				*eS*			Sn	13 04 04.4	-0.0
BIP	Bislig	2.10	156	⇑*eP*			Pn	13 03 42.1	+2.7
BUKP	Musuan	2.29	188	*eP*			Pn	13 03 42.6	+1.2
BUKP				*eS*			Sn	13 04 13.5	+0.1
CNP	Catarman	2.44	343	*eP*			Pn	13 03 44.0	+0.9
CNP				*eS*			Sn	13 04 16.6	+0.1
CNOP	Candoni, Negro	2.73	263	*eP*			Pn	13 03 45.3	-1.1
CNOP				*eS*			Sn	13 04 21.2	-0.9
KCP	Kidapawan	3.14	185	⇓*eP*			Pn	13 03 53.2	+1.8
MATI	Mati	3.30	165	*eP*			Pn	13 03 53.4	+0.1
PVCP	Virac	3.62	341	*eP*			Pn	13 03 57.1	-0.1
PVCP				*eS*			Sn	13 04 36.6	-5.2
SKMP	Bagumbayan, Su	3.71	193	*eP*			Pn	13 03 58.1	-0.2
DDMP	Don Marcelino,	4.04	175	*eP*			Pn	13 04 00.7	-1.8
LQP	Lukban	5.44	317	⇑*eP*			Pn	13 04 22.2	+1.7
TNTI	Ternate	9.53	168				Pn	13 05 13.6	-0.2
TPUB	Ta-pu	13.84	341	Pn			Pn	13 06 09.3	+0.4
FAKI	Fak Fak	14.68	152	P			Pn	13 06 19.5	+0.1
KAPI	Kappang	16.08	201	P			Pn	13 06 37.7	+1.2
	0.5nm,0.3s,baz=170,slow=14,SNR=4.7								
GUMO	Guam	19.37	78	LR			LR	13 15 28.0	
	comp=Z,30nm,18.2s,baz=126,slow=38								
MTN	Manton Dam	23.55	166	P			P	13 07 54.3	+0.5
KNRA	Kununurra	25.88	173	P			P	13 08 13.6	-1.3
KNRA				IAmb			IAmb	13 08 17.9	
	comp=Z,4.6nm,0.8s								
FITZ	Fitzroy Crossi	28.08	179	P			P	13 08 33.5	-1.0
	comp=Z,1.1nm,0.6s,baz=4.5,slow=7.6,SNR=6.1								
FITZ	Fitzroy Crossi	28.08	179	P			P	13 08 33.4	-1.1
FITZ				IAmb			IAmb	13 08 36.3	
	comp=Z,3.0nm,1.0s								
JMM	Marumori	30.88	24	P			P	13 08 58.4	-0.6
WB0	Warramunga Arr	31.03	163	P			P	13 08 58.1	-2.5
WRA	Warramunga Arr	31.18	164	P			P	13 09 00.7	-1.2
	comp=Z,0.2nm,0.5s,baz=344,slow=9.5,SNR=7.0								
WRA				PcP			PcP	13 11 51.8	-0.5
	comp=Z,0.3nm,0.5s,baz=341,slow=2.6,SNR=5.6								
WRA	Warramunga Arr	31.18	164	P			P	13 08 57.6	-4.3
USRK	Ussuriysk Ar.	34.40	8	P			P	13 09 30.6	+1.1
	comp=Z,2.1nm,0.6s,baz=199,slow=8.8,SNR=5.9								
USRK	Ussuriysk Ar.	34.40	8	P			P	13 09 30.0	+0.4
AS31	Alice Springs	34.63	166	P			P	13 09 30.8	-1.1
ASAR	Alice Springs	34.63	166	P			P	13 09 31.6	-0.2
	comp=Z,0.7nm,0.3s,baz=343,slow=7.1,SNR=29								
ASAR				PcP			PcP	13 12 01.5	-0.4
	comp=Z,0.5nm,0.4s,baz=342,slow=3.0,SNR=7.3								
ASAR	Alice Springs	34.63	166	P			P	13 09 32.3	+0.4
ASAJ	Asahikawa	36.98	21	P			P	13 09 53.7	+2.2
	comp=Z,4.5nm,0.7s,baz=133,slow=7.6,SNR=4.4								
PETK	Petropavlovsk-	50.10	25	P			P	13 11 38.0	+1.9
	comp=Z,4.3nm,0.9s,baz=198,slow=3.6,SNR=4.5								
MK31	Makanchi Array	51.59	323	P			P	13 11 48.4	+1.0
MK31				IAmb			IAmb	13 11 48.9	
	comp=Z,4.1nm,0.8s								
MKAR	Makanchi Array	51.59	323	P			P	13 11 48.1	+0.7
	comp=Z,3.7nm,0.6s,baz=122,slow=8.1,SNR=36								
MKAR	Makanchi Array	51.59	323	P			P	13 11 48.4	+1.0
MAKZ	Makanchi	51.79	323	P			P	13 11 48.6	-0.3
MAKZ				IAmb			IAmb	13 11 49.9	
	comp=Z,3.2nm,0.7s								
ZALV	Zalesovo Beam	54.31	332	P			P	13 12 06.9	-0.2
	comp=Z,1.5nm,0.6s,baz=124,slow=6.4,SNR=5.1								
ZALV	Zalesovo Beam	54.31	332	P			P	13 12 06.8	-0.3
ILAR	Eielson Array	79.92	26	P			P	13 14 48.5	+0.4
	comp=Z,0.7nm,0.6s,baz=241,slow=4.9,SNR=15								
ILAR	Eielson Array	79.92	26	P			P	13 14 47.4	-0.6
ARCES	ARCESS Array B	84.00	340	P			P	13 15 09.1	-0.1
	comp=Z,5.3nm,1.0s,baz=68,slow=5.4,SNR=11								
INK	Inuvik	84.71	21	P			P	13 15 13.8	+1.1
	comp=Z,3.2nm,0.9s,baz=317,slow=4.1,SNR=13								
FINES	FINESS Array B	85.58	332	P			P	13 15 16.7	-0.5
	comp=Z,2.0nm,0.5s,baz=80,slow=4.7,SNR=24								
VNDA	Vanda	89.93	173	P			P	13 15 37.8	+0.3
	comp=Z,0.4nm,0.6s,baz=328,slow=6.8,SNR=4.3								

*SOME **30** 13:09:47.1, 40°.93N×69°.80E, h5km*

*NNC **30** 13:09:48.7±2.4, 40°.86N×69°.84E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=16.8km s-min=9.8km az=32.0*

*KRNET **30** 13:09:51.4±0.1, 40°.90N×69°.83E, h12km, mb2.9*

ISC 30 13:09:48.7±1.4, 41°.02N±0°.03×69°.89E±0°.04, h8km±11km, n25, σ1$81/42, 15C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.54	304	⇑*eP*			Pn	13 10 03.2	+0.4
TAS				⇑*eS*			Sn	13 10 11.3	-0.8
	baz=17								
IUG	Iuzhnay	1.13	5	*eP*			Pg	13 10 10.3	0.0
	38nm,0.2s								
IUG				*eS*			Sb	13 10 27.4	+2.0
	53nm,0.3s								
BTK	Batken	1.19	144	⇑*iP*			Pn	13 10 13.1	+1.3
BTK				⇑*iS*			Sn	13 10 28.8	+0.6
	baz=38								
BRLS	Boroldaу	2.01	359	*eP*			Pn	13 10 22.0	-0.9
	28nm,0.3s								
BRLS				*eS*			Sn	13 10 46.9	-1.3
	33nm,0.8s								
BRLS	Boroldaу	2.01	359	P			Pn	13 10 22.0	-0.9
	28nm,0.3s								
BRLS				S			Sn	13 10 46.9	-1.3
	33nm,0.8s								
GAR	Garm	2.05	171	⇑*iP*			Pg	13 10 27.1	-0.8
GAR				⇑*iS*			Sg	13 10 54.1	-0.3
	baz=69								
KK31	Karatay Array	2.13	12	P			Pg	13 10 28.8	-0.7
	3.1nm,0.5s,baz=202,slow=16,SNR=26								
KK31				⇓S			Sg	13 10 59.5	+2.4
	5.3nm,0.3s,baz=201,slow=27,SNR=19								
MNAS	Manas	2.44	52	⇓*iP*			Pg	13 10 35.8	+0.3
MNAS				⇓*iS*			Sg	13 11 09.7	+2.6
	baz=51								
MRKS	Merke	3.02	54	*eP*			Pg	13 10 46.1	-0.5
	4.4nm,0.5s								
MRKS				*eS*			Sg	13 11 28.2	+2.4
	7.1nm,0.5s								
MRKS	Merke	3.02	54	Pg			Pg	13 10 46.1	-0.5
	4.4nm,0.5s								
MRKS				Lg			Lg	13 11 28.2	
	7.1nm,0.5s								
AML	Almayashu	3.06	68	⇑*eP*			Pg	13 10 45.2	-2.1
AML				⇑*iS*			Sb	13 11 24.0	+2.8
	baz=66								
EKS2	Erkin-Say	3.33	59	⇑*iP*			Pb	13 10 48.2	+0.1
	baz=58								
EKS2				⇑*iS*			Sb	13 11 30.2	+1.4
	baz=58								
ARLS	Aral	3.43	74	⇑*iP*			Pb	13 10 50.1	+0.2
	baz=73								
ARLS				⇑*iS*			Sb	13 11 32.6	+0.8
	baz=73								
UCH	Uchtor	3.67	69	⇑*eP*			Pb	13 10 53.8	-0.2
	baz=68								
UCH				⇑*iS*			Sb	13 11 38.9	+0.1
	baz=68								
AAK	Ala-Archa	3.80	63	⇓Pg			Pg	13 11 00.9	-0.6
	2.6nm,0.8s								
AAK				Lg			Lg	13 11 53.5	
	4.5nm,0.9s								
SGDS	Sogindy	4.27	54	Pg			Pg	13 11 07.4	-3.1
	1.4nm,0.4s								
SGDS				Lg			Lg	13 12 04.6	
	2.8nm,1.0s								
TKM2	Tokmak 2	4.66	64	⇑Pg			Pg	13 11 15.2	-2.7
	2.4nm,0.9s								
TKM2				⇓Lg			Lg	13 12 20.5	
	4.6nm,0.8s								
KST	Kastek	4.95	64	*eP*			Pg	13 11 21.5	-2.0
	2.0nm,0.2s								
KST				*eS*			Sg	13 12 28.9	+1.2
	11nm,1.4s								
KST	Kastek	4.95	64	Pg			Pg	13 11 21.5	-2.0
	2.0nm,0.2s								
KST				Lg			Lg	13 12 28.9	
	11nm,1.4s								
BTLS	Baital	5.04	36	*eP*			Pg	13 11 23.3	-1.9
	0.6nm,0.2s								
BTLS				*eS*			Sg	13 12 31.9	+1.4
	2.0nm,0.3s								
BTLS	Baital	5.04	36	Pg			Pg	13 11 23.3	-1.9
	0.6nm,0.2s								
BTLS				Lg			Lg	13 12 31.9	
	2.0nm,0.3s								
KRBS	Karabastau	5.05	56	*eP*			Pg	13 11 22.4	-2.9
	1.0nm,0.4s								
KRBS				*eS*			Sg	13 12 30.9	+0.2
	2.2nm,0.6s								
KRBS	Karabastau	5.05	56	Pg			Pg	13 11 22.4	-2.9
	1.0nm,0.4s								
KRBS				Lg			Lg	13 12 30.9	
	2.2nm,0.6s								
KTBS	Karatobe	5.70	60	*eP*			Pg	13 11 34.4	-3.5
	1.3nm,0.4s								
KTBS				*eS*			Sg	13 12 51.6	-0.1
	3.1nm,0.8s								
KTBS	Karatobe	5.70	60	Pg			Pg	13 11 34.4	-3.5
	1.3nm,0.4s								
KTBS				Lg			Lg	13 12 51.6	
	3.1nm,0.8s								

WEL 30 13:42:55.2±1.6, 46°S±8°×16°6E±°, h12km, M3.4/7, ML3.5/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=70.6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.48	95	P			Pb	13 43 05.9	+0.4
PYZ				S			Sb	13 43 13.1	+0.5
DCZ	Deep Cove	1.05	51	P			Pb	13 43 14.7	-0.5
DCZ				S			Sb	13 43 28.4	-0.5
WHZ	Wether Hill Ro	1.38	81	P			Pn	13 43 20.1	-0.2
WHZ				S			Sb	13 43 38.7	+0.1
APZ	The Paps	1.55	118	P			Pn	13 43 21.0	-1.6
MLZ	Mavora Lakes	1.67	64	P			Pb	13 43 25.9	0.0
MSZ	Milford Sound	1.99	44	P			Pn	13 43 28.6	0.0
SYZ	Scrubby Hill	2.22	102	P			Pn	13 43 31.4	-0.3
WKZ	Wanaka	2.50	60	P			Pb	13 43 37.8	-2.1
TUZ	Tuapeka	2.54	87	P			Pn	13 43 36.8	+0.7
HHSZ	Highcliff Hill	3.22	87	P			Pn	13 43 44.1	-1.5
LBZ	Lake Benmore	3.44	61	P			Pn	13 43 49.0	+0.5
ODZ	Otahua Downs	3.44	73	P			Pn	13 43 48.2	-0.4
FOZ	Fox Glacier	3.76	48	P			Pn	13 43 54.4	+1.5
RPZ	Rata Peaks	4.33	58	P			Pn	13 43 59.8	-1.0
WVZ	Waitaha Valley	4.56	50	P			Pn	13 44 04.6	+0.6
INZ	Inchbonnie	5.18	51	P			Pn	13 44 13.4	+0.9

*TAP **30** 14:09:28.1, 25°.36N×122°.30E, h211km, ML3.0, C*

*JMA **30** 14:09:29.6±0.2, 25°.22N×122°.25E, h198km±3km, M2.5*

ISC 30 14:09:28.9±2.6, 25°.26N±0°.09×122°.25E±0°.04, h204km±14km, n54, σ0$63/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.34	223	P			Pn	14 09 56.3	+0.3
TWB1				S			S	14 10 16.8	-0.2
	baz=222								
PCYT	Pengchaiyu	0.40	336	*eP*			Pn	14 09 55.5	-0.6
PCYT				*eS*			S	14 10 16.2	-1.3
	baz=323								
NWF	Wu-fen Shan	0.46	246	P			Pn	14 09 56.6	+0.1
	baz=228								
WFSB	Wu-fen Shan	0.46	246	*eP*			Pn	14 09 56.7	+0.4
	baz=228								
TIPB	Shuangxi	0.48	233	P			Pn	14 09 56.7	+0.2
	baz=230								
TIPB				*eS*			S	14 10 16.5	-1.3
	baz=230								
TWY	Chenhua	0.59	272	*eP*			Pn	14 09 57.0	+0.2
	baz=263								
NSM	Shimen	0.60	273	*eP*			Pn	14 09 57.2	+0.4
	baz=254								
TWA	Mucha	0.66	245	*eP*			Pn	14 09 57.8	+0.6
	baz=234								
TWC	Suao	0.74	209	*eP*			Pn	14 09 57.7	+0.1
	baz=204								
TWE	Neicheng	0.75	225	P			Pn	14 09 58.2	+0.6
	baz=225								
TWE				S			S	14 10 21.0	+1.2
	baz=225								
NWLT	Wulai	0.83	235	*eP*			Pn	14 09 58.0	0.0
	baz=232								
NWLT				*eS*			S	14 10 20.5	-0.1
	baz=232								
ENTT	Nioudou	0.87	225	P			Pn	14 09 58.5	+0.2
	baz=225								
ENTT				S			S	14 10 21.2	+0.2
	baz=225								
ENAH	Nanao	0.90	206	*eS*			S	14 10 21.6	+0.4
	baz=202								
NDT	Datong Townshi	0.94	226	P			Pn	14 09 59.0	+0.3
	baz=233								
NDT				*eS*			S	14 10 22.1	+0.5
	baz=233								
YHNB	Yeheng	0.99	234	P			Pn	14 09 58.8	-0.3
	baz=232								
YHNB				S			S	14 10 21.5	-0.8
	baz=232								
NSK	Sanguang

HATJ	**Hateruma jima**	**1.85**	**130**	S	**S**	**14 10 34.8**	**0.0**
SSLB	**Suanglung**	**1.88**	**219**	*e*P	**Pn**	**14 10 06.6**	**0.0**
	baz=220						
SSLB				*e*S	**S**	**14 10 35.1**	**-0.3**
	baz=220						
JKRS	**Kuro-shima**	**1.90**	**122**	P	**Pn**	**14 10 07.2**	**+0.5**
JKRS				S	**S**	**14 10 35.5**	**0.0**
HGSD	**Ruisui**	**1.91**	**203**	*e*P	**Pn**	**14 10 06.9**	**0.0**
	baz=211						
HGSD				*e*S	**S**	**14 10 36.8**	**+0.9**
	baz=211						
JIJ	**Ishigaki jima**	**1.94**	**117**	P	**Pn**	**14 10 07.1**	**0.0**
JIJ				S	**S**	**14 10 35.2**	**-1.0**
EHY	**Hungye**	**1.94**	**206**	*e*P	**Pn**	**14 10 06.3**	**-0.8**
	baz=202						
JISG	**Ishigakijimahi**	**1.99**	**109**	P	**Pn**	**14 10 07.6**	**0.0**
JISG				S	**S**	**14 10 36.8**	**-0.3**
YULB	**Yu-li**	**2.05**	**205**	*e*P	**Pn**	**14 10 06.8**	**-1.5**
	baz=204						
YULB				*e*S	**S**	**14 10 35.7**	**-2.7**
	baz=204						
ALS	**Alishan**	**2.18**	**217**	P	**Pn**	**14 10 10.1**	**+0.1**
	baz=225						
ALS				S	**S**	**14 10 41.2**	**-0.1**
	baz=225						
CHN5	**Tsauling**	**2.19**	**221**	P	**Pn**	**14 10 10.0**	**+0.2**
	baz=228						
CHN5				S	**S**	**14 10 41.2**	**+0.2**
	baz=228						
FULB	**Fuli**	**2.23**	**203**	*e*P	**Pn**	**14 10 09.8**	**-0.4**
	baz=204						
JTJ	**Tarama**	**2.31**	**105**	P	**Pn**	**14 10 11.9**	**+0.9**
JTJ				S	**S**	**14 10 43.1**	**0.0**
ELDTW	**Lidau**	**2.35**	**209**	*e*P	**Pn**	**14 10 11.7**	**+0.1**
	baz=207						
CHN4	**Tsaushan**	**2.43**	**219**	*e*P	**Pn**	**14 10 12.7**	**+0.4**
	baz=226						
CHN4				*e*S	**S**	**14 10 45.7**	**+0.2**
	baz=226						
TPUB	**Ta-pu**	**2.45**	**217**	*e*P	**Pn**	**14 10 11.3**	**-1.2**
	baz=218						
JIRB	**Irabujima**	**2.69**	**99**	S	**S**	**14 10 50.3**	**-0.3**

IDC 30 14:17:54.2±1.2, 55°28S×28°05W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=49.4km s-min=32.4km az=89.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**47.32**	**183**	P	P	14 26 28.8	-0.1
	0.4nm,0.6s,baz=182,slow=8.1,SNR=7.2						
LPAZ	**La Paz**	**49.53**	**306**	P	P	14 26 47.2	-0.1
	1.4nm,0.7s,baz=161,slow=8.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	P	14 29 23.4	0.0
	1.1nm,0.5s,baz=199,slow=6.1,SNR=7.3						
ILAR	**Eielson Array**	**149.24**	**313**	PKPbc	PKPbc	14 37 42.6	-0.6
	1.4nm,0.9s,baz=127,slow=1.8,SNR=13						

IDC 30 14:27:41.5±1.9, 5°09S×123°70E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.0/41, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=232.1km s-min=29.3km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.04**	**146**	P	Pn	14 31 53.6	-0.2
	0.0nm,0.3s,baz=319,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**20.93**	**153**	P	P	14 32 26.2	+0.2
	0.3nm,0.6s,baz=332,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**63.30**	**329**	P	P	14 38 12.2	-0.1
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.0						

WEL 30 14:33:34.9, 44°S±1°×17°2E±°, h10km±2km, M2.4/6, ML2.6/9, MLv2.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=166.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**0.21**	**337**	P	Pg	14 33 40.6	+1.4
OXZ				S	Sg	14 33 44.0	+1.9
RACZ	**Rakaia**	**0.21**	**182**	P	Pg	14 33 41.0	+1.7
MQZ	**McQueen's Vall**	**0.41**	**118**	P	Pb	14 33 44.2	-0.1
MQZ				S	Sb	14 33 50.0	-0.6
MHCZ	**Mount Hutt**	**0.42**	**268**	P	Pb	14 33 45.0	+0.4
WACZ	**Wakanui South**	**0.48**	**208**	P	Pb	14 33 46.3	+0.8
AMCZ	**Amberley**	**0.50**	**47**	P	Pb	14 33 46.6	+0.9
OKCZ	**Okains Bay**	**0.69**	**108**	P	Pn	14 33 50.0	-0.8
LTZ	**Lake Taylor**	**0.74**	**7**	P	Pn	14 33 50.8	-0.7
LTZ				S	Sb	14 34 01.1	+1.0
RPZ	**Rata Peaks**	**0.82**	**256**	P	Pn	14 33 52.3	-0.2
RPZ				S	Sn	14 34 03.6	-1.2
GVZ	**Greta Valley S**	**0.85**	**50**	P	Pn	14 33 52.7	-0.3
INZ	**Inchbonnie**	**0.94**	**327**	P	Pn	14 33 54.3	+0.1
INZ				S	Sn	14 34 07.4	-0.4
WVZ	**Waitaha Valley**	**1.12**	**293**	P	Pn	14 33 56.8	+0.2
KHZ	**Kahutara**	**1.50**	**43**	P	Pn	14 34 01.7	-0.2
LBZ	**Lake Benmore**	**1.66**	**238**	P	Pb	14 34 05.1	-0.6
FOZ	**Fox Glacier**	**1.70**	**269**	P	Pb	14 34 06.6	+0.4
THZ	**Tophouse**	**1.84**	**18**	P	Pn	14 34 06.8	+0.2
ODZ	**Otahua Downs**	**1.87**	**215**	P	Pn	14 34 07.0	0.0

NEIC ***30*** *14:33:34.1±1.8, 1.°07N±0.°08×123.°85E±0.°08, h262km±5km, mb4.8/76, Error ellipse: s-maj=11.5km s-min=10.4km az=46.0*
BJI ***30*** *14:33:35.0±0.0, 1.°10N×123.°90E, h281km, mB4.5/40, mb4.6/65*
DJA ***30*** *14:33:36.5±0.1, 1.°N±2.°×12.°4E±°, h273km±1km, M4.5/56, mb4.8/56, mB5.0/27, MLv5.0/23, Mw(mB)4.3/27, Mwp5.5/1*
IDC ***30*** *14:33:36.3±0.9, 1.°03N×123.°80E, h290km±8km, mb4.3/35, mb1 4.4/41, mb1mx4.3/52, mbtmp4.9/41, Error ellipse: s-maj=9.5km s-min=5.6km az=66.0*
KLM ***30*** *14:33:38.0, 1.°04N×123.°7E, h302km, mb4.7*

ISC 30 14:33:36.0±0.5, 1.°03N±0.°04×123.°83E±0.°04, h283km±5km, n262, σ1°20/289, mb4.7/90, 6C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.47**	**162**	P	**Pn**	**14 34 12.0**	**-0.6**
KMSI				S	**S**	**14 34 39.4**	**-2.2**
GTOI	**Gorontalo**	**0.91**	**245**	P	**Pn**	**14 34 14.4**	**+0.3**
GTOI				S	**S**	**14 34 44.1**	**-0.2**
LUWI	**Luwuk**	**2.31**	**207**	P	**Pn**	**14 34 22.3**	**-1.7**
LUWI	**Luwuk**	**2.31**	**207**		**Pn**	**14 34 21.9**	**-2.1**
LUWI				S	**S**	**14 34 57.4**	**-4.7**
APSI	**Ampana**	**2.91**	**229**	P	**Pn**	**14 34 29.5**	**-0.2**
SGSI	**Sangihe**	**3.14**	**33**	P	**Pn**	**14 34 31.2**	**-0.8**
TNTI	**Ternate**	**3.54**	**94**	P	**Pn**	**14 34 34.9**	**-1.4**
TNTI	**Ternate**	**3.54**	**94**	Pn	**Pn**	**14 34 35.0**	**-1.4**
SANI	**Sanana**	**3.74**	**145**	P	**Pn**	**14 34 36.2**	**-2.3**
MPSI	**Mapaga**	**3.99**	**260**	P	**Pn**	**14 34 41.3**	**0.0**
NLAI	**Namlea**	**5.35**	**142**	P	**Pn**	**14 34 57.1**	**0.0**
	4.5nm6µm77nm,0.5s						
DDMP	**Don Marcelino,**	**5.38**	**20**	*e*P	**Pn**	**14 34 57.0**	**-0.4**
SKMP	**Bagumbayan, Su**	**5.50**	**7**	*e*P	**Pn**	**14 34 58.5**	**-0.4**
TTSI	**Tana Toraja**	**5.70**	**225**	P	**Pn**	**14 35 02.2**	**+0.9**
	1.2nm3µm358nm,0.8s						
KCP	**Kidapawan**	**6.07**	**12**	*i*P	**Pn**	**14 35 06.7**	**+0.8**
KCP				*i* S	**S**	**14 36 20.4**	**+2.3**
MATI	**Mati**	**6.36**	**22**	*e*P	**Pn**	**14 35 06.5**	**-2.8**
SPSI	**Sidrap Palu**	**6.41**	**219**	P	**Pn**	**14 35 10.4**	**+0.5**
	0.4nm926nm99nm,0.7s						
BNSI	**Bone**	**6.55**	**215**	P	**Pn**	**14 35 13.8**	**+2.1**
	1.5nm5µm427nm,1.1s						
MSAI	**Masohi**	**6.70**	**130**	P	**Pn**	**14 35 15.3**	**+1.9**
	0.3nm696nm45nm,0.7s						
MYLDM	**Lahad Datu**	**6.74**	**308**	Pn	**Pn**	**14 35 16.1**	**+2.2**
SMKI	**Samarinda**	**6.78**	**258**	P	**Pn**	**14 35 15.6**	**+1.1**
	1.2nm9µm286nm,0.6s						
PAGZ	**Pagadian**	**6.79**	**356**	*e*P	**Pn**	**14 35 14.8**	**+0.2**
BUKP	**Musuan**	**6.92**	**10**	*e*P	**Pn**	**14 35 17.0**	**+0.8**
KAPI	**Kappang**	**7.26**	**214**	P	**Pn**	**14 35 21.0**	**+0.7**
	5.5nm,0.3s,baz=26,slow=8.5,SNR=28						
KAPI				S	**S**	**14 36 42.4**	**-2.1**
	1.9nm,0.3s,baz=147,slow=21,SNR=1.1						
KAPI	**Kappang**	**7.26**	**214**	Pn	**Pn**	**14 35 21.5**	**+1.2**
BKSI	**Bulukumba**	**7.32**	**210**	P	**Pn**	**14 35 22.3**	**+1.2**
	0.4nm856nm108nm,0.9s						
SIJI	**Sorong**	**7.67**	**104**	P	**Pn**	**14 35 25.8**	**+0.3**
	17nm,0.3s,baz=313,slow=10,SNR=60						
SIJI				S	**S**	**14 36 53.5**	**-0.4**
	1.5nm,0.3s,baz=154,slow=23,SNR=1.2						
BSSI	**Bau Bau, Buton**	**7.87**	**205**	P	**Pn**	**14 35 28.5**	**+0.6**
	0.2nm626nm49nm,0.8s						
BNDI	**Bandanaira**	**8.20**	**132**	P	**Pn**	**14 35 33.6**	**+1.6**
	1.1nm3µm261nm,0.7s						
SPMM	**Sapulut**	**8.22**	**297**	P	**Pn**	**14 35 34.0**	**+1.7**
KBKI	**Kotabaru**	**8.79**	**241**	P	**Pn**	**14 35 40.9**	**+1.6**
	13nm,0.9s						
CNOP	**Candoni, Negro**	**8.82**	**352**	*e*P	**Pn**	**14 35 40.6**	**+0.9**
GLSP	**General Luna,**	**8.99**	**15**	*e*P	**Pn**	**14 35 41.3**	**-0.5**
MSLP	**Maasin**	**9.10**	**6**	*e*P	**Pn**	**14 35 44.6**	**+1.4**
MTKI	**Muara Teweh, K**	**9.15**	**258**	P	**Pn**	**14 35 46.6**	**+2.8**
	15nm,0.5s						
FAKI	**Fak Fak**	**9.28**	**115**	P	**Pn**	**14 35 45.4**	**-0.1**
	47nm,0.6s						
FAKI	**Fak Fak**	**9.28**	**115**	Pn	**Pn**	**14 35 44.8**	**-0.7**
GUIM	**Jordan**	**9.62**	**353**	*e*P	**Pn**	**14 35 50.7**	**+1.2**
MMRI	**Maumere**	**9.73**	**189**	P	P	14 36 08.0	+12
BATP	**Bataraza**	**9.78**	**322**	*e*P	**Pn**	**14 35 51.7**	**+0.1**
EDFI	**Ende, Flores**	**9.95**	**192**	P	**Pn**	**14 35 55.9**	**+2.1**
	14nm,1.2s						
OCLP	**Ormoc**	**9.99**	**4**	*e*P	**P**	**14 36 00.8**	**+2.2**
BBKI	**Banjar Baru**	**10.03**	**244**	P	**P**	**14 35 58.1**	**-1.0**
	26nm,0.8s						
CUYO	**Cuyo Island**	**10.15**	**344**	*e*P	**P**	**14 36 01.4**	**+1.1**
SOEI	**Soe**	**10.72**	**178**	P	**P**	**14 36 10.8**	**+4.0**
SOEI	**Soe**	**10.72**	**178**		**P**	**14 36 07.9**	**+1.1**
ENPP	**El Nido**	**11.02**	**337**	*e*P	**P**	**14 36 10.4**	**+0.4**
BATI	**Baumata**	**11.16**	**181**	P	**P**	**14 36 10.6**	**-1.0**
	40nm,0.3s,baz=12,slow=2.0,SNR=17						
BATI				S	**S**	**14 38 15.8**	**+2.1**
	baz=320,slow=9.9,SNR=1.4						
BATI	**Baumata**	**11.16**	**181**	P	**P**	**14 36 10.7**	**-1.0**
	1µm134nm,0.6s						
OTRP	**Odiongan**	**11.40**	**351**	*e*P	**Pn**	**14 36 11.4**	**-0.2**
BUSP	**Coron**	**11.48**	**342**	*e*P	**P**	**14 36 16.6**	**+1.5**
WBSI	**Waikabubak, Su**	**11.48**	**203**	P	**Pn**	**14 36 13.7**	**+1.0**
	45nm,0.6s						
PLAI	**Plampang**	**11.50**	**212**	P	**P**	**14 36 14.8**	**-0.6**
	63nm,0.8s						
SAUI	**Saumlaki**	**11.64**	**140**	P	**Pn**	**14 36 15.7**	**+1.1**
	6µm450nm,0.8s						
SAUI	**Saumlaki**	**11.64**	**140**	Pn	**Pn**	**14 36 14.4**	**-0.2**
SBUM	**Sibu**	**11.69**	**277**		**Pn**	**14 36 16.4**	**+1.1**
SBUM	**Sibu**	**11.69**	**277**	P	**P**	**14 36 18.0**	**+0.5**
TWSI	**Taliwang, Sumb**	**11.92**	**215**	P	**P**	**14 36 20.5**	**+0.5**
	24nm,0.8s						
STKI	**Sintang**	**12.39**	**266**	P	**Pn**	**14 36 24.6**	**+0.8**
BAKI	**Biak**	**12.47**	**100**	P	**P**	**14 36 26.1**	**-0.1**
	3µm419nm,0.8s						
PVCP	**Virac**	**12.49**	**1**	*e*P	**P**	**14 36 26.8**	**+0.5**
BOAC	**Boac**	**12.51**	**351**	*e*P	**P**	**14 36 26.3**	**-0.2**
SRPI	**Serui, Papua**	**12.73**	**103**	P	**Pn**	**14 36 28.1**	**+0.1**
	5µm224nm,0.6s						
LUBP	**Lubang**	**13.11**	**344**	*e*P	**Pn**	**14 36 32.7**	**+0.2**
TGY	**Tagaytay City**	**13.30**	**348**	P	**P**	**14 36 35.9**	**+0.5**
	40nm,0.3s,baz=170,slow=4.0,SNR=6.8						
KSM	**Kuching**	**13.53**	**272**		**P**	**14 36 39.5**	**+1.6**
KSM	**Kuching**	**13.53**	**272**	P	**P**	**14 36 40.0**	**+2.1**
POLP	**Polillo Island**	**13.74**	**352**	*e*P	**Pn**	**14 36 39.8**	**-0.3**
BALP	**Baler**	**14.79**	**351**	*e*P	**Pn**	**14 36 53.5**	**+0.9**
SMPP	**San Manuel, Pa**	**15.35**	**348**	*e*P	**Pn**	**14 36 58.9**	**-0.3**
MTN	**Manton Dam**	**15.57**	**153**		**P**	**14 37 00.3**	**0.0**
BOLP	**Bolinao**	**15.74**	**346**	*e*P	**P**	**14 37 02.3**	**+0.1**
CAUP	**Catarman**	**15.94**	**353**	*e*P	**Pn**	**14 37 06.2**	**+0.1**
GENI	**Genyem**	**16.72**	**102**	P	**Pn**	**14 37 14.6**	**-0.8**
ABRA	**Dolores**	**16.80**	**350**	*e*P	**P**	**14 37 13.7**	**-0.1**
APYP	**Conner**	**16.92**	**351**	*e*P	**P**	**14 37 14.9**	**-0.1**
SGCP	**Mt. Cagua**	**17.20**	**354**	*e*P	**P**	**14 37 17.7**	**-0.3**
JAY	**Jayapura**	**17.23**	**102**	P	**P**	**14 37 18.9**	**+0.3**
	3.6nm,0.3s,baz=230,slow=11,SNR=36						
JAY	**Jayapura**	**17.23**	**102**	P	**P**	**14 37 18.6**	**0.0**
	227nm17nm,1.1s						
KNRA	**Kununurra**	**17.30**	**164**	P	**P**	**14 37 19.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.09**	**175**	P	**P**	**14 37 37.8**	**-0.6**
	2.2nm,0.3s,baz=355,slow=7.4,SNR=107						
MYKOM	**Kota Tinggi**	**19.99**	**272**	P	**P**	**14 37 47.6**	**-0.5**
MYKOM				IAmb	IAmb	14 37 52.8	
	comp=Z,17nm,0.8s						
MYKOM	**Kota Tinggi**	**19.99**	**272**	P	**Pn**	**14 37 52.0**	**-1.4**
MDSI	**Maura Dua**	**20.39**	**254**	P	**P**	**14 37 53.8**	**+1.6**
	comp=Z,9.0nm,0.8s						
SDSI	**Sungai Dareh**	**22.49**	**265**	P	**P**	**14 38 13.8**	**+1.8**
	comp=Z,24nm,0.8s						
SSLB	**Suanglung**	**22.80**	**353**	P	**P**	**14 38 14.5**	**-0.2**
PSA00	**Pilbara Seismi**	**22.80**	**190**	P	**P**	**14 38 15.1**	**+0.3**
PSA00				IAmb	IAmb	14 38 15.8	
	comp=Z,21nm,0.7s						
IPM	**Ipoh**	**23.03**	**279**	P	**P**	**14 38 18.0**	**+1.0**
IPM				IAmb	IAmb	14 38 19.5	
	comp=Z,38nm,1.3s						
IPM	**Ipoh**	**23.03**	**279**	P	**P**	**14 38 19.0**	**+1.9**
NACB	**Ninganchiao**	**23.11**	**355**	P	**P**	**14 38 17.4**	**-0.1**
NACB				IAmb	IAmb	14 38 20.0	
	comp=Z,20nm,0.5s						
WB0	**Warramunga Arr**	**23.12**	**154**	P	**P**	**14 38 17.4**	**-0.3**
WRAB	**Tennant Creek**	**23.25**	**154**	P	**P**	**14 38 18.6**	**-0.3**
WRA	**Warramunga Arr**	**23.25**	**154**	P	**P**	**14 38 18.7**	**-0.2**
	comp=Z,127nm,0.7s,baz=337,slow=10,SNR=1003						
WRA				S	**S**	**14 42 05.5**	**-4.2**
	comp=Z,6.6nm,0.7s,baz=330,slow=17,SNR=6.9						
WRA	**Warramunga Arr**	**23.25**	**154**	P	**P**	**14 38 17.6**	**-1.3**
WB2	**Warramunga Arr**	**23.25**	**154**	P	**P**	**14 38 18.7**	**-0.2**
WR0	**Warramunga Arr**	**23.35**	**154**	P	**P**	**14 38 19.5**	**-0.3**
KULM	**Kulim**	**23.53**	**281**	P	**P**	**14 38 23.0**	**+1.5**
YHNB	**Yeheng**	**23.62**	**354**	P	**P**	**14 38 21.6**	**-0.7**
MNSI	**Mandailing Nat**	**24.25**	**270**	P	**P**	**14 38 29.4**	**+1.3**
RPSI	**Rantau Prapat**	**24.95**	**274**	P	**P**	**14 38 34.6**	**+0.3**
RPSI				IAmb	IAmb	14 38 36.3	
	comp=Z,19nm,0.7s						
PSI	**Prapat**	**24.96**	**274**	P	**P**	**14 38 35.0**	**+0.4**
	comp=Z,20nm,0.8s,baz=182,slow=3.0,SNR=12						
PMG	**Port Moresby**	**25.44**	**115**	P	**P**	**14 38 39.0**	**+0.2**
	comp=Z,49nm,0.6s,baz=26,slow=3.5,SNR=17						
PMG	**Port Moresby**	**25.44**	**115**	P	**P**	**14 38 38.9**	**+0.2**
PMG				IAmb	IAmb	14 38 39.8	
	comp=Z,48nm,0.8s						
GSI	**Gunungsitoli**	**26.25**	**271**	P	**P**	**14 38 45.8**	**-0.2**
GSI				IAmb	IAmb	14 38 47.3	
	comp=Z,17nm,0.5s						
AS31	**Alice Springs**	**26.43**	**159**	P	**P**	**14 38 47.7**	**+0.3**
ASAR	**Alice Springs**	**26.43**	**159**	P	**P**	**14 38 47.8**	**+0.3**
	comp=Z,14nm,0.3s,baz=333,slow=7.4,SNR=954						
ASAR				S	**S**	**14 42 57.8**	**-2.1**
	comp=Z,4.2nm,0.8s,baz=350,slow=22,SNR=8.5						
ASAR				ScP	**ScP**	**14 45 18.3**	**+0.6**
	comp=Z,5.1nm,0.7s,baz=336,slow=2.1,SNR=15						
KRVT	**Keravat (AS076**	**28.66**	**101**	P	**P**	**14 39 08.8**	**+1.4**
	comp=Z,118nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.95**	**307**	P	**P**	**14 39 19.1**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=135,slow=7.2,SNR=12						
CMAR				PcP	**PcP**	**14 42 14.7**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=172,slow=1.2,SNR=12						
CMAR				ScP	**ScP**	**14 45 29.1**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=172,slow=1.2,SNR=7.8						
CMAR	**Chiang Mai Arr**	**29.95**	**307**	P	**P**	**14 39 19.5**	**+0.8**
CMAR					**PcP**	**14 42 14.4**	**+0.7**
CHTO	**Chiang Mai**	**30.14**	**307**	P	**P**	**14 39 20.5**	**+0.2**
CHTO				PcP	**PcP**	**14 42 15.6**	**+1.4**
GYA	**Guiyang**	**30.20**	**328**	*e*P	**P**	**14 39 22.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**30.39**	**135**	P	**P**	**14 39 22.6**	**+0.2**
WHN	**Wuhan**	**30.70**	**344**	⇑P	**P**	**14 39 27.5**	**+2.4**
NJ2	**Nanjing**	**31.21**	**352**	⇑P	**P**	**14 39 32.0**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,35nm,0.6s						
JCJ	**Chichijima**	**31.34**	**33**	P	**P**	**14 39 29.1**	**-1.6**
KMI	**Kunming**	**31.45**	**321**	⇑P	**P**	**14 39 34.5**	**+2.6**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
FORT	**Forrest**	**31.89**	**173**	P	**P**	**14 39 36.2**	**+0.8**
ENH	**Enshi**	**32.12**	**336**	P	**P**	**14 39 37.7**	**+0.2**
ENH				IAmb	IAmb	14 39 40.3	
	comp=Z,19nm,0.8s						
JMN	**Monobe**	**33.87**	**15**	P	**P**	**14 39 52.8**	**+0.2**
JHS	**Saijyo**	**34.89**	**13**	P	**P**	**14 40 01.5**	**+0.3**
JHS				IAmb	IAmb	14 40 04.8	
	comp=Z,31nm,1.1s						
CD2	**Chengdu**	**35.29**	**329**	P	**P**	**14 40 05.3**	**+0.6**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
TIA	**Tai'an**	**35.56**	**351**	P	**P**	**14 40 07.5**	**+0.6**
TIA				pmax	pmax		
	comp=Z,22nm,0.8s						
BBOO	**Buckleboo**	**35.58**	**162**	P	**P**	**14 40 07.4**	**+0.3**
BBOO				IAmb	IAmb	14 40 08.3	
	comp=Z,22nm,0.8s						
XAN	**Xi'an**	**35.69**	**339**	P	**P**	**14 40 09.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,26nm,1.0s						
XAN				pmax	pmax		
	comp=Z,160nm,6.5s						
XAN				LR	LR		
	comp=Z,140nm,4.6s						
XAN				LR	LR		
	comp=Z,170nm,5.2s						
XAN				LR	LR		
	comp=Z,26nm,4.4s						
JWT	**Wachi**	**35.74**	**16**	P	**P**	**14 40 08.6**	**+0.2**
JWT				IAmb	IAmb	14 40 09.5	
	comp=Z,43nm,1.2s						
JWT				PcP	**PcP**	**14 42 29.4**	**-0.3**
KSAR	**Wonju Array Be**	**36.43**	**5**	P	**P**	**14 40 11.7**	**-2.4**
KSRS	**Korea Array**	**36.44**	**5**	P	**P**	**14 40 14.1**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=182,slow=9.6,SNR=24						
KSRS				PcP	**PcP**	**14 42 32.1**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=186,slow=2.5,SNR=5.4						
JGF	**Kuroka**	**36.63**	**19**	P	**P**	**14 40 15.3**	**-0.6**
JGF				IAmb	IAmb	14 40 16.7	
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**36.80**	**154**	P	**P**	**14 40 18.2**	**+0.8**
	comp=Z,38nm,0.5s,baz=337,slow=8.0,SNR=165						
STKA				ScP	**ScP**	**14 45 53.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=351,slow=9.5,SNR=3.4						
STKA	**Stephens Creek**	**36.80**	**154**	P	**P**	**14 40 18.2**	**+0.8**
EIDS	**Eidsvold**	**37.20**	**137**	P	**P**	**14 40 20.5**	**-0.3**
MAJO	**Matsushiro**	**37.76**	**19**	P	**P**	**14 40 23.9**	**-1.5**
MAJO				IAmb	IAmb	14 40 25.1	
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**37.76**	**19**	P	**P**	**14 40 24.2**	**-1.2**
MJAR	**Matsushiro Arr**	**37.76**	**19**	P	**P**	**14 40 24.2**	**-1.3**
	comp=Z,20nm,0.8s,baz=191,slow=9.0,SNR=54						
MJAR	**Matsushiro Arr**	**37.76**	**19**	P	**P**	**14 40 24.1**	**-1.3**
JSD	**Sado**	**39.15**	**18**	P	**P**	**14 40 36.0**	**-0.8**
JSD				IAmb	IAmb	14 40 37.0	
	comp=Z,21nm,0.9s						
BJI	**Beijing**	**39.45**	**351**	P	**P**	**14 40 40.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,24nm,0.7s						
LZH	**Lanzhou**	**39.51**	**334**	⇑P	**P**	**14 40 42.0**	**+2.0**
LZH				pP	pP	14 41 35.8	+0.2
LZH				PP	**PnPn**	**14 42 22.3**	**-1.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
JMM	**Marumori**	**39.84**	**21**	P	**P**	**14 40 41.4**	**-1.1**
JMM				IAmb	IAmb	14 40 44.1	
	comp=Z,36nm,0.6s						
ARMA	**Armidale**	**40.97**	**142**	P	**P**	**14 40 54.3**	**+2.3**
ARMA				IAmb	IAmb	14 40 54.7	
	comp=Z,34nm,0.6s						
HHC	**Hu-ho-hao-te**	**41.17**	**346**	*e*P	**P**	**14 40 52.5**	**-0.9**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,6.1s						
LSA	**Lhasa**	**42.19**	**316**	P	**P**	**14 41 03.1**	**+0.8**
LSA				IAmb	IAmb	14 41 06.4	
	comp=Z,19nm,0.6s						
CN2	**Changchun**	**42.61**	**2**	*e*P	**P**	**14 41 05.8**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CAN	**Canberra**	**43.13**	**149**	P	**P**	**14 41 11.6**	**+2.4**
CAN				IAmb	IAmb	14 41 12.2	
	comp=Z,66nm,0.6s						
TOO	**Toolangi**	**43.32**	**155**	P	**P**	**14 41 12.9**	**+2.2**
ODAN	**Odare**	**43.40**	**309**	*e*P	**P**	**14 41 12.0**	**+0.2**
	comp=Z,16nm,0.5s						
TAPN	**Taplejung**	**43.41**	**310**	*e*P	**P**	**14 41 11.9**	**+0.1**
	comp=Z,20nm,0.4s						
USA0B	**Ussuriysk Arra**	**43.59**	**9**	P	**P**	**14 41 12.8**	**+0.1**
USA0B				IAmb	IAmb	14 41 13.5	
	comp=Z,26nm,0.8s						
USRK	**Ussuriysk Ar.**	**43.59**

MK31	**Makanchi Array**	**58.19**	**328**	P	**P**	**14 43 00.4**	**-0.5**
MK31				IAmb	IAmb	14 43 03.0	
	comp=Z,19nm,1.0s						
MK31				PcP	**PcP**	**14 43 48.7**	**-0.3**
MKAR	**Makanchi Array**	**58.19**	**328**	P	**P**	**14 43 00.4**	**-0.6**
	comp=Z,10nm,0.4s,baz=123,slow=8.4,SNR=98						
MKAR				PcP	**PcP**	**14 43 48.5**	**-0.5**
	comp=Z,5.8nm,0.5s,baz=166,slow=2.8,SNR=12						
MKAR				ScP	**ScP**	**14 47 20.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=118,slow=4.7,SNR=4.9						
MKAR	**Makanchi Array**	**58.19**	**328**	P	**P**	**14 43 00.3**	**-0.6**
MKAR				PcP	**PcP**	**14 43 48.8**	**-0.2**
SATY	**Saty**	**58.24**	**322**	*e*P	**P**	**14 43 01.2**	**-0.2**
	comp=Z,18nm,0.8s						
KPKS	**Kokpek**	**58.29**	**323**	*e*P	**P**	**14 43 00.8**	**-1.0**
	comp=Z,18nm,0.7s						
MAKZ	**Makanchi**	**58.37**	**327**	P	**P**	**14 43 01.6**	**-0.5**
MAKZ				IAmb	IAmb	14 43 03.6	
	comp=Z,22nm,1.1s						
MAKZ				PcP	**PcP**	**14 43 49.2**	**-0.4**
PETK	**Petropavlovsk-**	**59.02**	**23**	P	**P**	**14 43 07.2**	**+0.8**
	comp=Z,7.3nm,0.5s,baz=218,slow=4.0,SNR=38						
PETK				PcP	**PcP**	**14 43 52.0**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=221,slow=1.4,SNR=1.9						
MDOK	**Medeo**	**59.13**	**322**	*e*P	**P**	**14 43 06.6**	**-1.0**
TDK	**Taldygorghan**	**59.31**	**324**	*e*P	**P**	**14 43 07.7**	**-0.9**
	comp=Z,20nm,0.7s						
TKM2	**Tokmak 2**	**59.91**	**321**	P	**P**	**14 43 12.7**	**-0.3**
	SNR=16						
KUU	**Kurty**	**59.95**	**322**	*e*P	**P**	**14 43 11.8**	**-1.2**
	comp=Z,51nm,0.9s						
KBK	**Karagaybulak**	**60.20**	**320**	P	**P**	**14 43 15.2**	**+0.4**
	SNR=7.6						
UCH	**Uchtor**	**60.27**	**320**	P	**P**	**14 43 16.3**	**+0.6**
	SNR=12						
AAK	**Ala-Archa**	**60.48**	**320**	P	**P**	**14 43 19.0**	**+2.2**
	SNR=9.3						
AML	**Almayashu**	**60.75**	**319**	P	**P**	**14 43 19.1**	**+0.2**
	SNR=14						
USP	**Ospenovka**	**60.78**	**321**	P	**P**	**14 43 18.4**	**-0.3**
	SNR=14						
SGDS	**Sogindy**	**60.79**	**321**	*e*P	**P**	**14 43 16.7**	**-2.1**
KBL	**Kabul**	**60.93**	**309**	P	**P**	**14 43 19.4**	**-0.6**
KBL				IAmb	IAmb	14 43 21.8	
	comp=Z,24nm,0.7s						
EKS2	**Erkin-Say**	**60.95**	**320**	P	**P**	**14 43 20.4**	**+0.5**
	SNR=7.8						
YAK	**Yakutsk**	**61.01**	**3**	P	**P**	**14 43 19.1**	**-0.5**
ZALV	**Zalesovo Beam**	**61.73**	**335**	P	**P**	**14 43 22.9**	**-1.7**
	comp=Z,5.4nm,0.3s,baz=125,slow=6.4,SNR=27						
ZALV	**Zalesovo Beam**	**61.73**	**335**	P	**P**	**14 43 22.4**	**-2.3**
BTLS	**Baital**	**61.95**	**322**	*e*P	**P**	**14 43 25.0**	**-1.4**
KURBB	**Kurchatov Arra**	**62.50**	**329**	P	**P**	**14 43 28.9**	**-1.0**
	comp=Z,18nm,0.7s,baz=132,slow=6.0,SNR=59						
KURBB				PcP	**PcP**	**14 44 05.2**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=124,slow=3.7,SNR=4.7						
KURK	**Kurchatov**	**62.51**	**329**	P	**P**	**14 43 29.2**	**-0.7**
BHW	**Baring Head**	**62.54**	**139**	P	**P**	**14 43 29.9**	**-0.4**
BKZ	**Black Stump Fm**	**62.60**	**136**	P	**P**	**14 43 31.7**	**+1.0**
BKZ				IAmb	IAmb	14 43 39.4	
	comp=Z,36nm,1.3s						
IUG	**Iuzhnay**	**63.19**	**318**	*e*P	**P**	**14 43 34.1**	**-0.6**
KKAR	**Karatay Array**	**63.28**	**319**	P	**P**	**14 43 34.7**	**-0.5**
BRZS	**Berezniki**	**65.26**	**326**	*e*P	**P**	**14 43 46.4**	**-1.4**
	comp=Z,5.1nm,0.8s						
WSAR	**Wadi Sarin**	**66.88**	**295**	P	**P**	**14 43 56.9**	**-1.7**
	comp=Z,6.4nm,0.7s,baz=176,slow=4.4,SNR=6.7						
BVAR	**Borovoye Array**	**68.04**	**328**	P	**P**	**14 44 04.0**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=94,slow=5.8,SNR=20						
BRVK	**Borovoye**	**68.11**	**328**	P	**P**	**14 44 04.3**	**-1.4**
BRVK				IAmb	IAmb	14 44 07.6	
	comp=Z,15nm,0.8s						
GEYT	**Alibeck**	**70.36**	**310**	P	**P**	**14 44 18.0**	**-1.7**
	comp=Z,6.4nm,0.6s,baz=168,slow=10,SNR=11						
TIXI	**Tiksi**	**70.59**	**2**	P	**P**	**14 44 19.7**	**-0.7**
NRIK	**Noril'sk**	**72.38**	**347**	P	**P**	**14 44 29.6**	**-1.4**
	comp=Z,20nm,0.7s,baz=130,slow=6.0,SNR=14						
ABKAR	**Akbulak array**	**72.44**	**322**	P	**P**	**14 44 31.0**	**-0.8**
ABKAR				IAmb	IAmb	14 44 33.2	
	comp=Z,9.5nm,0.8s						
ABKAR	**Akbulak array**	**72.44**	**322**	P	**P**	**14 44 30.8**	**-1.0**
AKTO	**Aktyubinsk**	**74.00**	**323**	P	**P**	**14 44 40.0**	**-0.8**
	comp=Z,22nm,0.6s,baz=115,slow=8.2,SNR=35						
ARU	**Arti**	**75.69**	**329**	P	**P**	**14 44 49.1**	**-1.2**
	comp=Z,5.8nm,0.6s,baz=132,slow=3.0,SNR=19						
ARU	**Arti**	**75.69**	**329**	P	**P**	**14 44 49.1**	**-1.2**
ARU				IAmb	IAmb	14 44 51.5	
	comp=Z,17nm,0.7s						
MAW	**Mawson**	**80.24**	**200**	P	**P**	**14 45 15.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=79,slow=5.2,SNR=2.3						
MAW	**Mawson**	**80.24**	**200**	P	**P**	**14 45 14.7**	**-0.4**
KIRV	**Kirov**	**81.03**	**329**	P	**P**	**14 45 18.6**	**-0.8**
	comp=Z,34nm,0.5s,baz=147,slow=0.1,SNR=11						
VNDA	**Vanda**	**81.14**	**172**	P	**P**	**14 45 19.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=319,slow=6.7,SNR=26						
VNDA	**Vanda**	**81.14**	**172**	P	**P**	**14 45 19.9**	**+0.2**
KBZ	**Khabaz**	**82.73**	**314**	P	**P**	**14 45 28.0**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=154,slow=2.2,SNR=8.1						
IMAR	**Indian Mountai**	**85.97**	**24**	P	**P**	**14 45 44.9**	**+0.6**
KLMR	**Klimovskoe**	**86.33**	**331**	*e*P	**P**	**14 45 43.7**	**-2.4**
KLMR				AMP		14 45 48.6	
	comp=Z,17nm,0.7s						
KMBO	**Kilima Mbogo**	**86.60**	**269**	P	**P**	**14 45 49.2**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=60,slow=7.9,SNR=10						
BRLK	**Bradley Lake**	**86.73**	**30**	P	**P**	**14 45 48.3**	**+0.1**
BRLK				IAmb	IAmb	14 45 51.6	
	comp=Z,20nm,1.2s						
ASF	**Jabal al Asfar**	**86.86**	**302**	P	**P**	**14 45 49.8**	**+0.3**
	comp=Z,8.1nm,0.7s,baz=105,slow=3.3,SNR=8.7						
SUA	**Susitna One**	**86.91**	**29**	P	**P**	**14 45 48.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**86.97**	**26**	P	**P**	**14 45 49.4**	**+0.2**
COLD	**Coldfoot**	**87.49**	**23**	P	**P**	**14 45 52.7**	**+1.1**
I23K	**Minto, Yukon-K**	**87.72**	**25**	P	**P**	**14 45 53.0**	**+0.3**
TOLK	**Toolik Lake Re**	**87.80**	**21**	P	**P**	**14 45 53.8**	**+0.7**
MMAI	**Mount Meron Ar**	**88.13**	**303**	P	**P**	**14 45 55.7**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=84,slow=8.5,SNR=7.6						
WRH	**Wood River Hil**	**88.25**	**26**	P	**P**	**14 45 55.0**	**-0.2**
DHY	**Denali Highway**	**88.54**	**27**	P	**P**	**14 45 56.6**	**-0.2**
SCM	**Sheep Creek Mo**	**88.55**	**28**	P	**P**	**14 45 56.6**	**-0.2**
SCM				IAmb	IAmb	14 46 08.9	
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**88.77**	**25**	P	**P**	**14 45 55.9**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=254,slow=4.7,SNR=22						
ILAR	**Eielson Array**	**88.77**	**25**	P	**P**	**14 45 56.7**	**-1.0**
SYO	**Syowa Base**	**88.88**	**201**⇓	*e*P	**P**	**14 45 57.2**	**-0.8**
SYO	**Syowa Base**	**88.88**	**201**⇑	*e*PcP	**PcP**	**14 46 00.8**	**+1.5**
BRTR	**Keskin Array B**	**89.50**	**310**	P	**P**	**14 46 00.8**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=118,slow=7.3,SNR=9.3						
BMAR	**Burnt Mountain**	**89.67**	**23**	P	**P**	**14 46 02.9**	**+1.0**
RIDG	**Independent Ri**	**89.67**	**26**	P	**P**	**14 46 01.9**	**-0.1**
RIDG				IAmb	IAmb	14 46 02.0	
	comp=Z,5.9nm,0.8s						
DOT	**Dot Lake**	**90.03**	**26**	P	**P**	**14 46 03.2**	**-0.4**
K27K	**Chicken**	**90.88**	**26**	P	**P**	**14 46 08.7**	**+1.2**
QSPA	**South Pole Qui**	**90.95**	**180**	P	**P**	**14 46 09.2**	**+1.3**
ISLE	**Juniper Island**	**91.00**	**29**	P	**P**	**14 46 09.0**	**+0.7**
ISLE				IAmb	IAmb	14 46 21.3	
	comp=Z,21nm,1.2s						
BCAR	**Beaver Creek A**	**91.08**	**27**	P	**P**	**14 46 09.2**	**+0.7**
BARN	**Barnard Glacie**	**91.30**	**29**	P	**P**	**14 46 10.8**	**+1.1**
BARN				IAmb	IAmb	14 46 11.4	
	comp=Z,9.3nm,0.7s						
CTGM	**Chitina Glacie**	**91.46**	**29**	P	**P**	**14 46 11.4**	**+1.0**
CTGM				IAmb	IAmb	14 46 12.2	
	comp=Z,10nm,0.8s						
ARD4	**ARCESS Array S**	**91.95**	**340**	P	**P**	**14 46 10.4**	**-2.0**
ARCES	**ARCESS Array B**	**91.96**	**340**	P	**P**	**14 46 10.6**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=84,slow=6.4,SNR=16						
SPA0	**Spitsbergen Ar**	**92.55**	**349**	P	**P**	**14 46 14.2**	**-0.7**
FINES	**FINESS Array B**	**92.82**	**332**	P	**P**	**14 46 14.3**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=83,slow=7.9,SNR=6.9						
FINES	**FINESS Array B**	**92.82**	**332**	P	**P**	**14 46 14.0**	**-2.4**
HYT	**Haines Junctio**	**93.34**	**29**	P	**P**	**14 46 19.3**	**+0.2**
HYT				IAmb	IAmb	14 46 21.1	
	comp=Z,5.5nm,0.9s						
INK	**Inuvik**	**93.72**	**21**	P	**P**	**14 46 18.9**	**-1.5**
	comp=Z,1.4nm,0.5s,baz=306,slow=2.7,SNR=13						
MLR	**Muntele Rosu**	**94.81**	**316**	P	**P**	**14 46 25.3**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=214,slow=10,SNR=3.0						
HFS	**Hagfors**	**99.03**	**332**	P	**Pdif**	**14 46 42.2**	**-2.3**
	comp=Z,1.2nm,0.5s,baz=239,slow=0.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**120.94**	**286**	PKP	**PKPdf**	**14 51 55.4**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=58,slow=2.0,SNR=15						
TORD				SKP		14 55 03.2	
	comp=Z,0.2nm,0.5s,baz=60,slow=2.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.94**	**286**	PKP	**PKPdf**	**14 51 55.7**	**-0.2**
DBIC	**Dimbokro**	**128.23**	**279**	PKP	**PKiKP**	**14 52 10.3**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=148,slow=2.6,SNR=1.5						
MT02	**Curacav**	**144.99**	**158**		**PKPab**	**14 52 41.6**	**+1.1**
CO03	**El Pedregal**	**147.31**	**156**		**PKiKP**	**14 52 48.4**	**-0.8**

GII **30** *14:35:41.7±0.0,38.70N×42.10E,h13km*
ISK **30** *14:35:43.4,38.74N×42.15E,h5km,ML4.4/16*
DDA **30** *14:35:44.4,38.72N×42.11E,h12km±3km,MW4.4*
IDC **30** *14:35:44.2±0.8,38.66N×42.17E,h0km,mb4.1/14,*
mb1 4.0/22,mb1mx3.9/54,mbtmp4.0/22,ML3.5/8,MS3.4/37,
Ms1 3.5/37,ms1mx3.4/60,Error ellipse: s-maj=14.6km
s-min=10.4km az=153.0
NSSP **30** *14:35:45.2,38.70N×42.25E,h10km,Ms4.2*
NEIC **30** *14:35:47.0±0.3,38.69N±0.08×42.33E±0.09,h42km±11km,*
Error ellipse: s-maj=13.3km s-min=7.9km az=219.0
MOS **30** *14:35:47.0±1.2,38.68N×42.16E,h29km,mb4.4/14,Error*
ellipse: s-maj=8.6km s-min=5.1km az=84.9
ISC 30 14:35:45.1±0.6,**38.70N**±0.01×**42.17E**±0.02,**h3**km±4km,
n224,σ**2**s**00**/253,**mb4.3**/39,**MS3.5**/31,**13C-23D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GURO	**Guroymak-BITLI**	**0.18**	**217**			PG	**Pg**	**14 35 48.7**	**+0.1**
GURO						SG	**Sg**	**14 35 51.9**	**+0.9**
BLIS	**Bitlis-Merkez**	**0.28**	**189**	⇓	*i*P	**Pg**	**Pg**	**14 35 50.8**	**+0.2**
BLIS					*i* S	**Sg**	**Sg**	**14 35 55.5**	**+1.1**
BLIS					IAML			14 35 57.0	
	comp=N,43μm,0.3s								
BLIS					IAML			14 35 57.0	
	comp=E,37μm,0.5s								
MUSM	**Mu-Merkez**	**0.52**	**273**	⇑	*i*P		**Pg**	**14 35 53.2**	**-1.9**
MUSM					*i* S		**Sg**	**14 36 01.2**	**-0.6**
MUSM					IAML			14 36 03.0	
	comp=N,12μm,0.4s								
MUSM					IAML			14 36 04.0	
	comp=E,11μm,0.8s								
MLAZ	**Malazgirt-MUS**	**0.53**	**33**		PG		**Pg**	**14 35 54.5**	**-0.8**
MLAZ					SG		**Sg**	**14 36 02.6**	**+0.3**
EKAR	**Karacoban**	**0.57**	**351**	⇓	*i*P		**Pg**	**14 35 55.0**	**-1.0**
EKAR					*i* S		**Sg**	**14 36 05.1**	**+1.8**
EKAR					IAML			14 36 11.0	
	comp=N,32μm,0.6s								
EKAR					IAML			14 36 13.0	
	comp=E,31μm,0.7s								
VRTB	**Varto-Mus**	**0.73**	**310**		PG		**Pg**	**14 35 57.5**	**-1.5**
VRTB					SG		**Sg**	**14 36 08.3**	**-0.2**
VRTB	**Varto-Mus**	**0.73**	**310**		*i*P		**Pg**	**14 35 56.8**	**-2.2**
VRTB					*i* S		**Sg**	**14 36 08.3**	**-0.2**
VRTB					IAML			14 36 20.0	
	comp=E,15μm,0.6s								
VRTB					IAML			14 36 22.0	
	comp=N,17μm,0.7s								
AKDM	**Akdamar-Van**	**0.73**	**120**		PG		**Pb**	**14 35 59.4**	**-1.2**
SRTM	**Siirt_Merkez**	**0.73**	**196**	⇓	*i*P		**Pb**	**14 35 59.2**	**-1.3**
SRTM					*i* S		**Sb**	**14 36 11.0**	**+0.1**
SRTM					IAML			14 36 12.0	
	comp=E,9μm,0.9s								
SRTM					IAML			14 36 13.0	
	comp=N,8μm,0.6s								
GEVA	**Gevas**	**0.79**	**119**	⇓	*i*P		**Pb**	**14 36 00.5**	**-1.1**
GEVA					*i* S		**Sn**	**14 36 13.5**	**-2.2**
GEVA					IAML			14 36 14.0	
	comp=N,14μm,0.9s								
GEVA					IAML			14 36 14.0	
	comp=E,12μm,0.8s								
GEVA	**Gevas**	**0.79**	**119**		Pg		**Pb**	**14 36 00.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**0.94**	**235**		PG		**Pg**	**14 36 03.2**	**+0.1**
SVAN					SG		**Sb**	**14 36 17.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.94**	**235**	⇓	*i*P		**Pg**	**14 36 03.0**	**-0.1**
SVAN					*i* S		**Sb**	**14 36 15.9**	**-1.0**
SVAN					IAML			14 36 18.0	
	comp=N,4μm,0.6s								
SVAN					IAML			14 36 21.0	
	comp=E,3μm,0.6s								
VANB	**Van**	**0.96**	**96**		PG		**Pb**	**14 36 04.1**	**-0.3**
VANB					SG		**Sn**	**14 36 19.1**	**-0.7**
TVAN	**Van**	**0.98**	**99**	⇑	*i*P		**Pb**	**14 36 04.3**	**-0.6**
TVAN					*i* S		**Sn**	**14 36 19.4**	**-1.0**
TVAN					IAML			14 36 21.0	
	comp=N,14μm,0.6s								
TVAN					IAML			14 36 21.0	
	comp=E,13μm,0.5s								
KARO	**Karliova-Bingo**	**1.07**	**305**		PG		**Pg**	**14 36 04.1**	**-1.5**
KARO					SG		**Sg**	**14 36 19.5**	**+0.1**
BTMN	**Batman**	**1.07**	**222**	⇓	*i*P		**Pb**	**14 36 05.6**	**-0.7**
BTMN					*i* S		**Sn**	**14 36 21.7**	**-0.9**
BTMN					IAML			14 36 22.0	
	comp=E,16μm,0.7s								
BTMN					IAML			14 36 23.0	
	comp=N,12μm,0.6s								
AGRB	**Hanur-Agry**	**1.08**	**36**		PG		**Pg**	**14 36 04.9**	**-1.0**
VMUR	**Van-Muradiye**	**1.13**	**75**	⇑	*i*P		**Pg**	**14 36 06.4**	**-0.3**
VMUR					*i* S		**Sn**	**14 36 25.6**	**+1.5**
VMUR					IAML			14 36 34.0	
	comp=N,4μm,0.8s								
VMUR					IAML			14 36 39.0	
	comp=E,5μm,0.8s								
EATA	**Eleskirt**	**1.19**	**12**	⇓	*i*P		**Pg**	**14 36 06.0**	**-1.9**
EATA					*i* S		**Sg**	**14 36 23.4**	**0.0**
EATA					IAML			14 36 26.0	
	comp=E,12μm,0.7s								
EATA					IAML			14 36 33.0	
	comp=N,8μm,0.8s								
BNGB	**Bingl**	**1.20**	**285**		PN		**Pg**	**14 36 06.2**	**-2.0**
SIRT	**Sirnak**	**1.21**	**170**		PN		**Pn**	**14 36 08.7**	**-0.3**
SIRN	**Sirnak**	**1.21**	**171**	⇓	*i*P		**Pn**	**14 36 08.5**	**-0.5**
SIRN					*i* S		**Sn**	**14 36 28.4**	**+2.4**
SIRN					IAML			14 36 31.0	
	comp=N,8μm,0.9s								
SIRN					IAML			14 36 34.0	
	comp=E,16μm,1.0s								
KOPR	**Koprukoy-ERZUR**	**1.32**	**349**		PN		**Pn**	**14 36 08.8**	**-1.8**
ERZM	**Erzurum**	**1.36**	**333**	⇓	*i*P		**Pn**	**14 36 08.8**	**-2.4**
ERZM					*i* S		**Sg**	**14 36 29.0**	**+0.2**
HOMI	**Horasan**	**1.36**	**351**	⇓	*i*P		**Pn**	**14 36 09.1**	**-2.1**
HOMI					*i* S		**Sg**	**14 36 30.7**	**+1.7**
HOMI					IAML			14 36 33.0	
	comp=N,9μm,0.7s								
HOMI					IAML			14 36 37.0	
	comp=E,13μm,0.6s								
CLDR	**Caldiran**	**1.43**	**71**		PN		**Pn**	**14 36 11.7**	**-0.5**
CLDR	**Caldiran**	**1.43**	**71**	⇑	*i*P		**Pn**	**14 36 11.2**	**-1.0**
CLDR					*i* S		**Sn**	**14 36 33.9**	**+2.2**
CLDR					IAML			14 36 35.0	
	comp=E,2μm,0.9s								
CLDR					IAML			14 36 36.0	
	comp=N,3μm,0.8s								
DYDN	**Diyadin**	**1.45**	**54**	⇑	*i*P		**Pn**	**14 36 10.8**	**-1.6**
DYDN					*i* S		**Sn**	**14 36 34.1**	**+1.9**
DYDN					IAML			14 36 39.0	
	comp=N,3μm,0.7s								
DYDN					IAML			14 36 47.0	
	comp=E,3μm,1.2s								
YEDI	**Yedisu-Bingol**	**1.47**	**301**		PN		**Pn**	**14 36 11.3**	**-1.3**
BASK	**Baskale_VAN**	**1.58**	**113**	*i*	P		**Pg**	**14 36 15.4**	**+0.2**
BASK					*i* S		**Sg**	**14 36 40.4**	**+4.7**
BASK					IAML			14 36 44.0	
	comp=E,3μm,1.2s								
BASK					IAML			14 36 45.0	
	comp=N,3μm,0.9s								
EMRE	**Erzurum,Aziziy**	**1.62**	**326**	⇓	*i*P		**Pn**	**14 36 13.6**	**-1.3**
EMRE					*i* S		**Sg**	**14 36 39.3**	**+2.0**
EMRE					IAML			14 36 45.0	
	comp=N,6μm,0.7s								
EMRE					IAML			14 36 58.0	
	comp=E,5μm,1.5s								
HAKT	**HAKKARI**	**1.66**	**133**	⇑	*i*P		**Pg**	**14 36 16.7**	**-0.2**
HAKT					*i* S		**Sg**	**14 36 42.9**	**+4.5**
HAKT					IAML			14 36 46.0	
	comp=E,2μm,0.8s								
HAKT					IAML			14 36 47.0	
	comp=N,2μm,1.3s								
MARD	**Mardin**	**1.77**	**219**	⇓	*i*P		**Pn**	**14 36 16.5**	**-0.2**
MARD					*i* S		**Sg**	**14 36 41.9**	**+0.2**
MARD					IAML			14 36 46.0	
	comp=E,10μm,0.7s								
MARD					IAML			14 36 47.0	
	comp=N,16μm,0.6s								
MARD	**Mardin**	**1.77**	**219**		Pn		**Pn**	**14 36 16.4**	**-0.2**
DIYA	**Diyarbakir**	**1.79**	**245**	*i*	P		**Pn**	**14 36 16.7**	**-0.2**
DIYA					*i* S		**Sg**	**14 36 42.1**	**-0.5**
DIYA					IAML			14 36 47.0	
	comp=E,3μm,0.9s								
DIYA					IAML			14 36 48.0	
	comp=N,3μm,1.0s								
CUKT	**Cukurca**	**1.84**	**141**		PN		**Pb**	**14 36 18.5**	**-0.9**
CUKT	**Cukurca**	**1.84**	**141**	*i*	P		**Pg**	**14 36 19.6**	**-0.7**
CUKT					*i* S		**Sg**	**14 36 46.3**	**+2.2**
CUKT					IAML			14 36 49.0	
	comp=N,3μm,0.8s								
CUKT					IAML			14 36 56.0	
	comp=E,4μm,1.0s								
MAZI	**Mazidag**	**1.84**	**228**		PN		**Pn**	**14 36 17.6**	**-0.1**
KOPT	**Kop Dagi**	**1.85**	**316**	⇓	*i*P		**Pn**	**14 36 17.9**	**-0.1**
KOPT					*i* S		**Sg**	**14 36 47.3**	**+2.7**
KOPT					IAML			14 36 53.0	
	comp=N,2μm,0.8s								
KOPT					IAML			14 37 00.0	
	comp=E,2μm,1.0s								
KOPT	**Kop Dagi**	**1.85**	**316**		Pn		**Pn**	**14 36 17.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.87**	**4**		PN		**Pn**	**14 36 17.9**	**-0.3**
VNNZ	**Vanand**	**1.90**	**42**	*i*	P		**Pn**	**14 36 19.5**	**+1.0**
VNNZ					*i* S		**Sb**	**14 36 44.9**	**+0.3**
DIGO	**Kars**	**1.95**	**28**	*i*	P		**Pn**	**14 36 19.5**	**+0.1**
DIGO					*i* S		**Sg**	**14 36 50.1**	**+2.3**
DIGO					IAML			14 36 56.0	
	comp=N,2μm,0.7s								
DIGO					IAML			14 37 01.0	
	comp=E,2μm,0.8s								
YOVA	**Hakkari_Yksek**	**2.00**	**123**	⇑	*i*P		**Pg**	**14 36 22.2**	**-1.3**
YOVA					*i* S		**Sg**	**14 36 51.6**	**+2.2**
YOVA					IAML			14 36 54.0	
	comp=E,2μm,0.9s								
YOVA					IAML			14 36 55.0	
	comp=N,1μm,1.1s								
KARS	**Kars**	**2.05**	**20**		PN		**Pn**	**14 36 19.8**	**-0.8**
TASB	**TASBURUN-IGDIR**	**2.05**	**51**		PN		**Pn**	**14 36 20.3**	**-0.3**
TNCL	**Tunceli-Merkez**	**2.10**	**282**	⇓	*i*P		**Pn**	**14 36 20.9**	**-0.3**
TNCL					*i* S		**Sg**	**14 37 00.7**	**+8.3**
TNCL					IAML			14 37 04.0	
	comp=N,1μm,0.6s								
TNCL					IAML			14 37 04.0	
	comp=E,2μm,1.0s								
ERZN	**Erzincan**	**2.10**	**296**		PN		**Pn**	**14 36 20.6**	**-0.7**
BAYB	**BAYBURT**	**2.15**	**317**	*i*	P		**Pn**	**14 36 21.8**	**-0.3**
BAYB					*i* S		**Sg**	**14 36 55.1**	**+0.9**
BAYB					IAML			14 36 59.0	
	comp=N,779nm,1.1s								
BAYB					IAML			14 36 59.0	
	comp=E,656nm,0.7s								
ARUZ	**Aruch**	**2.17**	**43**	*i*	P		**Pn**	**14 36 22.2**	**-0.1**
ARUZ					*i* S		**Sn**	**14 36 50.5**	**+0.8**
EUZM	**Uzumlu**	**2.17**	**298**	*i*	P		**Pn**	**14 36 22.4**	**+0.2**
EUZM					*i* S		**Sn**	**14 36 52.2**	**+2.4**
PTK	**Pertek**	**2.18**	**276**		PN		**Pn**	**14 36 21.9**	**-0.6**
DDEM	**Demirkent**	**2.22**	**352**	*i*	P		**Pn**	**14 36 23.0**	**+0.1**
DDEM					*i* S		**Sg**	**14 36 57.1**	**+0.8**
DDEM					IAML			14 37 04.0	
	comp=E,1μm,0.6s								
DDEM					IAML			14 37 05.0	
	comp=N,2μm,0.8s								
SVRC	**Sivrice-ELAZID**	**2.27**	**263**		PN		**Pn**	**14 36 23.3**	**-0.4**
EAK	**Akyaka**	**2.27**	**29**	*i*	P		**Pn**	**14 36 24.5**	**+0.8**
EAK					*i* S		**Sg**	**14 37 01.8**	**+3.6**
EAK					IAML			14 37 09.0	
	comp=N,2μm,1.2s								
EAK					IAML			14 37 09.0	
	comp=E,1μm,1.0s								
DBAD	**Bademkaya**	**2.35**	**351**	*i*	P		**Pn**	**14 36 24.7**	**0.0**
DBAD					*i* S		**Sg**	**14 37 01.1**	**+0.5**
DBAD			

ASF				Lg		Lg		14 39 59.6	
	comp=Z,2.3nm,0.3s,baz=251,slow=18,SNR=9.9								
MMA0B	**Mount Meron ar**		**7.89 226**	Pn		Pn		14 37 36.0	-4.8
MMAI	**Mount Meron Ar**		**7.89 226**	Pn		**Pn**		**14 37 41.9**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=55,slow=14,SNR=6.0								
MMAI				Lg		Lg		14 40 03.7	
	comp=Z,5.2nm,0.3s,baz=27,slow=25,SNR=6.6								
MMAI				LR		LR		14 40 21.2	
	comp=Z,55nm,19.2s,baz=20,slow=35								
DSI	**Dead Sea**		**9.02 220**	Pn		Pn		14 37 50.9	-5.4
ZFRI	**Zfri**		**9.96 217**	Pn		Pn		14 38 03.9	-5.1
HRFI	**Mount Harif**		**10.45 216**	Pn		**Pn**		**14 38 11.2**	**-4.7**
EIL	**Elat**		**10.80 216**	Pn		**Pn**		**14 38 20.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=140,slow=17,SNR=1.4								
EIL				Pg				14 39 10.5	
	comp=Z,0.5nm,0.3s,baz=9.6,slow=13,SNR=3.8								
EIL				Lg		Lg		14 41 33.7	
	comp=Z,0.4nm,0.3s,baz=275,slow=20,SNR=2.2								
EIL				LR		LR		14 43 09.7	
	comp=Z,219nm,20.7s,baz=50,slow=41								
EIL	**Elat**		**10.80 216**	Pn		**Pn**		**14 38 17.3**	**-3.4**
TIRR	**Tirgusor**		**11.80 304**	⇓P		**Pn**		**14 38 30.2**	**-4.0**
VRH	**Novokhopyorsk**		**12.51 359**	*e*P		Pn		14 38 49.8	+5.9
VRH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
GEYT	**Alibeck**		**12.55 89**	LR		LR		14 44 57.5	
	comp=Z,74nm,20.3s,baz=230,slow=44								
VSR	**Storozhevoye**		**12.70 351**	*e*P		**Pn**		**14 38 44.9**	**-1.5**
VSR				pmax		pmax			
	comp=Z,20nm,1.6s								
SORM	**Soroca**		**13.76 318**	⇓P		**Pn**		**14 38 59.0**	**-2.0**
MLR	**Muntele Rosu**		**13.82 305**	LR		LR		14 45 08.9	
	comp=Z,167nm,18.2s,baz=163,slow=41								
MLR	**Muntele Rosu**		**13.82 305**	⇑P		**Pn**		**14 38 58.0**	**-3.9**
LPSR	**Galich'ya Gora**		**14.09 352**	*e*P		**Pn**		**14 39 02.9**	**-2.5**
LPSR				pmax		pmax			
	comp=Z,20nm,1.1s								
VOIR			**14.38 303**	⇑P		**Pn**		**14 39 05.9**	**-3.6**
AKASG	**Malin Array Be**		**15.10 327**	Pn		**Pn**		**14 39 18.6**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=135,slow=12,SNR=24								
AKASG				LR		LR		14 46 13.2	
	comp=Z,169nm,20.4s,baz=120,slow=42								
BURAR	**Bucovina Array**		**15.22 311**	⇓P		**Pn**		**14 39 17.9**	**-3.0**
AKTO	**Aktyubinsk**		**16.24 39**	Pn		**Pn**		**14 39 33.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=218,slow=9.1,SNR=15								
AKTO				LR		LR		14 47 26.5	
	comp=Z,99nm,18.6s,baz=219,slow=43								
ABKAR	**Akbulak array**		**16.54 45**	P		**Pn**		**14 39 37.6**	**-0.3**
ABKAR	**Akbulak array**		**16.54 45**			**Pn**		**14 39 36.9**	**-1.0**
OBN	**Obninsk**		**16.86 349**	⇓*e*P		**Pn**		**14 39 42.8**	**+1.0**
OBN				S		**Sn**		**14 42 51.0**	**+1.6**
OBN				pmax		pmax			
	comp=Z,7.0nm,0.6s								
OBN				MLR		MLR			
	comp=Z,107nm,17.0s								
MOS	**Moscow**		**17.32 351**	*e*P		**P**		**14 39 49.2**	**0.0**
MOS				pmax		pmax			
	comp=Z,35nm,0.7s								
UZH	**Uzhgorod**		**17.43 311**	*e*P		**P**		**14 39 56.3**	**+5.9**
CRVS	**Cervenica-Dubn**		**18.05 311**	*e*P		**Pn**		**14 39 51.8**	**-5.0**
CRVS	**Cervenica-Dubn**		**18.05 311**	*e*PN		**Pn**		**14 39 51.8**	**-5.0**
CRVS	**Cervenica-Dubn**		**18.05 311**	*e*P		**P**		**14 39 59.6**	**+2.3**
NACGM	**Naroch**		**19.26 332**	*e*		**P**		**14 40 11.0**	**+0.5**
VYHS	**Vyhne**		**19.47 308**	*e*P		**Pn**		**14 40 14.4**	**+0.4**
VYHS	**Vyhne**		**19.47 308**	*e*P		**Pn**		**14 40 14.4**	**+0.4**
JAVC	**Velka Javorina**		**20.32 308**	*e*P		Pn		14 40 26.0	+1.8
KIRV	**Kirov**		**20.45 11**	P		**P**		**14 40 23.4**	**0.0**
	comp=Z,20nm,0.8s,baz=184,slow=19,SNR=2.2								
KIRV				LR		LR		14 48 52.7	
	comp=Z,175nm,20.2s,baz=202,slow=38								
KIRV	**Kirov**		**20.45 11**	*i* P		**P**		**14 40 23.8**	**+0.4**
MORC	**Moravsky Berou**		**20.74 310**	*e*P		Pn		14 40 32.8	+3.7
ARU	**Arti**		**20.81 26**	P		**P**		**14 40 27.1**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=173,slow=6.1,SNR=7.3								
ARU				LR		LR		14 50 23.8	
	comp=Z,164nm,18.4s,baz=225,slow=42								
ARU	**Arti**		**20.81 26**	*d* P		**P**		**14 40 27.2**	**-0.2**
ARU								14 40 44.5	
ARU				S		**S**		**14 44 21.4**	**+1.4**
ARU				SS		**SnSn**		**14 44 42.2**	**+2.6**
ARU				pmax		pmax			
	comp=Z,21nm,1.5s								
ARU	**Arti**		**20.81 26**	P		**P**		**14 40 24.1**	**-3.3**
ARU				IAmb		IAmb		14 40 32.3	
	comp=Z,11nm,0.6s								
WSAR	**Wadi Sarin**		**20.84 133**	LR		LR		14 49 29.6	
	comp=Z,80nm,18.7s,baz=330,slow=40								
VRAC	**Vranov**		**21.14 308**	P		**P**		**14 40 31.8**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=93,slow=11,SNR=4.6								
VRAC				LR		LR		14 50 45.1	
	comp=Z,25nm,20.7s,baz=126,slow=43								
VRAC	**Vranov**		**21.14 308**	*e*P		**P**		**14 40 34.4**	**+3.4**
CONA	**Conrad Observa**		**21.17 304**	*e*P		**P**		**14 40 30.9**	**-0.5**
	comp=Z,23nm,1.3s								
KRUC	**Moravsky**		**21.18 308**	*e*P		**P**		**14 40 34.7**	**+3.3**
ARSA	**Arzberg**		**21.21 302**	*e*P		**P**		**14 40 33.9**	**+2.0**
	comp=Z,8.4nm,1.1s								
DPC	**Dobruska-Polom**		**21.69 311**	*e*P		**P**		**14 40 39.2**	**+2.3**
DPC	**Dobruska-Polom**		**21.69 311**	*e*P		**P**		**14 40 39.2**	**+2.3**
OBKA	**Obir**		**21.70 300**	*e*P		**P**		**14 40 37.0**	**-0.2**
	comp=Z,6.8nm,1.1s								
KKAR	**Karatay Array**		**21.82 69**	P		**P**		**14 40 39.7**	**+1.3**
KKAR	**Karatay Array**		**21.82 69**	P		**P**		**14 40 39.7**	**+1.3**
OSTC	**Ostas**		**21.83 311**	*e*P		**P**		**14 40 43.5**	**+5.1**
SVE	**Sverdlovsk**		**21.85 28**	*e*P		**P**		**14 40 41.7**	**+3.1**
SVE				pmax		pmax			
	comp=Z,24nm,1.4s								
GAR	**Garm**		**21.89 80**	P		**P**		**14 40 35.2**	**-4.1**
UPC	**Upice**		**21.93 311**	*e*P		**P**		**14 40 44.4**	**+4.9**
UPC	**Upice**		**21.93 311**	*e*P		**P**		**14 40 44.4**	**+4.9**
CHVC	**Chvalec**		**21.94 311**	*e*P		**P**		**14 40 41.9**	**+2.3**
VSU	**Vasula**		**22.16 338**	*i* P		**P**		**14 40 43.6**	**+1.8**
VSU				pmax		pmax			
	comp=Z,41nm,0.9s								
MOA	**Molln**		**22.18 303**	*e*P		**P**		**14 40 42.2**	**0.0**
	comp=Z,14nm,1.1s								
KLMR	**Klimovskoe**		**22.24 357**	*e*P		**P**		**14 40 43.5**	**+0.8**
KLMR				pmax		pmax			
	comp=Z,36nm,1.3s								
KLMR	**Klimovskoe**		**22.24 357**	*e*P		**P**		**14 40 43.5**	**+0.8**
KLMR				AMP				14 40 47.8	
	comp=Z,36nm,1.3s								
MYKA	**Terra Mystica**		**22.34 300**	*e*P		**P**		**14 40 44.8**	**+0.8**
	comp=Z,2.3nm,0.6s								
KBA	**Koelnbreinsper**		**22.62 301**	*e*P		**P**		**14 40 49.1**	**+1.9**
	comp=Z,6.3nm,0.7s								
PRU	**Pruhonice**		**22.63 309**	*e*P		**P**		**14 40 50.5**	**+3.5**
PRU	**Pruhonice**		**22.63 309**	*e*P		**P**		**14 40 50.5**	**+3.5**
GERES	**GERESS Array B**		**22.80 306**	P		**P**		**14 40 48.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=113,slow=10,SNR=7.8								
PBCC	**Pribram**		**22.86 308**	*e*P		**P**		**14 40 52.1**	**+2.6**
KHC	**Kasperske Hory**		**22.96 306**	*e*P		**P**		**14 40 47.6**	**-2.9**
KHC				*ex*		x		14 40 53.7	
KHC	**Kasperske Hory**		**22.96 306**	*e*P		**P**		**14 40 47.6**	**-2.9**
KHC				*e*				14 40 53.7	
ABTA	**Abfaltersbach**		**23.13 300**	*e*P		**P**		**14 40 54.5**	**+2.1**
	comp=Z,2.2nm,0.5s								
BRG	**Berggiesshubel**		**23.29 311**	*e*P		**P**		**14 40 56.5**	**+2.6**
	comp=Z,11nm,1.3s								
BRG	**Berggiesshubel**		**23.29 311**	*e*P		**P**		**14 40 56.5**	**+2.6**
BRG				pmax		pmax			
	comp=Z,11nm,1.3s								
WTTA	**Wattenberg**		**23.80 301**	*e*P		**P**		**14 41 02.0**	**+2.8**
	comp=Z,10nm,0.8s								
WATA	**Walderalm**		**23.86 301**	*e*P		**P**		**14 41 02.6**	**+3.0**
	comp=Z,15nm,0.9s								
NKC	**Novy Kostel**		**23.98 308**	*e*P		**P**		**14 41 04.2**	**+3.5**
NKC	**Novy Kostel**		**23.98 308**	*e*P		**P**		**14 41 04.2**	**+3.5**
CLL	**Collm**		**24.00 311**	*e*P		**P**		**14 40 58.0**	**-2.8**
CLL				*e*				14 41 03.0	
	comp=Z,29nm,1.6s								
CLL				*e*S		**S**		**14 45 20.0**	**+1.8**
CLL				Lm		MLR		14 51 00.0	
	comp=N,100nm,21.8s								
CLL				Lm		MLR		14 51 00.0	
	comp=E,100nm,18.2s								
CLL	**Collm**		**24.00 311**	*e*P		**P**		**14 41 03.0**	**+2.2**
CLL				*e*S		**S**		**14 45 20.0**	**+1.8**
CLL				pmax		pmax			
	comp=Z,29nm,1.6s								
BRVK	**Borovoye**		**24.07 44**	*i* P		**P**		**14 41 01.9**	**+0.4**
BRVK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
BRVK	**Borovoye**		**24.07 44**	P		**P**		**14 40 56.3**	**-5.2**
BRVK				IAmb		IAmb		14 41 10.3	
	comp=Z,6.2nm,0.8s								
SQTA	**Sankt Quirin**		**24.08 301**	*e*P		**P**		**14 41 02.2**	**+0.4**
	comp=Z,20nm,1.1s								
MOTA	**Moosalm**		**24.18 301**	*e*P		**P**		**14 41 02.5**	**-0.1**
	comp=Z,8.3nm,1.0s								
FETA	**Feichten**		**24.38 300**	*e*P		**P**		**14 41 04.9**	**+0.3**
	comp=Z,14nm,1.1s								
RETA	**Reutte**		**24.43 301**	*e*P		**P**		**14 41 07.6**	**+2.7**
	comp=Z,16nm,1.6s								
AAK	**Ala-Archa**		**24.75 70**	*i* P		**P**		**14 41 08.5**	**+0.6**
AAK				pmax		pmax			
	comp=Z,15nm,1.1s								
FINES	**FINESS Array B**		**24.86 342**	P		**P**		**14 41 07.9**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=131,slow=10,SNR=6.5								
FINES				LR		LR		14 51 45.3	
	comp=Z,127nm,20.2s,baz=154,slow=39								
FINES	**FINESS Array B**		**24.86 342**	*i* P		**P**		**14 41 11.3**	**+2.7**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.7s								
FINES	**FINESS Array B**		**24.86 342**	P		**P**		**14 41 04.2**	**-4.4**
DAVOX	**Davos/Dischmat**		**24.92 299**	P		**P**		**14 41 10.1**	**+0.6**
	comp=Z,1.9nm,0.4s,baz=68,slow=5.8,SNR=3.7								
DAVOX				LR		LR		14 51 52.6	
	comp=Z,107nm,18.2s,baz=89,slow=39								
DAVA	**Damuels**		**24.99 301**	*e*P		**P**		**14 41 08.9**	**-1.2**
	comp=Z,8.2nm,0.8s								
KEST	**Kesra**		**26.23 274**	LR		LR		14 53 29.2	
	comp=Z,46nm,18.3s,baz=204,slow=41								
ATD	**Arta Tunnel**		**27.06 179**	LR		LR		14 52 27.1	
	comp=Z,63nm,18.6s,baz=29,slow=37								
HFS	**Hagfors**		**27.96 329**	LR		LR		14 53 40.9	
	comp=Z,109nm,19.1s,baz=106,slow=38								
KURBB	**Kurchatov Arra**		**28.19 53**	P		**P**		**14 41 39.6**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=265,slow=9.2,SNR=18								
KURK	**Kurchatov**		**28.26 53**	*i* P		**P**		**14 41 40.3**	**+1.0**
KURK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
NOA	**NORSAR Array B**		**29.48 329**	LR		LR		14 54 59.1	
	comp=Z,91nm,19.7s,baz=125,slow=39								
MK31	**Makanchi Array**		**30.28 61**	*i* P		**P**		**14 41 58.2**	**+0.8**
MKAR	**Makanchi Array**		**30.28 61**	P		**P**		**14 41 57.8**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=272,slow=7.0,SNR=14								
MKAR				LR		LR		14 56 04.4	
	comp=Z,54nm,19.1s,baz=276,slow=40								
MKAR	**Makanchi Array**		**30.28 61**	*i* P		**P**		**14 41 58.2**	**+0.8**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**		**30.28 61**	P		**P**		**14 41 54.7**	**-2.7**
ARCES	**ARCESS Array B**		**32.17 349**	P		**P**		**14 42 14.0**	**+0.3**
	comp=Z,8.5nm,1.2s,baz=21,slow=7.0,SNR=1.4								
ARCES				LR		LR		14 55 58.1	
	comp=Z,179nm,20.1s,baz=165,slow=38								
ARCES	**ARCESS Array B**		**32.17 349**	P		**P**		**14 42 14.0**	**+0.3**
ZALV	**Zalesovo Beam**		**32.60 48**	P		**P**		**14 42 17.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=262,slow=9.6,SNR=4.8								
ZALV	**Zalesovo Beam**		**32.60 48**	*i* P		**P**		**14 42 18.1**	**+0.5**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.5s								
DGZ	**Jazzator, Alta**		**33.78 56**	*i* P		**P**		**14 42 28.3**	**+0.1**
DGZ				pmax		pmax			
	comp=Z,6.0nm,1.4s								
ESDC	**Sonseca Array**		**35.47 286**	LR		LR		14 58 04.5	
	comp=Z,51nm,19.8s,baz=315,slow=38								
NRIK	**Noril'sk**		**39.00 24**	LR		LR		15 02 47.7	
	comp=Z,121nm,18.3s,baz=210,slow=42								
JMIC	**Jan Mayen**		**41.34 337**	LR		LR		15 02 25.5	
	comp=Z,27nm,19.2s,baz=114,slow=39								
TORD	**Torodi Ar. Bea**		**43.90 246**	P		**P**		**14 43 51.5**	**-1.7**
	comp=Z,3.2nm,1.1s,baz=48,slow=7.6,SNR=7.4								
GTA	**Gaotai**		**44.10 70**	*e*P		**P**		**14 43 56.0**	**+1.3**
GTA				PcP		**sP**		**14 43 56.8**	**-0.1**
GTA				pP		pP		14 44 03.3	+7.0
GTA				sP		sP		14 44 07.3	+10
GTA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
BORG	**Borgarnes**		**44.59 327**	LR		LR		15 02 51.5	
	comp=Z,50nm,21.6s,baz=130,slow=36								
SONM	**Songino Array**		**46.42 57**	LR		LR		15 06 19.4	
	comp=Z,73nm,18.6s,baz=268,slow=40								
PALK	**Pallekele**		**46.72 122**	LR		LR		15 05 46.0	
	comp=Z,50nm,18.6s,baz=59,slow=39								
CMAR	**Chiang Mai Arr**		**52.92 96**	P		**P**		**14 45 00.9**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=299,slow=8.2,SNR=10								
CMAR				LR		LR		15 10 11.9	
	comp=Z,26nm,18.2s,baz=75,slow=39								
CMAR	**Chiang Mai Arr**		**52.92 96**	*i* P		**P**		**14 45 02.5**	**-0.2**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
DBIC	**Dimbokro**		**53.01 245**	P		**P**		**14 45 01.5**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=76,slow=3.5,SNR=4.0								
KIC	**Kosan Boka**		**53.14 245**	*e*P		**P**		**14 45 04.8**	**+0.4**
	comp=Z,13nm,0.9s								
TIC	**Toumodi**		**53.15 246**	*e*P		**P**		**14 45 04.0**	**-0.4**
LIC	**Lamto**		**53.44 245**	*e*P		**P**		**14 45 07.0**	**+0.4**
	comp=Z,18nm,0.8s								
SFJD	**Kangerlussuaq**		**56.12 332**	LR		LR		15 10 14.5	
	comp=Z,55nm,18.4s,baz=72,slow=37								
FRB	**Frobisher Bay**		**64.24 332**	LR		LR		15 14 02.6	
	comp=Z,45nm,20.3s,baz=42,slow=36								
KSRS	**Korea Array**		**64.96 61**	P		**P**		**14 46 25.7**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=290,slow=6.7,SNR=8.6								
BILL	**Bilibino**		**65.68 20**	⇓*e*P		**P**		**14 46 30.1**	**-0.2**
BILL				*PP		**sP**		**14 46 34.0**	**+1.4**
BILL				*e*				14 46 57.2	
BILL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,86nm,21.0s								
BOSA	**Boshof**		**68.80 196**	LR		LR		15 18 40.1	
	comp=Z,59nm,18.5s,baz=22,slow=38								
MJAR	**Matsushiro Arr**		**72.37 57**	LR		LR		15 21 49.1	
	comp=Z,39nm,18.3s,baz=230,slow=38								
ILAR	**Eielson Array**		**76.62 4**	LR		LR		15 26 01.8	
	comp=Z,22nm,19.4s,baz=293,slow=39								
YKA	**Yellowknife Ar**		**77.44 349**	LR		LR		15 22 44.0	
	comp=Z,29nm,19.7s,baz=3.0,slow=36								
DLBC	**Dease Lake**		**83.01 356**	LR		LR		15 29 11.0	
	comp=Z,60nm,18.1s,baz=312,slow=39								
ULM	**Lac du Bonnet**		**84.04 334**	LR		LR		15 28 50.6	
	comp=Z,28nm,19.2s,baz=28,slow=38								
TKL	**Tuckaleechee C**		**90.73 319**	LR		LR		15 32 31.1	
	comp=Z,17nm,18.3s,baz=9.0,slow=38								
PDAR	**Pinedale Array**		**94.95 340**	LR		LR		15 33 16.8	
	comp=Z,34nm,20.0s,baz=342,slow=36								

TAP 30 14:37:25.4,21.14N×121.31E,h248km,ML3.8,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.85**	**334**	*e*P	Pn	14 37 59.3	-0.1
	baz=328						
TWKBT	**Hengchun**	**0.92**	**330**	*e*P	Pn	14 37 58.4	-1.4
	baz=328						
LAY	**Lan-yu**	**0.93**	**14**	P	Pn	14 37 59.1	-0.7
	baz=14						
LAY				*e*S	S	14 38 23.9	-3.1
	baz=14						
TWK1	**Hengchun**	**0.93**	**330**	*e*P	Pn	14 38 00.5	+0.7
	baz=329						
TAW	**Tawu**	**1.27**	**343**	*e*P	Pn	14 38 03.0	+1.1
	baz=347						
EAST	**Anshuo**	**1.31**	**341**	P	Pn	14 38 01.7	-0.5
	baz=345						
SCZT	**Fangliau**	**1.38**	**333**	*e*P	Pn	14 38 02.3	-0.3
	baz=335						
WLCH	**Liuqiu**	**1.48**	**325**	*e*P	Pn	14 38 03.8	+0.5
	baz=325						
ECL	**Taimali**	**1.49**	**347**	*e*P	Pn	14 38 04.4	+1.0
	baz=349						
MASBT	**Mashibuluo**	**1.59**	**337**	*i* P	Pn	14 38 04.3	+0.1
	baz=330						
TSMG	**Majia**	**1.68**	**339**	*e*P	Pn	14 38 05.5	+0.6
	baz=333						
TWGBT	**Beinan**	**1.69**	**353**	*e*P	Pn	14 38 04.7	-0.3
	baz=353						
TWG	**Pinlang**	**1.69**	**353**	*e*P	Pn	14 38 05.1	+0.1
	baz=353						
TWG	**Pinlang**	**1.69**	**353**	P	**P**	**14 38 05.3**	**-0.7**
SSD	**Sandimen**	**1.72**	**339**	P	Pn	14 38 06.5	+1.2
	baz=334						
SGLT	**Jiouru**	**1.75**	**335**	*e*P	Pn	14 38 08.3	+2.8
	baz=330						
EDH	**Donghe**	**1.83**	**360**	*e*P	Pn	14 38 06.1	0.0
	baz=354						
TWM1	**Shoushan**	**1.87**	**334**	*e*P	Pn	14 38 08.7	+2.1
	baz=329						
SCST	**Cishan**	**1.90**	**337**	*e*P	Pn	14 38 06.6	-0.2
	baz=331						
SLGT	**Liugui**	**1.95**	**342**	*e*P	Pn	14 38 08.1	+0.9
	baz=347						
SGST	**Jiashian**	**2.05**	**341**	*e*P	Pn	14 38 08.7	+0.6
	baz=346						
FULB	**Fuli**	**2.05**	**360**	*e*P	Pn	14 38 07.7	-0.5
	baz=356						
ELDTW	**Lidau**	**2.06**	**353**	*e*P	Pn	14 38 08.7	+0.3
	baz=354						
STYT	**Tauyuan**	**2.08**	**346**	*e*P	Pn	14 38 09.2	+0.8
	baz=346						
CHN1	**Nanshi**	**2.16**	**341**	*e*P	Pn	14 38 10.2	+1.0
	baz=341						
WTP	**Ta-pu**	**2.19**	**343**	*e*P	Pn	14 38 10.5	+0.9
	baz=336						
TWF1	**Yuli**	**2.20**	**360**	*e*P	Pn	14 38 09.4	-0.2
	baz=360						
TPUB	**Ta-pu**	**2.24**	**344**	*e*P	Pn	14 38 09.7	-0.3
	baz=338						
YULB	**Yu-li**	**2.24**	**360**	P	Pn	14 38 08.7	-1.3
	baz=5.0						
YULB	**Yu-li**	**2.24**	**360**	P	**P**	**14 38 09.0**	**-1.8**
TWK	**Hsinying**	**2.25**	**340**	*e*P	Pn	14 38 11.1	+1.0
	baz=347						
CHN4	**Tssaushan**	**2.30**	**343**	*e*P	Pn	14 38 11.0	+0.5
	baz=343						
HGSD	**Ruisui**	**2.34**	**3**	*e*P	Pn	14 38 11.0	0.0
	baz=359						
EHY	**Hungye**	**2.36**	**0**	*e*P	Pn	14 38 10.7	-0.4
	baz=356						
ALS	**Alishan**	**2.41**	**349**	*e*P	Pn	14 38 11.5	-0.4
	baz=353						
CHN5	**Tsauling**	**2.52**	**347**	*e*P	Pn	14 38 13.3	+0.5
	baz=342						
EGFH	**Guangfu**	**2.52**	**3**	*e*P	Pn	14 38 12.1	-0.7
	baz=359						
VWDT	**VWDT**	**2.61**	**357**	*e*P	Pn	14 38 14.2	+0.6
	baz=357						
WDLH	**Douliu**	**2.64**	**344**	*e*P	Pn	14 38 13.1	-0.8
	baz=348						
SSLB	**Suanglung**	**2.66**	**353**	*e*P	Pn	14 38 13.9	-0.2
	baz=353						
ESL	**Shilin**	**2.67**	**2**	*e*P	Pn	14 38 13.4	-0.8
	baz=357						
WJS	**Zhushan**	**2.72**	**349**	*e*P	Pn	14 38 15.1	+0.3
	baz=344						
SMLT	**Sun Moon Lake**	**2.76**	**352**	*e*P	Pn	14 38 16.0	+0.7
	baz=356						
TYC	**Yuchr**	**2.78**	**351**	*e*P	Pn	14 38 15.5	+0.1
	baz=356						
WNT	**Mingjian**	**2.79**	**348**	*e*P	Pn	14 38 14.0	-1.5
	baz=348						
CHGB	**Renai**	**2.91**	**358**	P	Pn	14 38 16.7	-0.3
	baz=354						
WHF	**Hehuan Shan**	**2.99**	**359**	*e*P	Pn	14 38 17.2	-0.9
	baz=356						
NACB	**Ninganchiao**	**3.03**	**5**	*e*P	Pn	14 38 16.1	-2.0
	baz=359						
WHP	**Taichung City**	**3.14**	**354**	*e*P	Pn	14 38 19.1	-0.3
	baz=354						
NNSB	**Datong**	**3.28**	**1**	*e*P	Pn	14 38 20.5	-0.4
	baz=8.0						
ENTT	**Nioudou**	**3.49**	**4**	*e*P	Pn	14 38 22.6	-0.7
	baz=4.0						
LIOB	**Emei**	**3.50**	**356**	*e*P	Pn	14 38 22.6	-0.8
	baz=356						

IDC ***30*** *14:48:28.8±1.7,2.06N×125.76E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.4/47,mbtmp3.8/4,Error ellipse: s-maj=169.0km s-min=22.6km az=64.0*

ISC 30 14:48:39.2±2.3,2.7N±1×12.7E±.,h100km,n5,σ1.9s47/5, mb3.9/4,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**12.31**	**334**	⇓*e*P	**P**	**14 51 38.3**	**-0.9**
WRA	**Warramunga Arr**	**23.51**	**161**	P	**P**	**14 53 40.8**	**+0.3**
	2.0nm,0.3s,baz=338,slow=10,SNR=89						
ASAR	**Alice Springs

YBH Pg Pb 15 17 13.4 -1.9
16nm,0.3s,baz=72,slow=10.0,SNR=68
YBH Lg Lg 15 17 45.0
53nm,0.3s,baz=154,slow=6.7,SNR=14
YBH Yreka Blue Hor 2.30 266 Pn 15 17 10.4 -1.6
O03E Paynes Creek 2.31 226 P Pn 15 17 11.0 -1.1
baz=45,SNR=214
O03E Sb Sb 15 17 44.2 -0.2
baz=45
M02C Callahan 2.46 258 P Pn 15 17 12.6 -1.6
baz=77,SNR=19
M02C Sb Sb 15 17 49.8 +1.0
baz=77
N02D Trinity Center 2.49 248 P Pn 15 17 13.0 -1.6
baz=67,SNR=18
N02D Sb Sb 15 17 50.9 +1.4
baz=67
HUMO Hull Mountain 2.55 286 Pn 15 17 13.9 -1.4
WDC Whiskeytown Da 2.57 239 Pn 15 17 14.1 -1.5
VCNR Virginia City 2.64 180 Pn 15 17 15.7 -1.0
I05D Terrebonne, OR 2.70 333 Pb Pb 15 17 22.8 +0.6
baz=152
I05D Sb Sg 15 17 59.0 -1.1
baz=152
I04A Tendick Farm, 2.75 313 P Pn 15 17 17.9 -0.2
baz=132
I04A Sb Sg 15 18 01.0 -0.7
baz=132
ORV Oroville 2.76 211 Pn 15 17 18.5 +0.2
PNTR Pine Nut 2.84 179 Pn 15 17 20.9 +1.3
RUBR Rubicon Trail 2.91 188 Pn 15 17 22.7 +2.3
L02E Cave Junction 2.95 276 P Pn 15 17 20.9 +0.1
baz=94,SNR=16
L02E Sb Sb 15 18 03.9 +1.1
baz=94
YERR Yerington 2.96 174 Pn 15 17 21.8 +0.6
K02D Willamette Mer 3.08 286 P Pn 15 17 22.8 +0.2
baz=103,SNR=78
K02D Sb Sg 15 18 09.2 -2.8
baz=103
KVN Kaiserville 3.11 157 Pn 15 17 22.5 -0.8
AFDM Forest Hills D 3.15 199 Pn 15 17 24.3 +0.7
MFID Camas Ranch 3.18 61 Pn Pn 15 17 23.8 -0.3
KRMB Red Mountain 3.21 264 Pn 15 17 24.4 -0.1
KHMM Horse Mountain 3.25 252 Pn 15 17 27.0 +1.9
H04A Detroit Lake 3.31 327 Pn 15 17 28.6 +2.8
BMO Blue Mountains 3.38 30 Pn 15 17 27.8 +1.0
G08A Pilot Rock 3.39 8 Pn 15 17 27.8 +0.8
J01E Myrtle Point 3.39 293 P Pn 15 17 27.3 +0.4
baz=110
RYN Ryan 3.41 165 Pn 15 17 28.3 +0.9
KBO Bosley Butte 3.42 276 Pn 15 17 27.2 -0.1
WAKR Walker 3.43 177 Pn 15 17 27.7 +0.1
JCC Jacoby Creek, 3.48 253 Pn 15 17 27.1 -1.0
KMRM Mail Ridge 3.52 242 Pn 15 17 28.2 -0.4
ELK Elko 3.53 108 Pn Pn 15 17 28.6 -0.3
5.7nm,0.3s,baz=289,slow=14,SNR=51
ELK Pg Pb 15 17 33.2 -3.1
7.8nm,0.3s,baz=298,slow=16,SNR=43
ELK Lg Lg 15 18 21.5
21nm,0.3s,baz=122,slow=9.0,SNR=4.0
ELK Elko 3.53 108 Pn 15 17 29.2 +0.2
KEBM Edson Butte 3.59 287 Pn 15 17 30.1 +0.3
NVAR Mina Array Bea 3.65 163 Pn Pn 15 17 30.4 -0.3
1.2nm,0.3s,baz=342,slow=13,SNR=21
NVAR Pg Pb 15 17 41.0 +2.5
7.8nm,0.3s,baz=330,slow=14,SNR=38
NVAR Lg Lg 15 18 26.6
14nm,0.3s,baz=342,slow=35,SNR=3.9
NVAR Mina Array Bea 3.65 163 Pn 15 17 30.8 +0.1
NV11 Mina Array Sit 3.68 161 Pn 15 17 31.9 +0.8
KCPM Cahto Peak 3.74 234 Pn 15 17 33.4 +1.6
COR Corvallis 3.76 316 Pn 15 17 30.7 -1.2
I02D Swisshome 3.77 307 Pg Pg 15 17 45.7 +0.3
baz=124
LHV Little Huntoon 3.78 166 Pn 15 17 32.6 +0.4
HOPS Hopland Field 3.93 223 Pn 15 17 31.7 -2.6
CMB Columbia Colle 3.94 189 Pn 15 17 33.0 -1.4
HLID Hailey 4.18 65 P Pn 15 17 38.2 +0.2
baz=248
HLID Hailey 4.18 65 Pn 15 17 36.3 -1.6
TPH Tonopah 4.28 153 Pn 15 17 35.9 -3.4
MDPB Devils Postpil 4.32 174 Pn 15 17 39.9 0.0
OMMB Old Mammoth Mi 4.35 173 Pn 15 17 39.0 -1.3
F10A Beach Ranch, E 4.40 23 Pn 15 17 40.3 -0.5
HAWA Hanford 4.46 1 Pn 15 17 42.5 +1.0
F04A Amboy 4.47 334 Pn 15 17 41.0 -0.7
E07A Sunnyside 4.62 358 Pn 15 17 42.7 -1.1
E09A Wood Farm, Sta 4.70 13 Pn 15 17 47.2 +2.3
R11A Troy Canyon, C 4.75 138 P Pn 15 17 46.2 +0.5
baz=320
R11A Troy Canyon, C 4.75 138 Pn 15 17 45.7 0.0
LON Longmire 5.06 343 Pn 15 17 48.1 -1.7
BGU Big Grassy Mou 5.08 99 Pn 15 17 50.0 -0.2
HVU Hansel Valley 5.13 89 Pn Pn 15 17 50.0 -1.0
D08A Wollman Farm, 5.15 6 Pn 15 17 51.2 +0.2
BCYI Bear Canyon 5.15 60 Pn 15 17 50.8 -0.5
SPUT South Promonto 5.43 94 Pn 15 17 53.2 -1.9
DUG Dugway, Tooele 5.45 106 P Pn 15 17 55.8 +0.5
baz=291
DUG Dugway, Tooele 5.45 106 Pn 15 17 54.9 -0.4
PSUT Pine Spring 5.58 126 Pn 15 17 57.8 +0.6
TPNV Topopah Spring 5.63 151 P Pn 15 17 57.6 -0.3
baz=333
TPNV Topopah Spring 5.63 151 Pn 15 17 58.9 +1.0
MCMT McKenzie Canyo 5.74 57 Pn Pn 15 18 00.4 +1.1
PRN Pahroc Range 5.75 140 Pn 15 17 59.7 +0.3
NLU North Lily Min 6.07 107 Pn 15 18 04.9 +1.0
DLMT Dillon 6.16 54 Pn 15 18 03.3 -1.7
ECR Eagle Creek 6.22 77 Pn 15 18 05.4 -0.6
TCUT Toone Canyon 6.24 95 Pn 15 18 05.9 -0.3
JLU Jordanelle 6.32 99 Pn 15 18 08.7 +1.3
ISA Isabella, Lake 6.33 171 Pn 15 18 09.2 +1.8
MSO Missoula 6.38 38 Pn 15 18 09.7 +1.8
TCRU Three Creeks R 6.43 119 Pn 15 18 10.0 +1.1
SHPR Sheep Range 6.44 146 Pn 15 18 10.8 +1.9
LRM Limekiln Ridge 6.49 51 Pn Pn 15 18 09.5 -0.2
CCUT Cedar City 6.53 130 Pn 15 18 11.6 +1.4
NEW Newport 6.58 15 Lg Lg 15 19 59.3
0.1nm,0.3s,baz=287,slow=23,SNR=1.9
TPAW Teton Pass 6.59 73 Pn 15 18 10.0 -1.1
REDW Red Top Meadow 6.64 75 Pn 15 18 13.9 +2.2
MVU Marysvale 6.64 119 Pn 15 18 11.0 -0.8
QLMT Earthquake Lak 6.65 61 Pn 15 18 13.3 +1.5
SZCU Shurtz Canyon 6.66 128 Pn 15 18 13.2 +1.2
MSU Marysvale 6.66 118 Pn 15 18 13.3 +1.2
IMW Indian Meadow 6.69 70 Pn 15 18 14.7 +2.3
SNOW Snow King Moun 6.73 74 Pn 15 18 15.7 +2.7
YHB Horse Butte 6.77 63 Pn 15 18 14.1 +0.5
MOOW Moose Ponds 6.79 72 Pn 15 18 15.3 +1.5
YHL Hebgen Lake 6.82 62 Pn 15 18 16.2 +1.9
BOZ Bozeman (W) 6.86 55 Pn 15 18 14.3 -0.4
YMR Madison River 6.90 64 Pn 15 18 17.3 +2.0
FLWY Flagg Ranch 6.90 69 Pn 15 18 13.7 -1.6
MTPU Mount Pierson 6.92 122 Pn 15 18 16.8 +1.0
TMUT Trail Mountain 6.94 110 Pn 15 18 16.7 +0.8
LCMT Little Creek M 6.98 133 Pn 15 18 17.5 +1.2
YHH Holmes Hill 7.02 63 Pn 15 18 19.7 +2.8
H17A Grant Village 7.07 67 Pn 15 18 20.2 +2.5
YNR Norris Junctio 7.11 64 Pn 15 18 20.4 +2.2
P17A Butcher Ranch, 7.20 107 Pn 15 18 21.3 +1.9
KNB Kanab 7.21 131 Pn 15 18 21.1 +1.5
PKCU Pink Cliffs 7.22 126 Pn Pn 15 18 21.7 +2.0
LKWY Lake 7.25 66 Pn 15 18 22.1 +2.1
HRY Holter Researc 7.36 47 Pn Pn 15 18 23.6 +2.1
YMP Mirror Lake Pl 7.46 65 Pn 15 18 26.1 +3.0
SRU San Rafael Swe 7.50 109 Pn 15 18 24.3 +0.8
BW06 Boulder Array 7.52 80 Pn 15 18 23.1 -0.7
PD31 Pinedale Array 7.52 80 Pn 15 18 23.3 -0.5
PDAR Pinedale Array 7.52 80 Pn Pn 15 18 25.8 +1.9
0.2nm,0.3s,baz=264,slow=15,SNR=7.8
PDAR Lg Lg 15 20 25.6
baz=259,slow=24,SNR=1.7
PDAR LR LR 15 21 06.4
comp=Z,30nm,20.1s,baz=248,slow=37
PDAR Pinedale Array 7.52 80 Pn 15 18 24.2 +0.4
YNE Yellowstone No 7.65 63 Pn 15 18 26.2 +0.5
RDMU Red Mountain 7.71 97 Pn 15 18 28.0 +1.5
PFO Pinyon Flats O 8.68 162 LR LR 15 22 00.2
comp=Z,55nm,18.2s,baz=18,slow=38
O20A White River Ci 8.81 98 Pn 15 18 43.1 +1.6
PV23 Carpenter Ridg 8.85 110 Pn 15 18 44.2 +2.1
PV14 Lion Creek, Pa 8.88 110 Pn 15 18 44.1 +1.7
PV17 East Wray Mesa 8.96 111 Pn 15 18 46.2 +2.5
PV22 Blue Mesa, Par 8.97 109 Pn 15 18 45.3 +1.6
PV16 Nyswonger Mesa 8.98 110 Pn 15 18 45.1 +1.3
PV18 Skein Mesa, Pa 9.02 111 Pn 15 18 45.5 +1.2
PV11 David Mesa, Pa 9.02 110 Pn 15 18 46.6 +2.3
PV03 Paradox Valley 9.05 110 Pn 15 18 45.6 +0.8
PV12 Saucer Basin, 9.06 110 Pn 15 18 46.5 +1.6
N23A Red Feather La 10.35 91 Pn 15 19 04.2 +1.6
PHWY Pilot Hill 10.65 89 Pn 15 19 07.7 +0.9
SDCO Great Sand Dun 11.65 106 Pn 15 19 20.4 -0.1
TXAR Lajitas Array 18.04 129 P Pn 15 20 44.8 -0.1
0.1nm,0.3s,baz=305,slow=6.4,SNR=3.1
ILAR Eielson Array 27.64 335 P P 15 22 20.4 -1.1
0.8nm,0.8s,baz=151,slow=8.1,SNR=11
SADO Sadowa 29.38 71 LR LR 15 34 56.5
comp=Z,28nm,20.0s,baz=37,slow=38

*IDC **30** 15:21:19.6±1.4, 49.°93S×105.°12E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/24, mbtmp3.6/4, Error ellipse: s-maj=53.5km s-min=26.8km az=96.0*
*NEIC **30** 15:21:22.1±1.0, 50.°0S±0.°1×105.°1E±0.°5, h15km±4km, mb4.2/8, Error ellipse: s-maj=43.3km s-min=19.4km az=95.0*
ISC 30 15:21:21.3±1.2, 49.°9S±0.°1×105.°1E±0.°4, h10km, n20, σ1§00/19, mb4.0/7, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.41**	**27**	T	T	15 42 04.9	
	baz=200,slow=74,SNR=14						
H01W1	**Cape Leeuwin H**	**16.42**	**27**	T	T	15 42 05.7	
	baz=200,slow=74,SNR=9.7						
H01W3	**Cape Leeuwin H**	**16.43**	**27**	T	T	15 42 04.7	
	baz=200,slow=74,SNR=6.0						
CASY	**Casey**	**16.64**	**172**	P	**P**	**15 25 18.6**	**+1.8**
CASY				IAmb	IAmb	15 25 19.1	
	comp=Z,23nm,1.5s						
ASAR	**Alice Springs**	**34.53**	**51**	P	**P**	**15 28 09.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=210,slow=8.2,SNR=14						
ASAR				PcP	**PcP**	**15 30 43.4**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=198,slow=3.6,SNR=4.2						
AS31	**Alice Springs**	**34.53**	**51**	P	**P**	**15 28 08.7**	**-1.1**
VNDA	**Vanda**	**34.73**	**161**	P	**P**	**15 28 10.4**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=300,slow=10.0,SNR=8.6						
VNDA	**Vanda**	**34.73**	**161**	P	**P**	**15 28 10.5**	**-0.5**
VNDA				IAmb	IAmb	15 28 25.6	
	comp=Z,7.5nm,1.9s						
WRA	**Warramunga Arr**	**37.89**	**48**	P	**P**	**15 28 38.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=210,slow=8.5,SNR=6.0						
WRA				PcP	**PcP**	**15 30 53.6**	**-0.9**
	comp=Z,0.3nm,1.0s,baz=224,slow=3.1,SNR=4.8						
WRA	**Warramunga Arr**	**37.89**	**48**	P	**P**	**15 28 39.0**	**+0.6**
WB2	**Warramunga Arr**	**37.89**	**48**	P	**P**	**15 28 40.5**	**+2.0**
WB2				IAmb	IAmb	15 29 02.4	
	comp=Z,6.1nm,1.3s						
WRAB	**Tennant Creek**	**37.90**	**48**	P	**P**	**15 28 38.8**	**+0.2**
WRAB				IAmb	IAmb	15 28 54.1	
	comp=Z,14nm,1.7s						
KNRA	**Kununurra**	**39.18**	**38**	P	**P**	**15 28 51.2**	**+1.9**
QSPA	**South Pole Qui**	**40.21**	**180**	P	**P**	**15 28 57.4**	**-0.3**
QSPA				IAmb	IAmb	15 29 05.0	
	comp=Z,4.1nm,1.2s						
CMAR	**Chiang Mai Arr**	**68.29**	**354**	P	**P**	**15 32 22.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=195,slow=5.7,SNR=5.2						
ISA	**Isabella, Lake**	**145.52**	**98**		**PKPab**	**15 40 59.5**	**-0.1**
NVAR	**Mina Array Bea**	**147.27**	**94**	PKPbc	**PKPbc**	**15 41 04.8**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=228,slow=6.1,SNR=7.7						
NVAR	**Mina Array Bea**	**147.27**	**94**		**PKPbc**	**15 41 04.3**	**-0.4**
TXAR	**Lajitas Array**	**150.08**	**123**	PKPbc	**PKPbc**	**15 41 11.9**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=194,slow=5.5,SNR=7.7						
TXAR	**Lajitas Array**	**150.08**	**123**		**PKiKP**	**15 41 12.4**	**-0.5**

*NNC **30** 15:25:19.1±1.9, 36.°61N×71.°32E, h155km±40km, mb2.9, mpv3.7, Error ellipse: s-maj=17.1km s-min=12.1km az=27.0*
ISC 30 15:25:10.8±1.5, 36.°16N±0.°09×71.°2E±0.°1, h100km, n5, σ2§06/10, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.27**	**134**	eP	**Pn**	**15 26 27.0**	**-0.1**
THN				eS	**Sn**	**15 27 25.5**	**-1.1**
AAK	**Ala-Archa**	**6.96**	**20**	⇑P	**Pn**	**15 26 52.4**	**+2.2**
	1.8nm,0.3s						
AAK				⇑S	**Sn**	**15 28 05.7**	**-2.1**
	5.0nm,0.8s						
KK31	**Karatay Array**	**6.96**	**356**	P	**Pn**	**15 26 52.4**	**+2.3**
	5.0nm,0.3s,baz=180,slow=13,SNR=84						
KK31				⇑S	**Sn**	**15 28 06.9**	**-0.8**
	1.7nm,0.5s,baz=172,slow=22,SNR=5.0						
TKM2	**Tokmak 2**	**7.56**	**25**	⇓P	**Pn**	**15 27 00.8**	**+2.4**
	1.9nm,0.6s						
TKM2				⇓S	**Sn**	**15 28 21.4**	**-1.2**
	2.1nm,0.9s						
AB31	**Akbulak array**	**15.46**	**331**	P	**P**	**15 28 45.0**	**-0.5**
	0.4nm,0.3s,baz=142,slow=13,SNR=19						
AB31				S	**Sn**	**15 31 31.5**	**-2.4**
	0.4nm,0.4s,baz=158,slow=24,SNR=5.3						

*IDC **30** 15:26:33.8±2.4, 6.°30S×155.°42E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, ML1.6/1, Error ellipse: s-maj=48.6km s-min=27.2km az=82.0*
ISC 30 15:26:39.3±1.6, 6.°5S±0.°1×155.°4E±0.°1, h35km, n7, σ1§19/9, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.96**	**303**	Pn	**Pn**	**15 27 36.8**	**-0.8**
KRVT				Sn	**Sn**	**15 28 24.4**	**+1.7**
PMG	**Port Moresby**	**8.64**	**250**	Pn	**Pn**	**15 28 40.7**	**-1.1**
	0.4nm,0.3s,baz=198,slow=17,SNR=2.4						
PMG				Sn	**Sn**	**15 30 17.8**	**-0.3**
	0.2nm,0.3s,baz=209,slow=16,SNR=1.4						
WRA	**Warramunga Arr**	**24.42**	**235**	P	**P**	**15 31 55.7**	**+0.9**
	1.8nm,0.5s,baz=59,slow=9.6,SNR=39						
ASAR	**Alice Springs**	**26.80**	**228**	P	**P**	**15 32 17.2**	**+0.9**
	0.7nm,0.7s,baz=56,slow=9.1,SNR=23						
STKA	**Stephens Creek**	**28.37**	**205**	P	**P**	**15 32 31.4**	**+1.1**
	1.0nm,0.7s,baz=12,slow=12,SNR=3.0						
CMAR	**Chiang Mai Arr**	**60.89**	**295**	P	**P**	**15 36 48.5**	**-0.5**
	0.4nm,0.5s,baz=124,slow=5.4,SNR=7.4						
MKAR	**Maanchi Array**	**83.25**	**319**	P	**P**	**15 39 01.5**	**-0.8**
	0.2nm,0.5s,baz=126,slow=6.2,SNR=4.9						

*IDC **30** 15:46:23.9±51.0, 16.°46S×176.°11W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/36, mbtmp4.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=960.3km s-min=168.0km az=78.0*
*NEIC **30** 15:47:11.0±0.3, 16.°5S±0.°2×175.°7W±0.°2, h537km±8km, mb4.3/12, Error ellipse: s-maj=33.3km s-min=23.7km az=140.0*
ISC 30 15:47:11.6±1.0, 16.°6S±0.°2×175.°7W±0.°1, h550km, n20, σ0§62/20, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.97**	**115**	P	**P**	**15 48 49.6**	**-0.3**
MSVF	**Nonsavu**	**6.13**	**259**		**P**	**15 48 50.0**	**-1.4**
RAR	**Rarotonga**	**15.70**	**109**	LR	LR	15 54 22.7	
	comp=Z,101nm,19.8s,baz=207,slow=30						
TOO	**Toolangi**	**40.02**	**231**	P	**P**	**15 54 00.9**	**+1.5**
STKA	**Stephens Creek**	**41.56**	**241**	P	**P**	**15 54 11.8**	**+0.1**
	1.2nm,0.4s,baz=89,slow=10.0,SNR=4.9						
STKA	**Stephens Creek**	**41.56**	**241**	P	**P**	**15 54 11.5**	**-0.2**
BBOO	**Buckleboo**	**46.33**	**240**	P	**P**	**15 54 49.2**	**+0.6**
WR0	**Warramunga Arr**	**47.28**	**258**	P	**P**	**15 54 56.2**	**+0.3**
WR0				IAmb	IAmb	15 55 10.5	
	comp=Z,17nm,1.8s						
WB0	**Warramunga Arr**	**47.43**	**258**	P	**P**	**15 54 57.1**	**0.0**
WB0				IAmb	IAmb	15 55 37.3	
	comp=Z,23nm,1.9s						
WC3	**Warramunga Arr**	**47.44**	**258**	P	**P**	**15 54 57.2**	**+0.1**
WC3				IAmb	IAmb	15 56 50.5	
	comp=Z,15nm,1.9s						
WB2	**Warramunga Arr**	**47.46**	**258**	P	**P**	**15 54 57.2**	**0.0**
WB2				IAmb	IAmb	15 56 50.6	
	comp=Z,20nm,1.9s						
WRAB	**Tennant Creek**	**47.46**	**258**		**P**	**15 54 57.3**	**0.0**
WRAB				IAmb	IAmb	15 55 42.5	
	comp=Z,19nm,1.9s						
WRA Warramunga Arr 47.47 258 P **P** 15 54 57.0 -0.4
comp=Z,0.5nm,0.7s,baz=97,slow=7.3,SNR=9.8
WRA Warramunga Arr 47.47 258 P **P** 15 54 57.0 -0.4
WRA PcP **PcP** 15 56 17.4 +0.6
AS31 Alice Springs 47.68 253 P **P** 15 54 59.5 +0.6
ASAR Alice Springs 47.68 253 P **P** 15 54 59.5 +0.6
comp=Z,3.1nm,0.5s,baz=89,slow=8.0,SNR=118
ASAR Alice Springs 47.68 253 P **P** 15 54 59.0 +0.1
SOEI Soe 58.72 269 P **P** 15 56 17.7 +0.1
SOEI IAmb IAmb 15 56 22.9
comp=Z,17nm,1.3s
AMKA Amchitka 67.85 357 P **P** 15 57 14.8 -0.1
JWT Wachi 69.41 319 P **P** 15 57 25.2 +0.4
JWT IAmb IAmb 15 58 41.8
comp=Z,19nm,1.3s

*GCMT **30** 15:56:53.9±0.3, 49.°24S±0.°02×30.°15E±0.°04, h22km±1km, MW4.9/68, Moment Tensor Solution. s21,c22; s68,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.04±.20; $M_{\theta\theta}$1.91±.14; $M_{\phi\phi}$-0.87±.14; $M_{r\theta}$2.04±.27; $M_{r\phi}$1.67±.11; $M_{\theta\phi}$-0.29±.29; Best double couple: $M_0$3.07500×10^{16} NP1:ϕ24.00000°, δ41.00000°, λ-161.00000°. NP2: ϕ280.00000°, δ78.00000°, λ-50.00000°. Principal axes: T 3.4020, Plg22.0000°, Azm340.0000°; N -0.6570, Plg39.0000°, Azm89.0000°; P -2.7480, Plg43.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **30** 15:56:53.5±0.5, 49.°14S×30.°85E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.4/39, mbtmp4.5/19, ML4.8/1, MS3.9/22, Ms1 3.9/22, ms1mx3.8/33 Error ellipse: s-maj=19.9km s-min=12.8km az=68.0*
*NEIC **30** 15:56:54.9±1.6, 49.°1S±0.°1×30.°8E±0.°2, h10km±1km, mb4.7/34, Error ellipse: s-maj=20.9km s-min=17.8km az=73.0*
ISC 30 15:56:54.9±0.4, 49.°12S±0.°08×30.°78E±0.°10, h10km, n78, σ0§82/68, mb4.7/26, MS3.9/22, 3D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.32**	**332**	P	**P**	**16 01 09.6**	**+0.2**
	3.2nm,0.3s,baz=154,slow=9.7,SNR=25						
SUR				S	Sn	16 04 16.6	-17
	0.6nm,0.3s,baz=63,slow=16,SNR=1.5						
SUR				LR	LR	16 06 50.4	
	comp=Z,564nm,21.5s,baz=154,slow=32						
SUR	**Sutherland**	**18.32**	**332**	P	**P**	**16 01 09.4**	**0.0**
SUR				IAmb	IAmb	16 01 10.9	
	comp=Z,34nm,0.8s						
SYO	**Syowa Base**	**20.41**	**171**	⇓eP	**P**	**16 01 29.6**	**-2.1**
SYO	**Syowa Base**	**20.41**	**171**	⇓iPn	**P**	**16 01 31.9**	**+0.2**
SYO	**Syowa Base**	**20.41**	**171**	⇓iP	Pn	16 01 34.3	+0.5
BOSA	**Boshof**	**20.91**	**346**	P	**P**	**16 01 37.9**	**+0.3**
	comp=Z,22nm,0.8s,baz=172,slow=10,SNR=27						
BOSA				LR	LR	16 08 24.0	
	comp=Z,402nm,21.3s,baz=175,slow=33						
BOSA	**Boshof**	**20.91**	**346**	P	**P**	**16 01 37.5**	**-0.1**
BOSA				IAmb	IAmb	16 01 39.0	
	comp=Z,25nm,0.8s						
LBTB	**Lobatse**	**24.40**	**349**	P	**P**	**16 02 12.7**	**-0.8**
	comp=Z,12nm,0.7s,baz=160,slow=9.2,SNR=12						
LBTB				LR	LR	16 10 05.6	
	comp=Z,297nm,19.9s,baz=167,slow=32						
LBTB	**Lobatse**	**24.40**	**349**	P	**P**	**16 02 13.1**	**-0.5**
LBTB				IAmb	IAmb	16 02 15.0	
	comp=Z,14nm,0.8s						
MAW	**Mawson**	**24.54**	**151**	P	**P**	**16 02 14.3**	**0.0**
	comp=Z,9.9nm,1.0s,baz=296,slow=7.5,SNR=11						
MAW				LR	LR	16 09 34.6	
	comp=Z,221nm,21.6s,baz=278,slow=31						
MAW	**Mawson**	**24.54**	**151**	P	**P**	**16 02 14.0**	**-0.3**
FOMA	**Nahampoana Res**	**27.24**	**34**	P	**P**	**16 02 36.7**	**-2.3**
SNAA	**Sanae**	**27.34**	**202**	P	**P**	**16 02 40.4**	**+0.7**
SNAA	**Sanae**	**27.34**	**202**	P	**P**	**16 02 40.0**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=112,slow=10.0,SNR=9.0						
SNAA				LR	LR	16 10 53.8	
	comp=Z,172nm,20.8s,baz=11,slow=31						
SNAA	**Sanae**	**27.34**	**202**	P	**P**	**16 02 38.8**	**-0.9**
SNAA				IAmb	IAmb	16 02 52.3	
	comp=Z,11nm,1.0s						
VNA2	**Neumayer--Watz**	**28.14**	**206**	P	**P**	**16 02 47.1**	**+0.4**
VNA1	**Neumayer--Stat**	**28.25**	**206**	P	**P**	**16 02 49.4**	**+1.7**
MATP	**Matopo**	**28.69**	**356**	P	**P**	**16 02 52.5**	**+0.3**
	comp=Z,16nm,0.6s,baz=180,slow=9.1,SNR=55						
MATP				LR	LR	16 12 54.2	
	comp=Z,400nm,18.8s,baz=174,slow=34						
TSUM	**Tsumeb**	**31.68**	**336**	P	**P**	**16 03 18.5**	**-0.2**
TSUM				IAmb	IAmb	16 03 20.1	
	comp=Z,13nm,0.8s						
LSZ	**Lusaka**	**33.82**	**356**	P	**P**	**16 03 37.5**	**+0.1**
LSZ				IAmb	IAmb	16 03 39.7	
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**41.10**	**180**	P	**P**	**16 04 37.3**	**-1.3**
	comp=Z,11nm,0.8s,baz=252,slow=1.8,SNR=45						
QSPA	**South Pole Qui**	**41.10**	**180**	P	**P**	**16 04 37.3**	**-1.3**
QSPA				IAmb	IAmb	16 04 50.1	
	comp=Z,26nm,0.9s						
KMBO	**Kilima Mbogo**	**48.14**	**9**	LR	LR	16 24 20.4	
	comp=Z,184nm,18.9s,baz=100,slow=34						
VNDA	**Vanda**	**50.06**	**168**	P	**P**	**16 05 48.5**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=243,slow=7.1,SNR=25						
VNDA				LR	LR	16 25 46.2	
	comp=Z,218nm,21.8s,baz=212,slow=35						
VNDA	**Vanda**	**50.06**	**168**	P	**P**	**16 05 48.3**	**-0.8**
H10S2	**ASCENSION HYDR**	**55.09**	**301**	T	T	17 05 45.7	
	baz=143,slow=74,SNR=6.1						
H10S3	**ASCENSION HYDR**	**55.11**	**301**	T	T	17 05 49.7	
	baz=77,slow=74,SNR=24						
DBIC	**Dimbokro**	**63.68**	**320**	P	**P**	**16 07 26.2**	**-0.2**
	comp=Z,7.9nm,1.0s,baz=161,slow=13,SNR=4.2						
DBIC				LR	LR	16 29 34.6	
	comp=Z,80nm,21.6s,baz=134,slow=31						
DBIC	**Dimbokro**	**63.68**	**320**	P	**P**	**16 07 25.2**	**-1.2**
DBIC				IAmb	IAmb	16 07 26.4	
	comp=Z,6.3nm,0.9s						
NWAO	**Narrogin (SRO)**	**63.77**	**111**	P	**P**	**16 07 27.6**	**+0.6**
NWAO	**Narrogin (SRO)**	**63.77**	**111**	P	**P**	**16 07 27.5**	**+0.5**
NWAO				IAmb	IAmb	16 07 41.9	
	comp=Z,38nm,1.4s						
PLCA	**Paso Flores**	**66.92**	**234**	P	**P**	**16 07 47.1**	**-0.3**
	comp=Z,6.1nm,1.1s,baz=338,slow=1.7,SNR=2.9						
PLCA				LR	LR	16 31 29.7	
	comp=Z,45nm,21.9s,baz=154,slow=31						
TOA0	**Torodi Ar. Sit**	**67.11**	**329**	P	**P**	**16 07 47.9**	**-0.7**
TOA0				IAmb	IAmb	16 07 50.0	
	comp=Z,5.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**67.11**	**329**	P	**P**	**16 07 48.3**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=163,slow=6.3,SNR=23						
TORD				LR	LR	16 33 02.4	
	comp=Z,68nm,21.6s,baz=130,slow=32						
TORD	**Torodi Ar. Bea**	**67.11**	**329**	P	**P**	**16 07 48.9**	**+0.2**
CPUP	**Villa Florida**	**69.38**	**253**	P	**P**	**16 08 03.0**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=122,slow=7.0,SNR=5.9				

comp=Z,0.6nm,0.7s,baz=270,slow=1.0,SNR=2.0
LPAZ LR LR 16 43 06.6
comp=Z,46nm,20.4s,baz=128,slow=33
LPAZ La Paz 83.54 253 IAmb IAmb 16 09 29.1
comp=Z,4.4nm,1.4s
WRA Warramunga Arr 83.65 113 P **P 16 09 23.8 -0.1**
comp=Z,6.1nm,1.0s,baz=212,slow=3.9,SNR=33
WRA LR LR 16 39 47.1
comp=Z,124nm,21.5s,baz=195,slow=31
WRA Warramunga Arr 83.65 113 P **P 16 09 23.7 -0.2**
WB2 Warramunga Arr 83.65 113 P **P 16 09 24.0 +0.1**
WB2 IAmb IAmb 16 09 24.9
comp=Z,8.8nm,1.0s
WRAB Tennant Creek 83.66 113 P **P 16 09 23.8 -0.1**
WRAB IAmb IAmb 16 09 24.4
comp=Z,5.3nm,0.8s
WR0 Warramunga Arr 83.75 113 P **P 16 09 24.1 -0.3**
WR0 IAmb IAmb 16 09 38.1
comp=Z,3.2nm,0.9s
WB0 Warramunga Arr 83.81 113 P **P 16 09 24.7 0.0**
WB0 IAmb IAmb 16 09 25.4
comp=Z,5.6nm,0.9s
EDFI Ende, Flores 84.06 96 P **P 16 09 28.1 +2.0**
KARP Karpathos 84.36 357 P **P 16 09 26.7 -0.2**
SAML Samuel 85.89 261 P **P 16 09 33.8 -1.4**
SBUM Sibu 86.24 82 P **P 16 09 36.6 -0.2**
KEST Kesra 86.61 343 LR LR 16 49 53.2
comp=Z,244nm,19.0s,baz=226,slow=37
CMAR Chiang Mai Arr 90.31 62 P **P 16 09 56.4 +0.4**
comp=Z,0.6nm,0.9s,baz=225,slow=5.7,SNR=6.7
CMAR LR LR 16 42 08.4
comp=Z,32nm,21.0s,baz=206,slow=30
CMAR Chiang Mai Arr 90.31 62 P **P 16 09 56.2 +0.1**
CHTO Chiang Mai 90.59 62 P **P 16 09 57.8 +0.5**
CHTO IAmb IAmb 16 09 59.4
comp=Z,2.6nm,0.8s
KBZ Khabaz 93.08 9 LR LR 16 50 46.2
comp=Z,28nm,21.8s,baz=196,slow=35
ESDC Sonseca Array 93.60 334 LR LR 16 53 26.1
comp=Z,49nm,19.3s,baz=115,slow=36
AKASG Malin Array Be 99.45 359 LR LR 16 58 37.3
comp=Z,35nm,20.2s,baz=200,slow=37
CLL Collm 101.20 349 *e*SS SS 16 29 36.0 +12
CLL Lm MLR 16 58 00.0
comp=Z,100nm,19.5s
TXAR Lajitas Array 140.28 257 PKP **PKPdf 16 16 23.0 -0.9**
comp=Z,0.1nm,0.4s,baz=101,slow=6.5,SNR=2.3
ANMO Albuquerque 145.70 262 PKPdf 16 16 32.7 -0.7
RES Resolute Bay 145.96 337 PKPbc **PKPab 16 16 34.1 +0.4**
comp=Z,1.8nm,0.8s,baz=72,slow=20,SNR=1.8
S22A 4UR Ranch, Cre 147.59 266 PKPbc 16 16 39.5 +0.1
MTPU Mount Pierson 151.25 261 PKPbc 16 16 47.8 -0.8
MSU Marysvale 151.51 262 PKPbc 16 16 48.4 -0.5
PDAR Pinedale Array 151.94 272 PKP **PKPdf 16 16 43.2 -0.1**
comp=Z,0.3nm,0.7s,baz=111,slow=4.9,SNR=2.4
PDAR PKPbc **pPKPbc 16 16 52.0 0.0**
comp=Z,1.1nm,0.8s,baz=104,slow=6.3,SNR=6.4
PDAR Pinedale Array 151.94 272 PKPbc 16 16 48.6 -1.2
NVAR Mina Array Bea 155.41 256 PKP **PKPdf 16 16 49.0 +0.6**
comp=Z,0.1nm,0.5s,baz=244,slow=44,SNR=1.7

WEL 30 16:06:08.2,41°S±1°×17°2E±°,h7km±2km,M3.2/15, ML3.4/15,MLv3.2/15,Error ellipse: s-maj=0.0km s-min=0.0km az=109.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.52**	**6**	P	Pg	16 06 18.9	+0.7
THZ	**Tophouse**	**0.54**	**141**	P	Pb	16 06 19.5	-0.5
THZ				S	Sg	16 06 26.8	+1.1
DSZ	**Denniston Nort**	**0.63**	**230**	P	Pb	16 06 21.6	0.0
DSZ				S	Sb	16 06 30.5	-0.2
NNZ	**Nelson**	**0.71**	**80**	P	Pg	16 06 22.3	+0.5
NNZ				S	Sb	16 06 32.0	-0.8
TUWZ	**Tuamarina**	**1.12**	**95**	P	Pg	16 06 29.6	-0.2
BSWZ	**Blackbirch Sta**	**1.13**	**110**	P	Pn	16 06 30.8	+0.3
DUWZ	**D'Urville Isla**	**1.23**	**64**	P	Pn	16 06 32.0	+0.1
DUWZ				S	Sn	16 06 49.0	+0.2
KHZ	**Kahutara**	**1.34**	**143**	P	Pg	16 06 35.3	+1.3
KHZ				S	Sn	16 06 53.4	+2.0
TCW	**Tory Channel**	**1.38**	**85**	P	Pb	16 06 34.4	+0.1
TCW				S	Sg	16 06 52.7	+0.2
LTZ	**Lake Taylor**	**1.44**	**185**	P	Pg	16 06 36.2	+0.3
LTZ				S	Sg	16 06 56.1	+1.4
INZ	**Inchbonnie**	**1.57**	**208**	P	Pn	16 06 36.9	+0.4
INZ				S	Sb	16 06 57.4	-0.3
BHW	**Baring Head**	**1.82**	**93**	P	Pb	16 06 42.1	+0.3
BHW				S	Sb	16 07 05.6	+0.9
KIW	**Kapiti Island**	**1.92**	**76**	P	Pb	16 06 43.9	+0.4
KIW				S	Sb	16 07 08.6	+1.0
CAW	**Cannon Point**	**1.98**	**84**	P	Pb	16 06 44.9	+0.2
CAW				S	Sb	16 07 09.8	+0.3
OXZ	**Oxford**	**2.00**	**189**	P	Pn	16 06 42.5	0.0
MSWZ	**Moikau Station**	**2.10**	**93**	P	Pb	16 06 45.5	-1.1
MSWZ				S	Sb	16 07 12.7	-0.3
PLWZ	**Palliser**	**2.12**	**97**	P	Pb	16 06 45.5	-1.4
PLWZ				S	Sb	16 07 13.0	-0.4
OGWZ	**Otaki Gorge**	**2.12**	**77**	P	Pb	16 06 47.1	+0.1
OGWZ				S	Sb	16 07 14.5	+1.1
WVZ	**Waitaha Valley**	**2.15**	**216**	P	Pn	16 06 45.0	+0.6
PAWZ	**Paruwai Farm**	**2.24**	**92**	P	Pn	16 06 47.0	+1.3
PAWZ				S	Sb	16 07 16.4	-0.5
MTW	**Mount Morrison**	**2.31**	**86**	P	Pn	16 06 48.2	+1.6
HOWZ	**Holdsworth Sta**	**2.35**	**80**	P	Pb	16 06 49.2	-1.8
MQZ	**McQueen's Vall**	**2.37**	**176**	P	Pn	16 06 48.0	+0.6
KHEZ	**Kahui Hut**	**2.37**	**31**	P	Pb	16 06 49.6	-1.7
PREZ	**Palmer Road**	**2.39**	**34**	P	Pb	16 06 50.8	-0.7
RACZ	**Rakaia**	**2.39**	**185**	P	Pn	16 06 48.6	+0.8
LREZ	**Lake Rotokare**	**2.40**	**39**	P	Pb	16 06 52.5	+0.8
OKCZ	**Okains Bay**	**2.42**	**170**	P	Pn	16 06 49.7	+1.5
NEZ	**North Egmont**	**2.42**	**32**	P	Pb	16 06 51.7	-0.4
PKE	**Pukeiti**	**2.45**	**29**	P	Pb	16 06 52.1	-0.4
MRZ	**Mangatainoka R**	**2.46**	**75**	P	Pb	16 06 52.9	+0.2
WAZ	**Wanganui**	**2.50**	**51**	P	Pb	16 06 52.5	-0.9
RPZ	**Rata Peaks**	**2.59**	**203**	P	Pn	16 06 52.6	+2.1
ARCZ	**Arundel**	**2.77**	**199**	P	Pn	16 06 53.9	+0.9
VRZ	**Vera Road**	**2.83**	**39**	P	Pb	16 06 56.8	-2.2
FOZ	**Fox Glacier**	**2.93**	**221**	P	Pn	16 06 55.8	+0.6
TSZ	**Takapari Road**	**2.96**	**65**	P	Pb	16 07 00.1	-1.2
PKVZ	**Pokaka**	**3.02**	**48**	P	Pn	16 06 59.3	+2.9
WNVZ	**Wahianoa**	**3.13**	**51**	P	Pb	16 07 02.1	-2.2
FWVZ	**Far West T-bar**	**3.16**	**50**	P	Pb	16 07 02.9	-1.9
MOVZ	**Moawhango**	**3.18**	**54**	P	Pb	16 07 03.0	-2.0
PNHZ	**Pukenui**	**3.19**	**65**	P	Pb	16 07 03.9	-1.3
TUVZ	**Tukino**	**3.21**	**51**	P	Pb	16 07 03.7	-1.8
NGZ	**Ngauruhoe**	**3.24**	**49**	P	Pb	16 07 04.2	-1.9
BHHZ	**Black Hill Sta**	**3.32**	**57**	P	Pn	16 07 00.9	+0.3
ETVZ	**East Tongariro**	**3.33**	**50**	P	Pb	16 07 05.0	-2.6
TMVZ	**Te Maari**	**3.34**	**49**	P	Pb	16 07 06.5	-1.3
HIZ	**Hauiti**	**3.38**	**34**	P	Pn	16 07 02.6	+1.3
LBZ	**Lake Benmore**	**3.47**	**208**	P	Pn	16 07 03.8	+1.2
BKZ	**Black Stump Fm**	**3.78**	**56**	P	Pn	16 07 10.2	+3.3
TLZ	**Tolley Road**	**3.83**	**39**	P	Pn	16 07 10.5	+2.8
JCZ	**Jackson Bay**	**3.84**	**224**	P	Pn	16 07 09.5	+1.7
ODZ	**Otahua Downs**	**3.93**	**199**	P	Pn	16 07 09.4	+0.5
TOZ	**Tahuroa Road**	**4.31**	**34**	P	Pn	16 07 16.8	+2.6
MKAZ	**Moumakai**	**4.73**	**27**	P	Pn	16 07 22.2	+2.3
WCZ	**Waipu Caves**	**5.60**	**16**	P	Pn	16 07 32.9	+1.1

IDC 30 16:13:23.0±2.1,5.07S×150.42E,h124km±29km,mb2.9/3, mb1 3.1/4,mb1mx2.9/26,mbtmp3.3/4,Error ellipse: s-maj=94.5km s-min=12.1km az=136.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.77**	**65**	P	Pn	16 13 53.2	-0.6
KRVT				S	Sn	16 14 17.8	+0.3
PMG	**Port Moresby**	**5.39**	**217**	P	Pn	16 14 41.1	-0.2
	1.0nm,0.3s,baz=14,slow=4.2,SNR=2.2						
PMG				S	Sn	16 15 43.1	+0.8
	5.9nm,0.3s,baz=197,slow=23,SNR=12						
WRA	**Warramunga Arr**	**21.53**	**225**	P	P	16 18 01.7	-0.7
	0.2nm,0.4s,baz=51,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.40**	**219**	P	P	16 18 30.1	+0.1
	0.3nm,0.5s,baz=55,slow=8.5,SNR=7.1						
FITZ	**Fitzroy Crossi**	**27.46**	**240**	P	P	16 18 58.4	+0.8
	0.9nm,0.6s,baz=62,slow=9.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**148.12**	**287**	PKPbc	PKPbc	16 32 54.2	-1.1
	0.5nm,0.9s,baz=63,slow=0.6,SNR=2.3						

*SOME **30** 16:13:52.3,40°.82N×78°.93E,h10km*
*NNC **30** 16:13:53.8±1.2,40°.84N×78°.86E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=8.6km s-min=6.1km az=165.0*
*KRNET **30** 16:13:54.5±0.1,41°.07N×79°.15E,mb2.8*
ISC 30 16:13:57.3±2.8,41°.00N±0°.09×78°.86E±0°.05,h3km±15km, n41,σ1°48/65,17C-10D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.52**	**347**	⇓*i*P	**Pn**	**16 14 22.7**	**-2.9**
	baz=39						
PRZ				⇓*i*S	**Sn**	**16 14 43.3**	**-2.8**
	baz=39						
KDJ	**Kajisay**	**1.69**	**313**	⇓*i*P	**Pn**	**16 14 27.6**	**-0.3**
	baz=6.0						
KDJ				⇓*i*S	**Sb**	**16 14 52.2**	**+1.2**
	baz=6.0						
ANVS	**Anan'yevo**	**1.99**	**334**	⇑*i*P	**Pn**	**16 14 31.7**	**-0.4**
	baz=28						
ANVS				⇑*i*S	**Sn**	**16 14 57.8**	**+0.2**
	baz=28						
SATY	**Saty**	**2.09**	**351**	⇓*i*P	**Pb**	**16 14 36.2**	**+0.3**
	5.5nm,0.4s						
SATY				⇑*i*S	**Sg**	**16 15 07.8**	**+3.4**
	21nm,0.4s						
SATY	**Saty**	**2.09**	**351**	Pg	**Pb**	**16 14 36.2**	**+0.3**
	5.5nm,0.4s						
SATY				Lg	Lg	16 15 07.8	
	21nm,0.4s						
SHLS	**Shalkode**	**2.21**	**12**	*e*P	**Pb**	**16 14 37.6**	**-0.3**
	12nm,0.1s						
SHLS				*e*S	**Sg**	**16 15 10.1**	**+2.0**
	45nm,0.2s						
SHLS	**Shalkode**	**2.21**	**12**	Pg	**Pb**	**16 14 37.6**	**-0.3**
	12nm,0.1s						
SHLS				Lg	Lg	16 15 10.1	
	45nm,0.2s						
ULHL	**Ulahol**	**2.32**	**303**	⇑*i*P	**Pn**	**16 14 37.2**	**+0.6**
	baz=99						
ULHL				⇑*i*S	**Sb**	**16 15 09.8**	**+0.7**
	baz=99						
PDGK	**Podgornoye**	**2.38**	**11**	⇓Pn	**Pn**	**16 14 36.6**	**-0.7**
	2.9nm,0.5s						
PDGK				⇓Lg	Lg	16 15 14.3	
	27nm,0.8s						
KPKS	**Kokpek**	**2.47**	**357**	*e*P	**Pb**	**16 14 41.1**	**-1.2**
	7.6nm,0.2s						
KPKS				*e*S	**Sg**	**16 15 16.6**	**-0.1**
	41nm,0.4s						
KURS	**Kuram**	**2.54**	**349**	*e*P	**Pb**	**16 14 41.5**	**-2.0**
	4.3nm,0.4s						
KURS				*e*S	**Sb**	**16 15 17.0**	**+1.8**
	14nm,1.3s						
KURS	**Kuram**	**2.54**	**349**	Pg	**Pb**	**16 14 41.5**	**-2.0**
	4.3nm,0.4s						
KURS				Lg	Lg	16 15 17.0	
	14nm,1.3s						
MDOK	**Medeo**	**2.55**	**329**	⇑*i*P	**Pb**	**16 14 43.6**	**-0.1**
	6.4nm,0.4s						
MDOK				*e*S	**Sg**	**16 15 20.7**	**+1.5**
	21nm,0.6s						
MDOK	**Medeo**	**2.55**	**329**	Pg	**Pb**	**16 14 43.6**	**-0.1**
	6.4nm,0.4s						
MDOK				Lg	Lg	16 15 20.7	
	21nm,0.6s						
KOTS	**Kotyrbulak**	**2.58**	**330**	*e*P	**Pb**	**16 14 44.2**	**-0.2**
	18nm,0.3s						
KOTS				*e*S	**Sg**	**16 15 21.8**	**+1.4**
	16nm,0.4s						
KOTS	**Kotyrbulak**	**2.58**	**330**	Pg	**Pb**	**16 14 44.2**	**-0.2**
	18nm,0.3s						
KOTS				Lg	Lg	16 15 21.8	
	16nm,0.4s						
IZV	**Izvestkoviy**	**2.64**	**321**	*e*P	**Pb**	**16 14 43.4**	**-1.8**
	5.3nm,0.4s						
IZV				*e*S	**Sb**	**16 15 20.3**	**+2.2**
	18nm,0.3s						
IZV	**Izvestkoviy**	**2.64**	**321**	Pg	**Pb**	**16 14 43.4**	**-1.8**
	5.3nm,0.4s						
IZV				Lg	Lg	16 15 20.3	
	18nm,0.3s						
BOOM	**Boomskoye usch**	**2.64**	**305**	⇓*i*P	**Pn**	**16 14 42.2**	**+1.2**
	baz=2.0						
BOOM				⇓*i*S	**Sb**	**16 15 17.0**	**-1.3**
	baz=2.0						
KTMS	**Ketmen**	**2.69**	**24**	*e*P	**Pb**	**16 14 45.7**	**-0.4**
	2.2nm,0.1s						
KTMS				*e*S	**Sg**	**16 15 24.1**	**+0.5**
	16nm,0.4s						
KTMS	**Ketmen**	**2.69**	**24**	Pg	**Pb**	**16 14 45.7**	**-0.4**
	2.2nm,0.1s						
KTMS				Lg	Lg	16 15 24.1	
	16nm,0.4s						
KST	**Kastek**	**2.97**	**314**	*e*P	**Pb**	**16 14 50.0**	**-0.9**
	4.1nm,0.5s						
KST				*e*S	**Sg**	**16 15 31.4**	**-1.3**
	7.7nm,0.4s						
KST	**Kastek**	**2.97**	**314**	Pg	**Pb**	**16 14 49.6**	**-1.3**
	9.1nm,2.9s						
KST				Lg	Lg	16 15 31.6	
	8.3nm,0.7s						
MNBS	**Baschi**	**3.10**	**354**	*e*P	**Pb**	**16 14 53.0**	**-0.1**
	2.8nm,0.4s						
MNBS				*e*S	**Sg**	**16 15 36.8**	**0.0**
	14nm,0.3s						
MNBS	**Baschi**	**3.10**	**354**	Pg	**Pb**	**16 14 53.0**	**-0.1**
	2.8nm,0.4s						
MNBS				Lg	Lg	16 15 36.8	
	14nm,0.3s						
TKM2	**Tokmak 2**	**3.10**	**309**	⇑*i*P	**Pn**	**16 14 46.5**	**-0.8**
	baz=6.0						
TKM2				⇑*i*S	**Sn**	**16 15 26.3**	**+1.4**
	baz=6.0						
TKM2	**Tokmak 2**	**3.10**	**309**	⇑Pg	**Pb**	**16 14 52.4**	**-0.8**
	2.1nm,0.7s						
TKM2				⇑Lg	Lg	16 15 35.2	
	3.7nm,0.5s						
KTBS	**Karatobe**	**3.16**	**330**	*e*P	**Pb**	**16 14 54.6**	**+0.6**
	4.0nm,0.5s						
KTBS				*e*S	**Sg**	**16 15 39.5**	**+0.8**
	10nm,0.3s						
KTBS	**Karatobe**	**3.16**	**330**	Pg	**Pb**	**16 14 54.6**	**+0.6**
	4.0nm,0.5s						
KTBS				Lg	Lg	16 15 39.5	
	10nm,0.3s						
ARXS	**Arharly**	**3.30**	**347**	*e*P	**Pb**	**16 14 56.1**	**-0.5**
	4.1nm,0.4s						
ARXS				*e*S	**Sg**	**16 15 42.1**	**-1.2**
	7.3nm,0.3s						
ARXS	**Arharly**	**3.30**	**347**	Pg	**Pb**	**16 14 56.1**	**-0.5**
	4.1nm,0.4s						
ARXS				Lg	Lg	16 15 42.1	
	7.3nm,0.3s						
KBK	**Karagaybulak**	**3.36**	**301**	⇑*i*P	**Pn**	**16 14 51.3**	**+0.5**
	baz=98						
KBK				⇑*i*S	**Sn**	**16 15 34.6**	**+3.3**
	baz=98						
DJR	**Jarkent**	**3.40**	**11**	*e*P	**Pb**	**16 14 58.2**	**-0.1**
	2.2nm,0.3s						
DJR				*e*S	**Sg**	**16 15 46.1**	**-0.5**
	5.1nm,0.4s						
DJR	**Jarkent**	**3.40**	**11**	Pg	**Pb**	**16 14 58.2**	**-0.1**
	2.2nm,0.3s						
DJR				Lg	Lg	16 15 46.1	
	5.1nm,0.4s						
KUU	**Kurty**	**3.44**	**328**	*e*P	**Pb**	**16 14 59.6**	**+0.7**
	1.3nm,0.4s						
KUU				*e*S	**Sg**	**16 15 48.0**	**+0.1**
	6.8nm,0.4s						
KUU	**Kurty**	**3.44**	**328**	Pg	**Pb**	**16 14 59.6**	**+0.7**
	1.4nm,0.4s						
KUU				Lg	Lg	16 15 48.0	
	5.9nm,0.5s						
UCH	**Uchtor**	**3.48**	**292**	⇑*e*P	**Pn**	**16 14 54.7**	**+1.9**
	baz=90						
UCH				⇑*i*S	**Sb**	**16 15 40.0**	**-2.7**
	baz=90						
KRBS	**Karabastau**	**3.58**	**320**	*e*P	**Pb**	**16 15 00.6**	**-0.8**
	1.6nm,0.3s						
KRBS				*e*S	**Sg**	**16 15 49.8**	**-2.6**
	4.1nm,0.2s						
KRBS	**Karabastau**	**3.58**	**320**	Pg	**Pb**	**16 15 00.6**	**-0.8**
	1.6nm,0.3s						
KRBS				Lg	Lg	16 15 49.7	
	4.1nm,0.2s						
AAK	**Ala-Archa**	**3.65**	**298**	⇑Pg	**Pb**	**16 15 02.0**	**-0.5**
	2.8nm,1.1s						
AAK				⇓Lg	Lg	16 15 50.8	
	4.5nm,0.9s						
AML	**Almayashu**	**4.04**	**288**	⇑*i*P	**Pn**	**16 15 03.0**	**+2.7**
	baz=86						
AML				⇑*i*S	**Sb**	**16 15 54.4**	**-4.2**
	baz=86						

*IDC **30** 16:38:02.7±0.9,3°.56S×138°.53E,h0km,mb3.8/6, mb1 4.0/11,mb1mx3.8/32,mbtmp3.8/11,ML3.6/5,MS2.1/1, Ms1 2.1/1,ms1mx2.0/35,Error ellipse: s-maj=21.4km s-min=15.6km az=148.0*
*NEIC **30** 16:38:05.7±2.2,3°.65S±0°.07×138°.45E±0°.05,h20km±5km, mb4.0/14,Error ellipse: s-maj=11.7km s-min=4.9km az=211.0*
*DJA **30** 16:38:05.0±1.6,4°.5±11°×13°.9E±°,h16km±19km,M4.0/7, mb4.2/2,MLv4.0/7*
ISC 30 16:38:07.0±0.6,3.71S±0°.06×138°.47E±0°.05,h35km,n37, σ2°04/42,mb3.8/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.03**	**57**	P	**Pn**	**16 38 36.9**	**-1.8**
GENI				S	**Sn**	**16 39 01.0**	**-1.9**
JAY	**Jayapura**	**2.53**	**62**	Pn	**Pn**	**16 38 44.1**	**-1.5**
	2.3nm,0.3s,baz=221,slow=13,SNR=17						
JAY				Lg	Lg	16 39 18.0	
	5.3nm,0.3s,baz=87,slow=22,SNR=2.3						
JAY				LR	LR	16 39 58.4	
	comp=Z,42nm,21.9s,baz=42,slow=48						
JAY	**Jayapura**	**2.53**	**62**	P	**Pn**	**16 38 44.4**	**-1.3**
SRPI	**Serui, Papua**	**2.88**	**309**	P	**Pn**	**16 38 49.6**	**-0.8**
SRPI				S	**Sn**	**16 39 23.2**	**-0.7**
BAKI	**Biak**	**3.44**	**317**	P	**Pn**	**16 38 56.3**	**-1.8**
FAKI	**Fak Fak**	**6.26**	**277**	P	**Pn**	**16 39 37.0**	**+0.1**
FAKI	**Fak Fak**	**6.26**	**277**	Pn	**Pn**	**16 39 36.2**	**-0.6**
SIJI	**Sorong**	**7.73**	**291**	Pn	**Pn**	**16 39 57.0**	**-0.1**
	2.2nm,0.3s,baz=96,slow=9.7,SNR=9.8						
SIJI				Sn	**Sn**	**16 41 19.5**	**-4.0**
	baz=298,slow=23,SNR=2.1						
PMG	**Port Moresby**	**10.32**	**124**	Pn	**Pn**	**16 40 34.3**	**+1.7**
MTN	**Manton Dam**	**11.61**	**218**		**Pn**	**16 40 51.4**	**+1.1**
KNRA	**Kununurra**	**15.25**	**218**	Pn	**Pn**	**16 41 39.1**	**-0.6**
KNRA				IAmb	IAmb	16 41 51.7	
	comp=Z,11nm,0.8s						
BATI	**Baumata**	**16.04**	**246**	Pn	**Pn**	**16 41 50.5**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=221,slow=15,SNR=2.6						
WB0	**Warramunga Arr**	**16.44**	**194**	P	**Pn**	**16 41 54.2**	**-1.0**
WR0	**Warramunga Arr**	**16.59**	**193**	P	**Pn**	**16 41 56.5**	**-0.6**
WRAB	**Tennant Creek**	**16.61**	**194**	P	**P**	**16 42 00.2**	**+0.7**
WRAB				IAmb	IAmb	16 42 21.0	
	comp=Z,9.0nm,1.0s						
WB2	**Warramunga Arr**	**16.62**	**194**	P	**Pn**	**16 41 58.1**	**+0.7**
WB2				IAmb	IAmb	16 42 07.0	
	comp=Z,8.7nm,0.7s						
WRA	**Warramunga Arr**	**16.62**	**194**	Pn	**Pn**	**16 41 57.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=17,slow=12,SNR=25						
WRA				Sn	**Sn**	**16 44 55.0**	**-6.1**
	comp=Z,0.1nm,0.3s,baz=7.1,slow=23,SNR=3.6						
WRA	**Warramunga Arr**	**16.62**	**194**		**Pn**	**16 41 57.9**	**+0.4**
CTAO	**Charters Tower**	**17.96**	**156**	Pn	**Pn**	**16 42 12.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.03**	**220**	P	**P**	**16 42 27.8**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=43,slow=4.0,SNR=3.6						
FITZ				S	Sn	16 45 47.1	-12
	comp=Z,0.1nm,0.3s,baz=146,slow=21,SNR=1.2						
FITZ	**Fitzroy Crossi**	**19.03**	**220**	P	**P**	**16 42 26.4**	**+0.3**
FITZ				IAmb	IAmb	16 42 33.6	
	comp=Z,14nm,1.6s						
AS31	**Alice Springs**	**20.32**	**192**	P	**P**	**16 42 42.9**	**+2.7**
AS31				IAmb	IAmb	16 42 45.7	
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**20.32**	**192**	P	**P**	**16 42 42.8**	**+2.6**
	comp=Z,6.8nm,0.7s,baz=17,slow=10,SNR=80						
ASAR				S	**S**	**16 46 20.5**	**-5.8**
	comp=Z,0.3nm,0.5s,baz=5.7,slow=28,SNR=1.9						
ASAR	**Alice Springs**	**20.32**	**192**	P	**P**	**16 42 42.7**	**+2.5**
CMAR	**Chiang Mai Arr**	**44.73**	**301**	P	**P**	**16 46 17.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=121,slow=6.5,SNR=8.9						
CMAR	**Chiang Mai Arr**	**44.73**	**301**	P	**P**	**16 46 18.0**	**+0.8**
SONM	**Songino Array**	**58.52**	**335**	P	**P**	**16 48 01.7**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=116,slow=40,SNR=2.0						
SONM	**Songino Array**	**58.52**	**335**	P	**P**	**16 48 01.4**	**+1.4**
MKAR	**Makanchi Array**	**70.43**	**323**	P	**P**	**16 49 18.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=108,slow=7.5,SNR=7.5						
MKAR	**Makanchi Array**	**70.43**	**323**	P	**P**	**16 49 18.4**	**+0.6**
MAKZ	**Makanchi**	**70.63**	**323**	P	**P**	**16 49 19.6**	**+0.6**
ZALV	**Zalesovo Beam**	**72.68**	**330**	P	**P**	**16 49 30.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=97,slow=6.1,SNR=4.6						
KURK	**Kurchatov**	**74.39**	**325**	P	**P**	**16 49 41.9**	**+0.6**
VNDA	**Vanda**	**74.81**	**175**	P	**P**	**16 49 45.8**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=317,slow=8.9,SNR=1.7						
VNDA	**Vanda**	**74.81**	**175**	P	**P**	**16 49 46.3**	**+3.0**
VNDA				IAmb	IAmb	16 49 55.1	
	comp=Z,3.1nm,1.5s						
BRVK	**Borovoye**	**80.06**	**325**	P	**P**	**16 50 13.8**	**+0.8**
ILAR	**Eielson Array**	**86.84**	**24**	P	**P**	**16 50 45.8**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=272,slow=4.8,SNR=2.2						

*JMA **30** 16:55:14.7±0.2,38°.23N×143°.75E,h38km,M3.3*
*IDC **30** 16:55:29.2±3.8,37°.44N×142°.51E,h0km,mb3.4/2, mb1 3.5/4,mb1mx3.3/50,mbtmp3.4/4,ML2.8/2,Error ellipse: s-maj=66.6km s-min=49.3km az=173.0*
ISC 30 16:55:13.4±1.9,38°.17N±0°.06×143°.9E±0°.1,h35km,n18, σ1°78/21,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.93**	**275**	P	**Pn**	**16 55 44.2**	**+0.5**
OFUJ	**Ofunato**	**1.98**	**298**	P	**Pn**	**16 55 44.8**	**+0.4**
JKMT	**Kesennumamotoy**	**2.02**	**289**	P	**Pn**	**16 55 45.4**	**+0.5**
JKMT				S	**Sn**	**16 56 08.4**	**-0.5**
JIO	**Ouri**	**2.04**	**279**	P	**Pn**	**16 55 45

	comp=E,1μm,0.6s								
PB01	**IPOC Station P**	**1.12**	**196**	*i* P		**Pn**	**17 09 55.0**	**+0.5**
PB01				*i* S		**Sn**	**17 10 11.3**	**+0.7**
PB01				IAML			17 10 13.5	
	comp=N,2μm,0.3s								
TA01	**Diego Aracena**	**1.13**	**238**	*i* P		**Pn**	**17 09 54.6**	**+0.1**
TA01				*i* S		**Sn**	**17 10 10.8**	**+0.2**
TA01				IAML			17 10 15.6	
	comp=E,1μm,0.2s								
PATCX	**Punta Patache**	**1.26**	**227**	*i* P		**Pn**	**17 09 56.3**	**+0.1**
PATCX				*i* S		**Sn**	**17 10 14.2**	**+0.6**
PATCX				IAML			17 10 19.0	
	comp=E,1μm,0.7s								
AP01	**Chacalluta**	**1.94**	**325**	*e*P		**Pn**	**17 10 05.0**	**+0.5**
AP01				*i* S		**Sn**	**17 10 29.7**	**+1.1**
LVC	**Limon Verde**	**2.65**	**175**	P		**Pn**	**17 10 15.8**	**+1.5**
	comp=E,7.9nm,0.3s,baz=32,slow=7.8,SNR=20								
LVC				S		**Sn**	**17 10 47.2**	**+1.4**
	comp=E,20nm,0.3s,baz=117,slow=17,SNR=15								
LPAZ	**La Paz**	**3.78**	**15**	P		**Pn**	**17 10 33.0**	**+3.1**
	comp=E,1.2nm,0.3s,baz=249,slow=3.0,SNR=28								
SIV	**San Ignacio**	**8.65**	**64**	P		**Pn**	**17 11 33.4**	**-2.1**
	comp=E,2.1nm,0.3s,baz=261,slow=11,SNR=39								
SIV				LR		LR	17 15 08.1		
	comp=E,26nm,21.8s,baz=292,slow=40								
CPUP	**Villa Florida**	**12.59**	**122**	P		**Pn**	**17 12 27.1**	**-1.6**
	comp=E,0.2nm,0.3s,baz=299,slow=15,SNR=3.0								
PLCA	**Paso Flores**	**20.74**	**183**	P		**P**	**17 14 08.3**	**+2.3**
	comp=E,1.9nm,0.7s,baz=2.4,slow=18,SNR=1.8								
TORD	**Torodi Ar. Bea**	**77.07**	**71**	P		**P**	**17 21 14.0**	**-2.4**
	comp=E,0.3nm,0.4s,baz=255,slow=4.5,SNR=5.3								

*TEH **30** 17:11:45.3,31°.46N×56°.75E,h10km,ML3.7*
*THR **30** 17:11:46.0±0.6,31°.44N×56°.72E,h15km,ML3.6*

ISC 30 17:11:46.7±1.2,31°.43N±0°.04×56°.73E±0°.04,h10km,n41,
σ0s98/41,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**1.00**	**279**	*e*		17 12 29.3	
IBAF				*e*Pg	**Pg**	**17 12 04.2**	**-1.8**
KHGB	**Koh Gabri**	**1.08**	**192**	*e*		17 12 29.7	
KHGB				*e*Pg	**Pg**	**17 12 06.6**	**-0.8**
TVBK	**TV Kerman**	**1.44**	**179**	*e*Pg	**Pn**	**17 12 13.8**	**+0.6**
TVBK				*e*		17 12 38.0	
KRBR	**Kerman**	**1.45**	**179**	*e*Pn	**Pn**	**17 12 14.1**	**+0.9**
KRBR				IAML		17 12 38.2	
	comp=N,790nm,0.3s						
KRBR	**Kerman**	**1.45**	**179**	*e*Pn	**Pn**	**17 12 14.1**	**+0.9**
TPRV	**Parvadeh(Tabas**	**1.59**	**359**	*e*Pg	**Pn**	**17 12 15.1**	**+0.1**
TPRV				*e*		17 12 43.8	
CHMN	**Cheshme madani**	**1.72**	**156**	*e*Pg	**Pn**	**17 12 17.8**	**+0.8**
CHMN				*e*		17 12 43.7	
NGRK	**Negar Kerman**	**1.79**	**180**	*e*Pg	**Pn**	**17 12 19.4**	**+1.5**
NGRK				*e*		17 12 46.3	
IMEH	**Mehriz**	**1.81**	**269**	*e*Pg	**Pn**	**17 12 19.1**	**+1.0**
IMEH				*e*		17 12 45.8	
YZKH	**Yazd**	**2.05**	**298**	*e*Pn	**Pn**	**17 12 22.0**	**+0.7**
YZKH	**Yazd**	**2.05**	**298**	*e*Pn	**Pn**	**17 12 22.0**	**+0.7**
BSRN	**Basiran**	**2.11**	**75**	*e*Pn	**Pn**	**17 12 22.6**	**+0.3**
BSRN	**Basiran**	**2.11**	**75**	*e*Pn	**Pn**	**17 12 22.6**	**+0.3**
ICHK	**Chekchek**	**2.13**	**293**	*e*Pn	**Pn**	**17 12 23.5**	**+0.9**
ICHK				*e*		17 12 32.5	
IKOO	**Kooshah**	**2.17**	**62**	*e*Pn	**Pn**	**17 12 23.2**	**0.0**
IKOO				*e*		17 12 57.8	
TKDS	**Koohdasht(Taba**	**2.20**	**9**	*e*Pn	**Pn**	**17 12 24.0**	**+0.6**
TKDS				*e*		17 13 05.5	
TABS	**Tabas**	**2.23**	**8**	*e*Pn	**Pn**	**17 12 24.5**	**+0.6**
TABS	**Tabas**	**2.23**	**8**	*e*Pn	**Pn**	**17 12 24.5**	**+0.6**
ITEG	**Tejag**	**2.25**	**49**	*e*Pn	**Pn**	**17 12 24.3**	**+0.1**
ITEG				*e*		17 13 05.0	
TNSJ	**Nastanj**	**2.52**	**358**	*e*Pn	**Pn**	**17 12 28.2**	**+0.3**
TNSJ				*e*		17 13 11.4	
ISAD	**Sadrabad**	**2.64**	**281**	*e*Pn	**Pn**	**17 12 30.7**	**+1.1**
ISAD				*e*		17 13 19.4	
KBAM	**BAM**	**2.73**	**146**	*e*Pn	**Pn**	**17 12 30.7**	**0.0**
AFRZ	**Afriz**	**2.77**	**44**	*e*Pn	**Pn**	**17 12 31.5**	**+0.2**
NHDN	**Nehbandan**	**2.84**	**90**	*e*Pn	**Pn**	**17 12 32.5**	**+0.2**
NHDN				*e*		17 13 23.7	
IDAH	**Dahanechah**	**2.97**	**63**	*e*Pn	**Pn**	**17 12 34.9**	**+0.8**
IDAH				*e*		17 12 45.2	
IMON	**Monand**	**3.04**	**54**	*e*Pn	**Pn**	**17 12 35.9**	**+0.7**
IMON				*e*		17 12 43.6	
ANAR	**Anarak**	**3.08**	**305**	*e*Pn	**Pn**	**17 12 36.3**	**+0.7**
IRAM	**Rameshen**	**3.72**	**277**	*e*Pn	**Pn**	**17 12 45.5**	**+1.0**
SHRT	**Shahrakht**	**3.73**	**53**	*e*Pn	**Pn**	**17 12 45.7**	**+1.2**
SHRT	**Shahrakht**	**3.73**	**53**	*e*Pn	**Pn**	**17 12 45.7**	**+1.2**
IZEF	**Zefreh**	**4.00**	**292**	*e*Pn	**Pn**	**17 12 49.3**	**+1.0**
KRSH	**Karshahi**	**4.62**	**304**	*e*Pn	**Pn**	**17 12 57.2**	**+0.4**
IANJ	**Anjilo**	**4.66**	**330**	*e*Pn	**Pn**	**17 12 57.8**	**+0.5**
SBZV	**Sabzevar**	**5.00**	**8**	*e*Pn	**Pn**	**17 13 03.1**	**+1.2**
ISHM	**Shahmirzad**	**5.22**	**328**	*e*Pn	**Pn**	**17 13 06.3**	**+1.3**
IPAY	**Payeh**	**5.35**	**20**	*e*Pn	**Pn**	**17 13 08.6**	**+1.8**
IFIR	**Firoozkooh**	**5.35**	**323**	*e*Pn	**Pn**	**17 13 08.3**	**+1.5**
IAKL	**Akhelmad**	**5.42**	**18**	*e*Pn	**Pn**	**17 13 09.4**	**+1.5**
IMYA	**Miami**	**5.64**	**29**	*e*Pn	**Pn**	**17 13 12.6**	**+1.8**
IDMV	**Damavand**	**5.70**	**318**	*e*Pn	**Pn**	**17 13 11.8**	**+0.2**
ISFR	**Sfrayin**	**5.70**	**10**	*e*Pn	**Pn**	**17 13 12.9**	**+1.2**

*IDC **30** 17:20:00.7±1.7,5°.02S×153°.08E,h0km,mb3.6/4,*
mb1 3.9/4,mb1mx3.5/28,mbtmp3.6/4,MS2.7/1,Ms1 2.7/1,
ms1mx2.2/33,Error ellipse: s-maj=38.3km s-min=27.6km
az=109.0

ISC 30 17:20:06.2±1.5,4°.9S±0°.2×153°.0E±0°.2,h35km,n10,
σ0s82/7,mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.13**	**303**	Pn	**Pn**	**17 20 25.4**	**-0.1**
KRVT				Sn	**Sn**	**17 20 39.7**	**-0.1**
PMG	**Port Moresby**	**7.28**	**232**	LR	LR	17 24 08.1	
	comp=Z,52nm,19.7s,baz=188,slow=34						
WRA	**Warramunga Arr**	**23.48**	**229**	P	**P**	**17 25 12.0**	**-1.0**
	1.3nm,0.5s,baz=54,slow=9.9,SNR=24						
ASAR	**Alice Springs**	**26.17**	**223**	P	**P**	**17 25 36.9**	**-0.8**
	0.2nm,0.5s,baz=57,slow=9.1,SNR=7.3						
FITZ	**Fitzroy Crossi**	**29.74**	**242**	P	**P**	**17 26 10.6**	**+1.0**
	2.5nm,1.0s,baz=60,slow=7.6,SNR=2.6						
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**17 32 23.4**	**-0.1**
	0.2nm,0.5s,baz=238,slow=5.2,SNR=2.1						
H03S2	**Juan Fernandez**	**117.67**	**132**	T	T	19 46 19.3	
	baz=242,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**117.69**	**132**	T	T	19 46 26.4	
	baz=242,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**117.69**	**132**	T	T	19 46 19.0	
	baz=242,slow=74,SNR=20						
TORD	**Torodi Ar. Bea**	**150.51**	**288**	PKPbc	**PKiKP**	**17 39 56.3**	**+0.2**
	0.2nm,0.4s,baz=73,slow=2.4,SNR=2.0						

*IDC **30** 17:38:14.0±1.3,55°.92S×29°.05W,h244km±11km,mb4.2/15,*
mb1 4.3/17,mb1mx4.1/30,mbtmp4.8/17,Error ellipse:
s-maj=10.5km s-min=9.1km az=30.0
*NEIC **30** 17:38:14.4±1.2,55°.9S±0°.1×29°.1W±0°.2,h248km±4km,*
mb4.8/57,Error ellipse: s-maj=16.6km s-min=11.0km
az=206.0

ISC 30 17:38:13.9±1.1,55°.91S±0°.07×29°.06W±0°.08,h246km±9km,
n130,σ0s83/144,mb4.8/40,South Sandwich Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.56**	**288**	Pn	**Pn**	**17 39 23.2**	**-1.0**
VNA1	**Neumayer--Stat**	**17.34**	**157**	P	**P**	**17 41 59.2**	**+0.1**
VNA3	**Neumayer Olymp**	**17.49**	**159**	P	**P**	**17 42 00.4**	**-0.5**
EFI	**East Falkland**	**17.58**	**272**	P	**P**	**17 42 01.7**	**-0.3**
VNA2	**Neumayer--Watz**	**17.73**	**157**	P	**P**	**17 42 02.9**	**-0.6**
	baz=317,slow=12						
PMSA	**Palmer Station**	**19.20**	**228**	P	**P**	**17 42 19.7**	**+0.4**
	5.3nm,0.3s,baz=63,slow=7.4,SNR=17						
PMSA	**Palmer Station**	**19.20**	**228**	P	**P**	**17 42 19.5**	**+0.2**
PMSA	**Palmer Station**	**19.20**	**228**	*e*P	**P**	**17 42 20.4**	**+1.1**
SNAA	**Sanae**	**19.31**	**155**	P	**P**	**17 42 20.0**	**-0.5**
SNAA	**Sanae**	**19.31**	**155**	P	**P**	**17 42 20.2**	**-0.3**
	4.8nm,0.3s,baz=307,slow=9.4,SNR=158						
SNAA				PcP	**PcP**	**17 46 31.2**	**+0.2**
	0.4nm,0.3s,baz=237,slow=6.3,SNR=3.3						
SNAA	**Sanae**	**19.31**	**155**	P	**P**	**17 42 19.6**	**-0.8**
SNAA					**PcP**	**17 46 31.2**	**+0.2**
USHA	**Ushuaia**	**22.20**	**256**	P	**P**	**17 42 48.8**	**-0.9**
	25nm,0.6s,baz=17,slow=4.1,SNR=9.5						
GO09	**Cerro Castillo**	**25.77**	**262**	P	**P**	**17 43 20.7**	**-1.5**
PLCA	**Paso Flores**	**30.94**	**282**	P	**P**	**17 44 07.4**	**-0.6**
	2.9nm,0.7s,baz=128,slow=6.6,SNR=6.7						
PLCA				PcP	**PcP**	**17 46 58.0**	**+0.2**
	2.7nm,0.9s,baz=105,slow=6.5,SNR=4.0						
PLCA	**Paso Flores**	**30.94**	**282**	P	**P**	**17 44 07.1**	**-0.9**
QSPA	**South Pole Qui**	**34.34**	**180**	P	**P**	**17 44 37.9**	**+0.6**
	14nm,0.4s,baz=204,slow=3.3,SNR=211						
QSPA				ScP	**ScP**	**17 50 26.7**	**-1.3**
	1.4nm,0.5s,baz=279,slow=2.1,SNR=9.2						
QSPA	**South Pole Qui**	**34.34**	**180**	P	**P**	**17 44 38.1**	**+0.8**
QSPA				IAmb	IAmb	17 44 39.2	
	comp=Z,12nm,0.7s						
QSPA					**ScP**	**17 50 27.3**	**-0.7**
BO02	**Sierra Bellavi**	**35.38**	**289**	P	**P**	**17 44 45.7**	**-0.7**
BO02				IAmb	IAmb	17 44 56.2	
	comp=Z,34nm,1.5s						
CPUP	**Villa Florida**	**35.94**	**314**	P	**P**	**17 44 51.0**	**-0.1**
	comp=Z,3.1nm,0.4s,baz=162,slow=7.4,SNR=4.8						
CPUP				PcP	**PcP**	**17 47 12.3**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=90,slow=2.4,SNR=6.4						
CPUP	**Villa Florida**	**35.94**	**314**	P	**P**	**17 44 51.3**	**+0.2**
CPUP					**PcP**	**17 47 12.1**	**+0.1**
PEL	**Peldehue**	**36.60**	**291**	P	**P**	**17 44 56.4**	**-0.2**
MT02	**Curacav**	**36.74**	**290**	P	**P**	**17 44 57.1**	**-0.7**
ZON	**Zonda**	**36.81**	**295**	P	**P**	**17 44 57.7**	**-0.8**
ZON				IAmb	IAmb	17 44 58.8	
	comp=Z,21nm,0.7s						
VA03	**San Esteban**	**36.82**	**291**	P	**P**	**17 44 58.2**	**-0.4**
ROC1	**El Roble**	**36.90**	**291**	P	**P**	**17 44 58.8**	**-0.6**
RIB01	**Linhares ES**	**37.52**	**342**	*e*P	**P**	**17 45 02.2**	**-2.2**
CO02	**Combarbal**	**38.28**	**292**	P	**P**	**17 45 10.6**	**-0.3**
CO03	**El Pedregal**	**38.41**	**293**	P	**P**	**17 45 11.8**	**-0.1**
CO03				IAmb	IAmb	17 45 12.8	
	comp=Z,10nm,0.6s						
CO01	**Juntas del Tor**	**38.79**	**295**	P	**P**	**17 45 15.7**	**+0.5**
CO01				IAmb	IAmb	17 45 16.8	
	comp=Z,24nm,0.6s						
GO04	**Tololo Observa**	**39.00**	**294**	P	**P**	**17 45 16.3**	**-0.6**
GO04				IAmb	IAmb	17 45 30.9	
	comp=Z,68nm,1.5s						
AC05	**El Transito**	**39.81**	**295**	P	**P**	**17 45 23.6**	**+0.1**
AC05				IAmb	IAmb	17 45 24.5	
	comp=Z,27nm,0.8s						
LCO	**Las Campanas**	**39.88**	**295**	P	**P**	**17 45 24.3**	**+0.1**
LCO				IAmb	IAmb	17 45 24.5	
	comp=Z,17nm,0.7s						
AC04	**Llanos de Chal**	**40.73**	**295**	P	**P**	**17 45 31.2**	**+0.3**
GO03	**Copiap**	**40.80**	**297**	P	**P**	**17 45 31.1**	**-0.4**
GO03				IAmb	IAmb	17 45 31.7	
	comp=Z,19nm,0.7s						
AC02	**Maricunga**	**40.88**	**298**	P	**P**	**17 45 33.0**	**+0.3**
AC02				IAmb	IAmb	17 45 34.4	
	comp=Z,26nm,0.8s						
MAW	**Mawson**	**40.89**	**144**	P	**P**	**17 45 31.6**	**0.0**
	comp=Z,1.6nm,0.4s,baz=219,slow=4.1,SNR=5.2						
MAW				PcP	**PcP**	**17 47 27.4**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=268,slow=5.3,SNR=6.8						
MAW	**Mawson**	**40.89**	**144**	P	**P**	**17 45 32.1**	**+0.5**
MAW					**PcP**	**17 47 26.9**	**0.0**
AC01	**Pan de Azucar**	**42.18**	**297**	P	**P**	**17 45 42.7**	**+0.1**
AC01				IAmb	IAmb	17 45 51.5	
	comp=Z,37nm,1.1s						
GO02	**Mina Guanaco**	**42.50**	**299**	P	**P**	**17 45 46.0**	**+0.5**
GO02				IAmb	IAmb	17 45 46.6	
	comp=Z,46nm,0.6s						
PB14	**IPOC Station P**	**43.35**	**299**	P	**P**	**17 45 51.7**	**-0.6**
ARAG	**Araguaiana, MT**	**43.74**	**327**	*e*P	**P**	**17 45 54.2**	**-0.9**
LVC	**Limon Verde**	**44.32**	**302**	P	**P**	**17 46 01.1**	**+1.0**
LVC	**Limon Verde**	**44.32**	**302**	*e*P	**P**	**17 46 01.2**	**+1.0**
PB10	**IPOC Station P**	**44.35**	**300**	P	**P**	**17 46 00.1**	**+0.1**
PB10				IAmb	IAmb	17 46 14.6	
	comp=Z,37nm,1.1s						
PB06	**IPOC Station P**	**44.56**	**301**	P	**P**	**17 46 02.3**	**+0.5**
PB04	**IPOC Station P**	**45.15**	**301**	P	**P**	**17 46 06.7**	**+0.2**
PB04				IAmb	IAmb	17 46 30.7	
	comp=Z,70nm,1.4s						
PB09	**IPOC Station P**	**45.18**	**302**	P	**P**	**17 46 07.7**	**+1.1**
PB09				IAmb	IAmb	17 46 08.8	
	comp=Z,22nm,0.5s						
PB07	**IPOC Station P**	**45.54**	**302**	P	**P**	**17 46 10.0**	**+0.4**
PB07				IAmb	IAmb	17 46 10.8	
	comp=Z,45nm,0.5s						
PB01	**IPOC Station P**	**45.94**	**303**	P	**P**	**17 46 13.3**	**+0.8**
PB01				IAmb	IAmb	17 46 14.1	
	comp=Z,40nm,0.7s						
PATCX	**Punta Patache**	**46.45**	**302**	P	**P**	**17 46 16.9**	**+0.5**
PATCX				IAmb	IAmb	17 46 17.4	
	comp=Z,24nm,0.5s						
PTLB	**Pontes e Lacer**	**46.47**	**318**	*e*P	**P**	**17 46 16.8**	**+0.3**
PB08	**IPOC Station P**	**46.55**	**304**	P	**P**	**17 46 19.0**	**+1.3**
PB08				IAmb	IAmb	17 46 19.7	
	comp=Z,20nm,0.7s						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**17 46 17.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=192,slow=5.7,SNR=24						
VNDA				ScP	**ScP**	**17 51 15.7**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=132,slow=4.5,SNR=5.1						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**17 46 18.2**	**+1.0**
TA01	**Diego Aracena**	**46.68**	**302**	P	**P**	**17 46 18.4**	**+0.3**
BOSA	**Boshof**	**46.96**	**78**	P	**P**	**17 46 20.2**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=214,slow=5.3,SNR=19						
BOSA	**Boshof**	**46.96**	**78**	P	**P**	**17 46 20.4**	**0.0**
GO01	**Chusmiza**	**46.98**	**304**	P	**P**	**17 46 22.1**	**+1.0**
GO01				IAmb	IAmb	17 46 22.9	
	comp=Z,39nm,0.8s						
PB11	**IPOC Station P**	**47.12**	**303**	P	**P**	**17 46 22.0**	**+0.3**
PB11				IAmb	IAmb	17 46 23.8	
	comp=Z,25nm,0.8s						
SNDB	**Serra Nova Dou**	**47.12**	**330**	*e*P	**P**	**17 46 21.7**	**+0.1**
PSGCX	**Pisagua**	**47.48**	**303**	P	**P**	**17 46 24.9**	**+0.4**
MNMC	**Minye Minye**	**47.63**	**304**	P	**P**	**17 46 26.9**	**+1.1**
MNMC				IAmb	IAmb	17 46 27.6	
	comp=Z,64nm,0.9s						
PB16	**IPOC Station P**	**48.28**	**304**	P	**P**	**17 46 32.1**	**+1.0**
VILB	**Vilhena**	**49.16**	**318**	*e*P	**P**	**17 46 37.4**	**+0.3**
LPAZ	**La Paz**	**49.44**	**307**	P	**P**	**17 46 41.0**	**+1.0**
	comp=Z,45nm,0.6s,baz=122,slow=5.1,SNR=177						
LPAZ				S	**S**	**17 53 29.7**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=244,slow=24,SNR=6.9						
LPAZ	**La Paz**	**49.44**	**307**	P	**P**	**17 46 41.3**	**+1.3**
LPAZ				IAmb	IAmb	17 46 41.9	
	comp=Z,44nm,0.6s						
LPAZ	**La Paz**	**49.44**	**307**	*e*P	**P**	**17 46 41.2**	**+1.3**
CLDB	**Colider**	**49.54**	**324**	*e*P	**P**	**17 46 39.1**	**-0.9**
LBTB	**Lobatse**	**49.98**	**75**	P	**P**	**17 46 43.5**	**+0.2**
	comp=Z,14nm,0.6s,baz=218,slow=8.8,SNR=31						
LBTB	**Lobatse**	**49.98**	**75**	P	**P**	**17 46 43.5**	**+0.2**
LBTB				IAmb	IAmb	17 46 44.3	
	comp=Z,16nm,0.7s						
RCBR	**Riachuelo**	**50.24**	**351**	P	**P**	**17 46 45.6**	**+0.4**
NPGB	**Novo Progresso**	**53.00**	**327**	*e*P	**P**	**17 47 05.0**	**-0.6**
SAML	**Samuel**	**53.96**	**317**	P	**P**	**17 47 12.8**	**+0.2**
SAML	**Samuel**	**53.96**	**317**	*e*P	**P**	**17 47 12.8**	**+0.2**
ETMB	**Extrema**	**54.38**	**313**	*e*P	**P**	**17 47 16.0**	**+0.4**
CASY	**Casey**	**54.39**	**161**	P	**P**	**17 47 16.0**	**+1.0**
CASY				IAmb	IAmb	17 47 17.1	
	comp=Z,18nm,1.0s						
ITTB	**Itaituba**	**55.65**	**327**	*e*P	**P**	**17 47 24.8**	**+0.2**
NNA	**Nana**	**57.26**	**301**	P	**P**	**17 47 36.9**	**+0.9**
NNA				IAmb	IAmb	17 47 46.3	
	comp=Z,52nm,1.4s						
MALB	**Monte Alegre**	**57.60**	**330**	*e*P	**P**	**17 47 39.1**	**+0.9**
MCPB	**Macapa, AP**	**58.43**	**333**	*e*P	**P**	**17 47 45.2**	**+1.1**
LSZ	**Lusaka**	**59.31**	**71**	P	**P**	**17 47 50.3**	**+0.1**
LIC	**Lamto**	**65.02**	**27**	*e*P	**P**	**17 48 28.0**	**+0.2**
	comp=Z,38nm,0.7s						
KIC	**Kosan Boka**	**65.22**	**27**	*e*P	**P**	**17 48 29.2**	**+0.1**
	comp=Z,13nm,0.7s						
TIC	**Toumodi**	**65.42**	**26**	*e*P	**P**	**17 48 30.6**	**+0.2**
DBIC	**Dimbokro**	**65.49**	**27**	P	**P**	**17 48 30.8**	**0.0**
	comp=Z,5.6nm,0.6s,baz=164,slow=8.0,SNR=11						
DBIC	**Dimbokro**	**65.49**	**27**	P	**P**	**17 48 31.3**	**+0.5**
GRGR	**Grenville**	**73.06**	**327**	P	**P**	**17 49 17.2**	**+0.1**
SDV	**Santo Domingo**	**73.17**	**317**	P	**P**	**17 49 18.5**	**+0.5**
SDV				IAmb	IAmb	17 49 19.3	
	comp=Z,18nm,0.9s						
SDV	**Santo Domingo**	**73.17**	**317**	*e*P	**P**	**17 49 18.8**	**+0.8**
KOWA	**Kowa**	**73.23**	**25**	P	**P**	**17 49 18.9**	**+0.9**
TOAO	**Torodi Ar. Sit**	**73.46**	**31**	P	**P**	**17 49 20.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.46**	**31**	P	**P**	**17 49 20.3**	**+0.8**
	comp=Z,28nm,0.5s,baz=200,slow=6.3,SNR=244						
TORD	**Torodi Ar. Bea**	**73.46**	**31**	P	**P**	**17 49 20.2**	**+0.7**
JTS	**Las Juntas de**	**80.55**	**304**	P	**P**	**17 49 59.9**	**+0.9**
JTS				IAmb	IAmb	17 50 00.9	
	comp=Z,29nm,1.4s						
ACON	**Acoyapa**	**82.13**	**305**	P	**P**	**17 50 07.3**	**+0.3**
CMIG	**Matias Romero**	**91.19**	**299**	P	**P**	**17 50 51.3**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=160,slow=7.8,SNR=4.4						
STKA	**Stephens Creek**	**92.20**	**172**	P	**P**	**17 50 55.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=133,slow=7.4,SNR=5.4						
STKA	**Stephens Creek**	**92.20**	**172**	P	**P**	**17 50 55.5**	**-0.1**
ASAR	**Alice Springs**	**99.43**	**164**	P	**Pdif**	**17 51 27.6**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=175,slow=3.7,SNR=36						
ASAR				PKKPbc	**PKKPdf**	**18 07 49.5**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=21,slow=1.9,SNR=8.7						
WRA	**Warramunga Arr**	**103.15**	**164**	Pdiff	**Pdif**	**17 51 44.5**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=193,slow=4.4,SNR=8.5						
WRA				PKKPbc	**PKKPbc**	**18 07 39.2**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=357,slow=2.9,SNR=32						
VYHS	**Vyhne**	**111.46**	**32**	*e*PDIFF	**Pdif**	**17 52 24.0**	**+2.8**
TPNV	**Topopah Spring**	**118.19**	**295**		**PKiKP**	**17 56 32.0**	**+0.7**
PDAR	**Pinedale Array**	**119.38**	**304**	PKP	**PKPdf**	**17 56 32.3**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=123,slow=5.0,SNR=19						
PDAR	**Pinedale Array**	**119.38**	**304**	PKPdf	**PKPdf**	**17 56 31.6**	**-1.9**
ULM	**Lac du Bonnet**	**119.42**	**317**	PKP	**PKPdf**	**17 56 32.0**	**-0.9**
	comp=Z,3.5nm,0.5s,baz=159,slow=1.3,SNR=4.8						
ULM	**Lac du Bonnet**	**119.42**	**317**		**PKPdf**	**17 56 32.2**	**-0.7**
NVAR	**Mina Array Bea**	**120.37**	**294**	PKP	**PKiKP**	**17 56 35.8**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=135,slow=3.2,SNR=13						
NVAR	**Mina Array Bea**	**120.37**	**294**		**PKPdf**	**17 56 35.3**	**-0.2**
NOA	**NORSAR Array B**	**120.85**	**22**	PKP	**PKiKP**	**17 56 35.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=140,slow=2.2,SNR=2.3						
FINES	**FINESS Array B**	**124.75**	**29**	PKP	**PKPdf**	**17 56 42.6**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=174,slow=1.6,SNR=50						
G08A	**Pilot Rock**	**125.78**	**300**	PKPdf	**PKiKP**	**17 56 46.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**126.10**	**112**	PKP	**PKPdf**	**17 56 46.3**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=230,slow=3.9,SNR=25						
CMAR	**Chiang Mai Arr**	**126.10**	**112**	PKPdf	**PKPdf**	**17 56 45.7**	**-1.0**
ARCES	**ARCESS Array B**	**131.21**	**22**	PKP	**PKPdf**	**17 56 53.9**	**-1.1**
	comp=Z,3.2nm,0.5s,baz=213,slow=1.9,SNR=25						
ARCES				SKPbc	**SKPbc**	**17 59 56.3**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=63,slow=0.5,SNR=5.7						
YKA	**Yellowknife Ar**	**135.36**	**319**	PKP	**PKPdf**	**17 57 03.1**	**+0.2**
	comp=Z,5.7nm,0.6s,baz=122,slow=3.1,SNR=17						
BVAR	**Borovoye Array**	**135.60**	**58**	PKP	**PKPdf**	**17 57 03.3**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=164,slow=28,SNR=12						
BVAR				SKPbc	**SKPbc**	**18 00 11.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=227,slow=26,SNR=5.5						
MKAR	**Makanchi Array**	**137.84**	**72**	PKhKP	PKPpre	17 56 58.3	
	comp=Z,0.4nm,0.5s,baz=240,slow=5.2,SNR=6.0						
MKAR				SKPbc	**SKPbc**	**18 00 16.6**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=225,slow=4.1,SNR=2.6						
**

comp=N,2µm,0.9s
HOMI IAML 18 04 03.0
comp=E,2µm,0.6s
HANI Diyarbakir_Han 1.39 257 *i* P **Pn 18 03 28.7 -0.6**
HANI IAML 18 03 52.0
comp=E,952nm,0.3s
HANI IAML 18 03 57.0
comp=N,849nm,0.6s
YEDI Yedisu-Bingol 1.40 300 PN **Pn 18 03 28.7 -0.9**
DYDN Diyadin 1.46 57 *i* P **Pn 18 03 29.8 -0.6**
DYDN IAML 18 03 54.0
comp=N,720nm,0.9s
DYDN IAML 18 03 54.0
comp=E,810nm,0.9s
CLDR Caldiran 1.46 74 PN **Pn 18 03 29.2 -1.2**
CLDR Caldiran 1.46 74 *i* P **Pn 18 03 29.8 -0.7**
CLDR *i* S **Sn 18 03 49.8 -0.4**
CLDR IAML 18 03 54.0
comp=N,330nm,0.6s
CLDR IAML 18 03 57.0
comp=E,398nm,0.7s
BASK Baskale_VAN 1.64 115 *i* P **Pn 18 03 32.8 -0.1**
BASK *i* S **Sg 18 03 57.1 +1.8**
BASK IAML 18 04 02.0
comp=E,334nm,0.8s
BASK IAML 18 04 03.0
comp=N,485nm,0.9s
HAKT HAKKARI 1.73 133 *i* P **Pg 18 03 35.6 -0.2**
HAKT *i* S **Sg 18 04 02.1 +3.9**
HAKT IAML 18 04 03.0
comp=E,340nm,1.2s
HAKT IAML 18 04 12.0
comp=N,317nm,1.1s
MARD Mardin 1.78 217 *i* P **Pb 18 03 35.5 -0.7**
SENK Senkaya-Erzuru 1.82 6 PN **Pn 18 03 34.8 -0.5**
KRIK Erzurum-spir 1.83 330 *i* P **Pb 18 03 36.7 -0.5**
MAZI Mazidag 1.84 226 PN **Pn 18 03 34.4 -1.2**
VNNZ Vanand 1.89 44 *i* P **Pb 18 03 37.4 -0.6**
CUKT Cukurca 1.91 141 PN **Pn 18 03 35.1 -1.4**
CUKT Cukurca 1.91 141 *i* P **Pb 18 03 37.8 -0.6**
CUKT IAML 18 04 14.0
comp=E,868nm,0.7s
CUKT IAML 18 04 19.0
comp=N,708nm,0.7s
KARS Kars 2.02 21 PN **Pn 18 03 37.4 -0.6**
ERZN Erzincan 2.04 295 PN **Pn 18 03 37.8 -0.5**
TNCL Tunceli-Merkez 2.04 281 *i* P **Pn 18 03 39.0 +0.7**
TNCL IAML 18 04 11.0
comp=E,525nm,0.7s
TNCL IAML 18 04 24.0
comp=N,535nm,0.7s
TASB TASBURUN-IGDIR 2.05 53 PN **Pn 18 03 37.9 -0.6**
YOVA Hakkari_Yksek 2.07 123 *i* P **Pb 18 03 40.5 -0.7**
YOVA *i* S **Sg 18 04 10.9 +1.7**
YOVA IAML 18 04 12.0
comp=E,250nm,0.9s
YOVA IAML 18 04 13.0
comp=N,203nm,1.1s
PTK Pertek 2.13 275 PN **Pn 18 03 38.9 -0.8**
DDEM Demirkent 2.16 353 *i* P **Pn 18 03 40.8 +0.9**
DDEM IAML 18 04 23.0
comp=E,455nm,0.6s
DDEM IAML 18 04 24.0
comp=N,552nm,0.5s
ARUZ Aruch 2.16 44 *i* P **Pn 18 03 40.6 +0.6**
SVRC Sivrice-ELAZID 2.23 261 PN **Pn 18 03 40.3 -0.7**
BAYT Aydintepe-Bayb 2.24 318 PN **Pn 18 03 40.8 -0.3**
DAGI Agillar 2.33 356 *i* P **Pn 18 03 43.3 +1.0**
NRKZ NAREK 2.33 57 *i* P **Pn 18 03 41.5 -0.9**
KAPZ Kaputan 2.54 51 *i* P **Pn 18 03 46.0 +0.8**
CHOM Cayeli-Rize 2.56 336 PN **Pn 18 03 45.5 +0.1**
BCA Borcka 2.72 352 PN **Pn 18 03 47.6 +0.1**
ILIC ilic-Erzincan 2.85 285 PN **Pn 18 03 49.2 -0.2**
BATM Batumi 2.87 354 PN **Pn 18 03 49.7 +0.1**
KTUT Trabzon 2.87 322 PN **Pn 18 03 49.8 +0.2**
URFA Urfa 2.91 244 PN **Pn 18 03 49.8 -0.4**
MALT Malatya 2.93 263 PN **Pn 18 03 50.2 -0.3**
ESPY Espiye-Giresun 3.39 311 PN **Pn 18 03 57.1 +0.3**
DARE Darende-Malaty 3.63 269 PN **Pn 18 04 00.2 0.0**
RSDY Resadiye-TOKAT 4.05 295 PN **Pn 18 04 06.4 +0.5**
SVSK Karacayir 4.14 288 PN **Pn 18 04 07.7 +0.7**
GAZ Gaziantep 4.18 249 PN **Pn 18 04 08.1 +0.3**
SARI SarD1z-Kayseri 4.48 267 PN **Pn 18 04 12.4 +0.5**
KBZ Khabaz 5.01 6 Pn **Pn 18 04 20.6 +1.7**
comp=N,0.1nm,0.3s,baz=173,slow=19,SNR=2.0
KVAR Kislovodsk Arr 5.22 5 LR LR 18 06 37.3
comp=N,116nm,21.8s,baz=69,slow=41
BRTR Keskin Array B 6.65 281 Pn **Pn 18 04 41.9 +0.2**
comp=N,0.2nm,0.3s,baz=107,slow=15,SNR=5.4
ASF Jabal al Asfar 7.82 215 Pn **Pn 18 04 59.3 +1.6**
comp=N,0.2nm,0.3s,baz=341,slow=20,SNR=2.1
ASF Lg Lg 18 07 09.5
comp=N,0.4nm,0.3s,baz=349,slow=21,SNR=3.8
MMAI Mount Meron Ar 7.90 226 Pn **Pn 18 04 59.7 +0.9**
comp=N,0.4nm,0.3s,baz=53,slow=15,SNR=2.2
MMAI Lg Lg 18 07 12.7
comp=N,0.7nm,0.3s,baz=41,slow=18,SNR=2.1
EIL Elat 10.82 215 Lg Lg 18 08 45.8
comp=N,0.3nm,0.3s,baz=15,slow=20,SNR=1.7
AKASG Malin Array Be 15.03 327 Pn **Pn 18 06 36.3 +0.2**
comp=N,0.2nm,0.3s,baz=135,slow=12,SNR=5.4
AKTO Aktyubinsk 16.23 39 Pn **Pn 18 06 51.0 -0.8**
comp=N,0.2nm,0.3s,baz=228,slow=9.3,SNR=9.4
AKTO LR LR 18 14 06.4
comp=N,26nm,18.3s,baz=191,slow=41
ARU Arti 20.78 26 P **P 18 07 45.1 +0.1**
comp=N,0.9nm,0.5s,baz=171,slow=9.2,SNR=5.0
ARU LR LR 18 18 56.5
comp=N,24nm,19.7s,baz=214,slow=46
GERES GERESS Array B 22.73 306 P **P 18 08 05.9 -0.2**
comp=N,0.7nm,0.7s,baz=123,slow=11,SNR=3.8
FINES FINESS Array B 24.80 342 P **P 18 08 27.3 +1.4**
comp=N,2.1nm,0.8s,baz=149,slow=15,SNR=2.0
FINES LR LR 18 20 13.1
comp=N,33nm,19.3s,baz=122,slow=42
DAVOX Davos/Dischmat 24.86 299 LR LR 18 19 19.3
comp=N,19nm,19.7s,baz=78,slow=39
HFS Hagfors 27.89 329 LR LR 18 20 33.3
comp=N,38nm,19.5s,baz=152,slow=38
KURBB Kurchatov Arra 28.19 53 P **P 18 08 57.3 +0.7**
comp=N,1.0nm,0.9s,baz=265,slow=8.6,SNR=6.4
NOA NORSAR Array B 29.41 329 LR LR 18 21 18.5
comp=N,21nm,21.0s,baz=5.0,slow=37
MKAR Makanchi Array 30.30 61 P **P 18 09 15.5 +0.1**
comp=N,0.8nm,0.6s,baz=268,slow=6.1,SNR=4.6
ARCES ARCESS Array B 32.10 349 LR LR 18 22 53.4
comp=N,45nm,19.6s,baz=330,slow=37
KSRS Korea Array 64.98 61 P **P 18 13 43.8 -0.4**
comp=N,0.7nm,0.7s,baz=305,slow=8.9,SNR=2.8

IDC ***30*** *18:14:50.0±0.9, 29°.87N×68°.26E, h0km, mb3.6/14, mb1 3.8/15, mb1mx3.6/60, mbtmp3.7/15, ML3.7/1, MS3.1/9, Ms1 3.1/9, ms1mx2.9/37, Error ellipse: s-maj=22.1km s-min=18.9km az=26.0*

ISC 30 18:14:51.7±0.7, 29.9N±0.1×68.19E±0.08, h10km, n30, σ0.9 83/25, mb3.7/13, MS2.9/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**10.81**	**235**	Pn	**Pn**	**18 17 26.1**	**-0.5**
WSAR	0.5nm,0.3s,baz=83,slow=9.9,SNR=7.3			Sn	Sn	18 19 15.2	-12
PYUN	0.7nm,0.3s,baz=219,slow=23,SNR=7.5 **Piuthan**	**13.07**	**94**	*e*P	**Pn**	**18 17 58.8**	**+1.1**
KOLN	9.3nm,0.3s **Koldanda**	**13.67**	**95**	*e*P	**Pn**	**18 18 07.4**	**+1.5**
DANN	3.4nm,0.4s **Dangsing**	**13.70**	**93**	*e*P	**Pn**	**18 18 05.4**	**-0.9**
GKN	39nm,0.6s **Gorkha**	**14.52**	**93**	*e*P	**Pn**	**18 18 17.9**	**+0.4**
KKN	9.2nm,0.5s **Kakani**	**15.12**	**94**	*e*P	**Pn**	**18 18 26.3**	**+0.6**
PKIN	2.4nm,0.4s **Phulchoki**	**15.27**	**94**	*e*P	**Pn**	**18 18 28.4**	**+0.8**
PKI	3.7nm,0.3s **Pulchoki**	**15.28**	**94**	*e*P	**Pn**	**18 18 29.4**	**+1.5**
GUN	**Gumba** 45nm,0.8s	**15.62**	**93**	*e*P	**Pn**	**18 18 30.8**	**-1.5**
RAMN	**Ramite** 8.4nm,0.5s	**16.45**	**96**	*e*P	**P**	**18 18 46.1**	**+0.3**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=206,slow=11,SNR=2.9	**20.14**	**29**	P	**P**	**18 19 25.3**	**-0.7**
MKAR	comp=Z,35nm,19.8s,baz=208,slow=41			LR	LR	18 28 32.0	
AKTO	**Aktyubinsk** 1.2nm,0.9s,baz=135,slow=14,SNR=2.9	**21.92**	**342**	P	**P**	**18 19 44.8**	**-0.4**
KURBB	**Kurchatov Arra** 2.5nm,0.8s,baz=209,slow=11,SNR=6.4	**22.14**	**18**	P	**P**	**18 19 47.1**	**-0.3**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=157,slow=21,SNR=2.5	**23.19**	**3**	P	**P**	**18 19 58.1**	**-0.4**
KBZ	**Khabaz** 2.6nm,0.9s,baz=165,slow=10,SNR=3.6	**24.41**	**311**	P	**P**	**18 20 11.4**	**+1.2**
KBZ	comp=Z,32nm,18.0s,baz=80,slow=42			LR	LR	18 31 51.0	
ZALV	**Zalesovo Beam** 0.2nm,0.7s,baz=310,slow=9.3,SNR=1.8	**26.92**	**22**	LR	LR	18 31 36.2	
CMAR	comp=Z,20nm,19.2s,baz=66,slow=37			LR	LR	18 33 34.7	
EIL	**Elat** comp=Z,46nm,18.6s,baz=100,slow=41	**28.80**	**278**	LR	LR	18 34 41.0	
BRTR	**Keskin Array B** comp=Z,20nm,18.4s,baz=136,slow=40	**29.87**	**299**	LR	LR	18 35 00.5	
CMAR	**Chiang Mai Arr** 0.2nm,0.7s,baz=332,slow=37	**30.18**	**105**	P	**P**	**18 21 01.6**	**-0.7**
TLY	**Talaya** comp=Z,20nm,20.4s,baz=238,slow=37	**34.07**	**40**	LR	LR	18 35 37.2	
AKASG	**Malin Array Be** 1.0nm,0.4s,baz=96,slow=8.5,SNR=2.7	**35.72**	**317**	P	**P**	**18 21 50.1**	**-0.3**
FINES	**FINESS Array B** comp=Z,56nm,18.5s,baz=124,slow=41	**41.91**	**331**	LR	LR	18 43 36.9	
ARCES	**ARCESS Array B** 4.5nm,1.0s,baz=79,slow=2.6,SNR=5.8	**46.49**	**341**	P	**P**	**18 23 19.3**	**+0.6**
NB2	**NORSAR Subarra** comp=Z,4.4nm,1.0s,baz=109,slow=7.9	**48.45**	**327**	P	**P**	**18 23 33.5**	**-0.6**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=108,slow=7.7,SNR=3.9	**48.45**	**327**	P	**P**	**18 23 33.5**	**-0.6**
NOA	comp=Z,22nm,20.3s,baz=15,slow=40			LR	LR	18 46 46.9	
KEST	**Kesra** comp=Z,4.1nm,0.8s,baz=124,slow=7.3,SNR=5.3	**49.18**	**293**	P	**P**	**18 23 40.5**	**+0.4**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.7s,baz=62,slow=7.7,SNR=5.1	**58.63**	**301**	P	**P**	**18 24 49.5**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,2.1nm,0.7s,baz=56,slow=6.2,SNR=13	**63.29**	**270**	P	**P**	**18 25 21.5**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.8s,baz=316,slow=5.2,SNR=1.7	**80.65**	**119**	P	**P**	**18 27 04.4**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.5nm,0.9s,baz=308,slow=5.4,SNR=3.1	**82.54**	**123**	P	**P**	**18 27 15.3**	**+0.3**

IDC ***30*** *18:20:25.4±1.1, 6°.09S×128°.15E, h360km±15km, mb3.0/1, mb1 3.1/6, mb1mx2.7/39, mbtmp3.8/6, Error ellipse: s-maj=23.0km s-min=13.0km az=108.0*

ISC 30 18:20:25.5±0.9, 6.10S±0.09×128.2E±0.1, h350km, n6, σ1.9 05/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** 10nm,0.3s,baz=69,slow=17,SNR=29	**6.03**	**227**	P	**Pn**	**18 21 57.2**	**+0.4**
BATI	baz=97,slow=23,SNR=1.0			S	**S**	**18 23 11.9**	**+1.2**
SIJI	**Sorong** 1.3nm,0.3s,baz=228,slow=4.7,SNR=5.8	**6.06**	**31**	P	**Pn**	**18 21 58.4**	**+1.3**
SIJI	2.6nm,0.3s,baz=79,slow=22,SNR=15			S	**S**	**18 23 11.1**	**-0.3**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=8.6,slow=9.9,SNR=14	**12.17**	**191**	P	**P**	**18 23 08.3**	**-0.8**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=330,slow=13,SNR=23	**15.02**	**157**	P	**P**	**18 23 40.1**	**-0.3**
WRA	0.1nm,0.3s,baz=338,slow=20,SNR=5.3			S	**S**	**18 26 22.6**	**+0.6**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=342,slow=12,SNR=38	**18.32**	**163**	P	**P**	**18 24 15.2**	**-0.8**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=130,slow=8.2,SNR=9.3	**66.48**	**327**	P	**P**	**18 30 37.2**	**-1.3**

SNET ***30*** *18:24:30.4±1.1, 13°.91N×90°.63W, h57km±10km, ML2.9*
GCG ***30*** *18:24:32.3±0.3, 13°.80N×90°.72W, h34km±3km, MD3.7*

ISC 30 18:24:29.9±1.7, 13.59N±0.10×90.74W±0.06, h35km, n17, σ0.9 90/21, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.81**	**9**	*e*P	**Pn**	**18 24 45.1**	**0.0**
FUG	**Fuego 3**	**0.86**	**353**	*e*P	**Pn**	**18 24 45.6**	**-0.1**
NBG	**Las Nubes**	**1.06**	**21**	*e*P	**Pn**	**18 24 48.9**	**+0.3**
NBG				*e*S	**Sn**	**18 25 03.9**	**+1.6**
RTR	**El Retiro**	**1.11**	**74**	*e*P	**Pn**	**18 24 48.7**	**-0.3**
SBLS	**San Blas**	**1.11**	**77**	*e*P	**Pn**	**18 24 48.6**	**-0.5**
SNJE	**San Jose**	**1.14**	**76**	*e*P	**Pn**	**18 24 48.8**	**-0.6**
ERG	**Entre ros, C**	**1.17**	**317**	*e*P	**Pn**	**18 24 50.3**	**+0.6**
RTAL	**Retalhuleu**	**1.31**	**315**	*e*P	**Pn**	**18 24 51.3**	**-0.4**
RTAL				*e*S	**Sn**	**18 25 06.8**	**-1.3**
TACO	**Tacachico**	**1.40**	**74**	*e*P	**Pn**	**18 24 51.7**	**-1.2**
BOQS	**Boqueron**	**1.43**	**84**	*e*P	**Pn**	**18 24 53.9**	**+0.4**
MTO3	**Montecristo**	**1.56**	**59**	*e*P	**Pn**	**18 24 53.2**	**-2.2**
LFU	**La Fuente**	**1.59**	**84**	*e*P	**Pn**	**18 24 54.9**	**-0.7**
LFRS	**El Faro**	**1.63**	**89**	*e*P	**Pn**	**18 24 55.9**	**-0.3**
LFRS				*e*S	**Sn**	**18 25 16.4**	**+0.4**
PAVA	**Las Pavas**	**1.76**	**86**	*e*P	**Pn**	**18 24 58.5**	**+0.5**
PAVA	comp=Z,169nm,0.4s			IAML		18 25 28.1	
TECA	**Tecapa**	**2.18**	**92**	*e*P	**Pn**	**18 25 03.4**	**-0.4**
JUCU	**Jucuarįn**	**2.45**	**98**	*e*P	**Pn**	**18 25 08.2**	**+0.8**
LCND	**La Caada**	**2.79**	**95**	*e*P	**Pn**	**18 25 11.5**	**-0.5**
LCND				*e*S	**Sn**	**18 25 45.0**	**+0.6**

KRNET 30 18:42:47.9±0.1, 38°.80N×68°.38E, mb3.1, 6C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron** baz=3.0	**0.62**	**103**	↑*e*P	Pg	18 43 00.6	+0.8
CHGR				↑*i*S	Sb	18 43 09.8	-1.2
GAR	**Garm** baz=82	**1.52**	**82**	↑*i*P	Pn	18 43 14.6	-1.9
GAR				↑*i*S	Sg	18 43 34.3	-2.4
BTK	**Batken** baz=56	**2.26**	**56**	↑*i*P	Pn	18 43 25.1	-1.5
BTK				↑*i*S	Sn	18 43 52.0	-3.3

VIE ***30*** *18:56:31.2±0.3, 50°.16N×19°.14E, h0km, mb2.2/2, ml2.5/3, Error ellipse: s-maj=3.8km s-min=2.2km az=165.0 12 km S of Sosnowice Suspected Mining induced.*
PRU ***30*** *18:56:32.1±0.0, 50°.14N×19°.12E, h0km*

ISC 30 18:56:31.0±0.9, 50.11N±0.04×19.13E±0.03, h0km, n23, σ1.9 07/40, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.45**	**75**	*e*Pg	**Pg**	**18 56 39.7**	**+0.2**
OJC				*e*Sg	Sg	18 56 45.6	+0.3
OKC	**Ostrava-Krasne**	**0.69**	**247**	*e*PG	**Pb**	**18 56 45.2**	**-0.6**
OKC				*e*SG	**Sb**	**18 56 55.0**	**-0.9**
LANS	comp=Z,38nm,0.5s **Liptovska Anna**	**0.99**	**167**	*e*PG	**Pb**	**18 56 50.7**	**-0.2**
LANS				*e*SG	**Sb**	**18 57 04.5**	**0.0**
LANS				*e*LG	Lg	18 57 06.2	
MORC	**Moravsky Berou**	**1.08**	**253**	*e*PG	**Pb**	**18 56 52.1**	**-0.4**
MORC				*e*SG	**Sb**	**18 57 07.8**	**+0.7**
KRLC	**Kraliky**	**1.51**	**270**	*e*PG	**Pn**	**18 56 58.6**	**-0.7**
KRLC				*e*SG	**Sn**	**18 57 19.8**	**+0.1**
JAVC	comp=Z,26nm,0.6s **Velka Javorina**	**1.57**	**218**	*e*PN	**Pg**	**18 57 01.1**	**+0.1**
VYHS	**Vyhne**	**1.63**	**187**	*e*PN	**Pn**	**18 57 00.9**	**0.0**
VYHS				*e*SN	**Sg**	**18 57 23.1**	**-0.1**
DPC	**Dobruska-Polom**	**1.82**	**279**	*e*PG	**Pb**	**18 57 05.3**	**+0.2**
DPC				*e*SG	**Sg**	**18 57 30.1**	**+0.8**
VRAC	comp=Z,14nm,0.6s **Vranov**	**1.83**	**245**	*e*PN	**Pb**	**18 57 04.9**	**-0.4**
VRAC				*e*SG	**Sg**	**18 57 29.9**	**+0.2**
KECS	**Kecovo**	**1.86**	**151**	*e*SN	**Sn**	**18 57 28.6**	**+0.4**
KECS				*e*LG	Lg	18 57 35.5	
OSTC	**Ostas**	**1.92**	**285**	*e*PG	**Pg**	**18 57 07.4**	**-0.3**
OSTC				*e*SG	**Sg**	**18 57 32.6**	**+0.1**
CRVS	comp=Z,13nm,0.5s **Cervenica-Dubn**	**1.94**	**128**	*e*SN	**Sg**	**18 57 32.8**	**-0.6**
KSP	**Ksiaz**	**1.95**	**293**	*e*Pg	**Pg**	**18 57 09.3**	**+1.0**
KSP				*e*Sg	**Sg**	**18 57 34.6**	**+1.0**
CHVC	**Chvalec**	**2.02**	**285**	*e*PG	**Pb**	**18 57 08.1**	**-0.5**
CHVC				*e*SG	**Sg**	**18 57 36.1**	**+0.1**
	comp=Z,10nm,0.5s						
UPC	**Upice**	**2.04**	**282**	*e*PG	**Pb**	**18 57 09.0**	**+0.2**
UPC	comp=Z,15nm,0.6s			*e*SG	**Sg**	**18 57 37.5**	**+1.2**
KRUC	**Moravsky**	**2.06**	**240**	*e*PN	**Pb**	**18 57 09.4**	**+0.1**
KRUC				*e*SG	**Sg**	**18 57 36.3**	**-0.9**
MODS	**Modra-Piesok**	**2.12**	**216**	*e*SN	**Sn**	**18 57 34.0**	**-0.7**
PRU	**Prunice** comp=Z,8.8nm,0.8s	**2.96**	**269**	*e*SG	**Sg**	**18 58 05.0**	**-0.9**
CONA	**Conrad Observa** 0.3nm,0.2s	**3.06**	**226**	*e*Pn	**Pn**	**18 57 21.0**	**+0.3**
CONA	3.2nm,0.4s			*e*Sg	**Sg**	**18 58 14.3**	**+5.0**
BRG	**Berggiesshubel**	**3.40**	**285**	PG	**Pg**	**18 57 35.0**	**-1.0**
BRG	6.7nm,0.6s			SG	**Sg**	**18 58 20.3**	**+0.3**
KHC	**Kasperske Hory**	**3.74**	**257**	*e*PN	**Pn**	**18 57 30.0**	**+0.1**
KHC				*e*PG	**Pg**	**18 57 42.0**	**-0.6**
KHC	comp=Z,18nm,1.2s			*e*SG	**Sg**	**18 58 30.4**	**-0.6**
CLL	**Collm** comp=Z,6.0nm,0.9s	**4.07**	**289**	*e*Sg	**Sg**	**18 58 44.0**	**+2.3**
NKC	**Novy Kostel** comp=Z,5.6nm,0.4s	**4.29**	**274**	*e*SG	**Sg**	**18 58 48.1**	**-0.7**

ANF ***30*** *18:57:01.2±0.3, 36°.16N×97°.25W, h5km, ML4.4/18, Error ellipse: s-maj=4.2km s-min=2.5km az=27.0*
NEIC ***30*** *18:57:02.1, 36°.04N×97°.26W, h3km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.02; Mθθ1.08; Mϕϕ-1.09; Mrθ-0.14; Mrϕ-0.39; Mθϕ0.02; Fault plane solution: M₀1.16000×10¹⁴ NP1:ϕ₁325.00000°, δ85.00000°, λ5.00000°. NP2:ϕ₂235.00000°, δ85.00000°, λ175.00000°. Principal axes: T 1.1616, Plg7.0000°, Azm190.0000°; N -0.0023, Plg83.0000°, Azm10.0000°; P -1.1593, Plg0.0000°, Azm280.0000°;*
TUL ***30*** *18:57:02.1±1.1, 36°.05N±0.02×97°.26W±0.05, h4km±7km, ML3.4, Mwr3.3/16(SLM) Error ellipse: s-maj=6.1km s-min=2.1km az=76.0*
NEIC ***30*** *18:57:02.2±0.9, 36°.06N±0.01×97°.27W±0.02, h2km±10km, Error ellipse: s-maj=2.6km s-min=0.6km az=135.0*

ISC 30 18:57:02.5±1.0, 36.07N±0.02×97.24W±0.02, h14km±7km, n82, σ1.9 12/102, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.32**	**213**		**Pg**	**18 57 08.2**	**-0.8**
OK031	**S. Brethren Rd**	**0.35**	**109**		**Pg**	**18 57 09.3**	**-0.3**
OK031				Sg	**Sg**	**18 57 14.5**	**+0.1**
OK030	**Cody Creek RV**	**0.40**	**110**		**Pg**	**18 57 10.2**	**-0.2**
OK030				Sg	**Sg**	**18 57 16.0**	**+0.1**
OK005	**Luther M Schoo**	**0.41**	**174**		**Pg**	**18 57 10.2**	**-0.6**
QUOK	**Quay**	**0.45**	**76**		**Pg**	**18 57 11.4**	**0.0**
QUOK				Sg	**Sg**	**18 57 18.5**	**+0.8**
OK025	**Westminster Rd**	**0.49**	**189**		**Pg**	**18 57 11.6**	**-0.6**
BCOK	**Bluff Creek, N**	**0.50**	**216**		**Pg**	**18 57 11.7**	**-0.7**
BCOK				Sg	**Sg**	**18 57 18.8**	**-0.4**
OKCFA	**Oklahoma City**	**0.67**	**195**		**Pg**	**18 57 14.8**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**0.68**	**194**		**Pg**	**18 57 14.7**	**-1.0**
CROK	**Carrier**	**0.74**	**307**		**Pg**	**18 57 16.5**	**-0.4**
FNO	**Franklin**	**0.82**	**189**		**Pg**	**18 57 17.5**	**-0.8**
KAN13	**South Haven SW**	**0.96**	**349**		**Pg**	**18 57 20.8**	**-0.3**
T35A	**Sooner Cattle**	**1.03**	**35**		**Pg**	**18 57 22.1**	**-0.4**
KAN09	**Caldwell North**	**1.11**	**344**		**Pg**	**18 57 23.6**	**-0.3**
KAN05	**Bluff City Nor**	**1.16**	**334**		**Pg**	**18 57 24.2**	**-0.6**
TUL1	**Leonard** baz=277,SNR=63	**1.19**	**97**	P	**Pg**	**18 57 24.1**	**-1.2**
TUL1	baz=277			S	**Sg**	**18 57 40.7**	**-0.1**
KAN10	**Anthony SW Sta**	**1.26**	**327**		**Pg**	**18 57 26.0**	**-0.8**
KAN08	**Anthony NE Sta**	**1.30**	**333**		**Pg**	**18 57 26.7**	**-0.8**
KAN12	**Harper NE Stat**	**1.37**	**334**		**Pg**	**18 57 28.1**	**+0.9**
U32A	**Winter Ranch,**	**1.46**	**283**		**Pn**	**18 57 28.7**	**+0.3**
WMOK	**Wichita Mounta** baz=43	**1.82**	**224**	P	**Pn**	**18 57 34.6**	**+1.2**
WMOK	baz=43			S	**Sb**	**18 57 59.0**	**+0.7**
WMOK	**Wichita Mounta**	**1.82**	**224**		**Pn**	**18 57 34.4**	**+0.9**
X37A	**Clayton**	**2.12**	**133**		**Pn**	**18 57 38.9**	**+1.3**
U38A	**Gravette**	**2.34**	**80**		**Pn**	**18 57 42.0**	**+1.5**
R32A	**Long Quarter,**	**2.63**	**334**		**Pn**	**18 57 44.7**	**+0.2**
HHAR	**Hobbs**	**2.68**	**84**		**Pn**	**18 57 46.5**	**+1.2**
Z35A	**Perchaven, San**	**2.73**	**180**		**Pn**	**18 57 47.2**	**+1.4**
W39A	**Magazine** baz=288,SNR=52	**2.95**	**106**	P	**Pn**	**18 57 49.9**	**+1.1**
W39A	baz=288			S	**Sn**	**18 58 25.8**	**+1.7**
W39A	**Magazine**	**2.95**	**106**		**Pn**	**18 57 50.1**	**+1.2**
KSU1	**Kansas State U** baz=190,SNR=30	**3.07**	**9**	P	**Pn**	**18 57 49.8**	**-0.8**
KSU1	**Kansas State U**	**3.07**	**9**		**Pn**	**18 57 52.0**	**+1.5**
MIAR	**Mount Ida** baz=298,SNR=12	**3.36**	**116**	P	**Pn**	**18 57 55.9**	**+1.4**
MIAR	baz=298			S	**Sn**	**18 58 36.2**	**+2.0**
MIAR	**Mount Ida**	**3.36**	**116**		**Pn**	**18 57 56.1**	**+1.5**
Z38A	**Mt. Pleasant**	**3.36**	**146**		**Pn**	**18 57 54.9**	**+0.4**
CBKS	**Cedar Bluff** baz=144	**3.39**	**325**	S	**Sn**	**18 58 35.4**	**+0.5**
CBKS	**Cedar Bluff**	**3.39**	**325**		**Pn**	**18 57 56.1**	**+1.2**
S39A	**Bolivar**	**3.54**	**62**		**Pn**	**18 57 58.5**	**+1.5**
U40A	**Yellville** baz=266,SNR=14	**3.56**	**84**	P	**Pn**	**18 57 57.9**	**+0.6**
U40A	baz=266			S	**Sn**	**18 58 39.6**	**+0.4**
U40A	**Yellville**	**3.56**	**84**		**Pn**	**18 57 58.1**	**+0.8**
AMTX	**Amarillo** baz=71	**3.81**	**253**	S	**Sn**	**18 58 48.0**	**+2.6**
AMTX	**Amarillo**	**3.81**	**253**		**Pn**	**18 58 02.2**	**+1.4**
X40A	**Basin Creek Fa** baz=295,SNR=16	**3.94**	**112**	P	**Pn**	**18 58 03.7**	**+1.2**
X40A	baz=295			S	**Sn**	**18 58 48.1**	**-0.3**
X40A	**Basin Creek Fa**	**3.94**	**112**		**Pn**	**18 58 03.9**	**+1.4**
ABTX	**Abilene, Hawle** baz=29	**3.96**	**211**	P	**Pn**	**18 58 03.7**	**+0.8**
ABTX	baz=29			S	**Sn**	**18 58 49.8**	**+0.6**
WHTX	**Lake Whitney,** baz=2.3	**4.07**	**183**	P	**Pn**	**18 58 05.2**	**+1.0**
WHTX	baz=2.3			S	**Sn**	**18 58 52.5**	**+0.8**
WHAR	**Wooly Hollow**	**4.11**	**99**		**Pn**	**18 58 05.5**	**+0.7**
WLAR	**White Oak Lake**	**4.14**	**124**		**Pn**	**18 58 05.5**	**+0.2**
MGMO	**Mountain Grove**	**4.15**	**73**		**Pn**	**18 58 06.9**	**+1.5**
FCAR	**Ozark Folk Cen**	**4.16**	**91**		**Pn**	**18 58 05.1**	**-0.3**
W41B	**Gary Mavity, V** baz=284,SNR=6.0	**4.17**	**101**	P	**Pn**	**18 58 06.4**	**+0.8**
W41B	baz=284			S	**Sn**	**18 58 54.7**	**+0.7**
UALR	**University of**	**4.21**	**106**		**Pn**	**18 58 05.6**	**-0.5**
R40A	**Maddies Statio**	**4.55**	**59**		**Pn**	**18 58 11.9**	**+1.0**
Z41A	**Richland Creek** baz=308	**4.61**	**126**	S	**Sn**	**18 59 05.4**	**+0.4**
P38A	**Dawn**	**4.61**	**38**		**Pn**	**18 58 14.1**	**+2.4**
NATX	**Nacogdoches** baz=334	**4.80

OXF				S		Sn	18 59 53.0	-0.9
	baz=286							
OXF	**Oxford**	**6.59**	**101**	Pn		**Pn**	**18 58 38.7**	**-0.2**
SCIA	**State Center**	**6.62**	**27**	P		**Pn**	**18 58 40.7**	**+1.3**
	baz=210							
SCIA				S		**Sn**	**18 59 54.0**	**-0.6**
	baz=210							
SDCO	**Great Sand Dun**	**6.83**	**287**	P		**Pn**	**18 58 44.0**	**+1.7**
	baz=102							
SDCO	**Great Sand Dun**	**6.83**	**287**	Pn		**Pn**	**18 58 44.1**	**+1.7**
Q24A	**Divide**	**6.92**	**297**	P		**Pn**	**18 58 45.3**	**+1.6**
	baz=113							
Q24A				S		**Sn**	**19 00 01.8**	**-0.6**
	baz=113							
ISCO	**Idaho Springs**	**7.59**	**302**	P		**Pn**	**18 58 53.7**	**+0.7**
	baz=117,SNR=13							
ISCO	**Idaho Springs**	**7.59**	**302**	Pn		**Pn**	**18 58 53.9**	**+0.9**
ECSD	**EROS Data Cent**	**7.67**	**3**	P		**Pn**	**18 58 53.9**	**+0.1**
	baz=184							
ECSD				S		**Sn**	**19 00 18.4**	**-2.1**
	baz=184							
ECSD	**EROS Data Cent**	**7.67**	**3**			**Pn**	**18 58 55.0**	**+1.2**
HDIL	**Hopedale**	**7.69**	**52**	S		**Sn**	**19 00 18.3**	**-2.6**
	baz=237							
N23A	**Red Feather La**	**8.35**	**308**	P		**Pn**	**18 59 05.3**	**+1.9**
	baz=123							
N23A				S		**Sn**	**19 00 37.1**	**-0.4**
	baz=123							
JFWS	**Jewell Farm**	**8.72**	**36**	S		**Sn**	**19 00 42.9**	**-3.2**
	baz=220							

*IDC **30** 19:21:50.7±0.5,64°.71N×17°.56W,h0km,mb4.0/19, mb1 4.1/23,mb1mx3.9/61,mbtmp4.0/23,ML2.4/3,MS3.1/11, Ms1 3.1/11,ms1mx2.8/48,Error ellipse: s-maj=16.4km s-min=9.2km az=11.0*
*REY **30** 19:21:50.5,64.67N×17°.44W,h4km*
*NEIC **30** 19:21:51.8±2.8,64°.52N±0°.10×17°.7W±0°.2,h9km±4km, mb4.6/66,Error ellipse: s-maj=14.8km s-min=9.4km az=201.0*

ISC 30 19:21:51.3±0.7,**64°.69N**±0°.02×**17°.49W**±0°.02,**h6**km±4km, **n202**,σ1°**81**/206,**mb4.4**/64,**MS3.3**/10,**Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**28**	P	**Pg**	**19 21 53.3**	**-0.5**
	baz=15						
IVON	**Vonarskard**	**0.12**	**262**	P	**Pg**	**19 21 53.3**	**-0.5**
	baz=270						
IURH	**Urdarhals**	**0.20**	**48**	P	**Pg**	**19 21 54.5**	**-0.7**
	baz=40						
IGRF	**Grimsfjall**	**0.30**	**161**	P	**Pg**	**19 21 55.9**	**-1.3**
	baz=164						
IGRF				S	**Sg**	**19 22 00.3**	**-0.9**
	baz=164						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**19 21 56.9**	**-1.3**
	baz=89						
IHUS	**Husbondi**	**0.40**	**190**	P	**Pg**	**19 21 58.0**	**-1.1**
	baz=194						
IHUS				S	**Sg**	**19 22 03.4**	**-0.9**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**252**	P	**Pg**	**19 21 58.2**	**-1.0**
	baz=255						
THOR	**Thorvaldshraun**	**0.43**	**55**	P	**Pg**	**19 21 58.3**	**-1.3**
	baz=51						
THOR				S	**Sg**	**19 22 04.8**	**-0.3**
	baz=51						
IVOT	**Vottur**	**0.44**	**162**	P	**Pg**	**19 21 58.4**	**-1.4**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**78**	P	**Pg**	**19 21 58.9**	**-1.7**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**19 21 59.6**	**-1.2**
	baz=224						
IASK	**Askja**	**0.51**	**44**	P	**Pg**	**19 21 59.6**	**-1.5**
	baz=41						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**19 22 00.7**	**-1.6**
	baz=56						
IIEY	**Innrieyrar**	**0.66**	**205**	P	**Pg**	**19 22 02.2**	**-1.7**
	baz=208						
IIEY				S	**Sg**	**19 22 11.2**	**-1.2**
	baz=208						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**19 22 02.5**	**-1.4**
	baz=6.6						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**19 22 01.7**	**-2.8**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**19 22 03.7**	**-2.0**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**19 22 03.5**	**-2.5**
	baz=79						
IVSH				S	**Sg**	**19 22 13.8**	**-2.1**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**231**	P	**Pg**	**19 22 05.0**	**-1.7**
	baz=233						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**19 22 05.5**	**-2.7**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**282**	P	**Pg**	**19 22 06.4**	**-2.3**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**19 22 07.2**	**-2.4**
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**19 22 08.0**	**-2.4**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**19 22 09.0**	**-2.6**
	baz=12						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**19 22 09.3**	**-2.6**
	baz=210						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pg**	**19 22 09.9**	**-2.8**
	baz=29						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pg**	**19 22 10.2**	**-2.6**
	baz=222						
IFED	**Fedgar**	**1.17**	**236**	P	**Pg**	**19 22 11.3**	**-2.4**
	baz=237						
IRJU	**Rjupnafell**	**1.19**	**206**	P	**Pg**	**19 22 11.4**	**-2.8**
	baz=208						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pg**	**19 22 11.4**	**-2.9**
	baz=8.0						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pg**	**19 22 11.5**	**-3.0**
	baz=15						
IMJO	**Mjoaskard**	**1.22**	**232**	P	**Pg**	**19 22 12.2**	**-2.4**
	baz=234						
IGRA	**Granastaoir**	**1.23**	**358**	P	**Pg**	**19 22 11.8**	**-3.1**
	baz=357						
IGYG	**Gygjarholskot**	**1.25**	**252**	P	**Pg**	**19 22 12.1**	**-3.1**
	baz=253						
IHAU	**Haukadalur**	**1.30**	**237**	P	**Pn**	**19 22 13.2**	**-2.8**
	baz=238						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**19 22 12.8**	**-3.2**
	baz=9.1						
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	**Pn**	**19 22 13.4**	**-2.8**
	baz=209						
IHLA	**Hella**	**1.31**	**344**	P	**Pn**	**19 22 13.5**	**-2.7**
	baz=343						
IHED	**Heoinshofoi**	**1.40**	**3**	P	**Pn**	**19 22 14.6**	**-2.8**
	baz=2.1						
IBRE	**Brettingsstaoi**	**1.45**	**353**	P	**Pn**	**19 22 15.5**	**-2.6**
	baz=352						
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**	**19 22 15.5**	**-2.6**
	baz=218						
ISAU	**Saurbar**	**1.45**	**242**	P	**Pn**	**19 22 15.2**	**-2.9**
	baz=244						
IGIL	**Gilhagi**	**1.47**	**18**	P	**Pn**	**19 22 15.5**	**-2.9**
	baz=17						
IMID	**Miomork**	**1.47**	**226**	P	**Pn**	**19 22 16.2**	**-2.1**
	baz=228						
ISIG	**Siglufjorour**	**1.57**	**338**	P	**Pn**	**19 22 17.4**	**-2.3**
	baz=338						
IASM	**Asmuli**	**1.61**	**239**	P	**Pn**	**19 22 18.1**	**-2.2**
	baz=240						
BORG	**Borgarnes**	**1.65**	**274**	Pg	**Pn**	**19 22 18.4**	**-2.4**
	42nm,0.3s,baz=99,slow=6.8,SNR=142						
BORG				Lg	Lg	19 22 42.3	
	22nm,0.3s,baz=261,slow=21,SNR=4.2						
IKRO	**Krokur**	**1.69**	**251**	P	**Pn**	**19 22 19.0**	**-2.3**
	baz=252						
ISOL	**Solvholt**	**1.69**	**245**	P	**Pn**	**19 22 19.1**	**-2.2**
	baz=246						
IHEI	**Heioarbar**	**1.70**	**255**	P	**Pn**	**19 22 19.3**	**-2.2**
	baz=256						
IVME	**Vestmannaeyjar**	**1.77**	**225**	P	**Pn**	**19 22 20.8**	**-1.7**
	baz=226						
ILEI	**Leirhofn**	**1.77**	**13**	P	**Pn**	**19 22 20.3**	**-2.2**
	baz=12						
IHRN	**Hraun**	**1.80**	**324**	P	**Pn**	**19 22 21.0**	**-1.9**
	baz=323						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**19 24 39.5**	**-0.1**
	baz=331,slow=13,SNR=13						
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**19 25 01.5**	**-2.1**
	0.0nm,0.3s,baz=285,slow=20,SNR=2.3						
NOA				LR	LR	19 30 08.1	
	comp=Z,53nm,18.0s,baz=295,slow=37						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**19 25 24.7**	**+0.5**
	0.1nm,0.3s,baz=343,slow=12,SNR=3.0						
HFS				LR	LR	19 30 56.4	
	comp=Z,62nm,20.3s,baz=252,slow=36						
ARCES	**ARCESS Array B**	**17.10**	**55**	LR	LR	19 31 02.0	
	comp=Z,31nm,21.4s,baz=350,slow=32						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**19 26 22.1**	**-0.2**
	0.1nm,0.3s,baz=267,slow=7.0,SNR=1.7						
CLL	**Collm**	**20.71**	**116**	*i* P	**P**	**19 26 32.6**	**+0.6**
	comp=Z,18nm,1.5s						
CLL				*i* sP	**sP**	**19 26 35.7**	**+0.8**
	comp=Z,15nm,1.4s						
CLL				*i*		19 26 43.1	
CLL				*e*PP	**PnPn**	**19 26 49.0**	**-0.6**
CLL				*e*S	Sn	19 30 34.0	+6.0
CLL				LmH		19 34 00.0	
	comp=N,100nm,19.3s						
CLL				LmH		19 34 00.0	
	comp=E,100nm,21.1s						
CLL	**Collm**	**20.71**	**116**	P	**P**	**19 26 32.8**	**+0.7**
ECH	**Echery**	**21.16**	**129**	P	**P**	**19 26 37.6**	**+0.6**
GRF	**Grafenberg Arr**	**21.34**	**121**	*e*P	**P**	**19 26 40.0**	**+1.2**
	comp=E,12nm,1.0s,baz=326,slow=10						
NKC	**Novy Kostel**	**21.36**	**118**	*e*P	**P**	**19 26 42.2**	**+3.2**
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P	**P**	**19 26 40.2**	**+0.5**
	comp=E,14nm,1.2s						
BRG				*e*		19 28 14.8	
	comp=E,82nm,2.6s						
BRG				S	Sn	19 30 51.0	+6.0
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**19 26 41.3**	**+1.1**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**19 26 55.0**	**+4.0**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**	**19 26 53.4**	**+0.1**
KHC				*e*pP	**sP**	**19 26 58.3**	**+2.2**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P	**P**	**19 26 54.8**	**+0.7**
DAVA	**Damuels**	**22.89**	**126**	*e*P	**P**	**19 26 58.1**	**+2.5**
	comp=E,6.4nm,1.2s						
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**	**19 26 56.4**	**+0.1**
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**19 26 56.9**	**+0.6**
	comp=E,2.0nm,0.9s,baz=323,slow=8.7,SNR=11						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**19 26 54.8**	**-1.5**
RETA	**Reutte**	**23.03**	**125**	*e*P	**P**	**19 26 58.8**	**+1.9**
	comp=E,4.8nm,0.9s						
KRLC	**Kraliky**	**23.16**	**113**	*e*P	**P**	**19 26 59.5**	**+1.2**
MOTA	**Moosalm**	**23.27**	**125**	*e*P	**P**	**19 27 00.2**	**+0.7**
	comp=E,5.4nm,1.0s						
DAVOX	**Davos/Dischmat**	**23.33**	**127**	P	**P**	**19 27 01.2**	**+1.1**
	comp=E,3.7nm,1.0s,baz=313,slow=12,SNR=3.8						
DAVOX				LR	LR	19 35 24.2	
	comp=E,25nm,19.1s,baz=266,slow=35						
SQTA	**Sankt Quirin**	**23.41**	**125**	*e*P	**P**	**19 27 02.2**	**+1.3**
	comp=E,6.5nm,1.0s						
FETA	**Feichten**	**23.42**	**126**	*e*P	**P**	**19 27 04.6**	**+3.7**
	comp=E,7.3nm,1.3s						
TUE	**Stuetta**	**23.42**	**128**	P	**P**	**19 27 01.6**	**+0.6**
WATA	**Walderalm**	**23.45**	**124**	*e*P	**P**	**19 27 03.1**	**+1.8**
	comp=E,6.7nm,1.1s						
WTTA	**Wattenberg**	**23.53**	**124**	*e*P	**P**	**19 27 04.1**	**+2.0**
	comp=E,5.8nm,1.0s						
EUNU	**Eureka**	**23.65**	**336**	P	**P**	**19 27 04.9**	**+2.0**
MOA	**Molln**	**24.00**	**119**	*e*P	**P**	**19 27 10.6**	**+4.1**
	comp=E,4.4nm,1.0s						
ABTA	**Abfaltersbach**	**24.28**	**123**	*e*P	**P**	**19 27 11.6**	**+2.4**
	comp=E,3.4nm,1.1s						
CONA	**Conrad Observa**	**24.54**	**117**	*e*P	**P**	**19 27 11.9**	**+0.4**
	comp=E,5.4nm,1.0s						
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**	**19 27 13.2**	**+1.3**
SMOL	**Smolenice**	**24.67**	**114**	*e*P	**P**	**19 27 14.6**	**+2.0**
MODS	**Modra-Piesok**	**24.72**	**115**	*e*P	**P**	**19 27 14.3**	**+1.2**
MYKA	**Terra Mystica**	**24.79**	**122**	*e*P	**P**	**19 27 18.1**	**+4.3**
	comp=E,3.0nm,0.9s						
ARSA	**Arzberg**	**24.97**	**118**	*e*P	**P**	**19 27 16.7**	**+1.4**
	comp=E,4.1nm,1.1s						
OBKA	**Obir**	**25.23**	**121**	*e*P	**P**	**19 27 21.5**	**+3.8**
	comp=E,14nm,1.7s						
VYHS	**Vyhne**	**25.24**	**112**	*e*P	**P**	**19 27 18.5**	**+0.8**
KLMR	**Klimovskoe**	**25.59**	**72**	*e*	**P**	**19 27 18.9**	**-1.9**
KLMR				AMP		19 27 25.8	
	comp=Z,19nm,1.3s						
KWP	**Kalwaria Pacla**	**25.91**	**106**	P	**P**	**19 27 25.8**	**+2.0**
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**19 27 25.4**	**+0.5**
	comp=Z,24nm,1.1s,baz=352,slow=3.7,SNR=5.1						
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**19 27 25.2**	**+0.2**
SCHQ				IAmb	IAmb	19 27 29.1	
	comp=Z,17nm,0.9s						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**19 27 27.7**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=349,slow=8.7,SNR=12						
ESDC				LR	LR	19 36 33.5	
	comp=Z,36nm,21.6s,baz=340,slow=34						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**19 27 26.0**	**-1.3**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**19 27 27.1**	**-0.1**
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**19 27 41.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=325,slow=9.4,SNR=1.9						
KIRV	**Kirov**	**30.97**	**69**	LR	LR	19 40 11.1	
	comp=Z,63nm,19.1s,baz=313,slow=36						
MDT	**Midelt**	**32.88**	**160**	P	**P**	**19 28 27.1**	**+1.2**
	comp=Z,5.7nm,1.0s,baz=353,slow=9.9,SNR=7.2						
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**	**19 29 15.9**	**+1.9**
	comp=Z,1.9nm,0.9s,baz=313,slow=3.7,SNR=5.9						
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**	**19 29 15.6**	**+1.6**
KBZ	**Khabaz**	**39.11**	**92**	LR	LR	19 45 09.3	
	comp=Z,43nm,18.4s,baz=6.5,slow=36						
YKA	**Yellowknife Ar**	**39.20**	**313**	LR	LR	19 45 02.3	
	comp=Z,56nm,18.0s,baz=0.0,slow=36						
INK	**Inuvik**	**39.82**	**329**	P	**P**	**19 29 24.0**	**-0.7**
	comp=Z,4.1nm,1.2s,baz=31,slow=5.8,SNR=4.7						
INK	**Inuvik**	**39.82**	**329**	P	**P**	**19 29 25.2**	**+0.6**
AKTO	**Aktyubinsk**	**40.28**	**73**	P	**P**	**19 29 27.1**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=343,slow=9.5,SNR=6.3						
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**19 29 43.3**	**+0.6**
TIXI	**Tiksi**	**42.01**	**15**	P	**P**	**19 29 44.9**	**+2.2**
TIXI				IAmb	IAmb	19 29 49.3	
	comp=Z,13nm,1.2s						
TOLK	**Toolik Lake Re**	**42.73**	**336**	P	**P**	**19 29 50.3**	**+1.7**
TOLK				IAmb	IAmb	19 29 53.5	
	comp=Z,12nm,1.1s						
FYU	**Fort Yukon**	**43.76**	**333**	P	**P**	**19 29 59.4**	**+2.6**
N49A	**Columbus Grove**	**44.11**	**271**	P	**P**	**19 30 00.6**	**+0.6**
PRP	**Porcupine Dome**	**44.73**	**332**	P	**P**	**19 30 07.7**	**+2.7**
PRP				IAmb	IAmb	19 30 11.0	
	comp=Z,12nm,1.4s						
IL31		**45.67**	**332**	P	**P**	**19 30 13.9**	**+1.9**
IL31				IAmb	IAmb	19 30 18.2	
	comp=Z,12nm,1.5s						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**19 30 13.7**	**+1.5**
	comp=Z,3.6nm,1.1s,baz=29,slow=5.6,SNR=14						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**19 30 13.3**	**+1.1**
MDM	**Murphy Dome**	**45.76**	**333**	P	**P**	**19 30 14.9**	**+1.9**
MDM				IAmb	IAmb	19 30 19.4	
	comp=Z,11nm,1.2s						
HDA	**Harding Lake**	**46.00**	**332**	P	**P**	**19 30 16.2**	**+1.4**
HDA				IAmb	IAmb	19 30 19.7	
	comp=Z,12nm,1.4s						
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	**P**	**19 30 27.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=339,slow=3.7,SNR=2.0						
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	**P**	**19 30 26.8**	**-0.7**
KURK	**Kurchatov**	**48.10**	**58**	P	**P**	**19 30 31.7**	**+0.4**
KURK				IAmb	IAmb	19 30 32.6	
	comp=Z,6.5nm,1.1s						
KURBB	**Kurchatov Arra**	**48.14**	**58**	P	**P**	**19 30 31.7**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=323,slow=7.5,SNR=18						
EGMT	**Eagleton**	**48.87**	**297**	P	**P**	**19 30 38.5**	**+1.1**
W50A	**Signal Mountai**	**49.38**	**268**	P	**P**	**19 30 43.0**	**+1.6**
SWET	**Sewanee**	**49.63**	**268**	P	**P**	**19 30 44.9**	**+1.6**
WVT	**Waverly**	**49.68**	**270**	P	**P**	**19 30 41.0**	**-2.6**
RLMT	**Red Lodge**	**51.08**	**295**	P	**P**	**19 30 56.7**	**+2.3**
RLMT				IAmb	IAmb	19 31 00.9	
	comp=Z,17nm,1.5s						
KK09	**Karatay Array**	**51.24**	**70**		**P**	**19 30 56.7**	**+1.2**
KK08	**Karatay Array**	**51.25**	**70**	P	**P**	**19 30 56.5**	**+1.0**
KK04	**Karatay Array**	**51.26**	**70**	P	**P**	**19 30 56.6**	**+1.1**
KK05	**Karatay Array**	**51.26**	**70**	P	**P**	**19 30 55.1**	**-0.4**
KK01	**Karatay Array**	**51.26**	**70**	P	**P**	**19 30 55.7**	**+0.1**
KK03	**Karatay Array**	**51.26**	**70**	P	**P**	**19 30 57.1**	**+1.5**
KK02	**Karatay Array**	**51.27**	**70**	P	**P**	**19 30 55.3**	**-0.3**
KK31	**Karatay Array**	**51.27**	**70**	P	**P**	**19 30 56.4**	**+0.8**
KK31				IAmb	IAmb	19 31 24.7	
	comp=Z,16nm,1.9s						
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**19 30 56.9**	**+1.3**
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**19 30 56.6**	**+1.1**
KKAR				IAmb	IAmb	19 31 24.7	
	comp=Z,16nm,1.9s						
KK07	**Karatay Array**	**51.27**	**70**	P	**P**	**19 30 57.1**	**+1.5**
KK06	**Karatay Array**	**51.28**	**70**	P	**P**	**19 30 57.3**	**+1.6**
YNE	**Yellowstone No**	**51.47**	**295**	P	**P**	**19 30 57.1**	**-0.2**
BOZ	**Bozeman (W)**	**51.60**	**297**	P	**P**	**19 30 59.7**	**+1.4**
BOZ				IAmb	IAmb	19 31 03.1	
	comp=Z,11nm,1.2s						
LRM	**Limekiln Ridge**	**51.73**	**297**	P	**P**	**19 30 57.0**	**-2.3**
YMP	**Mirror Lake Pl**	**51.75**	**295**	P	**P**	**19 31 01.3**	**+1.8**
YHL	**Hebgen Lake**	**52.05**	**296**	P	**P**	**19 31 01.4**	**-0.4**
MAKZ	**Makanchi**	**52.58**	**59**	P	**P**	**19 31 05.8**	**+0.4**
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**19 31 06.5**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=321,slow=5.2,SNR=4.5						
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**19 31 06.7**	**+0.4**
MOOW	**Moose Ponds**	**52.81**	**295**	P	**P**	**19 31 05.4**	**-2.0**
MOOW				IAmb	IAmb	19 31 17.8	
	comp=Z,11nm,1.7s						
LOHW	**Long Hollow**	**52.87**	**295**	P	**P**	**19 31 06.2**	**-1.5**
FXWY	**Fox Creek**	**53.01**	**295**	P	**P**	**19 31 04.8**	**-4.0**
SNOW	**Snow King Moun**	**53.05**	**295**	P	**P**	**19 31 07.5**	**-1.7**
KAN13	**South Haven SW**	**53.06**	**280**	P	**P**	**19 31 06.3**	**-2.6**
TPAW	**Teton Pass**	**53.11**	**295**	P	**P**	**19 31 08.9**	**-0.6**
TPAW				IAmb	IAmb	19 31 15.3	
	comp=Z,8.6nm,1.3s						
TOA0	**Torodi Ar. Sit**	**53.16**	**156**	P	**P**	**19 31 08.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**19 31 09.1**	**-0.7**
	comp=Z,2.9nm,1.1s,baz=338,slow=8.4,SNR=6.8						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**19 31 07.9**	**-2.0**
BW06	**Boulder Array**	**53.17**	**293**	P	**P**	**19 31 10.3**	**+0.3**
BW06				IAmb	IAmb	19 31 14.6	
	comp=Z,6.3nm,0.9s						
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**19 31 10.2**	**+0.2**
PD31				IAmb	IAmb	19 31 14.5	
	comp=Z,5.8nm,0.9s						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**19 31 10.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=59,slow=6.1,SNR=18						
PDAR				LR	LR	19 53 29.3	
	comp=Z,39nm,20.2s,baz=26,slow=36						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**19 31 09.8**	**-0.3**
REDW	**Red Top Meadow**	**53.18**	**295**	P	**P**	**19 31 11.3**	**+1.3**
REDW				IAmb	IAmb	19 31 14.9	
	comp=Z,13nm,1.6s						
BTK	**Batken**	**53.95**	**72**	P	**P**	**19 31 15.8**	**+0.2**
CHGR	**Chuyangaron**	**54.45**	**74**	P	**P**	**19 31 19.8**	**+0.5**
CHGR				IAmb	IAmb	19 31 21.2	
	comp=Z,7.5nm,1.0s						
GAR	**Garm**	**54.64**	**73**	P	**P**	**19 31 21.4**	**+0.7**
HWUT	**Hardware Ranch**	**54.94**	**294**	P	**P**	**19 31 22.9**	**-0.1**
HWUT				IAmb	IAmb	19 31 27.3	
	comp=Z,7.2nm,1.1s						
RDMU	**Red Mountain**	**55.03**	**292**	P	**P**	**19 31 22.3**	**-1.3**
TCUT	**Toone Canyon**	**55.30**	**294**	P	**P**	**19 31 24.2**	**-1.3**
WMOK	**Wichita Mounta**	**55.55**	**279**	P	**P**	**19 31 26.8**	**-0.3**
WMOK				IAmb	IAmb	19 31 31.4	
	comp=Z,6.2nm,1.2s						
PV23	**Carpenter Ridg**	**56.62**	**290**	P	**P**	**19 31 35.8**	**+0.7**
DUG	**Dugway, Tooele**	**56.64**	**294**	P	**P**	**19 31 36.9**	**+1.9**
PV12	**Saucer Basin,**	**56.65**	**290**	P	**P**	**19 31 33.8**	**-1.4**
PV14	**Lion Creek, Pa**	**56.69**	**290**	P	**P**	**19 31 34.8**	**-0.7**
PV14				IAmb	IAmb	19 31 40.8	
	comp=Z,4.4nm,0.8s						
PV11	**David Mesa, Pa**	**56.69**	**290**	P	**P**	**19 31 32.6**	**-2.9**
PV16	**Nyswonger Mesa**	**56.70**	**290**	P	**P**	**19 31 32.7**	**-2.9**
PV01	**Paradox Valley**	**56.71**	**289**	P	**P**	**19 31 33.2**	**-2.5**
PV01				IAmb	IAmb	19 31 39.6	
	comp=Z,4.3nm,0.9s						
PV02	**Paradox Valley**	**56.72**	**290**	P	**P**	**19 31 36.7**	**+1.0**
PV02				IAmb	IAmb	19 31 38.3	
	comp=Z,15nm,1.4s						
PV03	**Paradox Valley**	**56.72**	**290**	P	**P**	**19 31 36.4**	**+0.6**
PV03				IAmb	IAmb	19 31 39.4	
	comp=Z,5.7nm,1.1s						
PV18	**Skein Mesa, Pa**	**56.75**	**290**	P	**P**	**19 31 37.4**	**+1.4**
PV18				IAmb	IAmb	19 31 40.2	
	comp=Z,5.3nm,0.9s						
PV13	**Radium Mtn., P**	**56.79**	**290**	P	**P**	**19 31 37.0**	**+0.7**
PV13				IAmb	IAmb	19 31 40.0	
	comp=Z,9.3nm,1.0s						
WMQ	**Urumqi**	**57.22**	**56**	*e*P	**P**	**19 31 43.3**	**+4.3**
WMQ				sP	sP	19 31 50.3	+8.2
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,66nm,5.7s						
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**19 31 44.8**	**+1.2**
MVU	**Marysvale**	**57.86**	**293**	P	**P**	**19 31 45.0**	**+1.2**
TCRU	**Three Creeks R**	**57.86**	**293**	P	**P**	**19 31 45.2**	**

GERES	**GERESS Array B**	**22.93**	**118**	P		**P**	**19 28 33.0**	**+1.5**
	0.8nm,0.8s,baz=309,slow=6.2,SNR=2.8							
GERES	**GERESS Array B**	**22.93**	**118**	P		**P**	**19 28 32.7**	**+1.2**
EUNU	**Eureka**	**23.78**	**336**	P		**P**	**19 28 41.4**	**+1.7**
ESDC	**Sonseca Array**	**26.15**	**156**	P		**P**	**19 29 02.7**	**+1.0**
	0.6nm,0.8s,baz=349,slow=9.2,SNR=2.0							
ILAR	**Eielson Array**	**45.78**	**332**	P		**P**	**19 31 48.8**	**+0.1**
	1.1nm,0.9s,baz=12,slow=5.8,SNR=5.7							
ILAR				PcP		**PcP**	**19 33 26.6**	**+0.7**
	0.8nm,0.9s,baz=3.7,slow=2.5,SNR=4.9							
ILAR	**Eielson Array**	**45.78**	**332**	P		**P**	**19 31 48.2**	**-0.4**
IMAR	**Indian Mountai**	**45.97**	**337**	P		**P**	**19 31 51.9**	**+1.8**
BCAR	**Beaver Creek A**	**46.20**	**329**	P		**P**	**19 31 53.1**	**+1.2**
KURK	**Kurchatov**	**48.23**	**58**	P		**P**	**19 32 07.5**	**-0.4**
KURK				IAmb		IAmb	19 32 09.0	
	comp=Z,3.3nm,1.0s							
KURBB	**Kurchatov Arra**	**48.27**	**58**	P		**P**	**19 32 07.6**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=325,slow=7.5,SNR=7.3							
TORD	**Torodi Ar. Bea**	**53.03**	**156**	P		**P**	**19 32 46.0**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=342,slow=7.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**53.03**	**156**	P		**P**	**19 32 44.3**	**-0.2**
PD31	**Pinedale Array**	**53.18**	**293**	P		**P**	**19 32 46.2**	**+0.5**
PD31				IAmb		IAmb	19 32 49.1	
	comp=Z,3.7nm,1.1s							
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**19 32 46.1**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=63,slow=7.2,SNR=6.9							
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**19 32 45.9**	**+0.3**
BW06	**Boulder Array**	**53.19**	**293**	P		**P**	**19 32 45.9**	**+0.2**
BW06				IAmb		IAmb	19 32 49.0	
	comp=Z,3.7nm,1.0s							
SONM	**Songino Array**	**59.78**	**40**	P		**P**	**19 33 32.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=339,slow=7.7,SNR=3.2							
SONM	**Songino Array**	**59.78**	**40**	P		**P**	**19 33 31.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**84.25**	**59**	P		**P**	**19 35 57.5**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=320,slow=5.5,SNR=4.7							
CMAR	**Chiang Mai Arr**	**84.25**	**59**	P		**P**	**19 35 58.1**	**-1.1**

IDC ***30*** *19:35:59.9±1.2, 10°.09S×124°.06E, h0km, mb3.9/4, mb1 4.1/8, mb1mx3.7/39, mbtmp4.0/8, ML3.9/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/41, Error ellipse: s-maj=22.5km s-min=14.8km az=151.0*
NEIC ***30*** *19:36:03.2.7, 10°.38S±0°.04×123°.87E±0°.06, h25km±7km, mb4.3/5, Error ellipse: s-maj=9.2km s-min=4.9km az=99.0*
DJA ***30*** *19:36:05.7±0.3, 10°S±3°×12°4E±°, h10km, M4.4/14, mB5.0/3, mb4.5/10, MLv4.3/14, Mw(mB)4.3/3*
ISC 30 19:36:01.4±0.6, 10°.43S±0°.05×123°.88E±0°.06, h10km, n47, σ2§24/51, mb4.3/6, MS3.0/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.31**	**316**	Pg	**Pg**	**19 36 07.7**	**+0.1**
	baz=217,slow=10						
BATI				Lg	Lg	19 36 10.7	
	16μm,0.3s,baz=159,slow=3.3,SNR=45						
BATI	**Baumata**	**0.31**	**316**	P	**Pg**	**19 36 07.8**	**+0.2**
SOEI	**Soe**	**0.77**	**30**	P	**Pn**	**19 36 20.2**	**+1.8**
SOEI				S	**Sn**	**19 36 30.5**	**+0.3**
SOEI	**Soe**	**0.77**	**30**		**Pn**	**19 36 19.1**	**+0.6**
MMRI	**Maumere**	**2.41**	**318**	P	**Pn**	**19 36 42.4**	**+1.5**
MMRI				S	**Sn**	**19 37 11.0**	**+0.5**
MMRI	**Maumere**	**2.41**	**318**	Pn	**Pn**	**19 36 41.5**	**+0.6**
EDFI	**Ende, Flores**	**2.73**	**308**	P	**Pn**	**19 36 46.2**	**+0.8**
EDFI				S	**Sn**	**19 37 17.6**	**-0.9**
BASI	**Baing, Sumba**	**3.26**	**273**	P	**Pn**	**19 36 55.1**	**+2.6**
WSI	**Waingapu**	**3.61**	**282**	P	**Pn**	**19 36 59.4**	**+2.0**
WBSI	**Waikabubak, Su**	**4.49**	**280**	P	**Pn**	**19 37 10.3**	**+0.8**
BSSI	**Bau Bau, Buton**	**5.42**	**322**	P	**Pn**	**19 37 24.0**	**+1.7**
	0.1nm29nm,0.6s						
PLAI	**Plampang**	**6.22**	**284**	P	**Pn**	**19 37 35.3**	**+1.9**
	0.4nm1μm107nm,0.6s						
BKSI	**Bulukumba**	**6.29**	**323**	P	**Pn**	**19 37 36.0**	**+1.7**
	0.1nm23nm,1.0s						
KNRA	**Kununurra**	**7.06**	**138**	Pn	**Pn**	**19 37 48.8**	**+4.0**
BNSI	**Bone**	**7.06**	**328**	P	**Pn**	**19 37 47.1**	**+2.2**
	0.1nm18nm,0.8s						
TWSI	**Taliwang, Sumb**	**7.10**	**283**	P	**Pn**	**19 37 47.3**	**+1.9**
	0.2nm20nm,0.9s						
MTN	**Manton Dam**	**7.50**	**109**		Pn	19 37 44.1	-6.8
FITZ	**Fitzroy Crossi**	**7.81**	**168**	Pn	**Pn**	**19 37 59.7**	**+4.5**
	1.8nm,0.3s,baz=359,slow=12,SNR=90						
FITZ				Sn	**Sn**	**19 39 24.6**	**+0.9**
	1.6nm,0.3s,baz=41,slow=9.1,SNR=3.6						
FITZ				LR	LR	19 41 35.7	
	comp=Z,50nm,21.3s,baz=338,slow=41						
FITZ	**Fitzroy Crossi**	**7.81**	**168**		**Pn**	**19 37 57.9**	**+2.7**
FITZ					**Sn**	**19 39 21.3**	**-2.4**
TTSI	**Tana Toraja**	**8.37**	**331**	P	**Pn**	**19 38 04.8**	**+1.9**
	10.0nm,0.9s						
SANI	**Sanana**	**8.59**	**14**	P	**Pn**	**19 38 09.5**	**+3.7**
JAGI	**Jajag, Banyuwa**	**9.79**	**281**	Pn	**Pn**	**19 38 20.7**	**-1.7**
FAKI	**Fak Fak**	**11.17**	**49**	Pn	**Pn**	**19 38 43.5**	**+2.3**
PSA00	**Pilbara Seismi**	**11.74**	**199**	Pn	**Pn**	**19 38 53.0**	**+4.0**
WB0	**Warramunga Arr**	**13.75**	**134**	Pn	**Pn**	**19 39 17.3**	**+0.8**
WRA	**Warramunga Arr**	**13.82**	**134**	Pn	**Pn**	**19 39 17.8**	**+0.2**
	0.3nm,0.3s,baz=304,slow=12,SNR=25						
WRA				Sn	**Sn**	**19 41 44.8**	**-6.5**
	1.4nm,0.3s,baz=301,slow=27,SNR=9.3						
WRA	**Warramunga Arr**	**13.82**	**134**		**Pn**	**19 39 18.4**	**+0.9**
WB2	**Warramunga Arr**	**13.83**	**134**	Pn	**Pn**	**19 39 18.5**	**+0.8**
WR0	**Warramunga Arr**	**13.98**	**134**	Pn	**Pn**	**19 39 20.2**	**+0.6**
CISI	**Cisompet, Garu**	**16.12**	**279**	Pn	**Pn**	**19 39 46.6**	**-1.8**
AS31	**Alice Springs**	**16.27**	**145**	P	**Pn**	**19 39 51.0**	**+0.8**
ASAR	**Alice Springs**	**16.27**	**145**	Pn	**Pn**	**19 39 52.4**	**+2.2**
	0.4nm,0.3s,baz=318,slow=12,SNR=26						
ASAR				Sn	**Sn**	**19 42 45.2**	**-5.7**
	0.6nm,0.3s,baz=327,slow=24,SNR=8.7						
ASAR	**Alice Springs**	**16.27**	**145**		**Pn**	**19 39 50.8**	**+0.6**
LEM	**Lembang**	**16.47**	**281**	Pn	**Pn**	**19 39 53.4**	**+0.5**
	2.6nm,0.3s,baz=139,slow=20,SNR=8.1						
CMAR	**Chiang Mai Arr**	**37.81**	**319**	P	**P**	**19 43 17.1**	**-1.1**
	0.6nm,0.9s,baz=151,slow=6.5,SNR=6.2						
CMAR				LR	LR	20 03 15.1	
	comp=Z,24nm,18.6s,baz=191,slow=43						
CMAR	**Chiang Mai Arr**	**37.81**	**319**	P	**P**	**19 43 17.4**	**-0.9**
SONM	**Songino Array**	**60.05**	**346**	P	**P**	**19 46 06.6**	**-2.1**
	0.4nm,0.6s,baz=161,slow=9.2,SNR=2.8						
SONM	**Songino Array**	**60.05**	**346**	P	**P**	**19 46 06.7**	**-1.9**
MK31	**Makanchi Array**	**67.99**	**331**	P	**P**	**19 47 00.0**	**-0.7**
MK31				IAmb	IAmb	19 49 21.1	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**67.99**	**331**	P	**P**	**19 47 00.1**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=134,slow=8.0,SNR=15						
MKAR	**Makanchi Array**	**67.99**	**331**	P	**P**	**19 46 59.6**	**-1.1**
PETK	**Petropavlovsk-**	**69.56**	**21**	LR	LR	20 16 19.7	
	comp=Z,9.4nm,21.7s,baz=102,slow=35						
ZALV	**Zalesovo Beam**	**72.16**	**337**	P	**P**	**19 47 24.6**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=134,slow=4.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**72.16**	**337**	P	**P**	**19 47 24.4**	**-1.7**
KURK	**Kurchatov**	**72.46**	**332**	P	**P**	**19 47 25.5**	**-2.5**
KURK				IAmb	IAmb	19 47 33.5	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**81.53**	**323**	P	**P**	**19 48 18.1**	**-1.0**
ATD	**Arta Tunnel**	**83.42**	**283**	LR	LR	20 25 16.3	
	comp=Z,10nm,18.2s,baz=18,slow=35						

SOME ***30*** *19:56:09.2, 39°.95N×77°.28E, h10km*
NNC ***30*** *19:56:10.2±0.9, 40°.02N×77°.27E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=6.0km s-min=3.8km az=162.0*
IDC ***30*** *19:56:13.8±1.3, 39°.97N×77°.17E, h0km, mb3.5/7, mb1 3.6/11, mb1mx3.4/53, mbtmp3.4/11, ML2.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/46, Error ellipse: s-maj=25.3km s-min=21.1km az=140.0*
KRNET ***30*** *19:56:14.6±0.1, 40°.11N×77°.34E, h18km, mb4.1*
BJI ***30*** *19:56:16.8±0.0, 40°.16N×77°.27E, h8km, ML3.6/8*
ISC 30 19:56:14.0±1.7, 40°.15N±0°.05×77°.24E±0°.03, h2km±12km, n98, σ1§71/130, mb3.5/7, 26C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.98**	**359**	⇓*i*P	**Pg**	**19 56 52.5**	**+0.6**
	baz=57						
KDJ				⇓*i*S	**Sg**	**19 57 19.1**	**+1.6**
	baz=57						
ULHL	**Ulahol**	**2.22**	**341**	⇑*i*P	**Pb**	**19 56 56.4**	**+1.4**
	baz=39						
ULHL				⇑*i*S	**Sg**	**19 57 26.0**	**+0.6**
	baz=39						
ULHL	**Ulahol**	**2.22**	**341**	P	**Pb**	**19 56 56.3**	**+1.4**
	SNR=11						
PRZ	**Przheval'sk**	**2.49**	**20**	⇓*i*P	**Pb**	**19 56 59.7**	**+0.2**
	baz=19						
PRZ				⇓*i*S	**Sb**	**19 57 31.1**	**+0.5**
	baz=19						
BOOM	**Boomskoye usch**	**2.53**	**338**	⇑*i*P	**Pb**	**19 57 00.9**	**+0.6**
	baz=37						
BOOM				⇑*i*S	**Sb**	**19 57 33.4**	**+1.5**
	baz=37						
ANVS	**Anan'yevo**	**2.65**	**7**	⇓*i*P	**Pb**	**19 57 01.8**	**-0.4**
	baz=5.0						
ANVS				⇓*i*S	**Sb**	**19 57 35.6**	**+0.3**
	baz=5.0						
ARLS	**Aral**	**2.79**	**309**	⇑*i*P	**Pb**	**19 57 04.4**	**-0.3**
	baz=9.0						
ARLS				⇑*i*S	**Sb**	**19 57 40.5**	**+1.2**
	baz=9.0						
TNSS	**Tian-Shan**	**2.89**	**356**	*e*P	**Pb**	**19 57 06.1**	**-0.4**
	85nm,0.6s						
TNSS				*e*S	**Sg**	**19 57 47.6**	**+0.8**
	147nm,0.6s						
TNSS	**Tian-Shan**	**2.89**	**356**	Pg	**Pb**	**19 57 06.1**	**-0.4**
	85nm,0.6s						
TNSS				Lg	Lg	19 57 47.6	
	147nm,0.6s						
IZV	**Izvestkoviy**	**2.92**	**351**	*e*P	**Pb**	**19 57 06.4**	**-0.4**
	75nm,0.5s						
IZV				*e*S	**Sg**	**19 57 48.2**	**+0.4**
	421nm,0.5s						
IZV	**Izvestkoviy**	**2.92**	**351**	Pg	**Pb**	**19 57 06.4**	**-0.4**
	75nm,0.5s						
IZV				Lg	Lg	19 57 48.2	
	421nm,0.5s						
UCH	**Uchtor**	**2.92**	**316**	⇑*i*P	**Pb**	**19 57 06.2**	**-0.8**
	baz=16						
UCH				⇑*i*S	**Sb**	**19 57 43.2**	**-0.2**
	baz=16						
UCH	**Uchtor**	**2.92**	**316**	P	**Pb**	**19 57 06.2**	**-0.8**
	SNR=16						
TKM2	**Tokmak 2**	**3.03**	**336**	⇑*i*P	**Pb**	**19 57 07.7**	**-1.0**
	baz=36						
TKM2				⇑*i*S	**Sb**	**19 57 45.3**	**-0.9**
	baz=36						
TKM2	**Tokmak 2**	**3.03**	**336**	P	**Pb**	**19 57 07.9**	**-0.8**
	SNR=36						
TKM2	**Tokmak 2**	**3.03**	**336**	⇑Pg	**Pb**	**19 57 07.5**	**-1.2**
	33nm,0.6s						
TKM2				⇑Lg	Lg	19 57 50.9	
	278nm,0.6s						
SATY	**Saty**	**3.03**	**16**	*e*P	**Pb**	**19 57 09.0**	**+0.2**
	81nm,0.6s						
SATY				⇓*i*S	**Sg**	**19 57 52.5**	**+1.1**
	182nm,0.5s						
SATY	**Saty**	**3.03**	**16**	Pg	**Pb**	**19 57 09.0**	**+0.2**
	81nm,0.6s						
SATY				Lg	Lg	19 57 52.5	
	182nm,0.5s						
KBK	**Karagaybulak**	**3.04**	**326**	⇓*i*P	**Pb**	**19 57 07.9**	**-1.0**
	baz=26						
KBK				⇓*i*S	**Sb**	**19 57 45.7**	**-0.8**
	baz=26						
KBK	**Karagaybulak**	**3.04**	**326**	P	**Pb**	**19 57 08.2**	**-0.6**
	SNR=82						
KST	**Kastek**	**3.04**	**342**	*e*P	**Pb**	**19 57 09.0**	**0.0**
	58nm,0.4s						
KST				⇓*i*S	**Sg**	**19 57 52.5**	**+0.8**
	248nm,0.5s						
KST	**Kastek**	**3.04**	**342**	Pg	**Pb**	**19 57 09.0**	**0.0**
	58nm,0.4s						
KST				Lg	Lg	19 57 52.5	
	248nm,0.5s						
KNDC	**Almaty**	**3.07**	**356**	⇓Pg	**Pb**	**19 57 08.1**	**-1.2**
KNDC				⇑Lg	Lg	19 57 52.1	
	1μm,0.6s						
KOTS	**Kotyrbulak**	**3.08**	**358**	*e*P	**Pb**	**19 57 09.5**	**-0.1**
	205nm,0.5s						
KOTS				*e*S	**Sg**	**19 57 53.5**	**+0.5**
	812nm,0.7s						
KOTS	**Kotyrbulak**	**3.08**	**358**	Pg	**Pb**	**19 57 09.5**	**-0.1**
	205nm,0.5s						
KOTS				Lg	Lg	19 57 53.5	
	812nm,0.7s						
ZHN	**Zhinishke**	**3.14**	**16**	*e*P	**Pb**	**19 57 09.2**	**-1.4**
	24nm,0.5s						
ZHN				*e*S	**Sg**	**19 57 53.0**	**-2.0**
	126nm,0.8s						
ZHN	**Zhinishke**	**3.14**	**16**	Pg	**Pb**	**19 57 09.2**	**-1.4**
	24nm,0.5s						
ZHN				Lg	Lg	19 57 53.0	
	126nm,0.8s						
AAK	**Ala-Archa**	**3.23**	**321**	⇑*i*P	**Pb**	**19 57 10.6**	**-1.5**
	baz=21						
AAK				⇑*i*S	**Sb**	**19 57 50.1**	**-1.9**
	baz=21						
AAK	**Ala-Archa**	**3.23**	**321**	P	**Pb**	**19 57 10.6**	**-1.5**
	SNR=24						
AAK	**Ala-Archa**	**3.23**	**321**	Pg	**Pb**	**19 57 10.5**	**-1.6**
AAK				⇑Lg	Lg	19 57 57.7	
	381nm,1.1s						
UZB	**Uzynbulak**	**3.28**	**23**	*e*P	**Pb**	**19 57 11.5**	**-1.4**
	44nm,0.6s						
UZB				*e*S	**Sg**	**19 57 56.4**	**-2.8**
	76nm,0.5s						
UZB	**Uzynbulak**	**3.28**	**23**	Pg	**Pb**	**19 57 11.5**	**-1.4**
	44nm,0.6s						
UZB				Lg	Lg	19 57 56.4	
	76nm,0.5s						
FRU1	**Bishkek**	**3.30**	**324**	⇑*i*P	**Pb**	**19 57 11.7**	**-1.6**
	baz=24						
FRU1				⇑*i*S	**Sb**	**19 57 51.9**	**-2.0**
	baz=24						
AML	**Almayashu**	**3.33**	**308**	⇓*i*P	**Pb**	**19 57 12.0**	**-2.0**
	baz=7.0						
AML				⇓*i*S	**Sb**	**19 57 53.5**	**-1.5**
	baz=7.0						
AML	**Almayashu**	**3.33**	**308**	P	**Pb**	**19 57 12.2**	**-1.7**
	SNR=23						
CHMS	**Chumysh**	**3.40**	**328**	⇓*i*P	**Pb**	**19 57 12.8**	**-2.2**
	baz=27						
CHMS				⇓*i*S	**Sb**	**19 57 54.7**	**-2.1**
	baz=27						
CHMS	**Chumysh**	**3.40**	**328**	P	**Pb**	**19 57 12.9**	**-2.1**
	SNR=49						
KURS	**Kuram**	**3.40**	**11**	*e*P	**Pb**	**19 57 15.6**	**+0.6**
	54nm,0.6s						
KURS				*e*S	**Sg**	**19 58 03.5**	**+0.1**
	185nm,0.8s						
KURS	**Kuram**	**3.40**	**11**	Pg	**Pb**	**19 57 15.6**	**+0.6**
	54nm,0.6s						
KURS				Lg	Lg	19 58 03.5	
	185nm,0.8s						
SHLS	**Shalkode**	**3.43**	**28**	*e*P	**Pb**	**19 57 17.4**	**+1.8**
	75nm,0.4s						
SHLS				*e*S	**Sg**	**19 58 06.9**	**+2.6**
	131nm,0.5s						
SHLS	**Shalkode**	**3.43**	**28**	Pg	**Pb**	**19 57 17.4**	**+1.8**
	75nm,0.4s						
SHLS				Lg	Lg	19 58 06.9	
	131nm,0.5s						
KPKS	**Kokpek**	**3.48**	**18**	*e*P	**Pb**	**19 57 15.0**	**-1.4**
	42nm,0.3s						
KPKS				*e*S	**Sg**	**19 58 02.6**	**-3.2**
	235nm,0.5s						
KTBS	**Karatobe**	**3.58**	**354**	*e*P	**Pb**	**19 57 18.2**	**+0.2**
	63nm,0.7s						
KTBS				*e*S	**Sg**	**19 58 08.2**	**-0.9**
	149nm,1.0s						
KTBS	**Karatobe**	**3.58**	**354**	Pg	**Pb**	**19 57 18.2**	**+0.2**
	63nm,0.7s						
KTBS				Lg	Lg	19 58 08.1	
	149nm,1.0s						
PDGK	**Podgornoye**	**3.59**	**27**	Pg	**Pb**	**19 57 17.6**	**-0.6**
	21nm,0.8s						
PDGK				Lg	Lg	19 58 07.0	
	76nm,0.6s						
PDGK	**Podgornoye**	**3.59**	**27**	⇓Pg	**Pb**	**19 57 17.7**	**-0.6**
	39nm,0.7s						
PDGK				⇓Lg	Lg	19 58 08.0	
	163nm,0.7s						
EKS2	**Erkin-Say**	**3.61**	**315**	⇑*i*P	**Pb**	**19 57 15.9**	**-2.8**
	baz=15						
EKS2				⇑*i*S	**Sb**	**19 57 59.6**	**-3.4**
	baz=15						
EKS2	**Erkin-Say**	**3.61**	**315**	P	**Pb**	**19 57 16.5**	**-2.2**
	SNR=9.4						
USP	**Ospenovka**	**3.73**	**327**	⇑*i*P	**Pb**	**19 57 17.2**	**-3.3**
	baz=27						
USP				⇑*i*S	**Sb**	**19 58 02.1**	**-4.1**
	baz=27						
USP	**Ospenovka**	**3.73**	**327**	P	**Pb**	**19 57 17.3**	**-3.3**
	SNR=7.6						
KRBS	**Karabastau**	**3.73**	**342**	*e*P	**Pb**	**19 57 21.2**	**+0.6**
	33nm,0.7s						
KRBS				*e*S	**Sg**	**19 58 13.4**	**-0.3**
	49nm,0.6s						
KRBS	**Karabastau**	**3.73**	**342**	Pg	**Pb**	**19 57 21.2**	**+0.6**
	33nm,0.7s						
KRBS				Lg	Lg	19 58 13.4	
	49nm,0.6s						
KUU	**Kurty**	**3.80**	**350**	*e*P	**Pb**	**19 57 21.6**	**-0.1**
	36nm,0.6s						
KUU				*e*S	**Sg**	**19 58 14.2**	**-1.7**
	171nm,0.8s						
KUU	**Kurty**	**3.80**	**350**	Pg	**Pb**	**19 57 21.7**	**-0.1**
	36nm,0.6s						
KUU				Lg	Lg	19 58 14.2	
	171nm,0.8s						
SGDS	**Sogindy**	**3.83**	**330**	Pg	**Pb**	**19 57 22.9**	**+0.5**
	32nm,0.6s						
SGDS				Lg	Lg	19 58 15.2	
	89nm,0.7s						
MRKS	**Merke**	**3.98**	**312**	*e*P	**Pb**	**19 57 25.0**	**+0.2**
	48nm,0.5s						
MRKS				*e*S	**Sg**	**19 58 19.6**	**-2.1**
	42nm,0.6s						
MRKS	**Merke**	**3.98**	**312**	Pg	**Pb**	**19 57 25.0**	**+0.2**
	48nm,0.5s						
MRKS				Lg	Lg	19 58 19.6	
	42nm,0.6s						
MNBS	**Baschi**	**4.02**	**12**	*e*P	**Pb**	**19 57 25.8**	**+0.3**
	31nm,0.5s						
MNBS				*e*S	**Sg**	**19 58 21.3**	**-1.7**
	78nm,0.6s						
MNBS	**Baschi**	**4.02**	**12**	Pg	**Pb**	**19 57 25.8**	**+0.3**
	31nm,0.5s						
MNBS				Lg	Lg	19 58 21.3	
	78nm,0.6s						
KTMS	**Ketmen**	**4.03**	**34**	*e*P	**Pb**	**19 57 26.2**	**+0.4**
	11nm,0.4s						
KTMS				*e*S	**Sg**	**19 58 21.7**	**-1.8**
	83nm,0.7s						
KTMS	**Ketmen**	**4.03**	**34**	Pg	**Pb**	**19 57 26.2**	**+0.4**
	11nm,0.4s						
KTMS				Lg	Lg	19 58 21.7	
	83nm,0.7s						
ARXS	**Arharly**	**4.08**	**6**	*e*P	**Pb**	**19 57 26.9**	**+0.3**
	70nm,0.7s						
ARXS				*e*S	**Sg**	**19 58 22.8**	**-2.3**
	151nm,0.8s						
ARXS	**Arharly**	**4.08**	**6**	Pg	**Pb**	**19 57 26.9**	**+0.3**
	70nm,0.7s						
ARXS				Lg	Lg	19 58 22.8	
	151nm,0.8s						
DJR	**Jarkent**	**4.58**	**24**	*e*P	**Pb**	**19 57 36.1**	**+0.9**
	15nm,0.4s						
DJR				*e*S	**Sg**	**19 58 39.0**	**-2.3**
	40nm,0.3s						
DJR	**Jarkent**	**4.58**	**24**	Pg	**Pb**	**19 57 36.1**	**+0.9**
	15nm,0.4s						
DJR				Lg	Lg	19 58 39.0	
	40nm,0.3s						
TDK	**Taldyqorghan**	**4.92**	**10**	*e*P	**Pb**	**19 57 41.6**	**+0.7**
	68nm,0.3s						
TDK				*e*S	**Sg**	**19 58 48.6**	**-3.4**
	161nm,1.0s						
TDK	**Taldyqorghan**	**4.92**	**10**	Pg	**Pb**	**19 57 41.6**	**+0.7**
	68nm,0.3s						
TDK				Lg	Lg	19 58 48.6	
	161nm,1.0s						
DZA	**Taraz**	**5.21**	**304**	*e*P	**Pb**	**19 57 49.4**	**+3.6**
	31nm,0.1s						
DZA				*e*S	**Sg**	**19 59 02.3**	**+0.9**
	52nm,0.5s						
DZA	**Taraz**	**5.21**	**304**	Pg	**Pb**	**19 57 49.4**	**+3.6**
	31nm,0.1s						
DZA				Lg	Lg	19 59 02.3	
	52nm,0.5s						
BTLS	**Baital**	**5.42**	**335**	*e*P	**Pb**	**19 57 52.5**	**+3.1**
	8.6nm,0.4s						
BTLS				*e*S	**Sg**	**19 59 06.8**	**-1.4**
	10nm,0.7s						
BTLS	**Baital**	**5.42**	**335**	Pg	**Pb**	**19 57 52.5**	**+3.1**
	8.6nm,0.4s						
BTLS				Lg	Lg	19 59 06.8	
	10nm,0.7s						
IUG	**Iuzhnay**	**5.79**	**292**	Pg	**Pb**	**19 57 57.8**	**+2.0**
	14nm,1.0s						
IUG				Lg	Lg	19 59 16.5	
	51nm,1.2s						
KK31	**Karatay Array**	**5.84**	**302**	⇓Pg	**Pb**	**19 57 57.5**	**+1.0**
	6.7nm,0.7s,baz=129,slow=16,SNR=13						
KK31				⇑Lg	Lg	19 59 17.6	
	6.5nm,0.6s,baz=116,slow=23,SNR=6.7						
BRLS	**Boroldoy**	**6.25**	**300**	Pg	Pb	**19 58 08.8**	**+5.3**
	21nm,0.3s						
BRLS				Lg	Lg	19 59 34.8	
	17nm,0.5s						
MAKZ	**Makanchi**	**7.49**	**26**	Lg	Lg	20 00 12.0	
	6.4nm,0.8s						
MK31	**Makanchi Array**	**7.58**	**27**	⇑Pg	Pb	**19 58 32.2**	**+6.0**
	1.1nm,0.5s,baz=201,slow=40,SNR=4.2						
MK31				⇑Lg	Lg	20 00 15.7	
	4.4nm,0.7s						
MKAR	**Makanchi Array**	**7.58**	**27**	Pn	**Pn**	**19 58 07.9**	**+2.4**
	0.2nm,0.3s,baz=210,slow=14,SNR=10.0						
MKAR				Lg	Lg	20 00 13.2	
	0.4nm,0.3s,baz=213,slow=26,SNR=2.0						
MKAR				LR	LR	20 01 26.1	
	comp=Z,54nm,20.3s,baz=236,slow=40						
CEP	**Cherat**	**7.62**	**216**	P	**Pn**	**19 58 07.8**	**+1.6**
WMQ	**Urumqi**	**8.61**	**61**	*e*P	**Pn**	**19 58 22.3**	**+2.7**
WMQ				smax	smax		
	comp=N,14nm,0.9s						
WMQ				smax	smax		
	comp=E,11nm,0.7s						
KURBB	**Kurchatov Arra**	**10.

KDTR	**Khodutka, Kamc**	**2.45**	**15**	*e*P		Pn	20 10 23.6	+3.3
KDTR				*e*S		Sn	20 10 53.1	+4.1
ASAK	**Asacha**	**2.99**	**10**	*e*P		Pn	20 10 31.8	+4.0
ASAK				*e*S		Sn	20 11 06.1	+3.7
RUS	**Russkaya**	**3.13**	**16**	*e*P		Pn	20 10 32.8	+3.2
RUS				*e*S		Sn	20 11 09.4	+3.7
GRL	**Gorelyy**	**3.18**	**11**	*e*P		Pn	20 10 34.5	+4.1
GRL				*e*S		Sn	20 11 12.0	+4.9
KRMR	**Karymshinskiy**	**3.46**	**11**	*e*P		Pn	20 10 38.7	+4.6
KRMR				*e*S		Sn	20 11 19.8	+6.0
PET	**Petropavlovsk**	**3.72**	**15**	*e*P		Pn	20 10 41.5	+3.8
PET				*e*S		Sn	20 11 25.1	+4.9
DALK	**Dalny**	**3.74**	**16**	*e*P		Pn	20 10 41.9	+3.8
DALK				*e*S		Sn	20 11 24.9	+4.1
UGLR	**Uglovaya**	**3.93**	**15**	*e*P		Pn	20 10 45.4	+4.7
UGLR				*e*S		Sn	20 11 31.9	+6.4
AVH	**Avacha**	**3.97**	**15**	*e*P		Pn	20 10 46.1	+4.9
AVH				*e*S		Sn	20 11 32.8	+6.3
SMAR	**Somma**	**3.98**	**15**	*e*P		Pn	20 10 45.6	+4.1
SMAR				*e*S		Sn	20 11 31.8	+4.9
KOK	**Koryaka**	**3.98**	**14**	*e*P		Pn	20 10 46.3	+4.9
NLC	**Nalytchevo**	**3.99**	**20**	*e*S		Sn	20 11 29.7	+2.7
SDLR	**Sedlovina**	**4.00**	**16**	*e*P		Pn	20 10 45.3	+3.5
SDLR				*e*S		Sn	20 11 31.7	+4.3
KRER	**Koryakskii**	**4.00**	**14**	*e*P		Pn	20 10 46.2	+4.3
KRER				*e*S		Sn	20 11 32.4	+4.8
KRX	**Arik**	**4.04**	**13**	*e*P		Pn	20 10 46.8	+4.5
KRX				*e*S		Sn	20 11 34.8	+6.4
SPN	**Mys Shipunski**	**4.10**	**26**	*e*P		Pn	20 10 47.4	+4.5
SPN				*e*S		Sn	20 11 34.2	+4.6
GNL	**Ganaly**	**4.29**	**7**	*e*P		Pn	20 10 51.0	+5.3
KII	**Karymskiy**	**4.83**	**17**	*e*S		Sn	20 11 53.8	+6.1
KZV	**Kizimen**	**6.01**	**18**	*e*P		Pn	20 11 13.4	+4.1
KZV				*e*S		Sn	20 12 23.2	+6.3
TUMD	**Tumrok D**	**6.12**	**18**	*e*P		Pn	20 11 15.0	+4.3
TUMD				*e*S		Sn	20 12 22.7	+3.4
TUMR	**Tumrok**	**6.14**	**17**	*e*P		Pn	20 11 15.3	+4.2
LGNR	**Loginova**	**7.00**	**17**	*e*P		Pn	20 11 28.1	+5.1
KBTR	**Krutoberegovo**	**7.61**	**25**	*e*P		Pn	20 11 34.2	+3.1
BKI	**Bering**	**7.93**	**40**	*e*S		Sn	20 13 06.7	+3.0

IDC 30 20:17:07.0±1.3, 12°58N×48°48E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/50, mbtmp3.6/5, ML3.6/1, MS2.6/2, Ms1 2.7/2, ms1mx2.3/34, Error ellipse: s-maj=62.1km s-min=25.8km az=171.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.61**	**260**	Pn	Pn	20 18 32.8	+1.0
	1.6nm,0.3s,baz=90,slow=20,SNR=2.2						
EIL	**Elat**	**21.14**	**326**	LR	LR	20 29 18.0	
	comp=Z,17nm,19.5s,baz=90,slow=35						
MKAR	**Makanchi Array**	**44.39**	**33**	P	P	20 25 19.4	0.0
	0.4nm,0.7s,baz=224,slow=8.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**45.56**	**276**	P	P	20 25 28.5	-0.7
	0.5nm,0.8s,baz=80,slow=9.0,SNR=2.4						
CMAR	**Chiang Mai Arr**	**48.85**	**76**	P	P	20 25 54.6	-0.1
	0.7nm,0.8s,baz=269,slow=8.4,SNR=7.7						
NOA	**NORSAR Array B**	**55.44**	**339**	LR	LR	20 50 29.2	
	comp=Z,5.1nm,18.8s,baz=25,slow=36						
WRA	**Warramunga Arr**	**90.40**	**110**	P	P	20 30 11.0	-0.1
	0.8nm,0.9s,baz=295,slow=3.5,SNR=7.9						

*IDC **30** 20:34:08.9±0.5, 44°53N×141°60E, h245km±4km, mb3.1/7, mb1 3.3/13, mb1mx3.2/46, mbtmp3.8/13, Error ellipse: s-maj=15.6km s-min=11.1km az=116.0*
*NEIC **30** 20:34:09.3±1.4, 44°55N±0°07×141°5E±0°1, h248km±4km, mb4.0/33, Error ellipse: s-maj=12.1km s-min=9.6km az=128.0*
*JMA **30** 20:34:09.0±0.2, 44°54N×141°58E, h248km±2km, M3.5*
*SKHL **30** 20:34:09.3±0.1, 44°62N×141°40E, h233km±9km, mb5.0/6, msh4.8/8*

ISC 30 20:34:09.0±0.6, 44°48N±0°04×141°45E±0°04, h245km±5km, n95, σ1s16/117, mb3.8/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.06**	**195**	P	**Pn**	**20 34 41.1**	**+0.5**
JYG				*e*S	**S**	**20 35 05.7**	**+0.3**
JSS	**Shosan**	**0.30**	**106**	P	**Pn**	**20 34 41.6**	**+0.7**
JSS				*e*S	**S**	**20 35 07.1**	**+1.3**
JRR	**Rishiri**	**0.66**	**352**	P	**Pn**	**20 34 42.6**	**+0.8**
JHR	**Hokuryu**	**0.77**	**165**	P	**Pn**	**20 34 43.1**	**+0.7**
JHR				*e*S	**S**	**20 35 09.6**	**+1.0**
JWK2	**Keihoku**	**0.89**	**21**	P	**Pn**	**20 34 42.9**	**0.0**
JWK2				*e*S	**S**	**20 35 08.9**	**-0.6**
ASAJ	**Asahikawa**	**0.90**	**114**	P	**Pn**	**20 34 43.0**	**0.0**
	28nm,0.3s,baz=278,slow=9.8,SNR=192						
ASAJ				S	**S**	**20 35 09.2**	**-0.4**
	4.7nm,0.3s,baz=201,slow=33,SNR=7.2						
ASAJ	**Asahikawa**	**0.90**	**114**	P	**Pn**	**20 34 43.0**	**0.0**
ASAJ				*e*S	**S**	**20 35 09.3**	**-0.4**
JKA	**Kamikawa-asahi**	**0.91**	**114**		**Pn**	**20 34 42.9**	**-0.1**
JSE	**Soyaes**	**0.94**	**59**	P	**Pn**	**20 34 42.8**	**-0.3**
JSE				*e*S	**S**	**20 35 08.7**	**-1.2**
JRBN	**Rebuntou**	**0.98**	**344**	P	**Pn**	**20 34 43.4**	**+0.1**
JRBN				*e*S	**S**	**20 35 10.0**	**-0.4**
JKK2	**Kamakawa 2**	**1.12**	**123**	P	**Pn**	**20 34 44.5**	**+0.2**
JKK2				*e*S	**S**	**20 35 11.7**	**-0.2**
JAB	**Ashibetsu**	**1.13**	**150**	P	**Pn**	**20 34 45.0**	**+0.7**
JSK	**Shakotan**	**1.33**	**212**	P	**Pn**	**20 34 46.5**	**+0.8**
JSK				*e*S	**S**	**20 35 15.0**	**+0.6**
JFR	**Furan**	**1.56**	**147**	P	**Pn**	**20 34 47.4**	**0.0**
JFR				*e*S	**S**	**20 35 17.6**	**+0.1**
JEW	**Eniwo**	**1.64**	**180**	P	**Pn**	**20 34 49.0**	**+0.9**
JEW				*e*S	**S**	**20 35 19.5**	**+0.8**
JEW	**Eniwo**	**1.64**	**180**		**Pn**	**20 34 48.9**	**+0.9**
JTKR	**Abashiri--Toko**	**1.84**	**105**	P	**Pn**	**20 34 49.8**	**+0.2**
JTKR				*e*S	**S**	**20 35 21.0**	**-0.6**
JAR	**Ashorobuto**	**2.06**	**124**	P	**Pn**	**20 34 51.8**	**+0.2**
JAR				*e*S	**S**	**20 35 25.0**	**-0.1**
JCH	**Churui**	**2.33**	**143**	P	**Pn**	**20 34 52.7**	**-1.6**
JCH				*e*S	**S**	**20 35 26.0**	**-3.8**
JNBK	**Urakawa-nobuka**	**2.40**	**156**	P	**Pn**	**20 34 55.2**	**+0.2**
JNBK				*e*S	**S**	**20 35 30.3**	**-0.8**
JKB	**Kayabe**	**2.61**	**187**	*e*S	**S**	**20 35 32.7**	**-2.3**
YSS	**Yuzh-Sakhalins**	**2.63**	**20**	*i* P	**Pn**	**20 34 56.9**	**-0.3**
YSS				AMB	AMB	20 34 57.2	
	260nm,0.3s						
YSS				*i* S	**S**	**20 35 33.6**	**-1.7**
YSS				A	A	20 35 36.2	
	150nm,0.6s						
YSS				A	A	20 35 36.2	
	200nm,0.6s						
YSS	**Yuzh-Sakhalins**	**2.63**	**20**		**Pn**	**20 34 56.7**	**-0.5**
ERM	**Erimo**	**2.77**	**153**	Pn	**Pn**	**20 34 59.5**	**+0.8**
JAK	**Akkeshi**	**2.79**	**121**	*e*S	**S**	**20 35 35.5**	**-2.7**
JOSM	**Okushiri--Mats**	**2.80**	**212**	P	**Pn**	**20 34 59.6**	**+0.5**
GLVR	**Golovnino**	**3.03**	**103**	*e*P	**Pn**	**20 35 03.0**	**+1.6**
GLVR				*e*S	**S**	**20 35 44.0**	**+1.2**
GLVR				A	A	20 35 51.0	
	150nm,0.8s						
GLVR				A	A	20 35 51.0	
	99nm,0.8s						
JOT	**Ohata**	**3.12**	**186**	P	**Pn**	**20 35 01.7**	**-0.8**
JOT				*e*S	**S**	**20 35 42.9**	**-1.8**
GRPR	**Tuman**	**3.15**	**97**	*e*P	**Pn**	**20 35 07.0**	**+4.2**
GRPR				*e*S	**S**	**20 35 49.0**	**+3.8**
YUK	**Yuzh-Kuril'sk**	**3.20**	**97**	*e*P	**Pn**	**20 35 05.1**	**+1.7**
YUK				*e*S	**S**	**20 35 48.9**	**+2.6**
YUK				A	A	20 35 56.0	
	18nm,0.4s						
YUK				A	A	20 35 56.0	
	51nm,0.4s						
NMR	**Nemuro--Hokkai**	**3.29**	**108**	*i* P	**Pn**	**20 35 05.4**	**+1.1**
TEY	**Ternei**	**3.50**	**281**	*e*P	**Pn**	**20 35 07.3**	**+0.6**
TEY				AMB	AMB	20 35 08.3	
	21nm,0.7s						
TEY				*e*S	**S**	**20 35 51.7**	**-0.6**
TEY				A	A	20 35 53.3	
	10.0nm,0.8s						
TEY				A	A	20 35 53.3	
	10.0nm,0.8s						
JTM	**Tenmabayashi**	**3.71**	**184**		**Pn**	**20 35 09.0**	**-0.2**
JMM	**Marumori**	**6.63**	**184**		**Pn**	**20 35 44.4**	**-0.6**
USA0B	**Ussuriysk Arra**	**6.79**	**271**		**Pn**	**20 35 48.3**	**+1.3**
USRK	**Ussuriysk Ar.**	**6.79**	**271**	P	**Pn**	**20 35 48.3**	**+1.4**
	baz=84,slow=14,SNR=18						
USRK	**Ussuriysk Ar.**	**6.79**	**271**		**Pn**	**20 35 48.0**	**+1.1**

JSD	**Sado**		**6.87**	**202**		**Pn**	**20 35 47.9**	**-0.2**
KLR	**Kul'dur**		**8.16**	**309**	P	**Pn**	**20 36 04.8**	**+0.5**
	0.3nm,0.3s,baz=110,slow=14,SNR=5.2							
MJAR	**Matsushiro Arr**		**8.31**	**198**	P	**Pn**	**20 36 05.6**	**-0.7**
	0.1nm,0.3s,baz=320,slow=31,SNR=3.0							
MDJ	**Mudanjiang**		**8.47**	**275**		**Pn**	**20 36 09.5**	**+1.3**
KSRS	**Korea Array**		**12.39**	**240**	P	**Pn**	**20 36 58.8**	**+1.3**
	0.1nm,0.3s,baz=56,slow=12,SNR=2.5							
PEA0B	**Petropavlovsk-**		**13.73**	**45**	Pn	**Pn**	**20 37 12.3**	**-1.5**
PETK	**Petropavlovsk-**		**13.73**	**45**	P	**Pn**	**20 37 11.3**	**-2.5**
	0.6nm,0.3s,baz=221,slow=7.3,SNR=6.4							
PETK	**Petropavlovsk-**		**13.73**	**45**	P	**Pn**	**20 37 12.5**	**-1.3**
SEY	**Seymchan**		**19.53**	**15**	P	**P**	**20 38 16.6**	**-1.4**
	1.3nm,0.3s,baz=192,slow=7.7,SNR=20							
SONM	**Songino Array**		**24.38**	**290**	P	**P**	**20 39 05.2**	**+0.1**
	0.5nm,0.6s,baz=90,slow=6.7,SNR=3.9							
SONM	**Songino Array**		**24.38**	**290**	P	**P**	**20 39 04.4**	**-0.7**
CNBA	**Chernabura Isl**		**38.46**	**53**	P	**P**	**20 41 06.9**	**-0.2**
IMAR	**Indian Mountai**		**40.37**	**35**	P	**P**	**20 41 21.7**	**-1.0**
MKAR	**Makanchi Array**		**40.58**	**295**	P	**P**	**20 41 26.3**	**+1.6**
	0.2nm,0.5s,baz=76,slow=11,SNR=4.1							
MKAR	**Makanchi Array**		**40.58**	**295**	P	**P**	**20 41 26.2**	**+1.5**
KDAK	**Kodiak Island**		**41.77**	**47**	P	**P**	**20 41 34.3**	**+0.2**
TOLK	**Toolik Lake Re**		**41.94**	**31**	P	**P**	**20 41 33.4**	**-2.1**
TOLK					IAmb	IAmb	20 41 37.0	
	comp=Z,5.1nm,1.5s							
TRF	**Thorofare Moun**		**42.02**	**39**	P	**P**	**20 41 35.2**	**-1.1**
TRF					IAmb	IAmb	20 41 55.7	
	comp=Z,3.9nm,1.3s							
SUA	**Susitna One**		**42.07**	**42**	P	**P**	**20 41 36.0**	**-0.6**
SUA					IAmb	IAmb	20 41 53.2	
	comp=Z,12nm,1.2s							
CNPM	**China Poot**		**42.14**	**44**	P	**P**	**20 41 36.7**	**-0.5**
BRLK	**Bradley Lake**		**42.27**	**44**	P	**P**	**20 41 37.9**	**-0.3**
WRH	**Wood River Hil**		**42.85**	**37**	P	**P**	**20 41 42.1**	**-0.7**
GHO	**Glory Hole Cre**		**42.88**	**41**	P	**P**	**20 41 43.0**	**-0.2**
CCB	**Clear Creek Bu**		**42.95**	**37**	P	**P**	**20 41 41.4**	**-2.2**
POKR	**Poker Plat Res**		**43.05**	**36**	P	**P**	**20 41 44.6**	**+0.2**
POKR					IAmb	IAmb	20 41 45.1	
	comp=Z,3.7nm,0.8s							
IL31			**43.33**	**36**	P	**P**	**20 41 45.9**	**-0.7**
ILAR	**Eielson Array**		**43.33**	**36**	P	**P**	**20 41 45.9**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=276,slow=9.3,SNR=14							
ILAR	**Eielson Array**		**43.33**	**36**	P	**P**	**20 41 45.6**	**-1.0**
HDA	**Harding Lake**		**43.35**	**37**	P	**P**	**20 41 45.8**	**-1.0**
DHY	**Denali Highway**		**43.37**	**39**	P	**P**	**20 41 46.4**	**-0.8**
DHY					IAmb	IAmb	20 41 53.4	
	comp=Z,6.3nm,1.4s							
FYU	**Fort Yukon**		**43.76**	**34**	P	**P**	**20 41 49.8**	**-0.1**
FYU					IAmb	IAmb	20 41 56.5	
	comp=Z,5.0nm,1.1s							
PRP	**Porcupine Dome**		**43.79**	**35**	P	**P**	**20 41 50.4**	**-0.1**
BMAR	**Burnt Mountain**		**43.91**	**32**	P	**P**	**20 41 51.1**	**-0.1**
M24K	**Tolsona, Glenn**		**44.09**	**40**	P	**P**	**20 41 52.7**	**-0.1**
M24K					IAmb	IAmb	20 42 17.4	
	comp=Z,16nm,1.1s							
K27K	**Chicken**		**45.52**	**37**	P	**P**	**20 42 03.5**	**-0.3**
K27K					IAmb	IAmb	20 42 30.6	
	comp=Z,9.3nm,1.5s							
VRDI	**Verde Repeater**		**45.56**	**41**	P	**P**	**20 42 03.9**	**-0.6**
VRDI					IAmb	IAmb	20 42 08.9	
	comp=Z,9.1nm,1.4s							
EGAK	**Eagle**		**45.74**	**36**	P	**P**	**20 42 04.9**	**-0.7**
CRQM	**Cirque**		**45.83**	**41**	P	**P**	**20 42 05.8**	**-0.7**
CRQM					IAmb	IAmb	20 42 14.1	
	comp=Z,14nm,1.3s							
BCAR	**Beaver Creek A**		**45.87**	**38**	P	**P**	**20 42 06.6**	**-0.1**
ISLE	**Juniper Island**		**46.25**	**42**	P	**P**	**20 42 10.3**	**+0.6**
BARN	**Barnard Glacie**		**46.44**	**41**	P	**P**	**20 42 11.1**	**-0.2**
BARN					IAmb	IAmb	20 42 12.0	
	comp=Z,7.9nm,1.1s							
CTGM	**Chitina Glacie**		**46.62**	**41**	P	**P**	**20 42 11.1**	**-1.5**
CTGM					IAmb	IAmb	20 42 24.5	
	comp=Z,18nm,1.4s							
INK	**Inuvik**		**47.83**	**30**	P	**P**	**20 42 20.5**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=308,slow=6.0,SNR=8.8							
INK	**Inuvik**		**47.83**	**30**	P	**P**	**20 42 21.2**	**-0.4**
FAKI	**Fak Fak**		**47.91**	**192**	P	**P**	**20 42 23.7**	**+0.8**
FAKI					IAmb	IAmb	20 42 42.9	
	comp=Z,16nm,0.9s							
ABKAR	**Akbulak array**		**53.36**	**306**	P	**P**	**20 43 03.2**	**+0.2**
ABKAR	**Akbulak array**		**53.36**	**306**	P	**P**	**20 43 03.7**	**+0.6**
MTN	**Manton Dam**		**57.82**	**192**	P	**P**	**20 43 35.3**	**+0.3**
KNRA	**Kununurra**		**60.98**	**194**	P	**P**	**20 43 57.6**	**+1.1**
WB0	**Warramunga Arr**		**64.26**	**187**	P	**P**	**20 44 18.1**	**-0.1**
WB0					IAmb	IAmb	20 44 29.1	
	comp=Z,3.5nm,1.4s							
WR0	**Warramunga Arr**		**64.44**	**187**	P	**P**	**20 44 19.3**	**0.0**
WR0					IAmb	IAmb	20 44 36.9	
	comp=Z,5.8nm,1.4s							
WRA	**Warramunga Arr**		**64.44**	**187**	P	**P**	**20 44 19.5**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=5.8,slow=7.1,SNR=13							
WRA	**Warramunga Arr**		**64.44**	**187**	P	**P**	**20 44 19.1**	**-0.2**
WC3	**Warramunga Arr**		**64.45**	**187**	P	**P**	**20 44 20.0**	**+0.6**
WC3					IAmb	IAmb	20 44 42.8	
	comp=Z,7.2nm,1.5s							
ASAR	**Alice Springs**		**68.17**	**187**	P	**P**	**20 44 43.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=6.0,slow=5.8,SNR=18							
ASAR	**Alice Springs**		**68.17**	**187**	P	**P**	**20 44 44.2**	**+1.4**
PDAR	**Pinedale Array**		**72.49**	**47**	P	**P**	**20 45 09.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=324,slow=7.3,SNR=3.6							
PDAR	**Pinedale Array**		**72.49**	**47**	P	**P**	**20 45 08.9**	**-0.2**

*GUC **30** 21:14:45.9±0.6, 18°32S×71°39W, h52km±3km, ML3.9*
*VAO **30** 21:14:48.1±1.6, 18°40S×71°49W, h90km±9km, mb4.3*
*IDC **30** 21:14:51.7±4.2, 18°42S×71°10W, h74km±30km, mb3.9/3, mb1 4.0/6, mb1mx3.6/39, mbtmp4.2/6, MS3.0/7, Ms1 3.1/7, ms1mx2.8/38, Error ellipse: s-maj=46.6km s-min=19.7km az=98.0*

ISC 30 21:14:50.3±1.3, 18°40S±0°05×71°18W±0°08, h65km±11km, n49, σ1s60/46, mb4.2/3, 11C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.79**	**88**	*i* P	**Pn**	**21 15 03.5**	**-2.5**
AP01				*i* S	**Sn**	**21 15 17.3**	**-0.3**
AP01				IAML		21 15 21.3	
	comp=E,12μm,0.3s						
PSGC	**Pisagua**	**1.56**	**140**	*i* P	**Pn**	**21 15 14.7**	**-1.4**
PSGC				*i* S	**Sn**	**21 15 35.8**	**+0.4**
PB16	**IPOC Station P**	**1.59**	**88**	*i* P	**Pn**	**21 15 16.1**	**-0.8**
PB16				*i* S	**Sn**	**21 15 39.8**	**+3.0**
MNMC	**Minye Minye**	**1.67**	**116**	*i* P	**Pn**	**21 15 17.0**	**-0.7**
MNMC				*i* S	**Sn**	**21 15 40.6**	**+2.3**
MNMC				IAML		21 15 49.2	
	comp=E,3μm,0.3s						
PB11	**IPOC Station P**	**1.98**	**134**	*i* P	**Pn**	**21 15 21.0**	**-0.8**
PB11				*i* S	**Sn**	**21 15 47.4**	**+1.8**
TA02	**Huaiquique**	**2.11**	**152**	*e*P	**Pn**	**21 15 21.6**	**-1.9**
GO01	**Chusmiza**	**2.26**	**124**	*i* P	**Pn**	**21 15 25.8**	**-0.1**
GO01				*i* S	**Sn**	**21 15 56.0**	**+3.0**
TA01	**Diego Aracena**	**2.35**	**157**	*i* P	**Pn**	**21 15 24.9**	**-1.8**
TA01				IAML		21 16 13.0	
	comp=E,317nm,0.7s						
PB08	**IPOC Station P**	**2.58**	**133**	*e*P	**Pn**	**21 15 29.8**	**-0.4**
PB08				*i* S	**Sn**	**21 16 03.1**	**+2.4**
PB08				IAML		21 16 11.6	
	comp=N,295nm,0.6s						
PATCX	**Punta Patache**	**2.60**	**158**	*i* P	**Pn**	**21 15 28.1**	**-2.0**
PB01	**IPOC Station P**	**3.08**	**149**	*i* P	**Pn**	**21 15 35.2**	**-1.5**
PB01				*e*S	**Sn**	**21 16 12.0**	**-0.3**
PB01				IAML		21 16 30.7	
	comp=E,194nm,0.5s						
PB02	**IPOC Station P**	**3.15**	**158**	*i* P	**Pn**	**21 15 35.9**	**-1.7**
LPAZ	**La Paz**	**3.58**	**55**	P	**Pn**	**21 15 45.7**	**+1.7**
	comp=E,2.5nm,0.3s,baz=250,slow=13,SNR=33						
LPAZ				S	Sn	21 16 34.1	+8.6
	comp=E,2.0nm,0.3s,baz=49,slow=25,SNR=1.5						
LPAZ				LR	LR	21 17 31.6	
	comp=E,231nm,19.9s,baz=223,slow=45						
LPAZ	**La Paz**	**3.58**	**55**	*e*P	**Pn**	**21 15 45.8**	**+1.7**
PB09	**IPOC Station P**	**3.84**	**152**	*i* P	**Pn**	**21 15 46.5**	**-0.7**
PB09				*i* S	**Sn**	**21 16 31.9**	**+0.7**
PB03	**IPOC Station P**	**3.87**	**160**	*i* P	**Pn**	**21 15 45.6**	**-2.0**
LVC	**Limon Verde**	**4.70**	**154**	P	**Pn**	**21 15 58.4**	**-0.7**
	comp=E,15nm,0.3s,baz=346,slow=9.3,SNR=50						
LVC				S	**Sn**	**21 16 53.7**	**+1.2**
	comp=E,12nm,0.3s,baz=100,slow=18,SNR=7.0						
LVC				LR	LR	21 17 54.6	
	comp=E,122nm,21.9s,baz=298,slow=39						
LVC	**Limon Verde**	**4.70**	**154**	*e*P	**Pn**	**21 15 58.5**	**-0.7**

NNA	**Nana**		**8.39**	**319**	S	**Sn**	**21 18 25.3**	**+2.6**
	comp=E,1.1nm,0.3s,baz=247,slow=12,SNR=1.6							
SIV	**San Ignacio**		**9.95**	**78**	P	**Pn**	**21 17 10.0**	**-0.6**
	comp=E,1.7nm,0.3s,baz=270,slow=12,SNR=27							
SIV					LR	LR	21 21 15.0	
	comp=E,58nm,18.0s,baz=291,slow=39							
VILB	**Vilhena**		**11.87**	**64**	*e*P	**Pn**	**21 17 37.9**	**+1.0**
PTLB	**Pontes e Lacer**		**11.89**	**78**	*e*P	**Pn**	**21 17 38.6**	**+1.6**
SAML	**Samuel**		**12.18**	**41**	*e*P	**Pn**	**21 17 39.7**	**-1.5**
ATAH	**Atahualpa**		**13.22**	**327**	LR	LR	21 23 11.6	
	comp=E,53nm,21.2s,baz=106,slow=38							
H03N1	**Juan Fernandez**		**16.51**	**203**	T	T	21 35 36.8	
	baz=26,slow=73,SNR=153							
H03N2	**Juan Fernandez**		**16.52**	**203**	T	T	21 35 37.0	
	baz=26,slow=73,SNR=138							
H03N3	**Juan Fernandez**		**16.53**	**203**	T	T	21 35 37.1	
	baz=26,slow=73,SNR=218							
CLDB	**Colider**		**16.65**	**65**	*e*P	**Pn**	**21 18 39.5**	**0.0**
MACA	**Manacapuru-AM**		**18.30**	**35**	*e*P	**P**	**21 18 57.1**	**-2.1**
NPGB	**Novo Progresso**		**19.09**	**56**	*e*P	**P**	**21 19 06.7**	**-1.3**
SNDB	**Serra Nova Dou**		**20.21**	**74**	*e*P	**P**	**21 19 18.6**	**-1.5**
ITTB	**Itaituba**		**20.55**	**49**	*e*P	**P**	**21 19 21.5**	**-2.3**
IPMB	**Ipameri, GO**		**21.82**	**93**	*e*P	**P**	**21 19 35.7**	**-1.7**
BDFB	**Brasilia**		**22.31**	**86**	P	**P**	**21 19 43.5**	**+0.7**
	comp=E,5.0nm,0.5s,baz=269,slow=10,SNR=8.0							
MCPB	**Macapa, AP**		**25.96**	**48**	*e*P	**P**	**21 20 15.8**	**-1.2**
SDV	**Santo Domingo**		**27.11**	**1**	LR	LR	21 32 19.5	
	comp=E,46nm,19.1s,baz=264,slow=39							
MDP	**Montagnes des**		**29.65**	**40**	LR	LR	21 33 28.8	
	comp=E,72nm,18.8s,baz=264,slow=38							
JTS	**Las Juntas de**		**31.58**	**333**	LR	LR	21 34 16.3	
	comp=E,30nm,21.3s,baz=226,slow=37							
DBIC	**Dimbokro**		**69.96**	**76**	P	**P**	**21 25 56.4**	**+1.0**
	comp=E,2.8nm,0.6s,baz=237,slow=7.0,SNR=5.1							
TORD	**Torodi Ar. Bea**		**78.37**	**72**	P	**P**	**21 26 42.7**	**-1.6**
	comp=E,0.2nm,0.4s,baz=240,slow=3.4,SNR=5.5							
H11S2	**WAKE ISLAND Hyl**		**25.31**	**280**	T	T	23 51 29.9	
	baz=100,slow=74,SNR=70							
H11S1	**WAKE ISLAND Hyl**		**25.31**	**280**	T	T	23 51 26.6	
	baz=100,slow=74,SNR=53							
H11N3	**WAKE ISLAND Hyl**		**25.32**	**281**	T	T	23 51 11.8	
	baz=99,slow=74,SNR=10							
H11S3	**WAKE ISLAND Hyl**		**25.33**	**280**	T	T	23 51 13.5	
	baz=100,slow=74,SNR=56							
H11N2	**WAKE ISLAND Hyl**		**25.33**	**281**	T	T	23 51 17.5	
	baz=99,slow=74,SNR=13							
H11N1	**WAKE ISLAND Hyl**		**25.33**	**281**	T	T	23 51 12.1	
	baz=99,slow=74,SNR=9.1							
WRA	**Warramunga Arr**		**134.41**	**215**	PKP	**PKPdf**	**21 34 02.8**	**+0.9**
	comp=E,0.3nm,0.8s,baz=160,slow=1.5,SNR=2.4							
MKAR	**Makanchi Array**		**144.25**	**32**	PKP	**PKPab**	**21 34 18.0**	**+1.1**
	comp=E,0.3nm,0.7s,baz=318,slow=3.9,SNR=1.4							
SONM	**Songino Array**		**150.57**	**3**	PKPbc	**PKPbc**	**21 34 35.6**	**+0.7**
	comp=E,0.6nm,0.7s,baz=325,slow=2.5,SNR=3.6							

JMA 30 21:20:26.8±0.4, 32°03N×141°91E, h14km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.07**	**302**	P	Pn	21 21 01.9	+0.8
JOD2	**Odawara 2**	**3.99**	**325

VARL	Varlezi	1.85 160	⇑	P	Pn	21 28 33.8	0.0
ODBI	Odobesti	1.88 178	⇓	S	Sb	21 28 59.3	-0.7
ODBI	Odobesti	1.88 178	⇓	S	Sb	21 28 59.3	-0.7
STNU	Starunia	1.96 304	*i*	P	Pb	21 28 37.3	-0.2
STNU			*e*	S	Sb	21 29 01.7	-0.5
DOPR	Dopca	1.99 213	⇑	P	Pn	21 28 36.1	+0.4
DOPR	Dopca	1.99 213	⇑	P	Pn	21 28 36.1	+0.4
BISRR	Bisoca	2.10 185	⇑	P	Pn	21 28 37.4	+0.1
BISRR	Bisoca	2.10 185	⇑	P	Pn	21 28 37.4	+0.1
MLR	Muntele Rosu	2.26 198	⇑	S	Sn	21 29 09.0	+1.1
MLR	Muntele Rosu	2.26 198	⇑	S	Sn	21 29 09.0	+1.1
BMR	Baia Mare	2.33 272	⇓	P	Pn	21 28 40.4	-0.1
BMR			⇑	S	Sn	21 29 09.9	+0.3
BMR	Baia Mare	2.33 272	⇑	P	Pn	21 28 40.4	-0.1
CFR	Carcaliu	2.60 161	⇑	P	Pn	21 28 44.2	+0.2
CFR			⇓	S	Sn	21 29 15.6	-0.4
CFR	Carcaliu	2.60 161	⇑	P	Pn	21 28 44.2	+0.2

*SJA **30** 21:51:09.0±0.4,22°.90S×63°.87W,h597km±4km, ML4.8, MW4.7*
*VAO **30** 21:51:15.8±0.2,22°.88S×63°.75W,h526km±4km, mb4.9*
*NEIC **30** 21:51:15.8±1.5,22°.82S±0°.09×63°.7W±0°.1,h520km±6km, mb4.8/428, Error ellipse: s-maj=14.0km s-min=12.3km az=64.0*
*IDC **30** 21:51:17.0±0.5,22°.75S×63°.71W,h528km±5km, mb4.1/27, mb1 4.2/34, mb1mx4.1/52, mbtmp5.0/34, Error ellipse: s-maj=9.3km s-min=7.1km az=51.0*

ISC 30 21:51:17.5±0.3,**22°.87S**±0°.04×**63°.77W**±0°.05,**h550**km, **n872**,σ1§**51**/825,**mb4.7**/218,**10C-2D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.76 293**		*eP*	**P**	**21 52 26.2**	**-0.6**
YJA				*eS*	**S**	**21 53 21.1**	**-1.9**
YJA				IAML		21 53 31.2	
	comp=Z,104nm,1.2s						
SLA	**San Lorenzo**	**2.44 220**	⇓	*i*P	**P**	**21 52 27.8**	**-1.7**
SLA				*i* S	**S**	**21 53 23.4**	**-4.7**
FSA	**Cafayete**	**3.81 212**		*eP*	**P**	**21 52 36.2**	**-1.9**
AHML	**Horco Molle**	**4.15 200**		*eP*	**P**	**21 52 38.8**	**-1.8**
AHML				*eS*	**S**	**21 53 46.7**	**-1.6**
AHML				IAML		21 53 52.8	
	comp=Z,43nm,1.0s						
LVC	**Limon Verde**	**4.75 272**		P	**P**	**21 52 43.7**	**-2.1**
	comp=Z,231nm,0.3s,baz=100,slow=5.6,SNR=1373						
LVC				S	**S**	**21 53 52.3**	**-5.4**
	comp=Z,175nm,0.3s,baz=234,slow=20,SNR=34						
LVC	**Limon Verde**	**4.75 272**	⇓	*i*P	**P**	**21 52 43.7**	**-2.1**
LVC				*eS*	**S**	**21 53 51.9**	**-5.8**
LVC	**Limon Verde**	**4.75 272**			**P**	**21 52 43.4**	**-2.4**
LVC				S	**S**	**21 53 54.1**	**-3.6**
LVC	**Limon Verde**	**4.75 272**		*eP*	**P**	**21 52 43.7**	**-2.1**
LVC				*eS*	**S**	**21 53 52.5**	**-5.2**
LVC	**Limon Verde**	**4.75 272**		*eP*	**P**	**21 52 43.6**	**-2.1**
LVC				*eS*	**S**	**21 53 53.5**	**-4.2**
LVC				IAML		21 53 59.0	
	comp=Z,366nm,0.3s						
PB09	**IPOC Station P**	**5.18 281**	⇑	*i*P	**P**	**21 52 47.6**	**-1.6**
PB09	**IPOC Station P**	**5.18 281**		P	**P**	**21 52 46.9**	**-2.3**
PB09				S	**S**	**21 54 00.8**	**-3.1**
PB09	**IPOC Station P**	**5.18 281**		*eP*	**P**	**21 52 47.6**	**-1.6**
PB09				*eS*	**S**	**21 54 00.2**	**-3.7**
PB09				IAML		21 54 08.6	
	comp=Z,860nm,0.3s						
PB15	**IPOC Station P**	**5.26 265**	⇑	*i*P	**P**	**21 52 47.6**	**-2.2**
PB15				*i* S	**S**	**21 54 00.9**	**-4.3**
PB15	**IPOC Station P**	**5.26 265**		P	**P**	**21 52 47.6**	**-2.2**
PB15				S	**S**	**21 54 01.5**	**-3.8**
PB15	**IPOC Station P**	**5.26 265**		*eP*	**P**	**21 52 47.8**	**-2.1**
PB15				*eS*	**S**	**21 54 01.0**	**-4.3**
PB06	**IPOC Station P**	**5.36 271**		P	**P**	**21 52 48.4**	**-2.2**
PB06	**IPOC Station P**	**5.36 271**		*eP*	**P**	**21 52 48.6**	**-2.0**
PB06				*eS*	**S**	**21 54 02.6**	**-4.1**
PB03	**IPOC Station P**	**5.60 277**	⇑	*i*P	**P**	**21 52 50.7**	**-2.0**
PB03				*eS*	**S**	**21 54 05.3**	**-5.2**
PB01	**IPOC Station P**	**5.61 288**	⇑	*i*P	**P**	**21 52 51.0**	**-1.8**
PB01				*eS*	**S**	**21 54 04.2**	**-6.4**
PB01	**IPOC Station P**	**5.61 288**		P	**P**	**21 52 50.7**	**-2.1**
PB08	**IPOC Station P**	**5.70 297**		*eP*	**P**	**21 52 52.8**	**-1.2**
PB08				*eS*	**S**	**21 54 07.1**	**-5.6**
PB08	**IPOC Station P**	**5.70 297**		P	**P**	**21 52 51.6**	**-2.4**
PB08				S	**S**	**21 54 09.7**	**-2.9**
PB07	**IPOC Station P**	**5.78 280**		P	**P**	**21 52 52.5**	**-1.9**
GO02	**Mina Guanaco**	**5.79 246**				**21 52 52.3**	**-2.3**
GO02				S	**S**	**21 54 11.0**	**-2.9**
PB02	**IPOC Station P**	**5.89 284**	⇑	*i*P	**P**	**21 52 53.5**	**-1.8**
PB02				*i* S	**S**	**21 54 10.3**	**-4.9**
PB04	**IPOC Station P**	**5.92 274**			**P**	**21 52 53.5**	**-2.1**
PB04	**IPOC Station P**	**5.92 274**		*eP*	**P**	**21 52 53.9**	**-1.8**
PB04				*eS*	**S**	**21 54 11.6**	**-4.2**
PB05	**IPOC Station P**	**5.94 269**		*eP*	**P**	**21 52 53.9**	**-1.8**
PB05				*eS*	**S**	**21 54 12.5**	**-3.5**
GO01	**Chusmiza**	**5.98 301**	⇑	*i*P	**P**	**21 52 55.5**	**-1.1**
GO01	**Chusmiza**	**5.98 301**		P	**P**	**21 52 54.5**	**-2.1**
AC02	**Maricunga**	**6.27 230**			**P**	**21 52 56.2**	**-2.9**
PATCX	**Punta Patache**	**6.27 288**		P	**P**	**21 52 57.0**	**-1.8**
PB11	**IPOC Station P**	**6.30 298**	⇑	*i*P	**P**	**21 52 57.5**	**-1.7**
PB11				*i* S	**S**	**21 54 17.6**	**-5.0**
PB11	**IPOC Station P**	**6.30 298**			**P**	**21 52 57.0**	**-2.1**
PB14	**IPOC Station P**	**6.33 253**			**P**	**21 52 57.0**	**-2.5**
PB14	**IPOC Station P**	**6.33 253**		*eP*	**P**	**21 52 57.8**	**-1.7**
PB14				*eS*	**S**	**21 54 19.9**	**-3.0**
TA01	**Diego Aracena**	**6.39 290**	⇑	*i*P	**P**	**21 52 58.1**	**-1.7**
TA01				*i* S	**S**	**21 54 18.6**	**-4.8**
TA01	**Diego Aracena**	**6.39 290**			**P**	**21 52 58.0**	**-1.7**
TA02	**Huaiquique**	**6.46 292**		*eP*	**P**	**21 52 58.8**	**-1.6**
TA02				*i* S	**S**	**21 54 19.8**	**-4.8**
MNMC	**Minye Minye**	**6.59 303**		P	**P**	**21 53 00.7**	**-1.3**
PSGC	**Pisagua**	**6.76 298**	⇑	*i*P	**P**	**21 53 01.6**	**-1.8**
PSGCX	**Pisagua**	**6.76 298**			**P**	**21 53 01.6**	**-1.9**
CPUP	**Villa Florida**	**6.80 122**		P	**P**	**21 53 02.4**	**-1.1**
	comp=Z,14nm,0.3s,baz=316,slow=9.4,SNR=178						
CPUP				S	**S**	**21 54 28.2**	**-2.2**
	baz=13,slow=14,SNR=1.8						
CPUP	**Villa Florida**	**6.80 122**		P	**P**	**21 53 01.7**	**-1.8**
PB16	**IPOC Station P**	**7.02 309**	⇑	*i*P	**P**	**21 53 06.1**	**-0.3**
PB16				*i* S	**S**	**21 54 32.5**	**-2.9**
AC01	**Pan de Azucar**	**7.03 241**			**P**	**21 53 04.7**	**-1.0**
VCA	**Vinchina**	**7.08 213**		*eP*	**P**	**21 53 04.9**	**-1.5**
VCA				*eS*	**S**	**21 54 30.9**	**-4.6**
SIV	**San Ignacio**	**7.30 21**		P	**P**	**21 53 07.8**	**-0.8**
	comp=Z,5.3nm,0.3s,baz=214,slow=7.7,SNR=42						
SIV				S	**S**	**21 54 36.6**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=273,slow=4.4,SNR=1.2						
LPAZ	**La Paz**	**7.73 327**		P	**P**	**21 53 12.7**	**-0.7**
	comp=Z,51nm,0.3s,baz=121,slow=4.4,SNR=916						
LPAZ				S	**S**	**21 54 43.9**	**-4.3**
	comp=Z,6.8nm,0.3s,baz=46,slow=24,SNR=6.7						
LPAZ	**La Paz**	**7.73 327**		*eP*	**P**	**21 53 11.4**	**-2.0**
LPAZ				*eS*	**S**	**21 54 43.8**	**-4.3**
TCA	**Tanti**	**8.47 185**		*eP*	**P**	**21 53 17.2**	**-2.7**
TCA				*eS*	**S**	**21 55 01.1**	**+0.7**
AC04	**Llanos de Chal**	**8.47 230**		P	**P**	**21 53 19.2**	**-0.7**
PTLB	**Pontes e Lacer**	**8.58 31**		*eP*	**P**	**21 53 20.9**	**-0.2**
PTLB				*eS*	**S**	**21 55 01.2**	**-1.3**
ACDV	**Cuesta del Vie**	**8.71 212**		*eP*	**P**	**21 53 22.2**	**-0.2**
ACDV				*eS*	**S**	**21 55 03.2**	**-1.8**
LCO	**Las Campanas**	**8.74 224**		P	**P**	**21 53 22.0**	**-0.8**
AROD	**Rodeo**	**8.88 214**		*eP*	**P**	**21 53 24.6**	**+0.2**
AROD				*eS*	**S**	**21 55 05.8**	**-2.6**
ACCO	**Cerro Coronel**	**9.03 210**		*eS*	**S**	**21 55 09.5**	**-1.6**
ITQB	**Itaqui**	**9.32 138**		*eP*	**P**	**21 53 27.8**	**-0.7**
ITQB				*eS*	**S**	**21 55 13.7**	**-2.4**
RTLL	**Cerro Villicun**	**9.41 205**		*eP*	**P**	**21 53 28.4**	**-1.0**
RTLL				*eS*	**S**	**21 55 14.1**	**-3.6**
MRA	**San Martin**	**9.67 190**		*eP*	**P**	**21 53 28.3**	**-3.8**
MRA				*eS*	**S**	**21 55 17.9**	**-4.7**
ZON	**Zonda**	**9.68 206**		*eP*	**P**	**21 53 31.8**	**-0.4**
ZON				*eS*	**S**	**21 55 19.7**	**-3.1**
RTCV	**Cerro Valdivia**	**9.91 204**		*eS*	**S**	**21 55 24.3**	**-2.8**
RTLS	**Leoncito**	**10.16 208**		*eP*	**P**	**21 53 35.3**	**-2.0**
RTLS				*eS*	**S**	**21 55 33.8**	**+1.6**
TRCB	**Terra Rica**	**10.27 92**		*eP*	**P**	**21 53 37.2**	**-1.1**
VILB	**Vilhena**	**10.43 20**		*eP*	**P**	**21 53 39.1**	**-0.9**
VILB				*eS*	**S**	**21 55 35.4**	**-1.7**
CO02	**Combarbal**	**10.51 216**		P	**P**	**21 53 39.5**	**-1.2**
AUSP	**Uspallata**	**10.57 207**		*eP*	**P**	**21 53 41.5**	**0.0**
AUSP				*eS*	**S**	**21 55 42.7**	**+2.9**
ITAB	**Concordia**	**11.41 115**		*eP*	**P**	**21 53 48.0**	**-1.9**
ITAB				*eS*	**S**	**21 55 53.1**	**-2.1**
PCMB	**Pacaembu**	**11.65 86**		*eP*	**P**	**21 53 51.1**	**-1.4**
CPSB	**Cacapava Do Su**	**11.90 131**		*eP*	**P**	**21 53 53.2**	**-1.8**
PEL	**Peldehue**	**11.92 209**		P	**P**	**21 53 53.6**	**-1.5**
MT05	**Renca**	**12.15 209**		P	**P**	**21 53 56.4**	**-1.1**
MT02	**Curacav**	**12.22 211**		P	**P**	**21 53 56.9**	**-1.3**
PLTB	**Pedras Altas**	**12.65 137**		*eP*	**P**	**21 54 00.5**	**-2.2**
ITRB	**Iturama**	**12.89 78**		*eP*	**P**	**21 54 03.4**	**-1.9**
ETMB	**Extrema**	**13.19 349**		*eP*	**P**	**21 54 06.2**	**-2.2**
CNLB	**Canela**	**13.26 122**		*eP*	**P**	**21 54 06.3**	**-2.8**
ARAG	**Araguaiana, MT**	**13.34 60**		*eP*	**P**	**21 54 08.2**	**-1.9**
BO02	**Sierra Bellavi**	**13.37 206**		P	**P**	**21 54 09.5**	**-0.7**
TIJ01	**Guaruva-PR**	**13.70 103**		*eP*	**P**	**21 54 12.1**	**-1.6**
SAML	**Samuel**	**13.85**		P	**P**	**21 54 13.5**	**-1.9**
GO05	**Hualia**	**14.04 209**		P	**P**	**21 54 14.8**	**-2.2**
CLDB	**Colider**	**14.15 34**		*eP*	**P**	**21 54 15.2**	**-3.3**
BB19B	**Bebedouro**	**14.25 86**		*eP*	**P**	**21 54 17.0**	**-2.5**
SPB	**Sao Paulo**	**15.04 96**		P	**P**	**21 54 24.6**	**-2.8**
SPB	**Sao Paulo**	**15.04 96**		*eP*	**P**	**21 54 25.2**	**-2.2**
PET01	**Itanhaem-SP**	**15.19 99**		*eP*	**P**	**21 54 26.2**	**-2.8**
BI02	**San Fabin de**	**15.21 204**		P	**P**	**21 54 28.4**	**-0.6**
IPMB	**Ipameri, GO**	**15.37 74**		*eP*	**P**	**21 54 28.3**	**-2.6**
VAO	**Valinhos**	**15.48 94**		*eP*	**P**	**21 54 29.0**	**-3.1**
SNDB	**Serra Nova Dou**	**16.08 50**		*eP*	**P**	**21 54 35.5**	**-2.5**
NNA	**Nana**	**16.50 309**		P	**P**	**21 54 42.4**	**+0.5**
	comp=Z,3.3nm,0.3s,baz=150,slow=11,SNR=5.6						
NNA	**Nana**	**16.50 309**		P	**P**	**21 54 40.9**	**-1.1**
NNA				IAmb	IAmb	21 54 43.5	
	comp=Z,28nm,0.9s						
BDFB	**Brasilia**	**16.51 67**		P	**P**	**21 54 40.4**	**-1.8**
	comp=Z,24nm,0.3s,baz=241,slow=10,SNR=224						
BDFB	**Brasilia**	**16.51 67**		P	**P**	**21 54 40.3**	**-1.8**
PARB	**Paraibuna**	**16.70 95**		*eP*	**P**	**21 54 41.6**	**-2.1**
NPGB	**Novo Progresso**	**17.69 29**		*eP*	**P**	**21 54 51.9**	**-0.9**
BSCB	**Bom Sucesso**	**17.72 88**		*eP*	**P**	**21 54 52.1**	**-0.9**
ESAR	**Angra dos Reis**	**17.80 94**		*eP*	**P**	**21 54 52.7**	**-0.9**
MAN01	**Angra dos Reis**	**18.25 94**		*eP*	**P**	**21 54 56.9**	**-1.0**
PLCA	**Paso Flores**	**18.71 196**		P	**P**	**21 55 02.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=18,slow=11,SNR=13						
PLCA				PcP	**PcP**	**21 59 03.4**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=42,slow=3.6,SNR=5.5						
VAS01	**Vassouras-RJ**	**18.78 92**		*eP*	**P**	**21 55 02.3**	**-0.4**
MACA	**Manacapuru-AM**	**19.82 9**		*eP*	**P**	**21 55 11.6**	**-0.5**
JANB	**Januaria**	**19.96 71**		*eP*	**P**	**21 55 13.0**	**-0.4**
ITTB	**Itaituba**	**19.97 24**		*eP*	**P**	**21 55 13.1**	**-0.3**
SDBA	**SAO DESIDERIO**	**20.75 63**		*eP*	**P**	**21 55 20.0**	**-0.6**
SMTB	**Santa Maria do**	**20.85 51**		*eP*	**P**	**21 55 21.6**	**+0.1**
ATAH	**Atahualpa**	**21.05 316**		P	**P**	**21 55 26.8**	**+3.1**
	comp=Z,8.5nm,0.7s,baz=149,slow=5.1,SNR=3.8						
PRPB	**Parauapebas**	**21.37 41**		*eP*	**P**	**21 55 25.4**	**-0.8**
SJMB	**Sao Joao De Ma**	**21.51 83**		*eP*	**P**	**21 55 26.7**	**-0.7**
BSFB	**Barra de Sao F**	**21.79 84**		*eP*	**P**	**21 55 29.0**	**-0.9**
RIB01	**Linhares ES**	**22.09 85**		*eP*	**P**	**21 55 31.8**	**-0.8**
MALB	**Monte Alegre**	**22.84 25**		*eP*	**P**	**21 55 39.1**	**-0.2**
MCPB	**Macapa, AP**	**25.11 29**		*eP*	**P**	**21 55 59.6**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**25.42 39**		*eP*	**P**	**21 56 02.3**	**+0.1**
GUVC	**San Jose del G**	**26.70 340**		*eP*	**P**	**21 56 12.8**	**-0.7**
GCUF	**Volcan Galeras**	**27.36 329**		*eP*	**P**	**21 56 21.1**	**+1.3**
GARC	**Garzon, Huila**	**27.40 334**		*eP*	**P**	**21 56 19.0**	**-0.9**
ROSB	**Rosrio**	**27.51 47**		*eP*	**P**	**21 56 19.9**	**-0.6**
SOTA	**Rioblanco**	**27.83 332**		*eP*	**P**	**21 56 24.1**	**+0.3**
BETC	**Betania**	**27.83 334**		*eP*	**P**	**21 56 23.3**	**-0.2**
POPC	**Popayan, Colom**	**28.22 332**		*eP*	**P**	**21 56 27.1**	**+0.1**
PRAC	**Prado**	**28.56 336**		*eP*	**P**	**21 56 28.9**	**-0.8**
ORTC	**Ortega, Tolima**	**28.88 336**		*eP*	**P**	**21 56 31.8**	**-0.7**
CHIC	**Chingaza**	**29.01 339**		*eP*	**P**	**21 56 33.7**	**-0.4**
GR1C	**Gorgona, Isla**	**29.30 330**		*eP*	**P**	**21 56 36.3**	**+0.1**
YOTC	**Yotoco, Valle**	**29.38 334**		*eP*	**P**	**21 56 35.2**	**-1.7**
ROSC	**El Rosal**	**29.41 338**		P	**P**	**21 56 38.3**	**+0.8**
	comp=Z,27nm,0.3s,baz=102,slow=6.0,SNR=6.3						
ROSC	**El Rosal**	**29.41 338**		*eP*	**P**	**21 56 38.0**	**+0.5**
ROSC	**El Rosal**	**29.41 338**		P	**P**	**21 56 38.0**	**+0.5**
ANIL	**Santa Ana**	**29.47 336**		*eP*	**P**	**21 56 36.6**	**-1.3**
TOLC	**Tolima**	**29.53 336**		*eP*	**P**	**21 56 37.5**	**-1.0**
RREF	**El Recreo**	**29.83 336**		*eP*	**P**	**21 56 37.5**	**-3.9**
MDP	**Montagnes des**	**29.85 23**		P	**P**	**21 56 40.7**	**-0.1**
	comp=Z,26nm,0.8s,baz=202,slow=9.5,SNR=13						
RUSC	**La Rusia**	**30.00 341**		*eP*	**P**	**21 56 42.2**	**-0.5**
SPBC	**San Pablo de B**	**30.08 339**		*eP*	**P**	**21 56 43.0**	**0.0**
BARC	**Barichara**	**30.70 341**		*eP*	**P**	**21 56 46.8**	**-1.6**
CBOC	**Ciudad Bolivar**	**30.97 336**		*eP*	**P**	**21 56 49.5**	**-1.1**
PTBC	**PUERTO BERRIO,**	**31.04 339**		*eP*	**P**	**21 56 48.0**	**-3.1**
PAMC	**Pamplona, Colo**	**31.27 343**		*eP*	**P**	**21 56 52.4**	**-1.2**
BRRC	**Barranca, Sant**	**31.34 341**		*eP*	**P**	**21 56 51.0**	**-2.7**
RCBR	**Riachuelo**	**31.77 62**		P	**P**	**21 56 57.9**	**+0.5**
	comp=Z,36nm,0.7s,baz=224,slow=10,SNR=20						
RCBR	**Riachuelo**	**31.77 62**		P	**P**	**21 56 56.7**	**-0.7**
RCBR	**Riachuelo**	**31.77 62**		*eP*	**P**	**21 56 57.9**	**+0.5**
DBBC	**Dabeiba**	**32.10 336**		*eP*	**P**	**21 56 58.7**	**-1.5**
SDV	**Santo Domingo**	**32.27 347**		P	**P**	**21 57 00.7**	**-1.0**
	comp=Z,36nm,0.4s,baz=154,slow=5.8,SNR=26						
SDV	**Santo Domingo**	**32.27 347**		*eP*	**P**	**21 57 00.7**	**-1.0**
SDV	**Santo Domingo**	**32.27 347**		P	**P**	**21 57 00.8**	**-1.0**
SDV	**Santo Domingo**	**32.27 347**		*eP*	**P**	**21 57 00.5**	**-1.3**
OCAC	**Ocana**	**32.30 342**		*eP*	**P**	**21 56 58.5**	**-3.5**
UREC	**San Jos de Ur**	**32.54 338**		*eP*	**P**	**21 57 01.5**	**-2.3**
PCRV	**Puerto La Cruz**	**32.85 358**		P	**P**	**21 57 06.8**	**+0.2**
	comp=Z,16nm,0.5s,baz=174,slow=5.1,SNR=11						
MOTC	**Monteria, Cord**	**33.54 338**		*eP*	**P**	**21 57 10.2**	**-2.1**
PAYG	**Puerto Ayora**	**33.93 307**		P	**P**	**21 57 14.7**	**-0.9**
PAYG				IAmb	IAmb	21 57 16.0	
	comp=Z,40nm,1.0s						
ARGC	**Ariguani, Magd**	**34.11 341**		*eP*	**P**	**21 57 15.2**	**-1.8**
SJCC	**San Jacinto, C**	**34.43 340**		*eP*	**P**	**21 57 17.8**	**-2.0**
GRGR	**Grenville**	**34.85 4**		P	**P**	**21 57 22.6**	**-0.6**
URIC	**Uribia, Colomb**	**35.29 346**		*eP*	**P**	**21 57 23.4**	**-3.4**
SMRC	**Santa Marta, M**	**35.34 342**		*eP*	**P**	**21 57 24.3**	**-3.0**
SVB	**Belmont**	**36.00 4**		P	**P**	**21 57 32.1**	**-0.7**
MCLT	**Moule a Chique**	**36.46 5**		P	**P**	**21 57 35.5**	**-1.0**
FDF	**Fort de France**	**37.46 4**		P	**P**	**21 57 44.0**	**-0.7**
HOPE	**Hope Point**	**37.47 154**		P	**P**	**21 57 45.0**	**+0.7**
HOPE				IAmb	IAmb	21 57 45.7	
	comp=Z,48nm,1.1s						
JTS	**Las Juntas de**	**38.94 326**		P	**P**	**21 57 58.9**	**+2.0**
JTS				IAmb	IAmb	21 58 00.2	
	comp=Z,42nm,0.9s						
ICMP	**Isla Caja de M**	**40.59 356**		P	**P**	**21 58 09.0**	**-1.0**
MLPR	**Magueyes Islan**	**40.71 355**		P	**P**	**21 58 09.6**	**-1.3**
MTP	**Monte Pirata**	**40.75 357**		IAmb	IAmb	21 58 09.5	
	comp=Z,16nm,0.6s						
OBIP	**Obispado Ponce**	**40.76 356**		P	**P**	**21 58 10.0**	**-1.3**
SJG	**San Juan**	**40.80 357**		P	**P**	**21 58 10.4**	**-1.2**
	comp=Z,36nm,0.5s,baz=171,slow=6.0,SNR=19						
SJG	**San Juan**	**40.80 357**		P	**P**	**21 58 10.2**	**-1.3**
HUMP	**Col San Antoni**	**40.81 357**		IAmb	IAmb	21 58 13.1	
	comp=Z,47nm,1.1s						
CBYP	**Canovanas**	**40.94 357**		IAmb	IAmb	21 58 11.8	
	comp=Z,31nm,0.9s						
CUPR	**Culebra, Puert**	**40.95 358**		P	**P**	**21 58 10.7**	**-2.1**
CUPR				IAmb	IAmb	21 58 12.5	
	comp=Z,31nm,1.0s						
MPR	**Mayaguez**	**40.96 355**		P	**P**	**21 58 11.1**	**-1.8**
GCPR	**Guaynabo City**	**40.99 357**		IAmb	IAmb	21 58 13.1	
	comp=Z,22nm,0.7s						
EMPR	**Esperanza - Ma**	**41.18 356**		P	**P**	**21 58 13.1**	**-1.5**
AGPR	**Aguadilla, PR**	**41.21 355**		P	**P**	**21 58 13.1**	**-1.8**
SDD	**Santo Domingo**	**41.51 351**		P	**P**	**21 58 13.6**	**-0.6**
BANI	**BANI**	**41.51 351**		P	**P**	**21 58 17.3**	**-0.1**
MATN	**Matagalpa**	**41.68 326**		IAmb	IAmb	21 58 21.5	
	comp=Z,47nm,1.0s						
LGNH	**Logne**	**42.02 347**		P	**P**	**21 58 20.9**	**-0.3**
LGNH				IAmb	IAmb	21 58 21.8	
	comp=Z,24nm,0.5s						
CRIN	**San Cristobal**	**42.07 325**		P	**P**	**21 58 20.9**	**-0.8**
SDDR	**Presa de Saban**	**42.24 349**		IAmb	IAmb	21 58 25.0	
	comp=Z,21nm,0.6s						
MTDJ	**Mount Denham**	**43.00 341**		P	**P**	**21 58 28.7**	**-0.4**
MTDJ				IAmb	IAmb	21 58 28.9	
	comp=Z,28nm,0.9s						
GTBY	**Guantanamo Bay**	**43.95 345**		P	**P**	**21 58 35.3**	**-0.9**
GTBY				IAmb	IAmb	21 58 36.1	
	comp=Z,20nm,0.8s						
MTO3	**Montecristo**	**44.72 323**		P	**P**	**21 58 39.4**	**-3.1**
ESQI	**Esquipulas**	**44.84 324**		P	**P**	**21 58 44.5**	**+1.1**
CBCY	**The Bluff, Cay**	**45.13 339**		P	**P**	**21 58 44.2**	**-1.1**
LCCY	**Blossom Villag**	**45.18 338**		P	**P**	**21 58 45.5**	**-0.2**
FSCY	**Frank Sound, G**	**45.24 337**		P	**P**	**21 58 45.3**	**-0.9**
APG	**El Apazote**	**45.83 323**		P	**P**	**21 58 51.8**	**+0.8**
	comp=Z,14nm,0.9s,baz=158,slow=6.0,SNR=16						
CCIG	**Comitan**	**47.80 322**		IAmb	IAmb	21 59 06.9	
	comp=Z,23nm,0.7s						
TEIG	**Tepich**	**49.06 329**		P	**P**	**21 59 14.7**	**-0.2**
TEIG				IAmb	IAmb	21 59 15.4	
	comp=Z,47nm,0.9s						
ASCN	**Ascension**	**49.65 81**		P	**P**	**21 59 17.8**	**-1.7**
CMIG	**Matias Romero**	**50.03 320**		P	**P**	**21 59 22.8**	**+0.7**
	comp=Z,24nm,0.7s,baz=96,slow=7.6,SNR=27						
TLIG	**Tlapa**	**52.65 317**		P	**P**	**21 59 41.7**	**+0.5**
TLIG				IAmb	IAmb	21 59 43.8	
	comp=Z,20nm,0.7s						
BBSR	**BB Station**	**54.94 359**		P	**P**	**21 59 56.9**	**0.0**
456A	**Hilliard**	**56.09 341**		P	**P**	**22 00 05.4**	**+0.5**
553A	**Crawfordville**	**56.37 338**		P	**P**	**22 00 07.3**	**+0.5**
TIGA	**Tifton**	**57.24 340**		P	**P**	**22 00 13.0**	**+0.2**
	baz=158						
VNA3	**Neumayer Olymp**	**57.28 162**		P	**P**	**22 00 13.8**	**+1.2**
255A	**Hazlehurst**	**57.35 341**		P	**P**	**22 00 14.0**	**+0.5**
255A				IAmb	IAmb	22 00 15.0	
	comp=Z,88nm,1.1s						
VNA1	**Neumayer--Stat**	**57.42 161**		P	**P**	**22 00 15.1**	**+1.6**
158A	**Hollywood**	**57.48 344**		P	**P**	**22 00 15.1**	**+0.8**
	baz=162						
157A	**Early Branch**	**57.63 343**		P	**P**	**22 00 16.3**	**+0.9**
	baz=161						
RGRS	**Roger Stewart**	**57.64 344**		P	**P**	**22 00 16.1**	**+0.6**
VNA2	**Neumayer--Watz**	**57.80 161**		P	**P**	**22 00 17.4**	**+1.3**
NHSC	**New Hope**	**57.82 344**		P	**P**	**22 00 17.6**	**+0.9**
	baz=162						
Z58A	**St. Stephen**	**57.95 344**		P	**P**	**22 00 18.8**	**+1.2**
	baz=162						
Z57A	**Bowman**	**58.14 343**		P	**P**	**22 00 19.4**	**+0.6**
	baz=162						
BRAL	**Brewton**	**58.18 336**		P	**P**	**22 00 19.5**	**+0.3**
	baz=155						
Y60A	**Bolivia**	**58.21 346**		P	**P**	**22 00 19.5**	**+0.2**
	baz=164						
Y60A	**Bolivia**	**58.21 346**		P	**P**	**22 00 19.8**	**+0.5**
Y60A				IAmb	IAmb	22 00 20.3	
	comp=Z,56nm,0.8s						
250A	**Grady**	**58.63 338**		IAmb	IAmb	22 00 23.0	
	comp=Z,28nm,0.7s

comp=Z,48nm,0.8s
T56A **Rocky Mt** **61.52 345** P **P** **22 00 42.1 +0.8**
baz=163
V51A **Loudon** **61.52 341** P **P** **22 00 40.6 -0.7**
S59A **Mechanicsville** **61.64 348** P **P** **22 00 42.4 +0.4**
baz=166
RCRC **Randolf Colleg** **61.73 346** P **P** **22 00 42.8 +0.1**
T55A **Pulaski** **61.78 345** P **P** **22 00 43.7 +0.7**
baz=162,SNR=5.8
BLA **Blacksburg** **61.78 345** P **P** **22 00 43.7 +0.6**
baz=162
BLA **Blacksburg** **61.78 345** P **P** **22 00 43.3 +0.2**
BLA IAmb IAmb 22 00 44.3
comp=Z,14nm,0.6s
NATX **Nacogdoches** **61.85 330** P **P** **22 00 44.2 +0.7**
NATX IAmb IAmb 22 00 46.0
comp=Z,53nm,1.1s
T54A **Tazewell** **61.93 344** P **P** **22 00 44.4 +0.4**
baz=161,SNR=7.6
R58B **Mineral** **61.95 347** P **P** **22 00 44.4 +0.4**
baz=165,SNR=5.1
R58B **Mineral** **61.95 347** IAmb IAmb 22 00 45.0
comp=Z,17nm,0.6s
S57A **Dark Hollow, R** **61.98 346** P **P** **22 00 44.9 +0.7**
baz=164
S57A **Dark Hollow, R** **61.98 346** P **P** **22 00 44.9 +0.7**
TZTN **Tazewell** **61.98 342** P **P** **22 00 44.2 0.0**
baz=159
TZTN **Tazewell** **61.98 342** P **P** **22 00 44.3 0.0**
PLAL **Pickwick Lake** **61.99 337** P **P** **22 00 43.4 -1.0**
PLAL IAmb IAmb 22 00 44.7
comp=Z,20nm,0.8s
R60A **Leonardtown, M** **61.99 349** P **P** **22 00 45.3 +1.0**
baz=167
R59A **King George, V** **62.03 348** P **P** **22 00 45.2 +0.7**
baz=166
S56A **Natural Bridge** **62.03 346** P **P** **22 00 45.4 +0.7**
baz=163
OXF **Oxford** **62.05 336** P **P** **22 00 43.9 -0.9**
baz=153,SNR=5.3
OXF **Oxford** **62.05 336** IAmb IAmb 22 00 44.9
comp=Z,40nm,1.1s
CBN **Corbin Frederi** **62.08 348** P **P** **22 00 45.1 +0.3**
baz=166
CBN **Corbin Frederi** **62.08 348** P **P** **22 00 45.2 +0.3**
T53A **Wise** **62.11 343** P **P** **22 00 45.4 +0.2**
baz=160,SNR=9.7
V48A **Smith Brothers** **62.24 339** IAmb IAmb 22 00 46.4
comp=Z,25nm,0.7s
R58A **Rapidan** **62.30 347** P **P** **22 00 46.9 +0.6**
baz=165,SNR=5.1
S55A **Lewisburg** **62.34 345** P **P** **22 00 47.4 +0.8**
baz=162,SNR=8.2
R57A **Stanardsville** **62.40 347** P **P** **22 00 47.8 +0.9**
baz=165,SNR=5.6
435B **Jarrell** **62.44 327** P **P** **22 00 48.4 +1.0**
baz=145
435B **Jarrell** **62.44 327** P **P** **22 00 47.9 +0.5**
435B IAmb IAmb 22 00 49.4
comp=Z,20nm,0.7s
S54A **Dingess, Beckl** **62.56 344** P **P** **22 00 48.6 +0.5**
baz=162,SNR=10
Q60A **Greensboro** **62.58 349** P **P** **22 00 49.1 +1.0**
baz=167
Q60A **Greensboro** **62.58 349** P **P** **22 00 49.1 +1.0**
237A **Washetta, Mont** **62.58 329** P **P** **22 00 49.5 +1.2**
237A IAmb IAmb 22 00 50.7
comp=Z,42nm,0.8s
Q59A **Harwood** **62.59 349** P **P** **22 00 48.6 +0.5**
baz=166
U49A **Red Boiling Sp** **62.62 340** P **P** **22 00 48.0 -0.4**
U49A IAmb IAmb 22 00 48.7
comp=Z,16nm,0.7s
X43A **Marvell** **62.62 335** P **P** **22 00 48.9 +0.5**
baz=152
S53A **Williamson** **62.66 344** P **P** **22 00 48.8 +0.1**
baz=161
R56A **Bull Pasture M** **62.69 346** P **P** **22 00 49.9 +0.9**
baz=164
R55A **Marlinton** **62.74 346** P **P** **22 00 50.4 +1.2**
baz=163,SNR=5.2
R55A **Marlinton** **62.74 346** P **P** **22 00 50.0 +0.8**
R55A IAmb IAmb 22 00 52.2
comp=Z,21nm,0.9s
T50A **Nancy** **62.80 341** P **P** **22 00 49.5 -0.1**
WLAR **White Oak Lake** **62.80 333** P **P** **22 00 50.0 +0.4**
WLAR IAmb IAmb 22 00 51.6
comp=Z,28nm,0.9s
R54A **Victor** **62.84 345** P **P** **22 00 50.5 +0.6**
baz=162,SNR=8.3
Q58A **Fox Den Farm,** **62.85 348** P **P** **22 00 50.5 +0.7**
baz=166,SNR=6.6
WVT **Waverly** **62.94 338** P **P** **22 00 50.0 -0.5**
baz=155
WVT **Waverly** **62.94 338** P **P** **22 00 50.0 -0.5**
P61A **Hammonton** **63.06 350** P **P** **22 00 51.2 +0.1**
baz=168
Q57A **Strasburg** **63.09 347** P **P** **22 00 52.6 +1.2**
baz=165,SNR=7.4
SDMD **Soldier's Deli** **63.15 349** P **P** **22 00 52.3 +0.6**
R53A **Hurricane** **63.22 344** P **P** **22 00 52.6 +0.3**
baz=161,SNR=7.1
R53A **Hurricane** **63.22 344** IAmb IAmb 22 00 53.7
comp=Z,39nm,0.8s
Q56A **Snyder Ridge,** **63.26 347** P **P** **22 00 53.8 +1.3**
baz=164,SNR=8.0
Q56A **Snyder Ridge,** **63.26 347** IAmb IAmb 22 00 54.6
comp=Z,25nm,0.8s
P59A **Jarrettsville** **63.27 349** P **P** **22 00 53.7 +1.2**
baz=167,SNR=13
P58A **Pank, Wackersv** **63.31 348** P **P** **22 00 53.6 +0.9**
baz=166
JCT **Junction City** **63.33 325** P **P** **22 00 54.0 +0.8**
baz=143,SNR=13
JCT **Junction City** **63.33 325** IAmb IAmb 22 00 55.0
comp=Z,32nm,0.7s
P60A **Greenville** **63.33 350** P **P** **22 00 53.4 +0.6**
baz=168
P60A **Greenville** **63.33 350** IAmb IAmb 22 00 54.3
comp=Z,20nm,0.7s
WHTX **Lake Whitney,** **63.36 328** P **P** **22 00 54.0 +0.7**
baz=145,SNR=5.8
Q55A **Buckhannon** **63.41 346** P **P** **22 00 54.7 +1.2**
baz=163,SNR=9.6
PSUB **Penn St. - Bra** **63.41 350** P **P** **22 00 53.9 +0.5**
UALR **University of** **63.42 334** P **P** **22 00 53.7 +0.1**
UALR IAmb IAmb 22 00 54.3
comp=Z,10nm,0.6s
O61A **Allentown** **63.44 351** P **P** **22 00 54.4 +0.8**
baz=169
P57A **Homestead Farm** **63.44 348** P **P** **22 00 54.9 +1.3**
baz=165,SNR=14
P57A **Homestead Farm** **63.44 348** P **P** **22 00 54.8 +1.2**
P57A IAmb IAmb 22 00 55.8
comp=Z,43nm,0.8s
T47A **Sharon Grove** **63.47 339** IAmb IAmb 22 00 54.2
comp=Z,48nm,1.0s
GNAR **Gosnell** **63.57 336** P **P** **22 00 55.0 +0.6**
Q54A **Coxs Mills** **63.57 345** P **P** **22 00 54.9 +0.4**
baz=162
Q54A **Coxs Mills** **63.57 345** P **P** **22 00 55.1 +0.6**
Q54A IAmb IAmb 22 00 55.4
comp=Z,16nm,0.7s
Q53A **Leroy** **63.62 345** P **P** **22 00 55.3 +0.5**
baz=162,SNR=14
P56A **Dayton Farm, R** **63.63 347** P **P** **22 00 56.1 +1.3**
baz=164,SNR=6.6
MVL **Millersville** **63.63 349** IAmb IAmb 22 00 56.6
comp=Z,18nm,0.8s
W41B **Gary Mavity, V** **63.73 334** P **P** **22 00 55.5 -0.1**
baz=151
MIAR **Mount Ida** **63.74 333** P **P** **22 00 55.7 +0.1**
baz=149,SNR=7.8
MIAR **Mount Ida** **63.74 333** P **P** **22 00 55.7 +0.1**
O60A **Telford** **63.79 350** P **P** **22 00 56.6 +0.8**
baz=168
R50A **Paris** **63.82 342** IAmb IAmb 22 00 57.0
comp=Z,15nm,0.8s
P55A **Reedsville** **63.84 346** P **P** **22 00 57.3 +1.1**
baz=163,SNR=6.5
WHAR **Wooly Hollow** **63.85 334** P **P** **22 00 56.4 +0.1**
O58A **Lewisberry** **63.85 349** P **P** **22 00 57.2 +0.9**
baz=166
Q52A **Bidwell** **63.90 344** P **P** **22 00 56.9 +0.4**
baz=161,SNR=13
O59A **Robesonia** **63.91 349** P **P** **22 00 57.4 +0.8**
baz=167

PAGS **Pennsylvania G** **63.92 349** P **P** **22 00 57.1 +0.5**
PAGS IAmb IAmb 22 00 57.8
comp=Z,18nm,0.6s
HPIG **63.97 318** P **P** **22 00 58.8 +1.3**
HPIG IAmb IAmb 22 00 59.9
comp=Z,17nm,0.6s
MCWV **Mont Chateau** **63.99 346** P **P** **22 00 58.0 +0.9**
baz=163,SNR=7.4
MCWV **Mont Chateau** **63.99 346** P **P** **22 00 57.8 +0.6**
MCWV IAmb IAmb 22 00 59.0
comp=Z,26nm,0.8s
N61A **South Mountain** **64.05 351** P **P** **22 00 58.3 +0.9**
baz=169
N63A **Mattituck** **64.05 353** P **P** **22 00 57.9 +0.5**
baz=171
LUPA **Lehigh Univers** **64.06 350** IAmb IAmb 22 01 00.4
comp=Z,17nm,1.2s
O57A **Amberson** **64.07 348** P **P** **22 00 58.8 +1.2**
baz=166,SNR=6.8
R49A **Shelbyville** **64.07 341** P **P** **22 00 57.6 0.0**
R49A IAmb IAmb 22 00 58.2
comp=Z,14nm,1.0s
P54A **Burton** **64.08 346** P **P** **22 00 58.3 +0.6**
baz=163,SNR=11
LCAR **Lake Charles** **64.09 336** IAmb IAmb 22 00 58.5
comp=Z,14nm,0.6s
P53A **Whipple** **64.18 345** P **P** **22 00 59.1 +0.7**
baz=162,SNR=15
PAL **Palisades** **64.24 351** P **P** **22 00 58.9 +0.3**
baz=170
Q51A **Peebles** **64.24 343** IAmb IAmb 22 00 59.7
comp=Z,18nm,0.7s
LIC **Lamto** **64.26 71** *e*P **P** **22 00 58.0 -1.4**
comp=Z,53nm,0.6s
N60A **Cedar Hill Far** **64.28 350** P **P** **22 00 59.4 +0.5**
baz=168
O56A **Blue Knob Stat** **64.31 347** P **P** **22 01 00.3 +1.2**
baz=165,SNR=7.2
O56A **Blue Knob Stat** **64.31 347** P **P** **22 00 59.5 +0.3**
O56A IAmb IAmb 22 01 01.3
comp=Z,24nm,0.9s
WSPT **Westport, CT** **64.33 352** P **P** **22 00 59.1 -0.1**
WSPT IAmb IAmb 22 01 00.6
comp=Z,21nm,0.7s
WCI **Wyandotte Cave** **64.35 340** P **P** **22 00 58.8 -0.6**
baz=157
WCI **Wyandotte Cave** **64.35 340** P **P** **22 00 58.8 -0.6**
Z35A **Perchaven, San** **64.36 329** P **P** **22 01 00.8 +1.1**
W39A **Magazine** **64.38 333** P **P** **22 01 00.2 +0.5**
baz=149,SNR=10
W39A **Magazine** **64.38 333** IAmb IAmb 22 01 01.3
comp=Z,17nm,0.5s
O55A **Ligonier** **64.40 347** P **P** **22 01 00.7 +1.0**
baz=164,SNR=12
M63A **Gales Ferry** **64.40 353** P **P** **22 00 60.0 +0.3**
baz=172
ODNJ **Ogdensburg** **64.42 351** IAmb IAmb 22 01 00.9
comp=Z,12nm,0.7s
N59A **State Game Lan** **64.43 350** P **P** **22 01 01.0 +1.1**
baz=168
N59A **State Game Lan** **64.43 350** P **P** **22 01 00.8 +0.9**
N59A IAmb IAmb 22 01 01.4
comp=Z,11nm,0.6s
SLBS **Sierra La Lagu** **64.46 313** P **P** **22 01 01.7 +1.1**
SLBS IAmb IAmb 22 01 03.8
comp=Z,14nm,0.7s
M64A **Tiverton** **64.46 354** P **P** **22 01 00.3 +0.2**
baz=172
TIC **Toumodi** **64.47 70** *e*P **P** **22 01 00.0 -0.8**
P52A **Corning** **64.50 344** P **P** **22 01 00.6 +0.2**
baz=161,SNR=8.4
N58A **Sunbury** **64.52 349** P **P** **22 01 01.4 +1.0**
baz=167,SNR=7.0
N58A **Sunbury** **64.52 349** IAmb IAmb 22 01 02.5
comp=Z,37nm,0.9s
M61A **Granite Spring** **64.52 352** P **P** **22 01 00.9 +0.5**
baz=170
M62A **Hamden** **64.54 352** P **P** **22 01 01.3 +0.8**
baz=171
X37A **Clayton** **64.55 331** IAmb IAmb 22 01 02.9
comp=Z,18nm,0.8s
TXAR **Lajitas Array** **64.56 322** P **P** **22 01 02.1 +1.0**
comp=Z,6.7nm,0.7s,baz=149,slow=8.2,SNR=89
TX31 **Lajitas Ar. Si** **64.56 322** IAmb IAmb 22 01 03.1
comp=Z,25nm,0.7s
KIC **Kosan Boka** **64.58 71** *e*P **P** **22 01 01.0 -0.4**
comp=Z,66nm,0.6s
N57A **Miry** **64.58 348** P **P** **22 01 01.8 +0.9**
baz=166,SNR=12
P51A **Williamsport** **64.59 344** P **P** **22 01 00.8 -0.1**
baz=160
P51A **Williamsport** **64.59 344** IAmb IAmb 22 01 01.7
comp=Z,25nm,0.8s
O54A **Avella** **64.61 346** P **P** **22 01 01.6 +0.5**
baz=163,SNR=7.3
O54A **Avella** **64.61 346** IAmb IAmb 22 01 02.5
comp=Z,19nm,0.7s
DBIC **Dimbokro** **64.63 70** P **P** **22 01 01.9 +0.1**
comp=Z,22nm,0.6s,baz=216,slow=4.3,SNR=57
DBIC S **S** **22 08 59.3 +0.1**
comp=Z,2.1nm,0.7s,baz=85,slow=20,SNR=1.7
DBIC **Dimbokro** **64.63 70** P **P** **22 01 01.0 -0.7**
DBIC IAmb IAmb 22 01 02.5
comp=Z,24nm,0.8s
M60A **Port Jervis** **64.66 351** P **P** **22 01 01.9 +0.6**
baz=169
L64A **Middleborough** **64.81 354** P **P** **22 01 02.7 +0.5**
baz=173
L63A **North Scituate** **64.81 354** P **P** **22 01 03.0 +0.8**
baz=172,SNR=7.7
S44A **Carbondale** **64.84 338** IAmb IAmb 22 01 14.3
comp=Z,17nm,0.8s
BRYW **Bryant College** **64.86 354** IAmb IAmb 22 01 04.2
comp=Z,32nm,0.8s
O53A **New Philadelph** **64.86 345** P **P** **22 01 03.2 +0.5**
baz=162,SNR=7.6
O53A **New Philadelph** **64.86 345** IAmb IAmb 22 01 04.0
comp=Z,34nm,0.8s
N56A **West Decatur** **64.88 348** P **P** **22 01 03.7 +0.9**
baz=165,SNR=8.5
O52A **Adamsville** **64.89 345** P **P** **22 01 03.1 +0.4**
baz=162
O52A **Adamsville** **64.89 345** P **P** **22 01 02.9 +0.1**
O52A IAmb IAmb 22 01 04.1
comp=Z,42nm,0.9s
N55A **Marion Center** **64.89 347** P **P** **22 01 03.8 +1.0**
baz=164,SNR=18
KSCT **Kent School, K** **64.89 352** P **P** **22 01 03.0 +0.2**
KSCT IAmb IAmb 22 01 03.8
comp=Z,16nm,0.5s
ABTX **Abilene, Hawle** **64.95 327** P **P** **22 01 04.0 +0.6**
baz=143
M59A **Waymart** **64.99 350** P **P** **22 01 04.3 +0.9**
baz=168,SNR=8.1
M58A **Prue's Panora** **64.99 349** P **P** **22 01 04.6 +1.1**
baz=167,SNR=7.3
U40A **Yellville** **65.00 334** P **P** **22 01 03.6 0.0**
baz=150,SNR=9.9
U40A **Yellville** **65.00 334** IAmb IAmb 22 01 04.6
comp=Z,15nm,0.6s
KSPA **Keystone Colle** **65.06 350** IAmb IAmb 22 01 05.6
comp=Z,22nm,0.7s
M57A **Sunshine Farm,** **65.07 349** P **P** **22 01 04.9 +0.9**
M57A **Sunshine Farm,** **65.07 349** P **P** **22 01 04.7 +0.8**
M57A IAmb IAmb 22 01 05.5
comp=Z,18nm,0.7s
P49A **Miami Univ. Ec** **65.09 342** P **P** **22 01 03.8 -0.3**
baz=159,SNR=11
O51A **Pataskala** **65.11 344** P **P** **22 01 04.3 +0.1**
baz=161,SNR=14
P48A **Milroy** **65.23 342** IAmb IAmb 22 01 04.7
comp=Z,23nm,0.6s
L60A **Shokan** **65.25 351** P **P** **22 01 06.1 +1.1**
baz=169,SNR=7.5
N54A **Moraine State** **65.27 347** P **P** **22 01 06.3 +1.1**
baz=164,SNR=8.4
N54A **Moraine State** **65.27 347** IAmb IAmb 22 01 06.7
comp=Z,29nm,0.7s
ACSO **Alum Creek Sta** **65.28 344** P **P** **22 01 05.3 0.0**
baz=160,SNR=17
L61A **Hillsdale 1, H** **65.36 352** P **P** **22 01 06.2 +0.5**
baz=170
HHAR **Hobbs** **65.38 333** IAmb IAmb 22 01 07.0
comp=Z,17nm,0.7s
M56A **Emporium** **65.41 348** P **P** **22 01 06.8 +0.8**
baz=165
M56A **Emporium** **65.41 348** IAmb IAmb 22 01 08.4

comp=Z,17nm,0.8s
HRV **Adam Dziewonsk** **65.44 354** P **P** **22 01 07.1 +0.9**
baz=172
HRV **Adam Dziewonsk** **65.44 354** P **P** **22 01 06.7 +0.5**
HRV IAmb IAmb 22 01 07.8
comp=Z,17nm,0.7s
MGMO **Mountain Grove** **65.47 335** IAmb IAmb 22 01 07.6
comp=Z,25nm,0.8s
M55A **Ridgway** **65.50 348** P **P** **22 01 07.7 +1.1**
M55A IAmb IAmb 22 01 08.4
comp=Z,34nm,1.0s
L61B **Northampton** **65.51 353** P **P** **22 01 07.1 +0.5**
baz=171,SNR=5.2
L58A **Harry Jones Me** **65.55 350** P **P** **22 01 08.0 +1.1**
baz=168,SNR=9.3
L59A **Walton** **65.56 351** P **P** **22 01 08.1 +1.0**
baz=168,SNR=5.4
L59A **Walton** **65.56 351** IAmb IAmb 22 01 09.0
comp=Z,27nm,1.0s
K63A **Dunstable** **65.62 354** P **P** **22 01 07.9 +0.6**
baz=172
L57A **Andrews Acres** **65.67 349** P **P** **22 01 08.5 +0.9**
baz=167,SNR=5.5
K62A **Royalston** **65.67 353** P **P** **22 01 08.3 +0.7**
baz=171
K62A **Royalston** **65.67 353** P **P** **22 01 08.4 +0.7**
K62A IAmb IAmb 22 01 09.3
comp=Z,12nm,0.8s
X34A **Smith Ranch, M** **65.68 330** P **P** **22 01 08.6 +0.7**
X34A IAmb IAmb 22 01 09.8
comp=Z,23nm,1.0s
W35A **Tecumseh** **65.69 331** P **P** **22 01 08.1 +0.2**
U38A **Gravette** **65.70 333** IAmb IAmb 22 01 09.5
comp=Z,9.3nm,0.4s
BINY **Binghamton** **65.72 350** P **P** **22 01 08.9 +0.9**
baz=168,SNR=6.8
BINY **Binghamton** **65.72 350** IAmb IAmb 22 01 09.4
comp=Z,22nm,0.8s
M54A **Oil Creek Stat** **65.72 347** P **P** **22 01 08.7 +0.7**
baz=164,SNR=8.5
N51A **Ashland** **65.78 345** P **P** **22 01 08.4 0.0**
baz=161
N51A **Ashland** **65.78 345** IAmb IAmb 22 01 09.3
comp=Z,31nm,0.8s
K61A **Williamstown** **65.80 352** P **P** **22 01 09.3 +0.8**
baz=170,SNR=6.5
K60A **Five Rivers En** **65.82 352** P **P** **22 01 09.4 +0.9**
baz=170
Q44A **Meyer Farm, Va** **65.84 339** P **P** **22 01 07.8 -1.0**
Q44A IAmb IAmb 22 01 08.7
comp=Z,22nm,0.9s
TUL1 **Leonard** **65.85 332** P **P** **22 01 09.4 +0.5**
baz=148,SNR=5.6
CCM **Cathedral Cave** **65.87 336** P **P** **22 01 08.8 -0.2**
baz=152
CCM **Cathedral Cave** **65.87 336** P **P** **22 01 08.8 -0.2**
M53A **WI Miller and** **65.88 346** P **P** **22 01 09.6 +0.7**
baz=163,SNR=6.4
M53A **WI Miller and** **65.88 346** IAmb IAmb 22 01 10.5
comp=Z,33nm,0.8s
P46A **Rosedale** **65.91 340** IAmb IAmb 22 01 09.3
comp=Z,24nm,1.0s
TRY **Troy** **65.91 352** IAmb IAmb 22 01 11.0
comp=Z,30nm,0.7s
L56A **Greenwood** **65.92 349** P **P** **22 01 10.1 +0.8**
baz=168,SNR=10.0
ALLY **Alegheny Colle** **65.96 347** P **P** **22 01 09.6 +0.1**
FNO **Franklin** **66.02 330** P **P** **22 01 10.4 +0.4**
K59A **Cooperstown** **66.11 351** P **P** **22 01 11.4 +1.0**
baz=169,SNR=7.4
M51A **Elyria** **66.12 345** P **P** **22 01 10.8 +0.4**
baz=161
J63A **Strafford** **66.16 354** P **P** **22 01 11.2 +0.5**
baz=173
OKCFA **Oklahoma City** **66.17 330** P **P** **22 01 11.2 +0.3**
OKCFA IAmb IAmb 22 01 12.3
comp=Z,35nm,1.1s
J62A **Henniker** **66.18 354** P **P** **22 01 11.8 +1.0**
baz=172
K58A **Earlville** **66.22 350** P **P** **22 01 11.9 +0.9**
baz=168,SNR=8.1
K58A **Earlville** **66.22 350** P **P** **22 01 10.9 -0.2**
WMOK **Wichita Mounta** **66.24 329** P **P** **22 01 11.7 +0.3**
baz=145,SNR=9.6
OK025 **Westminster Rd** **66.26 331** P **P** **22 01 12.2 +0.7**
L53A **Girard** **66.28 347** P **P** **22 01 11.9 +0.4**
baz=163,SNR=8.0
OK030 **Cody Creek RV** **66.30 331** P **P** **22 01 11.6 -0.1**
OK030 IAmb IAmb 22 01 12.8
comp=Z,28nm,0.8s
K57A **Scipio Center** **66.32 350** P **P** **22 01 12.1 +0.3**
baz=167
OK031 **S. Brethren Rd** **66.34 331** IAmb IAmb 22 01 13.6
comp=Z,25nm,0.7s
ERPA **Erie** **66.38 347** P **P** **22 01 12.7 +0.6**
baz=164,SNR=6.8
J61A **Chester** **66.38 353** P **P** **22 01 13.1 +1.1**
baz=171
J60A **Lant Hill Farm** **66.38 352** P **P** **22 01 13.0 +0.9**
baz=170
M50A **Fremont** **66.40 344** IAmb IAmb 22 01 13.2
comp=Z,26nm,0.7s
FFD **Franklin Falls** **66.41 354** P **P** **22 01 12.8 +0.7**
FFD IAmb IAmb 22 01 14.2
comp=Z,17nm,0.6s
K56A **Middlesex** **66.43 349** P **P** **22 01 12.9 +0.5**
baz=166,SNR=7.2
BCOK **Bluff Creek, N** **66.45 330** P **P** **22 01 12.8 +0.2**
R40A **Maddies Statio** **66.46 336** IAmb IAmb 22 01 13.1
comp=Z,26nm,0.6s
QUOK **Quay** **66.47 331** P **P** **22 01 13.5 +0.8**
ACCN **Adirondack Com** **66.55 352** P **P** **22 01 13.8 +0.7**
SFIN **Lafayette** **66.57 341** P **P** **22 01 12.6 -0.7**
baz=156,SNR=5.5
I64A **Boothbay** **66.68 355** P **P** **22 01 14.9 +1.1**
baz=174
HNH **Hanover** **66.70 353** IAmb IAmb 22 01 16.3
comp=Z,31nm,1.1s
J59A **Piesco** **66.74 352** P **P** **22 01 15.4 +1.1**
baz=169,SNR=23
J58A **Remsen** **66.75 351** P **P** **22 01 15.1 +0.7**
baz=168,SNR=6.7
J58A **Remsen** **66.75 351** IAmb IAmb 22 01 16.7
comp=Z,15nm,0.8s
I62A **Tamworth** **66.78 354** P **P** **22 01 15.4 +1.0**
baz=172
O44A **Mansfield** **66.79 340** P **P** **22 01 13.1 -1.5**
I63A **Otisfield** **66.88 355** P **P** **22 01 16.3 +1.2**
baz=173,SNR=5.5
I63A **Otisfield** **66.88 355** P **P** **22 01 16.3 +1.2**
CLNB **Carlsbad** **66.90 324** P **P** **22 01 16.2 +0.6**
J57A **Williamstown** **66.90 350** P **P** **22 01 15.8 +0.5**
baz=168,SNR=5.3
J57A **Williamstown** **66.90 350** IAmb IAmb 22 01 16.8
comp=Z,27nm,1.1s
J56A **Wolcott** **66.91 350** P **P** **22 01 15.6 +0.3**
baz=169
J56A **Wolcott** **66.91 350** P **P** **22 01 15.6 +0.3**
J56A IAmb IAmb 22 01 16.5
comp=Z,29nm,0.8s
I61A **Oroboro, Fairl** **66.92 353** P **P** **22 01 16.6 +1.2**
baz=172,SNR=6.3
I60A **Shoreham** **66.96 353** P **P** **22 01 16.5 +1.0**
baz=170,SNR=7.0
I59A **Olmsteadville** **66.98 352** P **P** **22 01 16.5 +0.7**
baz=170,SNR=7.6
T35A **Sooner Cattle** **67.01 332** P **P** **22 01 16.7 +0.6**
T35A IAmb IAmb 22 01 18.4
comp=Z,27nm,1.0s
I58A **Old Forge** **67.03 351** P **P** **22 01 16.8 +0.7**
baz=169,SNR=8.8
J55A **Hilton** **67.06 349** P **P** **22 01 16.1 -0.1**
J55A IAmb IAmb 22 01 17.0
comp=Z,14nm,0.6s
MEDO **Medina** **67.08 348** P **P** **22 01 15.7 -0.7**
MEDO IAmb IAmb 22 01 17.7
comp=Z,28nm,1.1s
GDL2 **Guadalupe Moun** **67.12 323** P **P** **22 01 17.6 +0.6**
LBNH **Lisbon** **67.20 354** P **P** **22 01 18.1 +1.1**
baz=172
LBNH **Lisbon** **67.20 354** P **P** **22 01 17.9 +0.8**
LBNH IAmb IAmb 22 01 19.0
comp=Z,19nm,0.7s
NCB **Newcomb** **67.20 352** IAmb IAmb 22 01 18.7
comp=Z,15nm,1.1s
MNTX **Cornudas Mount** **67.31 322** P **P** **22 01 18.3 +0.3**
baz=138,SNR=29

MNTX **Cornudas Mount** 67.31 322 IAmb IAmb 22 01 19.9
comp=Z,16nm,0.8s
CROK **Carrier** 67.32 331 P P 22 01 18.6 +0.6
WVL **Waterville** 67.32 355 P P 22 01 18.3 +0.6
WVL IAmb IAmb 22 01 19.6
comp=Z,20nm,0.6s
QSPA **South Pole Qui** 67.33 180 P P 22 01 19.0 +1.2
H65A **Eastbrook** 67.36 357 P P 22 01 18.9 +0.9
baz=175,SNR=6.9
H64A **Troy** 67.36 356 P P 22 01 18.9 +0.8
baz=174
I57A **Carthage** 67.37 351 P P 22 01 18.8 +0.7
baz=168,SNR=9.0
AAM **Ann Arbor** 67.40 344 P P 22 01 18.2 -0.1
baz=160
AAM **Ann Arbor** 67.40 344 P P 22 01 18.4 +0.1
AAM IAmb IAmb 22 01 19.1
comp=Z,18nm,0.6s
H66A **Whiting** 67.40 357 P P 22 01 19.2 +0.9
baz=176
HDIL **Hopedale** 67.42 339 P P 22 01 18.1 -0.4
baz=154,SNR=8.5
H63A **New Sharon** 67.44 355 P P 22 01 19.7 +1.2
baz=174
H62A **Milan** 67.45 354 P P 22 01 20.0 +1.4
baz=172
P40A **Paris** 67.47 337 IAmb IAmb 22 01 20.0
comp=Z,18nm,0.6s
CPRX **Cap Rock** 67.48 324 P P 22 01 20.1 +0.9
H61A **Lyndonville** 67.49 354 P P 22 01 20.0 +1.1
baz=172,SNR=8.8
PECO **Prince Edward** 67.57 350 IAmb IAmb 22 01 21.2
comp=Z,46nm,1.2s
K50A **Casco** 67.59 345 P P 22 01 19.3 -0.2
H60A **Morristown** 67.59 353 P P 22 01 20.8 +1.3
baz=171
MSTX **Muleshoe** 67.62 326 P P 22 01 21.0 +0.9
baz=141,SNR=23
H58A **Gabriels** 67.63 352 P P 22 01 20.4 +0.7
baz=170,SNR=12
KAN14 **Manchester OK** 67.68 331 P P 22 01 20.8 +0.6
AMTX **Amarillo** 67.78 327 P P 22 01 21.6 +0.7
baz=142
AMTX **Amarillo** 67.78 327 IAmb IAmb 22 01 22.6
comp=Z,27nm,0.9s
M44A **Midewin, Midew** 67.78 340 P P 22 01 19.8 -0.9
M44A IAmb IAmb 22 01 20.9
comp=Z,19nm,0.7s
H59A **Cadyville** 67.80 352 P P 22 01 21.5 +0.8
baz=170
G65A **Princeton** 67.83 357 P P 22 01 21.8 +0.9
baz=176
L46A **Eue Claire** 67.84 342 P P 22 01 19.9 -1.1
H57A **Richville** 67.84 351 P P 22 01 21.4 +0.5
baz=168,SNR=7.8
G63A **Kingsbury** 67.86 356 P P 22 01 21.9 +0.8
baz=174,SNR=6.3
LONY **Lake Ozonia** 67.88 352 P P 22 01 22.1 +0.8
baz=169,SNR=9.3
LONY **Lake Ozonia** 67.88 352 IAmb IAmb 22 01 23.0
comp=Z,24nm,0.7s
G64A **Maxfield** 67.94 356 P P 22 01 22.4 +0.9
baz=175
FRNY **Flat Rock** 67.97 352 IAmb IAmb 22 01 23.3
comp=Z,17nm,1.1s
PKME **Peaks-Kenny Pk** 67.99 356 P P 22 01 22.6 +0.8
baz=174,SNR=7.2
G62A **West of Eustis** 68.04 355 P P 22 01 23.2 +1.1
baz=173,SNR=7.8
G62A **West of Eustis** 68.04 355 P P 22 01 22.7 +0.5
G62A IAmb IAmb 22 01 23.8
comp=Z,24nm,0.6s
G60A **Masonville** 68.09 353 P P 22 01 23.6 +1.1
baz=171
G61A **St-Isidore-de-** 68.19 354 P P 22 01 24.4 +1.3
baz=172,SNR=10.0
I51A **Listowel** 68.21 347 P P 22 01 23.6 +0.4
baz=163,SNR=7.9
DELO **Deloro Mine** 68.25 349 IAmb IAmb 22 01 24.6
comp=Z,14nm,0.6s
G58A **Ormstown** 68.34 352 P P 22 01 24.7 +0.8
baz=170,SNR=5.9
G57A **Newington** 68.41 351 P P 22 01 25.2 +0.8
baz=169,SNR=7.6
F63A **Nahmakanta, Br** 68.41 356 P P 22 01 25.4 +0.9
baz=175
F63A **Nahmakanta, Br** 68.41 356 P P 22 01 25.6 +1.1
F63A IAmb IAmb 22 01 27.0
comp=Z,25nm,1.1s
L44A **Lake County Fo** 68.46 341 P P 22 01 24.6 -0.2
baz=156
L44A **Lake County Fo** 68.46 341 P P 22 01 24.6 -0.2
L44A IAmb IAmb 22 01 25.4
comp=Z,22nm,0.6s
H53A **Bobcaygeon** 68.47 349 P P 22 01 24.9 +0.1
baz=165,SNR=8.8
F64A **Sherman** 68.53 357 P P 22 01 26.1 +1.0
baz=175,SNR=7.9
F64A **Sherman** 68.53 357 P P 22 01 25.4 +0.3
PLVO **Plevna** 68.66 350 IAmb IAmb 22 01 27.4
comp=Z,23nm,0.7s
I49A **Point Hope** 68.74 345 P P 22 01 25.4 -1.0
HSIG 68.74 316 P P 22 01 28.0 +1.2
SADO **Sadowa** 68.76 348 P P 22 01 26.7 +0.2
comp=Z,11nm,0.4s,baz=184,slow=6.6,SNR=14
SADO **Sadowa** 68.76 348 IAmb IAmb 22 01 27.1
comp=Z,14nm,0.6s
F61A **St Evariste** 68.83 355 P P 22 01 27.6 +0.7
baz=173
L42A **Oliver, Polo** 68.85 340 IAmb IAmb 22 01 27.6
comp=Z,21nm,0.6s
KSU1 **Kansas State U** 68.89 333 P P 22 01 27.7 +0.2
baz=148
KSU1 **Kansas State U** 68.89 333 IAmb IAmb 22 01 28.5
comp=Z,25nm,0.8s
F60A **Warwick** 68.91 354 P P 22 01 27.7 +0.3
baz=172
E64A **Bridgewater** 69.06 357 P P 22 01 29.1 +0.8
baz=176,SNR=6.6
E63A **Oxbow** 69.09 357 P P 22 01 29.4 +0.9
baz=175
E63A **Oxbow** 69.09 357 P P 22 01 28.5 0.0
E63A IAmb IAmb 22 01 30.2
comp=Z,15nm,0.7s
G54A **Lake Saint Pet** 69.18 349 P P 22 01 29.4 +0.3
baz=166,SNR=8.4
R32A **Long Quarter,** 69.22 331 IAmb IAmb 22 01 31.5
comp=Z,37nm,0.9s
E61A **Lac Etchemin** 69.24 355 P P 22 01 30.6 +1.1
baz=173
E60A **Ste Agathe de** 69.26 354 P P 22 01 30.1 +0.6
baz=172
KOWA **Kowa** 69.27 63 P P 22 01 29.8 -0.5
KOWA IAmb IAmb 22 01 31.2
comp=Z,16nm,0.8s
121A **Cookes Peak, D** 69.30 321 P P 22 01 32.3 +2.0
baz=137,SNR=6.7
PQI **Presque Isle** 69.32 357 IAmb IAmb 22 01 31.4
comp=Z,18nm,0.7s
319A **Douglas** 69.35 319 IAmb IAmb 22 01 33.7
comp=Z,26nm,0.8s
E62A **Clayton Lake** 69.36 356 P P 22 01 31.1 +1.1
baz=174,SNR=6.3
E62A **Clayton Lake** 69.36 356 IAmb IAmb 22 01 32.0
comp=Z,23nm,0.7s
E58A **La Victoria** 69.45 353 P P 22 01 31.3 +0.7
baz=171,SNR=5.2
E57A **Chemin Saint G** 69.59 352 P P 22 01 32.0 +0.4
baz=170,SNR=6.8
D63A **Stockholm** 69.69 357 P P 22 01 33.0 +1.0
baz=176,SNR=6.3
ALGO **Algonquin Park** 69.71 349 P P 22 01 32.5 +0.3
baz=166,SNR=9.4
D60A **Saint Jean D'O** 69.75 355 P P 22 01 33.5 +1.1
baz=173
D62A **Allapoint, All** 69.78 356 P P 22 01 33.4 +0.8
baz=175,SNR=7.8
E56A **St. Veronique** 69.83 352 P P 22 01 33.4 +0.5
baz=169,SNR=9.2
BATG **Bathurst New B** 69.85 358 P P 22 01 33.3 +0.3
BATG IAmb IAmb 22 01 34.7
comp=Z,25nm,0.8s
JFWS **Jewell Farm** 69.86 340 P P 22 01 33.3 +0.1
baz=154,SNR=11
E55A **Montcerf-Lytto** 69.89 351 P P 22 01 34.0 +0.8
baz=168
D59A **Saint-Raymond** 69.93 354 P P 22 01 34.4 +1.0
baz=172
SCIA **State Center** 69.98 337 P P 22 01 34.0 +0.1
baz=151
CBKS **Cedar Bluff** 70.00 331 P P 22 01 35.6 +1.4
baz=145,SNR=5.4
CBKS **Cedar Bluff** 70.00 331 P P 22 01 35.1 +0.9
GLMI **Grayling** 70.01 344 P P 22 01 34.0 0.0
GLMI IAmb IAmb 22 01 35.1
comp=Z,43nm,0.8s
D58A **Chemin du LacG** 70.12 353 P P 22 01 35.5 +0.8
baz=171,SNR=13
ANMO **Albuquerque** 70.33 324 P P 22 01 38.2 +1.8
comp=Z,6.7nm,0.5s,baz=147,slow=6.8,SNR=24
ANMO **Albuquerque** 70.33 324 P P 22 01 38.3 +1.9
baz=138
ANMO **Albuquerque** 70.33 324 P P 22 01 38.3 +1.9
ANMO IAmb IAmb 22 01 40.0
comp=Z,18nm,1.1s
D55A **Sainte-Anne-du** 70.36 352 P P 22 01 36.5 +0.5
baz=168,SNR=14
LATQ **La Tuque** 70.39 354 P P 22 01 36.9 +0.7
baz=171,SNR=7.8
LATQ **La Tuque** 70.39 354 P P 22 01 37.2 +1.0
LATQ IAmb IAmb 22 01 37.8
comp=Z,13nm,0.6s
K38A **Parkersburg** 70.47 338 IAmb IAmb 22 01 37.1
comp=Z,21nm,0.6s
T25A **Trinidad** 70.92 327 P P 22 01 41.8 +1.9
baz=140,SNR=9.2
TUC **Tucson** 70.92 319 P P 22 01 41.6 +1.8
baz=134
TUC **Tucson** 70.92 319 P P 22 01 41.5 +1.8
E46A **Sault Ste Mari** 71.38 345 IAmb IAmb 22 01 42.9
comp=Z,22nm,0.7s
BGNE **Belgrade** 71.46 333 P P 22 01 43.5 +0.8
baz=147
KSCO **Kaye Shedlock'** 71.50 329 P P 22 01 45.0 +1.8
baz=142
VLDQ **Val d'Or** 71.71 350 IAmb IAmb 22 01 45.5
comp=Z,16nm,0.7s
214A **Organ Pipe Nat** 71.92 318 P P 22 01 47.6 +2.0
baz=133,SNR=5.3
SDCO **Great Sand Dun** 71.94 326 P P 22 01 47.8 +2.0
baz=140,SNR=34
SDCO **Great Sand Dun** 71.94 326 IAmb IAmb 22 01 48.9
comp=Z,17nm,0.9s
G40A **Rib Lake** 71.96 341 IAmb IAmb 22 01 46.1
comp=Z,6.5nm,0.4s
DRLN **Deer Lake** 72.01 4 P P 22 01 46.1 +0.5
E43A **Lone Tree Farm** 72.06 343 P P 22 01 46.1 +0.1
E43A IAmb IAmb 22 01 47.1
comp=Z,14nm,0.6s
W18A **Petrified Fore** 72.29 322 P P 22 01 49.6 +1.8
baz=136,SNR=11
COWI **Conover** 72.40 342 P P 22 01 48.8 +0.7
LSQQ **Lebel-sur-Quev** 72.56 351 P P 22 01 49.3 +0.4
baz=167
SFX **San Felipe** 72.60 316 P P 22 01 51.0 +1.6
S22A **4UR Ranch, Cre** 72.62 325 P P 22 01 52.0 +2.1
baz=139
Q24A **Divide** 72.69 327 P P 22 01 52.2 +1.9
baz=140,SNR=11
SPMN **Marine on St.** 72.75 339 P P 22 01 49.9 -0.1
baz=152,SNR=6.1
X16A **Lo Mia Camp, P** 72.78 320 IAmb IAmb 22 01 54.1
comp=Z,18nm,0.9s
ECSD **EROS Data Cent** 72.81 336 P P 22 01 50.6 +0.2
baz=148,SNR=14
ECSD **EROS Data Cent** 72.81 336 IAmb IAmb 22 01 51.5
comp=Z,31nm,1.1s
SPX **San Pedro Mart** 73.00 315 P P 22 01 51.8 -0.4
CHGQ **Chibougamau** 73.06 353 P P 22 01 52.3 +0.6
baz=170
MVCO **Mesa Verde** 73.12 324 P P 22 01 54.7 +2.1
baz=137,SNR=13
MVCO **Mesa Verde** 73.12 324 P P 22 01 53.2 +0.5
MVCO IAmb IAmb 22 01 55.2
comp=Z,14nm,0.7s
TOA0 **Torodi Ar. Sit** 73.39 68 IAmb IAmb 22 01 55.1
comp=Z,25nm,0.7s
TORD **Torodi Ar. Bea** 73.39 68 P P 22 01 54.3 0.0
comp=Z,21nm,0.5s,baz=261,slow=5.8,SNR=304
TORD pP pP 22 03 47.9 -1.1
comp=Z,1.9nm,0.7s,baz=245,slow=5.5,SNR=3.3
TORD **Torodi Ar. Bea** 73.39 68 P P 22 01 54.3 0.0
WUAZ **Wupatki** 73.51 321 P P 22 01 57.2 +2.3
baz=135,SNR=14
WUAZ **Wupatki** 73.51 321 P P 22 01 56.5 +1.7
WUAZ IAmb IAmb 22 01 58.3
comp=Z,21nm,0.9s
F36A **Milaca** 73.55 339 P P 22 01 54.8 +0.2
F36A IAmb IAmb 22 01 55.4
comp=Z,16nm,0.6s
ISCO **Idaho Springs** 73.56 328 P P 22 01 57.2 +2.0
baz=140,SNR=19
ISCO **Idaho Springs** 73.56 328 IAmb IAmb 22 01 58.2
comp=Z,21nm,0.8s
SMCO **Snowmass** 73.77 326 P P 22 01 58.6 +2.1
SMCO IAmb IAmb 22 01 59.8
comp=Z,22nm,0.8s
PV01 **Paradox Valley** 73.83 325 P P 22 01 58.7 +2.0
PV01 IAmb IAmb 22 01 60.0
comp=Z,13nm,0.8s
GLA **Glamis** 73.91 317 P P 22 01 59.0 +2.0
baz=132
GLA **Glamis** 73.91 317 P P 22 01 58.5 +1.5
ESJX **Sierra Juarez** 73.94 316 P P 22 01 58.1 +0.7
PV15 **Paradox Valley** 73.94 325 P P 22 01 59.5 +2.3
PV15 IAmb IAmb 22 02 00.8
comp=Z,27nm,1.0s
PV02 **Paradox Valley** 73.97 325 P P 22 01 58.2 +0.7
PV02 IAmb IAmb 22 02 00.1
comp=Z,10nm,0.6s
PV13 **Radium Mtn., P** 73.98 325 P P 22 01 59.1 +1.6
PV03 **Paradox Valley** 74.07 325 P P 22 01 58.8 +0.8
PV05 **Paradox Valley** 74.08 324 P P 22 01 58.8 +0.8
PV12 **Saucer Basin,** 74.09 325 P P 22 01 59.8 +1.6
PV12 IAmb IAmb 22 02 01.2
comp=Z,18nm,0.8s
PV18 **Skein Mesa, Pa** 74.10 325 P P 22 01 59.6 +1.5
PV07 **Paradox Valley** 74.10 325 IAmb IAmb 22 02 01.3
comp=Z,21nm,0.9s
PV11 **David Mesa, Pa** 74.11 325 P P 22 01 59.9 +1.7
PV16 **Nyswonger Mesa** 74.15 325 P P 22 02 00.1 +1.6
PV19 **Morning Glory** 74.18 325 P P 22 01 60.0 +1.4
PV20 **West Nyswonger** 74.20 325 P P 22 01 59.9 +1.2
PV04 **Paradox Valley** 74.20 325 P P 22 02 00.3 +1.7
PV04 IAmb IAmb 22 02 01.7
comp=Z,13nm,0.7s
PV22 **Blue Mesa, Par** 74.24 325 IAmb IAmb 22 02 02.1
comp=Z,35nm,0.8s
PV14 **Lon Creek, Pa** 74.25 325 IAmb IAmb 22 02 02.0
comp=Z,20nm,1.1s
PV10 **Paradox Valley** 74.26 325 P P 22 01 59.6 +0.5
PV10 IAmb IAmb 22 02 01.7
comp=Z,16nm,0.9s
PV23 **Carpenter Ridg** 74.30 325 P P 22 02 01.1 +1.7
PDMCI **Parker Dam,Lak** 74.33 319 P P 22 02 01.3 +2.0
baz=132
RMX **La Rumorosa** 74.41 316 P P 22 02 00.8 +0.9
SWSC **Sam W. Stewart** 74.46 317 P P 22 02 02.0 +2.0
baz=131
IKP **In-Ko-Pah, Jac** 74.46 316 P P 22 02 02.3 +2.2
baz=131,SNR=5.9
N23A **Red Feather La** 74.56 328 P P 22 02 02.8 +2.0
baz=140,SNR=14
BC3 **Big Chuckawall** 74.70 317 P P 22 02 03.6 +2.1
baz=131,SNR=9.7
MONP2 **Monument Peak** 74.82 316 P P 22 02 04.4 +2.1
baz=131,SNR=5.9
BAR **Barrett** 74.84 316 P P 22 02 03.9 +1.7
IRM **Iron Mountain** 74.84 318 P P 22 02 04.4 +2.2
baz=132,SNR=11
TSUM **Tsumeb** 75.08 105 *i* P P 22 02 03.6 -0.4
TSUM **Tsumeb** 75.08 105 P P 22 02 04.6 +0.5
TSUM IAmb IAmb 22 02 05.4
comp=Z,21nm,0.9s
TSUM **Tsumeb** 75.08 105 *i* P P 22 02 03.6 -0.4
O20A **White River Ci** 75.14 326 P P 22 02 06.0 +2.1
baz=138,SNR=11
BELC **Belle Mtn. Jos** 75.27 317 P P 22 02 07.0 +2.2
baz=131,SNR=5.9
XPFO **Pion Flat** 75.31 317 P P 22 02 06.2 +1.3
PFO **Pinyon Flats O** 75.31 317 P P 22 02 07.2 +2.2
comp=Z,4.6nm,0.6s,baz=115,slow=6.4,SNR=7.4
PFO **Pinyon Flats O** 75.31 317 P P 22 02 07.1 +2.2
baz=131
PFO **Pinyon Flats O** 75.31 317 P P 22 02 06.3 +1.4
KNB **Kanab** 75.39 321 P P 22 02 07.5 +2.1
PKCU **Pink Cliffs** 75.40 322 P P 22 02 06.5 +0.9
GMRC **Granite Mounta** 75.58 318 P P 22 02 08.8 +2.4
baz=132,SNR=28
MURC **Murrieta** 75.77 316 P P 22 02 09.4 +2.1
baz=130
RWWY **Rawlins** 75.79 328 P P 22 02 08.9 +1.3
RWWY IAmb IAmb 22 02 10.5
comp=Z,40nm,0.9s
Q16A **Castle Valley** 75.81 324 P P 22 02 08.7 +1.1
B35A **Bob, Littlefor** 75.82 340 P P 22 02 07.2 0.0
B35A IAmb IAmb 22 02 08.1
comp=Z,20nm,0.7s
SZCU **Shurtz Canyon** 75.95 322 P P 22 02 09.0 +0.5
P17A **Butcher Ranch,** 75.97 324 P P 22 02 10.7 +2.2
HEC **Hector,Ludlow** 76.03 318 P P 22 02 11.1 +2.3
baz=131,SNR=6.3
CCUT **Cedar City** 76.08 321 P P 22 02 11.3 +2.1
MVU **Marysvale** 76.09 323 P P 22 02 10.5 +1.2
TMUT **Trail Mountain** 76.09 324 P P 22 02 10.9 +1.6
RDMU **Red Mountain** 76.14 326 P P 22 02 10.9 +1.4
TUQ **Turquoise Moun** 76.17 318 P P 22 02 11.8 +2.1
baz=131,SNR=9.8
K22A **Casper** 76.19 329 P P 22 02 11.2 +1.6
baz=140,SNR=5.0
RSSD **Black Hills** 76.19 331 P P 22 02 10.7 +1.1
baz=142
RSSD **Black Hills** 76.19 331 P P 22 02 10.2 +0.6
TCRU **Three Creeks R** 76.29 323 P P 22 02 12.8 +2.3
VNDA **Vanda** 76.30 189 P P 22 02 11.7 +2.2
comp=Z,2.5nm,0.9s,baz=129,slow=5.0,SNR=13
VNDA **Vanda** 76.30 189 P P 22 02 12.0 +2.4
SHPR **Sheep Range** 76.42 320 P P 22 02 12.5 +1.4
CIS **Catalina Islan** 76.43 315 P P 22 02 12.9 +1.9
baz=129
AGMN **Agassiz Nation** 76.46 339 P P 22 02 11.5 +0.8
baz=150
AGMN **Agassiz Nation** 76.46 339 IAmb IAmb 22 02 12.3
comp=Z,22nm,1.1s
BFSC **Mount Baldy Ra** 76.47 316 P P 22 02 13.0 +1.7
baz=130
GSC **Goldstone, Bar** 76.62 318 P P 22 02 14.3 +2.2
baz=131,SNR=9.7
GSC **Goldstone, Bar** 76.62 318 P P 22 02 13.6 +1.5
MWC **Mount Wilson** 76.72 316 P P 22 02 14.2 +1.4
PASC **Pasadena Art C** 76.77 316 P P 22 02 14.4 +1.6
E28A **Huff** 76.77 335 IAmb IAmb 22 02 14.7
comp=Z,41nm,0.8s
MPU **Maple Canyon** 76.84 324 P P 22 02 15.2 +1.9
PRN **Pahroc Range** 76.96 320 P P 22 02 16.4 +2.5
PRN IAmb IAmb 22 02 18.2
comp=Z,21nm,0.9s
SNCC **San Nicolas Is** 77.05 315 P P 22 02 15.6 +1.2
baz=129
EDW2 **Edwards Air Fo** 77.10 317 P P 22 02 16.4 +1.7
baz=130,SNR=5.2
LRMC **Laurel Mtn Rad** 77.28 317 P P 22 02 17.6 +1.9
baz=130
TPNV **Topopah Spring** 77.37 319 P P 22 02 18.7 +2.5
baz=131,SNR=16
TPNV **Topopah Spring** 77.37 319 P P 22 02 18.3 +2.1
CTU **Camp Tracy** 77.38 325 P P 22 02 17.4 +1.2
MDND **Maddock** 77.41 336 P P 22 02 17.4 +1.4
baz=146
FURC **Furnace Creek,** 77.42 319 P P 22 02 18.6 +2.4
baz=131,SNR=8.6
SCHQ **Schefferville** 77.43 358 P P 22 02 16.6 +0.7
comp=Z,5.3nm,0.6s,baz=201,slow=6.3,SNR=4.5
MPMC **Manual Prospec** 77.54 318 P P 22 02 19.0 +1.8
baz=130,SNR=8.6
SCZ2 **Santa Cruz Isl** 77.59 315 P P 22 02 19.2 +1.9
baz=129
DUG **Dugway, Tooele** 77.60 324 P P 22 02 19.5 +2.1
baz=134,SNR=14
SPR3 **Spring Creek 3** 77.62 322 P P 22 02 19.0 +1.2
SPR3 IAmb IAmb 22 02 20.7
comp=Z,21nm,0.7s
PDAR **Pinedale Array** 77.75 327 P P 22 02 19.6 +1.3
comp=Z,8.0nm,0.6s,baz=126,slow=7.6,SNR=88
PDAR **Pinedale Array** 77.75 327 P P 22 02 19.2 +0.9
BW06 **Boulder Array** 77.75 327 P P 22 02 19.5 +1.2
baz=137,SNR=16
ISA **Isabella, Lake** 77.90 317 P P 22 02 21.4 +2.4
baz=130,SNR=8.9
R11A **Troy Canyon, C** 77.91 321 P P 22 02 21.5 +2.4
baz=132,SNR=22
HWUT **Hardware Ranch** 77.94 325 IAmb IAmb 22 02 21.7
comp=Z,23nm,0.5s
CWC **Cottonwood Cre** 78.15 318 P P 22 02 22.5 +2.1
baz=130
ULM **Lac du Bonnet** 78.15 340 P P 22 02 20.6 +0.7
comp=Z,19nm,0.5s,baz=148,slow=6.0,SNR=29
ULM **Lac du Bonnet** 78.15 340 IAmb IAmb 22 02 21.2
comp=Z,19nm,0.6s
PKM **Mcpherson Peak** 78.26 316 P P 22 02 23.2 +2.1
baz=129,SNR=7.5
VES **Vestal, Richgr** 78.39 317 P P 22 02 23.4 +1.9
baz=129,SNR=8.4
AHID **Auburn Hatcher** 78.53 326 IAmb IAmb 22 02 25.0
comp=Z,31nm,0.7s
BOSA **Boshof** 78.58 116 P P 22 02 22.9 -0.1
comp=Z,5.6nm,0.6s,baz=249,slow=3.6,SNR=20
SMMC **Simmler** 78.64 316 P P 22 02 25.2 +2.2
baz=129
ECR **Eagle Creek** 78.87 327 P P 22 02 25.1 +0.9
PAGB **Antelope Grade** 79.06 316 P P 22 02 26.5 +1.3
PAGB IAmb IAmb 22 02 28.1
comp=Z,21nm,0.8s
LAO **LASA Array** 79.15 332 P P 22 02 26.6 +1.3
baz=141
LAO **LASA Array** 79.15 332 P P 22 02 26.7 +1.3
IMW **Indian Meadow** 79.26 327 IAmb IAmb 22 02 29.1
comp=Z,26nm,0.8s
FLWY **Flagg Ranch** 79.28 328 IAmb IAmb 22 02 29.3
comp=Z,18nm,0.8s
ELK **Elko** 79.32 323 P P 22 02 28.6 +1.9
comp=Z,18nm,0.8s,baz=138,slow=4.1,SNR=46
ELK **Elko** 79.32 323 IAmb IAmb 22 02 29.4
comp=Z,18nm,0.8s
RLMT **Red Lodge** 79.35 329 P P 22 02 28.2 +1.5
baz=138,SNR=9.3
H17A **Grant Village** 79.45 328 P P 22 02 29.9 +2.6
baz=137,SNR=9.1
OMMB **Old Mammoth Mi** 79.47 318 P P 22 02 28.7 +1.1
YPP **Pitchstone Pla** 79.47 328 P P 22 02 28.1 +0.6
LKWY **Lake** 79.48 328 P P 22 02 28.3 +0.8
YMP **Mirror Lake Pl** 79.50 328 P P 22 02 28.1 +0.5
MDPB **Devils Postpil** 79.53 318 P P 22 02 28.3 +0.5
NVAR **Mina Array Bea** 79.57 319 P P 22 02 29.8 +1.8
comp=Z,3.3nm,0.6s,baz=144,slow=5.4,SNR=18
DGMT **Dagmar** 79.70 334 P P 22 02 30.1 +1.9
baz=142,SNR=10
PMPB **Monarch Peak** 79.71 316 P P 22 02 30.2 +1.6
YNR **Norris Junctio** 79.73 328 P P 22 02 29.8 +1.0
RYN **Ryan** 79.83 319 P P 22 02 30.5 +1.2
YHL **Hebgen Lake** 80.08 328 P P 22 02 31.6 +1.0
LBTB **Lobatse** 80.11 113 *i* P P 22 02 29.2 -1.9
LBTB **Lobatse** 80.11 113 *i* P P 22 02 29.2 -1.9
QLMT **Earthquake Lak** 80.18 328 P P 22 02 32.4 +1.4
WAKR **Walker** 80.30 319 P P 22 02 33.5 +1.7
YERR **Yerington** 80.48 319 P P 22 02 34.5 +1.8
PNTR **Pine Nut** 80.77 319 P P 22 02 36.1 +1.8
PNTR IAmb IAmb 22 02 37.4
comp=Z,24nm,0.7s
HLID **Hailey** 80.81 325 P P 22 02 36.5 +2.3
baz=134,SNR=45
HLID **Hailey** 80.81 325 IAmb IAmb 22 02 37.5
comp=Z,26nm,0.8s
BOZ **Bozeman (W)** 80.83 328 P P 22 02 35.5 +1.2
baz=136,SNR=6.2
PAHR **Pah Rah Range** 81.03 320 P P 22 02 36.8 +1.3
TAM **Tamanrasset** 81.25 61 P P 22 02 38.0 +1.0
AFDM **Forest Hills D** 81.51 318 P P 22 02 38.7 +0.8
MAW **Mawson** 81.61 162 P P 22 02 39.4 +1.6
comp=Z,1.0nm,0.6s,baz=206,slow=8.1,SNR=8.3
MAW pP pP 22 04 33.8 -1.8
comp=Z,2.6nm,0.9s,baz=210,slow=8.1,SNR=4.7
EGMT **Eagleton** 81.73 331 P P 22 02 39.6 +0.8
baz=138
EGMT **Eagleton** 81.73 331 IAmb IAmb 22 02 40.6
comp=Z,18nm,1.1s
PLID **Pearl Lake** 82.68 326 P P 22 02 44.8 +1.0
MSO **Missoula** 82.84 328 P P 22 02 45.9 +1.5
baz=134

O03E	**Paynes Creek**	**82.84**	**319**	P		**P**	**22 02 45.4**	**+0.8**
	baz=128							
J08A	**Circle Bar Ran**	**82.86**	**323**	IAmb		IAmb	22 02 47.6	
	comp=Z,31nm,0.6s							
ESDC	**Sonseca Array**	**83.55**	**42**	P		**P**	**22 02 49.2**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=237,slow=4.6,SNR=15							
ESDC				pP		**pP**	**22 04 45.1**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=248,slow=6.8,SNR=3.7							
ESDC	**Sonseca Array**	**83.55**	**42**	P		**P**	**22 02 49.2**	**+1.1**
M04C	**Macdoel**	**83.78**	**320**	P		**P**	**22 02 50.6**	**+1.2**
	baz=128							
N02D	**Trinity Center**	**83.80**	**319**	P		**P**	**22 02 50.9**	**+1.6**
	baz=127							
K05A	**Summer Lake**	**83.82**	**322**	P		**P**	**22 02 51.1**	**+1.6**
K05A				IAmb		IAmb	22 02 52.6	
	comp=Z,21nm,0.9s							
I07A	**Izee**	**83.90**	**323**	IAmb		IAmb	22 02 52.7	
	comp=Z,13nm,0.9s							
F10A	**Beach Ranch, E**	**83.91**	**326**	IAmb		IAmb	22 02 57.7	
	comp=Z,14nm,0.9s							
KMRM	**Mail Ridge**	**83.96**	**318**	P		**P**	**22 02 52.1**	**+1.9**
KMRM				IAmb		IAmb	22 02 53.3	
	comp=Z,13nm,0.9s							
M02C	**Callahan**	**84.15**	**320**	P		**P**	**22 02 52.0**	**+1.0**
	baz=127							
YBH	**Yreka Blue Hor**	**84.27**	**320**	P		**P**	**22 02 52.2**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=91,slow=4.1,SNR=11							
MATP	**Matopo**	**84.27**	**110**	*i* P		**P**	**22 02 52.6**	**+0.3**
MATP	**Matopo**	**84.27**	**110**	*i* P		**P**	**22 02 52.6**	**+0.3**
L04D	**Klamath Falls**	**84.32**	**320**	P		**P**	**22 02 53.0**	**+1.0**
	baz=128							
J05D	**Fort Rock, OR**	**84.36**	**322**	P		**P**	**22 02 53.9**	**+1.7**
	baz=129							
BLWY	**Bulawayo**	**84.47**	**109**	*i* P		**P**	**22 02 53.1**	**-0.2**
BLWY	**Bulawayo**	**84.47**	**109**	*i* P		**P**	**22 02 53.1**	**-0.2**
PINE	**Pine Mountain**	**84.51**	**322**	IAmb		IAmb	22 02 56.0	
	comp=Z,15nm,0.8s							
J04D	**Umpqua Nationa**	**84.84**	**321**	P		**P**	**22 02 56.3**	**+1.7**
	baz=128							
L02E	**Cave Junction**	**85.05**	**320**	P		**P**	**22 02 57.1**	**+1.8**
	baz=127							
E08A	**Dider Farm, El**	**85.21**	**325**	P		**P**	**22 02 57.0**	**+1.1**
E08A				IAmb		IAmb	22 02 58.7	
	comp=Z,9.5nm,0.7s							
I04A	**Tendick Farm,**	**85.35**	**322**	P		**P**	**22 02 57.7**	**+0.9**
	baz=128							
HAWA	**Hanford**	**85.40**	**325**	IAmb		IAmb	22 02 59.4	
	comp=Z,16nm,0.8s							
K02D	**Willamette Mer**	**85.41**	**320**	P		**P**	**22 02 59.0**	**+1.9**
	baz=127							
D08A	**Wollman Farm,**	**85.51**	**326**	IAmb		IAmb	22 02 59.9	
	comp=Z,21nm,0.9s							
G05D	**Wamic, OR**	**85.63**	**323**	P		**P**	**22 03 00.2**	**+2.1**
	baz=129,SNR=6.3							
LSZ	**Lusaka**	**85.94**	**105**	P		**P**	**22 03 00.3**	**-0.1**
F05D	**White Salmon**	**86.11**	**324**	P		**P**	**22 03 02.0**	**+1.7**
	baz=129							
LTY	**Liberty**	**86.55**	**325**	P		**P**	**22 03 03.0**	**+0.5**
LTY				IAmb		IAmb	22 03 04.1	
	comp=Z,9.0nm,0.7s							
B05A	**Bryant**	**87.93**	**325**	P		**P**	**22 03 09.6**	**+0.8**
	baz=128							
YKA	**Yellowknife Ar**	**94.12**	**339**	P		**P**	**22 03 37.8**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=123,slow=5.9,SNR=9.2							
ILAR	**Eielson Array**	**107.56**	**333**	PP		**PP**	**22 09 14.1**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=106,slow=5.4,SNR=8.9							
STKA	**Stephens Creek**	**120.40**	**205**	PKP		**PKiKP**	**22 09 08.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=101,slow=2,SNR=3.3							
ABKAR	**Akbulak array**	**128.85**	**44**	PKPdf		**PKiKP**	**22 09 23.9**	**+0.5**
ABKAR	**Akbulak array**	**128.85**	**44**			**PKiKP**	**22 09 24.1**	**+0.8**
ASAR	**Alice Springs**	**130.66**	**202**	PKhKP		PKPpre	22 09 09.8	
	comp=Z,0.2nm,0.4s,baz=152,slow=2.3,SNR=5.9							
ASAR				PKP		**PKiKP**	**22 09 27.9**	**-0.1**
	comp=Z,2.9nm,0.4s,baz=135,slow=1.8,SNR=35							
ASAR				SKPbc		**SKPab**	**22 12 01.9**	**+1.6**
	comp=Z,7.6nm,0.6s,baz=149,slow=4.5,SNR=54							
ASAR	**Alice Springs**	**130.66**	**202**	PKPdf		**PKPdf**	**22 09 27.3**	**+0.4**
AS31	**Alice Springs**	**130.66**	**202**	PKPdf		**PKPdf**	**22 09 27.1**	**+0.2**
HRA	**Herat**	**131.74**	**64**			**PKiKP**	**22 09 30.6**	**+0.6**
WRA	**Warramunga Arr**	**133.93**	**204**	PKhKP		PKPpre	22 09 16.8	
	comp=Z,0.2nm,0.4s,baz=159,slow=2.2,SNR=6.8							
WRA				PKP		**PKiKP**	**22 09 34.4**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=170,slow=1.4,SNR=47							
WRA				SKPbc		**SKPab**	**22 12 13.4**	**-1.2**
	comp=Z,6.2nm,0.8s,baz=160,slow=3.0,SNR=30							
WRAB	**Tennant Creek**	**133.93**	**204**			**PKiKP**	**22 09 34.6**	**0.0**
PETK	**Petropavlovsk-**	**136.47**	**325**	PKP		**PKiKP**	**22 09 38.5**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=79,slow=3.9,SNR=4.1							
CHGR	**Chuyangaron**	**137.07**	**57**	PKPdf		**PKiKP**	**22 09 40.7**	**+0.2**
GAR	**Garm**	**137.92**	**77**			**PKiKP**	**22 09 42.0**	**-0.2**
KURK	**Kurchatov**	**139.71**	**37**	PKPdf		**PKiKP**	**22 09 44.5**	**-0.8**
ZALV	**Zalesovo Beam**	**140.98**	**29**	PKhKP		PKPpre	22 09 40.2	
	comp=Z,0.9nm,0.4s,baz=317,slow=3.2,SNR=4.4							
ZALV				PKP		**PKPdf**	**22 09 46.1**	**+1.1**
	comp=Z,4.6nm,0.4s,baz=336,slow=3.3,SNR=19							
MAKZ	**Makanchi**	**143.56**	**41**	PKPdf		**PKPdf**	**22 09 49.7**	**-0.1**
MK31	**Makanchi Array**	**143.75**	**40**			**PKPdf**	**22 09 50.4**	**+0.2**
MKAR	**Makanchi Array**	**143.75**	**40**	PKP		**PKPdf**	**22 09 50.3**	**+0.1**
	comp=Z,11nm,0.7s,baz=338,slow=2.6,SNR=76							
MKAR				SKPbc		**SKiKP**	**22 12 40.1**	**+2.1**
	comp=Z,2.1nm,0.8s,baz=274,slow=3.4,SNR=5.8							
MKAR	**Makanchi Array**	**143.75**	**40**			**PKPdf**	**22 09 50.0**	**-0.2**
SOEI	**Soe**	**146.64**	**195**			**PKiKP**	**22 10 00.5**	**-0.4**
WMQ	**Urumqi**	**148.55**	**42**	*eP*		**PKPdf**	**22 09 59.3**	**+0.9**
WMQ				pmax		pmax		
	comp=Z,74nm,4.1s							
CISI	**Cisompet, Garu**	**148.66**	**164**			**PKiKP**	**22 10 04.8**	**-0.2**
PYUN	**Piuthan**	**149.60**	**73**	*eP*		**PKiKP**	**22 10 06.8**	**+0.1**
	comp=Z,26nm,0.4s							
ASAJ	**Asahikawa**	**149.69**	**321**	PKPbc		**PKiKP**	**22 10 07.1**	**+1.0**
	comp=Z,10.0nm,0.4s,baz=252,slow=6.5,SNR=14							
KOLN	**Koldanda**	**150.15**	**74**	*eP*		**PKiKP**	**22 10 07.8**	**-0.1**
DANN	**Dangsing**	**150.27**	**73**	*eP*		**PKiKP**	**22 10 08.8**	**+0.6**
KLR	**Kul'dur**	**150.97**	**339**	PKPbc		**PKiKP**	**22 10 09.3**	**+0.7**
	comp=Z,11nm,0.5s,baz=62,slow=2.6,SNR=43							
GKN	**Gorkha**	**151.06**	**73**	*eP*		**PKiKP**	**22 10 10.1**	**+0.4**
DMN	**Daman**	**151.49**	**74**	*eP*		**PKiKP**	**22 10 11.3**	**+0.6**
	comp=Z,3.7nm,0.3s							
KKN	**Kakani**	**151.64**	**74**	*eP*		**PKiKP**	**22 10 11.3**	**+0.3**
PKIN	**Phulchoki**	**151.75**	**74**	*eP*		**PKPbc**	**22 10 11.1**	**+0.1**
PKI	**Pulchoki**	**151.76**	**74**	*eP*		**PKPbc**	**22 10 11.4**	**+0.3**
GUN	**Gumba**	**152.16**	**73**	*eP*		**PKiKP**	**22 10 12.8**	**+0.6**
	comp=Z,7.0nm,0.3s							
RAMN	**Ramite**	**152.85**	**75**	*eP*		**PKiKP**	**22 10 14.3**	**+0.8**
	comp=Z,16nm,0.6s							
ODAN	**Odare**	**153.56**	**75**	*eP*		**PKiKP**	**22 10 15.8**	**+0.8**
SONM	**Songino Array**	**153.87**	**15**	PKP		**PKPdf**	**22 10 08.4**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=307,slow=0.9,SNR=11							
SONM				PKPbc		**PKiKP**	**22 10 16.1**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=300,slow=1.6,SNR=13							
SONM				PKPab		**PKPab**	**22 10 32.3**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=314,slow=3.8,SNR=15							
SONM				pPKPbc		**pPKPbc**	**22 12 23.1**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=309,slow=3.0,SNR=5.8							
ULN	**Ulaanbaatar**	**154.00**	**14**	PKPab		**PKPab**	**22 10 33.2**	**+1.9**
USRK	**Ussuriysk Ar.**	**155.08**	**332**	PKPbc		PKPbc	22 10 18.7	
	comp=Z,1.2nm,0.5s,baz=351,slow=1.3,SNR=6.1							
USRK				PKPab		**PKPab**	**22 10 37.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=358,slow=4.8,SNR=2.7							
MJAR	**Matsushiro Arr**	**156.62**	**311**	PKPab		**PKPab**	**22 10 43.8**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=66,slow=3.3,SNR=5.5							
MJAR	**Matsushiro Arr**	**156.62**	**311**			**PKPab**	**22 10 44.1**	**+1.2**
GTA	**Gaotai**	**158.39**	**36**	*e*PKP		**PKPdf**	**22 10 13.0**	**+0.6**
GTA	**Gaotai**	**158.39**	**36**	*eP*		**PKPab**	**22 10 52.0**	**+1.4**
GTA				PKPab		**PKPab**	**22 10 52.3**	**+1.7**
GTA				pPKP		pPKPdf	22 12 11.0	-11
GTA				sPKP			22 12 57.0	
GTA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**161.65**	**11**	*eP*		**PKPdf**	**22 10 13.5**	**-2.4**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,92nm,7.0s							
KSRS	**Korea Array**	**162.32**	**328**	PKPab		**PKPab**	**22 11 09.3**	**+1.7**
	comp=Z,3.6nm,0.8s,baz=40,slow=3.8,SNR=8.6							
KSAR	**Wonju Array Be**	**162.35**	**328**			**PKPab**	**22 11 08.9**	**+1.2**
LZH	**Lanzhou**	**163.00**	**36**	*e*PKP		**PKPdf**	**22 10 14.0**	**-3.5**
LZH				pPKP		pPKPdf	22 12 14.8	-13
LZH				sPKP			22 13 14.5	
CMAR	**Chiang Mai Arr**	**163.24**	**102**	PKP		**PKPdf**	**22 10 19.8**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=249,slow=2.7,SNR=8.5							
CMAR				PKPab		**PKPab**	**22 11 12.4**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=251,slow=6.5,SNR=6.0							
CD2	**Chengdu**	**166.29**	**52**	PKP		**PKPdf**	**22 10 19.8**	**-0.5**
NJ2	**Nanjing**	**170.56**	**346**	*eP*		**PKPdf**	**22 10 23.0**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							

*IDC **30** 21:58:53.5±3.5,34°.31N×140°.41E,h77^{km}±21^{km},mb3.5/5, mb1 3.7/7,mb1mx3.4/57,mbtmp3.8/7,Error ellipse: s-maj=55.0km s-min=7.4km az=77.0*
*JMA **30** 21:58:53.9±0.2,34°.36N×140°.32E,h68^{km}±3^{km},M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s310.00000°,δ6.00000°,λ45.00000°. NP2:ϕ_s175.00000°, δ86.00000°,λ94.00000°. Principal axes: T Plg49.0000°, Azm89.0000°; N Plg4.0000°, Azm354.0000°; P Plg41.0000°, Azm261.0000°;*
ISC 30 21:58:53.7±1.0,34°.33N±0°.04×140°.34E±0°.06,h73^{km}±8^{km}, n28,σ0^{s}74/35,mb3.9/5,5C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.49**	**16**	⇓P			**Pn**	**21 59 06.7**	**+0.2**
BSO3				X				21 59 17.7	
BSO1	**Boso 1**	**0.62**	**58**	⇓P			**Pn**	**21 59 07.6**	**+0.2**
BSO4	**Boso 4**	**0.66**	**360**	⇓P			**Pn**	**21 59 08.7**	**+0.4**
BSO4				X				21 59 20.9	
JMKN	**Mikurajimanish**	**0.76**	**235**	⇑P			**Pn**	**21 59 09.5**	**0.0**
JMKN				S			**Sn**	**21 59 21.3**	**+0.2**
TATJ	**Tateyama 2**	**0.80**	**332**	P			**Pn**	**21 59 10.3**	**+0.4**
TATJ				S			**Sn**	**21 59 23.3**	**+1.4**
JIM2	**Oshima 3**	**0.85**	**298**	⇑P			**Pn**	**21 59 10.1**	**-0.5**
JIM2				S			**Sn**	**21 59 22.2**	**-0.8**
JTHY	**Toshimahigashi**	**0.89**	**283**	P			**Pn**	**21 59 11.2**	**+0.1**
JTHY				S			**Sn**	**21 59 24.8**	**+0.9**
JKO	**Kozu shima**	**1.01**	**262**	P			**Pn**	**21 59 12.5**	**0.0**
JKO				S			**Sn**	**21 59 26.5**	**+0.1**
KTJ3	**Kamata3**	**1.21**	**300**	⇑P			**Pn**	**21 59 14.4**	**-0.6**
KTJ3				S			**Sn**	**21 59 29.9**	**-1.1**
JIZS	**Izushimoda**	**1.27**	**288**	⇑P			**Pn**	**21 59 15.7**	**-0.1**
JIZS				S			**Sn**	**21 59 32.3**	**0.0**
JHJ2	**Mitsune**	**1.29**	**200**	P			**Pn**	**21 59 16.4**	**+0.4**
JHJ2				S			**Sn**	**21 59 33.4**	**+0.7**
JHJ	**Hachijo jima 2**	**1.29**	**201**	P			**Pn**	**21 59 16.5**	**+0.4**
	70nm,0.3s,baz=150,slow=23,SNR=78								
JHJ				S			**Sn**	**21 59 32.8**	**0.0**
	131nm,0.3s,baz=244,slow=22,SNR=26								
JOD2	**Odawara 2**	**1.39**	**313**	⇑P			**Pn**	**21 59 16.8**	**-0.6**
JOD2				S			**Sn**	**21 59 34.3**	**-0.9**
JFNN	**Fujinakano**	**1.61**	**303**	P			**Pn**	**21 59 20.6**	**+0.3**
JFNN				S			**Sn**	**21 59 41.0**	**+0.6**
MJAR	**Matsushiro Arr**	**2.81**	**322**	P			**Pn**	**21 59 37.2**	**+0.8**
	1.7nm,0.3s,baz=157,slow=13,SNR=41								
MJAR				S			**Sn**	**22 00 09.8**	**+0.4**
	1.9nm,0.3s,baz=158,slow=32,SNR=9.0								
MAT	**Matsushiro**	**2.82**	**322**	P			**Pn**	**21 59 37.4**	**+0.9**
MAT				S			**Sn**	**22 00 10.0**	**+0.6**
JNU	**Nakatsue**	**7.97**	**264**	P			**Pn**	**22 00 49.1**	**+2.1**
	0.9nm,0.3s,baz=24,slow=2.6,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**27.66**	**115**	T			T	22 34 25.1	
	baz=308,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**27.66**	**115**	T			T	22 34 33.2	
	baz=308,slow=75,SNR=16								
H11N3	**WAKE ISLAND Hy**	**27.68**	**115**	T			T	22 34 34.0	
	baz=308,slow=75,SNR=16								
H11S3	**WAKE ISLAND Hy**	**28.26**	**117**	T			T	22 35 19.1	
	baz=310								
H11S1	**WAKE ISLAND Hy**	**28.26**	**117**	T			T	22 35 18.2	
	baz=310								
H11S2	**WAKE ISLAND Hy**	**28.28**	**117**	T			T	22 35 19.8	
	baz=310								
SONM	**Songino Array**	**28.68**	**308**	P			**P**	**22 04 44.2**	**+0.4**
	0.7nm,0.5s,baz=112,slow=9.3,SNR=5.6								
ZALV	**Zalesovo Beam**	**43.14**	**315**	P			**P**	**22 06 46.8**	**0.0**
	0.6nm,0.3s,baz=122,slow=8.8,SNR=2.6								
MKAR	**Makanchi Array**	**44.87**	**304**	P			**P**	**22 07 00.3**	**-0.4**
	1.4nm,0.6s,baz=83,slow=9.2,SNR=12								
WRA	**Warramunga Arr**	**54.27**	**187**	P			**P**	**22 08 11.2**	**-1.2**
	2.0nm,0.7s,baz=4.6,slow=7.9,SNR=32								
ASAR	**Alice Springs**	**58.00**	**187**	P			**P**	**22 08 38.1**	**-0.9**
	0.3nm,0.5s,baz=17,slow=13,SNR=5.0								

*JMA **30** 22:07:00.9±0.1,23°.43N×121°.44E,h30^{km}±2^{km}*
*TAP **30** 22:07:01.7,23°.46N×121°.44E,h26^{km},ML2.8,C*
ISC 30 22:07:02.1±0.9,23°.46N±0°.02×121°.44E±0°.02,h29^{km}±4^{km}, n66,σ0^{s}96/126,1C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.04**	**335**	*i* P			**Pb**	**22 07 07.6**	**+0.5**
	baz=337								
HGSD				*e*S			**Sb**	**22 07 11.2**	**+0.7**
	baz=337								
EHY	**Hungye**	**0.12**	**295**	*i* P			**Pb**	**22 07 07.2**	**-0.4**
	baz=293								
EHY				*e*S			**Sb**	**22 07 10.2**	**-1.1**
	baz=293								
YULB	**Yu-li**	**0.15**	**245**	⇓*i*P			**Pb**	**22 07 07.4**	**-0.4**
	baz=242								
YULB				*e*S			**Sb**	**22 07 10.6**	**-1.0**
	baz=242								
TWF1	**Yuli**	**0.17**	**233**	⇓*i*P			**Pb**	**22 07 07.6**	**-0.4**
	baz=228								
TWF1				*i* S			**Sb**	**22 07 11.2**	**-0.8**
	baz=228								
EGFH	**Guangfu**	**0.21**	**356**	P			**Pb**	**22 07 08.3**	**-0.2**
	baz=357								
EGFH				*e*S			**Sb**	**22 07 12.6**	**-0.2**
	baz=357								
FULB	**Fuli**	**0.29**	**208**	P			**Pb**	**22 07 09.6**	**+0.2**
	baz=207								
FULB				*e*S			**Sb**	**22 07 13.5**	**-0.9**
	baz=207								
ESL	**Shilin**	**0.36**	**359**	*i* P			**Pb**	**22 07 09.9**	**-0.5**
ESL				*e*S			**Sb**	**22 07 14.9**	**-1.0**
CHKT	**Chengkung**	**0.36**	**191**	*e*P			**Pb**	**22 07 10.8**	**+0.4**
	baz=189								
CHKT				*e*S			**Sb**	**22 07 16.8**	**+0.8**
	baz=189								
VWDT	**VWDT**	**0.41**	**317**	⇑*i*P			**Pn**	**22 07 11.2**	**-0.8**
	baz=317								
VWDT				S			**Sb**	**22 07 16.9**	**-0.2**
	baz=317								
ELDTW	**Lidau**	**0.47**	**236**	⇓*i*P			**Pb**	**22 07 11.4**	**-0.8**
	baz=234								
ELDTW				S			**Sb**	**22 07 17.1**	**-1.9**
	baz=234								
EDH	**Donghe**	**0.50**	**195**	*e*P			**Pb**	**22 07 12.3**	**-0.2**
	baz=194								
EDH				*e*S			**Sn**	**22 07 20.8**	**0.0**
	baz=194								
HWA	**Hwalien**	**0.54**	**16**	*e*P			**Pb**	**22 07 13.4**	**+0.2**
	baz=17								
SSLB	**Suanglung**	**0.56**	**307**	*e*P			**Pb**	**22 07 13.2**	**-0.3**
	baz=306								
SSLB				*e*S			**Sb**	**22 07 20.1**	**-1.2**
	baz=306								
ALS	**Alishan**	**0.59**	**276**	P			**Pn**	**22 07 14.4**	**-0.4**
	baz=274								
ALS				S			**Sb**	**22 07 22.1**	**-0.3**
	baz=274								
LONT	**Longtian**	**0.62**	**208**	*e*P			**Pb**	**22 07 13.4**	**-1.1**
	baz=207								
LONT				*e*S			**Sb**	**22 07 21.4**	**-1.5**
	baz=207								
TWD	**Chiawan**	**0.64**	**13**	P			**Pb**	**22 07 14.2**	**-0.6**
	baz=13								
TWD				*e*S			**Sb**	**22 07 22.3**	**-1.2**
	baz=13								
CHGB	**Renai**	**0.65**	**338**	*e*P			**Pb**	**22 07 15.1**	**-0.1**
	baz=337								
CHGB				*e*S			**Sb**	**22 07 23.1**	**-1.0**
	baz=337								
SMLT	**Sun Moon Lake**	**0.66**	**311**	*e*P			**Pn**	**22 07 15.1**	**-0.5**
	baz=310								
SMLT				*e*S			**Sn**	**22 07 23.9**	**-1.1**
	baz=310								
STYT	**Tauyuan**	**0.69**	**245**	*e*P			**Pb**	**22 07 15.6**	**-0.2**
	baz=244								
STYT				*e*S			**Sb**	**22 07 24.3**	**-0.8**
	baz=244								
TYC	**Yuchr**	**0.70**	**310**	*e*P			**Pb**	**22 07 15.5**	**-0.3**
	baz=310								
TYC				*e*S			**Sn**	**22 07 24.9**	**-1.0**
	baz=310								
WHF	**Hehuan Shan**	**0.71**	**347**	*e*P			**Pb**	**22 07 15.6**	**-0.7**
	baz=347								
WHF				*e*S			**Sb**	**22 07 24.7**	**-1.2**
	baz=347								
CHN5	**Tsauling**	**0.72**	**282**	*e*P			**Pn**	**22 07 16.7**	**+0.3**
	baz=281								
CHN5				*e*S			**Sn**	**22 07 26.2**	**-0.2**
	baz=281								
TWG	**Pinlang**	**0.72**	**208**	*e*P			**Pb**	**22 07 14.6**	**-1.6**
	baz=207								
TWG				*e*S			**Sb**	**22 07 23.6**	**-2.1**
	baz=207								
TWGBT	**Beinan**	**0.72**	**208**	*e*P			**Pb**	**22 07 14.5**	**-1.7**
	baz=207								
TWGBT				*e*S			**Sb**	**22 07 23.5**	**-2.2**
	baz=207								
NACB	**Ninganchiao**	**0.73**	**11**	*e*P			**Pb**	**22 07 15.2**	**-1.2**
	baz=11								
NACB				*e*S			**Sb**	**22 07 24.0**	**-2.0**
	baz=11								
ETLH	**Xiulin Townshi**	**0.75**	**3**	*e*P			**Pb**	**22 07 15.7**	**-1.1**
	baz=3.0								
ETLH				*e*S			**Sb**	**22 07 24.8**	**-1.9**
	baz=3.0								
WJS	**Zhushan**	**0.75**	**299**	*e*P			**Pn**	**22 07 17.6**	**+0.8**
	baz=298								
WJS				*e*S			**Sn**	**22 07 27.7**	**+0.5**
	baz=298								
TPUB	**Ta-pu**	**0.76**	**259**	P			**Pn**	**22 07 17.2**	**+0.2**
	baz=257								
TPUB				*e*S			**Sn**	**22 07 27.5**	**0.0**
	baz=257								
LDUT	**Ludao**	**0.78**	**178**	*e*P			**Pb**	**22 07 16.0**	**-1.2**
	baz=177								
LDUT				*e*S			**Sb**	**22 07 27.1**	**-0.3**
	baz=177								
CHN4	**Tsaushan**	**0.79**	**263**	*e*P			**Pn**	**22 07 17.8**	**+0.5**
	baz=262								
CHN4				*e*S			**Sn**	**22 07 29.5**	**+1.4**
	baz=262								
WTP	**Ta-pu**	**0.79**	**255**	*e*P			**Pn**	**22 07 17.6**	**+0.2**
	baz=254								
WTP				*e*S			**Sn**	**22 07 28.1**	**-0.1**
	baz=254								
FUSS	**Fushou**	**0.81**	**347**	*e*P			**Pb**	**22 07 17.5**	**-0.3**
	baz=347								
FUSS				*e*S			**Sb**	**22 07 27.7**	**-0.9**
	baz=347								
WNT	**Mingjian**	**0.81**	**301**	*e*P			**Pn**	**22 07 18.8**	**+1.1**
	baz=301								
WNT				*e*S			**Sn**	**22 07 30.0**	**+1.3**
	baz=301								
TDCB	**Techi**	**0.84**	**342**	*e*P			**Pn**	**22 07 18.1**	**0.0**
	baz=341								
TDCB				*e*S			**Sb**	**22 07 28.4**	**-0.8**
	baz=341								
WDLH	**Douliu**	**0.86**	**286**	*e*P			**Pn**	**22 07 19.5**	**+1.3**
	baz=285								
WDLH				*e*S			**Sn**	**22 07 31.4**	**+1.5**
	baz=285								
SLGT	**Liugui**	**0.86**	**238**	P			**Pn**	**22 07 18.6**	**+0.2**
	baz=237								
SLGT				*e*S			**Sn**	**22 07 29.8**	**-0.2**
	baz=237								
SGST	**Jiashian**	**0.87**	**245**	*e*P			**Pn**	**22 07 18.1**	**-0.4**
	baz=244								
SGST				*e*S			**Sn**	**22 07 30.6**	**+0.3**
	baz=244								
CHN1	**Nanshi**	**0.88**	**252**	*e*P			**Pb**	**22 07 19.4**	**+0.5**
	baz=251								
CHN1				*e*S			**Sn**	**22 07 32.1**	**+1.6**
	baz=251								
TWK	**Hsinying**	**0.90**	**258**	*e*P			**Pb**	**22 07 19.3**	**+0.1**
	baz=257								
TWK				*e*S			**Sn**	**22 07 32.1**	**+1.3**
	baz=257								
SNST	**Tainan City**	**0.90**	**255**	*e*P			**Pb**	**22 07 19.6**	**+0.4**
	baz=254								
SNST				*e*S			**Sn**	**22 07 32.6**	**+1.8**
	baz=254								
CHY	**Chiayi**	**0.94**	**

mb1 3.7/13,mb1mx3.5/46,mbtmp3.8/13,ML2.8/1,MS2.9/5, Ms1 2.9/5,ms1mx2.6/43,Error ellipse: s-maj=29.8km s-min=14.4km az=175.0

ISC 30 22:08:41.9±0.6,51°17'N±0°10'×179°25'W±0°04,h45km,n88, σ1°29/78,mb4.0/25,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.67**	**26**		**Pn**	**22 08 54.3**	**-0.7**
GAEA	**Gareloi East**	**0.69**	**27**		**Pn**	**22 08 54.5**	**-0.9**
AMKA	**Amchitka**	**0.94**	**284**		**Pn**	**22 08 57.1**	**-1.5**
AMKA					**Sn**	**22 09 09.4**	**-1.5**
CERAA	**Semis' Rag'd T**	**1.00**	**318**		**Pn**	**22 08 59.3**	**-0.2**
TASE	**Tanaga Southea**	**1.01**	**48**		**Pn**	**22 08 58.9**	**-0.8**
CESW	**Semis' Southwe**	**1.05**	**315**		**Pn**	**22 08 59.8**	**-0.3**
TAFP	**Tanaga Falls P**	**1.08**	**47**		**Pn**	**22 08 59.8**	**-0.8**
TAFP					**Sn**	**22 09 14.2**	**-0.2**
CEAP	**Semis' Anvil P**	**1.11**	**319**		**Pn**	**22 09 01.0**	**-0.1**
KIMD	**Kanaga Island**	**1.39**	**64**		**Pn**	**22 09 04.3**	**-0.5**
KIKV	**Kanaga Island**	**1.48**	**60**		**Pn**	**22 09 05.7**	**-0.4**
KICM	**Kanaga Island**	**1.49**	**59**		**Pn**	**22 09 06.1**	**0.0**
LSPA	**Little Sitkin**	**1.57**	**301**		**Pn**	**22 09 07.5**	**+0.2**
LSPA					**Sn**	**22 09 29.9**	**+3.4**
LSNW	**Little Sitkin**	**1.61**	**301**		**Pn**	**22 09 07.6**	**-0.3**
ADK	**Adak**	**1.75**	**65**		**Pn**	**22 09 09.3**	**-0.5**
GSTD	**Great Sitkin T**	**2.13**	**64**		**Pn**	**22 09 15.7**	**+0.7**
GSTR	**Great Sitkin T**	**2.19**	**64**	Pn	**Pn**	**22 09 13.7**	**-2.2**
ATKA	**Atka Island**	**3.31**	**70**		**Pn**	**22 09 30.5**	**-0.6**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=66,slow=11,SNR=2.6	**14.28**	**287**	P	**P**	**22 12 05.9**	**-1.5**
PETK				LR	LR	22 17 39.5	
MA2	**Magadan** comp=Z,30nm,19.7s,baz=68,slow=38	**18.86**	**308**	LR	LR	22 20 04.1	
GHO	**Glory Hole Cre** comp=Z,11nm,1.2s	**19.63**	**46**	P	**Pn**	**22 13 07.8**	**-0.3**
GHO				IAmb	IAmb	22 13 24.1	
TRF	**Thorofare Moun**	**19.68**	**40**	P	**P**	**22 13 06.6**	**-0.4**
BPAW	**Bear Paw Mtn.**	**19.69**	**38**	P	**P**	**22 13 07.9**	**+0.9**
KNK	**Knik Glacier** comp=Z,6.7nm,0.8s	**19.73**	**47**	P	**Pn**	**22 13 08.8**	**-0.4**
KNK				IAmb	IAmb	22 13 12.9	
SML	**Sawmill** comp=Z,9.1nm,1.2s	**19.91**	**46**	P	**P**	**22 13 10.4**	**+0.9**
SML				IAmb	IAmb	22 13 21.0	
GLI	**Glacier Island**	**20.22**	**49**	P	**P**	**22 13 13.6**	**+0.8**
BWN	**Browne** comp=Z,10nm,0.8s	**20.32**	**39**	P	Pn	22 13 15.3	-0.8
BWN				IAmb	IAmb	22 13 18.2	
SCM	**Sheep Creek Mo** comp=Z,5.4nm,0.9s	**20.37**	**46**	P	**P**	**22 13 13.1**	**-1.4**
SCM				IAmb	IAmb	22 13 30.9	
FID	**Port Fidalgo** comp=Z,13nm,0.9s	**20.48**	**49**	P	**P**	**22 13 16.3**	**+0.7**
FID				IAmb	IAmb	22 13 25.0	
DHY	**Denali Highway** comp=Z,5.8nm,0.8s	**20.75**	**43**	P	**P**	**22 13 18.8**	**+0.2**
DHY				IAmb	IAmb	22 13 34.5	
I23K	**Minto, Yukon-K**	**20.80**	**36**	P	**P**	**22 13 18.8**	**-0.2**
KLU	**Klutina**	**20.92**	**48**	P	**P**	**22 13 21.5**	**+1.0**
M24K	**Tolsona, Glenn** comp=Z,14nm,0.9s	**20.97**	**46**	P	Pn	22 13 23.4	-0.5
M24K				IAmb	IAmb	22 13 24.8	
WRH	**Wood River Hil** comp=Z,5.5nm,1.2s	**20.99**	**39**	P	**P**	**22 13 20.0**	**-1.0**
WRH				IAmb	IAmb	22 13 36.4	
MDM	**Murphy Dome** comp=Z,4.0nm,0.9s	**21.14**	**37**	P	**P**	**22 13 22.7**	**0.0**
MDM				IAmb	IAmb	22 13 36.3	
CCB	**Clear Creek Bu**	**21.17**	**38**	P	**P**	**22 13 22.9**	**-0.1**
KAIM	**Kayak Island**	**21.33**	**52**	P	**P**	**22 13 25.6**	**+0.8**
HDA	**Harding Lake**	**21.42**	**39**	P	**P**	**22 13 26.5**	**+0.9**
N25K	**Chitina, Valde**	**21.57**	**48**	P	**P**	**22 13 28.0**	**+0.6**
IL31		**21.59**	**39**	P	**P**	**22 13 26.9**	**-0.5**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=233,slow=8.6,SNR=7.9	**21.59**	**39**	P	**P**	**22 13 26.9**	**-0.6**
ILAR	**Eielson Array**	**21.59**	**39**	P	**P**	**22 13 27.9**	**+0.5**
GLB	**Gilahina Butte** comp=Z,3.7nm,0.6s	**21.90**	**48**	P	**P**	**22 13 31.4**	**+0.5**
GLB				IAmb	IAmb	22 13 36.0	
VRDI	**Verde Repeater** comp=Z,6.4nm,1.1s	**22.03**	**49**	P	**P**	**22 13 32.5**	**+0.1**
VRDI				IAmb	IAmb	22 13 46.6	
RIDG	**Independent Ri** comp=Z,7.8nm,1.1s	**22.04**	**42**	P	**P**	**22 13 32.6**	**+0.2**
RIDG				IAmb	IAmb	22 13 34.7	
TOLK	**Toolik Lake Re**	**22.59**	**28**	P	**P**	**22 13 38.9**	**+0.8**
BARN	**Barnard Glacie**	**22.86**	**50**	P	**P**	**22 13 41.5**	**+0.3**
BARN	comp=Z,6.2nm,1.1s			IAmb	IAmb	22 13 46.4	
CTGM	**Chitina Glacie** comp=Z,5.5nm,1.2s	**23.00**	**50**	P	**P**	**22 13 42.2**	**-0.5**
CTGM				IAmb	IAmb	22 13 57.3	
BCPM	**Bancas Point**	**23.73**	**53**	P	**P**	**22 13 51.5**	**+2.0**
EGAK	**Eagle** comp=Z,3.0nm,0.8s	**23.89**	**41**	P	**P**	**22 13 51.1**	**+0.1**
EGAK				IAmb	IAmb	22 13 51.8	
ASAJ	**Asahikawa** comp=Z,27nm,20.5s,baz=12,slow=32	**26.42**	**270**	LR	LR	22 22 49.9	
INK	**Inuvik** comp=Z,25nm,18.7s,baz=28,slow=38	**27.79**	**35**	LR	LR	22 26 24.6	
KLR	**Kul'dur** comp=Z,2.9nm,0.7s,baz=46,slow=7.2,SNR=6.7	**30.97**	**286**	P	**P**	**22 14 54.5**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=17,slow=76,SNR=24	**33.22**	**204**	T	T	22 50 28.3	
H11N3	**WAKE ISLAND Hy** baz=17,slow=76,SNR=30	**33.23**	**204**	T	T	22 50 27.0	
H11N1	**WAKE ISLAND Hy** baz=17,slow=76,SNR=22	**33.24**	**204**	T	T	22 50 32.1	
H11S1	**WAKE ISLAND Hy** baz=16,slow=76,SNR=47	**34.44**	**204**	T	T	22 52 10.2	
H11S2	**WAKE ISLAND Hy** baz=16,slow=76,SNR=30	**34.46**	**204**	T	T	22 52 11.0	
H11S3	**WAKE ISLAND Hy** baz=16,slow=76,SNR=28	**34.46**	**204**	T	T	22 52 09.5	
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=317,slow=6.5,SNR=1.6	**43.86**	**82**	P	**P**	**22 16 46.2**	**+2.4**
SONM	**Songino Array** comp=Z,1.1nm,0.8s,baz=63,slow=10,SNR=5.8	**46.49**	**297**	P	**P**	**22 17 05.3**	**+0.8**
SONM				LR	LR	22 37 30.6	
SONM	**Songino Array** comp=Z,31nm,19.2s,baz=77,slow=37	**46.49**	**297**	IAmb	IAmb	22 17 05.6	
PDAR	**Pinedale Array** comp=Z,1.8nm,0.5s,baz=317,slow=3.4,SNR=27	**46.64**	**72**	P	**P**	**22 17 06.3**	**+0.5**
HHC	**Hu-ho-hao-te** comp=Z,12nm,0.7s	**47.48**	**286**	*eP*	**P**	**22 17 13.5**	**+1.3**
HHC				pmax	pmax		
HHC	comp=Z,100nm,6.2s			pmax	pmax		
PV11	**David Mesa, Pa**	**49.77**	**76**	P	**P**	**22 17 30.6**	**+0.6**
PV12	**Saucer Basin,** comp=Z,2.9nm,0.8s	**49.80**	**76**	P	**P**	**22 17 31.1**	**+0.8**
PV12				IAmb	IAmb	22 17 38.9	
PV03	**Paradox Valley**	**49.81**	**76**	P	**P**	**22 17 31.9**	**+1.5**
PV13	**Radium Mtn., P**	**49.89**	**76**	P	**P**	**22 17 31.0**	**+0.1**
PV02	**Paradox Valley**	**49.91**	**76**	P	**P**	**22 17 31.2**	**+0.1**
PV15	**Paradox Valley**	**49.98**	**76**	P	**P**	**22 17 32.9**	**+1.2**
WUAZ	**Wupatki** comp=Z,1.5nm,0.8s	**50.00**	**81**	P	**P**	**22 17 32.8**	**+1.1**
WUAZ				IAmb	IAmb	22 17 45.3	
FRB	**Frobisher Bay** comp=Z,18nm,1.0s,baz=295,slow=17,SNR=1.7	**53.35**	**31**	P	**P**	**22 17 55.2**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=64,slow=6.8,SNR=3.9	**53.97**	**313**	PcP	**PcP**	**22 19 05.7**	**+0.2**
LZH	**Lanzhou**	**55.17**	**286**	*eP*	**P**	**22 18 11.5**	**+1.5**
LZH				pP	pP	22 18 18.8	-3.0
LZH				sP	pwP	22 18 23.3	-1.9
LZH				PP	**PP**	**22 20 06.5**	**-6.9**
LZH	comp=Z,19nm,1.0s			pmax	pmax		
LZH	comp=Z,100nm,4.3s			pmax	pmax		
GTA	**Gaotai**	**55.38**	**292**	*eP*	**P**	**22 18 12.0**	**+0.6**
GTA				pP	pP	22 18 18.0	-5.2
GTA				sP	pwP	22 18 22.0	-4.9
GTA	comp=Z,3.0nm,1.0s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,5.2nm,1.1s,baz=25,slow=7.0,SNR=1.1	**58.25**	**350**	P	**P**	**22 18 30.6**	**-0.5**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.6s,baz=310,slow=5.0,SNR=7.8	**58.96**	**81**	P	**P**	**22 18 37.1**	**+0.4**
WMQ	**Urumqi**	**59.22**	**303**	*eP*	**P**	**22 18 42.0**	**+3.7**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.7s,baz=41,slow=6.8,SNR=7.3	**59.95**	**308**	P	**P**	**22 18 42.3**	**-0.9**
MKAR				PcP	**PcP**	**22 19 29.5**	**+0.5**
Y49A	**Blount Mountai** comp=Z,0.3nm,0.6s,baz=51,slow=4.5,SNR=1.8	**66.11**	**65**	P	**P**	**22 19 24.9**	**+0.6**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.7s,baz=6.4,slow=6.0,SNR=2.0	**67.83**	**355**	P	**P**	**22 19 34.4**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=28,slow=8.1,SNR=8.2	**70.75**	**276**	P	**P**	**22 19 54.1**	**+0.7**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.7s,baz=33,slow=6.1,SNR=3.2	**81.67**	**224**	P	**P**	**22 20 55.0**	**-0.2**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=32,slow=5.5,SNR=3.2	**85.14**	**222**	P	**P**	**22 21 13.8**	**+0.8**
H03N2	**Juan Fernandez** baz=317,slow=78,SNR=12	**121.36**	**106**	T	T	00 40 33.7	
H03N1	**Juan Fernandez** baz=317,slow=78,SNR=11	**121.37**	**106**	T	T	00 40 35.0	
H03N3	**Juan Fernandez** baz=317,slow=78,SNR=11	**121.37**	**106**	T	T	00 40 38.5	
DBIC	**Dimbokro** comp=Z,1.5nm,0.7s,baz=270,slow=4.0,SNR=1.3	**122.19**	**7**	PKP	**PKPdf**	**22 27 31.2**	**-0.6**
BOSA	**Boshof** comp=Z,3.2nm,1.0s,baz=357,slow=4.0,SNR=4.5	**150.91**	**311**	PKPbc	**PKPbc**	**22 28 29.7**	**+0.3**

JMA 30 22:13:52.4,29°68'N×141°20'E,h51km,M3.8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.72**	**161**	P	Pn	22 14 34.9	+1.3
CBIJ				*eS*	Sn	22 15 06.2	+1.0
JHCJ	**Hachijojimakas**	**3.59**	**341**	*eS*	Sn	22 15 28.0	+1.4
JHJ2	**Mitsune**	**3.62**	**341**	P	Pn	22 14 47.6	+1.7
JHJ2				*eS*	Sn	22 15 29.1	+1.7
BSO1	**Boso 1**	**4.96**	**358**	P	Pn	22 15 06.7	+2.8
BSO1				*eS*	Sn	22 16 03.3	+3.6
BSO3	**Boso 3**	**5.14**	**354**	*eS*	Sn	22 16 07.1	+2.7
JAG	**Ashikaga**	**6.88**	**348**	*eS*	Sn	22 16 47.5	-0.2
JHO	**Hitachi**	**6.93**	**356**	P	Pn	22 15 33.8	+2.4
JHO				*eS*	Sn	22 16 47.6	-1.3
JFK	**Kawauchi**	**7.67**	**358**	*eS*	Sn	22 17 04.1	-3.0
JMK	**Ichinoseki**	**9.25**	**0**	P	Pn	22 16 05.8	+2.7
JMK				*eS*	Sn	22 17 42.7	-3.0

*SOME **30** 22:19:07.3,42°13N×82°63E,h10km*
*NNC **30** 22:19:10.3±1.1,42°21N×82°54E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=8.4km s-min=4.7km az=152.0*

ISC 30 22:19:11.2±2.2,42°20N±0°09×82°42E±0°08,h13km,n30, σ1°89/46,7C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 32nm,0.2s	**1.97**	**310**	*eP*	**Pb**	**22 19 47.2**	**+0.1**
KTMS	141nm,0.3s			*eS*	**Sg**	**22 20 16.4**	**+1.8**
KTMS	**Ketmen** 32nm,0.2s	**1.97**	**310**	Pg	**Pb**	**22 19 47.2**	**+0.1**
KTMS	141nm,0.3s			Lg	Lg	22 20 16.4	
SHLS	**Shalkode** 26nm,0.3s	**2.38**	**295**	*eP*	**Pn**	**22 19 50.0**	**-0.1**
SHLS	108nm,0.5s			*eS*	**Sn**	**22 20 21.1**	**+1.8**
SHLS	**Shalkode** 26nm,0.3s	**2.38**	**295**	Pg	**Pn**	**22 19 50.0**	**-0.1**
SHLS	108nm,0.5s			Lg	Lg	22 20 21.1	
PDGK	**Podgornoye** 14nm,0.8s	**2.44**	**299**	⇑Pn	**Pb**	**22 19 53.3**	**-1.7**
PDGK	23nm,0.4s			⇑Lg	Lg	22 20 28.1	
UZB	**Uzunbulak** 4.9nm,0.4s	**2.68**	**292**	*eP*	**Pb**	**22 19 59.2**	**+0.1**
UZB	30nm,0.4s			*eS*	**Sg**	**22 20 36.8**	**-0.5**
UZB	**Uzunbulak** 4.9nm,0.4s	**2.68**	**292**	Pg	**Pb**	**22 19 59.2**	**+0.1**
UZB	30nm,0.4s			Lg	Lg	22 20 36.8	
DJR	**Jarkent** 7.9nm,0.4s	**2.87**	**319**	*eP*	**Pb**	**22 20 03.0**	**+0.6**
DJR	21nm,0.8s			*eS*	**Sg**	**22 20 42.9**	**-0.6**
DJR	**Jarkent** 7.9nm,0.4s	**2.87**	**319**	Pg	**Pb**	**22 20 03.0**	**+0.6**
DJR	21nm,0.8s			Lg	Lg	22 20 42.9	
KPKS	**Kokpek** 11nm,0.2s	**3.03**	**296**	*eP*	**Pb**	**22 20 06.4**	**+1.4**
KPKS	54nm,0.5s			*eS*	**Sg**	**22 20 49.1**	**+0.7**
SATY	**Saty** 5.3nm,0.4s	**3.09**	**288**	*eP*	**Pb**	**22 20 06.5**	**+0.5**
SATY	26nm,0.6s			*eS*	**Sg**	**22 20 48.9**	**-1.5**
SATY	**Saty** 5.3nm,0.4s	**3.09**	**288**	Pg	**Pg**	**22 20 08.8**	**-1.5**
SATY	26nm,0.6s			Lg	Lg	22 20 53.2	
ZHN	**Zhinishke** 56nm,0.5s	**3.10**	**290**	*eP*	**Pb**	**22 20 06.6**	**+0.4**
ZHN	11nm,0.4s			*eS*	**Sg**	**22 20 49.4**	**-1.2**
ZHN	**Zhinishke** 56nm,0.5s	**3.10**	**290**	Pg	**Pb**	**22 20 06.6**	**+0.4**
ZHN	11nm,0.4s			Lg	Lg	22 20 49.4	
MNBS	**Baschi** 4.5nm,0.4s	**3.49**	**304**	*eP*	**Pb**	**22 20 13.9**	**+1.0**
MNBS	22nm,0.5s			*eS*	**Sg**	**22 21 01.8**	**-1.6**
MNBS	**Baschi** 4.5nm,0.4s	**3.49**	**304**	Pg	**Pb**	**22 20 13.9**	**+1.0**
MNBS	22nm,0.5s			Lg	Lg	22 21 01.8	
ARXS	**Arharly** 7.4nm,0.4s	**3.92**	**303**	*eP*	**Pg**	**22 20 23.2**	**-3.1**
ARXS	26nm,0.7s			*eS*	**Sg**	**22 21 17.6**	**+0.6**
ARXS	**Arharly** 7.4nm,0.4s	**3.92**	**303**	Pg	**Pg**	**22 20 23.2**	**-3.1**
ARXS	26nm,0.7s			Lg	Lg	22 21 17.6	
TDK	**Taldyqorghan** 16nm,0.3s	**4.05**	**315**	*eP*	**Pg**	**22 20 26.1**	**-2.6**
TDK	26nm,0.6s			*eS*	**Sg**	**22 21 23.1**	**+2.0**
TDK	**Taldyqorghan** 16nm,0.3s	**4.05**	**315**	Pg	**Pg**	**22 20 26.1**	**-2.6**
TDK	26nm,0.6s			Lg	Lg	22 21 23.1	
KOTS	**Kotyrbulak** 11nm,0.4s	**4.05**	**287**	*eP*	**Pg**	**22 20 25.8**	**-2.9**
KOTS	12nm,0.5s			*eS*	**Sg**	**22 21 22.9**	**+1.7**
KOTS	**Kotyrbulak** 11nm,0.4s	**4.05**	**287**	Pg	**Pg**	**22 20 25.8**	**-2.9**
KOTS	12nm,0.5s			Lg	Lg	22 21 22.9	
IZV	**Izvestkoviy** 5.5nm,0.5s	**4.37**	**283**	*eP*	**Pg**	**22 20 32.0**	**-2.9**
IZV	14nm,0.9s			*eS*	**Sg**	**22 21 32.7**	**+1.3**
IZV	**Izvestkoviy** 5.5nm,0.5s	**4.37**	**283**	Pg	**Pg**	**22 20 32.0**	**-2.9**
IZV	14nm,0.9s			Lg	Lg	22 21 32.7	
KTBS	**Karatobe** 2.1nm,0.6s	**4.48**	**292**	*eP*	**Pg**	**22 20 34.3**	**-2.7**
KTBS	20nm,0.5s			*eS*	**Sg**	**22 21 36.7**	**+1.8**
KTBS	**Karatobe** 2.1nm,0.6s	**4.48**	**292**	Pg	**Pg**	**22 20 34.3**	**-2.7**
KTBS	20nm,0.5s			Lg	Lg	22 21 36.7	
MK31	**Makanchi Array** 0.2nm,0.2s,baz=190,slow=12,SNR=33	**4.60**	**359**	⇑Pn	**Pn**	**22 20 21.3**	**+0.8**
MK31	0.8nm,0.3s,baz=164,slow=16,SNR=6.1			⇓Pg	**Pg**	**22 20 34.7**	**-4.6**
MK31	4.1nm,0.6s,baz=205,slow=31,SNR=4.7			⇑Sn	**Sn**	**22 21 15.7**	**+1.9**
MK31	6.6nm,0.5s,baz=173,slow=27,SNR=5.7			⇑Lg	Lg	22 21 34.6	
MAKZ	**Makanchi** 1.5nm,0.7s	**4.62**	**356**	⇓Pn	**Pn**	**22 20 21.9**	**+1.1**
MAKZ				⇑Pg	**Pb**	**22 20 33.9**	**+1.7**
MAKZ	4.6nm,1.0s			⇑Sn	**Sn**	**22 21 17.0**	**+2.6**
MAKZ	4.8nm,0.5s			⇓Lg	Lg	22 21 35.2	
MRKS	**Merke** 20nm,0.3s	**6.82**	**278**	Pg	**Pg**	**22 21 22.2**	**+0.4**
MRKS				Lg	Lg	22 22 32.8	
KURBB	**Kurchatov Arra** 10nm,0.8s	**8.85**	**344**	⇓Lg	Lg	22 23 50.8	

*NNC **30** 22:19:46.8±2.7,36°71N×70°57E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=26.2km s-min=20.4km az=78.0*

ISC 30 22:19:48.4±5.0,36°6N±0°3×70°4E±0°2,h200km,n8, σ0°49/10,2C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=48	**6.09**	**24**	P	**Pn**	**22 21 16.7**	**-0.4**
UCH	**Uchtor** SNR=19	**6.46**	**28**	P	**Pn**	**22 21 22.1**	**+0.1**
KK31	**Karatay Array** 2.4nm,0.3s,baz=188,slow=14,SNR=56	**6.51**	**1**	Pn	**Pn**	**22 21 21.8**	**-0.4**
KK31	1.2nm,0.3s,baz=177,slow=13,SNR=3.6			⇑Sn	**Sn**	**22 22 37.2**	**+0.5**
EKS2	**Erkin-Say** SNR=17	**6.59**	**22**	P	**Pn**	**22 21 23.6**	**+0.3**
AAK	**Ala-Archa** SNR=7.8	**6.81**	**26**	P	**Pn**	**22 21 27.0**	**+0.8**
AAK	**Ala-Archa** 8.0nm,0.7s	**6.81**	**26**	⇑Pn	**Pn**	**22 21 26.4**	**+0.1**
AAK	9.0nm,0.5s			⇓Sn	**Sn**	**22 22 43.3**	**-0.6**
TKM2	**Tokmak 2** SNR=6.7	**7.47**	**31**	P	**Pn**	**22 21 35.0**	**+0.1**
TKM2	**Tokmak 2** 7.8nm,0.6s	**7.47**	**31**	⇓Pn	**Pn**	**22 21 34.8**	**-0.1**

IDC 30 22:27:02.7±2.2,5°58S×150°10E,h116km±27km,mb3.0/2, mb1 3.4/4,mb1mx3.1/28,mbtmp3.6/4,Error ellipse: s-maj=113.1km s-min=15.6km az=133.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** baz=282,slow=0.5	**2.29**	**57**	P	Pn	22 27 39.7	-0.1
PMG	**Port Moresby** 7.9nm,0.3s,baz=247,slow=2.2,SNR=7.0	**4.79**	**217**	P	Pn	22 28 13.7	+0.8
PMG	8.7nm,0.3s,baz=141,slow=22,SNR=11			S	Sn	22 29 07.9	+0.5
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=50,slow=11,SNR=24	**20.95**	**226**	P	P	22 31 36.5	0.0
ASAR	**Alice Springs** 0.6nm,0.9s,baz=58,slow=9.3,SNR=6.5	**23.81**	**219**	P	P	22 32 04.8	-0.3
TORD	**Torodi Ar. Bea** 0.4nm,1.1s,baz=81,slow=2.8,SNR=1.5	**147.96**	**286**	PKPbc	PKPbc	22 46 35.2	-0.4

*IDC **30** 22:35:09.1±1.3,13°98S×166°48E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.8/43,mbtmp3.9/8,MS3.3/4,Ms1 3.3/4, ms1mx2.9/25,Error ellipse: s-maj=35.4km s-min=29.4km az=156.0*
*NEIC **30** 22:35:13.0±2.6,14°00S±0°08×166°45E±0°07,h52km±11km, mb4.5/14,Error ellipse: s-maj=14.8km s-min=4.6km az=221.0*

ISC 30 22:35:13.7±0.7,14°01S±0°08×166°4E±0°1,h43km,n31, σ2°08/28,mb4.0/11,MS3.2/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.64**	**151**	Pn	**Pn**	**22 35 39.0**	**-1.1**
SANVU				Sn	**Sn**	**22 36 00.6**	**+0.7**
HNR	**Honiara**	**7.77**	**305**	Pn	**Pn**	**22 37 04.1**	**-0.1**
DZM	**Mont Dzumac**	**8.02**	**180**	Pn	**Pn**	**22 37 07.7**	**-0.1**
TARA	**Tarawa** comp=Z,58nm,0.8s	**16.59**	**24**	Pn	**Pn**	**22 39 01.7**	**-1.6**
TARA				IAmb	IAmb	22 39 16.2	
KRVT	**Keravat (AS076** comp=Z,73nm,18.9s,baz=188,slow=37	**17.12**	**303**	LR	LR	22 45 51.1	
PMG	**Port Moresby** comp=Z,32nm,0.8s	**19.36**	**282**	P	**P**	**22 39 31.1**	**-4.8**
PMG				IAmb	IAmb	22 39 49.0	
CTA	**Charters Tower** comp=Z,2.5nm,0.8s,baz=101,slow=13,SNR=3.7	**20.16**	**250**	P	Pn	22 39 48.2	+1.5
AFI	**Afiamalu** comp=Z,47nm,18.2s,baz=156,slow=32	**21.20**	**92**	LR	LR	22 46 14.1	
ARMA	**Armidale**	**21.25**	**217**	P	**P**	**22 39 55.0**	**-1.3**
OUZ	**Omahuta**	**22.10**	**164**	P	**P**	**22 40 03.6**	**-1.7**
URZ	**Urewera** comp=Z,16nm,1.0s	**25.96**	**160**	P	**P**	**22 40 39.3**	**-2.9**
URZ				IAmb	IAmb	22 40 48.6	
CMWZ	**Cape Campbell**	**28.47**	**168**	P	**P**	**22 41 02.2**	**-2.5**
STKA	**Stephens Creek** comp=Z,58nm,18.3s,baz=25,slow=33	**28.82**	**228**	LR	LR	22 51 11.9	
MQZ	**McQueen's Vall**	**30.08**	**171**	P	**P**	**22 41 17.4**	**-1.6**
WB0	**Warramunga Arr** comp=Z,4.9nm,1.1s	**31.10**	**255**	P	**P**	**22 41 29.7**	**+1.4**
WB0				IAmb	IAmb	22 41 30.8	
WC3	**Warramunga Arr**	**31.14**	**255**	P	**P**	**22 41 27.5**	**-1.1**
WB2	**Warramunga Arr**	**31.16**	**255**	P	**P**	**22 41 28.5**	**-0.3**
WRA	**Warramunga Arr** comp=Z,1.6nm,0.8s,baz=86,slow=9.2,SNR=12	**31.17**	**255**	P	**P**	**22 41 30.3**	**+1.4**
WRA	**Warramunga Arr**	**31.17**	**255**	P	**P**	**22 41 26.1**	**-2.8**
DCZ	**Deep Cove**	**31.36**	**179**	P	**P**	**22 41 27.7**	**-2.5**
DCZ	comp=Z,19nm,1.0s			IAmb	IAmb	22 41 46.1	
ASAR	**Alice Springs** comp=Z,1.2nm,0.7s,baz=74,slow=9.5,SNR=14	**32.13**	**248**	P	**P**	**22 41 38.4**	**+1.0**
ASAR	comp=Z,71nm,18.7s,baz=94,slow=35			LR	LR	22 54 01.3	
ASAR	**Alice Springs**	**32.13**	**248**	P	**P**	**22 41 36.4**	**-0.9**
BBOO	**Buckleboo**	**33.35**	**231**	P	**P**	**22 41 49.0**	**+1.1**
BBOO	comp=Z,5.6nm,0.9s			IAmb	IAmb	22 41 57.8	
FITZ	**Fitzroy Crossi** comp=Z,1.8nm,0.9s,baz=112,slow=9.7,SNR=4.4	**39.30**	**258**	P	**P**	**22 42 41.5**	**+2.6**
FITZ	**Fitzroy Crossi** comp=Z,4.0nm,1.1s	**39.30**	**258**	P	**P**	**22 42 40.1**	**+1.3**
FITZ				IAmb	IAmb	22 42 42.8	
VNDA	**Vanda** comp=Z,0.4nm,0.8s,baz=336,slow=6.7,SNR=3.6	**63.56**	**181**	P	**P**	**22 45 42.0**	**+2.6**
QSPA	**South Pole Qui** comp=Z,1.8nm,1.0s,baz=345,slow=4.0,SNR=4.3	**76.01**	**180**	P	**P**	**22 46 58.1**	**+1.8**
SUA	**Susitna One**	**82.50**	**19**	P	**P**	**22 47 29.6**	**-1.9**
SKT	**Skwentna**	**82.64**	**19**	P	**P**	**22 47 33.5**	**+1.3**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=236,slow=4.7,SNR=4.9	**86.11**	**18**	P	**P**	**22 47 50.7**	**+1.0**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.8s,baz=112,slow=7.1,SNR=2.9	**96.09**	**317**	P	**P**	**22 48 40.1**	**+3.3**

*ARE **30** 22:37:14.2±2.4,16°34S±0°06×73°74W±0°07,h57km±4km, Error ellipse: s-maj=11.3km s-min=7.0km az=51.0*
*MOS **30** 22:37:14.6±1.1,16°06S×73°71W,h62km,mb5.1/31,Error ellipse: s-maj=13.1km s-min=5.8km az=111.4*
*NEIC **30** 22:37:16.0±1.4,16°15S±0°06×73°64W±0°07,h64km±4km, mb5.0/311,Mwr5.0/41,Mww5.1,ML5.3(ARE),Error ellipse: s-maj=12.6km s-min=1.1km az=47.0*
*GUC **30** 22:37:15.8±0.7,15°87S×73°51W,h55km±999km,ML5.5*
*NEIC **30** 22:37:16,16°16S×73°66W,h63km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=2.99; Mθθ2.53; Mϕϕ0.46; Mrθ2.75; Mθϕ-0.39; Mϕr-0.95; Fault plane solution: M₀4.05000×10¹⁶ NP1:φ₁96.26000°, δ22.20000°,λ-99.39000°. NP2:φ₂86.39000°,δ68.11000°, λ-86.19000°. Principal axes: T 3.8284, Plg23.0000°, Azm13.0000°; N 0.4195, Plg4.0000°, Azm105.0000°; P -4.2478, Plg67.0000°, Azm203.0000°;*
*VAO **30** 22:37:16.0±0.7,15°99S×73°48W,h57km±5km,mb5.2*
*IDC **30**

$M_{\theta\theta}$-1.92±.10; $M_{\theta r}$-1.08±.09; Best double couple: M_{o}4.94100×10^16 NP1:ϕ_s108.00000°, δ33.00000°, λ-98.00000°. NP2:ϕ_s297.00000°, δ57.00000°, λ-85.00000°. Principal axes: T 5.1990, Plg12.0000°, Azm24.0000°; N -0.5120, Plg4.0000°, Azm115.0000°; P -4.6830, Plg77.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC ***30*** *22:37:18, 16.35S×73.85W, h60km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}-5.64; $M_{\theta\theta}$5.22; $M_{\phi\phi}$0.42; $M_{r\theta}$1.77; $M_{\theta\phi}$-2.08; $M_{\phi r}$-1.88; Fault plane solution: M_o6.37000×10^16 NP1:ϕ_s100.00000°, δ35.00000°, λ-107.00000°. NP2:ϕ_s301.00000°, δ57.00000°, λ-77.00000°. Principal axes: T 6.4439, Plg11.0000°, Azm22.0000°; N -0.1420, Plg10.0000°, Azm114.0000°; P -6.3018, Plg75.0000°, Azm246.0000°;*

ISC 30 22:37:15.8±0.3, 16°15S±0.04×73°57W±0.05, h61km±2km, h61km:pP-P, n868, σ1s38/584, mb5.0/198, 5C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**3.79**	**126**	*eP*	**Pn**	**22 38 13.2**	**+1.3**
AP01				*eS*	**Sn**	**22 38 55.0**	**-0.2**
AP01	**Chacalluta**	**3.79**	**126**		**Pn**	**22 38 13.3**	**+1.5**
AP01				Sn	**Sn**	**22 38 56.2**	**+1.0**
PB16	**IPOC Station P**	**4.45**	**120**	*eP*	**Pn**	**22 38 23.1**	**+1.8**
PB16				*i* S	**Sn**	**22 39 13.4**	**+1.2**
PB16	**IPOC Station P**	**4.45**	**120**		**Pn**	**22 38 22.5**	**+1.2**
PB16				Sn	**Sn**	**22 39 13.0**	**+0.9**
PSGCX	**Pisagua**	**4.75**	**137**	Pn	**Pn**	**22 38 25.5**	**+0.5**
PSGCX				Sn	**Sn**	**22 39 16.8**	**-2.0**
MNMC	**Minye Minye**	**4.81**	**129**	*eP*	**Pn**	**22 38 27.2**	**+1.2**
MNMC				*i* S	**Sn**	**22 39 17.4**	**-3.2**
MNMC	**Minye Minye**	**4.81**	**129**		**Pn**	**22 38 26.4**	**+0.4**
MNMC				Sn	**Sn**	**22 39 21.1**	**+0.5**
PB11	**IPOC Station P**	**5.17**	**134**	Pn	**Pn**	**22 38 31.2**	**+0.4**
NNA	**Nana**	**5.21**	**322**	P	**Pn**	**22 38 30.5**	**-0.8**
	36nm,0.3s,baz=121,slow=13,SNR=26						
NNA				S	**Sn**	**22 39 28.6**	**-1.7**
	354nm,0.3s,baz=173,slow=12,SNR=7.3						
LPAZ	**La Paz**	**5.23**	**92**	P	**Pn**	**22 38 36.6**	**+4.6**
	16nm,0.3s,baz=279,slow=10.0,SNR=188						
LPAZ				LR	LR	22 40 49.5	
	comp=Z,2μm,18.3s,baz=246,slow=41						
LPAZ	**La Paz**	**5.23**	**92**	↑*iP*	**Pn**	**22 38 36.6**	**+4.6**
LPAZ	**La Paz**	**5.23**	**92**	P	**Pn**	**22 38 36.2**	**+4.1**
LPAZ	**La Paz**	**5.23**	**92**	Pn	**Pn**	**22 38 36.2**	**+4.1**
TA02	**Huaiquique**	**5.24**	**142**	*eP*	**Pn**	**22 38 32.6**	**+0.9**
TA02				*i* S	**Sn**	**22 39 28.3**	**-2.5**
GO01	**Chusmiza**	**5.44**	**131**		**Pn**	**22 38 36.4**	**+1.5**
TA01	**Diego Aracena**	**5.45**	**144**	*eP*	**Pn**	**22 38 34.8**	**+0.4**
TA01				*eS*	**Sn**	**22 39 30.5**	**-5.3**
TA01	**Diego Aracena**	**5.45**	**144**	Pn	**Pn**	**22 38 34.8**	**+0.4**
PATCX	**Punta Patache**	**5.67**	**146**		**Pn**	**22 38 37.3**	**-0.2**
PB08	**IPOC Station P**	**5.78**	**134**		**Pn**	**22 38 40.5**	**+1.1**
PB01	**IPOC Station P**	**6.22**	**142**		**Pn**	**22 38 45.4**	**+0.2**
PB07	**IPOC Station P**	**6.55**	**148**		**Pn**	**22 38 49.4**	**-0.3**
PB04	**IPOC Station P**	**6.95**	**153**	Pn	**Pn**	**22 38 54.5**	**-0.7**
PB09	**IPOC Station P**	**6.95**	**145**	↑*iP*	**Pn**	**22 38 56.5**	**+1.3**
PB09				*i* S	**Sn**	**22 40 10.5**	**-2.4**
PB09	**IPOC Station P**	**6.95**	**145**		**Pn**	**22 38 56.4**	**+1.2**
PB06	**IPOC Station P**	**7.53**	**151**		**Pn**	**22 39 02.3**	**-0.9**
LVC	**Limon Verde**	**7.79**	**146**	P	**Pn**	**22 39 08.3**	**+1.4**
	64nm,0.3s,baz=335,slow=8.6,SNR=235						
LVC				S	**Sn**	**22 40 31.3**	**-2.5**
	83nm,0.3s,baz=124,slow=23,SNR=14						
LVC	**Limon Verde**	**7.79**	**146**	*eP*	**Pn**	**22 39 08.2**	**+1.4**
CZSB	**Cruzeiro do Su**	**8.41**	**6**	*eP*	**Pn**	**22 39 13.8**	**-1.4**
PB14	**IPOC Station P**	**8.94**	**161**	Pn	**Pn**	**22 39 21.1**	**-1.5**
ETMB	**Extrema**	**9.54**	**50**	*eP*	**Pn**	**22 39 29.8**	**-0.8**
ATAH	**Atahualpa**	**10.13**	**332**	P	**Pn**	**22 39 39.5**	**+0.5**
	1.2nm,0.3s,baz=219,slow=14,SNR=4.0						
ATAH				LR	LR	22 43 39.6	
	comp=Z,355nm,20.1s,baz=165,slow=38						
AC01	**Pan de Azucar**	**10.32**	**165**	Pn	**Pn**	**22 39 39.6**	**-1.7**
AC02	**Maricunga**	**11.40**	**160**	Pn	**Pn**	**22 39 57.4**	**+0.9**
SIV	**San Ignacio**	**12.02**	**91**	P	**Pn**	**22 40 03.9**	**-0.6**
	2.4nm,0.3s,baz=279,slow=10,SNR=60						
AC04	**Llanos de Chal**	**12.21**	**170**	Pn	**Pn**	**22 40 05.5**	**-1.6**
SAML	**Samuel**	**12.41**	**56**	*eP*	**Pn**	**22 40 06.7**	**-3.1**
LCO	**Las Campanas**	**13.07**	**169**	*eP*	**Pn**	**22 40 19.5**	**+0.6**
LCO	**Las Campanas**	**13.07**	**169**	Pn	**Pn**	**22 40 19.5**	**+0.6**
VILB	**Vilhena**	**13.33**	**78**	*eP*	**Pn**	**22 40 20.3**	**-2.0**
PTLB	**Pontes e Lacer**	**13.91**	**89**	*eP*	**Pn**	**22 40 29.1**	**-1.1**
CO02	**Combarbal**	**15.17**	**172**	IAmb	IAmb	22 41 05.9	
	comp=Z,110nm,0.9s						
ZON	**Zonda**	**15.96**	**165**	P	**P**	**22 40 58.6**	**-0.5**
ZON				pmax	pmax		
	comp=Z,23nm,1.0s						
ZON	**Zonda**	**15.96**	**165**	P	**P**	**22 40 58.6**	**-0.5**
PTLC	**Puerto Leguiza**	**16.27**	**356**	*eP*	**Pn**	**22 40 53.4**	**-7.1**
VA03	**San Esteban**	**16.76**	**171**	P	**Pn**	**22 41 07.3**	**+0.6**
VA03				IAmb	IAmb	22 41 16.8	
	comp=Z,76nm,0.9s						
PUAC	**Puerto Asis, P**	**16.86**	**350**	*eP*	**Pn**	**22 41 07.0**	**-0.9**
VA01	**Torpederas**	**16.89**	**174**		**Pn**	**22 41 08.1**	**0.0**
VA01				IAmb	IAmb	22 41 27.6	
	comp=Z,88nm,0.9s						
ROC1	**El Roble**	**16.91**	**173**	P	**P**	**22 41 10.0**	**+0.2**
CUSE	**Cuicocha Este**	**17.03**	**343**	*eP*	**P**	**22 41 11.8**	**+0.3**
PAC1	**Pacto, Paraso**	**17.11**	**342**	*eP*	**P**	**22 41 12.0**	**0.0**
PEL	**Peldehue**	**17.12**	**172**	P	**P**	**22 41 11.6**	**-0.4**
PEL				pmax	pmax		
	comp=Z,67nm,1.0s						
PEL	**Peldehue**	**17.12**	**172**	P	**P**	**22 41 11.6**	**-0.4**
PEL				IAmb	IAmb	22 41 20.6	
	comp=Z,67nm,1.0s						
MT02	**Curacav**	**17.18**	**173**	P	**P**	**22 41 13.4**	**+0.9**
MT05	**Renca**	**17.36**	**172**		**P**	**22 41 15.0**	**+0.4**
MT05				IAmb	IAmb	22 41 30.8	
	comp=Z,75nm,1.1s						
GCUF	**Volcan Galeras**	**17.66**	**347**	*eP*	**P**	**22 41 20.1**	**+1.6**
H03N1	**Juan Fernandez**	**17.88**	**195**	T	T	22 59 50.6	
	baz=17,slow=74,SNR=3047						
H03N2	**Juan Fernandez**	**17.88**	**195**	T	T	22 59 50.1	
	baz=17,slow=74,SNR=2918						
H03N3	**Juan Fernandez**	**17.89**	**195**	T	T	22 59 49.4	
	baz=17,slow=74,SNR=3873						
VA04	**Juan Fernndez**	**18.05**	**194**	P	**Pn**	**22 41 22.6**	**+0.2**
VA04				IAmb	IAmb	22 41 31.1	
	comp=Z,176nm,1.1s						
CLDB	**Colider**	**18.06**	**75**	*eP*	**P**	**22 41 20.6**	**-1.8**
MACA	**Manacapuru-AM**	**18.09**	**46**	*eP*	**P**	**22 41 20.9**	**-1.9**
MACC	**Macarena, Meta**	**18.18**	**359**	*eP*	**P**	**22 41 22.6**	**-1.2**
CPUP	**Villa Florida**	**18.20**	**126**	P	**Pn**	**22 41 25.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=302,slow=10,SNR=8.2						
CPUP				PcP	**PcP**	**22 45 54.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=265,slow=4.7,SNR=4.2						
CPUP				LR	LR	22 49 17.3	
	comp=Z,350nm,19.5s,baz=300,slow=40						
CPUP	**Villa Florida**	**18.20**	**126**		**Pn**	**22 41 25.1**	**+0.8**
CPUP	**Villa Florida**	**18.20**	**126**	*eP*	**Pn**	**22 41 25.0**	**+0.7**
GARC	**Garzon, Huila**	**18.32**	**354**	*eP*	**Pn**	**22 41 26.8**	**+0.7**
SOTA	**Rioblanco**	**18.42**	**350**	*eP*	**Pn**	**22 41 28.6**	**+1.2**
BBAC	**Balboa, Cauca**	**18.42**	**348**	*eP*	**Pn**	**22 41 28.0**	**+0.7**
PCON	**Cinco Dias**	**18.57**	**351**	*eP*	**Pn**	**22 41 30.6**	**+1.2**
GUVC	**San Jose del G**	**18.60**	**3**	*eP*	**P**	**22 41 24.5**	**-3.9**
BO02	**Sierra Bellavi**	**18.73**	**173**	P	**Pn**	**22 41 31.0**	**+0.3**
POPC	**Popayan, Colom**	**18.82**	**350**	*eP*	**Pn**	**22 41 32.5**	**+0.4**
GO05	**Huala**	**18.84**	**176**	P	**Pn**	**22 41 31.8**	**-0.1**
MARP	**Paez Belalcaza**	**19.02**	**353**	*eP*	**Pn**	**22 41 35.4**	**+0.9**
PRAC	**Prado**	**19.78**	**356**	*eP*	**Pn**	**22 41 42.5**	**-0.8**
NPGB	**Novo Progresso**	**19.99**	**65**	*eP*	**P**	**22 41 42.1**	**-1.5**
ORTC	**Ortega, Tolima**	**20.00**	**355**	*eP*	**P**	**22 41 44.6**	**+1.0**
YOTC	**Yotoco, Valle**	**20.19**	**352**	*eP*	**P**	**22 41 46.5**	**+0.7**
PTGC	**Puerto Gaitan,**	**20.27**	**4**	*eP*	**P**	**22 41 46.3**	**-0.3**
BI02	**San Fabin de**	**20.53**	**175**	P	**P**	**22 41 50.7**	**+1.4**
BI02				IAmb	IAmb	22 41 55.0	
	comp=Z,55nm,1.1s						
ITQB	**Itaqui**	**20.57**	**134**	*eP*	Pn	22 41 51.2	-1.3
BI03	**Tigo**	**20.61**	**179**	P	**P**	**22 41 49.6**	**-0.5**
BI03				IAmb	IAmb	22 41 55.4	
	comp=Z,71nm,0.8s						
CHIC	**Chingaza**	**20.65**	**360**	*eP*	**P**	**22 41 51.8**	**+0.7**
TOLC	**Tolima**	**20.68**	**355**	*eP*	**P**	**22 41 52.0**	**+0.7**
TRCB	**Terra Rica**	**20.81**	**112**	*eP*	**P**	**22 41 53.4**	**+1.0**
ROSC	**El Rosal**	**20.87**	**358**	P	Pn	22 41 55.7	-0.8
	comp=Z,79nm,1.0s,baz=211,slow=4.0,SNR=15						
ROSC	**El Rosal**	**20.87**	**358**	*eP*	Pn	22 41 56.7	+0.2
ROSC	**El Rosal**	**20.87**	**358**	P	**P**	**22 41 54.8**	**+1.4**
ROSC				IAmb	IAmb	22 42 04.1	
	comp=Z,128nm,1.1s						
ARAG	**Araguaiana, MT**	**20.93**	**92**	*eP*	**P**	**22 41 53.6**	**-0.1**
RREF	**El Recreo**	**20.99**	**355**	*eP*	**P**	**22 41 52.3**	**-2.7**
ITTB	**Itaituba**	**21.08**	**58**	*eP*	**P**	**22 41 53.9**	**-1.4**
SPBC	**San Pablo de B**	**21.67**	**359**	*eP*	**P**	**22 41 58.6**	**-3.0**
PCMB	**Pacaembu**	**21.79**	**108**	*eP*	**P**	**22 42 03.0**	**+0.1**
PTGB	**Pitanga**	**21.86**	**116**	*eP*	**P**	**22 42 04.1**	**+0.4**
RUSC	**La Rusia**	**21.91**	**1**	*eP*	**P**	**22 42 03.5**	**-1.2**
SNDB	**Serra Nova Dou**	**22.00**	**82**	*eP*	**P**	**22 42 03.7**	**-1.5**
CBOC	**Ciudad Bolivar**	**22.01**	**354**	*eP*	**P**	**22 42 05.9**	**+0.5**
ITRB	**Iturama**	**22.36**	**103**	*eP*	**P**	**22 42 08.9**	**-0.2**
TAMC	**Tame, Arauca**	**22.51**	**5**	*eP*	**P**	**22 42 08.4**	**-2.3**
PAYG	**Puerto Ayora**	**22.54**	**311**	P	**P**	**22 42 11.8**	**+0.8**
PAYG				IAmb	IAmb	22 42 25.0	
	comp=Z,42nm,1.0s						
SOLC	**Bahia Solano**	**22.56**	**350**	*eP*	**P**	**22 42 10.3**	**-0.8**
PTBC	**PUERTO BERRIO,**	**22.56**	**358**	*eP*	**P**	**22 42 10.2**	**-1.1**
BARC	**Barichara**	**22.60**	**1**	*eP*	**P**	**22 42 12.0**	**+0.1**
LC01	**Cunco**	**22.71**	**177**	IAmb	IAmb	22 42 14.3	
	comp=Z,58nm,1.1s						
ITAB	**Concordia**	**22.73**	**123**	*eP*	**P**	**22 42 13.0**	**+0.1**
BRRC	**Barranca, Sant**	**23.11**	**360**	*eP*	**P**	**22 42 13.9**	**-2.8**
CPSB	**Cacapava Do Su**	**23.25**	**131**	*eP*	**P**	**22 42 17.9**	**-0.2**
PAMC	**Pamplona, Colo**	**23.36**	**2**	*eP*	**P**	**22 42 20.4**	**+0.8**
MALB	**Monte Alegre**	**23.74**	**55**	*eP*	**P**	**22 42 22.1**	**-0.6**
UREC	**San Jos de Ur**	**23.83**	**355**	*eP*	**P**	**22 42 22.9**	**-0.6**
PLTB	**Pedras Altas**	**23.91**	**134**	*eP*	**P**	**22 42 24.2**	**+0.1**
BB19B	**Bebedouro**	**24.22**	**105**	*eP*	**P**	**22 42 27.8**	**+0.7**
IPMB	**Ipameri, GO**	**24.31**	**98**	*eP*	**P**	**22 42 27.9**	**-0.1**
BDFB	**Brasilia**	**24.59**	**92**	P	**P**	**22 42 30.8**	**+0.3**
	comp=Z,9.7nm,0.6s,baz=254,slow=9.4,SNR=11						
BDFB				LR	LR	22 52 45.9	
	comp=Z,312nm,19.5s,baz=301,slow=38						
BDFB	**Brasilia**	**24.59**	**92**	P	**P**	**22 42 31.7**	**+1.1**
BDFB				pmax	pmax		
	comp=Z,19nm,0.8s						
BDFB	**Brasilia**	**24.59**	**92**	P	**P**	**22 42 31.7**	**+1.1**
PLCA	**Paso Flores**	**24.63**	**174**	P	**P**	**22 42 31.7**	**+1.0**
	comp=Z,34nm,0.8s,baz=346,slow=10,SNR=36						
PLCA				PcP	**PcP**	**22 46 07.0**	**0.0**
	comp=Z,8.9nm,0.8s,baz=337,slow=3.5,SNR=9.6						
PLCA				LR	LR	22 51 07.6	
	comp=Z,116nm,19.3s,baz=338,slow=34						
PLCA	**Paso Flores**	**24.63**	**174**	P	**P**	**22 42 30.8**	**+0.1**
PLCA				IAmb	IAmb	22 42 32.8	
	comp=Z,60nm,1.0s						
PLCA	**Paso Flores**	**24.63**	**174**	*eP*	**P**	**22 42 32.0**	**+1.3**
CNLB	**Canela**	**24.65**	**126**	*eP*	**P**	**22 42 31.6**	**+0.6**
TIJ01	**Guaruva-PR**	**24.69**	**116**	*eP*	**P**	**22 42 32.7**	**+1.3**
PEXB	**Peixe**	**24.83**	**84**	*eP*	**P**	**22 42 32.0**	**-0.6**
MOTC	**Monteria, Cord**	**24.86**	**355**	*eP*	**P**	**22 42 33.1**	**+0.3**
SDV	**Santo Domingo**	**25.05**	**7**	P	**P**	**22 42 34.2**	**-0.6**
	comp=Z,36nm,0.8s,baz=230,slow=3.3,SNR=17						
SDV	**Santo Domingo**	**25.05**	**7**	*eP*	**P**	**22 42 33.7**	**-1.1**
SDV	**Santo Domingo**	**25.05**	**7**	P	**P**	**22 42 33.9**	**-0.9**
SDV				IAmb	IAmb	22 42 41.4	
	comp=Z,57nm,1.0s						
SDV	**Santo Domingo**	**25.05**	**7**	*eP*	**P**	**22 42 33.5**	**-1.2**
PRPB	**Parauapebas**	**25.30**	**70**	*eP*	**P**	**22 42 36.0**	**-1.0**
SPB	**Sao Paulo**	**25.65**	**111**	P	**P**	**22 42 42.4**	**+2.4**
SPB				IAmb	IAmb	22 42 57.0	
	comp=Z,40nm,1.0s						
SPB	**Sao Paulo**	**25.65**	**111**	*eP*	**P**	**22 42 39.9**	**-0.1**
ARGC	**Ariguani, Magd**	**25.85**	**358**	*eP*	**P**	**22 42 44.8**	**+2.9**
PET01	**Itanhaem-SP**	**25.94**	**112**	*eP*	**P**	**22 42 43.3**	**+0.7**
VAO	**Valinhos**	**25.95**	**109**	*eP*	**P**	**22 42 42.3**	**-0.6**
LL01	**San Ignacio de**	**26.16**	**178**	P	**P**	**22 42 44.0**	**-0.4**
SMTB	**Santa Maria do**	**26.36**	**77**	*eP*	**P**	**22 42 46.3**	**-0.3**
MCPB	**Macapa, AP**	**26.39**	**56**	*eP*	**P**	**22 42 45.9**	**-0.9**
PARB	**Paraibuna**	**27.23**	**110**	*eP*	**P**	**22 42 54.8**	**+0.4**
BSCB	**Bom Sucesso**	**27.70**	**104**	*eP*	**P**	**22 42 58.9**	**+0.2**
SDBA	**SAO DESIDERIO**	**28.02**	**86**	*eP*	**P**	**22 43 01.4**	**-0.1**
JANB	**Januaria**	**28.20**	**92**	*eP*	**P**	**22 43 03.2**	**+0.1**
ESAR	**Angra dos Reis**	**28.25**	**109**	*eP*	**P**	**22 43 02.9**	**-0.5**
MDP	**Montagnes des**	**29.58**	**46**	P	**P**	**22 43 13.9**	**-1.4**
	comp=Z,29nm,0.7s,baz=224,slow=8.6,SNR=14						
BSFB	**Barra de Sao F**	**31.30**	**100**	*eP*	**P**	**22 43 31.0**	**+0.5**
RIB01	**Linhares ES**	**31.73**	**101**	*eP*	**P**	**22 43 34.0**	**-0.2**
ROSB	**Rosrio**	**31.82**	**69**	*eP*	**P**	**22 43 34.4**	**-0.7**
GDU01	**Guandu, BA**	**32.92**	**90**	*eP*	**P**	**22 43 44.5**	**-0.2**
MTDJ	**Mount Denham**	**34.38**	**353**	P	**P**	**22 43 58.1**	**+0.7**
LGNH	**Logne**	**34.46**	**2**	P	**P**	**22 44 00.2**	**+2.3**
LGNH				IAmb	IAmb	22 44 02.9	
	comp=Z,16nm,0.7s						
BANI	**BANI**	**34.47**	**5**	P	**P**	**22 43 58.0**	**-0.2**
MLPR	**Magueyes Islan**	**34.51**	**11**	P	**P**	**22 43 57.3**	**-1.1**
ICMP	**Isla Caja de M**	**34.53**	**12**	P	**P**	**22 43 57.5**	**-1.1**
MPR	**Mayaguez**	**34.73**	**11**	P	**P**	**22 43 60.0**	**-0.3**
PDPR	**Patillas Dam,**	**34.76**	**13**	IAmb	IAmb	22 44 01.2	
	comp=Z,15nm,0.8s						
SJG	**San Juan**	**34.83**	**12**	P	**P**	**22 43 58.7**	**-2.4**
	comp=Z,20nm,0.7s,baz=169,slow=3.8,SNR=9.5						
SJG				LR	LR	22 59 07.2	
	comp=Z,327nm,21.4s,baz=186,slow=38						
SJG	**San Juan**	**34.83**	**12**	P	**P**	**22 43 59.3**	**-1.8**
SJG				pmax	pmax		
	comp=Z,23nm,0.9s						
SJG	**San Juan**	**34.83**	**12**	P	**P**	**22 43 59.3**	**-1.8**
SJG				IAmb	IAmb	22 43 59.9	
	comp=Z,23nm,0.9s						
HUMP	**Col San Antoni**	**34.92**	**13**	P	**P**	**22 44 00.8**	**-1.1**
HUMP				IAmb	IAmb	22 44 06.6	
	comp=Z,18nm,1.0s						
GCPR	**Guaynabo City**	**35.03**	**12**	IAmb	IAmb	22 44 02.5	
	comp=Z,19nm,0.8s						
EMPR	**Esperanza - Ma**	**35.10**	**12**	P	**P**	**22 44 02.5**	**-1.0**
APG	**El Apazote**	**35.17**	**331**	P	**P**	**22 44 04.3**	**0.0**
	comp=Z,4.3nm,0.9s,baz=221,slow=11,SNR=4.8						
CUPR	**Culebra, Puert**	**35.20**	**14**	P	**P**	**22 44 01.5**	**-2.8**
EFI	**East Falkland**	**37.54**	**164**	*ceP*	**P**	**22 44 22.8**	**-1.1**
EFI				pmax	pmax		
	comp=Z,64nm,1.1s						
USHA	**Ushuaia**	**38.80**	**175**	P	**P**	**22 44 36.0**	**+1.5**
	comp=Z,35nm,0.7s,baz=32,slow=1.4,SNR=4.6						
TEIG	**Tepich**	**38.93**	**338**	P	**P**	**22 44 35.4**	**-0.6**
MG01	**Puerto William**	**38.97**	**175**	P	**P**	**22 44 35.5**	**-0.4**
CMIG	**Matias Romero**	**39.15**	**327**	P	**P**	**22 44 38.3**	**+0.5**
	comp=Z,7.2nm,1.0s,baz=130,slow=6.7,SNR=4.7						
CMIG				pP	**pP**	**22 44 54.6**	**+0.9**
	comp=Z,7.9nm,0.7s,baz=119,slow=6.5,SNR=5.2						
061Z	**Ochoppi**	**42.37**	**350**	P	**P**	**22 45 03.6**	**-0.6**
061Z				IAmb	IAmb	22 45 12.2	
	comp=Z,41nm,1.0s						
ZAIG	**Zacatecas**	**47.97**	**323**	P	**P**	**22 45 48.7**	**-0.4**
PMSA	**Palmer Station**	**49.01**	**175**	P	**P**	**22 45 57.8**	**+1.7**
	comp=Z,33nm,0.9s,baz=4.2,slow=3.3,SNR=9.4						
PMSA	**Palmer Station**	**49.01**	**175**	P	**P**	**22 45 56.7**	**+0.6**
PMSA	**Palmer Station**	**49.01**	**175**	*eP*	**P**	**22 45 58.3**	**+2.2**
157A	**Early Branch**	**49.07**	**352**	pP	pP	22 46 13.3	0.0
	baz=171						
154A	**Montrose**	**49.34**	**349**	P	**P**	**22 45 58.7**	**-0.4**
250A	**Grady**	**49.38**	**346**	P	**P**	**22 45 58.4**	**-1.0**
250A				IAmb	IAmb	22 46 04.6	
	comp=Z,20nm,0.9s						
NHSC	**New Hope**	**49.39**	**353**	pP	pP	22 46 16.2	+0.4
	baz=172						
Z58A	**St. Stephen**	**49.57**	**353**	pP	pP	22 46 17.2	+0.1
	baz=172						
Z57A	**Bowman**	**49.64**	**352**	pP	pP	22 46 17.6	-0.1
	baz=171						
152A	**Waverly Hall**	**49.70**	**348**	IAmb	IAmb	22 46 18.8	
	comp=Z,20nm,0.9s						
Z56A	**Williston**	**49.76**	**351**	pP	pP	22 46 18.7	+0.1
	baz=170						
GOGA	**Godfrey**	**50.18**	**349**	pP	pP	22 46 21.3	-0.5
	baz=168						
GOGA	**Godfrey**	**50.18**	**349**	P	**P**	**22 46 05.8**	**+0.4**
GOGA				pmax	pmax		
	comp=Z,21nm,1.0s						
GOGA	**Godfrey**	**50.18**	**349**	P	**P**	**22 46 05.8**	**+0.4**
GOGA				IAmb	IAmb	22 46 22.5	
	comp=Z,21nm,0.9s						
Y57A	**Sumter**	**50.31**	**353**	pP	pP	22 46 22.6	-0.2
	baz=172						
LRAL	**Lakeview Retre**	**50.56**	**345**	pP	pP	22 46 23.7	-1.0
	baz=163						
HKT	**Hockley**	**50.61**	**335**	P	**P**	**22 46 09.2**	**+0.5**
HKT				pmax	pmax		
	comp=Z,3.0nm,1.1s						
HKT	**Hockley**	**50.61**	**335**	P	**P**	**22 46 09.2**	**+0.5**
JSC	**Jenkinsville**	**50.68**	**352**	P	**P**	**22 46 09.9**	**+0.7**
JSC				IAmb	IAmb	22 46 26.7	
	comp=Z,9.8nm,0.8s						
146A	**Union**	**50.73**	**343**	P	**P**	**22 46 08.8**	**-0.8**
Y52A	**Lilburn**	**50.73**	**349**	P	**P**	**22 46 09.1**	**-0.5**
Y52A				IAmb	IAmb	22 46 26.6	
	comp=Z,16nm,0.8s						
HODGE	**Hodges**	**50.78**	**351**	P	**P**	**22 46 10.6**	**+0.7**
HODGE				IAmb	IAmb	22 46 28.0	
	comp=Z,17nm,0.9s						
833A	**Chaparral WMA,**	**50.79**	**330**	pP	pP	22 46 26.2	-0.5
	baz=147						
X56A	**White Oak**	**50.86**	**352**	pP	pP	22 46 27.0	0.0
	baz=171						
X55A	**Gracelyn & Ava**	**50.92**	**351**	pP	pP	22 46 27.0	-0.5
	baz=170						
X54A	**Belton**	**51.11**	**351**	pP	pP	22 46 28.4	-0.5
	baz=169						
Y49A	**Blount Mountai**	**51.22**	**346**	IAmb	IAmb	22 46 29.3	
	comp=Z,12nm,1.1s						
PAULI	**Pauline**	**51.29**	**351**	P	**P**	**22 46 13.0**	**-0.7**
W57A	**Gilead**	**51.38**	**353**	pP	pP	22 46 31.0	+0.1
	baz=172						
W57A	**Gilead**	**51.38**	**353**	P	**P**	**22 46 13.6**	**-0.8**
W57A				IAmb	IAmb	22 46 32.0	
	comp=Z,16nm,0.8s						
W56A	**Indian Trail**	**51.44**	**353**	pP	pP	22 46 30.8	-0.5
	baz=171						
V62A	**Hyde County Ai**	**51.48**	**358**	P	**P**	**22 46 14.9**	**-0.2**
KMSC	**Kings Mountain**	**51.54**	**352**	pP	pP	22 46 31.7	-0.4
	baz=170						
X51A	**Calhoun**	**51.57**	**348**	P	**P**	**22 46 15.3**	**-0.5**
W54A	**Cherokee Point**	**51.61**	**351**	pP	pP	22 46 32.7	+0.1
	baz=170						
BG3	**Lake Jocassee**	**51.63**	**350**	P	**P**	**22 46 16.8**	**+0.5**
BG3				IAmb	IAmb	22 46 35.2	
	comp=Z,8.9nm,1.0s						
V61A	**Roper**	**51.74**	**357**	P	**P**	**22 46 16.9**	**-0.2**
V59A	**Middlesex**	**51.82**	**355**	pP	pP	22 46 34.2	0.0
	baz=174						
W52A	**Murphy**	**51.90**	**349**	P	**P**	**22 46 17.7**	**-0.7**
W52A				IAmb	IAmb	22 46 36.9	
	comp=Z,24nm,1.0s						
V58A	**Windy Hill, Pi**	**51.93**	**354**	pP	pP	22 46 34.9	-0.1
	baz=173						
V57A	**Coltrane Farms**	**52.09**	**354**	pP	pP	22 46 35.9	-0.3
	baz=172						
V56A	**Mocksville**	**52.09**	**353**	pP	pP	22 46 36.1	-0.1
	baz=172						
V55A	**Taylorsville**	**52.22**	**352**	pP	pP	22 46 36.9	-0.3
	baz=171						
V55A	**Taylorsville**	**52.22**	**352**	P	**P**	**22 46 21.0**	**+0.3**
V55A				IAmb	IAmb	22 46 38.5	
	comp=Z,18nm,1.0s						
V54A	**Nebo**	**52.25**	**351**	pP	pP	22 46 37.2	-0.3
	baz=170						

S56A **Natural Bridge** **53.84 354** pP pP 22 46 48.6 -0.6
baz=173
S57A **Dark Hollow, R** **53.86 355** pP pP 22 46 49.3 0.0
baz=174
MIAR **Mount Ida** **53.89 340** pP pP 22 46 49.2 -0.5
baz=156
MIAR **Mount Ida** **53.89 340** IAmb IAmb 22 46 50.6
comp=Z,12nm,0.8s
R58B **Mineral** **53.98 356** pP pP 22 46 49.5 -0.6
baz=175
S55A **Lewisburg** **54.03 353** pP pP 22 46 50.6 0.0
baz=172
W41B **Gary Mavity, V** **54.03 341** pP pP 22 46 49.9 -0.8
baz=158
S53A **Williamson** **54.15 352** pP pP 22 46 50.7 -0.7
baz=170
Z35A **Perchaven, San** **54.15 335** P **P** **22 46 34.8 -0.2**
S54A **Dingess, Beckl** **54.16 352** pP pP 22 46 50.9 -0.6
baz=171
S54A **Dingess, Beckl** **54.16 352** P **P** **22 46 34.9 0.0**
S54A IAmb IAmb 22 46 52.2
comp=Z,16nm,0.8s
WHAR **Wooly Hollow** **54.16 341** IAmb IAmb 22 46 34.8
comp=Z,16nm,1.1s
CBN **Corbin Frederi** **54.19 356** pP pP 22 46 51.3 -0.4
baz=176
R58A **Rapidan** **54.32 356** pP pP 22 46 52.7 0.0
baz=175
S51A **Beattyville** **54.33 350** P **P** **22 46 35.5 -0.6**
S51A IAmb IAmb 22 46 53.3
comp=Z,12nm,0.8s
R57A **Stanardsville** **54.36 355** pP pP 22 46 53.2 +0.2
baz=174
T47A **Sharon Grove** **54.37 347** P **P** **22 46 36.2 -0.2**
T47A IAmb IAmb 22 46 54.2
comp=Z,10nm,0.8s
R54A **Victor** **54.49 353** pP pP 22 46 53.5 -0.4
baz=171
R55A **Marlinton** **54.49 354** pP pP 22 46 53.8 -0.2
baz=172
R55A **Marlinton** **54.49 354** P **P** **22 46 38.5 +1.1**
R55A IAmb IAmb 22 46 55.0
comp=Z,11nm,0.9s
LCAR **Lake Charles** **54.54 343** IAmb IAmb 22 46 37.0
comp=Z,12nm,1.2s
ABTX **Abilene, Hawle** **54.54 333** pP pP 22 46 54.2 -0.3
baz=149
W39A **Magazine** **54.55 340** pP pP 22 46 54.5 0.0
baz=156
X37A **Clayton** **54.55 338** IAmb IAmb 22 46 38.5
comp=Z,22nm,1.1s
R53A **Hurricane** **54.76 352** pP pP 22 46 55.2 -0.7
baz=170
Q58A **Fox Den Farm,** **54.94 356** pP pP 22 46 57.2 +0.1
baz=175
R50A **Paris** **55.08 350** P **P** **22 46 40.7 -0.9**
R50A IAmb IAmb 22 46 59.9
comp=Z,28nm,1.1s
Q57A **Strasburg** **55.08 355** pP pP 22 46 58.6 +0.4
baz=174
Q56A **Snyder Ridge,** **55.15 355** pP pP 22 46 59.4 +0.7
baz=174
Q56A **Snyder Ridge,** **55.15 355** P **P** **22 46 42.6 +0.5**
Q56A IAmb IAmb 22 47 01.9
comp=Z,20nm,0.9s
Q53A **Leroy** **55.23 352** pP pP 22 46 58.8 -0.4
baz=171
R49A **Shelbyville** **55.24 349** P **P** **22 46 43.7 +1.0**
R49A IAmb IAmb 22 47 00.2
comp=Z,12nm,0.8s
Q54A **Coxs Mills** **55.27 353** pP pP 22 46 59.1 -0.4
baz=172
Q54A **Coxs Mills** **55.27 353** P **P** **22 46 42.4 -0.5**
Q54A IAmb IAmb 22 47 00.1
comp=Z,8.9nm,0.9s
U40A **Yellville** **55.31 341** pP pP 22 46 59.0 -1.0
baz=157
U40A **Yellville** **55.31 341** P **P** **22 46 42.4 -0.9**
U40A IAmb IAmb 22 46 43.6
comp=Z,16nm,0.8s
SDMD **Soldier's Deli** **55.36 357** P **P** **22 46 44.2 +0.7**
WCI **Wyandotte Cave** **55.40 348** pP pP 22 46 59.4 -1.0
baz=165
WCI **Wyandotte Cave** **55.40 348** P **P** **22 46 42.3 -1.5**
WCI pmax pmax
comp=Z,45nm,0.9s
WCI **Wyandotte Cave** **55.40 348** P **P** **22 46 42.3 -1.5**
T42A **Van Buren** **55.42 343** IAmb IAmb 22 47 01.6
comp=Z,11nm,1.1s
Q52A **Bidwell** **55.42 352** pP pP 22 47 00.2 -0.5
baz=170
P58A **Pank, Wackersv** **55.46 356** pP pP 22 47 00.3 -0.7
baz=176
P57A **Homestead Farm** **55.50 356** pP pP 22 47 01.8 +0.6
baz=175
P59A **Jarrettsville** **55.53 357** pP pP 22 47 02.0 +0.6
baz=177
P56A **Dayton Farm, R** **55.58 355** pP pP 22 47 02.3 +0.4
baz=174
HHAR **Hobbs** **55.59 340** IAmb IAmb 22 46 45.2
comp=Z,16nm,1.1s
W35A **Tecumseh** **55.61 337** P **P** **22 46 44.8 -0.7**
Q51A **Peebles** **55.65 351** P **P** **22 46 45.2 -0.4**
Q51A IAmb IAmb 22 47 02.4
comp=Z,13nm,0.9s
P55A **Reedsville** **55.68 354** pP pP 22 47 02.7 +0.1
baz=173
MCWV **Mont Chateau** **55.83 354** pP pP 22 47 03.2 -0.4
baz=173
P53A **Whipple** **55.83 353** pP pP 22 47 02.8 -0.7
baz=171
P53A **Whipple** **55.83 353** P **P** **22 46 46.8 -0.1**
P53A IAmb IAmb 22 47 04.3
comp=Z,21nm,0.9s
P54A **Burton** **55.84 354** pP pP 22 47 03.3 -0.4
baz=172
MGMO **Mountain Grove** **55.87 342** IAmb IAmb 22 46 47.0
comp=Z,22nm,1.1s
U38A **Gravette** **55.88 340** IAmb IAmb 22 46 47.3
comp=Z,14nm,1.1s
TUL1 **Leonard** **55.89 338** pP pP 22 47 03.6 -0.7
baz=154
MVL **Millersville** **55.92 357** P **P** **22 46 48.1 +0.6**
MVL IAmb IAmb 22 47 05.4
comp=Z,8.8nm,0.8s
WMOK **Wichita Mounta** **56.00 335** pP pP 22 47 04.0 -1.1
baz=150
WMOK **Wichita Mounta** **56.00 335** P **P** **22 46 47.9 -0.4**
WMOK pmax pmax
comp=Z,3.0nm,1.1s
WMOK **Wichita Mounta** **56.00 335** P **P** **22 46 47.9 -0.4**
P51A **Williamsport** **56.05 351** pP pP 22 47 03.9 -1.2
baz=169
P51A **Williamsport** **56.05 351** P **P** **22 46 48.2 -0.2**
P51A IAmb IAmb 22 47 05.9
comp=Z,27nm,1.1s
P52A **Corning** **56.07 352** pP pP 22 47 04.3 -1.0
baz=170
O58A **Lewisberry** **56.07 357** pP pP 22 47 04.2 -1.2
baz=176
FVM **French Village** **56.13 344** IAmb IAmb 22 47 07.3
comp=Z,12nm,0.9s
PAGS **Pennsylvania G** **56.16 357** P **P** **22 46 49.1 -0.1**
PAGS IAmb IAmb 22 47 07.0
comp=Z,12nm,1.1s
OK025 **Westminster Rd** **56.17 337** P **P** **22 46 48.0 -1.4**
OK025 IAmb IAmb 22 46 48.7
comp=Z,20nm,1.0s
O57A **Amberson** **56.20 356** pP pP 22 47 05.8 -0.5
baz=175
O59A **Robesonia** **56.22 358** pP pP 22 47 06.4 -0.1
baz=177
OK030 **Cody Creek RV** **56.27 337** P **P** **22 46 49.7 -0.4**
OK030 IAmb IAmb 22 47 08.5
comp=Z,12nm,0.5s
OK031 **S. Brethren Rd** **56.31 337** P **P** **22 46 50.0 -0.4**
OK031 IAmb IAmb 22 47 08.4
comp=Z,21nm,1.1s
O56A **Blue Knob Stat** **56.32 355** pP pP 22 47 07.4 +0.2
baz=174
O56A **Blue Knob Stat** **56.32 355** P **P** **22 46 50.5 0.0**
O56A IAmb IAmb 22 47 10.3
comp=Z,13nm,0.9s
O55A **Ligonier** **56.32 355** pP pP 22 47 06.5 -0.7
baz=173
BCOK **Bluff Creek, N** **56.34 337** P **P** **22 46 49.4 -1.3**
P49A **Miami Univ. Ec** **56.37 350** pP pP 22 47 06.0 -1.4
baz=167
P49A **Miami Univ. Ec** **56.37 350** P **P** **22 46 49.6 -1.1**
P49A IAmb IAmb 22 47 07.0
comp=Z,21nm,0.8s
O54A **Avella** **56.40 354** pP pP 22 47 06.8 -0.9
baz=172
OK029 **Liberty Lake** **56.40 337** P **P** **22 46 50.3 -0.8**
OK029 IAmb IAmb 22 47 09.4
comp=Z,22nm,1.1s
GDL2 **Guadalupe Moun** **56.41 329** P **P** **22 46 51.2 -0.2**
CCM **Cathedral Cave** **56.42 343** P **P** **22 46 49.6 -1.6**
CCM pmax pmax
comp=Z,6.0nm,0.8s
CCM **Cathedral Cave** **56.42 343** P **P** **22 46 49.6 -1.6**
QUOK **Quay** **56.45 338** P **P** **22 46 49.9 -1.5**
QUOK IAmb IAmb 22 46 51.2
comp=Z,13nm,0.8s
LUPA **Lehigh Univers** **56.48 358** P **P** **22 46 51.3 -0.3**
LUPA IAmb IAmb 22 47 02.1
comp=Z,5.2nm,0.4s
O52A **Adamsville** **56.50 352** pP pP 22 47 07.4 -1.0
baz=170
O52A **Adamsville** **56.50 352** P **P** **22 46 51.1 -0.7**
O52A IAmb IAmb 22 47 08.5
comp=Z,11nm,0.8s
MNTX **Cornudas Mount** **56.52 327** pP pP 22 47 07.5 -1.1
baz=143
MNTX **Cornudas Mount** **56.52 327** IAmb IAmb 22 47 09.2
comp=Z,20nm,1.1s
O53A **New Philadelph** **56.56 353** pP pP 22 47 07.9 -0.9
baz=171
O51A **Pataskala** **56.64 352** pP pP 22 47 08.2 -1.1
baz=170
S39A **Bolivar** **56.69 341** IAmb IAmb 22 46 52.7
comp=Z,20nm,0.9s
N57A **Milroy** **56.74 356** pP pP 22 47 09.6 -0.5
baz=176
ACSO **Alum Creek Sta** **56.77 351** pP pP 22 47 09.3 -1.0
baz=169
N58A **Sunbury** **56.77 357** pP pP 22 47 09.7 -0.6
baz=176
CPRX **Cap Rock** **56.83 330** P **P** **22 46 54.9 +0.6**
N55A **Marion Center** **56.86 355** pP pP 22 47 10.6 -0.5
baz=174
P46A **Rosedale** **56.92 347** P **P** **22 46 54.0 -0.7**
R40A **Maddies Statio** **56.93 342** IAmb IAmb 22 46 54.1
comp=Z,14nm,1.1s
N56A **West Decatur** **56.95 356** pP pP 22 47 11.1 -0.6
baz=175
T35A **Sooner Cattle** **57.05 338** IAmb IAmb 22 46 55.9
comp=Z,23nm,1.1s
MSTX **Muleshoe** **57.08 331** pP pP 22 47 11.8 -1.1
baz=146
N54A **Moraine State** **57.13 354** pP pP 22 47 12.8 -0.1
baz=173
N52A **McGinn's Farm,** **57.17 353** pP pP 22 47 12.0 -1.1
baz=171
M57A **Sunshine Farm,** **57.29 357** pP pP 22 47 13.7 -0.3
baz=176
M58A **Price's Panora** **57.29 357** pP pP 22 47 13.1 -1.0
baz=177
M62A **Hamden** **57.30 1** pP pP 22 47 12.7 -1.3
baz=181
AMTX **Amarillo** **57.35 333** pP pP 22 47 13.4 -1.4
baz=148
N51A **Ashland** **57.36 352** pP pP 22 47 13.3 -1.3
baz=170
N51A **Ashland** **57.36 352** P **P** **22 46 56.1 -1.6**
N51A IAmb IAmb 22 47 14.3
comp=Z,17nm,0.9s
M59A **Waymart** **57.43 358** pP pP 22 47 14.1 -0.8
baz=178
M56A **Emporium** **57.50 356** pP pP 22 47 15.4 -0.1
baz=175
U32A **Winter Ranch,** **57.51 336** P **P** **22 46 58.7 -0.3**
U32A IAmb IAmb 22 47 17.9
comp=Z,11nm,0.7s
M54A **Oil Creek Stat** **57.64 355** pP pP 22 47 15.8 -0.7
baz=173
M53A **WI Miller and** **57.67 354** pP pP 22 47 16.3 -0.5
baz=172
M51A **Elyria** **57.75 352** pP pP 22 47 16.9 -0.4
baz=170
L63A **North Scituate** **57.75 2** pP pP 22 47 17.3 +0.2
baz=182
L64A **Middleborough** **57.85 2** pP pP 22 47 17.2 -0.6
baz=183
L60A **Shokan** **57.85 359** pP pP 22 47 17.5 -0.5
baz=179
M50A **Fremont** **57.93 352** P **P** **22 47 01.3 -0.5**
L57A **Andrews Acres** **57.94 357** pP pP 22 47 18.0 -0.6
baz=176
L58A **Harry Jones Me** **57.94 358** pP pP 22 47 17.8 -0.8
baz=177
P40A **Paris** **58.02 343** IAmb IAmb 22 47 18.7
comp=Z,7.4nm,0.7s
L59A **Wilton** **58.06 359** pP pP 22 47 18.7 -0.8
baz=178
BINY **Binghamton** **58.10 358** pP pP 22 47 20.0 +0.2
baz=177
L56A **Greenwood** **58.11 357** pP pP 22 47 19.9 0.0
baz=176
L53A **Girard** **58.14 354** pP pP 22 47 20.1 +0.1
baz=172
ERPA **Erie** **58.28 354** pP pP 22 47 20.5 -0.5
baz=173
319A **Douglas** **58.38 324** P **P** **22 47 04.4 -0.9**
HRV **Adam Dziewonsk** **58.39 2** pP pP 22 47 22.1 +0.3
baz=182
121A **Cookes Peak, D** **58.44 326** pP pP 22 47 21.7 -0.7
baz=141
K62A **Royalston** **58.54 1** pP pP 22 47 22.9 +0.2
baz=182
K63A **Dunstable** **58.58 2** pP pP 22 47 23.1 +0.1
baz=182
K59A **Cooperstown** **58.65 359** pP pP 22 47 23.1 -0.4
baz=179
K57A **Scipio Center** **58.65 357** pP pP 22 47 23.7 +0.1
baz=177
K58A **Earlville** **58.65 358** pP pP 22 47 23.5 -0.1
baz=178
K56A **Middlesex** **58.66 357** pP pP 22 47 23.5 -0.2
baz=176
MMNY **Mt. Morris Dam** **58.73 356** P **P** **22 47 07.6 +0.3**
MMNY IAmb IAmb 22 47 25.2
comp=Z,18nm,0.9s
KSU1 **Kansas State U** **59.04 339** P **P** **22 47 08.1 -1.4**
KSU1 IAmb IAmb 22 47 12.6
comp=Z,14nm,0.8s
J60A **Lant Hill Farm** **59.10 0** pP pP 22 47 26.6 -0.1
baz=180
R32A **Long Quarter,** **59.19 337** P **P** **22 47 09.7 -1.0**
J61A **Chester** **59.21 1** pP pP 22 47 27.4 0.0
baz=181
J58A **Remsen** **59.24 359** pP pP 22 47 27.4 -0.2
baz=178
J57A **Williamstown** **59.31 358** pP pP 22 47 27.6 -0.6
baz=177
J59A **Piesco** **59.33 359** pP pP 22 47 27.7 -0.6
baz=179
N38A **Joes South For** **59.52 343** P **P** **22 47 11.1 -1.8**
N38A IAmb IAmb 22 47 12.2
comp=Z,22nm,1.1s
I58A **Old Forge** **59.56 359** pP pP 22 47 30.2 +0.3
baz=178
ANMO **Albuquerque** **59.65 329** P **P** **22 47 13.2 -0.9**
comp=Z,2.4nm,0.7s,baz=167,slow=7.4,SNR=8.8
ANMO pP **pP** **22 47 30.0 -0.8**
comp=Z,11nm,1.1s,baz=143,slow=12,SNR=8.9
ANMO **Albuquerque** **59.65 329** pP pP 22 47 30.7 -0.2
baz=143
ANMO **Albuquerque** **59.65 329** P **P** **22 47 13.4 -0.7**
ANMO IAmb IAmb 22 47 32.2
comp=Z,13nm,1.1s
I60A **Shoreham** **59.70 0** pP pP 22 47 30.7 0.0
baz=180
L42A **Oliver, Polo** **59.74 346** P **P** **22 47 11.9 -2.4**
L42A IAmb IAmb 22 47 12.5
comp=Z,8.2nm,0.8s
I62A **Tamworth** **59.77 2** pP pP 22 47 31.7 +0.4
baz=182
I64A **Boothbay** **59.89 3** pP pP 22 47 32.7 +0.7
baz=184
CBKS **Cedar Bluff** **59.92 337** P **P** **22 47 15.1 -0.6**
CBKS pmax pmax
comp=Z,15nm,0.8s
CBKS **Cedar Bluff** **59.92 337** P **P** **22 47 15.1 -0.6**
CBKS IAmb IAmb 22 47 15.8
comp=Z,15nm,0.8s
TUC **Tucson** **59.93 324** pP pP 22 47 33.1 +0.4
baz=138
TUC **Tucson** **59.93 324** P **P** **22 47 15.9 -0.1**
TUC pmax pmax
comp=Z,16nm,1.1s
TUC **Tucson** **59.93 324** P **P** **22 47 15.9 -0.1**
TUC IAmb IAmb 22 47 34.2
comp=Z,16nm,1.1s
I51A **Listowel** **60.05 354** pP pP 22 47 32.6 -0.7
baz=172
LBNH **Lisbon** **60.12 1** pP pP 22 47 34.0 +0.4
baz=182
K43A **Burlington** **60.12 347** P **P** **22 47 15.7 -1.2**
L40A **Anamosa** **60.17 345** P **P** **22 47 15.4 -1.9**
H57A **Richville** **60.34 359** pP pP 22 47 34.7 -0.5
baz=178
T25A **Trinidad** **60.45 332** pP pP 22 47 36.6 +0.3
baz=146
H59A **Cadyville** **60.50 360** pP pP 22 47 36.2 -0.1
baz=180
H53A **Bobcaygeon** **60.60 356** pP pP 22 47 36.5 -0.6
baz=174
H63A **New Sharon** **60.60 3** pP pP 22 47 36.5 -0.5
baz=184
H64A **Troy** **60.63 4** pP pP 22 47 36.7 -0.4
baz=185
JFWS **Jewell Farm** **60.74 346** P **P** **22 47 20.0 -1.1**
JFWS pmax pmax
comp=Z,13nm,1.1s
JFWS **Jewell Farm** **60.74 346** P **P** **22 47 20.0 -1.1**
JFWS IAmb IAmb 22 47 20.3
comp=Z,12nm,1.1s
H65A **Eastbrook** **60.75 4** pP pP 22 47 38.4 +0.4
baz=186
N33A **J Bar K, Exete** **60.79 339** P **P** **22 47 21.0 -0.6**
SADO **Sadowa** **60.84 355** P **P** **22 47 19.8 -1.9**
comp=Z,8.1nm,0.9s,baz=225,slow=5.7,SNR=5.8
SADO pP **pP** **22 47 38.1 -0.5**
comp=Z,13nm,0.8s,baz=193,slow=6.6,SNR=8.7
SADO **Sadowa** **60.84 355** IAmb IAmb 22 47 38.9
comp=Z,15nm,0.9s
214A **Organ Pipe Nat** **60.85 322** pP pP 22 47 39.9 +0.9
baz=136
H66A **Whiting** **60.91 5** pP pP 22 47 39.1 +0.1
baz=187
G58A **Ormstown** **61.01 360** pP pP 22 47 38.1 -1.6
baz=180
G63A **Kingsbury** **61.08 3** pP pP 22 47 40.1 -0.1
baz=184
G62A **West of Eustis** **61.14 2** pP pP 22 47 40.2 -0.5
baz=183
G61A **St-Isidore-de-** **61.17 2** pP pP 22 47 41.4 +0.6
baz=182
KSCO **Kaye Shedlock'** **61.24 334** pP pP 22 47 40.9 -0.9
baz=148
PKME **Peaks-Kenny Pk** **61.25 3** pP pP 22 47 41.5 +0.2
baz=185
G64A **Maxfield** **61.27 4** pP pP 22 47 41.7 +0.3
baz=185
G65A **Princeton** **61.30 5** pP pP 22 47 42.1 +0.4
baz=187
I42A **Draeger Farm,** **61.38 347** P **P** **22 47 24.6 -0.8**
I42A IAmb IAmb 22 47 42.0
comp=Z,15nm,0.9s
G54A **Lake Saint Pet** **61.39 356** pP pP 22 47 42.3 -0.2
baz=175
SDCO **Great Sand Dun** **61.44 331** pP pP 22 47 43.1 -0.1
baz=145
SDCO **Great Sand Dun** **61.44 331** IAmb IAmb 22 47 44.1
comp=Z,18nm,1.1s
W18A **Petrified Fore** **61.46 327** pP pP 22 47 43.6 +0.3
baz=140
H43A **Windswept, Lux** **61.70 348** P **P** **22 47 26.3 -1.3**
I40A **Norwalk** **61.75 346** P **P** **22 47 26.4 -1.5**
I40A IAmb IAmb 22 47 45.0
comp=Z,12nm,0.9s
SPX **San Pedro Mart** **61.82 319** P **P** **22 47 28.5 -0.6**
SPX IAmb IAmb 22 47 46.8
comp=Z,12nm,1.0s
F60A **Warwick** **61.84 1** pP pP 22 47 44.7 -0.7
baz=182
F64A **Sherman** **61.90 4** pP pP 22 47 46.1 +0.4
baz=186
ALGO **Algonquin Park** **61.95 356** pP pP 22 47 45.6 -0.6
baz=175
113A **Mohawk Valley,** **61.99 322** P **P** **22 47 30.2 +0.4**
113A IAmb IAmb 22 47 48.5
comp=Z,18nm,1.1s
E58A **La Victoria** **62.23 0** pP pP 22 47 48.3 +0.3
baz=180
E60A **Ste Agathe de** **62.26 2** pP pP 22 47 48.7 +0.5
baz=182
E57A **Chemin Saint G** **62.27 360** pP pP 22 47 49.0 +0.7
baz=179
Q24A **Divide** **62.28 333** pP pP 22 47 48.5 -0.3
baz=146
E56A **St. Veronique** **62.41 359** pP pP 22 47 48.6 -0.7
baz=178
MVCO **Mesa Verde** **62.45 329** pP pP 22 47 49.7 -0.2
baz=142
E64A **Bridgewater** **62.49 4** pP pP 22 47 49.7 0.0
baz=186
E62A **Clayton Lake** **62.59 3** pP pP 22 47 51.7 +1.3
baz=184
WUAZ **Wupatki** **62.64 326** pP pP 22 47 52.2 +1.0
baz=139
PQI **Presque Isle** **62.73 4** P **P** **22 47 34.5 +0.1**
PQI IAmb IAmb 22 47 52.6
comp=Z,20nm,1.0s
ESJX **Sierra Juarez** **62.78 320** P **P** **22 47 35.4 +0.1**
GLA **Glamis** **62.83 322** pP pP 22 47 52.9 +0.6
baz=135
D58A **Chemin du LacG** **62.96 1** pP pP 22 47 53.2 +0.4
baz=181
D62A **Allapoint, All** **63.07 3** pP pP 22 47 53.9 +0.3
baz=185
D62A **Allapoint, All** **63.07 3** IAmb IAmb 22 47 38.0
comp=Z,20nm,1.1s
D63A **Stockholm** **63.09 4** pP pP 22 47 54.4 +0.6
baz=186
ISCO **Idaho Springs** **63.17 333** pP pP 22 47 54.8 0.0
baz=145
ISCO **Idaho Springs** **63.17 333** P **P** **22 47 37.0 -0.9**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO **Idaho Springs** **63.17 333** P **P** **22 47 37.0 -0.9**
PV01 **Paradox Valley** **63.20 330** P **P** **22 47 37.6 -0.5**
PV01 IAmb IAmb 22 47 56.1
comp=Z,16nm,1.2s
ECSD **EROS Data Cent** **63.22 341** pP pP 22 47 54.3 -0.3
baz=155
LATQ **La Tuque** **63.25 1** pP pP 22 47 54.9 +0.2
baz=181
RMX **La Rumorosa** **63.27 320** P **P** **22 47 38.8 +0.3**
RMX IAmb IAmb 22 47 57.3
comp=Z,25nm,1.1s
SMCO **Snowmass** **63.28 331** P **P** **22 47 38.8 +0.1**
PDMCI **Parker Dam,Lak** **63.30 323** pP pP 22 47 54.6 -0.8
baz=136
IKP **In-Ko-Pah, Jac** **63.32 320** pP pP 22 47 56.5 +0.8
baz=134
PV15 **Paradox Valley** **63.33 330** P **P** **22 47 38.8 -0.1**
PV15 IAmb IAmb 22 47 57.7
comp=Z,23nm,1.1s
SWSC **Sam W. Stewart** **63.34 321** pP pP 22 47 56.2 +0.6
baz=134
PV02 **Paradox Valley** **63.34 329** P **P** **22 47 38.4 -0.6**
PV13 **Radium Mtn., P** **63.35 329** P **P** **22 47 38.5 -0.5**
PV18 **Skein Mesa, Pa** **63.46 329** P **P** **22 47 39.0 -0.7**
PV12 **Saucer Basin,** **63.46 330** P **P** **22 47 39.3 -0.4**
SPMN **Marine on St.** **63.53 345** pP pP 22 47 55.9 -0.8
baz=159,SNR=5.7
BC3 **Big Chuckawall** **63.62 322** pP pP 22 47 58.5 +0.8
baz=134
MONP2 **Monument Peak** **63.68 320** pP pP 22 47 59.0 +0.7
baz=133
BAR **Barrett** **63.69 320** IAmb IAmb 22 48 00.2
comp=Z,29nm,1.1s
IRM **Iron Mountain** **63.79 322** pP pP 22 47 59.7 +1.0
baz=135
109C **Camp Elliot, M** **64.10 320** pP pP 22 48 01.7 +1.0
baz=133
109C **Camp Elliot, M** **64.10 320** P **P** **22 47 44.3 +0.5**
109C IAmb IAmb 22 48 03.3
comp=Z,21nm,1.1s

BELC Belle Mtn. Jos 64.19 321 pP pP 22 48 01.9 +0.5
baz=134
TPFO Pinon Flats 64.19 321 pP pP 22 48 02.2 +0.7
baz=134
PFO Pinyon Flats O 64.20 321 pP pP 22 48 02.3 +0.8
baz=134
PFO Pinyon Flats O 64.20 321 P **P** **22 47 45.3 +0.7**
PFO IAmb IAmb 22 48 04.3
comp=Z,26nm,1.0s
N23A Red Feather La 64.21 333 pP pP 22 48 01.5 -0.2
baz=145
PHWY Pilot Hill 64.34 334 P **P** **22 47 44.9 -0.7**
GMRC Granite Mounta 64.53 322 pP pP 22 48 04.6 +0.9
baz=135
E38A The Farm, Brul 64.53 346 P **P** **22 47 45.4 -0.9**
E38A IAmb IAmb 22 47 58.3
comp=Z,25nm,1.1s
O20A White River Ci 64.63 331 pP pP 22 48 04.2 -0.1
baz=143
MURC Murrieta 64.64 320 pP pP 22 48 05.1 +0.8
baz=133
HEC Hector,Ludlow 64.96 322 pP pP 22 48 07.2 +0.7
baz=134
LSQQ Lebel-sur-Quev 64.99 358 pP pP 22 48 06.4 +0.1
baz=176
SZCU Shurtz Canyon 65.11 326 P **P** **22 47 50.2 -0.4**
TUQ Turquoise Moun 65.14 323 pP pP 22 48 08.4 +0.7
baz=135
TAOE Nuku Hiva Isla 65.17 268 *e*LR LR 23 07 26.5
comp=Z,612nm,27.0s
TAOE Nuku Hiva Isla 65.17 268 *e*T T 23 58 28.7
comp=Z,21nm,0.2s
CCUT Cedar City 65.22 326 P **P** **22 47 51.2 -0.1**
CIS Catalina Islan 65.26 319 pP pP 22 48 09.2 +0.9
baz=132
BFSC Mount Baldy Ra 65.35 321 pP pP 22 48 09.7 +0.6
baz=133
TMUT Trail Mountain 65.41 329 P **P** **22 47 52.0 -0.5**
RWWY Rawlins 65.41 333 P **P** **22 47 52.8 +0.3**
SHPR Sheep Range 65.46 324 IAmb IAmb 22 48 11.9
comp=Z,13nm,1.1s
TCRU Three Creeks R 65.52 327 P **P** **22 47 53.2 -0.1**
GSC Goldstone, Bar 65.56 322 pP pP 22 48 11.4 +1.0
baz=134
GSC Goldstone, Bar 65.56 322 IAmb IAmb 22 48 12.6
comp=Z,12nm,1.0s
MWC Mount Wilson 65.59 320 P **P** **22 47 54.5 +0.8**
MWC pmax pmax
comp=Z,25nm,1.2s
MWC Mount Wilson 65.59 320 P **P** **22 47 54.5 +0.8**
MWC IAmb IAmb 22 48 12.9
comp=Z,25nm,1.1s
EYMN Ely 65.79 347 IAmb IAmb 22 47 54.0
comp=Z,23nm,1.1s
SNCC San Nicolas Is 65.85 319 pP pP 22 48 13.2 +1.0
baz=131
K22A Casper 65.90 334 pP pP 22 48 12.7 +0.3
baz=145
EDW2 Edwards Air Fo 65.99 321 pP pP 22 48 13.9 +0.8
baz=133
PRN Pahroc Range 66.04 325 IAmb IAmb 22 48 15.9
comp=Z,17nm,1.1s
RSSD Black Hills 66.12 336 pP pP 22 48 14.2 +0.3
baz=148
RSSD Black Hills 66.12 336 P **P** **22 47 55.7 -1.2**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 66.12 336 P **P** **22 47 55.7 -1.2**
MPU Maple Canyon 66.17 329 P **P** **22 47 57.3 0.0**
PSUT Pine Spring 66.20 326 P **P** **22 47 57.3 -0.3**
LRMC Laurel Mtn Rad 66.21 322 pP pP 22 48 15.0 +0.4
baz=133
TPNV Topopah Spring 66.39 324 pP pP 22 48 17.0 +1.2
baz=135,SNR=8.8
TPNV Topopah Spring 66.39 324 IAmb IAmb 22 48 18.2
comp=Z,14nm,1.0s
FURC Furnace Creek, 66.40 323 pP pP 22 48 16.2 +0.6
baz=134,SNR=5.0
SCZ2 Santa Cruz Isl 66.41 319 pP pP 22 48 16.3 +0.4
baz=131
MPMC Manual Prospec 66.49 322 pP pP 22 48 16.6 +0.1
baz=134,SNR=7.1
JLU Jordanelle 66.53 329 P **P** **22 47 59.5 -0.1**
VNA3 Neumayer Olymp 66.53 162 P **P** **22 47 59.3 +0.4**
ARVC Arvin 66.66 321 pP pP 22 48 17.8 +0.5
baz=132
B35A Bob, Littlefor 66.69 346 P **P** **22 47 58.8 -1.4**
VNA1 Neumayer--Stat 66.77 161 P **P** **22 48 02.0 +1.5**
ISA Isabella, Lake 66.81 321 pP pP 22 48 19.6 +1.2
baz=133,SNR=7.2
ISA Isabella, Lake 66.81 321 IAmb IAmb 22 48 20.6
comp=Z,15nm,1.0s
DUG Dugway, Tooele 66.90 328 pP pP 22 48 19.4 +0.5
baz=139,SNR=8.9
DUG Dugway, Tooele 66.90 328 IAmb IAmb 22 48 21.0
comp=Z,24nm,1.1s
TCUT Toone Canyon 66.90 330 P **P** **22 48 01.4 -0.6**
R11A Troy Canyon, C 67.01 325 pP pP 22 48 19.8 +0.1
baz=136
CWC Cottonwood Cre 67.10 322 pP pP 22 48 20.9 +0.6
baz=133
PKM Mcpherson Peak 67.11 320 pP pP 22 48 21.1 +0.6
baz=131
VNA2 Neumayer--Watz 67.13 161 P **P** **22 48 03.7 +1.0**
baz=284,slow=6.9
AGMN Agassiz Nation 67.17 344 pP pP 22 48 19.7 -0.6
baz=157
VES Vestal, Richgr 67.29 321 pP pP 22 48 21.6 +0.3
baz=132
BW06 Boulder Array 67.32 332 pP pP 22 48 21.1 -0.6
baz=142
BW06 Boulder Array 67.32 332 P **P** **22 48 04.3 -0.3**
PD31 Pinedale Array 67.32 332 P **P** **22 48 03.6 -1.0**
PDAR Pinedale Array 67.32 332 P **P** **22 48 03.0 -1.6**
comp=Z,2.1nm,1.1s,baz=172,slow=3.0,SNR=4.4
PDAR pP **pP** **22 48 20.6 -1.0**
comp=Z,1.2nm,0.8s,baz=162,slow=6.2,SNR=4.3
PDAR LR LR 23 19 32.4
comp=Z,49nm,21.2s,baz=136,slow=38
PDAR Pinedale Array 67.32 332 P **P** **22 48 02.8 -1.8**
SMMC Simmler 67.50 320 pP pP 22 48 22.2 -0.6
baz=131
BGU Big Grassy Mou 67.55 329 P **P** **22 48 05.0 -1.1**
SPUT South Promonto 67.55 329 P **P** **22 48 05.9 -0.2**
MDND Maddock 67.83 341 pP pP 22 48 24.9 +0.4
baz=153,SNR=5.8
PAGB Antelope Grade 67.93 320 P **P** **22 48 08.4 +0.1**
PAGB IAmb IAmb 22 48 27.7
comp=Z,15nm,1.0s
HVU Hansel Valley 68.07 329 P **P** **22 48 08.8 -0.5**
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 68.07 329 P **P** **22 48 08.8 -0.5**
ECR Eagle Creek 68.37 331 P **P** **22 48 10.5 -0.7**
OMMB Old Mammoth Mi 68.43 323 IAmb IAmb 22 48 31.0
comp=Z,25nm,1.1s
MDPB Devils Postpil 68.49 323 P **P** **22 48 12.0 -0.2**
MDPB IAmb IAmb 22 48 31.2
comp=Z,15nm,1.0s
NV11 Mina Array Sit 68.50 324 P **P** **22 48 11.8 -0.3**
TPAW Teton Pass 68.52 332 P **P** **22 48 11.5 -0.7**
ELK Elko 68.55 327 P **P** **22 48 12.1 -0.3**
comp=Z,2.9nm,0.9s,baz=144,slow=6.1,SNR=10.0
ELK pP **pP** **22 48 30.3 +0.8**
comp=Z,2.9nm,0.9s,baz=166,slow=1.1,SNR=5.2
LHV Little Huntoon 68.58 323 P **P** **22 48 13.2 +1.0**
LHV IAmb IAmb 22 48 32.1
comp=Z,23nm,1.2s
NVAR Mina Array Bea 68.59 324 P **P** **22 48 12.4 -0.3**
comp=Z,3.1nm,0.9s,baz=140,slow=6.6,SNR=14
NVAR pP **pP** **22 48 30.6 +0.8**
comp=Z,4.5nm,0.9s,baz=148,slow=6.7,SNR=8.2
NVAR LR LR 23 17 09.7
comp=Z,52nm,18.5s,baz=90,slow=35
NVAR Mina Array Bea 68.59 324 P **P** **22 48 12.8 +0.1**
SNAA Sanae 68.74 161 P **P** **22 48 13.7 +0.8**
SNAA Sanae 68.74 161 P **P** **22 48 13.8 +0.8**
comp=Z,39nm,0.6s,baz=278,slow=6.2,SNR=137
SNAA Sanae 68.74 161 P **P** **22 48 13.5 +0.5**
RYN Ryan 68.85 324 P **P** **22 48 13.6 -0.6**
FLWY Flagg Ranch 68.87 332 IAmb IAmb 22 48 15.3
comp=Z,13nm,0.9s
KVN Kaiserville 68.90 324 P **P** **22 48 14.2 -0.3**
KVN pmax pmax
comp=Z,11nm,1.1s
KVN Kaiserville 68.90 324 P **P** **22 48 14.2 -0.3**

ULM Lac du Bonnet 68.97 345 P **P** **22 48 12.7 -1.8**
comp=Z,13nm,0.9s,baz=135,slow=3.6,SNR=5.2
ULM pP **pP** **22 48 31.2 -0.3**
comp=Z,18nm,0.7s,baz=156,slow=5.9,SNR=8.5
ULM LR LR 23 21 07.0
comp=Z,101nm,19.4s,baz=103,slow=38
ULM Lac du Bonnet 68.97 345 IAmb IAmb 22 48 31.9
comp=Z,21nm,0.8s
YPP Pitchstone Pla 69.06 332 P **P** **22 48 14.8 -0.8**
RLMT Red Lodge 69.06 334 pP pP 22 48 32.6 0.0
baz=143,SNR=5.2
RLMT Red Lodge 69.06 334 P **P** **22 48 14.7 -0.8**
RLMT IAmb IAmb 22 48 16.3
comp=Z,13nm,1.1s
LKWY Lake 69.11 333 P **P** **22 48 16.0 +0.1**
LKWY pmax pmax
comp=Z,10.0nm,1.0s
LKWY Lake 69.11 333 P **P** **22 48 15.9 +0.1**
LAO LASA Array 69.11 337 pP pP 22 48 33.4 +0.8
baz=146
WAKR Walker 69.29 323 P **P** **22 48 17.2 +0.2**
YMR Madison River 69.44 332 P **P** **22 48 17.9 0.0**
YHH Holmes Hill 69.49 333 P **P** **22 48 18.3 +0.1**
YERR Yerington 69.50 323 P **P** **22 48 18.2 0.0**
YHB Horse Butte 69.61 332 P **P** **22 48 18.6 -0.3**
YHL Hebgen Lake 69.68 332 P **P** **22 48 19.5 +0.1**
PNTR Pine Nut 69.78 323 P **P** **22 48 19.9 -0.1**
PNTR IAmb IAmb 22 48 21.7
comp=Z,14nm,0.9s
DGMT Dagmar 69.88 339 pP pP 22 48 37.8 +0.6
baz=149
VCNR Virginia City 69.95 323 P **P** **22 48 21.4 +0.4**
VCNR IAmb IAmb 22 48 40.0
comp=Z,14nm,1.1s
PAHR Pah Rah Range 70.07 324 P **P** **22 48 22.2 +0.5**
PAHR IAmb IAmb 22 48 41.3
comp=Z,31nm,1.1s
HLID Hailey 70.20 330 pP pP 22 48 40.1 +0.4
baz=138,SNR=6.1
BCYI Bear Canyon 70.28 331 P **P** **22 48 23.0 0.0**
MCMT McKenzie Canyo 70.42 331 P **P** **22 48 23.8 0.0**
BOZ Bozeman (W) 70.46 333 pP pP 22 48 41.1 -0.1
baz=141,SNR=7.1
AFDM Forest Hills D 70.48 322 P **P** **22 48 23.9 -0.1**
DLMT Dillon 70.71 332 P **P** **22 48 25.3 -0.2**
BEKR Beckworth 70.73 324 P **P** **22 48 25.7 -0.1**
MFID Camas Ranch 70.79 329 P **P** **22 48 25.9 -0.1**
MFID IAmb IAmb 22 48 27.5
comp=Z,22nm,1.1s
SCHQ Schefferville 70.93 4 P **P** **22 48 25.0 -1.5**
comp=Z,4.7nm,0.6s,baz=284,slow=9.1,SNR=3.6
SCHQ LR LR 23 19 12.2
comp=Z,83nm,21.9s,baz=112,slow=36
SCHQ Schefferville 70.93 4 IAmb IAmb 22 48 30.6
comp=Z,18nm,1.1s
TBI Tubuai 71.08 250 *e*LR LR 23 10 07.2
comp=Z,209nm,38.0s
ORV Oroville 71.19 323 P **P** **22 48 28.0 -0.3**
ORV pmax pmax
comp=Z,29nm,1.1s
ORV Oroville 71.19 323 P **P** **22 48 28.0 -0.3**
ORV IAmb IAmb 22 48 30.0
comp=Z,29nm,1.1s
LIC Lamto 71.36 78 *e*P **P** **22 48 28.5 -1.4**
comp=Z,106nm,1.2s
TIC Toumodi 71.50 77 *e*P **P** **22 48 29.4 -1.4**
EGMT Eagleton 71.59 335 pP pP 22 48 47.8 0.0
baz=143
EGMT Eagleton 71.59 335 P **P** **22 48 30.1 -0.6**
EGMT IAmb IAmb 22 48 49.0
comp=Z,15nm,1.1s
DBIC Dimbokro 71.66 77 P **P** **22 48 30.9 -0.8**
comp=Z,25nm,0.8s,baz=231,slow=6.1,SNR=24
DBIC LR LR 23 18 59.7
comp=Z,172nm,20.1s,baz=226,slow=35
DBIC Dimbokro 71.66 77 P **P** **22 48 31.1 -0.6**
KIC Kosan Boka 71.67 78 *e*P **P** **22 48 30.9 -0.9**
comp=Z,157nm,1.1s
O03E Paynes Creek 71.85 323 pP pP 22 48 49.2 -0.4
baz=131
TVO Taravao 71.91 256 *e*T T 00 06 52.2
comp=Z,1.5nm,0.3s
TIAR Tiarei 72.05 256 *e*T T 00 07 00.6
comp=Z,2.7nm,0.3s
PPT2 Papeete2 72.26 256 *e*S **S** **22 57 51.7 -2.5**
comp=Z,80nm,27.5s
PPT2 Papeete2 72.26 256 *e*LR LR 23 10 41.3
comp=Z,308nm,26.0s
PPT Papeete 72.26 256 LR LR 23 13 24.9
comp=Z,64nm,18.1s,baz=150,slow=30
MSO Missoula 72.44 332 pP pP 22 48 53.4 +0.4
baz=139
MSO Missoula 72.44 332 P **P** **22 48 35.4 -0.4**
WDC Whiskeytown Da 72.46 323 P **P** **22 48 34.9 -1.0**
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC Whiskeytown Da 72.46 323 P **P** **22 48 34.9 -1.0**
KCPM Cahto Peak 72.50 322 P **P** **22 48 36.8 +0.5**
KCPM IAmb IAmb 22 48 37.8
comp=Z,14nm,1.0s
BMO Blue Mountains 72.57 329 P **P** **22 48 35.7 -0.9**
BMO pmax pmax
comp=Z,4.0nm,0.8s
BMO Blue Mountains 72.57 329 P **P** **22 48 35.7 -0.9**
N02D Trinity Center 72.81 323 pP pP 22 48 55.1 -0.3
baz=131
M04C Macdoel 72.85 324 pP pP 22 48 55.4 -0.2
baz=132
KMRM Mail Ridge 72.91 322 P **P** **22 48 39.1 +0.3**
K05A Summer Lake 72.95 325 P **P** **22 48 39.1 +0.1**
M02C Callahan 73.17 323 pP pP 22 48 55.9 -1.6
baz=131
NVL N'lazarevskaya 73.36 160 *e*P **P** **22 48 40.7 -0.1**
NVL *e*S **SKiKP** **22 58 14.3 +7.9**
NVL pmax pmax
comp=Z,37nm,0.9s
L04D Klamath Falls 73.39 324 pP pP 22 48 58.6 -0.3
baz=131
J05D Fort Rock, OR 73.51 326 pP pP 22 48 59.7 +0.1
baz=132
PINE Pine Mountain 73.70 326 P **P** **22 48 43.4 0.0**
PINE IAmb IAmb 22 49 02.5
comp=Z,12nm,0.9s
G08A Pilot Rock 73.70 328 P **P** **22 48 43.2 -0.2**
J04D Umpqua Nationa 73.96 325 pP pP 22 49 02.8 +0.5
baz=132
QSPA South Pole Qui 74.01 180 P **P** **22 48 46.1 +1.2**
comp=Z,50nm,0.9s,baz=153,slow=2.0,SNR=167
QSPA South Pole Qui 74.01 180 P **P** **22 48 46.0 +1.1**
L02E Cave Junction 74.09 324 pP pP 22 49 03.5 +0.6
baz=130
WALA Waterton Lakes 74.12 334 IAmb IAmb 22 48 46.0
comp=Z,12nm,0.9s
E09A Wood Farm, Sta 74.17 330 IAmb IAmb 22 48 46.7
comp=Z,13nm,1.1s
I05D Tebbonne, OR 74.28 326 pP pP 22 49 04.1 +0.1
baz=132
K02D Willamette Mer 74.47 324 pP pP 22 49 04.4 -0.8
baz=130
I04A Tendick Farm, 74.49 326 pP pP 22 49 05.1 -0.1
baz=131
HAWA Hanford 74.76 329 P **P** **22 48 49.2 -0.1**
NEW Newport 74.95 332 P **P** **22 48 49.7 -0.7**
comp=Z,2.3nm,0.8s,baz=75,slow=5.9,SNR=3.1
NEW Newport 74.95 332 pP pP 22 49 07.7 0.0
baz=137
H04A Detroit Lake 74.96 326 P **P** **22 48 50.0 -0.5**
E07A Sunnyside 75.04 329 P **P** **22 48 51.0 +0.1**
C09A Chrisman Ranch 75.15 331 P **P** **22 48 51.3 -0.2**
KOWA Kowa 75.15 70 P **P** **22 48 51.9 -0.3**
I02D Swisshome 75.48 325 pP pP 22 49 10.7 -0.2
baz=130
F04A Amboy 75.91 327 IAmb IAmb 22 48 57.1
comp=Z,22nm,0.9s
E04D Cinebar 76.41 328 pP pP 22 49 16.1 0.0
baz=132
D05A Enumclaw 76.53 328 P **P** **22 48 58.9 -0.5**
B06A Marblemount 77.19 330 P **P** **22 49 02.6 -0.4**
B06A IAmb IAmb 22 49 03.7
comp=Z,31nm,1.1s
B05A Bryant 77.31 329 pP pP 22 49 21.3 +0.1
baz=132
TOA0 Torodi Ar. Sit 79.89 73 P **P** **22 49 18.5 -0.2**
TORD Torodi Ar. Bea 79.89 73 P **P** **22 49 18.2 -0.5**
comp=Z,48nm,0.7s,baz=260,slow=5.9,SNR=305
TORD pP **pP** **22 49 35.9 -0.1**
comp=Z,60nm,0.9s,baz=263,slow=5.4,SNR=17
TORD LR LR 23 23 26.9
comp=Z,182nm,20.0s,baz=255,slow=35
TORD Torodi Ar. Bea 79.89 73 P **P** **22 49 17.8 -0.8**
MORF Marmelete 80.91 47 *e*P **P** **22 49 23.9 +0.1**
comp=Z,62nm,1.9s
MORF Marmelete 80.91 47 *e*PcP pP 22 49 43.6 +2.4
PTEO Sao Teotonio 80.97 47 *e*P **P** **22 49 25.7 +1.7**
comp=Z,58nm,1.4s
PTEO Sao Teotonio 80.97 47 *e*PcP pP 22 49 43.9 +2.4
VNDA Vanda 81.30 190 P **P** **22 49 26.9 +1.7**
comp=Z,13nm,0.9s,baz=128,slow=4.9,SNR=77
VNDA LR LR 23 18 12.5
comp=Z,118nm,19.5s,baz=126,slow=30
VNDA Vanda 81.30 190 P **P** **22 49 26.6 +1.5**
VNDA IAmb IAmb 22 49 27.5
comp=Z,17nm,0.9s
PNCL Nicolau / Gran 81.38 46 *e*P **P** **22 49 27.2 +1.1**
comp=Z,23nm,1.7s
PNCL Nicolau / Gran 81.38 46 *e*PcP pP 22 49 45.8 +2.2
PCVE Castro Verde 81.50 47 *e*P **P** **22 49 28.2 +1.4**
comp=Z,22nm,1.4s
PCVE Castro Verde 81.50 47 *e*PcP pP 22 49 46.4 +2.1
PVAQ Vaqueiros 81.62 47 *e*LR LR 23 17 50.3
comp=Z,125nm,18.0s
PBEJ Beja 81.80 47 *e*P **P** **22 49 29.3 +0.9**
comp=Z,23nm,1.6s
PBEJ Beja 81.80 47 *e*PcP pP 22 49 46.3 +0.4
PCAS Casmilo, Conde 82.32 45 *e*P **P** **22 49 31.5 +0.4**
comp=Z,25nm,1.7s
PMRV Marv??o 82.78 46 *e*LR LR 23 16 46.2
comp=Z,76nm,20.0s
PCBR Castelo Branco 82.91 45 *e*P **P** **22 49 34.9 +0.8**
comp=Z,12nm,2.2s
PCBR Castelo Branco 82.91 45 *e*PcP pP 22 49 52.0 +0.4
SYO Syowa Base 83.01 161 *e*P **P** **22 49 33.0 -1.2**
PVIS Viseu 83.04 44 *e*P **P** **22 49 36.0 +1.1**
comp=Z,16nm,1.7s
PVIS Viseu 83.04 44 *e*PcP pP 22 49 54.4 +2.0
MTE Manteigas 83.13 45 *e*P **P** **22 49 35.7 +0.4**
comp=Z,8nm,1.2s
MTE Manteigas 83.13 45 *e*PcP pP 22 49 54.6 +1.8
MTE Manteigas 83.13 45 *e*LR LR 23 18 37.2
comp=Z,196nm,20.0s
MTE Manteigas 83.13 45 P **P** **22 49 35.3 0.0**
MTE IAmb IAmb 22 49 37.1
comp=Z,16nm,1.0s
PGAV Gavieira, Arco 83.38 43 *e*LR LR 23 18 47.6
comp=Z,190nm,22.0s
POLO Lamas de Olo 83.42 44 *e*P **P** **22 49 37.2 +0.4**
comp=Z,14nm,1.8s
POLO Lamas de Olo 83.42 44 *e*PcP pP 22 49 56.0 +1.6
PCAB Cabril 83.42 43 *e*P **P** **22 49 37.3 +0.5**
comp=Z,25nm,1.6s
PCAB Cabril 83.42 43 *e*PcP pP 22 49 55.9 +1.6
PVRL Vila Real 83.42 44 *e*P **P** **22 49 37.4 +0.6**
comp=Z,23nm,1.7s
PVRL Vila Real 83.42 44 *e*PcP pP 22 49 55.8 +1.5
MVO Moncorvo 83.83 44 *e*P **P** **22 49 39.4 +0.5**
comp=Z,20nm,2.0s
MVO Moncorvo 83.83 44 *e*PcP pP 22 49 58.0 +1.5
MVO Moncorvo 83.83 44 *e*LR LR 23 18 54.0
comp=Z,162nm,22.0s
PBRG Braganca 84.31 44 *e*P **P** **22 49 41.8 +0.4**
comp=Z,14nm,1.4s
PBRG Braganca 84.31 44 *e*PcP pP 22 50 00.3 +1.4
YKA Yellowknife Ar 84.74 342 P **P** **22 49 42.0 -0.9**
comp=Z,11nm,0.8s,baz=133,slow=5.3,SNR=15
YKA pP **pP** **22 50 00.5 0.0**
comp=Z,5.1nm,0.6s,baz=131,slow=5.4,SNR=5.0
YKA LR LR 23 30 57.9
comp=Z,40nm,18.7s,baz=0.0,slow=38
PAB San Pablo 84.94 47 P **P** **22 49 45.4 +0.8**
PAB pmax pmax
comp=Z,53nm,1.0s
PAB San Pablo 84.94 47 P **P** **22 49 45.4 +0.8**
ESDC Sonseca Array 85.26 47 P **P** **22 49 46.5 +0.3**
comp=Z,8.8nm,0.9s,baz=253,slow=5.5,SNR=46
ESDC pP **pP** **22 50 04.9 +1.2**
comp=Z,28nm,1.0s,baz=250,slow=5.6,SNR=28
ESDC LR LR 23 25 08.0
comp=Z,106nm,21.2s,baz=245,slow=34
ESDC Sonseca Array 85.26 47 P **P** **22 49 46.5 +0.3**
TSUM Tsumeb 85.87 109 P **P** **22 49 50.5 +0.7**
ILULI Ilulissat 86.63 8 P **P** **22 49 51.3 -0.9**
ILULI pmax pmax
comp=Z,30nm,1.1s
ILULI Ilulissat 86.63 8 P **P** **22 49 51.3 -0.9**
DLBC Dease Lake 87.47 334 P **P** **22 49 56.8 +0.2**
comp=Z,26nm,0.9s,baz=137,slow=4.5,SNR=33
DLBC pP **pP** **22 50 15.5 +1.3**
comp=Z,18nm,0.9s,baz=125,slow=6.9,SNR=7.5
ICESG Greenland Ices 88.38 12 *i* P **P** **22 50 00.2 -0.8**
ICESG IAmb IAmb 22 50 01.3
comp=Z,22nm,1.0s
BOSA Boshof 89.88 120 P **P** **22 50 08.4 -0.5**
comp=Z,8.2nm,0.9s,baz=278,slow=5.5,SNR=7.4
BOSA LR LR 23 29 11.3
comp=Z,32nm,20.1s,baz=240,slow=35
MAW Mawson 90.66 165 P **P** **22 50 12.0 +0.5**
comp=Z,10nm,0.6s,baz=207,slow=5.3,SNR=40
MAW LR LR 23 28 36.5
comp=Z,89nm,21.9s,baz=238,slow=34
MAW Mawson 90.66 165 P **P** **22 50 12.0 +0.5**
WHY Whitehorse 90.77 334 P **P** **22 50 11.7 -0.4**
WHY IAmb IAmb 22 50 26.1
comp=Z,5.5nm,1.1s
SUMG Summit 91.54 10 P **P** **22 50 15.8 0.0**
SUMG Summit 91.54 10 *i* P **P** **22 50 15.7 -0.1**
comp=Z,89nm,1.0s
SUMG Summit 91.54 10 *i* P **P** **22 50 15.8 0.0**
SUMG IAmb IAmb 22 50 16.8
comp=Z,89nm,1.0s
SSB Saint Sauveur 93.21 44 P **P** **22 50 23.9 +0.2**
SSB pmax pmax
comp=Z,1.0nm,0.9s
SSB Saint Sauveur 93.21 44 P **P** **22 50 23.9 +0.2**
KEST Kesra 93.69 54 LR LR 23 31 15.2
comp=Z,91nm,21.7s,baz=315,slow=35
INK Inuvik 94.46 341 P **P** **22 50 27.9 -0.9**
comp=Z,6.1nm,0.9s,baz=102,slow=6.5,SNR=13
INK pP **pP** **22 50 45.2 -1.4**
comp=Z,6.2nm,0.8s,baz=103,slow=7.4,SNR=7.6
INK Inuvik 94.46 341 IAmb IAmb 22 50 47.3
comp=Z,9.8nm,0.9s
MCARA McCarthy VSAT 94.58 333 P **P** **22 50 29.4 -0.2**
DOU Dourbes 94.85 39 pP pP 22 50 48.9 +0.2
BMRD Maredsous 95.03 39 pP pP 22 50 49.2 -0.4
BGES Gesves 95.25 39 pP pP 22 50 51.1 +0.5
EGAK Eagle 95.32 337 IAmb IAmb 22 50 51.1
comp=Z,7.2nm,1.0s
BTNL Ternell 95.94 39 pP pP 22 50 53.7 -0.1
DAVA Damuels 97.35 43 *e*P pP 22 51 01.4 +0.9
comp=Z,12nm,1.2s
IL31 97.56 336 P **P** **22 50 42.9 0.0**
IL31 IAmb IAmb 22 51 01.8
comp=Z,2.3nm,0.8s
ILAR Eielson Array 97.56 336 P **P** **22 50 41.5 -1.4**
comp=Z,0.9nm,0.8s,baz=149,slow=3.4,SNR=9.6
ILAR pP **pP** **22 51 00.5 -0.2**
comp=Z,1.7nm,0.7s,baz=144,slow=3.0,SNR=8.3
ILAR LR LR 23 40 42.8
comp=Z,46nm,18.6s,baz=104,slow=39
ILAR Eielson Array 97.56 336 P **P** **22 50 40.9 -2.1**
FETA Feichten 97.84 43 *e*P pP 22 51 03.2 +0.6
comp=Z,11nm,1.3s
POKR Poker Plat Res 97.90 336 pP pP 22 51 01.7 -0.6
baz=111
COLA College 97.98 335 *i* P **P** **22 50 43.6 -1.2**
COLA pmax pmax
comp=Z,7.0nm,1.0s
RETA Reutte 97.98 43 *e*P pP 22 51 04.1 +0.9
comp=Z,14nm,1.6s
CAPN Captain Cook N 98.02 331 pP pP 22 51 00.9 -1.8
baz=109
MOTA Moosalm 98.17 43 *e*P pP 22 51 04.6 +0.4
comp=Z,20nm,1.3s
CTI Castel Tesino 98.20 45 P **P** **22 50 46.0 -0.5**
CTI pmax pmax
comp=Z,6.0nm,1.1s
CTI Castel Tesino 98.20 45 P **P** **22 50 46.0 -0.5**
CTI IAmb IAmb 22 50 46.4
comp=Z,6.4nm,1.1s
SQTA Sankt Quirin 98.21 43 *e*P pP 22 51 04.9 +0.7
comp=Z,24nm,1.1s
NEA2 Nenana 98.37 335 pP pP 22 51 03.6 -0.7

baz=110
WATA Walderalm 98.48 43 *e*P pP 22 51 05.8 +0.3
comp=Z,21nm,1.3s
WTTA Wattenberg 98.50 43 *e*P pP 22 51 06.6 +0.9
comp=Z,32nm,1.5s
I23K Minto, Yukon-K 98.68 336 pP pP 22 51 04.6 -1.0
baz=110
ABTA Abfaltersbach 98.95 44 *e*P pP 22 51 08.5 +0.9
comp=Z,18nm,1.3s
BPAW Bear Paw Mtn. 99.00 334 IAmb IAmb 22 50 49.0
comp=Z,5.5nm,1.2s
MLY Manley 99.19 335 pP pP 22 51 07.3 -0.8
baz=108
MYKA Terra Mystica 99.68 44 *e*P pP 22 51 10.5 -0.4
comp=Z,7.1nm,1.1s
GERES GERESS Array B 100.22 42 P **Pdif** **22 50 55.0 -0.4**
comp=Z,0.6nm,0.7s,baz=270,slow=2.3,SNR=5.2
GERES pP **pPdif** **22 51 12.8 -0.4**
comp=Z,0.8nm,0.7s,baz=247,slow=2.8,SNR=4.9
GERES PKKPbc **PKKPbc** **23 07 11.9 -2.4**
comp=Z,0.4nm,0.6s,baz=64,slow=3.1,SNR=4.3
GERES GERESS Array B 100.22 42 P **Pdif** **22 50 55.0 -0.4**
CLL Collm 100.32 40 *e*P **Pdif** **22 50 56.0 +0.4**
CLL *i* pPdif pP 22 51 14.2 +0.7
comp=Z,9.0nm,1.3s
CLL *e*(PP) 22 55 14.0
CLL *e*PPP PPP 22 57 12.0
CLL *e*SKSac **SKSac** **23 01 36.0 +6.8**
CLL *e*SP **SP** **23 03 58.0 +2.3**
CLL *e*PPS PPS 23 04 54.0
CLL *e*SS **SS** **23 09 24.0 +1.0**
VYHS Vyhne 103.49 43 *e*P **Pdif** **22 51 10.7 +0.8**
VYHS Vyhne 103.49 43 *e*PDIFF **Pdif** **22 51 10.7 +0.8**
ARCES ARCESS Array B 108.19 21 PKKPbc PKKPbc 23 06 47.9 -2.8
comp=Z,2.5nm,0.8s,baz=82,slow=1.8,SNR=4.6
FINES FINESS Array B 108.66 30 PKKPbc PKKPbc 23 06 46.3 -2.7
comp=Z,2.7nm,0.8s,baz=135,slow=0.8,SNR=5.5
DZM Mont Dzumac 110.01 239 *e*LR LR 23 28 10.3
comp=Z,340nm,30.4s
AKBB Malin Array Si 110.41 41 *i* PKIKP **PKiKP** **22 55 39.7 -1.4**
BRTR Keskin Array B 113.29 53 PKiKP **PKiKP** **22 55 46.9 -0.2**
comp=Z,1.9nm,1.1s,baz=141,slow=2.5,SNR=5.7
BRTR pPKiKP **pPKiKP** **22 56 06.0 +0.7**
comp=Z,2.6nm,0.9s,baz=194,slow=2.2,SNR=7.0
BRTR PKKPbc **PKKPbc** **23 06 33.3 0.0**
comp=Z,0.3nm,0.3s,baz=106,slow=9.1,SNR=3.9
OBN Obninsk 114.61 36 *e*PKIKP PKPdf 22 55 48.1 -0.8
OBN pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 115.19 30 *e*PKIKP **PKPdf** **22 55 56.9 +7.1**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 115.19 30 *e*PKPdf **PKPdf** **22 55 57.0 +7.1**
KLMR AMP 22 56 06.2
comp=Z,17nm,1.4s
LPSR Galich'ya Gora 116.32 39 *e*PKIKP **PKPdf** **22 55 51.3 -1.0**
LPSR *i* 22 56 09.6
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 116.65 40 *e*PKIKP **PKPdf** **22 55 51.4 -1.6**
VSR *i* 22 56 09.8
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 116.77 41 *e*PKIKP **PKPdf** **22 55 50.5 -2.7**
VORD *i* 22 56 09.2
VORD pmax pmax
comp=Z,5.0nm,0.9s
VRH Novokhopyorsk 118.25 40 *e*PKIKP **PKPdf** **22 55 53.9 -2.2**
VRH *i* 22 56 12.8
VRH pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 119.89 48 *i* PKIKP **PKPdf** **22 55 57.9 -1.7**
KIV pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 120.06 49 PKP **PKPdf** **22 55 59.6 -0.1**
comp=Z,7.2nm,0.8s,baz=269,slow=2.1,SNR=10
KBZ pP **pPKPdf** **22 56 18.9 +0.9**
comp=Z,11nm,0.9s,baz=263,slow=1.6,SNR=9.9
KBZ PKKPbc **PKKPbc** **23 06 09.9 +0.6**
comp=Z,1.7nm,0.9s,baz=53,slow=6.8,SNR=3.8
ZEI Tsey 120.90 50 *i* PKIKP **PKPdf** **22 56 00.6 -1.1**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
STKA Stephens Creek 121.54 215 PKP **PKPdf** **22 56 02.6 -0.5**
comp=Z,4.2nm,0.6s,baz=166,slow=16,SNR=3.2
H11N3 WAKE ISLAND Hyl 122.60 283 T T 01 11 23.4
baz=98,slow=75,SNR=40
H11N2 WAKE ISLAND Hyl 122.61 283 T T 01 11 38.4
baz=98,slow=75,SNR=52
H11N1 WAKE ISLAND Hyl 122.62 283 T T 01 11 24.6
baz=98,slow=75,SNR=48
H11S2 WAKE ISLAND Hyl 122.64 282 T T 01 12 00.6
baz=98,slow=75,SNR=46
H11S1 WAKE ISLAND Hyl 122.64 282 T T 01 11 58.0
baz=98,slow=75,SNR=25
H11S3 WAKE ISLAND Hyl 122.65 282 T T 01 12 01.9
baz=98,slow=75,SNR=43
TIXI Tiksi 122.93 352 *i* PKIKP **PKPdf** **22 56 03.3 -1.2**
NRIK Noril'sk 125.54 8 PKP **PKPdf** **22 56 06.9 -2.6**
comp=Z,2.4nm,0.3s,baz=8.5,slow=5.1,SNR=7.0
NRIK Noril'sk 125.54 8 *i* PKIKP **PKPdf** **22 56 08.5 -1.1**
PETK Petropavlovsk- 125.67 325 PKP **PKPdf** **22 56 10.2 -0.1**
comp=Z,3.3nm,0.9s,baz=316,slow=8.3,SNR=4.5
ARU Arti 126.02 31 *i* PKIKP **PKPdf** **22 56 10.6 -0.2**
ARU 22 58 05.0
ARU 23 03 16.4
ARU SS SS 23 15 03.7 +1.8
ARU Arti 126.02 31 PKPdf **PKiKP** **22 56 11.3 0.0**
CTAO Charters Tower 126.82 229 PKIKP **PKPdf** **22 56 13.5 -0.1**
CTAO Charters Tower 126.82 229 **PKPdf** **22 56 13.5 -0.1**
ABKAR Akbulak array 129.97 38 PKPdf **PKPdf** **22 56 18.8 +0.2**
ABKAR pPKPdf **pPKPdf** **22 56 38.3 +1.5**
YAK Yakutsk 131.31 346 *e*PKIKP **PKPdf** **22 56 20.2 -0.5**
YAK *e* 22 56 40.0
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
ASAR Alice Springs 132.17 215 PKhKP PKPpre 22 56 06.0
comp=E,0.7nm,0.9s,baz=140,slow=3.1,SNR=4.1
ASAR PKP **PKPdf** **22 56 23.1 -0.6**
comp=E,9.8nm,0.8s,baz=129,slow=2.0,SNR=58
ASAR pPKP pPKPdf 22 56 43.2 +1.6
comp=E,2.9nm,0.8s,baz=113,slow=2.1,SNR=3.6
ASAR SKPbc **SKPab** **22 59 49.0 +3.0**
comp=E,0.7nm,0.9s,baz=122,slow=4.0,SNR=4.2
ASAR Alice Springs 132.17 215 PKPdf **PKPdf** **22 56 22.4 -1.3**
GEYT Alibeck 132.43 53 PKP **PKPdf** **22 56 23.7 0.0**
comp=E,4.6nm,0.8s,baz=245,slow=13,SNR=3.9
GEYT pPKP **pPKPdf** **22 56 43.1 +1.2**
comp=E,2.5nm,0.8s,baz=227,slow=14,SNR=2.5
GEYT Alibeck 132.43 53 **PKPdf** **22 56 21.5 -2.2**
BRVK Borovoye 133.54 29 PKIKP **PKiKP** **22 56 26.0 -0.5**
BRVK 22 56 44.6
BRVK Borovoye 133.54 29 PKPdf **PKiKP** **22 56 26.0 -0.5**
BRVK pPKPdf **pPKPdf** **22 56 44.6 +1.1**
WRA Warramunga Arr 134.84 218 PKhKP PKPpre 22 56 17.0
comp=E,0.5nm,0.8s,baz=143,slow=3.6,SNR=6.8
WRA PKP **PKPdf** **22 56 28.3 -0.5**
comp=E,16nm,0.8s,baz=138,slow=1.9,SNR=88
WRA pPKP pPKPdf 22 56 47.9 +1.2
comp=E,4.5nm,0.7s,baz=147,slow=1.7,SNR=4.1
WRA Warramunga Arr 134.84 218 PKPdf **PKPdf** **22 56 28.2 -0.6**
WRAB Tennant Creek 134.84 218 PKIKP **PKPdf** **22 56 28.7 -0.1**
WRAB Tennant Creek 134.84 218 **PKPdf** **22 56 28.7 -0.1**
ZALV Zalesovo Beam 138.69 19 PKP **PKPdf** **22 56 31.5 -3.3**
comp=E,20nm,1.0s,baz=303,slow=2.2,SNR=35
ZALV pPKP **pPKPdf** **22 56 53.1 +0.2**
comp=E,35nm,0.9s,baz=300,slow=2.3,SNR=17
ZALV Zalesovo Beam 138.69 19 **PKPdf** **22 56 31.2 -3.5**
KURK Kurchatov 138.92 27 PKPdf **PKPdf** **22 56 35.5 +0.2**
KKAR Karatay Array 139.31 41 PKIKP **PKPdf** **22 56 36.2 -0.1**
KKAR Karatay Array 139.31 41 PKPdf **PKPdf** **22 56 36.2 -0.1**
FITZ Fitzroy Crossi 141.06 210 PKPdf **PKPdf** **22 56 39.2 -1.0**
TEY Ternei 141.63 325 ⇓*e*PKHKP PKPpre 22 56 25.9
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,10.0nm,2.2s
AAK Ala-Archa 142.04 39 *i* PKIKP **PKPdf** **22 56 42.4 +0.9**
DGZ Jazzator, Alta 143.16 21 *i* PKIKP PKPbc 22 56 39.9 -0.3
MK31 Makanchi Array 143.46 28 *i* PKIKP PKPbc 22 56 41.1 +0.1
MKAR Makanchi Array 143.46 28 PKP PKPbc 22 56 40.7 -0.3
comp=Z,3.5nm,0.8s,baz=321,slow=3.3,SNR=16
MKAR pPKP pPKPdf 22 56 59.9 -2.0
comp=Z,4.5nm,0.8s,baz=336,slow=2.7,SNR=9.4
MKAR Makanchi Array 143.46 28 PKIKP PKPbc 22 56 40.8 -0.2
MOY Mondy 144.31 6 *e*PKIKP PKPbc 22 56 43.9 +0.4
MOY pmax pmax
comp=Z,27nm,1.4s
TLY Talaya 144.49 3 *e*PKIKP **PKPdf** **22 56 44.7 -0.6**
TLY *i* 22 57 03.2
TLY eSS SS 23 18 45.0 +2.8
TLY pmax pmax
comp=Z,56nm,1.0s
USA0B Ussuriysk Arra 144.65 328 *i* PKIKP **PKPab** **22 56 44.2 -0.3**
USRK Ussuriysk Ar. 144.65 328 PKP **PKPab** **22 56 44.4 -0.1**
comp=Z,34nm,1.0s,baz=56,slow=1.4,SNR=39
USRK pPKP **pPKPdf** **22 57 03.4 -0.5**
comp=Z,13nm,0.7s,baz=39,slow=5.6,SNR=6.8
USRK Ussuriysk Ar. 144.65 328 PKPdf **PKPab** **22 56 44.0 -0.4**
KSH Kashi 144.69 43 PKP PKPbc 22 56 45.3 +0.2
KSH pPKP pPKPdf 22 57 02.5 -1.9
KSH PP **PP** **23 00 08.8 +5.6**
KSH LR LR
comp=Z,130nm,4.8s
KSH LR LR
comp=Z,110nm,6.8s
KSH LR LR
comp=Z,260nm,8.5s
MJAR Matsushiro Arr 145.26 312 PKPbc **PKPbc** **22 56 46.2 -0.7**
comp=Z,37nm,1.0s,baz=85,slow=1.3,SNR=73
MJAR pPKPbc pPKPab 22 57 04.8 -0.1
comp=Z,14nm,0.8s,baz=108,slow=3.5,SNR=8.0
MJAR Matsushiro Arr 145.26 312 **PKPbc** **22 56 45.9 -1.0**
MAJO Matsushiro 145.26 312 PKIKP **PKPbc** **22 56 46.2 -0.7**
MAJO Matsushiro 145.26 312 **PKPbc** **22 56 46.2 -0.7**
MAT Matsushiro 145.26 312 PKP **PKPbc** **22 56 45.8 -1.1**
NIL Nilore 145.43 54 PKIKP **PKPbc** **22 56 47.6 0.0**
NIL 22 57 06.6
NIL Nilore 145.43 54 **PKPbc** **22 56 47.6 0.0**
NIL pPKPbc 22 57 06.6 +0.9
ZAK Zakamensk 145.76 4 *e*PKP2 **PKPdf** **22 56 47.5 -0.1**
ZAK pmax pmax
comp=Z,41nm,1.3s
BAKI Biak 146.00 242 PKP **PKPdf** **22 56 48.5 -0.5**
BAKI PKP **PKPab** **22 56 50.5 +0.1**
INU Inuyama 146.67 311 pPKPdf pPKPdf 22 57 09.7 +2.1
JWT Wachi 147.87 312 PKPbc **PKPbc** **22 56 54.0 -0.5**
WMQ Urumqi 148.16 26 *e*PKPbc **PKPdf** **22 56 51.3 -0.5**
WMQ LR LR
comp=Z,180nm,23.9s
WMQ LR LR
comp=Z,87nm,25.5s
ULN Ulaanbaatar 148.37 359 PKIKP **PKPdf** **22 56 52.9 +0.8**
ULN Ulaanbaatar 148.37 359 PKPdf **PKPdf** **22 56 52.9 +0.8**
SONM Songino Array 148.41 0 PKP **PKPdf** **22 56 52.4 +0.2**
comp=Z,18nm,0.8s,baz=214,slow=0.5,SNR=67
SONM PKPbc **PKPbc** **22 56 56.0 +0.3**
comp=Z,18nm,0.8s,baz=340,slow=1.7,SNR=66
SONM pPKPbc **pPKPbc** **22 57 15.1 +1.1**
comp=Z,39nm,1.0s,baz=330,slow=1.3,SNR=17
BATI Baumata 148.74 214 PKP **PKPbc** **22 56 58.1 +0.7**
BATI PKP **PKPbc** **22 56 58.1 +0.7**
SOEI Soe 148.78 216 PKP **PKPbc** **22 56 58.3 +0.7**
POO Poona 148.84 81 *e*P **PKPdf** **22 56 50.0 -3.6**
KAD Karad 149.12 83 ⇑*i*P **PKPdf** **22 56 54.2 +0.1**
BASI Baing, Sumba 150.29 209 PKP **PKiKP** **22 57 02.7 +0.7**
MMRI Maumere 150.82 214 PKP **PKPdf** **22 56 55.8 -1.0**
MMRI PKP **PKPbc** **22 57 02.0 -0.5**
EDFI Ende, Flores 151.01 212 PKP **PKPdf** **22 56 56.1 -1.2**
EDFI PKP **PKPbc** **22 56 57.2 -5.8**
KSRS Korea Array 151.52 322 PKP **PKPdf** **22 56 58.0 +0.8**
comp=Z,5.2nm,0.8s,baz=28,slow=1.7,SNR=15
KSRS PKPbc **PKiKP** **22 57 04.0 +0.1**
comp=Z,32nm,0.8s,baz=4.7,slow=1.5,SNR=45
KSRS pPKPbc **sPKPdf** **22 57 22.8 +0.8**
comp=Z,30nm,1.0s,baz=22,slow=1.6,SNR=8.2
KSAR Wonju Array Be 151.55 322 PKIKP **PKiKP** **22 57 04.0 +0.1**
KSAR 23 56 57.3
KSAR Wonju Array Be 151.55 322 **PKPdf** **22 56 57.3 +0.1**
KSAR PKPbc **PKiKP** **22 57 04.0 +0.1**
PLAI Plampang 152.75 205 PKP **PKiKP** **22 57 08.4 +1.3**
TWSI Taliwang, Sumb 153.19 203 PKP **PKPbc** **22 57 07.5 -0.3**
HYB Hyderabad 153.29 83 *i* PKP **PKPdf** **22 57 00.5 +0.1**
HYB *e* 22 57 07.0
HYB *e* 22 57 19.0
HYB *e* 22 57 27.0
HYB *e* 22 57 38.5
SANI Sanana 153.53 229 PKP **PKPdf** **22 57 00.8 -0.1**
SANI PKP **PKPbc** **22 57 08.2 -0.4**
BSSI Bau Bau, Buton 153.84 213 PKP **PKPdf** **22 57 02.8 +1.5**
BSSI PKP **PKPbc** **22 57 09.1 -0.2**
JAGI Jajag, Banyuwa 154.37 198 PKP **PKPdf** **22 57 01.8 -0.3**
JAGI PKP **PKPbc** **22 57 10.4 0.0**
JAGI Jajag, Banyuwa 154.37 198 **PKPbc** **22 57 10.0 -0.4**
BKSI Bulukumba 154.72 214 PKP **PKPdf** **22 57 05.0 +2.5**
BKSI PKP **PKiKP** **22 57 12.2 +1.0**
HHC Hu-ho-hao-te 154.99 351 *e*PKPbc **PKPdf** **22 56 58.0 -4.3**
GTA Gaotai 156.12 13 PKP **PKPdf** **22 57 04.0 +0.1**
GTA pPKP pPKPdf 22 57 14.0 -8.2
GTA sPKP 22 57 23.0
GTA PKPab **PKPab** **22 57 32.5 +1.0**
GTA PP **PP** **23 01 13.3 +5.3**
GTA SS SS 23 20 55.0 +3.2
GTA AMB AMB
comp=Z,87nm,5.1s
GTA LR LR
comp=Z,60nm,18.2s
GTA LR LR
comp=Z,99nm,17.8s
GTA LR LR
comp=Z,75nm,19.6s
LZH Lanzhou 160.01 6 *e*PKP **PKPdf** **22 57 05.3 -3.5**
LZH LR LR
comp=Z,100nm,18.0s
LZH LR LR
comp=Z,120nm,17.9s
LZH LR LR
comp=Z,170nm,20.1s
XAN Xi'an 162.05 353 PKP **PKPdf** **22 57 11.5 +0.6**
XAN pPKP pPKPdf 22 57 22.8 -6.4
RPSI Rantau Prapat 164.72 150 **PKPdf** **22 57 13.6 -0.3**
PSI Prapat 164.82 150 PKIKP **PKPdf** **22 57 13.6 -0.5**
CD2 Chengdu 165.11 9 PKP **PKPdf** **22 57 14.5 +0.7**
CD2 pPKP pPKPdf 22 57 33.5 +1.4
CD2 Chengdu 165.11 9 PKP **PKPdf** **22 57 12.5 -1.3**
SBUM Sibu 165.24 203 PKPdf **PKPdf** **22 57 14.3 -0.1**
GYA Guiyang 169.74 359 *e*PKP **PKPdf** **22 57 16.8 -0.6**
KMI Kunming 170.43 21 ⇓PKP **PKPdf** **22 57 17.5 -0.4**
KMI pPKP pPKPdf 22 57 37.5 +1.2
CHTO Chiang Mai 172.39 69 PKIKP **PKPdf** **22 57 18.6 -0.2**
CHTO Chiang Mai 172.39 69 **PKPdf** **22 57 18.6 -0.2**
CMAR Chiang Mai Arr 172.49 71 PKP **PKPdf** **22 57 18.4 -0.4**
comp=Z,3.2nm,1.0s,baz=285,slow=1.9,SNR=21
CMAR pPKP **pPKPdf** **22 57 38.2 +1.0**
comp=Z,2.0nm,1.0s,baz=270,slow=1.8,SNR=3.2
CMAR PKPab **PKPab** **22 58 43.1 -0.9**
comp=Z,2.9nm,0.7s,baz=280,slow=6.2,SNR=13
CMAR pPKPbc **pPKPab** **22 59 01.9 +0.3**
comp=Z,7.1nm,0.9s,baz=280,slow=6.1,SNR=7.0
CMAR PP **PP** **23 02 41.3 +5.6**
comp=Z,0.8nm,0.3s,baz=279,slow=7.2,SNR=1.7
CMAR Chiang Mai Arr 172.49 71 **PKPdf** **22 57 18.3 -0.4**
CMAR PKPab **PKPab** **22 58 43.4 -0.6**
SLVN Son La 174.32 24 **PKPdf** **22 57 20.5 +1.0**
SLVN pPKPdf **pPKPdf** **22 57 40.1 +2.2**

*IDC **31** 00:02:12.0±2.5,9.°23S×113.°85E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.6/27,mbtmp3.7/7,ML3.4/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/29,Error ellipse: s-maj=144.0km s-min=18.2km az=51.0*
*NEIC **31** 00:02:14.7±1.8,9.°62S±0.°07×113.°73E±0.°03,h34km±6km, mb4.3/15,Error ellipse: s-maj=11.0km s-min=4.0km az=169.0*
*DJA **31** 00:02:17.3±0.6,9.°3S×11.°4E±°,h13km±4km,M4.4/19, mB5.5/1,mb4.7/4,MLv4.3/19,Mw(mB)5.0/1*
ISC 31 00:02:15.1±0.8,9.70S±0.°05×113.°60E±0.°04,h37km±1km, n87,σ2.°812/93,mb4.0/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.34**	**24**	P **Pn**	**00 02 38.0**	**+0.7**
JAGI				S **Sn**	**00 02 53.8**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.34**	**24**	Pn **Pn**	**00 02 38.0**	**+0.7**
GMJI	**Gumukmas**	**1.43**	**354**	P **Pn**	**00 02 39.4**	**+0.9**
GMJI				S **Sn**	**00 02 55.0**	**-1.0**
DNP	**Denpasar**	**1.88**	**57**	P **Pn**	**00 02 47.0**	**+2.2**
DNP				S **Sn**	**00 03 12.6**	**+5.3**
BLJI	**Banyuglugur**	**1.94**	**360**	P **Pn**	**00 02 47.9**	**+2.3**
BLJI				S **Sn**	**00 03 10.1**	**+1.4**
ABJI	**Asem Bagus**	**1.99**	**18**	P **Pn**	**00 02 49.1**	**+2.8**
SRBI	**Singaraja**	**2.26**	**45**	P **Pn**	**00 02 52.5**	**+2.6**
SRBI				S **Sn**	**00 03 19.6**	**+3.0**
PWJI	**Pagerwojo**	**2.44**	**313**	P **Pn**	**00 02 54.2**	**+1.8**
PWJI				S **Sn**	**00 03 22.1**	**+1.1**
KMMI	**Kalianget**	**2.66**	**8**	P **Pn**	**00 02 57.2**	**+1.8**
GRJI	**Gresik**	**2.98**	**338**	P **Pn**	**00 03 02.8**	**+2.9**
GRJI				S **Sn**	**00 03 35.5**	**+1.1**
WOJI	**Wonogiri, Jawa**	**3.23**	**305**	P **Pn**	**00 03 06.6**	**+3.3**
TBJI	**Tambak Boyo**	**3.35**	**329**	P **Pn**	**00 03 06.6**	**+1.7**
TWSI	**Taliwang, Sumb**	**3.38**	**74**	P **Pn**	**00 03 09.5**	**+4.2**
UGM	**Wanagama**	**3.52**	**300**	P **Pn**	**00 03 10.2**	**+2.9**
UGM	**Wanagama**	**3.52**	**300**	Pn **Pn**	**00 03 10.3**	**+2.9**
UGM				Sn **Sn**	**00 03 48.2**	**+0.3**
YOGI	**Yogyakarta**	**3.77**	**300**	P **Pn**	**00 03 13.5**	**+2.8**
BWJI	**Bawean**	**3.94**	**346**	P **Pn**	**00 03 15.1**	**+2.1**
SMRI	**Semarang**	**4.09**	**310**	P **Pn**	**00 03 17.6**	**+2.4**
SMRI	**Semarang**	**4.09**	**310**	Pn **Pn**	**00 03 18.2**	**+3.1**
PLAI	**Plampang**	**4.21**	**78**	P Pn	00 03 21.7	+4.9
KPJI	**Karang Pucung** 0.3nm34nm,0.5s	**5.18**	**297**	P **Pn**	**00 03 32.2**	**+2.0**
CMJI	**Cimerak** 0.3nm43nm,1.0s	**5.44**	**290**	P **Pn**	**00 03 35.8**	**+2.1**
WBSI	**Waikabubak, Su** 0.3nm37nm,0.7s	**5.71**	**90**	P **Pn**	**00 03 41.9**	**+4.5**
CISI	**Cisompet, Garu**	**6.11**	**290**	P **Pn**	**00 03 45.5**	**+2.6**
CISI	**Cisompet, Garu**	**6.11**	**290**	Pn **Pn**	**00 03 45.1**	**+2.2**
KAPI	**Kappang**	**7.67**	**53**	Pn **Pn**	**00 04 01.8**	**-2.6**
XMIS	**Christmas Isla**	**7.87**	**264**	Pn **Pn**	**00 04 07.7**	**+0.6**
CGJI	**Cibinong**	**8.41**	**291**	P Pn	**00 04 18.3**	**+3.8**
BKB	**Balikpapan**	**9.00**	**22**	Pn **Pn**	**00 04 20.7**	**-1.9**
SOEI	**Soe**	**10.51**	**91**	Pn **Pn**	**00 04 42.4**	**-1.1**
KSM	**Kuching**	**11.57**	**343**	Pn **Pn**	**00 04 55.1**	**-2.8**
MNAI	**Manna**	**11.82**	**296**	Pn **Pn**	**00 05 01.9**	**+0.7**
GIRL	**Giralia**	**12.88**	**177**	Pn **Pn**	**00 05 16.9**	**+1.1**
PSAD1	**Pilbara Seismi**	**13.13**	**154**	Pn **Pn**	**00 05 18.9**	**-0.3**
PSAC1	**Pilbara Seismi**	**13.19**	**154**	Pn **Pn**	**00 05 20.4**	**+0.4**
PSAB1	**Pilbara Seismi**	**13.23**	**154**	Pn **Pn**	**00 05 20.9**	**+0.4**
PSAA2	**Pilbara Seismi**	**13.23**	**154**	Pn **Pn**	**00 05 20.2**	**-0.4**
PSAB2	**Pilbara Seismi**	**13.23**	**154**	Pn **Pn**	**00 05 20.5**	**-0.1**
PSA00	**Pilbara Seismi**	**13.24**	**154**	Pn **Pn**	**00 05 20.1**	**-0.6**
PSA00	**Pilbara Seismi**	**13.24**	**154**	Pn **Pn**	**00 05 18.2**	**-2.5**
PSAA1	**Pilbara Seismi**	**13.24**	**154**	Pn **Pn**	**00 05 20.4**	**-0.2**
PSAA3	**Pilbara Seismi**	**13.25**	**154**	Pn **Pn**	**00 05 20.6**	**-0.2**
PSAC2	**Pilbara Seismi**	**13.26**	**154**	Pn **Pn**	**00 05 20.6**	**-0.3**
PSAB3	**Pilbara Seismi**	**13.27**	**154**	Pn **Pn**	**00 05 21.3**	**+0.3**
PSAD3	**Pilbara Seismi**	**13.28**	**154**	**Pn**	**00 05 21.4**	**+0.2**
PSAC3	**Pilbara Seismi**	**13.28**	**154**	Pn **Pn**	**00 05 21.2**	**0.0**
PSAD2	**Pilbara Seismi**	**13.33**	**153**	Pn **Pn**	**00 05 20.8**	**-1.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=301,slow=9.8,SNR=11	**14.35**	**127**	Pn **Pn**	**00 05 36.6**	**+0.8**
FITZ				Sn **Sn**	**00 08 05.2**	**-8.6**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=231,slow=14,SNR=2.1	**14.35**	**127**	**Pn**	**00 05 36.3**	**+0.5**
MYKOM	**Kota Tinggi**	**14.99**	**319**	**Pn**	**00 05 43.0**	**-1.4**
MYLDM	**Lahad Datu**	**15.57**	**18**	Pn **Pn**	**00 05 48.7**	**-3.3**
MYLDM	comp=Z,6.8nm,0.8s			IAmb IAmb	00 06 03.1	
WB0	**Warramunga Arr**	**22.43**	**119**	P **P**	**00 07 12.0**	**+1.0**
WRA	**Warramunga Arr**	**22.46**	**119**	P **P**	**00 07 13.4**	**+2.2**
WRA	comp=Z,1.0nm,0.9s,baz=296,slow=11,SNR=10			LR LR	00 16 34.8	
WRA	comp=Z,43nm,19.1s,baz=145,slow=38 **Warramunga Arr**	**22.46**	**119**	**P**	**00 07 10.5**	**-0.7**
WRAB	**Tennant Creek**	**22.46**	**119**	P **P**	**00 07 11.3**	**0.0**
WRAB	comp=Z,4.7nm,0.6s			IAmb IAmb	00 07 14.9	
WB2	**Warramunga Arr**	**22.47**	**119**	P **P**	**00 07 12.9**	**+1.6**
WC3	**Warramunga Arr**	**22.49**	**119**	P **P**	**00 07 14.1**	**+2.5**
NWAO	**Narrogin (SRO)**	**23.36**	**172**	P **P**	**00 07 22.7**	**+2.4**
NWAO	comp=Z,18nm,1.1s			IAmb IAmb	00 07 31.4	
ASAR	**Alice Springs** comp=Z,0.8nm,0.6s,baz=308,slow=10,SNR=9.2	**23.85**	**128**	P **P**	**00 07 28.4**	**+3.3**
ASAR	**Alice Springs**	**23.85**	**128**	P **P**	**00 07 24.7**	**-0.5**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.4s,baz=171,slow=8.9,SNR=1.6	**31.50**	**333**	P **P**	**00 08 34.2**	**+0.6**
STKA	**Stephens Creek** comp=Z,1.5nm,0.8s,baz=306,slow=14,SNR=2.8	**34.04**	**134**	P **P**	**00 08 59.5**	**+3.6**
STKA	**Stephens Creek** comp=Z,0.8nm,1.1s	**34.04**	**134**	IAmb IAmb	00 09 01.2	
SHL	**Shillong**	**40.94**	**329**	P **P**	**00 09 53.7**	**-0.8**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=171,slow=7.1,SNR=3.3	**57.64**	**354**	P **P**	**00 12 01.0**	**-0.6**
SONM	**Songino Array** comp=Z,0.8nm,1.0s	**57.64**	**354**	IAmb IAmb	00 12 03.9	
OUZ	**Omahuta**	**60.01**	**125**	P **P**	**00 12 17.2**	**-1.1**
OUZ	comp=Z,6.9nm,1.2s			IAmb IAmb	00 12 24.6	
BOOM	**Boomskoye usch**	**62.31**	**329**	P **P**	**00 12 30.5**	**-3.4**
BOOM	comp=Z,8.5nm,1.1s			IAmb IAmb	00 12 40.3	
MSWZ	**Moikau Station**	**62.45**	**132**	P **P**	**00 12 34.2**	**-0.5**
PLWZ	**Palliser**	**62.49**	**132**	P **P**	**00 12 34.1**	**-1.0**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=147,slow=7.1,SNR=8.6	**62.80**	**336**	P **P**	**00 12 36.5**	**-0.4**
BTK	**Batken**	**63.38**	**324**	P **P**	**00 12 41.0**	**0.0**
GEYT	**Alibeck**	**70.17**	**316**	P **P**	**00 13 25.5**	**+1.3**
GYB5	**ALIBECK ARRAY**	**70.17**	**316**	P **P**	**00 13 25.5**	**+1.2**
NIUE	**Niue**	**74.19**	**107**	P **P**	**00 13 48.6**	**0.0**
AB07	**Akbulak array**	**75.13**	**327**	P **P**	**00 13 53.5**	**+0.1**
AB06	**Akbulak array**	**75.14**	**327**	P **P**	**00 13 52.8**	**-0.7**
AB03	**Akbulak array**	**75.14**	**327**	P **P**	**00 13 52.5**	**-1.0**
AB08	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 53.1**	**-0.4**
AB01	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 52.4**	**-1.1**
AB02	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 53.7**	**+0.2**
AB31	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 52.0**	**-1.5**
ABKAR	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 53.8**	**+0.3**
ABKAR	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 52.8**	**-0.7**
ABKAR	comp=Z,1.7nm,1.0s			IAmb IAmb	00 14 09.1	
AB04	**Akbulak array**	**75.15**	**327**	P **P**	**00 13 53.2**	**-0.4**
AB05	**Akbulak array**	**75.16**	**327**	P **P**	**00 13 53.0**	**-0.5**
AB09	**Akbulak array**	**75.17**	**327**	P **P**	**00 13 53.5**	**0.0**

*NNC **31** 00:21:19.1±3.9,37.°01N×70.°48E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=30.7km s-min=25.6km az=170.0*
ISC 31 00:21:20.2±4.7,36.°9N±0.°3×70.°3E±0.°2,h200km,n8, σ0.°38/11,5C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
AML	**Almayashu** SNR=116	**5.87**	**25**	P **Pn**	**00 22 45.8**	**-0.2**
KK31	**Karatay Array** 1.9nm,0.3s,baz=176,slow=12,SNR=36	**6.23**	**1**	⇑P **Pn**	**00 22 50.5**	**+0.2**
KK31

TKM2	**Tokmak 2**	**5.01**	**350**	⇑Pg		Pb	00 49 17.2	-1.0
	1.8nm,0.5s								
TKM2				⇓Lg		Lg	00 50 30.0		
	2.2nm,0.5s								
IZV	**Izvestkoviy**	**5.04**	**358**	Pg		Pb	00 49 22.4	+3.7
	3.7nm,0.5s								
IZV				Lg		Lg	00 50 27.6		
	6.0nm,0.3s								
KST	**Kastek**	**5.09**	**353**	Pg		Pb	00 49 22.8	+3.4
	3.7nm,0.5s								
KST				Lg		Lg	00 50 28.8		
	3.6nm,0.6s								
KOTS	**Kotyrbulak**	**5.24**	**2**	Pg		Pb	00 49 24.7	+2.6
	8.9nm,0.4s								
KOTS				Lg		Lg	00 50 32.0		
	16nm,0.2s								
UZB	**Uzynbulak**	**5.42**	**17**	Pg		Pb	00 49 27.1	+2.1
	2.0nm,0.4s								
UZB				Lg		Lg	00 50 36.0		
	3.3nm,0.5s								
MRKS	**Merke**	**5.49**	**331**	Pg		Pg	00 49 33.9	-0.7
	2.8nm,0.4s								
MRKS				Lg		Lg	00 50 47.2		
	2.0nm,0.5s								
KTBS	**Karatobe**	**5.72**	**359**	Pg		Pg	00 49 35.2	-3.7
	1.6nm,0.5s								
KTBS				Lg		Lg	00 50 49.7		
	7.9nm,0.7s								
KRBS	**Karabastau**	**5.76**	**352**	Pg		Pg	00 49 35.7	-4.2
	1.6nm,0.4s								
KRBS				Lg		Lg	00 50 51.5		
	3.5nm,0.3s								
KUU	**Kurty**	**5.91**	**357**	Pg		Pg	00 49 39.6	-3.1
	1.6nm,0.5s								
KUU				Lg		Lg	00 50 57.3		
	2.3nm,0.4s								
MNBS	**Baschi**	**6.20**	**11**	Pg		Pb	00 49 42.3	+4.0
	2.6nm,0.8s								
MNBS				Lg		Lg	00 51 02.6		
	4.2nm,0.4s								
DJR	**Jarkent**	**6.72**	**19**	Pg		Pb	00 49 52.0	+4.9
	1.5nm,0.5s								
DJR				Lg		Lg	00 51 19.5		
	1.6nm,0.3s								
KK31	**Karatay Array**	**7.01**	**319**	⇑Pn		Pn	00 49 33.5	+0.1
	0.4nm,0.3s,baz=143,slow=14,SNR=7.8								
KK31				⇑Sn		Sn	00 50 54.5	+0.7	
	0.3nm,0.3s,baz=146,slow=24								

PRU ***31*** *00:54:17.1±0.0,51°.44N×16°.15E,h0km*
VIE ***31*** *00:54:19.9±0.9,51°.25N×15°.91E,h0km,mb1.8/1,ml2.6/2, Error ellipse: s-maj=6.3km s-min=3.5km az=170.0 77 km NE of Liberec Suspected Mining induced.*

ISC 31 00:54:16.9±1.2,51°.38N±0°.06×16°.19E±0°.03,h0km,n21, σ0ₜ70/42,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.54**	**173**	*e*Pg	**Pb**	**00 54 28.4**	**-0.9**
KSP				*e*Sg	**Sb**	**00 54 36.2**	**-1.3**
CHVC	**Chvalec**	**0.80**	**186**	*e*PG	**Pb**	**00 54 33.2**	**-0.4**
CHVC				*e*SG	**Sb**	**00 54 44.4**	**-0.6**
	comp=Z,17nm,0.4s						
OSTC	**Ostas**	**0.82**	**179**	*e*PG	**Pb**	**00 54 34.0**	**-0.1**
OSTC				*e*SG	**Sb**	**00 54 45.4**	**-0.3**
	comp=Z,25nm,0.5s						
UPC	**Upice**	**0.88**	**188**	*e*PG	**Pb**	**00 54 34.6**	**-0.4**
UPC				*e*SG	**Sb**	**00 54 47.3**	**0.0**
	comp=Z,53nm,0.6s						
DPC	**Dobruska-Polom**	**1.03**	**175**	*e*PG	**Pb**	**00 54 37.5**	**-0.2**
DPC				*e*SG	**Sb**	**00 54 51.5**	**-0.3**
	comp=Z,25nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**231**	*e*PG	**Pn**	**00 54 42.7**	**-0.1**
PVCC				*e*SG	**Sn**	**00 55 01.2**	**0.0**
	comp=Z,52nm,0.3s						
KRLC	**Kraliky**	**1.36**	**164**	*e*PG	**Pb**	**00 54 43.1**	**-0.1**
KRLC				*e*SG	**Sn**	**00 55 02.5**	**+0.6**
	comp=Z,19nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**251**	PG	**Pn**	**00 54 45.2**	**+0.1**
BRG				SG	**Sn**	**00 55 05.7**	**+0.3**
	20nm,0.4s						
PRA	**Prague**	**1.72**	**221**	*e*PG	**Pb**	**00 54 49.4**	**0.0**
PRA				*e*SG	**Sg**	**00 55 12.0**	**-0.2**
	comp=Z,4.4nm,0.5s						
PRU	**Pruhonice**	**1.75**	**218**	*e*PG	**Pb**	**00 54 49.3**	**-0.5**
PRU				*e*SG	**Sg**	**00 55 13.2**	**+0.3**
	comp=Z,14nm,0.3s						
MORC	**Moravsky Berou**	**1.82**	**151**	*e*PN	**Pn**	**00 54 48.9**	**-0.6**
MORC				*e*SG	**Sg**	**00 55 15.1**	**-0.2**
OKC	**Ostrava-Krasne**	**1.98**	**140**	*e*PG	**Pg**	**00 54 54.3**	**-0.6**
OKC				*e*SG	**Sg**	**00 55 21.0**	**+0.5**
	comp=Z,13nm,0.4s						
CLL	**Collm**	**2.00**	**269**	*e*Pg	**Pb**	**00 54 54.0**	**-0.1**
CLL				*e*Sg	**Sb**	**00 55 20.0**	**+0.4**
	comp=Z,7.0nm,0.5s						
VRAC	**Vranov**	**2.09**	**173**	*e*PN	**Pn**	**00 54 53.7**	**+0.5**
VRAC				*e*SG	**Sg**	**00 55 24.5**	**+0.5**
PBCC	**Pribram**	**2.20**	**220**	*e*PG	**Pb**	**00 54 58.0**	**+0.5**
PBCC				*e*SG	**Sg**	**00 55 27.1**	**-0.4**
KRUC	**Moravsky**	**2.32**	**177**	*e*PN	**Pn**	**00 54 56.4**	**0.0**
KRUC				*e*SG	**Sg**	**00 55 32.3**	**+0.8**
OJC	**Ojcow**	**2.56**	**116**	*e*Pg	**Pg**	**00 55 05.4**	**-0.6**
OJC				*e*Sg	**Sg**	**00 55 40.4**	**+1.2**
NKC	**Novy Kostel**	**2.64**	**246**	*e*PG	**Pb**	**00 55 05.1**	**+0.1**
NKC				*e*SG	**Sg**	**00 55 41.5**	**-0.1**
	comp=Z,14nm,0.5s						
KHC	**Kasperske Hory**	**2.81**	**218**	*e*PN	**Pn**	**00 55 03.6**	**+0.5**
KHC				*e*PG	**Pb**	**00 55 08.8**	**+0.9**
KHC				*e*SN	**Sn**	**00 55 38.1**	**+0.5**
KHC				*e*SG	**Sg**	**00 55 46.8**	**-0.2**
	comp=Z,6.4nm,0.6s						
MODS	**Modra-Piesok**	**3.09**	**166**	*e*SG	**Sg**	**00 55 59.0**	**+2.9**
CONA	**Conrad Observa**	**3.46**	**184**	*e*Pg	**Pg**	**00 55 22.8**	**-0.4**
	comp=Z,0.4nm,0.2s						

IDC ***31*** *01:05:00.1±0.6,0°.62N×30°.33E,h0km,mb4.1/28, mb1 4.2/30,mb1mx4.1/55,mbtmp4.1/30,ML4.4/2,MS3.5/10, Ms1 3.5/10,ms1mx3.3/45,Error ellipse: s-maj=17.2km s-min=13.1km az=101.0*
NEIC ***31*** *01:05:02.4±2.4,0°.49N±0°.07×30°.00E±0°.10,h10km±1km, mb4.5/44,Error ellipse: s-maj=16.5km s-min=12.5km az=258.0*

ISC 31 01:05:02.6±0.4,0°.50N±0°.04×30°.24E±0°.06,h14km,n158, σ1ₜ65/156,mb4.4/52,MS3.5/8,2C,Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.20**	**155**		**Pg**	**01 05 26.7**	**+1.0**
MBAR	**Mbarara**	**1.20**	**155**	⇑*e*P	**Pg**	**01 05 26.9**	**+1.1**
MBAR				⇑*e*S	**Sg**	**01 05 42.8**	**+1.3**
MBAR	**Mbarara**	**1.20**	**155**	*i* P	**Pg**	**01 05 26.5**	**+0.7**
MBAR				*i* S	**Sb**	**01 05 40.5**	**-0.2**
MBAR				IAML		01 05 44.5	
	comp=Z,9μm,0.5s						
TEBE	**Entebbe**	**2.27**	**101**	*i* P	**Pn**	**01 05 38.6**	**-1.3**
TEBE				*i* S	**Sn**	**01 06 02.5**	**-5.3**
LL21	**Loliondo SS**	**5.89**	**116**	*i* P	**Pn**	**01 06 28.1**	**-1.7**
LL21				*i* S	**Sn**	**01 07 33.7**	**-3.6**
LL21				IAML		01 08 08.4	
	comp=Z,3μm,0.5s						
LODK	**Lodwar**	**5.89**	**60**	*e*P	**Pn**	**01 06 25.6**	**-4.0**
LODK				*e*S	Sn	01 07 16.2	-21
LL65	**Arash bomas**	**5.95**	**119**	*i* P	**Pn**	**01 06 29.0**	**-1.6**
NG54	**Nasera Bomas**	**6.04**	**122**	*i* P	**Pn**	**01 06 29.9**	**-1.9**
NG54				*i* S	**Sn**	**01 07 37.1**	**-3.8**
NG54				IAML		01 08 10.3	
	comp=Z,2μm,0.9s						
PR61	**Kiloki Boma**	**6.07**	**124**	*i* P	**Pn**	**01 06 30.5**	**-1.7**
LL66	**Piyaya bomas**	**6.09**	**120**	*i* P	**Pn**	**01 06 30.2**	**-2.2**
LL23	**Sali PS**	**6.12**	**117**	*i* P	**Pn**	**01 06 31.1**	**-1.7**
LL23				IAML		01 08 20.9	
	comp=Z,26μm,0.4s						
LL22	**Malambo SS**	**6.14**	**119**	*i* P	**Pn**	**01 06 31.4**	**-1.7**
PR62	**Oldupai Boma**	**6.19**	**124**	*i* P	**Pn**	**01 06 32.3**	**-1.6**
LL24	**Masusu PS**	**6.21**	**116**	*i* P	**Pn**	**01 06 32.5**	**-1.5**
KEN4	**Ngurumani**	**6.24**	**111**	*i* P	**Pn**	**01 06 33.3**	**-1.1**
NG56	**Ngoile bomas**	**6.28**	**125**	*i* P	**Pn**	**01 06 33.4**	**-1.7**
PR63	**Meshili Boma**	**6.30**	**123**	*i* P	**Pn**	**01 06 33.8**	**-1.6**
LN25	**Lake Natron SS**	**6.38**	**118**	*i* P	**Pn**	**01 06 35.0**	**-1.4**
LN26	**Engaresero PS**	**6.43**	**119**	*i* P	**Pn**	**01 06 35.3**	**-1.7**
PR52	**Alailelai Boma**	**6.45**	**122**	*i* P	**Pn**	**01 06 36.7**	**-0.8**
KEN2	**Magadi Soda Va**	**6.51**	**112**	*i* P	**Pn**	**01 06 37.2**	**-0.9**
NG55	**Lemala Gate**	**6.54**	**124**	*i* P	**Pn**	**01 06 37.7**	**-1.0**
LN35	**Magadini PS**	**6.55**	**118**	*i* P	**Pn**	**01 06 37.0**	**-1.6**
MW44	**Karatu Welwel**	**6.63**	**125**	*i* P	**Pn**	**01 06 38.6**	**-1.3**
LN34	**Lwondulwo boma**	**6.64**	**119**	*i* P	**Pn**	**01 06 38.4**	**-1.6**
LN15	**Lekule Girls S**	**6.71**	**118**	*i* P	**Pn**	**01 06 40.0**	**-1.0**
LN15				IAML		01 08 34.3	
	comp=Z,890nm,0.7s						
PR31	**Engaruka Boma**	**6.72**	**120**	*i* P	**Pn**	**01 06 39.3**	**-1.8**
PR33	**Engutoto Boma**	**6.77**	**119**	*i* P	**Pn**	**01 06 40.4**	**-1.3**
PR32	**Iloiriento PS**	**6.82**	**119**	*i* P	**Pn**	**01 06 40.9**	**-1.7**
LN14	**Matela PS**	**6.83**	**115**	*i* P	**Pn**	**01 06 41.4**	**-1.3**
PR11	**Kitumbeine SS**	**6.90**	**119**	*i* P	**Pn**	**01 06 41.6**	**-2.0**
LN16	**Kitarini PS**	**6.95**	**116**	*i* P	**Pn**	**01 06 42.8**	**-1.5**
KMBO	**Kilima Mbogo**	**7.20**	**103**	Pn	**Pn**	**01 06 47.5**	**-0.2**
	comp=Z,19nm,0.3s,baz=283,slow=15,SNR=244						
KMBO				Sn	**Sn**	**01 08 06.4**	**-3.1**
	comp=Z,10nm,0.3s,baz=274,slow=15,SNR=4.6						
KMBO				Lg	Lg	01 08 41.5	
	comp=Z,11nm,0.3s,baz=360,slow=19,SNR=4.2						
MW41	**Ole Sokoine**	**7.22**	**121**	*i* P	**Pn**	**01 06 46.5**	**-1.6**
LN46	**New Vision PS**	**7.32**	**118**	*i* P	**Pn**	**01 06 47.1**	**-2.2**
KOND	**Kondoa**	**7.72**	**134**	*i* P	**Pn**	**01 06 52.8**	**-2.0**
KOND				*i* S	**Sn**	**01 08 22.5**	**+0.3**
KIBK	**Kibwezi**	**8.30**	**110**	*e*P	**Pn**	**01 07 00.9**	**-1.8**
KIBK				*e*S	Sn	01 08 20.1	-16
DODT	**Dodoma, Tanzan**	**8.62**	**140**	*i* P	**Pn**	**01 07 05.6**	**-1.6**
FURI	**Furi**	**11.85**	**45**	Pn	Pn	01 07 57.0	+5.5
VWZMW	**Thunduwike**	**12.06**	**164**	*i* P	**Pn**	**01 07 55.4**	**+1.1**
VWZMW				S		01 11 11.9	
LSZ	**Lusaka**	**15.80**	**187**	Pn	**P**	**01 08 48.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=344,slow=16,SNR=3.8						
LSZ				Lg	Lg	01 13 16.4	
	comp=Z,0.9nm,0.3s,baz=25,slow=7.2,SNR=3.7						
LSZ				LR	LR	01 14 17.2	
	comp=Z,99nm,19.9s,baz=8.0,slow=35						
LSZ	**Lusaka**	**15.80**	**187**	*i* P	P	01 09 03.8	+15
LSZ	**Lusaka**	**15.80**	**187**	*i* P	P	01 09 03.8	+15
ATD	**Arta Tunnel**	**16.64**	**48**	LR	LR	01 15 03.9	
	comp=Z,181nm,21.8s,baz=234,slow=37						
ATD	**Arta Tunnel**	**16.64**	**48**		**P**	**01 08 59.6**	**+1.5**
BLWY	**Bulawayo**	**20.57**	**184**	*i* P	**P**	**01 09 40.3**	**-1.0**
BLWY	**Bulawayo**	**20.57**	**184**	*i* P	**P**	**01 09 40.3**	**-1.0**
MATP	**Matopo**	**20.86**	**185**	P	**P**	**01 09 44.9**	**+0.5**
	comp=Z,3.3nm,1.0s,baz=360,slow=10,SNR=5.2						
MATP				Lg	Lg	01 16 03.6	
	comp=Z,14nm,0.8s,baz=86,slow=19,SNR=5.8						
MATP	**Matopo**	**20.86**	**185**	*i* P	**P**	**01 09 42.4**	**-2.1**
MATP	**Matopo**	**20.86**	**185**	*i* P	**P**	**01 09 42.4**	**-2.1**
TSUM	**Tsumeb**	**23.18**	**212**	P	**P**	**01 10 09.8**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=78,slow=14,SNR=1.7						
TSUM				Lg	Lg	01 17 14.8	
	comp=Z,4.1nm,0.8s,baz=87,slow=18,SNR=3.4						
TSUM				LR	LR	01 19 45.1	
	comp=Z,118nm,18.0s,baz=32,slow=38						
OPO	**Ambohidratompo**	**25.23**	**140**	LR	LR	01 20 08.8	
	comp=Z,149nm,20.9s,baz=176,slow=36						
LBTB	**Lobatse**	**25.75**	**190**	P	**P**	**01 10 34.5**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=173,slow=23,SNR=2.2						
LBTB				Lg	Lg	01 18 30.2	
	comp=Z,9.2nm,1.0s,baz=312,slow=17,SNR=3.1						
LBTB				LR	LR	01 20 48.4	
	comp=Z,140nm,18.6s,baz=12,slow=37						
LBTB	**Lobatse**	**25.75**	**190**	IAmb	IAmb	01 10 59.9	
	comp=Z,17nm,1.2s						
SOCY	**Socotra**	**26.27**	**63**	P	**P**	**01 10 41.5**	**+3.5**
SOCY				IAmb	IAmb	01 10 47.1	
	comp=Z,12nm,1.0s						
BOSA	**Boshof**	**29.33**	**189**	P	**P**	**01 11 05.0**	**-0.3**
	comp=Z,4.5nm,1.1s,baz=33,slow=11,SNR=1.5						
BOSA				LR	LR	01 23 05.0	
	comp=Z,225nm,18.2s,baz=16,slow=37						
EIL	**Elat**	**29.36**	**8**	P	**P**	**01 11 05.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=262,slow=19,SNR=1.4						
EIL				LR	LR	01 22 05.4	
	comp=Z,49nm,18.9s,baz=166,slow=35						
TOA0	**Torodi Ar. Sit**	**30.95**	**295**	P	**P**	**01 11 17.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**30.95**	**295**	P	**P**	**01 11 18.9**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=101,slow=7.0,SNR=62						
TORD				LR	LR	01 22 59.0	
	comp=Z,92nm,20.1s,baz=125,slow=35						
TORD	**Torodi Ar. Bea**	**30.95**	**295**	P	**P**	**01 11 17.6**	**-2.0**
ASF	**Jabal al Asfar**	**32.13**	**11**	P	**P**	**01 11 29.3**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=158,slow=12,SNR=1.6						
TAM	**Tamanrasset**	**32.69**	**314**	P	**P**	**01 11 35.2**	**+0.2**
TAM				IAmb	IAmb	01 11 43.5	
	comp=Z,16nm,1.7s						
MMAI	**Mount Meron Ar**	**32.71**	**8**	LR	LR	01 24 52.3	
	comp=Z,64nm,19.6s,baz=225,slow=37						
RER	**Riviere de l'E**	**32.93**	**132**	P	**P**	**01 11 39.1**	**+2.1**
SUR	**Sutherland**	**33.89**	**194**	P	**P**	**01 11 42.5**	**-2.9**
IDI	**Anoyia**	**34.97**	**352**	P	**P**	**01 11 52.1**	**-2.5**
	comp=Z,5.6nm,0.9s,baz=229,slow=22,SNR=1.8						
IDI	**Anoyia**	**34.97**	**352**	IAmb	IAmb	01 12 00.8	
	comp=Z,55nm,1.6s						
KIC	**Kosan Boka**	**35.38**	**280**	*e*P	**P**	**01 11 58.2**	**-0.1**
	comp=Z,1.8nm,0.3s						
DBIC	**Dimbokro**	**35.54**	**281**	P	**P**	**01 12 00.2**	**+0.6**
	comp=Z,2.8nm,0.4s,baz=72,slow=9.6,SNR=15						
DBIC				LR	LR	01 25 54.1	
	comp=Z,109nm,20.6s,baz=98,slow=35						
DBIC	**Dimbokro**	**35.54**	**281**	P	**P**	**01 11 55.8**	**-3.8**
LIC	**Lamto**	**35.65**	**280**	*e*P	**P**	**01 12 00.2**	**-0.4**
	comp=Z,12nm,0.6s						
TIC	**Toumodi**	**35.70**	**281**	*e*P	**P**	**01 12 01.1**	**0.0**
SANT	**Santorini**	**35.97**	**353**	P	**P**	**01 12 04.6**	**+1.5**
KOWA	**Kowa**	**36.61**	**294**	P	**P**	**01 12 08.9**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=113,slow=7.1,SNR=25						
KOWA	**Kowa**	**36.61**	**294**	P	**P**	**01 12 07.7**	**-1.1**
GAZ	**Gaziantep**	**37.06**	**9**	P	**P**	**01 12 13.1**	**+0.7**
GAZ				IAmb	IAmb	01 12 17.9	
	comp=Z,7.6nm,1.1s						
MANT	**Manisa**	**37.84**	**358**	P	**P**	**01 12 19.4**	**+0.2**
MARD	**Mardin**	**37.91**	**14**	P	**P**	**01 12 21.4**	**+1.7**
BR131	**Keskin Array S**	**39.17**	**4**	P	**P**	**01 12 31.7**	**+1.4**
BR131				IAmb	IAmb	01 12 37.3	
	comp=Z,12nm,1.4s						
BRTR	**Keskin Array B**	**39.17**	**4**	P	**P**	**01 12 29.3**	**-0.9**
	comp=Z,2.7nm,1.0s,baz=206,slow=8.2,SNR=5.2						
BRTR	**Keskin Array B**	**39.17**	**4**	P	**P**	**01 12 32.2**	**+1.9**
TOKA	**Tokat**	**40.05**	**7**	P	**P**	**01 12 40.2**	**+2.7**
KEST	**Kesra**	**40.09**	**333**	P	**P**	**01 12 37.5**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=196,slow=10,SNR=2.6						
KEST	**Kesra**	**40.09**	**333**	IAmb	IAmb	01 12 56.3	
	comp=Z,9.1nm,1.0s						
SCTE	**Santa Cesarea**	**40.83**	**346**	P	**P**	**01 12 43.9**	**+0.1**
MLR	**Muntele Rosu**	**44.97**	**356**	P	**P**	**01 13 16.9**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=178,slow=17,SNR=3.5						
MDT	**Midelt**	**45.92**	**318**	P	**P**	**01 13 25.1**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=138,slow=14,SNR=6.8						
BURAR	**Bucovina Array**	**47.13**	**355**	P	**P**	**01 13 34.8**	**+0.3**
BUR08	**Bucovina Ar. S**	**47.16**	**355**	P	**P**	**01 13 34.5**	**-0.2**
PSZ	**Piszkesteto**	**48.08**	**351**	P	**P**	**01 13 41.4**	**-0.5**
CTI	**Castel Tesino**	**48.22**	**343**	P	**P**	**01 13 42.8**	**-0.2**
ABTA	**Abfaltersbach**	**48.61**	**344**	*e*P	P	01 13 51.2	+5.3
	comp=Z,5.4nm,1.1s						
KBA	**Koelnbreinsper**	**48.69**	**345**	*e*P	**P**	**01 13 47.3**	**+0.7**
	comp=Z,11nm,1.5s						
KOLS	**Kolonicke sedl**	**48.74**	**353**	*e*P	**P**	**01 13 47.5**	**+0.7**
VYHS	**Vyhne**	**48.82**	**350**	*e*P	**P**	**01 13 47.0**	**-0.4**
CONA	**Conrad Observa**	**48.87**	**347**	*e*P	**P**	**01 13 47.8**	**-0.2**
	comp=Z,8.7nm,2.2s						
MODS	**Modra-Piesok**	**48.99**	**349**	*e*P	**P**	**01 13 50.7**	**+1.9**
BNI	**Bardonecchia**	**49.02**	**338**	P	**P**	**01 13 49.0**	**-0.2**
MOA	**Molln**	**49.17**	**346**	*e*P	**P**	**01 13 49.7**	**-0.4**
	comp=Z,8.1nm,1.0s						
TUE	**Stuetta**	**49.32**	**341**	P	**P**	**01 13 50.6**	**-1.0**
WTTA	**Wattenberg**	**49.33**	**343**	*e*P	**P**	**01 13 51.6**	**0.0**
	comp=Z,8.2nm,1.2s						
FETA	**Feichten**	**49.37**	**342**	*e*P	P	01 13 57.6	+5.7
	comp=Z,9.6nm,1.7s						
KWP	**Kalwaria Pacla**	**49.38**	**354**	P	**P**	**01 13 51.7**	**0.0**
JAVC	**Velka Javorina**	**49.38**	**349**	*e*P	P	01 13 57.1	+5.3
SQTA	**Sankt Quirin**	**49.41**	**343**	*e*P	**P**	**01 13 52.7**	**+0.6**
	comp=Z,1.4nm,0.6s						
SQTA				*e*P	P	01 13 57.8	+5.7
	comp=Z,7.5nm,1.2s						
DAVOX	**Davos/Dischmat**	**49.42**	**342**	P	**P**	**01 13 50.7**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=147,slow=15,SNR=3.7						
MOTA	**Moosalm**	**49.55**	**343**	*e*P	P	01 13 58.0	+4.8
	comp=Z,7.9nm,1.2s						
RETA	**Reutte**	**49.78**	**343**	*e*P	**P**	**01 13 53.9**	**-1.0**
	comp=Z,6.0nm,1.4s						
KRUC	**Moravsky**	**49.83**	**348**	*e*P	**P**	**01 13 53.8**	**-1.3**
KRUC				*e*		01 14 00.1	
DAVA	**Damuels**	**49.87**	**342**	*e*P	**P**	**01 13 54.5**	**-1.1**
	comp=Z,7.9nm,1.0s						
ESBB	**Sonseca Array**	**49.93**	**325**	P	**P**	**01 13 56.0**	**-0.2**
ESDC	**Sonseca Array**	**49.93**	**325**	P	**P**	**01 13 55.8**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=131,slow=7.2,SNR=34						
ESDC	**Sonseca Array**	**49.93**	**325**	P	**P**	**01 13 55.2**	**-0.9**
VRAC	**Vranov**	**50.02**	**348**	P	**P**	**01 13 54.6**	**-2.0**
	comp=Z,2.8nm,0.8s,baz=154,slow=7.1,SNR=5.1						
VRAC	**Vranov**	**50.02**	**348**	*e*P	**P**	**01 13 55.1**	**-1.5**
VRAC				*e*		01 14 01.6	
AKASG	**Malin Array Be**	**50.03**	**359**	P	**P**	**01 13 54.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=185,slow=6.5,SNR=4.3						
AKASG	**Malin Array Be**	**50.03**	**359**	IAmb	IAmb	01 14 01.8	
	comp=Z,2.0nm,1.1s						
GEC2	**GERESS Array S**	**50.23**	**346**	P	**P**	**01 13 57.8**	**-0.6**
GEC2				IAmb	IAmb	01 14 04.3	
	comp=Z,6.1nm,1.0s						
GERES	**GERESS Array B**	**50.23**	**346**	P	**P**	**01 13 56.8**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=156,slow=6.9,SNR=14						
GERES	**GERESS Array B**	**50.23**	**346**	P	**P**	**01 13 57.2**	**-1.1**
TREC	**Trest**	**50.24**	**347**	*e*P	**P**	**01 13 57.0**	**-1.3**
TREC				*e*pP	**pP**	**01 14 02.9**	**-0.3**
MORC	**Moravsky Berou**	**50.29**	**349**	*e*P	**P**	**01 13 57.4**	**-1.3**
MORC				*e*		01 14 04.0	
MORC	**Moravsky Berou**	**50.29**	**349**	P	**P**	**01 13 57.5**	**-1.1**
MORC				IAmb	IAmb	01 14 04.7	
	comp=Z,6.4nm,1.0s						
KHC	**Kasperske Hory**	**50.53**	**346**	*e*P	**P**	**01 13 58.9**	**-1.6**
KHC				*e*pP	**pP**	**01 14 04.2**	**-1.2**
KRLC	**Kraliky**	**50.72**	**349**	*e*P	**P**	**01 14 00.9**	**-1.0**
KRLC				*e*pP	**pP**	**01 14 07.1**	**+0.3**
DPC	**Dobruska-Polom**	**51.07**	**349**	*e*P	**P**	**01 14 03.6**	**-1.0**
DPC				*e*pP	**pP**	**01 14 09.8**	**+0.3**
UPC	**Upice**	**51.28**	**348**	*e*P	P	01 14 10.9	+4.8
BFO	**Black Forest**	**51.28**	**341**	P	**P**	**01 14 07.3**	**+1.2**
BFO				IAmb	IAmb	01 14 12.0	
	comp=Z,5.9nm,1.0s						
OSTC	**Ostas**	**51.29**	**349**	*e*P	**P**	**01 14 05.2**	**-0.9**
OSTC				*e*pP	**pP**	**01 14 11.6**	**+0.5**
CHVC	**Chvalec**	**51.35**	**348**	*e*P	**P**	**01 14 05.5**	**-1.1**
NIL	**Nilore**	**52.08**	**46**	P	**P**	**01 14 15.7**	**+3.3**
NIL				IAmb	IAmb	01 15 02.7	
	comp=Z,7.5nm,1.2s						
CHGR	**Chuyangaron**	**52.09**	**39**	P	**P**	**01 14 15.0**	**+2.5**
CHGR				IAmb	IAmb	01 14 23.5	
	comp=Z,7.9nm,0.9s						
CLL	**Collm**	**52.69**	**346**	*e*P	**P**	**01 14 15.0**	**-1.5**
CLL				*e*		01 14 21.0	
CLL	**Collm**	**52.69**	**346**	P	**P**	**01 14 18.9**	**+2.3**
GAR	**Garm**	**53.02**	**39**	P	**P**	**01 14 22.9**	**+3.5**
AKTO	**Aktyubinsk**	**55.08**	**21**	P	**P**	**01 14 32.5**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=226,slow=8.7,SNR=12						
KKAR	**Karatay Array**	**55.62**	**35**	P	**P**	**01 14 41.2**	**+3.0**
ARU	**Arti**	**60.26**	**18**	P	**P**	**01 15 08.8**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=227,slow=6.6,SNR=3.1						
ARU	**Arti**	**60.26**	**18**	P	**P**	**01 15 11.6**	**+1.3**
KLMR	**Klimovskoe**	**60.62**	**5**	*e*P	**P**	**01 15 10.9**	**-1.9**
KLMR				AMP		01 15 19.2	
	comp=Z,25nm,1.4s						
FINES	**FINESS Array B**	**60.87**	**358**	P	**P**	**01 15 13.2**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=181,slow=2.3,SNR=8.6		

NKC	**Novy Kostel**	**2.75 243**	*e*PN	**Pn**	**01 07 01.0**	**+0.5**
NKC			*e*PG	**Pb**	**01 07 06.3**	**+1.2**
NKC			*e*SG	**Sg**	**01 07 42.1**	**-1.3**
	comp=Z,20nm,0.4s					
JAVC	**Velka Javorina**	**2.85 161**	*e*PN	**Pn**	**01 07 02.9**	**+1.1**
KHC	**Kasperske Hory**	**2.97 216**	*e*PN	**Pn**	**01 07 03.9**	**+0.4**
KHC			*e*PG	**Pb**	**01 07 09.2**	**+0.3**
KHC			*e*SN	**Sn**	**01 07 38.4**	**-1.5**
KHC			*e*SG	**Sb**	**01 07 47.5**	**+1.7**
	comp=Z,12nm,0.5s					
LANS	**Liptovska Anna**	**3.17 138**	*e*SG	**Sg**	**01 07 56.0**	**-0.8**
LANS			*e*LG	Lg	01 08 04.5	
MODS	**Modra-Piesok**	**3.25 168**	*e*PG	**Pg**	**01 07 18.8**	**+1.4**
MODS			*e*SG	**Sg**	**01 07 59.2**	**-0.3**
MODS			*e*LG	Lg	01 08 07.1	
VYHS	**Vyhne**	**3.49 151**	*e*SG	**Sg**	**01 08 04.3**	**-2.8**
CONA	**Conrad Observa**	**3.64 184**	*i* Pn	**Pn**	**01 07 14.3**	**+1.6**
	comp=Z,0.5nm,0.3s					
CONA			*i* Sg	**Sg**	**01 08 10.1**	**-1.9**
	comp=Z,12nm,0.5s					
BSD	**Bornholm Skovb**	**3.65 348**	*e*	**Pn**	**01 07 12.5**	**-0.3**
	baz=196,slow=14					
BSD			*i* P	Pb	01 07 13.7	-6.8
BSD			*i* S	**Sn**	**01 07 54.3**	**-2.3**
BSD			IAML		01 08 20.4	
	comp=Z,1.0nm,0.4s					
MOA	**Molln**	**3.93 200**	*i* Pn	**Pn**	**01 07 17.1**	**+0.4**
	comp=Z,0.5nm,0.2s					
MOA			*e*Sg	**Sg**	**01 08 19.6**	**-1.6**
	comp=Z,6.0nm,0.4s					
KBA	**Koelnbreinsper**	**4.87 204**	Sg	**Sg**	**01 08 51.4**	**0.0**
	comp=Z,8.9nm,1.0s					
ABTA	**Abfaltersbach**	**5.40 208**	Sg	**Sg**	**01 09 10.1**	**+1.6**
	comp=Z,4.0nm,0.8s					

NEIC ***31*** *01:30:39.0±1.7, 64°.76N±0°.08×17°.2W±0°.1, h5km±3km, mb5.0/110, Mww5.2, Error ellipse: s-maj=12.2km s-min=7.7km az=194.0*

REY ***31*** *01:30:39.6, 64°.62N×17°.43W, h2km*

BGS ***31*** *01:30:39.2±2.1, 64°.76N×17°.24W, h5km, MS4.5*

MOS ***31*** *01:30:40.3±1.3, 64°.48N×17°.68W, h9km, mb5.0/55, MS4.3/20, Error ellipse: s-maj=8.8km s-min=6.0km az=112.8*

BJI ***31*** *01:30:40.1±0.0, 64°.92N×17°.59W, h3km, mB5.1/33, mb4.8/42, Ms4.9/32, Ms7 4.7/31*

IDC ***31*** *01:30:40.9±0.4, 64°.55N×17°.58W, h0km, mb4.4/31, mb1 4.5/35, mb1mx4.4/53, mbtmp4.3/35, ML3.0/3, MS4.4/46, Ms1 4.5/46, ms1mx4.4/48, Error ellipse: s-maj=13.8km s-min=6.9km az=17.0*

GCMT ***31*** *01:30:45.0±0.1, 64°.64N±0°.01×17°.15W±0°.02, h12km, MW5.1/143, Moment Tensor Solution. s61,c81; s143,c258; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=5.61±.07; Mθθ4.15±.07; Mϕϕ 1.46±.06; Mrθ2.19±.21; Mθϕ-0.37±.05; Mϕr-1.80±.26; Best double couple: M₀5.61700×10¹⁶ NP1:ϕs92.00000°, δ32.00000°, λ-107.00000°. NP2:ϕs291.00000°, δ59.00000°, λ-80.00000°. Principal axes: T 4.7950, Plg14.0000°, Azm14.0000°; N 1.6450, Plg9.0000°, Azm106.0000°; P -6.4400, Plg74.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DNK ***31*** *01:30:48.6±3.6, 64°.21N×19°.17W, h112km±90km, mb5.1*

NEIC ***31*** *01:30:51, 64°.22N×18°.50W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=4.72; Mθθ3.48; Mϕϕ 1.24; Mrθ0.16; Mθϕ-0.98; Mϕr6.07; Fault plane solution: M₀7.47000×10¹⁶ NP1:ϕs301.00000°, δ21.00000°, λ-133.00000°. NP2:ϕs166.00000°, δ75.00000°, λ-75.00000°. Principal axes: T 5.3268, Plg28.0000°, Azm244.0000°; N 3.2073, Plg14.0000°, Azm342.0000°; P -8.5341, Plg58.0000°, Azm96.0000°;*

ISC 31 01:30:42.2±0.2, 64°.59N±0°.03×17°.55W±0°.02, h10km, n708, σ 2s 17/682, mb 4.9/169, MS 4.5/77, 38C-8D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.12**	**315**	P	**Pg**	**01 30 42.8**	**-2.4**
	baz=292						
IGRF	**Grimsfjall**	**0.22**	**146**	P	**Pg**	**01 30 44.1**	**-2.7**
	baz=162						
IGRF				S	**Sg**	**01 30 47.8**	**-2.1**
	baz=162						
IDYN	**Dyngjuhals**	**0.22**	**21**	P	Pg	01 30 43.3	-3.5
	baz=8.8						
IURH	**Urdarhals**	**0.29**	**36**	P	Pg	01 30 44.5	-3.7
	baz=31						
IHUS	**Husbondi**	**0.30**	**189**	P	**Pg**	**01 30 46.3**	**-1.9**
	baz=197						
IHUS				S	**Sg**	**01 30 51.0**	**-1.2**
	baz=197						
IVOT	**Vottur**	**0.35**	**153**	P	**Pg**	**01 30 46.7**	**-2.6**
	baz=163						
ISKR	**Skrokkalda**	**0.36**	**266**	P	**Pg**	**01 30 47.3**	**-2.1**
	baz=262						
IKVE	**Kverkfjoll**	**0.39**	**76**	P	**Pg**	**01 30 46.3**	**-3.6**
	baz=79						
IJOK	**Jokulheimar**	**0.40**	**227**	P	**Pg**	**01 30 48.5**	**-1.6**
	baz=229						
IJOK				S	**Sg**	**01 30 55.0**	**-0.4**
	baz=229						
THOR	**Thorvaldshraun**	**0.51**	**47**	P	Pg	01 30 48.1	-4.1
	baz=45						
IKRE	**Kreppuhraun**	**0.54**	**68**	P	Pg	01 30 48.6	-4.1
	baz=69						
IKRE				S	**Sg**	**01 30 55.5**	**-4.3**
	baz=69						
IIEY	**Innrieyrar**	**0.55**	**207**	P	**Pg**	**01 30 50.5**	**-2.4**
	baz=210						
IKSK	**Karasker**	**0.63**	**132**	P	**Pg**	**01 30 50.3**	**-4.2**
	baz=137						
IKAL	**Kalfafell**	**0.64**	**185**	P	**Pg**	**01 30 51.9**	**-2.7**
	baz=190						
IMKO	**Mokollar**	**0.65**	**52**	P	Pg	01 30 50.3	-4.5
	baz=52						
IVAT	**Vatnsfell**	**0.72**	**237**	P	**Pg**	**01 30 53.5**	**-2.6**
	baz=237						
ISVA	**Svartarkot**	**0.76**	**9**	P	Pg	01 30 52.5	-4.4
	baz=5.8						
IVSH	**V-Sauoahnukur**	**0.81**	**73**	P	Pg	01 30 53.1	-4.8
	baz=75						
IVSH				S	**Sg**	**01 31 03.4**	**-5.1**
	baz=75						
IHVE	**Hveravellir**	**0.91**	**289**	P	**Pg**	**01 30 56.6**	**-3.2**
	baz=286						
IADA	**Aoalbol**	**0.95**	**62**	P	Pg	01 30 55.3	-5.2
	baz=62						
ISNB	**Snabyli**	**0.98**	**210**	P	**Pg**	**01 30 58.1**	**-2.8**
	baz=211						
ISLY	**Slysaalda**	**1.03**	**223**	P	**Pg**	**01 30 59.2**	**-2.8**
	baz=224						
IFED	**Fedgar**	**1.09**	**240**	P	**Pg**	**01 31 00.4**	**-2.8**
	baz=240						
IRJU	**Rjupnafell**	**1.09**	**207**	P	**Pg**	**01 30 59.9**	**-3.2**
	baz=209						
IREN	**Reynihlio**	**1.10**	**14**	P	Pb	01 30 58.3	-5.0
	baz=12						
IMJO	**Mjoaskard**	**1.14**	**236**	P	**Pg**	**01 31 01.2**	**-2.8**
	baz=236						
IKVO	**Krokottuvotn**	**1.17**	**14**	P	Pn	01 30 59.3	-5.3
	baz=12						
IGYG	**Gygjarholskot**	**1.20**	**256**	P	**Pb**	**01 31 01.6**	**-3.3**
	baz=256						
IHVO	**Lagu-Hvolar**	**1.21**	**209**	P	**Pb**	**01 31 02.0**	**-3.1**
	baz=210						
IGRS	**Grimsstaoir**	**1.22**	**29**	P	Pn	01 31 00.1	-5.2
	baz=28						
IHAU	**Haukadalur**	**1.22**	**241**	P	**Pb**	**01 31 02.2**	**-3.1**
	baz=241						
ISKI	**Skildingahlsh**	**1.31**	**9**	P	Pn	01 31 02.1	-4.4
	baz=7.5						
IALF	**Alftagrof**	**1.31**	**214**	P	**Pn**	**01 31 03.5**	**-3.1**
	baz=215						
IGHA	**Grjothals**	**1.32**	**16**	P	Pn	01 31 02.4	-4.3
	baz=14						
IGRA	**Granastaoir**	**1.34**	**359**	P	Pn	01 31 02.2	-4.7
	baz=357						
IESK	**Eystri-Skogar**	**1.35**	**219**	P	**Pn**	**01 31 04.3**	**-2.8**
	baz=220						
IMID	**Miomork**	**1.39**	**229**	P	**Pn**	**01 31 04.8**	**-2.7**
	baz=229						
ISAU	**Saurbar**	**1.39**	**246**	P	**Pn**	**01 31 04.6**	**-3.0**
	baz=246						
IDIM	**Dimmadalss**	**1.41**	**10**	P	Pn	01 31 03.5	-4.3
	baz=8.6						
IHLA	**Hella**	**1.41**	**346**	P	**Pn**	**01 31 04.4**	**-3.5**
	baz=344						
IHED	**Heoinshofoi**	**1.50**	**4**	P	Pn	01 31 05.3	-3.9
	baz=1.9						
IASM	**Asmuli**	**1.54**	**242**	P	**Pn**	**01 31 07.1**	**-2.6**
	baz=242						
IBRE	**Brettingsstaoi**	**1.55**	**355**	P	Pn	01 31 06.0	-3.8
	baz=353						
IGIL	**Gilhagi**	**1.58**	**18**	P	Pn	01 31 06.0	-4.3
	baz=17						
ISOL	**Solvholt**	**1.62**	**248**	P	**Pn**	**01 31 08.7**	**-2.1**
	baz=247						
IKRO	**Krokur**	**1.63**	**254**	P	**Pn**	**01 31 08.3**	**-2.6**
	baz=254						
BORG	**Borgarnes**	**1.63**	**277**	Pg	**Pn**	**01 31 08.6**	**-2.4**
	74nm,0.3s,baz=90,slow=8.2,SNR=78						
BORG				Lg	Lg	01 31 30.1	
	52nm,0.3s,baz=84,slow=18,SNR=5.9						
BORG				LR	LR	01 31 59.1	
	comp=Z,6μm,21.8s,baz=86,slow=48						
BORG	**Borgarnes**	**1.63**	**277**	Pn	**Pn**	**01 31 09.4**	**-1.6**
BORG				Sn	**Sn**	**01 31 32.5**	**+0.5**
IHEI	**Heioarbar**	**1.65**	**258**	P	**Pn**	**01 31 08.8**	**-2.4**
	baz=258						
ISIG	**Siglufjorour**	**1.65**	**340**	P	**Pn**	**01 31 08.0**	**-3.2**
	baz=338						
IBJA	**Bjarnastaoir**	**1.76**	**250**	P	**Pn**	**01 31 11.1**	**-1.6**
	baz=250						
ISAN	**Sandskeio**	**1.83**	**255**	P	**Pn**	**01 31 11.7**	**-2.0**
	baz=254						
IHRN	**Hraun**	**1.87**	**326**	P	**Pn**	**01 31 11.5**	**-2.7**
	baz=324						
JMIC	**Jan Mayen**	**7.28**	**24**	LR	LR	01 34 47.3	
	comp=Z,7μm,18.4s,baz=230,slow=34						
LEWI	**Lewis, Hebride**	**8.24**	**137**	*e*P	**Pn**	**01 32 39.4**	**-2.3**
ANGG	**Ammassalik, Gr**	**8.53**	**286**	Pn	**Pn**	**01 32 44.5**	**-1.1**
LINV	**Loch Inver, As**	**8.76**	**132**	*e*P	**Pn**	**01 32 46.7**	**-2.0**
BIGH	**Upper Bighouse**	**8.91**	**127**	*e*P	**Pn**	**01 32 49.8**	**-1.1**
KAC	**Achnashellach**	**9.25**	**135**	*e*P	**Pn**	**01 32 53.6**	**-1.9**
KPL	**Plockton**	**9.27**	**136**	*e*P	**Pn**	**01 32 53.6**	**-2.2**
KPL				IAMs_20	IAMs_20	01 37 12.8	
	comp=Z,3μm,12.2s						
DBG	**Daneborg**	**9.81**	**356**	*e*P	Pn	01 33 12.3	+9.2
INVG	**Invergeldie, C**	**10.52**	**135**	*e*P	**Pn**	**01 33 10.3**	**-2.6**
INVG				IAMs_20	IAMs_20	01 38 00.9	
	comp=Z,4μm,10.7s						
EAB	**Aberfoyle**	**10.64**	**136**	*e*P	**Pn**	**01 33 13.1**	**-1.4**
PGBU	**Glenifferbraes**	**10.91**	**138**	*e*P	**Pn**	**01 33 16.1**	**-2.2**
SUMG	**Summit**	**11.00**	**326**	*i* P	**Pn**	**01 33 22.0**	**+2.3**
SUMG	**Summit**	**11.00**	**326**	Pn	Pn	01 33 15.6	-4.0
SUMG	**Summit**	**11.00**	**326**	*i* P	**Pn**	**01 33 22.0**	**+2.3**
SUMG	**Summit**	**11.00**	**326**	*i* P	**Pn**	**01 33 22.0**	**+2.3**
CLGH	**Cloghs, Cushen**	**11.11**	**144**	*e*P	**Pn**	**01 33 20.1**	**-0.9**
CLGH				IAMs_20	IAMs_20	01 39 00.2	
	comp=Z,3μm,15.3s						
EDI	**Edinburgh**	**11.21**	**134**	*e*P	**Pn**	**01 33 20.6**	**-1.6**
EDI				IAMs_20	IAMs_20	01 38 51.0	
	comp=Z,3μm,11.0s						
NEWG	**New Galloway**	**11.59**	**139**	*e*P	**Pn**	**01 33 26.5**	**-1.0**
NEWG				IAMs_20	IAMs_20	01 38 04.5	
	comp=Z,5μm,13.8s						
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn	**Pn**	**01 33 27.5**	**-1.8**
	baz=322,slow=13,SNR=17						
EKA				Sn	**Sn**	**01 35 41.4**	**+1.5**
	baz=316,slow=26,SNR=2.7						
EKA				LR	LR	01 37 46.8	
	comp=Z,2μm,19.4s,baz=220,slow=36						
ESK	**Eskdalemuir**	**11.72**	**136**	*e*P	**Pn**	**01 33 27.3**	**-1.9**
ESK	**Eskdalemuir**	**11.72**	**136**	P	**Pn**	**01 33 27.5**	**-1.7**
ESK	**Eskdalemuir**	**11.72**	**136**	Pn	**Pn**	**01 33 27.5**	**-1.7**
DAG	**Danmarks Havn**	**12.25**	**359**	*i* P	Pn	01 33 42.7	+6.3
DAG				pmax	pmax		
	comp=Z,84nm,1.6s						
DAG	**Danmarks Havn**	**12.25**	**359**	*i* P	Pn	01 33 42.7	+6.3
	comp=Z,84nm,1.6s						
DAG	**Danmarks Havn**	**12.25**	**359**	*i* P	Pn	01 33 42.7	+6.3
DAG				IAmb	IAmb	01 33 44.7	
	comp=Z,84nm,1.6s						
KESW	**Keswick, Cumbr**	**12.37**	**137**	*e*P	**Pn**	**01 33 35.7**	**-2.5**
DSB	**Dublin**	**12.72**	**148**	Pn	**Pn**	**01 33 40.7**	**-2.3**
NC204	**NORSAR Array S**	**13.25**	**91**	Pn	**Pn**	**01 33 46.5**	**-3.7**
NBO00	**NORSAR Array S**	**13.37**	**92**	Pn	Pn	01 33 46.6	-5.2
NAO01	**NORSAR Array S**	**13.50**	**93**	Pn	Pn	01 33 48.7	-4.9
NB2	**NORSAR Subarra**	**13.55**	**92**	Pn	**Pn**	**01 33 52.3**	**-2.0**
	comp=Z,185nm,3.3s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.55**	**92**	Pn	**Pn**	**01 33 52.3**	**-2.0**
	baz=298,slow=14						
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	**Pn**	**01 33 52.2**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=220,slow=18,SNR=4.0						
NOA				LR	LR	01 39 05.1	
	comp=Z,623nm,19.6s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	01 38 44.7	
	comp=Z,3μm,18.3s,baz=88,slow=35						
CWF	**Charwood Fore**	**14.51**	**137**	*e*P	**Pn**	**01 34 05.9**	**-1.5**
HFS	**Hagfors**	**15.06**	**93**	Pn	**Pn**	**01 34 16.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=342,slow=17,SNR=2.3						
HFS				LR	LR	01 39 51.8	
	comp=Z,790nm,20.6s,baz=288,slow=37						
MUD	**Monsted U'grnd**	**15.36**	**110**	*i* P	**P**	**01 34 26.0**	**+2.6**
	comp=Z,139nm,1.6s						
MUD	**Monsted U'grnd**	**15.36**	**110**	*i* P	**P**	**01 34 26.1**	**+2.6**
MUD				IAmb	IAmb	01 34 27.2	
	comp=Z,140nm,1.6s						
SKMB	**Sankelmark Bun**	**16.70**	**114**	*e*P	**P**	**01 34 38.6**	**+0.4**
	comp=Z,347nm,1.7s,baz=325,slow=11						
SPITS	**Spitsbergen Ar**	**16.95**	**23**	LR	LR	01 39 33.9	
	comp=Z,2μm,19.7s,baz=235,slow=31						
NOR	**Nord**	**17.11**	**0**	*i* P	**P**	**01 34 45.0**	**+2.3**
NOR				pmax	pmax		
	comp=Z,260nm,1.9s						
NOR	**Nord**	**17.11**	**0**	*i* P	**P**	**01 34 45.0**	**+2.3**
	comp=Z,256nm,1.9s						
NOR	**Nord**	**17.11**	**0**	*i* P	**P**	**01 34 45.0**	**+2.3**
NOR				IAmb	IAmb	01 34 49.6	
	comp=Z,256nm,1.9s						
ARCES	**ARCESS Array B**	**17.18**	**54**	P	Pn	**01 34 43.0**	**+1.0**
	baz=348,slow=5.3,SNR=2.0						
ARCES				LR	LR	01 40 04.9	
	comp=Z,2μm,19.8s,baz=285,slow=33						
ARCES	**ARCESS Array B**	**17.18**	**54**	P	**Pn**	**01 34 43.0**	**+1.0**
BSEG	**Bad Segeberg**	**17.62**	**114**	*e*P	**Pn**	**01 34 46.4**	**-1.1**
	comp=Z,246nm,2.2s,baz=325,slow=11						
IBBN	**Ibbenburen**	**17.91**	**121**	*e*P	**P**	**01 34 51.7**	**+0.1**
	comp=Z,248nm,2.0s,baz=325,slow=11						
UCC	**Uccle**	**17.96**	**130**	Pn	**Pn**	**01 34 51.1**	**-0.6**
UCC	**Uccle**	**17.96**	**130**	P	**Pn**	**01 34 49.0**	**-2.8**
UCC				pmax	pmax		
	comp=Z,102nm,1.9s						
UCC	**Uccle**	**17.96**	**130**		**Pn**	**01 34 49.0**	**-2.8**
SNF	**Seneffe**	**18.19**	**130**	Pn	**P**	**01 34 55.4**	**+0.7**
RGN	**Rugen**	**18.38**	**109**		**Pn**	**01 34 53.0**	**-3.8**
BEBN	**Eben Emael**	**18.41**	**128**	Pn	**Pn**	**01 34 56.6**	**-0.6**
BUG	**Bochum--Univer**	**18.43**	**124**	*e*P	**Pn**	**01 34 58.3**	**+0.9**
	comp=Z,114nm,1.4s,baz=325,slow=11						
BMRD	**Maredsous**	**18.52**	**130**	Pn	**P**	**01 34 58.3**	**-0.2**
BSTI	**Sart Tilman**	**18.55**	**128**	Pn	**P**	**01 34 57.8**	**-0.9**
BGES	**Gesves**	**18.56**	**129**	Pn	**Pn**	**01 34 59.1**	**0.0**
BCLA	**Clavier**	**18.60**	**129**	Pn	**Pn**	**01 34 59.7**	**+0.1**
DOU	**Dourbes**	**18.65**	**131**	Pn	**P**	**01 34 59.1**	**-0.7**
MEM	**Membach**	**18.68**	**127**	Pn	**P**	**01 34 59.8**	**-0.4**
BTNL	**Ternell**	**18.74**	**127**	Pn	**P**	**01 35 00.7**	**-0.2**
BHOU	**Houvegnez**	**18.90**	**128**	Pn	**P**	**01 35 02.2**	**-0.4**
AHRW	**Bad Neuenahr-A**	**19.11**	**126**	*e*P	**Pn**	**01 35 07.3**	**+1.6**
	comp=Z,155nm,1.6s,baz=325,slow=11						
ASSE	**Asse, Remlinge**	**19.14**	**117**	*e*P	**P**	**01 35 05.1**	**0.0**
	comp=Z,156nm,2.1s,baz=325,slow=11						
WLF	**Walferdange**	**19.53**	**129**	Pn	**Pn**	**01 35 10.6**	**-0.3**
WLF	**Walferdange**	**19.53**	**129**	P	**P**	**01 35 06.6**	**-2.9**
WLF				pmax	pmax		
	comp=Z,94nm,1.7s						
WLF	**Walferdange**	**19.53**	**129**		**P**	**01 35 06.6**	**-2.9**
WLF				IAmb	IAmb	01 35 17.6	
	comp=Z,94nm,1.7s						
FINES	**FINESS Array B**	**19.74**	**79**	P	**P**	**01 35 12.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=56,slow=4.8,SNR=8.5						
FINES				LR	LR	01 42 23.6	
	comp=Z,927nm,20.7s,baz=298,slow=36						
FINES	**FINESS Array B**	**19.74**	**79**	P	**P**	**01 35 06.4**	**-5.3**
FIA1	**FINESS Array S**	**19.74**	**79**	P	**P**	**01 35 06.6**	**-5.1**
FIA1				IAmb	IAmb	01 35 19.1	
	comp=Z,77nm,1.4s						
NEUB	**Neuenburg**	**20.29**	**117**	*e*P	**P**	**01 35 18.0**	**+0.3**
	comp=Z,246nm,1.5s,baz=325,slow=11						
APA	**Apatity**	**20.39**	**59**	⇓*i*P	**P**	**01 35 17.2**	**-1.5**
APA				pmax	pmax		
	comp=Z,18nm,1.0s						
APA				MLR	MLR		
	comp=Z,2μm,15.0s						
MOX	**Moxa**	**20.68**	**119**	*e*P	**P**	**01 35 22.1**	**+0.1**
	comp=Z,130nm,1.5s,baz=325,slow=11						
MOX				*e*L	L	01 43 45.0	
	comp=Z,1μm,20.1s						
CLL	**Collm**	**20.69**	**115**	*e*P	**P**	**01 35 22.0**	**-0.1**
	comp=Z,128nm,1.5s						
CLL				*i*		01 35 24.1	
	comp=Z,128nm,1.5s						
CLL				*e*Pmax		01 35 27.0	
CLL				*e*		01 35 32.0	
CLL				*e*S	Sn	01 39 18.0	+0.4
CLL				*e*SSS	SSS	01 39 48.0	
CLL				Lmax		01 46 00.0	
CLL	**Collm**	**20.69**	**115**	*e*P	**P**	**01 35 22.0**	**-0.1**
CLL				*i*		01 35 24.1	
CLL				*e*S	Sn	01 39 18.0	+0.4
CLL				pmax	pmax		
	comp=Z,128nm,1.5s						
CLL	**Collm**	**20.69**	**115**	*e*P	**P**	**01 35 21.7**	**-0.4**
	comp=Z,128nm,1.5s,baz=325,slow=11						
GKP	**Gorka Klasztor**	**20.91**	**106**	*e*P	Pn	01 35 27.8	+0.8
GKP				*e*		01 35 42.2	
GKP				*e*PcP	**PcP**	**01 39 33.7**	**+1.9**
PLN	**Plauen**	**21.02**	**118**	*e*P	**P**	**01 35 25.7**	**0.0**
	comp=Z,133nm,1.5s,baz=325,slow=11						
WERD	**Werda**	**21.11**	**118**	*e*P	**P**	**01 35 26.8**	**+0.2**
	comp=Z,46nm,1.4s,baz=325,slow=11						
ECH	**Echery**	**21.12**	**129**	P	**P**	**01 35 25.0**	**-1.8**
ECH				pmax	pmax		
	comp=Z,105nm,1.6s						
ECH	**Echery**	**21.12**	**129**	P	**P**	**01 35 25.0**	**-1.8**
ECH				IAmb	IAmb	01 35 31.1	
	comp=Z,105nm,1.6s						
FBE	**Freiberg**	**21.13**	**116**	*e*P	**P**	**01 35 26.7**	**-0.1**
	comp=Z,142nm,1.6s,baz=325,slow=11						
GUNZ	**Gunzen**	**21.18**	**118**	*e*P	**P**	**01 35 27.7**	**+0.2**
	comp=Z,182nm,1.6s,baz=325,slow=11						
TANN	**Tannenbergstha**	**21.19**	**118**	*e*P	**P**	**01 35 27.7**	**+0.1**
	comp=Z,151nm,1.7s,baz=325,slow=11						
GRA1	**Grafenberg Arr**	**21.31**	**121**	IAmb	IAmb	01 35 42.3	
	comp=Z,116nm,1.3s						
GRF	**Grafenberg Arr**	**21.31**	**121**	*e*P	**P**	**01 35 29.3**	**+0.5**
	comp=Z,127nm,1.5s,baz=325,slow=11						
GRF				*e*L	L	01 43 55.7	
	comp=Z,1μm,20.3s						
NKC	**Novy Kostel**	**21.33**	**118**	*e*P	**P**	**01 35 29.5**	**+0.4**
NKC				*e*S	Sn	01 39 34.8	+1.8
NKC				AMS	AMS	01 43 50.0	
	comp=Z,1μm,21.9s						
NKC	**Novy Kostel**	**21.33**	**118**	*e*P	**P**	**01 35 29.5**	**+0.4**
NKC				*e*S	Sn	01 39 34.8	+1.8
NKC				MLR	MLR		
	comp=Z,1μm,21.9s						
STU	**Stuttgart**	**21.34**	**125**	*e*P	**P**	**01 35 30.0**	**+0.8**
	comp=Z,188nm,1.7s,baz=325,slow=11						
STU	**Stuttgart**	**21.34**	**125**	IAmb	IAmb	01 35 40.9	
	comp=Z,114nm,1.3s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P**	**01 35 29.3**	**-0.4**
	comp=Z,171nm,1.6s						
BRG				S	Sn	01 39 35.0	+0.4
	comp=N,1μm,13.3s						
	comp=E,1μm,13.0s						
	comp=Z,1μm,13.8s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P**	**01 35 29.3**	**-0.4**
BRG				S	Sn	01 39 35.0	+0.4
BRG				pmax	pmax		
	comp=Z,171nm,1.6s						
BRG				MLR	MLR		
	comp=N,1μm,13.3s						
BRG				MLR	MLR		
	comp=E,1μm,13.0s						
BRG				MLR	MLR		
	comp=Z,1μm,13.8s						
BRG	**Berggiesshubel**	**21.40**	**115**	*e*P	**P**	**01 35 29.3**	**-0.4**
	comp=Z,171nm,1.6s,baz=325,slow=11						
MANZ	**Manzenberg**	**21.40**	**119**	*e*P	**P**	**01 35 29.6**	**-0.2**
	comp=Z,106nm,1.6s,baz=325,slow=11						
BFO	**Black Forest**	**21.42**	**127**	P	**P**	**01 35 27.4**	**-2.6**
BFO				pmax	pmax		
	comp=Z,129nm,1.4s						
BFO	**Black Forest**	**21.42**	**127**	P	**P**	**01 35 27.4**	**-2.6**
BFO				IAmb	IAmb	01 35 37.8	
	comp=Z,129nm,1.4s						
VSU	**Vasula**	**21.59**	**86**	*i* P	**P**	**01 35 31.2**	**-0.5**
VSU				pmax	pmax		
	comp=Z,83nm,1.1s						
FRB	**Frobisher Bay**	**21.76**	**291**	LR	LR	01 43 34.1	
	comp=Z,718nm,18.9s,baz=68,slow=36						
PVCC	**Panska Ves**	**21.92**	**115**	AMS	AMS	01 45 00.0	
	comp=Z,1μm,16.0s						
PRA	**Prague**	**22.23**	**116**	*e*P	**P**	**01 35 40.8**	**+2.2**
PRA				*e*S	Sn	01 39 49.5	-4.9
PRA				AMS	AMS	01 47 10.0	
	comp=Z,600nm,12.9s						
PRA	**Prague**	**22.23**	**116**	*e*P	**P**	**01 35 40.8**	**+2.2**
PRA				MLR	MLR		
	comp=Z,600nm,12.9s						
PRU	**Pruhonice**	**22.33**	**116**	*e*P	**P**	**01 35 40.9**	**+1.1**
PRU				*e*S	**S**	**01 39 49.3**	**+4.3**
PRU				AMS	AMS	01 47 10.0	
	comp=Z,1μm,13.2s						
PRU	**Pruhonice**	**22.33**	**116**	*

comp=Z,32nm,1.5s,SNR=10
IZAR Zarasai 23.05 92 *e*P **P** **01 35 48.1 +0.9**
ISAL Salakas 23.11 92 *e*P **P** **01 35 50.0 +2.1**
KRLC Kraliky 23.15 112 *e*P **P** **01 35 48.3 -0.1**
KRLC *e*S Sn 01 40 09.1 -7.5
KRLC AMS AMS 01 45 00.0
comp=Z,800nm,18.7s
KRLC Kraliky 23.15 112 *e*P **P** **01 35 48.3 -0.1**
KRLC MLR MLR
comp=Z,800nm,18.7s
MOTA Moosalm 23.23 124 *e*P **P** **01 35 50.2 +0.8**
comp=Z,72nm,1.9s,SNR=15
TREC Trest 23.26 115 *e*P **P** **01 35 49.9 +0.4**
TREC *e*S **S** **01 40 06.3 +4.9**
TREC AMS AMS 01 45 50.0
comp=Z,900nm,15.0s
TREC Trest 23.26 115 *e*P **P** **01 35 49.9 +0.4**
TREC *e*S **S** **01 40 06.3 +4.9**
TREC MLR MLR
comp=Z,900nm,15.0s
PGAV Gavieira, Arco 23.28 162 *e*P **P** **01 35 52.2 +2.4**
comp=Z,94nm,1.8s
PGAV *i* LQ LQ 01 40 11.0
PGAV *e* LR LR 01 42 02.7
comp=Z,2µm,20.0s
DAVOX Davos/Dischmat 23.29 127 P **P** **01 35 49.6 -0.4**
comp=Z,9.2nm,1.1s,baz=331,slow=8.2,SNR=15
DAVOX S **S** **01 40 06.3 +4.0**
comp=Z,0.8nm,0.8s,baz=356,slow=18,SNR=1.4
DAVOX LR LR 01 45 41.7
comp=Z,886nm,20.1s,baz=328,slow=39
IIGN Ignalina 23.30 93 *e*P **P** **01 35 50.7 +0.9**
TUE Stuetta 23.37 128 IAmb IAmb 01 36 15.0
comp=Z,84nm,1.4s
SQTA Sankt Quirin 23.38 124 *i* P **P** **01 35 53.4 +2.6**
comp=Z,37nm,1.4s,SNR=14
FETA Feichten 23.38 125 *e*P **P** **01 35 53.0 +2.1**
comp=Z,51nm,1.6s
TMCR Tamitsa 23.40 66 *e*P **P** **01 35 49.0 -1.7**
TMCR *e*S **S** **01 40 00.9 -2.5**
TMCR pmax pmax
comp=Z,106nm,1.3s
BEL Belsk 23.44 105 *e*P **P** **01 35 54.0 +2.7**
BEL *e* 01 36 07.2
WTTA Wattenberg 23.49 124 P **P** **01 35 51.9 -0.1**
comp=Z,57nm,1.6s,SNR=14
IDID Didziasalis 23.54 92 *e*P **P** **01 35 53.3 +1.1**
PCAB Cabril 23.56 162 *e*P **P** **01 35 55.6 +3.0**
comp=Z,79nm,1.6s
PBRG Braganca 23.65 160 *e*P **P** **01 35 55.1 +1.6**
comp=Z,67nm,1.8s
VRAC Vranov 23.68 114 P **P** **01 35 53.7 0.0**
comp=Z,6.3nm,1.0s,baz=327,slow=9.7,SNR=21
VRAC S **S** **01 40 17.3 +9.0**
comp=Z,0.7nm,0.5s,baz=43,slow=16,SNR=1.2
VRAC LR LR 01 46 10.0
comp=Z,999nm,18.7s,baz=330,slow=39
VRAC Vranov 23.68 114 ⇑P **P** **01 35 54.4 +0.7**
VRAC Vranov 23.68 114 *e*P **P** **01 35 52.6 -1.1**
VRAC *e*S **S** **01 40 16.3 +8.0**
VRAC Vranov 23.68 114 ⇑P **P** **01 35 54.4 +0.7**
MORC Moravsky Berou 23.69 112 ⇑P **P** **01 35 52.4 -1.3**
MORC Moravsky Berou 23.69 112 *e*P **P** **01 35 53.0 -0.8**
MORC *e*S **S** **01 40 14.7 +6.3**
MORC Moravsky Berou 23.69 112 ⇑P **P** **01 35 52.4 -1.3**
BNI Bardonecchia 23.76 134 P **P** **01 35 51.0 -3.6**
BNI pmax pmax
comp=Z,113nm,1.7s
BNI Bardonecchia 23.76 134 P **P** **01 35 51.0 -3.6**
KRUC Moravsky 23.80 114 *e*P **P** **01 35 53.8 -1.0**
KRUC *e*S **S** **01 40 20.0 +10**
NACGM Naroch 23.84 93 *e*P **P** **01 35 55.0 -0.1**
NACGM *e*S **S** **01 40 10.0 -0.5**
NACGM *e*LQ LQ 01 42 46.0
NACGM *e*LR LR 01 46 34.0
NACGM LRM MLR 01 47 19.0
comp=Z,2.2nm,14.0s
OKC Ostrava-Krasne 23.88 111 *e*P **P** **01 35 56.0 +0.4**
OKC *e*S **S** **01 40 20.0 +8.6**
OKC AMS AMS 01 45 10.0
comp=Z,800nm,16.1s
OKC Ostrava-Krasne 23.88 111 *e*P **P** **01 35 56.0 +0.4**
OKC MLR MLR
comp=Z,800nm,16.1s
POLO Lamas de Olo 23.93 162 *e*P **P** **01 35 57.9 +1.7**
comp=Z,39nm,1.6s
MOA Molln 23.97 119 *i* P **P** **01 35 58.1 +1.6**
comp=Z,30nm,1.7s,SNR=9.5
PVRL Vila Real 24.03 162 *e*P **P** **01 36 00.4 +3.3**
comp=Z,78nm,1.7s
MVO Moncorvo 24.24 160 *e*P **P** **01 36 00.9 +1.8**
comp=Z,96nm,1.7s
MVO *i* LQ LQ 01 40 30.3
MVO *e* LR LR 01 42 32.5
comp=Z,1µm,18.0s
ABTA Abfaltersbach 24.25 123 *i* P **P** **01 36 02.7 +3.6**
comp=Z,42nm,1.5s,SNR=8.5
OJC Ojcow 24.26 108 *e*P **P** **01 36 00.0 +0.9**
OJC Ojcow 24.26 108 IAmb IAmb 01 36 15.6
comp=Z,53nm,1.5s
KBA Koelnbreinsper 24.27 121 *i* P **P** **01 36 02.2 +2.8**
comp=Z,58nm,1.7s,SNR=8.1
JAVC Velka Javorina 24.47 113 *e*P **P** **01 36 01.0 -0.1**
JAVC *e*S **S** **01 40 30.1 +9.2**
CONA Conrad Observa 24.51 117 *i* P **P** **01 36 02.2 +0.7**
comp=Z,17nm,1.2s,SNR=6.0
PVIS Viseu 24.56 162 *e*P **P** **01 36 05.1 +3.1**
comp=Z,68nm,1.6s
MICGM Minsk 24.58 93 *e*P **P** **01 36 03.0 +1.0**
MICGM *e*S **S** **01 40 23.0 +0.5**
MICGM *e*LR LR 01 47 20.0
MNK Minsk 24.58 93 *e*P **P** **01 36 03.0 +1.0**
MNK *e*S **S** **01 40 23.0 +0.5**
CIMO Cimolais 24.59 124 IAmb IAmb 01 36 23.2
comp=Z,31nm,1.2s
SMOL Smolenice 24.65 114 *e*P **P** **01 36 03.0 +0.3**
SMOL pmax pmax
comp=Z,39nm,1.7s
SMOL Smolenice 24.65 114 *e*P **P** **01 36 03.0 +0.3**
MODS Modra-Piesok 24.70 114 *e*P **P** **01 36 03.0 -0.2**
MODS pmax pmax
comp=Z,68nm,1.5s
MODS Modra-Piesok 24.70 114 *e*P **P** **01 36 03.0 -0.2**
MYKA Terra Mystica 24.76 122 *e*P **P** **01 36 07.7 +3.9**
comp=Z,30nm,1.4s
PRED Cave del Predi 24.89 122 IAmb IAmb 01 36 22.9
comp=Z,50nm,1.4s
MTE Manteigas 24.92 162 *e*P **P** **01 36 07.3 +2.1**
comp=Z,111nm,1.6s
MTE *i* LQ LQ 01 40 45.8
MTE *e* LR LR 01 42 51.6
comp=Z,2µm,18.0s
ARSA Arzberg 24.94 118 *i* P **P** **01 36 06.5 +1.2**
comp=Z,19nm,1.3s,SNR=6.5
LANS Liptovska Anna 24.96 110 *e*P **P** **01 36 06.9 +1.4**
LANS pmax pmax
comp=Z,15nm,1.3s
LANS Liptovska Anna 24.96 110 *e*P **P** **01 36 06.8 +1.3**
COI Coimbra 24.99 163 *e*P **P** **01 36 08.8 +3.0**
comp=Z,129nm,1.6s
NIE Niedzica 25.08 109 *e*P **P** **01 36 06.7 +0.1**
NIE *e* 01 36 17.4
CADS Cadrg 25.14 122 *e*P **P** **01 36 08.5 +1.4**
PCAS Casmilo, Conde 25.14 163 *e*P **P** **01 36 10.5 +3.4**
comp=Z,109nm,1.6s
OBKA Obir 25.20 120 *e*P **P** **01 36 11.1 +3.4**
comp=Z,27nm,1.4s
VYHS Vyhne 25.22 112 *e*P **P** **01 36 08.1 +0.3**
VYHS pmax pmax
comp=Z,81nm,1.7s
VYHS Vyhne 25.22 112 *e*P **P** **01 36 08.1 +0.3**
PCBR Castelo Branco 25.48 162 *e*P **P** **01 36 12.2 +2.0**
comp=Z,75nm,1.6s
LJU Ljubljana 25.58 121 *i* P **P** **01 36 13.2 +2.1**
PSBE So Bento 25.63 164 *e*P **P** **01 36 11.2 -0.4**
comp=Z,91nm,1.7s
KLMR Klimovskoe 25.65 72 *e*P **P** **01 36 10.5 -1.0**
KLMR *e* 01 39 40.9
KLMR *e*S **S** **01 40 38.8 -0.7**
KLMR pmax pmax
comp=Z,60nm,1.3s
KLMR Klimovskoe 25.65 72 *e*P **P** **01 36 10.6 -1.0**
KLMR AMP 01 36 15.7
comp=Z,60nm,1.3s
KLMR *e*PcP **PcP** **01 39 41.0 -0.6**
KLMR *e*S **S** **01 40 38.9 -0.6**
KLMR *e*S **S** **01 40 38.9 -0.6**
KLMR LQ LQ 01 43 15.7
KLMR LQ LQ 01 43 15.7
KLMR LR LR 01 44 19.0
UCM Universidad Co 25.71 154 *e*P **P** **01 36 14.0 +1.7**
UCM *e*S **S** **01 40 46.7 +5.9**
PMRV Marv??o 25.89 162 *e*P **P** **01 36 17.7 +3.7**
comp=Z,88nm,1.7s
PMRV *i* LQ LQ 01 41 00.2
PMRV *e* LR LR 01 43 23.1
comp=Z,2µm,18.0s
KECS Kecovo 25.90 110 *e*P **P** **01 36 15.5 +1.6**
KECS pmax pmax
comp=Z,18nm,1.3s
KECS Kecovo 25.90 110 *e*P **P** **01 36 15.5 +1.6**
KWP Kalwaria Pacla 25.91 106 *e*P **P** **01 36 15.7 +1.6**
CRVS Cervenica-Dubn 25.96 108 *e*P **P** **01 36 14.6 0.0**
CRVS pmax pmax
comp=Z,88nm,1.5s
CRVS Cervenica-Dubn 25.96 108 *e*P **P** **01 36 14.6 0.0**
SCHQ Schefferville 26.02 272 P **P** **01 36 14.9 -0.1**
comp=Z,21nm,0.9s,baz=64,slow=9.9,SNR=7.0
SCHQ LR LR 01 44 54.5
comp=Z,530nm,19.2s,baz=74,slow=33
SCHQ Schefferville 26.02 272 P **P** **01 36 12.5 -2.5**
SCHQ IAmb IAmb 01 36 19.6
comp=Z,27nm,0.9s
PSZ Piszkesteto 26.11 112 ⇑P **P** **01 36 16.3 +0.4**
PSZ Piszkesteto 26.11 112 ⇑P **P** **01 36 16.3 +0.4**
ESDC Sonseca Array 26.19 156 P **P** **01 36 16.4 -0.3**
comp=Z,8.0nm,1.1s,baz=345,slow=7.8,SNR=27
ESDC LR LR 01 46 36.1
comp=Z,2µm,18.3s,baz=330,slow=36
ESDC Sonseca Array 26.19 156 P **P** **01 36 16.8 +0.1**
PAB San Pablo 26.25 156 IAmb IAmb 01 36 31.8
comp=Z,35nm,1.4s
KOLS Kolonicke sedl 26.27 107 *e*P **P** **01 36 16.8 -0.5**
KOLS pmax pmax
comp=Z,68nm,1.5s
KOLS Kolonicke sedl 26.27 107 *e*P **P** **01 36 16.8 -0.5**
LVV L'vov 26.32 104 *e*P **P** **01 36 18.7 +1.0**
LVV *e* 01 37 14.0
LVV *e*S **S** **01 40 47.8 -2.4**
LVV *e*SS **SnSn** **01 41 59.5 +10**
LVV MLR MLR
comp=Z,500nm,13.0s
LIS Lisbon 26.38 165 *e*P **P** **01 36 18.7 +0.4**
LIS AMb AMB 01 36 25.4
comp=Z,73nm,1.8s
LIS *e*S **S** **01 40 52.7 +1.4**
LIS Lisbon 26.38 165 *e*P **P** **01 36 18.7 +0.4**
LIS *e*S **S** **01 40 52.7 +1.4**
UZH Uzhgorod 26.52 108 *e*P **P** **01 36 20.4 +0.9**
UZH *e*S **S** **01 40 49.0 -4.3**
UZH pmax pmax
comp=Z,10.0nm,1.2s
UZH MLR MLR
comp=N,300nm,16.0s
UZH MLR MLR
comp=E,230nm,16.0s
UZH MLR MLR
comp=Z,90nm,16.0s
RES Resolute Bay 26.52 324 P **P** **01 36 20.3 +1.0**
comp=Z,3.7nm,1.0s,baz=83,slow=15,SNR=2.9
RES LR LR 01 46 32.9
comp=Z,1µm,19.4s,baz=73,slow=36
RES Resolute Bay 26.52 324 IAmb IAmb 01 36 29.7
comp=Z,17nm,1.2s
MURB Monte Urbino 27.27 127 P **P** **01 36 23.8 -2.7**
MAHO Mahon 27.81 142 *e*P **P** **01 36 32.9 +1.7**
MAHO *e*S S 01 41 25.0 +11
MORF Marmelete 27.83 165 *e*S **S** **01 41 15.6 +1.3**
PVAQ Vaqueiros 27.84 163 *i* LQ LQ 01 41 30.8
PVAQ *e*LR LR 01 44 16.4
comp=Z,2µm,22.0s
AKASG Malin Array Be 27.85 97 P **P** **01 36 31.0 -0.5**
comp=Z,2.7nm,0.7s,baz=322,slow=9.2,SNR=14
AKASG LR LR 01 48 28.9
comp=Z,406nm,18.7s,baz=320,slow=38
AKASG Malin Array Be 27.85 97 *i* P **P** **01 36 33.2 +1.7**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 27.85 97 *ce*P **P** **01 36 32.4 +0.9**
AKBB Malin Array Si 27.85 97 IAmb IAmb 01 37 31.9
comp=Z,24nm,1.4s
OBN Obninsk 27.91 84 P **P** **01 36 32.3 +0.4**
comp=Z,4.3nm,0.8s,baz=305,slow=8.4,SNR=11
OBN LR LR 01 47 09.1
comp=Z,87nm,20.8s,baz=335,slow=35
OBN Obninsk 27.91 84 ⇑P **P** **01 36 32.7 +0.8**
OBN Obninsk 27.91 84 ⇑P **P** **01 36 32.7 +0.8**
OBN Obninsk 27.91 84 P **P** **01 36 27.2 -4.8**
MOS Moscow 27.95 82 *e*P **P** **01 36 33.0 +0.7**
MOS *e* 01 37 20.1
MOS *e*PPP PPP 01 37 31.0
MOS *e*S **S** **01 41 16.4 +0.6**
MOS *e*SS **SnSn** **01 42 36.9 +7.5**
MOS pmax pmax
comp=Z,61nm,1.8s
MOS MLR MLR
comp=Z,300nm,15.0s
BURAR Bucovina Array 28.52 106 P **P** **01 36 33.9 -3.8**
BZS Buzias 28.67 112 ⇑P **P** **01 36 39.8 +1.0**
BZS Buzias 28.67 112 ⇑P **P** **01 36 39.8 +1.0**
CART Cartagena 28.77 152 *e*P **P** **01 36 40.8 +1.0**
CART *e*S S 01 41 44.3 +15
EMAL Malaga-Limoner 28.95 158 *e*P **P** **01 36 42.5 +1.2**
EMAL *es* S 01 41 45.9 +14
SFS San Fernando 28.97 161 *e*P **P** **01 36 41.0 -0.6**
GZR Gura Zlata 29.32 111 ⇓P **P** **01 36 44.7 0.0**
GZR Gura Zlata 29.32 111 ⇓P **P** **01 36 44.7 0.0**
BIZ Bicaz 29.43 106 ⇓P **P** **01 36 48.6 +3.0**
HERR Herculane 29.60 112 ⇑P **P** **01 36 46.9 -0.1**
DOPR Dopca 29.91 108 ⇑P **P** **01 36 50.1 +0.3**
ARR Arges 30.09 109 ⇑P **P** **01 36 52.9 +1.4**
VOIR 30.20 109 ⇑P **P** **01 36 55.4 +2.9**
VOIR 30.20 109 ⇑P **P** **01 36 55.4 +2.9**
PLOR Plostina 30.53 106 ⇑P **P** **01 36 57.3 +2.0**
PLOR Plostina 30.53 106 ⇑P **P** **01 36 57.3 +2.0**
MLR Muntele Rosu 30.53 108 ⇑P **P** **01 36 55.7 +0.2**
MLR Muntele Rosu 30.53 108 P **P** **01 36 52.1 -3.3**
MLR pmax pmax
comp=Z,36nm,1.4s
MLR Muntele Rosu 30.53 108 P **P** **01 36 52.1 -3.3**
MLR IAmb IAmb 01 37 01.5
comp=Z,36nm,1.4s
VRI Vrincioaia 30.55 106 ⇓P **P** **01 36 58.8 +3.3**
VRI Vrincioaia 30.55 106 ⇓P **P** **01 36 58.8 +3.3**
MILM Milestii Mici 30.58 103 ⇑P **P** **01 36 53.1 -2.6**
LPSR Galich'ya Gora 30.66 86 *e*P **P** **01 36 56.3 0.0**
LPSR pmax pmax
comp=Z,20nm,1.3s
BISRR Bisoca 30.80 107 ⇑P **P** **01 36 59.9 +2.1**
KIRV Kirov 31.03 69 *ce*P **P** **01 37 00.7 +1.2**
ISR Istrita 31.07 107 ⇑P **P** **01 37 02.4 +2.2**
ISR Istrita 31.07 107 ⇑P **P** **01 37 02.4 +2.2**
CFR Carcaliu 31.69 106 ⇑P **P** **01 37 05.7 +0.2**
CFR Carcaliu 31.69 106 ⇑P **P** **01 37 05.7 +0.2**
VSR Storozhevoye 31.76 87 *e*P **P** **01 37 06.7 +0.7**
VSR pmax pmax
comp=Z,30nm,1.5s
PMOZ Porto Moniz, M 31.79 179 *e*LR LR 01 45 36.8
comp=Z,820nm,20.0s
AVE Averroes 31.93 164 *e*S S 01 42 27.4 +8.8
IFR Ifrane 32.02 160 *e*S S 01 42 31.8 +11
CLTB Caltabellotta 32.60 131 P **P** **01 37 10.3 -3.4**
CHGQ Chibougamau 32.77 271 P **P** **01 37 15.2 +0.3**
baz=42
VRH Novokhopyorsk 32.87 85 *e*P **P** **01 37 15.9 +0.1**
VRH pmax pmax
comp=Z,30nm,1.2s
KEST Kesra 33.11 138 P **P** **01 37 18.1 -0.1**
comp=Z,9.5nm,1.1s,baz=293,slow=11,SNR=10
KEST LR LR 01 50 48.6
comp=Z,1µm,18.3s,baz=302,slow=36
E62A Clayton Lake 33.20 263 P **P** **01 37 18.1 -0.6**
baz=38
H66A Whiting 33.71 258 P **P** **01 37 23.2 0.0**
baz=36
F63A Nahmakanta, Br 33.74 261 P **P** **01 37 23.4 0.0**
baz=38
E61A Lac Etchemin 33.76 263 P **P** **01 37 23.9 +0.2**
baz=38
G64A Maxfield 33.95 260 P **P** **01 37 26.3 +1.0**
baz=37
PKME Peaks-Kenny Pk 34.17 261 P **P** **01 37 27.6 +0.4**
baz=37
H65A Eastbrook 34.18 259 P **P** **01 37 27.1 -0.2**
baz=36
E60A Ste Agathe de 34.22 264 P **P** **01 37 28.2 +0.6**
baz=38
D58A Chemin du LacG 34.27 266 P **P** **01 37 28.2 +0.2**
baz=39
F61A St Evariste 34.33 263 P **P** **01 37 29.0 +0.4**
baz=38
G63A Kingsbury 34.43 261 P **P** **01 37 29.8 +0.4**
baz=37
AGG Agios Georgios 34.55 118 P **P** **01 37 27.3 -3.3**
AGG pmax pmax
comp=Z,64nm,1.3s
AGG Agios Georgios 34.55 118 P **P** **01 37 27.3 -3.3**
H64A Troy 34.64 260 P **P** **01 37 31.6 +0.4**
baz=37
F60A Warwick 34.75 264 P **P** **01 37 32.8 +0.6**
baz=38
E58A La Victoria 35.00 266 P **P** **01 37 33.9 -0.5**
baz=38
G61A St-Isidore-de- 35.11 263 P **P** **01 37 35.0 -0.3**
baz=37
D56A ZEC Mazanza, M 35.11 268 P **P** **01 37 34.6 -0.7**
baz=39
F59A Saint Guilaume 35.20 265 P **P** **01 37 37.0 +1.0**
baz=38
E57A Chemin Saint G 35.34 267 P **P** **01 37 38.1 +0.7**
baz=38
D55A Sainte-Anne-du 35.44 269 P **P** **01 37 38.3 +0.1**
baz=39
G60A Masonville 35.60 264 P **P** **01 37 38.9 -0.7**
baz=37
E56A St. Veronique 35.62 268 P **P** **01 37 39.1 -0.7**
baz=39
ANN Anapa 35.92 96 *e*P **P** **01 37 41.3 -1.0**
ANN pmax pmax
comp=Z,65nm,1.3s
ANN MLR MLR
comp=Z,670nm,14.0s
ARU Arti 36.13 66 *c i*P **P** **01 37 45.6 +1.6**
ARU 01 39 02.8
ARU S **S** **01 43 26.8 +3.6**
ARU SS **SnSn** **01 45 54.0 +6.0**
ARU pmax pmax
comp=Z,20nm,1.3s
ARU MLR MLR
comp=Z,973nm,17.0s
I62A Tamworth 36.16 261 P **P** **01 37 45.1 +0.8**
baz=36
G58A Ormstown 36.30 265 P **P** **01 37 45.3 -0.2**
baz=38
FRNY Flat Rock 36.35 265 IAmb IAmb 01 37 55.1
comp=Z,59nm,1.8s
NRIK Noril'sk 36.54 35 P **P** **01 37 46.7 -0.6**
comp=Z,5.8nm,1.1s,baz=312,slow=7.6,SNR=7.5
NRIK Noril'sk 36.54 35 *ce*P **P** **01 37 47.8 +0.5**
H59A Cadyville 36.55 265 P **P** **01 37 48.0 +0.3**
baz=37
SVE Sverdlovsk 36.67 64 *e*P **P** **01 37 48.9 +0.4**
SVE *e*S **S** **01 43 39.6 +8.3**
SVE pmax pmax
comp=Z,14nm,1.5s
SVE MLR MLR
comp=Z,1µm,18.0s
G57A Newington 36.74 266 P **P** **01 37 49.2 0.0**
baz=38
C36M Paulatuk 36.88 325 P **P** **01 37 50.9 +0.8**
baz=44
I60A Shoreham 37.02 263 P **P** **01 37 51.4 -0.2**
baz=36
HRV Adam Dziewonsk 37.36 260 P **P** **01 37 53.9 -0.7**
baz=35
ALGO Algonquin Park 37.39 270 P **P** **01 37 55.1 +0.3**
baz=38
G54A Lake Saint Pet 37.84 269 P **P** **01 37 57.3 -1.4**
baz=38
J59A Piesco 37.84 264 P **P** **01 37 58.4 -0.3**
baz=36
SOC Sochi 37.88 95 *e*P **P** **01 38 00.7 +1.7**
SOC *e* 01 39 22.2
SOC *e*PPP PPP 01 39 46.9
SOC *e*S **S** **01 43 53.0 +3.0**
SOC *e*SS **SnSn** **01 46 29.9 -0.7**
SOC *e*SSS SSS 01 46 52.3
SOC pmax pmax
comp=Z,10.0nm,0.9s
SOC MLR MLR
comp=Z,434nm,14.0s
I57A Carthage 37.96 266 P **P** **01 37 59.1 -0.5**
baz=37
GOF Gofitskoye 38.13 91 ⇓ *i*P **P** **01 38 03.3 +2.2**
GOF pmax pmax
comp=Z,134nm,1.4s
BR131 Keskin Array S 38.48 105 *i* P **P** **01 38 04.8 +0.5**
BR131 Keskin Array S 38.48 105 P **P** **01 38 01.2 -3.0**
BRTR Keskin Array B 38.48 105 P **P** **01 38 04.8 +0.5**
comp=Z,4.6nm,0.8s,baz=322,slow=7.8,SNR=13
BRTR LR LR 01 56 32.5
comp=Z,159nm,18.1s,baz=315,slow=40
BRTR Keskin Array B 38.48 105 *i* P **P** **01 38 06.4 +2.2**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
K59A Cooperstown 38.55 264 P **P** **01 38 04.8 +0.2**
baz=36
H53A Bobcaygeon 38.71 269 P **P** **01 38 06.2 +0.3**
baz=37
SADO Sadowa 38.80 270 P **P** **01 38 07.5 +0.9**
comp=Z,6.9nm,0.8s,baz=53,slow=9.8,SNR=2.5
SADO LR LR 01 52 33.8
comp=Z,692nm,19.3s,baz=52,slow=34
SADO Sadowa 38.80 270 IAmb IAmb 01 38 13.0
comp=Z,21nm,1.1s
KIV Kislovodsk 38.86 92 *e*P **P** **01 38 06.9 -0.4**
KIV *e* 01 39 36.1
KIV *e*S **S** **01 44 04.7 -0.3**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,810nm,16.0s
L59A Walton 39.11 263 P **P** **01 38 09.0 -0.4**
baz=35
KBZ Khabaz 39.13 92 P **P** **01 38 09.7 +0.3**
comp=Z,5.2nm,0.8s,baz=314,slow=5.8,SNR=12
KBZ LR LR 01 54 50.1
comp=Z,373nm,19.8s,baz=325,slow=37
KBZ Khabaz 39.13 92 *ce*P **P** **01 38 11.9 +2.5**
YKA Yellowknife Ar 39.25 313 P **P** **01 38 11.4 +1.2**
comp=Z,13nm,1.1s,baz=39,slow=8.9,SNR=9.2
YKA PcP **PcP** **01 40 18.3 -0.6**
comp=Z,5.5nm,1.1s,baz=50,slow=3.3,SNR=3.1
YKA LR LR 01 54 22.6
comp=Z,520nm,18.5s,baz=0.0,slow=36
INK Inuvik 39.90 329 P **P** **01 38 15.8 +0.2**
comp=Z,10.0nm,1.0s,baz=35,slow=9.5,SNR=12
INK PcP **PcP** **01 40 20.4 -0.3**
comp=Z,5.0nm,1.1s,baz=66,slow=8.0,SNR=3.9
L57A Andrews Acres 40.04 265 P **P** **01 38 17.8 +0.7**
baz=35
L56A Greenwood 40.23 266 P **P** **01 38 18.8 +0.1**
baz=35
ZEI Tsey 40.33 92 *e*P **P** **01 38 20.2 +0.5**
ZEI pmax pmax
comp=Z,26nm,1.8s
AKTO Aktyubinsk 40.33 73 P **P** **01 38 19.4 0.0**
comp=Z,8.5nm,1.0s,baz=324,slow=9.9,SNR=15
M58A Price's Panora 40.39 264 P **P** **01 38 20.2 +0.3**
baz=35
M57A Sunshine Farm, 40.70 265 P **P** **01 38 22.7 +0.1**
baz=35
N58A Sunbury 40.93 264 P **P** **01 38 24.2 -0.3**
baz=34
N57A Milroy 41.36 265 P **P** **01 38 29.1 +1.1**
baz=34
N56A West Decatur 41.55 265 P **P** **01 38 29.4 -0.1**
baz=35
EYMN Ely 41.58 283 P **P** **01 38 30.3 +0.6**
baz=39
ULM Lac du Bonnet 41.61 289 LR LR 01 55 40.7
comp=Z,370nm,18.6s,baz=50,slow=36
O58A Lewisberry 41.62 263 P **P** **01 38 31.2 +1.1**
baz=34
M54A Oil Creek Stat 41.65 267 P **P** **01 38 31.1 +0.7**
baz=35

M54A	**Oil Check Stat**	**41.65**	**267**	IAmb	IAmb	01 38 33.1			
	comp=Z,29nm,1.3s								
MAK	**Makhachkala**	**41.74**	**89**	*eP*	**P**	**01 38 27.3**	**-3.7**		
MAK				*eS*	**S**	**01 44 41.2**	**-6.5**		
MAK				*eSS*	**SS**	**01 47 54.4**	**+1.4**		
MAK				pmax	pmax				
	comp=Z,295nm,1.1s								
MAK				MLR	MLR				
	comp=Z,583nm,12.0s								
O57A	**Amberson**	**41.85**	**264**	P	**P**	**01 38 32.7**	**+0.7**		
	baz=34								
N55A	**Marion Center**	**41.96**	**266**	P	**P**	**01 38 33.6**	**+0.7**		
	baz=34								
ABKAR	**Akbulak array**	**42.03**	**73**	P	**P**	**01 38 29.4**	**-4.0**		
Q60A	**Greensboro**	**42.09**	**262**	P	**P**	**01 38 34.9**	**+1.0**		
	baz=33								
TIXI	**Tiksi**	**42.12**	**15**	*ceP*	**P**	**01 38 35.5**	**+1.7**		
TIXI				pmax	pmax				
	comp=Z,134nm,1.3s								
M53A	**WI Miller and**	**42.15**	**268**	P	**P**	**01 38 34.9**	**+0.5**		
	baz=35								
O56A	**Blue Knob Stat**	**42.20**	**265**	P	**P**	**01 38 35.8**	**+0.9**		
	baz=34								
N54A	**Moraine State**	**42.24**	**267**	P	**P**	**01 38 35.3**	**+0.1**		
	baz=35								
P58A	**Pank, Wackersv**	**42.30**	**263**	P	**P**	**01 38 36.0**	**+0.3**		
	baz=34								
P57A	**Homestead Farm**	**42.61**	**264**	P	**P**	**01 38 40.0**	**+1.8**		
	baz=34								
TOLK	**Toolik Lake Re**	**42.81**	**336**	P	**P**	**01 38 40.9**	**+1.3**		
	baz=28,SNR=23								
R60A	**Leonardtown, M**	**43.01**	**262**	P	**P**	**01 38 42.2**	**+0.8**		
	baz=33								
O54A	**Avella**	**43.05**	**267**	P	**P**	**01 38 42.5**	**+0.7**		
	baz=34								
N52A	**McGinn's Farm,**	**43.10**	**269**	P	**P**	**01 38 42.6**	**+0.5**		
	baz=35								
AGMN	**Agassiz Nation**	**43.12**	**287**	P	**P**	**01 38 42.7**	**+0.4**		
	baz=38								
Q57A	**Strasburg**	**43.16**	**264**	P	**P**	**01 38 42.5**	**-0.1**		
	baz=33								
BRVK	**Borovoye**	**43.19**	**62**	*ceP*	**P**	**01 38 44.1**	**+1.4**		
BRVK				pmax	pmax				
	comp=Z,22nm,1.7s								
BRVK	**Borovoye**	**43.19**	**62**	P	**P**	**01 38 38.7**	**-4.0**		
BRVK				IAmb	IAmb	01 38 46.7			
	comp=Z,32nm,1.6s								
MCWV	**Mont Chateau**	**43.26**	**266**	P	**P**	**01 38 43.5**	**+0.1**		
	baz=34								
N51A	**Ashland**	**43.31**	**269**	P	**P**	**01 38 44.0**	**+0.2**		
	baz=35								
O53A	**New Philadelph**	**43.36**	**268**	P	**P**	**01 38 44.9**	**+0.6**		
	baz=34								
P55A	**Reedsville**	**43.37**	**266**	P	**P**	**01 38 44.3**	**-0.1**		
	baz=34								
P54A	**Burton**	**43.58**	**266**	P	**P**	**01 38 46.3**	**+0.3**		
	baz=34								
R58A	**Rapidan**	**43.60**	**263**	P	**P**	**01 38 45.9**	**-0.3**		
	baz=33								
O52A	**Adamsville**	**43.73**	**268**	P	**P**	**01 38 48.0**	**+0.7**		
	baz=34								
O51A	**Pataskala**	**44.04**	**269**	P	**P**	**01 38 51.0**	**+1.3**		
	baz=34,SNR=8.1								
P53A	**Whipple**	**44.06**	**267**	P	**P**	**01 38 51.1**	**+1.2**		
	baz=34,SNR=5.6								
R56A	**Bull Pasture M**	**44.11**	**264**	P	**P**	**01 38 50.6**	**+0.2**		
	baz=33								
ACSO	**Alum Creek Sta**	**44.13**	**269**	P	**P**	**01 38 51.0**	**+0.5**		
	baz=34								
COLD	**Coldfoot**	**44.18**	**336**	P	**P**	**01 38 51.1**	**+0.5**		
	baz=27								
Q54A	**Coxs Mills**	**44.24**	**266**	P	**P**	**01 38 52.1**	**+0.7**		
	baz=34								
P52A	**Corning**	**44.26**	**268**	P	**P**	**01 38 51.8**	**+0.3**		
	baz=34								
TAM	**Tamanrasset**	**44.45**	**149**	IAmb	IAmb	01 38 59.9			
	comp=Z,25nm,1.6s								
T59A	**Double "B" Far**	**44.52**	**262**	P	**P**	**01 38 54.6**	**+1.0**		
	baz=32								
EGAK	**Eagle**	**44.54**	**329**	P	**P**	**01 38 49.5**	**-3.9**		
EGAK				IAmb	IAmb	01 39 00.8			
	comp=Z,20nm,1.3s								
U61A	**Possum Corner**	**44.59**	**260**	P	**P**	**01 38 55.0**	**+0.8**		
	baz=32								
Q53A	**Leroy**	**44.64**	**267**	P	**P**	**01 38 55.4**	**+0.9**		
	baz=34								
P51A	**Williamsport**	**44.79**	**269**	P	**P**	**01 38 56.7**	**+1.0**		
	baz=34								
Q52A	**Bidwell**	**44.88**	**268**	P	**P**	**01 38 57.0**	**+0.5**		
	baz=34								
R54A	**Victor**	**44.98**	**266**	P	**P**	**01 38 57.8**	**+0.6**		
	baz=33								
V61A	**Roper**	**45.11**	**260**	P	**P**	**01 38 59.1**	**+0.8**		
	baz=32								
S55A	**Lewisburg**	**45.11**	**265**	P	**P**	**01 38 58.8**	**+0.5**		
	baz=33								
T57A	**Hurt**	**45.23**	**263**	P	**P**	**01 39 00.4**	**+1.2**		
	baz=32								
R53A	**Hurricane**	**45.27**	**267**	P	**P**	**01 39 00.9**	**+1.3**		
	baz=33								
K27K	**Chicken**	**45.39**	**329**	P	**P**	**01 39 01.7**	**+1.5**		
	baz=30								
S54A	**Dingess, Beckl**	**45.44**	**266**	P	**P**	**01 39 01.4**	**+0.5**		
	baz=33								
P49A	**Miami Univ. Ec**	**45.46**	**270**	P	**P**	**01 39 01.6**	**+0.5**		
	baz=34								
BLA	**Blacksburg**	**45.55**	**264**	P	**P**	**01 39 03.0**	**+1.2**		
	baz=32								
POKR	**Poker Plat Res**	**45.55**	**333**	P	**P**	**01 39 01.5**	**+0.1**		
	baz=28								
ILAR	**Elelson Array**	**45.75**	**332**	P	**P**	**01 39 03.1**	**+0.1**		
	comp=Z,3.5nm,0.9s,baz=25,slow=6.2,SNR=24								
ILAR				PcP	**PcP**	**01 40 41.7**	**+1.3**		
	comp=Z,3.9nm,0.9s,baz=358,slow=3.3,SNR=11								
ILAR				LR	LR	02 00 41.3			
	comp=Z,525nm,20.0s,baz=34,slow=39								
T55A	**Pulaski**	**45.78**	**265**	P	**P**	**01 39 04.2**	**+0.5**		
	baz=32								
SFIN	**Lafayette**	**45.79**	**273**	P	**P**	**01 39 04.1**	**+0.5**		
	baz=34								
P48A	**Milroy**	**45.83**	**271**	IAmb	IAmb	01 39 09.5			
	comp=Z,24nm,1.0s								
COLA	**College**	**45.85**	**333**	*i* P	**P**	**01 39 05.6**	**+1.9**		
COLA				pmax	pmax				
	comp=Z,18nm,1.1s								
TCOL	**CIGO, UAF Yank**	**45.85**	**333**	P	**P**	**01 39 04.3**	**+0.5**		
	baz=27								
SCRK	**Sand Creek**	**45.85**	**330**	P	**P**	**01 39 04.9**	**+0.9**		
	baz=29								
I23K	**Minto, Yukon-K**	**45.89**	**334**	P	**P**	**01 39 06.0**	**+1.9**		
	baz=27,SNR=5.5								
T54A	**Tazewell**	**46.17**	**265**	P	**P**	**01 39 07.8**	**+1.1**		
	baz=32								
MLY	**Manley**	**46.26**	**335**	P	**P**	**01 39 08.5**	**+1.5**		
	baz=26,SNR=14								
NEA2	**Nenana**	**46.33**	**333**	P	**P**	**01 39 08.8**	**+1.1**		
	baz=27,SNR=20								
DGMT	**Dagmar**	**46.36**	**293**	P	**P**	**01 39 09.3**	**+1.2**		
	baz=36								
U55A	**TA2, Sparta**	**46.41**	**265**	P	**P**	**01 39 10.0**	**+1.3**		
	baz=32								
BRZS	**Berezniki**	**46.54**	**63**	*eP*	**P**	**01 39 09.4**	**0.0**		
	comp=Z,10.0nm,1.2s								
BRZS	**Berezniki**	**46.54**	**63**	*eP*	**P**	**01 39 09.4**	**0.0**		
BRZS				pmax	pmax				
	comp=Z,10.0nm,1.2s								
L26K	**Log Cabin Wild**	**46.55**	**329**	P	**P**	**01 39 10.0**	**+0.6**		
	baz=29								
HDIL	**Hopedale**	**46.59**	**275**	P	**P**	**01 39 10.6**	**+0.7**		
	baz=34								
T53A	**Wise**	**46.65**	**266**	P	**P**	**01 39 11.2**	**+0.7**		
	baz=32								
U54A	**Nelsons Funny**	**46.73**	**265**	P	**P**	**01 39 11.4**	**+0.3**		
	baz=32								
V56A	**Mocksville**	**46.76**	**264**	P	**P**	**01 39 11.9**	**+0.6**		
	baz=32								
V55A	**Taylorsville**	**47.04**	**264**	P	**P**	**01 39 14.3**	**+0.8**		
	baz=32								
MCK	**McKinley**	**47.08**	**333**	P	**P**	**01 39 14.4**	**+0.9**		
	baz=26,SNR=5.6								
ECSD	**EROS Data Cent**	**47.09**	**284**	P	**P**	**01 39 14.0**	**+0.1**		
	baz=35								
W57A	**Gilead**	**47.11**	**263**	P	**P**	**01 39 14.6**	**+0.6**		
	baz=32								
DLBC	**Dease Lake**	**47.12**	**318**	P	**P**	**01 39 14.8**	**+0.8**		
	comp=Z,3.9nm,0.8s,baz=346,slow=4.2,SNR=4.1								
DLBC	**Dease Lake**	**47.12**	**318**	IAmb	IAmb	01 40 19.3			
	comp=Z,30nm,1.8s								
WCI	**Wyandotte Cave**	**47.23**	**271**	P	**P**	**01 39 15.7**	**+0.7**		
	baz=33								
W56A	**Indian Trail**	**47.37**	**263**	P	**P**	**01 39 16.5**	**+0.4**		
	baz=32								
V54A	**Nebo**	**47.41**	**265**	P	**P**	**01 39 17.8**	**+1.4**		
	baz=32								
TZTN	**Tazewell**	**47.45**	**267**	P	**P**	**01 39 16.5**	**-0.2**		
	baz=32								
BILL	**Bilibino**	**47.63**	**358**	*i* P	**P**	**01 39 20.6**	**+2.9**		
BILL				pmax	pmax				
	comp=Z,11nm,1.4s								
KMSC	**Kings Mountain**	**47.69**	**264**	P	**P**	**01 39 18.7**	**+0.1**		
	baz=32								
ZAA0	**Zalesovo Array**	**47.70**	**51**	P	P	01 39 13.5	-4.9		
ZALV	**Zalesovo Beam**	**47.70**	**51**	P	**P**	**01 39 18.4**	**0.0**		
	comp=Z,1.7nm,0.9s,baz=330,slow=8.6,SNR=7.1								
ZALV				PcP	**PcP**	**01 40 48.6**	**+1.1**		
	comp=Z,0.4nm,0.3s,baz=301,slow=3.0,SNR=1.8								
ZALV				LR	LR	02 02 18.8			
	comp=Z,287nm,18.0s,baz=298,slow=40								
ZALV	**Zalesovo Beam**	**47.70**	**51**	P	P	01 39 14.3	-4.1		
N25K	**Chitina, Valde**	**48.08**	**329**	P	**P**	**01 39 21.5**	**+0.1**		
	baz=28								
W54A	**Cherokee Point**	**48.10**	**265**	P	**P**	**01 39 23.2**	**+1.4**		
	baz=32								
X56A	**White Oak**	**48.11**	**263**	P	**P**	**01 39 22.9**	**+1.0**		
	baz=31								
KURK	**Kurchatov**	**48.17**	**58**	*ceP*	**P**	**01 39 21.9**	**-0.2**		
KURK				pmax	pmax				
	comp=Z,18nm,1.7s								
KURK	**Kurchatov**	**48.17**	**58**	P	P	01 39 17.1	-5.1		
KURK				IAmb	IAmb	01 39 26.0			
	comp=Z,20nm,1.5s								
TKL	**Tuckaleechee C**	**48.30**	**266**	P	**P**	**01 39 24.1**	**+0.8**		
	comp=Z,4.2nm,1.0s,baz=102,slow=9.3,SNR=2.9								
TKL				LR	LR	01 58 11.9			
	comp=Z,578nm,20.6s,baz=49,slow=34								
TKL	**Tuckaleechee C**	**48.30**	**266**	IAmb	IAmb	01 39 31.7			
	comp=Z,16nm,1.2s								
TNA	**Tin City**	**48.37**	**344**	P	**P**	**01 39 24.0**	**+0.5**		
	baz=17								
X55A	**Gracelyn & Ava**	**48.39**	**264**	P	**P**	**01 39 25.2**	**+1.2**		
	baz=31								
Z58A	**St. Stephen**	**48.58**	**261**	P	**P**	**01 39 25.7**	**+0.3**		
	baz=31								
EGMT	**Eagleton**	**48.89**	**297**	P	**P**	**01 39 28.7**	**+0.9**		
	baz=35,SNR=13								
Z57A	**Bowman**	**48.99**	**262**	P	**P**	**01 39 29.7**	**+1.1**		
	baz=31								
FVM	**French Village**	**49.21**	**274**	P	**P**	**01 39 29.3**	**-1.0**		
FVM				pmax	pmax				
	comp=Z,43nm,1.8s								
FVM	**French Village**	**49.21**	**274**	P	**P**	**01 39 29.2**	**-1.0**		
158A	**Hollywood**	**49.26**	**261**	P	**P**	**01 39 32.2**	**+1.5**		
	baz=30								
W50A	**Signal Mountai**	**49.35**	**268**	IAmb	IAmb	01 39 37.5			
	comp=Z,24nm,1.1s								
CCM	**Cathedral Cave**	**49.50**	**275**	P	**P**	**01 39 33.6**	**+1.1**		
	baz=33								
RC01	**Rabbit Creek A**	**49.64**	**332**	P	**P**	**01 39 34.9**	**+1.6**		
	baz=25								
RSSD	**Black Hills**	**49.84**	**290**	P	**P**	**01 39 35.8**	**+0.6**		
	baz=34								
GOGA	**Godfrey**	**50.08**	**265**	P	**P**	**01 39 38.4**	**+1.5**		
	baz=31								
GOGA	**Godfrey**	**50.08**	**265**	IAmb	IAmb	01 39 42.8			
	comp=Z,14nm,1.1s								
GEYT	**Alibeck**	**50.46**	**83**	P	**P**	**01 39 41.1**	**+1.3**		
	comp=Z,3.8nm,0.8s,baz=333,slow=5.0,SNR=4.1								
GEYT				LR	LR	02 03 33.8			
	comp=Z,386nm,18.4s,baz=350,slow=39								
S39A	**Bolivar**	**50.70**	**276**	IAmb	IAmb	01 41 15.2			
	comp=Z,10.0nm,0.6s								
PLAL	**Pickwick Lake**	**50.73**	**270**	IAmb	IAmb	01 39 46.6			
	comp=Z,15nm,1.2s								
X48A	**Hartselle**	**50.73**	**269**	IAmb	IAmb	01 39 46.9			
	comp=Z,12nm,0.9s								
KOWA	**Kowa**	**50.90**	**163**	P	**P**	**01 39 41.2**	**-2.0**		
KOWA				IAmb	IAmb	01 39 46.6			
	comp=Z,23nm,1.4s								
KSU1	**Kansas State U**	**50.92**	**280**	P	**P**	**01 39 44.2**	**+1.0**		
	baz=33								
RLMT	**Red Lodge**	**51.10**	**295**	P	**P**	**01 39 46.0**	**+1.2**		
	baz=34,SNR=7.0								
BTLS	**Baital**	**51.12**	**66**	*eP*	**P**	**01 39 44.2**	**-0.5**		
	comp=Z,9.3nm,1.4s								
BTLS	**Baital**	**51.12**	**66**	*eP*	**P**	**01 39 44.1**	**-0.5**		
BTLS				pmax	pmax				
	comp=Z,9.0nm,1.4s								
LCAR	**Lake Charles**	**51.14**	**273**	P	**P**	**01 39 43.5**	**-1.3**		
LCAR				IAmb	IAmb	01 39 52.2			
	comp=Z,38nm,1.9s								
KKAR	**Karatay Array**	**51.33**	**70**	P	**P**	**01 39 42.6**	**-3.7**		
KKAR				pmax	pmax				
	comp=Z,42nm,1.7s								
KKAR	**Karatay Array**	**51.33**	**70**	P	**P**	**01 39 42.6**	**-3.7**		
KKAR				IAmb	IAmb	01 39 50.6			
	comp=Z,42nm,1.6s								
YAK	**Yakutsk**	**51.35**	**19**	*i* P	**P**	**01 39 46.5**	**+0.4**		
YAK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
HBAR	**Harrisburg**	**51.36**	**273**	P	**P**	**01 39 46.2**	**-0.3**		
MSO	**Missoula**	**51.47**	**299**	P	**P**	**01 39 47.9**	**+0.5**		
	baz=33								
BOZ	**Bozeman (W)**	**51.62**	**297**	P	**P**	**01 39 49.5**	**+0.9**		
	baz=33,SNR=28								
U40A	**Yellville**	**51.62**	**275**	P	**P**	**01 39 49.1**	**+0.5**		
	baz=32								
U40A	**Yellville**	**51.62**	**275**	IAmb	IAmb	01 39 53.0			
	comp=Z,15nm,1.2s								
LRAL	**Lakeview Retre**	**51.92**	**268**	P	**P**	**01 39 51.4**	**+0.7**		
	baz=31								
IUG	**Iuzhnay**	**51.93**	**71**	*eP*	**P**	**01 39 50.6**	**-0.3**		
IUG	**Iuzhnay**	**51.93**	**71**	*eP*	**P**	**01 39 50.6**	**-0.3**		
K22A	**Casper**	**52.07**	**291**	P	**P**	**01 39 52.0**	**0.0**		
	baz=33								
DGZ	**Jazzator, Alta**	**52.15**	**53**	*i* P	**P**	**01 39 53.7**	**+1.2**		
DGZ				pmax	pmax				
	comp=Z,9.0nm,1.4s								
H17A	**Grant Village**	**52.22**	**295**	P	**P**	**01 39 54.3**	**+1.1**		
	baz=33,SNR=18								
W41B	**Gary Mavity, V**	**52.37**	**274**	P	**P**	**01 39 55.5**	**+1.4**		
	baz=32								
CBKS	**Cedar Bluff**	**52.49**	**283**	P	**P**	**01 39 56.4**	**+1.5**		
	baz=33								
SEY	**Seymchan**	**52.57**	**6**	LR	LR	02 02 27.0			
	comp=Z,202nm,18.9s,baz=344,slow=36								
MAKZ	**Makanchi**	**52.66**	**58**	P	**P**	**01 39 52.4**	**-3.7**		
MAKZ				pmax	pmax				
	comp=Z,26nm,1.5s								
MAKZ	**Makanchi**	**52.66**	**58**	P	**P**	**01 39 52.4**	**-3.7**		
MAKZ				IAmb	IAmb	01 39 59.7			
	comp=Z,26nm,1.5s								
SGDS	**Sogindy**	**52.68**	**66**	*eP*	**P**	**01 39 55.9**	**-0.6**		
	comp=Z,23nm,1.9s								
SGDS	**Sogindy**	**52.68**	**66**	*eP*	**P**	**01 39 55.8**	**-0.6**		
SGDS				pmax	pmax				
	comp=Z,23nm,1.9s								
T35A	**Sooner Cattle**	**52.72**	**279**	IAmb	IAmb	01 40 26.6			
	comp=Z,14nm,0.8s								
MK31	**Makanchi Array**	**52.79**	**58**	*ceP*	**P**	**01 39 57.8**	**+0.7**		
MKAR	**Makanchi Array**	**52.79**	**58**	P	**P**	**01 39 57.0**	**-0.1**		
	comp=Z,2.2nm,0.9s,baz=332,slow=6.8,SNR=14								
MKAR				PP	**PP**	**01 42 01.1**	**+5.1**		
	comp=Z,4.1nm,1.4s,baz=0.0,slow=7.2,SNR=2.6								
MKAR				LR	LR	02 02 38.8			
	comp=Z,310nm,21.6s,baz=320,slow=36								
MKAR	**Makanchi Array**	**52.79**	**58**	*i* P	**P**	**01 39 57.2**	**+0.1**		
MKAR				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MOOW	**Moose Ponds**	**52.83**	**295**	P	**P**	**01 39 54.1**	**-3.5**		
KUU	**Kurty**	**52.98**	**65**	*eP*	**P**	**01 39 58.2**	**-0.4**		
	comp=Z,7.6nm,1.1s								
KUU	**Kurty**	**52.98**	**65**	*eP*	**P**	**01 39 58.1**	**-0.4**		
KUU				pmax	pmax				
	comp=Z,8.0nm,1.1s								
W39A	**Magazine**	**53.01**	**275**	P	**P**	**01 39 59.8**	**+1.0**		
	baz=32								
TOA0	**Torodi Ar. Sit**	**53.08**	**156**	P	**P**	**01 39 58.5**	**-1.0**		
TOA0				IAmb	IAmb	01 40 08.3			
	comp=Z,20nm,1.3s								
TORD	**Torodi Ar. Bea**	**53.08**	**156**	P	**P**	**01 39 58.0**	**-1.5**		
	comp=Z,4.2nm,0.9s,baz=339,slow=7.6,SNR=16								
TORD				LR	LR	02 02 42.6			
	comp=Z,373nm,18.6s,baz=340,slow=36								
TORD	**Torodi Ar. Bea**	**53.08**	**156**	P	**P**	**01 39 57.7**	**-1.7**		
BW06	**Boulder Array**	**53.19**	**293**	P	**P**	**01 40 00.7**	**+0.4**		
	baz=33,SNR=30								
PD31	**Pinedale Array**	**53.19**	**293**	P	**P**	**01 39 58.8**	**-1.5**		
PD31				IAmb	IAmb	01 40 05.3			
	comp=Z,18nm,0.9s								
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**01 39 59.5**	**-0.8**		
	comp=Z,9.2nm,0.8s,baz=52,slow=5.1,SNR=46								
PDAR				LR	LR	02 01 59.2			
	comp=Z,479nm,19.1s,baz=24,slow=35								
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**01 39 59.0**	**-1.3**		
X40A	**Basin Creek Fa**	**53.20**	**274**	P	**P**	**01 40 00.8**	**+0.6**		
	baz=31								
X40A	**Basin Creek Fa**	**53.20**	**274**	IAmb	IAmb	01 40 04.6			
	comp=Z,18nm,1.5s								
N23A	**Red Feather La**	**53.31**	**289**	P	**P**	**01 40 02.2**	**+0.9**		
	baz=32,SNR=20								
AAK	**Ala-Archa**	**53.31**	**67**	*ceP*	**P**	**01 40 01.5**	**+0.3**		
AAK				pmax	pmax				
	comp=Z,77nm,1.7s								
MIAR	**Mount Ida**	**53.47**	**275**	P	**P**	**01 40 03.2**	**+1.0**		
	baz=31								
MIAR	**Mount Ida**	**53.47**	**275**	P	**P**	**01 40 01.0**	**-1.2**		
MIAR				pmax	pmax				
	comp=Z,12nm,1.3s								
MIAR	**Mount Ida**	**53.47**	**275**	P	**P**	**01 40 01.0**	**-1.2**		
BTK	**Batken**	**54.01**	**71**	P	**P**	**01 40 03.5**	**-2.7**		
BTK				pmax	pmax				
	comp=Z,69nm,1.6s								
BTK	**Batken**	**54.01**	**71**	P	**P**	**01 40 03.5**	**-2.7**		
ISCO	**Idaho Springs**	**54.10**	**288**	P	**P**	**01 40 07.7**	**+0.6**		
	baz=32,SNR=5.4								
X37A	**Clayton**	**54.20**	**276**		**PcP**	**01 41 10.2**	**-1.7**		
Z41A	**Richland Creek**	**54.24**	**273**	P	**P**	**01 40 08.9**	**+1.1**		
	baz=31								
KPKS	**Kokpek**	**54.25**	**63**	*eP*	**P**	**01 40 07.3**	**-0.6**		
KPKS	**Kokpek**	**54.25**	**63**	*eP*	**P**	**01 40 07.3**	**-0.6**		
BMO	**Blue Mountains**	**54.40**	**300**	P	**P**	**01 40 06.0**	**-3.1**		
BMO				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BMO	**Blue Mountains**	**54.40**	**300**	P	**P**	**01 40 06.0**	**-3.1**		
HLID	**Hailey**	**54.41**	**297**	P	**P**	**01 40 10.7**	**+1.5**		
	baz=32,SNR=7.3								
SATY	**Saty**	**54.49**	**64**	*eP*	**P**	**01 40 06.9**	**-2.8**		
SATY	**Saty**	**54.49**	**64**	*eP*	**P**	**01 40 06.9**	**-2.8**		
UZB	**Uzynbulak**	**54.65**	**63**	*eP*	**P**	**01 40 11.7**	**+0.7**		
	comp=Z,23nm,2.0s								
UZB	**Uzynbulak**	**54.65**	**63**	*eP*	**P**	**01 40 11.6**	**+0.7**		
UZB				pmax	pmax				
	comp=Z,23nm,2.0s								
GAR	**Garm**	**54.70**	**73**	P	**P**	**01 40 07.7**	**-3.5**		
SHLS	**Shalkode**	**54.81**	**63**	*eP*	**P**	**01 40 13.8**	**+1.7**		
	comp=Z,9.6nm,1.4s								
SHLS	**Shalkode**	**54.81**	**63**	*eP*	**P**	**01 40 13.7**	**+1.7**		
SHLS				pmax	pmax				
	comp=Z,10.0nm,1.4s								
O20A	**White River Ci**	**54.89**	**290**	P	**P**	**01 40 13.9**	**+1.1**		
	baz=32,SNR=8.0								
SMCO	**Snowmass**	**55.18**	**289**	P	**P**	**01 40 13.1**	**-2.1**		
SMCO				IAmb	IAmb	01 40 20.8			
	comp=Z,14nm,1.4s								
HRA	**Herat**	**55.22**	**82**	P	P	01 40 10.8	-4.5		
HRA				IAmb	IAmb	01 40 22.0			
	comp=Z,29nm,1.8s								
WMOK	**Wichita Mounta**	**55.54**	**279**	P	**P**	**01 40 18.6**	**+1.4**		
	baz=31,SNR=15								
SDCO	**Great Sand Dun**	**55.80**	**287**	P	**P**	**01 40 20.0**	**+0.6**		
	baz=31								
SDCO	**Great Sand Dun**	**55.80**	**287**	P	**P**	**01 40 16.0**	**-3.5**		
CTU	**Camp Tracy**	**55.81**	**294**	P	**P**	**01 40 16.2**	**-3.2**		
MA2	**Magadan**	**55.84**	**7**	LR	LR	02 02 10.6			
	comp=Z,153nm,18.8s,baz=344,slow=34								
T25A	**Trinidad**	**55.86**	**285**	P	**P**	**01 40 20.9**	**+1.1**		
	baz=31								
S22A	**4UR Ranch, Cre**	**56.34**	**288**	P	**P**	**01 40 24.3**	**+0.9**		
	baz=31,SNR=6.7								
EMPR	**Esperanza - Ma**	**56.43**	**239**	P	**P**	**01 40 22.8**	**-0.9**		
ZAK	**Zakamensk**	**56.53**	**41**	*eP*	**P**	**01 40 24.0**	**-0.3**		
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.4s								
KSH	**Kashi**	**56.55**	**68**	P	**P**	**01 40 26.5**	**+1.9**		
KSH				S	**S**	**01 48 16.0**	**0.0**		
KSH				pmax	pmax				
	comp=Z,52nm,1.5s								
KSH				pmax	pmax				
	comp=Z,170nm,5.0s								
KSH				LR	LR				
	comp=Z,290nm,10.6s								
KSH				LR	LR				
	comp=Z,210nm,6.1s								
KSH				LR	LR				
	comp=Z,270nm,12.1s								
DUG	**Dugway, Tooele**	**56.66**	**294**	P	**P**	**01 40 26.6**	**+1.2**		
	baz=31,SNR=6.6								
PV10	**Paradox Valley**	**56.71**	**290**	P	**P**	**01 40 24.5**	**-1.4**		
PV10				IAmb	IAmb	01 40 32.0			
	comp=Z,23nm,1.0s								
ELK	**Elko**	**57.13

MNTX	**Cornudas Mount**	**60.95**	**283**	P	**P**	**01 40 56.1**	**+1.0**
	baz=30,SNR=5.6							
MNTX	**Cornudas Mount**	**60.95**	**283**	P	**P**	**01 40 52.5**	**-2.6**
121A	**Cookes Peak, D**	**61.23**	**285**	P	**P**	**01 40 58.1**	**+0.9**
	baz=29							
HIA	**Hailar**	**61.71**	**30**	P	**P**	**01 40 56.8**	**-3.3**
HIA				pmax	pmax			
	comp=Z,9.0nm,0.6s							
HIA	**Hailar**	**61.71**	**30**	P	**P**	**01 40 56.8**	**-3.3**
HIA				IAmb	IAmb	01 41 16.3		
	comp=Z,8.6nm,0.6s							
CWC	**Cottonwood Cre**	**61.97**	**296**	P	**P**	**01 41 03.3**	**+1.2**
	baz=29							
MPMC	**Manual Prospec**	**62.08**	**295**	P	**P**	**01 41 03.5**	**+0.5**
	baz=29							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**01 41 04.3**	**+0.1**
	comp=Z,6.1nm,1.1s,baz=61,slow=4.4,SNR=20							
TXAR				LR	LR	02 07 26.2		
	comp=Z,545nm,19.3s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**01 41 01.8**	**-2.4**
PDMCI	**Parker Dam,Lak**	**62.28**	**292**	P	**P**	**01 41 04.7**	**+0.6**
	baz=29,SNR=5.4							
GMRC	**Granite Mounta**	**62.47**	**293**	P	**P**	**01 41 06.5**	**+1.0**
	baz=29							
GSC	**Goldstone, Bar**	**62.47**	**294**	P	**P**	**01 41 05.7**	**+0.3**
	baz=29							
PETK	**Petropavlovsk-**	**62.58**	**3**	LR	LR	02 07 33.9		
	comp=Z,178nm,20.9s,baz=23,slow=35							
LRMC	**Laurel Mtn Rad**	**62.66**	**295**	P	**P**	**01 41 07.4**	**+0.6**
	baz=28							
TUC	**Tucson**	**62.66**	**288**	P	**P**	**01 41 08.5**	**+1.8**
	baz=29							
ISA	**Isabella, Lake**	**62.80**	**296**	P	**P**	**01 41 09.2**	**+1.5**
	baz=28							
ISA	**Isabella, Lake**	**62.80**	**296**	P	**P**	**01 41 05.7**	**-2.0**
ISA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ISA	**Isabella, Lake**	**62.80**	**296**	P	**P**	**01 41 05.7**	**-2.0**
ISA				IAmb	IAmb	01 41 13.9		
	comp=Z,8.3nm,1.0s							
IRM	**Iron Mountain**	**62.81**	**292**	P	**P**	**01 41 09.1**	**+1.4**
	baz=29,SNR=5.8							
BELC	**Belle Mtn. Jos**	**63.29**	**293**	P	**P**	**01 41 11.8**	**+0.8**
	baz=28,SNR=5.3							
EDW2	**Edwards Air Fo**	**63.30**	**295**	P	**P**	**01 41 11.9**	**+0.9**
	baz=28							
BC3	**Big Chuckawall**	**63.38**	**292**	P	**P**	**01 41 12.4**	**+0.9**
	baz=28							
GLA	**Glamis**	**63.66**	**292**	P	**P**	**01 41 14.9**	**+1.6**
	baz=28							
BFSC	**Mount Baldy Ra**	**63.74**	**295**	P	**P**	**01 41 14.6**	**+0.7**
	baz=28							
214A	**Organ Pipe Nat**	**63.80**	**289**	P	**P**	**01 41 15.3**	**+1.0**
	baz=29							
PFO	**Pinyon Flats O**	**63.81**	**293**	P	**P**	**01 41 13.9**	**-0.6**
	baz=28							
MONP2	**Monument Peak**	**64.43**	**293**	P	**P**	**01 41 19.0**	**+0.4**
	baz=28							
IKP	**In-Ko-Pah, Jac**	**64.52**	**292**	P	**P**	**01 41 20.0**	**+1.0**
	baz=28							
GTA	**Gaotai**	**65.37**	**49**	*e*P	**P**	**01 41 26.5**	**+2.0**
GTA				pP	sP	01 41 30.8	+1.1	
GTA				sP	pP	01 41 33.8	+5.5	
GTA				pmax	pmax			
	comp=Z,7.0nm,1.6s							
GTA				pmax	pmax			
	comp=Z,110nm,8.0s							
GTA				LR	LR			
	comp=Z,240nm,18.5s							
GTA				LR	LR			
	comp=Z,370nm,18.9s							
GTA				LR	LR			
	comp=Z,420nm,18.9s							
HSIG		**65.61**	**286**	P	**P**	**01 41 24.9**	**-1.2**
HSIG				IAmb	IAmb	01 41 31.8		
	comp=Z,14nm,1.1s							
SDV	**Santo Domingo**	**66.76**	**239**	P	**P**	**01 41 32.0**	**-1.8**
SDV	**Santo Domingo**	**66.76**	**239**	*e*P	**P**	**01 41 35.6**	**+1.8**
ZAIG	**Zacatecas**	**67.56**	**276**	P	**P**	**01 41 37.8**	**-1.1**
ZAIG				IAmb	IAmb	01 41 48.0		
	comp=Z,18nm,1.3s							
HHC	**Hu-ho-hao-te**	**67.59**	**40**	*e*P	**P**	**01 41 40.3**	**+1.6**
HHC				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC				pmax	pmax			
	comp=Z,160nm,6.6s							
SRIG	**Santa Rosalia**	**67.64**	**286**	P	**P**	**01 41 37.0**	**-2.0**
CN2	**Changchun**	**68.12**	**28**	*e*P	**P**	**01 41 46.5**	**+4.7**
CN2				*e*S	**S**	**01 50 48.0**	**+6.8**
CN2				LR	LR			
	comp=Z,310nm,15.0s							
CN2				LR	LR			
	comp=Z,180nm,15.0s							
CN2				LR	LR			
	comp=Z,470nm,16.0s							
USRK	**Ussuriysk Ar.**	**68.95**	**23**	LR	LR	02 14 08.7		
	comp=Z,176nm,18.4s,baz=331,slow=38							
MCPB	**Macapa, AP**	**69.52**	**217**	*e*P	**P**	**01 41 52.7**	**+1.9**
LZH	**Lanzhou**	**69.70**	**47**	*e*P	**P**	**01 41 50.5**	**-1.5**
LZH				pP	pP	01 41 54.8	-0.9	
LZH				sP	sP	01 41 58.3	+1.2	
LZH				PP	**PP**	**01 44 29.3**	**+3.8**
LZH				pmax	pmax			
	comp=Z,12nm,1.2s							
LZH				pmax	pmax			
	comp=Z,180nm,4.8s							
LZH				LR	LR			
	comp=Z,340nm,16.9s							
LZH				LR	LR			
	comp=Z,350nm,17.0s							
LZH				LR	LR			
	comp=Z,390nm,18.5s							
MALB	**Monte Alegre**	**71.53**	**219**	*e*P	**P**	**01 42 04.0**	**+0.9**
ROSC	**El Rosal**	**71.87**	**241**	P	**P**	**01 42 06.7**	**+1.1**
	comp=Z,6.2nm,0.3s,baz=39,slow=8.1,SNR=6.4							
ROSC				LR	LR	02 09 57.8		
	comp=Z,333nm,21.9s,baz=356,slow=33							
ROSC	**El Rosal**	**71.87**	**241**	P	**P**	**01 42 04.1**	**-1.5**
XAN	**Xi'an**	**73.16**	**44**	P	**P**	**01 42 14.5**	**+1.7**
XAN				pP	sP	01 42 23.0	+5.1	
XAN				SKS	**SKSac**	**01 52 12.3**	**-6.2**
XAN				pmax	pmax			
	comp=Z,8.0nm,1.4s							
XAN				pmax	pmax			
	comp=Z,160nm,6.5s							
XAN				LR	LR			
	comp=Z,540nm,21.6s							
XAN				LR	LR			
	comp=Z,410nm,19.0s							
XAN				LR	LR			
	comp=Z,590nm,19.4s							
XAN	**Xi'an**	**73.16**	**44**	P	**P**	**01 42 09.8**	**-2.9**
XAN				pmax	pmax			
	comp=Z,24nm,1.8s							
XAN	**Xi'an**	**73.16**	**44**	P	**P**	**01 42 09.8**	**-2.9**
XAN				IAmb	IAmb	01 42 16.0		
	comp=Z,24nm,1.8s							
MBAR	**Mbarara**	**73.88**	**129**	P	**P**	**01 42 15.7**	**-1.6**
MBAR				pmax	pmax			
	comp=Z,11nm,1.5s							
MBAR	**Mbarara**	**73.88**	**129**	P	**P**	**01 42 15.7**	**-1.6**
ITTB	**Itaituba**	**74.34**	**220**	*e*P	**P**	**01 42 21.6**	**+1.9**
CD2	**Chengdu**	**74.43**	**50**	*e*P	**P**	**01 42 19.5**	**-0.7**
INCN	**Inchon**	**74.44**	**29**	P	**P**	**01 42 16.3**	**-3.9**
INCN				pmax	pmax			
	comp=Z,24nm,0.6s							
INCN	**Inchon**	**74.44**	**29**	P	**P**	**01 42 16.3**	**-3.9**
PRPB	**Parauapebas**	**74.55**	**213**	*e*P	**P**	**01 42 23.0**	**+2.1**
MACA	**Manacapuru-AM**	**74.63**	**225**	*e*P	**P**	**01 42 23.9**	**+2.5**
KSRS	**Korea Array**	**74.73**	**28**	LR	LR	02 18 51.7		
	comp=Z,232nm,18.6s,baz=343,slow=39							
SHL	**Shillong**	**75.08**	**62**	P	**P**	**01 42 21.6**	**-2.6**
SHL				pmax	pmax			
	comp=Z,26nm,0.4s							
SHL	**Shillong**	**75.08**	**62**	P	**P**	**01 42 21.6**	**-2.6**
SMTB	**Santa Maria do**	**76.64**	**211**	*e*P	**P**	**01 42 34.6**	**+1.7**
KMBO	**Kilima Mbogo**	**76.64**	**123**	LR	LR	02 19 43.8		
	comp=Z,243nm,19.3s,baz=286,slow=38							
NPGB	**Novo Progresso**	**76.79**	**219**	*e*P	**P**	**01 42 35.3**	**+1.5**
NJ2	**Nanjing**	**77.82**	**37**	*e*P	**P**	**01 42 41.3**	**+1.9**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NJ2				LR	LR			
	comp=Z,520nm,18.9s							
NJ2				LR	LR			
	comp=Z,230nm,14.7s							
NJ2				LR	LR			
	comp=Z,910nm,21.3s							
KMI	**Kunming**	**79.42**	**53**	*e*P	**P**	**01 42 50.0**	**+1.4**
KMI				pmax	pmax			
	comp=Z,12nm,0.6s							
KMI				LR	LR			
	comp=Z,240nm,18.8s							
KMI				LR	LR			
	comp=Z,120nm,19.6s							
KMI				LR	LR			
	comp=Z,260nm,23.0s							
GYA	**Guiyang**	**79.50**	**49**	P	**P**	**01 42 50.3**	**+1.4**
GYA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GYA				pmax	pmax			
	comp=Z,89nm,3.7s							
GYA				LR	LR			
	comp=Z,140nm,4.2s							
GYA				LR	LR			
	comp=Z,120nm,4.6s							
GYA				LR	LR			
	comp=Z,91nm,4.2s							
SDBA	**SAO DESIDERIO**	**79.53**	**207**	*e*P	**P**	**01 42 50.0**	**+1.1**
SAML	**Samuel**	**80.87**	**226**	P	**P**	**01 42 55.9**	**-0.2**
SAML				pmax	pmax			
	comp=Z,10.0nm,1.3s							
SAML	**Samuel**	**80.87**	**226**	P	**P**	**01 42 55.9**	**-0.2**
SAML	**Samuel**	**80.87**	**226**	*e*P	**P**	**01 42 57.0**	**+0.9**
ETMB	**Extrema**	**82.64**	**228**	*e*P	**P**	**01 43 07.1**	**+1.6**
CZSB	**Cruzeiro do Su**	**82.89**	**235**	*e*P	**P**	**01 43 08.5**	**+1.7**
BDFB	**Brasilia**	**83.30**	**209**	LR	LR	02 16 44.6		
	comp=Z,301nm,18.3s,baz=330,slow=33							
BDFB	**Brasilia**	**83.30**	**209**	P	**P**	**01 43 07.9**	**-1.0**
BDFB				pmax	pmax			
	comp=Z,31nm,1.8s							
BDFB	**Brasilia**	**83.30**	**209**	P	**P**	**01 43 07.9**	**-1.0**
VILB	**Vilhena**	**83.77**	**222**	*e*P	**P**	**01 43 13.2**	**+1.9**
CHTO	**Chiang Mai**	**83.87**	**58**	P	**P**	**01 43 08.3**	**-3.6**
CHTO				pmax	pmax			
	comp=Z,15nm,1.5s							
CHTO	**Chiang Mai**	**83.87**	**58**	P	**P**	**01 43 08.3**	**-3.6**
CHTO				IAmb	IAmb	01 43 16.8		
	comp=Z,15nm,1.5s							
CM31	**Chiang Mai Arr**	**84.19**	**59**	P	**P**	**01 43 10.5**	**-3.1**
CMAR	**Chiang Mai Arr**	**84.19**	**59**	P	**P**	**01 43 12.4**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=326,slow=6.9,SNR=8.0							
CMAR				LR	LR	02 23 25.3		
	comp=Z,170nm,18.9s,baz=356,slow=38							
CMAR	**Chiang Mai Arr**	**84.19**	**59**	*i* P	**P**	**01 43 14.1**	**+0.5**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PTLB	**Pontes e Lacer**	**85.85**	**220**	*e*P	**P**	**01 43 23.0**	**+1.4**
SIV	**San Ignacio**	**86.91**	**222**	LR	LR	02 16 55.6		
	comp=Z,590nm,19.1s,baz=94,slow=32							
QIZ	**Qiongzhong**	**87.45**	**49**	P	**P**	**01 43 29.3**	**-0.4**
QIZ				S	**S**	**01 54 08.8**	**-1.7**
QIZ				pmax	pmax			
	comp=Z,19nm,1.4s							
QIZ				LR	LR			
	comp=Z,360nm,19.1s							
QIZ				LR	LR			
	comp=Z,300nm,19.6s							
QIZ				LR	LR			
	comp=Z,450nm,17.3s							
NNA	**Nana**	**88.31**	**237**	LR	LR	02 21 17.8		
	comp=Z,14nm,21.6s,baz=248,slow=34							
LPAZ	**La Paz**	**89.33**	**228**	LR	LR	02 21 06.6		
	comp=Z,82nm,19.2s,baz=36,slow=34							
LPAZ	**La Paz**	**89.33**	**228**	P	**P**	**01 43 35.6**	**-3.6**
LPAZ				pmax	pmax			
	comp=Z,7.0nm,1.7s							
LPAZ	**La Paz**	**89.33**	**228**	P	**P**	**01 43 35.6**	**-3.6**
CPUP	**Villa Florida**	**95.76**	**215**	LR	LR	02 23 15.0		
	comp=Z,205nm,18.9s,baz=25,slow=33							
GO02	**Mina Guanaco**	**98.10**	**226**	P	**P**	**01 44 18.1**	**-0.8**
BOSA	**Boshof**	**98.71**	**143**	LR	LR	02 31 23.1		
	comp=Z,556nm,18.4s,baz=344,slow=37							
TAOE	**Nuku Hiva Isla**	**111.57**	**296**	*e*LR	LR	02 22 17.7		
	comp=Z,152nm,24.0s							
PPT2	**Papeete2**	**123.13**	**302**	*e*LR	LR	02 27 49.9		
	comp=Z,246nm,22.5s							
TBI	**Tubuai**	**128.35**	**299**	*e*LR	LR	02 30 08.2		
	comp=Z,245nm,24.5s							
WRA	**Warramunga Arr**	**131.60**	**36**	PKP	**PKPdf**	**01 49 54.7**	**0.0**
	comp=Z,1.3nm,1.2s,baz=339,slow=2.5,SNR=5.0							
WRA	**Warramunga Arr**	**131.60**	**36**	PKIKP	**PKPdf**	**01 49 53.5**	**-1.3**
WRA	**Warramunga Arr**	**131.60**	**36**		**PKPdf**	**01 49 53.5**	**-1.3**
AS31	**Alice Springs**	**135.04**	**38**	PKPdf	**PKPdf**	**01 49 59.7**	**-1.5**
ASAR	**Alice Springs**	**135.04**	**38**	PKP	**PKPdf**	**01 50 01.2**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=32,slow=2.5,SNR=4.4							
ASAR	**Alice Springs**	**135.04**	**38**		**PKPdf**	**01 49 59.1**	**-2.1**
NVL	**N'lazarevskaya**	**136.60**	**166**	*e*P	**Pdif**	**01 47 11.0**	**+2.4**
NVL				pmax	pmax			
	comp=Z,12nm,0.8s							
DZM	**Mont Dzumac**	**137.42**	**355**	*e*LR	LR	02 34 22.7		
	comp=Z,354nm,24.8s							
SYO	**Syowa Base**	**139.21**	**152**	*e*PP	PP	01 53 01.0	-1.0	
ARMA	**Armidale**	**145.14**	**16**	PKPdf	**PKPbc**	**01 50 18.6**	**-0.2**

*IDC **31** 01:52:26.6±0.8,55.06N×35.26W,h0km,mb3.7/13, mb1 3.9/14,mb1mx3.7/44,mbtmp3.7/14,ML3.8/1,MS3.6/16, Ms1 3.6/16,ms1mx3.4/37,Error ellipse: s-maj=25.7km s-min=16.7km az=0.0*

*NEIC **31** 01:52:28.4±2.0,55.1N±0.1×35.2W±0.2,h10km±1km, mb4.1/14,Error ellipse: s-maj=17.6km s-min=15.9km az=218.0*

ISC 31 01:52:28.4±0.6,55.1N±0.1×35.22W±0.08,h10km,n41, σ0.89/29,mb3.8/14,MS3.5/13,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.88**	**30**	LR	LR	01 58 39.2	
	comp=Z,586nm,20.5s,baz=205,slow=31						
SFJD	**Kangerlussuaq**	**14.01**	**334**	LR	LR	01 59 52.7	
	comp=Z,107nm,18.5s,baz=120,slow=32						
DSB	**Dublin**	**16.93**	**84**	Pn	**Pn**	**01 56 23.6**	**-1.5**
SCHQ	**Schefferville**	**18.08**	**282**	LR	LR	02 02 25.9	
	comp=Z,104nm,21.9s,baz=14,slow=33						
EKA	**Eskdalemuir Ar**	**18.21**	**76**	P	**P**	**01 56 41.6**	**+0.5**
	baz=296,slow=9.9,SNR=3.9						
NOA	**NORSAR Array B**	**24.81**	**57**	LR	LR	02 06 03.2	
	comp=Z,105nm,19.2s,baz=270,slow=33						
ESDC	**Sonseca Array**	**25.90**	**114**	P	**P**	**01 58 00.8**	**+0.5**
	2.4nm,1.1s,baz=306,slow=8.1,SNR=8.1						
ESDC				LR	LR	02 06 27.9	
	comp=Z,91nm,18.2s,baz=15,slow=32						
ESDC	**Sonseca Array**	**25.90**	**114**	P	**P**	**01 58 00.7**	**+0.4**
HFS	**Hagfors**	**26.16**	**59**	P	**P**	**01 58 04.3**	**+1.9**
	2.2nm,0.8s,baz=337,slow=9.4,SNR=2.4						
ARCES	**ARCESS Array B**	**30.12**	**38**	P	**P**	**01 58 37.0**	**-0.8**
	6.5nm,1.0s,baz=259,slow=7.3,SNR=5.1						
ARCES				LR	LR	02 08 01.9	
	comp=Z,164nm,20.0s,baz=255,slow=31						
GERES	**GERESS Array B**	**30.25**	**81**	LR	LR	02 10 36.8	
	comp=Z,107nm,18.4s,baz=258,slow=36						
GERES	**GERESS Array B**	**30.25**	**81**	P	**P**	**01 58 39.7**	**+0.5**
FINES	**FINESS Array B**	**31.75**	**53**	LR	LR	02 10 00.9	
	comp=Z,93nm,18.8s,baz=257,slow=33						
E38A	**The Farm, Brul**	**35.67**	**280**	P	**P**	**01 59 26.4**	**0.0**
ULM	**Lac du Bonnet**	**36.08**	**288**	LR	LR	02 12 44.4	
	comp=Z,197nm,18.5s,baz=76,slow=34						
AKASG	**Malin Array Be**	**37.88**	**69**	P	**P**	**01 59 43.8**	**-1.4**
	0.9nm,0.5s,baz=307,slow=8.6,SNR=5.9						
AKASG				LR	LR	02 16 49.8	
	comp=Z,75nm,18.8s,baz=210,slow=39						
FVM	**French Village**	**40.48**	**269**	P	**P**	**02 00 07.7**	**+0.7**
PBMO	**Poplar Bluff**	**41.31**	**267**	P	**P**	**02 00 14.1**	**+0.3**
TAM	**Tamanrasset**	**44.19**	**120**	P	**P**	**02 00 38.7**	**+1.2**
TAM				IAmb	IAmb	02 00 40.8	
	comp=Z,3.2nm,1.0s						
KAN13	**South Haven SW**	**45.20**	**273**	P	**P**	**02 00 46.2**	**+0.9**
BR131	**Keskin Array S**	**47.09**	**79**	P	**P**	**02 01 01.4**	**+1.0**
BRTR	**Keskin Array B**	**47.09**	**79**	P	**P**	**02 01 01.6**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=309,slow=6.8,SNR=5.6						
BRTR				LR	LR	02 21 41.4	
	comp=Z,38nm,19.0s,baz=302,slow=37						
KOWA	**Kowa**	**47.18**	**137**	LR	LR	02 18 16.2	
	comp=Z,47nm,19.6s,baz=51,slow=33						
WMOK	**Wichita Mounta**	**47.55**	**272**	P	**P**	**02 01 04.0**	**+0.2**
PDAR	**Pinedale Array**	**48.10**	**288**	P	**P**	**02 01 08.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=70,slow=7.8,SNR=2.1						
PDAR				LR	LR	02 20 12.3	
	comp=Z,110nm,18.6s,baz=22,slow=35						
PDAR	**Pinedale Array**	**48.10**	**288**	P	**P**	**02 01 08.0**	**-0.2**
AMTX	**Amarillo**	**49.11**	**274**	P	**P**	**02 01 16.7**	**+0.8**
KBZ	**Khabaz**	**49.49**	**69**	LR	LR	02 21 51.4	
	comp=Z,40nm,18.3s,baz=318,slow=36						
ILAR	**Eielson Array**	**49.58**	**328**	P	**P**	**02 01 18.9**	**0.0**
	comp=Z,0.9nm,1.1s,baz=49,slow=6.1,SNR=4.2						
ILAR				LR	LR	02 19 47.6	
	comp=Z,33nm,19.7s,baz=57,slow=33						
TORD	**Torodi Ar. Bea**	**50.76**	**131**	P	**P**	**02 01 27.2**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=333,slow=7.5,SNR=4.3						
TXAR	**Lajitas Array**	**54.33**	**271**	P	**P**	**02 01 54.4**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=40,slow=5.9,SNR=1.9						
NVAR	**Mina Array Bea**	**55.88**	**290**	P	**P**	**02 02 07.0**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=356,slow=3.6,SNR=1.6						
GEYT	**Alibeck**	**61.67**	**64**	LR	LR	02 30 02.7	
	comp=Z,63nm,19.4s,baz=185,slow=37						
MKAR	**Makanchi Array**	**65.65**	**42**	P	**P**	**02 03 12.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=350,slow=7.3,SNR=3.1						
SONM	**Songino Array**	**72.47**	**26**	P	**P**	**02 03 54.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=5.9,SNR=2.7						
SONM	**Songino Array**	**72.47**	**26**	IAmb	IAmb	02 03 54.9	
	comp=Z,0.8nm,1.0s						
LPAZ	**La Paz**	**76.40**	**212**	P	**P**	**02 04 17.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=44,slow=9.8,SNR=3.7						
LPAZ	**La Paz**	**76.40**	**212**	IAmb	IAmb	02 04 21.2	
	comp=Z,7.7nm,1.6s						
WRA	**Warramunga Arr**	**144.01**	**17**	PKP	**PKPab**	**02 12 01.1**	**-0.2**
	comp=Z,1.4nm,1.3s,baz=335,slow=1.6,SNR=1.3						
ASAR	**Alice Springs**	**147.58**	**19**	PKPbc	**PKPbc**	**02 12 11.7**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=346,slow=2.6,SNR=13						
ASAR	**Alice Springs**	**147.58**	**19**		**PKPbc**	**02 12 11.3**	**-1.3**

IDC 31 02:00:27.9±48.0,16.14S×172.18W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/35,mbtmp3.9/3,Error ellipse: s-maj=924.5km s-min=192.0km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.69**	**241**	P	P	02 08 43.4	+0.5
	0.9nm,0.7s,baz=85,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr**	**50.82**	**257**	P	P	02 09 30.1	-0.5
	0.3nm,0.4s,baz=96,slow=6.9,SNR=10.0						
ASAR	**Alice Springs**	**51.00**	**252**	P	P	02 09 31.9	-0.1
	2.9nm,0.6s,baz=88,slow=8.4,SNR=41						

IDC 31 02:43:25.8±2.8,6.41S×130.21E,h99km±37km,mb3.8/1, mb1 3.3/5,mb1mx3.1/30,mbtmp3.6/5,Error ellipse: s-maj=73.9km s-min=22.0km az=90.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.60**	**11**	P	Pn	02 44 47.0	+0.2
	3.1nm,0.3s,baz=349,slow=21,SNR=15						
SIJI				S	Sn	02 45 44.4	-5.4
	5.6nm,0.3s,baz=192,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**12.45**	**201**	P	Pn	02 46 19.0	-0.5
	0.2nm,0.3s,baz=32,slow=11,SNR=23						
FITZ				S	Sn	02 48 28.9	-7.6
	0.6nm,0.3s,baz=285,slow=19,SNR=8.6						
WRA	**Warramunga Arr**	**14.04**	**164**	P	Pn	02 46 39.4	-1.1
	0.2nm,0.3s,baz=348,slow=13,SNR=9.2						
WRA				S	Sn	02 49 06.4	-8.8
	0.6nm,0.3s,baz=332,slow=23,SNR=13						
ASAR	**Alice Springs**	**17.53**	**169**	P	Pn	02 47 25.4	+1.4
	0.1nm,0.3s,baz=351,slow=12,SNR=2.4						
ASAR				S	Sn	02 50 32.2	-7.2
	0.2nm,0.3s,baz=356,slow=29,SNR=4.8						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	02 54 13.5	-0.1
	0.8nm,0.4s,baz=117,slow=7.5,SNR=18						

*SJA **31** 02:46:42.6±0.6,19.42S×69.26W,h122km±2km,ML4.7, MW4.4*

*NEIC **31** 02:46:42.9,19.37S×69.22W,h110km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.31; $M_{\theta\theta}$-2.70; $M_{\phi\phi}$2.38; $M_{r\theta}$3.73; $M_{\theta\phi}$-0.61; $M_{\phi r}$-2.70; Fault plane solution: $M_0$5.30000×10^{15} NP1:ϕ_s219.35000°, δ29.41000°,λ4.19000°. NP2:ϕ_s125.70000°,δ87.94000°, λ119.34000°. Principal axes: T 5.2443, Plg40.0000°, Azm63.0000°; N 0.1176, Plg29.0000°, Azm305.0000°; P -5.3619, Plg36.0000°, Azm190.0000°;*

*VAO **31** 02:46:42.9±0.5,19.25S×69.03W,h111km±4km,mb4.8*

*NEIC **31** 02:46:43.3±2.1,19.41S±0.04×69.22W±0.02,h111km±4km, Error ellipse: s-maj=6.4km s-min=2.6km az=188.0*

*GUC **31** 02:46:43.7±0.6,19.39S×69.20W,h113km±3km,ML4.7*

*IDC **31** 02:46:44.0±0.4,19.40S×68.93W,h118km±3km,mb4.2/14, mb1 4.3/19,mb1mx4.2/28,mbtmp4.6/19,MS3.2/3, Ms1 3.2/3,ms1mx2.8/28,Error ellipse: s-maj=14.0km s-min=7.4km az=91.0*

ISC 31 02:46:42.9±0.4,19.42S±0.03×69.14W±0.05,h114km±3km, n349,σ1.08/370,mb4.7/27,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.26**	**192**	*e*P	**Pn**	**02 46 60.0**	**+0.4**
GO01				*i* S	**Sn**	**02 47 12.5**	**+0.4**
GO01				IAML		02 47 14.0	
	comp=E,49μm,0.1s						
GO01	**Chusmiza**	**0.26**	**192**		**Pn**	**02 46 59.8**	**+0.3**
MNMC	**Minye Minye**	**0.52**	**303**	*e*P	**Pn**	**02 47 00.7**	**+0.1**
MNMC				*i* S	**Sn**	**02 47 13.8**	**-0.1**
MNMC	**Minye Minye**	**0.52**	**303**		**Pn**	**02 47 00.8**	**+0.2**
MNMCX	**Minye Minye**	**0.52**	**303**	*e*P	**Sn**	**02 47 14.3**	**+0.4**
MNMCX				*e*S	**Sn**	**02 47 15.3**	**+1.4**
PB11	**IPOC Station P**	**0.60**	**235**	*e*P	**Pn**	**02 47 01.3**	**+0.3**
PB11				*i* S	**Sn**

PB03 eS Sn 02 47 57.9 +0.6
PB03 IAML 02 48 04.2
comp=Z,3µm,0.6s
PB04 IPOC Station P 3.05 198 Pn Pn 02 47 30.7 +0.9
PB04 IPOC Station P 3.05 198 eP Pn 02 47 31.1 +1.3
PB04 IAML 02 48 19.5
comp=Z,2µm,1.0s
LVC Limon Verde 3.18 176 P Pn 02 47 33.3 +1.5
comp=Z,30nm,0.3s,baz=6.1,slow=8.8,SNR=146
LVC S Sn 02 48 10.5 +1.1
comp=Z,220nm,0.3s,baz=160,slow=22,SNR=20
LVC Limon Verde 3.18 176 Pn Pn 02 47 34.2 +2.5
LVC Limon Verde 3.18 176 eP Pn 02 47 33.8 +2.0
LVC Limon Verde 3.18 176 eP Pn 02 47 33.1 +1.4
LVC eS Sn 02 48 05.2 -4.2
LPAZ La Paz 3.26 17 P Pn 02 47 35.1 +2.1
comp=Z,23nm,0.3s,baz=199,slow=6.1,SNR=650
LPAZ S Sn 02 48 13.0 +1.4
comp=Z,6.1nm,0.3s,baz=335,slow=3.4,SNR=1.5
LPAZ La Paz 3.26 17 Pn Pn 02 47 35.2 +2.3
LPAZ La Paz 3.26 17 eP Pn 02 47 35.2 +2.3
PB06 IPOC Station P 3.30 187 Pn Pn 02 47 34.0 +0.9
PB06 IPOC Station P 3.30 187 eP Pn 02 47 33.8 +0.7
PB06 IAML 02 48 38.3
comp=Z,2µm,0.6s
PB05 IPOC Station P 3.56 196 eP Pn 02 47 36.8 +0.2
PB05 eS Sn 02 48 08.4 -10
PB05 IAML 02 48 39.7
comp=Z,933nm,0.6s
PB15 IPOC Station P 3.78 185 Pn 02 47 40.3 +0.7
PB15 IPOC Station P 3.78 185 eP Pn 02 47 40.7 +1.1
PB15 eS Sn 02 48 24.9 +1.4
PB15 IAML 02 48 26.7
comp=Z,2µm,0.2s
YJA Yavi 4.36 130 eP Pn 02 47 50.4 +2.9
HJA Humahuaca 5.13 138 eP Pn 02 48 00.7 +2.9
PB14 IPOC Station P 5.31 193 eP Pn 02 47 58.8 -1.5
PB14 IAML 02 49 24.2
comp=Z,290nm,0.7s
GO02 Mina Guanaco 5.73 184 Pn Pn 02 48 05.9 0.0
AC01 Pan de Azucar 6.83 191 Pn Pn 02 48 17.8 -2.7
AC02 Maricunga 7.38 180 Pn Pn 02 48 28.2 -0.2
AHML Horco Molle 8.12 155 eP Pn 02 48 38.3 +0.2
GO03 Copiap 8.20 187 Pn Pn 02 48 38.6 -0.5
GO03 Copiap 8.20 187 eP Pn 02 48 36.7 -2.4
GO03 eS Sn 02 50 04.5 -5.7
SIV San Ignacio 8.41 67 P Pn 02 48 39.6 -2.3
comp=Z,40nm,0.3s,baz=269,slow=9.9,SNR=824
SIV LR LR 02 52 27.4
comp=Z,113nm,19.1s,baz=290,slow=42
VCA Vinchina 9.31 175 eP Pn 02 48 54.3 0.0
AC05 El Transito 9.43 186 Pn 02 48 56.2 +0.3
CYA Choya 9.48 162 eP Pn 02 48 58.4 +2.0
ETMB Extrema 9.96 17 eP Pn 02 49 01.0 -1.9
PTLB Pontes e Lacer 10.33 69 eP Pn 02 49 05.1 -2.8
NNA Nana 10.47 314 P Pn 02 49 12.8 +3.0
comp=Z,1.5nm,0.3s,baz=138,slow=13,SNR=1.8
VILB Vilhena 10.72 54 eP Pn 02 49 11.0 -2.3
CZSB Cruzeiro do Su 12.12 343 eP Pn 02 49 29.6 -2.3
TCA Tanti 12.55 162 eP Pn 02 49 35.3 -2.3
AQDB Aquidauana 12.68 47 eP Pn 02 49 37.9 -1.3
CPUP Villa Florida 12.87 124 P Pn 02 49 40.2 -1.4
comp=Z,0.4nm,0.3s,baz=292,slow=12,SNR=8.7
CPUP Villa Florida 12.87 124 Pn Pn 02 49 42.1 +0.5
CPUP Villa Florida 12.87 124 eP Pn 02 49 42.2 +0.5
ASAL Salagasta 13.12 179 eP Pn 02 49 43.4 -1.5
VA03 San Esteban 13.35 185 Pn 02 49 48.1 +0.2
MT05 Renca 13.99 186 Pn 02 49 56.5 +0.3
ITQB Itaqui 15.28 134 eP Pn 02 50 12.0 -0.5
BO02 Sierra Bellavi 15.38 185 Pn 02 50 13.7 -0.1
CLDB Colider 15.42 58 eP Pn 02 50 10.9 -3.5
TRCB Terra Rica 15.76 105 eP Pn 02 50 18.6 +0.1
PTGB Pitanga 16.68 111 eP P 02 50 30.9 +0.5
PCMB Pacaembu 16.89 100 eP Pn 02 50 32.3 -0.1
ARAG Araguaiana, MT 16.93 80 eP Pn 02 50 32.9 0.0
BI02 San Fabin de 17.28 186 P P 02 50 36.7 -0.2
ITAB Concordia 17.44 120 eP Pn 02 50 40.0 +0.9
ITRB Iturama 17.70 94 eP P 02 50 41.8 +0.2
CPSB Cacapava Do Su 17.93 131 eP P 02 50 44.1 +0.1
MACA Manacapuru-AM 18.15 28 eP P 02 50 44.6 -1.9
NPGB Novo Progresso 18.18 49 eP P 02 50 45.3 -1.5
PLTB Pedras Altas 18.61 134 eP Pn 02 50 52.3 -0.7
FRTB Fartura 18.64 106 eP P 02 50 51.8 -0.1
SNDB Serra Nova Dou 18.69 69 eP P 02 50 51.9 -0.5
CNLB Canela 19.33 124 eP Pn 02 51 00.7 -0.9
BB19B Bebedouro 19.41 98 eP P 02 50 59.7 -0.6
TIJ01 Guaruva-PR 19.52 111 eP P 02 51 01.1 -0.3
LC01 Cunco 19.56 186 IAmb IAmb 02 51 10.3
comp=Z,33nm,0.9s
ITTB Itaituba 19.87 43 eP P 02 51 03.8 -1.4
IPMB Ipameri, GO 19.87 89 eP P 02 51 04.7 -0.6
BDFB Brasilia 20.49 83 P P 02 51 11.1 -0.9
comp=Z,25nm,0.5s,baz=257,slow=11,SNR=19
BDFB Brasilia 20.49 83 P P 02 51 12.8 +0.8
BDFB IAmb IAmb 02 51 15.0
comp=Z,25nm,0.6s
SPB Sao Paulo 20.61 105 P P 02 51 13.8 +0.7
SPB IAmb IAmb 02 51 18.0
comp=Z,84nm,1.9s
SPB Sao Paulo 20.61 105 eP P 02 51 12.8 -0.3
PET01 Itanhaem-SP 20.85 107 eP P 02 51 15.7 -0.1
VAO Valinhos 20.97 104 eP P 02 51 15.9 -1.2
PUAC Puerto Asis, P 21.14 339 eP P 02 51 19.6 +0.7
PLCA Paso Flores 21.28 183 P P 02 51 21.7 +1.5
comp=Z,40nm,0.8s,baz=3.7,slow=11,SNR=47
PLCA Paso Flores 21.28 183 P P 02 51 21.8 +1.5
PLCA IAmb IAmb 02 51 24.5
comp=Z,52nm,0.9s
PLCA Paso Flores 21.28 183 eP P 02 51 21.9 +1.6
PEXB Peixe 21.32 73 eP P 02 51 19.2 -1.6
GCUF Volcan Galeras 22.04 338 eP P 02 51 30.0 +1.0
PARB Paraibuna 22.23 104 eP P 02 51 28.6 -1.9
MALB Monte Alegre 22.73 42 eP P 02 51 32.8 -2.6
BBAC Balboa, Cauca 22.75 339 eP P 02 51 36.3 +0.5
BSCB Bom Sucesso 22.91 98 eP P 02 51 36.1 -1.2
PRPB Parauapebas 22.95 58 eP P 02 51 35.4 -2.2
POPC Popayan, Colom 23.05 340 eP P 02 51 37.7 -1.0
LL01 San Ignacio de 23.06 186 P P 02 51 39.2 +1.0
LL01 IAmb IAmb 02 51 40.8
comp=Z,28nm,0.8s
SMTB Santa Maria do 23.35 66 eP P 02 51 40.1 -1.2
MAN01 Angra dos Reis 23.72 103 eP P 02 51 44.4 -0.3
ORTC Ortega, Tolima 23.95 345 eP P 02 51 44.0 -2.7
JANB Januaria 24.09 84 eP P 02 51 46.4 -1.7
SDBA SAO DESIDERIO 24.31 77 eP P 02 51 48.6 -1.4
YOTC Yotoco, Valle 24.31 342 eP P 02 51 47.7 -2.4
CHIC Chingaza 24.32 349 eP P 02 51 48.9 -1.6
TOLC Tolima 24.62 345 eP P 02 51 50.4 -2.8
ROSC El Rosal 24.64 348 LR LR 03 03 08.9
comp=Z,75nm,18.6s,baz=202,slow=40
MCPB Macapa, AP 25.28 43 eP P 02 51 57.9 -0.9
RUSC La Rusia 25.45 351 eP P 02 52 00.6 -0.3
TAMC Tame, Arauca 25.82 354 eP P 02 52 02.1 -1.7
CBOC Ciudad Bolivar 26.02 344 eP P 02 52 04.5 -1.1
PTBC PUERTO BERRIO, 26.32 348 eP P 02 52 04.9 -3.3
SJMB Sao Joao De Ma 26.42 93 eP P 02 52 09.0 -0.1
TMAB Tom-Au,PA,Br 26.66 53 eP P 02 52 10.0 -1.2
BSFB Barra de Sao F 26.73 93 eP P 02 52 11.6 -0.2
PAMC Pamplona, Colo 26.82 352 eP P 02 52 12.0 -1.2
RIB01 Linhares ES 27.11 95 eP P 02 52 14.8 -0.4
NAN01 Guarapari, ES 27.52 92 eP P 02 52 18.8 -0.2
SDV Santo Domingo 28.16 357 P P 02 52 23.9 -1.0
comp=Z,6.3nm,0.6s,baz=4.2,slow=0.7,SNR=8.8
SDV Santo Domingo 28.16 357 P P 02 52 23.6 -1.3
SDV Santo Domingo 28.16 357 eP P 02 52 24.3 -0.6
GDU01 Guandu, BA 28.87 83 eP P 02 52 30.3 -0.7
MDP Montagnes des 29.28 35 P P 02 52 32.6 -2.0
comp=Z,7.3nm,0.7s,baz=212,slow=9.4,SNR=7.2
SJCC San Jacinto, C 29.73 348 eP P 02 52 36.6 -2.0
PCRV Puerto La Cruz 29.74 9 P P 02 52 38.2 -0.5
comp=Z,7.6nm,0.6s,baz=242,slow=2.5,SNR=6.2
TOSP Speyside 31.68 16 P P 02 52 54.9 -0.7
OBIP Obispado Ponce 37.31 4 P P 02 53 43.7 -0.5
PDPR Patillas Dam, 37.33 5 P P 02 53 42.1 -2.1
APG El Apazote 40.13 327 P P 02 54 10.1 +2.0
comp=Z,3.6nm,0.8s,baz=90,slow=14,SNR=5.3
TIGA Tifton 52.44 344 P P 02 55 43.8 +0.1
baz=163
157A Early Branch 53.03 347 P P 02 55 48.4 +0.3
baz=166
NHSC New Hope 53.28 348 P P 02 55 50.3 +0.4
baz=167
Z57A Bowman 53.57 348 P P 02 55 52.4 +0.3
baz=166
Z56A Williston 53.73 347 P P 02 55 53.3 0.0
baz=166
Y60A Bolivia 53.83 351 P P 02 55 54.1 +0.2
baz=170
Y59A Loris 53.91 350 P P 02 55 54.8 +0.2
baz=169
Y57A Sumter 54.21 348 P P 02 55 57.0 +0.3
baz=167
GOGA Godfrey 54.28 345 P P 02 55 56.9 -0.3
baz=163
X59A McDuffie Farm, 54.44 350 P P 02 55 58.2 -0.1
baz=169
X58A Rowland 54.54 350 P P 02 55 59.0 -0.1
baz=168
X56A White Oak 54.79 348 P P 02 56 01.0 +0.1
baz=166
W61A Ground Anchor 54.80 352 P P 02 56 01.1 +0.2
baz=171
LRAL Lakeview Retre 54.88 342 P P 02 56 00.9 -0.6
baz=159
X55A Gracelyn & Ava 54.89 347 P P 02 56 01.7 +0.1
baz=166,SNR=6.9
W58A Raeford 54.98 350 P P 02 56 02.1 -0.2
baz=168,SNR=6.4
X54A Belton 55.12 347 P P 02 56 03.3 0.0
baz=165
W57A Gilead 55.24 349 P P 02 56 04.0 -0.1
baz=168
W56A Indian Trail 55.33 349 P P 02 56 04.7 -0.1
baz=167
KMSC Kings Mountain 55.48 348 P P 02 56 06.0 +0.1
baz=166,SNR=6.9
V59A Middlesex 55.55 351 P P 02 56 06.0 -0.4
baz=170
W54A Cherokee Point 55.60 347 P P 02 56 07.0 +0.2
baz=165
BG3 Lake Jocassee 55.68 346 IAmb IAmb 02 58 05.2
comp=Z,18nm,1.6s
V58A Windy Hill, Pi 55.72 350 P P 02 56 07.1 -0.4
baz=169
V57A Coltrane Farms 55.92 350 P P 02 56 08.6 -0.4
baz=168
V56A Mocksville 55.97 349 P P 02 56 09.7 +0.3
baz=167,SNR=6.6
U59A Littleton 56.07 352 P P 02 56 09.6 -0.5
baz=170
V55A Taylorsville 56.15 348 P P 02 56 11.0 +0.4
baz=166,SNR=7.1
U58A Oxford 56.22 351 P P 02 56 10.8 -0.3
baz=169
V54A Nebo 56.22 347 P P 02 56 11.1 0.0
baz=166
U57A Blanch 56.38 350 P P 02 56 12.0 -0.3
baz=169
U56A King 56.47 349 P P 02 56 13.2 +0.2
baz=167
CPCT Cooper Cave 56.48 345 IAmb IAmb 02 56 13.6
comp=Z,7.9nm,1.0s
TKL Tuckaleechee C 56.51 346 IAmb IAmb 02 56 13.6
comp=Z,11nm,0.9s
V52A Sevierville 56.64 346 IAmb IAmb 02 56 14.2
comp=Z,12nm,0.8s
T59A Double "B" Far 56.65 352 P P 02 56 13.8 -0.3
baz=171
U55A TA2, Sparta 56.74 349 P P 02 56 15.1 +0.1
baz=167
T58A Grand View Acr 56.76 351 P P 02 56 15.2 +0.3
baz=170
U54A Nelsons Funny 56.91 348 P P 02 56 16.2 +0.1
baz=166
T57A Hurt 56.92 350 P P 02 56 16.1 +0.1
baz=169
T56A Rocky Mt 57.08 350 P P 02 56 17.6 +0.4
baz=168
T55A Pulaski 57.29 349 P P 02 56 19.4 +0.6
baz=167,SNR=6.5
TZTN Tazewell 57.30 346 P P 02 56 19.1 +0.3
baz=164
BLA Blacksburg 57.32 349 P P 02 56 19.1 +0.2
baz=168
V48A Smith Brothers 57.36 343 IAmb IAmb 02 56 19.6
comp=Z,6.5nm,0.7s
T54A Tazewell 57.39 348 P P 02 56 19.4 0.0
baz=166
T53A Wise 57.50 347 P P 02 56 20.6 +0.3
baz=165
CLTN Cedars of Leba 57.56 344 IAmb IAmb 02 56 21.0
comp=Z,9.5nm,0.8s
S57A Dan Hollow, R 57.62 351 P P 02 56 21.2 +0.3
baz=169
WHTX Lake Whitney, 57.88 332 P P 02 56 23.3 +0.5
baz=148
S55A Lewisburg 57.88 349 P P 02 56 23.3 +0.5
baz=167,SNR=5.7
WVT Waverly 58.01 342 P P 02 56 22.9 -0.8
baz=159
WVT Waverly 58.01 342 P P 02 56 23.0 -0.7
WVT IAmb IAmb 02 56 23.5
comp=Z,6.1nm,0.7s
S54A Dingess, Beckl 58.05 349 P P 02 56 24.1 0.0
baz=167
R57A Stanardsville 58.08 351 P P 02 56 23.9 -0.3
baz=170
X40A Basin Creek Fa 58.16 337 P P 02 56 24.1 -0.7
baz=154
R54A Victor 58.37 349 P P 02 56 26.3 +0.1
baz=167
MIAR Mount Ida 58.48 336 P P 02 56 26.9 -0.2
baz=153
W41B Gary Mavity, V 58.56 338 P P 02 56 26.9 -0.6
baz=154
Q58A Fox Den Farm, 58.60 352 P P 02 56 27.5 -0.2
baz=171
R53A Hurricane 58.69 348 P P 02 56 28.2 -0.2
baz=166
Q57A Strasburg 58.79 352 P P 02 56 29.4 +0.3
baz=170
TXAR Lajitas Array 58.81 325 P P 02 56 29.9 +0.4
comp=Z,0.1nm,0.3s,baz=140,slow=10,SNR=3.0
TXAR pP pP 02 56 57.8 -0.5
comp=Z,0.4nm,0.8s,baz=157,slow=6.7,SNR=2.9
Q56A Snyder Ridge, 58.91 351 P P 02 56 30.1 +0.2
baz=169
Q55A Buckhannon 59.00 350 P P 02 56 31.2 +0.6
baz=168
P59A Jarrettsville 59.11 353 P P 02 56 31.3 0.0
baz=172
Q54A Coxs Mills 59.12 349 P P 02 56 31.3 -0.1
baz=167
Q53A Leroy 59.12 349 P P 02 56 31.5 +0.1
baz=166,SNR=6.3
W39A Magazine 59.14 337 P P 02 56 31.7 +0.1
baz=153
X37A Clayton 59.22 335 P P 02 56 33.2 +1.1
X37A IAmb IAmb 02 56 33.8
comp=Z,13nm,1.1s
P56A Dayton Farm, R 59.31 351 P P 02 56 32.5 -0.1
baz=170
Q52A Bidwell 59.36 348 P P 02 56 32.7 -0.3
baz=166
ABTX Abilene, Hawle 59.41 330 P P 02 56 33.9 +0.4
baz=146
P55A Reedsville 59.46 350 P P 02 56 33.7 -0.1
baz=168
WCI Wyandotte Cave 59.56 344 P P 02 56 34.4 0.0
baz=161
MCWV Mont Chateau 59.61 350 P P 02 56 34.9 +0.1
baz=168
P54A Burton 59.66 350 P P 02 56 35.3 +0.2
baz=168
P53A Whipple 59.71 349 P P 02 56 35.5 +0.1
baz=167,SNR=9.0
U40A Yellville 59.84 338 P P 02 56 36.0 -0.4
baz=154
P52A Corning 59.99 348 P P 02 56 36.8 -0.5
baz=166
O55A Ligonier 60.07 351 P P 02 56 38.2 +0.3
baz=169
O54A Avella 60.21 350 P P 02 56 39.3 +0.5
baz=168
N58A Sunbury 60.36 353 P P 02 56 39.6 -0.2
baz=172
N57A Milroy 60.37 353 P P 02 56 39.7 -0.2
baz=171
O52A Adamsville 60.40 349 P P 02 56 40.0 -0.1
baz=166
O53A New Philadelph 60.42 349 P P 02 56 40.3 0.0
baz=167
P49A Miami Univ. Ec 60.43 346 P P 02 56 39.2 -1.1
baz=163
FVM French Village 60.51 341 P P 02 56 39.9 -1.0
O51A Pataskala 60.57 348 P P 02 56 40.8 -0.5
baz=166
N55A Marion Center 60.59 351 P P 02 56 41.8 +0.4
baz=169,SNR=5.8
N56A West Decatur 60.63 352 P P 02 56 41.6 -0.1
baz=170
ACSO Alum Creek Sta 60.73 348 P P 02 56 41.8 -0.5
baz=165
WMOK Wichita Mounta 60.78 332 P P 02 56 43.0 +0.1
baz=148
CCM Cathedral Cave 60.83 340 P P 02 56 42.6 -0.4
baz=156
M58A Price's Panora 60.86 354 P P 02 56 43.7 +0.4
baz=172
M57A Sunshine Farm, 60.90 353 P P 02 56 43.7 +0.3
baz=172
N54A Moraine State 60.91 351 P P 02 56 43.9 +0.3
baz=168
OK030 Cody Creek RV 60.95 334 P P 02 56 43.1 -0.9
OK030 IAmb IAmb 02 56 44.9
comp=Z,9.4nm,0.9s
L63A North Scituate 61.01 358 P P 02 56 44.1 -0.1
baz=177
N52A McGinn's Farm, 61.05 349 P P 02 56 44.0 -0.5
baz=167
M56A Emporium 61.17 352 P P 02 56 45.3 0.0
baz=170
N51A Ashland 61.27 349 P P 02 56 45.5 -0.5
baz=166
N51A Ashland 61.27 349 P P 02 56 44.6 -1.4
M54A Oil Creek Stat 61.40 351 P P 02 56 46.8 -0.1
baz=169
M53A WI Miller and 61.49 350 P P 02 56 47.5 0.0
baz=168,SNR=5.5
M53A WI Miller and 61.49 350 P P 02 56 46.3 -1.1
L57A Andrews Acres 61.52 353 P P 02 56 47.6 -0.1
baz=172
BINY Binghamton 61.63 354 P P 02 56 48.6 +0.1
baz=173
M51A Elyria 61.64 349 P P 02 56 48.1 -0.3
baz=166
L61B Northampton 61.64 357 P P 02 56 48.1 -0.3
baz=176
HRV Adam Dziewonsk 61.65 358 P P 02 56 48.4 -0.1
baz=178
L56A Greenwood 61.74 353 P P 02 56 48.9 -0.2
baz=171
SFIN Lafayette 61.80 344 P P 02 56 48.3 -1.2
baz=161
K61A Williamstown 61.89 357 P P 02 56 50.2 +0.1
baz=176
L53A Girard 61.92 351 P P 02 56 50.2 -0.2
baz=168
MSTX Muleshoe 62.02 329 P P 02 56 50.8 -0.5
baz=144
ERPA Erie 62.04 351 P P 02 56 51.2 +0.1
baz=168
ERPA Erie 62.04 351 P P 02 56 50.8 -0.3
K59A Cooperstown 62.10 355 P P 02 56 51.8 +0.2
baz=174
VNA3 Neumayer Olymp 62.11 162 P P 02 56 52.9 +1.6
K58A Earlville 62.16 355 P P 02 56 52.2 +0.2
baz=173
K57A Scipio Center 62.21 354 P P 02 56 52.0 -0.3
baz=172
VNA1 Neumayer--Stat 62.31 161 P P 02 56 54.8 +2.2
J60A Lant Hill Farm 62.47 356 P P 02 56 54.1 +0.1
baz=176
L48A N Adams 62.67 347 P P 02 56 54.0 -1.4
VNA2 Neumayer--Watz 62.68 161 P P 02 56 57.3 +2.2
J58A Remsen 62.72 355 P P 02 56 55.9 +0.2
baz=174
J59A Piesco 62.77 356 P P 02 56 56.0 0.0
baz=174
I58A Old Forge 63.02 355 P P 02 56 57.6 -0.1
baz=174
I59A Olmsteadville 63.05 356 P P 02 56 57.9 +0.1
baz=175
I60A Shoreham 63.06 357 P P 02 56 58.0 +0.1
baz=176
I61A Oroboro, Fairl 63.10 358 P P 02 56 58.4 +0.3
baz=177
I57A Carthage 63.33 355 P P 02 56 59.6 -0.1
baz=173
LBNH Lisbon 63.40 358 P P 02 57 00.4 +0.3
baz=177
H58A Gabriels 63.69 356 P P 02 57 02.1 0.0
baz=175
H63A New Sharon 63.77 359 P P 02 57 03.1 +0.5
baz=179
H57A Richville 63.83 355 P P 02 57 03.0 +0.1
baz=174
I51A Listowel 63.85 350 P P 02 57 03.2 +0.2
baz=168
H59A Cadyville 63.89 356 P P 02 57 03.4 +0.1
baz=175
H66A Whiting 63.91 1 P P 02 57 03.5 +0.1
baz=182
LONY Lake Ozonia 63.92 356 P P 02 57 03.6 +0.1
baz=174
H53A Bobcaygeon 64.26 353 P P 02 57 06.0 +0.2
baz=170
SNAA Sanae 64.31 161 P P 02 57 07.6 +1.7
SNAA Sanae 64.31 161 P P 02 57 06.7 +0.8
G62A West of Eustis 64.34 359 P P 02 57 07.1 +0.9
baz=179
G64A Maxfield 64.36 0 P P 02 57 08.0 +1.7
baz=180
PKME Peaks-Kenny Pk 64.37 360 P P 02 57 06.8 +0.4
baz=180
G61A St-Isidore-de- 64.42 358 P P 02 57 07.5 +0.7
baz=178
G57A Newington 64.43 355 P P 02 57 06.9 +0.1
baz=174
ANMO Albuquerque 64.65 327 P P 02 57 08.0 -0.8
baz=141
F64A Sherman 64.97 1 P P 02 57 10.3 0.0
baz=181
JFWS Jewell Farm 65.00 343 P P 02 57 10.2 -0.4
baz=158
G54A Lake Saint Pet 65.02 353 P P 02 57 10.5 -0.2
baz=171
ALGO Algonquin Park 65.56 353 P P 02 57 13.8 -0.3
baz=171
E58A La Victoria 65.58 357 P P 02 57 14.0 -0.3
baz=176
E57A Chemin Saint G 65.67 356 P P 02 57 14.8 -0.1
baz=175
E62A Clayton Lake 65.73 360 P P 02 57 14.5 -0.7
baz=180
E56A St. Veronique 65.87 356 P P 02 57 16.2 +0.1
baz=174
D62A Allapoint, All 66.19 0 P P 02 57 18.1 0.0
baz=180
D58A Chemin du LacG 66.29 357 P P 02 57 18.9 +0.1
baz=176
D56A ZEC Mazanza, M 66.35 356 P P 02 57 18.9 -0.3
baz=174
D55A Sainte-Anne-du 66.37 355 P P 02 57 19.2 -0.1
baz=174
LATQ La Tuque 66.57 357 P P 02 57 19.9 -0.7
LATQ IAmb IAmb 02 58 07.3
comp=Z,11nm,1.2s
S22A 4UR Ranch, Cre 67.01 328 P P 02 57 24.3 +0.3
baz=141
Q24A Divide 67.16 330 P P 02 57 25.9 +1.0
baz=143
LIC Lamto 68.03 75 eP P 02 57 29.0 -1.5
comp=Z,23nm,0.5s
ISCO Idaho Springs 68.04 330 P P 02 57 31.3 +0.9
baz=143
TIC Toumodi 68.20 74 eP P 02 57 30.7 -0.9
KIC Kosan Boka 68.34 75 eP P 02 57 31.7 -0.8
comp=Z,74nm,0.7s
DBIC Dimbokro 68.36 74 P P 02 57 32.0 -0.6
comp=Z,27nm,0.6s,baz=222,slow=6.0,SNR=53
DBIC Dimbokro 68.36 74 P P 02 57 32.0 -0.6
LSQQ Lebel-sur-Quev 68.52 354 P P 02 57 33.4 +0.5
baz=172
N23A Red Feather La 69.06 331 P P 02 57 37.5 +0.8
baz=143
QSPA South Pole Qui 70.76 180 P P 02 57 47.1 +0.5
RSSD Black Hills 70.84 334 P P 02 57 48.6 +1.1

baz=145
RSSD Black Hills 70.84 334 P P 02 57 48.0 +0.6
SNCC San Nicolas Is 71.10 317 P **P 02 57 50.1 +1.1**
baz=130
BW06 Boulder Array 72.21 330 P **P 02 57 55.6 -0.1**
baz=140
PDAR Pinedale Array 72.21 330 P **P 02 57 56.7 +1.0**
comp=Z,0.4nm,0.6s,baz=128,slow=7.4,SNR=4.1
MDND Maddock 72.32 339 P **P 02 57 56.6 +0.6**
baz=150
KOWA Kowa 72.40 67 P **P 02 57 56.6 -0.6**
ULM Lac du Bonnet 73.28 342 P **P 02 58 01.5 -0.1**
comp=Z,1.7nm,0.4s,baz=176,slow=5.8,SNR=5.4
ULM Lac du Bonnet 73.28 342 IAmb IAmb 02 58 33.9
comp=Z,27nm,1.6s
NVAR Mina Array Bea 73.73 322 P **P 02 58 06.7 +1.9**
comp=Z,0.4nm,0.6s,baz=142,slow=8.0,SNR=2.3
NVAR pP **pP 02 58 36.0 +1.5**
comp=Z,0.1nm,0.3s,baz=163,slow=6.6,SNR=1.9
NVAR sP **sP 02 58 47.1 -0.1**
comp=Z,0.7nm,0.7s,baz=137,slow=4.9,SNR=3.3
RLMT Red Lodge 73.89 332 P **P 02 58 06.4 +0.9**
baz=141
YNE Yellowstone No 74.14 331 P **P 02 58 07.3 +0.3**
HLID Hailey 75.18 328 P **P 02 58 14.5 +1.5**
baz=136
BOZ Bozeman (W) 75.33 331 P **P 02 58 15.6 +1.8**
baz=139
TORD Torodi Ar. Bea 76.87 71 P **P 02 58 22.0 -1.0**
comp=Z,15nm,0.7s,baz=253,slow=4.6,SNR=65
TORD pP **pP 02 58 53.7 +0.6**
comp=Z,1.3nm,0.5s,baz=254,slow=5.2,SNR=1.7
TORD Torodi Ar. Bea 76.87 71 P **P 02 58 22.0 -1.0**
J05D Fort Rock, OR 78.60 324 P **P 02 58 32.8 +0.6**
baz=131
VNDA Vanda 78.85 190 P **P 02 58 35.9 +3.0**
comp=Z,0.8nm,0.7s,baz=125,slow=4.3,SNR=5.8
NEW Newport 79.85 330 LR LR 03 39 37.6
comp=Z,18nm,20.3s,baz=352,slow=40
B05A Bryant 82.30 327 P **P 02 58 52.5 +0.9**
baz=131
ESDC Sonseca Array 84.51 45 P **P 02 59 03.2 0.0**
comp=Z,2.0nm,0.8s,baz=252,slow=4.5,SNR=9.3
ESDC pP **pP 02 59 34.9 +0.9**
comp=Z,1.4nm,0.9s,baz=253,slow=4.9,SNR=3.6
ESDC Sonseca Array 84.51 45 P **P 02 59 03.7 +0.4**
YKA Yellowknife Ar 89.16 341 P **P 02 59 25.9 +0.8**
comp=Z,5.0nm,0.5s,baz=126,slow=5.9,SNR=14
YKA pP **pP 02 59 55.8 -0.2**
comp=Z,2.4nm,0.6s,baz=134,slow=5.9,SNR=3.4
CLL Collm 100.15 39 *e*Pdif **Pdif 03 00 16.0 +0.4**
Q23K Middleton Isla 100.21 330 P **Pdif 03 00 15.7 +0.1**
baz=111
MODS Modra-Piesok 101.94 43 *e*PDIFF **Pdif 03 00 24.9 +1.2**
ASAR Alice Springs 131.64 209 PKP **PKiKP 03 05 44.7 +0.5**
comp=Z,0.2nm,0.5s,baz=135,slow=1.9,SNR=2.6
ASAR pPKP **pPKPdf 03 06 14.8 -0.5**
comp=Z,1.3nm,0.8s,baz=153,slow=2.9,SNR=6.2
WRA Warramunga Arr 134.62 212 PKP **PKiKP 03 05 49.9 -0.3**
comp=Z,0.3nm,0.7s,baz=144,slow=1.6,SNR=6.7
WRA pPKP **pPKPdf 03 06 20.6 -0.2**
comp=Z,1.1nm,0.6s,baz=154,slow=1.6,SNR=8.0
ZALV Zalesovo Beam 140.16 24 PKhKP PKPpre 03 05 53.0
comp=Z,0.6nm,0.4s,baz=296,slow=4.6,SNR=2.8
ZALV PKP **PKiKP 03 05 59.2 -1.1**
comp=Z,1.8nm,0.6s,baz=285,slow=2.1,SNR=4.8
ZALV pPKP pPKPdf 03 06 30.7 +0.4
comp=Z,2.2nm,0.7s,baz=288,slow=4.2,SNR=3.2
MKAR Makanchi Array 144.06 34 PKP PKPbc 03 06 03.1 -0.2
comp=Z,0.5nm,0.6s,baz=299,slow=4.5,SNR=6.3
MKAR pPKP pPKPdf 03 06 37.5 -0.1
comp=Z,0.6nm,0.6s,baz=319,slow=4.0,SNR=3.4
USRK Ussuriysk Ar. 149.63 329 PKPbc **PKiKP 03 06 20.5 +0.3**
comp=Z,2.0nm,0.7s,baz=216,slow=1.1,SNR=6.7
MJAR Matsushiro Arr 150.58 311 pPKPbc pPKPbc 03 06 54.0 +0.3
comp=Z,1.7nm,0.6s,baz=162,slow=1.3,SNR=3.6
SONM Songino Array 151.42 6 PKP **PKPdf 03 06 19.1 +1.8**
comp=Z,0.3nm,0.4s,baz=14,slow=1.1,SNR=2.4
SONM PKPbc **PKiKP 03 06 24.6 +0.6**
comp=Z,4.5nm,0.7s,baz=273,slow=1.1,SNR=18
SONM pPKPbc **pPKPbc 03 06 56.4 +0.7**
comp=Z,2.5nm,0.5s,baz=311,slow=1.0,SNR=5.1
LZH Lanzhou 162.28 19 *e*PKP **PKPdf 03 06 31.0 -0.5**
LZH pPKP pPKPdf 03 06 56.3 -7.7
LZH sPKP 03 07 08.0
LZH LR LR
comp=N,140nm,18.1s
LZH LR LR
comp=E,150nm,18.3s
LZH LR LR
comp=Z,180nm,20.2s

*TAP **31** 03:38:11.5, 24°.21N × 122°.82E, h12$^{km}_{\pm 1}$, ML2.7, D*
*JMA **31** 03:38:12.0±0.1, 24°.24N × 122°.82E, h20$^{km}_{\pm 3}$, M2.6*
ISC 31 03:38:11.6±1.0, 24°.20N±0°.03 × 122°.82E±0°.02, h16$^{km}_{\pm 7}$, n53, σ0^{s}70/90, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.28**	**24**	P	**Pg**	**03 38 17.5**	**0.0**
JYNG				S	**Sg**	**03 38 21.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.31**	**33**	P	**Pg**	**03 38 18.3**	**+0.1**
baz=32							
YOJ				S	**Sb**	**03 38 23.3**	**-0.3**
baz=32							
YOJ	**Yonaguni jima**	**0.31**	**33**	P	**Pg**	**03 38 18.3**	**+0.1**
YOJ				S	**Sb**	**03 38 22.9**	**-0.7**
IRIF	**Iriomote-Funau**	**0.84**	**80**	P	**Pb**	**03 38 27.6**	**-0.1**
IRIF				S	**Sg**	**03 38 39.2**	**+0.3**
HATJ	**Hateruma jima**	**0.91**	**99**	P	**Pb**	**03 38 29.3**	**+0.4**
HATJ				S	**Sg**	**03 38 41.7**	**+0.6**
ENAH	**Nanao**	**0.96**	**285**	P	**Pb**	**03 38 29.6**	**-0.2**
baz=274							
ENAH				S	**Sn**	**03 38 44.4**	**+0.7**
baz=274							
TWC	**Suao**	**0.98**	**295**	P	**Pb**	**03 38 29.7**	**-0.5**
baz=307							
TWC				S	**Sg**	**03 38 42.9**	**-0.5**
baz=307							
ENA	**Nanau**	**1.01**	**283**	*e*S	**Sb**	**03 38 43.8**	**-0.1**
baz=283							
EGS		**1.04**	**309**	P	**Pn**	**03 38 31.3**	**-0.1**
baz=309							
EGS				*e*S	**Sn**	**03 38 45.2**	**-0.4**
baz=309							
JKRS	**Kuro-shima**	**1.08**	**88**	P	**Pb**	**03 38 32.0**	**+0.1**
JKRS				S	**Sn**	**03 38 47.0**	**+0.3**
TWB1	**Santiao Chiao**	**1.11**	**317**	*e*S	**Sb**	**03 38 46.4**	**-0.2**
baz=317							
NTC	**Toucheng**	**1.12**	**306**	*e*S	**Sg**	**03 38 47.9**	**+0.1**
baz=306							
NACB	**Ninganchiao**	**1.12**	**269**	P	**Pn**	**03 38 32.9**	**+0.2**
baz=248							
NACB				S	**Sg**	**03 38 48.7**	**+0.7**
baz=248							
TWD	**Chiawan**	**1.13**	**264**	P	**Pn**	**03 38 32.7**	**0.0**
baz=264							
TWE	**Neicheng**	**1.18**	**297**	P	**Pn**	**03 38 33.4**	**+0.1**
baz=296							
TIPB	**Shuangxi**	**1.19**	**310**	*i* P	**Pb**	**03 38 33.9**	**+0.1**
baz=325							
TIPB				S	**Sn**	**03 38 49.2**	**-0.3**
baz=325							
JIJ	**Ishigaki jima**	**1.21**	**82**	P	**Pn**	**03 38 33.2**	**-0.7**
JIJ				S	**Sb**	**03 38 49.3**	**-0.3**
ETLH	**Xiulin Townshi**	**1.23**	**271**	P	**Pb**	**03 38 34.6**	**+0.2**
baz=270							
ETLH				S	**Sg**	**03 38 52.1**	**+0.8**
baz=270							
ENTT	**Nioudou**	**1.23**	**291**	P	**Pb**	**03 38 34.5**	**+0.1**
baz=306							
ENTT				S	**Sg**	**03 38 50.7**	**-0.6**
baz=306							
NDT	**Datong Townshi**	**1.26**	**289**	*i* P	**Pb**	**03 38 34.8**	**-0.2**
baz=289							
NDT				S	**Sn**	**03 38 51.6**	**+0.4**
baz=289							
NNSB	**Datong**	**1.33**	**280**	P	**Pb**	**03 38 36.7**	**+0.4**
baz=280							
NNSB				S	**Sg**	**03 38 54.2**	**-0.5**
baz=280							
NNSH	**Datong**	**1.33**	**280**	P	**Pb**	**03 38 36.2**	**-0.1**
baz=280							
NWLT	**Wulai**	**1.33**	**296**	*i* P	**Pb**	**03 38 36.5**	**+0.2**
baz=296							
NWLT				S	**Sg**	**03 38 53.7**	**-1.0**
baz=296							
NNS	**Nan Shan**	**1.35**	**281**	*e*P	**Pn**	**03 38 35.8**	**0.0**
baz=280							
EGFH	**Guangfu**	**1.38**	**248**	*e*S	**Sn**	**03 38 53.9**	**-0.3**
baz=247							
YHNB	**Yeheng**	**1.40**	**290**	P	**Pb**	**03 38 37.8**	**+0.4**
baz=304							
YHNB				S	**Sg**	**03 38 56.6**	**-0.3**
baz=304							
JISG	**Ishigakijimahi**	**1.41**	**74**	P	**Pn**	**03 38 35.9**	**-0.6**
JISG				S	**Sn**	**03 38 54.5**	**-0.3**
NSK	**Sanguang**	**1.42**	**290**	*i* P	**Pb**	**03 38 38.0**	**+0.3**
baz=304							
NSK				*e*S	**Sg**	**03 38 56.8**	**-0.6**
baz=304							
WHF	**Hehuan Shan**	**1.43**	**268**	*i* P	**Pn**	**03 38 37.6**	**+0.4**
baz=267							
WHF				S	**Sb**	**03 38 56.5**	**+0.4**
baz=267							
TATO	**Taipei**	**1.44**	**303**	*e*P	**Pb**	**03 38 37.8**	**-0.2**
baz=303							
FUSS	**Fushou**	**1.44**	**272**	P	**Pb**	**03 38 38.2**	**0.0**
baz=272							
HGSD	**Ruisui**	**1.46**	**242**	P	**Pn**	**03 38 36.6**	**-0.6**
baz=240							
HGSD				*e*S	**Sn**	**03 38 55.7**	**-0.4**
baz=240							
YM01	**YM01**	**1.48**	**310**	*e*P	**Pn**	**03 38 37.6**	**0.0**
baz=310							
YM01				*e*S	**Sb**	**03 38 56.7**	**-0.6**
baz=310							
TWT	**Tachien**	**1.51**	**272**	*i* P	**Pb**	**03 38 39.3**	**0.0**
baz=272							
CHGB	**Renai**	**1.51**	**265**	P	**Pn**	**03 38 38.9**	**+0.7**
baz=264							
CHGB				S	**Sb**	**03 38 59.2**	**+0.7**
baz=264							
TDCB	**Techi**	**1.52**	**272**	P	**Pb**	**03 38 39.3**	**-0.2**
baz=272							
EHY	**Hungye**	**1.54**	**244**	*i* P	**Pn**	**03 38 37.7**	**-0.6**
baz=242							
EHY				*i* S	**Sn**	**03 38 57.4**	**-0.6**
baz=242							
VWDT	**VWDT**	**1.60**	**254**	P	**Pn**	**03 38 39.9**	**+0.7**
baz=253							
VWDT				S	**Sn**	**03 38 59.8**	**+0.2**
baz=253							
YULB	**Yu-li**	**1.61**	**240**	P	**Pn**	**03 38 39.1**	**-0.3**
baz=239							
YULB				*e*S	**Sn**	**03 38 59.4**	**-0.5**
baz=239							
TWF1	**Yuli**	**1.63**	**239**	*e*P	**Pn**	**03 38 39.3**	**-0.4**
baz=238							
TWF1				*e*S	**Sn**	**03 39 00.6**	**+0.2**
baz=238							
NSTT	**Nanjuang**	**1.72**	**285**	*e*P	**Pb**	**03 38 42.9**	**+0.2**
baz=285							
WHP	**Taichung City**	**1.72**	**273**	P	**Pb**	**03 38 43.0**	**+0.2**
baz=273							
WHP				S	**Sb**	**03 39 04.9**	**+0.7**
baz=273							
SSLB	**Suanglung**	**1.76**	**257**	P	**Pn**	**03 38 42.1**	**+0.7**
baz=256							
SSLB				*e*S	**Sn**	**03 39 04.2**	**+0.7**
baz=256							
JTJ	**Tarama**	**1.77**	**75**	P	**Pn**	**03 38 41.9**	**+0.4**
JTJ				S	**Sn**	**03 39 04.7**	**+1.1**
SMLT	**Sun Moon Lake**	**1.79**	**260**	*i* P	**Pn**	**03 38 43.1**	**+1.2**
baz=260							
TYC	**Yuchr**	**1.82**	**261**	*i* P	**Pn**	**03 38 43.4**	**+1.2**
baz=260							
TYC				*e*S	**Sb**	**03 39 06.5**	**-0.6**
baz=260							
EDH	**Donghe**	**1.85**	**229**	*e*P	**Pn**	**03 38 42.1**	**-0.5**
baz=227							
EDH				S	**Sn**	**03 39 03.5**	**-2.2**
baz=227							
CHN5	**Tsauling**	**2.05**	**253**	*i* P	**Pn**	**03 38 47.3**	**+1.8**
baz=239							
CHN5				*e*S	**Sb**	**03 39 13.1**	**-0.8**
baz=239							
TPUB	**Ta-pu**	**2.20**	**246**	P	**Pn**	**03 38 49.0**	**+1.6**
baz=245							
TPUB				S	**Sn**	**03 39 16.3**	**+1.9**
baz=245							
CHN4	**Tsaushan**	**2.21**	**248**	P	**Pn**	**03 38 49.0**	**+1.4**
baz=247							
CHN4				S	**Sb**	**03 39 17.9**	**-0.5**
baz=247							
SLGT	**Liugui**	**2.33**	**239**	*e*P	**Pn**	**03 38 51.2**	**+1.9**
baz=239							
CHN1	**Nanshi**	**2.33**	**245**	P	**Pb**	**03 38 51.9**	**-1.4**
baz=243							
CHN1				S	**Sb**	**03 39 20.8**	**-1.1**
baz=243							
EAST	**Anshuo**	**2.56**	**226**	*e*P	**Pn**	**03 38 52.6**	**+0.1**
baz=225							

*MOS **31** 04:09:26.3±2.5, 43°.51N × 146°.76E, h103^{km}, mb3.8/1, Error ellipse: s-maj=25.8km s-min=17.3km az=72.3*
*SKHL **31** 04:09:27.6±0.1, 43°.61N × 146°.81E, h94$^{km}_{\pm 4}$, mb4.5/3, msh5.4/4*
*JMA **31** 04:09:27.2±0.4, 43°.40N × 146°.90E, h37$^{km}_{\pm 4}$, M3.4*
ISC 31 04:09:26.0±1.5, 43°.45N±0°.08 × 146°.94E±0°.09, h65$^{km}_{\pm 15}$, n27, σ2^{s}07/38, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.87**	**265**	P	**Pn**	**04 09 42.7**	**+0.1**
NEM2				*e*S	**Sn**	**04 09 54.4**	**-0.4**
NMR	**Nemuro--Hokkai**	**0.88**	**265**	*i* P	**Pn**	**04 09 43.0**	**+0.3**
NMR				*e*S	**Sn**	**04 09 54.0**	**-1.1**
NMR	**Nemuro--Hokkai**	**0.88**	**265**	⇓*i* PN	**Pn**	**04 09 43.3**	**+0.6**
NMR				*i* S	**Sn**	**04 09 54.7**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**0.97**	**307**	*i* P	**Pn**	**04 09 44.6**	**+0.8**
YUK				AMB	AMB	04 09 45.0	
830nm,0.3s							
YUK				*i* S	**Sn**	**04 09 57.8**	**+0.8**
YUK				A	A	04 09 58.2	
1μm,0.4s							
YUK				A	A	04 09 58.2	
1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.97**	**307**	*c i* PN	**Pn**	**04 09 45.1**	**+1.3**
GRPR	**Tuman**	**1.00**	**303**	*i* P	**Pn**	**04 09 45.0**	**+0.8**
GRPR				AMB	AMB	04 09 45.0	
99nm,0.3s							
GRPR				*i* S	**Sn**	**04 09 58.0**	**+0.3**
GRPR				A	A	04 10 01.0	
2μm,0.3s							
GRPR				A	A	04 10 01.0	
540nm,0.3s							
GRPR	**Tuman**	**1.00**	**303**	⇓*i* PN	**Pn**	**04 09 45.0**	**+0.8**
GRPR				*i* S	**Sn**	**04 09 58.2**	**+0.5**
GRPR				pmax	pmax		
comp=N,114nm,0.1s							
GRPR				pmax	pmax		
comp=E,116nm,0.1s							
GRPR				pmax	pmax		
comp=Z,990nm,0.1s							
GRPR				smax	smax		
comp=N,2μm,0.3s							
GRPR				smax	smax		
comp=E,540nm,0.3s							
GLVR	**Golovnino**	**1.07**	**286**	*i* P	**Pn**	**04 09 46.0**	**+1.0**
GLVR				*i* S	**Sn**	**04 09 58.0**	**-1.2**
GLVR				A	A	04 10 00.0	
comp=E,713nm,0.3s							
GLVR				A	A	04 10 00.0	
comp=E,350nm,0.3s							
GLVR	**Golovnino**	**1.07**	**286**	⇓*i* PN	**Pn**	**04 09 46.0**	**+1.0**
GLVR				*i* S	**Sn**	**04 09 58.1**	**-1.2**
GLVR				smax	smax		
comp=E,350nm,0.3s							
GLVR				smax	smax		
comp=N,713nm,0.2s							
JKHN	**Kushirohamanak**	**1.35**	**255**	P	**Pn**	**04 09 49.9**	**+1.2**
JRA	**Rausu**	**1.40**	**291**	P	**Pn**	**04 09 51.0**	**+1.6**
JNSB	**Nemuroshibetsu**	**1.44**	**284**	P	**Pn**	**04 09 51.4**	**+1.5**
JNK	**Nakash**	**1.62**	**275**	P	**Pn**	**04 09 53.6**	**+1.3**
JAK	**Akkeshi**	**1.70**	**255**	P	**Pn**	**04 09 54.7**	**+1.3**
KUR	**Kuril'sk**	**1.90**	**20**	*e*P	**Pn**	**04 09 57.7**	**+1.6**
KUR				AMB	AMB	04 09 59.4	
comp=N,30nm,0.3s							
KUR				*e*S	**Sn**	**04 10 18.9**	**-0.1**
KUR				A	A	04 10 23.0	
comp=N,160nm,0.3s							
KUR				A	A	04 10 23.0	
comp=N,120nm,0.3s							
KUR	**Kuril'sk**	**1.90**	**20**	*e*PN	Pn	04 10 02.1	+6.0
KUR				*e*S	**Sn**	**04 10 22.5**	**+3.5**
KUR				smax	smax		
comp=N,244nm,0.2s							
KUR				smax	smax		
comp=E,120nm,0.2s							
JTKR	**Abashiri--Toko**	**2.25**	**284**	P	**Pn**	**04 10 03.6**	**+2.7**
JAR	**Ashorobuto**	**2.31**	**267**	P	**Pn**	**04 10 03.9**	**+2.2**
JAR				*e*S	**Sn**	**04 10 32.1**	**+3.0**
JOB	**Onbets**	**2.33**	**257**	P	**Pn**	**04 10 04.0**	**+2.0**
JOB				*e*S	**Sn**	**04 10 32.7**	**+3.1**
JCH	**Churui**	**2.75**	**253**	P	**Pn**	**04 10 10.0**	**+2.3**
JEM	**Erimo**	**3.13**	**244**	P	**Pn**	**04 10 16.4**	**+3.5**
ERM	**Erimo**	**3.13**	**244**	*e*PN	**Pn**	**04 10 16.6**	**+3.7**
ERM				*i* S	**Sn**	**04 10 46.0**	**-3.1**
YSS	**Yuzh-Sakhalins**	**4.58**	**321**	*e*rx	rx	04 10 33.9	
YSS	**Yuzh-Sakhalins**	**4.58**	**321**	*e*PN	**Pn**	**04 10 33.9**	**+1.3**
MAJO	**Matsushiro**	**9.61**	**227**	*i* PN	**Pn**	**04 11 42.8**	**+1.3**
BILL	**Bilibino**	**26.69**	**16**	*e*P	**P**	**04 14 54.6**	**-3.9**
BILL	**Bilibino**	**26.69**	**16**	*i* P	**P**	**04 14 54.6**	**-3.9**
BILL				pmax	pmax		
comp=Z,4.0nm,1.5s							

*ARE **31** 04:12:45±2.0, 8°.60S±0°.06 × 76°.2W±0°.1, h30$^{km}_{\pm 2}$, ML4.7, mb4.6/42(NEIC), Error ellipse: s-maj=15.0km s-min=7.9km az=91.0*
*NEIC **31** 04:12:47.2±1.5, 8°.70S±0°.07 × 76°.06W±0°.10, h47$^{km}_{\pm 5}$, Error ellipse: s-maj=14.5km s-min=9.2km az=67.0*
*IDC **31** 04:12:48.1±1.9, 8°.62S × 76°.08W, h52$^{km}_{\pm 18}$, mb3.8/15, mb1 4.0/20, mb1mx3.9/37, mbtmp4.1/20, ML4.0/6, MS3.3/3, Ms1 3.3/3, ms1mx2.9/26, Error ellipse: s-maj=18.1km s-min=11.1km az=74.0*
*VAO **31** 04:12:51.0±1.0, 8°.37S × 75°.31W, h10^{km}, mb4.3*
ISC 31 04:12:46.3±0.4, 8°.56S±0°.05 × 75°.90W±0°.06, h35^{km}, n112, σ1^{s}54/110, mb4.3/23, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.85**	**300**	P	**Pn**	**04 13 31.5**	**+1.8**
101nm,0.3s,baz=127,slow=4.2,SNR=218							
ATAH				S	**Sn**	**04 14 09.0**	**+5.9**
143nm,0.3s,baz=340,slow=23,SNR=8.2							
ATAH				LR	LR	04 14 42.4	
comp=Z,432nm,20.4s,baz=130,slow=42							
CZSB	**Cruzeiro do Su**	**3.27**	**76**	*e*P	**Pn**	**04 13 34.3**	**-0.8**
NNA	**Nana**	**3.53**	**195**	P	**Pn**	**04 13 38.4**	**-0.3**
42nm,0.3s,baz=6.4,slow=9.1,SNR=50							
NNA				S	**Sn**	**04 14 19.5**	**+0.3**
128nm,0.3s,baz=206,slow=16,SNR=9.8							
NNA				LR	LR	04 15 09.8	
comp=Z,371nm,19.3s,baz=22,slow=41							
NNA	**Nana**	**3.53**	**195**		**Pn**	**04 13 38.5**	**-0.2**
PTLC	**Puerto Leguiza**	**8.75**	**7**	*e*P	**Pn**	**04 14 46.5**	**-3.9**
PUAC	**Puerto Asis, P**	**9.08**	**356**	*e*P	**Pn**	**04 14 55.2**	**+0.3**
PAC1	**Pacto, Paraso**	**9.23**	**342**	*e*P	**Pn**	**04 14 58.0**	**+0.7**
ETMB	**Extrema**	**9.64**	**98**	*e*P	**Pn**	**04 15 04.0**	**+1.3**
GCUF	**Volcan Galeras**	**9.83**	**351**	*e*P	**Pn**	**04 15 06.1**	**+0.4**
BBAC	**Balboa, Cauca**	**10.60**	**353**	*e*P	**Pn**	**04 15 16.8**	**+0.7**
GARC	**Garzon, Huila**	**10.69**	**2**	*e*P	**Pn**	**04 15 17.1**	**-0.2**
LPAZ	**La Paz**	**10.79**	**136**	P	**Pn**	**04 15 20.8**	**+1.9**
0.2nm,0.3s,baz=266,slow=9.9,SNR=9.0							
LPAZ	**La Paz**	**10.79**	**136**		**Pn**	**04 15 22.4**	**+3.4**
PCON	**Cinco Dias**	**10.83**	**357**	*e*P	**Pn**	**04 15 18.1**	**-1.4**
MACC	**Macarena, Meta**	**10.83**	**11**	*e*P	**Pn**	**04 15 18.8**	**-0.2**
POPC	**Popayan, Colom**	**11.06**	**356**	*e*P	Pn	04 15 16.7	-5.6
MARP	**Paez Belalcaza**	**11.33**	**360**	*e*P	**Pn**	**04 15 26.6**	**+0.5**
GUVC	**San Jose del G**	**11.51**	**17**	*e*P	**Pn**	**04 15 28.2**	**-0.1**
PB10	**IPOC Station P**	**11.53**	**148**		**Pn**	**04 15 29.8**	**+0.8**
PRAC	**Prado**	**12.24**	**5**	*e*P	**Pn**	**04 15 37.2**	**-1.0**
ORTC	**Ortega, Tolima**	**12.41**	**3**	*e*P	**Pn**	**04 15 38.6**	**-2.0**
SAML	**Samuel**	**12.57**	**93**		**Pn**	**04 15 43.0**	**+0.2**
TOLC	**Tolima**	**13.07**	**3**	*e*P	**P**	**04 15 55.5**	**-4.3**
CHIC	**Chingaza**	**13.28**	**9**	*e*P	**Pn**	**04 15 52.2**	**-0.7**
RREF	**El Recreo**	**13.39**	**2**	*e*P	**P**	**04 16 00.8**	**-2.8**
ROSC	**El Rosal**	**13.41**	**7**	P	**P**	**04 16 02.0**	**-1.5**
0.6nm,0.3s,baz=24,slow=20,SNR=1.3							
ROSC				LR	LR	04 22 19.4	
comp=Z,172nm,21.2s,baz=226,slow=42							
ROSC	**El Rosal**	**13.41**	**7**	Pn	**Pn**	**04 15 54.0**	**-0.6**
SPBC	**San Pablo de B**	**14.24**	**7**	*e*P	**Pn**	**04 16 03.0**	**-2.7**
PB07	**IPOC Station P**	**14.31**	**157**	Pn	**Pn**	**04 16 08.0**	**+1.3**
CBOC	**Ciudad Bolivar**	**14.33**	**360**	*e*P	**P**	**04 16 09.9**	**-3.8**
RUSC	**La Rusia**	**14.63**	**11**	*e*P	**Pn**	**04 16 10.8**	**-0.5**
PTBC	**PUERTO BERRIO,**	**15.07**	**6**	*e*P	**P**	**04 16 19.7**	**-2.0**
LVC	**Limon Verde**	**15.50**	**155**	P	**P**	**04 16 25.6**	**-1.1**
0.4nm,0.3s,baz=309,slow=6.1,SNR=11							
LVC	**Limon Verde**	**15.50**	**155**	Pn	**Pn**	**04 16 22.0**	**-0.6**
LVC	**Limon Verde**	**15.50**	**155**	*e*P	**P**	**04 16 29.4**	**+2.6**
PB15	**IPOC Station P**	**15.81**	**158**	Pn	**Pn**	**04 16 26.1**	**-0.5**
VILB	**Vilhena**	**16.02**	**107**	*e*P	**Pn**	**04 16 29.7**	**+0.5**
MACA	**Manacapuru-AM**	**16.05**	**71**	*e*P	**Pn**	**04 16 28.0**	**-1.5**
SIV	**San Ignacio**	**16.25**	**118**	P	**Pn**	**04 16 32.8**	**+0.7**
0.7nm,0.3s,baz=298,slow=12,SNR=28							
MOTC	**Monteria, Cord**	**17.23**	**1**	*e*P	**P**	**04 16 46.2**	**+0.6**
GO02	**Mina Guanaco**	**17.57**	**161**	Pn	**Pn**	**04 16 47.1**	**-1.7**
GO02				IAmb	IAmb	04 17 12.9	
comp=Z,50nm,1.7s							
PTLB	**Pontes e Lacer**	**17.76**	**114**	*e*P	**Pn**	**04 16 51.6**	**+0.7**
SDV	**Santo Domingo**	**18.11**	**17**	P	**P**	**04 16 58.2**	**+2.7**
comp=Z,1.5nm,0.3s,baz=194,slow=14,SNR=4.7							
SDV	**Santo Domingo**	**18.11**	**17**	P	**P**	**04 16 57.8**	**+2.2**
SDV	**Santo Domingo**	**18.11**	**17**	*e*P	**P**	**04 16 58.3**	**+2.7**
CLDB	**Colider**	**19.94**	**98**	*e*P	**P**	**04 17 16.0**	**+0.4**
HDC	**Heredia**	**20.18**	**336**	P	**P**	**04 17 16.4**	**-1.7**
NPGB	**Novo Progresso**	**20.40**	**87**	*e*P	**P**	**04 17 22.0**	**+1.4**
ITTB	**Itaituba**	**20.46**	**80**	*e*P	Pn	04 17 23.6	+0.2
JTS	**Las Juntas de**	**20.79**	**334**	P	**P**	**04 17 23.6**	**-1.1**
comp=Z,2.9nm,0.8s,baz=198,slow=20,SNR=1.7							
JTS	**Las Juntas de**	**20.79**	**334**	IAmb	IAmb	04 17 32.8	
comp=Z,52nm,1.7s							
CO03	**El Pedregal**	**22.69**	**168**	P	**P**	**04 17 42.1**	**-2.9**
AQDB	**Aquidauana**	**22.82**	**123**	*e*P	**P**	**04 17 50.5**	**+4.1**
MATN	**Matagalpa**	**23.56**	**335**	P	**P**	**04 17 52.6**	**-1.3**
CPUP	**Villa Florida**	**24.96**	**137**	P	**P**	**04 18 06.2**	**-0.4**
comp=Z,1.7nm,0.9s,baz=315,slow=11,SNR=2.6							
CPUP	**Villa Florida**	**24.96**	**137**	IAmb	IAmb	04 18 19.4	
comp=Z,36nm,2.0s							
MCPB	**Macapa, AP**	**

comp=Z,58nm,1.6s
I07A **Izee** **65.57** **327** P **P** **04 23 26.3 -0.4**
I07A IAmb IAmb 04 23 32.6
comp=Z,5.2nm,0.9s
F10A **Beach Ranch, E** **65.68** **330** P **P** **04 23 26.3 -1.0**
F10A IAmb IAmb 04 23 35.1
comp=Z,4.9nm,0.9s
DBIC **Dimbokro** **72.42** **80** P **P** **04 24 11.4 +1.7**
comp=Z,2.6nm,0.4s,baz=235,slow=6.1,SNR=13
DBIC **Dimbokro** **72.42** **80** IAmb IAmb 04 24 19.8
comp=Z,14nm,1.1s
VNA3 **Neumayer Olymp** **74.40** **162** P **P** **04 24 19.9 -0.4**
SNAA **Sanae** **76.61** **162** P **P** **04 24 33.0 -0.1**
SNAA **Sanae** **76.61** **162** P **P** **04 24 32.2 -0.9**
SNAA IAmb IAmb 04 24 34.3
comp=Z,5.7nm,0.9s
TOA0 **Torodi Ar. Sit** **80.00** **75** P **P** **04 24 53.5 +0.7**
TOA0 IAmb IAmb 04 25 02.2
comp=Z,9.0nm,1.4s
TORD **Torodi Ar. Bea** **80.00** **75** P **P** **04 24 54.1 +1.3**
comp=Z,2.1nm,0.8s,baz=258,slow=4.9,SNR=22
TORD **Torodi Ar. Bea** **80.00** **75** P **P** **04 24 53.2 +0.4**
QSPA **South Pole Qui** **81.55** **180** P **P** **04 24 59.3 -0.9**
ESDC **Sonseca Array** **81.80** **48** P **P** **04 25 02.8 +0.8**
comp=Z,0.5nm,0.7s,baz=250,slow=5.5,SNR=6.7
SUMG **Summit** **84.52** **11** P **P** **04 25 16.5 +0.8**
SUMG **Summit** **84.52** **11** *i* P **P** **04 25 16.7 +1.0**
comp=Z,21nm,0.6s
SUMG **Summit** **84.52** **11** *i* P **P** **04 25 16.8 +1.0**
SUMG IAmb IAmb 04 25 17.6
comp=Z,21nm,0.6s
INK **Inuvik** **86.59** **342** P **P** **04 25 24.4 -1.1**
comp=Z,1.0nm,0.7s,baz=116,slow=4.6,SNR=5.9
BCAR **Beaver Creek A** **87.00** **335** P **P** **04 25 27.9 +0.1**
EGAK **Eagle** **87.50** **337** P **P** **04 25 29.9 -0.1**
K27K **Chicken** **87.53** **336** P **P** **04 25 30.7 +0.4**
K27K IAmb IAmb 04 25 36.8
comp=Z,6.3nm,0.9s
VNDA **Vanda** **88.31** **191** P **P** **04 25 33.8 0.0**
comp=Z,0.6nm,0.8s,baz=126,slow=5.3,SNR=4.7
IL31 **89.75** **336** P **P** **04 25 40.3 -0.4**
ILAR **Eielson Array** **89.75** **336** P **P** **04 25 40.1 -0.6**
comp=Z,0.4nm,0.5s,baz=145,slow=3.6,SNR=8.1
ILAR **Eielson Array** **89.75** **336** P **P** **04 25 39.8 -0.9**
MDM **Murphy Dome** **90.35** **336** P **P** **04 25 43.3 -0.3**
STKA **Stephens Creek** **126.15** **220** PKP **PKPdf** **04 31 45.0 -0.7**
comp=Z,1.3nm,0.5s,baz=125,slow=0.9,SNR=4.4
ZALV **Zalesovo Beam** **132.15** **15** PKP **PKiKP** **04 31 57.2 -0.3**
comp=Z,0.7nm,0.4s,baz=186,slow=4.0,SNR=4.0
ASAR **Alice Springs** **136.71** **222** PKP **PKPdf** **04 32 04.5 -1.4**
comp=Z,1.4nm,0.7s,baz=125,slow=1.7,SNR=11
ASAR **Alice Springs** **136.71** **222** PKPdf **PKPdf** **04 32 04.4 -1.5**
MKAR **Makanchi Array** **137.59** **22** PKP **PKPdf** **04 32 07.2 +0.3**
comp=Z,0.5nm,0.7s,baz=347,slow=5.9,SNR=3.6
WRA **Warramunga Arr** **138.91** **226** PKhKP PKPpre 04 32 04.9
comp=Z,1.4nm,0.5s,baz=124,slow=1.8,SNR=5.6
WRA PKP **PKPdf** **04 32 09.3 -0.7**
comp=Z,2.3nm,0.5s,baz=126,slow=2.0,SNR=34
SONM **Songino Array** **140.82** **358** PKP **PKPdf** **04 32 13.6 +0.7**
comp=Z,0.6nm,0.8s,baz=17,slow=2.0,SNR=3.4
LZH **Lanzhou** **152.60** **0** *e*PKPbc **PKPdf** **04 32 34.5 +1.6**
LZH pPKP pPKPdf 04 32 43.5 -1.2
LZH sPKP 04 32 48.8

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*IDC **31** 04:21:33.2±1.8, 1°.19N×125°.55E, h0km, mb3.8/3, mb1 1.4/3, mb1mx3.6/26, mbtmp3.8/3, Error ellipse: s-maj=176.6km s-min=23.8km az=64.0*
*DJA **31** 04:21:43.1±0.9, 1°.3S×12°.5E±°, h24km±9km, M4.1/10, MLv4.1/10*
ISC 31 04:21:36.7±1.0, 1°.07N±0°.08×125°.56E±0°.08, h10km, n9, σ1s62/10, mb3.8/3, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.66**	**253**	P	**Pb**	**04 22 08.0**	**+0.7**
KMSI				S	**Sn**	**04 22 26.7**	**-0.5**
SGSI	**Sangihe**	**2.60**	**359**	P	**Pg**	**04 22 28.1**	**+1.5**
SANI	**Sanana**	**3.12**	**172**	P	**Pn**	**04 22 27.0**	**+1.0**
LUWI	**Luwuk**	**3.49**	**333**	P	**Pn**	**04 22 32.0**	**+0.9**
APSI	**Ampana**	**4.38**	**243**	P	**Pn**	**04 22 44.5**	**+1.2**
NLAI	**Namlea**	**4.54**	**160**	P	**Pn**	**04 22 47.1**	**+1.5**
WRA	**Warramunga Arr**	**22.58**	**158**	P	**P**	**04 26 36.0**	**-1.5**
	1.3nm,0.4s,baz=336,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.89**	**162**	P	**P**	**04 27 08.6**	**-0.4**
	1.5nm,0.8s,baz=348,slow=13,SNR=9.3						
MKAR	**Makanchi Array**	**59.10**	**327**	P	**P**	**04 31 34.6**	**-2.8**
	0.5nm,0.3s,baz=122,slow=7.9,SNR=10						

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*NEIC **31** 04:23:03.9±1.4, 34°.59S±0°.05×71°.1W±0°.1, h81km±6km, Error ellipse: s-maj=12.9km s-min=7.1km az=96.0*
*IDC **31** 04:23:03.9±1.0, 34°.63S×70°.91W, h78km±8km, mb3.8/5, mb1 3.8/8, mb1mx3.6/18, mbtmp3.9/8, MS3.0/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=28.3km s-min=23.7km az=77.0*
*GUC **31** 04:23:04.5±0.6, 34°.58S×71°.06W, h76km±3km, ML4.4*
ISC 31 04:23:03.5±0.7, 34°.60S±0°.04×71°.17W±0°.04, h82km±6km, n55, σ1s64/68, mb4.0/6, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO02	**Sierra Bellavi**	**0.38**	**122**	⇓*i* P	**Pn**	**04 23 16.3**	**-0.3**
BO02				*e*S	**Sn**	**04 23 25.2**	**-1.2**
BO02	**Sierra Bellavi**	**0.38**	**122**		**Pn**	**04 23 16.4**	**-0.3**
GO05	**Huala**	**0.75**	**236**	*e*P	**Pn**	**04 23 20.8**	**+0.9**
GO05				*i* S	**Sn**	**04 23 33.8**	**+1.7**
GO05				IAML		04 23 35.5	
	comp=E,15μm,0.3s						
GO05	**Huala**	**0.75**	**236**		**Pn**	**04 23 21.1**	**+1.2**
LMEL	**Las Melosas**	**1.09**	**47**	*e*P	**Pn**	**04 23 24.2**	**+0.2**
LMEL				*e*S	**Sn**	**04 23 38.7**	**-0.6**
LMEL				IAML		04 23 41.1	
	comp=E,23μm,0.2s						
MT03	**Universidad Ad**	**1.23**	**27**	⇓*i* P	**Pn**	**04 23 25.3**	**-0.3**
MT03				*e*S	**Sn**	**04 23 41.5**	**-0.6**
MT03				IAML		04 23 45.0	
	comp=E,12μm,0.2s						
MT05	**Renca**	**1.25**	**17**	*i* P	**Pn**	**04 23 25.9**	**+0.1**
MT05				*e*S	**Sn**	**04 23 41.9**	**-0.7**
MT05				IAML		04 23 43.9	
	comp=E,15μm,0.3s						
MT05	**Renca**	**1.25**	**17**		**Pn**	**04 23 26.1**	**+0.2**
MT02	**Curacav**	**1.33**	**1**	⇓*i* P	**Pn**	**04 23 27.1**	**+0.3**
MT02				*e*S	**Sn**	**04 23 43.9**	**-0.4**
MT02	**Curacav**	**1.33**	**1**		**Pn**	**04 23 27.2**	**+0.4**
PEL	**Peldehue**	**1.50**	**16**	*e*P	**Pn**	**04 23 28.8**	**-0.3**
PEL				*e*S	**Sn**	**04 23 48.7**	**+0.4**
PEL				IAML		04 23 50.4	
	comp=E,6μm,0.5s						
PEL	**Peldehue**	**1.50**	**16**		**Pn**	**04 23 29.3**	**+0.3**
VA01	**Torpederas**	**1.62**	**346**	*e*P	**Pn**	**04 23 31.5**	**+1.1**
VA01				*e*S	**Sn**	**04 23 51.3**	**+0.5**
VA01				IAML		04 23 53.1	
	comp=E,10μm,0.1s						
VA01	**Torpederas**	**1.62**	**346**		**Pn**	**04 23 31.1**	**+0.7**
ROC1	**El Roble**	**1.62**	**5**	*e*P	**Pn**	**04 23 31.2**	**+0.4**
ROCH	**El Roble**	**1.62**	**5**	*e*P	**Pn**	**04 23 31.0**	**+0.2**
ROCH				*e*S	**Sn**	**04 23 51.4**	**0.0**
ROCH				IAML		04 23 57.0	
	comp=N,5μm,0.3s						
VA03	**San Esteban**	**1.90**	**16**	⇓*i* P	**Pn**	**04 23 34.5**	**+0.3**
VA03				IAML		04 24 01.6	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.90**	**16**		**Pn**	**04 23 34.4**	**+0.1**
BI02	**San Fabin de**	**2.07**	**182**	⇓*i* P	**Pn**	**04 23 38.2**	**+1.8**
BI02	**San Fabin de**	**2.07**	**182**		**Pn**	**04 23 38.1**	**+1.7**
BI03	**Tigo**	**2.70**	**213**	*e*P	**Pn**	**04 23 45.2**	**+0.4**
BI03	**Tigo**	**2.70**	**213**		**Pn**	**04 23 45.3**	**+0.4**
CO02	**Combarbal**	**3.38**	**2**	Pn	**Pn**	**04 23 54.4**	**+0.1**
ZON	**Zonda**	**3.69**	**35**	Pn	**Pn**	**04 23 59.1**	**+0.8**
CO03	**El Pedregal**	**3.77**	**6**		**Pn**	**04 24 00.1**	**+0.7**
LC01	**Cunco**	**4.33**	**187**	Pn	**Pn**	**04 24 07.5**	**+0.5**
GO04	**Tololo Observa**	**4.42**	**4**		**Pn**	**04 24 08.2**	**-0.2**
CO01	**Juntas del Tor**	**4.69**	**11**		**Pn**	**04 24 12.6**	**+0.5**
LCO	**Las Campanas**	**5.58**	**4**	Pn	**Pn**	**04 24 23.5**	**-0.8**
PLCA	**Paso Flores**	**6.15**	**176**	P	**Pn**	**04 24 32.3**	**+0.5**
	comp=E,1.4nm,0.3s,baz=14,slow=14,SNR=62						
PLCA	**Paso Flores**	**6.15**	**176**	Pn	**Pn**	**04 24 32.5**	**+0.7**
AC04	**Llanos de Chal**	**6.37**	**1**	Pn	**Pn**	**04 24 33.5**	**-1.3**
H03S1	**Juan Fernandez**	**6.45**	**274**	P	**Pn**	**04 24 37.9**	**+2.3**
H03S1				S	**Sn**	**04 25 44.3**	**-3.3**
H03S1				T	T	04 30 38.9	
	baz=98,slow=74,SNR=288						
H03S3	**Juan Fernandez**	**6.46**	**275**	P	**Pn**	**04 24 38.1**	**+2.4**
H03S3				S	**Sn**	**04 25 44.3**	**-3.5**
H03S3				T	T	04 30 42.8	
	baz=98,slow=74,SNR=109						
H03S2	**Juan Fernandez**	**6.47**	**275**	P	**Pn**	**04 24 37.5**	**+1.6**
H03S2				S	**Sn**	**04 25 44.2**	**-3.8**
H03S2				T	T	04 30 37.2	
	baz=98,slow=74,SNR=233						
H03N1	**Juan Fernandez**	**6.53**	**278**	P	**Pn**	**04 24 40.9**	**+4.2**
H03N1				S	**Sn**	**04 25 46.4**	**-3.2**
H03N3	**Juan Fernandez**	**6.54**	**278**	P	**Pn**	**04 24 40.0**	**+3.2**
H03N3				S	**Sn**	**04 25 46.6**	**-3.2**
H03N2	**Juan Fernandez**	**6.55**	**278**	P	**Pn**	**04 24 40.0**	**+3.1**
H03N2				S	**Sn**	**04 25 45.8**	**-4.2**
GO03	**Copiap**	**7.03**	**7**	Pn	**Pn**	**04 24 41.5**	**-2.3**
AC01	**Pan de Azucar**	**8.43**	**4**	Pn	**Pn**	**04 25 01.4**	**-1.6**
CPUP	**Villa Florida**	**14.49**	**59**	P	**Pn**	**04 26 23.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=205,slow=13,SNR=2.2						
LPAZ	**La Paz**	**18.43**	**9**	P	**Pn**	**04 27 14.3**	**+0.2**
	comp=E,0.1nm,0.3s,baz=179,slow=11,SNR=2.0						
LPAZ	**La Paz**	**18.43**	**9**	IAmb	IAmb	04 27 42.9	
	comp=Z,2.9nm,1.0s						
BDFB	**Brasilia**	**28.09**	**54**	P	**P**	**04 28 46.1**	**-1.6**
	comp=Z,2.7nm,0.5s,baz=209,slow=13,SNR=3.9						
BDFB				LR	LR	04 40 11.3	
	comp=Z,31nm,18.4s,baz=274,slow=37						
BDFB	**Brasilia**	**28.09**	**54**	IAmb	IAmb	04 29 47.8	
	comp=Z,30nm,1.7s						
CBYP	**Canovanas**	**52.81**	**6**	P	**P**	**04 32 10.3**	**-0.2**
W57A	**Gilead**	**69.88**	**352**	P	**P**	**04 34 07.2**	**+1.9**
TXAR	**Lajitas Array**	**70.60**	**330**	P	**P**	**04 34 12.5**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=128,slow=10,SNR=2.5						
TXAR				pP	**PcP**	**04 34 31.7**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=147,slow=7.4,SNR=4.2						
DBIC	**Dimbokro**	**74.69**	**71**	P	**P**	**04 34 34.4**	**-0.2**
	comp=Z,6.1nm,1.0s,baz=196,slow=9.4,SNR=4.1						
BOSA	**Boshof**	**79.16**	**117**	P	**P**	**04 34 59.7**	**0.0**
	comp=Z,2.5nm,0.9s,baz=248,slow=5.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**83.74**	**69**	P	**P**	**04 35 23.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=191,slow=5.3,SNR=7.9						
TORD				pP	**pP**	**04 35 46.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=248,slow=3.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.74**	**69**	IAmb	IAmb	04 35 24.7	
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**84.78**	**325**	pP	pP	04 35 51.9	+1.0
	comp=Z,0.2nm,0.5s,baz=131,slow=4.9,SNR=3.2						
WRA	**Warramunga Arr**	**120.58**	**208**	PKP	**PKPdf**	**04 41 46.4**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=170,slow=1.7,SNR=1.8						
WRA				pPKP	**pPKPdf**	**04 42 07.8**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=155,slow=1.8,SNR=1.7						
ZALV	**Zalesovo Beam**	**154.33**	**34**	pPKPbc	pPKPbc	04 43 17.6	+0.7
	comp=Z,0.6nm,0.3s,baz=304,slow=3.3,SNR=1.7						

IDC 31 04:39:24.1±13.0, 22°.48S×179°.39W, h394km±112km, mb3.4/4, mb1 3.6/5, mb1mx3.2/25, mbtmp4.2/5, Error ellipse: s-maj=100.0km s-min=22.0km az=44.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.01**	**190**	P	P	04 42 49.0	+1.4
	2.0nm,0.3s,baz=305,slow=3.5,SNR=9.8						
URZ				S	S	04 45 23.8	-12
	0.5nm,0.3s,baz=131,slow=19,SNR=1.3						
RPZ	**Rata Peaks**	**22.61**	**198**	P	P	04 43 51.6	-0.9
	9.9nm,0.5s,baz=345,slow=3.6,SNR=7.9						
ASAR	**Alice Springs**	**42.84**	**259**	P	P	04 46 45.6	0.0
	1.6nm,0.7s,baz=95,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**43.08**	**264**	P	P	04 46 47.4	-0.2
	1.0nm,0.3s,baz=94,slow=8.4,SNR=44						
VNDA	**Vanda**	**55.83**	**185**	P	P	04 48 21.6	0.0
	1.0nm,0.5s,baz=5.4,slow=8.0,SNR=11						
AKASG	**Malin Array Be**	**144.07**	**329**	PKP	PKPdf	04 58 12.9	-0.4
	0.4nm,0.4s,baz=40,slow=4.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**170.66**	**187**	PKPab	PKPab	05 00 06.2	-0.2
	0.3nm,0.8s,baz=177,slow=4.1,SNR=1.5						

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*AEIC **31** 04:44:48±1.8, 53°.30N±0°.06×164°.20W±0°.08, h36km±7km, ML3.4, Error ellipse: s-maj=9.9km s-min=6.6km az=153.0*
*NEIC **31** 04:44:49.1±1.7, 53°.32N±0°.06×164°.21W±0°.06, h33km±6km, Error ellipse: s-maj=8.6km s-min=4.3km az=202.0*
*IDC **31** 04:44:54.5±10.0, 53°.44N×164°.52W, h65km±92km, mb3.6/6, mb1 3.7/7, mb1mx3.4/40, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=65.3km s-min=28.9km az=24.0*
ISC 31 04:44:49.1±2.3, 53°.34N±0°.09×164°.21W±0°.05, h31km±15km, n41, σ1s04/44, mb4.0/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**1.19**	**313**		**Pn**	**04 45 09.3**	**-0.3**
AKSA					**Sb**	**04 45 26.7**	**+0.7**
AKSA	**Akutan Strait**	**1.19**	**313**		**Pn**	**04 45 09.4**	**-0.2**
AKSA					**Sb**	**04 45 25.9**	**-0.1**
WESP	**Westdahl Peak**	**1.20**	**346**		**Pn**	**04 45 09.2**	**-0.5**
WESP					**Sn**	**04 45 25.2**	**+0.2**
AKUT	**Akutan**	**1.22**	**311**		**Pn**	**04 45 10.0**	**0.0**
AKUT					**Sb**	**04 45 27.3**	**+0.4**
AKBBA	**Akutan Broad B**	**1.27**	**307**		**Pn**	**04 45 11.0**	**+0.2**
AKBBA					**Sb**	**04 45 29.8**	**+1.3**
AKMO	**Akutan Morgan**	**1.31**	**306**		**Pn**	**04 45 11.0**	**-0.2**
AKMO					**Sn**	**04 45 28.6**	**+1.0**
AKLV	**Akutan Long Va**	**1.32**	**309**		**Pn**	**04 45 11.5**	**0.0**
AKRB	**Akutan Reef Bi**	**1.36**	**306**		**Pn**	**04 45 12.5**	**+0.6**
AKGG	**Akutan Green G**	**1.36**	**310**		**Pn**	**04 45 12.4**	**+0.4**
AKGG					**Sb**	**04 45 30.7**	**-0.3**
SSLS	**Shishaldin Sou**	**1.38**	**5**		**Pn**	**04 45 12.0**	**-0.4**
SSBA	**Shishaldin**	**1.44**	**2**		**Pn**	**04 45 14.0**	**+0.9**
UNV	**Unalaska Valle**	**1.46**	**291**		**Pn**	**04 45 13.4**	**+0.1**
UNV					**Sb**	**04 45 33.0**	**-0.7**
MNAT	**Makushin Natee**	**1.57**	**291**		**Pn**	**04 45 14.5**	**+0.5**
MREP	**Makushin Rep't**	**1.58**	**288**		**Pn**	**04 45 15.4**	**+0.4**
FALS	**False Pass**	**1.59**	**17**		**Pn**	**04 45 15.9**	**+0.7**
MSW	**Makushin Switc**	**1.64**	**292**		**Pn**	**04 45 16.3**	**+0.5**
MSW					**Sb**	**04 45 38.6**	**-0.3**
MGOD	**Makushin Gods**	**1.65**	**287**		**Pn**	**04 45 16.4**	**+0.4**
MAPS	**Pakushin South**	**1.69**	**287**		**Pn**	**04 45 17.1**	**+0.6**
DT1	**Dutton Round H**	**2.10**	**32**		**Pn**	**04 45 23.2**	**+1.0**
NIKH	**Nikolski High**	**2.82**	**264**		**Pn**	**04 45 32.5**	**+0.5**
SDPT	**Sand Point**	**2.97**	**46**		**Pn**	**04 45 35.2**	**+1.1**
CNBA	**Chernabura Isl**	**3.10**	**60**		**Pn**	**04 45 36.2**	**+0.3**
ILAR	**Eielson Array**	**14.45**	**31**	P	**P**	**04 48 16.6**	**-1.0**
	0.0nm,0.3s,baz=235,slow=9.5,SNR=2.0						
BCAR	**Beaver Creek A**	**15.23**	**41**	Pn	**Pn**	**04 48 20.5**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**40.26**	**225**	T	T	05 35 40.9	
	baz=26,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.26**	**225**	T	T	05 35 38.6	
	baz=26,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**40.27**	**225**	T	T	05 35 42.1	
	baz=26,slow=76,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**41.43**	**224**	T	T	05 36 57.4	
	baz=25,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**41.44**	**224**	T	T	05 36 58.8	
	baz=25,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**41.45**	**224**	T	T	05 37 00.4	
	baz=25,slow=76,SNR=9.7						
TXAR	**Lajitas Array**	**49.65**	**94**	P	**P**	**04 53 40.6**	**+2.8**
	0.2nm,0.4s,baz=327,slow=6.5,SNR=5.7						
TXAR	**Lajitas Array**	**49.65**	**94**	P	**P**	**04 53 34.0**	**-3.8**
SONM	**Songino Array**	**53.44**	**303**	P	**P**	**04 54 06.5**	**+0.5**
	0.4nm,0.4s,baz=52,slow=9.6,SNR=4.2						
SONM	**Songino Array**	**53.44**	**303**	P	**P**	**04 54 05.2**	**-0.7**
ARCES	**ARCESS Array B**	**57.23**	**356**	P	**P**	**04 54 32.7**	**-0.1**
	3.7nm,1.0s,baz=13,slow=8.3,SNR=4.3						
FINES	**FINESS Array B**	**65.27**	**355**	P	**P**	**04 55 27.9**	**+0.6**
	1.8nm,0.9s,baz=0.0,slow=11,SNR=1.9						
FINES	**FINESS Array B**	**65.27**	**355**	P	**P**	**04 55 26.2**	**-1.1**
MK31	**Makanchi Array**	**65.34**	**316**	P	**P**	**04 55 26.8**	**-1.3**
MKAR	**Makanchi Array**	**65.34**	**316**	P	**P**	**04 55 27.4**	**-0.6**
	0.8nm,0.7s,baz=45,slow=5.7,SNR=6.2						
ABKAR	**Akbulak array**	**71.17**	**331**	P	**P**	**04 56 05.1**	**+0.7**
BRTR	**Keskin Array B**	**86.03**	**346**	P	**P**	**04 57 28.5**	**+1.9**
	1.1nm,0.9s,baz=16,slow=4.0,SNR=5.2						

IDC 31 04:49:36.2±9.4, 15°.09S×172°.31W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/38, mbtmp3.6/2, Error ellipse: s-maj=432.3km s-min=67.5km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.94**	**256**	P	P	04 58 39.8	-0.1
	0.1nm,0.4s,baz=93,slow=6.7,SNR=5.1						
ASAR	**Alice Springs**	**51.21**	**252**	P	P	04 58 41.8	-0.1
	0.9nm,0.5s,baz=86,slow=8.5,SNR=12						
BRTR	**Keskin Array B**	**146.57**	**322**	PKPbc	PKPdf	05 09 19.3	+0.6
	0.5nm,0.7s,baz=54,slow=4.7,SNR=1.7						

NNC 31 04:58:16.3±7.5, 36°.96N×69°.99E, h0km, mb3.7, mpv3.3, 2C-3D, Error ellipse: s-maj=66.8km s-min=47.4km az=150.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.15**	**4**	⇓P	Pn	04 59 49.0	+0.6
	1.0nm,0.5s,baz=182,slow=13,SNR=5.6						
KK31				⇑S	Sn	05 01 01.0	+1.6
	1.4nm,0.3s,baz=147,slow=31						
AAK	**Ala-Archa**	**6.65**	**30**	⇑P	Pn	04 59 56.2	+0.9
	1.9nm,0.7s						
AAK				⇓S	Sn	05 01 12.3	+0.5
	3.6nm,0.7s						
AB31	**Akbulak array**	**14.29**	**332**	P	Pn	05 01 35.9	-4.0
	0.6nm,0.4s,baz=154,slow=12,SNR=28						
AKTO	**Aktyubinsk**	**15.98**	**331**	⇓P	P	05 02 04.5	-1.5
	2.0nm,0.8s						

ROM 31 05:12:53.6±0.1, 42°.531N±0°.000×13°.349E±0°.004, h11km, ML0.9/1, 1C, Error ellipse: s-maj=0.9km s-min=0.3km az=184.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.10**	**258**	P	Pg	05 12 56.9	+0.4
RM33				S	Sg	05 12 58.9	+0.4
TERO	**Teramo**	**0.21**	**64**	P	Pg	05 12 58.7	+0.6
TERO				S	Sg	05 13 02.3	+1.2
LNSS	**Leonessa**	**0.24**	**288**	P	Pg	05 12 59.2	+0.5
LNSS				S	Sg	05 13 03.2	+1.2
LNSS				AML	AML		
	comp=E,45μm,1.6s						
LNSS				AML	AML		
	comp=N,46μm,1.5s						
LNSS				AML	AML		
	comp=N,46μm,1.5s						
LNSS				AML	AML		
	comp=E,45μm,1.6s						
NRCA	**Norcia**	**0.35**	**330**	⇑P	Pg	05 13 01.0	+0.4
NRCA				S	Sb	05 13 06.6	-1.0

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*VIE **31** 05:13:56.6±0.4, 46°.43N×10°.59E, h8km, ml0.9/4, Error ellipse: s-maj=3.0km s-min=1.6km az=162.0 17 km ESE of Bormio*
ZUR 31 05:13:56.7, 46°.40N×10°.60E, h2km±3km, MLh0.6/7, 3C-1D, Error ellipse: s-maj=5.9km s-min=1.1km az=153.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRMO	**Bormio**	**0.17**	**295**	⇑Pg	Pg	05 14 00.7	+0.6
	SNR=1.2						
BRMO				⇑Pg	Pg	05 14 00.7	+0.6
BRMO				Sg	Sg	05 14 02.9	+0.6
BRMO	**Bormio**	**0.17**	**295**	⇑P	Pg	05 14 00.7	+0.6
MOSI	**Grossmontoni**	**0.21**	**351**	Pg	Pg	05 14 01.4	+0.5
	SNR=0.8						
MOSI				Pg	Pg	05 14 01.4	+0.5
MOSI				Sg	Sg	05 14 04.3	+0.6
MOSI	**Grossmontoni**	**0.21**	**351**	P	Pg	05 14 01.5	+0.5
FUORN	**Ofenpass-Fuorn**	**0.32**	**313**	Pg	Pg	05 14 03.1	+0.2
	SNR=0.8						
FUORN				Pg	Pg	05 14 03.1	+0.2
FUORN	**Ofenpass-Fuorn**	**0.32**	**313**	⇓P	Pg	05 14 03.1	+0.2
MABI	**Malga Bissina**	**0.35**	**189**	Pg	Pg	05 14 04.2	+0.6
	SNR=1.0						
MABI				Pg	Pg	05 14 04.2	+0.6
MABI				Sg	Sg	05 14 08.8	+0.6
MABI	**Malga Bissina**	**0.35**	**189**	P	Pg	05 14 04.2	+0.7
BERNI	**Berninapass**	**0.40**	**272**	Pg	Pg	05 14 04.7	+0.3
BERNI				Pg	Pg	05 14 04.7	+0.3
	SNR=0.6						
APPI	**Appiano**	**0.44**	**80**	P	Pg	05 14 05.7	+0.4
FETA	**Feichten**	**0.62**	**8**	*e*Pg	Pg	05 14 09.0	+0.2
	0.1nm,0.0s						
FETA				*i* Sg	Sg	05 14 16.4	-0.5
	0.4nm,0.1s						

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*EAF **31** 06:01:19.1±0.8, 15°.11S×29°.34E, h10km, MD3.8*
ISC 31 06:01:23.3±5.0, 15°.4S±0°.2×28°.9E±0°.4, h10km, n6, σ0s60/10, Zambia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**0.67**	**282**	*i* P	**Pn**	**06 01 39.0**	**0.0**
LSZ	**Lusaka**	**0.67**	**282**

baz=152,slow=76,SNR=18
H01W2 Cape Leeuwin H 37.04 299 T T 07 00 51.5
baz=152,slow=76,SNR=20
H01W3 Cape Leeuwin H 37.05 299 T T 07 00 51.1
baz=152,slow=76,SNR=18
ASAR Alice Springs 41.02 331 P P 06 24 19.1 0.0
1.0nm,0.6s,baz=160,slow=9.5,SNR=16
WRA Warramunga Arr 44.52 333 P P 06 24 47.3 -0.2
0.7nm,0.6s,baz=166,slow=7.3,SNR=11
FITZ Fitzroy Crossi 48.44 323 LR LR 06 43 52.4
comp=Z,42nm,18.3s,baz=126,slow=34

IDC ***31*** *06:18:35.6±0.6,28°.89N×130°.98E, h0km, mb4.0/17, mb1 4.2/19,mb1mx4.0/62,mbtmp4.0/19,ML3.5/2,MS3.1/4, Ms1 3.2/4,ms1mx2.7/54, Error ellipse: s-maj=21.3km s-min=14.5km az=78.0*

NEIC ***31*** *06:18:37.6±1.1,28°.79N±0°.06×130°.8E±0°.1, h15km±2km, mb4.4/14, Error ellipse: s-maj=13.7km s-min=8.2km az=81.0*

JMA ***31*** *06:18:38.7±0.1,28°.82N×130°.91E, h75km±2km, M3.6*

ISC 31 06:18:37.9±4.0, 28°.82N±0°.04×130°.90E±0°.05, h15km±25km, n80, σ0°.83/96, mb4.2/24, 1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.96**	**238**	P	**Pn**	**06 18 57.2**	**+0.4**
JZK				eS	**Sn**	**06 19 11.3**	**+1.2**
JAM	**Amami Oshima**	**1.21**	**251**	P	**Pn**	**06 19 00.1**	**-0.1**
JAM				eS	**Sn**	**06 19 16.3**	**0.0**
JNN	**Nakanoshima**	**1.35**	**319**	P	**Pn**	**06 19 02.4**	**+0.2**
JYAK	**Yakushimahirau**	**1.45**	**347**	P	**Pn**	**06 19 03.8**	**+0.2**
JYAK				S	**Sn**	**06 19 21.5**	**-0.9**
JTAJ	**Takarajima**	**1.52**	**283**	P	**Pn**	**06 19 04.7**	**+0.2**
JTAJ				eS	**Sn**	**06 19 23.5**	**-0.5**
JMTN	**Minamitane**	**1.57**	**0**	P	**Pn**	**06 19 05.1**	**-0.1**
JMTN				eS	**Sn**	**06 19 24.6**	**-0.7**
JAMN	**Amaminishikomi**	**1.62**	**250**	P	**Pn**	**06 19 06.2**	**+0.3**
JAMN				eS	**Sn**	**06 19 26.6**	**+0.1**
JKC	**Kuchinoerabu**	**1.75**	**340**	P	**Pn**	**06 19 07.8**	**+0.2**
JKC				S	**Sn**	**06 19 29.1**	**-0.5**
JTN	**Tanegashima 3**	**1.83**	**2**	P	**Pn**	**06 19 08.4**	**-0.4**
JTN				eS	**Sn**	**06 19 31.1**	**-0.6**
JTK	**Tokunoshima**	**2.00**	**239**	P	**Pn**	**06 19 11.6**	**+0.5**
JTK				eS	**Sn**	**06 19 36.1**	**+0.2**
JTSR	**Tashiro 2**	**2.34**	**1**	P	**Pn**	**06 19 16.1**	**+0.3**
JTSR				eS	**Sn**	**06 19 43.1**	**-1.2**
JOKE	**Okinoerabujima**	**2.52**	**235**	P	**Pn**	**06 19 18.2**	**0.0**
JOKE				S	**Sn**	**06 19 47.5**	**-1.2**
JSU	**Suzuyama**	**2.70**	**352**		**Pn**	**06 19 19.7**	**-1.1**
JNAR	**Kushima--Naru**	**2.72**	**7**	P	**Pn**	**06 19 21.7**	**+0.7**
JYRO	**Yoronjima**	**2.81**	**231**	P	**Pn**	**06 19 22.0**	**-0.2**
JYRO				eS	**Sn**	**06 19 53.9**	**-1.9**
JKDJ	**Kitadaitoujima**	**2.88**	**173**	P	**Pn**	**06 19 22.2**	**-1.0**
JMZ	**Minamidaito 2**	**3.00**	**174**	P	**Pn**	**06 19 23.7**	**-1.2**
JMZ	**Minamidaito 2**	**3.00**	**174**	Pn	**Pn**	**06 19 23.9**	**-1.0**
JSJ	**Shimokoshiki**	**3.03**	**341**	P	**Pn**	**06 19 24.6**	**-0.6**
JSJ				eS	**Sn**	**06 20 00.1**	**-1.1**
JOW	**Kunigami**	**3.05**	**230**	P	**Pn**	**06 19 25.3**	**-0.3**
JTZ	**Takazaki**	**3.08**	**3**	S	**Sn**	**06 20 02.5**	**+0.1**
JIH	**Iheya**	**3.14**	**236**	P	**Pn**	**06 19 26.5**	**-0.3**
JIH				S	**Sn**	**06 20 01.9**	**-2.2**
JZO	**Okuchi**	**3.32**	**356**	P	**Pn**	**06 19 29.5**	**+0.2**
JNU	**Nakatsue**	**4.29**	**360**	Pn	**Pn**	**06 19 43.1**	**+0.5**
	1.4nm,0.3s,baz=173,slow=7.5,SNR=15						
JNU				Sn	**Sn**	**06 20 30.3**	**-2.1**
	2.0nm,0.3s,baz=14,slow=19,SNR=4.7						
JNU	**Nakatsue**	**4.29**	**360**		**Pn**	**06 19 42.7**	**0.0**
JMN	**Monobe**	**5.52**	**27**	Pn	**Pn**	**06 20 00.2**	**+0.6**
JHS	**Saijyo**	**6.44**	**16**	Pn	**Pn**	**06 20 13.4**	**+1.2**
JWT	**Wachi**	**7.49**	**30**		**Pn**	**06 20 27.4**	**+0.8**
JHJ	**Hachijo jima 2**	**8.75**	**58**	Pn	**Pn**	**06 20 44.3**	**+0.5**
	10nm,0.3s,baz=72,slow=19,SNR=4.5						
JHJ				LR	LR	06 23 53.0	
	comp=Z,67nm,19.8s,baz=110,slow=37						
JHJ2	**Mitsune**	**8.77**	**59**	Pn	**Pn**	**06 20 44.8**	**+0.6**
MAJO	**Matsushiro**	**9.86**	**37**	Pn	**Pn**	**06 20 59.9**	**+0.8**
JCJ	**Chichijima**	**10.13**	**97**	Pn	**Pn**	**06 21 03.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**15.37**	**3**	Pn	**P**	**06 22 18.9**	**+0.1**
	baz=187,slow=10,SNR=4.5						
USRK	**Ussuriysk Ar.**	**15.37**	**3**	Pn	**Pn**	**06 22 14.0**	**-0.2**
ENH	**Enshi**	**18.68**	**280**	P	**Pn**	**06 22 56.3**	**+0.3**
ENH				IAmb	IAmb	06 23 08.8	
	comp=Z,21nm,1.0s						
XAN	**Xi'an**	**19.45**	**291**	P	**P**	**06 23 03.8**	**-0.1**
GUMO	**Guam**	**19.95**	**137**	LR	LR	06 28 19.4	
	comp=Z,29nm,20.9s,baz=63,slow=29						
SLVN	**Son La**	**25.52**	**259**	P	**P**	**06 24 04.0**	**-2.0**
SONM	**Songino Array**	**26.83**	**322**	P	**P**	**06 24 17.6**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=139,slow=11,SNR=4.5						
SONM	**Songino Array**	**26.83**	**322**	P	**P**	**06 24 17.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.95**	**258**	P	**P**	**06 24 54.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=53,slow=6.6,SNR=4.7						
CMAR				PcP	**PcP**	**06 27 52.4**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=8.4,slow=3.1,SNR=5.5						
CMAR				LR	LR	06 38 38.1	
	comp=Z,58nm,18.5s,baz=110,slow=39						
SHL	**Shillong**	**34.75**	**274**	P	**P**	**06 25 27.2**	**-0.7**
MK31	**Makanchi Array**	**41.66**	**309**	P	**P**	**06 26 26.5**	**+0.8**
MKAR	**Makanchi Array**	**41.66**	**309**	P	**P**	**06 26 25.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=102,slow=12,SNR=4.2						
MKAR				PcP	**PcP**	**06 28 22.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=92,slow=3.3,SNR=4.1						
MKAR	**Makanchi Array**	**41.66**	**309**	P	**P**	**06 26 24.8**	**-0.9**
KURK	**Kurchatov**	**44.64**	**314**	P	**P**	**06 26 50.3**	**+0.6**
KURK				IAmb	IAmb	06 27 02.0	
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**44.68**	**314**	P	**P**	**06 26 49.0**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=99,slow=9.0,SNR=5.5						
WRA	**Warramunga Arr**	**48.59**	**176**	P	**P**	**06 27 20.9**	**0.0**
	comp=Z,2.4nm,1.1s,baz=353,slow=8.4,SNR=15						
WB2	**Warramunga Arr**	**48.59**	**176**	P	**P**	**06 27 19.6**	**-1.3**
WB2				IAmb	IAmb	06 27 21.9	
	comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**48.62**	**175**	P	**P**	**06 27 20.3**	**-0.9**
KKAR	**Karatay Array**	**49.90**	**304**	P	**P**	**06 27 30.5**	**-0.3**
BVAR	**Borovoye Array**	**49.97**	**317**	P	**P**	**06 27 30.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=215,slow=14,SNR=6.4						
BRVK	**Borovoye**	**50.04**	**317**	P	**P**	**06 27 31.1**	**-0.6**
BRVK				IAmb	IAmb	06 27 44.4	
	comp=Z,6.2nm,0.8s						
PALK	**Pallekele**	**51.86**	**256**	LR	LR	06 50 38.4	
	comp=Z,30nm,18.3s,baz=200,slow=37						
ASAR	**Alice Springs**	**52.26**	**177**	P	**P**	**06 27 49.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=10,slow=8.1,SNR=10						
ASAR				PcP	**PcP**	**06 29 00.8**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=359,slow=3.7,SNR=5.1						
ASAR	**Alice Springs**	**52.26**	**177**	P	**P**	**06 27 48.3**	**-0.3**
ABKAR	**Akbulak array**	**56.64**	**312**	P	**P**	**06 28 19.8**	**-0.5**
ABKAR				IAmb	IAmb	06 28 32.6	
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**56.64**	**312**	P	**P**	**06 28 19.6**	**-0.7**
TOLK	**Toolik Lake Re**	**59.69**	**25**	P	**P**	**06 28 41.4**	**0.0**
TOLK				IAmb	IAmb	06 28 43.8	
	comp=Z,3.4nm,1.0s						
MDM	**Murphy Dome**	**60.45**	**29**	P	**P**	**06 28 46.5**	**-0.1**
ILAR	**Eielson Array**	**61.04**	**29**	P	**P**	**06 28 48.7**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=251,slow=5.6,SNR=4.4						
ILAR	**Eielson Array**	**61.04**	**29**	P	**P**	**06 28 51.5**	**+0.9**
STKA	**Stephens Creek**	**61.22**	**170**	P	**P**	**06 28 52.5**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=5.7,slow=10,SNR=3.4						
BMAR	**Burnt Mountain**	**61.66**	**26**	P	**P**	**06 28 53.9**	**-0.9**
INK	**Inuvik**	**65.58**	**24**	P	**P**	**06 29 19.2**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=298,slow=5.9,SNR=6.2						
KBZ	**Khabaz**	**69.36**	**309**	P	**P**	**06 29 47.1**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=240,slow=3.5,SNR=3.7						
FINES	**FINESS Array B**	**71.78**	**331**	P	**P**	**06 29 58.9**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=58,slow=6.8,SNR=14						
FINES	**FINESS Array B**	**71.78**	**331**	P	**P**	**06 29 59.4**	**+0.1**
AKASG	**Malin Array Be**	**75.09**	**320**	P	**P**	**06 30 19.6**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=52,slow=5.9,SNR=8.4						
AKASG	**Malin Array Be**	**75.09**	**320**	P	**P**	**06 30 19.5**	**+0.4**
BRTR	**Keskin Array B**	**77.30**	**308**	P	**P**	**06 30 33.0**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=87,slow=5.2,SNR=7.2						
NB2	**NORSAR Subarra**	**78.03**	**334**	P	**P**	**06 30 34.9**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=49,slow=5.3						
NOA	**NORSAR Array B**	**78.03**	**334**	P	**P**	**06 30 35.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=49,slow=5.3,SNR=5.7						
BURAR	**Bucovina Array**	**78.89**	**318**	P	**P**	**06 30 41.7**	**+1.0**
BRG	**Berggiesshubel**	**83.16**	**325**	*e*PKP	**P**	**06 31 04.1**	**+0.8**
	comp=Z,13nm,1.5s						
CLL	**Collm**	**83.36**	**326**	*i*PKP	**P**	**06 31 04.8**	**+0.6**
	comp=Z,12nm,1.1s						
CLL				*i*		06 31 12.2	
CLL				*i*		06 31 15.8	
	comp=Z,8.0nm,1.1s						
KHC	**Kasperske Hory**	**84.43**	**324**	*e*P	**P**	**06 31 10.3**	**+0.5**
GERES	**GERESS Array B**	**84.54**	**324**	P	**P**	**06 31 11.3**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=57,slow=4.9,SNR=9.1						
GERES	**GERESS Array B**	**84.54**	**324**	P	**P**	**06 31 10.2**	**-0.3**
NVAR	**Mina Array Bea**	**87.01**	**47**	P	**P**	**06 31 23.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=306,slow=7.7,SNR=3.9						

TUL ***31*** *06:22:59.4±1.6,36°.49N±0°.02×99°.08W±0°.04, h7km±7km, ML3.8,Mwr3.4/7(SLM), Error ellipse: s-maj=5.0km s-min=2.3km az=98.0*

ANF ***31*** *06:22:59.7±0.2,36°.49N×98°.93W, h5km, ML4.4/16, Error ellipse: s-maj=3.2km s-min=1.9km az=24.0*

NEIC ***31*** *06:22:59.4,36°.52N×98°.98W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=1.16; Mθθ=1.23; Mφφ=-0.06; Mrθ=0.47; Mrφ=0.30; Mθφ=0.55; Fault plane solution: M0=1.43000×10^14 NP1:φs=95.00000°, δ=35.00000°, λ=-60.00000°. NP2:φs=240.00000°, δ=60.00000°, λ=-109.00000°. Principal axes: T 1.4310, Plg=13.0000°, Azm=244.0000°; N -0.0020, Plg=17.0000°, Azm=250.0000°; P -1.4290, Plg=68.0000°, Azm=110.0000°;*

NEIC ***31*** *06:23:00.3±0.8,36°.52N±0°.01×98°.99W±0°.05, h5km±2km Error ellipse: s-maj=6.3km s-min=3.1km az=90.0*

IDC ***31*** *06:23:00.5±1.5,36°.63N×99°.38W, h0km, mb3.5/1, mb1 3.7/5,mb1mx3.5/49,mbtmp3.4/5,ML3.2/4, Error ellipse: s-maj=27.5km s-min=11.0km az=106.0*

ISC 31 06:23:00.4±1.0, 36°.51N±0°.03×98°.96W±0°.03, h8km±7km, n86, σ1°.12/106, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.14**	**196**		**Pg**	**06 23 02.7**	**-0.7**
U32A				Sg	**Sg**	**06 23 04.7**	**-0.6**
CROK	**Carrier**	**0.78**	**90**		**Pg**	**06 23 15.9**	**+0.5**
CROK				Sg	**Sg**	**06 23 27.2**	**+1.5**
KAN14	**Manchester OK**	**0.91**	**60**		**Pg**	**06 23 18.3**	**+0.3**
KAN14				Sg	**Sb**	**06 23 31.3**	**+0.5**
KAN10	**Anthony SW Sta**	**0.92**	**48**		**Pg**	**06 23 18.2**	**+0.1**
KAN10				Sg	**Sg**	**06 23 31.2**	**+1.1**
KAN05	**Bluff City Nor**	**1.05**	**55**		**Pg**	**06 23 20.7**	**+0.1**
KAN05					**Sb**	**06 23 35.5**	**+0.6**
KAN08	**Anthony NE Sta**	**1.06**	**48**		**Pg**	**06 23 20.9**	**0.0**
KAN12	**Harper NE Stat**	**1.10**	**44**	Pg	**Pg**	**06 23 21.3**	**-0.2**
KAN09	**Caldwell North**	**1.24**	**59**		**Pg**	**06 23 23.9**	**-0.3**
KAN09				Sg	**Sg**	**06 23 40.9**	**+0.6**
KAN13	**South Haven SW**	**1.29**	**67**		**Pn**	**06 23 24.9**	**+0.2**
BCOK	**Bluff Creek, N**	**1.38**	**128**	Pn	**Pn**	**06 23 26.3**	**+0.3**
OK029	**Liberty Lake**	**1.41**	**120**		**Pn**	**06 23 26.8**	**+0.4**
OK025	**Westminster Rd**	**1.60**	**125**		**Pn**	**06 23 29.8**	**+0.7**
OKCFA	**Oklahoma City**	**1.64**	**131**		**Pn**	**06 23 30.2**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**1.65**	**131**		**Pn**	**06 23 30.6**	**+0.9**
WMOK	**Wichita Mounta**	**1.77**	**175**	P	**Pn**	**06 23 30.5**	**-0.9**
	baz=352						
WMOK				S	**Sn**	**06 23 54.6**	**+0.4**
	baz=352						
WMOK	**Wichita Mounta**	**1.77**	**175**		**Pn**	**06 23 31.0**	**-0.4**
FNO	**Franklin**	**1.78**	**134**		**Pn**	**06 23 32.5**	**+1.1**
OK031	**S. Brethren Rd**	**1.80**	**107**		**Pn**	**06 23 32.9**	**+1.2**
QUOK	**Quay**	**1.84**	**100**		**Pn**	**06 23 33.2**	**+0.8**
OK030	**Cody Creek RV**	**1.85**	**108**		**Pn**	**06 23 33.4**	**+0.9**
R32A	**Long Quarter,**	**1.92**	**6**		**Pn**	**06 23 34.0**	**+0.6**
T35A	**Sooner Cattle**	**2.00**	**78**		**Pn**	**06 23 35.5**	**+1.0**
W35A	**Tecumseh**	**2.17**	**128**		**Pn**	**06 23 37.4**	**+0.7**
CBKS	**Cedar Bluff**	**2.38**	**345**	P	**Pn**	**06 23 39.6**	**-0.2**
	baz=167						
CBKS				S	**Sb**	**06 24 12.3**	**-0.9**
	baz=167						
CBKS	**Cedar Bluff**	**2.38**	**345**		**Pn**	**06 23 40.0**	**+0.2**
TUL1	**Leonard**	**2.63**	**102**	Pb	**Pb**	**06 23 46.7**	**-1.0**
	baz=283,SNR=31						
TUL1				S	**Sn**	**06 24 16.9**	**+1.7**
	baz=283						
AMTX	**Amarillo**	**2.75**	**235**	P	**Pn**	**06 23 44.8**	**-0.1**
	baz=52						
AMTX	**Amarillo**	**2.75**	**235**	Pn	**Pn**	**06 23 45.3**	**+0.4**
KSU1	**Kansas State U**	**3.18**	**35**	P	**Pn**	**06 23 50.8**	**0.0**
	baz=218,SNR=9.3						
KSU1				S	**Sn**	**06 24 29.6**	**+0.6**
	baz=218						
KSU1	**Kansas State U**	**3.18**	**35**	Pn	**Pn**	**06 23 51.3**	**+0.5**
Z35A	**Perchaven, San**	**3.47**	**156**		**Pn**	**06 23 55.1**	**+0.4**
X37A	**Clayton**	**3.49**	**122**		**Pn**	**06 23 55.9**	**+0.9**
KSCO	**Kaye Shedlock'**	**3.83**	**312**	Pb	**Pb**	**06 24 08.7**	**+0.3**
	baz=131,SNR=17						
KSCO				Sb	**Sb**	**06 24 58.4**	**+3.3**
	baz=131						
ABTX	**Abilene, Hawle**	**3.92**	**189**	P	**Pn**	**06 24 00.7**	**-0.2**
	baz=6.7						
ABTX				S	**Sn**	**06 24 47.7**	**+0.6**
	baz=6.7						
MSTX	**Muleshoe**	**4.02**	**232**	P	**Pn**	**06 24 02.0**	**-0.4**
	baz=49						
HHAR	**Hobbs**	**4.05**	**92**		**Pn**	**06 24 03.5**	**+0.7**
N33A	**J Bar K, Exete**	**4.38**	**15**	Pn	**Pn**	**06 24 07.4**	**+0.1**
W39A	**Magazine**	**4.40**	**106**	P	**Pn**	**06 24 08.0**	**+0.5**
	baz=288,SNR=7.1						
W39A				S	**Sn**	**06 24 58.8**	**-0.1**
	baz=288						
W39A	**Magazine**	**4.40**	**106**		**Pn**	**06 24 08.4**	**+0.9**
T25A	**Trinidad**	**4.42**	**280**	P	**Pn**	**06 24 07.4**	**-0.6**
	baz=97						
T25A				S	**Sn**	**06 24 58.2**	**-1.6**
	baz=97						
Z38A	**Mt. Pleasant**	**4.60**	**134**		**Pn**	**06 24 10.9**	**+0.7**
S39A	**Bolivar**	**4.65**	**74**	Pn	**Pn**	**06 24 11.8**	**+0.8**
WHTX	**Lake Whitney,**	**4.67**	**164**	P	**Pn**	**06 24 11.5**	**+0.2**
	baz=344,SNR=7.8						
WHTX				Sb	**Sb**	**06 25 23.0**	**+3.9**
	baz=344						
MIAR	**Mount Ida**	**4.80**	**113**	P	**Pn**	**06 24 13.5**	**+0.5**
	baz=295						
MIAR				S	**Sn**	**06 25 08.8**	**-0.1**
	baz=295						
MIAR	**Mount Ida**	**4.80**	**113**	Pn	**Pn**	**06 24 13.6**	**+0.5**
U40A	**Yellville**	**4.92**	**90**	P	**Pn**	**06 24 15.2**	**+0.5**
	baz=273						
U40A				S	**Sn**	**06 25 11.3**	**-0.6**
	baz=273						
U40A	**Yellville**	**4.92**	**90**	Pn	**Pn**	**06 24 15.4**	**+0.8**
BGNE	**Belgrade**	**4.93**	**7**	S	**Sn**	**06 25 11.8**	**-0.2**
	baz=189						
237A	**Washetta, Mont**	**5.20**	**149**	Pn	**Pn**	**06 24 17.4**	**-1.1**
P38A	**Dawn**	**5.29**	**52**	Pn	**Pn**	**06 24 21.2**	**+1.5**
CPRX	**Cap Rock**	**5.33**	**231**	Pn	**Pn**	**06 24 20.4**	**0.0**
SDCO	**Great Sand Dun**	**5.37**	**285**	P	**Pn**	**06 24 21.5**	**+0.4**
	baz=102						
SDCO				Sb	**Sb**	**06 25 43.5**	**+4.0**
	baz=102						
SDCO	**Great Sand Dun**	**5.37**	**285**	Pn	**Pn**	**06 24 21.7**	**+0.5**
X40A	**Basin Creek Fa**	**5.38**	**110**	P	**Pn**	**06 24 21.3**	**+0.2**
	baz=293,SNR=5.6						
X40A				S	**Sn**	**06 25 22.4**	**-0.8**
	baz=293						
X40A	**Basin Creek Fa**	**5.38**	**110**		**Pn**	**06 24 21.5**	**+0.5**
Q24A	**Divide**	**5.49**	**298**	S	**Sn**	**06 25 25.6**	**-0.6**
	baz=115						
WHAR	**Wooly Hollow**	**5.55**	**101**	Pn	**Pn**	**06 24 23.2**	**0.0**
WLAR	**White Oak Lake**	**5.56**	**119**	Pn	**Pn**	**06 24 23.8**	**+0.4**
W41B	**Gary Mavity, V**	**5.61**	**102**	P	**Pn**	**06 24 24.2**	**+0.1**
	baz=285,SNR=6.9						
W41B				S	**Sn**	**06 25 26.5**	**-2.2**
	baz=285						
R40A	**Maddies Statio**	**5.61**	**70**		**Pn**	**06 24 25.0**	**+0.9**
UALR	**University of**	**5.66**	**106**		**Pn**	**06 24 25.2**	**+0.4**
Z41A	**Richland Creek**	**6.01**	**121**	S	**Sn**	**06 25 36.3**	**-2.2**
	baz=304						
JCT	**Junction City**	**6.06**	**187**	S	**Sn**	**06 25 38.6**	**-1.3**
	baz=5.5						
JCT	**Junction City**	**6.06**	**187**	Pn	**Pn**	**06 24 29.5**	**-0.9**
K31A	**O'Neill**	**6.11**	**1**	Pn	**Pn**	**06 24 30.0**	**-1.0**
N38A	**Joes South For**	**6.19**	**45**	Pn	**Pn**	**06 24 32.9**	**+0.9**
ISCO	**Idaho Springs**	**6.19**	**304**	P	**Pn**	**06 24 33.9**	**+1.5**
	baz=121						
ISCO				S	**Sn**	**06 25 40.3**	**-3.2**
	baz=121						
ISCO	**Idaho Springs**	**6.19**	**304**	Pn	**Pn**	**06 24 33.3**	**+0.9**
P40A	**Paris**	**6.23**	**59**		**Pn**	**06 24 32.8**	**+0.1**
ANMO	**Albuquerque**	**6.30**	**258**	Pn	**Pn**	**06 24 30.8**	**-3.0**
	0.1nm,0.3s,baz=94,slow=16,SNR=1.9						
ANMO				Lg	Lg	06 26 10.6	
	1.2nm,0.3s,baz=341,slow=17,SNR=6.4						
LCAR	**Lake Charles**	**6.32**	**92**		**Pn**	**06 24 34.2**	**+0.4**
T42A	**Van Buren**	**6.33**	**83**	Pn	**Pn**	**06 24 34.8**	**+0.8**
CCM	**Cathedral Cave**	**6.34**	**74**	P	**Pn**	**06 24 34.2**	**+0.1**
	baz=258						
CCM				S	**Sn**	**06 25 44.9**	**-1.8**
	baz=258						
CCM	**Cathedral Cave**	**6.34**	**74**	Pn	**Pn**	**06 24 34.6**	**+0.5**
N23A	**Red Feather La**	**7.00**	**311**	P	**Pn**	**06 24 44.3**	**+0.8**
	baz=127						
MNTX	**Cornudas Mount**	**7.17**	**230**	P	**Pn**	**06 24 44.6**	**-1.0**
	baz=46						
ECSD	**EROS Data Cent**	**7.43**	**13**	P	**Pn**	**06 24 47.9**	**-1.2**
	baz=195						
SUSD	**Miller**	**7.92**	**360**	P	**Pn**	**06 24 54.7**	**-1.2**
	baz=181						
OXF	**Oxford**	**8.04**	**102**	P	**Pn**	**06 24 56.7**	**-0.7**
	baz=287						
TXAR	**Lajitas Array**	**8.18**	**210**	Pn	**Pn**	**06 24 58.5**	**-1.0**
	0.5nm,0.3s,baz=30,slow=10,SNR=15						
TXAR				Lg	Lg	06 27 09.7	
	1.0nm,0.3s,baz=44,slow=20,SNR=6.1						
RSSD	**Black Hills**	**8.53**	**335**	P	**Pn**	**06 25 05.0**	**+0.5**
	baz=152						
HDIL	**Hopedale**	**8.58**	**59**	P	**Pn**	**06 25 04.5**	**-0.4**
	baz=245,SNR=6.0						
PDAR	**Pinedale Array**	**10.29**	**311**	Pn	**Pn**	**06 25 27.1**	**-1.3**
	0.1nm,0.3s,baz=122,slow=15,SNR=4.9						
PDAR				Lg	Lg	06 28 19.6	
	0.5nm,0.3s,baz=116,slow=27,SNR=6.9						
TKL	**Tuckaleechee C**	**12.31**	**89**	Lg	Lg	06 29 20.8	
	0.3nm,0.3s,baz=344,slow=22,SNR=4.1						
ULM	**Lac du Bonnet**	**13.91**	**8**	Pn	Pn	06 26 12.7	-5.1
	0.2nm,0.3s,baz=204,slow=12,SNR=2.6						
ULM				Sn	Sn	06 28 39.0	-13
	0.4nm,0.3s,baz=288,slow=20,SNR=2.7						
ILAR	**Eielson Array**	**39.95**	**330**	P	**P**	**06 30 33.9**	**-1.1**
	0.5nm,0.7s,baz=110,slow=6.6,SNR=5.7						

NEIC ***31*** *06:26:59.5±1.2,4°.96S±0°.10×150°.83E±0°.09, h240km±6km, mb4.4/29, Error ellipse: s-maj=14.5km s-min=12.9km az=166.0*

IDC ***31*** *06:26:59.6±0.6,5°.05S×150°.84E, h238km±6km, mb3.6/10, mb1 3.8/13,mb1mx3.5/51,mbtmp4.2/13, Error ellipse: s-maj=17.7km s-min=10.9km az=129.0*

ISC 31 06:27:00.5±0.5, 5°.00S±0°.08×150°.87E±0°.08, h250km, n50, σ0°.99/55, mb4.2/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.34**	**59**	P	**Pn**	**06 27 36.4**	**-1.4**
	baz=282,slow=3.1						
KRVT				S	**S**	**06 28 04.3**	**-2.7**
	baz=106,slow=20						
RABL	**Rabaul**	**1.52**	**58**	Pn	**Pn**	**06 27 37.2**	**-1.8**
PMG	**Port Moresby**	**5.72**	**220**	P	**Pn**	**06 28 24.7**	**-0.5**
	8.8nm,0.3s,baz=57,slow=7.1,SNR=18						
PMG	**Port Moresby**	**5.72**	**220**		**Pn**	**06 28 24.0**	**-1.2**
JAY	**Jayapura**	**10.44**	**283**	P	**Pn**	**06 29 24.6**	**-0.1**
	0.6nm,0.3s,baz=178,slow=5.0,SNR=4.6						
CTA	**Charters Tower**	**15.65**	**196**	P	**Pn**	**06 30 28.8**	**+0.2**
	0.3nm,0.3s,baz=24,slow=14,SNR=10						
CTAO	**Charters Tower**	**15.65**	**196**	P	**Pn**	**06 30 28.9**	**+0.2**
EIDS	**Eidsvold**	**20.25**	**179**	P	**P**	**06 31 18.0**	**+0.6**
EIDS				IAmb	IAmb	06 31 18.4	
	comp=Z,6.7nm,0.9s						
WB0	**Warramunga Arr**	**21.74**	**226**	P	**P**	**06 31 32.1**	**-0.3**
WRAB	**Tennant Creek**	**21.88**	**226**	P	**P**	**06 31 33.4**	**-0.2**
WRAB				IAmb	IAmb	06 31 35.3	
	comp=Z,6.1nm,0.5s						
WRA	**Warramunga Arr**	**21.90**	**226

ellipse: s-maj=15.6km s-min=8.2km az=35.8

ISC 31 06:28:43.7±1.2, 53°49N±0°10×168°87E±0°09, h35km, n52, σ1§73/59, mb3.4/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.41**	**317**	P		**Pn**	**06 29 22.8**	**+2.2**
BKI	**Bering**	**2.41**	**317**	PN		**Pn**	**06 29 22.9**	**+2.3**
BKI				S		Sn	06 29 57.6	+8.8
MKZ	**Mys Kozlova**	**4.34**	**287**	*e*P		**Pn**	**06 29 46.2**	**-0.9**
MKZ				S		**Sn**	**06 30 34.6**	**-1.8**
MKZ	**Mys Kozlova**	**4.34**	**287**	PN		**Pn**	**06 29 48.1**	**+1.0**
KBTR	**Krutoberegovo**	**4.43**	**310**	PN		**Pn**	**06 29 47.4**	**-0.9**
TUMD	**Tumrok D**	**5.24**	**292**	P		**Pn**	**06 30 00.7**	**+1.2**
SMKR	**Semkarok**	**5.26**	**309**	*e*P		**Pn**	**06 30 01.3**	**+1.5**
SMKR	**Semkarok**	**5.26**	**309**	PN		**Pn**	**06 30 01.3**	**+1.5**
KZV	**Kizimen**	**5.28**	**291**	*e*P		**Pn**	**06 30 00.4**	**+0.3**
KZV	**Kizimen**	**5.28**	**291**	PN		**Pn**	**06 30 00.2**	**+0.1**
ZLN	**Zelenaya**	**5.31**	**302**	*e*P		**Pn**	**06 30 02.1**	**+1.6**
ZLN	**Zelenaya**	**5.31**	**302**	PN		**Pn**	**06 30 02.1**	**+1.6**
SPN	**Mys Shipunski**	**5.32**	**269**	*e*P		**Pn**	**06 30 01.5**	**+1.0**
SPN	**Mys Shipunski**	**5.32**	**269**	PN		**Pn**	**06 30 01.2**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**5.33**	**301**	*e*P		**Pn**	**06 30 03.6**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**5.33**	**301**	PN		**Pn**	**06 30 03.6**	**+2.8**
CIRR	**Tsirk**	**5.38**	**302**	*e*P		**Pn**	**06 30 02.8**	**+1.3**
CIRR	**Tsirk**	**5.38**	**302**	PN		**Pn**	**06 30 02.8**	**+1.3**
LGNR	**Loginova**	**5.40**	**302**	*e*P		**Pn**	**06 30 01.9**	**+0.1**
LGNR	**Loginova**	**5.40**	**302**	PN		**Pn**	**06 30 03.5**	**+1.7**
TUMR	**Tumrok**	**5.40**	**293**	*e*P		**Pn**	**06 30 03.2**	**+1.4**
TUMR	**Tumrok**	**5.40**	**293**	PN		**Pn**	**06 30 03.2**	**+1.4**
SRKR	**Sorokina**	**5.44**	**309**	*e*P		**Pn**	**06 30 03.7**	**+1.5**
SRKR	**Sorokina**	**5.44**	**309**	PN		**Pn**	**06 30 03.7**	**+1.5**
BZWR	**Bezymyannyi-We**	**5.45**	**300**	*e*P		**Pn**	**06 30 03.6**	**+1.2**
BZWR	**Bezymyannyi-We**	**5.45**	**300**	PN		**Pn**	**06 30 03.6**	**+1.2**
KMNR	**Kamenistaya**	**5.50**	**298**	PN		**Pn**	**06 30 06.7**	**+3.6**
KIRR	**Kirishev**	**5.52**	**300**	PN		**Pn**	**06 30 05.0**	**+1.6**
KII	**Karymskiy**	**5.61**	**279**	*e*P		**Pn**	**06 30 04.5**	**-0.1**
KII				S		**Sn**	**06 31 06.6**	**-1.2**
KII	**Karymskiy**	**5.61**	**279**	PN		**Pn**	**06 30 05.5**	**+0.9**
NLC	**Nalytchevo**	**5.71**	**271**	*e*P		**Pn**	**06 30 06.7**	**+0.8**
NLC				S		**Sn**	**06 31 08.0**	**-2.2**
NLC	**Nalytchevo**	**5.71**	**271**	PN		**Pn**	**06 30 07.0**	**+1.1**
SRDR	**Sredinnyy**	**5.99**	**302**	*e*P		**Pn**	**06 30 11.3**	**+1.5**
SRDR	**Sredinnyy**	**5.99**	**302**	PN		**Pn**	**06 30 11.3**	**+1.5**
AVH	**Avacha**	**6.07**	**272**	*e*P		**Pn**	**06 30 12.4**	**+1.5**
AVH	**Avacha**	**6.07**	**272**	PN		**Pn**	**06 30 12.1**	**+1.2**
KRX	**Arik**	**6.11**	**273**	*e*P		**Pn**	**06 30 12.4**	**+0.9**
KRX	**Arik**	**6.11**	**273**	PN		**Pn**	**06 30 12.4**	**+0.9**
RUS	**Russkaya**	**6.34**	**265**	*e*P		**Pn**	**06 30 15.0**	**+0.4**
RUS				S		**Sn**	**06 31 24.0**	**-1.7**
KRMR	**Karymshinskiy**	**6.49**	**268**	*e*P		**Pn**	**06 30 19.2**	**+2.6**
KRMR				S		**Sn**	**06 31 29.0**	**-0.3**
KRMR	**Karymshinskiy**	**6.49**	**268**	PN		**Pn**	**06 30 19.5**	**+2.9**
GNL	**Ganaly**	**6.51**	**276**	*e*P		**Pn**	**06 30 19.0**	**+2.0**
GNL	**Ganaly**	**6.51**	**276**	PN		**Pn**	**06 30 19.0**	**+2.0**
PETK	**Petropavlovsk-**	**6.71**	**271**	Pn		**Pn**	**06 30 21.7**	**+2.1**
	2.2nm,0.3s,baz=96,slow=19,SNR=32							
PETK				Sn		**Sn**	**06 31 35.4**	**+0.7**
	0.9nm,0.3s,baz=264,slow=23,SNR=4.2							
KDTR	**Khodutka, Kamc**	**6.78**	**260**	*e*P		**Pn**	**06 30 21.8**	**+1.3**
KDTR				S		**Sn**	**06 31 32.7**	**-3.7**
KDTR	**Khodutka, Kamc**	**6.78**	**260**	PN		**Pn**	**06 30 21.9**	**+1.4**
ILAR	**Eielson Array**	**24.78**	**46**	P		**P**	**06 33 58.1**	**-3.6**
	0.4nm,0.7s,baz=254,slow=7.4,SNR=5.6							
SONM	**Songino Array**	**38.87**	**288**	P		**P**	**06 36 06.8**	**+1.4**
	0.5nm,0.4s,baz=42,slow=6.6,SNR=2.0							
MKAR	**Makanchi Array**	**52.62**	**300**	P		**P**	**06 37 52.9**	**-0.9**
	0.2nm,0.6s,baz=52,slow=9.3,SNR=2.3							
WRA	**Warramunga Arr**	**78.97**	**213**	P		**P**	**06 40 45.1**	**+1.5**
	0.2nm,0.7s,baz=33,slow=3.2,SNR=3.1							
BRTR	**Keskin Array B**	**79.44**	**326**	P		**P**	**06 40 45.5**	**-0.8**
	0.4nm,0.5s,baz=33,slow=5.5,SNR=2.8							
ASAR	**Alice Springs**	**82.59**	**212**	P		**P**	**06 41 04.9**	**+2.0**
	0.3nm,0.6s,baz=17,slow=6.0,SNR=5.6							

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*BJI **31** 06:33:28.7±0.0, 40°12N×142°76E, h43km, mB4.9/47, mb4.9/67, Ms4.3/50, Ms7 4.1/49*

*NIED **31** 06:33:32.6, 40°15N×142°40E, h35km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.27; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.80; $M_{\theta\phi}$-0.35; $M_{\phi r}$1.48; Fault plane solution: $M_0$2.11000×10^{16} NP1:ϕs26.00000°, δ72.00000°, λ96.00000°. NP2:ϕs187.00000°, δ19.00000°, λ72.00000°.*

*MOS **31** 06:33:32.1±1.0, 40°23N×142°33E, h49km, mb5.1/44 Error ellipse: s-maj=5.9km s-min=4.1km az=103.7*

*NEIC **31** 06:33:32.8±1.8, 40°17N±0°05×142°41E±0°06, h43km±5km, mb4.9/97, Mwr4.7/23, Error ellipse: s-maj=8.7km s-min=4.3km az=143.0*

*JMA **31** 06:33:32.6±0.1, 40°15N×142°40E, h35km±1km, M4.8*

JMA Felt II J1.

*NEIC **31** 06:33:33.1, 40°16N×142°43E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-0.66; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.23; $M_{\phi r}$1.21; Fault plane solution: $M_0$1.57000×10^{16} NP1:ϕs204.75000°, δ16.25000°, λ91.10000°. NP2:ϕs23.60000°, δ73.75000°, λ89.68000°. Principal axes: T 1.6427, Plg61.0000°, Azm293.0000°; N -0.1535, Plg0.0000°, Azm24.0000°; P -1.4892, Plg29.0000°, Azm114.0000°;*

*IDC **31** 06:33:34.9±1.8, 40°14N×142°33E, h59km±16km, mb4.3/40, mb1 4.4/46, mb1mx4.3/74, mbtmp4.6/46, MS4.0/30, Ms1 4.0/30, ms1mx3.9/37 Error ellipse: s-maj=12.1km s-min=9.8km az=107.0*

*GCMT **31** 06:33:34.8±0.3, 40°24N±0°02×142°59E±0°03, h54km±2km, MW4.9/87, Moment Tensor Solution. s33,c42; s87,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.48±.15; $M_{\theta\theta}$0.49±.10; $M_{\phi\phi}$-1.97±.10; $M_{r\theta}$0.73±.07; $M_{\theta\phi}$-1.81±.11; $M_{\phi r}$1.26±.08; Best double couple: $M_0$2.64600×10^{16} NP1:ϕs198.00000°, δ29.00000°, λ77.00000°. NP2: ϕs33.00000°, δ62.00000°, λ97.00000°. Principal axes: T 1.9250, Plg72.0000°, Azm320.0000°; N 1.4410, Plg6.0000°, Azm210.0000°; P -3.3670, Plg17.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 06:33:31.4±0.6, 40°13N±0°03×142°48E±0°04, h33km±2km, n422, σ1§46/439, mb4.9/139, MS4.2/43, 28C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.51**	**248**	P		**Pn**	**06 33 42.7**	**+0.3**
JTH				*e*S		**Sb**	**06 33 49.3**	**-0.3**
JKEN	**Kujiedanarisaw**	**0.60**	**278**	P		**Pb**	**06 33 43.3**	**-0.2**
JKEN				S		**Sb**	**06 33 51.1**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.75**	**223**	P		**Pb**	**06 33 46.1**	**0.0**
MIYJ				S		**Sb**	**06 33 55.9**	**-0.2**
JANG	**Nango**	**0.78**	**289**	P		**Pn**	**06 33 45.9**	**-0.2**
JANG				S		**Sn**	**06 33 55.5**	**-1.2**
JKZ	**Kuzumaki**	**0.90**	**261**	P		**Pb**	**06 33 48.2**	**-0.4**
JOM	**Ohasama**	**1.13**	**235**	P		**Pb**	**06 33 52.0**	**-0.4**
JOM				*e*S		**Sb**	**06 34 06.6**	**-0.1**
OFUJ	**Ofunato**	**1.22**	**211**	P		**Pb**	**06 33 53.5**	**-0.5**
OFUJ				*e*S		**Sb**	**06 34 09.0**	**-0.4**
JARK	**Aomorirokkasho**	**1.22**	**316**	P		**Pn**	**06 33 52.6**	**+0.4**
JARK				S		**Sn**	**06 34 08.1**	**+0.5**
JTM	**Tenmabayashi**	**1.26**	**302**	P		**Pn**	**06 33 53.4**	**+0.7**
JTM	**Tenmabayashi**	**1.26**	**302**	Pn		**Pn**	**06 33 53.5**	**+0.8**
JAH	**Hinai**	**1.42**	**273**	P		**Pn**	**06 33 55.9**	**+1.1**
JMK	**Ichinoseki**	**1.53**	**220**	P		**Pb**	**06 33 57.9**	**-1.2**
JRG	**Rokugo**	**1.60**	**243**	P		**Pn**	**06 33 58.4**	**+1.0**
ERM	**Erimo**	**1.95**	**15**	P		**Pn**	**06 34 03.6**	**+1.4**
ERM	**Erimo**	**1.95**	**15**	Pn		**Pn**	**06 34 03.5**	**+1.4**
JMM	**Marumori**	**2.62**	**211**			**Pn**	**06 34 14.2**	**+2.9**
JEW	**Eniwo**	**2.82**	**344**			**Pn**	**06 34 16.2**	**+2.1**
JSD	**Sado**	**3.89**	**239**	Pn		**Pn**	**06 34 30.6**	**+1.6**
JKA	**Kamikawa-asahi**	**3.98**	**1**	Pn		**Pn**	**06 34 32.0**	**+1.8**
ASAJ	**Asahikawa**	**3.99**	**1**	P		**Pn**	**06 34 32.4**	**+2.2**
	12nm,0.3s,baz=215,slow=12,SNR=17							
ASAJ				LR		LR	06 36 31.1	
	comp=Z,3μm,21.7s,baz=196,slow=44							
NMR	**Nemuro--Hokkai**	**4.05**	**36**	⇓*i*P		**Pn**	**06 34 31.1**	**+0.1**
NMR				*i* S		**Sn**	**06 35 15.2**	**-2.0**
GLVR	**Golovnino**	**4.26**	**31**	⇑*i*P		**Pn**	**06 34 32.8**	**-1.1**
GLVR				*i* S		**Sn**	**06 35 21.0**	**-1.4**
GLVR				pmax	pmax			
	comp=Z,544nm,0.3s							
GLVR				pmax	pmax			
	comp=E,213nm,0.2s							
GLVR				pmax	pmax			
	comp=N,849nm,0.1s							
GLVR				smax	smax			
	comp=N,2μm,0.3s							
GLVR				smax	smax			
	comp=E,710nm,0.3s							
JYT	**Yasato**	**4.29**	**206**			**Pn**	**06 34 35.2**	**+0.9**
GRPR	**Tuman**	**4.57**	**31**	⇑*i*P		**Pn**	**06 34 39.3**	**+1.1**
GRPR				*i* S		**Sn**	**06 35 29.4**	**-0.7**
GRPR				pmax	pmax			
	comp=Z,515nm,0.4s							
GRPR				pmax	pmax			
	comp=E,472nm,0.3s							
GRPR				pmax	pmax			
	comp=N,290nm,0.2s							
GRPR				smax	smax			
	comp=E,3μm,0.5s							
GRPR				smax	smax			
	comp=N,2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.64**	**32**	*c i*P		**Pn**	**06 34 40.5**	**+1.3**
YUK				*i* S		**Sn**	**06 35 30.4**	**-1.5**
YUK				pmax	pmax			
	comp=Z,585nm,0.3s							
YUK				pmax	pmax			
	comp=N,175nm,0.2s							
YUK				pmax	pmax			
	comp=E,173nm,0.2s							
YUK				smax	smax			
	comp=N,3μm,0.4s							
YUK				smax	smax			
	comp=E,1μm,0.5s							
YUK				MLR	MLR			
	comp=Z,1μm,16.0s							
MAJO	**Matsushiro**	**4.91**	**225**	*c i*P		**Pn**	**06 34 46.5**	**+3.6**
MAJO	**Matsushiro**	**4.91**	**225**	Pn		**Pn**	**06 34 45.7**	**+2.8**
MAT	**Matsushiro**	**4.91**	**225**	P		**Pn**	**06 34 46.5**	**+3.6**
MAT				*e*S		**Sn**	**06 35 40.7**	**+2.1**
MJAR	**Matsushiro Arr**	**4.91**	**225**	P		**Pn**	**06 34 46.4**	**+3.5**
	comp=Z,3.0nm,0.3s,baz=31,slow=13,SNR=282							
MJAR				LR		LR	06 36 54.8	
	comp=Z,2μm,20.4s,baz=45,slow=41							
JGF	**Kuroka**	**6.07**	**224**	Pn		**Pn**	**06 35 02.2**	**+3.3**
JSG	**Sagara**	**6.43**	**213**			**Pn**	**06 35 04.7**	**+1.0**
INU	**Inuyama**	**6.44**	**224**			**Pn**	**06 35 05.3**	**+1.4**
KUR	**Kuril'sk**	**6.46**	**36**	*e*P		**Pn**	**06 35 05.9**	**+1.8**
KUR				*e*S		**Sn**	**06 36 14.7**	**-1.9**
KUR				pmax	pmax			
	comp=Z,234nm,0.4s							
KUR				pmax	pmax			
	comp=N,92nm,0.5s							
KUR				pmax	pmax			
	comp=E,84nm,0.4s							
KUR				pmax	pmax			
	comp=Z,970nm,3.2s							
KUR				smax	smax			
	comp=N,369nm,0.7s							
KUR				smax	smax			
	comp=E,236nm,0.4s							
KUR				smax	smax			
	comp=N,3μm,4.0s							
KUR				smax	smax			
	comp=E,1μm,3.9s							
KUR				smax	smax			
	comp=Z,1μm,14.0s							
TEY	**Ternei**	**6.55**	**320**	⇑*i*P		**Pn**	**06 35 07.0**	**+1.7**
TEY				pmax	pmax			
	comp=E,50nm,0.5s							
TEY				pmax	pmax			
	comp=N,60nm,0.4s							
TEY				pmax	pmax			
	comp=Z,60nm,0.6s							
YSS	**Yuzh-Sakhalins**	**6.83**	**2**	⇑*i*P		**Pn**	**06 35 11.0**	**+1.9**
YSS				*e*S		**Sn**	**06 36 24.8**	**-0.8**
YSS				pmax	pmax			
	comp=Z,70nm,1.1s							
YSS				smax	smax			
	comp=N,400nm,4.7s							
YSS				smax	smax			
	comp=E,300nm,3.4s							
YSS				MLR	MLR			
	comp=Z,2μm,16.0s							
YSS				MLR	MLR			
	comp=N,900nm,17.0s							
YSS				MLR	MLR			
	comp=E,800nm,15.0s							
YSS	**Yuzh-Sakhalins**	**6.83**	**2**	Pn		**Pn**	**06 35 10.3**	**+1.2**
JHJ	**Hachijo jima 2**	**7.32**	**198**	P		**Pn**	**06 35 18.0**	**+2.0**
	comp=E,39nm,0.3s,baz=108,slow=21,SNR=14							
JHJ				S		**Sn**	**06 36 34.4**	**-3.6**
	comp=E,28nm,0.3s,baz=72,slow=19,SNR=1.8							
JHJ2	**Mitsune**	**7.32**	**198**	Pn		**Pn**	**06 35 18.2**	**+2.2**
JHJ2				Sn		**Sn**	**06 36 38.1**	**+0.1**
JWT	**Wachi**	**7.41**	**231**	Pn		**Pn**	**06 35 20.7**	**+3.5**
JWT				Sn		**Sn**	**06 36 41.6**	**+1.5**
USA0B	**Ussuriysk Arra**	**8.79**	**301**	*c i*P		**Pn**	**06 35 39.6**	**+3.5**
USA0B	**Ussuriysk Arra**	**8.79**	**301**	Pn		**Pn**	**06 35 37.8**	**+1.7**
USRK	**Ussuriysk Ar.**	**8.79**	**301**	P		**Pn**	**06 35 39.6**	**+3.5**
	baz=104,slow=15,SNR=38							
USRK				LR		LR	06 38 55.0	
	comp=E,2μm,18.7s,baz=106,slow=37							
USRK	**Ussuriysk Ar.**	**8.79**	**301**	Pn		**Pn**	**06 35 38.5**	**+2.4**
JHS	**Saijyo**	**9.03**	**238**	Pn		**Pn**	**06 35 39.9**	**+0.5**
JMN	**Monobe**	**9.39**	**230**	Pn		**Pn**	**06 35 47.5**	**+3.1**
JMN				Sn		**Sn**	**06 37 29.0**	**+0.1**
MDJ	**Mudanjiang**	**10.54**	**299**			**Pn**	**06 36 01.2**	**+1.2**
TYV	**Tymovskoe**	**10.74**	**1**	*e*P		**Pn**	**06 36 05.9**	**+3.2**
TYV				*e*S		**Sn**	**06 38 06.2**	**+4.6**
TYV				pmax	pmax			
	comp=Z,21nm,0.8s							
TYV				pmax	pmax			
	comp=Z,400nm,4.2s							
TYV				smax	smax			
	comp=N,800nm,4.6s							
TYV				MLR	MLR			
	comp=Z,2μm,18.0s							
GRNR	**Gornyy**	**11.46**	**340**	⇑*i*P		**Pn**	**06 36 13.8**	**+1.2**
GRNR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GRNR				MLR	MLR			
	comp=E,270nm,16.0s							
GRNR				MLR	MLR			
	comp=N,330nm,17.0s							
GRNR				MLR	MLR			
	comp=Z,460nm,18.0s							
JNU	**Nakatsue**	**11.65**	**237**	P		**Pn**	**06 36 17.5**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=100,slow=9.4,SNR=4.7							
JNU				LR		LR	06 41 19.7	
	comp=Z,677nm,19.0s,baz=48,slow=40							
JNU	**Nakatsue**	**11.65**	**237**	Pn		**Pn**	**06 36 17.8**	**+2.5**
KSRS	**Korea Array**	**11.67**	**261**	P		**Pn**	**06 36 19.4**	**+3.8**
	comp=Z,0.7nm,0.3s,baz=79,slow=14,SNR=19							
KSRS				LR		LR	06 40 31.3	
	comp=Z,1μm,18.3s,baz=80,slow=36							
KSAR	**Wonju Array Be**	**11.71**	**261**	P		**Pn**	**06 36 15.5**	**-0.6**
KSAR	**Wonju Array Be**	**11.71**	**261**			**Pn**	**06 36 15.4**	**-0.6**
TJN	**Taejon**	**12.46**	**257**	⇓*e*P		**Pn**	**06 36 26.8**	**+0.4**
JSU	**Suzuyama**	**13.00**	**232**	Pn		**Pn**	**06 36 34.2**	**+0.4**
CN2	**Changchun**	**13.20**	**292**	*e*P		**P**	**06 36 41.8**	**-4.1**
CN2				*e*S		**Sn**	**06 39 07.3**	**+5.4**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				LR	LR			
	comp=Z,440nm,16.0s							
CN2				LR	LR			
	comp=Z,720nm,16.0s							
CN2				LR	LR			
	comp=Z,810nm,17.0s							
SNY	**Shenyang**	**14.38**	**283**	⇓P		**P**	**06 37 00.3**	**+1.2**
SNY				S		**S**	**06 39 46.5**	**-3.6**
SNY				pmax	pmax			
	comp=Z,12nm,0.4s							
SNY				pmax	pmax			
	comp=Z,230nm,7.6s							
SNY				LR	LR			
	comp=N,320nm,15.7s							
SNY				LR	LR			
	comp=E,750nm,19.0s							
SNY				LR	LR			
	comp=Z,1μm,19.6s							
DL2	**Dalian**	**16.14**	**272**	P		**P**	**06 37 19.3**	**+0.7**
DL2				S		**Sn**	**06 40 19.0**	**+5.4**
DL2				sS		**sS**	**06 40 34.8**	**-5.2**
DL2				pmax	pmax			
	comp=Z,45nm,0.9s							
DL2				pmax	pmax			
	comp=Z,510nm,6.1s							
DL2				LR	LR			
	comp=Z,310nm,20.1s							
DL2				LR	LR			
	comp=Z,470nm,19.0s							
DL2				LR	LR			
	comp=Z,560nm,23.5s							
PETK	**Petropavlovsk-**	**16.62**	**34**	LR		LR	06 44 57.6	
	comp=Z,204nm,18.3s,baz=218,slow=41							
ZEA	**Zeya**	**17.08**	**328**	*e*P		**Pn**	**06 37 25.9**	**-1.6**
ZEA				pmax	pmax			
	comp=Z,30nm,1.0s							
ZEA				pmax	pmax			
	comp=N,35nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,60nm,1.2s							
ZEA				MLR	MLR			
	comp=E,300nm,15.0s							
ZEA				MLR	MLR			
	comp=N,300nm,19.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,15.0s							
HIA	**Hailar**	**18.51**	**307**	⇓*i*P		**P**	**06 37 42.7**	**-2.1**
HIA				pmax	pmax			
	comp=Z,6.0nm,0.5s							
BJI	**Beijing**	**20.11**	**278**	P		**P**	**06 38 00.5**	**-1.8**
BJI				S		**S**	**06 41 43.8**	**-2.6**
BJI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BJI				LR	LR			
	comp=Z,340nm,12.8s							
BJI				LR	LR			
	comp=Z,330nm,21.7s							
BJI				LR	LR			
	comp=Z,420nm,20.8s							
BJT	**Baijiatuau**	**20.12**	**278**	P		**P**	**06 38 02.8**	**+0.4**
BJT				pmax	pmax			
	comp=Z,17nm,0.9s							
BJT	**Baijiatuau**	**20.12**	**278**	P		**P**	**06 38 02.8**	**+0.4**
MA2	**Magadan**	**20.16**	**12**	P		**P**	**06 38 03.2**	**+0.5**
	comp=Z,17nm,0.7s,baz=320,slow=20,SNR=4.8							
MA2				LR		LR	06 47 19.7	
	comp=Z,226nm,18.8s,baz=200,slow=41							
MA2	**Magadan**	**20.16**	**12**	P		**P**	**06 38 03.3**	**+0.7**
MA2				pmax	pmax			
	comp=Z,65nm,1.2s							
MA2	**Magadan**	**20.16**	**12**	P		**P**	**06 38 03.3**	**+0.7**
MA2				IAmb	IAmb		06 38 16.0	
	comp=Z,65nm,1.2s							
NJ2	**Nanjing**	**20.69**	**254**	⇑P		**P**	**06 38 08.5**	**-0.1**
NJ2				pmax	pmax			
	comp=Z,53nm,0.7s							
NJ2				LR	LR			
	comp=Z,240nm,14.2s							
NJ2				LR	LR			
	comp=Z,590nm,16.6s							
NJ2				LR	LR			
	comp=Z,860nm,18.0s							
YOJ	**Yonaguni jima**	**22.62**	**232**	P		**P**	**06 38 30.0**	**+0.6**
YOJ				pmax	pmax			
	comp=Z,49nm,1.1s							
YOJ	**Yonaguni jima**	**22.62**	**232**	P		**P**	**06 38 30.0**	**+0.6**
YOJ				IAmb	IAmb		06 38 55.5	
	comp=Z,50nm,1.1s							
YAK	**Yakutsk**	**23.27**	**345**	P		**P**	**06 38 33.5**	**-2.3**
	comp=Z,24nm,0.5s,baz=55,slow=0.8,SNR=10							
YAK				LR		LR	06 48 16.2	
	comp=Z,216nm,18.6s,baz=154,slow=38							
YAK	**Yakutsk**	**23.27**	**345**	P		**P**	**06 38 33.7**	**-2.1**
YAK				pmax	pmax			
	comp=Z,60nm,0.7s							
YAK	**Yakutsk**	**23.27**	**345**	P		**P**	**06 38 33.7**	**-2.1**
HHC	**Hu-ho-hao-te**	**23.47**	**282**	*e*P		**P**	**06 38 38.5**	**+0.4**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,98nm,4.7s							
HHC				LR	LR			
	comp=Z,190nm,13.3s							
HHC				LR	LR			
	comp=Z,710nm,18.8s							
HHC				LR	LR			
	comp=Z,920nm,18.3s							
SEY	**Seymchan**	**23.60**	**11**	P		**P**	**06 38 38.2**	**-0.7**
	comp=Z,15nm,0.7s,baz=7.5,slow=23,SNR=17							
SEY				LR		LR	06 49 11.2	
	comp=Z,206nm,18.5s,baz=198,slow=40							
SEY	**Seymchan**	**23.60**	**11**	⇓*e*P		**P**	**06 38 39.2**	**+0.3**
WHN	**Wuhan**	**24.78**	**256**	⇓*i*P		**P**	**06 38 50.5**	**+0.4**
WHN				S		**S**	**06 43 09.8**	**-0.5**
WHN				pmax	pmax			
	comp=Z,56nm,0.8s							
WHN				LR	LR			
	comp=Z,680nm,12.0s							
WHN				LR	LR			
	comp=Z,610nm,12.0s							
WHN				LR	LR			
	comp=Z,1μm,15.4s							
TPUB	**Ta-pu**	**24.94**	**234**	P		**P**	**06 38 51.4**	**-0.3**
TWG	**Pinlang**	**25.02**	**233**	P		**P**	**06 38 53.1**	**+0.7**
TWG				IAmb	IAmb		06 39 01.9	
	comp=Z,24nm,0.5s							
BOD	**Bodaibo**	**25.45**	**324**	*e*P		**P**	**06 38 56.1**	**+0.1**
BOD				pmax	pmax			
	comp=Z,39nm,1.1s							
ULN	**Ulaanbaatar**	**26.45**	**299**	⇑*e*P		**P**	**06 39 04.4**	**-1.0**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ULN	**Ulaanbaatar**	**26.45**	**299**	P		**P**	**06 39 04.5**	**-1.0**
SONM	**Songino Array**	**26.89**	**299**	P		**P**	**06 39 08.4**	**-1.0**
	comp=Z,7.9nm,0.7s,baz=104,slow=8.4,SNR=31							
SONM				LR		LR	06 50 20.5	
	comp=Z,730nm,19.0s,baz=105,slow=38							
SONM	**Songino Array**	**26.89**	**299**	P		**P**	**06 39 08.2**	**-1.1**
XAN	**Xi'an**	**27.35**	**268**	P		**P**	**06 39 11.5**	**-1.9**
XAN				pP		pP	06 39 21.0	-1.8
XAN				pmax	pmax			
	comp=Z,11nm,

BILL *e* 06 42 36.6
BILL pmax pmax
comp=Z,21nm,1.7s
BILL Bilibino 30.83 17 P **P** **06 39 44.1 +0.3**
BILL IAmb IAmb 06 40 01.8
comp=Z,26nm,1.4s
TIXI Tiksi 32.33 352⇑ *iP* **P** **06 39 56.2 -0.9**
TIXI pmax pmax
comp=Z,18nm,0.8s
GTA Gaotai 32.58 283 ⇑P **P** **06 39 59.3 -0.5**
GTA pP pP 06 40 10.0 +0.8
GTA sP sP 06 40 13.8 +0.9
GTA PcP **PcP** **06 42 46.8 +1.2**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,62nm,5.5s
GTA LR LR
comp=Z,290nm,19.3s
GTA LR LR
comp=Z,650nm,20.4s
GTA LR LR
comp=Z,810nm,18.9s
CD2 Chengdu 32.62 266 P **P** **06 40 00.3 +0.2**
CD2 S **S** **06 45 11.5 -2.4**
CD2 LR LR
comp=Z,320nm,13.7s
CD2 LR LR
comp=Z,430nm,20.6s
GYA Guiyang 32.67 256 ⇓P **P** **06 40 00.0 -0.6**
GYA PP **PP** **06 41 12.8 -1.9**
GYA S **S** **06 45 09.5 -5.3**
GYA sS sS 06 45 31.5 +0.9
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.7s
GYA LR LR
comp=Z,170nm,13.4s
GYA LR LR
comp=Z,400nm,16.1s
GYA LR LR
comp=Z,480nm,19.4s
QIZ Qiongzhong 35.03 243 P **P** **06 40 24.5 +3.4**
QIZ sP **sP** **06 40 39.0 +4.7**
QIZ S **S** **06 45 52.5 +1.3**
QIZ PcS **PcS** **06 46 39.0 -0.7**
QIZ pmax pmax
comp=Z,31nm,2.3s
QIZ LR LR
comp=Z,190nm,21.6s
QIZ LR LR
comp=Z,200nm,22.6s
QIZ LR LR
comp=Z,210nm,22.6s
PATS Pohnpei 36.06 153 P **P** **06 40 30.3 +0.4**
KMI Kunming 36.34 258⇑ *eP* **P** **06 40 32.5 -0.1**
KMI pmax pmax
comp=Z,23nm,0.8s
KMI LR LR
comp=Z,410nm,16.0s
KMI LR LR
comp=Z,360nm,17.8s
KMI LR LR
comp=Z,550nm,19.8s
SLVN Son La 37.72 252 P **P** **06 40 44.5 +0.4**
SLVN IAmb IAmb 06 40 45.5
comp=Z,19nm,0.9s
DGZ Jazzator, Alta 39.34 303*c iP* **P** **06 40 58.4 +0.9**
DGZ pmax pmax
comp=Z,32nm,1.1s
WMQ Urumqi 40.27 294 *eP* **P** **06 41 05.8 +0.5**
WMQ PP **PnPn** **06 42 41.8 -0.1**
WMQ pmax pmax
comp=Z,10.0nm,1.3s
WMQ pmax pmax
comp=Z,25nm,3.7s
WMQ LR LR
comp=Z,270nm,28.9s
WMQ LR LR
comp=Z,340nm,29.2s
ZAA0 Zalesovo Array 40.52 310 P **P** **06 41 06.4 -0.6**
ZAA0 IAmb IAmb 06 41 24.6
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 40.52 310 P **P** **06 41 07.0 0.0**
comp=Z,9.5nm,0.7s,baz=89,slow=7.9,SNR=30
ZALV PcP **PcP** **06 43 09.0 +0.1**
comp=Z,3.2nm,0.5s,baz=84,slow=3.4,SNR=3.0
ZALV LR LR 06 58 42.6
comp=Z,501nm,18.8s,baz=104,slow=37
ZALV Zalesovo Beam 40.52 310 P **P** **06 41 06.5 -0.5**
UBPT Khong Chiam 40.62 243 P **P** **06 41 07.0 -1.4**
UBPT IAmb IAmb 06 41 10.1
comp=Z,19nm,0.8s
NRIK Noril'sk 40.84 334 P **P** **06 41 09.5 0.0**
comp=Z,3.1nm,0.4s,baz=128,slow=7.0,SNR=6.0
NRIK LR LR 06 59 07.3
comp=Z,650nm,19.4s,baz=140,slow=38
MYLDM Lahad Datu 40.95 218 P **P** **06 41 12.1 +1.1**
MYLDM IAmb IAmb 06 41 14.8
comp=Z,34nm,1.1s
ZSN Zaisan 41.40 300 *eP* **P** **06 41 12.4 -2.0**
ZSN Zaisan 41.40 300 *eP* **P** **06 41 12.4 -2.0**
CHTO Chiang Mai 42.92 253 P **P** **06 41 27.4 +0.3**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 42.92 253 P **P** **06 41 27.4 +0.3**
CMAR Chiang Mai Arr 43.15 253 P **P** **06 41 28.9 -0.1**
comp=Z,1.1nm,0.3s,baz=51,slow=6.5,SNR=17
CMAR PcP **PcP** **06 43 18.4 +0.1**
comp=Z,0.9nm,0.3s,baz=46,slow=5.2,SNR=1.5
CMAR LR LR 06 59 21.4
comp=Z,60nm,18.2s,baz=84,slow=36
CMAR Chiang Mai Arr 43.15 253 P **P** **06 41 29.6 +0.6**
MK31 Makanchi Array 43.26 300 *iP* **P** **06 41 29.3 -0.3**
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 43.26 300 P **P** **06 41 29.2 -0.3**
MKAR Makanchi Array 43.26 300 P **P** **06 41 29.6 0.0**
comp=Z,7.7nm,0.6s,baz=84,slow=9.5,SNR=52
MKAR Makanchi Array 43.26 300 P **P** **06 41 29.4 -0.2**
MAKZ Makanchi 43.46 300 P **P** **06 41 30.9 -0.3**
MAKZ Makanchi 43.46 300 P **P** **06 41 30.5 -0.7**
MAKZ IAmb IAmb 06 41 48.6
comp=Z,15nm,0.8s
IMAR Indian Mountai 43.58 32 P **P** **06 41 32.9 +1.0**
SHL Shillong 44.35 267 P **P** **06 41 37.8 -1.0**
SHL pmax pmax
comp=Z,17nm,0.5s
SHL Shillong 44.35 267 P **P** **06 41 37.8 -1.0**
SHL IAmb IAmb 06 41 47.1
comp=Z,17nm,0.5s
KTH Kantishna Hill 44.73 36 P **P** **06 41 40.5 -0.7**
KTH IAmb IAmb 06 41 57.7
comp=Z,21nm,1.0s
KURK Kurchatov 44.74 306 P **P** **06 41 41.6 +0.2**
KURK Kurchatov 44.74 306 P **P** **06 41 40.8 -0.6**
KURBB Kurchatov Arra 44.82 306 P **P** **06 41 41.6 -0.4**
comp=Z,30nm,0.7s,baz=81,slow=8.5,SNR=122
KURBB Kurchatov Arra 44.82 306 P **P** **06 41 41.4 -0.6**
MDM Murphy Dome 45.87 34 P **P** **06 41 49.7 -0.4**
MDM IAmb IAmb 06 42 06.3
comp=Z,16nm,1.2s
WRH Wood River Hil 45.95 34 P **P** **06 41 51.8 +1.0**
COLA College 46.03 34⇓ *eP* **P** **06 41 52.4 +1.0**
COLA pmax pmax
comp=Z,5.0nm,0.6s
CCB Clear Creek Bu 46.06 34 P **P** **06 41 51.5 -0.1**
PDGK Podgornoye 46.13 296 P **P** **06 41 51.7 -1.0**
POKR Poker Plat Res 46.20 33 P **P** **06 41 53.2 +0.5**
POKR IAmb IAmb 06 42 09.2
comp=Z,18nm,0.9s
SHLS Shalkode 46.21 295 *eP* **P** **06 41 49.2 -4.1**
comp=Z,6.7nm,0.7s
SHLS Shalkode 46.21 295 *eP* **P** **06 41 49.1 -4.1**
SHLS pmax pmax
comp=Z,7.0nm,0.7s
HDA Harding Lake 46.45 34 P **P** **06 41 54.0 -0.6**
HDA IAmb IAmb 06 42 09.4
comp=Z,24nm,1.4s
IL31 46.45 34 P **P** **06 41 54.7 +0.1**
IL31 IAmb IAmb 06 42 10.0
comp=Z,10nm,0.8s
ILAR Eielson Array 46.45 34 P **P** **06 41 55.2 +0.5**
comp=Z,3.4nm,0.7s,baz=268,slow=6.3,SNR=32

ILAR LR LR 07 05 04.1
comp=Z,57nm,18.3s,baz=282,slow=41
ILAR Eielson Array 46.45 34 P **P** **06 41 54.5 -0.2**
UZB Uzynbulak 46.51 296 *eP* **P** **06 41 53.8 -2.0**
UZB Uzynbulak 46.51 296 *eP* **P** **06 41 53.7 -2.0**
TAPN Taplejung 46.63 272 *eP* **P** **06 41 57.2 +0.3**
comp=Z,18nm,0.5s
KPKS Kokpek 46.64 296 *eP* **P** **06 41 54.8 -1.9**
KPKS Kokpek 46.64 296 *eP* **P** **06 41 54.7 -1.9**
SATY Saty 46.97 296 *eP* **P** **06 41 58.0 -1.2**
comp=Z,16nm,1.9s
SATY Saty 46.97 296 *eP* **P** **06 41 58.0 -1.2**
SATY pmax pmax
comp=Z,16nm,1.9s
ODAN Odare 47.12 271 *eP* **P** **06 42 01.3 +0.6**
BMAR Burnt Mountain 47.23 30 P **P** **06 42 00.9 0.0**
RAMN Ramite 47.68 272 *eP* **P** **06 42 05.1 0.0**
comp=Z,78nm,0.9s
GUN Gumba 47.75 273 *eP* **P** **06 42 05.7 0.0**
comp=Z,136nm,0.8s
MDOK Medeo 47.87 296 *eP* **P** **06 42 04.3 -2.0**
MDOK Medeo 47.87 296 *eP* **P** **06 42 04.3 -2.0**
MTKI Muara Teweh, K 48.01 219 P **P** 06 42 21.7 +14
KUU Kurty 48.11 297 *eP* **P** **06 42 06.3 -1.7**
comp=Z,12nm,0.7s
KUU Kurty 48.11 297 *eP* **P** **06 42 06.2 -1.7**
KUU pmax pmax
comp=Z,12nm,0.7s
PKI Pulchoki 48.28 273 *eP* **P** **06 42 09.3 -0.5**
PKIN Phulchoki 48.28 273 *eP* **P** **06 42 09.4 -0.4**
comp=Z,20nm,0.7s
DMN Daman 48.49 274 *eP* **P** **06 42 10.9 -0.5**
comp=Z,39nm,0.9s
K27K Chicken 48.60 35 P **P** **06 42 12.4 +1.0**
K27K IAmb IAmb 06 42 35.0
comp=Z,12nm,0.8s
BRZS Berezniki 48.61 306 *eP* **P** **06 42 10.9 -0.9**
comp=Z,7.6nm,0.9s
BRZS Berezniki 48.61 306 *eP* **P** **06 42 10.8 -0.9**
BRZS pmax pmax
comp=Z,8.0nm,0.9s
GKN Gorkha 48.65 274 *eP* **P** **06 42 11.9 -0.6**
comp=Z,26nm,0.5s
BOOM Boomskoye usch 48.87 296 P **P** **06 42 13.7 -0.3**
BOOM pmax pmax
comp=Z,10.0nm,0.8s
BOOM Boomskoye usch 48.87 296 P **P** **06 42 13.7 -0.3**
BOOM IAmb IAmb 06 42 32.4
comp=Z,10nm,0.8s
BCAR Beaver Creek A 48.88 36 P **P** **06 42 14.5 +0.9**
TKM2 Tokmak 2 48.95 296 *iP* **P** **06 42 14.6 -0.1**
TKM2 pmax pmax
comp=Z,21nm,0.9s
DANN Dangsing 49.15 275 *eP* **P** **06 42 16.7 +0.2**
comp=Z,235nm,0.6s
BVAR Borovoye Array 49.16 311 P **P** **06 42 15.5 -0.3**
comp=Z,6.4nm,0.5s,baz=216,slow=15,SNR=21
BRVK Borovoye 49.21 311*c iP* **P** **06 42 16.2 0.0**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 49.21 311 P **P** **06 42 15.8 -0.4**
BTLS Baital 49.27 300 *eP* **P** **06 42 15.7 -1.2**
BTLS Baital 49.27 300 *eP* **P** **06 42 15.6 -1.2**
KOLN Koldanda 49.56 275 *eP* **P** **06 42 19.4 -0.1**
comp=Z,18nm,0.4s
AAK Ala-Archa 49.81 296*c iP* **P** **06 42 21.0 -0.2**
AAK pmax pmax
comp=Z,14nm,0.7s
PYUN Piuthan 49.86 275 *eP* **P** **06 42 21.9 +0.1**
comp=Z,29nm,0.3s
KSH Kashi 49.97 292 *eP* **P** **06 42 25.5 +3.2**
KSH pmax pmax
comp=Z,99nm,2.3s
INK Inuvik 51.26 28 P **P** **06 42 33.0 +1.5**
comp=Z,5.8nm,0.5s,baz=287,slow=6.5,SNR=40
INK Inuvik 51.26 28 P **P** **06 42 33.0 +1.5**
INK Inuvik 51.26 28 P **P** **06 42 31.2 -0.3**
INK IAmb IAmb 06 42 48.9
comp=Z,11nm,0.9s
HYT Haines Junctio 51.33 38 P **P** **06 42 33.1 +0.8**
KK31 Karatay Array 52.35 298 P **P** **06 42 39.2 -0.8**
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 52.35 298 P **P** **06 42 39.2 -0.8**
KK31 IAmb IAmb 06 42 40.6
comp=Z,12nm,0.9s
KKAR Karatay Array 52.35 298 P **P** **06 42 38.8 -1.2**
KKAR Karatay Array 52.35 298 P **P** **06 42 38.8 -1.2**
IUG Iuzhnay 53.05 297 *eP* **P** **06 42 44.2 -1.1**
comp=Z,4.8nm,1.4s
BTK Batken 53.37 295 P **P** **06 42 46.8 -0.9**
BTK pmax pmax
comp=Z,12nm,1.1s
BTK Batken 53.37 295 P **P** **06 42 46.8 -0.9**
BTK IAmb IAmb 06 43 08.9
comp=Z,12nm,1.1s
SVE Sverdlovsk 53.41 317*de* P **P** **06 42 48.0 +0.4**
SVE pmax pmax
comp=Z,52nm,0.9s
SVE MLR MLR
comp=Z,624nm,16.0s
PPBI Pangkal Pinang 53.62 227 P P 06 43 02.8 +13
MTN Manton Dam 53.75 194 P **P** **06 42 49.9 -0.6**
MTN IAmb IAmb 06 42 51.8
comp=Z,19nm,1.1s
GAR Garm 54.17 294 P **P** **06 42 53.0 -0.7**
NIL Nilore 54.49 287 P **P** **06 42 55.8 -0.1**
NIL pmax pmax
comp=Z,33nm,0.7s
NIL Nilore 54.49 287 P **P** **06 42 55.8 -0.1**
ARU Arti 54.63 317 P **P** **06 42 56.6 +0.1**
comp=Z,7.8nm,0.6s,baz=59,slow=4.0,SNR=34
ARU Arti 54.63 317*c iP* **P** **06 42 56.5 0.0**
ARU pmax pmax
comp=Z,42nm,0.8s
ARU Arti 54.63 317 P **P** **06 42 55.7 -0.8**
CHGR Chuyangaron 55.14 294 P **P** **06 43 00.1 -0.5**
SDSI Sungai Dareh 55.41 233 P **P** **06 43 03.3 +0.7**
comp=Z,36nm,1.1s
AB31 Akbulak array 56.62 309 *iP* **P** **06 43 10.7 -0.2**
ABKAR Akbulak array 56.62 309 P **P** **06 43 10.0 -0.9**
ABKAR Akbulak array 56.62 309 P **P** **06 43 10.5 -0.5**
MDSI Maura Dua 56.63 228 P **P** **06 43 12.6 +1.2**
comp=Z,918nmcomp=Z,6.3nm,1.0s
EUNU Eureka 57.01 9 P **P** **06 43 13.3 0.0**
EUNU IAmb IAmb 06 43 28.5
comp=Z,14nm,0.9s
KBL Kabul 57.13 290 P **P** **06 43 14.1 -0.9**
KBL pmax pmax
comp=Z,41nm,0.9s
KBL Kabul 57.13 290 P **P** **06 43 14.1 -0.9**
AKTO Aktyubinsk 57.26 311 P **P** **06 43 15.7 +0.2**
comp=Z,17nm,0.8s,baz=59,slow=6.6,SNR=32
NOR Nord 58.02 356 *iP* **P** **06 43 20.4 +0.1**
NOR *e* 06 43 35.5
NOR Nord 58.02 356 *iP* **P** **06 43 20.4 +0.1**
NOR *e* 06 43 35.5
NOR Nord 58.02 356 *iP* **P** **06 43 20.4 +0.1**
NOR *e* 06 43 35.5
KIRV Kirov 58.31 322 P **P** **06 43 22.4 -0.2**
comp=Z,29nm,0.6s,baz=160,slow=1.3,SNR=9.9
HYB Hyderabad 59.16 267 *iP* **P** **06 43 28.0 -1.2**
RES Resolute Bay 59.40 15 P **P** **06 43 30.5 +0.5**
comp=Z,6.7nm,0.8s,baz=301,slow=6.8,SNR=13
RES LR LR 07 12 23.7
comp=Z,69nm,18.8s,baz=284,slow=39
FITZ Fitzroy Crossi 60.02 199 P **P** **06 43 35.4 +0.5**
comp=Z,4.8nm,0.8s,baz=16,slow=6.9,SNR=11
FITZ Fitzroy Crossi 60.02 199 P **P** **06 43 33.7 -1.1**
FITZ IAmb IAmb 06 43 36.6
comp=Z,10nm,1.1s
WB0 Warramunga Arr 60.06 189 P **P** **06 43 34.4 -0.7**
WB0 IAmb IAmb 06 43 50.6
comp=Z,10nm,0.8s
WRAB Tennant Creek 60.23 189 *eP* **P** **06 43 36.0 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRAB Tennant Creek 60.23 189 P **P** **06 43 34.8 -1.5**
WRAB IAmb IAmb 06 43 37.7
comp=Z,8.4nm,0.9s
WR0 Warramunga Arr 60.23 189 P **P** **06 43 35.9 -0.5**
WR0 IAmb IAmb 06 43 37.7
comp=Z,7.5nm,0.7s
WRA Warramunga Arr 60.24 189 P **P** **06 43 36.0 -0.4**
comp=Z,4.2nm,0.6s,baz=6.5,slow=7.0,SNR=49

WRA LR LR 07 09 06.0
comp=Z,60nm,21.8s,baz=220,slow=35
WRA Warramunga Arr 60.24 189 *iP* **P** **06 43 36.0 -0.4**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 60.24 189 P **P** **06 43 35.0 -1.4**
TMCR Tamitsa 60.45 331 *eP* **P** **06 43 35.7 -1.6**
TMCR pmax pmax
comp=Z,15nm,0.5s
YKA Yellowknife Ar 60.72 31 LR LR 07 11 01.4
comp=Z,40nm,21.5s,baz=0.0,slow=37
ARCES ARCESS Array B 61.40 339 P **P** **06 43 44.2 +0.5**
comp=Z,5.2nm,0.9s,baz=48,slow=7.2,SNR=10
ARCES LR LR 07 14 42.6
comp=Z,84nm,18.3s,baz=60,slow=40
KLMR Klimovskoe 61.60 327 *eP* **P** **06 43 42.6 -2.6**
KLMR *e* 06 45 57.5
KLMR pmax pmax
comp=Z,30nm,1.3s
KLMR Klimovskoe 61.60 327 *eP* **P** **06 43 42.6 -2.6**
KLMR AMP 06 43 46.8
comp=Z,30nm,1.3s
KLMR *e*PP **PP** **06 45 57.6 -2.9**
HRA Herat 62.07 293 P **P** **06 43 48.6 -0.5**
HRA IAmb IAmb 06 43 49.9
comp=Z,9.1nm,0.8s
DAG Danmarks Havn 62.77 355⇑ *iP* **P** **06 43 52.8 0.0**
DAG *i* 06 44 07.4
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 62.77 355⇑ *iP* **P** **06 43 52.8 0.0**
comp=Z,8.9nm,0.9s
DAG *i* 06 44 07.4
DAG Danmarks Havn 62.77 355 ⇑ *iP* **P** **06 43 52.9 0.0**
DAG IAmb IAmb 06 43 53.7
comp=Z,8.9nm,0.9s
DAG *i* 06 44 07.4
GEYT Alibeck 63.10 298 P **P** **06 43 56.1 +0.5**
comp=Z,14nm,0.8s,baz=45,slow=2.3,SNR=20
GEYT Alibeck 63.10 298 P **P** **06 43 55.2 -0.5**
GYA0B ALIBECK ARRAY 63.10 298 P **P** **06 43 55.2 -0.5**
ASAR Alice Springs 63.97 189 P **P** **06 44 01.5 +0.1**
comp=Z,3.0nm,0.8s,baz=6.6,slow=5.1,SNR=22
ASAR LR LR 07 11 31.2
comp=Z,89nm,22.0s,baz=14,slow=36
ASAR Alice Springs 63.97 189 P **P** **06 44 00.4 -0.9**
MOS Moscow 65.28 323 *eP* **P** **06 44 08.2 -1.4**
MOS *e* 06 46 39.9
DZM Mont Dzumac 65.79 156 *e*LR LR 07 04 03.8
comp=Z,224nm,23.2s
VRH Novokhopyorsk 65.86 317 *eP* **P** **06 44 10.3 -3.1**
VRH pmax pmax
comp=Z,40nm,0.9s
OBN Obninsk 66.13 323 *eP* **P** **06 44 13.4 -1.7**
OBN *e* 06 44 31.2
OBN *e* 06 44 43.1
OBN *e* 06 46 36.7
OBN *e*PPP PPP 06 48 12.7
OBN pmax pmax
comp=Z,43nm,1.7s
FINES FINESS Array B 66.47 332 P **P** **06 44 17.2 0.0**
comp=Z,11nm,0.8s,baz=34,slow=8.7,SNR=22
FINES LR LR 07 15 25.2
comp=Z,295nm,20.8s,baz=52,slow=38
FINES FINESS Array B 66.47 332 P **P** **06 44 16.4 -0.8**
LPSR Galich'ya Gora 66.48 320 *eP* **P** **06 44 16.7 -0.6**
LPSR pmax pmax
comp=Z,60nm,1.3s
VSR Storozhevoye 67.17 318 *eP* **P** **06 44 20.5 -1.3**
VSR pmax pmax
comp=Z,50nm,1.2s
NEW Newport 67.34 45 P **P** **06 44 25.0 +2.0**
comp=Z,2.5nm,0.7s,baz=316,slow=5.0,SNR=7.3
SUMG Summit 67.59 0 *iP* **P** **06 44 25.6 +1.0**
SUMG *e* 06 44 39.0
SUMG Summit 67.59 0 P **P** **06 44 25.9 +1.2**
SUMG Summit 67.59 0 *iP* **P** **06 44 25.6 +1.0**
SUMG *e* 06 44 39.0
SUMG Summit 67.59 0 *iP* **P** **06 44 25.6 +1.0**
SUMG IAmb IAmb 06 44 26.5
comp=Z,28nm,0.7s
SUMG *e* 06 44 39.0
PINE Pine Mountain 67.72 51 P **P** **06 44 27.2 +1.5**
E09A Wood Farm, Sta 67.78 47 P **P** **06 44 26.7 +0.9**
E09A IAmb IAmb 06 44 42.2
comp=Z,17nm,1.0s
VSU Vasula 68.22 329⇓ *eP* **P** **06 44 28.7 +0.4**
VSU pmax pmax
comp=Z,68nm,1.2s
GOF Gofitskoye 68.67 311⇑ *eP* **P** **06 44 31.8 +0.4**
JTMT Jette 69.19 45 P **P** **06 44 34.8 0.0**
JTMT IAmb IAmb 06 44 51.1
comp=Z,16nm,0.9s
ZEI Tsey 69.50 309 *eP* **P** **06 44 35.3 -1.5**
ZEI pmax pmax
comp=Z,12nm,0.9s
KVAR Kislovodsk Arr 69.52 311 P **P** **06 44 38.3 +1.5**
comp=Z,11nm,0.8s,baz=270,slow=20,SNR=7.8
KIV Kislovodsk 69.52 311 *eP* **P** **06 44 37.3 +0.5**
KIV pmax pmax
comp=Z,144nm,1.1s
KIV MLR MLR
comp=Z,573nm,17.0s
KIV Kislovodsk 69.52 311 P **P** **06 44 37.0 +0.2**
KBZ Khabaz 69.53 310 P **P** **06 44 36.8 +0.1**
comp=Z,16nm,0.9s,baz=38,slow=3.8,SNR=17
KBZ LR LR 07 17 45.8
comp=Z,130nm,19.2s,baz=38,slow=38
KBZ Khabaz 69.53 310*c iP* **P** **06 44 37.2 +0.5**
KBZ pmax pmax
comp=Z,21nm,0.9s
BEKR Beckworth 70.34 54 P **P** **06 44 42.6 +0.5**
HRY Holter Researc 71.14 44 P **P** **06 44 47.2 +0.5**
LRM Limekiln Ridge 71.36 45 P **P** **06 44 48.8 +0.6**
DLMT Dillon 71.57 46 P **P** **06 44 49.8 +0.4**
DLMT IAmb IAmb 06 45 06.1
comp=Z,19nm,1.0s
NC204 NORSAR Array S 71.60 338 P **P** **06 44 49.2 0.0**
HFS Hagfors 71.62 336 P **P** **06 44 49.1 -0.1**
comp=Z,8.4nm,0.8s,baz=35,slow=5.6,SNR=9.9
STKA Stephens Creek 71.65 181 LR LR 07 24 52.7
comp=Z,28nm,18.0s,baz=24,slow=43
NB2 NORSAR Subarra 71.66 337 P **P** **06 44 49.7 +0.3**
comp=Z,3.4nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 71.66 337 P **P** **06 44 49.7 +0.3**
comp=Z,7.1nm,0.8s,baz=38,slow=6.1,SNR=20
NOA LR LR 07 18 59.7
comp=Z,168nm,21.8s,baz=30,slow=38
BOZ Bozeman (W) 71.95 45 P **P** **06 44 52.5 +0.9**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ Bozeman (W) 71.95 45 P **P** **06 44 52.5 +0.9**
BOZ IAmb IAmb 06 45 07.9
comp=Z,15nm,0.8s
KVN Kaiserville 72.23 54 P **P** **06 44 52.4 -1.1**
KVN pmax pmax
comp=Z,12nm,1.1s
KVN Kaiserville 72.23 54 P **P** **06 44 52.4 -1.1**
KVN IAmb IAmb 06 45 10.2
comp=Z,12nm,1.1s
AKASG Malin Array Be 72.37 322 P **P** **06 44 53.5 -0.3**
comp=Z,12nm,0.8s,baz=44,slow=6.5,SNR=25
AKASG LR LR 07 19 53.2
comp=Z,122nm,19.8s,baz=35,slow=38
AKASG Malin Array Be 72.37 322 P **P** **06 44 53.1 -0.7**
AKBB Malin Array Si 72.37 322⇑ *eP* **P** **06 44 53.5 -0.3**
AKBB pmax pmax
comp=Z,20nm,0.9s
AKBB Malin Array Si 72.37 322 P **P** **06 44 53.3 -0.5**
AKBB IAmb IAmb 06 44 54.6
comp=Z,17nm,0.9s
NVAR Mina Array Bea 72.48 54 P **P** **06 44 56.8 +1.8**
comp=Z,0.6nm,0.7s,baz=286,slow=7.0,SNR=4.9
NVAR Mina Array Bea 72.48 54 P **P** **06 44 55.5 +0.4**
ELK Elko 72.93 51 P **P** **06 45 00.0 +2.4**
comp=Z,0.3nm,0.3s,baz=322,slow=8.9,SNR=3.7
KOPT Kop Dagi 73.21 308 P **P** **06 44 59.7 +0.3**
KOPT IAmb IAmb 06 45 01.8
comp=Z,12nm,0.9s
YNE Yellowstone No 73.21 45 P **P** **06 45 00.0 +0.8**
FRB Frobisher Bay 73.57 14 P **P** **06 45 01.3 +0.6**
comp=Z,16nm,0.8s,baz=336,slow=8.5,SNR=3.6
SORM Soroca 74.53 321 ⇓P **P** **06 45 06.6 +0.1**
TPNV Topopah Spring 74.68 55 P **P** **06 45 08.4 +0.5**
TPNV pmax pmax

comp=Z,9.0nm,1.3s
TPNV Topopah Spring 74.68 55 P **P** **06 45 08.4 +0.5**
BORG Borgarnes 74.69 353 P **P** **06 45 09.0 +1.8**
comp=Z,12nm,0.7s,baz=355,slow=11,SNR=1.4
BORG Borgarnes 74.69 353 P **P** **06 45 09.0 +1.8**
DUG Dugway, Tooele 74.71 50 P **P** **06 45 07.7 -0.3**
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway, Tooele 74.71 50 P **P** **06 45 07.7 -0.3**
MARD Mardin 74.72 306 P **P** **06 45 08.1 0.0**
PDAR Pinedale Array 74.92 47 P **P** **06 45 10.4 +1.2**
comp=Z,0.8nm,0.6s,baz=246,slow=1.4,SNR=9.6
PDAR Pinedale Array 74.92 47 P **P** **06 45 09.5 +0.3**
KWP Kalwaria Pacla 76.11 324 *eP* **P** **06 45 16.6 +1.0**
RDMU Red Mountain 76.35 48 P **P** **06 45 18.2 +0.7**
NWAO Narrogin (SRO) 76.35 202 P **P** **06 45 17.1 +0.1**
comp=Z,12nm,0.9s,baz=55,slow=7.2,SNR=2.8
BUR08 Bucovina Ar. S 76.39 322 P **P** **06 45 17.6 +0.2**
BUR08 IAmb IAmb 06 45 18.9
comp=Z,8.2nm,0.8s
BURAR Bucovina Array 76.40 322 ⇓P **P** **06 45 18.2 +0.7**
BURAR Bucovina Array 76.40 322 ⇑P **P** **06 45 17.2 -0.3**
BIZ Bicaz 76.46 321 ⇓P **P** **06 45 18.7 +1.0**
TPGR Topolog 76.77 318 ⇓P **P** **06 45 20.0 +0.5**
VRI Vrincioaia 76.91 320 ⇓P **P** **06 45 21.2 +1.0**
OJC Ojcow 76.94 326 *eP* **P** **06 45 20.9 +0.6**
OJC Ojcow 76.94 326 P **P** **06 45 20.6 +0.3**
OJC pmax pmax
comp=Z,19nm,1.1s
OJC Ojcow 76.94 326 P **P** **06 45 20.6 +0.3**
OJC IAmb IAmb 06 45 22.1
comp=Z,19nm,1.1s
RSSD Black Hills 76.98 43 P **P** **06 45 22.2 +1.3**
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 76.98 43 P **P** **06 45 22.2 +1.3**
RSSD IAmb IAmb 06 45 36.7
comp=Z,9.2nm,0.9s
GAZ Gaziantep 77.00 308 P **P** **06 45 21.7 +0.7**
CRVS Cervenica-Dubn 77.19 325 *eP* **P** **06 45 22.6 +0.8**
CRVS Cervenica-Dubn 77.19 325 *eP* **P** **06 45 22.6 +0.8**
OZUR 77.21 320 ⇑P **P** **06 45 22.1 +0.1**
NIE Niedzica 77.32 325 *eP* **P** **06 45 23.4 +0.9**
BR131 Keskin Array S 77.43 312 P **P** **06 45 23.1 -0.3**
BR131 Keskin Array S 77.43 312 P **P** **06 45 23.1 -0.3**
BRTR Keskin Array B 77.43 312 P **P** **06 45 23.6 +0.1**
comp=Z,2.8nm,0.8s,baz=94,slow=3.8,SNR=12
BRTR LR LR 07 24 32.7
comp=Z,52nm,20.1s,baz=52,slow=40
BRTR Keskin Array B 77.43 312 *i* P **P** **06 45 23.8 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 77.43 312 P **P** **06 45 23.8 +0.3**
MLR Muntele Rosu 77.56 320 ⇓P **P** **06 45 24.5 +0.4**
ICOR Ion Corvin 77.60 318 ⇓P **P** **06 45 25.2 +1.1**
SECR 77.83 319 ⇑P **P** **06 45 26.0 +0.6**
KSP Ksiaz 77.91 328 *eP* **P** **06 45 26.3 +0.5**
ESJX Sierra Juarez 78.00 58 P **P** **06 45 28.2 +1.4**
VOIR 78.04 320 ⇓P **P** **06 45 27.8 +1.1**
PV14 Lion Creek, Pa 78.13 50 P **P** **06 45 26.6 -0.9**
PV14 IAmb IAmb 06 45 43.9
comp=Z,16nm,1.1s
PV22 Blue Mesa, Par 78.16 49 P **P** **06 45 28.4 +0.8**
OSTC Ostas 78.16 328 *eP* **P** **06 45 28.3 +1.1**
PV20 West Nyswonger 78.18 50 P **P** **06 45 28.9 +1.2**
PV20 IAmb IAmb 06 45 44.1
comp=Z,11nm,1.0s
PV19 Morning Glory 78.19 50 P **P** **06 45 29.2 +1.4**
PV19 IAmb IAmb 06 45 44.3
comp=Z,14nm,0.9s
CHVC Chvalec 78.20 328 *eP* **P** **06 45 28.1 +0.7**
MORC Moravsky Berou 78.22 327 ⇓P **P** **06 45 28.6 +1.1**
MORC Moravsky Berou 78.22 327 *eP* **P** **06 45 28.2 +0.6**
MORC Moravsky Berou 78.22 327 P **P** **06 45 26.0 -1.6**
MORC pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 78.22 327 P **P** **06 45 26.0 -1.6**
MORC IAmb IAmb 06 45 28.8
comp=Z,9.8nm,0.9s
PV17 East Wray Mesa 78.23 50 P **P** **06 45 28.1 0.0**
PV17 IAmb IAmb 06 45 44.5
comp=Z,20nm,1.1s
DPC Dobruska-Polom 78.28 328 *eP* **P** **06 45 29.0 +1.1**
DPC Dobruska-Polom 78.28 328 *eP* **P** **06 45 29.0 +1.1**
ARR Arges 78.30 320 ⇑P **P** **06 45 29.2 +1.1**
KRLC Kraliky 78.31 328 *eP* **P** **06 45 28.0 0.0**
KRLC Kraliky 78.31 328 *eP* **P** **06 45 28.0 0.0**
PV03 Paradox Valley 78.31 50 P **P** **06 45 27.6 -0.9**
PV13 Radium Mtn., P 78.39 50 P **P** **06 45 30.3 +1.4**
PV13 IAmb IAmb 06 45 45.4
comp=Z,11nm,1.0s
WUAZ Wupatki 78.62 53 P **P** **06 45 31.4 +1.2**
VYHS Vyhne 78.65 326 *eP* **P** **06 45 30.8 +0.9**
VYHS Vyhne 78.65 326 *eP* **P** **06 45 30.8 +0.9**
BRG Berggiesshubel 78.81 330 *eP* **P** **06 45 31.1 +0.4**
comp=Z,11nm,1.4s
BRG *e* 06 45 46.6
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 78.81 330 *eP* **P** **06 45 31.1 +0.4**
BRG *e* 06 45 46.6
BRG pmax pmax
comp=Z,11nm,1.4s
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 78.83 330 *i* P **P** **06 45 30.5 -0.3**
comp=Z,13nm,1.1s
CLL *e*pP **sP** **06 45 46.0 +1.4**
CLL *e*PP **PP** **06 48 36.0 +7.3**
CLL *e* 07 03 00.0
CLL *e*SSS SSS 07 04 06.0
CLL *e*SSSS 07 06 18.0
CLL Lm MLR 07 21 00.0
comp=Z,100nm,21.5s
CLL Collm 78.83 330 *i* P **P** **06 45 30.5 -0.3**
CLL *e**PP **sP** **06 45 46.0 +1.4**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 78.83 330 P **P** **06 45 30.0 -0.8**
JAVC Velka Javorina 78.87 326 *eP* **P** **06 45 32.7 +1.5**
VRAC Vranov 78.98 327 *eP* **P** **06 45 32.6 +0.9**
ISCO Idaho Springs 79.11 47 P **P** **06 45 31.5 -1.5**
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO Idaho Springs 79.11 47 P **P** **06 45 31.5 -1.5**
GZR Gura Zlata 79.17 321 ⇓P **P** **06 45 33.6 +0.7**
KRUC Moravsky 79.25 327 *eP* **P** **06 45 33.9 +0.7**
PRU Pruhonice 79.28 329 *eP* **P** **06 45 34.3 +1.0**
PRU Pruhonice 79.28 329 *eP* **P** **06 45 34.3 +1.0**
X16A Lo Mia Camp, P 79.30 54 P **P** **06 45 34.2 +0.3**
MODS Modra-Piesok 79.41 326 *eP* **P** **06 45 33.8 -0.3**
MODS Modra-Piesok 79.41 326 *eP* **P** **06 45 33.8 -0.3**
HERR Herculane 79.72 321 ⇑P **P** **06 45 35.9 +0.1**
KHC Kasperske Hory 80.34 329 *eP* **P** **06 45 39.1 0.0**
KHC Kasperske Hory 80.34 329 *eP* **P** **06 45 39.1 0.0**
CONA Conrad Observa 80.36 327 *eP* **P** **06 45 40.3 +1.0**
comp=Z,11nm,1.3s
EKA Eskdalemuir Ar 80.49 341 P **P** **06 45 39.9 +0.1**
comp=Z,1.5nm,0.4s,baz=35,slow=5.7,SNR=8.4
GERES GERESS Array B 80.52 329 P **P** **06 45 40.6 +0.4**
comp=Z,1.7nm,0.6s,baz=35,slow=4.9,SNR=14
GERES LR LR 07 24 07.0
comp=Z,208nm,20.1s,baz=45,slow=38
GERES GERESS Array B 80.52 329 P **P** **06 45 38.5 -1.6**
K31A O'Neill 80.74 41 P **P** **06 45 40.1 -1.3**
MMAI Mount Meron Ar 80.86 306 P **P** **06 45 41.0 -1.2**
comp=Z,0.9nm,0.3s,baz=74,slow=1.2,SNR=4.2
ARSA Arzberg 81.03 327 *eP* **P** **06 45 43.7 +0.9**
comp=Z,8.7nm,1.2s
SOCY Socotra 81.12 278 P **P** **06 45 41.5 -2.3**
SOCY IAmb IAmb 06 45 42.8
comp=Z,24nm,1.2s
GROS Grobnik 81.66 326 *i* P **P** **06 45 46.2 0.0**
PERS Pernice 81.69 326 *i* P **P** **06 45 46.6 +0.2**
ANMO Albuquerque 81.97 51 ⇓*eP* **P** **06 45 49.0 +0.8**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 81.97 51 P **P** **06 45 46.8 -1.4**
OBKA Obir 82.03 327 *eP* **P** **06 45 49.0 +0.8**
comp=Z,4.4nm,0.6s
KBA Koelnbreinsper 82.08 328 *eP* **P** **06 45 50.0 +1.4**
comp=Z,7.7nm,0.8s
SCHQ Schefferville 82.14 17 LR LR 07 23 45.7
comp=Z,81nm,22.0s,baz=197,slow=37
PDKS Podkum 82.19 326 *i* P **P** **06 45 48.6 -0.4**
LENM Lemitar 82.20 52 P **P** **06 45 49.2 -0.2**
BNM Barren Site 82.41 51 P **P** **06 45 50.2 -0.4**
WATA Walderalm 82.58 329 *eP* **P** **06 45 52.6 +1.4**
comp=Z,11nm,1.2s
MOTA Moosalm 82.76 329 *eP* **P** **06 45 52.3 +0.2**
comp=Z,9.8nm,0.9s
RETA Reutte 82.78 329 *eP* **P** **06 45 52.7 +0.6**
comp=Z,10nm,1.1s
SQTA Sankt Quirin 82.82 329 *eP* **P** **06 45 53.0 +0.7**
comp=Z,4.9nm,0.7s
PDG Podgorica 83.08 321 ⇓P **P** **06 45 54.1 +0.5**
FETA Feichten 83.17 329 *eP* **P** **06 45 54.7 +0.4**
comp=Z,7.8nm,1.1s
DAVA Damuels 83.29 330 *eP* **P** **06 45 55.2 +0.3**
comp=Z,10nm,1.4s
FUORN Ofenpass-Fuorn 83.69 329 P **P** **06 45 56.5 -0.5**
PMOR Pomariorio Ree 84.67 115 *eT* T 08 18 55.5
comp=Z,13nm,0.2s
PPT Papeete 85.29 117 LR LR 07 15 38.7
comp=Z,127nm,21.8s,baz=332,slow=30
PPT2 Papeete2 85.31 118 *e*LR LR 07 13 01.7
comp=Z,401nm,26.5s
PPT2 Papeete2 85.31 118 *eT* T 08 19 43.9
comp=Z,8.3nm,0.3s
TIAR Tiarei 85.44 117 *eT* T 08 19 52.9
comp=Z,2.6nm,0.3s
TAOE Nuku Hiva Isla 86.13 105 *e*LR LR 07 13 05.5
comp=Z,206nm,21.6s
P40A Paris 86.39 39 P **P** **06 46 08.6 -1.8**
MEH Mehetia 86.53 117 *eT* T 08 21 15.5
comp=Z,45nm,0.3s
TX31 Lajitas Ar. Si 87.58 53 P **P** **06 46 15.1 -1.4**
TX31 IAmb IAmb 06 46 33.3
comp=Z,14nm,1.1s
TXAR Lajitas Array 87.58 53 P **P** **06 46 18.1 +1.6**
comp=Z,0.4nm,0.6s,baz=256,slow=2.9,SNR=4.7
TXAR LR LR 07 24 36.9
comp=Z,15nm,19.5s,baz=0.0,slow=5
TXAR Lajitas Array 87.58 53 P **P** **06 46 14.8 -1.7**
U40A Yellville 88.46 42 P **P** **06 46 20.0 -0.4**
TBI Tubuai 89.41 122 *e*LR LR 07 14 46.9
comp=Z,176nm,28.5s
TBI Tubuai 89.41 122 *eT* T 08 24 52.0
comp=Z,27nm,0.3s
ESDC Sonseca Array 94.87 335 P **P** **06 46 50.4 +0.2**
comp=Z,0.8nm,0.6s,baz=9.2,slow=3.5,SNR=4.7
ESDC LR LR 07 34 56.9
comp=Z,116nm,18.5s,baz=20,slow=39
TORD Torodi Ar. Bea 115.70 317 PKP **PKiKP** **06 52 09.9 -0.8**
comp=Z,0.5nm,0.7s,baz=10,slow=3.6,SNR=3.4
MAW Mawson 122.68 207 PKP **PKiKP** **06 52 22.7 +0.1**
comp=Z,0.9nm,0.6s,baz=62,slow=3.7,SNR=2.3
DBIC Dimbokro 124.55 319 PKP **PKPdf** **06 52 27.6 -0.2**
comp=Z,3.1nm,0.9s,baz=33,slow=0.6,SNR=1.6
SNAA Sanae 143.95 198 PKPdf PKPbc 06 53 00.3 +0.2
LPAZ La Paz 144.35 57 PKP PKPbc 06 53 04.4 +0.7
comp=Z,1.2nm,0.7s,baz=2.7,slow=5.0,SNR=6.0
VNA2 Neumayer--Watz 145.52 197 PKPdf **PKPdf** **06 53 04.9 +0.1**
VNA3 Neumayer Olymp 145.77 196 PKPdf **PKPdf** **06 53 04.9 -0.4**
VNA1 Neumayer--Stat 145.92 197 PKPdf **PKPbc** **06 53 06.5 +0.2**

MOS **31** *06:38:30.8±0.0,41°.36N×45°.74E,h20km,MPVA4.0*
DRS **31** *06:38:30.8±0.0,41°.31N×45°.58E,h16km*
AZER **31** *06:38:30.8,41°.30N×45°.76E,h12km,ML3.1*
TIF **31** *06:38:31.1,41°.37N×45°.64E,h29km±1km*
NORS **31** *06:38:32.7±0.0,41°.29N×45°.77E,h20km,MPVA4.0*
ISC 31 06:38:31.8±1.0,**41°.35N**±0°.02×**45°.63E**±0°.02,**h12**km±9km,
n88,σ1°06/154,3C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QZX	**Qazax, Azerbai**	**0.35**	**214**	P		**Pg**	**06 38 39.9**	**+1.0**
QZX	SNR=55			S		**Sb**	**06 38 45.8**	**+0.3**
DDFL	**Dedoflistskaro**	**0.38**	**75**	PG		**Pb**	**06 38 41.3**	**+0.7**
DDFL	**Dedoflistskaro**	**0.38**	**75**	P		**Pb**	**06 38 41.4**	**+0.7**
GDB	**GEDABAY**	**0.63**	**171**	P		**Pb**	**06 38 43.9**	**-1.0**
GDB	SNR=1327			S		**Sb**	**06 38 53.0**	**-0.8**
LGD	**Lagodekhi**	**0.67**	**43**	*e*Pg		**Pb**	**06 38 44.2**	**-1.3**
LGD				*e*Sg		**Sg**	**06 38 54.4**	**+0.6**
LGD	**Lagodekhi**	**0.67**	**43**	PG		**Pb**	**06 38 44.2**	**-1.3**
LGD				S		**Sg**	**06 38 54.3**	**+0.6**
LGD	**Lagodekhi**	**0.67**	**43**	P		**Pb**	**06 38 44.2**	**-1.3**
LGD				S		**Sg**	**06 38 54.4**	**+0.6**
ZKTA	**Zakatala**	**0.80**	**68**	P		**Pb**	**06 38 46.2**	**-1.5**
ZKTA	SNR=66			S		**Sb**	**06 38 58.0**	**-0.5**
GANJ	**Ganja**	**0.88**	**143**	P		**Pb**	**06 38 47.5**	**-1.5**
GANJ	SNR=12			S		**Sb**	**06 38 59.4**	**-1.3**
TRLG	**Trialeti**	**1.16**	**280**	PG		**Pn**	**06 38 51.9**	**-2.1**
TRLG	**Trialeti**	**1.16**	**280**	P		**Pn**	**06 38 52.0**	**-2.1**
TRLG				S		**Sb**	**06 39 07.3**	**-1.7**
SEKA	**Sheki**	**1.19**	**96**	P		**Pn**	**06 38 53.0**	**-1.4**
SEKA	SNR=3.0			S		**Sg**	**06 39 10.3**	**0.0**
MNGR	**Mingechevir, A**	**1.24**	**117**	P		**Pn**	**06 38 54.6**	**-0.4**
MNGR				S		**Sg**	**06 39 13.1**	**+1.2**
KMKR	**Kumukh**	**1.35**	**54**	*i*Pg		**Pn**	**06 38 56.5**	**-0.2**
KMKR				*i*Sg		**Sg**	**06 39 15.0**	**-0.4**
KMKR	**Kumukh**	**1.35**	**54**	⇓*i*PG		**Pn**	**06 38 56.5**	**-0.2**
KMKR				*i*S		**Sg**	**06 39 15.0**	**-0.4**
KMKR	comp=Z,55nm,0.3s			pmax	pmax			
BTLR	**Botlikh**	**1.39**	**18**	*e*Pg		**Pb**	**06 38 57.3**	**-0.5**
BTLR				*e*Sg		**Sb**	**06 39 15.4**	**0.0**
BTLR	**Botlikh**	**1.39**	**18**	*e*PG		**Pb**	**06 38 57.2**	**-0.5**
BTLR	comp=Z,43nm,0.5s			pmax	pmax			
XNZR	**Khunzakh**	**1.44**	**34**	*e*Pg		**Pn**	**06 38 57.9**	**0.0**
XNZR				*e*Sg		**Sb**	**06 39 16.8**	**-0.2**
XNZR	**Khunzakh**	**1.44**	**34**	*e*PG		**Pn**	**06 38 57.9**	**0.0**
GNBR	**Gunib**	**1.44**	**43**	*i*Pg		**Pn**	**06 38 57.5**	**-0.3**
GNBR				*e*Sg		**Sb**	**06 39 16.9**	**-0.1**
GNBR	**Gunib**	**1.44**	**43**	⇓*i*PG		**Pn**	**06 38 57.5**	**-0.3**
GNBR	comp=Z,36nm,0.6s			pmax	pmax			
BGD	**Bogdanovka**	**1.53**	**268**	PG		**Pn**	**06 38 58.5**	**-0.6**
BGD				S		**Sb**	**06 39 19.3**	**-0.4**
BGD	**Bogdanovka**	**1.53**	**268**	P		**Pn**	**06 38 58.6**	**-0.6**
BGD				S		**Sb**	**06 39 19.3**	**-0.4**
AKT	**Akhty**	**1.59**	**85**	*e*Pg		**Pn**	**06 38 58.9**	**-1.0**
AKT				*e*Sg		**Sb**	**06 39 20.1**	**-1.1**
AKT	**Akhty**	**1.59**	**85**	*ce*PG		**Pn**	**06 38 58.8**	**-1.1**
AKT				*e*S		**Sb**	**06 39 21.1**	**-0.1**
AKT	comp=Z,55nm,0.7s			pmax	pmax			
AKT	comp=Z,90nm,0.5s			smax	smax			
BRDA	**Brd**	**1.60**	**132**	Pn		**Pb**	**06 39 00.9**	**-0.5**
BRDA				Sn		**Sb**	**06 39 20.6**	**-0.9**
ARKR	**Arakani**	**1.62**	**39**	*e*Pg		**Pn**	**06 39 00.0**	**-0.2**
ARKR				*e*Sg		**Sb**	**06 39 22.0**	**0.0**
ARKR	**Arakani**	**1.62**	**39**	*e*PN		**Pn**	**06 39 00.0**	**-0.2**
ARKR	comp=Z,40nm,0.2s			pmax	pmax			
UNCR	**Uncukul**	**1.62**	**32**	*e*Pg		**Pn**	**06 39 00.5**	**+0.3**
UNCR				*e*Sg		**Sb**	**06 39 21.5**	**-0.6**
UNCR	**Uncukul**	**1.62**	**32**	PN		**Pn**	**06 39 00.5**	**+0.3**
DVE	**Vedeno**	**1.65**	**13**	*e*Pg		**Pg**	**06 39 03.3**	**-0.2**
DVE				*e*Sg		**Sb**	**06 39 23.1**	**+0.1**
DVE	**Vedeno**	**1.65**	**13**	*e*PN		**Pg**	**06 39 03.3**	**-0.2**
DVE	comp=Z,35nm,0.3s			pmax	pmax			
AGDM	**Agdam**	**1.67**	**137**	Pn		**Pn**	**06 39 01.1**	**+0.1**
AGDM	SNR=3.5			Sn		**Sb**	**06 39 23.7**	**+0.1**
QBL	**Gabala**	**1.72**	**103**	Pn		**Pn**	**06 39 02.0**	**+0.4**
QBL	SNR=7.1			Sn		**Sb**	**06 39 24.7**	**-0.2**
HYR	**Heyderabad**	**1.73**	**200**	Pn		**Pb**	**06 39 04.1**	**+0.5**
HYR				Sn		**Sg**	**06 39 28.2**	**+0.6**
KRNR	**Karanay**	**1.76**	**32**	*e*Pg		**Pb**	**06 39 03.0**	**-1.1**
KRNR				*i*Sg		**Sb**	**06 39 26.0**	**-0.2**
KRNR	**Karanay**	**1.76**	**32**	*e*PN		**Pb**	**06 39 03.0**	**-1.1**
LACR	**Lac**	**1.78**	**327**	*e*Pg		**Pn**	**06 39 02.0**	**-0.5**
LACR				*e*Sg		**Sb**	**06 39 25.9**	**-0.8**
LACR	**Lac**	**1.78**	**327**	*e*PN		**Pn**	**06 39 02.0**	**-0.5**
KMGR	**Komgaron**	**1.80**	**342**	*e*Pg		**Pb**	**06 39 04.7**	**-0.1**
KMGR				*e*Sg		**Sg**	**06 39 29.5**	**-0.2**
KMGR	**Komgaron**	**1.80**	**342**	*e*PN		**Pb**	**06 39 04.7**	**-0.1**
VLKR	**Vladikavkaz**	**1.84**	**338**	*e*Pg		**Pb**	**06 39 05.8**	**+0.4**
VLKR				*e*Sg		**Sg**	**06 39 31.1**	**+0.2**
VLKR	**Vladikavkaz**	**1.84**	**338**	*e*PN		**Pb**	**06 39 05.8**	**+0.4**
GROC	**Groznyy**	**1.86**	**4**	*e*Pg		**Pb**	**06 39 05.9**	**+0.2**
GROC				*e*Sg		**Sg**	**06 39 31.1**	**-0.5**
GROC	**Groznyy**	**1.86**	**4**	*e*PN		**Pb**	**06 39 05.9**	**+0.2**
DLMR	**Dylym**	**1.88**	**23**	*e*Pg		**Pb**	**06 39 05.0**	**-1.0**
DLMR				*e*Sg		**Sb**	**06 39 30.0**	**+0.6**
DLMR	**Dylym**	**1.88**	**23**	PN		**Pb**	**06 39 05.0**	**-1.0**
ZRD	**Zardab**	**1.89**	**124**	Pn		**Pb**	**06 39 06.0**	**-0.2**
ZRD				Sn		**Sg**	**06 39 32.6**	**0.0**
DBC	**Dubki**	**1.90**	**28**	*e*Pg		**Pb**	**06 39 05.9**	**-0.6**
DBC				*e*Sg		**Sb**	**06 39 30.6**	**+0.5**
DBC	**Dubki**	**1.90**	**28**	⇑*e*PN		**Pb**	**06 39 05.8**	**-0.6**
DBC	comp=Z,10.0nm,0.4s			pmax	pmax			
KSMR	**Kasumkent**	**1.90**	**81**	*e*Pg		**Pb**	**06 39 05.5**	**-0.9**
KSMR				*e*Sg		**Sb**	**06 39 30.5**	**+0.4**
KSMR	**Kasumkent**	**1.90**	**81**	PN		**Pb**	**06 39 05.5**	**-0.9**
KSMR				*e*S		**Sb**	**06 39 30.5**	**+0.4**
XNQ	**Khinaliq**	**1.90**	**94**	Pn		**Pn**	**06 39 04.4**	**+0.1**
XNQ	SNR=45			Sn		**Sb**	**06 39 29.7**	**-0.7**
ZEI	**Tsey**	**1.93**	**319**	*e*Pg		**Pn**	**06 39 05.7**	**+1.1**
ZEI				*e*Sg		**Sb**	**06 39 31.2**	**+0.1**
ZEI	**Tsey**	**1.93**	**319**	*e*PN		**Pn**	**06 39 05.7**	**+1.1**
SBZ	**Shahbuz**	**1.95**	**182**	Pn		**Pb**	**06 39 06.8**	**-0.5**
SBZ	SNR=9.0			Sn		**Sg**	**06 39 33.6**	**-1.0**
QSAR	**Qusar**	**1.99**	**84**	Pn		**Pb**	**06 39 06.8**	**-1.2**
QSAR				Sn		**Sb**	**06 39 31.0**	**-1.8**
IML	**Ismayilli**	**2.01**	**105**	Pn		**Pn**	**06 39 06.6**	**+0.9**
IML				Sn		**Sb**	**06 39 32.0**	**-1.3**
ONI	**Oni**	**2.04**	**308**	*e*Pg		**Pb**	**06 39 07.6**	**-1.3**
ONI				*e*Sg		**Sb**	**06 39 34.6**	**+0.4**
ONI	**Oni**	**2.04**	**308**	PN		**Pb**	**06 39 07.6**	**-1.3**
ONI				S		**Sb**	**06 39 34.6**	**+0.4**
ONI	**Oni**	**2.04**	**308**	P		**Pb**	**06 39 07.6**	**-1.3**
ONI				S		**Sb**	**06 39 34.6**	**+0.4**
ARNR	**Ardon**	**2.08**	**332**	*e*Pg		**Pb**	**06 39 09.5**	**-0.1**
ARNR				*e*Sg		**Sb**	**06 39 36.9**	**+1.5**
ARNR	**Ardon**	**2.08**	**332**	*e*PN		**Pb**	**06 39 09.5**	**-0.1**
ARNR				*e*S		**Sb**	**06 39 36.9**	**+1.5**
KORR	**Kora**	**2.09**	**327**	*e*Pg		**Pb**	**06 39 09.7**	**+0.1**
KORR				*e*Sg		**Sb**	**06 39 37.4**	**+1.9**
KORR	**Kora**	**2.09**	**327**	*e*PN		**Pb**	**06 39 09.7**	**+0.1**
KORR				*e*S		**Sb**	**06 39 37.4**	**+1.9**
KDMR	**Kurdemir**	**2.17**	**116**	Pn		**Pn**	**06 39 06.7**	**-1.1**
KDMR				Sn		**Sb**	**06 39 36.6**	**-1.3**
DIGR	**Digorskoe uzhe**	**2.17**	**316**	*e*Pg		**Pb**	**06 39 10.5**	**-0.7**
DIGR				*e*Sg		**Sb**	**06 39 37.4**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.17**	**316**	*e*PN		**Pb**	**06 39 10.5**	**-0.7**
DIGR				*e*S		**Sb**	**06 39 37.4**	**-0.8**
NAX	**Nakhchivan**	**2.17**	**183**	Sn		**Sb**	**06 39 40.1**	**+2.1**
BLQ	**Beylaqan**	**2.19**	**137**	Sn		**Sb**	**06 39 38.5**	**0.0**
TKB	**Tkibuli**	**2.21**	**298**	*e*Pn		**Pb**	**06 39 10.0**	**-1.7**
TKB				*e*Sn		**Sb**	**06 39 38.6**	**-0.4**
TKB	**Tkibuli**	**2.21**	**298**	PN		**Pb**	**06 39 09.9**	**-1.7**
TKB				S		**Sb**	**06 39 38.6**	**-0.4**
TKB	**Tkibuli**	**2.21**	**298**	P		**Pb**	**06 39 10.0**	**-1.7**
TKB				S		**Sb**	**06 39 38.6**	**-0.4**
QRD	**Qoradiz**	**2.29**	**145**	Pn		**Pb**	**06 39 11.6**	**-1.4**
QRD				Sn		**Sb**	**06 39 42.2**	**+1.0**
PQL	**Pirkuli**	**2.31**	**103**	Pn		**Pn**	**06 39 09.9**	**0.0**
PQL				Sn		**Sb**	**06 39 41.5**	**-0.6**
STDR	**Stavd-Durt**	**2.33**	**331**	*e*Pn		**Pb**	**06 39 12.9**	**-0.8**
STDR				*e*Sn		**Sb**	**06 39 42.2**	**-0.3**
STDR	**Stavd-Durt**	**2.33**	**331**	*e*PN		**Pb**	**06 39 12.9**	**-0.8**
STDR				*e*S		**Sb**	**06 39 42.2**	**-0.3**
LSNR	**Lesken**	**2.35**	**326**	*e*Pn		**Pb**	**06 39 13.7**	**-0.4**
LSNR				*e*Sn		**Sb**	**06 39 44.5**	**+1.5**
LSNR	**Lesken**	**2.35**	**326**	*e*PN		**Pb**	**06 39 13.7**	**-0.4**
LSNR				*e*S		**Sb**	**06 39 44.5**	**+1.5**
ORD	**Ordubad**	**2.43**	**173**	Pn		**Pn**	**06 39 12.4**	**+0.9**
ORD	SNR=10			Sn		**Sb**	**06 39 45.8**	**+0.3**
SIZA	**Siyzn**	**2.48**	**95**	Pn		**Pn**	**06 39 12.1**	**-0.1**
SIZA				Sn		**Sb**	**06 39 44.4**	**-0.6**
ATGJ	**Altiaghaj**	**2.55**	**100**	Sn		**Sn**	**06 39 45.8**	**+1.7**
GBS	**Qobustan**	**2.64**	**107**	Pn		**Pn**	**06 39 15.9**	**+1.6**
GBS				Sg		**Sb**	**06 39 52.9**	**+1.5**
GLBA	**Clilabad**	**2.98**	**134**	Pn		**Pn**	**06 39 20.5**	**+1.6**
GLBA				Sn		**Sb**	**06 39 58.5**	**-2.8**
KBZ	**Khabaz**	**3.12**	**321**	⇑*e*PN		**Pb**	**06 39 25.5**	**-1.7**
YRD	**Yardimli**	**3.15**	**140**	Pn		**Pn**	**06 39 21.8**	**+0.4**
YRD	SNR=5.0			Sn		**Sn**	**06 40 00.6**	**+1.6**
KIV	**Kislovodsk**	**3.39**	**321**	⇓*e*PN		**Pb**	**06 39 30.5**	**-1.4**
KIV	comp=Z,10.0nm,1.1s			pmax	pmax			
ASTR	**Astara**	**3.70**	**138**	Pg		**Pb**	**06 39 33.4**	**-3.7**
ASTR				Sg		**Sb**	**06 40 25.6**	**+3.8**

RSNC 31 07:49:48.2±1.1,**6°.80N×73°.14W,h145km±4km,ML3.3,**
Mw3.8,6C-3D,Fault plane solution: NP1:ϕs136.00000°,
δ78.00000°,λ18.00000°,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**193**	⇑*i*P		Pn	07 50 07.9	-0.3
BARC				*e*S		Sn	07 50 22.5	-1.0
BARC				*i*			07 50 23.8	
BRRC	**Barranca, Sant**	**0.65**	**298**	*e*P		Pn	07 50 09.8	0.0
BRRC				*e*S		Sn	07 50 26.1	-0.3
BRRC				*i*			07 50 29.6	
PAMC	**Pamplona, Colo**	**0.69**	**39**	⇓*i*P		Pn	07 50 10.8	+0.1
PAMC				*e*S		Sn	07 50 27.7	-0.1
PAMC				*i*			07 50 29.8	
RUSC	**La Rusia**	**0.90**	**177**	⇑*e*P		Pn	07 50 11.9	-0.4
RUSC				*e*S		Sn	07 50 29.9	-0.7
RUSC				*i*			07 50 32.2	
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	*e*P		Pn	07 50 14.9	-0.8
PTBC				*e*S		Sn	07 50 36.5	-0.2
PTBC				*i*			07 50 38.9	
TAMC	**Tame, Arauca**	**1.38**	**105**	⇓*i*P		Pn	07 50 16.3	+0.1
TAMC				*e*S		Sn	07 50 37.7	+0.1
TAMC				*i*			07 50 38.4	
OCAC	**Ocana**	**1.44**	**353**	⇑*i*P		Pn	07

ANIL				*e*S	Sn	07 51 18.5	+1.1
ANIL				*i*		07 51 24.0	
	comp=Z,30nm,0.4s						
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P	Pn	07 50 38.3	-0.1
ARGC				*e*S	Sn	07 51 17.1	-0.1
ARGC				*i*		07 51 24.6	
	comp=Z,52nm,0.4s						
SDV	**Santo Domingo**	**3.23**	**50**	*e*P	Pn	07 50 37.8	-0.8
SDV				*e*S	Sn	07 51 14.5	-3.0
SDV				*i*		07 51 17.3	
	comp=Z,89nm,0.3s						
PRAC	**Prado**	**3.53**	**210**	*e*P	Pn	07 50 41.4	-0.9
PRAC				*e*S	Sn	07 51 23.8	-0.3
PRAC				*i*		07 51 34.2	
	comp=Z,65nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	Pn	07 50 42.2	-0.5
ORTC				*e*S	Sn	07 51 24.6	-0.3
ORTC				*i*		07 51 31.0	
	comp=Z,64nm,0.3s						
SJCC	**San Jacinto, C**	**3.68**	**327**	*e*P	Pn	07 50 42.3	-2.0
SJCC				*e*S	Sn	07 51 23.6	-4.2
SJCC				*i*		07 51 27.6	
	comp=Z,103nm,0.5s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*e*P	Pn	07 50 51.1	-0.6
YOTC				*e*S	Sn	07 51 40.2	-0.9
GUVC	**San Jose del G**	**4.26**	**173**	*e*P	Pn	07 50 49.9	-1.9
GUVC				*e*S	Sn	07 51 38.6	-2.6
GUVC				*i*		07 51 45.1	
	comp=Z,72nm,0.2s						
SMRC	**Santa Marta, M**	**4.47**	**346**	*e*P	Pn	07 50 52.8	-1.8
SMRC				*e*S	Sn	07 51 41.2	-4.9
MACC	**Macarena, Meta**	**4.68**	**189**⇑	*e*P	Pn	07 50 55.0	-2.4
MACC				*e*S	Sn	07 51 46.0	-5.2
GARC	**Garzon, Huila**	**5.15**	**207**	*e*P	Pn	07 51 02.4	-1.4
GARC				*e*S	Sn	07 51 58.9	-3.9
GARC				*i*		07 52 02.9	
	comp=Z,30nm,0.3s						
PCON	**Cinco Dias**	**5.50**	**216**	*e*P	Pn	07 51 08.4	-0.4
PCON				*e*S	Sn	07 52 09.5	-2.1
POPC	**Popayan, Colom**	**5.51**	**220**	*e*P	Pn	07 51 08.4	-0.2
POPC				*e*S	Sn	07 52 10.0	-1.3
POPC				*i*		07 52 14.8	
	comp=Z,6.7nm,0.4s						
BBAC	**Balboa, Cauca**	**6.27**	**221**	*e*P	Pn	07 51 19.3	+0.6
BBAC				*e*S	Sn	07 52 27.1	-2.4
BBAC				*i*		07 52 34.0	
	comp=Z,11nm,0.5s						

*IDC **31** 08:03:52.7±0.8, 64°.56N×17°.74W, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/52, mbtmp3.7/12, ML4.0/1, MS2.7/4, Ms1 2.8/4, ms1mx2.4/47, Error ellipse: s-maj=25.6km s-min=13.0km az=19.0*
*REY **31** 08:03:52.0, 64°.67N×17°.44W, h3km*
*NEIC **31** 08:03:53.9±0.8, 64°.45N±0°.09×18°.0W±0°.2, h8km±5km, mb4.4/11, Error ellipse: s-maj=15.7km s-min=7.3km az=220.0*

ISC 31 08:03:53.2±0.5, **64°.70N**±0°.02×**17°.54W**±0°.02, **h10**km, **n83,** σ**2§21/88, mb3.8/14, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**254**	P	**Pg**	**08 03 55.0**	**-0.8**
	baz=270						
IDYN	**Dyngjuhals**	**0.12**	**39**	P	**Pg**	**08 03 54.8**	**-1.3**
	baz=16						
IURH	**Urdarhals**	**0.21**	**54**	P	**Pg**	**08 03 56.3**	**-1.3**
	baz=41						
IURH				S	**Sg**	**08 03 59.4**	**-1.1**
	baz=41						
IGRF	**Grimsfjall**	**0.32**	**158**	P	**Pg**	**08 03 57.8**	**-1.7**
	baz=164						
ISKR	**Skrokkalda**	**0.39**	**249**	P	**Pb**	**08 03 59.9**	**-2.3**
	baz=255						
ISKR				S	**Sb**	**08 04 06.5**	**-1.8**
	baz=255						
IVOT	**Vottur**	**0.46**	**160**	P	**Pg**	**08 04 00.1**	**-2.0**
	baz=164						
IJOK	**Jokulheimar**	**0.49**	**218**	P	**Pb**	**08 04 01.3**	**-2.6**
	baz=224						
ISVA	**Svartarkot**	**0.65**	**11**	P	**Pb**	**08 04 04.2**	**-2.4**
	baz=6.8						
ISVA				S	**Sb**	**08 04 13.1**	**-2.6**
	baz=6.8						
IIEY	**Innrieyrar**	**0.66**	**203**	P	**Pg**	**08 04 03.8**	**-2.0**
	baz=207						
IIEY				S	**Sg**	**08 04 13.1**	**-1.4**
	baz=207						
IKSK	**Karasker**	**0.71**	**139**	P	**Pg**	**08 04 03.3**	**-3.6**
	baz=140						
IKSK				S	**Sg**	**08 04 13.5**	**-2.6**
	baz=140						
IKAL	**Kalfafell**	**0.76**	**185**	P	**Pg**	**08 04 05.2**	**-2.5**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.78**	**81**	S	**Sg**	**08 04 15.7**	**-2.8**
	baz=79						
IVSH				P	**Pg**	**08 04 05.3**	**-3.0**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**230**	P	**Pb**	**08 04 06.6**	**-2.3**
	baz=233						
IHVE	**Hveravellir**	**0.89**	**282**	P	**Pb**	**08 04 08.3**	**-2.3**
	baz=283						
IHVE				S	**Sn**	**08 04 21.3**	**-3.3**
	baz=283						
IADA	**Aoalbol**	**0.90**	**68**	P	**Pg**	**08 04 07.1**	**-3.3**
	baz=66						
IMEL	**Melhnausar**	**0.95**	**23**	P	**Pg**	**08 04 08.8**	**-2.6**
	baz=20						
IMEL				S	**Sg**	**08 04 21.2**	**-2.6**
	baz=20						
IREN	**Reynihlio**	**0.99**	**15**	P	**Pg**	**08 04 09.7**	**-2.4**
	baz=13						
IREN				S	**Sg**	**08 04 22.7**	**-2.2**
	baz=13						
IKVO	**Krokottuvotn**	**1.05**	**15**	P	**Pg**	**08 04 10.8**	**-2.6**
	baz=12						
ISNB	**Snabyli**	**1.08**	**207**	P	**Pg**	**08 04 11.0**	**-2.9**
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**32**	P	**Pb**	**08 04 11.7**	**-2.8**
	baz=29						
ISLY	**Slysaalda**	**1.12**	**219**	P	**Pb**	**08 04 11.8**	**-2.7**
	baz=221						
IFED	**Fedgar**	**1.16**	**235**	P	**Pg**	**08 04 13.1**	**-2.2**
	baz=237						
ISKI	**Skildingahlsh**	**1.19**	**10**	P	**Pb**	**08 04 13.0**	**-2.8**
	baz=8.1						
IRJU	**Rjupnafell**	**1.20**	**205**	P	**Pb**	**08 04 13.1**	**-2.8**
	baz=208						
IGHA	**Grjothals**	**1.21**	**17**	P	**Pb**	**08 04 13.3**	**-2.8**
	baz=15						
IMJO	**Mjoaskard**	**1.21**	**231**	P	**Pb**	**08 04 13.8**	**-2.3**
	baz=234						
IGRA	**Granastaoir**	**1.22**	**359**	P	**Pn**	**08 04 13.6**	**-2.6**
	baz=358						
IGYG	**Gygjarholskot**	**1.23**	**251**	P	**Pn**	**08 04 14.0**	**-2.4**
	baz=253						
IHAU	**Haukadalur**	**1.29**	**236**	P	**Pn**	**08 04 14.8**	**-2.3**
	baz=238						
IDIM	**Dimmadalss**	**1.29**	**11**	P	**Pn**	**08 04 14.6**	**-2.6**
	baz=9.2						
IHLA	**Hella**	**1.30**	**344**	P	**Pn**	**08 04 15.1**	**-2.2**
	baz=343						
IHVO	**Lagu-Hvolar**	**1.31**	**207**	P	**Pn**	**08 04 14.6**	**-2.8**
	baz=209						
IHED	**Heoinshofoi**	**1.39**	**4**	P	**Pn**	**08 04 16.2**	**-2.4**
	baz=2.2						
IBRE	**Brettingsstaoi**	**1.44**	**354**	P	**Pn**	**08 04 17.2**	**-2.0**
	baz=353						
ISAU	**Saurbar**	**1.44**	**242**	P	**Pn**	**08 04 17.0**	**-2.3**
	baz=243						
IESK	**Eystri-Skogar**	**1.45**	**216**	P	**Pn**	**08 04 17.1**	**-2.3**
	baz=218						
IMID	**Miomork**	**1.47**	**226**	P	**Pn**	**08 04 17.8**	**-1.8**
	baz=228						
IGIL	**Gilhagi**	**1.47**	**19**	P	**Pn**	**08 04 17.1**	**-2.5**
	baz=18						
ISIG	**Siglufjorour**	**1.55**	**339**	P	**Pn**	**08 04 18.9**	**-1.8**
	baz=338						
IASM	**Asmuli**	**1.60**	**238**	P	**Pn**	**08 04 19.8**	**-1.7**
	baz=240						
BORG	**Borgarnes**	**1.63**	**273**	Pn	**Pb**	**08 04 20.4**	**-2.8**
	32nm,0.3s,baz=91,slow=9.1,SNR=50						
BORG					Sn	**Sg**	**08 04 44.6**	**-0.7**
	21nm,0.3s,baz=61,slow=22,SNR=11						
BORG	**Borgarnes**	**1.63**	**273**		**Pb**	**08 04 20.5**	**-2.7**
BORG					Sn	**Sg**	**08 04 42.4**	**-2.9**
ISOL	**Solvholt**	**1.67**	**244**	P	**Pn**	**08 04 20.7**	**-1.7**
	baz=246						
IHEI	**Heioarbar**	**1.68**	**254**	P	**Pb**	**08 04 21.4**	**-2.7**
	baz=256						
ILEI	**Leirhofn**	**1.77**	**14**	P	**Pn**	**08 04 21.8**	**-2.0**
	baz=12						
IHRN	**Hraun**	**1.78**	**324**	P	**Pn**	**08 04 22.5**	**-1.4**
	baz=323						
IBJA	**Bjarnastaoir**	**1.81**	**247**	P	**Pb**	**08 04 23.5**	**-2.7**
	baz=248						
ISAN	**Sandskeio**	**1.87**	**252**	P	**Pb**	**08 04 24.5**	**-2.8**
	baz=253						
SUMG	**Summit**	**10.90**	**325**	Pn	Pn	08 06 32.0	+2.7
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**08 06 41.7**	**+0.5**
	baz=319,slow=14,SNR=8.5						
ESK	**Eskdalemuir**	**11.80**	**136**	Pn	**Pn**	**08 06 43.6**	**+2.4**
NOA	**NORSAR Array B**	**13.55**	**92**	LR	LR	08 12 57.4	
	comp=Z,16nm,19.0s,baz=225,slow=40						
HFS	**Hagfors**	**15.07**	**93**	LR	LR	08 13 22.0	
	comp=Z,20nm,18.3s,baz=252,slow=38						
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**08 08 26.4**	**+2.6**
	baz=305,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**08 08 26.7**	**+2.9**
CLL	**Collm**	**20.73**	**116**	*i* P	Pn	08 08 34.8	-1.1
	comp=Z,8.0nm,1.0s						
CLL				*i*		08 08 41.9	
	comp=Z,41nm,2.1s						
ECH	**Echery**	**21.19**	**129**	P	**P**	**08 08 37.8**	**-0.7**
ECH				IAmb	IAmb	08 08 46.7	
	comp=Z,9.8nm,0.8s						
BRG	**Berggiesshubel**	**21.44**	**115**	*e*P	**P**	**08 08 41.9**	**+0.7**
	comp=Z,17nm,1.2s						
BFO	**Black Forest**	**21.48**	**127**	P	**P**	**08 08 43.0**	**+1.3**
GERES	**GERESS Array B**	**22.99**	**119**	P	**P**	**08 08 59.0**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=325,slow=8.1,SNR=5.9						
DAVOX	**Davos/Dischmat**	**23.35**	**127**	LR	LR	08 18 33.6	
	comp=Z,41nm,18.4s,baz=84,slow=38						
EUNU	**Eureka**	**23.63**	**336**	P	**P**	**08 09 06.5**	**+2.6**
VRAC	**Vranov**	**23.72**	**114**	LR	LR	08 20 05.8	
	comp=Z,25nm,18.2s,baz=319,slow=41						
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**08 09 28.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=346,slow=9.6,SNR=5.5						
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**08 09 27.5**	**-1.0**
AKASG	**Malin Array Be**	**27.86**	**98**	P	**P**	**08 09 45.5**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=320,slow=9.6,SNR=4.9						
BRTR	**Keskin Array B**	**38.51**	**105**	P	**P**	**08 11 17.2**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=343,slow=6.4,SNR=3.6						
AKTO	**Aktyubinsk**	**40.29**	**73**	P	**P**	**08 11 31.1**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=315,slow=13,SNR=3.0						
ILAR	**Eielson Array**	**45.65**	**332**	P	**P**	**08 12 14.9**	**+1.8**
	comp=Z,1.6nm,1.1s,baz=5.6,slow=6.3,SNR=8.9						
ILAR	**Eielson Array**	**45.65**	**332**	P	**P**	**08 12 15.7**	**+2.6**
IMAR	**Indian Mountai**	**45.82**	**337**	P	**P**	**08 12 17.1**	**+2.5**
BCAR	**Beaver Creek A**	**46.07**	**328**	P	**P**	**08 12 18.6**	**+2.0**
WHY	**Whitehorse**	**46.48**	**323**	P	**P**	**08 12 21.6**	**+1.8**
EGMT	**Eagleton**	**48.84**	**297**	P	**P**	**08 12 39.0**	**+0.7**
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**08 13 08.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=335,slow=6.4,SNR=3.5						
BW06	**Boulder Array**	**53.15**	**293**	P	**P**	**08 13 11.6**	**+0.6**
BW06				IAmb	IAmb	08 13 17.1	
	comp=Z,5.6nm,1.3s						
PD31	**Pinedale Array**	**53.15**	**293**	P	**P**	**08 13 11.9**	**+0.9**
PD31				IAmb	IAmb	08 13 17.1	
	comp=Z,4.8nm,1.2s						
PDAR	**Pinedale Array**	**53.15**	**293**	P	**P**	**08 13 11.8**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=49,slow=6.2,SNR=10.0						
PDAR	**Pinedale Array**	**53.15**	**293**	P	**P**	**08 13 11.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**53.18**	**156**	P	**P**	**08 13 10.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=342,slow=7.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**53.18**	**156**	P	**P**	**08 13 10.9**	**-0.3**
PV13	**Radium Mtn., P**	**56.77**	**290**	P	**P**	**08 13 38.0**	**+0.7**
PV13				IAmb	IAmb	08 13 39.9	
	comp=Z,8.4nm,1.1s						
TXAR	**Lajitas Array**	**62.26**	**280**	P	**P**	**08 14 17.2**	**+2.1**
	comp=Z,0.6nm,0.9s,baz=111,slow=6.8,SNR=2.8						

*IDC **31** 08:12:59.2±0.6, 9°.52N×125°.62E, h0km, mb4.1/12, mb1 4.2/12, mb1mx3.9/44, mbtmp4.1/12, MS4.7/1, Ms1 4.7/1, ms1mx2.6/33, Error ellipse: s-maj=42.1km s-min=14.0km az=77.0*
*NEIC **31** 08:13:12.4±1.5, 9°.55N±0°.09×125°.7E±0°.2, h108km±7km, mb4.6/18, Error ellipse: s-maj=24.6km s-min=10.2km az=68.0*
*MAN **31** 08:13:13.2, 9°.55N×125°.91E, h107km, mb4.6, ML3.5, MS3.3*

ISC 31 08:13:13.5±0.7, **9°.52N**±0°.03×**125°.85E**±0°.06, **h119**km±6km, **n63,** σ**1§31/71, mb4.3/19, 5C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.38**	**46**	*e*P	**Pn**	**08 13 30.7**	**+0.1**
GLSP				*e*S	**Sn**	**08 13 41.6**	**-1.8**
MSLP	**Maasin**	**1.15**	**302**	*e*P	**Pn**	**08 13 37.0**	**+0.1**
MSLP				*e*S	**Sn**	**08 13 54.7**	**0.0**
CGP	**Cagayan de Oro**	**1.56**	**227**⇑	*e*P	**Pn**	**08 13 41.6**	**+0.1**
CGP				*i* S	**Sn**	**08 14 02.4**	**-0.4**
BUKP	**Musuan**	**1.81**	**206**	*e*P	**Pn**	**08 13 44.7**	**+0.1**
BUKP				*e*S	**Sn**	**08 14 09.3**	**+1.0**
OCLP	**Ormoc**	**1.95**	**321**	*e*P	**Pn**	**08 13 47.1**	**+0.8**
OCLP				*e*S	**Sn**	**08 14 13.2**	**+1.9**
TBP	**Tagbilaran**	**1.97**	**275**⇑	*e*P	**Pn**	**08 13 47.1**	**+0.6**
LLP	**Lapu-Lapu**	**2.02**	**293**⇑	*i*P	**Pn**	**08 13 47.9**	**+0.8**
LLP				*i* S	**Sn**	**08 14 13.5**	**+0.7**
BESP	**Borongan**	**2.10**	**349**	*e*P	**Pn**	**08 13 49.3**	**+1.1**
BESP				*e*S	**Sn**	**08 14 15.0**	**+0.2**
MATI	**Mati**	**2.59**	**171**	*e*P	**Pn**	**08 13 55.4**	**+1.0**
MATI				*e*S	**Sn**	**08 14 29.1**	**+3.2**
KCP	**Kidapawan**	**2.61**	**197**⇑	*i*P	**Pn**	**08 13 55.7**	**+1.1**
KCP				*i* S	**Sn**	**08 14 28.1**	**+1.7**
CNOP	**Candoni, Negro**	**3.18**	**276**	*e*P	**Pn**	**08 14 01.2**	**-0.9**
SKMP	**Bagumbayan, Su**	**3.25**	**204**	*e*P	**Pn**	**08 14 02.2**	**-0.9**
SKMP				*e*S	**Sn**	**08 14 43.9**	**+2.5**
GUIM	**Jordan**	**3.39**	**289**	*e*P	**Pn**	**08 14 04.9**	**0.0**
DDMP	**Don Marcelino,**	**3.40**	**182**	*e*P	**Pn**	**08 14 04.8**	**-0.2**
DDMP				*e*S	**Sn**	**08 14 38.1**	**-6.7**
PVCP	**Virac**	**4.38**	**338**	*e*P	**Pn**	**08 14 17.9**	**-0.2**
PVCP				*e*S	**Sn**	**08 15 07.0**	**-1.2**
LQP	**Lukban**	**6.21**	**318**⇑	*e*P	**Pn**	**08 14 44.7**	**+1.7**
TNTI	**Ternate**	**8.82**	**170**	Pn	**Pn**	**08 15 18.4**	**+0.3**
MTN	**Manton Dam**	**22.83**	**167**	P	**P**	**08 18 07.2**	**+0.6**
SLVN	**Son La**	**24.16**	**302**	P	**P**	**08 18 16.6**	**-2.3**
KNRA	**Kununurra**	**25.20**	**173**	P	**P**	**08 18 27.6**	**-0.6**
KNRA				IAmb	IAmb	08 19 16.4	
	comp=Z,23nm,1.6s						
FITZ	**Fitzroy Crossi**	**27.45**	**180**	P	**P**	**08 18 48.7**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=1.7,slow=14,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.45**	**180**	P	**P**	**08 18 48.6**	**+0.1**
FITZ				IAmb	IAmb	08 19 28.6	
	comp=Z,17nm,1.9s						
WRA	**Warramunga Arr**	**30.45**	**164**	P	**P**	**08 19 15.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=346,slow=9.4,SNR=13						
WRA				PcP	**PcP**	**08 22 12.1**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=334,slow=2.4,SNR=5.0						
WB2	**Warramunga Arr**	**30.45**	**164**	P	**P**	**08 19 14.8**	**-0.3**
WB2				IAmb	IAmb	08 19 27.0	
	comp=Z,15nm,1.8s						
WR0	**Warramunga Arr**	**30.52**	**164**	P	**P**	**08 19 15.4**	**-0.3**
WR0				IAmb	IAmb	08 19 18.8	
	comp=Z,19nm,2.0s						
JMM	**Marumori**	**31.27**	**23**	P	**P**	**08 19 21.3**	**-0.8**
JMM				IAmb	IAmb	08 19 56.3	
	comp=Z,28nm,1.2s						
PSA00	**Pilbara Seismi**	**31.46**	**191**	P	**P**	**08 19 23.8**	**-0.1**
PSA00				IAmb	IAmb	08 19 24.0	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**33.91**	**167**	P	**P**	**08 19 46.3**	**+1.0**
ASAR	**Alice Springs**	**33.91**	**167**	P	**P**	**08 19 45.2**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=346,slow=7.3,SNR=17						
ASAR				PcP	**PcP**	**08 22 21.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=343,slow=2.6,SNR=9.1						
ASAR	**Alice Springs**	**33.91**	**167**	P	**P**	**08 19 46.4**	**+1.0**
USA0B	**Ussuriysk Arra**	**34.96**	**8**	P	**P**	**08 19 53.4**	**-0.6**
USA0B				IAmb	IAmb	08 19 57.4	
	comp=Z,36nm,1.9s						
USRK	**Ussuriysk Ar.**	**34.96**	**8**	P	**P**	**08 19 54.9**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=168,slow=5.8,SNR=6.0						
USRK	**Ussuriysk Ar.**	**34.96**	**8**	P	**P**	**08 19 54.8**	**+0.7**
HNR	**Honiara**	**38.81**	**118**	LR	LR	08 36 10.5	
	comp=Z,1μm,20.8s,baz=320,slow=36						
KLR	**Kul'dur**	**39.89**	**6**	P	**P**	**08 20 36.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=168,slow=4.5,SNR=5.9						
FORT	**Forrest**	**40.13**	**177**	P	**P**	**08 20 38.5**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**40.53**	**73**	T	T	09 04 10.5	
	baz=262,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**40.55**	**73**	T	T	09 04 10.7	
	baz=262,slow=74,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**40.55**	**73**	T	T	09 04 08.9	
	baz=262,slow=74,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**40.88**	**71**	T	T	09 04 17.0	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**40.89**	**71**	T	T	09 04 16.0	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.90**	**71**	T	T	09 04 16.1	
	baz=265						
NWAO	**Narrogin (SRO)**	**43.00**	**191**	P	**P**	**08 20 59.8**	**-1.4**
BBOO	**Buckleboo**	**43.21**	**167**	P	**P**	**08 21 03.3**	**+0.4**
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**08 21 07.8**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=345,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**08 21 08.4**	**+0.5**
STKA				IAmb	IAmb	08 22 45.0	
	comp=Z,9.1nm,1.9s						
DZM	**Mont Dzumac**	**50.70**	**129**	P	**P**	**08 22 03.0**	**+1.5**
	comp=Z,2.5nm,0.4s,baz=280,slow=12,SNR=1.9						
DZM	**Mont Dzumac**	**50.70**	**129**	P	**P**	**08 22 02.8**	**+1.4**
DZM				IAmb	IAmb	08 22 11.6	
	comp=Z,25nm,1.4s						
MK31	**Makanchi Array**	**52.37**	**323**	P	**P**	**08 22 13.7**	**+0.2**
MKAR	**Makanchi Array**	**52.37**	**323**	P	**P**	**08 22 13.8**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=123,slow=8.1,SNR=14						
MKAR				PcP	**PcP**	**08 23 23.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=107,slow=4.1,SNR=5.9						
MKAR	**Makanchi Array**	**52.37**	**323**	P	**P**	**08 22 12.9**	**-0.6**
RPZ	**Rata Peaks**	**67.00**	**146**	P	**P**	**08 23 54.6**	**+0.9**
ABKAR	**Akbulak array**	**67.17**	**320**	P	**P**	**08 23 54.5**	**-0.2**
IMAR	**Indian Mountai**	**77.45**	**24**	P	**P**	**08 24 54.8**	**-0.7**
TOLK	**Toolik Lake Re**	**79.22**	**22**	P	**P**	**08 25 07.0**	**+1.8**
TOLK				IAmb	IAmb	08 26 59.6	
	comp=Z,26nm,1.9s						
ILAR	**Eielson Array**	**80.29**	**26**	P	**P**	**08 25 10.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=235,slow=4.7,SNR=8.7						
ILAR	**Eielson Array**	**80.29**	**26**	P	**P**	**08 25 11.4**	**+0.4**
ARCES	**ARCESS Array B**	**84.75**	**340**	P	**P**	**08 25 34.2**	**+0.2**
	comp=Z,6.5nm,1.1s,baz=73,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**86.35**	**332**	P	**P**	**08 25 41.0**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=90,slow=5.7,SNR=3.8						
FINES	**FINESS Array B**	**86.35**	**332**	P	**P**	**08 25 41.7**	**-0.4**
VNDA	**Vanda**	**89.25**	**173**	P	**P**	**08 25 55.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=322,slow=6.1,SNR=8.9						
TORD	**Torodi Ar. Bea**	**120.15**	**291**	PKP	**PKiKP**	**08 31 50.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=71,slow=2.3,SNR=4.0						
PLCA	**Paso Flores**	**145.68**	**158**	PKPbc	**PKiKP**	**08 32 40.2**	**-2.2**
	comp=Z,1.5nm,0.5s,baz=213,slow=2.1,SNR=8.2						

IDC 31 08:16:18.5±4.0, **16°.82S**×**177°.98W**, **h0**km, **mb4.3**/4, **mb1 4.5**/4, **mb1mx3.9**/27, **mbtmp4.3**/4, **Error ellipse: s-maj=171.6km s-min=35.0km az=138.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.51**	**240**	P	P	08 23 51.6	+0.5
	1.1nm,0.4s,baz=91,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**45.24**	**258**	P	P	08 24 37.5	-0.5
	1.8nm,0.5s,baz=94,slow=6.8,SNR=56						
ASAR	**Alice Springs**	**45.48**	**253**	P	P	08 24 39.5	-0.4
	15nm,0.5s,baz=88,slow=8.2,SNR=248						
ILAR	**Eielson Array**	**84.75**	**13**	P	P	08 28 54.2	+0.1
	1.1nm,1.1s,baz=219,slow=8.1,SNR=4.3						

*TEH **31** 08:17:57.7, 32°.53N×47°.92E, h10km, ML3.1*
*ISN **31** 08:17:58.3±1.0, 32°.59N×47°.91E, h14km±7km, ML3.0*

ISC 31 08:17:59.1±1.0, **32°.51N**±0°.05×**47°.90E**±0°.04, **h10**km, **n25,** σ**1§41/28, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.01**	**358**	*e*Pg	**Pg**	**08 18 17.2**	**-1.4**
IKMR	**Kamar-syah**	**1.08**	**22**	*e*Pg	**Pg**	**08 18 17.9**	**-2.0**
IKMR				*e*		08 18 38.4	
IDOB	**Doab**	**1.29**	**10**	*e*Pg	**Pb**	**08 18 22.3**	**-1.4**
AHWZ	**Ahwaz**	**1.34**	**151**	*e*Pg	**Pn**	**08 18 24.0**	**+0.2**
IKOM	**Komasi**	**1.69**	**349**	*e*Pg	**Pb**	**08 18 29.5**	**-0.9**
IKOM				*e*		08 18 38.4	
IBDR	**Badra**	**1.76**	**290**	*e*Pg	**Pn**	**08 18 30.0**	**+0.4**
IBDR				*e*Sg	**Sn**	**08 18 53.0**	**+0.9**
IBDR				AML	AML	08 19 00.3	
	comp=N,187nm,0.4s						
IBDR				AML	AML	08 19 08.8	
	comp=E,173nm,0.7s						
HSAM	**Samen**	**1.80**	**19**	*e*Pg	**Pb**	**08 18 30.3**	**-1.9

JTS	Las Juntas de	2.75	307	*e*P		Pn	08 46 13.5 +1.4
CUI	Cuipilapa	3.14	310	*e*P		Pn	08 46 20.2 +2.6
ORTG	Ortega, Santa	3.20	303	*e*P		Pn	08 46 19.7 +1.2

*IDC **31** 09:07:20.2±2.0,21°.41S×177°.87W,h351km±19km, mb3.9/22,mb1 4.0/23,mb1mx4.0/36,mbtmp4.6/23,Error ellipse: s-maj=13.2km s-min=10.5km az=133.0*

*NEIC **31** 09:07:23.4±2.7,21°.5S±0°.1×177°.74W±0°.10,h390km±5km, mb4.4/71,Error ellipse: s-maj=15.2km s-min=12.5km az=150.0*

ISC 31 09:07:24.5±0.3,**21°.52S**±0°.08×**177°.76W**±0°.07,**h400**km, **n185**,σ1§19/194,**mb4.3**/53,**13C-10D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.45**	**313**	Pn	**Pn**	**09 08 50.1**	**-1.4**
NIUE	**Niue**	**7.74**	**73**	P	**Pn**	**09 09 15.3**	**-1.4**
NIUE				S	**S**	**09 10 44.2**	**-4.2**
AFI	**Afiamalu**	**9.47**	**38**	P	P	09 09 30.4	-6.0
	2.3nm,0.3s,baz=208,slow=4.0,SNR=9.6						
AFI				S	S	09 11 10.0	-15
	8.2nm,0.3s,baz=254,slow=8.8,SNR=8.3						
AFI	**Afiamalu**	**9.47**	**38**		**P**	09 09 30.8	-5.7
DZM	**Mont Dzumac**	**14.68**	**265**	P	**P**	**09 10 34.3**	**+0.5**
	1.3nm,0.3s,baz=80,slow=16,SNR=11						
DZM	**Mont Dzumac**	**14.68**	**265**	P	**P**	**09 10 34.6**	**+0.9**
URZ	**Urewera**	**17.26**	**194**	P	**P**	**09 10 57.2**	**-3.9**
	1.6nm,0.3s,baz=267,slow=3.3,SNR=11						
URZ	**Urewera**	**17.26**	**194**	P	**P**	**09 10 59.1**	**-2.0**
BKZ	**Black Stump Fm**	**18.27**	**194**	P	**P**	**09 11 09.8**	**-2.1**
BKZ				IAmb	IAmb	09 11 12.0	
	comp=Z,29nm,1.3s						
BFZ	**Birch Farm**	**19.77**	**194**	P	**P**	**09 11 25.8**	**-1.0**
MSWZ	**Moikau Station**	**20.70**	**195**	P	**P**	**09 11 34.1**	**-1.1**
QRZ	**Quartz Range**	**20.94**	**201**	P	**P**	**09 11 34.7**	**-2.7**
TUWZ	**Tuamarina**	**21.05**	**198**	P	**P**	**09 11 37.5**	**-0.9**
LTZ	**Lake Taylor**	**22.79**	**199**	P	**P**	**09 11 53.7**	**-0.5**
OXZ	**Oxford**	**23.35**	**199**	P	**P**	**09 11 56.6**	**-2.6**
OXZ				IAmb	IAmb	09 11 57.0	
	comp=Z,20nm,1.0s						
RPZ	**Rata Peaks**	**24.01**	**200**	P	**P**	**09 12 04.3**	**-0.8**
	comp=Z,5.2nm,0.6s,baz=323,slow=5.1,SNR=1.8						
RPZ	**Rata Peaks**	**24.01**	**200**	P	**P**	**09 12 04.7**	**-0.5**
ARMA	**Armidale**	**28.84**	**246**	P	**P**	**09 12 48.9**	**+0.6**
CAN	**Canberra**	**32.14**	**237**	P	**P**	**09 13 16.4**	**-0.5**
CAN				IAmb	IAmb	09 13 17.5	
	comp=Z,18nm,0.8s						
CTA	**Charters Tower**	**33.62**	**266**	P	**P**	**09 13 28.9**	**-0.9**
	comp=Z,6.1nm,0.5s,baz=95,slow=10,SNR=22						
CTAO	**Charters Tower**	**33.62**	**266**	P	**P**	**09 13 28.6**	**-1.1**
TOO	**Toolangi**	**35.49**	**235**	P	**P**	**09 13 44.6**	**-0.8**
TOO				IAmb	IAmb	09 13 46.2	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**37.56**	**245**	P	**P**	**09 14 02.2**	**-0.4**
	comp=Z,15nm,0.8s,baz=95,slow=10.0,SNR=24						
STKA	**Stephens Creek**	**37.56**	**245**	P	**P**	**09 14 02.2**	**-0.4**
BBOO	**Buckleboo**	**42.30**	**245**	P	**P**	**09 14 40.0**	**-1.1**
BBOO				IAmb	IAmb	09 14 40.7	
	comp=Z,21nm,0.9s						
WR0	**Warramunga Arr**	**44.50**	**263**	P	**P**	**09 14 57.2**	**-1.4**
AS31	**Alice Springs**	**44.51**	**258**	P	**P**	**09 14 57.9**	**-0.8**
ASAR	**Alice Springs**	**44.51**	**258**	P	**P**	**09 14 57.8**	**-0.9**
	comp=Z,12nm,0.7s,baz=92,slow=8.1,SNR=84						
ASAR				PcP	**PcP**	**09 16 33.1**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=103,slow=3.5,SNR=4.4						
ASAR				ScP	**ScP**	**09 19 54.5**	**+7.2**
	comp=Z,0.3nm,0.7s,baz=104,slow=3.9,SNR=2.0						
JAY	**Jayapura**	**44.58**	**289**	P	**P**	**09 14 58.2**	**-1.1**
	comp=Z,9.4nm,0.8s,baz=105,slow=1.7,SNR=6.2						
WB0	**Warramunga Arr**	**44.67**	**263**	P	**P**	**09 14 58.7**	**-1.3**
WB2	**Warramunga Arr**	**44.68**	**263**	P	**P**	**09 14 58.4**	**-1.6**
WRA	**Warramunga Arr**	**44.69**	**263**	P	**P**	**09 14 58.2**	**-1.9**
	comp=Z,5.5nm,0.8s,baz=97,slow=7.5,SNR=33						
WRA	**Warramunga Arr**	**44.69**	**263**	P	**P**	**09 14 58.4**	**-1.7**
FORT	**Forrest**	**49.10**	**247**	P	**P**	**09 15 32.8**	**-0.8**
KNRA	**Kununurra**	**50.82**	**267**	P	**P**	**09 15 45.6**	**-0.9**
KNRA				IAmb	IAmb	09 15 46.2	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.12**	**263**	P	**P**	**09 16 02.6**	**-0.6**
	comp=Z,6.6nm,0.9s,baz=132,slow=6.1,SNR=8.5						
FITZ	**Fitzroy Crossi**	**53.12**	**263**	P	**P**	**09 16 02.7**	**-0.5**
VNDA	**Vanda**	**56.92**	**185**	P	**P**	**09 16 31.1**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=2.2,slow=7.2,SNR=20						
VNDA				PcP	**PcP**	**09 17 20.1**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=343,slow=3.5,SNR=5.2						
VNDA	**Vanda**	**56.92**	**185**	P	**P**	**09 16 31.1**	**+2.0**
PSA00	**Pilbara Seismi**	**57.66**	**257**	P	**P**	**09 16 34.3**	**-0.9**
NWAO	**Narrogin (SRO)**	**58.12**	**244**	P	**P**	**09 16 37.1**	**-1.1**
	comp=Z,6.5nm,0.7s,baz=119,slow=8.1,SNR=2.2						
NWAO	**Narrogin (SRO)**	**58.12**	**244**	P	**P**	**09 16 35.3**	**-2.9**
NWAO				IAmb	IAmb	09 17 02.2	
	comp=Z,25nm,1.2s						
MORW	**Morawa**	**59.65**	**248**	P	**P**	**09 16 47.7**	**-0.9**
MORW				IAmb	IAmb	09 16 48.5	
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**68.56**	**180**	P	**P**	**09 17 46.3**	**+1.0**
MJAR	**Matsushiro Arr**	**71.16**	**324**	P	**P**	**09 18 00.7**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=167,slow=6.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**71.16**	**324**	P	**P**	**09 18 01.4**	**+0.2**
MAT	**Matsushiro**	**71.16**	**324**	P	**P**	**09 18 01.3**	**+0.1**
LEM	**Lembang**	**73.25**	**269**	P	**P**	**09 18 13.9**	**-0.2**
	comp=Z,24nm,0.5s,baz=306,slow=19,SNR=2.1						
TPUB	**Ta-pu**	**74.71**	**303**	P	**P**	**09 18 21.1**	**-1.0**
SSLB	**Suanglung**	**74.72**	**304**	P	**P**	**09 18 21.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**77.31**	**345**	P	**P**	**09 18 37.0**	**+1.2**
PETK	**Petropavlovsk-**	**77.31**	**345**	P	**P**	**09 18 36.4**	**+0.6**
	comp=Z,12nm,0.8s,baz=134,slow=8.6,SNR=6.7						
PETK	**Petropavlovsk-**	**77.31**	**345**	P	**P**	**09 18 35.4**	**-0.5**
KSRS	**Korea Array**	**77.79**	**319**	P	**P**	**09 18 39.0**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=121,slow=6.4,SNR=5.5						
ISA	**Isabella, Lake**	**79.89**	**45**	P	**P**	**09 18 51.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**79.93**	**326**	P	**P**	**09 18 51.1**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=109,slow=6.6,SNR=4.2						
CMB	**Columbia Colle**	**80.06**	**42**	P	**P**	**09 18 52.7**	**+1.6**
AFDM	**Forest Hills D**	**80.25**	**41**	P	**P**	**09 18 49.8**	**-2.2**
ORV	**Oroville**	**80.30**	**41**	P	**P**	**09 18 52.4**	**+0.2**
ORV				IAmb	IAmb	09 18 54.5	
	comp=Z,3.7nm,0.8s						
MAW	**Mawson**	**80.69**	**200**	P	**P**	**09 18 54.5**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=130,slow=7.0,SNR=19						
MAW	**Mawson**	**80.69**	**200**	P	**P**	**09 18 54.3**	**+0.5**
WAKR	**Walker**	**80.94**	**43**	P	**P**	**09 18 57.5**	**+1.6**
WAKR				IAmb	IAmb	09 18 58.5	
	comp=Z,8.7nm,1.0s						
YBH	**Yreka Blue Hor**	**80.94**	**38**	P	**P**	**09 18 57.9**	**+2.2**
YBH				IAmb	IAmb	09 18 58.0	
	comp=Z,6.5nm,0.8s						
BEKR	**Beckworth**	**81.18**	**41**	P	**P**	**09 18 55.4**	**-1.7**
HUMO	**Hull Mountain**	**81.36**	**38**	P	**P**	**09 18 59.8**	**+2.1**
HUMO				IAmb	IAmb	09 19 00.2	
	comp=Z,4.4nm,0.8s						
113A	**Mohawk Valley,**	**81.52**	**50**	P	**P**	**09 18 59.6**	**+0.9**
NVAR	**Mina Array Bea**	**81.61**	**43**	P	**P**	**09 19 01.0**	**+1.6**
	comp=Z,4.2nm,0.9s,baz=223,slow=8.9,SNR=23						
NVAR	**Mina Array Bea**	**81.61**	**43**	P	**P**	**09 18 58.6**	**-0.8**
PAHR	**Pah Rah Range**	**81.69**	**42**	P	**P**	**09 18 59.5**	**-0.1**
PAHR				IAmb	IAmb	09 19 02.0	
	comp=Z,5.4nm,1.0s						
NV11	**Mina Array Sit**	**81.70**	**43**	P	**P**	**09 18 59.3**	**-0.6**
NV11				IAmb	IAmb	09 19 02.2	
	comp=Z,7.6nm,1.1s						
TPNV	**Topopah Spring**	**82.09**	**45**	P	**P**	**09 19 02.5**	**+0.6**
TPH	**Tonopah**	**82.10**	**44**	P	**P**	**09 19 02.1**	**+0.2**
KVN	**Kaiserville**	**82.10**	**43**	P	**P**	**09 19 02.6**	**+0.8**
KVN				IAmb	IAmb	09 19 04.0	
	comp=Z,5.4nm,0.9s						
H04A	**Detroit Lake**	**83.11**	**36**	P	**P**	**09 19 07.8**	**+1.1**
PRN	**Pahroc Range**	**83.14**	**45**	P	**P**	**09 19 08.3**	**+1.1**
PRN				IAmb	IAmb	09 19 09.9	
	comp=Z,6.6nm,0.9s						
PINE	**Pine Mountain**	**83.25**	**38**	P	**P**	**09 19 07.8**	**+0.2**
TUC	**Tucson**	**83.43**	**52**	P	**P**	**09 19 09.3**	**+0.7**
TUC				IAmb	IAmb	09 19 12.0	
	comp=Z,5.3nm,1.1s						
IPM	**Ipoh**	**83.48**	**277**	P	**P**	**09 19 10.0**	**+0.7**
KLR	**Kul'dur**	**83.51**	**329**	P	**P**	**09 19 10.1**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=96,slow=4.4,SNR=3.8						
G08A	**Pilot Rock**	**85.28**	**37**	P	**P**	**09 19 19.1**	**+1.5**
G08A				IAmb	IAmb	09 19 19.8	
	comp=Z,7.2nm,1.1s						
HAWA	**Hanford**	**85.63**	**36**	P	**P**	**09 19 19.3**	**+0.2**
BMO	**Blue Mountains**	**85.97**	**38**	P	**P**	**09 19 21.6**	**+0.7**
D08A	**Wollman Farm,**	**86.37**	**36**	P	**P**	**09 19 23.4**	**+0.8**
D08A				IAmb	IAmb	09 19 24.8	
	comp=Z,5.7nm,0.9s						
E09A	**Wood Farm, Sta**	**86.47**	**37**	P	**P**	**09 19 23.4**	**+0.2**
E09A				IAmb	IAmb	09 19 24.6	
	comp=Z,8.2nm,1.2s						
F10A	**Beach Ranch, E**	**86.67**	**37**	P	**P**	**09 19 24.9**	**+0.6**
TMUT	**Trail Mountain**	**86.70**	**45**	P	**P**	**09 19 26.4**	**+1.6**
B08A	**Colville Reser**	**86.94**	**35**	P	**P**	**09 19 26.1**	**+0.7**
B08A				IAmb	IAmb	09 19 26.8	
	comp=Z,5.1nm,0.8s						
SNAA	**Sanae**	**86.99**	**178**	P	**P**	**09 19 24.7**	**-0.7**
SRU	**San Rafael Swe**	**87.07**	**46**	P	**P**	**09 19 27.5**	**+1.1**
VNA3	**Neumayer Olymp**	**87.12**	**176**	P	**P**	**09 19 25.9**	**0.0**
MNTX	**Cornudas Mount**	**87.16**	**54**	P	**P**	**09 19 28.9**	**+2.1**
MNTX				IAmb	IAmb	09 19 29.5	
	comp=Z,7.6nm,1.1s						
TX32	**Lajitas Array**	**87.42**	**57**	P	**P**	**09 19 29.1**	**+0.9**
TX32				IAmb	IAmb	09 19 31.0	
	comp=Z,3.3nm,0.9s						
TXAR	**Lajitas Array**	**87.42**	**57**	P	**P**	**09 19 30.2**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=217,slow=6.8,SNR=16						
TXAR	**Lajitas Array**	**87.42**	**57**	P	**P**	**09 19 29.6**	**+1.5**
VNA2	**Neumayer--Watz**	**87.56**	**177**	P	**P**	**09 19 28.4**	**+0.4**
VNA1	**Neumayer--Stat**	**87.79**	**177**	P	**P**	**09 19 29.0**	**0.0**
PLCA	**Paso Flores**	**88.42**	**133**	P	**P**	**09 19 34.2**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=230,slow=7.9,SNR=2.2						
PLCA	**Paso Flores**	**88.42**	**133**	P	**P**	**09 19 33.8**	**+1.1**
PLCA				IAmb	IAmb	09 19 49.2	
	comp=Z,8.7nm,1.4s						
MCMT	**McKenzie Canyo**	**88.58**	**40**	P	**P**	**09 19 34.3**	**+0.8**
WRH	**Wood River Hil**	**88.74**	**12**	P	**P**	**09 19 32.9**	**-0.4**
WRH				IAmb	IAmb	09 19 33.2	
	comp=Z,4.5nm,0.8s						
CCB	**Clear Creek Bu**	**88.95**	**12**	P	**P**	**09 19 33.6**	**-0.7**
CCB				IAmb	IAmb	09 19 35.7	
	comp=Z,5.0nm,0.6s						
DLMT	**Dillon**	**89.02**	**40**	P	**P**	**09 19 34.8**	**-0.5**
DLMT				IAmb	IAmb	09 19 37.6	
	comp=Z,3.5nm,0.9s						
REDW	**Red Top Meadow**	**89.03**	**42**	P	**P**	**09 19 36.8**	**+1.2**
REDW				IAmb	IAmb	09 19 37.8	
	comp=Z,9.3nm,1.2s						
I23K	**Minto, Yukon-K**	**89.10**	**12**	P	**P**	**09 19 34.9**	**-0.1**
I23K				IAmb	IAmb	09 19 35.1	
	comp=Z,6.7nm,1.4s						
MDM	**Murphy Dome**	**89.15**	**12**	P	**P**	**09 19 34.8**	**-0.6**
MDM				IAmb	IAmb	09 19 37.0	
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**89.25**	**13**	P	**P**	**09 19 35.1**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=214,slow=5.4,SNR=12						
QLMT	**Earthquake Lak**	**89.44**	**41**	P	**P**	**09 19 37.3**	**-0.1**
PDAR	**Pinedale Array**	**89.55**	**43**	P	**P**	**09 19 38.8**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=212,slow=3.2,SNR=17						
YHL	**Hebgen Lake**	**89.60**	**41**	P	**P**	**09 19 40.4**	**+2.1**
BOZ	**Bozeman (W)**	**89.72**	**40**	P	**P**	**09 19 39.3**	**+0.7**
BOZ				IAmb	IAmb	09 19 40.9	
	comp=Z,5.4nm,0.9s						
YHH	**Holmes Hill**	**89.77**	**41**	P	**P**	**09 19 40.2**	**+1.2**
HHC	**Hu-ho-hao-te**	**90.22**	**314**	*e*P	**P**	**09 19 40.5**	**-0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,54nm,6.6s						
EGAK	**Eagle**	**90.53**	**15**	P	**P**	**09 19 42.3**	**+0.7**
EGAK				IAmb	IAmb	09 19 51.5	
	comp=Z,7.6nm,1.4s						
CMAR	**Chiang Mai Arr**	**90.66**	**289**	P	**P**	**09 19 45.1**	**+1.7**
	comp=Z,1.6nm,0.3s,baz=136,slow=2.8,SNR=2.2						
LZH	**Lanzhou**	**93.56**	**307**	*e*P	**P**	**09 19 57.3**	**+0.7**
LZH				pP	pP	09 21 24.5	-4.1
LZH				sP	sP	09 22 03.5	-6.2
LZH				PP	PP	09 22 45.3	-63
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,82nm,4.9s						
MKAR	**Makanchi Array**	**112.05**	**313**	PKiKP	**PKiKP**	**09 25 12.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=89,slow=1.5,SNR=7.5						
MKAR	**Makanchi Array**	**112.05**	**313**		**PKiKP**	**09 25 13.4**	**+0.4**
KURK	**Kurchatov**	**114.89**	**317**		**PKiKP**	**09 25 18.3**	**+0.1**
KURBB	**Kurchatov Arra**	**114.94**	**317**	PKP	PKPdf	09 25 17.0	-1.3
	comp=Z,1.3nm,0.6s,baz=100,slow=1.9,SNR=12						
BVAR	**Borovoye Array**	**120.00**	**320**	PKP	**PKiKP**	**09 25 29.0**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=52,slow=12,SNR=14						
KKAR	**Karatay Array**	**120.05**	**308**	PKPdf	**PKPdf**	**09 25 27.5**	**-0.9**
ARU	**Arti**	**126.16**	**325**	PKP	**PKPdf**	**09 25 39.4**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=85,slow=3.0,SNR=7.4						
ARU	**Arti**	**126.16**	**325**		**PKPdf**	**09 25 39.5**	**-0.2**
AKTO	**Aktyubinsk**	**127.37**	**318**	PKP	**PKiKP**	**09 25 44.9**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=123,slow=0.9,SNR=5.6						
ARCES	**ARCESS Array B**	**129.96**	**350**	PKP	**PKPdf**	**09 25 46.8**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=349,slow=1.2,SNR=7.7						
FINES	**FINESS Array B**	**136.81**	**344**	PKP	**PKPdf**	**09 26 00.4**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=43,slow=3.6,SNR=6.1						
FINES	**FINESS Array B**	**136.81**	**344**		**PKPdf**	**09 26 00.1**	**+0.4**
NOA	**NORSAR Array B**	**140.01**	**353**	PKP	**PKPdf**	**09 26 06.9**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=14,slow=3.6,SNR=3.4						
AKASG	**Malin Array Be**	**144.01**	**331**	PKP	PKPab	09 26 10.8	-1.1
	comp=Z,1.1nm,0.5s,baz=43,slow=4.4,SNR=43						
AKBB	**Malin Array Si**	**144.01**	**331**		PKPab	09 26 10.8	-1.0
MBAR	**Mbarara**	**144.53**	**235**		PKPbc	09 26 11.6	-3.3
EKA	**Eskdalemuir Ar**	**145.99**	**6**	PKPbc	**PKPbc**	**09 26 17.3**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=0.0,slow=3.3,SNR=6.9						
SORM	**Soroca**	**146.18**	**328**	⇑P	**PKPdf**	**09 26 17.4**	**+0.6**
GKP	**Gorka Klasztor**	**146.28**	**344**	*e*PKP	**PKPdf**	**09 26 17.6**	**+0.8**
ASF	**Jabal al Asfar**	**147.43**	**296**	PKPbc	**PKPbc**	**09 26 22.8**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=205,slow=1.3,SNR=3.7						
BR131	**Keskin Array S**	**147.68**	**311**		**PKPbc**	**09 26 22.0**	**-1.2**
BRTR	**Keskin Array B**	**147.68**	**311**	PKPbc	**PKPbc**	**09 26 22.5**	**-0.6**
	comp=Z,5.7nm,0.6s,baz=34,slow=4.0,SNR=25						
BRTR	**Keskin Array B**	**147.68**	**311**		**PKPbc**	**09 26 22.1**	**-1.0**
TLCR		**147.86**	**324**	⇓P	**PKPbc**	**09 26 23.1**	**0.0**
BUR08	**Bucovina Ar. S**	**148.04**	**330**		**PKiKP**	**09 26 24.6**	**-0.7**
BURAR	**Bucovina Array**	**148.05**	**330**	⇑P	**PKiKP**	**09 26 24.7**	**-0.5**
BIZ	**Bicaz**	**148.11**	**328**	⇑P	**PKPbc**	**09 26 24.4**	**+0.5**
CFR	**Carcaliu**	**148.24**	**324**	⇑P	**PKPbc**	**09 26 22.9**	**-1.2**
TPGR	**Topolog**	**148.28**	**323**	⇑P	**PKPbc**	**09 26 23.1**	**-1.2**
MMAI	**Mount Meron Ar**	**148.50**	**298**	PKPbc	**PKiKP**	**09 26 25.9**	**-0.7**
	comp=Z,6.7nm,0.5s,baz=31,slow=1.9,SNR=10						
VRI	**Vrincioaia**	**148.53**	**326**	⇓P	**PKPbc**	**09 26 24.7**	**-0.3**
NIE	**Niedzica**	**148.68**	**337**	*e*PKP	**PKPbc**	**09 26 25.8**	**+0.6**
KSP	**Ksiaz**	**148.72**	**343**	*e*PKP	**PKPbc**	**09 26 25.3**	**+0.1**
OSTC	**Ostas**	**149.00**	**343**	⇑*e*PKP	**PKPbc**	**09 26 26.3**	**+0.4**
CLL	**Collm**	**149.10**	**347**	⇓*i*PKPbc	**PKPbc**	**09 26 25.9**	**-0.2**
CLL				*i* PKPbc(2)		09 26 28.1	
	comp=Z,13nm,0.8s						
CLL				*e*PKPab	**PKPab**	**09 26 31.0**	**-0.8**
CLL				⇓*i*PKPab(2)		09 26 32.8	
	comp=Z,11nm,0.7s						
CLL				*e*PKPab	**pPKPbc**	**09 28 03.0**	**+0.5**
CLL	**Collm**	**149.10**	**347**		**PKPbc**	**09 26 25.7**	**-0.4**
CLL				PKPab	**PKPab**	**09 26 32.2**	**+0.4**
DOPR	**Dopca**	**149.15**	**328**	⇑P	**PKiKP**	**09 26 27.1**	**-0.4**
DPC	**Dobruska-Polom**	**149.16**	**342**	⇑*e*PKP	**PKPbc**	**09 26 26.6**	**+0.2**
MLR	**Muntele Rosu**	**149.19**	**326**	PKPbc	**PKPbc**	**09 26 26.9**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=308,slow=11,SNR=6.8						
MLR	**Muntele Rosu**	**149.19**	**326**	⇓P	**PKPbc**	**09 26 25.6**	**-1.1**
MLR	**Muntele Rosu**	**149.19**	**326**		**PKPbc**	**09 26 26.6**	**-0.1**
KRLC	**Kraliky**	**149.27**	**342**	⇑*e*PKP	**PKPbc**	**09 26 26.4**	**-0.2**
BRG	**Berggiesshubel**	**149.29**	**345**	*e*PKP	**PKPdf**	**09 26 22.1**	**+0.3**
	comp=Z,3.3nm,1.0s						
BRG				*i*		09 26 28.5	
	comp=Z,6.8nm,0.9s						
BRG				*i*		09 26 33.5	
	comp=Z,6.9nm,0.7s						
MORC	**Moravsky Berou**	**149.30**	**340**	*e*PKP	**PKiKP**	**09 26 27.6**	**-0.1**
EIL	**Elat**	**149.48**	**292**	PKPbc	**PKPbc**	**09 26 27.8**	**0.0**
	comp=Z,4.1nm,0.7s,baz=40,slow=2.9,SNR=6.7						
ARR	**Arges**	**149.94**	**328**	⇓P	**PKiKP**	**09 26 29.6**	**+0.4**
PRU	**Pruhonice**	**149.97**	**344**	⇑*e*PKP	**PKPbc**	**09 26 28.0**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**09 26 37.1**	**+1.6**
VRAC	**Vranov**	**150.01**	**341**	*e*PKP	**PKPbc**	**09 26 28.5**	**+0.1**
JAVC	**Velka Javorina**	**150.06**	**339**	*e*PKP	**PKiKP**	**09 26 29.5**	**+0.2**
KRUC	**Moravsky**	**150.29**	**341**	*e*PKP	**PKPbc**	**09 26 28.8**	**-0.2**
PBCC	**Pribram**	**150.38**	**344**	⇑*e*PKP	**PKPab**	**09 26 38.1**	**+0.8**
SIRR	**Siria**	**150.67**	**332**	⇓P	**PKPbc**	**09 26 30.1**	**0.0**
GZR	**Gura Zlata**	**150.83**	**330**	⇑P	**PKPbc**	**09 26 30.2**	**-0.3**
KHC	**Kasperske Hory**	**151.00**	**345**	⇑*e*PKP	**PKPbc**	**09 26 30.6**	**-0.1**
KHC				*e*PKPAB	**PKPab**	**09 26 41.5**	**+1.6**
BZS	**Buzias**	**151.19**	**331**	⇓P	**PKPbc**	**09 26 30.5**	**-0.7**
GERES	**GERESS Array B**	**151.24**	**344**	PKPbc	**PKPbc**	**09 26 31.3**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=48,slow=2.0,SNR=15						
GERES				PKPab	**PKPab**	**09 26 40.4**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=47,slow=5.9,SNR=5.5						
GERES	**GERESS Array B**	**151.24**	**344**		**PKPbc**	**09 26 30.2**	**-1.1**
GERES					**PKPab**	**09 26 39.9**	**-1.0**
HERR	**Herculane**	**151.38**	**329**	⇓P	**PKPbc**	**09 26 31.0**	**-0.7**
CONA	**Conrad Observa**	**151.46**	**341**	*e*P	**PKPbc**	**09 26 32.1**	**+0.2**
	comp=Z,9.0nm,1.2s						
MDVR	**Moldovita**	**151.78**	**330**	⇓P	**PKPbc**	**09 26 31.9**	**-0.8**
MOA	**Molln**	**152.00**	**343**	*e*P	**PKPbc**	**09 26 33.1**	**+0.1**
	comp=Z,2.6nm,0.7s						
KBA	**Koelnbreinsper**	**152.96**	**343**	*e*P	**PKPbc**	**09 26 35.2**	**-0.1**
	comp=Z,3.5nm,0.6s						
RETA	**Reutte**	**153.19**	**347**	*e*P	**PKPab**	**09 26 48.5**	**-0.7**
	comp=Z,4.8nm,0.7s						
WTTA	**Wattenberg**	**153.21**	**346**	*e*P	**PKPbc**	**09 26 35.7**	**-0.2**
	comp=Z,5.2nm,0.7s						
WTTA				*e*P	**PKPab**	**09 26 50.1**	**+0.7**
	comp=Z,3.8nm,0.7s						
ABTA	**Abfaltersbach**	**153.48**	**344**	*e*P	**PKPbc**	**09 26 35.9**	**-0.5**
	comp=Z,9.9nm,1.1s						
DAVOX	**Davos/Dischmat**	**154.04**	**348**	PKPbc	**PKPbc**	**09 26 37.7**	**0.0**
	comp=Z,3.1nm,0.5s,baz=34,slow=2.6,SNR=4.3						
DAVOX				PKPab	**PKPab**	**09 26 54.1**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=343,slow=12,SNR=3.6						
KOWA	**Kowa**	**170.83**	**139**	PKPab	**PKPab**	**09 28 07.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=210,slow=5.5,SNR=5.2						
KOWA	**Kowa**	**170.83**	**139**		**PKPab**	**09 28 06.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**171.66**	**176**	PKP	**PKPdf**	**09 26 45.9**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=160,slow=1.2,SNR=7.1						
TORD				PKPab	**PKPab**	**09 28 11.0**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=171,slow=4.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**171.66**	**176**	PKPdf	**PKPdf**	**09 26 45.5**	**-1.2**
TORD				PKPab	**PKPab**	**09 28 10.9**	**+0.3**

IDC 31 09:17:40.6±462.0,**53°.15N**×**10°.31E**,**h0**km,**Error ellipse: s-maj=147

ASAR				S	**S**	**09 28 34.7**	**+1.3**	
	comp=Z,3.7nm,0.9s,baz=14,slow=27,SNR=4.3							
ASAR				LR	LR	09 33 41.3		
	comp=Z,3μm,18.1s,baz=7.0,slow=39							
ASAR	**Alice Springs**	**21.34**	**193**	P	**P**	**09 24 37.8**	**-0.3**	
MYLDM	**Lahad Datu**	**21.95**	**291**	P	**P**	**09 24 42.5**	**-2.2**	
BBKI	**Banjar Baru**	**24.12**	**268**	P	**P**	**09 25 10.6**	**+3.8**	
	comp=Z,4μmcomp=Z,78nm,1.6s							
TGY	**Tagaytay City**	**24.53**	**314**	P	**P**	**09 25 10.4**	**-0.2**	
	comp=Z,143nm,0.3s,baz=191,slow=3.3,SNR=5.3							
EIDS	**Eidsvold**	**25.29**	**154**	P	**P**	**09 25 20.0**	**+2.7**	
EIDS				IAmb	IAmb	09 25 39.1		
	comp=Z,21nm,1.1s							
JAGI	**Jajag, Banyuwa**	**25.35**	**256**	P	**P**	**09 25 17.1**	**-0.8**	
JAGI				IAmb	IAmb	09 25 29.9		
	comp=Z,22nm,0.7s							
PSA00	**Pilbara Seismi**	**26.37**	**223**	P	**P**	**09 25 26.5**	**-0.6**	
PSA00				IAmb	IAmb	09 25 46.3		
	comp=Z,26nm,1.1s							
STKA	**Stephens Creek**	**29.04**	**175**	P	**P**	**09 25 52.0**	**+1.1**	
	comp=Z,2.2nm,0.7s,baz=345,slow=8.9,SNR=3.5							
STKA				LR	LR	09 38 48.2		
	comp=Z,2μm,18.6s,baz=350,slow=39							
STKA	**Stephens Creek**	**29.04**	**175**	P	**P**	**09 25 51.3**	**+0.5**	
BBOO	**Buckleboo**	**30.00**	**185**	P	**P**	**09 25 58.6**	**-0.8**	
BBOO				IAmb	IAmb	09 26 24.9		
	comp=Z,36nm,1.5s							
DZM	**Mont Dzumac**	**32.84**	**128**	*e*S	**S**	**09 31 37.2**	**-2.7**	
	comp=Z,268nm,29.6s							
DZM				*e*LR	LR	09 35 07.8		
	comp=Z,973nm,26.1s							
CAN	**Canberra**	**33.68**	**165**	P	**P**	**09 26 32.4**	**+0.7**	
MORW	**Morawa**	**34.06**	**218**	P	**P**	**09 26 34.2**	**-0.9**	
H11S3	**WAKE ISLAND Hy**	**34.51**	**51**	T	T	10 02 36.2		
	baz=236,slow=76,SNR=8.2							
H11S2	**WAKE ISLAND Hy**	**34.52**	**51**	T	T	10 02 42.7		
	baz=236,slow=76,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**34.52**	**51**	T	T	10 02 38.9		
	baz=236,slow=76,SNR=5.7							
MDSI	**Maura Dua**	**34.78**	**266**	P	**P**	**09 26 42.8**	**+1.3**	
	comp=Z,144nm,1.0s							
QIZ	**Qiongzhong**	**35.94**	**308**	P	**P**	**09 26 51.5**	**+0.1**	
QIZ				S	**S**	**09 32 26.5**	**-1.2**	
QIZ				pmax	pmax			
	comp=Z,15nm,1.7s							
QIZ				LR	LR			
	comp=Z,310nm,19.6s							
QIZ				LR	LR			
	comp=Z,330nm,16.7s							
QIZ				LR	LR			
	comp=Z,300nm,19.4s							
JNU	**Nakatsue**	**36.53**	**349**	P	**P**	**09 26 55.6**	**-0.6**	
	comp=Z,12nm,0.9s,baz=154,slow=8.4,SNR=4.2							
JNU	**Nakatsue**	**36.53**	**349**	P	**P**	**09 26 55.7**	**-0.5**	
JWT	**Wachi**	**38.02**	**355**	P	**P**	**09 27 08.7**	**-0.1**	
JWT				IAmb	IAmb	09 27 37.9		
	comp=Z,21nm,1.2s							
MJAR	**Matsushiro Arr**	**39.13**	**359**	LR	LR	09 41 15.0		
	comp=Z,250nm,21.0s,baz=175,slow=33							
NJ2	**Nanjing**	**39.57**	**333**	*e*P	**P**	**09 27 22.5**	**+0.7**	
NJ2				pmax	pmax			
	comp=Z,15nm,0.6s							
NJ2				LR	LR			
	comp=Z,370nm,18.5s							
NJ2				LR	LR			
	comp=Z,350nm,17.1s							
NJ2				LR	LR			
	comp=Z,950nm,22.7s							
RPSI	**Rantau Prapat**	**40.42**	**277**	P	**P**	**09 27 28.7**	**-0.5**	
RPSI				IAmb	IAmb	09 27 57.6		
	comp=Z,23nm,1.3s							
RPSI	**Rantau Prapat**	**40.42**	**277**	P	**P**	**09 27 29.2**	**0.0**	
PSI	**Prapat**	**40.43**	**278**	P	**P**	**09 27 29.2**	**-0.3**	
	comp=Z,5.4nm,0.8s,baz=181,slow=10,SNR=6.7							
JSD	**Sado**	**40.62**	**359**	P	**P**	**09 27 29.1**	**-1.4**	
JSD				IAmb	IAmb	09 27 46.8		
	comp=Z,12nm,1.0s							
KSAR	**Wonju Array Be**	**41.33**	**347**	P	**P**	**09 27 35.1**	**-1.2**	
KSRS	**Korea Array**	**41.33**	**347**	P	**P**	**09 27 36.1**	**-0.2**	
	comp=Z,1.7nm,0.8s,baz=158,slow=7.6,SNR=6.8							
KSRS				LR	LR	09 42 00.8		
	comp=Z,282nm,21.6s,baz=164,slow=32							
SLVN	**Son La**	**41.88**	**307**	P	**P**	**09 27 41.0**	**-0.2**	
GYA	**Guiyang**	**42.67**	**315**	*e*P	**P**	**09 27 49.5**	**+1.8**	
GYA				S	**S**	**09 34 04.5**	**-4.4**	
GYA				pmax	pmax			
	comp=Z,13nm,0.8s							
GYA				pmax	pmax			
	comp=Z,110nm,4.2s							
GYA				LR	LR			
	comp=Z,140nm,16.5s							
GYA				LR	LR			
	comp=Z,190nm,17.7s							
GYA				LR	LR			
	comp=Z,240nm,20.3s							
ENH	**Enshi**	**43.29**	**322**	P	**P**	**09 27 51.7**	**-0.9**	
ENH				IAmb	IAmb	09 27 53.4		
	comp=Z,13nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.72**	**300**	P	**P**	**09 28 04.8**	**+0.7**	
	comp=Z,1.3nm,0.3s,baz=121,slow=6.7,SNR=13							
CMAR				LR	LR	09 45 18.1		
	comp=Z,94nm,21.9s,baz=164,slow=34							
CMAR	**Chiang Mai Arr**	**44.72**	**300**	P	**P**	**09 28 03.5**	**-0.6**	
KMI	**Kunming**	**44.78**	**310**‖	*e*P	**P**	**09 28 05.8**	**+1.0**	
KMI				pmax	pmax			
	comp=Z,15nm,0.8s							
CHTO	**Chiang Mai**	**44.86**	**300**	P	**P**	**09 28 04.8**	**-0.4**	
XAN	**Xi'an**	**46.30**	**325**	P	**P**	**09 28 15.1**	**-1.3**	
XAN				IAmb	IAmb	09 28 16.7		
	comp=Z,12nm,1.1s							
JKA	**Kamikawa-asahi**	**46.80**	**4**	P	**P**	**09 28 18.5**	**-1.6**	
ASAJ	**Asahikawa**	**46.80**	**4**	P	**P**	**09 28 20.7**	**+0.6**	
	comp=Z,3.8nm,0.8s,baz=106,slow=7.4,SNR=2.0							
USRK	**Ussuriysk Ar.**	**47.19**	**353**	P	**P**	**09 28 23.3**	**+0.1**	
	comp=Z,4.7nm,0.9s,baz=160,slow=6.4,SNR=10							
USRK				LR	LR	09 44 42.3		
	comp=Z,518nm,21.8s,baz=158,slow=32							
USRK	**Ussuriysk Ar.**	**47.19**	**353**	P	**P**	**09 28 22.6**	**-0.5**	
CD2	**Chengdu**	**47.42**	**318**	*e*P	**P**	**09 28 26.0**	**+0.7**	
BJT	**Baijiatuan**	**47.46**	**336**	P	**P**	**09 28 24.0**	**-1.3**	
BJT				IAmb	IAmb	09 28 25.7		
	comp=Z,9.5nm,0.9s							
BJI	**Beijing**	**47.48**	**336**	P	**P**	**09 28 24.5**	**-0.9**	
BJI				S	**S**	**09 35 17.5**	**-0.2**	
BJI				pmax	pmax			
	comp=Z,11nm,1.0s							
BJI				LR	LR			
	comp=Z,300nm,20.1s							
BJI				LR	LR			
	comp=Z,180nm,18.7s							
BJI				LR	LR			
	comp=Z,370nm,22.7s							
TUWZ	**Tuamarina**	**49.65**	**146**	P	**P**	**09 28 42.5**	**+0.4**	
HHC	**Hu-ho-hao-te**	**50.12**	**333**	*e*P	**P**	**09 28 47.0**	**+1.1**	
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,90nm,6.6s							
HHC				LR	LR			
	comp=Z,300nm,19.9s							
HHC				LR	LR			
	comp=Z,220nm,17.1s							
HHC				LR	LR			
	comp=Z,430nm,19.9s							
LZH	**Lanzhou**	**50.71**	**323**	*e*P	**P**	**09 28 50.8**	**+0.3**	
LZH				pP	sP	09 29 04.3	-1.4	
LZH				sP	pP	09 29 12.8	+11	
LZH				PP	**PP**	**09 30 49.0**	**+2.1**	
LZH				pmax	pmax			
	comp=Z,16nm,1.1s							
LZH				pmax	pmax			
	comp=Z,93nm,5.4s							
LZH				LR	LR			
	comp=Z,270nm,17.4s							
LZH				LR	LR			
	comp=Z,250nm,17.9s							
LZH				LR	LR			
	comp=Z,380nm,18.7s							
KLR	**Kul'dur**	**52.18**	**354**	P	**P**	**09 29 00.8**	**-0.3**	
	comp=Z,6.5nm,0.8s,baz=195,slow=3.7,SNR=17							
KLR				LR	LR	09 48 19.1		
	comp=Z,231nm,20.6s,baz=183,slow=33							
SHL	**Shillong**	**53.61**	**305**	P	**P**	**09 29 11.4**	**-0.9**	
GTA	**Gaotai**	**55.30**	**323**	*e*P	**P**	**09 29 24.5**	**+0.3**	
GTA				pP	sP	09 29 37.3	-1.8	
GTA				S	**S**	**09 37 03.3**	**-2.7**	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,81nm,8.0s							
GTA				LR	LR			
	comp=Z,130nm,15.6s							
GTA				LR	LR			
	comp=Z,260nm,16.7s							
GTA				LR	LR			
	comp=Z,170nm,16.7s							
ULN	**Ulaanbaatar**	**57.65**	**335**	P	**P**	**09 29 41.0**	**+0.1**	
ULN				IAmb	IAmb	09 30 01.1		
	comp=Z,6.5nm,0.8s							
PETK	**Petropavlovsk-**	**57.87**	**13**	LR	LR	09 50 50.1		
	comp=Z,190nm,21.9s,baz=190,slow=32							
SONM	**Songino Array**	**57.91**	**335**	P	**P**	**09 29 43.0**	**+0.3**	
	comp=Z,3.5nm,0.8s,baz=153,slow=6.9,SNR=10.0							
SONM				LR	LR	09 53 54.5		
	comp=Z,390nm,20.5s,baz=140,slow=35							
SONM	**Songino Array**	**57.91**	**335**	P	**P**	**09 29 41.8**	**-0.8**	
TLY	**Talaya**	**62.00**	**336**	LR	LR	09 56 15.3		
	comp=Z,206nm,20.1s,baz=130,slow=35							
YAK	**Yakutsk**	**65.03**	**355**	P	**P**	**09 30 30.6**	**+0.4**	
	comp=Z,7.5nm,0.4s,baz=301,slow=1.9,SNR=6.8							
YAK	**Yakutsk**	**65.03**	**355**	P	**P**	**09 30 30.2**	**-0.1**	
WMQ	**Urumqi**	**65.24**	**322**	*e*P	**P**	**09 30 33.5**	**+1.3**	
CASY	**Casey**	**66.46**	**192**	P	**P**	**09 30 39.4**	**-0.1**	
CASY				IAmb	IAmb	09 30 47.9		
	comp=Z,5.1nm,0.8s							
MK31	**Makanchi Array**	**70.02**	**322**	P	**P**	**09 31 01.9**	**-0.3**	
MK31				IAmb	IAmb	09 31 26.9		
	comp=Z,6.2nm,0.9s							
MKAR	**Makanchi Array**	**70.02**	**322**	P	**P**	**09 31 02.0**	**-0.2**	
	comp=Z,2.9nm,0.4s,baz=98,slow=8.5,SNR=34							
MKAR				LR	LR	10 03 47.4		
	comp=Z,52nm,18.9s,baz=107,slow=38							
MKAR	**Makanchi Array**	**70.02**	**322**	P	**P**	**09 31 01.3**	**-0.9**	
MAKZ	**Makanchi**	**70.22**	**322**	P	**P**	**09 31 03.1**	**-0.3**	
MAKZ				IAmb	IAmb	09 31 04.0		
	comp=Z,8.3nm,0.6s							
KSH	**Kashi**	**71.34**	**313**	P	**P**	**09 31 11.5**	**+1.0**	
KSH				pmax	pmax			
	comp=Z,12nm,1.2s							
KSH				pmax	pmax			
	comp=Z,110nm,3.6s							
KSH				LR	LR			
	comp=Z,170nm,6.0s							
KSH				LR	LR			
	comp=Z,130nm,4.5s							
KSH				LR	LR			
	comp=Z,130nm,5.8s							
PPT	**Papeete**	**71.47**	**107**	LR	LR	10 01 47.5		
	comp=Z,42nm,18.7s,baz=274,slow=35							
PPT2	**Papeete2**	**71.47**	**108**	*e*LR	LR	09 53 03.1		
	comp=Z,322nm,27.5s							
NIL	**Nilore**	**71.59**	**307**	P	**P**	**09 31 11.9**	**-0.1**	
NIL				IAmb	IAmb	09 31 13.6		
	comp=Z,14nm,0.8s							
ZALV	**Zalesovo Beam**	**72.14**	**330**	P	**P**	**09 31 13.5**	**-1.3**	
	comp=Z,1.7nm,0.5s,baz=101,slow=4.7,SNR=7.7							
ZALV				LR	LR	10 02 37.2		
	comp=Z,158nm,21.4s,baz=120,slow=36							
ZALV	**Zalesovo Beam**	**72.14**	**330**	P	**P**	**09 31 13.9**	**-0.9**	
BOOM	**Boomskoye usch**	**72.40**	**316**	P	**P**	**09 31 17.8**	**+0.9**	
BOOM				IAmb	IAmb	09 31 42.5		
	comp=Z,10nm,1.2s							
AAK	**Ala-Archa**	**73.45**	**316**	P	**P**	**09 31 21.1**	**-2.0**	
KURK	**Kurchatov**	**73.94**	**325**	P	**P**	**09 31 25.3**	**-0.2**	
KURBB	**Kurchatov Arra**	**73.95**	**325**	P	**P**	**09 31 24.9**	**-0.7**	
	comp=Z,3.5nm,1.0s,baz=112,slow=5.4,SNR=16							
TIXI	**Tiksi**	**74.59**	**357**	P	**P**	**09 31 29.2**	**+0.3**	
KBL	**Kabul**	**75.20**	**307**	P	**P**	**09 31 33.4**	**-0.1**	
KBL				IAmb	IAmb	09 32 02.8		
	comp=Z,7.6nm,1.1s							
GAR	**Garm**	**75.36**	**311**	P	**P**	**09 31 34.6**	**+0.4**	
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**09 31 36.2**	**+1.1**	
	comp=Z,2.0nm,0.7s,baz=324,slow=6.4,SNR=20							
VNDA				LR	LR	10 05 15.8		
	comp=Z,579nm,18.4s,baz=355,slow=36							
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**09 31 36.0**	**+0.8**	
CHGR	**Chuyangaron**	**76.14**	**311**	P	**P**	**09 31 38.2**	**-0.5**	
KK31	**Karatay Array**	**76.38**	**315**	P	**P**	**09 31 40.0**	**+0.2**	
KKAR	**Karatay Array**	**76.38**	**315**	P	**P**	**09 31 39.7**	**-0.2**	
BVAR	**Borovoye Array**	**79.53**	**325**	P	**P**	**09 31 57.0**	**-0.1**	
	comp=Z,1.1nm,0.5s,baz=194,slow=24,SNR=11							
BVAR	**Borovoye Array**	**79.53**	**325**	P	**P**	**09 31 57.0**	**-0.1**	
BRVK	**Borovoye**	**79.60**	**325**	P	**P**	**09 31 56.9**	**-0.6**	
BRVK				IAmb	IAmb	09 32 18.2		
	comp=Z,9.2nm,1.1s							
NRIK	**Noril'sk**	**79.87**	**344**	P	**P**	**09 31 57.6**	**-1.0**	
	comp=Z,2.9nm,0.8s,baz=63,slow=9.0,SNR=3.7							
NRIK				LR	LR	10 07 38.8		
	comp=Z,143nm,20.6s,baz=190,slow=36							
MAW	**Mawson**	**82.16**	**202**	P	**P**	**09 32 12.4**	**+1.6**	
	comp=Z,3.0nm,0.9s,baz=26,slow=3.7,SNR=5.5							
MAW				LR	LR	10 06 41.6		
	comp=Z,394nm,19.7s,baz=59,slow=34							
IMAR	**Indian Mountai**	**83.45**	**22**	P	**P**	**09 32 16.7**	**-0.9**	
GEYT	**Alibeck**	**84.51**	**308**	P	**P**	**09 32 24.4**	**+0.7**	
	comp=Z,2.4nm,0.6s,baz=145,slow=5.4,SNR=4.2							
GEYT				LR	LR	10 12 43.9		
	comp=Z,98nm,21.2s,baz=70,slow=38							
ABKAR	**Akbulak array**	**84.96**	**320**	P	**P**	**09 32 24.5**	**-1.1**	
ABKAR	**Akbulak array**	**84.96**	**320**	P	**P**	**09 32 24.9**	**-0.7**	
DHY	**Denali Highway**	**85.11**	**26**	P	**P**	**09 32 25.6**	**-0.6**	
DHY				IAmb	IAmb	09 32 51.8		
	comp=Z,9.9nm,1.1s							
WRH	**Wood River Hil**	**85.20**	**25**	P	**P**	**09 32 25.1**	**-1.4**	
WRH				IAmb	IAmb	09 32 48.3		
	comp=Z,13nm,1.3s							
CCB	**Clear Creek Bu**	**85.37**	**24**	P	**P**	**09 32 26.1**	**-1.2**	
CCB				IAmb	IAmb	09 32 26.7		
	comp=Z,9.7nm,1.1s							
IL31		**85.78**	**24**	P	**P**	**09 32 26.8**	**-2.5**	
IL31				IAmb	IAmb	09 32 39.8		
	comp=Z,5.3nm,0.9s							
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**09 32 27.6**	**-1.7**	
	comp=Z,2.5nm,0.9s,baz=256,slow=5.2,SNR=14							
ILAR				LR	LR	10 05 36.1		
	comp=Z,77nm,20.6s,baz=254,slow=32							
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**09 32 26.8**	**-2.6**	
QSPA	**South Pole Qui**	**87.16**	**180**	P	**P**	**09 32 37.5**	**+1.2**	
QSPA				IAmb	IAmb	09 33 00.8		
	comp=Z,9.7nm,1.1s							
BMAR	**Burnt Mountain**	**87.36**	**22**	P	**P**	**09 32 37.5**	**+0.4**	
BCAR	**Beaver Creek A**	**87.59**	**27**	P	**P**	**09 32 37.8**	**-0.5**	
K27K	**Chicken**	**87.64**	**26**	P	**P**	**09 32 38.3**	**-0.2**	
EGAK	**Eagle**	**88.17**	**25**	P	**P**	**09 32 40.6**	**-0.4**	
EGAK				IAmb	IAmb	09 32 57.2		
	comp=Z,7.9nm,1.1s							
KBZ	**Khabaz**	**96.32**	**314**	LR	LR	10 21 41.3		
	comp=Z,38nm,21.3s,baz=77,slow=39							
YKA	**Yellowknife Ar**	**100.00**	**27**	LR	LR	10 14 44.7		
	comp=Z,153nm,21.9s,baz=0,slow=33							
TORD	**Torodi Ar. Bea**	**136.55**	**286**	PKP	**PKPdf**	**09 39 13.8**	**+0.4**	
	comp=Z,0.8nm,0.8s,baz=2.6,slow=3.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**136.55**	**286**		**PKiKP**	**09 39 14.0**	**-1.1**	
CPUP	**Villa Florida**	**147.03**	**152**	PKPbc	**PKiKP**	**09 39 35.6**	**-0.7**	
	comp=Z,2.1nm,0.8s,baz=245,slow=3.5,SNR=4.1							
CPUP	**Villa Florida**	**147.03**	**152**	PKPbc	**PKPbc**	**09 39 33.1**	**-0.7**	
LPAZ	**La Paz**	**147.17**	**126**	PKPbc	**PKPab**	**09 39 36.4**	**-0.5**	
	comp=Z,1.7nm,0.6s,baz=135,slow=2.9,SNR=7.4							

IDC 31 09:24:02.2±5.6, 47.80N×80.71E, h0km, Error ellipse: s-maj=46.5km s-min=34.3km az=133.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**1.47**	**132**	Pn	Pb	09 24 30.7	+0.2
	0.2nm,0.3s,baz=315,slow=14,SNR=5.4						
MKAR				Sn	Sn	09 24 51.5	+1.4
	0.1nm,0.3s,baz=312,slow=28,SNR=2.8						
I46RU	**ZALESOVO INFRA**	**6.69**	**21**	*i*		10 03 40.0	
	baz=201,slow=313,SNR=0.8						
I34MN	**SONGINO INFRAS**	**17.25**	**80**	*i*		11 05 50.0	
	baz=279,slow=323,SNR=0.4						

NNC 31 09:43:22.1±5.7, 54.30N×86.66E, h0km, mb3.7, mpv3.4, 4C-5D, Error ellipse: s-maj=55.2km s-min=37.5km az=162.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.08**	**237**	⇓Pn	Pn	09 44 53.4	+0.2
	4.0nm,1.0s						
KURK				⇑Sn	Sn	09 46 01.9	-1.6
	2.8nm,1.0s						
KURK				⇓Lg	Lg	09 46 41.9	
	9.2nm,1.1s						
KURBB	**Kurchatov Arra**	**6.18**	**237**	⇓Pn	Pn	09 44 55.1	+0.5
	4.3nm,0.8s						
KURBB				⇓Sn	Sn	09 46 07.4	+1.5
	7.6nm,0.9s						
KURBB				⇑Lg	Lg	09 46 44.2	
	12nm,0.8s						
MK31	**Makanchi Array**	**8.01**	**202**	⇓Pn	Pn	09 45 20.3	+0.6
	0.6nm,0.6s,baz=28,slow=14,SNR=16						
MK31				⇑Sn	Sn	09 46 51.7	+0.7
	1.4nm,0.7s,baz=31,slow=29,SNR=6.0						
MK31				⇑Lg	Lg	09 47 37.9	
	5.2nm,0.9s,baz=29,slow=34,SNR=5.1						

*IDC **31** 10:17:59.9±0.8, 67.17N×20.71E, h0km, mb1 3.4/5, mb1mx3.2/49, mbtmp3.4/5, ML2.7/5, Error ellipse: s-maj=15.3km s-min=7.5km az=111.0*
*NAO **31** 10:17:59.5±0.7, 67.12N×20.89E, ML2.8*
*HEL **31** 10:18:00.0±0.1, 67.19N×20.64E, h1km, ML2.3, ML2.9(UPP), Confirmed Induced event*
*BER **31** 10:18:02.4±2.4, 67.17N×20.68E, h0km±27km, ML2.3, ML2.8(NAO), Confirmed Induced event*
*KOLA **31** 10:18:04.1, 66.46N×21.54E, h0km*
ISC 31 10:17:58.4±0.6, 67.12N±0.02×20.59E±0.02, h0km, n57, σ1.9 66/101, 1C-1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.65**	**57**	*i* P	**Pg**	**10 18 10.7**	**0.0**
MASU				*i* S	**Sg**	**10 18 18.6**	**-0.5**
RATU	**Laukkuluspa**	**0.81**	**332**	*i* P	**Pg**	**10 18 13.6**	**-0.3**
RATU				*i* S	**Sg**	**10 18 23.2**	**-1.1**
KUA	**Kurravaara**	**0.85**	**353**	*i* P	**Pg**	**10 18 13.7**	**-1.0**
ERTU	**Ertsjaerv**	**0.85**	**131**	*e*P	**Pg**	**10 18 15.6**	**+0.9**
ERTU				*e*S	**Sg**	**10 18 26.9**	**+1.3**
SALU	**Saltoluokta**	**0.85**	**289**	*i* P	**Pg**	**10 18 15.5**	**+0.8**
SALU	**Saltoluokta**	**0.85**	**289**‖	*i*P	**Pg**	**10 18 15.5**	**+0.8**
SALU				*e*S	**Sg**	**10 18 26.7**	**+0.9**
HARU	**Harads**	**0.97**	**171**	*e*P	**Pg**	**10 18 18.3**	**+1.4**
PAJU	**Pajala**	**0.99**	**94**	*e*P	**Pg**	**10 18 17.4**	**0.0**
LANU	**Lannavaara**	**1.08**	**29**	*e*P	**Pg**	**10 18 17.9**	**-1.2**
LANU				*e*S	**Sg**	**10 18 31.2**	**-1.8**
KOVU	**Salmi**	**1.12**	**352**	*e*P	**Pg**	**10 18 18.8**	**-1.1**
SJUU	**Sjulsmark**	**1.67**	**165**	*e*P	**Pb**	**10 18 30.6**	**+0.8**
KALU	**Kalix**	**1.68**	**137**	*e*P	**Pb**	**10 18 30.3**	**+0.2**
KALU				*e*S	**Sb**	**10 18 52.8**	**+1.0**
TOF	**Tornio**	**1.82**	**123**	*e*P	**Pb**	**10 18 32.6**	**+0.1**
TOF				*e*S	**Sb**	**10 18 56.5**	**+0.8**
KIF	**Kilpisjarvi**	**1.90**	**2**	Pn	**Pn**	**10 18 32.6**	**+0.7**
KIF				Sn	**Sn**	**10 18 58.4**	**+0.3**
KIF	**Kilpisjarvi**	**1.90**	**2**	*e*P	**Pn**	**10 18 32.5**	**+0.6**
KIF				*e*S	**Sb**	**10 18 57.7**	**-0.3**
KIF				MSG		10 19 00.0	
	comp=Z,35nm,0.2s						
KIF	**Kilpisjarvi**	**1.90**	**2**	*e*P	**Pn**	**10 18 32.7**	**+0.7**
KIF				*e*S	**Sb**	**10 18 57.9**	**-0.2**
FAUS	**Fauske**	**2.08**	**280**⇑	*i*P	**Pb**	**10 18 37.0**	**+0.1**
FAUS				*e*Sg	**Sg**	**10 19 05.5**	**+0.4**
FAUS				IAML		10 19 06.8	
	comp=Z,51nm,0.3s						
KTK1	**Kautokeino**	**2.15**	**26**	*e*P	**Pn**	**10 18 36.7**	**+1.2**
KTK1				*e*S	**Sn**	**10 19 03.0**	**+0.3**
KTK1				IAML		10 19 05.8	
	comp=Z,60nm,0.5s						
N2TV	**Tvrnvik**	**2.17**	**285**	*e*P	**Pb**	**10 18 38.1**	**-0.3**
N2TV				*e*S	**Sb**	**10 19 05.7**	**0.0**
N2TV				IAML		10 19 11.9	
	comp=Z,14nm,0.4s						
RNF	**Rovaniemi**	**2.20**	**101**	*e*P	**Pn**	**10 18 38.0**	**+1.8**
RNF				*e*SG	**Sb**	**10 19 07.2**	**+0.4**
RNF				MSG		10 19 09.0	
	comp=Z,15nm,0.2s						
STEI	**Steigen**	**2.21**	**294**	Pn	**Pn**	**10 18 37.8**	**+1.6**
STEI				Sn	**Sg**	**10 19 09.2**	**-0.1**
STEI	**Steigen**	**2.21**	**294**	*e*P	**Pn**	**10 18 37.8**	**+1.6**
STEI				*e*PG	**Pb**	**10 18 39.5**	**+0.3**
STEI				*e*SG	**Sb**	**10 19 08.0**	**+1.0**
STEI	**Steigen**	**2.21**	**294**	*e*P	**Pn**	**10 18 37.9**	**+1.6**
STEI				*e*		10 18 39.8	
STEI				*e*Sg	**Sb**	**10 19 08.1**	**+1.1**
STEI				IAML		10 19 11.1	
	comp=Z,31nm,0.6s						
SGF	**Sodankyl**	**2.33**	**79**	*e*P	**Pn**	**10 18 39.3**	**+1.5**
SGF				*e*SG	**Sb**	**10 19 10.5**	**+0.1**
SGF				MSG		10 19 14.0	
	comp=Z,10nm,0.2s						
NBB28	**Valnes**	**2.39**	**275**	*e*P	**Pb**	**10 18 42.1**	**-0.2**
NBB28				*e*S	**Sg**	**10 19 15.2**	**0.0**
NBB28				IAML		10 19 17.7	
	comp=Z,36nm,0.4s						
BURU	**Burvik**	**2.56**	**172**	*e*P	**Pb**	**10 18 44.0**	**-1.1**
BURU				*e*SG	**Sg**	**10 19 20.3**	**-0.4**
TRO	**Tromso**	**2.60**	**347**	*e*SG	**Sb**	**10 19 18.8**	**+0.5**
TRO	**Tromso**	**2.60**	**347**	*e*P	**Pn**	**10 18 42.9**	**+1.3**
TRO				*e*S	**Sn**	**

FIA0				Sg	**Sg**	**10 21 10.5**	**-6.0**
	baz=353,slow=22							
FINES	**FINESS Array B**	**6.17 155**		Pn	**Pn**	**10 19 33.3**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=346,slow=12,SNR=19							
FINES				Pg	**Pb**	**10 19 48.0**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=346,slow=16,SNR=3.4							
FINES				Sn	**Sn**	**10 20 42.5**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=351,slow=24,SNR=5.7							
FINES				Lg	Lg	10 21 10.0		
	comp=Z,0.9nm,0.3s,baz=342,slow=27,SNR=6.8							
NB2	**NORSAR Subarra**	**7.35 218**		Pn	**Pn**	**10 19 49.3**	**+2.5**
NB2				Sn	**Sn**	**10 21 08.8**	**-2.0**
NB2				Lg	Lg	10 21 50.1		
	baz=33,slow=37							
NB2	**NORSAR Subarra**	**7.35 218**		Pn	**Pn**	**10 19 49.3**	**+2.5**
NB2				Sn	**Sn**	**10 21 08.8**	**-2.0**
NB2				Sg	**Sg**	**10 21 50.1**	**-3.9**
	baz=33,slow=37							
NOA	**NORSAR Array B**	**7.35 218**		Pn	**Pn**	**10 19 48.8**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=26,slow=12,SNR=1.2							
NOA				Sn	**Sn**	**10 21 08.1**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=44,slow=26,SNR=1.4							
NOA				Lg	Lg	10 21 48.1		
	comp=Z,0.1nm,0.3s,baz=196,slow=18,SNR=1.3							
NRA0	**NORESS Array S**	**7.54 216**		Pn	**Pn**	**10 19 51.7**	**+2.4**
	baz=19,slow=18							
NRA0				Sn	**Sn**	**10 21 13.1**	**-2.3**
	baz=26,slow=28							
NRA0				Lg	Lg	10 21 57.4		
	baz=30,slow=28							
NRA0	**NORESS Array S**	**7.54 216**		Pn	**Pn**	**10 19 51.7**	**+2.4**
	baz=19,slow=18							
NRA0				Sn	**Sn**	**10 21 13.1**	**-2.3**
	baz=26,slow=28							
NRA0				Sg	**Sg**	**10 21 57.4**	**-2.7**
	baz=30,slow=28							
HFS	**Hagfors**	**7.65 207**		Pn	**Pn**	**10 19 52.0**	**+1.2**
	baz=20,slow=14							
HFS				Sn	**Sn**	**10 21 15.1**	**-3.0**
	baz=27,slow=22							
HFS				Lg	Lg	10 21 59.6		
	baz=28,slow=37							
HFS	**Hagfors**	**7.65 207**		Pn	**Pn**	**10 19 51.8**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=36,slow=16,SNR=8.2							
HFS				Sn	**Sn**	**10 21 15.2**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=27,slow=28,SNR=2.3							
HFS				Lg	Lg	10 21 54.9		
	comp=Z,0.3nm,0.3s,baz=32,slow=26,SNR=1.9							
HFS	**Hagfors**	**7.65 207**		Pn	**Pn**	**10 19 52.0**	**+1.2**
	baz=20,slow=14							
HFS				Sn	**Sn**	**10 21 15.1**	**-3.0**
	baz=27,slow=22							
HFS				Sg	**Sg**	**10 21 59.6**	**-4.0**
	baz=28,slow=37							
SPA0	**Spitsbergen Ar**	**11.19 356**		Pn	**Pn**	**10 20 39.5**	**+0.2**
	baz=157,slow=16							
SPA0	**Spitsbergen Ar**	**11.19 356**		Pn	**Pn**	**10 20 39.5**	**+0.2**
	baz=157,slow=16							
SPITS	**Spitsbergen Ar**	**11.19 356**		Pn	**Pn**	**10 20 38.4**	**-0.8**
	baz=152,slow=16,SNR=2.0							

*IDC **31** 10:43:31.1±1.6,32.°99N×138.°88E,h0km,mb3.3/2,*
mb1 3.5/3,mb1mx3.2/41,mbtmp3.2/3,ML2.5/1,Error
ellipse: s-maj=32.0km s-min=18.0km az=149.0
*JMA **31** 10:43:34.2±0.1,33.°69N×140.°56E,h52km±3km,M3.0*
ISC 31 10:43:33.8±1.2,**33.°65N**±0.°04×**140.°55E**±0.°08,**h63**km±13km,
n16,σ0**869**/27,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.81**	**229**	P	**Pn**	**10 43 50.0**	**+0.4**
JHJ2				S	**Sn**	**10 44 01.3**	**+0.1**
JHJ	**Hachijo jima 2**	**0.83**	**231**	Pn	**Pn**	**10 43 50.1**	**+0.3**
	37nm,0.3s,baz=255,slow=19,SNR=68						
JHJ				Sn	**Sn**	**10 44 01.2**	**-0.3**
	387nm,0.3s,baz=62,slow=22,SNR=21						
JMKN	**Mikurajimanish**	**0.84**	**287**	P	**Pn**	**10 43 49.7**	**-0.2**
JMKN				eS	**Sn**	**10 44 01.4**	**-0.4**
JHCJ	**Hachijojimakas**	**0.85**	**228**	P	**Pn**	**10 43 50.6**	**+0.5**
JHCJ				S	**Sn**	**10 44 02.4**	**+0.3**
BSO1	**Boso 1**	**1.06**	**19**	P	**Pn**	**10 43 52.3**	**0.0**
BSO3	**Boso 3**	**1.15**	**358**	P	**Pn**	**10 43 54.1**	**+0.4**
BSO3				eS	**Sn**	**10 44 08.5**	**-0.1**
JNIO	**Niijimaoohara**	**1.28**	**304**	P	**Pn**	**10 43 55.7**	**+0.1**
JNIO				eS	**Sn**	**10 44 11.4**	**-0.4**
JKO	**Kozu shima**	**1.30**	**295**	P	**Pn**	**10 43 56.1**	**+0.3**
JKO				eS	**Sn**	**10 44 12.5**	**+0.2**
BSO4	**Boso 4**	**1.35**	**352**	P	**Pn**	**10 43 57.3**	**+0.8**
JTHY	**Toshimahigashi**	**1.37**	**310**	P	**Pn**	**10 43 57.3**	**+0.5**
JTHY				S	**Sn**	**10 44 14.5**	**+0.5**
JIM2	**Oshima 3**	**1.42**	**319**	P	**Pn**	**10 43 57.5**	**0.0**
JIM2				S	**Sn**	**10 44 14.0**	**-1.2**
JIZS	**Izushimoda**	**1.75**	**308**	P	**Pn**	**10 44 02.5**	**+0.6**
JIZS				S	**Sn**	**10 44 23.2**	**-0.1**
JOD2	**Odawara 2**	**2.02**	**324**	P	**Pn**	**10 44 05.7**	**+0.2**
JOD2				S	**Sn**	**10 44 28.5**	**-1.2**
MJAR	**Matsushiro Arr**	**3.47**	**327**	Pn	**Pn**	**10 44 27.4**	**+2.1**
	0.4nm,0.3s,baz=170,slow=15,SNR=21						
WRA	**Warramunga Arr**	**53.62**	**187**	P	**P**	**10 52 48.2**	**-0.6**
	0.2nm,0.4s,baz=1.4,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**57.34**	**187**	P	**P**	**10 53 15.2**	**-0.3**
	0.2nm,0.5s,baz=0.9,slow=6.6,SNR=4.7						

*KRNET **31** 11:11:00.7±0.1,40.°59N×80.°32E,mb3.2*
*SOME **31** 11:11:01.4,40.°80N×80.°00E,h20km*
*NNC **31** 11:11:03.0±2.8,40.°86N×79.°64E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=18.4km s-min=15.5km az=155.0
ISC 31 11:11:04.4±2.6,**40.°9N**±0.°1×**80.°05E**±0.°07,**h10**km,**n27,**
σ1**973**/43,**9C-5D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**2.02**	**323**	⇓*i*P	**Pb**	**11 11 39.9**	**-1.5**
	baz=24						
PRZ				⇓*i*S	**Sg**	**11 12 08.7**	**-0.8**
	baz=24						
SHLS	**Shalkode**	**2.32**	**349**	*e*P	**Pn**	**11 11 44.1**	**+1.3**
	24nm,0.2s						
SHLS				*e*S	**Sb**	**11 12 14.8**	**-0.3**
	36nm,0.5s						
SHLS	**Shalkode**	**2.32**	**349**	Pg	**Pn**	**11 11 43.8**	**+1.1**
	24nm,0.2s						
SHLS				Lg	Lg	11 12 14.8	
	36nm,0.5s						
UZB	**Uzynbulak**	**2.39**	**342**	*e*P	**Pn**	**11 11 45.1**	**+1.3**
	8.0nm,0.2s						
UZB				*e*S	**Sb**	**11 12 16.5**	**-0.8**
	13nm,0.4s						
UZB	**Uzynbulak**	**2.39**	**342**	Pg	**Pn**	**11 11 45.1**	**+1.3**
	8.0nm,0.2s						
UZB				Lg	Lg	11 12 16.5	
	13nm,0.4s						
PDGK	**Podgornoye**	**2.48**	**351**	Pg	**Pn**	**11 11 46.4**	**+1.4**
	2.9nm,0.4s						
PDGK				Lg	Lg	11 12 19.2	
	6.3nm,0.5s						
PDGK	**Podgornoye**	**2.48**	**351**	⇑P	**Pn**	**11 11 46.2**	**+1.1**
	2.1nm,0.4s						
PDGK				⇑S	**Sb**	**11 12 19.3**	**-0.6**
	9.5nm,0.6s						
KDJ	**Kajisay**	**2.49**	**301**	⇑*e*P	**Pn**	**11 11 46.2**	**+1.0**
	baz=4.0						
KDJ				⇑*i*S	**Sb**	**11 12 19.1**	**-1.1**
	baz=4.0						
SATY	**Saty**	**2.50**	**331**	*e*P	**Pb**	**11 11 47.2**	**-2.3**
	4.6nm,0.3s						
SATY				*e*S	**Sb**	**11 12 20.1**	**-0.2**
	18nm,0.7s						
SATY	**Saty**	**2.50**	**331**	Pg	**Pn**	**11 11 47.0**	**+1.7**
	6.8nm,0.5s						
SATY				Lg	Lg	11 12 20.1	
	18nm,0.7s						
ANVS	**Anan'yevo**	**2.60**	**318**	⇓*i*P	**Pn**	**11 11 48.2**	**+1.4**
	baz=19						
ANVS				⇓*i*S	**Sb**	**11 12 22.9**	**-0.6**
	baz=19						
TNSS	**Tian-Shan**	**3.16**	**314**	*e*P	**Pb**	**11 11 58.1**	**-2.8**
	6.3nm,0.5s						
TNSS				*e*S	**Sb**	**11 12 39.0**	**-0.7**
	2.7nm,0.5s						
TNSS	**Tian-Shan**	**3.16**	**314**	Pg	**Pb**	**11 11 58.2**	**-2.8**
	6.3nm,0.5s						
TNSS				Lg	Lg	11 12 39.0	
	2.7nm,0.5s						
ULHL	**Ulahol**	**3.17**	**297**	⇑*i*P	**Pn**	**11 11 55.6**	**+1.1**
	baz=0.0						
ULHL				⇑*i*S	**Sn**	**11 12 35.6**	**+3.1**
	baz=0.0						
KOTS	**Kotyrbulak**	**3.21**	**318**	*e*P	**Pb**	**11 11 59.6**	**-2.1**
	8.5nm,0.3s						
KOTS				*e*S	**Sb**	**11 12 41.2**	**+0.3**
	18nm,0.5s						
KOTS	**Kotyrbulak**	**3.21**	**318**	Pg	**Pb**	**11 11 59.6**	**-2.1**
	8.5nm,0.3s						
KOTS				Lg	Lg	11 12 41.2	
	18nm,0.5s						
IZV	**Izvestkoviy**	**3.35**	**311**	*e*P	**Pb**	**11 12 01.1**	**-2.9**
	3.2nm,0.2s						
IZV				*e*S	**Sb**	**11 12 44.0**	**-0.8**
	8.6nm,0.3s						
IZV	**Izvestkoviy**	**3.35**	**311**	Pg	**Pb**	**11 12 00.8**	**-3.1**
	3.2nm,0.2s						
IZV				Lg	Lg	11 12 44.0	
	8.6nm,0.3s						
MNBS	**Baschi**	**3.42**	**340**	*e*P	**Pb**	**11 12 03.0**	**-2.2**
	3.6nm,0.5s						
MNBS				*e*S	**Sb**	**11 12 47.1**	**+0.3**
	6.9nm,0.3s						
MNBS	**Baschi**	**3.42**	**340**	Pg	**Pb**	**11 12 03.0**	**-2.2**
	3.6nm,0.5s						
MNBS				Lg	Lg	11 12 47.1	
	6.9nm,0.3s						
BOOM	**Boomskoye usch**	**3.47**	**299**	⇑*i*P	**Pn**	**11 11 59.7**	**+1.0**
	baz=1.0						
BOOM				⇑*i*S	**Sn**	**11 12 42.5**	**+2.5**
	baz=1.0						
ARXS	**Arharly**	**3.71**	**334**	*e*P	**Pb**	**11 12 08.3**	**-1.9**
	3.8nm,0.3s						
ARXS				*e*S	**Sb**	**11 12 56.4**	**+1.1**
	3.5nm,0.4s						
ARXS	**Arharly**	**3.71**	**334**	Pg	**Pb**	**11 12 08.3**	**-1.9**
	3.8nm,0.3s						
ARXS				Lg	Lg	11 12 56.4	
	3.5nm,0.4s						
KST	**Kastek**	**3.74**	**307**	Pg	**Pn**	**11 12 03.8**	**+1.6**
	2.8nm,0.2s						
KST				Lg	Lg	11 12 49.2	
	3.3nm,0.5s						
KTBS	**Karatobe**	**3.77**	**320**	*e*P	**Pb**	**11 12 09.4**	**-1.8**
	0.8nm,0.5s						
KTBS				*e*S	**Sb**	**11 12 58.1**	**+1.1**
	5.8nm,0.5s						
KTBS	**Karatobe**	**3.77**	**320**	Pg	**Pb**	**11 12 09.4**	**-1.8**
	0.8nm,0.5s						
KTBS				Lg	Lg	11 12 58.1	
	5.8nm,0.5s						
MK31	**Makanchi Array**	**6.13**	**15**	⇓Pn	**Pn**	**11 12 36.2**	**+1.2**
	0.2nm,0.2s,baz=187,slow=14,SNR=55						
MK31				⇑Sn	**Sn**	**11 13 46.1**	**+0.9**
	0.5nm,0.4s,baz=188,slow=24						

*SOME **31** 11:15:29.8,43.°72N×69.°47E*
*NNC **31** 11:15:32.4±2.1,43.°73N×69.°73E,h0km,mb3.7,mpv3.2,*
Error ellipse: s-maj=15.0km s-min=5.3km az=133.0,
Suspected Mining explosion.
*KRNET **31** 11:15:36.9±0.1,42.°79N×69.°41E,mb2.6*
ISC 31 11:15:30.6±1.9,**43.°87N**±0.°08×**69.°86E**±0.°07,**h0**km,**n19,**
σ1**937**/27,**13C-4D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Boroldaу**	**0.84**	**181**	P	**Pb**	**11 15 48.1**	**0.0**
	22nm,0.2s						
BRLS				S	**Sn**	**11 16 02.1**	**-0.7**
	19nm,0.3s						
KK31	**Karatay Array**	**0.90**	**148**	⇑P	**Pb**	**11 15 49.3**	**+0.2**
	0.3nm,0.2s,baz=325,slow=17,SNR=63						
KK31				⇑S	**Sg**	**11 15 60.0**	**+0.5**
	6.6nm,0.3s,baz=321,slow=33,SNR=122						
IUG	**Iuzhnay**	**1.72**	**176**	P	**Pn**	**11 16 01.4**	**-0.5**
	14nm,0.6s						
IUG				S	**Sb**	**11 16 25.1**	**-0.4**
	40nm,0.4s						
MNAS	**Manas**	**2.38**	**125**	⇑*e*P	**Pg**	**11 16 18.4**	**+2.2**
	baz=96						
MNAS				⇑*i*S	**Sg**	**11 16 48.5**	**+1.5**
	baz=96						
MRKS	**Merke**	**2.70**	**113**	Pg	**Pg**	**11 16 23.1**	**+0.7**
	2.9nm,0.5s						
MRKS				Lg	Lg	11 17 02.3	
	9.9nm,0.5s						
EKS2	**Erkin-Say**	**3.10**	**111**	⇑*e*P	**Pg**	**11 16 31.2**	**+1.1**
	baz=91						
EKS2				⇑*i*S	**Sg**	**11 17 11.2**	**+0.8**
	baz=91						
BTLS	**Baital**	**3.22**	**67**	Pg	**Pg**	**11 16 34.9**	**+2.6**
	5.7nm,0.5s						
BTLS				Lg	Lg	11 17 22.5	
	4.4nm,0.5s						
AML	**Almayashu**	**3.31**	**120**	⇑*e*P	**Pb**	**11 16 31.5**	**+1.1**
	baz=0.0						
AML				⇑*i*S	**Sb**	**11 17 11.9**	**+0.6**
	baz=0.0						
AAK	**Ala-Archa**	**3.60**	**108**	⇑*i*P	**Pg**	**11 16 38.9**	**-0.8**
	baz=91						
AAK				⇑*i*S	**Sg**	**11 17 24.2**	**-2.1**
	baz=91						
AAK	**Ala-Archa**	**3.60**	**108**	⇓Pg	**Pg**	**11 16 41.9**	**+2.2**
	1.8nm,0.5s						
AAK				⇓Lg	Lg	11 17 32.9	
	6.7nm,0.5s						
UCH	**Uchtor**	**3.78**	**114**	⇑*e*P	**Pb**	**11 16 40.0**	**+1.4**
	baz=97						
UCH				⇑*i*S	**Sb**	**11 17 25.8**	**+0.7**
	baz=97						
ARLS	**Aral**	**3.84**	**120**	⇓*i*P	**Pb**	**11 16 38.8**	**-0.6**
	baz=2.0						
ARLS				⇓*i*S	**Sb**	**11 17 24.0**	**-2.6**
	baz=2.0						
KRBS	**Karabastau**	**4.21**	**90**	Pg	**Pg**	**11 16 50.5**	**-0.9**
	1.9nm,0.5s						
KRBS				Lg	Lg	11 17 49.8	
	6.1nm,0.5s						
TKM2	**Tokmak 2**	**4.29**	**101**	⇑Lg	Lg	11 17 51.8	
	7.5nm,0.7s						
KST	**Kastek**	**4.52**	**98**	Pg	**Pg**	**11 16 56.2**	**-1.1**
	4.0nm,0.2s						
KST				Lg	Lg	11 18 00.1	
	5.6nm,0.5s						
KUU	**Kurty**	**4.69**	**87**	Pg	**Pg**	**11 16 59.9**	**-0.5**
	1.4nm,0.3s						
KUU				Lg	Lg	11 18 05.4	
	9.6nm,0.6s						
KTBS	**Karatobe**	**4.94**	**89**	Pg	**Pg**	**11 17 04.7**	**-0.6**
	2.0nm,0.3s						
KTBS				Lg	Lg	11 18 13.8	
	12nm,0.5s						
IZV	**Izvestkoviy**	**4.99**	**97**	Pg	**Pg**	**11 17 04.8**	**-1.4**
	1.1nm,0.3s						
IZV				Lg	Lg	11 18 14.4	
	10nm,0.6s						
ARXS	**Arharly**	**5.75**	**84**	Pg	**Pg**	**11 17 19.7**	**-1.2**
	3.7nm,0.4s						
ARXS				Lg	Lg	11 18 39.9	
	4.0nm,0.6s						

*TAP **31** 11:46:35.6,23.°92N×122.°17E,h37km,ML4.2,C*
*JMA **31** 11:46:35.0,23.°88N×122.°15E,h36km±3km,M3.7*
*NIED **31** 11:46:35.0,23.°88N×122.°15E,h36km,MW3.9,Moment*
Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm;
Mrr7.18; Mθθ-1.42; Mφφ-5.76; Mrθ 0.70; Mθφ-2.10; Mφr 0.47;
Fault plane solution: M₀6.94000×10¹⁴ NP1:φs26.00000°,
δ48.00000°,λ.95.00000°. NP2:φs199.00000°,δ42.00000°,
λ85.00000°.
*IDC **31** 11:46:41.0±7.5,24.°02N×122.°20E,h98km±72km,mb3.3/6,*
mb1 3.5/7,mb1mx3.2/34,mbtmp3.7/7,ML3.6/1,MS3.2/2,
Ms1 3.3/2,ms1mx2.5/27 Error ellipse: s-maj=45.1km
s-min=18.3km az=71.0
ISC 31 11:46:34.3±1.0,**23.°89N**±0.°02×**122.°19E**±0.°02,**h31**km±9km,
n149,σ0**895**/261,**mb3.5**/6,**32D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.55**	**280**	*i* P	**Pn**	**11 46 46.6**	**+0.7**
	baz=268						
HWA				*e*S	**Sn**	**11 46 54.2**	**+0.2**
	baz=268						
TWD	**Chiawan**	**0.58**	**290**	⇓*i*P	**Pn**	**11 46 46.4**	**0.0**
	baz=287						
TWD				*i* S	**Sn**	**11 46 54.5**	**-0.3**
	baz=287						
NACB	**Ninganchiao**	**0.62**	**298**	⇓P	**Pn**	**11 46 46.9**	**0.0**
	baz=295						
NACB				S	**Sn**	**11 46 55.4**	**-0.3**
	baz=295						
ENAH	**Nanao**	**0.66**	**328**	⇓*i*P	**Pn**	**11 46 48.2**	**+0.7**
	baz=335						
ENAH				*i* S	**Sn**	**11 46 57.9**	**+1.1**
	baz=335						
ESL	**Shilin**	**0.70**	**264**	⇓*i*P	**Pn**	**11 46 48.1**	**+0.1**
	baz=254						
ESL				*i* S	**Sn**	**11 46 57.7**	**-0.1**
	baz=254						
ETLH	**Xiulin Townshi**	**0.72**	**296**	P	**Pn**	**11 46 48.8**	**+0.3**
	baz=294						
ETLH				S	**Sn**	**11 46 58.4**	**-0.1**
	baz=294						
EGFH	**Guangfu**	**0.73**	**253**	*i* P	**Pn**	**11 46 49.1**	**+0.6**
	baz=242						
EGFH				S	**Sn**	**11 46 59.8**	**+1.2**
	baz=242						
TWC	**Suao**	**0.79**	**336**	*i* P	**Pn**	**11 46 49.6**	**+0.4**
	baz=346						
TWC				*i* S	**Sn**	**11 46 59.4**	**-0.5**
	baz=346						
HGSD	**Ruisui**	**0.81**	**241**	P	**Pn**	**11 46 50.0**	**+0.6**
	baz=238						
HGSD				S	**Sn**	**11 47 01.2**	**+0.8**
	baz=238						
EHY	**Hungye**	**0.88**	**245**	*i* P	**Pn**	**11 46 51.3**	**+0.7**
	baz=255						
EHY				S	**Sn**	**11 47 02.9**	**+0.6**
	baz=255						
WHF	**Hehuan Shan**	**0.89**	**287**	⇓*i*P	**Pn**	**11 46 51.2**	**+0.2**
	baz=277						
WHF				*i* S	**Sn**	**11 47 02.3**	**-0.7**
	baz=277						
JYNG	**Yonagunijimaku**	**0.89**	**51**	P	**Pn**	**11 46 51.9**	**+1.3**
JYNG				S	**Sn**	**11 47 03.6**	**+1.2**
NNSB	**Datong**	**0.92**	**306**	⇓P	**Pn**	**11 46 51.6**	**+0.5**
	baz=305						
NNSB				S	**Sn**	**11 47 03.3**	**0.0**
	baz=305						
NNSH	**Datong**	**0.92**	**306**	*i* P	**Pn**	**11 46 52.0**	**+0.9**
	baz=305						
NNSH				*i* S	**Sn**	**11 47 03.5**	**+0.2**
	baz=305						
NNS	**Nan Shan**	**0.93**	**307**	*i* P	**Pn**	**11 46 51.7**	**+0.4**
	baz=305						
NNS				*i* S	**Sn**	**11 47 03.7**	**0.0**
	baz=305						
FUSS	**Fushou**	**0.94**	**293**	P	**Pn**	**11 46 52.2**	**+0.7**
	baz=291						
FUSS				S	**Sn**	**11 47 05.0**	**+0.9**
	baz=291						
YOJ	**Yonaguni jima**	**0.94**	**52**	⇓P	**Pn**	**11 46 52.8**	**+1.4**
	baz=54						
YOJ				S	**Sn**	**11 47 05.0**	**+1.3**
	baz=54						
YOJ	**Yonaguni jima**	**0.94**	**52**	P	**Pn**	**11 46 52.7**	**+1.4**
YOJ				S	**Sn**	**11 47 05.0**	**+1.3**
ENTT	**Nioudou**	**0.94**	**323**	*i* P	**Pn**	**11 46 52.0**	**+0.6**
	baz=322						
ENTT				*i* S	**Sn**	**11 47 04.5**	**+0.7**
	baz=322						
NDT	**Datong Townshi**	**0.95**	**319**	⇓*i*P	**Pn**	**11 46 52.2**	**+0.8**
	baz=318						
NDT				S	**Sn**	**11 47 04.1**	**+0.2**
	baz=318						
CHGB	**Renai**	**0.95**	**281**	⇓P	**Pn**	**11 46 52.3**	**+0.7**
	baz=271						
CHGB				S	**Sn**	**11 47 04.8**	**+0.5**
	baz=271						
YULB	**Yu-li**	**0.96**	**239**	⇓P	**Pn**	**11 46 52.5**	**+0.9**
	baz=251						
YULB				S	**Sn**	**11 47 04.6**	**+0.5**
	baz=251						
TWE	**Neicheng**	**0.96**	**330**	⇓*i*P	**Pn**	**11 46 52.4**	**+0.8**
	baz=330						
TWE				*i* S	**Sn**	**11 47 05.1**	**+0.9**
	baz=330						
ILA	**Ilan**	**0.96**	**335**	⇓*i*P	**Pn**	**11 46 53.0**	**+1.3**
	baz=343						
ILA				*i* S	**Sn**	**11 47 05.6**	**+1.3**
	baz=343						
VWDT	**VWDT**	**0.97**	**262**	⇓P	**Pn**	**11 46 53.0**	**+1.2**
	baz=260						
VWDT				S	**Sn**	**11 47 05.4**	**+1.0**
	baz=260						
TWF1	**Yuli**	**0.98**	**237**	*i* P	**Pn**	**11 46 53.0**	**+1.1**
	baz=249						
TWF1				*i* S	**Sn**	**11 47 05.1**	**+0.5**
	baz=249						
EGS		**0.98**	**346**	*i* P	**Pn**	**11 46 53.1**	**+1.2**
	baz=346						
EGS				*i* S	**Sn**	**11 47 05.0**	**+0.2**
	baz=346						
TDCB	**Techi**	**1.01**	**291**	⇓P	**Pn**	**11 46 53.4**	**+0.9**
	baz=290						
TDCB				S	**Sn**	**11 47 06.1**	**+0.3**
	baz=290						
NTC	**Toucheng**	**1.02**	**341**	⇓*e*P	**Pn**	**11 46 53.5**	**+1.1**
	baz=350						
NTC				*e*S	**Sn**	**11 47 05.9**	**+0.2**
	baz=350						
YHNB	**Yeheng**	**1.08**	**316**	⇓P	**Pb**	**11 46 54.2**	**-0.2**
	baz=315						
YHNB				S	**Sn**	**11 47 07.3**	**0.0**
	baz=315						
NWLT	**Wulai**	**1.09**	**325**	*e*P	**Pb**	**11 46 54.3**	**-0.3**
	baz=324						
NWLT				*e*S	**Sn**	**11 47 07.9**	**+0.5**
	baz=324						
CHKT	**Chengkung**	**1.09**	**224**	*i* P	**Pb**	**11 46 54.0**	**-0.6**
	baz=214						
CHKT				S	**Sb**	**11 47 06.8**	**-1.7**
	baz=214						
NSK	**Sanguang**	**1.09**	**316**	⇓*e*P	**Pb**	**11 46 54.2**	**-0.5**
	baz=304						
NSK				*e*S	**Sn**	**11 47 07.4**	**-0.3**
	baz=304						
TIPB	**Shuangxi**	**1.13**	**343**	*i* P	**Pb**	**11 46 55.2**	**-0.1**
	baz=350						
TIPB				*i* S	**Sn**	**11 47 09.3**	**+0.8**
	baz=350						
TWB1	**Santiao Chiao**	**1.13**	**351**	*i* P	**Pb**	**11 46 54.7**	**-0.6**
	baz=350						
TWB1				S	**Sb**	**11 47 07.7**	**-2.0**
	baz=350						
SSLB	**Suanglung**	**1.14**	**265**	⇓P	**Pb**	**11 46 55.1**	**-0.3**
	baz=263						
DPDB	**Guoxing**	**1.17**	**277**	P	**Pb**	**11 46 56.0**	**0.0**
	baz=276						
DPDB				*e*S	**Sn**	**11 47 10.2**	**+0.8**
	baz=276						
SMLT	**Sun Moon Lake**	**1.18**	**270**	⇓*i*P	**Pb**	**11 46 55.9**	**-0.3**
	baz=268						
SMLT				*i* S	**Sn**	**11 47 10.5**	**+0.6**
	baz=268						
WHP	**Taichung City**	**1.21**	**289**	*i* P	**Pb**	**11 46 56.6**	**+0.1**
	baz=288						
WHP				S	**Sn**	**11 47 11.8**	**+1.5**
	baz=288						
EDH	**Donghe**	**1.22**	**222**	P	**Pb**	**11 46 56.0**	**-0.8**
	baz=213						
EDH				S	**Sn**	**11 47 10.4**	**-0.3**
	baz=213				

	baz=318							
ELDTW	**Lidau**	**1.28**	**237**	*i*	P	**Pb**	**11 46 56.9**	**-1.0**
	baz=236							
ELDTW					S	**Sn**	**11 47 12.1**	**-0.3**
	baz=236							
TAP	**Taipei**	**1.31**	**332**	*i*	P	**Pb**	**11 46 58.8**	**+0.5**
	baz=331							
TAP				*i*	S	**Sb**	**11 47 14.5**	**-0.2**
	baz=331							
LIOB	**Emei**	**1.31**	**305**	*e*	P	**Pb**	**11 46 58.7**	**+0.3**
	baz=295							
LIOB				*e*	S	**Sb**	**11 47 14.9**	**0.0**
	baz=295							
NSTT	**Nanjuang**	**1.32**	**305** ⇓	*i*	P	**Pb**	**11 46 58.5**	**+0.1**
	baz=295							
NSTT				*i*	S	**Sb**	**11 47 14.6**	**-0.3**
	baz=295							
ALS	**Alishan**	**1.33**	**254** ⇓	*i*	P	**Pb**	**11 46 58.7**	**0.0**
	baz=252							
ALS				*i*	S	**Sb**	**11 47 15.1**	**-0.5**
	baz=252							
WJS	**Zhushan**	**1.34**	**268**	*e*	P	**Pb**	**11 46 59.2**	**+0.4**
	baz=266							
WJS				*e*	S	**Sb**	**11 47 17.6**	**+1.9**
	baz=266							
TWQ1	**Liyutan**	**1.38**	**290** ⇓	*i*	P	**Pb**	**11 46 59.5**	**+0.1**
	baz=289							
TWQ1				*i*	S	**Sb**	**11 47 17.8**	**+1.1**
	baz=289							
YM01	**YM01**	**1.38**	**336**		P	**Pb**	**11 46 58.5**	**-1.0**
	baz=335							
YM01				*e*	S	**Sb**	**11 47 15.6**	**-1.1**
	baz=335							
LDUT	**Ludao**	**1.38**	**209**	*e*	P	**Pb**	**11 46 57.9**	**-1.6**
	baz=208							
LDUT				*e*	S	**Sn**	**11 47 13.5**	**-1.0**
	baz=208							
LONT	**Longtian**	**1.38**	**225**		P	**Pb**	**11 46 58.4**	**-1.1**
	baz=235							
LONT				*e*	S	**Sn**	**11 47 14.9**	**+0.3**
	baz=235							
WNT	**Mingjian**	**1.38**	**270**	*i*	P	**Pb**	**11 47 00.5**	**+1.0**
	baz=269							
WNT					S	**Sb**	**11 47 18.6**	**+1.8**
	baz=269							
YM10	**YM10**	**1.39**	**336** ⇓		P	**Pb**	**11 46 58.9**	**-0.8**
	baz=335							
YM10					S	**Sb**	**11 47 16.2**	**-0.8**
	baz=335							
YM11	**YM11**	**1.39**	**336**		P	**Pb**	**11 46 59.3**	**-0.5**
	baz=336							
YM11					S	**Sb**	**11 47 15.8**	**-1.4**
	baz=336							
YM05	**YM05**	**1.40**	**336** ⇓		P	**Pb**	**11 46 58.6**	**-1.1**
	baz=335							
YM05				*e*	S	**Sn**	**11 47 15.4**	**+0.3**
	baz=335							
YM04	**YM04**	**1.40**	**335** ⇓		P	**Pb**	**11 46 58.8**	**-1.0**
	baz=334							
YM04					S	**Sb**	**11 47 15.9**	**-1.3**
	baz=334							
NWRT	**Kuosheng**	**1.40**	**340**	*e*	S	**Sb**	**11 47 16.1**	**-1.1**
	baz=335							
TWS1	**Kuangyinshan**	**1.40**	**330**	*i*	P	**Pb**	**11 46 58.9**	**-0.9**
	baz=340							
TWS1				*i*	S	**Sb**	**11 47 16.7**	**-0.6**
	baz=340							
YM08	**YM08**	**1.41**	**337**		P	**Pb**	**11 46 58.9**	**-1.1**
	baz=336							
YM08					S	**Sn**	**11 47 15.5**	**+0.2**
	baz=336							
NSY	**Sanyi**	**1.41**	**292**	*i*	P	**Pb**	**11 47 00.1**	**+0.1**
	baz=291							
NSY					S	**Sb**	**11 47 18.2**	**+0.5**
	baz=291							
TCU	**Taichung**	**1.41**	**281**	*e*	P	**Pb**	**11 47 00.5**	**+0.5**
	baz=280							
TCU				*e*	S	**Sb**	**11 47 18.4**	**+0.8**
	baz=280							
NCU	**National Centr**	**1.42**	**320**	*i*	P	**Pb**	**11 46 59.5**	**-0.6**
	baz=319							
NCU				*i*	S	**Sb**	**11 47 16.9**	**-0.9**
	baz=319							
NCUH	**Zhongli**	**1.42**	**320**	*e*	P	**Pb**	**11 46 59.1**	**-0.9**
	baz=319							
NCUH				*e*	S	**Sb**	**11 47 17.4**	**-0.3**
	baz=319							
CHN5	**Tsauling**	**1.42**	**259**	*i*	P	**Pb**	**11 47 00.4**	**+0.3**
	baz=249							
CHN5				*i*	S	**Sb**	**11 47 19.0**	**+1.0**
	baz=249							
YM03	**YM03**	**1.42**	**335**		P	**Pb**	**11 46 59.0**	**-1.2**
	baz=334							
YM03					S	**Sb**	**11 47 17.6**	**-0.4**
	baz=334							
SBCB	**Hsinchu**	**1.42**	**310** ⇓		P	**Pb**	**11 47 00.0**	**-0.2**
	baz=309							
SBCB					S	**Sb**	**11 47 18.4**	**+0.4**
	baz=309							
ANP	**Anpu**	**1.43**	**335**	*e*	P	**Pb**	**11 46 59.0**	**-1.4**
	baz=334							
ANP				*e*	S	**Sb**	**11 47 17.2**	**-1.1**
	baz=334							
NMLH	**Miaoli**	**1.44**	**297**	*e*	P	**Pb**	**11 47 00.4**	**0.0**
	baz=296							
NMLH				*e*	S	**Sb**	**11 47 19.8**	**+1.5**
	baz=296							
NTST	**Danshui**	**1.44**	**332**	*e*	P	**Pb**	**11 46 59.5**	**-1.0**
	baz=345							
NTST					S	**Sb**	**11 47 17.6**	**-0.9**
	baz=345							
IRIF	**Iriomote-Funau**	**1.47**	**72**		P	**Pb**	**11 47 00.4**	**-0.6**
IRIF				*e*	S	**Sb**	**11 47 19.0**	**-0.4**
TWGBT	**Beinan**	**1.48**	**224**		P	**Pb**	**11 46 59.4**	**-1.7**
	baz=234							
TWGBT				*e*	S	**Sn**	**11 47 16.1**	**-0.9**
	baz=234							
TWG	**Pinlang**	**1.48**	**224**		P	**Pb**	**11 46 59.3**	**-1.8**
	baz=234							
TWG				*e*	S	**Sn**	**11 47 16.1**	**-0.9**
	baz=234							
TTN	**Taitung**	**1.48**	**221**	*e*	S	**Sb**	**11 47 18.6**	**-1.1**
	baz=211							
HATJ	**Hateruma jima**	**1.48**	**83**		P	**Pb**	**11 47 00.6**	**-0.6**
HATJ				*e*	S	**Sb**	**11 47 19.1**	**-0.6**
TWY	**Chenhua**	**1.48**	**339**	*e*	P	**Pb**	**11 47 00.1**	**-1.1**
	baz=338							
TWY				*e*	S	**Sb**	**11 47 19.9**	**+0.2**
	baz=338							
WDJ	**Dajia District**	**1.49**	**288**	*i*	P	**Pb**	**11 47 01.1**	**-0.2**
	baz=287							
WDJ				*i*	S	**Sb**	**11 47 20.9**	**+0.9**
	baz=287							
STYT	**Tauyuan**	**1.50**	**242**	*i*	P	**Pb**	**11 47 01.0**	**-0.6**
	baz=232							
STYT				*i*	S	**Sb**	**11 47 19.3**	**-1.0**
	baz=232							
WCHH	**Zhanghua**	**1.51**	**278**	*i*	P	**Pb**	**11 47 01.8**	**+0.2**
	baz=276							
WCHH					S	**Sb**	**11 47 21.4**	**+1.0**
	baz=276							
WGK	**Gukeng**	**1.51**	**263**		P	**Pb**	**11 47 02.0**	**+0.4**
	baz=261							
WGK					S	**Sb**	**11 47 20.6**	**+0.3**
	baz=261							
WDLH	**Douliu**	**1.53**	**263**		P	**Pb**	**11 47 02.3**	**+0.3**
	baz=261							
TPUB	**Ta-pu**	**1.55**	**248** ⇓		P	**Pb**	**11 47 02.1**	**-0.2**
	baz=247							
TPUB					S	**Sb**	**11 47 21.4**	**-0.2**
	baz=247							
CHN4	**Tsaushan**	**1.56**	**250**	*i*	P	**Pb**	**11 47 02.8**	**+0.3**
	baz=249							
CHN4				*i*	S	**Sb**	**11 47 23.1**	**+1.2**
	baz=249							
WTP	**Ta-pu**	**1.58**	**247**	*i*	P	**Pb**	**11 47 02.8**	**-0.1**
	baz=245							
WTP					S	**Sb**	**11 47 23.2**	**+0.6**
	baz=245							
CHN2	**Minshiung**	**1.61**	**258**	*i*	P	**Pb**	**11 47 03.8**	**+0.4**
	baz=257							
CHN2				*i*	S	**Sb**	**11 47 25.1**	**+1.7**
	baz=257							
WTK	**Tuku**	**1.67**	**264**		P	**Pb**	**11 47 04.5**	**+0.2**
	baz=263							
WTK					S	**Sb**	**11 47 26.4**	**+1.6**
	baz=263							
CHY	**Chiayi**	**1.67**	**257**	*e*	P	**Pb**	**11 47 04.6**	**+0.3**
	baz=256							
CHY					S	**Sb**	**11 47 25.1**	**+0.2**
	baz=256							
SLGT	**Liugui**	**1.68**	**238**		P	**Pb**	**11 47 04.2**	**-0.3**
	baz=230							
SLGT				*e*	S	**Sb**	**11 47 25.1**	**-0.2**
	baz=230							
RLNB	**Erlin**	**1.68**	**271** ⇓		P	**Pb**	**11 47 04.3**	**-0.2**
	baz=270							
RLNB					S	**Sb**	**11 47 25.7**	**+0.5**
	baz=270							
CHN1	**Nanshi**	**1.68**	**246**		P	**Pb**	**11 47 04.6**	**+0.1**
	baz=245							
CHN1					S	**Sb**	**11 47 26.4**	**+1.1**
	baz=245							
SGST	**Jiashian**	**1.68**	**242**	*i*	P	**Pb**	**11 47 03.6**	**-1.0**
	baz=230							
SGST					S	**Sb**	**11 47 24.7**	**-0.7**
	baz=230							
TWK	**Hsinying**	**1.68**	**249**	*i*	P	**Pb**	**11 47 04.6**	**0.0**
	baz=248							
TWK				*i*	S	**Sb**	**11 47 25.7**	**+0.3**
	baz=248							
SNST	**Tainan City**	**1.69**	**247**		P	**Pb**	**11 47 04.7**	**0.0**
	baz=246							
SNST					S	**Sb**	**11 47 25.9**	**+0.2**
	baz=246							
JKRS	**Kuro-shima**	**1.70**	**78**		P	**Pb**	**11 47 03.7**	**-1.1**
JKRS					S	**Sb**	**11 47 24.6**	**-1.2**
ECL	**Taimali**	**1.72**	**222**		P	**Pn**	**11 47 01.8**	**-0.2**
	baz=221							
ECL					S	**Sn**	**11 47 22.4**	**-0.5**
	baz=221							
PCYT	**Pengchaiyu**	**1.74**	**356**	*e*	P	**Pb**	**11 47 03.4**	**-2.2**
	baz=355							
WTCT	**Ta-ch'eng**	**1.75**	**270**	*i*	P	**Pb**	**11 47 05.2**	**-0.5**
	baz=269							
WTCT				*i*	S	**Sb**	**11 47 27.6**	**+0.3**
	baz=269							
WLGB	**Puzi**	**1.78**	**257**		S	**Sb**	**11 47 27.3**	**-1.0**
	baz=256							
WSF	**Szhu**	**1.82**	**263**	*i*	P	**Pb**	**11 47 06.1**	**-0.8**
	baz=262							
WSF				*i*	S	**Sb**	**11 47 29.3**	**-0.1**
	baz=262							
SSD	**Sandimen**	**1.83**	**232**		P	**Pb**	**11 47 05.5**	**-1.5**
	baz=224							
ICHU	**Yijhu**	**1.83**	**254**		P	**Pb**	**11 47 06.4**	**-0.7**
	baz=253							
ICHU				*e*	S	**Sb**	**11 47 29.3**	**-0.3**
	baz=253							
JIJ	**Ishigaki jima**	**1.84**	**75**		P	**Pn**	**11 47 05.1**	**+1.4**
JIJ					S	**Sn**	**11 47 26.9**	**+0.9**
TSMG	**Majia**	**1.85**	**231**	*e*	P	**Pb**	**11 47 06.9**	**-0.5**
	baz=223							
SCST	**Cishan**	**1.85**	**238**	*e*	P	**Pb**	**11 47 05.6**	**-1.9**
	baz=225							
SCST				*e*	S	**Sb**	**11 47 30.5**	**+0.2**
	baz=225							
CHN3	**Shinhua**	**1.86**	**245**		P	**Pb**	**11 47 07.8**	**+0.2**
	baz=244							
CHN3					S	**Sb**	**11 47 31.6**	**+1.1**
	baz=244							
CHN8	**Yiju**	**1.90**	**254** ⇓	*i*	P	**Pb**	**11 47 06.9**	**-1.3**
	baz=253							
CHN8					S	**Sb**	**11 47 30.3**	**-1.2**
	baz=253							
MASBT	**Mashibuluo**	**1.92**	**229**		P	**Pb**	**11 47 06.6**	**-1.9**
	baz=221							
LAY	**Lan-yu**	**1.93**	**198**	*e*	P	**Pn**	**11 47 05.5**	**+0.6**
	baz=198							
TWM1	**Shoushan**	**1.94**	**237**		P	**Pb**	**11 47 10.2**	**+1.2**
	baz=236							
TWM1					S	**Sb**	**11 47 34.8**	**+2.0**
	baz=236							
EAST	**Anshuo**	**1.94**	**220**		P	**Pb**	**11 47 06.6**	**-2.4**
	baz=219							
SGLT	**Jiouru**	**1.95**	**234**		P	**Pb**	**11 47 10.2**	**+1.1**
	baz=233							
SNJT	**Kaohsiung City**	**2.05**	**237**	*e*	P	**Pb**	**11 47 10.7**	**-0.1**
	baz=237							
SNJT				*e*	S	**Sb**	**11 47 37.0**	**+1.2**
	baz=237							
JISG	**Ishigakijimahi**	**2.06**	**70**		P	**Pn**	**11 47 07.9**	**+1.3**
JISG					S	**Sn**	**11 47 31.5**	**+0.3**
SCZT	**Fangliau**	**2.09**	**224**	*e*	P	**Pb**	**11 47 10.7**	**-0.8**
	baz=220							
SLIU	**Shizi**	**2.10**	**218**	*e*	P	**Pn**	**11 47 08.3**	**+1.0**
	baz=218							
WLCH	**Liuqiu**	**2.26**	**228**	*e*	P	**Pb**	**11 47 14.5**	**0.0**
	baz=241							
TWKBT	**Hengchun**	**2.32**	**214**	*e*	P	**Pn**	**11 47 11.2**	**+1.0**
	baz=214							
WDGT	**Dungji**	**2.41**	**255**		P	**Pn**	**11 47 13.4**	**+1.9**
	baz=244							
WDGT					S	**Sn**	**11 47 40.8**	**+0.9**
	baz=244							
JTJ	**Tarama**	**2.41**	**71**		P	**Pn**	**11 47 13.0**	**+1.5**
JTJ				*e*	S	**Sn**	**11 47 40.5**	**+0.5**
PHUB	**P'eng-hu**	**2.43**	**262**	*e*	P	**Pn**	**11 47 13.3**	**+1.5**
	baz=276							
PHUB				*e*	S	**Sn**	**11 47 41.1**	**+0.6**
	baz=276							
PNG	**Penghu**	**2.44**	**263**	*e*	P	**Pn**	**11 47 13.6**	**+1.6**
	baz=262							
PNG				*e*	S	**Sn**	**11 47 42.2**	**+1.5**
	baz=262							
VCHM	**Qimei**	**2.62**	**256**	*e*	P	**Pn**	**11 47 15.6**	**+1.1**
	baz=255							
VCHM				*e*	S	**Sn**	**11 47 46.2**	**+0.9**
	baz=255							
PTTC	**Pingtan**	**2.73**	**307**	*e*	P	**Pn**	**11 47 16.1**	**+0.2**
	baz=305							
VWUC	**VWUC**	**2.73**	**294**		P	**Pn**	**11 47 16.4**	**+0.5**
	baz=293							
JIRB	**Irabujima**	**2.88**	**70**		P	**Pn**	**11 47 19.1**	**+1.2**
JIRB				*e*	S	**Sn**	**11 47 51.9**	**+0.4**
JIKM	**Ikemajima**	**2.97**	**69**		P	**Pn**	**11 47 21.0**	**+1.8**
JIKM				*e*	S	**Sn**	**11 47 55.1**	**+1.3**
JMJ	**Miyako jima 2**	**2.98**	**71**	*e*	P	**Pn**	**11 47 20.4**	**+1.1**
	baz=71							
JMJ2	**Miyako jima3**	**2.98**	**73**		P	**Pn**	**11 47 21.1**	**+1.7**
JMJ2					S	**Sn**	**11 47 56.5**	**+2.4**
PTMZ	**Houxiangcun**	**3.03**	**293**		P	**Pn**	**11 47 20.4**	**+0.4**
	baz=291							
JOGS	**Gusukube**	**3.06**	**73**		P	**Pn**	**11 47 22.8**	**+2.4**
JOGS				*e*	S	**Sn**	**11 47 58.6**	**+2.6**
LYJJ	**Jianjiangzhen**	**3.45**	**321**	*e*	P	**Pn**	**11 47 25.3**	**-0.5**
	baz=319							
KNM	**Kinmen**	**3.48**	**280**	*e*	P	**Pn**	**11 47 28.3**	**+2.1**
	baz=277							
KNMB	**Chin-men Tao**	**3.52**	**280**	*e*	P	**Pn**	**11 47 27.0**	**+0.1**
	baz=278							
XPSS	**Dashiqiu**	**3.53**	**330**		P	**Pn**	**11 47 27.0**	**0.0**
	baz=326							
MHZQ	**Yeshan**	**3.62**	**308**	*e*	P	**Pn**	**11 47 28.3**	**+0.2**
	baz=306							
AXDP	**Jialang**	**3.98**	**286**	*e*	P	**Pn**	**11 47 33.7**	**+0.6**
	baz=283							
ZPLA	**Ao Xicun**	**4.07**	**272**	*e*	P	**Pn**	**11 47 34.8**	**+0.5**
	baz=269							
ZZJH	**Jiuhuzhen**	**4.21**	**279**	*e*	P	**Pn**	**11 47 36.4**	**+0.2**
	baz=277							
KSRS	**Korea Array**	**14.39**	**19**		P	**Pn**	**11 49 58.4**	**+2.6**
	0.3nm,0.3s,baz=196,slow=11,SNR=5.3							
SONM	**Songino Array**	**27.00**	**336**		P	**P**	**11 52 11.5**	**-2.0**
	0.5nm,0.5s,baz=144,slow=10,SNR=2.9							
SONM					LR	LR	12 04 11.5	
	comp=Z,46nm,18.2s,baz=1.0,slow=39							
MKAR	**Makanchi Array**	**39.19**	**316**		P	**P**	**11 53 59.3**	**-0.1**
	0.6nm,0.4s,baz=102,slow=11,SNR=6.5							
WRA	**Warramunga Ar**	**45.14**	**164**		P	**P**	**11 54 48.3**	**+0.2**
	0.7nm,0.9s,baz=345,slow=8.7,SNR=7.1							
ASAR	**Alice Springs**	**48.62**	**166**		P	**P**	**11 55 16.2**	**+1.0**
	0.2nm,0.4s,baz=346,slow=6.9,SNR=5.9							
ILAR	**Eielson Array**	**69.05**	**27**		P	**P**	**11 57 35.4**	**-1.3**
	0.1nm,0.6s,baz=273,slow=5.0,SNR=4.6							
FINES	**FINESS Array B**	**72.17**	**330**		P	**P**	**11 57 53.8**	**-1.9**
	1.4nm,0.8s,baz=67,slow=7.7,SNR=3.7							
NOA	**NORSAR Array B**	**78.92**	**332**		LR	LR	12 36 10.1	
	comp=Z,13nm,18.1s,baz=275,slow=38							

*HEL **31** 11:58:49.1±0.2,59.°19N×27.°78E,h0km, ML2.2, Explosion*
*LVSN **31** 11:58:49.9±6.1,59.°25N×27.°71E,h0km±42km, ML2.2*
*EST **31** 11:58:50.5±0.1,59.°24N×27.°73E,h0km, ML1.9(HEL), Explosion*

*UPP **31** 11:58:52.9±2.9,59.°33N×27.°54E,h0km, ML2.0, Suspected explosion*

ISC 31 11:58:48.9±1.2,**59.°24N**±0.°03×**27.°76E**±0.°05,**h0km**,**n40**, σ1ᵗ**47**/60,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARBE	**Arbavere**	**0.93**	**283**	*e*	P	**Pg**		**11 59 06.6**	**-0.2**
ARBE				*e*	S	**Sg**		**11 59 18.4**	**-0.5**
VSU	**Vasula**	**0.94**	**215**	*e*	P	**Pg**		**11 59 05.5**	**-1.4**
VSU				*e*	S	**Sg**		**11 59 18.9**	**-0.2**
VSU					AML	AML		11 59 28.7	
	comp=Z,36nm,0.2s								
VSU					AML	AML		11 59 29.0	
	comp=E,73nm,0.5s								
VSU					AML	AML		11 59 34.9	
	comp=N,87nm,0.4s								
VSU	**Vasula**	**0.94**	**215**	*e*	P	**Pg**		**11 59 07.3**	**+0.4**
VSU				*e*	S	**Sg**		**11 59 19.5**	**+0.4**
VJF	**Virojoki**	**1.31**	**356**	*e*	P	**Pg**		**11 59 13.6**	**-0.4**
VJF					MSG			11 59 30.1	
	comp=Z,12nm,0.2s								
VJF				*e*	S	**Sg**		**11 59 30.7**	**-0.2**
PVF	**Pernaja**	**1.62**	**325**	*e*	PG	**Pb**		**11 59 19.4**	**-0.2**
PVF				*e*	S	**Sn**		**11 59 39.7**	**-0.6**
PVF					MSG			11 59 43.8	
	comp=Z,7.7nm,0.1s								
MEF	**Metsahovi**	**1.97**	**301**	*e*	P	**Pb**		**11 59 25.5**	**-0.1**
MEF					AML	AML		11 59 26.4	
	comp=Z,18nm,0.2s								
MEF					AML	AML		11 59 26.5	
	comp=E,23nm,0.2s								
MEF				*e*	S	**Sb**		**11 59 50.1**	**-0.5**
MEF					AML	AML		11 59 51.4	
	comp=N,32nm,0.3s								
MEF	**Metsahovi**	**1.97**	**301**	*e*	PG	**Pb**		**11 59 25.5**	**-0.1**
MEF				*e*	SG	**Sb**		**11 59 50.4**	**-0.2**
MEF					MSG			11 59 51.6	
	comp=Z,6.1nm,0.1s								
MTSE	**Matsula**	**2.11**	**257**	*e*	P	**Pb**		**11 59 27.1**	**-0.8**
MTSE				*e*	S	**Sb**		**11 59 54.3**	**-0.4**
MTSE	**Matsula**	**2.11**	**257**	*e*	PB	**Pb**		**11 59 27.0**	**-1.0**
MTSE				*e*	SB	**Sb**		**11 59 54.1**	**-0.5**
FIA0	**FINESS Array S**	**2.37**	**340**	*e*	P	**Pn**		**11 59 30.1**	**+1.2**
FIA0				*e*	PB	**Pb**		**11 59 31.5**	**-0.9**
FIA0				*e*	SG	**Sb**		**12 00 03.1**	**+1.0**
FIA0					MSG			12 00 04.2	
	comp=Z,3.4nm,0.1s								
FIA1	**FINESS Array S**	**2.37**	**340**	*e*	P	**Pn**		**11 59 30.0**	**+1.1**
FIA1				*e*	PB	**Pb**		**11 59 31.5**	**-0.9**
FIA1				*e*	S	**Sn**		**11 59 59.3**	**+0.7**
FIA1				*e*	SB	**Sb**		**12 00 00.9**	**-1.1**
FIA1				*e*	SG	**Sg**		**12 00 03.0**	**-1.9**
FIA1					MSG			12 00 04.6	
	comp=Z,4.7nm,0.1s								
KAF	**Kangasniemi**	**2.97**	**347**	*e*	P	**Pn**		**11 59 39.0**	**+1.7**
KAF				*e*	PB	**Pb**		**11 59 41.5**	**-1.2**
KEF	**Keuruu**	**3.27**	**335**	*e*	PB	**Pb**		**11 59 46.7**	**-1.0**
SLIT	**Slitere, Latvi**	**3.30**	**243**	*e*	S	**Sb**		**12 00 28.8**	**0.0**
SLIT					AML	AML		12 00 31.8	
	comp=E,93nm,0.5s								
SLIT					AML	AML		12 00 32.6	
	comp=Z,49nm,0.3s								
SLIT					AML	AML		12 00 34.6	
	comp=N,94nm,0.7s								
RAF	**Rauma**	**3.50**	**303**	*e*	P	**Pn**		**11 59 47.4**	**+3.0**
RAF					AML	AML		12 00 40.7	
	comp=N,5.8nm,0.3s								
RAF					AML	AML		12 00 45.6	
	comp=Z,5.3nm,0.6s								
RAF					AML	AML		12 00 46.1	
	comp=E,5.2nm,0.6s								
RAF	**Rauma**	**3.50**	**303**	*e*	P	**Pn**		**11 59 47.2**	**+2.8**
SUF	**Sumiainen**	**3.58**	**348**	*e*	P	**Pn**		**11 59 47.5**	**+1.9**
SUF				*e*	SG	**Sb**		**12 00 39.6**	**+2.7**
AAL	**Aland**	**4.05**	**287**		P	**Pn**		**11 59 53.8**	**+1.9**
AAL					S	**Sn**		**12 00 39.0**	**-1.0**
AAL	**Aland**	**4.05**	**287**		P	**Pn**		**11 59 52.5**	**+0.5**
AAL	**Aland**	**4.05**	**287**	*e*	SG	**Sb**		**12 00 54.5**	**+4.2**
JOF	**Joensuu**	**4.08**	**23**	*e*	P	**Pn**		**11 59 54.1**	**+1.7**
VAF	**Ylistaro**	**4.54**	**329**	*e*	P	**Pn**		**12 00 01.3**	**+2.5**
NRTU	**Norrtaelje**	**4.68**	**279**		P	**Pn**		**12 00 03.3**	**+2.6**
NRTU	**Norrtaelje**	**4.68**	**279**		P	**Pn**		**12 00 03.0**	**+2.3**
GRAU	**Graesoe**	**4.79**	**287**		P	**Pn**		**12 00 02.8**	**+0.7**
GRAU					S	**Sn**		**12 00 56.4**	**-1.8**
GRAU	**Graesoe**	**4.79**	**287**		P	**Pn**		**12 00 03.4**	**+1.3**
NYNU	**Nynaeshamn**	**5.03**	**272**		P	**Pn**		**12 00 06.6**	**+1.1**
NYNU	**Nynaeshamn**	**5.03**	**272**		S	**Sn**		**12 01 02.8**	**-1.5**
NYNU	**Nynaeshamn**	**5.03**	**272**		P	**Pn**		**12 00 06.8**	**+1.3**
GOTU	**Gotland**	**5.07**	**256**		P	**Pn**		**12 00 07.5**	**+1.5**
GOTU	**Gotland**	**5.07**	**256**		P	**Pn**		**12 00 08.2**	**+2.1**
FIBU	**Brunna**	**5.33**	**282**		P	**Pn**		**12 00 11.8**	**+2.2**
BACU	**Backbrunna**	**5.46**	**281**		P	**Pn**		**12 00 12.9**	**+1.6**
OSTU	**Oestervaala**	**5.47**	**285**		P	**Pn**		**12 00 12.9**	**+1.4**
IGGU	**Iggoen**	**5.49**	**292**		P	**Pn**		**12 00 11.8**	**+0.1**
SJUU	**Sjulsmark**	**6.91**	**338**		P	**Pn**		**12 00 32.0**	**+0.8**
KALU	**Kalix**	**6.95**	**345**		P	**Pn**		**12 00 32.7**	**+0.9**
KALU					S	**Sn**		**12 01 50.0**	**-1.4**
HARU	**Harads**	**7.62**	**339**		P	**Pn**		**12 00 41.5**	**+0.5**
ERTU	**Ertsjaerv**	**7.77**	**343**		P	**Pn**		**12 00 43.6**	**+0.5**
PAJU	**Pajala**	**8.09**	**347**		P	**Pn**		**12 00 48.2**	**+0.7**

*IDC **31** 12:05:52.4±10.0,36.°64N×71.°11E,h236km±100km, mb3.2/5,mb1 3.3/9,mb1mx2.9/50,mbtmp3.9/9, Error ellipse: s-maj=59.1km s-min=20.5km az=21.0*

ISC 31 12:05:46.8±0.9,**36.4N**±0.°1×**71.°1E**±0.°1,**h188km**,**n16**, σ0ˢ**64**/16,**mb3.4/5,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**13.00**	**126**	*e*	P	**Pn**		**12 08 44.4**	**-0.5**
	13nm,0.4s								
MKAR	**Makanchi Array**	**13.30**	**35**		P	**P**		**12 08 52.1**	**+0.7**
	0.2nm,0.3s,baz=216,slow=12,SNR=9.6								
DANN	**Dangsing**	**13.35**	**123**	*e*	P	**Pn**		**12 08 48.3**	**-1.0**
	6.6nm,0.4s								
KOLN	**Koldanda**	**13.62**	**126**	*e*	P	**Pn**		**12 08 52.3**	**-0.4**
	5.7nm,0.2s		

BRLS	**Borolday**	**0.52**	**11**	*e*P		**Pg**	**12 06 03.5**	**0.0**
	33nm,0.1s							
BRLS				*e*S		**Sg**	**12 06 09.7**	**-0.5**
	399nm,0.1s							
KK31	**Karatay Array**	**0.83**	**45**	⇓P		**Pn**	**12 06 13.8**	**+1.2**
	5.9nm,0.3s,baz=237,slow=51,SNR=5.8							
KK31				⇓S		**Sn**	**12 06 26.5**	**+0.9**
	37nm,0.2s,baz=223,slow=31,SNR=17							
CHMG	**Chimgan**	**1.00**	**166**	*i*P		**Pg**	**12 06 11.2**	**-1.4**
CHMG				*e*S		**Sg**	**12 06 22.3**	**-3.2**
TAS	**Tashkent**	**1.23**	**194**	*e*P		**Pn**	**12 06 18.3**	**+0.3**
TAS				*e*S		**Sg**	**12 06 31.3**	**-1.8**
DZA	**Taraz**	**1.26**	**72**	*e*P		**Pn**	**12 06 20.4**	**+2.0**
	98nm,0.1s							
DZA				*e*S		**Sn**	**12 06 38.5**	**+2.4**
	465nm,0.2s							
FRG	**Fergana**	**2.37**	**138**	*e*P		Pg	12 06 43.7	+4.7
FRG				*e*S		**Sg**	**12 07 12.2**	**+2.5**
BTK	**Batken**	**2.60**	**161**	⇑*i*P		**Pb**	**12 06 40.1**	**-1.0**
	baz=54							
BTK				⇑*i*S		**Sb**	**12 07 11.6**	**-2.0**
	baz=54							
BTK	**Batken**	**2.60**	**161**	*e*P		**Pb**	**12 06 40.0**	**-1.0**
BTK				*e*S		**Sb**	**12 07 12.8**	**-0.8**
MRKS	**Merke**	**2.61**	**84**	*e*P		**Pg**	**12 06 44.3**	**+0.7**
	18nm,0.3s							
MRKS				*e*S		**Sg**	**12 07 18.4**	**+1.0**
	70nm,0.3s							
AML	**Almayashu**	**2.99**	**96**	⇑*i*P		**Pg**	**12 06 49.2**	**-1.6**
	baz=95							
AML				⇑*i*S		**Sg**	**12 07 27.1**	**-2.4**
	baz=95							
AML	**Almayashu**	**2.99**	**96**	P		**Pg**	**12 06 50.3**	**-0.5**
	SNR=44							
EKS2	**Erkin-Say**	**3.02**	**86**	⇑*e*P		**Pb**	**12 06 49.2**	**+1.1**
	baz=85							
EKS2				⇑*i*S		**Sg**	**12 07 27.7**	**-2.7**
	baz=85							
EKS2	**Erkin-Say**	**3.02**	**86**	P		**Pg**	**12 06 50.9**	**-0.4**
	SNR=12							
OHH	**Osh**	**3.06**	**130**	*e*P		**Pn**	**12 06 45.2**	**+2.0**
OHH				*e*S		**Sb**	**12 07 27.9**	**+1.2**
ARLS	**Aral**	**3.50**	**99**	⇑*e*P		**Pb**	**12 06 56.0**	**-0.4**
	baz=97							
ARLS				⇑*i*S		**Sb**	**12 07 39.3**	**-0.2**
	baz=97							
AAK	**Ala-Archa**	**3.54**	**86**	⇑*e*P		**Pb**	**12 06 56.4**	**-0.8**
	baz=86							
AAK				⇑*i*S		**Sb**	**12 07 40.2**	**-0.6**
	baz=86							
AAK	**Ala-Archa**	**3.54**	**86**	P		**Pg**	**12 07 00.7**	**-0.7**
	SNR=12							
AAK	**Ala-Archa**	**3.54**	**86**	⇑Pg		**Pg**	**12 07 00.4**	**-1.0**
	4.4nm,0.4s							
AAK				⇑Lg		Lg	12 07 48.1	
	13nm,0.5s							
UCH	**Uchtor**	**3.58**	**93**	⇓*e*P		**Pb**	**12 06 57.5**	**-0.5**
	baz=92							
UCH				⇓*i*S		**Sb**	**12 07 41.5**	**-0.6**
	baz=92							
UCH	**Uchtor**	**3.58**	**93**	P		**Pg**	**12 07 01.4**	**-0.7**
	SNR=15							
USP	**Ospenovka**	**3.60**	**76**	⇑*i*P		**Pb**	**12 06 57.5**	**-0.7**
	baz=77							
USP				⇑*i*S		**Sb**	**12 07 41.5**	**-1.0**
	baz=77							
USP	**Ospenovka**	**3.60**	**76**	P		**Pg**	**12 07 01.9**	**-0.7**
	SNR=7.0							
FRU1	**Bishkek**	**3.65**	**84**	⇑*i*P		**Pb**	**12 06 57.9**	**-1.0**
	baz=83							
FRU1				⇑*i*S		**Sb**	**12 07 42.0**	**-1.7**
	baz=83							
CHMS	**Chumysh**	**3.75**	**81**	⇓*e*P		**Pb**	**12 06 59.0**	**-1.6**
	baz=81							
CHMS				⇓*i*S		**Sb**	**12 07 45.0**	**-1.6**
	baz=81							
KBK	**Karagaybulak**	**3.88**	**86**	⇑*e*P		**Pb**	**12 07 01.0**	**-1.9**
	baz=86							
KBK				⇑*i*S		**Sb**	**12 07 48.4**	**-2.0**
	baz=86							
TKM2	**Tokmak 2**	**4.36**	**83**	⇑Pg		**Pg**	**12 07 17.0**	**-0.2**
	3.3nm,0.3s							
TKM2				⇓Lg		Lg	12 08 06.7	
	5.9nm,0.4s							
KRBS	**Karabastau**	**4.53**	**73**	*e*P		**Pg**	**12 07 18.2**	**-2.1**
	1.9nm,0.3s							
KRBS				*e*S		**Sg**	**12 08 17.7**	**-1.3**
	13nm,0.5s							
BOOM	**Boomskoye usch**	**4.61**	**88**	⇑*i*P		**Pb**	**12 07 11.7**	**-3.7**
	baz=88							
BOOM				⇑*i*S		**Sb**	**12 08 06.0**	**-5.6**
	baz=88							
KST	**Kastek**	**4.64**	**81**	*e*P		**Pg**	**12 07 20.7**	**-1.7**
	7.4nm,0.5s							
KST				*e*S		**Sg**	**12 08 21.8**	**-0.8**
	19nm,0.4s							
KDJ	**Kajisay**	**5.56**	**92**	⇑*i*P		Pn	12 07 24.3	+6.6
	baz=91							
KDJ				⇑*i*S		**Sn**	**12 08 28.8**	**+6.4**
	baz=91							
ANVS	**Anan'yevo**	**5.88**	**85**	⇑*i*P		Pn	12 07 28.6	+6.5
	baz=84							
ANVS				⇑*i*S		**Sn**	**12 08 35.5**	**+5.2**
	baz=84							

*NEIC **31** 12:26:50.0±1.5,0°.10N±0°.08×123°.67E±0°.07,h127km±7km, mb4.5/21,Error ellipse: s-maj=12.0km s-min=8.2km az=147.0*
*IDC **31** 12:26:50.3±1.9,0°.12N×123°.67E,h127km±18km,mb3.7/14, mb1 3.8/17,mb1mx3.6/39,mbtmp4.1/17,MS2.3/1, Ms1 2.5/1,ms1mx2.2/32,Error ellipse: s-maj=14.9km s-min=11.1km az=77.0*
*DJA **31** 12:26:52.9±0.3,0°.5S±3°×12°.4E±°,h99km±9km,M4.3/16, mB4.7/5,mb4.4/7,MLv4.4/16,Mw(mB)3.9/5*
ISC 31 12:26:51.9±0.4,0°.00N±0°.05×123°.66E±0°.05,h150km,n70, σ1°60/78,mb4.2/21,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.66**	**30**	P		**Pn**	**12 27 12.1**	**-2.0**
LUWI	**Luwuk**	**1.36**	**220**	P		**Pn**	**12 27 17.6**	**-2.4**
LUWI	**Luwuk**	**1.36**	**220**	Pn		**Pn**	**12 27 17.8**	**-2.2**
LUWI				Sn		**Sn**	**12 27 36.6**	**-5.0**
APSI	**Ampana**	**2.20**	**246**	P		**Pn**	**12 27 28.1**	**-1.3**
SANI	**Sanana**	**3.10**	**131**	P		**Pn**	**12 27 37.0**	**-3.5**
MPSI	**Mapaga**	**3.77**	**275**	P		**Pn**	**12 27 49.0**	**-0.2**
TNTI	**Ternate**	**3.79**	**78**	P		**Pn**	**12 27 46.4**	**-3.0**
TNTI				Sn		**Sn**	**12 28 29.9**	**-4.2**
SGSI	**Sangihe**	**4.11**	**27**	P		**Pn**	**12 27 54.5**	**+0.9**
NLAI	**Namlea**	**4.71**	**133**	P		**Pn**	**12 28 00.4**	**-1.1**
TTSI	**Tana Toraja**	**4.88**	**232**	P		**Pn**	**12 28 03.5**	**-0.3**
SPSI	**Sidrap Palu**	**5.53**	**225**	P		**Pn**	**12 28 11.9**	**-0.5**
	0.5nm1µm126nm,0.6s							
BNSI	**Bone**	**5.63**	**219**	P		**Pn**	**12 28 11.4**	**-2.3**
	0.2nm952nm50nm,0.6s							
KAPI	**Kappang**	**6.33**	**218**	P		**Pn**	**12 28 22.8**	**-0.2**
	9.5nm,0.3s,baz=350,slow=3.7,SNR=7.1							
KAPI				S		**Sn**	**12 29 34.5**	**+0.2**
	2.9nm,0.3s,baz=193,slow=24,SNR=1.4							
KAPI	**Kappang**	**6.33**	**218**			**Pn**	**12 28 21.3**	**-1.7**
BKSI	**Bulukumba**	**6.36**	**214**	P		**Pn**	**12 28 22.8**	**-0.6**
	0.1nm18nm,0.5s							
DDMP	**Don Marcelino,**	**6.40**	**19**	*e*P		**Pn**	**12 28 24.4**	**+0.5**
SKMP	**Bagumbayan, Su**	**6.54**	**8**	*e*P		**Pn**	**12 28 24.7**	**-1.1**
BSSI	**Bau Bau, Buton**	**6.87**	**207**	P		**Pn**	**12 28 29.9**	**-0.4**
	0.2nm721nm55nm,0.8s							
KCP	**Kidapawan**	**7.11**	**12**	⇑*i*P		**Pn**	**12 28 36.1**	**+2.6**
MYLDM	**Lahad Datu**	**7.28**	**315**	Pn		**Pn**	**12 28 35.9**	**+0.2**
SIJI	**Sorong**	**7.66**	**96**	P		**Pn**	**12 28 39.5**	**-1.3**
	2.8nm,0.3s,baz=299,slow=13,SNR=7.0							
SIJI				S		**Sn**	**12 30 05.1**	**-1.2**
	0.8nm,0.3s,baz=326,slow=23,SNR=1.6							
PAGZ	**Pagadian**	**7.80**	**358**	*e*P		**Pn**	**12 28 45.8**	**+3.1**
KKM	**Kota Kinabalu**	**9.55**	**309**	Pn		**Pn**	**12 29 03.1**	**-3.0**
SMPP	**San Manuel, Pa**	**16.31**	**350**	*e*P		**P**	**12 30 33.9**	**+1.2**
KNRA	**Kununurra**	**16.37**	**162**	P		**P**	**12 30 35.6**	**+2.3**
KNRA				IAmb		IAmb	12 31 10.0	
	comp=Z,39nm,1.9s							
APYP	**Conner**	**17.91**	**353**	*e*P		**Pn**	**12 30 52.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.09**	**174**	P		**Pn**	**12 30 53.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=4.2,slow=11,SNR=7.2							
FITZ	**Fitzroy Crossi**	**18.09**	**174**	P		**Pn**	**12 30 53.2**	**-0.7**
FITZ				IAmb		IAmb	12 31 28.2	
	comp=Z,25nm,2.0s							

DLV	**T Lat**	**19.17**	**309**	P		**P**	**12 31 01.3**	**-2.9**
DLV				IAmb		IAmb	12 31 09.1	
	comp=Z,39nm,1.3s							
WB0	**Warramunga Arr**	**22.29**	**152**	P		**P**	**12 31 37.4**	**+0.3**
WRA	**Warramunga Arr**	**22.41**	**153**	P		**P**	**12 31 38.7**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=337,slow=10,SNR=28							
WRA				PcP		**PcP**	**12 35 29.1**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=322,slow=2.3,SNR=8.1							
WRA	**Warramunga Arr**	**22.41**	**153**	P		**P**	**12 31 38.1**	**-0.2**
WB2	**Warramunga Arr**	**22.42**	**153**	P		**P**	**12 31 38.9**	**+0.5**
TPUB	**Ta-pu**	**23.35**	**353**	P		**P**	**12 31 44.5**	**-2.4**
TPUB				IAmb		IAmb	12 32 39.5	
	comp=Z,78nm,1.8s							
AS31	**Alice Springs**	**25.54**	**158**	P		**P**	**12 32 09.5**	**+2.6**
ASAR	**Alice Springs**	**25.54**	**158**	P		**P**	**12 32 08.8**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=330,slow=8.8,SNR=14							
ASAR				PcP		**PcP**	**12 35 36.5**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=344,slow=2.3,SNR=17							
ASAR	**Alice Springs**	**25.54**	**158**	P		**P**	**12 32 08.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.43**	**308**	P		**P**	**12 32 51.3**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=141,slow=7.4,SNR=10							
CMAR				PcP		**PcP**	**12 35 48.3**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=82,slow=2.0,SNR=5.1							
CMAR				LR		LR	12 46 10.1	
	comp=Z,5.1nm,19.7s,baz=240,slow=38							
CMAR	**Chiang Mai Arr**	**30.43**	**308**	P		**P**	**12 32 51.8**	**+1.4**
CHTO	**Chiang Mai**	**30.63**	**309**	P		**P**	**12 32 53.1**	**+0.9**
CHTO				IAmb		IAmb	12 32 56.0	
	comp=Z,5.5nm,1.1s							
STKA	**Stephens Creek**	**35.96**	**153**	P		**P**	**12 33 39.6**	**+1.4**
	comp=Z,2.3nm,0.5s,baz=330,slow=8.8,SNR=9.5							
STKA	**Stephens Creek**	**35.96**	**153**	P		**P**	**12 33 38.9**	**+0.7**
JWT	**Wachi**	**36.77**	**16**	P		**P**	**12 33 46.1**	**+1.1**
JWT				IAmb		IAmb	12 34 59.3	
	comp=Z,28nm,1.6s							
MJAR	**Matsushiro Arr**	**38.78**	**19**	P		**P**	**12 34 01.2**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=185,slow=8.7,SNR=5.0							
MAJO	**Matsushiro**	**38.79**	**19**	P		**P**	**12 34 01.5**	**-0.4**
MAJO				IAmb		IAmb	12 34 02.5	
	comp=Z,11nm,1.2s							
JSD	**Sado**	**40.17**	**18**	P		**P**	**12 34 13.3**	**0.0**
JSD				IAmb		IAmb	12 34 23.3	
	comp=Z,8.4nm,0.9s							
ARMA	**Armidale**	**40.28**	**141**	P		**P**	**12 34 16.7**	**+2.2**
USRK	**Ussuriysk Ar.**	**44.63**	**9**	P		**P**	**12 34 49.4**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=193,slow=6.4,SNR=8.7							
USRK	**Ussuriysk Ar.**	**44.63**	**9**	P		**P**	**12 34 48.7**	**-0.6**
WAKE	**Wake Island**	**46.30**	**63**	P		**P**	**12 35 01.7**	**-1.2**
SONM	**Songino Array**	**49.95**	**345**	P		**P**	**12 35 30.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=158,slow=9.7,SNR=4.3							
SONM	**Songino Array**	**49.95**	**345**	P		**P**	**12 35 30.0**	**-0.6**
MK31	**Makanchi Array**	**58.96**	**328**	P		**P**	**12 36 35.9**	**+0.3**
MK31				IAmb		IAmb	12 36 37.4	
	comp=Z,1.8nm,0.6s							
MKAR	**Makanchi Array**	**58.96**	**328**	P		**P**	**12 36 35.8**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=123,slow=8.4,SNR=29							
MKAR				PcP		**PcP**	**12 37 23.2**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=170,slow=2.9,SNR=13							
MKAR	**Makanchi Array**	**58.96**	**328**	P		**P**	**12 36 35.5**	**0.0**
PETK	**Petropavlovsk-**	**60.03**	**23**	P		**P**	**12 36 43.7**	**+1.0**
	comp=Z,8.3nm,1.0s,baz=221,slow=4.4,SNR=7.2							
PETK	**Petropavlovsk-**	**60.03**	**23**	P		**P**	**12 36 43.4**	**+0.7**
HIZ	**Hauiti**	**60.56**	**135**	P		**P**	**12 36 47.3**	**+0.7**
ZALV	**Zalesovo Beam**	**62.59**	**335**	P		**P**	**12 36 59.9**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=108,slow=4.8,SNR=4.1							
ZALV	**Zalesovo Beam**	**62.59**	**335**	P		**P**	**12 36 58.8**	**-1.1**
KURK	**Kurchatov**	**63.30**	**330**	P		**P**	**12 37 04.7**	**+0.1**
KURK				IAmb		IAmb	12 37 06.5	
	comp=Z,9.0nm,0.6s							
TIXI	**Tiksi**	**71.61**	**2**	P		**P**	**12 37 56.5**	**+0.1**
ABKAR	**Akbulak array**	**73.13**	**322**	P		**P**	**12 38 05.6**	**-0.3**
MAW	**Mawson**	**79.22**	**200**	P		**P**	**12 38 41.0**	**+1.1**
VNDA	**Vanda**	**80.16**	**172**	P		**P**	**12 38 46.9**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=318,slow=5.8,SNR=12							
VNDA	**Vanda**	**80.16**	**172**	P		**P**	**12 38 46.3**	**+1.4**
VNDA				IAmb		IAmb	12 41 28.9	
	comp=Z,7.5nm,1.7s							
ILAR	**Eielson Array**	**89.77**	**25**	P		**P**	**12 39 32.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=241,slow=5.1,SNR=6.5							
ARCES	**ARCESS Array B**	**92.86**	**340**	P		**P**	**12 39 46.2**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=78,slow=5.6,SNR=8.6							
FINES	**FINESS Array B**	**93.63**	**331**	P		**P**	**12 39 49.9**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=91,slow=7.0,SNR=3.9							
TORD	**Torodi Ar. Bea**	**121.04**	**285**	PKP		**PKiKP**	**12 45 28.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=105,slow=1.8,SNR=7.2							

*NNC **31** 12:30:02.2±4.2,40°.80N×69°.55E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=28.4km s-min=21.1km az=41.0*
*SOME **31** 12:30:04.2,41°.00N×69°.65E,h5km*
*KRNET **31** 12:30:08.7±0.1,40°.90N×69°.93E,mb3.0*
ISC 31 12:30:04.8±1.2,40°.92N±0°.03×69°.63E±0°.05,h15km±11km, n17,σ2°18/31,14C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.25**	**133**	⇑*i*P		**Pg**	**12 30 28.9**	**0.0**
	baz=41							
BTK				⇑*i*S		**Sg**	**12 30 43.9**	**-1.4**
	baz=41							
IUG	**Iuzhnay**	**1.26**	**14**	*e*P		**Pb**	**12 30 28.6**	**+0.2**
	63nm,0.1s							
IUG				*e*S		**Sg**	**12 30 47.7**	**+2.1**
	148nm,0.6s							
IUG	**Iuzhnay**	**1.26**	**14**	P		**Pb**	**12 30 28.4**	**0.0**
	79nm,0.3s							
IUG				S		**Sg**	**12 30 48.2**	**+2.6**
	143nm,0.6s							
CHM	**Chimkent**	**1.40**	**359**	*e*P		**Pb**	**12 30 31.0**	**+0.3**
	238nm,0.1s							
CHM				*e*S		**Sg**	**12 30 51.6**	**+1.7**
	382nm,0.2s							
GAR	**Garm**	**1.99**	**164**	⇑*i*P		**Pg**	**12 30 43.2**	**+0.2**
	baz=71							
GAR				⇑*i*S		**Sg**	**12 31 08.6**	**-0.2**
	baz=71							
BRLS	**Borolday**	**2.11**	**4**	*e*P		**Pn**	**12 30 37.5**	**-2.2**
	32nm,0.3s							
BRLS				*e*S		**Sn**	**12 31 02.7**	**-3.0**
	122nm,0.4s							
BRLS	**Borolday**	**2.11**	**4**	Pg		**Pn**	**12 30 37.5**	**-2.2**
	32nm,0.3s							
BRLS				Lg		Lg	12 31 03.4	
	122nm,0.4s							
KK31	**Karatay Array**	**2.28**	**17**	⇓Pn		**Pb**	**12 30 44.4**	**-1.3**
	2.4nm,0.3s,baz=200,slow=15,SNR=101							
KK31				⇓S		**Sb**	**12 31 14.7**	**+0.9**
	24nm,0.5s,baz=202,slow=26,SNR=26							
CHGR	**Chuyangaron**	**2.29**	**189**	⇑*e*P		**Pg**	**12 30 49.2**	**+0.5**
	baz=95							
CHGR				⇑*i*S		**Sg**	**12 31 18.3**	**-0.1**
	baz=95							
MNAS	**Manas**	**2.66**	**53**	⇑*i*P		**Pb**	**12 30 51.2**	**-1.1**
	baz=50							
MNAS				⇑*i*S		**Sb**	**12 31 22.7**	**-2.2**
	baz=50							
MRKS	**Merke**	**3.25**	**55**	*e*P		**Pb**	**12 31 01.7**	**-0.6**
	2.8nm,0.3s							
MRKS				*e*S		**Sg**	**12 31 44.5**	**-4.7**
	8.3nm,0.4s							
MRKS	**Merke**	**3.25**	**55**	Pg		**Pb**	**12 31 01.8**	**-0.5**
	6.0nm,0.4s							
MRKS				Lg		Lg	12 31 44.8	
	12nm,0.3s							
AML	**Almayashu**	**3.29**	**67**	⇓*i*P		**Pb**	**12 30 59.9**	**-3.2**
	baz=65							
AML				⇓*i*S		**Sn**	**12 31 36.8**	**+1.6**
	baz=65							
EKS2	**Erkin-Say**	**3.56**	**59**	⇑*i*P		**Pb**	**12 31 03.6**	**-4.0**
	baz=57							
EKS2				⇑*i*S		**Sn**	**12 31 43.6**	**+2.1**
	baz=57							
ARLS	**Aral**	**3.66**	**74**	⇑*i*P		**Pn**	**12 31 04.3**	**+3.3**
	baz=72							
ARLS				⇑*i*S		**Sn**	**12 31 45.1**	**+1.1**
	baz=72							
UCH	**Uchtor**	**3.89**	**69**	⇑*e*P		**Pn**	**12 31 08.0**	**+3.5**
	baz=67							
UCH				⇑*i*S		**Sn**	**12 31 51.6**	**+1.4**
	baz=67							
AAK	**Ala-Archa**	**4.03**	**63**	⇓Pg		**Pb**	**12 31 17.5**	**+2.0**
	2.3nm,0.6s							
AAK				⇓Lg		Lg	12 32 08.2	
	8.5nm,0.8s							

*NEIC **31** 12:40:04.3±2.5,17°.02S±0°.06×172°.49W±0°.07,h10km±1km, mb4.7/9,Error ellipse: s-maj=12.3km s-min=9.1km az=244.0*
*IDC **31** 12:40:10.1±0.8,16°.66S×173°.08W,h0km,mb4.1/10, mb1 4.3/11,mb1mx4.1/39,mbtmp4.1/11,ML3.5/1,MS3.8/22, Ms1 3.8/22,ms1mx3.7/42,Error ellipse: s-maj=38.4km s-min=16.9km az=140.0*
ISC 31 12:40:04.6±0.5,16°.82S±0°.06×172°.31W±0°.08,h10km,n51, σ2°23/30,mb4.2/13,MS3.8/24,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.94**	**10**	Pn		**Pb**	**12 40 57.0**	**-0.2**
	6.5nm,0.3s,baz=216,slow=14,SNR=27							
AFI				Sn		**Sb**	**12 41 34.5**	**+1.1**
	33nm,0.3s,baz=182,slow=22,SNR=4.4							
AFI	**Afiamalu**	**2.94**	**10**			**Pb**	**12 40 55.9**	**-1.4**
AFI				Sn		**Sb**	**12 41 31.2**	**-2.1**
NIUE	**Niue**	**3.19**	**135**			**Pn**	**12 40 56.5**	**+1.6**
NIUE				Sn		**Sn**	**12 41 31.9**	**-1.1**
MSVF	**Nonsavu**	**9.25**	**263**	Pn		**Pn**	**12 42 16.1**	**-2.2**
DZM	**Mont Dzumac**	**20.69**	**252**	LR		LR	12 51 15.4	
	comp=Z,510nm,18.4s,baz=44,slow=33							
DZM	**Mont Dzumac**	**20.69**	**252**	eLR		LR	12 49 55.4	
	comp=Z,612nm,25.4s							
PPT2	**Papeete2**	**21.73**	**95**	eLR		LR	12 50 14.8	
	comp=Z,8µm,46.5s							
PPT	**Papeete**	**21.73**	**95**	LR		LR	12 52 11.4	
	comp=Z,165nm,18.4s,baz=270,slow=32							
PPT	**Papeete**	**21.73**	**95**	P		**P**	**12 44 53.8**	**-2.6**
TBI	**Tubuai**	**22.41**	**111**	eLQ		LQ	12 49 34.8	
	463nm,25.5s							
TBI				eLR		LR	12 50 33.9	
	comp=Z,345nm,27.0s,baz=286							
TARA	**Tarawa**	**23.20**	**320**	P		**P**	**12 45 11.9**	**0.0**
URZ	**Urewera**	**23.29**	**201**	P		**P**	**12 45 16.7**	**+4.2**
	9.8nm,0.7s,baz=241,slow=8.2,SNR=2.7							
URZ	**Urewera**	**23.29**	**201**	P		**P**	**12 45 11.0**	**-1.5**
URZ				IAmb		IAmb	12 45 16.6	
	comp=Z,34nm,1.2s							
BKZ	**Black Stump Fm**	**24.31**	**202**	P		**P**	**12 45 20.4**	**-2.1**
BKZ				IAmb		IAmb	12 45 25.1	
	comp=Z,21nm,1.2s							
HNR	**Honiara**	**27.97**	**282**	LR		LR	12 55 20.5	
	comp=Z,458nm,18.4s,baz=118,slow=33							
STKA	**Stephens Creek**	**44.26**	**241**	P		**P**	**12 48 17.6**	**+3.1**
	comp=Z,2.2nm,0.8s,baz=100,slow=12,SNR=3.6							
STKA				LR		LR	13 04 28.7	
	comp=Z,113nm,18.6s,baz=33,slow=33							
WR0	**Warramunga Arr**	**50.36**	**258**	P		**P**	**12 48 59.8**	**-2.5**
WB2	**Warramunga Arr**	**50.54**	**258**	P		**P**	**12 49 02.0**	**-1.7**
WRA	**Warramunga Arr**	**50.55**	**258**	P		**P**	**12 49 04.9**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=96,slow=6.9,SNR=15							
WRA				LR		LR	13 09 21.1	
	comp=Z,186nm,18.3s,baz=115,slow=35							
WRA	**Warramunga Arr**	**50.55**	**258**	P		**P**	**12 49 02.3**	**-1.5**
ASAR	**Alice Springs**	**50.68**	**253**	P		**P**	**12 49 06.2**	**+1.5**
	comp=Z,3.9nm,0.7s,baz=88,slow=8.8,SNR=32							
ASAR				LR		LR	13 10 21.7	
	comp=Z,166nm,18.2s,baz=98,slow=36							
ASAR	**Alice Springs**	**50.68**	**253**	P		**P**	**12 49 03.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**58.95**	**259**	P		**P**	**12 50 05.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=72,slow=3.2,SNR=1.4							
FITZ	**Fitzroy Crossi**	**58.95**	**259**	P		**P**	**12 50 01.5**	**-3.2**
VNDA	**Vanda**	**62.08**	**186**	LR		LR	13 11 41.6	
	comp=Z,32nm,20.4s,baz=360,slow=30							
VNDA	**Vanda**	**62.08**	**186**	P		**P**	**12 50 23.5**	**-1.6**
VNDA				IAmb		IAmb	12 50 35.8	
	comp=Z,5.8nm,1.5s							
CASY	**Casey**	**69.56**	**205**	P		**P**	**12 51 10.7**	**-2.7**
LPIG	**La Paz**	**72.90**	**58**	LR		LR	13 15 56.8	
	comp=Z,32nm,19.7s,baz=226,slow=29							
PFO	**Pinyon Flats O**	**73.13**	**46**	LR		LR	13 18 49.3	
	comp=Z,68nm,19.6s,baz=260,slow=32							
QSPA	**South Pole Qui**	**73.23**	**180**	P		**P**	**12 51 36.2**	**+0.4**
QSPA				IAmb		IAmb	12 51 45.6	
	comp=Z,9.9nm,1.1s							
ASAJ	**Asahikawa**	**73.29**	**328**	LR		LR	13 16 54.5	
	comp=Z,34nm,19.7s,baz=146,slow=30							
PETK	**Petropavlovsk-**	**74.30**	**342**	LR		LR	13 16 47.2	
	comp=Z,

comp=Z,2.0nm,0.3s,baz=76,slow=1.4,SNR=8.9

URZ	**Urewera**	**18.67**	**162**		**Pn**	**13 20 17.0**	**+0.7**
URZ				IAmb	IAmb	13 20 24.0	
	comp=Z,16nm,1.0s						
AFI	**Afiamalu**	**18.71**	**72**	P	**P**	**13 20 15.4**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=58,slow=23,SNR=1.9						
AFI	**Afiamalu**	**18.71**	**72**	P	**P**	**13 20 14.1**	**-1.2**
ARMA	**Armidale**	**19.15**	**236**		**Pn**	**13 20 22.9**	**+0.7**
ARMA				IAmb	IAmb	13 20 23.5	
	comp=Z,18nm,0.7s						
BKZ	**Black Stump Fm**	**19.35**	**164**	Pn	**Pn**	**13 20 23.8**	**-0.7**
BKZ				IAmb	IAmb	13 20 24.4	
	comp=Z,11nm,0.8s						
SNZO	**South Karori**	**21.04**	**170**	P	**P**	**13 20 42.4**	**+2.2**
CTA	**Charters Tower**	**22.18**	**267**	P	**P**	**13 20 53.8**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=1.9,slow=4.6,SNR=1.7						
CAN	**Canberra**	**23.51**	**227**	P	**P**	**13 21 06.6**	**+1.5**
CAN				IAmb	IAmb	13 21 07.4	
	comp=Z,10nm,0.9s						
KRVT	**Keravat (AS076**	**23.77**	**311**	P	**P**	**13 21 07.6**	**0.0**
	comp=Z,25nm,0.6s,baz=60,slow=4.8,SNR=4.6						
STKA	**Stephens Creek**	**27.68**	**240**	P	**P**	**13 21 43.6**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=81,slow=10.0,SNR=4.2						
STKA				LR	LR	13 31 10.4	
	comp=Z,26nm,20.2s,baz=30,slow=33						
STKA	**Stephens Creek**	**27.68**	**240**	P	**P**	**13 21 42.4**	**-0.4**
WR0	**Warramunga Arr**	**33.14**	**265**	P	**P**	**13 22 29.9**	**-1.1**
WB0	**Warramunga Arr**	**33.30**	**265**	P	**P**	**13 22 31.9**	**-0.6**
WB0				IAmb	IAmb	13 22 37.8	
	comp=Z,3.7nm,1.0s						
WB2	**Warramunga Arr**	**33.32**	**265**	P	**P**	**13 22 31.2**	**-1.4**
WRA	**Warramunga Arr**	**33.33**	**265**	P	**P**	**13 22 31.4**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=94,slow=8.2,SNR=31						
WRA				pP	**pwP**	**13 23 02.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=95,slow=8.7,SNR=8.0						
WRA				PcP	**PcP**	**13 25 11.2**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=95,slow=2.3,SNR=5.5						
WRA	**Warramunga Arr**	**33.33**	**265**	P	**P**	**13 22 31.6**	**-1.1**
AS31	**Alice Springs**	**33.43**	**258**	P	**P**	**13 22 33.3**	**-0.3**
ASAR	**Alice Springs**	**33.44**	**258**	P	**P**	**13 22 32.9**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=91,slow=8.5,SNR=29						
ASAR				pP	**pwP**	**13 23 03.5**	**-1.0**
	comp=Z,6.7nm,1.0s,baz=80,slow=9.2,SNR=6.4						
ASAR				PcP	**PcP**	**13 25 11.1**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=101,slow=3.1,SNR=9.4						
ASAR				ScP	**ScP**	**13 28 44.9**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=107,slow=4.1,SNR=4.1						
ASAR	**Alice Springs**	**33.44**	**258**	P	**P**	**13 22 32.3**	**-1.2**
ASAR					**PcP**	**13 25 11.4**	**-0.8**
MTN	**Manton Dam**	**37.85**	**276**	P	**P**	**13 23 11.0**	**-0.3**
MTN				IAmb	IAmb	13 23 29.5	
	comp=Z,9.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**41.75**	**266**	P	**P**	**13 23 43.8**	**+0.3**
FITZ				IAmb	IAmb	13 23 44.8	
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**57.10**	**182**	P	**P**	**13 25 39.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=355,slow=7.1,SNR=11						
VNDA	**Vanda**	**57.10**	**182**	P	**P**	**13 25 39.1**	**-0.1**
VNDA				IAmb	IAmb	13 25 39.3	
	comp=Z,1.4nm,0.7s						
MJAR	**Matsushiro Arr**	**64.24**	**332**	P	**P**	**13 26 27.8**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=164,slow=6.0,SNR=5.6						
QSPA	**South Pole Qui**	**69.46**	**180**	P	**P**	**13 27 00.7**	**-0.3**
	comp=Z,10nm,0.7s,baz=360,slow=1.2,SNR=63						
QSPA	**South Pole Qui**	**69.46**	**180**	P	**P**	**13 27 00.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**73.23**	**333**	P	**P**	**13 27 24.3**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=180,slow=6.9,SNR=2.7						
MAW	**Mawson**	**77.41**	**202**	P	**P**	**13 27 47.7**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=96,slow=6.5,SNR=7.7						
MAW	**Mawson**	**77.41**	**202**	P	**P**	**13 27 47.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**79.63**	**294**	P	**P**	**13 28 01.8**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=134,slow=4.4,SNR=22						
CHTO	**Chiang Mai**	**79.79**	**295**	P	**P**	**13 28 01.9**	**+0.7**
CHTO				IAmb	IAmb	13 28 03.1	
	comp=Z,4.3nm,0.8s						
SNAA	**Sanae**	**87.83**	**182**	P	**P**	**13 28 40.1**	**-1.3**
SNAA	**Sanae**	**87.83**	**182**	P	**P**	**13 28 40.1**	**-1.3**
	comp=Z,4.1nm,0.5s,baz=192,slow=9.4,SNR=14						
SNAA	**Sanae**	**87.83**	**182**	P	**P**	**13 28 40.0**	**-1.3**
YBH	**Yreka Blue Hor**	**87.84**	**44**	P	**P**	**13 28 43.3**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=221,slow=1.2,SNR=4.1						
VNA3	**Neumayer Olymp**	**88.40**	**180**	P	**P**	**13 28 42.6**	**-1.4**
SONM	**Songino Array**	**88.68**	**323**	P	**P**	**13 28 45.6**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=145,slow=5.4,SNR=7.3						
VNA2	**Neumayer--Watz**	**88.70**	**181**	P	**P**	**13 28 44.7**	**-0.7**
VNA1	**Neumayer--Stat**	**88.99**	**181**	P	**P**	**13 28 45.5**	**-1.1**
NVAR	**Mina Array Bea**	**89.23**	**48**	P	**P**	**13 28 49.7**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=226,slow=8.2,SNR=26						
NVAR	**Mina Array Bea**	**89.23**	**48**	P	**P**	**13 28 48.9**	**+0.2**
NV11	**Mina Array Sit**	**89.34**	**48**	P	**P**	**13 28 50.0**	**+0.9**
NV11				IAmb	IAmb	13 28 50.9	
	comp=Z,3.8nm,0.8s						
KVN	**Kaiserville**	**89.66**	**48**	P	**P**	**13 28 51.2**	**+0.7**
ILAR	**Eielson Array**	**91.34**	**17**	P	**P**	**13 28 56.0**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=236,slow=5.2,SNR=5.3						
ILAR				pP	**pP**	**13 29 31.6**	**+3.1**
	comp=Z,0.5nm,1.0s,baz=234,slow=5.2,SNR=1.9						
ELK	**Elko**	**92.38**	**47**	P	**P**	**13 29 04.0**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=174,slow=4.2,SNR=4.1						
MKAR	**Makanchi Array**	**103.14**	**315**	Pdiff	**Pdif**	**13 29 51.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=101,slow=6.6,SNR=2.5						
ARCES	**ARCESS Array B**	**126.54**	**345**	PKP	**PKPdf**	**13 34 53.7**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=29,slow=2.8,SNR=6.8						
ARCES				pPKP	**pPKPdf**	**13 35 32.1**	**+5.7**
	comp=Z,2.6nm,1.0s,baz=189,slow=1.8,SNR=1.2						
FINES	**FINESS Array B**	**132.08**	**338**	PKP	**PKPdf**	**13 35 03.4**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=104,slow=6.1,SNR=3.4						
DPC	**Dobruska-Polom**	**143.72**	**331**	*e*PKP	PKPab	13 35 24.0	+0.3
BRG	**Berggiesshubel**	**144.36**	**334**	*i* PKP	**PKPab**	**13 35 25.8**	**-0.2**
	comp=Z,8.5nm,0.6s						
CLL	**Collm**	**144.41**	**335**	ǁ *i*PKPdf	**PKPab**	**13 35 25.7**	**-0.5**
	comp=Z,7.0nm,0.6s						
NKC	**Novy Kostel**	**145.47**	**334**	*e*PKP	**PKPdf**	**13 35 29.8**	**+0.2**
CONA	**Conrad Observa**	**145.63**	**329**	*e*P	**PKPbc**	**13 35 30.9**	**+0.3**
	comp=Z,2.5nm,0.5s						
KHC	**Kasperske Hory**	**145.83**	**332**	*e*PKP	**PKPdf**	**13 35 29.6**	**-0.7**
GERES	**GERESS Array B**	**145.98**	**332**	PKPbc	**PKPbc**	**13 35 31.3**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=35,slow=3.3,SNR=22						
GERES	**GERESS Array B**	**145.98**	**332**		**PKPbc**	**13 35 31.5**	**-0.1**
KBA	**Koelnbreinsper**	**147.44**	**330**	*e*P	**PKPbc**	**13 35 35.5**	**-0.4**
	comp=Z,4.3nm,0.6s						
ABTA	**Abfaltersbach**	**148.07**	**330**	*e*P	**PKPbc**	**13 35 36.3**	**-1.2**
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**148.26**	**332**	*e*P	**PKPbc**	**13 35 37.3**	**-0.8**
	comp=Z,2.1nm,0.4s						
FETA	**Feichten**	**148.67**	**332**	*e*P	**PKPbc**	**13 35 38.8**	**-0.4**
	comp=Z,3.0nm,0.6s						
DBIC	**Dimbokro**	**165.25**	**201**	PKPab	**PKPab**	**13 36 54.6**	**0.0**
	comp=Z,5.7nm,0.8s,baz=154,slow=5.5,SNR=8.0						
TORD	**Torodi Ar. Bea**	**166.51**	**239**	PKP	**PKPdf**	**13 35 56.4**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=134,slow=0.4,SNR=3.7						
TORD				PKPab	**PKPab**	**13 36 58.9**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=111,slow=4.2,SNR=1.9						

*IDC **31** 13:16:17.0±0.9,59°48S×26°32W,h0km,mb4.1/5, mb1 4.2/6,mb1mx4.0/24,mbtmp4.1/6,ML4.3/1,Error ellipse: s-maj=38.4km s-min=22.9km az=88.0*
*NEIC **31** 13:16:22.1±2.7,59.7°S±0.1°×27.4°W±0.2,h51km±9km, mb4.3/13,Error ellipse: s-maj=21.0km s-min=9.1km az=211.0*

ISC 31 13:16:19.8±0.7,59°6S±0.1°×27°2W±0.1,h30km,n28, σ1°91/27,mb4.1/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.35**	**312**	Pn	**Pn**	**13 18 05.8**	**+1.0**
VNA1	**Neumayer--Stat**	**13.58**	**153**	P	**Pn**	**13 19 28.1**	**-1.8**
VNA3	**Neumayer Olymp**	**13.70**	**156**	P	**Pn**	**13 19 30.0**	**-1.7**
VNA2	**Neumayer--Watz**	**13.97**	**153**	P	**Pn**	**13 19 34.0**	**-1.4**
SNAA	**Sanae**	**15.57**	**151**	P	**Pn**	**13 19 54.9**	**-1.9**
SNAA	**Sanae**	**15.57**	**151**	Pn	**Pn**	**13 19 54.9**	**-1.9**
	1.2nm,0.3s,baz=342,slow=4.2,SNR=16						
SNAA				Sn	Sn	13 22 32.0	-16
	0.6nm,0.3s,baz=336,slow=20,SNR=6.0						
SNAA	**Sanae**	**15.57**	**151**		**Pn**	**13 19 54.8**	**-1.9**
PMSA	**Palmer Station**	**17.77**	**237**		**Pn**	**13 20 24.4**	**-0.1**
PMSA				IAmb	IAmb	13 20 40.0	
	comp=Z,26nm,1.2s						
QSPA	**South Pole Qui**	**30.66**	**180**	P	**P**	**13 22 34.2**	**+3.0**
	comp=Z,1.2nm,0.5s,baz=307,slow=0.5,SNR=28						
QSPA	**South Pole Qui**	**30.66**	**180**	P	**P**	**13 22 34.4**	**+3.1**
QSPA				IAmb	IAmb	13 22 36.4	
	comp=Z,4.4nm,1.3s						
PLCA	**Paso Flores**	**32.78**	**286**	P	P	13 22 55.5	+5.5

	comp=Z,1.4nm,0.7s,baz=194,slow=5.2,SNR=3.2						
MAW	**Mawson**	**37.35**	**141**	P	**P**	**13 23 27.4**	**-1.5**
MT02	**Curacav**	**39.02**	**293**	P	**P**	**13 23 42.3**	**-1.1**
ROC1	**El Roble**	**39.20**	**293**	P	**P**	**13 23 41.9**	**-3.3**
VNDA	**Vanda**	**43.04**	**183**	P	**P**	**13 24 19.3**	**+3.4**
	comp=Z,1.1nm,0.5s,baz=182,slow=6.9,SNR=20						
VNDA	**Vanda**	**43.04**	**183**	P	**P**	**13 24 14.6**	**-1.3**
GO03	**Copiap**	**43.39**	**298**	P	**P**	**13 24 17.3**	**-2.1**
GO03				IAmb	IAmb	13 24 25.7	
	comp=Z,25nm,1.3s						
LVC	**Limon Verde**	**47.15**	**303**	P	**P**	**13 24 48.7**	**-0.9**
LVC				IAmb	IAmb	13 25 07.1	
	comp=Z,8.8nm,1.2s						
PB09	**IPOC Station P**	**48.01**	**303**	P	**P**	**13 24 56.4**	**+0.3**
PB07	**IPOC Station P**	**48.35**	**302**	P	**P**	**13 24 59.5**	**+0.9**
LPAZ	**La Paz**	**52.48**	**307**	P	**P**	**13 25 27.1**	**-3.2**
LPAZ				IAmb	IAmb	13 25 40.0	
	comp=Z,3.1nm,1.2s						
SAML	**Samuel**	**57.33**	**316**	P	**P**	**13 26 05.4**	**+0.6**
SAML				IAmb	IAmb	13 26 06.2	
	comp=Z,2.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.14**	**29**	P	**P**	**13 28 05.6**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=198,slow=6.2,SNR=15						
TORD	**Torodi Ar. Bea**	**76.14**	**29**	P	**P**	**13 28 05.7**	**+1.1**
ASAR	**Alice Springs**	**95.61**	**163**	P	**P**	**13 29 42.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=192,slow=3.6,SNR=9.4						
ASAR	**Alice Springs**	**95.61**	**163**	P	P	**13 29 42.4**	**+0.2**
SONM	**Songino Array**	**150.75**	**93**	PKPbc	**PKiKP**	**13 36 08.5**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=218,slow=3.8,SNR=6.7						
ILAR	**Eielson Array**	**152.35**	**307**	PKPbc	**PKiKP**	**13 36 12.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=149,slow=2.5,SNR=9.6						

IDC 31 13:28:21.2±63.0,22°32N×94°63E,h238km±254km, mb2.8/2,mb1 2.9/3,mb1mx2.6/31,mbtmp3.2/3,ML3.4/1, Error ellipse: s-maj=777.5km s-min=133.4km az=134.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.58**	**133**	P	Pn	13 29 44.0	+0.1
	0.3nm,0.3s,baz=309,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**57.17**	**134**	P	P	13 37 43.6	-0.1
	0.2nm,0.3s,baz=323,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**59.57**	**138**	P	P	13 38 00.2	0.0
	0.2nm,0.5s,baz=321,slow=6.9,SNR=9.7						

*TAP **31** 13:28:30.5,24°91N×122°30E,h16km,ML2.5,B*
*JMA **31** 13:28:30.2,24°79N×122°32E,h0km,M2.1*

ISC 31 13:28:30.3±1.0,24°85N±0°03×122°32E±0°02,h9km±11km, n46,σ0°41/68,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.34**	**298**	P	**Pg**	**13 28 37.1**	**0.0**
	baz=288						
TWB1				S	**Sg**	**13 28 41.9**	**+0.2**
	baz=288						
EGS		**0.35**	**269**	P	**Pb**	**13 28 38.2**	**-0.7**
	baz=251						
EGS				S	**Sb**	**13 28 43.4**	**-1.2**
	baz=251						
NTC	**Toucheng**	**0.45**	**271**	P	**Pb**	**13 28 39.7**	**-0.7**
	baz=272						
NTC				S	**Sb**	**13 28 46.6**	**-0.6**
	baz=272						
TIPB	**Shuangxi**	**0.47**	**285**	P	**Pg**	**13 28 39.7**	**+0.3**
	baz=278						
TWC	**Suao**	**0.49**	**241**	*e*P	**Pb**	**13 28 40.5**	**-0.7**
	baz=228						
NWF	**Wu-fen Shan**	**0.54**	**294**	*e*P	**Pb**	**13 28 41.8**	**-0.3**
	baz=288						
NWF				*e*S	**Sg**	**13 28 48.5**	**+0.5**
	baz=288						
WFSB	**Wu-fen Shan**	**0.54**	**294**	*e*P	**Pb**	**13 28 41.7**	**-0.3**
	baz=288						
WFSB				*e*S	**Sg**	**13 28 48.4**	**+0.5**
	baz=288						
ENAH	**Nanao**	**0.61**	**230**	*e*P	**Pb**	**13 28 43.5**	**+0.2**
	baz=225						
JYNG	**Yonagunijimaku**	**0.69**	**125**	P	**Pg**	**13 28 43.3**	**-0.4**
JYNG				S	**Sg**	**13 28 52.8**	**+0.1**
ENTT	**Nioudou**	**0.72**	**253**	P	**Pb**	**13 28 45.0**	**-0.1**
	baz=248						
YOJ	**Yonaguni jima**	**0.73**	**122**	*e*P	**Pg**	**13 28 44.2**	**-0.3**
	baz=114						
YOJ				*e*S	**Sg**	**13 28 53.7**	**-0.4**
	baz=114						
YOJ	**Yonaguni jima**	**0.73**	**122**	P	**Pg**	**13 28 44.3**	**-0.3**
YOJ				S	**Sg**	**13 28 53.6**	**-0.5**
YM01	**YM01**	**0.74**	**294**	*e*P	**Pb**	**13 28 45.0**	**-0.5**
	baz=289						
YM08	**YM08**	**0.75**	**297**	*e*P	**Pg**	**13 28 44.7**	**-0.1**
	baz=293						
NWLT	**Wulai**	**0.75**	**265**	P	**Pb**	**13 28 45.3**	**-0.3**
	baz=260						
NWLT				*e*S	**Sb**	**13 28 55.2**	**-0.8**
	baz=260						
YM11	**YM11**	**0.75**	**295**	*e*P	**Pb**	**13 28 45.2**	**-0.4**
	baz=290						
YM11				*e*S	**Sb**	**13 28 55.6**	**-0.4**
	baz=290						
YM05	**YM05**	**0.76**	**295**	*e*P	**Pg**	**13 28 45.0**	**+0.1**
	baz=290						
YM05				*e*S	**Sg**	**13 28 55.1**	**+0.4**
	baz=290						
YM10	**YM10**	**0.76**	**294**	*e*P	**Pg**	**13 28 45.0**	**+0.1**
	baz=289						
YM10				*e*S	**Sb**	**13 28 55.6**	**-0.6**
	baz=289						
TATO	**Taipei**	**0.77**	**280**	*e*P	**Pb**	**13 28 45.6**	**-0.3**
	baz=275						
TATO				*e*S	**Sb**	**13 28 55.8**	**-0.7**
	baz=275						
YM04	**YM04**	**0.78**	**293**	*e*P	**Pg**	**13 28 45.2**	**-0.1**
	baz=289						
YM04				*e*S	**Sb**	**13 28 56.1**	**-0.6**
	baz=289						
NDT	**Datong Townshi**	**0.78**	**252**	*e*P	**Pb**	**13 28 46.1**	**0.0**
	baz=248						
NDT				*e*S	**Sb**	**13 28 56.5**	**-0.2**
	baz=248						
TWY	**Chenhua**	**0.78**	**303**	*e*P	**Pg**	**13 28 45.5**	**+0.1**
	baz=287						
TWY				*e*S	**Sb**	**13 28 56.8**	**0.0**
	baz=287						
ANP	**Anpu**	**0.80**	**295**	*e*P	**Pg**	**13 28 45.6**	**-0.2**
	baz=291						
PCYT	**Pengchaiyu**	**0.81**	**344**	*e*P	**Pg**	**13 28 46.1**	**+0.1**
	baz=343						
YHNB	**Yeheng**	**0.88**	**258**	*e*P	**Pg**	**13 28 47.4**	**+0.1**
	baz=263						
NSK	**Sanguang**	**0.89**	**259**	*e*P	**Pb**	**13 28 47.9**	**-0.2**
	baz=264						
NACB	**Ninganchiao**	**0.94**	**225**	*e*P	**Pg**	**13 28 48.3**	**-0.2**
	baz=223						
NACB				*e*S	**Sg**	**13 29 00.4**	**-0.4**
	baz=223						
NNSB	**Datong**	**0.95**	**244**	*e*P	**Pg**	**13 28 48.6**	**-0.1**
	baz=233						
NNSH	**Datong**	**0.95**	**244**	*e*P	**Pg**	**13 28 48.7**	**+0.1**
	baz=234						
NNSH				*e*S	**Sb**	**13 29 02.2**	**+0.3**
	baz=234						
NNS	**Nan Shan**	**0.96**	**245**	*e*P	**Pb**	**13 28 49.0**	**-0.2**
	baz=234						
NNS				*e*S	**Sb**	**13 29 02.8**	**+0.8**
	baz=234						
ETLH	**Xiulin Townshi**	**1.00**	**230**	*e*P	**Pg**	**13 28 49.5**	**0.0**
	baz=218						
FUSS	**Fushou**	**1.15**	**239**	*e*P	**Pn**	**13 28 52.8**	**-0.1**
	baz=237						
WHF	**Hehuan Shan**	**1.19**	**234**	*e*P	**Pg**	**13 28 53.1**	**-0.2**
	baz=242						
WHF				*e*S	**Sg**	**13 29 08.6**	**-0.2**
	baz=242						
LIOB	**Emei**	**1.21**	**261**	*e*P	**Pb**	**13 28 53.2**	**-0.1**
	baz=259						
NSTT	**Nanjuang**	**1.22**	**260**	*e*P	**Pg**	**13 28 54.0**	**+0.2**
	baz=258						
CHGB	**Renai**	**1.31**	**233**	*e*P	**Pg**	**13 28 55.4**	**-0.1**
	baz=232						
WHP	**Taichung City**	**1.38**	**246**	*e*P	**Pg**	**13 28 57.0**	**+0.2**
	baz=244						
IRIF	**Iriomote-Funau**	**1.38**	**112**	P	**Pn**	**13 28 56.1**	**+0.3**
IRIF				*e*S	**Sb**	**13 29 13.9**	**-0.2**

VWDT	**VWDT**	**1.53**	**225**	*e*P	**Pb**	**13 28 58.9**	**-0.1**
	baz=225						
HATJ	**Hateruma jima**	**1.56**	**120**	P	**Pb**	**13 28 59.2**	**-0.3**
HATJ				*e*S	**Sb**	**13 29 19.8**	**+0.4**
SSLB	**Suanglung**	**1.64**	**230**	*e*P	**Pb**	**13 29 00.8**	**+0.1**
	baz=230						
JKRS	**Kuro-shima**	**1.65**	**111**	P	**Pb**	**13 29 01.0**	**0.0**
JIJ	**Ishigaki jima**	**1.73**	**106**	P	**Pb**	**13 29 02.2**	**0.0**
YULB	**Yu-li**	**1.73**	**213**	*e*P	**Pn**	**13 29 01.4**	**+0.8**
	baz=213						
JISG	**Ishigakijimahi**	**1.83**	**98**	P	**Pb**	**13 29 04.1**	**+0.2**
CHN5	**Tsauling**	**1.95**	**231**	*e*P	**Pn**	**13 29 04.7**	**+0.9**
	baz=231						

*IDC **31** 13:31:37.1±1.3,58°40S×25°27W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/17,mbtmp3.7/3,Error ellipse: s-maj=55.1km s-min=32.3km az=81.0*

ISC 31 13:31:41.8±1.1,58°6S±0°2×25°0W±0°3,h35km,n7,σ1°23/7, mb3.7/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.02**	**157**	P	**Pn**	**13 34 56.8**	**-0.8**
VNA3	**Neumayer Olymp**	**14.23**	**160**	P	**Pn**	**13 34 59.4**	**-1.0**
SNAA	**Sanae**	**15.97**	**154**	P	**Pn**	**13 35 22.7**	**-0.7**
VNDA	**Vanda**	**44.12**	**182**	P	**P**	**13 39 47.6**	**+1.7**
	0.5nm,0.9s,baz=166,slow=5.2,SNR=3.6						
LPAZ	**La Paz**	**52.78**	**304**	P	**P**	**13 40 53.1**	**-0.9**
	0.7nm,0.4s,baz=126,slow=8.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**74.71**	**27**	P	**P**	**13 43 18.0**	**+0.4**
	0.5nm,0.5s,baz=197,slow=6.2,SNR=3.2						
ILAR	**Eielson Array**	**152.63**	**308**	PKPbc	**PKiKP**	**13 51 33.0**	**-0.1**
	0.5nm,0.4s,baz=143,slow=4.2,SNR=12						

IDC 31 14:13:58.3±1.9,2°57N×128°21E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.4/34,mbtmp3.6/4,MS3.7/1,Ms1 3.7/1, ms1mx2.4/30,1D,Error ellipse: s-maj=102.4km s-min=23.2km az=71.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**5.40**	**325**	ǁ *i*P	Pg	14 15 46.9	+5.0
FITZ	**Fitzroy Crossi**	**20.69**	**187**	P	Pn	14 18 42.1	-0.3
	1.4nm,0.9s,baz=29,slow=8.1,SNR=6.7						
WRA	**Warramunga Arr**	**23.17**	**165**	P	P	14 19 06.4	-0.3
	1.7nm,0.7s,baz=343,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.66**	**168**	P	P	14 19 38.1	-1.0
	0.5nm,0.5s,baz=353,slow=7.7,SNR=21						
JNU	**Nakatsue**	**30.50**	**4**	LR	LR	14 33 43.3	
	comp=Z,133nm,19.1s,baz=211,slow=39						
MKAR	**Makanchi Array**	**59.35**	**325**	P	P	14 24 02.5	+0.2
	0.4nm,0.5s,baz=116,slow=8.6,SNR=3.8						

*DNK **31** 14:20:32.3±2.4,58°34N×6°22E,h15km±22km,ML2.0*

BER 31 14:20:34.4±2.0,58°32N×6°39E,h0km,ML1.6,1C, Explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNART	**Snartemo**	**0.43**	**88**	*e*P	Pg	14 20 41.5	-1.2
SNART				*e*S	Sg	14 20 48.0	-0.3
SNART	**Snartemo**	**0.43**	**88**	*e*	Pg	14 20 41.0	-1.7
	baz=272,slow=14						
SNART				⇑ *i*P	Pb	14 20 41.5	-3.4
SNART				*i* S	Sg	14 20 47.7	-0.6
SNART				IAML		14 20 50.0	
	comp=Z,24nm,0.3s						
KMY	**Karmoy**	**1.07**	**327**	*e*P	Pg	14 20 52.9	-2.0
KMY				*e*S	Sg	14 21 07.8	-1.1
KMY				IAML		14 21 12.6	
	comp=Z,24nm,0.3s						
BLS5	**Blasjo**	**1.10**	**2**	*e*P	Pg	14 20 53.8	-1.7
BLS5				*e*S	Sg	14 21 09.3	-0.5
BLS5				IAML		14 21 13.0	
	comp=Z,15nm,0.3s						
HOMB	**Homborsund**	**1.12**	**92**	*e*P	Pg	14 20 54.1	-1.7
HOMB				*e*S	Sg	14 21 09.2	-1.1
HOMB				IAML		14 21 12.6	
	comp=Z,18nm,0.3s						
HOMB	**Homborsund**	**1.12**	**92**	*i* P	Pg	14 20 54.0	-1.8
HOMB				*i* S	Sg	14 21 10.4	+0.1
HOMB				IAML		14 21 12.7	
	comp=Z,17nm,0.4s						
ODD1	**Odda**	**1.60**	**4**

NIS1				SG	Sn	14 58 38.6	+0.3
STIA	**Sitia Lasithi**	**1.12**	**255**	P	Pb	14 58 22.6	-0.3
STIA				S	Sn	14 58 39.9	+1.6
DAT	**Datca**	**1.23**	**6**	P	Pn	14 58 24.1	-0.7
DAT				S	Sn	14 58 41.5	+0.1
DAT	**Datca**	**1.23**	**6**	PN	Pg	14 58 25.3	-0.1
KOSK	**Kos Island**	**1.30**	**345**	PN	Pg	14 58 25.9	-0.7
TURN	**Turunc**	**1.44**	**28**	PN	Pb	14 58 28.3	-0.1
NPS	**Neapolis**	**1.49**	**261**	P	Pb	14 58 29.0	-0.2
NPS				S	Sg	14 58 49.0	-0.6
	comp=N,758nm,0.4s						
NPS	**Neapolis**	**1.49**	**261**	P	Pg	14 58 29.7	-0.5
NPS				S	Sg	14 58 48.7	-0.9
NPS				AML	AML	14 58 52.5	
	comp=E,1736μm,0.5s						
NPS				AML	AML	14 58 54.9	
	comp=N,1317μm,0.4s						
BODT	**Bodrum**	**1.56**	**357**	PN	Pb	14 58 29.9	-0.6
ANAF	**Anafi Island**	**1.58**	**303**	P	Pg	14 58 31.0	-1.0
ANAF				S	Sg	14 58 52.8	+0.3
ANAF				AML	AML	14 58 55.6	
	comp=E,8095μm,0.4s						
ANAF				AML	AML	14 58 55.8	
	comp=N,5345μm,0.3s						
LAST	**Lasithi**	**1.61**	**258**	P	Pb	14 58 31.4	0.0
LAST				S	Sb	14 58 51.8	+0.1
	comp=N,368nm,0.6s						
LAST	**Lasithi**	**1.61**	**258**	P	Pb	14 58 31.8	+0.4
LAST				S	Sg	14 58 52.8	-0.9
LAST				AML	AML	14 58 59.9	
	comp=N,668μm,0.6s						
LAST				AML	AML	14 59 01.7	
	comp=E,749μm,0.6s						
DALY	**Dalyan (Mula)**	**1.66**	**37**	PN	Pb	14 58 32.7	+0.7
FETY	**Fethiye**	**1.77**	**50**	PN	Pb	14 58 33.9	-0.1
YER	**Yerkesik**	**1.78**	**23**	PN	Pb	14 58 33.8	-0.4
MLSB	**Milas**	**1.82**	**9**	PN	Pb	14 58 34.1	-0.7
AKAS	**Kas**	**1.93**	**67**	PN	Pb	14 58 36.2	-0.6
IDI	**Anoyia**	**2.07**	**265**	P	Pn	14 58 36.9	+0.7
IDI				S	Sb	14 59 03.4	-1.4
	comp=E,178nm,0.3s						
IDI	**Anoyia**	**2.07**	**265**	P	Pn	14 58 37.0	+0.8
IDI				S	Sn	14 59 02.4	+0.5
IDI				AML	AML	14 59 08.8	
	comp=N,378μm,0.4s						
IDI				AML	AML	14 59 11.4	
	comp=E,325μm,0.2s						
CAME	**Cameli-Denizli**	**2.10**	**46**	PN	Pn	14 58 38.4	+1.7
APE	**Apeiranthos**	**2.18**	**316**	PN	Pn	14 58 38.2	+0.5
APE	**Apeiranthos**	**2.18**	**316**	P	Pn	14 58 37.9	+0.2
SIVA	**Sivas**	**2.18**	**258**	P	Pb	14 58 41.6	+0.6
ELL	**Elmali**	**2.38**	**58**	PN	Pb	14 58 42.9	-1.5
AYDB	**Zeytinkoy-Aydi**	**2.47**	**9**	PN	Pn	14 58 43.1	+1.3
IMMV	**Iera Moni Meta**	**2.80**	**270**	P	Pn	14 58 47.2	+1.0
KORT	**Korkueli**	**2.81**	**57**	PN	Pn	14 58 48.8	+2.3
URLA	**Izmir**	**2.93**	**347**	PN	Pn	14 58 49.2	+1.2
OSC1	**CSNet OBS 1**	**3.77**	**121**	P	Pn	14 58 59.6	+0.1
AKMS	**Akamas**	**4.06**	**95**	P	Pn	14 59 04.2	+0.7
AKMS				AML	AML	14 59 59.8	
	comp=E,0.4nm,1.1s						
AKMS				AML	AML	15 00 01.2	
	comp=E,0.4nm,0.8s						
ALFC	**Alefka**	**4.26**	**93**	P	Pn	14 59 06.7	+0.4
ALFC				AML	AML	14 59 58.1	
	comp=E,0.4nm,0.3s						
ALFC				AML	AML	15 00 00.2	
	comp=E,0.3nm,0.4s						
NATA	**Nata**	**4.29**	**98**	P	Pn	14 59 07.5	+0.8
SZAC	**Souni**	**4.55**	**98**	P	Pn	14 59 10.5	+0.3
ASGA	**Asgata**	**4.84**	**97**	P	Pn	14 59 14.8	+0.6
CSS	**Mathiatis**	**4.88**	**95**	Pn	Pn	14 59 15.1	+0.3
MMA0B	**Mount Meron ar**	**7.07**	**108**	Pn	Pn	14 59 44.8	-0.1
NATI	**Neve Ativ**	**7.24**	**106**	Pn	Pn	14 59 46.2	-1.0
MMLI	**Mount Malkishu**	**7.32**	**112**	Pn	Pn	14 59 48.5	+0.1
HMDT	**Nahal Hemdat**	**7.49**	**113**	Pn	Pn	14 59 50.7	+0.1
YTIR	**Yattir**	**7.65**	**120**	Pn	Pn	14 59 52.7	-0.2
DSI	**Dead Sea**	**7.72**	**118**	Pn	Pn	14 59 53.7	-0.1
EIL	**Elat**	**8.62**	**130**	Pn	Pn	15 00 06.0	-0.1

*BJI **31** 15:09:17.3±0.0, 36°.39N×76°.08E, h7km, ML3.7/4*
*IDC **31** 15:09:18.8±1.3, 36°.62N×76°.18E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.3/49, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=31.1km s-min=26.0km az=11.0*

ISC 31 15:09:21.4±1.0, 36.75N±0.1°×76.1E±0.1, h10km, n7, σ1§84/7, mb3.4/3, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**4.32**	**184**	*eP*		**Pb**	**15 10 38.5**		**+1.1**
MKAR	**Makanchi Array**	**11.06**	**23**	Pn		**Pn**	**15 11 59.5**		**-0.2**
	0.1nm,0.3s,baz=204,slow=15,SNR=2.9								
WMQ	**Urumqi**	**11.35**	**48**	*eP*		**Pn**	**15 12 05.5**		**+1.8**
AKTO	**Aktyubinsk**	**18.84**	**322**	P		**Pn**	**15 13 42.4**		**+0.5**
	0.1nm,0.3s,baz=129,slow=16,SNR=4.3								
SONM	**Songino Array**	**24.88**	**54**	P		**P**	**15 14 44.1**		**-0.2**
	0.2nm,0.4s,baz=251,slow=9.0,SNR=2.8								
CMAR	**Chiang Mai Arr**	**27.16**	**126**	P		**P**	**15 15 02.1**		**-2.9**
	0.4nm,0.5s,baz=310,slow=10,SNR=3.7								
TORD	**Torodi Ar. Bea**	**69.78**	**272**	P		**P**	**15 20 31.9**		**-0.3**
	0.3nm,0.5s,baz=67,slow=7.3,SNR=2.5								

*IDC **31** 15:38:49.3±2.0, 39°.84N×143°.50E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.5/35, mbtmp3.7/9, ML3.0/4, MS2.8/5, Ms1 2.8/5, ms1mx2.5/42, Error ellipse: s-maj=49.3km s-min=21.1km az=77.0*
*JMA **31** 15:38:49.9±0.3, 39°.92N×143°.44E, h14km±4km, M3.8*
*NIED **31** 15:38:49.9, 39°.92N×143°.44E, h14km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}3.39; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-3.16; $M_{r\theta}$0.72; $M_{\theta\phi}$-1.67; $M_{\phi r}$1.80; Fault plane solution: $M_0$4.13000×10¹⁴ NP1:ϕ=23.00000°, δ59.00000°, λ89.00000°. NP2:ϕ=206.00000°, δ31.00000°, λ92.00000°.*

ISC 31 15:38:51.3±1.2, 39°.90N±0.05°×143°.32E±0.07, h10km, n32, σ1§28/31, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.12**	**273**	P		**Pg**	**15 39 11.9**		**-0.8**
MIYJ	**Miyakonagasawa**	**1.20**	**255**	P		**Pb**	**15 39 13.6**		**-0.4**
JKEN	**Kujiedanarisaw**	**1.27**	**284**	P		**Pn**	**15 39 14.1**		**-0.9**
JKEN				*eS*		**Sg**	**15 39 31.7**		**-0.4**
JANG	**Nango**	**1.46**	**290**	P		**Pn**	**15 39 17.1**		**-0.6**
JANG				*eS*		**Sb**	**15 39 36.9**		**-0.2**
JOM	**Ohasama**	**1.62**	**255**	P		**Pn**	**15 39 20.3**		**+0.5**
JMK	**Ichinoseki**	**1.88**	**240**	P		**Pn**	**15 39 23.4**		**0.0**
JTM	**Tenmabayashi**	**1.93**	**298**	P		**Pn**	**15 39 24.7**		**+0.1**
JTM				*eS*		**Sn**	**15 39 49.6**		**+1.1**
JAH	**Hinai**	**2.08**	**279**	P		**Pn**	**15 39 27.1**		**+0.9**
JAH				*eS*		**Sb**	**15 39 53.6**		**-1.3**
JIO	**Ouri**	**2.10**	**227**	P		**Pn**	**15 39 25.6**		**-0.9**
JOT	**Ohata**	**2.27**	**311**	P		**Pn**	**15 39 29.7**		**+0.8**
JOT				*eS*		**Sn**	**15 39 57.7**		**+0.8**
JNBK	**Urakawa-nobuka**	**2.42**	**350**	P		**Pn**	**15 39 32.2**		**+1.4**
JYK	**Kaneyama**	**2.49**	**248**	P		**Pn**	**15 39 32.5**		**+0.6**
JKB	**Kayabe**	**2.63**	**320**	P		**Pn**	**15 39 35.1**		**+1.3**
JCH	**Churui**	**2.71**	**1**	P		**Pn**	**15 39 35.0**		**+0.1**
ASAJ	**Asahikawa**	**4.25**	**353**	Pn		**Pn**	**15 39 57.2**		**+1.2**
	0.8nm,0.3s,baz=206,slow=9.4,SNR=12								
ASAJ				Sn		**Sb**	**15 40 54.5**		**-2.9**
	1.5nm,0.3s,baz=110,slow=22,SNR=4.1								
MAT	**Matsushiro**	**5.23**	**232**	P		**Pn**	**15 40 10.8**		**+1.2**
MAT				*eS*		**Sn**	**15 41 12.5**		**+2.5**
MJAR	**Matsushiro Arr**	**5.23**	**232**	Pn		**Pn**	**15 40 10.9**		**+1.4**
	0.1nm,0.3s,baz=30,slow=12,SNR=8.7								
MJAR				LR		LR	15 42 22.6		
	comp=Z,55nm,20.8s,baz=40,slow=40								
JHJ	**Hachijo jima 2**	**7.34**	**204**	Pn		**Pn**	**15 40 36.5**		**-2.0**
	5.9nm,0.3s,baz=233,slow=20,SNR=2.1								
JHJ				Sn		Sn	15 41 52.0		-10
	2.0nm,0.3s,baz=41,slow=20,SNR=2.9								
JHJ				LR		LR	15 43 36.8		
	comp=Z,38nm,18.6s,baz=27,slow=39								
USRK	**Ussuriysk Ar.**	**9.46**	**301**	Pn		**Pn**	**15 41 10.2**		**+2.7**
	baz=85,slow=13,SNR=5.0								
KSRS	**Korea Array**	**12.28**	**263**	LR		LR	15 46 13.3		
	comp=Z,46nm,18.7s,baz=100,slow=36								
KLR	**Kul'dur**	**12.44**	**322**	LR		LR	15 46 27.9		
	comp=Z,47nm,19.2s,baz=110,slow=36								
SONM	**Songino Array**	**27.56**	**299**	P		**P**	**15 44 39.0**		**+0.5**
	0.6nm,0.6s,baz=88,slow=7.5,SNR=4.0								
SONM				LR		LR	15 55 08.9		
	comp=Z,34nm,18.5s,baz=82,slow=35								
H11N2	**WAKE ISLAND Hy**	**28.53**	**128**	T		T	16 14 44.3		
	baz=320,slow=75,SNR=38								
H11N1	**WAKE ISLAND Hy**	**28.54**	**128**	T		T	16 14 42.9		
	baz=320,slow=75,SNR=28								
H11N3	**WAKE ISLAND Hy**	**28.55**	**128**	T		T	16 14 45.9		
	baz=320,slow=75,SNR=25								
H11S1	**WAKE ISLAND Hy**	**29.35**	**130**	T		T	16 15 46.1		
	baz=321,slow=76,SNR=7.0								
H11S3	**WAKE ISLAND Hy**	**29.36**	**130**	T		T	16 15 46.1		
	baz=321,slow=76,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**29.37**	**130**	T		T	16 15 47.3		
	baz=321,slow=76,SNR=6.8								
ZALV	**Zalesovo Beam**	**41.15**	**310**	P		**P**	**15 46 36.0**		**+0.6**
	1.3nm,0.4s,baz=89,slow=8.8,SNR=5.0								
MKAR	**Makanchi Array**	**43.92**	**300**	P		**P**	**15 46 58.2**		**0.0**
	0.5nm,0.7s,baz=86,slow=9.7,SNR=4.2								
WRA	**Warramunga Arr**	**60.12**	**190**	P		**P**	**15 48 57.5**		**-1.4**
	0.2nm,0.6s,baz=5.9,slow=6.9,SNR=1.6								
ASAR	**Alice Springs**	**63.84**	**190**	P		**P**	**15 49 24.4**		**+0.5**
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=1.8								

*NEIC **31** 15:58:05.5±1.5, 5°.46S±0°.10×152°.3E±0°.1, h47km±6km, mb4.3/12, Error ellipse: s-maj=23.9km s-min=9.1km az=118.0*
*DJA **31** 15:58:05.1±0.7, 5°.S±4°×15°.2E±°, h61km±8km, M4.7/9, mb4.6/9, mB4.7/2, MLv4.7/3, Mw(mB)3.9/2*
*IDC **31** 15:58:07.6±1.3, 5°.43S×152°.09E, h58km±11km, mb3.9/15, mb1 4.1/17, mb1mx3.9/35, mbtmp4.2/17, MS3.4/14, Ms1 3.4/14, ms1mx3.2/36, Error ellipse: s-maj=20.7km s-min=9.1km az=109.0*

ISC 31 15:58:05.1±0.6, 5°.45S±0°.06×152°.2E±0°.1, h35km, n41, σ1§12/36, mb4.2/19, MS3.3/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.16**	**350**	P		**Pn**		**15 58 25.6**	**+0.8**
	552nm,0.3s,baz=164,slow=1.1,SNR=996								
KRVT				S		**Sn**		**15 58 42.0**	**+2.7**
	401nm,0.3s,baz=0.0,slow=20,SNR=17								
RABL	**Rabaul**	**1.26**	**357**	Pn		**Pn**		**15 58 27.0**	**+0.9**
PMG	**Port Moresby**	**6.37**	**232**	P		**Pn**		**15 59 38.2**	**+1.7**
	4.0nm,0.3s,baz=41,slow=10,SNR=14								
PMG				S		**Sn**		**16 00 48.2**	**+0.1**
	6.9nm,0.3s,baz=134,slow=19,SNR=3.1								
PMG				LR		LR		16 02 08.6	
	comp=Z,192nm,21.9s,baz=28,slow=38								
PMG	**Port Moresby**	**6.37**	**232**	Pn		**Pn**		**15 59 38.5**	**+2.0**
CTA	**Charters Tower**	**15.66**	**201**	P		**P**		**16 01 45.3**	**-1.7**
	0.2nm,0.3s,baz=38,slow=13,SNR=6.3								
EIDS	**Eidsvold**	**19.83**	**183**	P		**P**		**16 02 33.3**	**+0.4**
EIDS					IAmb	IAmb		16 02 37.5	
	comp=Z,17nm,1.2s								
GUMO	**Guam**	**20.28**	**339**	LR		LR		16 11 26.2	
	comp=Z,30nm,18.6s,baz=240,slow=40								
DZM	**Mont Dzumac**	**21.50**	**142**	P		**P**		**16 02 53.9**	**+2.8**
	comp=Z,2.4nm,0.5s,baz=241,slow=14,SNR=3.7								
DZM				LR		LR		16 10 22.5	
	comp=Z,189nm,18.6s,baz=34,slow=34								
MTN	**Manton Dam**	**22.06**	**249**	P		**P**		**16 02 57.8**	**+0.7**
WB0	**Warramunga Arr**	**22.44**	**229**	P		**P**		**16 03 00.5**	**-0.6**
WB0					IAmb	IAmb		16 03 14.8	
	comp=Z,16nm,1.2s								
WR0	**Warramunga Arr**	**22.44**	**228**	P		**P**		**16 03 01.2**	**0.0**
WRAB	**Tennant Creek**	**22.57**	**229**	P		**P**		**16 03 01.9**	**-0.6**
WRAB					IAmb	IAmb		16 03 04.4	
	comp=Z,5.5nm,0.5s								
WB2	**Warramunga Arr**	**22.57**	**229**	P		**P**		**16 03 01.8**	**-0.8**
WB2					IAmb	IAmb		16 03 09.7	
	comp=Z,17nm,1.4s								
WRA	**Warramunga Arr**	**22.58**	**229**	P		**P**		**16 03 01.9**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=53,slow=9.6,SNR=50								
WRA				LR		LR		16 12 06.6	
	comp=Z,73nm,19.1s,baz=80,slow=37								
WRA	**Warramunga Arr**	**22.58**	**229**	P		**P**		**16 03 01.1**	**-1.5**
KNRA	**Kununurra**	**25.17**	**244**	P		**P**		**16 03 27.2**	**-0.2**
AS31	**Alice Springs**	**25.28**	**222**	P		**P**		**16 03 27.9**	**-0.4**
AS31					IAmb	IAmb		16 03 36.9	
	comp=Z,4.8nm,0.7s								
ASAR	**Alice Springs**	**25.28**	**222**	P		**P**		**16 03 28.1**	**-0.2**
	comp=Z,8.1nm,0.9s,baz=60,slow=8.6,SNR=47								
ASAR				LR		LR		16 14 59.6	
	comp=Z,75nm,18.2s,baz=64,slow=40								
ASAR	**Alice Springs**	**25.28**	**222**	P		**P**		**16 03 28.7**	**+0.3**
STKA	**Stephens Creek**	**28.11**	**199**	P		**P**		**16 03 54.0**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=45,slow=16,SNR=2.4								
STKA				LR		LR		16 14 43.1	
	comp=Z,96nm,19.4s,baz=23,slow=35								
BATI	**Baumata**	**28.67**	**259**	LR		LR		16 17 18.4	
	comp=Z,198nm,18.7s,baz=94,slow=40								
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P		**P**		**16 03 59.8**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=60,slow=8.4,SNR=12								
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P		**P**		**16 03 59.6**	**-0.8**
FITZ					IAmb	IAmb		16 04 15.1	
	comp=Z,8.2nm,0.9s								
RPZ	**Rata Peaks**	**41.56**	**159**	LR		LR		16 22 18.5	
	comp=Z,165nm,18.6s,baz=346,slow=35								
MJAR	**Matsushiro Arr**	**43.79**	**344**	LR		LR		16 25 27.0	
	comp=Z,24nm,18.0s,baz=165,slow=38								
KSRS	**Korea Array**	**48.33**	**334**	LR		LR		16 25 55.0	
	comp=Z,18nm,18.9s,baz=102,slow=35								
CMAR	**Chiang Mai Arr**	**57.63**	**296**	P		**P**		**16 07 52.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=125,slow=7.2,SNR=4.7								
PETK	**Petropavlovsk-**	**58.52**	**4**	P		**P**		**16 07 58.3**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=198,slow=9.1,SNR=2.8								
SONM	**Songino Array**	**66.57**	**328**	P		**P**		**16 08 51.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=148,slow=6.0,SNR=4.0								
SONM				LR		LR		16 35 29.1	
	comp=Z,18nm,21.7s,baz=126,slow=34								
SONM	**Songino Array**	**66.57**	**328**	P		**P**		**16 08 51.5**	**-0.3**
VNDA	**Vanda**	**72.20**	**178**	P		**P**		**16 09 26.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=351,slow=3.1,SNR=4.7								
MKAR	**Makanchi Array**	**80.44**	**319**	P		**P**		**16 10 12.4**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=112,slow=5.4,SNR=4.9								
ZALV	**Zalesovo Beam**	**81.38**	**326**	P		**P**		**16 10 16.4**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=104,slow=6.7,SNR=3.5								
ZALV				LR		LR		16 46 06.1	
	comp=Z,15nm,20.6s,baz=76,slow=35								
ILAR	**Eielson Array**	**82.98**	**22**	P		**P**		**16 10 25.4**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=245,slow=5.4,SNR=44								
MAW	**Mawson**	**84.75**	**203**	P		**P**		**16 10 35.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=161,slow=18,SNR=4.0								
MAW	**Mawson**	**84.75**	**203**	P		**P**		**16 10 34.6**	**-0.7**
DLBC	**Dease Lake**	**88.24**	**31**	P		**P**		**16 10 53.6**	**+1.0**
	comp=Z,6.4nm,1.1s,baz=214,slow=3.6,SNR=4.5								
NVAR	**Mina Array Bea**	**92.94**	**52**	P		**P**		**16 11 13.6**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=261,slow=6.9,SNR=5.8								
AKTO	**Aktyubinsk**	**96.85**	**320**	LR		LR		16 55 35.8	
	comp=Z,14nm,18.6s,baz=51,slow=36								
PDAR	**Pinedale Array**	**99.71**	**48**	LR		LR		16 48 57.8	
	comp=Z,24nm,20.8s,baz=314,slow=31								
TORD	**Torodi Ar. Bea**	**149.95**	**287**	PKPbc		**PKPbc**		**16 17 52.3**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=76,slow=3.2,SNR=11								

*IDC **31** 16:11:34.9±0.9, 28°.60N×143°.63E, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.8/50, mbtmp3.9/10, ML3.2/3, Error ellipse: s-maj=33.3km s-min=19.0km az=77.0*
*JMA **31** 16:11:37.6, 28°.72N×143°.12E, h25km, M3.9*
*NEIC **31** 16:11:39.2±1.4, 28°.68N±0°.05×143°.33E±0°.10, h35km±8km, mb4.5/8, Error ellipse: s-maj=13.6km s-min=2.1km az=62.0*

ISC 31 16:11:39.9±0.8, 28°.65N±0°.05×143°.3E±0°.1, h35km, n34, σ1§27/37, mb4.0/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.83**	**213**	*eS*		**Sn**		**16 12 30.5**	**-0.2**
JCJ	**Chichijima**	**1.83**	**213**	Pn		**Pn**		**16 12 08.8**	**0.0**
JCJ				Sn		**Sn**		**16 12 28.6**	**-2.2**
JHJ	**Hachijo jima 2**	**5.38**	**327**	Pn		**Pn**		**16 12 56.8**	**-0.9**
	3.0nm,0.3s,baz=240,slow=20,SNR=2.2								
JHJ				Sn		**Sn**		**16 13 55.6**	**-2.8**
	12nm,0.3s,baz=84,slow=24,SNR=4.8								
JMKN	**Mikurajimanish**	**6.12**	**330**	*eS*		**Sn**		**16 14 15.4**	**-1.1**
BSO4	**Boso 4**	**6.81**	**339**	*eS*		**Sn**		**16 14 33.4**	**+0.1**
JSG	**Sagara**	**7.42**	**325**	Pn		**Pn**		**16 13 25.5**	**-0.1**
JOD2	**Odawara 2**	**7.50**	**333**	P		**Pn**		**16 13 26.8**	**0.0**
JHU	**Hanno**	**7.95**	**336**	P		**Pn**		**16 13 32.2**	**-0.7**
JHU				*eS*		**Sn**		**16 14 59.7**	**-1.8**
JRY	**Ryogami san**	**8.23**	**334**	P		**Pn**		**16 13 36.7**	**-0.2**
MJAR	**Matsushiro Arr**	**8.96**	**333**	Pn		**Pn**		**16 13 46.8**	**-0.1**
	0.2nm,0.3s,baz=154,slow=10,SNR=12								
MJAR	**Matsushiro Arr**	**8.96**	**333**			**Pn**		**16 13 46.4**	**-0.5**
MAJO	**Matsushiro**	**8.97**	**333**			**Pn**		**16 13 45.9**	**-1.0**
JMM	**Marumori**	**9.43**	**348**			**Pn**		**16 13 51.0**	**-2.2**
JSD	**Sado**	**10.27**	**337**	Pn		**Pn**		**16 14 04.2**	**-0.5**
KSRS	**Korea Array**	**15.58**	**308**	Pn		**P**		**16 15 21.0**	**+0.3**
	0.1nm,0.3s,baz=111,slow=13,SNR=3.1								
USA0B	**Ussuriysk Arra**	**17.96**	**333**			**Pn**		**16 15 44.8**	**-2.0**
KLR	**Kul'dur**	**22.38**	**340**	P		**P**		**16 16 37.0**	**+2.0**
	1.1nm,0.6s,baz=230,slow=7.3,SNR=3.5								
SONM	**Songino Array**	**34.31**	**314**	P		**P**		**16 18 25.9**	**+2.9**
	1.4nm,0.7s,baz=106,slow=6.9,SNR=7.0								
SONM	**Songino Array**	**34.31**	**314**	P		**P**		**16 18 24.8**	**+1.8**
KNRA	**Kununurra**	**46.25**	**200**	P		**P**		**16 20 01.6**	**-0.3**
KNRA				IAmb		IAmb		16 20 02.5	
	comp=Z,9.2nm,1.1s								
WB0	**Warramunga Arr**	**48.89**	**191**	P		**P**		**16 20 21.6**	**-0.8**
WB0				IAmb		IAmb		16 20 33.6	
	comp=Z,4.1nm,0.6s								
WRAB	**Tennant Creek**	**49.06**	**191**	P		**P**		**16 20 23.0**	**-0.7**
WRAB				IAmb		IAmb		16 20 35.4	
	comp=Z,5.5nm,0.8s								
WB2	**Warramunga Arr**	**49.07**	**191**	P		**P**		**16 20 23.8**	**0.0**
WRA	**Warramunga Arr**	**49.07**	**191**	P		**P**		**16 20 23.7**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=12,slow=8.4,SNR=20								
WRA	**Warramunga Arr**	**49.07**	**191**	P		**P**		**16 20 22.4**	**-1.4**
ASAR	**Alice Springs**	**52.79**	**191**	P		**P**		**16 20 49.8**	**-1.9**
ILAR	**Eielson Array**	**55.89**	**29**	P		**P**		**16 21 13.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=261,slow=6.2,SNR=6.5								
ILAR	**Eielson Array**	**55.89**	**29**	P		**P**		**16 21 13.0**	**-0.8**
STKA	**Stephens Creek**	**60.21**	**182**	P		**P**		**16 21 44.5**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=324,slow=14,SNR=3.5								
STKA	**Stephens Creek**	**60.21**	**182**	P		**P**		**16 21 44.6**	**+0.2**
STKA				IAmb		IAmb		16 21 55.7	
	comp=Z,0.8nm,1.2s								
FINES	**FINESS Array B**	**76.99**	**334**	P		**P**		**16 23 29.7**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=40,slow=3.2,SNR=6.1								
FINES	**FINESS Array B**	**76.99**	**334**	P		**P**		**16 23 29.9**	**+1.2**
NVAR	**Mina Array Bea**	**78.80**	**52**	P		**P**		**16 23 39.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=282,slow=9.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**124.28**	**313**	PKP		**PKiKP**		**16 30 36.9**	**+0.9**
	comp=Z,0.5nm,1.1s,baz=17,slow=2.9,SNR=1.3								

*IDC **31** 16:17:18.2±1.3, 15°.46S×75°.52W, h0km, mb3.8/2, mb1 4.0/6, mb1mx3.7/38, mbtmp3.9/6, ML3.7/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/38, Error ellipse: s-maj=41.9km s-min=16.4km az=53.0*

ISC 31 16:17:21.0±1.0, 15°.6S±0°.1×75°.5W±0°.2, h26km, n19, σ2§51/10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.78**	**340**	Pn		**Pn**		**16 18 17.3**	**-0.3**
	2.6nm,0.3s,baz=209,slow=10,SNR=2.9								
NNA				Sn		**Sn**		**16 18 58.5**	**-2.8**
	8.6nm,0.3s,baz=171,slow=9.6,SNR=3.9								
NNA				Lg		Lg		16 19 15.5	
	42nm,0.3s,baz=228,slow=15,SNR=9.4								
NNA				LR		LR		16 19 55.9	

KRLC	**Kraliky**	**1.51**	**164**	*e*PG	**Pn**	**16 50 16.3**	**0.0**
KRLC				*e*SG	**Sg**	**16 50 35.4**	**-1.1**
	comp=Z,220nm,1.2s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**16 50 16.2**	**-0.2**
BRG				PG	**Pg**	**16 50 17.6**	**+0.6**
BRG				SG	**Sn**	**16 50 37.2**	**+0.4**
	68nm,0.5s						
PRA	**Prague**	**1.81**	**217**	*e*PG	**Pn**	**16 50 20.3**	**0.0**
PRA				*e*SG	**Sb**	**16 50 44.9**	**-0.2**
	comp=Z,26nm,0.9s						
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**16 50 20.7**	**0.0**
PRU				*e*SG	**Sb**	**16 50 45.7**	**-0.3**
	comp=Z,31nm,0.4s						
FBE	**Freiberg**	**1.84**	**252**	*e*Pn	**Pb**	**16 50 22.9**	**+0.4**
FBE				*e*Pg	**Pg**	**16 50 23.6**	**+0.4**
FBE				*e*Sg	**Sg**	**16 50 47.0**	**-0.1**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**16 50 22.0**	**-0.5**
CLL				*e*Pg	**Pg**	**16 50 26.0**	**+0.4**
CLL				*e*Sg	**Sg**	**16 50 52.0**	**+1.0**
	comp=Z,33nm,0.4s						
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**16 50 22.6**	**+0.2**
CLL				*e*Pg	**Pb**	**16 50 24.9**	**+0.4**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*PN	**Pn**	**16 50 22.6**	**0.0**
MORC				*e*SG	**Sb**	**16 50 49.7**	**-0.1**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**16 50 22.7**	**0.0**
MORC				*e*Pg	**Pb**	**16 50 24.9**	**+0.3**
MORC				*e*Sg	**Sg**	**16 50 50.7**	**-0.5**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**16 50 22.6**	**0.0**
	baz=334						
MORC				*e*Sg	**Sb**	**16 50 49.7**	**-0.1**
	comp=Z,24nm,0.3s,baz=334						
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	**16 50 28.3**	**-0.3**
OKC				*e*SG	**Sb**	**16 50 55.1**	**+0.9**
	comp=Z,39nm,0.4s						
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**16 50 27.6**	**+1.3**
	comp=Z,2.7nm,0.3s,baz=332,slow=16,SNR=11						
VRAC				Lg	Lg	16 50 58.3	
	comp=Z,11nm,0.3s,baz=262,slow=22,SNR=8.1						
VRAC	**Vranov**	**2.24**	**172**	*e*PN	**Pn**	**16 50 26.5**	**+0.2**
VRAC				*e*SG	**Sb**	**16 50 58.5**	**+0.9**
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**16 50 26.4**	**+0.2**
	baz=353						
VRAC				*e*Sg	**Sb**	**16 50 58.5**	**+0.9**
	comp=Z,18nm,0.3s,baz=353						
TREC	**Trest**	**2.27**	**191**	*e*PN	**Pn**	**16 50 28.3**	**+1.6**
TREC				*e*PG	**Pb**	**16 50 30.4**	**+0.6**
TREC				*e*SG	**Sb**	**16 50 59.4**	**+1.0**
	comp=Z,29nm,0.3s						
PBCC	**Pribram**	**2.29**	**217**	*e*PG	**Pb**	**16 50 30.8**	**+0.7**
PBCC				*e*SG	**Sb**	**16 51 00.3**	**+1.4**
KRUC	**Moravsky**	**2.48**	**176**	*e*PN	**Pn**	**16 50 29.6**	**+0.1**
KRUC				*e*SG	**Sb**	**16 51 05.6**	**+1.4**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**16 50 29.6**	**+0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**16 51 05.6**	**+1.4**
	comp=Z,17nm,0.3s,baz=357						
TANN	**Tannenbergstha**	**2.57**	**246**	*e*Pn	**Pn**	**16 50 31.6**	**+0.8**
TANN				*e*Pg	**Pg**	**16 50 37.4**	**+0.3**
WERD	**Werda**	**2.64**	**247**	*e*Pn	**Pn**	**16 50 32.6**	**+0.8**
WERD				*e*Pg	**Pg**	**16 50 39.1**	**+0.5**
WERD				*e*Sg	**Sg**	**16 51 12.7**	**-0.1**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**16 50 32.9**	**+0.8**
NKC				*e*PG	**Pb**	**16 50 37.9**	**+1.4**
NKC				*e*SG	**Sg**	**16 51 12.9**	**-0.6**
	comp=Z,69nm,0.3s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**16 50 40.5**	**+1.4**
OJC				*e*Sg	**Sg**	**16 51 15.7**	**+2.1**
OJC	**Ojcow**	**2.67**	**118**	*e*Sg	**Sg**	**16 51 16.1**	**+2.4**
JAVC	**Velka Javorina**	**2.85**	**159**	*e*PN	**Pn**	**16 50 35.1**	**+0.4**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**16 50 35.9**	**+0.5**
KHC				*e*PG	**Pb**	**16 50 41.9**	**+1.4**
KHC				*e*SN	**Sn**	**16 51 10.0**	**-1.0**
KHC				*e*SG	**Sg**	**16 51 19.5**	**-1.6**
	comp=Z,16nm,0.4s						
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**16 50 38.2**	**+0.8**
ROTZ				*e*Pg	**Pb**	**16 50 44.5**	**+1.5**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**16 50 39.1**	**+0.9**
GEC2				*e*Pg	**Pb**	**16 50 45.0**	**+1.0**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**16 50 39.1**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=25,slow=13,SNR=37						
GERES				Pg	**Pb**	**16 50 45.1**	**+1.1**
	comp=Z,4.7nm,0.3s,baz=29,slow=22,SNR=36						
GERES				Lg	Lg	16 51 24.4	
	comp=Z,3.6nm,0.3s,baz=43,slow=29,SNR=4.8						
LANS	**Liptovska Anna**	**3.20**	**137**	*e*PN	**Pn**	**16 50 40.3**	**+0.8**
LANS				*e*SG	**Sg**	**16 51 30.0**	**-0.7**
LANS				*e*LG	Lg	16 51 37.1	
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PG	**Pg**	**16 50 49.3**	**-0.7**
MODS				*e*SG	**Sg**	**16 51 29.7**	**-2.4**
MODS				*e*LG	Lg	16 51 35.9	
NIE	**Niedzica**	**3.40**	**127**	*e*P	**Pg**	**16 50 53.0**	**-0.1**
NIE				*e*S	**Sg**	**16 51 37.5**	**+0.4**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**16 50 43.5**	**-0.1**
VYHS				*e*PG	**Pg**	**16 50 54.4**	**-0.6**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**16 50 46.6**	**+1.8**
CONA	**Conrad Observa**	**3.61**	**183**	*e*Pn	**Pn**	**16 50 46.2**	**+1.1**
	comp=Z,3.0nm,0.3s,SNR=8.2						
CONA				Sg	**Sg**	**16 51 42.6**	**-1.2**
	comp=Z,9.2nm,0.3s						
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**16 50 46.0**	**+0.8**
GRF				*e*Sg	**Sg**	**16 51 44.3**	**+0.1**
BSD	**Bornholm Skovb**	**3.66**	**349**	*e*	**Pn**	**16 50 44.8**	**-0.9**
	baz=188,slow=12						
BSD				*i* P	**Pn**	**16 50 46.1**	**+0.4**
BSD				*i* S	**Sn**	**16 51 28.2**	**-1.4**
BSD				IAML		16 51 32.5	
	comp=Z,3.0nm,0.3s						
MOA	**Molln**	**3.88**	**199**	*e*Pn	**Pn**	**16 50 49.5**	**+0.8**
	comp=Z,2.1nm,0.3s,SNR=4.0						
MOA				*e*Sg	**Sg**	**16 51 51.6**	**-0.7**
	comp=Z,12nm,0.4s						
ARSA	**Arzberg**	**4.30**	**185**	*e*Pn	**Pn**	**16 50 55.5**	**+1.0**
	comp=Z,3.1nm,0.3s						
ARSA				Sg	**Sg**	**16 52 03.2**	**-2.7**
	comp=Z,8.5nm,0.6s						
LUNU	**Lund**	**4.41**	**340**	P	**Pn**	**16 50 55.8**	**-0.2**
LUNU				S	**Sn**	**16 51 47.5**	**-0.5**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN	**Pn**	**16 50 59.4**	**-1.0**
BLEU	**Blekinge**	**4.79**	**358**	P	**Pn**	**16 51 02.1**	**+1.0**
BLEU				S	**Sn**	**16 51 55.1**	**-2.2**
DEL	**Delary**	**5.13**	**346**	P	**Pn**	**16 51 06.0**	**+0.1**
VXJU	**Vaexsjoe**	**5.45**	**353**	P	**Pn**	**16 51 11.0**	**+0.8**
VXJU	**Vaexsjoe**	**5.45**	**353**	P	**Pn**	**16 51 11.0**	**+0.8**
OSKU	**Oskarshamn**	**5.68**	**360**	P	**Pn**	**16 51 14.7**	**+1.3**
OSKU	**Oskarshamn**	**5.68**	**360**	P	**Pn**	**16 51 14.7**	**+1.3**
FABU	**Falkenberg**	**5.83**	**341**	P	**Pn**	**16 51 15.7**	**+0.2**
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn	**Pn**	**16 51 23.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=320,slow=16,SNR=2.5						
DAVOX				Lg	Lg	16 53 02.6	
	comp=Z,0.3nm,0.3s,baz=201,slow=18,SNR=2.0						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**16 51 56.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=186,slow=17,SNR=1.8						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**16 52 09.8**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=163,slow=11,SNR=1.3						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**16 52 30.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=206,slow=11,SNR=9.8						
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn	**Pn**	**16 52 38.4**	**-3.0**
	baz=105,slow=14,SNR=2.0						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**16 54 03.7**	**-2.7**
	baz=192,slow=12,SNR=7.2						
SONM	**Songino Array**	**54.90**	**55**	P	**P**	**16 59 21.9**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=314,slow=5.5,SNR=3.5						

*IDC **31** 16:50:00.6±0.7,5°.34S×35°.81E,h0km,mb4.2/16, mb1 4.3/21,mb1mx4.1/55,mbtmp4.3/21,ML4.5/5, MS4.1/9, Ms1 4.1/9,ms1mx3.8/37,Error ellipse: s-maj=19.6km s-min=12.5km az=101.0*

*NEIC **31** 16:50:01.7±1.3,5°.37S±0°.07×35°.88E±0°.10,h10km±1km, mb4.6/6, Error ellipse: s-maj=16.7km s-min=11.3km az=99.0*

*GCMT **31** 16:50:03.7±0.3,5°.31S±0°.02×35°.88E±0°.02,h18km±2km, MW4.9/79,Moment Tensor Solution. s13,c14; s79,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.32±.17; $M_{\theta\theta}$-1.18±.09; $M_{\phi\phi}$2.49±.14; $M_{r\theta}$-1.51±.33; $M_{\theta\phi}$0.73±.09; $M_{\phi r}$-0.50±.24; Best double couple: $M_0$2.78000×10^{16} NP1:ϕ_s156.00000°,δ49.00000°,λ-152.00000°. NP2: ϕ_s46.00000°,δ69.00000°,λ-44.00000°. Principal axes: T 2.7950, Plg12.0000°, Azm105.0000°; N -0.0390, Plg42.0000°, Azm206.0000°; P -2.7660, Plg46.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 31 16:50:01.1±1.2,5°.42S±0°.03×35°.78E±0°.05,h7km±7km,n77, σ1$25/87,mb4.4/19,MS4.0/6,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOND	**Kondoa**	**0.51**	**1**	*i* P		**Pg**	**16 50 10.7**	**-0.2**
KOND				*i* S		**Sg**	**16 50 18.2**	**+0.7**
DODT	**Dodoma, Tanzan**	**0.77**	**182**	*i* P		**Pg**	**16 50 16.2**	**+0.3**
DODT				*i* S		**Sg**	**16 50 26.2**	**+0.3**
MW44	**Karatu Welwel**	**2.06**	**357**	*i* P		**Pn**	**16 50 36.9**	**+0.6**
MW44				*i* S		**Sn**	**16 51 02.4**	**0.0**
MW44				IAML			16 51 09.6	
	comp=Z,20μm,0.3s							
NG55	**Lemala Gate**	**2.26**	**358**	*i* P		**Pn**	**16 50 39.9**	**+0.8**
NG55				*i* S		**Sb**	**16 51 11.2**	**+0.5**
NG55				IAML			16 51 18.9	
	comp=Z,10μm,1.4s							
MW41	**Ole Sokoine**	**2.27**	**17**	*i* P		**Pn**	**16 50 38.6**	**-0.7**
MW41				*i* S		**Sn**	**16 51 07.9**	**+0.3**
MW41				IAML			16 51 16.3	
	comp=Z,19μm,0.4s							
NG56	**Ngoile bomas**	**2.33**	**351**	*i* P		**Pn**	**16 50 40.4**	**+0.3**
NG56				*i* S		**Sb**	**16 51 13.8**	**+1.0**
NG56				IAML			16 51 18.9	
	comp=Z,11μm,1.4s							
PR63	**Meshili Boma**	**2.42**	**354**	*i* P		**Pn**	**16 50 41.5**	**+0.2**
PR52	**Alailelai Boma**	**2.44**	**358**	*i* P		**Pn**	**16 50 42.2**	**+0.6**
PR52				*i* S		**Sb**	**16 51 14.2**	**-1.8**
PR52				IAML			16 51 24.8	
	comp=Z,15μm,1.8s							
PR62	**Oldupai Boma**	**2.45**	**350**	*i* P		**Pn**	**16 50 41.6**	**0.0**
PR31	**Engaruka Boma**	**2.50**	**6**	*i* P		**Pn**	**16 50 41.9**	**-0.3**
PR31				*i* S		**Sb**	**16 51 17.5**	**+0.2**
PR31				IAML			16 51 22.4	
	comp=Z,7μm,0.8s							
PR61	**Kiloki Boma**	**2.50**	**348**	*i* P		**Pn**	**16 50 42.0**	**-0.3**
PR53	**Nayobi Boma**	**2.55**	**1**	*i* P		**Pb**	**16 50 46.2**	**-1.1**
LN46	**New Vision PS**	**2.56**	**21**	*i* P		**Pn**	**16 50 41.5**	**-1.6**
PR32	**Iloiriento PS**	**2.56**	**9**	*i* P		**Pn**	**16 50 43.0**	**-0.2**
PR33	**Engutoto Boma**	**2.59**	**8**	*i* P		**Pn**	**16 50 42.8**	**-0.7**
PR11	**Kitumbeine SS**	**2.63**	**11**	*i* P		**Pn**	**16 50 43.5**	**-0.5**
NG54	**Nasera Bomas**	**2.70**	**351**	*i* P		**Pn**	**16 50 45.3**	**+0.2**
NG54				IAML			16 51 27.8	
	comp=Z,3μm,0.6s							
LN35	**Magadini PS**	**2.78**	**5**	*i* P		**Pn**	**16 50 45.4**	**-0.7**
LN26	**Engaresero PS**	**2.79**	**2**	*i* P		**Pn**	**16 50 45.9**	**-0.3**
LN15	**Lekule Girls S**	**2.80**	**8**	*i* P		**Pn**	**16 50 46.1**	**-0.3**
LN15				IAML			16 51 35.6	
	comp=Z,3μm,0.7s							
LL66	**Piyaya bomas**	**2.80**	**354**	*i* P		**Pn**	**16 50 46.5**	**0.0**
LN16	**Kitarini PS**	**2.86**	**14**	*i* P		**Pn**	**16 50 46.0**	**-1.3**
LL22	**Malambo SS**	**2.88**	**356**	*i* P		**Pn**	**16 50 47.6**	**0.0**
LL65	**Arash bomas**	**3.00**	**353**	*i* P		**Pn**	**16 50 49.1**	**-0.1**
LN14	**Matela PS**	**3.02**	**12**	*i* P		**Pn**	**16 50 48.4**	**-1.2**
LL23	**Sali PS**	**3.10**	**358**	*i* P		**Pn**	**16 50 50.5**	**-0.1**
LL24	**Masusu PS**	**3.13**	**0**	*i* P		**Pn**	**16 50 50.8**	**-0.1**
LL21	**Loliondo SS**	**3.34**	**356**	*i* P		**Pn**	**16 50 53.6**	**-0.3**
KEN2	**Magadi Soda Va**	**3.51**	**8**	*i* P		**Pn**	**16 50 55.1**	**-1.0**
KEN4	**Ngurumani**	**3.62**	**4**	*i* P		**Pn**	**16 50 57.3**	**-0.3**
KIBK	**Kibwezi**	**3.80**	**37**	*e*P		**Pn**	**16 50 57.6**	**-2.6**
KIBK				*e*S		Sn	16 51 33.7	-12
I32KE	**NAIROBI INFRAS**	**4.28**	**14**	Pn		**Pn**	**16 51 07.1**	**+0.3**
	baz=185,slow=31,SNR=0.6							
KMBO	**Kilima Mbogo**	**4.51**	**19**	Pn		**Pn**	**16 51 09.3**	**-0.7**
	comp=Z,67nm,0.3s,baz=192,slow=15,SNR=239							
KMBO				Pg		**Pb**	**16 51 21.5**	**+0.8**
	comp=Z,105nm,0.3s,baz=188,slow=18,SNR=36							
KMBO				Sn		**Sn**	**16 52 01.4**	**-1.4**
	comp=Z,59nm,0.3s,baz=229,slow=18,SNR=2.0							
KMBO				Lg		Lg	16 52 17.1	
	comp=Z,192nm,0.3s,baz=281,slow=23,SNR=5.8							
VWZMW	**Thunduwike**	**6.12**	**201**	*i* P		**Pn**	**16 51 33.0**	**+0.9**
VWZMW				S		**Sg**	**16 53 13.4**	**-4.4**
TEBE	**Entebbe**	**6.36**	**329**	*i* P		**Pn**	**16 51 36.4**	**+0.9**
MBAR	**Mbarara**	**6.94**	**313**			**Pn**	**16 51 44.1**	**+0.6**
MBAR	**Mbarara**	**6.94**	**313**	*e*P		**Pn**	**16 51 44.2**	**+0.8**
MBAR				*e*S		**Sn**	**16 52 59.3**	**-3.5**
MBAR	**Mbarara**	**6.94**	**313**	*i* P		**Pn**	**16 51 43.8**	**+0.3**
MBAR				IAML			16 53 46.2	
	comp=Z,4μm,1.1s							
LODK	**Lodwar**	**8.79**	**357**	*i* P		**Pn**	**16 52 08.1**	**-0.7**
LODK				*e*S		Sg	16 54 29.4	-14
LSZ	**Lusaka**	**12.31**	**217**	Pn		**Pn**	**16 52 58.2**	**+1.2**
	comp=Z,3.5nm,0.3s,baz=45,slow=9.7,SNR=16							
LSZ				Sn		**Sn**	**16 55 10.0**	**-4.7**
	comp=Z,1.0nm,0.3s,baz=71,slow=8.5,SNR=3.1							
LSZ				Lg		Lg	16 56 29.6	
	comp=Z,9.7nm,0.3s,baz=117,slow=9.0,SNR=10							
LSZ	**Lusaka**	**12.31**	**217**			**Pn**	**16 52 59.1**	**+2.0**
MATP	**Matopo**	**16.51**	**205**	Pn		**Pn**	**16 53 54.4**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=359,slow=12,SNR=10.0							
MATP				Sn		**S**	**16 57 11.4**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=222,slow=14,SNR=2.8							
MATP				Lg		Lg	16 58 45.6	
	comp=Z,1.4nm,0.3s,baz=118,slow=19,SNR=4.4							
MATP				LR		LR	17 00 16.8	
	comp=Z,1μm,19.8s,baz=30,slow=37							
OPO	**Ambohidratompo**	**17.17**	**141**	P		**Pn**	**16 54 02.7**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=307,slow=20,SNR=5.4							
OPO				S		**Sn**	**16 57 14.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=53,slow=20,SNR=2.0							
OPO				LR		LR	17 00 28.0	
	comp=Z,977nm,18.3s,baz=168,slow=36							
ATD	**Arta Tunnel**	**18.25**	**23**	P		**P**	**16 54 15.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=352,slow=1.6,SNR=5.0							
ATD				Lg		Lg	16 59 25.9	
	comp=Z,0.4nm,0.3s,baz=211,slow=22,SNR=5.9							
ATD				LR		LR	17 01 12.9	
	comp=Z,568nm,21.0s,baz=202,slow=37							
LBTB	**Lobatse**	**21.80**	**206**	P		**P**	**16 54 54.5**	**+0.6**
	comp=Z,16nm,0.9s,baz=14,slow=11,SNR=11							
LBTB				Lg		Lg	17 01 20.6	
	comp=Z,26nm,0.9s,baz=288,slow=22,SNR=3.7							
LBTB				LR		LR	17 02 40.6	
	comp=Z,433nm,18.9s,baz=28,slow=35							
LBTB	**Lobatse**	**21.80**	**206**	P		**P**	**16 54 55.4**	**+1.5**
LBTB				IAmb		IAmb	16 54 59.9	
	comp=Z,18nm,0.9s							
TSUM	**Tsumeb**	**22.41**	**231**	Lg		Lg	17 01 49.5	
	comp=Z,23nm,1.0s,baz=147,slow=20,SNR=2.5							
TSUM				LR		LR	17 04 25.6	
	comp=Z,667nm,18.9s,baz=47,slow=38							
BOSA	**Boshof**	**25.14**	**202**	P		**P**	**16 55 29.5**	**+2.5**
	comp=Z,4.3nm,0.9s,baz=39,slow=11,SNR=5.9							
BOSA				Lg		Lg	17 03 01.3	
	comp=Z,15nm,1.0s,baz=66,slow=2.9,SNR=3.3							
BOSA				LR		LR	17 05 36.5	
	comp=Z,716nm,19.5s,baz=34,slow=37							
BOSA	**Boshof**	**25.14**	**202**	P		**P**	**16 55 27.3**	**+0.3**
SOCY	**Socotra**	**25.17**	**46**	P		**P**	**16 55 27.8**	**+0.4**
SUR	**Sutherland**	**30.25**	**206**	LR		LR	17 08 32.5	
	comp=Z,628nm,18.7s,baz=334,slow=37							
TORD	**Torodi Ar. Bea**	**38.55**	**299**	P		**P**	**16 57 25.9**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=111,slow=8.1,SNR=8.1							
TORD	**Torodi Ar. Bea**	**38.55**	**299**	P		**P**	**16 57 25.7**	**+0.9**
BRTR	**Keskin Array B**	**44.96**	**358**	P		**P**	**16 58 17.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=187,slow=8.7,SNR=6.2							
PALK	**Pallekele**	**46.56**	**75**	P		**P**	**16 58 31.7**	**+1.7**
	comp=Z,8.7nm,0.9s,baz=270,slow=12,SNR=2.8							
KBZ	**Khabaz**	**49.34**	**7**	P		**P**	**16 58 50.5**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=168,slow=6.8,SNR=4.9							
AKASG	**Malin Array Be**	**56.18**	**355**	P		**P**	**16 59 40.8**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=177,slow=6.2,SNR=18							
VRAC	**Vranov**	**57.01**	**345**	P		**P**	**16 59 46.9**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=68,slow=3.3,SNR=3.8							
GERES	**GERESS Array B**	**57.38**	**343**	P		**P**	**16 59 50.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=148,slow=6.3,SNR=9.4							
KKAR	**Karatay Array**	**57.63**	**30**	P		**P**	**16 59 49.8**	**-2.1**
KHC	**Kasperske Hory**	**57.67**	**343**	*e*P		**P**	**16 59 52.1**	**0.0**
ABKAR	**Akbulak array**	**58.38**	**18**	P		**P**	**16 59 55.8**	**-1.2**
AKTO	**Aktyubinsk**	**58.85**	**16**	P		**P**	**17 00 00.3**	**0.0**
	comp=Z,3.2nm,1.0s,baz=209,slow=9.7,SNR=6.5							
CLL	**Collm**	**59.79**	**344**	*e*SS		SS	17 12 17.0	+2.5
ARU	**Arti**	**64.41**	**14**	P		**P**	**17 00 37.0**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=200,slow=6.4,SNR=7.7							
KLMR	**Klimovskoe**	**66.14**	**2**	*e*P		**P**	**17 00 46.8**	**-2.0**
KLMR				AMP			17 00 49.2	
	comp=Z,13nm,1.5s							
MK31	**Makanchi Array**	**66.26**	**33**	P		**P**	**17 00 49.6**	**-0.4**
MK31				IAmb		IAmb	17 00 50.6	
	comp=Z,5.6nm,0.9s							
MKAR	**Makanchi Array**	**66.26**	**33**	P		**P**	**17 00 49.8**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=227,slow=5.4,SNR=26							
MKAR	**Makanchi Array**	**66.26**	**33**	P		**P**	**17 00 49.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**66.60**	**67**	P		**P**	**17 00 52.6**	**0.0**
	comp=Z,1.0nm,0.4s,baz=250,slow=7.9,SNR=5.0							
KURK	**Kurchatov**	**66.94**	**28**	P		**P**	**17 00 53.5**	**-0.6**
KURK				IAmb		IAmb	17 00 55.2	
	comp=Z,5.8nm,1.1s							
ZALV	**Zalesovo Beam**	**71.93**	**28**	P		**P**	**17 01 24.3**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=224,slow=4.0,SNR=4.9							
GTA	**Gaotai**	**73.83**	**46**	*e*P		**P**	**17 01 37.0**	**+0.2**
GTA				pP		pP	17 01 40.5	+0.9
GTA				sP		sP	17 01 43.5	+2.9
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**81.18**	**40**	P		**P**	**17 02 19.2**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=234,slow=5.3,SNR=12							
BORG	**Borgarnes**	**81.53**	**339**	LR		LR	17 39 10.3	
	comp=Z,56nm,20.3s,baz=133,slow=36							
JMIC	**Jan Mayen**	**81.66**	**347**	LR		LR	17 39 51.7	
	comp=Z,38nm,18.8s,baz=62,slow=37							
NRIK	**Noril'sk**	**82.47**	**16**	P		**P**	**17 02 25.4**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=199,slow=2.1,SNR=3.8							

*MOS **31** 17:04:56.9±0.9,5°.26S×35°.97E,h10km,mb5.3/35, MS4.7/7, Error ellipse: s-maj=8.4km s-min=4.4km az=84.4*

*IDC **31** 17:04:57.3±0.5,5°.38S×35°.95E,h0km,mb4.5/24, mb1 4.6/29,mb1mx4.5/37,mbtmp4.6/29,ML4.8/5,MS4.7/30, Ms1 4.7/30,ms1mx4.6/39,Error ellipse: s-maj=17.7km s-min=10.4km az=105.0*

*NEIC **31** 17:04:58.2±1.7,5°.42S±0°.06×35°.90E±0°.07,h10km±1km, mb5.1/121, Error ellipse: s-maj=12.1km s-min=9.7km az=116.0*

*BJI **31** 17:04:59.4±0.0,4°.86S×36°.10E,h10km,mB5.1/38, mb5.0/52,Ms4.9/31,Ms7 4.6/33*

*GCMT **31** 17:05:00.2±0.2,5°.37S±0°.01×35°.86E±0°.01,h12km, MW5.2/128,Moment Tensor Solution. s58,c74; s128,c211; Duration: 1$0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.30±.01; $M_{\theta\theta}$-0.53±.01; $M_{\phi\phi}$0.83±.01; $M_{r\theta}$-0.39±.04; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$-0.13±.03; Best double couple: $M_0$0.86700×10^{17} NP1:ϕ_s150.00000°,δ58.00000°, λ-160.00000°. NP2:ϕ_s49.00000°,δ73.00000°, λ-34.00000°. Principal axes: T 0.9050, Plg10.0000°, Azm102.0000°; N -0.0750, Plg53.0000°, Azm205.0000°; P -0.8290, Plg36.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 17:04:57.8±0.6,5°.31S±0°.02×35°.86E±0°.04,h4km±3km, n439,σ1$32/457,mb5.0/160,MS4.7/52,14C-11D,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOND	**Kondoa**	**0.41**	**350**	*i* P		**Pb**	**17 05 07.3**	**-0.4**
KOND				*i* S		**Sb**	**17 05 14.2**	**-0.1**
DODT	**Dodoma, Tanzan**	**0.88**	**187**	*i* P		**Pg**	**17 05 12.7**	**-2.0**
DODT				*i* S		**Sg**	**17 05 22.8**	**-3.3**
MW44	**Karatu Wel

comp=Z,35nm,0.9s
ABPO Ambohimpanom 17.56 142 Pn 17 09 03.2 -0.6
TEND Ethiopian Broa 17.75 17 *i* P **P 17 09 08.2 +1.3**
TEND *eS* S 17 13 29.5 +58
ATD Arta Tunnel 18.12 23 P **P 17 09 11.7 +0.7**
comp=Z,0.9nm,0.3s,baz=227,slow=6.1,SNR=16
ATD Lg Lg 17 14 24.5
comp=Z,1.1nm,0.3s,baz=170,slow=20,SNR=4.2
ATD LR LR 17 16 09.3
comp=Z,2µm,20.6s,baz=192,slow=37
ATD Arta Tunnel 18.12 23 P P 17 09 11.5 +0.5
DAMY Dhamar 21.49 23 P **P 17 09 49.3 +1.2**
DAMY IAmb IAmb 17 09 56.3
comp=Z,103nm,1.1s
LBTB Lobatse 21.93 206 P **P 17 09 52.2 -0.3**
comp=Z,32nm,0.8s,baz=19,slow=12,SNR=12
LBTB Lg Lg 17 16 18.4
comp=Z,89nm,0.9s,baz=128,slow=23,SNR=8.0
LBTB LR LR 17 18 16.7
comp=Z,3µm,21.9s,baz=28,slow=36
LBTB Lobatse 21.93 206 P **P 17 09 51.8 -0.7**
LBTB IAmb IAmb 17 09 58.3
comp=Z,66nm,1.1s
FOMA Nahampoana Res 22.27 153 P **P 17 09 54.3 -1.8**
TSUM Tsumeb 22.54 231 P **P 17 09 59.1 0.0**
comp=Z,9.4nm,0.9s,baz=54,slow=9.4,SNR=4.1
TSUM Lg Lg 17 16 41.3
comp=Z,54nm,1.0s,baz=130,slow=21,SNR=3.5
TSUM LR LR 17 18 42.4
comp=Z,3µm,20.9s,baz=47,slow=37
TSUM Tsumeb 22.54 231 *i* P P 17 10 11.6 +13
TSUM Tsumeb 22.54 231 P **P 17 09 59.1 0.0**
TSUM Tsumeb 22.54 231 *i* P P 17 10 11.6 +13
RER Riviere de l'E 24.90 131 P **P 17 10 21.0 -1.1**
SOCY Socotra 25.04 46 P **P 17 10 24.4 +1.0**
BOSA Boshof 25.26 202 P **P 17 10 24.6 -0.7**
comp=Z,12nm,0.8s,baz=19,slow=9.0,SNR=14
BOSA LR LR 17 20 33.0
comp=Z,3µm,19.7s,baz=29,slow=37
BOSA Boshof 25.26 202 P P 17 10 24.4 -1.0
BOSA IAmb IAmb 17 11 01.0
comp=Z,33nm,1.0s
SUR Sutherland 30.38 206 P **P 17 11 12.4 +1.2**
comp=Z,3.5nm,0.7s,baz=89,slow=21,SNR=1.0
SUR Sutherland 30.38 206 P P 17 11 12.3 +1.0
SOHO SOHO 35.53 34 *i* P **P 17 11 57.0 +0.8**
SNR=15
HATD Hatta, Dubai 35.87 32 P **P 17 11 59.9 +0.9**
UOSS Minazif 36.00 32 P **P 17 12 01.4 +1.2**
UOSS Minazif 36.00 32 P **P 17 12 00.1 0.0**
UOSS IAmb IAmb 17 13 03.5
comp=Z,48nm,1.5s
MSFE Esma-Masafi 36.31 32 P **P 17 12 03.0 +0.2**
MDH Madha 36.34 32 P **P 17 12 03.5 +0.4**
DGAR Diego Garcia 36.42 95 P **P 17 12 03.0 -0.9**
DGAR pmax pmax
comp=Z,190nm,1.6s
DGAR Diego Garcia 36.42 95 P P 17 12 03.0 -0.9
BANOM Banah 36.84 32 P **P 17 12 08.0 +0.7**
SHME Shamm 36.87 31 *i* P **P 17 12 08.0 +0.5**
SNR=7.3
TOA0 Torodi Ar. Sit 38.58 299 P **P 17 12 23.4 +1.2**
TORD Torodi Ar. Bea 38.58 299 P **P 17 12 22.9 +0.8**
comp=Z,4.8nm,0.9s,baz=109,slow=7.8,SNR=11
TORD LR LR 17 28 22.6
comp=Z,2µm,18.1s,baz=100,slow=36
TORD Torodi Ar. Bea 38.58 299 P P 17 12 22.5 +0.3
CSS Mathiatis 40.13 357 P **P 17 12 36.1 +1.2**
GAZ Gaziantep 42.28 2 P **P 17 12 54.4 +1.8**
GAZ IAmb IAmb 17 12 56.1
comp=Z,52nm,1.7s
DBIC Dimbokro 42.35 286 P **P 17 12 54.1 +0.7**
comp=Z,3.9nm,0.9s,baz=103,slow=10.0,SNR=3.3
DBIC PP **PP 17 14 32.2 +0.7**
comp=Z,5.4nm,0.8s,baz=90,slow=11,SNR=3.9
DBIC LR LR 17 30 30.7
comp=Z,1µm,19.9s,baz=93,slow=36
DBIC Dimbokro 42.35 286 P P 17 12 53.8 +0.4
SANT Santorini 42.60 348 P **P 17 12 54.5 -0.7**
MARD Mardin 42.66 6 P **P 17 12 56.8 +1.1**
MARD IAmb IAmb 17 12 59.7
comp=Z,50nm,1.9s
GEVA Gevas 43.92 8 P **P 17 13 07.2 +1.3**
GEVA IAmb IAmb 17 13 10.5
comp=Z,25nm,1.0s
MANT Manisa 44.11 352 P **P 17 13 07.6 +0.1**
KOWA Kowa 44.17 297 P **P 17 13 12.1 +3.9**
comp=Z,2.5nm,0.9s,baz=170,slow=5.9,SNR=4.8
KOWA Kowa 44.17 297 P **P 17 13 09.1 +1.0**
KOWA IAmb IAmb 17 13 40.2
comp=Z,79nm,1.9s
ITM Ithomi 44.23 344 P **P 17 13 10.0 +1.7**
BR131 Keskin Array S 44.86 358 P **P 17 13 14.1 +0.7**
BR131 pmax pmax
comp=Z,11nm,1.3s
BR131 Keskin Array S 44.86 358 P **P 17 13 14.1 +0.7**
BRTR Keskin Array B 44.86 358 P **P 17 13 14.6 +1.1**
comp=Z,4.5nm,1.0s,baz=177,slow=11,SNR=16
BRTR Keskin Array B 44.86 358 *ce*P **P 17 13 14.8 +1.3**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 44.86 358 P **P 17 13 14.0 +0.5**
BR231 Keskin MP Arra 45.02 357 P **P 17 13 14.0 -0.7**
BR231 IAmb IAmb 17 13 16.8
comp=Z,17nm,1.1s
KOPT Kop Dagi 45.31 5 P **P 17 13 17.6 +0.4**
KOPT IAmb IAmb 17 13 21.7
comp=Z,68nm,2.0s
TOKA Tokat 45.42 1 P **P 17 13 19.2 +1.4**
TOKA IAmb IAmb 17 13 20.6
comp=Z,23nm,1.2s
MDUB Mudurnu 45.76 355 P **P 17 13 20.9 +0.3**
AGG Agios Georgios 45.86 345 P **P 17 13 21.4 +0.2**
AGG pmax pmax
comp=Z,46nm,1.4s
AGG Agios Georgios 45.86 345 P **P 17 13 21.4 +0.2**
AGG IAmb IAmb 17 13 24.2
comp=Z,46nm,1.4s
ILGA Ilgaz 46.18 358 P **P 17 13 25.8 +1.8**
PALK Pallekele 46.46 75 P **P 17 13 25.0 -1.4**
PALK pmax pmax
comp=Z,157nm,1.8s
PALK Pallekele 46.46 75 P **P 17 13 25.0 -1.4**
HRA Herat 46.69 30 P **P 17 13 27.7 -0.4**
HRA IAmb IAmb 17 13 29.6
comp=Z,38nm,1.4s
TIP Timpagrande 47.67 340 P **P 17 13 36.6 +1.2**
TIP IAmb IAmb 17 13 37.9
comp=Z,22nm,1.2s
GYA1 ALIBECK ARRAY 47.74 24 P **P 17 13 36.2 +0.2**
GYB1 ALIBECK ARRAY 47.74 24 P **P 17 13 36.2 +0.2**
GYB4 ALIBECK ARRAY 47.74 24 P **P 17 13 36.5 +0.5**
GEYT Alibeck 47.74 24 P **P 17 13 36.8 +0.7**
comp=Z,3.8nm,1.0s,baz=218,slow=9.4,SNR=6.3
GEYT LR LR 17 35 21.6
comp=Z,2µm,20.1s,baz=95,slow=38
GEYT Alibeck 47.74 24 P P 17 13 36.3 +0.3
GYA0B ALIBECK ARRAY 47.74 24 P **P 17 13 36.2 +0.1**
KEST Kesra 47.82 331 P **P 17 13 39.1 +2.4**
comp=Z,7.8nm,0.9s,baz=166,slow=6.1,SNR=6.6
KEST LR LR 17 32 59.6
comp=Z,2µm,19.6s,baz=77,slow=35
KEST Kesra 47.82 331 P P 17 13 38.7 +2.0
KEST IAmb IAmb 17 13 40.0
comp=Z,31nm,1.2s
ZEI Tsey 48.43 8 *e*P **P 17 13 40.4 -1.1**
ZEI pmax pmax
comp=Z,21nm,1.0s
GROC Groznyy 49.12 10 *e*P **P 17 13 46.0 -0.5**
GROC *e* 17 15 11.1
GROC pmax pmax
comp=Z,61nm,1.2s
MAK Makhachkala 49.20 11 *e*P P 17 13 41.7 -5.4
MAK *e* 17 15 35.8
MAK *eS* **S 17 20 44.8 -8.5**
MAK *e*SS **SS 17 24 24.0 -0.9**
MAK pmax pmax
comp=Z,357nm,1.2s
MAK MLR MLR
comp=Z,754nm,14.0s
KBZ Khabaz 49.23 7 P **P 17 13 49.7 +2.4**
comp=Z,14nm,1.0s,baz=218,slow=5.0,SNR=14
KBZ LR LR 17 36 15.3
comp=Z,1µm,18.0s,baz=192,slow=38
KIV Kislovodsk 49.43 6 *i* P **P 17 13 50.9 +2.0**
SNR=8.6
KIV Kislovodsk 49.43 6 *e*P **P 17 13 50.4 +1.4**
KIV pmax pmax
comp=Z,95nm,1.1s
KIV MLR MLR
comp=Z,1µm,16.0s
KIV Kislovodsk 49.43 6 P **P 17 13 50.1 +1.1**
KIV IAmb IAmb 17 13 51.9
comp=Z,34nm,1.1s
PDG Podgorica 49.86 344 P **P 17 13 52.5 +0.3**
PDG IAmb IAmb 17 13 55.8
comp=Z,52nm,1.4s
ANN Anapa 49.91 1 *e*P **P 17 13 53.1 +0.7**
ANN pmax pmax
comp=Z,107nm,1.5s
ANN MLR MLR
comp=Z,760nm,20.0s
KBL Kabul 50.50 36 P **P 17 13 56.7 -0.8**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 50.50 36 P P 17 13 56.6 -0.8
GOF Gofitskoye 50.56 7⇑ *e*P **P 17 13 59.5 +2.1**
GOF pmax pmax
comp=Z,137nm,0.9s
VSL Villasalto 50.85 334 P **P 17 14 01.5 +1.8**
VSL IAmb IAmb 17 14 43.5
comp=Z,28nm,1.1s
DIVS Divibare 51.22 345 P **P 17 14 04.2 +1.6**
DIVS IAmb IAmb 17 14 05.5
comp=Z,36nm,1.4s
MLR Muntele Rosu 51.35 351 P **P 17 14 05.0 +1.4**
MLR pmax pmax
comp=Z,21nm,1.5s
MLR Muntele Rosu 51.35 351 P P 17 14 05.0 +1.4
NIL Nilore 52.47 40 P **P 17 14 12.2 +0.2**
NIL pmax pmax
comp=Z,16nm,1.2s
NIL Nilore 52.47 40 P P 17 14 12.2 +0.2
LATE Laterza 52.47 338 P **P 17 14 12.9 +1.1**
CASP Castiglione de 52.98 337 P **P 17 14 16.3 +0.7**
CASP IAmb IAmb 17 15 24.3
comp=Z,15nm,0.9s
CHGR Chuyangaron 53.53 32 P **P 17 14 19.7 -0.2**
BURAR Bucovina Array 53.53 351 P **P 17 14 20.6 +0.9**
BURAR PcP **PcP 17 15 27.7 +1.3**
BUR08 Bucovina Ar. S 53.56 351 P **P 17 14 20.1 +0.2**
BUR08 IAmb IAmb 17 14 23.1
comp=Z,29nm,1.4s
MDT Midelt 53.97 317 LR LR 17 38 10.7
comp=Z,920nm,20.1s,baz=140,slow=37
GAR Garm 54.40 33 P **P 17 14 26.7 +0.5**
MSSA Maissana 54.80 337 P **P 17 14 29.4 +0.5**
MSSA IAmb IAmb 17 14 38.9
comp=Z,21nm,1.5s
PSZ Piszkesteto 54.84 347 P **P 17 14 29.5 +0.3**
PSZ pmax pmax
comp=Z,15nm,1.1s
PSZ Piszkesteto 54.84 347 P **P 17 14 29.5 +0.3**
PSZ IAmb IAmb 17 14 32.0
comp=Z,14nm,1.1s
TEOL Teolo 54.89 339 P **P 17 14 29.4 -0.1**
TEOL IAmb IAmb 17 14 31.6
comp=Z,40nm,1.5s
SOKA Soboth 54.97 343 *e*P **P 17 14 31.1 +1.0**
comp=Z,18nm,1.6s
UZH Uzhgorod 55.02 349 *e*P **P 17 14 31.4 +1.1**
UZH *e* 17 14 37.8
PRED Cave del Predi 55.21 341 P **P 17 14 32.7 +0.9**
PRED IAmb IAmb 17 16 22.3
comp=Z,20nm,1.5s
KOLS Kolonicke sedl 55.31 349 *e*P **P 17 14 33.1 +0.6**
KOLS Kolonicke sedl 55.31 349 *e*P **P 17 14 33.1 +0.6**
STAL STALIGIAL 55.32 341 P **P 17 14 33.1 +0.5**
ARSA Arzberg 55.34 343 *e*P **P 17 14 34.2 +1.4**
comp=Z,6.8nm,1.2s
ARSA *e*P **PcP 17 15 35.3 +1.9**
comp=Z,8.7nm,1.1s
BTK Batken 55.43 32 P **P 17 14 34.0 +0.4**
BTK pmax pmax
comp=Z,29nm,1.3s
BTK Batken 55.43 32 P **P 17 14 34.0 +0.4**
BTK IAmb IAmb 17 14 35.7
comp=Z,29nm,1.3s
CRVS Cervenica-Dubn 55.44 349 *e*P **P 17 14 35.1 +1.7**
CRVS pmax pmax
comp=Z,61nm,1.7s
CRVS Cervenica-Dubn 55.44 349 *e*P **P 17 14 35.1 +1.7**
CIMO Cimolais 55.45 340 P **P 17 14 34.2 +0.6**
CTI Castel Tesino 55.49 340 P **P 17 14 34.3 +0.3**
CTI pmax pmax
comp=Z,7.0nm,1.0s
CTI Castel Tesino 55.49 340 P P 17 14 34.3 +0.3
ZOU Zoufplan 55.50 341 P **P 17 14 34.8 +0.7**
ZOU IAmb IAmb 17 14 36.4
comp=Z,19nm,1.2s
TAS Tashkent 55.57 30 P **P 17 14 33.9 -0.6**
TAS pmax pmax
comp=Z,61nm,0.4s
TAS Tashkent 55.57 30 P P 17 14 33.9 -0.6
VYHS Vyhne 55.62 346 *e*P **P 17 14 35.0 +0.3**
VYHS pmax pmax
comp=Z,26nm,1.9s
VYHS Vyhne 55.62 346 *e*P **P 17 14 35.0 +0.3**
ABTA Abfaltersbach 55.82 341 P **P 17 14 37.4 +1.1**
comp=Z,12nm,1.6s
ABTA *e*P **PcP 17 15 37.2 +1.9**
comp=Z,5.4nm,1.0s
CONA Conrad Observa 55.86 344 *e*P **P 17 14 37.8 +1.3**
comp=Z,8.5nm,1.1s
CONA *e*P **PcP 17 15 36.9 +1.5**
comp=Z,9.5nm,1.1s
MODS Modra-Piesok 55.89 345 *e*P **P 17 14 36.3 -0.4**
MODS pmax pmax
comp=Z,29nm,1.8s
MODS Modra-Piesok 55.89 345 P P 17 14 36.2 -0.4
KWP Kalwaria Pacla 55.90 350 *e*P **P 17 14 37.8 +1.0**
KWP Kalwaria Pacla 55.90 350 P **P 17 14 37.6 +0.9**
KWP pmax pmax
comp=Z,78nm,0.5s
KWP Kalwaria Pacla 55.90 350 P P 17 14 37.6 +0.9
AKASG Malin Array Be 56.09 355 P **P 17 14 38.4 +0.4**
comp=Z,20nm,1.0s,baz=178,slow=6.3,SNR=38
AKASG LR LR 17 41 34.2
comp=Z,436nm,18.4s,baz=120,slow=39
AKASG Malin Array Be 56.09 355 *ce*P **P 17 14 38.5 +0.5**
AKASG pmax pmax
comp=Z,20nm,1.0s
AKASG Malin Array Be 56.09 355 P P 17 14 37.8 -0.2
AKBB Malin Array Si 56.09 355 *de*P **P 17 14 38.5 +0.5**
AKBB pmax pmax
comp=Z,35nm,1.3s
AKBB Malin Array Si 56.09 355 P P 17 14 37.8 -0.2
AKBB IAmb IAmb 17 14 39.7
comp=Z,30nm,1.1s
LANS Liptovska Anna 56.09 347 *e*P **P 17 14 39.2 +1.0**
LANS pmax pmax
comp=Z,14nm,1.8s
LANS Liptovska Anna 56.09 347 *e*P **P 17 14 39.2 +1.0**
VORD Divnogorie 56.13 3 *e*P **P 17 14 38.1 -0.2**
VORD pmax pmax
comp=Z,20nm,1.1s
NIE Niedzica 56.17 348 *e*P **P 17 14 40.4 +1.8**
JAVC Velka Javorina 56.24 346 *e*P **P 17 14 40.2 +0.9**
MOA Molln 56.25 343 *e*P **P 17 14 40.3 +1.1**
comp=Z,7.6nm,1.0s
MOA *e*P **PcP 17 15 38.3 +1.4**
comp=Z,9.2nm,1.0s
PYUN Piuthan 56.26 51 *e*P **P 17 14 38.8 -1.2**
comp=Z,113nm,1.2s
VSR Storozhevoye 56.38 2 *e*P **P 17 14 39.0 -1.1**
VSR pmax pmax
comp=Z,20nm,1.0s
FUORN Ofenpass-Fuorn 56.47 339 P **P 17 14 42.9 +1.7**
VRH Novokhopyorsk 56.52 4 *e*P **P 17 14 41.1 +0.1**
VRH pmax pmax
comp=Z,60nm,1.0s
BNI Bardonecchia 56.54 336 P **P 17 14 42.5 +0.9**
BNI pmax pmax
comp=Z,33nm,1.5s
BNI Bardonecchia 56.54 336 P **P 17 14 42.5 +0.9**
BNI IAmb IAmb 17 14 46.5
comp=Z,33nm,1.5s
IUG luzhnay 56.55 30 *e*P **P 17 14 41.4 -0.3**
comp=Z,17nm,1.4s
IUG luzhnay 56.55 30 *e*P **P 17 14 41.3 -0.3**
IUG pmax pmax
comp=Z,17nm,1.4s
WTTA Wattenberg 56.56 340 *e*P **P 17 14 42.6 +0.9**
comp=Z,14nm,1.8s
WTTA *e*P **PcP 17 15 39.4 +1.2**
comp=Z,5.7nm,0.9s
KOLN Koldanda 56.58 52 *e*P **P 17 14 41.0 -1.2**
comp=Z,89nm,1.4s
WATA Walderalm 56.64 340 *e*P **P 17 14 42.6 +0.4**
comp=Z,6.3nm,1.3s
FETA Feichten 56.66 340 *e*P **P 17 14 43.6 +1.2**
comp=Z,3.9nm,1.0s
FETA *e*P **PcP 17 15 40.9 +2.3**
comp=Z,7.9nm,1.3s
SQTA Sankt Quirin 56.66 340 P **P 17 14 43.2 +0.8**
comp=Z,10nm,1.5s
SQTA *e*P **PcP 17 15 39.7 +1.1**
comp=Z,6.9nm,1.4s
TUE Stuetta 56.68 338 P **P 17 14 43.0 +0.4**
KRUC Moravsky 56.76 345 *e*P **P 17 14 42.6 -0.2**
MOTA Moosalm 56.81 340 P **P 17 14 43.9 +0.4**
comp=Z,5.7nm,1.1s
VRAC Vranov 56.93 345 *e*P **P 17 14 44.0 -0.1**
DANN Dangsing 56.98 51 *e*P **P 17 14 43.7 -1.5**
comp=Z,38nm,0.9s
OJC Ojcow 57.03 348 *e*P **P 17 14 44.8 +0.1**
OJC Ojcow 57.03 348 P **P 17 14 44.5 -0.3**
OJC pmax pmax
comp=Z,23nm,1.7s
OJC Ojcow 57.03 348 P **P 17 14 44.5 -0.3**
OJC IAmb IAmb 17 14 46.5
comp=Z,23nm,1.7s
RETA Reutte 57.05 340 *e*P **P 17 14 45.5 +0.5**
comp=Z,8.8nm,1.3s
RETA *e*P **PcP 17 15 41.4 +1.3**
comp=Z,13nm,1.2s
MORC Moravsky Berou 57.13 346 *e*P **P 17 14 45.8 +0.3**
MORC Moravsky Berou 57.13 346 P **P 17 14 45.6 +0.1**
MORC pmax pmax
comp=Z,18nm,1.4s
MORC Moravsky Berou 57.13 346 P P 17 14 45.5 +0.1
MORC IAmb IAmb 17 14 47.3
comp=Z,18nm,1.4s
DAVA Damuels 57.18 339 *e*P **P 17 14 46.5 +0.4**
comp=Z,18nm,1.2s
TREC Trest 57.21 344 AMS AMS 17 41 10.0
comp=Z,500nm,19.3s
GEC2 GERESS Array S 57.31 343 P **P 17 14 47.3 +0.4**
GEC2 IAmb IAmb 17 14 48.4
comp=Z,51nm,2.0s
GERES GERESS Array B 57.31 343 P **P 17 14 46.8 -0.1**
comp=Z,3.2nm,0.9s,baz=147,slow=5.9,SNR=18
GERES LR LR 17 43 26.8
comp=Z,530nm,18.1s,baz=197,slow=40
GERES GERESS Array B 57.31 343 P P 17 14 46.5 -0.4
SENIN Lac Senin/Sane 57.37 337 P **P 17 14 49.1 +1.6**
KK02 Karatay Array 57.50 30 P **P 17 14 47.8 -0.4**
KK31 Karatay Array 57.50 30 P **P 17 14 47.7 -0.5**
KK31 pmax pmax
comp=Z,47nm,1.5s
KK31 Karatay Array 57.50 30 P P 17 14 47.7 -0.5
KK31 IAmb IAmb 17 14 50.0
comp=Z,46nm,1.4s
KKAR Karatay Array 57.50 30 P **P 17 14 47.7 -0.5**
KKAR pmax pmax
comp=Z,47nm,1.5s
KKAR Karatay Array 57.50 30 P **P 17 14 47.7 -0.5**
KKAR IAmb IAmb 17 14 50.0
comp=Z,46nm,1.4s
KKAR Karatay Array 57.50 30 P **P 17 14 47.3 -0.9**
GKN Gorkha 57.50 52 *e*P **P 17 14 47.4 -1.3**
comp=Z,19nm,1.0s
KRLC Kraliky 57.59 346 *e*P **P 17 14 49.1 +0.3**
KRLC *ep*P **sP 17 14 52.0 +0.9**
KRLC AMS AMS 17 44 40.0
comp=Z,400nm,15.1s
KRLC Kraliky 57.59 346 *e*P **P 17 14 49.1 +0.3**
KRLC *e* 17 14 52.0
KRLC MLR MLR
comp=Z,400nm,15.1s
KHC Kasperske Hory 57.60 343 *e*P **P 17 14 48.2 -0.6**
KHC *ex* x 17 14 58.7
KHC AMS AMS 17 45 40.0
comp=Z,600nm,13.1s
KHC Kasperske Hory 57.60 343 *e*P **P 17 14 48.2 -0.6**
KHC MLR MLR
comp=Z,600nm,13.1s
SSB Saint Sauveur 57.63 334 P **P 17 14 50.1 +1.0**
SSB pmax pmax
comp=Z,33nm,1.6s
SSB Saint Sauveur 57.63 334 P **P 17 14 50.1 +1.0**
SSB IAmb IAmb 17 14 52.1
comp=Z,33nm,1.6s
DZA Taraz 57.75 30 *e*P **P 17 14 49.4 -0.6**
comp=Z,7.6nm,1.0s
DZA Taraz 57.75 30 *e*P **P 17 14 49.4 -0.6**
DZA pmax pmax
comp=Z,8.0nm,1.0s
LPSR Galich'ya Gora 57.75 2 *e*P **P 17 14 50.0 +0.2**
LPSR pmax pmax
comp=Z,20nm,1.1s
PKIN Phulchoki 57.91 53 *e*P **P 17 14 50.0 -1.7**
KKN Kakani 57.91 53 *e*P **P 17 14 50.0 -1.7**
PKI Pulchoki 57.92 53 *e*P **P 17 14 50.2 -1.6**
DPC Dobruska-Polom 57.96 345 AMS AMS 17 45 30.0
comp=Z,400nm,13.6s
PAB San Pablo 58.02 324 P **P 17 14 52.3 +0.2**
PAB pmax pmax
comp=Z,13nm,1.4s
PAB San Pablo 58.02 324 P **P 17 14 52.3 +0.2**
PRU Pruhonice 58.10 344 AMS AMS 17 46 00.0
comp=Z,700nm,14.6s
OSTC Ostas 58.18 345 AMS AMS 17 40 30.0
comp=Z,500nm,14.3s
UPC Upice 58.18 345 AMS AMS 17 47 50.0
comp=Z,400nm,14.0s
PRA Prague 58.20 344 AMS AMS 17 46 10.0
comp=Z,300nm,14.3s
CHVC Chvalec 58.24 345 AMS AMS 17 47 50.0
comp=Z,500nm,14.2s
AB07 Akbulak array 58.25 18 P **P 17 14 53.1 -0.2**
AB07 PcP **PcP 17 15 44.0 -0.6**
ABKAR Akbulak array 58.26 18 P **P 17 14 52.8 -0.6**
ABKAR IAmb IAmb 17 14 54.8
comp=Z,39nm,1.8s
ABKAR Akbulak array 58.26 18 P **P 17 14 52.5 -0.9**
ABKAR PcP **PcP 17 15 44.0 -0.6**
AML Almayashu 58.43 32 P **P 17 14 55.2 -0.1**
SNR=15
GUN Gumba 58.44 53 *e*P **P 17 14 54.2 -1.3**
comp=Z,41nm,1.1s
PVCC Panska Ves 58.58 344 AMS AMS 17 44 20.0
comp=Z,500nm,14.9s
BFO Black Forest 58.62 339 P **P 17 14 56.1 +0.1**
BFO pmax pmax
comp=Z,16nm,1.4s
BFO Black Forest 58.62 339 P **P 17 14 56.1 +0.1**
BFO IAmb IAmb 17 14 58.0
comp=Z,16nm,1.4s
STU Stuttgart 58.69 340 P **P 17 14 56.7 +0.3**
STU pmax pmax
comp=Z,11nm,0.4s
STU Stuttgart 58.69 340 P **P 17 14 56.7 +0.3**
STU IAmb IAmb 17 15 00.2
comp=Z,11nm,0.4s
PVAQ Vaqueiros 58.75 320 *e*LR LR 17 36 46.2
comp=Z,744nm,16.0s
GRA1 Grafenberg Arr 58.81 342 P **P 17 14 57.3 0.0**
GRA1 IAmb IAmb 17 15 49.1
comp=Z,16nm,1.2s
GRF Grafenberg Arr 58.81 342 P **P 17 14 57.3 0.0**
GRF pmax pmax
comp=Z,16nm,1.2s
EKS2 Erkin-Say 58.84 32 P **P 17 14 58.2 +0.3**
SNR=7.8
NKC Novy Kostel 58.92 343 AMS AMS 17 41 30.0
comp=Z,700nm,16.8s
UCH Uchtor 58.94 33 P **P 17 14 59.2 +0.4**
SNR=10
ECH Echery 58.95 338 P **P 17 14 58.6 +0.3**
ECH pmax pmax
comp=Z,12nm,1.1s
ECH Echery 58.95 338 P **P 17 14 58.5 +0.3**
ECH IAmb IAmb 17 15 00.1
comp=Z,12nm,1.1s
PBA Port Blair 59.03 73 P P 17 14 56.9 -2.6

BRG Berggiesshubel 59.06 344 *e*P **P** **17 14 59.2 +0.2**
comp=Z,7,5nm,1.4s
BRG *e*PCP **PcP** **17 15 48.9 +1.1**
comp=Z,8.3nm,1.2s
BRG S **S** **17 23 08.0 +1.5**
comp=N,580nm,15.0s
comp=E,311nm,13.0s
comp=Z,425nm,15.1s
BRG Berggiesshubel 59.06 344 *e*P **P** **17 14 59.2 +0.2**
BRG *e* 17 15 48.9
BRG S **S** **17 23 08.0 +1.5**
BRG pmax pmax
comp=Z,8.0nm,1.5s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,580nm,15.0s
BRG MLR MLR
comp=E,311nm,13.0s
BRG MLR MLR
comp=Z,425nm,15.1s
AAK Ala-Archa 59.21 32 P **P** **17 15 01.3 +0.9**
SNR=5.7
AAK Ala-Archa 59.21 32 *i* P **P** **17 15 00.6 +0.2**
SNR=8.7
AAK Ala-Archa 59.21 32 *de*P **P** **17 15 00.7 +0.3**
AAK pmax pmax
comp=Z,55nm,1.7s
FRU1 Bishkek 59.40 32 P **P** **17 15 01.5 -0.1**
FRU1 pmax pmax
comp=Z,31nm,1.3s
FRU1 Bishkek 59.40 32 P **P** **17 15 01.5 -0.1**
FRU1 IAmb IAmb 17 15 03.3
comp=Z,31nm,1.3s
KBK Karagaybulak 59.47 33 P **P** **17 15 02.8 +0.6**
SNR=14
CHMS Chumysh 59.59 32 P **P** **17 15 01.9 -1.0**
SNR=10.0
USP Ospenovka 59.65 32 P **P** **17 15 03.6 +0.4**
SNR=9.7
CLL Collm 59.71 344 *e*P **P** **17 15 03.0 -0.5**
CLL *i* PcP **PcP** **17 15 51.5 +1.1**
comp=Z,9.0nm,1.1s
CLL Collm 59.71 344 *e*P **P** **17 15 03.0 -0.5**
CLL *i* 17 15 51.5
CLL *e*S **S** **17 23 06.0 -8.9**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 59.71 344 P **P** **17 15 03.3 -0.1**
CLL PcP **PcP** **17 15 51.5 +1.1**
PMRV Marv??o 59.77 322 *e*P **P** **17 15 04.7 +0.6**
comp=Z,28nm,1.6s
PMRV Marv??o 59.77 322 *e*LQ LQ 17 34 50.2
PMRV *e*LR LR 17 38 05.5
comp=Z,944nm,20.0s
SGDS Sogindy 59.84 32 *e*P **P** **17 15 02.8 -1.9**
comp=Z,5.3nm,1.0s
SGDS Sogindy 59.84 32 *e*P **P** **17 15 02.7 -1.9**
SGDS pmax pmax
comp=Z,5.0nm,1.0s
BOOM Boomskoye usch 59.89 33 P **P** **17 15 05.1 0.0**
BOOM pmax pmax
comp=Z,6.0nm,0.9s
BOOM Boomskoye usch 59.89 33 P **P** **17 15 05.1 0.0**
TKM2 Tokmak 2 59.99 33 P **P** **17 15 05.1 -0.8**
SNR=6.7
SUW Suwalki 60.06 351 *e*P **P** **17 15 06.5 +0.8**
SUW Suwalki 60.06 351 P **P** **17 15 05.6 -0.2**
SUW pmax pmax
comp=Z,70nm,1.2s
SUW Suwalki 60.06 351 P **P** **17 15 05.6 -0.2**
PCBR Castelo Branco 60.07 322 *e*P **P** **17 15 06.7 +0.5**
comp=Z,31nm,1.9s
OBN Obninsk 60.22 0 *e*P **P** **17 15 07.3 +0.5**
OBN *e* 17 15 50.7
OBN *e* 17 17 19.0
OBN *e*PPP PPP 17 18 41.3
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,219nm,17.0s
OBN Obninsk 60.22 0 P **P** **17 15 06.3 -0.5**
OBN IAmb IAmb 17 15 08.3
comp=Z,32nm,1.2s
KDJ Kajisay 60.34 34 P **P** **17 15 07.7 -0.5**
KDJ pmax pmax
comp=Z,6.0nm,1.0s
KDJ Kajisay 60.34 34 P **P** **17 15 07.7 -0.5**
MTE Manteigas 60.46 323 *e*LQ LQ 17 35 14.8
MTE *e*LR LR 17 38 31.8
comp=Z,863nm,18.0s
MTE Manteigas 60.46 323 P **P** **17 15 08.1 -0.8**
MTE IAmb IAmb 17 15 11.0
comp=Z,24nm,1.2s
WLF Walferdange 60.52 338 P **P** **17 15 09.2 +0.1**
WLF pmax pmax
comp=Z,16nm,1.2s
WLF Walferdange 60.52 338 P **P** **17 15 09.2 +0.1**
WLF IAmb IAmb 17 15 10.7
comp=Z,16nm,1.2s
MVO Moncorvo 60.63 324 *e*P **P** **17 15 12.2 +2.1**
comp=Z,42nm,1.5s
MVO Moncorvo 60.63 324 *e*LQ LQ 17 35 29.4
MVO *e*LR LR 17 38 38.7
comp=Z,977nm,16.0s
BTLS Baital 60.66 30 *e*P **P** **17 15 08.7 -1.4**
comp=Z,20nm,1.7s
BTLS Baital 60.66 30 *e*P **P** **17 15 08.7 -1.4**
BTLS pmax pmax
comp=Z,20nm,1.7s
CLF Chambon-Foret 60.76 335 P **P** **17 15 11.9 +1.2**
MOS Moscow 60.86 1 *e*P **P** **17 15 11.2 0.0**
MOS pmax pmax
comp=Z,48nm,0.9s
PVIS Viseu 60.86 323 *e*P **P** **17 15 13.4 +1.8**
comp=Z,21nm,1.1s
PBRG Braganca 60.87 325 *e*P **P** **17 15 13.8 +2.2**
comp=Z,33nm,1.5s
COI Coimbra 60.87 322 P **P** **17 15 13.3 +1.7**
COI pmax pmax
comp=Z,33nm,1.1s
COI Coimbra 60.87 322 P **P** **17 15 13.3 +1.7**
MDOK Medeo 60.95 33 *e*P **P** **17 15 11.6 -0.8**
MDOK Medeo 60.95 33 *e*P **P** **17 15 11.5 -0.8**
KUU Kurty 61.05 32 *e*P **P** **17 15 11.2 -1.7**
comp=Z,92nm,2.9s
KUU Kurty 61.05 32 *e*P **P** **17 15 11.1 -1.7**
KUU pmax pmax
comp=Z,92nm,2.9s
PVRL Vila Real 61.10 324 *e*P **P** **17 15 15.3 +2.0**
comp=Z,35nm,1.4s
PRZ Przheval'sk 61.26 35 P **P** **17 15 14.2 -0.3**
PRZ pmax pmax
comp=Z,17nm,1.1s
PRZ Przheval'sk 61.26 35 P **P** **17 15 14.2 -0.3**
PRZ IAmb IAmb 17 15 15.7
comp=Z,16nm,1.1s
BCLA Clavier 61.46 338 ⇓P **P** **17 15 16.5 +1.1**
DOU Dourbes 61.46 338 ⇑P **P** **17 15 14.6 -0.9**
DOU pP **pP** **17 15 17.4 +0.3**
BGES Gesves 61.51 338 P **P** **17 15 16.4 +0.7**
PCAB Cabril 61.55 324 *e*P **P** **17 15 17.1 +0.8**
comp=Z,45nm,1.7s
BMRD Maredsous 61.56 338 P **P** **17 15 17.0 +0.9**
SATY Saty 61.63 34 *e*P **P** **17 15 16.0 -0.9**
comp=Z,14nm,1.1s
SATY Saty 61.63 34 *e*P **P** **17 15 16.0 -0.9**
SATY pmax pmax
comp=Z,14nm,1.1s
PGAV Gavieira, Arco 61.85 324 *e*P **P** **17 15 20.7 +2.3**
comp=Z,40nm,1.9s
PGAV Gavieira, Arco 61.85 324 *e*LQ LQ 17 35 58.6
PGAV *e*LR LR 17 39 48.8
comp=Z,1μm,18.0s
SNF Seneffe 61.91 338 P **P** **17 15 18.9 +0.5**
UZB Uzynbulak 62.04 35 *e*P **P** **17 15 18.6 -1.1**
comp=Z,16nm,1.0s
UZB Uzynbulak 62.04 35 *e*P **P** **17 15 18.6 -1.1**
UZB pmax pmax
comp=Z,16nm,1.0s
KPKS Kokpek 62.05 34 *e*P **P** **17 15 17.8 -1.9**
comp=Z,5.8nm,1.3s
KPKS Kokpek 62.05 34 *e*P **P** **17 15 17.8 -1.9**
KPKS pmax pmax
comp=Z,6.0nm,1.3s
UCC Uccle 62.12 338 P **P** **17 15 20.2 +0.4**
UCC pmax pmax
comp=Z,13nm,0.6s
UCC Uccle 62.12 338 P **P** **17 15 20.2 +0.4**
UCC IAmb IAmb 17 17 27.8
comp=Z,13nm,0.6s
SACV Santiago Islan 62.27 290 P **P** **17 15 20.9 -0.7**
SHLS Shalkode 62.29 35 *e*P **P** **17 15 21.2 -0.1**
comp=Z,4.8nm,1.0s
SHLS Shalkode 62.29 35 *e*P **P** **17 15 21.2 -0.1**
SHLS pmax pmax
comp=Z,5.0nm,1.0s
SHL Shillong 62.41 58 P **P** **17 15 21.5 -1.0**
SHL pmax pmax
comp=Z,14nm,0.4s
SHL Shillong 62.41 58 P **P** **17 15 21.5 -1.0**
PMOZ Porto Moniz, M 62.98 311 *e*LR LR 17 37 04.9
comp=Z,472nm,18.0s
LSA Lhasa 63.38 53 P **P** **17 15 28.2 -1.1**
LSA Lhasa 63.38 53 P **P** **17 15 28.3 -1.1**
LSA pmax pmax
comp=Z,26nm,1.6s
LSA Lhasa 63.38 53 P **P** **17 15 28.2 -1.1**
LSA IAmb IAmb 17 15 30.8
comp=Z,26nm,1.6s
BRZS Berezniki 63.62 26 *e*P **P** **17 15 28.9 -1.0**
comp=Z,27nm,2.2s
BRZS Berezniki 63.62 26 *e*P **P** **17 15 28.9 -1.0**
BRZS pmax pmax
comp=Z,27nm,2.2s
SYO Syowa Base 63.65 179⇑ *e*P **P** **17 15 28.8 -0.9**
SYO Syowa Base 63.65 179⇑ *e*pP **P** **17 15 30.6 +0.9**
SYO Syowa Base 63.65 179 *i* sP sP 17 15 32.8 +0.7
VSU Vasula 63.99 355⇑ *e*P **P** **17 15 32.5 +0.4**
VSU pmax pmax
comp=Z,208nm,4.6s
ARU Arti 64.29 14 *c i*P **P** **17 15 34.3 +0.1**
ARU 17 16 11.9
ARU 17 17 51.8
ARU PPP PPP 17 19 23.4
ARU S **S** **17 24 14.1 +1.6**
ARU 17 25 21.7
ARU SS **SS** **17 28 15.4 -6.9**
ARU pmax pmax
comp=Z,47nm,1.1s
ARU MLR MLR
comp=Z,675nm,21.0s
ARU Arti 64.29 14 P **P** **17 15 34.2 +0.1**
KIRV Kirov 64.62 8 *d i*P **P** **17 15 35.9 -0.3**
MAW Mawson 64.85 169 P **P** **17 15 38.0 +0.4**
comp=Z,2.4nm,0.6s,baz=338,slow=6.3,SNR=11
MAW LR LR 17 40 38.8
comp=Z,358nm,18.7s,baz=334,slow=33
MAW Mawson 64.85 169 P **P** **17 15 39.3 +1.6**
MAW pmax pmax
comp=Z,3.0nm,1.5s
MAW Mawson 64.85 169 P **P** **17 15 39.2 +1.6**
BRVK Borovoye 65.01 22 *d i*P **P** **17 15 38.7 -0.2**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 65.01 22 P **P** **17 15 38.8 -0.2**
BRVK IAmb IAmb 17 15 40.3
comp=Z,13nm,1.2s
SVE Sverdlovsk 65.15 15⇓ *i*P **P** **17 15 40.4 +0.6**
SVE pmax pmax
comp=Z,33nm,1.4s
IPM Ipoh 65.80 83 P **P** **17 15 44.7 -0.2**
IPM IAmb IAmb 17 15 56.1
comp=Z,13nm,0.8s
MAKZ Makanchi 65.97 33 P **P** **17 15 45.1 -0.2**
MAKZ pmax pmax
comp=Z,30nm,1.0s
MAKZ Makanchi 65.97 33 P **P** **17 15 45.1 -0.2**
KLMR Klimovskoe 66.03 2 *e*P **P** **17 15 43.6 -1.7**
KLMR pmax pmax
comp=Z,38nm,1.1s
KLMR Klimovskoe 66.03 2 *e*P **P** **17 15 43.6 -1.7**
KLMR AMP 17 15 46.6
comp=Z,38nm,1.1s
KLMR LQ LQ 17 40 48.9
KLMR LQ LQ 17 40 48.9
KLMR LR LR 17 45 30.9
MK31 Makanchi Array 66.13 33 P **P** **17 15 45.6 -0.8**
MK31 pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 66.13 33 P **P** **17 15 45.6 -0.8**
MKAR Makanchi Array 66.13 33 P **P** **17 15 45.6 -0.7**
comp=Z,21nm,0.9s,baz=231,slow=4.9,SNR=72
MKAR LR LR 17 47 43.7
comp=Z,268nm,20.2s,baz=250,slow=39
MKAR Makanchi Array 66.13 33 *ce*P **P** **17 15 45.7 -0.6**
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR Makanchi Array 66.13 33 P **P** **17 15 45.1 -1.2**
CM31 Chiang Mai Arr 66.49 67 P **P** **17 15 49.1 0.0**
CM31 IAmb IAmb 17 15 50.2
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 66.49 67 P **P** **17 15 49.0 -0.2**
comp=Z,5.8nm,0.8s,baz=259,slow=7.8,SNR=64
CMAR LR LR 17 45 10.0
comp=Z,97nm,18.4s,baz=290,slow=36
CMAR Chiang Mai Arr 66.49 67 P **P** **17 15 48.3 -0.8**
CHTO Chiang Mai 66.58 67 P **P** **17 15 48.5 -1.2**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 66.58 67 P **P** **17 15 48.5 -1.2**
CHTO IAmb IAmb 17 15 50.4
comp=Z,8.5nm,0.9s
KURK Kurchatov 66.81 28 *ce*P **P** **17 15 50.7 +0.1**
KURK pmax pmax
comp=Z,25nm,1.2s
KURK Kurchatov 66.81 28 P **P** **17 15 50.5 0.0**
KURK IAmb IAmb 17 15 52.1
comp=Z,23nm,1.1s
FIA1 FINESS Array S 67.00 355 P **P** **17 15 52.2 +0.7**
FINES FINESS Array B 67.00 355 P **P** **17 15 52.0 +0.5**
comp=Z,5.0nm,1.0s,baz=50,slow=6.0,SNR=7.7
FINES FINESS Array B 67.00 355 *i* P **P** **17 15 52.2 +0.7**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 67.00 355 P **P** **17 15 51.3 -0.2**
WMQ Urumqi 67.55 38 *eP* **P** **17 15 56.5 +1.0**
WMQ pP sP 17 16 00.5 +2.7
WMQ S **S** **17 24 53.5 +0.5**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,140nm,5.3s
WMQ LR LR
comp=Z,140nm,29.2s
WMQ LR LR
comp=Z,290nm,29.1s
WMQ LR LR
comp=Z,180nm,29.2s
WMQ Urumqi 67.55 38 P **P** **17 15 56.1 +0.6**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ Urumqi 67.55 38 P **P** **17 15 56.1 +0.6**
WMQ IAmb IAmb 17 15 57.4
comp=Z,24nm,1.1s
HFS Hagfors 67.55 348 LR LR 17 48 52.1
comp=Z,417nm,19.2s,baz=158,slow=39
ESK Eskdalemuir 68.50 337 P **P** **17 16 03.8 +2.6**
ESK pmax pmax
comp=Z,153nm,2.0s
ESK Eskdalemuir 68.50 337 **P** **17 16 03.8 +2.6**
NC602 NORSAR Array S 68.55 347 P **P** **17 16 01.4 +0.1**
NB2 NORSAR Subarra 68.89 347 P **P** **17 16 03.8 +0.3**
comp=Z,38nm,1.4s,baz=155,slow=5.9
NB2 NORSAR Subarra 68.89 347 P **P** **17 16 03.8 +0.3**
baz=155,slow=5.9
NOA NORSAR Array B 68.89 347 P **P** **17 16 03.8 +0.3**
comp=Z,9.3nm,1.1s,baz=155,slow=5.7,SNR=9.3
NOA LR LR 17 50 23.4
comp=Z,103nm,19.0s,baz=160,slow=40
TMCR Tamitsa 69.31 1 *eP* **P** **17 16 04.8 -1.2**
TMCR pmax pmax
comp=Z,26nm,1.0s
SNAA Sanae 70.54 192 P **P** **17 16 14.8 +1.2**
SNAA Sanae 70.54 192 *ce*P **P** **17 16 15.5 +1.9**
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 70.54 192 P **P** **17 16 13.6 0.0**
SNAA IAmb IAmb 17 18 29.4
comp=Z,16nm,1.6s
DGZ Jazzator, Alta 70.61 33⇓ *i*P **P** **17 16 14.5 -0.1**
DGZ pmax pmax
comp=Z,12nm,1.0s
KMI Kunming 71.60 61⇓ *e*P **P** **17 16 21.0 -0.2**
KMI pmax pmax
comp=Z,15nm,0.7s
KMI LR LR
comp=Z,230nm,22.5s
KMI LR LR
comp=Z,140nm,28.6s
KMI LR LR
comp=Z,360nm,39.6s
KMI Kunming 71.60 61 P **P** **17 16 21.0 -0.2**
KMI pmax pmax
comp=Z,14nm,0.4s
KMI Kunming 71.60 61 P **P** **17 16 21.0 -0.2**
SLVN Son La 71.71 66 P **P** **17 16 20.4 -1.3**
SLVN IAmb IAmb 17 16 23.2
comp=Z,20nm,1.5s
ZAA0 Zalesovo Array 71.80 28 P **P** **17 16 20.3 -1.1**
ZAA0 IAmb IAmb 17 16 22.1
comp=Z,26nm,1.4s
ZALV Zalesovo Beam 71.80 28 P **P** **17 16 20.6 -0.9**
comp=Z,4.4nm,0.8s,baz=241,slow=4.9,SNR=19
ZALV LR LR 17 51 09.4
comp=Z,632nm,19.3s,baz=218,slow=39
ZALV Zalesovo Beam 71.80 28 P **P** **17 16 20.1 -1.4**
GTA Gaotai 73.71 46 P **P** **17 16 33.5 +0.2**
GTA pP sP 17 16 40.8 +5.2
GTA sP PcP 17 16 45.5 -3.5
GTA S **S** **17 26 06.8 +1.7**
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,220nm,21.8s
GTA LR LR
comp=Z,230nm,21.4s
GTA LR LR
comp=Z,250nm,18.5s
CD2 Chengdu 74.04 56 *e*P **P** **17 16 34.5 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 75.03 356 P **P** **17 16 40.8 +0.6**
comp=Z,3.2nm,0.8s,baz=160,slow=7.6,SNR=4.8
ARCES LR LR 17 53 14.9
comp=Z,260nm,18.1s,baz=215,slow=39
GYA Guiyang 75.36 61⇓ P **P** **17 16 42.8 -0.3**
GYA S **S** **17 26 21.0 -3.1**
GYA SKS SKSac 17 26 40.8 -13
GYA pmax pmax
comp=Z,16nm,0.9s
GYA pmax pmax
comp=Z,85nm,5.0s
GYA LR LR
comp=Z,240nm,28.4s
LZH Lanzhou 75.61 51 *e*P **P** **17 16 45.5 +1.0**
LZH pP sP 17 16 49.8 +3.0
LZH sP PcP 17 16 52.3 -5.1
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,130nm,6.0s
LZH LR LR
comp=Z,280nm,14.6s
LZH LR LR
comp=Z,320nm,17.9s
LZH LR LR
comp=Z,360nm,18.6s
SBUM Sibu 76.66 86 P **P** **17 16 50.1 -0.5**
QIZ Qiongzhong 76.69 69 P **P** **17 16 49.5 -1.2**
QIZ S **S** **17 26 35.8 -3.0**
QIZ pmax pmax
comp=Z,230nm,4.5s
QIZ LR LR
comp=Z,280nm,20.6s
QIZ LR LR
comp=Z,190nm,23.5s
QIZ LR LR
comp=Z,150nm,25.5s
XAN Xi'an 79.07 54 P **P** **17 17 03.3 -0.4**
XAN pP PcP 17 17 09.5 -2.7
XAN pmax pmax
comp=Z,13nm,0.7s
XAN Xi'an 79.07 54 P **P** **17 17 02.8 -0.9**
XAN pmax pmax
comp=Z,13nm,1.1s
XAN Xi'an 79.07 54 P **P** **17 17 02.8 -0.9**
XAN IAmb IAmb 17 17 04.5
comp=Z,13nm,1.1s
ZAK Zakamensk 79.97 37 *e*P **P** **17 17 07.3 -1.1**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TLY Talaya 80.65 36 *e*P **P** **17 17 15.3 +3.4**
TLY *e*S **S** **17 27 20.0 0.0**
TLY pmax pmax
comp=Z,16nm,1.3s
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 80.65 36 P **P** **17 17 13.2 +1.3**
SONM Songino Array 81.05 40 P **P** **17 17 15.5 +1.3**
comp=Z,9.9nm,0.9s,baz=237,slow=4.8,SNR=38
SONM LR LR 17 58 07.4
comp=Z,187nm,18.5s,baz=274,slow=39
SONM Songino Array 81.05 40 P **P** **17 17 14.8 +0.6**
ULN Ulaanbaatar 81.48 40 P **P** **17 17 17.3 +0.7**
ULN *PP **pP** **17 17 17.4 -0.9**
ULN Ulaanbaatar 81.48 40 P **P** **17 17 17.3 +0.7**
ULN **pP** **17 17 17.4 -0.9**
NRIK Noril'sk 82.35 16 P **P** **17 17 21.5 +1.0**
comp=Z,7.4nm,1.0s,baz=213,slow=3.3,SNR=14
NRIK LR LR 18 00 04.6
comp=Z,510nm,18.7s,baz=209,slow=40
HHC Hu-ho-hao-te 82.73 48 *e*P **P** **17 17 22.5 -0.7**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.6s
WHN Wuhan 82.82 58 P **P** **17 17 23.8 0.0**
WHN S **S** **17 27 45.5 +2.3**
WHN LR LR
comp=Z,420nm,18.2s
QSPA South Pole Qui 84.75 180 P **P** **17 17 33.3 +0.2**
QSPA IAmb IAmb 17 17 40.4
comp=Z,8.3nm,1.1s
KBS Kingsbay 85.08 355⇑ *e*P **P** **17 17 34.6 +0.3**
KBS pmax pmax
comp=Z,51nm,1.7s
BJI Beijing 86.00 49 P **P** **17 17 40.8 +1.1**
BJI S **S** **17 28 18.8 +4.2**
BJI pmax pmax
comp=Z,8.0nm,1.0s
BJI LR LR
comp=Z,160nm,11.2s
BJI LR LR
comp=Z,220nm,20.6s
BJI LR LR
comp=Z,240nm,24.6s
TIA Tai'an 86.09 53 P **P** **17 17 40.8 +0.6**
TIA pmax pmax
comp=Z,20nm,1.2s
NJ2 Nanjing 86.87 58 *e*P **P** **17 17 43.8 -0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SOEI Soe 87.55 100 P **P** **17 17 48.0 +0.1**
FITZ Fitzroy Crossi 88.16 108 P **P** **17 17 50.3 -0.4**
CPUP Villa Florida 90.53 244 LR LR 17 56 19.1
comp=Z,238nm,18.2s,baz=110,slow=34
VNDA Vanda 92.15 170 P **P** **17 18 08.9 +0.8**
comp=Z,0.6nm,0.8s,baz=274,slow=6.7,SNR=4.4
VNDA LR LR 17 59 38.0
comp=Z,328nm,18.0s,baz=246,slow=36
KSRS Korea Array 94.83 53 LR LR 18 00 38.3
comp=Z,123nm,21.6s,baz=267,slow=35
ASAR Alice Springs 95.22 114 P **P** **17 18 22.9 -0.5**
comp=Z,0.7nm,0.8s,baz=272,slow=4.4,SNR=3.8
ASAR LR LR 17 55 03.1
comp=Z,291nm,21.9s,baz=274,slow=32
TIXI Tiksi 95.96 19⇑ *e*P **P** **17 18 24.5 -1.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 96.14 111 P **P** **17 18 26.6 -1.1**
comp=Z,0.7nm,0.9s,baz=265,slow=2.9,SNR=6.4
WRA LR LR 17 57 25.6
comp=Z,207nm,19.9s,baz=290,slow=33
WRAB Tennant Creek 96.15 111⇑ *e*P **P** **17 18 26.6 -1.1**

WRAB					pmax	pmax			
	comp=Z,6.0nm,1.2s								
PLCA	**Paso Flores**	**98.86**	**228**		LR	LR	17 59 48.6		
	comp=Z,274nm,19.0s,baz=106,slow=33								
BILL	**Bilibino**	**109.15**	**18**	*eP*		**Pdif**	**17 19 25.0**	**+0.4**
BILL				*e*			17 23 52.4		
BILL				*e*PPP		PPP	17 26 15.3		
BILL					pmax	pmax			
	comp=Z,3.0nm,1.1s								
ILAR	**Eielson Array**	**120.62**	**1**	PKP		**PKPdf**	**17 23 49.9**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=303,slow=4.1,SNR=4.9								
ILAR				PP		**PP**	**17 25 17.4**	**+0.2**
	comp=Z,1.9nm,1.2s,baz=356,slow=7.5,SNR=5.2								
EGMT	**Eagleton**	**128.31**	**331**	PKPdf		**PKiKP**	**17 24 06.4**	**-0.2**
JTMT	**Jette**	**130.60**	**334**	PKPdf		**PKiKP**	**17 24 11.9**	**+0.7**
YHH	**Holmes Hill**	**131.10**	**329**	PKPdf		**PKiKP**	**17 24 14.3**	**+1.7**
PDAR	**Pinedale Array**	**131.76**	**326**	PKP		**PKiKP**	**17 24 13.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=107,slow=1.5,SNR=4.1								
TXAR	**Lajitas Array**	**134.93**	**307**	PKP		**PKiKP**	**17 24 21.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=131,slow=3.5,SNR=4.1								
NVAR	**Mina Array Bea**	**139.54**	**328**	PKhKP		PKPpre	17 24 20.6		
	comp=Z,1.4nm,1.0s,baz=73,slow=4.1,SNR=4.2								
NVAR				PKP		pPKPdf	17 24 29.6	+0.4	
	comp=Z,3.5nm,1.0s,baz=172,slow=1.0,SNR=4.4								
NVAR	**Mina Array Bea**	**139.54**	**328**			PKPpre	17 24 21.0		

*NIC **31** 17:11:54.3±0.0,35°.75N×29°.21E,h0km±1km,Ml3.2/2*
*ISK **31** 17:11:56.8,35°.91N×29°.20E,h42km±1km,ML2.6/12*
ISC 31 17:11:57.2±1.3,35°.90N±0°.05×29°.20E±0°.04,h33km±15km, n23,σ0ᵍ65/28,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSL	**Kastellorizon**	**0.40**	**50**	P		**Pn**	**17 12 06.2**	**-0.6**
KSL				S		**Sn**	**17 12 13.4**	**+0.3**
AKAS	**Kas**	**0.47**	**44**	PG		**Pn**	**17 12 07.5**	**-0.3**
AKAS				SG		**Sn**	**17 12 15.3**	**+0.2**
FETY	**Fethiye**	**0.74**	**353**	PG		**Pn**	**17 12 11.1**	**-0.4**
FETY				SG		**Sb**	**17 12 21.6**	**-0.2**
ARG	**Arkhangelos**	**0.93**	**290**	PG		**Pn**	**17 12 13.9**	**-0.1**
ARG	**Arkhangelos**	**0.93**	**290**	P		**Pn**	**17 12 14.1**	**0.0**
ARG				S		**Sb**	**17 12 29.0**	**+2.1**
DALY	**Dalyan (Mula)**	**1.02**	**334**	PG		**Pn**	**17 12 15.2**	**-0.1**
ELL	**Elmali**	**1.02**	**34**	PG		**Pn**	**17 12 15.2**	**-0.3**
ELL	**Elmali**	**1.02**	**34**	P		**Pb**	**17 12 17.0**	**+0.4**
CAME	**Cameli-Denizli**	**1.05**	**4**	PG		**Pn**	**17 12 15.7**	**-0.1**
TURN	**Turunc**	**1.17**	**319**	PN		**Pn**	**17 12 17.4**	**+0.1**
KORT	**Korkueli**	**1.44**	**40**	PN		**Pn**	**17 12 20.9**	**-0.3**
YER	**Yerkesik**	**1.44**	**329**	PN		**Pn**	**17 12 20.9**	**-0.2**
KARP	**Karpathos**	**1.70**	**259**	PN		**Pn**	**17 12 25.1**	**+0.5**
KARP	**Karpathos**	**1.70**	**259**	P		**Pb**	**17 12 25.9**	**-1.9**
KARP				S		**Sb**	**17 12 49.1**	**+0.2**
NIS1	**Nisyros Isl.**	**1.78**	**294**	PN		**Pn**	**17 12 26.0**	**+0.2**
BODT	**Bodrum**	**1.92**	**308**	PN		**Pn**	**17 12 27.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.30**	**333**	PN		**Pn**	**17 12 33.1**	**+0.1**
ZKR	**Zakros**	**2.56**	**253**	PN		**Pn**	**17 12 37.0**	**+0.6**
AKMS	**Akamas**	**2.70**	**108**	P		**Pn**	**17 12 38.4**	**-0.1**
AKMS				AML		AML	17 13 10.6		
	0.4nm,0.3s								
AKMS				AML		AML	17 13 12.9		
	0.3nm,0.5s								
ALFC	**Alefka**	**2.87**	**104**	P		**Pn**	**17 12 40.6**	**-0.1**
ALFC				AML		AML	17 13 15.8		
	0.2nm,0.5s								
ALFC				AML		AML	17 13 21.8		
	0.2nm,0.8s								
NATA	**Nata**	**2.97**	**111**	P		**Pn**	**17 12 42.4**	**+0.3**
SZAC	**Souni**	**3.22**	**110**	P		**Pn**	**17 12 45.8**	**+0.3**
ASGA	**Asgata**	**3.49**	**107**	P		**Pn**	**17 12 49.4**	**+0.2**

*IDC **31** 17:18:43.4±4.1,23°.44S×178°.78W,h0km,mb3.9/4,*
mb1 4.1/4,mb1mx3.8/23,mbtmp3.9/4, Error ellipse:
s-maj=179.3km s-min=32.1km az=146.0
*NEIC **31** 17:19:04.3±1.0,24°.0S±0°.2×178°.5W±0°.2,h208km±9km,*
mb4.1/13, Error ellipse: s-maj=39.5km s-min=19.9km
az=141.0
ISC 31 17:19:03.8±1.2,24°.1S±0°.3×178°.4W±0°.2,h200km,n18, σ1ᵍ12/17,mb3.9/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTAO	**Charters Tower**	**32.90**	**270**	P		**P**	**17 25 21.1**	**+1.8**
CTAO				IAmb		IAmb	17 25 21.7	
	comp=Z,5.8nm,0.7s							
STKA	**Stephens Creek**	**35.98**	**248**	P		**P**	**17 25 45.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=90,slow=13,SNR=2.8							
BBOO	**Buckleboo**	**40.69**	**247**	P		**P**	**17 26 23.5**	**-1.3**
AS31	**Alice Springs**	**43.41**	**260**	P		**P**	**17 26 45.8**	**-1.2**
ASAR	**Alice Springs**	**43.41**	**260**	P		**P**	**17 26 46.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=98,slow=6.8,SNR=29							
WR0	**Warramunga Arr**	**43.63**	**266**	P		**P**	**17 26 47.8**	**-0.9**
WR0				IAmb		IAmb	17 26 55.3	
	comp=Z,4.6nm,1.2s							
WB2	**Warramunga Arr**	**43.81**	**266**	P		**P**	**17 26 49.4**	**-0.8**
WB2				IAmb		IAmb	17 27 04.5	
	comp=Z,7.6nm,1.4s							
WRAB	**Tennant Creek**	**43.81**	**266**	P		**P**	**17 26 49.2**	**-0.9**
WB0	**Warramunga Arr**	**43.81**	**266**	P		**P**	**17 26 49.3**	**-0.9**
WB0				IAmb		IAmb	17 26 49.9	
	comp=Z,2.7nm,0.6s							
WRA	**Warramunga Arr**	**43.82**	**266**	P		**P**	**17 26 49.2**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=103,slow=8.1,SNR=31							
WRA	**Warramunga Arr**	**43.82**	**266**	IAmb		IAmb	17 26 49.8	
	comp=Z,0.1nm,0.7s							
MLOA	**Mauna Loa Obse**	**48.74**	**29**	P		**P**	**17 27 28.3**	**-0.6**
KNRA	**Kununurra**	**50.11**	**269**	P		**P**	**17 27 38.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.24**	**265**	P		**P**	**17 27 54.2**	**-0.5**
FITZ				IAmb		IAmb	17 27 55.1	
	comp=Z,2.9nm,0.9s							
CASY	**Casey**	**60.58**	**206**	P		**P**	**17 28 53.6**	**+0.8**
CASY				IAmb		IAmb	17 29 12.4	
	comp=Z,12nm,1.6s							
ILAR	**Eielson Array**	**91.87**	**13**	P		**P**	**17 31 50.2**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=216,slow=7.6,SNR=2.7							
HFS	**Hagfors**	**142.98**	**350**	PKP		**PKiKP**	**17 38 14.9**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=67,slow=4.8,SNR=7.6							
AKASG	**Malin Array Be**	**145.88**	**328**	PKPbc		**PKiKP**	**17 38 22.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=39,slow=3.9,SNR=2.8							

*CNRM **31** 17:37:12.3±1.2,35°.80N×5°.34W,h81km±15km, Error*
ellipse: s-maj=14.9km s-min=7.9km az=76.0
*MDD **31** 17:37:16.1±1.2,35°.93N×5°.28W,h57km±9km,mb2.6/7,*
Error ellipse: s-maj=11.4km s-min=5.9km az=1.0,PRXIMO
*INMG **31** 17:37:16.2±1.2,35°.96N×5°.31W,h55km±7km,ML2.0, Error*
ellipse: s-maj=4.1km s-min=3.3km az=177.0
ISC 31 17:37:12.9±1.2,35°.85N±0°.03×5°.27W±0°.03,h75km±7km, n40,σ1ᵍ38/64,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ECEU	**Ceuta**	**0.10**	**299**	⇑P		**Pn**	**17 37 24.3**	**+0.6**
	14nm,0.1s,SNR=18							
ECEU				S		**Sn**	**17 37 30.1**	**-1.6**
	2.6nm,0.1s,SNR=4.0							
SMIR	**Smir Dam**	**0.19**	**209**	P		**Pn**	**17 37 24.9**	**+0.9**
SMIR				S		**Sn**	**17 37 31.6**	**-0.6**
RSA	**Sarsar**	**1.06**	**205**	P		**Pn**	**17 37 34.3**	**+1.7**
RSA				S		**Sn**	**17 37 49.2**	**+2.0**
ESPR	**Espera**	**1.12**	**335**	S		**Sn**	**17 37 46.1**	**-2.3**
	1.2nm,0.1s,SNR=4.0							
ELGU	**Los Guajares,**	**1.67**	**52**	P		**Pn**	**17 37 41.8**	**+1.4**
	0.5nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**17 38 00.3**	**-0.8**
	1.5nm,0.1s,SNR=7.9							
HORN	**Hornachuelos**	**1.99**	**0**	P		**Pn**	**17 37 45.8**	**+1.2**
HORN				S		**Sn**	**17 38 08.2**	**-0.5**
EQUE	**Quentar**	**2.00**	**47**	S		**Sn**	**17 38 08.7**	**-0.3**
	SNR=4.0							
EMIN	**Mina Concepcio**	**2.22**	**330**	P		**Pn**	**17 37 48.7**	**+1.1**
	0.3nm,0.1s,SNR=13							
EMIN				S		**Sn**	**17 38 13.0**	**-1.3**
	1.2nm,0.0s,SNR=7.9							
ECAB	**El Cabril**	**2.23**	**357**	P		**Pn**	**17 37 48.9**	**+1.1**
	0.4nm,0.2s,SNR=5.5							
ECAB				S		**Sn**	**17 38 12.6**	**-1.7**
	0.1nm,0.1s							
EADA	**Adamuz**	**2.38**	**13**	P		**Pn**	**17 37 51.4**	**+1.6**
	0.5nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**17 38 17.7**	**-0.4**
	0.6nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**2.45**	**314**	P		**Pn**	**17 37 51.9**	**+1.2**
	0.5nm,0.1s,SNR=14							
EGRO				S		**Sn**	**17 38 18.2**	**-1.5**
	2.2nm,0.1s							
PVAQ	**Vaqueiros**	**2.51**	**309**	P		**Pn**	**17 37 52.6**	**+1.1**
PVAQ				S		**Sn**	**17 38 20.1**	**-1.0**
	6.5nm,0.2s							
PVAQ	**Vaqueiros**	**2.51**	**309**	P		**Pn**	**17 37 52.1**	**+0.6**
PVAQ				S		**Sn**	**17 38 19.8**	**-1.3**
PVAQ	**Vaqueiros**	**2.51**	**309**	*e*P		**Pn**	**17 37 52.6**	**+1.1**
PVAQ				*e*S		**Sn**	**17 38 20.1**	**-1.0**
PVAQ				A		A	17 38 21.4	
	6.5nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.56**	**304**	P		**Pn**	**17 37 53.5**	**+1.3**
PBDV				S		**Sn**	**17 38 21.6**	**-0.7**
	2.1nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.56**	**304**	*e*P		**Pn**	**17 37 53.5**	**+1.3**
PBDV				*e*S		**Sn**	**17 38 21.6**	**-0.7**
PBDV				A		A	17 38 23.4	
	2.1nm,0.1s							
EQES	**Quesada**	**2.63**	**41**	P		**Pn**	**17 37 55.3**	**+2.0**
	0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**17 38 23.9**	**-0.3**
	0.7nm,0.1s,SNR=7.9							
ZHG	**ZHG**	**2.65**	**206**	P		**Pn**	**17 37 54.2**	**+0.6**
ZHG				S		**Sn**	**17 38 22.0**	**-2.7**
JBK	**JBK**	**2.68**	**124**	S		**Sn**	**17 38 24.0**	**-1.6**
PBAR	**Barrancos**	**2.72**	**329**	S		**Sn**	**17 38 25.4**	**-0.9**
PBAR	**Barrancos**	**2.72**	**329**	*e*S		**Sn**	**17 38 25.4**	**-0.9**
PCVE	**Castro Verde**	**2.85**	**309**	P		**Pn**	**17 37 57.3**	**+1.1**
PCVE				S		**Sn**	**17 38 28.6**	**-0.8**
	2.9nm,0.6s							
PCVE	**Castro Verde**	**2.85**	**309**	*e*P		**Pn**	**17 37 57.3**	**+1.1**
PCVE				*e*S		**Sn**	**17 38 28.6**	**-0.8**
PCVE				A		A	17 38 29.2	
	2.9nm,0.6s							
MD31	**MD31**	**3.00**	**172**	P		**Pn**	**17 37 59.4**	**+1.0**
MD31				S		**Sn**	**17 38 31.3**	**-2.0**
PBEJ	**Beja**	**3.01**	**317**	S		**Sn**	**17 38 32.9**	**-0.4**
PBEJ	**Beja**	**3.01**	**317**	*e*S		**Sn**	**17 38 32.9**	**-0.4**
MDT	**Midelt**	**3.08**	**170**	P		**Pn**	**17 38 00.4**	**+1.1**
MDT				S		**Sn**	**17 38 33.0**	**-2.1**
MORF	**Marmelete**	**3.09**	**299**	S		**Sn**	**17 38 34.7**	**-0.6**
	5.2nm,0.8s							
MORF	**Marmelete**	**3.09**	**299**	*e*S		**Sn**	**17 38 34.7**	**-0.6**
MORF				A		A	17 38 35.2	
	5.2nm,0.8s							
PFVI	**Vila Bisbo**	**3.14**	**295**	*e*S		**Sn**	**17 38 35.3**	**-1.2**
PTEO	**Sao Teotonio**	**3.25**	**302**	S		**Sn**	**17 38 39.0**	**-0.2**
PTEO	**Sao Teotonio**	**3.25**	**302**	*e*S		**Sn**	**17 38 39.0**	**-0.2**
PNCL	**Nicolau / Gran**	**3.45**	**312**	P		**Pn**	**17 38 05.5**	**+1.2**
PNCL				S		**Sn**	**17 38 42.7**	**-1.4**
	1.9nm,0.3s							
PNCL	**Nicolau / Gran**	**3.45**	**312**	*e*P		**Pn**	**17 38 05.5**	**+1.2**
PNCL				*e*S		**Sn**	**17 38 42.7**	**-1.4**
PNCL				A		A	17 38 43.9	
	1.9nm,0.3s							
PMRV	**Marv??o**	**3.95**	**335**	S		**Sn**	**17 38 54.4**	**-1.9**
PMRV	**Marv??o**	**3.95**	**335**	*e*S		**Sn**	**17 38 54.4**	**-1.9**
PMTG	**Montargil**	**3.98**	**325**	S		**Sn**	**17 38 55.3**	**-1.7**
	2.0nm,0.2s							
PMTG	**Montargil**	**3.98**	**325**	*e*S		**Sn**	**17 38 55.3**	**-1.7**
PMTG				A		A	17 38 57.9	
	2.0nm,0.2s							
ETOB	**Tobarra**	**4.07**	**46**	P		**Pn**	**17 38 14.2**	**+1.3**
	SNR=7.9							
ETOB				S		**Sn**	**17 38 57.6**	**-1.7**
	SNR=7.9							
ETOR	**Torete**	**5.57**	**26**	P		**Pn**	**17 38 34.6**	**+1.3**
	SNR=7.9							
ETOR				S		**Sn**	**17 39 32.8**	**-3.1**
	SNR=7.9							

*CNRM **31** 17:39:23.2±1.9,37°.15N×14°.65W,h75km±134km,Error*
ellipse: s-maj=26.2km s-min=7.0km az=133.0
*MDD **31** 17:39:24.8±0.8,37°.08N×14°.41W,h20km,mb4.4/25,Error*
ellipse: s-maj=12.0km s-min=6.5km az=134.0,PRXIMO
*IGIL **31** 17:39:26.6,37°.12N×14°.49W,h31km,ML3.6*
*LDG **31** 17:39:28.0±0.3,37°.19N×14°.22W,h10km,Ml3.5/3,Error*
ellipse: s-maj=5.7km s-min=4.9km az=33.0
*INMG **31** 17:39:29.2±1.9,37°.09N×14°.43W,h10km,ML3.3,Error*
ellipse: s-maj=5.5km s-min=3.3km az=113.0
ISC 31 17:39:19.7±0.5,37°.15N±0°.03×14°.29W±0°.03,h10km,n109, σ3ᵍ02/138,1C-2D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMAFR	**Mafra**	**4.35**	**64**	⇓P		**Pn**	**17 40 30.9**	**+5.0**
	26nm,0.2s,SNR=18							
PMAFR				S		**Sn**	**17 41 17.9**	**+1.3**
	14nm,0.2s,SNR=8.4							
PMAFR	**Mafra**	**4.35**	**64**	⇓*e*P		**Pn**	**17 40 30.9**	**+5.0**
PMAFR				*e*Sn		**Sn**	**17 41 18.5**	**+1.9**
PMAFR				A		A	17 41 26.1	
	73nm,0.5s							
PFVI	**Vila Bisbo**	**4.37**	**89**	P		**Pn**	**17 40 30.9**	**+4.8**
	10nm,0.2s,SNR=7.8							
PFVI				S		**Sn**	**17 41 16.3**	**-0.7**
	35nm,0.2s,SNR=8.3							
PFVI	**Vila Bisbo**	**4.37**	**89**	P		**Pn**	**17 40 30.3**	**+4.2**
PFVI	**Vila Bisbo**	**4.37**	**89**	*e*Pn		Pn	17 40 30.9	+4.8
PFVI				*e*Sn		**Sn**	**17 41 16.6**	**-0.4**
PFVI				A		A	17 41 21.9	
	31nm,0.3s							
PMPS	**Porto Santo**	**4.41**	**203**	P		**Pn**	**17 40 27.6**	**+0.9**
PMPS				S		**Sn**	**17 41 13.6**	**-4.4**
	11nm,0.2s							
PMPS	**Porto Santo**	**4.41**	**203**	⇑*e*Pn		**Pn**	**17 40 27.6**	**+0.9**
PMPS				*e*Sn		**Sn**	**17 41 13.6**	**-4.4**
PMPS				A		A	17 41 16.1	
	22nm,0.2s							
PTEO	**Sao Teotonio**	**4.46**	**83**	P		Pn	17 40 32.6	+5.3
PTEO				S		**Sn**	**17 41 18.8**	**-0.4**
	20nm,0.4s							
PTEO	**Sao Teotonio**	**4.46**	**83**	*e*Pn		Pn	17 40 32.6	+5.3
PTEO				*e*Sn		**Sn**	**17 41 18.8**	**-0.4**
PTEO				A		A	17 41 25.8	
	41nm,0.4s							
MORF	**Marmelete**	**4.50**	**86**	*e*P		**Pn**	**17 40 32.7**	**+4.6**
MORF				*e*S		**Sn**	**17 41 20.6**	**+0.1**
MORF				AML		AML	17 41 25.2	
	comp=N,97nm,0.5s							
MORF	**Marmelete**	**4.50**	**86**	P		Pn	17 40 32.9	+4.8
MORF				S		**Sn**	**17 41 20.4**	**-0.1**
	comp=N,38nm,0.3s							
MORF	**Marmelete**	**4.50**	**86**	*e*Pn		Pn	17 40 32.9	+4.8
MORF				*e*Sn		**Sn**	**17 41 20.4**	**-0.1**
MORF				A		A	17 41 24.2	
	comp=N,38nm,0.3s							
PNCL	**Nicolau / Gran**	**4.68**	**76**	P		**Pn**	**17 40 35.0**	**+4.7**
PNCL				S		**Sn**	**17 41 24.6**	**0.0**
	comp=N,40nm,0.4s							
PNCL	**Nicolau / Gran**	**4.68**	**76**	*e*Pn		**Pn**	**17 40 35.0**	**+4.7**
PNCL				*e*Sn		**Sn**	**17 41 24.6**	**0.0**
PNCL				A		A	17 41 29.9	
	comp=N,40nm,0.4s							
PMAR	**Madeira**	**4.91**	**207**	P		**Pb**	**17 40 42.0**	**-3.9**
PMAR				S		**Sn**	**17 41 25.6**	**-5.1**
	comp=N,16nm,0.3s							
PMAR	**Madeira**	**4.91**	**207**	*e*Pn		**Pb**	**17 40 42.0**	**-3.9**
PMAR				*e*Sn		**Sn**	**17 41 25.6**	**-5.1**
PMAR				A		A	17 41 42.2	
	comp=N,33nm,0.3s							
PMOZ	**Porto Moniz, M**	**4.93**	**210**	P		**Pn**	**17 40 34.5**	**+0.6**
	comp=N,6.1nm,0.2s,SNR=7.9							
PMOZ				S		**Sn**	**17 41 27.3**	**-3.8**
	comp=N,45nm,0.5s,SNR=7.9							
PMOZ	**Porto Moniz, M**	**4.93**	**210**	P		**Pn**	**17 40 33.4**	**-0.6**
PMOZ				S		**Sn**	**17 41 27.9**	**-3.1**
PMOZ	**Porto Moniz, M**	**4.93**	**210**	*e*Sn		**Sn**	**17 41 28.3**	**-2.7**
PMOZ				A		A	17 41 36.8	
	comp=N,51nm,0.4s							
PSBE	**So Bento**	**4.93**	**60**	*e*Pn		Pn	17 40 38.9	+5.1
PSBE				*e*Sn		**Sn**	**17 41 32.4**	**+1.5**
PSBE				A		A	17 41 42.1	
	comp=N,20nm,0.4s							
PCVE	**Castro Verde**	**5.00**	**83**	P		**Pn**	**17 40 39.5**	**+4.6**
PCVE				S		**Sn**	**17 41 32.3**	**-0.4**
	comp=N,22nm,0.5s							
PCVE	**Castro Verde**	**5.00**	**83**	*e*Pn		**Pn**	**17 40 39.5**	**+4.6**
PCVE				*e*Sn		**Sn**	**17 41 32.3**	**-0.4**
PCVE				A		A	17 41 36.5	
	comp=N,22nm,0.5s							
PBDV	**Barranco-do-Ve**	**5.08**	**87**	P		Pn	17 40 41.8	+5.9
PBDV				S		**Sn**	**17 41 36.8**	**+2.1**
	comp=N,25nm,0.4s							
PBDV	**Barranco-do-Ve**	**5.08**	**87**	*e*Pn		Pn	17 40 41.8	+5.9
PBDV				*e*Sn		**Sn**	**17 41 36.8**	**+2.1**
PBDV				A		A	17 41 45.6	
	comp=N,25nm,0.4s							
PMTG	**Montargil**	**5.16**	**66**	P		**Pn**	**17 40 41.4**	**+4.5**
PMTG				S		**Sn**	**17 41 36.3**	**-0.2**
	comp=N,17nm,0.3s							
PMTG	**Montargil**	**5.16**	**66**	*e*Pn		**Pn**	**17 40 41.4**	**+4.5**
PMTG				*e*Sn		**Sn**	**17 41 36.3**	**-0.2**
PMTG				A		A	17 41 40.3	
	comp=N,17nm,0.3s							
PBEJ	**Beja**	**5.18**	**78**	P		**Pn**	**17 40 41.8**	**+4.5**
PBEJ				S		**Sn**	**17 41 37.3**	**+0.2**
	comp=N,9.1nm,0.2s							
PBEJ	**Beja**	**5.18**	**78**	*e*Pn		**Pn**	**17 40 41.8**	**+4.5**
PBEJ				*e*Sn		**Sn**	**17 41 37.3**	**+0.2**
PBEJ				A		A	17 41 42.2	
	comp=N,18nm,0.2s							
PVAQ	**Vaqueiros**	**5.25**	**85**	P		Pn	17 40 43.1	+4.9
PVAQ				S		**Sn**	**17 41 38.3**	**-0.5**
	comp=N,29nm,0.3s							
PVAQ	**Vaqueiros**	**5.25**	**85**	P		**Pn**	**17 40 42.8**	**+4.6**
PVAQ	**Vaqueiros**	**5.25**	**85**	*e*Pn		Pn	17 40 43.1	+4.9
PVAQ				*e*Sn		**Sn**	**17 41 38.3**	**-0.5**
PVAQ				A		A	17 41 44.1	
	comp=N,29nm,0.3s							
PCAS	**Casmilo, Conde**	**5.39**	**56**	P		**Pn**	**17 40 44.4**	**+4.3**
PCAS				S		**Sn**	**17 41 43.6**	**+1.4**
	comp=N,14nm,0.4s							
PCAS	**Casmilo, Conde**	**5.39**	**56**	*e*Pn		**Pn**	**17 40 44.4**	**+4.3**
PCAS				*e*Sn		**Sn**	**17 41 43.6**	**+1.4**
PCAS				A		A	17 41 50.1	
	comp=N,14nm,0.4s							
EGRO	**El Granado**	**5.44**	**84**	P		Pn	17 40 45.6	+4.8
	comp=N,3.4nm,0.3s,SNR=7.6							
EGRO				S		**Sn**	**17 41 43.8**	**+0.3**
	comp=N,8.7nm,0.2s,SNR=12							
COI	**Coimbra**	**5.52**	**55**	S		**Sn**	**17 41 46.8**	**+1.3**
COI	**Coimbra**	**5.52**	**55**	*e*Sn		**Sn**	**17 41 46.8**	**+1.3**
PBAR	**Barrancos**	**5.85**	**78**	S		**Sn**	**17 41 53.4**	**-0.1**
	comp=N,29nm,0.4s							
PBAR	**Barrancos**	**5.85**	**78**	*e*Sn		**Sn**	**17 41 53.4**	**-0.1**
PBAR				A		A	17 41 58.6	
	comp=N,29nm,0.4s							
PMRV	**Marv??o**	**5.89**	**65**	P		**Pn**	**17 40 51.6**	**+4.6**
PMRV				S		**Sn**	**17 41 54.0**	**-0.5**
	comp=N,27nm,0.7s							
PMRV	**Marv??o**	**5.89**	**65**	*e*Pn		**Pn**	**17 40 51.6**	**+4.6**
PMRV				*e*Sn		**Sn**	**17 41 54.0**	**-0.5**
PMRV				A		A	17 41 58.3	
	comp=N,27nm,0.7s							
PCBR	**Castelo Branco**	**5.98**	**61**	P		Pn	17 40 53.9	+5.6
PCBR				S		**Sn**	**17 41 56.0**	**-0.9**
	comp=N,5.2nm,0.7s							
PCBR	**Castelo Branco**	**5.98**	**61**	*e*Pn		Pn	17 40 53.9	+5.6
PCBR				*e*Sn		**Sn**	**17 41 56.0**	**-0.9**
PCBR				A		A	17 42 04.2	
	comp=N,10nm,0.7s							
EMIN	**Mina Concepcio**	**6.09**	**82**	P		Pn	17 40 55.2	+5.4
	comp=N,1.7nm,0.2s,SNR=14							
EMIN				S		**Sn**	**17 41 58.5**	**-1.1**
	comp=N,6.1nm,0.2s,SNR=9.4							
PVIS	**Viseu**	**6.13**	**52**	P		Pn	17 40 55.5	+5.1
PVIS				S		**Sn**	**17 42 00.4**	**-0.2**
	comp=N,3.6nm,0.1s							
PVIS	**Viseu**	**6.13**	**52**	*e*Pn		Pn	17 40 55.5	+5.1
PVIS				*e*Sn		**Sn**	**17 42 00.4**	**-0.2**
PVIS				A		A	17 42 07.1	
	comp=N,7.1nm,0.1s							
MTE	**Manteigas**	**6.19**	**56**	P		Pn	17 40 56.3	+5.0
MTE				S		**Sn**	**17 42 01.9**	**-0.2**
	comp=N,7.6nm,0.3s							
MTE	**Manteigas**	**6.19**	**56**	*e*Pn		Pn	17 40 56.3	+5.0
MTE				*e*Sn		**Sn**	**17 42 01.9**	**-0.2**
MTE				A		A	17 42 08.2	
	comp=N,15nm,0.3s							
PVRL	**Vila Real**	**6.56**	**49**	P		Pn	17 41 01.4	+5.1
PVRL				S		**Sn**	**17 42 09.0**	**-2.2**
	comp=N,6.7nm,0.2s							
PVRL	**Vila Real**	**6.56**	**49**	*e*Pn	

EPON	**Pontenova**	**8.24**	**39**	P		Pn	17 41 24.6	+5.3
	comp=N,4.0nm,0.3s,SNR=4.5							
EPON				S		**Sn**	**17 42 49.9**	**-2.6**
	comp=N,1.2nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**8.49**	**70**	P		**Pn**	**17 41 27.0**	**+4.2**
	comp=N,2.9nm,0.2s,baz=256,slow=13,SNR=15							
ESDC				S		**Sn**	**17 42 58.2**	**-0.5**
	comp=N,2.8nm,0.4s,baz=257,slow=23,SNR=9.0							
ELGU	**Los Guajares,**	**8.54**	**89**	S		**Sn**	**17 42 58.2**	**-1.6**
	comp=N,0.3nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**8.64**	**63**	P		Pn	17 41 29.9	+4.9
	comp=N,1.1nm,0.2s,SNR=7.1							
GUD				S		**Sn**	**17 43 00.8**	**-1.7**
	comp=N,0.4nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**8.66**	**86**	P		Pn	17 41 30.2	+5.0
	comp=N,1.3nm,0.3s,SNR=7.9							
EQUE				S		**Sn**	**17 43 02.3**	**-0.7**
	comp=N,0.2nm,0.2s,SNR=7.9							
OUZM	**OUZ**	**8.82**	**133**	P		**Pn**	**17 41 30.9**	**+3.6**
MD31	**MD31**	**8.91**	**116**	P		**Pn**	**17 41 31.5**	**+2.9**
EQES	**Quesada**	**8.95**	**82**	P		**Pn**	**17 41 33.0**	**+3.9**
	comp=N,1.4nm,0.3s,SNR=7.9							
EQES				S		**Sn**	**17 43 08.1**	**-1.9**
	comp=N,2.3nm,0.3s,SNR=7.9							
MDT	**Midelt**	**9.04**	**116**	P		**Pn**	**17 41 32.2**	**+1.8**
EARI	**Arriondas**	**9.27**	**46**	P		Pn	17 41 38.8	+5.4
	comp=N,1.7nm,0.2s,SNR=8.8							
EARI				S		**Sn**	**17 43 15.8**	**-2.1**
	comp=N,0.3nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**9.37**	**80**	S		**Sn**	**17 43 19.4**	**-1.0**
	comp=N,0.1nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**9.37**	**80**	P		Pn	17 41 40.2	+5.2
TZRR	**Tazzarine**	**9.62**	**129**	P		**Pn**	**17 41 42.3**	**+3.9**
ETOB	**Tobarra**	**10.18**	**78**	P		**Pn**	**17 41 49.7**	**+3.7**
	comp=N,1.1nm,0.3s,SNR=7.9							
ETOB				S		**Sn**	**17 43 37.4**	**-2.9**
	comp=N,0.0nm,0.1s,SNR=7.9							
ETOR	**Torete**	**10.21**	**65**	P		Pn	17 41 51.6	+5.3
	comp=N,7.1nm,0.3s,SNR=9.0							
ETOR				S		**Sn**	**17 43 37.6**	**-3.3**
	comp=N,1.4nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**10.29**	**50**	P		Pn	17 41 52.3	+4.9
	comp=N,0.6nm,0.2s,SNR=5.9							
ELAN				S		**Sn**	**17 43 40.6**	**-2.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**11.26**	**69**	P		Pn	17 42 06.7	+5.9
	comp=N,0.9nm,0.3s,SNR=7.9							
EMOS				S		**Sn**	**17 44 03.4**	**-3.4**
	comp=N,0.4nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**11.64**	**55**	P		Pn	17 42 11.4	+5.6
SJPF				S		**Sn**	**17 44 11.7**	**-4.1**
	comp=N,1.2nm,0.5s							
SJPF	**Ste Jean**	**11.64**	**55**	*e*Pn		Pn	17 42 11.4	+5.6
SJPF				*e*Sn		**Sn**	**17 44 11.7**	**-4.1**
	comp=N,2.4nm,0.5s							
ATE	**Arette**	**11.97**	**56**	P		Pn	17 42 15.4	+5.0
	comp=N,1.3nm,0.4s,SNR=7.9							
ATE				S		**Sn**	**17 44 20.5**	**-3.5**
	comp=N,0.8nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**11.99**	**57**	P		**Pn**	**17 42 15.2**	**+4.5**
ETSF				S		**Sn**	**17 44 20.3**	**-4.2**
	comp=N,0.4nm,0.4s							
ETSF	**Etsaut**	**11.99**	**57**	*e*Pn		**Pn**	**17 42 15.2**	**+4.5**
ETSF				*e*Sn		**Sn**	**17 44 20.3**	**-4.2**
	comp=N,0.9nm,0.4s							
ECHI	**Chisagues Biel**	**12.41**	**59**	P		**Pn**	**17 42 21.3**	**+4.8**
	comp=N,1.2nm,0.4s,SNR=7.9							
ECHI				S		**Sn**	**17 44 31.4**	**-3.5**
	comp=N,0.1nm,0.1s,SNR=7.9							
EPF	**Esparros**	**12.65**	**58**	P		Pn	17 42 24.7	+5.0
EPF				S		**Sn**	**17 44 35.8**	**-4.7**
	comp=N,0.6nm,0.3s							
EPF	**Esparros**	**12.65**	**58**	*e*Pn		Pn	17 42 24.7	+5.0
EPF				*e*Sn		**Sn**	**17 44 35.8**	**-4.7**
	comp=N,1.2nm,0.3s							
QUIF	**Quistinic**	**13.52**	**34**	P		Pn	17 42 37.2	+5.8
QUIF	**Quistinic**	**13.52**	**34**	*e*Pn		Pn	17 42 37.2	+5.8
ROSF	**Rostrenen**	**13.79**	**32**	P		**Pn**	**17 42 39.4**	**+4.2**
ROSF	**Rostrenen**	**13.79**	**32**	*e*Pn		**Pn**	**17 42 39.4**	**+4.2**
MTLF	**Montolieu**	**14.04**	**59**	P		**Pn**	**17 42 42.3**	**+3.7**
MTLF	**Montolieu**	**14.04**	**59**	*e*Pn		**Pn**	**17 42 42.3**	**+3.7**
SGMF	**Saint Gilles**	**14.04**	**34**	P		**Pn**	**17 42 41.8**	**+3.2**
SGMF	**Saint Gilles**	**14.04**	**34**	*e*Pn		**Pn**	**17 42 41.8**	**+3.2**
LASF	**Ste Croix**	**15.41**	**58**	P		**Pn**	**17 43 01.4**	**+4.3**
LASF	**Ste Croix**	**15.41**	**58**	*e*Pn		**Pn**	**17 43 01.4**	**+4.3**

*BJI **31** 17:54:10.7±0.0, 10°.98S×165°.55E, h33km, mB4.9/19, mb4.7/24, Ms4.5/6, Ms7 4.3/5*
*NEIC **31** 17:54:14.5±2.7, 10°.75S±0°.07×165°.27E±0°.08, h35km±6km, mb5.0/44, Error ellipse: s-maj=12.3km s-min=8.8km az=52.0*
*IDC **31** 17:54:16.1±3.1, 10°.72S×165°.05E, h46km±28km, mb4.1/18, mb1 4.3/20, mb1mx4.1/45, mbtmp4.4/20, ML5.0/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/37, Error ellipse: s-maj=21.9km s-min=14.8km az=77.0*
ISC 31 17:54:14.5±0.4, 10°.75S±0°.05×165°.26E±0°.06, h35km, n120, σ1^{s}32/114, mb4.7/40, MS4.0/16, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**5.04**	**158**	Pn	**Pn**	**17 55 27.6**	**0.0**
SANVU				Sn	**Sn**	**17 56 22.4**	**-2.2**
HNR	**Honiara**	**5.40**	**284**	P	**Pn**	**17 55 33.1**	**+0.6**
	76nm,0.3s,baz=139,slow=4.1,SNR=26						
HNR				S	**Sn**	**17 56 33.8**	**+0.3**
	47nm,0.3s,baz=38,slow=19,SNR=2.8						
HNR				LR	LR	17 57 35.3	
	comp=Z,2μm,19.2s,baz=120,slow=38						
HNR	**Honiara**	**5.40**	**284**	Pn	**Pn**	**17 55 33.3**	**+0.7**
HNR				Sn	**Sn**	**17 56 31.7**	**-1.8**
DZM	**Mont Dzumac**	**11.31**	**174**	P	**Pn**	**17 56 54.5**	**+0.6**
	6.1nm,0.3s,baz=321,slow=12,SNR=19						
DZM				S	**Sn**	**17 58 59.1**	**0.0**
	0.5nm,0.3s,baz=136,slow=18,SNR=3.3						
DZM				LR	LR	18 01 11.1	
	comp=Z,867nm,18.3s,baz=38,slow=36						
DZM	**Mont Dzumac**	**11.31**	**174**	*e*Pn	**Pn**	**17 56 54.3**	**+0.5**
	40nm,0.6s						
DZM				*e*LR	LR	17 59 31.5	
	comp=Z,1μm,25.5s						
DZM	**Mont Dzumac**	**11.31**	**174**		**Pn**	**17 56 55.0**	**+1.2**
MSVF	**Nonsavu**	**14.20**	**121**	P	**P**	**17 57 39.3**	**-0.9**
TARA	**Tarawa**	**14.24**	**33**	Pn	**Pn**	**17 57 34.6**	**+0.8**
RABL	**Rabaul**	**14.53**	**296**	Pn	**Pn**	**17 57 39.8**	**+2.1**
KRVT	**Keravat (AS076**	**14.60**	**295**	P	**Pn**	**17 57 41.1**	**+2.5**
	7.3nm,0.3s,baz=112,slow=1.3,SNR=21						
KRVT				S	**Sn**	**18 00 18.4**	**-0.9**
	0.4nm,0.3s,baz=258,slow=19,SNR=1.9						
KRVT				LR	LR	18 03 24.1	
	comp=Z,453nm,21.2s,baz=137,slow=38						
PMG	**Port Moresby**	**17.88**	**273**	LR	LR	18 04 55.4	
	comp=Z,785nm,20.1s,baz=124,slow=36						
PMG	**Port Moresby**	**17.88**	**273**		**Pn**	**17 58 20.3**	**-0.3**
PATS	**Pohnpei**	**18.79**	**338**	P	**P**	**17 58 30.1**	**-0.9**
PATS				IAmb	IAmb	17 58 53.9	
	comp=Z,222nm,1.8s						
KWAJ	**Kwajalein Atol**	**19.56**	**7**	P	**P**	**17 58 37.9**	**-1.6**
KWAJ				IAmb	IAmb	17 58 46.6	
	comp=Z,119nm,0.8s						
EIDS	**Eidsvold**	**19.80**	**221**	P	**Pn**	**17 58 43.6**	**-0.1**
	baz=20,SNR=14						
EIDS	**Eidsvold**	**19.80**	**221**		**Pn**	**17 58 43.5**	**-0.3**
EIDS				IAmb	IAmb	17 58 45.6	
	comp=Z,38nm,0.9s						
CTA	**Charters Tower**	**20.52**	**241**	P	**P**	**17 58 50.5**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=63,slow=14,SNR=8.7						
CTAO	**Charters Tower**	**20.52**	**241**	P	**P**	**17 58 50.6**	**+0.7**
MTSU	**Mount Surprise**	**21.56**	**248**	P	**P**	**17 59 01.2**	**+0.1**
	baz=21,SNR=10						
RMQ	**Roma**	**22.09**	**223**	P	**P**	**17 59 07.9**	**+1.2**
	baz=22,SNR=16						
AFI	**Afiamalu**	**22.65**	**100**	P	**P**	**17 59 11.3**	**-1.6**
AFI				IAmb	IAmb	17 59 34.2	
	comp=Z,51nm,1.3s						
ARMA	**Armidale**	**23.32**	**211**	P	**P**	**17 59 20.4**	**+0.8**
	baz=23,SNR=6.6						
ARMA	**Armidale**	**23.32**	**211**	P	**P**	**17 59 20.7**	**+1.1**
QLP	**Quilpie**	**25.33**	**229**	P	**P**	**17 59 38.9**	**+0.8**
	baz=25,SNR=12						
OUZ	**Omahuta**	**25.51**	**164**	P	**P**	**17 59 41.9**	**+2.2**
OUZ				IAmb	IAmb	17 59 44.9	
	comp=Z,23nm,1.0s						
JAY	**Jayapura**	**25.71**	**287**	LR	LR	18 09 56.3	
	comp=Z,167nm,20.1s,baz=71,slow=37						
CAN	**Canberra**	**28.59**	**209**	P	**P**	**18 00 09.1**	**+1.6**
CAN				IAmb	IAmb	18 00 22.0	
	comp=Z,34nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**29.09**	**3**	T	T	18 30 22.5	
	baz=183,slow=76,SNR=351						
H11S3	**WAKE ISLAND Hy**	**29.09**	**3**	T	T	18 30 22.3	
	baz=183,slow=76,SNR=212						
H11S1	**WAKE ISLAND Hy**	**29.11**	**3**	T	T	18 30 23.4	
	baz=183,slow=76,SNR=206						
URZ	**Urewera**	**29.38**	**161**	P	**P**	**18 00 16.4**	**+2.1**
	comp=Z,9.4nm,0.9s,baz=76,slow=4.2,SNR=2.6						
URZ	**Urewera**	**29.38**	**161**	P	**P**	**18 00 15.3**	**+0.9**
URZ				IAmb	IAmb	18 00 32.2	
	comp=Z,20nm,0.9s						
BKZ	**Black Stump Fm**	**30.02**	**162**	P	**P**	**18 00 21.1**	**+1.0**
BKZ				IAmb	IAmb	18 00 27.3	
	comp=Z,31nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**30.31**	**3**	T	T	18 31 53.9	
	baz=182,slow=76,SNR=344						
H11N3	**WAKE ISLAND Hy**	**30.32**	**3**	T	T	18 31 56.9	
	baz=182,slow=76,SNR=244						
H11N2	**WAKE ISLAND Hy**	**30.33**	**3**	T	T	18 31 54.5	
	baz=182,slow=76,SNR=276						
STKA	**Stephens Creek**	**30.33**	**223**	P	**P**	**18 00 22.6**	**-0.3**
	comp=Z,9.4nm,0.9s,baz=60,slow=11,SNR=16						
STKA				LR	LR	18 11 41.9	
	comp=Z,368nm,19.0s,baz=29,slow=35						
STKA	**Stephens Creek**	**30.33**	**223**	P	**P**	**18 00 24.1**	**+1.2**
	baz=30						
STKA	**Stephens Creek**	**30.33**	**223**	P	**P**	**18 00 23.2**	**+0.3**
QRZ	**Quartz Range**	**30.64**	**169**	P	**P**	**18 00 27.6**	**+2.2**
WR0	**Warramunga Arr**	**30.96**	**249**		**P**	**18 00 28.0**	**-0.6**
WB0	**Warramunga Arr**	**31.05**	**250**	P	**P**	**18 00 26.1**	**-3.3**
WB2	**Warramunga Arr**	**31.13**	**249**	P	**P**	**18 00 29.2**	**-0.9**
	baz=31						
WB2	**Warramunga Arr**	**31.13**	**249**	P	**P**	**18 00 27.2**	**-3.0**
WRA	**Warramunga Arr**	**31.14**	**249**	P	**P**	**18 00 28.0**	**-2.2**
	comp=Z,1.9nm,1.0s,baz=81,slow=8.6,SNR=12						
WRA				LR	LR	18 13 07.5	
	comp=Z,315nm,18.7s,baz=70,slow=36						
WRA	**Warramunga Arr**	**31.14**	**249**	P	**P**	**18 00 27.7**	**-2.6**
BFZ	**Birch Farm**	**31.35**	**164**	P	**P**	**18 00 28.8**	**-3.0**
BFZ				IAmb	IAmb	18 00 39.6	
	comp=Z,49nm,1.2s						
TUWZ	**Tuamarina**	**31.50**	**167**	P	**P**	**18 00 33.3**	**+0.2**
SNZO	**South Karori**	**31.56**	**166**	P	**P**	**18 00 33.0**	**-0.5**
THZ	**Tophouse**	**31.61**	**169**	P	**P**	**18 00 35.5**	**+1.4**
BHW	**Baring Head**	**31.69**	**166**	P	**P**	**18 00 35.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**31.76**	**168**	P	**P**	**18 00 36.4**	**+1.1**
MSWZ	**Moikau Station**	**31.79**	**166**	P	**P**	**18 00 36.4**	**+0.8**
PLWZ	**Palliser**	**31.93**	**166**	P	**P**	**18 00 35.6**	**-1.3**
TOO	**Toolangi**	**32.08**	**210**	P	**P**	**18 00 39.4**	**+1.1**
	baz=32,SNR=3.7						
TOO	**Toolangi**	**32.08**	**210**	P	**P**	**18 00 36.6**	**-1.7**
TOO				IAmb	IAmb	18 00 55.2	
	comp=Z,38nm,1.6s						
KDU	**Kakadu**	**32.15**	**263**	P	**P**	**18 00 36.0**	**-3.1**
	baz=32,SNR=5.8						
AS31	**Alice Springs**	**32.50**	**243**	P	**P**	**18 00 40.4**	**-1.8**
ASAR	**Alice Springs**	**32.50**	**243**	P	**P**	**18 00 39.9**	**-2.3**
	comp=Z,2.0nm,0.6s,baz=64,slow=10,SNR=42						
ASAR				LR	LR	18 13 13.8	
	comp=Z,247nm,18.6s,baz=72,slow=35						
ASAR	**Alice Springs**	**32.50**	**243**	P	**P**	**18 00 40.3**	**-1.9**
HTT	**Hallett**	**33.06**	**223**	P	**P**	**18 00 48.3**	**+1.3**
	baz=33,SNR=6.2						
RPZ	**Rata Peaks**	**33.23**	**172**	LR	LR	18 11 36.7	
	comp=Z,196nm,21.9s,baz=320,slow=31						
RPZ	**Rata Peaks**	**33.23**	**172**	P	**P**	**18 00 46.7**	**-1.5**
RPZ				IAmb	IAmb	18 01 08.3	
	comp=Z,68nm,1.4s						
MQZ	**McQueen's Vall**	**33.45**	**170**	P	**P**	**18 00 48.8**	**-1.4**
MQZ				IAmb	IAmb	18 01 08.1	
	comp=Z,74nm,1.5s						
LBZ	**Lake Benmore**	**33.78**	**174**	P	**P**	**18 00 55.3**	**+2.3**
WKZ	**Wanaka**	**34.11**	**175**	P	**P**	**18 00 57.2**	**+1.3**
BBOO	**Buckleboo**	**34.69**	**226**	P	**P**	**18 01 01.0**	**-0.1**
	baz=35,SNR=22						
BBOO	**Buckleboo**	**34.69**	**226**	P	**P**	**18 01 01.2**	**+0.2**
BBOO				IAmb	IAmb	18 01 02.3	
	comp=Z,22nm,0.7s						
SIJI	**Sorong**	**35.17**	**284**	P	**P**	**18 01 02.7**	**-2.7**
	comp=Z,4.8nm,0.5s,baz=343,slow=18,SNR=4.2						
SIJI				LR	LR	18 15 57.9	
	comp=Z,135nm,18.5s,baz=160,slow=37						
KNRA	**Kununurra**	**35.84**	**258**	P	**P**	**18 01 11.2**	**+0.1**
	baz=36,SNR=4.8						
KNRA	**Kununurra**	**35.84**	**258**	P	**P**	**18 01 09.7**	**-1.4**
KNRA				IAmb	IAmb	18 01 38.3	
	comp=Z,23nm,1.5s						
FITZ	**Fitzroy Crossi**	**39.00**	**255**	LR	LR	18 17 10.1	
	comp=Z,211nm,20.5s,baz=86,slow=35						
FITZ	**Fitzroy Crossi**	**39.00**	**255**	P	**P**	**18 01 37.0**	**-0.9**
	baz=39,SNR=7.1						
FITZ	**Fitzroy Crossi**	**39.00**	**255**	P	**P**	**18 01 36.8**	**-1.1**
FORT	**Forrest**	**39.83**	**234**	P	**P**	**18 01 44.4**	**-0.3**
FORT				IAmb	IAmb	18 02 23.9	
	comp=Z,30nm,1.0s						
SOEI	**Soe**	**40.33**	**268**	P	**P**	**18 01 48.4**	**-0.8**
SOEI				IAmb	IAmb	18 01 58.0	
	comp=Z,17nm,1.2s						
PPT2	**Papeete2**	**44.23**	**104**	*e*LR	LR	18 14 44.2	
	comp=Z,193nm,21.8s						
TBI	**Tubuai**	**44.88**	**112**	*e*LR	LR	18 15 00.3	
	comp=Z,296nm,31.5s						
MEEK	**Meekatharra**	**46.65**	**244**	P	**P**	**18 02 39.6**	**-0.3**
	baz=46,SNR=4.8						
MYLDM	**Lahad Datu**	**49.17**	**286**	P	**P**	**18 03 00.9**	**+1.4**
MYLDM				IAmb	IAmb	18 03 21.9	
	comp=Z,27nm,1.3s						
NWAO	**Narrogin (SRO)**	**49.23**	**236**	P	**P**	**18 03 00.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**49.23**	**236**	P	**P**	**18 03 00.3**	**+0.5**
NWAO				IAmb	IAmb	18 03 27.1	
	comp=Z,59nm,1.6s						
MORW	**Morawa**	**49.35**	**241**	P	**P**	**18 03 00.0**	**-0.7**
MORW				IAmb	IAmb	18 03 02.3	
	comp=Z,42nm,1.6s						
JMN	**Monobe**	**53.36**	**327**	P	**P**	**18 03 31.5**	**+0.8**
JMM	**Marumori**	**53.52**	**336**	P	**P**	**18 03 32.2**	**+0.6**
JMM				IAmb	IAmb	18 03 35.0	
	comp=Z,22nm,1.2s						
JNU	**Nakatsue**	**54.57**	**324**	P	**P**	**18 03 39.2**	**-0.3**
	comp=Z,7.7nm,1.0s,baz=207,slow=4.5,SNR=1.7						
JNU	**Nakatsue**	**54.57**	**324**	P	**P**	**18 03 39.2**	**-0.3**
ASAJ	**Asahikawa**	**56.36**	**341**	P	**P**	**18 04 05.4**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=251,slow=7.4,SNR=4.3						
ASAJ				LR	LR	18 25 24.2	
	comp=Z,140nm,19.5s,baz=104,slow=32						
NJ2	**Nanjing**	**61.48**	**316**	*e*P	**P**	**18 04 29.8**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**62.47**	**334**	P	**P**	**18 04 36.6**	**+2.3**
USA0B				IAmb	IAmb	18 04 38.8	
	comp=Z,3.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**62.47**	**334**	P	**P**	**18 04 34.2**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=160,slow=4.6,SNR=3.8						
CASY	**Casey**	**66.48**	**201**	P	**P**	**18 05 00.1**	**-0.1**
CASY				IAmb	IAmb	18 05 01.3	
	comp=Z,4.6nm,0.8s						
VNDA	**Vanda**	**66.78**	**181**	P	**P**	**18 05 02.8**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=4.9,slow=6.4,SNR=3.6						
VNDA				LR	LR	18 32 50.8	
	comp=Z,77nm,18.2s,baz=254,slow=35						
VNDA	**Vanda**	**66.78**	**181**	P	**P**	**18 05 03.1**	**+1.2**
KMI	**Kunming**	**70.56**	**301**	*e*P	**P**	**18 05 28.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.6s						
HHC	**Hu-ho-hao-te**	**71.30**	**320**	*e*P	**P**	**18 05 32.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,56nm,6.6s						
CM31	**Chiang Mai Arr**	**71.56**	**294**	P	**P**	**18 05 33.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**71.56**	**294**	P	**P**	**18 05 32.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=126,slow=4.9,SNR=21						
CMAR				LR	LR	18 38 18.2	
	comp=Z,16nm,18.9s,baz=115,slow=37						
CMAR	**Chiang Mai Arr**	**71.56**	**294**	P	**P**	**18 05 32.3**	**-0.3**
CD2	**Chengdu**	**72.05**	**307**	*e*P	**P**	**18 05 35.0**	**-0.4**
LZH	**Lanzhou**	**74.21**	**312**	*e*P	**P**	**18 05 48.8**	**+0.6**
LZH				pP	sP	18 06 00.0	-2.2
LZH				sP	pwP	18 06 03.8	+2.5
LZH				PP	**PP**	**18 08 31.5**	**-2.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,92nm,4.9s						
LZH				LR	LR		
	comp=Z,130nm,17.2s						
LZH				LR	LR		
	comp=Z,170nm,18.6s						
SONM	**Songino Array**	**78.15**	**324**	P	**P**	**18 06 10.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=140,slow=6.9,SNR=9.1						
SONM	**Songino Array**	**78.15**	**324**	P	**P**	**18 06 10.6**	**+0.3**
GTA	**Gaotai**	**78.51**	**314**	⇑P	**P**	**18 06 13.5**	**+1.0**
GTA				pP	sP	18 06 25.5	-1.0
GTA				sP	pwP	18 06 29.3	+3.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,120nm,6.2s						
GTA				LR	LR		
	comp=Z,53nm,21.1s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
QSPA	**South Pole Qui**	**79.25**	**180**	P	**P**	**18 06 17.1**	**+1.0**
	comp=Z,9.3nm,1.1s,baz=347,slow=0.5,SNR=18						
QSPA	**South Pole Qui**	**79.25**	**180**	P	**P**	**18 06 16.3**	**+0.2**
QSPA				IAmb	IAmb	18 06 18.1	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**83.39**	**19**	P	**P**	**18 06 37.8**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=241,slow=5.0,SNR=14						
ILAR	**Eielson Array**	**83.39**	**19**	P	**P**	**18 06 37.0**	**-0.7**
BCAR	**Beaver Creek A**	**84.00**	**21**	P	**P**	**18 06 41.0**	**+0.1**
MAW	**Mawson**	**84.82**	**202**	P	**P**	**18 06 45.8**	**+0.7**
	comp=Z,9.5nm,0.9s,baz=111,slow=6.2,SNR=33						
MAW	**Mawson**	**84.82**	**202**	P	**P**	**18 06 45.8**	**+0.7**
	baz=84,SNR=15						
MAW	**Mawson**	**84.82**	**202**	P	**P**	**18 06 45.4**	**+0.3**
NVAR	**Mina Array Bea**	**86.20**	**50**	P	**P**	**18 06 53.2**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=232,slow=7.3,SNR=4.7						
WMQ	**Urumqi**	**88.55**	**315**	*e*P	**P**	**18 07 05.5**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,37nm,4.3s						
WMQ				LR	LR		
	comp=Z,150nm,29.0s						
MKAR	**Makanchi Array**	**92.98**	**317**	P	**P**	**18 07 23.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=106,slow=6.2,SNR=7.1						
MKAR	**Makanchi Array**	**92.98**	**317**	P	**P**	**18 07 23.0**	**-1.3**
ZALV	**Zalesovo Beam**	**93.04**	**324**	P	**P**	**18 07 23.2**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=134,slow=6.4,SNR=4.2						
NRIK	**Noril'sk**	**95.68**	**340**	LR	LR	18 49 59.2	
	comp=Z,56nm,20.6s,baz=91,slow=35						
KEST	**Kesra**	**146.90**	**323**	PKPbc	**PKPbc**	**18 13 53.2**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=284,slow=7.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**163.75**	**280**	PKP	**PKPdf**	**18 14 14.7**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=71,slow=1.2,SNR=2.9						
TORD				PKPab	**PKPab**	**18 15 06.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=76,slow=5.2,SNR=3.4						

*NEIC **31** 18:03:09.9±2.4, 20°.3S±0°.1×175°.85W±0°.10, h136km±6km, mb4.7/33, Error ellipse: s-maj=15.8km s-min=11.7km az=147.0*
*IDC **31** 18:03:12.0±7.2, 20°.37S×175°.97W, h146km±63km, mb4.1/16, mb1 4.2/17, mb1mx3.9/42, mbtmp4.5/17, Error ellipse: s-maj=23.0km s-min=16.4km az=45.0*
ISC 31 18:03:11.8±0.4, 20°.43S±0°.10×175°.81W±0°.06, h150km, n68, σ1^{s}38/65, mb4.6/25, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.70**	**77**	Pn	**Pn**	**18 04 35.1**	**+0.6**
NIUE					**Sn**	**18 05 34.8**	**-4.3**
MSVF	**Nonsavu**	**6.40**	**294**		Pn	18 04 49.2	+5.3
AFI	**Afiamalu**	**7.54**	**31**	S	Sn	18 06 12.8	-11
	12nm,0.3s,baz=96,slow=22,SNR=7.2						
AFI	**Afiamalu**	**7.54**	**31**	Pn	Pn	18 04 54.7	-4.6
RAR	**Rarotonga**	**15.01**	**96**		**P**	**18 06 40.6**	**+2.4**
RAR				IAmb	IAmb	18 06 44.5	
	comp=Z,91nm,1.4s						
DZM	**Mont Dzumac**	**16.63**	**261**	P	**Pn**	**18 06 59.9**	**+3.6**
	comp=Z,2.3nm,0.3s,baz=82,slow=19,SNR=24						
DZM	**Mont Dzumac**	**16.63**	**261

comp=Z,1.3nm,0.9s,baz=224,slow=8.2,SNR=4.0
MAW Mawson 82.32 199 P **P 18 15 16.1 -0.1**
comp=Z,3.0nm,0.8s,baz=120,slow=7.9,SNR=8.7
MAW Mawson 82.32 199 P **P 18 15 16.5 +0.3**
TX31 Lajitas Ar. Si 85.30 57 P **P 18 15 34.2 +2.0**
TX31 IAmb IAmb 18 15 34.7
comp=Z,11nm,1.1s
TXAR Lajitas Array 85.30 57 P **P 18 15 34.0 +1.8**
comp=Z,1.7nm,1.0s,baz=222,slow=4.9,SNR=9.8
TXAR Lajitas Array 85.30 57 P **P 18 15 33.7 +1.5**
ILAR Eielson Array 87.81 12 P **P 18 15 43.5 0.0**
comp=Z,0.3nm,0.4s,baz=213,slow=5.2,SNR=6.0
CMAR Chiang Mai Arr 92.03 289 P **P 18 16 04.5 +0.3**
comp=Z,0.7nm,0.9s,baz=130,slow=3.2,SNR=7.0
KURK Kurchatov 115.34 317 PKiKP 18 21 34.8 -0.6
KURBB Kurchatov Arra 115.39 317 PKP **PKPdf 18 21 34.8 -0.7**
comp=Z,0.4nm,0.6s,baz=100,slow=2.1,SNR=4.2
AKASG Malin Array Be 143.92 333 PKP **PKPab 18 22 26.4 -0.2**
comp=Z,2.1nm,0.5s,baz=44,slow=4.4,SNR=9.6
AKASG Malin Array Be 143.92 333 PKPab 18 22 26.0 -0.7
BRTR Keskin Array B 148.30 314 PKPbc **PKPbc 18 22 40.4 -0.3**
comp=Z,2.3nm,0.8s,baz=112,slow=5.5,SNR=6.3
CLL Collm 148.42 349 || *i*PKPbc **PKPbc 18 22 40.1 -0.3**
DPC Dobruska-Polom 148.64 345‖ *e*PKP **PKPab 18 22 46.0 +0.9**
PRU Pruhonice 149.38 347‖ *e*PKP **PKPbc 18 22 43.4 +0.5**
KHC Kasperske Hory 150.40 347‖ *e*PKP **PKPdf 18 22 39.8 -0.2**
KHC *ex* x 18 22 45.3
GERES GERESS Array B 150.64 347 PKPbc **PKPbc 18 22 46.1 0.0**
comp=Z,1.1nm,0.7s,baz=60,slow=3.2,SNR=10
GERES GERESS Array B 150.64 347 PKPbc 18 22 45.6 -0.5
TORD Torodi Ar. Bea 172.37 161 PKPab **PKPab 18 24 28.6 +0.1**
comp=Z,1.4nm,1.0s,baz=187,slow=4.3,SNR=4.5

IDC 31 18:29:26.2±3.0, **10°81S**×**115°33E, h0**km**, mb3.0**/3, **mb1 3.3**/3**, mb1mx3.2**/35**, mbtmp3.2**/3**, Error ellipse: s-maj=159.2km s-min=28.2km az=46.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.44**	**119**	P	P	18 34 05.3	-0.1
	0.4nm,0.8s,baz=293,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**21.83**	**128**	P	P	18 34 20.6	+0.2
	0.5nm,0.8s,baz=305,slow=9.4,SNR=4.7						
MKAR	**Makanchi Array**	**64.50**	**335**	P	P	18 40 04.8	0.0
	0.1nm,0.4s,baz=138,slow=7.5,SNR=4.6						

*IDC **31** 18:35:40.0±3.4, 5°53S×152°33E, h44*km*±25*km*, mb3.7/6, mb1 4.0/7, mb1mx3.6/32, mbtmp3.9/7, ML2.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/32, Error ellipse: s-maj=41.7km s-min=10.3km az=109.0*

*NEIC **31** 18:35:42.6±1.7, 5°50S±0°07×152°24E±0°04, h64*km*±9*km*, mb4.2/9, Error ellipse: s-maj=10.8km s-min=4.1km az=159.0*

ISC 31 18:35:41.2±0.8, **5°45S**±0°06×**152°17E**±0°10, **h35**km**, n19,** σ1§**63**/21**, mb4.0**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.15**	**353**	P	**Pn**	**18 36 00.6**	**-0.2**
	705nm,0.3s,baz=125,slow=1.7,SNR=1378						
KRVT				S	**Sn**	**18 36 16.7**	**+1.4**
	777nm,0.3s,baz=143,slow=20,SNR=7.9						
RABL	**Rabaul**	**1.25**	**360**		**Pn**	**18 36 01.8**	**-0.5**
RABL				Sn	**Sn**	**18 36 22.1**	**+4.2**
PMG	**Port Moresby**	**6.33**	**231**	P	**Pn**	**18 37 12.9**	**+0.8**
	2.7nm,0.3s,baz=33,slow=12,SNR=9.5						
PMG				S	**Sn**	**18 38 24.8**	**+1.5**
	15nm,0.3s,baz=73,slow=20,SNR=12						
PMG				LR	LR	18 39 53.6	
	comp=Z,75nm,19.7s,baz=318,slow=40						
PMG	**Port Moresby**	**6.33**	**231**		**Pn**	**18 37 13.9**	**+1.7**
HNR	**Honiara**	**8.67**	**118**	Pn	**Pn**	**18 37 45.3**	**+1.1**
PATS	**Pohnpei**	**13.66**	**27**	Pn	**Pn**	**18 38 53.6**	**+1.0**
MTN	**Manton Dam**	**22.01**	**249**	P	**P**	**18 40 33.4**	**+0.6**
MTN				IAmb	IAmb	18 40 43.6	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**22.40**	**228**	P	**P**	**18 40 36.8**	**-0.2**
WR0				IAmb	IAmb	18 41 00.5	
	comp=Z,14nm,1.5s						
WRAB	**Tennant Creek**	**22.53**	**229**	P	**P**	**18 40 37.4**	**-0.9**
WRAB				IAmb	IAmb	18 40 39.7	
	comp=Z,6.8nm,0.6s						
WB2	**Warramunga Arr**	**22.54**	**229**	P	**P**	**18 40 38.3**	**-0.1**
WB2				IAmb	IAmb	18 40 50.3	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**22.54**	**229**	P	**P**	**18 40 36.9**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=53,slow=9.8,SNR=18						
KNRA	**Kununurra**	**25.12**	**244**	P	**P**	**18 41 01.7**	**-1.4**
AS31	**Alice Springs**	**25.25**	**222**		**P**	**18 41 02.6**	**-1.6**
ASAR	**Alice Springs**	**25.25**	**222**	P	**P**	**18 41 02.4**	**-1.8**
	comp=Z,2.9nm,0.8s,baz=58,slow=9.1,SNR=34						
FITZ	**Fitzroy Crossi**	**28.80**	**242**	P	**P**	**18 41 34.4**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=64,slow=9.7,SNR=11						
FITZ	**Fitzroy Crossi**	**28.80**	**242**	IAmb	IAmb	18 42 16.8	
	comp=Z,11nm,1.6s						
CMAR	**Chiang Mai Arr**	**57.59**	**296**	P	**P**	**18 45 27.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=123,slow=6.1,SNR=4.9						
SONM	**Songino Array**	**66.32**	**329**	P	**P**	**18 46 26.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=134,slow=8.3,SNR=2.8						
ILAR	**Eielson Array**	**83.00**	**22**	P	**P**	**18 48 00.6**	**-1.9**
	comp=Z,2.2nm,0.6s,baz=246,slow=5.6,SNR=12						

*BJI **31** 18:42:15.4±0.0, 7°55S×76°98W, h5*km*, mB5.4/14, Ms5.3/18, Ms7 5.0/23*

*IDC **31** 18:42:15.8±0.4, 7°62S×76°42W, h0*km*, mb5.0/23, mb1 5.1/30, mb1mx5.0/39, mbtmp5.0/30, ML4.4/7, MS4.7/27, Ms1 4.7/27, ms1mx4.6/32, Error ellipse: s-maj=14.1km s-min=9.4km az=70.0*

*MOS **31** 18:42:18.5±1.2, 7°67S×76°36W, h27*km*, mb5.6/10, Error ellipse: s-maj=12.5km s-min=6.3km az=104.7*

*NEIC **31** 18:42:18.3±1.9, 7°61S±0°06×76°36W±0°07, h18*km*±2*km*, mb5.4/465, ML5.2(ARE), Error ellipse: s-maj=10.2km s-min=7.4km az=57.0*

*VAO **31** 18:42:18.2±0.5, 7°64S×76°22W, h10*km*, mb5.4*

*GCMT **31** 18:42:20.3±0.1, 7°64S±0°01×76°41W±0°02, h12*km*, MW5.2/109, Moment Tensor Solution. s63,c98; s109,c178; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.40±.14; Mθθ-5.49±.10; Mϕϕ1.09±.15; Mrθ-2.25±.32; Mθϕ-3.18±.10; Mrϕ2.19±.43; Best double couple: Mo6.72200×10¹⁶ NP1:ϕs38.00000°, δ48.00000°, λ41.00000°. NP2:ϕ277.00000°, δ60.00000°, λ130.00000°. Principal axes: T 6.5150, Plg55.0000°, Azm240.0000°; N 0.4140, Plg34.0000°, Azm75.0000°; P -6.9290, Plg7.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ARE **31** 18:42:21±6.8, 7°67S±0°07×76°46W±0°09, h155*km*±4km Error ellipse: s-maj=0.0km s-min=0.0km az=166.0*

ISC 31 18:42:17.2±0.2, **7°63S**±0°04×**76°41W**±0°05, **h10**km**, n1006,** σ1§**06**/849**, mb5.4**/275**, MS4.7**/33**, 11C-12D, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.03**	**284**	Pn	**Pn**	**18 42 51.1**	**-0.8**
	238nm,0.3s,baz=109,slow=13,SNR=241						
ATAH				Sn	**Sn**	**18 43 17.8**	**+0.2**
	364nm,0.3s,baz=43,slow=5.6,SNR=5.2						
NNA	**Nana**	**4.35**	**186**	Pn	**Pn**	**18 43 24.2**	**+0.8**
	93nm,0.3s,baz=355,slow=11,SNR=61						
NNA				Pg	**Pb**	**18 43 35.3**	**+1.5**
	100nm,0.3s,baz=1.4,slow=14,SNR=26						
NNA				Sn	**Sn**	**18 44 16.2**	**+1.9**
	51nm,0.3s,baz=330,slow=7.5,SNR=3.9						
NNA				Lg	Lg	18 44 35.9	
	122nm,0.3s,baz=120,slow=21,SNR=3.9						
NNA				LR	LR	18 45 25.0	
	comp=Z,19μm,19.0s,baz=354,slow=43						
NNA	**Nana**	**4.35**	**186**	P	**Pn**	**18 43 24.1**	**+0.6**
NNA						18 44 16.5	
NNA	**Nana**	**4.35**	**186**	Pn	**Pn**	**18 43 24.1**	**+0.6**
NNA	**Nana**	**4.35**	**186**	Sn	**Sn**	**18 44 16.5**	**+2.2**
PTLC	**Puerto Leguiza**	**7.92**	**12**	*e*P	Pn	18 44 07.8	-4.7
PUAC	**Puerto Asis, P**	**8.13**	**359**	*e*P	**Pn**	**18 44 15.8**	**+0.4**
CUSE	**Cuicocha Este**	**8.13**	**346**	*e*P	**Pn**	**18 44 18.0**	**+2.2**
PAC1	**Pacto, Paraso**	**8.20**	**343**	*e*P	**Pn**	**18 44 18.4**	**+1.9**
GCUF	**Volcan Galeras**	**8.85**	**354**	*e*P	**Pn**	**18 44 25.4**	**-0.3**
CRUC	**La Cruz**	**9.16**	**357**	*e*P	**Pn**	**18 44 30.7**	**+0.9**
BBAC	**Balboa, Cauca**	**9.63**	**355**	*e*P	**Pn**	**18 44 38.2**	**+2.1**
GARC	**Garzon, Huila**	**9.80**	**5**	*e*P	**Pn**	**18 44 38.6**	**+0.1**
PCON	**Cinco Dias**	**9.89**	**0**	*e*P	**Pn**	**18 44 40.6**	**+0.4**
MACC	**Macarena, Meta**	**10.04**	**15**	*e*P	**Pn**	**18 44 40.8**	**-0.9**
POPC	**Popayan, Colom**	**10.11**	**358**	*e*P	**Pn**	**18 44 44.8**	**+2.0**
BETC	**Betania**	**10.29**	**5**	*e*P	**Pn**	**18 44 45.7**	**+0.6**
ETMB	**Extrema**	**10.31**	**103**	*e*P	**Pn**	**18 44 43.9**	**-1.4**
MARP	**Paez Belalcaza**	**10.42**	**2**	*e*P	**Pn**	**18 44 47.5**	**+0.5**
GR1C	**Gorgona, Isla**	**10.71**	**350**	*e*P	**Pn**	**18 44 53.6**	**+2.8**
GUVC	**San Jose del G**	**10.79**	**21**	*e*P	**Pn**	**18 44 54.5**	**+2.6**
PRAC	**Prado**	**11.37**	**8**	*e*P	**Pn**	**18 45 00.7**	**+0.8**
ORTC	**Ortega, Tolima**	**11.52**	**6**	*e*P	**Pn**	**18 45 00.4**	**-1.6**
YOTC	**Yotoco, Valle**	**11.54**	**0**	*e*P	**Pn**	**18 45 02.9**	**+0.6**
LPAZ	**La Paz**	**11.81**	**138**	Pn	**Pn**	**18 45 07.4**	**+1.0**
	1.4nm,0.3s,baz=327,slow=7.9,SNR=25						
LPAZ	**La Paz**	**11.81**	**138**	*e*P	**Pn**	**18 45 06.8**	**+0.4**
LPAZ	**La Paz**	**11.81**	**138**	P	**Pn**	**18 45 06.0**	**-0.4**
LPAZ	**La Paz**	**11.81**	**138**		**Pn**	**18 45 06.0**	**-0.4**
LPAZ	**La Paz**	**11.81**	**138**	*e*P	**Pn**	**18 45 05.3**	**-1.1**
CVER	**Cruz Verde, Cu**	**12.30**	**11**	*e*P	**Pn**	**18 45 15.4**	**+2.5**
CHIC	**Chingaza**	**12.47**	**12**	‖ *e*P	**Pn**	**18 45 15.4**	**+0.2**
PTGC	**Puerto Gaitan,**	**12.50**	**20**	*e*P	**Pn**	**18 45 15.0**	**-0.4**
ROSC	**El Rosal**	**12.56**	**10**	Pn	**Pn**	**18 45 19.6**	**+3.0**
	3.3nm,0.3s,baz=148,slow=13,SNR=7.5						
ROSC				LR	LR	18 51 22.1	
	comp=Z,9μm,20.6s,baz=206,slow=44						
ROSC	**El Rosal**	**12.56**	**10**	Pn	**Pn**	**18 45 17.1**	**+0.5**
PB16	**IPOC Station P**	**12.58**	**148**	Pn	**Pn**	**18 45 16.8**	**-0.1**
MAPC	**Malpelo**	**12.67**	**336**	*e*P	**Pn**	**18 45 16.4**	**-1.2**
SAML	**Samuel**	**13.15**	**97**	P	**Pn**	**18 45 21.4**	**-2.8**
SAML	**Samuel**	**13.15**	**97**	Pn	**Pn**	**18 45 21.4**	**-2.8**
SAML	**Samuel**	**13.15**	**97**	*e*P	**Pn**	**18 45 21.5**	**-2.8**
MNMC	**Minye Minye**	**13.21**	**151**		**Pn**	**18 45 23.8**	**-1.4**
PSGCX	**Pisagua**	**13.37**	**153**		**Pn**	**18 45 25.3**	**-1.9**
SPBC	**San Pablo de B**	**13.40**	**10**	*e*P	**Pn**	**18 45 25.7**	**-2.0**
CBOC	**Ciudad Bolivar**	**13.41**	**2**	*e*P	**Pn**	**18 45 31.3**	**+3.4**
PB11	**IPOC Station P**	**13.72**	**152**		**Pn**	**18 45 30.5**	**-1.6**
RUSC	**La Rusia**	**13.84**	**14**	*e*P	**Pn**	**18 45 34.3**	**+0.3**
GO01	**Chusmiza**	**13.86**	**150**		**Pn**	**18 45 32.1**	**-2.2**
TA01	**Diego Aracena**	**14.20**	**156**	Pn	**Pn**	**18 45 37.5**	**-1.0**
PTBC	**PUERTO BERRIO,**	**14.21**	**8**	*e*P	**Pn**	**18 45 37.5**	**-1.2**
PB08	**IPOC Station P**	**14.28**	**151**		**Pn**	**18 45 38.3**	**-1.7**
BARC	**Barichara**	**14.49**	**13**	*e*P	**Pn**	**18 45 43.2**	**+0.4**
DBBC	**Dabeiba**	**14.55**	**1**	*e*P	**Pn**	**18 45 45.5**	**+2.0**
TAMC	**Tame, Arauca**	**14.71**	**18**	*e*P	**Pn**	**18 45 45.4**	**-0.3**
BRRC	**Barranca, Sant**	**14.89**	**10**	*e*P	**Pn**	**18 45 47.6**	**-0.3**
PB01	**IPOC Station P**	**14.92**	**154**		**Pn**	**18 45 46.2**	**-2.2**
UREC	**San Jos de Ur**	**15.31**	**3**	*e*P	**Pn**	**18 45 55.3**	**+1.8**
PAMC	**Pamplona, Colo**	**15.32**	**14**	*e*P	**Pn**	**18 45 54.6**	**+0.4**
PB07	**IPOC Station P**	**15.36**	**157**		**Pn**	**18 45 51.6**	**-2.8**
PB07				IAmb	IAmb	18 46 02.2	
	comp=Z,273nm,0.9s						
PAYG	**Puerto Ayora**	**15.47**	**296**		**Pn**	**18 45 55.5**	**-0.1**
PB09	**IPOC Station P**	**15.69**	**155**		**Pn**	**18 45 56.2**	**-2.4**
PB04	**IPOC Station P**	**15.81**	**158**	Pn	**Pn**	**18 45 57.4**	**-2.8**
OCAC	**Ocana**	**16.06**	**11**	*e*P	**Pn**	**18 46 03.0**	**-0.5**
UPD2	**Meteti**	**16.15**	**354**	*e*P	**Pn**	**18 46 04.7**	**+0.2**
CAPC	**Capurgana**	**16.19**	**357**	*e*P	**P**	**18 46 07.2**	**-0.9**
MACA	**Manacapuru-AM**	**16.27**	**75**	*e*P	**Pn**	**18 46 03.7**	**-2.3**
MOTC	**Monteria, Cord**	**16.32**	**3**	*e*P	**Pn**	**18 46 06.1**	**-0.5**
PB06	**IPOC Station P**	**16.37**	**157**		**Pn**	**18 46 03.5**	**-3.8**
LVC	**Limon Verde**	**16.55**	**155**	Pn	**Pn**	**18 46 09.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=306,slow=9.9,SNR=9.2						
LVC				LR	LR	18 53 06.0	
	comp=Z,9μm,19.5s,baz=304,slow=39						
LVC	**Limon Verde**	**16.55**	**155**	P	**Pn**	**18 46 07.2**	**-2.7**
LVC				pmax	pmax		
	comp=Z,180nm,1.0s						
LVC	**Limon Verde**	**16.55**	**155**	Pn	**Pn**	**18 46 07.2**	**-2.7**
LVC	**Limon Verde**	**16.55**	**155**	*e*P	**Pn**	**18 46 09.4**	**-0.6**
PB10	**IPOC Station P**	**16.76**	**161**		**Pn**	**18 46 09.4**	**-2.9**
VILB	**Vilhena**	**16.79**	**110**	*e*P	**Pn**	**18 46 10.5**	**-2.3**
PB15	**IPOC Station P**	**16.86**	**157**		**Pn**	**18 46 11.1**	**-2.6**
SIV	**San Ignacio**	**17.14**	**120**	P	**Pn**	**18 46 16.0**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=305,slow=12,SNR=109						
SIV				LR	LR	18 53 26.8	
	comp=Z,5μm,22.0s,baz=306,slow=39						
SDV	**Santo Domingo**	**17.39**	**19**	P	**Pn**	**18 46 20.5**	**+0.2**
	comp=Z,6.2nm,0.3s,baz=200,slow=11,SNR=39						
SDV	**Santo Domingo**	**17.39**	**19**	*e*P	**Pn**	**18 46 18.2**	**-2.1**
SDV	**Santo Domingo**	**17.39**	**19**	Pn	**Pn**	**18 46 19.3**	**-1.0**
SDV	**Santo Domingo**	**17.39**	**19**	*e*P	**Pn**	**18 46 19.9**	**-0.4**
SJCC	**San Jacinto, C**	**17.46**	**4**	*e*P	**P**	**18 46 23.5**	**+1.2**
ARGC	**Ariguani, Magd**	**17.51**	**7**	*e*P	**P**	**18 46 22.7**	**-0.1**
PB14	**IPOC Station P**	**17.85**	**162**	Pn	**Pn**	**18 46 24.1**	**-2.0**
PTLB	**Pontes e Lacer**	**18.61**	**116**	*e*P	**P**	**18 46 33.4**	**-1.5**
GO02	**Mina Guanaco**	**18.61**	**160**		**P**	**18 46 34.5**	**-0.7**
SMRC	**Santa Marta, M**	**18.80**	**7**	*e*P	**Pn**	**18 46 38.3**	**+0.8**
HDC	**Heredia**	**19.13**	**336**	Pn	**Pn**	**18 46 42.1**	**+0.6**
HDC				IAmb	IAmb	18 47 18.4	
	comp=Z,122nm,0.4s						
AC01	**Pan de Azucar**	**19.23**	**164**		**P**	**18 46 40.4**	**-1.3**
URIC	**Uribia, Colomb**	**19.70**	**13**	*e*P	**P**	**18 46 45.4**	**-1.5**
JTS	**Las Juntas de**	**19.73**	**334**	*c* *i*P	**Pn**	**18 46 49.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=108,slow=19,SNR=6.8						
JTS	**Las Juntas de**	**19.73**	**334**	*c* *i*P	**Pn**	**18 46 48.6**	**-0.2**
JTS				pmax	pmax		
	comp=Z,68nm,1.2s						
JTS	**Las Juntas de**	**19.73**	**334**	P	**P**	**18 46 47.5**	**+0.2**
SLA	**San Lorenzo**	**19.94**	**150**	*e*P	**Pn**	**18 46 51.3**	**+0.1**
AC02	**Maricunga**	**20.31**	**161**		**P**	**18 46 54.0**	**0.0**
AC02				IAmb	IAmb	18 47 01.6	
	comp=Z,157nm,1.1s						
CLDB	**Colider**	**20.59**	**101**	*e*P	**P**	**18 46 55.1**	**-1.5**
GO03	**Copiap**	**20.70**	**164**	P	**P**	**18 46 57.0**	**-0.7**
ITTB	**Itaituba**	**20.81**	**82**	*e*P	**P**	**18 46 58.6**	**-0.5**
NPGB	**Novo Progresso**	**20.88**	**90**	*e*P	**P**	**18 46 59.0**	**-0.9**
AC04	**Llanos de Chal**	**21.07**	**167**	P	**P**	**18 47 01.3**	**-0.4**
ESPN	**Las Esperanzas**	**21.20**	**338**	P	**P**	**18 47 03.4**	**+0.2**
PCRV	**Puerto La Cruz**	**21.22**	**34**	P	**P**	**18 47 05.0**	**+1.6**
	comp=Z,38nm,0.6s,baz=189,slow=4.4,SNR=11						
PCRV				LR	LR	18 55 54.0	
	comp=Z,2μm,21.8s,slow=38						
ACON	**Acoyapa**	**21.34**	**336**	P	**P**	**18 47 04.8**	**+0.2**
PRVC	**Isla de Provid**	**21.45**	**347**	*e*P	**P**	**18 47 06.2**	**+0.5**
AHML	**Horco Molle**	**21.76**	**152**	*i* P	**P**	**18 47 09.5**	**+0.4**
AC05	**El Transito**	**21.87**	**165**	P	**P**	**18 47 09.6**	**-0.8**
AC05				IAmb	IAmb	18 47 41.2	
	comp=Z,249nm,1.1s						
LCO	**Las Campanas**	**21.93**	**167**	P	**P**	**18 47 11.2**	**-0.1**
LCO				pmax	pmax		
	comp=Z,214nm,1.0s						
LCO	**Las Campanas**	**21.93**	**167**	P	**P**	**18 47 11.2**	**-0.1**
LCO				IAmb	IAmb	18 47 13.8	
	comp=Z,214nm,0.9s						
VCA	**Vinchina**	**22.37**	**161**	*i* P	**P**	**18 47 18.2**	**+2.3**
MATN	**Matagalpa**	**22.51**	**335**	P	**P**	**18 47 17.1**	**-0.3**
MALB	**Monte Alegre**	**22.79**	**77**	*e*P	**P**	**18 47 19.5**	**-0.8**
CRIN	**San Cristobal**	**22.80**	**332**	P	**P**	**18 47 20.9**	**+0.5**
CRIN				IAmb	IAmb	18 47 56.1	
	comp=Z,110nm,0.9s						
CYA	**Choya**	**22.99**	**155**	*i* P	**P**	**18 47 22.4**	**+0.1**
CO01	**Juntas del Tor**	**23.01**	**166**	P	**P**	**18 47 22.6**	**-0.1**
GO04	**Tololo Observa**	**23.03**	**168**	P	**P**	**18 47 22.6**	**-0.3**
GO04				IAmb	IAmb	18 47 46.2	
	comp=Z,155nm,1.0s						
AROD	**Rodeo**	**23.34**	**165**	*i* P	**P**	**18 47 28.2**	**+2.0**
ACLC	**CERRO LA CRUZ**	**23.43**	**159**	*i* P	**P**	**18 47 27.8**	**+0.8**
CO03	**El Pedregal**	**23.70**	**168**	P	**P**	**18 47 28.9**	**-0.6**
CO03				IAmb	IAmb	18 47 33.0	
	comp=Z,311nm,1.8s						
ACCO	**Cerro Coronel**	**23.85**	**164**	*i* P	**P**	**18 47 32.5**	**+1.4**
CO02	**Combarbal**	**23.99**	**169**	P	**P**	**18 47 31.7**	**-0.6**
CO02				IAmb	IAmb	18 47 50.3	
	comp=Z,114nm,1.1s						
TGUH	**Tegucigalpa,Un**	**24.10**	**333**	P	**P**	**18 47 32.7**	**-0.6**
APLL	**PUNTA DE LOS L**	**24.47**	**159**	*i* P	**P**	**18 47 37.8**	**+1.2**
GRGR	**Grenville**	**24.51**	**37**	P	**P**	**18 47 36.8**	**-0.2**
TOSP	**Speyside**	**24.56**	**48**	P	**P**	**18 47 37.1**	**-0.4**
ZON	**Zonda**	**24.86**	**164**	P	**P**	**18 47 39.4**	**-0.7**
ZON				pmax	pmax		
	comp=Z,93nm,1.2s						
ZON	**Zonda**	**24.86**	**164**	P	**P**	**18 47 39.4**	**-0.7**
ZON				IAmb	IAmb	18 47 43.1	
	comp=Z,93nm,1.2s						
RTLS	**Leoncito**	**24.94**	**166**	*i* P	**P**	**18 47 42.4**	**+1.2**
SNDB	**Serra Nova Dou**	**25.11**	**102**	*e*P	**P**	**18 47 42.4**	**-0.1**
RTCV	**Cerro Valdivia**	**25.20**	**164**	*i* P	**P**	**18 47 44.2**	**+1.0**
AUSP	**Uspallata**	**25.32**	**166**	*i* P	**P**	**18 47 46.5**	**+1.9**
MCPB	**Macapa, AP**	**25.33**	**75**	*e*P	**P**	**18 47 44.4**	**-0.1**
ARAG	**Araguaiana, MT**	**25.36**	**111**	*e*P	**P**	**18 47 44.8**	**0.0**
ESQI	**Esquipulas**	**25.51**	**330**	P	**P**	**18 47 45.9**	**-0.3**
VA03	**San Esteban**	**25.59**	**169**	P	**P**	**18 47 46.1**	**-0.7**
VA03				IAmb	IAmb	18 47 49.4	
	comp=Z,105nm,1.1s						
ROC1	**El Roble**	**25.71**	**170**	P	**P**	**18 47 47.5**	**-0.6**
MTDJ	**Mount Denham**	**25.72**	**358**	*e*P	**P**	**18 47 49.4**	**+1.3**
MTDJ	**Mount Denham**	**25.72**	**358**	P	**P**	**18 47 48.5**	**+0.5**
MTDJ				IAmb	IAmb	18 48 22.2	
	comp=Z,95nm,1.1s						
ASAL	**Salagasta**	**25.81**	**165**	*i* P	**P**	**18 47 50.5**	**+1.7**
PEL	**Peldehue**	**25.93**	**169**	P	**P**	**18 47 49.7**	**-0.2**
PEL				pmax	pmax		
	comp=Z,76nm,1.1s						
PEL	**Peldehue**	**25.93**	**169**	P	**P**	**18 47 49.6**	**-0.2**
PEL				IAmb	IAmb	18 48 12.9	
	comp=Z,76nm,1.1s						
CPUP	**Villa Florida**	**25.98**	**138**	P	**P**	**18 47 50.1**	**-0.2**
	comp=Z,65nm,1.0s,baz=322,slow=9.5,SNR=60						
CPUP				LR	LR	18 59 22.0	
	comp=Z,4μm,20.5s,baz=320,slow=40						
CPUP	**Villa Florida**	**25.98**	**138**	P	**P**	**18 47 49.6**	**-0.7**
CPUP				pmax	pmax		
	comp=Z,96nm,1.2s						
CPUP	**Villa Florida**	**25.98**	**138**	P	**P**	**18 47 49.6**	**-0.7**
CPUP				IAmb	IAmb	18 47 51.8	
	comp=Z,96nm,1.1s						
ARCO	**CERRO ARCO**	**26.03**	**166**	*i* P	**P**	**18 47 52.6**	**+1.8**
TCA	**Tanti**	**26.04**	**156**	*i* P	**P**	**18 47 50.9**	**0.0**
MT05	**Renca**	**26.16**	**169**	P	**P**	**18 47 51.0**	**-0.9**
MT05				IAmb	IAmb	18 47 54.3	
	comp=Z,106nm,1.1s						
SLDE	**Delcer**	**26.18**	**36**	*e*	**P**	**18 47 54.5**	**+2.2**
LGNH	**Logne**	**26.25**	**8**	P	**P**	**18 47 53.5**	**+0.8**
LGNH				IAmb	IAmb	18 47 58.6	
	comp=Z,152nm,1.1s						
AAGR	**Agrelo**	**26.28**	**166**	*i* P	**P**	**18 47 54.5**	**+1.4**
SLPA	**Patience**	**26.31**	**36**	*e*	**P**	**18 47 55.3**	**+2.0**
SLAC	**Saint Lucia, A**	**26.35**	**36**	*e*	**P**	**18 47 54.7**	**+0.9**
SLBI	**Saint Lucia, B**	**26.41**	**35**	*e*	**P**	**18 47 56.1**	**+1.9**
SLW	**Petit Monier**	**26.43**	**36**	*e*	**P**	**18 47 55.2**	**+0.8**
APG	**El Apazote**	**26.46**	**328**	P	**P**	**18 47 56.1**	**+1.2**
	comp=Z,20nm,1.1s,baz=156,slow=8.0,SNR=8.5						
APG				LR	LR	18 57 19.1	
	comp=Z,2μm,22.0s,baz=149,slow=34						
MRA	**San Martin**	**26.59**	**159**	*e*P	**P**	**18 47 56.1**	**+0.2**
SDD	**Santo Domingo**	**26.70**	**14**	P	**P**	**18 47 57.8**	**+1.0**
SDD				IAmb	IAmb	18 48 05.1	
	comp=Z,120nm,0.9s						
MDP	**Montagnes des**	**26.87**	**63**	P	**P**	**18 47 58.4**	**-0.1**
	comp=Z,30nm,1.0s,baz=249,slow=7.1,SNR=12						
FDF	**Fort de France**	**26.88**	**34**	P	**P**	**18 47 58.3**	**-0.3**
FDF				pmax	pmax		
	comp=Z,87nm,0.9s						
FDF	**Fort de France**	**26.88**	**34**	P	**P**	**18 47 58.3**	**-0.3**
FDF				IAmb	IAmb	18 48 13.0	
	comp=Z,87nm,0.9s						
SDDR	**Presa de Saban**	**26.92**	**11**	P	**P**	**18 47 59.3**	**+0.4**
DR12	**Loma Pena Alta**	**27.15**	**15**	P	**P**	**18 48 01

BRAL	Brewton	39.91	346	P	P	18 49 51.6	+0.1
	baz=163						
BRAL	Brewton	39.91	346	P	P	18 49 51.4	-0.1
158A	Hollywood	40.31	355	P	P	18 49 54.2	-0.6
	baz=174						
157A	Early Branch	40.32	354	P	P	18 49 55.1	+0.1
	baz=173						
250A	Grady	40.50	347	P	P	18 49 55.9	-0.5
250A				IAmb	IAmb	18 49 58.2	
	comp=Z,219nm,1.6s						
154A	Montrose	40.53	351	P	P	18 49 56.6	0.0
154A				IAmb	IAmb	18 50 04.9	
	comp=Z,136nm,1.2s						
CSU	Charleston Sou	40.54	355	P	P	18 49 56.0	-0.7
NHSC	New Hope	40.67	355	P	P	18 49 58.4	+0.6
	baz=174,SNR=5.9						
NHSC	New Hope	40.67	355	P	P	18 49 58.0	+0.2
346A	Big Creek Wild	40.76	343	P	P	18 49 58.7	+0.1
346A				IAmb	IAmb	18 50 00.1	
	comp=Z,76nm,1.1s						
152A	Waverly Hall	40.85	349	P	P	18 49 58.5	-0.8
Z58A	St. Stephen	40.87	356	P	P	18 49 59.3	-0.1
	baz=175						
Z57A	Bowman	40.91	354	P	P	18 49 59.7	-0.1
	baz=173						
Z56A	Williston	41.00	354	P	P	18 50 00.4	-0.1
	baz=172						
Z56A	Williston	41.00	354	P	P	18 50 01.1	+0.5
Z56A				IAmb	IAmb	18 50 08.5	
	comp=Z,110nm,1.3s						
344A	Westbrook Farm	41.21	341	P	P	18 50 02.4	+0.1
BBSR	BB Station	41.32	15	P	P	18 50 02.9	-0.3
BBSR				IAmb	IAmb	18 50 28.1	
	comp=Z,136nm,1.7s						
GOGA	Godfrey	41.37	351	P	P	18 50 03.2	-0.3
	baz=169,SNR=6.3						
GOGA	Godfrey	41.37	351	P	P	18 50 03.3	-0.3
GOGA				pmax	pmax		
	comp=Z,51nm,1.4s						
GOGA	Godfrey	41.37	351	P	P	18 50 03.2	-0.3
Y60A	Bolivia	41.44	358	P	P	18 50 04.2	0.0
	baz=177						
Y56A	Pelion	41.46	354	P	P	18 50 04.3	0.0
	baz=173						
Z51A	Franklin	41.57	349	P	P	18 50 04.5	-0.7
Y57A	Sumter	41.59	355	P	P	18 50 05.5	+0.1
	baz=174						
Y57A	Sumter	41.59	355	P	P	18 50 05.2	-0.2
Y57A				IAmb	IAmb	18 50 13.1	
	comp=Z,108nm,1.2s						
342A	Flagon Creek P	41.67	339	P	P	18 50 07.1	+1.1
LRAL	Lakeview Retre	41.68	347	P	P	18 50 05.5	-0.6
	baz=164,SNR=14						
LRAL	Lakeview Retre	41.68	347	P	P	18 50 05.3	-0.8
735A	Kenedy	41.74	331	P	P	18 50 07.5	+0.8
735A				IAmb	IAmb	18 50 08.9	
	comp=Z,56nm,0.7s						
HKT	Hockley	41.77	334⇓*e*	P	P	18 50 07.9	+1.0
HKT				pmax	pmax		
	comp=Z,46nm,1.5s						
HKT	Hockley	41.77	334	P	P	18 50 07.4	+0.6
146A	Union	41.82	344	P	P	18 50 07.2	-0.1
VBMS	Vicksburg	41.85	342	P	P	18 50 07.0	-0.6
	baz=159						
Y52A	Lilburn	41.90	350	P	P	18 50 07.4	-0.6
HODGE	Hodges	42.00	353	IAmb	IAmb	18 50 10.0	
	comp=Z,105nm,1.7s						
X57A	Johnson Farm,	42.01	355	P	P	18 50 08.7	-0.1
	baz=174						
X59A	McDuffie Farm,	42.03	357	P	P	18 50 08.7	-0.2
	baz=177						
X58A	Rowland	42.05	356	P	P	18 50 09.1	0.0
	baz=176						
833A	Chaparral WMA,	42.08	329	P	P	18 50 09.1	-0.4
	baz=145						
X56A	White Oak	42.12	354	P	P	18 50 10.1	+0.4
	baz=173						
X55A	Gracelyn & Ava	42.16	354	P	P	18 50 09.8	-0.2
	baz=172,SNR=10						
X54A	Belton	42.33	353	P	P	18 50 11.4	-0.1
	baz=171,SNR=6.6						
W60A	Pink Hill	42.47	358	P	P	18 50 12.6	0.0
	baz=178						
W58A	Raeford	42.51	357	P	P	18 50 13.0	+0.2
	baz=176,SNR=9.1						
PAULI	Pauline	42.53	353	P	P	18 50 12.5	-0.6
PAULI				IAmb	IAmb	18 50 20.7	
	comp=Z,79nm,1.3s						
W61A	Ground Anchor	42.58	359	P	P	18 50 13.9	+0.5
	baz=179						
W57A	Gilead	42.69	356	P	P	18 50 14.3	0.0
	baz=175,SNR=9.6						
W57A	Gilead	42.69	356	IAmb	IAmb	18 50 15.7	
	comp=Z,145nm,1.6s						
W56A	Indian Trail	42.72	355	P	P	18 50 14.6	+0.1
	baz=174,SNR=6.5						
KMSC	Kings Mountain	42.80	354	P	P	18 50 15.4	+0.2
	baz=173,SNR=8.9						
W54A	Cherokee Point	42.84	353	P	P	18 50 15.8	+0.3
	baz=172,SNR=12						
NATX	Nacogdoches	42.88	337	P	P	18 50 16.3	+0.4
	baz=153						
NATX	Nacogdoches	42.88	337	P	P	18 50 16.7	+0.8
V62A	Hyde County Ai	42.96	1	P	P	18 50 16.5	0.0
	baz=180						
Y45A	Yeager Farm, C	43.11	344	IAmb	IAmb	18 50 19.7	
	comp=Z,152nm,1.2s						
V60A	Jim Taylor Roa	43.17	359	P	P	18 50 17.8	-0.4
	baz=179						
V61A	Roper	43.19	360	P	P	18 50 19.1	+0.7
	baz=180						
V59A	Middlesex	43.20	358	P	P	18 50 19.0	+0.6
	baz=177,SNR=6.0						
435B	Jarrell	43.26	333	P	P	18 50 19.0	-0.1
	baz=148						
435B	Jarrell	43.26	333	IAmb	IAmb	18 50 21.1	
	comp=Z,61nm,1.0s						
V58A	Windy Hill, Pi	43.27	357	P	P	18 50 19.4	+0.3
	baz=176,SNR=5.6						
V56A	Mocksville	43.38	355	P	P	18 50 20.0	+0.1
	baz=174,SNR=6.1						
V57A	Coltrane Farms	43.40	356	P	P	18 50 20.2	0.0
	baz=175,SNR=5.4						
V55A	Taylorsville	43.49	354	P	P	18 50 20.6	-0.2
	baz=173						
V55A	Taylorsville	43.49	354	P	P	18 50 21.5	+0.7
V54A	Nebo	43.49	353	P	P	18 50 20.7	-0.2
	baz=172,SNR=8.5						
Z41A	Richland Creek	43.55	340	P	P	18 50 21.3	0.0
	baz=156						
SWET	Sewanee	43.56	349	IAmb	IAmb	18 50 21.7	
	comp=Z,114nm,1.9s						
GO09	Cerro Castillo	43.63	176	P	P	18 50 23.0	+1.2
GO09				IAmb	IAmb	18 50 24.9	
	comp=Z,92nm,1.4s						
OXF	Oxford	43.69	344	P	P	18 50 20.9	-1.5
	baz=161						
U61A	Possum Corner	43.73	360	P	P	18 50 22.0	-0.7
	baz=180						
U59A	Littleton	43.77	358	P	P	18 50 23.6	+0.6
	baz=178						
U58A	Oxford	43.84	358	P	P	18 50 24.1	+0.5
	baz=177						
V51A	Loudon	43.85	351	IAmb	IAmb	18 50 24.3	
	comp=Z,80nm,1.6s						
U60A	Pendleton	43.88	359	P	P	18 50 23.9	0.0
	baz=179						
U56A	King	43.91	355	P	P	18 50 24.3	+0.1
	baz=174,SNR=6.1						
U56A	King	43.91	355	IAmb	IAmb	18 50 32.3	
	comp=Z,66nm,1.1s						
U57A	Blanch	43.92	357	P	P	18 50 24.2	0.0
	baz=176,SNR=7.1						
JCT	Junction City	44.05	330	P	P	18 50 25.4	-0.1
	baz=146						
JCT	Junction City	44.05	330	P	P	18 50 26.1	+0.6
JCT				pmax	pmax		
	comp=Z,105nm,2.0s						
JCT	Junction City	44.05	330	P	P	18 50 26.1	+0.6
JCT				IAmb	IAmb	18 50 27.2	
	comp=Z,106nm,2.0s						
X43A	Marvell	44.10	343	P	P	18 50 25.2	-0.6
	baz=159						
U54A	Nelsons Funny	44.21	354	P	P	18 50 26.4	-0.3
	baz=172,SNR=5.7						
WHTX	Lake Whitney,	44.23	334	P	P	18 50 27.0	+0.2
	baz=149						
V48A	Smith Brothers	44.24	348	IAmb	IAmb	18 50 27.1	
	comp=Z,74nm,1.4s						
T59A	Double "B" Far	44.38	359	P	P	18 50 28.3	+0.3
	baz=178,SNR=7.2						
T59A	Double "B" Far	44.38	359	P	P	18 50 28.4	+0.5
T58A	Grand View Acr	44.39	358	P	P	18 50 28.1	+0.1
	baz=177,SNR=7.0						
TZTN	Tazewell	44.45	352	P	P	18 50 28.0	-0.6
	baz=170,SNR=5.5						
T57A	Hurt	44.48	357	P	P	18 50 28.7	-0.1
	baz=176,SNR=12						
T57A	Hurt	44.48	357	IAmb	IAmb	18 50 36.5	
	comp=Z,52nm,0.9s						
T60A	Surry	44.54	360	P	P	18 50 29.3	+0.1
	baz=179						
T56A	Rocky Mt	44.56	356	P	P	18 50 29.6	+0.2
	baz=175,SNR=5.3						
X40A	Basin Creek Fa	44.68	341	P	P	18 50 29.9	-0.5
	baz=156						
T55A	Pulaski	44.70	355	P	P	18 50 30.7	+0.1
	baz=174						
T54A	Tazewell	44.72	354	P	P	18 50 30.5	-0.3
	baz=173						
T53A	Wise	44.75	353	P	P	18 50 30.4	-0.6
	baz=171,SNR=5.7						
BLA	Blacksburg	44.77	355	P	P	18 50 31.1	0.0
	baz=174						
BLA	Blacksburg	44.77	355	IAmb	IAmb	18 50 35.2	
	comp=Z,59nm,1.4s						
UALR	University of	44.79	341	IAmb	IAmb	18 50 31.9	
	comp=Z,47nm,1.1s						
WVT	Waverly	44.84	347	P	P	18 50 32.4	+0.8
	baz=164						
WVT	Waverly	44.84	347	P	P	18 50 29.2	-2.4
WVT				pmax	pmax		
	comp=Z,13nm,1.0s						
WVT	Waverly	44.84	347	P	P	18 50 29.2	-2.4
MIAR	Mount Ida	44.99	340	P	P	18 50 32.4	-0.5
	baz=156,SNR=6.6						
MIAR	Mount Ida	44.99	340	IAmb	IAmb	18 51 12.2	
	comp=Z,80nm,1.8s						
S58A	Poland Farm, P	45.03	358	P	P	18 50 33.1	-0.1
	baz=178						
S61A	Accomac	45.08	1	P	P	18 50 33.9	+0.4
W41B	Gary Mavity, V	45.13	342	P	P	18 50 33.4	-0.5
	baz=158,SNR=10						
W41B	Gary Mavity, V	45.13	342	IAmb	IAmb	18 50 34.6	
	comp=Z,57nm,1.3s						
TX31	Lajitas Ar. Si	45.16	326	IAmb	IAmb	18 50 36.0	
	comp=Z,62nm,1.0s						
TXAR	Lajitas Array	45.16	326	P	P	18 50 34.8	+0.3
	comp=Z,8.4nm,0.8s,baz=146,slow=9.1,SNR=56						
TXAR				LR	LR	19 08 49.4	
	comp=Z,493nm,21.0s,baz=0.0,slow=35						
TXAR	Lajitas Array	45.16	326	P	P	18 50 34.5	0.0
TXAR	Lajitas Array	45.16	326	P	P	18 50 34.5	0.0
S59A	Mechanicsville	45.17	359	P	P	18 50 34.0	-0.2
	baz=179						
S56A	Natural Bridge	45.17	356	P	P	18 50 34.1	-0.1
	baz=176						
SLBS	Sierra La Lagu	45.19	314	P	P	18 50 35.4	+0.7
SLBS				IAmb	IAmb	18 51 10.5	
	comp=Z,125nm,2.0s						
S57A	Dark Hollow, R	45.22	357	P	P	18 50 34.9	+0.2
	baz=176,SNR=9.1						
S57A	Dark Hollow, R	45.22	357	IAmb	IAmb	18 50 36.3	
	comp=Z,119nm,1.6s						
WHAR	Wooly Hollow	45.25	342	IAmb	IAmb	18 50 41.8	
	comp=Z,54nm,1.1s						
S55A	Lewisburg	45.33	355	P	P	18 50 35.5	-0.1
	baz=174,SNR=9.0						
R58B	Mineral	45.38	358	P	P	18 50 36.6	+0.7
	baz=178,SNR=6.6						
R58B	Mineral	45.38	358	IAmb	IAmb	18 50 38.0	
	comp=Z,62nm,1.3s						
S54A	Dingess, Beckl	45.43	355	P	P	18 50 36.0	-0.4
	baz=173						
S54A	Dingess, Beckl	45.43	355	IAmb	IAmb	18 50 37.5	
	comp=Z,97nm,1.7s						
S51A	Beattyville	45.53	352	IAmb	IAmb	18 50 37.7	
	comp=Z,81nm,1.7s						
R59A	King George, V	45.60	359	P	P	18 50 37.8	+0.2
	baz=179						
LCAR	Lake Charles	45.63	343	IAmb	IAmb	18 50 38.8	
	comp=Z,84nm,1.3s						
W39A	Magazine	45.65	340	P	P	18 50 38.5	+0.4
	baz=156,SNR=11						
W39A	Magazine	45.65	340	IAmb	IAmb	18 50 39.7	
	comp=Z,118nm,1.6s						
R60A	Leonardtown, M	45.66	360	P	P	18 50 38.3	+0.1
	baz=180						
R58A	Rapidan	45.72	358	P	P	18 50 39.3	+0.7
	baz=178,SNR=10						
R57A	Stanardsville	45.73	358	P	P	18 50 39.3	+0.6
	baz=177						
R61A	Willards	45.74	1	P	P	18 50 39.4	+0.7
	baz=181						
ABTX	Abilene, Hawle	45.75	332	P	P	18 50 39.4	+0.5
	baz=147,SNR=12						
ABTX	Abilene, Hawle	45.75	332	IAmb	IAmb	18 50 40.7	
	comp=Z,67nm,1.0s						
FCAR	Ozark Folk Cen	45.75	342	P	P	18 50 37.7	-1.1
R54A	Victor	45.78	355	P	P	18 50 38.7	-0.4
	baz=174						
R55A	Marlinton	45.81	356	P	P	18 50 39.3	-0.1
	baz=175						
R55A	Marlinton	45.81	356	IAmb	IAmb	18 50 41.1	
	comp=Z,94nm,1.6s						
R56A	Bull Pasture M	45.89	357	P	P	18 50 40.4	+0.4
	baz=176						
R53A	Hurricane	46.02	354	P	P	18 50 41.5	+0.6
	baz=172						
PBMO	Poplar Bluff	46.09	344	IAmb	IAmb	18 50 41.5	
	comp=Z,119nm,1.8s						
Q58A	Fox Den Farm,	46.35	359	P	P	18 50 43.7	+0.1
	baz=178						
Q60A	Greensboro	46.40	1	P	P	18 50 44.2	+0.3
	baz=181						
U40A	Yellville	46.41	342	P	P	18 50 43.3	-0.8
	baz=157,SNR=11						
U40A	Yellville	46.41	342	P	P	18 50 43.6	-0.5
EFI	East Falkland	46.44	164⇓*e*	P	P	18 50 44.1	0.0
EFI				pmax	pmax		
	comp=Z,96nm,1.0s						
Q57A	Strasburg	46.47	358	P	P	18 50 44.9	+0.5
	baz=177						
Q53A	Leroy	46.50	354	P	P	18 50 44.6	-0.1
	baz=173,SNR=5.3						
Q56A	Snyder Ridge,	46.51	357	P	P	18 50 45.4	+0.6
	baz=176,SNR=5.3						
Q56A	Snyder Ridge,	46.51	357	IAmb	IAmb	18 50 53.3	
	comp=Z,51nm,1.2s						
Q55A	Buckhannon	46.52	356	P	P	18 50 45.3	+0.4
	baz=175						
WCI	Wyandotte Cave	46.55	349	P	P	18 50 45.6	+0.5
	baz=166						
Q54A	Coxs Mills	46.56	355	P	P	18 50 45.7	+0.5
	baz=174						
Q52A	Bidwell	46.67	354	P	P	18 50 46.6	+0.5
	baz=172						
HHAR	Hobbs	46.69	340	IAmb	IAmb	18 50 47.9	
	comp=Z,84nm,1.3s						
P58A	Pank, Wackersv	46.89	359	P	P	18 50 48.4	+0.6
	baz=179,SNR=6.9						
P57A	Homestead Farm	46.90	358	P	P	18 50 48.7	+0.8
	baz=178						
P56A	Dayton Farm, R	46.95	357	P	P	18 50 48.9	+0.6
	baz=177						
U38A	Gravette	46.98	340	IAmb	IAmb	18 50 49.5	
	comp=Z,45nm,1.2s						
TUL1	Leonard	47.00	338	P	P	18 50 48.7	0.0
	baz=153,SNR=10						
P59A	Jarrettsville	47.00	360	P	P	18 50 49.2	+0.6
	baz=180						
P53A	Whipple	47.11	355	P	P	18 50 49.1	-0.4
	baz=173						
P53A	Whipple	47.11	355	P	P	18 50 49.4	0.0
P53A				IAmb	IAmb	18 50 51.0	
	comp=Z,57nm,1.4s						
P54A	Burton	47.15	356	P	P	18 50 50.1	+0.2
	baz=174						
WMOK	Wichita Mounta	47.15	335	P	P	18 50 49.9	-0.1
	baz=149,SNR=18						
FVM	French Village	47.23	345	IAmb	IAmb	18 50 50.4	
	comp=Z,60nm,1.4s						
P51A	Williamsport	47.28	353	P	P	18 50 51.1	+0.3
	baz=171						
P52A	Corning	47.33	354	P	P	18 50 51.3	+0.2
	baz=172						
WUPA	West Chester U	47.33	1	P	P	18 50 51.6	+0.4
MVL	Millersville	47.39	0	P	P	18 50 51.6	-0.1
MVL				IAmb	IAmb	18 51 00.4	
	comp=Z,52nm,1.3s						
USHA	Ushuaia	47.50	174	P	P	18 50 53.6	+1.3
	comp=Z,13nm,0.6s,baz=338,slow=6.6,SNR=3.3						
CCM	Cathedral Cave	47.51	344	P	P	18 50 52.5	-0.2
	baz=160						
CCM	Cathedral Cave	47.51	344	P	P	18 50 51.2	-1.5
CCM				pmax	pmax		
	comp=Z,24nm,0.8s						
CCM	Cathedral Cave	47.51	344	P	P	18 50 51.2	-1.5
CCM				IAmb	IAmb	18 52 24.3	
	comp=Z,24nm,0.8s						
O58A	Lewisberry	47.52	359	P	P	18 50 53.4	+0.7
	baz=179						
P49A	Miami Univ. Ec	47.56	351	P	P	18 50 52.5	-0.5
	baz=169						
QUOK	Quay	47.57	338	IAmb	IAmb	18 50 55.2	
	comp=Z,55nm,0.9s						
O57A	Amberson	47.62	359	P	P	18 50 53.6	+0.1
	baz=178,SNR=7.2						
PAGS	Pennsylvania G	47.62	360	IAmb	IAmb	18 50 55.5	
	comp=Z,60nm,1.5s						
O55A	Ligonier	47.67	357	P	P	18 50 54.5	+0.6
	baz=176						
O56A	Blue Knob Stat	47.70	358	P	P	18 50 55.0	+0.9
	baz=177						
O56A	Blue Knob Stat	47.70	358	IAmb	IAmb	18 50 56.1	
	comp=Z,67nm,1.4s						
O59A	Robesonia	47.70	0	P	P	18 50 54.5	+0.3
	baz=180						
O52A	Adamsville	47.77	354	P	P	18 50 55.2	+0.5
	baz=173						
S39A	Bolivar	47.78	342	IAmb	IAmb	18 51 01.5	
	comp=Z,45nm,1.3s						
O53A	New Philadelph	47.85	355	P	P	18 50 55.2	-0.1
	baz=174						
O51A	Pataskala	47.88	354	P	P	18 50 55.8	+0.3
	baz=172						
MNTX	Cornudas Mount	47.92	326	P	P	18 50 56.0	0.0
	baz=140,SNR=27						
MNTX	Cornudas Mount	47.92	326	IAmb	IAmb	18 50 57.2	
	comp=Z,51nm,1.1s						
ACSO	Alum Creek Sta	48.01	353	P	P	18 50 55.9	-0.6
	baz=171						
ACSO	Alum Creek Sta	48.01	353	IAmb	IAmb	18 50 56.8	
	comp=Z,89nm,1.8s						
R40A	Maddies Statio	48.02	343	IAmb	IAmb	18 50 56.5	
	comp=Z,36nm,1.2s						
O49A	Covington	48.14	352	IAmb	IAmb	18 50 57.5	
	comp=Z,92nm,1.6s						
N57A	Milroy	48.16	359	P	P	18 50 58.2	+0.6
	baz=178						
N55A	Marion Center	48.23	357	P	P	18 50 58.7	+0.4
	baz=176						
N58A	Sunbury	48.23	360	P	P	18 50 58.7	+0.5
	baz=180						
N58A	Sunbury	48.23	360	IAmb	IAmb	18 51 06.6	
	comp=Z,39nm,1.2s						
N59A	State Game Lan	48.31	1	P	P	18 50 59.2	+0.3
	baz=181						
N59A	State Game Lan	48.31	1	IAmb	IAmb	18 51 07.6	
	comp=Z,42nm,1.4s						
MSTX	Muleshoe	48.34	330	P	P	18 50 59.4	+0.1
	baz=144,SNR=9.2						
MSTX	Muleshoe	48.34	330	IAmb	IAmb	18 51 04.8	
	comp=Z,24nm,0.8s						
N56A	West Decatur	48.34	358	P	P	18 50 59.6	+0.6
	baz=177						
PAL	Palisades	48.45	3	P	P	18 51 00.3	+0.5
	baz=183						
N54A	Moraine State	48.47	356	P	P	18 51 00.3	+0.3
	baz=175						
AMTX	Amarillo	48.56	332	P	P	18 51 00.7	-0.3
	baz=146						
WSPT	Westport, CT	48.64	3	P	P	18 51 01.5	+0.2
WSPT				IAmb	IAmb	18 51 03.9	
	comp=Z,50nm,1.1s						
M57A	Sunshine Farm,	48.73	359	P	P	18 51 03.3	+1.2
	baz=179,SNR=6.1						
M57A	Sunshine Farm,	48.73	359	IAmb	IAmb	18 51 05.0	
	comp=Z,90nm,1.4s						
M60A	Port Jervis	48.74	2	P	P	18 51 02.3	+0.1
	baz=182						
M61A	Granite Spring	48.76	3	P	P	18 51 03.3	+1.0
	baz=183						
M58A	Price's Panora	48.76	360	P	P	18 51 03.2	+0.9
	baz=180,SNR=7.6						
SFIN	Lafayette	48.78	349	P	P	18 51 01.8	-0.6
	baz=166						
M56A	Emporium	48.90	358	P	P	18 51 03.5	+0.1
	baz=178						
M56A	Emporium	48.90	358	IAmb	IAmb	18 51 05.5	
	comp=Z,102nm,1.6s						
M62A	Hamden	48.94	4	P	P	18 51 04.3	+0.7
	baz=184,SNR=6.0						
M59A	Waymart	48.94	1	P	P	18 51 04.1	+0.4
	baz=181						
M63A	Gales Ferry	48.96	4	P	P	18 51 05.0	+1.3
	baz=186,SNR=6.0						
M54A	Oil Creek Stat	48.99	357	P	P	18 51 03.7	-0.3
	baz=176						
SRIG	Santa Rosalia	49.10	316	P	P	18 51 05.0	-0.1
SRIG				IAmb	IAmb	18 51 06.7	
	comp=Z,41nm,1.3s						
M50A	Fremont	49.17	353	IAmb	IAmb	18 51 05.6	
	comp=Z,72nm,1.4s						
L57A	Andrews Acres	49.39	360	P	P	18 51 07.6	+0.4
	baz=179						
HDIL	Hopedale	49.40	347	P	P	18 51 07.3	+0.2
	baz=163						
L60A	Shokan	49.42	2	P	P	18 51 07.8	+0.4
	baz=183						
L58A	Harry Jones Me	49.44	1	P	P	18 51 08.3	+0.8
	baz=181						
L63A	North Scituate	49.45	5	P	P	18 51 07.9	+0.4
	baz=186						
L53A	Girard	49.47	356	P	P	18 51 07.3	-0.4
	baz=175						
BRYW	Bryant College	49.51	5	P	P	18 51 08.4	+0.4
BRYW				IAmb	IAmb	18 51 10.7	
	comp=Z,74nm,1.2s						
L56A	Greenwood	49.54	359	P	P	18 51 08.8	+0.5
	baz=178						
L56A	Greenwood	49.54	359	IAmb	IAmb	18 51 10.4	
	comp=Z,56nm,1.4s						
L64A	Middleborough	49.59	5	P	P	18 51 08.5	0.0
	baz=187						
BINY	Binghamton	49.59	0	P	P	18 51 09.1	+0.4
	baz=180						
BINY	Binghamton	49.59	0	IAmb	IAmb	18 51 28.4	
	comp=Z,36nm,1.1s						
L59A	Walton	49.60	1	P	P	18 51 09.5	+0.7
	baz=182						
L59A	Walton	49.60	1	IAmb	IAmb	18 51 31.1	
	comp=Z,92nm,1.7s						
ERPA	Erie	49.62	356	P	P	18 51 09.4	+0.6
	baz=175						
P38A	Dawn	49.62	343	IAmb	IAmb	18 51 21.2	
	comp=Z,46nm,1.3s						
L61A	Hillsdale 1, H	49.65	3	P	P	18 51 09.7	+0.7
	baz=184						
121A	Cookes Peak, D	49.89	325	P	P	18 51 12.1	+0.8
	baz=138,SNR=14						
121A	Cookes Peak, D	49.89	325	IAmb	IAmb	18 51 13.6	
	comp=Z,50nm,1.1s						
L61B	Northampton	49.96	4	P	P	18 51 11.8	+0.4
	baz=185						
WES	Weston	49.99	5	IAmb	IAmb	18 52 05.1	
	comp=Z,62nm,1.4s						
HRV	Adam Dziewonsk	50.09	5	P	P	18 51 13.2	+0.8
	baz=186						
HRV	Adam Dziewonsk	50.09	5	P	P	18 51 12.8	+0.4
HRV				pmax	pmax		
	comp=Z,41nm,1.1s						
HRV	Adam Dziewonsk	50.09	5	P	P	18 51 12.8	+0.4
HRV				IAmb	IAmb	18 51 15.3	
	comp=Z,41nm,1.1s						
K56A	Middlesex	50.10	359	P	P	18 51 12.6	+0.1
	baz=179						
KSU1	Kansas State U	50.14	340	P	P	18 51 12.6	-0.2
	baz=154,SNR=6.3						
KSU1	Kansas State U	50.14	340	IAmb	IAmb	18 51 20.1	
	comp=Z,55nm,1.1s						
K58A	Earlville	50.16	1	P	P	18 51 13.7	+0.8
	baz=181						

K58A	Earlville	50.16	1	IAmb	IAmb	18 51 33.1	
	comp=Z,63nm,1.5s						
TRY	Troy	50.18	3	IAmb	IAmb	18 51 59.0	
	comp=Z,117nm,1.9s						
K59A	Cooperstown	50.19	1	P	P	18 51 13.9	+0.8
	baz=182						
K62A	Royalston	50.20	4	P	P	18 51 14.1	+0.9
	baz=185						
K63A	Dunstable	50.28	5	P	P	18 51 14.3	+0.6
	baz=186						
BNM	Barren Site	50.46	327	PcP	PcP	18 52 33.7	-0.2
LENM	Lemitar	50.66	327	PcP	PcP	18 52 35.4	+0.9
J56A	Wolcott	50.67	360	P	P	18 51 17.4	+0.6
	baz=179						
J56A	Wolcott	50.67	360	IAmb	IAmb	18 51 24.3	
	comp=Z,37nm,0.9s						
J60A	Lant Hill Farm	50.71	3	P	P	18 51 18.0	+0.9
	baz=184						
J62A	Henniker	50.79	4	P	P	18 51 18.4	+0.8
	baz=186						
J57A	Williamstown	50.80	0	P	P	18 51 18.6	+0.8
	baz=180						
ACCN	Adirondack Com	50.84	3	IAmb	IAmb	18 51 20.2	
	comp=Z,58nm,1.4s						
J61A	Chester	50.86	4	P	P	18 51 19.3	+1.1
	baz=185,SNR=7.7						
J59A	Piesco	50.88	2	P	P	18 51 18.9	+0.4
	baz=182						
J63A	Strafford	50.90	5	P	P	18 51 19.3	+0.8
	baz=187						
ANMO	Albuquerque	50.98	328	P	P	18 51 20.1	+0.6
	baz=140						
ANMO	Albuquerque	50.98	328	P	P	18 51 20.1	+0.6
ANMO				pmax	pmax		
	comp=Z,53nm,1.3s						
ANMO	Albuquerque	50.98	328	P	P	18 51 20.1	+0.6
ANMO				IAmb	IAmb	18 51 21.2	
	comp=Z,53nm,1.2s						
CBKS	Cedar Bluff	51.05	337	P	P	18 51 19.5	-0.3
	baz=150						
HNH	Hanover	51.23	4	IAmb	IAmb	18 51 23.5	
	comp=Z,74nm,1.5s						
I59A	Olmsteadville	51.24	2	P	P	18 51 22.0	+1.0
	baz=183,SNR=5.2						
I60A	Shoreham	51.31	3	P	P	18 51 22.6	+1.0
	baz=184,SNR=5.6						
I57A	Carthage	51.33	1	P	P	18 51 21.8	0.0
	baz=181						
I61A	Oroboro, Fairl	51.46	4	P	P	18 51 23.6	+0.9
	baz=185,SNR=6.7						
I62A	Tamworth	51.47	5	P	P	18 51 23.5	+0.8
	baz=186						
TUC	Tucson	51.50	322	P	P	18 51 23.6	+0.3
	baz=134						
TUC	Tucson	51.50	322	P	P	18 51 23.0	-0.3
TUC				pmax	pmax		
	comp=Z,34nm,0.9s						
TUC	Tucson	51.50	322	P	P	18 51 23.0	-0.3
TUC				IAmb	IAmb	18 51 24.9	
	comp=Z,34nm,0.9s						
SCIA	State Center	51.65	344	P	P	18 51 23.5	-0.7
	baz=158						
SCIA	State Center	51.65	344	IAmb	IAmb	18 51 24.1	
	comp=Z,104nm,1.4s						
I64A	Boothbay	51.67	6	P	P	18 51 24.7	+0.4
	baz=188						
T25A	Trinidad	51.68	331	P	P	18 51 25.2	+0.5
	baz=144,SNR=12						
I63A	Otisfield	51.71	5	P	P	18 51 25.7	+1.1
	baz=187						
LBNH	Lisbon	51.79	4	P	P	18 51 26.2	+1.1
	baz=186,SNR=6.4						
LBNH	Lisbon	51.79	4	IAmb	IAmb	18 51 27.6	
	comp=Z,117nm,1.8s						
H58A	Gabriels	51.85	2	P	P	18 51 25.7	+0.1
	baz=183						
H57A	Richville	51.86	1	P	P	18 51 26.3	+0.6
	baz=181						
JFWS	Jewell Farm	51.86	347	P	P	18 51 25.8	+0.1
	baz=162						
DELO	Deloro Mine	51.92	359	P	P	18 51 25.5	-0.6
DELO				IAmb	IAmb	18 51 27.0	
	comp=Z,47nm,1.2s						
H53A	Bobcaygeon	52.00	358	P	P	18 51 27.2	+0.5
	baz=177						
LONY	Lake Ozonia	52.04	2	P	P	18 51 27.9	+0.9
	baz=182						
H60A	Morristown	52.06	3	P	P	18 51 27.7	+0.5
	baz=184						
H61A	Lyndonville	52.08	4	P	P	18 51 28.3	+1.0
	baz=186,SNR=9.8						
H59A	Cadyville	52.09	2	P	P	18 51 28.4	+1.0
	baz=183						
H62A	Milan	52.18	5	P	P	18 51 28.7	+0.7
	baz=186						
H62A	Milan	52.18	5	P	P	18 51 28.8	+0.7
H62A				IAmb	IAmb	18 51 30.4	
	comp=Z,57nm,1.5s						
FRNY	Flat Rock	52.29	3	IAmb	IAmb	18 51 30.9	
	comp=Z,73nm,1.6s						
H63A	New Sharon	52.37	6	P	P	18 51 30.7	+1.3
	baz=188,SNR=5.7						
KSCO	Kaye Shedlock'	52.41	334	P	P	18 51 30.4	+0.4
	baz=146						
H64A	Troy	52.43	6	P	P	18 51 30.8	+0.9
	baz=189						
214A	Organ Pipe Nat	52.51	321	P	P	18 51 31.4	+0.6
	baz=132,SNR=24						
214A	Organ Pipe Nat	52.51	321	P	P	18 51 31.1	+0.3
214A				IAmb	IAmb	18 51 32.8	
	comp=Z,73nm,1.1s						
G57A	Newington	52.51	1	P	P	18 51 31.0	+0.5
	baz=182						
G58A	Ormstown	52.58	2	P	P	18 51 31.5	+0.5
	baz=183						
H65A	Eastbrook	52.60	7	P	P	18 51 31.7	+0.5
	baz=190						
G60A	Masonville	52.62	4	P	P	18 51 32.1	+0.8
	baz=185						
L34A	Svendsen Farm,	52.63	341	IAmb	IAmb	18 51 35.0	
	comp=Z,64nm,0.8s						
SDCO	Great Sand Dun	52.69	331	P	P	18 51 32.6	+0.3
	baz=143,SNR=54						
SDCO	Great Sand Dun	52.69	331	IAmb	IAmb	18 51 34.0	
	comp=Z,39nm,0.9s						
BGNE	Belgrade	52.73	340	P	P	18 51 32.7	+0.5
	baz=152						
H66A	Whiting	52.82	8	P	P	18 51 33.4	+0.6
	baz=191						
G61A	St-Isidore-de-	52.85	4	P	P	18 51 34.2	+1.1
	baz=186,SNR=12						
G63A	Kingsbury	52.86	6	P	P	18 51 34.1	+1.0
	baz=188,SNR=7.6						
G62A	West of Eustis	52.87	5	P	P	18 51 34.2	+1.0
	baz=187,SNR=15						
G62A	West of Eustis	52.87	5	IAmb	IAmb	18 51 36.5	
	comp=Z,72nm,1.1s						
W18A	Petrified Fore	52.89	326	P	P	18 51 34.4	+0.6
	baz=137,SNR=6.8						
PKME	Peaks-Kenny Pk	53.04	6	P	P	18 51 35.3	+0.9
	baz=189,SNR=6.1						
PKME	Peaks-Kenny Pk	53.04	6	IAmb	IAmb	18 51 36.7	
	comp=Z,132nm,1.7s						
G64A	Maxfield	53.09	7	P	P	18 51 35.4	+0.6
	baz=189						
G65A	Princeton	53.19	8	P	P	18 51 36.0	+0.5
	baz=191,SNR=7.8						
G65A	Princeton	53.19	8	P	P	18 51 36.4	+0.9
G65A				IAmb	IAmb	18 51 38.4	
	comp=Z,48nm,0.9s						
GGN	Saint George	53.21	8	P	P	18 51 36.5	+0.8
GGN				IAmb	IAmb	18 51 44.5	
	comp=Z,78nm,1.4s						
SFX	San Felipe	53.22	318	IAmb	IAmb	18 51 37.8	
	comp=Z,42nm,1.1s						
S22A	4UR Ranch, Cre	53.33	330	P	P	18 51 37.2	+0.1
	baz=141,SNR=18						
F59A	Saint Guilaume	53.34	3	P	P	18 51 37.4	+0.8
	baz=184						
X16A	Lo Mia Camp, P	53.36	324	IAmb	IAmb	18 51 39.3	
	comp=Z,39nm,1.0s						
ALGO	Algonquin Park	53.37	359	P	P	18 51 37.3	+0.5
	baz=178						
Q24A	Divide	53.49	332	IAmb	IAmb	18 51 39.6	
	comp=Z,89nm,1.9s						
F63A	Nahmakanta, Br	53.50	6	P	P	18 51 38.4	+0.6
	baz=189						
F60A	Warwick	53.51	4	P	P	18 51 38.8	+0.9
	baz=185						
F61A	St Evariste	53.58	5	P	P	18 51 39.5	+1.1
	baz=187						
SPX	San Pedro Mart	53.63	318	P	P	18 51 38.9	-0.6
SPX				IAmb	IAmb	18 51 40.1	
	comp=Z,67nm,1.7s						
F64A	Sherman	53.74	7	P	P	18 51 40.4	+0.8
	baz=190,SNR=9.2						
F64A	Sherman	53.74	7	P	P	18 51 40.0	+0.4
MVCO	Mesa Verde	53.77	328	P	P	18 51 40.4	+0.1
	baz=139,SNR=6.9						
MVCO	Mesa Verde	53.77	328	IAmb	IAmb	18 51 41.9	
	comp=Z,89nm,1.8s						
E58A	La Victoria	53.84	3	P	P	18 51 40.8	+0.6
	baz=184						
E57A	Chemin Saint G	53.84	2	P	P	18 51 40.6	+0.3
	baz=183						
E55A	Montcerf-Lytto	53.84	0	P	P	18 51 40.6	+0.3
	baz=180						
E60A	Ste Agathe de	53.94	4	P	P	18 51 41.2	+0.2
	baz=186						
E56A	St. Veronique	53.95	1	P	P	18 51 42.2	+1.2
	baz=182						
E61A	Lac Etchemin	54.08	5	P	P	18 51 42.8	+0.7
	baz=187						
WUAZ	Wupatki	54.10	325	P	P	18 51 43.3	+0.6
	baz=136,SNR=23						
LMN	Caledonia Moun	54.25	10	IAmb	IAmb	18 51 45.7	
	comp=Z,54nm,1.1s						
E63A	Oxbow	54.28	7	P	P	18 51 44.7	+1.2
	baz=190						
E63A	Oxbow	54.28	7	P	P	18 51 44.3	+0.8
ECSD	EROS Data Cent	54.31	342	P	P	18 51 42.9	-0.9
	baz=155,SNR=11						
ECSD	EROS Data Cent	54.31	342	IAmb	IAmb	18 51 43.9	
	comp=Z,93nm,1.8s						
E64A	Bridgewater	54.35	7	P	P	18 51 44.4	+0.4
	baz=190						
E62A	Clayton Lake	54.36	6	P	P	18 51 45.2	+1.1
	baz=188,SNR=12						
E62A	Clayton Lake	54.36	6	IAmb	IAmb	18 51 47.3	
	comp=Z,54nm,1.1s						
ISCO	Idaho Springs	54.38	332	P	P	18 51 45.0	+0.3
	baz=144,SNR=8.9						
ISCO	Idaho Springs	54.38	332	IAmb	IAmb	18 51 46.3	
	comp=Z,48nm,1.5s						
D55A	Sainte-Anne-du	54.42	1	P	P	18 51 45.4	+0.9
	baz=181						
D56A	ZEC Mazanza, M	54.46	1	P	P	18 51 45.8	+1.0
	baz=182						
GLA	Glamis	54.51	320	P	P	18 51 45.9	+0.4
	baz=131,SNR=6.3						
GLA	Glamis	54.51	320	IAmb	IAmb	18 51 47.3	
	comp=Z,90nm,1.7s						
D60A	Saint Jean D'O	54.52	5	P	P	18 51 45.8	+0.6
	baz=187						
SMCO	Snowmass	54.52	331	IAmb	IAmb	18 51 47.7	
	comp=Z,37nm,1.2s						
D59A	Saint-Raymond	54.55	4	P	P	18 51 45.7	+0.2
	baz=185						
D58A	Chemin du LacG	54.58	3	P	P	18 51 46.0	+0.3
	baz=184,SNR=5.9						
PV15	Paradox Valley	54.62	329	IAmb	IAmb	18 51 48.3	
	comp=Z,62nm,1.1s						
SPMN	Marine on St.	54.64	346	P	P	18 51 45.6	-0.5
	baz=160						
SPMN	Marine on St.	54.64	346	P	P	18 51 45.4	-0.7
PV02	Paradox Valley	54.65	329	IAmb	IAmb	18 51 48.2	
	comp=Z,40nm,1.0s						
PV13	Radium Mtn., P	54.66	329	IAmb	IAmb	18 51 48.1	
	comp=Z,46nm,0.9s						
PV03	Paradox Valley	54.74	329	IAmb	IAmb	18 51 48.6	
	comp=Z,53nm,1.3s						
PV12	Sacr Basin,	54.77	329	IAmb	IAmb	18 51 49.1	
	comp=Z,84nm,1.4s						
PV18	Skein Mesa, Pa	54.77	329	IAmb	IAmb	18 51 48.8	
	comp=Z,34nm,1.1s						
PV07	Paradox Valley	54.78	329	IAmb	IAmb	18 51 49.2	
	comp=Z,68nm,1.5s						
PV11	David Mesa, Pa	54.79	329	IAmb	IAmb	18 51 49.8	
	comp=Z,82nm,1.4s						
PV17	East Wray Mesa	54.82	329	IAmb	IAmb	18 51 49.2	
	comp=Z,98nm,1.6s						
PV16	Nyswonger Mesa	54.82	329	IAmb	IAmb	18 51 49.3	
	comp=Z,74nm,1.5s						
PV19	Morning Glory	54.85	329	IAmb	IAmb	18 51 49.5	
	comp=Z,92nm,1.7s						
D62A	Allapoint, All	54.86	6	P	P	18 51 48.2	+0.5
	baz=189,SNR=11						
D62A	Allapoint, All	54.86	6	IAmb	IAmb	18 51 50.7	
	comp=Z,40nm,1.1s						
LATQ	La Tuque	54.87	3	P	P	18 51 48.7	+0.9
	baz=184						
PV20	West Nyswonger	54.87	329	IAmb	IAmb	18 51 49.6	
	comp=Z,74nm,1.7s						
D61A	St Aubert, Com	54.87	5	P	P	18 51 48.5	+0.8
	baz=187						
PV04	Paradox Valley	54.88	329	IAmb	IAmb	18 51 49.8	
	comp=Z,94nm,1.6s						
PDMCI	Parker Dam,Lak	54.91	322	P	P	18 51 49.0	+0.7
	baz=132						
PV14	Lion Creek, Pa	54.92	329	IAmb	IAmb	18 51 49.9	
	comp=Z,98nm,1.7s						
PV22	Blue Mesa, Par	54.92	329	IAmb	IAmb	18 51 50.0	
	comp=Z,81nm,1.8s						
D63A	Stockholm	54.93	7	P	P	18 51 49.1	+0.9
	baz=190,SNR=6.9						
PV10	Paradox Valley	54.93	329	IAmb	IAmb	18 51 49.5	
	comp=Z,108nm,1.7s						
PV23	Carpenter Ridg	54.98	329	IAmb	IAmb	18 52 05.4	
	comp=Z,80nm,1.9s						
SWSC	Sam W. Stewart	55.06	319	P	P	18 51 50.0	+0.6
	baz=130						
IKP	In-Ko-Pah, Jac	55.07	319	P	P	18 51 50.1	+0.4
	baz=130,SNR=5.9						
BC3	Big Chuckawall	55.30	320	P	P	18 51 51.8	+0.6
	baz=131,SNR=11						
N23A	Red Feather La	55.41	333	P	P	18 51 51.4	-0.7
	baz=144						
F36A	Milca	55.42	346	IAmb	IAmb	18 51 52.4	
	comp=Z,64nm,1.6s						
IRM	Iron Mountain	55.43	321	P	P	18 51 52.9	+0.7
	baz=131,SNR=46						
MONP2	Monument Peak	55.43	319	P	P	18 51 52.6	+0.2
	baz=129						
BATG	Bathurst New B	55.43	9	IAmb	IAmb	18 51 54.5	
	comp=Z,37nm,0.9s						
PHWY	Pilot Hill	55.52	334	IAmb	IAmb	18 51 54.3	
	comp=Z,86nm,1.9s						
SUSD	Miller	55.69	341	P	P	18 51 53.8	+0.1
	baz=153						
BELC	Belle Mtn. Jos	55.87	320	P	P	18 51 55.8	+0.4
	baz=130,SNR=11						
O20A	White River Ci	55.88	331	P	P	18 51 55.8	+0.4
	baz=141,SNR=7.1						
TPFO	Pinon Flats	55.90	320	P	P	18 51 56.1	+0.5
	baz=130,SNR=6.4						
PFO	Pinyon Flats O	55.91	320	P	P	18 51 56.1	+0.4
	baz=130,SNR=6.9						
PFO	Pinyon Flats O	55.91	320	P	P	18 51 56.4	+0.7
PFO				pmax	pmax		
	comp=Z,38nm,1.4s						
PFO	Pinyon Flats O	55.91	320	P	P	18 51 56.4	+0.7
GMRC	Granite Mounta	56.16	321	P	P	18 51 58.2	+0.7
	baz=131,SNR=31						
MURC	Murrieta	56.38	319	P	P	18 51 59.1	+0.2
	baz=129						
HOPE	Hope Point	56.45	153	P	P	18 52 00.4	+1.4
HOPE				pmax	pmax		
	comp=Z,136nm,1.1s						
HOPE	Hope Point	56.45	153	P	P	18 52 00.4	+1.4
LSQQ	Lebel-sur-Quev	56.45	360	P	P	18 51 59.7	+0.6
	baz=179						
HEC	Hector,Ludlow	56.61	321	P	P	18 52 01.4	+0.8
	baz=130,SNR=17						
RWWY	Rawlins	56.62	333	IAmb	IAmb	18 52 02.3	
	comp=Z,81nm,1.4s						
TUQ	Turquoise Moun	56.75	322	P	P	18 52 02.1	+0.4
	baz=131,SNR=16						
SCI2	San Clemente I	56.89	318	P	P	18 52 02.7	+0.2
	baz=128						
EYMN	Ely	56.92	348	P	P	18 52 03.3	+0.8
	baz=162						
SHPR	Sheep Range	57.00	323	IAmb	IAmb	18 52 05.5	
	comp=Z,84nm,1.7s						
CIS	Catalina Islan	57.05	318	P	P	18 52 03.9	+0.2
	baz=128						
K22A	Casper	57.08	334	P	P	18 52 03.5	-0.4
	baz=144,SNR=12						
BFSC	Mount Baldy Ra	57.08	319	P	P	18 52 03.9	-0.1
	baz=129,SNR=6.7						
GSC	Goldstone, Bar	57.21	321	P	P	18 52 05.5	+0.5
	baz=130,SNR=23						
GSC	Goldstone, Bar	57.21	321	IAmb	IAmb	18 52 06.9	
	comp=Z,30nm,1.0s						
RSSD	Black Hills	57.25	337	P	P	18 52 05.3	+0.1
	baz=147						
RSSD	Black Hills	57.25	337	P	P	18 52 05.0	-0.2
RSSD				pmax	pmax		
	comp=Z,31nm,1.2s						
RSSD	Black Hills	57.25	337	P	P	18 52 05.0	-0.2
CHGQ	Chibougamau	57.33	2	P	P	18 52 05.9	+0.6
	baz=182						
DECC	Green Verdugo	57.52	319	P	P	18 52 07.4	+0.3
	baz=128						
EDW2	Edwards Air Fo	57.70	320	P	P	18 52 08.6	+0.3
	baz=129,SNR=15						
SNCC	San Nicolas Is	57.70	317	P	P	18 52 09.2	+0.9
	baz=127						
PMSA	Palmer Station	57.71	174	P	P	18 52 08.2	+0.4
	comp=Z,8.5nm,0.8s,baz=25,slow=11,SNR=2.0						
PMSA	Palmer Station	57.71	174	P	P	18 52 08.4	+0.6
PMSA				IAmb	IAmb	18 52 36.5	
	comp=Z,59nm,1.4s						
B35A	Bob, Littlefor	57.80	346	IAmb	IAmb	18 52 08.6	
	comp=Z,71nm,1.8s						
LRMC	Laurel Mtn Rad	57.88	321	P	P	18 52 10.4	+0.8
	baz=130						
TPNV	Topopah Spring	57.95	323	P	P	18 52 10.9	+0.8
	baz=132,SNR=15						
FURC	Furnace Creek,	58.00	322	P	P	18 52 11.0	+0.7
	baz=131,SNR=7.4						
MPMC	Manual Prospec	58.12	321	P	P	18 52 11.5	0.0
	baz=130,SNR=15						
SCZ2	Santa Cruz Isl	58.22	318	P	P	18 52 11.9	-0.1
	baz=127						
DUG	Dugway, Tooele	58.25	328	P	P	18 52 12.6	+0.4
	baz=136,SNR=15						
AGMN	Agassiz Nation	58.27	345	P	P	18 52 11.7	-0.3
	baz=157						
AGMN	Agassiz Nation	58.27	345	IAmb	IAmb	18 52 18.6	
	comp=Z,30nm,0.9s						
ARVC	Arvin	58.38	320	P	P	18 52 13.1	0.0
	baz=128						
ISA	Isabella, Lake	58.49	320	P	P	18 52 14.5	+0.6
	baz=129,SNR=13						
ISA	Isabella, Lake	58.49	320	IAmb	IAmb	18 52 15.6	
	comp=Z,78nm,1.9s						
R11A	Troy Canyon, C	58.49	324	P	P	18 52 14.4	+0.5
	baz=133,SNR=20						
R11A	Troy Canyon, C	58.49	324	IAmb	IAmb	18 52 16.0	
	comp=Z,58nm,1.6s						
PD31	Pinedale Array	58.54	332	IAmb	IAmb	18 52 14.9	
	comp=Z,55nm,1.7s						
PDAR	Pinedale Array	58.54	332	P	P	18 52 13.6	-0.7
	comp=Z,3.8nm,0.7s,baz=130,slow=8.0,SNR=30						
PDAR				PcP	PcP	18 53 04.1	-0.6
	comp=Z,3.9nm,0.8s,baz=127,slow=5.4,SNR=5.9						
PDAR				LR	LR	19 19 02.3	
	comp=Z,251nm,18.3s,baz=132,slow=38						
PDAR	Pinedale Array	58.54	332	P	P	18 52 13.0	-1.3
PDAR				PcP	PcP	18 53 03.1	-1.6
BW06	Boulder Array	58.54	332	P	P	18 52 13.2	-1.1
	baz=141,SNR=11						
BW06	Boulder Array	58.54	332	IAmb	IAmb	18 52 14.9	
	comp=Z,66nm,1.8s						
BW06				PcP	PcP	18 53 02.8	-1.8
CWC	Cottonwood Cre	58.73	321	P	P	18 52 15.9	+0.2
	baz=130						
PKM	Mcpherson Peak	58.88	319	P	P	18 52 17.1	+0.4
	baz=127,SNR=12						
MDND	Maddock	58.92	342	P	P	18 52 16.4	-0.1
	baz=153						
DRLN	Deer Lake	59.02	14	P	P	18 52 18.1	+1.0
TIN	Tinemaha, Big	59.22	322	P	P	18 52 19.7	+0.7
	baz=130						
SMMC	Simmler	59.25	319	P	P	18 52 19.8	+0.7
	baz=127,SNR=7.8						
REDW	Red Top Meadow	59.61	331	IAmb	IAmb	18 52 22.7	
	comp=Z,45nm,1.4s						
OMMB	Old Mammoth Mi	60.05	322	IAmb	IAmb	18 52 26.5	
	comp=Z,32nm,0.9s						
NV11	Mina Array Sit	60.06	323	IAmb	IAmb	18 52 26.6	
	comp=Z,68nm,1.7s						
ULM	Lac du Bonnet	60.08	346	P	P	18 52 23.2	-1.2
	comp=Z,55nm,1.2s,baz=147,slow=7.2,SNR=11						
ULM				LR	LR	19 20 09.0	
	comp=Z,737nm,20.7s,baz=148,slow=38						
ULM	Lac du Bonnet	60.08	346	IAmb	IAmb	18 52 30.8	
	comp=Z,51nm,1.1s						
FLWY	Flagg Ranch	60.09	332	IAmb	IAmb	18 52 40.6	
	comp=Z,57nm,1.3s						
MDPB	Devils Postpil	60.11	322	IAmb	IAmb	18 52 26.7	
	comp=Z,21nm,0.8s						
NVAR	Mina Array Bea	60.14	323	P	P	18 52 25.7	+0.2
	comp=Z,7.7nm,0.7s,baz=136,slow=7.3,SNR=34						
NVAR				LR	LR	19 17 42.9	
	comp=Z,344nm,21.3s,baz=118,slow=35						
NVAR	Mina Array Bea	60.14	323	P	P	18 52 25.0	-0.5
LHV	Little Huntoon	60.15	323	IAmb	IAmb	18 52 27.3	
	comp=Z,26nm,0.9s						
RLMT	Red Lodge	60.24	334	P	P	18 52 26.0	0.0
	baz=142,SNR=5.3						
RLMT	Red Lodge	60.24	334	IAmb	IAmb	18 52 27.0	
	comp=Z,63nm,1.8s						
H17A	Grant Village	60.27	332	IAmb	IAmb	18 52 33.6	
	comp=Z,42nm,1.6s						
PMPB	Monarch Peak	60.32	319	P	P	18 52 26.8	+0.2
PMPB				IAmb	IAmb	18 52 28.0	
	comp=Z,46nm,1.2s						
KVN	Kaiserville	60.43	323	IAmb	IAmb	18 52 28.8	
	comp=Z,46nm,1.7s						
DGMT	Dagmar	60.98	339	P	P	18 52 31.3	+0.6
	baz=148						
HLID	Hailey	61.50	329	P	P	18 52 35.1	+0.5
	baz=136,SNR=18						
HLID	Hailey	61.50	329	IAmb	IAmb	18 52 36.0	
	comp=Z,70nm,1.9s						
BOZ	Bozeman (W)	61.67	333	P	P	18 52 35.6	0.0
	baz=140,SNR=22						
BOZ	Bozeman (W)	61.67	333	IAmb	IAmb	18 52 37.6	
	comp=Z,55nm,1.4s						
AFDM	Forest Hills D	62.09	322	P	P	18 52 38.8	+0.4
AFDM				IAmb	IAmb	18 52 39.7	
	comp=Z,68nm,1.9s						
MFID	Camas Ranch	62.12	328	IAmb	IAmb	18 52 40.3	
	comp=Z,44nm,1.0s						
EGMT	Eagleton	62.74	335	P	P	18 52 42.4	-0.3
	baz=142,SNR=5.9						
EGMT	Eagleton	62.74	335	IAmb	IAmb	18 52 44.4	
	comp=Z,33nm,1.2s						
SCHQ	Schefferville	62.75	6	P	P	18 52 43.2	+0.8
	comp=Z,4.4nm,0.6s,baz=244,slow=3.2,SNR=2.9						
SCHQ				LR	LR	19 21 43.2	
	comp=Z,687nm,19.2s,baz=229,slow=38						
SCHQ	Schefferville	62.75	6	IAmb	IAmb	18 52 43.8	
	comp=Z,68nm,1.6s						
ORV	Oroville	62.79	322		PcP	18 53 23.6	+2.1
TAOE	Nuku Hiva Isla	63.03	264	eLR	LR	19 11 22.4	
	comp=Z,283nm,25.2s						
O03E	Paynes Creek	63.42	322	P	P	18 52 46.6	-0.7
	baz=128,SNR=8.2						
MSO	Missoula	63.65	332	P	P	18 52 49.0	+0.2
	baz=138,SNR=19						
O02D	Mt. Diablo Mer	63.95	322	P	P	18 52 50.6	-0.3
	baz=127						
WDC	Whiskeytown Da	64.04	322	IAmb	IAmb	18 52 50.8	
	comp=Z,59nm,

J05D	**Fort Rock, OR**	**64.96**	**325**	P		**P**		**18 52 57.6**	**+0.2**	
	baz=130,SNR=8.1									
G08A	**Pilot Rock**	**65.04**	**328**	IAmb		IAmb		18 52 59.4		
	comp=Z,79nm,1.7s									
PINE	**Pine Mountain**	**65.12**	**326**	IAmb		IAmb		18 53 01.5		
	comp=Z,27nm,0.9s									
WALA	**Waterton Lakes**	**65.30**	**334**	IAmb		IAmb		18 53 00.6		
	comp=Z,87nm,1.9s									
J04D	**Umpqua Nationa**	**65.43**	**325**	P		**P**		**18 53 00.7**	**+0.1**	
	baz=129,SNR=8.0									
CMLA	**Cha da Macela**	**65.47**	**43**	P		**P**		**18 52 58.5**	**-2.2**	
CMLA				pmax		pmax				
	comp=Z,493nm,1.9s									
CMLA	**Cha da Macela**	**65.47**	**43**			**P**		**18 52 58.5**	**-2.2**	
L02E	**Cave Junction**	**65.63**	**323**	P		**P**		**18 53 01.5**	**-0.2**	
	baz=127									
I05D	**Terrebonne, OR**	**65.69**	**326**	P		**P**		**18 53 02.6**	**+0.5**	
	baz=130,SNR=5.9									
FFC	**Flin Flon**	**65.72**	**344**	P		**P**		**18 53 01.9**	**0.0**	
FFC				pmax		pmax				
	comp=Z,88nm,1.9s									
FFC	**Flin Flon**	**65.72**	**344**	P		**P**		**18 53 01.9**	**0.0**	
FFC				IAmb		IAmb		18 53 02.8		
	comp=Z,88nm,1.9s									
I04A	**Tendick Farm,**	**65.95**	**325**	P		**P**		**18 53 03.1**	**-0.6**	
	baz=129									
K02D	**Willamette Mer**	**66.00**	**324**	P		**P**		**18 53 04.4**	**+0.3**	
	baz=127,SNR=6.6									
HAWA	**Hanford**	**66.08**	**329**	IAmb		IAmb		18 53 06.0		
	comp=Z,60nm,1.8s									
NEW	**Newport**	**66.18**	**332**	P		**P**		**18 53 05.1**	**-0.1**	
	baz=135,SNR=8.0									
G05D	**Wamic, OR**	**66.26**	**327**	P		**P**		**18 53 05.7**	**0.0**	
	baz=130									
E07A	**Sunnyside**	**66.35**	**329**	IAmb		IAmb		18 53 08.0		
	comp=Z,24nm,0.9s									
H04A	**Detroit Lake**	**66.38**	**326**	IAmb		IAmb		18 53 08.2		
	comp=Z,51nm,1.6s									
F04A	**Amboy**	**67.30**	**327**	IAmb		IAmb		18 53 14.2		
	comp=Z,25nm,0.8s									
B08A	**Colville Reser**	**67.31**	**331**	IAmb		IAmb		18 53 13.4		
	comp=Z,86nm,2.0s									
LON	**Longmire**	**67.50**	**328**	IAmb		IAmb		18 53 14.6		
	comp=Z,63nm,2.0s									
E04D	**Cinebar**	**67.77**	**327**	P		**P**		**18 53 15.8**	**+0.6**	
	baz=130									
D05A	**Enumclaw**	**67.87**	**328**	IAmb		IAmb		18 53 18.5		
	comp=Z,47nm,1.1s									
B06A	**Marblemount**	**68.48**	**330**	IAmb		IAmb		18 53 21.4		
	comp=Z,17nm,0.7s									
B05A	**Bryant**	**68.62**	**329**	P		**P**		**18 53 20.5**	**0.0**	
	baz=130									
D03D	**Eldon**	**68.67**	**328**	P		**P**		**18 53 21.0**	**+0.2**	
	baz=129									
PMOZ	**Porto Moniz, M**	**69.14**	**51**	P		**P**		**18 53 23.7**	**-0.5**	
A04D	**Lummi Island**	**69.23**	**329**	P		**P**		**18 53 25.2**	**+1.0**	
	baz=130									
SHEL	**Horse Pasture**	**69.40**	**104**	P		**P**		**18 53 24.2**	**-1.9**	
SHEL				pmax		pmax				
	comp=Z,178nm,1.2s									
SHEL	**Horse Pasture**	**69.40**	**104**	P		**P**		**18 53 24.2**	**-1.9**	
PGC	**Sidney**	**69.56**	**329**	IAmb		IAmb		18 53 28.1		
	comp=Z,82nm,1.8s									
TBI	**Tubuai**	**71.49**	**248**	*e*LR		LR		19 15 16.4		
	comp=Z,174nm,24.8s									
PPTF	**Pamatai, Papee**	**71.73**	**254**	P		**P**		**18 53 39.5**	**-0.8**	
PPT2	**Papeete2**	**71.74**	**254**	*e*LR		LR		19 15 32.0		
	comp=Z,186nm,25.2s									
PPT	**Papeete**	**71.74**	**254**	LR		LR		19 19 01.7		
	comp=Z,254nm,18.3s,baz=78,slow=31									
LIC	**Lamto**	**72.51**	**81**	*e*PKP1		**P**		**18 53 45.2**	**+0.2**	
	comp=Z,221nm,1.6s									
TIC	**Toumodi**	**72.59**	**81**	*e*PKP1		**P**		**18 53 45.9**	**+0.4**	
NRS	**Narsarsuaq**	**72.75**	**15**	P		**P**		**18 53 43.1**	**-2.2**	
NRS				pmax		pmax				
	comp=Z,114nm,1.4s									
NRS	**Narsarsuaq**	**72.75**	**15**	P		**P**		**18 53 43.1**	**-2.2**	
DBIC	**Dimbokro**	**72.76**	**81**	P		**P**		**18 53 46.7**	**+0.3**	
	comp=Z,46nm,0.8s,baz=246,slow=5.9,SNR=33									
DBIC				LR		LR		19 22 50.2		
	comp=Z,723nm,21.4s,baz=234,slow=34									
DBIC	**Dimbokro**	**72.76**	**81**	P		**P**		**18 53 46.3**	**-0.2**	
DBIC				pmax		pmax				
	comp=Z,101nm,1.1s									
DBIC	**Dimbokro**	**72.76**	**81**	P		**P**		**18 53 46.2**	**-0.2**	
KIC	**Kosan Boka**	**72.82**	**81**	*e*PKP1		**P**		**18 53 46.2**	**-0.6**	
	comp=Z,174nm,1.2s									
KOWA	**Kowa**	**75.07**	**73**	P		**P**		**18 53 59.8**	**-0.1**	
KOWA				IAmb		IAmb		18 54 03.4		
	comp=Z,20nm,0.7s									
TTIG	**Tnine Tigouga,**	**75.28**	**56**	P		**P**		**18 54 04.0**	**+2.9**	
	SNR=6.7									
TTIG				P		**P**		**18 54 04.0**	**+2.9**	
	SNR=6.7									
VNA3	**Neumayer Olymp**	**75.43**	**162**	P		**P**		**18 54 02.6**	**+1.5**	
VNA1	**Neumayer--Stat**	**75.68**	**161**	P		**P**		**18 54 03.7**	**+1.4**	
YKA	**Yellowknife Ar**	**75.83**	**343**	P		**P**		**18 54 02.8**	**-0.5**	
	comp=Z,5.3nm,0.9s,baz=137,slow=6.9,SNR=7.7									
YKA				LR		LR		19 30 47.8		
	comp=Z,312nm,19.2s,baz=0.0,slow=38									
VNA2	**Neumayer--Watz**	**76.03**	**162**	P		**P**		**18 54 06.0**	**+1.5**	
OUZM	**OUZ**	**76.77**	**56**	P		**P**		**18 54 12.0**	**+2.4**	
	SNR=10									
PFVI	**Vila Bisbo**	**77.12**	**49**	P		**P**		**18 54 11.6**	**+0.4**	
MORF	**Marmelete**	**77.31**	**49**	*e*P		**P**		**18 54 12.1**	**-0.3**	
	comp=Z,70nm,1.4s									
ZGR	**Zagora**	**77.48**	**57**	P		**P**		**18 54 16.0**	**+2.4**	
	SNR=11									
ZHG	**ZHG**	**77.63**	**53**	P		**P**		**18 54 15.9**	**+1.7**	
	SNR=11									
SNAA	**Sanae**	**77.65**	**162**	P		**P**		**18 54 13.7**	**+0.1**	
SNAA	**Sanae**	**77.65**	**162**	⇓*e*P		**P**		**18 54 13.4**	**-0.2**	
SNAA				pmax		pmax				
	comp=Z,82nm,1.0s									
SNAA	**Sanae**	**77.65**	**162**	P		**P**		**18 54 13.0**	**-0.7**	
PNCL	**Nicolau / Gran**	**77.68**	**48**	*e*P		**P**		**18 54 16.3**	**+2.0**	
	comp=Z,55nm,1.9s									
TZRR	**Tazzarine**	**77.71**	**56**	P		**P**		**18 54 18.0**	**+3.2**	
	SNR=13									
PBDV	**Barranco-do-Ve**	**77.83**	**49**	*e*P		**P**		**18 54 16.1**	**+0.9**	
	comp=Z,68nm,1.7s									
PCVE	**Castro Verde**	**77.88**	**49**	*e*P		**P**		**18 54 18.3**	**+2.8**	
	comp=Z,38nm,2.6s									
PVAQ	**Vaqueiros**	**78.05**	**49**	*e*P		**P**		**18 54 18.6**	**+2.2**	
	comp=Z,30nm,1.6s									
PVAQ	**Vaqueiros**	**78.05**	**49**	*e*S		**S**		**19 04 19.1**	**+8.5**	
PVAQ	**Vaqueiros**	**78.05**	**49**	*e*LR		LR		19 20 23.1		
	comp=Z,277nm,20.0s									
PVAQ	**Vaqueiros**	**78.05**	**49**	P		**P**		**18 54 16.3**	**-0.1**	
PVAQ				IAmb		IAmb		18 54 34.3		
	comp=Z,84nm,1.8s									
PBEJ	**Beja**	**78.14**	**49**	*e*P		**P**		**18 54 19.6**	**+2.7**	
	comp=Z,37nm,1.6s									
PMTG	**Montargil**	**78.23**	**48**	*e*P		**P**		**18 54 19.2**	**+1.8**	
	comp=Z,31nm,1.8s									
PCAS	**Casmilo, Conde**	**78.37**	**47**	*e*P		**P**		**18 54 17.5**	**-0.6**	
	comp=Z,43nm,1.5s									
COI	**Coimbra**	**78.49**	**46**	P		**P**		**18 54 17.9**	**-0.8**	
COI				pmax		pmax				
	comp=Z,78nm,1.1s									
COI	**Coimbra**	**78.49**	**46**	*e*P		**P**		**18 54 21.3**	**+2.6**	
	comp=Z,45nm,0.9s									
COI	**Coimbra**	**78.49**	**46**	P		**P**		**18 54 17.9**	**-0.8**	
DLBC	**Dease Lake**	**78.64**	**334**	IAmb		IAmb		18 54 21.1		
	comp=Z,61nm,1.5s									
CZD	**Col de Zad**	**78.78**	**54**	P		**P**		**18 54 24.4**	**+3.5**	
	SNR=9.4									
PMRV	**Marv??o**	**78.96**	**47**	*e*LR		LR		19 27 20.8		
	comp=Z,292nm,20.0s									
PVIS	**Viseu**	**79.03**	**46**	*e*P		**P**		**18 54 22.4**	**+0.6**	
	comp=Z,48nm,1.6s									
PCBR	**Castelo Branco**	**79.03**	**47**	*e*P		**P**		**18 54 23.6**	**+1.8**	
	comp=Z,28nm,2.0s									
MDT	**Midelt**	**79.07**	**55**	P		**P**		**18 54 25.0**	**+2.7**	
	SNR=8.3									
MTE	**Manteigas**	**79.17**	**46**	*e*P		**P**		**18 54 24.4**	**+1.8**	
	comp=Z,29nm,1.6s									
MTE	**Manteigas**	**79.17**	**46**	*e*LR		LR		19 20 49.0		
	comp=Z,285nm,18.0s									
PGAV	**Gavieira, Arco**	**79.20**	**45**	*e*LR		LR		19 21 26.6		
	comp=Z,419nm,18.0s									
PCAB	**Cabril**	**79.28**	**45**	*e*P		**P**		**18 54 23.4**	**+0.3**	
	comp=Z,48nm,1.6s									
POLO	**Lamas de Olo**	**79.33**	**45**	*e*P		**P**		**18 54 24.3**	**+0.8**	
	comp=Z,26nm,1.3s									
PVRL	**Vila Real**	**79.35**	**46**	*e*P		**P**		**18 54 25.4**	**+1.9**	
	comp=Z,23nm,1.3s									

MVO	**Moncorvo**	**79.80**	**46**	*e*P		**P**		**18 54 28.0**	**+2.0**	
	comp=Z,42nm,1.2s									
MVO	**Moncorvo**	**79.80**	**46**	*e*S		**S**		**19 04 30.2**	**+0.9**	
MVO	**Moncorvo**	**79.80**	**46**	*e*LR		LR		19 22 15.2		
	comp=Z,254nm,20.0s									
PBRG	**Braganca**	**80.22**	**45**	*e*P		**P**		**18 54 29.3**	**+1.1**	
	comp=Z,26nm,1.6s									
TOA0	**Torodi Ar. Sit**	**80.25**	**75**	P		**P**		**18 54 28.1**	**-0.8**	
TOA0				IAmb		IAmb		18 54 30.4		
	comp=Z,37nm,1.2s									
TORD	**Torodi Ar. Bea**	**80.25**	**75**	P		**P**		**18 54 28.8**	**-0.1**	
	comp=Z,16nm,1.0s,baz=284,slow=5.9,SNR=52									
TORD				LR		LR		19 29 27.8		
	comp=Z,302nm,18.6s,baz=260,slow=35									
TORD	**Torodi Ar. Bea**	**80.25**	**75**	P		**P**		**18 54 28.1**	**-0.8**	
JIS	**Juneau Island**	**80.46**	**333**	IAmb		IAmb		18 54 31.7		
	comp=Z,91nm,1.7s									
ICESG	**Greenland Ices**	**80.68**	**13**	*i* P		**P**		**18 54 30.5**	**0.0**	
ICESG				IAmb		IAmb		18 54 33.5		
	comp=Z,54nm,1.3s									
PAB	**San Pablo**	**81.23**	**48**	P		**P**		**18 54 34.4**	**+0.6**	
PAB				pmax		pmax				
	comp=Z,14nm,1.0s									
PAB	**San Pablo**	**81.23**	**48**	P		**P**		**18 54 34.4**	**+0.6**	
FIGM	**Figuig**	**81.62**	**56**	P		**P**		**18 54 38.7**	**+2.6**	
	SNR=12									
WHY	**Whitehorse**	**81.93**	**335**	IAmb		IAmb		18 54 39.1		
	comp=Z,46nm,1.6s									
NVL	**N'lazarevskaya**	**82.27**	**160**	⇑*i*P		**P**		**18 54 38.9**	**+0.4**	
QSPA	**South Pole Qui**	**82.47**	**180**	P		**P**		**18 54 39.7**	**-0.2**	
RES	**Resolute Bay**	**82.96**	**355**	LR		LR		19 33 33.9		
	comp=Z,239nm,20.7s,baz=145,slow=37									
HYT	**Haines Junctio**	**83.12**	**334**	IAmb		IAmb		18 54 45.3		
	comp=Z,54nm,1.7s									
SUMG	**Summit**	**83.70**	**11**	*i* P		**P**		**18 54 46.7**	**+0.4**	
SUMG				pmax		pmax				
	comp=Z,53nm,0.8s									
SUMG	**Summit**	**83.70**	**11**	P		**P**		**18 54 46.3**	**0.0**	
SUMG	**Summit**	**83.70**	**11**	*i* P		**P**		**18 54 46.7**	**+0.4**	
	comp=Z,53nm,0.8s									
SUMG	**Summit**	**83.70**	**11**	*i* P		**P**		**18 54 46.8**	**+0.4**	
SUMG				IAmb		IAmb		18 54 49.0		
	comp=Z,53nm,0.8s									
DAWY	**Dawson**	**85.44**	**337**	IAmb		IAmb		18 54 55.8		
	comp=Z,70nm,2.0s									
TAM	**Tamanrasset**	**85.55**	**66**	P		**P**		**18 54 57.0**	**+0.5**	
TAM				pmax		pmax				
	comp=Z,24nm,1.2s									
TAM	**Tamanrasset**	**85.55**	**66**	P		**P**		**18 54 57.0**	**+0.5**	
TAM				IAmb		IAmb		18 54 59.3		
	comp=Z,24nm,1.2s									
INK	**Inuvik**	**85.55**	**342**	LR		LR		19 36 10.5		
	comp=Z,382nm,21.6s,baz=130,slow=38									
INK	**Inuvik**	**85.55**	**342**	IAmb		IAmb		18 54 56.3		
	comp=Z,69nm,1.8s									
MCARA	**McCarthy VSAT**	**85.77**	**334**	IAmb		IAmb		18 54 59.0		
	comp=Z,36nm,0.9s									
K27K	**Chicken**	**86.48**	**336**	P		**P**		**18 55 00.4**	**+0.4**	
	baz=115,SNR=24									
N25K	**Chitina, Valde**	**86.55**	**334**	P		**P**		**18 55 01.2**	**+0.7**	
	baz=113									
N25K	**Chitina, Valde**	**86.55**	**334**	IAmb		IAmb		18 55 02.8		
	comp=Z,67nm,1.9s									
L26K	**Log Cabin Wild**	**86.58**	**335**	P		**P**		**18 55 00.3**	**-0.2**	
	baz=114									
KLU	**Klutina**	**87.10**	**333**	IAmb		IAmb		18 55 05.0		
	comp=Z,26nm,0.8s									
SCRK	**Sand Creek**	**87.23**	**336**	P		**P**		**18 55 03.7**	**-0.1**	
	baz=113									
M24K	**Tolsona, Glenn**	**87.44**	**334**	P		**P**		**18 55 04.9**	**+0.2**	
	baz=111,SNR=8.0									
DHY	**Denali Highway**	**88.30**	**334**	IAmb		IAmb		18 55 10.8		
	comp=Z,30nm,1.4s									
DBG	**Daneborg**	**88.67**	**13**	*i* P		**P**		**18 55 11.7**	**+1.4**	
RC01	**Rabbit Creek A**	**88.69**	**332**	P		**P**		**18 55 10.5**	**-0.2**	
	baz=108									
IL31		**88.70**	**336**	IAmb		IAmb		18 55 11.3		
	comp=Z,31nm,1.4s									
ILAR	**Eielson Array**	**88.70**	**336**	P		**P**		**18 55 10.2**	**-0.5**	
	comp=Z,6.7nm,0.9s,baz=145,slow=2.9,SNR=33									
ILAR				PP		**PP**		**18 58 36.5**	**-2.8**	
	comp=Z,5.2nm,1.1s,baz=109,slow=7.0,SNR=10									
ILAR				LR		LR		19 37 20.4		
	comp=Z,332nm,21.1s,baz=111,slow=37									
ILAR	**Eielson Array**	**88.70**	**336**	P		**P**		**18 55 09.8**	**-0.8**	
ILAR	**Eielson Array**	**88.70**	**336**	P		**P**		**18 55 09.8**	**-0.8**	
POKR	**Poker Flat Res**	**89.04**	**336**	P		**P**		**18 55 12.5**	**+0.3**	
	baz=110									
SSB	**Saint Sauveur**	**89.05**	**44**	P		**P**		**18 55 12.5**	**-0.2**	
SSB				pmax		pmax				
	comp=Z,13nm,1.1s									
SSB	**Saint Sauveur**	**89.05**	**44**	P		**P**		**18 55 12.5**	**-0.2**	
COLA	**College**	**89.12**	**336**	P		**P**		**18 55 12.5**	**0.0**	
COLA				pmax		pmax				
	comp=Z,150nm,1.9s									
COLA	**College**	**89.12**	**336**	P		**P**		**18 55 12.5**	**0.0**	
VNDA	**Vanda**	**89.12**	**191**	P		**P**		**18 55 12.9**	**+0.4**	
	comp=Z,3.9nm,0.9s,baz=117,slow=3.1,SNR=21									
VNDA				LR		LR		19 26 58.9		
	comp=Z,258nm,22.0s,baz=124,slow=30									
VNDA	**Vanda**	**89.12**	**191**	P		**P**		**18 55 13.4**	**+1.0**	
VNDA				pmax		pmax				
	comp=Z,7.0nm,1.0s									
VNDA	**Vanda**	**89.12**	**191**	P		**P**		**18 55 13.4**	**+1.0**	
TCOL	**CIGO, UAF Yank**	**89.12**	**336**	P		**P**		**18 55 12.4**	**-0.2**	
	baz=110									
MCK	**McKinley**	**89.18**	**335**	P		**P**		**18 55 13.0**	**+0.1**	
	baz=109									
CUT	**Chulitna**	**89.34**	**333**	P		**P**		**18 55 13.5**	**-0.1**	
	baz=108									
NEA2	**Nenana**	**89.52**	**336**	P		**P**		**18 55 14.4**	**0.0**	
	baz=109									
I23K	**Minto, Yukon-K**	**89.82**	**336**	P		**P**		**18 55 15.7**	**-0.1**	
	baz=109									
KTH	**Kantishna Hill**	**89.97**	**334**	IAmb		IAmb		18 55 18.5		
	comp=Z,20nm,1.0s									
DOU	**Dourbes**	**90.06**	**40**	PcP		**P**		**18 55 18.6**	**+1.3**	
BPAW	**Bear Paw Mtn.**	**90.16**	**335**	IAmb		IAmb		18 55 19.3		
	comp=Z,42nm,1.1s									
BMRD	**Maredsous**	**90.21**	**39**	PcP		**P**		**18 55 19.2**	**+1.2**	
MLY	**Manley**	**90.33**	**336**	P		**P**		**18 55 18.0**	**-0.3**	
	baz=107									
DAG	**Danmarks Havn**	**90.38**	**11**	*i* P		**P**		**18 55 18.0**	**-0.2**	
DAG				pmax		pmax				
	comp=Z,13nm,1.0s									
DAG	**Danmarks Havn**	**90.38**	**11**	*i* P		**P**		**18 55 18.0**	**-0.2**	
	comp=Z,13nm,1.0s									
DAG	**Danmarks Havn**	**90.38**	**11**	*i* P		**P**		**18 55 18.0**	**-0.2**	
DAG				IAmb		IAmb		18 55 20.3		
	comp=Z,13nm,1.0s									
BGES	**Gesves**	**90.43**	**39**	PcP		**P**		**18 55 20.0**	**+0.9**	
BNI	**Bardonecchia**	**90.49**	**45**	P		**P**		**18 55 20.3**	**+0.7**	
BNI				pmax		pmax				
	comp=Z,19nm,1.3s									
BNI	**Bardonecchia**	**90.49**	**45**	P		**P**		**18 55 20.3**	**+0.7**	
BCLA	**Clavier**	**90.57**	**39**	P		**P**		**18 55 18.1**	**-1.6**	
	comp=Z,17nm,2.2s									
COLD	**Coldfoot**	**90.79**	**338**	P		**P**		**18 55 21.1**	**+0.8**	
	baz=108									
WLF	**Walferdange**	**90.97**	**40**	PcP		**P**		**18 55 21.8**	**+0.2**	
KEST	**Kesra**	**90.97**	**54**	P		**P**		**18 55 22.8**	**+0.8**	
	comp=Z,11nm,0.9s,baz=125,slow=5.5,SNR=8.5									
KEST				LR		LR		19 35 27.2		
	comp=Z,119nm,20.2s,baz=214,slow=35									
KEST	**Kesra**	**90.97**	**54**	P		**P**		**18 55 22.8**	**+0.8**	
TOLK	**Toolik Lake Re**	**91.01**	**339**	P		**P**		**18 55 21.4**	**0.0**	
	baz=108									
TOLK	**Toolik Lake Re**	**91.01**	**339**	IAmb		IAmb		18 56 59.8		
	comp=Z,46nm,2.0s									
MEM	**Membach**	**91.05**	**39**	P		**P**		**18 55 20.4**	**-1.5**	
MEM				PcP		**PcP**		**18 55 22.8**	**-0.1**	
TSUM	**Tsumeb**	**91.26**	**109**	P		**P**		**18 55 24.6**	**+0.8**	
TSUM				IAmb		IAmb		18 55 26.8		
	comp=Z,40nm,1.4s									
ECH	**Echery**	**91.36**	**42**	IAmb		IAmb		18 55 25.5		
	comp=Z,19nm,1.2s									
SYO	**Syowa Base**	**91.92**	**161**	⇑*i*P		**P**		**18 55 24.8**	**-0.8**	
SYO	**Syowa Base**	**91.92**	**161**	⇑*i*pP		**P**		**18 55 28.0**	**+2.4**	
SYO	**Syowa Base**	**91.92**	**161**	⇓*e*sP		P		18 55 30.4	+4.8	
DAVA	**Damuels**	**93.03**	**43**	*e*P		**P**		**18 55 32.9**	**+1.5**	
	comp=Z,11nm,1.2s									
NOR	**Nord**	**93.27**	**7**	*i* P		**P**		**18 55 31.5**	**-0.1**	
NOR				pmax		pmax				
	comp=Z,10.0nm,1.3s									
NOR	**Nord**	**93.27**	**7**	*i* P		**P**		**18 55 31.5**	**-0.1**	
	comp=Z,9.6nm,1.3s									

NOR	**Nord**	**93.27**	**7**	*i* P		**P**		**18 55 31.5**	**-0.1**	
NOR				IAmb		IAmb		18 55 33.4		
	comp=Z,9.6nm,1.3s									
FETA	**Feichten**	**93.57**	**43**	*e*P		**P**		**18 55 35.2**	**+1.4**	
	comp=Z,7.4nm,1.4s									
MOTA	**Moosalm**	**93.87**	**43**	*e*P		**P**		**18 55 36.2**	**+0.9**	
	comp=Z,9.1nm,1.2s									
SQTA	**Sankt Quirin**	**93.92**	**43**	*e*P		**P**		**18 55 36.9**	**+1.5**	
	comp=Z,13nm,1.4s									
TEOL	**Teolo**	**94.02**	**45**	IAmb		IAmb		18 55 38.4		
	comp=Z,13nm,0.7s									
WATA	**Walderalm**	**94.19**	**43**	*e*P		**P**		**18 55 37.9**	**+1.3**	
	comp=Z,9.1nm,1.4s									
WTTA	**Wattenberg**	**94.22**	**43**	*e*P		**P**		**18 55 38.1**	**+1.3**	
	comp=Z,12nm,1.5s									
ABTA	**Abfaltersbach**	**94.76**	**44**	*e*P		**P**		**18 55 40.7**	**+1.4**	
	comp=Z,10nm,1.3s									
KBA	**Koelnbreinsper**	**95.36**	**43**	*e*P		**P**		**18 55 43.6**	**+1.5**	
	comp=Z,2.1nm,0.6s									
NOA	**NORSAR Array B**	**95.47**	**29**	LR		LR		19 38 54.0		
	comp=Z,80nm,18.7s,baz=265,slow=36									
CLL	**Collm**	**95.53**	**39**	*e*P		**P**		**18 55 43.0**	**+0.5**	
	comp=Z,18nm,1.7s									
CLL				*i*				18 55 55.1		
CLL				*i*				18 58 36.4		
CLL				*e*PP		**PP**		**18 59 35.0**	**+1.5**	
CLL				*e*PPS		PPS		19 09 00.0		
CLL	**Collm**	**95.53**	**39**	*e*P		**P**		**18 55 43.0**	**+0.5**	
CLL				*i*				18 55 55.1		
CLL				pmax		pmax				
	comp=Z,18nm,1.7s									
KHC	**Kasperske Hory**	**95.70**	**41**	*e*P		P		18 55 38.5	-4.9	
KHC	**Kasperske Hory**	**95.70**	**41**	*e*P		P		18 55 38.5	-4.9	
GERES	**GERESS Array B**	**95.76**	**42**	P		**P**		**18 55 43.3**	**-0.5**	
	comp=Z,1.1nm,0.9s,baz=270,slow=4.0,SNR=7.3									
GERES				PKKP		**PKKPbc**		**19 12 33.9**	**-1.5**	
	comp=Z,0.2nm,0.5s,baz=33,slow=2.3,SNR=3.5									
GERES	**GERESS Array B**	**95.76**	**42**	P		**P**		**18 55 43.6**	**-0.2**	
GERES	**GERESS Array B**	**95.76**	**42**	P		**P**		**18 55 43.6**	**-0.2**	
MOA	**Molln**	**96.05**	**43**	*e*P		**P**		**18 55 46.3**	**+1.3**	
	comp=Z,6.0nm,1.3s									
BRG	**Berggiesshubel**	**96.08**	**40**	*e*P		**P**		**18 55 46.7**	**+1.6**	
	comp=Z,28nm,2.0s									
BRG	**Berggiesshubel**	**96.08**	**40**	*e*P		**P**		**18 55 46.7**	**+1.6**	
BRG				pmax		pmax				
	comp=Z,28nm,2.0s									
BOSA	**Boshof**	**96.51**	**120**	LR		LR		19 36 13.4		
	comp=Z,957nm,20.8s,baz=262,slow=34									
ARSA	**Arzberg**	**96.85**	**43**	*e*P		**P**		**18 55 49.8**	**+1.1**	
	comp=Z,6.2nm,1.0s									
CONA	**Conrad Observa**	**97.12**	**43**	*e*P		Pdif		18 55 51.4	+1.3	
	comp=Z,10nm,1.6s									
KRUC	**Moravsky**	**97.54**	**42**	*e*P		Pdif		18 55 53.2	+1.4	
DPC	**Dobruska-Polom**	**97.56**	**40**	*e*P		Pdif		18 55 53.6	+1.7	
DPC	**Dobruska-Polom**	**97.56**	**40**	*e*P		Pdif		18 55 53.6	+1.7	
VRAC	**Vranov**	**97.68**	**41**	*e*P		Pdif		18 55 54.0	+1.6	
KRLC	**Kraliky**	**97.84**	**40**	*e*P		Pdif		18

ULN	**Ulaanbaatar**	**139.80**	**356**	‖ *e*PKIKP	**PKPdf**	**19 01 44.7**	**-1.3**		
SONM	**Songino Array**	**139.87**	**357**	PKhKP	PKPpre	19 01 37.7			
	comp=Z,0.9nm,0.7s,baz=6.4,slow=1.2,SNR=5.7								
SONM				PKP	**PKPdf**	**19 01 44.9**	**-1.2**		
	comp=Z,2.3nm,0.6s,baz=329,slow=0.8,SNR=12								
SONM	**Songino Array**	**139.87**	**357**	PKIKP	**PKPdf**	**19 01 44.5**	**-1.5**		
SONM	**Songino Array**	**139.87**	**357**		PKPpre	19 01 37.3			
SONM				PKPdf	**PKPdf**	**19 01 44.5**	**-1.5**		
WMQ	**Urumqi**	**141.36**	**19**	*e*PKP	**PKPdf**	**19 01 47.8**	**-1.0**		
WMQ				LR	LR				
	comp=Z,310nm,28.8s								
WMQ				LR	LR				
	comp=Z,380nm,29.0s								
WMQ				LR	LR				
	comp=Z,65nm,20.7s								
KSRS	**Korea Array**	**143.01**	**327**	PKhKP	PKPab	19 01 47.1	+0.2		
	comp=Z,3.2nm,0.7s,baz=40,slow=3.8,SNR=14								
KSRS				PKP	**PKPdf**	**19 01 51.8**	**0.0**		
	comp=Z,6.8nm,0.7s,baz=22,slow=1.5,SNR=13								
KSAR	**Wonju Array Be**	**143.03**	**327**	PKHKP	PKPab	19 01 45.2	-1.9		
KSAR	**Wonju Array Be**	**143.03**	**327**		PKPab	19 01 45.2	-1.8		
DL2	**Dalian**	**144.88**	**335**	⇑PKP	**PKPab**	**19 01 52.3**	**-1.7**		
DL2				AMB	AMB				
	comp=Z,130nm,4.3s								
DL2				LR	LR				
	comp=Z,260nm,21.7s								
DL2				LR	LR				
	comp=Z,260nm,21.8s								
DL2				LR	LR				
	comp=Z,250nm,22.7s								
JSU	**Suzuyama**	**145.48**	**317**	PKPdf	**PKPdf**	**19 01 54.6**	**-1.8**		
DGAR	**Diego Garcia**	**145.54**	**115**	*c i*PKIKP	**PKiKP**	**19 01 59.6**	**-1.3**		
DGAR				pmax	pmax				
	comp=Z,139nm,1.3s								
BJI	**Beijing**	**145.82**	**343**	PKPbc	**PKPdf**	**19 01 56.3**	**-0.3**		
MTN	**Manton Dam**	**145.90**	**234**	PKPdf	**PKPdf**	**19 01 56.1**	**-1.3**		
HHC	**Hu-ho-hao-te**	**146.17**	**349**	*e*PKPbc	**PKPbc**	**19 01 58.3**	**0.0**		
BTO	**Baotou**	**146.67**	**351**	*e*PKPbc	**PKPdf**	**19 01 56.5**	**-1.7**		
PSA00	**Pilbara Seismi**	**146.88**	**208**		**PKPdf**	**19 01 59.2**	**+0.2**		
GTA	**Gaotai**	**148.18**	**6**	⇓PKPbc	**PKPdf**	**19 02 01.3**	**+0.5**		
GTA				pPKP	pPKPdf	19 02 04.5	0.0		
GTA				PKPab	**pPKPab**	**19 02 10.0**	**-0.5**		
GTA				LR	LR				
	comp=Z,240nm,23.3s								
GTA				LR	LR				
	comp=Z,330nm,20.4s								
GTA				LR	LR				
	comp=Z,360nm,24.7s								
POO	**Poona**	**149.12**	**67**	*e*P	**PKPdf**	**19 02 04.0**	**+1.2**		
FAKI	**Fak Fak**	**149.55**	**251**		**PKPbc**	**19 02 08.3**	**+0.2**		
LZH	**Lanzhou**	**151.68**	**360**	*e*PKPbc	**PKPdf**	**19 02 08.3**	**+1.8**		
LZH				LR	LR				
	comp=Z,190nm,17.8s								
LZH				LR	LR				
	comp=Z,200nm,18.0s								
LZH				LR	LR				
	comp=Z,280nm,20.1s								
PYUN	**Piuthan**	**151.83**	**41**	*e*P	**PKPdf**	**19 02 07.3**	**+0.3**		
	comp=Z,38nm,0.8s								
NJ2	**Nanjing**	**151.85**	**332**	*e*PKPbc	**PKPdf**	**19 02 06.3**	**-0.3**		
DANN	**Dangsing**	**152.15**	**40**	*e*P	**PKPdf**	**19 02 07.9**	**+0.3**		
	comp=Z,40nm,0.7s								
KOLN	**Koldanda**	**152.45**	**41**	*e*P	**PKPdf**	**19 02 07.5**	**-0.4**		
	comp=Z,118nm,1.7s								
GKN	**Gorkha**	**152.95**	**39**	*e*P	**PKPdf**	**19 02 08.5**	**-0.1**		
	comp=Z,86nm,1.4s								
XAN	**Xi'an**	**153.26**	**350**	PKPbc	**PKPdf**	**19 02 08.5**	**-0.3**		
XAN	**Xi'an**	**153.26**	**350**	PKIKP	**PKPbc**	**19 02 15.2**	**-1.0**		
XAN						19 02 27.0			
XAN	**Xi'an**	**153.26**	**350**		**PKPdf**	**19 02 08.4**	**-0.3**		
XAN					**PKPbc**	**19 02 15.2**	**-1.0**		
XAN				PKPab	**PKPab**	**19 02 27.0**	**-0.8**		
KKN	**Kakani**	**153.50**	**39**	*e*P	**PKPdf**	**19 02 09.6**	**+0.2**		
	comp=Z,30nm,0.8s								
DMN	**Daman**	**153.52**	**39**	*e*P	**PKPdf**	**19 02 10.5**	**+1.0**		
	comp=Z,234nm,1.7s								
PKIN	**Phulchoki**	**153.72**	**39**	*e*P	**PKPdf**	**19 02 09.6**	**-0.2**		
PKI	**Pulchoki**	**153.73**	**39**	*e*P	**PKPdf**	**19 02 09.7**	**-0.2**		
	comp=Z,56nm,1.1s								
GUN	**Gumba**	**153.78**	**38**	*e*P	**PKPdf**	**19 02 10.3**	**+0.3**		
WHN	**Wuhan**	**155.08**	**338**	PKPbc	**PKPdf**	**19 02 12.0**	**+0.7**		
WHN				PKPab	**PKPab**	**19 02 34.5**	**-1.0**		
WHN				LR	LR				
	comp=Z,540nm,15.5s								
WHN				LR	LR				
	comp=Z,470nm,10.5s								
WHN				LR	LR				
	comp=Z,700nm,12.3s								
LSA	**Lhasa**	**155.13**	**26**	PKIKP	**PKPdf**	**19 02 11.7**	**-0.3**		
LSA	**Lhasa**	**155.13**	**26**		**PKPdf**	**19 02 11.7**	**-0.3**		
EDFI	**Ende, Flores**	**155.71**	**228**	PKP	**PKPdf**	**19 02 13.6**	**+0.9**		
CD2	**Chengdu**	**156.84**	**360**	PKP	**PKPdf**	**19 02 11.5**	**-2.2**		
GYA	**Guiyang**	**161.05**	**351**	⇓PKP	**PKPdf**	**19 02 19.0**	**+0.1**		
GYA				PKPab	**PKPab**	**19 03 01.0**	**-0.5**		
GYA				PP	**PP**	**19 06 42.0**	**-0.9**		
GYA				SS	SS	19 26 51.0	-5.9		
GYA				AMB	AMB				
	comp=Z,94nm,7.1s								
GYA				LR	LR				
	comp=Z,280nm,19.8s								
KMI	**Kunming**	**162.59**	**3**	⇑ *e*PKP	**PKPdf**	**19 02 17.0**	**-3.6**		
KMI				sPKP		19 02 21.8			
KMI				PP	**PP**	**19 06 50.3**	**-0.9**		
KMI				LR	LR				
	comp=Z,150nm,22.8s								
KMI				LR	LR				
	comp=Z,130nm,22.2s								
KMI				LR	LR				
	comp=Z,310nm,27.3s								
SLVN	**Son La**	**166.38**	**359**		**PKPab**	**19 03 25.1**	**+0.2**		
QIZ	**Qiongzhong**	**167.15**	**332**	PKP	**PKPdf**	**19 02 22.5**	**-1.9**		
QIZ				PP	**PP**	**19 07 19.5**	**+4.2**		
QIZ				LR	LR				
	comp=Z,210nm,21.1s								
QIZ				LR	LR				
	comp=Z,260nm,25.0s								
QIZ				LR	LR				
	comp=Z,290nm,32.4s								
CHTO	**Chiang Mai**	**168.00**	**22**	PKIKP	**PKPdf**	**19 02 24.9**	**-0.1**		
CHTO						19 03 30.8			
CHTO	**Chiang Mai**	**168.00**	**22**		**PKPdf**	**19 02 24.9**	**-0.1**		
CHTO				PKPab	**PKPab**	**19 03 30.8**	**-1.4**		
CMAR	**Chiang Mai Arr**	**168.33**	**22**	PKP	**PKPdf**	**19 02 25.8**	**+0.5**		
	comp=Z,3.3nm,0.9s,baz=303,slow=2.0,SNR=20								
CMAR				PKPab	**PKPab**	**19 03 33.4**	**-0.2**		
	comp=Z,4.0nm,0.9s,baz=324,slow=5.3,SNR=8.6								

MOS ***31*** *18:57:10.9±0.9,64°.61N×17°.54W,h10km,mb4.5/15,Error ellipse: s-maj=13.6km s-min=7.9km az=116.5*
IDC ***31*** *18:57:10.6±0.6,64°.66N×17°.59W,h0km,mb4.0/15, mb1 4.2/17,mb1mx3.9/47,mbtmp3.9/17,ML3.2/2,Error ellipse: s-maj=21.9km s-min=11.9km az=17.0*
REY ***31*** *18:57:10.5,64°.67N×17°.45W,h7km*
NEIC ***31*** *18:57:12.8±1.5,64°.56N±0°.10×17°.6W±0°.1,h12km±4km, mb4.6/53,Error ellipse: s-maj=14.5km s-min=8.3km az=194.0*

ISC 31 18:57:12.0±0.3,64°.63N±0°.02×17°.55W±0°.03,h10km,n211,
σ1ᵍ62/210,mb4.5/70,9C-2D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.10**	**298**	P	**Pg**	**18 57 13.2**	**-1.4**
	baz=271						
IDYN	**Dyngjuhals**	**0.18**	**25**	P	Pg	18 57 13.5	-2.4
	baz=17						
IDYN				S	**Sg**	**18 57 15.9**	**-2.8**
	baz=17						
IHUS	**Husbondi**	**0.34**	**188**	P	**Pg**	**18 57 18.1**	**-0.6**
	baz=193						
ISKR	**Skrokkalda**	**0.37**	**260**	P	**Pg**	**18 57 18.2**	**-1.1**
	baz=255						
ISKR				S	**Sb**	**18 57 25.2**	**-1.3**
	baz=255						
IVOT	**Vottur**	**0.39**	**156**	P	**Pg**	**18 57 18.5**	**-1.2**
	baz=164						
IJOK	**Jokulheimar**	**0.43**	**224**	P	**Pb**	**18 57 19.7**	**-1.9**
	baz=224						
IJOK				S	**Sb**	**18 57 27.0**	**-1.2**
	baz=224						
IIEY	**Innrieyrar**	**0.59**	**205**	P	**Pb**	**18 57 22.2**	**-2.2**
	baz=207						
IIEY				S	**Sb**	**18 57 31.6**	**-1.1**
	baz=207						
IKSK	**Karasker**	**0.66**	**135**	P	**Pg**	**18 57 21.7**	**-3.1**
	baz=140						
IKSK				S	**Sg**	**18 57 31.2**	**-2.1**
	baz=140						
IKAL	**Kalfafell**	**0.68**	**185**	P	**Pb**	**18 57 23.7**	**-2.3**
	baz=188						
IKAL				S	**Sn**	**18 57 34.0**	**-4.3**
	baz=188						
ISVA	**Svartarkot**	**0.72**	**10**	P	Pg	18 57 22.7	-3.2
	baz=7.0						
ISVA				S	**Sg**	**18 57 32.3**	**-3.2**
	baz=7.0						
IVAT	**Vatnsfell**	**0.74**	**234**	P	**Pb**	**18 57 25.1**	**-1.8**
	baz=233						
IVAT				S	**Sn**	**18 57 36.5**	**-3.4**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.80**	**76**	P	Pg	18 57 23.8	-3.6
	baz=79						
IVSH				S	**Sg**	**18 57 34.1**	**-3.8**
	baz=79						
IHVE	**Hveravellir**	**0.90**	**287**	P	**Pg**	**18 57 26.5**	**-2.8**
	baz=283						
IADA	**Aoalbol**	**0.93**	**64**	P	Pg	18 57 25.8	-4.1
	baz=66						
ISNB	**Snabyli**	**1.01**	**208**	P	**Pb**	**18 57 29.3**	**-2.2**
	baz=209						
IMEL	**Melhnausar**	**1.02**	**21**	P	Pb	18 57 27.4	-4.3
	baz=20						
IMEL				S	Sb	18 57 40.4	-4.8
	baz=20						
ISLY	**Slysaalda**	**1.06**	**221**	P	**Pb**	**18 57 30.3**	**-2.1**
	baz=221						
ISLY				S	**Sn**	**18 57 45.7**	**-2.0**
	baz=221						
IREN	**Reynihlio**	**1.06**	**15**	P	Pn	18 57 28.2	-4.7
	baz=13						
IREN				S	Sb	18 57 41.9	-4.4
	baz=13						
IFED	**Fedgar**	**1.11**	**238**	P	**Pg**	**18 57 31.3**	**-2.0**
	baz=237						
IRJU	**Rjupnafell**	**1.13**	**206**	P	**Pb**	**18 57 31.3**	**-2.2**
	baz=207						
IRJU				S	**Sn**	**18 57 47.4**	**-1.9**
	baz=207						
IKVO	**Krokottuvotn**	**1.13**	**14**	P	Pn	18 57 29.3	-4.6
	baz=13						
IKVO				S	Sb	18 57 43.9	-4.4
	baz=13						
IMJO	**Mjoaskard**	**1.16**	**234**	P	**Pb**	**18 57 32.2**	**-1.9**
	baz=234						
IGRS	**Grimsstaoir**	**1.18**	**30**	P	Pn	18 57 30.1	-4.4
	baz=29						
IGRS				S	**Sb**	**18 57 46.3**	**-3.5**
	baz=29						
IGYG	**Gygjarholskot**	**1.21**	**255**	P	**Pb**	**18 57 33.1**	**-1.8**
	baz=253						
IHAU	**Haukadalur**	**1.24**	**239**	P	**Pb**	**18 57 33.7**	**-1.8**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.24**	**208**	P	**Pn**	**18 57 33.5**	**-1.9**
	baz=209						
ISKI	**Skildingahlsh**	**1.27**	**10**	P	Pn	18 57 31.6	-4.1
	baz=8.2						
ISKI				S	Sn	18 57 48.1	-4.7
	baz=8.2						
IGHA	**Grjothals**	**1.28**	**17**	P	Pn	18 57 31.6	-4.3
	baz=15						
IGRA	**Granastaoir**	**1.30**	**359**	P	Pn	18 57 32.0	-4.0
	baz=358						
IGRA				S	**Sn**	**18 57 49.3**	**-4.2**
	baz=358						
IALF	**Alftagrof**	**1.35**	**213**	P	**Pg**	**18 57 35.5**	**-2.3**
	baz=214						
IDIM	**Dimmadalss**	**1.37**	**11**	P	Pn	18 57 33.2	-3.9
	baz=9.3						
IHLA	**Hella**	**1.37**	**345**	P	Pn	18 57 33.8	-3.3
	baz=343						
IHLA				S	**Sn**	**18 57 51.6**	**-3.6**
	baz=343						
IESK	**Eystri-Skogar**	**1.39**	**218**	P	**Pn**	**18 57 35.6**	**-1.7**
	baz=218						
ISAU	**Saurbar**	**1.40**	**244**	P	**Pn**	**18 57 35.2**	**-2.3**
	baz=243						
IMID	**Miomork**	**1.41**	**228**	P	**Pb**	**18 57 36.3**	**-2.1**
	baz=228						
IHED	**Heoinshofoi**	**1.47**	**4**	P	Pn	18 57 34.7	-3.7
	baz=2.3						
IBRE	**Brettingsstaoi**	**1.51**	**354**	P	Pn	18 57 35.6	-3.4
	baz=353						
IGIL	**Gilhagi**	**1.54**	**18**	P	Pn	18 57 35.7	-3.8
	baz=18						
IASM	**Asmuli**	**1.56**	**241**	P	**Pn**	**18 57 38.3**	**-1.4**
	baz=240						
ISIG	**Siglufjorour**	**1.62**	**340**	P	Pn	18 57 37.5	-3.0
	baz=338						
ISIG				S	**Sn**	**18 57 58.8**	**-2.6**
	baz=338						
BORG	**Borgarnes**	**1.63**	**276**	Pn	**Pn**	**18 57 38.3**	**-2.4**
	22nm,0.3s,baz=109,slow=8.7,SNR=31						
BORG				Sn	**Sn**	**18 58 01.0**	**-0.6**
	8.5nm,0.3s,baz=42,slow=14,SNR=3.5						
BORG	**Borgarnes**	**1.63**	**276**	Pn	**Pn**	**18 57 38.4**	**-2.2**
ISOL	**Solvholt**	**1.64**	**246**	P	**Pn**	**18 57 39.2**	**-1.6**
	baz=246						
IKRO	**Krokur**	**1.64**	**253**	P	**Pn**	**18 57 39.2**	**-1.6**
	baz=252						
IHEI	**Heioarbar**	**1.66**	**257**	P	**Pn**	**18 57 39.9**	**-1.1**
	baz=256						
IVME	**Vestmannaeyjar**	**1.71**	**226**	P	**Pb**	**18 57 41.3**	**-2.1**
	baz=226						
IBJA	**Bjarnastaoir**	**1.77**	**249**	P	**Pn**	**18 57 41.9**	**-0.7**
	baz=248						
IHRN	**Hraun**	**1.84**	**325**	P	**Pn**	**18 57 41.3**	**-2.2**
	baz=324						
ILEI	**Leirhofn**	**1.84**	**13**	P	Pn	18 57 40.5	-3.1
	baz=12						
ISAN	**Sandskeio**	**1.84**	**254**	P	**Pn**	**18 57 42.8**	**-0.8**
	baz=253						
SUMG	**Summit**	**10.96**	**326**	P	**Pn**	**18 59 47.9**	**-1.1**
SUMG	**Summit**	**10.96**	**326**	Pn	**Pn**	**18 59 47.9**	**-1.1**
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn	**Pn**	**18 59 59.4**	**+0.1**
	baz=324,slow=13,SNR=7.7						
ESK	**Eskdalemuir**	**11.74**	**136**	P	**Pn**	**18 59 58.6**	**-0.8**
ESK	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**18 59 58.6**	**-0.8**
NC204	**NORSAR Array S**	**13.25**	**92**	Pn	**Pn**	**19 00 18.5**	**-1.4**
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	**Pn**	**19 00 22.4**	**-1.7**
	0.0nm,0.3s,baz=305,slow=14,SNR=1.4						
HFS	**Hagfors**	**15.06**	**93**	Pn	**P**	**19 00 50.6**	**+0.7**
	0.2nm,0.3s,baz=291,slow=5.4,SNR=9.7						
CLL	**Collm**	**20.71**	**116**	*i* P	**P**	**19 01 53.1**	**+1.1**
	comp=Z,22nm,1.5s						
CLL	**Collm**	**20.71**	**116**	*i* P	**P**	**19 01 53.1**	**+1.1**
CLL				pmax	pmax		
	comp=Z,22nm,1.5s						
CLL	**Collm**	**20.71**	**116**	P	**P**	**19 01 53.0**	**+1.1**
ECH	**Echery**	**21.14**	**129**	P	**P**	**19 01 58.0**	**+1.2**
ECH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ECH	**Echery**	**21.14**	**129**	P	**P**	**19 01 58.0**	**+1.2**
GRA1	**Grafenberg Arr**	**21.33**	**121**	P	**P**	**19 01 59.7**	**+0.9**
GRF	**Grafenberg Arr**	**21.33**	**121**	P	**P**	**19 01 59.7**	**+0.9**
GRF				pmax	pmax		
	comp=Z,11nm,1.0s						
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**	**19 02 02.9**	**+3.9**
NKC	**Novy Kostel**	**21.35**	**118**	*e*P	**P**	**19 02 02.9**	**+3.9**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**19 02 00.3**	**+0.6**
	comp=Z,14nm,1.2s						
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**19 02 00.3**	**+0.6**
BRG				pmax	pmax		
	comp=Z,14nm,1.2s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**19 02 01.8**	**+1.8**
BFO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**19 02 01.8**	**+1.8**
VSU	**Vasula**	**21.59**	**86**	‖ *e*P	**P**	**19 02 01.4**	**0.0**
VSU				pmax	pmax		
	comp=Z,35nm,0.9s						
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**19 02 10.9**	**+1.2**
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**19 02 10.9**	**+1.2**
KSP	**Ksiaz**	**22.37**	**112**	*e*P	**P**	**19 02 10.4**	**+0.5**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**19 02 13.8**	**+2.8**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**19 02 14.0**	**+0.8**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**19 02 14.0**	**+0.8**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**19 02 15.3**	**+1.1**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**19 02 15.3**	**+1.1**
DAVA	**Damuels**	**22.87**	**126**	*e*P	**P**	**19 02 16.2**	**+0.8**
	comp=Z,8.9nm,1.1s						
SUW	**Suwalki**	**22.90**	**98**	P	**P**	**19 02 14.0**	**-1.5**
SUW				pmax	pmax		
	comp=Z,52nm,1.5s						
SUW	**Suwalki**	**22.90**	**98**	P	**P**	**19 02 14.0**	**-1.5**
SSB	**Saint Sauveur**	**22.93**	**137**	P	**P**	**19 02 16.5**	**+0.5**
SSB				pmax	pmax		
	comp=Z,34nm,1.9s						
SSB	**Saint Sauveur**	**22.93**	**137**	P	**P**	**19 02 16.5**	**+0.5**
SSB				IAmb	IAmb	19 02 34.3	
	comp=Z,34nm,1.9s						
GEC2	**GERESS Array S**	**22.95**	**119**	P	**P**	**19 02 18.0**	**+1.8**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**19 02 16.8**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=318,slow=7.4,SNR=9.4						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**19 02 16.3**	**+0.1**
RETA	**Reutte**	**23.01**	**125**	*e*P	**P**	**19 02 18.7**	**+1.9**
	comp=Z,5.2nm,1.2s						
TREC	**Trest**	**23.27**	**115**	*e*P	**P**	**19 02 20.4**	**+1.0**
TREC	**Trest**	**23.27**	**115**	*e*P	**P**	**19 02 20.4**	**+1.0**
DAVOX	**Davos/Dischmat**	**23.31**	**127**	P	**P**	**19 02 20.5**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=37,slow=3.5,SNR=3.7						
TUE	**Stuetta**	**23.40**	**128**	P	**P**	**19 02 21.5**	**+0.7**
WATA	**Walderalm**	**23.43**	**124**	*e*P	**P**	**19 02 23.5**	**+2.3**
	comp=Z,8.6nm,1.2s						
WTTA	**Wattenberg**	**23.51**	**124**	*e*P	**P**	**19 02 24.2**	**+2.2**
	comp=Z,7.8nm,1.3s						
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**19 02 23.5**	**-0.2**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**19 02 23.4**	**-0.2**
BNI	**Bardonecchia**	**23.79**	**134**	P	**P**	**19 02 25.1**	**+0.5**
BNI				pmax	pmax		
	comp=Z,26nm,1.8s						
BNI	**Bardonecchia**	**23.79**	**134**	P	**P**	**19 02 25.1**	**+0.5**
BNI				IAmb	IAmb	19 02 37.8	
	comp=Z,26nm,1.8s						
OJC	**Ojcow**	**24.27**	**109**	P	**P**	**19 02 29.4**	**+0.4**
OJC				pmax	pmax		
	comp=Z,22nm,1.7s						
OJC	**Ojcow**	**24.27**	**109**	P	**P**	**19 02 29.4**	**+0.4**
OJC				IAmb	IAmb	19 02 40.4	
	comp=Z,22nm,1.7s						
ABTA	**Abfaltersbach**	**24.27**	**123**	*e*P	**P**	**19 02 29.2**	**+0.1**
	comp=Z,8.8nm,1.7s						
CONA	**Conrad Observa**	**24.53**	**117**	*e*P	**P**	**19 02 32.8**	**+1.4**
	comp=Z,5.7nm,1.0s						
CTI	**Castel Tesino**	**24.56**	**125**	P	**P**	**19 02 31.2**	**-0.5**
CTI				pmax	pmax		
	comp=Z,16nm,1.5s						
CTI	**Castel Tesino**	**24.56**	**125**	P	**P**	**19 02 31.2**	**-0.5**
CTI				IAmb	IAmb	19 02 43.6	
	comp=Z,16nm,1.5s						
CIMO	**Cimolais**	**24.62**	**124**	P	**P**	**19 02 30.4**	**-1.8**
CIMO				IAmb	IAmb	19 02 38.2	
	comp=Z,20nm,1.7s						
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**	**19 02 33.6**	**+1.1**
SMOL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**	**19 02 33.6**	**+1.1**
MODS	**Modra-Piesok**	**24.72**	**114**	*e*P	**P**	**19 02 33.2**	**+0.2**
MODS	**Modra-Piesok**	**24.72**	**114**	*e*P	**P**	**19 02 33.2**	**+0.2**
PRED	**Cave del Predi**	**24.91**	**122**	P	**P**	**19 02 36.4**	**+1.5**
MTE	**Manteigas**	**24.95**	**162**	P	**P**	**19 02 36.1**	**+0.8**
MTE				IAmb	IAmb	19 02 39.4	
	comp=Z,16nm,1.0s						
LANS	**Liptovska Anna**	**24.97**	**111**	*e*P	**P**	**19 02 34.9**	**-0.4**
LANS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LANS	**Liptovska Anna**	**24.97**	**111**	*e*P	**P**	**19 02 34.9**	**-0.4**
COI	**Coimbra**	**25.03**	**163**	P	**P**	**19 02 35.4**	**-0.5**
COI				pmax	pmax		
	comp=Z,18nm,0.9s						
COI	**Coimbra**	**25.03**	**163**	P	**P**	**19 02 35.4**	**-0.5**
COI				IAmb	IAmb	19 03 05.0	
	comp=Z,18nm,0.9s						
NIE	**Niedzica**	**25.09**	**109**	*e*P	**P**	**19 02 37.3**	**+0.8**
VYHS	**Vyhne**	**25.24**	**112**	*e*P	**P**	**19 02 38.7**	**+1.0**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VYHS	**Vyhne**	**25.24**	**112**	*e*P	**P**	**19 02 38.7**	**+1.0**
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**19 02 38.7**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,21nm,1.4s						
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**19 02 38.7**	**-2.5**
KLMR				AMP		19 02 42.6	
	comp=Z,21nm,1.4s						
KWP	**Kalwaria Pacla**	**25.92**	**106**	*e*P	**P**	**19 02 47.6**	**+3.7**
KWP	**Kalwaria Pacla**	**25.92**	**106**	P	**P**	**19 02 44.7**	**+0.8**
KWP				pmax	pmax		
	comp=Z,22nm,1.2s						
KWP	**Kalwaria Pacla**	**25.92**	**106**	P	**P**	**19 02 44.7**	**+0.8**
KWP				IAmb	IAmb	19 02 47.9	
	comp=Z,22nm,1.2s						
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**19 02 46.0**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**19 02 46.0**	**+0.2**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**19 02 47.8**	**+0.6**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**19 02 47.8**	**+0.6**
UZH	**Uzhgorod**	**26.53**	**108**	*e*P	**P**	**19 02 50.7**	**+1.3**
UZH				*e*		19 02 58.3	
AKASG	**Malin Array Be**	**27.86**	**97**	P	**P**	**19 03 01.6**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=318,slow=8.9,SNR=2.9						
AKASG	**Malin Array Be**	**27.86**	**97**	IAmb	IAmb	19 03 09.9	
	comp=Z,1.0nm,1.1s						
AKBB	**Malin Array Si**	**27.86**	**97**	P	**P**	**19 03 00.4**	**-0.9**

	comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	**48.15**	**58**	P	**P**	**19 05 52.1**	**+0.4**
KURK				IAmb	IAmb	19 05 52.9	
	comp=Z,7.4nm,1.0s							
KURBB	**Kurchatov Arra**	**48.20**	**58**	P	**P**	**19 05 51.5**	**-0.6**
	comp=Z,1.6nm,0.2s,baz=318,slow=6.8,SNR=16							
T47A	**Sharon Grove**	**48.62**	**270**	P	**P**	**19 05 56.4**	**+0.9**
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**19 06 16.9**	**+1.0**
KKAR				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**19 06 16.9**	**+1.0**
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**19 06 16.6**	**+0.7**
KKAR				IAmb	IAmb	19 06 20.6		
	comp=Z,3.4nm,1.1s							
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**19 06 19.4**	**+1.2**
BOZ				pmax	pmax			
	comp=Z,12nm,1.3s							
BOZ	**Bozeman (W)**	**51.61**	**297**	P	**P**	**19 06 19.4**	**+1.2**
BOZ				IAmb	IAmb	19 06 43.4		
	comp=Z,12nm,1.2s							
DGZ	**Jazzator, Alta**	**52.12**	**53**⇑	*e*P	**P**	**19 06 24.0**	**+2.0**
DGZ				pmax	pmax			
	comp=Z,6.0nm,1.2s							
MKAR	**Makanchi Array**	**52.76**	**58**	P	**P**	**19 06 25.8**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=304,slow=8.6,SNR=4.5							
MKAR	**Makanchi Array**	**52.76**	**58**	*c*e P	**P**	**19 06 27.7**	**+1.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**52.76**	**58**	P	**P**	**19 06 26.1**	**-0.5**
TOA0	**Torodi Ar. Sit**	**53.11**	**156**	P	**P**	**19 06 29.9**	**+0.5**
TOA0				IAmb	IAmb	19 06 31.9		
	comp=Z,9.6nm,1.4s							
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**19 06 29.5**	**0.0**
	comp=Z,2.6nm,1.1s,baz=340,slow=8.7,SNR=7.7							
TORD	**Torodi Ar. Bea**	**53.11**	**156**	P	**P**	**19 06 29.2**	**-0.2**
BW06	**Boulder Array**	**53.17**	**293**	P	**P**	**19 06 30.3**	**+0.3**
BW06				IAmb	IAmb	19 06 32.2		
	comp=Z,7.6nm,1.3s							
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**19 06 30.6**	**+0.6**
PD31				IAmb	IAmb	19 06 32.2		
	comp=Z,6.8nm,1.3s							
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**19 06 30.2**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=54,slow=7.5,SNR=12							
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**19 06 30.6**	**+0.6**
AAK	**Ala-Archa**	**53.29**	**67**⇑	*i* P	**P**	**19 06 31.8**	**+1.0**
AAK				pmax	pmax			
	comp=Z,16nm,1.7s							
BOOM	**Boomskoye usch**	**53.99**	**66**	P	**P**	**19 06 36.9**	**+1.0**
BOOM				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BOOM	**Boomskoye usch**	**53.99**	**66**	P	**P**	**19 06 36.9**	**+1.0**
BOOM				IAmb	IAmb	19 06 38.6		
	comp=Z,6.1nm,0.9s							
BTK	**Batken**	**53.99**	**72**	P	**P**	**19 06 37.0**	**+1.1**
BTK				pmax	pmax			
	comp=Z,14nm,1.2s							
BTK	**Batken**	**53.99**	**72**	P	**P**	**19 06 37.0**	**+1.1**
CHGR	**Chuyangaron**	**54.49**	**74**	P	**P**	**19 06 40.6**	**+1.1**
CHGR				IAmb	IAmb	19 06 41.9		
	comp=Z,11nm,1.1s							
GAR	**Garm**	**54.68**	**73**	P	**P**	**19 06 42.3**	**+1.4**
HWUT	**Hardware Ranch**	**54.95**	**294**	P	**P**	**19 06 44.0**	**+1.1**
HWUT				IAmb	IAmb	19 06 50.8		
	comp=Z,6.9nm,1.2s							
HRA	**Herat**	**55.22**	**82**	P	**P**	**19 06 45.7**	**+0.8**
ZAK	**Zakamensk**	**56.50**	**41**	*e*P	**P**	**19 06 53.2**	**-0.6**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.1s							
PV02	**Paradox Valley**	**56.72**	**290**	P	**P**	**19 06 56.2**	**+0.5**
PV02				IAmb	IAmb	19 06 58.0		
	comp=Z,6.8nm,1.0s							
WMQ	**Urumqi**	**57.27**	**56**	*e*P	**P**	**19 07 03.5**	**+4.2**
DBIC	**Dimbokro**	**58.56**	**165**	P	**P**	**19 07 09.6**	**+1.1**
	comp=Z,4.4nm,1.0s,baz=340,slow=11,SNR=3.2							
DBIC	**Dimbokro**	**58.56**	**165**	P	**P**	**19 07 09.1**	**+0.6**
BNM	**Barren Site**	**59.34**	**285**	P	**P**	**19 07 15.3**	**+1.2**
ULN	**Ulaanbaatar**	**59.84**	**40**⇑	*e*P	**P**	**19 07 18.5**	**+1.2**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.7s							
NVAR	**Mina Array Bea**	**60.30**	**297**	P	**P**	**19 07 21.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=69,slow=8.1,SNR=3.6							
X16A	**Lo Mia Camp, P**	**61.08**	**290**	P	**P**	**19 07 27.5**	**+1.5**
X16A				IAmb	IAmb	19 07 28.3		
	comp=Z,1.9nm,0.7s							
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**19 07 34.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=47,slow=5.5,SNR=5.7							
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**19 07 34.3**	**+0.3**
TUC	**Tucson**	**62.65**	**288**	P	**P**	**19 07 38.0**	**+1.6**
TUC				pmax	pmax			
	comp=Z,4.0nm,1.2s							
TUC	**Tucson**	**62.65**	**288**	P	**P**	**19 07 38.0**	**+1.6**
TUC				IAmb	IAmb	19 07 39.3		
	comp=Z,4.0nm,1.2s							
319A	**Douglas**	**62.85**	**286**	P	**P**	**19 07 39.7**	**+1.9**
319A				IAmb	IAmb	19 07 40.8		
	comp=Z,5.7nm,1.1s							
HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P	**P**	**19 08 10.3**	**+2.1**
HHC				pmax	pmax			
	comp=Z,14nm,0.9s							
HHC				pmax	pmax			
	comp=Z,65nm,6.6s							
LZH	**Lanzhou**	**69.67**	**48**	*e*P	**P**	**19 08 20.0**	**-1.5**
LZH				pP	pP	19 08 25.0	-0.4
LZH				sP	sP	19 08 27.0	+0.2
LZH				PP	**PP**	**19 11 01.3**	**+6.3**
LZH				pmax	pmax			
	comp=Z,24nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,4.9s							
NJ2	**Nanjing**	**77.78**	**37**	*e*P	**P**	**19 09 10.5**	**+1.5**
NJ2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
CHTO	**Chiang Mai**	**83.84**	**59**	P	**P**	**19 09 42.0**	**+0.4**
CHTO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CHTO	**Chiang Mai**	**83.84**	**59**	P	**P**	**19 09 42.0**	**+0.4**
CHTO				IAmb	IAmb	19 09 42.7		
	comp=Z,3.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**19 09 43.4**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=317,slow=6.4,SNR=7.9							
CMAR	**Chiang Mai Arr**	**84.17**	**59**	*c*e P	**P**	**19 09 43.7**	**+0.5**
CMAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							

*BEO **31** 19:00:03.1±0.3,41.31N×21.05E,h0km,ML2.1/5*

SKO 31 19:00:01.8,41.30N×21.03E,h5km,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.26**	**223**	*i* Pg	Pg	19 00 07.1	+0.2
OHR				*i* Sg	Sg	19 00 11.5	+1.2
OHR				*e*Lg	Lg	19 00 11.6	
	comp=N,347nm,0.3s						
OHR				*e*Lg	Lg	19 00 12.0	
	comp=E,344nm,0.5s						
SKO	**Skopje**	**0.74**	**24**	*i* Pg	Pg	19 00 16.2	+0.2
SKO				*i* Sg	Sg	19 00 26.0	+0.3
TIR	**Tirane**	**0.88**	**273**	*e*Pg	Pg	19 00 18.3	-0.4
TIR				*e*Sg	Sb	19 00 32.0	+0.4
STIP	**Stip**	**0.95**	**65**	*i* Pg	Pn	19 00 23.9	+2.0
STIP				*i* Sg	Sn	19 00 40.2	+4.4
VAY	**Valandovo**	**1.16**	**88**	*e*Pg	Pb	19 00 24.4	+0.1
VAY				*e*Sg	Sb	19 00 40.2	+0.5
VAY	**Valandovo**	**1.16**	**88**	*i* Pg	Pb	19 00 24.5	+0.2
VAY				*i* Sg	Sn	19 00 41.7	+0.8
VAY				*e*Lg	Lg	19 00 42.3	
	comp=N,13nm,0.5s						
VAY				*e*Lg	Lg	19 00 43.2	
	comp=E,17nm,0.4s						
BOSS	**Bosilegrad**	**1.61**	**42**	*e*Pg	Pn	19 00 31.5	+0.6
BOSS				*e*Sg	Sb	19 00 52.7	0.0
PDG	**Podgorica**	**1.74**	**311**	*e*Pg	Pg	19 00 35.2	0.0
PDG				*e*Sg	Sg	19 00 59.2	+1.4
SELS	**Selova**	**1.92**	**2**	*e*Pg	Pb	19 00 36.5	-0.8
SJES	**Sjenica**	**2.11**	**339**	*e*Pg	Pb	19 00 40.5	-0.1
SJES				*e*Sg	Sg	19 01 09.4	-0.3
ZAPS	**Zavoj**	**2.30**	**31**	*e*Pg	Pg	19 00 45.3	-0.7
IVAS	**Ivanjica**	**2.37**	**344**	*e*Pn	Pb	19 00 43.7	-1.3
IVAS				*e*Sg	Sg	19 01 17.7	-0.1

*IDC **31** 19:08:22.9±0.9,24.98S×69.78E,h0km,mb3.6/8,*

mb1 3.8/8,mb1mx3.6/39,mbtmp3.6/8,Error ellipse: s-maj=26.4km s-min=24.2km az=89.0

*NEIC **31** 19:08:25.5±0.4,24.9S×70.1E×69.9E±0.1,h16km±4km, mb4.6/7,Error ellipse: s-maj=21.0km s-min=17.4km az=205.0*

ISC 31 19:08:24.4±0.8,24.9S±0.1×69.9E±0.2,h10km,n22,
σ0.88/14,mb3.8/10,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.37**	**9**	T	T	19 30 11.9	
	baz=188,slow=77,SNR=4.6						
H08S2	**Diego Garcia H**	**17.37**	**9**	T	T	19 30 10.3	
	baz=188,slow=77,SNR=12						
H08S3	**Diego Garcia H**	**17.39**	**9**	T	T	19 30 17.4	
	baz=188,slow=77,SNR=63						
H01W2	**Cape Leeuwin H**	**39.37**	**115**	T	T	19 57 30.1	
	baz=272,SNR=4.9						
H01W3	**Cape Leeuwin H**	**39.37**	**115**	T	T	19 57 28.9	
	baz=272						
H01W1	**Cape Leeuwin H**	**39.39**	**115**	T	T	19 57 33.5	
	baz=272						
MAW	**Mawson**	**42.90**	**184**	P	**P**	**19 16 23.3**	**+0.4**
	0.9nm,0.6s,baz=346,slow=8.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**51.60**	**36**	P	**P**	**19 17 32.3**	**+1.1**
	0.3nm,0.8s,baz=236,slow=7.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**51.60**	**36**	P	**P**	**19 17 31.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.05**	**94**	P	**P**	**19 17 36.1**	**+1.5**
	1.4nm,0.7s,baz=284,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**57.88**	**103**	P	**P**	**19 18 17.9**	**+0.9**
	0.3nm,0.6s,baz=246,slow=6.7,SNR=4.7						
WRA	**Warramunga Arr**	**59.33**	**99**	P	**P**	**19 18 26.5**	**-0.6**
	0.6nm,0.7s,baz=257,slow=6.6,SNR=5.6						
WRA	**Warramunga Arr**	**59.33**	**99**	IAmb	IAmb	19 18 33.4	
	comp=Z,0.4nm,1.6s						
WB2	**Warramunga Arr**	**59.34**	**99**	P	**P**	**19 18 27.1**	**-0.1**
WB2				IAmb	IAmb	19 18 34.5	
	comp=Z,12nm,1.6s						
WB0	**Warramunga Arr**	**59.43**	**99**	P	**P**	**19 18 27.4**	**-0.3**
WB0				IAmb	IAmb	19 18 29.3	
	comp=Z,14nm,1.6s						
QSPA	**South Pole Qui**	**65.20**	**180**	P	**P**	**19 19 05.9**	**+0.1**
VNDA	**Vanda**	**66.28**	**166**	P	**P**	**19 19 10.8**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=271,slow=7.7,SNR=4.1						
VNDA	**Vanda**	**66.28**	**166**	P	**P**	**19 19 12.6**	**+0.2**
VNDA				IAmb	IAmb	19 19 26.7	
	comp=Z,2.8nm,1.4s						
MKAR	**Makanchi Array**	**72.27**	**9**	P	**P**	**19 19 48.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=200,slow=6.1,SNR=3.5						
ABKAR	**Akbulak array**	**74.38**	**353**	P	**P**	**19 20 02.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.45**	**292**	P	**P**	**19 20 15.3**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=111,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.45**	**292**	IAmb	IAmb	19 20 22.1	
	comp=Z,2.0nm,1.4s						

*REY **31** 19:11:43.9,64.68N×17.37W,h8km*

*MOS **31** 19:11:46.0±1.4,64.50N×17.63W,h10km,mb4.8/10,Error ellipse: s-maj=15.0km s-min=9.4km az=115.1*

*IDC **31** 19:11:46.1±0.6,64.51N×17.69W,h0km,mb3.8/16, mb1 4.0/19,mb1mx3.9/41,mbtmp3.8/19,ML2.6/2,MS3.6/10, Ms1 3.6/10,ms1mx3.3/55,Error ellipse: s-maj=21.4km s-min=11.3km az=22.0*

*NEIC **31** 19:11:47.2±1.9,64.58N±0.09×17.4W±0.2,h8km±4km, mb4.6/30,Error ellipse: s-maj=13.3km s-min=10.2km az=189.0*

ISC 31 19:11:47.0±0.4,64.57N±0.03×17.59W±0.03,h10km,n164,
σ1.81/150,mb4.3/47,MS4.0/6,8C-2D,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.13**	**326**	P	**Pg**	**19 11 47.5**	**-2.5**
	baz=269						
IVON				S	**Sg**	**19 11 50.2**	**-2.0**
	baz=269						
IDYN	**Dyngjuhals**	**0.24**	**23**	P	Pg	19 11 46.4	-5.6
	baz=360						
IDYN				S	**Sg**	**19 11 49.0**	**-6.4**
	baz=360						
IHUS	**Husbondi**	**0.28**	**186**	P	**Pg**	**19 11 51.7**	**-0.9**
	baz=198						
IHUS				S	**Sb**	**19 11 57.9**	**-1.0**
	baz=198						
IURH	**Urdarhals**	**0.32**	**37**	P	Pg	19 11 47.6	-5.7
	baz=33						
ISKR	**Skrokkalda**	**0.34**	**269**	P	**Pg**	**19 11 52.2**	**-1.7**
	baz=256						
ISKR				S	**Sg**	**19 11 59.4**	**+1.0**
	baz=256						
IJOK	**Jokulheimar**	**0.38**	**227**	S	**Sb**	**19 12 01.1**	**-0.5**
	baz=226						
IJOK				P	**Pb**	**19 11 53.3**	**-2.5**
	baz=226						
IKVE	**Kverkfjoll**	**0.41**	**74**	P	Pg	19 11 49.9	-5.2
	baz=90						
IKVE				S	Sg	19 11 54.2	-6.3
	baz=90						
IIEY	**Innrieyrar**	**0.53**	**206**	P	**Pb**	**19 11 56.0**	**-2.4**
	baz=210						
IIEY				S	**Sb**	**19 12 05.6**	**-0.5**
	baz=210						
IKAL	**Kalfafell**	**0.63**	**184**	P	**Pg**	**19 11 56.9**	**-2.2**
	baz=191						
IKSK	**Karasker**	**0.64**	**130**	S	**Sg**	**19 12 04.8**	**-2.9**
	baz=143						
IKSK				P	Pg	19 11 54.8	-4.5
	baz=143						
IVAT	**Vatnsfell**	**0.69**	**237**	P	**Pb**	**19 11 58.7**	**-2.4**
	baz=234						
IVAT				S	**Sn**	**19 12 10.1**	**-3.5**
	baz=234						
ISVA	**Svartarkot**	**0.78**	**10**	P	Pg	19 11 55.7	-6.4
	baz=4.0						
ISVA				S	Sg	19 12 04.8	-7.5
	baz=4.0						
IVSH	**V-Sauoahnukur**	**0.84**	**73**	P	Pg	19 11 56.6	-6.5
	baz=79						
IVSH				S	Sg	19 12 06.4	-7.5
	baz=79						
ISNB	**Snabyli**	**0.95**	**209**	P	**Pg**	**19 12 03.0**	**-2.3**
	baz=211						
IADA	**Aoalbol**	**0.97**	**62**	P	Pg	19 11 58.6	-7.1
	baz=65						
IADA				S	Sg	19 12 10.5	-7.9
	baz=65						
IFED	**Fedgar**	**1.07**	**240**	P	**Pb**	**19 12 04.8**	**-2.7**
	baz=238						
IRJU	**Riupnafell**	**1.07**	**207**	P	**Pg**	**19 12 05.1**	**-2.4**
	baz=209						
IMEL	**Melhnausar**	**1.08**	**21**	P	Pb	19 12 00.5	-7.3
	baz=18						
IMEL				S	Sb	19 12 13.4	-8.5
	baz=18						
IMJO	**Mjoaskard**	**1.11**	**236**	P	**Pg**	**19 12 05.5**	**-2.8**
	baz=234						
IREN	**Reynihlio**	**1.12**	**15**	P	Pb	19 12 01.2	-7.2
	baz=11						
IGYG	**Gygjarholskot**	**1.18**	**257**	P	**Pg**	**19 12 06.3**	**-3.3**
	baz=253						
IHVO	**Lagu-Hvolar**	**1.19**	**208**	P	**Pn**	**19 12 07.8**	**-1.7**
	baz=210						
IKVO	**Krokottuvotn**	**1.19**	**14**	P	Pn	19 12 02.3	-7.3
	baz=11						
IGRS	**Grimsstaoir**	**1.24**	**29**	P	Pn	19 12 03.1	-7.3
	baz=28						
IALF	**Alftagrof**	**1.29**	**214**	P	**Pb**	**19 12 08.6**	**-2.7**
	baz=215						
ISKI	**Skildingahlsh**	**1.33**	**10**	P	Pn	19 12 04.8	-6.8
	baz=6.6						
IESK	**Eystri-Skogar**	**1.33**	**219**	P	**Pn**	**19 12 09.3**	**-2.2**
	baz=219						
IGHA	**Grjothals**	**1.34**	**17**	P	Pn	19 12 04.7	-7.0
	baz=14						
IGHA				S	Sn	19 12 21.1	-8.5
	baz=14						
IGRA	**Granastaoir**	**1.35**	**0**	P	Pn	19 12 05.1	-6.8
	baz=356						
IMID	**Miomork**	**1.36**	**229**	P	**Pg**	**19 12 10.4**	**-2.7**
	baz=228						
ISAU	**Saurbar**	**1.36**	**246**	P	**Pn**	**19 12 09.1**	**-2.9**
	baz=244						
IHLA	**Hella**	**1.42**	**347**	P	Pn	19 12 06.9	-5.9
	baz=342						
IDIM	**Dimmadalss**	**1.43**	**11**	P	Pn	19 12 06.2	-6.7
	baz=7.8						
IASM	**Asmuli**	**1.52**	**242**	P	**Pb**	**19 12 12.3**	**-2.8**
	baz=241						
IHED	**Heoinshofoi**	**1.52**	**4**	P	Pn	19 12 07.8	-6.4
	baz=0.9						
ISOL	**Solvholt**	**1.60**	**248**	P	**Pn**	**19 12 13.4**	**-1.9**
	baz=246						
IKRO	**Krokur**	**1.61**	**254**	P	**Pn**	**19 12 12.9**	**-2.5**
	baz=252						
BORG	**Borgarnes**	**1.62**	**278**	Pn	**Pn**	**19 12 13.4**	**-2.1**
	34nm,0.3s,baz=109,slow=9.5,SNR=28						
BORG				Sn	**Sg**	**19 12 39.1**	**+0.2**
	26nm,0.3s,baz=13,slow=18,SNR=7.2						
BORG	**Borgarnes**	**1.62**	**278**		**Pn**	**19 12 12.3**	**-3.2**
BORG				Sn	**Sg**	**19 12 37.1**	**-1.8**
IHEI	**Heioarbar**	**1.63**	**258**	P	**Pn**	**19 12 13.2**	**-2.4**
	baz=256						
ISIG	**Siglufjorour**	**1.66**	**341**	P	Pn	19 12 10.7	-5.4
	baz=337						
ILEI	**Leirhofn**	**1.90**	**13**	P	Pn	19 12 13.6	-5.8
	baz=12						
JMIC	**Jan Mayen**	**7.30**	**24**	LR	LR	19 15 51.5	
	comp=Z,240nm,18.7s,baz=41,slow=33						
EKB10	**Eskdalemuir Ar**	**11.69**	**135**	Pn	**Pn**	**19 14 33.0**	**-0.7**
EKB	**Eskdalemuir**	**11.71**	**136**	Pn	**Pn**	**19 14 32.9**	**-1.0**
EKA	**Eskdalemuir Ar**	**11.72**	**135**	Pn	**Pn**	**19 14 34.0**	**0.0**
	baz=324,slow=13,SNR=9.1						
EKA	**Eskdalemuir Ar**	**11.72**	**135**	P	**Pn**	**19 14 34.0**	**0.0**
NC204	**NORSAR Array S**	**13.27**	**91**	Pn	**Pn**	**19 14 52.2**	**-3.0**
NOA	**NORSAR Array B**	**13.57**	**92**	Pn	**Pn**	**19 14 58.3**	**-1.0**
	0.0nm,0.3s,baz=302,slow=12,SNR=3.4						
NOA				LR	LR	19 21 03.4	
	comp=Z,67nm,18.8s,baz=300,slow=41						
HFS	**Hagfors**	**15.08**	**93**	Pn	**P**	**19 15 23.5**	**-1.7**
	0.1nm,0.3s,baz=312,slow=9.7,SNR=6.7						
HFS				LR	LR	19 20 56.4	
	comp=Z,163nm,21.7s,baz=269,slow=36						
ARC6	**ARCESS Array S**	**17.20**	**54**	Pn	**Pn**	**19 15 44.2**	**-2.8**
ARC6				IAmb	IAmb	19 16 34.6	
	comp=Z,64nm,1.8s						
ARCES	**ARCESS Array B**	**17.21**	**54**	LR	LR	19 21 08.7	
	comp=Z,223nm,21.0s,baz=285,slow=33						
FINES	**FINESS Array B**	**19.76**	**79**	P	**Pn**	**19 16 18.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=334,slow=13,SNR=5.6						
FINES				LR	LR	19 22 24.3	
	comp=Z,61nm,20.6s,baz=290,slow=32						
FINES	**FINESS Array B**	**19.76**	**79**	P	**P**	**19 16 16.8**	**+0.1**
CLL	**Collm**	**20.70**	**115**	*i* P	**P**	**19 16 26.6**	**-0.3**
	comp=Z,37nm,1.7s						
CLL				*i* (PP)		19 16 41.8	
CLL				*e*S	**S**	**19 20 20.0**	**+2.2**
CLL				*e*SSS	SSS	19 20 56.0	
CLL	**Collm**	**20.70**	**115**	*i* P	**P**	**19 16 26.6**	**-0.3**
CLL				*e*S	**S**	**19 20 20.0**	**+2.2**
CLL				pmax	pmax		
	comp=Z,37nm,1.7s						
CLL	**Collm**	**20.70**	**115**	P	**P**	**19 16 25.9**	**-1.0**
CLL				IAmb	IAmb	19 16 30.8	
	comp=Z,36nm,1.7s						
NKC	**Novy Kostel**	**21.34**	**118**	*e*P	**P**	**19 16 37.8**	**+3.9**
NKC	**Novy Kostel**	**21.34**	**118**	*e*P	**P**	**19 16 37.8**	**+3.9**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**19 16 34.5**	**-0.1**
	comp=Z,16nm,1.4s						
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**19 16 34.5**	**-0.1**
BRG				pmax	pmax		
	comp=Z,16nm,1.4s						
BFO	**Black Forest**	**21.42**	**127**	P	**P**	**19 16 35.3**	**+0.5**
BFO				pmax	pmax		
	comp=Z,42nm,1.6s						
BFO	**Black Forest**	**21.42**	**127**	P	**P**	**19 16 35.3**	**+0.5**
BFO				IAmb	IAmb	19 16 43.8	
	comp=Z,42nm,1.6s						
VSU	**Vasula**	**21.61**	**86**⇓	*i* P	**P**	**19 16 37.9**	**+1.2**
VSU				pmax	pmax		
	comp=Z,46nm,0.8s						
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**19 16 44.9**	**+0.1**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**19 16 48.2**	**+0.1**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**19 16 48.2**	**+0.1**
DPC	**Dobruska-Polom**	**22.76**	**112**	*e*P	**P**	**19 16 49.1**	**0.0**
DPC	**Dobruska-Polom**	**22.76**	**112**	*e*P	**P**	**19 16 49.1**	**0.0**
DAVA	**Damuels**	**22.86**	**126**	*e*P	**P**	**19 16 50.7**	**+0.4**
	comp=Z,12nm,1.1s						
GEC2	**GERESS Array S**	**22.94**	**118**	P	**P**	**19 16 51.8**	**+0.7**
GERES	**GERESS Array B**	**22.94**	**118**	P	**P**	**19 16 52.2**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=335,slow=5.9,SNR=6.8						
GERES	**GERESS Array B**	**22.94**	**118**	P	**P**	**19 16 51.3**	**+0.2**
RETA	**Reutte**	**23.00**	**124**	*e*P	**P**	**19 16 54.0**	**+2.4**
	comp=Z,14nm,1.4s						
KRLC	**Kraliky**	**23.16**	**112**	*e*P	**P**	**19 16 54.1**	**+0.8**
KRLC	**Kraliky**	**23.16**	**112**	*e*P	**P**	**19 16 54.1**	**+0.8**
MOTA	**Moosalm**	**23.24**	**124**	*e*P	**P**	**19 16 55.6**	**+1.4**
	comp=Z,7.6nm,1.3s						
DAVOX	**Davos/Dischmat**	**23.29**	**127**	P	**P**	**19 16 54.5**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=350,slow=18,SNR=2.3						
FETA	**Feichten**	**23.38**	**125**	*e*P	**P**	**19 16 55.5**	**-0.2**
	comp=Z,14nm,1.6s						
SQTA	**Sankt Quirin**	**23.38**	**124**	*e*P	**P**	**19 16 55.0**	**-0.6**
	comp=Z,8.2nm,1.3s						
WATA	**Walderalm**	**23.42**	**123**	*e*P	**P**	**19 16 56.3**	**+0.3**
	comp=Z,12nm,1.6s						
WTTA	**Wattenberg**	**23.50**	**123**	*e*P	**P**	**19 16 57.2**	**+0.4**
	comp=Z,6.7nm,1.0s						
VRAC	**Vranov**	**23.69**	**114**	P	**P**	**19 16 58.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=332,slow=9.3,SNR=3.3						
VRAC				LR	LR	19 26 17.1	
	comp=Z,150nm,21.6s,baz=294,slow=37						
VRAC	**Vranov**	**23.69**	**114**	*e*P	**P**	**19 16 59.0**	**+0.5**
MORC	**Moravsky Berou**	**23.70**	**112**	*e*P	**P**	**19 16 58.3**	**-0.3**
KRUC	**Moravsky**	**23.81**	**114**	*e*P	**P**	**19 16 59.4**	**-0.3**
ABTA	**Abfalt

KBZ	**Khabaz**	**39.15**	**92**	P	**P**	**19 19 15.8**	**+1.5**
	comp=Z,3.5nm,1.0s,baz=313,slow=8.5,SNR=5.3						
KBZ	**Khabaz**	**39.15**	**92**⇑	*eP*	**P**	**19 19 17.5**	**+3.1**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
INK	**Inuvik**	**39.90**	**329**	P	**P**	**19 19 21.8**	**+1.4**
	comp=Z,3.2nm,1.0s,baz=10,slow=12,SNR=3.5						
INK	**Inuvik**	**39.90**	**329**	IAmb	IAmb	19 19 24.9	
	comp=Z,19nm,1.6s						
WVNY	**West Valley, N**	**40.45**	**267**	P	**P**	**19 19 28.4**	**+3.1**
AB05	**Akbulak array**	**42.04**	**73**	P	**P**	**19 19 37.1**	**-1.1**
AB09	**Akbulak array**	**42.04**	**73**	P	**P**	**19 19 37.6**	**-0.6**
ABKAR	**Akbulak array**	**42.06**	**73**	P	**P**	**19 19 36.7**	**-1.6**
TIXI	**Tiksi**	**42.14**	**15**‖	*eP*	**P**	**19 19 39.5**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,39nm,1.7s						
TIXI	**Tiksi**	**42.14**	**15**	P	**P**	**19 19 38.7**	**0.0**
TOLK	**Toolik Lake Re**	**42.82**	**336**	P	**P**	**19 19 47.0**	**+2.6**
TOLK				IAmb	IAmb	19 20 00.5	
	comp=Z,29nm,1.8s						
IL18	**Eielson Array**	**45.74**	**332**	P	**P**	**19 20 09.0**	**+1.3**
ILAR	**Eielson Array**	**45.75**	**332**	P	**P**	**19 20 08.8**	**+1.0**
	comp=Z,2.8nm,1.1s,baz=22,slow=6.0,SNR=11						
ILAR				PcP	**PcP**	**19 21 44.5**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=14,slow=1.7,SNR=5.0						
ILAR	**Eielson Array**	**45.75**	**332**	P	**P**	**19 20 07.6**	**-0.2**
MDM	**Murphy Dome**	**45.85**	**333**	P	**P**	**19 20 11.8**	**+3.1**
COLA	**College**	**45.85**	**333**⇑	*eP*	**P**	19 20 12.8	+4.2
COLA				pmax	pmax		
	comp=Z,21nm,1.9s						
COLA	**College**	**45.85**	**333**	P	**P**	**19 20 12.2**	**+3.7**
IMAR	**Indian Mountai**	**45.93**	**337**	P	**P**	**19 20 09.7**	**+0.5**
BCAR	**Beaver Creek A**	**46.17**	**329**	P	**P**	**19 20 12.8**	**+1.6**
BILL	**Bilibino**	**47.65**	**358**	*eP*	**P**	**19 20 22.8**	**+0.2**
BILL				*e*		19 21 57.8	
BILL				*e*		19 22 14.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZALV	**Zalesovo Beam**	**47.73**	**51**	P	**P**	**19 20 24.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=338,slow=3.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**47.73**	**51**	P	**P**	**19 20 24.0**	**+0.6**
KURK	**Kurchatov**	**48.20**	**58**‖	*eP*	**P**	**19 20 28.7**	**+1.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**48.20**	**58**	P	**P**	**19 20 28.2**	**+1.2**
KURK				IAmb	IAmb	19 20 29.9	
	comp=Z,3.6nm,0.8s						
TKL	**Tuckaleechee C**	**48.28**	**266**	LR	LR	19 39 09.2	
	comp=Z,136nm,19.6s,baz=53,slow=34						
EGMT	**Eagleton**	**48.88**	**297**	P	**P**	**19 20 35.1**	**+2.6**
GEYT	**Alibeck**	**50.48**	**83**	P	**P**	**19 20 44.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=340,slow=11,SNR=3.3						
GEYT	**Alibeck**	**50.48**	**83**	P	**P**	**19 20 44.0**	**-0.7**
Z51A	**Franklin**	**50.88**	**266**	P	**P**	**19 20 49.0**	**+1.3**
KK09	**Karatay Array**	**51.33**	**70**	P	**P**	**19 20 50.7**	**-0.3**
KK04	**Karatay Array**	**51.34**	**70**	P	**P**	**19 20 50.1**	**-1.0**
KKAR	**Karatay Array**	**51.35**	**70**	P	**P**	**19 20 50.7**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.6s						
KKAR	**Karatay Array**	**51.35**	**70**	P	**P**	**19 20 50.7**	**-0.5**
DGZ	**Jazzator, Alta**	**52.17**	**53**‖	*eP*	**P**	**19 20 58.5**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.5s						
MKAR	**Makanchi Array**	**52.81**	**58**	P	**P**	**19 21 03.9**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=320,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**52.81**	**58**	*ceP*	**P**	**19 21 04.6**	**+2.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LOHW	**Long Hollow**	**52.88**	**295**		**P**	**19 21 05.8**	**+3.0**
TOA0	**Torodi Ar. Sit**	**53.07**	**156**	P	**P**	**19 21 05.5**	**+1.3**
TOA0				IAmb	IAmb	19 21 14.9	
	comp=Z,7.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**53.07**	**156**	P	**P**	**19 21 04.7**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=342,slow=7.2,SNR=5.4						
BW06	**Boulder Array**	**53.18**	**293**	P	**P**	**19 21 06.1**	**+1.1**
BW06				IAmb	IAmb	19 21 10.7	
	comp=Z,8.9nm,1.2s						
PD31	**Pinedale Array**	**53.18**	**293**	P	**P**	**19 21 06.1**	**+1.1**
PD31				IAmb	IAmb	19 21 10.7	
	comp=Z,8.9nm,1.3s						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**19 21 04.6**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=40,slow=7.1,SNR=10						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**19 21 06.0**	**+0.9**
AAK	**Ala-Archa**	**53.33**	**67**	*ceP*	**P**	**19 21 09.1**	**+3.0**
AAK				pmax	pmax		
	comp=Z,26nm,2.2s						
ELK	**Elko**	**57.13**	**296**	LR	LR	19 45 50.4	
	comp=Z,174nm,19.1s,baz=38,slow=36						
DBIC	**Dimbokro**	**58.51**	**165**	P	**P**	**19 21 44.4**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=17,slow=3.7,SNR=4.8						
DBIC	**Dimbokro**	**58.51**	**165**	IAmb	IAmb	19 22 58.7	
	comp=Z,22nm,1.5s						
SONM	**Songino Array**	**59.74**	**40**	P	**P**	**19 21 53.9**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=321,slow=5.8,SNR=3.8						
TXAR	**Lajitas Array**	**62.26**	**280**	P	**P**	**19 22 11.2**	**+2.3**
	comp=Z,3.5nm,1.3s,baz=32,slow=5.0,SNR=4.9						
TXAR				LR	LR	19 48 14.4	
	comp=Z,152nm,19.8s,baz=0,slow=35						
BDFB	**Brasilia**	**83.28**	**209**	LR	LR	19 56 02.0	
	comp=Z,70nm,19.6s,baz=89,slow=32						
CMAR	**Chiang Mai Arr**	**84.22**	**59**	*ceP*	**P**	**19 24 18.2**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

ROM 31 19:15:03.6±0.3, 36°33N±0.02×13°44E±0.03, h84km±3km, ML3.1/14, 1C, Error ellipse: s-maj=2.4km s-min=1.8km az=305.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLTA	**Licata**	**0.93**	**27**	P	Pn	19 15 21.4	-0.6
CLTA				S	Sn	19 15 35.9	+0.2
CLTA				AML	AML		
	comp=N,1052μm,1.3s						
CLTA				AML	AML		
	comp=E,550μm,0.5s						
FAVR	**Favara**	**0.95**	**11**	P	Pn	19 15 22.3	0.0
FAVR				AML	AML		
	comp=E,858μm,0.8s						
FAVR				AML	AML		
	comp=N,734μm,0.5s						
RAFF	**Raffo Rosso**	**1.16**	**40**	P	Pn	19 15 24.5	-0.3
RAFF				S	Sn	19 15 41.3	+0.7
RAFF				AML	AML		
	comp=E,464μm,0.5s						
RAFF				AML	AML		
	comp=N,430μm,0.3s						
HMDC	**Modica**	**1.25**	**60**	P	Pn	19 15 25.5	-0.4
HMDC				S	Sn	19 15 41.9	-0.8
HMDC				AML	AML		
	comp=N,543μm,0.4s						
HMDC				AML	AML		
	comp=E,479μm,0.4s						
MMGO	**Monte Magaggia**	**1.38**	**345**	P	Pn	19 15 27.2	-0.3
HPAC	**Pachino**	**1.40**	**74**	P	Pn	19 15 27.4	-0.3
HPAC				S	Sn	19 15 45.5	-0.4
HPAC				AML	AML		
	comp=E,662μm,0.5s						
HPAC				AML	AML		
	comp=N,880μm,1.1s						
RESU	**Resuttano**	**1.40**	**21**	AML	AML		
	comp=E,229μm,0.5s						
RESU				AML	AML		
	comp=N,222μm,0.5s						
MEU	**Monte Lauro**	**1.43**	**57**	⇑P	Pn	19 15 27.6	-0.5
MEU				S	Sn	19 15 45.5	-1.2
MEU				AML	AML		
	comp=N,1590μm,0.4s						
MEU				AML	AML		
	comp=E,938μm,1.5s						
HAVL	**Avola**	**1.50**	**65**	P	Pn	19 15 28.9	-0.1
HAVL				AML	AML		
	comp=E,347μm,1.4s						
HAVL				AML	AML		
	comp=N,434μm,0.4s						
CRJA	**Costa Raja**	**1.51**	**347**	P	Pn	19 15 29.6	+0.4
HLNI	**Lentini**	**1.54**	**48**	P	Pn	19 15 29.5	+0.1
HLNI				S	Sn	19 15 49.2	+0.1
HLNI				AML	AML		
	comp=E,388μm,0.3s						
HLNI				AML	AML		
	comp=N,270μm,1.0s						
HCRL	**Carlentini**	**1.59**	**53**	P	Pn	19 15 30.6	+0.4
HCRL				AML	AML		
	comp=E,308μm,1.2s						
HCRL				AML	AML		
	comp=N,454μm,0.9s						
GALF	**Gagliano Caste**	**1.65**	**33**	AML	AML		
	comp=E,118μm,0.6s						
GALF				AML	AML		
	comp=N,164μm,0.6s						
HAGA	**Augusta**	**1.68**	**55**	P	Pn	19 15 31.8	+0.5
HAGA				S	Sn	19 15 53.6	+1.3
HAGA				AML	AML		
	comp=N,290μm,0.8s						
HAGA				AML	AML		
	comp=E,395μm,1.1s						
ESML	**S. M. di Licod**	**1.73**	**41**	P	Pn	19 15 32.9	+0.9
EPZF	**Pizzo Felice**	**1.87**	**37**	P	Pn	19 15 36.3	+2.3
EPZF				AML	AML		
	comp=E,174μm,0.5s						
EPZF				AML	AML		
	comp=N,286μm,1.6s						
MSFR	**San Fratello**	**1.93**	**28**	P	Pn	19 15 36.6	+1.9
AIO	**Antillo**	**2.18**	**41**	P	Pn	19 15 39.4	+1.4
MCSR	**Castroreale**	**2.26**	**39**	P	Pn	19 15 40.4	+1.4
MCSR				AML	AML		
	comp=E,166μm,1.0s						
MCSR				AML	AML		
	comp=N,170μm,0.3s						
IACL	**Alicudi**	**2.32**	**18**	P	Pn	19 15 41.2	+1.4
IACL				S	Sn	19 16 08.6	+1.1
IACL				AML	AML		
	comp=E,172μm,1.2s						
IACL				AML	AML		
	comp=N,193μm,1.5s						
MSRU	**Castanea**	**2.54**	**40**	P	Pn	19 15 44.8	+2.1

*AUST **31** 19:15:24.9±0.3, 30.81S×121.23E, h10km, Error ellipse: s-maj=4.5km s-min=3.0km az=174.0*
*NEIC **31** 19:15:25.0±2.7, 30.78S±0.05×121.34E±0.06, h1km±4km, Error ellipse: s-maj=9.9km s-min=3.3km az=50.0*
*IDC **31** 19:15:25.0±1.3, 30.85S×121.39E, h0km, mb3.9/3, mb1 4.4/8, mb1mx4.0/24, mbtmp4.2/8, ML4.5/4, MS3.3/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=30.2km s-min=18.9km az=132.0*

ISC 31 19:15:25.9±0.5, 30.77S±0.04×121.38E±0.04, h10km, n81, σ3.900/101, mb4.4/9, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBL	**Kambalda**	**0.73**	**144**	P	**Pb**	**19 15 41.5**	**+0.7**
	baz=0.8,SNR=240						
KMBL				S	**Sb**	**19 15 50.8**	**-0.2**
	baz=0.8						
KMBL	**Kambalda**	**0.73**	**144**		**Pn**	**19 15 41.9**	**-0.4**
KMBL					**Sb**	**19 15 52.0**	**+1.0**
KLBR	**Kellerberrin**	**3.21**	**254**	P	**Pn**	**19 16 16.5**	**0.0**
	baz=3.1,SNR=226						
KLBR				S	**Sn**	**19 16 51.8**	**-3.1**
	baz=3.1						
KLBR	**Kellerberrin**	**3.21**	**254**	P	**Pn**	**19 16 17.0**	**+0.5**
KLBR	**Kellerberrin**	**3.21**	**254**		**Pn**	**19 16 17.0**	**+0.5**
BLDU	**Ballidu**	**4.03**	**271**	P	**Pn**	**19 16 26.9**	**-0.8**
	baz=3.9,SNR=96						
BLDU				S	**Sn**	**19 17 10.3**	**-4.7**
	baz=3.9						
BLDU	**Ballidu**	**4.03**	**271**		**Pn**	**19 16 28.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**4.13**	**238**	Pn	**Pn**	**19 16 28.3**	**-0.9**
	5.4nm,0.3s,baz=63,slow=12,SNR=45						
NWAO				Lg	Lg	19 17 24.6	
	111nm,0.3s,baz=326,slow=22,SNR=13						
NWAO				LR	LR	19 18 08.7	
	comp=Z,476nm,18.6s,baz=8.5,slow=40						
NWAO	**Narrogin (SRO)**	**4.13**	**238**	P	**Pn**	**19 16 28.1**	**-1.0**
	baz=4.0,SNR=30						
NWAO				S	**Sn**	**19 17 13.9**	**-3.7**
	baz=4.0						
NWAO	**Narrogin (SRO)**	**4.13**	**238**	Pn	**Pn**	**19 16 27.9**	**-1.2**
NWAO				Sn	**Sn**	**19 17 12.9**	**-4.6**
NWAO	**Narrogin (SRO)**	**4.13**	**238**	Pn	**Pn**	**19 16 28.0**	**-1.2**
MUN	**Mundaring**	**4.59**	**253**	P	**Pn**	**19 16 34.4**	**-1.0**
	baz=4.4,SNR=22						
MUN				S	**Sn**	**19 17 23.6**	**-5.1**
	baz=4.4						
MUN	**Mundaring**	**4.59**	**253**		**Pn**	**19 16 35.0**	**-0.4**
MEEK	**Meekatharra**	**4.78**	**329**	P	**Pn**	**19 16 41.0**	**+2.9**
	baz=4.8,SNR=31						
MEEK				S	**Sn**	**19 17 33.5**	**-0.1**
	baz=4.8						
MORW	**Morawa**	**4.94**	**289**	P	**Pn**	**19 16 39.6**	**-0.6**
	baz=4.8,SNR=32						
MORW				S	**Sn**	**19 17 34.5**	**-2.9**
	baz=4.8						
MORW	**Morawa**	**4.94**	**289**	Pn	**Pn**	**19 16 39.8**	**-0.5**
RKGY	**Rocky Gully**	**5.33**	**223**	P	**Pn**	**19 16 44.9**	**-0.7**
	baz=5.2,SNR=42						
RKGY				S	**Sn**	**19 17 43.0**	**-4.1**
	baz=5.2						
FORT	**Forrest**	**5.75**	**92**	P	**Pn**	**19 16 55.3**	**+4.1**
	baz=5.9,SNR=16						
FORT				S	**Sn**	**19 18 00.4**	**+3.1**
	baz=5.9						
FORT	**Forrest**	**5.75**	**92**	Pn	**Pn**	**19 16 54.4**	**+3.1**
WRKA	**Warakurna**	**8.37**	**49**	P	Pn	19 17 32.3	+4.9
	baz=8.5,SNR=27						
WRKA				S	**Sn**	**19 19 05.5**	**+3.5**
	baz=8.5						
PSAD3	**Pilbara Seismi**	**9.20**	**351**	Pn	**Pn**	**19 17 39.3**	**+0.5**
PSAD2	**Pilbara Seismi**	**9.20**	**352**	Pn	**Pn**	**19 17 39.6**	**+0.8**
PSAC3	**Pilbara Seismi**	**9.22**	**351**	Pn	**Pn**	**19 17 40.2**	**+1.2**
PSAB3	**Pilbara Seismi**	**9.24**	**351**	Pn	**Pn**	**19 17 39.0**	**-0.3**
PSA00	**Pilbara Seismi**	**9.26**	**351**	Pn	**Pn**	**19 17 39.8**	**+0.2**
GIRL	**Giralia**	**10.31**	**320**	Pn	**Pn**	**19 17 56.0**	**+2.0**
MULG	**Mulgathing**	**10.94**	**91**	P	**Pn**	**19 18 05.6**	**+3.0**
	baz=11,SNR=57						
MULG				S	**Sn**	**19 20 05.4**	**+0.3**
	baz=11						
BBOO	**Buckleboo**	**12.65**	**103**	P	**Pn**	**19 18 28.0**	**+2.0**
	baz=13,SNR=14						
BBOO	**Buckleboo**	**12.65**	**103**	Pn	**Pn**	**19 18 25.8**	**-0.1**
OOD	**Oodnadatta**	**12.83**	**80**	P	**Pn**	**19 18 30.2**	**+1.8**
	baz=13,SNR=27						
OOD				S	**Sn**	**19 20 47.7**	**-3.7**
	baz=13						
ASAR	**Alice Springs**	**13.19**	**61**	Pn	**Pn**	**19 18 33.5**	**+0.1**
	1.6nm,0.3s,baz=237,slow=11,SNR=69						
ASAR				Sn	**Sn**	**19 20 55.5**	**-4.8**
	3.5nm,0.3s,baz=241,slow=22,SNR=11						
ASAR				Lg	Lg	19 22 27.6	
	1.1nm,0.3s,baz=240,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**13.19**	**61**	Pn	**Pn**	**19 18 34.0**	**+0.5**
AS31	**Alice Springs**	**13.19**	**61**	Pn	**Pn**	**19 18 33.4**	**0.0**
FITZ	**Fitzroy Crossi**	**13.20**	**18**	Pn	**Pn**	**19 18 33.8**	**+0.3**
	3.0nm,0.3s,baz=216,slow=11,SNR=108						
FITZ				Sn	**Sn**	**19 20 54.1**	**-6.3**
	4.8nm,0.3s,baz=119,slow=22,SNR=7.2						
FITZ				Lg	Lg	19 22 25.9	
	0.6nm,0.3s,baz=301,slow=19,SNR=1.6						
FITZ	**Fitzroy Crossi**	**13.20**	**18**	P	**Pn**	**19 18 34.2**	**+0.7**
	baz=13,SNR=20						
FITZ				S	**Sn**	**19 20 54.6**	**-5.7**
	baz=13						
FITZ	**Fitzroy Crossi**	**13.20**	**18**	Pn	**Pn**	**19 18 34.0**	**+0.6**
LCRK	**Leigh Creek**	**14.50**	**93**	P	**Pn**	**19 18 51.0**	**-0.3**
	baz=15						
LCRK				S	**Sn**	**19 21 25.6**	**-6.6**
	baz=15						
WRA	**Warramunga Arr**	**15.90**	**50**	Pn	**Pn**	**19 19 08.8**	**-1.1**
	1.6nm,0.3s,baz=229,slow=14,SNR=49						
WRA				Sn	**Sn**	**19 21 59.2**	**-7.2**
	2.6nm,0.3s,baz=229,slow=23,SNR=12						
WRA				Lg	Lg	19 23 50.4	
	0.3nm,0.3s,baz=220,slow=26,SNR=5.0						
WRA				LR	LR	19 26 01.0	
	comp=Z,85nm,20.9s,baz=75,slow=40						
WRA	**Warramunga Arr**	**15.90**	**50**		**Pn**	**19 19 08.9**	**-1.1**
WB2	**Warramunga Arr**	**15.91**	**50**	P	**Pn**	**19 19 09.1**	**-0.9**
	baz=16						
WB2				S	**Sn**	**19 21 58.1**	**-8.4**
	baz=16						
WB2	**Warramunga Arr**	**15.91**	**50**	Pn	**Pn**	**19 19 08.9**	**-1.1**
WC3	**Warramunga Arr**	**15.91**	**50**	Pn	**Pn**	**19 19 08.9**	**-1.1**
WC3				IAmb	IAmb	19 19 28.2	
	comp=Z,10nm,0.5s						
WRAB	**Tennant Creek**	**15.92**	**50**		**Pn**	**19 19 08.8**	**-1.3**
WR0	**Warramunga Arr**	**16.02**	**51**	Pn	**Pn**	**19 19 10.4**	**-1.0**
WB0	**Warramunga Arr**	**16.06**	**50**	Pn	**Pn**	**19 19 10.7**	**-1.3**
WB0				IAmb	IAmb	19 19 22.5	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**16.48**	**26**	P	**Pn**	**19 19 17.3**	**0.0**
	baz=17						
KNRA				S	**Sn**	**19 22 12.8**	**-7.4**
	baz=17						
KNRA	**Kununurra**	**16.48**	**26**	Pn	**Pn**	**19 19 16.9**	**-0.3**
KNRA				IAmb	IAmb	19 19 19.3	
	comp=Z,21nm,0.6s						
STKA	**Stephens Creek**	**17.31**	**99**	P	**Pn**	**19 19 26.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=280,slow=13,SNR=28						
STKA				S	**Sn**	**19 22 30.1**	**-10**
	comp=Z,0.4nm,0.3s,baz=248,slow=22,SNR=2.9						
STKA				Lg	Lg	19 24 36.7	
	comp=Z,0.5nm,0.3s,baz=137,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**17.31**	**99**	P	**Pn**	**19 19 26.9**	**-0.8**
	baz=17						
STKA				S	**Sn**	**19 22 33.1**	**-7.3**
	baz=17						
STKA	**Stephens Creek**	**17.31**	**99**		**Pn**	**19 19 25.8**	**-1.9**
AUKAT	**Katherine High**	**19.07**	**34**	P	**P**	**19 19 48.8**	**+0.2**
	baz=19						
AUKAT				S	Sn	19 23 11.6	-12
	baz=19						
QIS	**Mount Isa**	**19.29**	**62**	P	**Pn**	**19 19 53.7**	**+1.6**
	baz=19,SNR=10						
MTN	**Manton Dam**	**19.98**	**29**	P	**Pn**	**19 20 00.7**	**+0.3**
MTN				IAmb	IAmb	19 20 04.7	
	comp=Z,28nm,0.8s						
KDU	**Kakadu**	**20.71**	**32**	P	Pn	19 20 10.0	+1.1
	baz=21,SNR=29						
KDU				S	**S**	**19 23 52.3**	**-5.5**
	baz=21						
CMSA	**Cobar Meteorol**	**20.81**	**98**	P	Pn	19 20 11.9	+1.9
	baz=21						
TOO	**Toolangi**	**21.04**	**115**	P	**P**	**19 20 11.1**	**+1.1**
TOO				IAmb	IAmb	19 20 15.9	
	comp=Z,34nm,1.4s						
SOEI	**Soe**	**21.08**	**8**	P	**P**	**19 20 12.0**	**+1.4**
SOEI				IAmb	IAmb	19 20 16.7	
	comp=Z,14nm,1.1s						
TAU	**Tasmania Unive**	**23.93**	**128**	P	**P**	**19 20 39.4**	**-0.7**
MTSU	**Mount Surprise**	**24.32**	**64**	P	**P**	**19 20 49.0**	**+5.1**
	baz=24						
RMQ	**Roma**	**24.38**	**87**	P	**P**	**19 20 48.7**	**+4.3**
	baz=24,SNR=10						
SAUI	**Saumlaki**	**24.50**	**24**	P	**P**	**19 20 45.8**	**+0.4**
CTA	**Charters Tower**	**24.80**	**70**	P	**P**	**19 20 50.0**	**+1.7**
	comp=Z,7.3nm,0.8s,baz=247,slow=11,SNR=7.7						
CTA	**Charters Tower**	**24.80**	**70**	P	**P**	**19 20 53.0**	**+4.7**
	baz=25						
CTAO	**Charters Tower**	**24.80**	**70**	P	**P**	**19 20 47.9**	**-0.3**
CTAO				IAmb	IAmb	19 20 54.6	
	comp=Z,12nm,1.1s						
UGM	**Wanagama**	**24.91**	**334**	P	**P**	**19 20 48.7**	**-0.5**
ARMA	**Armidale**	**26.00**	**97**	P	**P**	**19 20 58.8**	**-0.4**
ARMA				IAmb	IAmb	19 21 15.0	
	comp=Z,29nm,1.4s						
CISI	**Cisompet, Garu**	**26.36**	**328**	P	**P**	**19 21 01.5**	**-0.9**
CISI				IAmb	IAmb	19 21 44.0	
	comp=Z,32nm,1.1s						
EIDS	**Eidsvold**	**26.71**	**86**	P	**P**	**19 21 10.3**	**+4.8**
	baz=27,SNR=4.1						
EIDS	**Eidsvold**	**26.71**	**86**	P	**P**	**19 21 08.1**	**+2.6**
EIDS				IAmb	IAmb	19 21 13.6	
	comp=Z,7.6nm,0.7s						
FAKI	**Fak Fak**	**29.55**	**22**	P	**P**	**19 21 33.0**	**+2.1**
BFZ	**Birch Farm**	**44.99**	**118**	P	**P**	**19 23 43.3**	**+1.9**
BKZ	**Black Stump Fm**	**45.34**	**116**	P	**P**	**19 23 46.5**	**+2.1**
MAW	**Mawson**	**50.02**	**205**	P	**P**	**19 24 21.2**	**+1.1**
VNDA	**Vanda**	**50.26**	**169**	P	**P**	**19 24 21.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=324,slow=9.6,SNR=6.5						
VNDA	**Vanda**	**50.26**	**169**	P	**P**	**19 24 22.9**	**+1.1**
YOJ	**Yonaguni jima**	**54.94**	**2**	P	**P**	**19 24 56.5**	**-0.5**
NIUE	**Niue**	**62.53**	**97**	P	**P**	**19 25 49.8**	**-0.4**
SONM	**Songino Array**	**79.40**	**350**	P	**P**	**19 27 33.6**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=160,slow=5.9,SNR=5.5						
SONM	**Songino Array**	**79.40**	**350**	IAmb	IAmb	19 27 37.5	
	comp=Z,1.2nm,1.0s						
MKAR	**Makanchi Array**	**84.89**	**334**	P	**P**	**19 28 04.4**	**+3.6**
	comp=Z,0.9nm,0.5s,baz=145,slow=6.8,SNR=25						
MKAR	**Makanchi Array**	**84.89**	**334**	P	**P**	**19 28 02.0**	**+1.3**

RSNC 31 19:20:47.5±0.8, 0.83N×78.00W, h0km±2km, ML2.8, Mw3.9, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBC	**Cumbal**	**0.21**	**57**	*eP*	Pg	19 20 52.1	+0.7
CMBC				*eS*	Sg	19 20 55.6	+1.4
CUSE	**Cuicocha Este**	**0.66**	**218**	*eP*	Pg	19 20 59.8	-0.3
CUSE				*eS*	Sg	19 21 09.8	+1.2
GCUF	**Volcan Galeras**	**0.76**	**59**	*eP*	Pg	19 21 01.8	-0.4
GCUF				*eS*	Sg	19 21 12.9	+0.9
GCUF				*i*		19 21 20.5	
	comp=Z,175nm,0.3s						
CPAS1	**Pasto**	**0.77**	**62**	*eP*	Pg	19 21 02.4	+0.2
CPAS1	**Pasto**	**0.77**	**62**	*eS*	Sg	19 21 13.3	+1.2
CPAS2	**Pasto**	**0.84**	**62**	*eP*	Pg	19 21 04.1	+0.4
CPAS2	**Pasto**	**0.84**	**62**	*eS*	Sg	19 21 15.9	+1.3
PAC1	**Pacto, Paraso**	**0.97**	**235**	*eP*	Pg	19 21 05.3	-0.8
PAC1				*eS*	Sg	19 21 18.8	+0.1
TUMC	**Tumaco**	**1.23**	**324**	*eP*	Pb	19 21 11.6	0.0
TUMC				*eS*	Sg	19 21 26.6	-0.3
TUMC				*i*		19 21 56.8	
	comp=Z,272nm,0.6s						
CRUC	**La Cruz**	**1.28**	**55**	*eP*	Pg	19 21 12.2	+0.1
CRUC				*eS*	Sg	19 21 28.9	+0.2
BBAC	**Balboa, Cauca**	**1.40**	**32**	*eP*	Pg	19 21 13.7	-0.7
BBAC				*eS*	Sg	19 21 31.9	-0.8
BBAC				*i*		19 21 38.9	
	comp=Z,162nm,0.

*IDC **31** 19:27:39.9±3.9,21˝.45S×70˚.17W,h0km,mb3.9/1, mb1 3.7/2,mb1mx3.4/31,mbtmp3.6/2,ML3.4/1,Error ellipse: s-maj=127.8km s-min=62.7km az=94.0*

*GUC **31** 19:27:45.2±0.7,20˝.56S×70˚.63W,h19km±12km,ML3.2*

ISC 31 19:27:42.9±1.6,20˝.57S±0.03×70˚.70W±0˚.10,h22km±11km, n23,σ0§64/24,4C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.48**	**89**	⇓*i*P	**Pn**	**19 27 53.6**	**-0.9**
TA01				*i* S	**Sb**	**19 27 58.7**	**-0.7**
TA01				IAML		19 28 03.6	
	comp=N,2µm,0.3s						
PB02	**IPOC Station P**	**1.05**	**135**	⇓*i*P	**Pb**	**19 28 03.0**	**+0.4**
PB02				*i* S	**Sn**	**19 28 16.8**	**+0.3**
PB02				IAML		19 28 20.5	
	comp=E,4µm,0.3s						
PSGC	**Pisagua**	**1.11**	**29**	⇑*i*P	**Pb**	**19 28 03.6**	**+0.1**
PSGC				*i* S	**Sb**	**19 28 17.8**	**+0.2**
PSGC				IAML		19 28 21.1	
	comp=N,611nm,0.4s						
PB01	**IPOC Station P**	**1.22**	**113**	⇓*i*P	**Pb**	**19 28 05.7**	**+0.3**
PB01				*i* S	**Sb**	**19 28 20.6**	**-0.2**
PB01				IAML		19 28 24.8	
	comp=E,1µm,0.3s						
PB11	**IPOC Station P**	**1.27**	**51**	⇓*i*P	**Pb**	**19 28 06.4**	**+0.2**
PB11				*i* S	**Sb**	**19 28 22.6**	**+0.5**
PB11				IAML		19 28 28.7	
	comp=N,1µm,0.7s						
PB07	**IPOC Station P**	**1.37**	**147**	⇑*i*P	**Pb**	**19 28 07.6**	**-0.5**
PB07				*e*S	**Sb**	**19 28 25.4**	**+0.1**
PB07				IAML		19 28 32.5	
	comp=E,768nm,0.5s						
PB08	**IPOC Station P**	**1.51**	**74**	⇓*i*P	**Pb**	**19 28 10.5**	**0.0**
PB08				*i* S	**Sb**	**19 28 30.1**	**+0.7**
PB08				IAML		19 28 35.5	
	comp=N,415nm,0.2s						
PB03	**IPOC Station P**	**1.71**	**149**	⇑*i*P	**Pn**	**19 28 12.3**	**+0.7**
PB03				*i* S	**Sb**	**19 28 34.1**	**-0.9**
PB03				IAML		19 28 46.6	
	comp=E,344nm,0.3s						
MNMC	**Minye Minye**	**1.77**	**36**	⇓*e*P	**Pb**	**19 28 14.1**	**-0.7**
MNMC				*i* S	**Sb**	**19 28 37.4**	**+0.7**
PB09	**IPOC Station P**	**1.82**	**132**	⇑*i*P	**Pb**	**19 28 15.5**	**-0.2**
PB09				*i* S	**Sb**	**19 28 39.5**	**+1.3**
PB04	**IPOC Station P**	**1.82**	**164**	*e*P	**Pn**	**19 28 13.3**	**+0.1**
PB04				*i* S	**Sn**	**19 28 34.9**	**-0.8**
LPAZ	**La Paz**	**4.91**	**30**	Pn	**Pb**	19 29 03.5	-5.1
	comp=E,0.6nm,0.3s,baz=214,slow=6.2,SNR=8.1						
H03N1	**Juan Fernandez**	**14.75**	**208**	T	T	19 46 24.6	
	baz=34,slow=72,SNR=210						
H03N2	**Juan Fernandez**	**14.76**	**208**	T	T	19 46 21.9	
	baz=34,slow=72,SNR=121						
H03N3	**Juan Fernandez**	**14.77**	**208**	T	T	19 46 22.5	
	baz=34,slow=72,SNR=102						
TORD	**Torodi Ar. Bea**	**78.63**	**71**	P	**P**	**19 39 43.2**	**-0.4**
	comp=E,0.7nm,0.7s,baz=249,slow=5.1,SNR=9.5						
H11S2	**WAKE ISLAND Hyl**	**26.10**	**278**	T	T	22 05 51.5	
	baz=102,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hyl**	**26.11**	**278**	T	T	22 05 50.9	
	baz=102,slow=74,SNR=15						
H11S3	**WAKE ISLAND Hyl**	**26.12**	**278**	T	T	22 05 55.5	
	baz=102,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hyl**	**26.16**	**280**	T	T	22 05 49.7	
	baz=102,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hyl**	**26.18**	**280**	T	T	22 05 49.5	
	baz=102,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hyl**	**26.18**	**280**	T	T	22 05 48.6	
	baz=102,slow=75,SNR=5.2						
MKAR	**Makanchi Array**	**145.83**	**34**	PKPbc	**PKPab**	**19 47 21.6**	**+0.8**
	comp=E,0.8nm,0.9s,baz=312,slow=4.9,SNR=3.6						

*IDC **31** 19:51:33.5±3.0,17˚.83S×176˚.44W,h0km,mb4.2/3, mb1 4.4/4,mb1mx3.8/29,mbtmp4.3/4,ML4.3/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/32,Error ellipse: s-maj=168.6km s-min=32.1km az=147.0*

*NEIC **31** 19:51:46.1±1.0,17˚.6S±0˚.1×175˚.5W±0˚.2,h183km±18km, mb4.3/14,Error ellipse: s-maj=24.9km s-min=18.5km az=92.0*

ISC 31 19:51:37.4±0.9,17˚.9S±0˚.1×176˚.4W±0˚.1,h35km,n22, σ0§67/21,mb4.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.94**	**49**	Pn	**Pn**	**19 53 02.9**	**-0.1**
	7.4nm,0.3s,baz=260,slow=6.1,SNR=4.8						
AFI				Sn	Sn	19 53 58.2	-12
	2.9nm,0.3s,baz=41,slow=19,SNR=3.5						
AFI	**Afiamalu**	**5.94**	**49**		**Pn**	**19 53 02.7**	**-0.3**
NIUE	**Niue**	**6.23**	**102**	Pn	**Pn**	**19 53 07.6**	**+0.7**
RAR	**Rarotonga**	**15.99**	**105**	LR	LR	19 59 23.6	
	comp=Z,52nm,20.0s,baz=165,slow=29						
URZ	**Urewera**	**21.07**	**194**	P	**P**	**19 56 18.2**	**-0.4**
URZ				IAmb	IAmb	19 56 27.3	
	comp=Z,28nm,1.4s						
QRZ	**Quartz Range**	**24.77**	**200**	P	**P**	**19 56 55.9**	**+0.1**
STKA	**Stephens Creek**	**40.34**	**242**	P	**P**	**19 59 12.9**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=90,slow=13,SNR=3.3						
MCQ	**Macquarie Isla**	**41.16**	**202**	P	**P**	**19 59 16.4**	**-1.8**
BBOO	**Buckleboo**	**45.11**	**241**	P	**P**	**19 59 50.5**	**0.0**
BBOO				IAmb	IAmb	20 00 14.6	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**46.35**	**259**	P	**P**	**20 00 00.6**	**+0.1**
WR0				IAmb	IAmb	20 00 03.3	
	comp=Z,6.8nm,1.4s						
WC3	**Warramunga Arr**	**46.51**	**259**	P	**P**	**20 00 02.5**	**+0.8**
WC3				IAmb	IAmb	20 00 11.2	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**46.51**	**259**	P	**P**	**20 00 02.1**	**+0.4**
WB0				IAmb	IAmb	20 00 11.2	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**46.53**	**259**	P	**P**	**20 00 02.2**	**+0.4**
WRA	**Warramunga Arr**	**46.54**	**259**	P	**P**	**20 00 02.8**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=97,slow=7.7,SNR=36						
WRA	**Warramunga Arr**	**46.54**	**259**	P	**P**	**20 00 02.5**	**+0.5**
AS31	**Alice Springs**	**46.66**	**254**	P	**P**	**20 00 03.5**	**+0.6**
ASAR	**Alice Springs**	**46.66**	**254**	P	**P**	**20 00 03.5**	**+0.6**
	comp=Z,7.4nm,0.6s,baz=88,slow=8.4,SNR=132						
ASAR	**Alice Springs**	**46.66**	**254**	P	**P**	**20 00 02.8**	**-0.1**
MTN	**Manton Dam**	**50.74**	**268**	P	**P**	**20 00 34.3**	**0.0**
MTN				IAmb	IAmb	20 01 01.7	
	comp=Z,10nm,1.4s						
KNRA	**Kununurra**	**52.42**	**264**	P	**P**	**20 00 46.6**	**-0.2**
KNRA				IAmb	IAmb	20 00 49.1	
	comp=Z,9.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**54.94**	**260**	P	**P**	**20 01 05.0**	**-0.4**
SOEI	**Soe**	**58.01**	**270**	P	**P**	**20 01 27.9**	**+0.5**

*IDC **31** 20:16:46.7±1.5,16˚.28N×98˚.32W,h0km,mb3.8/4, mb1 4.0/9,mb1mx3.8/35,mbtmp3.8/9,ML3.7/4,MS3.2/4, Ms1 3.2/4,ms1mx2.9/30,Error ellipse: s-maj=32.0km s-min=14.4km az=19.0*

*NEIC **31** 20:16:49.9±3.1,16˚.09N±0˚.07×98˚.32W±0˚.05,h20km±6km, Error ellipse: s-maj=10.4km s-min=5.9km az=205.0*

*MEX **31** 20:16:49.2±1.3,16˚.05N×98˚.36W,h6km±8km,MD4.4*

ISC 31 20:16:46.6±1.5,16˚.01N±0˚.04×98˚.34W±0˚.03,h7km±10km, n134,σ1§80/170,mb4.3/29,MS2.9/3,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**28**	*e*P	**Pb**	**20 16 56.5**	**-0.1**
PNIG				*i* S	**Sb**	**20 17 02.7**	**-0.7**
PNIG	**Pinotepa**	**0.43**	**28**		**Pb**	**20 16 56.5**	**-0.1**
PNIG					**Sb**	**20 17 02.7**	**-0.7**
YOIG	**Yosondua**	**1.14**	**42**	*e*P	**Pn**	**20 17 08.1**	**-1.1**
YOIG				*e*S	**Sb**	**20 17 22.3**	**-1.5**
PEIG	**Puerto Escondi**	**1.14**	**90**	*e*P	**Pb**	**20 17 08.1**	**-0.6**
PEIG				*e*S	**Sg**	**20 17 22.8**	**-0.6**
TXIG	**Tlaxiaco**	**1.35**	**24**	*e*P	**Pn**	**20 17 11.2**	**-1.0**
TXIG				*e*S	**Sb**	**20 17 27.1**	**-3.0**
TLIG	**Tlapa**	**1.56**	**352**	*e*P	**Pn**	**20 17 13.6**	**-1.3**
TLIG				*e*S	**Sn**	**20 17 32.3**	**-3.2**
TLIG	**Tlapa**	**1.56**	**352**	Pn	**Pn**	**20 17 13.6**	**-1.3**
TLIG					**Sb**	**20 17 34.5**	**-1.4**
ACP2	**Acapulco**	**1.72**	**300**	*i* P	**Pg**	**20 17 20.1**	**+0.6**
ACP2				*e*S	**Sb**	**20 17 40.5**	**+0.1**
PANG	**Puerto Angel**	**1.82**	**100**	*i* P	**Pn**	**20 17 15.5**	**-2.9**
PANG				*e*S	**Sn**	**20 17 37.4**	**-4.3**
VHO	**Vista Hermosa**	**1.87**	**55**	*e*P	**Pn**	**20 17 18.7**	**-0.5**
VHO				*i* S	**Sn**	**20 17 40.7**	**-2.4**
OXBJ	**Oaxaca**	**1.87**	**55**	*e*P	**Pn**	**20 17 18.6**	**-0.6**
OXBJ				*e*S	**Sn**	**20 17 41.0**	**-2.3**
HLIG	**Huajuapan de L**	**1.88**	**16**	*e*P	**Pn**	**20 17 18.6**	**-0.8**
HLIG				*i* S	**Sn**	**20 17 40.5**	**-3.0**
FTIG	**Fresnillo de T**	**1.90**	**6**	*e*P	**Pn**	**20 17 18.7**	**-0.8**
FTIG				*e*S	**Sn**	**20 17 40.4**	**-3.5**
CAIG	**El Cayaco**	**2.12**	**300**	*e*P	**Pn**	**20 17 20.4**	**-2.0**
CAIG				*i* S	**Sn**	**20 17 45.6**	**-3.4**
CAIG	**El Cayaco**	**2.12**	**300**		**Pn**	**20 17 20.4**	**-2.0**
CAIG					**Sn**	**20 17 45.6**	**-3.4**
HUIG	**Huatulco**	**2.16**	**96**	*e*S	**Sn**	**20 17 47.8**	**-2.2**
HUIG	**Huatulco**	**2.16**	**96**		**Sn**	**20 17 47.8**	**-2.2**
MEIG	**Mezcala**	**2.27**	**327**	*e*P	**Pn**	**20 17 23.8**	**-0.8**
MEIG				*e*S	**Sn**	**20 17 50.2**	**-2.7**
MEIG	**Mezcala**	**2.27**	**327**		**Pn**	**20 17 23.8**	**-0.8**
MEIG					**Sn**	**20 17 50.2**	**-2.7**
TOIG	**Toxpalan**	**2.41**	**30**	*e*P	**Pn**	**20 17 26.7**	**+0.2**
TOIG				*e*S	**Sn**	**20 17 54.4**	**-2.0**
PLIG	**Platanillo**	**2.62**	**335**	*e*P	**Pn**	**20 17 28.4**	**-1.0**
PLIG				*e*S	**Sn**	**20 17 58.4**	**-3.1**
PLIG	**Platanillo**	**2.62**	**335**		**Pn**	**20 17 28.4**	**-1.0**
PLIG					**Sn**	**20 17 58.4**	**-3.1**
YAIG	**Yautepec**	**2.92**	**346**	*e*P	**Pn**	**20 17 33.0**	**-0.7**
YAIG				*e*S	**Sn**	**20 18 07.0**	**-2.1**
YAIG	**Yautepec**	**2.92**	**346**		**Pn**	**20 17 33.0**	**-0.7**
YAIG					**Sn**	**20 18 07.0**	**-2.1**
ARIG	**Puente Sto Nin**	**2.97**	**320**	*i* P	**Pn**	**20 17 33.3**	**-0.9**
ARIG				*e*S	**Sn**	**20 18 07.7**	**-2.4**
ARIG	**Puente Sto Nin**	**2.97**	**320**		**Pn**	**20 17 34.6**	**+0.5**
ARIG					**Sn**	**20 18 06.9**	**-3.1**
PHPU	**Puebla**	**3.03**	**3**	*e*S	**Sn**	**20 18 09.4**	**-2.4**
PPM	**Popocatepetl**	**3.06**	**355**	*e*P	**Pn**	**20 17 35.8**	**0.0**
PPM				*e*S	**Sn**	**20 18 11.2**	**-1.7**
MAVM	**Malinalco, Edo**	**3.14**	**340**	*i* P	**Pn**	**20 17 36.5**	**-0.1**
MAVM				*i* S	**Sn**	**20 18 12.6**	**-1.9**
MAVM	**Malinalco, Edo**	**3.14**	**340**		**Pb**	**20 17 42.1**	**-0.7**
MAVM					**Sb**	**20 18 21.4**	**0.0**
AMVM	**AMECAMECA**	**3.14**	**352**	*i* P	**Pn**	**20 17 36.7**	**0.0**
AMVM				*i* S	**Sn**	**20 18 12.0**	**-2.6**
AMVM	**AMECAMECA**	**3.14**	**352**		**Pb**	**20 17 42.9**	**0.0**
AMVM					**Sn**	**20 18 13.9**	**-0.7**
UNM	**Universidad Na**	**3.40**	**346**	*i* P	**Pn**	**20 17 39.7**	**-0.6**
UNM				*i* S	**Sn**	**20 18 18.8**	**-2.3**
UNM	**Universidad Na**	**3.40**	**346**		**Pn**	**20 17 40.5**	**+0.1**
CMIG	**Matias Romero**	**3.48**	**71**	Pn	**Pn**	**20 17 40.1**	**-1.1**
	4.9nm,0.3s,baz=256,slow=12,SNR=13						
CMIG				Sn	**Sn**	**20 18 21.4**	**-1.3**
	26nm,0.3s,baz=250,slow=13,SNR=5.8						
CMIG				Lg	Lg	20 18 35.1	
	34nm,0.3s,baz=298,slow=9.6,SNR=6.3						
CMIG	**Matias Romero**	**3.48**	**71**	*e*P	**Pn**	**20 17 40.8**	**-0.5**
CMIG				*e*S	**Sn**	**20 18 22.6**	**-0.1**
CMIG	**Matias Romero**	**3.48**	**71**		**Pn**	**20 17 40.8**	**-0.5**
CMIG					LR	20 18 29.6	
PBVM	**Pinon**	**3.49**	**348**	*i* P	**Pn**	**20 17 41.0**	**-0.2**
PBVM				*e*S	**Sn**	**20 18 20.6**	**-2.2**
PBVM	**Pinon**	**3.49**	**348**		**Pb**	**20 17 48.0**	**-0.7**
PBVM					**Sn**	**20 18 17.6**	**-5.2**
TOVM	**TOLUCA**	**3.50**	**339**	*e*P	**Pn**	**20 17 41.5**	**-0.3**
TOVM				*e*S	**Sn**	**20 18 21.6**	**-2.0**
TOVM	**TOLUCA**	**3.50**	**339**		**Pb**	**20 17 45.5**	**-3.6**
TOVM					**Sn**	**20 18 25.6**	**+2.0**
PTVM	**Pico Tres Padr**	**3.64**	**348**	*e*P	**Pn**	**20 17 43.0**	**-0.6**
PTVM				*i* S	**Sn**	**20 18 25.6**	**-1.4**
PTVM	**Pico Tres Padr**	**3.64**	**348**		**Pb**	**20 17 50.0**	**-1.5**
PTVM					**Sb**	**20 18 33.6**	**-2.4**
AZVM	**Cuida Lopez Ma**	**3.67**	**346**	*e*P	**Pn**	**20 17 43.2**	**-0.9**
AZVM				*i* S	**Sn**	**20 18 26.1**	**-1.6**
AZVM	**Cuida Lopez Ma**	**3.67**	**346**		**Pn**	**20 17 47.2**	**+3.1**
AZVM					**Sn**	**20 18 29.1**	**+1.4**
VTVM	**Tizayuca**	**3.77**	**354**	*e*P	**Pn**	**20 17 44.3**	**-1.0**
VTVM				*e*S	**Sn**	**20 18 31.7**	**+1.5**
VTVM	**Tizayuca**	**3.77**	**354**		**Pb**	**20 17 54.3**	**+0.7**
VTVM					**Sn**	**20 18 31.7**	**+1.5**
ZUVM	**ZUMPANGO**	**3.86**	**350**	*i* P	**Pb**	**20 17 52.1**	**-3.2**
ZUVM				*e*S	**Sn**	**20 18 32.2**	**-0.3**
ZUVM	**ZUMPANGO**	**3.86**	**350**		**Pb**	**20 17 52.1**	**-3.2**
ZUVM					**Sn**	**20 18 32.2**	**-0.3**
ATVM	**ATLACOMULCO**	**4.00**	**339**	*e*P	**Pn**	**20 17 52.4**	**+3.8**
ATVM	**ATLACOMULCO**	**4.00**	**339**		**Pn**	**20 17 52.4**	**+3.8**
ACIG	**Acambay**	**4.22**	**340**	*e*P	**Pn**	**20 17 54.6**	**+3.1**
ACIG				*e*S	**Sn**	**20 18 40.8**	**-0.3**
DEIG	**Demacu**	**4.32**	**351**	*e*P	**Pn**	**20 17 54.4**	**+1.4**
MOIG	**Morelia**	**4.55**	**324**		**Pn**	**20 17 59.6**	**+3.5**
CCIG	**Comitan**	**5.96**	**87**	Pn	**Pn**	**20 18 16.2**	**+0.7**
APG	**El Apazote**	**7.66**	**96**	Pn	**Pn**	**20 18 39.2**	**+0.4**
	0.7nm,0.3s,baz=281,slow=8.8,SNR=2.0						
APG				Sn	**Sn**	**20 20 04.2**	**-1.8**
	0.5nm,0.3s,baz=227,slow=22,SNR=2.2						
APG				Lg	Lg	20 20 51.8	
	1.3nm,0.3s,baz=57,slow=16,SNR=2.6						
TEIG	**Tepich**	**10.45**	**65**	Pn	**Pn**	**20 19 14.7**	**-2.2**
TXAR	**Lajitas Array**	**14.14**	**341**	Pn	**Pn**	**20 20 06.0**	**-1.5**
	baz=160,slow=11,SNR=1.4						
TXAR				Lg	Lg	20 24 06.8	
	baz=320,slow=34,SNR=1.6						
TXAR				LR	LR	20 26 13.2	
	comp=Z,115nm,21.2s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**14.14**	**341**		**Pn**	**20 20 06.0**	**-1.5**
JTS	**Las Juntas de**	**14.21**	**112**	Pn	**Pn**	**20 20 11.3**	**+2.9**
	0.4nm,0.3s,baz=284,slow=12,SNR=1.7						
JCT	**Junction City**	**14.47**	**355**	P	**P**	**20 20 19.0**	**+0.2**
ABTX	**Abilene, Hawle**	**16.59**	**356**	P	**P**	**20 20 43.1**	**+0.9**
ABTX				IAmb	IAmb	20 20 44.7	
	comp=Z,27nm,1.0s						
319A	**Douglas**	**18.27**	**329**	P	**P**	**20 21 01.9**	**+0.9**
MSTX	**Muleshoe**	**18.33**	**348**	P	**Pn**	**20 21 00.7**	**-0.8**
121A	**Cookes Peak, D**	**18.55**	**334**	P	**Pn**	**20 21 05.7**	**+1.4**
X37A	**Clayton**	**18.70**	**8**	P	**Pn**	**20 21 06.7**	**+0.9**
MIAR	**Mount Ida**	**18.95**	**12**	P	**Pn**	**20 21 08.8**	**-0.2**
AMTX	**Amarillo**	**19.04**	**352**	P	**P**	**20 21 09.0**	**-0.4**
BNM	**Barren Site**	**19.55**	**339**		**Pn**	**20 21 17.4**	**+1.1**
ANMO	**Albuquerque**	**20.22**	**340**	P	**P**	**20 21 20.7**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=136,slow=13,SNR=5.8						
ANMO				LR	LR	20 29 11.6	
	comp=Z,54nm,21.1s,baz=155,slow=37						
ANMO	**Albuquerque**	**20.22**	**340**	P	Pn	20 21 23.8	-0.5
CROK	**Carrier**	**20.42**	**1**	P	**P**	**20 21 24.1**	**-0.3**
HHAR	**Hobbs**	**20.57**	**10**	P	Pn	20 21 27.4	-0.8
HHAR				IAmb	IAmb	20 21 46.1	
	comp=Z,24nm,1.6s						
214A	**Organ Pipe Nat**	**20.63**	**323**	P	Pn	20 21 28.6	-0.4
U38A	**Gravette**	**20.65**	**9**	P	Pn	20 21 30.4	+1.2
U38A				IAmb	IAmb	20 21 31.5	
	comp=Z,10nm,0.8s						
U40A	**Yellville**	**20.85**	**13**		Pn	20 21 31.5	+0.1
U40A				IAmb	IAmb	20 21 33.9	
	comp=Z,16nm,0.9s						
LCAR	**Lake Charles**	**20.98**	**16**	P	Pn	20 21 32.3	-0.7
SPX	**San Pedro Mart**	**21.65**	**317**	P	**P**	**20 21 39.1**	**+1.1**
T25A	**Trinidad**	**21.73**	**347**	P	**P**	**20 21 41.2**	**+2.5**
T25A				IAmb	IAmb	20 21 44.2	
	comp=Z,12nm,1.0s						
MGMO	**Mountain Grove**	**21.74**	**13**	P	**P**	**20 21 39.9**	**+1.3**
MGMO				IAmb	IAmb	20 21 47.5	
	comp=Z,25nm,1.2s						
X16A	**Lo Mia Camp, P**	**21.79**	**330**	P	**P**	**20 21 41.9**	**+2.5**
X16A				IAmb	IAmb	20 21 47.9	
	comp=Z,8.7nm,0.9s						
PBMO	**Poplar Bluff**	**21.85**	**17**	P	**P**	**20 21 41.8**	**+2.1**
T42A	**Van Buren**	**21.91**	**16**	P	**P**	**20 21 42.0**	**+1.7**
T42A				IAmb	IAmb	20 21 43.9	
	comp=Z,8.7nm,0.9s						
GOGA	**Godfrey**	**21.93**	**35**	P	**P**	**20 21 38.4**	**-2.2**
GOGA				IAmb	IAmb	20 21 41.2	
	comp=Z,8.6nm,0.7s						
Y52A	**Lilburn**	**21.95**	**33**	P	**P**	**20 21 39.5**	**-1.4**
Y52A				IAmb	IAmb	20 21 41.1	
	comp=Z,14nm,0.9s						
S39A	**Bolivar**	**22.05**	**11**	P	**P**	**20 21 42.8**	**+0.8**
S39A				IAmb	IAmb	20 21 44.9	
	comp=Z,13nm,0.9s						
SWET	**Sewanee**	**22.12**	**28**	P	**P**	**20 21 42.1**	**-0.6**
SWET				IAmb	IAmb	20 21 44.1	
	comp=Z,12nm,0.8s						
WVT	**Waverly**	**22.12**	**23**	P	**P**	**20 21 41.6**	**-1.1**
WVT				IAmb	IAmb	20 21 45.2	
	comp=Z,18nm,0.8s						
V48A	**Smith Brothers**	**22.18**	**25**	P	**P**	**20 21 42.2**	**-1.2**
W50A	**Signal Mountai**	**22.39**	**29**	P	**P**	**20 21 45.0**	**-0.7**
W50A				IAmb	IAmb	20 21 52.2	
	comp=Z,15nm,0.9s						
SDCO	**Great Sand Dun**	**22.56**	**345**	P	**P**	**20 21 50.2**	**+2.5**
SDCO				IAmb	IAmb	20 21 58.1	
	comp=Z,8.2nm,1.1s						
T45A	**Paducah**	**22.63**	**21**	P	**P**	**20 21 47.6**	**-0.5**
WUAZ	**Wupatki**	**22.66**	**331**	P	**P**	**20 21 51.0**	**+2.4**
WUAZ				IAmb	IAmb	20 22 10.0	
	comp=Z,9.7nm,1.1s						
R40A	**Maddies Statio**	**22.83**	**12**	P	**P**	**20 21 50.7**	**+0.5**
R40A				IAmb	IAmb	20 21 52.7	
	comp=Z,15nm,0.8s						
S22A	**4UR Ranch, Cre**	**22.92**	**343**	P	**P**	**20 21 53.0**	**+1.5**
MVCO	**Mesa Verde**	**22.96**	**339**	P	**P**	**20 21 53.5**	**+1.6**
MVCO				IAmb	IAmb	20 21 54.8	
	comp=Z,9.2nm,1.1s						
W52A	**Murphy**	**22.98**	**32**	P	**P**	**20 21 51.9**	**+0.1**
T47A	**Sharon Grove**	**23.15**	**23**	P	**P**	**20 21 53.1**	**-0.5**
HODGE	**Hodges**	**23.21**	**36**	P	**P**	**20 21 52.9**	**-1.3**
HODGE				IAmb	IAmb	20 21 54.5	
	comp=Z,14nm,0.9s						
TKL	**Tuckaleechee C**	**23.50**	**31**	LR	LR	20 32 49.4	
	comp=Z,25nm,21.1s,baz=157,slow=41						
USIN	**University of**	**23.82**	**21**	P	**P**	**20 21 59.3**	**-0.8**
PV01	**Paradox Valley**	**23.82**	**340**	P	**P**	**20 22 02.2**	**+1.8**
PV01				IAmb	IAmb	20 22 08.9	
	comp=Z,5.7nm,0.9s						
PV13	**Radium Mtn., P**	**23.92**	**339**	P	**P**	**20 22 02.7**	**+1.2**
PV15	**Paradox Valley**	**23.98**	**340**	P	**P**	**20 22 03.9**	**+1.9**
PV15				IAmb	IAmb	20 22 10.8	
	comp=Z,8.1nm,0.9s						
PV18	**Skein Mesa, Pa**	**24.03**	**339**	P	**P**	**20 22 02.9**	**+0.4**
PV07	**Paradox Valley**	**24.12**	**340**	P	**P**	**20 22 05.0**	**+1.7**
PV07				IAmb	IAmb	20 22 10.6	
	comp=Z,6.6nm,0.8s						
PV22	**Blue Mesa, Par**	**24.25**	**340**	P	**P**	**20 22 06.4**	**+1.9**
PV22				IAmb	IAmb	20 22 11.6	
	comp=Z,4.8nm,0.9s						
SMCO	**Snowmass**	**24.29**	**344**	P	**P**	**20 22 06.0**	**+0.9**
SMCO				IAmb	IAmb	20 22 13.2	
	comp=Z,6.5nm,1.1s						
KMSC	**Kings Mountain**	**24.39**	**35**	P	**P**	**20 22 03.1**	**-2.5**
ISCO	**Idaho Springs**	**24.54**	**346**	P	**P**	**20 22 08.8**	**+1.6**
ISCO				IAmb	IAmb	20 22 10.1	
	comp=Z,8.0nm,0.8s						
MTPU	**Mount Pierson**	**25.12**	**334**	P	**P**	**20 22 14.5**	**+2.0**
Q16A	**Castle Valley**	**25.45**	**336**	P	**P**	**20 22 16.8**	**+1.4**
N23A	**Red Feather La**	**25.66**	**347**	P	**P**	**20 22 19.6**	**+2.2**
N23A				IAmb	IAmb	20 22 25.4	
	comp=Z,8.0nm,0.8s						
TMUT	**Trail Mountain**	**25.80**	**337**	P	**P**	**20 22 20.4**	**+1.8**
PHWY	**Pilot Hill**	**25.95**	**348**	P	**P**	**20 22 21.3**	**+1.4**
PHWY				IAmb	IAmb	20 22 23.7	
	comp=Z,12nm,1.4s						
V58A	**Windy Hill, Pi**	**26.12**	**37**	P	**P**	**20 22 21.7**	**+0.4**
P49A	**Miami Univ. Ec**	**26.29**	**24**	P	**P**	**20 22 21.3**	**-1.4**
RDMU	**Red Mountain**	**26.35**	**340**	P	**P**	**20 22 24.4**	**+0.9**
SDV	**Santo Domingo**	**27.94**	**101**	P	**P**	**20 22 39.8**	**+1.7**
	comp=Z,4.0nm,0.6s,baz=304,slow=7.3,SNR=4.1						
PDAR	**Pinedale Array**	**28.35**	**342**	P	**P**	**20 22 39.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=158,slow=9.7,SNR=1.6						
PDAR				LR	LR	20 34 51.2	
	comp=Z,165nm,18.5s,baz=166,slow=39						
PDAR	**Pinedale Array**	**28.35**	**342**	P	**P**	**20 22 42.2**	**+0.7**
NVAR	**Mina Array Bea**	**28.41**	**326**	P	**P**	**20 22 39.6**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=155,slow=7.0,SNR=2.2						
LOHW	**Long Hollow**	**29.43**	**342**	P	**P**	**20 22 52.3**	**+1.2**
LOHW				IAmb	IAmb	20 22 53.7	
	comp=Z,4.1nm,1.2s						
**LA

RSA					S	**Sn**	**20 27 13.3 -1.5**		
PNCL	**Nicolau / Gran**	**2.11**	**339**		P	**Pn**	**20 26 54.5 +0.8**		
PNCL					S	**Sn**	**20 27 19.7 -0.3**		
	comp=E,7.5nm,0.5s								
PNCL	**Nicolau / Gran**	**2.11**	**339**	*e*Pn		**Pn**	**20 26 54.5 +0.8**		
PNCL				*e*Sn		**Sn**	**20 27 19.7 -0.3**		
PNCL				A		A	20 27 31.5		
	comp=E,7.5nm,0.5s								
HORN	**Hornachuelos**	**2.51**	**47**	P		**Pn**	**20 26 59.8 +0.6**		
HORN				S		**Sn**	**20 27 28.6 -1.4**		
ECAB	**El Cabril**	**2.58**	**41**	P		**Pn**	**20 27 01.3 +1.1**		
	comp=E,0.2nm,0.1s,SNR=11								
ECAB				S		**Sn**	**20 27 30.7 -1.1**		
	comp=E,3.6nm,0.2s,SNR=7.9								
ZHG	**ZHG**	**2.79**	**164**	P		**Pn**	**20 27 04.3 +1.2**		
ZHG				S		**Sn**	**20 27 34.5 -2.5**		
EGOR	**Sierra Gorda,**	**2.95**	**70**	P		**Pn**	**20 27 08.4 +3.1**		
	comp=E,0.6nm,0.1s,SNR=4.0								
EGOR				S		**Sn**	**20 27 40.8 0.0**		
	comp=E,3.9nm,0.3s,SNR=7.9								
PMTG	**Montargil**	**2.97**	**350**	P		**Pn**	**20 27 06.7 +1.2**		
PMTG				S		**Sn**	**20 27 40.5 -0.7**		
	comp=E,4.7nm,0.9s								
PMTG	**Montargil**	**2.97**	**350**	*e*Pn		**Pn**	**20 27 06.7 +1.2**		
PMTG				*e*Sn		**Sn**	**20 27 40.5 -0.7**		
PMTG				A		A	20 28 01.4		
	comp=E,4.7nm,0.9s								
PMAFR	**Mafra**	**3.12**	**335**	*e*Pn		**Pn**	**20 27 08.8 +1.2**		
PMAFR				*e*Sn		**Sn**	**20 27 44.2 -0.8**		
PMAFR				A		A	20 27 45.0		
	comp=E,8.7nm,0.2s								
EADA	**Adamuz**	**3.13**	**49**	P		**Pn**	**20 27 09.5 +1.7**		
	comp=E,0.3nm,0.0s,SNR=7.9								
EADA				S		**Sn**	**20 27 42.9 -2.3**		
	comp=E,7.0nm,0.2s,SNR=4.7								
ELGU	**Los Guajares,**	**3.26**	**76**	P		**Pn**	**20 27 12.1 +2.5**		
	comp=E,0.2nm,0.1s,SNR=7.9								
ELGU				S		**Sn**	**20 27 49.8 +1.4**		
	comp=E,4.0nm,0.4s,SNR=7.9								
PMRV	**Marv??o**	**3.29**	**2**	P		**Pn**	**20 27 10.9 +1.0**		
PMRV				S		**Sn**	**20 27 47.3 -1.7**		
	comp=E,4.1nm,0.4s								
PMRV	**Marv??o**	**3.29**	**2**	*e*Pn		**Pn**	**20 27 10.9 +1.0**		
PMRV				*e*Sn		**Sn**	**20 27 47.3 -1.7**		
PMRV				A		A	20 27 50.2		
	comp=E,4.1nm,0.4s								
EQUE	**Quentar**	**3.48**	**71**	P		**Pn**	**20 27 14.9 +2.2**		
	comp=E,0.1nm,0.1s,SNR=7.9								
EQUE				S		**Sn**	**20 27 53.7 -0.4**		
	comp=E,1.3nm,0.3s,SNR=4.8								
PSBE	**So Bento**	**3.51**	**344**	*e*Pn		**Pn**	**20 27 14.4 +1.5**		
PSBE				*e*Sn		**Sn**	**20 27 53.3 -1.2**		
PCBR	**Castelo Branco**	**3.69**	**1**	P		**Pn**	**20 27 16.6 +1.1**		
PCBR				S		**Sn**	**20 27 57.2 -1.9**		
	comp=E,1.2nm,0.3s								
PCBR	**Castelo Branco**	**3.69**	**1**	*e*Pn		**Pn**	**20 27 16.6 +1.1**		
PCBR				*e*Sn		**Sn**	**20 27 57.2 -1.9**		
PCBR				A		A	20 28 01.5		
	comp=E,2.3nm,0.3s								
CZD	**Col de Zad**	**3.74**	**145**	P		**Pn**	**20 27 16.4 +0.1**		
EQES	**Quesada**	**3.96**	**64**	P		**Pn**	**20 27 21.9 +2.6**		
	comp=E,0.3nm,0.1s,SNR=7.9								
EQES				S		**Sn**	**20 28 03.2 -2.8**		
	comp=E,2.4nm,0.4s,SNR=7.9								
PCAS	**Casmilo, Conde**	**3.98**	**350**	P		**Pn**	**20 27 22.8 +3.5**		
PCAS	**Casmilo, Conde**	**3.98**	**350**	*e*Pn		**Pn**	**20 27 22.8 +3.5**		
MD31	**MD31**	**4.00**	**144**	P		**Pn**	**20 27 20.1 +0.2**		
MDT	**Midelt**	**4.12**	**143**	P		**Pn**	**20 27 21.5 0.0**		
MTE	**Manteigas**	**4.25**	**0**	P		**Pn**	**20 27 25.0 +1.8**		
MTE				S		**Sn**	**20 28 10.5 -2.5**		
	comp=E,2.7nm,0.4s								
MTE	**Manteigas**	**4.25**	**0**	*e*Pn		**Pn**	**20 27 25.0 +1.8**		
MTE				*e*Sn		**Sn**	**20 28 10.5 -2.5**		
MTE				A		A	20 28 12.1		
	comp=E,5.3nm,0.4s								
JBK	**JBK**	**4.47**	**112**	P		**Pn**	**20 27 26.9 +0.5**		
SESP	**Santiago Espad**	**4.47**	**62**	P		**Pn**	**20 27 28.1 +1.8**		
OUK	**Oukaimeden**	**4.93**	**183**	P		**Pn**	**20 27 32.9 +0.2**		
MVO	**Moncorvo**	**5.04**	**5**	*e*Pn		**Pn**	**20 27 35.3 +1.3**		
MVO				*e*Sn		**Sn**	**20 28 28.8 -3.4**		
MVO				A		A	20 28 30.6		
	comp=E,4.6nm,0.4s								
POLO	**Lamas de Olo**	**5.23**	**358**	P		**Pn**	**20 27 37.8 +1.1**		
POLO				S		**Sn**	**20 28 34.7 -2.4**		
POLO	**Lamas de Olo**	**5.23**	**358**	*e*Pn		**Pn**	**20 27 37.8 +1.1**		
POLO				*e*Sn		**Sn**	**20 28 34.7 -2.4**		
GUD	**Guadarrama**	**5.24**	**30**	P		**Pn**	**20 27 38.6 +1.9**		
	comp=E,0.4nm,0.2s,SNR=7.9								
GUD				S		**Sn**	**20 28 34.3 -3.0**		
	comp=E,1.3nm,0.3s,SNR=7.9								
OUZM	**OUZ**	**5.26**	**172**	P		**Pn**	**20 27 39.4 +0.7**		
ETOB	**Tobarra**	**5.41**	**61**	P		**Pn**	**20 27 40.5 +1.4**		
	comp=E,2.9nm,0.7s,SNR=12								
ETOB				S		**Sn**	**20 28 37.9 -3.5**		
	comp=E,1.2nm,0.3s,SNR=7.9								
TZRR	**Tazzarine**	**5.59**	**162**	P		**Pn**	**20 27 42.9 +1.2**		
PBRG	**Braganca**	**5.69**	**6**	S		**Sn**	**20 28 46.5 -1.9**		
PBRG	**Braganca**	**5.69**	**6**	*e*Sn		**Sn**	**20 28 46.5 -1.9**		
ECAL	**Calabor**	**5.83**	**6**	P		**Pn**	**20 27 46.0 +1.1**		
	comp=E,1.0nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**20 28 48.3 -3.5**		
	comp=E,4.8nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**7.00**	**51**	P		**Pn**	**20 28 02.8 +1.8**		
	comp=E,0.3nm,0.3s,SNR=7.9								
EMOS				S		**Sn**	**20 29 16.8 -3.9**		
	comp=E,1.3nm,0.4s,SNR=7.9								

*JMA **31** 20:36:29.6±0.1,28°.39N×142°.73E,h17km±2km,M4.7*
*IDC **31** 20:36:34.3±3.9,28°.23N×141°.76E,h32km±26km,mb3.9/23, mb1 4.0/28,mb1mx3.9/49,mbtmp4.1/28,ML3.5/5, Error ellipse: s-maj=20.4km s-min=17.1km az=87.0*
*NEIC **31** 20:36:35.2±2.2,28°.21N±0°.06×141°.9E±0°.1,h41km±6km, mb4.6/31,Error ellipse: s-maj=14.5km s-min=8.0km az=76.0*

ISC 31 20:36:34.8±0.5,28°29N±0°.04×141°95E±0°.09,h35km,n95, σ1ᵍ35/101,mb4.3/35,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.20**	**170**	P	**Pn**	**Pn**	**20 36 54.2**	**-1.0**
CBIJ				*e*S	**Sn**	**Sn**	**20 37 12.0**	**+1.8**
JCJ	**Chichijima**	**1.20**	**170**	Pn	**Pn**	**Pn**	**20 36 54.2**	**-1.0**
JHH2	**Haha-jima-NKT2**	**1.66**	**173**	P	**Pn**	**Pn**	**20 37 00.8**	**-0.6**
JHH2				*e*S	**Sn**	**Sn**	**20 37 23.4**	**+1.9**
JHJ2	**Mitsune**	**5.15**	**340**	Pn	**Pn**	**Pn**	**20 37 50.8**	**+1.4**
JHJ	**Hachijo jima 2**	**5.17**	**339**	Pn	**Pn**	**Pn**	**20 37 50.1**	**+0.5**
	7.7nm,0.3s,baz=276,slow=20,SNR=10.0							
JHJ				Sn	**Sn**	**Sn**	**20 38 46.9**	**-1.1**
	22nm,0.3s,baz=246,slow=23,SNR=4.6							
BSO1	**Boso 1**	**6.40**	**353**	P	**Pn**	**Pn**	**20 38 05.9**	**-0.2**
BSO1				*e*S	**Sn**	**Sn**	**20 39 17.6**	**-0.1**
JOD2	**Odawara 2**	**7.37**	**341**	P	**Pn**	**Pn**	**20 38 21.3**	**+1.3**
JOD2				*e*S	**Sn**	**Sn**	**20 39 46.0**	**+3.6**
JHU	**Hanno**	**7.88**	**344**	P	**Pn**	**Pn**	**20 38 27.7**	**+0.8**
JHU				*e*S	**Sn**	**Sn**	**20 39 55.2**	**+0.4**
JYT	**Yasato**	**8.06**	**350**		**Pn**	**Pn**	**20 38 30.4**	**+1.1**
JRY	**Ryogami san**	**8.13**	**342**	P	**Pn**	**Pn**	**20 38 31.1**	**+0.7**
JRY				*e*S	**Sn**	**Sn**	**20 40 01.2**	**+0.1**
JGF	**Kuroka**	**8.27**	**333**	Pn	**Pn**	**Pn**	**20 38 35.8**	**+3.4**
JMN	**Monobe**	**8.80**	**310**	Pn	**Pn**	**Pn**	**20 38 42.0**	**+2.5**
MJAR	**Matsushiro Arr**	**8.82**	**340**	Pn	**Pn**	**Pn**	**20 38 40.0**	**+0.2**
	0.5nm,0.3s,baz=164,slow=11,SNR=22							
MJAR	**Matsushiro Arr**	**8.82**	**340**		**Pn**	**Pn**	**20 38 40.9**	**+1.1**
MAJO	**Matsushiro**	**8.82**	**340**	Pn	**Pn**	**Pn**	**20 38 42.0**	**+2.2**
MAT	**Matsushiro**	**8.82**	**340**	P	**Pn**	**Pn**	**20 38 42.0**	**+2.2**
MAT				S	**Sn**	**Sn**	**20 40 32.1**	**+2.1**
JWT	**Wachi**	**8.93**	**323**	Pn	**Pn**	**Pn**	**20 38 40.9**	**-0.4**
JFK	**Kawauchi**	**9.10**	**355**	P	**Pn**	**Pn**	**20 38 42.5**	**-1.2**
JFK				*e*S	**Sn**	**Sn**	**20 40 17.9**	**-7.0**
JMM	**Marumori**	**9.60**	**354**		**Pn**	**Pn**	**20 38 49.6**	**-1.0**
JHS	**Saijyo**	**10.07**	**314**	Pn	**Pn**	**Pn**	**20 38 56.7**	**-0.3**
JSD	**Sado**	**10.20**	**343**	Pn	**Pn**	**Pn**	**20 38 57.7**	**-1.0**
JSU	**Suzuyama**	**10.48**	**291**	Pn	**Pn**	**Pn**	**20 39 02.2**	**-0.4**
JTM	**Tenmabayashi**	**12.49**	**357**	Pn	**Pn**	**Pn**	**20 39 29.6**	**-0.5**
KSRS	**Korea Array**	**14.90**	**311**	Pn	**Pn**	**Pn**	**20 40 01.4**	**-1.5**
	0.0nm,0.3s,baz=126,slow=10,SNR=1.9							
ASAJ	**Asahikawa**	**15.81**	**2**	Pn	**Pn**	**Pn**	**20 40 15.8**	**+1.1**
	1.1nm,0.3s,baz=218,slow=17,SNR=6.0							
JKA	**Kamikawa-asahi**	**15.81**	**2**	P	**P**	**P**	**20 40 17.0**	**-1.2**
USRK	**Ussuriysk Ar.**	**17.78**	**336**	P	**Pn**	**Pn**	**20 40 39.7**	**+0.3**
	baz=141,slow=9.6,SNR=8.2							
USRK	**Ussuriysk Ar.**	**17.78**	**336**	P	**P**	**P**	**20 40 40.4**	**+0.5**

YHNB	**Yeheng**	**18.77**	**264**	P		**Pn**	**20 40 53.1**	**+1.4**	
YHNB				IAmb		IAmb	20 41 10.8		
	comp=E,36nm,1.4s								
YULB	**Yu-li**	**19.21**	**260**	P		**Pn**	**20 40 58.0**	**+0.9**	
SSLB	**Suanglung**	**19.39**	**261**	P		**Pn**	**20 40 59.5**	**+0.4**	
TPUB	**Ta-pu**	**19.82**	**260**	P		**Pn**	**20 41 02.9**	**-1.4**	
TPUB				IAmb		IAmb	20 41 12.3		
	comp=Z,109nm,1.8s								
KLR	**Kul'dur**	**22.34**	**342**	P		**P**	**20 41 29.1**	**-0.3**	
	comp=Z,3.2nm,0.5s,baz=150,slow=8.0,SNR=14								
H11N2	**WAKE ISLAND Hy**	**24.29**	**105**	T		T	21 06 46.6		
	baz=297,slow=75								
H11N1	**WAKE ISLAND Hy**	**24.29**	**105**	T		T	21 06 58.7		
	baz=297,slow=75								
H11N3	**WAKE ISLAND Hy**	**24.31**	**105**	T		T	21 06 52.6		
	baz=297,slow=75								
SONM	**Songino Array**	**33.72**	**315**	P		**P**	**20 43 11.1**	**-1.9**	
	comp=Z,0.3nm,0.4s,baz=110,slow=8.1,SNR=2.6								
SONM	**Songino Array**	**33.72**	**315**	P		**P**	**20 43 13.1**	**+0.2**	
LUWI	**Luwuk**	**34.48**	**215**	P		**P**	**20 43 19.0**	**-0.6**	
SEY	**Seymchan**	**35.32**	**8**	P		**P**	**20 43 26.9**	**+0.6**	
	comp=Z,2.4nm,0.6s,baz=201,slow=22,SNR=4.1								
SOEI	**Soe**	**41.50**	**207**	P		**P**	**20 44 18.8**	**-0.2**	
SOEI				IAmb		IAmb	20 44 57.5		
	comp=Z,12nm,0.9s								
MTN	**Manton Dam**	**42.21**	**196**	P		**P**	**20 44 24.1**	**-0.4**	
MTN				IAmb		IAmb	20 44 29.8		
	comp=Z,9.0nm,1.1s								
KNRA	**Kununurra**	**45.53**	**198**	P		**P**	**20 44 50.4**	**-0.8**	
KNRA				IAmb		IAmb	20 44 55.2		
	comp=Z,24nm,1.4s								
WMQ	**Urumqi**	**45.72**	**305**	*e*P		**P**	**20 44 54.5**	**+1.9**	
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.8s								
WMQ				pmax		pmax			
	comp=Z,64nm,4.3s								
WMQ				LR		LR			
	comp=N,170nm,29.3s								
WMQ				LR		LR			
	comp=E,250nm,29.1s								
WMQ				LR		LR			
	comp=Z,30nm,29.0s								
WB0	**Warramunga Arr**	**48.33**	**190**	P		**P**	**20 45 12.6**	**-0.4**	
WB0				IAmb		IAmb	20 45 21.0		
	comp=Z,6.0nm,0.8s								
ZALV	**Zalesovo Beam**	**48.46**	**318**	P		**P**	**20 45 12.8**	**-0.9**	
	comp=Z,0.5nm,0.3s,baz=104,slow=12,SNR=2.8								
ZALV				PcP		**PcP**	**20 46 39.5**	**0.0**	
	comp=Z,0.8nm,0.4s,baz=109,slow=5.3,SNR=3.8								
WR0	**Warramunga Arr**	**48.49**	**189**	P		**P**	**20 45 13.8**	**-0.5**	
WR0				IAmb		IAmb	20 45 22.1		
	comp=Z,6.2nm,0.9s								
WRAB	**Tennant Creek**	**48.49**	**190**	P		**P**	**20 45 13.9**	**-0.4**	
WRAB				IAmb		IAmb	20 45 22.4		
	comp=Z,6.9nm,1.0s								
WB2	**Warramunga Arr**	**48.50**	**190**	P		**P**	**20 45 14.0**	**-0.4**	
WB2				IAmb		IAmb	20 45 22.5		
	comp=Z,7.1nm,0.9s								
WRA	**Warramunga Arr**	**48.51**	**190**	P		**P**	**20 45 13.7**	**-0.7**	
	comp=Z,1.7nm,0.3s,baz=7.1,slow=7.7,SNR=97								
WRA				ScP		**ScP**	**20 50 31.8**	**-0.4**	
	comp=Z,0.7nm,0.7s,baz=2.9,slow=4.5,SNR=9.1								
WRA	**Warramunga Arr**	**48.51**	**190**	P		**P**	**20 45 12.8**	**-1.6**	
FITZ	**Fitzroy Crossi**	**48.74**	**201**	P		**P**	**20 45 14.5**	**-1.6**	
	comp=Z,1.0nm,0.6s,baz=21,slow=12,SNR=2.8								
FITZ	**Fitzroy Crossi**	**48.74**	**201**	P		**P**	**20 45 16.2**	**0.0**	
MK31	**Makanchi Array**	**49.56**	**309**	P		**P**	**20 45 21.5**	**-0.9**	
MK31				IAmb		IAmb	20 45 45.7		
	comp=Z,5.8nm,1.4s								
MK31				PcP		**PcP**	**20 46 44.2**	**+0.5**	
MKAR	**Makanchi Array**	**49.56**	**309**	P		**P**	**20 45 21.5**	**-0.9**	
	comp=Z,0.3nm,0.3s,baz=85,slow=11,SNR=8.7								
MKAR				PcP		**PcP**	**20 46 43.6**	**-0.1**	
	comp=Z,1.3nm,0.5s,baz=84,slow=11,SNR=14								
MKAR	**Makanchi Array**	**49.56**	**309**	P		**P**	**20 45 21.9**	**-0.5**	
MKAR				PcP		**PcP**	**20 46 44.0**	**+0.3**	
NRIK	**Noril'sk**	**51.47**	**338**	P		**P**	**20 45 35.8**	**-0.6**	
	comp=Z,2.9nm,0.4s,baz=132,slow=5.6,SNR=4.7								
KURK	**Kurchatov**	**52.01**	**314**	P		**P**	**20 45 40.2**	**-0.4**	
KURBB	**Kurchatov Arra**	**52.07**	**314**	P		**P**	**20 45 39.4**	**-1.7**	
	comp=Z,1.4nm,0.4s,baz=90,slow=7.2,SNR=33								
KDAK	**Kodiak Island**	**53.54**	**37**	P		**P**	**20 45 53.0**	**+1.1**	
IMAR	**Indian Mountai**	**54.08**	**27**	P		**P**	**20 45 57.6**	**+1.9**	
TOLK	**Toolik Lake Re**	**56.14**	**24**	P		**P**	**20 46 12.6**	**+2.0**	
MDM	**Murphy Dome**	**56.22**	**29**	P		**P**	**20 46 13.0**	**+1.9**	
ILAR	**Eielson Array**	**56.77**	**29**	P		**P**	**20 46 15.3**	**+0.3**	
	comp=Z,0.8nm,0.7s,baz=261,slow=5.6,SNR=8.6								
BVAR	**Borovoye Array**	**57.03**	**317**	P		**P**	**20 46 16.1**	**-1.1**	
	comp=Z,0.9nm,0.4s,baz=150,slow=27,SNR=14								
BRVK	**Borovoye**	**57.09**	**317**	P		**P**	**20 46 17.0**	**-0.5**	
RIDG	**Independent Ri**	**57.62**	**30**	P		**P**	**20 46 20.6**	**-0.5**	
BMAR	**Burnt Mountain**	**57.88**	**26**	P		**P**	**20 46 25.5**	**+2.6**	
KK31	**Karatay Array**	**58.23**	**305**	P		**P**	**20 46 24.9**	**-0.8**	
KK31				IAmb		IAmb	20 46 25.8		
	comp=Z,2.7nm,0.5s								
KKAR	**Karatay Array**	**58.23**	**305**	P		**P**	**20 46 24.7**	**-1.0**	
KKAR				IAmb		IAmb	20 46 25.8		
	comp=Z,2.7nm,0.5s								
KKAR	**Karatay Array**	**58.23**	**305**	P		**P**	**20 46 25.2**	**-0.5**	
BALM	**Baldy**	**58.82**	**33**	P		**P**	**20 46 30.9**	**+1.3**	
CHGR	**Chuyangaron**	**60.16**	**300**	P		**P**	**20 46 38.4**	**-0.8**	
INK	**Inuvik**	**62.04**	**25**	P		**P**	**20 46 52.0**	**+0.7**	
	comp=Z,2.0nm,0.9s,baz=206,slow=3.6,SNR=2.6								
INK	**Inuvik**	**62.04**	**25**	IAmb		IAmb	20 46 54.6		
	comp=Z,12nm,1.5s								
ARU	**Arti**	**63.36**	**322**	P		**P**	**20 47 00.6**	**+0.3**	
ARU				IAmb		IAmb	20 47 01.2		
	comp=Z,5.3nm,0.5s								
ABKAR	**Akbulak array**	**64.12**	**314**	P		**P**	**20 47 05.2**	**-0.3**	
ABKAR	**Akbulak array**	**64.12**	**314**	P		**P**	**20 47 05.4**	**-0.1**	
AKTO	**Aktyubinsk**	**65.04**	**315**	P		**P**	**20 47 10.9**	**-0.5**	
	comp=Z,3.0nm,0.6s,baz=72,slow=12,SNR=7.0								
YKA	**Yellowknife Ar**	**71.20**	**28**	P		**P**	**20 47 50.4**	**+0.6**	
	comp=Z,1.5nm,0.7s,baz=300,slow=5.1,SNR=1.7								
ARCES	**ARCESS Array B**	**72.35**	**341**	P		**P**	**20 47 57.3**	**+0.6**	
	comp=Z,2.5nm,0.8s,baz=57,slow=7.4,SNR=8.0								
FINES	**FINESS Array B**	**76.79**	**334**	P		**P**	**20 48 22.8**	**+0.2**	
	comp=Z,1.2nm,0.4s,baz=69,slow=4.9,SNR=24								
KBZ	**Khabaz**	**77.05**	**313**	P		**P**	**20 48 24.9**	**+0.6**	
	comp=Z,2.1nm,0.9s,baz=328,slow=11,SNR=3.6								
NVAR	**Mina Array Bea**	**79.95**	**52**	P		**P**	**20 48 41.9**	**+1.1**	
	comp=Z,0.8nm,0.6s,baz=294,slow=5.9,SNR=4.8								
AKASG	**Malin Array Be**	**81.54**	**324**	P		**P**	**20 48 48.5**	**-0.2**	
	comp=Z,1.1nm,0.3s,baz=52,slow=5.2,SNR=6.2								
AKASG	**Malin Array Be**	**81.54**	**324**	IAmb		IAmb	20 48 49.4		
	comp=Z,1.1nm,1.0s								
NB2	**NORSAR Subarra**	**82.43**	**338**	P		**P**	**20 48 53.2**	**-0.1**	
	comp=Z,0.7nm,0.4s,baz=43,slow=4.8								
NOA	**NORSAR Array B**	**82.43**	**338**	P		**P**	**20 48 53.1**	**-0.1**	
	comp=Z,1.5nm,0.6s,baz=49,slow=4.4,SNR=7.5								
PDAR	**Pinedale Array**	**83.52**	**45**	P		**P**	**20 48 59.9**	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=316,slow=2.5,SNR=2.6								
GERES	**GERESS Array B**	**90.39**	**329**	P		**P**	**20 49 31.9**	**-0.7**	
	comp=Z,0.2nm,0.3s,baz=39,slow=5.0,SNR=2.5								
TXAR	**Lajitas Array**	**95.06**	**53**	P		**P**	**20 49 54.6**	**0.0**	
	comp=Z,0.4nm,0.7s,baz=345,slow=3.1,SNR=5.3								
TORD	**Torodi Ar. Bea**	**123.64**	**312**	PKP		**PKPdf**	**20 55 28.9**	**-0.6**	
	comp=Z,0.4nm,0.4s,baz=70,slow=0.8,SNR=9.0								
H03N2	**Juan Fernandez**	**144.69**	**109**	T		T	23 37 29.4		
	baz=275,slow=74								
H03N3	**Juan Fernandez**	**144.70**	**109**	T		T	23 37 29.0		
	baz=275,slow=74								
H03N1	**Juan Fernandez**	**144.71**	**109**	T		T	23 37 34.6		
	baz=275								

*IDC **31** 20:41:59.3±1.7,3°.30S×103°.95E,h316km±16km,mb3.1/7, mb1 3.3/10,mb1mx3.1/34,mbtmp3.9/10,Error ellipse: s-maj=59.3km s-min=11.4km az=53.0*
*DJA **31** 20:41:59.3±0.3,3°.5S×10°.4E±°,h336km±5km,M4.2/20, mB5.0/1,mb4.2/11,MLv4.2/20,Mw(mB)4.3/1*

ISC 31 20:41:59.9±0.8,3°.50S±0°.10×104°.0E±0°.1,h350km,n30, σ1ᵍ76/33,mb3.4/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.37**	**264**	P	**Pn**	**Pn**	**20 42 46.0**	**-1.5**
KLSI		**1.41**	**147**	P	**Pn**	**Pn**	**20 42 46.8**	**-0.8**
KLSI				S	**S**	**S**	**20 43 22.9**	**-2.9**
LWLI	**Liwa**	**1.51**	**176**	P	**Pn**	**Pn**	**20 42 47.7**	**-0.6**
LWLI				S	**S**	**S**	**20 43 24.5**	**-2.6**
BLSI	**Bandar Lampung**	**2.26**	**145**	P	**Pn**	**Pn**	**20 42 52.2**	**-0.9**
BLSI				S	**S**	**S**	**20 43 33.6**	**-2.2**
PPBI	**Pangkal Pinang**	**2.55**	**59**	P	**Pn**	**Pn**	**20 42 53.2**	**-2.2**
KRJI	**Kerinci**	**2.86**	**299**	P	**Pn**	**Pn**	**20 42 57.4**	**-0.8**

DSRI	**Dabo**	**3.06**	**12**	P		**Pn**	**20 42 57.3**	**-2.6**	
CGJI	**Cibinong**	**3.54**	**151**	P		**Pn**	**20 43 02.6**	**-1.8**	
SDSI	**Sungai Dareh**	**3.59**	**315**	P		**Pn**	**20 43 04.0**	**-0.9**	
DBJI	**Dramaga**	**4.12**	**138**	P		**Pn**	**20 43 09.4**	**-0.8**	
SKJI	**Sukabumi**	**4.34**	**144**	P		**Pn**	**20 43 10.6**	**-1.9**	
BKNI	**Bangkinang**	**4.79**	**322**	P		**Pn**	**20 43 16.0**	**-1.3**	
LEM	**Lembang**	**4.92**	**132**	P		**Pn**	**20 43 19.4**	**+0.5**	
	2.5nm,0.3s,baz=168,slow=18,SNR=7.5								
LEM				S		**S**	**20 44 20.8**	**-1.9**	
	0.5nm,0.3s,baz=302,slow=22,SNR=1.0								
CNJI	**Cibinong**	**4.93**	**140**	P		**Pn**	**20 43 16.8**	**-2.0**	
SISI	**Saibi**	**5.32**	**294**	P		**Pn**	**20 43 22.2**	**-0.9**	
	0.3nm19nm,0.7s								
CISI	**Cisompet, Garu**	**5.57**	**137**	P		**Pn**	**20 43 24.5**	**-1.4**	
	0.5nm3µm69nm,0.6s								
MNSI	**Mandailing Nat**	**6.11**	**314**	P		**Pn**	**20 43 30.4**	**-1.7**	
	0.1nm16nm,1.2s								
CMJI	**Cimerak**	**6.17**	**134**	P		**Pn**	**20 43 31.3**	**-1.4**	
	0.2nm23nm,1.0s								
KPJI	**Karang Pucung**	**6.25**	**128**	P		**Pn**	**20 43 32.8**	**-0.8**	
	0.4nm112nm,0.6s								
UGM	**Wanagama**	**7.87**	**124**	P		**Pn**	**20 43 52.3**	**-0.3**	
	0.8nm78nm,0.6s								
GSI	**Gunungsitoli**	**7.97**	**307**	P		**Pn**	**20 43 53.4**	**-0.3**	
	0.3nm47nm,0.7s								
PSI	**Prapat**	**8.03**	**321**	P		**Pn**	**20 43 51.2**	**-3.4**	
	1.3nm,0.3s,baz=181,slow=11,SNR=5.7								
KAPI	**Kappang**	**15.82**	**96**	P		**Pn**	**20 45 26.5**	**0.0**	
	1.5nm,0.3s,baz=264,slow=10,SNR=7.3								
CMAR	**Chiang Mai Arr**	**22.37**	**347**	P		**P**	**20 46 30.5**	**+0.9**	
	1.7nm,0.5s,baz=181,slow=9.1,SNR=19								
WRA	**Warramunga Arr**	**33.84**	**121**	P		**P**	**20 48 13.6**	**+2.7**	
	0.4nm,0.6s,baz=305,slow=10,SNR=3.5								
ASAR	**Alice Springs**	**35.19**	**127**	P		**P**	**20 48 25.4**	**+3.0**	
	0.6nm,0.5s,baz=303,slow=7.5,SNR=7.7								
STKA	**Stephens Creek**	**45.22**	**133**	P		P	20 49 47.8	+4.1	
	0.7nm,0.3s,baz=7.7,sl

TOLC eS Sn 21 25 06.8 +0.2
TOLC i 21 25 14.5
comp=Z,3µm,0.3s
MALC Bahia Malaga 1.23 228 ⇓iP Pn 21 24 51.8 +1.1
MALC eS Sn 21 25 10.7 +2.5
MALC i 21 25 17.1
comp=Z,6µm,0.4s
RAC02 Cali,SGC 1.46 184 eP Pn 21 24 43.3 -10
RAC02 eS Sn 21 25 02.6 -11
ORTC Ortega, Tolima 1.49 128 ⇓eP Pn 21 24 54.0 +0.1
ORTC eS Sn 21 25 13.9 +0.1
ORTC i 21 25 15.7
comp=Z,3µm,0.5s
HELC Santa Helena 1.61 33 ⇓iP Pn 21 24 55.4 -0.3
HELC eS Sn 21 25 16.3 -0.7
HELC i 21 25 26.9
comp=Z,571nm,0.4s
SOLC Bahia Solano 1.70 324 eP Pn 21 24 56.3 -0.1
SOLC eS Sn 21 25 17.7 -0.6
SOLC i 21 25 27.0
comp=Z,955nm,0.4s
PRAC Prado 1.89 126 ⇓iP Pn 21 24 59.5 +0.6
PRAC eS Sn 21 25 23.2 +0.4
PRAC i 21 25 24.1
comp=Z,1µm,0.4s
MARP Paez Belalcaza 2.04 167 ⇓iP Pn 21 25 01.9 +0.9
MARP eS Sn 21 25 27.0 +0.6
MARP i 21 25 29.5
comp=Z,473nm,0.4s
ROSC El Rosal 2.09 90 P Pn 21 25 04.3 +2.5
comp=Z,49nm,0.3s,baz=332,slow=5.2,SNR=32
ROSC S Sn 21 25 28.9 +1.1
comp=Z,88nm,0.3s,baz=67,slow=17,SNR=6.8
ROSC LR LR 21 25 56.2
comp=Z,727nm,18.3s,baz=248,slow=44
ROSC El Rosal 2.09 90 Pn 21 25 03.8 +2.0
ROSC Sn Sn 21 25 26.9 -1.0
DBBC Dabeiba 2.17 5 ⇓eP Pn 21 25 03.1 +0.5
DBBC eS Sn 21 25 29.0 -0.4
DBBC i 21 25 45.8
POPC Popayan, Colom 2.30 186 ⇓iP Pn 21 25 04.6 +0.2
POPC eS Sn 21 25 33.1 +0.6
POPC i 21 25 34.2
comp=Z,862nm,0.5s
BETC Betania 2.35 156 ⇓eP Pn 21 25 05.1 +0.2
BETC eS Sn 21 25 32.7 -0.8
SPBC San Pablo de B 2.47 71 ⇓eP Pn 21 25 07.4 +0.9
SPBC eS Sn 21 25 36.4 0.0
SPBC i 21 25 40.3
comp=Z,270nm,0.7s
PCON Cinco Dias 2.49 180 ⇓iP Pn 21 25 08.5 +1.2
PCON eS Sn 21 25 41.1 +3.5
PCON i 21 25 54.6
comp=Z,664nm,0.6s
GR1C Gorgona, Isla 2.52 224 ⇓iP Pn 21 25 06.0 -1.2
GR1C eS Sn 21 25 34.1 -3.4
PTBC PUERTO BERRIO, 2.58 49 ⇓iP Pn 21 25 08.3 +0.4
PTBC eS Sn 21 25 37.3 -1.5
PTBC i 21 25 47.2
comp=Z,404nm,0.5s
PTAC Punta Ardita, 2.68 329 eP Pn 21 25 08.8 -0.4
PTAC eS Sn 21 25 38.6 -2.5
CHIC Chingaza 2.68 94 ⇑iP Pn 21 25 12.0 +2.4
CHIC eS Sn 21 25 43.1 +1.3
SOTA Rioblanco 2.69 184 eP Pn 21 25 10.6 +0.8
SOTA eS Sn 21 25 43.2 +1.1
GARC Garzon, Huila 2.79 161 ⇓eP Pn 21 25 11.3 +0.4
GARC eS Sn 21 25 43.3 -0.8
GARC i 21 25 45.8
comp=Z,864nm,0.3s
BBAC Balboa, Cauca 2.92 197 ⇓eP Pn 21 25 13.1 +0.5
BBAC eS Sn 21 25 46.3 -0.8
BBAC i 21 25 58.2
comp=Z,609nm,0.6s
UREC San Jos de Ur 3.02 17 eP Pn 21 25 13.9 +0.1
UREC eS Sn 21 25 49.4 +0.1
UREC i 21 26 04.4
comp=Z,226nm,0.5s
CRUC La Cruz 3.29 189 eP Pn 21 25 18.8 +1.1
RUSC La Rusia 3.48 72 eP Pn 21 25 21.3 +1.0
RUSC eS Sn 21 25 60.0 -1.0
BRRC Barranca, Sant 3.51 50 ⇓eP Pn 21 25 20.4 +0.1
BRRC eS Sn 21 25 59.3 -1.7
BRRC i 21 26 21.3
comp=Z,127nm,0.5s
CCUFI Cufio, Nario 3.71 195 eP Pn 21 25 24.2 +0.8
CCUFI eS Sn 21 26 06.6 +0.2
GCUF Volcan Galeras 3.71 195 eP Pn 21 25 23.5 +0.1
GCUF eS Sn 21 26 06.7 +0.3
GCUF i 21 26 14.7
comp=Z,180nm,0.3s
MACC Macarena, Meta 3.71 136 ⇓iP Pn 21 25 22.9 0.0
MACC eS Sn 21 26 04.0 -1.7
MACC i 21 26 11.3
comp=Z,309nm,0.5s
TUMC Tumaco 3.78 218 eP Pn 21 25 22.6 -1.3
TUMC eS Sn 21 26 05.2 -2.3
CAPC Capurgana 3.88 346 eP Pn 21 25 25.3 0.0
CAP2 Capurgana 3.90 346 eP Pn 21 25 25.7 +0.1
CAP2 eS Sn 21 26 11.8 +1.4
MONA Monteria 3.98 11 eP Pn 21 25 25.5 -0.1
MOTC Monteria, Cord 3.98 11 eP Pn 21 25 26.1 -0.5
UPD2 Meteti 4.01 337 ⇓iP Pn 21 25 28.0 +0.9
UPD2 eS Sn 21 26 13.1 0.0
GUVC San Jose del G 4.42 121 eP Pn 21 25 32.8 +0.3
GUVC eS Sn 21 26 21.9 -1.0
GUVC i 21 26 23.4
comp=Z,371nm,0.3s
PAMC Pamplona, Colo 4.45 56 eP Pn 21 25 33.7 +0.2
PAMC eS Sn 21 26 24.2 -0.2
OCAC Ocana 4.57 42 eP Pn 21 25 35.0 +0.3
OCAC eS Sn 21 26 25.3 -1.5
TOSI3 Tonosi 4.75 303 eS Sn 21 26 27.3 -3.5
PTLC Puerto Leguiza 4.91 161 eP Pn 21 25 44.0 +4.8
PTLC eP Pn 21 25 44.0 +4.8
PTLC eS Sn 21 26 45.7 +11
PTLC eS Sn 21 26 45.7 +11
PTLC i 21 26 58.6
comp=Z,109nm,0.5s
PTLC i 21 26 58.6
comp=Z,109nm,0.5s
CUSE Cuicocha Este 4.92 204 eP Pn 21 25 39.3 -0.4
CUSE eS Sn 21 26 33.2 -2.5
CUSE eS Sn 21 26 33.2 -2.5
CHPO Chepo, Panama 5.07 328 ⇓iP Pn 21 25 41.0 -0.3
CHPO eS Sn 21 26 37.1 -1.5
CACAO El Cacao, Vera 5.07 300 eP Pn 21 25 40.6 -0.7
CACAO eS Sn 21 26 36.0 -2.8
PAC1 Pacto, Paraso 5.12 208 eP Pn 21 25 39.7 -2.5
PAC1 eP Pn 21 25 39.7 -2.5
PAC1 eS Sn 21 26 34.1 -6.1
PAC1 eS Sn 21 26 34.1 -6.1
UPA Univ. de Panam 5.15 323 ⇓iP Pn 21 25 40.8 -1.6
UPA eS Sn 21 26 37.7 -2.9
SJCC San Jacinto, C 5.17 14 eP Pn 21 25 43.3 +0.5
SJCC eP Pn 21 25 43.3 +0.5
ARRA3 Arraijan, Pana 5.21 322 ⇓iP Pn 21 25 43.3 0.0
ARRA3 eS Sn 21 26 40.8 -1.4
CHOR3 La Chorrera 5.23 321 ⇑iP Pn 21 25 44.0 +0.5
CHOR3 eS Sn 21 26 43.2 +0.7
VTON El Valle, Cocl 5.25 316 eP Pn 21 25 44.5 +0.8
VTON eS Sn 21 26 42.7 -0.4
PNME Penonome 5.31 313 eP Pn 21 25 45.1 +0.5
PNME eS Sn 21 26 45.4 +0.8
MARI3 Mariato, Verag 5.33 302 eS Sn 21 26 44.3 -0.9
GAMB1 Gamboa 5.36 323 eP Sn 21 25 44.8 -0.5
GAMB1 eS Sn 21 26 45.2 -0.7
SDV Santo Domingo 7.01 55 P Pn 21 26 08.0 +0.2
comp=Z,6.9nm,0.3s,baz=236,slow=12,SNR=20
SDV S Sn 21 27 22.8 -3.4
comp=Z,8.3nm,0.3s,baz=61,slow=22,SNR=6.7
SDV LR LR 21 29 41.4
comp=Z,96nm,20.6s,baz=244,slow=45
SDV Santo Domingo 7.01 55 Pn Pn 21 26 08.8 +0.9
SDV Sn Sn 21 27 23.5 -2.7
SDV Santo Domingo 7.01 55 eP Pn 21 26 08.2 +0.4
SDV eS Sn 21 27 24.3 -1.9
JTS Las Juntas de 10.04 303 P Pn 21 26 52.0 +3.0
comp=Z,1.1nm,0.3s,baz=162,slow=12,SNR=5.0
JTS LR LR 21 30 43.9
comp=Z,187nm,20.4s,baz=238,slow=37
ESPN Las Esperanzas 10.68 314 Pn Pn 21 27 00.5 +2.8

ACON Acoyapa 11.19 310 Pn Pn 21 27 06.8 +2.3
ATAH Atahualpa 12.06 189 P Pn 21 27 18.2 +1.7
comp=Z,0.4nm,0.3s,baz=338,slow=12,SNR=5.5
PCJ Portland Cotta 12.84 357 iP Pn 21 27 29.6 +3.2
MCJ Malvern 13.07 355 ⇑iP Pn 21 27 32.4 +3.0
MCJ iP P 21 27 33.0 -2.9
STH Stony Hill 13.16 358 ⇑iP Pn 21 27 33.2 +2.5
CMJ Castle Mountai 13.22 0 ⇑iP Pn 21 27 34.3 +3.0
MTDJ Mount Denham 13.35 355 Pn Pn 21 27 35.4 +2.2
BNJ Bonny Gate 13.41 358 iP P 21 27 37.3 -2.4
BBJ Bamboo Saint A 13.49 357 ⇑iP P 21 27 38.7 -1.8
LGNH Logne 14.09 15 Pn Pn 21 27 43.2 +0.5
BANI BANI 14.71 23 P 21 27 52.8 -1.5
SDDR Presa de Saban 14.92 19 P 21 27 55.6 -0.9
GTBY Guantanamo Bay 15.05 5 Pn Pn 21 27 56.2 +1.3
GTBY lAmb lAmb 21 28 03.8
comp=Z,19nm,0.8s
FSCY Frank Sound, G 15.12 342 Pn P 21 27 57.3 -1.3
CBCY The Bluff, Cay 15.16 348 P P 21 27 59.0 -0.1
LCCY Blossom Villag 15.17 347 P 21 27 58.7 -0.4
DR12 Loma Pena Alta 15.47 26 Pn 21 27 59.8 -0.5
SC01 Santiago de lo 15.53 20 Pn Pn 21 28 01.8 +0.9
CRPR Cabo Rojo, PR 15.94 34 Pn Pn 21 28 04.8 -1.3
CRPR lAmb lAmb 21 28 05.9
comp=Z,16nm,0.9s
MLPR Magueyes Islan 15.95 34 P Pn 21 28 06.7 +0.4
MPR Mayaguez 16.09 34 Pn Pn 21 28 07.0 -1.0
MPR lAmb lAmb 21 28 08.9
comp=Z,26nm,0.9s
AOPR Arecibo Observ 16.41 34 Pn Pn 21 28 11.3 -0.7
SJG San Juan 16.58 36 P Pn 21 28 12.9 -1.1
comp=Z,1.6nm,0.3s,baz=249,slow=5.3,SNR=5.3
SJG San Juan 16.58 36 Pn 21 28 13.4 -0.7
SJG lAmb lAmb 21 28 20.1
comp=Z,15nm,0.8s
PDPR Patillas Dam, 16.58 37 Pn Pn 21 28 13.0 -1.0
EMPR Esperanza - Ma 16.64 35 P 21 28 16.0 +0.5
EMPR lAmb lAmb 21 28 21.9
comp=Z,32nm,0.8s
NNA Nana 16.72 181 P P 21 28 16.8 +0.3
comp=Z,1.3nm,0.3s,baz=327,slow=8.8,SNR=4.9
NNA Nana 16.72 181 lAmb lAmb 21 28 19.6
comp=Z,24nm,1.1s
GCPR Guaynabo City 16.77 36 P Pn 21 28 15.1 -1.3
HUMP Col San Antoni 16.78 37 Pn Pn 21 28 14.8 -1.7
HUMP lAmb lAmb 21 28 21.0
comp=Z,20nm,0.9s
CBYP Canovanas 16.88 37 Pn 21 28 16.4 -1.4
CBYP lAmb lAmb 21 28 22.5
comp=Z,27nm,0.8s
MTP Monte Pirata 16.93 38 Pn Pn 21 28 16.4 -2.0
MTP lAmb lAmb 21 28 22.6
comp=Z,19nm,0.9s
TOSP Speyside 16.98 67 P 21 28 19.1 -0.1
TOSP lAmb lAmb 21 28 28.4
comp=Z,15nm,0.8s
CUPR Culebra, Puert 17.25 38 P Pn 21 28 22.8 +0.5
CUPR lAmb lAmb 21 28 28.8
comp=Z,15nm,0.8s
ETMB Extrema 17.76 145 eP P 21 28 28.0 +0.2
SAML Samuel 19.02 136 P P 21 28 41.0 -0.7
SAML Samuel 19.02 136 eP P 21 28 41.5 -0.1
CMIG Matias Romero 21.81 305 LR LR 21 37 27.9
comp=Z,53nm,21.1s,baz=112,slow=36
LPAZ La Paz 22.54 159 P P 21 29 18.4 -1.6
comp=Z,2.0nm,0.7s,baz=3.0,slow=16,SNR=8.8
LPAZ LR LR 21 38 30.2
comp=Z,73nm,18.8s,baz=8.5,slow=37
LPAZ La Paz 22.54 159 P P 21 29 18.8 -1.2
ITTB Itaituba 22.59 114 eP P 21 29 18.1 -1.9
MALB Monte Alegre 23.11 106 eP P 21 29 24.4 -0.6
MDP Montagnes des 23.69 88 P P 21 29 30.0 -0.4
comp=Z,17nm,0.7s,baz=270,slow=9.0,SNR=34
AP01 Chacalluta 23.83 166 P P 21 29 30.3 -1.1
VILB Vilhena 23.92 138 eP P 21 29 33.8 +1.5
PB16 IPOC Station P 24.01 164 P P 21 29 33.1 -0.7
NPGB Novo Progresso 24.11 119 eP P 21 29 33.1 -1.0
MNMC Minye Minye 24.75 164 P P 21 29 39.9 -0.3
MNMC lAmb lAmb 21 29 46.0
comp=Z,9.6nm,0.7s
MCPB Macapa, AP 24.88 101 eP P 21 29 39.6 -1.5
PSGCX Pisagua 25.06 166 P P 21 29 42.1 -0.6
PB11 IPOC Station P 25.33 165 P P 21 29 45.5 +0.2
PB11 lAmb lAmb 21 30 01.8
comp=Z,15nm,1.1s
GO01 Chusmiza 25.37 164 P P 21 29 45.8 -0.2
SIV San Ignacio 25.67 144 P P 21 29 47.3 -1.0
comp=Z,3.0nm,0.4s,baz=322,slow=9.1,SNR=15
PB08 IPOC Station P 25.83 164 P P 21 29 49.7 -0.4
PB01 IPOC Station P 26.60 165 P P 21 29 56.6 -0.1
Y60A Bolivia 29.07 357 P P 21 30 19.9 +1.5
346A Big Creek Wild 29.12 337 P P 21 30 20.2 +1.3
GOGA Godfrey 29.18 348 P P 21 30 21.1 +1.7
GOGA lAmb lAmb 21 30 25.5
comp=Z,7.6nm,1.1s
BBSR BB Station 29.51 20 P P 21 30 23.3 +1.0
GO02 Mina Guanaco 30.55 168 P P 21 30 30.9 -1.1
GO02 lAmb lAmb 21 30 50.6
comp=Z,9.0nm,1.1s
BG3 Lake Jocassee 30.61 349 P P 21 30 32.5 +0.4
V53A Saluda 31.24 350 P P 21 30 38.2 +0.5
TKL Tuckaleechee C 31.41 348 P P 21 30 39.5 +0.4
TKL lAmb lAmb 21 30 49.8
comp=Z,7.1nm,1.1s
T59A Double "B" Far 32.00 358 P P 21 30 45.7 +1.5
T59A lAmb lAmb 21 30 49.7
comp=Z,10nm,1.1s
T57A Hurt 32.11 356 P P 21 30 46.5 +1.3
TZTN Tazewell 32.23 349 P P 21 30 47.6 +1.4
TZTN lAmb lAmb 21 30 59.7
comp=Z,7.7nm,1.1s
ROSB Rosrio 33.17 103 eP P 21 30 53.4 -1.4
LCO Las Campanas 34.10 171 P P 21 31 03.8 +0.8
LCO lAmb lAmb 21 31 08.8
comp=Z,5.0nm,0.9s
PBMO Poplar Bluff 34.29 340 P P 21 31 04.4 +0.2
Z35A Perchaven, San 34.36 328 P P 21 31 04.5 -0.3
X37A Clayton 34.42 332 P P 21 31 05.0 -0.4
Q51A Peebles 34.61 350 P P 21 31 07.5 +0.5
Q51A lAmb lAmb 21 31 09.3
comp=Z,6.7nm,0.6s
BDFB Brasilia 34.71 126 P P 21 31 07.7 -0.5
comp=Z,4.8nm,0.8s,baz=286,slow=4.4,SNR=5.4
U40A Yellville 34.82 336 lAmb lAmb 21 31 10.2
comp=Z,13nm,1.1s
ABTX Abilene, Hawle 35.14 325 P P 21 31 11.6 -0.1
HHAR Hobbs 35.20 335 P P 21 31 12.3 +0.2
GO04 Tololo Observa 35.23 172 P P 21 31 14.2 +1.6
O56A Blue Knob Stat 35.33 357 P P 21 31 13.5 +0.3
TXAR Lajitas Array 35.47 316 P P 21 31 15.8 +1.2
comp=Z,0.4nm,0.4s,baz=148,slow=12,SNR=4.9
TXAR PcP PcP 21 33 43.3 +1.2
comp=Z,2.4nm,0.8s,baz=143,slow=4.4,SNR=8.2
U38A Gravette 35.52 335 lAmb lAmb 21 31 15.6
comp=Z,7.9nm,1.0s
SSPA Standing Stone 35.66 358 P P 21 31 16.6 +0.7
CPUP Villa Florida 36.09 150 LR LR 21 47 11.0
comp=Z,45nm,20.6s,baz=228,slow=38
CPUP Villa Florida 36.09 150 P P 21 31 16.4 -3.3
S39A Bolivar 36.16 337 P P 21 31 20.8 +0.5
TRNY Table Rock, Ra 36.20 3 P P 21 31 21.5 +1.0
TRNY lAmb lAmb 21 31 23.1
comp=Z,9.0nm,0.8s
M57A Sunshine Farm, 36.35 359 P P 21 31 22.6 +0.8
M57A lAmb lAmb 21 31 25.3
comp=Z,7.9nm,0.8s
M56A Emporium 36.52 358 P P 21 31 23.4 +0.1
M56A lAmb lAmb 21 31 26.5
comp=Z,12nm,1.1s
M55A Ridgway 36.53 357 P P 21 31 24.5 +1.1
M55A lAmb lAmb 21 31 26.0
comp=Z,9.4nm,1.0s
KSPA Keystone Colle 36.56 1 P P 21 31 24.8 +1.2
KSPA lAmb lAmb 21 31 26.4
comp=Z,5.2nm,0.7s
N49A Columbus Grove 36.60 350 P P 21 31 23.9 0.0
N49A lAmb lAmb 21 31 26.3
comp=Z,14nm,1.1s
M54A Oil Creek Stat 36.63 356 P P 21 31 25.6 +1.4
T35A Sooner Cattle 36.86 333 P P 21 31 25.7 -0.5
SLBS Sierra La Lagu 37.34 303 P P 21 31 33.1 +2.5
SLBS lAmb lAmb 21 31 34.7
comp=Z,10nm,0.9s
WVNY West Valley, N 37.46 357 P P 21 31 33.0 +1.7

MMNY Mt. Morris Dam 37.76 358 P P 21 31 33.9 +0.3
MMNY lAmb lAmb 21 31 44.1
comp=Z,12nm,1.1s
K58A Earlville 37.77 1 P P 21 31 35.2 +1.4
K58A lAmb lAmb 21 31 41.1
comp=Z,7.4nm,1.1s
P38A Dawn 37.93 338 P P 21 31 35.3 +0.1
MNTX Cornudas Mount 38.10 318 P P 21 31 38.2 +1.5
MNTX lAmb lAmb 21 31 38.9
comp=Z,6.2nm,1.0s
J56A Wolcott 38.28 359 P P 21 31 39.4 +1.4
J58A Remsen 38.38 1 P P 21 31 40.3 +1.4
J58A lAmb lAmb 21 31 41.9
comp=Z,5.8nm,0.8s
J57A Williamstown 38.41 0 P P 21 31 39.9 +0.8
J57A lAmb lAmb 21 31 42.4
comp=Z,6.8nm,0.8s
NCB Newcomb 39.02 3 P P 21 31 45.1 +0.8
NCB lAmb lAmb 21 31 51.3
comp=Z,8.8nm,1.1s
DELO Deloro Mine 39.53 359 P P 21 31 49.6 +1.1
DELO lAmb lAmb 21 32 05.5
comp=Z,8.8nm,1.1s
LONY Lake Ozonia 39.65 2 P P 21 31 50.4 +0.8
LONY lAmb lAmb 21 32 04.3
comp=Z,5.8nm,0.9s
SADO Sadowa 39.84 357 P P 21 31 52.0 +1.0
PLVO Plevna 40.05 359 P P 21 31 54.4 +1.6
PLVO lAmb lAmb 21 31 55.4
comp=Z,12nm,0.9s
121A Cookes Peak, D 40.22 317 P P 21 31 57.3 +2.6
BNM Barren Site 40.45 320 P P 21 31 58.0 +1.4
EMMW East Machias 40.48 10 P P 21 31 57.4 +1.1
EMMW lAmb lAmb 21 32 15.6
comp=Z,11nm,1.2s
G62A West of Eustis 40.55 6 P P 21 31 57.6 +0.7
G62A lAmb lAmb 21 32 07.1
comp=Z,7.9nm,1.1s
319A Douglas 40.60 314 P P 21 31 57.0 -0.7
PKME Peaks-Kenny Pk 40.74 8 P P 21 31 58.6 +0.2
ANMO Albuquerque 40.85 321 P P 21 32 01.5 +1.7
ANMO lAmb lAmb 21 32 02.7
comp=Z,6.0nm,1.1s
G65A Princeton 40.94 10 P P 21 32 01.2 +1.1
G65A lAmb lAmb 21 32 13.5
comp=Z,6.9nm,1.1s
GGN Saint George 40.99 10 P P 21 32 02.0 +1.5
GGN lAmb lAmb 21 32 11.2
comp=Z,12nm,1.1s
F64A Sherman 41.47 9 P P 21 32 05.9 +1.6
E63A Oxbow 42.00 8 P P 21 32 11.0 +2.3
E63A lAmb lAmb 21 32 14.8
comp=Z,6.4nm,1.1s
E62A Clayton Lake 42.05 7 P P 21 32 10.7 +1.6
E62A lAmb lAmb 21 32 12.3
comp=Z,7.8nm,0.8s
LMN Caledonia Moun 42.09 12 P P 21 32 10.2 +0.7
SDCO Great Sand Dun 42.15 325 P P 21 32 12.0 +1.5
SDCO lAmb lAmb 21 32 13.6
comp=Z,5.6nm,0.8s
TUC Tucson 42.18 315 P P 21 32 12.7 +2.2
TUC lAmb lAmb 21 32 13.6
comp=Z,5.4nm,0.8s
PQI Presque Isle 42.30 9 P P 21 32 12.2 +1.0
E43A Lone Tree Farm 42.38 349 P P 21 32 11.9 0.0
GBN Guysborough 42.45 16 P P 21 32 13.1 +0.7
GBN lAmb lAmb 21 32 19.4
comp=Z,16nm,1.2s
D62A Allapoint, All 42.56 7 P P 21 32 14.7 +1.4
VLDQ Val d'Or 43.12 359 P P 21 32 19.3 +1.5
VLDQ lAmb lAmb 21 32 20.7
comp=Z,7.8nm,0.9s
BATG Bathurst New B 43.21 10 P P 21 32 19.6 +1.1
214A Organ Pipe Nat 43.45 313 P P 21 32 23.0 +2.2
214A lAmb lAmb 21 32 24.1
comp=Z,10.0nm,0.8s
F36A Milaca 43.49 343 P P 21 32 20.9 0.0
F36A lAmb lAmb 21 32 21.0
comp=Z,8.3nm,0.9s
X16A Lo Mia Camp, P 43.80 317 P P 21 32 24.3 +0.6
PV13 Radium Mtn., P 44.38 323 P P 21 32 28.9 +0.6
PV13 lAmb lAmb 21 32 31.2
comp=Z,14nm,1.0s
WUAZ Wupatki 44.38 318 P 21 32 29.9 +1.6
WUAZ lAmb lAmb 21 32 33.5
comp=Z,8.8nm,0.8s
EYMN Ely 44.85 346 P P 21 32 31.8 +0.1
EYMN lAmb lAmb 21 32 46.0
comp=Z,12nm,1.0s
SPX San Pedro Mart 44.99 310 P P 21 32 34.5 +1.0
PLCA Paso Flores 45.67 174 P P 21 32 38.7 +0.4
comp=Z,1.9nm,0.7s,baz=0.3,slow=8.9,SNR=6.0
PLCA Paso Flores 45.67 174 lAmb lAmb 21 32 39.8
comp=Z,3.0nm,0.9s
B35A Bob, Littlefor 45.82 344 P P 21 32 39.3 0.0
MTPU Mount Pierson 46.38 320 P P 21 32 46.0 +1.7
TKX Tecate 46.56 311 P P 21 32 47.4 +2.0
DRLN Deer Lake 47.08 17 P P 21 32 48.6 -0.5
PD31 Pinedale Array 47.85 327 P P 21 32 55.8 +0.3
PDAR Pinedale Array 47.85 327 P P 21 32 56.3 +0.9
comp=Z,2.2nm,0.6s,baz=130,slow=9.9,SNR=8.6
GSC Goldstone, Bar 48.01 315 lAmb lAmb 21 32 59.6
comp=Z,5.3nm,0.9s
DUG Dugway, Tooele 48.07 322 P P 21 32 58.2 +1.1
DUG lAmb lAmb 21 32 59.8
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 48.13 343 P P 21 32 56.7 -0.5
comp=Z,3.9nm,0.6s,baz=162,slow=7.7,SNR=6.6
ULM Lac du Bonnet 48.13 343 lAmb lAmb 21 32 57.5
comp=Z,6.7nm,0.9s
TPNV Topopah Spring 48.46 317 P P 21 33 02.1 +1.9
SPUT South Promonto 48.53 324 P P 21 33 01.7 +1.0
LOHW Long Hollow 48.98 327 lAmb lAmb 21 33 06.9
comp=Z,5.5nm,0.9s
TPAW Teton Pass 49.09 327 P P 21 33 05.6 +0.6
TPAW lAmb lAmb 21 33 07.0
comp=Z,3.9nm,0.7s
MOOW Moose Ponds 49.15 327 P P 21 33 06.2 +0.8
MOOW lAmb lAmb 21 33 07.3
comp=Z,4.1nm,0.8s
RLMT Red Lodge 49.32 330 lAmb lAmb 21 33 08.4
comp=Z,7.4nm,0.9s
YHL Hebgen Lake 50.12 328 P P 21 33 14.4 +1.5
SCHQ Schefferville 50.45 7 P P 21 33 15.4 +0.6
comp=Z,5.6nm,0.7s,baz=234,slow=8.7,SNR=3.2
SCHQ Schefferville 50.45 7 lAmb lAmb 21 33 32.5
comp=Z,3.5nm,0.9s
NV11 Mina Array Sit 50.52 317 lAmb lAmb 21 33 18.8
comp=Z,5.2nm,0.9s
NVAR Mina Array Bea 50.62 317 P P 21 33 18.1 +1.5
comp=Z,3.7nm,0.7s,baz=130,slow=6.9,SNR=20
NVAR PcP PcP 21 34 34.3 +1.4
comp=Z,2.5nm,0.6s,baz=129,slow=4.1,SNR=9.9
NVAR Mina Array Bea 50.62 317 P P 21 33 18.4 +1.7
NVAR PcP PcP 21 34 34.0 +1.1
LHV Little Huntoon 50.66 317 P P 21 33 18.8 +2.1
LHV lAmb lAmb 21 33 20.0
comp=Z,4.9nm,1.0s
BOZ Bozeman (W) 50.86 329 lAmb lAmb 21 33 20.4
comp=Z,7.2nm,0.8s
BCYI Bear Canyon 50.97 326 P P 21 33 21.1 +1.9
MCMT McKenzie Canyo 51.00 327 P P 21 33 20.4 +1.0
HLID Hailey 51.07 325 lAmb lAmb 21 33 22.2
comp=Z,3.6nm,0.7s
LRM Limekiln Ridge 51.44 328 P P 21 33 23.8 +1.1
HRY Holter Researc 51.71 329 P P 21 33 25.6 +1.0
MFID Camas Ranch 51.80 324 lAmb lAmb 21 33 27.6
comp=Z,5.9nm,0.9s
PLID Pearl Lake 52.90 326 P P 21 33 34.3 +0.7
PLID lAmb lAmb 21 33 35.1
comp=Z,7.9nm,1.1s
J08A Circle Bar Ran 53.35 322 P P 21 33 37.5 +0.8
J08A lAmb lAmb 21 33 38.6
comp=Z,6.1nm,0.7s
JTMT Jette 53.65 329 P P 21 33 40.5 +1.7
F10A Beach Ranch, E 54.12 326 lAmb lAmb 21 33 44.1
comp=Z,4.4nm,0.8s
K05A Summer Lake 54.51 321 P P 21 33 47.0 +1.8
G08A Pilot Rock 54.72 324 P P 21 33 48.2 +1.6
E09A Wood Farm, Sta 54.96 326 lAmb lAmb 21 33 50.1
comp=Z,7.6nm,0.8s
KMRM Mail Ridge 55.15 317 P P 21 33 51.4 +1.6
KHMM Horse Mountain 55.46 317 P P 21 33 53.4 +1.3
FCC Fort Churchill 55.51 349 P P 21 33 51.3 -0.6
HUMO Hull Mountain 55.77 320 P P 21 33 54.1 0.0

KRMB Red Mountain 55.88 318 P **P** 21 33 56.3 +1.2
KRMB IAmb IAmb 21 33 57.4
comp=Z,7.5nm,1.0s
H04A Detroit Lake 56.32 322 P **P** 21 33 57.8 -0.2
KBO Bosley Butte 56.41 319 P **P** 21 33 59.8 +1.1
KEBM Edson Butte 56.79 319 P **P** 21 34 01.6 +0.2
LTY Liberty 56.80 325 IAmb IAmb 21 34 03.7
comp=Z,7.3nm,1.1s
FRB Frobisher Bay 59.07 4 P **P** 21 34 16.6 -0.2
comp=Z,7.7nm,0.7s,baz=216,slow=6.8,SNR=4.7
NRS Narsarsuaq 60.83 17 P **P** 21 34 26.7 -2.2
BBB Bella Bella 63.49 327 P **P** 21 34 47.5 +0.6
YKA Yellowknife Ar 64.03 341 P **P** 21 34 49.9 -0.3
comp=Z,3.7nm,0.6s,baz=132,slow=7.4,SNR=7.9
DLBC Dease Lake 67.53 333 P **P** 21 35 13.6 +0.7
DLBC IAmb IAmb 21 35 15.2
comp=Z,5.5nm,1.0s
PMSA Palmer Station 70.04 174 P **P** 21 35 29.2 +1.1
RES Resolute Bay 70.61 355 P **P** 21 35 30.1 -1.4
comp=Z,3.0nm,1.0s,baz=246,slow=12,SNR=2.2
TIC Toumodi 71.01 85 *eP* **P** 21 35 34.2 -0.9
LIC Lamto 71.02 85 *eP* **P** 21 35 34.1 -1.1
comp=Z,27nm,0.6s
DBIC Dimbokro 71.17 85 P **P** 21 35 35.2 -0.9
comp=Z,7.5nm,0.7s,baz=258,slow=6.2,SNR=12
DBIC Dimbokro 71.17 85 P **P** 21 35 35.2 -0.9
DBIC IAmb IAmb 21 35 36.1
comp=Z,6.9nm,0.7s
KIC Kosan Boka 71.30 85 *eP* **P** 21 35 36.1 -0.8
comp=Z,16nm,0.7s
SUMG Summit 71.54 11 P **P** 21 35 37.7 0.0
KOWA Kowa 71.78 76 P **P** 21 35 39.0 -0.7
KOWA IAmb IAmb 21 35 40.7
comp=Z,13nm,1.1s
PAB San Pablo 73.12 50 P **P** 21 35 47.5 +0.2
CTGM Chitina Glacie 73.79 333 P **P** 21 35 51.9 +1.0
CTGM IAmb IAmb 21 35 53.1
comp=Z,3.9nm,0.8s
INK Inuvik 73.80 341 P **P** 21 35 51.1 +0.5
BARN Barnard Glacie 73.97 333 P **P** 21 35 52.9 +0.9
BARN IAmb IAmb 21 35 54.5
comp=Z,6.4nm,1.0s
BALM Baldy 74.27 333 P **P** 21 35 54.6 +0.9
VRDI Verde Repeater 74.84 333 P **P** 21 35 58.4 +1.3
VRDI IAmb IAmb 21 35 59.2
comp=Z,11nm,1.1s
GLB Gilahina Butte 75.08 333 P **P** 21 35 59.5 +1.2
GLB IAmb IAmb 21 36 04.6
comp=Z,6.7nm,1.2s
K27K Chicken 75.16 335 P **P** 21 35 59.8 +1.2
M24K Tolsona, Glenn 76.34 333 P **P** 21 36 05.3 -0.1
M24K IAmb IAmb 21 36 07.7
comp=Z,10.0nm,1.0s
EKA Eskdalemuir Ar 76.54 34 P **P** 21 36 06.8 +0.2
comp=Z,6.6nm,0.7s,baz=274,slow=3.4,SNR=1.2
FYU Fort Yukon 77.24 338 P **P** 21 36 11.2 +0.8
IL18 Eielson Array 77.33 336 P **P** 21 36 10.9 0.0
TOA0 Torodi Ar. Sit 77.36 78 P **P** 21 36 11.3 -0.7
TOA0 IAmb IAmb 21 36 11.9
comp=Z,5.7nm,0.7s
TORD Torodi Ar. Bea 77.36 78 P **P** 21 36 11.4 -0.6
comp=Z,4.2nm,0.5s,baz=283,slow=6.2,SNR=86
TORD Torodi Ar. Bea 77.36 78 P **P** 21 36 11.2 -0.8
ILAR Eielson Array 77.38 336 P **P** 21 36 11.2 0.0
comp=Z,2.0nm,0.6s,baz=119,slow=4.3,SNR=29
GHO Glory Hole Cre 77.52 332 P **P** 21 36 12.4 +0.3
GHO IAmb IAmb 21 36 18.6
comp=Z,13nm,1.2s
MDM Murphy Dome 77.98 336 P **P** 21 36 14.6 +0.1
BRLK Bradley Lake 78.04 330 P **P** 21 36 15.3 +0.4
BRLK IAmb IAmb 21 36 16.4
comp=Z,10nm,0.9s
I23K Minto, Yukon-K 78.50 336 P **P** 21 36 18.2 +0.9
I23K IAmb IAmb 21 36 18.7
comp=Z,3.7nm,0.8s
TRF Thorofare Moun 78.51 334 P **P** 21 36 18.0 +0.3
KTH Kantishna Hill 78.81 334 P **P** 21 36 19.8 +0.6
SSB Saint Sauveur 80.22 45 P **P** 21 36 27.7 +0.6
SSB IAmb IAmb 21 36 28.6
comp=Z,5.0nm,0.9s
IMAR Indian Mountai 80.45 336 P **P** 21 36 28.6 +0.7
TAM Tamanrasset 80.72 68 P **P** 21 36 29.9 -0.6
TAM IAmb IAmb 21 36 32.6
comp=Z,4.0nm,0.8s
BGES Gesves 80.87 40 P **P** 21 36 33.9 +3.4
BGES x x 21 36 49.0
WLF Walferdange 81.52 41 P **P** 21 36 34.1 +0.2
SENIN Lac Senin/Sane 82.19 44 P **P** 21 36 37.9 +0.1
TUE Stuetta 83.60 44 P **P** 21 36 45.6 +0.5
TUE IAmb IAmb 21 36 46.5
comp=Z,4.5nm,0.7s
VSL Villasalto 83.71 51 P **P** 21 36 46.0 +0.5
KEST Kesra 83.77 55 P **P** 21 36 46.5 +0.5
comp=Z,6.2nm,0.8s,baz=0.6,slow=1.3,SNR=5.7
KEST Kesra 83.77 55 IAmb IAmb 21 36 49.9
comp=Z,8.5nm,1.0s
DAVA Damuels 83.96 43 *eP* **P** 21 36 47.6 +0.7
comp=Z,5.9nm,0.7s
DAVOX Davos/Dischmat 83.97 44 P **P** 21 36 47.5 +0.6
comp=Z,6.3nm,0.8s,baz=284,slow=3.9,SNR=11
FETA Feichten 84.55 43 *eP* **P** 21 36 50.6 +0.8
comp=Z,6.1nm,1.1s
CASP Castiglione de 84.75 48 P **P** 21 36 50.3 -0.4
CASP IAmb IAmb 21 36 58.3
comp=Z,11nm,1.0s
ZCCA Zocca 84.79 46 P **P** 21 36 50.6 -0.3
OSSC Osservatorio P 85.01 47 P **P** 21 36 51.4 -0.6
OSSC IAmb IAmb 21 36 56.0
comp=Z,9.5nm,1.1s
NKC Novy Kostel 85.59 40 *eP* **P** 21 36 56.0 +1.2
ABTA Abfaltersbach 85.78 44 *eP* **P** 21 36 56.3 +0.5
comp=Z,6.2nm,0.9s
SPB4 Spitsbergen Ar 85.87 12 P **P** 21 36 55.8 +0.2
SPA3 Spitsbergen Ar 85.87 12 P **P** 21 36 55.1 -0.5
SPB3 Spitsbergen Ar 85.87 12 P **P** 21 36 56.4 +0.8
SPA0 Spitsbergen Ar 85.87 12 P **P** 21 36 54.7 -0.9
SPITS Spitsbergen Ar 85.87 12 P **P** 21 36 56.3 +0.7
comp=Z,13nm,0.9s,baz=219,slow=3.7,SNR=2.5
SPA1 Spitsbergen Ar 85.87 12 P **P** 21 36 54.0 -1.6
SPB2 Spitsbergen Ar 85.88 12 P **P** 21 36 55.7 +0.1
SPB1 Spitsbergen Ar 85.88 12 P **P** 21 36 56.0 +0.4
CLL Collm 85.90 39 *i* P **P** 21 36 57.3 +1.1
comp=Z,8.0nm,1.0s
MURB Monte Urbino 85.95 47 P **P** 21 36 56.3 -0.4
ZOU Zoufplan 86.10 44 P **P** 21 36 57.6 0.0
ZOU IAmb IAmb 21 37 00.7
comp=Z,3.7nm,0.8s
KHC Kasperske Hory 86.38 41 *eP* **P** 21 36 59.5 +0.8
GEC2 GERESS Array S 86.47 41 P **P** 21 36 59.4 +0.2
GEC2 IAmb IAmb 21 37 00.7
comp=Z,6.0nm,0.8s
GEC2B GERESS ARRAY S 86.47 41 P **P** 21 36 59.4 +0.2
GERES GERESS Array B 86.47 41 P **P** 21 36 59.6 +0.3
comp=Z,3.6nm,0.8s,baz=262,slow=4.0,SNR=24
BRG Berggiesshubel 86.51 39 *eP* **P** 21 37 00.2 +1.0
comp=Z,7.1nm,0.9s
MYKA Terra Mystica 86.56 44 *eP* **P** 21 37 00.2 +0.5
comp=Z,5.2nm,0.5s
PBCC Pribram 86.61 41 *eP* **P** 21 37 00.5 +0.7
MOA Molln 86.91 42 *eP* **P** 21 36 59.6 -1.7
comp=Z,5.2nm,0.5s
PRU Pruhonice 86.95 40 *eP* **P** 21 37 02.0 +0.6
SOKA Soboth 87.51 44 *i* P **P** 21 37 04.3 0.0
comp=Z,3.9nm,1.1s
ARSA Arzberg 87.80 43 *eP* **P** 21 37 06.1 +0.5
comp=Z,3.3nm,0.7s
UPC Upice 87.85 40 *eP* **P** 21 37 07.3 +1.6
CHVC Chvalec 87.87 40 *eP* **P** 21 37 06.7 +0.9
CONA Conrad Observa 87.97 42 *eP* **P** 21 37 07.2 +0.7
comp=Z,2.8nm,0.7s
OSTC Ostas 87.97 40 *eP* **P** 21 37 06.8 +0.5
DPC Dobruska-Polom 88.06 40 *eP* **P** 21 37 06.7 -0.1
VRAC Vranov 88.33 41 P **P** 21 37 08.4 +0.4
comp=Z,4.0nm,0.9s,baz=276,slow=7.4,SNR=4.6
KRLC Kraliky 88.38 40 *eP* **P** 21 37 09.6 +1.3
VYHS Vyhne 89.89 41 *eP* **P** 21 37 16.7 +1.3
ZALV Zalesovo Beam 119.35 13 PKP **PKPdf** 21 43 04.1 -1.0
comp=Z,0.9nm,0.5s,baz=270,slow=4.3,SNR=2.3
USRK Ussuriysk Ar. 124.91 335 PKP **PKPdf** 21 43 15.6 -0.4
comp=Z,1.8nm,0.8s,baz=111,slow=2.0,SNR=4.2
MKAR Makanchi Array 125.24 18 PKP **PKPdf** 21 43 15.8 -0.8
comp=Z,0.8nm,0.4s,baz=286,slow=2.7,SNR=13
SONM Songino Array 127.49 358 PKP **PKPdf** 21 43 20.1 -0.9
comp=Z,1.3nm,0.7s,baz=278,slow=1.0,SNR=5.0
KSRS Korea Array 132.21 334 PKP **PKPdf** 21 43 29.9 -0.2
comp=Z,1.1nm,0.6s,baz=7.9,slow=2.1,SNR=3.9
HHC Hu-ho-hao-te 133.95 352 *eP* **PKiKP** 21 43 35.0 +0.2
LZH Lanzhou 139.29 360 sPKP 21 44 20.3
LZH Lanzhou 139.29 360 PKP **PKiKP** 21 43 45.0 -0.9
LZH Lanzhou 139.29 360 pPKP pPKPdf 21 44 07.5 -4.2
ASAR Alice Springs 145.30 234 PKPbc **PKPbc** 21 43 53.1 -1.2
comp=Z,5.4nm,0.6s,baz=118,slow=3.9,SNR=49
WRA Warramunga Arr 146.51 241 PKPbc **PKPdf** 21 43 56.3 -0.3
comp=Z,2.4nm,0.6s,baz=108,slow=3.3,SNR=34
CMAR Chiang Mai Arr 156.40 11 PKP **PKPdf** 21 44 10.4 -1.1
comp=Z,1.1nm,0.8s,baz=292,slow=2.4,SNR=8.6
CMAR PKPab **pPKPdf** 21 44 39.5 -0.3
comp=Z,2.1nm,0.7s,baz=329,slow=5.5,SNR=16

*REY **31** 21:32:22.8, 64.67N×17.48W, h2km*
*BJI **31** 21:32:23.8±0.0, 64.82N×17.17W, h5km, mB5.4/45, mb4.7/49, Ms5.0/38, Ms7 4.7/38*
*BGS **31** 21:32:23.4±2.3, 64.62N×17.78W, h5km, MS4.9*
*IDC **31** 21:32:23.6±0.4, 64.47N×17.56W, h0km, mb4.5/27, mb1 4.6/35, mb1mx4.5/53, mbtmp4.5/35, ML3.0/5, MS4.3/50, Ms1 4.3/50, ms1mx4.2/64, Error ellipse: s-maj=14.0km s-min=7.5km az=16.0*
*MOS **31** 21:32:23.9±1.0, 64.63N×17.70W, h9km, mb5.1/54, MS4.6/25, Error ellipse: s-maj=7.4km s-min=4.9km az=104.8*
*IEPN **31** 21:32:24.0, 64.51N×17.77W, h10km*
*NEIC **31** 21:32:26.1±1.6, 64.62N±0.06×17.8W±0.1, h10km±3km, mb5.0/417, Error ellipse: s-maj=8.9km s-min=6.4km az=181.0*
*GCMT **31** 21:32:29.1±0.2, 64.69N±0.01×17.45W±0.02, h12km, MW5.0/109, Moment Tensor Solution. s65,c85; s109,c187; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.57±.09; Mθθ0.00±.09; Mϕϕ3.57±.06; Mrθ-2.18±.30; Mθϕ-1.71±.06; Mϕr-0.27±.21; Best double couple: Mo4.51200×10^16 NP1:ϕs3.00000°, δ47.00000°, λ-51.00000°. NP2:ϕs133.00000°, δ55.00000°, λ-124.00000°. Principal axes: T 4.3030, Plg5.0000°, Azm246.0000°; N 0.4190, Plg27.0000°, Azm154.0000°; P -4.7210, Plg62.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **31** 21:32:33.9±5.7, 64.64N×17.23W, h115km±98km, mb4.9, Ms4.7*

ISC 31 21:32:26.2±0.2, **64.60N**±0.02×**17.73W**±0.02, **h10**km, **n1143**, σ1.**976**/1158, **mb5.0**/328, **MS4.5**/81, **26C-45D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.07**	**349**	P	**Pg**	**Pg**	**21 32 25.4**	**-3.1**
baz=270								
IDYN	**Dyngjuhals**	**0.24**	**39**	P	Pg	Pg	21 32 25.9	-5.3
baz=22								
IGRF	**Grimsfjall**	**0.28**	**135**	P	**Pg**	**Pg**	**21 32 28.2**	**-3.7**
baz=161								
ISKR	**Skrokkalda**	**0.29**	**262**	P	**Pg**	**Pg**	**21 32 30.2**	**-1.7**
baz=254								
IHUS	**Husbondi**	**0.31**	**174**	P	**Pg**	**Pg**	**21 32 30.9**	**-1.5**
baz=192								
IURH	**Ururhals**	**0.33**	**48**	P	Pg	Pg	21 32 27.2	-5.6
baz=44								
IJOK	**Jokulheimar**	**0.36**	**217**	P	**Pg**	**Pg**	**21 32 31.9**	**-1.4**
baz=222								
IVOT	**Vottur**	**0.41**	**145**	P	**Pg**	**Pg**	**21 32 30.6**	**-3.6**
baz=162								
IKVE	**Kverkfjoll**	**0.46**	**80**	P	Pg	Pg	21 32 29.5	-5.7
baz=89								
IIEY	**Innrieyrar**	**0.54**	**199**	P	**Pg**	**Pg**	**21 32 35.1**	**-1.5**
baz=206								
IIEY				S		**Sg**	**21 32 43.7**	**-0.1**
baz=206								
IKAL	**Kalfafell**	**0.66**	**179**	P	**Pg**	**Pg**	**21 32 35.9**	**-3.0**
baz=187								
IVAT	**Vatnsfell**	**0.67**	**232**	P	**Pg**	**Pg**	**21 32 37.6**	**-1.4**
baz=233								
IVAT				S		**Sg**	**21 32 47.5**	**-0.2**
baz=233								
IKSK	**Kaasker**	**0.70**	**129**	P	Pg	Pg	21 32 34.9	-4.8
baz=139								
IKSK				S		**Sg**	**21 32 44.0**	**-4.9**
baz=139								
ISVA	**Svartarkot**	**0.76**	**15**	P	Pg	Pg	21 32 35.0	-5.9
baz=8.0								
ISVA				S		**Sg**	**21 32 43.8**	**-7.0**
baz=8.0								
IHVE	**Hveravellir**	**0.83**	**290**	P	**Pg**	**Pg**	**21 32 38.6**	**-3.7**
baz=283								
IVSH	**V-Saudoahnukur**	**0.88**	**76**	P	Pg	Pg	21 32 36.2	-6.9
baz=79								
ISNB	**Snabyli**	**0.96**	**205**	P	**Pg**	**Pg**	**21 32 42.0**	**-2.5**
baz=209								
ISLY	**Slysaalda**	**0.99**	**219**	P	**Pg**	**Pg**	**21 32 42.6**	**-2.6**
baz=221								
IADA	**Aoalbol**	**1.01**	**65**	P	Pg	Pg	21 32 38.2	-7.4
baz=66								
IFED	**Fedgar**	**1.03**	**237**	P	**Pg**	**Pg**	**21 32 43.8**	**-2.2**
baz=237								
IMEL	**Melhnausar**	**1.07**	**25**	P	Pg	Pg	21 32 39.7	-7.0
baz=21								
IMEL				S		**Sg**	**21 32 52.9**	**-7.7**
baz=21								
IRJU	**Rjupnafell**	**1.07**	**203**	P	**Pb**	**Pb**	**21 32 43.5**	**-3.3**
baz=207								
IMJO	**Mjoaskard**	**1.08**	**232**	P	**Pb**	**Pb**	**21 32 43.9**	**-3.2**
baz=233								
IREN	**Reynihlio**	**1.10**	**18**	P	Pg	Pg	21 32 40.5	-6.9
baz=14								
IGYG	**Gygjarholskot**	**1.13**	**254**	P	**Pb**	**Pb**	**21 32 45.1**	**-2.6**
baz=253								
IHAU	**Haukadalur**	**1.17**	**238**	P	**Pb**	**Pb**	**21 32 45.9**	**-2.4**
baz=238								
IKVO	**Krokottuvotn**	**1.17**	**17**	P	Pb	Pb	21 32 41.6	-6.9
baz=13								
IHVO	**Lagu-Hvolar**	**1.19**	**205**	P	**Pn**	**Pn**	**21 32 46.6**	**-2.2**
baz=208								
IGRS	**Grimsstaoir**	**1.24**	**32**	P	Pn	Pn	21 32 42.5	-7.0
baz=30								
IALF	**Alftagrof**	**1.29**	**211**	P	**Pn**	**Pn**	**21 32 47.5**	**-2.6**
baz=213								
ISKI	**Skildingahlsh**	**1.30**	**13**	P	Pn	Pn	21 32 43.9	-6.5
baz=8.7								
IGRA	**Granastaoir**	**1.32**	**3**	P	Pn	Pn	21 32 44.3	-6.3
baz=358								
IESK	**Urstri-Skogar**	**1.32**	**216**	P	**Pn**	**Pn**	**21 32 48.0**	**-2.7**
baz=218								
IGHA	**Grjothals**	**1.32**	**19**	P	Pn	Pn	21 32 43.8	-6.8
baz=16								
ISAU	**Saurbar**	**1.32**	**243**	P	**Pn**	**Pn**	**21 32 47.6**	**-3.0**
baz=243								
IMID	**Miomork**	**1.34**	**226**	P	**Pn**	**Pn**	**21 32 48.7**	**-2.2**
baz=227								
IHLA	**Hella**	**1.38**	**349**	P	Pn	Pn	21 32 46.0	-5.4
baz=344								
IDIM	**Dimmadalss**	**1.40**	**13**	P	Pn	Pn	21 32 45.5	-6.3
baz=9.8								
IASM	**Asmuli**	**1.48**	**240**	P	**Pn**	**Pn**	**21 32 50.4**	**-2.4**
baz=240								
IHED	**Heoinshofoi**	**1.49**	**7**	P	Pn	Pn	21 32 47.0	-6.0
baz=2.8								
IBRE	**Brettingsstaoi**	**1.53**	**357**	P	Pn	Pn	21 32 47.8	-5.6
baz=353								
BORG	**Borgarnes**	**1.56**	**277**	Pg		**Pn**	**21 32 51.6**	**-2.2**
295nm,0.3s,baz=96,slow=8.9,SNR=247								
BORG				Lg		Lg	21 33 16.3	
141nm,0.3s,baz=262,slow=22,SNR=10.0								
BORG	**Borgarnes**	**1.56**	**277**	Pn		**Pn**	**21 32 51.1**	**-2.8**
BORG				Sn		**Sn**	**21 33 12.1**	**-1.9**
ISOL	**Solvholt**	**1.56**	**246**	P		**Pn**	**21 32 51.6**	**-2.3**
baz=245								
IKRO	**Krokur**	**1.56**	**253**	P		**Pn**	**21 32 51.3**	**-2.7**
baz=252								
IHEI	**Heioarbar**	**1.58**	**257**	P		**Pn**	**21 32 52.2**	**-2.0**
baz=256								
ISIG	**Siglufjorour**	**1.61**	**343**	P		Pn	21 32 49.6	-5.0
baz=338								
IVME	**Vestmannaeyjar**	**1.64**	**225**	P		**Pn**	**21 32 53.7**	**-1.2**
baz=226								
IBJA	**Bjarnastaoir**	**1.69**	**249**	P		**Pn**	**21 32 53.7**	**-2.1**
baz=248								
ISAN	**Sandskeio**	**1.76**	**254**	P		**Pn**	**21 32 54.3**	**-2.3**
baz=253								
IHRN	**Hraun**	**1.82**	**327**	P		**Pn**	**21 32 53.7**	**-3.7**
baz=324								
IKUD	**Kuludalsa**	**1.82**	**263**	P		**Pn**	**21 32 55.2**	**-2.3**
baz=262								
ILEI	**Leirhofn**	**1.88**	**15**	P		Pn	21 32 52.8	-5.5
baz=13								
IKAS	**Kald??rsel**	**1.89**	**254**	P		**Pn**	**21 32 56.5**	**-1.9**
baz=253								
JMIC	**Jan Mayen**	**7.29**	**24**	Pn		**Pn**	**21 34 12.0**	**-0.5**
baz=160,slow=12,SNR=2.4								
JMIC				Sn		**Sn**	**21 35 32.5**	**-2.7**
baz=66,slow=20,SNR=1.1								
JMIC				LR		LR	21 36 15.4	
comp=Z,893nm,20.0s,baz=190,slow=31								
LEWI	**Lewis, Hebride**	**8.30**	**136**	*eP*		**Pn**	**21 34 24.0**	**-2.4**
ANGG	**Ammassalik, Gr**	**8.45**	**286**	Pn		**Pn**	**21 34 27.7**	**-0.8**
ANGG	**Ammassalik, Gr**	**8.45**	**286**	IAMs_20		IAMs_20	21 38 14.4	
comp=Z,24μm,7.7s								
LINV	**Loch Inver, As**	**8.82**	**131**	*eP*		**Pn**	**21 34 31.8**	**-1.8**
LINV				IAMs_20		IAMs_20	21 38 33.8	
comp=Z,11μm,10.2s								
KAC	**Achnashellach**	**9.31**	**134**	*eP*		**Pn**	**21 34 37.6**	**-2.7**
KPL	**Plockton**	**9.34**	**136**	*eP*		**Pn**	**21 34 37.8**	**-2.8**
KPL				IAMs_20		IAMs_20	21 39 16.4	
comp=Z,8μm,14.1s								
ICESG	**Greenland Ices**	**9.70**	**307**	*i* P		Pn	21 34 52.8	+7.0
ICESG				IAmb		IAmb	21 34 54.9	
comp=Z,21nm,0.9s								
DBG	**Daneborg**	**9.79**	**356**	*i* P		Pn	21 34 53.2	+6.5
DBG				*i*			21 37 32.5	
DBG				IAMs_20		IAMs_20	21 39 35.6	
comp=Z,7μm,7.1s								
MCD	**Coleburn Disti**	**9.91**	**129**	*eP*		**Pn**	**21 34 47.2**	**-1.2**
LAWE	**Loch Awe, Argy**	**10.33**	**138**	*eP*		**Pn**	**21 34 53.7**	**-0.4**
INVG	**Invergeldie, C**	**10.59**	**134**	*eP*		**Pn**	**21 34 55.7**	**-2.1**
INVG				IAMs_20		IAMs_20	21 39 45.2	
comp=Z,11μm,11.6s								
EAB	**Aberfoyle**	**10.70**	**136**	*eP*		**Pn**	**21 34 57.1**	**-2.1**
SUMG	**Summit**	**10.94**	**326**	*i* P		**Pn**	**21 35 05.3**	**+2.5**
SUMG	**Summit**	**10.94**	**326**	Pn		**Pn**	**21 35 01.0**	**-1.8**
SUMG	**Summit**	**10.94**	**326**	*i* P		**Pn**	**21 35 05.3**	**+2.5**
SUMG	**Summit**	**10.94**	**326**	*i* P		**Pn**	**21 35 05.3**	**+2.5**
PGBU	**Glenifferbraes**	**10.98**	**137**	*eP*		**Pn**	**21 35 01.6**	**-1.4**
CLGH	**Cloghs, Cushen**	**11.17**	**143**	*eP*		**Pn**	**21 35 04.1**	**-1.6**
CLGH				IAMs_20		IAMs_20	21 40 59.5	
comp=Z,12μm,10.2s								
EDI	**Edinburgh**	**11.28**	**134**	*eP*		**Pn**	**21 35 06.6**	**-0.5**
EDI				IAMs_20		IAMs_20	21 40 08.0	
comp=Z,7μm,12.7s								
NEWG	**New Galloway**	**11.65**	**138**	*eP*		**Pn**	**21 35 11.2**	**-1.0**
NEWG				IAMs_20		IAMs_20	21 40 17.0	
comp=Z,11μm,10.3s								
GAL1	**Galloway**	**11.74**	**140**	IAMs_20		IAMs_20	21 40 32.5	
comp=Z,11μm,11.2s								
EKA	**Eskdalemuir Ar**	**11.78**	**135**	Pn		**Pn**	**21 35 11.8**	**-2.2**
baz=321,slow=13,SNR=24								
EKA				Sn		**Sn**	**21 37 25.0**	**-0.4**
baz=321,slow=23,SNR=4.7								
ESK	**Eskdalemuir**	**11.78**	**135**	*eP*		**Pn**	**21 35 12.7**	**-1.4**
ESK				IAMs_20		IAMs_20	21 40 35.8	
comp=Z,8μm,11.5s								
ESK	**Eskdalemuir**	**11.78**	**135**	P		**Pn**	**21 35 13.8**	**-0.3**
ESK	**Eskdalemuir**	**11.78**	**135**	Pn		**Pn**	**21 35 13.8**	**-0.3**
DY2G	**Dye2**	**11.92**	**292**	IAMs_20		IAMs_20	21 39 52.5	
comp=Z,13μm,8.0s								
DAG	**Danmarks Havn**	**12.23**	**359**	*i* P		**Pn**	**21 35 22.0**	**+1.9**
DAG				pmax		pmax		
comp=Z,80nm,1.7s								
DAG	**Danmarks Havn**	**12.23**	**359**	*i* P		**Pn**	**21 35 22.0**	**+1.9**
comp=Z,80nm,1.7s								
DAG	**Danmarks Havn**	**12.23**	**359**	*i* P		**Pn**	**21 35 22.0**	**+1.9**
DAG				IAmb		IAmb	21 35 23.5	
comp=Z,80nm,1.7s								
KESW	**Keswick, Cumbr**	**12.44**	**137**	*eP*		**Pn**	**21 35 22.0**	**-1.0**
DSB	**Dublin**	**12.78**	**148**	Pn		**Pn**	**21 35 28.4**	**+0.8**
NRS	**Narsarsuaq**	**13.04**	**267**	P		**Pn**	**21 35 30.1**	**-1.0**
NRS	**Narsarsuaq**	**13.04**	**267**	Pn		**Pn**	**21 35 30.1**	**-1.0**
NC204	**NORSAR Array S**	**13.32**	**91**	Pn		**Pn**	**21 35 34.5**	**-0.6**
NBO00	**NORSAR Array S**	**13.45**	**92**	Pn		**Pn**	**21 35 36.3**	**-0.4**
NAO01	**NORSAR Array S**	**13.58**	**93**	Pn		**Pn**	**21 35 39.1**	**+0.6**
SFJD	**Kangerlussuaq**	**13.60**	**295**	Pn		**Pn**	**21 35 38.9**	**+0.1**
comp=Z,0.2nm,0.3s,baz=100,slow=15,SNR=2.2								
SFJD	**Kangerlussuaq**	**13.60**	**295**			**Pn**	**21 35 37.0**	**-1.8**
NC303	**NORSAR Array S**	**13.61**	**91**	Pn		**Pn**	**21 35 40.5**	**+1.6**
NB2	**NORSAR Subarra**	**13.63**	**92**	Pn		**Pn**	**21 35 35.3**	**-4.0**
comp=Z,56nm,2.0s,baz=297,slow=14								
NOA	**NORSAR Array B**	**13.63**	**92**	Pn		**Pn**	**21 35 34.7**	**-4.6**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=5.3								
NOA				LR		LR	21 40 53.8	
comp=Z,1μm,19.9s,baz=300,slow=38								
NC405	**NORSAR Array S**	**13.81**	**91**	Pn		**Pn**	**21 35 40.5**	**-1.2**
NC602	**NORSAR Array S**	**13.91**	**93**	Pn		**Pn**	**21 35 42.8**	**-0.3**
CWF	**Charnwood Fore**	**14.58**	**137**	*eP*		**Pn**	**21 35 51.1**	**-1.1**
NUUK	**Nuuk**	**14.61**	**284**	IAMs_20		IAMs_20	21 41 50.1	
comp=Z,10μm,7.1s								
NUUG	**Nuugaatsiaq**	**14.73**	**313**	*i* P		**P**	**21 36 01.3**	**+0.9**
NUUG				IAmb		IAmb	21 36 05.5	
comp=Z,76nm,1.0s								
NUUG				IAMs_20		IAMs_20	21 41 47.2	
comp=Z,14μm,8.9s								
HFS	**Hagfors**	**15.14**	**93**	Pn		**Pn**	**21 35 56.6**	**-3.2**
comp=Z,0.1nm,0.3s,baz=284,slow=7.5,SNR=3.7								
HFS				LR		LR	21 41 40.3	
comp=Z,1μm,20.5s,baz=291,slow=37								
MUD	**Monsted U'grnd**	**15.44**	**109**	*i* P		**Pn**	**21 36 04.0**	**+0.4**
MUD	**Monsted U'grnd**	**15.44**	**109**	*i* P		**Pn**	**21 36 04.0**	**+0.4**
MUD	**Monsted U'grnd**	**15.44**	**109**	*i* P		**Pn**	**21 36 04.0**	**+0.4**
UPNV	**Upernavik**	**15.86**	**317**	IAMs_20		IAMs_20	21 42 48.1	
comp=Z,10μm,7.6s								
HSPB	**Hornsund (broa**	**16.17**	**26**	*eP*		**Pn**	**21 36 12.4**	**-0.6**
HSPB				*eS*		**Sn**	**21 39 13.1**	**+1.1**
KBS	**Kingsbay**	**16.73**	**19**	*eP*		**Pn**	**21 36 18.4**	**-1.8**
KBS				*eS*		**Sn**	**21 39 25.2**	**-0.4**
KBS	**Kingsbay**	**16.73**	**19**	*i* P		**P**	**21 36 22.0**	**-0.5**
KBS				IAmb		IAmb	21 36 30.6	
comp=Z,174nm,1.5s								
KBS				IAMs_20		IAMs_20	21 42 55.3	
comp=Z,3μm,13.4s								
SPA0	**Spitsbergen Ar**	**16.96**	**23**	*eP*		**P**	**21 36 24.0**	**-1.0**
SPA0				*eS*		**Sn**	**21 39 34.7**	**+3.3**
SPA0	**Spitsbergen Ar**	**16.96**	**23**			**Pn**	**21 36 22.4**	**

KEV pmax pmax
comp=Z,81nm,1.4s
KEV Kevo 17.74 54 Pn Pn 21 36 32.7 -0.1
UCC Uccle 18.04 130 P **Pn 21 36 35.0 -1.6**
UCC pmax pmax
comp=Z,34nm,1.0s
UCC Uccle 18.04 130 P **Pn 21 36 35.0 -1.6**
SNF Seneffe 18.26 130 Pn **Pn 21 36 38.4 -0.8**
SNF sPn **pP 21 36 42.5 -0.2**
RGN Rugen 18.46 108 P **Pn 21 36 41.8 +0.1**
BEBN Eben Emael 18.48 127 P **P 21 36 38.7 -3.2**
BEBN x x 21 36 44.3
BEBN Eben Emael 18.48 127 Pn **Pn 21 36 42.9 +0.9**
BEBN PnPn **PnPn 21 36 53.7 +0.3**
BMRD Maredsous 18.59 130 x x 21 36 47.9
BMRD Maredsous 18.59 130 Pn **P 21 36 42.2 -1.0**
BMRD sP **sP 21 36 54.0 +6.0**
BSTI Sart Tilman 18.62 128 x x 21 36 40.1
BSTI Sart Tilman 18.62 128 Pn **P 21 36 43.0 -0.5**
BGES Gesves 18.63 129 Pn **Pn 21 36 43.6 -0.3**
BCLA Clavier 18.67 129 P **P 21 36 38.4 -5.6**
BCLA x x 21 36 48.7
BCLA Clavier 18.67 129 Pn **P 21 36 42.9 -1.1**
BCLA sP **sP 21 36 54.8 +6.0**
DOU Dourbes 18.71 130 P P 21 36 34.7 -10
DOU x x 21 36 48.8
DOU Dourbes 18.71 130 Pn **P 21 36 43.7 -0.8**
BSD Bornholm Skovb 18.72 105 *eP* **P 21 36 39.3 -5.2**
BSD pmax pmax
comp=Z,57nm,1.3s
BSD MLR MLR
comp=Z,860nm,15.0s
BSD Bornholm Skovb 18.72 105 *i* P **P 21 36 39.3 -5.2**
comp=Z,57nm,1.3s
comp=Z,840nm,15.0s
BSD Bornholm Skovb 18.72 105 *eP* **P 21 36 39.4 -5.2**
BSD IAmb IAmb 21 36 47.9
comp=Z,57nm,1.3s
BSD IAMs_20 IAMs_20 21 47 26.0
comp=Z,845nm,15.0s
MEM Membach 18.75 127 x x 21 36 43.2
MEM Membach 18.75 127 Pn **Pn 21 36 45.1 -0.2**
MEM Membach 18.75 127 P **Pn 21 36 52.2 +6.9**
MEM sP **sP 21 36 55.6 +5.9**
BTNL Ternell 18.81 127 Pn **P 21 36 45.2 -0.4**
BTNL sP **sP 21 36 56.0 +5.6**
BTNL PnPn **PnPn 21 36 57.7 -0.3**
BHOU Houvegnez 18.97 128 x x 21 36 45.0
BHOU x x 21 36 50.5
BHOU Houvegnez 18.97 128 Pn **Pn 21 36 47.5 -0.5**
WLF Walferdange 19.60 128 sPn **Pn 21 36 58.4 +2.8**
WLF Walferdange 19.60 128 P **Pn 21 36 55.9 +0.3**
WLF pmax pmax
comp=Z,67nm,1.5s
WLF Walferdange 19.60 128 Pn **Pn 21 36 55.9 +0.3**
FINES FINESS Array B 19.81 79 P **P 21 36 53.8 -2.6**
comp=Z,0.2nm,0.3s,baz=321,slow=11,SNR=10
FINES LR LR 21 44 25.6
comp=Z,647nm,22.0s,baz=297,slow=36
FINES FINESS Array B 19.81 79 P **P 21 36 56.4 0.0**
FINES FINESS Array B 19.81 79 P **P 21 36 56.4 0.0**
FIA1 FINESS Array S 19.81 79 **P 21 36 54.3 -2.1**
CLF Chambon-Foret 19.82 137 P **P 21 36 55.2 -1.3**
TULEG Thule 19.85 328 P **P 21 36 57.4 +0.7**
TULEG IAmb IAmb 21 37 06.3
comp=Z,74nm,1.3s
TULEG Thule 19.85 328 IAMs_20 IAMs_20 21 44 32.9
comp=Z,7μm,11.0s
APA Apatity 20.44 59 ||*iP* **P 21 37 02.2 -1.0**
APA *i* S **S 21 40 45.0 -6.7**
APA pmax pmax
comp=Z,30nm,1.0s
APA MLR MLR
comp=Z,1μm,13.0s
CLL Collm 20.77 115 *eP* **P 21 37 06.0 -0.8**
comp=Z,131nm,1.3s
CLL *i* pP Pn 21 37 08.3 -0.9
comp=Z,131nm,1.3s
CLL *e*Pmax 21 37 14.0
CLL *e*PP **PnPn 21 37 24.0 -0.7**
CLL *e* 21 38 57.0
CLL *e*S **S 21 41 00.0 +1.7**
CLL *e*SS **SnSn 21 41 24.0 +6.3**
CLL *e*SSS SSS 21 41 30.0
CLL Lmax 21 48 00.0
CLL Collm 20.77 115 *eP* **P 21 37 06.0 -0.8**
CLL *i* 21 37 08.3
CLL *e*S **S 21 41 00.0 +1.7**
CLL pmax pmax
comp=Z,131nm,1.3s
CLL Collm 20.77 115 P **P 21 37 06.8 -0.1**
CLL IAmb IAmb 21 37 10.3
comp=Z,126nm,1.3s
GKP Gorka Klasztor 20.99 106 *eP* **P 21 37 08.8 -0.4**
GKP *e*S **S 21 41 04.8 +2.1**
ECH Echery 21.19 129 P **P 21 37 10.6 -0.9**
ECH pmax pmax
comp=Z,113nm,1.5s
ECH Echery 21.19 129 P **P 21 37 10.6 -0.9**
ECH IAmb IAmb 21 37 14.9
comp=Z,113nm,1.5s
GRA1 Grafenberg Arr 21.39 120 P **P 21 37 13.1 -0.4**
GRA1 IAmb IAmb 21 37 17.9
comp=Z,75nm,1.1s
GRF Grafenberg Arr 21.39 120 P **P 21 37 13.1 -0.4**
GRF pmax pmax
comp=Z,75nm,1.1s
NKC Novy Kostel 21.41 118 *eP* **P 21 37 15.3 +1.5**
NKC *e*S **S 21 41 13.8 +2.7**
NKC AMS AMS 21 49 20.0
comp=Z,2μm,11.3s
NKC Novy Kostel 21.41 118 *eP* **P 21 37 15.3 +1.5**
NKC *e*S **S 21 41 13.8 +2.7**
NKC MLR MLR
comp=Z,2μm,11.3s
STU Stuttgart 21.42 125 P **P 21 37 13.9 0.0**
STU pmax pmax
comp=Z,86nm,1.0s
STU Stuttgart 21.42 125 P **P 21 37 13.9 0.0**
STU IAmb IAmb 21 37 18.7
comp=Z,86nm,1.0s
BRG Berggiesshubel 21.48 115 *eP* **P 21 37 13.9 -0.6**
comp=Z,134nm,1.4s
BRG S Sn 21 41 16.0 -4.4
comp=N,1μm,9.4s
comp=E,1μm,11.2s
comp=Z,2μm,9.1s
BRG Berggiesshubel 21.48 115 *eP* **P 21 37 13.9 -0.6**
BRG S Sn 21 41 16.0 -4.4
BRG pmax pmax
comp=Z,134nm,1.4s
BRG MLR MLR
comp=N,1μm,9.4s
BRG MLR MLR
comp=E,1μm,11.2s
BRG MLR MLR
comp=Z,2μm,9.1s
BFO Black Forest 21.49 127 P **P 21 37 14.3 -0.4**
BFO pmax pmax
comp=Z,72nm,1.1s
BFO Black Forest 21.49 127 P **P 21 37 14.3 -0.4**
BFO IAmb IAmb 21 37 19.4
comp=Z,72nm,1.1s
VSU Vasula 21.67 86 *de*P **P 21 37 14.2 -2.3**
VSU pmax pmax
comp=Z,177nm,1.2s
FRB Frobisher Bay 21.68 291 LR LR 21 44 58.0
comp=Z,986nm,21.7s,baz=59,slow=35
PVCC Panska Ves 21.99 114 *eP* **P 21 37 21.0 +1.0**
PVCC *e*S **S 21 41 22.6 +0.2**
PVCC AMS AMS 21 50 10.0
comp=Z,2μm,10.6s
PVCC Panska Ves 21.99 114 *eP* **P 21 37 21.0 +1.0**
PVCC *e*S **S 21 41 22.6 +0.2**
PVCC MLR MLR
comp=Z,2μm,10.6s
SLVR Solovky 22.18 65 P **P 21 37 18.6 -3.3**
comp=Z,81nm,1.0s
SLVR *e*S **S 21 41 22.4 -3.4**
PRA Prague 22.30 115 *eP* **P 21 37 25.8 +2.4**
PRA *e*S **S 21 41 27.7 -0.6**
PRA AMS AMS 21 49 50.0
comp=Z,1μm,11.0s
PRA Prague 22.30 115 *eP* **P 21 37 25.8 +2.4**
PRA *e*S **S 21 41 27.7 -0.6**
PRA MLR MLR
comp=Z,1μm,11.0s
PRU Pruhonice 22.41 115 *eP* **P 21 37 26.0 +1.5**
PRU *e*S **S 21 41 29.3 -1.1**
PRU AMS AMS 21 50 00.0
comp=Z,2μm,11.3s
PRU Pruhonice 22.41 115 *eP* **P 21 37 26.0 +1.5**
PRU *e*S **S 21 41 29.3 -1.1**
PRU MLR MLR
comp=Z,2μm,11.3s
KSP Ksiaz 22.43 112 *eP* **P 21 37 24.0 -0.8**
KSP *e*S **S 21 41 33.3 +2.6**
PBCC Pribram 22.44 117 *eP* **P 21 37 26.5 +1.6**
CHVC Chvalec 22.53 112 *eP* **P 21 37 27.0 +1.1**
CHVC *e*S **S 21 41 30.5 -2.2**
CHVC AMS AMS 21 49 40.0
comp=Z,1μm,10.8s
UPC Upice 22.58 113 *eP* **P 21 37 27.6 +1.3**
UPC *e*S **S 21 41 34.7 +1.2**
UPC AMS AMS 21 50 50.0
comp=Z,2μm,11.3s
UPC Upice 22.58 113 *eP* **P 21 37 27.6 +1.3**
UPC *e*S **S 21 41 34.7 +1.2**
UPC MLR MLR
comp=Z,2μm,11.3s
OSTC Ostas 22.62 112 *eP* **P 21 37 26.6 -0.2**
OSTC *e*S **S 21 41 34.8 +0.5**
OSTC AMS AMS 21 50 30.0
comp=Z,1μm,11.2s
KHC Kasperske Hory 22.73 118 *eP* **P 21 37 27.0 -1.0**
KHC *e*S **S 21 41 35.5 -0.8**
KHC AMS AMS 21 48 00.0
comp=Z,2μm,11.0s
KHC Kasperske Hory 22.73 118 *eP* **P 21 37 27.0 -1.0**
KHC *e*S **S 21 41 35.5 -0.8**
KHC MLR MLR
comp=Z,2μm,11.0s
DPC Dobruska-Polom 22.83 112 *eP* **P 21 37 28.9 -0.1**
DPC *e*S **S 21 41 39.3 +1.3**
DPC AMS AMS 21 51 00.0
comp=Z,2μm,11.0s
DPC Dobruska-Polom 22.83 112 *eP* **P 21 37 28.9 -0.1**
DPC *e*S **S 21 41 39.3 +1.3**
DPC MLR MLR
comp=Z,2μm,11.0s
SENIN Lac Senin/Sane 22.86 131 P **P 21 37 29.4 -0.1**
DAVA Damuels 22.92 126 *eP* **P 21 37 29.6 -0.5**
comp=Z,80nm,1.5s,SNR=15
DAVA S **S 21 41 43.9 +3.9**
comp=Z,2μm,9.2s
SSB Saint Sauveur 22.97 137 P **P 21 37 29.6 -0.9**
SSB pmax pmax
comp=Z,74nm,1.4s
SSB Saint Sauveur 22.97 137 P **P 21 37 29.6 -0.9**
SSB IAmb IAmb 21 37 43.9
comp=Z,74nm,1.4s
SUW Suwalki 22.97 98 *eP* **P 21 37 29.1 -1.3**
SUW *e*S **S 21 41 42.0 +1.6**
SUW Suwalki 22.97 98 P **P 21 37 29.5 -0.9**
SUW pmax pmax
comp=Z,110nm,1.2s
SUW Suwalki 22.97 98 P **P 21 37 29.5 -0.9**
GEC2 GERESS Array S 23.01 118 P **P 21 37 30.1 -0.9**
GERES GERESS Array B 23.01 118 P **P 21 37 27.6 -3.4**
comp=Z,12nm,1.2s,baz=191,slow=8.5,SNR=2.8
GERES LR LR 21 46 54.1
comp=Z,921nm,20.0s,baz=329,slow=38
GERES GERESS Array B 23.01 118 P **P 21 37 30.5 -0.5**
GERES GERESS Array B 23.01 118 P **P 21 37 30.5 -0.5**
RETA Reutte 23.06 124 *eP* **P 21 37 31.6 +0.1**
comp=Z,42nm,1.4s,SNR=8.3
RETA S Sn 21 41 55.0 -3.5
comp=Z,1μm,8.1s
IZAR Zarasai 23.12 92 *eP* **P 21 37 31.3 -0.6**
ZFI2 Zemlya Franca- **23.16 22** *eP* **P 21 37 30.0 -2.2**
comp=Z,22nm,1.2s
ZFI2 *e*S **S 21 41 42.2 -1.1**
ZFI Zemlya Franca- **23.16 22** *eP* **P 21 37 31.1 -1.1**
comp=Z,100nm,1.9s
ZFI *e*S **S 21 41 43.3 0.0**
ISAL Salakas 23.19 92 *eP* **P 21 37 32.9 +0.3**
KRLC Kraliky 23.23 112 *eP* **P 21 37 33.3 +0.2**
KRLC Kraliky 23.23 112 *eP* **P 21 37 33.3 +0.2**
MOTA Moosalm 23.30 124 P **P 21 37 33.8 -0.2**
comp=Z,95nm,1.4s,SNR=9.8
MOTA S **S 21 41 54.3 +7.9**
comp=Z,876nm,5.9s
PGAV Gavieira, Arco 23.32 162 *eP* **P 21 37 34.3 +0.1**
comp=Z,89nm,1.7s
PGAV *i* LQ LQ 21 41 53.0
PGAV *e*LR LR 21 44 05.4
comp=Z,2μm,16.0s
TREC Trest 23.33 115 *eP* **P 21 37 34.4 +0.2**
TREC *e*S **S 21 41 44.9 -1.7**
TREC AMS AMS 21 51 10.0
comp=Z,2μm,8.9s
TREC Trest 23.33 115 *eP* **P 21 37 34.4 +0.2**
TREC *e*S **S 21 41 44.9 -1.7**
TREC MLR MLR
comp=Z,2μm,8.9s
DAVOX Davos/Dischmat 23.36 127 P **P 21 37 32.4 -2.3**
comp=Z,5.7nm,1.0s,baz=320,slow=17,SNR=1.7
DAVOX LR LR 21 47 37.0
comp=Z,858nm,18.4s,baz=318,slow=39
IIGN Ignalina 23.37 92 *eP* **P 21 37 34.4 -0.1**
TUE Stuetta 23.44 128 P **P 21 37 35.5 0.0**
TUE IAmb IAmb 21 37 49.4
comp=Z,45nm,1.2s
FETA Feichten 23.45 125 P **P 21 37 35.0 -0.5**
comp=Z,58nm,1.3s
FETA S Sn 21 41 58.5 -9.4
comp=Z,721nm,6.8s
SQTA Sankt Quirin 23.45 124 *eP* **P 21 37 35.4 0.0**
comp=Z,87nm,1.3s,SNR=9.2
TMCR Tamitsa 23.46 65 *eP* **P 21 37 33.4 -1.9**
TMCR *e*S **S 21 41 47.4 -0.9**
TMCR pmax pmax
comp=Z,83nm,1.2s
WATA Walderalm 23.48 123 *eP* **P 21 37 35.3 -0.6**
comp=Z,49nm,1.4s,SNR=19
WATA S Sn 21 42 00.1 -8.6
comp=Z,453nm,4.0s
BEL Belsk 23.52 104 *eP* **P 21 37 35.7 -0.3**
WTTA Wattenberg 23.57 123 *eP* **P 21 37 36.7 0.0**
comp=Z,58nm,1.3s,SNR=17
WTTA S Sn 21 42 01.2 -9.4
comp=Z,1μm,5.1s
IDID Didziasalis 23.62 92 *eP* **P 21 37 36.9 -0.1**
FUORN Ofenpass-Fuorn 23.63 126 P **P 21 37 38.1 +0.7**
FUORN IAmb IAmb 21 37 43.3
comp=Z,52nm,1.4s
PBRG Braganca 23.70 159 *eP* **P 21 37 38.3 +0.5**
comp=Z,65nm,1.7s
VRAC Vranov 23.76 114 P **P 21 37 35.3 -3.1**
comp=Z,13nm,1.1s,baz=320,slow=10,SNR=19
VRAC LR LR 21 47 57.2
comp=Z,922nm,18.1s,baz=330,slow=40
VRAC Vranov 23.76 114 *eP* **P 21 37 37.7 -0.6**
VRAC *e*S **S 21 41 59.4 +6.0**
MORC Moravsky Berou 23.76 112 *eP* **P 21 37 37.5 -0.9**
MORC *e*S **S 21 41 56.0 +2.4**
MORC Moravsky Berou 23.76 112 P **P 21 37 38.1 -0.4**
MORC pmax pmax
comp=Z,38nm,1.2s
MORC Moravsky Berou 23.76 112 P **P 21 37 38.1 -0.4**
MORC IAmb IAmb 21 37 53.7
comp=Z,38nm,1.2s
BNI Bardonecchia 23.82 134 P **P 21 37 39.8 +0.6**
BNI pmax pmax
comp=Z,99nm,1.5s
BNI Bardonecchia 23.82 134 P **P 21 37 39.8 +0.6**
BNI IAmb IAmb 21 37 45.1
comp=Z,99nm,1.5s
KRUC Moravsky 23.88 114 *eP* **P 21 37 38.7 -0.8**
KRUC *e*S **S 21 42 00.5 +5.2**
NACGM Naroch 23.91 93 *eP* **P 21 37 38.0 -1.7**
NACGM *e*S **S 21 41 54.0 -1.7**
NACGM *e*LR LR 21 45 20.0
OKC Ostrava-Krasne 23.96 111 *eP* **P 21 37 41.1 +0.9**
OKC *e*S **S 21 41 53.6 -2.9**
OKC AMS AMS 21 48 20.0
comp=Z,1μm,14.4s
OKC Ostrava-Krasne 23.96 111 *eP* **P 21 37 41.1 +0.9**
OKC *e*S **S 21 41 53.6 -2.9**
OKC MLR MLR
comp=Z,1μm,14.4s
POLO Lamas de Olo 23.97 161 *eP* **P 21 37 41.1 +0.6**
comp=Z,37nm,1.7s
MOA Molln 24.05 119 *i* P **P 21 37 40.9 -0.2**
comp=Z,33nm,1.5s,SNR=8.9
MOA S S 21 42 10.6 +13
comp=Z,374nm,3.4s
PVRL Vila Real 24.07 161 *eP* **P 21 37 41.6 +0.2**
comp=Z,85nm,1.8s
MVO Moncorvo 24.28 160 *eP* **P 21 37 44.0 +0.6**
comp=Z,84nm,1.6s
MVO *i* LQ LQ 21 42 12.2
MVO *e*LR LR 21 44 37.2
comp=Z,1μm,18.0s
ABTA Abfaltersbach 24.32 123 P **P 21 37 44.3 +0.6**
comp=Z,40nm,1.5s,SNR=5.9
ABTA S **S 21 42 11.6 +9.1**
comp=Z,1μm,5.8s
OJC Ojcow 24.33 108 *eP* **P 21 37 42.7 -1.1**
OJC *e*S **S 21 42 04.6 +2.1**
OJC Ojcow 24.33 108 IAmb IAmb 21 37 55.5
comp=Z,70nm,1.5s
KBA Koelnbreinsper 24.34 121 *eP* **P 21 37 44.3 +0.2**
comp=Z,61nm,1.6s
JAVC Velka Javorina 24.54 113 *eP* **P 21 37 45.9 +0.2**
JAVC *e*S **S 21 42 10.0 +3.9**
CONA Conrad Observa 24.59 117 *i* P **P 21 37 45.9 -0.3**
comp=Z,28nm,1.2s,SNR=12
CONA S **S 21 42 16.1 +9.2**
comp=Z,782nm,5.0s
PVIS Viseu 24.60 162 *eP* **P 21 37 46.3 0.0**
comp=Z,43nm,1.4s
ZOU Zoufplan 24.65 122 P **P 21 37 47.2 +0.4**
ZOU IAmb IAmb 21 37 54.0
comp=Z,62nm,1.4s
MICGM Minsk 24.66 92 ||*eP* **P 21 37 45.0 -1.6**
MICGM PM 21 37 48.0
comp=Z,0.2nm,2.0s
MICGM *e*PP **PnPn 21 38 16.0 -1.9**
MICGM *e*PPP PPP 21 38 26.0
MICGM *e*S **S 21 42 04.0 -3.6**
MICGM *e*SS **SnSn 21 42 46.0 -6.9**
MICGM *e*LR LR 21 47 06.0
MNK Minsk 24.66 92 ||*eP* **P 21 37 45.0 -1.6**
MNK *e*PPP PPP 21 38 26.0
MNK *e*S **S 21 42 14.0 +6.4**
MNK pmax pmax
comp=Z,200nm,2.0s
CIMO Cimolais 24.67 123 P **P 21 37 47.2 +0.4**
CIMO IAmb IAmb 21 37 51.1
comp=Z,50nm,1.4s
SMOL Smolenice 24.73 114 *eP* **P 21 37 47.7 +0.4**
SMOL pmax pmax
comp=Z,42nm,1.4s
SMOL Smolenice 24.73 114 *eP* **P 21 37 47.7 +0.4**
MODS Modra-Piesok 24.78 114 *eP* **P 21 37 47.7 -0.1**
MODS pmax pmax
comp=Z,128nm,1.6s
MODS Modra-Piesok 24.78 114 *eP* **P 21 37 47.7 -0.1**
STAL STALIGIAL 24.81 123 IAmb IAmb 21 37 52.1
comp=Z,61nm,1.3s
MYKA Terra Mystica 24.83 121 *eP* **P 21 37 47.4 -0.9**
comp=Z,22nm,1.2s
MYKA S **S 21 42 17.6 +6.9**
comp=Z,404nm,5.3s
MTE Manteigas 24.96 161 *eP* **P 21 37 46.8 -2.7**
comp=Z,86nm,1.7s
MTE *i* LQ LQ 21 42 24.7
MTE *e*LR LR 21 44 43.8
comp=Z,2μm,20.0s
MTE Manteigas 24.96 161 P **P 21 37 49.6 +0.1**
MTE IAmb IAmb 21 37 55.1
comp=Z,52nm,1.1s
ARSA Arzberg 25.02 118 *i* P **P 21 37 49.7 -0.2**
comp=Z,20nm,1.2s,SNR=6.8
ARSA S **S 21 42 20.3 +6.6**
comp=Z,626nm,5.2s
COI Coimbra 25.03 163 P **P 21 37 50.8 +0.7**
COI pmax pmax
comp=Z,87nm,1.3s
COI Coimbra 25.03 163 *eP* **P 21 37 52.1 +2.0**
comp=Z,74nm,1.4s
COI Coimbra 25.03 163 P **P 21 37 50.8 +0.7**
LANS Liptovska Anna 25.03 110 *eP* **P 21 37 50.2 +0.1**
LANS pmax pmax
comp=Z,13nm,1.0s
LANS Liptovska Anna 25.03 110 *eP* **P 21 37 50.2 +0.1**
NIE Niedzica 25.16 109 *eP* **P 21 37 50.9 -0.4**
NIE *e*S **S 21 42 17.4 +1.4**
PCAS Casmilo, Conde 25.17 163 *eP* **P 21 37 53.4 +2.0**
comp=Z,94nm,1.3s
PRMA PARMA 25.27 128 P **P 21 37 54.0 +1.9**
OBKA Obir 25.27 120 *eP* **P 21 37 51.4 -0.9**
comp=Z,31nm,1.3s
OBKA S **S 21 42 22.5 +4.6**
comp=Z,514nm,4.6s
VYHS Vyhne 25.30 112 *eP* **P 21 37 52.4 -0.1**
VYHS pmax pmax
comp=Z,115nm,1.5s
VYHS Vyhne 25.30 112 *eP* **P 21 37 52.4 -0.1**
SOKA Soboth 25.31 119 *eP* **P 21 37 52.7 0.0**
comp=Z,31nm,1.4s,SNR=8.8
SOKA S S 21 42 29.8 +11
comp=Z,199nm,4.9s
PERS Pernice 25.38 119 *i* P **P 21 37 52.8 -0.4**
PERS *e*S **S 21 42 21.2 +1.8**
MSSA Maissana 25.40 130 P **P 21 37 55.2 +1.7**
MSSA IAmb IAmb 21 38 12.0
comp=Z,45nm,1.5s
PCBR Castelo Branco 25.52 161 *eP* **P 21 37 58.0 +3.5**
comp=Z,46nm,1.4s
KLMR Klimovskoe 25.71 72 *eP* **P 21 37 54.6 -1.5**
comp=Z,60nm,1.3s
KLMR *i* PcP **PcP 21 41 25.0 -0.7**
KLMR *e*S **S 21 42 24.4 0.0**
KLMR Klimovskoe 25.71 72 *eP* **P 21 37 54.6 -1.5**
KLMR *e* 21 41 25.5
KLMR *e*S **S 21 42 24.7 +0.3**
KLMR pmax pmax
comp=Z,60nm,1.3s
KLMR Klimovskoe 25.71 72 *eP* **P 21 37 54.6 -1.5**
KLMR AMP 21 38 00.0
comp=Z,60nm,1.3s
KLMR *e*PcP **PcP 21 41 25.6 -0.1**
KLMR *e*S **S 21 42 24.7 +0.3**
KLMR *e*S **S 21 42 24.7 +0.3**
KLMR LQ LQ 21 44 42.0
KLMR LQ LQ 21 44 42.0
KLMR LR LR 21 46 37.1
UCM Universidad Co 25.75 154 *eP* **P 21 37 57.1 +0.4**
UCM *e*S **S 21 42 32.5 +7.1**
VLC Villacollemand 25.82 129 P **P 21 37 58.9 +1.6**
VLC IAmb IAmb 21 38 12.2
comp=Z,51nm,1.3s
ZCCA Zocca 25.86 128 P **P 21 37 59.6 +2.0**
PMRV Marv??o 25.93 161 *eP* **P 21 38 01.4 +3.1**
comp=Z,71nm,1.7s
PMRV *i* LQ LQ 21 42 40.2
PMRV *e*LR LR 21 45 10.4
comp=Z,2μm,18.0s
SCHQ Schefferville 25.94 271 P **P 21 37 57.6 -0.7**
comp=Z,19nm,0.8s,baz=61,slow=8.9,SNR=9.3
SCHQ LR LR 21 46 52.4
comp=Z,898nm,20.4s,baz=47,slow=33
SCHQ Schefferville 25.94 271 P **P 21 37 56.9 -1.4**
KWP Kalwaria Pacla 25.99 106 *eP* **P 21 37 58.5 -0.1**
KWP Kalwaria Pacla 25.99 106 P **P 21 37 58.6 -0.1**
KWP pmax pmax
comp=Z,203nm,1.5s
KWP Kalwaria Pacla 25.99 106 P **P 21 37 58.6 -0.1**
DRLN Deer Lake 26.01 253 P **P 21 37 58.8 0.0**
DRLN IAmb IAmb 21 38 02.4
comp=Z,46nm,1.2s
CRVS Cervenica-Dubn 26.04 108 *eP* **P 21 37 59.0 -0.2**
CRVS pmax pmax
comp=Z,93nm,1.5s
CRVS Cervenica-Dubn 26.04 108 *eP* **P 21 37 59.0 -0.2**
LSH Leshukonskoye 26.08 60 *eP* **P 21 37 57.2 -2.2**
comp=Z,85nm,1.0s
LSH *e*S **S 21 42 29.1 -1.1**
GOLS Golise 26.09 119 *eP* **P 21 37 58.4 -1.3**
PMTG Montargil 26.18 163 *eP* **P 21 38 04.2 +3.7**
comp=Z,39nm,1.7s

PSZ	Piszkesteto	26.18	111	⇓	P		P	21 37 59.6	-1.0
PSZ	Piszkesteto	26.18	111	⇓	P		P	21 37 59.6	-1.0
PSZ	Piszkesteto	26.18	111		IAmb		IAmb	21 38 06.9	
	comp=Z,68nm,1.3s								
PAB	San Pablo	26.29	156		P		P	21 38 01.8	+0.2
PAB					pmax		pmax		
	comp=Z,35nm,1.4s								
PAB	San Pablo	26.29	156		P		P	21 38 01.8	+0.2
PAB					IAmb		IAmb	21 38 05.2	
	comp=Z,34nm,1.4s								
KOLS	Kolonicke sedl	26.35	107	*e*	P		P	21 38 01.3	-0.7
KOLS					pmax		pmax		
	comp=Z,76nm,1.6s								
KOLS	Kolonicke sedl	26.35	107	*e*	P		P	21 38 01.3	-0.7
LVV	L'vov	26.39	104	*e*	P		P	21 38 03.5	+1.1
LVV				*e*	S		S	21 42 39.0	+3.6
LVV					MLR		MLR		
	comp=Z,730nm,15.0s								
RES	Resolute Bay	26.46	324		P		P	21 38 03.2	+0.5
	comp=Z,10nm,1.2s,baz=297,slow=1.5,SNR=3.8								
RES					LR		LR	21 48 22.4	
	comp=Z,969nm,18.4s,baz=72,slow=36								
RES	Resolute Bay	26.46	324		P		P	21 38 01.4	-1.3
RES					pmax		pmax		
	comp=Z,15nm,1.2s								
RES	Resolute Bay	26.46	324		P		P	21 38 01.4	-1.3
UZH	Uzhgorod	26.59	108	*e*	P		P	21 38 03.1	-1.0
UZH				*e*	S		S	21 42 33.3	-5.2
UZH					pmax		pmax		
	comp=Z,18nm,1.1s								
ROSA	Rosais	26.66	199		P		P	21 38 04.9	+0.1
OSSC	Osservatorio P	26.68	128		P		P	21 38 05.5	+0.5
PVAQ	Vaqueiros	27.88	163	*i*	LQ		LQ	21 43 13.2	
PVAQ				*e*	LR		LR	21 46 06.2	
	comp=Z,1μm,18.0s								
NRCA	Norcia	27.93	126		P		P	21 38 16.6	+0.3
NRCA					IAmb		IAmb	21 38 26.0	
	comp=Z,40nm,1.3s								
AKASG	Malin Array Be	27.93	97		P		P	21 38 14.0	-2.1
	comp=Z,6.2nm,0.9s,baz=323,slow=9.5,SNR=17								
AKASG					LR		LR	21 49 39.9	
	comp=Z,553nm,19.5s,baz=320,slow=37								
AKASG	Malin Array Be	27.93	97	*ce*	P		P	21 38 16.8	+0.7
AKASG					pmax		pmax		
	comp=Z,6.0nm,0.9s								
AKASG	Malin Array Be	27.93	97		P		P	21 38 16.0	-0.1
AKBB	Malin Array Si	27.93	97	⇓	*e*P		P	21 38 15.3	-0.8
AKBB					pmax		pmax		
	comp=Z,33nm,1.5s								
AKBB	Malin Array Si	27.93	97		IAmb		IAmb	21 38 21.5	
	comp=Z,36nm,1.4s								
OBN	Obninsk	27.99	84		P		P	21 38 15.1	-1.5
	comp=Z,5.5nm,0.8s,baz=299,slow=14,SNR=14								
OBN					LR		LR	21 49 17.8	
	comp=Z,88nm,18.8s,baz=350,slow=36								
OBN	Obninsk	27.99	84	⇓	P		P	21 38 15.9	-0.7
OBN	Obninsk	27.99	84	*d*	*i*P		P	21 38 16.1	-0.4
OBN					*e*PPP		PPP	21 39 10.0	
OBN					*e*			21 41 32.1	
OBN					pmax		pmax		
	comp=Z,73nm,1.3s								
OBN	Obninsk	27.99	84		P		P	21 38 14.9	-1.7
MOS	Moscow	28.02	82	*e*	P		P	21 38 16.4	-0.5
MOS				*e*				21 39 15.2	
MOS				*e*	S		S	21 43 02.1	+1.2
MOS				*e*	SS		SnSn	21 44 24.8	+10
MOS					pmax		pmax		
	comp=Z,34nm,1.0s								
MOS					MLR		MLR		
	comp=Z,500nm,12.0s								
BUR08	Bucovina Ar. S	28.57	106		P		P	21 38 22.9	+0.8
BURAR	Bucovina Array	28.60	106	⇓	P		P	21 38 24.7	+2.4
BURAR	Bucovina Array	28.60	106	⇓	P		P	21 38 24.7	+2.4
BURAR	Bucovina Array	28.60	106		P		P	21 38 22.2	-0.1
CJR	Cluj-Napoca	28.65	109	⇑	P		P	21 38 24.9	+2.2
CJR	Cluj-Napoca	28.65	109	⇑	P		P	21 38 24.9	+2.2
BZS	Buzias	28.75	112	⇓	P		P	21 38 23.9	+0.5
BZS	Buzias	28.75	112	⇓	P		P	21 38 23.9	+0.5
CART	Cartagena	28.82	152	*e*	P		P	21 38 21.8	-2.4
CART				*e*	S		S	21 43 21.4	+7.7
INTR	Introdacqua	28.93	126		P		P	21 38 24.9	-0.3
INTR					IAmb		IAmb	21 38 28.0	
	comp=Z,43nm,1.5s								
DIVS	Divibare	29.37	116		P		P	21 38 28.1	-1.0
GZR	Gura Zlata	29.39	111	⇓	P		P	21 38 30.2	+0.9
GZR	Gura Zlata	29.39	111	⇓	P		P	21 38 30.2	+0.9
BIZ	Bicaz	29.51	106	⇑	P		P	21 38 29.4	-0.8
HERR	Herculane	29.67	112	⇑	P		P	21 38 32.7	+1.0
DOPR	Dopca	29.99	108	⇑	P		P	21 38 36.2	+1.7
PAOL	Paolisi	30.02	126		P		P	21 38 34.5	-0.4
PAOL					IAmb		IAmb	21 38 37.2	
	comp=Z,41nm,1.3s								
ARR	Arges	30.17	109	⇑	P		P	21 38 37.2	+1.1
VOIR		30.28	109	⇓	P		P	21 38 36.0	-1.1
VOIR		30.28	109	⇓	P		P	21 38 36.0	-1.1
PUNG	Punghina	30.38	112	⇓	P		P	21 38 40.3	+2.4
PDG	Podgorica	30.51	119		P		P	21 38 36.6	-2.4
PDG					IAmb		IAmb	21 38 41.0	
	comp=Z,43nm,1.3s								
MLR	Muntele Rosu	30.60	107	⇓	P		P	21 38 42.8	+2.7
MLR	Muntele Rosu	30.60	107	⇓	P		P	21 38 42.8	+2.7
MLR	Muntele Rosu	30.60	107		P		P	21 38 40.1	0.0
PLOR	Plostina	30.60	106	⇓	P		P	21 38 40.7	+0.8
PLOR	Plostina	30.60	106	⇓	P		P	21 38 40.7	+0.8
VRI	Vrincioaia	30.62	106	⇓	P		P	21 38 41.6	+1.5
VRI	Vrincioaia	30.62	106	⇓	P		P	21 38 41.6	+1.5
GBN	Guysborough	30.72	253		P		P	21 38 40.3	-0.5
GBN					IAmb		IAmb	21 38 43.4	
	comp=Z,30nm,1.2s								
LPSR	Galich'ya Gora	30.73	86	*e*	P		P	21 38 39.6	-1.3
LPSR				*e*	S		S	21 43 48.6	+5.1
LPSR					pmax		pmax		
	comp=Z,20nm,1.2s								
LPSR					smax		smax		
	comp=E,200nm,9.2s								
LPSR					MLR		MLR		
	comp=Z,770nm,11.0s								
NEHR	Nehoiu	30.80	107	⇑	P		P	21 38 45.6	+3.9
BISRR	Bisoca	30.87	107	⇑	P		P	21 38 45.3	+3.0
HUMR	Humele	31.00	110	⇓	P		P	21 38 45.2	+1.8
KIRV	Kirov	31.09	69	⇑	*e*P		P	21 38 42.9	-1.1
MATE	Matera	31.12	124	⇑	P		P	21 38 45.8	+1.3
BATG	Bathurst New B	31.13	260		P		P	21 38 43.9	-0.6
SULR		31.39	108	⇑	P		P	21 38 48.8	+1.9
COPA	Copaceanca	31.42	110	⇑	P		P	21 38 48.4	+1.4
CFR	Carcaliu	31.76	105	⇑	P		P	21 38 48.6	-1.5
CFR	Carcaliu	31.76	105	⇑	P		P	21 38 48.6	-1.5
LEHL	Lehliu	31.79	108	⇓	P		P	21 38 51.8	+1.4
PMOZ	Porto Moniz, M	31.81	179	*e*	LR		LR	21 47 46.1	
	comp=Z,684nm,20.0s								
VSR	Storozhevoye	31.83	87	*e*	P		P	21 38 49.2	-1.4
VSR				*e*	S		S	21 43 58.2	-2.5
VSR					pmax		pmax		
	comp=Z,30nm,1.5s								
VSR					smax		smax		
	comp=N,320nm,8.0s								
VSR					MLR		MLR		
	comp=Z,510nm,15.0s								
AVE	Averroes	31.97	164	*e*	P		P	21 38 55.6	+3.6
AVE				*e*	S		S	21 44 09.5	+6.4
IFR	Ifrane	32.06	160	*e*	S		S	21 44 07.8	+2.9
VORD	Divnogorie	32.07	87	*e*	P		P	21 38 51.2	-1.5
VORD				*e*	S		S	21 44 04.8	+0.4
VORD					pmax		pmax		
	comp=Z,30nm,1.4s								
VORD					smax		smax		
	comp=N,60nm,4.0s								
D63A	Stockholm	32.19	261		P		P	21 38 54.4	+0.6
	baz=38								
RAZG	Razgrad	32.41	109	⇓	P		P	21 38 55.7	-0.1
CORL	Corleone	32.41	130		P		P	21 38 57.1	+1.2
PQI	Presque Isle	32.44	261		P		P	21 38 56.0	0.0
PQI					IAmb		IAmb	21 38 58.3	
	comp=Z,22nm,1.4s								
D62A	Allapoint, All	32.56	262		P		P	21 38 57.6	+0.5
	baz=39								
D62A	Allapoint, All	32.56	262		P		P	21 38 57.3	+0.3
E64A	Bridgewater	32.56	260		P		P	21 38 57.9	+0.8
	baz=38								
CLTB	Caltabellotta	32.67	131		P		P	21 38 57.7	-0.6
CHGQ	Chibougamau	32.69	271		P		P	21 38 59.0	+0.7
	baz=42,SNR=5.3								
E63A	Oxbow	32.81	261		P		P	21 38 59.0	-0.2
	baz=38								
E63A	Oxbow	32.81	261		P		P	21 38 58.4	-0.9
E63A					IAmb		IAmb	21 39 00.9	
	comp=Z,29nm,1.4s								
MDT	Midelt	32.83	159		P		P	21 38 58.0	-1.7
	comp=Z,27nm,1.2s,baz=357,slow=12,SNR=6.7								
MDT					LR		LR	21 51 42.0	
	comp=Z,651nm,21.2s,baz=22,slow=35								
VRH	Novokhopyorsk	32.94	85	*e*	P		P	21 38 59.2	-1.1
VRH				*e*	S		S	21 44 17.2	-0.7
VRH					pmax		pmax		
	comp=Z,30nm,1.1s								
VRH					smax		smax		
	comp=N,660nm,12.5s								
VRH					MLR		MLR		
	comp=Z,780nm,13.0s								
D61A	St Aubert, Com	32.95	264		P		P	21 39 00.5	0.0
	baz=39								
E62A	Clayton Lake	33.12	262		P		P	21 39 02.5	+0.5
	baz=38								
E62A	Clayton Lake	33.12	262		P		P	21 39 02.4	+0.4
E62A					IAmb		IAmb	21 39 08.9	
	comp=Z,27nm,1.5s								
KEST	Kesra	33.18	137		P		P	21 39 00.1	-2.5
	comp=Z,4.6nm,1.1s,baz=276,slow=11,SNR=2.7								
KEST					LR		LR	21 52 23.0	
	comp=Z,708nm,18.9s,baz=322,slow=36								
KEST	Kesra	33.18	137		P		P	21 39 03.4	+0.7
G65A	Princeton	33.41	259		P		P	21 39 05.3	+0.7
	baz=37								
G65A	Princeton	33.41	259		P		P	21 39 03.0	-1.6
D60A	Saint Jean D'O	33.49	264		P		P	21 39 05.1	-0.1
	baz=39								
F63A	Nahmakanta, Br	33.67	261		P		P	21 39 07.2	+0.4
	baz=37								
F63A	Nahmakanta, Br	33.67	261		P		P	21 39 06.6	-0.2
F63A					IAmb		IAmb	21 39 09.7	
	comp=Z,31nm,1.4s								
E61A	Lac Etchemin	33.68	263		P		P	21 39 06.9	0.0
	baz=38								
G64A	Maxfield	33.88	260		P		P	21 39 09.3	+0.7
	baz=37								
LATQ	La Tuque	33.93	266		P		P	21 39 08.8	-0.2
	baz=39								
PKME	Peaks-Kenny Pk	34.10	261		P		P	21 39 11.0	+0.5
	baz=37								
PKME	Peaks-Kenny Pk	34.10	261		P		P	21 39 09.7	-0.7
PKME					IAmb		IAmb	21 39 18.7	
	comp=Z,26nm,1.3s								
E60A	Ste Agathe de	34.14	264		P		P	21 39 11.2	+0.3
	baz=38								
D58A	Chemin du LacG	34.19	266		P		P	21 39 11.9	+0.6
	baz=39								
F61A	St Evariste	34.26	263		P		P	21 39 12.7	+0.8
	baz=38								
G63A	Kingsbury	34.36	261		P		P	21 39 12.4	-0.4
	baz=37								
LSQQ	Lebel-sur-Quev	34.45	272		P		P	21 39 13.1	-0.4
	baz=41								
H64A	Troy	34.57	260		P		P	21 39 14.7	+0.2
	baz=36								
F60A	Warwick	34.67	264		P		P	21 39 15.9	+0.4
	baz=38								
D56A	ZEC Mazanza, M	35.04	268		P		P	21 39 18.4	-0.2
	baz=39								
G61A	St-Isidore-de-	35.04	263		P		P	21 39 19.3	+0.6
	baz=37								
E57A	Chemin Saint G	35.27	267		P		P	21 39 20.7	0.0
	baz=38								
I64A	Boothbay	35.32	260		P		P	21 39 22.2	+1.1
	baz=36								
MOQ	Mont Orford	35.33	264		P		P	21 39 20.6	-0.6
D55A	Sainte-Anne-du	35.37	269		P		P	21 39 22.0	+0.6
	baz=39								
VLDQ	Val d'Or	35.38	272		P		P	21 39 21.4	-0.1
VLDQ					IAmb		IAmb	21 39 26.6	
	comp=Z,38nm,1.4s								
H62A	Milan	35.44	262		P		P	21 39 22.8	+0.6
	baz=36								
G60A	Masonville	35.53	264		P		P	21 39 23.6	+0.8
	baz=37								
E56A	St. Veronique	35.55	268		P		P	21 39 23.8	+0.7
	baz=38								
I63A	Otisfield	35.62	261		P		P	21 39 24.6	+0.9
	baz=36								
H61A	Lyndonville	35.81	263		P		P	21 39 26.2	+1.0
	baz=37								
ANN	Anapa	36.00	96	*e*	P		P	21 39 25.0	-1.9
ANN				*e*	S		S	21 45 05.9	+0.7
ANN					pmax		pmax		
	comp=Z,92nm,1.1s								
ANN					MLR		MLR		
	comp=Z,1μm,16.0s								
I62A	Tamworth	36.08	261		P		P	21 39 29.3	+1.7
	baz=36								
I62A	Tamworth	36.08	261		P		P	21 39 27.3	-0.3
I62A					IAmb		IAmb	21 39 30.6	
	comp=Z,29nm,1.4s								
ITM	Ithomi	36.09	120		P		P	21 39 28.2	+0.5
H60A	Morristown	36.11	263		P		P	21 39 28.5	+0.5
	baz=37								
ARU	Arti	36.20	66	*d*	*i*P		P	21 39 27.7	-0.7
ARU					PPP		PPP	21 41 05.5	
ARU					S		S	21 45 09.9	+1.9
ARU					SS		SnSn	21 47 32.1	-1.4
ARU					pmax		pmax		
	comp=Z,19nm,1.2s								
ARU					MLR		MLR		
	comp=Z,775nm,18.0s								
ARU	Arti	36.20	66		P		P	21 39 26.9	-1.6
G58A	Ormstown	36.23	265		P		P	21 39 29.8	+1.0
	baz=37								
FRNY	Flat Rock	36.28	264		P		P	21 39 29.1	-0.2
FRNY					IAmb		IAmb	21 39 35.1	
	comp=Z,33nm,1.3s								
I61A	Oroboro, Fairl	36.41	262		P		P	21 39 31.3	+0.8
	baz=36								
H59A	Cadyville	36.47	264		P		P	21 39 31.3	+0.4
	baz=37								
NRIK	Norik	36.57	35		P		P	21 39 31.3	-0.2
	comp=Z,20nm,1.2s,baz=302,slow=5.2,SNR=11								
G57A	Newington	36.66	266		P		P	21 39 33.6	+1.0
	baz=37								
SVE	Sverdlovsk	36.73	64	*e*	P		P	21 39 32.4	-0.6
SVE				*e*	S		S	21 45 15.1	-1.0
SVE					pmax		pmax		
	comp=Z,21nm,1.4s								
SVE					MLR		MLR		
	comp=Z,981nm,19.0s								
H58A	Gabriels	36.86	265		P		P	21 39 35.3	+1.0
	baz=37								
LONY	Lake Ozonia	36.88	265		P		P	21 39 35.0	+0.6
	baz=37								
LONY	Lake Ozonia	36.88	265		P		P	21 39 32.9	-1.5
MDUB	Mudurnu	36.92	107		P		P	21 39 36.2	+1.3
I60A	Shoreham	36.94	263		P		P	21 39 36.2	+1.3
	baz=36								
ALGO	Algonquin Park	37.31	270		P		P	21 39 39.4	+1.4
	baz=38								
H57A	Richville	37.35	266		P		P	21 39 38.4	+0.1
	baz=37								
G54A	Lake Saint Pet	37.77	269		P		P	21 39 42.7	+0.8
	baz=38								
J59A	Piesco	37.77	264		P		P	21 39 43.0	+1.0
	baz=36								
L63A	North Scituate	37.84	260		P		P	21 39 43.3	+0.7
	baz=34								
I57A	Carthage	37.88	266		P		P	21 39 43.3	+0.4
	baz=36								
K61A	Williamstown	37.89	262		P		P	21 39 43.8	+0.8
	baz=35								
SOC	Sochi	37.96	95	*e*	P		P	21 39 41.6	-1.9
SOC				*e*	S		S	21 45 34.2	-0.9
SOC					pmax		pmax		
	comp=Z,12nm,0.9s								
SOC					MLR		MLR		
	comp=Z,906nm,16.0s								
J58A	Remsen	38.19	265		P		P	21 39 46.1	+0.6
	baz=36								
GOF	Gofitskoye	38.21	91	⇑	*e*P		P	21 39 46.1	+0.4
GOF					pmax		pmax		
	comp=Z,157nm,1.5s								
J57A	Williamstown	38.45	265		P		P	21 39 48.4	+0.6
	baz=36								
J57A	Williamstown	38.45	265		P		P	21 39 48.7	+0.9
PECO	Prince Edward	38.46	267		P		P	21 39 47.6	-0.2
K59A	Cooperstown	38.48	264		P		P	21 39 49.1	+1.1
	baz=36								
BRTR	Keskin Array B	38.56	105		P		P	21 39 48.0	-0.8
	comp=Z,7.5nm,1.0s,baz=342,slow=7.8,SNR=14								
BRTR					LR		LR	21 56 19.6	
	comp=Z,114nm,19.3s,baz=328,slow=37								
BRTR	Keskin Array B	38.56	105	*ce*	P		P	21 39 49.5	+0.7
BRTR					pmax		pmax		
	comp=Z,8.0nm,1.0s								
BRTR	Keskin Array B	38.56	105		P		P	21 39 49.1	+0.3
SADO	Sadowa	38.72	270		LR		LR	21 54 55.7	
	comp=Z,681nm,18.1s,baz=11,slow=35								
K58A	Earlville	38.83	264		P		P	21 39 51.2	+0.3
	baz=36								
K58A	Earlville	38.83	264		P		P	21 39 49.5	-1.4
IDI	Anoyia	38.88	118		P		P	21 39 50.8	-0.6
IDI					IAmb		IAmb	21 39 51.6	
	comp=Z,49nm,1.1s								
J56A	Wolcott	38.93	266		P		P	21 39 51.4	-0.3
J56A					IAmb		IAmb	21 39 58.2	
	comp=Z,29nm,1.1s								
KIV	Kislovodsk	38.94	92	*e*	P		P	21 39 51.6	-0.3
KIV				*e*	S		S	21 45 50.6	+0.5
KIV					pmax		pmax		
	comp=Z,46nm,1.1s								
KIV					MLR		MLR		
	comp=Z,1μm,16.0s								
KIV	Kislovodsk	38.94	92		P		P	21 39 51.1	-0.8
L59A	Walton	39.04	263		P		P	21 39 53.7	+1.0
	baz=35								
YKA	Yellowknife Ar	39.19	313		P		P	21 39 53.6	0.0
	comp=Z,7.9nm,1.0s,baz=42,slow=10,SNR=3.8								
YKA					LR		LR	21 54 54.7	
	comp=Z,364nm,21.7s,baz=0.0,slow=34								
YKA	Yellowknife Ar	39.19	313	*ce*	P		P	21 39 57.7	+4.1
YKA					pmax		pmax		
	comp=Z,8.0nm,1.0s								
KBZ	Khabaz	39.21	92		P		P	21 39 53.4	-0.7
	comp=Z,16nm,1.2s,baz=309,slow=9.7,SNR=12								
KBZ					LR		LR	21 56 17.9	
	comp=Z,774nm,20.7s,baz=322,slow=37								
KBZ	Khabaz	39.21	92	⇓	*e*P		P	21 39 54.0	0.0
KBZ					pmax		pmax		
	comp=Z,26nm,1.4s								
ELL	Elmali	39.57	111		P		P	21 39 58.0	+0.7
ELL					pmax		pmax		
	comp=Z,140nm,1.2s								
ELL	Elmali	39.57	111		P		P	21 39 58.0	+0.7
K56A	Middlesex	39.60	266		P		P	21 39 57.9	+0.5
	baz=36								
MEDO	Medina	39.71	267		P		P	21 39 57.8	-0.5
ODNJ	Ogdensburg	39.76	262		P		P	21 39 59.5	+0.8
INK	Inuvik	39.84	329		P		P	21 39 57.7	-1.3
INK					pmax		pmax		
	comp=Z,17nm,1.2s								
INK	Inuvik	39.84	329		P		P	21 39 57.7	-1.3
AKAS	Kas	39.89	112		P		P	21 39 59.7	-0.3
AKAS					IAmb		IAmb	21 40 03.6	
	comp=Z,35nm,1.1s								
L57A	Andrews Acres	39.97	265		P		P	21 40 00.9	+0.5
	baz=35								
N60A	Cedar Hill Far	40.14	262		P		P	21 40 02.3	+0.5
	baz=34								
L56A	Greenwood	40.16	266		P		P	21 40 02.4	+0.3
	baz=35								
L56A	Greenwood	40.16	266		P		P	21 40 02.4	+0.3
L56A					IAmb		IAmb	21 40 08.3	
	comp=Z,37nm,1.4s								
WVNY	West Valley, N	40.39	267		P		P	21 40 03.9	0.0
WVNY					IAmb		IAmb	21 40 09.4	
	comp=Z,39nm,1.2s								
ZEI	Tsey	40.40	92	*e*	P		P	21 40 01.8	-2.4
ZEI					pmax		pmax		
	comp=Z,13nm,1.2s								
FFC	Flin Flon	40.54	297		P		P	21 40 04.2	-0.8
FFC					pmax		pmax		
	comp=Z,26nm,1.3s								
FFC	Flin Flon	40.54	297		P		P	21 40 04.2	-0.8
M57A	Sunshine Farm,	40.63	265		P		P	21 40 06.7	+0.9
	baz=35								
M57A	Sunshine Farm,	40.63	265		P		P	21 40 05.0	-0.9
M57A					IAmb		IAmb	21 40 12.6	
	comp=Z,28nm,1.2s								
O60A	Telford	40.73	262		P		P	21 40 06.8	+0.1
	baz=34								
E43A	Lone Tree Farm	40.83	278		P		P	21 40 06.8	-0.6
E43A					IAmb		IAmb	21 40 08.9	
	comp=Z,75nm,1.4s								
N58A	Sunbury	40.86	264		P		P	21 40 08.7	+0.9
	baz=34								
N58A	Sunbury	40.86	264		P		P	21 40 07.2	-0.6
GROC	Groznyy	40.88	90	*e*	P		P	21 40 08.3	+0.4
GROC				*e*				21 42 05.4	
GROC					pmax		pmax		
	comp=Z,77nm,1.4s								
M56A	Emporium	40.96	266		P		P	21 40 09.7	+1.0
	baz=35								
M56A	Emporium	40.96	266		P		P	21 40 08.4	-0.2
M56A					IAmb		IAmb	21 40 15.0	
	comp=Z,67nm,1.4s								
ERPA	Erie	41.22	268		P		P	21 40 11.2	+0.4
	baz=35								
M55A	Ridgway	41.22	266		P		P	21 40 10.6	-0.2
M55A					IAmb		IAmb	21 40 16.3	
	comp=Z,50nm,1.4s								
N57A	Milroy	41.29	264		P		P	21 40 12.1	+0.8
	baz=34								
A21K	Barrow	41.46	341		P		P	21 40 12.8	+0.5
	baz=25								
A21K	Barrow	41.46	341		P		P	21 40 12.9	+0.5
L53A	Girard	41.47	268		P		P	21 40 13.0	+0.2
	baz=35								
N56A	West Decatur	41.48	265		P		P	21 40 14.1	+1.2
	baz=34								
EYMN	Ely	41.50	283		P		P	21 40 13.2	+0.2
	baz=39								
EYMN	Ely	41.50	283		P		P	21 40 12.6	-0.4
EYMN					IAmb		IAmb	21 40 14.9	
	comp=Z,33nm,1.4s								
ULM	Lac du Bonnet	41.53	289		LR		LR	21 56 02.0	
	comp=Z,515nm,20.9s,baz=68,slow=34								
ULM	Lac du Bonnet	41.53	289		P		P	21 40 11.8	-1.4
ULM					pmax		pmax		
	comp=Z,28nm,1.5s								
ULM	Lac du Bonnet	41.53	289		P		P	21 40 11.8	-1.4
SSPA	Standing Stone	41.53	265		P		P	21 40 13.0	-0.3
O58A	Lewisberry	41.54	263		P		P	21 40 14.3	+0.9
	baz=

comp=Z,36nm,1.1s
P58A Pank, Wackersv 42.23 263 P P 21 40 19.6 +0.6
baz=34
M52A Chesterland 42.28 269 P P 21 40 18.2 -1.2
M52A IAmb IAmb 21 40 22.3
comp=Z,46nm,1.1s
P57A Homestead Farm 42.54 264 P P 21 40 22.9 +1.3
baz=34
TOLK Toolik Lake Re 42.77 336 P P 21 40 23.7 +0.6
baz=28,SNR=21
TOLK Toolik Lake Re 42.77 336 P P 21 40 23.3 +0.1
M51A Elyria 42.81 269 P P 21 40 24.0 +0.3
baz=35
Q58A Fox Den Farm, 42.85 263 P P 21 40 24.8 +0.8
baz=33
P56A Dayton Farm, R 42.88 265 P P 21 40 25.4 +1.1
baz=34
BMAR Burnt Mountain 42.91 333 P P 21 40 24.4 +0.2
O54A Avella 42.98 267 P P 21 40 25.6 +0.5
baz=34
O54A Avella 42.98 267 P P 21 40 24.9 -0.2
O54A IAmb IAmb 21 40 30.6
comp=Z,34nm,1.1s
Q57A Strasburg 43.08 264 P P 21 40 27.5 +1.5
baz=33
N51A Ashland 43.23 269 P P 21 40 27.7 +0.6
baz=34
BRVK Borovoye 43.25 62 *de*P **P 21 40 26.5 -0.6**
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK Borovoye 43.25 62 P P 21 40 26.2 -1.0
O53A New Philadelph 43.28 267 P P 21 40 28.4 +0.9
baz=34
O53A New Philadelph 43.28 267 P P 21 40 25.5 -2.1
O53A IAmb IAmb 21 40 34.0
comp=Z,59nm,1.4s
P55A Reedsville 43.30 266 P P 21 40 28.4 +0.7
baz=34
P54A Burton 43.50 266 P P 21 40 30.6 +1.3
baz=34
R58A Rapidan 43.52 263 P P 21 40 30.5 +1.0
baz=33
O52A Adamsville 43.66 268 P P 21 40 31.5 +0.9
baz=34
O52A Adamsville 43.66 268 P P 21 40 30.6 -0.1
R57A Stanardsville 43.75 263 P P 21 40 32.9 +1.6
baz=33
R58B Mineral 43.75 262 P P 21 40 32.4 +1.0
baz=33
FYU Fort Yukon 43.79 333 P P 21 40 31.8 +0.5
O51A Pataskala 43.97 269 P P 21 40 33.7 +0.6
baz=34
P53A Whipple 43.99 267 P P 21 40 34.1 +0.8
baz=34
P53A Whipple 43.99 267 P P 21 40 32.9 -0.4
P53A IAmb IAmb 21 40 38.6
comp=Z,40nm,1.0s
F36A Milaca 44.00 283 P P 21 40 32.6 -0.7
F36A IAmb IAmb 21 40 38.3
comp=Z,22nm,1.2s
N49A Columbus Grove 44.01 271 P P 21 40 33.5 +0.1
R56A Bull Pasture M 44.03 264 P P 21 40 34.8 +1.1
baz=33
ACSO Alum Creek Sta 44.06 269 P P 21 40 34.9 +1.1
baz=34
ACSO Alum Creek Sta 44.06 269 P P 21 40 33.7 -0.1
ACSO IAmb IAmb 21 40 38.5
comp=Z,34nm,1.1s
COLD Coldfoot 44.13 336 P P 21 40 35.0 +0.9
baz=27
Q54A Coxs Mills 44.17 266 P P 21 40 36.0 +1.3
baz=33
Q54A Coxs Mills 44.17 266 P P 21 40 34.8 +0.1
Q54A IAmb IAmb 21 40 44.3
comp=Z,41nm,1.5s
P52A Corning 44.19 268 P P 21 40 35.6 +0.8
baz=34
P52A Corning 44.19 268 P P 21 40 34.3 -0.5
P52A IAmb IAmb 21 40 40.1
comp=Z,46nm,1.2s
SPMN Marine on St. 44.21 282 P P 21 40 35.6 +0.6
baz=37
S57A Dark Hollow, R 44.38 263 P P 21 40 37.4 +1.0
baz=33
T59A Double "B" Far 44.45 261 P P 21 40 38.1 +1.1
baz=32
TAM Tamanrasset 44.51 149 P P 21 40 37.6 -0.1
TAM pmax pmax
comp=Z,16nm,1.3s
TAM Tamanrasset 44.51 149 P P 21 40 37.6 -0.1
Q53A Leroy 44.57 267 P P 21 40 39.2 +1.3
baz=33
O49A Covington 44.68 270 P P 21 40 37.8 -0.9
DAWY Dawson 44.70 328 IAmb IAmb 21 40 43.7
comp=Z,26nm,1.2s
P51A Williamsport 44.71 269 P P 21 40 39.2 +0.2
baz=34
P51A Williamsport 44.71 269 P P 21 40 39.2 +0.2
PRP Porcupine Dome 44.76 332 P P 21 40 39.6 +0.3
PRP IAmb IAmb 21 40 46.0
comp=Z,18nm,1.1s
Q52A Bidwell 44.80 267 P P 21 40 40.9 +1.2
baz=33
R54A Victor 44.91 266 P P 21 40 41.7 +1.1
baz=33
S55A Lewisburg 45.04 265 P P 21 40 43.4 +1.7
baz=33
T57A Hurt 45.15 263 P P 21 40 44.0 +1.4
baz=32
T57A Hurt 45.15 263 P P 21 40 41.8 -0.8
T57A IAmb IAmb 21 40 48.4
comp=Z,31nm,1.3s
F33A 5 Mile Ranch, 45.18 285 P P 21 40 42.9 +0.2
F33A IAmb IAmb 21 40 48.1
comp=Z,28nm,1.1s
R53A Hurricane 45.19 267 P P 21 40 44.2 +1.4
baz=33
RDOG Red Dog Mine 45.33 342 P P 21 40 44.3 +0.7
K27K Chicken 45.34 329 IAmb IAmb 21 40 48.5
comp=Z,21nm,1.2s
S54A Dingess, Beckl 45.36 266 P P 21 40 45.7 +1.4
baz=33
S54A Dingess, Beckl 45.36 266 P P 21 40 46.0 +1.7
S54A IAmb IAmb 21 40 49.7
comp=Z,26nm,1.1s
P49A Miami Univ. Ec 45.38 270 P P 21 40 44.9 +0.5
baz=34
POKR Poker Plat Res 45.50 333 P P 21 40 46.4 +1.4
baz=28
U57A Blanch 45.67 263 P P 21 40 48.0 +1.4
baz=32
IL31 45.70 332 P P 21 40 45.9 -0.6
IL31 IAmb IAmb 21 40 51.3
comp=Z,32nm,1.3s
ILAR Eielson Array 45.70 332 P P 21 40 47.1 +0.5
comp=Z,19nm,1.2s,baz=24,slow=6.0,SNR=33
ILAR PcP **PcP 21 42 23.8 -0.4**
comp=Z,7.5nm,1.1s,baz=354,slow=2.7,SNR=9.5
ILAR LR LR 22 02 21.4
comp=Z,451nm,18.9s,baz=32,slow=39
ILAR Eielson Array 45.70 332 P P 21 40 47.1 +0.5
ILAR PcP **PcP 21 42 23.2 -1.0**
T55A Pulaski 45.71 265 P P 21 40 48.7 +1.6
baz=32
P48A Milroy 45.75 271 IAmb IAmb 21 40 52.8
comp=Z,28nm,1.1s
COLA College 45.80 333⇑ *iP* **P 21 40 48.8 +1.5**
COLA pmax pmax
comp=Z,43nm,1.5s
COLA College 45.80 333 P P 21 40 47.9 +0.6
COLA IAmb IAmb 21 40 52.7
comp=Z,27nm,1.0s
SCRK Sand Creek 45.80 330 P P 21 40 48.1 +0.6
baz=29
TCOL CIGO, UAF Yank 45.80 333 P P 21 40 47.6 +0.3
baz=27
TCOL CIGO, UAF Yank 45.80 333 IAmb IAmb 21 40 52.7
comp=Z,26nm,1.0s
S53A Williamson 45.81 266 P P 21 40 49.0 +1.1
baz=33
I23K Minto, Yukon-K 45.84 334 P P 21 40 48.3 +0.6
baz=27
I23K Minto, Yukon-K 45.84 334 IAmb IAmb 21 40 53.0
comp=Z,31nm,1.4s
IMAR Indian Mountai 45.88 337 P P 21 40 48.9 +1.0
CCB Clear Creek Bu 45.99 333 IAmb IAmb 21 40 54.7
comp=Z,34nm,1.5s

HDA Harding Lake 46.03 332 IAmb IAmb 21 40 55.1
comp=Z,32nm,1.4s
T54A Tazewell 46.10 265 P P 21 40 50.8 +0.7
baz=32
BCAR Beaver Creek A 46.11 328 P P 21 40 51.1 +1.2
V58A Windy Hill, Pi 46.11 262 P P 21 40 51.2 +1.0
baz=32
U56A King 46.19 264 P P 21 40 52.0 +1.3
baz=32
RIDG Independent Ri 46.19 331 P P 21 40 51.3 +0.8
RIDG IAmb IAmb 21 40 55.0
comp=Z,24nm,0.9s
MLY Manley 46.21 335 P P 21 40 51.7 +1.0
baz=26
R50A Paris 46.26 269 P P 21 40 51.5 +0.2
R50A IAmb IAmb 21 40 55.3
comp=Z,18nm,1.1s
DGMT Dagmar 46.28 293 P P 21 40 52.1 +0.7
baz=36
NEA2 Nenana 46.28 333 P P 21 40 52.1 +0.9
baz=27
S51A Beattyville 46.48 268 P P 21 40 53.5 +0.5
T53A Wise 46.58 266 P P 21 40 54.2 +0.3
baz=32
BRZS Berezniki 46.60 63⇓ *iP* **P 21 40 52.6 -1.3**
comp=Z,9.4nm,1.0s
BRZS *e*PP **PP 21 42 41.4 -1.6**
BRZS *e*S **S 21 47 44.4 +2.0**
BRZS Berezniki 46.60 63 *diP* **P 21 40 52.6 -1.3**
BRZS *e* 21 42 41.4
BRZS *e*S **S 21 47 44.3 +2.0**
BRZS pmax pmax
comp=Z,9.0nm,1.0s
U54A Nelsons Funny 46.66 265 P P 21 40 55.7 +1.1
baz=32
U54A Nelsons Funny 46.66 265 P P 21 40 54.9 +0.4
V56A Mocksville 46.69 263 P P 21 40 55.8 +1.1
baz=32
V55A Taylorsville 46.96 264 P P 21 40 58.5 +1.6
baz=32
V55A Taylorsville 46.96 264 P P 21 40 56.9 +0.1
ECSD EROS Data Cent 47.02 284 P P 21 40 58.0 +0.8
baz=35
ECSD EROS Data Cent 47.02 284 IAmb IAmb 21 41 02.4
comp=Z,31nm,1.4s
MCK McKinley 47.03 333 P P 21 40 58.1 +1.0
baz=26
HYT Haines Junctio 47.03 324 P P 21 40 56.3 -1.0
HYT IAmb IAmb 21 41 03.0
comp=Z,16nm,1.3s
W57A Gilead 47.03 262 P P 21 40 58.9 +1.5
baz=31
W57A Gilead 47.03 262 P P 21 40 57.5 +0.1
BPAW Bear Paw Mtn. 47.10 334 P P 21 40 57.8 +0.2
WCI Wyandotte Cave 47.15 270 P P 21 40 59.0 +0.8
baz=33
WCI Wyandotte Cave 47.15 270 P P 21 40 58.0 -0.3
WCI pmax pmax
comp=Z,40nm,1.1s
WCI Wyandotte Cave 47.15 270 P P 21 40 58.0 -0.3
W56A Indian Trail 47.30 263 P P 21 41 01.0 +1.5
baz=31
V54A Nebo 47.34 265 P P 21 41 01.0 +1.1
baz=32,SNR=5.3
P43A Skaggs, Pawnee 47.36 274 P P 21 40 59.7 -0.2
TZTN Tazewell 47.38 267 P P 21 41 01.1 +1.0
baz=32
TZTN Tazewell 47.38 267 P P 21 41 00.2 0.0
T50A Nancy 47.53 268 P P 21 41 02.1 +0.8
BILL Bilibino 47.61 358⇓ *eP* **P 21 41 04.2 +2.7**
BILL pmax pmax
comp=Z,17nm,1.3s
KMSC Kings Mountain 47.62 264 P P 21 41 03.2 +1.2
baz=31
ZAA0 Zalesovo Array 47.75 51 IAmb IAmb 21 41 05.6
comp=Z,20nm,1.4s
ZALV Zalesovo Beam 47.75 51 P P 21 41 00.6 -2.1
comp=Z,5.8nm,1.0s,baz=328,slow=7.0,SNR=15
ZALV PcP **PcP 21 42 31.4 -0.2**
comp=Z,2.4nm,0.9s,baz=277,slow=1.2,SNR=4.4
ZALV Zalesovo Beam 47.75 51 P P 21 41 01.3 -1.4
ZALV 21 42 32.3
ZALV Zalesovo Beam 47.75 51 P P 21 41 01.3 -1.4
ZALV PcP **PcP 21 42 32.2 +0.7**
V53A Saluda 47.80 265 P P 21 41 03.5 0.0
V53A IAmb IAmb 21 41 09.5
comp=Z,13nm,1.1s
CTGM Chitina Glacie 47.84 327 P P 21 41 01.7 -1.8
CTGM IAmb IAmb 21 41 05.0
comp=Z,23nm,1.3s
MCARA McCarthy VSAT 47.87 328 P P 21 41 04.3 +0.7
V52A Sevierville 47.99 266 P P 21 41 05.1 +0.2
V52A IAmb IAmb 21 41 20.7
comp=Z,25nm,1.4s
N25K Chitina, Valde 48.02 329 P P 21 41 04.8 -0.1
N25K IAmb IAmb 21 41 17.7
comp=Z,28nm,1.4s
W54A Cherokee Point 48.03 264 P P 21 41 06.2 +1.1
baz=31
X56A White Oak 48.04 263 P P 21 41 06.6 +1.3
baz=31
PAULI Pauline 48.09 264 P P 21 41 06.2 +0.5
TKL Tuckaleechee C 48.23 266 P P 21 41 07.4 +0.7
TKL pmax pmax
comp=Z,23nm,1.1s
TKL Tuckaleechee C 48.23 266 P P 21 41 07.4 +0.7
TKL IAmb IAmb 21 41 12.7
comp=Z,23nm,1.1s
KURK Kurchatov 48.23 58 *diP* **P 21 41 04.9 -1.6**
KURK pmax pmax
comp=Z,29nm,1.3s
KURK Kurchatov 48.23 58 P P 21 41 04.8 -1.7
KURK IAmb IAmb 21 41 08.9
comp=Z,23nm,1.1s
X55A Gracelyn & Ava 48.32 263 P P 21 41 08.5 +1.1
baz=31
JSC Jenkinsville 48.32 263 P P 21 41 07.3 -0.1
JSC pmax pmax
comp=Z,16nm,1.3s
JSC Jenkinsville 48.32 263 P P 21 41 07.3 -0.1
JSC IAmb IAmb 21 41 12.9
comp=Z,16nm,1.3s
TNA Tin City 48.34 344 P P 21 41 07.5 +0.4
baz=17
V51A Loudon 48.35 267 P P 21 41 07.0 -0.7
V51A IAmb IAmb 21 41 13.0
comp=Z,27nm,1.2s
U49A Red Boiling Sp 48.37 269 IAmb IAmb 21 41 11.7
comp=Z,21nm,1.2s
TGL Tana Glacier 48.38 327 P P 21 41 05.9 -1.8
TGL IAmb IAmb 21 41 13.2
comp=Z,19nm,1.4s
BG3 Lake Jocassee 48.43 265 P P 21 41 08.3 0.0
BG3 IAmb IAmb 21 41 13.7
comp=Z,17nm,1.2s
SLM Saint Louis 48.51 274 P P 21 41 09.1 +0.3
SLM pmax pmax
comp=Z,20nm,0.9s
SLM Saint Louis 48.51 274 P P 21 41 09.1 +0.3
SLM IAmb IAmb 21 41 12.9
comp=Z,20nm,0.8s
LAO LASA Array 48.53 293 P P 21 41 10.0 +1.0
baz=35
LAO LASA Array 48.53 293 P P 21 41 09.9 +1.0
T47A Sharon Grove 48.54 270 P P 21 41 09.3 +0.2
X54A Belton 48.57 264 P P 21 41 10.0 +0.7
baz=31
SML Sawmill 48.65 331 P P 21 41 09.6 0.0
CPCT Cooper Cave 48.73 267 P P 21 41 11.4 +0.9
W52A Murphy 48.77 266 P P 21 41 11.8 +0.9
HODGE Hodges 48.79 264 P P 21 41 11.6 +0.6
GHO Glory Hole Cre 48.80 332 P P 21 41 10.8 0.0
EGMT Eagleton 48.82 297 P P 21 41 11.2 0.0
baz=35,SNR=27
NHSC New Hope 48.86 261 P P 21 41 13.3 +1.8
baz=30
NHSC New Hope 48.86 261 P P 21 41 12.2 +0.7
S44A Carbondale 48.87 273 P P 21 41 11.2 -0.4
S44A IAmb IAmb 21 41 13.4
comp=Z,17nm,1.1s
CLTN Cedars of Leba 48.96 269 P P 21 41 12.5 +0.2
CLTN IAmb IAmb 21 41 17.4
comp=Z,18nm,1.2s
SKT Skwentna 49.13 333 P P 21 41 13.5 +0.2
SKT IAmb IAmb 21 41 16.8

comp=Z,36nm,1.4s
W50A Signal Mountai 49.28 267 IAmb IAmb 21 41 20.0
comp=Z,24nm,0.9s
CCM Cathedral Cave 49.43 275 P P 21 41 16.3 +0.4
baz=33
V48A Smith Brothers 49.47 269 IAmb IAmb 21 41 20.1
comp=Z,27nm,1.3s
HIN Hinchinbrook I 49.53 329 P P 21 41 17.1 +0.7
WALA Waterton Lakes 49.53 301 P P 21 41 16.1 -0.7
157A Early Branch 49.58 262 P P 21 41 17.9 +0.9
baz=30
RC01 Rabbit Creek A 49.59 332 P P 21 41 17.8 +1.1
baz=25
X51A Calhoun 49.62 267 P P 21 41 17.1 -0.2
R40A Maddies Statio 49.67 276 P P 21 41 17.0 -0.7
RSSD Black Hills 49.77 290 P P 21 41 18.8 +0.1
baz=34
RSSD Black Hills 49.77 290 P P 21 41 18.2 -0.4
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 49.77 290 P P 21 41 18.2 -0.4
Y52A Lilburn 49.88 265 P P 21 41 18.9 -0.4
Y52A IAmb IAmb 21 41 23.9
comp=Z,21nm,1.1s
GOGA Godfrey 50.01 264 P P 21 41 21.1 +0.8
baz=31
GOGA Godfrey 50.01 264 P P 21 41 20.5 +0.2
GOGA pmax pmax
comp=Z,24nm,1.2s
GOGA Godfrey 50.01 264 P P 21 41 20.5 +0.2
GOGA IAmb IAmb 21 41 24.3
comp=Z,24nm,1.2s
GEYT Alibeck 50.53 83 P P 21 41 23.2 -1.1
comp=Z,3.0nm,0.7s,baz=340,slow=8.1,SNR=11
GEYT LR LR 22 04 27.6
comp=Z,255nm,18.8s,baz=225,slow=38
GEYT Alibeck 50.53 83 P P 21 41 24.0 -0.3
GYA0B ALIBECK ARRAY 50.53 83 P P 21 41 24.2 -0.1
MGMO Mountain Grove 50.62 275 P P 21 41 23.6 -1.4
MGMO IAmb IAmb 21 41 28.7
comp=Z,17nm,1.1s
S39A Bolivar 50.62 276 IAmb IAmb 21 41 28.1
comp=Z,14nm,1.0s
GCMT Greycliff 50.62 295 P P 21 41 24.9 -0.1
PLAL Pickwick Lake 50.65 270 IAmb IAmb 21 41 27.1
comp=Z,21nm,1.4s
X48A Hartselle 50.66 268 IAmb IAmb 21 41 26.4
comp=Z,20nm,1.2s
KSU1 Kansas State U 50.84 280 P P 21 41 27.4 +0.8
baz=33
KSU1 Kansas State U 50.84 280 IAmb IAmb 21 41 31.4
comp=Z,18nm,0.9s
255A Hazlehurst 50.86 263 P P 21 41 26.7 -0.1
Y49A Blount Mountai 50.89 268 P P 21 41 26.4 -0.7
Y49A IAmb IAmb 21 41 31.4
comp=Z,16nm,1.1s
KOWA Kowa 50.93 163 P P 21 41 27.1 -0.3
KOWA IAmb IAmb 21 41 30.9
comp=Z,30nm,1.2s
RLMT Red Lodge 51.02 294 P P 21 41 28.6 +0.4
baz=34,SNR=16
LCAR Lake Charles 51.06 273 P P 21 41 26.9 -1.4
152A Waverly Hall 51.18 265 P P 21 41 28.8 -0.4
152A IAmb IAmb 21 41 33.0
comp=Z,31nm,1.4s
BTLS Baital 51.18 65 *eP* **P 21 41 28.4 -0.6**
comp=Z,7.6nm,1.2s
BTLS *e*PP **PP 21 43 25.8 +0.3**
BTLS *e*S **S 21 48 51.2 +4.3**
BTLS Baital 51.18 65 *eP* **P 21 41 28.4 -0.6**
BTLS *e* 21 43 25.7
BTLS *e*S **S 21 48 51.1 +4.3**
BTLS pmax pmax
comp=Z,8.0nm,1.2s
YAK Yakutsk 51.36 19 LR LR 22 05 02.9
comp=Z,169nm,18.4s,baz=333,slow=38
YAK Yakutsk 51.36 19⇓ *eP* **P 21 41 31.9 +1.8**
YAK pmax pmax
comp=Z,13nm,1.3s
NEW Newport 51.38 302 LR LR 22 03 08.6
comp=Z,416nm,19.1s,baz=3.5,slow=36
KK31 Karatay Array 51.39 70 IAmb IAmb 21 41 34.3
comp=Z,27nm,1.3s
KKAR Karatay Array 51.39 70 P P 21 41 30.5 -0.2
KKAR Karatay Array 51.39 70 P P 21 41 30.4 -0.2
KKAR Karatay Array 51.39 70 IAmb IAmb 21 41 34.3
comp=Z,27nm,1.3s
MSO Missoula 51.40 299 P P 21 41 30.7 -0.1
baz=33
MSO Missoula 51.40 299 P P 21 41 31.0 +0.2
MSO IAmb IAmb 21 41 35.1
comp=Z,20nm,1.4s
YNE Yellowstone No 51.41 295 P P 21 41 31.7 +0.6
U40A Yellville 51.55 275 P P 21 41 32.0 +0.1
baz=32
U40A Yellville 51.55 275 IAmb IAmb 21 41 35.2
comp=Z,16nm,1.1s
BOZ Bozeman (W) 51.55 297 P P 21 41 32.7 +0.7
baz=33,SNR=27
LRAL Lakeview Retre 51.85 268 P P 21 41 33.4 -0.8
baz=31
DZA Taraz 51.90 69 *eP* **P 21 41 33.1 -1.4**
comp=Z,11nm,1.0s
DZA Taraz 51.90 69 *eP* **P 21 41 33.0 -1.4**
DZA pmax pmax
comp=Z,11nm,1.0s
YHH Holmes Hill 51.92 295 P P 21 41 34.7 -0.3
IUG luzhnay 51.99 71 *eP* **P 21 41 34.9 -0.4**
comp=Z,16nm,1.3s
IUG *e*S **S 21 49 02.4 +4.1**
IUG luzhnay 51.99 71 *eP* **P 21 41 34.9 -0.4**
IUG *e*S **S 21 49 02.4 +4.1**
IUG pmax pmax
comp=Z,16nm,1.3s
K22A Casper 51.99 291 P P 21 41 35.2 -0.2
baz=33
K22A Casper 51.99 291 IAmb IAmb 21 41 39.5
comp=Z,27nm,1.1s
YMR Madison River 52.07 295 P P 21 41 35.7 -0.2
HHAR Hobbs 52.08 276 P P 21 41 34.5 -1.4
DLMT Dillon 52.12 297 P P 21 41 36.5 +0.3
H17A Grant Village 52.15 295 P P 21 41 38.3 +1.7
baz=33
H17A Grant Village 52.15 295 P P 21 41 37.2 +0.6
C09A Chrisman Ranch 52.18 303 P P 21 41 36.1 -0.4
DGZ Jazzator, Alta 52.20 52 *diP* **P 21 41 36.9 +0.1**
DGZ pmax pmax
comp=Z,21nm,1.3s
WHAR Wooly Hollow 52.21 274 P P 21 41 36.2 -0.7
WHAR IAmb IAmb 21 41 40.3
comp=Z,34nm,1.4s
W41B Gary Mavity, V 52.29 274 P P 21 41 38.3 +0.9
baz=32
R32A Long Quarter, 52.30 281 P P 21 41 36.3 -1.3
R32A IAmb IAmb 21 41 41.3
comp=Z,21nm,1.1s
YPP Pitchstone Pla 52.34 295 P P 21 41 38.3 +0.3
CBKS Cedar Bluff 52.41 282 P P 21 41 38.0 -0.3
CBKS pmax pmax
comp=Z,30nm,1.1s
CBKS Cedar Bluff 52.41 282 P P 21 41 38.0 -0.3
CBKS IAmb IAmb 21 41 42.7
comp=Z,30nm,1.1s
FLWY Flagg Ranch 52.45 295 P P 21 41 38.0 -0.8
FLWY IAmb IAmb 21 41 54.3
comp=Z,22nm,1.2s
BOD Bodaibo 52.52 30 *eP* P 21 41 33.3 -5.5
BOD pmax pmax
comp=Z,12nm,1.4s
SEY Seymchan 52.56 6⇓ *eP* **P 21 41 39.1 +0.1**
T35A Sooner Cattle 52.64 278 P P 21 41 39.2 -0.8
T35A IAmb IAmb 21 41 44.3
comp=Z,26nm,1.1s
MCMT McKenzie Canyo 52.66 297 P P 21 41 40.3 -0.1
UALR University of 52.67 273 P P 21 41 40.4 +0.2
PHWY Pilot Hill 52.69 289 IAmb IAmb 21 41 45.4
comp=Z,26nm,1.2s
IMW Indian Meadow 52.70 295 IAmb IAmb 21 41 46.3
comp=Z,16nm,1.1s
MAKZ Makanchi 52.71 58 P P 21 41 39.9 -0.6
MAKZ pmax pmax
comp=Z,18nm,1.2s
MAKZ Makanchi 52.71 58 P P 21 41 39.9 -0.6
MAKZ IAmb IAmb 21 41 44.1
comp=Z,18nm,1.2s

SGDS Sogindy 52.74 66 *e*P **P 21 41 39.5 -1.3**
SGDS Sogindy 52.74 66 *e*P **P 21 41 39.4 -1.3**
MOOW Moose Ponds 52.75 295 P **P 21 41 39.8 -1.2**
LOHW Long Hollow 52.81 294 P **P 21 41 41.3 -0.2**
LOHW IAmb IAmb 21 41 46.8
comp=Z,25nm,1.4s
MK31 Makanchi Array 52.84 58 *d i*P **P 21 41 42.7 +1.3**
MK31 Makanchi Array 52.84 58 P **P 21 41 41.3 -0.1**
MKAR Makanchi Array 52.84 58 P **P 21 41 39.6 -1.8**
comp=Z,5.8nm,0.9s,baz=319,slow=6.8,SNR=13
MKAR Makanchi Array 52.84 58 *i* P **P 21 41 40.7 -0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 52.84 58 P **P 21 41 40.5 -0.9**
TDK Taldyqorghan 52.90 62 *e*P **P 21 41 41.0 -0.9**
comp=Z,31nm,1.4s
TDK *e*S **S 21 49 14.7 +4.2**
TDK Taldyqorghan 52.90 62 *e*P **P 21 41 40.9 -0.9**
TDK *e*S **S 21 49 14.7 +4.2**
TDK pmax pmax
comp=Z,31nm,1.4s
W39A Magazine 52.93 275 P **P 21 41 42.9 +0.8**
baz=32
KAN12 Harper NE Stat 52.95 280 P **P 21 41 42.6 +0.3**
SNOW Snow King Moun 53.00 294 P **P 21 41 43.5 +0.6**
SNOW IAmb IAmb 21 41 49.0
comp=Z,41nm,1.3s
KAN08 Anthony NE Sta 53.00 280 P **P 21 41 43.3 +0.6**
KUU Kurty 53.04 64 *e*P **P 21 41 41.9 -1.0**
comp=Z,20nm,1.1s
KUU *e*S **S 21 49 15.5 +3.1**
KUU Kurty 53.04 64 *e*P **P 21 41 41.9 -1.0**
KUU *e*S **S 21 49 15.5 +3.1**
KUU pmax pmax
comp=Z,20nm,1.1s
TPAW Teton Pass 53.05 295 IAmb IAmb 21 41 48.7
comp=Z,36nm,1.4s
EKS2 Erkin-Say 53.07 67 P **P 21 41 44.9 +1.6**
SNR=23
BW06 Boulder Array 53.11 293 P **P 21 41 43.7 0.0**
baz=32,SNR=26
PDAR Pinedale Array 53.11 293 P **P 21 41 42.6 -1.1**
comp=Z,17nm,1.0s,baz=59,slow=7.1,SNR=36
PDAR LR LR 22 03 45.9
comp=Z,351nm,18.9s,baz=34,slow=35
REDW Red Top Meadow 53.12 294 IAmb IAmb 21 41 49.1
comp=Z,33nm,1.3s
TOA0 Torodi Ar. Sit 53.12 156 P **P 21 41 43.0 -0.7**
TOA0 IAmb IAmb 21 41 46.6
comp=Z,18nm,1.0s
TORD Torodi Ar. Bea 53.12 156 P **P 21 41 41.0 -2.7**
comp=Z,18nm,1.1s,baz=342,slow=6.0,SNR=26
TORD LR LR 22 04 25.1
comp=Z,220nm,18.4s,baz=335,slow=36
TORD Torodi Ar. Bea 53.12 156 P **P 21 41 42.0 -1.7**
X40A Basin Creek Fa 53.12 274 P **P 21 41 44.4 +0.8**
baz=31
X40A Basin Creek Fa 53.12 274 P **P 21 41 43.5 -0.1**
KAN10 Anthony SW Sta 53.14 280 P **P 21 41 43.9 +0.2**
CHMS Chumysh 53.17 66 P **P 21 41 44.4 +0.5**
SNR=7.7
ZSN Zaisan 53.21 56 *e*P **P 21 41 42.9 -1.2**
comp=Z,28nm,2.1s
ZSN *e*S **S 21 49 12.4 -2.3**
ZSN Zaisan 53.21 56 *e*P **P 21 41 42.9 -1.2**
ZSN *e*S **S 21 49 12.4 -2.3**
ZSN pmax pmax
comp=Z,28nm,2.1s
N23A Red Feather La 53.23 289 P **P 21 41 45.1 +0.4**
baz=32,SNR=18
FRU1 Bishkek 53.28 67 IAmb IAmb 21 41 48.7
comp=Z,15nm,0.8s
AAK Ala-Archa 53.37 67 P **P 21 41 46.4 +0.8**
SNR=16
AAK Ala-Archa 53.37 67 *d i*P **P 21 41 45.6 0.0**
AAK pmax pmax
comp=Z,67nm,1.3s
MIAR Mount Ida 53.39 274 P **P 21 41 46.4 +0.8**
baz=31
MIAR Mount Ida 53.39 274 IAmb IAmb 21 41 50.0
comp=Z,16nm,1.2s
KSCO Kaye Shedlock' 53.45 285 P **P 21 41 46.7 +0.5**
baz=32
KSCO Kaye Shedlock' 53.45 285 P **P 21 41 46.6 +0.5**
KSCO IAmb IAmb 21 41 50.2
comp=Z,26nm,1.1s
AML Almayashu 53.48 68 P **P 21 41 47.4 +0.7**
SNR=19
OK030 Cody Creek RV 53.59 278 P **P 21 41 47.8 +0.7**
OK030 IAmb IAmb 21 41 51.0
comp=Z,17nm,1.0s
OK031 S. Brethren Rd 53.60 278 P **P 21 41 47.2 +0.2**
OK031 IAmb IAmb 21 41 51.1
comp=Z,14nm,0.8s
CROK Carrier 53.62 279 P **P 21 41 47.8 +0.6**
AHID Auburn Hatcher 53.72 294 P **P 21 41 48.5 +0.4**
AHID IAmb IAmb 21 42 00.9
comp=Z,20nm,1.2s
UCH Uchtor 53.73 67 P **P 21 41 49.8 +1.3**
SNR=15
E07A Sunnyside 53.81 303 P **P 21 41 48.6 0.0**
MDOK Medeo 53.93 64 *i* P **P 21 41 49.0 -0.6**
MDOK *e*S **S 21 49 29.3 +4.5**
MDOK Medeo 53.93 64 *i* P **P 21 41 49.0 -0.6**
MDOK *e*S **S 21 49 29.3 +4.5**
ISCO Idaho Springs 54.02 288 P **P 21 41 51.4 +0.9**
baz=32
ISCO Idaho Springs 54.02 288 P **P 21 41 50.8 +0.2**
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO Idaho Springs 54.02 288 P **P 21 41 50.8 +0.2**
BOOM Boomskoye usch 54.07 66 IAmb IAmb 21 41 54.7
comp=Z,16nm,1.1s
OK025 Westminster Rd 54.12 278 P **P 21 41 51.1 +0.2**
Z41A Richland Creek 54.16 273 P **P 21 41 51.0 -0.2**
Z41A IAmb IAmb 21 41 54.5
comp=Z,28nm,1.1s
W35A Tecumseh 54.29 278 P **P 21 41 53.0 +0.9**
KPKS Kokpek 54.31 63 *e*P **P 21 41 51.5 -0.9**
comp=Z,17nm,1.2s
KPKS *e*S **S 21 49 35.1 +5.3**
KPKS Kokpek 54.31 63 *e*P **P 21 41 51.4 -0.9**
KPKS *e*S **S 21 49 35.1 +5.3**
KPKS pmax pmax
comp=Z,17nm,1.2s
BMO Blue Mountains 54.33 300 IAmb IAmb 21 42 03.8
comp=Z,18nm,1.4s
HLID Hailey 54.33 297 P **P 21 41 53.5 +0.9**
baz=32
SATY Saty 54.55 63 *e*P **P 21 41 52.6 -1.5**
comp=Z,21nm,2.5s
SATY *e*S **S 21 49 40.4 +7.3**
SATY Saty 54.55 63 *e*P **P 21 41 52.6 -1.5**
SATY *e*S **S 21 49 40.4 +7.3**
SATY pmax pmax
comp=Z,21nm,2.5s
UZB Uzynbulak 54.71 63 *e*P **P 21 41 54.2 -1.2**
UZB *e*S **S 21 49 41.0 +5.7**
UZB Uzynbulak 54.71 63 *e*P **P 21 41 54.1 -1.2**
UZB *e*S **S 21 49 41.0 +5.7**
MOY Mondy 54.77 42 *e*P **P 21 41 56.3 +0.7**
MOY pmax pmax
comp=Z,54nm,2.2s
E04D Cinebar 54.78 305 P **P 21 41 56.5 +1.0**
baz=31
O20A White River Ci 54.81 290 P **P 21 41 56.6 +0.5**
baz=32
KDJ Kajisay 54.86 65 IAmb IAmb 21 41 59.4
comp=Z,12nm,1.1s
SMCO Snowmass 55.11 289 P **P 21 41 58.2 -0.3**
X34A Smith Ranch, M 55.17 278 P **P 21 41 59.1 +0.6**
HVU Hansel Valley 55.22 295 P **P 21 41 59.3 +0.3**
HVU pmax pmax
comp=Z,23nm,1.4s
HVU Hansel Valley 55.22 295 P **P 21 41 59.2 +0.3**
HRA Herat 55.30 82 P **P 21 41 59.4 -0.3**
HRA IAmb IAmb 21 42 03.2
comp=Z,20nm,1.4s
WMOK Wichita Mounta 55.46 279 P **P 21 42 01.7 +1.0**
baz=31
WMOK Wichita Mounta 55.46 279 P **P 21 42 01.1 +0.4**
WMOK pmax pmax
comp=Z,28nm,1.4s
WMOK Wichita Mounta 55.46 279 P **P 21 42 01.1 +0.4**
WMOK IAmb IAmb 21 42 05.4
comp=Z,28nm,1.4s
SPUT South Promonto 55.49 294 P **P 21 42 01.2 +0.3**
TLY Talaya 55.51 40 LR LR 22 08 34.8
comp=Z,256nm,18.9s,baz=345,slow=39
TLY Talaya 55.51 40 *e*P **P 21 42 00.2 -0.6**
TLY *e*S S 21 49 55.5 +10
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,866nm,15.0s
TLY Talaya 55.51 40 P **P 21 42 00.0 -0.8**
JLU Jordanelle 55.70 293 P **P 21 42 02.3 -0.3**
CTU Camp Tracy 55.74 293 P **P 21 42 02.6 -0.2**
T25A Trinidad 55.78 285 P **P 21 42 03.9 +0.7**
baz=31
T25A Trinidad 55.78 285 P **P 21 42 02.7 -0.5**
T25A IAmb IAmb 21 42 08.5
comp=Z,19nm,1.3s
I07A Izee 55.80 301 P **P 21 42 02.5 -0.7**
MA2 Magadan 55.83 7 LR LR 22 06 36.4
comp=Z,101nm,18.5s,baz=354,slow=37
SEUS St. Eustatius 56.00 235 P **P 21 42 04.6 0.0**
Z35A Perchaven, San 56.01 277 P **P 21 42 04.8 +0.2**
J08A Circle Bar Ran 56.04 300 P **P 21 42 05.2 +0.3**
BGU Big Grassy Mou 56.04 295 P **P 21 42 05.0 0.0**
S22A 4UR Ranch, Cre 56.27 288 P **P 21 42 07.3 +0.6**
baz=31
S22A 4UR Ranch, Cre 56.27 288 P **P 21 42 06.4 -0.3**
MPU Maple Canyon 56.27 293 P **P 21 42 06.8 +0.2**
GCPR Guaynabo City 56.36 239 P **P 21 42 08.5 +1.3**
PV22 Blue Mesa, Par 56.39 290 IAmb IAmb 21 42 11.0
comp=Z,12nm,1.0s
PV07 Paradox Valley 56.42 290 P **P 21 42 07.3 -0.4**
HUMP Col San Antoni 56.43 238 P **P 21 42 07.2 -0.5**
HUMP IAmb IAmb 21 42 17.1
comp=Z,26nm,1.3s
PV15 Paradox Valley 56.43 289 P **P 21 42 07.3 -0.6**
PV15 IAmb IAmb 21 42 12.6
comp=Z,16nm,1.2s
PV23 Carpenter Ridg 56.55 290 IAmb IAmb 21 42 15.3
comp=Z,14nm,1.0s
AMTX Amarillo 56.56 282 P **P 21 42 08.6 -0.1**
AMTX IAmb IAmb 21 42 14.6
comp=Z,13nm,1.1s
ZAK Zakamensk 56.57 41 *e*P **P 21 42 08.6 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.2s
DUG Dugway, Tooele 56.58 294 P **P 21 42 09.5 +0.7**
baz=31
DUG Dugway, Tooele 56.58 294 P **P 21 42 08.5 -0.3**
DUG pmax pmax
comp=Z,24nm,1.4s
DUG Dugway, Tooele 56.58 294 P **P 21 42 08.5 -0.3**
DUG IAmb IAmb 21 42 14.4
comp=Z,24nm,1.4s
SRU San Rafael Swe 56.60 291 P **P 21 42 08.5 -0.5**
SRU pmax pmax
comp=Z,15nm,1.0s
SRU San Rafael Swe 56.60 291 P **P 21 42 08.5 -0.5**
PDPR Patillas Dam, 56.61 238 P **P 21 42 08.2 -0.7**
PDPR IAmb IAmb 21 42 13.2
comp=Z,11nm,0.8s
KSH Kashi 56.61 68 P **P 21 42 07.5 -1.5**
KSH S **S 21 49 58.3 -2.4**
KSH sS sS 21 50 07.5 +0.6
KSH pmax pmax
comp=Z,41nm,1.1s
KSH pmax pmax
comp=Z,370nm,5.5s
KSH LR LR
comp=Z,690nm,15.0s
KSH LR LR
comp=Z,540nm,17.2s
KSH LR LR
comp=Z,230nm,11.1s
PV14 Lion Creek, Pa 56.63 290 IAmb IAmb 21 42 16.7
comp=Z,18nm,1.0s
PV20 West Nyswonger 56.63 290 P **P 21 42 09.3 +0.1**
PV20 IAmb IAmb 21 42 13.8
comp=Z,12nm,1.0s
PV16 Nyswonger Mesa 56.63 290 IAmb IAmb 21 42 14.1
comp=Z,26nm,1.3s
PV01 Paradox Valley 56.65 289 P **P 21 42 08.9 -0.4**
PV01 IAmb IAmb 21 42 14.3
comp=Z,26nm,1.1s
PV02 Paradox Valley 56.65 289 P **P 21 42 09.1 -0.3**
PV03 Paradox Valley 56.66 290 P **P 21 42 09.4 0.0**
PV19 Morning Glory 56.66 290 P **P 21 42 09.2 -0.2**
PV19 IAmb IAmb 21 42 23.6
comp=Z,13nm,1.1s
PV17 East Wray Mesa 56.68 290 P **P 21 42 09.3 -0.2**
PV18 Skein Mesa, Pa 56.69 290 P **P 21 42 09.4 -0.2**
PV18 IAmb IAmb 21 42 13.9
comp=Z,22nm,1.0s
TMUT Trail Mountain 56.72 292 P **P 21 42 10.7 +0.8**
PV13 Radium Mtn., P 56.73 289 P **P 21 42 10.1 +0.2**
Q16A Castle Valley 57.03 292 P **P 21 42 10.7 -1.4**
MLPR Magueyes Islan 57.03 239 P **P 21 42 11.9 0.0**
ELK Elko 57.06 296 P **P 21 42 12.5 +0.3**
comp=Z,9.8nm,1.2s,baz=19,slow=5.0,SNR=7.9
ELK LR LR 22 06 07.3
comp=Z,525nm,18.6s,baz=42,slow=35
ELK Elko 57.06 296 P **P 21 42 11.8 -0.4**
ELK IAmb IAmb 21 42 16.8
comp=Z,15nm,1.3s
J05D Fort Rock, OR 57.12 302 P **P 21 42 13.4 +0.9**
baz=30,SNR=14
WHTX Lake Whitney, 57.25 276 P **P 21 42 12.7 -0.7**
WHTX IAmb IAmb 21 42 18.5
comp=Z,21nm,1.0s
WMQ Urumqi 57.35 56 *e*P **P 21 42 14.5 +0.4**
WMQ pP pP 21 42 16.5 -1.3
WMQ sP sP 21 42 20.3 +1.1
WMQ S **S 21 50 16.0 +5.8**
WMQ pmax pmax
comp=Z,6.0nm,1.1s
WMQ pmax pmax
comp=Z,82nm,3.6s
WMQ LR LR
comp=Z,170nm,10.7s
WMQ LR LR
comp=Z,510nm,17.7s
MVCO Mesa Verde 57.41 289 P **P 21 42 15.7 +0.9**
baz=31
MVCO Mesa Verde 57.41 289 P **P 21 42 15.5 +0.7**
MVCO IAmb IAmb 21 42 18.9
comp=Z,16nm,1.2s
J04D Umpqua Nationa 57.48 303 P **P 21 42 15.8 +0.6**
baz=30
K05A Summer Lake 57.48 302 P **P 21 42 16.3 +1.1**
K05A IAmb IAmb 21 42 21.9
comp=Z,23nm,1.2s
ABTX Abilene, Hawle 57.64 278 P **P 21 42 17.4 +1.3**
baz=30
ABTX Abilene, Hawle 57.64 278 P **P 21 42 15.9 -0.3**
ABTX IAmb IAmb 21 42 22.2
comp=Z,29nm,1.2s
SDDR Presa de Saban 57.72 244 P **P 21 42 17.5 +0.6**
SDDR IAmb IAmb 21 42 28.5
comp=Z,18nm,1.1s
ILAM Ilet Lapin Mar 57.79 231 *e*P **P 21 42 19.8 +2.5**
TCRU Three Creeks R 57.80 293 P **P 21 42 18.4 +0.8**
BAMF Morne Balai 57.85 232 *e*P **P 21 42 21.4 +3.6**
CXM Morne La Croix 57.86 232 *e*P **P 21 42 21.7 +3.8**
PCM Pelee Case Pet 57.87 232 *e*P **P 21 42 21.9 +4.0**
GBMF Grand Be 57.87 232 *e*P **P 21 42 22.0 +4.0**
PML Morne Lenard 57.89 232 *e*P **P 21 42 21.4 +3.3**
FDF Fort de France 57.92 232 *e*P **P 21 42 21.2 +2.9**
MVM Montagne Vaucl 58.00 231 *e*P **P 21 42 18.5 -0.4**
LPMF Morne Lapointe 58.01 231 *e*P **P 21 42 18.4 -0.4**
ZAM Aeronautique 58.03 232 *e*P **P 21 42 18.5 -0.5**
KBL Kabul 58.04 76 P **P 21 42 18.9 -0.3**
KBL pmax pmax
comp=Z,19nm,1.5s
KBL Kabul 58.04 76 P **P 21 42 18.9 -0.3**
KBL IAmb IAmb 21 42 23.3
comp=Z,19nm,1.5s
TRMF Trois Ilets 58.07 232 *e*P **P 21 42 18.4 -0.9**
MPOM Morne Pois Mar 58.09 231 *e*P **P 21 42 16.9 -2.6**
BIM Bigot 58.10 232 *e*P **P 21 42 18.6 -0.9**
SPR3 Spring Creek 3 58.21 294 P **P 21 42 20.8 +0.3**
HKT Hockley 58.31 274 P **P 21 42 21.0 +0.2**
HKT pmax pmax
comp=Z,7.0nm,1.1s
HKT Hockley 58.31 274 P **P 21 42 21.0 +0.2**
435B Jarrell 58.34 276 P **P 21 42 21.6 +0.4**
435B IAmb IAmb 21 42 25.5
comp=Z,19nm,1.0s
PSUT Pine Spring 58.42 294 P **P 21 42 22.9 +1.0**
L04D Klamath Falls 58.44 302 P **P 21 42 22.4 +0.6**
baz=29
ANMO Albuquerque 58.51 286 P **P 21 42 22.8 +0.4**
comp=Z,4.0nm,1.0s,baz=34,slow=6.6,SNR=7.4
ANMO LR LR 22 07 13.4
comp=Z,509nm,18.1s,baz=54,slow=36
ANMO Albuquerque 58.51 286 P **P 21 42 23.1 +0.6**
baz=30
ANMO Albuquerque 58.51 286 *e*P **P 21 42 23.4 +0.9**
ANMO pmax pmax
comp=Z,38nm,3.6s
ANMO Albuquerque 58.51 286 P **P 21 42 21.5 -1.0**
K02D Willamette Mer 58.52 304 P **P 21 42 23.9 +1.6**
baz=29
SLBI Saint Lucia, B 58.53 231 *e*P P 21 42 16.9 -5.6
DBIC Dimbokro 58.55 165 P **P 21 42 20.4 -2.3**
comp=Z,16nm,1.1s,baz=1.5,slow=8.7,SNR=5.6
DBIC LR LR 22 08 08.9
comp=Z,450nm,18.9s,baz=336,slow=37
DBIC Dimbokro 58.55 165 P **P 21 42 22.1 -0.6**
DBIC pmax pmax
comp=Z,18nm,1.1s
DBIC Dimbokro 58.55 165 P **P 21 42 22.1 -0.6**
DBIC IAmb IAmb 21 42 25.4
comp=Z,18nm,1.1s
TIC Toumodi 58.56 165 *e*P **P 21 42 21.9 -0.8**
M04C Macdoel 58.65 302 P **P 21 42 24.2 +0.9**
baz=29
LGNH Logne 58.66 245 P **P 21 42 24.3 +0.9**
PKCU Pink Cliffs 58.75 292 P **P 21 42 23.9 -0.4**
MCLT Moule a Chique 58.81 231 *e*P P 21 42 17.4 -7.0
KIC Kosan Boka 58.87 165 *e*P **P 21 42 24.3 -0.6**
comp=Z,78nm,1.2s
SZCU Shurtz Canyon 58.93 293 P **P 21 42 25.6 +0.2**
ZEA Zeya 58.94 23 *e*P **P 21 42 24.8 -0.1**
ZEA pmax pmax
comp=Z,200nm,8.2s
ZEA MLR MLR
comp=N,200nm,9.0s
ZEA MLR MLR
comp=Z,200nm,11.0s
LIC Lamto 58.98 165 *e*P **P 21 42 24.9 -0.7**
comp=Z,94nm,1.2s
YBH Yreka Blue Hor 59.01 302 LR LR 22 06 00.5
comp=Z,411nm,20.1s,baz=15,slow=34
CCUT Cedar City 59.08 293 P **P 21 42 27.2 +0.7**
R11A Troy Canyon, C 59.26 295 P **P 21 42 28.2 +0.6**
baz=30,SNR=19
R11A Troy Canyon, C 59.26 295 P **P 21 42 28.0 +0.4**
R11A IAmb IAmb 21 42 31.9
comp=Z,16nm,1.2s
BNM Barren Site 59.27 285 P **P 21 42 28.5 +0.7**
LCMT Little Creek M 59.49 292 P **P 21 42 29.5 +0.3**
PAHR Pah Rah Range 59.54 299 IAmb IAmb 21 42 34.7
comp=Z,18nm,1.2s
JCT Junction City 59.56 277 P **P 21 42 30.1 +0.5**
baz=30,SNR=7.4
KVN Kaiserville 59.63 297 IAmb IAmb 21 42 35.0
comp=Z,16nm,1.1s
N02D Trinity Center 59.67 302 P **P 21 42 31.4 +1.0**
baz=29
SONM Songino Array 59.75 40 P **P 21 42 29.6 -1.2**
comp=Z,3.4nm,0.9s,baz=326,slow=6.9,SNR=12
SONM LR LR 22 10 38.2
comp=Z,315nm,19.5s,baz=344,slow=38
SONM Songino Array 59.75 40 P **P 21 42 30.0 -0.8**
SONM pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 59.75 40 P **P 21 42 30.0 -0.8**
PRN Pahroc Range 59.87 294 P **P 21 42 32.9 +1.1**
PRN IAmb IAmb 21 42 45.4
comp=Z,18nm,1.2s
ULN Ulaanbaatar 59.91 40 *e*P **P 21 42 32.0 +0.1**
ULN pmax pmax
comp=Z,12nm,1.3s
O03E Paynes Creek 59.94 301 P **P 21 42 32.4 +0.3**
baz=29
VCNR Virginia City 60.00 299 P **P 21 42 31.5 -1.2**
VCNR IAmb IAmb 21 42 37.9
comp=Z,16nm,1.2s
WUAZ Wupatki 60.04 290 P **P 21 42 33.5 +0.5**
baz=30,SNR=6.7
WUAZ Wupatki 60.04 290 P **P 21 42 33.2 +0.2**
TPH Tonopah 60.14 296 P **P 21 42 33.6 -0.1**
TPH pmax pmax
comp=Z,28nm,1.2s
TPH Tonopah 60.14 296 P **P 21 42 33.6 -0.1**
NVAR Mina Array Bea 60.24 297 P **P 21 42 34.8 +0.4**
comp=Z,2.6nm,0.9s,baz=50,slow=3.6,SNR=13
NVAR LR LR 22 08 09.5
comp=Z,482nm,19.0s,baz=30,slow=36
NVAR Mina Array Bea 60.24 297 P **P 21 42 34.4 0.0**
ORV Oroville 60.47 300 P **P 21 42 35.4 -0.3**
ORV pmax pmax
comp=Z,14nm,1.5s
ORV Oroville 60.47 300 P **P 21 42 35.4 -0.3**
ORV IAmb IAmb 21 42 40.7
comp=Z,14nm,1.5s
NIL Nilore 60.56 73 P **P 21 42 36.3 -0.1**
NIL pmax pmax
comp=Z,49nm,1.2s
NIL Nilore 60.56 73 P **P 21 42 36.3 -0.1**
WAKR Walker 60.61 298 IAmb IAmb 21 42 41.7
comp=Z,13nm,1.1s
SHPR Sheep Range 60.70 294 P **P 21 42 37.7 +0.2**
SHPR IAmb IAmb 21 42 43.1
comp=Z,17nm,1.2s
TPNV Topopah Spring 60.74 295 P **P 21 42 38.8 +1.0**
baz=29
TPNV Topopah Spring 60.74 295 P **P 21 42 37.3 -0.5**
TPNV pmax pmax
comp=Z,15nm,1.4s
TPNV Topopah Spring 60.74 295 P **P 21 42 37.3 -0.5**
TPNV IAmb IAmb 21 42 42.5
comp=Z,14nm,1.4s
AFDM Forest Hills D 60.80 300 P **P 21 42 37.2 -0.8**
MNTX Cornudas Mount 60.87 283 P **P 21 42 39.5 +0.9**
baz=29
MNTX Cornudas Mount 60.87 283 P **P 21 42 38.0 -0.6**
X16A Lo Mia Camp, P 61.02 289 IAmb IAmb 21 42 45.2
comp=Z,24nm,1.2s
121A Cookes Peak, D 61.15 285 P **P 21 42 41.3 +0.7**
baz=29
121A Cookes Peak, D 61.15 285 IAmb IAmb 21 42 45.0
comp=Z,14nm,1.2s
OMMB Old Mammoth Mi 61.22 297 P **P 21 42 42.3 +1.0**
OMMB IAmb IAmb 21 42 47.6
comp=Z,16nm,1.3s
MDPB Devils Postpil 61.24 297 IAmb IAmb 21 42 46.7
comp=Z,17nm,1.2s
833A Chaparral WMA, 61.25 276 P **P 21 42 42.1 +0.9**
baz=29
833A Chaparral WMA, 61.25 276 P **P 21 42 43.6 +2.4**
CWC Cottonwood Cre 61.90 296 P **P 21 42 46.5 +0.9**
baz=29
MPMC Manual Prospec 62.00 295 P **P 21 42 47.3 +0.9**
baz=29
TX31 Lajitas Ar. Si 62.20 280 P **P 21 42 47.4 -0.3**
TX31 IAmb IAmb 21 42 52.2
comp=Z,19nm,1.1s
TX32 Lajitas Array 62.20 280 P **P 21 42 47.2 -0.4**
TXAR Lajitas Array 62.20 280 P **P 21 42 47.8 +0.2**
comp=Z,3.2nm,0.9s,baz=51,slow=4.0,SNR=15
TXAR LR LR 22 08 50.8
comp=Z,572nm,21.2s,baz=0.0,slow=35
TXAR Lajitas Array 62.20 280 P **P 21 42 47.6 0.0**
PDMCI Parker Dam,Lak 62.21 292 P **P 21 42 48.6 +1.1**
baz=29
GMRC Granite Mounta 62.39 293 P **P 21 42 50.0 +1.1**
baz=29
GSC Goldstone, Bar 62.39 294 P **P 21 42 49.3 +0.4**
baz=29
GSC Goldstone, Bar 62.39 294 P **P 21 42 48.5 -0.4**
GSC pmax pmax
comp=Z,11nm,1.4s
GSC Goldstone, Bar 62.39 294 P **P 21 42 48.5 -0.4**
GSC IAmb IAmb 21 42 53.3
comp=Z,11nm,1.4s
GSTR Great Sitkin T 62.43 345 P **P 21 42 47.3 -1.5**
TUC Tucson 62.58 288 P **P 21 42 50.9 +0.7**
baz=29
TUC Tucson 62.58 288 P **P 21 42 51.0 +0.8**

TUC						pmax	pmax												
	comp=Z,20nm,1.3s																		
TUC	**Tucson**	**62.58**	**288**		P	**P**	**21 42 51.0 +0.8**												
TUC					IAmb	IAmb	21 42 55.8												
	comp=Z,20nm,1.3s																		
HEC	**Hector,Ludlow**	**62.62**	**294**		P	**P**	**21 42 51.5 +1.1**												
	baz=29																		
PET	**Petropavlovsk**	**62.67**	**2**	⇓	*i*P	**P**	**21 42 52.9 +2.6**												
PET					pmax	pmax													
	comp=Z,417nm,1.3s																		
ISA	**Isabella, Lake**	**62.73**	**296**		P	**P**	**21 42 51.9 +0.8**												
	baz=28																		
ISA	**Isabella, Lake**	**62.73**	**296**		P	**P**	**21 42 50.7 -0.4**												
ISA					pmax	pmax													
	comp=Z,13nm,1.2s																		
ISA	**Isabella, Lake**	**62.73**	**296**		P	**P**	**21 42 50.7 -0.4**												
ISA					IAmb	IAmb	21 42 59.4												
	comp=Z,12nm,1.1s																		
IRM	**Iron Mountain**	**62.74**	**292**		P	**P**	**21 42 52.5 +1.4**												
	baz=29																		
DHRM	**DHARAMSHALA**	**63.03**	**72**	*ex*		P	21 42 45.9 -7.4												
DHRM					IAmb	IAmb	21 42 57.5												
	comp=Z,41nm,1.5s																		
BELC	**Belle Mtn. Jos**	**63.21**	**293**		P	**P**	**21 42 55.2 +0.7**												
	baz=28																		
EDW2	**Edwards Air Fo**	**63.23**	**295**		P	**P**	**21 42 55.4 +1.0**												
	baz=28																		
BC3	**Big Chuckawall**	**63.30**	**292**		P	**P**	**21 42 55.9 +0.9**												
	baz=28																		
PAGB	**Antelope Grade**	**63.35**	**297**		P	**P**	**21 42 53.5 -1.7**												
113A	**Mohawk Valley,**	**63.40**	**290**		P	**P**	**21 42 55.2 -0.3**												
113A					IAmb	IAmb	21 43 00.4												
	comp=Z,9.9nm,1.2s																		
GLA	**Glamis**	**63.58**	**291**		P	**P**	**21 42 57.5 +0.8**												
	baz=28																		
GLA	**Glamis**	**63.58**	**291**		P	**P**	**21 42 56.7 0.0**												
GLA					pmax	pmax													
	comp=Z,12nm,1.0s																		
GLA	**Glamis**	**63.58**	**291**		P	**P**	**21 42 56.7 0.0**												
GLA					IAmb	IAmb	21 43 03.1												
	comp=Z,12nm,1.0s																		
BFSC	**Mount Baldy Ra**	**63.66**	**294**		P	**P**	**21 42 58.9 +1.5**												
	baz=28																		
214A	**Organ Pipe Nat**	**63.72**	**289**		P	**P**	**21 42 58.1 +0.4**												
	baz=28																		
214A	**Organ Pipe Nat**	**63.72**	**289**		P	**P**	**21 42 57.0 -0.6**												
214A					IAmb	IAmb	21 43 02.9												
	comp=Z,11nm,1.2s																		
PFO	**Pinyon Flats O**	**63.74**	**293**		P	**P**	**21 42 58.4 +0.5**												
	baz=28																		
PFO	**Pinyon Flats O**	**63.74**	**293**	⇓	*e*P	**P**	**21 42 58.8 +0.9**												
PFO					pmax	pmax													
	comp=Z,44nm,4.2s																		
PFO	**Pinyon Flats O**	**63.74**	**293**		P	**P**	**21 42 57.7 -0.2**												
MWC	**Mount Wilson**	**63.83**	**295**		P	**P**	**21 42 58.3 -0.2**												
MWC					pmax	pmax													
	comp=Z,11nm,1.2s																		
MWC	**Mount Wilson**	**63.83**	**295**		P	**P**	**21 42 58.3 -0.2**												
MWC					IAmb	IAmb	21 42 59.7												
	comp=Z,11nm,1.1s																		
PKM	**Mcpherson Peak**	**63.93**	**297**		P	**P**	**21 43 00.8 +1.7**												
	baz=28																		
KLR	**Kul'dur**	**64.03**	**22**		LR	LR	22 10 12.6												
	comp=Z,159nm,21.0s,baz=346,slow=35																		
KLR	**Kul'dur**	**64.03**	**22**	⇓	*e*P	**P**	**21 42 58.4 -1.0**												
KLR					pmax	pmax													
	comp=Z,7.0nm,1.5s																		
PIX	**Pinacate**	**64.33**	**290**		P	**P**	**21 43 02.2 +0.6**												
PIX					IAmb	IAmb	21 43 05.5												
	comp=Z,19nm,1.4s																		
MONP2	**Monument Peak**	**64.36**	**293**		P	**P**	**21 43 03.1 +1.1**												
	baz=28																		
MDP	**Montagnes des**	**64.41**	**219**		LR	LR	22 04 21.7												
	comp=Z,261nm,21.7s,baz=30,slow=30																		
IKP	**In-Ko-Pah, Jac**	**64.44**	**292**		P	**P**	**21 43 03.7 +1.2**												
	baz=28																		
BAR	**Barrett**	**64.64**	**293**		P	**P**	**21 43 03.1 -0.6**												
BAR					IAmb	IAmb	21 43 09.2												
	comp=Z,20nm,1.5s																		
ESJX	**Sierra Juarez**	**64.95**	**292**		P	**P**	**21 43 05.1 -0.8**												
GTA	**Gaotai**	**65.42**	**49**	⇑	P	**P**	**21 43 08.5 -0.2**												
GTA					pP	sP	21 43 14.5 +0.8												
GTA					sP	pP	21 43 17.3 +4.9												
GTA					S	**S**	**21 51 57.8 +4.9**												
GTA					pmax	pmax													
	comp=Z,5.0nm,1.8s																		
GTA					pmax	pmax													
	comp=Z,270nm,6.4s																		
GTA					LR	LR													
	comp=Z,170nm,19.6s																		
GTA					LR	LR													
	comp=Z,370nm,19.6s																		
GTA					LR	LR													
	comp=Z,200nm,17.8s																		
HSIG		**65.53**	**286**		P	**P**	**21 43 10.6 +1.1**												
HSIG					IAmb	IAmb	21 43 13.2												
	comp=Z,16nm,1.0s																		
SPX	**San Pedro Mart**	**65.60**	**291**		P	**P**	**21 43 10.3 0.0**												
SPX					IAmb	IAmb	21 43 14.9												
	comp=Z,18nm,1.3s																		
SDV	**Santo Domingo**	**66.71**	**239**		LR	LR	22 09 50.3												
	comp=Z,70nm,20.0s,baz=61,slow=34																		
SDV	**Santo Domingo**	**66.71**	**239**		P	**P**	**21 43 17.2 -0.2**												
SDV					IAmb	IAmb	21 43 21.4												
	comp=Z,11nm,0.9s																		
SDV	**Santo Domingo**	**66.71**	**239**	*e*P		**P**	**21 43 18.5 +1.2**												
ZAIG	**Zacatecas**	**67.48**	**276**		P	**P**	**21 43 22.7 +0.3**												
ZAIG					IAmb	IAmb	21 43 28.3												
	comp=Z,14nm,1.1s																		
HHC	**Hu-ho-hao-te**	**67.62**	**39**	*e*P		**P**	**21 43 23.3 +0.5**												
HHC					pmax	pmax													
	comp=Z,12nm,0.8s																		
HHC					pmax	pmax													
	comp=Z,230nm,7.6s																		
YSS	**Yuzh-Sakhalins**	**67.74**	**14**	*e*P		**P**	**21 43 23.3 0.0**												
YSS				*e*SP			21 43 29.6												
YSS				*e*S		**S**	**21 52 15.7 -4.7**												
YSS				*e*PPS		PPS	21 52 46.6												
YSS				*e*SS		**SS**	**21 56 39.1 -1.3**												
YSS					pmax	pmax													
	comp=Z,10.0nm,1.2s																		
USRK	**Ussuriysk Ar.**	**68.96**	**23**		LR	LR	22 15 49.0												
	comp=Z,108nm,18.1s,baz=337,slow=38																		
APG	**El Apazote**	**69.16**	**261**		LR	LR	22 13 47.8												
	comp=Z,239nm,18.0s,baz=39,slow=36																		
PYUN	**Piuthan**	**69.39**	**68**	*e*P		**P**	**21 43 33.2 -1.0**												
	comp=Z,79nm,1.2s																		
DANN	**Dangsing**	**69.48**	**67**	*e*P		**P**	**21 43 33.3 -1.5**												
	comp=Z,25nm,0.9s																		
MCPB	**Macapa, AP**	**69.48**	**217**	*e*P		**P**	**21 43 35.2 +0.7**												
BJI	**Beijing**	**69.60**	**36**	P		**P**	**21 43 35.5 +0.5**												
BJI				S		**S**	**21 52 46.3 +3.6**												
BJI					pmax	pmax													
	comp=Z,3.0nm,1.3s																		
BJI					pmax	pmax													
	comp=Z,230nm,6.4s																		
BJI					LR	LR													
	comp=Z,340nm,14.7s																		
BJI					LR	LR													
	comp=Z,170nm,16.5s																		
BJI					LR	LR													
	comp=Z,260nm,18.9s																		
NBMO	**Morrinhos-CE**	**69.72**	**204**	*e*P		**P**	**21 43 37.5 +1.6**												
LZH	**Lanzhou**	**69.74**	**47**	⇑	P	**P**	**21 43 37.0 +0.8**												
LZH					pP	pP	21 43 40.0 +0.2												
LZH					sP	sP	21 43 42.5 +1.3												
LZH					PP	**PP**	**21 46 11.5 +1.7**												
LZH					SS	SS	21 57 07.5 -4.8												
LZH					pmax	pmax													
	comp=Z,26nm,1.0s																		
LZH					pmax	pmax													
	comp=Z,320nm,4.9s																		
LZH					LR	LR													
	comp=Z,450nm,13.0s																		
LZH					LR	LR													
	comp=Z,260nm,13.0s																		
LZH					LR	LR													
	comp=Z,360nm,14.6s																		
KOLN	**Koldanda**	**69.93**	**68**	*e*P		**P**	**21 43 36.6 -0.9**												
	comp=Z,78nm,1.3s																		
ROSB	**Rosrio**	**70.09**	**208**	*e*P		**P**	**21 43 40.6 +2.3**												
GKN	**Gorkha**	**70.14**	**67**	*e*P		**P**	**21 43 37.4 -1.3**												
	comp=Z,39nm,1.2s																		
TLIG	**Tlapa**	**70.36**	**270**		P	**P**	**21 43 41.5 +1.4**												
TLIG					IAmb	IAmb	21 43 44.9												
	comp=Z,15nm,1.1s																		
TMAB	**Tom-Au,PA,Br**	**70.45**	**212**	*e*P		**P**	**21 43 42.2 +1.8**												
KKN	**Kakani**	**70.58**	**66**	*e*P		**P**	**21 43 40.1 -1.4**												
	comp=Z,18nm,0.8s																		
GUN	**Gumba**	**70.71**	**66**	*e*P		**P**	**21 43 41.1 -1.3**												
	comp=Z,40nm,1.0s																		
PKIN	**Phulchoki**	**70.82**	**66**	*e*P		**P**	**21 43 42.4 -0.6**												
	comp=Z,39nm,1.3s																		
PKI	**Pulchoki**	**70.83**	**66**	*e*P		**P**	**21 43 42.1 -1.0**												
	comp=Z,24nm,1.1s																		
JTS	**Las Juntas de**	**71.07**	**254**		LR	LR	22 12 03.8												
	comp=Z,102nm,21.4s,baz=85,slow=34																		
JTS	**Las Juntas de**	**71.07**	**254**		P	**P**	**21 43 42.9 -1.4**												
JTS					pmax	pmax													
	comp=Z,30nm,1.4s																		
JTS	**Las Juntas de**	**71.07**	**254**		P	**P**	**21 43 42.9 -1.4**												
LSA	**Lhasa**	**71.13**	**60**		IAmb	IAmb	21 43 49.2												
	comp=Z,20nm,1.5s																		
BHPL	**Bhopal**	**71.43**	**75**	*e*P		**P**	**21 43 45.4 -1.0**												
BHPL					IAmb	IAmb	21 43 49.7												
	comp=Z,33nm,1.6s																		
MALB	**Monte Alegre**	**71.50**	**219**	*e*P		**P**	**21 43 48.1 +1.3**												
RCBR	**Riachuelo**	**71.54**	**199**	P		**P**	**21 43 45.0 -2.1**												
RCBR					pmax	pmax													
	comp=Z,38nm,1.3s																		
RCBR	**Riachuelo**	**71.54**	**199**	P		**P**	**21 43 45.0 -2.1**												
RCBR	**Riachuelo**	**71.54**	**199**	*e*P		**P**	**21 43 45.8 -1.3**												
JEW	**Eniwo**	**71.65**	**16**	P		**P**	**21 43 46.7 -0.8**												
ROSC	**El Rosal**	**71.81**	**241**	LR		LR	22 14 06.3												
	comp=Z,64nm,19.3s,baz=44,slow=35																		
ROSC	**El Rosal**	**71.81**	**241**	P		**P**	**21 43 49.0 -0.2**												
ROSC					IAmb	IAmb	21 43 51.8												
	comp=Z,16nm,0.8s																		
DL2	**Dalian**	**72.00**	**32**		P	**P**	**21 43 52.0 +2.4**												
DL2					S	**S**	**21 53 17.5 +6.8**												
DL2					pmax	pmax													
	comp=Z,30nm,1.2s																		
DL2					pmax	pmax													
	comp=Z,390nm,5.7s																		
DL2					LR	LR													
	comp=Z,220nm,17.4s																		
DL2					LR	LR													
	comp=Z,500nm,19.1s																		
DL2					LR	LR													
	comp=Z,330nm,13.7s																		
GTK	**Tadong**	**72.30**	**64**	*e*P		**P**	**21 43 51.4 -0.3**												
GTK					IAmb	IAmb	21 43 58.3												
	comp=Z,17nm,0.5s																		
ERM	**Erimo**	**72.66**	**15**	⇑	*e*P	**P**	**21 43 52.1 -1.4**												
ERM					pmax	pmax													
	comp=Z,45nm,1.3s																		
XAN	**Xi'an**	**73.20**	**44**		P	**P**	**21 43 58.0 +1.1**												
XAN					pP	sP	21 44 04.5 +2.6												
XAN					pmax	pmax													
	comp=Z,13nm,1.3s																		
XAN					pmax	pmax													
	comp=Z,140nm,5.3s																		
XAN					LR	LR													
	comp=Z,240nm,13.7s																		
XAN					LR	LR													
	comp=Z,460nm,12.7s																		
XAN					LR	LR													
	comp=Z,270nm,6.4s																		
XAN	**Xi'an**	**73.20**	**44**		P	**P**	**21 43 57.0 +0.1**												
XAN					pmax	pmax													
	comp=Z,24nm,1.5s																		
XAN	**Xi'an**	**73.20**	**44**		P	**P**	**21 43 57.0 +0.1**												
XAN					IAmb	IAmb	21 43 59.6												
	comp=Z,24nm,1.5s																		
JTM	**Tenmabayashi**	**73.63**	**17**		P	**P**	**21 44 00.6 +1.4**												
MBAR	**Mbarara**	**73.95**	**129**	*ce*		**P**	**21 44 03.4 +1.8**												
MBAR					pmax	pmax													
	comp=Z,5.0nm,1.3s																		
MBAR	**Mbarara**	**73.95**	**129**		P	**P**	**21 44 02.2 +0.6**												
ZIRO	**ZIRO**	**74.10**	**59**	*ex*		P	21 43 56.8 -5.6												
ZIRO					IAmb	IAmb	21 44 03.2												
	comp=Z,10nm,1.1s																		
ITTB	**Itaituba**	**74.30**	**220**	*e*P		**P**	**21 44 04.1 +0.6**												
BOK	**Bokaro**	**74.39**	**68**	*ex*		P	21 43 58.3 -5.7												
BOK					IAmb	IAmb	21 43 59.0												
	comp=Z,8.3nm,0.4s																		
CD2	**Chengdu**	**74.48**	**50**	*e*P		**P**	**21 44 03.0 -1.4**												
CD2					pmax	pmax													
	comp=Z,10.0nm,0.5s																		
PRPB	**Parauapebas**	**74.52**	**213**	*e*P		**P**	**21 44 05.6 +0.9**												
TEZP	**TEZPUR**	**74.53**	**60**	*ex*		**P**	**21 44 00.1 -4.6**												
TEZP					IAmb	IAmb	21 44 07.7												
	comp=Z,32nm,1.7s																		
MACA	**Manacapuru-AM**	**74.59**	**225**	*e*P		**P**	**21 44 05.1 0.0**												
KSRS	**Korea Array**	**74.75**	**28**	LR		LR	22 19 48.4												
	comp=Z,167nm,18.0s,baz=348,slow=38																		
LKP	**Lekhapani**	**75.01**	**58**	*ex*		P	21 43 58.5 -9.0												
LKP					IAmb	IAmb	21 44 00.8												
	comp=Z,7.2nm,0.7s																		
SHL	**Shillong**	**75.14**	**62**	*ex*		P	21 43 58.3 -10												
SHL					IAmb	IAmb	21 44 03.7												
	comp=Z,4.0nm,0.9s																		
SHL	**Shillong**	**75.14**	**62**		P	**P**	**21 44 06.4 -2.1**												
SHL					pmax	pmax													
	comp=Z,12nm,1.0s																		
SHL	**Shillong**	**75.14**	**62**		P	**P**	**21 44 06.4 -2.1**												
SHL					IAmb	IAmb	21 44 12.2												
	comp=Z,12nm,1.0s																		
MOKO	**MOKOCHONG**	**75.44**	**59**	*ex*		P	21 43 60.0 -10												
MOKO					IAmb	IAmb	21 44 02.7												
	comp=Z,8.9nm,0.8s																		
KOHI	**KOHIMA**	**75.83**	**60**	*ex*		P	21 44 03.1 -9.3												
KOHI					IAmb	IAmb	21 44 06.7												
	comp=Z,77nm,2.0s																		
KMBO	**Kilima Mbogo**	**76.71**	**123**		LR	LR	22 21 36.9												
	comp=Z,234nm,19.2s,baz=92,slow=39																		
NPGB	**Novo Progresso**	**76.76**	**219**	*e*P		**P**	**21 44 18.4 +0.9**												
ENH	**Enshi**	**76.88**	**45**		IAmb	IAmb	21 44 21.0												
	comp=Z,25nm,1.2s																		
HYB	**Hyderabad**	**77.09**	**77**	*i*	P	**P**	**21 44 21.0 +1.5**												
MJAR	**Matsushiro Arr**	**77.42**	**20**		P	**P**	**21 44 22.8 +1.6**												
	comp=Z,3.4nm,1.1s,baz=349,slow=5.7,SNR=5.8																		
MJAR	**Matsushiro Arr**	**77.42**	**20**		P	**P**	**21 44 21.0 -0.1**												
NJ2	**Nanjing**	**77.85**	**37**	*e*P		**P**	**21 44 23.5 0.0**												
NJ2					pmax	pmax													
	comp=Z,9.0nm,0.5s																		
WHN	**Wuhan**	**78.06**	**41**		P	**P**	**21 44 21.3 -3.4**												
WHN					S	**S**	**21 54 19.0 +0.7**												
WHN					LR	LR													
	comp=Z,1μm,19.5s																		
WHN					LR	LR													
	comp=Z,1μm,18.6s																		
WHN					LR	LR													
	comp=Z,530nm,15.8s																		
SDBA	**SAO DESIDERIO**	**79.51**	**207**	*e*P		**P**	**21 44 33.9 +1.2**												
GYA	**Guiyang**	**79.54**	**49**	⇓	P	**P**	**21 44 32.0 -1.1**												
GYA					PP	**PP**	**21 47 31.5 -1.5**												
GYA					S	**S**	**21 54 36.8 +2.2**												
GYA					pmax	pmax													
	comp=Z,7.0nm,1.2s																		
GYA					pmax	pmax													
	comp=Z,170nm,6.5s																		
GYA					LR	LR													
	comp=Z,130nm,12.6s																		
GYA					LR	LR													
	comp=Z,120nm,14.4s																		
GYA					LR	LR													
	comp=Z,120nm,17.0s																		
CLDB	**Colider**	**80.54**	**218**	*e*P		**P**	**21 44 38.8 +0.5**												
SAML	**Samuel**	**80.83**	**226**	P		**P**	**21 44 39.6 -0.3**												
SAML					pmax	pmax													
	comp=Z,8.0nm,1.1s																		
SAML	**Samuel**	**80.83**	**226**	P		**P**	**21 44 39.5 -0.3**												
SAML	**Samuel**	**80.83**	**226**	*e*P		**P**	**21 44 40.2 +0.3**												
JANB	**Januaria**	**81.97**	**206**	*e*P		**P**	**21 44 47.0 +1.1**												
ETMB	**Extrema**	**82.60**	**228**	*e*P		**P**	**21 44 49.4 +0.3**												
CZSB	**Cruzeiro do Su**	**82.84**	**235**	*e*P		**P**	**21 44 50.2 -0.3**												
BDFB	**Brasilia**	**83.28**	**209**	LR		LR	22 15 49.6												
	comp=Z,306nm,21.4s,baz=324,slow=31																		
SLVN	**Son La**	**83.37**	**53**	P		**P**	**21 44 52.5 -0.8**												
VILB	**Vilhena**	**83.73**	**221**	*e*P		**P**	**21 44 56.5 +1.5**												
CHTO	**Chiang Mai**	**83.92**	**58**	P		**P**	**21 44 55.1 -1.0**												
CHTO					pmax	pmax													
	comp=Z,11nm,1.2s																		
CHTO	**Chiang Mai**	**83.92**	**58**	P		**P**	**21 44 55.1 -1.0**												
CHTO					IAmb	IAmb	21 44 58.1												
	comp=Z,11nm,1.1s																		
ARAG	**Araguaiana, MT**	**84.19**	**213**	*e*P		**P**	**21 44 57.9 +0.6**												
CM31	**Chiang Mai Arr**	**84.25**	**58**	P		**P**	**21 44 57.2 -0.6**												
CM31					IAmb	IAmb	21 45 01.9												
	comp=Z,7.4nm,1.1s																		
CMAR	**Chiang Mai Arr**	**84.25**	**58**	P		**P**	**21 44 56.6 -1.2**												
	comp=Z,3.0nm,0.9s,baz=321,slow=6.1,SNR=16																		
CMAR					LR	LR	22 24 56.0												
	comp=Z,78nm,19.9s,baz=357,slow=37																		
CMAR	**Chiang Mai Arr**	**84.25**	**58**	P		**P**	**21 44 57.1 -0.7**												
CMAR	**Chiang Mai Arr**	**84.25**	**58**	P		**P**	**21 44 57.1 -0.7**												
IPMB	**Ipameri, GO**	**85.59**	**209**	*e*P		**P**	**21 45 04.8 +0.4**												
PTLB	**Pontes e Lacer**	**85.81**	**220**	*e*P		**P**	**21 45 06.8 +1.4**												
QIZ	**Qiongzhong**	**87.50**	**49**	P		**P**	**21 45 12.5 -1.4**												
QIZ				S		**S**	**21 55 57.0 +2.1**												
QIZ					LR	LR													
	comp=Z,240nm,18.1s																		
QIZ					LR	LR													
	comp=Z,230nm,16.7s																		
QIZ					LR	LR													
	comp=Z,380nm,17.7s						

JEM	**Erimo**	**0.64**	**81**	⇑P		**Pn**	**22 05 43.3**	**-0.1**
JEM				eS		**Sn**	**22 05 53.7**	**+0.1**
JIAM	**Iburiatsuma**	**0.76**	**338**	⇓P		**Pn**	**22 05 45.5**	**+0.8**
JIAM				eS		**Sn**	**22 05 57.6**	**+1.6**
JBT2	**Biratori 2**	**0.85**	**3**	⇓P		**Pn**	**22 05 45.6**	**-0.4**
JBT2				eS		**Sn**	**22 05 57.7**	**-0.4**
JKB	**Kayabe**	**0.95**	**268**	⇓P		**Pn**	**22 05 46.8**	**-0.4**
JKB				eS		**Sn**	**22 05 59.9**	**-0.4**
JCH	**Churui**	**1.04**	**48**	⇑P		**Pn**	**22 05 48.4**	**+0.1**
JCH				eS		**Sn**	**22 06 02.8**	**+0.5**
JOT	**Ohata**	**1.09**	**241**	⇓P		**Pn**	**22 05 48.8**	**-0.1**
JOT				eS		**Sn**	**22 06 03.3**	**0.0**
JNB	**Noboribetsu**	**1.09**	**300**	⇓P		**Pn**	**22 05 48.2**	**-0.7**
JNB				eS		**Sn**	**22 06 02.6**	**-0.8**
JEW	**Eniwo**	**1.12**	**325**	⇓P		**Pn**	**22 05 49.5**	**+0.2**
JEW				eS		**Sn**	**22 06 04.1**	**+0.1**
JFR	**Furan**	**1.26**	**10**	P		**Pn**	**22 05 50.8**	**-0.3**
JFR				eS		**Sn**	**22 06 07.1**	**-0.2**
JYM2	**Yakumo 2**	**1.46**	**278**	P		**Pn**	**22 05 53.5**	**-0.2**
JSR	**Shiriuchi**	**1.47**	**255**	P		**Pn**	**22 05 53.8**	**-0.1**
JSR				eS		**Sn**	**22 06 13.0**	**+0.7**
JTM	**Tenmabayashi**	**1.47**	**220**	P		**Pn**	**22 05 54.4**	**+0.5**
JTM				eS		**Sn**	**22 06 13.7**	**+1.4**
JOB	**Onbets**	**1.50**	**49**	P		**Pn**	**22 05 55.2**	**+1.0**
JOB				eS		**Sn**	**22 06 14.1**	**+1.2**
JISS	**Ishikarishitsu**	**1.50**	**334**	⇓P		**Pn**	**22 05 54.4**	**+0.1**
JISS				eS		**Sn**	**22 06 13.2**	**+0.1**
JAB	**Ashibetsu**	**1.58**	**358**	P		**Pn**	**22 05 56.2**	**+0.8**
JAB				eS		**Sn**	**22 06 16.8**	**+1.8**
JANG	**Nango**	**1.66**	**201**	P		**Pn**	**22 05 57.0**	**+0.5**
JANG				eS		**Sn**	**22 06 17.6**	**+0.7**
JAR	**Ashorobuto**	**1.75**	**38**	P		**Pn**	**22 05 57.3**	**-0.3**
JAR				eS		**Sn**	**22 06 18.8**	**-0.1**
JOMM	**Oshimamatsumae**	**1.77**	**258**	⇓P		**Pn**	**22 05 57.9**	**0.0**
JOMM				eS		**Sn**	**22 06 19.3**	**-0.1**
JHR	**Hokuryu**	**1.87**	**347**	⇓P		**Pn**	**22 06 00.2**	**+0.9**
JHR				eS		**Sn**	**22 06 24.1**	**+2.2**
ASAJ	**Asahikawa**	**2.20**	**5**	P		**Pn**	**22 06 04.8**	**+1.0**
	7.4nm,0.3s,baz=215,slow=12,SNR=40							
ASAJ				S		**Sn**	**22 06 30.0**	**+0.1**
	8.7nm,0.3s,baz=329,slow=23,SNR=9.0							
MJAR	**Matsushiro Arr**	**6.25**	**212**	P		**Pn**	**22 07 01.0**	**+2.0**
	0.0nm,0.3s,baz=34,slow=13,SNR=1.4							
USRK	**Ussuriysk Ar.**	**7.89**	**290**	P		**Pn**	**22 07 24.4**	**+2.9**
	baz=97,slow=14,SNR=6.3							
KLR	**Kul'dur**	**10.39**	**318**	P		**Pn**	**22 07 57.3**	**+1.7**
	0.1nm,0.3s,baz=234,slow=19,SNR=5.7							
SONM	**Songino Array**	**25.96**	**295**	P		**P**	**22 10 56.4**	**+0.6**
	0.5nm,0.5s,baz=80,slow=9.6,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**30.39**	**129**	T		T	22 44 12.5	
	baz=322,slow=75,SNR=23							
H11N1	**WAKE ISLAND Hy**	**30.40**	**129**	T		T	22 44 13.1	
	baz=322,slow=75,SNR=8.0							
H11N3	**WAKE ISLAND Hy**	**30.40**	**129**	T		T	22 44 13.8	
	baz=322,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**31.24**	**131**	T		T	22 45 18.3	
	baz=323,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**31.25**	**131**	T		T	22 45 17.0	
	baz=323,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**31.26**	**131**	T		T	22 45 18.1	
	baz=323,slow=76,SNR=13							
ZALV	**Zalesovo Beam**	**39.29**	**308**	P		**P**	**22 12 51.9**	**+0.4**
	0.7nm,0.4s,baz=84,slow=7.6,SNR=4.0							
MKAR	**Makanchi Array**	**42.28**	**298**	P		**P**	**22 13 16.5**	**+0.2**
	0.7nm,0.7s,baz=71,slow=9.1,SNR=4.7							
ILAR	**Eielson Array**	**45.04**	**35**	P		**P**	**22 13 37.5**	**-0.7**
	0.5nm,0.9s,baz=266,slow=7.1,SNR=4.2							
WRA	**Warramunga Arr**	**61.99**	**188**	P		**P**	**22 15 42.0**	**-0.7**
	0.2nm,0.7s,baz=4.4,slow=7.4,SNR=1.2							
FINES	**FINESS Array B**	**64.83**	**332**	P		**P**	**22 16 00.8**	**-0.2**
	1.0nm,0.4s,baz=54,slow=6.8,SNR=21							
NOA	**NORSAR Array B**	**69.35**	**337**	P		**P**	**22 16 32.6**	**-0.8**
	2.0nm,1.2s,baz=52,slow=7.8,SNR=3.9							
AKASG	**Malin Array Be**	**70.87**	**322**	P		**P**	**22 16 37.9**	**-1.3**
	0.8nm,0.5s,baz=44,slow=6.1,SNR=4.2							

BJI ***31*** *22:45:17.6±0.0,4.°22S×153.°30E,h59km,mB4.9/29, mb4.9/39,Ms4.4/5,Ms7 4.1/5*
IDC ***31*** *22:45:17.3±1.2,4.°59S×153.°05E,h46km±10km,mb4.3/21, mb1 4.4/26,mb1mx4.4/32,mbtmp4.6/26,ML3.5/3,MS3.5/17, Ms1 3.5/17,ms1mx3.4/30,Error ellipse: s-maj=12.9km s-min=8.5km az=55.0*
NEIC ***31*** *22:45:19.2±1.5,4.°59S±0.°05×153.°01E±0.°05,h66km±5km, mb4.8/108,Error ellipse: s-maj=8.1km s-min=5.9km az=130.0*
DJA ***31*** *22:45:19.2±0.6,5.°S±4.°×15.°3E±.°,h58km±5km,M5.1/19, mb4.9/19,mB5.4/6,MLv5.3/3,Mw(mB)4.9/6*
ISC 31 22:45:17.6±0.7,4.°58S±0.°04×153.°09E±0.°05,h53km±6km, n238,σ1♀04/238,mb4.8/77,MS3.6/18,1C,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
RABL	**Rabaul**	**1.00**	**293**	Pn		**Pn**	**22**	**45**	**35.6**	**+0.2**
RABL				Sn		**Sn**	**22**	**45**	**49.9**	**+1.3**
KRVT	**Keravat (AS076**	**1.09**	**284**	P		**Pn**	**22**	**45**	**36.8**	**+0.2**
	1μm,0.3s,baz=93,slow=0.3,SNR=775									
KRVT				S		**Sn**	**22**	**45**	**49.5**	**-1.3**
	2μm,0.3s,baz=152,slow=18,SNR=11									
MANU	**Manus Island**	**6.24**	**294**	Pn		**Pn**	**22**	**46**	**49.1**	**+1.9**
PMG	**Port Moresby**	**7.59**	**231**	P		**Pn**	**22**	**47**	**06.6**	**+0.9**
	11nm,0.3s,baz=35,slow=9.5,SNR=15									
PMG				S		**Sn**	**22**	**48**	**29.0**	**-1.3**
	42nm,0.3s,baz=284,slow=21,SNR=8.4									
PMG	**Port Moresby**	**7.59**	**231**	Pn		**Pn**	**22**	**47**	**06.5**	**+0.9**
PMG						**Sn**	**22**	**48**	**29.8**	**-0.6**
HNR	**Honiara**	**8.34**	**126**	P		**Pn**	**22**	**47**	**16.6**	**+0.7**
	26nm,0.3s,baz=212,slow=13,SNR=1.5									
HNR				S		**Sn**	**22**	**48**	**49.0**	**+0.1**
	13nm,0.3s,baz=217,slow=14,SNR=1.3									
HNR	**Honiara**	**8.34**	**126**	Pn		**Pn**	**22**	**47**	**14.4**	**-1.6**
PATS	**Pohnpei**	**12.48**	**25**	P		**Pn**	**22**	**48**	**13.3**	**+0.6**
	baz=13,SNR=9.8									
PATS				S		**Sn**	**22**	**50**	**27.1**	**-3.2**
	baz=13									
PATS	**Pohnpei**	**12.48**	**25**			**Pn**	**22**	**48**	**12.9**	**+0.2**
JAY	**Jayapura**	**12.53**	**279**	P		**Pn**	**22**	**48**	**12.6**	**-0.7**
	0.4nm,0.3s,baz=73,slow=8.4,SNR=4.0									
JAY	**Jayapura**	**12.53**	**279**	P		**Pn**	**22**	**48**	**15.5**	**+2.2**
	264nm8.7nm,1.0s									
MTSU	**Mount Surprise**	**15.97**	**212**	P		**P**	**22**	**49**	**03.8**	**+2.1**
	baz=16,SNR=18									
CTA	**Charters Tower**	**16.79**	**203**	P		**Pn**	**22**	**49**	**09.3**	**0.0**
	0.3nm,0.3s,baz=13,slow=12,SNR=3.7									
CTAO	**Charters Tower**	**16.79**	**203**	P		**Pn**	**22**	**49**	**09.7**	**+0.4**
SANVU	**Saraoutou**	**17.59**	**129**	Pn		**Pn**	**22**	**49**	**14.0**	**-5.1**
KWAJ	**Kwajalein Atol**	**19.66**	**47**	P		**Pn**	**22**	**49**	**43.9**	**-0.3**
GUMO	**Guam**	**19.81**	**336**	P		**Pn**	**22**	**49**	**45.9**	**0.0**
	3.8nm,0.3s,baz=188,slow=12,SNR=6.2									
GUMO				LR		LR	22	58	06.3	
	comp=Z,52nm,18.2s,baz=136,slow=39									
GUMO	**Guam**	**19.81**	**336**	P		**P**	**22**	**49**	**42.9**	**-1.1**
QIS	**Mount Isa**	**20.59**	**218**	P		**P**	**22**	**49**	**53.2**	**+0.7**
	baz=21,SNR=9.8									
TARA	**Tarawa**	**20.68**	**74**	P		**P**	**22**	**49**	**54.6**	**+1.2**
EIDS	**Eidsvold**	**20.76**	**185**	P		**P**	**22**	**49**	**55.5**	**+1.3**
FAKI	**Fak Fak**	**20.86**	**274**	P		**P**	**22**	**49**	**54.7**	**-0.7**
FAKI					IAmb	IAmb	22	50	09.5	
	comp=Z,39nm,1.1s									
DZM	**Mont Dzumac**	**21.67**	**145**	P		**P**	**22**	**50**	**04.6**	**+0.4**
	comp=Z,11nm,0.5s,baz=315,slow=9.1,SNR=14									
DZM				LR		LR	22	57	49.9	
	comp=Z,267nm,20.8s,baz=216,slow=35									
DZM	**Mont Dzumac**	**21.67**	**145**	*e*Pn		**P**	**22**	**50**	**05.2**	**+1.0**
	comp=Z,48nm,1.0s									
DZM				*e*LR		LR	22	55	30.4	
	comp=Z,456nm,26.6s									
DZM	**Mont Dzumac**	**21.67**	**145**	P		**P**	**22**	**50**	**05.1**	**+1.0**
KDU	**Kakadu**	**21.90**	**247**	P		**P**	**22**	**50**	**05.2**	**-1.4**
	baz=22,SNR=24									
SIJI	**Sorong**	**22.10**	**279**	P		**P**	**22**	**50**	**08.5**	**-0.3**
	comp=Z,24nm,0.5s,baz=94,slow=7.5,SNR=10.0									
MTN	**Manton Dam**	**23.18**	**248**	P		**P**	**22**	**50**	**20.1**	**+0.1**
	baz=23,SNR=19									
MTN	**Manton Dam**	**23.18**	**248**	P		**P**	**22**	**50**	**18.2**	**-1.9**
WB0	**Warramunga Arr**	**23.66**	**229**	P		**P**	**22**	**50**	**24.0**	**-0.5**
WR0	**Warramunga Arr**	**23.66**	**228**	P		**P**	**22**	**50**	**24.1**	**-0.5**
WR0					IAmb	IAmb	22	50	28.6	
	comp=Z,25nm,0.8s									
WC3	**Warramunga Arr**	**23.79**	**228**	P		**P**	**22**	**50**	**25.4**	**-0.3**
	baz=24									
WRAB	**Tennant Creek**	**23.79**	**229**	P		**P**	**22**	**50**	**25.1**	**-0.7**
WRAB					IAmb	IAmb	22	50	30.5	
	comp=Z,24nm,0.6s									
WB2	**Warramunga Arr**	**23.79**	**229**	P		**P**	**22**	**50**	**25.4**	**-0.3**
WB2					IAmb	IAmb	22	50	29.4	
	comp=Z,24nm,0.6s									
WRA	**Warramunga Arr**	**23.80**	**229**	P		**P**	**22**	**50**	**25.2**	**-0.7**
	comp=Z,16nm,0.5s,baz=52,slow=9.9,SNR=83									
WRA				S		**S**	**22**	**54**	**33.7**	**-4.3**
	comp=Z,1.4nm,0.7s,baz=44,slow=14,SNR=2.7									
WRA				ScP		**ScP**	**22**	**57**	**42.6**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=49,slow=3.1,SNR=4.7									
WRA				LR		LR	22	59	41.0	
	comp=Z,133nm,21.3s,baz=80,slow=36									
WRA				PKiKP		**PKiKP**	**23**	**01**	**50.6**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=321,slow=1.1,SNR=9.2									
WRA	**Warramunga Arr**	**23.80**	**229**	P		**P**	**22**	**50**	**24.8**	**-1.1**
KNRA	**Kununurra**	**26.32**	**243**	P		**P**	**22**	**50**	**48.9**	**+0.1**
	baz=26,SNR=30									
KNRA	**Kununurra**	**26.32**	**243**	P		**P**	**22**	**50**	**48.6**	**-0.2**
AS31	**Alice Springs**	**26.50**	**222**	P		**P**	**22**	**50**	**50.4**	**+0.1**
ASAR	**Alice Springs**	**26.50**	**222**	P		**P**	**22**	**50**	**49.6**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=56,slow=8.7,SNR=24									
ASAR				S		**S**	**22**	**55**	**17.5**	**-3.6**
	comp=Z,0.4nm,0.8s,baz=12,slow=31,SNR=1.8									
ASAR				ScP		**ScP**	**22**	**57**	**51.1**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=44,slow=5.1,SNR=3.2									
ASAR				LR		LR	23	02	20.5	
	comp=Z,85nm,18.9s,baz=28,slow=39									
H11S3	**WAKE ISLAND Hy**	**26.56**	**30**	T		T	23	18	30.9	
	baz=210,slow=76,SNR=95									
H11S2	**WAKE ISLAND Hy**	**26.57**	**30**	T		T	23	18	33.3	
	baz=210,slow=76,SNR=15									
H11S1	**WAKE ISLAND Hy**	**26.58**	**30**	T		T	23	18	33.3	
	baz=210,slow=76,SNR=17									
SANI	**Sanana**	**27.17**	**274**	P		**P**	**22**	**50**	**58.1**	**+1.7**
	comp=Z,21nm,0.7s									
H11N1	**WAKE ISLAND Hy**	**27.70**	**29**	T		T	23	20	22.3	
	baz=208									
H11N3	**WAKE ISLAND Hy**	**27.71**	**29**	T		T	23	20	22.9	
	baz=208,slow=74,SNR=4.8									
H11N2	**WAKE ISLAND Hy**	**27.72**	**29**	T		T	23	20	22.3	
	baz=208,slow=74									
STKA	**Stephens Creek**	**29.22**	**200**	P		**P**	**22**	**51**	**15.9**	**+1.4**
	comp=Z,3.0nm,1.0s,baz=299,slow=16,SNR=1.7									
STKA				LR		LR	23	04	16.4	
	comp=Z,92nm,18.1s,baz=17,slow=39									
STKA	**Stephens Creek**	**29.22**	**200**	P		**P**	**22**	**51**	**15.6**	**+1.2**
BATI	**Baumata**	**29.70**	**257**	LR		LR	23	04	52.7	
	comp=Z,108nm,20.7s,baz=108,slow=40									
FITZ	**Fitzroy Crossi**	**30.01**	**241**	P		**P**	**22**	**51**	**20.5**	**-1.2**
	baz=30,SNR=55									
FITZ	**Fitzroy Crossi**	**30.01**	**241**	P		**P**	**22**	**51**	**20.5**	**-1.2**
MMRI	**Maumere**	**30.90**	**261**	P		**P**	**22**	**51**	**28.4**	**-1.2**
MMRI					IAmb	IAmb	22	51	35.7	
	comp=Z,28nm,1.0s									
WRKA	**Warakurna**	**31.32**	**227**	P		**P**	**22**	**51**	**32.3**	**-0.9**
	baz=31,SNR=21									
BBOO	**Buckleboo**	**32.28**	**208**	P		**P**	**22**	**51**	**42.1**	**+0.6**
BBOO					IAmb	IAmb	22	51	43.5	
	comp=Z,35nm,1.4s									
KAPI	**Kappang**	**33.22**	**268**	P		**P**	**22**	**51**	**46.8**	**-3.2**
KAPI					IAmb	IAmb	22	51	54.8	
	comp=Z,26nm,1.4s									
FORT	**Forrest**	**35.14**	**219**	P		**P**	**22**	**52**	**06.1**	**-0.3**
MYLDM	**Lahad Datu**	**35.88**	**285**	P		**P**	**22**	**52**	**13.0**	**+0.1**
MYLDM					IAmb	IAmb	22	52	16.5	
	comp=Z,20nm,1.1s									
PSA00	**Pilbara Seismi**	**36.39**	**239**	P		**P**	**22**	**52**	**16.3**	**-0.9**
PSA00					IAmb	IAmb	22	52	26.1	
	comp=Z,8.2nm,0.8s									
MEEK	**Meekatharra**	**39.56**	**233**	P		**P**	**22**	**52**	**43.5**	**-0.5**
	baz=40,SNR=39									
URZ	**Urewera**	**40.03**	**150**	P		**P**	**22**	**52**	**46.5**	**-1.1**
	comp=Z,3.8nm,0.5s,baz=39,slow=22,SNR=1.8									
URZ				PcP		**PcP**	**22**	**54**	**51.0**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=26,slow=3.1,SNR=3.7									
URZ	**Urewera**	**40.03**	**150**	P		**P**	**22**	**52**	**48.8**	**+1.2**
URZ					IAmb	IAmb	22	53	01.1	
	comp=Z,14nm,1.1s									
QRZ	**Quartz Range**	**40.09**	**157**	P		**P**	**22**	**52**	**48.3**	**+0.2**
BKZ	**Black Stump Fm**	**40.44**	**152**	P		**P**	**22**	**52**	**51.8**	**+0.8**
BKZ					IAmb	IAmb	22	53	09.9	
	comp=Z,24nm,1.4s									
NNZ	**Nelson**	**40.76**	**156**	P		**P**	**22**	**52**	**55.7**	**+2.1**
THZ	**Tophouse**	**41.04**	**157**	P		**P**	**22**	**52**	**57.1**	**+1.2**
THZ					IAmb	IAmb	22	52	58.1	
	comp=Z,20nm,1.0s									
YOJ	**Yonaguni jima**	**41.11**	**316**	P		**P**	**22**	**52**	**55.8**	**-0.9**
YOJ					IAmb	IAmb	22	52	58.6	
	comp=Z,21nm,0.7s									
TUWZ	**Tuamarina**	**41.17**	**156**	P		**P**	**22**	**52**	**58.2**	**+1.3**
BSWZ	**Blackbirch Sta**	**41.38**	**156**	P		**P**	**22**	**52**	**59.5**	**+0.8**
BFZ	**Birch Farm**	**41.54**	**153**	P		**P**	**22**	**53**	**00.1**	**+0.1**
YULB	**Yu-li**	**41.66**	**313**	P		**P**	**22**	**53**	**01.0**	**-0.2**
YULB					IAmb	IAmb	22	53	04.0	
	comp=Z,16nm,1.0s									
LTZ	**Lake Taylor**	**41.68**	**159**	P		**P**	**22**	**53**	**01.8**	**+0.6**
LTZ					IAmb	IAmb	22	53	06.8	
	comp=Z,14nm,0.6s									
MSWZ	**Moikau Station**	**41.70**	**155**	P		**P**	**22**	**53**	**01.7**	**+0.4**
PLWZ	**Palliser**	**41.83**	**155**	P		**P**	**22**	**53**	**02.5**	**+0.1**
KHZ	**Kahutara**	**41.84**	**157**	P		**P**	**22**	**53**	**01.9**	**-0.6**
KHZ					IAmb	IAmb	22	53	04.0	
	comp=Z,22nm,1.0s									
NACB	**Ninganchiao**	**41.92**	**314**	P		**P**	**22**	**53**	**03.4**	**+0.1**
NACB					IAmb	IAmb	22	53	07.0	
	comp=Z,15nm,0.8s									
RPZ	**Rata Peaks**	**42.08**	**161**	P		**P**	**22**	**53**	**05.4**	**+1.0**
	comp=Z,26nm,0.8s,baz=308,slow=3.8,SNR=9.2									
RPZ	**Rata Peaks**	**42.08**	**161**	P		**P**	**22**	**53**	**06.4**	**+2.0**
TPUB	**Ta-pu**	**42.09**	**313**	P		**P**	**22**	**53**	**04.5**	**-0.3**
TPUB					IAmb	IAmb	22	53	05.1	
	comp=Z,13nm,0.8s									
SSLB	**Suanglung**	**42.15**	**313**	P		**P**	**22**	**53**	**05.9**	**+0.7**
SSLB					IAmb	IAmb	22	53	11.1	
	comp=Z,16nm,1.2s									
JMN	**Monobe**	**42.21**	**336**	P		**P**	**22**	**53**	**06.0**	**+0.4**
YHNB	**Yeheng**	**42.39**	**315**	P		**P**	**22**	**53**	**06.0**	**-1.3**
LBZ	**Lake Benmore**	**42.40**	**162**	P		**P**	**22**	**53**	**08.0**	**+1.0**
LBZ					IAmb	IAmb	22	53	19.2	
	comp=Z,15nm,0.9s									
DCZ	**Deep Cove**	**42.54**	**165**	P		**P**	**22**	**53**	**08.8**	**+0.8**
JGF	**Kuroka**	**42.61**	**341**	P		**P**	**22**	**53**	**07.9**	**-0.9**
MQZ	**McQueen's Vall**	**42.62**	**159**	P		**P**	**22**	**53**	**09.9**	**+1.1**
MQZ					IAmb	IAmb	22	53	22.6	
	comp=Z,30nm,1.1s									
MLZ	**Mavora Lakes**	**42.70**	**164**	P		**P**	**22**	**53**	**09.8**	**+0.4**
MORW	**Morawa**	**42.70**	**231**	P		**P**	**22**	**53**	**09.6**	**-0.1**
	baz=43,SNR=11									
MORW	**Morawa**	**42.70**	**231**	P		**P**	**22**	**53**	**09.4**	**-0.3**
MORW					IAmb	IAmb	22	53	25.1	
	comp=Z,19nm,1.4s									
BLDU	**Ballidu**	**42.94**	**229**	P		**P**	**22**	**53**	**11.5**	**0.0**
	baz=43,SNR=8.0									
JWT	**Wachi**	**43.00**	**339**	P		**P**	**22**	**53**	**11.9**	**0.0**
JWT					IAmb	IAmb	22	53	30.6	
	comp=Z,21nm,1.3s									
JNU	**Nakatsue**	**43.00**	**332**	P		**P**	**22**	**53**	**12.0**	**0.0**
ODZ	**Otahua Downs**	**43.14**	**162**	P		**P**	**22**	**53**	**14.0**	**+1.1**
ODZ					IAmb	IAmb	22	53	18.6	
	comp=Z,23nm,1.4s									
WHZ	**Wether Hill Ro**	**43.14**	**165**	P		**P**	**22**	**53**	**14.1**	**+1.2**
WHZ					IAmb	IAmb	22	53	19.9	
	comp=Z,30nm,1.2s									
MJAR	**Matsushiro Arr**	**43.21**	**342**	P		**P**	**22**	**53**	**12.2**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=165,slow=5.9,SNR=3.2									
MJAR				PcP		**PcP**	**22**	**55**	**02.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=161,slow=3.4,SNR=6.0									
MJAR				LR		LR	23	09	39.7	
	comp=Z,32nm,21.7s,baz=210,slow=34									
MJAR	**Matsushiro Arr**	**43.21**	**342**	P		**P**	**22**	**53**	**12.9**	**-0.7**
MAT	**Matsushiro**	**43.21**	**342**	P		**P**	**22**	**53**	**12.1**	**-1.6**
JHS	**Saijyo**	**43.62**	**336**	P		**P**	**22**	**53**	**16.3**	**-0.7**
JHS					IAmb	IAmb	22	53	32.1	
	comp=Z,24nm,1.1s									
NWAO	**Narrogin (SRO)**	**43.74**	**225**	P		**P**	**22**	**53**	**18.6**	**+0.5**
NWAO					IAmb	IAmb	22	53	30.8	
	comp=Z,28nm,1.4s									
JSD	**Sado**	**44.58**	**343**	P		**P**	**22**	**53**	**24.5**	**-0.1**
JTU	**Tsushima**	**44.85**	**332**	P		**P**	**22**	**53**	**27.4**	**+0.6**
JTM	**Tenmabayashi**	**46.47**	**347**	P		**P**	**22**	**53**	**39.7**	**+0.2**
KSRS	**Korea Array**	**47.94**	**333**	P		**P**	**22**	**53**	**51.5**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=149,slow=8.7,SNR=20									
KSRS				LR		LR	23	13	14.4	
	comp=Z,30nm,18.7s,baz=167,slow=35									
KSAR	**Wonju Array Be**	**47.94**	**333**	P		**P**	**22**	**53**	**51.4**	**+0.4**
NJ2	**Nanjing**	**48.86**	**321**	*e*P		**P**	**22**	**53**	**59.8**	**+1.7**
NJ2				pmax		pmax				
	comp=Z,8.0nm,0.6s									
JKA	**Kamikawa-asahi**	**49.39**	**350**	P		**P**	**22**	**54**	**02.5**	**+0.6**
JKA				IAmb		IAmb	22	54	04.4	
	comp=Z,21nm,1.2s									
USA0B	**Ussuriysk Arra**	**52.13**	**341**	P		**P**	**22**	**54**	**23.7**	**+1.1**
USA0B				IAmb		IAmb	22	54	24.1	
	comp=Z,8.8nm,0.8s									
USRK	**Ussuriysk Ar.**	**52.13**	**341**	P		**P**	**22**	**54**	**22.9**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=174,slow=7.8,SNR=35									
USRK	**Ussuriysk Ar.**	**52.13**	**341**	P		**P**	**22**	**54**	**23.6**	**+0.9**
KULM	**Kulim**	**53.28**	**280**	P		**P**	**22**	**54**	**31.4**	**-0.3**
KULM				IAmb		IAmb	22	54	46.0	
	comp=Z,17nm,1.3s									
ENH	**Enshi**	**54.22**	**313**	IAmb		IAmb	22	54	39.6	
	comp=Z,17nm,1.2s									
CN2	**Changchun**	**54.22**	**336**	*e*P		**P**	**22**	**54**	**38.8**	**+0.8**
CN2				pmax		pmax				
	comp=Z,10.0nm,0.6s									
GYA	**Guiyang**	**54.49**	**307**	*e*P		**P**	**22**	**54**	**45.0**	**+4.5**
GYA				pmax		pmax				
	comp=Z,5.0nm,1.9s									
XAN	**Xi'an**	**56.66**	**316**	P		**P**	**22**	**54**	**56.0**	**+0.2**
XAN				pmax		pmax				
	comp=Z,14nm,0.6s									
XAN	**Xi'an**	**56.66**	**316**	P		**P**	**22**	**54**	**55.1**	**-0.8**
XAN				IAmb		IAmb	22	54	56.7	
	comp=Z,7.1nm,0.6s									
PEA0B	**Petropavlovsk-**	**57.61**	**3**	P		**P**	**22**	**55**	**03.0**	**+1.0**
PETK	**Petropavlovsk-**	**57.61**	**3**	P		**P**	**22**	**55**	**03.1**	**+1.1**
	comp=Z,7.3nm,0.6s,baz=163,slow=6.5,SNR=20									
PETK				PcP		**PcP**	**22**	**55**	**54.6**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=163,slow=5.4,SNR=2.6									
PETK				LR		LR	23	15	49.8	
	comp=Z,39nm,20.6s,baz=153,slow=32									
CM31	**Chiang Mai Arr**	**58.04**	**295**	P		**P**	**22**	**55**	**06.0**	**+0.2**
CM31				IAmb		IAmb	22	55	07.7	
	comp=Z,8.2nm,1.1s									
CMAR	**Chiang Mai Ar

BOOM	**Boomskoye usch**	**83.65**	**313**	P	**P**	**22 57 39.6**	**-1.4**
KURK	**Kurchatov**	**83.77**	**322**	P	**P**	**22 57 41.4**	**+0.2**
KURK				IAmb	IAmb	22 57 42.2	
	comp=Z,18nm,1.3s						
BMAR	**Burnt Mountain**	**83.94**	**20**	P	**P**	**22 57 42.7**	**+0.9**
NIL	**Nilore**	**84.09**	**304**	P	**P**	**22 57 43.7**	**+0.4**
NIL				IAmb	IAmb	22 57 44.5	
	comp=Z,9.5nm,0.8s						
HYT	**Haines Junctio**	**84.11**	**27**	P	**P**	**22 57 43.6**	**+0.7**
HYT				IAmb	IAmb	22 57 45.4	
	comp=Z,8.1nm,0.9s						
KBK	**Karagaybulak**	**84.40**	**313**	P	**P**	**22 57 45.8**	**+0.9**
	SNR=6.0						
DAWY	**Dawson**	**84.47**	**24**	P	**P**	**22 57 44.5**	**-0.1**
CHMS	**Chumysh**	**84.61**	**314**	P	**P**	**22 57 46.4**	**+0.7**
	SNR=8.7						
UCH	**Uchtor**	**84.63**	**313**	P	**P**	**22 57 47.8**	**+1.4**
	SNR=11						
FRU1	**Bishkek**	**84.66**	**314**	P	**P**	**22 57 45.8**	**-0.2**
FRU1				IAmb	IAmb	22 57 47.9	
	comp=Z,17nm,1.4s						
AAK	**Ala-Archa**	**84.72**	**313**	P	**P**	**22 57 47.2**	**+0.7**
	SNR=13						
USP	**Ospenovka**	**84.84**	**314**	P	**P**	**22 57 47.7**	**+0.8**
	SNR=15						
AML	**Almayashu**	**85.21**	**313**	P	**P**	**22 57 50.6**	**+1.4**
	SNR=22						
EKS2	**Erkin-Say**	**85.25**	**313**	P	**P**	**22 57 50.2**	**+1.2**
	SNR=9.5						
QSPA	**South Pole Qui**	**85.38**	**180**	P	**P**	**22 57 49.6**	**+0.4**
NRIK	**Noril'sk**	**85.85**	**341**	P	**P**	**22 57 51.0**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=128,slow=4.5,SNR=7.8						
NRIK				LR	LR	23 35 36.2	
	comp=Z,34nm,21.0s,baz=210,slow=35						
MAW	**Mawson**	**85.88**	**203**	P	**P**	**22 57 51.7**	**+0.2**
	comp=Z,3.6nm,0.5s,baz=107,slow=5.6,SNR=36						
MAW	**Mawson**	**85.88**	**203**	P	**P**	**22 57 51.5**	**0.0**
	baz=86,SNR=23						
MAW	**Mawson**	**85.88**	**203**	P	**P**	**22 57 51.5**	**0.0**
BBB	**Bella Bella**	**86.75**	**37**	LR	LR	23 30 05.7	
	comp=Z,16nm,19.2s,baz=290,slow=31						
BTK	**Batken**	**87.02**	**310**	P	**P**	**22 57 57.5**	**-0.2**
DLBC	**Dease Lake**	**87.05**	**31**	LR	LR	23 28 11.2	
	comp=Z,47nm,20.9s,baz=230,slow=30						
KK06	**Karatay Array**	**87.68**	**313**	P	**P**	**22 58 00.3**	**-0.5**
KK05	**Karatay Array**	**87.68**	**313**	P	**P**	**22 58 00.2**	**-0.6**
KK02	**Karatay Array**	**87.69**	**313**	P	**P**	**22 58 00.1**	**-0.8**
KK31	**Karatay Array**	**87.69**	**313**	P	**P**	**22 58 00.5**	**-0.3**
KKAR	**Karatay Array**	**87.69**	**313**	P	**P**	**22 58 00.7**	**-0.2**
KKAR	**Karatay Array**	**87.69**	**313**	IAmb	IAmb	22 58 01.7	
	comp=Z,5.1nm,1.1s						
KK01	**Karatay Array**	**87.69**	**313**	P	**P**	**22 58 00.7**	**-0.2**
KK04	**Karatay Array**	**87.69**	**313**	P	**P**	**22 58 01.1**	**+0.2**
KK07	**Karatay Array**	**87.69**	**313**	P	**P**	**22 58 00.7**	**-0.2**
KK03	**Karatay Array**	**87.70**	**313**	P	**P**	**22 58 00.7**	**-0.2**
KK09	**Karatay Array**	**87.70**	**313**	P	**P**	**22 58 01.0**	**+0.1**
KK08	**Karatay Array**	**87.71**	**313**	P	**P**	**22 58 01.0**	**+0.1**
INK	**Inuvik**	**88.15**	**21**	IAmb	IAmb	22 58 04.3	
	comp=Z,14nm,1.5s						
YBH	**Yreka Blue Hor**	**88.70**	**48**	LR	LR	23 29 03.1	
	comp=Z,87nm,21.7s,baz=286,slow=30						
BRVK	**Borovoye**	**89.31**	**323**	P	**P**	**22 58 07.7**	**-0.6**
NVAR	**Mina Array Bea**	**91.72**	**52**	P	**P**	**22 58 19.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=270,slow=5.4,SNR=2.2						
NVAR				LR	LR	23 32 54.5	
	comp=Z,52nm,20.4s,baz=268,slow=31						
YKA	**Yellowknife Ar**	**95.10**	**28**	LR	LR	23 37 53.8	
	comp=Z,25nm,19.8s,baz=0.0,slow=33						
ABKAR	**Akbulak array**	**95.50**	**319**	P	**P**	**22 58 35.0**	**-1.9**
ABKAR	**Akbulak array**	**95.50**	**319**	IAmb	IAmb	22 58 36.2	
	comp=Z,3.3nm,1.0s						
PDAR	**Pinedale Array**	**98.49**	**48**	P	Pdif	22 58 51.2	+0.2
	comp=Z,0.2nm,0.4s,baz=297,slow=6.0,SNR=2.2						
PDAR				LR	LR	23 35 22.7	
	comp=Z,39nm,20.2s,baz=314,slow=30						
ARCES	**ARCESS Array B**	**106.74**	**343**	PKiKP	**PKiKP**	**23 03 37.6**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=117,slow=3.1,SNR=1.5						
FINES	**FINESS Array B**	**110.97**	**336**	PKKPbc	PKKPbc	23 14 42.3	-2.3
	comp=Z,2.1nm,0.9s,baz=252,slow=2.8,SNR=5.9						
NOA	**NORSAR Array B**	**116.81**	**340**	PKP	**PKiKP**	**23 03 56.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=49,slow=2.0,SNR=5.3						
PLCA	**Paso Flores**	**119.78**	**143**	PKP	**PKiKP**	**23 04 03.0**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=284,slow=3.1,SNR=12						
BOSA	**Boshof**	**119.98**	**233**	PKP	**PKPdf**	**23 04 03.2**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=69,slow=5.1,SNR=3.3						
GERES	**GERESS Array B**	**124.02**	**329**	PKP	**PKiKP**	**23 04 10.7**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=79,slow=6.9,SNR=3.6						
EKA	**Eskdalemuir Ar**	**125.91**	**343**	PKP	**PKPdf**	**23 04 13.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=23,slow=3.0,SNR=6.4						
LPAZ	**La Paz**	**134.27**	**118**	PKP	**PKiKP**	**23 04 32.4**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=4.4,slow=1.9,SNR=11						
LPAZ	**La Paz**	**134.27**	**118**		**PKiKP**	**23 04 33.1**	**+0.3**
KEST	**Kesra**	**134.44**	**318**	PKP	**PKiKP**	**23 04 31.5**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=85,slow=4.0,SNR=2.3						
CPUP	**Villa Florida**	**137.43**	**138**	PKP	**PKPdf**	**23 04 36.9**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=222,slow=3.1,SNR=7.3						
CPUP	**Villa Florida**	**137.43**	**138**		**PKiKP**	**23 04 37.5**	**-0.7**
MDT	**Midelt**	**145.03**	**326**	PKPbc	**PKPdf**	**23 04 50.0**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=68,slow=6.1,SNR=14						
MDT	**Midelt**	**145.03**	**326**	P	**PKPdf**	**23 04 50.2**	**+0.3**
	SNR=8.5						
CZD	**Col de Zad**	**145.10**	**327**	P	**PKPdf**	**23 04 51.5**	**+1.2**
	SNR=17						
TZRR	**Tazzarine**	**147.08**	**325**	P	**PKPab**	**23 04 57.0**	**-0.2**
	SNR=13						
ZGR	**Zagora**	**147.60**	**324**	P	**PKPbc**	**23 04 58.0**	**+1.0**
	SNR=14						
OUZM	**OUZ**	**147.66**	**326**	P	**PKiKP**	**23 04 58.2**	**-1.1**
	SNR=14						
TORD	**Torodi Ar. Bea**	**150.51**	**289**	PKPbc	**PKPbc**	**23 05 04.4**	**-0.2**
	comp=Z,17nm,0.5s,baz=85,slow=2.3,SNR=203						
TORD	**Torodi Ar. Bea**	**150.51**	**289**		**PKPbc**	**23 05 04.0**	**-0.7**
BDFB	**Brasilia**	**151.01**	**134**	PKP	**PKPdf**	**23 05 00.4**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=171,slow=6.3,SNR=9.2						
BDFB				PKPbc	**PKPbc**	**23 05 06.0**	**+0.1**
	comp=Z,17nm,0.5s,baz=276,slow=1.2,SNR=23						
BDFB	**Brasilia**	**151.01**	**134**		**PKPdf**	**23 05 01.3**	**+1.2**
BDFB					**PKPbc**	**23 05 06.2**	**+0.3**
DBIC	**Dimbokro**	**157.95**	**276**	PKPab	**PKPab**	**23 05 42.3**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=94,slow=8.0,SNR=4.4						

INET ***31*** *22:50:50.0, 12°.36N×87°.88W, h15km, ML3.9*
SNET 31 22:50:54.8±0.9, 12°.69N×87°.88W, h53km±11km, ML3.4, 1D,
Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.61**	**359**	*e*P		Pn	22 51 07.6	-0.1
LCND				*e*S		Sn	22 51 17.6	+0.6
LCND				IAML			22 51 22.6	
	comp=Z,2µm,0.3s							
LCND				AML	AML		22 51 22.6	
	comp=Z,2µm,0.3s							
JUCU	**Jucuarįn**	**0.67**	**327**	*e*P		Pn	22 51 08.0	-0.4
JUCU				*e*S		Sn	22 51 19.3	+1.1
JUCU				AML	AML		22 51 23.5	
	comp=Z,2µm,0.2s							
VSM	**San Miguel**	**0.83**	**332**	*e*P		Pn	22 51 10.9	+0.3
LCY	**Lacayo**	**0.83**	**331**	*e*P		Pn	22 51 10.9	+0.4
RANC	**El Ranchito**	**0.84**	**332**	*e*P		Pn	22 51 08.0	-2.7
RANC				*e*S		Sn	22 51 20.8	-1.5
RANC				AML	AML		22 51 23.2	
	comp=Z,1µm,0.2s							
TECA	**Tecapa**	**1.00**	**323**	*e*P		Pn	22 51 13.3	+0.5
TECA				*e*S		Sn	22 51 27.8	+1.6
COEB	**Comit de Eme**	**1.02**	**322**	*e*P		Pn	22 51 13.6	+0.5
COEB				*e*S		Sn	22 51 28.3	+1.8
COEB				AML	AML		22 51 31.0	
	comp=Z,408nm,0.4s							
LFRS	**El Faro**	**1.48**	**309**	*e*P		Pn	22 51 19.7	+0.5
LFRS				*e*S		Sn	22 51 38.1	+0.6
TGUH	**Tegucigalpa,Un**	**1.48**	**23**	*e*P		Pn	22 51 19.1	-0.2
TGUH				*e*S		Sn	22 51 37.9	+0.3
LBRS	**Las Brisas**	**1.54**	**313**	*e*P		Pn	22 51 20.5	+0.5
LBRS				*e*S		Sn	22 51 40.1	+1.1
TACO	**Tacachico**	**1.92**	**312**	*e*P		Pn	22 51 25.5	+0.3

IDC ***31*** *23:00:02.5±0.8, 45°.11N×22°.24E, h0km, mb3.9/10, mb1 4.0/22, mb1mx3.8/51, mbtmp4.0/22, ML3.7/13, MS3.3/14, Ms1 3.3/14, ms1mx3.0/57, Error ellipse: s-maj=13.6km s-min=8.0km az=20.0*
MOS ***31*** *23:00:02.3±1.0, 45°.13N×22°.18E, h13km, mb4.5/6, MS3.3/15, Error ellipse: s-maj=5.4km s-min=3.3km az=109.3*
LDG ***31*** *23:00:02.6±0.1, 45°.18N×22°.23E, h4km, Ml4.0/23, Error ellipse: s-maj=3.7km s-min=2.8km az=20.0*
PDG ***31*** *23:00:03.0±0.6, 45°.14N×22°.21E, h9km±1km, MD4.4/1, ML4.1/13, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
NEIC ***31*** *23:00:04.7±1.9, 45°.18N±0°.03×22°.28E±0°.05, h14km±1km, Error ellipse: s-maj=6.3km s-min=3.2km az=49.0*
BUC ***31*** *23:00:04.1±0.2, 45°.13N×22°.25E, h9km±1km, ml4.7/55, Error ellipse: s-maj=1.6km s-min=1.3km az=57.0*
BEO ***31*** *23:00:04.1±0.3, 45°.12N×22°.30E, h12km±2km, ML4.5/19*
SOF ***31*** *23:00:04.4, 45°.16N×22°.30E, h34km, MD4.6*
NEIC ***31*** *23:00:04, 45°.17N×22°.29E, h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.27; Mθθ 1.47; Mφφ -1.21; Mrθ -0.13; Mθφ 1.09; Mφr 0.55; Fault plane solution: M0 1.83000×10¹⁵ NP1:φs207.21000°, δ77.19000°, λ-164.28000°. NP2:φs113.64000°, δ74.68000°, λ-13.29000°. Principal axes: T 1.8631, Plg2.0000°, Azm340.0000°; N -0.0649, Plg70.0000°, Azm245.0000°; P -1.7983, Plg20.0000°, Azm71.0000°;*
PRU ***31*** *23:00:05.1±0.0, 45°.22N×22°.08E, h0km, ML4.6*
ISC 31 23:00:04.0±0.9, 45°.16N±0°.01×22°.26E±0°.02, h10km±6km,
n523, σ1§37/640, mb4.2/24, MS3.6/7, 100C-95D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HERR	**Herculane**	**0.30**	**158**	⇑P		Pg	23 00 09.7	-0.3
HERR				⇑S		Sg	23 00 13.8	-0.3
HERR	**Herculane**	**0.30**	**158**	⇑P		Pg	23 00 09.7	-0.3
GZR	**Gura Zlata**	**0.43**	**57**	*e*Pg		Pg	23 00 12.0	-0.6
GZR	**Gura Zlata**	**0.43**	**57**	⇓P		Pg	23 00 12.2	-0.4
GZR				⇓S		Sg	23 00 17.7	-0.6
GZR	**Gura Zlata**	**0.43**	**57**	⇓P		Pg	23 00 12.2	-0.4
DJES	**Djerdap**	**0.53**	**159**	*e*Pg		Pg	23 00 13.7	-0.6
DJES				*e*Sg		Sg	23 00 20.5	-0.7
MDVR	**Moldovita**	**0.54**	**226**	⇓P		Pg	23 00 14.6	+0.1
MDVR				⇓S		Sg	23 00 22.0	+0.3
MDVR	**Moldovita**	**0.54**	**226**	⇓P		Pg	23 00 14.6	+0.1
BZS	**Buzias**	**0.65**	**316**	*e*Pg		Pg	23 00 16.7	+0.1
BZS				*e*Sg		Sb	23 00 26.7	+0.3
BZS	**Buzias**	**0.65**	**316**	⇑P		Pg	23 00 16.6	+0.1
BZS				⇑S		Sg	23 00 25.0	0.0
BZS	**Buzias**	**0.65**	**316**	⇑P		Pg	23 00 16.6	+0.1
BANR	**Banloc**	**0.82**	**286**	⇓P		Pb	23 00 20.7	+0.3
BANR				⇑S		Sb	23 00 32.5	+0.9
BANR	**Banloc**	**0.82**	**286**	⇓P		Pb	23 00 20.7	+0.3
BANR	**Banloc**	**0.82**	**286**			Pb	23 00 20.7	+0.3
BANR						Sb	23 00 32.7	+1.1
SRE	**Strehaia**	**0.83**	**126**	⇑P		Pb	23 00 20.6	0.0
SRE				⇑S		Sb	23 00 32.5	+0.6
SRE	**Strehaia**	**0.83**	**126**	⇑P		Pb	23 00 20.6	0.0
SRE	**Strehaia**	**0.83**	**126**	P		Pb	23 00 20.6	0.0
SRE							23 00 32.5	
SRE	**Strehaia**	**0.83**	**126**			Pb	23 00 20.6	0.0
SRE						Sb	23 00 32.5	+0.6
KUBS	**Kucevo**	**0.85**	**209**	*e*Pg		Pg	23 00 19.6	-0.9
KUBS				*e*Sg		Sg	23 00 30.8	-0.8
DEV	**Deva**	**0.85**	**32**	⇑P		Pg	23 00 20.1	-0.3
DEV	**Deva**	**0.85**	**32**	⇑P		Pg	23 00 20.3	-0.3
DEV	**Deva**	**0.85**	**32**	P		Pg	23 00 20.1	-0.4
DEV							23 00 31.4	
DEV	**Deva**	**0.85**	**32**			Pg	23 00 20.1	-0.4
DEV						Sg	23 00 31.4	-0.3
TIM	**Timisoara**	**0.93**	**309**	⇑P		Pb	23 00 22.7	+0.5
TIM				⇑S		Sn	23 00 36.0	-0.6
TIM	**Timisoara**	**0.93**	**309**	⇑P		Pb	23 00 22.7	+0.5
TIM	**Timisoara**	**0.93**	**309**			Pb	23 00 22.7	+0.5
TIM						Sn	23 00 36.0	-0.6
PUNG	**Punghina**	**1.00**	**151**	⇑P		Pg	23 00 22.7	-0.6
PUNG				⇑S		Sg	23 00 36.2	-0.1
PUNG	**Punghina**	**1.00**	**151**	⇑P		Pg	23 00 22.7	-0.6
PUNG	**Punghina**	**1.00**	**151**			Pg	23 00 22.7	-0.6
PUNG						Sg	23 00 36.2	-0.1
SVIS	**Svilajnac**	**1.16**	**220**	*e*Pg		Pb	23 00 25.6	-0.6
SVIS				*e*Sg		Sg	23 00 41.5	-0.9
SVIS				*e*Sg		Sb	23 00 41.4	+0.1
SIRR	**Siria**	**1.19**	**339**	⇓P		Pb	23 00 26.5	-0.2
SIRR				⇓S		Sn	23 00 43.2	+0.3
SIRR	**Siria**	**1.19**	**339**	⇓P		Pb	23 00 26.5	-0.2
SIRR	**Siria**	**1.19**	**339**			Pb	23 00 26.5	-0.2
SIRR						Sg	23 00 42.5	+0.3
ZAGS	**Zajecar**	**1.34**	**181**	*e*Pg		Pn	23 00 27.6	-1.2
ZAGS				*e*Sg		Sb	23 00 46.0	-0.5
BAIL	**Bailesti**	**1.38**	**145**	⇑P		Pn	23 00 29.1	-0.1
BAIL				⇓S		Sg	23 00 48.9	+0.6
BAIL	**Bailesti**	**1.38**	**145**	⇑P		Pn	23 00 29.1	-0.1
BLKB	**Belogradchik**	**1.56**	**169**	⇑P		Pn	23 00 31.2	-0.6
BLKB				⇓S		Sn	23 00 52.3	+0.1
BLKB	**Belogradchik**	**1.56**	**169**	⇑P		Pn	23 00 31.2	-0.6
BOVS	**Bovan**	**1.57**	**195**	*e*Pg		Pn	23 00 31.0	-1.0
BOVS				*e*Sg		Sg	23 00 53.5	-1.1
TRUS	**Trudelj**	**1.62**	**235**	*e*Pg		Pn	23 00 32.6	0.0
TRUS				*e*Sg		Sg	23 00 56.3	+0.2
GRUS	**Gruza**	**1.68**	**222**	*e*Pg		Pn	23 00 33.6	+0.1
GRUS				*e*Sg		Sg	23 00 58.1	0.0
ARR	**Arges**	**1.69**	**82**	⇓P		Pn	23 00 34.1	+0.5
ARR				⇓S		Sn	23 00 56.0	+0.7
ARR	**Arges**	**1.69**	**82**	⇓P		Pn	23 00 34.1	+0.5
ARR	**Arges**	**1.69**	**82**			Pn	23 00 34.1	+0.5
ARR						Sn	23 00 56.1	+0.8
MDB	**Medias**	**1.78**	**56**	⇓P		Pn	23 00 35.9	+1.1
MDB				⇑S		Sb	23 00 59.8	+0.6
MDB	**Medias**	**1.78**	**56**	⇓P		Pn	23 00 35.9	+1.1
CJR	**Cluj-Napoca**	**1.81**	**30**	⇓P		Pn	23 00 35.6	+0.3
CJR				⇓S		Sb	23 01 01.4	+1.3
CJR	**Cluj-Napoca**	**1.81**	**30**	⇓P		Pn	23 00 35.6	+0.3
ZAPS	**Zavoj**	**1.90**	**172**	*e*Pg		Pn	23 00 36.4	-0.1
ZAPS				*e*Sg		Sb	23 01 03.5	+0.9
DIVS	**Divibare**	**1.94**	**238**	*e*Pg		Pb	23 00 38.5	-0.9
DIVS				*e*Sg		Sg	23 01 05.3	-0.9
DIVS	**Divibare**	**1.94**	**238**	*e*Pn		Pn	23 00 36.7	-0.3
DIVS	**Divibare**	**1.94**	**238**	Pn		Pn	23 00 36.7	-0.3
DIVS				Sn		Sn	23 01 01.9	+0.5
STFAR	**Stefanesti-Arg**	**1.94**	**98**	⇓P		Pn	23 00 38.3	+1.3
STFAR	**Stefanesti-Arg**	**1.94**	**98**	⇓P		Pn	23 00 38.3	+1.3
VOIR		**1.99**	**81**	⇓P		Pn	23 00 38.7	+1.0
VOIR				⇓S		Sb	23 01 05.1	-0.1
VOIR		**1.99**	**81**	⇓P		Pn	23 00 38.7	+1.0
VOIR		**1.99**	**81**			Pn	23 00 38.8	+1.0
VOIR						Sb	23 01 05.1	-0.1
HUMR	**Humele**	**2.04**	**107**	⇓P		Pn	23 00 38.2	-0.1
HUMR				⇑S		Sn	23 01 04.8	+1.1
HUMR	**Humele**	**2.04**	**107**	⇓P		Pn	23 00 38.2	-0.1
TEKS	**Tekeris**	**2.04**	**254**	*e*Pn		Pn	23 00 38.3	0.0
TEKS	**Tekeris**	**2.04**	**254**	*e*Pn		Pn	23 00 38.3	0.0
SELS	**Selova**	**2.10**	**203**	*e*Pg		Pb	23 00 41.3	-1.0
DOPR	**Dopca**	**2.34**	**69**	⇑P		Pn	23 00 43.9	+1.3
DOPR				⇑S		Sn	23 01 13.3	+1.9
DOPR	**Dopca**	**2.34**	**69**	⇑P		Pn	23 00 43.9	+1.3
COPA	**Copaceanca**	**2.35**	**115**	⇑P		Pn	23 00 42.0	-0.5
COPA				⇑S		Sn	23 01 12.4	+1.1
COPA	**Copaceanca**	**2.35**	**115**	⇑P		Pn	23 00 42.0	-0.5
ARCR	**ARCALIA**	**2.42**	**36**	⇑P		Pn	23 00 44.0	+0.4
ARCR				⇓S		Sn	23 01 15.8	+2.6
ARCR	**ARCALIA**	**2.42**	**36**	⇑P		Pn	23 00 44.0	+0.4
BBLS	**Lazići**	**2.42**	**239**	*e*Pn		Pn	23 00 43.7	+0.1
BBLS	**Lazići**	**2.42**	**239**	*e*Pn		Pn	23 00 43.7	+0.1
SJES	**Sjenica**	**2.51**	**222**	*e*Pn		Pn	23 00 44.7	-0.2
CEI	**Carei**	**2.53**	**3**	⇑P		Pn	23 00 45.6	+0.5
CEI	**Carei**	**2.53**	**3**	⇑P		Pn	23 00 45.6	+0.5
RUDO	**Rudo**	**2.58**	**234**	*e*Pn		Pn	23 00 44.8	-1.0
HAPS	**Han Pijesak,Bl**	**2.59**	**247**	*e*Pn		Pn	23 00 45.0	-1.1
HAPS	**Han Pijesak,Bl**	**2.59**	**247**	*e*Pn		Pn	23 00 44.8	-1.3
MLR	**Muntele Rosu**	**2.62**	**81**	Pn		Pn	23 00 48.4	+1.9
	30nm,0.3s,baz=310,slow=6.3,SNR=90							
MLR				Lg		Lg	23 01 25.7	
	90nm,0.3s,baz=285,slow=23,SNR=10							
MLR	**Muntele Rosu**	**2.62**	**81**	⇓P		Pn	23 00 48.5	+2.0
MLR	**Muntele Rosu**	**2.62**	**81**	⇓P		Pn	23 00 48.5	+2.0
MLR	**Muntele Rosu**	**2.62**	**81**	Pn		Pn	23 00 48.1	+1.6
VTS	**Vitosha**	**2.63**	**164**	*i* P		Pn	23 00 46.2	-0.5
OZUR		**2.65**	**68**	⇓P		Pn	23 00 48.1	+1.3
OZUR				⇑S		Sn	23 01 20.4	+1.4
OZUR		**2.65**	**68**	⇓P		Pn	23 00 48.1	+1.3
BMR	**Baia Mare**	**2.66**	**18**	⇑P		Pn	23 00 47.0	+0.1
BMR				⇓S		Sn	23 01 22.2	+3.1
BMR	**Baia Mare**	**2.66**	**18**	⇑P		Pn	23 00 47.0	+0.1
BOSS	**Bosilegrad**	**2.67**	**176**	*e*Pn		Pn	23 00 46.6	-0.4
ZIMR		**2.68**	**123**	⇓P		Pn	23 00 46.4	-0.8
ZIMR		**2.68**	**123**	⇓P		Pn	23 00 46.4	-0.8
SECR		**2.70**	**91**	⇓P		Pn	23 00 48.9	+1.5
SECR		**2.70**	**91**	⇓P		Pn	23 00 48.9	+1.5
SECR		**2.70**	**91**	⇑S		Sn	23 01 23.1	+2.9
JOSR	**Joseni**	**2.75**	**55**	⇑P		Pn	23 00 48.8	+0.6
JOSR				⇓S		Sn	23 01 24.4	+3.0
JOSR	**Joseni**	**2.75**	**55**	⇑P		Pn	23 00 48.8	+0.6
PLE	**Pljevlja**	**2.76**	**229**	⇓P		Pn	23 00 48.1	-0.2
PLE				*i* Sn		Sn	23 01 23.0	+1.3
BUC1	**Bucharest**	**2.80**	**105**	⇑P		Pn	23 00 49.2	+0.3
BUC1				⇓S		Sn	23 01 23.5	+0.8
BUC1	**Bucharest**	**2.80**	**105**	⇑P		Pn	23 00 49.2	+0.3
SGRR	**Singureni**	**2.81**	**108**	⇓P		Pn	23 00 48.5	-0.4
SGRR				⇑S		Sn	23 01 22.9	+0.1
SGRR	**Singureni**	**2.81**	**108**	⇓P		Pn	23 00 48.5	-0.4
SGRR	**Singureni**	**2.81**	**108**			Pn	23 00 48.5	-0.4
IVA	**Berane**	**2.85**	**218**	*i*Pn		Pn	23 00 49.6	0.0
IVA				*i* Sn		Sn	23 01 25.4	+1.3
INCR	**INCERC-Sediu C**	**2.87**	**103**	⇓P		Pn	23 00 49.8	0.0
INCR				⇑S		Sn	23 01 25.1	+0.8
INCR	**INCERC-Sediu C**	**2.87**	**103**	⇓P		Pn	23 00 49.8	0.0
SULR		**2.88**	**98**	⇓P		Pn	23 00 50.3	+0.4
SULR				⇑S		Sn	23 01 25.4	+0.9
SULR		**2.88**	**98**	⇓P		Pn	23 00 50.3	+0.4
PGB	**Panagyurishte**	**2.95**	**151**	*i* P		Pn	23 00 50.7	-0.2
KOME	**Kolasin**	**3.04**	**222**	⇑*i*Pn		Pn	23 00 52.1	-0.1
KOME				*i* Sn		Sn	23 01 30.0	+1.3
PVY	**Plav**	**3.06**	**214**	⇓*i*Pn		Pn	23 00 52.4	-0.1
PVY				*i* Sn		Sn	23 01 30.4	+1.3
UPM	**Unac-Piva**	**3.10**	**232**	⇓*i*Pn		Pn	23 00 53.0	-0.2
UPM				*i* Sn		Sn	23 01 31.5	+1.1
UPM	**Unac-Piva**	**3.10**	**232**	*e*Pn		Pn	23 00 53.6	+0.4
PLOR	**Plostina**	**3.16**	**76**	⇑P		Pn	23 00 54.8	+0.9
PLOR	**Plostina**	**3.16**	**76**	⇑P		Pn	23 00 54.8	+0.9
BURAR	**Bucovina Array**	**3.20**	**39**	⇓P		Pn	23 00 55.4	+1.0
BURAR	**Bucovina Array**	**3.20**	**39**	⇓P		Pn	23 00 55.4	+1.0
BURAR	**Bucovina Array**	**3.20**	**39**			Pn	23 00 54.7	+0.3
PSZ	**Piszkesteto**	**3.21**	**330**	⇑P		Pn	23 00 54.0	-0.4
PSZ	**Piszkesteto**	**3.21**	**330**	⇑P		Pn	23 00 54.0	-0.4
PSZ	**Piszkesteto**	**3.21**	**330**	P		Pn	23 00 54.1	-0.4
PSZ	**Piszkesteto**	**3.21**	**330**	Pn		Pn	23 00 54.1	-0.4
BUR08	**Bucovina Ar. S**	**3.21**	**38**	Pn		Pn	23 00

TIR				⇓S		Sn	23 01 58.2	+1.3		
TIR	**Tirane**	**4.19**	**206**	⇓P		**Pn**	**23 01 07.6**	**-0.3**		
TIR	**Tirane**	**4.19**	**206**	P		**Pn**	**23 01 09.4**	**+1.4**		
TIR	**Tirane**	**4.19**	**206**			**Pn**	**23 01 09.3**	**+1.4**		
CVDA	**Cernavoda**	**4.20**	**99**	⇑P		**Pn**	**23 01 08.0**	**0.0**		
CVDA				⇓S		**Sn**	**23 01 57.2**	**+0.2**		
CVDA	**Cernavoda**	**4.20**	**99**	⇑P		**Pn**	**23 01 08.0**	**0.0**		
IAS	**Iasi**	**4.21**	**59**	⇑P		**Pn**	**23 01 09.2**	**+1.1**		
IAS				⇓S		**Sn**	**23 02 00.2**	**+2.9**		
IAS	**Iasi**	**4.21**	**59**	⇑P		**Pn**	**23 01 09.2**	**+1.1**		
TPGR	**Topolog**	**4.38**	**92**	⇓P		**Pn**	**23 01 11.0**	**+0.5**		
TPGR	**Topolog**	**4.38**	**92**	⇓P		**Pn**	**23 01 11.0**	**+0.5**		
KOGS	**Kog**	**4.40**	**289**	*i* Pn		**Pn**	**23 01 10.8**	**0.0**		
SOH	**Sokhos**	**4.41**	**169**	P		**Pn**	**23 01 10.0**	**-1.0**		
LANS	**Liptovska Anna**	**4.42**	**336**	*e*P		**Pn**	**23 01 12.2**	**+1.0**		
LANS	**Liptovska Anna**	**4.42**	**336**	*e*PN		**Pn**	**23 01 12.2**	**+1.0**		
TIRR	**Tirgusor**	**4.43**	**97**	⇓P		**Pn**	**23 01 10.9**	**-0.4**		
TIRR	**Tirgusor**	**4.43**	**97**	⇓P		**Pn**	**23 01 10.9**	**-0.4**		
TIRR	**Tirgusor**	**4.43**	**97**	P		**Pn**	**23 01 10.6**	**-0.7**		
TIRR	**Tirgusor**	**4.43**	**97**	Pn		**Pn**	**23 01 10.6**	**-0.7**		
ZAG	**Zagreb**	**4.46**	**281**	*e*Pn		**Pn**	**23 01 11.8**	**+0.1**		
NIE	**Niedzica**	**4.47**	**343**	*e*Pn		**Pn**	**23 01 13.3**	**+1.5**		
NIE				*e*Sn		**Sn**	**23 02 03.7**	**-0.1**		
KAVA	**Kavala**	**4.47**	**158**	P		**Pn**	**23 01 11.0**	**-0.8**		
KWP	**Kalwaria Pacla**	**4.49**	**4**	*e*Pn		**Pn**	**23 01 13.4**	**+1.4**		
KWP				*e*Pg		**Pg**	**23 01 33.3**	**+3.4**		
KWP				*e*Sn		**Sn**	**23 02 04.7**	**+0.5**		
KWP	**Kalwaria Pacla**	**4.49**	**4**	P		**Pn**	**23 01 13.3**	**+1.3**		
KWP	**Kalwaria Pacla**	**4.49**	**4**	Pn		**Pn**	**23 01 13.3**	**+1.3**		
MFTR	**Murfatlar**	**4.50**	**100**	⇑P		**Pn**	**23 01 12.9**	**+0.7**		
MFTR	**Murfatlar**	**4.50**	**100**	⇑P		**Pn**	**23 01 12.9**	**+0.7**		
THE	**Thessaloniki**	**4.55**	**173**	P		**Pn**	**23 01 12.3**	**-0.6**		
HORT	**Hortiatis**	**4.60**	**172**	P		**Pn**	**23 01 12.8**	**-0.8**		
TLCR		**4.64**	**87**	⇑P		**Pn**	**23 01 14.8**	**+0.7**		
TLCR				⇓S		**Sn**	**23 02 08.9**	**+1.1**		
TLCR		**4.64**	**87**	⇑P		**Pn**	**23 01 14.8**	**+0.7**		
EDRB	**Edirne**	**4.65**	**134**	P		**Pn**	**23 01 16.9**	**+2.7**		
RDO	**Rodhopi**	**4.67**	**148**	P		**Pn**	**23 01 13.5**	**-1.0**		
MODS	**Modra-Piesok**	**4.70**	**315**	*e*P		**Pn**	**23 01 13.4**	**-1.5**		
MODS				*e*			23 02 04.7			
MODS	**Modra-Piesok**	**4.70**	**315**	*e*PN		**Pn**	**23 01 13.3**	**-1.6**		
MODS				*e*SN		**Sn**	**23 02 04.7**	**-4.7**		
GCIS	**Gornji Cirnik**	**4.72**	**281**	⇑*i* Pn		**Pn**	**23 01 15.4**	**+0.2**		
SMOL	**Smolenice**	**4.72**	**317**	*e*P		**Pn**	**23 01 14.8**	**-0.4**		
SMOL				*e*			23 02 07.2			
SMOL	**Smolenice**	**4.72**	**317**	*e*PN		**Pn**	**23 01 14.8**	**-0.4**		
SMOL				*e*SN		**Sn**	**23 02 07.2**	**-2.7**		
MANR	**Mangalia**	**4.72**	**104**	⇓P		**Pn**	**23 01 14.8**	**-0.4**		
MANR	**Mangalia**	**4.72**	**104**	⇓P		**Pn**	**23 01 14.8**	**-0.4**		
LVV	**L'vov**	**4.82**	**14**	*e*P		**Pn**	**23 01 18.5**	**+2.0**		
LVV				*e*S		**Sn**	**23 02 13.8**	**+1.5**		
NEST	**Nestorio**	**4.82**	**191**	P		**Pn**	**23 01 16.8**	**+0.1**		
CRES	**Cresnjev**	**4.83**	**280**	*e*Pn		**Pn**	**23 01 16.6**	**-0.1**		
JAVC	**Velka Javorina**	**4.85**	**321**	*e*PN		**Pn**	**23 01 17.1**	**0.0**		
PLG	**Polygyros**	**4.86**	**169**	P		**Pn**	**23 01 16.3**	**-0.9**		
KZN	**Kozani**	**4.86**	**184**	P		**Pn**	**23 01 17.4**	**+0.2**		
MILM	**Milestii Mici**	**4.89**	**67**	⇑P		**Pn**	**23 01 18.6**	**+1.1**		
MILM	**Milestii Mici**	**4.89**	**67**	⇑P		**Pn**	**23 01 18.6**	**+1.1**		
GROS	**Grobnik**	**4.90**	**288**	⇑*i* Pn		**Pn**	**23 01 17.6**	**-0.2**		
GROS				*e*Sn		**Sn**	**23 02 11.1**	**-3.4**		
KIS	**Kishinev**	**4.92**	**66**	*e*P		**Pn**	**23 01 18.2**	**+0.3**		
	comp=N,16nm,0.2s									
KIS				LRM		MLR	23 03 24.0			
	comp=N,290nm,4.0s									
KIS	**Kishinev**	**4.92**	**66**	*e*P		**Pn**	**23 01 18.2**	**+0.3**		
KIS				MLR		MLR				
	comp=Z,290nm,4.0s									
OUR	**Ouranopolis**	**4.98**	**165**	P		**Pn**	**23 01 17.5**	**-1.3**		
LIT	**Litokhoron**	**5.06**	**178**	P		**Pn**	**23 01 18.9**	**-1.0**		
LIT	**Litokhoron**	**5.06**	**178**	P		**Pn**	**23 01 19.1**	**-0.8**		
LIT	**Litokhoron**	**5.06**	**178**			**Pn**	**23 01 19.1**	**-0.8**		
ALN	**Alexandroupoli**	**5.08**	**146**	P		**Pn**	**23 01 19.2**	**-1.0**		
ALN	**Alexandroupoli**	**5.08**	**146**	P		**Pn**	**23 01 19.5**	**-0.7**		
ALN	**Alexandroupoli**	**5.08**	**146**	Pn		**Pn**	**23 01 19.5**	**-0.7**		
ARSA	**Arzberg**	**5.12**	**297**	*i* Pn		**Pn**	**23 01 21.1**	**+0.4**		
	comp=Z,72nm,0.4s,SNR=65									
ARSA				*e*Sn		**Sn**	**23 02 17.3**	**-2.6**		
	comp=Z,47nm,0.4s									
SORM	**Soroca**	**5.14**	**52**	⇓P		**Pn**	**23 01 21.0**	**0.0**		
SORM	**Soroca**	**5.14**	**52**	⇓P		**Pn**	**23 01 21.0**	**0.0**		
CONA	**Conrad Observa**	**5.21**	**304**	*e*Pn		**Pn**	**23 01 21.9**	**-0.1**		
	comp=Z,16nm,0.4s,SNR=11									
CONA				*e*Sn		**Sn**	**23 02 19.2**	**-3.0**		
	comp=Z,76nm,0.6s									
VISS	**Visnje**	**5.26**	**280**	⇑*i* Pn		**Pn**	**23 01 23.0**	**+0.4**		
SOKA	**Soboth**	**5.27**	**289**	*e*Pn		**Pn**	**23 01 22.6**	**-0.2**		
	comp=Z,38nm,0.6s,SNR=14									
SOKA				*e*Sn		**Sn**	**23 02 20.7**	**-2.8**		
	comp=Z,119nm,0.5s									
OJC	**Ojcow**	**5.33**	**343**	*e*Pn		**Pn**	**23 01 24.4**	**+0.8**		
OJC				*e*Sn		**Sn**	**23 02 22.8**	**-2.2**		
OJC	**Ojcow**	**5.33**	**343**	P		**Pn**	**23 01 24.3**	**+0.7**		
OJC	**Ojcow**	**5.33**	**343**	Pn		**Pn**	**23 01 24.3**	**+0.7**		
PAIG	**Paliouri**	**5.33**	**168**	P		**Pn**	**23 01 22.2**	**-1.4**		
VNDS	**Vrh nad Dolski**	**5.38**	**283**	⇑*i* Pn		**Pn**	**23 01 24.5**	**+0.2**		
VNDS				*e*Sn		**Sn**	**23 02 23.1**	**-3.3**		
OKC	**Ostrava-Krasne**	**5.45**	**331**	*e*Pn		**Pn**	**23 01 25.5**	**+0.3**		
OKC				*e*SN		**Sn**	**23 02 25.7**	**-2.2**		
OKC				AMS		AMS	23 03 50.0			
	comp=Z,700nm,11.6s									
OKC	**Ostrava-Krasne**	**5.45**	**331**	*e*P		**Pn**	**23 01 25.5**	**+0.3**		
OKC				*e*			23 02 25.7			
OKC				MLR		MLR				
	comp=Z,700nm,11.6s									
RIY	**Rijeka**	**5.50**	**274**	*e*Pn		**Pn**	**23 01 27.2**	**+1.4**		
LJU	**Ljubljana**	**5.50**	**282**	*e*Pn		**Pn**	**23 01 25.9**	**0.0**		
CEY	**Cerknica**	**5.54**	**279**	*e*Pn		**Pn**	**23 01 27.1**	**+0.6**		
OBKA	**Obir**	**5.56**	**287**	*i* Pn		**Pn**	**23 01 26.9**	**+0.2**		
	comp=Z,8.1nm,0.3s									
OBKA				*e*Sn		**Sn**	**23 02 29.6**	**-1.1**		
	comp=Z,42nm,0.5s									
KRUC	**Moravsky**	**5.59**	**316**	*e*PN		**Pn**	**23 01 26.2**	**-1.0**		
KRUC				*e*SN		**Sn**	**23 02 28.4**	**-3.0**		
MORC	**Moravsky Berou**	**5.62**	**327**	⇑P		**Pn**	**23 01 27.5**	**-0.1**		
MORC	**Moravsky Berou**	**5.62**	**327**	⇑P		**Pn**	**23 01 27.5**	**-0.1**		
MORC	**Moravsky Berou**	**5.62**	**327**	*e*PN		**Pn**	**23 01 27.4**	**-0.1**		
MORC				*e*SN		**Sn**	**23 02 29.9**	**-2.3**		
MORC	**Moravsky Berou**	**5.62**	**327**	P		**Pn**	**23 01 27.5**	**-0.1**		
MORC	**Moravsky Berou**	**5.62**	**327**	Pn		**Pn**	**23 01 27.5**	**-0.1**		
VRAC	**Vranov**	**5.67**	**319**	Pn		**Pn**	**23 01 27.8**	**-0.4**		
	comp=Z,4.8nm,0.3s,baz=134,slow=13,SNR=43									
VRAC				Sn		**Sn**	**23 02 30.0**	**-3.3**		
	comp=Z,9.6nm,0.3s,baz=312,slow=14,SNR=10									
VRAC	**Vranov**	**5.67**	**319**	⇑P		**Pn**	**23 01 27.8**	**-0.4**		
VRAC	**Vranov**	**5.67**	**319**	⇑P		**Pn**	**23 01 27.8**	**-0.4**		
VRAC	**Vranov**	**5.67**	**319**	*e*PN		**Pn**	**23 01 27.7**	**-0.5**		
VRAC				*e*SN		**Sn**	**23 02 30.3**	**-3.0**		
SCTE	**Santa Cesarea**	**5.80**	**210**	Pn		**Pn**	**23 01 29.6**	**-0.3**		
SGRT	**San Giovanni R**	**5.83**	**237**	Pn		**Pn**	**23 01 30.5**	**-0.1**		
TRI	**Trieste**	**6.00**	**278**	P		**Pn**	**23 01 33.7**	**+0.8**		
TRI	**Trieste**	**6.00**	**278**	Pn		**Pn**	**23 01 33.7**	**+0.8**		
AGG	**Agios Georgios**	**6.13**	**179**	P		**Pn**	**23 01 34.4**	**-0.2**		
AGG	**Agios Georgios**	**6.13**	**179**			**Pn**	**23 01 34.4**	**-0.2**		
MOA	**Molln**	**6.14**	**299**	*e*Pn		**Pn**	**23 01 35.9**	**+1.2**		
	comp=Z,21nm,0.7s,SNR=14									
MOA				*e*Sn		**Sn**	**23 02 44.9**	**0.0**		
	comp=Z,50nm,0.5s									
KRLC	**Kraliky**	**6.16**	**325**	*e*PN		**Pn**	**23 01 35.0**	**0.0**		
KRLC				*e*SN		**Sn**	**23 02 42.6**	**-2.8**		
KRLC				AMS		AMS	23 04 20.0			
	comp=Z,500nm,12.4s									
KRLC	**Kraliky**	**6.16**	**325**	*e*P		**Pn**	**23 01 35.0**	**0.0**		
KRLC				*e*			23 02 42.6			
KRLC				MLR		MLR				
	comp=Z,500nm,12.4s									
MYKA	**Terra Mystica**	**6.19**	**287**	*i* Pn		**Pn**	**23 01 36.4**	**+0.8**		
	comp=Z,5.2nm,0.5s									
MYKA				*e*Sn		**Sn**	**23 02 44.4**	**-2.0**		
	comp=Z,30nm,0.5s									
TREC	**Trest**	**6.20**	**314**	*e*PN		**Pn**	**23 01 34.7**	**-0.8**		
TREC				*e*SN		**Sn**	**23 02 43.4**	**-2.9**		
TREC				AMS		AMS	23 04 50.0			
	comp=Z,600nm,9.2s									
TREC	**Trest**	**6.20**	**314**	*e*P		**Pn**	**23 01 34.7**	**-0.8**		
TREC				*e*			23 02 43.4			
TREC				MLR		MLR				
	comp=Z,600nm,9.2s									
PRED	**Cave del Predi**	**6.21**	**285**			**Pn**	**23 01 36.5**	**+0.7**		
KBA	**Koelnbreinsper**	**6.49**	**290**	*i* Pn		**Pn**	**23 01 40.3**	**+0.6**		
	comp=Z,11nm,0.4s									
KBA				*e*Sn		**Sn**	**23 02 51.1**	**-2.6**		
	comp=Z,34nm,0.3s									
DPC	**Dobruska-Polom**	**6.56**	**325**	*e*PN		**Pn**	**23 01 39.9**	**-0.6**		
DPC				*e*SN		**Sn**	**23 02 51.3**	**-4.0**		
DPC				AMS		AMS	23 04 30.0			
	comp=Z,500nm,10.9s									
DPC	**Dobruska-Polom**	**6.56**	**325**	*e*P		**Pn**	**23 01 39.9**	**-0.6**		
DPC				*e*			23 02 51.3			
DPC				MLR		MLR				
	comp=Z,500nm,10.9s									
PRK	**Paraskevi**	**6.62**	**152**	P		**Pn**	**23 01 41.6**	**+0.4**		
ZOU	**Zoufplan**	**6.63**	**285**			**Pn**	**23 01 42.4**	**+0.7**		
BEL	**Belsk**	**6.75**	**352**	*e*Pn		**Pn**	**23 01 45.6**	**+2.5**		
OSTC	**Ostas**	**6.76**	**325**	*e*PN		**Pn**	**23 01 43.1**	**-0.1**		
OSTC				AMS		AMS	23 04 50.0			
	comp=Z,500nm,8.2s									
STAL	**STALIGIAL**	**6.78**	**283**			**Pn**	**23 01 43.7**	**+0.2**		
UPC	**Upice**	**6.80**	**324**	*e*PN		**Pn**	**23 01 43.4**	**-0.4**		
UPC				AMS		AMS	23 04 50.0			
	comp=Z,500nm,10.4s									
UPC	**Upice**	**6.80**	**324**	*e*P		**Pn**	**23 01 43.4**	**-0.4**		
UPC				MLR		MLR				
	comp=Z,500nm,10.4s									
INTR	**Introdacqua**	**6.83**	**246**			**Pn**	**23 01 45.0**	**+0.6**		
CHVC	**Chvalec**	**6.85**	**325**	*e*PN		**Pn**	**23 01 44.2**	**-0.3**		
CHVC				AMS		AMS	23 04 50.0			
	comp=Z,500nm,11.2s									
GEC2	**GERESS Array S**	**6.92**	**305**	*e*Pn		**Pn**	**23 01 45.7**	**+0.2**		
GEC2	**GERESS Array S**	**6.92**	**305**			**Pn**	**23 01 45.6**	**+0.2**		
GERES	**GERESS Array B**	**6.92**	**305**	Pn		**Pn**	**23 01 45.7**	**+0.2**		
	comp=Z,5.2nm,0.3s,baz=116,slow=14,SNR=168									
GERES				Sn		**Sn**	**23 02 59.5**	**-4.7**		
	comp=Z,3.7nm,0.3s,baz=114,slow=26,SNR=6.3									
GERES				LR		LR	23 05 01.7			
	comp=Z,164nm,18.4s,baz=126,slow=43									
GERES	**GERESS Array B**	**6.92**	**305**			**Pn**	**23 01 45.2**	**-0.2**		
KSP	**Ksiaz**	**6.95**	**327**	*e*Pn		**Pn**	**23 01 46.7**	**+0.8**		
CIMO	**Cimolais**	**6.97**	**283**			**Pn**	**23 01 46.4**	**+0.3**		
PAOL	**Paolisi**	**6.98**	**236**			**Pn**	**23 01 47.1**	**+0.8**		
ABTA	**Abfaltersbach**	**6.98**	**287**	*e*Pn		**Pn**	**23 01 47.5**	**+1.2**		
	comp=Z,6.4nm,0.4s,SNR=6.7									
ABTA				*e*Sn		**Sn**	**23 03 04.5**	**-1.2**		
	comp=Z,37nm,0.6s									
NRCA	**Norcia**	**6.99**	**254**	Pn		**Pn**	**23 01 47.2**	**+0.7**		
AQU	**L'Aquila**	**7.00**	**250**	P		**Pn**	**23 01 46.8**	**+0.2**		
AQU	**L'Aquila**	**7.00**	**250**	*e*Pn		**Pn**	**23 01 45.2**	**-1.4**		
AQU	**L'Aquila**	**7.00**	**250**	Pn		**Pn**	**23 01 46.8**	**+0.2**		
RJOB	**Jochberg**	**7.03**	**295**	*e*Pn		**Pn**	**23 01 47.5**	**+0.5**		
PRUH	**Pruhonice**	**7.11**	**316**	*e*PN		**Pn**	**23 01 46.3**	**-1.2**		
PRU				*e*SN		**Sn**	**23 03 04.4**	**-4.4**		
PRU				AMS		AMS	23 05 10.0			
	comp=Z,700nm,10.7s									
PRU	**Pruhonice**	**7.11**	**316**	*e*P		**Pn**	**23 01 46.8**	**-1.2**		
PRU				*e*			23 03 04.4			
PRU				MLR		MLR				
	comp=Z,700nm,10.7s									
KHC	**Kasperske Hory**	**7.13**	**307**	*e*PN		**Pn**	**23 01 48.3**	**0.0**		
KHC				*e*SN		**Sn**	**23 03 04.8**	**-4.5**		
KHC				AMS		AMS	23 05 40.0			
	comp=Z,400nm,6.7s									
KHC	**Kasperske Hory**	**7.13**	**307**	*e*P		**Pn**	**23 01 48.3**	**0.0**		
KHC				*e*			23 03 04.8			
KHC				MLR		MLR				
	comp=Z,400nm,6.7s									
PBCC	**Pribram**	**7.21**	**312**	*e*PN		**Pn**	**23 01 48.7**	**-0.6**		
PBCC				*e*SN		**Sn**	**23 03 06.9**	**-4.3**		
PRA	**Prague**	**7.22**	**316**	*e*PN		**Pn**	**23 01 49.3**	**-0.2**		
PRA				AMS		AMS	23 05 10.0			
	comp=Z,400nm,9.6s									
PRA	**Prague**	**7.22**	**316**	*e*P		**Pn**	**23 01 49.3**	**-0.2**		
PRA				MLR		MLR				
	comp=Z,400nm,9.6s									
TIP	**Timpagrande**	**7.24**	**216**	⇓P		**Pn**	**23 01 49.6**	**-0.2**		
TIP	**Timpagrande**	**7.24**	**216**	⇓P		**Pn**	**23 01 49.6**	**-0.2**		
TIP	**Timpagrande**	**7.24**	**216**			**Pn**	**23 01 49.5**	**-0.4**		
MURB	**Monte Urbino**	**7.25**	**258**			**Pn**	**23 01 50.6**	**+0.6**		
AKASG	**Malin Array Be**	**7.25**	**38**	Pn		**Pn**	**23 01 49.2**	**-0.7**		
	comp=Z,3.9nm,0.3s,baz=220,slow=12,SNR=12									
AKASG				Sn		**Sn**	**23 03 06.4**	**-5.9**		
	comp=Z,6.6nm,0.3s,baz=230,slow=14,SNR=5.8									
AKASG				Lg		Lg	23 03 52.5			
	comp=Z,6.9nm,0.3s,baz=224,slow=28,SNR=8.7									
AKASG	**Malin Array Be**	**7.25**	**38**	*i* P		**Pn**	**23 01 50.0**	**0.0**		
AKASG				pmax		pmax				
	comp=Z,3.0nm,0.4s									
AKBB	**Malin Array Si**	**7.25**	**38**	*de*P		**Pn**	**23 01 50.4**	**+0.4**		
AKBB				pmax		pmax				
	comp=Z,4.0nm,0.5s									
AKBB	**Malin Array Si**	**7.25**	**38**			**Pn**	**23 01 49.3**	**-0.7**		
PVCC	**Panska Ves**	**7.46**	**319**	*e*PN		**Pn**	**23 01 53.3**	**+0.5**		
PVCC				*e*SN		**Sn**	**23 03 13.7**	**-3.6**		
PVCC				AMS		AMS	23 05 20.0			
	comp=Z,600nm,11.4s									
PVCC	**Panska Ves**	**7.46**	**319**	*e*P		**Pn**	**23 01 53.3**	**+0.5**		
PVCC				*e*			23 03 13.7			
PVCC				MLR		MLR				
	comp=Z,600nm,11.4s									
TEOL	**Teolo**	**7.48**	**275**			**Pn**	**23 01 54.0**	**+0.9**		
CTI	**Castel Tesino**	**7.50**	**281**	P		**Pn**	**23 01 53.3**	**-0.1**		
CTI	**Castel Tesino**	**7.50**	**281**			**Pn**	**23 01 53.3**	**-0.1**		
WTTA	**Wattenberg**	**7.67**	**290**	*e*Pn		**Pn**	**23 01 58.2**	**+2.3**		
	comp=Z,22nm,0.6s,SNR=20									
WTTA				*e*Sn		**Sn**	**23 03 21.7**	**-1.1**		
	comp=Z,28nm,0.5s									
WATA	**Walderalm**	**7.72**	**290**	*e*Pn		**Pn**	**23 01 58.0**	**+1.4**		
	comp=Z,2.4nm,0.2s,SNR=7.6									
WATA				*e*Sn		**Sn**	**23 03 22.6**	**-1.4**		
	comp=Z,18nm,0.4s									
SQTA	**Sankt Quirin**	**7.94**	**289**	*i* Pn		**Pn**	**23 02 02.2**	**+2.7**		
	comp=Z,7.9nm,0.3s,SNR=13									
SQTA				*e*Sn		**Sn**	**23 03 28.0**	**-1.4**		
	comp=Z,18nm,0.5s									
ITM	**Ithomi**	**7.97**	**182**	Pn		**Pn**	**23 02 01.7**	**+1.8**		
BRG	**Berggiesshubel**	**7.98**	**319**	PN		**Pn**	**23 01 59.6**	**-0.4**		
BRG				SN		Sn	23 03 16.6	-14		
BRG				*e*			23 03 59.7			
	comp=Z,28nm,1.2s									
BRG	**Berggiesshubel**	**7.98**	**319**	P		**Pn**	**23 01 59.6**	**-0.4**		
BRG				pmax		pmax				
	comp=Z,28nm,1.2s									
MOTA	**Moosalm**	**8.04**	**290**	*e*Pn		**Pn**	**23 02 03.1**	**+2.2**		
	comp=Z,16nm,0.6s,SNR=13									
MOTA				*e*Sn		**Sn**	**23 03 29.2**	**-2.6**		
	comp=Z,12nm,0.4s									
OSSC	**Osservatorio P**	**8.06**	**262**	Pn		**Pn**	**23 02 03.5**	**+2.4**		
MDUB	**Mudurnu**	**8.07**	**122**			**Pn**	**23 02 02.5**	**+1.2**		
ZCCA	**Zocca**	**8.07**	**268**	Pn		**Pn**	**23 02 03.7**	**+2.4**		
SEV	**Sevastopol'**	**8.13**	**90**	⇓*e*P		**Pn**	**23 01 57.9**	**-4.1**		
FETA	**Feichten**	**8.23**	**287**	*e*Pn		**Pn**	**23 02 06.2**	**+2.6**		
	comp=Z,6.8nm,0.6s,SNR=6.8									
FETA				*e*Sn		**Sn**	**23 03 36.0**	**-0.6**		
	comp=Z,2.9nm,0.4s									
RETA	**Reutte**	**8.29**	**290**	*e*Pn		**Pn**	**23 02 05.5**	**+1.1**		
	comp=Z,3.0nm,0.3s,SNR=6.2									
RETA				*e*Sn		**Sn**	**23 03 35.0**	**-3.1**		
	comp=Z,9.3nm,0.5s									
NKC	**Novy Kostel**	**8.34**	**311**	*e*PN		**Pn**	**23 02 04.3**	**-0.6**		
NKC				AMS		AMS	23 05 40.0			
	comp=Z,500nm,10.9s									
NKC	**Novy Kostel**	**8.34**	**311**	*e*P		**Pn**	**23 02 04.3**	**-0.6**		
NKC				MLR		MLR				
	comp=Z,500nm,10.9s									
MANZ	**Manzenberg**	**8.39**	**309**	*e*Pn		**Pn**	**23 02 05.4**	**-0.2**		
TANN	**Tannenbergstha**	**8.43**	**312**	*e*Pn		**Pn**	**23 02 05.9**	**-0.4**		
APE	**Apeiranthos**	**8.45**	**162**	⇓*e*P		**Pn**	**23 02 05.6**	**-0.9**		
APE				pmax		pmax				
	comp=Z,200nm,1.9s									
GUNZ	**Gunzen**	**8.47**	**311**	*e*Pn		**Pn**	**23 02 06.5**	**-0.2**		
PRMA	**PARMA**	**8.48**	**272**	Pn		**Pn**	**23 02 09.4**	**+2.6**		
FUORN	**Ofenpass-Fuorn**	**8.50**	**284**			**Pn**	**23 02 08.3**	**+1.0**		
VLC	**Villacollemand**	**8.53**	**267**	Pn		**Pn**	**23 02 09.0**	**+1.5**		
ALU	**Alushta**	**8.63**	**89**	*e*P		**Pn**	**23 02 08.4**	**-0.5**		
ALU				*e*S		**Sn**	**23 03 43.2**	**-3.0**		
CLL	**Collm**	**8.72**	**318**	*e*Pn		**Pn**	**23 02 10.0**	**0.0**		
CLL				*i* Pn(2)			23 02 12.1			
	comp=Z,7.0nm,0.4s									
CLL				*e*			23 02 39.0			
CLL				*e*Sn		Sn	23 03 33.0	-15		
CLL				*i*			23 03 44.8			
CLL				*e*			23 03 51.0			
CLL				*e*Sb		Sg	23 04 15.0	-29		
CLL				*e*Sg		Sg	23 04 36.0	-7.5		
CLL				Lmax			23 06 00.0			
CLL	**Collm**	**8.72**	**318**	P		**Pn**	**23 02 10.1**	**0.0**		
CLL	**Collm**	**8.72**	**318**			**Pn**	**23 02 10.1**	**0.0**		
GRA1	**Grafenberg Arr**	**8.75**	**305**			**Pn**	**23 02 10.3**	**-0.2**		
GRF	**Grafenberg Arr**	**8.75**	**305**	P		**Pn**	**23 02 10.3**	**-0.2**		
GRF	**Grafenberg Arr**	**8.75**	**305**	*e*Pn		**Pn**	**23 02 10.8**	**+0.3**		
GKP	**Gorka Klasztor**	**8.76**	**340**	*e*P		**Pn**	**23 02 12.3**	**+1.8**		
UBR	**Ueberruh**	**8.77**	**291**	*e*Pn		**Pn**	**23 02 11.6**	**+0.8**		
DAVOX	**Davos/Dischmat**	**8.78**	**285**	Pn		**Pn**	**23 02 13.6**	**+2.6**		
	comp=Z,0.9nm,0.3s,baz=93,slow=15,SNR=16									
DAVOX				Sn		**Sn**	**23 03 48.0**	**-2.0**		
	comp=Z,1.0nm,0.3s,baz=45,slow=6.1,SNR=2.3									
DAVA	**Damuels**	**8.84**	**288**	*e*Pn		**Pn**	**23 02 13.6**	**+1.6**		
	comp=Z,6.3nm,0.5s,SNR=5.9									
DAVA				*e*Sn		**Sn**	**23 03 49.4**	**-2.3**		
	comp=Z,18nm,0.6s									
SUW	**Suwalki**	**8.88**	**4**	*e*P		**Pn**	**23 02 13.6**	**+1.3**		
SUW	**Suwalki**	**8.88**	**4**	P		**Pn**	**23 02 13.2**	**+0.9**		
SUW	**Suwalki**	**8.88**	**4**			**Pn**	**23 02 13.2**	**+0.9**		
SUDU	**Sudak**	**9.03**	**87**	*e*P		**Pn**	**23 02 13.7**	**-0.6**		
SUDU				*e*S		**Sn**	**23 03 51.5**	**-4.5**		
MSSA	**Maissana**	**9.11**	**269**			**Pn**	**23 02 15.8**	**+0.3**		
TUE	**Stuetta**	**9.12**	**283**			**Pn**	**23 02 16.4**	**+0.7**		
ISP	**Isparta**	**9.59**

TCF					*e*Sn		Sn	23 05 46.6	-12
	comp=Z,0.8nm,0.4s								
VRH	**Novokhopyorsk**	**14.30**	**58**	*e*P			**Pn**	**23 03 23.7**	**-2.7**
VRH					pmax		pmax		
	comp=Z,10.0nm,0.6s								
KOPT	**Kop Dagi**	**14.38**	**105**		Pn		**Pn**	**23 03 30.0**	**+2.2**
MOS	**Moscow**	**14.38**	**37**	*e*P			**Pn**	**23 03 27.0**	**-0.5**
MOS				*e*S			**Sn**	**23 06 05.6**	**-1.3**
MOS					MLR		MLR		
	comp=Z,400nm,4.0s								
KIV	**Kislovodsk**	**14.61**	**87**	*e*P			**Pn**	**23 03 33.8**	**+3.0**
KIV					pmax		pmax		
	comp=Z,48nm,1.1s								
KIV					MLR		MLR		
	comp=Z,97nm,12.0s								
KIV	**Kislovodsk**	**14.61**	**87**				**Pn**	**23 03 32.1**	**+1.3**
KVAR	**Kislovodsk Arr**	**14.62**	**87**		Pn		**Pn**	**23 03 30.0**	**-0.9**
	baz=265,slow=13,SNR=1.8								
KVAR	**Kislovodsk Arr**	**14.62**	**87**				**Pn**	**23 03 30.0**	**-0.9**
GOF	**Gofitskoye**	**14.68**	**83**⇑	*e*P			**Pn**	**23 03 33.0**	**+1.4**
KBZ	**Khabaz**	**14.81**	**88**		Pn		**Pn**	**23 03 32.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=3.0								
KBZ					LR		LR	23 11 04.4	
	comp=Z,55nm,18.8s,baz=264,slow=45								
KBZ	**Khabaz**	**14.81**	**88**⇑	*e*P			**P**	**23 03 40.3**	**+1.0**
KBZ					pmax		pmax		
	comp=Z,4.0nm,0.8s								
LDF	**La Druitiere**	**15.67**	**291**	*e*P			**P**	**23 03 47.0**	**-1.9**
ZEI	**Tsey**	**15.76**	**91**	*i* P			**P**	**23 03 49.4**	**-0.6**
ZEI					pmax		pmax		
	comp=Z,8.0nm,1.0s								
HFS	**Hagfors**	**15.85**	**344**		Pn		**Pn**	**23 03 43.4**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=15,SNR=5.1								
HFS					LR		LR	23 10 33.7	
	comp=Z,99nm,18.7s,baz=120,slow=40								
MARD	**Mardin**	**15.96**	**113**		Pn		**Pn**	**23 03 49.5**	**+0.8**
GRR	**Gorron**	**16.15**	**290**	*e*P			**Pn**	**23 03 52.6**	**+1.7**
KONO	**Kongsberg**	**16.39**	**337**		P		**Pn**	**23 03 53.7**	**-0.3**
KONO					pmax		pmax		
	comp=Z,11nm,0.9s								
KONO	**Kongsberg**	**16.39**	**337**		Pn		**Pn**	**23 03 53.7**	**-0.3**
KONO					IAmb		IAmb	23 03 57.7	
	comp=Z,11nm,0.8s								
FINES	**FINES Array B**	**16.47**	**6**		Pn		**Pn**	**23 03 51.3**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=9.2								
FINES					LR		LR	23 11 16.7	
	comp=Z,52nm,19.8s,baz=192,slow=41								
FINES	**FINES Array B**	**16.47**	**6**	*i* P			**Pn**	**23 03 52.7**	**-2.2**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.8s								
FIA1	**FINESS Array S**	**16.47**	**6**		Pn		**Pn**	**23 03 53.6**	**-1.3**
NC602	**NORSAR Array S**	**16.85**	**342**		Pn		**Pn**	**23 04 00.2**	**+0.5**
NOA	**NORSAR Array B**	**17.19**	**342**		P		**Pn**	**23 04 02.5**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=158,slow=12,SNR=6.9								
NOA					LR		LR	23 11 12.8	
	comp=Z,75nm,19.6s,baz=175,slow=39								
NC204	**NORSAR Array S**	**17.51**	**341**				**Pn**	**23 04 07.0**	**-1.0**
NC204					IAmb		IAmb	23 04 16.9	
	comp=Z,18nm,1.0s								
MAK	**Makhachkala**	**18.26**	**88**	*e*P			**Pn**	**23 04 14.0**	**-3.3**
MAK				*e*S			**Sn**	**23 07 38.3**	**-2.7**
MAK					pmax		pmax		
	comp=Z,209nm,1.2s								
MAK					MLR		MLR		
	comp=Z,126nm,18.0s								
KLMR	**Klimovskoe**	**18.74**	**27**	*e*P			**P**	**23 04 22.5**	**-0.1**
KLMR								23 07 55.7	
KLMR					pmax		pmax		
	comp=Z,13nm,0.9s								
KLMR	**Klimovskoe**	**18.74**	**27**	*e*Pn			**P**	**23 04 22.6**	**-0.1**
KLMR					AMP			23 04 31.9	
	comp=Z,13nm,0.9s								
KLMR				⇓Sn			**S**	**23 07 55.8**	**+0.1**
KLMR				⇓Sn			**S**	**23 07 55.8**	**+0.1**
EKA	**Eskdalemuir Ar**	**19.07**	**311**		P		**P**	**23 04 25.6**	**-0.7**
	baz=112,slow=11,SNR=5.4								
PAB	**San Pablo**	**20.40**	**263**		P		**P**	**23 04 41.1**	**0.0**
PAB					pmax		pmax		
	comp=Z,16nm,1.5s								
PAB	**San Pablo**	**20.40**	**263**		P		**P**	**23 04 41.1**	**0.0**
PAB					IAmb		IAmb	23 04 52.3	
	comp=Z,16nm,1.5s								
KIRV	**Kirov**	**21.29**	**41**		P		**P**	**23 04 50.6**	**+0.2**
	comp=Z,15nm,0.6s,baz=275,slow=23,SNR=5.5								
AKTO	**Aktyubinsk**	**24.43**	**65**		P		**P**	**23 05 21.7**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=274,slow=4,SNR=4.9								
ARCES	**ARCESS Array B**	**24.50**	**3**		P		**P**	**23 05 22.6**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=191,slow=14,SNR=1.9								
ARCES					LR		LR	23 16 03.9	
	comp=Z,83nm,18.0s,baz=165,slow=39								
ARU	**Arti**	**25.26**	**50**		P		**P**	**23 05 29.6**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=256,slow=8.0,SNR=9.0								
ARU					LR		LR	23 15 01.9	
	comp=Z,43nm,18.9s,baz=248,slow=36								
ARU	**Arti**	**25.26**	**50**	*c i* P			**P**	**23 05 31.2**	**+1.2**
ARU								23 06 02.6	
ARU					S		**S**	**23 09 59.4**	**+4.0**
ARU					pmax		pmax		
	comp=Z,11nm,0.9s								
ARU	**Arti**	**25.26**	**50**		P		**P**	**23 05 29.4**	**-0.6**
ABKAR	**Akbulak array**	**25.74**	**67**		P		**P**	**23 05 34.9**	**+0.5**
ABKAR	**Akbulak array**	**25.74**	**67**		P		**P**	**23 05 34.9**	**+0.5**
ABKAR					IAmb		IAmb	23 05 49.6	
	comp=Z,2.4nm,0.8s								
GEYT	**Alibeck**	**27.62**	**92**		P		**P**	**23 05 52.2**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=296,slow=4.6,SNR=5.3								
GEYT	**Alibeck**	**27.62**	**92**		IAmb		IAmb	23 05 56.8	
	comp=Z,1.6nm,0.8s								
GYA0	**ALIBECK ARRAY**	**27.62**	**92**		P		**P**	**23 05 53.4**	**+1.8**
GYA0					pmax		pmax		
	comp=Z,6.0nm,1.5s								
GYA0	**ALIBECK ARRAY**	**27.62**	**92**		P		**P**	**23 05 53.4**	**+1.8**
GYA0					IAmb		IAmb	23 06 04.6	
	comp=Z,6.0nm,1.4s								
GYA0B	**ALIBECK ARRAY**	**27.62**	**92**		P		**P**	**23 05 52.7**	**+1.1**
GYA0B					IAmb		IAmb	23 06 04.6	
	comp=Z,5.7nm,1.4s								
BRVK	**Borovoye**	**31.89**	**58**⇓	*e*P			**P**	**23 06 31.6**	**+2.4**
BRVK					pmax		pmax		
	comp=Z,3.0nm,0.9s								
BRVK	**Borovoye**	**31.89**	**58**		P		**P**	**23 06 29.5**	**+0.3**
KK31	**Karatay Array**	**34.29**	**76**		P		**P**	**23 06 51.3**	**+1.0**
KK31					pmax		pmax		
	comp=Z,2.0nm,1.0s								
KK31	**Karatay Array**	**34.29**	**76**		P		**P**	**23 06 51.3**	**+1.0**
KK31					IAmb		IAmb	23 07 04.6	
	comp=Z,2.1nm,0.9s								
KKAR	**Karatay Array**	**34.29**	**76**		P		**P**	**23 06 51.0**	**+0.7**
KKAR					pmax		pmax		
	comp=Z,2.0nm,1.0s								
KKAR	**Karatay Array**	**34.29**	**76**		P		**P**	**23 06 50.9**	**+0.7**
KKAR	**Karatay Array**	**34.29**	**76**		P		**P**	**23 06 51.0**	**+0.7**
KKAR					IAmb		IAmb	23 07 04.6	
	comp=Z,2.1nm,0.9s								
MACI	**Morro de la Ar**	**34.97**	**255**		P		**P**	**23 06 56.9**	**+0.4**
CHGR	**Chuyangaron**	**35.10**	**84**		P		**P**	**23 06 57.8**	**+0.4**
CHGR					IAmb		IAmb	23 07 07.3	
	comp=Z,3.4nm,0.9s								
GAR	**Garm**	**35.77**	**83**		P		**P**	**23 07 03.4**	**+0.2**
TOA0	**Torodi Ar. Sit**	**36.39**	**215**		P		**P**	**23 07 09.2**	**+0.7**
TOA0					IAmb		IAmb	23 07 27.9	
	comp=Z,4.7nm,1.2s								
TORD	**Torodi Ar. Bea**	**36.39**	**215**		P		**P**	**23 07 09.3**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=11,slow=8.8,SNR=2.5								
TORD	**Torodi Ar. Bea**	**36.39**	**215**		IAmb		IAmb	23 07 15.1	
	comp=Z,1.1nm,0.9s								
AAK	**Ala-Archa**	**37.19**	**75**⇑	*e*P			**P**	**23 07 17.0**	**+1.7**
AAK					pmax		pmax		
	comp=Z,17nm,2.0s								
ZAA0	**Zalesovo Array**	**40.29**	**54**		P		**P**	**23 07 41.5**	**+0.5**
ZAA0					IAmb		IAmb	23 07 42.6	
	comp=Z,3.6nm,0.7s								
ZALV	**Zalesovo Beam**	**40.29**	**54**		P		**P**	**23 07 42.0**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=286,slow=8.9,SNR=13								
ZALV	**Zalesovo Beam**	**40.29**	**54**		P		**P**	**23 07 41.5**	**+0.5**
MKAR	**Makanchi Array**	**40.86**	**65**		P		**P**	**23 07 47.2**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=270,slow=10,SNR=7.2								
MKAR	**Makanchi Array**	**40.86**	**65**		P		**P**	**23 07 46.7**	**+0.9**
DGZ	**Jazzator, Alta**	**43.08**	**60**⇑	*e*P			**P**	**23 08 05.6**	**+1.5**
DGZ					pmax		pmax		
	comp=Z,2.0nm,0.8s								
WMQ	**Urumqi**	**45.53**	**67**	*e*P			**P**	**23 08 25.3**	**+1.6**
FRB	**Frobisher Bay**	**51.06**	**325**		LR		LR	23 33 32.3	
	comp=Z,62nm,19.7s,baz=26,slow=39								
TLY	**Talaya**	**51.76**	**52**		LR		LR	23 32 38.3	
	comp=Z,73nm,18.4s,baz=281,slow=38								
SONM	**Songino Array**	**55.19**	**55**		P		**P**	**23 09 37.0**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=301,slow=11,SNR=6.9								
SONM	**Songino Array**	**55.19**	**55**		P		**P**	**23 09 37.0**	**+0.2**
SONM	**Songino Array**	**55.19**	**55**		P		**P**	**23 09 35.4**	**-1.3**
LSA	**Lhasa**	**55.24**	**81**		P		**P**	**23 09 37.7**	**-0.1**
LSA					pmax		pmax		
	comp=Z,2.0nm,0.9s								
LSA	**Lhasa**	**55.24**	**81**		P		**P**	**23 09 37.7**	**-0.1**
LSA					IAmb		IAmb	23 09 46.3	
	comp=Z,2.2nm,0.9s								
LZH	**Lanzhou**	**60.11**	**68**	*e*P			**P**	**23 10 12.8**	**+1.1**
LZH					pP		pP	23 10 15.5	+0.3
LZH					sP		sP	23 10 19.0	+2.5
LZH					PP		PP	23 12 16.5	-7.4
LZH					pmax		pmax		
	comp=Z,15nm,1.0s								
LZH					pmax		pmax		
	comp=Z,120nm,5.4s								
HHC	**Hu-ho-hao-te**	**62.16**	**59**	*e*P			**P**	**23 10 28.3**	**+2.9**
HHC					pmax		pmax		
	comp=Z,10.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,48nm,6.6s								
BILL	**Bilibino**	**63.93**	**14**⇓	*e*P			**P**	**23 10 38.2**	**+1.6**
BILL					pmax		pmax		
	comp=Z,18nm,2.1s								
CMAR	**Chiang Mai Arr**	**67.85**	**86**		P		**P**	**23 11 02.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=312,slow=7.9,SNR=5.4								
CMAR					LR		LR	23 50 31.3	
	comp=Z,12nm,18.5s,baz=225,slow=45								
CMAR	**Chiang Mai Arr**	**67.85**	**86**	*i* P			**P**	**23 11 03.5**	**+0.9**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ULM	**Lac du Bonnet**	**70.88**	**323**		LR		LR	23 42 53.7	
	comp=Z,34nm,20.3s,baz=313,slow=36								
ASAJ	**Asahikawa**	**76.54**	**40**		LR		LR	23 47 51.4	
	comp=Z,40nm,18.9s,baz=259,slow=38								

VAO ***31*** *23:10:05.9±0.6, 21°.83S×68°.69W, h102km±5km, mb4.2*
IDC ***31*** *23:10:06.5±0.7, 22°.10S×68°.47W, h101km±9km, mb3.6/4, mb1 3.5/8, mb1mx3.4/35, mbtmp3.8/8, Error ellipse: s-maj=27.0km s-min=20.1km az=127.0*
GUC ***31*** *23:10:07.2±0.8, 22°.05S×68°.72W, h109km±4km, ML3.8*

ISC 31 23:10:06.7±0.6, 22°.02S±0°.04×68°.64W±0°.06, h111km±7km, n52, σ1°.912/68, mb4.0/3, 10C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**292**	⇑*i*P	**Pn**	**23 10 25.4**	**+0.9**
PB09				*i* S	**Sn**	**23 10 38.7**	**+0.7**
LVC	**Limon Verde**	**0.64**	**203**	P	**Pn**	**23 10 25.2**	**+0.2**
	414nm,0.3s,baz=356,slow=5.7,SNR=3484						
LVC				S	**Sn**	**23 10 38.4**	**-0.4**
	527nm,0.3s,baz=283,slow=22,SNR=16						
LVC	**Limon Verde**	**0.64**	**203**	*e*P	**Pn**	**23 10 25.2**	**+0.2**
LVC				*e*S	**Sn**	**23 10 38.6**	**-0.2**
LVC	**Limon Verde**	**0.64**	**203**	*e*P	**Pn**	**23 10 25.1**	**+0.1**
PB03	**IPOC Station P**	**1.03**	**268**	⇑*i*P	**Pn**	**23 10 28.7**	**+0.3**
PB03				*i* S	**Sn**	**23 10 44.9**	**0.0**
PB03				IAML		23 10 46.3	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**1.10**	**232**	⇑*i*P	**Pn**	**23 10 29.6**	**+0.5**
PB06				*i* S	**Sn**	**23 10 46.5**	**+0.4**
PB06				IAML		23 10 48.4	
	comp=E,3μm,0.3s						
PB07	**IPOC Station P**	**1.20**	**284**	⇑*i*P	**Pn**	**23 10 30.7**	**+0.6**
PB07				*i* S	**Sn**	**23 10 47.9**	**-0.1**
PB07				IAML		23 10 49.2	
	comp=N,3μm,0.1s						
PB01	**IPOC Station P**	**1.25**	**321**	⇑*i*P	**Pn**	**23 10 31.4**	**+0.6**
PB01				*i* S	**Sn**	**23 10 49.8**	**+0.8**
PB01				IAML		23 10 51.1	
	comp=N,3μm,0.6s						
PB02	**IPOC Station P**	**1.36**	**301**	⇑*i*P	**Pn**	**23 10 32.5**	**+0.5**
PB02				*i* S	**Sn**	**23 10 50.5**	**-0.7**
PB02				IAML		23 10 53.4	
	comp=E,4μm,0.3s						
PB15	**IPOC Station P**	**1.41**	**213**	⇑*i*P	**Pn**	**23 10 33.1**	**+0.5**
PB15				*i* S	**Sn**	**23 10 53.1**	**+0.7**
PB04	**IPOC Station P**	**1.43**	**257**	⇑*i*P	**Pn**	**23 10 33.1**	**+0.2**
PB04				*i* S	**Sn**	**23 10 52.8**	**0.0**
PB04				IAML		23 10 57.6	
	comp=E,2μm,0.2s						
PB05	**IPOC Station P**	**1.67**	**240**	⇑*i*P	**Pn**	**23 10 35.5**	**-0.1**
PB05				*i* S	**Sn**	**23 10 57.1**	**-0.6**
PB05				IAML		23 11 01.9	
	comp=E,612nm,0.2s						
PB08	**IPOC Station P**	**1.93**	**346**	⇓*i*P	**Pn**	**23 10 41.1**	**+1.9**
PB08				*i* S	**Sn**	**23 11 06.4**	**+2.4**
TA01	**Diego Aracena**	**2.04**	**315**	*e*P	**Pn**	**23 10 40.3**	**+0.1**
TA01				*i* S	**Sn**	**23 11 05.5**	**-0.3**
TA01				IAML		23 11 07.6	
	comp=E,903nm,0.5s						
GO01	**Chusmiza**	**2.40**	**347**	⇑*i*P	**Pn**	**23 10 46.9**	**+1.6**
GO01				*e*S	**Sn**	**23 11 16.8**	**+2.0**
GO01				IAML		23 11 19.8	
	comp=N,520nm,0.2s						
PB11	**IPOC Station P**	**2.44**	**337**	⇓*i*P	**Pn**	**23 10 46.0**	**+0.5**
PB11				*i* S	**Sn**	**23 11 15.4**	**+0.1**
PSGC	**Pisagua**	**2.78**	**330**	⇓*i*P	**Pn**	**23 10 49.1**	**-0.8**
PSGC				*i* S	**Sn**	**23 11 22.5**	**-0.7**
PSGC				IAML		23 11 32.5	
	comp=E,229nm,0.3s						
LPAZ	**La Paz**	**5.72**	**5**	P	**Pn**	**23 11 32.3**	**+2.4**
	comp=E,0.8nm,0.3s,baz=190,slow=8.1,SNR=9.8						
SIV	**San Ignacio**	**9.34**	**51**	P	**Pn**	**23 12 16.1**	**-2.2**
	comp=E,1.0nm,0.3s,baz=245,slow=12,SNR=69						
PTLB	**Pontes e Lacer**	**11.12**	**56**	*e*P	**Pn**	**23 12 39.8**	**-2.7**
CPUP	**Villa Florida**	**11.18**	**115**	P	**Pn**	**23 12 42.8**	**-0.4**
	comp=E,0.1nm,0.3s,baz=298,slow=15,SNR=1.9						
CPUP	**Villa Florida**	**11.18**	**115**	*e*P	**Pn**	**23 12 44.2**	**+1.0**
VILB	**Vilhena**	**12.09**	**43**	*e*P	**Pn**	**23 12 53.7**	**-1.6**
ETMB	**Extrema**	**12.36**	**11**	*e*P	**Pn**	**23 12 56.5**	**-2.4**
TRCB	**Terra Rica**	**14.82**	**96**	*e*P	**Pn**	**23 13 31.6**	**+0.8**
PTGB	**Pitanga**	**15.46**	**103**	*e*P	**P**	**23 13 41.7**	**+0.9**
ITAB	**Concordia**	**15.88**	**112**	*e*P	**Pn**	**23 13 45.2**	**+1.3**
CPSB	**Cacapava Do Su**	**15.98**	**125**	*e*P	**Pn**	**23 13 46.6**	**+1.5**
CLDB	**Colider**	**16.56**	**50**	*e*P	**Pn**	**23 13 51.2**	**-1.2**
ARAG	**Araguaiana, MT**	**17.11**	**71**	*e*P	**Pn**	**23 13 58.5**	**-0.7**
ITRB	**Iturama**	**17.24**	**86**	*e*P	**Pn**	**23 14 01.1**	**+0.3**
FRTB	**Fartura**	**17.66**	**98**	*e*P	**P**	**23 14 05.4**	**+0.3**
PLCA	**Paso Flores**	**18.72**	**185**	P	**P**	**23 14 17.0**	**+0.3**
	comp=E,0.0nm,0.3s,baz=288,slow=7.6,SNR=2.8						
BB19B	**Bebedouro**	**18.73**	**91**	*e*P	**P**	**23 14 17.2**	**+0.3**
SNDB	**Serra Nova Dou**	**19.35**	**62**	*e*P	**P**	**23 14 22.4**	**-1.2**
IPMB	**Ipameri, GO**	**19.61**	**82**	*e*P	**P**	**23 14 25.9**	**-0.6**
NPGB	**Novo Progresso**	**19.65**	**43**	*e*P	**P**	**23 14 25.4**	**-1.5**
VAO	**Valinhos**	**20.05**	**97**	*e*P	**P**	**23 14 31.1**	**-0.1**
MACA	**Manacapuru-AM**	**20.28**	**24**	*e*P	**P**	**23 14 31.0**	**-2.7**
BDFB	**Brasilia**	**20.52**	**76**	P	**P**	**23 14 35.2**	**-1.2**
	comp=E,1.3nm,0.4s,baz=254,slow=9.8,SNR=3.3						
ITTB	**Itatuba**	**21.55**	**37**	*e*P	**P**	**23 14 46.1**	**-1.2**
BSCB	**Bom Sucesso**	**22.23**	**92**	*e*P	**P**	**23 14 54.8**	**+0.3**
JANB	**Januaria**	**24.06**	**77**	*e*P	**P**	**23 15 10.9**	**-1.0**
PRPB	**Parauapebas**	**24.07**	**52**	*e*P	**P**	**23 15 11.3**	**-0.6**
SMTB	**Santa Maria do**	**24.10**	**60**	*e*P	**P**	**23 15 11.8**	**-0.4**
MALB	**Monte Alegre**	**24.44**	**37**	*e*P	**P**	**23 15 16.3**	**+1.0**
SDBA	**SAO DESIDERIO**	**24.57**	**71**	*e*P	**P**	**23 15 16.3**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**27.93**	**48**	*e*P	**P**	**23 15 46.0**	**-0.7**
DBIC	**Dimbokro**	**68.64**	**73**	P	**P**	**23 20 58.0**	**-0.4**
	comp=E,2.1nm,0.8s,baz=229,slow=9.4,SNR=1.9						
PDAR	**Pinedale Array**	**74.69**	**330**	P	**P**	**23 21 35.8**	**+1.4**
	comp=E,0.1nm,0.4s,baz=114,slow=6.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P	**P**	**23 21 49.6**	**+0.2**
	comp=E,1.5nm,0.4s,baz=257,slow=5.6,SNR=35						
WRA	**Warramunga Arr**	**132.63**	**210**	PKP	**PKPdf**	**23 29 11.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=152,slow=1.8,SNR=1.6						

BJI ***31*** *23:15:30.0±0.0, 40°.20N×71°.70E, h5km, mB4.4/3, mb3.7/6, ML3.9/1*
IDC ***31*** *23:15:30.5±0.7, 40°.08N×71°.69E, h0km, mb3.9/16, mb1 4.0/23, mb1mx3.8/65, mbtmp3.8/23, ML3.1/7, MS3.1/6, Ms1 3.1/6, ms1mx2.8/47, Error ellipse: s-maj=13.7km s-min=11.4km az=173.0*
MOS ***31*** *23:15:32.4±1.7, 40°.33N×71°.61E, h12km, mb4.5/7, Error ellipse: s-maj=7.8km s-min=5.3km az=78.2*
KRNET ***31*** *23:15:33.4±0.1, 40°.32N×71°.68E, h14km, mb4.3*
ISU ***31*** *23:15:33.5, 40°.17N×71°.79E, h15km*
NEIC ***31*** *23:15:33.9±2.8, 40°.35N±0°.03×71°.59E±0°.05, h10km±1km, mb4.4/24, Error ellipse: s-maj=7.5km s-min=3.1km az=311.0*
NNC ***31*** *23:15:35.7±1.5, 40°.37N×71°.75E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=12.1km s-min=5.2km az=13.0*
SOME ***31*** *23:15:35.3, 40°.37N×71°.65E, h10km, MS3.4*

ISC 31 23:15:32.6±1.0, 40°.35N±0°.02×71°.78E±0°.02, h10km±6km, n216, σ2°.918/269, mb4.2/34, MS3.0/4, 28C-40D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.39**	**360**	*e*P	**Pg**	**23 15 38.6**	**-1.6**
FRG				*e*S	**Sg**	**23 15 42.7**	**-2.7**
NAM	**Namangan**	**0.65**	**352**	*e*P	**Pn**	**23 15 49.3**	**+1.4**
NAM				*e*S	Sn	23 16 12.6	+14
OHH	**Osh**	**0.78**	**77**⇑	*i*P	**Pn**	**23 15 50.0**	**+0.2**
	baz=76						
OHH			⇑	*e*S	**Sn**	**23 16 01.7**	**0.0**
	baz=76						
OHH	**Osh**	**0.78**	**77**	*e*P	**Pn**	**23 15 49.7**	**-0.1**
BTK	**Batken**	**0.79**	**249**	⇓*i*P	**Pg**	**23 15 47.4**	**-0.4**
	baz=49						
BTK			⇓	*i*S	**Sg**	**23 15 57.0**	**-1.3**
	baz=49						
BTK	**Batken**	**0.79**	**249**	PG	**Pg**	**23 15 47.5**	**-0.4**
BTK						23 15 58.0	
BTK	**Batken**	**0.79**	**249**		**Pg**	**23 15 47.5**	**-0.4**
BTK				Sg	**Sg**	**23 15 58.0**	**-0.3**
BTK	**Batken**	**0.79**	**249**	*e*P	**Pg**	**23 15 47.5**	**-0.4**
BTK				*e*S	**Sg**	**23 15 57.5**	**-0.8**
GAR	**Garm**	**1.76**	**221**	⇓*i*P	**Pb**	**23 16 05.1**	**+0.1**
	baz=19						
GAR				⇓*i*S	**Sb**	**23 16 27.5**	**+0.3**
	baz=19						
GAR	**Garm**	**1.76**	**221**	Pn	**Pb**	**23 16 04.8**	**-0.2**
GAR				Sn	**Sb**	**23 16 27.4**	**+0.2**
CHMG	**Chimgan**	**1.80**	**312**	*e*P	**Pg**	**23 16 08.4**	**+1.2**
CHMG				*e*S	**Sg**	**23 16 33.4**	**+2.9**
TAS	**Tashkent**	**2.13**	**298**	⇓*i*P	**Pb**	**23 16 11.1**	**-0.1**
	baz=0.0						
TAS				⇓*e*S	**Sb**	**23 16 38.5**	**+0.8**
	baz=0.0						
TAS	**Tashkent**	**2.13**	**298**	PN	**Pn**	**23 16 09.7**	**+1.5**
TAS	**Tashkent**	**2.13**	**298**		**Pn**	**23 16 09.7**	**+1.5**
TAS	**Tashkent**	**2.13**	**298**	*e*P	**Pg**	**23 16 13.3**	**0.0**
TAS				*e*S	**Sg**	**23 16 42.2**	**+1.3**
MNAS	**Manas**	**2.21**	**14**⇓	*i*P	**Pg**	**23 16 13.7**	**-1.2**
	baz=16						
MNAS				⇓*i*S	**Sg**	**23 16 43.1**	**-0.4**
	baz=16						
YNGY	**Yangiyul**	**2.22**	**291**	*e*P	**Pg**	**23 16 15.1**	**0.0**
YNGY				*e*S	**Sg**	**23 16 45.7**	**+1.8**
IUG	**Iuzhnay**	**2.23**	**324**	*e*P	**Pg**	**23 16 16.1**	**+0.7**
	834nm,0.3s						
IUG				*e*S	**Sg**	**23 16 44.9**	**+0.6**
	949nm,0.3s						
IUG	**Iuzhnay**	**2.23**	**324**	Pg	**Pg**	**23 16 16.6**	**+1.3**
	833nm,0.5s						
IUG				Lg	Lg	23 16 46.4	
	1μm,0.4s						
IUG	**Iuzhnay**	**2.23**	**324**	*e*PN	**Pg**	**23 16 16.1**	**+0.7**
IUG				*e*S	**Sg**	**23 16 44.9**	**+0.6**
AML	**Almayashu**	**2.29**	**38**⇓	*i*P	**Pg**	**23 16 16.0**	**-0.5**
	baz=39						
AML				⇓*i*S	**Sg**	**23 16 46.8**	**+0.6**
	baz=39						
AML	**Almayashu**	**2.29**	**38**	P	**Pb**	**23 16 15.1**	**+0.8**
	SNR=54						
ARLS	**Aral**	**2.44**	**51**⇓	*i*P	**Pb**	**23 16 17.4**	**+0.7**
	baz=51						
ARLS				⇓*i*S	**Sg**	**23 16 49.3**	**-1.8**
	baz=51						
CHM	**Chimkent**	**2.56**	**321**	*

	baz=35									
USP	**Ospenovka**	**3.55**	**34**	P		**Pb**	**23 16 32.4**	**-3.1**
	SNR=56									
SAM	**Samarkand**	**3.74**	**261**	*e*P		**Pn**	**23 16 32.6**	**+2.1**
SAM				*e*S		**Sn**	**23 17 19.4**	**+4.8**
SGDS	**Sogindy**	**3.76**	**33**	Pg		**Pg**	**23 16 45.3**	**+0.7**
	61nm,0.3s									
SGDS				Lg		Lg	23 17 35.1			
	118nm,0.5s									
BOOM	**Boomskoye usch**	**3.79**	**54**	⇑*i*P		**Pb**	**23 16 36.3**	**-3.3**
	baz=55									
BOOM				⇑*i*S		**Sb**	**23 17 22.6**	**-3.1**
	baz=55									
BOOM	**Boomskoye usch**	**3.79**	**54**	PN		**Pb**	**23 16 36.7**	**-2.9**
BOOM	**Boomskoye usch**	**3.79**	**54**	Pn		**Pb**	**23 16 36.7**	**-2.9**
TKM2	**Tokmak 2**	**3.84**	**47**	⇓*i*P		**Pb**	**23 16 37.0**	**-3.6**
	baz=47									
TKM2				⇓*i*S		**Sb**	**23 17 23.5**	**-3.8**
	baz=47									
TKM2	**Tokmak 2**	**3.84**	**47**	P		**Pb**	**23 16 37.1**	**-3.6**
	SNR=12									
TKM2	**Tokmak 2**	**3.84**	**47**	⇓Pg		**Pb**	**23 16 38.6**	**-2.0**
	30nm,0.5s									
TKM2				⇑Lg		Lg	23 17 36.9			
	271nm,0.7s									
ULHL	**Ulahol**	**3.86**	**59**	⇓*i*P		**Pb**	**23 16 37.1**	**-3.7**
	baz=59									
ULHL				⇓*i*S		**Sb**	**23 17 23.7**	**-4.0**
	baz=59									
KST	**Kastek**	**4.13**	**48**	*e*P		**Pg**	**23 16 52.0**	**+0.4**
	63nm,0.3s									
KST				*e*S		**Sg**	**23 17 47.0**	**+1.9**
	222nm,0.6s									
KST	**Kastek**	**4.13**	**48**	Pg		**Pg**	**23 16 51.6**	**-0.1**
	63nm,0.3s									
KST				Lg		Lg	23 17 47.0			
	222nm,0.6s									
KRBS	**Karabastau**	**4.43**	**40**	*e*P		**Pg**	**23 16 56.6**	**-0.7**
	32nm,0.6s									
KRBS				*e*S		**Sg**	**23 17 54.7**	**0.0**
	93nm,0.5s									
KRBS	**Karabastau**	**4.43**	**40**	Pg		**Pg**	**23 16 56.6**	**-0.7**
	32nm,0.6s									
KRBS				Lg		Lg	23 17 54.7			
	93nm,0.5s									
KDJ	**Kajisay**	**4.44**	**65**	⇑*i*P		Pb	23 16 45.5	-5.3		
	baz=65									
KDJ				⇑*i*S		**Sb**	**23 17 38.3**	**-6.2**		
	baz=65									
KDJ	**Kajisay**	**4.44**	**65**	PN		Pb	23 16 46.0	-4.8		
KDJ	**Kajisay**	**4.44**	**65**			Pb	23 16 46.0	-4.8		
IZV	**Izvestkoviy**	**4.50**	**52**	*e*P		**Pg**	**23 16 58.9**	**0.0**		
	19nm,0.6s									
IZV				*e*S		**Sg**	**23 17 58.8**	**+1.6**		
	100nm,0.5s									
IZV	**Izvestkoviy**	**4.50**	**52**	Pg		**Pg**	**23 16 58.9**	**0.0**		
	19nm,0.6s									
IZV				Lg		Lg	23 17 58.8			
	100nm,0.5s									
TNSS	**Tian-Shan**	**4.71**	**54**	*e*P		**Pg**	**23 17 03.4**	**+0.7**		
TNSS				*e*S		**Sg**	**23 18 06.2**	**+2.4**		
TNSS	**Tian-Shan**	**4.71**	**54**	Pg		**Pg**	**23 17 03.4**	**+0.7**		
TNSS				Lg		Lg	23 18 06.2			
KNDC	**Almaty**	**4.82**	**52**	⇑Pn		**Pn**	**23 16 49.7**	**+4.4**		
	36nm,0.7s									
KNDC				⇓Pg		**Pg**	**23 17 06.7**	**+1.8**		
	49nm,0.6s									
KNDC				⇓Lg		Lg	23 18 09.6			
	251nm,0.8s									
MDOK	**Medeo**	**4.84**	**53**	*e*P		**Pg**	**23 17 04.7**	**-0.6**		
	24nm,0.5s									
MDOK				*e*S		**Sg**	**23 18 08.5**	**+0.6**		
	108nm,0.8s									
MDOK	**Medeo**	**4.84**	**53**	Pg		**Pg**	**23 17 04.7**	**-0.6**		
	24nm,0.5s									
MDOK				Lg		Lg	23 18 08.5			
	108nm,0.8s									
KUU	**Kurty**	**4.90**	**42**	*e*P		**Pg**	**23 17 05.7**	**-0.7**		
	14nm,0.5s									
KUU				*e*S		**Sg**	**23 18 10.5**	**+0.6**		
	103nm,0.6s									
KUU	**Kurty**	**4.90**	**42**	Pg		**Pg**	**23 17 05.7**	**-0.7**		
	14nm,0.5s									
KUU				Lg		Lg	23 18 10.5			
	103nm,0.6s									
KOTS	**Kotyrbulak**	**4.92**	**52**	*e*P		**Pg**	**23 17 06.3**	**-0.4**		
	81nm,0.7s									
KOTS				*e*S		**Sg**	**23 18 11.6**	**+1.2**		
	433nm,0.8s									
KOTS	**Kotyrbulak**	**4.92**	**52**	Pg		**Pg**	**23 17 06.3**	**-0.4**		
	81nm,0.7s									
KOTS				Lg		Lg	23 18 11.6			
	433nm,0.8s									
KTBS	**Karatobe**	**4.96**	**46**	*e*P		**Pg**	**23 17 06.9**	**-0.7**		
	23nm,0.5s									
KTBS				*e*S		**Sg**	**23 18 12.3**	**+0.5**		
	234nm,0.5s									
KTBS	**Karatobe**	**4.96**	**46**	Pg		**Pg**	**23 17 06.9**	**-0.7**		
	23nm,0.5s									
KTBS				Lg		Lg	23 18 12.3			
	234nm,0.5s									
BTLS	**Baital**	**4.98**	**19**	*e*P		**Pg**	**23 17 08.1**	**+0.2**		
	36nm,0.5s									
BTLS				*e*S		**Sg**	**23 18 14.8**	**+2.4**		
	53nm,0.6s									
BTLS	**Baital**	**4.98**	**19**	Pg		**Pg**	**23 17 08.1**	**+0.2**		
	36nm,0.5s									
BTLS				Lg		Lg	23 18 14.8			
	53nm,0.6s									
ANVS	**Anan'yevo**	**5.04**	**59**	⇓*e*P		Pn	23 16 53.8	+5.4		
	baz=59									
ANVS				⇓*i*S		**Sn**	**23 17 52.1**	**+5.3**		
	baz=59									
PRZ	**Przheval'sk**	**5.41**	**65**	⇑*e*P		Pn	23 16 59.1	+5.6		
	baz=65									
PRZ				⇑*e*S		**Sn**	**23 18 01.5**	**+5.5**		
	baz=65									
PRZ	**Przheval'sk**	**5.41**	**65**	PG		**Pg**	**23 17 19.5**	**+3.3**		
PRZ	**Przheval'sk**	**5.41**	**65**	Pg		**Pg**	**23 17 19.4**	**+3.3**		
SATY	**Saty**	**5.65**	**59**	*e*P		**Pg**	**23 17 19.2**	**-1.5**		
	16nm,0.8s									
SATY				*e*S		**Sg**	**23 18 33.9**	**0.0**		
	84nm,0.8s									
SATY	**Saty**	**5.65**	**59**	Pg		**Pg**	**23 17 19.2**	**-1.5**		
	16nm,0.8s									
SATY				Lg		Lg	23 18 33.9			
	84nm,0.8s									
KURS	**Kuram**	**5.70**	**55**	*e*P		**Pg**	**23 17 20.7**	**-1.0**		
	19nm,0.7s									
KURS				*e*S		**Sg**	**23 18 36.0**	**+0.4**		
	46nm,0.8s									
KURS	**Kuram**	**5.70**	**55**	Pg		**Pg**	**23 17 20.7**	**-1.0**		
	19nm,0.7s									
KURS				Lg		Lg	23 18 36.0			
	46nm,0.8s									
ZHN	**Zhinishke**	**5.72**	**58**	*e*P		**Pg**	**23 17 21.0**	**-1.0**		
	1.5nm,0.2s									
ZHN				*e*S		**Sg**	**23 18 36.2**	**+0.2**		
	25nm,0.9s									
ZHN	**Zhinishke**	**5.72**	**58**	Pg		**Pg**	**23 17 21.0**	**-1.0**		
	1.5nm,0.2s									
ZHN				Lg		Lg	23 18 36.2			
	25nm,0.9s									
MNBS	**Baschi**	**6.17**	**51**	Pg		**Pg**	**23 17 28.4**	**-2.2**		
	11nm,0.5s									
MNBS				Lg		Lg	23 18 50.1			
	49nm,0.6s									
KBL	**Kabul**	**6.19**	**201**	PN		**Pn**	**23 17 07.2**	**+2.9**		
KBL	**Kabul**	**6.19**	**201**	Pn		**Pn**	**23 17 07.2**	**+2.9**		
SHLS	**Shalkode**	**6.39**	**61**	Pg		**Pg**	**23 17 37.4**	**+2.5**		
	15nm,0.1s									
SHLS				Lg		Lg	23 19 04.7			
	62nm,0.7s									
PDGK	**Podgornoye**	**6.48**	**60**	Pg		**Pg**	**23 17 34.7**	**-1.9**		
	3.9nm,0.8s									
PDGK				Lg		Lg	23 19 00.6			
	26nm,1.0s									
PDGK	**Podgornoye**	**6.48**	**60**	⇑Pn		Pn	23 17 13.9	+5.7		
	4.4nm,0.7s									
PDGK				⇑Pg		**Pg**	**23 17 34.5**	**-2.1**		
	6.9nm,0.6s									
PDGK				⇓Lg		Lg	23 19 00.8			
	72nm,0.9s									
CEP	**Cherat**	**6.51**	**179**	P		**Pn**	**23 17 11.5**	**+2.9**		
CEP				S		**Sn**	**23 18 27.0**	**+4.0**		
NIL	**Nilore**	**6.79**	**170**	PN		**Pn**	**23 17 16.4**	**+4.1**		
NIL	**Nilore**	**6.79**	**170**			**Pn**	**23 17 16.4**	**+4.1**		

THW	**Thamme Wali**	**7.54**	**180**	P		**Pn**	**23 17 24.4**	**+1.8**		
HRA	**Herat**	**9.64**	**235**			**Pn**	**23 17 51.4**	**-0.2**		
MAKZ	**Makanchi**	**9.81**	**45**	P		**Pn**	**23 17 57.4**	**+3.7**		
MAKZ	**Makanchi**	**9.81**	**45**	Pn		**Pn**	**23 17 57.4**	**+3.7**		
MK31	**Makanchi Array**	**9.98**	**46**	⇓*e*P		**Pn**	**23 17 59.7**	**+3.7**		
MK31	**Makanchi Array**	**9.98**	**46**	Pn		**Pn**	**23 17 59.4**	**+3.4**		
MKAR	**Makanchi Array**	**9.98**	**46**	Pn		**Pn**	**23 17 59.7**	**+3.8**		
	0.2nm,0.3s,baz=232,slow=14,SNR=8.0									
MKAR				Lg		Lg	23 20 46.7			
	0.2nm,0.3s,baz=252,slow=24,SNR=2.5									
GEYT	**Alibeck**	**10.89**	**262**	Pn		**Pn**	**23 18 06.3**	**-2.2**		
	0.4nm,0.3s,baz=103,slow=10,SNR=7.0									
GEYT				Sn		**Sn**	**23 20 02.8**	**-7.6**		
	0.4nm,0.3s,baz=82,slow=13,SNR=1.0									
GEYT	**Alibeck**	**10.89**	**262**	Pn		**Pn**	**23 18 07.1**	**-1.4**		
GYA0B	**ALIBECK ARRAY**	**10.89**	**262**	Pn		**Pn**	**23 18 07.3**	**-1.2**		
KURBB	**Kurchatov Arra**	**11.31**	**22**	Pn		**Pn**	**23 18 15.0**	**+0.9**		
	0.2nm,0.3s,baz=213,slow=12,SNR=26									
KURBB				Lg		Lg	23 21 32.9			
	0.2nm,0.3s,baz=203,slow=28,SNR=7.9									
KURBB	**Kurchatov Arra**	**11.31**	**22**	⇑Pn		**Pn**	**23 18 14.7**	**+0.6**		
	3.3nm,0.5s									
KURBB				⇓Lg		Lg	23 21 35.7			
	36nm,0.7s									
KURK	**Kurchatov**	**11.42**	**22**	⇑Pn		**Pn**	**23 18 15.3**	**-0.3**		
	2.7nm,0.8s									
KURK				⇓Lg		Lg	23 21 35.7			
	38nm,1.1s									
KURK	**Kurchatov**	**11.42**	**22**	P		**Pn**	**23 18 16.4**	**+0.8**		
KURK	**Kurchatov**	**11.42**	**22**			**Pn**	**23 18 16.4**	**+0.8**		
AB31	**Akbulak array**	**12.24**	**321**	Pn		**Pn**	**23 18 26.1**	**-0.8**		
	1.2nm,0.4s,baz=132,slow=12,SNR=45									
AB31				Sn		**Sn**	**23 20 35.7**	**-7.5**		
	3.2nm,0.2s,baz=128,slow=24,SNR=12									
ABKAR	**Akbulak array**	**12.24**	**321**			**Pn**	**23 18 26.6**	**-0.3**		
ABKAR	**Akbulak array**	**12.24**	**321**	Pn		**Pn**	**23 18 26.5**	**-0.3**		
BVAR	**Borovoye Array**	**12.72**	**356**	Pn		**Pn**	**23 18 33.7**	**+0.2**		
	0.3nm,0.3s,baz=126,slow=15,SNR=5.5									
BVAR				Lg		Lg	23 22 22.9			
	0.4nm,0.3s,baz=332,slow=25,SNR=4.0									
BRVK	**Borovoye**	**12.76**	**356**	⇓*e*P		**Pn**	**23 18 34.7**	**+0.8**		
BRVK	**Borovoye**	**12.76**	**356**	Pn		**Pn**	**23 18 34.3**	**+0.4**		
AKTO	**Aktyubinsk**	**13.95**	**321**	Pn		**Pn**	**23 18 49.9**	**-0.3**		
	0.3nm,0.3s,baz=132,slow=15,SNR=3.4									
AKTO				Sn		**Sn**	**23 21 16.5**	**-8.6**		
	0.5nm,0.3s,baz=300,slow=17,SNR=3.2									
AKTO				Lg		Lg	23 22 56.6			
	0.2nm,0.3s,baz=233,slow=18,SNR=1.8									
AKTO				LR		LR	23 24 55.5			
	comp=Z,44nm,20.8s,baz=126,slow=40									
AKTO	**Aktyubinsk**	**13.95**	**321**	⇓Pn		**P**	**23 18 55.8**	**-2.6**		
	4.5nm,0.7s									
AKTO				⇓Sn		**Sn**	**23 21 17.9**	**-7.3**		
	5.6nm,0.8s									
DGZ	**Jazzator, Alta**	**14.46**	**45**	⇓*e*P		**Pn**	**23 19 00.3**	**+2.9**		
PYUN	**Piuthan**	**15.32**	**139**	*e*P		**Pn**	**23 19 05.1**	**-4.0**		
	32nm,0.5s									
DANN	**Dangsing**	**15.51**	**137**	*e*P		**Pn**	**23 19 08.6**	**-3.0**		
	13nm,0.4s									
KOLN	**Koldanda**	**15.89**	**139**	*e*P		**Pn**	**23 19 13.6**	**-3.0**		
	8.6nm,0.5s									
ZAA0	**Zalesovo Array**	**16.20**	**29**			**P**	**23 19 23.9**	**+0.6**		
ZALV	**Zalesovo Beam**	**16.20**	**29**	Pn		**P**	**23 19 23.3**	**0.0**		
	0.4nm,0.3s,baz=232,slow=10,SNR=10									
ZALV				Lg		Lg	23 24 11.0			
	0.1nm,0.3s,baz=229,slow=16,SNR=1.2									
ZALV	**Zalesovo Beam**	**16.20**	**29**	P		**P**	**23 19 24.0**	**+0.7**		
ZALV	**Zalesovo Beam**	**16.20**	**29**	P		**P**	**23 19 24.0**	**+0.7**		
GKN	**Gorkha**	**16.25**	**135**	*e*P		**Pn**	**23 19 18.8**	**-2.3**		
	28nm,0.5s									
KKN	**Kakani**	**16.76**	**134**	*e*P		**Pn**	**23 19 25.8**	**-1.9**		
	16nm,0.5s									
DMN	**Daman**	**16.81**	**135**	*e*P		**Pn**	**23 19 26.3**	**-2.1**		
	6.7nm,0.4s									
PKIN	**Phulchoki**	**16.99**	**134**	*e*P		**Pn**	**23 19 29.8**	**-0.9**		
	14nm,0.6s									
GUN	**Gumba**	**17.00**	**133**	*e*P		**Pn**	**23 19 30.6**	**-0.3**		
	5.9nm,0.4s									
PKI	**Pulchoki**	**17.01**	**134**	*e*P		**Pn**	**23 19 30.8**	**-0.1**		
	16nm,0.8s									
ARU	**Arti**	**18.28**	**336**	P		**P**	**23 19 49.5**	**+3.3**		
	0.0nm,0.3s,baz=221,slow=12,SNR=3.8									
ARU				S		**S**	**23 23 19.0**	**+3.8**		
	0.0nm,0.3s,baz=270,slow=23,SNR=1.6									
ARU				Lg		Lg	23 25 11.2			
	0.0nm,0.3s,baz=349,slow=19,SNR=1.6									
ARU				LR		LR	23 27 22.3			
	comp=Z,74nm,19.8s,baz=68,slow=38									
ARU	**Arti**	**18.28**	**336**	P		**Pn**	**23 19 45.3**	**-0.8**		
ARU				S		**S**	**23 23 12.4**	**-2.8**		
ARU	**Arti**	**18.28**	**336**	P		**P**	**23 19 46.9**	**+0.7**		
MAK	**Makhachkala**	**18.32**	**286**	*e*P		**Pn**	**23 19 41.1**	**-5.6**		
MAK				*e*S		**Sn**	**23 23 03.9**	**-7.3**		
MAK				pmax	pmax					
	comp=Z,177nm,1.2s									
MAK				MLR	MLR					
	comp=Z,75nm,14.0s									
GTA	**Gaotai**	**21.50**	**83**	*e*P		**P**	**23 20 26.5**	**+4.8**		
GTA				pP	sP		23 20 30.8	+4.9		
GTA				sP	pP		23 20 33.5	+8.9		
GTA				pmax	pmax					
	comp=Z,4.0nm,1.0s									
GOF	**Gofitskoye**	**21.58**	**292**	⇑*e*P		**P**	**23 20 23.2**	**+0.9**		
GOF				pmax	pmax					
	comp=Z,26nm,0.7s									
KBZ	**Khabaz**	**21.67**	**288**	P		**P**	**23 20 21.8**	**-1.4**		
	comp=Z,2.2nm,0.8s,baz=92,slow=10,SNR=6.2									
KBZ	**Khabaz**	**21.67**	**288**	*e*P		**P**	**23 20 22.5**	**-0.8**		
KBZ				pmax	pmax					
	comp=Z,2.0nm,0.8s									
KVAR	**Kislovodsk Arr**	**21.81**	**289**	P		**P**	**23 20 25.5**	**+0.5**		
	comp=Z,2.6nm,0.7s,baz=249,slow=20,SNR=2.1									
KVAR				LR		LR	23 31 43.0			
	comp=Z,36nm,20.5s,baz=276,slow=44									
KIV	**Kislovodsk**	**21.82**	**289**	*e*P		**P**	**23 20 23.6**	**-1.4**		
KIV				pmax	pmax					
	comp=Z,25nm,1.0s									
KIV	**Kislovodsk**	**21.82**	**289**	P		**P**	**23 20 23.2**	**-1.8**		
KIV				IAmb	IAmb		23 20 33.1			
	comp=Z,6.9nm,0.6s									
GEVA	**Gevas**	**22.27**	**274**	P		**P**	**23 20 29.9**	**-0.1**		
GEVA				IAmb	IAmb		23 20 30.9			
	comp=Z,13nm,1.0s									
KIRV	**Kirov**	**23.14**	**330**	LR		LR	23 29 30.8			
	comp=Z,24nm,19.8s,baz=89,slow=36									
KOPT	**Kop Dagi**	**23.85**	**279**	P		**P**	**23 20 47.3**	**+1.0**		
KOPT				IAmb	IAmb		23 20 57.6			
	comp=Z,6.6nm,0.9s									
ZAK	**Zakamensk**	**24.13**	**55**	*e*P		P	23 20 56.6	+8.0		
ZAK				pmax	pmax					
	comp=Z,6.0nm,0.9s									
SONM	**Songino Array**	**25.80**	**62**	P		**P**	**23 21 05.3**	**+1.4**		
	comp=Z,0.8nm,0.8s,baz=265,slow=13,SNR=5.1									
SONM	**Songino Array**	**25.80**	**62**	P		**P**	**23 21 06.1**	**+2.3**		
SONM				pmax	pmax					
	comp=Z,1.0nm,0.9s									
SONM	**Songino Array**	**25.80**	**62**	P		**P**	**23 21 06.1**	**+2.3**		
OBN	**Obninsk**	**27.55**	**314**	*e*P		**P**	**23 21 19.7**	**+0.3**		
OBN				*e*			23 22 03.5			
OBN				pmax	pmax					
	comp=Z,4.0nm,1.0s									
BRTR	**Keskin Array B**	**29.07**	**281**	P		**P**	**23 21 32.8**	**-0.4**		
	comp=Z,1.2nm,0.8s,baz=74,slow=11,SNR=2.1									
AKASG	**Malin Array Be**	**31.16**	**304**	P		**P**	**23 21 51.5**	**0.0**		
	comp=Z,0.2nm,0.2s,baz=80,slow=7.2,SNR=4.9									
AKASG	**Malin Array Be**	**31.16**	**304**	*e*P		**P**	**23 21 52.6**	**+1.1**		
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.4s									
AKBB	**Malin Array Si**	**31.16**	**304**	P		**P**	**23 21 52.4**	**+0.9**		
AKBB				pmax	pmax					
	comp=Z,2.0nm,0.7s									
AKBB	**Malin Array Si**	**31.16**	**304**	P		**P**	**23 21 52.4**	**+0.9**		
SOCY	**Socotra**	**32.14**	**214**	P		**P**	**23 21 58.0**	**-2.4**		
SOCY				IAmb	IAmb		23 22 04.5			
	comp=Z,4.1nm,1.0s									
MLR	**Muntele Rosu**	**33.60**	**294**	P		**P**	**23 22 15.4**	**+2.3**		
MLR	**Muntele Rosu**	**33.60**	**294**	P		**P**	**23 22 15.4**	**+2.3**		
BURAR	**Bucovina Array**	**33.86**	**298**	P		**P**	**23 22 14.1**	**-1.2**		
BUR08	**Bucovina Ar. S**	**33.87**	**298**	P		**P**	**23 22 14.6**	**-0.8**		
FIA1	**FINESS Array S**	**34.71**	**323**	P		**P**	**23 22 23.2**	**+0.9**		
FIA1				IAmb	IAmb		23 22 36.9			
	comp=Z,7.0nm,1.1s									
FINES	**FINESS Array B**	**34.71**	**323**	P		**P**	**23 22 23.2**	**+0.9**		
	comp=Z,1.7nm,0.6s,baz=110,slow=10,SNR=12									
FINES	**FINESS Array B**	**34.71**	**323**	P		**P**	**23 22 23.7**	**+1.3**		
FINES	**FINESS Array B**	**34.71**	**323**	P		**P**	**23 22 23.7**	**+1.3**		

KWP	**Kalwaria Pacla**	**35.37**	**302**	P		**P**	**23 22 29.3**	**+1.2**		
KWP				pmax	pmax					
	comp=Z,4.0nm,0.9s									
KWP	**Kalwaria Pacla**	**35.37**	**302**	P		**P**	**23 22 29.3**	**+1.2**		
KWP				lAmb	lAmb		23 22 40.2			
	comp=Z,4.2nm,0.9s									
IDI	**Anoyia**	**37.05**	**278**	P		**P**	**23 22 42.2**	**-0.5**		
ARCES	**ARCESS Array B**	**37.86**	**336**	P		**P**	**23 22 49.9**	**+0.7**		
	comp=Z,1.2nm,0.6s,baz=113,slow=9.2,SNR=1.5									
VYHS	**Vyhne**	**38.02**	**300**	*e*P		**P**	**23 22 51.2**	**+0.4**		
VYHS	**Vyhne**	**38.02**	**300**	*e*P		**P**	**23 22 51.2**	**+0.4**		
YAK	**Yakutsk**	**40.52**	**38**	⇓*e*P		**P**	**23 23 10.5**	**-0.9**		
YAK				pmax	pmax					
	comp=Z,5.0nm,0.5s									
GERES	**GERESS Array B**	**41.32**	**302**	P		**P**	**23 23 19.3**	**+0.9**		
	comp=Z,0.2nm,0.4s,baz=58,slow=8.6,SNR=3.8									
NB2	**NORSAR Subarra**	**41.74**	**320**	P		**P**	**23 23 21.6**	**0.0**		
	comp=Z,2.0nm,1.0s,baz=92,slow=8.6									
NOA	**NORSAR Array B**	**41.74**	**320**	P		**P**	**23 23 22.3**	**+0.7**		
	comp=Z,1.0nm,0.8s,baz=88,slow=8.4,SNR=2.5									
NC204	**NORSAR Array S**	**41.97**	**321**	P		**P**	**23 23 24.3**	**+0.8**		
TIXI	**Tiksi**	**41.99**	**23**	P		**P**	**23 23 24.9**	**+1.5**		
TIXI				pmax	pmax					
	comp=Z,9.0nm,0.8s									
TIXI	**Tiksi**	**41.99**	**23**	P		**P**	**23 23 24.9**	**+1.5**		
TIXI				lAmb	lAmb		23 23 25.4			
	comp=Z,9.4nm,0.8s									
KLR	**Kul'dur**	**42.46**	**57**	P		**P**	**23 23 29.4**	**+1.8**		
	comp=Z,0.7nm,0.4s,baz=270,slow=12,SNR=2.4									
KLR				LR	LR		23 43 24.1			
	comp=Z,40nm,18.5s,baz=252,slow=39									
MJAR	**Matsushiro Arr**	**51.06**	**72**	P		**P**	**23 24 35.4**	**+0.3**		
	comp=Z,0.8nm,0.3s,baz=287,slow=9.0,SNR=4.1									
MJA0	**Matsu Arr-Jizo**	**51.09**	**72**	*e*P		**P**	**23 24 35.8**	**+0.5**		
MJA0				pmax	pmax					
	comp=Z,1.0nm,0.3s									
JHJ	**Hachijo jima 2**	**53.77**	**75**	LR		LR	23 51 27.4			
	comp=Z,59nm,18.2s,baz=321,slow=40									
BILL	**Bilibino**	**54.90**	**27**	*e*P		**P**	**23 25 03.6**	**+0.7**		
BILL				*e*			23 27 07.4			
BILL				pmax	pmax					
	comp=Z,3.0nm,1.0s									
CISI	**Cisompet, Garu**	**58.09**	**137**	P		**P**	**23 25 28.9**	**+2.5**		
TORD	**Torodi Ar. Bea**	**66.47**	**267**	P		**P**	**23 26 21.1**	**-1.5**		
	comp=Z,3.1nm,0.6s,baz=49,slow=5.3,SNR=46									
TORD	**Torodi Ar. Bea**	**66.47**	**267**	P		**P**	**23 26 21.1**	**-1.5**		
TOLK	**Toolik Lake Re**	**67.05**	**15**	P		**P**	**23 26 27.0**	**+1.4**		
SIJI	**Sorong**	**67.77**	**111**	P		**P**	**23 26 29.4**	**-1.3**		
	comp=Z,6.1nm,0.2s,baz=308,slow=19,SNR=1.5									
IMAR	**Indian Mountai**	**68.33**	**18**	P		**P**	**23 26 34.6**	**+1.1**		
INK	**Inuvik**	**70.01**	**10**	P		**P**	**23 26 45.3**	**+1.3**		
	comp=Z,3.5nm,0.7s,baz=312,slow=4.9,SNR=10									
INK	**Inuvik**	**70.01**	**10**	lAmb	lAmb		23 26 46.0			
	comp=Z,3.2nm,0.7s									
ILAR	**Eielson Array**	**70.92**	**16**	P		**P**	**23 26 50.2**	**+0.7**		
	comp=Z,0.7nm,0.8s,baz=324,slow=3.9,SNR=7.7									
WRA	**Warramunga Arr**	**83.53**	**123**	P		**P**	**23 27 60.0**	**-0.9**		
	comp=Z,1.6nm,0.7s,baz=325,slow=5.0,SNR=25									
WRA	**Warramunga Arr**	**83.53**	**123**	P		**P**	**23 28 00.0**	**-0.9**		
WRA	**Warramunga Arr**	**83.53**	**123**	lAmb	lAmb		23 28 00.9			

BULG				AML	AML			
	comp=E,427μm,0.7s							
BULG				AML	AML			
	comp=N,579μm,0.3s							
MGR	**Morigerati**	**0.45**	**134**	P	Pg	23 39 49.1	+0.2	
MGR				S	Sb	23 39 56.2	-0.9	
MGR				AML	AML			
	comp=E,756μm,0.3s							
MGR				AML	AML			
	comp=E,755μm,0.3s							
MGR				AML	AML			
	comp=N,726μm,0.5s							
SNAL	**S. Angelo Dei**	**0.48**	**7**	P	Pb	23 39 50.1	-0.6	
SNAL				AML	AML			
	comp=E,150μm,1.6s							
SNAL				AML	AML			
	comp=E,144μm,1.2s							
SNAL				AML	AML			
	comp=N,226μm,1.5s							
SNAL				AML	AML			
	comp=N,230μm,1.5s							
SNAL				AML	AML			
	comp=E,144μm,1.2s							
MTSN	**Montesano sull**	**0.51**	**111**	P	Pb	23 39 50.7	-0.6	
MTSN				AML	AML			
	comp=N,188μm,0.4s							
MTSN				AML	AML			
	comp=E,160μm,0.4s							
MCEL	**Monticello**	**0.53**	**104**	P	Pb	23 39 51.2	-0.5	
CAFE	**Carife**	**0.58**	**8**	P	Pb	23 39 52.1	-0.4	
SIRI	**Monte Sirino -**	**0.63**	**115**	P	Pg	23 39 52.5	+0.4	
SIRI				AML	AML			
	comp=N,162μm,0.3s							
SIRI				AML	AML			
	comp=N,166μm,1.0s							
SIRI				AML	AML			
	comp=E,228μm,0.4s							
SIRI				AML	AML			
	comp=E,236μm,0.4s							
SIRI				AML	AML			
	comp=N,165μm,1.0s							
SIRI				AML	AML			
	comp=E,228μm,0.4s							
SIRI				AML	AML			
	comp=E,236μm,0.4s							
CUC	**Castrocucco**	**0.70**	**131**	P	Pg	23 39 53.5	0.0	
CUC				AML	AML			
	comp=E,150μm,0.7s							
CUC				AML	AML			
	comp=N,83μm,0.2s							
CUC				AML	AML			
	comp=E,186μm,0.3s							
CUC				AML	AML			
	comp=N,106μm,1.4s							

*BEO **31** 23:41:04.9±0.2, 45.˚13N×22.˚29E, h0km, ML2.6/16*
*BUC **31** 23:41:05.7±0.3, 45.˚16N×22.˚25E, h5km, ml2.5/16, Error ellipse: s-maj=2.5km s-min=2.0km az=51.0*

ISC 31 23:41:04.8±1.1, 45.˚14N±0.˚02×22.˚27E±0.˚02, h3km±10km, n53, σ0.973/78, 31C-17D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HERR	**Herculane**	**0.28**	**157**	⇑P	**Pg**	**23 41 10.7**	**+0.6**
HERR				⇓S	**Sg**	**23 41 14.8**	**+1.0**
HERR	**Herculane**	**0.28**	**157**	⇑P	**Pg**	**23 41 10.7**	**+0.6**
GZR	**Gura Zlata**	**0.44**	**55**	*e*Pg	**Pg**	**23 41 13.0**	**-0.2**
GZR				*e*Sg	**Sg**	**23 41 17.6**	**-1.4**
GZR	**Gura Zlata**	**0.44**	**55**	⇓P	**Pg**	**23 41 13.1**	**-0.2**
GZR				⇑S	**Sg**	**23 41 18.8**	**-0.3**
GZR	**Gura Zlata**	**0.44**	**55**	⇓P	**Pg**	**23 41 13.1**	**-0.2**
DJES	**Djerdap**	**0.51**	**159**	*e*Pg	**Pg**	**23 41 14.7**	**+0.2**
DJES				*e*Sg	**Sg**	**23 41 19.2**	**-1.9**
MDVR	**Moldovita**	**0.53**	**228**	⇓P	**Pg**	**23 41 15.6**	**+0.6**
MDVR				⇓S	**Sg**	**23 41 23.2**	**+1.3**
MDVR	**Moldovita**	**0.53**	**228**	⇓P	**Pg**	**23 41 15.6**	**+0.6**
BZS	**Buzias**	**0.66**	**316**	*e*Pg	**Pg**	**23 41 17.4**	**0.0**
BZS				*e*Sg	**Sg**	**23 41 25.8**	**-0.2**
BZS	**Buzias**	**0.66**	**316**	⇑P	**Pg**	**23 41 17.6**	**+0.1**
BZS				⇑S	**Sg**	**23 41 26.5**	**+0.5**
BZS	**Buzias**	**0.66**	**316**	⇑P	**Pg**	**23 41 17.6**	**+0.1**
SRE	**Strehaia**	**0.82**	**125**	⇓P	**Pb**	**23 41 21.9**	**+0.2**
SRE				⇑S	**Sb**	**23 41 34.0**	**+0.8**
SRE	**Strehaia**	**0.82**	**125**	⇓P	**Pb**	**23 41 21.9**	**+0.2**
BANR	**Banloc**	**0.83**	**287**	⇑P	**Pb**	**23 41 22.0**	**+0.1**
BANR	**Banloc**	**0.83**	**287**	⇑P	**Pb**	**23 41 22.0**	**+0.1**
KUBS	**Kucevo**	**0.84**	**210**	*e*Pg	**Pg**	**23 41 20.9**	**0.0**
KUBS				*e*Sg	**Sg**	**23 41 31.0**	**-0.8**
DEV	**Deva**	**0.87**	**31**	⇑P	**Pg**	**23 41 21.2**	**-0.3**
DEV				⇑S	**Sg**	**23 41 32.4**	**-0.2**
DEV	**Deva**	**0.87**	**31**	⇑P	**Pg**	**23 41 21.2**	**-0.3**
TIM	**Timisoara**	**0.95**	**309**	⇓P	**Pb**	**23 41 23.5**	**-0.3**
TIM				⇑S	**Sb**	**23 41 36.5**	**-0.3**
TIM	**Timisoara**	**0.95**	**309**	⇓P	**Pb**	**23 41 23.5**	**-0.3**
PUNG	**Punghina**	**0.98**	**151**	⇑P	**Pb**	**23 41 24.6**	**+0.2**
PUNG				⇓S	**Sn**	**23 41 39.6**	**-0.3**
PUNG	**Punghina**	**0.98**	**151**	⇑P	**Pb**	**23 41 24.6**	**+0.2**
SVIS	**Svilajnac**	**1.15**	**221**	*e*Pg	**Pg**	**23 41 24.6**	**-2.2**
SVIS				*e*Sg	**Sb**	**23 41 42.4**	**-0.3**
SIRR	**Siria**	**1.20**	**340**	⇑P	**Pg**	**23 41 28.0**	**+0.1**
SIRR				⇑S	**Sb**	**23 41 44.0**	**-0.3**
SIRR	**Siria**	**1.20**	**340**	⇑P	**Pg**	**23 41 28.0**	**+0.1**
ZAGS	**Zajecar**	**1.33**	**181**	*e*Pg	**Pg**	**23 41 29.0**	**-1.2**
ZAGS				*e*Sg	**Sg**	**23 41 47.1**	**-0.3**
BOVS	**Bovan**	**1.56**	**195**	*e*Pg	**Pn**	**23 41 33.2**	**-0.2**
BOVS				*e*Sg	**Sn**	**23 41 54.0**	**-0.1**
TRUS	**Trudelj**	**1.61**	**236**	*e*Pg	**Pg**	**23 41 35.7**	**0.0**
TRUS				*e*Sg	**Sg**	**23 41 57.5**	**+1.0**
GRUS	**Gruza**	**1.67**	**222**	*e*Pg	**Pb**	**23 41 36.3**	**+0.1**
GRUS				*e*Sg	**Sg**	**23 41 58.5**	**0.0**
ARR	**Arges**	**1.69**	**81**	⇓P	**Pn**	**23 41 35.6**	**+0.3**
ARR	**Arges**	**1.69**	**81**	⇓P	**Pn**	**23 41 35.6**	**+0.3**
FRGS	**Fruska Gora**	**1.74**	**271**	*e*Pn	**Pn**	**23 41 34.8**	**-1.1**
MDB	**Medias**	**1.79**	**55**	⇓S	**Sb**	**23 42 01.6**	**+0.5**
MDB	**Medias**	**1.79**	**55**	⇓S	**Sb**	**23 42 01.6**	**+0.5**
CJR	**Cluj-Napoca**	**1.83**	**30**	⇑P	**Pb**	**23 41 38.7**	**-0.2**
CJR				⇑S	**Sg**	**23 42 03.5**	**0.0**
CJR	**Cluj-Napoca**	**1.83**	**30**	⇑P	**Pb**	**23 41 38.7**	**-0.2**
ZAPS	**Zavoj**	**1.89**	**172**	*e*Pg	**Pb**	**23 41 39.7**	**-0.2**
ZAPS				*e*Sg	**Sb**	**23 42 03.9**	**+0.1**
DIVS	**Divibare**	**1.93**	**238**	*e*Pg	**Pn**	**23 41 38.8**	**+0.2**
DIVS				*e*Sg	**Sg**	**23 42 06.6**	**-0.1**
VOIR		**1.99**	**80**	⇑P	**Pn**	**23 41 39.5**	**+0.1**
VOIR				⇑S	**Sb**	**23 42 06.3**	**-0.6**
VOIR		**1.99**	**80**	⇑P	**Pn**	**23 41 39.5**	**+0.1**
HUMR	**Humele**	**2.03**	**107**	⇓P	**Pb**	**23 41 41.6**	**-0.7**
HUMR				⇓S	**Sg**	**23 42 08.9**	**-0.9**
SELS	**Selova**	**2.09**	**204**	*e*Pg	**Pn**	**23 41 41.3**	**+0.5**
SELS				*e*Sg	**Sb**	**23 42 10.5**	**+0.8**
IVAS	**Ivanjica**	**2.18**	**225**	*e*Pn	**Pn**	**23 41 41.4**	**-0.6**
DOPR	**Dopca**	**2.34**	**68**	⇑P	**Pn**	**23 41 45.4**	**+1.2**
DOPR				⇑S	**Sb**	**23 42 16.7**	**-0.4**
DOPR	**Dopca**	**2.34**	**68**	⇑P	**Pn**	**23 41 45.4**	**+1.2**
MLR	**Muntele Rosu**	**2.62**	**81**	⇑P	**Pn**	**23 41 49.3**	**+1.2**
MLR	**Muntele Rosu**	**2.62**	**81**	⇑P	**Pn**	**23 41 49.3**	**+1.2**
BOSS	**Bosilegrad**	**2.65**	**177**	*e*Sg	**Pn**	**23 41 47.6**	**-0.8**
BOSS	**Bosilegrad**	**2.65**	**177**	*e*Pn	**Sb**	**23 42 27.7**	**+1.9**
BMR	**Baia Mare**	**2.67**	**18**	⇑P	**Pn**	**23 41 50.1**	**+1.4**
BMR	**Baia Mare**	**2.67**	**18**	⇑P	**Pn**	**23 41 50.1**	**+1.4**
KOLS	**Kolonicke sedl**	**3.79**	**0**	*e*PG	**Pg**	**23 42 18.0**	**+0.5**
VYHS	**Vyhne**	**4.10**	**326**	*e*PN	**Pn**	**23 42 07.6**	**-0.7**

*IDC **31** 23:58:38.0±7.1, 22.˚37S×179.˚11W, h417km±69km, mb2.9/5, mb1 3.2/6, mb1mx3.0/23, mbtmp3.8/6, Error ellipse: s-maj=41.2km s-min=26.5km az=50.0*
*NEIC **31** 23:58:39.4±1.6, 22.˚44S±0.˚09×179.˚05W±0.˚05, h442km±9km, mb4.1/27, Error ellipse: s-maj=14.1km s-min=4.7km az=199.0*

ISC 31 23:58:40.1±0.5, 22.˚39S±0.˚07×179.˚08W±0.˚09, h450km, n55, σ1.919/54, mb3.9/16, 6C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.36**	**329**	P	**P**	**00 00 07.7**	**-0.5**
RAO	**Raoul Island**	**6.91**	**172**	P	**P**	**00 00 26.7**	**+2.9**
NIUE	**Niue**	**9.18**	**71**	P	**P**	**00 00 47.8**	**-0.6**
NIUE				S	S	00 02 26.0	-7.8
AFI	**Afiamalu**	**10.92**	**41**	P	**P**	**00 01 05.8**	**-1.6**
FUNA	**Funafuti**	**13.88**	**353**	P	**P**	**00 01 38.9**	**-0.5**
OUZ	**Omahuta**	**14.30**	**205**	P	**P**	**00 01 41.0**	**-2.6**

URZ	**Urewera**	**16.15**	**191**	P	**P**	**00 02 02.4**	**-0.9**	
	0.9nm,0.3s,baz=356,slow=15,SNR=1.8							
URZ				S	**S**	**00 04 49.2**	**-1.9**	
	0.2nm,0.3s,baz=4.2,slow=20,SNR=1.9							
URZ	**Urewera**	**16.15**	**191**	IAmb	IAmb	00 02 08.9		
	comp=Z,13nm,1.2s							
RAR	**Rarotonga**	**17.97**	**90**	P	**P**	**00 02 21.6**	**-1.0**	
QRZ	**Quartz Range**	**19.70**	**199**	P	**P**	**00 02 38.3**	**-0.3**	
PLWZ	**Palliser**	**19.71**	**193**	P	**P**	**00 02 36.8**	**-1.9**	
THZ	**Tophouse**	**20.45**	**197**	P	**P**	**00 02 43.0**	**-2.5**	
THZ				IAmb	IAmb	00 03 01.3		
	comp=Z,11nm,1.0s							
KHZ	**Kahutara**	**20.90**	**195**	P	**P**	**00 02 49.1**	**-0.3**	
KHZ				IAmb	IAmb	00 03 05.3		
	comp=Z,13nm,1.1s							
LTZ	**Lake Taylor**	**21.58**	**198**	P	**P**	**00 02 55.1**	**-0.6**	
LTZ				IAmb	IAmb	00 03 03.7		
	comp=Z,14nm,1.1s							
WHZ	**Wether Hill Ro**	**25.72**	**201**	P	**P**	**00 03 32.6**	**-0.1**	
WHZ				IAmb	IAmb	00 03 41.2		
	comp=Z,21nm,1.2s							
ARMA	**Armidale**	**27.37**	**247**	P	**P**	**00 03 47.4**	**-0.2**	
ARMA				IAmb	IAmb	00 03 59.3		
	comp=Z,4.7nm,1.0s							
CTAO	**Charters Tower**	**32.35**	**268**	P	**P**	**00 04 31.8**	**+0.8**	
CTAO				IAmb	IAmb	00 04 50.5		
	comp=Z,7.2nm,1.1s							
AS31	**Alice Springs**	**43.13**	**259**	P	**P**	**00 05 59.5**	**-0.1**	
AS31				IAmb	IAmb	00 06 01.0		
	comp=Z,1.1nm,0.3s							
ASAR	**Alice Springs**	**43.13**	**259**	P	**P**	**00 06 00.0**	**+0.3**	
	comp=Z,0.4nm,0.3s,baz=96,slow=7.8,SNR=11							
WR0	**Warramunga Arr**	**43.19**	**264**	P	**P**	**00 05 59.8**	**-0.2**	
WB0	**Warramunga Arr**	**43.36**	**265**	P	**P**	**00 06 00.5**	**-0.9**	
WB2	**Warramunga Arr**	**43.36**	**264**	P	**P**	**00 06 00.4**	**-1.1**	
WRAB	**Tennant Creek**	**43.37**	**264**	P	**P**	**00 06 01.0**	**-0.4**	
WRA	**Warramunga Arr**	**43.37**	**264**	P	**P**	**00 06 01.2**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=96,slow=8.5,SNR=27							
WRA	**Warramunga Arr**	**43.37**	**264**	IAmb	IAmb	00 06 02.0		
	comp=Z,0.1nm,0.7s							
MTN	**Manton Dam**	**48.21**	**273**	P	**P**	**00 06 38.8**	**+0.1**	
MTN				IAmb	IAmb	00 06 57.5		
	comp=Z,5.8nm,1.1s							
KNRA	**Kununurra**	**49.56**	**268**	P	**P**	**00 06 49.1**	**+0.4**	
KNRA				IAmb	IAmb	00 06 54.4		
	comp=Z,6.9nm,1.1s							
FITZ	**Fitzroy Crossi**	**51.80**	**264**	P	**P**	**00 07 05.4**	**+0.2**	
VNDA	**Vanda**	**55.95**	**185**	P	**P**	**00 07 35.2**	**+1.4**	
	comp=Z,0.4nm,0.6s,baz=11,slow=7.4,SNR=2.6							
VNDA	**Vanda**	**55.95**	**185**	P	**P**	**00 07 34.3**	**+0.6**	
QSPA	**South Pole Qui**	**67.69**	**180**	P	**P**	**00 08 51.4**	**+0.3**	
PEA0B	**Petropavlovsk-**	**77.84**	**346**	P	**P**	**00 09 49.4**	**-0.2**	
MAW	**Mawson**	**79.45**	**200**	P	**P**	**00 09 58.7**	**+0.5**	
	comp=Z,0.7nm,0.8s,baz=106,slow=7.4,SNR=2.6							
MAW	**Mawson**	**79.45**	**200**	P	**P**	**00 09 56.5**	**-1.7**	
KVN	**Kaiserville**	**83.57**	**43**	P	**P**	**00 10 20.9**	**+0.7**	
KVN				IAmb	IAmb	00 10 25.9		
	comp=Z,3.9nm,1.0s							
CNPM	**China Poot**	**84.76**	**14**	P	**P**	**00 10 27.5**	**+2.2**	
SUA	**Susitna One**	**86.62**	**13**	P	**P**	**00 10 32.8**	**-1.6**	
FID	**Port Fidalgo**	**86.96**	**15**	P	**P**	**00 10 38.1**	**+2.3**	
SCM	**Sheep Creek Mo**	**87.70**	**14**	P	**P**	**00 10 40.0**	**+0.6**	
SCM				IAmb	IAmb	00 10 41.8		
	comp=Z,3.7nm,0.7s							
VRDI	**Verde Repeater**	**88.14**	**16**	P	**P**	**00 10 42.6**	**+1.0**	
VRDI				IAmb	IAmb	00 10 51.4		
	comp=Z,5.3nm,1.2s							
KTH	**Kantishna Hill**	**88.47**	**12**	P	**P**	**00 10 43.5**	**+0.5**	
TRF	**Thorofare Moun**	**88.50**	**13**	P	**P**	**00 10 43.7**	**+0.5**	
PLCA	**Paso Flores**	**88.70**	**134**	P	**P**	**00 10 42.9**	**-1.9**	
PLCA				IAmb	IAmb	00 10 49.3		
	comp=Z,1.8nm,1.1s							
ILAR	**Eielson Array**	**90.37**	**13**	P	**P**	**00 10 52.0**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=220,slow=4.6,SNR=4.2							
ARCES	**ARCESS Array B**	**130.58**	**349**	PKP	**PKiKP**	**00 16 59.5**	**+0.5**	
	comp=Z,1.3nm,0.8s,baz=308,slow=4.5,SNR=4.9							
AKASG	**Malin Array Be**	**144.14**	**329**	PKP	**PKPdf**	**00 17 23.7**	**+0.3**	
	comp=Z,0.4nm,0.3s,baz=41,slow=4.3,SNR=8.4							
BRTR	**Keskin Array B**	**147.31**	**309**	PKPbc	**PKPbc**	**00 17 33.8**	**+1.3**	
	comp=Z,0.9nm,0.7s,baz=132,slow=2.1,SNR=3.1							
OSTC	**Ostas**	**149.44**	**341**	⇑*e*PKP	**PKiKP**	**00 17 38.8**	**+0.6**	
CHVC	**Chvalec**	**149.46**	**341**	⇑*e*PKP	**PKiKP**	**00 17 38.6**	**+0.4**	
DPC	**Dobruska-Polom**	**149.59**	**340**	⇑*e*PKP	**PKiKP**	**00 17 39.8**	**+1.3**	
KRLC	**Kraliky**	**149.68**	**340**	⇑*e*PKP	**PKiKP**	**00 17 39.6**	**+0.9**	
PVCC	**Panska Ves**	**149.95**	**342**	⇑*e*PKP	**PKiKP**	**00 17 40.6**	**+1.4**	
KHC	**Kasperske Hory**	**151.49**	**342**	⇑*e*PKP	**PKiKP**	**00 17 43.7**	**+1.2**	
GERES	**GERESS Array B**	**151.71**	**342**	PKPbc	**PKiKP**	**00 17 44.3**	**+1.3**	
	comp=Z,0.4nm,0.4s,baz=48,slow=2.0,SNR=6.8							
TORD	**Torodi Ar. Bea**	**170.78**	**185**	PKPab	**PKPab**	**00 19 17.1**	**-0.3**	
	comp=Z,0.4nm,0.9s,baz=166,slow=4.2,SNR=2.1							

ISC Computed Locations for October 2014

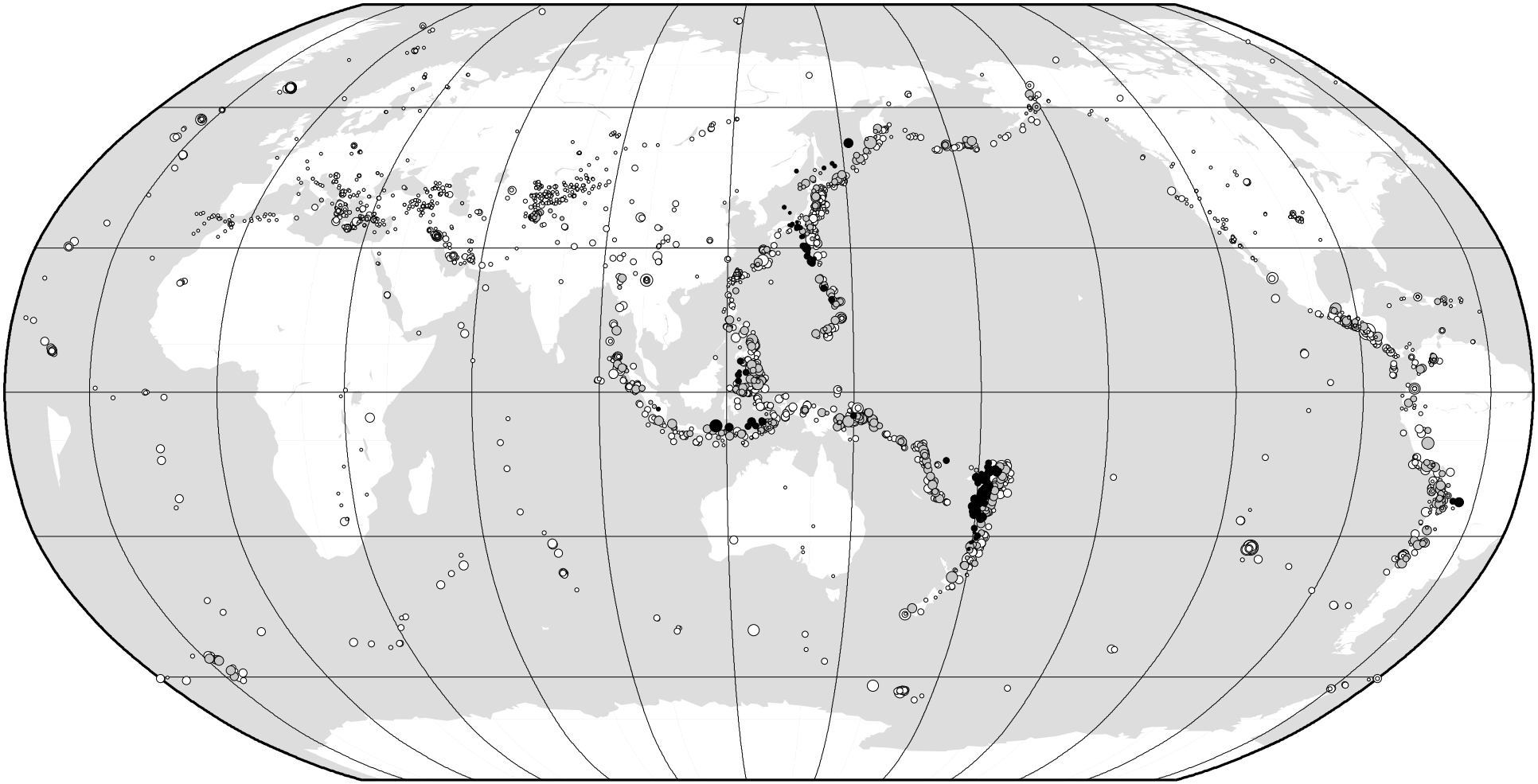

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3083 Events